Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*HEL **01** 00:02:43.2±0.2, 67°.70N×19°.96E, h0km, ML1.1, Explosion*
*DNK **01** 00:02:44.6±0.5, 67°.84N×20°.20E, h0km, ML3.1(UPP), Explosion*
*UPP **01** 00:02:44.2±0.0, 67°.84N×20°.19E, h0km, ML3.1, Suspected explosion*
ISC 01 00:02:44.6±0.8**, 67°.80N**±0°.03×**20°.22E**±0°.02**, h0km, n24, σ0s.89**/32**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.16**	**16**	P	**Pg**	**00 02 46.9**	**-0.7**
KUA				S	**Sg**	**00 02 48.7**	**-0.9**
RATU	**Laukkuluspa**	**0.24**	**275**	P	**Pg**	**00 02 48.7**	**-0.5**
RATU				S	**Sg**	**00 02 51.9**	**-0.4**
RATU	**Laukkuluspa**	**0.24**	**275**	P	**Pg**	**00 02 48.7**	**-0.5**
RATU				S	**Sg**	**00 02 51.9**	**-0.4**
NIKU	**Nikkaluokta**	**0.46**	**279**	P	**Pg**	**00 02 52.7**	**-0.6**
NIKU				S	**Sg**	**00 02 58.8**	**-0.4**
NIKU	**Nikkaluokta**	**0.46**	**279**	P	**Pg**	**00 02 52.7**	**-0.6**
NIKU				S	**Sg**	**00 02 58.8**	**-0.4**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**00 02 58.1**	**+0.3**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**00 02 58.1**	**+0.3**
MASU	**Masugnsbyn**	**0.76**	**116**	P	**Pg**	**00 02 58.9**	**-0.2**
MASU	**Masugnsbyn**	**0.76**	**116**	P	**Pg**	**00 02 58.9**	**-0.2**
SALU	**Saltoluokta**	**0.78**	**238**	P	**Pg**	**00 02 59.0**	**-0.5**
SALU	**Saltoluokta**	**0.78**	**238**	P	**Pg**	**00 02 59.0**	**-0.5**
KIF	**Kilpisjarvi**	**1.23**	**10**	PN	**Pn**	**00 03 09.5**	**+0.6**
	baz=187						
KIF				MSG		00 03 24.9	
	comp=Z,1.8nm,0.2s						
KIF				SN	**Sn**	**00 03 28.9**	**+2.7**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**00 03 09.4**	**-1.2**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**00 03 09.4**	**-1.2**
HEF	**Hetta**	**1.43**	**63**	PG	**Pn**	**00 03 11.3**	**-0.4**
	baz=245						
HEF				MSG		00 03 30.1	
	comp=Z,1.2nm,0.2s						
HEF				SN	**Sn**	**00 03 33.3**	**+2.2**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**00 03 12.2**	**0.0**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**00 03 12.2**	**0.0**
KTK1	**Kautokeino**	**1.65**	**41**	SN	**Sg**	**00 03 37.8**	**+0.3**
HARU	**Harads**	**1.67**	**169**	P	**Pn**	**00 03 15.2**	**+0.2**
HARU	**Harads**	**1.67**	**169**	P	**Pn**	**00 03 15.2**	**+0.2**
TOF	**Tornio**	**2.37**	**135**	MSG		00 03 53.4	
	comp=Z,0.6nm,0.2s						
TOF				SG	**Sg**	**00 03 59.4**	**-1.0**
SGF	**Sodankyl**	**2.44**	**96**	SG	**Sb**	**00 04 00.7**	**+0.9**
RNF	**Rovaniemi**	**2.55**	**115**	SG	**Sb**	**00 04 02.9**	**-0.2**
ARA0	**ARCESS Array S**	**2.60**	**46**	PG	**Pb**	**00 03 31.3**	**-0.7**
	baz=223						
ARA0				SB	**Sb**	**00 04 03.6**	**-0.8**

*SOME **01** 00:03:59.2, 41°.17N×82°.55E, h5km*
*NNC **01** 00:04:00.5±2.2, 41°.25N×82°.63E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=16.2km s-min=10.6km az=162.0*
ISC 01 00:03:57.7±3.8**, 41°.1N**±0°.2×**82°.7E**±0°.1**, h10km, n39, σ2s.64**/44**, 11C-11D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.18**	**311**	Pg	**Pb**	**00 04 53.2**	**-1.0**
	12nm,0.5s						
SHLS				Lg	Lg	00 05 32.5	
	26nm,0.6s						
SHLS	**Shalkode**	**3.18**	**311**	*e*Pg	**Pb**	**00 04 53.2**	**-1.0**
	12nm,0.5s						
SHLS				*e*Lg	Lg	00 05 32.5	
	44nm,0.1s						
PDGK	**Podgornoye**	**3.27**	**314**	⇑Lg	Lg	00 05 41.1	
	37nm,1.1s						
PDGK	**Podgornoye**	**3.27**	**314**	⇑Pn	**Pn**	**00 04 49.5**	**+0.4**
	4.7nm,0.8s						
PDGK				⇑Pg	**Pb**	**00 04 57.2**	**+1.3**
	12nm,0.8s						
PDGK				⇑Sn	**Sn**	**00 05 28.7**	**+0.5**
	9.3nm,0.5s						
PDGK				⇑Lg	Lg	00 05 41.1	
	37nm,1.1s						
UZB	**Uzynbulak**	**3.43**	**307**	Pg	**Pg**	**00 05 01.8**	**-1.6**
	3.6nm,0.4s						
UZB				Lg	Lg	00 05 46.8	
	22nm,0.6s						
UZB	**Uzynbulak**	**3.43**	**307**	*e*Pg	**Pg**	**00 05 01.8**	**-1.6**
	3.9nm,0.2s						
UZB				*e*Lg	Lg	00 05 46.8	
	22nm,0.6s						
SATY	**Saty**	**3.77**	**302**	Pg	**Pb**	**00 05 05.3**	**+1.0**
	3.9nm,1.4s						
SATY				Lg	Lg	00 05 53.1	
	15nm,1.5s						
SATY	**Saty**	**3.77**	**302**	*e*Pg	**Pb**	**00 05 05.3**	**+1.0**
	3.5nm,0.7s						
SATY				*e*Lg	Lg	00 05 53.1	
	16nm,0.1s						
ZHN	**Zhinishke**	**3.80**	**304**	Pg	**Pb**	**00 05 06.3**	**+1.3**
	2.3nm,0.3s						
ZHN				Lg	Lg	00 05 54.8	
	22nm,0.5s						
ZHN	**Zhinishke**	**3.80**	**304**	*e*Pg	**Pb**	**00 05 06.3**	**+1.3**
	2.2nm,0.1s						
ZHN				*e*Lg	Lg	00 05 54.8	
	22nm,0.7s						
KPKS	**Kokpek**	**3.82**	**309**	Pg	**Pg**	**00 05 09.2**	**-1.5**
	11nm,0.7s						
KPKS				Lg	Lg	00 05 59.6	
	39nm,0.6s						
KPKS	**Kokpek**	**3.82**	**309**	*e*Pg	**Pg**	**00 05 09.2**	**-1.5**
	10nm,0.1s						
KPKS				*e*Lg	Lg	00 05 59.6	
	39nm,0.6s						
DJR	**Jarkent**	**3.88**	**327**	Pg	**Pg**	**00 05 09.6**	**-2.4**
	6.7nm,0.5s						
DJR				Lg	Lg	00 06 00.1	
	6.2nm,0.8s						
DJR	**Jarkent**	**3.88**	**327**	*e*Pg	**Pg**	**00 05 09.6**	**-2.4**
	6.2nm,0.1s						
DJR				*e*Lg	Lg	00 06 00.1	
	6.0nm,0.3s						
KURS	**Kuram**	**4.14**	**306**	Pg	**Pb**	**00 05 13.4**	**+2.9**
	4.4nm,1.9s						
KURS				Lg	Lg	00 06 06.8	
	12nm,1.3s						
KURS	**Kuram**	**4.14**	**306**	*e*Pg	**Pb**	**00 05 13.4**	**+2.9**
	4.4nm,1.9s						
KURS				*e*Lg	Lg	00 06 06.8	
	10.0nm,0.8s						
BLB	**Baldybastay**	**4.33**	**315**	Pg	**Pg**	**00 05 18.1**	**-2.5**
	4.1nm,0.5s						
BLB				Lg	Lg	00 06 14.6	
	8.6nm,1.4s						
KOTS	**Kotyrbulak**	**4.69**	**299**	Pg	**Pg**	**00 05 24.3**	**-3.2**
	2.8nm,0.6s						
KOTS				Lg	Lg	00 06 25.9	
	58nm,1.5s						
KOTS	**Kotyrbulak**	**4.69**	**299**	*e*Pg	**Pg**	**00 05 24.3**	**-3.2**
	2.8nm,0.6s						
KOTS				*e*Lg	Lg	00 06 25.9	
	56nm,0.6s						
MDOK	**Medeo**	**4.70**	**298**	⇓Lg	Lg	00 06 24.5	
	13nm,0.6s						
MDOK	**Medeo**	**4.70**	**298**	Pn	**Pn**	**00 05 12.6**	**+3.9**
	2.4nm,1.1s						
MDOK				Pg	**Pb**	**00 05 21.6**	**+1.4**
	3.3nm,0.7s						
MDOK				⇓Pg	**Pg**	**00 05 24.6**	**-3.1**
	3.5nm,0.7s						
MDOK				Sn	**Sn**	**00 06 02.1**	**-1.4**
	5.7nm,0.7s						
MDOK				Lg	Lg	00 06 21.4	
	7.3nm,0.7s						
MDOK				⇓Lg	Lg	00 06 24.5	
	13nm,0.6s						
TNSS	**Tian-Shan**	**4.72**	**296**	Pg	**Pg**	**00 05 26.0**	**-2.1**
	1.3nm,0.8s						
TNSS				Lg	Lg	00 06 28.4	
	10nm,0.9s						
TNSS	**Tian-Shan**	**4.72**	**296**	*e*Pg	**Pg**	**00 05 26.0**	**-2.1**
	1.0nm,0.2s						
TNSS				*e*Lg	Lg	00 06 28.4	
	10nm,0.3s						
CHKK	**Chushkaly**	**5.06**	**305**	Pg	**Pg**	**00 05 31.0**	**-3.5**
	0.8nm,0.5s						
CHKK				Lg	Lg	00 06 36.9	
	7.3nm,0.6s						
CHKK	**Chushkaly**	**5.06**	**305**	*e*Pg	**Pg**	**00 05 30.9**	**-3.5**
	0.8nm,0.2s						
CHKK				*e*Lg	Lg	00 06 36.9	
	7.3nm,0.1s						
KST	**Kastek**	**5.40**	**293**	Pg	**Pg**	**00 05 37.4**	**-3.6**
	2.4nm,1.1s						
KST				Lg	Lg	00 06 48.3	
	11nm,1.0s						
KST	**Kastek**	**5.40**	**293**	*e*Pg	**Pg**	**00 05 37.4**	**-3.6**
	2.6nm,0.5s						
KST				*e*Lg	Lg	00 06 48.3	
	11nm,1.0s						
KUU	**Kurty**	**5.49**	**302**	Pg	**Pb**	**00 05 37.5**	**+4.0**
	0.5nm,1.2s						
KUU				Lg	Lg	00 06 47.9	
	4.8nm,0.8s						
KUU	**Kurty**	**5.49**	**302**	*e*Pg	**Pb**	**00 05 37.5**	**+4.0**
	1.4nm,0.1s						
KUU				*e*Lg	Lg	00 06 47.9	
	8.1nm,0.2s						
DGS	**Degeres**	**5.60**	**295**	Pg	**Pg**	**00 05 41.9**	**-2.9**
	2.0nm,0.7s						
DGS				Lg	Lg	00 06 56.0	
	10nm,1.1s						
DGS	**Degeres**	**5.60**	**295**	*e*Pg	**Pg**	**00 05 41.9**	**-2.9**
	2.2nm,0.8s						
DGS				*e*Lg	Lg	00 06 56.0	
	8.7nm,0.0s						
TKM2	**Tokmak 2**	**5.62**	**291**	⇑Lg	Lg	00 06 54.6	
	9.9nm,0.7s						
TKM2	**Tokmak 2**	**5.62**	**291**	⇑Lg	Lg	00 06 54.6	
	9.9nm,0.7s						
MK31	**Makanchi Array**	**5.68**	**357**	⇓Pn	**Pn**	**00 05 22.4**	**+0.2**
	3.2nm,1.4s,baz=187,slow=13,SNR=3.7						
MK31				⇓Sn	**Sn**	**00 06 29.8**	**+2.4**
	2.2nm,0.5s,baz=181,slow=26						
MK31				⇑Lg	Lg	00 06 58.1	
	5.5nm,0.6s,baz=176,slow=28						
MK31	**Makanchi Array**	**5.68**	**357**	⇓Pn	**Pn**	**00 05 22.4**	**+0.2**
	3.2nm,1.4s,baz=187,slow=13,SNR=3.7						
MK31				⇓Sn	**Sn**	**00 06 29.8**	**+2.4**
	2.2nm,0.5s,baz=181,slow=26						
MK31				⇑Lg	Lg	00 06 58.1	
	5.5nm,0.6s,baz=176,slow=28						
MAKZ	**Makanchi**	**5.71**	**355**	⇓Pn	**Pn**	**00 05 20.0**	**-2.6**
	1.4nm,0.9s						
MAKZ				⇑Sn	**Sn**	**00 06 30.2**	**+2.0**
	2.2nm,0.6s						
MAKZ				⇓Lg	Lg	00 06 58.6	
	4.5nm,1.0s						
MAKZ	**Makanchi**	**5.71**	**355**	⇓Pn	**Pn**	**00 05 20.0**	**-2.6**
	1.4nm,0.9s						
MAKZ				⇑Sn	**Sn**	**00 06 30.2**	**+2.0**
	2.2nm,0.6s						
MAKZ				⇓Lg	Lg	00 06 58.6	
	4.5nm,1.0s						
KRBS	**Karabastau**	**5.83**	**299**	Pg	**Pg**	**00 05 44.8**	**-4.5**
	0.9nm,0.8s						
KRBS				Lg	Lg	00 07 00.7	
	6.0nm,0.7s						
KRBS	**Karabastau**	**5.83**	**299**	*e*Pg	**Pg**	**00 05 44.8**	**-4.5**
	0.9nm,0.3s						
KRBS				*e*Lg	Lg	00 07 00.7	
	4.0nm,0.6s						

ASRS 01 00:09:25.2±0.3**, 52°N**±2°×**9°6E**±°**, h5km, MLh3.8**/13**, Error ellipse: s-maj=4.4km s-min=3.1km az=176.4, confirmed, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.95**	**266**	Pg	Pn	00 09 46.9	+1.7
KZLR				Sg	Sn	00 09 59.7	+0.4
DJOS	**Djoyskaya Sosn**	**2.99**	**292**	Pg	Pg	00 10 21.5	-1.0
DJOS				Sg	Sg	00 11 04.9	+3.6
DJO	**Djoy, Khakassi**	**3.10**	**291**	Pn	Pb	00 10 20.9	+0.2
DJO				Pg	Pg	00 10 25.9	+1.5
DJO				Sg	Sg	00 11 07.4	+2.9
MOY	**Mondy**	**3.12**	**90**	Pg	Pg	00 10 23.8	-1.1
MOY				Sg	Sg	00 11 04.9	-0.3
MINR	**Mina**	**3.30**	**342**	Pg	Pg	00 10 31.2	+2.8
MINR				Sg	Sg	00 11 15.8	+4.6
LUZB	**Luzhba, Kemero**	**4.70**	**296**	Pn	Pn	00 10 42.0	+5.2
LUZB				Pg	Pg	00 10 54.4	-0.8
LUZB				Sg	Sg	00 11 55.3	-0.7
GZLN	**Zheleznogorsk**	**4.79**	**345**	Sg	Sg	00 12 03.0	+4.2
TASR	**Tashtagol**	**5.07**	**284**	Pn	Pn	00 10 45.1	+3.3
TASR				Pg	Pg	00 11 01.5	-0.8
TASR				Sg	Sg	00 12 08.9	+0.9
CUR	**Chagan-Uzun**	**5.11**	**254**	Pn	Pn	00 10 44.6	+2.1
CUR				Pg	Pg	00 11 01.7	-1.3
CUR				Sg	Sg	00 12 06.3	-3.0
ULGR	**Ulagan, Altay**	**5.18**	**260**	Pg	Pg	00 11 05.9	+1.6
ULGR				Sg	Sg	00 12 12.2	+0.9
ARTR	**Artybash**	**5.40**	**274**	Pg	Pg	00 11 09.1	+0.5
ARTR				Sg	Sg	00 12 21.4	+2.8
CHBI	**Chibit, Altay**	**5.55**	**258**	Pn	Pn	00 10 53.0	+4.6
CHBI				Pg	Pg	00 11 10.6	-0.8
CHBI				Sg	Sg	00 12 26.0	+2.8
DGZ	**Jazzator, Alta**	**5.82**	**252**	Pn	Pn	00 10 52.5	+0.3
DGZ				Pg	Pg	00 11 14.9	-1.6
DGZ				Sg	Sg	00 12 33.2	+1.4
ELT	**Eltsovka**	**6.13**	**288**	Pg	Pg	00 11 18.3	-4.2
ELT				Sg	Sg	00 12 45.9	+4.0
POMOR	**Pomortsevo, Ku**	**6.28**	**298**	Sg	Sg	00 12 55.0	+8.5

IDC 01 00:10:35.0±2.2**, 14°.08S**×**70°.56W, h0km, mb3.4**/2**, mbtmp3.4**/4**, ML3.4**/2**, MS2.5**/2**, Error ellipse: s-maj=112.8km s-min=23.4km az=43.0, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.21**	**133**	Pn	Pn	00 11 26.8	-0.5
	3.9nm,0.3s,baz=315,slow=8.8,SNR=76						
LPAZ				Sn	Sn	00 12 08.7	+2.2
	1.3nm,0.3s,baz=21,slow=25,SNR=1.7						
	17nm,0.5s						
NNA	**Nana**	**6.47**	**288**	LR	LR	00 14 42.9	
	comp=Z,23nm,18.1s,baz=124,slow=38						
SIV	**San Ignacio**	**9.36**	**103**	Pn	Pn	00 12 51.4	+0.2
	baz=287,slow=9.8,SNR=6.1						
SIV				LR	LR	00 16 40.8	
	comp=Z,38nm,20.2s,baz=270,slow=39						
	0.9nm,0.7s						
TXAR	**Lajitas Array**	**53.71**	**324**	P	P	00 19 59.3	+0.2
	0.2nm,0.7s,baz=130,slow=8.4,SNR=2.2						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**83.70**	**341**	P	P	00 23 05.2	-0.1
	0.4nm,0.7s,baz=138,slow=5.0,SNR=6.8						
	0.4nm,0.7s						

*BJI **01** 00:13:23.9±0.0, 2°.59N×127°.75E, h95km, mb4.7/47, mB5.1/20*
*MAN **01** 00:13:24.6, 2°.98N×127°.50E, h123km, mb4.7, ML3.5, MS3.4*
*IDC **01** 00:13:24.6±1.3, 2°.79N×127°.61E, h76km±12km, mb4.2/23, mbtmp4.6/27, MS3.4/18, Error ellipse: s-maj=16.9km s-min=7.6km az=70.0*
*DJA **01** 00:13:25.1±0.4, 3°N±3°×12°8E±°, h76km±3km, M4.9/20, mb5.0/20, mB5.4/8, MLv5.0/12, Mw(mB)4.8/8*
*NEIC **01** 00:13:25.4±1.5, 2°.83N±0°.05×127°.58E±0°.08, h79km±7km, mb5.0/75, Error ellipse: s-maj=11.4km s-min=7.0km az=89.0*
ISC 01 00:13:23.0±0.4**, 2°.88N**±0°.03×**127°.60E**±0°.06**, h61km**±3km**, h61km:pP-P, n263, σ1s.57**/271**, mb4.9**/92**, 8C-3D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.10**	**186**	Pn	**Pn**	**00 13 57.5**	**+1.6**
TNTI				Sn	**Sn**	**00 14 23.0**	**+2.0**
TNTI	**Ternate**	**2.10**	**186**	P	**Pn**	**00 13 58.3**	**+2.4**
TNTI	**Ternate**	**2.10**	**186**	P	**Pn**	**00 13 57.8**	**+1.9**
TNTI				S	**Sn**	**00 14 23.4**	**+2.4**
SGSI	**Sangihe**	**2.22**	**291**	P	**Pn**	**00 13 57.7**	**+0.2**
DDMP	**Don Marcelino,**	**3.72**	**330**	⇑*e*P	**Pn**	**00 14 18.7**	**+0.8**
DDMP				*i* S	**Sn**	**00 15 02.0**	**+1.4**
GSPH	**General Santos**	**4.14**	**320**	⇓*i*P	**Pn**	**00 14 23.9**	**+0.1**
GSPH				*i* S	**Sn**	**00 15 10.2**	**-1.0**
DAV	**Davao City (W)**	**4.63**	**334**	P	Pn	00 14 34.4	+4.0
	227nm,0.5s,baz=96,slow=9.6,SNR=10						
DAV				S	**Sn**	**00 15 27.5**	**+4.6**
	289nm,0.6s,baz=127,slow=20,SNR=4.0						
DAV	**Davao City (W)**	**4.63**	**334**	Pn	**Pn**	**00 14 32.9**	**+2.5**
SKMP	**Bagumbayan, Su**	**4.73**	**320**	⇑*e*P	**Pn**	**00 14 32.8**	**+1.0**
SKMP				*e*S	**Sn**	**00 15 24.4**	**-1.0**
KCP	**Kidapawan**	**4.81**	**329**	⇑*i*P	**Pn**	**00 14 35.2**	**+2.2**
KCP				*i* S	**Sn**	**00 15 28.4**	**+1.0**
GTOI	**Gorontalo**	**5.10**	**244**	P	**Pn**	**00 14 38.5**	**+1.6**
	94nm,0.5s,1μm0.5nm						
SANI	**Sanana**	**5.15**	**198**	P	**Pn**	**00 14 37.3**	**-0.3**
	135nm,0.5s,10μm1.0nm						
SIJI	**Sorong**	**5.22**	**135**	P	**Pn**	**00 14 41.1**	**+2.6**
	213nm,0.4s,baz=343,slow=23,SNR=170						
SIJI				S	**Sn**	**00 15 38.5**	**+1.0**
	75nm,0.6s,baz=229,slow=19,SNR=8.9						
SIJI				LR	LR	00 16 47.5	
	comp=Z,435nm,20.1s,baz=63,slow=39						
BIPH	**Bislig**	**5.42**	**347**	⇑*i*P	**Pn**	**00 14 42.1**	**+0.9**
BIPH				*i* S	**Sn**	**00 15 35.2**	**-7.0**
CTBH	**Cotabato--PC H**	**5.46**	**322**	⇑*i*P	**Pn**	**00 14 43.7**	**+1.9**
MRSI	**Marisa**	**6.14**	**247**	P	**Pn**	**00 14 53.4**	**+2.3**
	2μm,0.6s,11μm4.9nm						
LUWI	**Luwuk**	**6.20**	**231**	Pn	**Pn**	**00 14 54.1**	**+2.1**
LUWI	**Luwuk**	**6.20**	**231**	P	**Pn**	**00 14 55.0**	**+3.0**
	164nm,0.6s,4μm2.5nm						
CGP	**Cagayan de Oro**	**6.25**	**333**	⇓*e*P	**Pn**	**00 14 54.3**	**+1.7**
MSAI	**Masohi**	**6.32**	**168**	P	Pn	00 14 59.2	+5.6
PAGZ	**Pagadian**	**6.48**	**320**	⇑*e*P	**Pn**	**00 14 56.7**	**+0.8**
AAI	**Ambon**	**6.55**	**175**	P	Pn	00 15 06.5	+10
TOLI2	**Tolitoli**	**7.04**	**256**	Pn	**Pn**	**00 15 03.6**	**+0.2**
APSI	**Ampana**	**7.04**	**238**	P	**Pn**	**00 15 05.7**	**+2.2**
	257nm,0.7s,3μm1.1nm						
FAKI	**Fak Fak**	**7.40**	**141**	Pn	**Pn**	**00 15 10.7**	**+2.3**
FAKI	**Fak Fak**	**7.40**	**141**	P	**Pn**	**00 15 11.4**	**+3.0**
	66nm,0.6s						
FAKI	**Fak Fak**	**7.40**	**141**	P	**Pn**	**00 15 11.3**	**+2.9**
	73nm,0.6s,0.4nm						
MPSI	**Mapaga**	**8.10**	**252**	P	**Pn**	**00 15 20.1**	**+2.1**
	134nm,1.0s,1μm						
MYLDM	**Lahad Datu**	**9.36**	**284**	Pn	**Pn**	**00 15 38.0**	**+2.7**
SPSI	**Sidrap Palu**	**10.37**	**229**	P	Pn	00 15 56.3	+7.3
BNSI	**Bone**	**10.41**	**226**	P	**Pn**	**00 15 50.6**	**+1.0**
	16nm,0.8s						
KAPI	**Kappang**	**11.09**	**225**	P	**Pn**	**00 15 59.3**	**+0.5**
	6.3nm,0.3s,baz=100,slow=5.2,SNR=10						
KAPI				S	**Sn**	**00 17 54.9**	**-6.5**
	14nm,0.5s,baz=129,slow=20,SNR=7.7						
KAPI	**Kappang**	**11.09**	**225**	Pn	**Pn**	**00 15 59.2**	**+0.4**
KAPI	**Kappang**	**11.09**	**225**	P	**Pn**	**00 16 00.6**	**+1.7**
	18nm,0.8s						
KKM	**Kota Kinabalu**	**11.78**	**286**	Pn	**Pn**	**00 16 11.7**	**+3.3**
SOEI	**Soe**	**12.98**	**195**		**Pn**	**00 16 28.1**	**+3.2**
MTKI	**Muara Teweh, K**	**13.26**	**254**	P	**Pn**	**00 16 30.4**	**+1.9**
	41nm,0.4s						
BATI	**Baumata**	**13.58**	**197**	P	**Pn**	**00 16 34.5**	**+1.7**
	24nm,0.6s,baz=115,slow=22,SNR=3.2						
BATI	**Baumata**	**13.58**	**197**	P	P	00 16 45.6	+5.7
PLAI	**Plampang**	**15.20**	**220**	P	**P**	**00 16 58.0**	**+0.1**
	54nm,0.9s						
PLAI	**Plampang**	**15.20**	**220**	P	**P**	**00 17 00.0**	**+2.1**
SBUM	**Sibu**	**15.37**	**269**	Pn	**Pn**	**00 16 57.8**	**+1.5**
TWSI	**Taliwang, Sumb**	**15.73**	**223**	P	**P**	**00 17 06.9**	**+3.2**
MTN	**Manton Dam**	**16.01**	**167**		**Pn**	**00 17 03.4**	**-1.0**
BLJI	**Banyuglugur**	**17.51**	**233**	P	P	00 17 31.0	+7.5
JAGI	**Jajag, Banyuwa**	**17.52**	**230**	P	**P**	**00 17 24.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**17.52**	**230**	P	**P**	**00 17 26.3**	**+2.7**
	26nm,0.6s						
KNRA	**Kununurra**	**18.47**	**176**	P	**P**	**00 17 33.1**	**-0.9**
KNRA	**Kununurra**	**18.47**	**176**	P	**P**	**00 17 33.5**	**-0.5**
	50nm,0.9s						
GUMO	**Guam**	**20.11**	**57**	LR	LR	00 24 35.9	
	comp=Z,68nm,21.4s,baz=158,slow=33						
UGM	**Wanagama**	**20.13**	**238**		**P**	**00 17 53.0**	**+0.8**
UGM	**Wanagama**	**20.13**	**238**	P	Pn	00 17 54.4	-0.1
	69nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.93**	**185**	P	**P**	**00 17 59.3**	**-1.5**
YULB	**Yu-li**	**21.29**	**344**	P	**P**	**00 18 03.9**	**-0.8**
TPUB	**Ta-pu**	**21.40**	**342**	P	**P**	**00 18 05.7**	**0.0**
SSLB	**Suanglung**	**21.76**	**343**	P	**P**	**00 18 10.0**	**+0.3**
YHNB	**Yeheng**	**22.48**	**345**	P	**P**	**00 18 17.7**	**+0.1**
YHNB				IAmb	IAmb	00 18 32.4	
	comp=Z,133nm,1.4s						
PMG	**Port Moresby**	**22.99**	**122**	LR	LR	00 28 32.7	
	comp=Z,175nm,20.0s,baz=346,slow=40						
WB0	**Warramunga Arr**	**23.47**	**164**	P	**P**	**00 18 25.7**	**-1.7**
WB0				IAmb	IAmb	00 18 28.0	
	comp=Z,40nm,1.1s						
WRAB	**Tennant Creek**	**23.62**	**164**	P	**P**	**00 18 27.3**	**-1.4**
	comp=Z,28nm,0.7s						
WRA	**Warramunga Arr**	**23.62**	**164**	P	**P**	**00 18 27.2**	**-1.6**
	comp=Z,11nm,0.6s,baz=342,slow=10,SNR=98						
WRA				PcP	**PcP**	**00 22 11.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=4.0,slow=2.0,SNR=1.1						
WRA				ScP	**ScP**	**00 25 43.6**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=22,slow=2.7,SNR=1.1						
WRA				LR	LR	00 28 34.3	
	comp=Z,87nm,20.0s,baz=23,slow=39						
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**23.62**	**164**	P	**P**	**00 18 25.9**	**-2.9**
WR0	**Warramunga Arr**	**23.70**	**164**	P	**P**	**00 18 28.0**	**-1.4**
MDSI	**Maura Dua**	**24.52**	**253**	P	**P**	**00 18 39.6**	**+2.6**
	comp=Z,16nm,1.0s						
UBPT	**Khong Chiam**	**25.05**	**301**	P	**P**	**00 18 41.5**	**-0.4**
UBPT				IAmb	IAmb	00 19 09.3	
	comp=Z,184nm,1.9s						
MBWA	**Marble Bar**	**25.10**	**198**	P	**P**	**00 18 41.6**	**-0.6**
MBWA				IAmb	IAmb	00 18 42.3	
	comp=Z,40nm,0.9s						
MBWA	**Marble Bar**	**25.10**	**198**	P	**P**	**00 18 41.6**	**-0.6**
	comp=Z,41nm,1.2s						
QIS	**Mount Isa**	**26.10**	**154**	P	**P**	**00 18 51.4**	**+0.1**
	comp=Z,28nm,1.2s						
AS31	**Alice Springs**	**27.09**	**167**	P	**P**	**00 18 58.5**	**-1.7**
ASAR	**Alice Springs**	**27.09**	**167**	P	**P**	**00 18 58.3**	**-1.8**
	comp=Z,2.4nm,0.4s,baz=342,slow=7.1,SNR=71						
ASAR				PcP	**PcP**	**00 22 19.4**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=350,slow=2.1,SNR=7.0						
ASAR				ScP	**ScP**	**00 25 54.4**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=334,slow=2.6,SNR=2.4						
ASAR				LR	LR	00 31 32.2	
	comp=Z,72nm,18.6s,baz=14,slow=40						
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**27.09**	**167**	P	**P**	**00 18 58.9**	**-1.2**
JCJ	**Chichijima**	**27.84**	**29**	LR	LR	00 28 52.1	
	comp=Z,44nm,21.9s,baz=203,slow=33						
GIRL	**Giralia**	**28.53**	**207**	P	**P**	**00 19 13.1**	**+0.2**
GIRL	**Giralia**	**28.53**	**207**	P	**P**	**00 19 14.3**	**+1.3**
	comp=Z,163nm,1.4s						
CTA	**Charters Tower**	**29.26**	**142**	P	**P**	**00 19 19.4**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=269,slow=9.9,SNR=3.3						
CTA				LR	LR	00 33 01.9	
	comp=Z,96nm,20.3s,baz=22,slow=40						
	comp=Z,3.8nm,1.0s						
CTAO	**Charters Tower**	**29.26**	**142**	P	**P**	**00 19 19.6**	**0.0**
CTAO				IAmb	IAmb	00 20 08.0	
	comp=Z,34nm,1.8s						
NJ2	**Nanjing**	**30.17**	**345**	*e*P	**P**	**00 19 30.5**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WHN	**Wuhan**	**30.24**	**337**	⇑P	**P**	**00 19 30.6**	**+2.5**
JNU	**Nakatsue**	**30.24**	**5**	P	**P**	**00 19 28.4**	**+0.2**
JNU				IAmb	IAmb	00 19 30.8	
	comp=Z,18nm,0.9s						
MEEK	**Meekatharra**	**30.60**	**196**	P	**P**	**00 19 30.7**	**-0.7**
	comp=Z,28nm,0.7s						
PHRA	**Phrae**	**30.98**	**302**	P	**P**	**00 19 35.5**	**+0.7**
OOD	**Oodnadatta**	**31.47**	**166**	P	**P**	**00 19 38.8**	**-0.2**
	comp=Z,8.6nm,2.1s						
CRAI	**Chiangrai**	**31.67**	**305**	P	**P**	**00 19 41.0**	**+0.2**
CRAI				IAmb	IAmb	00 19 59.1	
	comp=Z,24nm,1.9s						
CMAR	**Chiang Mai Arr**	**32.05**	**301**	P	**P**	**00 19 44.9**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=113,slow=6.7,SNR=24						
CMAR				LR	LR	00 35 15.2	
	comp=Z,31nm,18.1s,baz=110,slow=41						
	comp=Z,3.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.05**	**301**	P	**P**	**00 19 44.4**	**+0.2**
CHTO	**Chiang Mai**	**32.21**	**302**	P	**P**	**00 19 45.8**	**+0.2**
JHS	**Saijyo**	**32.37**	**8**	P	**P**	**00 19 47.4**	**+0.5**
INKA	**Innaminka**	**32.97**	**158**	P	**P**	**00 19 51.8**	**-0.3**
	comp=Z,19nm,0.7s						
TJN	**Taejon**	**33.34**	**360**	P	**P**	**00 19 55.5**	**+0.3**
QLP	**Quilpie**	**33.41**	**152**	P	**P**	**00 19 54.9**	**-1.1**
	comp=Z,26nm,0.9s						
FORT	**Forrest**	**33.47**	**179**	P	**P**	**00 19 54.8**	**-1.6**
FORT	**Forrest**	**33.47**	**179**	P	**P**	**00 19 55.4**	**-1.0**
	comp=Z,56nm,0.7s						

INU Inuyama 33.47 14 P P 00 19 56.0 -0.3
INU IAmb IAmb 00 19 57.9
comp=Z,21nm,0.7s
INU Inuyama 33.47 14 P P 00 19 56.4 0.0
MULG Mulgathing 33.55 170 P P 00 19 56.4 -0.7
comp=Z,20nm,1.1s
MORW Morawa 33.64 198 P P 00 19 56.7 -1.2
MORW IAmb IAmb 00 19 57.7
comp=Z,22nm,1.1s
MORW Morawa 33.64 198 P P 00 19 57.2 -0.8
comp=Z,18nm,1.0s
JGF Kuroka 33.79 14 P P 00 19 59.5 +0.2
PZH PanZhiHua 34.16 316 P P 00 20 04.0 +1.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.6s
KSAR Wonju Array Be 34.40 0 P P 00 20 04.5 +0.1
KSRS Korea Array 34.41 0 P P 00 20 04.8 +0.4
comp=Z,9.1nm,0.7s,baz=177,slow=9.5,SNR=33
KSRS LR LR 00 39 59.2
comp=Z,13nm,18.1s,baz=175,slow=46
comp=Z,9.1nm,0.7s
KS19 Wonju Array Si 34.46 0 P P 00 20 04.5 -0.4
KS19 IAmb IAmb 00 20 07.5
comp=Z,12nm,0.8s
KMBL Kambalda 34.49 189 P P 00 20 03.7 -1.6
comp=Z,37nm,1.1s
LYN LuoYang 34.52 338 ⇑P P 00 20 07.6 +2.1
LYN pmax pmax
comp=Z,10.0nm,0.8s
TIA Tai'an 34.56 345 *eP* **P 00 20 05.8 0.0**
TIA pmax pmax
comp=Z,6.0nm,0.7s
LCRK Leigh Creek 34.65 164 P P 00 20 06.3 -0.4
comp=Z,38nm,0.8s
BLDU Ballidu 34.89 197 P P 00 20 07.7 -1.0
comp=Z,23nm,1.0s
MJAR Matsushiro Arr 34.90 15 P P 00 20 07.2 -1.6
comp=Z,4.9nm,0.7s,baz=183,slow=9.4,SNR=17
MJAR LR LR 00 32 14.6
comp=Z,72nm,20.1s,baz=195,slow=32
MAJO Matsushiro 34.90 15 P P 00 20 08.1 -0.7
MAJO IAmb IAmb 00 21 04.6
comp=Z,33nm,1.8s
MAJO Matsushiro 34.90 15 P P 00 20 08.2 -0.6
MJB9 Matsu-Tunnel 34.90 15 P P 00 20 08.3 -0.5
MJB9 IAmb IAmb 00 21 04.6
comp=Z,30nm,1.7s
KLBR Kellerberrin 35.53 195 P P 00 20 13.3 -1.0
comp=Z,104nm,0.9s
XAN Xi'an 35.57 333 P P 00 20 17.1 +2.5
XAN pmax pmax
comp=Z,10.0nm,1.2s
EIDS Eidsvold 36.15 142 P 00 20 18.5 -1.2
EIDS IAmb IAmb 00 20 19.7
comp=Z,9.6nm,0.8s
MUN Mundaring 36.31 196 P P 00 20 20.0 -0.9
comp=Z,30nm,0.6s
JSD Sado 36.33 14 P P 00 20 20.4 -0.6
HNS HongShan 36.34 343 ⇓P P 00 20 23.1 +2.0
HNS pmax pmax
comp=Z,15nm,0.9s
BBOO Buckleboo 36.39 168 P P 00 20 20.2 -1.4
BBOO IAmb IAmb 00 20 21.9
comp=Z,18nm,1.1s
BBOO Buckleboo 36.39 168 P P 00 20 20.3 -1.2
comp=Z,17nm,0.8s
JMM Marumori 36.86 18 P P 00 20 25.3 -0.2
JMM IAmb IAmb 00 20 28.6
comp=Z,25nm,1.0s
NWAO Narrogin (SRO) 36.94 195 P P 00 20 25.3 -0.9
NWAO IAmb IAmb 00 20 26.0
comp=Z,17nm,0.6s
NWAO Narrogin (SRO) 36.94 195 P P 00 20 25.5 -0.7
comp=Z,30nm,0.7s
NWAO Narrogin (SRO) 36.94 195 P P 00 20 24.7 -1.5
comp=Z,30nm,0.7s
NWAO Narrogin (SRO) 36.94 195 P P 00 20 25.3 -0.9
STKA Stephens Creek 37.03 160 P P 00 20 26.2 -0.9
comp=Z,23nm,0.4s,baz=335,slow=8.9,SNR=101
STKA LR LR 00 38 54.0
comp=Z,64nm,20.5s,baz=23,slow=41
comp=Z,23nm,0.4s
STKA Stephens Creek 37.03 160 P P 00 20 26.1 -1.0
STKA IAmb IAmb 00 20 27.6
comp=Z,5.7nm,0.6s
STKA Stephens Creek 37.03 160 P P 00 20 26.6 -0.5
comp=Z,7.4nm,0.6s
HTT Hallett 37.66 164 P P 00 20 31.9 -0.5
comp=Z,7.2nm,1.6s
CMSA Cobar Meteorol 38.31 155 P P 00 20 37.1 -0.7
comp=Z,9.2nm,1.1s
BJT Baijiatuan 38.40 346 P P 00 20 39.1 +0.6
BJT IAmb IAmb 00 20 40.4
comp=Z,19nm,0.8s
BJT Baijiatuan 38.40 346 P P 00 20 39.5 +1.0
RKGY Rocky Gully 38.60 194 P P 00 20 40.6 +0.3
comp=Z,72nm,0.8s
JTM Tenmabayashi 39.65 16 P P 00 20 50.5 +1.6
LZH Lanzhou 39.67 329 *eP* **P 00 20 51.2 +1.8**
LZH pmax pmax
comp=Z,19nm,1.3s
ARMA Armidale 40.28 147 P P 00 20 54.4 -0.1
ARMA IAmb IAmb 00 20 55.4
comp=Z,20nm,0.6s
ARMA Armidale 40.28 147 P P 00 20 54.9 +0.4
comp=Z,29nm,0.7s
HHC Hu-ho-hao-te 40.48 341 *eP* P 00 21 01.7 +5.8
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,240nm,5.5s
CN2 Changchun 40.80 358 *eP* **P 00 21 02.6 +4.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SHL Shillong 41.08 307 P P 00 21 00.2 -1.0
SHL IAmb IAmb 00 21 02.5
comp=Z,11nm,0.7s
H11S3 WAKE ISLAND Hy 41.29 65 T T 01 04 27.2
baz=249,slow=74
H11S2 WAKE ISLAND Hy 41.30 65 T T 01 04 27.8
baz=249,slow=74
H11S1 WAKE ISLAND Hy 41.30 65 T T 01 04 50.9
baz=249
USRK Ussuriysk Ar. 41.33 5 P P 00 21 03.5 +0.7
comp=Z,7.2nm,0.7s,baz=193,slow=8.1,SNR=13
USRK LR LR 00 35 21.0
comp=Z,34nm,21.4s,baz=197,slow=32
comp=Z,7.2nm,0.7s
USRK Ussuriysk Ar. 41.33 5 P P 00 21 03.8 +1.0
MDJ Mudanjiang 41.60 2 P P 00 21 06.9 +1.9
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,240nm,4.4s
ARPS Mount Arapiles 41.62 163 P P 00 21 04.9 -0.3
comp=Z,18nm,1.0s
H11N1 WAKE ISLAND Hy 41.84 63 T T 01 05 27.2
baz=249,slow=75
H11N2 WAKE ISLAND Hy 41.85 63 T T 01 05 42.2
baz=249
H11N3 WAKE ISLAND Hy 41.86 63 T T 01 05 27.7
baz=249,slow=75
CAN Canberra 42.97 154 P P 00 21 15.7 -0.6
CAN IAmb IAmb 00 21 17.5
comp=Z,22nm,1.2s
CAN Canberra 42.97 154 P P 00 21 16.8 +0.6
CAN pP **sP 00 21 37.4 -0.2**
ASAJ Asahikawa 43.16 16 P P 00 21 18.1 +0.5
comp=Z,21nm,1.1s,baz=232,slow=6.4,SNR=12
ASAJ LR LR 00 37 16.7
comp=Z,65nm,21.5s,baz=206,slow=33
comp=Z,21nm,1.1s
JKA Kamikawa-asahi 43.16 16 P P 00 21 17.9 +0.2
JKA IAmb IAmb 00 21 23.8
comp=Z,48nm,1.3s
TOO Toolangi 43.54 159 P P 00 21 20.9 +0.1
TOO Toolangi 43.54 159 P P 00 21 21.8 +1.0
comp=Z,7.2nm,0.6s
GTA Gaotai 44.27 329 *eP* **P 00 21 29.3 +2.5**
GTA pmax pmax
comp=Z,5.0nm,1.2s
KLR Kul'dur 46.32 4 P P 00 21 42.7 0.0
comp=Z,5.9nm,0.7s,baz=209,slow=4.1,SNR=16
KLR LR LR 00 42 30.0
comp=Z,28nm,19.4s,baz=168,slow=38
comp=Z,5.9nm,0.7s
HEH HeiHe 47.21 360 *eP* **P 00 21 50.5 +0.9**
ULN Ulaanbaatar 48.20 342 P P 00 21 57.8 +0.3
ULN Ulaanbaatar 48.20 342 P P 00 21 58.9 +1.3
SONM Songino Array 48.38 341 P P 00 21 59.2 +0.3
comp=Z,2.2nm,0.9s,baz=170,slow=9.0,SNR=10.0
SONM LR LR 00 43 19.3
comp=Z,38nm,20.4s,baz=210,slow=37
comp=Z,2.2nm,0.9s
SONM Songino Array 48.38 341 P P 00 21 59.6 +0.7
WMQ Urumqi 53.92 325 *eP* **P 00 22 42.5 +2.1**
WMQ pmax pmax
comp=Z,15nm,0.9s
PEA0B Petropavlovsk- 55.89 21 P 00 22 55.3 +0.9
PETK Petropavlovsk- 55.89 21 P P 00 22 55.1 +0.7
comp=Z,6.3nm,0.7s,baz=190,slow=6.9,SNR=9.6
comp=Z,6.3nm,0.7s
MK31 Makanchi Array 58.75 325 P P 00 23 15.8 +1.1
MK31 IAmb IAmb 00 23 16.9
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 58.75 325 P P 00 23 15.6 +0.9
comp=Z,10nm,0.7s,baz=122,slow=8.3,SNR=84
comp=Z,10nm,0.7s
MKAR Makanchi Array 58.75 325 P P 00 23 15.7 +1.0
MAKZ Makanchi 58.94 325 P P 00 23 17.1 +1.0
MAKZ IAmb IAmb 00 23 18.1
comp=Z,14nm,0.8s
MAKZ Makanchi 58.94 325 P P 00 23 17.1 +1.1
MAKZ pP **sP 00 23 37.1 -0.8**
TARG Taragay, Kyrgy 58.96 318 P P 00 23 17.4 +0.6
TARG IAmb IAmb 00 23 30.6
comp=Z,13nm,1.6s
YAK Yakutsk 59.03 1 P P 00 23 16.6 +0.3
comp=Z,12nm,0.7s,baz=171,slow=0.5,SNR=19
comp=Z,12nm,0.7s
YAK Yakutsk 59.03 1 P P 00 23 16.5 +0.1
YAK Yakutsk 59.03 1 P P 00 23 16.6 +0.3
KSH Kashi 59.26 315 P P 00 23 22.5 +4.0
KSH pmax pmax
comp=Z,4.0nm,1.1s
MA2 Magadan 59.32 13 P P 00 23 19.1 +0.7
comp=Z,8.6nm,0.7s,baz=220,slow=8.4,SNR=5.2
MA2 LR LR 00 48 57.5
comp=Z,21nm,19.4s,baz=287,slow=36
comp=Z,8.6nm,0.7s
MA2 Magadan 59.32 13 P P 00 23 19.3 +0.9
MA2 IAmb IAmb 00 23 20.3
comp=Z,19nm,1.0s
LBZ Lake Benmore 60.49 146 P P 00 23 26.3 -0.5
TKM2 Tokmak 2 60.96 319 P P 00 23 31.5 +1.3
SNR=7.0
BKZ Black Stump Fm 61.37 138 P P 00 23 32.1 -0.8
UCH Uchtor 61.39 317 P P 00 23 35.7 +2.2
SNR=9.3
RTZ Ruatahuna 61.42 137 P P 00 23 32.4 -0.8
RTZ IAmb IAmb 00 24 53.3
comp=Z,19nm,1.3s
AAK Ala-Archa 61.57 318 LR LR 00 52 38.9
comp=Z,102nm,18.4s,baz=28,slow=38
AAK Ala-Archa 61.57 318 P P 00 23 35.4 +1.1
AAK Ala-Archa 61.57 318 P P 00 23 35.5 +1.1
ZAA0 Zalesovo Array 61.74 333 P P 00 23 35.0 0.0
ZAA0 IAmb IAmb 00 23 36.5
comp=Z,14nm,1.9s
ZALV Zalesovo Beam 61.74 333 P P 00 23 34.6 -0.4
comp=Z,1.1nm,0.6s,baz=127,slow=5.7,SNR=7.5
comp=Z,1.1nm,0.6s
ZALV Zalesovo Beam 61.74 333 P P 00 23 34.4 -0.5
USP Ospenovka 61.83 318 P P 00 23 37.5 +1.6
SNR=5.2
AML Almayashu 61.90 317 P P 00 23 38.6 +1.7
SNR=11
EKS2 Erkin-Say 62.06 318 P P 00 23 39.6 +2.0
SNR=9.8
SEY Seymchan 62.67 12 P P 00 23 42.4 +1.3
comp=Z,6.2nm,1.0s,baz=223,slow=6.5,SNR=8.9
comp=Z,6.2nm,1.0s
KBL Kabul 62.73 308 P P 00 23 42.4 +0.1
GAR Garm 63.14 313 P P 00 23 45.0 +0.2
CHGR Chuyangaron 63.88 312 P P 00 23 50.1 +0.4
SIMJ Simiganj 63.99 312 P P 00 23 51.2 +0.7
KK31 Karatay Array 64.44 317 P P 00 23 53.4 +0.2
KK31 IAmb IAmb 00 23 55.0
comp=Z,9.3nm,0.9s
KKAR Karatay Array 64.44 317 P P 00 23 53.7 +0.5
ADK Adak 67.18 34 P P 00 24 11.0 +0.5
HRA Herat 68.14 306 P P 00 24 17.3 +0.1
BRVK Borovoye 68.58 327 P P 00 24 19.4 +0.1
BRVK Borovoye 68.58 327 P P 00 24 19.8 +0.4
BRVK pP **sP 00 24 40.5 -0.9**
TIXI Tiksi 68.68 0 P P 00 24 19.2 -0.3
DRV Dumont d'Urvil 69.95 175 P P 00 24 26.3 -1.1
DRV pP **sP 00 24 46.3 -3.0**
NRIK Noril'sk 71.46 346 P P 00 24 36.8 +0.1
comp=Z,3.1nm,0.9s,baz=136,slow=5.8,SNR=8.2
comp=Z,3.1nm,0.9s
NRIK Noril'sk 71.46 346 P P 00 24 36.8 +0.1
GEYT Alibeck 72.10 309 P P 00 24 42.3 +1.1
comp=Z,2.6nm,0.9s,baz=197,slow=1.5,SNR=7.0
comp=Z,2.6nm,0.9s
ABKAR Akbulak array 73.36 321 P P 00 24 48.0 -0.4
ABKAR Akbulak array 73.36 321 P P 00 24 48.1 -0.2
ARU Arti 76.12 328 P P 00 25 03.7 -0.5
RAYN Ar Rayn 81.62 293 P P 00 25 34.4 -0.7
OHAK Old Harbor 81.69 33 P P 00 25 35.7 +1.0
KDAK Kodiak Island 82.14 32 P P 00 25 37.6 +0.6
comp=Z,8.7nm,0.7s,baz=252,slow=3.8,SNR=10
comp=Z,8.7nm,0.7s
KDAK Kodiak Island 82.14 32 P P 00 25 37.9 +0.8
KDAK Kodiak Island 82.14 32 P P 00 25 38.4 +1.4
baz=263
J20K Nowinta River 82.31 26 P P 00 25 39.6 +1.8
baz=261
VNDA Vanda 82.48 173 P P 00 25 37.9 -0.6
comp=Z,4.1nm,0.6s,baz=322,slow=5.9,SNR=24
VNDA LR LR 01 02 47.3
comp=Z,28nm,18.7s,baz=49,slow=36
comp=Z,4.1nm,0.6s
VNDA Vanda 82.48 173 P P 00 25 38.1 -0.3
IMAR Indian Mountai 82.77 24 P P 00 25 40.6 +0.4
G21K Allakaket 82.95 23 P P 00 25 43.1 +2.0
baz=261
H21K Melozitna Rive 83.10 24 P P 00 25 44.0 +2.1
baz=262
CAST Castle Rocks 83.10 27 P P 00 25 42.9 +0.9
CAST IAmb IAmb 00 26 52.6
comp=Z,39nm,2.0s
CAST Castle Rocks 83.10 27 P P 00 25 43.4 +1.5
baz=262
SKT Skwentna 83.18 28 P P 00 25 42.4 0.0
SKT IAmb IAmb 00 27 43.2
comp=Z,26nm,1.5s
SKT Skwentna 83.18 28 P P 00 25 43.1 +0.8
baz=263
I21K Tanana 83.37 25 P P 00 25 45.4 +2.1
baz=262
SBA Scott Base 83.38 172 P P 00 25 43.5 +0.5
SUA Susitna One 83.49 29 P P 00 25 44.1 0.0
SUA IAmb IAmb 00 25 45.7
comp=Z,20nm,1.1s
SUA Susitna One 83.49 29 P P 00 25 45.0 +0.8
baz=264
F22K John River 83.61 22 P P 00 25 46.6 +2.1
baz=262
H22K Ishtalitna Cre 83.72 24 P P 00 25 47.4 +2.3
baz=263
M22K Willow 83.82 28 P P 00 25 46.6 +1.0
baz=264
MLY Manley 83.88 25 P P 00 25 47.7 +1.7
baz=264
TRF Thorofare Moun 83.91 27 P P 00 25 46.8 +0.5
TRF IAmb IAmb 00 27 59.7
comp=Z,50nm,2.0s
RC01 Rabbit Creek A 83.94 29 P P 00 25 46.8 +0.5
RC01 IAmb IAmb 00 25 47.6
comp=Z,15nm,1.1s
RC01 Rabbit Creek A 83.94 29 P P 00 25 46.9 +0.6
baz=265
PMR Palmer 84.27 29 P P 00 25 48.5 +0.6
baz=265
COLD Coldfoot 84.33 23 P P 00 25 50.3 +2.1
baz=264
D23K Nanushuk River 84.35 21 P P 00 25 50.6 +2.4
baz=263
G23K Bananza Creek 84.35 23 P P 00 25 50.4 +2.1
baz=264
I23K Minto, Yukon-K 84.47 25 P P 00 25 50.8 +2.0
baz=265
KNK Knik Glacier 84.58 29 P P 00 25 50.1 +0.5
KNK IAmb IAmb 00 25 51.9
comp=Z,14nm,0.9s
KNK Knik Glacier 84.58 29 P P 00 25 51.1 +1.5
baz=266
PWL Port Wells 84.60 29 P P 00 25 50.3 +0.6
PWL IAmb IAmb 00 26 17.2
comp=Z,32nm,1.3s
E23K Chandalar 84.64 22 P P 00 25 51.8 +2.0
baz=264
SML Sawmill 84.67 28 P P 00 25 51.4 +1.3
baz=266
M23K Glacier View 84.95 28 P P 00 25 52.2 +0.8
baz=267
D24K Happy Valley 85.03 21 P P 00 25 53.7 +2.1
baz=265
E24K Your Creek 85.07 22 P P 00 25 53.9 +2.0
baz=265
C24K Franklin Bluff 85.13 20 P P 00 25 53.5 +1.4
baz=265
SCM Sheep Creek Mo 85.15 28 P P 00 25 53.1 +0.7
ILAR Eielson Array 85.50 25 P P 00 25 53.0 -1.1
comp=Z,0.3nm,0.5s,baz=240,slow=5.1,SNR=6.1
comp=Z,0.3nm,0.5s
KLU Klutina 85.80 29 P P 00 25 56.5 +0.7
KLU IAmb IAmb 00 28 25.4
comp=Z,26nm,1.6s
RIDG Independent Ri 86.35 26 P P 00 25 58.4 0.0
RIDG IAmb IAmb 00 26 59.6
comp=Z,21nm,1.6s
BMAR Burnt Mountain 86.52 23 P P 00 26 00.5 +1.4
BCAR Beaver Creek A 87.73 27 P P 00 26 05.9 +0.8
BRTR Keskin Array B 91.23 310 P P 00 26 20.4 -1.7
comp=Z,0.8nm,1.0s,baz=130,slow=6.6,SNR=1.7
comp=Z,0.8nm,1.0s
MNK Minsk 93.32 325 *i* P **P 00 26 29.2 -1.9**
comp=E,1.0nm,0.9s
MNK *i* P **P 00 26 29.2 -1.9**
comp=N,21nm,1.0s
MNK *i* P **P 00 26 29.2 -1.9**
comp=Z,8.0nm,1.2s,baz=80
MNK *i* pP **pwP 00 26 48.6 -2.8**
MNK *i* PP **PP 00 30 13.7 -1.7**
MNK *i* PPP PPP 00 32 14.2
MNK *i* S **SKSac 00 36 56.7 -3.5**
MNK *i* sS **S 00 37 31.6 -2.3**
MNK *i* PS **PS 00 38 53.8 -0.6**
MNK *i* SS **SS 00 43 49.9 -0.7**
MNK *i* SSS SSS 00 47 27.2
MNK *i* LR LR 01 06 17.7
MNK *i* LRM MLR 01 08 44.6
comp=Z,103nm,16.0s
MNK *i* LRM MLR 01 09 07.6
comp=E,53nm,21.7s
MNK *i* LRM MLR 01 09 21.7
comp=N,485nm,19.1s
YKA Yellowknife Ar 99.91 25 P Pdif 00 27 01.0 +0.2
comp=N,0.4nm,0.8s,baz=300,slow=3.9,SNR=4.8
comp=N,0.4nm,0.8s
CLL Collm 102.84 324 *e*PP **PKiKP 00 31 29.0 -5.4**
TXAR Lajitas Array 121.42 53 PKP **PKiKP 00 32 11.2 +0.7**
comp=N,0.3nm,0.7s,baz=6.3,slow=1.9,SNR=3.8
TORD Torodi Ar. Bea 124.01 288 PKP **PKiKP 00 32 16.5 +0.7**
comp=N,0.7nm,0.9s,baz=38,slow=2.3,SNR=4.5
CPUP Villa Florida 156.20 169 PKPab **PKPab 00 33 39.1 -0.1**
comp=N,2.5nm,0.8s,baz=204,slow=4.7,SNR=7.2

NOU ***01*** *00:13:44.8,37.°14S×179.°42E,h0km,MLv4.0/7,Off E. Coast of N. Island, N.Z.*
WEL ***01*** *00:13:48.7±1.0,37°S±5.°×17°9E±.°,h10km,M3.6/21, ML3.9/24,MLv3.6/21,Error ellipse: s-maj=0.0km s-min=0.0km az=102.5,confirmed*
ISC 01 00:13:46.3±2.7,37.°15S±0.°07×179.°3E±0.°1,h7km±11km**, n85,σ0°91/95,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.89**	**242**	P	**Pg**	**00 14 03.4**	**-0.1**
MXZ	**Matakaoa Point**	**0.89**	**242**	P	**Pg**	**00 14 03.4**	**-0.1**
MXZ				S	**Sg**	**00 14 13.4**	**-1.7**
WMGZ	**Waiomatatini S**	**0.97**	**226**	P	**Pn**	**00 14 06.8**	**+0.4**
WMGZ				S	**Sb**	**00 14 19.8**	**+1.3**
PKGZ	**Pakihiroa**	**1.22**	**233**	P	**Pg**	**00 14 09.7**	**0.0**
PKGZ				S	**Sg**	**00 14 25.5**	**-0.1**
PUZ	**Puketiti**	**1.24**	**222**	P	**Pg**	**00 14 10.5**	**+0.4**
PUZ				S	**Sg**	**00 14 26.6**	**+0.5**
HAZ	**Te Kaha**	**1.35**	**243**	P	**Pn**	**00 14 10.3**	**-1.2**
HAZ				S	**Sg**	**00 14 28.4**	**-1.4**
TWGZ	**Tauwhareparae**	**1.47**	**225**	P	**Pn**	**00 14 13.7**	**+0.5**
RUGZ	**Raukumara Rang**	**1.53**	**237**	P	**Pn**	**00 14 14.6**	**+0.5**
RUGZ				S	**Sn**	**00 14 33.9**	**-0.3**
CNGZ	**Carnagh Statio**	**1.59**	**213**	P	**Pb**	**00 14 17.1**	**+1.1**
TKGZ	**Te Karaka**	**1.73**	**221**	P	**Pn**	**00 14 17.1**	**+0.4**
TKGZ				S	**Sn**	**00 14 39.0**	**0.0**
WIZ	**White Island**	**1.73**	**257**	P	**Pn**	**00 14 15.5**	**-1.2**
WSRZ	**White Island S**	**1.73**	**257**	P	**Pn**	**00 14 15.5**	**-1.4**
MWZ	**Matawai**	**1.84**	**230**	P	**Pn**	**00 14 18.8**	**+0.5**
RIGZ	**Rimuhau**	**1.97**	**218**	P	**Pn**	**00 14 20.5**	**+0.3**
RIGZ				S	**Sn**	**00 14 44.5**	**-0.6**
WHRZ	**Whale Island**	**1.98**	**249**	P	**Pn**	**00 14 21.6**	**+1.3**
RAGZ	**Rawiri**	**2.01**	**228**	P	**Pn**	**00 14 21.2**	**+0.5**
RAGZ				S	**Sn**	**00 14 44.4**	**-1.7**
URZ	**Urewera**	**2.06**	**237**	P	**Pn**	**00 14 21.7**	**+0.4**
URZ	**Urewera**	**2.06**	**237**	P	**Pn**	**00 14 21.6**	**+0.2**
URZ				S	**Sn**	**00 14 45.6**	**-1.7**
EDRZ	**Edgecumbe**	**2.25**	**244**	P	**Pn**	**00 14 24.3**	**+0.3**
MARZ	**Manawahe**	**2.25**	**248**	P	**Pn**	**00 14 25.8**	**+1.8**
SNGZ	**Shannon Statio**	**2.25**	**223**	P	**Pn**	**00 14 23.9**	**-0.1**
KNZ	**Kokohu**	**2.27**	**214**	P	**Pn**	**00 14 23.6**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.28**	**208**	P	**Pn**	**00 14 24.6**	**+0.3**
RTZ	**Ruatahuna**	**2.35**	**231**	P	**Pn**	**00 14 26.0**	**+0.7**
MUGZ	**Murupara**	**2.40**	**236**	P	**Pn**	**00 14 25.9**	**-0.1**
TARZ	**Mount Tarawera**	**2.47**	**243**	P	**Pn**	**00 14 28.6**	**+1.5**
RAHZ	**Arahi**	**2.48**	**224**	P	**Pn**	**00 14 27.6**	**+0.4**
TGRZ	**Tauranga**	**2.49**	**256**	P	**Pn**	**00 14 27.3**	**+0.1**
RRRZ	**Republican Roa**	**2.51**	**241**	P	**Pn**	**00 14 28.0**	**+0.5**
OMRZ	**Omania**	**2.52**	**247**	P	**Pn**	**00 14 28.5**	**+0.9**
WHHZ	**Waihua**	**2.52**	**220**	P	**Pn**	**00 14 27.9**	**+0.3**
KARZ	**Kaharoa**	**2.58**	**249**	P	**Pn**	**00 14 28.7**	**+0.2**
MTHZ	**Maungataniwha**	**2.58**	**228**	P	**Pn**	**00 14 28.8**	**+0.4**
HLRZ	**Highlands Stat**	**2.59**	**244**	P	**Pn**	**00 14 29.2**	**+0.6**
HSRZ	**Hossack Road**	**2.69**	**244**	P	**Pn**	**00 14 31.9**	**+2.0**
HRRZ	**Handcock Road**	**2.69**	**242**	P	**Pn**	**00 14 30.3**	**+0.3**
ALRZ	**Allen Road**	**2.73**	**238**	P	**Pn**	**00 14 30.9**	**+0.3**
NMHZ	**Naumai**	**2.77**	**225**	P	**Pn**	**00 14 31.9**	**+0.8**
MRHZ	**Matea Rd**	**2.83**	**233**	P	**Pn**	**00 14 31.9**	**-0.1**
KUZ	**Kuaotunu**	**2.90**	**277**	P	**Pn**	**00 14 32.9**	**+0.1**
KUZ	**Kuaotunu**	**2.90**	**277**	P	**Pn**	**00 14 31.2**	**-1.6**
BKZ	**Black Stump Fm**	**2.99**	**227**	P	**Pn**	**00 14 34.0**	**-0.2**
CKHZ	**Cape Kidnapper**	**3.05**	**214**	P	**Pn**	**00 14 34.0**	**-1.0**
KUTZ	**Kaahu Road**	**3.06**	**243**	P	**Pn**	**00 14 35.9**	**+0.8**
MCHZ	**McNeill Hill**	**3.07**	**221**	P	**Pn**	**00 14 34.8**	**-0.4**
TOZ	**Tahuroa Road**	**3.08**	**258**	P	**Pn**	**00 14 34.5**	**-0.8**
KWHZ	**Kaweka Forest**	**3.21**	**224**	P	**Pn**	**00 14 36.6**	**-0.6**
GRZ	**Great Barrier**	**3.22**	**285**	P	**Pn**	**00 14 37.8**	**+0.5**
KAHZ	**Kahuranaki**	**3.25**	**215**	P	**Pn**	**00 14 36.8**	**-1.0**
RATZ	**Rangitukua**	**3.27**	**237**	P	**Pn**	**00 14 38.7**	**+0.7**
RITZ	**Rihia Road**	**3.27**	**235**	P	**Pn**	**00 14 38.2**	**+0.1**
MKAZ	**Moumakai**	**3.31**	**270**	P	**Pn**	**00 14 37.3**	**-1.2**
WIAZ	**Waiheke Island**	**3.36**	**275**	P	**Pn**	**00 14 39.5**	**+0.3**
KRHZ	**Kereru**	**3.39**	**222**	P	**Pn**	**00 14 38.5**	**-1.1**
TMVZ	**Te Maari**	**3.45**	**234**	P	**Pn**	**00 14 40.0**	**-0.5**
BHHZ	**Black Hill Sta**	**3.46**	**227**	P	**Pn**	**00 14 40.1**	**-0.4**
ETVZ	**East Tongariro**	**3.46**	**234**	P	**Pn**	**00 14 40.0**	**-0.6**
NTVZ	**North Tongarir**	**3.46**	**235**	P	**Pn**	**00 14 40.5**	**-0.1**
KRVZ	**Karewarewa**	**3.48**	**235**	P	**Pn**	**00 14 40.7**	**-0.3**
OTVZ	**Oturere**	**3.50**	**234**	P	**Pn**	**00 14 41.1**	**-0.1**
ETAZ	**East Tamaki Re**	**3.51**	**272**	P	**Pn**	**00 14 40.8**	**-0.4**
NNVZ	**North Ngauruho**	**3.52**	**235**	P	**Pn**	**00 14 41.6**	**+0.1**
WTVZ	**West Tongariro**	**3.52**	**235**	P	**Pn**	**00 14 41.7**	**+0.1**
NGZ	**Ngauruhoe**	**3.55**	**234**	P	**Pn**	**00 14 41.8**	**-0.1**
MBAZ	**Motutapu North**	**3.55**	**275**	P	**Pn**	**00 14 42.5**	**+0.7**
TWVZ	**Taurewa**	**3.60**	**237**	P	**Pn**	**00 14 42.7**	**+0.1**
FWVZ	**Far West T-bar**	**3.62**	**233**	P	**Pn**	**00 14 42.6**	**-0.4**
WNVZ	**Wahianoa**	**3.64**	**232**	P	**Pn**	**00 14 42.5**	**-0.6**
WPHZ	**Waipukurau**	**3.67**	**217**	P	**Pn**	**00 14 41.9**	**-1.6**
AWAZ	**Awhitu Peninsu**	**3.73**	**270**	P	**Pn**	**00 14 43.8**	**-0.4**
HIZ	**Hauiti**	**3.77**	**248**	P	**Pn**	**00 14 46.0**	**+1.2**
HIZ	**Hauiti**	**3.77**	**248**	P	**Pn**	**00 14 46.1**	**+1.2**

RVAZ	Riverhead Bore	3.80	274	P	Pn	00 14 45.3 +0.1
TSZ	Takapari Road	3.91	221	P	Pn	00 14 45.2 -1.6
VRZ	Vera Road	4.09	240	P	Pn	00 14 49.8 +0.6
WCZ	Waipu Caves	4.17	285	P	Pn	00 14 50.5 +0.1
WAZ	Wanganui	4.27	231	P	Pn	00 14 51.8 0.0
NEZ	North Egmont	4.62	241	P	Pn	00 14 58.1 +1.6
PKE	Pukeiti	4.66	242	P	Pn	00 14 59.3 +2.3
KHEZ	Kahui Hut	4.68	241	P	Pn	00 14 58.0 +0.6
KHEZ	Kahui Hut	4.68	241	P	Pn	00 14 59.3 +1.9
NBEZ	Newall Road No	4.77	242	P	Pn	00 15 00.8 +2.2
OUZ	Omahuta	5.00	291	P	Pn	00 15 02.1 +0.4
OUZ	Omahuta	5.00	291	P	Pn	00 15 02.2 +0.4
TUWZ	Tuamarina	5.96	223	P	Pn	00 15 13.2 -1.7

ROM 01 00:19:40.7±0.0, 42°.802N±0°.003×13°.103E±0°.004, h10km, ML1.9/27, 7C-12D, Error ellipse: s-maj=0.3km s-min=0.3km az=295.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.03**	**15**	P	Pg	00 19 43.0	+0.2
NRCA				S	Sg	00 19 44.3	0.0
NRCA				AML	AML		
	comp=E,26200μm,0.2s						
NRCA				AML	AML		
	comp=N,8315μm,0.8s						
NRCA				AML	AML		
	comp=E,27800μm,0.2s						
NRCA				AML	AML		
	comp=N,7880μm,0.8s						
NRCA				AML	AML		
	comp=N,8310μm,0.8s						
NRCA				AML	AML		
	comp=N,7213μm,0.1s						
NRCA				AML	AML		
	comp=N,7618μm,0.1s						
NRCA				AML	AML		
	comp=E,26434μm,0.1s						
NRCA				AML	AML		
	comp=E,24566μm,0.1s						
T1212	**Cascia, Frazio**	**0.07**	**220**	AML	AML		
	comp=N,3630μm,0.1s						
T1212				AML	AML		
	comp=E,2275μm,0.1s						
T1212				AML	AML		
	comp=E,2245μm,0.4s						
T1212				AML	AML		
	comp=N,3725μm,0.1s						
T1212				AML	AML		
	comp=N,3725μm,0.1s						
T1212				AML	AML		
	comp=E,2245μm,0.4s						
T1212				AML	AML		
	comp=N,3625μm,0.1s						
T1212				AML	AML		
	comp=E,2240μm,0.1s						
T1212				AML	AML		
	comp=E,2277μm,0.1s						
T1212				AML	AML		
	comp=N,3628μm,0.1s						
T1212				AML	AML		
	comp=N,3725μm,0.1s						
T1245	**Castelsantange**	**0.08**	**49**	P	Pg	00 19 43.7	+0.4
T1245				AML	AML		
	comp=N,2360μm,0.2s						
T1245				AML	AML		
	comp=E,2660μm,0.6s						
T1245				AML	AML		
	comp=N,2361μm,0.2s						
T1245				AML	AML		
	comp=E,1992μm,0.2s						
T1245				AML	AML		
	comp=N,2600μm,0.2s						
T1214	**Arquata del Tr**	**0.09**	**118**	⇓P	Pg	00 19 43.8	+0.4
T1214				S	Sg	00 19 45.5	+0.3
T1214				AML	AML		
	comp=E,1875μm,0.9s						
T1214				AML	AML		
	comp=N,2045μm,0.5s						
T1214				AML	AML		
	comp=E,1785μm,0.9s						
T1214				AML	AML		
	comp=N,1895μm,0.5s						
T1214				AML	AML		
	comp=N,2045μm,0.5s						
T1214				AML	AML		
	comp=E,1785μm,0.9s						
T1214				AML	AML		
	comp=N,1890μm,0.5s						
T1214				AML	AML		
	comp=E,1875μm,0.9s						
T1214				AML	AML		
	comp=E,1875μm,1.1s						
T1214				AML	AML		
	comp=E,1785μm,1.1s						
T1214				AML	AML		
	comp=N,1895μm,0.5s						
T1214				AML	AML		
	comp=E,1689μm,0.2s						
T1214				AML	AML		
	comp=E,1650μm,0.2s						
T1214				AML	AML		
	comp=N,1464μm,0.1s						
T1214				AML	AML		
	comp=N,1579μm,0.1s						
MC2	**Monte Cornacci**	**0.13**	**30**	⇓P	Pg	00 19 44.5	+0.5
T1218	**Civita (PG)**	**0.13**	**176**	⇑P	Pg	00 19 44.4	+0.5
T1218				S	Sg	00 19 46.9	+0.7
T1218				AML	AML		
	comp=E,1300μm,0.3s						
T1218				AML	AML		
	comp=E,1225μm,0.7s						
T1218				AML	AML		
	comp=N,1940μm,0.2s						
T1218				AML	AML		
	comp=N,1895μm,0.2s						
T1218				AML	AML		
	comp=E,1300μm,0.3s						
T1218				AML	AML		
	comp=E,906μm,0.2s						
T1218				AML	AML		
	comp=E,986μm,0.1s						
T1218				AML	AML		
	comp=N,1938μm,0.2s						
T1218				AML	AML		
	comp=N,1896μm,0.2s						
T1215	**Vallo di Nera,**	**0.17**	**270**	⇑P	Pg	00 19 45.1	+0.6
T1215				S	Sg	00 19 48.1	+0.9
T1215				AML	AML		
	comp=N,610μm,1.3s						
T1215				AML	AML		
	comp=N,630μm,1.3s						
T1215				AML	AML		
	comp=N,610μm,1.3s						
T1215				AML	AML		
	comp=N,630μm,1.3s						
T1215				AML	AML		
	comp=E,642μm,0.9s						
T1215				AML	AML		
	comp=E,693μm,0.9s						
T1215				AML	AML		
	comp=E,527μm,0.1s						
T1215				AML	AML		
	comp=E,503μm,0.1s						
T1215				AML	AML		
	comp=N,597μm,0.1s						
T1215				AML	AML		
	comp=N,578μm,0.1s						
T1256	**Bolognola (MC)**	**0.22**	**24**	P	Pg	00 19 46.0	+0.5
T1256				S	Sg	00 19 50.0	+1.3
T1256				AML	AML		
	comp=N,539μm,0.7s						
T1256				AML	AML		
	comp=E,675μm,0.8s						
T1256				AML	AML		
	comp=N,538μm,0.7s						
T1256				AML	AML		
	comp=E,538μm,0.2s						
T1256				AML	AML		
	comp=E,538μm,0.2s						
T1256				AML	AML		
	comp=N,587μm,0.2s						
T1256				AML	AML		
	comp=N,539μm,0.2s						
SMA1	**SAN MARTINO**	**0.24**	**135**	P	Pg	00 19 46.5	+0.7
SMA1				AML	AML		
	comp=N,484μm,0.7s						
SMA1				AML	AML		
	comp=E,474μm,1.4s						
SMA1				AML	AML		
	comp=E,474μm,0.6s						
SMA1				AML	AML		
	comp=N,484μm,1.3s						
SMA1				AML	AML		
	comp=N,396μm,0.4s						
SMA1				AML	AML		
	comp=E,403μm,0.3s						
T1241	**Roccafluvione,**	**0.25**	**77**	P	Pg	00 19 46.4	+0.5
T1241				S	Sg	00 19 50.6	+1.3
T1241				AML	AML		
	comp=E,706μm,1.0s						
T1241				AML	AML		
	comp=N,498μm,0.1s						
T1241				AML	AML		
	comp=E,702μm,1.1s						
T1241				AML	AML		
	comp=N,475μm,0.1s						
T1241				AML	AML		
	comp=E,706μm,1.1s						
T1241				AML	AML		
	comp=N,498μm,0.1s						
T1241				AML	AML		
	comp=E,7470μm,0.1s						
T1241				AML	AML		
	comp=E,707μm,1.1s						
T1241				AML	AML		
	comp=E,702μm,1.1s						
T1241				AML	AML		
	comp=N,474μm,0.1s						
T1241				AML	AML		
	comp=E,702μm,0.9s						
T1241				AML	AML		
	comp=E,707μm,0.9s						
T1241				AML	AML		
	comp=E,681μm,0.1s						
T1241				AML	AML		
	comp=N,497μm,0.1s						
T1241				AML	AML		
	comp=N,475μm,0.1s						
T1219	**Muccia, Frazio**	**0.26**	**345**	⇑P	Pb	00 19 47.7	+0.1
T1219				AML	AML		
	comp=E,260μm,1.2s						
T1219				AML	AML		
	comp=N,268μm,0.7s						
T1219				AML	AML		
	comp=E,214μm,0.3s						
T1219				AML	AML		
	comp=N,236μm,0.3s						
T1219				AML	AML		
	comp=E,260μm,1.2s						
T1219				AML	AML		
	comp=N,268μm,0.8s						
T1219				AML	AML		
	comp=N,268μm,1.2s						
T1219				AML	AML		
	comp=E,213μm,0.3s						
T1219				AML	AML		
	comp=E,218μm,0.1s						
T1219				AML	AML		
	comp=N,240μm,0.1s						
T1219				AML	AML		
	comp=N,230μm,0.1s						
T1219				AML	AML		
	comp=E,200μm,0.1s						
T1243	**Rocca Santa Ma**	**0.28**	**112**	P	Pg	00 19 46.7	+0.3
T1243				S	Sg	00 19 51.3	+1.2
RM33	**Pellescritta (**	**0.30**	**164**	⇑P	Pg	00 19 46.6	-0.2
RM33				AML	AML		
	comp=E,306μm,0.7s						
RM33				AML	AML		
	comp=N,220μm,0.9s						
RM33				AML	AML		
	comp=E,306μm,0.7s						
RM33				AML	AML		
	comp=E,254μm,0.2s						
RM33				AML	AML		
	comp=N,209μm,0.1s						
RM33				AML	AML		
	comp=N,215μm,0.2s						
RM33				AML	AML		
	comp=E,219μm,0.1s						
T1220	**Camerino, Fraz**	**0.31**	**358**	AML	AML		
	comp=N,1049μm,0.3s						
T1220				AML	AML		
	comp=E,1075μm,1.1s						
T1220				AML	AML		
	comp=N,1030μm,0.3s						
T1220				AML	AML		
	comp=E,1120μm,1.1s						
T1220				AML	AML		
	comp=N,1048μm,0.3s						
T1220				AML	AML		
	comp=N,1025μm,0.3s						
T1220				AML	AML		
	comp=N,1049μm,0.3s						
T1220				AML	AML		
	comp=E,1075μm,0.9s						
T1220				AML	AML		
	comp=E,1120μm,0.9s						
T1220				AML	AML		
	comp=N,1027μm,0.3s						
T1220				AML	AML		
	comp=E,947μm,0.3s						
T1220				AML	AML		
	comp=E,991μm,0.3s						
T1211	**Morro Reatino**	**0.33**	**214**	P	Pg	00 19 47.8	+0.5
T1211				S	Sb	00 19 53.0	-0.9
T1211				AML	AML		
	comp=N,1050μm,0.2s						
T1211				AML	AML		
	comp=N,1049μm,0.3s						
T1211				AML	AML		
	comp=E,552μm,0.3s						
T1211				AML	AML		
	comp=E,574μm,0.3s						
T1211				AML	AML		
	comp=E,475μm,0.1s						
T1211				AML	AML		
	comp=N,1049μm,0.3s						
T1211				AML	AML		
	comp=N,1049μm,0.2s						
T1211				AML	AML		
	comp=E,478μm,0.2s						
ARRO	**Arrone**	**0.33**	**228**	⇓P	Pb	00 19 48.3	-0.4
ARRO				AML	AML		
	comp=N,256μm,0.3s						
ARRO				AML	AML		
	comp=E,234μm,0.2s						
ARRO				AML	AML		
	comp=N,256μm,0.3s						
ARRO				AML	AML		
	comp=E,235μm,0.2s						
CAMP	**Campotosto**	**0.35**	**140**	P	Pg	00 19 46.9	-0.9
CAMP				AML	AML		
	comp=E,90μm,1.1s						
CAMP				AML	AML		
	comp=N,97μm,0.3s						
CAMP				AML	AML		
	comp=E,90μm,0.9s						
CAMP				AML	AML		
	comp=N,97μm,0.3s						
CAMP				AML	AML		
	comp=E,79μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.39**	**158**	⇓P	Pb	00 19 50.2	+0.5
T1247				AML	AML		
	comp=E,231μm,0.1s						
T1247				AML	AML		
	comp=N,250μm,1.0s						
T1247				AML	AML		
	comp=N,250μm,1.0s						
T1247				AML	AML		
	comp=N,211μm,0.2s						
T1247				AML	AML		
	comp=E,231μm,0.1s						
MOMA	**Monte Martano**	**0.39**	**270**	⇑P	Pb	00 19 49.3	-0.5
MOMA				AML	AML		
	comp=E,392μm,0.2s						
MOMA				AML	AML		
	comp=N,422μm,0.8s						
MOMA				AML	AML		
	comp=N,422μm,0.8s						
MOMA				AML	AML		
	comp=E,392μm,0.2s						
MOMA				AML	AML		
	comp=N,422μm,1.2s						
MOMA				AML	AML		
	comp=E,423μm,0.2s						
MOMA				AML	AML		
	comp=E,392μm,0.2s						
MOMA				AML	AML		
	comp=N,274μm,0.2s						
MOMA				AML	AML		
	comp=N,271μm,0.2s						
ASSB	**Assisi San Ben**	**0.41**	**307**	⇑P	Pg	00 19 49.1	+0.4
ASSB				AML	AML		
	comp=N,240μm,0.2s						
ASSB				AML	AML		
	comp=E,188μm,1.0s						
ASSB				AML	AML		
	comp=N,241μm,0.2s						
ASSB				AML	AML		
	comp=E,163μm,0.2s						
CESX	**Cesi**	**0.43**	**244**	⇓P	Pb	00 19 49.9	-0.5
CESX				AML	AML		
	comp=E,176μm,0.6s						
CESX				AML	AML		
	comp=N,172μm,1.6s						
CESX				AML	AML		
	comp=N,172μm,0.4s						
CESX				AML	AML		
	comp=E,176μm,1.4s						
CESX				AML	AML		
	comp=E,176μm,0.6s						
CESX				AML	AML		
	comp=N,153μm,0.2s						
OFFI	**Offida**	**0.45**	**73**	⇓P	Pb	00 19 51.8	+1.1
OFFI				AML	AML		
	comp=E,309μm,0.6s						
OFFI				AML	AML		
	comp=N,317μm,1.4s						
OFFI				AML	AML		
	comp=N,317μm,0.6s						
OFFI				AML	AML		
	comp=E,256μm,0.3s						
OFFI				AML	AML		
	comp=N,298μm,0.3s						
SNTG	**Esanatoglia**	**0.47**	**345**	⇓P	Pg	00 19 50.3	+0.4
SNTG				AML	AML		
	comp=E,65μm,0.3s						
SNTG				AML	AML		
	comp=N,71μm,0.9s						
SNTG				AML	AML		
	comp=E,65μm,0.3s						
SNTG				AML	AML		
	comp=N,71μm,0.9s						
SNTG				AML	AML		
	comp=N,62μm,0.2s						
SNTG				AML	AML		
	comp=E,55μm,0.1s						
GIGS	**Gran Sasso**	**0.49**	**135**	⇓P	Pg	00 19 50.5	+0.1
GIGS				AML	AML		
	comp=N,33μm,1.4s						
GIGS				AML	AML		
	comp=E,40μm,0.9s						
GIGS				AML	AML		
	comp=N,33μm,1.4s						
GIGS				AML	AML		
	comp=N,33μm,0.6s						
GIGS				AML	AML		
	comp=E,40μm,1.1s						
GIGS				AML	AML		
	comp=E,30μm,0.2s						
GIGS				AML	AML		
	comp=N,25μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.51**	**319**	⇓P	Pg	00 19 51.2	+0.5
ATCC				AML	AML		
	comp=E,122μm,0.8s						
ATCC				AML	AML		
	comp=N,116μm,1.3s						
ATCC				AML	AML		
	comp=N,115μm,1.3s						
ATCC				AML	AML		
	comp=N,115μm,0.7s						
ATCC				AML	AML		
	comp=E,101μm,0.1s						
ATCC				AML	AML		
	comp=N,105μm,0.4s						
EL6	**Elcito**	**0.53**	**360**	⇓P	Pg	00 19 51.4	+0.4
EL6				S	Sb	00 19 59.9	+0.1
EL6				AML	AML		
	comp=E,147μm,0.2s						
EL6				AML	AML		
	comp=N,155μm,0.2s						
FIAM	**Fiamignano**	**0.53**	**179**	S	Sb	00 19 59.6	-0.4
FIAM				AML	AML		
	comp=N,64μm,1.2s						
FIAM				AML	AML		
	comp=E,62μm,1.6s						
FIAM				AML	AML		
	comp=E,62μm,0.4s						
FIAM				AML	AML		
	comp=E,58μm,0.3s						
FIAM				AML	AML		
	comp=N,63μm,0.2s						
FOSV	**Fossato di Vic**	**0.55**	**333**	P	Pg	00 19 51.9	+0.4
FOSV				AML	AML		
	comp=E,50μm,0.4s						
FOSV				AML	AML		
	comp=N,53μm,0.5s						
FOSV				AML	AML		
	comp=N,53μm,0.5s						
FOSV				AML	AML		
	comp=N,53μm,1.5s						
FOSV				AML	AML		
	comp=N,52μm,0.3s						
FOSV				AML	AML		
	comp=E,45μm,0.2s						
CING	**Cingoli**	**0.58**	**7**	⇓P	Pg	00 19 52.4	+0.4
CING				AML	AML		
	comp=E,123μm,1.2s						
CING				AML	AML		
	comp=N,91μm,0.9s						
CING				AML	AML		
	comp=E,102μm,0.1s						
CING				AML	AML		
	comp=N,81μm,0.1s						
MURB	**Monte Urbino**	**0.63**	**318**	P	Pb	00 19 53.4	-0.4
MURB				AML	AML		
	comp=E,168μm,0.3s						
MURB				AML	AML		
	comp=E,168μm,1.7s						
MURB				AML	AML		
	comp=N,161μm,0.3s						
MURB				AML	AML		
	comp=N,161μm,0.3s						
MURB				AML	AML		
	comp=N,203μm,0.5s						
MURB				AML	AML		
	comp=E,169μm,0.3s						
MURB				AML	AML		
	comp=E,164μm,0.3s						
FAGN	**Fagnano**	**0.64**	**146**	⇓P	Pb	00 19 54.7	+0.7
FAGN				AML	AML		
	comp=E,95μm,0.8s						
FAGN				AML	AML		
	comp=N,96μm,0.5s						
T0110	**Collepietro**	**0.76**	**139**	P	Pg	00 19 55.5	0.0
T0110				AML	AML		
	comp=E,80μm,1.5s						
T0110				AML	AML		
	comp=E,80μm,0.5s						
T0110				AML	AML		
	comp=N,71μm,1.3s						
SACS	**San Casciano d**	**0.88**	**273**	⇑P	Pn	00 19 59.7	+0.6

*ROM **01** 00:20:40.5±0.1, 42°.805N±0°.003×13°.145E±0°.006, h10km, ML2.7/49, Error ellipse: s-maj=0.6km s-min=0.3km az=70.0*
ISC 01 00:20:40.3±0.8, 42°.80N±0°.02×13°.16E±0°.03, h12km±5km, n38, σ1$10/46, 10C-5D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**317**	P	**Pg**	**00 20 42.7**	**0.0**
NRCA				AML	AML		
NRCA				AML	AML		
	comp=E,53050μm,0.1s						
NRCA				AML	AML		
	comp=E,51550μm,0.1s						
NRCA				AML	AML		

NRCA AML AML
comp=E,53050µm,1.9s
NRCA AML AML
comp=E,51550µm,1.9s
NRCA AML AML
comp=E,53063µm,0.1s
NRCA AML AML
NRCA AML AML
NRCA AML AML
comp=E,51562µm,0.1s
T1214 Arquata del Tr 0.06 137 ⇓P Pg 00 20 43.3 +0.4
T1214 S **Sg 00 20 44.9 +0.1**
T1214 AML AML
comp=E,17750µm,0.2s
T1214 AML AML
comp=E,16800µm,0.2s
T1214 AML AML
comp=E,17750µm,1.8s
T1214 AML AML
comp=E,16800µm,1.8s
T1214 AML AML
comp=N,23350µm,0.2s
T1214 AML AML
comp=N,22900µm,1.5s
T1214 AML AML
comp=E,16774µm,0.2s
T1214 AML AML
comp=N,22759µm,0.2s
T1214 AML AML
comp=N,23367µm,0.2s
T1214 AML AML
comp=E,17746µm,0.2s
T1245 Castelsantange 0.06 23 ⇑P Pg 00 20 43.1 +0.1
T1245 S **Sg 00 20 44.5 -0.4**
T1245 AML AML
comp=E,39800µm,0.2s
T1245 AML AML
comp=N,53650µm,0.2s
T1245 AML AML
comp=E,39781µm,0.2s
T1245 AML AML
comp=N,53650µm,0.2s
T1245 AML AML
comp=N,57783µm,0.2s
T1245 AML AML
comp=E,20438µm,0.2s
T1212 Cascia, Frazio 0.10 239 AML AML
comp=N,13709µm,0.1s
T1212 AML AML
comp=E,12850µm,0.1s
T1212 AML AML
comp=E,12685µm,0.1s
T1212 AML AML
comp=E,12850µm,0.1s
T1212 AML AML
comp=N,17400µm,0.2s
T1212 AML AML
comp=N,17750µm,0.2s
T1212 AML AML
comp=E,12685µm,0.1s
T1212 AML AML
comp=N,17750µm,0.2s
T1212 AML AML
comp=N,17400µm,0.2s
T1212 AML AML
comp=E,12676µm,0.1s
T1212 AML AML
comp=N,14207µm,0.1s
T1212 AML AML
comp=E,12833µm,0.1s
MC2 Monte Cornacci 0.11 13 P Pb 00 20 43.9 -0.7
MC2 S **Sg 00 20 46.2 +0.2**
T1218 Civita (PG) 0.13 193 P Pb 00 20 44.3 -0.5
T1218 AML AML
comp=E,11450µm,0.6s
T1218 AML AML
comp=E,10700µm,0.7s
T1218 AML AML
comp=N,16900µm,0.2s
T1218 AML AML
comp=E,11450µm,0.7s
T1218 AML AML
comp=N,16900µm,0.2s
T1218 AML AML
comp=N,17000µm,0.2s
T1218 AML AML
comp=E,9471µm,0.2s
T1218 AML AML
comp=N,16869µm,0.2s
T1218 AML AML
comp=E,9912µm,0.2s
T1218 AML AML
comp=N,17030µm,0.2s
T1216 Preci, Frazion 0.14 312 P Pb 00 20 43.9 -1.0
T1216 S **Sg 00 20 46.2 0.0**
T1216 AML AML
comp=E,7180µm,0.3s
T1216 AML AML
comp=N,9305µm,0.2s
T1216 AML AML
comp=E,7181µm,0.3s
T1216 AML AML
comp=N,9304µm,0.2s
FEMA Monte Fema 0.18 334 P Pb 00 20 44.7 -0.9
FEMA AML AML
comp=E,6010µm,0.5s
FEMA AML AML
comp=N,3970µm,0.4s
FEMA AML AML
comp=E,6015µm,0.5s
FEMA AML AML
comp=N,3965µm,0.4s
FEMA AML AML
comp=N,3725µm,0.3s
FEMA AML AML
comp=E,5953µm,0.3s
T1241 Roccafluvione, 0.21 75 ⇓P Pb 00 20 45.6 -0.5
T1241 AML AML
comp=E,2580µm,0.3s
T1241 AML AML
comp=N,3680µm,0.4s
T1241 AML AML
comp=N,3350µm,0.4s
T1241 AML AML
comp=E,2605µm,0.2s
T1241 AML AML
comp=N,3353µm,0.4s
T1241 AML AML
comp=E,2606µm,0.2s
T1241 AML AML
comp=E,2558µm,0.3s
T1241 AML AML
comp=N,3679µm,0.3s
T1256 Bolognola (MC) 0.21 14 P Pb 00 20 45.3 -0.9
T1256 S **Sg 00 20 48.9 +0.7**
T1256 AML AML
comp=E,4495µm,0.9s
T1256 AML AML
comp=N,4565µm,0.2s
T1256 AML AML
comp=E,4500µm,0.9s
T1256 AML AML
comp=N,4895µm,0.2s
T1256 AML AML
comp=E,4500µm,0.9s
T1256 AML AML
comp=E,4360µm,0.9s
T1256 AML AML
comp=N,4570µm,0.2s
T1256 AML AML
comp=N,4895µm,0.2s
T1256 AML AML
comp=N,4895µm,0.2s
T1256 AML AML
comp=N,4568µm,0.2s
T1256 AML AML
comp=E,4101µm,0.3s
T1256 AML AML
comp=E,4077µm,0.3s
T1215 Vallo di Nera, 0.21 270 S Sg 00 20 46.7 -1.4
T1215 AML AML
comp=N,1290µm,0.8s
T1215 AML AML
comp=E,1305µm,0.2s
T1215 AML AML
comp=N,1285µm,0.8s
T1215 AML AML
comp=E,1285µm,0.2s
T1215 AML AML
comp=N,1275µm,0.9s
T1215 AML AML
comp=E,1303µm,0.2s
T1215 AML AML
comp=N,1218µm,0.2s
T1215 AML AML
comp=N,1258µm,0.3s
T1215 AML AML
comp=E,1287µm,0.2s
SMA1 SAN MARTINO 0.22 142 ⇑P Pb 00 20 45.8 -0.5
SMA1 AML AML
comp=N,3460µm,1.1s
SMA1 AML AML
comp=N,3465µm,1.1s
SMA1 AML AML
comp=E,4295µm,0.4s
SMA1 AML AML
comp=N,3465µm,0.9s
SMA1 AML AML
comp=E,4293µm,0.4s
SMA1 AML AML
comp=N,3455µm,0.3s
T1243 Rocca Santa Ma 0.24 116 ⇑P Pb 00 20 46.0 -0.6
GUMA Gualdo di Mace 0.29 27 S Sg 00 20 47.3 -3.1
GUMA AML AML
comp=N,4940µm,1.6s
GUMA AML AML
comp=E,7320µm,0.4s
GUMA AML AML
comp=E,5515µm,0.4s
GUMA AML AML
comp=N,5770µm,1.5s
GUMA AML AML
comp=N,5770µm,0.5s
GUMA AML AML
comp=N,4940µm,0.4s
GUMA AML AML
comp=E,7322µm,0.4s
GUMA AML AML
comp=E,5513µm,0.4s
GUMA AML AML
comp=N,5295µm,0.4s
GUMA AML AML
comp=N,4797µm,0.4s
RM33 Pellescritta (0.29 172 ⇑P Pb 00 20 47.0 -0.6
RM33 AML AML
comp=N,1580µm,0.3s
RM33 AML AML
comp=N,1555µm,0.3s
RM33 AML AML
comp=E,1850µm,0.3s
RM33 AML AML
comp=E,1825µm,0.3s
RM33 AML AML
comp=E,1394µm,0.2s
RM33 AML AML
comp=N,1342µm,0.1s
RM33 AML AML
comp=N,1354µm,0.2s
RM33 AML AML
comp=E,1358µm,0.2s
T1220 Camerino, Fraz 0.31 351 AML AML
comp=N,7560µm,0.5s
T1220 AML AML
comp=E,7205µm,0.6s
T1220 AML AML
comp=N,8695µm,0.2s
T1220 AML AML
comp=E,7075µm,0.6s
T1220 AML AML
comp=N,8615µm,0.2s
T1220 AML AML
comp=E,7020µm,1.2s
T1220 AML AML
comp=N,7640µm,0.5s
T1220 AML AML
comp=E,6905µm,0.2s
T1220 AML AML
comp=N,7555µm,0.5s
T1220 AML AML
comp=E,7205µm,0.6s
T1220 AML AML
comp=E,7080µm,0.6s
T1220 AML AML
comp=N,7640µm,1.5s
T1220 AML AML
comp=N,7555µm,1.5s
T1220 AML AML
comp=N,8611µm,0.2s
T1220 AML AML
comp=E,6907µm,0.2s
T1220 AML AML
comp=E,6936µm,0.4s
T1220 AML AML
comp=N,8695µm,0.2s
CAMP Campotosto 0.32 145 ⇑P Pb 00 20 47.5 -0.6
CAMP AML AML
comp=E,898µm,0.2s
CAMP AML AML
comp=N,686µm,0.5s
CAMP AML AML
comp=E,897µm,0.2s
CAMP AML AML
comp=N,603µm,0.2s
T1211 Morro Reatino 0.35 220 ⇑P Pb 00 20 47.8 -0.7
T1211 AML AML
comp=E,2110µm,0.9s
T1211 AML AML
comp=N,2730µm,0.3s
T1211 AML AML
comp=E,2135µm,0.9s
T1211 AML AML
comp=N,2720µm,0.3s
T1211 AML AML
comp=E,2110µm,0.9s
T1211 AML AML
comp=E,2135µm,0.9s
T1211 AML AML
comp=E,2135µm,1.1s
T1211 AML AML
comp=N,2730µm,0.3s
T1211 AML AML
comp=N,2720µm,0.3s
T1211 AML AML
comp=E,2081µm,0.2s
T1211 AML AML
comp=N,2728µm,0.3s
T1211 AML AML
comp=N,2720µm,0.3s
T1211 AML AML
comp=E,2069µm,0.2s
ARRO Arrone 0.36 233 ⇓P Pb 00 20 48.1 -0.6
ARRO AML AML
comp=E,823µm,0.3s
ARRO AML AML
comp=N,993µm,0.3s
T1247 Pizzolo (AQ) 0.37 164 AML AML
comp=E,1535µm,1.0s
T1247 AML AML
comp=N,1345µm,0.5s
T1247 AML AML
comp=N,1345µm,1.5s
T1247 AML AML
comp=N,1328µm,0.2s
T1247 AML AML
comp=E,1367µm,0.1s
OFFI Offida 0.41 71 P Pn 00 20 51.0 -1.0
OFFI AML AML
comp=N,1345µm,0.5s
OFFI AML AML
comp=E,976µm,0.2s
OFFI AML AML
comp=E,976µm,0.2s
OFFI AML AML
comp=N,1344µm,0.5s
MOMA Monte Martano 0.43 271 ⇑P Pb 00 20 49.2 -0.7
ASSB Assisi San Ben 0.44 304 P Pb 00 20 49.0 -1.0
ASSB S **Sb 00 20 55.6 -1.0**
ASSB AML AML
comp=N,833µm,0.4s
ASSB AML AML
comp=N,833µm,1.6s
ASSB AML AML
comp=N,833µm,0.4s
ASSB AML AML
comp=E,629µm,0.2s
GIGS Gran Sasso 0.47 139 ⇑P Pg 00 20 49.7 +0.2
GIGS AML AML
comp=N,158µm,0.1s
GIGS AML AML
comp=E,189µm,0.5s
GIGS AML AML
comp=N,158µm,0.1s
GIGS AML AML
comp=E,150µm,0.3s
CESX Cesi 0.47 246 ⇓P Pb 00 20 49.9 -0.5
CESX AML AML
comp=E,454µm,0.5s
CESX AML AML
comp=N,466µm,0.4s
CESX AML AML
comp=E,447µm,0.5s
CESX AML AML
comp=N,376µm,0.2s
SNTG Esanatoglia 0.48 341 P Pb 00 20 49.9 -0.9
SNTG S **Sb 00 20 57.3 -0.5**
SNTG AML AML
comp=E,748µm,0.4s
SNTG AML AML
comp=N,876µm,0.2s
SNTG AML AML
comp=N,934µm,0.2s
SNTG AML AML
comp=E,748µm,0.4s
SNTG AML AML
comp=E,826µm,0.4s
SNTG AML AML
comp=N,876µm,0.2s
SNTG AML AML
comp=N,935µm,0.2s
SNTG AML AML
comp=E,740µm,0.3s
SNTG AML AML
comp=E,734µm,0.3s
SNTG AML AML
comp=N,876µm,0.2s
FIAM Fiamignano 0.53 183 ⇑P Pb 00 20 51.0 -0.7
FIAM S **Sb 00 20 59.2 -0.1**
FIAM AML AML
comp=E,407µm,0.8s
FIAM AML AML
comp=E,407µm,1.2s
FIAM AML AML
comp=N,387µm,0.7s
FIAM AML AML
comp=E,344µm,0.4s
FIAM AML AML
comp=N,375µm,0.8s
ATCC AVT- Casa Cast 0.54 316 P Pb 00 20 50.9 -0.8
ATCC S **Sb 00 20 59.3 -0.1**
ATCC AML AML
comp=E,910µm,0.3s
ATCC AML AML
comp=N,868µm,0.3s
ATCC AML AML
comp=E,909µm,0.3s
ATCC AML AML
comp=N,869µm,0.3s
TRTR Tortoreto Alta 0.56 89 P Pn 00 20 53.1 -0.9
TRTR AML AML
comp=E,1004µm,1.0s
TRTR AML AML
comp=N,1354µm,0.4s
TRTR AML AML
comp=E,1004µm,1.0s
TRTR AML AML
comp=N,1356µm,0.4s
TRTR AML AML
comp=E,874µm,0.4s
FOSV Fossato di Vic 0.57 330 P Pb 00 20 51.4 -0.9
FOSV S **Sb 00 21 00.1 -0.3**
FOSV AML AML
comp=E,491µm,0.3s
FOSV AML AML
comp=N,554µm,1.5s
FOSV AML AML
comp=N,554µm,0.5s
FOSV AML AML
comp=N,482µm,0.3s
FOSV AML AML
comp=E,443µm,0.3s
FAGN Fagnano 0.62 149 ⇑P Pg 00 20 52.4 0.0
FAGN AML AML
comp=N,611µm,0.4s
FAGN AML AML
comp=E,808µm,0.4s
VCEL Villa Celiera 0.65 129 ⇓P Pb 00 20 53.6 -0.1
VCEL AML AML
comp=N,559µm,0.4s
VCEL AML AML
comp=E,446µm,1.6s
VCEL AML AML
comp=E,446µm,0.4s
VCEL AML AML
comp=N,559µm,0.4s
VCEL AML AML
comp=E,367µm,0.2s
MURB Monte Urbino 0.65 315 P Pb 00 20 53.0 -0.7
MURB AML AML
comp=E,973µm,0.7s
MURB AML AML
comp=N,1545µm,0.3s
MURB AML AML
comp=E,1145µm,0.7s
MURB AML AML
comp=N,1515µm,0.3s
MURB AML AML
comp=E,973µm,0.7s
MURB AML AML
comp=E,973µm,1.3s
MURB AML AML
comp=N,1545µm,0.3s
MURB AML AML
comp=E,1145µm,1.3s
MURB AML AML
comp=E,1139µm,0.2s
MURB AML AML
comp=N,1544µm,0.3s
MURB AML AML
comp=N,1514µm,0.3s
MURB AML AML
comp=E,926µm,0.2s
SSFR Montelago di S 0.69 337 P Pb 00 20 53.6 -0.7
SSFR S **Sb 00 21 04.4 +0.5**
SSFR AML AML
comp=E,1605µm,0.2s
SSFR AML AML
comp=E,1555µm,0.8s
SSFR AML AML
comp=N,1520µm,1.4s
SSFR AML AML
comp=N,1480µm,0.9s
SSFR AML AML
comp=N,1520µm,0.6s
SSFR AML AML
comp=E,1550µm,0.2s
SSFR AML AML
comp=N,1321µm,0.2s
SSFR AML AML
comp=N,1439µm,0.2s
SSFR AML AML
comp=E,1605µm,0.2s
ABTA Abfaltersbach 3.97 354 *e*Pn **Pn 00 21 43.6 +2.5**
comp=E,2.0nm,0.5s
WATA Walderalm 4.67 347 *e*Pn **Pn 00 21 51.4 +0.7**
comp=E,0.6nm,0.3s
BIOA Bad Ischl, Aus 4.90 4 *e*Pn **Pn 00 21 56.2 +2.4**
comp=E,2.0nm,0.3s
CONA Conrad Observa 5.47 19 *e*Pn **Pn 00 22 05.0 +3.4**
comp=E,0.2nm,0.2s

*IDC **01** 00:23:52.9±1.2,5°.97S±1°.153°.86E,h0km,mb3.8/7, mbtmp3.9/10,ML3.1/3,MS3.4/5,Error ellipse: s-maj=33.3km s-min=20.9km az=88.0*
*NEIC **01** 00:23:53.9±0.7,6°.0S±0°.1×153°.90E±0°.06,h10km±1km, mb4.1/8,Error ellipse: s-maj=20.6km s-min=6.2km az=205.0*
ISC 01 00:23:58.6±0.9,**5°.98S**±0°.08×**153°.8E**±0°.1,**h48**km,**n28,** σ1.9**73**/27,**mb3.7**/8,**MS3.0**/3,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.44**	**317**	Pn	**Pn**	**00 24 31.5**	**-4.5**

RABL				Sn	**Sn**	**00 25 05.1**	**+0.5**
KRVT	**Keravat (AS076**	**2.46**	**313**	Pn	**Pn**	**00 24 34.4**	**-1.7**
	9.9nm,0.3s,baz=167,slow=14,SNR=12						
KRVT				Sn	**Sn**	**00 25 09.1**	**+4.1**
	11nm,0.3s,baz=227,slow=19,SNR=5.4						
KRVT				LR	LR	00 25 34.2	
	comp=Z,505nm,18.6s,baz=166,slow=41						
	49nm,0.4s						
HNR	**Honiara**	**6.96**	**120**	LR	LR	00 28 26.2	
	comp=Z,2µm,18.2s,baz=340,slow=39						
PMG	**Port Moresby**	**7.44**	**242**	Pn	**Pn**	**00 25 43.8**	**-0.8**
	7.2nm,0.3s,baz=349,slow=11,SNR=2.7						
	16nm,0.3s						
CTA	**Charters Tower**	**15.84**	**207**	Pn	**P**	**00 27 39.4**	**-2.1**
	0.1nm,0.3s,baz=67,slow=12,SNR=2.7						
	2.5nm,0.7s						
CTAO	**Charters Tower**	**15.84**	**207**	Pn	**Pn**	**00 27 37.4**	**-1.1**
CTAO				IAmb	IAmb	00 27 44.8	
	comp=Z,6.3nm,0.8s						
DZM	**Mont Dzumac**	**20.11**	**144**	P	**P**	**00 28 28.5**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=277,slow=16,SNR=3.0						
DZM				LR	LR	00 35 13.4	
	comp=Z,61nm,20.1s,baz=32,slow=34						
	comp=Z,5.6nm,0.8s						
DZM	**Mont Dzumac**	**20.11**	**144**	P	**P**	**00 28 27.2**	**-1.3**
DZM				IAmb	IAmb	00 28 32.4	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**23.35**	**232**	P	**P**	**00 29 01.9**	**-1.1**
WB0				IAmb	IAmb	00 29 27.8	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**23.49**	**232**	P	**P**	**00 29 04.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=58,slow=9.0,SNR=8.4						
WRA				PcP	**PcP**	**00 32 51.1**	**+1.9**
	comp=Z,0.7nm,1.0s,baz=54,slow=2.4,SNR=1.7						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**26.02**	**225**	P	**P**	**00 29 27.0**	**-0.3**
ASAR	**Alice Springs**	**26.02**	**225**	P	**P**	**00 29 27.7**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=56,slow=9.1,SNR=13						
ASAR				PcP	**PcP**	**00 32 56.9**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=74,slow=2.2,SNR=1.5						
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**26.02**	**225**	P	**P**	**00 29 28.1**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**27.43**	**27**	T	T	00 58 03.8	
	baz=208,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.43**	**27**	T	T	00 58 05.9	
	baz=208,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.45**	**27**	T	T	00 58 05.2	
	baz=208						
STKA	**Stephens Creek**	**28.19**	**202**	P	**P**	**00 29 46.8**	**0.0**
	comp=Z,0.8nm,0.4s,baz=350,slow=12,SNR=2.8						
	comp=Z,0.8nm,0.4s						
STKA	**Stephens Creek**	**28.19**	**202**	P	**P**	**00 29 45.8**	**-0.9**
DAV	**Davao City (W)**	**31.04**	**294**	LR	LR	00 42 12.8	
	comp=Z,23nm,18.8s,baz=320,slow=35						
KAPI	**Kappang**	**33.94**	**270**	LR	LR	00 46 22.5	
	comp=Z,33nm,18.1s,baz=104,slow=40						
FORT	**Forrest**	**34.56**	**221**	P	**P**	**00 30 42.6**	**-0.1**
SONM	**Songino Array**	**67.87**	**328**	P	**P**	**00 34 51.9**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=153,slow=4.8,SNR=1.5						
	comp=Z,0.3nm,0.7s						
VNDA	**Vanda**	**71.62**	**178**	P	**P**	**00 35 16.8**	**+2.3**
MK31	**Makanchi Array**	**81.89**	**319**	P	**P**	**00 36 13.2**	**+0.2**
MK31				IAmb	IAmb	00 36 26.5	
	comp=Z,1.4nm,0.9s						
MKAR	**Makanchi Array**	**81.89**	**319**	P	**P**	**00 36 14.2**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=101,slow=5.8,SNR=6.0						
	comp=Z,0.9nm,0.9s						
MKAR	**Makanchi Array**	**81.89**	**319**	P	**P**	**00 36 13.1**	**+0.1**
ZALV	**Zalesovo Beam**	**82.70**	**326**	P	**P**	**00 36 19.3**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=111,slow=5.5,SNR=1.9						
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**151.64**	**287**	PKPbc	**PKiKP**	**00 43 49.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=101,slow=2.3,SNR=5.3						
TORD				PKPab	**pPKPbc**	**00 44 00.2**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=60,slow=2.6,SNR=7.8						

*NIC **01** 00:37:04.2±0.0,35˚.70N×31˚.30E,h14km±1km,Ml2.5/3*
*ISK **01** 00:37:05.4,35˚.33N×31˚.15E,h21km,ML2.3/8*
*DDA **01** 00:37:07.1±0.0,35˚.73N×31˚.51E,h5km±1km,ML1.8*

ISC 01 00:37:07.5±1.3,**35˚45N**±0˙.05×**31˚28E**±0˙.04,**h25**km±15km,
n21,σ1°54/37,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.97**	**116**	P	**Pn**	**00 37 24.7**	**-0.7**
AKMS				S	**Sn**	**00 37 40.6**	**+2.2**
AKMS				AML	AML	00 37 41.5	
	0.5nm,0.7s						
AKMS				AML	AML	00 37 41.5	
	0.5nm,0.7s						
AKMS				AML	AML	00 37 46.5	
	0.4nm,0.4s						
AKMS				AML	AML	00 37 46.5	
	0.4nm,0.4s						
ALFC	**Alefka**	**1.12**	**105**	P	**Pn**	**00 37 26.7**	**-1.0**
ALFC				S	**Sn**	**00 37 43.2**	**+1.0**
ALFC				AML	AML	00 37 46.0	
	0.4nm,0.2s						
ALFC				AML	AML	00 37 46.0	
	0.4nm,0.2s						
ALFC				AML	AML	00 37 48.0	
	0.4nm,0.2s						
ALFC				AML	AML	00 37 48.0	
	0.4nm,0.2s						
AKUM	**Antalya-Kumluc**	**1.16**	**319**	P	**Pb**	**00 37 28.7**	**-0.1**
AKUM				S	**Sn**	**00 37 46.0**	**+2.9**
AKUM				*i* AML	AML	00 37 50.0	
	comp=N,23nm,0.6s						
AKUM				*i* AML	AML	00 37 51.0	
	comp=E,24nm,0.4s						
NATA	**Nata**	**1.25**	**122**	P	**Pb**	**00 37 30.2**	**-0.3**
NATA				S	**Sb**	**00 37 48.3**	**+2.2**
NATA				AML	AML	00 37 52.8	
	0.4nm,0.3s						
NATA				AML	AML	00 37 52.8	
	0.4nm,0.3s						
NATA				AML	AML	00 37 57.5	
	0.9nm,0.6s						
NATA				AML	AML	00 37 57.5	
	0.9nm,0.6s						
LEF	**Lefka**	**1.36**	**103**	Pn	**Pn**	**00 37 30.5**	**-0.4**
LEF				Sn	**Sn**	**00 37 48.6**	**+0.5**
KEPZ	**Antalya-Kepez**	**1.48**	**10**	P	**Pn**	**00 37 29.5**	**-3.0**
KEPZ				S	**Sn**	**00 37 46.4**	**-4.6**
KEPZ				*i* AML	AML	00 37 49.0	
	comp=N,21nm,0.4s						
KEPZ				*i* AML	AML	00 37 50.0	
	comp=E,16nm,0.3s						
SZAC	**Souni**	**1.49**	**117**	S	**Sb**	**00 37 53.3**	**+0.4**
ELL	**Elmali**	**1.71**	**320**	Pn	**Pn**	**00 37 35.3**	**-0.5**
KORT	**Korkueli**	**1.72**	**334**	Pn	**Pn**	**00 37 35.8**	**-0.2**
KORT	**Korkueli**	**1.72**	**334**	P	**Pb**	**00 37 39.1**	**+0.6**
KORT				S	**Sb**	**00 37 59.0**	**-0.8**
ASGA	**Asgata**	**1.75**	**112**	P	**Pn**	**00 37 35.0**	**-1.2**
ASGA				S	**Sb**	**00 37 59.7**	**-0.6**
CSS	**Mathiatis**	**1.75**	**105**	P	**Pn**	**00 37 34.1**	**-2.2**
CSS				S	**Sn**	**00 37 59.0**	**+1.2**
MVOU	**Mavrovouni**	**1.98**	**102**	P	**Pn**	**00 37 37.6**	**-1.7**
SUTC	**Sutluce-Ispart**	**2.04**	**354**	Pn	**Pn**	**00 37 40.9**	**+0.6**
SUTC				Sn	**Sn**	**00 38 06.9**	**+1.8**
BCK	**Bucak**	**2.08**	**345**	Pn	**Pn**	**00 37 41.4**	**+0.5**
FETY	**Fethiye**	**2.14**	**304**	Pn	**Pn**	**00 37 40.7**	**-0.9**
FETY				Sn	**Sn**	**00 38 06.4**	**-0.9**
KKBE	**Karaman, Kazim**	**2.22**	**37**	P	**Pn**	**00 37 42.4**	**-0.5**
KKBE				S	**Sn**	**00 38 10.0**	**+0.5**
KKBE				*i* AML	AML	00 38 15.0	
	comp=E,11nm,0.4s						
KKBE				*i* AML	AML	00 38 17.0	
	comp=N,8.2nm,0.4s						
DALY	**Dalyan (Mula)**	**2.52**	**304**	Pn	**Pn**	**00 37 46.1**	**-0.8**
DALY				Sn	**Sn**	**00 38 15.8**	**-1.0**
APMY	**Acipayam-Deniz**	**2.57**	**322**	Pn	**Pn**	**00 37 47.4**	**-0.2**
APMY				Sn	**Sn**	**00 38 18.4**	**+0.2**
DOGA	**KONYA_Doganhis**	**2.67**	**7**	P	**Pn**	**00 37 49.6**	**+0.5**
DOGA				*i* AML	AML	00 38 21.0	
	comp=N,11nm,0.9s						
DOGA				S	**Sn**	**00 38 21.5**	**+0.7**
DOGA				*i* AML	AML	00 38 24.0	
	comp=E,5.7nm,0.5s						
YVAC	**Isparta, Yalva**	**2.82**	**359**	P	**Pn**	**00 37 51.7**	**+0.6**
YVAC				S	**Sn**	**00 38 26.7**	**+2.4**
YVAC				*i* AML	AML	00 38 27.0	
	comp=N,7.7nm,1.6s						
YVAC				*i* AML	AML	00 38 29.0	
	comp=E,2.2nm,0.4s						

*IDC **01** 00:45:49.5±1.3,2˚.75S×139˚.79E,h0km,mb3.8/5,*
mbtmp3.9/7,ML4.3/3,MS3.3/4,Error ellipse: s-maj=36.3km
s-min=23.3km az=82.0
*DJA **01** 00:45:54.6±1.0,2˚.S±8˚×14˚.0E±˚,h74km±12km,M4.0/4,*
MLv4.0/4
*NEIC **01** 00:45:58.0±1.8,2˚.9S±0˚.1×139˚.4E±0˚.1,h49km±8km,*
mb4.1/10,Error ellipse: s-maj=19.0km s-min=16.3km
az=61.0

ISC 01 00:45:56.3±0.6,**2˚.81S**±0˙.06×**139˚.48E**±0˙.06,**h46**km,**n30,**
σ1°93/33,mb3.9/8,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.72**	**72**	P	**Pn**	**00 46 08.4**	**-1.8**
GENI				S	**Sn**	**00 46 21.4**	**+1.1**
SMPI	**Sarmi**	**1.12**	**317**	P	**Pn**	**00 46 13.5**	**-2.1**
SMPI				S	**Sn**	**00 46 28.8**	**-1.1**
JAY	**Jayapura**	**1.26**	**76**	P	**Pn**	**00 46 14.8**	**-2.7**
WAMI	**Wamena**	**1.31**	**216**	P	Pn	00 46 23.7	+5.5
FAKI	**Fak Fak**	**7.22**	**269**	Pn	**Pn**	**00 47 39.6**	**+0.2**
SIJI	**Sorong**	**8.43**	**283**	Pn	**Pn**	**00 47 58.1**	**+2.2**
	1.7nm,0.3s,baz=31,slow=23,SNR=4.3						
SIJI				Sn	**Sn**	**00 49 27.5**	**-2.4**
	0.5nm,0.3s,baz=34,slow=19,SNR=1.8						
SIJI				LR	LR	00 52 17.3	
	comp=Z,172nm,18.9s,baz=74,slow=44						
	7.1nm,0.6s						
MTN	**Manton Dam**	**12.94**	**219**	Pn	**Pn**	**00 48 56.8**	**-0.9**
KNRA	**Kununurra**	**16.58**	**219**	Pn	**Pn**	**00 49 45.3**	**-0.3**
KNRA				IAmb	IAmb	00 49 59.4	
	comp=Z,37nm,0.9s						
SOEI	**Soe**	**16.61**	**245**		**Pn**	**00 49 45.6**	**-0.5**
GUMO	**Guam**	**17.15**	**18**	LR	LR	00 56 15.9	
	comp=Z,108nm,18.4s,baz=137,slow=37						
BATI	**Baumata**	**17.33**	**244**	P	**P**	**00 49 58.0**	**+2.0**
	comp=Z,7.0nm,0.3s,baz=153,slow=4.5,SNR=9.7						
WB0	**Warramunga Arr**	**17.57**	**196**		**Pn**	**00 49 56.6**	**-1.4**
WB0				IAmb	IAmb	00 50 14.7	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**17.75**	**196**	P	**Pn**	**00 49 58.3**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=20,slow=13,SNR=21						
WRA				S	**Sn**	**00 53 10.8**	**-6.4**
	comp=Z,3.9nm,0.8s,baz=9.9,slow=23,SNR=6.8						
	comp=Z,8.6nm,0.9s						
WRA	**Warramunga Arr**	**17.75**	**196**		**Pn**	**00 49 58.2**	**-1.9**
CTA	**Charters Tower**	**18.40**	**159**	P	**Pn**	**00 50 11.5**	**+3.4**
	comp=Z,0.9nm,0.6s,baz=343,slow=17,SNR=1.4						
CTA				LR	LR	00 57 33.6	
	comp=Z,115nm,22.0s,baz=266,slow=38						
AS31	**Alice Springs**	**21.42**	**194**	P	**P**	**00 50 40.6**	**0.0**
ASAR	**Alice Springs**	**21.42**	**194**	P	**P**	**00 50 40.4**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=22,slow=9.6,SNR=36						
ASAR				S	**S**	**00 54 37.7**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=7.8,slow=30,SNR=2.0						
ASAR				LR	LR	01 00 14.6	
	comp=Z,75nm,20.4s,baz=53,slow=40						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**21.42**	**194**	P	**P**	**00 50 40.2**	**-0.4**
EIDS	**Eidsvold**	**25.05**	**155**	P	**P**	**00 51 16.7**	**+0.2**
EIDS				IAmb	IAmb	00 51 20.8	
	comp=Z,8.0nm,1.0s						
MBWA	**Marble Bar**	**26.50**	**225**	P	**P**	**00 51 29.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**45.15**	**300**	P	**P**	**00 54 09.0**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=113,slow=7.0,SNR=1.9						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**70.34**	**322**	P	**P**	**00 57 06.0**	**+0.7**
MK31				IAmb	IAmb	00 57 26.4	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**70.34**	**322**	P	**P**	**00 57 06.4**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=108,slow=7.8,SNR=8.3						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**70.34**	**322**	P	**P**	**00 57 05.9**	**+0.6**
MAKZ	**Makanchi**	**70.54**	**322**	P	**P**	**00 57 07.1**	**+0.6**
MAKZ				IAmb	IAmb	00 57 10.3	
	comp=Z,1.7nm,1.0s						
VNDA	**Vanda**	**75.61**	**175**	P	**P**	**00 57 36.9**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=316,slow=4.1,SNR=5.5						
	comp=Z,1.9nm,0.8s						
VNDA	**Vanda**	**75.61**	**175**	P	**P**	**00 57 37.4**	**+1.5**
VNDA				IAmb	IAmb	00 57 39.4	
	comp=Z,2.4nm,0.8s						
KKAR	**Karatay Array**	**76.74**	**315**	P	**P**	**00 57 41.8**	**-1.2**
ILAR	**Eielson Array**	**85.61**	**24**	P	**P**	**00 58 28.3**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=260,slow=5.4,SNR=2.5						
	comp=Z,0.4nm,0.8s						
BMAR	**Burnt Mountain**	**87.21**	**22**	P	**P**	**00 58 39.7**	**+2.2**

*MDD **01** 00:48:55.5±1.3,36˚.68N×11˚.27W,h0km,Mb3.6/5,*
M_mb2.8/5,Error ellipse: s-maj=10.3km s-min=9.4km
az=22.0
*INMG **01** 00:48:57.0±1.2,36˚.47N×11˚.41W,h31km,ML1.7,Error*
ellipse: s-maj=8.1km s-min=5.3km az=98.0
*CNRM **01** 00:49:06.0,36˚.12N×10˚.04W,h0km,ml1.6*

ISC 01 00:48:55.1±3.0,**36˚44N**±0˙.07×**11˚3W**±0˙.2,**h35**km,**n20,**
σ2°55/37,5C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.10**	**70**	*e*Pn	**Pn**	**00 49 29.1**	**+1.3**
PFVI				*e*Sn	**Sn**	**00 49 53.4**	**+0.7**
PFVI				A	A	00 50 01.1	
	7.8nm,0.7s						
PTEO	**Sao Teotonio**	**2.34**	**61**	*e*Pn	**Pn**	**00 49 32.5**	**+1.5**
PTEO				*e*Sn	**Sn**	**00 49 59.3**	**+0.7**
PNCL	**Nicolau / Gran**	**2.77**	**52**	*e*Pn	**Pn**	**00 49 38.1**	**+1.1**
PNCL				*e*Sn	**Sn**	**00 50 09.2**	**0.0**
PNCL				A	A	00 50 11.8	
	1.6nm,0.6s						
PCVE	**Castro Verde**	**2.87**	**64**	*e*Pn	**Pn**	**00 49 39.7**	**+1.4**
PCVE				*e*Sn	**Sn**	**00 50 11.4**	**-0.2**
PCVE				A	A	00 50 14.9	
	1.7nm,0.5s						
PMAFR	**Mafra**	**2.98**	**32**	*e*Sn	**Sn**	**00 50 14.0**	**-0.4**
PVAQ	**Vaqueiros**	**3.03**	**70**	*e*Pn	**Pn**	**00 49 42.7**	**+2.2**
PVAQ				*e*Sn	**Sn**	**00 50 16.0**	**+0.4**
PVAQ				A	A	00 50 20.1	
	3.3nm,0.9s						
PVAQ	**Vaqueiros**	**3.03**	**70**	P	**Pn**	**00 49 42.5**	**+2.0**
PVAQ				S	**Sn**	**00 50 15.4**	**-0.2**
EGRO	**El Granado**	**3.25**	**69**	P	**Pn**	**00 49 45.9**	**+2.4**
EGRO				⇑*i*Vmb_V		00 49 46.4	
	109nm,SNR=1.3						
EGRO				S	**Sn**	**00 50 22.3**	**+1.4**
PMTG	**Montargil**	**3.58**	**42**	*e*Pn	**Pn**	**00 49 48.8**	**+0.7**
PMTG				*e*Sn	**Sn**	**00 50 28.6**	**-0.6**
PMTG				A	A	00 50 34.7	
	1.0nm,0.8s						
PBAR	**Barrancos**	**3.81**	**62**	*e*Pn	**Pn**	**00 49 52.9**	**+1.6**
PBAR				*e*Sn	**Sn**	**00 50 34.1**	**-0.8**
PBAR				A	A	00 50 43.9	
	0.8nm,0.7s						
PESTR	**Estremoz**	**3.81**	**49**	*e*Pn	**Pn**	**00 49 52.3**	**+1.0**
PESTR				*e*Sn	**Sn**	**00 50 34.6**	**-0.4**
EMIN	**Mina Concepcio**	**3.93**	**69**	P	**Pn**	**00 49 54.1**	**+1.2**
EMIN				⇑*i*Vmb_V		00 50 04.0	
	45nm,SNR=0.9						
EMIN				S	**Sn**	**00 50 38.0**	**+0.2**
EBAD	**Badajoz**	**4.12**	**54**	P	**Pn**	**00 49 56.4**	**+0.9**
EBAD				⇑*i*Vmb_V		00 49 57.1	
	79nm,SNR=1.9						
EBAD				S	**Sn**	**00 50 42.0**	**-0.3**
PCAS	**Casmilo, Conde**	**4.23**	**31**	*e*Pn	**Pn**	**00 49 57.3**	**+0.2**
PMRV	**Marv??o**	**4.30**	**45**	*e*Pn	**Pn**	**00 49 58.0**	**0.0**
PMRV				*e*Sn	**Sn**	**00 50 45.2**	**-1.7**
ECAB	**El Cabril**	**4.97**	**69**	P	**Pn**	**00 50 08.8**	**+1.6**
ECAB				⇑*i*Vmb_V		00 50 14.9	
	52nm,SNR=1.6						
ECAB				S	**Sn**	**00 51 01.8**	**-1.6**
EADA	**Adamuz**	**5.63**	**70**	P	**Pn**	**00 50 17.5**	**+1.2**
EADA				⇑*i*Vmb_V		00 50 27.1	
	51nm,SNR=1.7						
EADA				S	**Sn**	**00 51 19.3**	**-0.4**
ELOB	**Lobios**	**5.98**	**24**	S	**Sn**	**00 51 22.1**	**-6.3**
MD31	**MD31**	**6.46**	**122**	P	**Pn**	**00 50 29.3**	**+1.5**
MD31				S	**Sn**	**00 51 32.5**	**-7.8**
MDT	**Midelt**	**6.59**	**121**	P	**Pn**	**00 50 31.3**	**+1.7**
MDT				S	**Sn**	**00 51 35.1**	**-8.5**

*NNC **01** 00:58:18.3±0.8,44˚.81N×79˚.21E,h0km,mb3.2,mpv3.0,*
Error ellipse: s-maj=5.8km s-min=4.8km az=167.0

*SOME **01** 00:58:19.0,44˚.83N×79˚.10E,h15km*

ISC 01 00:58:18.5±1.3,**44˚81N**±0˙.04×**79˚16E**±0˙.03,**h6**km±13km,
n38,σ0°84/58,7C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.57**	**290**	*e*P	**Pg**	**00 58 29.9**	**+0.4**
	24nm,0.1s						
TDK				*e*S	**Sg**	**00 58 37.8**	**+0.8**
	135nm,0.0s						
DJR	**Jarkent**	**0.65**	**136**	P	**Pg**	**00 58 30.4**	**-0.7**
	8.1nm,0.1s						
DJR				S	**Sg**	**00 58 38.8**	**-0.8**
	27nm,0.1s						
DJR	**Jarkent**	**0.65**	**136**	*e*P	**Pg**	**00 58 30.4**	**-0.7**
	8.1nm,0.1s						
DJR				*e*S	**Sg**	**00 58 38.8**	**-0.8**
	45nm,0.1s						
BLB	**Baldybastay**	**0.86**	**215**	P	**Pg**	**00 58 35.2**	**+0.1**
	17nm,0.2s						
BLB				S	**Sg**	**00 58 46.5**	**+0.3**
	18nm,0.2s						
KPKS	**Kokpek**	**1.38**	**195**	P	**Pb**	**00 58 45.0**	**+0.2**
	3.8nm,0.1s						
KPKS				S	**Sg**	**00 59 03.5**	**+0.6**
	31nm,0.5s						
KPKS	**Kokpek**	**1.38**	**195**	*e*P	**Pb**	**00 58 45.0**	**+0.2**
	4.0nm,0.0s						
KPKS				*e*S	**Sg**	**00 59 03.5**	**+0.6**
	31nm,0.5s						
PDGK	**Podgornoye**	**1.50**	**171**	Pn	**Pn**	**00 58 44.7**	**-1.3**
	3.8nm,0.4s						
PDGK				⇓Sn	**Sg**	**00 59 07.7**	**+1.1**
	7.6nm,0.6s						
KURS	**Kuram**	**1.50**	**209**	P	**Pg**	**00 58 47.6**	**+0.3**
	5.9nm,0.6s						
KURS				S	**Sg**	**00 59 08.3**	**+1.6**
	16nm,0.3s						
KURS	**Kuram**	**1.50**	**209**	*e*P	**Pg**	**00 58 47.6**	**+0.3**
	5.9nm,0.1s						
KURS				*e*S	**Sg**	**00 59 08.3**	**+1.6**
	16nm,0.3s						
UZB	**Uzynbulak**	**1.66**	**184**	P	**Pb**	**00 58 49.7**	**0.0**
	2.0nm,0.2s						
UZB				S	**Sg**	**00 59 11.9**	**0.0**
	28nm,0.2s						
UZB	**Uzynbulak**	**1.66**	**184**	*e*P	**Pb**	**00 58 49.7**	**0.0**
	2.3nm,1.4s						
UZB				*e*S	**Sg**	**00 59 11.9**	**0.0**
	28nm,0.2s						
SHLS	**Shalkode**	**1.66**	**172**	P	**Pg**	**00 58 50.8**	**+0.4**
	11nm,0.3s						
SHLS				S	**Sg**	**00 59 13.6**	**+1.6**
	8.3nm,0.3s						
SHLS	**Shalkode**	**1.66**	**172**	*e*P	**Pg**	**00 58 50.8**	**+0.4**
	11nm,0.3s						
SHLS				*e*S	**Sg**	**00 59 13.6**	**+1.6**
	8.3nm,0.3s						
ZHN	**Zhinishke**	**1.72**	**198**	P	**Pb**	**00 58 50.6**	**0.0**
	5.8nm,0.2s						
ZHN				S	**Sb**	**00 59 13.3**	**+0.8**
	34nm,0.2s						
ZHN	**Zhinishke**	**1.72**	**198**	*e*P	**Pb**	**00 58 50.6**	**0.0**
	4.7nm,0.1s						
ZHN				*e*S	**Sb**	**00 59 13.3**	**+0.8**
	34nm,0.2s						
CHKK	**Chushkaly**	**1.83**	**239**	P	**Pb**	**00 58 51.6**	**-0.8**
	3.4nm,0.3s						
CHKK				S	**Sb**	**00 59 14.9**	**-0.6**
	52nm,0.3s						
CHKK	**Chushkaly**	**1.83**	**239**	*e*P	**Pb**	**00 58 51.6**	**-0.8**
	3.4nm,0.3s						
CHKK				*e*S	**Sb**	**00 59 14.9**	**-0.6**
	52nm,0.3s						
SATY	**Saty**	**1.83**	**198**	P	**Pb**	**00 58 52.9**	**+0.4**
	2.5nm,0.1s						
SATY				S	**Sg**	**00 59 17.2**	**-0.1**
	45nm,0.4s						
SATY	**Saty**	**1.83**	**198**	*e*P	**Pb**	**00 58 52.9**	**+0.4**
	2.5nm,0.1s						
SATY				*e*S	**Sg**	**00 59 17.2**	**-0.1**
	45nm,0.0s						
KOTS	**Kotyrbulak**	**2.16**	**224**	Pg	**Pb**	**00 58 57.9**	**-0.2**
KOTS				Lg	Lg	00 59 26.2	
	43nm,0.7s						
KOTS	**Kotyrbulak**	**2.16**	**224**	*e*Pg	**Pb**	**00 58 57.9**	**-0.2**
	7.2nm,0.1s						
KOTS				*e*Lg	Lg	00 59 26.2	
	43nm,0.2s						
KUU	**Kurty**	**2.22**	**247**	Pg	**Pb**	**00 58 59.1**	**0.0**
	5.4nm,0.2s						
KUU				Lg	Lg	00 59 28.0	
	45nm,0.3s						
KUU	**Kurty**	**2.22**	**247**	*e*Pg	**Pb**	**00 58 59.1**	**0.0**
	5.8nm,0.2s						
KUU				*e*Lg	Lg	00 59 28.0	
	45nm,0.2s						
MDOK	**Medeo**	**2.24**	**224**	⇑Pn	**Pb**	**00 58 58.1**	**-1.5**
	4.5nm,0.5s						
MDOK				Pg	**Pg**	**00 58 59.2**	**-2.3**
	6.6nm,0.3s						
MDOK				Lg	Lg	00 59 28.4	
	18nm,0.7s						
MDOK				⇓Sn	**Sb**	**00 59 28.9**	**+1.3**
	21nm,0.6s						
KNDC	**Almaty**	**2.24**	**226**	⇑Lg	Lg	00 59 29.8	
	29nm,0.6s						
TNSS	**Tian-Shan**	**2.38**	**223**	Pg	**Pb**	**00 59 02.8**	**+0.6**
	7.9nm,0.5s						
TNSS				Lg	Lg	00 59 34.6	
	7.5nm,0.8s						
TNSS	**Tian-Shan**	**2.38**	**223**	*e*Pg	**Pb**	**00 59 02.8**	**+0.6**
	7.8nm,0.1s						
TNSS				*e*Lg	Lg	00 59 34.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.54**	**289**	P	**P**	**01 19 23.1**	**+1.5**
	8.9nm,0.5s,baz=90,slow=17,SNR=8.3						
STKA	**Stephens Creek**	**38.79**	**243**	P	**P**	**01 24 34.2**	**+0.9**
	0.7nm,0.3s,baz=140,slow=12,SNR=1.5						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**45.29**	**261**	P	**P**	**01 25 23.1**	**-1.5**
	0.6nm,0.3s,baz=97,slow=7.7,SNR=13						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**45.31**	**255**	P	**P**	**01 25 24.1**	**-0.6**
	1.1nm,0.7s,baz=90,slow=8.3,SNR=18						
ASAR				PcP	**PcP**	**01 26 51.6**	**-1.3**
	0.2nm,0.7s,baz=99,slow=4.7,SNR=1.5						
	1.1nm,0.7s						
NVAR	**Mina Array Bea**	**79.79**	**43**	P	**P**	**01 29 07.3**	**+0.2**
	0.4nm,0.6s,baz=230,slow=7.4,SNR=3.7						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**85.97**	**57**	P	**P**	**01 29 39.3**	**+1.3**
	0.5nm,0.7s,baz=211,slow=6.4,SNR=5.9						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**87.02**	**13**	P	**P**	**01 29 40.8**	**-1.3**
	0.3nm,0.9s,baz=227,slow=4.8,SNR=4.6						
	0.3nm,0.9s						
GERES	**GERESS Array B**	**149.17**	**346**	PKPbc	**PKPbc**	**01 36 41.6**	**-0.5**
	0.3nm,0.7s,baz=329,slow=1.6,SNR=4.1						

WEL 01 01:21:29.0±0.3, 42°S±2°×17°3E±°, h10km±2km, M3.2/18, ML3.5/18, MLv3.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=117.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**53**	P	**Pg**	**01 21 31.9**	**+0.2**
KHZ				S	Sg	01 21 34.3	+0.6
GVZ	**Greta Valley S**	**0.56**	**210**	P	**Pb**	01 21 40.8	0.0
GVZ				S	Sb	01 21 50.3	+1.4
THZ	**Tophouse**	**0.82**	**332**	P	**Pg**	01 21 44.3	-0.5
THZ				S	Sg	01 21 54.7	-0.7
BSWZ	**Blackbirch Sta**	**0.84**	**24**	P	**Pb**	01 21 45.7	-0.1
AMCZ	**Amberley**	**0.89**	**219**	P	**Pb**	01 21 47.0	+0.5
LTZ	**Lake Taylor**	**0.89**	**250**	P	**Pg**	01 21 45.8	-0.4
LTZ				S	Sb	01 21 58.4	-0.3
CMWZ	**Cape Campbell**	**0.95**	**39**	P	**Pn**	01 21 48.8	+0.3
TUWZ	**Tuamarina**	**1.13**	**21**	P	**Pn**	01 21 51.8	+0.9
TUWZ				S	Sn	01 22 08.8	+2.3
MRNZ	**Matariki Terra**	**1.19**	**336**	P	**Pb**	01 21 51.2	-0.5
OKCZ	**Okains Bay**	**1.26**	**192**	P	**Pn**	01 21 52.0	-0.8
NNZ	**Nelson**	**1.27**	**359**	P	**Pn**	01 21 52.4	-0.4
OXZ	**Oxford**	**1.31**	**230**	P	**Pn**	01 21 52.2	-1.3
MQZ	**McQueen's Vall**	**1.34**	**204**	P	**Pn**	01 21 52.1	-1.7
MQZ				S	Sb	01 22 10.6	-0.9
DSZ	**Denniston Nort**	**1.41**	**301**	P	**Pb**	01 21 55.3	-0.1
DSZ				S	Sg	01 22 14.8	+0.6
TCW	**Tory Channel**	**1.43**	**27**	P	**Pn**	01 21 54.7	-0.3
AKCZ	**Akaroa Harbour**	**1.43**	**195**	P	**Pn**	01 21 53.7	-1.4
TKNZ	**Takaka Hill**	**1.49**	**347**	P	**Pb**	01 21 56.5	-0.3
RACZ	**Rakaia**	**1.55**	**217**	P	**Pn**	01 21 55.2	-1.5
RACZ				S	Sn	01 22 16.3	-0.7
PLWZ	**Palliser**	**1.65**	**57**	P	**Pn**	01 21 57.0	-1.1
MHCZ	**Mount Hutt**	**1.71**	**232**	P	**Pn**	01 21 57.5	-1.4
DUWZ	**D'Urville Isla**	**1.73**	**13**	P	**Pb**	01 22 00.7	-0.2
QRZ	**Quartz Range**	**1.79**	**338**	P	**Pb**	01 22 01.2	-0.7
QRZ				S	Sb	01 22 24.5	+0.1
CAW	**Cannon Point**	**1.85**	**42**	P	**Pn**	01 22 00.2	-0.7
CAW				S	Sn	01 22 24.1	-0.2
WACZ	**Wakanui South**	**1.85**	**218**	P	**Pn**	01 21 59.4	-1.5
MTW	**Mount Morrison**	**2.05**	**50**	P	**Pn**	01 22 02.3	-1.3
WVZ	**Waitaha Valley**	**2.06**	**252**	P	**Pn**	01 22 03.7	0.0
WVZ				S	Sn	01 22 29.1	-0.2
RPZ	**Rata Peaks**	**2.12**	**234**	P	**Pn**	01 22 03.4	-1.1
RPZ				S	Sn	01 22 29.0	-1.9
OGWZ	**Otaki Gorge**	**2.13**	**39**	P	**Pn**	01 22 04.1	-0.5
ARCZ	**Arundel**	**2.19**	**227**	P	**Pn**	01 22 03.9	-1.6
GCSZ	**Gaunt Creek Bo**	**2.41**	**249**	P	**Pn**	01 22 09.6	+1.0
MRZ	**Mangatainoka R**	**2.44**	**42**	P	**Pn**	01 22 08.0	-1.0
TMZ	**Timaru**	**2.58**	**222**	P	**Pn**	01 22 10.1	-0.8
FOZ	**Fox Glacier**	**2.84**	**247**	P	**Pn**	01 22 15.3	+0.9
LBZ	**Lake Benmore**	**3.02**	**230**	P	**Pn**	01 22 16.1	-0.9
ODZ	**Otahua Downs**	**3.25**	**217**	P	**Pn**	01 22 18.4	-1.7
VRZ	**Vera Road**	**3.51**	**17**	P	**Pn**	01 22 27.4	+3.7
HIZ	**Hauiti**	**4.12**	**16**	P	**Pn**	01 22 33.8	+1.7
AWAZ	**Awhitu Peninsu**	**5.50**	**10**	P	**Pn**	01 22 52.4	+1.4
MKAZ	**Moumakai**	**5.54**	**15**	P	**Pn**	01 22 51.9	+0.3

*TRN **01** 01:28:30.2, 10°.87N×62°.22W, h108km, MD2.9*
*FUNV **01** 01:28:31.8, 10°.87N×62°.17W, h102km, MW3.4*
ISC 01 01:28:29.0±1.6, 10°.89N±0°.07×62°.23W±0°.05, h121km±15km, n14, σ1°§43/25, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.84**	**106**	*eP*	**Pn**	**01 28 50.4**	**+0.8**
TRN				*eS*	**Sn**	**01 29 03.4**	**-1.8**
CRUV	**Carupano**	**1.02**	**258**	*⇓iP*	**Pn**	**01 29 52.3**	**+1.0**
CRUV				*eS*	**Sn**	**01 29 57.1**	**-1.0**
GRGR	**Grenville**	**1.36**	**24**	*eP*	**Pn**	**01 28 55.6**	**+0.7**
GRGR				*eS*	**Sn**	**01 29 14.1**	**-0.5**
TPR	**Prospect**	**1.45**	**78**	*eP*	**Pn**	**01 28 56.6**	**+0.6**
TPR				*eS*	**Sn**	**01 29 16.3**	**-0.1**
TOSP	**Speyside**	**1.71**	**76**	*eP*	**Pn**	**01 28 59.3**	**+0.4**
TOSP				*eS*	**Sn**	**01 29 20.9**	**-0.8**
GCMP	**Grenada, Carri**	**1.77**	**26**	*eP*	**Pn**	**01 29 00.6**	**+0.9**
GCMP				*eS*	**Sn**	**01 29 22.6**	**-0.5**
PCRV	**Puerto La Cruz**	**2.47**	**254**	*eP*	**Pn**	**01 29 10.5**	**+1.9**
PCRV				*eS*	**Sn**	**01 29 38.7**	**-0.2**
PRGV	**PARIAGUAN**	**3.19**	**229**	*eP*	**Pn**	**01 29 19.3**	**+1.5**
PRGV				*eS*	**Sn**	**01 29 55.6**	**+0.1**
MERV	**Las Mercedes**	**4.33**	**248**	*eP*	**Pn**	**01 29 34.2**	**+1.3**
MERV				*eS*	**Sn**	**01 30 21.8**	**-0.8**
TACV	**Tcata**	**4.78**	**261**	*eP*	**Pn**	**01 29 40.3**	**+1.2**
TACV				*eS*	**Sn**	**01 30 32.0**	**-1.6**
BENV	**Beln**	**5.37**	**261**	*eP*	**Pn**	**01 29 48.9**	**+1.9**
BENV				*eS*	**Sn**	**01 30 44.9**	**-2.9**
CACV	**CAICARA DEL OR**	**5.39**	**233**	*eP*	Pn	01 29 43.2	-4.0
CACV				*eS*	Sn	01 30 36.6	-12
BAUV	**El Baul**	**6.05**	**252**	*eP*	**Pn**	**01 29 56.4**	**+0.4**
BAUV				*eS*	**Sn**	**01 31 01.0**	**-3.1**
BAUV	**El Baul**	**6.05**	**252**	*eP*	**Pn**	**01 29 56.5**	**+0.4**

*NEIC **01** 01:42:34.8±2.2, 32°.967N±0°.009×115°.54W±0°.03, h20km±6km, Error ellipse: s-maj=3.9km s-min=1.1km az=82.0*
*ANF **01** 01:42:34.1±0.2, 32°.98N×115°.54W, h15km, ML2.9/17, Error ellipse: s-maj=2.5km s-min=1.8km az=151.0*
*PAS **01** 01:42:35.1±1.5, 32°.98N±0°.01×115°.55W±0°.02, h14km±2km, ML3.1/224, ML2.9/55(NEIC), Error ellipse: s-maj=2.9km s-min=1.9km az=106.0*
*ECX **01** 01:42:35.7±0.6, 32°.98N×115°.56W, h10km±6km, MD2.9, ML3.1*
ISC 01 01:42:34.7±0.8, 32°.96N±0°.02×115°.54W±0°.01, h18km±3km, n107, σ0§86/139, 12C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPE	**Imperial**	**0.06**	**193**		**Pg**	**01 42 37.4**	**-0.6**
IMPE					**Sg**	**01 42 40.0**	**-0.2**
WEMD	**Westmorland, C**	**0.08**	**336**		**Pg**	**01 42 37.6**	**-0.5**
WEMD					**Sg**	**01 42 40.3**	**-0.2**
WEMD	**Westmorland, C**	**0.08**	**336**	*⇓iP*	**Pg**	**01 42 37.6**	**-0.5**
WEMD				*i* S	**Sg**	**01 42 40.3**	**-0.2**
SNR	**Schaffner Ranc**	**0.14**	**139**		**Pg**	**01 42 38.9**	**+0.2**
SNR					**Sg**	**01 42 42.5**	**+1.1**
DREC	**Desert Rsrch C**	**0.18**	**153**		**Pg**	**01 42 40.0**	**+0.7**
DREC					**Sg**	**01 42 44.4**	**+2.1**
DREC	**Desert Rsrch C**	**0.18**	**153**	*⇑iP*	**Pg**	**01 42 40.0**	**+0.7**
COK2	**Cook Ranch 2**	**0.19**	**234**		**Pg**	**01 42 39.9**	**+0.4**
COK2					**Sg**	**01 42 43.7**	**+1.0**
COK2	**Cook Ranch 2**	**0.19**	**234**	*⇓iP*	**Pg**	**01 42 40.0**	**+0.5**
SWSC	**Sam W. Stewart**	**0.22**	**265**		**Pb**	**01 42 39.7**	**-0.3**
SWSC					**Sb**	**01 42 42.9**	**-0.6**
SWSC	**Sam W. Stewart**	**0.22**	**265**	P	**Pb**	**01 42 39.7**	**-0.3**
	baz=81,SNR=227						
SWSC				S	**Sb**	**01 42 42.9**	**-0.6**
	baz=81						
SWSC	**Sam W. Stewart**	**0.22**	**265**	*⇑iP*	**Pb**	**01 42 39.7**	**-0.3**
SUP	**Superstition M**	**0.24**	**268**		**Pb**	**01 42 40.0**	**-0.4**
SUP					**Sb**	**01 42 43.5**	**-0.7**
WESC	**Westside Schoo**	**0.26**	**218**		**Pb**	**01 42 40.9**	**+0.1**
WESC					**Sb**	**01 42 45.5**	**+0.6**
WESC	**Westside Schoo**	**0.26**	**218**	*⇓iP*	**Pb**	**01 42 40.9**	**+0.1**
ERRC	**Elmore Ranch**	**0.28**	**303**		**Pb**	**01 42 41.3**	**+0.1**
ERRC					**Sb**	**01 42 46.4**	**+0.8**
UABX	**UABC, Campus M**	**0.34**	**165**		**Pb**	**01 42 42.9**	**+0.6**
UABX					**Sb**	**01 42 49.0**	**+1.6**
UABX	**UABC, Campus M**	**0.34**	**165**	IAML		01 42 49.2	
	comp=N,4μm,0.2s						
UABX				IAML		01 42 49.3	
	comp=E,4μm,0.2s						
UABX	**UABC, Campus M**	**0.34**	**165**	*⇓eP*	**Pb**	**01 42 42.9**	**+0.6**
SGL	**Mount Signal**	**0.35**	**206**		**Pg**	**01 42 42.1**	**+0.1**
SGL	**Mount Signal**	**0.35**	**206**	*⇓iP*	**Pg**	**01 42 42.1**	**+0.1**
CRR	**Carrizo Plain**	**0.37**	**258**		**Pg**	**01 42 42.4**	**0.0**
CRR					**Sg**	**01 42 47.8**	**+0.2**
CRR	**Carrizo Plain**	**0.37**	**258**	*⇑iP*	**Pg**	**01 42 42.4**	**0.0**
COA	**Coachella**	**0.37**	**106**		**Pb**	**01 42 42.8**	**0.0**
COA					**Sb**	**01 42 49.3**	**+1.1**
COA	**Coachella**	**0.37**	**106**	*⇑iP*	**Pb**	**01 42 42.8**	**0.0**
YUH	**Yuha Desert**	**0.45**	**225**	Pg	**Pg**	**01 42 43.8**	**0.0**
YUH				IAML		01 42 50.3	
	comp=E,645nm,0.1s						
YUH	**Yuha Desert**	**0.45**	**225**		**Sg**	**01 42 50.1**	**+0.1**
YUH2	**Yuha Desert**	**0.45**	**225**	*⇓iP*	**Pg**	**01 42 43.8**	**0.1**
YUH2				*eS*	**Sg**	**01 42 50.1**	**+0.1**
RUN	**Ruthven**	**0.48**	**89**		**Pg**	**01 42 44.2**	**-0.1**
RUN					**Sg**	**01 42 50.8**	**0.0**
SALN	**Salton City**	**0.49**	**310**		**Pg**	**01 42 43.9**	**-0.6**
SALN					**Sb**	**01 42 52.0**	**+0.4**
EMSC	**East Mesa**	**0.52**	**115**		**Pb**	**01 42 45.3**	**0.0**
EMSC					**Sn**	**01 42 54.7**	**-0.9**
EMSC	**East Mesa**	**0.52**	**115**	*eP*	**Pb**	**01 42 45.3**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.57**	**237**		**Pg**	**01 42 46.1**	**0.0**
IKP					**Sg**	**01 42 53.5**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.57**	**237**	P	**Pg**	**01 42 46.1**	**0.0**
	baz=55,SNR=51						
IKP				S	**Sg**	**01 42 53.8**	**+0.1**
	baz=55						
IKP	**In-Ko-Pah, Jac**	**0.57**	**237**	*⇓eP*	**Pg**	**01 42 46.1**	**0.0**
RMX	**La Rumorosa**	**0.58**	**231**		**Pb**	**01 42 47.2**	**+0.8**
RMX					**Sg**	**01 42 54.0**	**0.0**
RMX	**La Rumorosa**	**0.58**	**231**	IAML		01 42 56.3	
	comp=N,504nm,0.3s						
RMX				IAML		01 42 56.7	
	comp=E,708nm,0.5s						
RMX	**La Rumorosa**	**0.58**	**231**	IAML		01 42 56.3	
	comp=N,477nm,0.4s						
RMX				*e*		01 42 56.3	
RMX				*⇑e*		01 42 56.8	
RMX				IAML		01 42 56.8	
	comp=E,677nm,0.7s						
CPBX	**Cerro Prieto**	**0.58**	**160**	Pg	**Pb**	**01 42 46.0**	**-0.3**
CPBX	**Cerro Prieto**	**0.58**	**160**	*eP*	**Pg**	**01 42 46.4**	**+0.2**
CPBX				*⇓e*		01 42 58.3	
CPBX				IAML		01 42 58.3	
	comp=N,4μm,0.2s						
CPBX				*⇓e*		01 43 00.4	
CPBX				IAML		01 43 00.4	
	comp=E,4μm,0.2s						
GLA	**Glamis**	**0.61**	**82**	Pg	**Pb**	**01 42 46.5**	**-0.3**
GLA	**Glamis**	**0.61**	**82**	*eP*	**Sb**	**01 42 54.3**	**-0.8**
GLA	**Glamis**	**0.61**	**82**	IAML		01 42 56.0	
	comp=N,1μm,0.6s						
GLA				IAML		01 42 56.1	
	comp=E,1μm,0.4s						
GLA	**Glamis**	**0.61**	**82**	P	**Pb**	**01 42 46.5**	**-0.3**
	baz=263,SNR=219						
GLA				S	**Sb**	**01 42 54.5**	**-0.6**
	baz=263						
GLA	**Glamis**	**0.61**	**82**	*⇑eP*	**Pb**	**01 42 46.5**	**-0.3**
GLA				*eS*	**Sb**	**01 42 55.0**	**-0.1**
SLH	**Sleepy Hollow**	**0.64**	**291**		**Pb**	**01 42 47.0**	**-0.3**
SLH					**Sg**	**01 42 56.6**	**+0.7**
SALX	**Saltillo**	**0.64**	**147**	*eP*	**Pb**	**01 42 44.6**	**-2.8**
SALX				IAML		01 42 53.7	
	comp=N,3μm,0.3s						
SALX				*e*		01 42 53.7	
SALX				IAML		01 42 58.3	
	comp=E,3μm,0.3s						
SALX				*⇑e*		01 42 58.3	
BC3	**Big Chuckawall**	**0.69**	**6**		**Pb**	**01 42 48.2**	**-0.2**
BC3					**Sg**	**01 42 58.0**	**+0.4**
BC3	**Big Chuckawall**	**0.69**	**6**	P	**Pb**	**01 42 48.2**	**-0.2**
	baz=186,SNR=332						
BC3				S	**Sb**	**01 42 57.9**	**+0.3**
	baz=186						
MONP2	**Monument Peak**	**0.74**	**265**		**Pb**	**01 42 48.9**	**-0.3**
MONP2					**Sb**	**01 42 58.9**	**-0.3**
MONP2	**Monument Peak**	**0.74**	**265**	P	**Pb**	**01 42 48.9**	**-0.3**
	baz=83,SNR=72						
MONP2				S	**Sb**	**01 42 59.0**	**-0.1**
	baz=83						
MONP2	**Monument Peak**	**0.74**	**265**	*⇑eP*	**Pb**	**01 42 48.9**	**-0.3**
MONP2				*eS*	**Sb**	**01 42 59.2**	**+0.1**
HAY	**Hayfield**	**0.75**	**351**		**Pb**	**01 42 48.8**	**-0.5**
HAY					**Sb**	**01 42 59.3**	**0.0**
CTW	**Cottonwood Mou**	**0.76**	**339**		**Pb**	**01 42 48.7**	**-0.8**
CTW					**Sb**	**01 42 60.0**	**+0.4**
GUVIX	**Guadalupe Vict**	**0.77**	**149**		**Pn**	**01 42 50.4**	**-0.2**
CTCC	**Cactus City**	**0.78**	**332**		**Pb**	**01 42 49.4**	**-0.5**
CTCC					**Sb**	**01 42 59.9**	**-0.3**
BORC	**Borrego Spring**	**0.79**	**293**		**Pb**	**01 42 49.2**	**-0.8**
BORC					**Sb**	**01 43 00.2**	**-0.2**
JUEM	**Julian Eagle M**	**0.89**	**278**		**Pb**	**01 42 51.1**	**-0.7**
JUEM					**Sg**	**01 43 03.8**	**-0.1**
PMD	**Palm Desert**	**0.98**	**315**		**Pb**	**01 42 52.0**	**-1.1**
PMD				IAML		01 43 06.2	
	comp=E,260nm,0.3s						
PMD				IAML		01 43 12.4	
	comp=N,212nm,0.7s						
TKX	**Tecate**	**0.98**	**247**		**Pg**	**01 42 54.6**	**+0.9**
TKX				IAML		01 43 07.8	
	comp=E,518nm,0.1s						
BAR	**Barrett**	**0.99**	**254**		**Pb**	**01 42 53.1**	**-0.3**
BAR				IAML		01 43 06.6	
	comp=N,694nm,0.6s						
BAR				IAML		01 43 07.3	
	comp=E,412nm,0.3s						
BAR	**Barrett**	**0.99**	**254**	*⇑eP*	**Pb**	**01 42 52.6**	**-0.8**
BAR				*⇓e*		01 43 06.3	
BAR				IAML		01 43 06.3	
	comp=N,569nm,0.3s						
BAR				IAML		01 43 06.8	
	comp=E,430nm,0.2s						
BAR				*⇑e*		01 43 06.8	
XPFO	**Pion Flat**	**1.00**	**310**		**Pb**	**01 42 52.9**	**-0.7**
PFO	**Pinyon Flats O**	**1.00**	**310**		**Pb**	**01 42 53.0**	**-0.7**
PFO				IAML		01 43 07.8	
	comp=E,205nm,0.7s						
PFO				IAML		01 43 15.0	
	comp=E,220nm,0.9s						
PFO	**Pinyon Flats O**	**1.00**	**310**	P	**Pb**	**01 42 52.4**	**-1.3**
	baz=129,SNR=76						
PFO				S	**Sb**	**01 43 06.8**	**+0.2**
	baz=129						
ESJX	**Sierra Juarez**	**1.02**	**200**	Pn	**Pb**	**01 42 53.5**	**-0.4**
ESJX	**Sierra Juarez**	**1.02**	**200**		**Sb**	**01 43 07.2**	**+0.3**
EML	**El Monte Cty P**	**1.10**	**267**	*eP*	**Pb**	**01 42 54.0**	**-1.1**
BELC	**Belle Mtn. Jos**	**1.10**	**340**	P	**Pb**	**01 42 54.0**	**-1.4**
	baz=160,SNR=31						
BELC				S	**Sn**	**01 43 10.1**	**-0.2**
	baz=160						
BLYC	**Blythe**	**1.16**	**47**	Pn	**Pn**	**01 42 55.6**	**-0.4**
BLYC				IAML		01 43 20.7	
	comp=N,458nm,0.5s						
SDRC	**San Diego Road**	**1.20**	**259**	*eP*	**Pn**	**01 42 55.9**	**-0.7**
IRM	**Iron Mountain**	**1.24**	**16**		**Pn**	**01 42 57.2**	**+0.1**
IRM	**Iron Mountain**	**1.24**	**16**	P	**Pn**	**01 42 56.1**	**-1.0**
	baz=196,SNR=316						
SJX	**San Joaquin**	**1.25**	**196**	*eP*	**Pn**	**01 42 53.4**	**-3.8**
SJX				*⇑e*		01 43 08.5	
SJX				IAML		01 43 08.5	
	comp=N,203nm,0.3s						
SJX				*⇑e*		01 43 09.7	
SJX				IAML		01 43 09.7	
	comp=E,204nm,0.2s						
109C	**Camp Elliot, M**	**1.32**	**267**	IAML		01 43 17.0	
	comp=E,406nm,0.6s						
109C	**Camp Elliot, M**	**1.32**	**267**	P	**Pn**	**01 42 57.4**	**-0.8**
	baz=86,SNR=30						
109C				S	**Sn**	**01 43 15.2**	**-0.1**
	baz=86						
TJX	**Tijuana**	**1.35**	**251**		**Pb**	**01 42 59.7**	**+0.2**
CCX	**Cicese**	**1.45**	**221**		**Pb**	**01 43 00.8**	**-0.3**
MURC	**Murrieta**	**1.52**	**295**		**Pb**	**01 43 03.3**	**+0.9**
MURC	**Murrieta**	**1.52**	**295**	P	**Pn**	**01 43 00.7**	**-0.4**
	baz=114,SNR=42						
MURC				Sb	**Sb**	**01 43 22.4**	**+1.0**
	baz=114						
GMRC	**Granite Mounta**	**1.82**	**357**	P	**Pn**	**01 43 04.5**	**-0.7**
	baz=177						
NEE2	**Needles Airpor**	**1.96**	**23**	Pg	**Pg**	**01 43 11.5**	**-0.8**
	baz=204						
PIX	**Pinacate**	**2.25**	**128**		**Pn**	**01 43 09.6**	**-1.5**
RRX	**Edison Barstow**	**2.26**	**328**	Sb	**Sb**	**01 43 45.2**	**+2.6**
	baz=147						
Y14A	**Wickenburg**	**2.33**	**65**	Pn	**Pn**	**01 43 12.6**	**+0.4**
CIS	**Catalina Islan**	**2.45**	**281**	Pb	**Pb**	**01 43 18.0**	**-0.2**
	baz=99						
CIS				Sb	**Sb**	**01 43 50.5**	**+2.4**
	baz=99						
JNH	**Juniper Hills**	**2.50**	**307**		**Pn**	**01 43 16.2**	**+1.7**
PASC	**Pasadena Art C**	**2.51**	**299**	Pn	**Pn**	**01 43 14.5**	**-0.2**
PASC				IAML		01 43 59.5	
	comp=N,46nm,0.6s						
214A	**Organ Pipe Nat**	**2.52**	**113**	Pn	**Pn**	**01 43 13.7**	**-1.1**
214A				IAML		01 44 12.7	
	comp=E,37nm,0.5s						
214A				IAML		01 44 19.4	
	comp=N,36nm,1.1s						
214A	**Organ Pipe Nat**	**2.52**	**113**	P	**Pn**	**01 43 13.7**	**-1.1**
	baz=295,SNR=7.1						
GSC	**Goldstone, Bar**	**2.56**	**336**	Pn	**Pn**	**01 43 15.0**	**-0.4**
GSC				IAML		01 44 06.5	
	comp=E,37nm,1.1s						
DECC	**Green Verdugo**	**2.66**	**300**	Sb	**Sb**	**01 43 56.6**	**+2.4**
	baz=118						
EDW2	**Edwards Air Fo**	**2.79**	**314**	Sb	**Sb**	**01 44 00.8**	**+2.7**
	baz=132						
V12A	**Nelson**	**2.81**	**12**	Pn	**Pn**	**01 43 19.4**	**+0.4**
GWY	**Greenwater Val**	**3.35**	**344**	Pn	**Pn**	**01 43 26.7**	**+0.4**
WCT	**Wildcat Mounta**	**3.92**	**347**	Pn	**Pn**	**01 43 34.9**	**+0.7**
TPNV	**Topopah Spring**	**4.02**	**352**	Pn	**Pn**	**01 43 35.9**	**+0.4**
TUC	**Tucson**	**4.07**	**98**	Pn	**Pn**	**01 43 36.8**	**+0.7**
TUC	**Tucson**	**4.07**	**98**	IAML		01 44 55.0	
	comp=E,9.0nm,0.7s						
WUAZ	**Wupatki**	**4.29**	**52**	Pn	**Pn**	**01 43 39.5**	**+0.2**
PRN	**Pahroc Range**	**4.45**	**5**	Pn	**Pn**	**01 43 42.4**	**+0.9**
LCMT	**Little Creek M**	**4.46**	**24**	IAML		01 45 02.9	
	comp=E,12nm,4.9s						
LCMT				IAML		01 45 08.0	
	comp=N,7.4nm,1.1s						
KNB	**Kanab**	**4.62**	**28**		**Pn**	**01 43 43.9**	**+0.1**
KNB				IAML		01 45 12.2	
	comp=E,11nm,0.8s						
KNB				IAML		01 45 17.9	
	comp=N,14nm,0.8s						
X18A	**Snowflake**	**4.91**	**70**	Pn	**Pn**	**01 43 48.1**	**+0.2**
PKCU	**Pink Cliffs**	**5.19**	**30**	Pn	**Pn**	**01 43 53.2**	**+1.3**
R11A	**Troy Canyon, C**	**5.37**	**360**	Pn	**Pn**	**01 43 54.3**	**+0.1**
SPR3	**Spring Creek 3**	**6.10**	**9**	Pn	**Pn**	**01 44 03.5**	**-0.8**
MSU	**Marysvale**	**6.17**	**25**	Pn	**Pn**	**01 44 05.8**	**+0.6**

*IDC **01** 01:46:53.2±2.8, 15°.98N×119°.30E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=366.6km s-min=22.7km az=62.0*
*MAN **01** 01:46:56.2, 16°.25N×119°.42E, h8km, mb4.6, ML3.4, MS3.3*
ISC 01 01:46:55.4±1.2, 16°.23N±0°.08×119°.4E±0°.1, h10km, n9, σ2§27/10, mb3.5/4, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**1.76**	**112**	*⇓eP*	**Pn**	**01 47 26.9**	**+1.0**
QVP	**Quezon City--P**	**2.22**	**136**	*⇑eP*	**Pb**	**01 47 36.6**	**+1.0**
APYP	**Conner**	**2.40**	**47**	*⇑eP*	**Pn**	**01 47 36.6**	**+1.9**
APYP				*i* S	**Sb**	**01 48 08.5**	**+0.2**
LQP	**Lukban**	**2.94**	**135**	*⇑eP*	**Pn**	**01 47 46.1**	**+3.6**
JCNP	**Jose Panganiba**	**3.72**	**121**	*⇑eP*	**Pb**	**01 47 59.2**	**-2.0**
WRA	**Warramunga Arr**	**38.82**	**157**	P	**P**	**01 54 18.2**	**-2.6**
	0.7nm,0.5s,baz=335,slow=9.4,SNR=7.6						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**42.10**	**160**	P	**P**	**01 54 45.7**	**-2.2**
	0.9nm,0.4s,baz=337,slow=6.7,SNR=29						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**43.27**	**323**	P	**P**	**01 54 58.4**	**+1.2**
	0.6nm,1.1s,baz=121,slow=10,SNR=2.2						
	0.6nm,1.1s						
KURBB	**Kurchatov Arra**	**47.41**	**326**	P	**P**	**01 55 29.3**	**-0.5**
	0.1nm,0.3s,baz=120,slow=8.2,SNR=2.4						
	0.1nm,0.3s						

*TAP **01** 01

FUSB			*e*S	**Sg**	**01 47 54.1**	**+0.3**
	baz=313						
TWB1	**Santiao Chiao**	**1.19 337**	*e*P	**Pn**	**01 47 37.1**	**-0.2**
	baz=353						
TWB1			*e*S	**Sb**	**01 47 52.1**	**-0.6**
	baz=353						
FUSS	**Fushou**	**1.19 287**	*e*P	**Pn**	**01 47 37.5**	**0.0**
	baz=282						
IRIF	**Iriomote-Funau**	**1.21 69**	P	**Pb**	**01 47 38.1**	**+0.3**
IRIF			S	**Sg**	**01 47 54.8**	**+0.4**
HATJ	**Hateruma jima**	**1.21 83**	P	**Pb**	**01 47 38.6**	**+0.8**
HATJ			*e*S	**Sn**	**01 47 54.2**	**+0.6**
YULB	**Yu-li**	**1.21 245**	P	**Pn**	**01 47 37.8**	**+0.2**
YULB	**Yu-li**	**1.21 245**	*e*P	**Pn**	**01 47 37.5**	**-0.1**
	baz=240						
YULB			*e*S	**Sb**	**01 47 53.8**	**+0.5**
	baz=240						
EYUL	**Yuli**	**1.21 243**	*e*P	**Pn**	**01 47 37.7**	**+0.1**
	baz=237						
EYUL			*e*S	**Sb**	**01 47 53.6**	**+0.3**
	baz=237						
CHGB	**Renai**	**1.22 277**	*e*P	**Pn**	**01 47 37.7**	**-0.2**
	baz=260						
TIPB	**Shuangxi**	**1.22 330**	*e*P	**Pb**	**01 47 38.3**	**+0.2**
	baz=329						
TIPB			*e*S	**Sb**	**01 47 52.7**	**-1.0**
	baz=329						
VWDT	**VWDT**	**1.25 263**	*e*P	**Pn**	**01 47 38.4**	**+0.3**
	baz=258						
VWDT			*e*S	**Sb**	**01 47 54.0**	**-0.3**
	baz=258						
NWLT	**Wulai**	**1.25 314**	*e*P	**Pg**	**01 47 39.6**	**+0.1**
	baz=311						
NWLT			*e*S	**Sb**	**01 47 53.6**	**-1.0**
	baz=311						
WUSB	**Renai**	**1.26 274**	*e*P	**Pn**	**01 47 38.5**	**0.0**
	baz=269						
WUSB			*e*S	**Sb**	**01 47 54.4**	**-0.5**
	baz=269						
YHNB	**Yeheng**	**1.27 307**	P	**Pb**	**01 47 39.6**	**+0.6**
YHNB	**Yeheng**	**1.27 307**	*e*P	**Pn**	**01 47 38.9**	**+0.3**
	baz=289						
YHNB			*e*S	**Sb**	**01 47 54.5**	**-0.7**
	baz=289						
NSK	**Sanguang**	**1.29 307**	*e*P	**Pb**	**01 47 39.3**	**0.0**
	baz=289						
NSK			*e*S	**Sb**	**01 47 55.3**	**-0.3**
	baz=289						
SXI1	**Grass Mountain**	**1.31 335**	*e*P	**Pn**	**01 47 38.8**	**-0.2**
	baz=349						
SXI1			*e*S	**Sb**	**01 47 56.1**	**-0.2**
	baz=349						
CHKT	**Chengkung**	**1.31 232**	*e*P	**Pn**	**01 47 38.5**	**-0.5**
	baz=228						
NWF	**Wu-fen Shan**	**1.33 331**	*e*P	**Pb**	**01 47 40.2**	**+0.2**
	baz=329						
NWF			*e*S	**Sn**	**01 47 56.0**	**-0.7**
	baz=329						
TWA	**Mucha**	**1.35 322**	*e*P	**Pb**	**01 47 41.0**	**+0.6**
	baz=320						
TWA			*e*S	**Sg**	**01 47 59.0**	**-0.2**
	baz=320						
NHDH	**Xindian Distri**	**1.38 320**	*e*P	**Pg**	**01 47 41.5**	**-0.3**
	baz=318						
NHDH			*e*S	**Sb**	**01 47 58.1**	**+0.1**
	baz=318						
EHD	**Haiduan**	**1.40 238**	*e*P	**Pn**	**01 47 40.1**	**-0.1**
	baz=222						
EHD			*e*S	**Sn**	**01 47 57.5**	**-0.9**
	baz=222						
TATO	**Taipei**	**1.41 319**	P	**Pb**	**01 47 41.6**	**+0.4**
SSLB	**Suanglung**	**1.42 266**	P	**Pb**	**01 47 41.4**	**0.0**
SSLB	**Suanglung**	**1.42 266**	*e*P	**Pn**	**01 47 40.9**	**+0.5**
	baz=261						
JKRS	**Kuro-shima**	**1.42 76**	*e*P	**Pn**	**01 47 41.2**	**+0.7**
EDH	**Donghe**	**1.44 230**	*e*P	**Pn**	**01 47 40.4**	**-0.3**
	baz=215						
EDH			*e*S	**Sn**	**01 47 57.3**	**-1.9**
	baz=215						
NFF	**Wufeng Townshi**	**1.45 300**	*e*P	**Pb**	**01 47 42.8**	**+0.8**
	baz=297						
SMLT	**Sun Moon Lake**	**1.46 269**	*e*P	**Pn**	**01 47 41.6**	**+0.5**
	baz=264						
SMLT			*e*S	**Sb**	**01 48 00.6**	**+0.1**
	baz=264						
YM01	**YM01**	**1.50 326**	*e*P	**Pb**	**01 47 42.7**	**-0.1**
	baz=324						
WHYT	**Xinyi Township**	**1.52 262**	*e*P	**Pb**	**01 47 43.8**	**+0.7**
	baz=257						
WHYT			*e*S	**Sn**	**01 48 01.4**	**+0.1**
	baz=257						
ELDTW	**Lidau**	**1.53 243**	*e*P	**Pn**	**01 47 42.0**	**-0.1**
	baz=237						
ELDTW			*e*S	**Sn**	**01 48 01.7**	**0.0**
	baz=237						
LIOB	**Emei**	**1.54 299**	*e*P	**Pb**	**01 47 43.9**	**+0.4**
	baz=295						
NSTT	**Nanjuang**	**1.54 298**	*e*P	**Pb**	**01 47 43.8**	**+0.3**
	baz=294						
LDUT	**Ludao**	**1.55 218**	*e*P	**Pn**	**01 47 41.7**	**-0.5**
	baz=214						
LDUT			*e*S	**Sn**	**01 47 59.9**	**-2.0**
	baz=214						
JIJ	**Ishigaki jima**	**1.57 73**	P	**Pn**	**01 47 43.0**	**+0.4**
JIJ			S	**Sn**	**01 48 02.6**	**+0.1**
ALS	**Alishan**	**1.60 256**	*e*P	**Pn**	**01 47 44.2**	**+1.0**
	baz=251						
ALS			*e*S	**Sn**	**01 48 04.6**	**+0.9**
	baz=251						
LONT	**Longtian**	**1.60 232**	*e*P	**Pn**	**01 47 43.1**	**+0.1**
	baz=241						
LONT			*e*S	**Sn**	**01 48 02.8**	**-0.5**
	baz=241						
WJS	**Zhushan**	**1.62 267**	*e*P	**Pg**	**01 47 46.5**	**0.0**
	baz=256						
TWQ1	**Liyutan**	**1.63 286**	*e*P	**Pg**	**01 47 46.6**	**-0.2**
	baz=281						
TWQ1			*e*S	**Sb**	**01 48 06.5**	**+1.0**
	baz=281						
TWGBT	**Beinan**	**1.69 230**	*e*P	**Pn**	**01 47 44.0**	**-0.2**
	baz=240						
TWGBT			*e*S	**Sn**	**01 48 05.4**	**-0.1**
	baz=240						
STYH	**Taoyuan**	**1.74 245**	*e*P	**Pn**	**01 47 45.6**	**+0.8**
	baz=231						
STYH			*e*S	**Sn**	**01 48 06.9**	**+0.2**
	baz=231						
JISG	**Ishigakijimahi**	**1.79 67**	P	**Pn**	**01 47 45.8**	**+0.3**
JISG			*e*S	**Sn**	**01 48 07.4**	**-0.5**
WCKO	**Fanlu**	**1.79 255**	*e*P	**Pb**	**01 47 48.3**	**+0.4**
	baz=251						
WCKO			*e*S	**Sb**	**01 48 10.3**	**+0.2**
	baz=251						
TPUB	**Ta-pu**	**1.81 251**	P	**Pb**	**01 47 47.8**	**-0.4**
TPUB	**Ta-pu**	**1.81 251**	*e*P	**Pb**	**01 47 47.5**	**-0.6**
	baz=246						
TPUB			*e*S	**Sb**	**01 48 10.6**	**-0.1**
	baz=246						
CHN4	**Tsaushan**	**1.83 253**	*e*P	**Pb**	**01 47 48.3**	**-0.1**
	baz=248						
CHN4			*e*S	**Sb**	**01 48 11.5**	**+0.4**
	baz=248						
WTP	**Ta-pu**	**1.85 250**	*e*P	**Pb**	**01 47 48.3**	**-0.4**
	baz=235						
CHN1	**Nanshi**	**1.94 249**	*e*P	**Pb**	**01 47 50.1**	**-0.2**
	baz=245						
LAY	**Lan-yu**	**2.05 205**	*e*P	**Pn**	**01 47 49.2**	**0.0**
	baz=203						
LYUB	**Lan-yu**	**2.07 204**	*e*P	**Pn**	**01 47 48.4**	**-1.1**
	baz=201						
LYUB			*e*S	**Sn**	**01 48 13.1**	**-1.8**
	baz=201						
SCST	**Cishan**	**2.10 241**	*e*P	**Pb**	**01 47 52.7**	**-0.4**
	baz=238						
JTJ	**Tarama**	**2.14 70**	P	**Pn**	**01 47 51.7**	**+1.4**
MASBT	**Mashibuluo**	**2.14 233**	*e*P	**Pn**	**01 47 51.6**	**+1.2**
	baz=224						
MASBT			*e*S	**Sn**	**01 48 18.4**	**+1.7**
	baz=224						
EAST	**Anshuo**	**2.14 225**	*e*P	**Pn**	**01 47 50.5**	**+0.1**
	baz=222						
EAST			*e*S	**Sn**	**01 48 17.7**	**+1.0**
	baz=222						
SCZT	**Fangliau**	**2.31 229**	*e*P	**Pb**	**01 47 55.8**	**-0.8**
	baz=218						
SCZT			*e*S	**Sb**	**01 48 23.9**	**-0.9**
	baz=218						
TSCK	**Chigu Township**	**2.34 252**	*e*P	**Pn**	**01 47 55.0**	**+2.0**
	baz=247						
TSCK			*e*S	**Sb**	**01 48 24.1**	**-1.6**
	baz=247						
SMST	**Manzhou Townsh**	**2.42 219**	*e*P	**Pn**	**01 47 54.7**	**+0.5**
	baz=216						
SMST			*e*S	**Sn**	**01 48 23.7**	**+0.2**
	baz=216						
TWKBT	**Hengchun**	**2.50 219**	*e*P	**Pn**	**01 47 56.4**	**+1.2**
	baz=216						
TWKBT			*e*S	**Sn**	**01 48 27.2**	**+1.8**
	baz=216						
WDGT	**Dungji**	**2.68 257**	*e*P	**Pn**	**01 47 59.0**	**+1.3**
	baz=253						
VWUC	**VWUC**	**2.98 292**	*e*P	**Pn**	**01 48 02.0**	**+0.1**
	baz=288						

*IDC **01** 01:59:51.0±7.5,7°.53S×128°.57E,h169^{km}±80^{km},mb3.0/2, mbtmp3.6/5,Error ellipse: s-maj=77.1km s-min=25.7km az=36.0*

ISC 01 01:59:48.8±1.0,**7°.61S**±0°.07×**128°.80E**±0°.10,**h150**^{km},**n6, σ2^{s}26/9,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.69**	**243**	P		**Pn**	**02 01 12.7**	**+1.2**
	35nm,0.4s,baz=64,slow=3.3,SNR=7.9							
BATI				S		**Sn**	**02 02 14.5**	**-1.5**
	25nm,0.4s,baz=161,slow=20,SNR=8.5							
SIJI	**Sorong**	**7.13**	**20**	S		**Sn**	**02 02 50.2**	**-0.4**
	2.6nm,0.3s,baz=238,slow=23,SNR=1.5							
WRA	**Warramunga Arr**	**13.39**	**157**	P		**Pn**	**02 02 54.7**	**+1.6**
	0.3nm,0.5s,baz=340,slow=12,SNR=6.9							
WRA				S		**Sn**	**02 05 19.5**	**-1.9**
	0.3nm,0.3s,baz=324,slow=24,SNR=6.6							
ASAR	**Alice Springs**	**16.71**	**163**	P		**Pn**	**02 03 38.0**	**+3.8**
	0.7nm,0.5s,baz=334,slow=9.6,SNR=26							
ASAR				S		**S**	**02 06 37.9**	**-2.1**
	0.3nm,0.5s,baz=342,slow=26,SNR=4.8							
MKAR	**Makanchi Array**	**68.08**	**328**	P		**P**	**02 10 31.4**	**-0.9**
	0.2nm,0.4s,baz=120,slow=8.1,SNR=6.9							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**72.40**	**329**	P		**P**	**02 10 57.6**	**-0.8**
	0.2nm,0.5s,baz=122,slow=5.0,SNR=2.8							
	0.2nm,0.5s							

*TAP **01** 02:01:42.0,24°.81N×122°.45E,h103^{km},ML4.1,C*
*JMA **01** 02:01:41.7±0.2,25°.N±1°×122°.5E±0°.4,h104^{km}±1^{km}, MV2.7/11,NW OFF ISHIGAKIJIMA IS*

ISC 01 02:01:41.8±1.4,**24°.75N**±0°.04×**122°.48E**±0°.03,**h105**^{km}±7^{km}, **n117,σ0^{s}.97/216,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.52**	**300**	*i* P		**Pn**	**02 01 58.2**	**+0.1**
	baz=286							
TWB1				S		**Sn**	**02 02 09.7**	**-0.7**
	baz=286							
JYNG	**Yonagunijimaku**	**0.52**	**125**	P		**Pn**	**02 01 58.3**	**+0.1**
JYNG				*e*S		**Sn**	**02 02 10.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.56**	**121**	P		**Pn**	**02 01 58.5**	**0.0**
YOJ	**Yonaguni jima**	**0.56**	**121**	P		**Pn**	**02 01 58.6**	**+0.1**
YOJ				S		**Sn**	**02 02 11.0**	**0.0**
TWC	**Suao**	**0.59**	**256**	P		**Pn**	**02 01 58.7**	**-0.1**
	baz=244							
TWC				*e*S		**Sn**	**02 02 10.8**	**-0.7**
	baz=244							
TIPB	**Shuangxi**	**0.63**	**290**	P		**Pn**	**02 01 59.3**	**+0.2**
	baz=281							
TIPB				S		**Sn**	**02 02 11.4**	**-0.7**
	baz=281							
SXI1	**Grass Mountain**	**0.65**	**302**	P		**Pn**	**02 01 59.3**	**0.0**
	baz=293							
SXI1				S		**Sn**	**02 02 11.9**	**-0.5**
	baz=293							
ILA	**Ilan**	**0.67**	**271**	P		**Pn**	**02 01 59.8**	**+0.4**
	baz=259							
ILA				S		**Sn**	**02 02 12.7**	**+0.2**
	baz=259							
NDS	**Dongshan**	**0.71**	**260**	P		**Pn**	**02 02 01.0**	**+1.3**
	baz=250							
NDS				S		**Sn**	**02 02 13.9**	**+0.8**
	baz=250							
EWUT	**Wuta**	**0.71**	**245**	P		**Pn**	**02 02 00.1**	**+0.4**
	baz=239							
EWUT				S		**Sn**	**02 02 13.4**	**+0.2**
	baz=239							
NWF	**Wu-fen Shan**	**0.71**	**297**	P		**Pn**	**02 01 60.0**	**+0.1**
	baz=286							
NWF				*e*S		**Sn**	**02 02 13.2**	**-0.2**
	baz=286							
TWE	**Neicheng**	**0.74**	**268**	P		**Pn**	**02 02 00.3**	**+0.3**
	baz=262							
TWE				S		**Sn**	**02 02 13.3**	**-0.4**
	baz=262							
ENA	**Nanau**	**0.75**	**244**	*i* P		**Pn**	**02 02 00.6**	**+0.5**
	baz=235							
ENA				S		**Sn**	**02 02 14.1**	**+0.2**
	baz=235							
FUSB	**Fushanzhiwuyua**	**0.81**	**271**	P		**Pn**	**02 02 00.9**	**+0.1**
	baz=265							
FUSB				*e*S		**Sn**	**02 02 14.1**	**-1.0**
	baz=265							
ENTT	**Nioudou**	**0.84**	**262**	P		**Pn**	**02 02 01.5**	**+0.5**
	baz=260							
ENTT				*e*S		**Sn**	**02 02 16.4**	**+1.0**
	baz=260							
TWA	**Mucha**	**0.85**	**286**	P		**Pn**	**02 02 01.1**	**+0.1**
	baz=282							
TWA				*e*S		**Sn**	**02 02 14.8**	**-0.7**
	baz=282							
NWLT	**Wulai**	**0.89**	**272**	P		**Pn**	**02 02 01.5**	**0.0**
	baz=273							
NWLT				*e*S		**Sn**	**02 02 15.8**	**-0.5**
	baz=273							
NHDH	**Xindian Distri**	**0.89**	**284**	P		**Pn**	**02 02 01.6**	**+0.1**
	baz=279							
NHDH				S		**Sn**	**02 02 15.4**	**-0.9**
	baz=279							
LATG	**Datong**	**0.90**	**256**	P		**Pn**	**02 02 02.2**	**+0.6**
	baz=244							
LATG				S		**Sn**	**02 02 17.4**	**+0.8**
	baz=244							
YM01	**YM01**	**0.92**	**295**	P		**Pn**	**02 02 01.9**	**+0.2**
	baz=285							
YM01				*e*S		**Sn**	**02 02 16.4**	**-0.4**
	baz=285							
TATO	**Taipei**	**0.93**	**284**	P		**Pn**	**02 02 01.8**	**0.0**
PCYT	**Pengchaiyu**	**0.95**	**337**	P		**Pn**	**02 02 02.5**	**+0.4**
	baz=331							
TWY	**Chenhua**	**0.95**	**303**	P		**Pn**	**02 02 02.0**	**-0.1**
	baz=301							
ETL	**Fush Village**	**0.98**	**233**	P		**Pn**	**02 02 02.2**	**-0.3**
	baz=222							
ETL				S		**Sn**	**02 02 17.8**	**-0.2**
	baz=222							
NACB	**Ninganchiao**	**0.99**	**235**	P		**Pn**	**02 02 02.3**	**-0.2**
NACB	**Ninganchiao**	**0.99**	**235**	P		**Pn**	**02 02 02.2**	**-0.3**
	baz=224							
NACB				S		**Sn**	**02 02 17.5**	**-0.6**
	baz=224							
YHNB	**Yeheng**	**1.01**	**265**	P		**Pn**	**02 02 03.1**	**+0.3**
YHNB	**Yeheng**	**1.01**	**265**	*e*P		**Pn**	**02 02 03.3**	**+0.5**
	baz=266							
YHNB				*e*S		**Sn**	**02 02 18.4**	**-0.2**
	baz=266							
NTST	**Danshui**	**1.02**	**294**	*e*P		**Pn**	**02 02 03.0**	**+0.2**
	baz=283							
NTST				*e*S		**Sn**	**02 02 18.6**	**-0.1**
	baz=283							
NSK	**Sanguang**	**1.02**	**266**	P		**Pn**	**02 02 03.3**	**+0.4**
	baz=267							
NSK				*e*S		**Sn**	**02 02 18.9**	**0.0**
	baz=267							
TWS1	**Kuangyinshan**	**1.03**	**290**	P		**Pn**	**02 02 03.0**	**+0.2**
	baz=280							
TWS1				*e*S		**Sn**	**02 02 18.6**	**-0.1**
	baz=280							
TWD	**Chiawan**	**1.05**	**230**	P		**Pn**	**02 02 03.0**	**-0.1**
	baz=222							
TWD				S		**Sn**	**02 02 18.9**	**-0.2**
	baz=222							
NNSB	**Datong**	**1.05**	**252**	P		**Pn**	**02 02 03.7**	**+0.4**
	baz=242							
NNSB				S		**Sn**	**02 02 19.1**	**-0.4**
	baz=242							
NNS	**Nan Shan**	**1.06**	**253**	P		**Pn**	**02 02 03.7**	**+0.4**
	baz=242							
NNS				S		**Sn**	**02 02 19.3**	**-0.2**
	baz=242							
ETLH	**Xiulin Townshi**	**1.06**	**239**	*e*P		**Pn**	**02 02 03.5**	**+0.1**
	baz=229							
ETLH				*e*S		**Sn**	**02 02 18.9**	**-0.7**
	baz=229							
HWA	**Hwalien**	**1.11**	**226**	*e*P		**Pn**	**02 02 04.0**	**+0.2**
	baz=216							
HWA				*e*S		**Sn**	**02 02 21.3**	**+0.9**
	baz=216							
NCUH	**Zhongli**	**1.20**	**281**	P		**Pn**	**02 02 05.2**	**+0.4**
	baz=284							
NCUH				S		**Sn**	**02 02 22.7**	**+0.6**
	baz=284							
IRIF	**Iriomote-Funau**	**1.21**	**110**	P		**Pn**	**02 02 05.1**	**+0.2**
IRIF				*e*S		**Sn**	**02 02 22.7**	**+0.4**
FUSS	**Fushou**	**1.24**	**246**	P		**Pn**	**02 02 06.1**	**+0.6**
	baz=237							
FUSS				*e*S		**Sn**	**02 02 23.4**	**+0.1**
	baz=237							
NFF	**Wufeng Townshi**	**1.25**	**265**	P		**Pn**	**02 02 05.7**	**+0.3**
	baz=261							
NFF				S		**Sn**	**02 02 23.2**	**0.0**
	baz=261							
WHF	**Hehuan Shan**	**1.26**	**242**	P		**Pn**	**02 02 06.3**	**+0.3**
	baz=237							
WHF				S		**Sn**	**02 02 24.0**	**-0.2**
	baz=237							
TWT	**Tachien**	**1.29**	**248**	P		**Pn**	**02 02 07.1**	**+1.0**
	baz=237							
TWT				*e*S		**Sn**	**02 02 25.0**	**+0.7**
	baz=237							
TDCB	**Techi**	**1.30**	**248**	P		**Pn**	**02 02 07.0**	**+0.9**
	baz=238							
TDCB				S		**Sn**	**02 02 24.4**	**-0.1**
	baz=238							
LIOB	**Emei**	**1.34**	**266**	P		**Pn**	**02 02 06.8**	**+0.4**
	baz=262							
LIOB				*e*S		**Sn**	**02 02 25.1**	**+0.1**
	baz=262							
ESL	**Shilin**	**1.34**	**226**	P		**Pn**	**02 02 05.8**	**-0.6**
	baz=230							
ESL				S		**Sn**	**02 02 23.2**	**-1.9**
	baz=230							
NSTT	**Nanjuang**	**1.35**	**265**	P		**Pn**	**02 02 06.8**	**+0.3**
	baz=261							
NSTT				S		**Sn**	**02 02 24.9**	**-0.4**
	baz=261							
SBCB	**Hsinchu**	**1.36**	**272**	*e*P		**Pn**	**02 02 06.9**	**+0.3**
	baz=260							
SBCB				*e*S		**Sn**	**02 02 24.6**	**-0.9**
	baz=260							
HSN	**Hsinchu**	**1.38**	**272**	*e*P		**Pn**	**02 02 06.8**	**0.0**
	baz=261							
HSN				*e*S		**Sn**	**02 02 25.2**	**-0.5**
	baz=261							
CHGB	**Renai**	**1.38**	**240**	P		**Pn**	**02 02 07.8**	**+0.7**
	baz=230							
CHGB				*e*S		**Sn**	**02 02 26.1**	**-0.1**
	baz=230							
HATJ	**Hateruma jima**	**1.39**	**120**	*e*S		**Sn**	**02 02 26.6**	**+0.5**
EGFH	**Guangfu**	**1.45**	**222**	P		**Pn**	**02 02 07.3**	**-0.4**
	baz=228							
EGFH				S		**Sn**	**02 02 26.1**	**-1.2**
	baz=228							
WUSB	**Renai**	**1.46**	**239**	P		**Pn**	**02 02 08.7**	**+0.7**
	baz=229							
WUSB				S		**Sn**	**02 02 27.7**	**0.0**
	baz=229							
WHP	**Taichung City**	**1.48**	**252**	P		**Pn**	**02 02 09.3**	**+1.2**
	baz=256							
WHP				*e*S		**Sn**	**02 02 28.9**	**+0.8**
	baz=256							
JKRS	**Kuro-shima**	**1.48**	**110**	P		**Pn**	**02 02 08.8**	**+0.7**
JKRS				*e*S		**Sn**	**02 02 28.7**	**+0.6**
NMLH	**Miaoli**	**1.55**	**262**	P		**Pn**	**02 02 09.4**	**+0.4**
	baz=259							
NMLH				S		**Sn**	**02 02 29.3**	**-0.3**
	baz=259							
JIJ	**Ishigaki jima**	**1.56**	**104**	P		**Pn**	**02 02 09.3**	**+0.2**
JIJ				S		**Sn**	**02 02 29.2**	**-0.6**
VWDT	**VWDT**	**1.58**	**231**	P		**Pn**	**02 02 09.9**	**+0.6**
	baz=223							
VWDT				S		**Sn**	**02 02 30.0**	**-0.1**
	baz=223							
HGSD	**Ruisui**	**1.58**	**218**	P		**Pn**	**02 02 09.3**	**-0.1**
	baz=209							
HGSD				*e*S		**Sn**	**02 02 29.8**	**-0.5**
	baz=209							
WCS	**Beigang Elemen**	**1.59**	**244**	P		**Pn**	**02 02 10.6**	**+1.2**
	baz=235							
WCS				S		**Sn**	**02 02 31.4**	**+1.0**
	baz=235							
NSY	**Sanyi**	**1.60**	**258**	P		**Pn**	**02 02 10.4**	**+0.8**
	baz=254							
NSY				*e*S		**Sn**	**02 02 31.1**	**+0.4**
	baz=254							
TWQ1	**Liyutan**	**1.61**	**256**	*e*P		**Pn**	**02 02 10.2**	**+0.5**
	baz=252							
TWQ1				*e*S		**Sn**	**02 02 31.1**	**+0.2**
	baz=252							
EHY	**Hungye**	**1.63**	**221**	*e*P		**Pn**	**02 02 09.3**	**-0.7**
	baz=225							
JISG	**Ishigakijimahi**	**1.67**	**95**	*e*P		**Pn**	**02 02 10.8**	**+0.4**
JISG				S		**Sn**	**02 02 32.5**	**+0.3**
SMLT	**Sun Moon Lake**	**1.68**	**239**	*e*P		**Pn**	**02 02 12.1**	**+1.4**
	baz=230							
SSLB	**Suanglung**	**1.69**	**236**	P		**Pn**	**02 02 11.3**	**+0.5**
SSLB	**Suanglung**	**1.69**	**236**	*e*P		**Pn**	**02 02 11.2**	**+0.5**
	baz=229							
SSLB				*e*S		**Sn**	**02 02 34.1**	**+1.4**
	baz=229							
TYC	**Yuchr**	**1.71**	**241**	*e*P		**Pn**	**02 02 12.0**	**+1.1**
	baz=233							
TYC				*e*S		**Sn**	**02 02 34.8**	**+1.8**
	baz=233							
WDJ	**Dajia District**	**1.73**	**257**	*e*P		**Pn**	**02 02 11.4**	**+0.3**
	baz=253							
WDJ				*e*S		**Sn**	**02 02 33.2**	**-0.1**
	baz=253							
YULB	**Yu-li**	**1.73**	**219**	P		**Pn**	**02 02 10.8**	**-0.5**
YULB	**Yu-li**	**1.73**	**219**	P		**Pn**	**02 02 10.4**	**-0.9**
	baz=216							
YULB				*e*S		**Sn**	**02 02 31.3**	**-2.3**
	baz=216							
TCU	**Taichung**	**1.75**	**250**	*e*P		**Pn**	**02 02 12.3**	**+0.9**
	baz=255							
TCU				*e*S		**Sn**	**02 02 34.4**	**+0.4**
	baz=255							
EYUL	**Yuli**	**1.76**	**217**	*e*P		**Pn**	**02 02 11.4**	**-0.2**
	baz=223							
EYUL				*e*S		**Sn**	**02 02 34.9**	**+0.7**
	baz=223							
WHYT	**Xinyi Township**	**1.82**	**235**	*e*P		**Pn**	**02 02 14.0**	**+1.7**
	baz=232							
WHYT				*e*S		**Sn**	**02 02 37.7**	**+2.0**
	baz=232							
WJS	**Zhushan**	**1.85**	**240**	*e*P		**Pn**	**02 02 14.6**	**+1.9**
	baz=246							
WJS				S		**Sn**	**02 02 38.2**	**+2.0**
	baz=246							
WNT	**Mingjian**	**1.86**	**242**	P		**Pn**	**02 02 13.8**	**+1.0**
	baz=239							
WNT				S		**Sn**	**02 02 37.6**	**+1.3**
	baz=239							
WCHH	**Zhanghua**	**1.88**	**249**	*e*P		**Pn**	**02 02 13.5**	**+0.5**
	baz=246							
WCHH				*e*S		**Sn**	**02 02 37.5**	**+0.8**
	baz=246							
CHKT	**Chengkung**	**1.94**	**212**	P		**Pn**	**02 02 13.3**	**-0.5**
	baz=203							
CHKT				S		**Sn**	**02 02 36.4**	**-1.8**
	baz=203							
ALS	**Alishan**	**1.97**	**231**	P		**Pn**	**02 02 15.7**	**+1.2**
	baz=222							
ALS				*e*S		**Sn**	**02 02 41.4**	**+2.0**
	baz=222		

JTJ			S		Sn	02 02 40.4	+0.3
ELDTW	Lidau	2.06 221	P		Pn	02 02 15.2	-0.3
	baz=213						
ELDTW			eS		Sn	02 02 39.6	-1.4
	baz=213						
WDLH	Douliu	2.07 240	P		Pn	02 02 16.6	+1.1
	baz=236						
WDLH			S		Sn	02 02 42.8	+1.6
	baz=236						
EDH	Donghe	2.08 212	P		Pn	02 02 15.2	-0.3
	baz=204						
EDH			eS		Sn	02 02 39.8	-1.5
	baz=204						
WRL	Guolierlin Hig	2.10 247	P		Pn	02 02 15.9	+0.1
	baz=250						
WRL			eS		Sn	02 02 41.4	-0.5
	baz=250						
WCKO	Fanlu	2.16 233	P		Pn	02 02 18.2	+1.5
	baz=230						
WCKO			eS		Sn	02 02 45.4	+2.2
	baz=230						
WTK	Tuku	2.19 241	P		Pn	02 02 17.8	+0.8
	baz=238						
WTK			S		Sn	02 02 44.1	+0.2
	baz=238						
CHN2	Minshiung	2.20 237	eP		Pn	02 02 18.3	+1.2
	baz=243						
CHN2			eS		Sn	02 02 45.9	+1.7
	baz=243						
LONT	Longtian	2.22 214	P		Pn	02 02 17.0	-0.4
	baz=212						
LONT			S		Sn	02 02 43.7	-0.9
	baz=212						
STYH	Taoyuan	2.22 225	P		Pn	02 02 18.6	+1.2
	baz=215						
STYH			S		Sn	02 02 45.5	+0.8
	baz=215						
CHN4	Tsaushan	2.22 231	P		Pn	02 02 18.8	+1.3
	baz=228						
CHN4			eS		Sn	02 02 46.1	+1.4
	baz=228						
TPUB	Ta-pu	2.23 230	P		Pn	02 02 19.2	+1.6
TPUB	Ta-pu	2.23 230	P		Pn	02 02 18.7	+1.2
	baz=227						
TPUB			eS		Sn	02 02 47.2	+2.3
	baz=227						
CHY	Chiayi	2.26 237	eP		Pn	02 02 18.9	+1.0
	baz=243						
CHY			eS		Sn	02 02 46.0	+0.4
	baz=243						
LDUT	Ludao	2.27 204	P		Pn	02 02 17.4	-0.6
	baz=206						
LDUT			S		Sn	02 02 43.6	-2.2
	baz=206						
WTP	Ta-pu	2.27 229	eP		Pn	02 02 19.8	+1.6
	baz=239						
TWGBT	Beinan	2.32 214	P		Pn	02 02 19.1	+0.4
TWGBT	Beinan	2.32 214	eP		Pn	02 02 18.4	-0.3
	baz=211						
TWGBT			eS		Sn	02 02 45.8	-1.2
	baz=211						
TWG	Pinlang	2.32 214	eP		Pn	02 02 18.4	-0.3
	baz=211						
TWG			S		Sn	02 02 45.8	-1.2
	baz=211						
TWK	Hsinying	2.35 231	eP		Pn	02 02 20.3	+1.2
	baz=228						
TWK			eS		Sn	02 02 48.6	+0.9
	baz=228						
CHN1	Nanshi	2.37 229	eP		Pn	02 02 20.7	+1.2
	baz=226						
CHN1			eS		Sn	02 02 49.5	+1.2
	baz=226						
WSL	Shuilin Townsh	2.40 240	eP		Pn	02 02 20.3	+0.6
	baz=236						
WSL			eS		Sn	02 02 49.0	+0.3
	baz=236						
SGST	Jiashian	2.41 227	eP		Pn	02 02 20.8	+0.9
	baz=224						
SGST			eS		Sn	02 02 49.7	+0.6
	baz=224						
ECL	Taimali	2.56 213	eP		Pn	02 02 21.8	-0.1
	baz=206						
ECL			eS		Sn	02 02 51.0	-1.7
	baz=206						
SCST	Cishan	2.60 225	eP		Pn	02 02 23.9	+1.5
	baz=222						
SCST			eS		Sn	02 02 57.9	+4.3
	baz=222						
MATB	Ma-tsu	2.68 302	eP		Pn	02 02 22.5	-1.0
	baz=299						
TSCK	Chigu Township	2.71 234	eP		Pn	02 02 24.2	+0.3
	baz=231						
TSCK			eS		Sn	02 02 56.4	+0.1
	baz=231						
MASBT	Mashibuluo	2.72 219	eP		Pn	02 02 25.7	+1.6
	baz=216						
MASBT			eS		Sn	02 02 57.7	+1.2
	baz=216						
VWUC	VWUC	2.77 276	eP		Pn	02 02 23.9	-0.6
	baz=272						
VWUC			eS		Sn	02 02 55.2	-2.3
	baz=272						
EAST	Anshuo	2.80 213	eP		Pn	02 02 25.9	+0.8
	baz=206						
EAST			eS		Sn	02 02 57.4	-0.9
	baz=206						
LAY	Lan-yu	2.83 198	eP		Pn	02 02 25.2	-0.4
	baz=196						
LAY			eS		Sn	02 02 57.2	-2.0
	baz=196						
LYUB	Lan-yu	2.86 197	eP		Pn	02 02 24.8	-1.1
	baz=195						
PNG	Penghu	2.92 247	eP		Pn	02 02 26.0	-0.6
	baz=243						
PNG			eS		Sn	02 02 58.9	-2.3
	baz=243						
PHUB	P'eng-hu	2.93 246	eP		Pn	02 02 26.0	-0.7
	baz=242						
PHUB			eS		Sn	02 02 58.8	-2.6
	baz=242						
XPSS	Dashiqiu	2.99 317	eP		Pn	02 02 27.5	-0.1
	baz=314						
SMST	Manzhou Townsh	3.11 209	eP		Pn	02 02 29.7	+0.5
	baz=202						
SMST			eS		Sn	02 03 04.6	-1.1
	baz=202						
ZPLA	Ao Xicun	4.39 260	eP		Pn	02 02 47.0	+0.6
	baz=258						

WEL 01 02:02:15.3±0.3,43°S±2°×17°3E±°,h11km±3km,M3.3/38, ML3.2/19,MLv3.3/38,Error ellipse: s-maj=0.0km s-min=0.0km az=116.8,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.30	143	P	Pb	02 02 22.4	-0.3
GVZ				S	Sb	02 02 27.9	+0.3
LTZ	Lake Taylor	0.39	262	P	Pg	02 02 23.5	+0.5
LTZ				S	Sb	02 02 29.5	-0.6
AMCZ	Amberley	0.46	193	P	Pb	02 02 25.9	+0.4
KHZ	Kahutara	0.64	61	P	Pg	02 02 27.7	0.0
OXZ	Oxford	0.81	222	P	Pb	02 02 31.4	0.0
OXZ				S	Sb	02 02 43.5	+1.1
THZ	Tophouse	0.97	5	P	Pg	02 02 33.0	-1.0
MQZ	McQueen's Vall	0.98	186	P	Pg	02 02 33.6	-0.6
MQZ				S	Sb	02 02 47.5	+0.2
INZ	Inchbonnie	0.99	270	P	Pg	02 02 34.3	-0.1
OKCZ	Okains Bay	1.01	169	P	Pg	02 02 34.8	0.0
RACZ	Rakaia	1.10	205	P	Pb	02 02 35.4	-1.0
AKCZ	Akaroa Harbour	1.15	176	P	Pb	02 02 35.9	-1.3
MHCZ	Mount Hutt	1.20	228	P	Pn	02 02 36.8	-1.3
MHCZ				S	Sn	02 02 54.5	+0.1
DSZ	Denniston Nort	1.23	323	P	Pn	02 02 38.3	-0.1
DSZ				S	Sn	02 02 54.9	-0.1
BSWZ	Blackbirch Sta	1.30	39	P	Pn	02 02 39.2	-0.1
MRNZ	Matariki Terra	1.33	359	P	Pn	02 02 39.3	-0.5
WACZ	Wakanui South	1.40	209	P	Pn	02 02 39.5	-1.3
WVZ	Waitaha Valley	1.55	256	P	Pn	02 02 42.8	0.0
TUWZ	Tuamarina	1.56	34	P	Pb	02 02 43.7	-0.4
NNZ	Nelson	1.57	16	P	Pn	02 02 43.7	+0.5
RPZ	Rata Peaks	1.61	232	P	Pn	02 02 42.6	-1.1
ARCZ	Arundel	1.69	223	P	Pn	02 02 43.5	-1.3
TKNZ	Takaka Hill	1.70	4	P	Pn	02 02 45.7	+0.7
TCW	Tory Channel	1.88	37	P	Pn	02 02 46.6	-0.7
GCSZ	Gaunt Creek Bo	1.90	251	P	Pn	02 02 47.9	+0.3
QRZ	Quartz Range	1.91	354	P	Pn	02 02 47.8	-0.1
TMZ	Timaru	2.10	217	P	Pn	02 02 49.2	-1.3
FOZ	Fox Glacier	2.32	249	P	Pn	02 02 53.9	+0.4
CAW	Cannon Point	2.35	47	P	Pn	02 02 52.8	-1.0
LBZ	Lake Benmore	2.52	228	P	Pn	02 02 55.3	-0.9
OGWZ	Otaki Gorge	2.61	44	P	Pn	02 02 59.2	+1.8
ODZ	Otahua Downs	2.79	213	P	Pn	02 02 58.3	-1.5
MRZ	Mangatainoka R	2.94	46	P	Pn	02 03 03.2	+1.2
PRWZ	Pori Road	3.23	49	P	Pn	02 03 06.5	+0.6
BFZ	Birch Farm	3.30	53	P	Pn	02 03 07.5	+0.6
PKE	Pukeiti	3.65	15	P	Pn	02 03 13.8	+2.1
VRZ	Vera Road	3.90	23	P	Pn	02 03 16.3	+1.2
TUZ	Tuapeka	3.94	214	P	Pn	02 03 14.1	-1.6
MOVZ	Moawhango	4.00	35	P	Pb	02 03 22.3	-3.6
HIZ	Hauiti	4.50	21	P	Pn	02 03 23.6	+0.3

*NEIC **01** 02:05:18±1.1,54.1°N±0.1°×161.3°W±0.1,h35km±19km, ML3.7/8,ML3.3(AEIC),Error ellipse: s-maj=22.2km s-min=6.2km az=160.0*

AEIC 01 02:05:19.6±1.5,54.3N±0.1°×161.40W±0.08,h26km±9km, Error ellipse: s-maj=17.4km s-min=2.3km az=159.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	1.19	26		Pn	02 05 40.1	-0.5
SDPT				Sn	Sn	02 05 55.7	-0.2
FALS	False Pass	1.30	297	Pn	Pn	02 05 40.9	-1.2
FALS				Sn	Sn	02 05 58.3	-0.5
AKUT	Akutan	2.57	268	Pn	Pn	02 05 57.9	-1.6
AKUT				IAML		02 07 14.2	
	comp=N,218nm,4.4s						
AKUT				IAML		02 07 32.1	
	comp=E,231nm,2.8s						
CHGN	Chignik	2.64	39	Pn	Pn	02 06 00.7	+0.2
CHGN					Sn	02 06 31.1	-0.6
UNV	Unalaska Valle	3.04	264	Pn	Pn	02 06 03.8	-2.2
SII	Sitkinak Islan	4.70	58	Pn	Pn	02 06 27.1	-1.7
SII				IAML		02 07 54.6	
	comp=E,61nm,1.7s						
SII				IAML		02 07 56.4	
	comp=N,72nm,3.9s						
OHAK	Old Harbor	5.44	54	Pn	Pn	02 06 37.7	-1.3
P18K	Big Mountain,	6.13	31	Pn	Pn	02 06 48.0	-0.6
O18K	Koktuh Hills	6.52	29	Pn	Pn	02 06 53.0	-0.8
ILSW	Iliamna Southw	7.26	35	Pn	Pn	02 07 03.4	-0.7
SVW2	Sparrevohn	7.50	22	Pn	Pn	02 07 07.6	+0.3
N19K	Bonanza Creek	7.52	27	Pn	Pn	02 07 07.3	-0.3
L19K	White Mountain	8.63	21	Pn	Pn	02 07 22.8	+0.1
M20K	Styx River	8.78	27	Pn	Pn	02 07 25.3	+0.5
SUA	Susitna One	9.15	34	Pn	Pn	02 07 29.1	-0.9
PWL	Port Wells	9.61	42	Pn	Pn	02 07 35.0	-1.1
K20K	Telida	9.85	20	Pn	Pn	02 07 39.2	-0.2
CAST	Castle Rocks	10.34	24	Pn	Pn	02 07 45.4	-0.7
J20K	Nowinta River	10.58	18	Pn	Pn	02 07 48.5	-0.9
SCM	Sheep Creek Mo	10.60	39	Pn	Pn	02 07 48.0	-1.7
KLU	Klutina	10.93	42	Pn	Pn	02 07 53.0	-1.2
BWN	Browne	11.62	27	Pn	Pn	02 08 02.7	-0.9
I21K	Tanana	11.89	20	Pn	Pn	02 08 07.0	-0.3
PAX	Paxson	11.99	37	Pn	Pn	02 08 07.3	-1.4
IMAR	Indian Mountai	12.32	15	Pn	Pn	02 08 12.3	-0.9
M26K	Nabesna, AK	12.59	42	Pn	Pn	02 08 15.7	-1.2
RIDG	Independent Ri	12.70	35	Pn	Pn	02 08 16.5	-1.9
BCAR	Beaver Creek A	13.41	41	Pn	Pn	02 08 25.9	-2.2

WEL 01 02:14:26.0±0.3,42°S±2°×17°4E±°,h21km±3km,M3.1/32, ML3.1/22,MLv3.1/32,Error ellipse: s-maj=0.0km s-min=0.0km az=114.8,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.12	219	P	Pb	02 14 30.9	-1.5
KHZ				S	Sb	02 14 34.2	-2.6
BSWZ	Blackbirch Sta	0.64	16	P	Pb	02 14 37.8	-0.7
CMWZ	Cape Campbell	0.72	37	P	Pn	02 14 40.9	0.0
CMWZ				S	Sn	02 14 53.6	+2.2
GVZ	Greta Valley S	0.78	215	P	Pn	02 14 42.5	+0.6
GVZ				S	Sn	02 14 54.9	+2.0
THZ	Tophouse	0.78	316	P	Pb	02 14 40.2	-0.8
TUWZ	Tuamarina	0.92	14	P	Pn	02 14 44.2	+0.5
TUWZ				S	Sn	02 14 57.1	+0.7
LTZ	Lake Taylor	1.11	245	P	Pb	02 14 46.7	+0.2
AMCZ	Amberley	1.12	220	P	Pb	02 14 47.5	+0.9
NNZ	Nelson	1.12	350	P	Pn	02 14 46.1	-0.4
MRNZ	Matariki Terra	1.14	324	P	Pn	02 14 46.5	-0.2
TCW	Tory Channel	1.21	23	P	Pn	02 14 47.3	-0.4
WEL	Wellington	1.34	39	P	Pn	02 14 49.8	+0.3
TKNZ	Takaka Hill	1.39	338	P	Pn	02 14 50.6	+0.4
TKNZ				S	Sb	02 15 08.3	-0.2
OKCZ	Okains Bay	1.46	197	P	Pn	02 14 51.4	+0.2
DSZ	Denniston Nort	1.48	292	P	Pb	02 14 52.4	-0.5
DSZ				S	Sb	02 15 11.8	+0.5
DUWZ	D'Urville Isla	1.54	8	P	Pn	02 14 51.9	-0.3
OXZ	Oxford	1.54	229	P	Pn	02 14 51.8	-0.6
MQZ	McQueen's Vall	1.56	207	P	Pn	02 14 51.6	-0.9
MQZ				S	Sn	02 15 11.4	-0.7
CAW	Cannon Point	1.62	42	P	Pn	02 14 53.0	-0.4
AKCZ	Akaroa Harbour	1.64	199	P	Pn	02 14 53.4	-0.2
AKCZ				S	Sn	02 15 14.2	+0.1
INZ	Inchbonnie	1.67	255	P	Pn	02 14 54.4	+0.4
QRZ	Quartz Range	1.71	331	P	Pn	02 14 55.7	+1.0
KIW	Kapiti Island	1.75	33	P	Pn	02 14 53.2	-1.9
RACZ	Rakaia	1.78	218	P	Pn	02 14 55.0	-0.6
MTW	Mount Morrison	1.82	51	P	Pb	02 14 60.0	+1.4
OGWZ	Otaki Gorge	1.90	38	P	Pn	02 14 56.6	-0.5
MHCZ	Mount Hutt	1.94	231	P	Pn	02 14 57.1	-0.8
HOWZ	Holdsworth Sta	2.00	45	P	Pn	02 14 57.5	-1.1
WACZ	Wakanui South	2.08	219	P	Pn	02 14 59.4	-0.4
WVZ	Waitaha Valley	2.27	250	P	Pn	02 15 02.7	+0.4
RPZ	Rata Peaks	2.35	233	P	Pn	02 15 03.0	-0.4
ARCZ	Arundel	2.42	227	P	Pn	02 15 03.7	-0.7
TMZ	Timaru	2.81	222	P	Pn	02 15 09.2	-0.7
ODZ	Otahua Downs	3.48	218	P	Pn	02 15 18.1	-0.8

*IDC **01** 02:24:07.8±1.6,6.69S×153.89E,h0km,mb3.8/8, mbtmp3.9/10,ML2.1/1,MS3.1/5,Error ellipse: s-maj=41.4km s-min=21.0km az=117.0*

ISC 01 02:24:14.0±1.1,6.51S±0.08×153.8E±0.1,h35km,n16, σ1§06/14,mb3.9/8,MS3.2/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.79	322	Pn	Pn	02 24 56.4	+0.2
	83nm,0.4s,baz=166,slow=4.3,SNR=15						
KRVT				Sn	Sn	02 25 27.6	-1.2
	54nm,0.3s,baz=244,slow=21,SNR=14						
PMG	Port Moresby	7.15	246	Pn	Pn	02 25 56.5	+0.3
	1.8nm,0.3s,baz=99,slow=19,SNR=1.8						
PMG				Sn	Sn	02 27 17.5	+1.3
	2.0nm,0.3s,baz=353,slow=22,SNR=2.0						
PMG				LR	LR	02 28 27.7	
	comp=Z,77nm,21.7s,baz=0.0,slow=36						
	11nm,0.5s						
CTA	Charters Tower	15.34	208	Pn	P	02 27 52.0	-0.5
	0.2nm,0.3s,baz=51,slow=16,SNR=2.2						
CTA				LR	LR	02 32 54.0	
	comp=Z,70nm,18.8s,baz=83,slow=34						
WRA	Warramunga Arr	23.11	233	P	P	02 29 15.0	-2.1
	0.8nm,0.5s,baz=58,slow=8.9,SNR=13						
WRA				LR	LR	02 37 32.3	
	comp=Z,54nm,19.7s,baz=130,slow=35						
	0.8nm,0.5s						
ASAR	Alice Springs	25.60	226	P	P	02 29 38.8	-1.5
	3.2nm,0.7s,baz=59,slow=8.7,SNR=38						
ASAR				LR	LR	02 38 57.7	
	comp=Z,78nm,18.5s,baz=105,slow=35						
	3.2nm,0.7s						
H11S3	WAKE ISLAND Hy	27.93	27	T	T	02 58 24.2	
	baz=208						
H11S2	WAKE ISLAND Hy	27.93	27	T	T	02 58 21.7	
	baz=208						
H11S1	WAKE ISLAND Hy	27.94	27	T	T	02 58 22.6	
	baz=208						
KSRS	Korea Array	49.95	333	P	P	02 33 05.5	+0.9
	1.1nm,0.8s,baz=170,slow=8.4,SNR=4.7						
	1.1nm,0.8s						
ASAJ	Asahikawa	51.39	350	LR	LR	02 55 27.6	
	comp=Z,22nm,18.2s,baz=130,slow=36						
CMAR	Chiang Mai Arr	59.48	296	P	P	02 34 14.5	+0.5
	1.7nm,0.7s,baz=119,slow=5.3,SNR=10.0						
	1.7nm,0.7s						
SONM	Songino Array	68.28	328	P	P	02 35 12.2	+0.7
	0.9nm,0.7s,baz=130,slow=5.5,SNR=6.8						
	0.9nm,0.7s						
MKAR	Makanchi Array	82.24	319	P	P	02 36 31.6	-0.2
	0.2nm,0.5s,baz=96,slow=8.0,SNR=4.2						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	83.10	326	P	P	02 36 35.5	-0.5
	0.7nm,0.5s,baz=79,slow=7.7,SNR=3.7						
	0.7nm,0.5s						
ILAR	Eielson Array	83.38	22	P	P	02 36 37.9	+0.6
	0.3nm,0.9s,baz=258,slow=4.9,SNR=1.7						
	0.3nm,0.9s						
TORD	Torodi Ar. Bea	151.72	286	PKPbc	PKPbc	02 44 05.6	-0.4
	2.9nm,0.7s,baz=65,slow=2.6,SNR=21						

FUNV 01 02:30:01.0,8.27N×61.65W,h5km,MW3.5,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	2.86	327	eP	Pn	02 30 46.2	-1.1
CRUV				eS	Sn	02 31 19.0	-3.1
PRGV	PARIAGUAN	3.00	280	eP	Pn	02 30 47.6	-1.7
PRGV				eS	Sn	02 31 23.3	-2.3
PCRV	Puerto La Cruz	3.50	303	eP	Pn	02 30 53.5	-2.6
PCRV				eS	Sn	02 31 34.6	-3.5
MERV	Las Mercedes	4.69	282	eP	Pn	02 31 11.0	-1.5
MERV				eS	Sn	02 32 02.6	-4.8
CACV	CAICARA DEL OR	4.89	262	eP	Pn	02 31 08.2	-7.0
CACV				eS	Sn	02 31 55.8	-16
TACV	Tcata	5.62	290	eP	Pn	02 31 22.7	-2.7
TACV				eS	Sn	02 32 23.6	-6.8
BENV	Beln	6.11	286	eP	Pn	02 31 30.2	-1.9
BENV				eS	Sn	02 32 36.1	-6.3
BAUV	El Baul	6.35	277	eP	Pn	02 31 32.8	-2.5
BAUV				eS	Sn	02 32 42.3	-6.1
MAPV	Macapo	6.90	284	eP	Pn	02 31 39.8	-3.0
MAPV				eS	Sn	02 32 53.5	-8.3

*KRSC **01** 02:34:10.2±1.2,49.42N×156.84E,h40km±19km,Ml4.0*
*IDC **01** 02:34:11.9±8.7,49.44N×156.07E,h89km±58km,mb3.4/2, mbtmp3.8/3,ML3.1/1,Error ellipse: s-maj=135.1km s-min=53.9km az=122.0*

ISC 01 02:34:06.4±2.0,49.1N±0.1°×156.3E±0.1°,h50km,n28, σ2§31/29,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.57	357	i P	Pn	02 34 33.4	+1.6
SKR				eS	Sn	02 34 49.6	-1.3
KDTR	Khodutka, Kamc	2.93	23	eP	Pn	02 34 52.1	+1.7
KDTR				eS	Sn	02 35 12.7	-1.7
RUS	Russkaya	3.61	22	eP	Pn	02 35 01.3	+1.5
RUS				eS	Sn	02 35 38.6	-2.5
GRL	Gorelyy	3.62	18	eP	Pn	02 35 02.7	+2.7
APC	Apacha	3.85	8	eP	Pn	02 35 06.2	+3.1
KRMR	Karymshinskiy	3.90	17	eP	Pn	02 35 06.2	+2.5
PETK	Petropavlovsk-	4.09	12	P	Pn	02 35 08.3	+1.9
	7.2nm,0.3s,baz=191,slow=8.3,SNR=114						
PETK				S	Sn	02 35 52.5	-0.5
	1.8nm,0.5s,baz=176,slow=40,SNR=1.2						
	25nm,0.5s						
PET	Petropavlovsk	4.19	20	eP	Pn	02 35 09.8	+2.2
PET				eS	Sn	02 35 54.5	-0.8
DALK	Dalny	4.22	21	eP	Pn	02 35 10.3	+2.2
DALK				eS	Sn	02 35 54.4	-1.6
UGLR	Uglovaya	4.40	20	eP	Pn	02 35 13.5	+2.8
AVH	Avacha	4.43	20	eP	Pn	02 35 14.1	+2.9
KOK	Koryaka	4.43	19	eP	Pn	02 35 14.6	+3.4
SMAR	Somma	4.44	20	eP	Pn	02 35 14.2	+2.8
KRER	Koryakskii	4.47	19	eP	Pn	02 35 14.7	+3.0
SDLR	Sedlovina	4.48	21	eP	Pn	02 35 13.9	+2.1
NLC	Nalytchevo	4.50	24	eP	Pn	02 35 13.7	+1.8
KRX	Arik	4.50	19	eP	Pn	02 35 14.9	+2.8
SPN	Mys Shipunski	4.63	29	eP	Pn	02 35 15.6	+1.9
SPN				eS	Sn	02 36 04.5	-1.7
GNL	Ganaly	4.70	12	eP	Pn	02 35 17.7	+2.9
MKZ	Mys Kozlova	6.41	30	eP	Pn	02 35 40.2	+2.1
H11N2	WAKE ISLAND Hy	30.54	160	T	T	03 12 33.2	
	baz=342,slow=74						
H11N1	WAKE ISLAND Hy	30.56	160	T	T	03 12 48.8	
	baz=342,slow=74						
H11N3	WAKE ISLAND Hy	30.56	160	T	T	03 13 34.4	
	baz=342						
H11S1	WAKE ISLAND Hy	31.68	161	T	T	03 14 38.7	
	baz=347,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	31.69	161	T	T	03 14 38.8	
	baz=347,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	31.70	161	T	T	03 14 39.4	
	baz=347,slow=76,SNR=9.7						
MKAR	Makanchi Array	47.75	297	P	P	02 42 37.4	-0.8
	0.2nm,0.4s,baz=70,slow=8.3,SNR=7.0						
	0.2nm,0.4s						
FINES	FINESS Array B	62.78	336	P	P	02 44 24.9	-1.2
	2.2nm,0.9s,baz=44,slow=8.3,SNR=4.8						
	2.2nm,0.9s						

*IDC **01** 02:39:12.1±1.1,55.34S×28.00W,h0km,mb4.0/3, mbtmp4.1/4,ML4.3/1,Error ellipse: s-maj=47.0km s-min=28.7km az=94.0*

ISC 01 02:39:16.0±1.1,55.4S±0.2×28.0W±0.3,h26km,n11, σ0§48/8,mb4.1/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	19.56	156	P	P	02 43 41.2	-0.3
	0.9nm,0.3s,baz=299,slow=12,SNR=12						
	3.8nm,0.6s						
VNDA	Vanda	47.24	183	P	P	02 47 46.5	+0.5
	2.3nm,1.0s,baz=155,slow=8.3,SNR=2.0						
	2.3nm,1.0s						
H10N1	ASCENSION HYDR	48.60	18	T	T	03 41 13.8	
	baz=190,slow=74						
H10N3	ASCENSION HYDR	48.60	18	T	T	03 41 13.3	
	baz=190,slow=74						
H10N2	ASCENSION HYDR	48.62	18	T	T	03 41 15.8	
	baz=190,slow=74						
LBTB	Lobatse	49.26	75	P	P	02 48 02.6	+0.1
	1.4nm,0.7s,baz=216,slow=8.7,SNR=1.8						
	1.4nm,0.7s						
TORD	Torodi Ar. Bea	72.69	30	P	P	02 50 41.8	+0.4
	1.5nm,0.6s,baz=200,slow=6.5,SNR=11						
	1.5nm,0.6s						
FINES	FINESS Array B	123.99	28	PKP	PKPdf	02 58 09.6	-0.7
	2.7nm,1.0s,baz=201,slow=10.0,SNR=6.3						
YKA	Yellowknife Ar	135.35	319	PKP	PKPdf	02 58 31.4	-0.4
	0.4nm,0.7s,baz=122,slow=2.9,SNR=4.5						
ILAR	Eielson Array	149.31	313	PKPbc	PKPbc	02 59 01.1	+0.2
	1.7nm,0.8s,baz=121,slow=2.6,SNR=13						
SONM	Songino Array	151.15	86	PKPbc	PKPbc	02 59 05.8	-0.2
	1.2nm,0.6s,baz=224,slow=3.2,SNR=8.6						

*NEIC **01** 02:45:37.5±2.7,12.94S±0.08×76.6W±0.1,h40km±5km, mb4.1/3,Error ellipse: s-maj

PB11	**IPOC Station P**	**9.52**	**137**	Pn		**Pn**	**02 47 51.9**	**-0.8**
GO01	**Chusmiza**	**9.77**	**135**	Pn		**Pn**	**02 47 56.1**	**-0.3**
TA01	**Diego Aracena**	**9.79**	**143**	Pn		**Pn**	**02 47 54.1**	**-2.1**
PB08	**IPOC Station P**	**10.12**	**137**	Pn		**Pn**	**02 47 58.6**	**-2.6**
ETMB	**Extrema**	**10.52**	**75**			**Pn**	**02 48 05.0**	**-1.3**
PB02	**IPOC Station P**	**10.54**	**144**	Pn		Pn	02 48 02.8	-3.8
PB01	**IPOC Station P**	**10.57**	**142**	Pn		**Pn**	**02 48 05.9**	**-1.1**
TBTG	**Tabatinga, AM**	**10.78**	**38**	P		**Pn**	**02 48 09.9**	**+0.1**
LVC	**Limon Verde**	**12.12**	**144**	P		**Pn**	**02 48 30.1**	**+1.7**
	2.3nm,0.8s,baz=250,slow=12,SNR=2.2							
LVC				S		**Sn**	**02 50 42.2**	**0.0**
	2.7nm,0.8s,baz=294,slow=19,SNR=2.4							
SIV	**San Ignacio**	**15.27**	**104**	P		**P**	**02 49 12.5**	**-1.5**
	0.5nm,0.7s,baz=263,slow=14,SNR=2.1							
RUSC	**La Rusia**	**18.91**	**11**	P		**P**	**02 49 55.6**	**+0.9**
RUSC				IAmb		IAmb	02 50 06.0	
	comp=Z,22nm,1.5s							
CFA	**Coronel Fontan**	**20.18**	**159**	LR		LR	02 57 33.2	
	comp=Z,83nm,20.0s,baz=275,slow=35							
H03N1	**Juan Fernandez**	**20.64**	**186**	T		T	03 11 16.2	
	baz=7.0,slow=74							
H03N2	**Juan Fernandez**	**20.64**	**186**	T		T	03 11 11.8	
	baz=7.0							
H03N3	**Juan Fernandez**	**20.65**	**186**	T		T	03 11 11.4	
	baz=7.0,slow=74							
BO04	**La Punta**	**21.74**	**167**	P		**P**	**02 50 25.0**	**+0.3**
BO04				IAmb		IAmb	02 50 27.7	
	comp=Z,18nm,1.1s							
TX32	**Lajitas Array**	**49.45**	**328**	P		**P**	**02 54 23.2**	**+0.6**
TX32				IAmb		IAmb	02 54 25.1	
	comp=Z,0.6nm,0.8s							
TXAR	**Lajitas Array**	**49.45**	**328**	P		**P**	**02 54 22.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=151,slow=7.5,SNR=6.7							
	comp=Z,0.5nm,0.7s							
NVAR	**Mina Array Bea**	**64.25**	**324**	P		**P**	**02 56 07.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=134,slow=6.4,SNR=2.0							
	comp=Z,0.4nm,0.7s							
YKA	**Yellowknife Ar**	**80.74**	**343**	P		**P**	**02 57 44.2**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=132,slow=6.3,SNR=9.1							
	comp=Z,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**81.69**	**75**	P		**P**	**02 57 51.0**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=267,slow=4.2,SNR=4.5							
	comp=Z,0.6nm,0.8s							
H11N3	**WAKE ISLAND Hyl**	**19.03**	**286**	T		T	05 14 33.3	
	baz=96,slow=74,SNR=4.0							
H11N2	**WAKE ISLAND Hyl**	**19.05**	**286**	T		T	05 14 34.4	
	baz=96,slow=74,SNR=5.5							
H11N1	**WAKE ISLAND Hyl**	**19.05**	**286**	T		T	05 14 33.3	
	baz=96,slow=74,SNR=4.1							
H11S2	**WAKE ISLAND Hyl**	**19.13**	**284**	T		T	05 14 15.6	
	baz=95,slow=75,SNR=7.1							
H11S1	**WAKE ISLAND Hyl**	**19.14**	**284**	T		T	05 14 32.7	
	baz=95,slow=75,SNR=8.9							
H11S3	**WAKE ISLAND Hyl**	**19.15**	**284**	T		T	05 14 30.1	
	baz=95,slow=75,SNR=6.0							
ZALV	**Zalesovo Beam**	**136.39**	**16**	PKP		**PKPdf**	**03 04 53.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=270,slow=3.7,SNR=2.0							
SONM	**Songino Array**	**145.02**	**357**	PKP		**PKPab**	**03 05 08.8**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=329,slow=1.8,SNR=10							
PZH	**PanZhiHua**	**166.29**	**7**	PKP		**PKPdf**	**03 05 37.6**	**0.0**

*IDC **01** 02:48:51.8±2.6, 48.˚79S×120.˚54E, h0km, mb4.0/4, mbtmp4.0/4, MS3.6/13, Error ellipse: s-maj=100.4km s-min=26.7km az=101.0*

ISC 01 02:48:52.7±2.3, 48.˚8S±0.˚2×120.˚4E±0.˚6, h10km, n22, σ0°21/6, mb4.0/4, MS3.5/12, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.64**	**339**	T	T	03 07 31.6	
	baz=161,slow=74,SNR=56						
H01W1	**Cape Leeuwin H**	**14.64**	**339**	T	T	03 07 39.1	
	baz=161,slow=74,SNR=53						
H01W3	**Cape Leeuwin H**	**14.65**	**339**	T	T	03 07 32.8	
	baz=161,slow=74,SNR=48						
NWAO	**Narrogin (SRO)**	**16.03**	**350**	LR	LR	02 57 18.6	
	comp=Z,296nm,20.6s,slow=32						
STKA	**Stephens Creek**	**23.25**	**51**	P	**P**	**02 54 00.2**	**0.0**
	2.8nm,0.6s,baz=204,slow=10,SNR=6.9						
STKA				LR	LR	03 02 24.1	
	comp=Z,59nm,18.0s,baz=206,slow=35						
	2.8nm,0.6s						
ASAR	**Alice Springs**	**27.25**	**28**	P	**P**	**02 54 36.8**	**-0.2**
	3.8nm,1.2s,baz=195,slow=10,SNR=9.5						
ASAR				LR	LR	03 03 58.7	
	comp=Z,76nm,19.6s,baz=215,slow=33						
	3.8nm,1.2s						
WRA	**Warramunga Arr**	**30.89**	**26**	P	**P**	**02 55 09.4**	**0.0**
	1.0nm,1.0s,baz=195,slow=7.6,SNR=2.2						
	1.0nm,1.0s						
VNDA	**Vanda**	**32.86**	**165**	P	**P**	**02 55 26.1**	**0.0**
	2.5nm,0.8s,baz=331,slow=10,SNR=5.6						
VNDA				LR	LR	03 07 52.3	
	comp=Z,214nm,18.2s,baz=308,slow=35						
	2.5nm,0.8s						
CTA	**Charters Tower**	**35.37**	**45**	LR	LR	03 10 06.0	
	comp=Z,63nm,18.6s,baz=262,slow=36						
KAPI	**Kappang**	**43.62**	**359**	LR	LR	03 13 23.4	
	comp=Z,57nm,18.9s,baz=182,slow=34						
DZM	**Mont Dzumac**	**45.09**	**71**	LR	LR	03 12 46.9	
	comp=Z,50nm,19.1s,baz=176,slow=32						
PMG	**Port Moresby**	**45.22**	**39**	LR	LR	03 15 48.0	
	comp=Z,42nm,18.1s,baz=3.0,slow=36						
H08S2	**Diego Garcia H**	**57.42**	**299**	T	T	04 01 08.5	
	baz=144,slow=76,SNR=5.3						
H08S1	**Diego Carcia H**	**57.43**	**299**	T	T	04 01 12.3	
	baz=144,slow=76,SNR=5.1						
H08S3	**Diego Garcia H**	**57.44**	**299**	T	T	04 01 10.1	
	baz=144,slow=76,SNR=5.4						
PALK	**Pallekele**	**65.77**	**316**	LR	LR	03 22 00.4	
	comp=Z,57nm,21.9s,baz=245,slow=30						
CMAR	**Chiang Mai Arr**	**69.63**	**338**	LR	LR	03 32 35.6	
	comp=Z,13nm,18.1s,baz=200,slow=38						
LBTB	**Lobatse**	**74.62**	**250**	LR	LR	03 26 37.6	
	comp=Z,51nm,19.9s,baz=145,slow=30						
WSAR	**Wadi Sarin**	**90.38**	**306**	LR	LR	03 35 08.6	
	comp=Z,50nm,20.1s,baz=164,slow=31						
AAK	**Ala-Archa**	**99.60**	**327**	LR	LR	03 50 29.3	
	comp=Z,38nm,19.3s,baz=116,slow=37						
PDAR	**Pinedale Array**	**145.16**	**81**	PKPbc	**PKPdf**	**03 08 30.0**	**-0.1**
	0.7nm,1.0s,baz=197,slow=2.8,SNR=3.1						
YKA	**Yellowknife Ar**	**147.19**	**45**	PKPbc	**PKPbc**	**03 08 35.1**	**+0.2**
	0.4nm,0.8s,baz=272,slow=1.9,SNR=6.5						

*NEIC **01** 02:50:06.6±1.3, 32.˚98N±0.˚02×115.˚57W±0.˚01, h18km±2km, Error ellipse: s-maj=2.6km s-min=1.6km az=173.0*
*PAS **01** 02:50:06.8±1.4, 32.˚98N±0.˚01×115.˚55W±0.˚01, h11km±5km, ML3.1/214, ML2.9/34(NEIC), Error ellipse: s-maj=1.8km s-min=1.7km az=66.0*
*ANF **01** 02:50:06.1±0.2, 32.˚97N×115.˚55W, h14km±2km, ML3.0/9, Error ellipse: s-maj=2.4km s-min=1.3km az=152.0*
*ECX **01** 02:50:07.3±0.7, 32.˚98N×115.˚55W, h4km±5km, MD2.9, ML3.1*

ISC 01 02:50:06.3±0.8, 32.˚98N±0.˚02×115.˚56W±0.˚02, h15km±4km, n86, σ0°64/113, 7C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WEMD	**Westmorland, C**	**0.06**	**340**		**Pg**	**02 50 08.8**	**-0.5**
WEMD					**Sg**	**02 50 11.4**	**+0.2**
WEMD	**Westmorland, C**	**0.06**	**340**	⇑*i*	**Pg**	**02 50 08.8**	**-0.5**
IMPE	**Imperial**	**0.08**	**183**	P	**Pg**	**02 50 08.8**	**-0.6**
IMPE					**Sg**	**02 50 11.3**	**0.0**
SNR	**Schaffner Ranc**	**0.15**	**139**		**Pg**	**02 50 10.4**	**+0.2**
COK2	**Cook Ranch 2**	**0.19**	**229**		**Pg**	**02 50 11.4**	**+0.5**
COK2					**Sb**	**02 50 14.9**	**0.0**
COK2	**Cook Ranch 2**	**0.19**	**229**	*eP*	**Pg**	**02 50 11.4**	**+0.5**
COK2				*eS*	**Sb**	**02 50 14.9**	**0.0**
DREC	**Desert Rsrch C**	**0.20**	**152**		**Pg**	**02 50 11.5**	**+0.7**
DREC					**Sb**	**02 50 16.1**	**+1.1**
DREC	**Desert Rsrch C**	**0.20**	**152**	⇑*iP*	**Pg**	**02 50 11.5**	**+0.7**
SWSC	**Sam W. Stewart**	**0.21**	**261**		**Pg**	**02 50 11.2**	**+0.1**
SWSC					**Sg**	**02 50 14.5**	**+0.2**
SWSC	**Sam W. Stewart**	**0.21**	**261**	P	**Pg**	**02 50 11.2**	**+0.1**
	baz=81						
SWSC				S	**Sg**	**02 50 14.5**	**+0.2**
	baz=81						
SWSC	**Sam W. Stewart**	**0.21**	**261**	*eP*	**Pg**	**02 50 11.2**	**+0.1**
SWSC				⇓*e*		02 50 14.8	
SWSC				IAML		02 50 14.8	
	comp=N,5μm,0.3s						
SUP	**Superstition M**	**0.23**	**264**		**Pg**	**02 50 11.6**	**+0.2**
SUP					**Sg**	**02 50 15.2**	**+0.4**
ERRC	**Elmore Ranch**	**0.26**	**302**		**Pb**	**02 50 12.8**	**+0.1**
ERRC					**Sb**	**02 50 17.9**	**+0.9**
WESC	**Westside Schoo**	**0.26**	**214**		**Pg**	**02 50 12.5**	**+0.5**
WESC					**Sg**	**02 50 16.6**	**+0.7**
WESC	**Westside Schoo**	**0.26**	**214**	*eP*	**Pg**	**02 50 12.3**	**+0.4**
SGL	**Mount Signal**	**0.36**	**204**		**Pg**	**02 50 13.7**	**0.0**
SGL					**Sg**	**02 50 18.8**	**+0.1**
SGL	**Mount Signal**	**0.36**	**204**	*eP*	**Pg**	**02 50 13.7**	**0.0**
UABX	**UABC, Campus M**	**0.36**	**164**		**Pg**	**02 50 14.2**	**+0.6**
UABX					**Sb**	**02 50 20.8**	**+1.1**
UABX	**UABC, Campus M**	**0.36**	**164**	IAML		02 50 21.1	
	comp=N,3μm,0.4s						
UABX				IAML		02 50 27.0	
	comp=E,3μm,0.5s						
UABX	**UABC, Campus M**	**0.36**	**164**	*eP*	**Pg**	**02 50 14.2**	**+0.6**
CRR	**Carrizo Plain**	**0.36**	**255**		**Pg**	**02 50 13.9**	**+0.3**
CRR					**Sb**	**02 50 19.4**	**-0.3**
CRR	**Carrizo Plain**	**0.36**	**255**	⇓*iP*	**Pg**	**02 50 13.9**	**+0.3**
COA	**Coachella**	**0.38**	**107**		**Pg**	**02 50 14.4**	**+0.3**
COA					**Sb**	**02 50 20.9**	**+0.5**
COA	**Coachella**	**0.38**	**107**	⇑*iP*	**Pg**	**02 50 14.4**	**+0.3**
YUH2	**Yuha Desert**	**0.45**	**223**	⇓*iP*	**Pg**	**02 50 15.4**	**+0.1**
YUH2				*eS*	**Sg**	**02 50 21.9**	**+0.4**
YUH	**Yuha Desert**	**0.45**	**223**	Pg	**Pg**	**02 50 15.4**	**+0.1**
YUH	**Yuha Desert**	**0.45**	**223**		**Sg**	**02 50 21.8**	**+0.4**
RUN	**Ruthven**	**0.49**	**91**		**Pg**	**02 50 15.8**	**-0.2**
RUN					**Sg**	**02 50 22.7**	**+0.2**
EMSC	**East Mesa**	**0.54**	**116**		**Pg**	**02 50 17.1**	**+0.2**
EMSC					**Sb**	**02 50 25.7**	**+0.8**
EMSC	**East Mesa**	**0.54**	**116**	*eP*	**Pg**	**02 50 17.2**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**0.57**	**235**		**Pg**	**02 50 17.7**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.57**	**235**	P	**Pg**	**02 50 17.6**	**+0.1**
	baz=55						
IKP	**In-Ko-Pah, Jac**	**0.57**	**235**	⇓*iP*	**Pg**	**02 50 17.6**	**+0.1**
RMX	**La Rumorosa**	**0.58**	**230**		**Pb**	**02 50 18.8**	**+0.6**
RMX					**Sb**	**02 50 27.3**	**+1.0**
RMX	**La Rumorosa**	**0.58**	**230**	IAML		02 50 28.8	
	comp=N,455nm,0.3s						
RMX				IAML		02 50 28.9	
	comp=E,484nm,0.3s						
RMX	**La Rumorosa**	**0.58**	**230**	*eP*	**Pb**	**02 50 18.8**	**+0.6**
CPBX	**Cerro Prieto**	**0.60**	**159**	*eP*	**Pg**	**02 50 17.6**	**-0.4**
CPBX				⇓*e*		02 50 30.1	
CPBX				IAML		02 50 30.1	
	comp=N,4μm,0.3s						
CPBX				IAML		02 50 36.7	
	comp=E,5μm,0.3s						
CPBX				⇑*e*		02 50 36.7	
GLA	**Glamis**	**0.62**	**83**		**Sg**	**02 50 26.1**	**-0.5**
GLA	**Glamis**	**0.62**	**83**	Pg	**Pg**	**02 50 18.1**	**-0.4**
GLA				IAML		02 50 28.0	
	comp=N,876nm,0.7s						
GLA				IAML		02 50 28.1	
	comp=E,949nm,0.5s						
GLA	**Glamis**	**0.62**	**83**	P	**Pg**	**02 50 18.1**	**-0.4**
	baz=263						
GLA				S	**Sg**	**02 50 26.5**	**-0.2**
	baz=263						
GLA	**Glamis**	**0.62**	**83**	⇑*iP*	**Pg**	**02 50 18.1**	**-0.4**
GLA				IAML		02 50 27.9	
	comp=N,828nm,0.4s						
GLA				⇑*e*		02 50 27.9	
GLA				IAML		02 50 28.0	
	comp=E,788nm,0.4s						
SLH	**Sleepy Hollow**	**0.62**	**290**		**Pb**	**02 50 18.9**	**+0.1**
SLH	**Sleepy Hollow**	**0.62**	**290**	⇑*eP*	**Pb**	**02 50 18.9**	**+0.1**
BC3	**Big Chuckawall**	**0.68**	**7**		**Pg**	**02 50 19.7**	**0.0**
BC3					**Sb**	**02 50 29.2**	**+0.1**
BC3	**Big Chuckawall**	**0.68**	**7**	P	**Pg**	**02 50 19.7**	**0.0**
	baz=186						
BC3				S	**Sb**	**02 50 29.3**	**+0.1**
	baz=186						
MONP2	**Monument Peak**	**0.73**	**264**		**Pb**	**02 50 20.6**	**-0.3**
MONP2					**Sg**	**02 50 30.2**	**-0.2**
MONP2	**Monument Peak**	**0.73**	**264**	P	**Pb**	**02 50 20.6**	**-0.3**
	baz=83						
MONP2				S	**Sb**	**02 50 30.5**	**-0.3**
	baz=83						
MONP2	**Monument Peak**	**0.73**	**264**	⇓*iP*	**Pb**	**02 50 20.6**	**-0.3**
MONP2				*eS*	**Sb**	**02 50 30.7**	**-0.1**
MONP2				⇓*e*		02 50 31.2	
MONP2				IAML		02 50 31.2	
	comp=N,458nm,0.5s						
HAY	**Hayfield**	**0.73**	**352**		**Pb**	**02 50 20.4**	**-0.4**
HAY					**Sg**	**02 50 30.9**	**+0.5**
CTW	**Cottonwood Mou**	**0.75**	**339**		**Pb**	**02 50 20.5**	**-0.5**
CTW					**Sg**	**02 50 31.5**	**+0.7**
CTCC	**Cactus City**	**0.77**	**332**		**Pb**	**02 50 20.9**	**-0.5**
CTCC					**Sn**	**02 50 32.6**	**-1.3**
BORC	**Borrego Spring**	**0.78**	**292**		**Pb**	**02 50 20.8**	**-0.7**
BORC					**Sg**	**02 50 31.7**	**0.0**
JUEM	**Julian Eagle M**	**0.88**	**277**		**Pg**	**02 50 23.4**	**0.0**
JUEM					**Sg**	**02 50 35.5**	**+0.4**
SLRCX	**San Luis Rio C**	**0.89**	**126**		**Pb**	**02 50 23.6**	**+0.3**
PMD	**Palm Desert**	**0.96**	**314**		**Pb**	**02 50 23.9**	**-0.7**
PMD				IAML		02 50 29.7	
	comp=E,170nm,0.3s						
PMD				IAML		02 50 44.0	
	comp=N,161nm,0.9s						
TKX	**Tecate**	**0.97**	**246**	Pg	**Pb**	**02 50 24.3**	**-0.6**
TKX				IAML		02 50 38.0	
	comp=E,429nm,0.3s						
BAR	**Barrett**	**0.99**	**253**	Pg	**Pb**	**02 50 24.9**	**-0.1**
BAR				IAML		02 50 38.9	
	comp=N,368nm,0.5s						
BAR				IAML		02 50 39.2	
	comp=E,285nm,0.3s						
BAR	**Barrett**	**0.99**	**253**	*eP*	**Pb**	**02 50 24.4**	**-0.6**
PFO	**Pinyon Flats O**	**0.99**	**310**		**Pb**	**02 50 25.1**	**0.0**
PFO	**Pinyon Flats O**	**0.99**	**310**	Pg	**Pb**	**02 50 24.7**	**-0.5**
PFO				IAML		02 50 45.8	
	comp=E,181nm,0.9s						
PFO				IAML		02 50 46.1	
	comp=E,159nm,0.8s						
PFO	**Pinyon Flats O**	**0.99**	**310**	P	**Pb**	**02 50 24.8**	**-0.4**
	baz=129						
BZNA	**Buzz No.'s Pla**	**1.06**	**299**		**Pg**	**02 50 27.1**	**+0.2**
IRM	**Iron Mountain**	**1.23**	**16**	S	**Sg**	**02 50 46.5**	**+0.6**
	baz=196						
SJX	**San Joaquin**	**1.26**	**196**	*eP*	**Pn**	**02 50 25.3**	**-3.9**
BLAC	**Blackrock camp**	**1.29**	**328**		**Pn**	**02 50 29.6**	**-0.1**
109C	**Camp Elliot, M**	**1.31**	**267**	Pb	**Pb**	**02 50 30.5**	**0.0**
	baz=86						
109C				S	**Sb**	**02 50 47.3**	**+0.3**
	baz=86						
TJX	**Tijuana**	**1.35**	**250**		**Pb**	**02 50 31.7**	**+0.5**
CCX	**Cícese**	**1.45**	**221**	IAML		02 51 00.6	
	comp=E,274nm,0.7s						
GMRC	**Granite Mounta**	**1.80**	**357**	Sb	**Sg**	**02 51 04.1**	**-0.4**
	baz=177						
PIX	**Pinacate**	**2.27**	**128**		**Pn**	**02 50 41.5**	**-1.7**
PASC	**Pasadena Art C**	**2.50**	**299**	Pn	**Pn**	**02 50 47.2**	**+0.9**
PASC				IAML		02 51 38.1	
	comp=N,50nm,1.1s						
W13A	**Hualapai Mount**	**2.53**	**33**	Pn	**Pn**	**02 50 46.7**	**-0.3**
214A	**Organ Pipe Nat**	**2.53**	**113**	Pn	**Pn**	**02 50 47.0**	**+0.1**
214A				IAML		02 51 34.8	
	comp=E,38nm,0.4s						
214A				IAML		02 51 41.9	
	comp=N,36nm,0.7s						
V12A	**Nelson**	**2.80**	**12**	Pn	**Pn**	**02 50 51.3**	**+0.6**
CCAC	**Calif City Air**	**2.98**	**317**	Pn	**Pn**	**02 50 53.6**	**+0.5**
GWY	**Greenwater Val**	**3.33**	**344**	Pn	**Pn**	**02 50 57.5**	**-0.4**
SHPR	**Sheep Range**	**3.53**	**5**	Pn	**Pn**	**02 51 01.4**	**+0.8**
BCW	**Bitter Crk WRg**	**3.76**	**302**	Pn	**Pn**	**02 51 04.5**	**+0.8**
WCT	**Wildcat Mounta**	**3.91**	**347**	Pn	**Pn**	**02 51 07.3**	**+1.5**
TPNV	**Topopah Spring**	**4.00**	**352**	Pn	**Pn**	**02 51 08.1**	**+0.9**
TUC	**Tucson**	**4.08**	**98**	Pn	**Pn**	**02 51 08.5**	**+0.3**
WUAZ	**Wupatki**	**4.29**	**53**	Pn	**Pn**	**02 51 11.2**	**0.0**
U15A	**North Rim**	**4.37**	**37**		**Pn**	**02 51 12.5**	**+0.2**
PRN	**Pahroc Range**	**4.44**	**5**	Pn	**Pn**	**02 51 13.0**	**-0.2**
KNB	**Kanab**	**4.61**	**28**	Pn	**Pn**	**02 51 16.1**	**+0.5**
X18A	**Snowflake**	**4.92**	**70**	Pn	**Pn**	**02 51 20.6**	**+0.7**

IDC 01 03:10:10.8±4.9, 5.˚88S×147.˚65E, h208km±47km, mb3.1/1, mbtmp3.7/3, Error ellipse: s-maj=96.8km s-min=44.4km az=123.0, Eastern New Guinea region

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

PMG	**Port Moresby**	**3.54**	**188**	P		Pn	03 11 07.9	+0.6
	6.7nm,0.3s,baz=340,slow=10,SNR=9.0							
PMG				S		S	03 11 52.0	+0.7
	18nm,0.3s,baz=189,slow=22,SNR=12							
WRA	**Warramunga Arr**	**19.05**	**222**	P		P	03 14 17.5	-0.2
	1.1nm,0.3s,baz=47,slow=12,SNR=22							
ASAR	**Alice Springs**	**22.09**	**215**	P		P	03 14 50.1	+0.7
	1.3nm,0.6s,baz=50,slow=8.5,SNR=7.7							
	1.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**145.69**	**285**	PKPbc	PKPdf	03 29 24.6	-0.9	
	0.3nm,0.8s,baz=92,slow=2.8,SNR=1.9							

*GII **01** 03:21:19.5±0.5, 30.˚47N×31.˚40E, h31km, MD3.5/7, Mm3.3/4*

ISC 01 03:21:14.6±3.7, 30.˚52N±0.˚07×31.˚5E±0.˚2, h10km, n34, σ2°36/47, Egypt

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZIT	**Kziot**	**2.54**	**81**	P	**Pb**	**03 21 58.4**	**-1.8**
KZIT				Sn	**Sn**	**03 22 28.3**	**+1.5**
KZIT	**Kziot**	**2.54**	**81**	P	**Pg**	**03 22 01.6**	**-1.6**
KRMI	**Paran Flat**	**2.83**	**97**	Pn	**Pn**	**03 22 00.9**	**+1.0**
KRMI				Sn	**Sn**	**03 22 35.4**	**+1.3**
PRNI	**Paran**	**3.04**	**92**	Pn	**Pn**	**03 22 04.5**	**+1.7**
PRNI				Sn	**Sn**	**03 22 40.9**	**+1.6**
PRNI	**Paran**	**3.04**	**92**	P	**Pb**	**03 22 07.4**	**-1.5**
MBRI	**Mt Berech**	**3.06**	**103**	Pn	**Pn**	**03 22 04.3**	**+1.3**
MBRI				Sn	**Sn**	**03 22 40.9**	**+1.2**
MBRI	**Mt Berech**	**3.06**	**103**	P	**Pn**	**03 22 05.9**	**+2.9**
HRFI	**Mount Harif**	**3.11**	**98**	Pn	**Pn**	**03 22 05.6**	**+1.9**
HRFI				Sn	**Sn**	**03 22 42.0**	**+1.0**
AMAZ	**Amatzia**	**3.11**	**70**	Pn	**Pn**	**03 22 06.1**	**+2.4**
AMAZ				Sn	**Sn**	**03 22 42.5**	**+1.5**
AMAZ	**Amatzia**	**3.11**	**70**	P	**Pg**	**03 22 12.8**	**-1.4**
EIL	**Elat**	**3.12**	**105**	Pn	**Pn**	**03 22 04.9**	**+1.1**
EIL				Sn	**Sn**	**03 22 42.3**	**+1.1**
EIL	**Elat**	**3.12**	**105**	P	**Pg**	**03 22 12.6**	**-1.8**
ZFRI	**Zfri**	**3.19**	**89**	Pn	**Pn**	**03 22 06.4**	**+1.7**
ZFRI				Sn	**Sn**	**03 22 43.6**	**+0.8**
ZFRI	**Zfri**	**3.19**	**89**	P	**Pn**	**03 22 06.7**	**+2.0**
AQBJ	**Aqaba**	**3.19**	**103**	P	**Pg**	**03 22 15.2**	**-0.5**
YTIR	**Yattir**	**3.23**	**74**	Pn	**Pn**	**03 22 08.2**	**+2.8**
YTIR	**Yattir**	**3.23**	**74**	P	**Pb**	**03 22 09.6**	**-2.5**
MSBI	**Mazada**	**3.42**	**76**	Pn	**Pn**	**03 22 10.5**	**+2.6**
DSI	**Dead Sea**	**3.50**	**72**	Pn	**Pb**	**03 22 12.8**	**-3.9**
DSI				Sn	**Sn**	**03 22 52.2**	**+1.6**
DSI	**Dead Sea**	**3.50**	**72**	P	**Pb**	**03 22 13.5**	**-3.2**
LISJ	**El Lisan**	**3.51**	**77**	P	**Pn**	**03 22 11.8**	**+2.7**
GHAJ	**Ghor Haditha**	**3.59**	**76**	P	**Pb**	**03 22 13.9**	**-4.3**
KARJ	**KARJ**	**3.63**	**80**	P	**Pb**	**03 22 20.6**	**+1.7**
HSNJ	**Maan**	**3.64**	**93**	P	**Pn**	**03 22 14.0**	**+2.9**
OFRI	**`Ofer**	**3.65**	**54**	Pn	**Pn**	**03 22 13.7**	**+2.6**
OFRI				Sn	**Sn**	**03 22 54.4**	**+0.2**
WALJ	**Wala**	**3.85**	**73**	P	**Pn**	**03 22 17.6**	**+3.7**
HMDT	**Nahal Hemdat**	**3.86**	**62**	Pn	**Pn**	**03 22 16.6**	**+2.6**
HMDT				Sn	**Sn**	**03 23 01.1**	**+1.6**
HMDT	**Nahal Hemdat**	**3.86**	**62**	P	**Pb**	**03 22 19.4**	**-3.4**
MMLI	**Mount Malkishu**	**3.87**	**59**	Pn	**Pn**	**03 22 17.4**	**+3.3**
MMLI				Sn	**Sn**	**03 23 01.5**	**+1.8**
SWQJ	**Swaqa**	**4.00**	**78**	P	**Pb**	**03 22 22.1**	**-3.1**
HNTI	**Hanita**	**4.05**	**50**	Pn	**Pn**	**03 22 19.3**	**+2.7**
MMC7	**Mount Meron ar**	**4.16**	**52**	Pn	**Pn**	**03 22 21.0**	**+2.8**
MMA0B	**Mount Meron ar**	**4.16**	**52**	Pn	**Pn**	**03 22 21.1**	**+2.9**
MMA0B				Sn	**Sn**	**03 23 08.1**	**+1.2**
SHMJ	**Saham**	**4.26**	**58**	P	**Pb**	**03 22 26.0**	**-3.6**

*VAO **01** 03:25:18.7±1.9, 30.˚68S×72.˚61W, h10km, mb4.5*
*IDC **01** 03:25:31.3±1.0, 29.˚77S×71.˚14W, h0km, mb4.0/8, mbtmp4.0/10, ML3.7/2, MS3.3/10, Error ellipse: s-maj=30.4km s-min=25.4km az=27.0*
*SJA **01** 03:25:34.7±0.7, 29.˚70S×71.˚41W, h13km, ML4.3, MW4.0*
*GUC **01** 03:25:38.3±0.8, 29.˚71S×71.˚19W, h47km±2km, ML4.4*
*NEIC **01** 03:25:38.5±2.2, 29.˚63S±0.˚03×71.˚33W±0.˚09, h42km±7km,

AC06					IAML			03 26 54.2	
	comp=E,2µm,0.3s								
VA06	**Catapilco**	**2.88**	**178**			**Pn**		**03 26 22.6**	**+2.1**
VA06	**Catapilco**	**2.88**	**178**	*eP*		**Pn**		**03 26 22.6**	**+2.1**
VCA	**Vinchina**	**2.97**	**72**	*eP*		Pn		03 26 08.7	-13
VCA				*eS*		Sn		03 27 11.3	+15
VCA					IAML			03 27 12.8	
	comp=Z,894nm,0.3s								
ZON	**Zonda**	**3.02**	**129**			**Pn**		**03 26 24.4**	**+1.9**
ZON	**Zonda**	**3.02**	**129**	*eP*		**Pn**		**03 26 24.4**	**+1.9**
ZON				*eS*		**Sn**		**03 27 04.7**	**+7.2**
RTLL	**Cerro Villicun**	**3.04**	**124**	*eP*		**Pn**		**03 26 24.7**	**+1.9**
RTLL				*eS*		**Sn**		**03 27 00.7**	**+2.8**
RTLL				*eS*				03 27 08.7	
VA03	**San Esteban**	**3.17**	**166**			**Pn**		**03 26 27.2**	**+2.6**
VA03	**San Esteban**	**3.17**	**166**	*eP*		**Pn**		**03 26 26.9**	**+2.3**
VA03					IAML			03 27 15.0	
	comp=E,2µm,0.3s								
ROCH	**El Roble**	**3.31**	**174**	*eP*		**Pn**		**03 26 28.6**	**+2.0**
ROC1	**El Roble**	**3.31**	**174**			**Pn**		**03 26 28.9**	**+2.2**
CFA	**Coronel Fontan**	**3.36**	**126**	LR		LR		03 27 56.9	
	comp=E,206nm,21.4s,baz=13,slow=47								
AC02	**Maricunga**	**3.48**	**36**	Pn		**Pn**		**03 26 30.9**	**+1.6**
AC02	**Maricunga**	**3.48**	**36**	*eP*		**Pn**		**03 26 30.8**	**+1.5**
AC02					IAML			03 27 29.6	
	comp=E,852nm,0.6s								
AC02	**Maricunga**	**3.48**	**36**	*eP*		**Pn**		**03 26 30.8**	**+1.5**
AC02				*eS*		**Sn**		**03 27 10.7**	**+1.2**
AC02					IAML			03 27 26.4	
	comp=Z,486nm,0.9s								
PEL	**Peldehue**	**3.52**	**170**	*eP*		**Pn**		**03 26 31.6**	**+2.3**
PEL					IAML			03 27 24.9	
	comp=E,817nm,0.4s								
PEL	**Peldehue**	**3.52**	**170**	*eP*		**Pn**		**03 26 32.0**	**+2.7**
PEL				*eS*		**Sn**		**03 27 15.2**	**+5.5**
MT02	**Curacav**	**3.58**	**176**			**Pn**		**03 26 32.1**	**+1.9**
MT02	**Curacav**	**3.58**	**176**	*eP*		**Pn**		**03 26 32.1**	**+1.9**
AC01	**Pan de Azucar**	**3.59**	**12**	Pn		**Pn**		**03 26 30.0**	**-0.3**
AC01	**Pan de Azucar**	**3.59**	**12**	*eP*		**Pn**		**03 26 29.7**	**-0.7**
AC01	**Pan de Azucar**	**3.59**	**12**	*eP*		**Pn**		**03 26 30.1**	**-0.3**
AC01				*eS*		**Sn**		**03 27 18.2**	**+6.7**
AC01					IAML			03 27 25.9	
	comp=Z,405nm,0.5s								
MT05	**Renca**	**3.75**	**171**	Pn		**Pn**		**03 26 35.0**	**+2.5**
MT05	**Renca**	**3.75**	**171**	*eP*		**Pn**		**03 26 35.1**	**+2.5**
MT05	**Renca**	**3.75**	**171**	*eP*		**Pn**		**03 26 35.4**	**+2.8**
MT05				*eS*		Sn		03 27 33.9	+18
MT05					IAML			03 27 39.8	
	comp=Z,648nm,0.9s								
FCH	**Farellones**	**3.77**	**165**	*eP*		**Pn**		**03 26 36.0**	**+2.9**
MT03	**Universidad Ad**	**3.89**	**169**			**Pn**		**03 26 37.4**	**+2.9**
MT03	**Universidad Ad**	**3.89**	**169**	*eP*		**Pn**		**03 26 37.9**	**+3.4**
MT03				*eS*		**Sn**		**03 27 21.7**	**+2.8**
MT03					IAML			03 27 41.9	
	comp=Z,864nm,0.5s								
VA05	**Santo Domingo**	**3.97**	**182**			**Pn**		**03 26 37.0**	**+1.4**
MT09	**Talagante**	**4.11**	**175**			**Pn**		**03 26 39.2**	**+1.7**
MT09	**Talagante**	**4.11**	**175**	*eP*		**Pn**		**03 26 39.6**	**+2.1**
MT01	**Popeta**	**4.18**	**178**			**Pn**		**03 26 39.9**	**+1.5**
MT01	**Popeta**	**4.18**	**178**	*eP*		**Pn**		**03 26 40.0**	**+1.6**
BO01	**Tunca**	**4.71**	**177**	Pn		**Pn**		**03 26 47.4**	**+1.7**
BO01	**Tunca**	**4.71**	**177**	*eP*		Pn		03 26 35.0	-11
BO01				*eS*		Sn		03 27 48.2	+9.1
BO01					IAML			03 27 57.6	
	comp=Z,263nm,0.5s								
CYA	**Choya**	**5.08**	**77**	*eP*		**Pn**		**03 26 52.2**	**+1.4**
CYA				*eS*		**Sn**		**03 27 53.4**	**+5.2**
CYA					IAML			03 27 58.9	
	comp=Z,232nm,0.9s								
PB14	**IPOC Station P**	**5.11**	**11**	*eP*		**Pn**		**03 26 52.0**	**+0.5**
PB14				*eS*		Sn		03 28 04.7	+15
PB14					IAML			03 28 19.5	
	comp=Z,319nm,0.6s								
BO02	**Sierra Bellavi**	**5.13**	**174**	*eP*		**Pn**		**03 26 54.2**	**+2.7**
BO02				*eS*		**Sn**		**03 27 43.2**	**-6.3**
BO02					IAML			03 28 15.5	
	comp=Z,301nm,0.4s								
PB10	**IPOC Station P**	**6.19**	**7**	Pn		**Pn**		**03 27 05.7**	**-0.3**
PB06	**IPOC Station P**	**7.14**	**14**			**Pn**		**03 27 17.8**	**-1.4**
LVC	**Limon Verde**	**7.39**	**18**	Pn		**Pn**		**03 27 21.4**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=185,slow=4.9,SNR=18								
LVC					Sn	**Sn**		**03 28 45.5**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=51,slow=15,SNR=1.8								
LVC					LR	LR		03 30 34.8	
	comp=Z,66nm,20.0s,baz=224,slow=41								
	comp=Z,4.3nm,0.3s								
LVC	**Limon Verde**	**7.39**	**18**	Pn		**Pn**		**03 27 21.8**	**-1.1**
H03N1	**Juan Fernandez**	**7.41**	**238**	Pn		**Pn**		**03 27 24.1**	**+1.7**
	baz=110,slow=18								
H03N1					T	T		03 35 17.8	
	baz=64,slow=72								
H03N2	**Juan Fernandez**	**7.42**	**238**	Pn		**Pn**		**03 27 25.3**	**+2.7**
	baz=110,slow=18								
H03N2					T	T		03 35 11.9	
	baz=64,slow=72								
H03N3	**Juan Fernandez**	**7.42**	**238**	Pn		**Pn**		**03 27 26.2**	**+3.6**
	baz=110,slow=18								
H03N3					T	T		03 35 06.1	
	baz=64,slow=72								
VA04	**Juan Fernndez**	**7.44**	**236**	Pn		**Pn**		**03 27 24.0**	**+0.9**
H03S3	**Juan Fernandez**	**7.59**	**235**	Pn		**Pn**		**03 27 24.5**	**-0.5**
H03S3					Sn	**Sn**		**03 28 45.9**	**-3.7**
H03S1	**Juan Fernandez**	**7.60**	**235**	Pn		**Pn**		**03 27 24.2**	**-0.8**
H03S1					Sn	**Sn**		**03 28 45.7**	**-4.1**
H03S2	**Juan Fernandez**	**7.61**	**235**	Pn		**Pn**		**03 27 24.4**	**-0.8**
H03S2					Sn	**Sn**		**03 28 45.9**	**-4.1**
PLCA	**Paso Flores**	**11.06**	**177**	Pn		**Pn**		**03 28 13.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=274,slow=9.7,SNR=1.7								
PB12	**IPOC Station P**	**11.06**	**5**	Pn		**Pn**		**03 28 14.1**	**+1.3**
TRQA	**Tornquist**	**11.46**	**139**	Pn		**Pn**		**03 28 17.5**	**-0.7**
ITQB	**Itaqui**	**12.88**	**94**	Pn		**Pn**		**03 28 35.1**	**-2.4**
ITQB	**Itaqui**	**12.88**	**94**	*eP*		**Pn**		**03 28 33.9**	**-3.7**
CPUP	**Villa Florida**	**12.90**	**78**	Pn		**Pn**		**03 28 36.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=258,slow=9.5,SNR=6.0								
CPUP					Sn	**Sn**		**03 30 59.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=321,slow=6.5,SNR=4.3								
CPUP					Lg	Lg		03 32 10.1	
	comp=Z,0.3nm,0.3s,baz=144,slow=20,SNR=2.1								
CPUP					LR	LR		03 34 04.7	
	comp=Z,94nm,19.6s,baz=233,slow=40								
CPUP	**Villa Florida**	**12.90**	**78**			**Pn**		**03 28 38.0**	**+0.2**
LPAZ	**La Paz**	**13.67**	**14**	Pn		**Pn**		**03 28 51.1**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=189,slow=7.5,SNR=25								
LPAZ					LR	LR		03 34 34.8	
	comp=Z,66nm,19.3s,baz=176,slow=40								
LPAZ	**La Paz**	**13.67**	**14**			**Pn**		**03 28 49.2**	**+0.3**
LPAZ	**La Paz**	**13.67**	**14**	*eP*		**Pn**		**03 28 48.6**	**-0.3**
ALGR	**Alto Alegre (B**	**16.09**	**91**	*eP*		**Pn**		**03 29 18.8**	**-1.6**
SIV	**San Ignacio**	**16.62**	**37**	Pn		**Pn**		**03 29 23.3**	**-3.7**
	baz=174,slow=6.7,SNR=5.0								
SIV					LR	LR		03 37 01.2	
	comp=Z,133nm,18.3s,baz=298,slow=42								
	comp=Z,1.1nm,0.6s								
FRBT	**Francisco Belt**	**16.66**	**82**	*eP*		**Pn**		**03 29 27.8**	**+0.2**
CNLB	**Canela**	**17.92**	**94**	*eP*		**Pn**		**03 29 38.5**	**-4.7**
PTLB	**Pontes e Lacer**	**18.13**	**41**			**Pn**		**03 29 44.5**	**-1.1**
PTLB					IAmb	IAmb		03 30 03.4	
	comp=Z,11nm,1.0s								
TRCB	**Terra Rica**	**18.19**	**72**	P		**P**		**03 29 47.2**	**+0.9**
TRCB					IAmb	IAmb		03 30 04.2	
	comp=Z,30nm,1.4s								
TRCB	**Terra Rica**	**18.19**	**72**	*eP*		**Pn**		**03 29 46.3**	**-0.1**
NNA	**Nana**	**18.31**	**343**	LR		LR		03 35 41.8	
	comp=Z,36nm,19.5s,baz=166,slow=33								
VILB	**Vilhena**	**19.63**	**34**	P		**P**		**03 30 01.6**	**-0.5**
VILB					IAmb	IAmb		03 30 20.8	
	comp=Z,11nm,0.9s								
PCMB	**Pacaembu**	**19.86**	**71**	*eP*		**P**		**03 30 04.2**	**-0.3**
ETMB	**Extrema**	**20.35**	**15**	P		**P**		**03 30 10.9**	**+1.0**
ETMB					IAmb	IAmb		03 30 15.6	
	comp=Z,15nm,0.7s								
ETMB	**Extrema**	**20.35**	**15**	*eP*		**P**		**03 30 09.4**	**-0.4**
FRTB	**Fartura**	**20.55**	**77**	*eP*		**P**		**03 30 11.0**	**-1.0**
CZSB	**Cruzeiro do Su**	**21.86**	**357**	P		**P**		**03 30 27.6**	**+1.5**
CZSB					IAmb	IAmb		03 30 31.3	
	comp=Z,26nm,0.9s								
CZSB	**Cruzeiro do Su**	**21.86**	**357**	*eP*		**P**		**03 30 22.0**	**-4.2**
CLDB	**Colider**	**23.72**	**41**	*eP*		**P**		**03 30 45.1**	**-0.1**
TBTG	**Tabatinga, AM**	**25.39**	**4**	*eP*		**P**		**03 30 55.7**	**-4.7**
BDFB	**Brasilia**	**25.66**	**62**	P		**P**		**03 31 01.8**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=234,slow=9.6,SNR=7.7								
	comp=Z,2.6nm,0.6s								
BDFB	**Brasilia**	**25.66**	**62**	P		**P**		**03 31 02.2**	**-0.8**
BDFB					IAmb	IAmb		03 31 20.7	
	comp=Z,17nm,1.4s								
SNDB	**Serra Nova Dou**	**25.70**	**51**	*eP*		**P**		**03 31 01.8**	**-1.5**
JANB	**Januaria**	**28.90**	**66**	*eP*		**P**		**03 31 30.0**	**-2.0**
ITTB	**Itaituba**	**29.23**	**34**	*eP*		**P**		**03 31 33.1**	**-1.8**
BOAV	**Boa Vista**	**33.55**	**20**	*eP*		**P**		**03 32 10.4**	**-2.5**
RUSC	**La Rusia**	**35.40**	**357**	P		**P**		**03 32 29.2**	**-0.2**
PMSA	**Palmer Station**	**35.42**	**175**	LR		LR		03 45 18.2	
	comp=Z,149nm,18.6s,baz=119,slow=34								
RCBR	**Riachuelo**	**41.03**	**62**	LR		LR		03 49 32.5	
	comp=Z,72nm,20.6s,baz=328,slow=35								
SNAA	**Sanae**	**55.41**	**159**	LR		LR		03 57 46.1	
	comp=Z,86nm,21.0s,baz=132,slow=35								
TXAR	**Lajitas Array**	**66.25**	**329**	P		**P**		**03 36 23.1**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=148,slow=7.9,SNR=6.4								
TXAR					LR	LR		04 00 01.6	
	comp=Z,47nm,18.6s,baz=26,slow=31								
	comp=Z,0.5nm,0.8s								
DBIC	**Dimbokro**	**73.33**	**72**	P		**P**		**03 37 04.1**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=241,slow=6.9,SNR=5.8								
	comp=Z,3.2nm,0.7s								
PDAR	**Pinedale Array**	**80.16**	**333**	P		**P**		**03 37 43.9**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=133,slow=6.3,SNR=3.6								
	comp=Z,0.3nm,0.6s								
NVAR	**Mina Array Bea**	**80.66**	**324**	P		**P**		**03 37 48.0**	**+2.6**
	comp=Z,0.1nm,0.5s,baz=146,slow=6.6,SNR=1.5								
	comp=Z,0.1nm,0.5s								
BOSA	**Boshof**	**81.63**	**118**	P		**P**		**03 37 50.6**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=162,slow=2.6,SNR=4.2								
	comp=Z,3.3nm,0.9s								
TORD	**Torodi Ar. Bea**	**82.26**	**70**	P		**P**		**03 37 53.7**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=258,slow=5.1,SNR=13								
	comp=Z,2.3nm,0.8s								
ULM	**Lac du Bonnet**	**82.48**	**344**	P		**P**		**03 37 55.8**	**+1.3**
	comp=Z,3.6nm,0.9s,baz=69,slow=6.6,SNR=3.5								
	comp=Z,3.6nm,0.9s								
WRA	**Warramunga Arr**	**124.77**	**210**	PKP		**PKPdf**		**03 44 32.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=155,slow=1.8,SNR=1.7								
H11S2	**WAKE ISLAND Hy**	**126.25**	**272**	T		T		06 03 51.1	
	baz=115,slow=75,SNR=5.6								
H11S1	**WAKE ISLAND Hy**	**126.26**	**272**	T		T		06 03 42.4	
	baz=115,slow=75,SNR=7.6								
H11S3	**WAKE ISLAND Hy**	**126.26**	**272**	T		T		06 03 46.6	
	baz=115,slow=75,SNR=7.5								
H11N3	**WAKE ISLAND Hy**	**126.55**	**273**	T		T		06 04 16.4	
H11N1	**WAKE ISLAND Hy**	**126.56**	**273**	T		T		06 04 14.2	
	baz=277								
H11N2	**WAKE ISLAND Hy**	**126.57**	**273**	T		T		06 04 17.4	
	baz=117								
ZALV	**Zalesovo Beam**	**150.25**	**29**	PKPbc		**PKPbc**		**03 45 23.8**	**+0.9**
	comp=Z,7.2nm,0.7s,baz=301,slow=3.4,SNR=28								
KSH	**Kashi**	**151.56**	**61**	PKPbc		**PKPbc**		**03 45 27.2**	**+0.6**
MKAR	**Makanchi Array**	**153.39**	**43**	PKPbc		**PKPbc**		**03 45 30.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=270,slow=1.3,SNR=5.1								
MKAR					PKPab	**sPKPdf**		**03 45 42.9**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=264,slow=1.2,SNR=5.8								
SONM	**Songino Array**	**161.79**	**5**	PKPab		**PKPab**		**03 46 19.8**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=343,slow=4.5,SNR=3.5								
PZH	**PanZhiHua**	**173.19**	**116**	PKP		**PKPdf**		**03 45 42.4**	**+0.4**

WEL 01 03:37:20.1±0.3, 42°S±3°×17°4E±°, h11km±3km, M3.3/39, ML3.3/18, MLv3.3/39, Error ellipse: s-maj=0.0km s-min=0.0km az=147.4, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.11**	**211**	P		Pg	03 37 23.6	+0.6
CMWZ				S		Sg	03 37 26.8	+1.7
BSWZ	**Blackbirch Sta**	**0.32**	**259**	P		Pg	03 37 26.9	+0.5
BSWZ				S		Sb	03 37 32.4	-0.6
TUWZ	**Tuamarina**	**0.34**	**310**	P		Pb	03 37 29.0	+0.8
TUWZ				S		Sb	03 37 34.7	+1.0
TCW	**Tory Channel**	**0.44**	**359**	P		Pb	03 37 29.4	-0.5
TCW				S		Sb	03 37 36.4	-0.2
WEL	**Wellington**	**0.52**	**44**	P		Pb	03 37 30.9	-0.3
PLWZ	**Palliser**	**0.73**	**84**	P		Pb	03 37 35.0	+0.1
PLWZ				S		Sn	03 37 47.2	-0.3
CAW	**Cannon Point**	**0.80**	**47**	P		Pg	03 37 35.7	+0.2
CAW				S		Sb	03 37 47.2	+0.3
NNZ	**Nelson**	**0.81**	**302**	P		Pg	03 37 35.9	+0.1
NNZ				S		Sb	03 37 47.9	+0.7
DUWZ	**D'Urville Isla**	**0.90**	**342**	P		Pb	03 37 37.5	-0.1
PAWZ	**Paruwai Farm**	**0.90**	**73**	P		Pb	03 37 37.6	0.0
KIW	**Kapiti Island**	**0.92**	**31**	P		Pg	03 37 37.8	0.0
KHZ	**Kahutara**	**0.95**	**216**	P		Pg	03 37 38.2	-0.1
KHZ				S		Sn	03 37 52.3	-0.5
MTW	**Mount Morrison**	**1.04**	**62**	P		Pg	03 37 39.6	-0.5
THZ	**Tophouse**	**1.04**	**264**	P		Pg	03 37 39.9	-0.3
OGWZ	**Otaki Gorge**	**1.07**	**39**	P		Pb	03 37 40.4	-0.2
TKNZ	**Takaka Hill**	**1.18**	**301**	P		Pb	03 37 42.4	-0.1
MRNZ	**Matariki Terra**	**1.18**	**282**	P		Pn	03 37 42.6	0.0
TMWZ	**Te Maipa**	**1.32**	**66**	P		Pn	03 37 43.1	-1.4
MRZ	**Mangatainoka R**	**1.39**	**45**	P		Pn	03 37 44.8	-0.6
GVZ	**Greta Valley S**	**1.61**	**215**	P		Pn	03 37 47.0	-1.5
DSZ	**Denniston Nort**	**1.86**	**266**	P		Pn	03 37 53.0	+1.0
LTZ	**Lake Taylor**	**1.88**	**232**	P		Pn	03 37 51.2	-1.0
AMCZ	**Amberley**	**1.95**	**218**	P		Pg	03 37 59.5	+2.0
OKCZ	**Okains Bay**	**2.26**	**203**	P		Pn	03 37 54.8	-2.6
PNHZ	**Pukenui**	**2.26**	**40**	P		Pg	03 38 02.3	-1.2
OXZ	**Oxford**	**2.36**	**224**	P		Pn	03 37 59.7	+0.9
INZ	**Inchbonnie**	**2.37**	**242**	P		Pn	03 37 58.4	-0.6
MQZ	**McQueen's Vall**	**2.38**	**210**	P		Pn	03 37 55.8	-3.2
WNVZ	**Wahianoa**	**2.53**	**24**	P		Pb	03 38 06.8	+1.2
BHHZ	**Black Hill Sta**	**2.55**	**33**	P		Pb	03 38 06.0	+0.1
VRZ	**Vera Road**	**2.55**	**8**	P		Pb	03 38 05.5	-0.3
KRHZ	**Kereru**	**2.56**	**39**	P		Pg	03 38 07.8	-1.3
NNVZ	**North Ngauruho**	**2.71**	**22**	P		Pb	03 38 08.4	-0.4
WTVZ	**West Tongariro**	**2.72**	**22**	P		Pb	03 38 09.4	+0.6
ETVZ	**East Tongariro**	**2.74**	**24**	P		Pb	03 38 09.3	+0.1
TMVZ	**Te Maari**	**2.75**	**24**	P		Pb	03 38 10.1	+0.7
WVZ	**Waitaha Valley**	**2.99**	**240**	P		Pb	03 38 12.3	-1.1
HIZ	**Hauiti**	**3.17**	**8**	P		Pb	03 38 14.6	-1.8
TMZ	**Timaru**	**3.64**	**220**	P		Pn	03 38 14.5	-1.9
ODZ	**Otahua Downs**	**4.31**	**217**	P		Pn	03 38 22.9	-2.7

*NEIC **01** 03:46:35.3±1.3, 18°0S±0°.1×172°.1W±0°.1, h38km±9km, mb4.1/6, Error ellipse: s-maj=21.0km s-min=14.1km az=169.0*

*IDC **01** 03:46:36.2±1.0, 17°.87S×172°.94W, h0km, mb4.0/8, mbtmp4.0/9, ML3.8/1, MS3.6/9, Error ellipse: s-maj=48.6km s-min=18.1km az=147.0*

ISC 01 03:46:34.8±0.7, 17°.9S±0°.1×172°.11W±0°.08, h35km, n43, σ1s53/21, mb4.0/10, MS3.4/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.36**	**119**	Pn		**Pn**	**03 47 11.5**	**+0.4**
NIUE				Sn		**Sn**	**03 47 37.2**	**-1.6**
RAR	**Rarotonga**	**12.08**	**108**	LR		LR	03 53 00.3	
	comp=Z,196nm,18.9s,baz=276,slow=30							
MARNC	**Mare, Loyalty**	**19.02**	**256**	P		**P**	**03 50 51.8**	**-2.0**
DZM	**Mont Dzumac**	**20.56**	**255**	P		**P**	**03 51 10.1**	**-0.7**
	0.3nm,0.3s,baz=110,slow=20,SNR=1.7							
DZM					LR	LR	03 57 25.3	
	comp=Z,153nm,19.8s,baz=214,slow=33							
	3.3nm,0.7s							
DZM	**Mont Dzumac**	**20.56**	**255**	*e*LR		LR	03 55 30.7	
	comp=Z,191nm,26.2s							
PPT2	**Papeete2**	**21.46**	**93**	*e*LR		LR	03 56 35.6	
	comp=Z,112nm,21.8s							
PPT	**Papeete**	**21.47**	**92**	LR		LR	03 56 46.9	
	comp=Z,84nm,21.1s,baz=288,slow=27							
TBI	**Tubuai**	**21.86**	**108**	*e*LR		LR	03 56 44.0	
	comp=Z,177nm,19.0s							
URZ	**Urewera**	**22.33**	**203**	P		**P**	**03 51 33.3**	**+3.9**
	4.8nm,0.4s,baz=25,slow=6.3,SNR=5.7							
	4.8nm,0.4s							
BKZ	**Black Stump Fm**	**23.35**	**203**	P		**P**	**03 51 40.1**	**-0.1**
BKZ					IAmb	IAmb	03 51 42.3	
	comp=Z,17nm,1.4s							
HNR	**Honiara**	**28.40**	**284**	LR		LR	04 01 58.6	
	comp=Z,1µm,21.6s,baz=41,slow=33							
CTA	**Charters Tower**	**39.35**	**260**	P		**P**	**03 54 01.1**	**0.0**
	comp=Z,2.9nm,0.6s,baz=97,slow=9.5,SNR=11							
CTA					LR	LR	04 07 48.2	
	comp=Z,56nm,20.3s,baz=81,slow=33							
	comp=Z,2.9nm,0.6s							
CTAO	**Charters Tower**	**39.35**	**260**	P		**P**	**03 53 59.6**	**-1.6**
CTAO					IAmb	IAmb	03 54 07.6	
	comp=Z,5.0nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**41.77**	**329**	T		T	04 40 17.5	
	baz=151							
H11S3	**WAKE ISLAND Hy**	**41.78**	**329**	T		T	04 40 14.7	
	baz=151							
H11S1	**WAKE ISLAND Hy**	**41.78**	**329**	T		T	04 40 13.3	
	baz=151							
WB0	**Warramunga Arr**	**50.48**	**259**	P		**P**	**03 55 28.3**	**-1.5**
WRA	**Warramunga Arr**	**50.51**	**259**	P		**P**	**03 55 29.9**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=97,slow=7.3,SNR=12							
	comp=Z,2.4nm,0.8s							
WRA	**Warramunga Arr**	**50.51**	**259**	P		**P**	**03 55 29.2**	**-0.8**
WRA				IAmb		IAmb	03 55 30.7	
	comp=Z,0.5nm,1.1s							
AS31	**Alice Springs**	**50.55**	**254**	P		**P**	**03 55 29.8**	**-0.4**
AS31				IAmb		IAmb	03 55 42.4	
	comp=Z,1.3nm,0.8s							
ASAR	**Alice Springs**	**50.55**	**254**	P		**P**	**03 55 30.6**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=86,slow=8.3,SNR=38							
	comp=Z,4.1nm,0.8s							
ASAR	**Alice Springs**	**50.55**	**254**	P		**P**	**03 55 29.6**	**-0.7**
RPN	**Rapa Nui**	**58.20**	**111**	LR		LR	04 14 31.0	
	comp=Z,25nm,21.8s,baz=216,slow=28							
LPIG	**La Paz**	**73.34**	**57**	LR		LR	04 23 57.0	
	comp=Z,37nm,18.8s,baz=0.5,slow=30							
NVAR	**Mina Array Bea**	**75.41**	**41**	P		P	03 58 24.5	+9.1
	comp=Z,0.4nm,0.7s,baz=224,slow=9.6,SNR=4.4							
	comp=Z,0.4nm,0.7s							
NVAR	**Mina Array Bea**	**75.41**	**41**	P		**P**	**03 58 15.2**	**-0.2**
TXAR	**Lajitas Array**	**81.02**	**55**	P		P	03 58 56.6	+10
	comp=Z,0.6nm,1.0s,baz=232,slow=8.9,SNR=5.0							
	comp=Z,0.6nm,1.0s							
TXAR	**Lajitas Array**	**81.02**	**55**	P		**P**	**03 58 45.9**	**-0.6**
H03S2	**Juan Fernandez**	**82.78**	**123**	T		T	05 29 58.1	
	baz=250,slow=74							
H03S1	**Juan Fernandez**	**82.79**	**123**	T		T	05 30 00.9	
	baz=250,slow=74							
H03S3	**Juan Fernandez**	**82.80**	**123**	T		T	05 29 55.5	
	baz=250							
H03N2	**Juan Fernandez**	**82.89**	**123**	T		T	05 30 05.2	
	baz=250							
H03N3	**Juan Fernandez**	**82.89**	**123**	T		T	05 30 07.3	
	baz=250							
H03N1	**Juan Fernandez**	**82.90**	**123**	T		T	05 30 03.4	
	baz=250							
PDAR	**Pinedale Array**	**83.34**	**41**	P		P	03 59 07.5	+8.9
	comp=Z,0.7nm,0.7s,baz=205,slow=3.9,SNR=9.3							
	comp=Z,0.7nm,0.7s							
ILAR	**Eielson Array**	**84.70**	**11**	P		P	03 59 11.9	+7.3
	comp=Z,0.1nm,0.6s,baz=209,slow=5.2,SNR=1.2							
	comp=Z,0.1nm,0.6s							
ATAH	**Atahualpa**	**91.34**	**98**	LR		LR	04 31 18.0	
	comp=Z,32nm,19.6s,baz=354,slow=29							
LVC	**Limon Verde**	**94.81**	**115**	LR		LR	04 33 43.9	
	comp=Z,27nm,18.5s,baz=205,slow=30							
GERES	**GERESS Array B**	**148.82**	**353**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.54**	**74**		**Pb**	**04 13 22.4**	**-0.1**
GO07	**Milladeo Hill,**	**0.54**	**74**	⇓*i*P	**Pb**	**04 13 22.2**	**-0.2**
GO07				*i* S	**Sb**	**04 13 30.6**	**+0.7**
GO07	comp=N,32μm,0.7s			IAML		04 13 34.3	
LL07	**Hotel Espejo d**	**0.78**	**57**		**Pn**	**04 13 26.6**	**+0.1**
LL07	**Hotel Espejo d**	**0.78**	**57**	⇓*i*P	**Pn**	**04 13 26.6**	**+0.1**
LL07				*i* S	**Sn**	**04 13 38.4**	**+1.1**
LL07	comp=E,21μm,0.2s			IAML		04 13 39.8	
LL06	**Loncomilla**	**1.18**	**28**		**Pn**	**04 13 32.1**	**0.0**
LL06	**Loncomilla**	**1.18**	**28**	⇑*i*P	**Pn**	**04 13 32.0**	**0.0**
LL06				*i* S	**Sn**	**04 13 48.1**	**+0.9**
LL06	comp=E,4μm,0.3s			IAML		04 13 52.0	
LL01	**San Ignacio de**	**1.69**	**59**		**Pn**	**04 13 39.4**	**+0.3**
LL01	**San Ignacio de**	**1.69**	**59**	⇑*i*P	**Pn**	**04 13 39.3**	**+0.3**
AY01	**Puyuhuapi**	**1.70**	**134**		**Pn**	**04 13 39.1**	**-0.1**
AY01	**Puyuhuapi**	**1.70**	**134**	⇑*i*P	**Pn**	**04 13 39.0**	**-0.1**
AY01				*i* S	**Sn**	**04 14 01.4**	**+1.4**
AY01	comp=E,7μm,0.3s			IAML		04 14 06.5	
LL05	**Los Muermos**	**1.97**	**20**	Pn	**Pn**	**04 13 43.1**	**+0.2**
LL05	**Los Muermos**	**1.97**	**20**	*e*P	**Pn**	**04 13 43.4**	**+0.5**
LL05	comp=E,870nm,0.6s			IAML		04 14 20.9	
LL03	**Petrohue**	**2.58**	**35**		**Pn**	**04 13 51.4**	**+0.2**
LL03	**Petrohue**	**2.58**	**35**	*e*P	**Pn**	**04 13 51.6**	**+0.3**
LL03				*i* S	**Sn**	**04 14 22.2**	**+0.6**
LL03	comp=E,941nm,0.6s			IAML		04 14 36.1	
LL04	**Puerto Octay**	**2.77**	**32**		**Pn**	**04 13 53.9**	**0.0**
LL04	**Puerto Octay**	**2.77**	**32**	*e*P	**Pn**	**04 13 53.8**	**0.0**
LL04				IAML		04 14 34.7	
COYC	**Coyhaique**	**2.83**	**145**		**Pn**	**04 13 55.4**	**+0.7**
COYC	**Coyhaique**	**2.83**	**145**	*e*P	**Pn**	**04 13 56.5**	**+1.7**
COYC				*i* S	**Sb**	**04 14 34.2**	**-1.3**
LR04	**Corral**	**3.45**	**12**	Pn	**Pn**	**04 14 05.2**	**+1.9**
LR04	**Corral**	**3.45**	**12**	*e*P	**Pn**	**04 14 05.6**	**+2.3**
PLCA	**Paso Flores**	**3.81**	**50**	Pn	**Pn**	**04 14 09.7**	**+1.5**
PLCA	comp=E,0.9nm,0.3s,baz=225,slow=11,SNR=32			Pg	**Pb**	**04 14 17.1**	**-0.8**
PLCA	comp=E,1.6nm,0.3s,baz=228,slow=18,SNR=11			Lg	Lg	04 15 09.2	
PLCA	comp=E,2.9nm,0.3s,baz=335,slow=14,SNR=4.5			LR	LR	04 15 25.2	
PLCA	comp=E,52nm,18.9s,baz=234,slow=36 comp=E,5.4nm,0.6s **Paso Flores**	**3.81**	**50**		**Pn**	**04 14 08.9**	**+0.6**
LR03	**Panguipulli**	**3.93**	**23**		**Pn**	**04 14 11.9**	**+2.0**
GO06	**Curarrehue**	**4.27**	**32**		**Pn**	**04 14 16.3**	**+1.6**
GO06	**Curarrehue**	**4.27**	**32**	*e*P	**Pn**	**04 14 15.9**	**+1.2**
BO02	**Sierra Bellavi**	**8.90**	**19**	Pn	**Pn**	**04 15 18.1**	**-0.2**
BO01	**Tunca**	**9.22**	**17**	Pn	**Pn**	**04 15 22.4**	**-0.1**
H03S1	**Juan Fernandez**	**10.05**	**338**	Pn	**Pn**	**04 15 33.7**	**+0.1**
H03S1	baz=139,slow=8.0			T	T	04 25 48.3	
H03S2	baz=161,slow=75,SNR=106 **Juan Fernandez**	**10.06**	**338**	Pn	**Pn**	**04 15 33.0**	**-0.7**
H03S2	baz=139,slow=8.0			T	T	04 25 46.2	
H03S3	baz=161,slow=75,SNR=81 **Juan Fernandez**	**10.07**	**338**	Pn	**Pn**	**04 15 33.7**	**-0.1**
H03S3	baz=139,slow=8.0			T	T	04 25 48.8	
H03N3	baz=161,slow=75,SNR=98 **Juan Fernandez**	**10.42**	**338**	Pn	**Pn**	**04 15 38.6**	**-0.1**
H03N1	baz=121,slow=25 **Juan Fernandez**	**10.43**	**339**	Pn	**Pn**	**04 15 38.1**	**-0.7**
H03N2	baz=121,slow=25 **Juan Fernandez**	**10.44**	**338**	Pn	**Pn**	**04 15 38.8**	**-0.1**
CFA	baz=121,slow=25 **Coronel Fontan**	**12.61**	**25**	LR	LR	04 21 24.7	
PLTB	comp=E,126nm,19.2s,baz=146,slow=39 **Pedras Altas**	**20.02**	**62**	P	**P**	**04 17 41.3**	**-0.7**
PLTB	comp=Z,8.3nm,1.3s			IAmb	IAmb	04 17 53.0	
CPUP	**Villa Florida**	**21.86**	**45**	P	**P**	**04 18 01.5**	**-0.3**
CPUP	comp=Z,3.2nm,0.6s,baz=223,slow=9.7,SNR=14			LR	LR	04 27 35.5	
CPUP	comp=Z,52nm,20.6s,baz=222,slow=40 comp=Z,3.2nm,0.6s **Villa Florida**	**21.86**	**45**	P	**P**	**04 18 00.3**	**-1.6**
CPUP	comp=Z,3.9nm,0.8s			IAmb	IAmb	04 18 02.9	
TXAR	**Lajitas Array**	**77.09**	**334**	P	**P**	**04 25 02.9**	**+0.9**
BOSA	comp=Z,0.6nm,0.8s,baz=152,slow=8.2,SNR=5.3 comp=Z,0.6nm,0.8s **Boshof**	**77.41**	**117**	P	**P**	**04 25 03.2**	**-0.9**
TORD	comp=Z,2.6nm,0.9s,baz=198,slow=9.9,SNR=4.7 comp=Z,2.6nm,0.9s **Torodi Ar. Bea**	**89.02**	**71**	P	**P**	**04 26 03.5**	**-0.4**
H11S2	comp=Z,1.2nm,1.0s,baz=245,slow=4.2,SNR=5.3 comp=Z,1.2nm,1.0s **WAKE ISLAND Hyl**	**123.41**	**264**	T	T	06 47 20.5	
H11S1	baz=130,slow=75,SNR=8.6 **WAKE ISLAND Hyl**	**123.42**	**264**	T	T	06 47 20.2	
H11S3	baz=130,slow=75,SNR=4.9 **WAKE ISLAND Hyl**	**123.42**	**264**	T	T	06 47 21.4	
H11N3	baz=130,slow=75,SNR=5.6 **WAKE ISLAND Hyl**	**124.04**	**266**	T	T	06 48 06.5	
H11N1	baz=130,slow=76,SNR=14 **WAKE ISLAND Hyl**	**124.05**	**266**	T	T	06 48 05.8	
H11N2	baz=130,slow=76,SNR=5.2 **WAKE ISLAND Hyl**	**124.06**	**266**	T	T	06 48 09.0	
MKAR	baz=130,slow=76,SNR=5.1 **Makanchi Array**	**163.14**	**70**	PKPab	**PKPab**	**04 34 00.4**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=256,slow=5.8,SNR=5.8						

*IDC **01** 04:15:02.8±1.4,39.91N×77.59E,h0km,mb3.4/9, mbtmp3.5/16,ML3.1/7,MS3.2/2,Error ellipse: s-maj=24.8km s-min=16.6km az=147.0*
*SOME **01** 04:15:10.1,40.52N×76.95E,h10km*
*NNC **01** 04:15:11.4±1.0,40.51N×77.16E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=7.1km s-min=5.3km az=150.0*
*KRNET **01** 04:15:12.0±0.1,40.58N×76.98E,h17km,mb4.0*
ISC 01 04:15:13.6±1.3,40.66N±0.04×77.15E±0.03,h9km±9km, n92,σ1§65/108,mb3.5/9,32C-17D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.17**	**312**	⇑*i*P	**Pg**	**04 15 33.7**	**-2.3**
NRN	baz=18			⇑*i*S	**Sg**	**04 15 49.5**	**-1.7**
KSH	baz=18 **Kashi**	**1.45**	**219**	Pg	**Pn**	**04 15 40.5**	**+0.4**
KSH				Sg	**Sg**	**04 16 03.8**	**+3.5**
KSH	comp=N,430nm,0.6s			smax	smax		
KSH	comp=E,680nm,0.8s			smax	smax		
KDJ	**Kajisay**	**1.47**	**1**	⇑*e*P	**Pn**	**04 15 41.1**	**+0.6**
KDJ	baz=6.0			⇑*e*S	**Sn**	**04 16 02.5**	**+2.5**
ULHL	baz=6.0 **Ulahol**	**1.73**	**337**	P	**Pn**	**04 15 45.6**	**+1.6**
ULHL	SNR=121 **Ulahol**	**1.73**	**337**	⇓*e*P	**Pn**	**04 15 44.8**	**+0.8**
ULHL	baz=42			⇓*e*S	**Sb**	**04 16 08.5**	**+1.0**
BOOM	baz=42 **Boomskoye usch**	**2.05**	**334**	⇑*e*P	**Pn**	**04 15 50.0**	**+1.7**
BOOM	baz=38			⇑*i*S	**Sb**	**04 16 17.7**	**+1.1**
PRZ	baz=38 **Przheval'sk**	**2.05**	**27**	⇑*e*P	**Pb**	**04 15 51.6**	**+0.5**
PRZ	baz=29			⇑*e*S	**Sg**	**04 16 20.8**	**+1.2**
ANVS	baz=29 **Anan'yevo**	**2.16**	**10**	⇑*i*P	**Pb**	**04 15 52.4**	**-0.6**
ANVS	baz=13			⇑*e*S	**Sg**	**04 16 22.4**	**-0.6**
TNSS	baz=13 **Tian-Shan**	**2.38**	**356**	Pg	**Pb**	**04 15 58.0**	**+1.1**
TNSS	comp=E,93nm,1.4s			Lg	Lg	04 16 33.5	
TNSS	comp=E,178nm,1.1s **Tian-Shan**	**2.38**	**356**	*e*Pg	**Pg**	**04 15 58.7**	**-0.6**
TNSS	comp=E,93nm,0.2s			*e*Lg	Lg	04 16 33.5	
	comp=E,177nm,0.2s						

ARLS	**Aral**	**2.45**	**300**	⇑*e*P	**Pn**	**04 15 54.3**	**+0.5**
ARLS	baz=3.0			⇑*e*S	**Sn**	**04 16 25.0**	**+1.1**
MDOK	baz=3.0 **Medeo**	**2.51**	**358**	Pg	**Pb**	**04 15 59.6**	**+0.7**
MDOK	comp=E,55nm,0.5s			⇑Pg	**Pg**	**04 15 60.0**	**-1.7**
MDOK	comp=E,96nm,0.6s			Lg	Lg	04 16 36.0	
MDOK	comp=E,189nm,0.6s			⇑Lg	Lg	04 16 36.7	
MDOK	comp=E,148nm,0.5s **Medeo**	**2.51**	**358**	*e*Pg	**Pb**	**04 15 59.6**	**+0.7**
MDOK	comp=E,55nm,0.1s			*e*Lg	Lg	04 16 36.0	
UCH	comp=E,189nm,0.6s **Uchtor**	**2.53**	**309**	P	**Pn**	**04 15 56.9**	**+1.7**
UCH	SNR=92 **Uchtor**	**2.53**	**309**	⇑*e*P	**Pn**	**04 15 56.0**	**+0.8**
UCH	baz=12			⇑*e*S	**Sn**	**04 16 27.9**	**+1.5**
MTBS	baz=12 **Maitube**	**2.53**	**348**	Pg	**Pb**	**04 15 59.8**	**+0.6**
MTBS	comp=E,38nm,0.7s			Lg	Lg	04 16 36.9	
MTBS	comp=E,230nm,0.5s **Maitube**	**2.53**	**348**	*e*Pg	**Pb**	**04 15 59.8**	**+0.6**
MTBS	comp=E,31nm,0.3s			*e*Lg	Lg	04 16 36.9	
TKM2	comp=E,255nm,0.1s **Tokmak 2**	**2.54**	**333**	P	**Pn**	**04 15 57.0**	**+1.8**
TKM2	SNR=69 **Tokmak 2**	**2.54**	**333**	⇑Pn	**Pn**	**04 15 57.5**	**+2.3**
TKM2	comp=E,14nm,0.3s			⇑Pg	**Pb**	**04 16 01.5**	**+2.0**
TKM2	comp=E,44nm,0.5s			⇓Lg	Lg	04 16 36.9	
TKM2	comp=E,79nm,0.5s **Tokmak 2**	**2.54**	**333**	⇓*e*P	**Pn**	**04 15 56.8**	**+1.6**
TKM2	baz=37			⇓*e*S	**Sn**	**04 16 29.5**	**+3.1**
KST	baz=37 **Kastek**	**2.54**	**340**	Pg	**Pb**	**04 15 59.7**	**+0.2**
KST	comp=E,32nm,0.6s			Lg	Lg	04 16 36.3	
KST	comp=E,236nm,0.6s **Kastek**	**2.54**	**340**	*e*Pg	**Pb**	**04 15 59.7**	**+0.2**
KST	comp=E,32nm,0.1s			*e*Lg	Lg	04 16 36.3	
AAA	comp=E,234nm,0.2s **Alma-Ata**	**2.56**	**356**	Pg	**Pb**	**04 16 00.9**	**+1.2**
AAA	comp=E,60nm,0.5s			Lg	Lg	04 16 38.5	
AAA	comp=E,559nm,0.5s **Alma-Ata**	**2.56**	**356**	*e*Pg	**Pb**	**04 16 00.9**	**+1.2**
AAA	comp=E,60nm,0.5s			*e*Lg	Lg	04 16 38.5	
KNDC	comp=E,559nm,0.5s **Almaty**	**2.56**	**357**	⇓Pg	**Pb**	**04 16 01.5**	**+1.7**
KNDC	comp=E,103nm,0.6s			⇑Lg	Lg	04 16 39.8	
KOTS	comp=E,1μm,0.6s **Kotyrbulak**	**2.58**	**359**	Pg	**Pb**	**04 16 01.5**	**+1.5**
KOTS	comp=E,54nm,0.0s			Lg	Lg	04 16 39.7	
KOTS	comp=E,716nm,0.9s **Kotyrbulak**	**2.58**	**359**	*e*Pg	**Pb**	**04 16 01.5**	**+1.5**
KOTS	comp=E,54nm,0.0s			*e*Lg	Lg	04 16 39.7	
KBK	comp=E,668nm,0.2s **Karagaybulak**	**2.59**	**321**	P	**Pn**	**04 15 58.8**	**+2.9**
KBK	SNR=23 **Karagaybulak**	**2.59**	**321**	⇑*e*P	**Pn**	**04 15 57.0**	**+1.2**
KBK	baz=24			⇑*e*S	**Sn**	**04 16 29.8**	**+2.3**
ZHN	baz=24 **Zhinishke**	**2.69**	**20**	Pg	**Pb**	**04 16 02.6**	**+0.7**
ZHN	comp=E,42nm,0.4s			Lg	Lg	04 16 41.0	
ZHN	comp=E,306nm,0.3s **Zhinishke**	**2.69**	**20**	*e*Pg	**Pb**	**04 16 02.6**	**+0.7**
ZHN	comp=E,45nm,0.1s			*e*Lg	Lg	04 16 41.0	
DGS	comp=E,306nm,0.3s **Degeres**	**2.78**	**339**	Pg	**Pb**	**04 16 04.5**	**+1.0**
DGS	comp=E,46nm,1.3s			Lg	Lg	04 16 44.7	
DGS	comp=E,200nm,0.6s **Degeres**	**2.78**	**339**	*e*Pg	**Pb**	**04 16 04.5**	**+1.0**
DGS	comp=E,46nm,0.2s			*e*Lg	Lg	04 16 44.7	
AAK	comp=E,198nm,0.1s **Ala-Archa**	**2.81**	**316**	P	**Pn**	**04 16 01.2**	**+2.4**
AAK	SNR=50 **Ala-Archa**	**2.81**	**316**	Pn	**Pn**	**04 16 01.1**	**+2.3**
AAK	comp=E,11nm,0.3s,baz=117,slow=8.3,SNR=69			Sn	**Sg**	**04 16 44.6**	**+0.9**
AAK	comp=E,18nm,0.3s,baz=39,slow=22,SNR=19			LR	LR	04 17 04.8	
AAK	comp=E,60nm,18.0s,baz=120,slow=34 comp=E,56nm,0.3s **Ala-Archa**	**2.81**	**316**	⇓*e*P	**Pn**	**04 15 59.8**	**+1.0**
AAK	baz=19			⇓*e*S	**Sn**	**04 16 34.7**	**+1.9**
UZB	baz=19 **Uzynbulak**	**2.85**	**29**	Pg	**Pb**	**04 16 05.4**	**+0.6**
UZB	comp=E,34nm,1.0s			Lg	Lg	04 16 46.1	
UZB	comp=E,149nm,0.8s **Uzynbulak**	**2.85**	**29**	*e*Pg	**Pb**	**04 16 05.4**	**+0.6**
UZB	comp=E,33nm,0.3s			*e*Lg	Lg	04 16 46.1	
FRU1	comp=E,148nm,0.2s **Bishkek**	**2.86**	**320**	⇑*e*P	**Pn**	**04 16 01.0**	**+1.6**
FRU1	baz=22			⇑*e*S	**Sn**	**04 16 36.6**	**+2.6**
KURS	baz=22 **Kuram**	**2.93**	**15**	Pg	**Pb**	**04 16 07.1**	**+1.1**
KURS	comp=E,34nm,1.2s			Lg	Lg	04 16 48.6	
KURS	comp=E,131nm,0.8s **Kuram**	**2.93**	**15**	*e*Pg	**Pb**	**04 16 07.1**	**+1.1**
KURS	comp=E,34nm,0.2s			*e*Lg	Lg	04 16 48.6	
CHMS	comp=E,131nm,0.1s **Chumysh**	**2.95**	**323**	P	**Pn**	**04 16 03.6**	**+3.0**
CHMS	SNR=5.5 **Chumysh**	**2.95**	**323**	⇑Pn	**Pn**	**04 16 02.4**	**+1.8**
CHMS	comp=E,54nm,0.6s			⇓Lg	Lg	04 16 46.9	
CHMS	comp=E,126nm,1.1s **Chumysh**	**2.95**	**323**	⇓*e*P	**Pn**	**04 16 01.9**	**+1.3**
CHMS	baz=26			⇓*e*S	**Sn**	**04 16 38.3**	**+2.2**
AML	baz=26 **Almayashu**	**2.99**	**301**	P	**Pn**	**04 16 02.8**	**+1.3**
AML	SNR=47 **Almayashu**	**2.99**	**301**	⇑*e*P	**Pn**	**04 16 01.9**	**+0.4**
AML	baz=3.0			⇑*e*S	**Sn**	**04 16 38.3**	**+0.7**
KPKS	baz=3.0 **Kokpek**	**3.03**	**22**	Pg	**Pb**	**04 16 08.8**	**+1.1**
KPKS	comp=E,37nm,0.4s			Lg	Lg	04 16 52.1	
KPKS	comp=E,145nm,0.5s **Kokpek**	**3.03**	**22**	*e*Pg	**Pb**	**04 16 08.8**	**+1.1**
KPKS	comp=E,43nm,0.1s			*e*Lg	Lg	04 16 52.1	
SHLS	comp=E,145nm,0.5s **Shalkode**	**3.04**	**34**	Pg	**Pg**	**04 16 11.9**	**+0.1**
SHLS	comp=E,27nm,0.6s			Lg	Lg	04 16 56.8	
SHLS	comp=E,85nm,0.8s **Shalkode**	**3.04**	**34**	*e*Pg	**Pg**	**04 16 11.9**	**+0.1**
SHLS	comp=E,25nm,0.2s			*e*Lg	Lg	04 16 56.8	
KTBS	comp=E,84nm,0.0s **Karatobe**	**3.08**	**354**	Pg	**Pb**	**04 16 08.3**	**-0.2**
KTBS	comp=E,38nm,0.8s			Lg	Lg	04 16 50.7	
KTBS	comp=E,140nm,1.0s **Karatobe**	**3.08**	**354**	*e*Pg	**Pb**	**04 16 08.3**	**-0.2**
KTBS	comp=E,45nm,0.3s			*e*Lg	Lg	04 16 50.7	
CHKK	comp=E,140nm,0.3s **Chushkaly**	**3.20**	**358**	Pg	**Pb**	**04 16 11.5**	**+1.0**
CHKK	comp=E,29nm,0.4s			Lg	Lg	04 16 56.9	
	comp=E,298nm,0.4s						

CHKK	**Chushkaly**	**3.20**	**358**	*e*Pg	**Pb**	**04 16 11.5**	**+1.0**
CHKK	comp=E,29nm,0.1s			*e*Lg	Lg	04 16 56.9	
EKS2	comp=E,292nm,0.1s **Erkin-Say**	**3.23**	**310**	P	**Pn**	**04 16 07.2**	**+2.7**
EKS2	SNR=51 **Erkin-Say**	**3.23**	**310**	⇑*e*P	**Pn**	**04 16 05.4**	**+0.9**
EKS2	baz=12			⇑*e*S	**Sn**	**04 16 44.2**	**+1.1**
KRBS	baz=12 **Karabastau**	**3.23**	**341**	Pg	**Pb**	**04 16 12.1**	**+1.0**
KRBS	comp=E,36nm,0.6s			Lg	Lg	04 16 57.8	
KRBS	comp=E,87nm,0.3s **Karabastau**	**3.23**	**341**	*e*Pg	**Pb**	**04 16 12.1**	**+1.0**
KRBS	comp=E,36nm,0.6s			*e*Lg	Lg	04 16 57.8	
USP	comp=E,87nm,0.3s **Ospenovka**	**3.27**	**324**	P	**Pn**	**04 16 08.1**	**+3.0**
USP	SNR=16 **Ospenovka**	**3.27**	**324**	⇑*e*P	**Pn**	**04 16 06.5**	**+1.4**
USP	baz=26			⇑*e*S	**Sn**	**04 16 46.1**	**+2.0**
KUU	baz=26 **Kurty**	**3.29**	**350**	Pg	**Pb**	**04 16 13.4**	**+1.3**
KUU	comp=E,13nm,0.5s			Lg	Lg	04 17 00.1	
KUU	comp=E,91nm,0.6s **Kurty**	**3.29**	**350**	*e*Pg	**Pb**	**04 16 13.4**	**+1.3**
KUU	comp=E,13nm,0.1s			*e*Lg	Lg	04 17 00.1	
OHH	comp=E,91nm,0.3s **Osh**	**3.33**	**269**	⇓*e*P	**Pn**	**04 16 05.6**	**-0.2**
OHH	baz=70			⇓*e*S	**Sn**	**04 16 44.8**	**-0.7**
MRKS	baz=70 **Merke**	**3.60**	**307**	Pg	**Pb**	**04 16 17.1**	**-0.4**
MRKS	comp=E,40nm,1.0s			Lg	Lg	04 17 05.7	
MRKS	comp=E,64nm,0.7s **Merke**	**3.60**	**307**	*e*Pg	**Pb**	**04 16 17.1**	**-0.4**
MRKS	comp=E,33nm,0.1s			*e*Lg	Lg	04 17 05.7	
DJR	comp=E,64nm,0.7s **Jarkent**	**4.16**	**27**	Pg	**Pb**	**04 16 28.0**	**+1.0**
DJR	comp=E,6.3nm,0.8s			Lg	Lg	04 17 24.6	
DJR	comp=E,38nm,0.4s **Jarkent**	**4.16**	**27**	*e*Pg	**Pb**	**04 16 28.0**	**+1.0**
DJR	comp=E,6.3nm,0.3s			*e*Lg	Lg	04 17 24.6	
TRKS	comp=E,38nm,0.1s **Terek-Say**	**4.62**	**283**	⇓*e*P	**Pn**	**04 16 23.4**	**-0.3**
TRKS	baz=83			⇓*e*S	**Sn**	**04 17 15.7**	**-1.9**
BTK	baz=83 **Batken**	**4.87**	**265**	⇓*e*P	**Pn**	**04 16 27.0**	**-0.1**
BTK	baz=66			⇓*e*S	**Sn**	**04 17 21.6**	**-2.1**
BTLS	baz=66 **Baital**	**4.94**	**334**	Pg	**Pb**	**04 16 43.2**	**+2.9**
BTLS	comp=E,9.4nm,1.3s			Lg	Lg	04 17 50.7	
BTLS	comp=E,25nm,0.4s **Baital**	**4.94**	**334**	*e*Pg	**Pb**	**04 16 43.2**	**+2.9**
BTLS	comp=E,6.9nm,0.2s			*e*Lg	Lg	04 17 50.7	
KK31	comp=E,27nm,0.5s **Karatay Array**	**5.53**	**298**	Pn	**Pn**	**04 16 35.4**	**-0.6**
KK31	comp=E,1.2nm,0.6s,baz=119,slow=12,SNR=20			⇑Pg	**Pb**	**04 16 52.7**	**+2.5**
KK31	comp=E,6.2nm,0.7s,baz=111,slow=16,SNR=21			⇑Lg	Lg	04 18 10.7	
IUG	comp=E,12nm,0.6s,baz=115,slow=29,SNR=7.2 **Iuzhnay**	**5.56**	**288**	Pg	**Pb**	**04 16 54.1**	**+3.3**
IUG	comp=E,26nm,1.1s			Lg	Lg	04 18 09.2	
IUG	comp=E,68nm,0.6s **Iuzhnay**	**5.56**	**288**	*e*Pg	**Pb**	**04 16 54.1**	**+3.3**
IUG	comp=E,19nm,0.1s			*e*Lg	Lg	04 18 09.2	
MKAR	comp=E,68nm,0.6s **Makanchi Array**	**7.18**	**30**	Pn	**Pn**	**04 16 58.1**	**-0.5**
MKAR	comp=E,0.3nm,0.3s,baz=204,slow=15,SNR=19			Sn	**Sn**	**04 18 22.8**	**+2.6**
MKAR	comp=E,0.5nm,0.3s,baz=204,slow=24,SNR=7.0			Lg	Lg	04 18 59.8	
WMQ	comp=E,0.6nm,0.3s,baz=216,slow=26,SNR=4.5 comp=E,0.6nm,0.5s **Urumqi**	**8.44**	**65**	*e*P	**Pn**	**04 17 15.4**	**-0.6**
WMQ	comp=N,19nm,0.7s			smax	smax		
WMQ	comp=E,17nm,0.9s			smax	smax		
KURBB	**Kurchatov Arra**	**10.02**	**5**	Pn	**Pn**	**04 17 37.3**	**-0.2**
KURBB	comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=2.6			Lg	Lg	04 20 34.9	
BVAR	comp=E,0.1nm,0.3s,baz=193,slow=30,SNR=5.2 comp=E,5nm,0.3s **Borovoye Array**	**13.20**	**342**	Pn	**Pn**	**04 18 20.5**	**-0.6**
BVAR	baz=155,slow=12,SNR=6.1			Lg	Lg	04 22 08.7	
ZALV	baz=142,slow=26,SNR=4.2 comp=E,1.2nm,0.5s **Zalesovo Beam**	**14.27**	**19**	Pn	**Pn**	**04 18 34.4**	**-1.2**
ZALV	comp=E,0.2nm,0.3s,baz=204,slow=17,SNR=4.8			Lg	Lg	04 22 50.0	
GEYT	comp=E,0.2nm,0.3s,baz=198,slow=23,SNR=1.4 comp=E,0.5nm,0.4s **Alibeck**	**14.99**	**266**	Pn	Pn	04 18 39.7	-5.9
AKTO	comp=E,0.1nm,0.3s,baz=96,slow=15,SNR=2.1 comp=E,0.7nm,0.6s **Aktyubinsk**	**16.55**	**313**	P	**Pn**	**04 19 05.3**	**-0.4**
SONM	comp=E,0.2nm,0.3s,baz=113,slow=9.8,SNR=7.7 comp=E,2.2nm,0.6s **Songino Array**	**22.05**	**61**	P	P	04 19 58.1	-10
BRTR	comp=E,0.2nm,0.6s,baz=162,slow=12,SNR=4.1 comp=E,0.2nm,0.6s **Keskin Array B**	**33.00**	**283**	P	P	04 21 44.3	-4.7
FINES	comp=E,0.3nm,0.8s,baz=102,slow=11,SNR=1.2 comp=E,0.3nm,0.8s **FINESS Array B**	**36.98**	**322**	P	P	04 22 18.9	-3.9
VRAC	comp=E,1.0nm,0.7s,baz=142,slow=9.6,SNR=3.6 comp=E,1.0nm,0.7s **Vranov**	**42.66**	**303**	LR	LR	04 45 23.5	
NOA	comp=E,121nm,19.0s,baz=359,slow=42 **NORSAR Array B**	**44.12**	**320**	P	**P**	**04 23 18.5**	**-3.4**
CLL	comp=E,1.6nm,1.1s,baz=52,slow=23,SNR=2.1 comp=E,1.6nm,1.1s **Collm**	**44.48**	**306**	*e*P	**P**	**04 23 27.0**	**+2.1**
GERES	**GERESS Array B**	**44.61**	**303**	P	**P**	**04 23 22.7**	**-3.4**
	comp=E,0.3nm,0.6s,baz=99,slow=8.2,SNR=3.2 comp=E,0.3nm,0.6s						
ESDC	**Sonseca Array**	**59.78**	**298**	P	P	04 25 13.4	-5.5
ILAR	comp=E,0.2nm,0.7s,baz=52,slow=8.3,SNR=2.1 comp=E,0.2nm,0.7s **Eielson Array**	**69.39**	**19**	P	P	04 26 16.8	-4.5
TORD	comp=E,0.3nm,0.9s,baz=340,slow=4.9,SNR=2.3 comp=E,0.3nm,0.9s **Torodi Ar. Bea**	**70.56**	**271**	P	P	04 26 22.7	-6.5
YKA	comp=E,0.2nm,0.3s,baz=46,slow=5.7,SNR=7.4 comp=E,0.2nm,0.3s **Yellowknife Ar**	**76.76**	**6**	P	P	04 26 59.1	-5.8
	comp=E,0.3nm,0.7s,baz=344,slow=5.4,SNR=5.1 comp=E,0.3nm,0.7s						

*JMA **01** 04:19:35.1±0.2,24.0N±0.7×12.2E±°,h5km±3km,MV2.8/9, TAIWAN REGION*
*TAP **01** 04:19:36.5,24.12N×121.72E,h8km,ML3.3,D*
ISC 01 04:19:36.7±0.8,24.09N±0.01×121.72E±0.02,h10km±5km, n110,σ1§13/181,21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.11**	**306**	⇓*i*P	**Pg**	**04 19 39.3**	**-0.2**
ETL	baz=294			S	**Sg**	**04 19 41.1**	**-0.4**
TWD	baz=294 **Chiawan**	**0.12**	**263**	P	**Pg**	**04 19 39.4**	**-0.1**
TWD	baz=259			*i* S	**Sg**	**04 19 41.5**	**0.0**
NACB	baz=259 **Ninganchiao**	**0.14**	**304**	P	**Pg**	**04 19 39.5**	**-0.4**
NACB	**Ninganchiao**	**0.14**	**304**	⇓*i*P	**Pg**	**04 19 39.6**	**-0.3**
NACB	baz=286			S	**Sg**	**04 19 41.4**	**-0.8**
HWA	baz=286 **Hwalien**	**0.16**	**223**	P	**Pg**	**04 19 41.2**	**+1.1**

	baz=229							
HWA				*e*S		**Sg**	04 19 44.3	+1.7
	baz=229							
EHP	**Heping Village**	**0.22**	**5**	*e*P		**Pg**	04 19 41.1	-0.1
	baz=6.0							
EHP				*e*S		**Sg**	04 19 44.9	+0.7
	baz=6.0							
ETM	**Tongmen**	**0.24**	**239**	⇓P		**Pg**	04 19 41.8	+0.1
	baz=233							
ETLH	**Xiulin Townshi**	**0.25**	**297**	P		**Pg**	04 19 41.6	-0.2
	baz=292							
ETLH				S		**Sg**	04 19 44.9	-0.3
	baz=292							
TEYL	**Yanliau Villag**	**0.25**	**207**	P		**Pg**	04 19 42.9	+1.0
	baz=220							
TEYL				S		**Sg**	04 19 48.7	+3.4
	baz=220							
ENA	**Nanau**	**0.33**	**3**	⇓*i*P		**Pg**	04 19 43.1	-0.3
	baz=3.0							
ENA				*i* S		**Sg**	04 19 47.6	-0.2
	baz=3.0							
EWUT	**Wuta**	**0.35**	**8**	P		**Pg**	04 19 43.5	-0.3
	baz=7.0							
EWUT				S		**Sg**	04 19 48.2	-0.2
	baz=7.0							
ESL	**Shilin**	**0.38**	**224**	⇓*i*P		**Pb**	04 19 44.4	-1.2
	baz=230							
ESL				S		**Sb**	04 19 51.1	-0.5
	baz=230							
TEGC	**Jichi Village**	**0.42**	**204**	*e*P		**Pn**	04 19 46.8	-2.0
	baz=190							
TEGC				*e*S		**Sb**	04 19 55.8	+3.2
	baz=190							
WHF	**Hehuan Shan**	**0.42**	**277**	⇓*i*P		**Pb**	04 19 44.9	-1.6
	baz=274							
WHF				S		**Sb**	04 19 51.1	-2.0
	baz=274							
NNSB	**Datong**	**0.46**	**317**	⇓*i*P		**Pb**	04 19 45.6	-1.3
	baz=314							
NNSB				S		**Sg**	04 19 51.4	-0.3
	baz=314							
NNSH	**Datong**	**0.46**	**317**	⇓*i*P		**Pb**	04 19 45.6	-1.3
	baz=314							
NNSH				S		**Sg**	04 19 51.9	+0.2
	baz=314							
NNS	**Nan Shan**	**0.47**	**317**	⇓*i*P		**Pg**	04 19 45.8	-0.1
	baz=315							
NNS				S		**Sg**	04 19 52.2	+0.1
	baz=315							
LATG	**Datong**	**0.47**	**338**	⇓*i*P		**Pg**	04 19 45.8	-0.2
	baz=335							
LATG				S		**Sg**	04 19 52.7	+0.4
	baz=335							
CHGB	**Renai**	**0.50**	**266**	⇓*i*P		**Pb**	04 19 46.7	-1.0
	baz=257							
CHGB				S		**Sb**	04 19 53.6	-1.6
	baz=257							
EGFH	**Guangfu**	**0.50**	**213**	*e*P		**Pb**	04 19 46.9	-0.7
	baz=223							
EGFH				*e*S		**Sb**	04 19 55.9	+0.9
	baz=223							
TWT	**Tachien**	**0.52**	**288**	*e*P		**Pb**	04 19 47.4	-0.7
	baz=284							
TWT				*e*S		**Sb**	04 19 55.0	-0.8
	baz=284							
TWC	**Suao**	**0.53**	**13**	P		**Pg**	04 19 46.8	-0.1
	baz=7.0							
TWC				*e*S		**Sg**	04 19 53.8	-0.1
	baz=7.0							
NDS	**Dongshan**	**0.54**	**359**	P		**Pb**	04 19 48.1	-0.1
	baz=357							
NDS				*e*S		**Sb**	04 19 55.9	-0.2
	baz=357							
TDCB	**Techi**	**0.54**	**287**	⇓*i*P		**Pb**	04 19 47.4	-0.9
	baz=285							
TDCB				S		**Sb**	04 19 55.0	-1.2
	baz=285							
NDT	**Datong Townshi**	**0.54**	**339**	⇓*i*P		**Pg**	04 19 45.2	-2.1
	baz=337							
NDT				S		**Sg**	04 19 53.1	-1.3
	baz=337							
ENTT	**Nioudou**	**0.56**	**345**	⇓*i*P		**Pg**	04 19 47.6	0.0
	baz=343							
ENTT				S		**Sg**	04 19 55.5	+0.4
	baz=343							
WUSB	**Renai**	**0.56**	**260**	⇓*i*P		**Pb**	04 19 47.9	-0.8
	baz=259							
WUSB				S		**Sb**	04 19 55.7	-1.1
	baz=259							
TWE	**Neicheng**	**0.63**	**355**	⇓*i*P		**Pg**	04 19 48.9	0.0
	baz=355							
TWE				S		**Sg**	04 19 57.0	-0.1
	baz=355							
VWDT	**VWDT**	**0.63**	**238**	⇓*i*P		**Pb**	04 19 49.2	-0.6
	baz=238							
VWDT				S		**Sb**	04 19 58.6	-0.1
	baz=238							
HGSD	**Ruisui**	**0.66**	**205**	P		**Pn**	04 19 50.7	-1.4
	baz=193							
HGSD				*e*S		**Sn**	04 20 02.5	0.0
	baz=193							
NSK	**Sanguang**	**0.67**	**330**	⇓*i*P		**Pg**	04 19 49.5	-0.1
	baz=329							
NSK				S		**Sg**	04 19 58.7	+0.3
	baz=329							
ILA	**Ilan**	**0.67**	**2**	*e*P		**Pg**	04 19 49.9	+0.2
	baz=348							
FUSB	**Fushanzhiwuyua**	**0.67**	**350**	P		**Pg**	04 19 49.8	+0.1
	baz=348							
FUSB				*e*S		**Sg**	04 19 58.9	+0.2
	baz=348							
EHY	**Hungye**	**0.69**	**212**	P		**Pb**	04 19 50.0	-0.8
	baz=226							
EHY				*e*S		**Sn**	04 20 00.5	-2.8
	baz=226							
NWLT	**Wulai**	**0.71**	**344**	*e*P		**Pb**	04 19 50.5	-0.6
	baz=342							
NWLT				*e*S		**Sg**	04 19 59.3	-0.4
	baz=342							
WHP	**Taichung City**	**0.73**	**285**	*e*P		**Pb**	04 19 51.4	-0.2
	baz=277							
WCS	**Beigang Elemen**	**0.74**	**267**	P		**Pb**	04 19 51.3	-0.4
	baz=259							
WCS				*e*S		**Sb**	04 20 00.4	-1.5
	baz=259							
SSLB	**Suanglung**	**0.77**	**247**	P		**Pn**	04 19 51.8	-1.8
SSLB	**Suanglung**	**0.77**	**247**	⇓*i*P		**Pb**	04 19 51.6	-0.6
	baz=257							
SSLB				S		**Sb**	04 20 02.0	-0.6
	baz=257							
NFF	**Wufeng Townshi**	**0.77**	**314**	P		**Pb**	04 19 51.8	-0.4
	baz=312							
NFF				*e*S		**Sb**	04 20 02.2	-0.6
	baz=312							
SMLT	**Sun Moon Lake**	**0.78**	**255**	P		**Pb**	04 19 52.0	-0.4
	baz=254							
SMLT				*e*S		**Sb**	04 20 02.1	-1.0
	baz=254							
YULB	**Yu-li**	**0.80**	**209**	P		**Pn**	04 19 52.8	-1.2
YULB	**Yu-li**	**0.80**	**209**	P		**Pb**	04 19 51.4	-1.3
	baz=223							
YULB				*e*S		**Sb**	04 20 03.2	-0.3
	baz=223							
TYC	**Yuchr**	**0.81**	**257**	⇓P		**Pb**	04 19 52.2	-0.7
	baz=257							
TYC				*e*S		**Sb**	04 20 02.9	-1.1
	baz=257							
EYUL	**Yuli**	**0.83**	**206**	*e*P		**Pn**	04 19 54.2	-0.3
	baz=225							
TWF1	**Yuli**	**0.83**	**208**	*e*P		**Pb**	04 19 52.5	-0.8
	baz=224							
LIOB	**Emei**	**0.85**	**311**	*e*P		**Pb**	04 19 53.5	0.0
	baz=308							
NSTT	**Nanjuang**	**0.85**	**309**	*e*P		**Pb**	04 19 53.3	-0.3
	baz=307							
NSTT				*e*S		**Sb**	04 20 04.2	-0.7
	baz=307							
TIPB	**Shuangxi**	**0.88**	**6**	*e*P		**Pg**	04 19 53.6	-0.1
	baz=353							
NHDH	**Xindian Distri**	**0.88**	**348**	*e*P		**Pb**	04 19 53.7	-0.4
	baz=344							
WHYT	**Xinyi Township**	**0.89**	**244**	*e*P		**Pn**	04 19 54.2	-1.1
	baz=246							
TWA	**Mucha**	**0.89**	**352**	*e*P		**Pb**	04 19 53.9	-0.4
	baz=350							
TWA				S		**Sg**	04 20 05.8	+0.3
	baz=350							
TATO	**Taipei**	**0.90**	**346**	P		**Pb**	04 19 54.3	-0.2
TWQ1	**Liyutan**	**0.90**	**286**	*e*P		**Pn**	04 19 55.1	-0.4
	baz=285							
NSY	**Sanyi**	**0.93**	**290**	*e*P		**Pn**	04 19 55.8	-0.1
	baz=289							
TWB1	**Santiao Chiao**	**0.94**	**15**	*e*P		**Pb**	04 19 55.3	+0.2
	baz=3.0							
WJS	**Zhushan**	**0.95**	**254**	P		**Pn**	04 19 56.2	+0.2
	baz=254							
WJS				*e*S		**Sn**	04 20 10.9	+1.2
	baz=254							
NMLH	**Miaoli**	**0.96**	**298**	*e*P		**Pn**	04 19 57.2	+1.0
	baz=295							
TCU	**Taichung**	**0.96**	**273**	P		**Pn**	04 19 57.0	+0.8
	baz=265							
TCU				*e*S		**Sn**	04 20 12.0	+2.1
	baz=265							
SBCB	**Hsinchu**	**0.97**	**316**	*e*P		**Pn**	04 19 56.8	+0.4
	baz=313							
WNT	**Mingjian**	**0.97**	**257**	P		**Pn**	04 19 56.7	+0.3
	baz=253							
WNT				*e*S		**Sn**	04 20 11.3	+1.0
	baz=253							
NWF	**Wu-fen Shan**	**0.97**	**3**	*e*P		**Pb**	04 19 55.6	-0.1
	baz=358							
HSN	**Hsinchu**	**0.98**	**316**	*e*P		**Pn**	04 19 57.2	+0.6
	baz=315							
NCUH	**Zhongli**	**1.00**	**331**	*e*P		**Pn**	04 19 57.0	+0.2
	baz=328							
NCUH				*e*S		**Sn**	04 20 12.4	+1.5
	baz=328							
NCU	**National Centr**	**1.00**	**331**	*e*P		**Pn**	04 19 57.4	+0.6
	baz=329							
NCU				*e*S		**Sn**	04 20 11.7	+0.8
	baz=329							
SXI1	**Grass Mountain**	**1.01**	**8**	P		**Pb**	04 19 56.3	0.0
	baz=6.0							
SXI1				*e*S		**Sn**	04 20 12.3	+1.1
	baz=6.0							
WDJ	**Dajia District**	**1.02**	**285**	*e*P		**Pn**	04 19 58.0	+0.9
	baz=284							
ALS	**Alishan**	**1.02**	**236**	*e*P		**Pn**	04 19 56.8	-0.5
	baz=237							
ALS				*e*S		**Sn**	04 20 11.6	-0.3
	baz=237							
TWS1	**Kuangyinshan**	**1.04**	**345**	*e*P		**Pn**	04 19 57.8	+0.4
	baz=342							
TWS1				*e*S		**Sn**	04 20 13.0	+1.0
	baz=342							
CHKT	**Chengkung**	**1.04**	**198**	*e*P		**Pn**	04 19 56.6	-0.7
	baz=192							
CHKT				*e*S		**Sn**	04 20 12.5	+0.5
	baz=192							
EHD	**Haiduan**	**1.05**	**207**	*e*P		**Pb**	04 19 55.6	-1.4
	baz=224							
YM01	**YM01**	**1.06**	**353**	*e*P		**Pn**	04 19 57.4	-0.3
	baz=348							
WCHH	**Zhanghua**	**1.06**	**269**	*e*P		**Pn**	04 19 58.9	+1.3
	baz=270							
CHN5	**Tsauling**	**1.08**	**243**	*e*P		**Pn**	04 19 58.3	+0.4
	baz=245							
CHN5				*e*S		**Sn**	04 20 14.4	+1.4
	baz=245							
NTST	**Danshui**	**1.09**	**347**	*e*P		**Pn**	04 19 58.5	+0.4
	baz=353							
NTST				*e*S		**Sn**	04 20 14.6	+1.3
	baz=353							
ELDTW	**Lidau**	**1.11**	**216**	P		**Pg**	04 19 56.4	-1.6
	baz=221							
WDLH	**Douliu**	**1.16**	**250**	*e*P		**Pn**	04 19 59.7	+0.7
	baz=253							
JYNG	**Yonagunijimaku**	**1.17**	**72**	P		**Pg**	04 19 59.1	-0.1
JYNG				*e*S		**Sb**	04 20 15.1	+0.8
EDH	**Donghe**	**1.18**	**199**	*e*P		**Pg**	04 19 57.5	-1.8
	baz=189							
EDH				*e*S		**Sn**	04 20 15.0	-0.4
	baz=189							
WCKO	**Fanlu**	**1.21**	**238**	*e*P		**Pn**	04 20 00.7	+1.0
	baz=241							
WCKO				*e*S		**Sn**	04 20 19.0	+2.7
	baz=241							
YOJ	**Yonaguni jima**	**1.23**	**72**	*e*P		**Pn**	04 19 60.0	0.0
YOJ				*e*S		**Sg**	04 20 17.1	+0.7
WRL	**Guolierlin Hig**	**1.25**	**261**	*e*P		**Pn**	04 20 01.2	+1.1
	baz=263							
STYH	**Taoyuan**	**1.26**	**224**	*e*P		**Pn**	04 20 00.3	-0.1
	baz=227							
STYH				*e*S		**Sn**	04 20 17.8	+0.3
	baz=227							
CHN2	**Minshiung**	**1.27**	**244**	*e*P		**Pn**	04 20 02.2	+1.7
	baz=246							
CHN2				*e*S		**Sn**	04 20 21.9	+4.3
	baz=246							
CHN4	**Tsaushan**	**1.27**	**235**	P		**Pn**	04 20 01.4	+0.9
	baz=225							
CHN4				S		**Sn**	04 20 20.3	+2.6
	baz=225							
TPUB	**Ta-pu**	**1.27**	**232**	P		**Pn**	04 20 01.4	+0.8
TPUB	**Ta-pu**	**1.27**	**232**	P		**Pn**	04 20 01.3	+0.7
	baz=235							
TPUB				*e*S		**Sn**	04 20 19.6	+1.8
	baz=235							
WTK	**Tuku**	**1.29**	**252**	*e*P		**Pg**	04 20 02.0	+0.6
	baz=255							
WTP	**Ta-pu**	**1.32**	**230**	⇓*i*P		**Pg**	04 20 02.2	+0.2
	baz=234							
WTP				S		**Sn**	04 20 21.2	+2.3
	baz=234							
CHY	**Chiayi**	**1.33**	**244**	*e*P		**Pg**	04 20 02.5	+0.3
	baz=246							
CHY				*e*S		**Sn**	04 20 22.5	+3.5
	baz=246							
TWK	**Hsinying**	**1.40**	**234**	P		**Pg**	04 20 03.6	0.0
	baz=238							
TWK				*e*S		**Sn**	04 20 23.5	+2.6
	baz=238							
TWG	**Pinlang**	**1.40**	**205**	*e*P		**Pn**	04 20 00.6	-1.8
	baz=212							
TWGBT	**Beinan**	**1.40**	**205**	P		**Pg**	04 20 03.2	-0.4
TWGBT	**Beinan**	**1.40**	**205**	*e*P		**Pn**	04 20 00.2	-2.1
	baz=212							
CHN1	**Nanshi**	**1.42**	**231**	P		**Pg**	04 20 04.1	+0.1
	baz=234							
CHN1				S		**Sg**	04 20 24.4	+2.0
	baz=234							
LDUT	**Ludao**	**1.43**	**189**	*e*P		**Pn**	04 20 00.5	-2.2
	baz=198							
WSF	**Szhu**	**1.45**	**252**	*e*P		**Pg**	04 20 04.6	+0.2
	baz=253							
WSF				*e*S		**Sg**	04 20 25.9	+2.7
	baz=253							
SGST	**Jiashian**	**1.45**	**226**	*e*P		**Pg**	04 20 03.1	-1.5
	baz=230							
SGST				*e*S		**Sg**	04 20 23.4	0.0
	baz=230							
WSL	**Shuilin Townsh**	**1.48**	**248**	*e*P		**Pg**	04 20 04.8	-0.3
	baz=250							
WSL				*e*S		**Sg**	04 20 25.5	+1.1
	baz=250							
ICHU	**Yijhu**	**1.51**	**241**	*e*P		**Pg**	04 20 05.2	-0.4
	baz=247							
ECL	**Taimali**	**1.65**	**206**	*e*P		**Pn**	04 20 05.0	-0.7
	baz=198							
SCST	**Cishan**	**1.65**	**223**	*e*P		**Pg**	04 20 07.3	-1.0
	baz=230							
TSCK	**Chigu Township**	**1.77**	**238**	*e*P		**Pb**	04 20 08.0	-1.2
	baz=244							
MASBT	**Mashibuluo**	**1.78**	**214**	*e*P		**Pn**	04 20 07.3	-0.3
	baz=214							
IRIF	**Iriomote-Funau**	**1.85**	**82**	*e*P		**Pn**	04 20 09.1	+0.6
IRIF				S		**Sn**	04 20 33.3	+1.4
JKRS	**Kuro-shima**	**2.09**	**86**	P		**Pn**	04 20 12.7	+0.9
JKRS				*e*S		**Sn**	04 20 39.3	+1.4
JIJ	**Ishigaki jima**	**2.23**	**83**	P		**Pn**	04 20 13.5	-0.1
JIJ				*e*S		**Sn**	04 20 40.7	-0.5
VWUC	**VWUC**	**2.25**	**294**	*e*P		**Pn**	04 20 13.6	-0.5
	baz=293							
JISG	**Ishigakijimahi**	**2.41**	**78**	*e*P		**Pn**	04 20 16.2	0.0
JISG				*e*S		**Sn**	04 20 45.2	-0.6
PTMZ	**Houxiangcun**	**2.55**	**292**	*e*P		**Pn**	04 20 17.7	-0.4
	baz=291							
PTMZ				*e*S		**Sn**	04 20 47.9	-1.3
	baz=291							

IDC 01 04:23:13.4±1.2, 2°34N×125°64E, h0km, mb3.6/5, mbtmp3.6/5, MS3.6/2, Error ellipse: s-maj=145.6km s-min=19.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DAV	**Davao City (W)**	**4.70**	**359**	LR		LR	04 26 04.2	
	comp=Z,135nm,18.6s,baz=21,slow=36							
WRA	**Warramunga Arr**	**23.74**	**159**	P		P	04 28 27.4	-0.2
	0.6nm,0.6s,baz=334,slow=11,SNR=8.0							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**27.08**	**163**	P		P	04 28 58.9	+1.0
	0.2nm,0.4s,baz=349,slow=7.6,SNR=5.2							
	0.2nm,0.4s							
HNR	**Honiara**	**36.13**	**109**	LR		LR	04 44 07.8	
	comp=Z,471nm,20.4s,baz=268,slow=35							
STKA	**Stephens Creek**	**37.26**	**157**	P		P	04 30 26.4	-0.6
	0.9nm,0.4s,baz=352,slow=7.1,SNR=2.9							
	0.9nm,0.4s							
SONM	**Songino Array**	**48.27**	**343**	P		P	04 31 54.4	-2.0
	0.3nm,0.5s,baz=156,slow=7.9,SNR=3.4							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**58.08**	**326**	P		P	04 33 09.3	+0.7
	0.5nm,0.5s,baz=109,slow=7.7,SNR=11							
	0.5nm,0.5s							

*IDC **01** 04:58:11.2±3.8, 8°.29S×110°.45E, h0km, mb3.3/3, mbtmp3.3/3, MS3.2/2, Error ellipse: s-maj=204.1km s-min=31.6km az=49.0*
*DJA **01** 04:58:13.7±0.4, 9°.5S±4′×11°.0E±°, h10km, M4.2/18, mb4.5/3, mB5.1/1, MLv4.0/18, Mw(mB)4.5/1*
ISC 01 04:58:16.3±1.3, **8°.94S**±0°.10×**110°.02E**±0°.07, **h50**km, **n25**, σ**1**§**10**/21, **mb3.2**/3, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
UGM	**Wanagama**	**1.13**	**26**	P		**Pn**	**04 58 35.0**	**-0.8**
UGM				S		**Sn**	**04 58 49.4**	**-0.9**
YOGI	**Yogyakarta**	**1.14**	**14**	P		**Pn**	**04 58 35.8**	**-0.2**
SMRI	**Semarang**	**1.92**	**12**	P		**Pn**	**04 58 48.9**	**+2.3**
KPJI	**Karang Pucung**	**1.93**	**326**	P		**Pn**	**04 58 47.5**	**+0.9**
CMJI	**Cimerak**	**1.93**	**306**	P		**Pn**	**04 58 45.3**	**-1.4**
PWJI	**Pagerwojo**	**1.98**	**63**	P		**Pn**	**04 58 46.6**	**-0.8**
UWJI	**Ujung Watu**	**2.66**	**20**	P		**Pn**	**04 58 57.0**	**+0.2**
TBJI	**Tambak Boyo**	**2.77**	**41**	P		**Pn**	**04 58 59.7**	**+1.4**
GRJI	**Gresik**	**3.15**	**51**	P		**Pn**	**04 59 03.7**	**+0.2**
LEM	**Lembang**	**3.17**	**311**	P		**Pn**	**04 59 04.5**	**+0.6**
CNJI	**Cibinong**	**3.29**	**299**	P		**Pn**	**04 59 04.1**	**-1.2**
GMJI	**Gumukmas**	**3.45**	**79**	P		**Pn**	**04 59 07.5**	**0.0**
BLJI	**Banyuglugur**	**3.73**	**72**	P		**Pn**	**04 59 11.9**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.11**	**84**	P		**Pn**	**04 59 16.4**	**-0.2**
SRBI	**Singaraja**	**5.20**	**81**	P		**Pn**	**04 59 32.0**	**+0.4**
	32nm,0.8s,0.2nm							
TWSI	**Taliwang, Sumb**	**6.78**	**89**	P		**Pn**	**04 59 53.6**	**+0.3**
	32nm,1.0s,1μm0.2nm							
PLAI	**Plampang**	**7.66**	**90**	P		**Pn**	**05 00 05.4**	**0.0**
WRA	**Warramunga Arr**	**25.93**	**118**	P		**P**	**05 03 44.3**	**+0.2**
	0.8nm,0.9s,baz=292,slow=11,SNR=2.4							
	0.8nm,0.9s							
ASAR	**Alice Springs**	**27.13**	**126**	P		**P**	**05 03 57.3**	**+2.3**
	0.3nm,0.7s,baz=289,slow=9.3,SNR=1.6							
	0.3nm,0.7s							
PMG	**Port Moresby**	**36.65**	**94**	LR		LR	05 24 03.8	
	comp=Z,38nm,18.2s,baz=281,slow=43							
H08S2	**Diego Garcia H**	**37.15**	**269**	T		T	05 44 38.0	
	baz=94							
H08S3	**Diego Garcia H**	**37.16**	**269**	T		T	05 44 36.1	
	baz=94							
H08S1	**Diego Carcia H**	**37.17**	**269**	T		T	05 44 39.7	
	baz=94							
GUMO	**Guam**	**41.20**	**58**	LR		LR	05 23 06.2	
	comp=Z,28nm,19.6s,baz=107,slow=37							
MKAR	**Makanchi Array**	**60.74**	**339**	P		**P**	**05 08 21.7**	**-1.2**
	0.3nm,0.6s,baz=148,slow=6.7,SNR=2.7							
	0.3nm,0.6s							

*IDC **01** 05:08:40.0±3.9, 43°.39S×75°.55W, h0km, mb3.9/2, mbtmp3.8/3, ML3.4/1, MS3.2/5, Error ellipse: s-maj=151.2km s-min=52.5km az=136.0*
*GUC **01** 05:08:48.7±0.6, 43°.65S×74°.37W, h20km±4km, ML4.0*
ISC 01 05:08:48.3±2.4, **43°.58S**±0°.04×**74°.4W**±0°.1, **h24**km±14km, **n19**, σ**1**§**35**/19, **MS3.1**/4, **2C-2D, Southern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GO07	**Milladeo Hill,**	**0.72**	**50**	⇓*i*P		**Pn**	**05 09 02.6**	**-0.3**
GO07				*i* S		**Sb**	**05 09 12.6**	**+1.0**
GO07				IAML			05 09 15.4	
	comp=N,13μm,0.5s							
LL07	**Hotel Espejo d**	**1.01**	**43**	⇑*i*P		**Pn**	**05 09 07.8**	**+0.8**
LL07				*i* S		**Sn**	**05 09 22.1**	**+1.6**
LL07				IAML			05 09 24.2	
	comp=N,17μm,0.3s							
LL06	**Loncomilla**	**1.48**	**23**	*e*P		**Pb**	**05 09 14.2**	**-1.0**
LL06				*i* S		**Sb**	**05 09 36.3**	**+2.7**
AY01	**Puyuhuapi**	**1.52**	**124**	*e*P		**Pn**	**05 09 14.1**	**+0.1**
AY01				*i* S		**Sn**	**05 09 34.2**	**+1.1**
AY01				IAML			05 09 38.4	
	comp=E,7μm,0.2s							
LL01	**San Ignacio de**	**1.90**	**51**	⇑*i*P		**Pn**	**05 09 20.1**	**+0.9**
LL01				*i* S		**Sn**	**05 09 41.3**	**-1.0**
LL05	**Los Muermos**	**2.28**	**18**	IAML			05 10 18.5	
	comp=E,714nm,0.5s							
COYC	**Coyhaique**	**2.59**	**141**	*e*P		**Pn**	**05 09 29.8**	**+1.0**
COYC				*i* S		**Sb**	**05 10 05.9**	**+0.3**
COYC				IAML			05 10 12.6	
	comp=N,525nm,0.7s							
LL03	**Petrohue**	**2.86**	**32**	⇓*i*P		**Pn**	**05 09 33.4**	**+0.9**
LL03				*i* S		**Sb**	**05 10 11.6**	**-1.6**
LL04	**Puerto Octay**	**3.06**	**30**	*e*P		**Pn**	**05 09 36.0**	**+0.8**
LL04				IAML			05 10 25.0	
	comp=E,249nm,0.6s							
PLCA	**Paso Flores**	**4.04**	**47**	Pn		**Pn**	**05 09 50.6**	**+1.9**
	comp=E,0.5nm,0.3s,baz=231,slow=12,SNR=3.5							
PLCA				Sn		**Sb**	**05 10 46.0**	**-1.3**
	comp=E,2.1nm,0.3s,baz=223,slow=12,SNR=2.8							
	comp=E,6.1nm,0.8s							
H03S1	**Juan Fernandez**	**10.34**	**339**	T		T	05 21 33.3	
	baz=161,slow=74,SNR=15							
H03S2	**Juan Fernandez**	**10.35**	**339**	T		T	05 21 30.3	
	baz=161,slow=74,SNR=14							
H03S3	**Juan Fernandez**	**10.35**	**339**	T		T	05 21 33.6	
	baz=161,slow=74,SNR=16							
CFA	**Coronel Fontan**	**12.91**	**24**	LR		LR	05 17 24.0	
	comp=E,86nm,21.6s,baz=142,slow=40							
LVC	**Limon Verde**	**21.41**	**14**	LR		LR	05 21 12.0	
	comp=E,26nm,18.7s,baz=218,slow=35							
CPUP	**Villa Florida**	**22.11**	**44**	P		**P**	**05 13 41.4**	**-0.6**
	comp=E,4.1nm,0.8s,baz=231,slow=9.0,SNR=13							
CPUP				LR		LR	05 23 24.7	
	comp=E,55nm,18.2s,baz=223,slow=39							
	comp=E,4.1nm,0.8s							
SIV	**San Ignacio**	**

	comp=E,5µm,0.2s								
PB11	**IPOC Station P**	**0.46**	**260**	*e*P		**Pn**	**05 20 06.0**	**-3.8**
PB11				*e*S		**Sn**	**05 20 23.7**	**+2.2**
PB08	**IPOC Station P**	**0.46**	**177**			**Pn**	**05 20 11.7**	**+1.6**
PB08	**IPOC Station P**	**0.46**	**177**⇑	*i*P		**Pn**	**05 20 11.9**	**+1.8**
PB08				*i* S		**Sn**	**05 20 24.0**	**+2.0**
PB08				IAML			05 20 25.5	
	comp=N,5µm,0.1s								
MNMC	**Minye Minye**	**0.67**	**324**			**Pn**	**05 20 13.3**	**+1.8**
MNMC	**Minye Minye**	**0.67**	**324**⇑	*i*P		**Pn**	**05 20 13.4**	**+1.8**
MNMC				*i* S		**Sn**	**05 20 27.2**	**+2.5**
MNMCX	**Minye Minye**	**0.67**	**324**	*e*P		**Pn**	**05 20 07.7**	**-3.9**
MNMCX				*e*S		**Sn**	**05 20 27.2**	**+2.6**
MNMCX				IAML			05 20 28.5	
	comp=Z,6µm,0.2s								
PSGC	**Pisagua**	**0.90**	**275**⇓	*i*P		**Pn**	**05 20 14.6**	**+1.1**
PSGC				*i* S		**Sn**	**05 20 29.3**	**+1.2**
PSGC				IAML			05 20 30.3	
	comp=N,6µm,0.3s								
PSGCX	**Pisagua**	**0.90**	**275**	Pn		**Pn**	**05 20 14.6**	**+1.1**
PSGCX	**Pisagua**	**0.90**	**275**	*e*P		**Pn**	**05 20 11.0**	**-2.5**
PSGCX				*e*S		**Sn**	**05 20 30.0**	**+1.9**
TA02	**Huaiquique**	**1.07**	**237**			**Pn**	**05 20 16.4**	**+1.2**
TA02	**Huaiquique**	**1.07**	**237**	*e*P		**Pn**	**05 20 16.0**	**+0.7**
TA02				*e*S		**Sn**	**05 20 33.0**	**+1.7**
TA02				IAML			05 20 34.0	
	comp=Z,2µm,0.1s								
TA01	**Diego Aracena**	**1.29**	**227**	Pn		**Pn**	**05 20 18.7**	**+0.9**
TA01	**Diego Aracena**	**1.29**	**227**⇓	*i*P		**Pn**	**05 20 18.7**	**+0.9**
TA01				*i* S		**Sn**	**05 20 36.6**	**+0.8**
TA01				IAML			05 20 40.8	
	comp=E,1µm,0.3s								
TA01	**Diego Aracena**	**1.29**	**227**	*e*P		**Pn**	**05 20 18.8**	**+0.9**
TA01				*e*S		**Sn**	**05 20 37.2**	**+1.5**
PB16	**IPOC Station P**	**1.37**	**347**			**Pn**	**05 20 21.6**	**+2.2**
PB16	**IPOC Station P**	**1.37**	**347**⇑	*i*P		**Pn**	**05 20 21.6**	**+2.2**
PB16				*i* S		**Sn**	**05 20 41.2**	**+2.8**
PB16				IAML			05 20 43.1	
	comp=N,2µm,0.7s								
PB01	**IPOC Station P**	**1.39**	**192**			**Pn**	**05 20 20.6**	**+1.5**
PB01	**IPOC Station P**	**1.39**	**192**⇑	*i*P		**Pn**	**05 20 20.6**	**+1.5**
PB01				*i* S		**Sn**	**05 20 39.7**	**+1.7**
PB01				IAML			05 20 41.5	
	comp=E,8µm,0.2s								
PB01	**IPOC Station P**	**1.39**	**192**	*e*P		**Pn**	**05 20 20.0**	**+0.9**
PB01				*e*S		**Sn**	**05 20 40.2**	**+2.2**
PB01				IAML			05 20 40.9	
	comp=Z,3µm,0.5s								
PB12	**IPOC Station P**	**1.52**	**314**			**Pn**	**05 20 21.6**	**+0.9**
PB12	**IPOC Station P**	**1.52**	**314**⇑	*i*P		**Pn**	**05 20 21.5**	**+0.9**
PB12				*i* S		**Sn**	**05 20 42.0**	**+1.2**
PB12				IAML			05 20 47.1	
	comp=E,2µm,0.3s								
PB12	**IPOC Station P**	**1.52**	**314**	*e*P		**Pn**	**05 20 21.4**	**+0.8**
PB12				*e*S		**Sn**	**05 20 44.9**	**+4.1**
AP01	**Chacalluta**	**1.71**	**320**			**Pn**	**05 20 24.0**	**+1.1**
AP01	**Chacalluta**	**1.71**	**320**	*e*P		**Pn**	**05 20 24.0**	**+1.1**
AP01				*i* S		**Sn**	**05 20 46.4**	**+1.6**
AP01				IAML			05 20 51.6	
	comp=E,3µm,0.6s								
AP01	**Chacalluta**	**1.71**	**320**	*e*P		**Pn**	**05 20 24.0**	**+1.1**
AP01				*e*S		**Sn**	**05 20 40.2**	**-4.6**
AP01				*e*S		**Sn**	**05 20 45.7**	**+0.9**
AP01				IAML			05 20 51.3	
	comp=Z,2µm,0.2s								
PB02	**IPOC Station P**	**1.77**	**202**	*e*P		**Pn**	**05 20 25.0**	**+1.2**
PB02				*i* S		**Sn**	**05 20 47.5**	**+1.1**
PB02				IAML			05 20 55.5	
	comp=E,6µm,0.2s								
PB18	**Visviri**	**2.10**	**352**	Pn		**Pn**	**05 20 32.1**	**+3.6**
PB18	**Visviri**	**2.10**	**352**⇑	*i*P		**Pn**	**05 20 32.0**	**+3.6**
PB09	**IPOC Station P**	**2.11**	**182**			**Pn**	**05 20 30.2**	**+2.0**
PB09	**IPOC Station P**	**2.11**	**182**⇑	*i*P		**Pn**	**05 20 30.3**	**+2.0**
PB09				*i* S		**Sn**	**05 20 56.8**	**+2.5**
PB09				IAML			05 21 01.9	
	comp=N,1µm,0.6s								
PB09	**IPOC Station P**	**2.11**	**182**	*e*P		**Pn**	**05 20 30.0**	**+1.8**
PB09				*e*S		**Sn**	**05 20 52.2**	**-2.1**
PB09				IAML			05 21 01.1	
	comp=Z,2µm,0.6s								
PB07	**IPOC Station P**	**2.14**	**198**			**Pn**	**05 20 29.6**	**+1.0**
PB07	**IPOC Station P**	**2.14**	**198**	*e*P		**Pn**	**05 20 30.0**	**+1.3**
PB07				*i* S		**Sn**	**05 20 56.2**	**+1.1**
PB07				IAML			05 21 05.1	
	comp=E,2µm,0.3s								
PB07	**IPOC Station P**	**2.14**	**198**	*e*P		**Pn**	**05 20 30.0**	**+1.3**
PB07				*e*S		**Sn**	**05 20 58.0**	**+2.9**
PB07				IAML			05 21 04.2	
	comp=Z,1µm,0.4s								
PB03	**IPOC Station P**	**2.42**	**193**			**Pn**	**05 20 33.1**	**+0.9**
PB03	**IPOC Station P**	**2.42**	**193**	*e*P		**Pn**	**05 20 33.9**	**+1.6**
PB03				IAML			05 21 09.4	
	comp=E,1µm,0.3s								
PB03	**IPOC Station P**	**2.42**	**193**	*e*P		**Pn**	**05 20 33.0**	**+0.7**
PB03				*e*S		**Sn**	**05 21 03.5**	**+1.9**
PB03				IAML			05 21 10.8	
	comp=Z,772nm,0.4s								
PB04	**IPOC Station P**	**2.79**	**199**			**Pn**	**05 20 38.9**	**+1.6**
PB04	**IPOC Station P**	**2.79**	**199**	*e*P		**Pn**	**05 20 39.4**	**+2.1**
PB04				*i* S		**Sn**	**05 21 11.4**	**+0.9**
LVC	**Limon Verde**	**2.93**	**175**	P		**Pn**	**05 20 42.2**	**+3.0**
	comp=Z,178nm,0.5s,baz=358,slow=11,SNR=277								
LVC				S		**Sn**	**05 21 16.1**	**+2.2**
	comp=Z,130nm,0.4s,baz=131,slow=19,SNR=13								
LVC	**Limon Verde**	**2.93**	**175**	Pn		**Pn**	**05 20 41.3**	**+2.0**
LVC	**Limon Verde**	**2.93**	**175**	*e*P		**Pn**	**05 20 41.2**	**+2.0**
LVC				*i* S		**Sn**	**05 21 15.9**	**+2.0**
LVC	**Limon Verde**	**2.93**	**175**	*e*P		**Pn**	**05 20 41.2**	**+2.0**
PB06	**IPOC Station P**	**3.04**	**187**			**Pn**	**05 20 41.8**	**+1.4**
PB06	**IPOC Station P**	**3.04**	**187**	*e*P		**Pn**	**05 20 42.1**	**+1.7**
PB06				*e*S		Sn	05 21 06.2	-10
PB06				IAML			05 21 25.4	
	comp=Z,694nm,0.5s								
LPAZ	**La Paz**	**3.52**	**17**	P		**Pn**	**05 20 50.8**	**+3.5**
	comp=Z,33nm,0.6s,baz=187,slow=8.1,SNR=22								
LPAZ				S		**Sn**	**05 21 30.5**	**+2.1**
	comp=Z,15nm,0.7s,baz=173,slow=10,SNR=3.7								
LPAZ	**La Paz**	**3.52**	**17**	Pn		**Pn**	**05 20 47.6**	**+0.2**
PB15	**IPOC Station P**	**3.52**	**184**			**Pn**	**05 20 47.6**	**+0.6**
PB15	**IPOC Station P**	**3.52**	**184**	*e*P		**Pn**	**05 20 48.8**	**+1.7**
PB15				*i* S		**Sn**	**05 21 30.0**	**+2.0**
PB15	**IPOC Station P**	**3.52**	**184**	*e*P		**Pn**	**05 20 49.4**	**+2.4**
PB15				*e*S		**Sn**	**05 21 31.5**	**+3.5**
PB15				IAML			05 21 45.5	
	comp=Z,936nm,0.2s								
PB10	**IPOC Station P**	**4.03**	**198**	Pn		**Pn**	**05 20 53.5**	**-0.1**
PB10	**IPOC Station P**	**4.03**	**198**	*e*P		**Pn**	**05 20 53.5**	**-0.1**
PB10				*e*S		**Sn**	**05 21 43.2**	**+3.4**
PB10				IAML			05 21 56.8	
	comp=Z,159nm,0.4s								
HJA	**Humahuaca**	**4.96**	**136**	*e*P		**Pn**	**05 21 10.0**	**+3.3**
HJA				*e*S		Sn	05 22 15.4	+12
PB14	**IPOC Station P**	**5.05**	**193**	*e*P		Pn	05 21 16.4	+8.6
AC01	**Pan de Azucar**	**6.57**	**191**	Pn		**Pn**	**05 21 26.1**	**-2.0**
AC02	**Maricunga**	**7.12**	**180**	Pn		**Pn**	**05 21 35.9**	**-0.2**
BBSD	**Serra de San D**	**8.50**	**74**	*e*P		**Pn**	**05 21 53.4**	**-1.0**
SIV	**San Ignacio**	**8.54**	**66**	P		**Pn**	**05 21 53.5**	**-1.5**
	comp=Z,4.2nm,0.4s,baz=252,slow=11,SNR=47								
SIV				S		**Sn**	**05 23 24.8**	**-5.0**
	comp=Z,1.5nm,0.5s,baz=312,slow=23,SNR=4.3								
AC05	**El Transito**	**9.17**	**186**	Pn		**Pn**	**05 22 01.5**	**-2.1**
LCO	**Las Campanas**	**9.39**	**188**	Pn		**Pn**	**05 22 04.0**	**-2.8**
VBST	**Vila Bela da S**	**10.14**	**61**	*e*P		**Pn**	**05 22 15.4**	**-1.4**
ETMB	**Extrema**	**10.21**	**17**	Pn		**Pn**	**05 22 17.5**	**-0.3**
ETMB	**Extrema**	**10.21**	**17**	*e*P		**Pn**	**05 22 18.0**	**+0.2**
PTLB	**Pontes e Lacer**	**10.46**	**68**	Pn		**Pn**	**05 22 20.5**	**-0.5**
PTLB	**Pontes e Lacer**	**10.46**	**68**	*e*P		**Pn**	**05 22 20.1**	**-1.0**
NNA	**Nana**	**10.62**	**315**	P		**Pn**	**05 22 26.9**	**+3.5**
	comp=Z,2.3nm,0.3s,baz=140,slow=11,SNR=2.3								
NNA				S		**Sn**	**05 24 19.9**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=294,slow=10,SNR=1.2								
VILB	**Vilhena**	**10.90**	**54**	Pn		**Pn**	**05 22 26.9**	**-0.3**
VILB	**Vilhena**	**10.90**	**54**	*e*P		**Pn**	**05 22 25.9**	**-1.3**
MURT	**Porto Murtinho**	**11.01**	**102**	*e*P		**Pn**	**05 22 26.5**	**-2.0**
CO03	**El Pedregal**	**11.20**	**187**	Pn		**Pn**	**05 22 31.3**	**+0.3**
BDQN	**Bodoquena, MS**	**11.71**	**96**	*e*P		**Pn**	**05 22 35.6**	**-2.2**
PTET	**Porto Estrela**	**12.23**	**71**	*e*P		**Pn**	**05 22 42.1**	**-2.7**
ANTJ	**Antonio Joao (**	**12.53**	**103**	*e*P		**Pn**	**05 22 49.0**	**+0.1**
CPUP	**Villa Florida**	**12.76**	**123**	P		**Pn**	**05 22 50.0**	**-1.7**
	comp=Z,3.4nm,0.8s,baz=307,slow=14,SNR=8.6								
CPUP	**Villa Florida**	**12.76**	**123**	Pn		**Pn**	**05 22 51.5**	**-0.3**
CPUP	**Villa Florida**	**12.76**	**123**	*e*P		**Pn**	**05 22 50.4**	**-1.4**
SALV	**Santo Antonio**	**13.38**	**76**	*e*P		**Pn**	**05 22 59.6**	**-0.4**
RVDE	**Rio Verde (Bra**	**13.46**	**90**	*e*P		**Pn**	**05 22 59.8**	**-1.2**
MT02	**Curacav**	**13.64**	**187**	Pn		**Pn**	**05 23 03.8**	**+0.5**
MT09	**Talagante**	**14.13**	**186**	Pn		**Pn**	**05 23 09.7**	**-0.1**
MCR1	**Marechal Candi**	**14.82**	**111**	*e*P		**Pn**	**05 23 19.4**	**+0.9**
TBTG	**Tabatinga, AM**	**15.41**	**357**	Pn		**Pn**	**05 23 25.3**	**-0.8**
TBTG				IAmb		IAmb	05 23 38.8	
	comp=Z,12nm,0.6s								
TRCB	**Terra Rica**	**15.73**	**104**	*e*P		**Pn**	**05 23 30.0**	**-0.1**
CRSM	**Crissiumal (Br**	**15.89**	**122**	*e*P		**P**	**05 23 33.8**	**0.0**
FRBT	**Francisco Belt**	**16.12**	**116**	*e*P		**P**	**05 23 36.2**	**-0.1**
H03N1	**Juan Fernandez**	**16.23**	**210**	T		T	05 40 18.2	
	baz=32								
H03N2	**Juan Fernandez**	**16.23**	**210**	T		T	05 40 15.7	
	baz=32,slow=74								
H03N3	**Juan Fernandez**	**16.24**	**210**	T		T	05 40 17.9	
	baz=32,slow=74								
RODS	**Rosario do Sul**	**16.52**	**133**	*e*P		**P**	**05 23 42.7**	**+2.1**
PTGB	**Pitanga**	**16.62**	**111**	*e*P		**P**	**05 23 42.3**	**+0.5**
TEFE	**Tefe**	**16.67**	**16**	*e*P		**P**	**05 23 42.3**	**-0.1**
ALGR	**Alto Alegre (B**	**17.29**	**125**	*e*P		**Pn**	**05 23 50.2**	**+1.0**
ITAB	**Concordia**	**17.34**	**119**	P		**P**	**05 23 48.5**	**-1.3**
ITAB				IAmb		IAmb	05 23 52.0	
	comp=Z,6.6nm,0.6s								
ITAB	**Concordia**	**17.34**	**119**	*e*P		**Pn**	**05 23 50.8**	**+0.9**
CPSB	**Cacapava Do Su**	**17.80**	**130**	*e*P		**P**	**05 23 54.7**	**0.0**
NPGB	**Novo Progresso**	**18.38**	**49**	*e*P		**P**	**05 24 01.4**	**+0.2**
FRTB	**Fartura**	**18.61**	**105**	*e*P		**P**	**05 24 03.6**	**-0.1**
SNDB	**Serra Nova Dou**	**18.82**	**69**	*e*P		**P**	**05 24 05.5**	**-0.6**
TRQA	**Tornquist**	**19.35**	**163**	P		**P**	**05 24 11.2**	**-0.6**
ITTB	**Itaituba**	**20.08**	**42**	*e*P		**P**	**05 24 18.6**	**-1.2**
BDFB	**Brasilia**	**20.56**	**82**	P		**P**	**05 24 23.7**	**-1.4**
BDFB				IAmb		IAmb	05 24 27.8	
	comp=Z,12nm,1.5s								
SPB	**Sao Paulo**	**20.58**	**105**	P		**P**	**05 24 24.1**	**-1.0**
SPB				IAmb		IAmb	05 24 41.3	
	comp=Z,8.4nm,1.2s								
PLCA	**Paso Flores**	**21.02**	**183**	P		**P**	**05 24 28.6**	**-1.2**
PLCA				IAmb		IAmb	05 24 34.3	
	comp=Z,13nm,1.4s								
JANB	**Januaria**	**24.16**	**83**	*e*P		**P**	**05 25 00.4**	**-0.8**
SDBA	**SAO DESIDERIO**	**24.40**	**76**	*e*P		**P**	**05 25 03.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**76.99**	**71**	P		**P**	**05 31 35.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=254,slow=5.9,SNR=11								
	comp=Z,0.5nm,0.4s								
YKA	**Yellowknife Ar**	**89.39**	**341**	P		**P**	**05 32 39.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=126,slow=5.4,SNR=11								
	comp=Z,0.7nm,0.8s								
H11S2	**WAKE ISLAND Hy**	**27.38**	**279**	T		T	07 58 29.7		
	baz=101,slow=75,SNR=9.1								
H11S1	**WAKE ISLAND Hy**	**27.39**	**279**	T		T	07 58 30.2		
	baz=101,slow=75,SNR=7.4								
H11S3	**WAKE ISLAND Hy**	**27.40**	**279**	T		T	07 58 31.0		
	baz=101,slow=75,SNR=3.2								
H11N3	**WAKE ISLAND Hy**	**27.41**	**280**	T		T	07 58 31.1		
	baz=100,slow=74,SNR=5.6								
H11N2	**WAKE ISLAND Hy**	**27.43**	**280**	T		T	07 58 31.6		
	baz=100,slow=74,SNR=5.8								
H11N1	**WAKE ISLAND Hy**	**27.43**	**280**	T		T	07 58 30.5		
	baz=100,slow=74,SNR=3.6								

*IDC **01** 05:27:02.6±1.2,37.°33N×21.°09E, h0km, mb3.8/9, mbtmp3.6/17, ML3.2/8, MS3.4/2, Error ellipse: s-maj=22.3km s-min=16.0km az=161.0*
*ATH **01** 05:27:03.7, 37.°13N×20.°93E, h5km±1km, ML3.5/9, Error ellipse: s-maj=2.1km s-min=0.9km az=44.0*
*THE **01** 05:27:04.3, 37.°17N×20.°96E, h0km±1km, ML3.4/9, Error ellipse: s-maj=1.9km s-min=0.4km az=216.0*

ISC 01 05:27:04.4±1.1, 37.17N±0.04×20.97E±0.03, h18km±5km, n92, σ1§47/113, mb3.7/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.55**	**348**	P	P	**Pg**	**05 27 15.2**	**-0.2**
LTHK				S	S	**Sg**	**05 27 22.8**	**+0.1**
	7µm,0.4s							
LTHK	**Lithakia**	**0.55**	**348**	P	P	**Pg**	**05 27 15.1**	**-0.3**
LTHK				S	S	**Sg**	**05 27 22.7**	**+0.1**
LTHK				AML	AML		05 27 30.4	
	comp=E,11646µm,0.4s							
LTHK				AML	AML		05 27 30.8	
	comp=N,15121µm,0.4s							
PYL	**PYLOS**	**0.68**	**114**	P	P	**Pg**	**05 27 16.9**	**-0.8**
PYL				S	S	**Sb**	**05 27 27.1**	**+0.4**
	comp=N,4µm,0.6s							
PYL	**PYLOS**	**0.68**	**114**	P	P	**Pg**	**05 27 17.0**	**-0.7**
PYL				S	S	**Sg**	**05 27 26.2**	**-0.5**
PYL				AML	AML		05 27 29.7	
	comp=N,8538µm,0.7s							
PYL				AML	AML		05 27 32.5	
	comp=E,5392µm,0.6s							
ITM	**Ithomi**	**0.76**	**89**	P	P	**Pg**	**05 27 18.1**	**-1.2**
ITM				S	S	**Sb**	**05 27 30.7**	**+1.4**
	comp=E,3µm,0.5s							
ITM	**Ithomi**	**0.76**	**89**	P	P	**Pg**	**05 27 18.2**	**-1.1**
ITM				S	S	**Sb**	**05 27 29.9**	**+0.7**
ITM				AML	AML		05 27 39.6	
	comp=E,5587µm,0.6s							
ITM				AML	AML		05 27 40.0	
	comp=N,4834µm,0.5s							
KLMT	**Kalamata**	**0.88**	**97**	P	P	**Pg**	**05 27 20.5**	**-1.0**
KLMT				S	S	**Sn**	**05 27 34.1**	**-0.1**
	comp=N,3µm,0.6s							
RLS	**Riolos of Patr**	**0.96**	**24**	P	P	**Pb**	**05 27 22.8**	**+0.1**
RLS				S	S	**Sn**	**05 27 37.3**	**+0.9**
	comp=N,6µm,0.8s							
RLS	**Riolos of Patr**	**0.96**	**24**	P	P	**Pb**	**05 27 22.6**	**-0.1**
RLS				S	S	**Sb**	**05 27 36.3**	**+1.2**
RLS				AML	AML		05 27 43.3	
	comp=N,4724µm,0.6s							
RLS				AML	AML		05 27 45.1	
	comp=E,7794µm,1.0s							
DRO	**Drossia**	**0.97**	**37**	P	P	**Pb**	**05 27 22.5**	**-0.3**
DRO				S	S	**Sb**	**05 27 36.7**	**+1.3**
DRO	**Drossia**	**0.97**	**37**	P	P	**Pb**	**05 27 22.8**	**0.0**
DRO				S	S	**Sn**	**05 27 36.9**	**+0.3**
DRO				AML	AML		05 27 50.6	
	comp=N,16708µm,0.6s							
DRO				AML	AML		05 27 54.9	
	comp=E,11121µm,0.4s							
PSDA	**Pessada-Kefalo**	**0.99**	**342**	P	P	**Pb**	**05 27 22.5**	**-0.5**
PSDA				S	S	**Sn**	**05 27 37.7**	**+0.7**
	comp=E,3µm,0.4s							
PSDA	**Pessada-Kefalo**	**0.99**	**342**	P	P	**Pb**	**05 27 22.6**	**-0.5**
VLS	**Valsamata**	**1.05**	**343**	P	P	**Pb**	**05 27 23.3**	**-0.8**
VLS				S	S	**Sn**	**05 27 39.4**	**+0.9**
	comp=E,2µm,0.7s							
VLS	**Valsamata**	**1.05**	**343**	P	P	**Pb**	**05 27 23.3**	**-0.8**
VLS				S	S	**Sg**	**05 27 39.0**	**+0.5**
VLS				AML	AML		05 27 46.8	
	comp=N,3354µm,0.5s							
VLS				AML	AML		05 27 52.8	
	comp=E,3734µm,0.8s							
KEF3	**Kipouria, Keph**	**1.14**	**334**	P	P	**Pb**	**05 27 25.6**	**-0.1**
KEF3				S	S	**Sn**	**05 27 42.9**	**+2.1**
KEF3	**Kipouria, Keph**	**1.14**	**334**	P	P	**Pb**	**05 27 25.6**	**-0.1**
DMLN	**Damoulianata-K**	**1.16**	**336**	P	P	**Pn**	**05 27 25.8**	**-0.1**
KEF4	**Livadi, Kephal**	**1.17**	**338**	P	P	**Pn**	**05 27 25.9**	**0.0**
KEF4				S	S	**Sn**	**05 27 43.7**	**+2.3**
KEF4	**Livadi, Kephal**	**1.17**	**338**	P	P	**Pn**	**05 27 25.9**	**0.0**
KLV	**Kalavryta, Ach**	**1.27**	**47**	P	P	**Pb**	**05 27 28.5**	**+0.5**
KLV				S	S	**Sg**	**05 27 46.7**	**+0.9**
	comp=E,1µm,0.8s							
KLV	**Kalavryta, Ach**	**1.27**	**47**	P	P	**Pn**	**05 27 27.8**	**+0.3**
KLV				S	S	**Sg**	**05 27 45.7**	**0.0**
KLV				AML	AML		05 28 00.4	
	comp=E,2556µm,0.7s							
KLV				AML	AML		05 28 06.6	
	comp=N,2408µm,1.0s							
FSK	**Fiskardo**	**1.32**	**346**	P	P	**Pn**	**05 27 28.7**	**+0.6**
FSK				S	S	**Sg**	**05 27 48.7**	**+1.4**
	comp=N,798nm,0.7s							
FSK	**Fiskardo**	**1.32**	**346**	P	P	**Pn**	**05 27 28.3**	**+0.2**
FSK				S	S	**Sb**	**05 27 45.9**	**+0.5**
FSK				AML	AML		05 27 58.4	
	comp=N,2303µm,0.8s							
FSK				AML	AML		05 28 00.4	
	comp=E,1791µm,0.4s							
LAKA	**Lakka**	**1.33**	**37**	P	P	**Pn**	**05 27 28.5**	**+0.3**
LAKA	**Lakka**	**1.33**	**37**	P	P	**Pn**	**05 27 28.8**	**+0.6**
ALIK	**Aliki, Aigiali**	**1.41**	**39**	P	P	**Pb**	**05 27 31.0**	**+0.7**
EFP	**Efpalio**	**1.45**	**30**	P	P	**Pb**	**05 27 30.9**	**-0.1**
EFP	**Efpalio**	**1.45**	**30**	P	P	**Pn**	**05 27 30.7**	**+0.9**
EVGI	**Lefkada island**	**1.47**	**350**	P	P	**Pn**	**05 27 31.0**	**+0.9**
EVGI	**Lefkada island**	**1.47**	**350**	P	P	**Pn**	**05 27 30.7**	**+0.6**
PVO	**Paravola**	**1.50**	**17**	P	P	**Pn**	**05 27 31.6**	**+1.0**
PVO	**Paravola**	**1.50**	**17**	P	P	**Pn**	**05 27 31.4**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.55**	**352**	P	P	**Pn**	**05 27 32.0**	**+0.8**
ANX	**Ano Chora**	**1.60**	**28**	P	P	**Pb**	**05 27 33.4**	**-0.2**
LKD2	**Lefkada island**	**1.63**	**351**	P	P	**Pn**	**05 27 33.1**	**+0.8**
LKD2	**Lefkada island**	**1.63**	**351**	P	P	**Pn**	**05 27 33.0**	**+0.6**
LKD2				S	S	**Sn**	**05 27 54.3**	**+1.4**
LKD2				AML	AML		05 28 08.3	
	comp=E,2674µm,0.5s							
LKD2				AML	AML		05 28 12.8	
	comp=N,2536µm,0.9s							
VILL	**Villia**	**2.10**	**61**	P	P	**Pn**	**05 27 40.8**	**+2.0**
ATH	**Athens Observa**	**2.32**	**69**	P	P	**Pn**	**05 27 43.6**	**+1.8**
VLY	**Voula,Athens**	**2.34**	**72**	P	P	**Pn**	**05 27 43.5**	**+1.4**
IGT	**Igoumenitsa**	**2.41**	**348**	P	P	**Pn**	**05 27 45.0**	**+2.0**
MHLO	**Agia Marina, M**	**2.79**	**99**	P	P	**Pn**	**05 27 50.8**	**+2.6**
XOR	**Xorichti**	**2.80**	**38**	P	P	**Pn**	**05 27 51.0**	**+2.6**
KYMI	**Kymi, Euboea I**	**2.87**	**59**	P	P	**Pn**	**05 27 51.2**	**+1.9**
LIT	**Litokhoron**	**3.15**	**22**	P	P	**Pn**	**05 27 55.7**	**+2.4**
PAIG	**Paliouri**	**3.47**	**37**	P	P	**Pn**	**05 27 59.5**	**+1.9**
FNA	**Florina**	**3.62**	**5**	P	P	**Pn**	**05 28 02.2**	**+2.5**
APE	**Apeiranthos**	**3.64**	**90**	P	P	**Pn**	**05 28 02.2**	**+2.2**
OHR	**Ohrid**	**3.93**	**358**	*i* Pn	Pn	**Pn**	**05 28 06.1**	**+2.1**
STIP	**Stip**	**4.61**	**11**	*i* Pn	Pn	**Pn**	**05 28 15.7**	**+2.4**
DRME	**Dracevica, Mon**	**5.19**	**345**	*e*Pn	Pn	**Pn**	**05 28 21.7**	**+0.4**
VAE	**Valguarnera**	**5.24**	**275**	Pn	Pn	**Pn**	**05 28 24.8**	**+2.8**
	comp=N,4.0nm,0.3s,baz=2.7,slow=11,SNR=9.2							
VAE					Sn	**Sn**	**05 29 22.3**	**+0.4**
	comp=N,0.5nm,0.3s,baz=46,slow=12,SNR=1.2							
	comp=N,9.9nm,0.5s							
HCY	**Herceg Novi**	**5.60**	**341**	*e*Pn		**Pn**	**05 28 25.6**	**-1.3**
TREB	**Trebinje**	**5.89**	**341**	*e*Pn		**Pn**	**05 28 30.0**	**-0.9**
BRY	**Bratogost**	**6.02**	**343**	*e*Pn		**Pn**	**05 28 31.6**	**-1.1**
STON	**Ston**	**6.22**	**337**	*e*Pn		**Pn**	**05 28 34.1**	**-1.2**
UPM	**Unac-Piva**	**6.23**	**346**	*e*Pn		**Pn**	**05 28 35.7**	**+0.1**
RUDO	**Rudo**	**6.55**	**350**	*e*Pn		**Pn**	**05 28 38.5**	**-1.4**
DIVS	**Divibare**	**6.96**	**354**	*e*Pn		**Pn**	**05 28 45.9**	**+0.3**
HAPS	**Han Pijesak,BI**	**7.07**	**348**	*e*Pn		**Pn**	**05 28 47.4**	**+0.2**
SRKY	**Kupres RS**	**7.47**	**338**	*e*Pn		**Pn**	**05 28 52.9**	**+0.3**
FRGS	**Fruska Gora**	**8.02**	**354**	*e*Pn		**Pn**	**05 28 57.3**	**-2.8**
A050A	**Klekovaca**	**8.04**	**337**	*e*Pn		**Pn**	**05 29 01.9**	**+1.5**
BLY	**Banja Luka**	**8.09**	**340**	*e*Pn		**Pn**	**05 29 02.2**	**+1.2**
A051A	**Mrakovica**	**8.41**	**340**	*e*Pn		**Pn**	**05 29 04.6**	**-0.9**
MLR	**Muntele Rosu**	**9.11**	**23**	Pn		**Pn**	**05 29 14.8**	**-0.3**

n46,σ1°29/48,mb3.6/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.65**	**269**	*i* P	**Pb**	**05 38 29.3**	**-0.2**
JFK				S	**Sb**	**05 38 37.5**	**-1.5**
JMST	**Minamisoumatoc**	**0.72**	**298**	*i* P	**Pg**	**05 38 30.0**	**+0.8**
JMST				S	**Sg**	**05 38 39.5**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.77**	**249**	*i* P	**Pb**	**05 38 31.5**	**0.0**
ONAJ				S	**Sb**	**05 38 42.0**	**-0.4**
JMM	**Marumori**	**0.86**	**304**	P	**Pg**	**05 38 32.4**	**+0.5**
JMM	**Marumori**	**0.86**	**304**	*i* P	**Pg**	**05 38 32.3**	**+0.4**
JMM				S	**Sg**	**05 38 43.5**	**+0.4**
JIKH	**Ishinomakikobu**	**0.94**	**349**	*i* P	**Pg**	**05 38 33.8**	**+0.4**
JIKH				S	**Sg**	**05 38 45.8**	**+0.2**
JFFD	**Fukushimafurud**	**0.95**	**252**	*i* P	**Pb**	**05 38 34.2**	**-0.3**
JFFD				S	**Sb**	**05 38 46.4**	**-1.1**
JIO	**Ouri**	**1.10**	**346**	*i* P	**Pg**	**05 38 36.5**	**0.0**
JIO				S	**Sg**	**05 38 49.9**	**-0.9**
JHO	**Hitachi**	**1.19**	**230**	*i* P	**Pg**	**05 38 37.8**	**-0.4**
JHO				S	**Sg**	**05 38 52.9**	**-0.7**
JOU	**Okura**	**1.27**	**320**	*i* P	**Pg**	**05 38 39.7**	**-0.1**
JOU				S	**Sg**	**05 38 56.2**	**-0.1**
JYS	**Shirataka**	**1.54**	**303**	*i* P	**Pn**	**05 38 44.0**	**+0.2**
JYS				S	**Sn**	**05 39 04.0**	**-0.2**
JFY	**Yanaizu**	**1.58**	**271**	P	**Pn**	**05 38 44.7**	**+0.3**
JFY				S	**Sg**	**05 39 06.0**	**-0.3**
JMK	**Ichinoseki**	**1.61**	**347**	*i* P	**Pn**	**05 38 44.5**	**-0.2**
JMK				*e*S	**Sn**	**05 39 04.6**	**-1.4**
JSD	**Sado**	**2.80**	**284**	P	**Pn**	**05 39 02.6**	**+1.5**
MJAR	**Matsushiro Arr**	**2.92**	**254**	Pn	**Pn**	**05 39 03.8**	**+1.1**
	0.9nm,0.3s,baz=344,slow=8.2,SNR=10.0						
MJAR				Sn	**Sb**	**05 39 42.1**	**-2.0**
	0.7nm,0.3s,baz=83,slow=33,SNR=6.1 2.6nm,0.3s						
MAJO	**Matsushiro**	**2.92**	**254**	P	**Pb**	**05 39 05.5**	**-2.6**
JTM	**Tenmabayashi**	**3.43**	**352**	P	**Pn**	**05 39 11.6**	**+1.8**
JGF	**Kuroka**	**3.92**	**244**	P	**Pn**	**05 39 18.9**	**+2.3**
INU	**Inuyama**	**4.29**	**243**	P	**Pn**	**05 39 24.2**	**+2.7**
JHJ2	**Mitsune**	**4.53**	**200**	P	**Pn**	**05 39 29.3**	**+4.4**
JHJ	**Hachijo jima 2**	**4.54**	**201**	Pn	**Pn**	**05 39 25.2**	**+0.3**
	6.8nm,0.3s,baz=30,slow=23,SNR=1.4						
JHJ				Sn	**Sn**	**05 40 17.6**	**-0.6**
	6.1nm,0.3s,baz=65,slow=24,SNR=1.7 46nm,0.3s						
JEM	**Erimo**	**4.76**	**13**	P	**Pn**	**05 39 29.8**	**+1.8**
ASAJ	**Asahikawa**	**6.76**	**6**	Pn	**Pn**	**05 39 55.3**	**-0.2**
	0.8nm,0.3s,baz=218,slow=12,SNR=8.0 2.0nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.02**	**316**	Pn	Pn	05 40 45.2	+5.0
	0.2nm,0.3s,baz=122,slow=14,SNR=2.3						
KSRS	**Korea Array**	**10.95**	**275**	LR	LR	05 44 42.5	
	comp=Z,44nm,18.8s,baz=45,slow=35						
SONM	**Songino Array**	**27.78**	**303**	P	**P**	**05 44 06.7**	**+1.2**
	0.7nm,0.8s,baz=104,slow=8.4,SNR=4.4 0.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	06 13 37.4	
	baz=314,slow=75,SNR=447						
H11N1	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	06 13 36.2	
	baz=314,slow=75,SNR=279						
H11N3	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	06 13 39.2	
	baz=314,slow=75,SNR=516						
H11S1	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	06 14 31.8	
	baz=316,slow=76,SNR=118						
H11S3	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	06 14 31.3	
	baz=316,slow=76,SNR=109						
H11S2	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	06 14 32.4	
	baz=316,slow=76,SNR=94						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**05 46 07.2**	**+0.8**
	0.4nm,0.4s,baz=96,slow=7.4,SNR=4.4 0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**05 46 26.5**	**+1.5**
	1.3nm,0.6s,baz=84,slow=9.6,SNR=13 1.3nm,0.6s						
ILAR	**Eielson Array**	**49.08**	**33**	P	**P**	**05 47 01.6**	**-1.9**
	0.5nm,0.8s,baz=271,slow=6.2,SNR=4.6 0.5nm,0.8s						
AAK	**Ala-Archa**	**50.52**	**298**	LR	LR	06 08 53.5	
	comp=Z,19nm,21.1s,baz=26,slow=36						
WRA	**Warramunga Arr**	**57.44**	**188**	P	**P**	**05 48 05.8**	**+0.3**
	0.6nm,0.7s,baz=6.2,slow=7.2,SNR=5.4 0.6nm,0.7s						
ASAR	**Alice Springs**	**61.17**	**188**	P	**P**	**05 48 31.9**	**+0.6**
	0.3nm,0.7s,baz=21,slow=11,SNR=2.3 0.3nm,0.7s						
YKA	**Yellowknife Ar**	**63.39**	**30**	P	**P**	**05 48 45.1**	**-0.6**
	0.3nm,0.7s,baz=309,slow=5.9,SNR=3.1 0.3nm,0.7s						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**05 49 19.2**	**-0.2**
	4.0nm,1.0s,baz=46,slow=8.1,SNR=2.0 4.0nm,1.0s						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**05 49 53.3**	**+0.2**
	0.7nm,0.5s,baz=46,slow=6.2,SNR=7.4 0.7nm,0.5s						
NVAR	**Mina Array Bea**	**74.60**	**53**	P	**P**	**05 49 55.6**	**-0.6**
	0.3nm,0.7s,baz=295,slow=5.7,SNR=2.2 0.3nm,0.7s						
TXAR	**Lajitas Array**	**89.73**	**53**	P	**P**	**05 51 16.5**	**+1.1**
	0.1nm,0.5s,baz=279,slow=2.3,SNR=3.6 0.1nm,0.5s						
H03N2	**Juan Fernandez**	**146.84**	**96**	T	T	08 42 04.6	
	baz=291,slow=76,SNR=29						
H03N3	**Juan Fernandez**	**146.85**	**96**	T	T	08 42 05.6	
	baz=291,slow=76,SNR=37						
H03N1	**Juan Fernandez**	**146.85**	**96**	T	T	08 42 05.1	
	baz=291,slow=76,SNR=49						

*IDC **01** 05:49:38.3±2.8, 44.25N×147.32E, h0km, mb3.5/4, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=101.7km s-min=32.1km az=164.0*
*MOS **01** 05:49:44.5±1.2, 43.85N×146.95E, h89km, mb4.3/1, Error ellipse: s-maj=21.2km s-min=19.7km az=51.2*
*SKHL **01** 05:49:46.1±0.4, 43.90N×147.00E, h82km±4km, mb4.7/4, msha5.7/3*
*JMA **01** 05:49:46.2±0.2, 44.0N±0.9×147.7E±, h83km±3km, MV3.6/36, NEAR KUNASHIRI ISLAND*

ISC 01 05:49:45.9±0.9, 43.94N±0.05×146.86E±0.05, h80km±8km, n40,σ1°00/52, mb3.5/4, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.73**	**278**	*c i* PN	**Pn**	**05 50 01.9**	**+0.1**
YUK				*e*S	**Sn**	**05 50 13.1**	**-0.6**
YUK				pmax	pmax		
	comp=N,243nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,310nm,0.1s						
YUK				smax	smax		
	comp=N,6μm,0.2s						
YUK				smax	smax		
	comp=E,7μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.73**	**278**	*i* P	**Pn**	**05 50 02.0**	**+0.1**
YUK				AMB	AMB	05 50 02.3	
	comp=E,1μm,0.4s						
YUK				*e*S	**Sn**	**05 50 13.6**	**-0.1**
YUK				A	A	05 50 14.3	
	comp=E,2μm,0.5s						
YUK				A	A	05 50 14.3	
	comp=E,4μm,0.5s						
NEM2	**Nemuro 2**	**0.99**	**235**	*e*P	**Pn**	**05 50 05.6**	**+0.8**
NEM2				*e*S	**Sn**	**05 50 19.5**	**+0.6**
NMR	**Nemuro--Hokkai**	**1.00**	**236**	⇑*i* PN	**Pn**	**05 50 05.6**	**+0.7**
NMR				*i* S	**Sn**	**05 50 19.4**	**+0.3**
NMR	**Nemuro--Hokkai**	**1.00**	**236**	*i* P	**Pn**	**05 50 05.6**	**+0.7**
NMR				AMB	AMB	05 50 05.8	
	comp=E,330nm,0.4s						
NMR				*i* S	**Sn**	**05 50 19.4**	**+0.3**
NMR				A	A	05 50 20.6	
	comp=E,2μm,0.4s						
NMR				A	A	05 50 20.6	
	comp=E,1μm,0.4s						
RUSJ	**Misakicho**	**1.18**	**279**	⇑*i* PN	**Pn**	**05 50 07.1**	**0.0**
RUSJ				*e*S	**Sn**	**05 50 21.8**	**-1.1**
JRA	**Rausu**	**1.26**	**271**	*e*P	**Pn**	**05 50 08.4**	**+0.3**
JRA				*e*S	**Sn**	**05 50 24.8**	**+0.1**
JNSB	**Nemuroshibetsu**	**1.35**	**264**	*e*P	**Pn**	**05 50 10.1**	**+0.8**
JNSB				*e*S	**Sn**	**05 50 27.9**	**+1.0**
KUR	**Kuril'sk**	**1.48**	**29**	*e*PN	**Pn**	**05 50 11.9**	**+0.9**
KUR				*i* S	**Sn**	**05 50 30.6**	**+0.7**
KUR				pmax	pmax		
	comp=Z,69nm,0.6s						
KUR				smax	smax		
	comp=N,601nm,0.2s						
KUR				smax	smax		
	comp=E,421nm,0.2s						
KUR	**Kuril'sk**	**1.48**	**29**	*e*P	**Pn**	**05 50 11.4**	**+0.4**
KUR				AMB	AMB	05 50 14.0	
	comp=E,140nm,0.3s						
KUR				*i* S	**Sn**	**05 50 30.7**	**+0.8**
KUR				A	A	05 50 31.6	
	comp=E,680nm,0.4s						
KUR				A	A	05 50 31.6	
	comp=E,530nm,0.4s						
JKHN	**Kushirohamanak**	**1.50**	**236**	*i* P	**Pn**	**05 50 12.1**	**+0.9**
JKHN				*e*S	**Sn**	**05 50 30.9**	**+0.5**
JNK	**Nakash**	**1.59**	**258**	*e*P	**Pn**	**05 50 12.8**	**+0.4**
JNK				*e*S	**Sn**	**05 50 32.5**	**0.0**
AKK	**Akkeshi**	**1.73**	**239**	*e*P	**Pn**	**05 50 15.5**	**+1.3**
JAK	**Akkeshi**	**1.83**	**240**	*e*P	**Pn**	**05 50 16.2**	**+0.6**
JAK				*e*S	**Sn**	**05 50 38.4**	**+0.3**
JTKR	**Abashiri--Toko**	**2.13**	**272**	*e*P	**Pn**	**05 50 19.7**	**+0.1**
JTKR				*e*S	**Sn**	**05 50 44.4**	**-0.8**
JAR	**Ashorobuto**	**2.33**	**255**	*e*P	**Pn**	**05 50 23.6**	**+1.3**
JAR				*e*S	**Sn**	**05 50 51.8**	**+1.7**
JOB	**Onbets**	**2.43**	**246**	*e*P	**Pn**	**05 50 24.6**	**+1.0**
JMP	**Maruseppu**	**2.53**	**273**	*e*P	**Pn**	**05 50 25.2**	**+0.3**
JMP				*e*S	**Sn**	**05 50 54.3**	**-0.5**
HRK	**Horoka**	**2.75**	**261**	*e*P	**Pn**	**05 50 28.9**	**+1.0**
JCH	**Churui**	**2.88**	**244**	*e*P	**Pn**	**05 50 30.2**	**+0.7**
JKK2	**Kamakawa 2**	**2.97**	**270**	*e*P	**Pn**	**05 50 31.8**	**+0.9**
JKA	**Kamikawa-asahi**	**3.08**	**275**	*e*P	**Pn**	**05 50 32.9**	**+0.6**
ASAJ	**Asahikawa**	**3.08**	**275**	Pn	**Pn**	**05 50 32.9**	**+0.6**
	comp=E,3.9nm,0.3s,baz=81,slow=6.2,SNR=29						
ASAJ				Sn	Sn	05 51 20.7	+13
	comp=E,1.5nm,0.3s,baz=313,slow=30,SNR=1.7 comp=E,7.5nm,0.3s						
ASAJ	**Asahikawa**	**3.08**	**275**	*e*P	**Pn**	**05 50 33.3**	**+1.0**
MYR	**Moyori**	**3.09**	**239**	*e*P	**Pn**	**05 50 34.3**	**+1.8**
JFR	**Furan**	**3.20**	**257**	*e*P	**Pn**	**05 50 35.5**	**+1.6**
JSE	**Soyaes**	**3.23**	**290**	*e*P	**Pn**	**05 50 34.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.18**	**318**	*e*PN	**Pn**	**05 50 49.9**	**+2.7**
YSS				*e*S	**Sn**	**05 51 35.3**	**+0.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				smax	smax		
	comp=N,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.18**	**318**	*e*P	**Pn**	**05 50 49.9**	**+2.7**
YSS				AMB	AMB	05 50 50.9	
	comp=N,10.0nm,0.8s						
YSS				*e*S	**Sn**	**05 51 35.3**	**+0.6**
TYV	**Tymovskoe**	**7.49**	**339**	*e*P	**Pn**	**05 51 33.6**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**29.38**	**139**	T	T	06 26 38.2	
	baz=330,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**29.39**	**139**	T	T	06 26 36.5	
	baz=330,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**29.40**	**139**	T	T	06 26 38.2	
	baz=330,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**30.34**	**140**	T	T	06 27 50.5	
	baz=331,slow=76,SNR=118						
H11S3	**WAKE ISLAND Hy**	**30.35**	**140**	T	T	06 27 49.5	
	baz=331,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**30.36**	**140**	T	T	06 27 48.2	
	baz=331,slow=76,SNR=19						
ILAR	**Eielson Array**	**41.46**	**36**	P	**P**	**05 57 23.2**	**-1.2**
	comp=N,0.8nm,0.8s,baz=277,slow=9.4,SNR=8.3 comp=N,0.8nm,0.8s						
YKA	**Yellowknife Ar**	**55.76**	**34**	P	**P**	**05 59 12.6**	**-1.5**
	comp=N,0.6nm,0.9s,baz=304,slow=6.7,SNR=7.2 comp=N,0.6nm,0.9s						
NVAR	**Mina Array Bea**	**67.66**	**58**	P	**P**	**06 00 34.8**	**+0.2**
	comp=N,0.3nm,0.5s,baz=300,slow=7.8,SNR=4.2 comp=N,0.3nm,0.5s						
TXAR	**Lajitas Array**	**82.72**	**56**	P	**P**	**06 02 01.1**	**0.0**
	comp=N,0.2nm,0.6s,baz=301,slow=4.4,SNR=4.1 comp=N,0.2nm,0.6s						

*IDC **01** 05:52:49.2±3.5, 11.52N×140.72E, h51km±32km, mb3.6/15, mbtmp3.9/16, ML4.0/1, MS3.0/5, Error ellipse: s-maj=20.8km s-min=18.5km az=96.0*

ISC 01 05:52:48.3±0.8, 11.5N±0.1×140.64E±0.10, h43km, n21, σ0°93/19, mb4.1/15, MS2.9/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.62**	**63**	P	**Pn**	**05 53 56.5**	**+0.9**
	8.0nm,0.3s,baz=81,slow=24,SNR=1.7						
GUMO				S	**Sn**	**05 54 47.7**	**-0.3**
	122nm,0.9s,baz=260,slow=2.8,SNR=1.8 98nm,0.9s						
KRVT	**Keravat (AS076**	**19.36**	**144**	LR	LR	06 03 41.4	
	comp=Z,48nm,19.3s,baz=208,slow=34						
JNU	**Nakatsue**	**23.31**	**339**	LR	LR	06 05 34.2	
	comp=Z,44nm,19.9s,baz=72,slow=33						
MJAR	**Matsushiro Arr**	**25.02**	**355**	LR	LR	06 07 00.1	
	comp=Z,24nm,20.6s,baz=104,slow=34						
KSRS	**Kosa Array**	**28.25**	**338**	P	**P**	**05 58 36.6**	**-0.8**
	0.6nm,0.7s,baz=149,slow=10,SNR=2.2						
KSRS				LR	LR	06 08 37.0	
	comp=Z,32nm,21.2s,baz=140,slow=34 0.6nm,0.7s						
WRA	**Warramunga Arr**	**31.86**	**191**	P	**P**	**05 59 08.9**	**-0.6**
	0.5nm,0.9s,baz=9.5,slow=9.9,SNR=2.1 0.5nm,0.9s						
ASAR	**Alice Springs**	**35.57**	**191**	P	**P**	**05 59 42.0**	**+0.2**
	0.2nm,0.4s,baz=18,slow=12,SNR=4.6 0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.80**	**285**	LR	LR	06 16 02.8	
	comp=Z,17nm,21.4s,baz=110,slow=34						
SONM	**Songino Array**	**46.19**	**328**	P	**P**	**06 01 10.4**	**+1.4**
	0.9nm,0.9s,baz=146,slow=6.1,SNR=6.7						
SONM				PcP	**PcP**	**06 02 44.4**	**+0.1**
	0.2nm,0.6s,baz=148,slow=3.5,SNR=1.5 0.9nm,0.9s						
MKAR	**Makanchi Array**	**60.18**	**318**	P	**P**	**06 02 52.5**	**+0.6**
	1.1nm,0.6s,baz=103,slow=8.9,SNR=17 1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**60.97**	**326**	P	**P**	**06 02 57.4**	**+0.4**
	1.0nm,0.4s,baz=100,slow=5.7,SNR=6.4 1.0nm,0.4s						
NRIK	**Noril'sk**	**66.78**	**342**	P	**P**	**06 03 35.2**	**+0.1**
	1.5nm,0.6s,baz=117,slow=6.8,SNR=3.9 1.5nm,0.6s						
BVAR	**Borovoye Array**	**69.03**	**322**	P	**P**	**06 03 49.7**	**+0.3**
	3.7nm,0.7s,baz=101,slow=7.5,SNR=15 3.7nm,0.7s						
ILAR	**Eielson Array**	**72.21**	**25**	P	**P**	**06 04 06.6**	**-2.0**
	0.4nm,0.7s,baz=253,slow=6.4,SNR=4.9 0.4nm,0.7s						
AKTO	**Aktyubinsk**	**76.54**	**319**	P	**P**	**06 04 34.0**	**-0.1**
	0.8nm,0.6s,baz=83,slow=8.1,SNR=2.2 0.8nm,0.6s						
GEYT	**Alibeck**	**77.17**	**306**	P	**P**	**06 04 38.8**	**+0.9**
	1.6nm,0.9s,baz=352,slow=5.8,SNR=4.1 1.6nm,0.9s						
DLBC	**Dease Lake**	**79.94**	**32**	P	**P**	**06 04 53.0**	**+0.1**
	1.8nm,0.7s,baz=292,slow=11,SNR=2.5 1.8nm,0.7s						
YKA	**Yellowknife Ar**	**86.58**	**27**	P	**P**	**06 05 26.4**	**-0.5**
	1.0nm,0.8s,baz=289,slow=4.7,SNR=9.6 1.0nm,0.8s						
FINES	**FINESS Array B**	**91.26**	**334**	P	**P**	**06 05 47.2**	**-1.8**
	1.9nm,0.9s,baz=48,slow=5.7,SNR=7.3 1.9nm,0.9s						
NVAR	**Mina Array Bea**	**91.43**	**50**	P	**P**	**06 05 51.6**	**+1.0**
	0.2nm,0.4s,baz=280,slow=5.4,SNR=3.2 0.2nm,0.4s						
LPAZ	**La Paz**	**151.68**	**103**	PKPbc	**PKiKP**	**06 12 40.6**	**+0.3**
	1.9nm,0.6s,baz=251,slow=1.5,SNR=9.2						

*IDC **01** 06:10:58.2±2.0, 37.66N×69.68E, h0km, mb3.5/7, mbtmp3.6/12, ML3.4/5, Error ellipse: s-maj=43.2km s-min=14.6km az=151.0*

ISC 01 06:11:04.6±1.2, 37.9N±0.1×69.51E±0.08, h35km, n21, σ1°76/23, mb3.3/7, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.31**	**36**	P	**Pn**	**06 12 23.4**	**+1.7**
	SNR=20						
EKS2	**Erkin-Say**	**5.77**	**33**	P	**Pn**	**06 12 31.9**	**+4.1**
	SNR=8.1						
UCH	**Uchtor**	**5.78**	**40**	P	**Pn**	**06 12 28.8**	**+0.6**
	SNR=15						
AAK	**Ala-Archa**	**6.08**	**37**	P	**Pn**	**06 12 34.0**	**+1.9**
	SNR=13						
AAK	**Ala-Archa**	**6.08**	**37**	Pn	**Pn**	**06 12 33.0**	**+1.0**
	4.3nm,0.3s,baz=94,slow=1.9,SNR=35						
AAK				Lg	Lg	06 14 10.4	
	0.2nm,0.3s,baz=242,slow=23,SNR=1.7 7.6nm,0.3s						
CHMS	**Chumysh**	**6.47**	**36**	P	**Pn**	**06 12 39.1**	**+1.7**
	SNR=12						
USP	**Ospenovka**	**6.57**	**34**	P	**Pn**	**06 12 40.3**	**+1.6**
	SNR=8.1						
TKM2	**Tokmak 2**	**6.83**	**41**	P	**Pn**	**06 12 43.4**	**+0.9**
	SNR=5.2						
GEYT	**Alibeck**	**9.01**	**274**	Pn	**Pn**	**06 13 12.5**	**+0.4**
	0.4nm,0.3s,baz=116,slow=11,SNR=6.2						
GEYT				Sn	**Sn**	**06 14 50.1**	**-2.2**
	0.5nm,0.3s,baz=180,slow=16,SNR=1.4 1.3nm,0.5s						
MKAR	**Makanchi Array**	**12.96**	**43**	Pn	**Pn**	**06 14 04.8**	**-1.4**
	0.1nm,0.3s,baz=232,slow=13,SNR=6.6						
MKAR				Lg	Lg	06 17 54.7	
	baz=212,slow=40,SNR=2.1 0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**14.25**	**24**	Pn	**Pn**	**06 14 20.8**	**-3.0**
	0.1nm,0.3s,baz=212,slow=9.9,SNR=3.1						
KURBB				Lg	Lg	06 18 36.1	
	0.1nm,0.3s,baz=224,slow=29,SNR=2.0 0.4nm,0.2s						
AKTO	**Aktyubinsk**	**14.98**	**330**	Pn	**Pn**	**06 14 34.8**	**+1.2**
	0.2nm,0.3s,baz=136,slow=10,SNR=3.4						
AKTO				Sn	**Sn**	**06 17 16.6**	**-1.6**
	0.1nm,0.3s,baz=322,slow=12,SNR=1.8						
BVAR	**Borovoye Array**	**15.14**	**2**	Pn	**P**	**06 14 38.5**	**-2.0**
	baz=161,slow=11,SNR=2.5						
ZALV	**Zalesovo Beam**	**19.19**	**28**	P	**P**	**06 15 23.9**	**-1.2**
	0.7nm,0.3s,baz=219,slow=10,SNR=10 1.4nm,0.3s						
BELG	**Belogornoye**	**21.06**	**321**	P	**P**	**06 15 46.9**	**+1.6**
	5.0nm,0.7s,baz=307,slow=20,SNR=3.6 5.0nm,0.7s						
SONM	**Songino Array**	**28.56**	**58**	P	**P**	**06 16 55.9**	**-1.3**
	0.2nm,0.5s,baz=265,slow=8.5,SNR=2.1 0.2nm,0.5s						
AKASG	**Malin Array Be**	**31.15**	**307**	P	**P**	**06 17 19.6**	**-0.3**
	0.1nm,0.3s,baz=77,slow=7.0,SNR=3.2 0.1nm,0.3s						
ARCES	**ARCESS Array B**	**39.40**	**337**	P	**P**	**06 18 30.8**	**+0.3**
	4.6nm,0.8s,baz=118,slow=11,SNR=1.3 4.6nm,0.8s						
ESDC	**Sonseca Array**	**55.76**	**296**	P	**P**	**06 20 39.3**	**+1.4**
	0.2nm,0.9s,baz=56,slow=7.4,SNR=1.7 0.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**64.58**	**267**	P	**P**	**06 21 38.7**	**+0.1**
	0.3nm,0.5s,baz=72,slow=7.2,SNR=2.3 0.3nm,0.5s						
YKA	**Yellowknife Ar**	**79.90**	**2**	P	**P**	**06 23 09.4**	**+0.1**
	0.2nm,0.6s,baz=355,slow=5.7,SNR=5.1 0.2nm,0.6s						

*IDC **01** 06:15:16.4±0.8, 6.69N×72.90W, h159km±10km, mb2.7/2, mbtmp3.6/5, Error ellipse: s-maj=37.6km s-min=7.6km az=133.0*
*RSNC **01** 06:15:18.4±1.0, 6.80N×73.16W, h147km±4km, ML3.4, Mw3.7, Fault plane solution: NP1:φs104.00000°, δ18.00000°, λ95.00000°.*

ISC 01 06:15:16.5±0.8, 6.83N±0.03×73.12W±0.04, h158km±6km, n38,σ1°58/70, 5C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**196**	⇑*i* P	**Pn**	**06 15 38.0**	**-0.2**
BARC				*e*S	**Sn**	**06 15 53.0**	**-1.7**
BARC				*i*		06 15 55.9	
	comp=Z,770nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**295**	⇑*i* P	**Pn**	**06 15 39.8**	**+0.2**
BRRC				*e*S	**Sn**	**06 15 57.0**	**-0.2**
BRRC				*i*		06 16 01.0	
	comp=Z,324nm,0.2s						
PAMC	**Pamplona, Colo**	**0.66**	**39**	⇑*i* P	**Pn**	**06 15 40.9**	**+0.6**
PAMC				*e*S	**Sn**	**06 15 58.0**	**-0.3**
PAMC				*i*		06 16 00.2	
	comp=Z,666nm,0.5s						
RUSC	**La Rusia**	**0.93**	**178**	⇓*e* P	**Pn**	**06 15 42.0**	**-0.1**
RUSC				*e*S	**Sn**	**06 16 00.7**	**-1.0**
RUSC				*i*		06 16 02.0	
	comp=Z,410nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P	**Pn**	**06 15 44.7**	**-0.7**
PTBC				*e*S	**Sn**	**06 16 05.8**	**-1.6**
PTBC				*i*		06 16 08.0	
	comp=Z,163nm,0.2s						
TAMC	**Tame, Arauca**	**1.37**	**106**	⇑*i* P	**Pn**	**06 15 46.4**	**+1.0**
TAMC				*e*S	**Sn**	**06 16 08.2**	**+0.5**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**	**06 15 50.2**	**-0.3**
ZARC				*e*S	**Sn**	**06 16 16.1**	**-0.5**
ZARC				*i*		06 16 21.7	
	comp=Z,287nm,0.4s						
NORC	**Norcasia**	**2.15**	**234**	*e*P	**Pn**	**06 15 54.1**	**+0.2**
NORC				*e*S	**Sn**	**06 16 22.0**	**-0.8**
NORC				*i*		06 16 27.7	
	comp=Z,154nm,0.2s						
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**06 15 55.9**	**+0.2**
CHIC				*e*S	**Sn**	**06 16 25.4**	**-0.5**
CHIC				*i*		06 16 31.8	
	comp=Z,133nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**06 15 57.9**	**+1.7**
	comp=Z,178nm,0.5s,baz=127,slow=23,SNR=114						
ROSC				S	**Sn**	**06 16 26.9**	**+0.2**
	comp=Z,430nm,0.4s,baz=359,slow=20,SNR=9.5						
ROSC	**El Rosal**	**2.31**	**211**	⇓*e* P	**Pn**	**06 15 57.7**	**+1.5**
ROSC				*e*S	**Sn**	**06 16 29.2**	**+2.4**
ROSC				*i*		06 16 32.7	
	comp=Z,376nm,0.5s						
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P	**Pn**	**06 15 58.2**	**-0.7**
UREC				*e*S	**Sn**	**06 16 28.4**	**-3.2**
U

GUVC *i* 06 17 15.2
comp=Z,64nm,0.2s
SMRC Santa Marta, M 4.45 346 *e*P **Pn** **06 16 23.4 +0.5**
SMRC *e*S **Sn** **06 17 10.4 -4.2**
SMRC *i* 06 17 13.8
comp=Z,32nm,0.4s
PTAC Punta Ardita, 4.67 274 *e*P **Pn** **06 16 24.8 -1.0**
PTAC *e*S **Sn** **06 17 18.5 -1.3**
MACC Macarena, Meta 4.71 189 *e*P **Pn** **06 16 24.8 -1.5**
MACC *e*S **Sn** **06 17 17.0 -3.8**
MACC *i* 06 17 22.0
comp=Z,25nm,0.3s
UPD2 Meteti 5.15 290 *e*P **Pn** **06 16 29.6 -2.4**
UPD2 *e*S **Sn** **06 17 28.9 -2.1**
UPD2 *i* 06 17 34.3
comp=Z,50nm,0.8s
GARC Garzon, Huila 5.18 207 *e*P **Pn** **06 16 32.1 -0.6**
GARC *e*S **Sn** **06 17 28.4 -3.9**
GARC *i* 06 17 34.4
comp=Z,38nm,0.2s
PCRV Puerto La Cruz 9.02 68 P **Pn** **06 17 22.0 -1.6**
comp=Z,10nm,0.9s,baz=152,slow=8.2,SNR=1.5
TXAR Lajitas Array 36.46 312 P **P** **06 22 08.4 +1.8**
comp=Z,0.2nm,0.6s,baz=119,slow=9.4,SNR=2.4
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar 63.26 340 P **P** **06 25 29.0 +1.1**
comp=Z,0.2nm,0.6s,baz=129,slow=6.9,SNR=5.3
comp=Z,0.2nm,0.6s
ASAR Alice Springs 149.12 234 PKPbc **PKPbc** **06 34 46.6 -0.5**
comp=Z,0.6nm,0.7s,baz=115,slow=3.1,SNR=7.8
WRA Warramunga Arr 150.34 241 PKPbc **PKPbc** **06 34 49.5 -0.6**
comp=Z,0.4nm,0.5s,baz=107,slow=3.0,SNR=5.9

*IDC **01** 06:35:45.9±0.6,2.62N×79.18W,h0km,mb4.1/17, mbtmp4.2/22,ML3.6/3,MS3.9/32,Error ellipse: s-maj=19.3km s-min=12.3km az=63.0*
*RSNC **01** 06:35:48.0±0.7,2.52N×79.35W,h22km±4km,ML3.9, Mw4.5*
*VAO **01** 06:35:49.0±0.4,2.54N×78.97W,h14km,mb4.7*
*NEIC **01** 06:35:49.4±1.5,2.54N±0.06×79.03W±0.08,h15km±5km, mb4.7/69,Error ellipse: s-maj=12.5km s-min=6.4km az=63.0*
ISC 01 06:35:47.6±1.7,2.53N±0.03×79.07W±0.04,h10km±11km, **n210,σ1°93**/195,**mb4.6**/41,**MS3.8**/29,**9C,South of Panama**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TUMC	**Tumac**	**0.78**	**154**				**Pb**	**06 36 04.1**	**+0.7**
TUMC	**Tumac**	**0.78**	**154**	⇑*i*P			**Pn**	**06 36 04.2**	**-0.6**
TUMC				*e*S			**Sn**	**06 36 17.6**	**+0.9**
TUMC				*i*				06 36 52.4	
	comp=Z,3μm,0.6s								
CMBC	**Cumbal**	**2.01**	**142**	*e*P			**Pn**	**06 36 22.6**	**+0.4**
CMBC				*e*S			Sn	06 36 35.1	-12
GCUF	**Volcan Galeras**	**2.16**	**127**	⇑*i*P			**Pn**	**06 36 25.2**	**+1.1**
GCUF				*i*				06 36 35.3	
	comp=Z,641nm,0.8s								
GCUF				*e*S			**Sb**	**06 36 54.7**	**+0.6**
TULM	**Tulcn-Chalpat**	**2.21**	**145**	*e*P			**Pn**	**06 36 25.0**	**0.0**
TULM				*e*S			**Sn**	**06 36 50.2**	**-2.5**
PAC1	**Pacto, Paraso**	**2.27**	**173**	*e*P			**Pn**	**06 36 23.8**	**-1.6**
PAC1				*e*S			Sn	06 36 42.4	-11
PAC1				*i*				06 37 03.9	
	comp=Z,461nm,0.3s								
CUSE	**Cuicocha Este**	**2.31**	**163**	*e*P			**Pn**	**06 36 25.9**	**-0.3**
CUSE				*e*S			**Sn**	**06 36 47.4**	**-7.7**
CUSE				*i*				06 36 57.0	
	comp=Z,849nm,0.4s								
CRUC	**La Cruz**	**2.32**	**114**	*e*P			**Pn**	**06 36 27.9**	**+1.6**
BONI	**La Bonita**	**2.58**	**143**	⇑*i*P			**Pn**	**06 36 31.3**	**+1.6**
BONI				*i*				06 36 47.5	
	comp=Z,279nm,0.6s								
BONI				*e*S			**Sg**	**06 37 14.0**	**+3.5**
MAPC	**Malpelo**	**2.92**	**300**	*e*P			Pn	06 36 29.4	-4.9
MAPC				*e*S			Sn	06 37 00.1	-10
MAPC				*i*				06 37 03.1	
	comp=Z,314nm,0.3s								
YOTC	**Yotoco, Valle**	**3.08**	**62**	⇑*i*P			**Pn**	**06 36 34.9**	**-1.5**
YOTC				*e*S			**Sn**	**06 37 09.9**	**-3.5**
FLOC	**Florencia**	**3.54**	**105**	⇑*i*P			**Pn**	**06 36 44.8**	**+2.0**
FLOC				*e*S			**Sb**	**06 37 30.9**	**-2.7**
GARC	**Garzon, Huila**	**3.59**	**95**	⇑*i*P			**Pn**	**06 36 45.9**	**+2.3**
GARC				*e*S			**Sn**	**06 37 26.0**	**-0.2**
PLMC	**San Jos del P**	**3.64**	**50**	*e*P			**Pn**	**06 36 42.6**	**-1.7**
PLMC				*e*S			**Sn**	**06 37 25.4**	**-2.0**
ORTC	**Ortega, Tolima**	**4.05**	**70**	*e*P			**Pn**	**06 36 51.4**	**+1.6**
ORTC				*e*S			**Sb**	**06 37 44.3**	**-4.0**
ANIL	**Santa Ana**	**4.14**	**62**	*e*P			**Pn**	**06 36 52.3**	**+1.0**
ANIL				*i*				06 37 21.5	
	comp=Z,250nm,0.8s								
CBOC	**Ciudad Bolivar**	**4.50**	**43**	*e*P			**Pn**	**06 36 55.1**	**-1.0**
CBOC				*e*S			Sg	06 38 24.0	+12
GUY2C	**Guyana, Caldas**	**4.56**	**54**	⇑*e*P			**Pn**	**06 36 57.6**	**+0.4**
GUY2C				*e*S			**Sb**	**06 38 01.4**	**-1.9**
GUY2C				*i*				06 38 04.6	
	comp=Z,66nm,0.6s								
NORC	**Norcasia**	**5.16**	**54**	*e*P			**Pn**	**06 37 06.3**	**+1.3**
NORC				*e*S			**Sn**	**06 38 08.1**	**+3.4**
MACC	**Macarena, Meta**	**5.23**	**94**	⇑*i*P			**Pn**	**06 37 08.4**	**+2.4**
MACC				*e*S			**Sn**	**06 38 04.2**	**-2.2**
MACC				*i*				06 38 11.9	
	comp=Z,80nm,0.6s								
ROSC	**El Rosal**	**5.26**	**64**	Pn			**Pn**	**06 37 08.9**	**+2.1**
	comp=Z,62nm,0.9s,baz=221,slow=8.3								
ROSC						Sn	**Sn**	**06 38 11.1**	**+3.3**
	baz=88,slow=17								
ROSC	**El Rosal**	**5.26**	**64**	*e*P			**Pn**	**06 37 09.5**	**+2.7**
ROSC				*e*S			**Sg**	**06 38 41.3**	**+4.5**
DBBC	**Dabeiba**	**5.29**	**32**	*e*P			**Pn**	**06 37 10.5**	**+3.6**
AZU	**Azuero**	**5.36**	**347**	*e*P			Pn	06 36 55.3	-12
AZU				*i*				06 37 32.8	
	comp=Z,48nm,0.6s								
VILC	**Villavicencio,**	**5.59**	**74**	*e*P			**Pn**	**06 37 14.4**	**+3.4**
VILC				*i*				06 38 30.1	
	comp=Z,60nm,0.5s								
CHIC	**Chingaza**	**5.72**	**69**	*e*P			**Pn**	**06 37 14.9**	**+1.9**
CHIC				*i*				06 37 37.8	
	comp=Z,67nm,0.6s								
CHIC				*e*S			**Sb**	**06 38 32.2**	**-4.4**
APAC	**Apartado, Choc**	**5.88**	**25**	*e*P			Pn	06 37 21.7	+6.8
APAC				*e*S			**Sn**	**06 38 28.1**	**+5.6**
PTBC	**PUERTO BERRIO,**	**6.08**	**49**	*e*P			**Pn**	**06 37 18.4**	**+0.7**
PTBC				*e*S			**Sg**	**06 38 57.4**	**-5.6**
UREC	**San Jos de Ur**	**6.26**	**34**	*e*P			**Pn**	**06 37 23.4**	**+3.1**
UREC				*e*S			**Sb**	**06 38 57.7**	**+5.7**
GUVC	**San Jose del G**	**6.43**	**90**	*e*P			**Pn**	**06 37 24.7**	**+2.2**
ZARC	**Zaragoza, Cauc**	**6.47**	**40**	*e*P			**Pn**	**06 37 24.8**	**+1.8**
ZARC				*e*S			**Sg**	**06 39 08.7**	**-6.7**
RUSC	**La Rusia**	**6.84**	**61**	Pn			**Pn**	**06 37 29.2**	**+0.6**
RUSC	**La Rusia**	**6.84**	**61**	*e*P			**Pn**	**06 37 30.8**	**+2.2**
RUSC				*e*S			**Sn**	**06 38 53.7**	**+6.9**
RUSC				*i*				06 39 29.5	
	comp=Z,20nm,0.9s								
BRRC	**Barranca, Sant**	**7.01**	**49**	*e*P			**Pn**	**06 37 32.9**	**+2.4**
BRRC				*e*S			**Sn**	**06 38 58.6**	**+8.3**
CDITO	**Canoas**	**7.09**	**328**	Pn			**Pn**	**06 37 33.0**	**+1.4**
PTGC	**Puerto Gaitan,**	**7.12**	**76**	*e*P			**Pn**	**06 37 34.6**	**+2.7**
PTGC				*i*				06 38 04.1	
	comp=Z,39nm,0.7s								
PTGC				*e*S			**Sb**	**06 39 19.0**	**+2.5**
BARC	**Barichara**	**7.12**	**55**	*e*P			**Pn**	**06 37 33.6**	**+1.4**
BRU2	**Volcan**	**7.19**	**330**	Pn			**Pn**	**06 37 34.2**	**+1.2**
BRU2	**Volcan**	**7.19**	**330**	*e*P			**Pb**	**06 37 51.6**	**-1.1**
SRBA	**San Rafael, Bu**	**7.91**	**328**	Pn			**Pn**	**06 37 44.4**	**+1.5**
PEZE	**Perez Zeledon,**	**8.20**	**326**				**Pn**	**06 37 48.6**	**+1.7**
TAMC	**Tame, Arauca**	**8.22**	**62**	*e*P			**Pn**	**06 37 45.5**	**-1.7**
RIMA	**Rio Macho**	**8.62**	**327**				**Pn**	**06 37 52.9**	**+0.1**
LL1C	**La Loma 1 Cana**	**8.86**	**38**	*e*P			**Pn**	**06 37 59.9**	**+4.0**
HDC	**Heredia**	**8.95**	**326**	Pn			**Pn**	**06 37 58.9**	**+1.6**
HDC	**Heredia**	**8.95**	**326**	*e*P			**Pn**	**06 37 58.7**	**+1.4**
JACO	**JACO, Garabito**	**9.00**	**322**	Pn			**Pn**	**06 37 58.1**	**+0.3**
LL6C	**La Loma 6 Bece**	**9.19**	**39**	*e*P			Pn	06 37 43.5	-17
ATAH	**Atahualpa**	**9.63**	**176**	Pn			**Pn**	**06 38 08.9**	**+2.1**
ATAH						Sn	**Sn**	**06 39 55.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=345,slow=5.2,SNR=3.4								
	comp=Z,0.4nm,0.3s,baz=86,slow=18,SNR=3.8								
ATAH						LR	LR	06 42 25.2	
	comp=Z,1μm,19.3s,baz=348,slow=41								
	comp=Z,2.3nm,0.6s								
JTS	**Las Juntas de**	**9.67**	**323**	LR			LR	06 41 05.8	
	comp=Z,671nm,21.7s,slow=34								
JTS	**Las Juntas de**	**9.67**	**323**				**Pn**	**06 38 08.5**	**+1.5**
HZTE	**Horizontes, Gu**	**10.39**	**322**	Pn			**Pn**	**06 38 18.0**	**+1.1**
CRJC	**Cerrejon, Guaj**	**10.43**	**36**	*e*P			**Pn**	**06 38 18.2**	**+0.7**
SDV	**Santo Domingo**	**10.50**	**53**	Pn			**Pn**	**06 38 19.2**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=276,slow=10,SNR=5.1								
SDV						Sn	**Sn**	**06 40 14.9**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=342,slow=13,SNR=1.5								
SDV						LR	LR	06 43 12.2	
	comp=Z,848nm,19.4s,baz=228,slow=42								
	comp=Z,4.9nm,0.5s								
SDV	**Santo Domingo**	**10.50**	**53**				**Pn**	**06 38 18.1**	**-0.4**
SDV	**Santo Domingo**	**10.50**	**53**	*e*P			**Pn**	**06 38 18.9**	**+0.4**
TBTG	**Tabatinga, AM**	**11.33**	**126**				**Pn**	**06 38 29.9**	**+0.1**
TBTG	**Tabatinga, AM**	**11.33**	**126**	*e*P			**Pn**	**06 38 28.6**	**-1.1**
CZSB	**Cruzeiro do Su**	**12.01**	**148**				**Pn**	**06 38 39.2**	**+0.1**
CZSB	**Cruzeiro do Su**	**12.01**	**148**	*e*P			**Pn**	**06 38 41.4**	**+2.3**
SGCB	**SΣo Gabriel d**	**12.32**	**102**	*e*P			**Pn**	**06 38 44.2**	**+0.9**
BAUV	**El Baul**	**12.68**	**59**	Pn			**Pn**	**06 38 45.5**	**-2.7**
TGUH	**Tegucigalpa,Un**	**14.03**	**325**	Pn			**Pn**	**06 39 06.1**	**-0.7**
NNA	**Nana**	**14.60**	**171**	Pn			**Pn**	**06 39 15.5**	**+1.0**
	comp=Z,2.0nm,0.4s,baz=270,slow=16								
MTO3	**Montecristo**	**15.56**	**320**				**Pn**	**06 39 28.5**	**+0.9**
TEFE	**Tefe**	**15.62**	**113**	*e*P			**Pn**	**06 39 28.7**	**+0.5**
ESQI	**Esquipulas**	**15.67**	**320**				**Pn**	**06 39 29.3**	**+0.4**
PCRV	**Puerto La Cruz**	**16.22**	**61**	Pn			**P**	**06 39 37.7**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=229,slow=8.5,SNR=7.2								
	comp=Z,9.4nm,0.6s								
HUEH	**Huehuetenango**	**17.65**	**317**	P			**P**	**06 39 55.6**	**+0.5**
HUEH						IAmb	IAmb	06 40 16.9	
	comp=Z,129nm,1.4s								
ETMB	**Extrema**	**17.73**	**134**	P			**Pn**	**06 39 54.2**	**-0.7**
ETMB						IAmb	IAmb	06 39 57.4	
	comp=Z,104nm,1.1s								
ETMB	**Extrema**	**17.73**	**134**	*e*P			**Pn**	**06 39 53.7**	**-1.2**
PETF	**Flores**	**17.80**	**324**	P			**P**	**06 39 56.5**	**0.0**
PETF						IAmb	IAmb	06 40 16.3	
	comp=Z,54nm,1.3s								
BOAV	**Boa Vista**	**18.53**	**90**	P			**P**	**06 40 03.4**	**-1.2**
BOAV						IAmb	IAmb	06 40 07.5	
	comp=Z,53nm,1.1s								
BOAV	**Boa Vista**	**18.53**	**90**	*e*P			**P**	**06 40 02.9**	**-1.6**
CCIG	**Comitan**	**18.76**	**318**	P			**P**	**06 40 06.7**	**-0.6**
CCIG						IAmb	IAmb	06 40 19.7	
	comp=Z,36nm,1.1s								
MACA	**Manacapuru-AM**	**19.23**	**107**				**Pn**	**06 40 12.8**	**-0.4**
MACA						IAmb	IAmb	06 40 25.5	
	comp=Z,97nm,1.4s								
MACA	**Manacapuru-AM**	**19.23**	**107**	*e*P			**P**	**06 40 12.4**	**+0.1**
SJG	**San Juan**	**20.00**	**38**	P			**P**	**06 40 19.6**	**-1.1**
	comp=Z,15nm,0.8s,baz=209,slow=10,SNR=2.2								
SJG						LR	LR	06 49 28.4	
	comp=Z,423nm,19.3s,baz=206,slow=41								
	comp=Z,15nm,0.8s								
GCPR	**Guaynabo City**	**20.19**	**38**	P			Pn	06 40 24.3	-0.4
GCPR						IAmb	IAmb	06 40 26.0	
	comp=Z,33nm,0.9s								
CBYP	**Canovanas**	**20.31**	**39**	P			**P**	**06 40 24.8**	**+0.8**
CBYP						IAmb	IAmb	06 40 36.3	
	comp=Z,45nm,1.1s								
TOSP	**Speyside**	**20.34**	**64**	P			**P**	**06 40 23.9**	**-0.4**
TOSP						IAmb	IAmb	06 40 34.2	
	comp=Z,50nm,0.9s								
CUPR	**Culebra, Puert**	**20.70**	**40**	P			**P**	**06 40 28.5**	**+0.3**
CUPR						IAmb	IAmb	06 40 34.2	
	comp=Z,29nm,0.7s								
CMIG	**Matias Romero**	**21.23**	**314**	P			**P**	**06 40 33.6**	**-0.4**
	comp=Z,4.4nm,0.8s,baz=133,slow=9.9,SNR=11								
CMIG						LR	LR	06 47 28.5	
	comp=Z,345nm,18.5s,baz=129,slow=33								
	comp=Z,4.4nm,0.8s								
FDF	**Fort de France**	**21.44**	**55**	P			**P**	**06 40 36.8**	**+0.5**
LPAZ	**La Paz**	**21.60**	**150**	P			**P**	**06 40 39.5**	**+0.8**
	comp=Z,22nm,1.3s,baz=340,slow=8.3,SNR=22								
	comp=Z,22nm,1.3s								
LPAZ	**La Paz**	**21.60**	**150**	P			**P**	**06 40 39.4**	**+0.8**
LPAZ	**La Paz**	**21.60**	**150**	*e*P			**P**	**06 40 37.7**	**-0.9**
SMRT	**St. Maarten**	**22.00**	**44**	P			**P**	**06 40 41.9**	**-0.3**
PB12	**IPOC Station P**	**22.71**	**158**	P			**P**	**06 40 48.6**	**-1.3**
PB12						IAmb	IAmb	06 41 07.1	
	comp=Z,18nm,0.9s								
PB16	**IPOC Station P**	**22.77**	**156**			IAmb	IAmb	06 40 59.6	
	comp=Z,23nm,1.0s								
MNMC	**Minye Minye**	**23.46**	**157**	P			**P**	**06 40 58.3**	**+0.5**
VILB	**Vilhena**	**24.24**	**130**	P			**P**	**06 41 05.1**	**0.0**
VILB						IAmb	IAmb	06 41 07.4	
	comp=Z,98nm,0.8s								
VILB	**Vilhena**	**24.24**	**130**	*e*P			**P**	**06 41 04.5**	**-0.6**
TA02	**Huaiquique**	**24.30**	**159**	P			**P**	**06 41 05.4**	**-0.1**
ITTB	**Itaituba**	**24.30**	**106**	*e*P			**P**	**06 41 05.8**	**+0.1**
MALB	**Monte Alegre**	**25.18**	**100**	*e*P			**P**	**06 41 14.8**	**+1.2**
NPGB	**Novo Progresso**	**25.51**	**112**	*e*P			**P**	**06 41 14.8**	**-1.8**
SIV	**San Ignacio**	**25.60**	**137**	P			**P**	**06 41 18.7**	**+1.2**
	comp=Z,7.9nm,0.8s,baz=316,slow=9.6,SNR=39								
SIV						LR	LR	06 52 53.5	
	comp=Z,306nm,21.4s,baz=304,slow=40								
	comp=Z,7.9nm,0.8s								
PDRB	**Ponto dos Gac**	**26.28**	**123**	*e*P			**P**	**06 41 23.2**	**-0.5**
MDP	**Montagnes des**	**26.49**	**84**	LR			LR	06 52 25.2	
	comp=Z,379nm,20.2s,baz=284,slow=38								
PTLB	**Pontes e Lacer**	**26.61**	**133**	P			**P**	**06 41 26.6**	**0.0**
PTLB						IAmb	IAmb	06 41 40.0	
	comp=Z,25nm,1.2s								
PTLB	**Pontes e Lacer**	**26.61**	**133**	*e*P			**P**	**06 41 26.5**	**0.0**
CLDB	**Colider**	**26.71**	**120**	*e*P			**P**	**06 41 27.5**	**0.0**
BBSD	**Serra de San D**	**26.75**	**138**	*e*P			**P**	**06 41 28.6**	**+0.7**
LVC	**Limon Verde**	**26.89**	**159**	P			**P**	**06 41 30.7**	**+1.3**
	comp=Z,5.8nm,0.3s,baz=285,slow=4.7,SNR=23								
LVC						LR	LR	06 53 18.2	
	comp=Z,463nm,19.6s,baz=326,slow=39								
	comp=Z,5.8nm,0.3s								
LVC	**Limon Verde**	**26.89**	**159**	P			**P**	**06 41 30.0**	**+0.6**
LVC	**Limon Verde**	**26.89**	**159**	*e*P			**P**	**06 41 31.9**	**+2.5**
MCPB	**Macapa, AP**	**27.16**	**96**	*e*P			**P**	**06 41 31.1**	**-0.4**
SALV	**Santo Antonio**	**29.49**	**129**	*e*P			**P**	**06 41 53.3**	**+1.0**
PRPB	**Parauapebas**	**30.46**	**107**	*e*P			**P**	**06 42 01.0**	**0.0**
PP1B	**Ponte de Pedra**	**31.13**	**131**	*e*P			**P**	**06 42 07.3**	**+0.5**
SNDB	**Serra Nova Dou**	**31.14**	**118**	*e*P			**P**	**06 42 06.1**	**-0.8**
MURT	**Porto Murtinho**	**31.92**	**140**	*e*P			**P**	**06 42 12.6**	**-1.1**
RVDE	**Rio Verde (Bra**	**31.97**	**133**	*e*P			**P**	**06 42 14.3**	**+0.1**
AQDB	**Aquidauana**	**32.37**	**136**	P			**P**	**06 42 16.9**	**-0.8**
AQDB						IAmb	IAmb	06 42 30.7	
	comp=Z,12nm,1.1s								
AQDB	**Aquidauana**	**32.37**	**136**	*e*P			**P**	**06 42 17.7**	**0.0**
ARAG	**Araguaiana, MT**	**32.48**	**125**	*e*P			**P**	**06 42 18.2**	**-0.5**
V58A	**Windy Hill, Pi**	**33.09**	**360**	P			**P**	**06 42 25.4**	**+1.6**
V58A						IAmb	IAmb	06 42 47.1	
	comp=Z,18nm,1.2s								
TKL	**Tuckaleechee C**	**33.25**	**353**	LR			LR	06 55 11.4	
	comp=Z,107nm,19.8s,baz=144,slow=35								
SMTB	**Santa Maria do**	**33.36**	**110**	*e*P			**P**	**06 42 26.6**	**+0.2**
WLAR	**White Oak Lake**	**33.66**	**339**	P			**P**	**06 42 29.1**	**+0.3**
V48A	**Smith Brothers**	**33.81**	**349**			IAmb	IAmb	06 42 43.6	
	comp=Z,10nm,1.0s								
TICA	**Tres Isletas**	**33.96**	**149**	*e*P			**P**	**06 42 32.0**	**+0.5**
AMBA	**Amambai (Brazi**	**34.52**	**138**	*e*P			**P**	**06 42 37.1**	**+0.6**
H06E1	**SOCORRO T-PHAS**	**35.12**	**300**	T			T	07 19 49.0	
	SNR=10								
ROSB	**Rosrio**	**35.34**	**99**	*e*P			**P**	**06 42 43.6**	**-0.1**
TXAR	**Lajitas Array**	**35.45**	**321**	P			**P**	**06 42 43.2**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=142,slow=9.3,SNR=8.8								
TXAR						LR	LR	06 59 07.7	
	comp=Z,108nm,18.4s,baz=106,slow=40								
	comp=Z,0.7nm,0.8s								
TXAR	**Lajitas Array**	**35.45**	**321**	P			**P**	**06 42 45.5**	**+1.0**
CPUP	**Villa Florida**	**35.57**	**145**	LR			LR	06 58 18.8	
	comp=Z,265nm,19.4s,baz=329,slow=38								
PCMB	**Pacaembu**	**36.27**	**133**	*e*P			**P**	**06 42 50.3**	**-1.2**
LPIG	**La Paz**	**37.02**	**308**	LR			LR	06 54 43.6	
	comp=Z,136nm,20.2s,baz=172,slow=31								
SDBA	**SAO DESIDERIO**	**37.04**	**114**	*e*P			**P**	**06 42 57.8**	**-0.4**
CCM	**Cathedral Cave**	**37.07**	**344**	P			**P**	**06 42 57.4**	**-0.7**
CCM						IAmb	IAmb	06 43 17.5	
	comp=Z,12nm,1.1s								
MECA	**Mercedes**	**37.45**	**149**	*e*P			**P**	**06 43 01.4**	**0.0**
PTGB	**Pitanga**	**37.70**	**138**	*e*P			**P**	**06 43 02.1**	**-1.6**
FRBT	**Francisco Belt**	**37.90**	**140**	*e*P			**P**	**06 43 04.3**	**-1.0**
MNTX	**Cornudas Mount**	**38.16**	**322**	P			**P**	**06 43 07.7**	**+0.2**
CRSM	**Crissiumal (Br**	**38.37**	**143**	*e*P			**P**	**06 43 08.4**	**-0.8**
JANB	**Januaria**	**38.59**	**118**	*e*P			**P**	**06 43 11.5**	**+0.2**
ITAB	**Concordia**	**39.37**	**141**	P			**P**	**06 43 17.4**	**-0.3**
ITAB						IAmb	IAmb	06 43 18.0	
	comp=Z,25nm,1.3s								
TIJ01	**Guaruva-PR**	**40.20**	**135**	*e*P			**P**	**06 43 25.1**	**+0.4**
121A	**Cookes Peak, D**	**40.22**	**321**	P			**P**	**06 43 25.4**	**+0.5**
121A						IAmb	IAmb	06 43 27.9	
	comp=Z,13nm,1.1s								
ANMO	**Albuquerque**	**41.08**	**325**	LR			LR	07 01 32.3	
	comp=Z,131nm,18.3s,baz=206,slow=38								
ANMO	**Albuquerque**	**41.08**	**325**	P			**P**	**06 43 31.6**	**-0.4**
RPN	**Rapa Nui**	**41.49**	**223**	LR			LR	06 57 16.9	
	comp=Z,112nm,19.0s,baz=74,slow=31								
SADO	**Sadowa**	**42.06**	**360**	LR			LR	07 02 52.5	
	comp=Z,89nm,18.9s,baz=128,slow=39								
PLCA	**Paso Flores**	**43.76**	**171**	P			**P**	**06 43 53.2**	**-0.3**
	comp=Z,4.8nm,0.9s,baz=352,slow=9.8,SNR=9.5								
	comp=Z,4.8nm,0.9s								
PLCA	**Paso Flores**	**43.76**	**171**	P			**P**	**06 43 54.1**	**+0.6**
PLCA						IAmb	IAmb	06 44 02.8	
	comp=Z,14nm,1.4s								
PLCA	**Paso Flores**	**43.76**	**171**	*e*P			**P**	**06 43 55.1**	**+1.5**
RCBR	**Riachuelo**	**43.90**	**101**	LR			LR	07 02 56.8	
	comp=Z,342nm,19.2s,baz=66,slow=37								
ALF01	**Guarapari-ES**	**44.06**	**123**	*e*P			**P**	**06 43 56.6**	**+0.4**
WUAZ	**Wupatki**	**44.42**	**321**	IAmb			IAmb	06 44 10.5	
	comp=Z,13nm,0.9s								
U15A	**North Rim**	**45.57**	**322**	IAmb			IAmb	06 44 17.7	
	comp=Z,12nm,1.3s								
W13A	**Hualapai Mount**	**45.76**	**319**	P			**P**	**06 44 10.0**	**+0.2**
KNB	**Kanab**	**46.28**	**322**	IAmb			IAmb	06 44 22.0	
	comp=Z,14nm,1.5s								
SRU	**San Rafael Swe**	**46.32**	**326**	IAmb			IAmb	06 44 15.2	
	comp=Z,6.4nm,1.1s								
PFO	**Pinyon Flats O**	**46.64**	**316**	LR			LR	07 03 14.1	
	comp=Z,47nm,18.6s,baz=112,slow=35								
V12A	**Nelson**	**46.77**	**319**	P			**P**	**06 44 18.6**	**+1.0**
V12A						IAmb	IAmb	06 44 19.5	
	comp=Z,7.9nm,1.2s								
RSSD	**Black Hills**	**46.94**	**335**	P			**P**	**06 44 19.1**	**+0.2**
RSSD						IAmb	IAmb	06 44 31.7	
	comp=Z,9.1nm,0.9s								
PDAR	**Pinedale Array**	**48.42**	**330**	P			**P**	**06 44 29.0**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=143,slow=9.1,SNR=2.8								
PDAR						LR	LR	07 09 03.9	
	comp=Z,54nm,19.0s,baz=133,slow=41								
	comp=Z,0.4nm,0.8s								
SPR3	**Spring Creek 3**	**48.46**	**323**	IAmb			IAmb	06 44 32.5	
	comp=Z,5.1nm,1.1s								
ULM	**Lac du Bonnet**	**49.64**	**346**	P			**P**	**06 44 37.0**	**-2.3**
	comp=Z,2.9nm,0.6s,baz=149,slow=6.7,SNR=5.7								
	comp=Z,2.9nm,0.6s								
ULM	**Lac du Bonnet**	**49.64**	**346**	P			**P**	**06 44 37.9**	**-1.5**
ULM						IAmb	IAmb	06 44 46.9	
	comp=Z,7.3nm,0.9s								
ELK	**Elko**	**50.11**	**324**	LR			LR	07 05 48.2	
	comp=Z,63nm,21.9s,baz=140,slow=36								
NVAR	**Mina Array Bea**	**50.59**	**320**	P			**P**	**06 44 46.0**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=140,slow=6.9,SNR=6.9	

	comp=E,248nm,0.4s						
GO01	**Chusmiza**	**1.23**	**345**	*e*P	Pn	06 41 03.2	-0.6
GO01				*i* S	Sn	06 41 21.9	+0.5
TA01	**Diego Aracena**	**1.27**	**283**	⇑*i*P	Pn	06 41 02.3	-1.4
TA01				*e*S	Sn	06 41 20.3	-1.0
PB07	**IPOC Station P**	**1.28**	**228**	⇑*i*P	Pn	06 41 03.2	-0.9
PB07				*i* S	Sn	06 41 21.6	-0.3
PB07				IAML		06 41 23.2	
	comp=E,200nm,0.3s						
PB11	**IPOC Station P**	**1.33**	**326**	*e*P	Pn	06 41 03.6	-1.1
PB11				*i* S	Sn	06 41 22.4	-0.5
PB11				IAML		06 41 24.9	
	comp=E,133nm,0.2s						
PB11	**IPOC Station P**	**1.33**	**326**	P	Pn	06 41 03.6	-1.1
PB03	**IPOC Station P**	**1.44**	**215**	⇑*i*P	Pn	06 41 05.1	-0.8
PB03				*i* S	Sn	06 41 24.8	-0.4
PB03				IAML		06 41 26.6	
	comp=E,79nm,0.2s						
LVC	**Limon Verde**	**1.73**	**182**	*e*P	Pn	06 41 10.0	+0.2
LVC				*e*S	Sn	06 41 33.1	+1.0
PSGC	**Pisagua**	**1.73**	**317**	*e*P	Pn	06 41 08.4	-1.1
PSGC				*i* S	Sn	06 41 30.4	-1.3
MNMC	**Minye Minye**	**1.86**	**338**	*e*P	Pn	06 41 11.5	+0.1
MNMC				*i* S	Sn	06 41 35.3	+0.4
PB04	**IPOC Station P**	**1.89**	**219**	*e*P	Pn	06 41 11.1	-0.5
PB04				*i* S	Sn	06 41 35.5	+0.1
PB04				IAML		06 41 42.7	
	comp=N,60nm,0.2s						
PB06	**IPOC Station P**	**1.94**	**200**	*e*P	Pn	06 41 11.9	-0.4
PB06				*i* S	Sn	06 41 36.2	-0.4
PB06				IAML		06 41 41.8	
	comp=N,53nm,0.5s						
PB15	**IPOC Station P**	**2.40**	**194**	*e*P	Pn	06 41 18.5	+0.2
PB15				*i* S	Sn	06 41 47.3	0.0
PB12	**IPOC Station P**	**2.63**	**328**	*e*P	Pn	06 41 19.5	-1.8
PB12				*i* S	Sn	06 41 52.2	-0.5
PB12				IAML		06 42 02.5	
	comp=E,23nm,0.3s						

JMA 01 06:43:10.2±0.2,35°.9N±0°.4×140°.9E±0°.7,h15km±1km, MV0.7/28,NEAR CHOSHI CITY,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.29**	**290**	P	Pb	06 43 17.0	-0.2
JIHU				S	Sb	06 43 22.2	+0.3
JHYU	**Hitachinakayam**	**0.53**	**334**	*e*P	Pg	06 43 20.6	0.0
JYT	**Yasato**	**0.66**	**304**	P	Pg	06 43 22.6	-0.4
JYT				*e*S	Sg	06 43 30.9	-0.8
JHO	**Hitachi**	**0.78**	**342**	P	Pg	06 43 24.9	-0.5

*ISK **01** 06:47:08.1,36°.37N×27°.80E,h72km,ML3.0/22*
*ATH **01** 06:47:09.8,36°.40N×27°.80E,h62km±4km,ML2.9/6,Error ellipse: s-maj=4.1km s-min=1.8km az=98.0*
*DDA **01** 06:47:09.8±0.0,36°.46N×27°.82E,h53km±4km,ML2.9*
*THE **01** 06:47:10.1,36°.36N×27°.81E,h64km±1km,ML2.5/5,Error ellipse: s-maj=1.6km s-min=0.6km az=78.0*
*NIC **01** 06:47:11.3±0.0,35°.97N×28°.12E,h47km±2km,Ml3.8/7*

ISC 01 06:47:07.9±1.2,36°.32N±0°.03×27°.86E±0°.02,h76km±6km, n70,σ1s27/111,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.24**	**116**	P	**Pn**	**06 47 19.9**	**+0.5**
ARG				S	**Sn**	**06 47 28.0**	**+0.1**
ARG	**Arkhangelos**	**0.24**	**116**	Pg	**Pn**	**06 47 19.9**	**+0.5**
ARG				Sg	**Sn**	**06 47 28.5**	**+0.6**
ARG	**Arkhangelos**	**0.24**	**116**	P	**Pn**	**06 47 19.8**	**+0.4**
ARG				S	**Sn**	**06 47 26.1**	**-1.8**
ARG				AML	AML	06 47 28.6	
	13nm,0.3s						
ARG				AML	AML	06 47 28.6	
	13nm,0.3s						
ARG				AML	AML	06 47 28.7	
	6.5nm,0.1s						
ARG				AML	AML	06 47 28.7	
	6.5nm,0.1s						
ARG	**Arkhangelos**	**0.24**	**116**	P	**Pn**	**06 47 19.9**	**+0.5**
ARG				S	**Sn**	**06 47 27.8**	**-0.1**
ARG				AML	AML	06 47 29.0	
	comp=E,12928μm,0.3s						
ARG				AML	AML	06 47 29.0	
	comp=N,6610μm,0.1s						
DAT	**Datca**	**0.46**	**331**	P	**Pn**	**06 47 20.8**	**-0.3**
DAT				S	**Sn**	**06 47 29.7**	**-1.1**
DAT	**Datca**	**0.46**	**331**	Pg	**Pn**	**06 47 20.8**	**-0.3**
DAT				Sg	**Sn**	**06 47 30.0**	**-0.8**
NISR	**Nisiros**	**0.65**	**296**	P	**Pn**	**06 47 22.7**	**0.0**
NISR				S	**Sn**	**06 47 32.5**	**-1.2**
	comp=N,255nm,0.4s						
NISR	**Nisiros**	**0.65**	**296**	P	**Pn**	**06 47 23.2**	**+0.5**
NISR				S	**Sn**	**06 47 31.7**	**-2.0**
NISR				AML	AML	06 47 35.9	
	comp=E,614μm,0.5s						
NISR				AML	AML	06 47 39.9	
	comp=N,346μm,0.5s						
DALY	**Dalyan (Mula)**	**0.81**	**52**	Pg	**Pn**	**06 47 25.3**	**+0.9**
DALY				Sg	**Sn**	**06 47 37.8**	**+1.1**
BDRM	**Kayabasi**	**0.81**	**336**	P	**Pn**	**06 47 24.4**	**-0.1**
BDRM				*i* AML	AML	06 47 36.0	
	comp=N,1μm,0.4s						
BDRM				S	**Sn**	**06 47 36.2**	**-0.6**
BODT	**Bodrum**	**0.86**	**329**	P	**Pn**	**06 47 25.0**	**0.0**
BODT				S	**Sn**	**06 47 37.1**	**-0.7**
BODT	**Bodrum**	**0.86**	**329**	Pg	**Pn**	**06 47 25.0**	**0.0**
BODT				Sg	**Sn**	**06 47 37.3**	**-0.5**
YER	**Yerkesik**	**0.88**	**23**	P	**Pn**	**06 47 26.1**	**+0.8**
YER				S	**Sn**	**06 47 38.3**	**0.0**
YER	**Yerkesik**	**0.88**	**23**	Pg	**Pn**	**06 47 25.8**	**+0.5**
KARP	**Karpathos**	**0.96**	**216**	P	**Pn**	**06 47 27.3**	**+1.0**
KARP				S	**Sn**	**06 47 40.4**	**+0.4**
KARP	**Karpathos**	**0.96**	**216**	Pg	**Pn**	**06 47 27.2**	**+1.0**
KARP				Sg	**Sn**	**06 47 40.7**	**+0.8**
KARP	**Karpathos**	**0.96**	**216**	P	**Pn**	**06 47 27.3**	**+1.0**
KARP				S	**Sn**	**06 47 40.3**	**+0.4**
KARP				AML	AML	06 47 40.6	
	comp=N,7.8nm,0.1s						
KARP				AML	AML	06 47 40.6	
	comp=N,7.8nm,0.1s						
KARP				AML	AML	06 47 40.7	
	comp=N,10nm,0.3s						
KARP				AML	AML	06 47 40.7	
	comp=N,10nm,0.3s						
KARP	**Karpathos**	**0.96**	**216**	P	**Pn**	**06 47 27.3**	**+1.0**
KARP				S	**Sn**	**06 47 40.0**	**0.0**
KARP				AML	AML	06 47 41.0	
	comp=E,7905μm,0.1s						
KARP				AML	AML	06 47 41.2	
	comp=N,10183μm,0.3s						
MLSB	**Milas**	**0.97**	**356**	Pg	**Pn**	**06 47 26.6**	**+0.2**
MLSB				Sg	**Sn**	**06 47 39.9**	**-0.3**
MULA	**Mugla, Merkez-**	**1.00**	**22**	P	**Pn**	**06 47 27.6**	**+0.8**
MULA				S	**Sn**	**06 47 41.2**	**+0.2**
FETY	**Fethiye**	**1.04**	**72**	Pg	**Pn**	**06 47 28.1**	**+0.9**
AYDN	**Tasoluk**	**1.33**	**1**	P	**Pn**	**06 47 31.7**	**+0.7**
AYDN				S	**Sn**	**06 47 47.0**	**-1.3**
AYDN				*i* AML	AML	06 47 48.0	
	comp=N,220nm,0.4s						
AYDN				*i* AML	AML	06 47 48.0	
	comp=N,404nm,0.3s						
KSL	**Kastellorizon**	**1.41**	**97**	P	**Pn**	**06 47 34.0**	**+2.2**
KSL				S	**Sn**	**06 47 51.4**	**+1.6**
	comp=N,390nm,0.3s						
KSL	**Kastellorizon**	**1.41**	**97**	S	**Sn**	**06 47 47.8**	**-2.0**
KSL				AML	AML	06 47 52.1	
KSL	comp=N,1.0nm,0.3s			AML	AML	06 47 52.8	
	comp=N,0.6nm,0.3s						
KSL	**Kastellorizon**	**1.41**	**97**	P	**Pn**	**06 47 34.0**	**+2.2**
AKAS	**Kas**	**1.42**	**93**	Pn	**Pn**	**06 47 33.4**	**+1.3**
TAVA	**DENIZLI_Tavas**	**1.42**	**36**	P	**Pn**	**06 47 33.1**	**+1.0**
TAVA				S	**Sn**	**06 47 53.1**	**+2.8**
GCAM	**G?zelcaml?**	**1.46**	**340**	Pn	**Pn**	**06 47 33.0**	**+0.5**
GCAM	**G?zelcaml?**	**1.46**	**340**	P	**Pn**	**06 47 33.0**	**+0.5**
GCAM				S	**Sn**	**06 47 50.4**	**-0.7**
GCAM				*i* AML	AML	06 47 51.0	
	comp=N,234nm,0.5s						
GCAM				*i* AML	AML	06 47 51.0	
	comp=N,201nm,0.4s						
SMG	**Samos**	**1.60**	**330**	P	**Pn**	**06 47 34.4**	**0.0**
SMG				S	**Sn**	**06 47 54.0**	**-0.5**
	comp=N,165nm,0.3s						
SMG	**Samos**	**1.60**	**330**	P	**Pn**	**06 47 34.4**	**0.0**
SMG				AML	AML	06 47 54.7	
	comp=N,320μm,0.3s						
SMG				AML	AML	06 47 56.8	
	comp=E,343μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.62**	**1**	Pn	**Pn**	**06 47 34.9**	**+0.2**
APMY	**Acipayam-Deniz**	**1.63**	**45**	Pn	**Pn**	**06 47 35.5**	**+0.7**
GOLH	**Golhisar**	**1.64**	**56**	P	**Pn**	**06 47 37.0**	**+2.0**
GOLH				S	**Sn**	**06 47 57.8**	**+2.2**
ELL	**Elmali**	**1.71**	**75**	Pn	**Pn**	**06 47 37.5**	**+1.6**
ELL	**Elmali**	**1.71**	**75**	P	**Pn**	**06 47 37.7**	**+1.8**
ELL				S	**Sn**	**06 47 59.0**	**+1.9**
ZKR	**Zakros**	**1.80**	**228**	P	**Pn**	**06 47 38.7**	**+1.7**
ZKR				S	**Sn**	**06 48 00.3**	**+1.2**
	comp=E,118nm,0.2s						
ZKR	**Zakros**	**1.80**	**228**	Pn	**Pn**	**06 47 38.3**	**+1.3**
ZKR	**Zakros**	**1.80**	**228**	P	**Pn**	**06 47 38.8**	**+1.9**
ZKR				AML	AML	06 48 01.6	
	comp=E,312μm,0.2s						
ZKR				AML	AML	06 48 04.1	
	comp=N,148μm,0.3s						
SANT	**Santorini**	**1.94**	**272**	P	**Pn**	**06 47 40.3**	**+1.5**
SANT	**Santorini**	**1.94**	**272**	Pn	**Pn**	**06 47 39.7**	**+0.9**
THT2	**Imerovigli**	**1.97**	**274**	Pn	**Pn**	**06 47 39.9**	**+0.7**
APE	**Apeiranthos**	**2.01**	**292**	P	**Pn**	**06 47 41.4**	**+1.5**
APE				S	**Sn**	**06 48 04.8**	**+0.6**
	comp=N,45nm,0.7s						
APE	**Apeiranthos**	**2.01**	**292**	Pn	**Pn**	**06 47 40.5**	**+0.7**
APE	**Apeiranthos**	**2.01**	**292**	P	**Pn**	**06 47 41.4**	**+1.5**
KORT	**Korkueli**	**2.12**	**71**	Pn	**Pn**	**06 47 43.3**	**+2.0**
BLCB	**Balcova**	**2.16**	**343**	Pn	**Pn**	**06 47 42.1**	**+0.4**
FRMA	**Ierapetra Chan**	**2.17**	**234**	P	**Pn**	**06 47 42.8**	**+1.0**
FRMA				AML	AML	06 48 09.8	
	comp=E,314μm,0.5s						
FRMA				AML	AML	06 48 11.4	
	comp=N,281μm,0.4s						
MANT	**Manisa**	**2.23**	**14**	P	**Pn**	**06 47 43.1**	**+0.1**
MANT				S	**Sn**	**06 48 08.8**	**-1.0**
URLA	**Izmir**	**2.27**	**334**	Pn	**Pn**	**06 47 43.3**	**0.0**
KULA	**Kula-Manisa**	**2.28**	**16**	Pn	**Pn**	**06 47 44.5**	**+1.0**
ANTB	**Antalya**	**2.32**	**75**	Pn	**Pn**	**06 47 46.2**	**+2.3**
BASM	**Basmaki-Afyon**	**2.37**	**47**	Pn	**Pn**	**06 47 45.3**	**+0.6**
PASA	**Karahalli, USA**	**2.40**	**32**	P	**Pn**	**06 47 45.7**	**+0.6**
PASA				S	**Sn**	**06 48 13.5**	**-0.1**
HRKL	**Herakleio**	**2.46**	**247**	Pn	**Pn**	**06 47 46.5**	**+0.7**
CHOS	**Chios island**	**2.51**	**326**	P	**Pn**	**06 47 46.7**	**+0.1**
CHOS				S	**Sn**	**06 48 15.9**	**-0.3**
CHOS	**Chios island**	**2.51**	**326**	P	**Pn**	**06 47 46.6**	**0.0**
AKHS	**Akhisar**	**2.55**	**359**	P	**Pn**	**06 47 47.3**	**+0.2**
AKHS				S	**Sn**	**06 48 15.7**	**-1.4**
USAK	**Uak-Merkez**	**2.56**	**21**	P	**Pn**	**06 47 47.8**	**+0.6**
USAK				S	**Sn**	**06 48 16.6**	**-0.8**
SUTC	**Sutluce-Ispart**	**2.77**	**65**	Pn	**Pn**	**06 47 52.4**	**+2.3**
SIGR	**SIGRI**	**3.29**	**332**	P	**Pn**	**06 47 57.6**	**+0.6**
SIGR				S	**Sn**	**06 48 34.2**	**-0.8**
AKMS	**Akamas**	**3.87**	**108**	P	**Pn**	**06 48 04.8**	**-0.2**
AKMS				S	**Sn**	**06 48 45.9**	**-3.4**
AKMS				AML	AML	06 48 49.3	
	comp=N,0.5nm,0.5s						
AKMS				AML	AML	06 48 49.3	
	comp=N,0.5nm,0.5s						
AKMS				AML	AML	06 48 49.6	
	comp=N,0.5nm,0.2s						
AKMS				AML	AML	06 48 49.6	
	comp=N,0.5nm,0.2s						
OSC1	**CSNet OBS 1**	**3.98**	**134**	P	**Pn**	**06 48 05.8**	**-0.6**
OSC1				S	**Sn**	**06 48 46.8**	**-5.1**
ALFC	**Alefka**	**4.03**	**105**	P	**Pn**	**06 48 06.7**	**-0.5**
ALFC				S	**Sn**	**06 48 51.5**	**-1.7**
ALFC				AML	AML	06 48 54.1	
	comp=N,0.4nm,0.3s						
ALFC				AML	AML	06 48 54.1	
	comp=N,0.4nm,0.3s						
ALFC				AML	AML	06 48 54.7	
	comp=N,0.6nm,0.3s						
ALFC				AML	AML	06 48 54.7	
	comp=N,0.6nm,0.3s						
NATA	**Nata**	**4.14**	**110**	P	**Pn**	**06 48 08.5**	**-0.2**
NATA				AML	AML	06 48 58.5	
	comp=N,1.0nm,0.5s						
NATA				AML	AML	06 48 59.3	
	comp=N,1.2nm,0.3s						
SZAC	**Souni**	**4.39**	**109**	P	**Pn**	**06 48 12.2**	**+0.2**
SZAC				S	**Sn**	**06 48 59.4**	**-2.5**
SZAC				AML	AML	06 49 03.5	
	comp=N,0.4nm,0.3s						
SZAC				AML	AML	06 49 03.5	
	comp=N,0.4nm,0.3s						
SZAC				AML	AML	06 49 04.2	
	comp=N,0.4nm,0.3s						
SZAC				AML	AML	06 49 04.2	
	comp=N,0.4nm,0.3s						
ASGA	**Asgata**	**4.66**	**108**	P	**Pn**	**06 48 15.9**	**+0.3**
ASGA				S	**Sn**	**06 49 06.5**	**-1.9**
CSS	**Mathiatis**	**4.66**	**105**	P	**Pn**	**06 48 15.8**	**0.0**
CSS				S	**Sn**	**06 49 06.5**	**-2.1**
ALN	**Alexandroupoli**	**4.78**	**343**	P	**Pn**	**06 48 18.6**	**+1.3**
ALN				S	**Sn**	**06 49 10.6**	**-0.8**
MVOU	**Mavrovouni**	**4.88**	**104**	P	**Pn**	**06 48 19.5**	**+0.8**

IDC 01 06:57:53.8±2.7,24°.54N×98°.44E,h0km,mb3.3/3, mbtmp3.3/3,MS3.6/1,Error ellipse: s-maj=341.7km s-min=28.3km az=58.0,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.69**	**334**	P	P	07 03 25.6	0.0
	0.2nm,0.5s,baz=150,slow=12,SNR=5.1						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**55.81**	**302**	LR	LR	07 33 28.5	
	comp=Z,55nm,20.7s,baz=332,slow=38						
WRA	**Warramunga Arr**	**56.36**	**139**	P	P	07 07 37.6	+0.6
	0.5nm,0.9s,baz=327,slow=6.4,SNR=2.3						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**58.98**	**142**	P	P	07 07 54.9	-0.6
	0.2nm,0.5s,baz=324,slow=7.4,SNR=7.2						
	0.2nm,0.5s						

ROM 01 07:10:06.4±0.1,42°.845N±0°.003×13°.038E±0°.005, h9km,ML1.0/10,4D,Error ellipse: s-maj=0.4km s-min=0.1km az=65.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1216	**Preci, Frazion**	**0.05**	**343**	P	Pg	07 10 08.6	+0.2
T1216				S	Sg	07 10 09.9	+0.2
T1216				AML	AML		
	comp=E,145μm,0.3s						
T1216				AML	AML		
	comp=N,145μm,0.5s						
NRCA	**Norcia**	**0.06**	**102**	P	Pg	07 10 08.7	+0.3
NRCA				S	Sg	07 10 10.2	+0.3
NRCA				AML	AML		
	comp=E,290μm,0.2s						
NRCA				AML	AML		
	comp=N,492μm,0.1s						
NRCA				AML	AML		
	comp=E,286μm,0.1s						
NRCA				AML	AML		
	comp=N,488μm,0.1s						
T1212	**Cascia, Frazio**	**0.09**	**177**	P	Pg	07 10 09.3	+0.5
T1212				S	Sg	07 10 11.4	+0.8
T1212				AML	AML		
	comp=E,118μm,0.2s						
T1212				AML	AML		
	comp=N,135μm,0.2s						
T1212				AML	AML		
	comp=N,131μm,0.6s						
T1245	**Castelsantange**	**0.11**	**84**	P	Pg	07 10 09.5	+0.3
T1245				S	Sg	07 10 11.7	+0.5
T1245				AML	AML		
	comp=E,292μm,0.2s						
T1245				AML	AML		
	comp=N,182μm,0.9s						
MC2	**Monte Cornacci**	**0.13**	**59**	P	Pg	07 10 09.8	+0.3
T1215	**Vallo di Nera,**	**0.13**	**251**	P	Pg	07 10 09.9	+0.5
T1215				S	Sg	07 10 12.3	+0.7
T1215				AML	AML		
	comp=N,43μm,0.5s						
T1215				AML	AML		
	comp=E,29μm,0.3s						
T1214	**Arquata del Tr**	**0.15**	**124**	P	Pg	07 10 10.2	+0.4
T1214				S	Sg	07 10 12.9	+0.7
T1214				AML	AML		
	comp=E,82μm,0.1s						
T1214				AML	AML		
	comp=N,74μm,0.2s						
T1218	**Civita (PG)**	**0.18**	**162**	P	Pg	07 10 10.7	+0.4
T1218				S	Sg	07 10 14.0	+1.1
CESI	**CESI - Serrava**	**0.19**	**329**	P	Pg	07 10 10.7	+0.3
CESI				S	Sg	07 10 13.9	+0.8
CESI				AML	AML		
	comp=E,45μm,1.2s						
CESI				AML	AML		
	comp=N,57μm,0.5s						
FDMO	**Fiordimonte**	**0.20**	**11**	P	Pg	07 10 10.8	+0.3
FDMO				AML	AML		
	comp=N,66μm,0.1s						
FDMO				AML	AML		
	comp=E,96μm,0.2s						
T1219	**Muccia, Frazio**	**0.21**	**354**	P	Pg	07 10 12.0	+1.2
T1219				S	Sg	07 10 15.5	+1.7
T1219				AML	AML		
	comp=E,86μm,3.3s						
T1256	**Bolognola (MC)**	**0.21**	**41**	P	Pg	07 10 11.1	+0.3
T1256				AML	AML		
	comp=E,68μm,1.1s						
T1256				AML	AML		
	comp=N,73μm,0.2s						
T1256				AML	AML		
	comp=N,73μm,0.2s						
T1256				AML	AML		
	comp=E,68μm,0.9s						
LNSS	**Leonessa**	**0.24**	**180**	⇓P	Pg	07 10 11.8	+0.5
T1220	**Camerino, Fraz**	**0.27**	**8**	⇓P	Pg	07 10 12.4	+0.6
T1241	**Roccafluvione,**	**0.29**	**88**	⇓P	Pg	07 10 12.5	+0.4
ASSB	**Assisi San Ben**	**0.34**	**305**	P	Pg	07 10 13.6	+0.4
SNTG	**Esanatoglia**	**0.42**	**350**	⇓P	Pg	07 10 14.6	0.0
SNTG				AML	AML		
	comp=E,243μm,0.2s						
SNTG				AML	AML		
	comp=N,334μm,0.6s						
SNTG				AML	AML		
	comp=N,310μm,0.2s						
SNTG				AML	AML		
	comp=N,364μm,1.6s						
SNTG				AML	AML		
	comp=E,249μm,0.2s						

*PRU **01** 07:10:23.2±0.0,42°.58N×14°.06E,h10km*
*LDG **01** 07:10:26.4±0.1,42°.96N×13°.04E,h9km,Ml2.4/4,Error ellipse: s-maj=2.4km s-min=1.5km az=51.0*
*ROM **01** 07:10:27.0±0.1,42°.950N±0°.003×13°.041E±0°.005, h9km,ML2.7/61,Error ellipse: s-maj=0.5km s-min=0.0km az=68.0*

ISC 01 07:10:27.1±0.8,42°.94N±0°.02×13°.02E±0°.02,h13km±4km, n99,σ1s81/129,29C-13D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1216	**Preci, Frazion**	**0.04**	**176**	⇑P	**Pg**	**07 10 29.3**	**-0.3**
T1216				S	**Sg**	**07 10 31.0**	**-0.4**
T1216				AML	AML		
	comp=E,29000μm,0.9s						
T1216				AML	AML		
	comp=N,18750μm,0.9s						
T1216				AML	AML		
	comp=E,29050μm,0.9s						
T1216				AML	AML		
	comp=E,27293μm,0.4s						
T1216				AML	AML		
	comp=N,17878μm,0.3s						
CESI	**CESI - Serrava**	**0.11**	**310**	⇑P	**Pg**	**07 10 30.2**	**-0.1**
CESI				S	**Sg**	**07 10 32.5**	**-0.1**
CESI				AML	AML		
	comp=N,36750μm,0.2s						
CESI				AML	AML		
	comp=E,13850μm,0.5s						
CESI				AML	AML		
	comp=E,13850μm,1.5s						
CESI				AML	AML		
	comp=N,36750μm,1.8s						
CESI				AML	AML		
	comp=E,13865μm,0.5s						
CESI				AML	AML		
	comp=N,36750μm,0.2s						
FDMO	**Fiordimonte**	**0.11**	**28**	⇑P	**Pg**	**07 10 29.4**	**-1.0**
FDMO				S	**Sg**	**07 10 31.0**	**-1.6**
FDMO				AML	AML		
	comp=E,29750μm,0.2s						
FDMO				AML	AML		
	comp=N,34150μm,0.2s						
FDMO				AML	AML		
	comp=E,29777μm,0.2s						
FDMO				AML	AML		
	comp=N,34142μm,0.2s						
T1219	**Muccia, Frazio**	**0.12**	**357**	P	**Pg**	**07 10 30.8**	**+0.3**
T1219				S	**Sg**	**07 10 32.8**	**0.0**
T1219				AML	AML		
	comp=E,21650μm,0.3s						
T1219				AML	AML		
	comp=N,13450μm,0.2s						
T1219				AML	AML		
	comp=E,22700μm,0.3s						
T1219				AML	AML		
	comp=N,12150μm,0.2s						
T1219				AML	AML		
	comp=N,13450μm,0.2s						
T1219				AML	AML		
	comp=N,13439μm,0.2s						
T1219				AML	AML		
	comp=N,12151μm,0.2s						
T1219				AML	AML		
	comp=E,19959μm,0.1s						
T1219				AML	AML		
	comp=E,19335μm,0.1s						
NRCA	**Norcia**	**0.13**	**144**	P	**Pg**	**07 10 30.4**	**-0.1**
NRCA				S	**Sg**	**07 10 33.1**	**+0.1**
NRCA				AML	AML		
	comp=E,5070μm,1.4s						
NRCA				AML	AML		
	comp=N,7870μm,0.5s						
NRCA				AML	AML		
	comp=E,5405μm,0.8s						
NRCA				AML	AML		
	comp=E,5070μm,1.4s						
NRCA				AML	AML		
	comp=N,8070μm,0.5s						
NRCA				AML	AML		
	comp=E,5405μm,1.2s						
NRCA				AML	AML		
	comp=E,5070μm,0.6s						
NRCA				AML	AML		
	comp=E,4739μm,0.2s						
NRCA				AML	AML		
	comp=N,6724μm,0.1s						
NRCA				AML	AML		
	comp=N,6382μm,0.1s						
NRCA				AML	AML		
	comp=E,4949μm,0.2s						
MC2	**Monte Cornacci**	**0.13**	**100**	P	**Pg**	**07 10 30.1**	**-0.6**
T1245	**Castelsantange**	**0.15**	**122**	⇓P	**Pg**	**07 10 30.6**	**-0.3**
T1245				S	**Sg**	**07 10 33.5**	**-0.1**
T1245				AML	AML		
	comp=N,12600μm,1.5s						
T1245				AML	AML		
	comp=E,7135μm,1.6s						
T1245				AML	AML		
	comp=E,7135μm,0.4s						
T1245				AML	AML		
	comp=N,12600μm,0.5s						
T1245				AML	AML		
	comp=E,6214μm,0.5s						
T1245				AML	AML		
	comp=N,11912μm,0.4s						
T1245				AML	AML		
	comp=N,12381μm,0.4s						
T1256	**Bolognola (MC)**	**0.17**	**66**	⇑P	**Pg**	**07 10 30.6**	**-0.6**
T1256				AML	AML		
	comp=E,8625μm,0.4s						
T1256				AML	AML		
	comp=N,6840μm,0.4s						
T1256				AML	AML		
	comp=N,6845μm,0.4s						
T1256				AML	AML		
	comp=E,8775μm,1.2s						

T1256 AML AML
comp=N,6410µm,0.4s
T1256 AML AML
comp=E,8620µm,0.4s
T1256 AML AML
comp=E,8775µm,0.8s
T1256 AML AML
comp=N,6413µm,0.4s
T1256 AML AML
comp=E,8621µm,0.4s
T1256 AML AML
comp=E,8705µm,0.4s
T1256 AML AML
comp=N,6841µm,0.4s
T1215 Vallo di Nera, 0.17 219 P **Pg 07 10 31.9 +0.7**
T1215 AML AML
comp=E,2740µm,0.4s
T1215 AML AML
comp=E,2785µm,0.4s
T1215 AML AML
comp=N,2035µm,0.3s
T1215 AML AML
comp=N,2065µm,0.4s
T1215 AML AML
comp=E,2785µm,1.6s
T1215 AML AML
comp=E,2740µm,1.6s
T1215 AML AML
comp=E,2785µm,0.4s
T1215 AML AML
comp=E,2740µm,0.4s
T1215 AML AML
comp=N,1585µm,0.4s
T1215 AML AML
comp=N,1726µm,0.3s
T1220 Camerino, Fraz 0.18 17 ⇑P **Pg 07 10 31.9 +0.6**
T1220 S **Sg 07 10 35.0 +0.7**
T1220 AML AML
comp=E,31500µm,1.2s
T1220 AML AML
comp=E,31050µm,1.2s
T1220 AML AML
comp=N,29500µm,0.3s
T1220 AML AML
comp=E,31500µm,1.2s
T1220 AML AML
comp=E,31000µm,1.2s
T1220 AML AML
comp=E,31500µm,0.8s
T1220 AML AML
comp=E,31000µm,0.8s
T1220 AML AML
comp=E,28060µm,0.3s
T1220 AML AML
comp=N,29515µm,0.3s
T1220 AML AML
comp=N,29950µm,0.3s
T1220 AML AML
comp=E,28644µm,0.3s
T1212 Cascia, Frazio 0.19 173 P **Pg 07 10 31.9 +0.5**
T1212 AML AML
comp=N,4130µm,0.4s
T1212 AML AML
comp=E,4890µm,0.5s
T1212 AML AML
comp=E,5040µm,0.5s
T1212 AML AML
comp=N,4165µm,0.4s
T1212 AML AML
comp=N,4021µm,0.4s
T1212 AML AML
comp=E,5040µm,0.5s
T1212 AML AML
comp=E,4892µm,0.5s
T1212 AML AML
comp=N,3265µm,0.3s
SEF1 Sefro 0.22 347 P **Pg 07 10 31.8 -0.1**
SEF1 S **Sg 07 10 35.4 +0.2**
SEF1 AML AML
comp=E,7920µm,0.2s
SEF1 AML AML
comp=N,8815µm,1.5s
SEF1 AML AML
comp=N,8040µm,0.2s
T1214 Arquata del Tr 0.23 141 P **Pg 07 10 32.2 +0.1**
T1214 S **Sg 07 10 36.3 +0.8**
T1214 AML AML
comp=E,2530µm,1.3s
T1214 AML AML
comp=E,2525µm,0.4s
T1214 AML AML
comp=N,2405µm,0.9s
T1214 AML AML
comp=N,2345µm,0.5s
T1214 AML AML
comp=N,2405µm,1.1s
T1214 AML AML
comp=E,2520µm,0.4s
T1214 AML AML
comp=N,2289µm,0.5s
T1214 AML AML
comp=N,2346µm,0.5s
T1214 AML AML
comp=E,2523µm,0.4s
T1214 AML AML
comp=E,2504µm,0.4s
GUMA Gualdo di Mace 0.27 62 ⇑P **Pg 07 10 32.8 0.0**
GUMA S **Sg 07 10 37.3 +0.7**
GUMA AML AML
comp=E,14050µm,0.3s
GUMA AML AML
comp=N,18600µm,0.3s
GUMA AML AML
comp=E,15700µm,0.5s
GUMA AML AML
comp=N,24750µm,0.3s
GUMA AML AML
comp=E,14050µm,0.3s
GUMA AML AML
comp=N,18600µm,0.3s
GUMA AML AML
comp=E,15695µm,0.5s
GUMA AML AML
comp=N,24748µm,0.3s
GUMA AML AML
comp=E,14056µm,0.3s
GUMA AML AML
comp=N,18594µm,0.3s
T1218 Civita (PG) 0.28 164 P **Pg 07 10 33.4 +0.5**
T1218 S **Sb 07 10 38.5 -0.1**
T1218 AML AML
comp=E,1535µm,1.1s
T1218 AML AML
comp=N,2390µm,0.4s
T1218 AML AML
comp=E,1490µm,1.1s
T1218 AML AML
comp=N,2390µm,1.3s
T1218 AML AML
comp=E,1490µm,1.1s
T1218 AML AML
comp=N,2390µm,1.2s
T1218 AML AML
comp=N,2390µm,1.6s
T1218 AML AML
comp=E,1535µm,0.9s
T1218 AML AML
comp=E,1490µm,0.9s
T1218 AML AML
comp=E,1397µm,0.4s
T1218 AML AML
comp=E,1280µm,0.4s
T1218 AML AML
comp=N,2332µm,0.5s
T1218 AML AML
comp=N,2387µm,0.4s
ASSB Assisi San Ben 0.28 292 ⇑P **Pg 07 10 33.5 +0.5**
ASSB S **Sb 07 10 38.7 0.0**
ASSB AML AML
comp=E,8535µm,0.3s
ASSB AML AML
comp=N,6300µm,0.2s
ASSB AML AML
comp=N,6300µm,1.8s
ASSB AML AML
comp=N,6296µm,0.2s
ASSB AML AML
comp=E,8538µm,0.3s

T1241 Roccafluvione, 0.32 104 P **Pg 07 10 33.5 -0.1**
T1241 S **Sb 07 10 38.6 -1.1**
T1241 AML AML
comp=E,3025µm,0.5s
T1241 AML AML
comp=N,1845µm,0.6s
T1241 AML AML
comp=E,3025µm,0.5s
T1241 AML AML
comp=E,3135µm,0.5s
T1241 AML AML
comp=N,1840µm,0.6s
T1241 AML AML
comp=N,1845µm,0.6s
T1241 AML AML
comp=E,3025µm,0.5s
T1241 AML AML
comp=N,1845µm,0.6s
T1241 AML AML
comp=N,1843µm,0.6s
T1241 AML AML
comp=E,3133µm,0.5s
SNTG Esanatoglia 0.32 350 P **Pg 07 10 33.7 -0.1**
SNTG S **Sb 07 10 39.2 -0.7**
SNTG AML AML
comp=E,1880µm,1.2s
SNTG AML AML
comp=N,1485µm,1.3s
SNTG AML AML
comp=E,1970µm,1.2s
SNTG AML AML
comp=N,1550µm,1.3s
SNTG AML AML
comp=E,1970µm,0.8s
SNTG AML AML
comp=E,1880µm,0.8s
SNTG AML AML
comp=E,1903µm,0.1s
SNTG AML AML
comp=E,1799µm,0.1s
SNTG AML AML
comp=N,1386µm,0.2s
SNTG AML AML
comp=N,1272µm,0.2s
LNSS Leonessa 0.33 177 ⇓P **Pg 07 10 34.5 +0.6**
LNSS S **Sb 07 10 40.7 +0.5**
LNSS AML AML
comp=N,2220µm,0.4s
LNSS AML AML
comp=E,1805µm,0.4s
LNSS AML AML
comp=N,2219µm,0.4s
LNSS AML AML
comp=E,1804µm,0.4s
MOMA Monte Martano 0.35 248 ⇑P **Pg 07 10 35.1 +0.8**
MOMA AML AML
comp=E,1115µm,0.2s
MOMA AML AML
comp=E,1114µm,0.3s
MOMA AML AML
comp=N,1165µm,0.4s
MOMA AML AML
comp=N,1235µm,0.3s
MOMA AML AML
comp=N,1165µm,1.6s
MOMA AML AML
comp=E,1115µm,1.8s
MOMA AML AML
comp=E,1113µm,0.3s
MOMA AML AML
comp=E,1117µm,0.2s
MOMA AML AML
comp=N,1234µm,0.3s
ATCC AVT- Casa Cast 0.37 312 ⇑P **Pg 07 10 35.0 +0.4**
ATCC AML AML
comp=N,3315µm,1.4s
ATCC AML AML
comp=E,3460µm,0.8s
ATCC AML AML
comp=N,3315µm,0.6s
ATCC AML AML
comp=E,3460µm,1.2s
ATCC AML AML
comp=E,3374µm,0.8s
ATCC AML AML
comp=N,3087µm,0.4s
SMA1 SAN MARTINO 0.39 142 P **Pg 07 10 35.0 +0.1**
SMA1 AML AML
comp=E,1490µm,1.6s
SMA1 AML AML
comp=N,1385µm,0.7s
SMA1 AML AML
comp=N,1385µm,1.3s
SMA1 AML AML
comp=E,1490µm,0.4s
SMA1 AML AML
comp=E,1243µm,0.4s
SMA1 AML AML
comp=N,1229µm,0.4s
EL6 Elcito 0.40 9 P **Pg 07 10 34.9 -0.2**
EL6 S **Sb 07 10 41.3 -0.8**
EL6 AML AML
comp=N,4195µm,0.3s
EL6 AML AML
comp=E,3705µm,0.2s
EL6 AML AML
comp=N,4195µm,1.7s
EL6 AML AML
comp=N,4195µm,0.3s
EL6 AML AML
comp=E,3703µm,0.2s
T1243 Rocca Santa Ma 0.40 127 ⇓P **Pg 07 10 35.0 -0.1**
ARRO Arrone 0.40 207 P **Pb 07 10 36.1 +0.1**
ARRO AML AML
comp=E,559µm,1.0s
ARRO AML AML
comp=N,751µm,1.1s
ARRO AML AML
comp=N,751µm,0.9s
ARRO AML AML
comp=E,512µm,0.2s
ARRO AML AML
comp=N,666µm,0.3s
FOSV Fossato di Vic 0.40 333 P **Pg 07 10 35.3 +0.1**
FOSV S **Sb 07 10 42.1 -0.1**
FOSV AML AML
comp=N,2390µm,1.3s
FOSV AML AML
comp=E,1595µm,0.4s
FOSV AML AML
comp=N,2390µm,0.7s
FOSV AML AML
comp=E,1151µm,0.3s
FOSV AML AML
comp=N,2294µm,0.3s
T1211 Morro Reatino 0.42 196 ⇑P **Pb 07 10 36.4 0.0**
T1211 AML AML
comp=E,831µm,0.4s
T1211 AML AML
comp=N,1221µm,1.1s
T1211 AML AML
comp=E,826µm,0.4s
T1211 AML AML
comp=N,1195µm,1.1s
T1211 AML AML
comp=E,831µm,0.4s
T1211 AML AML
comp=N,1221µm,1.1s
T1211 AML AML
comp=E,826µm,0.4s
T1211 AML AML
comp=N,1194µm,1.1s
T1211 AML AML
comp=N,1221µm,0.9s
T1211 AML AML
comp=N,1194µm,0.9s
RM33 Pellescritta (0.45 161 ⇓P **Pg 07 10 36.3 +0.3**
RM33 AML AML
comp=N,574µm,0.4s
RM33 AML AML
comp=N,616µm,0.4s
RM33 AML AML
comp=N,574µm,1.6s
RM33 AML AML
comp=E,1180µm,0.4s
RM33 AML AML
comp=E,1110µm,0.4s

RM33 AML AML
comp=N,616µm,1.6s
RM33 AML AML
comp=E,1181µm,0.4s
RM33 AML AML
comp=N,616µm,0.4s
RM33 AML AML
comp=E,1108µm,0.4s
CESX Cesi 0.46 225 ⇓P **Pg 07 10 37.0 +0.8**
CESX AML AML
comp=E,1375µm,1.2s
CESX AML AML
comp=N,1295µm,0.4s
CESX AML AML
comp=E,1375µm,0.8s
CESX AML AML
comp=N,1295µm,0.4s
CESX AML AML
comp=E,1298µm,0.5s
CING Cingoli 0.46 17 P **Pg 07 10 36.0 -0.2**
CING AML AML
comp=E,1875µm,0.5s
CING AML AML
comp=N,1420µm,0.2s
CING AML AML
comp=N,1416µm,0.2s
MURB Monte Urbino 0.48 312 ⇑P **Pg 07 10 37.1 +0.4**
MURB S **Sb 07 10 46.1 +1.5**
MURB AML AML
comp=E,3835µm,0.3s
MURB AML AML
comp=N,4480µm,1.0s
MURB AML AML
comp=N,4645µm,1.0s
MURB AML AML
comp=E,4570µm,0.3s
MURB AML AML
comp=E,3832µm,0.3s
MURB AML AML
comp=E,4567µm,0.3s
MURB AML AML
comp=N,4362µm,0.2s
MURB AML AML
comp=N,4294µm,0.3s
OFFI Offida 0.49 90 ⇑P **Pb 07 10 37.6 +0.1**
OFFI AML AML
comp=N,2070µm,0.5s
OFFI AML AML
comp=E,1910µm,0.5s
OFFI AML AML
comp=E,1915µm,0.5s
OFFI AML AML
comp=N,2072µm,0.5s
CAMP Campotosto 0.49 144 ⇓P **Pg 07 10 36.9 0.0**
CAMP AML AML
comp=E,410µm,0.9s
CAMP AML AML
comp=N,402µm,0.8s
SSFR Montelago di S 0.53 341 ⇑P **Pg 07 10 37.6 +0.1**
SSFR S **Sb 07 10 46.6 +0.8**
SSFR AML AML
comp=N,2520µm,0.2s
SSFR AML AML
comp=E,2670µm,0.2s
SSFR AML AML
comp=E,2945µm,0.2s
SSFR AML AML
comp=N,2600µm,0.2s
SSFR AML AML
comp=E,2944µm,0.2s
SSFR AML AML
comp=N,2520µm,0.2s
SSFR AML AML
comp=N,2605µm,0.2s
SSFR AML AML
comp=E,2671µm,0.2s
T1247 Pizzolo (AQ) 0.54 157 ⇓P **Pb 07 10 38.9 +0.6**
T1247 AML AML
comp=N,612µm,0.5s
T1247 AML AML
comp=E,692µm,0.6s
ATFO Monte Foce - G 0.54 323 ⇑P **Pg 07 10 37.9 +0.2**
ATFO AML AML
comp=E,784µm,1.1s
ATFO AML AML
comp=N,662µm,0.5s
ATFO AML AML
comp=E,683µm,0.5s
ATFO AML AML
comp=N,622µm,0.2s
FRON Frontone 0.62 340 ⇓P **Pg 07 10 39.1 -0.1**
FRON AML AML
comp=N,1006µm,0.6s
FRON AML AML
comp=E,776µm,1.1s
FRON AML AML
comp=N,1006µm,0.6s
FRON AML AML
comp=N,1006µm,1.4s
FRON AML AML
comp=N,832µm,0.2s
FRON AML AML
comp=E,504µm,0.3s
PP3 Marolino 0.62 44 ⇓P **Pb 07 10 39.5 -0.2**
PP3 AML AML
comp=E,1455µm,1.3s
PP3 AML AML
comp=N,1451µm,0.5s
PP3 AML AML
comp=E,1455µm,0.7s
PP3 AML AML
comp=N,1451µm,1.5s
ATVO AVT- Monte Val 0.63 315 P **Pg 07 10 38.6 -0.8**
ATVO S **Sb 07 10 49.8 +1.1**
ATVO AML AML
comp=E,1070µm,0.3s
ATVO AML AML
comp=N,679µm,1.0s
ATVO AML AML
comp=N,679µm,1.0s
ATVO AML AML
comp=E,1070µm,0.3s
ATVO AML AML
comp=N,658µm,0.3s
GIGS Gran Sasso 0.64 140 P **Pg 07 10 39.4 -0.1**
GIGS AML AML
comp=E,160µm,0.3s
GIGS AML AML
comp=N,138µm,0.8s
GIGS AML AML
comp=N,138µm,1.2s
GIGS AML AML
comp=E,160µm,0.3s
AQU L'Aquila 0.65 154 ⇑P **Pb 07 10 40.7 +0.5**
AQU AML AML
comp=E,368µm,1.0s
AQU AML AML
comp=N,442µm,0.9s
AQU AML AML
comp=E,375µm,1.0s
AQU AML AML
comp=E,367µm,1.0s
AQU AML AML
comp=N,384µm,0.9s
AQU AML AML
comp=E,375µm,1.0s
AQU AML AML
comp=E,359µm,0.4s
FIAM Fiamignano 0.67 173 ⇑P **Pg 07 10 40.4 +0.2**
FIAM AML AML
comp=N,488µm,0.5s
FIAM AML AML
comp=E,394µm,0.6s
FIAM AML AML
comp=N,488µm,1.5s
FIAM AML AML
comp=E,394µm,0.6s
TRTR Tortoreto Alta 0.67 101 ⇑P **Pb 07 10 41.3 +0.7**
TRTR AML AML
comp=E,1965µm,1.5s
TRTR AML AML
comp=N,1560µm,0.8s
ATMI Monte Miggiano 0.68 306 ⇑P **Pb 07 10 41.2 +0.4**
ATMI AML AML
comp=E,1200µm,0.4s
ATMI AML AML
comp=N,1310µm,1.6s

ATMI				AML	AML		
	comp=N,1310µm,0.4s						
ATMI				AML	AML		
	comp=E,1197µm,0.4s						
ATMI				AML	AML		
	comp=N,1266µm,0.3s						
ATPI	**Pietralunga -**	**0.68**	**319**	⇑P	**Pg**	**07 10 40.5**	**+0.1**
ATPI				S	**Sb**	**07 10 51.6**	**+1.4**
ATPI				AML	AML		
	comp=E,420µm,1.1s						
ATPI				AML	AML		
	comp=E,420µm,1.1s						
ATPI				AML	AML		
	comp=E,420µm,0.9s						
ATPI				AML	AML		
	comp=N,385µm,0.3s						
ATPI				AML	AML		
	comp=N,385µm,0.3s						
ATPI				AML	AML		
	comp=E,419µm,0.3s						
COR1	**Corinaldo**	**0.69**	**359**	⇓P	**Pb**	**07 10 41.5**	**+0.4**
COR1				AML	AML		
	comp=E,728µm,1.4s						
COR1				AML	AML		
	comp=N,1134µm,0.5s						
COR1				AML	AML		
	comp=N,1132µm,0.5s						
COR1				AML	AML		
	comp=E,729µm,1.4s						
COR1				AML	AML		
	comp=E,1835µm,0.5s						
COR1				AML	AML		
	comp=E,583µm,0.3s						
COR1				AML	AML		
	comp=N,854µm,0.2s						
COR1				AML	AML		
	comp=N,5313µm,1.3s						
PIEI	**Pieia**	**0.69**	**330**	⇑P	**Pg**	**07 10 40.4**	**-0.3**
PIEI				S	**Sb**	**07 10 52.2**	**+1.6**
PIEI				AML	AML		
	comp=N,406µm,0.4s						
PIEI				AML	AML		
	comp=E,612µm,0.2s						
PIEI				AML	AML		
	comp=N,398µm,0.3s						
MPAG	**Monte Paganucc**	**0.72**	**345**	⇑P	**Pg**	**07 10 40.9**	**-0.2**
MPAG				S	**Sn**	**07 10 52.9**	**-1.0**
MPAG				AML	AML		
	comp=E,554µm,1.2s						
MPAG				AML	AML		
	comp=N,604µm,1.6s						
MPAG				AML	AML		
	comp=N,604µm,0.4s						
MPAG				AML	AML		
	comp=E,554µm,0.8s						
MPAG				AML	AML		
	comp=E,551µm,0.1s						
MPAG				AML	AML		
	comp=N,598µm,0.3s						
MPAG				AML	AML		
	comp=E,599µm,0.1s						
NARO	**Abbazia di Nar**	**0.74**	**335**	S	**Sb**	**07 10 53.7**	**+1.7**
NARO				AML	AML		
	comp=E,349µm,0.7s						
NARO				AML	AML		
	comp=N,282µm,0.6s						
NARO				AML	AML		
	comp=E,313µm,0.2s						
NARO				AML	AML		
	comp=N,235µm,0.2s						
AOI	**Ancona**	**0.75**	**35**	S	**Sn**	**07 10 53.8**	**-0.8**
AOI				AML	AML		
	comp=N,312µm,1.2s						
AOI				AML	AML		
	comp=E,470µm,0.3s						
AOI				AML	AML		
	comp=N,312µm,0.8s						
AOI				AML	AML		
	comp=E,470µm,0.3s						
AOI				AML	AML		
	comp=N,301µm,0.3s						
APEC	**Apecchio**	**0.76**	**325**	⇑P	**Pb**	**07 10 42.9**	**+0.8**
APEC				AML	AML		
	comp=E,433µm,0.4s						
APEC				AML	AML		
	comp=N,427µm,1.6s						
APEC				AML	AML		
	comp=E,433µm,1.6s						
APEC				AML	AML		
	comp=N,427µm,0.4s						
FSSB	**Fossombrone**	**0.78**	**347**	P	**Pg**	**07 10 40.6**	**-1.6**
FSSB				S	**Sn**	**07 10 54.7**	**-0.6**
FSSB				AML	AML		
	comp=E,1400µm,0.4s						
FSSB				AML	AML		
	comp=E,1400µm,1.6s						
FSSB				AML	AML		
	comp=N,2225µm,0.3s						
FSSB				AML	AML		
	comp=N,2221µm,0.3s						
FSSB				AML	AML		
	comp=E,1401µm,0.4s						
FAGN	**Fagnano**	**0.79**	**148**	⇑P	**Pb**	**07 10 42.7**	**0.0**
FAGN				AML	AML		
	comp=E,1174µm,0.5s						
FAGN				AML	AML		
	comp=E,1174µm,1.5s						
FAGN				AML	AML		
	comp=N,1240µm,0.5s						
FAGN				AML	AML		
	comp=N,1241µm,0.5s						
BADI	**Badiali**	**0.80**	**316**	⇓P	**Pg**	**07 10 42.9**	**+0.2**
BADI				S	**Sn**	**07 10 56.1**	**+0.1**
BADI				AML	AML		
	comp=N,288µm,0.8s						
VCEL	**Villa Celiera**	**0.81**	**131**	⇑P	**Pg**	**07 10 42.8**	**-0.1**
VCEL				AML	AML		
	comp=E,784µm,0.5s						
VCEL				AML	AML		
	comp=N,676µm,0.4s						
SACS	**San Casciano d**	**0.82**	**264**	⇑P	**Pn**	**07 10 44.6**	**+0.3**
SACS				AML	AML		
	comp=E,382µm,1.2s						
SACS				AML	AML		
	comp=N,288µm,0.6s						
SACS				AML	AML		
	comp=E,346µm,1.2s						
SACS				AML	AML		
	comp=N,294µm,0.6s						
SACS				AML	AML		
	comp=N,287µm,0.6s						
SACS				AML	AML		
	comp=E,333µm,0.7s						
SACS				AML	AML		
	comp=E,332µm,0.7s						
SACS				AML	AML		
	comp=N,295µm,0.6s						
CAFI	**Castiglion Fio**	**0.86**	**297**	⇑P	**Pb**	**07 10 44.2**	**+0.3**
CAFI				AML	AML		
	comp=N,349µm,0.5s						
CAFI				AML	AML		
	comp=E,453µm,0.6s						
CAFI				AML	AML		
	comp=N,349µm,1.4s						
CAFI				AML	AML		
	comp=E,466µm,0.6s						
CAFI				AML	AML		
	comp=E,453µm,1.4s						
CAFI				AML	AML		
	comp=E,466µm,1.4s						
CAFI				AML	AML		
	comp=N,349µm,0.6s						
CAFI				AML	AML		
	comp=E,466µm,0.6s						
CAFI				AML	AML		
	comp=N,349µm,0.5s						
CAFI				AML	AML		
	comp=N,328µm,0.5s						
CAFI				AML	AML		
	comp=E,453µm,0.6s						
SSP9	**Sansepolcro**	**0.91**	**315**	⇑P	**Pn**	**07 10 46.2**	**+0.7**
SSP9				AML	AML		
	comp=E,232µm,1.6s						
SSP9				AML	AML		
	comp=N,244µm,0.9s						
T0110	**Collepietro**	**0.91**	**141**	⇑P	**Pg**	**07 10 44.3**	**-0.4**
T0110				AML	AML		
	comp=N,562µm,1.6s						
T0110				AML	AML		
	comp=E,490µm,0.4s						
T0110				AML	AML		
	comp=N,562µm,0.4s						
T0110				AML	AML		
	comp=N,556µm,0.5s						
PARC	**Parchiule**	**0.91**	**322**	P	**Pg**	**07 10 44.7**	**0.0**
PARC				S	**Sn**	**07 11 00.2**	**+1.6**
PARC				AML	AML		
	comp=E,347µm,0.5s						
PARC				AML	AML		
	comp=N,254µm,0.4s						
PARC				AML	AML		
	comp=N,254µm,0.4s						
PARC				AML	AML		
	comp=E,347µm,0.5s						
CERT	**Cerreto**	**0.99**	**181**	⇓P	**Pb**	**07 10 46.5**	**+0.4**
CERT				AML	AML		
	comp=E,336µm,0.4s						
CERT				AML	AML		
	comp=N,186µm,0.7s						
CERT				AML	AML		
	comp=E,336µm,0.4s						
CERT				AML	AML		
	comp=N,186µm,0.7s						
SF04	**Casetta**	**1.00**	**265**	P	**Pn**	**07 10 47.9**	**+1.1**
SF04				AML	AML		
	comp=N,175µm,1.5s						
SF04				AML	AML		
	comp=E,184µm,1.5s						
SF04				AML	AML		
	comp=E,180µm,0.5s						
SF04				AML	AML		
	comp=N,162µm,0.4s						
PESA	**Pesaro**	**1.01**	**353**	⇓P	**Pn**	**07 10 48.3**	**+1.3**
PESA				AML	AML		
	comp=E,704µm,0.4s						
PESA				AML	AML		
	comp=N,566µm,0.2s						
PESA				AML	AML		
	comp=N,565µm,0.2s						
CRE	**Caprese Michel**	**1.03**	**312**	⇑P	**Pn**	**07 10 49.8**	**+2.4**
LPEL	**Lama dei Pelig**	**1.24**	**135**	P	**Pg**	**07 10 50.9**	**-0.1**
LPEL				AML	AML		
	comp=E,189µm,1.0s						
LPEL				AML	AML		
	comp=N,139µm,1.0s						
CASP	**Castiglione de**	**1.59**	**265**	P	**Pb**	**07 10 56.4**	**+0.1**
PGF	**Pioggiola**	**2.98**	**264**	*e*P	**Pn**	**07 11 15.6**	**+1.5**
MYKA	**Terra Mystica**	**3.72**	**7**	*e*Pn	**Pn**	**07 11 26.3**	**+2.0**
	comp=N,1.3nm,0.3s						
OBKA	**Obir**	**3.74**	**16**	*e*Pn	**Pn**	**07 11 26.1**	**+1.6**
	comp=N,0.5nm,0.3s						
ABTA	**Abfaltersbach**	**3.83**	**355**	*e*Pn	**Pn**	**07 11 28.1**	**+2.4**
	comp=N,2.2nm,0.3s						
KBA	**Koelnbreinsper**	**4.15**	**3**	*e*Pn	**Pn**	**07 11 32.5**	**+2.2**
	comp=N,2.9nm,0.3s						
SBF	**Sospel**	**4.17**	**285**	*e*P	**Pn**	**07 11 32.1**	**+1.7**
FETA	**Feichten**	**4.39**	**339**	*e*Pn	**Pn**	**07 11 38.4**	**+4.8**
	comp=N,0.6nm,0.4s						
WTTA	**Wattenberg**	**4.44**	**348**	*e*Pn	**Pn**	**07 11 38.8**	**+4.6**
	comp=N,0.7nm,0.2s						
SQTA	**Sankt Quirin**	**4.47**	**344**	*e*Pn	**Pn**	**07 11 39.2**	**+4.5**
	comp=N,1.0nm,0.2s						
WATA	**Walderalm**	**4.52**	**347**	*e*Pn	**Pn**	**07 11 38.9**	**+3.7**
	comp=N,2.2nm,0.4s						
MOTA	**Moosalm**	**4.61**	**344**	*e*Pn	Pb	07 11 43.0	-4.8
	comp=N,1.1nm,0.3s						
ARSA	**Arzberg**	**4.67**	**22**	*e*Pn	**Pn**	**07 11 39.3**	**+2.1**
	comp=N,1.0nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.78**	**5**	*e*Pn	**Pn**	**07 11 40.9**	**+2.2**
	comp=N,3.6nm,0.3s						
LMR	**La Mourre**	**4.78**	**277**	*e*Pn	**Pn**	**07 11 36.6**	**-2.1**
LMR	**La Mourre**	**4.78**	**277**	*e*P	**Pn**	**07 11 40.7**	**+2.0**
RETA	**Reutte**	**4.82**	**342**	*e*Pn	Pn	07 11 44.8	+5.4
	comp=N,1.0nm,0.3s						
MBDF	**Montbardon**	**4.86**	**294**	*e*P	**Pn**	**07 11 42.0**	**+2.0**
MOA	**Molln**	**4.99**	**10**	*e*Pn	**Pn**	**07 11 43.5**	**+1.9**
	comp=N,1.1nm,0.4s						
LPL	**La Plagne**	**5.20**	**302**	*e*P	**Pn**	**07 11 46.9**	**+2.2**
RONA	**Rosalia, Austr**	**5.29**	**25**	*e*Pn	**Pn**	**07 11 48.9**	**+3.0**
	comp=N,0.2nm,0.1s						
CONA	**Conrad Observa**	**5.38**	**21**	*e*Pn	**Pn**	**07 11 49.2**	**+2.2**
	comp=N,0.7nm,0.3s						
SMRF	**Simiane la Rot**	**5.51**	**283**	*e*Pn	**Pn**	**07 11 46.8**	**-2.1**
SMRF	**Simiane la Rot**	**5.51**	**283**	*e*P	**Pn**	**07 11 51.0**	**+2.1**
ORIF	**Oris-en-Rattie**	**5.52**	**293**	*e*Pn	**Pn**	**07 11 47.0**	**-2.0**
ORIF	**Oris-en-Rattie**	**5.52**	**293**	*e*P	**Pn**	**07 11 51.2**	**+2.2**
CKRC	**Cesky Krumlov**	**5.95**	**8**	*e*PN	**Pn**	**07 11 54.5**	**-0.4**
CKRC				*e*SN	**Sn**	**07 13 03.9**	**+1.0**
CABF	**La Chapelle**	**6.15**	**309**	*e*P	**Pn**	**07 11 59.9**	**+2.3**
CABF				*e*Sn	**Sn**	**07 13 02.2**	**-5.6**
	comp=N,0.3nm,0.2s						
KHC	**Kasperske Hory**	**6.21**	**3**	*e*PN	**Pn**	**07 11 58.5**	**+0.1**
KHC				*e*SN	**Sn**	**07 13 10.7**	**+1.5**
HINF	**Hinteralfeld**	**6.53**	**320**	*e*P	**Pn**	**07 12 05.3**	**+2.5**
HINF				*e*Sn	**Sn**	**07 13 10.7**	**-6.4**
	comp=N,1.0nm,0.4s						
CDF	**Champ du Feu**	**6.79**	**326**	*e*Pn	**Pn**	**07 12 03.9**	**-2.5**
CDF	**Champ du Feu**	**6.79**	**326**	*e*P	**Pn**	**07 12 08.9**	**+2.5**
CDF				*e*Sn	**Sn**	**07 13 17.3**	**-6.3**
	comp=N,0.3nm,0.2s						
HAU	**Haudompre**	**6.90**	**320**	*e*P	**Pn**	**07 12 10.5**	**+2.6**
HAU				*e*Sn	**Sn**	**07 13 19.6**	**-6.6**
	comp=N,0.5nm,0.3s						
GIVF	**Givet**	**9.12**	**325**	*e*Pn	**Pn**	**07 12 34.8**	**-3.5**

*JMA **01** 07:22:02.0±0.1,25°N±1°×124°0E±0°.5,h102km±1km, MV3.5/13,NW OFF ISHIGAKIJIMA IS*
ISC 01 07:22:01.3±1.7,**24°9N**±0°.1×**124°03E**±0°.05,**h111**km±14km, **n20**,σ8°73/32,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.39**	**138**	P	**Pn**	**07 22 17.5**	**0.0**
JISG				S	**Sn**	**07 22 29.2**	**-0.5**
JIJ	**Ishigaki jima**	**0.52**	**168**	P	**Pn**	**07 22 18.1**	**-0.2**
JIJ				S	**Sn**	**07 22 30.0**	**-1.1**
IRIF	**Iriomote-Funau**	**0.60**	**207**	P	**Pn**	**07 22 18.8**	**-0.1**
IRIF				S	**Sn**	**07 22 31.4**	**-0.7**
JKRS	**Kuro-shima**	**0.63**	**181**	P	**Pn**	**07 22 19.3**	**+0.2**
JKRS				S	**Sn**	**07 22 32.6**	**0.0**
JTJ	**Tarama**	**0.66**	**110**	P	**Pn**	**07 22 19.7**	**+0.4**
JTJ				S	**Sn**	**07 22 33.0**	**+0.1**
HATJ	**Hateruma jima**	**0.84**	**194**	P	**Pn**	**07 22 21.1**	**+0.1**
HATJ				S	**Sn**	**07 22 35.9**	**+0.3**
YOJ	**Yonaguni jima**	**1.01**	**246**	P	**Pn**	**07 22 22.9**	**+0.3**
YOJ	**Yonaguni jima**	**1.01**	**246**	P	**Pn**	**07 22 22.9**	**+0.3**
YOJ				S	**Sn**	**07 22 38.4**	**-0.2**
JIRB	**Irabujima**	**1.04**	**92**	P	**Pn**	**07 22 23.1**	**+0.2**
JIRB				S	**Sn**	**07 22 38.8**	**-0.5**
JYNG	**Yonagunijimaku**	**1.07**	**247**	P	**Pn**	**07 22 23.4**	**+0.2**
JYNG				S	**Sn**	**07 22 39.6**	**-0.2**
JIKM	**Ikemajima**	**1.11**	**87**	P	**Pn**	**07 22 24.1**	**+0.5**
JIKM				S	**Sn**	**07 22 40.7**	**+0.1**
JMJ	**Miyako jima 2**	**1.15**	**93**	P	**Pn**	**07 22 25.2**	**+1.1**
JMJ2	**Miyako jima3**	**1.19**	**96**	P	**Pn**	**07 22 25.2**	**+0.7**
JMJ2				S	**Sn**	**07 22 42.7**	**+0.6**
JOGS	**Gusukube**	**1.26**	**95**	P	**Pn**	**07 22 26.1**	**+0.8**
JOGS				*e*S	**Sn**	**07 22 44.3**	**+0.8**
NACB	**Ninganchiao**	**2.32**	**253**	P	**Pn**	**07 22 37.9**	**-0.5**
YHNB	**Yeheng**	**2.42**	**266**	P	**Pn**	**07 22 41.3**	**+1.6**
YULB	**Yu-li**	**2.90**	**240**	P	**Pn**	**07 22 44.8**	**-1.1**
SSLB	**Suanglung**	**3.00**	**250**	P	**Pn**	**07 22 47.4**	**+0.1**
TPUB	**Ta-pu**	**3.48**	**244**	P	**Pn**	**07 22 54.9**	**+1.3**
JOW	**Kunigami**	**4.30**	**62**	P	**Pn**	**07 23 03.0**	**-1.6**

*TRN **01** 07:22:19.8,15°.25N×61°.07W,h138km,MD3.6*
*IDC **01** 07:22:21.4±1.1,15°.24N×61°.33W,h136km±10km,mb3.0/6, mbtmp3.5/7,Error ellipse: s-maj=29.3km s-min=24.1km az=50.0*
ISC 01 07:22:21.1±0.7,**15°23N**±0°.03×**61°.13W**±0°.07,**h140**km±5km, **n46**,σ1°**03**/68,**mb3.3**/6,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.15**	**313**	*e*P	**Pn**	**07 22 39.2**	**-0.9**
DLPL				*e*S	**Sn**	**07 22 53.0**	**-1.4**
CXM	**Morne La Croix**	**0.42**	**185**	*e*P	**Pn**	**07 22 40.5**	**-0.6**
MDVC	**Dominica, Viel**	**0.46**	**326**	*e*P	**Pn**	**07 22 41.1**	**+0.1**
MDVC				*e*S	**Sn**	**07 22 57.1**	**+0.8**
FDF	**Fort de France**	**0.49**	**182**	*i* P	**Pn**	**07 22 41.6**	**+0.2**
FDF				*e*S	**Sn**	**07 22 56.7**	**0.0**
MDCT	**Cottage Hill,**	**0.50**	**320**	*e*P	**Pn**	**07 22 41.8**	**+0.5**
MDCT				*e*S	**Sn**	**07 22 56.7**	**+0.2**
ILAM	**Ilet Lapin Mar**	**0.52**	**151**	*e*P	**Pn**	**07 22 41.3**	**-0.1**
ILAM				*e*S	**Sn**	**07 22 55.9**	**-0.8**
ZAM	**Aeronautique**	**0.66**	**171**	*e*P	**Pn**	**07 22 41.9**	**-0.3**
TRMF	**Trois Ilets**	**0.70**	**173**	*e*P	**Pn**	**07 22 42.4**	**-0.1**
MVM	**Montagne Vaucl**	**0.71**	**161**	*e*P	**Pn**	**07 22 42.5**	**-0.1**
BIM	**Bigot**	**0.71**	**175**	*e*P	**Pn**	**07 22 42.7**	**0.0**
BIM				*e*S	**Sn**	**07 22 59.5**	**+0.4**
MAGL	**Barre de l'ile**	**0.73**	**349**	*e*P	**Pn**	**07 22 42.8**	**+0.1**
MAGL				*e*S	**Sn**	**07 22 58.7**	**-0.5**
TDBA	**Terre de Bas,**	**0.78**	**322**	*e*P	**Pn**	**07 22 43.3**	**+0.2**
TDBA				*e*S	**Sn**	**07 22 59.4**	**-0.5**
TBG	**Guadaloupe-3**	**0.79**	**321**	*e*P	**Pn**	**07 22 43.2**	**0.0**
MPOM	**Morne Pois Mar**	**0.83**	**161**	*e*P	**Pn**	**07 22 43.3**	**-0.2**
MPOM				*e*S	**Sn**	**07 22 59.4**	**-1.0**
H05S1	**Guadeloupe/Mar**	**0.85**	**160**	P	**Pn**	**07 22 44.3**	**+0.6**
H05S1				S	**Sn**	**07 23 01.3**	**+0.5**
	SNR=4470						
CBE	**Ff, Capester**	**0.95**	**331**	*e*P	**Pn**	**07 22 44.6**	**+0.1**
CBE				*e*S	**Sn**	**07 23 02.1**	**-0.2**
H05N1	**Guadeloupe/Mar**	**1.08**	**4**	P	**Pn**	**07 22 45.7**	**0.0**
	SNR=2042						
H05N1				S	**Sn**	**07 23 03.2**	**-1.2**
SLBI	**Saint Lucia, B**	**1.21**	**173**	*e*P	**Pn**	**07 22 46.7**	**-0.2**
SLBI				*e*S	**Sn**	**07 23 05.3**	**-1.3**
SLCP	**Castries, St.**	**1.22**	**173**	*e*P	**Pn**	**07 22 47.8**	**+0.7**
SLCP				*e*S	**Sn**	**07 23 07.2**	**+0.4**
ABD	**La Joyeuse, An**	**1.28**	**345**	*e*P	**Pn**	**07 22 47.8**	**+0.2**
ABD				*e*S	**Sn**	**07 23 07.0**	**-0.9**
SLB	**Belfond**	**1.40**	**176**	*e*P	**Pn**	**07 22 50.8**	**+1.9**
MCLT	**Moule a Chique**	**1.52**	**173**	*e*P	**Pn**	**07 22 50.7**	**+0.5**
MCLT				*e*S	**Sn**	**07 23 11.5**	**-1.0**
MLYT	**Lee's Yard**	**1.80**	**326**	*e*P	**Pn**	**07 22 53.4**	**+0.2**
MBFL	**Flemmings, Mon**	**1.83**	**326**	*e*P	**Pn**	**07 22 53.5**	**-0.1**
ANBD	**Bethesda, Anti**	**1.91**	**342**	*e*P	**Pn**	**07 22 54.2**	**-0.3**
ANBD				*e*S	**Sn**	**07 23 18.8**	**-1.4**
SVB	**Belmont**	**1.95**	**183**	*e*P	**Pn**	**07 22 55.2**	**+0.1**
SVB				*e*S	**Sn**	**07 23 20.4**	**-0.7**
ANDO	**Antigua, Disas**	**1.99**	**340**	*e*P	**Pn**	**07 22 55.1**	**-0.3**
ANDO				*e*S	**Sn**	**07 23 20.1**	**-1.7**
BBGH	**Gun Hill**	**2.58**	**143**	*e*P	**Pn**	**07 23 04.7**	**+1.9**
BBGH				*e*S	**Sn**	**07 23 33.0**	**-1.8**
BBSP	**Saint Philip**	**2.67**	**142**	*e*P	**Pn**	**07 23 03.2**	**-0.7**
BBSP				*e*S	**Sn**	**07 23 34.5**	**-2.2**
GCMP	**Grenada, Carri**	**2.74**	**186**	*e*P	**Pn**	**07 23 04.2**	**-0.6**
SABA	**Saba**	**3.12**	**320**	*e*P	**Pn**	**07 23 09.9**	**+0.3**
GRGR	**Grenville**	**3.12**	**189**	*e*P	**Pn**	**07 23 09.8**	**+0.1**
GRGR				*e*S	**Sn**	**07 23 47.7**	**+0.4**
SMRT	**St. Maarten**	**3.36**	**327**	*e*P	**Pn**	**07 23 12.1**	**-0.7**
SMRT				*e*S	**Sn**	**07 23 51.0**	**-1.8**
TOSP	**Speyside**	**3.95**	**171**	*e*P	**Pn**	**07 23 20.8**	**+0.3**
TOSP				*e*S	**Sn**	**07 24 03.9**	**-2.8**
TRN	**Trinidad (W)**	**4.56**	**183**	*e*P	**Pn**	**07 23 29.4**	**+0.8**
TRN	**Trinidad (W)**	**4.56**	**183**	*e*S	**Sn**	**07 24 17.9**	**-3.1**
SJG	**San Juan**	**5.59**	**301**	P	**Pn**	**07 23 41.5**	**-0.8**
	8.0nm,0.9s,baz=66,slow=19,SNR=1.9						
SJG				S	**Sn**	**07 24 47.3**	**+1.7**
	7.7nm,0.4s,baz=320,slow=11,SNR=2.2						
SCHQ	**Schefferville**	**39.76**	**355**	P	**P**	**07 29 40.5**	**+0.5**
	2.0nm,1.0s,baz=149,slow=5.9,SNR=1.4 2.0nm,1.0s						
TXAR	**Lajitas Array**	**41.55**	**297**	P	**P**	**07 29 54.6**	**-0.7**
	0.1nm,0.3s,baz=114,slow=9.0,SNR=2.1 0.1nm,0.3s						
PDAR	**Pinedale Array**	**49.58**	**314**	P	**P**	**07 30 58.3**	**0.0**
	0.3nm,0.5s,baz=118,slow=9.3,SNR=4.2 0.3nm,0.5s						
H10N3	**ASCENSION HYDR**	**51.58**	**113**	T	T	08 26 39.6	
	baz=296,slow=75,SNR=5.6						
H10N2	**ASCENSION HYDR**	**51.59**	**113**	T	T	08 26 38.8	
	baz=296,slow=75,SNR=7.8						
H10N1	**ASCENSION HYDR**	**51.61**	**113**	T	T	08 26 39.9	
	baz=296,slow=75,SNR=7.8						
ESDC	**Sonseca Array**	**55.26**	**52**	P	**P**	**07 31 42.5**	**+2.5**
	0.3nm,0.9s,baz=264,slow=8.1,SNR=1.4 0.3nm,0.9s						
YKA	**Yellowknife Ar**	**60.13**	**335**	P	**P**	**07 32 13.3**	**-0.2**
	0.2nm,0.7s,baz=104,slow=7.8,SNR=5.0 0.2nm,0.7s						
INK	**Inuvik**	**69.46**	**338**	P	**P**	**07 33 13.2**	**-0.7**
	0.9nm,0.8s,baz=108,slow=6.4,SNR=3.8 0.9nm,0.8s						

*NEIC **01** 07:32:58.5±2.0,53°.44N±0°.07×171°.0W±0°.1,h187km±8km, mb4.3/79,ML4.4/6,ML3.9(AEIC),Error ellipse: s-maj=9.9km s-min=9.3km az=155.0*
*AEIC **01** 07:32:59.0±3.0,52°.9N±0°.2×170°.8W±0°.1,h214km±6km, Error ellipse: s-maj=23.1km s-min=9.5km az=164.0*
*IDC **01** 07:33:02.0±4.0,53°.46N×171°.21W,h235km±40km, mb3.5/14,mbtmp4.1/16,Error ellipse: s-maj=23.3km s-min=10.9km az=180.0*
ISC 01 07:32:58.3±0.6,**53°2N**±0°.1×**170°92W**±0°.05,**h200**km,**n300**, σ1°**16**/285,**mb4.1**/30,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.73**	**121**	Pn	**Pn**	**07 33 26.4**	**-0.1**
CLES				Sn	**Sn**	**07 33 47.1**	**-1.0**
CLES				IAML		07 33 55.9	
	comp=E,3µm,0.2s						
CLES				IAML		07 33 57.4	
	comp=N,3µm,0.5s						
NIKH	**Nikolski High**	**1.27**	**100**		**Pn**	**07 33 30.0**	**0.0**
NIKH	**Nikolski High**	**1.27**	**100**		**Sn**	**07 33 54.4**	**-0.2**
NIKH	**Nikolski High**	**1.27**	**100**	P	**Pn**	**07 33 29.9**	**0.0**
	baz=291						
UNV	**Unalaska Valle**	**2.71**	**75**	Pn	**Pn**	**07 33 43.4**	**-1.2**
UNV	**Unalaska Valle**	**2.71**	**75**	P	**Pn**	**07 33 44.6**	**+0.1**
	baz=264						
AKUT	**Akutan**	**3.20**	**71**	Pn	**Pn**	**07 33 49.6**	**-0.6**
AKUT				IAML		07 34 37.4	
	comp=E,330nm,0.8s						
GSTR	**Great Sitkin T**	**3.32**	**252**	Pn	**Pn**	**07 33 53.0**	**+1.2**
ADK	**Adak**	**3.76**	**252**		**Pn**	**07 33 56.7**	**-0.3**
ADK				IAML		07 34 44.6	
	comp=E,766nm,0.2s						
KIWB	**Kanaga Island**	**4.04**	**253**	Pn	**Pn**	**07 34 01.4**	**+0.9**
FALS	**False Pass**	**4.72**	**66**	P	**Pn**	**07 34 08.0**	**-1.0**
	baz=256						
S12K	**Black Hills**	**5.74**	**61**	P	**Pn**	**07 34 22.1**	**0.0**
	baz=250						
AMKA	**Amchitka**	**6.27**	**257**	Pn	**Pn**	**07 34 27.9**	**-1.1**
SDPT	**Sand Point**	**6.48**	**66**	Pn	**Pn**	**07 34 30.4**	**-1.2**
SDPT	**Sand Point**	**6.48**	**66**	P	**Pn**	**07 34 30.5**	**-1.2**
	baz=257						
CHGN	**Chignik**	**7.87**	**62**	Pn	**Pn**	**07 34 48.3**	**-1.4**
P16K	**Nushagak River**	**9.28**	**46**	P	**Pn**	**07 35 09.0**	**+1.0**
	baz=238						
R17K	**Ugashik Creek**	**9.38**	**56**	P	**Pn**	**07 35 08.6**	**-0.7**
	baz=249						
O16K	**Kokwok River B**	**9.56**	**43**	P	**Pn**	**07 35 12.1**	**+0.5**
	baz=235						
Q16K	**King Salmon**	**9.69**	**50**	P	**Pn**	**07 35 14.1**	**+0.8**
	baz=243						
O17K	**Koliganek Bris**	**10.07**	**44**	P	**Pn**	**07 35 18.3**	**+0.1**
	baz=237						
SII	**Sitkinak Islan**	**10.21**	**64**	Pn	**Pn**	**07 35 19.4**	**-0.6**
Q18K	**Katmai Hardscr**	**10.45**	**52**	P	**Pn**	**07 35 23.1**	**-0.1**
	baz=247						
P18K	**Big Mountain,**	**10.68**	**48**	Pn	**Pn**	**07 35 26.1**	**0.0**
OHAK	**

TTA	Tatalina baz=227	12.51	33	P		Pn	07 35 49.7	+0.4
CNPM	China Poot	12.59	52	Pn		Pn	07 35 48.2	-2.1
BRLK	Bradley Lake	12.84	51			Pn	07 35 51.3	-2.2
M20K	Styx River baz=237	12.87	41	P		Pn	07 35 54.9	+0.8
N20K	Mount Spurr baz=241	12.88	44	P		Pn	07 35 55.0	+0.9
SPCR	Spurr Chakacha baz=241	12.88	44	P		Pn	07 35 54.1	0.0
BRSE	Bradley Lake S baz=250,SNR=5.3	12.90	51	P		Pn	07 35 53.9	-0.4
SPU	Mount Spurr	12.94	44	P		P	07 35 57.6	-0.5
L20K	Farewell, AK baz=233	12.95	37	P		Pn	07 35 53.0	-1.8
CAPN	Captain Cook N baz=245	13.13	47	P		P	07 35 58.6	-1.5
K20K	Telida baz=230	13.44	34	P		Pn	07 36 01.8	+0.8
SKT	Skwentna	13.56	42			P	07 36 04.3	-0.7
SKT	Skwentna baz=239	13.56	42	P		Pn	07 36 02.1	-0.4
GCSA	Galena City Sc baz=219	13.60	26	P		Pn	07 36 03.3	+0.3
SUA	Susitna One	13.63	45			Pn	07 36 03.1	-0.3
SUA	Susitna One baz=243	13.63	45	P		Pn	07 36 02.0	-1.5
SEW	Seward	13.64	51			Pn	07 36 01.3	-2.1
SEW	Seward baz=250,SNR=6.6	13.64	51	P		Pn	07 36 01.6	-1.8
O22K	Cooper Landing	13.65	49			Pn	07 36 03.1	-0.5
PPLA	Purkeypile	13.82	38			P	07 36 07.7	-0.3
PPLA	Purkeypile baz=235	13.82	38	P		Pn	07 36 05.7	-0.2
RC01	Rabbit Creek A	13.89	47			Pn	07 36 06.5	-0.1
RC01	Rabbit Creek A baz=246,SNR=7.3	13.89	47	P		Pn	07 36 06.8	+0.1
J20K	Nowinta River baz=227	13.98	32	P		Pn	07 36 07.9	+0.3
M22K	Willow baz=243	14.03	44	P		Pn	07 36 08.0	-0.2
CAST	Castle Rocks	14.17	36			P	07 36 11.6	-0.1
CAST	Castle Rocks baz=233,SNR=9.9	14.17	36	P		P	07 36 11.1	-0.7
CUT	Chulitna	14.29	42	P		Pn	07 36 11.4	-0.1
CUT	Chulitna baz=240	14.29	42	P		Pn	07 36 11.2	-0.3
PMR	Palmer	14.38	46			Pn	07 36 12.0	-0.6
PMR	Palmer baz=245	14.38	46	P		Pn	07 36 11.4	-1.1
CHUM	Lake Minchumin baz=231	14.38	35	P		P	07 36 13.3	-0.7
PWL	Port Wells	14.43	49			Pn	07 36 11.0	-2.3
PWL	Port Wells baz=249,SNR=7.5	14.43	49	P		Pn	07 36 11.1	-2.2
GHO	Glory Hole Cre	14.54	45	P		Pn	07 36 14.2	-0.5
P23K	Montague Islan baz=254	14.57	53	P		Pn	07 36 14.0	-1.0
KNK	Knik Glacier	14.59	47			Pn	07 36 13.6	-1.7
KNK	Knik Glacier baz=247,SNR=7.1	14.59	47	P		Pn	07 36 13.5	-1.7
KTH	Kantishna Hill	14.67	37			P	07 36 17.8	+0.4
SML	Sawmill	14.81	46			Pn	07 36 16.9	-1.0
SML	Sawmill baz=246	14.81	46	P		Pn	07 36 17.4	-0.6
TRF	Thorofare Moun	14.85	38	P		P	07 36 19.2	-0.1
TRF	Thorofare Moun baz=237	14.85	38	P		Pn	07 36 18.8	+0.3
BPAW	Bear Paw Mtn.	14.97	35			P	07 36 21.3	+0.7
BPAW	Bear Paw Mtn. baz=233	14.97	35	P		P	07 36 20.9	+0.3
M23K	Glacier View baz=247,SNR=19	15.07	46	P		Pn	07 36 20.3	-0.7
WAT1	Susitna Watana baz=242	15.19	42	P		Pn	07 36 22.2	-0.3
SCM	Sheep Creek Mo	15.26	46			Pn	07 36 21.7	-1.7
SCM	Sheep Creek Mo baz=247,SNR=12	15.26	46	P		Pn	07 36 23.2	-0.2
I21K	Tanana comp=Z,6.9nm,0.8s	15.34	31	IAmb		IAmb	07 36 27.9	
I21K	Tanana baz=228	15.34	31	P		P	07 36 25.0	+0.4
RND	Reindeer	15.36	40			Pn	07 36 24.3	-0.4
WAT6	Susitna Watana baz=244	15.40	43	P		Pn	07 36 23.5	-1.8
H21K	Melozitna Rive comp=Z,11nm,1.1s	15.43	29	IAmb		IAmb	07 36 27.5	
H21K	Melozitna Rive baz=225	15.43	29	P		P	07 36 26.0	+0.4
MCK	McKinley MCK	15.51	39	IAmb		Pn IAmb	07 36 25.6 07 36 27.7	-0.8
	comp=Z,10nm,0.8s							
MCK	McKinley baz=238	15.51	39	P		Pn	07 36 25.3	-1.1
EYAK	Cordova Ski Ar	15.52	52			Pn	07 36 25.2	-1.3
EYAK	comp=Z,19nm,1.4s			IAmb		IAmb	07 36 25.5	
EYAK	Cordova Ski Ar baz=254	15.52	52	P		Pn	07 36 24.6	-1.9
BWN	Browne	15.56	37	P		P	07 36 27.3	+0.3
MLY	Manley	15.64	33	P		Pn	07 36 26.7	-1.3
MLY	comp=Z,14nm,1.0s			IAmb		IAmb	07 36 32.1	
MLY	Manley baz=231	15.64	33	P		P	07 36 28.0	0.0
DIV	Divide DIV	15.69	50	P IAmb		Pn IAmb	07 36 27.4 07 36 30.3	-1.3
	comp=Z,9.1nm,0.7s							
KLU	Klutina KLU	15.75	48	P IAmb		P IAmb	07 36 27.8 07 36 31.1	-1.4
	comp=Z,8.7nm,0.6s							
KLU	Klutina baz=250	15.75	48	P		P	07 36 27.8	-1.4
DHY	Denali Highway DHY	15.78	42	P IAmb		P IAmb	07 36 29.0 07 36 41.2	-0.6
	comp=Z,5.1nm,0.5s							
DHY	Denali Highway baz=243	15.78	42	P		P	07 36 28.9	-0.7
G21K	Allakaket baz=222	15.87	26	P		P	07 36 30.4	0.0
M24K	Tolsona, Glenn	15.87	46	P		P	07 36 29.7	-0.8
M24K	Tolsona, Glenn baz=248,SNR=8.1	15.87	46	P		P	07 36 29.4	-1.1
NEA2	Nenana NEA2	15.94	36	P IAmb		P IAmb	07 36 30.6 07 36 34.1	-0.6
	comp=Z,5.6nm,0.7s							
NEA2	Nenana baz=235	15.94	36	P		P	07 36 30.4	-0.9
H22K	Ishtalitna Cre baz=228	16.02	30	P		Pn	07 36 33.7	+1.2
I23K	Minto, Yukon-K	16.17	34	P		Pn	07 36 34.6	+0.3
I23K	Minto, Yukon-K baz=233,SNR=25	16.17	34	P		Pn	07 36 34.7	+0.3
BMRM	Bremner River	16.18	51	P		P	07 36 33.0	-1.0
BMRM	Bremner River baz=254	16.18	51	P		P	07 36 32.7	-1.3
WRH	Wood River Hil WRH	16.22	37	P IAmb		P IAmb	07 36 33.0 07 36 37.4	-1.3
	comp=Z,7.0nm,0.9s							
N25K	Chitina, Valde comp=Z,11nm,0.7s	16.38	49	IAmb		IAmb	07 36 37.7	
N25K	Chitina, Valde baz=252,SNR=8.2	16.38	49	P		P	07 36 36.0	-0.2
F21K	Alatna River baz=220	16.41	24	P		Pn	07 36 36.9	-0.3
HARP	HAARP baz=248,SNR=15	16.42	46	P		Pn	07 36 37.5	+0.2
CCB	Clear Creek Bu comp=Z,9.2nm,0.6s	16.42	37	IAmb		IAmb	07 36 39.3	
MDM	Murphy Dome MDM	16.45	35	P IAmb		P IAmb	07 36 36.2 07 36 48.4	-0.6
	comp=Z,10nm,1.0s							
PAX	Paxson comp=Z,6.2nm,0.6s	16.51	44	IAmb		IAmb	07 36 39.0	
PAX	Paxson baz=246,SNR=7.6	16.51	44	P		P	07 36 38.0	+0.4
TCOL	CIGO, UAF Yank comp=Z,14nm,0.6s	16.53	36	IAmb		IAmb	07 36 41.3	
TCOL	CIGO, UAF Yank baz=237	16.53	36	P		Pn	07 36 38.5	-0.1
COLA	College COLA	16.53	36	P IAmb		P IAmb	07 36 37.8 07 36 41.3	+0.1
	comp=Z,14nm,0.6s							
COLA	College baz=237	16.53	36	P		Pn	07 36 38.8	+0.2
H23K	Yukon River	16.54	32	IAmb		IAmb	07 36 41.2	
	comp=Z,7.4nm,0.8s							
H23K	Yukon River baz=231,SNR=6.1	16.54	32	P		Pn	07 36 39.2	+0.5
HDA	Harding Lake baz=240,SNR=20	16.61	38	P		P	07 36 38.6	0.0
GLB	Gilahina Butte GLB	16.69	50	P IAmb		P IAmb	07 36 37.6 07 36 41.9	-2.0
	comp=Z,6.2nm,0.6s							
G22K	Bettles baz=225	16.70	27	P		P	07 36 39.9	+0.3
K24K	Donnelly Dome baz=243,SNR=5.3	16.76	41	P		P	07 36 40.2	0.0
VRDI	Verde Repeater comp=Z,6.7nm,0.6s	16.79	51	IAmb		IAmb	07 36 42.4	
ILAR	Eielson Array comp=Z,6.9nm,0.4s,baz=243,slow=9.9,SNR=232	16.82	37	P		P	07 36 39.8	-1.1
ILAR	Eielson Array	16.82	37	P		P	07 36 39.6	-1.2
G23K	Bananza Creek baz=228	16.98	29	P		Pn	07 36 43.5	-0.4
H24K	Noodor Dome baz=234	17.08	33	P		Pn	07 36 44.9	-0.3
RIDG	Independent Ri	17.10	42	P		P	07 36 43.7	-0.3
RIDG	Independent Ri baz=245,SNR=8.3	17.10	42	P		P	07 36 43.2	-0.8
MESA	MESA baz=260	17.27	55	P		P	07 36 45.9	-0.1
COLD	Coldfoot comp=Z,19nm,1.4s	17.28	28	IAmb		IAmb	07 36 50.1	
COLD	Coldfoot baz=226	17.28	28	P		P	07 36 45.7	-0.2
M26K	Nabesna, AK baz=252	17.36	47	P		Pn	07 36 47.8	-0.8
DOT	Dot Lake comp=Z,11nm,0.7s	17.38	42	IAmb		IAmb	07 36 54.2	
L26K	Log Cabin Wild baz=249	17.43	45	P		Pn	07 36 48.9	-0.4
SCRK	Sand Creek SCRK	17.54	42	P IAmb		P IAmb	07 36 48.1 07 36 49.0	-0.8
	comp=Z,16nm,0.8s							
SCRK	Sand Creek baz=245,SNR=23	17.54	42	P		P	07 36 48.6	-0.3
PRP	Porcupine Dome baz=239	17.71	36	P		P	07 36 49.5	-1.2
G24K	Hadweenzic Riv baz=232	17.74	31	P		P	07 36 51.4	+0.5
M27K	Edge Creek, AK comp=Z,21nm,1.1s	17.84	48	IAmb		IAmb	07 36 55.3	
M27K	Edge Creek, AK baz=253	17.84	48	P		P	07 36 53.2	+1.0
J26L	Joseph Creek baz=245	17.94	40	P		P	07 36 52.4	-0.7
E23K	Chandalar baz=226	18.03	26	P		P	07 36 52.4	-1.7
L27K	Beaver Creek, baz=251	18.09	46	P		P	07 36 55.0	+0.2
PINM	Pinnacle baz=262	18.09	55	P		P	07 36 55.1	+0.2
BCAR	Beaver Creek A	18.11	46	P		P	07 36 54.9	-0.1
F24K	Squaw Lake baz=230	18.14	29	P		Pn	07 36 56.5	-1.1
G25K	Bearman Lake baz=234	18.21	32	P		P	07 36 56.5	+0.4
O28M	Mount Upton baz=260	18.23	53	P		P	07 36 56.4	-0.2
YUK3	Moose Creek baz=257	18.32	50	P		P	07 36 56.5	-1.0
E24K	Your Creek baz=227	18.34	27	P		Pn	07 36 58.8	-1.2
D23K	Nanushuk River baz=222	18.43	23	P		P	07 36 59.0	+0.7
PNL	Peninsula baz=264	18.46	57	P		P	07 36 59.1	+0.3
YUK8	Steele Glacier baz=259	18.54	52	P		P	07 36 59.6	-0.3
PEA0B	Petropavlovsk-	18.75	282	P		P	07 37 01.6	-0.3
PETK	Petropavlovsk- comp=Z,1.0nm,0.4s,baz=86,slow=14,SNR=9.8	18.75	282	P		P	07 37 00.9	-1.0
F25K	Christian Rive baz=233	18.86	30	P		P	07 37 03.2	+0.1
O29M	Mount Kennedy baz=263	18.95	55	P		P	07 37 04.0	-0.2
EGAK	Eagle baz=247,SNR=26	19.00	41	P		P	07 37 05.4	+0.9
D24K	Happy Valley baz=224	19.02	24	P		P	07 37 05.1	+0.4
G26K	Porcupine Rive baz=238	19.07	33	P		P	07 37 04.7	-0.6
YUK4	Talbot Arm baz=260	19.08	52	P		P	07 37 06.8	+1.1
YUK6	Outpost Mounta baz=262	19.14	53	P		P	07 37 05.9	-0.5
I27K	Kandik River baz=244	19.17	38	P		P	07 37 06.5	0.0
E25K	Arctic Village baz=232	19.20	29	P		P	07 37 07.7	+0.9
A21K	Barrow baz=207	19.26	14	P		P	07 37 06.1	-1.1
P29M	Windy Craggy comp=Z,12nm,0.8s	19.29	57	IAmb		IAmb	07 37 10.9	
P29M	Windy Craggy baz=266	19.29	57	P		P	07 37 07.4	-0.4
F26K	Sheenjek River baz=235	19.38	31	P		P	07 37 09.3	+0.7
M29M	Somme Creek baz=257	19.39	49	P		P	07 37 08.3	-0.7
DAWY	Dawson DAWY	19.45	44	P IAmb		P IAmb	07 37 09.0 07 37 13.2	-0.4
	comp=Z,5.4nm,0.9s							
DAWY	Dawson baz=252	19.45	44	P		P	07 37 09.0	-0.4
C24K	Franklin Bluff baz=224	19.46	23	P		P	07 37 09.1	-0.4
H27K	Steamboat Moun baz=243,SNR=7.3	19.49	37	P		P	07 37 09.9	+0.1
HYT	Haines Junctio HYT	19.54	54	P IAmb		P IAmb	07 37 10.1 07 37 13.6	-0.5
	comp=Z,6.4nm,0.8s							
HYT	Haines Junctio baz=263	19.54	54	P		P	07 37 11.0	+0.4
L29M	L29M baz=256	19.71	47	P		P	07 37 12.2	0.0
G27K	Dean Strip baz=241	19.72	35	P		P	07 37 12.0	-0.3
P30M	Million Dollar baz=265	19.73	56	P		P	07 37 12.3	-0.2
D25K	Kavik River baz=228	19.76	26	P		P	07 37 11.9	-0.9
PLBC	Pleasant Camp baz=268	19.98	58	P		P	07 37 14.7	-0.4
J29M	Klondike Camp	20.06	43	P		P	07 37 14.2	-1.9
J29M	Klondike Camp baz=252	20.06	43	P		P	07 37 17.2	+1.2
K29M	Barlow Dome baz=254,SNR=8.7	20.17	45	P		P	07 37 18.9	+1.7
M30M	Minto, Yukon baz=259	20.18	49	P		P	07 37 17.5	+0.2
O30N	Mendenhall baz=264	20.22	54	P		Pn	07 37 20.4	-2.1
I29M	Ogilvie Camp,	20.34	41	P		P	07 37 17.7	-1.2
I29M	Ogilvie Camp, baz=250,SNR=23	20.34	41	P		P	07 37 18.6	-0.3
E27K	Coleen River baz=238	20.45	32	P		P	07 37 21.4	+1.3
SKAG	Skagway baz=269	20.51	58	P		P	07 37 20.5	-0.2
C26K	Camden Bay baz=229	20.54	26	P		P	07 37 21.0	0.0
C27K	Jago River baz=232	20.67	27	P		P	07 37 21.9	-0.5
EPYK	Eagle Plains EPYK	21.31	39	P IAmb		P IAmb	07 37 27.9 07 37 30.4	-1.2
	comp=Z,12nm,0.7s							
EPYK	Eagle Plains baz=249,SNR=8.5	21.31	39	P		P	07 37 28.5	-0.7
SEY	Seymchan comp=Z,3.0nm,0.7s,baz=97,slow=7.9,SNR=8.6	21.41	312	P		P	07 37 28.6	-1.5
	comp=Z,3.0nm,0.7s							
G30M	tAoh Zraii Nji baz=248	21.73	37	P		P	07 37 31.7	-1.7
R33M	Jennings River baz=272	22.74	58	P		P	07 37 43.5	+0.5
S34M	Telegraph Cree baz=276	22.74	62	P		P	07 37 44.5	+1.5
F31M	Tsiigehtchic baz=250,SNR=5.1	22.79	37	P		P	07 37 42.9	-0.4
INK	Inuvik comp=Z,10nm,0.3s,baz=232,slow=7.4,SNR=184	23.18	35	P		P	07 37 46.7	0.0
	comp=Z,10nm,0.3s							
INK	Inuvik	23.18	35	P		P	07 37 46.8	0.0
INK	Inuvik baz=249,SNR=18	23.18	35	P		P	07 37 46.9	+0.1
DLBC	Dease Lake comp=Z,3.4nm,0.4s,baz=254,slow=6.7,SNR=30	23.28	61	P		P	07 37 49.6	+1.7
	comp=Z,3.4nm,0.4s							
DLBC	Dease Lake baz=276	23.28	61	P		P	07 37 48.5	+0.6
T35M	Bob Quinn baz=279	23.32	64	P		P	07 37 50.0	+1.8
WTLY	Watson Lake, Y baz=273	23.81	56	P		P	07 37 52.4	-0.2
C36M	Paulatuk C36M	26.77	35	P IAmb		P IAmb	07 38 19.0 07 38 19.9	-0.1
	comp=Z,4.8nm,0.9s							
C36M	Paulatuk baz=258,SNR=5.1	26.77	35	P		P	07 38 19.2	+0.1
A36M	Sachs Harbour A36M	27.13	29	P IAmb		P IAmb	07 38 21.8 07 38 23.5	-0.5
	comp=Z,4.6nm,0.7s							
A36M	Sachs Harbour baz=251	27.13	29	P		P	07 38 22.7	+0.4
YKA	Yellowknife Ar comp=Z,0.4nm,0.3s,baz=292,slow=8.2,SNR=29	30.41	50	P		P	07 38 51.5	+0.2
	comp=Z,0.4nm,0.3s							
B08A	Colville Reser B08A	32.38	77	P IAmb		P IAmb	07 39 11.0 07 39 11.8	+2.1
	comp=Z,4.8nm,0.7s							
HAWA	Hanford HAWA	33.24	81	P IAmb		P IAmb	07 39 18.9 07 39 19.3	+2.7
	comp=Z,5.4nm,0.7s							
D08A	Wollman Farm,	33.26	79	P		P	07 39 18.4	+1.9
EDM	Edmonton comp=Z,9.7nm,0.8s	33.67	66	IAmb		IAmb	07 39 22.3	
NEW	Newport NEW	33.72	76	P IAmb		P IAmb	07 39 22.5 07 39 23.0	+2.1
	comp=Z,4.8nm,0.6s							
NEW	Newport baz=200,SNR=6.0	33.72	76	P		P	07 39 22.4	+1.9
WVOR	Wild Horse Val	35.96	86	P		P	07 39 42.4	+2.7
MSO	Missoula baz=302	36.31	76	P		P	07 39 43.5	+0.8
HLID	Hailey baz=306	37.83	81	P		P	07 39 57.2	+1.7
MCMT	McKenzie Canyo	38.03	79	P		P	07 39 58.9	+1.6
EGMT	Eagleton	38.11	72	P		P	07 39 58.9	+1.2
EGMT	comp=Z,4.8nm,1.1s			IAmb		IAmb	07 40 21.6	
EGMT	Eagleton baz=302	38.11	72	P		P	07 39 58.7	+1.0
BOZ	Bozeman (W) baz=304	38.32	77	P		P	07 40 00.7	+1.1
NVAR	Mina Array Bea comp=Z,1.4nm,0.7s,baz=294,slow=7.7,SNR=12	38.62	91	P		P	07 40 03.6	+1.4
	comp=Z,1.4nm,0.7s							
H17A	Grant Village baz=305	39.62	78	P		P	07 40 13.2	+2.7
VES	Vestal, Richgr baz=313	39.85	95	P		P	07 40 13.4	+1.2
RLMT	Red Lodge baz=305	39.97	76	P		P	07 40 14.6	+1.2
CWC	Cottonwood Cre baz=312	40.05	93	P		P	07 40 15.1	+1.0
R11A	Troy Canyon, C baz=311	40.31	89	P		P	07 40 17.7	+1.6
FURC	Furnace Creek, baz=312	40.77	92	P		P	07 40 21.7	+2.0
DUG	Dugway, Tooele baz=309	40.80	84	P		P	07 40 21.5	+1.4
TPNV	Topopah Spring baz=312	40.82	91	P		P	07 40 22.5	+2.2
LAO	LASA Array baz=304	40.85	72	P		P	07 40 21.8	+1.4
DGMT	Dagmar baz=303	41.02	69	P		P	07 40 21.8	+0.1
FCC	Fort Churchill	41.13	50	P		P	07 40 22.1	-0.3
EDW2	Edwards Air Fo baz=314	41.16	95	P		P	07 40 24.5	+1.6
BW06	Boulder Array	41.17	79	P		P	07 40 24.7	+1.5
BW06	Boulder Array baz=307	41.17	79	P		P	07 40 24.4	+1.2
PD31	Pinedale Array	41.17	79	P		P	07 40 24.8	+1.6
PDAR	Pinedale Array comp=Z,2.4nm,0.7s,baz=308,slow=2.4,SNR=31	41.17	79	P		P	07 40 24.5	+1.3
	comp=Z,2.4nm,0.7s							
PDAR	Pinedale Array	41.17	79	P		P	07 40 24.6	+1.5
PRN	Pahroc Range	41.24	89	P		P	07 40 26.3	+2.6
SHOC	Shoshone, Teco baz=313	41.50	92	P		P	07 40 28.4	+2.7
GSC	Goldstone, Bar	41.58	93	P		P	07 40 29.1	+2.7
GSC	Goldstone, Bar baz=313	41.58	93	P		P	07 40 27.6	+1.1
BFSC	Mount Baldy Ra baz=314	41.80	95	P		P	07 40 30.2	+2.0
TMUT	Trail Mountain	42.33	84	P		P	07 40 35.4	+2.7
SRU	San Rafael Swe	42.85	84	P		P	07 40 38.7	+1.9
NEE2	Needles Airpor baz=314	43.26	92	P		P	07 40 41.4	+1.5
U15A	North Rim comp=Z,3.1nm,0.5s	43.54	88	IAmb		IAmb	07 40 45.5	
O20A	White River Ci O20A	43.57	81	P IAmb		P IAmb	07 40 44.0 07 40 44.1	+1.5
	comp=Z,4.3nm,0.6s							
O20A	White River Ci baz=310	43.57	81	P		P	07 40 43.4	+0.9
RSSD	Black Hills	43.59	74	P		P	07 40 43.3	+0.7
RSSD	Black Hills baz=307	43.59	74	P		P	07 40 43.2	+0.5
GLA	Glamis baz=315	44.32	94	P		P	07 40 49.9	+1.5
PV11	David Mesa, Pa comp=Z,4.5nm,0.7s	44.37	84	IAmb		IAmb	07 40 52.0	
N23A	Red Feather La N23A	44.45	79	P IAmb		P IAmb	07 40 51.5 07 40 55.3	+2.0
	comp=Z,8.9nm,1.4s							
N23A	Red Feather La baz=309	44.45	79	P		P	07 40 50.9	+1.3
PV13	Radium Mtn., P PV13	44.49	84	P IAmb		P IAmb	07 40 51.5 07 40 52.0	+1.6
	comp=Z,5.8nm,0.7s							
ULM	Lac du Bonnet comp=Z,1.4nm,0.4s,baz=322,slow=7.8,SNR=4.7	44.59	62	P		P	07 40 50.4	+0.2
	comp=Z,1.4nm,0.4s							
ULM	Lac du Bonnet ULM	44.59	62	P IAmb		P IAmb	07 40 50.4 07 41 11.7	+0.2
	comp=Z,10nm,1.4s							
WUAZ	Wupatki baz=313	44.70	89	P		P	07 40 52.7	+1.2
AGMN	Agassiz Nation baz=306	45.72	64	P		P	07 40 59.3	+0.3
214A	Organ Pipe Nat baz=316	46.30	93	P		P	07 41 04.5	+0.6
SDCO	Great Sand Dun	46.74	82	P		P	07 41 09.8	+2.2
SDCO	Great Sand Dun baz=312	46.74	82	P		P	07 41 07.5	0.0
TUC	Tucson baz=315	47.27	91	P		P	07 41 12.1	+0.6
T25A	Trinidad baz=312	47.79	82	P		P	07 41 16.6	+1.1
ANMO	Albuquerque baz=314	48.05	85	P		P	07 41 17.6	0.0
ECSD	EROS Data Cent	48.07	70	P		P	07 41 17.1	-0.3
ECSD	EROS Data Cent baz=309	48.07	70	P		P	07 41 16.3	-1.0
LENM	Lemitar	48.27	87	P		P	07 41 18.5	-0.8
121A	Cookes Peak, D baz=315	48.92	89	P		P	07 41 26.1	+1.9
MNTX	Cornudas Mount baz=316	50.95	88	P		P	07 41 40.9	+1.7
HHC	Hu-ho-hao-te HHC	51.75	289	*e*P pmax		P pmax	07 41 44.9	-0.3
	comp=Z,10.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,170nm,4.2s							
P40A	Paris	53.40	71	P		P	07 41 56.9	-0.2
TX31	Lajitas Ar. Si TX31	53.67	88	P IAmb		P IAmb	07 42 01.1 07 42 01.7	+1.8
	comp=Z,7.0nm,1.1s							
TX32	Lajitas Array	53.67	88	P		P	07 42 01.0	+1.6
TXAR	Lajitas Array comp=Z,0.7nm,0.4s,baz=304,slow=6.3,SNR=38	53.67	88	P		P	07 42 00.9	+1.5
	comp=Z,0.7nm,0.4s							
SCHQ	Schefferville comp=Z,1.3nm,0.5s,baz=358,slow=12,SNR=1.2	55.47	43	P		P	07 42 11.1	-0.8
	comp=Z,1.3nm,0.5s							
MIAR	Mount Ida baz=315	55.96	76	P		P	07 42 15.7	+0.1

O48B	**Farmland**	**56.76**	**66**	P		**P**	**07 42 20.3**	**-0.8**
	baz=315								
WMQ	**Urumqi**	**62.27**	**307**	*e*P		**P**	**07 43 02.1**	**+3.2**
MKAR	**Makanchi Array**	**62.55**	**312**	P		**P**	**07 42 58.1**	**-2.5**
	comp=Z,0.3nm,0.7s,baz=55,slow=6.9,SNR=2.2								
	comp=Z,0.3nm,0.7s								
FINES	**FINESS Array B**	**64.90**	**351**	P		**P**	**07 43 13.8**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=0.0,slow=8.3,SNR=1.6								
	comp=Z,1.3nm,0.8s								
PZH	**PanZhiHua**	**67.69**	**285**	P		**P**	**07 43 36.0**	**+2.0**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
PZH				pmax	pmax				
	comp=Z,100nm,5.0s								
BRTR	**Keskin Array B**	**85.03**	**341**	P		**P**	**07 45 09.4**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=26,slow=7.0,SNR=1.5								
	comp=Z,0.4nm,0.7s								
WRA	**Warramunga Arr**	**86.80**	**230**	P		**P**	**07 45 19.4**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=31,slow=5.5,SNR=6.9								
	comp=Z,0.9nm,0.8s								
ASAR	**Alice Springs**	**90.22**	**229**	P		**P**	**07 45 36.1**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=22,slow=4.6,SNR=42								
	comp=Z,1.8nm,0.6s								
BOSA	**Boshof**	**152.69**	**328**	PKPbc		**PKPbc**	**07 52 30.2**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=15,slow=2.2,SNR=7.6								

*IDC **01** 07:38:25.5±0.8,2˚.64N×79˚.16W, h0km, mb3.7/10, mbtmp3.8/13, ML3.0/3, MS3.6/12, Error ellipse: s-maj=29.5km s-min=16.1km az=60.0*
*VAO **01** 07:38:26.3±1.5,2˚.53N×79˚.30W, h10km, mb4.4*
*RSNC **01** 07:38:27.6±0.9,2˚.66N×79˚.14W, h0km±12km, ML3.3, Mw4.2*
*NEIC **01** 07:38:33.6±1.0,2˚.31N±0˚.06×78˚.6W±0˚.1, h18km±9km, mb4.4/17, Error ellipse: s-maj=19.2km s-min=5.4km az=109.0*

ISC 01 07:38:27.0±1.4,**2˚.61N**±0˚.03×**79˚.29W**±0˚.04,**h15**km±9km, **n91**,σ1§**98**/94,**mb4.2**/17,**MS3.5**/10,**1C,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**0.96**	**144**		**Pg**	**07 38 43.9**	**-1.7**
TUMC	**Tumaco**	**0.96**	**144**	*e*P	**Pg**	**07 38 44.1**	**-1.4**
TUMC				*e*S	**Sg**	**07 38 57.5**	**-0.6**
TUMC				*i*		07 39 28.7	
	comp=Z,3μm,0.6s						
CMBC	**Cumbal**	**2.21**	**138**	*e*P	**Pb**	**07 39 06.0**	**-0.9**
PAC1	**Pacto, Paraso**	**2.38**	**168**	*e*P	**Pn**	**07 39 04.7**	**-0.9**
PAC1				*e*S	**Sn**	**07 39 29.9**	**-4.7**
GCUF	**Volcan Galeras**	**2.38**	**125**	*i* P	**Pn**	**07 39 05.1**	**-0.8**
GCUF				*i*		07 39 16.6	
	comp=Z,177nm,0.4s						
TULM	**Tulcn-Chalpat**	**2.40**	**141**	*e*P	**Pn**	**07 39 06.9**	**+0.7**
TULM				*e*S	**Sn**	**07 39 38.0**	**+2.3**
TULM				*i*		07 40 09.7	
	comp=Z,113nm,0.4s						
CUSE	**Cuicocha Este**	**2.45**	**159**	*e*P	**Pn**	**07 39 07.7**	**+0.9**
CUSE				*e*S	**Sn**	**07 39 32.9**	**-3.9**
CRUC	**La Cruz**	**2.55**	**114**	*e*P	**Pn**	**07 39 07.9**	**-0.3**
MAPC	**Malpelo**	**2.70**	**301**	*e*P	**Pn**	**07 39 08.8**	**-1.1**
MAPC				*e*S	**Sn**	**07 39 38.6**	**-3.7**
MAPC				*i*		07 39 42.8	
	comp=Z,123nm,0.4s						
BONI	**La Bonita**	**2.77**	**141**	*e*P	**Pn**	**07 39 12.4**	**+1.3**
BONI				*e*S	**Sb**	**07 39 52.4**	**+2.2**
YOTC	**Yotoco, Valle**	**3.24**	**65**	*e*P	**Pn**	**07 39 14.7**	**-2.8**
YOTC				*e*S	Sg	07 40 19.0	+7.7
PLMC	**San Jos del P**	**3.77**	**53**	*e*P	**Pn**	**07 39 22.5**	**-2.3**
PLMC				*e*S	**Sn**	**07 40 04.1**	**-4.8**
FLOC	**Florencia**	**3.77**	**106**	*e*P	**Pn**	**07 39 24.5**	**-0.2**
FLOC				*e*S	**Sn**	**07 40 11.8**	**+2.8**
GARC	**Garzon, Huila**	**3.82**	**96**	*e*P	Pn	07 39 21.4	-4.0
ORTC	**Ortega, Tolima**	**4.24**	**72**	*e*P	**Pn**	**07 39 32.5**	**+1.4**
ORTC				*i*		07 39 58.0	
	comp=Z,40nm,0.5s						
ORTC				*e*S	**Sb**	**07 40 28.8**	**-3.6**
ANIL	**Santa Ana**	**4.31**	**64**	*e*P	**Pn**	**07 39 32.1**	**-0.2**
ANIL				*i*		07 39 56.0	
	comp=Z,70nm,0.5s						
ANIL				*e*S	Sn	07 40 09.4	-13
CBOC	**Ciudad Bolivar**	**4.60**	**45**	*e*P	**Pn**	**07 39 34.0**	**-2.2**
CBOC				*e*S	**Sg**	**07 40 58.8**	**+4.0**
GUY2C	**Guyana, Caldas**	**4.70**	**56**	*e*P	**Pn**	**07 39 37.5**	**-0.4**
GUY2C				*e*S	**Sg**	**07 41 00.1**	**+2.1**
COHC	**Cochancay**	**5.04**	**180**	*e*P	**Pn**	**07 39 43.1**	**+1.0**
NORC	**Norcasia**	**5.30**	**56**	*e*P	**Pn**	**07 39 46.4**	**+0.7**
NORC				*e*S	**Sg**	**07 41 18.5**	**+1.3**
DBBC	**Dabeiba**	**5.35**	**35**	*e*P	Pn	07 39 51.2	+4.7
ROSC	**El Rosal**	**5.43**	**66**	Pn	**Pn**	**07 39 48.0**	**+0.2**
	comp=Z,3.4nm,0.3s,baz=123,slow=16,SNR=9.2						
	comp=Z,8.9nm,0.4s						
ROSC	**El Rosal**	**5.43**	**66**		**Pn**	**07 39 46.0**	**-1.8**
ROSC	**El Rosal**	**5.43**	**66**	*e*P	**Pn**	**07 39 48.6**	**+0.7**
ROSC				*i*		07 40 22.4	
	comp=Z,12nm,0.5s						
ROSC				*e*S	**Sg**	**07 41 26.6**	**+5.0**
MACC	**Macarena, Meta**	**5.46**	**95**	*i* P	**Pn**	**07 39 48.4**	**+0.5**
MACC				*e*S	**Sb**	**07 41 07.9**	**+0.5**
MACC				*i*		07 41 12.2	
	comp=Z,25nm,0.7s						
VILC	**Villavicencio,**	**5.78**	**75**	*e*P	**Pn**	**07 39 55.6**	**+3.1**
VILC				*i*		07 41 12.0	
	comp=Z,17nm,0.6s						
CHIC	**Chingaza**	**5.90**	**70**	*e*P	**Pn**	**07 39 55.0**	**+0.7**
CHIC				*i*		07 40 05.0	
	comp=Z,17nm,0.5s						
CHIC				*e*S	**Sb**	**07 41 16.9**	**-3.6**
PTBC	**PUERTO BERRIO,**	**6.20**	**51**	*e*P	**Pn**	**07 39 57.0**	**-1.1**
ZARC	**Zaragoza, Cauc**	**6.56**	**42**	*e*P	**Pn**	**07 40 00.7**	**-2.3**
ZARC				*e*S	**Sg**	**07 41 58.6**	**+0.9**
RUSC	**La Rusia**	**7.00**	**62**	Pn	**Pn**	**07 40 08.7**	**-0.8**
RUSC	**La Rusia**	**7.00**	**62**	*e*P	**Pn**	**07 40 10.8**	**+1.3**
RUSC				*i*		07 40 55.6	
	comp=Z,4.1nm,0.7s						
RUSC				*e*S	**Sb**	**07 41 47.8**	**-4.4**
PTGC	**Puerto Gaitan,**	**7.32**	**77**	*e*P	Pn	07 40 21.8	+8.4
PTGC				*e*S	Sn	07 41 48.2	+12
PTGC				*i*		07 42 09.6	
	comp=Z,4.9nm,0.7s						
ATAH	**Atahualpa**	**9.72**	**175**	Pn	**Pn**	**07 40 45.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=83,slow=16,SNR=1.5						
ATAH				Sn	**Sn**	**07 42 32.3**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=356,slow=23,SNR=1.9						
ATAH				LR	LR	07 45 04.4	
	comp=Z,462nm,18.9s,baz=349,slow=41						
	comp=Z,1.9nm,0.5s						
SDV	**Santo Domingo**	**10.63**	**54**	LR	LR	07 45 52.3	
	comp=Z,325nm,20.0s,baz=226,slow=42						
PAYG	**Puerto Ayora**	**11.46**	**254**	Pn	Pn	07 41 24.7	+14
CZSB	**Cruzeiro do Su**	**12.19**	**147**		**Pn**	**07 41 18.8**	**-1.4**
CZSB	**Cruzeiro do Su**	**12.19**	**147**	*e*P	**Pn**	**07 41 19.7**	**-0.5**
SGCB	**S£o Gabriel d**	**12.55**	**102**	*e*P	**Pn**	**07 41 26.5**	**+1.4**
BAUV	**El Baul**	**12.84**	**60**	Pn	**Pn**	**07 41 27.4**	**-1.7**
NNA	**Nana**	**14.70**	**171**	Pn	**Pn**	**07 41 56.9**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=341,slow=22,SNR=1.6						
	comp=Z,2.0nm,0.4s						
TEFE	**Tefe**	**15.86**	**112**	*e*P	**Pn**	**07 42 09.3**	**-0.6**
ETMB	**Extrema**	**17.94**	**134**	P	**Pn**	**07 42 33.5**	**-2.6**
ETMB				IAmb	IAmb	07 42 37.2	
	comp=Z,49nm,1.2s						
ETMB	**Extrema**	**17.94**	**134**	*e*P	**Pn**	**07 42 33.5**	**-2.6**
SDDR	**Presa de Saban**	**18.06**	**25**		**P**	**07 42 43.1**	**+5.1**
BOAV	**Boa Vista**	**18.75**	**90**		**P**	**07 42 43.0**	**-2.6**
BOAV				IAmb	IAmb	07 42 46.8	
	comp=Z,20nm,1.2s						
BOAV	**Boa Vista**	**18.75**	**90**	*e*P	**P**	**07 42 45.3**	**-0.3**
MACA	**Manacapuru-AM**	**19.46**	**107**		**P**	**07 42 50.1**	**-3.3**
MACA				IAmb	IAmb	07 43 08.7	
	comp=Z,40nm,1.4s						
MACA	**Manacapuru-AM**	**19.46**	**107**	*e*P	**P**	**07 42 54.1**	**+0.7**
CMIG	**Matias Romero**	**21.02**	**314**	P	**P**	**07 43 12.1**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=116,slow=10,SNR=1.6						
CMIG				LR	LR	07 49 58.0	
	comp=Z,136nm,20.3s,baz=126,slow=33						
	comp=Z,1.5nm,0.8s						
LPAZ	**La Paz**	**21.77**	**150**		**P**	**07 43 17.9**	**-1.1**
LPAZ	**La Paz**	**21.77**	**150**	*e*P	**P**	**07 43 18.3**	**-0.7**
PB18	**Visviri**	**22.28**	**155**	P	**P**	**07 43 24.1**	**-0.3**
PB12	**IPOC Station P**	**22.86**	**158**	P	**P**	**07 43 29.9**	**-0.2**
PB12				IAmb	IAmb	07 43 46.2	
	comp=Z,15nm,1.2s						
PB16	**IPOC Station P**	**22.93**	**156**	P	**P**	**07 43 30.7**	**-0.6**
MNMC	**Minye Minye**	**23.61**	**157**	P	**P**	**07 43 37.9**	**0.0**
PSGCX	**Pisagua**	**23.83**	**158**	P	**P**	**07 43 40.3**	**+0.5**
PSGCX				IAmb	IAmb	07 43 51.2	
	comp=Z,23nm,1.4s						
PB11	**IPOC Station P**	**24.16**	**157**	P	**P**	**07 43 42.6**	**-0.3**
GO01	**Chusmiza**	**24.25**	**156**	P	**P**	**07 43 44.2**	**0.0**
GO01				IAmb	IAmb	07 43 48.7	
	comp=Z,11nm,1.1s						
VILB	**Vilhena**	**24.46**	**130**	P	**P**	**07 43 44.3**	**-1.3**
VILB				IAmb	IAmb	07 43 47.2	
	comp=Z,36nm,0.9s						
VILB	**Vilhena**	**24.46**	**130**	*e*P	**P**	**07 43 45.6**	**-0.1**
PB08	**IPOC Station P**	**24.70**	**157**	P	**P**	**07 43 47.9**	**-0.2**
PB08				IAmb	IAmb	07 44 04.9	
	comp=Z,9.7nm,1.0s						
TA01	**Diego Aracena**	**24.70**	**159**	P	**P**	**07 43 46.6**	**-1.1**
TA01				IAmb	IAmb	07 43 50.0	
	comp=Z,9.9nm,0.9s						
PB01	**IPOC Station P**	**25.39**	**158**	P	**P**	**07 43 54.1**	**0.0**
PB01				IAmb	IAmb	07 44 22.0	
	comp=Z,13nm,1.4s						
MALB	**Monte Alegre**	**25.41**	**100**	*e*P	**P**	**07 43 53.8**	**-0.4**
NPGB	**Novo Progresso**	**25.74**	**112**	*e*P	**P**	**07 43 55.7**	**-1.5**
SIV	**San Ignacio**	**25.80**	**136**	P	**P**	**07 43 57.7**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=320,slow=9.6,SNR=16						
	comp=Z,2.9nm,0.8s						
PDRB	**Porto dos Gac**	**26.51**	**123**	*e*P	**P**	**07 44 04.9**	**+0.7**
MDP	**Montagnes des**	**26.70**	**84**	LR	LR	07 55 25.9	
	comp=Z,144nm,20.4s,baz=298,slow=38						
PTLB	**Pontes e Lacer**	**26.82**	**133**	P	**P**	**07 44 05.9**	**-1.1**
PTLB				IAmb	IAmb	07 44 19.9	
	comp=Z,13nm,1.2s						
PTLB	**Pontes e Lacer**	**26.82**	**133**	*e*P	**P**	**07 44 06.7**	**-0.2**
BBSD	**Serra de San D**	**26.95**	**138**	*e*P	**P**	**07 44 07.8**	**-0.4**
LVC	**Limon Verde**	**27.03**	**159**	LR	LR	07 56 19.2	
	comp=Z,188nm,19.9s,baz=297,slow=40						
BBRB	**Robore, Bolivi**	**28.26**	**138**	*e*P	**P**	**07 44 20.2**	**+0.3**
AQDB	**Aquidauana**	**32.58**	**136**	*e*P	**P**	**07 44 58.2**	**+0.2**
TKL	**Tuckaleechee C**	**33.15**	**353**	LR	LR	07 57 59.5	
	comp=Z,53nm,19.4s,baz=23,slow=35						
H06E1	**SOCORRO T-PHAS**	**34.89**	**300**	T	T	08 22 26.5	
	SNR=3.9						
TXAR	**Lajitas Array**	**35.26**	**321**	P	**P**	**07 45 22.6**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=116,slow=12,SNR=2.3						
TXAR				LR	LR	08 01 47.0	
	comp=Z,36nm,19.2s,baz=112,slow=40						
	comp=Z,0.2nm,0.7s						
LPIG	**La Paz**	**36.80**	**308**	LR	LR	07 57 21.8	
	comp=Z,64nm,19.9s,baz=192,slow=31						
ANMO	**Albuquerque**	**40.90**	**325**	LR	LR	08 03 47.4	
	comp=Z,41nm,18.2s,baz=176,slow=37						
CMC01	**Camacan, BA**	**43.21**	**116**	*e*P	**P**	**07 46 27.5**	**-0.4**
PLCA	**Paso Flores**	**43.86**	**170**	P	**P**	**07 46 34.5**	**+1.7**
	comp=Z,3.4nm,0.9s,baz=0.2,slow=9.5,SNR=7.3						
	comp=Z,3.4nm,0.9s						
RCBR	**Riachuelo**	**44.13**	**101**	LR	LR	08 05 01.7	
	comp=Z,139nm,18.7s,baz=72,slow=36						
PDAR	**Pinedale Array**	**48.25**	**330**	LR	LR	08 08 56.8	
	comp=Z,59nm,18.0s,baz=58,slow=38						
ULM	**Lac du Bonnet**	**49.52**	**346**	P	**P**	**07 47 16.4**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=170,slow=6.2,SNR=2.2						
	comp=Z,2.4nm,0.7s						
NVAR	**Mina Array Bea**	**50.39**	**320**	P	**P**	**07 47 24.4**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=83,slow=7.4,SNR=1.1						
	comp=Z,0.3nm,0.8s						
FRB	**Frobisher Bay**	**61.52**	**5**	LR	LR	08 17 06.8	
	comp=Z,50nm,19.4s,baz=85,slow=38						
YKA	**Yellowknife Ar**	**65.26**	**343**	P	**P**	**07 49 09.5**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=131,slow=6.5,SNR=12						
	comp=Z,1.1nm,0.8s						
ESDC	**Sonseca Array**	**77.06**	**50**	P	**P**	**07 50 20.6**	**+0.8**
	comp=Z,1.6nm,1.1s,baz=254,slow=5.1,SNR=7.1						
	comp=Z,1.6nm,1.1s						
ILAR	**Eielson Array**	**78.23**	**336**	P	**P**	**07 50 27.4**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=110,slow=4.5,SNR=4.2						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.64**	**77**	P	**P**	**07 50 38.5**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=276,slow=5.4,SNR=2.5						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**142.92**	**240**	PKhKP	PKPpre	07 57 59.6	
	comp=Z,1.6nm,0.8s,baz=111,slow=3.1,SNR=7.7						

*MAN **01** 07:40:33.8,10˚.08N×125˚.93E, h46km, mb4.7, ML3.6, MS3.5*
*NEIC **01** 07:40:33.5±0.9,10˚.2N±0˚.1×126˚.0E±0˚.2, h77km±9km, mb4.0/15, Error ellipse: s-maj=30.7km s-min=11.1km az=69.0*
*IDC **01** 07:40:36.4±9.4,10˚.18N×125˚.96E, h110km±87km, mb3.6/10, mbtmp3.9/10, Error ellipse: s-maj=60.7km s-min=15.8km az=62.0*

ISC 01 07:40:31.6±1.2,**10˚.16N**±0˚.07×**126˚.07E**±0˚.09,**h69**km±10km, **n47**,σ1§**00**/48,**mb3.9**/18,**3C-6D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.69**	**237**	*e*P	**Pn**	**07 40 46.5**	**+0.2**
SCPH				*i* S	**Sn**	**07 40 56.0**	**-1.1**
MSLP	**Maasin**	**1.20**	**269**	*i* P	**Pn**	**07 40 52.5**	**0.0**
MSLP				*e*S	**Sn**	**07 41 07.2**	**-1.0**
BIPH	**Bislig**	**1.98**	**172**	*e*P	**Pn**	**07 41 03.7**	**+0.7**
BIPH				*i* S	**Sn**	**07 41 27.7**	**+0.8**
LLP	**Lapu-Lapu**	**2.08**	**275**	*i* P	**Pn**	**07 41 05.6**	**+1.2**
LLP				*i* S	**Sn**	**07 41 29.7**	**+0.3**
CGP	**Cagayan de Oro**	**2.17**	**219**	*i* P	**Pn**	**07 41 06.6**	**+1.0**
CGP				*i* S	**Sn**	**07 41 31.1**	**-0.4**
TBP	**Tagbilaran**	**2.23**	**258**	*e*P	**Pn**	**07 41 07.6**	**+1.3**
TBP				*i* S	**Sn**	**07 41 32.6**	**-0.2**
DCPH	**Dipolog City**	**3.11**	**240**	*e*P	**Pn**	**07 41 18.5**	**+0.2**
CNOP	**Candoni, Negro**	**3.40**	**265**	*i* P	**Pn**	**07 41 23.5**	**+1.2**
CTBH	**Cotabato--PC H**	**3.43**	**212**	*i* P	**Pn**	**07 41 24.5**	**+1.7**
RCP	**Roxas**	**3.56**	**293**	*e*P	**Pn**	**07 41 26.6**	**+2.2**
YULB	**Yu-li**	**13.93**	**341**	Pn	**Pn**	**07 43 46.7**	**+0.8**
FAKI	**Fak Fak**	**14.37**	**154**	Pn	**Pn**	**07 43 50.7**	**-1.0**
SBUM	**Sibu**	**15.75**	**242**	Pn	**Pn**	**07 44 09.5**	**+0.1**
SBUM				IAmb	IAmb	07 44 29.9	
	comp=Z,7.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.52**	**291**	P	**P**	**07 46 12.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=92,slow=7.7,SNR=7.0						
	comp=Z,0.9nm,0.5s						
WB0	**Warramunga Arr**	**30.84**	**165**	P	**P**	**07 46 41.5**	**0.0**
WB0				IAmb	IAmb	07 47 10.0	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**31.00**	**165**	P	**P**	**07 46 43.2**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=344,slow=9.4,SNR=2.6						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**31.00**	**165**	P	**P**	**07 46 43.0**	**+0.2**
WB2	**Warramunga Arr**	**31.00**	**165**	P	**P**	**07 46 42.9**	**0.0**
WB2				IAmb	IAmb	07 46 50.2	
	comp=Z,3.0nm,0.9s						
WR0	**Warramunga Arr**	**31.07**	**164**	P	**P**	**07 46 42.6**	**-0.8**
WR0				IAmb	IAmb	07 47 10.4	
	comp=Z,3.4nm,1.1s						
AS31	**Alice Springs**	**34.48**	**167**	P	**P**	**07 47 14.0**	**+0.8**
AS31				IAmb	IAmb	07 47 16.5	
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**34.48**	**167**	P	**P**	**07 47 14.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=348,slow=7.0,SNR=26						
	comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**34.48**	**167**	P	**P**	**07 47 13.4**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**40.14**	**73**	T	T	08 31 03.1	
	baz=262,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**40.15**	**73**	T	T	08 31 01.6	
	baz=262,slow=75,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**40.16**	**73**	T	T	08 31 01.9	
	baz=262,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**40.47**	**72**	T	T	08 31 33.5	
	baz=264,slow=74,SNR=32						
H11N2	**WAKE ISLAND Hy**	**40.48**	**72**	T	T	08 31 34.4	
	baz=264,slow=74,SNR=25						
H11N3	**WAKE ISLAND Hy**	**40.49**	**72**	T	T	08 31 34.8	
	baz=264,slow=74,SNR=31						
FORT	**Forrest**	**40.74**	**177**	P	**P**	**07 48 05.2**	**-0.8**
SONM	**Songino Array**	**41.06**	**340**	P	**P**	**07 48 09.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=159,slow=9.1,SNR=5.0						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**41.06**	**340**	P	**P**	**07 48 09.6**	**+1.0**
BBOO	**Buckleboo**	**43.77**	**168**	P	**P**	**07 48 32.8**	**+2.1**
BBOO				IAmb	IAmb	07 48 33.1	
	comp=Z,6.8nm,0.7s						
STKA	**Stephens Creek**	**44.36**	**161**	P	**P**	**07 48 37.0**	**+1.8**
	comp=Z,0.9nm,0.5s,baz=330,slow=8.1,SNR=4.0						
	comp=Z,0.9nm,0.5s						
STKA	**Stephens Creek**	**44.36**	**161**	P	**P**	**07 48 36.7**	**+1.4**
MK31	**Makanchi Array**	**52.00**	**323**	P	**P**	**07 49 34.5**	**+0.4**
MK31				IAmb	IAmb	07 49 53.7	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**52.00**	**323**	P	**P**	**07 49 34.1**	**0.0**
	comp=Z,0.7nm,0.3s,baz=125,slow=8.7,SNR=11						
MKAR				PcP	**PcP**	**07 50 46.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=101,slow=4.2,SNR=4.3						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**52.00**	**323**	P	**P**	**07 49 34.5**	**+0.4**
MAKZ	**Makanchi**	**52.20**	**323**	P	**P**	**07 49 35.9**	**+0.4**
MAKZ				IAmb	IAmb	07 49 36.4	
	comp=Z,2.3nm,1.1s						
ZALV	**Zalesovo Beam**	**54.63**	**331**	P	**P**	**07 49 51.1**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=108,slow=9.3,SNR=4.4						
	comp=Z,0.6nm,0.4s						
KK31	**Karatay Array**	**58.19**	**315**	P	**P**	**07 50 19.1**	**+0.2**
KK31				IAmb	IAmb	07 50 40.2	
	comp=Z,0.5nm,1.0s						
KKAR	**Karatay Array**	**58.19**	**315**	P	**P**	**07 50 18.6**	**-0.2**
QRZ	**Quartz Range**	**66.38**	**143**	P	**P**	**07 51 12.3**	**-1.1**
ABKAR	**Akbulak array**	**66.84**	**319**	P	**P**	**07 51 15.8**	**-0.4**
ARU	**Arti**	**69.22**	**327**	P	**P**	**07 51 30.5**	**-0.5**
BRTR	**Keskin Array B**	**85.45**	**309**	P	**P**	**07 53 01.4**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=72,slow=4.0,SNR=4.2						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**85.90**	**332**	P	**P**	**07 53 03.2**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=64,slow=3.5,SNR=11						
	comp=Z,3.3nm,0.9s						
AKASG	**Malin Array Be**	**86.53**	**321**	P	**P**	**07 53 05.7**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=56,slow=5.1,SNR=8.2						
	comp=Z,0.6nm,0.7s						

*IDC **01** 07:48:54.4±1.2,26˚.85N×128˚.39E, h0km, mb3.3/3, mbtmp3.3/4, ML3.1/1, MS2.8/1, Error ellipse: s-maj=27.0km s-min=10.4km az=177.0*
*JMA **01** 07:48:55.1±0.2,27˚.0N±0˚.4×128˚.7E±0˚.8, h13km±2km, MV3.0/10, NEAR OKINAWAJIMA ISLAND*

ISC 01 07:48:53.5±1.6,**26˚.93N**±0˚.04×**128˚.82E**±0˚.05,**h1**km±12km, **n15**,σ1§**06**/23,**mb3.3**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**0.34**	**286**	*i* P	**Pg**	**07 49 00.2**	**+0.2**
JYRO				S	**Sg**	**07 49 03.9**	**-0.7**
JOKE	**Okinoerabujima**	**0.49**	**333**	*i* P	**Pg**	**07 49 02.8**	**0.0**
JOKE				S	**Sg**	**07 49 07.8**	**-1.3**
JOW	**Kunigami**	**0.50**	**259**	Pn	**Pg**	**07 49 03.4**	**+0.4**
	136nm,0.3s,baz=101,slow=16,SNR=887						
JOW				Sn	**Sg**	**07 49 09.3**	**-0.1**
	253nm,0.3s,baz=136,slow=24,SNR=29						
JOW	**Kunigami**	**0.50**	**259**	*i* P	**Pg**	**07 49 03.7**	**+0.7**
JOW				S	**Sg**	**07 49 09.4**	**-0.1**
JIH	**Iheya**	**0.77**	**278**	P	**Pg**	**07 49 08.2**	**0.0**
JIH				S	**Sg**	**07 49 17.2**	**-1.0**
JNTH	**Nagotoyohara**	**0.82**	**240**	P	**Pb**	**07 49 08.8**	**-0.7**
JTK	**Tokunoshima**	**0.86**	**8**	*i* P	**Pg**	**07 49 10.2**	**+0.2**
JJT3	**Tamagusuku3**	**1.21**	**230**	P	**Pg**	**07 49 17.9**	**+1.1**
JJT3				*e*S	**Sn**	**07 49 33.0**	**-1.8**
JMZ	**Minamidaito 2**	**2.42**	**117**	P	**Pn**	**07 49 34.5**	**+0.2**
JMZ				*e*S	**Sn**	**07 50 01.8**	**-2.7**
JKDJ	**Kitadaitoujima**	**2.42**	**113**	P	**Pn**	**07 49 34.7**	**+0.4**
JKDJ				*e*S	**Sn**	**07 50 04.3**	**-0.3**
JNU	**Nakatsue**	**6.43**	**16**	Pn	**Pn**	**07 50 31.2**	**+1.8**
	0.4nm,0.3s,baz=237,slow=22,SNR=1.3						
JNU				Sn	**Sn**	**07 51 43.3**	**-0.1**
	0.2nm,0.3s,baz=2.3,slow=22,SNR=2.0						
	1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.77**	**259**	LR	LR	08 06 14.2	
	comp=Z,19nm,18.

AC06					*e*S		**Sg**	07 51 49.4	+0.4
VA03	**San Esteban**	**3.05**	**161**		*e*P		**Pn**	07 51 08.7	+1.9
VA03	**San Esteban**	**3.05**	**161**		*e*P		**Pn**	07 51 08.8	+1.9
VA03					*e*S		**Sn**	07 51 46.4	+3.3
VA03					IAML			07 51 55.4	
	comp=N,2μm,0.5s								
VA03	**San Esteban**	**3.05**	**161**		*e*P		**Pn**	07 51 08.7	+1.9
VA03					*e*S		**Sn**	07 51 45.2	+2.1
VA03					IAML			07 52 01.0	
	comp=Z,794nm,1.1s								
ZON	**Zonda**	**3.11**	**123**		*e*P		**Pb**	07 51 12.0	-2.2
ZON					*e*S		**Sb**	07 51 52.7	+0.7
ZON					IAML			07 52 00.9	
	comp=Z,363nm,0.6s								
VA01	**Torpederas**	**3.13**	**179**		Pn		**Pn**	07 51 06.1	-1.8
ROCH	**El Roble**	**3.14**	**169**		*e*P		**Pn**	07 51 08.9	+0.6
ROCH					*e*S		**Sn**	07 51 47.2	+1.6
ROCH					IAML			07 51 59.5	
	comp=N,1μm,0.4s								
ROC1	**El Roble**	**3.14**	**169**				**Pn**	07 51 09.1	+0.7
ROC1	**El Roble**	**3.14**	**169**		*e*P		**Pn**	07 51 09.1	+0.7
ROC1					*e*S		**Sb**	07 51 55.7	+2.6
RTLL	**Cerro Villicun**	**3.16**	**118**		*e*P		**Pb**	07 51 12.0	-3.0
RTLL					*e*S		**Sb**	07 51 54.7	+1.3
VCA	**Vinchina**	**3.29**	**71**		*e*P		**Pb**	07 51 17.0	-0.3
VCA					*e*S		**Sb**	07 51 57.7	+0.5
VCA					IAML			07 52 15.5	
	comp=Z,748nm,0.4s								
PEL	**Peldehue**	**3.37**	**165**		*e*P		**Pn**	07 51 12.6	+1.3
PEL					*e*S		**Sn**	07 51 50.1	-0.9
PEL					IAML			07 52 08.3	
	comp=N,660nm,0.6s								
MT02	**Curacav**	**3.41**	**172**				**Pn**	07 51 11.7	0.0
MT02	**Curacav**	**3.41**	**172**		*e*S		**Sn**	07 51 51.9	+0.1
MT02	**Curacav**	**3.41**	**172**		*e*P		**Pn**	07 51 12.0	+0.3
MT02					*e*S		**Sn**	07 51 54.7	+2.9
MT02					IAML			07 52 06.1	
	comp=Z,348nm,0.5s								
MT05	**Renca**	**3.60**	**167**		Pn		**Pn**	07 51 15.5	+1.0
MT05	**Renca**	**3.60**	**167**		*e*P		**Pn**	07 51 15.6	+1.2
MT05					*e*S		**Sn**	07 51 56.2	-0.5
MT05					IAML			07 52 10.1	
	comp=E,1μm,0.4s								
MT05	**Renca**	**3.60**	**167**		*e*P		**Pn**	07 51 16.0	+1.6
MT05					*e*S		**Sb**	07 52 03.2	-2.9
MT05					IAML			07 52 12.1	
	comp=Z,670nm,1.1s								
FCH	**Farellones**	**3.65**	**161**		*e*P		**Pn**	07 51 17.4	+2.0
FCH					*e*S		**Sn**	07 52 01.7	+3.4
FCH					IAML			07 52 15.3	
	comp=E,362nm,0.5s								
MT03	**Universidad Ad**	**3.75**	**164**				**Pn**	07 51 18.3	+1.8
MT03	**Universidad Ad**	**3.75**	**164**		*e*P		**Pn**	07 51 18.1	+1.6
MT03					IAML			07 52 21.6	
	comp=N,937nm,0.6s								
MT03	**Universidad Ad**	**3.75**	**164**		*e*P		**Pn**	07 51 18.5	+2.0
MT03					*e*S		**Sn**	07 52 04.7	+4.3
MT03					IAML			07 52 18.3	
	comp=Z,666nm,0.8s								
VA05	**Santo Domingo**	**3.76**	**178**				**Pn**	07 51 16.2	-0.4
AC02	**Maricunga**	**3.81**	**38**				**Pb**	07 51 22.4	-3.9
AC02	**Maricunga**	**3.81**	**38**		*e*P		**Pb**	07 51 22.5	-3.9
AC02	**Maricunga**	**3.81**	**38**		*e*P		**Pb**	07 51 22.4	-3.9
AC02					IAML			07 52 25.6	
	comp=Z,321nm,1.0s								
AC01	**Pan de Azucar**	**3.85**	**15**		Pn		**Pn**	07 51 20.0	+2.2
AC01	**Pan de Azucar**	**3.85**	**15**		*i* P		**Pn**	07 51 20.2	+2.3
MT09	**Talagante**	**3.93**	**171**				**Pn**	07 51 18.0	-1.0
MT09	**Talagante**	**3.93**	**171**		*e*P		**Pn**	07 51 20.0	+0.9
MT01	**Popeta**	**3.99**	**174**				**Pn**	07 51 20.3	+0.5
MT01	**Popeta**	**3.99**	**174**		*i* P		**Pn**	07 51 20.3	+0.5
MT01	**Popeta**	**3.99**	**174**		*e*P		**Pn**	07 51 20.0	+0.3
MT01					*e*S		**Sn**	07 52 11.7	+5.4
MT01					IAML			07 52 22.7	
	comp=Z,340nm,0.6s								
LMEL	**Las Melosas**	**4.16**	**162**		*e*P		**Pn**	07 51 24.4	+2.2
BO04	**La Punta**	**4.20**	**167**				**Pn**	07 51 20.8	-1.9
GO05	**Hualа**	**5.12**	**182**		Pn		**Pn**	07 51 34.3	-0.9
PB14	**IPOC Station P**	**5.37**	**13**				**Pn**	07 51 41.5	+2.5
ML02	**Panimavida**	**5.87**	**177**				**Pn**	07 51 45.0	-0.5
PB10	**IPOC Station P**	**6.43**	**10**		Pn		**Pn**	07 51 54.8	+1.5
PB15	**IPOC Station P**	**6.95**	**17**				**Pn**	07 52 02.5	+1.9
BI05	**Punta Hualpn**	**6.95**	**190**		Pn		**Pn**	07 51 58.8	-1.6
H03N1	**Juan Fernandez**	**7.07**	**238**		Pn		**Pn**	07 52 01.9	+0.1
	baz=114,slow=18								
H03N1					T		T	07 59 21.8	
	baz=66,slow=72,SNR=9886								
H03N2	**Juan Fernandez**	**7.08**	**238**		Pn		**Pn**	07 52 01.9	0.0
	baz=114,slow=18								
H03N2					T		T	07 59 22.6	
	baz=66,slow=72,SNR=7642								
H03N3	**Juan Fernandez**	**7.09**	**238**		Pn		**Pn**	07 52 01.7	-0.3
	baz=114,slow=18								
H03N3					T		T	07 59 20.9	
	baz=66,slow=72,SNR=5708								
VA04	**Juan Fernndez**	**7.11**	**236**		Pn		**Pn**	07 52 01.7	-0.8
H03S3	**Juan Fernandez**	**7.26**	**235**		Pn		**Pn**	07 52 03.3	-1.1
	baz=37,slow=19								
H03S1	**Juan Fernandez**	**7.26**	**235**		Pn		**Pn**	07 52 03.1	-1.4
	baz=37,slow=19								
H03S2	**Juan Fernandez**	**7.28**	**235**		Pn		**Pn**	07 52 03.4	-1.2
	baz=37,slow=19								
PB04	**IPOC Station P**	**7.65**	**11**		Pn		**Pn**	07 52 10.2	0.0
LVC	**Limon Verde**	**7.67**	**20**		Pn		**Pn**	07 52 12.1	+1.4
PB07	**IPOC Station P**	**8.29**	**12**		Pn		**Pn**	07 52 18.9	-0.1
PB02	**IPOC Station P**	**8.69**	**11**		Pn		**Pn**	07 52 25.0	+0.7
PB01	**IPOC Station P**	**9.03**	**13**		Pn		**Pn**	07 52 29.0	-0.1
TA01	**Diego Aracena**	**9.38**	**9**		Pn		**Pn**	07 52 34.3	+0.5
GO06	**Curarrehue**	**9.68**	**179**		Pn		**Pn**	07 52 36.3	-1.7
LR04	**Corral**	**10.07**	**187**		Pn		**Pn**	07 52 40.6	-2.5
PSGCX	**Pisagua**	**10.35**	**8**		Pn		**Pn**	07 52 46.8	-0.3
PLCA	**Paso Flores**	**10.87**	**175**		Pn		**Pn**	07 52 53.0	-1.2
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=1.7								
PLCA					Lg		Lg	07 55 55.0	
	comp=Z,0.1nm,0.3s,baz=207,slow=5.8,SNR=2.8								
PLCA					LR		LR	07 57 22.1	
	comp=Z,89nm,19.5s,baz=336,slow=40								
	comp=Z,0.8nm,0.7s								
PLCA	**Paso Flores**	**10.87**	**175**		Pn		**Pn**	07 52 52.8	-1.4
LL04	**Puerto Octay**	**11.02**	**183**		Pn		**Pn**	07 52 54.1	-2.0
PB12	**IPOC Station P**	**11.29**	**7**		Pn		**Pn**	07 52 59.9	-0.1
TRQA	**Tornquist**	**11.48**	**138**		Pn		**Pn**	07 53 02.6	0.0
ITQB	**Itaqui**	**13.13**	**93**		Pn		**Pn**	07 53 25.4	+0.4
CPUP	**Villa Florida**	**13.20**	**78**		Pn		**Pn**	07 53 26.9	+0.9
	comp=Z,0.1nm,0.3s,baz=250,slow=12,SNR=4.3								
CPUP					Sn		**Sn**	07 55 56.6	+4.1
	comp=Z,0.1nm,0.3s,baz=72,slow=20,SNR=2.1								
	comp=Z,0.8nm,0.6s								
CPUP	**Villa Florida**	**13.20**	**78**		Pn		**Pn**	07 53 26.2	+0.2
PLTB	**Pedras Altas**	**15.69**	**101**		Pn		**Pn**	07 53 58.9	-0.8
AQDB	**Aquidauana**	**17.26**	**61**		P		**P**	07 54 21.2	+0.2
BDFB	**Brasilia**	**25.99**	**62**		P		**P**	07 55 52.9	+1.3
	comp=Z,2.0nm,0.6s,baz=235,slow=8.6,SNR=6.7								
	comp=Z,2.0nm,0.6s								
BDFB	**Brasilia**	**25.99**	**62**		P		**P**	07 55 50.3	-1.3
BDFB					IAmb		IAmb	07 55 53.1	
	comp=Z,5.7nm,1.2s								
RUSC	**La Rusia**	**35.59**	**358**		P		**P**	07 57 15.0	-1.7
RUSC					IAmb		IAmb	07 57 32.0	
	comp=Z,14nm,1.3s								
MDP	**Montagnes des**	**39.31**	**31**		LR		LR	08 16 14.3	
	comp=Z,58nm,19.7s,baz=216,slow=39								
SNAA	**Sanae**	**55.31**	**159**		P		**P**	07 59 50.3	-1.4
QSPA	**South Pole Qui**	**60.34**	**180**		P		**P**	08 00 25.5	-1.7
QSPA					IAmb		IAmb	08 00 37.2	
	comp=Z,2.1nm,0.8s								
H06E1	**SOCORRO T-PHAS**	**51.37**	**317**		T		T	09 07 30.9	
	SNR=8.4								
SHEL	**Horse Pasture**	**61.62**	**93**		P		**P**	08 00 33.4	-3.1
TXAR	**Lajitas Array**	**66.30**	**330**		P		**P**	08 01 10.1	+3.1
	comp=Z,0.2nm,0.8s,baz=153,slow=6.7,SNR=2.4								
	comp=Z,0.2nm,0.8s								
TORD	**Torodi Ar. Bea**	**82.58**	**70**		P		**P**	08 02 43.8	+1.8
	comp=Z,1.9nm,0.8s,baz=249,slow=5.4,SNR=8.7								
	comp=Z,1.9nm,0.8s								
TORD	**Torodi Ar. Bea**	**82.58**	**70**		P		**P**	08 02 41.0	-0.9
TORD					IAmb		IAmb	08 02 44.5	
	comp=Z,1.8nm,1.0s								
H11S2	**WAKE ISLAND Hyl**	**25.99**	**272**		T		T	10 28 07.3	
	baz=115,slow=75,SNR=44								
H11S1	**WAKE ISLAND Hyl**	**26.00**	**272**		T		T	10 28 08.2	
	baz=115,slow=75,SNR=34								
H11S3	**WAKE ISLAND Hyl**	**26.01**	**272**		T		T	10 28 08.6	
	baz=115,slow=75,SNR=31								
H11N3	**WAKE ISLAND Hyl**	**26.30**	**273**		T		T	10 28 36.4	
	baz=116,slow=74								
H11N1	**WAKE ISLAND Hyl**	**26.31**	**273**		T		T	10 28 37.4	
	baz=116								
H11N2	**WAKE ISLAND Hyl**	**26.31**	**273**		T		T	10 28 35.0	
	baz=116,slow=74								
ZALV	**Zalesovo Beam**	**150.55**	**29**		PKPbc		**PKiKP**	**08 10 11.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=318,slow=1.9,SNR=6.5								
MKAR	**Makanchi Array**	**153.72**	**43**		PKPbc		**PKiKP**	**08 10 21.9**	**+4.5**
	comp=Z,0.2nm,0.6s,baz=323,slow=2.0,SNR=1.8								

*IDC **01** 07:58:21.6±2.4,5.51S×154.05E,h0km,mb3.2/4, mbtmp3.3/5,ML3.1/1,Error ellipse: s-maj=60.0km s-min=32.2km az=101.0*
ISC 01 07:58:31.1±1.6,**5.5S**±0.2×**153.7E**±0.2,**h50**km,**n6**,σ2≥**48**/7, **mb3.1**/4,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.03**	**305**	Pn		**Pn**	**07 59 02.3**	**-0.6**
	4.9nm,0.3s,baz=249,slow=8.6,SNR=1.4							
KRVT				Sn		**Sn**	**07 59 28.5**	**+1.4**
	17nm,0.3s,baz=209,slow=19,SNR=6.1							
	51nm,0.6s							
WRA	**Warramunga Arr**	**23.69**	**231**	P		**P**	**08 03 37.6**	**-0.9**
	0.5nm,0.8s,baz=58,slow=10,SNR=1.8							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**26.28**	**225**	P		**P**	**08 04 01.9**	**-0.1**
	0.2nm,0.6s,baz=56,slow=9.8,SNR=4.3							
	0.2nm,0.6s							
SONM	**Songino Array**	**67.37**	**328**	P		**P**	**08 09 20.6**	**-0.7**
	0.1nm,0.4s,baz=129,slow=5.7,SNR=1.4							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**81.42**	**319**	P		**P**	**08 10 41.2**	**-1.6**
	0.3nm,0.6s,baz=89,slow=6.7,SNR=4.2							
	0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**151.36**	**287**	PKPbc		**PKPdf**	**08 18 18.6**	**+4.3**
	0.3nm,0.5s,baz=100,slow=3.2,SNR=2.6							

*INET **01** 07:59:48.3±0.6,13.00N×87.59W,h13km±3km,MW2.7*
*SNET **01** 07:59:49.7±0.5,13.10N×87.55W,h8km±3km,ML2.7*
ISC 01 07:59:48.9±1.3,**13.05N**±0.06×**87.52W**±0.05,**h23**km±16km, **n6**,σ0≥**37**/11,**Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNCH	**Conchagua**	**0.38**	**307**	*e*P		**Pb**	**07 59 56.8**	**-0.3**
CNCH				*e*S		**Sb**	**08 00 03.1**	**+0.4**
CNCH				IAML			08 00 05.7	
	comp=Z,602nm,0.1s							
LCND	**La Caada**	**0.44**	**306**	*e*P		**Pb**	**07 59 57.8**	**-0.3**
LCND				*e*S		**Sb**	**08 00 04.2**	**-0.1**
CRIN	**San Cristobal**	**0.58**	**127**	*e*P		**Pb**	**08 00 00.6**	**+0.1**
CRIN				*e*S		**Sn**	**08 00 10.1**	**-0.5**
PACA	**Pacayal**	**0.89**	**298**	*e*P		**Pb**	**08 00 06.0**	**+0.3**
PACA				*e*S		**Sn**	**08 00 18.4**	**+0.1**
PACA				IAML			08 00 25.1	
	comp=Z,391nm,0.4s							
TGUH	**Tegucigalpa,Un**	**1.03**	**14**	*e*P		**Pb**	**08 00 08.0**	**-0.1**
TGUH				*e*S		**Sb**	**08 00 21.8**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.03**	**14**	*e*P		**Pb**	**08 00 08.1**	**-0.1**
TGUH				IAML			08 00 23.2	
	comp=Z,238nm,0.1s							

IDC 01 08:08:53.1±3.7,**62.32S**×**164.13E**,**h0**km,**mb3.7**/2, **mbtmp3.7**/3,**ML3.7**/1,**MS3.8**/26,**Error ellipse: s-maj=152.7km s-min=42.6km az=72.0,Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**15.29**	**182**	Pn		Pn	08 12 30.6	+0.7
	0.3nm,0.3s,baz=360,slow=17,SNR=17							
VNDA				LR		LR	08 17 23.3	
	comp=Z,599nm,20.8s,baz=357,slow=33							
	1.5nm,0.6s							
RPZ	**Rata Peaks**	**19.07**	**16**	LR		LR	08 19 23.5	
	comp=Z,421nm,20.6s,baz=202,slow=33							
URZ	**Urewera**	**25.37**	**24**	LR		LR	08 23 59.4	
	comp=Z,318nm,18.7s,baz=274,slow=36							
QSPA	**South Pole Qui**	**27.77**	**180**	LR		LR	08 24 17.4	
	comp=Z,235nm,19.1s,baz=33,slow=33							
STKA	**Stephens Creek**	**33.73**	**324**	LR		LR	08 27 11.0	
	comp=Z,143nm,19.0s,baz=191,slow=33							
MAW	**Mawson**	**38.57**	**217**	LR		LR	08 32 25.8	
	comp=Z,162nm,18.6s,baz=159,slow=37							
DZM	**Mt Dzumac**	**40.25**	**3**	LR		LR	08 30 49.9	
	comp=Z,60nm,18.2s,baz=24,slow=33							
H01W1	**Cape Leeuwin H**	**41.37**	**288**	T		T	09 01 27.3	
	baz=146,slow=76,SNR=33							
H01W2	**Cape Leeuwin H**	**41.37**	**288**	T		T	09 01 27.6	
	baz=146,slow=76,SNR=38							
H01W3	**Cape Leeuwin H**	**41.39**	**288**	T		T	09 01 28.5	
	baz=146,slow=76,SNR=40							
NWAO	**Narrogin (SRO)**	**41.69**	**293**	LR		LR	08 30 24.4	
	comp=Z,81nm,18.7s,slow=31							
ASAR	**Alice Springs**	**43.70**	**318**	P		P	08 16 59.8	+0.1
	1.3nm,0.8s,baz=160,slow=8.8,SNR=13							
	1.3nm,0.8s							
CTA	**Charters Tower**	**43.97**	**335**	LR		LR	08 33 16.1	
	comp=Z,125nm,19.1s,baz=86,slow=33							
MSVF	**Nonsavu**	**45.59**	**19**	LR		LR	08 34 13.7	
	comp=Z,173nm,18.6s,baz=109,slow=33							
SNAA	**Sanae**	**45.98**	**186**	LR		LR	08 35 53.1	
	comp=Z,207nm,18.8s,baz=152,slow=35							
WRA	**Warramunga Arr**	**47.07**	**320**	P		P	08 17 26.0	-0.3
	0.7nm,0.9s,baz=162,slow=7.2,SNR=3.4							
	0.7nm,0.9s							
RAR	**Rarotonga**	**47.92**	**48**	LR		LR	08 33 48.4	
	comp=Z,56nm,19.2s,baz=249,slow=31							
PMG	**Port Moresby**	**54.24**	**339**	LR		LR	08 38 58.9	
	comp=Z,74nm,18.4s,baz=90,slow=33							
KRVT	**Keravat (AS076**	**58.58**	**346**	LR		LR	08 39 42.3	
	comp=Z,47nm,19.4s,baz=273,slow=32							
RPN	**Rapa Nui**	**64.78**	**100**	LR		LR	08 40 59.4	
	comp=Z,47nm,18.4s,baz=53,slow=30							
SIJI	**Sorong**	**66.07**	**324**	LR		LR	08 48 55.7	
	comp=Z,40nm,18.5s,baz=161,slow=36							
LEM	**Lembang**	**68.88**	**297**	LR		LR	08 48 37.5	
	comp=Z,55nm,18.1s,baz=202,slow=35							
H03S2	**Juan Fernandez**	**71.70**	**129**	T		T	09 38 56.5	
	baz=204,slow=74,SNR=123							
H03S1	**Juan Fernandez**	**71.71**	**129**	T		T	09 38 55.4	
	baz=204,slow=74,SNR=102							
H03S3	**Juan Fernandez**	**71.72**	**129**	T		T	09 39 00.8	
	baz=204,slow=74,SNR=146							
H03N3	**Juan Fernandez**	**72.05**	**128**	T		T	09 39 25.4	
	baz=220,slow=76,SNR=5.6							
H03N2	**Juan Fernandez**	**72.06**	**128**	T		T	09 39 19.2	
	baz=220,slow=76,SNR=14							
H03N1	**Juan Fernandez**	**72.06**	**128**	T		T	09 39 24.1	
	baz=220,slow=76,SNR=6.1							
SUR	**Sutherland**	**81.12**	**211**	LR		LR	08 55 09.7	
	comp=Z,61nm,19.7s,baz=155,slow=34							
BOSA	**Boshof**	**83.57**	**216**	LR		LR	08 56 28.3	
	comp=Z,29nm,19.5s,baz=191,slow=34							
H08S2	**Diego Garcia H**	**84.05**	**265**	T		T	09 55 05.0	
	baz=151,slow=76,SNR=22							
H08S1	**Diego Garcia H**	**84.06**	**265**	T		T	09 55 06.7	
	baz=151,slow=76,SNR=19							
H08S3	**Diego Garcia H**	**84.07**	**265**	T		T	09 55 06.6	
	baz=151,slow=76,SNR=15							
LVC	**Limon Verde**	**85.50**	**132**	LR		LR	08 51 33.0	
	comp=Z,33nm,21.4s,baz=218,slow=30							
CPUP	**Villa Florida**	**85.64**	**143**	LR		LR	08 56 00.4	
	comp=Z,41nm,19.2s,baz=216,slow=33							
LBTB	**Lobatse**	**86.89**	**217**	LR		LR	08 57 38.0	
	comp=Z,29nm,19.2s,baz=176,slow=34							
NNA	**Nana**	**92.25**	**121**	LR		LR	08 54 12.2	
	comp=Z,40nm,18.9s,baz=208,slow=30							
PALK	**Pallekele**	**93.33**	**279**	LR		LR	08 57 04.0	
	comp=Z,26nm,18.5s,baz=232,slow=31							
TSUM	**Tsumeb**	**94.54**	**212**	LR		LR	09 02 23.6	
	comp=Z,42nm,21.9s,baz=151,slow=34							
CMAR	**Chiang Mai Arr**	**95.29**	**300**	LR		LR	09 03 37.3	
	comp=Z,20nm,18.8s,baz=70,slow=34							
YKA	**Yellowknife Ar**	**138.61**	**44**	PKP		PKPdf	08 28 17.1	-1.9
	0.4nm,1.0s,baz=232,slow=3.5,SNR=3.9							

*SOME **01** 08:22:06.7,42.02N×83.30E,h10km*
*NNC **01** 08:22:09.1±2.4,41.97N×83.25E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=18.8km s-min=9.9km az=153.0*
ISC 01 08:22:07.2±4.0,**41.9N**±0.2×**83.3E**±0.2,**h10**km,**n38,** σ2≥**59**/38,**8C-3D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KTMS	**Ketmen**	**2.67**	**306**	Pg		**Pg**	**08 22 56.5**	**-1.7**
	7.5nm,0.4s							
KTMS				Lg		Lg	08 23 32.0	
	73nm,0.4s							
KTMS	**Ketmen**	**2.67**	**306**	*e*Pg		**Pg**	**08 22 56.5**	**-1.7**
	7.5nm,0.4s							
KTMS				*e*Lg		Lg	08 23 32.0	
	73nm,0.4s							
SHLS	**Shalkode**	**3.10**	**295**	Pg		**Pb**	**08 23 01.0**	**-1.5**
	20nm,0.7s							
SHLS				Lg		Lg	08 23 39.3	
	131nm,0.4s							
SHLS	**Shalkode**	**3.10**	**295**	*e*Pg		**Pb**	**08 23 01.0**	**-1.5**
	20nm,0.7s							
SHLS				*e*Lg		Lg	08 23 39.3	
	131nm,0.4s							
PDGK	**Podgornoye**	**3.15**	**298**	⇑Pg		**Pg**	**08 23 05.8**	**-1.8**
	7.5nm,0.6s							
PDGK				⇓Lg		Lg	08 23 48.2	
	37nm,0.5s							
UZB	**Uzynbulak**	**3.40**	**293**	Pg		**Pg**	**08 23 11.0**	**-1.3**
	4.7nm,0.6s							
UZB				Lg		Lg	08 23 56.1	
	26nm,0.7s							
UZB	**Uzynbulak**	**3.40**	**293**	*e*Pg		**Pg**	**08 23 11.0**	**-1.3**
	4.7nm,0.6s							
UZB				*e*Lg		Lg	08 23 56.1	
	26nm,0.7s							
DJR	**Jarkent**	**3.53**	**314**	Pg		**Pg**	**08 23 10.6**	**-4.2**
	4.5nm,0.9s							
DJR	**Jarkent**	**3.53**	**314**	*e*Pg		**Pg**	**08 23 10.6**	**-4.2**
	4.5nm,0.9s							
DJR				*e*Lg		Lg	08 23 56.0	
	20nm,0.7s							
KPKS	**Kokpek**	**3.75**	**296**	Pg		**Pb**	**08 23 14.6**	**+1.1**
	5.7nm,0.4s							
KPKS				Lg		Lg	08 24 03.2	
	40nm,0.7s							
KPKS	**Kokpek**	**3.75**	**296**	*e*Pg		**Pb**	**08 23 14.6**	**+1.1**
	5.7nm,0.4s							
KPKS				*e*Lg		Lg	08 24 03.2	
	40nm,0.7s							
SATY	**Saty**	**3.81**	**289**	Pg		**Pg**	**08 23 18.1**	**-2.0**
	12nm,0.5s							
SATY				Lg		Lg	08 24 09.1	
	26nm,0.6s							
SATY	**Saty**	**3.81**	**289**	*e*Pg		**Pg**	**08 23 18.1**	**-2.0**
	12nm,0.5s							
SATY				*e*Lg		Lg	08 24 09.1	
	26nm,0.6s							
KURS	**Kuram**	**4.10**	**294**	*e*Pg		**Pg**	**08 23 25.6**	**-0.1**
	2.5nm,1.0s							
KURS				*e*Lg		Lg	08 24 21.3	
	15nm,0.6s							
TDK	**Taldyqorghan**	**4.72**	**312**	Pg		**Pg**	**08 23 36.2**	**-1.3**
	35nm,0.6s							
TDK	**Taldyqorghan**	**4.72**	**312**	*e*Pg		**Pg**	**08 23 36.2**	**-1.3**
	35nm,0.6s							
TDK				*e*Lg		Lg	08 24 40.1	
	55nm,0.8s							
KOTS	**Kotyrbulak**	**4.77**	**288**	Pg		**Pb**	**08 23 31.8**	**+0.9**
	3.0nm,0.5s							
KOTS	**Kotyrbulak**	**4.77**	**288**	*e*Pg		**Pb**	**08 23 31.8**	**+0.9**
	3.0nm,0.5s							
KOTS				*e*Lg		Lg	08 24 32.1	
	22nm,0.7s							
MDOK	**Medeo**	**4.79**	**287**	⇑Lg		Lg	08 24 41.6	
	16nm,0.7s							
MDOK	**Medeo**	**4.79**	**287**	*e*Pg		**Pb**	**08 23 30.4**	**-0.9**
	1.7nm,0.4s							
MDOK				*e*Lg		Lg	08 24 29.9	
	6.1nm,1.1s							
TNSS	**Tian-Shan**	**4.84**	**285**	Pg		**Pb**	**08 23 33.7**	**+1.4**
	2.0nm,0.3s							
TNSS	**Tian-Shan**	**4.84**	**285**	*e*Pg		**Pb**	**08 23 33.7**	**+1.4**
	2.0nm,0.3s							
TNSS				*e*Lg		Lg	08 24 35.5	
	2.2nm,1.1s							
MK31	**Makanchi Array**	**4.93**	**352**	Pn		**Pn**	**08 23 23.4**	**+2.1**
	0.6n

60nm,0.7s,baz=91,slow=5.1,SNR=26
DZM Mont Dzumac 14.57 247 P **P 08 35 57.5 -0.4**
7.5nm,1.0s,baz=162,slow=19,SNR=2.7
STKA Stephens Creek 38.55 240 P **P 08 39 28.6 -0.9**
2.4nm,0.4s,baz=88,slow=9.5,SNR=24
2.4nm,0.4s
WRA Warramunga Arr 44.19 259 P **P 08 40 13.6 -0.8**
1.5nm,0.7s,baz=85,slow=7.6,SNR=24
1.5nm,0.7s
ASAR Alice Springs 44.45 253 P **P 08 40 15.9 -0.5**
10.0nm,0.5s,baz=89,slow=7.8,SNR=232
ASAR PcP **PcP 08 41 47.6 -1.0**
0.3nm,0.5s,baz=99,slow=3.9,SNR=2.5
10.0nm,0.5s
ILAR Eielson Array 85.09 13 P **P 08 44 31.4 -0.2**
0.1nm,0.4s,baz=201,slow=7.4,SNR=4.9
0.1nm,0.4s
TXAR Lajitas Array 86.02 58 P **P 08 44 37.3 +0.3**
0.3nm,0.7s,baz=221,slow=6.5,SNR=5.3
0.3nm,0.7s
PDAR Pinedale Array 87.09 44 P **P 08 44 41.7 -0.3**
0.2nm,0.5s,baz=213,slow=3.1,SNR=1.9
0.2nm,0.5s
YKA Yellowknife Ar 93.72 25 P **P 08 45 11.7 -0.1**
0.3nm,0.9s,baz=248,slow=6.5,SNR=3.0
0.3nm,0.9s
GERES GERESS Array B 146.52 345 PKPbc **PKPbc 08 51 33.9 -0.2**
0.2nm,0.5s,baz=341,slow=2.1,SNR=1.7

ZUR 01 08:36:21.3,46.60N×8.44E,h8km±1km, MLh0.5/11, 6C-2D, Error ellipse: s-maj=1.9km s-min=0.7km az=209.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRIMS	**Grimsel Gerste**	**0.09**	**255**	⇑Pg	Pg	08 36 23.9	+0.3
GRIMS				Sg	Sg	08 36 25.4	+0.1
FUSIO	**Fusio**	**0.21**	**133**	Pg	Pg	08 36 26.1	+0.5
NALPS	**Val Nalps**	**0.21**	**91**	⇑Pg	Pg	08 36 26.1	+0.4
HASLI	**Hasliberg/Brie**	**0.25**	**308**	⇓Pg	Pg	08 36 26.7	+0.4
HASLI				Sg	Sg	08 36 30.2	+0.4
BNALP	**Bannalp**	**0.27**	**358**	⇑Pg	Pg	08 36 27.0	+0.3
BNALP				Sg	Sg	08 36 30.7	+0.4
FIESA	**Fiescheralp**	**0.28**	**234**	⇑Pg	Pg	08 36 27.2	+0.3
FIESA				Sg	Sg	08 36 31.0	+0.3
LLS	**Linth-Limmern**	**0.46**	**58**	⇑Pg	Pg	08 36 30.4	+0.1
SIMPL	**Simplonpass**	**0.46**	**219**	⇓Pg	Pg	08 36 30.3	0.0
PANIX	**Pigniu (Panix)**	**0.51**	**64**	⇑Pg	Pg	08 36 31.4	+0.1
PANIX				Sg	Sg	08 36 37.9	-0.1

ROM 01 08:37:29.6±0.1,42.910N±0.003×13.169E±0.005, h8km, ML1.7/16, Error ellipse: s-maj=0.3km s-min=0.2km az=268.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.02**	**81**	P	Pg	08 37 30.8	-0.6
MC2				S	Sg	08 37 31.5	-1.0
T1245	**Castelsantange**	**0.06**	**166**	P	Pg	08 37 31.6	+0.1
T1245				S	Sg	08 37 33.1	+0.2
T1245				AML	AML		
	comp=E,2130μm,0.6s						
T1245				AML	AML		
	comp=E,2130μm,1.4s						
T1245				AML	AML		
	comp=N,2915μm,0.6s						
NRCA	**Norcia**	**0.09**	**208**	P	Pg	08 37 32.1	+0.3
NRCA				S	Sg	08 37 34.0	+0.6
NRCA				AML	AML		
	comp=E,2170μm,0.2s						
NRCA				AML	AML		
	comp=N,1615μm,0.4s						
NRCA				AML	AML		
	comp=E,2265μm,0.2s						
NRCA				AML	AML		
	comp=E,2170μm,0.3s						
NRCA				AML	AML		
	comp=N,1615μm,0.5s						
NRCA				AML	AML		
	comp=N,1605μm,0.2s						
T1256	**Bolognola (MC)**	**0.10**	**23**	P	Pg	08 37 32.3	+0.1
T1256				S	Sg	08 37 34.2	+0.2
T1256				AML	AML		
	comp=E,442μm,0.2s						
T1256				AML	AML		
	comp=N,563μm,0.9s						
T1216	**Preci, Frazion**	**0.11**	**260**	P	Pg	08 37 32.5	+0.3
T1216				S	Sg	08 37 34.7	+0.7
T1216				AML	AML		
	comp=E,883μm,0.3s						
T1216				AML	AML		
	comp=N,1075μm,0.5s						
T1216				AML	AML		
	comp=N,1075μm,0.5s						
T1216				AML	AML		
	comp=N,1075μm,1.5s						
FDMO	**Fiordimonte**	**0.14**	**335**	AML	AML		
	comp=N,462μm,0.2s						
FDMO				AML	AML		
	comp=E,434μm,0.5s						
T1214	**Arquata del Tr**	**0.15**	**169**	P	Pg	08 37 33.5	+0.6
T1214				S	Sg	08 37 36.6	+1.4
T1214				AML	AML		
	comp=E,361μm,1.6s						
T1214				AML	AML		
	comp=N,401μm,1.5s						
T1214				AML	AML		
	comp=E,343μm,0.7s						
T1214				AML	AML		
	comp=E,343μm,0.7s						
T1214				AML	AML		
	comp=N,390μm,1.5s						
T1214				AML	AML		
	comp=N,401μm,0.5s						
T1214				AML	AML		
	comp=N,390μm,0.5s						
T1214				AML	AML		
	comp=E,361μm,0.4s						
CSP1	**Cessapalombo**	**0.18**	**8**	P	Pg	08 37 33.7	+0.3
CSP1				S	Sg	08 37 37.0	+1.0
CSP1				AML	AML		
	comp=E,261μm,0.3s						
CSP1				AML	AML		
	comp=N,296μm,1.2s						
CSP1				AML	AML		
	comp=N,296μm,0.8s						
T1212	**Cascia, Frazio**	**0.18**	**210**	P	Pg	08 37 34.0	+0.6
T1212				S	Sg	08 37 37.5	+1.5
T1212				AML	AML		
	comp=N,239μm,0.3s						
T1212				AML	AML		
	comp=N,240μm,0.3s						
T1212				AML	AML		
	comp=E,232μm,0.7s						
T1219	**Muccia, Frazio**	**0.19**	**321**	P	Pg	08 37 34.7	+1.2
T1219				S	Sg	08 37 37.9	+1.8
T1219				AML	AML		
	comp=N,402μm,0.9s						
T1219				AML	AML		
	comp=E,176μm,0.3s						
T1219				AML	AML		
	comp=N,382μm,0.5s						
T1219				AML	AML		
	comp=E,193μm,1.4s						
T1219				AML	AML		
	comp=E,193μm,0.6s						
T1219				AML	AML		
	comp=N,382μm,0.5s						
T1219				AML	AML		
	comp=E,176μm,0.3s						
GUMA	**Gualdo di Mace**	**0.20**	**39**	P	Pg	08 37 34.4	+0.8
GUMA				S	Sg	08 37 38.2	+1.9
GUMA				AML	AML		
	comp=N,451μm,0.3s						
GUMA				AML	AML		
	comp=E,372μm,0.3s						
T1241	**Roccafluvione,**	**0.20**	**106**	P	Pg	08 37 34.4	+0.7
T1241				S	Sg	08 37 38.1	+1.6
T1241				AML	AML		
	comp=E,128μm,0.3s						
T1241				AML	AML		
	comp=N,84μm,0.3s						
T1220	**Camerino, Fraz**	**0.21**	**344**	P	Pg	08 37 35.1	+1.3
T1220				S	Sg	08 37 38.9	+2.2
T1220				AML	AML		
	comp=E,738μm,0.3s						
T1220				AML	AML		
	comp=N,803μm,0.3s						
T1220				AML	AML		
	comp=E,742μm,0.4s						
T1220				AML	AML		
	comp=N,804μm,0.3s						
T1220				AML	AML		
	comp=N,803μm,0.3s						
T1220				AML	AML		
	comp=E,742μm,0.4s						
T1220				AML	AML		
	comp=N,805μm,0.3s						
CESI	**CESI - Serrava**	**0.22**	**296**	P	Pg	08 37 34.4	+0.4
CESI				S	Sg	08 37 38.2	+1.2
CESI				AML	AML		
	comp=E,247μm,0.5s						
CESI				AML	AML		
	comp=N,348μm,1.1s						
CESI				AML	AML		
	comp=N,348μm,0.9s						
T1218	**Civita (PG)**	**0.24**	**189**	P	Pg	08 37 35.1	+0.6
T1218				S	Sg	08 37 39.8	+2.0
T1218				AML	AML		
	comp=E,126μm,0.7s						
T1218				AML	AML		
	comp=N,166μm,0.2s						
T1218				AML	AML		
	comp=N,166μm,0.2s						
T1218				AML	AML		
	comp=E,125μm,0.7s						
T1215	**Vallo di Nera,**	**0.25**	**244**	P	Pg	08 37 35.1	+0.5
T1215				S	Sg	08 37 39.2	+1.3
T1215				AML	AML		
	comp=E,116μm,0.5s						
T1215				AML	AML		
	comp=N,96μm,0.3s						
T1215				AML	AML		
	comp=E,116μm,0.5s						
T1215				AML	AML		
	comp=N,96μm,0.3s						
T1243	**Rocca Santa Ma**	**0.30**	**136**	P	Pg	08 37 35.9	+0.4
T1243				S	Sb	08 37 40.9	-1.4
SNTG	**Esanatoglia**	**0.38**	**334**	AML	AML		
	comp=N,46μm,0.7s						
SNTG				AML	AML		
	comp=E,48μm,0.3s						
ASSB	**Assisi San Ben**	**0.40**	**290**	P	Pg	08 37 37.6	+0.2
ASSB				S	Sb	08 37 44.0	-1.2
ASSB				AML	AML		
	comp=E,123μm,0.6s						
ASSB				AML	AML		
	comp=N,98μm,0.5s						
ASSB				AML	AML		
	comp=N,98μm,1.5s						
RM33	**Pellescritta (**	**0.40**	**175**	P	Pg	08 37 38.2	+0.7
RM33				S	Sb	08 37 45.0	-0.3
RM33				AML	AML		
	comp=E,69μm,0.3s						
RM33				AML	AML		
	comp=N,91μm,1.5s						
RM33				AML	AML		
	comp=E,66μm,1.0s						
RM33				AML	AML		
	comp=N,83μm,0.1s						
RM33				AML	AML		
	comp=E,66μm,1.0s						
RM33				AML	AML		
	comp=E,66μm,1.0s						
RM33				AML	AML		
	comp=N,82μm,0.4s						
TERO	**Teramo**	**0.43**	**132**	P	Pg	08 37 38.2	+0.2
TERO				S	Sb	08 37 45.6	-0.6
T1211	**Morro Reatino**	**0.44**	**212**	P	Pb	08 37 39.2	-0.5
T1211				S	Sb	08 37 46.2	-0.3
T1211				AML	AML		
	comp=E,61μm,1.5s						
T1211				AML	AML		
	comp=N,71μm,1.6s						
MOMA	**Monte Martano**	**0.45**	**257**	AML	AML		
	comp=N,70μm,0.2s						
MOMA				AML	AML		
	comp=E,117μm,0.2s						
CING	**Cingoli**	**0.47**	**2**	P	Pg	08 37 38.8	+0.2
CING				S	Sb	08 37 46.6	-0.6
ATCC	**AVT- Casa Cast**	**0.48**	**305**	AML	AML		
	comp=N,52μm,1.1s						
ATCC				AML	AML		
	comp=E,69μm,1.3s						
ATCC				AML	AML		
	comp=N,52μm,1.1s						
ATCC				AML	AML		
	comp=N,52μm,0.9s						
MURB	**Monte Urbino**	**0.59**	**307**	AML	AML		
	comp=N,82μm,1.6s						
MURB				AML	AML		
	comp=E,83μm,0.2s						
MURB				AML	AML		
	comp=N,82μm,0.4s						
PCRO	**Pietralacroce**	**0.75**	**21**	S	Sn	08 37 59.6	+1.7
PIEI	**Pieia**	**0.78**	**324**	P	Pg	08 37 44.5	-0.1
PIEI				S	Sb	08 37 56.7	+0.5

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*TIR **01** 08:39:51.9,41.83N×19.39E,h1km±1km, Md2.8, Ml2.1*
*RHSSO **01** 08:39:53.6±0.8,41.77N×19.41E,h8km±2km, ML2.4/7*
*PDG **01** 08:39:53.1±0.2,41.81N×19.39E,h12km, MD2.3/4, ML2.2/11, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*BEO **01** 08:39:54.4±0.4,41.76N×19.35E,h15km±3km, ML2.1/13*
ISC 01 08:39:52.7±1.0, 41.76N±0.02×19.32E±0.02, h7km±8km, n61, σ0.82/115, 7C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.21**	**345**	⇑iPg	**Pg**	**08 39 57.4**	**+0.4**
ULC				*i* Sg	**Sg**	**08 40 00.7**	**+0.8**
DRME	**Dracevica, Mon**	**0.44**	**347**	*e*Pg	**Pg**	**08 40 01.2**	**-0.1**
DRME				*e*Sg	**Sb**	**08 40 08.5**	**-1.1**
DRME	**Dracevica, Mon**	**0.44**	**347**	⇑iPg	**Pg**	**08 40 01.1**	**-0.2**
DRME				*i* Sg	**Sg**	**08 40 07.7**	**+0.6**
TIR	**Tirane**	**0.58**	**135**	P	**Pb**	**08 40 04.3**	**-0.9**
	baz=143						
TIR				S	**Sb**	**08 40 14.0**	**+0.4**
	baz=143						
TIR				AMP			
	comp=N,0.4nm,0.5s,baz=143						
TIR	**Tirane**	**0.58**	**135**	*e*Pg	**Pb**	**08 40 04.9**	**-0.3**
TIR				*e*Sg	**Sb**	**08 40 14.2**	**+0.6**
PDG	**Podgorica**	**0.67**	**356**	*e*Pg	**Pg**	**08 40 05.8**	**+0.1**
PDG				*e*Sg	**Sb**	**08 40 17.2**	**+0.9**
PDG	**Podgorica**	**0.67**	**356**	⇓iPg	**Pg**	**08 40 05.0**	**-0.7**
PDG				*i* Sg	**Sg**	**08 40 15.1**	**+0.6**
BCI	**Bajram Curri**	**0.82**	**42**	P	**Pg**	**08 40 07.0**	**-1.6**
	baz=42						
BCI				S	**Sg**	**08 40 19.0**	**-0.3**
	baz=42						
BCI				AMP			
	comp=N,0.4nm,0.3s,baz=42						
CEME	**Cevo**	**0.84**	**339**	⇑iPg	**Pg**	**08 40 07.9**	**-1.1**
CEME				*i* Sg	**Sb**	**08 40 21.0**	**-0.3**
HCY	**Herceg Novi**	**0.92**	**319**	*e*Pg	**Pg**	**08 40 10.2**	**-0.3**
HCY				*e*Sg	**Sb**	**08 40 24.5**	**+1.0**
HCY	**Herceg Novi**	**0.92**	**319**	⇑iPg	**Pg**	**08 40 10.1**	**-0.4**
HCY				*i* Sg	**Sb**	**08 40 24.6**	**+1.0**
PVY	**Plav**	**0.96**	**29**	⇑iPg	**Pg**	**08 40 09.5**	**-1.7**
PVY				*i* Sg	**Sg**	**08 40 23.6**	**-0.1**
NKME	**Niksic**	**1.04**	**345**	⇓iPg	**Pg**	**08 40 12.1**	**-0.7**
NKME				*i* Sg	**Sb**	**08 40 28.1**	**+1.0**
KOME	**Kolasin**	**1.10**	**7**	⇓iPg	**Pg**	**08 40 12.7**	**-1.2**
KOME				*i* Sg	**Sb**	**08 40 29.1**	**+0.3**
IVA	**Berane**	**1.19**	**21**	⇑iPg	**Pg**	**08 40 13.9**	**-1.7**
IVA				*i* Sg	**Sb**	**08 40 32.0**	**+0.7**
TREB	**Trebinje**	**1.20**	**323**	*e*Pg	**Pn**	**08 40 16.2**	**+0.3**
TREB				*e*Sg	**Sn**	**08 40 33.8**	**+1.4**
TREB	**Trebinje**	**1.20**	**323**	*e*Pg	**Pn**	**08 40 15.9**	**0.0**
TREB				*e*Sg	**Sn**	**08 40 32.9**	**+0.5**
DBRK	**Dubrovnik**	**1.26**	**317**	*e*Pn	**Pn**	**08 40 16.8**	**0.0**
DBRK				Sn	**Sn**	**08 40 34.6**	**+0.7**
BRY	**Bratogost**	**1.28**	**333**	*e*Pg	**Pn**	**08 40 17.2**	**0.0**
BRY				*e*Sg	**Sn**	**08 40 35.5**	**+0.8**
BRY	**Bratogost**	**1.28**	**333**	⇑iPg	**Pg**	**08 40 16.5**	**-0.8**
BRY				*i* Sg	**Sn**	**08 40 36.5**	**+1.8**
OHR	**Ohrid**	**1.29**	**120**	*e*Pg	**Pg**	**08 40 16.6**	**-0.9**
OHR				*e*Sg	**Sn**	**08 40 36.2**	**+1.6**
OHR	**Ohrid**	**1.29**	**120**	*i* Pn	**Pg**	**08 40 16.6**	**-0.9**
OHR				*i* Sn	**Sn**	**08 40 38.2**	**+3.6**
UPM	**Unac-Piva**	**1.48**	**348**	*e*Pg	**Pn**	**08 40 20.0**	**+0.1**
PLE	**Pljevlja**	**1.57**	**2**	⇓iPg	**Pn**	**08 40 21.2**	**+0.1**
PLE				*i* Sg	**Sg**	**08 40 43.6**	**+0.3**
SJES	**Sjenica**	**1.58**	**18**	*e*Pg	**Pg**	**08 40 23.0**	**0.0**
SJES				*e*Sg	**Sg**	**08 40 44.4**	**+0.9**
SJES	**Sjenica**	**1.58**	**18**	*e*Pg	**Pb**	**08 40 22.1**	**-0.2**
SJES				*e*Sg	**Sn**	**08 40 42.5**	**+0.6**
STON	**Ston**	**1.64**	**313**	*e*Pn	**Pn**	**08 40 21.6**	**-0.2**
STON				Sn	**Sb**	**08 40 44.0**	**0.0**
STON	**Ston**	**1.64**	**313**	*e*Pn	**Pg**	**08 40 23.4**	**-0.7**
STON				*e*Sn	**Sb**	**08 40 44.4**	**+0.4**
SCTE	**Santa Cesarea**	**1.80**	**201**	P	**Pb**	**08 40 25.7**	**-0.3**
	baz=203						
SCTE				S	**Sg**	**08 40 51.0**	**+0.3**
	baz=203						
SCTE				AMP			
	comp=N,0.1nm,0.7s,baz=203						
FNA	**Florina**	**1.83**	**121**	P	**Pb**	**08 40 26.1**	**-0.4**
	baz=124						
FNA				S	**Sb**	**08 40 49.6**	**-0.1**
	baz=124						
RUDO	**Rudo**	**1.86**	**1**	*e*Pn	**Pn**	**08 40 26.0**	**+1.0**
RUDO				*e*Sn	**Sn**	**08 40 48.9**	**+0.2**
IVAS	**Ivanjica**	**1.92**	**18**	*e*Pn	**Pn**	**08 40 26.0**	**+0.1**
IVAS				*e*Sn	**Sn**	**08 40 51.2**	**+0.9**
SRN	**Sarande**	**1.95**	**164**	P	**Pn**	**08 40 26.8**	**+0.6**
	baz=166						
SRN				AMP			
	comp=N,0.1nm,0.3s,baz=166						
NOCI	**Noci**	**1.96**	**241**	P	**Pb**	**08 40 28.1**	**-0.6**
	baz=241						
SELS	**Selova**	**1.98**	**42**	*e*Pn	**Pn**	**08 40 26.8**	**+0.2**
SELS				*e*Sn	**Sn**	**08 40 51.4**	**-0.2**
LSTV	**Lastovo**	**2.07**	**300**	*e*Pn	**Pn**	**08 40 27.6**	**-0.2**
LSTV				Sn	**Sn**	**08 40 52.6**	**-1.2**
BBLS	**Lazići**	**2.11**	**2**	*e*Pn	**Pn**	**08 40 29.9**	**+1.4**
BBLS				*e*Sn	**Sn**	**08 40 55.3**	**+0.3**
BBLS	**Lazići**	**2.11**	**2**	*e*Pn	**Pn**	**08 40 28.2**	**-0.3**
BBLS				*e*Sn	**Sn**	**08 40 55.0**	**0.0**
BARS	**Barje**	**2.13**	**59**	*e*Pn	**Pn**	**08 40 29.1**	**+0.4**
STIP	**Stip**	**2.15**	**91**	*i* Pn	**Pb**	**08 40 31.7**	**-0.2**
STIP				*i* Sn	**Sg**	**08 41 01.8**	**+0.1**
PRVS	**Prvonek**	**2.18**	**69**	*e*Pn	**Pn**	**08 40 29.6**	**+0.1**
PRVS				*e*Sn	**Sn**	**08 40 55.7**	**-1.0**
MAKA	**Makarska**	**2.29**	**313**	*e*Pn	**Pn**	**08 40 30.9**	**+0.1**
MAKA				Sn	**Sn**	**08 40 59.5**	**+0.3**
HAPS	**Han Pijesak,Bl**	**2.34**	**353**	*e*Pn	**Pn**	**08 40 32.9**	**+1.2**
HAPS				*e*Sn	**Sn**	**08 41 01.8**	**+1.0**
IGT	**Igoumenitsa**	**2.35**	**161**	P	**Pn**	**08 40 32.0**	**+0.2**
	baz=162						
GRUS	**Gruza**	**2.36**	**25**	*e*Pn	**Pn**	**08 40 32.0**	**+0.1**
GRUS				*e*Sn	**Sn**	**08 41 01.6**	**+0.4**
RICI	**Ricice**	**2.37**	**318**	*e*Pn	**Pn**	**08 40 32.2**	**+0.2**
RICI				Sn	**Sn**	**08 41 01.6**	**+0.2**
DIVS	**Divibare**	**2.39**	**12**	*e*Pn	**Pn**	**08 40 32.6**	**+0.2**
DIVS				*e*Sn	**Sn**	**08 41 01.2**	**-0.7**
DIVS	**Divibare**	**2.39**	**12**	*e*Pn	**Pn**	**08 40 32.8**	**+0.4**
DIVS				*e*Sn	**Sn**	**08 41 01.8**	**-0.1**
BOVS	**Bovan**	**2.57**	**42**	*e*Pn	**Pn**	**08 40 34.8**	**0.0**
BOVS				*e*Sn	**Sn**	**08 41 05.5**	**-0.8**
ZAPS	**Zavoj**	**2.88**	**57**	*e*Pn	**Pn**	**08 40 39.6**	**+0.6**
ZAPS				*e*Sn	**Sn**	**08 41 14.2**	**+0.3**
ZAGS	**Zajecar**	**2.97**	**45**	*e*Pn	**Pn**	**08 40 41.2**	**+1.0**
ZAGS				*e*Sn	**Sn**	**08 41 16.1**	**0.0**
KIJV	**Kijevo**	**3.10**	**317**	*e*Pn	**Pn**	**08 40 42.6**	**+0.5**
KIJV				Sn	**Sn**	**08 41 19.9**	**+0.5**
ZIRJ	**Zirje**	**3.31**	**306**	*e*Pn	**Pn**	**08 40 45.0**	**+0.2**
ZIRJ				Sn	**Sn**	**08 41 23.1**	**-1.2**
MORI	**Morici**	**3.39**	**310**	*e*Pn	**Pn**	**08 40 46.7**	**+0.7**
MORI				Sn	**Sn**	**08 41 25.0**	**-1.5**
A050A	**Klekovaca**	**3.40**	**324**	*e*Pn	**Pn**	**08 40 47.2**	**+0.9**
A050A				*e*Sn	**Sn**	**08 41 27.7**	**+0.8**
UDBI	**Udbina**	**3.80**	**318**	Sn	**Sn**	**08 41 36.8**	**+0.1**
DUGI	**Dugi Otok**	**3.85**	**307**	*e*Pn	**Pn**	**08 40 52.7**	**+0.4**
DUGI				Sn	**Sn**	**08 41 36.4**	**-1.3**
VIRC	**Vir**	**4.02**	**310**	*e*Pn	**Pn**	**08 40 55.1**	**+0.4**
VIRC				Sn	**Sn**	**08 41 40.8**	**-1.3**
PLIT	**Plitvice**	**4.12**	**320**	*e*Pn	**Pn**	**08 40 57.2**	**+1.1**
PLIT				Sn	**Sn**	**08 41 43.9**	**-0.7**
NVLJ	**Novalja**	**4.29**	**312**	*e*Pn	**Pn**	**08 40 58.4**	**0.0**
NVLJ				Sn	**Sn**	**08 41 47.6**	**-1.1**
RABC	**Rab**	**4.46**	**314**	*e*Pn	**Pn**	**08 41 00.5**	**-0.2**

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*IDC **01** 08:49:31.8±4.5,11.37S×116.42E,h0km,mb3.1/2, mbtmp3.2/3,ML3.1/1, Error ellipse: s-maj=278.8km s-min=29.1km az=46.0*
*DJA **01** 08:49:35.1±0.4,11.5S±4.4×11.7E±.,h10km,M4.3/10, mb4.6/4,mB5.8/1,MLv4.1/10,Mw(mB)5.4/1*
ISC 01 08:49:37.4±0.9, 11.42S±0.08×116.74E±0.08, h35km, n21, σ0.91/20, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**2.67**	**3**	P	**Pn**	**08 50 17.9**	**-0.1**
PLAI	**Plampang**	**2.77**	**22**	P	**Pn**	**08 50 19.5**	**+0.1**
PLAI	**Plampang**	**2.77**	**22**	P	**Pn**	**08 50 19.3**	**-0.1**
SRBI	**Singaraja**	**3.64**	**335**	P	**Pn**	**08 50 32.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**3.89**	**319**	P	**Pn**	**08 50 35.3**	**+0.6**
JAGI	**Jajag, Banyuwa**	**3.89**	**319**	P	**Pn**	**08 50 34.8**	**+0.1**
ABJI	**Asem Bagus**	**4.37**	**325**	P	**Pn**	**08 50 41.6**	**+0.3**
GMJI	**Gumukmas**	**4.51**	**314**	P	**Pn**	**08 50 42.5**	**-0.8**
BLJI	**Banyuglugur**	**4.79**	**319**	P	**Pn**	**08 50 47.4**	**+0.3**
BKSI	**Bulukumba**	**6.92**	**29**	P	**Pn**	**08 51 18.2**	**+1.8**
	12nm,1.0s,0.1nm						
UGM	**Wanagama**	**7.05**	**299**	P	**Pn**	**08 51 19.8**	**+1.6**
	137nm,1.5s,0.8nm						
MBWA	**Marble Bar**	**10.10**	**164**	P	**Pn**	**08 51 58.8**	**-1.2**
GIRL	**Giralia**	**11.41**	**192**	P	**Pn**	**08 52 18.0**	**0.0**
	91nm,1.7s						
MEEK	**Meekatharra**	**15.24**	**174**	P	**Pn**	**08 53 09.1**	**-1.0**
	7.9nm,1.8s						
WRKA	**Warakurna**	**17.41**	**143**	P	**P**	**08 53 39.2**	**+0.4**
	9.5nm,2.7s						
MORW	**Morawa**	**17.57**	**182**	P	**P**	**08 53 40.8**	**+0.4**
	9.2nm,1.7s						
WRA	**Warramunga Arr**	**18.93**	**119**	P	**Pn**	**08 53 56.8**	**+0.5**
	0.1nm,0.3s,baz=290,slow=15,SNR=2.6						
	0.4nm,0.7s						
BLDU	**Balliduu**	**19.10**	**180**	P	**Pn**	**08 53 58.9**	**+0.7**
	12nm,2.3s						
KLBR	**Kellerberrin**	**20.09**	**177**	P	**P**	**08 54 09.1**	**+1.0**
	17nm,1.3s						
ASAR	**Alice Springs**	**20.37**	**129**	P	Pn	08 54 13.9	+0.5
	0.4nm,0.6s,baz=302,slow=11,SNR=7.9						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**65.64**	**335**	P	**P**	**09 00 16.6**	**-1.4**
	0.1nm,0.4s,baz=144,slow=5.8,SNR=4.6						
	0.1nm,0.4s						

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*CNRM **01** 08:50:00.9,35.49N×5.06W,h60km, ml2.7*
*INMG **01** 08:50:00.1±1.6,35.63N×4.75W,h31km±10km, ML1.6, Error ellipse: s-maj=9.0km s-min=4.8km az=79.0*
*MDD **01** 08:50:00.2±1.4,35.67N×4.65W,h70km±20km, Mb2.3/5, Error ellipse: s-maj=11.8km s-min=6.4km az=177.0*
ISC 01 08:49:57.9±1.5, 35.63N±0.03×4.71W±0.06, h82km±23km, n18, σ1.59/33, 5C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.94**	**357**	P	**Pn**	**08 50 16.9**	**+0.6**
EMIJ				⇑*i*Vmb_V		08 50 17.2	
	77nm,SNR=1.0						
EMIJ				S	**Sn**	**08 50 29.3**	**-0.8**
ELGU	**Los Guajares,**	**1.52**	**35**	P	**Pn**	**08 50 24.1**	**+0.5**
ELGU				⇑*i*Vmb_V		08 50 27.0	
	60nm,SNR=1.1						
ELGU				S	**Sn**	**08 50 40.9**	**-2.1**
ECAB	**El Cabril**	**2.51**	**347**	P	**Pn**	**08 50 37.5**	**+0.9**
ECAB				⇑*i*Vmb_V		08 50 37.8	
	61nm,SNR=1.4						
ECAB				S	**Sn**	**08 51 05.5**	**-0.9**
EADA	**Adamuz**	**2.54**	**2**	P	**Pn**	**08 50 38.4**	**+1.3**
EADA				⇑*i*Vmb_V		08 50 39.6	

EMIN				S	Sn	08 51 09.0	-0.8
MD31	**MD31**	**2.75**	**181**	P	Pn	08 50 41.5	+1.6
MD31				S	Sn	08 51 12.4	+0.1
MDT	**Midelt**	**2.81**	**178**	P	Pn	08 50 43.5	+2.8
MDT				S	Sn	08 51 13.7	0.0
EGRO	**El Granado**	**2.93**	**311**	P	Pn	08 50 43.8	+1.5
EGRO				S	Sn	08 51 16.4	-0.1
PVAQ	**Vaqueiros**	**3.00**	**307**	*e*Pn	Pn	08 50 45.0	+1.8
PVAQ				*e*Sn	Sn	08 51 18.0	-0.2
PVAQ				A	A	08 51 19.2	
	3.1nm,0.7s						
PVAQ	**Vaqueiros**	**3.00**	**307**	P	Pn	08 50 44.2	+0.9
PVAQ				S	Sn	08 51 18.3	+0.1
PBAR	**Barrancos**	**3.15**	**324**	*e*Pn	Pn	08 50 46.8	+1.5
PBAR				*e*Sn	Sn	08 51 21.0	-0.9
PBAR				A	A	08 51 26.1	
	1.1nm,0.8s						
PSIM	**Granatula de C**	**3.28**	**13**	S	Sn	08 51 22.1	-2.9
PCVE	**Castro Verde**	**3.34**	**308**	*e*Sn	Sn	08 51 26.1	-0.3
PCVE				A	A	08 51 34.8	
	1.9nm,0.9s						
EBAD	**Badajoz**	**3.62**	**330**	P	Pn	08 50 52.9	+1.2
EBAD				S	Sn	08 51 31.6	-1.7
PNCL	**Nicolau / Gran**	**3.94**	**310**	*e*Pn	Pn	08 50 57.8	+1.9
PNCL				*e*Sn	Sn	08 51 39.7	-1.3
PNCL				A	A	08 51 42.6	
	1.7nm,0.9s						
PESTR	**Estremoz**	**3.97**	**326**	*e*Pn	Pn	08 50 58.3	+1.9
PESTR				*e*Sn	Sn	08 51 40.8	-0.9
PMRV	**Marv??o**	**4.35**	**332**	*e*Pn	Pn	08 51 03.4	+1.8
EAH	**EAH**	**5.68**	**227**	P	Pn	08 51 16.7	-3.0
EAH				S	Sn	08 52 20.9	-2.5

*IDC **01** 08:56:10.3±4.4,21°.22S×168°.70E,h0km,mb3.8/3, mbtmp3.8/3,MS2.6/2,Error ellipse: s-maj=144.2km s-min=54.7km az=140.0*
*NOU **01** 08:56:13.8,22°.47S×168°.44E,h0km,MLv3.9/5,New Caledonia*
ISC 01 08:56:23.5±3.5,22°.2S±0°.2×167°.9E±0°.3,h35km,n11, σ1s07/8,mb3.7/3,New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YATNC	**Mamie plateau,**	**0.98**	**280**	P	Pn	**08 56 41.0**	**+0.2**
OUENC	**Ouen Island, N**	**1.02**	**259**	P	Pn	**08 56 40.7**	**-0.7**
ONTNC	**Ouen Toro**	**1.37**	**266**	P	Pn	**08 56 46.5**	**+0.4**
DZM	**Mont Dzumac**	**1.38**	**276**	LR	LR	08 57 05.6	
	comp=Z,34nm,21.9s,baz=56,slow=24						
DZM	**Mont Dzumac**	**1.38**	**276**	P	Pn	**08 56 46.7**	**+0.2**
LIFNC	**LIFOU**	**1.58**	**336**	P	Pn	**08 56 49.0**	**0.0**
PMG	**Port Moresby**	**23.66**	**299**	LR	LR	09 09 49.8	
	comp=Z,67nm,18.3s,baz=324,slow=34						
STKA	**Stephens Creek**	**25.29**	**242**	P	**P**	**09 01 48.5**	**+1.7**
	1.6nm,0.8s,baz=82,slow=14,SNR=4.0						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**31.32**	**261**	P	**P**	**09 02 40.4**	**-0.5**
	1.5nm,0.8s,baz=85,slow=9.7,SNR=17						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**31.39**	**268**	P	**P**	**09 02 40.1**	**-1.3**
	0.8nm,1.0s,baz=98,slow=8.8,SNR=2.4						
	0.8nm,1.0s						
GERES	**GERESS Array B**	**146.46**	**329**	PKPbc	PKPdf	09 15 51.1	-8.5
	0.2nm,0.8s,baz=39,slow=5.0,SNR=1.1						

*JMA **01** 09:12:58.1±0.2,44°.8N±0°.5×14°.5E±°,h15km±1km, MV3.0/28,SOUTHERN SEA OF OKHOTSK*
*SKHL **01** 09:12:59.4±0.2,44°.70N×145°.70E,h38km±3km,mb4.0/2*
ISC 01 09:12:57.5±1.7,44.76N±0°.07×145°.69E±0°.05,h25km±15km, n14,σ0s85/24,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.73**	**170**	*i* P	**Pb**	**09 13 11.7**	**0.0**
YUK				AMB	AMB	09 13 14.3	
	260nm,0.2s						
YUK				*e*S	**Sb**	**09 13 21.1**	**-0.2**
YUK				A	A	09 13 21.7	
	2µm,0.2s						
YUK				A	A	09 13 21.7	
	2µm,0.2s						
JRA	**Rausu**	**0.92**	**206**	*e*P	**Pb**	**09 13 14.5**	**-0.2**
JRA				*e*S	**Sb**	**09 13 26.3**	**-0.2**
JNSB	**Nemuroshibetsu**	**1.10**	**207**	P	**Pn**	**09 13 17.7**	**+0.4**
JNSB				*e*S	**Sb**	**09 13 31.9**	**+0.1**
JNK	**Nakash**	**1.36**	**211**	*e*P	**Pn**	**09 13 21.4**	**+0.4**
JNK				*e*S	**Sn**	**09 13 38.2**	**0.0**
NMR	**Nemuro--Hokkai**	**1.39**	**179**	*i* P	**Sn**	**09 13 21.4**	**+0.1**
NMR				*e*S	**Sn**	**09 13 36.4**	**-2.4**
NEM2	**Nemuro 2**	**1.40**	**178**	*e*P	**Pn**	**09 13 21.5**	**+0.1**
NEM2				*e*S	**Sn**	**09 13 39.0**	**0.0**
JTKR	**Abashiri--Toko**	**1.50**	**239**	*e*P	**Pn**	**09 13 22.5**	**-0.3**
JTKR				*e*S	**Sn**	**09 13 40.3**	**-1.3**
KUR	**Kuril'sk**	**1.62**	**72**	*e*P	**Pn**	**09 13 25.2**	**+0.8**
KUR				AMB	AMB	09 13 26.0	
	10.0nm,0.3s						
KUR				*e*S	**Sn**	**09 13 43.6**	**-0.9**
KUR				A	A	09 13 45.2	
	50nm,0.7s						
KUR				A	A	09 13 45.2	
	40nm,0.7s						
JKHN	**Kushirohamanak**	**1.72**	**193**	*e*P	**Pn**	**09 13 26.7**	**+0.8**
JKHN				*e*S	**Sn**	**09 13 48.3**	**+1.3**
JMP	**Maruseppu**	**1.83**	**247**	*e*P	**Pn**	**09 13 27.9**	**+0.5**
JMP				*e*S	**Sn**	**09 13 49.8**	**0.0**
AKK	**Akkeshi**	**1.84**	**200**	*e*P	**Pn**	**09 13 28.3**	**+0.7**
JAK	**Akkeshi**	**1.90**	**202**	*e*P	**Pn**	**09 13 29.2**	**+0.9**
JAR	**Ashorobuto**	**2.01**	**224**	*e*P	**Pn**	**09 13 30.5**	**+0.7**
MYR	**Moyori**	**3.02**	**216**	*e*P	**Pn**	**09 13 44.5**	**+0.7**

*IDC **01** 09:33:03.2±2.2,15°.17S×178°.54W,h443km±24km,mb2.9/6, mbtmp3.7/7,Error ellipse: s-maj=30.0km s-min=19.3km az=145.0*
ISC 01 09:33:03.8±0.9,15°.1S±0°.3×178°.6W±0°.2,h450km,n8, σ0s69/8,mb3.1/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.09**	**230**	P	**P**	**09 34 19.3**	**-0.5**
	18nm,0.3s,baz=205,slow=23,SNR=26						
WRA	**Warramunga Arr**	**44.98**	**257**	P	**P**	**09 40 38.0**	**+0.2**
	0.3nm,0.4s,baz=82,slow=5.8,SNR=13						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**45.39**	**252**	P	**P**	**09 40 41.8**	**+0.9**
	13nm,0.4s,baz=84,slow=8.5,SNR=338						
QSPA	**South Pole Qui**	**74.90**	**180**	P	**P**	**09 43 57.0**	**-0.2**
	2.0nm,0.6s,baz=340,slow=0.5,SNR=23						
	2.0nm,0.6s						
NVAR	**Mina Array Bea**	**77.60**	**44**	P	**P**	**09 44 12.8**	**0.0**
	0.2nm,0.6s,baz=233,slow=4.4,SNR=2.4						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**83.25**	**13**	P	**P**	**09 44 40.6**	**-0.8**
	0.2nm,0.6s,baz=231,slow=6.0,SNR=5.6						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**84.71**	**58**	P	**P**	**09 44 50.4**	**+0.7**
	0.3nm,0.8s,baz=229,slow=5.8,SNR=3.9						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**85.51**	**44**	P	**P**	**09 44 53.5**	**0.0**
	0.3nm,0.5s,baz=205,slow=3.1,SNR=4.0						
	0.3nm,0.5s						

*ANF **01** 09:36:29.5±0.8,38°.38N×118°.91W,h6km±6km,ML3.0/9, Error ellipse: s-maj=8.0km s-min=3.7km az=105.0*
*REN **01** 09:36:29.1±1.6,38°.388N±0°.006×118°.92W±0°.01, h8km±4km,ML3.0/21,ML2.8/62(NEIC),Error ellipse: s-maj=1.8km s-min=0.7km az=109.0*
*NEIC **01** 09:36:29.6±1.3,38°.389N±0°.006×118°.94W±0°.01, h6km±4km,Error ellipse: s-maj=1.7km s-min=0.9km az=87.0*
ISC 01 09:36:29.6±0.9,38°.39N±0°.02×118°.93W±0°.02,h8km±8km, n91,σ0s69/114,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.15**	**63**		**Pg**	**09 36 32.7**	**-0.3**
TVH1					**Sg**	**09 36 35.2**	**-0.2**
LHV	**Little Huntoon**	**0.37**	**112**		**Pg**	**09 36 36.8**	**0.0**
LHV					**Sg**	**09 36 42.0**	**+0.4**
LHV	**Little Huntoon**	**0.37**	**112**	IAML		09 36 42.3	
	comp=N,3µm,0.4s						
LHV				IAML		09 36 42.4	
	comp=E,3µm,0.3s						
LUL	**Lundy Lake**	**0.39**	**210**		**Pg**	**09 36 37.4**	**0.0**
RYN	**Ryan**	**0.40**	**54**		**Pg**	**09 36 37.4**	**-0.2**
RYN					**Sg**	**09 36 43.0**	**+0.2**
RYN	**Ryan**	**0.40**	**54**	IAML		09 36 43.3	
	comp=N,4µm,0.3s						
RYN				IAML		09 36 43.4	
	comp=E,5µm,0.4s						
WAKR	**Walker**	**0.41**	**286**		**Pg**	**09 36 38.0**	**+0.3**
WAKR					**Sb**	**09 36 44.7**	**-1.0**
WAKR	**Walker**	**0.41**	**286**	IAML		09 36 45.0	
	comp=E,502nm,0.4s						
WAKR				IAML		09 36 45.4	
	comp=N,383nm,0.3s						
NV09	**Mina Array Sit**	**0.47**	**84**		**Pg**	**09 36 38.4**	**-0.4**
NV08	**Mina Array Sit**	**0.48**	**88**		**Pg**	**09 36 38.5**	**-0.5**
NVAR	**Mina Array Bea**	**0.50**	**85**		**Pg**	**09 36 38.7**	**-0.6**
NV11	**Mina Array Sit**	**0.61**	**86**		**Pg**	**09 36 41.9**	**+0.4**
NV11					**Sg**	**09 36 50.2**	**+0.6**
YERR	**Yerington**	**0.64**	**338**		**Pg**	**09 36 41.9**	**-0.1**
YERR					**Sg**	**09 36 51.2**	**+0.7**
YERR	**Yerington**	**0.64**	**338**	IAML		09 36 51.9	
	comp=N,612nm,0.3s						
YERR				IAML		09 36 52.5	
	comp=E,831nm,0.4s						
BENR	**Benton**	**0.73**	**157**		**Pg**	**09 36 43.2**	**-0.5**
BENR					**Sg**	**09 36 53.3**	**0.0**
MDYM	**Dry Creek**	**0.73**	**185**		**Pg**	**09 36 43.6**	**-0.2**
MDYM					**Sg**	**09 36 54.2**	**+0.8**
MCBM	**Casa Benchmark**	**0.74**	**178**		**Pg**	**09 36 43.8**	**-0.2**
MCBM					**Sg**	**09 36 54.5**	**+0.8**
MLAC	**Mammoth, Mammo**	**0.76**	**174**		**Pg**	**09 36 44.1**	**-0.3**
MLAC	**Mammoth, Mammo**	**0.76**	**174**	P	**Pg**	**09 36 43.9**	**-0.4**
	baz=355,SNR=51						
MLAC				S	**Sg**	**09 36 54.7**	**+0.4**
	baz=355						
MDPB	**Devils Postpil**	**0.77**	**189**		**Pg**	**09 36 44.0**	**-0.4**
MDPB					**Sg**	**09 36 54.5**	**+0.1**
OMMB	**Old Mammoth Mi**	**0.78**	**184**		**Pg**	**09 36 44.1**	**-0.5**
OMMB					**Sg**	**09 36 54.7**	**-0.1**
ORC	**Owens River**	**0.79**	**164**		**Pg**	**09 36 44.2**	**-0.5**
ORC					**Sg**	**09 36 55.2**	**+0.2**
PNTR	**Pine Nut**	**0.87**	**323**		**Pg**	**09 36 46.1**	**-0.2**
PNTR					**Sg**	**09 36 58.3**	**+0.6**
PNTR	**Pine Nut**	**0.87**	**323**	IAML		09 36 58.8	
	comp=E,511nm,0.6s						
PNTR				IAML		09 37 02.4	
	comp=N,367nm,0.5s						
RCCR	**Rock Creek Can**	**0.92**	**169**		**Pg**	**09 36 46.7**	**-0.6**
KVN	**Kaiserville**	**0.93**	**44**		**Pg**	**09 36 46.9**	**-0.6**
KVN					**Sg**	**09 36 59.6**	**+0.1**
KVN	**Kaiserville**	**0.93**	**44**	IAML		09 37 03.9	
	comp=N,328nm,0.6s						
VCNR	**Virginia City**	**1.06**	**328**		**Pg**	**09 36 49.7**	**-0.4**
VCNR					**Sb**	**09 37 04.4**	**-0.1**
EMB	**Emerald Bay**	**1.08**	**303**		**Pg**	**09 36 50.4**	**-0.1**
EMB					**Sb**	**09 37 05.5**	**+0.3**
EMB	**Emerald Bay**	**1.08**	**303**	IAML		09 37 05.8	
	comp=N,271nm,0.6s						
EMB				IAML		09 37 09.6	
	comp=E,265nm,0.7s						
KCC	**Kaiser Creek**	**1.11**	**196**		**Pg**	**09 36 50.1**	**-0.8**
KCC					**Sg**	**09 37 04.5**	**-0.7**
POCCA	**Poleta Canyon**	**1.15**	**153**		**Pg**	**09 36 51.1**	**-0.6**
CMB	**Columbia Colle**	**1.20**	**253**		**Pg**	**09 36 51.8**	**-0.8**
CMB				IAML		09 37 08.0	
	comp=N,268nm,0.2s						
CMB				IAML		09 37 08.1	
	comp=E,297nm,0.2s						
CMB	**Columbia Colle**	**1.20**	**253**		**Sg**	**09 37 07.7**	**-0.5**
CMB	**Columbia Colle**	**1.20**	**253**	Pn	**Pg**	**09 36 52.0**	**-0.6**
MPK	**Martis Peak**	**1.25**	**317**		**Pg**	**09 36 53.2**	**-0.3**
MPK					**Sb**	**09 37 10.3**	**+0.5**
MPK	**Martis Peak**	**1.25**	**317**	IAML		09 37 14.0	
	comp=E,285nm,0.8s						
DSP	**Deep Springs**	**1.27**	**143**		**Pn**	**09 36 53.2**	**-0.4**
DSP					**Sg**	**09 37 10.3**	**-0.3**
TPH	**Tonopah**	**1.38**	**103**		**Pn**	**09 36 54.8**	**-0.6**
MZP	**Montezuma Peak**	**1.41**	**119**		**Pn**	**09 36 55.5**	**-0.3**
MZP					**Sb**	**09 37 14.4**	**0.0**
Q09A	**Carvers**	**1.44**	**72**		**Pn**	**09 36 56.2**	**0.0**
Q09A					**Sn**	**09 37 15.8**	**+0.5**
TIN	**Tinemaha, Big**	**1.45**	**157**		**Pg**	**09 36 57.1**	**-0.2**
TIN					**Sg**	**09 37 16.8**	**+0.7**
TIN	**Tinemaha, Big**	**1.45**	**157**	P	**Pn**	**09 36 56.5**	**+0.4**
	baz=338,SNR=23						
TIN				S	**Sg**	**09 37 16.1**	**0.0**
	baz=338						
DONR	**Donner Summit**	**1.45**	**312**		**Pn**	**09 36 56.6**	**+0.3**
DONR					**Sg**	**09 37 16.0**	**-0.1**
PEAR	**Peavine Mounta**	**1.46**	**327**		**Pb**	**09 36 57.1**	**0.0**
PEAR					**Sg**	**09 37 17.2**	**+0.8**
BABR	**Babbit Peak**	**1.52**	**323**		**Pb**	**09 36 58.2**	**+0.1**
LCH	**Last Change Ra**	**1.54**	**138**		**Pb**	**09 36 58.6**	**+0.2**
LCH					**Sb**	**09 37 18.7**	**+0.5**
LCH	**Last Change Ra**	**1.54**	**138**	IAML		09 37 21.9	
	comp=E,126nm,0.2s						
LCH				IAML		09 37 23.4	
	comp=N,99nm,0.5s						
LOY	**Loyalton**	**1.62**	**322**		**Pb**	**09 36 59.7**	**-0.2**
AFDM	**Forest Hills D**	**1.69**	**290**		**Pb**	**09 37 00.6**	**-0.4**
WVA	**Winnemucca Val**	**1.70**	**336**		**Pb**	**09 37 01.0**	**-0.2**
BEKR	**Beckworth**	**1.84**	**324**		**Pb**	**09 37 03.3**	**-0.4**
GRAC	**Grapevine Rang**	**1.87**	**138**		**Pb**	**09 37 03.8**	**-0.2**
GRAC	**Grapevine Rang**	**1.87**	**138**		**Pn**	**09 37 02.2**	**+0.3**
GRAC	**Grapevine Rang**	**1.87**	**138**	Pb	**Pb**	**09 37 04.0**	**0.0**
	baz=319,SNR=23						
GRAC				Sb	**Sg**	**09 37 29.5**	**-0.1**
	baz=319						
CWC	**Cottonwood Cre**	**2.06**	**160**		**Pn**	**09 37 05.2**	**+0.6**
CWC	**Cottonwood Cre**	**2.06**	**160**	Pb	**Pb**	**09 37 07.3**	**-0.1**
	baz=341						
CWC				Sb	**Sg**	**09 37 34.7**	**-1.2**
	baz=341						
KPK	**Kanaka Peak**	**2.20**	**304**		**Pb**	**09 37 09.8**	**+0.2**
ORV	**Oroville**	**2.31**	**301**		**Pn**	**09 37 09.5**	**+1.5**
ORV				IAML		09 37 42.7	
	comp=N,34nm,0.3s						
PLTX	**Planet X, Gerl**	**2.35**	**350**		**Pn**	**09 37 08.8**	**+0.2**
WENL	**Wente Vineyard**	**2.36**	**252**		**Pb**	**09 37 12.3**	**0.0**
WCT	**Wildcat Mounta**	**2.43**	**130**		**Pn**	**09 37 09.7**	**0.0**
BMN	**Battle Mountai**	**2.43**	**33**		**Pn**	**09 37 09.0**	**-0.8**
BBGB	**Big Mountain B**	**2.46**	**223**		**Pn**	**09 37 09.8**	**-0.3**
VES	**Vestal, Richgr**	**2.55**	**183**	Pb	**Pb**	**09 37 15.5**	**-0.1**
	baz=3.0,SNR=28						
TPNV	**Topopah Spring**	**2.57**	**123**		**Pb**	**09 37 15.9**	**-0.1**
TPNV				IAML		09 37 57.2	
	comp=N,66nm,0.7s						
TPNV				IAML		09 37 57.3	
	comp=N,58nm,0.6s						
TPNV	**Topopah Spring**	**2.57**	**123**	Pb	**Pb**	**09 37 16.1**	**0.0**
	baz=305						
SAO	**San Andreas Ge**	**2.57**	**232**		**Pn**	**09 37 10.9**	**-0.7**
MPMC	**Manual Prospec**	**2.60**	**153**	Pb	**Pb**	**09 37 16.4**	**-0.1**
	baz=334						
MPMC				Sb	**Sb**	**09 37 50.9**	**+2.2**
	baz=334						
S11A	**Rachel**	**2.62**	**105**		**Pn**	**09 37 11.7**	**-0.7**
PMPB	**Monarch Peak**	**2.63**	**215**		**Pn**	**09 37 12.1**	**-0.3**
R11A	**Troy Canyon, C**	**2.63**	**90**		**Pn**	**09 37 11.8**	**-0.7**
R11A	**Troy Canyon, C**	**2.63**	**90**	P	**Pn**	**09 37 11.9**	**-0.6**
	baz=272						
R11A				Sb	**Sb**	**09 37 51.2**	**+1.6**
	baz=272						
SDH	**Striped Hills**	**2.70**	**129**		**Pn**	**09 37 15.3**	**+1.9**
CPY	**CP-1**	**2.71**	**122**		**Pn**	**09 37 13.9**	**+0.4**
ISA	**Isabella, Lake**	**2.75**	**172**	Pg	**Pb**	**09 37 19.2**	**+0.3**
ISA				IAML		09 37 57.0	
	comp=N,23nm,0.2s						
ISA				IAML		09 38 05.3	
	comp=E,28nm,0.5s						
ISA	**Isabella, Lake**	**2.75**	**172**	Pb	**Pb**	**09 37 19.3**	**+0.3**
	baz=353,SNR=9.6						
ISA				Sb	**Sb**	**09 37 55.2**	**+2.4**
	baz=353						
GWY	**Greenwater Val**	**2.85**	**140**		**Pn**	**09 37 14.6**	**-0.9**
AMDNV	**Amargosa**	**2.86**	**132**		**Pn**	**09 37 16.7**	**+1.2**
PRN	**Pahroc Range**	**3.23**	**107**		**Pn**	**09 37 20.6**	**0.0**
CCAC	**Calif City Air**	**3.31**	**167**		**Pn**	**09 37 20.7**	**-1.1**
CCAC				IAML		09 38 27.8	
	comp=N,21nm,1.1s						
CCAC				IAML		09 38 42.9	
	comp=E,20nm,1.1s						
GSC	**Goldstone, Bar**	**3.52**	**150**		**Pn**	**09 37 24.4**	**-0.3**
GSC				IAML		09 38 27.3	
	comp=E,19nm,1.2s						
GSC				IAML		09 38 47.7	
	comp=N,12nm,4.1s						
SHPR	**Sheep Range**	**3.54**	**121**		**Pn**	**09 37 25.2**	**+0.2**
SPR3	**Spring Creek 3**	**3.65**	**79**		**Pn**	**09 37 26.5**	**-0.2**
MOD	**Modoc Plateau**	**3.66**	**344**		**Pn**	**09 37 25.6**	**-1.1**
MOD				IAML		09 37 50.7	
	comp=N,12nm,4.6s						
MOD				IAML		09 38 25.3	
	comp=E,12nm,4.4s						
ELK	**Elko**	**3.70**	**49**	Pn	**Pn**	**09 37 26.7**	**-0.5**
ELK				IAML		09 38 28.2	
	comp=E,23nm,0.6s						
ELK				IAML		09 38 29.6	
	comp=E,13nm,0.6s						
WVOR	**Wild Horse Val**	**4.05**	**3**		**Pn**	**09 37 31.7**	**-0.2**
WVOR				IAML		09 38 47.3	
	comp=E,11nm,4.4s						
WVOR				IAML		09 39 45.3	
	comp=E,10nm,4.4s						
V12A	**Nelson**	**4.21**	**128**	Pg	**Pg**	**09 37 47.6**	**-2.7**
CCUT	**Cedar City**	**4.48**	**99**		**Pn**	**09 37 39.2**	**+1.2**
LCMT	**Little Creek M**	**4.72**	**105**		**Pn**	**09 37 41.1**	**0.0**
KNB	**Kanab**	**5.04**	**104**		**Pn**	**09 37 44.7**	**-0.9**

*MAN **01** 09:37:58.7,13°.49N×120°.71E,h165km,mb3.8,ML2.6, MS2.1*
*NEIC **01** 09:38:03.8±2.0,13°.32N±0°.10×120°.9E±0°.1,h250km±9km, mb4.3/19,Error ellipse: s-maj=20.9km s-min=14.2km az=80.0*
*IDC **01** 09:38:03.7±8.2,13°.41N×120°.94E,h257km±84km, mb3.2/10,mbtmp3.8/10,MS2.7/1,Error ellipse: s-maj=44.3km s-min=13.3km az=57.0*
ISC 01 09:37:58.2±0.5,13°.46N±0°.06×120°.89E±0°.09,h200km,n48, σ1s96/49,mb4.0/20,6C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.68**	**294**	*e*P↑	**Pn**	**09 38 23.6**	**-2.5**
LUBP				*e*S	**Sn**	**09 38 41.6**	**-6.1**
LUBP	**Lubang**	**0.68**	**294**	*e*P↓	**Pn**	**09 38 23.7**	**-2.4**
LUBP				*e*S	Sn	09 38 35.8	-12
MACP	**Maragondon, Ca**	**0.82**	**348**	*e*P↑	**Pn**	**09 38 24.2**	**-2.7**
MACP				*e*S	**Sn**	**09 38 44.0**	**-5.2**
SJMP	**San Jose**	**1.02**	**167**	*e*P↑	**Pn**	**09 38 25.6**	**-2.5**
OTRP	**Odiongan**	**1.55**	**134**	*e*P↑	**Pn**	**09 38 31.5**	**-0.9**
BUSP	**Coron**	**1.59**	**205**	*e*P↑	**Pn**	**09 38 31.0**	**-1.9**
BOLP	**Bolinao**	**3.06**	**342**	*e*P↑	**Pn**	**09 38 46.8**	**-1.7**
MYLDM	**Lahad Datu**	**8.55**	**196**	Pn	**Pn**	**09 40 02.1**	**+3.4**
TOLI2	**Tolitoli**	**12.27**	**180**	P	**P**	**09 40 49.7**	**-1.2**
SBUM	**Sibu**	**13.89**	**219**	P	**P**	**09 41 11.5**	**+2.5**
JOW	**Kunigami**	**15.00**	**26**	P	**P**	**09 41 23.7**	**+2.6**
SIJI	**Sorong**	**17.56**	**143**	LR	LR	09 48 31.8	
	comp=Z,23nm,18.9s,baz=160,slow=36						
PHRA	**Phrae**	**20.48**	**287**	P	**P**	**09 42 23.2**	**+2.3**
CRAI	**Chiangrai**	**20.75**	**292**	P	**P**	**09 42 26.4**	**+2.7**
CRAI				IAmb	IAmb	09 42 27.1	
	comp=Z,5.4nm,0.8s						
CM31	**Chiang Mai Arr**	**21.67**	**286**	P	**P**	**09 42 34.0**	**+0.7**
CM31				IAmb	IAmb	09 43 04.6	
	comp=Z,9.6nm,1.4s						
CMAR	**Chiang Mai Arr**	**21.67**	**286**	P	**P**	**09 42 35.2**	**+1.9**
	comp=Z,1.8nm,0.8s,baz=104,slow=8.2,SNR=11						
	comp=Z,1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.67**	**286**	P	**P**	**09 42 34.2**	**+0.9**
JHS	**Saijyo**	**24.13**	**25**	P	**P**	**09 42 58.6**	**+2.8**
SHL	**Shillong**	**29.80**	**298**	P	**P**	**09 43 46.9**	**0.0**
SHL				IAmb	IAmb	09 43 47.8	
	comp=Z,8.6nm,0.6s						
MBWA	**Marble Bar**	**34.42**	**182**	P	**P**	**09 44 26.2**	**-0.6**
WB0	**Warramunga Arr**	**35.59**	**158**	P	**P**	**09 44 36.5**	**-0.4**
WB0				IAmb	IAmb	09 45 02.7	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**35.73**	**158**	P	**P**	**09 44 37.5**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=331,slow=9.9,SNR=14						
	comp=Z,0.6nm,0.4s						
WRA	**Warramunga Arr**	**35.73**	**158**	P	**P**	**09 44 36.6**	**-1.5**
WB2	**Warramunga Arr**	**35.74**	**158**	P	**P**	**09 44 37.3**	**-0.8**
WB2				IAmb	IAmb	09 44 53.5	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**35.82**	**158**	P	**P**	**09 44 38.7**	**-0.1**
WR0				IAmb	IAmb	09 44 44.0	
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	**36.34**	**343**	P	**P**	**09 44 43.7**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=149,slow=7.8,SNR=3.1						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**39.03**	**161**	P	**P**	**09 45 06.2**	**+0.4**
ASAR	**Alice Springs**	**39.03**	**161**	P	**P**	**09 45 05.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=338,slow=7.1,SNR=13						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**39.03**	**161**	P	**P**	**09 45 05.8**	**0.0**
CTAO	**Charters Tower**	**41.64**	**143**	P	**P**	**09 45 27.9**	**+0.7**
CTAO				IAmb	IAmb	09 45 52.4	
	comp=Z,20nm,1.5s						
FORT	**Forrest**	**44.52**	**171**	P	**P**	**09 45 49.3**	**-0.8**
FORT				IAmb	IAmb	09 46 10.7	
	comp=Z,18nm,1.1s						
MK31	**Makanchi Array**	**46.33**	**324**	P	**P**	**09 46 05.2**	**+1.0**
MKAR	**Makanchi Array**	**46.33**	**324**	P	**P**	**09 46 04.4**	**+0.2**
	comp

0.6nm,0.4s,baz=337,slow=11,SNR=11
0.6nm,0.4s
ASAR Alice Springs 26.66 163 P P 10 04 33.1 +0.3
0.2nm,0.4s,baz=340,slow=7.6,SNR=5.9
0.2nm,0.4s
STKA Stephens Creek 36.85 157 P P 10 06 02.1 0.0
0.9nm,0.5s,baz=357,slow=9.2,SNR=2.9
0.9nm,0.5s
MKAR Makanchi Array 58.44 326 P P 10 08 49.6 -0.2
0.3nm,0.5s,baz=115,slow=8.5,SNR=6.1
0.3nm,0.5s

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*NEIC **01** 10:04:17.6±2.6, 16°27'N±0°04, 99°04'W±0°02, h10km±1km, mb4.2/59, Md4.4/95(MEX), Error ellipse: s-maj=6.6km s-min=3.2km az=170.0*
*MEX **01** 10:04:19.9±0.8, 16°20'N, 99°12'W, h16km±8km, MD4.4*
*IDC **01** 10:04:21.3±2.2, 16°83'N, 98°77'W, h0km, mb4.1/7, mbtmp3.9/10, ML3.6/2, MS3.4/5, Error ellipse: s-maj=44.0km s-min=16.9km az=13.0*
ISC 01 10:04:17.5±0.5, 16°23'N±0°04, 99°08'W±0°02, h10km, n270, σ2s 23/336, mb4.2/30, MS3.5/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.93**	**80**		**Pg**	**10 04 34.5**	**-0.9**
PNIG					**Sg**	**10 04 46.1**	**-1.3**
PNIG	**Pinotepa**	**0.93**	**80**	*i* P	**Pg**	**10 04 34.7**	**-0.6**
PNIG				*e*S	**Sg**	**10 04 46.3**	**-1.1**
DAIG	**Los Arroyos**	**0.96**	**325**		**Pg**	**10 04 34.5**	**-1.5**
DAIG					**Sg**	**10 04 46.1**	**-2.5**
DAIG	**Los Arroyos**	**0.96**	**325**	*i* P	**Pg**	**10 04 34.8**	**-1.2**
DAIG				*i* S	**Sg**	**10 04 46.1**	**-2.5**
ACP2	**Acapulco**	**1.01**	**310**		**Pg**	**10 04 35.1**	**-1.9**
ACP2					**Sg**	**10 04 46.5**	**-3.5**
ACP2	**Acapulco**	**1.01**	**310**	*e*P	**Pg**	**10 04 35.1**	**-1.9**
ACP2				*e*S	**Sg**	**10 04 46.5**	**-3.5**
MGIG	**Malinaltepec**	**1.08**	**23**		**Pg**	**10 04 37.1**	**-1.2**
MGIG					**Sb**	**10 04 51.5**	**-1.3**
MGIG	**Malinaltepec**	**1.08**	**23**	*e*P	**Pg**	**10 04 37.2**	**-1.2**
MGIG				*e*S	**Sb**	**10 04 51.5**	**-1.3**
CAIG	**El Cayaco**	**1.40**	**306**		**Pn**	**10 04 41.1**	**-2.0**
CAIG					**Sn**	**10 04 56.6**	**-5.1**
CAIG	**El Cayaco**	**1.40**	**306**	*i* P	**Pn**	**10 04 41.1**	**-2.0**
CAIG				*i* S	**Sn**	**10 04 56.9**	**-4.8**
TLIG	**Tlapa**	**1.41**	**20**		**Pn**	**10 04 42.8**	**-0.6**
TLIG				Sn	**Sg**	**10 05 03.5**	**+0.5**
TLIG	**Tlapa**	**1.41**	**20**	*e*P	**Pn**	**10 04 42.3**	**-1.1**
TLIG				*e*S	**Sb**	**10 04 59.0**	**-3.2**
YOIG	**Yosondua**	**1.59**	**67**		**Pn**	**10 04 45.0**	**-1.1**
YOIG	**Yosondua**	**1.59**	**67**	*i* P	**Pn**	**10 04 45.1**	**-1.0**
YOIG				*e*S	**Sn**	**10 05 03.8**	**-3.1**
TXIG	**Tlaxiaco**	**1.61**	**51**		**Pn**	**10 04 45.3**	**-1.0**
TXIG					**Sn**	**10 05 01.9**	**-5.5**
TXIG	**Tlaxiaco**	**1.61**	**51**	*e*P	**Pn**	**10 04 45.3**	**-1.0**
TXIG				*i* S	**Sn**	**10 05 04.9**	**-2.4**
ATYC	**Atoyac**	**1.63**	**307**	*e*P	**Pn**	**10 04 44.8**	**-1.4**
ATYC				*e*S	**Sn**	**10 05 04.9**	**-2.3**
HMTT	**Tlapaneco**	**1.63**	**18**		**Pn**	**10 04 44.1**	**-2.4**
HMTT					**Sn**	**10 05 05.0**	**-2.6**
HMTT	**Tlapaneco**	**1.63**	**18**	*e*P	**Pn**	**10 04 44.1**	**-2.4**
HMTT				*e*S	**Sn**	**10 05 05.0**	**-2.6**
MEIG	**Mezcala**	**1.76**	**343**		**Pn**	**10 04 47.7**	**-0.6**
MEIG					**Sn**	**10 05 08.2**	**-2.6**
MEIG	**Mezcala**	**1.76**	**343**	*e*P	**Pn**	**10 04 47.7**	**-0.6**
MEIG				*e*S	**Sn**	**10 05 08.2**	**-2.6**
PEIG	**Puerto Escondi**	**1.87**	**97**		**Pn**	**10 04 48.1**	**-1.5**
PEIG					**Sn**	**10 05 09.4**	**-3.9**
PEIG	**Puerto Escondi**	**1.87**	**97**	*e*P	**Pn**	**10 04 48.1**	**-1.5**
PEIG				*e*S	**Sn**	**10 05 09.5**	**-3.7**
FTIG	**Fresnillo de T**	**1.90**	**28**		**Pn**	**10 04 49.4**	**-0.7**
FTIG					**Sn**	**10 05 11.0**	**-3.2**
FTIG	**Fresnillo de T**	**1.90**	**28**	*e*P	**Pn**	**10 04 49.4**	**-0.7**
FTIG				*e*S	**Sn**	**10 05 11.1**	**-3.0**
HLIG	**Huajuapan de L**	**2.00**	**37**		**Pn**	**10 04 50.9**	**-0.7**
HLIG					**Sn**	**10 05 13.8**	**-3.1**
HLIG	**Huajuapan de L**	**2.00**	**37**	*e*P	**Pn**	**10 04 50.9**	**-0.7**
HLIG				*e*S	**Sn**	**10 05 13.8**	**-3.1**
PLIG	**Platanillo**	**2.19**	**349**		**Pn**	**10 04 54.1**	**0.0**
PLIG					**Sn**	**10 05 19.7**	**-1.6**
PLIG	**Platanillo**	**2.19**	**349**	*e*P	**Pn**	**10 04 54.1**	**0.0**
PLIG				*e*S	**Sn**	**10 05 19.7**	**-1.6**
ARIG	**Puente Sto Nin**	**2.37**	**329**		**Pn**	**10 04 56.7**	**+0.1**
ARIG					**Sn**	**10 05 21.8**	**-4.0**
ARIG	**Puente Sto Nin**	**2.37**	**329**	*e*P	**Pn**	**10 04 56.5**	**-0.1**
ARIG				*e*S	**Sn**	**10 05 21.8**	**-4.0**
OXIG	**Oaxaca**	**2.40**	**69**		**Pn**	**10 04 56.9**	**-0.1**
OXIG					**Sn**	**10 05 24.2**	**-2.4**
VHO	**Vista Hermosa**	**2.40**	**69**	*e*P	**Pn**	**10 04 56.9**	**-0.1**
VHO				*e*S	**Sn**	**10 05 24.2**	**-2.4**
OXBJ	**Oaxaca**	**2.40**	**69**		**Pn**	**10 04 56.6**	**-0.5**
OXBJ					**Sn**	**10 05 23.4**	**-3.3**
OXBJ	**Oaxaca**	**2.40**	**69**	*e*P	**Pn**	**10 04 56.6**	**-0.5**
OXBJ				*e*S	**Sn**	**10 05 23.4**	**-3.3**
YAIG	**Yautepec**	**2.62**	**0**		**Pn**	**10 04 59.8**	**-0.3**
YAIG					**Sn**	**10 05 28.7**	**-3.2**
YAIG	**Yautepec**	**2.62**	**0**	*e*P	**Pn**	**10 04 59.7**	**-0.3**
YAIG				*e*S	**Sb**	**10 05 36.4**	**-0.5**
ZIIG	**Zihuatanejo**	**2.67**	**301**		**Pn**	**10 05 00.2**	**-0.3**
ZIIG					**Sn**	**10 05 29.6**	**-3.3**
ZIIG	**Zihuatanejo**	**2.67**	**301**	*e*P	**Pn**	**10 05 00.1**	**-0.4**
ZIIG				*e*S	**Sn**	**10 05 29.6**	**-3.3**
TOIG	**Toxpalan**	**2.67**	**46**		**Pn**	**10 04 59.9**	**-0.8**
TOIG					**Sn**	**10 05 30.2**	**-3.0**
TOIG	**Toxpalan**	**2.67**	**46**	*e*P	**Pn**	**10 04 59.9**	**-0.8**
TOIG				*e*S	**Sn**	**10 05 30.2**	**-3.0**
TPIG	**Tehuac#an**	**2.72**	**37**		**Pn**	**10 05 01.1**	**-0.4**
TPIG					**Sn**	**10 05 32.4**	**-2.3**
TPIG	**Tehuac#an**	**2.72**	**37**	*e*P	**Pn**	**10 05 01.1**	**-0.4**
TPIG				*e*S	**Sn**	**10 05 32.4**	**-2.3**
PPIG	**Popocatepetl**	**2.85**	**9**		**Pn**	**10 05 03.2**	**-0.4**
PPIG					**Sn**	**10 05 36.2**	**-2.1**
PPM	**Popocatepetl**	**2.85**	**9**	*e*P	**Pn**	**10 05 03.2**	**-0.4**
PPM				*e*S	**Sn**	**10 05 36.2**	**-2.1**
TEJU	**Tejupilco**	**2.85**	**339**	*e*P	**Pn**	**10 05 01.6**	**-1.6**
TEJU				*e*S	**Sn**	**10 05 37.0**	**-0.8**
HUIG	**Huatulco**	**2.89**	**99**		**Pn**	**10 05 02.8**	**-0.8**
HUIG					**Sn**	**10 05 32.5**	**-6.0**
HUIG	**Huatulco**	**2.89**	**99**	*e*P	**Pn**	**10 05 02.1**	**-1.5**
HUIG				*e*S	**Sn**	**10 05 32.5**	**-6.0**
PHPU	**Puebla**	**2.93**	**17**		**Pn**	**10 05 03.7**	**-0.7**
PHPU					**Sn**	**10 05 34.0**	**-5.8**
PHPU	**Puebla**	**2.93**	**17**	*e*P	**Pn**	**10 05 03.7**	**-0.7**
PHPU				*e*S	**Sn**	**10 05 34.0**	**-5.8**
UNM	**Universidad Na**	**3.08**	**358**		**Pn**	**10 05 04.8**	**-1.8**
CUP5	**Mexico City**	**3.08**	**358**	*e*P	**Pb**	**10 05 11.3**	**-1.4**
CUP5				*e*S	**Sn**	**10 05 44.2**	**+1.1**
OZST	**Orizaba**	**3.23**	**36**	*e*P	**Pn**	**10 05 08.4**	**0.0**
OZST				*e*S	**Sn**	**10 05 43.8**	**-3.2**
NEUV	**Arroyo Zacate**	**3.46**	**64**	*i* P	**Pn**	**10 05 11.2**	**-0.3**
NEUV				*e*S	**Sn**	**10 05 52.4**	**-0.2**
JAUV	**Jalcomulco**	**3.80**	**34**	*i* P	**Pn**	**10 05 14.6**	**-1.5**
JAUV				*e*S	**Sn**	**10 05 58.0**	**-2.9**
MOIG	**Morelia**	**3.97**	**330**		**Pn**	**10 05 19.6**	**+0.9**
MOIG	**Morelia**	**3.97**	**330**	*e*P	**Pn**	**10 05 21.1**	**+2.3**
MOIG				*e*S	**Sn**	**10 06 00.0**	**-5.6**
CMIG	**Matias Romero**	**4.11**	**77**	Pn	**Pn**	**10 05 19.5**	**-0.9**
	4.3nm,0.3s,baz=264,slow=10,SNR=97						
CMIG				Pg	**Pb**	**10 05 29.0**	**-1.0**
	3.2nm,0.3s,baz=270,slow=17,SNR=11						
CMIG				Lg	Lg	10 06 21.5	
	10nm,0.3s,baz=300,slow=3.3,SNR=5.5						
	11nm,0.4s						
CMIG	**Matias Romero**	**4.11**	**77**		**Pn**	**10 05 19.0**	**-1.4**
CMIG					**Sn**	**10 06 06.9**	**-1.7**
CMIG	**Matias Romero**	**4.11**	**77**	*e*P	**Pn**	**10 05 19.0**	**-1.4**
CMIG				*e*S	**Sn**	**10 06 05.8**	**-2.8**
PMUV	**Sontecomapan**	**4.42**	**58**	*e*P	**Pn**	**10 05 21.9**	**-2.9**
PMUV				*e*S	**Sn**	**10 06 15.9**	**-0.5**
MMIG	**Aquila**	**4.56**	**297**		**Pn**	**10 05 24.9**	**-1.8**
MMIG					**Sn**	**10 06 17.9**	**-1.9**
MMIG	**Aquila**	**4.56**	**297**	*e*P	**Pn**	**10 05 24.3**	**-2.4**
MMIG				*i* S	**Sn**	**10 06 16.6**	**-3.2**
UXUV	**UXUV**	**4.84**	**76**	*e*P	**Pn**	**10 05 29.4**	**-1.2**
UXUV				*e*S	**Sn**	**10 06 24.4**	**-2.4**
CTUV	**Llano Grande**	**5.26**	**7**	*e*P	**Pb**	**10 05 45.5**	**-4.1**
CTUV				*e*S	**Sn**	**10 06 34.5**	**-2.4**
COIG	**Colima**	**5.29**	**304**	*e*P	**Pn**	**10 05 39.1**	**+2.4**
COIG				*e*S	**Sn**	**10 06 36.7**	**-1.0**
JUBC	**Volcan de Coli**	**5.38**	**308**	*e*P	**Pn**	**10 05 41.3**	**+3.1**
JUBC				*e*S	**Sn**	**10 06 34.2**	**-6.2**
EZ5V		**5.39**	**308**		**Pn**	**10 05 40.5**	**+2.2**
EZ5V		**5.39**	**308**	*e*P	**Pn**	**10 05 40.5**	**+2.2**
EZ5V				*e*S	**Sn**	**10 06 40.5**	**0.0**
MNGA	**Volcan de Coli**	**5.39**	**307**	*e*P	**Pn**	**10 05 41.0**	**+2.7**
MNGA				*e*S	**Sn**	**10 06 33.2**	**-7.4**
INCO	**Volcan de Coli**	**5.42**	**308**	*e*P	**Pn**	**10 05 41.8**	**+3.1**
INCO				*e*S	**Sn**	**10 06 41.9**	**+0.5**
R15V		**5.51**	**303**		**Pn**	**10 05 42.6**	**+2.8**
R15V		**5.51**	**303**	*e*P	**Pn**	**10 05 42.6**	**+2.8**
R15V				*e*S	**Sn**	**10 06 37.9**	**-5.5**
PCIG		**5.66**	**95**		**Pn**	**10 05 39.8**	**-1.9**
PCIG					**Sn**	**10 06 40.7**	**-6.1**
PCIG		**5.66**	**95**	*e*P	**Pn**	**10 05 39.8**	**-1.9**
PCIG				*e*S	**Sn**	**10 06 40.7**	**-6.1**
TGIG		**5.74**	**84**		Pn	10 05 47.2	+4.4
TGIG					**Sn**	**10 06 45.9**	**-2.9**
TGIG		**5.74**	**84**	*e*P	**Pn**	**10 05 42.7**	**-0.2**
TGIG				*e*S	**Sn**	**10 06 45.9**	**-2.9**
CCIG	**Comitan**	**6.67**	**89**	*e*P	**Pn**	**10 05 56.7**	**+1.0**
CCIG				*e*S	**Sn**	**10 07 10.1**	**-1.8**
PATR	**El Naranjo**	**6.68**	**99**	*e*P	**Pn**	**10 05 55.6**	**-0.4**
PATR				*e*S	**Sn**	**10 07 06.5**	**-5.9**
PAVE	**Pavencul**	**6.72**	**98**	*e*P	**Pn**	**10 05 56.9**	**+0.3**
PAVE				*e*S	**Sn**	**10 07 10.2**	**-3.2**
CHUJ	**Union Juarez**	**6.81**	**99**	*e*P	**Pn**	**10 05 57.6**	**-0.2**
CHUJ				*e*S	**Sn**	**10 07 11.3**	**-4.2**
ZAIG	**Zacatecas**	**7.29**	**334**	Pn	**Pn**	**10 06 03.2**	**-1.2**
H06E1	**SOCORRO T-PHASE**	**1.59**	**284**	T	T	10 18 43.9	
	SNR=15						
833A	**Chaparral WMA,**	**12.04**	**359**	P	**Pn**	**10 07 09.9**	**+0.7**
	baz=177						
SLBS	**Sierra La Lagu**	**12.62**	**308**	Pn	**Pn**	**10 07 15.5**	**-1.8**
LPIG	**La Paz**	**13.13**	**308**	LR	LR	10 12 35.6	
	comp=Z,94nm,18.1s,baz=100,slow=38						
TXAR	**Lajitas Array**	**13.71**	**343**	Pn	**Pn**	**10 07 34.3**	**+2.2**
	0.6nm,0.9s,baz=160,slow=12,SNR=4.2						
TXAR				Lg	Lg	10 11 28.2	
	baz=170,slow=31,SNR=3.3						
TXAR	**Lajitas Array**	**13.71**	**343**	Pn	**Pn**	**10 07 30.9**	**-1.2**
JCT	**Junction City**	**14.20**	**357**	Pn	**Pn**	**10 07 37.3**	**-1.5**
JCT	**Junction City**	**14.20**	**357**	P	**Pn**	**10 07 39.5**	**+0.7**
	baz=176						
435B	**Jarrell**	**14.55**	**5**		**Pn**	**10 07 42.6**	**-1.0**
435B	**Jarrell**	**14.55**	**5**	P	**Pn**	**10 07 44.9**	**+1.4**
	baz=185						
DUNO	**Dulce Nombre,**	**14.57**	**113**	Pn	**Pn**	**10 07 41.1**	**-2.8**
WHTX	**Lake Whitney,**	**15.76**	**5**	P	**P**	**10 08 01.6**	**-1.9**
WHTX				IAmb	IAmb	10 08 06.0	
	comp=Z,21nm,0.9s						
WHTX	**Lake Whitney,**	**15.76**	**5**	P	**P**	**10 08 03.2**	**-0.4**
	baz=185,SNR=6.9						
NATX	**Nacogdoches**	**15.97**	**14**	P	**Pn**	**10 08 03.0**	**+0.6**
	baz=194						
ABTX	**Abilene, Hawle**	**16.33**	**358**	P	**P**	**10 08 09.3**	**-0.7**
ABTX	**Abilene, Hawle**	**16.33**	**358**	P	**P**	**10 08 08.7**	**-1.2**
	baz=177						
MNTX	**Cornudas Mount**	**16.43**	**341**	P	**P**	**10 08 10.1**	**-1.0**
MNTX	**Cornudas Mount**	**16.43**	**341**	P	**P**	**10 08 10.2**	**-1.0**
	baz=157						
CLNB	**Carlsbad**	**16.55**	**346**		**P**	**10 08 11.0**	**-1.5**
GDL2	**Guadalupe Moun**	**16.61**	**344**	P	**P**	**10 08 12.6**	**-0.5**
HTMS	**Hat Mesa**	**16.69**	**346**		**P**	**10 08 13.3**	**-0.8**
HSIG		**16.78**	**321**	P	**P**	**10 08 15.5**	**+0.5**
Z38A	**Mt. Pleasant**	**17.35**	**12**	P	**P**	**10 08 21.0**	**-0.3**
MSTX	**Muleshoe**	**17.97**	**350**	P	**Pn**	**10 08 27.4**	**-0.4**
MSTX				IAmb	IAmb	10 08 30.1	
	comp=Z,12nm,0.9s						
MSTX	**Muleshoe**	**17.97**	**350**	P	**P**	**10 08 29.6**	**+1.3**
	baz=168,SNR=5.7						
121A	**Cookes Peak, D**	**18.05**	**336**	P	**Pn**	**10 08 27.0**	**-1.7**
121A	**Cookes Peak, D**	**18.05**	**336**	P	**P**	**10 08 31.2**	**+2.1**
	baz=151						
WMOK	**Wichita Mounta**	**18.43**	**1**	P	**P**	**10 08 33.9**	**+0.7**
WMOK	**Wichita Mounta**	**18.43**	**1**	P	**P**	**10 08 34.4**	**+1.2**
	baz=180						
AMTX	**Amarillo**	**18.72**	**353**	P	**P**	**10 08 35.5**	**-0.9**
AMTX				IAmb	IAmb	10 08 48.9	
	comp=Z,8.1nm,0.7s						
AMTX	**Amarillo**	**18.72**	**353**	P	**Pn**	**10 08 37.9**	**+1.1**
	baz=171						
MIAR	**Mount Ida**	**18.89**	**14**	P	**Pn**	**10 08 38.9**	**+0.1**
MIAR	**Mount Ida**	**18.89**	**14**	P	**Pn**	**10 08 38.6**	**-0.2**
	baz=196						
FNO	**Franklin**	**19.01**	**4**		**P**	**10 08 39.4**	**-0.1**
FNO				IAmb	IAmb	10 08 49.3	
	comp=Z,10nm,0.8s						
TUC	**Tucson**	**19.21**	**329**	P	**Pn**	**10 08 44.8**	**+2.0**
	baz=143						
OK031	**S. Brethren Rd**	**19.74**	**5**		**P**	**10 08 47.9**	**+0.3**
OK031				IAmb	IAmb	10 08 54.6	
	comp=Z,12nm,0.9s						
ANMO	**Albuquerque**	**19.78**	**342**	P	**P**	**10 08 48.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=246,slow=13,SNR=9.9						
ANMO				LR	LR	10 16 01.9	
	comp=Z,75nm,18.4s,baz=252,slow=36						
	comp=Z,1.5nm,0.7s						
ANMO	**Albuquerque**	**19.78**	**342**	P	**P**	**10 08 48.4**	**+0.4**
ANMO	**Albuquerque**	**19.78**	**342**	P	**Pn**	**10 08 50.0**	**+0.3**
	baz=158						
OK052	**Battle Ridge R**	**19.79**	**5**		**P**	**10 08 48.1**	**+0.1**
OK052				IAmb	IAmb	10 08 48.6	
	comp=Z,12nm,0.9s						
TUL1	**Leonard**	**19.82**	**8**	P	**P**	**10 08 48.4**	**0.0**
	baz=188						
OXF	**Oxford**	**20.17**	**24**	P	Pn	10 08 52.8	-1.3
	baz=207						
FCAR	**Ozark Folk Cen**	**20.54**	**16**	P	**P**	**10 08 56.2**	**+0.1**
T35A	**Sooner Cattle**	**20.73**	**6**	P	**P**	**10 08 58.2**	**-0.1**
T35A				IAmb	IAmb	10 09 01.7	
	comp=Z,9.4nm,0.8s						
Y49A	**Blount Mountai**	**20.93**	**31**	P	**P**	**10 08 59.0**	**-1.5**
Y49A				IAmb	IAmb	10 09 08.4	
	comp=Z,6.2nm,0.8s						
LCAR	**Lake Charles**	**20.98**	**18**	P	**P**	**10 09 00.7**	**-0.3**
PLAL	**Pickwick Lake**	**21.11**	**26**	P	**P**	**10 09 00.8**	**-1.6**
PLAL				IAmb	IAmb	10 09 07.5	
	comp=Z,7.5nm,0.8s						
X48A	**Hartselle**	**21.12**	**29**	P	**P**	**10 09 01.7**	**-0.8**
X48A				IAmb	IAmb	10 09 04.3	
	comp=Z,8.4nm,1.1s						
T25A	**Trinidad**	**21.36**	**348**	P	**P**	**10 09 04.5**	**-0.8**
T25A				IAmb	IAmb	10 09 11.5	
	comp=Z,11nm,0.9s						
T25A	**Trinidad**	**21.36**	**348**	P	**P**	**10 09 09.1**	**+3.9**
	baz=165,SNR=6.0						
PBMO	**Poplar Bluff**	**21.86**	**19**	P	**P**	**10 09 09.6**	**-0.8**
FPAL	**Fort Paine**	**21.88**	**31**	P	**P**	**10 09 09.0**	**-1.7**
FPAL				IAmb	IAmb	10 09 14.0	
	comp=Z,13nm,0.8s						
GLA	**Glamis**	**21.98**	**322**	P	**P**	**10 09 15.0**	**+3.2**
	baz=136						
UTMT	**University of**	**21.99**	**22**	P	**P**	**10 09 11.1**	**-0.8**
WUAZ	**Wupatki**	**22.13**	**333**	P	**P**	**10 09 14.1**	**+0.6**
WUAZ				IAmb	IAmb	10 09 19.6	
	comp=Z,7.4nm,0.9s						
WUAZ	**Wupatki**	**22.13**	**333**	P	**P**	**10 09 16.4**	**+2.9**
	baz=147						
SDCO	**Great Sand Dun**	**22.17**	**346**	P	**P**	**10 09 14.2**	**+0.2**
SDCO	**Great Sand Dun**	**22.17**	**346**	P	**P**	**10 09 16.6**	**+2.5**
	baz=163						
WVT	**Waverly**	**22.20**	**25**	P	**P**	**10 09 13.4**	**-0.7**
WVT				IAmb	IAmb	10 09 17.2	
	comp=Z,9.7nm,0.9s						
WVT	**Waverly**	**22.20**	**25**	P	**P**	**10 09 15.1**	**+1.0**
	baz=209						
S22A	**4UR Ranch, Cre**	**22.50**	**344**	P	**P**	**10 09 17.3**	**-0.3**
S22A				IAmb	IAmb	10 09 21.2	
	comp=Z,5.2nm,0.9s						
S22A	**4UR Ranch, Cre**	**22.50**	**344**	P	**P**	**10 09 19.6**	**+2.0**
	baz=160,SNR=14						
MVCO	**Mesa Verde**	**22.50**	**340**	P	**P**	**10 09 18.5**	**+0.9**
MVCO				IAmb	IAmb	10 09 20.4	
	comp=Z,9.5nm,1.1s						
MVCO	**Mesa Verde**	**22.50**	**340**	P	**P**	**10 09 19.8**	**+2.2**
	baz=155,SNR=7.5						
W50A	**Signal Mountai**	**22.55**	**31**	P	**P**	**10 09 16.2**	**-1.7**
W50A				IAmb	IAmb	10 09 28.4	
	comp=Z,14nm,1.2s						
R40A	**Maddies Statio**	**22.78**	**14**	P	**P**	**10 09 20.3**	**+0.1**
R40A				IAmb	IAmb	10 09 22.7	
	comp=Z,9.6nm,0.8s						
CCM	**Cathedral Cave**	**22.81**	**16**	P	**P**	**10 09 21.0**	**+0.4**
	baz=199						
KSU1	**Kansas State U**	**22.89**	**5**	P	**P**	**10 09 22.5**	**+1.1**
	baz=185						
KSCO	**Kaye Shedlock'**	**22.91**	**353**	P	**P**	**10 09 24.0**	**+2.3**
	baz=171						
IRM	**Iron Mountain**	**22.97**	**324**	P	**P**	**10 09 25.0**	**+2.7**
	baz=137						
W13A	**Hualapai Mount**	**23.00**	**328**	P	**P**	**10 09 24.4**	**+1.6**
W13A				IAmb	IAmb	10 09 27.5	
	comp=Z,6.6nm,1.2s						
CPCT	**Cooper Cave**	**23.14**	**31**	P	**P**	**10 09 24.1**	**+0.1**
CPCT				IAmb	IAmb	10 09 25.6	
	comp=Z,10nm,0.8s						
T47A	**Sharon Grove**	**23.24**	**25**	P	**P**	**10 09 24.4**	**-0.6**
T47A				IAmb	IAmb	10 09 26.5	
	comp=Z,11nm,1.0s						
Q24A	**Divide**	**23.27**	**348**	P	**P**	**10 09 28.7**	**+3.1**
	baz=164						
U15A	**North Rim**	**23.30**	**332**	P	**P**	**10 09 26.3**	**+0.4**
U15A				IAmb	IAmb	10 09 30.5	
	comp=Z,5.2nm,1.0s						
PV13	**Radium Mtn., P**	**23.47**	**340**	P	**P**	**10 09 27.0**	**-0.6**
TKL	**Tuckaleechee C**	**23.68**	**32**	P	**P**	**10 09 27.8**	**-1.6**
	comp=Z,3.2nm,0.8s,baz=248,slow=6.6,SNR=1.6						
	comp=Z,3.2nm,0.8s						
GMRC	**Granite Mounta**	**23.71**	**324**	P	**P**	**10 09 32.5**	**+2.6**
	baz=137						
SMCO	**Snowmass**	**23.88**	**345**	P	**P**	**10 09 32.5**	**+0.7**
SMCO				IAmb	IAmb	10 09 37.1	
	comp=Z,7.3nm,1.0s						
P40A	**Paris**	**24.01**	**13**	P	**P**	**10 09 32.3**	**-0.2**
KNB	**Kanab**	**24.02**	**332**	P	**P**	**10 09 32.2**	**-0.7**
ISCO	**Idaho Springs**	**24.16**	**348**	P	**P**	**10 09 33.1**	**-1.2**
ISCO	**Idaho Springs**	**24.16**	**348**	P	**P**	**10 09 36.5**	**+2.2**
	baz=164,SNR=7.4						
V53A	**Saluda**	**24.19**	**34**	P	**P**	**10 09 33.3**	**-1.1**
V53A				IAmb	IAmb	10 09 40.3	
	comp=Z,9.1nm,1.1s						
TUQ	**Turquoise Moun**	**24.34**	**325**	P	**P**	**10 09 39.2**	**+3.5**
	baz=137,SNR=5.4						
MTPU	**Mount Pierson**	**24.61**	**335**	P	**P**	**10 09 37.0**	**-1.5**
MTPU				IAmb	IAmb	10 09 43.8	
	comp=Z,7.0nm,1.0s						
KMSC	**Kings Mountain**	**24.63**	**37**	P	**P**	**10 09 38.4**	**+0.1**
	baz=224						
WCI	**Wyandotte Cave**	**24.63**	**25**	P	**P**	**10 09 37.0**	**-1.2**
WCI	**Wyandotte Cave**	**24.63**	**25**	P	**P**	**10 09 38.7**	**+0.4**
	baz=210						
OGNE	**Ogallala**	**24.76**	**355**	P	**P**	**10 09 42.0**	**+2.5**
	baz=173						
SRU	**San Rafael Swe**	**24.90**	**338**	P	**P**	**10 09 41.1**	**+0.2**
O20A	**White River Ci**	**25.12**	**343**	P	**P**	**10 09 46.2**	**+3.3**
	baz=158,SNR=6.0						
EDW2	**Edwards Air Fo**	**25.14**	**321**	P	**P**	**10 09 46.7**	**+3.7**
	baz=133						
V55A	**Taylorsville**	**25.20**	**36**	P	**P**	**10 09 43.1**	**-0.4**
P18A	**Preston Nutter**	**25.27**	**339**	P	**P**	**10 09 44.8**	**+0.4**
N23A	**Red Feather La**	**25.29**	**348**	P	**P**	**10 09 46.8**	**+2.3**
	baz=164						
GWY	**Greenwater Val**	**25.30**	**325**	P	**P**	**10 09 44.6**	**+0.1**
GWY				IAmb	IAmb	10 09 49.1	
	comp=Z,3.6nm,0.9s						
U54A	**Nelsons Funny**	**25.36**	**34**	P	**P**	**10 09 43.7**	**-1.3**
LRMC	**Laurel Mtn Rad**	**25.37**	**323**	P	**P**	**10 09 48.8**	**+3.7**
	baz=134						
TPNV	**Topopah Spring**	**25.64**	**327**	P	**P**	**10 09 52.0**	**+4.4**
	baz=139,SNR=5.0						
MPMC	**Manual Prospec**	**25.66**	**324**	P	**P**	**10 09 51.0**	**+3.1**
	baz=135						
HDIL	**Hopedale**	**25.68**	**17**	P	**P**	**10 09 47.4**	**-0.3**
HDIL	**Hopedale**	**25.68**	**17**	P	**P**	**10 09 48.4**	**+0.7**
	baz=201,SNR=5.4						
SFIN	**Lafayette**	**26.22**	**21**	P	**P**	**10 09 53.1**	**+0.5**
	baz=206						
R11A	**Troy Canyon, C**	**26.39**	**330**	P	**P**	**10 09 58.8**	**+4.4**
	baz=142

J26L	**Joseph Creek**	**56.83**	**339**	P		**P**	**10 14 04.9**	**+2.8**
	baz=126								
KDAK	**Kodiak Island**	**57.27**	**329**	LR		LR	10 36 23.8		
	comp=Z,40nm,19.8s,baz=6.9,slow=34								
WAT6	**Susitna Watana**	**57.32**	**336**	P		**P**	**10 14 06.6**	**+0.9**
	baz=121								
G27K	**Doyon Strip**	**57.64**	**342**	P		**P**	**10 14 08.8**	**+1.1**
	baz=129								
A36M	**Sachs Harbour**	**57.84**	**351**	P		**P**	**10 14 09.7**	**+0.8**
	baz=150								
HDA	**Harding Lake**	**57.99**	**338**	P		**P**	**10 14 11.3**	**+1.1**
	baz=123								
SUA	**Susitna One**	**58.01**	**334**	P		**P**	**10 14 11.7**	**+1.2**
	baz=117								
ILAR	**Eielson Array**	**58.16**	**338**	P		**P**	**10 14 13.1**	**+1.7**
	comp=Z,1.5nm,1.0s,baz=145,slow=5.1,SNR=11								
	comp=Z,1.5nm,1.0s								
CUT	**Chulitna**	**58.25**	**335**	P		**P**	**10 14 14.0**	**+2.0**
	baz=118								
MCK	**McKinley**	**58.38**	**336**	P		**P**	**10 14 14.9**	**+2.0**
	baz=120								
G26K	**Porcupine Rive**	**58.39**	**341**	P		**P**	**10 14 14.8**	**+2.0**
	baz=127								
E27K	**Coleen River**	**58.51**	**343**	P		**P**	**10 14 15.4**	**+1.6**
	baz=130								
SKT	**Skwentna**	**58.58**	**334**	P		**P**	**10 14 15.9**	**+1.5**
	baz=117								
TRF	**Thorofare Moun**	**58.76**	**336**	P		**P**	**10 14 17.2**	**+1.5**
	baz=119								
NEA2	**Nenana**	**58.87**	**337**	P		**P**	**10 14 17.4**	**+1.1**
	baz=120								
H24K	**Noodor Dome**	**59.09**	**339**	P		**P**	**10 14 18.9**	**+1.0**
	baz=122								
I23K	**Minto, Yukon-K**	**59.26**	**338**	P		**P**	**10 14 20.9**	**+2.0**
	baz=120								
PPLA	**Purkeypile**	**59.27**	**335**	P		**P**	**10 14 23.1**	**+3.9**
	baz=116								
F25K	**Christian Rive**	**59.35**	**341**	P		**P**	**10 14 21.2**	**+1.6**
	baz=126								
G24K	**Hadweenzic Riv**	**59.43**	**340**	P		**P**	**10 14 21.8**	**+1.6**
	baz=123								
CAST	**Castle Rocks**	**59.46**	**335**	P		**P**	**10 14 21.8**	**+1.3**
	baz=117								
MLY	**Manley**	**59.70**	**337**	P		**P**	**10 14 23.6**	**+1.5**
	baz=119								
L20K	**Farewell, AK**	**59.79**	**334**	P		**P**	**10 14 24.8**	**+2.0**
	baz=114								
C27K	**Jago River**	**60.03**	**343**	P		**P**	**10 14 26.4**	**+2.2**
	baz=129								
I21K	**Tanana**	**60.24**	**337**	P		**P**	**10 14 26.5**	**+0.8**
	baz=118								
G23K	**Bananza Creek**	**60.30**	**339**	P		**P**	**10 14 27.1**	**+1.0**
	baz=121								
H22K	**Ishtalitna Cre**	**60.36**	**338**	P		**P**	**10 14 28.5**	**+1.9**
	baz=119								
P16K	**Nushagak River**	**60.38**	**329**	P		**P**	**10 14 28.4**	**+1.7**
	baz=109								
E24K	**Your Creek**	**60.52**	**341**	P		**P**	**10 14 29.2**	**+1.5**
	baz=123								
D25K	**Kavik River**	**60.59**	**343**	P		**P**	**10 14 29.9**	**+1.8**
	baz=126								
H21K	**Melozitna Rive**	**60.77**	**337**	P		**P**	**10 14 30.6**	**+1.3**
	baz=117								
G22K	**Bettles**	**60.91**	**339**	P		**P**	**10 14 32.7**	**+2.5**
	baz=119								
D23K	**Nanushuk River**	**61.68**	**341**	P		**P**	**10 14 37.6**	**+2.1**
	baz=121								
F21K	**Alatna River**	**61.73**	**339**	P		**P**	**10 14 38.6**	**+2.7**
	baz=117								
SPIA	**Saint Paul Isl**	**66.31**	**326**	P		**P**	**10 15 10.2**	**+4.1**
	baz=97								
BBTS	**Babate**	**79.02**	**78**	LR		LR	10 47 30.3		
	comp=Z,64nm,18.7s,baz=305,slow=33								
LZH	**Lanzhou**	**123.63**	**338**	*e*PKP		PKPdf	10 23 07.9	-8.2	
ASAR	**Alice Springs**	**129.88**	**253**	PKP		**PKiKP**	**10 23 34.9**	**+6.0**	
	comp=Z,0.4nm,0.8s,baz=87,slow=2.0,SNR=2.7								
PZH	**PanZhiHua**	**132.95**	**334**	PKP		**PKPdf**	**10 23 33.0**	**-1.1**	

*DJA **01** 10:05:01.1±0.2, 7°S±2°×12°0E±°, h533km±4km, M4.2/19, mB4.6/6, mb4.2/19, MLv4.5/17, Mw(mB)3.8/6*
*NEIC **01** 10:05:01.8±1.6, 7.2°S±0.1°×120.4°E±0.1, h535km±9km, mb4.1/16, Error ellipse: s-maj=22.4km s-min=13.5km az=68.0*
*IDC **01** 10:05:01.4±0.7, 7.18°S×120.40°E, h532km±7km, mb3.2/10, mbtmp4.1/11, Error ellipse: s-maj=28.3km s-min=9.2km az=68.0*

ISC 01 10:05:01.4±0.4, **7.24°S**±0.06°×**120.42°E**±0.09, **h535**km, **n95**, σ0.8**94**/102, **mb3.8**/12, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**1.09**	**4**	P		**P**	**10 06 06.1**	**-0.4**
BKSI	**Bulukumba**	**1.93**	**351**	P		**P**	**10 06 09.1**	**-0.4**
MMRI	**Maumere**	**2.27**	**128**	P		**P**	**10 06 08.8**	**-2.2**
MMRI	**Maumere**	**2.27**	**128**	P		**P**	**10 06 09.2**	**-1.8**
KAPI	**Kappang**	**2.31**	**343**	P		**P**	**10 06 11.9**	**+0.6**
	292nm,0.4s,baz=165,slow=2.3,SNR=116							
KAPI				S		**S**	**10 07 07.0**	**-1.0**
	6.7nm,0.3s,baz=173,slow=18,SNR=0.7							
KAPI	**Kappang**	**2.31**	**343**	P		**P**	**10 06 11.4**	**+0.2**
KAPI	**Kappang**	**2.31**	**343**	P		**P**	**10 06 11.5**	**+0.2**
BNSI	**Bone**	**2.84**	**354**	P		**P**	**10 06 15.0**	**+0.7**
BASI	**Baing, Sumba**	**2.96**	**177**	P		**P**	**10 06 15.2**	**+0.2**
PLAI	**Plampang**	**3.06**	**239**	P		**P**	**10 06 14.6**	**-1.0**
PLAI	**Plampang**	**3.06**	**239**	P		**P**	**10 06 14.5**	**-1.0**
SPSI	**Sidrap Palu**	**3.32**	**349**	P		**P**	**10 06 17.6**	**+0.2**
TWSI	**Taliwang, Sumb**	**3.81**	**247**	P		**P**	**10 06 19.9**	**-0.9**
BATI	**Baumata**	**4.35**	**133**	P		**P**	**10 06 24.6**	**-0.5**
	172nm,0.3s,baz=12,slow=1.1,SNR=35							
BATI				S		**S**	**10 07 27.9**	**-5.3**
	204nm,0.5s,baz=304,slow=2.2,SNR=12							
BATI	**Baumata**	**4.35**	**133**	P		**P**	**10 06 24.5**	**-0.5**
SOEI	**Soe**	**4.55**	**124**	P		**P**	**10 06 26.2**	**-0.5**
SOEI	**Soe**	**4.55**	**124**	P		**P**	**10 06 26.2**	**-0.5**
SOEI	**Soe**	**4.55**	**124**	P		**P**	**10 06 26.1**	**-0.6**
SRBI	**Singaraja**	**5.23**	**260**	P		**P**	**10 06 31.2**	**-1.2**
	21nm,0.7s,0.2nm							
JAGI	**Jajag, Banyuwa**	**6.33**	**258**	P		**P**	**10 06 41.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**6.33**	**258**	P		**P**	**10 06 41.4**	**-1.1**
	41nm,0.7s,2µm0.4nm							
APSI	**Ampana**	**6.41**	**11**	P		**P**	**10 06 43.2**	**0.0**
	47nm,0.8s,0.2nm							
LUWI	**Luwuk**	**6.59**	**21**	P		**P**	**10 06 44.1**	**-0.8**
LUWI	**Luwuk**	**6.59**	**21**	P		**P**	**10 06 45.2**	**+0.3**
GMJI	**Gumukmas**	**6.99**	**261**	P		**P**	**10 06 47.2**	**-1.6**
	23nm,1.2s,0.2nm							
MPSI	**Mapaga**	**7.55**	**356**	P		**P**	**10 06 54.4**	**+0.2**
	49nm,0.9s,715nm0.2nm							
SANI	**Sanana**	**7.57**	**47**	P		**P**	**10 06 54.3**	**-0.2**
	33nm,0.9s,0.1nm							
MRSI	**Marisa**	**7.81**	**11**	P		**P**	**10 06 57.0**	**+0.1**
	80nm,1.0s,815nm0.3nm							
GTOI	**Gorontalo**	**8.24**	**18**	P		**P**	**10 07 01.6**	**+0.4**
	41nm,0.7s,461nm							
TOLI2	**Tolitoli**	**8.30**	**2**	P		**P**	**10 07 01.2**	**-0.6**
TOLI2	**Tolitoli**	**8.30**	**2**	P		**P**	**10 07 01.3**	**-0.6**
KNRA	**Kununurra**	**11.71**	**136**	P		**P**	**10 07 36.2**	**-0.7**
KNRA	**Kununurra**	**11.71**	**136**	P		**P**	**10 07 36.9**	**0.0**
MTN	**Manton Dam**	**11.92**	**119**	P		**P**	**10 07 39.2**	**0.0**
MTN	**Manton Dam**	**11.92**	**119**	P		**P**	**10 07 39.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.93**	**155**	P		**P**	**10 07 39.3**	**+0.2**
MYLDM	**Lahad Datu**	**12.49**	**351**	P		**P**	**10 07 46.2**	**+1.2**
FAKI	**Fak Fak**	**12.54**	**71**	P		**P**	**10 07 46.5**	**+0.9**
SBUM	**Sibu**	**12.64**	**319**	P		**P**	**10 07 47.4**	**+0.7**
KDU	**Kakadu**	**13.04**	**115**	P		**P**	**10 07 50.1**	**-0.7**
KKM	**Kota Kinabalu**	**13.85**	**342**	P		**P**	**10 07 58.5**	**-0.8**
KKM	**Kota Kinabalu**	**13.85**	**342**	P		**P**	**10 07 58.6**	**-0.8**
MBWA	**Marble Bar**	**13.85**	**183**	P		**P**	**10 07 59.1**	**-0.1**
MBWA	**Marble Bar**	**13.85**	**183**	P		**P**	**10 07 59.2**	**0.0**
WB0	**Warramunga Arr**	**18.41**	**134**	P		**P**	**10 08 44.5**	**+0.7**
WB0				IAmb		IAmb	10 08 53.4	
	comp=Z,8.5nm,1.2s							
WRA	**Warramunga Arr**	**18.48**	**134**	P		**P**	**10 08 45.2**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=301,slow=12,SNR=23							
WRA				PcP		**PcP**	**10 12 46.9**	**0.0**
	comp=Z,0.3nm,0.4s,baz=329,slow=1.6,SNR=2.0							
WRA	**Warramunga Arr**	**18.48**	**134**	P		**P**	**10 08 45.4**	**+0.9**
WRAB	**Tennant Creek**	**18.48**	**134**	P		**P**	**10 08 45.9**	**+1.4**
WB2	**Warramunga Arr**	**18.49**	**134**	P		**P**	**10 08 45.7**	**+1.1**
WB2				IAmb		IAmb	10 09 11.5	
	comp=Z,5.7nm,0.9s							
WR0	**Warramunga Arr**	**18.64**	**134**	P		**P**	**10 08 47.0**	**+1.1**
WRKA	**Warakurna**	**19.23**	**158**	P		**P**	**10 08 52.1**	**+0.8**
MEEK	**Meekatharra**	**19.37**	**185**	P		**P**	**10 08 52.6**	**+0.1**

AS31	**Alice Springs**	**20.84**	**143**	P		**P**	**10 09 06.8**	**+0.9**	
AS31				IAmb		IAmb	10 09 13.9		
	comp=Z,2.6nm,1.3s								
ASAR	**Alice Springs**	**20.84**	**143**	P		**P**	**10 09 06.5**	**+0.5**	
	comp=Z,1.3nm,0.3s,baz=318,slow=8.4,SNR=48								
ASAR				S		**S**	**10 12 22.5**	**-1.4**	
	comp=Z,0.8nm,0.7s,baz=338,slow=24,SNR=4.5								
ASAR				PcP		**PcP**	**10 12 51.2**	**+0.1**	
	comp=Z,1.4nm,0.4s,baz=328,slow=1.6,SNR=14								
ASAR				ScP		**ScP**	**10 15 38.0**	**+0.6**	
	comp=Z,0.4nm,0.5s,baz=325,slow=2.6,SNR=2.7								
	comp=Z,1.3nm,0.3s								
ASAR	**Alice Springs**	**20.84**	**143**	P		**P**	**10 09 06.9**	**+1.0**	
BLDU	**Ballidu**	**23.51**	**188**	P		**P**	**10 09 29.7**	**0.0**	
KMBL	**Kambalda**	**24.04**	**177**	P		**P**	**10 09 34.9**	**+0.5**	
FORT	**Forrest**	**24.49**	**164**	P		**P**	**10 09 38.7**	**+0.3**	
FORT	**Forrest**	**24.49**	**164**	P		**P**	**10 09 39.0**	**+0.6**	
OOD	**Oodnadatta**	**25.04**	**147**	P		**P**	**10 09 44.0**	**+0.7**	
NWAO	**Narrogin (SRO)**	**25.73**	**186**	P		**P**	**10 09 49.6**	**+0.2**	
	comp=Z,4.6nm,0.9s								
	comp=Z,4.6nm,0.9s								
NWAO	**Narrogin (SRO)**	**25.73**	**186**	P		**P**	**10 09 49.7**	**+0.4**	
NWAO				IAmb		IAmb	10 09 52.5		
	comp=Z,12nm,1.1s								
NWAO	**Narrogin (SRO)**	**25.73**	**186**	P		**P**	**10 09 50.1**	**+0.8**	
MULG	**Mulgathing**	**26.25**	**153**	P		**P**	**10 09 54.9**	**+0.9**	
INKA	**Innaminka**	**28.04**	**139**	P		**P**	**10 10 11.2**	**+1.5**	
CTA	**Charters Tower**	**28.11**	**120**	PcP		**PcP**	**10 13 07.4**	**-0.1**	
	comp=Z,1.3nm,0.4s,baz=0.0,slow=1.0,SNR=5.9								
LCRK	**Leigh Creek**	**28.49**	**146**	P		**P**	**10 10 14.9**	**+1.3**	
BBOO	**Buckleboo**	**29.30**	**152**	P		**P**	**10 10 20.1**	**-0.6**	
BBOO	**Buckleboo**	**29.30**	**152**	P		**P**	**10 10 21.1**	**+0.5**	
HTT	**Hallett**	**31.19**	**149**	P		**P**	**10 10 37.7**	**+0.7**	
STKA	**Stephens Creek**	**31.47**	**144**	P		**P**	**10 10 40.5**	**+1.1**	
	comp=Z,0.9nm,0.3s,baz=322,slow=9.2,SNR=6.2								
STKA				PcP		**PcP**	**10 13 15.9**	**-0.3**	
	comp=Z,1.3nm,0.4s,baz=339,slow=4.8,SNR=4.9								
	comp=Z,0.9nm,0.3s								
STKA	**Stephens Creek**	**31.47**	**144**	P		**P**	**10 10 40.5**	**+1.1**	
STKA	**Stephens Creek**	**31.47**	**144**	P		**P**	**10 10 40.0**	**+0.6**	
CMAR	**Chiang Mai Arr**	**33.18**	**321**	P		**P**	**10 10 54.0**	**-0.1**	
	comp=Z,0.7nm,0.6s,baz=153,slow=7.3,SNR=5.4								
	comp=Z,0.7nm,0.6s								
CMSA	**Cobar Meteorol**	**33.77**	**139**	P		**P**	**10 10 59.5**	**+0.6**	
KSRS	**Korea Array**	**45.01**	**8**	P		**P**	**10 12 29.2**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=183,slow=9.3,SNR=4.2								
	comp=Z,0.7nm,0.6s								
USRK	**Ussuriysk Ar.**	**52.26**	**11**	P		**P**	**10 13 22.1**	**-0.7**	
	comp=Z,1.1nm,0.4s,baz=203,slow=6.0,SNR=2.5								
	comp=Z,1.1nm,0.4s								
SONM	**Songino Array**	**56.22**	**349**	P		**P**	**10 13 50.8**	**-0.1**	
	comp=Z,0.8nm,0.4s,baz=167,slow=8.0,SNR=13								
	comp=Z,0.8nm,0.4s								
SONM	**Songino Array**	**56.22**	**349**	P		**P**	**10 13 50.7**	**-0.1**	
RPZ	**Rata Peaks**	**57.14**	**138**	P		**P**	**10 13 58.5**	**+1.3**	
LTZ	**Lake Taylor**	**57.59**	**137**	P		**P**	**10 14 01.5**	**+1.2**	
LTZ				IAmb		IAmb	10 14 38.0		
	comp=Z,18nm,1.3s								
BKZ	**Black Stump Fm**	**59.38**	**131**	P		**P**	**10 14 12.7**	**+0.2**	
BKZ				IAmb		IAmb	10 14 53.2		
	comp=Z,25nm,1.5s								
MK31	**Makanchi Array**	**63.56**	**332**	P		**P**	**10 14 39.7**	**+0.2**	
MKAR	**Makanchi Array**	**63.56**	**332**	P		**P**	**10 14 39.8**	**+0.2**	
	comp=Z,1.3nm,0.5s,baz=142,slow=7.7,SNR=40								
	comp=Z,1.3nm,0.5s								
MKAR	**Makanchi Array**	**63.56**	**332**	P		**P**	**10 14 39.6**	**0.0**	
ZALV	**Zalesovo Beam**	**67.92**	**338**	P		**P**	**10 15 05.1**	**-1.5**	
	comp=Z,1.4nm,0.3s,baz=134,slow=5.2,SNR=6.5								
	comp=Z,1.4nm,0.3s								
ZALV	**Zalesovo Beam**	**67.92**	**338**	P		**P**	**10 15 05.9**	**-0.6**	
VNDA	**Vanda**	**73.50**	**171**	P		**P**	**10 15 40.2**	**+1.1**	
	comp=Z,1.1nm,0.3s,baz=322,slow=5.8,SNR=16								
	comp=Z,1.1nm,0.3s								
VNDA	**Vanda**	**73.50**	**171**	P		**P**	**10 15 40.1**	**+1.0**	
VNDA				IAmb		IAmb	10 15 59.9		
	comp=Z,4.7nm,1.2s								
ABKAR	**Akbulak array**	**76.95**	**324**	P		**P**	**10 15 58.6**	**-0.2**	
QSPA	**South Pole Qui**	**82.74**	**180**	P		**P**	**10 16 29.7**	**+0.6**	
QSPA				IAmb		IAmb	10 16 30.3		
	comp=Z,7.3nm,1.4s								
YKA	**Yellowknife Ar**	**112.02**	**24**	PKiKP		**PKiKP**	**10 22 34.9**	**-0.6**	
	comp=Z,0.2nm,0.5s,baz=300,slow=2.0,SNR=4.6								
NVAR	**Mina Array Bea**	**118.82**	**50**	PKP		**PKPdf**	**10 22 50.0**	**+0.3**	
	comp=Z,0.5nm,0.8s,baz=237,slow=3.3,SNR=3.8								
TORD	**Torodi Ar. Bea**	**119.53**	**281**	PKP		**PKPdf**	**10 22 50.9**	**-0.4**	
	comp=Z,0.4nm,0.6s,baz=73,slow=1.6,SNR=3.4								
TXAR	**Lajitas Array**	**133.10**	**56**	PKP		**PKPdf**	**10 23 17.4**	**+0.3**	
	comp=Z,0.2nm,0.6s,baz=264,slow=1.7,SNR=4.8								

*IDC **01** 10:14:01.0±0.7, 7.51°S×154.86°E, h0km, mb4.3/16, mbtmp4.3/19, ML3.0/2, MS3.3/7, Error ellipse: s-maj=23.6km s-min=15.3km az=116.0*
*NEIC **01** 10:14:07.5±2.0, 7.44°S±0.06°×154.75°E±0.10, h36km±8km, mb4.5/20, Error ellipse: s-maj=16.3km s-min=3.7km az=58.0*

ISC 01 10:14:07.1±0.5, **7.44°S**±0.07°×**154.70°E**±0.09, **h35**km, **n192**, σ0.8**88**/194, **mb4.4**/24, **MS3.3**/3, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.09**	**319**	Pn		**Pn**	**10 15 08.7**	**+1.4**
	187nm,0.9s,baz=294,slow=2.0,SNR=18							
KRVT				Sn		**Sn**	**10 15 53.0**	**-1.0**
	19nm,0.3s,baz=178,slow=23,SNR=2.4							
RABL	**Rabaul**	**4.09**	**322**	Pn		**Pn**	**10 15 06.8**	**-0.5**
HNR	**Honiara**	**5.56**	**111**	LR		LR	10 16 52.1	
	comp=Z,352nm,18.4s,baz=253,slow=32							
PMG	**Port Moresby**	**7.71**	**255**	Pn		**Pn**	**10 15 58.4**	**+1.4**
	1.7nm,0.3s,baz=50,slow=7.4,SNR=6.1							
PMG				Sn		**Sn**	**10 17 22.8**	**-0.3**
	0.5nm,0.3s,baz=133,slow=6.6,SNR=2.3							
PMG				LR		LR	10 18 48.1	
	comp=Z,80nm,21.5s,baz=3.0,slow=36							
	33nm,0.6s							
PMG	**Port Moresby**	**7.71**	**255**	Pn		**Pn**	**10 15 58.5**	**+1.6**
CTA	**Charters Tower**	**15.00**	**212**	Pn		**Pn**	**10 17 35.5**	**-1.2**
	0.3nm,0.3s,baz=32,slow=13,SNR=7.7							
CTA				LR		LR	10 22 56.0	
	comp=Z,106nm,18.1s,baz=80,slow=36							
	1.7nm,0.6s							
CTAO	**Charters Tower**	**15.00**	**212**			**Pn**	**10 17 36.8**	**+0.1**
CTAO				IAmb		IAmb	10 17 44.2	
	comp=Z,9.9nm,0.8s							
EIDS	**Eidsvold**	**18.16**	**191**	P		**P**	**10 18 17.1**	**+0.4**
DZM	**Mont Dzumac**	**18.44**	**143**	LR		LR	10 23 51.1	
	comp=Z,50nm,20.6s,baz=47,slow=32							
WR0	**Warramunga Arr**	**23.16**	**235**	P		**P**	**10 19 10.3**	**-0.5**
WR0				IAmb		IAmb	10 19 14.5	
	comp=Z,12nm,0.9s							
WB0	**Warramunga Arr**	**23.19**	**236**	P		**P**	**10 19 10.0**	**-1.0**
WB0				IAmb		IAmb	10 19 12.1	
	comp=Z,7.9nm,0.7s							
WRAB	**Tennant Creek**	**23.31**	**236**	P		**P**	**10 19 12.1**	**-0.1**
WRAB				IAmb		IAmb	10 19 20.7	
	comp=Z,14nm,1.1s							
WB2	**Warramunga Arr**	**23.31**	**236**	P		**P**	**10 19 12.2**	**0.0**
WB2				IAmb		IAmb	10 19 23.3	
	comp=Z,20nm,1.4s							
WRA	**Warramunga Arr**	**23.32**	**236**	P		**P**	**10 19 11.7**	**-0.7**
	comp=Z,6.6nm,0.8s,baz=61,slow=9.9,SNR=38							
WRA				PcP		**PcP**	**10 22 58.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=49,slow=2.5,SNR=1.6							
WRA				LR		LR	10 27 11.5	
	comp=Z,57nm,20.2s,baz=137,slow=34							
	comp=Z,6.6nm,0.8s							
WRA	**Warramunga Arr**	**23.32**	**236**	P		**P**	**10 19 11.5**	**-0.8**
AS31	**Alice Springs**	**25.66**	**229**	P		**P**	**10 19 33.6**	**-0.3**
ASAR	**Alice Springs**	**25.66**	**229**	P		**P**	**10 19 33.0**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=63,slow=8.4,SNR=43							
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**25.66**	**229**	P		**P**	**10 19 33.9**	**0.0**
KNRA	**Kununurra**	**26.67**	**250**	P		**P**	**10 19 43.3**	**+0.3**
STKA	**Stephens Creek**	**27.21**	**205**	P		**P**	**10 19 46.5**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=37,slow=14,SNR=7.5							
STKA				ScP		**ScP**	**10 26 47.4**	**+1.9**
	comp=Z,1.9nm,1.0s,baz=301,slow=2.8,SNR=2.9							
STKA				LR		LR	10 29 35.9	
	comp=Z,85nm,19.3s,baz=26,slow=34							
	comp=Z,2.5nm,0.6s							
STKA	**Stephens Creek**	**27.21**	**205**	P		**P**	**10 19 46.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.20**	**247**	P		**P**	**10 20 13.7**	**-0.8**
FORT	**Forrest**	**34.06**	**224**	P		**P**	**10 20 47.0**	**-1.3**
MJAR	**Matsushiro Arr**	**46.41**	**342**	P		**P**	**10 22 29.0**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=99,slow=8.8,SNR=4.8							

	comp=Z,0.9nm,0.8s								
KSRS	**Korea Array**	**51.19**	**333**	P		**P**	**10 23 07.2**	**+0.2**	
	comp=Z,3.1nm,0.8s,baz=148,slow=7.8,SNR=14								
	comp=Z,3.1nm,0.8s								
USRK	**Ussuriysk Ar.**	**55.35**	**340**	P		**P**	**10 23 37.6**	**+0.1**	
	comp=Z,3.5nm,0.8s,baz=172,slow=5.8,SNR=9.9								
	comp=Z,3.5nm,0.8s								
TIA	**Tai'an**	**55.95**	**323**	*e*P		**P**	**10 23 42.6**	**+0.6**	
TIA				pmax		pmax			
	comp=Z,6.0nm,0.7s								
PEA0B	**Petropavlovsk-**	**60.37**	**2**	P		**P**	**10 24 10.9**	**-1.7**	
PETK	**Petropavlovsk-**	**60.37**	**2**	P		**P**	**10 24 12.0**	**-0.6**	
	comp=Z,3.6nm,0.7s,baz=92,slow=33,SNR=8.0								
	comp=Z,3.6nm,0.7s								
CMAR	**Chiang Mai Arr**	**60.71**	**296**	P		**P**	**10 24 16.4**	**+0.8**	
	comp=Z,1.2nm,0.8s,baz=122,slow=6.4,SNR=7.7								
	comp=Z,1.2nm,0.8s								
NIKH	**Nikolski High**	**67.67**	**23**	P		**P**	**10 25 01.3**	**+0.7**	
	baz=219								
UNV	**Unalaska Valle**	**69.25**	**23**	P		**P**	**10 25 10.9**	**+0.5**	
	baz=222								
SONM	**Songino Array**	**69.55**	**328**	P		**P**	**10 25 13.8**	**+1.2**	
	comp=Z,2.3nm,0.5s,baz=146,slow=6.0,SNR=38								
	comp=Z,2.3nm,0.5s								
SONM	**Songino Array**	**69.55**	**328**	P		**P**	**10 25 14.0**	**+1.4**	
SONM				IAmb		IAmb	10 25 14.9		
	comp=Z,6.0nm,1.2s								
SPIA	**Saint Paul Isl**	**70.47**	**19**	P		**P**	**10 25 19.2**	**+1.3**	
	baz=217								
R17K	**Ugashik Creek**	**75.99**	**25**	P		**P**	**10 25 50.2**	**-0.3**	
	baz=230								
N16K	**Nishlik Lake**	**76.93**	**22**	P		**P**	**10 25 57.3**	**+1.5**	
	baz=228								
P17K	**Kvichak River**	**76.97**	**23**	P		**P**	**10 25 55.7**	**-0.3**	
	baz=230								
O17K	**Koliganek Bris**	**77.09**	**23**	P		**P**	**10 25 57.5**	**+0.9**	
	baz=229								
Q18K	**Katmai Hardscr**	**77.20**	**24**	P		**P**	**10 25 56.4**	**-1.1**	
	baz=231								
P18K	**Big Mountain,**	**77.58**	**24**	P		**P**	**10 25 58.1**	**-1.4**	
	baz=231								
ANM	**Nome**	**77.74**	**16**	P		**P**	**10 26 00.8**	**+0.6**	
	baz=221								
TNA	**Tin City**	**77.83**	**15**	P		**P**	**10 26 02.5**	**+1.9**	
	baz=218								
O18K	**Koktuh Hills**	**77.88**	**23**	P		**P**	**10 26 00.1**	**-0.9**	
	baz=231								
Q20K	**Shuyak Island**	**78.26**	**25**	P		**P**	**10 26 02.2**	**-1.0**	
	baz=234								
P19K	**Oil Pt**	**78.54**	**24**	P		**P**	**10 26 04.4**	**-0.4**	
	baz=233								
N19K	**Bonanza Creek**	**78.76**	**23**	P		**P**	**10 26 05.9**	**-0.1**	
N19K				IAmb		IAmb	10 26 07.4		
	comp=Z,9.2nm,0.8s								
N19K	**Bonanza Creek**	**78.76**	**23**	P		**P**	**10 26 05.6**	**-0.4**	
	baz=232								
O20K	**Slope Mountain**	**79.04**	**24**	P		**P**	**10 26 05.1**	**-2.4**	
	baz=233								
HOM	**Homer**	**79.19**	**25**	P		**P**	**10 26 06.5**	**-1.7**	
	baz=234

TCOL	**CIGO, UAF Yank**	**83.60**	**21**	P	**P**	**10 26 30.8**	**-0.7**
	baz=237							
COLA	**College**	**83.60**	**21**	P	**P**	**10 26 30.8**	**-0.7**
	baz=237							
F22K	**John River**	**83.67**	**18**	P	**P**	**10 26 33.1**	**+1.2**
	baz=233							
HDA	**Harding Lake**	**83.68**	**22**	P	**P**	**10 26 31.7**	**-0.2**
	baz=238							
MAKZ	**Makanchi**	**83.75**	**319**	P	**P**	**10 26 32.9**	**+0.2**
MAKZ				IAmb	IAmb	10 26 34.4		
	comp=Z,5.4nm,0.8s							
K24K	**Donnelly Dome**	**83.80**	**23**	P	**P**	**10 26 32.9**	**+0.2**
	baz=239							
G23K	**Bananza Creek**	**83.88**	**19**	P	**P**	**10 26 33.1**	**+0.1**
	baz=235							
IL31		**83.89**	**22**	P	**P**	**10 26 31.7**	**-1.3**
IL31				IAmb	IAmb	10 26 33.0		
	comp=Z,5.1nm,0.6s							
ILAR	**Eielson Array**	**83.89**	**22**	P	**P**	**10 26 31.9**	**-1.1**
	comp=Z,3.6nm,0.6s,baz=249,slow=4.7,SNR=66							
	comp=Z,3.6nm,0.6s							
ILAR	**Eielson Array**	**83.89**	**22**	P	**P**	**10 26 31.7**	**-1.4**
H24K	**Noodor Dome**	**84.11**	**20**	P	**P**	**10 26 34.1**	**-0.1**
	baz=237							
COLD	**Coldfoot**	**84.12**	**19**	P	**P**	**10 26 34.8**	**+0.6**
	baz=235							
RIDG	**Independent Ri**	**84.13**	**23**	P	**P**	**10 26 34.2**	**-0.2**
	baz=240							
M26K	**Nabesna, AK**	**84.22**	**24**	P	**P**	**10 26 34.8**	**0.0**
	baz=242							
L26K	**Log Cabin Wild**	**84.37**	**24**	P	**P**	**10 26 35.6**	**0.0**
	baz=242							
ZALV	**Zalesovo Beam**	**84.38**	**326**	P	**P**	**10 26 34.5**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=119,slow=5.3,SNR=9.1							
	comp=Z,2.0nm,0.6s							
SCRK	**Sand Creek**	**84.58**	**23**	P	**P**	**10 26 37.4**	**+0.7**
	baz=241							
M27K	**Edge Creek, AK**	**84.66**	**25**	P	**P**	**10 26 37.9**	**+0.7**
	baz=243							
O28M	**Mount Upton**	**84.68**	**27**	P	**P**	**10 26 37.8**	**+0.3**
	baz=244							
G24K	**Hadweenzic Riv**	**84.72**	**20**	P	**P**	**10 26 37.6**	**+0.3**
	baz=237							
E23K	**Chandalar**	**84.79**	**18**	P	**P**	**10 26 38.2**	**+0.6**
	baz=235							
A21K	**Barrow**	**84.89**	**14**	P	**P**	**10 26 37.0**	**-0.9**
	baz=228							
D23K	**Nanushuk River**	**84.99**	**17**	P	**P**	**10 26 39.8**	**+1.3**
	baz=234							
J26L	**Joseph Creek**	**84.99**	**23**	P	**P**	**10 26 39.2**	**+0.5**
	baz=241							
YUK3	**Moose Creek**	**85.00**	**26**	P	**P**	**10 26 39.3**	**+0.3**
	baz=244,SNR=5.2							
L27K	**Beaver Creek,**	**85.00**	**24**	P	**P**	**10 26 39.6**	**+0.9**
	baz=243							
BCAR	**Beaver Creek A**	**85.02**	**24**	P	**P**	**10 26 39.7**	**+0.9**
F24K	**Squaw Lake**	**85.03**	**19**	P	**P**	**10 26 40.0**	**+1.2**
	baz=237							
YUK8	**Steele Glacier**	**85.09**	**26**	P	**P**	**10 26 40.3**	**+0.8**
	baz=245							
TOLK	**Toolik Lake Re**	**85.13**	**18**	P	**P**	**10 26 40.7**	**+1.4**
	baz=235							
E24K	**Your Creek**	**85.15**	**18**	P	**P**	**10 26 40.3**	**+0.9**
	baz=236							
O29M	**Mount Kennedy**	**85.21**	**27**	P	**P**	**10 26 40.3**	**+0.3**
	baz=246							
K27K	**Chicken**	**85.34**	**23**	P	**P**	**10 26 41.9**	**+1.5**
	baz=243							
YUK6	**Outpost Mounta**	**85.56**	**27**	P	**P**	**10 26 42.2**	**+0.4**
	baz=246							
YUK4	**Talbot Arm**	**85.60**	**26**	P	**P**	**10 26 42.8**	**+0.8**
	baz=246,SNR=5.0							
D24K	**Happy Valley**	**85.65**	**17**	P	**P**	**10 26 43.0**	**+1.3**
	baz=236							
F25K	**Christian Rive**	**85.80**	**19**	P	**P**	**10 26 43.1**	**+0.5**
	baz=239							
P30M	**Million Dollar**	**85.88**	**28**	P	**P**	**10 26 43.1**	**-0.1**
	baz=247							
HYT	**Haines Junctio**	**85.90**	**27**	P	**P**	**10 26 44.0**	**+0.6**
HYT	**Haines Junctio**	**85.90**	**27**	P	**P**	**10 26 44.2**	**+0.8**
	baz=247,SNR=6.5							
C24K	**Franklin Bluff**	**86.00**	**17**	P	**P**	**10 26 44.8**	**+1.3**
	baz=236							
EGAK	**Eagle**	**86.04**	**23**	P	**P**	**10 26 43.5**	**-0.3**
EGAK	**Eagle**	**86.04**	**23**	P	**P**	**10 26 44.3**	**+0.5**
	baz=243							
BMAR	**Burnt Mountain**	**86.07**	**20**	P	**P**	**10 26 44.5**	**+0.5**
E25K	**Arctic Village**	**86.10**	**19**	P	**P**	**10 26 45.0**	**+1.0**
	baz=239							
G26K	**Porcupine Rive**	**86.10**	**20**	P	**P**	**10 26 45.3**	**+1.2**
	baz=241							
M29M	**Somme Creek**	**86.13**	**25**	P	**P**	**10 26 44.6**	**+0.1**
	baz=246							
I27K	**Kandik River**	**86.24**	**22**	P	**P**	**10 26 45.6**	**+0.7**
	baz=243							
F26K	**Sheenjek River**	**86.35**	**20**	P	**P**	**10 26 46.7**	**+1.4**
	baz=240							
DAWY	**Dawson**	**86.42**	**24**	P	**P**	**10 26 46.0**	**+0.2**
	baz=245							
D25K	**Kavik River**	**86.47**	**18**	P	**P**	**10 26 46.8**	**+0.9**
	baz=238							
O30N	**Mendenhall**	**86.52**	**27**	P	**P**	**10 26 46.1**	**-0.3**
	baz=248							
L29M	**L29M**	**86.54**	**25**	P	**P**	**10 26 46.7**	**+0.3**
	baz=246							
H27K	**Steamboat Moun**	**86.56**	**21**	P	**P**	**10 26 47.5**	**+1.0**
	baz=243							
G27K	**Doyon Strip**	**86.78**	**21**	P	**P**	**10 26 48.5**	**+1.0**
	baz=243							
M30M	**Minto, Yukon**	**86.89**	**26**	P	**P**	**10 26 47.6**	**-0.6**
	baz=248							
N31M	**Braeburn, Yuko**	**86.93**	**27**	P	**P**	**10 26 48.8**	**+0.5**
	baz=248							
J29M	**Klondike Camp**	**87.05**	**24**	P	**P**	**10 26 50.5**	**+1.6**
	baz=246							
K29M	**Barlow Dome**	**87.08**	**24**	P	**P**	**10 26 49.9**	**+0.8**
	baz=247							
C26K	**Camden Bay**	**87.22**	**17**	P	**P**	**10 26 51.1**	**+1.7**
	baz=240							
I29M	**Ogilvie Camp,**	**87.38**	**23**	P	**P**	**10 26 50.9**	**+0.5**
	baz=246							
E27K	**Coleen River**	**87.43**	**20**	P	**P**	**10 26 52.0**	**+1.4**
	baz=243							
C27K	**Jago River**	**87.44**	**18**	P	**P**	**10 26 51.7**	**+1.1**
	baz=241							
MAYO	**Mayo, Yukon**	**87.66**	**25**	P	**P**	**10 26 53.3**	**+1.6**
	baz=248							
M31M	**Drury Creek, Y**	**87.80**	**26**	P	**P**	**10 26 52.5**	**0.0**
	baz=250							
S34M	**Telegraph Cree**	**87.96**	**31**	P	**P**	**10 26 53.1**	**-0.2**
	baz=253							
FARO	**Faro, Yukon**	**88.27**	**26**	P	**P**	**10 26 55.3**	**+0.6**
	baz=251							
EPYK	**Eagle Plains**	**88.38**	**22**	P	**P**	**10 26 56.3**	**+1.2**
	baz=247							
G30M	**tAoh Zraii Nji**	**88.80**	**22**	P	**P**	**10 26 56.8**	**-0.3**
	baz=248							
F31M	**Tsiigehtchic**	**89.87**	**21**	P	**P**	**10 27 01.9**	**-0.1**
	baz=250							
INK	**Inuvik**	**90.24**	**21**	P	**P**	**10 27 02.2**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=254,slow=5.2,SNR=6.5							
INK				LR	LR	11 06 34.7		
	comp=Z,29nm,18.2s,baz=309,slow=35							
	comp=Z,1.2nm,0.7s							
CWC	**Cottonwood Cre**	**92.14**	**54**	P	**P**	**10 27 14.3**	**+0.7**
	baz=262							
NVAR	**Mina Array Bea**	**92.23**	**52**	P	**P**	**10 27 14.6**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=256,slow=6.0,SNR=16							
	comp=Z,3.1nm,1.0s							
GSC	**Goldstone, Bar**	**93.02**	**55**	P	**P**	**10 27 18.8**	**+1.2**
	baz=263							
FURC	**Furnace Creek,**	**93.12**	**54**	P	**P**	**10 27 19.1**	**+1.3**
	baz=263							
HEC	**Hector,Ludlow**	**93.35**	**55**	P	**P**	**10 27 20.6**	**+1.5**
	baz=263							
TPNV	**Topopah Spring**	**93.66**	**53**	P	**P**	**10 27 21.9**	**+1.3**
	baz=263							
TUQ	**Turquoise Moun**	**93.75**	**55**	P	**P**	**10 27 21.0**	**0.0**
	baz=264							
C36M	**Paulatuk**	**93.82**	**21**	P	**P**	**10 27 21.2**	**+0.9**
	baz=259							
GMRC	**Granite Mounta**	**93.90**	**56**	P	**P**	**10 27 21.7**	**0.0**
	baz=264							
A36M	**Sachs Harbour**	**93.96**	**18**	P	**P**	**10 27 21.6**	**+0.7**
	baz=258							
R11A	**Troy Canyon, C**	**94.34**	**52**	P	**P**	**10 27 24.6**	**+0.9**
	baz=264							
YKA	**Yellowknife Ar**	**96.87**	**28**	P	**P**	**10 27 32.9**	**-1.5**

comp=Z,0.4nm,0.7s,baz=268,slow=4.0,SNR=6.2
comp=Z,0.4nm,0.7s

PDAR	**Pinedale Array**	**99.22**	**48**	P	**Pdif**	**10 27 45.6**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=222,slow=2.0,SNR=4.2							
	comp=Z,0.8nm,1.0s							
AKASG	**Malin Array Be**	**117.73**	**324**	PKP	**PKiKP**	**10 32 49.3**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=48,slow=2.7,SNR=5.7							
GERES	**GERESS Array B**	**127.28**	**328**	PKP	**PKPdf**	**10 33 06.9**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=100,slow=1.6,SNR=4.5							
BDFB	**Brasilia**	**147.87**	**136**	PKPbc	**PKPbc**	**10 33 49.9**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=148,slow=1.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**152.85**	**284**	PKPbc	**PKiKP**	**10 34 01.5**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=64,slow=2.7,SNR=8.8							

*IDC **01** 10:18:41.1±4.0,20.°62S×178.°41W,h504km±34km, mb3.0/8, mbtmp3.9/10,Error ellipse: s-maj=89.3km s-min=16.7km az=149.0*
*NEIC **01** 10:18:42.9±1.0,20.°9S±0.°4×178.°5W±0.°2,h507km±28km, mb4.1/13,Error ellipse: s-maj=54.6km s-min=21.0km az=189.0*

ISC 01 10:18:41.1±0.7,20.°7S±0.°1×178.°49W±0.°10,h500km,n28, σ1§07/27,mb3.7/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.43**	**312**	P	**P**	**P**	**10 20 02.8**	**-0.5**
	10.0nm,0.5s,baz=133,slow=7.2,SNR=9.0							
MSVF	**Nonsavu**	**4.43**	**312**	P	**P**	**P**	**10 20 03.4**	**+0.1**
NIUE	**Niue**	**8.23**	**80**	P	**P**	**P**	**10 20 42.5**	**+2.6**
MARNC	**Mare, Loyalty**	**12.60**	**264**	P	**P**	**P**	**10 21 27.0**	**+0.9**
DZM	**Mont Dzumac**	**14.09**	**262**	P	**P**	**P**	**10 21 43.3**	**+1.3**
	6.7nm,0.6s,baz=111,slow=16,SNR=7.2							
ARMA	**Armidale**	**28.55**	**244**	P	**P**	**P**	**10 23 56.7**	**+0.7**
ARMA					IAmb	IAmb	10 24 35.7	
	comp=Z,21nm,1.4s							
CAN	**Canberra**	**32.00**	**236**	P	**P**	**P**	**10 24 25.5**	**-0.2**
CTA	**Charters Tower**	**33.01**	**265**	P	**P**	**P**	**10 24 35.2**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=90,slow=10,SNR=1.5							
	comp=Z,1.4nm,0.6s							
CTAO	**Charters Tower**	**33.01**	**265**	P	**P**	**P**	**10 24 35.0**	**+0.5**
CTAO					IAmb	IAmb	10 25 16.6	
	comp=Z,9.7nm,1.3s							
TOO	**Toolangi**	**35.38**	**234**	P	**P**	**P**	**10 24 53.6**	**-0.6**
STKA	**Stephens Creek**	**37.27**	**244**	P	**P**	**P**	**10 25 10.3**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=120,slow=8.1,SNR=3.9							
	comp=Z,2.2nm,0.8s							
STKA	**Stephens Creek**	**37.27**	**244**	P	**P**	**P**	**10 25 09.5**	**-0.4**
BBOO	**Buckleboo**	**42.03**	**244**	P	**P**	**P**	**10 25 47.8**	**-0.4**
AS31	**Alice Springs**	**44.01**	**257**	P	**P**	**P**	**10 26 04.5**	**+0.5**
ASAR	**Alice Springs**	**44.02**	**257**	P	**P**	**P**	**10 26 04.5**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=96,slow=8.0,SNR=17							
	comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**44.02**	**257**	P	**P**	**P**	**10 26 03.2**	**-0.8**
WB0	**Warramunga Arr**	**44.09**	**263**	P	**P**	**P**	**10 26 04.6**	**0.0**
WB0					IAmb	IAmb	10 26 05.7	
	comp=Z,3.6nm,0.8s							
WB2	**Warramunga Arr**	**44.10**	**262**	P	**P**	**P**	**10 26 04.9**	**+0.2**
WB2					IAmb	IAmb	10 26 08.5	
	comp=Z,5.5nm,1.2s							
WRA	**Warramunga Arr**	**44.11**	**262**	P	**P**	**P**	**10 26 05.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=95,slow=7.7,SNR=16							
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**44.11**	**262**	P	**P**	**P**	**10 26 04.7**	**0.0**
SBA	**Scott Base**	**57.60**	**184**	P	**P**	**P**	**10 27 43.6**	**+1.5**
SBA					IAmb	IAmb	10 27 52.1	
	comp=Z,23nm,1.3s							
MORW	**Morawa**	**59.31**	**248**	P	**P**	**P**	**10 27 53.9**	**-0.7**
MORW					IAmb	IAmb	10 27 55.1	
	comp=Z,15nm,1.2s							
QSPA	**South Pole Qui**	**69.33**	**180**	P	**P**	**P**	**10 28 55.1**	**-2.6**
QSPA					IAmb	IAmb	10 29 15.9	
	comp=Z,3.0nm,1.2s							
NVAR	**Mina Array Bea**	**81.52**	**44**	P	**P**	**P**	**10 30 05.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=232,slow=8.7,SNR=5.3							
	comp=Z,0.5nm,0.7s							
TXAR	**Lajitas Array**	**87.57**	**58**	P	**P**	**P**	**10 30 35.3**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=221,slow=6.6,SNR=4.7							
	comp=Z,0.3nm,0.7s							
ILAR	**Eielson Array**	**88.65**	**13**	P	**P**	**P**	**10 30 39.4**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=220,slow=5.7,SNR=4.3							
	comp=Z,0.6nm,0.9s							
PDAR	**Pinedale Array**	**89.45**	**43**	P	**P**	**P**	**10 30 42.8**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=186,slow=2.7,SNR=5.4							
	comp=Z,0.6nm,0.8s							
AKASG	**Malin Array Be**	**143.00**	**331**	PKP			10 37 14.8	
	comp=Z,0.2nm,0.2s,baz=40,slow=4.2,SNR=7.8							

*IDC **01** 10:20:07.5±1.2,29.°97S×71.°92W,h0km,mb3.8/2, mbtmp3.8/7,ML3.7/5,MS3.2/3,Error ellipse: s-maj=31.8km s-min=24.5km az=52.0*
*NEIC **01** 10:20:10.7±2.4,29.°99S±0.°05×71.°85W±0.°06,h18km±6km, mb4.4/4,Mwr3.9/62,ML4.3(GUC),Error ellipse: s-maj=7.2km s-min=6.8km az=100.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr2.40; Mθθ6.19; Mϕϕ-8.59; Mrθ4.51; Mθϕ3.74; Mϕr-1.75; Fault plane solution: Mₒ9.81000×10¹⁴ NP1:φ₀125.59000°, δ78.52000°, λ32.34000°. NP2:φ₀28.41000°, δ58.38000°, λ166.49000°. Principal axes: T 9.4617, Plg31.0000°, Azm352.0000°; N 0.6704, Plg56.0000°, Azm143.0000°; P -10.1320, Plg13.0000°, Azm253.0000°;*
*NEIC **01** 10:20:10.7,29.°99S×71.°85W,h18km*
*GUC **01** 10:20:12.1±0.7,30.°05S×71.°68W,h36km±3km,ML4.3*

ISC 01 10:20:10.7±1.2,30.°00S±0.°03×71.°80W±0.°05,h20km±5km, n76,σ1§28/81,mb4.1/4,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.50**	**81**			**Pg**	**10 20 20.8**	**-0.1**
CO05	**La Serena**	**0.50**	**81**	||*i*	**Pg**	**10 20 21.0**	**+0.2**
CO05					*eS*	**Sg**	**10 20 27.1**	**-0.5**
CO05					IAML		10 20 27.5	
	comp=E,11μm,0.4s							
GO04	**Tololo Observa**	**0.89**	**102**			**Pb**	**10 20 26.8**	**-0.8**
GO04	**Tololo Observa**	**0.89**	**102**	||*i*	**Pb**	**10 20 27.0**	**-0.7**
GO04					*eS*	**Sb**	**10 20 37.5**	**-1.7**
CO03	**El Pedregal**	**1.28**	**131**			**Pn**	**10 20 33.0**	**-0.6**
CO03	**El Pedregal**	**1.28**	**131**	*e*P		**Pn**	**10 20 32.9**	**-0.7**
CO03					*eS*	**Sn**	**10 20 48.4**	**-1.9**
CO03					IAML		10 20 53.4	
	comp=N,4μm,0.3s							
LCO	**Las Campanas**	**1.38**	**45**			**Pn**	**10 20 35.4**	**+0.3**
LCO	**Las Campanas**	**1.38**	**45**	||*i*	**Pn**	**10 20 35.4**	**+0.3**
LCO					*eS*	**Sn**	**10 20 53.4**	**+0.5**
CO02	**Combarbal**	**1.39**	**150**			**Pn**	**10 20 35.2**	**0.0**
CO02	**Combarbal**	**1.39**	**150**	P|*i*		**Pn**	**10 20 35.1**	**0.0**
CO02					*eS*	**Sn**	**10 20 52.3**	**-0.7**
CO02					IAML		10 20 56.9	
	comp=N,26μm,0.5s							
CO01	**Juntas del Tor**	**1.48**	**90**	*e*P		**Pn**	**10 20 36.4**	**-0.2**
CO01					*eS*	**Sn**	**10 20 54.3**	**-1.2**
AC05	**El Transito**	**1.77**	**49**			**Pn**	**10 20 41.4**	**+1.1**
AC05	**El Transito**	**1.77**	**49**	||*i*	**Pn**	**10 20 41.5**	**+1.1**
AC05					*eS*	**Sn**	**10 21 04.2**	**+1.8**
AC05					IAML		10 21 08.5	
	comp=E,11μm,1.0s							
AC04	**Llanos de Chal**	**1.90**	**20**			**Pn**	**10 20 42.3**	**+0.3**
AC04	**Llanos de Chal**	**1.90**	**20**	P|*i*		**Pn**	**10 20 42.3**	**+0.3**
AC04					*eS*	**Sg**	**10 21 11.6**	**-0.4**
AC04					IAML		10 21 17.5	
	comp=N,1μm,0.5s							
VA06	**Catapilco**	**2.59**	**170**			**Pn**	**10 20 52.1**	**+0.5**
VA06	**Catapilco**	**2.59**	**170**	*e*P		**Pn**	**10 20 51.9**	**+0.4**
VA06					*eS*	**Sn**	**10 21 24.7**	**+2.2**
VA06					IAML		10 21 41.0	
	comp=E,2μm,0.6s							
GO03	**Copiap**	**2.76**	**30**			**Pn**	**10 20 54.8**	**+0.8**
GO03	**Copiap**	**2.76**	**30**	*e*P		**Pn**	**10 20 54.5**	**+0.5**
GO03					*eS*	**Sb**	**10 21 32.9**	**-0.1**
GO03					IAML		10 21 47.4	
	comp=E,589nm,0.7s							
AC06	**Mina Casimiro**	**2.92**	**26**	P|*i*		**Pn**	**10 20 57.0**	**+0.8**
AC06					IAML		10 21 44.3	
	comp=E,462nm,0.4s							
VA03	**San Esteban**	**2.96**	**159**	*e*P		**Pn**	**10 20 58.4**	**+1.6**
VA03					*eS*	**Sn**	**10 21 35.5**	**+3.7**
VA03					IAML		10 21 45.0	
	comp=N,1μm,0.5s							
ROCH	**El Roble**	**3.04**	**167**	*e*P		**Pn**	**10 20 58.6**	**+0.7**
ROCH					*eS*	**Sb**	**10 21 41.2**	**0.0**
ROC1	**El Roble**	**3.04**	**167**			**Pn**	**10 20 59.1**	**+1.0**

PEL	**Peldehue**	**3.28**	**163**	*e*P		**Pn**	**10 21 02.2**	**+1.1**
PEL					*eS*	**Sb**	**10 21 47.5**	**-0.3**
PEL					IAML		10 21 58.1	
	comp=N,649nm,0.5s							
MT02	**Curacav**	**3.30**	**170**			**Pn**	**10 21 02.5**	**+1.1**
MT02	**Curacav**	**3.30**	**170**	*e*P		**Pn**	**10 21 01.6**	**+0.2**
CFA	**Coronel Fontan**	**3.46**	**118**	Pn		**Pn**	**10 21 06.3**	**+2.7**
	comp=N,13nm,0.3s,baz=295,slow=14,SNR=105							
CFA					Sn	**Sn**	**10 21 47.8**	**+3.7**
	comp=N,21nm,0.3s,baz=21,slow=8.6,SNR=7.1							
CFA					Lg	Lg	10 21 57.6	
	comp=N,42nm,0.3s,baz=18,slow=20,SNR=9.0							
	comp=N,25nm,0.3s							
MT05	**Renca**	**3.50**	**165**	*e*P		**Pn**	**10 21 05.2**	**+1.0**
MT05					IAML		10 22 05.2	
	comp=E,1μm,0.2s							
FCH	**Farellones**	**3.56**	**159**	*e*P		**Pn**	**10 21 07.2**	**+2.0**
FCH					IAML		10 22 05.6	
	comp=E,324nm,0.2s							
VA05	**Santo Domingo**	**3.65**	**178**			**Pn**	**10 21 06.6**	**+0.5**
VA05	**Santo Domingo**	**3.65**	**178**	*e*P		**Pn**	**10 21 06.1**	**-0.1**
MT03	**Universidad Ad**	**3.66**	**163**			**Pn**	**10 21 08.2**	**+1.8**
MT03	**Universidad Ad**	**3.66**	**163**	*e*P		**Pn**	**10 21 07.8**	**+1.5**
MT03					IAML		10 22 09.9	
	comp=E,953nm,0.5s							
MT09	**Talagante**	**3.83**	**170**			**Pn**	**10 21 09.9**	**+1.1**
MT09	**Talagante**	**3.83**	**170**	*e*P		**Pn**	**10 21 09.7**	**+1.0**
MT01	**Popeta**	**3.88**	**173**	*e*P		**Pn**	**10 21 09.8**	**+0.5**
AC02	**Maricunga**	**3.93**	**37**	*e*P		**Pn**	**10 21 11.9**	**+1.4**
AC01	**Pan de Azucar**	**3.98**	**16**	Pn		**Pn**	**10 21 09.9**	**-0.8**
AC01	**Pan de Azucar**	**3.98**	**16**	P|*i*		**Pn**	**10 21 09.7**	**-1.0**
LMEL	**Las Melosas**	**4.07**	**161**			**Pn**	**10 21 14.6**	**+2.5**
LMEL	**Las Melosas**	**4.07**	**161**	*e*P		**Pn**	**10 21 13.4**	**+1.3**
BO04	**La Punta**	**4.11**	**166**			**Pn**	**10 21 13.4**	**+1.0**
BO04	**La Punta**	**4.11**	**166**	*i* P		**Pn**	**10 21 13.5**	**+1.0**
BO01	**Tunca**	**4.42**	**172**	*i* P		**Pn**	**10 21 17.3**	**+0.5**
BO03	**Pichilemu**	**4.49**	**182**	*e*P		**Pn**	**10 21 16.7**	**-0.9**
BO02	**Sierra Bellavi**	**4.86**	**170**	*e*P		**Pn**	**10 21 23.6**	**+0.7**
GO05	**Huala**	**5.00**	**181**	Pn		**Pn**	**10 21 24.2**	**-0.5**
PB14	**IPOC Station P**	**5.49**	**13**	Pn		**Pn**	**10 21 30.6**	**-1.2**
H03N1	**Juan Fernandez**	**6.96**	**239**	T		T	10 29 04.6	
	baz=67,slow=72,SNR=3498							
H03N2	**Juan Fernandez**	**6.97**	**239**	T		T	10 29 11.0	
	baz=67,slow=72,SNR=3436							
H03N3	**Juan Fernandez**	**6.97**	**239**	T		T	10 29 02.5	
	baz=67,slow=72,SNR=2157							
VA04	**Juan Fernndez**	**7.00**	**237**	Pn		**Pn**	**10 21 51.3**	**-0.8**
LVC	**Limon Verde**	**7.80**	**20**	Pn		**Pn**	**10 22 01.8**	**-1.8**
	comp=E,0.7nm,0.3s,baz=194,slow=9.4,SNR=9.3							
LVC					Lg	Lg	10 23 58.1	
	comp=E,2.3nm,0.3s,baz=180,slow=20,SNR=6.0							
	comp=E,1.6nm,0.3s							
GO06	**Curarrehue**	**9.57**	**178**	Pn		**Pn**	**10 22 27.0**	**-0.5**
PLCA	**Paso Flores**	**10.76**	**175**	Pn		**Pn**	**10 22 43.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=337,slow=13,SNR=1.3							
PLCA					LR	LR	10 26 48.3	
	comp=E,154nm,19.3s,baz=321,slow=37							
	comp=E,1.3nm,0.8s							
PLCA	**Paso Flores**	**10.76**	**175**	Pn		**Pn**	**10 22 43.2**	**-0.6**
TRQA	**Tornquist**	**11.44**	**137**	Pn		**Pn**	**10 22 54.0**	**+0.9**
ITQB	**Itaqui**	**13.19**	**92**	Pn		**Pn**	**10 23 16.5**	**-0.4**
CPUP	**Villa Florida**	**13.28**	**78**	Pn		**Pn**	**10 23 20.6**	**+2.3**
	comp=E,0.2nm,0.3s,baz=224,slow=8.1,SNR=3.7							
	comp=E,0.6nm,0.4s							
LPAZ	**La Paz**	**14.06**	**15**			**Pn**	**10 23 32.4**	**+3.0**
SIV	**San Ignacio**	**17.07**	**38**	Pn		**Pn**	**10 24 08.5**	**+0.1**
	baz=216,slow=11,SNR=17							
	comp=E,3.3nm,0.7s							
NNA	**Nana**	**18.52**	**344**	LR		LR	10 29 55.1	
	comp=E,45nm,21.4s,baz=144,slow=32							
ETMB	**Extrema**	**20.75**	**16**			**P**	**10 24 51.3**	**+1.0**
ETMB					IAmb	IAmb	10 24 55.0	
	comp=Z,5.4nm,1.1s							
BDFB	**Brasilia**	**26.10**	**62**	P		**P**	**10 25 41.8**	**-1.8**
BDFB					IAmb	IAmb	10 25 42.4	
	comp=Z,7.7nm,1.2s							
RUSC	**La Rusia**	**35.71**	**358**	P		**P**	**10 27 10.1**	**+1.5**
MDP	**Montagnes des**	**39.44**	**31**	LR		LR	10 45 21.9	
	comp=Z,56nm,19.4s,baz=212,slow=38							
BANI	**BANI**	**48.13**	**2**	P		**P**	**10 28 48.6**	**-1.0**
QSPA	**South Pole Qui**	**60.23**	**180**	P		**P**	**10 30 16.6**	**-0.8**
QS

	TUWZ	**Tuamarina**	**0.45**	**295**	P	**Pb**	**10 52 32.4**	**-0.7**
	TUWZ				S	**Sb**	**10 52 38.5**	**-0.9**
	BSWZ	**Blackbirch Sta**	**0.47**	**258**		**Pb**	**10 52 33.2**	**-0.1**
	BSWZ	**Blackbirch Sta**	**0.47**	**258**	P	**Pb**	**10 52 33.3**	**-0.1**
	BSWZ				S	**Sb**	**10 52 40.5**	**+0.5**
	PLWZ	**Palliser**	**0.58**	**86**		**Pn**	**10 52 35.9**	**-0.4**
	PLWZ	**Palliser**	**0.58**	**86**	P	**Pn**	**10 52 35.9**	**-0.4**
	PLWZ				S	**Sn**	**10 52 47.3**	**+2.3**
	MSWZ	**Moikau Station**	**0.61**	**71**		**Pn**	**10 52 36.2**	**-0.5**
	MSWZ	**Moikau Station**	**0.61**	**71**	P	**Pn**	**10 52 36.2**	**-0.5**
	MSWZ				S	**Sn**	**10 52 46.7**	**+1.0**
	CAW	**Cannon Point**	**0.67**	**41**	P	**Pb**	**10 52 36.6**	**-0.2**
	CAW				S	**Sb**	**10 52 46.0**	**+0.2**
	PAWZ	**Paruwai Farm**	**0.75**	**72**	P	**Pb**	**10 52 38.6**	**0.0**
	PAWZ				S	**Sn**	**10 52 50.9**	**+1.8**
	KIW	**Kapiti Island**	**0.82**	**23**	P	**Pn**	**10 52 39.0**	**-0.6**
	KIW				S	**Sb**	**10 52 49.8**	**-0.3**
	MTW	**Mount Morrison**	**0.89**	**59**	P	**Pb**	**10 52 40.9**	**+0.3**
	MTW				S	**Sn**	**10 52 54.7**	**+2.0**
	DUWZ	**D'Urville Isla**	**0.92**	**332**	P	**Pn**	**10 52 40.5**	**-0.4**
	NNZ	**Nelson**	**0.92**	**295**		**Pn**	**10 52 40.7**	**-0.2**
	NNZ	**Nelson**	**0.92**	**295**	P	**Pn**	**10 52 40.7**	**-0.2**
	TRWZ	**Traveller**	**0.93**	**77**	P	**Pb**	**10 52 41.3**	**+0.1**
	OGWZ	**Otaki Gorge**	**0.95**	**33**	P	**Pb**	**10 52 41.2**	**-0.3**
	HOWZ	**Holdsworth Sta**	**1.06**	**48**	P	**Pb**	**10 52 43.3**	**-0.1**
	HOWZ				S	**Sb**	**10 52 57.8**	**+0.9**
	KHZ	**Kahutara**	**1.06**	**221**		**Pb**	**10 52 43.2**	**-0.1**
	KHZ	**Kahutara**	**1.06**	**221**	P	**Pb**	**10 52 43.3**	**-0.1**
	KHZ	**Kahutara**	**1.06**	**221**	P	**Pb**	**10 52 43.4**	**-0.1**
	KHZ				S	**Sb**	**10 52 57.9**	**+1.0**
	TMWZ	**Te Maipa**	**1.18**	**65**	P	**Pb**	**10 52 44.6**	**-0.8**
	THZ	**Tophouse**	**1.19**	**262**		**Pb**	**10 52 45.3**	**-0.2**
	THZ	**Tophouse**	**1.19**	**262**	P	**Pb**	**10 52 45.3**	**-0.3**
	MRZ	**Mangatainoka R**	**1.26**	**41**	Pn	**Pb**	**10 52 46.3**	**-0.6**
	MRZ	**Mangatainoka R**	**1.26**	**41**	P	**Pb**	**10 52 46.3**	**-0.6**
	TKNZ	**Takaka Hill**	**1.29**	**296**		**Pb**	**10 52 46.7**	**-0.5**
	TKNZ	**Takaka Hill**	**1.29**	**296**	P	**Pb**	**10 52 46.7**	**-0.5**
	MRNZ	**Matariki Terra**	**1.31**	**279**		**Pb**	**10 52 47.2**	**-0.5**
	MRNZ	**Matariki Terra**	**1.31**	**279**	P	**Pb**	**10 52 47.2**	**-0.5**
	TIWZ	**Tintock**	**1.35**	**52**	P	**Pb**	**10 52 47.3**	**-1.1**
	CPWZ	**Castlepoint**	**1.48**	**62**	P	**Pb**	**10 52 52.3**	**+1.9**
	OHWZ	**Ohakea**	**1.54**	**24**	P	**Pb**	**10 52 51.9**	**+0.3**
	PRWZ	**Pori Road**	**1.55**	**47**	P	**Pn**	**10 52 49.7**	**+0.2**
	POWZ	**Post Office Ro**	**1.56**	**39**	P	**Pb**	**10 52 51.1**	**-0.8**
	BFZ	**Birch Farm**	**1.63**	**56**		**Pb**	**10 52 52.8**	**-0.3**
	BFZ	**Birch Farm**	**1.63**	**56**	P	**Pn**	**10 52 50.3**	**-0.4**
	QRZ	**Quartz Range**	**1.67**	**298**		**Pn**	**10 52 53.4**	**-0.4**
	QRZ	**Quartz Range**	**1.67**	**298**	P	**Pb**	**10 52 53.2**	**-0.6**
	QRZ	**Quartz Range**	**1.67**	**298**	P	**Pb**	**10 52 52.9**	**-0.9**
	GVZ	**Greta Valley S**	**1.73**	**218**		**Pn**	**10 52 52.2**	**+0.1**
	GVZ	**Greta Valley S**	**1.73**	**218**	P	**Pn**	**10 52 52.1**	**+0.1**
	DVHZ	**Dannevirke**	**1.83**	**45**	P	**Pn**	**10 52 53.2**	**-0.3**
	WAZ	**Wanganui**	**1.90**	**12**	P	**Pb**	**10 52 57.7**	**0.0**
	TSZ	**Takapari Road**	**1.92**	**36**	P	**Pn**	**10 52 54.9**	**+0.2**
	DSZ	**Denniston Nort**	**2.01**	**265**	Pn	**Pn**	**10 52 57.5**	**+1.5**
	DSZ	**Denniston Nort**	**2.01**	**265**	P	**Pn**	**10 52 57.1**	**+1.1**
	LTZ	**Lake Taylor**	**2.01**	**234**		**Pn**	**10 52 56.3**	**+0.2**
	LTZ	**Lake Taylor**	**2.01**	**234**	P	**Pn**	**10 52 56.2**	**+0.2**
	AMCZ	**Amberley**	**2.07**	**220**		**Pn**	**10 52 56.5**	**-0.2**
	AMCZ	**Amberley**	**2.07**	**220**	P	**Pn**	**10 52 56.3**	**-0.4**
	PRHZ	**Porangahau**	**2.12**	**51**	P	**Pn**	**10 52 56.7**	**-0.7**
	PNHZ	**Pukenui**	**2.14**	**38**	P	**Pn**	**10 52 57.9**	**+0.1**
	WPHZ	**Waipukurau**	**2.15**	**44**	P	**Pn**	**10 52 57.6**	**-0.2**
	LREZ	**Lake Rotokare**	**2.15**	**358**	P	**Pb**	**10 53 02.5**	**+0.5**
	NMEZ	**Namu Road**	**2.25**	**348**	P	**Pb**	**10 53 03.6**	**0.0**
	KHEZ	**Kahui Hut**	**2.35**	**351**	P	**Pb**	**10 53 04.1**	**-1.3**
	KHEZ	**Kahui Hut**	**2.35**	**351**	P	**Pb**	**10 53 04.0**	**-0.4**
	OKCZ	**Okains Bay**	**2.35**	**106**	P	**Pn**	**10 52 59.8**	**+0.8**
	MTVZ	**Mangateitei**	**2.35**	**19**	P	**Pb**	**10 53 06.8**	**+1.4**
	NEZ	**North Egmont**	**2.36**	**353**	P	**Pb**	**10 53 05.3**	**-0.4**
	NBEZ	**Newall Road No**	**2.39**	**348**	P	**Pb**	**10 53 05.0**	**-1.1**
	PXZ	**Pawanui**	**2.40**	**50**	P	**Pn**	**10 53 00.1**	**-1.2**
	MOVZ	**Moawhango**	**2.41**	**24**	P	**Pn**	**10 53 03.1**	**+1.6**
	PKVZ	**Pokaka**	**2.42**	**16**	P	**Pb**	**10 53 05.0**	**-1.5**
	DREZ	**Durham Road**	**2.44**	**355**	P	**Pb**	**10 53 07.3**	**+0.5**
	KRHZ	**Kereru**	**2.44**	**37**	P	**Pn**	**10 53 01.6**	**-0.3**
	WNVZ	**Wahianoa**	**2.44**	**21**	P	**Pb**	**10 53 04.4**	**-2.6**
	BHHZ	**Black Hill Sta**	**2.44**	**30**	P	**Pn**	**10 53 02.7**	**+0.8**
	PKE	**Pukeiti**	**2.45**	**351**	P	**Pb**	**10 53 05.9**	**-1.1**
	TRVZ	**Turoa**	**2.45**	**20**	P	**Pb**	**10 53 07.8**	**+0.5**
	DRZ	**Dome Shelter**	**2.48**	**20**	P	**Pb**	**10 53 09.0**	**+1.3**
	WHVZ	**Whangaehu Hut**	**2.48**	**20**	P	**Pb**	**10 53 07.7**	**0.0**
	MQZ	**McQueen's Vall**	**2.49**	**212**		**Pn**	**10 53 01.2**	**-1.2**
	MQZ	**McQueen's Vall**	**2.49**	**212**	P	**Pn**	**10 53 00.9**	**-1.5**
	OXZ	**Oxford**	**2.49**	**226**		**Pn**	**10 53 01.9**	**-0.6**
	OXZ	**Oxford**	**2.49**	**226**	P	**Pn**	**10 53 01.4**	**-1.1**
	FWVZ	**Far West T-bar**	**2.50**	**19**	P	**Pn**	**10 53 06.9**	**-1.1**
	VRZ	**Vera Road**	**2.50**	**5**	P	**Pb**	**10 53 05.4**	**-2.5**
	TUVZ	**Tukino**	**2.51**	**21**	P	**Pb**	**10 53 05.4**	**-2.8**
	INZ	**Inchbonnie**	**2.52**	**243**		**Pn**	**10 53 03.5**	**+0.7**
	INZ	**Inchbonnie**	**2.52**	**243**	P	**Pn**	**10 53 03.2**	**+0.3**
	AKCZ	**Akaroa Harbour**	**2.53**	**207**	P	**Pn**	**10 53 02.1**	**-1.1**
	MHEZ	**Mangahewa**	**2.54**	**357**	P	**Pb**	**10 53 09.4**	**+0.8**
	KAHZ	**Kahuranaki**	**2.57**	**46**	P	**Pn**	**10 53 02.9**	**-0.8**
	NGZ	**Ngauruhoe**	**2.58**	**20**	P	**Pb**	**10 53 06.7**	**-2.7**
	SNVZ	**South Ngauruho**	**2.58**	**20**	P	**Pb**	**10 53 10.1**	**+0.7**
	OTVZ	**Oturere**	**2.61**	**21**	P	**Pb**	**10 53 10.8**	**+0.9**
	NNVZ	**North Ngauruho**	**2.63**	**20**	P	**Pn**	**10 53 06.5**	**+1.9**
	WTVZ	**West Tongariro**	**2.64**	**19**	P	**Pn**	**10 53 06.7**	**+2.0**
	KWHZ	**Kaweka Forest**	**2.64**	**35**	P	**Pn**	**10 53 05.4**	**+0.7**
	TWVZ	**Taurewa**	**2.65**	**16**	P	**Pn**	**10 53 10.8**	**+0.3**
	ETVZ	**East Tongariro**	**2.65**	**21**	P	**Pn**	**10 53 07.1**	**+2.3**
	TMVZ	**Te Maari**	**2.67**	**21**	P	**Pb**	**10 53 07.2**	**-1.1**
	KRVZ	**Karewarewa**	**2.67**	**20**	P	**Pb**	**10 53 10.5**	**-0.4**
	NTVZ	**North Tongarir**	**2.67**	**20**	P	**Pn**	**10 53 11.8**	**+0.8**
	RACZ	**Rakaia**	**2.73**	**219**	P	**Pn**	**10 53 04.4**	**-1.3**
	MCHZ	**McNeill Hill**	**2.75**	**39**	P	**Pn**	**10 53 05.8**	**-0.3**
	KATZ	**Kakaramea**	**2.80**	**20**	P	**Pb**	**10 53 13.7**	**+0.6**
	RITZ	**Rihia Road**	**2.84**	**22**	P	**Pb**	**10 53 13.2**	**-0.5**
	MHCZ	**Mount Hutt**	**2.88**	**227**	P	**Pn**	**10 53 06.7**	**-1.2**
	BKZ	**Black Stump Fm**	**2.89**	**33**	Pn	**Pn**	**10 53 08.0**	**0.0**
	BKZ	**Black Stump Fm**	**2.89**	**33**	P	**Pn**	**10 53 08.1**	**0.0**
	BKZ	**Black Stump Fm**	**2.89**	**33**	P	**Pb**	**10 53 14.8**	**+0.3**
	RATZ	**Rangitukua**	**2.92**	**20**	P	**Pb**	**10 53 15.7**	**+0.7**
	WACZ	**Wakanui South**	**3.03**	**219**	P	**Pn**	**10 53 08.9**	**-1.0**
	WATZ	**Wairara**	**3.06**	**19**	P	**Pb**	**10 53 17.9**	**+0.4**
	HIZ	**Hauiti**	**3.11**	**5**		**Pb**	**10 53 14.9**	**-3.4**
	HIZ	**Hauiti**	**3.11**	**5**	P	**Pn**	**10 53 13.4**	**+2.3**
	HIZ	**Hauiti**	**3.11**	**5**	P	**Pn**	**10 53 13.7**	**+2.6**
	WVZ	**Waitaha Valley**	**3.14**	**241**	P	**Pn**	**10 53 11.6**	**+0.2**
	MRHZ	**Matea Rd**	**3.15**	**29**	P	**Pn**	**10 53 11.6**	**-0.1**
	RPZ	**Rata Peaks**	**3.29**	**229**	Pn	**Pn**	**10 53 12.4**	**-1.1**
		5.2nm,0.3s,baz=46,slow=3.6,SNR=35						
	RPZ				Sn	**Sn**	**10 53 49.2**	**-2.5**
		13nm,0.3s,baz=7.1,slow=16,SNR=14						
		14nm,0.4s						
	RPZ	**Rata Peaks**	**3.29**	**229**		**Pn**	**10 53 13.4**	**0.0**
	RPZ	**Rata Peaks**	**3.29**	**229**	P	**Pn**	**10 53 12.6**	**-0.9**
	RPZ	**Rata Peaks**	**3.29**	**229**	P	**Pn**	**10 53 12.6**	**-0.9**
	WHHZ	**Waihua**	**3.29**	**41**	P	**Pb**	**10 53 17.3**	**-4.2**
	RAHZ	**Arahi**	**3.35**	**37**	P	**Pb**	**10 53 19.7**	**-2.7**
	ALRZ	**Allen Road**	**3.37**	**226**	P	**Pb**	**10 53 21.0**	**-1.7**
	ARCZ	**Arundel**	**3.37**	**225**	P	**Pn**	**10 53 13.6**	**-1.1**
	TLZ	**Tolley Road**	**3.38**	**14**	P	**Pb**	**10 53 22.4**	**-0.5**
	PRRZ	**Plateau Road**	**3.44**	**26**	P	**Pb**	**10 53 21.9**	**-2.0**
	GCSZ	**Gaunt Creek Bo**	**3.51**	**240**	P	**Pn**	**10 53 17.5**	**+1.0**
	RTZ	**Ruatahuna**	**3.56**	**33**		**Pn**	**10 53 19.3**	**+2.0**
	MUGZ	**Murupara**	**3.59**	**30**	P	**Pn**	**10 53 19.2**	**+1.5**
	TMZ	**Timaru**	**3.76**	**222**	P	**Pn**	**10 53 19.1**	**-0.9**
	URZ	**Urewera**	**3.92**	**32**	Pn	**Pn**	**10 53 20.3**	**-1.8**
		0.9nm,0.3s,baz=326,slow=4.7,SNR=7.6						
	URZ				Sn	**Sn**	**10 54 05.2**	**-2.0**
		7.2nm,0.3s,baz=271,slow=4.9,SNR=4.6						
	URZ				LR	LR	10 54 57.8	
		comp=Z,68nm,21.0s,baz=302,slow=41						
		2.8nm,0.3s						
	URZ	**Urewera**	**3.92**	**32**	P	**Pn**	**10 53 22.0**	**-0.1**
	FOZ	**Fox Glacier**	**3.94**	**239**	Pn	**Pn**	**10 53 24.0**	**+1.5**
	FOZ	**Fox Glacier**	**3.94**	**239**	P	**Pn**	**10 53 22.5**	**+0.1**
	TOZ	**Tahuroa Road**	**3.96**	**12**	P	**Pn**	**10 53 26.0**	**+3.3**
	OPRZ	**Ohinepanea**	**4.09**	**24**	P	**Pb**	**10 53 30.7**	**-4.3**
	TGRZ	**Tauranga**	**4.12**	**20**	P	**Pb**	**10 53 32.2**	**-3.2**
	LBZ	**Lake Benmore**	**4.19**	**227**		**Pn**	**10 53 26.1**	**+0.1**
	LBZ	**Lake Benmore**	**4.19**	**227**	P	**Pn**	**10 53 25.5**	**-0.4**
	RUGZ	**Raukumara Rang**	**4.40**	**35**	P	**Pn**	**10 53 27.7**	**-1.2**
	ODZ	**Otahua Downs**	**4.42**	**218**	Pn	**Pn**	**10 53 28.0**	**-1.1**
	ODZ	**Otahua Downs**	**4.42**	**218**	P	**Pn**	**10 53 28.1**	**-1.0**
	ODZ	**Otahua Downs**	**4.42**	**218**	P	**Pn**	**10 53 27.7**	**-1.4**
	MKAZ	**Moumakai**	**4.54**	**7**	P	**Pn**	**10 53 32.8**	**+2.1**
	AWAZ	**Awhitu Peninsu**	**4.55**	**2**	P	**Pn**	**10 53 33.6**	**+2.8**
	ETAZ	**East Tamaki Re**	**4.67**	**4**	P	**Pn**	**10 53 35.6**	**+3.2**
	WTAZ	**Waiatarua**	**4.68**	**1**	P	**Pn**	**10 53 37.9**	**+5.3**
	EPAZ	**Eden Park BICE**	**4.74**	**3**	P	**Pb**	**10 53 42.4**	**-3.6**
	RVAZ	**Riverhead Bore**	**4.84**	**1**	P	**Pn**	**10 53 37.8**	**+3.0**
	WIAZ	**Waiheke Island**	**4.84**	**6**	P	Pb	10 53 42.7	-5.1
	JCZ	**Jackson Bay**	**4.86**	**238**	P	**Pn**	**10 53 35.7**	**+0.6**
	JCZ	**Jackson Bay**	**4.86**	**238**	P	Pn	10 53 39.9	+4.7
	KUZ	**Kuaotunu**	**4.96**	**12**	P	**Pn**	**10 53 38.7**	**+2.2**
	KUZ	**Kuaotunu**	**4.96**	**12**	P	Pb	10 53 43.1	-6.7
	HHSZ	**Highcliff Hill**	**5.11**	**212**	P	**Pn**	**10 53 37.7**	**-0.9**
	WKZ	**Wanaka**	**5.12**	**229**		**Pn**	**10 53 37.8**	**-0.9**
	EAZ	**Earnscleugh**	**5.22**	**224**	P	**Pn**	**10 53 39.6**	**-0.4**
	TUZ	**Tuapeka**	**5.58**	**217**	P	**Pn**	**10 53 43.7**	**-1.3**
	WCZ	**Waipu Caves**	**5.67**	**359**	P	**Pn**	**10 53 49.4**	**+3.2**
	MLZ	**Mavora Lakes**	**5.96**	**229**		**Pn**	**10 53 51.8**	**+1.6**
	SYZ	**Scrubby Hill**	**6.24**	**216**	P	**Pn**	**10 53 53.4**	**-0.7**
	SYZ	**Scrubby Hill**	**6.24**	**216**	P	**Pn**	**10 53 53.3**	**-0.8**
	OUZ	**Omahuta**	**6.42**	**353**	P	**Pn**	**10 53 59.2**	**+2.6**
	OUZ	**Omahuta**	**6.42**	**353**	P	**Pn**	**10 53 59.1**	**+2.5**
	AS31	**Alice Springs**	**38.16**	**285**	P	**P**	**10 59 41.5**	**+0.5**
	ASAR	**Alice Springs**	**38.16**	**285**	P	**P**	**10 59 40.1**	**-0.9**
		2.1nm,1.2s,baz=125,slow=6.9,SNR=18						
	ASAR				pP	**pP**	**10 59 47.1**	**-1.8**
		1.1nm,0.4s,baz=123,slow=6.8,SNR=9.6						
	ASAR				PcP	**PcP**	**11 01 53.0**	**-2.4**
		0.2nm,0.8s,baz=128,slow=4.5,SNR=1.6						
	ASAR				pPcP		11 02 00.2	
		0.2nm,0.9s,baz=120,slow=3.6,SNR=1.1						
		2.1nm,1.2s						
	ASAR	**Alice Springs**	**38.16**	**285**	P	**P**	**10 59 41.1**	**+0.1**
	WB2	**Warramunga Arr**	**40.21**	**290**	P	**P**	**10 59 57.6**	**-0.5**
	WB2				IAmb	IAmb	11 00 05.0	
		comp=Z,5.2nm,0.7s						
	WRA	**Warramunga Arr**	**40.22**	**290**	P	**P**	**10 59 57.6**	**-0.6**
		comp=Z,1.0nm,0.4s,baz=126,slow=8.4,SNR=29						
	WRA				pP	**pP**	**11 00 04.6**	**-1.4**
		comp=Z,2.4nm,0.4s,baz=126,slow=8.3,SNR=16						
		comp=Z,1.0nm,0.4s						
	WRA	**Warramunga Arr**	**40.22**	**290**	P	**P**	**10 59 57.7**	**-0.5**
	WB0	**Warramunga Arr**	**40.30**	**290**	P	**P**	**10 59 58.3**	**-0.5**
	WB0				IAmb	IAmb	11 00 23.6	
		comp=Z,8.2nm,1.2s						
	KNRA	**Kununurra**	**47.00**	**289**	P	**P**	**11 00 53.4**	**+0.6**
	MTN	**Manton Dam**	**47.32**	**294**	P	**P**	**11 00 55.2**	**-0.1**
	FITZ	**Fitzroy Crossi**	**47.65**	**284**	P	**P**	**11 00 58.8**	**+1.0**
	FITZ				IAmb	IAmb	11 01 22.4	
		comp=Z,2.1nm,1.4s						
	QSPA	**South Pole Qui**	**48.51**	**180**	P	**P**	**11 01 05.8**	**+1.6**
		comp=Z,2.2nm,0.9s,baz=66,slow=1.3,SNR=7.2						
		comp=Z,2.2nm,0.9s						
	QSPA	**South Pole Qui**	**48.51**	**180**	P	**P**	**11 01 05.7**	**+1.6**
	QSPA				IAmb	IAmb	11 01 27.5	
		comp=Z,2.3nm,1.1s						
	SMAI	**San Martin Ant**	**61.33**	**158**	P	**P**	**11 02 38.3**	**+1.8**
	SMAI				IAmb	IAmb	11 02 43.4	
		comp=Z,21nm,1.5s						
	SNAA	**Sanae**	**67.00**	**181**	P	**P**	**11 03 15.3**	**+1.5**
	SNAA				IAmb	IAmb	11 03 57.3	
		comp=Z,11nm,1.4s						
	YKA	**Yellowknife Ar**	**118.17**	**30**	PKP	**PKiKP**	**11 11 07.2**	**-0.1**
		comp=Z,0.1nm,0.7s,baz=255,slow=3.5,SNR=4.8						
	DBIC	**Dimbokro**	**145.19**	**181**	PKPbc	**PKPdf**	**11 11 59.3**	**0.0**
		comp=Z,1.3nm,0.7s,baz=127,slow=10,SNR=1.6						
	DBIC				pPKPbc	pPKPab	11 12 07.0	-0.4
		comp=Z,2.3nm,0.6s,baz=216,slow=6.6,SNR=2.7						
	ARCES	**ARCESS Array B**	**147.71**	**340**	PKPbc	**PKPbc**	**11 12 03.9**	**-0.8**
		comp=Z,9.6nm,1.2s,baz=64,slow=2.1,SNR=1.7						
	ARCES				pPKPbc	**pPKPdf**	**11 12 11.4**	**+0.9**
		comp=Z,5.5nm,0.8s,baz=57,slow=3.3,SNR=2.4						
	TORD	**Torodi Ar. Bea**	**150.95**	**195**	PKPbc	**PKiKP**	**11 12 14.8**	**-0.2**
		comp=Z,0.5nm,1.0s,baz=193,slow=2.6,SNR=4.2						
	TORD				pPKPbc	**pPKPbc**	**11 12 21.9**	**-1.1**
		comp=Z,1.1nm,0.5s,baz=149,slow=2.6,SNR=7.0						
	FINES	**FINESS Array B**	**152.52**	**327**	PKPbc	**PKPbc**	**11 12 14.7**	**-1.8**
		comp=Z,2.4nm,0.9s,baz=35,slow=3.4,SNR=2.5						
	FINES				pPKPbc	**sPKPdf**	**11 12 23.1**	**+1.8**
		comp=Z,1.3nm,0.8s,baz=48,slow=2.8,SNR=1.4						
	AKASG	**Malin Array Be**	**154.48**	**303**	PKPbc	**PKPbc**	**11 12 20.2**	**-0.9**
		comp=Z,0.6nm,0.4s,baz=74,slow=5.0,SNR=6.3						

SNET 01 10:53:46.6±1.3, 13.07N×88.69W, h59km±9km, ML2.4, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.28**	**25**	*eP*	Pn	10 53 56.8	+0.4
ALJI				*eS*	Sn	10 54 05.7	+2.2
ALJI	**Alcalda de J**	**0.28**	**25**	*eP*	Pn	10 53 56.8	+0.4
ALJI				*eS*	Sn	10 54 04.4	+0.9
ALJI				IAML		10 54 07.5	
	comp=Z,353nm,0.2s						
COEB	**Comit de Eme**	**0.45**	**21**	*eP*	Pn	10 53 58.6	+0.5
COEB				*eS*	Sn	10 54 08.1	+1.7
TECO	**Alcaldia de Te**	**0.47**	**350**	*eP*	Pn	10 53 58.0	-0.2
TECO				*eS*	Sn	10 54 07.6	+1.1
TECO				IAML		10 54 08.7	
	comp=Z,94nm,0.1s						
TECO	**Alcaldia de Te**	**0.47**	**350**	*eP*	Pn	10 53 58.1	-0.1
TECO				*eS*	Sn	10 54 07.2	+0.6
TECO				IAML		10 54 08.8	
	comp=Z,101nm,0.2s						
PACA	**Pacayal**	**0.53**	**42**	*eP*	Pn	10 53 59.3	+0.3
PACA				*eS*	Sn	10 54 09.6	+1.6
PACA				IAML		10 54 13.4	
	comp=Z,898nm,0.3s						
RANC	**El Ranchito**	**0.53**	**48**	*eP*	Pn	10 53 59.0	0.0
RANC				*eS*	Sn	10 54 08.3	+0.4
COEG	**Centro de Oper**	**0.57**	**341**	*eS*	Sn	10 54 09.8	+1.2
COEG	**Centro de Oper**	**0.57**	**341**	*eP*	Pn	10 53 59.5	+0.1
COEG				IAML		10 54 12.9	
	comp=Z,121nm,0.2s						
SJTE	**Alcalda de S**	**0.62**	**330**	*eP*	Pn	10 53 59.8	-0.1
SJTE				*eS*	Sn	10 54 10.5	+0.9
SJTE				IAML		10 54 10.9	
	comp=Z,95nm,0.2s						
SJTE	**Alcalda de S**	**0.62**	**330**	*eP*	Pn	10 53 59.4	-0.6
SJTE				*eS*	Sn	10 54 09.6	0.0
SJTE				IAML		10 54 10.9	
	comp=Z,94nm,0.1s						
SCLA	**Alcaldia de Sa**	**0.63**	**357**	*eP*	Pn	10 54 00.8	+0.8
SCLA	**Alcaldia de Sa**	**0.63**	**357**	*eP*	Pn	10 54 00.5	+0.5
PAVA	**Las Pavas**	**0.68**	**340**	*eP*	Pn	10 54 01.6	+0.9
PAVA				IAML		10 54 15.9	
	comp=Z,90nm,0.2s						
LCND	**La Caada**	**0.82**	**73**	*eP*	Pn	10 54 02.0	-0.2
LCND				*eS*	Sn	10 54 14.3	+0.6
LCND				IAML		10 54 16.3	
	comp=Z,96nm,0.2s						
LCND	**La Caada**	**0.82**	**73**	*eP*	Pn	10 54 02.0	-0.3
LCND				*eS*	Sn	10 54 14.4	+0.7
LCND				IAML		10 54 16.4	
	comp=Z,94nm,0.2s						
CNCH	**Conchagua**	**0.86**	**76**	*eP*	Pn	10 54 02.5	-0.4
PMON	**Piamonte**	**0.88**	**316**	*eP*	Pn	10 54 03.0	-0.2
P5NO	**Presa 5 de nov**	**0.91**	**356**	*eP*	Pn	10 54 03.7	+0.2
JAYA	**Jayaque - finc**	**0.94**	**308**	*eP*	Pn	10 54 03.9	-0.1
JAYA	**Jayaque - finc**	**0.94**	**308**	*eP*	Pn	10 54 04.3	+0.4
JAYA				IAML		10 54 22.6	
	comp=Z,58nm,0.2s						
NUBE	**Las Nubes**	**1.34**	**308**	*eP*	Pn	10 54 09.3	0.0
NUBE				*eS*	Sn	10 54 27.1	+0.9
NUBE	**Las Nubes**	**1.34**	**308**	*eP*	Pn	10 54 09.3	0.0
TGUH	**Tegucigalpa,Un**	**1.69**	**55**	*eP*	Pn	10 54 14.4	+0.4

WEL 01 11:24:55.9, 41°S±5°×17°4E±°, h76km±5km, M3.4/76, ML3.2/17, MLv3.4/76, Error ellipse: s-maj=0.0km s-min=0.0km az=129.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUWZ	**Tuamarina**	**0.32**	**159**	P	Pn	11 25 08.8	+1.0
TUWZ				S	Sn	11 25 17.9	+1.4
NNZ	**Nelson**	**0.32**	**255**	P	Pn	11 25 08.4	+0.6
NNZ				S	Sn	11 25 17.8	+1.2
DUWZ	**D'Urville Isla**	**0.35**	**17**	P	Pn	11 25 09.0	+0.9
DUWZ				S	Sn	11 25 18.9	+1.9
TCW	**Tory Channel**	**0.38**	**102**	P	Pn	11 25 09.4	+1.3
TCW				S	Sn	11 25 18.8	+1.6
BSWZ	**Blackbirch Sta**	**0.58**	**174**	P	Pn	11 25 10.7	+0.7
BSWZ				S	Sn	11 25 22.4	+2.0
TKNZ	**Takaka Hill**	**0.64**	**279**	P	Pn	11 25 10.9	+0.4
TKNZ				S	Sn	11 25 22.1	+0.8
WEL	**Wellington**	**0.75**	**102**	P	Pn	11 25 12.4	+0.7
MRNZ	**Matariki Terra**	**0.82**	**251**	P	Pn	11 25 12.9	+0.3
MRNZ				S	Sn	11 25 25.4	+0.5
KIW	**Kapiti Island**	**0.89**	**72**	P	Pn	11 25 14.0	+0.6
KIW				S	Sn	11 25 27.7	+1.3
THZ	**Tophouse**	**0.91**	**226**	P	Pn	11 25 14.1	+0.4
THZ				S	Sn	11 25 27.5	+0.5
CAW	**Cannon Point**	**0.96**	**89**	P	Pn	11 25 14.6	+0.3
CAW				S	Sn	11 25 28.7	+0.7
QRZ	**Quartz Range**	**1.00**	**288**	P	Pn	11 25 14.4	-0.2
QRZ				S	Sn	11 25 28.3	-0.4
OGWZ	**Otaki Gorge**	**1.09**	**74**	P	Pn	11 25 16.1	+0.3
PLWZ	**Palliser**	**1.19**	**112**	P	Pn	11 25 17.1	+0.1
KHZ	**Kahutara**	**1.29**	**188**	P	Pn	11 25 18.5	+0.2
MTW	**Mount Morrison**	**1.29**	**92**	P	Pn	11 25 18.0	-0.3
HOWZ	**Holdsworth Sta**	**1.33**	**80**	P	Pn	11 25 18.6	-0.2
MRZ	**Mangatainoka R**	**1.44**	**71**	P	Pn	11 25 19.7	-0.4
OHWZ	**Ohakea**	**1.49**	**52**	P	Pn	11 25 21.3	+0.5
TMWZ	**Te Maipa**	**1.59**	**90**	P	Pn	11 25 21.7	-0.5
DSZ	**Denniston

ILA	**Ilan** baz=353	**0.32 357**	*e*P	Pn	11 41 40.1 0.0
ETLH	**Xiulin Townshi** baz=235	**0.35 228**	*e*P	Pn	11 41 40.9 +0.3
ETLH	baz=235		*e*S	Sb	11 41 47.3 +1.0
NNSB	**Datong** baz=264	**0.35 268**	*e*P	Pb	11 41 40.5 0.0
NNSB	baz=264		*e*S	Sb	11 41 47.0 +0.7
TWD	**Chiawan** baz=209	**0.39 203**	*e*P	Pb	11 41 40.5 -0.4
TWD	baz=209		*e*S	Sb	11 41 46.4 -0.8
WHF	**Hehuan Shan** baz=237	**0.54 237**	*e*P	Pb	11 41 44.7 +1.2
WHF	baz=237		*e*S	Sb	11 41 51.1 -0.5
TWT	**Tachien** baz=244	**0.57 251**	*e*P	Pb	11 41 43.8 0.0
TWT	baz=244		*e*S	Sn	11 41 52.4 +0.4
CHGB	**Renai** baz=235	**0.66 235**	*e*P	Pb	11 41 45.6 +0.4
CHGB	baz=235		*e*S	Sb	11 41 54.4 0.0
WUSB	**Renai** baz=229	**0.74 233**	*e*P	Pn	11 41 45.9 -0.2

ROM 01 11:44:26.4±0.0, 42°.840N±0°.002×13°.091E±0°.003, h11km, ML1.5/19, 8C-7D, Error ellipse: s-maj=0.3km s-min=0.2km az=242.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.02**	**112**	⇓P		Pg	11 44 28.7	+0.2
NRCA				S		Sg	11 44 30.0	+0.1
NRCA				AML		AML		
	comp=E,2405µm,0.2s							
NRCA				AML		AML		
	comp=E,2655µm,0.1s							
NRCA				AML		AML		
	comp=N,3350µm,0.1s							
NRCA				AML		AML		
	comp=N,3455µm,0.1s							
NRCA				AML		AML		
	comp=N,3345µm,0.1s							
NRCA				AML		AML		
	comp=E,2400µm,0.2s							
T1216	**Preci, Frazion**	**0.07**	**314**	⇑P		Pg	11 44 29.2	+0.4
T1216				S		Sg	11 44 31.0	+0.3
T1216				AML		AML		
	comp=E,940µm,0.1s							
T1216				AML		AML		
	comp=N,1280µm,0.3s							
T1245	**Castelsantange**	**0.07**	**77**	P		Pg	11 44 29.2	+0.3
T1245				S		Sg	11 44 31.1	+0.3
T1245				AML		AML		
	comp=E,664µm,0.3s							
T1245				AML		AML		
	comp=N,623µm,0.2s							
T1212	**Cascia, Frazio**	**0.10**	**201**	P		Pg	11 44 29.6	+0.5
T1212				S		Sg	11 44 31.6	+0.6
T1212				AML		AML		
	comp=E,750µm,0.2s							
T1212				AML		AML		
	comp=E,691µm,0.2s							
T1212				AML		AML		
	comp=N,1097µm,0.1s							
T1212				AML		AML		
	comp=E,750µm,0.2s							
T1212				AML		AML		
	comp=E,692µm,0.2s							
T1212				AML		AML		
	comp=N,1084µm,0.1s							
MC2	**Monte Cornacci**	**0.10**	**45**	⇓P		Pg	11 44 29.7	+0.4
MC2				S		Sg	11 44 32.1	+0.6
T1214	**Arquata del Tr**	**0.12**	**133**	P		Pg	11 44 29.9	+0.4
T1214				S		Sg	11 44 32.2	+0.5
T1214				AML		AML		
	comp=E,258µm,0.4s							
T1214				AML		AML		
	comp=N,270µm,0.2s							
T1214				AML		AML		
	comp=E,258µm,0.4s							
T1214				AML		AML		
	comp=N,270µm,0.2s							
T1214				AML		AML		
	comp=N,270µm,0.2s							
T1214				AML		AML		
	comp=E,258µm,0.4s							
FEMA	**Monte Fema**	**0.12**	**346**	P		Pg	11 44 30.0	+0.4
FEMA				S		Sg	11 44 32.4	+0.5
T1215	**Vallo di Nera,**	**0.17**	**257**	P		Pg	11 44 30.6	+0.5
T1215				AML		AML		
	comp=E,166µm,0.1s							
T1215				AML		AML		
	comp=N,156µm,0.1s							
T1215				AML		AML		
	comp=E,166µm,0.1s							
T1215				AML		AML		
	comp=N,156µm,0.1s							
T1218	**Civita (PG)**	**0.17**	**174**	P		Pg	11 44 30.7	+0.5
T1218				AML		AML		
	comp=E,146µm,0.5s							
T1218				AML		AML		
	comp=N,276µm,0.2s							
T1218				AML		AML		
	comp=E,146µm,0.5s							
T1218				AML		AML		
	comp=E,146µm,1.5s							
MMO1	**Montemonaco**	**0.18**	**71**	P		Pg	11 44 30.8	+0.4
MMO1				S		Sg	11 44 33.9	+0.7
T1256	**Bolognola (MC)**	**0.19**	**31**	P		Pg	11 44 31.1	+0.4
T1256				S		Sg	11 44 34.5	+0.9
T1256				AML		AML		
	comp=E,230µm,0.8s							
T1256				AML		AML		
	comp=N,176µm,0.6s							
FDMO	**Fiordimonte**	**0.20**	**359**	⇑P		Pg	11 44 31.1	+0.4
FDMO				AML		AML		
	comp=N,85µm,0.2s							
FDMO				AML		AML		
	comp=E,118µm,0.8s							
FDMO				AML		AML		
	comp=E,118µm,0.8s							
CESI	**CESI - Serrava**	**0.21**	**320**	P		Pg	11 44 31.4	+0.5
CESI				S		Sg	11 44 35.1	+1.0
CESI				AML		AML		
	comp=E,66µm,0.3s							
CESI				AML		AML		
	comp=N,100µm,0.6s							
T1219	**Muccia, Frazio**	**0.22**	**344**	⇑P		Pg	11 44 31.5	+0.4
T1219				AML		AML		
	comp=E,159µm,0.1s							
T1219				AML		AML		
	comp=N,151µm,0.1s							
T1219				AML		AML		
	comp=E,159µm,0.1s							
T1219				AML		AML		
	comp=N,150µm,0.1s							
LNSS	**Leonessa**	**0.24**	**189**	P		Pg	11 44 31.8	+0.4
LNSS				S		Sg	11 44 36.0	+1.3
LNSS				AML		AML		
	comp=N,233µm,1.0s							
LNSS				AML		AML		
	comp=N,234µm,1.0s							
LNSS				AML		AML		
	comp=E,218µm,0.1s							
T1241	**Roccafluvione,**	**0.25**	**86**	⇑P		Pg	11 44 32.0	+0.5
T1241				AML		AML		
	comp=E,134µm,0.5s							
T1241				AML		AML		
	comp=N,117µm,1.4s							
T1241				AML		AML		
	comp=N,116µm,1.4s							
T1241				AML		AML		
	comp=N,116µm,0.6s							
T1220	**Camerino, Fraz**	**0.27**	**360**	⇓P		Pg	11 44 32.3	+0.4
T1220				AML		AML		
	comp=E,252µm,0.3s							
T1220				AML		AML		
	comp=N,260µm,0.3s							
T1220				AML		AML		
	comp=E,252µm,0.3s							
SMA1	**SAN MARTINO**	**0.28**	**139**	⇓P		Pg	11 44 32.5	+0.5
SMA1				AML		AML		
	comp=N,61µm,1.6s							
SMA1				AML		AML		
	comp=N,61µm,1.6s							
SMA1				AML		AML		
	comp=E,49µm,0.2s							
SMA1				AML		AML		
	comp=N,61µm,0.4s							
GUMA	**Gualdo di Mace**	**0.28**	**39**	⇑P		Pb	11 44 32.9	-0.6
GUMA				AML		AML		
	comp=N,272µm,0.5s							
GUMA				AML		AML		
	comp=E,252µm,0.3s							
T1243	**Rocca Santa Ma**	**0.30**	**119**	⇓P		Pg	11 44 32.8	+0.4
RM33	**Pellescritta (**	**0.34**	**165**	P		Pg	11 44 33.6	+0.4
T1211	**Morro Reatino**	**0.35**	**210**	P		Pb	11 44 34.1	-0.6
T1211				AML		AML		
	comp=E,81µm,0.1s							
T1211				AML		AML		
	comp=N,70µm,0.5s							
ARRO	**Arrone**	**0.35**	**223**	⇑P		Pg	11 44 33.7	+0.3
ARRO				AML		AML		
	comp=E,41µm,1.6s							
ARRO				AML		AML		
	comp=E,41µm,0.4s							
ARRO				AML		AML		
	comp=N,59µm,0.2s							
ASSB	**Assisi San Ben**	**0.38**	**303**	⇑P		Pg	11 44 34.3	+0.4
ASSB				AML		AML		
	comp=E,46µm,1.1s							
ASSB				AML		AML		
	comp=N,60µm,0.1s							
ASSB				AML		AML		
	comp=E,190µm,0.9s							
ASSB				AML		AML		
	comp=N,184µm,1.4s							
MOMA	**Monte Martano**	**0.39**	**265**	⇑P		Pb	11 44 34.7	-0.6
MOMA				AML		AML		
	comp=E,55µm,0.6s							
MOMA				AML		AML		
	comp=N,55µm,0.2s							
MOMA				AML		AML		
	comp=N,55µm,0.2s							
SNTG	**Esanatoglia**	**0.43**	**345**	P		Pg	11 44 35.2	+0.4
SNTG				AML		AML		
	comp=E,994µm,0.7s							
SNTG				AML		AML		
	comp=E,904µm,0.7s							
SNTG				AML		AML		
	comp=N,2295µm,0.3s							
SNTG				AML		AML		
	comp=E,1415µm,1.0s							
SNTG				AML		AML		
	comp=N,2140µm,0.3s							
SNTG				AML		AML		
	comp=E,1415µm,1.0s							
TERO	**Teramo**	**0.44**	**120**	P		Pg	11 44 35.0	+0.1
EL6	**Elcito**	**0.49**	**1**	⇓P		Pg	11 44 36.2	+0.2
EL6				AML		AML		
	comp=E,1440µm,1.3s							
EL6				AML		AML		
	comp=N,1375µm,0.6s							
EL6				AML		AML		
	comp=E,1435µm,1.3s							
SSFR	**Montelago di S**	**0.64**	**339**	AML		AML		
	comp=N,10415µm,0.2s							
SSFR				AML		AML		
	comp=E,14450µm,0.2s							
SSFR				AML		AML		
	comp=N,12350µm,0.2s							
SSFR				AML		AML		
	comp=E,11850µm,0.2s							
PP3	**Marolino**	**0.66**	**35**	⇓P		Pg	11 44 39.5	+0.3
OBKA	**Obir**	**3.81**	**15**	*e*Pn		Pg	11 45 39.7	+0.3
	comp=E,1.2nm,0.3s							
ABTA	**Abfaltersbach**	**3.93**	**354**	*e*Pn		Pb	11 45 38.3	+2.7
	comp=E,1.7nm,0.6s							
KBA	**Koelnbreinsper**	**4.24**	**2**	*e*Pn		Pb	11 45 43.4	+2.3
	comp=E,0.3nm,0.3s							
FETA	**Feichten**	**4.50**	**339**	*e*Pn		Pb	11 45 46.5	+1.0
	comp=E,1.3nm,0.5s							
WTTA	**Wattenberg**	**4.54**	**347**	*e*Pn		Pb	11 45 48.3	+2.2
	comp=E,0.9nm,0.3s							
SQTA	**Sankt Quirin**	**4.58**	**344**	*e*Pn		Pb	11 45 48.9	+2.1
	comp=E,1.3nm,0.2s							
WATA	**Walderalm**	**4.62**	**347**	*e*Pn		Pb	11 45 48.7	+1.3
	comp=E,1.9nm,0.2s							
DAVA	**Damuels**	**4.99**	**334**	*e*Pn		Pb	11 45 54.5	+0.7
	comp=E,2.0nm,0.3s							
MOA	**Molln**	**5.08**	**9**	*e*Pn		Pb	11 45 55.5	+0.3
	comp=E,0.2nm,0.1s							

ROM 01 11:44:43.8±0.0, 43°.433N±0°.003×12°.660E±0°.003, h7km, ML2.4/38, 10C-8D, Error ellipse: s-maj=0.2km s-min=0.2km az=220.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATSC	**Scheggia e Pas**	**0.02**	**115**	P		Pg	11 44 45.1	-0.2
SSFR	**Montelago di S**	**0.09**	**88**	⇓P		Pg	11 44 46.4	+0.4
SSFR				S		Sg	11 44 48.1	+0.6
SSFR				AML		AML		
	comp=N,12350µm,0.2s							
SSFR				AML		AML		
	comp=N,10415µm,0.2s							
SSFR				AML		AML		
	comp=E,14450µm,0.2s							
SSFR				AML		AML		
	comp=E,11850µm,0.2s							
SSFR				AML		AML		
	comp=E,12079µm,0.1s							
SSFR				AML		AML		
	comp=E,11827µm,0.2s							
SSFR				AML		AML		
	comp=N,10392µm,0.2s							
SSFR				AML		AML		
	comp=N,10512µm,0.2s							
ATBU	**Serra di Buran**	**0.09**	**298**	⇓P		Pg	11 44 46.4	+0.3
ATBU				S		Sg	11 44 48.3	+0.7
ATFO	**Monte Foce - G**	**0.09**	**224**	⇑P		Pg	11 44 46.4	+0.4
ATFO				S		Sg	11 44 48.1	+0.5
ATFO				AML		AML		
	comp=N,15700µm,1.2s							
ATFO				AML		AML		
	comp=E,16700µm,0.3s							
ATFO				AML		AML		
	comp=N,15318µm,0.2s							
ATFO				AML		AML		
	comp=E,16686µm,0.3s							
FRON	**Frontone**	**0.10**	**30**	⇑P		Pg	11 44 46.5	+0.4
FRON				S		Sg	11 44 48.4	+0.6
FRON				AML		AML		
	comp=E,3455µm,0.7s							
FRON				AML		AML		
	comp=N,4380µm,0.4s							
FRON				AML		AML		
	comp=E,3455µm,1.3s							
FRON				AML		AML		
	comp=N,3689µm,0.4s							
FRON				AML		AML		
	comp=E,2512µm,0.3s							
PIEI	**Pieia**	**0.14**	**319**	P		Pg	11 44 47.1	+0.3
PIEI				S		Sg	11 44 49.5	+0.7
PIEI				AML		AML		
	comp=E,12200µm,0.1s							
PIEI				AML		AML		
	comp=N,5630µm,0.2s							
PIEI				AML		AML		
	comp=N,5631µm,0.2s							
PIEI				AML		AML		
	comp=E,12220µm,0.1s							
ATPC	**Poggio Castell**	**0.15**	**288**	⇓P		Pg	11 44 47.7	+0.6
ATPC				S		Sg	11 44 50.8	+1.5
FOSV	**Fossato di Vic**	**0.16**	**152**	⇑P		Pg	11 44 47.6	+0.6
FOSV				S		Sg	11 44 50.4	+1.1
FOSV				AML		AML		
	comp=E,2075µm,0.4s							
FOSV				AML		AML		
	comp=N,1605µm,0.5s							
FOSV				AML		AML		
	comp=N,1601µm,0.5s							
FOSV				AML		AML		
	comp=E,2077µm,0.4s							
TB01	**Gubbio**	**0.17**	**253**	⇓P		Pg	11 44 47.9	+0.6
TB01				S		Sg	11 44 50.8	+1.1
ATPI	**Pietralunga -**	**0.19**	**275**	⇓P		Pg	11 44 48.3	+0.7
ATPI				S		Sg	11 44 51.8	+1.6
ATPI				AML		AML		
	comp=E,2240µm,0.3s							
ATPI				AML		AML		
	comp=N,1650µm,0.5s							
ATPI				AML		AML		
	comp=E,2244µm,0.3s							
ATPI				AML		AML		
	comp=N,1651µm,0.5s							
ATVO	**AVT- Monte Val**	**0.19**	**255**	⇓P		Pg	11 44 48.3	+0.6
ATVO				S		Sg	11 44 51.5	+1.1
ATVO				AML		AML		
	comp=E,3720µm,1.4s							
ATVO				AML		AML		
	comp=N,3600µm,0.4s							
ATVO				AML		AML		
	comp=N,3596µm,0.4s							
ATVO				AML		AML		
	comp=E,3156µm,0.2s							
TB02	**Pietralunga**	**0.19**	**251**	P		Pg	11 44 48.4	+0.7
TB02				S		Sg	11 44 51.8	+1.4
MURB	**Monte Urbino**	**0.20**	**210**	⇑P		Pg	11 44 48.6	+0.8
MURB				S		Sg	11 44 52.3	+1.8
MURB				AML		AML		
	comp=N,9180µm,0.3s							
MURB				AML		AML		
	comp=N,10400µm,0.3s							
MURB				AML		AML		
	comp=E,13950µm,0.3s							
MURB				AML		AML		
	comp=E,13200µm,0.3s							
MURB				AML		AML		
	comp=N,10393µm,0.3s							
MURB				AML		AML		
	comp=N,9177µm,0.3s							
MURB				AML		AML		
	comp=E,13961µm,0.3s							
MURB				AML		AML		
	comp=E,13201µm,0.3s							
MPAG	**Monte Paganucc**	**0.21**	**20**	⇑P		Pg	11 44 48.8	+0.7
MPAG				S		Sg	11 44 52.6	+1.7
MPAG				AML		AML		
	comp=E,796µm,0.3s							
MPAG				AML		AML		
	comp=N,936µm,0.9s							
MPAG				AML		AML		
	comp=N,757µm,0.3s							
MPAG				AML		AML		
	comp=E,796µm,0.3s							
APEC	**Apecchio**	**0.21**	**306**	P		Pg	11 44 48.9	+0.7
APEC				S		Sg	11 44 52.8	+1.8
APEC				AML		AML		
	comp=E,2440µm,0.4s							
APEC				AML		AML		
	comp=N,2520µm,0.8s							
APEC				AML		AML		
	comp=N,2785µm,0.8s							
APEC				AML		AML		
	comp=E,2440µm,0.4s							
APEC				AML		AML		
	comp=N,2520µm,0.7s							
APEC				AML		AML		
	comp=E,2410µm,1.5s							
APEC				AML		AML		
	comp=N,2520µm,1.3s							
APEC				AML		AML		
	comp=E,2410µm,0.5s							
APEC				AML		AML		
	comp=N,2785µm,1.2s							
APEC				AML		AML		
	comp=N,2494µm,0.3s							
APEC				AML		AML		
	comp=E,2179µm,0.4s							
APEC				AML		AML		
	comp=E,2437µm,0.4s							
APEC				AML		AML		
	comp=N,2377µm,0.4s							
ATLO	**AVT- Montelove**	**0.22**	**237**	⇓P		Pg	11 44 48.8	+0.6
ATLO				S		Sg	11 44 52.6	+1.5
ATCC	**AVT- Casa Cast**	**0.25**	**183**	⇑P		Pg	11 44 49.5	+0.8
ATCC				S		Sg	11 44 54.2	+2.2
ATCC				AML		AML		
	comp=E,3120µm,0.6s							
ATCC				AML		AML		
	comp=N,3545µm,0.2s							
ATCC				AML		AML		
	comp=E,2979µm,0.2s							
ATCC				AML		AML		
	comp=N,3545µm,0.2s							
SNTG	**Esanatoglia**	**0.27**	**131**	P		Pg	11 44 49.8	+0.6
SNTG				S		Sb	11 44 54.8	-1.1
SNTG				AML		AML		
	comp=E,1410µm,1.0s							
SNTG				AML		AML		
	comp=N,2135µm,0.3s							
SNTG				AML		AML		
	comp=E,1415µm,1.0s							
SNTG				AML		AML		
	comp=E,1415µm,1.0s							
SNTG				AML		AML		
	comp=N,2295µm,0.3s							
SNTG				AML		AML		
	comp=N,2140µm,0.3s							
SNTG				AML		AML		
	comp=E,1415µm,1.0s							
SNTG				AML		AML		
	comp=E,1415µm,1.0s							
SNTG				AML		AML		
	comp=N,2139µm,0.3s							
SNTG				AML		AML		
	comp=E,1241µm,0.3s							
SNTG				AML		AML		
	comp=E,1277µm,0.3s							
SNTG				AML		AML		
	comp=N,2295µm,0.3s							
FSSB	**Fossombrone**	**0.27**	**18**	⇑P		Pg	11 44 50.0	+0.7
FSSB				S		Sb	11 44 54.9	-1.1
FSSB				AML		AML		
	comp=E,1865µm,0.2s							
FSSB				AML		AML		
	comp=N,2545µm,0.4s							
FSSB				AML		AML		
	comp=E,1869µm,0.2s							
FSSB				AML		AML		
	comp=N,2342µm,0.1s							
ATMI	**Monte Miggiano**	**0.30**	**251**	P		Pg	11 44 50.3	+0.6
ATMI				S		Sb	11 44 55.5	-1.3
ATMI				AML		AML		
	comp=N,1170µm,0.4s							
ATMI				AML		AML		
	comp=E,997µm,0.6s							
BADI	**Badiali**	**0.31**	**284**	P		Pg	11 44 50.6	+0.6
BADI				S		Sb	11 44 56.1	-0.9
BADI				AML		AML		
	comp=N,1675µm,0.3s							
BADI				AML		AML		
	comp=E,94µm,0.5s							
BADI				AML		AML		
	comp=E,86µm,0.2s							
BADI				AML		AML		
	comp=N,1677µm,0.3s							
ATVA	**AVT- Monte Val**	**0.31**	**241**	P		Pg	11 44 50.5	+0.5
COR1	**Corinaldo**	**0.32**	**51**	P		Pb	11 44 51.5	-0.3
COR1				AML		AML		
	comp=E,787µm,0.8s							
COR1				AML		AML		
	comp=N,1490µm,0.8s							
COR1				AML		AML		
	comp=E,787µm,1.2s							
COR1				AML		AML		
	comp=E,751µm,0.6s							
COR1				AML		AML		
	comp=N,1322µm,0.5s							
COR1				AML		AML		
	comp=E,2351µm,0.6s							
ATTE	**AVT- Monte Tez**	**0.32**	**224**	P		Pg	11 44 50.7	+0.5
ATTE				S		Sb	11 44 56.3	-1.2
ATTE				AML		AML		
	comp=N,446µm,0.9s							
ATTE				AML		AML		
	comp=E,543µm,0.6s							
ATTE				AML		AML		
	comp=N,446µm,1.1s							
ATTE				AML		AML		
	comp=N,432µm,0.5s							
ATTE				AML		AML		
	comp=E,471µm,0.4s							

EL6	**Elcito**	**0.34 108**	P	Pg	11 44 51.1	+0.7
EL6			S	Sb	11 44 57.2	-0.6
EL6			AML	AML		
	comp=E,1440μm,1.3s					
EL6			AML	AML		
	comp=N,1445μm,1.4s					
EL6			AML	AML		
	comp=E,1435μm,1.3s					
EL6			AML	AML		
	comp=N,1440μm,1.4s					
EL6			AML	AML		
	comp=N,1440μm,0.6s					
EL6			AML	AML		
	comp=E,1435μm,0.7s					
EL6			AML	AML		
	comp=E,1317μm,0.3s					
EL6			AML	AML		
	comp=N,1301μm,0.3s					
ATMC	**Monte Cedrone**	**0.34 272**	⇓P	Pg	11 44 51.0	+0.5
SEF1	**Sefro**	**0.35 144**	P	Pg	11 44 51.4	+0.6
SEF1			S	Sb	11 44 57.4	-0.8
SEF1			AML	AML		
	comp=N,3915μm,0.6s					
SEF1			AML	AML		
	comp=E,4530μm,0.6s					
SEF1			AML	AML		
	comp=N,3915μm,0.6s					
SEF1			AML	AML		
	comp=E,4530μm,0.6s					
SEF1			AML	AML		
	comp=E,4138μm,0.3s					
SEF1			AML	AML		
	comp=N,3139μm,0.2s					
GAG1	**Gagliole**	**0.36 123**	P	Pb	11 44 51.7	-0.8
PARC	**Parchiule**	**0.37 305**	⇑P	Pg	11 44 51.6	+0.5
PARC			S	Sb	11 44 58.3	-0.5
PARC			AML	AML		
	comp=E,732μm,1.1s					
PARC			AML	AML		
	comp=N,706μm,1.5s					
PARC			AML	AML		
	comp=E,732μm,0.9s					
PARC			AML	AML		
	comp=N,706μm,0.5s					
PARC			AML	AML		
	comp=N,634μm,0.2s					
ASSB	**Assisi San Ben**	**0.39 180**	AML	AML		
	comp=E,761μm,0.4s					
ASSB			AML	AML		
	comp=N,800μm,0.6s					
ASSB			AML	AML		
	comp=E,761μm,1.6s					
ASSB			AML	AML		
	comp=N,642μm,0.2s					
ASSB			AML	AML		
	comp=E,761μm,0.4s					
CING	**Cingoli**	**0.40 98**	P	Pg	11 44 52.2	+0.7
CING			S	Sb	11 44 59.1	-0.3
CING			AML	AML		
	comp=N,726μm,0.2s					
CING			AML	AML		
	comp=N,726μm,1.8s					
CING			AML	AML		
	comp=E,664μm,0.3s					
CING			AML	AML		
	comp=N,727μm,0.2s					
CING			AML	AML		
	comp=E,664μm,0.3s					
SSP9	**Sansepolcro**	**0.41 290**	P	Pg	11 44 52.3	+0.5
SSP9			S	Sb	11 44 59.4	-0.4
SSP9			AML	AML		
	comp=E,531μm,1.5s					
SSP9			AML	AML		
	comp=N,482μm,1.0s					
SSP9			AML	AML		
	comp=N,482μm,1.6s					
SSP9			AML	AML		
	comp=E,530μm,1.5s					
SSP9			AML	AML		
	comp=N,482μm,0.4s					
SSP9			AML	AML		
	comp=N,481μm,1.1s					
SSP9			AML	AML		
	comp=E,531μm,1.5s					
CPGN	**Carpegna, Ital**	**0.44 326**	P	Pb	11 44 53.6	-0.4
CPGN			AML	AML		
	comp=E,1008μm,0.2s					
CPGN			AML	AML		
	comp=N,920μm,1.4s					
CPGN			AML	AML		
	comp=N,920μm,0.6s					
CPGN			AML	AML		
	comp=E,1007μm,0.2s					
CPGN			AML	AML		
	comp=E,709μm,0.2s					
CPGN			AML	AML		
	comp=N,794μm,0.2s					
CPGN			AML	AML		
	comp=E,1009μm,0.2s					
CPGN			AML	AML		
	comp=N,872μm,0.2s					
T1220	**Camerino, Fraz**	**0.45 136**	P	Pg	11 44 53.2	+0.7
T1220			S	Sb	11 45 00.8	-0.2
T1220			AML	AML		
	comp=N,2320μm,1.3s					
T1220			AML	AML		
	comp=N,2320μm,1.3s					
T1220			AML	AML		
	comp=E,2280μm,0.6s					
T1220			AML	AML		
	comp=E,2275μm,0.6s					
T1220			AML	AML		
	comp=N,2320μm,0.7s					
T1220			AML	AML		
	comp=N,2305μm,0.6s					
T1220			AML	AML		
	comp=E,2259μm,0.2s					
T1220			AML	AML		
	comp=N,2096μm,0.5s					
T1220			AML	AML		
	comp=N,2099μm,0.5s					
T1220			AML	AML		
	comp=E,2209μm,0.2s					
T1219	**Muccia, Frazio**	**0.46 146**	P	Pg	11 44 53.0	+0.4
T1219			S	Sb	11 45 00.4	-0.8
T1219			AML	AML		
	comp=E,1000μm,0.3s					
T1219			AML	AML		
	comp=E,970μm,0.9s					
T1219			AML	AML		
	comp=N,744μm,0.3s					
T1219			AML	AML		
	comp=E,969μm,0.9s					
T1219			AML	AML		
	comp=N,732μm,0.3s					
T1219			AML	AML		
	comp=N,744μm,0.3s					
T1219			AML	AML		
	comp=E,997μm,0.3s					
T1219			AML	AML		
	comp=E,962μm,0.3s					
T1219			AML	AML		
	comp=N,727μm,0.3s					
CESI	**CESI - Serrava**	**0.46 157**	P	Pg	11 44 53.3	+0.5
CESI			S	Sb	11 45 01.0	-0.4
CESI			AML	AML		
	comp=E,498μm,0.8s					
CESI			AML	AML		
	comp=N,484μm,0.3s					
CESI			AML	AML		
	comp=E,498μm,1.2s					
CESI			AML	AML		
	comp=E,405μm,0.3s					
CESI			AML	AML		
	comp=N,484μm,0.3s					
FDMO	**Fiordimonte**	**0.51 142**	P	Pg	11 44 53.9	+0.4
FDMO			S	Sb	11 45 02.4	-0.1
FDMO			AML	AML		
	comp=E,403μm,1.2s					
FDMO			AML	AML		
	comp=N,382μm,0.6s					
FDMO			AML	AML		
	comp=E,403μm,0.8s					
FDMO			AML	AML		
	comp=E,379μm,0.1s					
FDMO			AML	AML		
	comp=N,371μm,0.1s					
CAFI	**Castiglion Fio**	**0.52 259**	P	Pg	11 44 54.4	+0.6
CAFI			S	Sb	11 45 02.5	-0.4
CAFI			AML	AML		
	comp=N,202μm,0.3s					
CAFI			AML	AML		
	comp=E,224μm,1.0s					
CAFI			AML	AML		
	comp=N,202μm,1.7s					
CAFI			AML	AML		
	comp=N,203μm,0.3s					
CAFI			AML	AML		
	comp=N,196μm,0.3s					
CAFI			AML	AML		
	comp=E,206μm,0.3s					
CAFI			AML	AML		
	comp=E,196μm,0.3s					
CSP1	**Cessapalombo**	**0.52 130**	P	Pg	11 44 54.6	+0.6
CSP1			S	Sb	11 45 03.4	+0.2
PESA	**Pesaro**	**0.52 14**	⇑P	Pb	11 44 54.9	-0.5
PESA			AML	AML		
	comp=N,957μm,0.8s					
PESA			AML	AML		
	comp=E,894μm,0.2s					
PESA			AML	AML		
	comp=E,893μm,0.2s					
PESA			AML	AML		
	comp=N,896μm,0.2s					
CRE	**Caprese Michel**	**0.55 290**	P	Pg	11 44 54.8	+0.4
CRE			S	Sb	11 45 03.3	-0.6
CRE			AML	AML		
	comp=E,188μm,0.5s					
CRE			AML	AML		
	comp=N,184μm,0.9s					
CRE			AML	AML		
	comp=N,184μm,1.1s					
CRE			AML	AML		
	comp=E,188μm,1.5s					
CRE			AML	AML		
	comp=N,165μm,0.4s					
CRE			AML	AML		
	comp=E,188μm,0.5s					
FEMA	**Monte Fema**	**0.55 149**	P	Pg	11 44 54.9	+0.4
T1221	**Campello sul C**	**0.59 166**	P	Pg	11 44 55.4	+0.2
T1256	**Bolognola (MC)**	**0.59 136**	P	Pg	11 44 55.7	+0.4
T1256			AML	AML		
	comp=N,344μm,0.2s					
T1256			AML	AML		
	comp=N,390μm,0.3s					
T1256			AML	AML		
	comp=E,414μm,0.5s					
T1256			AML	AML		
	comp=E,441μm,0.3s					
T1216	**Preci, Frazion**	**0.60 154**	P	Pg	11 44 55.6	+0.2
T1216			S	Sb	11 45 06.0	+0.6
GUMA	**Gualdo di Mace**	**0.62 127**	P	Pb	11 44 56.6	-0.3
MOMA	**Monte Martano**	**0.63 186**	P	Pg	11 44 56.3	+0.3
MOMA			S	Sb	11 45 06.8	+0.5
MOMA			AML	AML		
	comp=N,264μm,0.4s					
MOMA			AML	AML		
	comp=E,238μm,0.3s					
MOMA			AML	AML		
	comp=E,238μm,0.3s					
MOMA			AML	AML		
	comp=E,240μm,0.3s					
MOMA			AML	AML		
	comp=N,264μm,0.4s					
MOMA			AML	AML		
	comp=N,313μm,0.4s					
MC2	**Monte Cornacci**	**0.65 143**	P	Pg	11 44 56.8	+0.5
T1215	**Vallo di Nera,**	**0.65 166**	P	Pg	11 44 56.4	+0.1
MGAB	**Montegabbione**	**0.66 218**	⇑P	Pg	11 44 56.9	+0.4
MGAB			S	Sb	11 45 07.1	+0.2
MGAB			AML	AML		
	comp=N,603μm,0.4s					
NRCA	**Norcia**	**0.69 151**	P	Pg	11 44 57.2	+0.2
NRCA			AML	AML		
	comp=N,549μm,0.7s					
NRCA			AML	AML		
	comp=N,549μm,1.3s					
NRCA			AML	AML		
	comp=E,396μm,0.4s					
NRCA			AML	AML		
	comp=E,384μm,0.1s					
NRCA			AML	AML		
	comp=N,511μm,0.1s					
NRCA			AML	AML		
	comp=N,539μm,0.1s					
NRCA			AML	AML		
	comp=E,380μm,0.1s					
T1245	**Castelsantange**	**0.69 146**	P	Pg	11 44 57.5	+0.3
T1245			S	Sb	11 45 08.7	+0.6
T1245			AML	AML		
	comp=E,402μm,0.3s					
T1245			AML	AML		
	comp=E,402μm,1.7s					
T1245			AML	AML		
	comp=N,554μm,0.3s					
T1245			AML	AML		
	comp=N,554μm,0.3s					
T1245			AML	AML		
	comp=E,402μm,0.3s					
T1245			AML	AML		
	comp=N,645μm,0.4s					
AOI	**Ancona**	**0.70 80**	P	Pb	11 44 58.2	-0.1
T1212	**Cascia, Frazio**	**0.74 157**	P	Pg	11 44 58.1	+0.1
T1212			S	Sb	11 45 09.7	+0.4
T1212			AML	AML		
	comp=E,414μm,0.7s					
T1212			AML	AML		
	comp=E,220μm,0.8s					
T1212			AML	AML		
	comp=N,192μm,0.4s					
T1212			AML	AML		
	comp=E,220μm,1.2s					
T1212			AML	AML		
	comp=N,192μm,1.6s					
T1212			AML	AML		
	comp=N,240μm,0.9s					
T1212			AML	AML		
	comp=N,192μm,0.4s					
T1212			AML	AML		
	comp=E,210μm,0.3s					
T1212			AML	AML		
	comp=N,206μm,0.5s					
T1212			AML	AML		
	comp=E,412μm,0.7s					
T1217	**Poggiodomo (PG**	**0.75 164**	P	Pg	11 44 58.1	-0.1
T1217			S	Sb	11 45 10.2	+0.6
T1214	**Arquata del Tr**	**0.78 149**	AML	AML		
	comp=E,232μm,0.2s					
T1214			AML	AML		
	comp=N,312μm,0.8s					
T1214			AML	AML		
	comp=N,268μm,0.1s					
T1214			AML	AML		
	comp=E,222μm,0.2s					
T1214			AML	AML		
	comp=E,208μm,0.1s					
T1214			AML	AML		
	comp=N,248μm,0.1s					
SACS	**San Casciano d**	**0.80 223**	P	Pb	11 44 59.7	-0.4
SACS			S	Sb	11 45 11.8	+0.6
SACS			AML	AML		
	comp=N,214μm,0.7s					
SACS			AML	AML		
	comp=E,166μm,0.8s					
SACS			AML	AML		
	comp=N,198μm,0.7s					
SACS			AML	AML		
	comp=E,160μm,0.8s					
SACS			AML	AML		
	comp=E,166μm,0.8s					
SACS			AML	AML		
	comp=E,161μm,0.8s					
SACS			AML	AML		
	comp=N,186μm,0.4s					
SACS			AML	AML		
	comp=N,198μm,0.7s					
T1241	**Roccafluvione,**	**0.81 135**	P	Pg	11 44 59.7	+0.4
T1241			AML	AML		
	comp=E,320μm,0.5s					
T1241			AML	AML		
	comp=N,168μm,0.6s					
T1241			AML	AML		
	comp=E,320μm,0.5s					
T1241			AML	AML		
	comp=E,285μm,0.3s					
T1241			AML	AML		
	comp=N,267μm,0.5s					
T1241			AML	AML		
	comp=N,168μm,0.6s					
T1244	**Arquata del Tr**	**0.82 145**	P	Pg	11 44 59.0	-0.6
T1218	**Civita (PG)**	**0.83 156**	P	Pg	11 44 59.7	-0.2
T1218			AML	AML		
	comp=E,330μm,1.1s					
T1218			AML	AML		
	comp=N,248μm,0.9s					
T1218			AML	AML		
	comp=E,237μm,0.2s					
T1218			AML	AML		
	comp=N,236μm,0.9s					
T1218			AML	AML		
	comp=N,248μm,1.1s					
T1218			AML	AML		
	comp=N,236μm,1.1s					
T1218			AML	AML		
	comp=E,330μm,0.9s					
T1218			AML	AML		
	comp=N,230μm,0.2s					
T1218			AML	AML		
	comp=E,237μm,0.2s					
T1218			AML	AML		
	comp=N,247μm,0.3s					
ARRO	**Arrone**	**0.86 175**	P	Pb	11 45 01.2	+0.2
ARRO			AML	AML		
	comp=E,121μm,0.2s					
ARRO			AML	AML		
	comp=N,96μm,0.7s					
ARRO			AML	AML		
	comp=N,96μm,1.3s					
ARRO			AML	AML		
	comp=E,121μm,0.2s					
ARRO			AML	AML		
	comp=N,76μm,0.3s					
LNSS	**Leonessa**	**0.88 161**	P	Pg	11 45 00.5	-0.1
LNSS			AML	AML		
	comp=N,174μm,0.4s					
LNSS			AML	AML		
	comp=N,174μm,1.6s					
LNSS			AML	AML		
	comp=E,194μm,0.8s					
OFFI	**Offida**	**0.90 123**	AML	AML		
	comp=E,587μm,0.5s					
OFFI			AML	AML		
	comp=N,428μm,0.7s					
T1211	**Morro Reatino**	**0.91 171**	P	Pg	11 45 01.3	-0.1
T1211			AML	AML		
	comp=E,122μm,1.0s					
T1211			AML	AML		
	comp=N,250μm,0.5s					
T1211			AML	AML		
	comp=E,97μm,0.3s					
T1211			AML	AML		
	comp=N,257μm,0.5s					
T1211			AML	AML		
	comp=N,250μm,0.5s					
T1211			AML	AML		
	comp=E,165μm,0.6s					
RUFI	**Rufina**	**0.93 296**	P	Pb	11 45 02.0	-0.3
T1243	**Rocca Santa Ma**	**0.94 142**	P	Pg	11 45 00.9	-0.9
SMA1	**SAN MARTINO**	**0.94 148**	P	Pg	11 45 02.0	+0.1
OSSC	**Osservatorio P**	**1.03 276**	P	Pb	11 45 03.9	-0.1
TERO	**Teramo**	**1.07 139**	P	Pg	11 45 03.3	-1.0

*GII **01** 11:48:30.7±0.0,30°.53N×31°.94E,h1km,MD2.7/2,Mm2.9/2*
*HLW **01** 11:48:32.6,30°.27N×31°.93E,h2km±3km,Md1.9*
ISC 01 11:48:31.7±2.6,30°.3N±0°.1×31°.95E±0°.04,h4km±18km,n13,
σ1§03/21,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HHAG	**Hagoal**	**0.40**	**162**	P	**Pg**	**11 48 39.8**	**+0.4**
	baz=155						
HHAG				S	**Sg**	**11 48 45.1**	**+0.6**
	baz=155						
KOT	**Kottamia**	**0.42**	**195**	P	**Pg**	**11 48 40.1**	**+0.3**
	baz=196						
GLL	**Jalalah**	**0.78**	**196**	P	**Pg**	**11 48 46.5**	**-0.2**
	baz=196						
HSAF	**As Saff**	**0.79**	**206**	P	**Pg**	**11 48 46.6**	**-0.3**
	baz=208						
SUZ	**Suez**	**0.90**	**122**	P	**Pb**	**11 48 49.8**	**-0.2**
	baz=118						
HMYD	**Mayadein**	**1.13**	**242**	P	**Pg**	**11 48 53.6**	**+0.1**
	baz=245						
HNAT	**Natroun**	**1.35**	**239**	P	**Pn**	**11 48 57.1**	**-0.3**
	baz=242						
HNAT				S	**Sb**	**11 49 14.8**	**-0.5**
	baz=242						
KRMI	**Paran Flat**	**2.41**	**94**	Pn	**Pn**	**11 49 12.1**	**+0.2**
KRMI				Sn	**Sb**	**11 49 44.2**	**-1.5**
MBRI	**Mt Berech**	**2.62**	**101**	Pn	**Pn**	**11 49 15.8**	**+0.9**
MBRI				Sn	**Sb**	**11 49 50.5**	**-1.4**
PRNI	**Paran**	**2.64**	**89**	Pn	**Pn**	**11 49 15.1**	**0.0**
PRNI				Sn	**Sn**	**11 49 49.2**	**+1.7**
EIL	**Elat**	**2.68**	**103**	Pn	**Pn**	**11 49 16.1**	**+0.4**
EIL				Sn	**Sb**	**11 49 51.4**	**-2.2**
HRFI	**Mount Harif**	**2.69**	**95**	Pn	**Pn**	**11 49 16.3**	**+0.5**
HRFI				Sn	**Sb**	**11 49 52.2**	**-1.5**
ZFRI	**Zfri**	**2.79**	**85**	Pn	**Pn**	**11 49 17.3**	**+0.1**
ZFRI				Sn	**Sn**	**11 49 52.6**	**+1.3**

IDC 01 11:52:24.8±1.7,6°.25S×146°.61E,h0km,mb3.6/2,
mbtmp3.7/4,ML3.2/1,Error ellipse: s-maj=52.6km
s-min=26.0km az=103.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.18**	**170**	Pn	Pn	11 53 16.6	+0.5
	9.7nm,0.4s,baz=33,slow=7.6,SNR=13						
PMG				Sn	Sn	11 53 54.4	-0.4
	4.8nm,0.3s,baz=11,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**18.09**	**220**	P	Pn	11 56 37.5	-0.3
	0.1nm,0.3s,baz=44,slow=12,SNR=9.1						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**21.19**	**214**	P	P	11 57 12.3	+0.1
	1.2nm,0.8s,baz=39,slow=11,SNR=10						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**85.86**	**23**	P	P	12 05 06.5	+0.2
	1.3nm,1.2s,baz=265,slow=5.3,SNR=3.8						
	1.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**144.78**	**284**	PKP	PKPab	12 12 03.7	0.0
	0.5nm,0.7s,baz=56,slow=3.0,SNR=2.9						

*GII **01** 12:01:37.5×0.0,30°.07N×31°.83E,h1km,Mm2.6/1*
*HLW **01** 12:01:41.8,30°.26N×31°.94E,h4km×31km,Md1.9*
ISC 01 12:01:42.2±1.5,30°.2N±0°.1×31°.95E±0°.05,h14km,n13,
σ1§46/17,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HHAG	**Hagoal**	**0.32**	**155**	P	**Pg**	**12 01 48.7**	**-0.1**
	baz=155						
KOT	**Kottamia**	**0.33**	**198**	P	**Pg**	**12 01 48.9**	**-0.1**
	baz=196						
GLL	**Jalalah**	**0.70**	**197**	P	**Pg**	**12 01 55.5**	**-0.3**
	baz=197						
HSAF	**As Saff**	**0.71**	**209**	P	**Pg**	**12 01 55.5**	**-0.5**
	baz=208						
SUZ	**Suez**	**0.87**	**117**	P	**Pg**	**12 01 58.6**	**-0.4**
	baz=118						
HMYD	**Mayadein**	**1.09**	**246**	P	**Pb**	**12 02 02.5**	**-0.3**
	baz=245						
HNAT	**Natroun**	**1.30**	**242**	P	**Pn**	**12 02 06.0**	**+0.1**
	baz=242						
KRMI	**Paran Flat**	**2.41**	**92**	Pn	**Pn**	**12 02 20.2**	**-1.0**
KRMI				Sn	**Sn**	**12 02 53.4**	**+2.8**
MBRI	**Mt Berech**	**2.61**	**99**	Pn	**Pn**	**12 02 23.2**	**-0.9**
MBRI				Sn	**Sn**	**12 02 58.2**	**+2.5**
PRNI	**Paran**	**2.65**	**87**	Pn	**Pn**	**12 02 23.6**	**-0.9**
PRNI				Sn	**Sn**	**12 02 58.6**	**+2.2**
EIL	**Elat**	**2.67**	**102**	Pn	**Pn**	**12 02 22.8**	**-2.0**
EIL				Sn	**Sn**	**12 02 57.5**	**+0.5**
HRFI	**Mount Harif**	**2.69**	**94**	Pn	**Pn**	**12 02 23.8**	**-1.2**
ZFRI	**Zfri**	**2.81**	**83**	Pn	**Pn**	**12 02 25.4**	**-1.3**

*THE **01** 12:10:20.7,40°.52N×21°.39E,h16km,ML2.3/6,Error ellipse: s-maj=1.0km s-min=0.4km az=299.0*

TIR ***01*** *12:10:20.1,40.53N×21.32E,h2km±1km,Md3.0,Ml2.8*
ATH ***01*** *12:10:20.6,40.52N×21.38E,h19km±4km,ML2.4/7,Error ellipse: s-maj=4.5km s-min=1.0km az=310.0*
SKO ***01*** *12:10:20.3,40.43N×21.38E,h0km,ML2.5*

ISC 01 12:10:20.5±0.8,**40.52N**±0.02×**21.40E**±0.02,**h15**km±7km, **n43,σ0§69/69,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
FNA	**Florina**	**0.27**	**356**	P		**Pg**	**12 10 26.2**	**-0.1**
FNA				S		**Sg**	**12 10 30.6**	**+0.3**
	818nm,0.2s							
FNA	**Florina**	**0.27**	**356**	P		**Pg**	**12 10 26.2**	**-0.1**
	baz=11							
FNA				S		**Sg**	**12 10 30.1**	**-0.2**
	baz=11							
FNA	**Florina**	**0.27**	**356**	*i* Pg		**Pg**	**12 10 26.3**	**-0.1**
FNA				*i* Sg		**Sg**	**12 10 30.8**	**+0.5**
FNA	**Florina**	**0.27**	**356**	P		**Pg**	**12 10 26.3**	**-0.1**
FNA				S		**Sg**	**12 10 30.7**	**+0.5**
FNA				AML		AML	12 10 31.1	
	comp=N,4963μm,0.2s							
FNA				AML		AML	12 10 31.2	
	comp=E,3112μm,0.2s							
NEST	**Nestorio**	**0.29**	**249**	P		**Pg**	**12 10 26.6**	**0.0**
NEST				S		**Sb**	**12 10 31.5**	**-0.5**
	comp=E,1μm,0.3s							
NEST	**Nestorio**	**0.29**	**249**	P		**Pg**	**12 10 26.7**	**0.0**
NEST				S		**Sb**	**12 10 31.6**	**-0.4**
NEST				AML		AML	12 10 32.7	
	comp=E,2417μm,0.3s							
NEST				AML		AML	12 10 32.9	
	comp=N,3229μm,0.2s							
KZN	**Kozani**	**0.35**	**126**	P		**Pb**	**12 10 28.6**	**+0.1**
KZN				S		**Sb**	**12 10 34.0**	**+0.1**
	comp=N,1μm,0.2s							
KZN	**Kozani**	**0.35**	**126**	P		**Pb**	**12 10 28.6**	**+0.1**
KZN				S		**Sb**	**12 10 33.9**	**+0.1**
KZN				AML		AML	12 10 34.9	
	comp=E,3814μm,0.2s							
KZN				AML		AML	12 10 36.6	
	comp=N,3642μm,0.2s							
PENT	**Pentalofos**	**0.38**	**212**	P		**Pg**	**12 10 28.0**	**-0.2**
PENT				S		**Sg**	**12 10 33.9**	**+0.4**
PENT	**Pentalofos**	**0.38**	**212**	P		**Pg**	**12 10 28.0**	**-0.2**
PENT				S		**Sg**	**12 10 33.3**	**-0.2**
KPRO	**Kipourio**	**0.56**	**183**	P		**Pg**	**12 10 31.1**	**-0.6**
KPRO				AML		AML	12 10 45.0	
	comp=E,1081μm,0.4s							
KPRO				AML		AML	12 10 45.8	
	comp=N,670μm,0.2s							
LSK	**Leskovik**	**0.71**	**239**	P		**Pg**	**12 10 33.5**	**-0.9**
	baz=236							
LSK				S		**Sb**	**12 10 44.1**	**-0.1**
	baz=236							
LSK				AMP				
	comp=N,2.2nm,0.6s,baz=236							
OHR	**Ohrid**	**0.75**	**323**	*i* Pg		**Pg**	**12 10 34.9**	**-0.2**
OHR				*i* Sg		**Sn**	**12 10 47.0**	**-0.6**
OHR				*e*Lg		Lg	12 10 47.6	
	comp=N,194nm,0.5s							
GRG	**Griva**	**0.88**	**60**	P		**Pb**	**12 10 36.6**	**-0.9**
GRG				S		**Sg**	**12 10 50.3**	**+1.2**
	comp=N,205nm,0.3s							
GRG	**Griva**	**0.88**	**60**	*i* Pg		**Pb**	**12 10 36.8**	**-0.7**
GRG				*i* Sg		**Sn**	**12 10 51.1**	**+0.3**
GRG	**Griva**	**0.88**	**60**	P		**Pb**	**12 10 36.7**	**-0.7**
GRG				AML		AML	12 10 53.2	
	comp=N,455μm,0.4s							
GRG				AML		AML	12 10 53.5	
	comp=E,356μm,0.3s							
LIT	**Litokhoron**	**0.93**	**116**	P		**Pb**	**12 10 37.4**	**-0.9**
LIT				S		**Sn**	**12 10 52.0**	**-0.1**
LIT	**Litokhoron**	**0.93**	**116**	*i* Pg		**Pb**	**12 10 37.6**	**-0.8**
LIT	**Litokhoron**	**0.93**	**116**	P		**Pb**	**12 10 37.5**	**-0.9**
JAN	**Janina**	**0.96**	**206**	P		**Pb**	**12 10 38.7**	**-0.1**
JAN				S		**Sn**	**12 10 52.6**	**-0.1**
	comp=E,125nm,0.3s							
TYRN	**Tyrnavos**	**1.03**	**141**	P		**Pb**	**12 10 39.4**	**-0.6**
TYRN	**Tyrnavos**	**1.03**	**141**	P		**Pb**	**12 10 39.5**	**-0.4**
THL	**Klokotos Trika**	**1.06**	**153**	P		**Pb**	**12 10 39.4**	**-1.2**
THL				S		**Sg**	**12 10 54.9**	**0.0**
	comp=E,165nm,0.2s							
THL	**Klokotos Trika**	**1.06**	**153**	P		**Pb**	**12 10 39.3**	**-1.2**
THL				AML		AML	12 10 58.5	
	comp=N,301μm,0.3s							
THL				AML		AML	12 10 59.0	
	comp=E,315μm,0.4s							
VAY	**Valandovo**	**1.20**	**47**	*i* Pg		**Pg**	**12 10 42.1**	**-0.5**
VAY				*i* Sg		**Sg**	**12 11 00.3**	**+1.1**
VAY				*e*Lg		Lg	12 11 03.3	
	comp=E,49nm,0.6s							
THE	**Thessaloniki**	**1.20**	**84**	P		**Pn**	**12 10 42.1**	**-0.6**
THE				S		**Sb**	**12 10 58.5**	**+0.4**
THE	**Thessaloniki**	**1.20**	**84**	*i* Pg		**Pn**	**12 10 42.2**	**-0.4**
SRN	**Sarande**	**1.25**	**240**	P		**Pb**	**12 10 43.9**	**+0.3**
	baz=238							
SRN				S		**Sg**	**12 11 01.2**	**+0.4**
	baz=238							
SRN				AMP				
	comp=N,0.8nm,0.8s,baz=238							
IGT	**Igoumenitsa**	**1.28**	**220**	P		**Pb**	**12 10 44.5**	**+0.3**
	baz=218							
IGT				S		**Sg**	**12 11 02.7**	**+0.8**
	baz=218							
IGT	**Igoumenitsa**	**1.28**	**220**	*i* Pg		**Pg**	**12 10 45.1**	**0.0**
IGT				*i* Sg		**Sg**	**12 11 05.0**	**+3.1**
HORT	**Hortiatis**	**1.30**	**86**	P		**Pn**	**12 10 43.6**	**-0.5**
HORT				S		**Sb**	**12 11 01.1**	**0.0**
HORT	**Hortiatis**	**1.30**	**86**	P		**Pn**	**12 10 43.7**	**-0.5**
HORT				AML		AML	12 11 01.7	
	comp=E,68μm,0.4s							
HORT				AML		AML	12 11 05.7	
	comp=N,96μm,0.5s							
KNT	**Kendrikon**	**1.31**	**60**	P		**Pn**	**12 10 43.9**	**-0.3**
KNT	**Kendrikon**	**1.31**	**60**	*i* Pg		**Pb**	**12 10 45.2**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.60**	**159**	P		**Pn**	**12 10 48.2**	**-0.1**
AGG	**Agios Georgios**	**1.66**	**154**	P		**Pn**	**12 10 48.8**	**-0.2**
AGG				S		**Sn**	**12 11 10.9**	**+0.9**
AGG	**Agios Georgios**	**1.66**	**154**	P		**Pn**	**12 10 49.1**	**+0.1**
SRS	**Serrai**	**1.77**	**69**	P		**Pn**	**12 10 50.3**	**-0.2**
LKD2	**Lefkada island**	**1.82**	**199**	P		**Pb**	**12 10 52.7**	**-0.8**
	baz=197							
LKD2				S		**Sb**	**12 11 17.2**	**+1.1**
	baz=197							
PAIG	**Paliouri**	**1.84**	**108**	P		**Pn**	**12 10 51.2**	**-0.3**
PVO	**Paravola**	**1.90**	**177**	P		**Pn**	**12 10 51.5**	**-0.8**
KOKK	**Kokkinochori,**	**2.00**	**81**	P		**Pn**	**12 10 53.9**	**+0.2**
KOKK				S		**Sn**	**12 11 19.4**	**+1.0**
THAS	**Thassos island**	**2.53**	**87**	P		**Pn**	**12 11 01.7**	**+0.7**

IDC ***01*** *12:57:31.4±1.8,21.14S×68.31W,h119km±18km,mb3.6/3, mbtmp4.0/5,Error ellipse: s-maj=38.8km s-min=19.7km az=134.0*
GUC ***01*** *12:57:32.4±0.6,21.17S×68.57W,h135km±4km,ML3.9*

ISC 01 12:57:31.1±0.8,**21.11S**±0.04×**68.43W**±0.07,**h126**km±8km, **n27,σ1§45/44,9C-8D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PB01	**IPOC Station P**	**0.99**	**274**	⇓*i*P		**Pn**	**12 57 53.9**	**+0.4**
PB01				*i* S		**Sn**	**12 58 10.5**	**-0.1**
PB01				IAML			12 58 11.7	
	comp=N,2μm,0.2s							
PB09	**IPOC Station P**	**1.02**	**228**	⇓*i*P		**Pn**	**12 57 54.9**	**+1.0**
PB09				*i* S		**Sn**	**12 58 11.9**	**+0.6**
PB08	**IPOC Station P**	**1.18**	**325**	⇑*i*P		**Pn**	**12 57 57.6**	**+1.7**
PB08				*i* S		**Sn**	**12 58 16.5**	**+2.0**
PB08				IAML			12 58 18.2	
	comp=E,1μm,0.2s							
PB02	**IPOC Station P**	**1.38**	**261**	⇓*i*P		**Pn**	**12 57 57.9**	**+0.3**
PB02				*i* S		**Sn**	**12 58 17.0**	**-0.9**
PB02				IAML			12 58 19.2	
	comp=E,3μm,0.2s							
PB07	**IPOC Station P**	**1.49**	**245**	⇓*i*P		**Pn**	**12 57 59.0**	**+0.1**
PB07				*i* S		**Sn**	**12 58 19.2**	**-0.9**
PB07				IAML			12 58 20.9	
	comp=N,782nm,0.2s							
PB03	**IPOC Station P**	**1.54**	**233**	⇓*i*P		**Pn**	**12 57 59.6**	**+0.1**
PB03				*i* S		**Sn**	**12 58 20.1**	**-1.2**
PB03				IAML			12 58 21.1	
	comp=E,1μm,0.3s							
LVC	**Limon Verde**	**1.56**	**197**	P		**Pn**	**12 58 00.7**	**+0.7**
	comp=E,103nm,0.4s,baz=19,slow=9.7,SNR=277							
LVC				S		**Sn**	**12 58 21.5**	**-0.3**
	comp=E,186nm,0.3s,baz=354,slow=8.0,SNR=48							
LVC	**Limon Verde**	**1.56**	**197**	⇓*i*P		**Pn**	**12 58 00.6**	**+0.7**
LVC				*i* S		**Sn**	**12 58 21.6**	**-0.3**
GO01	**Chusmiza**	**1.60**	**333**	⇑*i*P		**Pn**	**12 58 02.2**	**+1.6**
GO01				IAML			12 58 27.2	
	comp=N,2μm,0.2s							
TA01	**Diego Aracena**	**1.73**	**288**	⇑*i*P		**Pn**	**12 58 01.4**	**-0.1**
TA01				*i* S		**Sn**	**12 58 23.8**	**-0.9**
TA01				IAML			12 58 25.6	
	comp=E,1μm,0.3s							
PB11	**IPOC Station P**	**1.77**	**319**	⇑*i*P		**Pn**	**12 58 02.8**	**+0.6**
PB11				*i* S		**Sn**	**12 58 26.4**	**+0.5**
PB11				IAML			12 58 27.9	
	comp=N,2μm,0.2s							
TA02	**Huaiquique**	**1.80**	**297**	*e*P		**Pn**	**12 58 02.6**	**+0.2**
TA02				*i* S		**Sn**	**12 58 25.5**	**-0.8**
TA02				IAML			12 58 28.9	
	comp=N,2μm,0.1s							
PB06	**IPOC Station P**	**1.91**	**214**	⇓*i*P		**Pn**	**12 58 04.1**	**+0.2**
PB06				*i* S		**Sn**	**12 58 28.1**	**-0.9**
PB06				IAML			12 58 28.9	
	comp=E,954nm,0.4s							
PB04	**IPOC Station P**	**2.01**	**232**	⇓*i*P		**Pn**	**12 58 04.6**	**-0.5**
PB04				*i* S		**Sn**	**12 58 29.1**	**-2.0**
PB04				IAML			12 58 31.5	
	comp=E,534nm,0.3s							
PSGC	**Pisagua**	**2.19**	**313**	⇑*i*P		**Pn**	**12 58 07.0**	**-0.3**
PSGC				*i* S		**Sn**	**12 58 33.6**	**-1.4**
PSGC				IAML			12 58 36.0	
	comp=E,488nm,0.4s							
MNMC	**Minye Minye**	**2.25**	**331**	⇑*i*P		**Pn**	**12 58 09.5**	**+1.2**
MNMC				IAML			12 58 41.5	
	comp=N,1μm,0.2s							
PB15	**IPOC Station P**	**2.30**	**205**	⇑*i*P		**Pn**	**12 58 09.2**	**+0.4**
PB15				*i* S		**Sn**	**12 58 37.0**	**-0.7**
PB16	**IPOC Station P**	**2.94**	**340**	⇑*i*P		**Pn**	**12 58 19.1**	**+1.7**
PB12	**IPOC Station P**	**3.06**	**324**	⇑*i*P		**Pn**	**12 58 17.7**	**-0.8**
PB12				*i* S		**Sn**	**12 58 54.4**	**-0.6**
PB12				IAML			12 58 57.4	
	comp=E,222nm,0.6s							
PB10	**IPOC Station P**	**3.10**	**219**	*e*P		**Pn**	**12 58 17.7**	**-1.1**
SIV	**San Ignacio**	**8.64**	**55**	P		**Pn**	**12 59 32.0**	**-1.2**
	comp=E,4.2nm,0.4s,baz=260,slow=8.2,SNR=37							
SIV				S		**Sn**	**13 01 02.7**	**-6.3**
	comp=E,0.8nm,0.8s,baz=326,slow=18,SNR=1.4							
CFA	**Coronel Fontan**	**10.45**	**179**	P		**Pn**	**12 59 54.7**	**-2.8**
	comp=E,1.1nm,0.3s,baz=7.7,slow=15,SNR=6.1							
CFA				S		Sn	13 01 40.7	-12
	comp=E,0.5nm,0.3s,baz=180,slow=16,SNR=1.8							
PLCA	**Paso Flores**	**19.64**	**185**	P		**P**	**13 01 50.6**	**+0.6**
	comp=E,2.7nm,0.8s,baz=21,slow=12,SNR=4.9							
BDFB	**Brasilia**	**20.12**	**78**	P		**P**	**13 01 55.7**	**+0.3**
	comp=E,1.8nm,0.4s,baz=263,slow=7.9,SNR=6.4							
	comp=E,1.8nm,0.4s							
TORD	**Torodi Ar. Bea**	**76.80**	**70**	P		**P**	**13 09 09.6**	**+0.2**
	comp=E,2.3nm,0.7s,baz=250,slow=4.5,SNR=13							
	comp=E,2.3nm,0.7s							
YKA	**Yellowknife Ar**	**90.97**	**340**	P		**P**	**13 10 21.3**	**+0.9**
	comp=E,0.4nm,0.6s,baz=129,slow=4.9,SNR=9.4							
	comp=E,0.4nm,0.6s							
MKAR	**Makanchi Array**	**145.06**	**36**	PKPbc		**PKPdf**	**13 16 54.7**	**+1.1**
	comp=E,1.3nm,0.7s,baz=330,slow=2.8,SNR=4.8							

IDC ***01*** *12:59:01.1±3.3,30.10S×176.88W,h0km,mb3.8/3, mbtmp3.8/4,ML3.1/1,Error ellipse: s-maj=74.5km s-min=37.8km az=116.0*

ISC 01 12:59:03.4±2.8,**30.1S**±0.2×**176.7W**±0.4,**h24**km,**n5, σ1§09/6,mb4.0/3,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
URZ	**Urewera**	**9.65**	**210**	Pn		**Pn**	**13 01 19.6**	**-1.1**
	0.2nm,0.3s,baz=216,slow=17,SNR=1.1							
URZ				Sn		**Sn**	**13 03 09.5**	**+1.2**
	0.5nm,0.3s,baz=258,slow=11,SNR=1.8							
	3.5nm,0.7s							
STKA	**Stephens Creek**	**35.65**	**256**	P		**P**	**13 05 59.6**	**+0.1**
	1.7nm,0.9s,baz=98,slow=15,SNR=1.6							
	1.7nm,0.9s							
ASAR	**Alice Springs**	**44.24**	**266**	P		**P**	**13 07 11.2**	**0.0**
	0.3nm,0.5s,baz=105,slow=7.1,SNR=20							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**45.20**	**271**	P		**P**	**13 07 18.5**	**-0.3**
	0.8nm,0.4s,baz=113,slow=6.8,SNR=16							
	0.8nm,0.4s							
FINES	**FINESS Array B**	**145.19**	**341**	PKPbc		**PKPdf**	**13 18 39.0**	**+0.9**
	2.7nm,1.0s,baz=46,slow=4.0,SNR=4.5							

BGR ***01*** *13:03:45.8±2.3,33.45N×27.54E,h10km,mb4.3,Error ellipse: s-maj=73.4km s-min=68.9km az=44.0*
DDA ***01*** *13:03:54.8±0.0,34.60N×26.92E,h7km±3km,MW4.6*
ISK ***01*** *13:03:59.9,34.95N×27.18E,h5km,ML4.7/23*
IDC ***01*** *13:04:00.1±0.5,35.10N×26.99E,h0km,mb4.7/35, mbtmp4.6/43,ML4.0/8,MS4.2/67,Error ellipse: s-maj=11.9km s-min=9.5km az=156.0*
HLW ***01*** *13:04:00.1,35.14N×27.21E,h25km±11km,Md4.6,Ml5.0*
MOS ***01*** *13:04:00.5±1.4,34.78N×27.02E,h23km,mb5.1/66, MS4.4/14,Error ellipse: s-maj=4.1km s-min=2.2km az=104.7*
NEIC ***01*** *13:04:01.9±1.2,34.99N±0.07×27.04E±0.06,h10km±1km, mb4.9/188,Error ellipse: s-maj=11.7km s-min=8.8km az=187.0*
GCMT ***01*** *13:04:01.9±0.3,34.93N±0.01×26.96E±0.02,h14km±1km, MW4.9/110,Moment Tensor Solution. s31,c36; s110,c157; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.87±.10; Mθθ-2.49±.09; Mϕϕ1.62±.07; Mrθ-0.06±.16; Mθϕ1.74±.08; Mrϕ-0.85±.20; Best double couple: M₀2.88900×10¹⁶ NP1:ϕ₁152.00000°,δ75.00000°, λ159.00000°. NP2:ϕ₂248.00000°,δ70.00000°,λ16.00000°. Principal axes: T 2.6360, Plg25.0000°, Azm109.0000°; N 0.5040, Plg65.0000°, Azm298.0000°; P -3.1420, Plg3.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ATH ***01*** *13:04:01.9,34.90N×27.08E,h7km±4km,ML4.4/5 Error ellipse: s-maj=14.2km s-min=2.1km az=321.0*
THE ***01*** *13:04:01.7,34.89N×27.06E,h0km±2km,ML4.6/7,Error ellipse: s-maj=4.6km s-min=1.2km az=150.0*
MED_RC ***01*** *13:04:03.0±0.3,34.95N×26.93E,h21km±1km,MW5.0/29, Moment Tensor Solution. Body waves: s4,c4;Mantle waves: s29,c44; Duration: 1§1 Moment tensor: Scale 10¹⁶Nm; Mrr0.75±.17; Mθθ-2.62±.11; Mϕϕ1.87±.14; Mrθ1.15±.23; Mθϕ1.69±.12; Mϕr-1.74±.27; Best double couple: M₀3.52000×10¹⁶ NP1:ϕ₁149.00000°,δ83.00000°, λ141.00000°. NP2:ϕ₂245.00000°,δ52.00000°,λ9.00000°. Principal axes: T 3.2400, Plg32.0000°, Azm99.0000°; N 0.5800, Plg51.0000°, Azm321.0000°; P -3.8100, Plg21.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
GII ***01*** *13:04:03.0±0.0,34.36N×27.28E,h1km,mb4.3/6,MD4.1/6, Mm4.3/3*

ISC 01 13:04:01.8±0.7,**34.88N**±0.03×**27.05E**±0.02,**h14**km±3km, **n938,σ1§65/968,mb4.9/201,MS4.2/65,35C-43D,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
KARP	**Karpathos**	**0.67**	**8**	Pg		**Pg**	**13 04 13.9**	**-0.9**
KARP	**Karpathos**	**0.67**	**8**	P		**Pg**	**13 04 14.1**	**-0.8**
KARP				S		**Sn**	**13 04 26.2**	**-0.9**
	59μm,0.8s							
KARP	**Karpathos**	**0.67**	**8**	Pg		**Pg**	**13 04 12.3**	**-2.6**
KARP	**Karpathos**	**0.67**	**8**	P		**Pg**	**13 04 14.1**	**-0.8**
KARP	**Karpathos**	**0.67**	**8**	P		**Pg**	**13 04 14.1**	**-0.8**
KARP				S		**Sg**	**13 04 23.5**	**-0.3**
KARP				AML		AML	13 04 30.6	
	comp=N,91049μm,0.7s							
KARP				AML		AML	13 04 34.0	
ZKR	**Zakros**	**0.72**	**289**	P		**Pb**	**13 04 16.2**	**+0.1**
ZKR				S		**Sn**	**13 04 28.4**	**0.0**
	comp=N,18μm,0.6s							
ZKR	**Zakros**	**0.72**	**289**	Pg		**Pg**	**13 04 15.7**	**-0.2**
ZKR				Sg		**Sn**	**13 04 29.2**	**+0.8**
ZKR	**Zakros**	**0.72**	**289**	P		**Pb**	**13 04 16.4**	**+0.3**
ZKR				AML		AML	13 04 37.5	
ZKR				AML		AML	13 04 39.4	
	comp=N,25419μm,0.6s							
ZKR				AML		AML	13 04 39.4	
	comp=E,45079μm,0.6s							
FRMA	**Ierapetra Chan**	**1.09**	**277**	P		**Pb**	**13 04 20.2**	**-2.2**
FRMA				S		**Sn**	**13 04 39.0**	**+1.6**
FRMA	**Ierapetra Chan**	**1.09**	**277**	P		**Pb**	**13 04 20.4**	**-2.0**
FRMA				AML		AML	13 04 51.5	
	comp=N,37582μm,0.9s							
FRMA				AML		AML	13 04 56.0	
	comp=E,40828μm,0.9s							
ARG	**Arkhangelos**	**1.59**	**33**			**Pn**	**13 04 29.1**	**-0.4**
ARG	**Arkhangelos**	**1.59**	**33**	P		**Pn**	**13 04 29.2**	**-0.3**
ARG				S		**Sg**	**13 04 53.7**	**+0.6**
	comp=E,13μm,1.2s							
ARG	**Arkhangelos**	**1.59**	**33**	Pn		**Pn**	**13 04 28.7**	**-0.8**
ARG	**Arkhangelos**	**1.59**	**33**	P		**Pn**	**13 04 29.1**	**-0.4**
ARG	**Arkhangelos**	**1.59**	**33**	P		**Pb**	**13 04 30.3**	**-0.7**
ARG				AML		AML	13 05 03.9	
	comp=N,26392μm,1.1s							
ARG				AML		AML	13 05 06.0	
	comp=E,26717μm,1.3s							
HRKL	**Herakleio**	**1.66**	**285**	P		**Pb**	**13 04 31.4**	**-0.6**
HRKL				S		**Sn**	**13 04 52.0**	**+0.6**
	comp=E,23μm,0.9s							
HRKL	**Herakleio**	**1.66**	**285**	Pn		**Pb**	**13 04 32.6**	**+0.6**
NISR	**Nisiros**	**1.73**	**2**	P		**Pn**	**13 04 31.4**	**+0.1**
NISR				S		**Sn**	**13 04 53.5**	**+0.4**
	comp=E,12μm,0.8s							
NISR	**Nisiros**	**1.73**	**2**	P		**Pn**	**13 04 31.2**	**-0.1**
NISR				AML		AML	13 05 15.7	
	comp=N,16471μm,0.8s							
NISR				AML		AML	13 05 20.2	
	comp=E,27606μm,0.9s							
KOSK	**Kos Island**	**1.86**	**358**	P		**Pn**	**13 04 33.6**	**+0.4**
KOSK				S		**Sb**	**13 04 59.4**	**+0.7**
	comp=E,8μm,0.7s							
KOSK	**Kos Island**	**1.86**	**358**	Pn		**Pn**	**13 04 33.4**	**+0.2**
KOSK	**Kos Island**	**1.86**	**358**	P		**Pn**	**13 04 33.5**	**+0.2**
DAT	**Datca**	**1.89**	**13**	P		**Pn**	**13 04 34.2**	**+0.5**
DAT				S		**Sb**	**13 04 58.7**	**-0.9**
DAT	**Datca**	**1.89**	**13**	Pn		**Pn**	**13 04 33.4**	**-0.3**
DAT				Sn		**Sn**	**13 04 57.7**	**+0.3**
SANT	**Santorini**	**1.97**	**319**			**Pn**	**13 04 33.4**	**-1.3**
SANT	**Santorini**	**1.97**	**319**	P		**Pb**	**13 04 36.7**	**-0.8**
SANT				S		**Sb**	**13 05 02.4**	**+0.5**
	comp=E,9μm,1.3s							
SANT	**Santorini**	**1.97**	**319**	Pn		**Pb**	**13 04 36.1**	**-1.4**
SFIR	**Foira Santorin**	**2.03**	**320**	P		**Pn**	**13 04 36.7**	**+1.2**
THT2	**Imerovigli**	**2.04**	**320**	P		**Pn**	**13 04 35.9**	**+0.2**
THT2	**Imerovigli**	**2.04**	**320**	Pn		**Pn**	**13 04 37.1**	**+1.4**
CMBO	**Columbo, Santo**	**2.08**	**320**	P		**Pn**	**13 04 37.6**	**+1.5**
BODT	**Bodrum**	**2.18**	**5**	P		**Pn**	**13 04 37.9**	**+0.2**
BODT	**Bodrum**	**2.18**	**5**	Pn		**Pn**	**13 04 37.8**	**+0.1**
DALY	**Dalyan (Mula)**	**2.33**	**34**	Pn		**Pn**	**13 04 39.4**	**-0.2**
FETY	**Fethiye**	**2.41**	**43**	Pn		**Pn**	**13 04 40.3**	**-0.4**
KSL	**Kastellorizon**	**2.42**	**58**	P		**Pn**	**13 04 42.1**	**+1.2**
GVDS	**Gavdos**	**2.44**	**270**	P		**Pn**	**13 04 42.6**	**+1.5**
GVDS	**Gavdos**	**2.44**	**270**	Pn		**Pb**	**13 04 44.2**	**-1.1**
GVD	**Gavdhos**	**2.44**	**270**	Pn		**Pb**	**13 04 43.9**	**-1.5**
YER	**Yerkesik**	**2.46**	**24**	P		**Pn**	**13 04 42.6**	**+1.1**
YER	**Yerkesik**	**2.46**	**24**	Pn		**Pn**	**13 04 41.4**	**-0.1**
YER	**Yerkesik**	**2.46**	**24**	P		**Pn**	**13 04 42.7**	**+1.2**
MLSB	**Milas**	**2.48**	**13**	Pn		**Pn**	**13 04 41.7**	**0.0**
AKAS	**Kas**	**2.48**	**56**			**Pn**	**13 04 41.6**	**-0.3**
AKAS	**Kas**	**2.48**	**56**	Pn		**Pn**	**13 04 41.2**	**-0.6**
APE	**Apeiranthos**	**2.51**	**331**	⇓P		**Pb**	**13 04 45.1**	**-1.5**
APE	**Apeiranthos**	**2.51**	**331**	P		**Pn**	**13 04 44.2**	**+2.1**
APE	**Apeiranthos**	**2.51**	**331**	Pn		**Pn**	**13 04 43.4**	**+1.3**
APE	**Apeiranthos**	**2.51**	**331**	*c* *i*P		**Pn**	**13 04 44.3**	**+2.1**
IMMV	**Iera Moni Meta**	**2.58**	**284**	Pn		**Pb**	**13 04 45.7**	**-2.1**
KNDR	**Palaiochora Ch**	**2.78**	**278**	P		**Pb**	**13 04 49.2**	**-2.1**
KNDR	**Palaiochora Ch**	**2.78**	**278**	Pn		**Pb**	**13 04 48.9**	**-2.4**
GCAM	**G?zelcaml?**	**2.81**	**3**	Pn		**Pn**	**13 04 47.1**	**+0.8**
SMG	**Samos**	**2.83**	**357**	P		**Pn**	**13 04 46.9**	**+0.4**
ELL	**Elmali**	**2.98**	**50**			**Pn**	**13 04 48.5**	**-0.1**
ELL	**Elmali**	**2.98**	**50**	Pn		**Pn**	**13 04 48.3**	**-0.3**
ELL	**Elmali**	**2.98**	**50**	P		**Pn**	**13 04 48.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**3.13**	**12**	Pn		**Pn**	**13 04 50.9**	**+0.1**
APMY	**Acipayam-Deniz**	**3.16**	**35**	Pn		**Pn**	**13 04 51.0**	**-0.1**
DGB	**zmir**	**3.17**	**358**	P		**Pn**	**13 04 51.3**	**+0.2**
DGB				S		**Sg**	**13 05 44.8**	**+1.3**
DGB				*i* AML		AML	13 06 00.0	
	comp=E,585nm,1.3s							
ZEYE	**Izmir, Urla-Ze**	**3.38**	**353**	P		**Pn**	**13 04 54.3**	**+0.2**
URLA	**Izmir**	**3.49**	**354**	Pn		**Pn**	**13 04 56.6**	**+1.0**
BLCB	**Balcova**	**3.50**	**360**	P		**Pn**	**13 04 56.4**	**+0.8**
BLCB	**Balcova**	**3.50**	**360**	Pn		**Pn**	**13 04 56.4**	**+0.8**
MATC	**Matruh**	**3.53**	**178**	P		**Pn**	**13 04 57.1**	**+1.0**
	baz=179							
CHOS	**Chios island**	**3.59**	**347**	P		**Pn**	**13 04 57.7**	**+0.7**
CHOS	**Chios island**	**3.59**	**347**	Pn		**Pn**

THE Thessaloniki 6.59 332 P Pn 13 05 41.5 +3.4
THE pmax pmax
comp=Z,119nm,1.1s
GLL Jalalah 6.60 142 P Pn 13 05 37.4 -1.0
baz=144
SOH Sokhos 6.61 335 P Pn 13 05 42.6 +4.1
SOH pmax pmax
comp=Z,34nm,0.9s
BR231 Keskin MP Arra 6.73 41 Pn 13 05 40.1 -0.1
ANTO Ankara 6.76 41 Pn 13 05 40.7 +0.2
ANTO Ankara 6.76 41 P Pn 13 05 40.7 +0.2
SRS Serrai 6.80 337 P Pn 13 05 44.1 +3.1
SRS pmax pmax
comp=Z,47nm,1.1s
KDZ Kurdzhali 6.88 350 P Pn 13 05 42.4 +0.3
NVR Nevrokopi 6.93 340 P Pn 13 05 47.0 +4.2
HNTI Hanita 6.98 103 Pn Pn 13 05 43.2 -0.4
RZN Rozhen 7.04 346 P Pn 13 05 45.4 +0.9
KNT Kendrikon 7.07 334 P Pn 13 05 48.4 +3.6
KNT Kendrikon 7.07 334 P Pn 13 05 48.7 +3.9
KNT pmax pmax
comp=Z,94nm,1.0s
GRG Griva 7.09 330 P Pn 13 05 48.2 +3.1
GRG Griva 7.09 330 P Pn 13 05 48.4 +3.3
GRG pmax pmax
comp=Z,138nm,1.1s
IGT Igoumenitsa 7.09 313 P Pn 13 05 45.3 +0.3
IGT pmax pmax
comp=Z,57nm,1.0s
BLGI Bet Lehem HaGe 7.11 105 P Pg 13 06 26.9 +9.1
BR131 Keskin Array S 7.13 45 Pn 13 05 45.6 -0.1
BR131 Keskin Array S 7.13 45 *i* P Pn 13 05 45.9 +0.1
BRTR Keskin Array B 7.13 45 Pn Pn 13 05 45.9 +0.1
comp=Z,1.2nm,0.3s,baz=211,slow=12,SNR=125
BRTR Sn **Sn 13 07 06.5 -0.1**
comp=Z,0.3nm,0.3s,baz=205,slow=23,SNR=2.0
comp=Z,27nm,0.8s
BRTR Keskin Array B 7.13 45 Pn 13 05 45.7 -0.1
DQRL Deir Qamar 7.15 97 *e*P Pn 13 05 45.7 -0.2
BHL Bhannes 7.18 95 *e*P Pn 13 05 45.1 -1.2
MMA0B Mount Meron ar 7.18 103 Pn Pn 13 05 46.2 -0.2
MMA0B Sn **Sn 13 07 06.2 -1.7**
MMAI Mount Meron Ar 7.18 103 Pn Pn 13 05 44.0 -2.4
comp=Z,7.8nm,0.3s,baz=283,slow=11,SNR=11
MMAI Sn **Sn 13 07 07.7 -0.2**
comp=Z,5.0nm,0.3s,baz=308,slow=21,SNR=1.9
MMAI LR LR 13 09 45.8
comp=Z,628nm,21.1s,baz=147,slow=48
MMB Musomiste 7.19 340 P Pn 13 05 50.2 +3.8
KDZE Karadeniz Ereo 7.29 27 ⇑P Pn 13 05 50.1 +2.3
VAY Valandovo 7.33 333 *i* P Pn 13 05 52.4 +4.1
KZIT Kziot 7.34 121 Pn Pn 13 05 46.1 -2.4
HWQ Hawqa 7.36 92 *e*P Pn 13 05 47.9 -1.0
ZAHL Zahle 7.38 95 *e*P Pn 13 05 46.9 -2.2
ZNM Zenema 7.38 136 P Pn 13 05 47.7 -1.4
baz=138
AMAZ Amatzia 7.39 115 Pn Pn 13 05 47.3 -1.9
MMLI Mount Malkishu 7.39 107 Pn Pn 13 05 47.2 -2.0
MMLI Sn **Sn 13 07 09.6 -3.3**
FNA Florina 7.41 324 P Pn 13 05 53.1 +3.7
FNA pmax pmax
comp=Z,37nm,0.8s
PLD Plovdiv 7.44 346 P Pn 13 05 53.1 +3.3
PLD pmax pmax
comp=Z,175nm,1.3s
KEK Kerkira 7.53 312 Pn 13 05 50.7 -0.3
HMDT Nahal Hemdat 7.54 108 Pn Pn 13 05 49.8 -1.5
HMDT Sn **Sn 13 07 13.8 -2.8**
YTIR Yattir 7.62 115 Pn Pn 13 05 50.5 -1.9
YTIR Sn **Sn 13 07 14.3 -4.3**
KKB Krupnik 7.64 337 P Pn 13 05 55.8 +3.3
DSI Dead Sea 7.72 113 P Pn 13 05 41.5 -12
STIP Stip 7.80 332 P Pn 13 05 59.2 +4.4
MDBI Mazsada 7.83 115 P Pn 13 05 53.2 -1.9
MSBI Mazada 7.83 115 Pn Pn 13 05 53.1 -2.0
MSBI Sn **Sn 13 07 18.8 -4.6**
TAMRE El Minia 7.90 154 P Pn 13 05 55.9 -0.4
baz=155
OHR Ohrid 7.94 323 *i* P Pn 13 06 03.9 +7.2
LISJ El Lisan 7.95 115 P Pn 13 05 56.0 -0.8
KRMI Paran Flat 8.03 124 Pn Pn 13 05 55.6 -2.5
KRMI Sn **Sn 13 07 22.5 -6.2**
WALJ Wala 8.05 112 P Pn 13 05 56.8 -1.4
BNN Bunyan 8.08 58 Pn 13 05 59.8 +0.9
PRNI Paran 8.09 122 Pn Pn 13 05 56.1 -2.7
PRNI Sn **Sn 13 07 25.0 -5.0**
PRNI Paran 8.09 122 P Pn 13 05 57.7 -1.1
ZFRI Zfri 8.09 120 Pn Pn 13 05 55.9 -2.9
ZFRI Sn **Sn 13 07 22.7 -7.4**
KARJ KARJ 8.14 115 Pn Pn 13 05 52.3 -7.2
VTS Vitosha 8.28 340 P Pn 13 06 02.8 +1.3
HRFI Mount Harif 8.30 123 Pn Pn 13 05 59.3 -2.4
HRFI Sn **Sn 13 07 29.5 -5.7**
PRD Provadia 8.31 2 P Pn 13 06 02.6 +0.9
SKO Skopje 8.33 330 *i* P Pn 13 06 12.0 +10
MBRI Mt Berech 8.36 125 Pn Pn 13 06 01.0 -1.6
MBRI Mt Berech 8.36 125 P Pn 13 06 01.5 -1.1
SZH Strazhica 8.42 354 P Pn 13 06 04.4 +1.2
EIL Elat 8.47 126 Pn Pn 13 06 02.8 -1.2
comp=Z,2.5nm,0.3s,baz=311,slow=4.7,SNR=17
EIL Sn **Sn 13 07 33.5 -5.9**
comp=Z,9.9nm,0.3s,baz=272,slow=9.2,SNR=6.0
EIL Elat 8.47 126 Pn Pn 13 06 01.8 -2.2
EIL Sn **Sn 13 07 33.6 -5.7**
AQBJ Aqaba 8.50 125 P Pn 13 06 05.1 +0.7
GAZ Gaziantep 8.54 72 Pn Pn 13 06 06.5 +1.4
SCTE Santa Cesarea 8.56 310 Pn 13 06 04.1 -1.2
TIR Tirane 8.58 321 ⇑P Pn 13 06 06.2 +0.7
TIR Tirane 8.58 321 P Pn 13 06 06.2 +0.7
HSNJ Maan 8.62 120 P Pn 13 06 07.0 +0.8
HBST Basata 8.62 129 P Pn 13 06 04.9 -1.2
baz=130
ASF Jabal al Asfar 8.65 105 Pn Pn 13 06 04.2 -2.4
comp=Z,0.8nm,0.3s,baz=293,slow=10,SNR=3.1
ASF Sn **Sn 13 07 44.1 +0.1**
comp=Z,0.9nm,0.3s,baz=276,slow=19,SNR=1.6
HKAT Jabal Katrina 8.67 135 P Pn 13 06 05.4 -1.5
baz=137
RAZG Razgrad 8.68 357 ⇓P Pn 13 06 09.4 +2.5
PLVB Pleven 8.70 348 ⇓P Pn 13 06 09.5 +2.4
NUB Nuweibaa 8.70 130 P Pn 13 06 05.9 -1.2
baz=132
HDHB Dhahab 8.90 132 P Pn 13 06 08.7 -1.2
baz=133
ICOR Ion Corvin 9.24 3 ⇓P Pn 13 06 18.2 +3.7
TIP Timpagrande 9.28 301 ⇓P Pn 13 06 14.5 -0.7
TIP Timpagrande 9.28 301 Pn Pn 13 06 14.6 -0.6
RASA Rasa 9.32 0 ⇑P Pn 13 06 18.9 +3.4
VLAD Vladila 9.33 348 ⇑P Pn 13 06 18.5 +2.8
COPA Copaceanca 9.35 352 ⇓P Pn 13 06 18.4 +2.5
DRME Dracevica, Mon 9.54 322 *e*Pn Pn 13 06 17.8 -0.9
LEHL Lehliu 9.58 359 ⇑P Pn 13 06 23.7 +4.6
CEL Celeste 9.59 294 Pn 13 06 18.0 -1.4
TIRR Tirgusor 9.62 6 ⇓P Pn 13 06 21.9 +2.2
TIRR Tirgusor 9.62 6 ⇓P Pn 13 06 21.9 +2.2
TIRR Tirgusor 9.62 6 P Pn 13 06 21.9 +2.2
BOVS Bovan 9.67 336 ⇓P Pn 13 06 23.9 +3.5
TLBR Topalu 9.68 4 ⇓P Pn 13 06 23.0 +2.5
PDG Podgorica 9.69 323 ⇑P Pn 13 06 20.8 +0.2
PDG Podgorica 9.69 323 Pn Pn 13 06 18.7 -1.9
HUMR Humele 9.76 351 ⇑P Pn 13 06 24.2 +2.5
SULR 9.80 357 ⇓P Pn 13 06 24.7 +2.5
HARR Harsova 9.82 4 ⇑P Pn 13 06 24.7 +2.2
HARR Harsova 9.82 4 P Pn 13 06 24.6 +2.2
MATE Matera 10.01 308 ⇓P Pn 13 06 25.6 +0.6
PGOR Pogoanele 10.01 360 ⇓P Pn 13 06 29.4 +4.3
TPGR Topolog 10.02 6 ⇓P Pn 13 06 27.2 +2.0
HCY Herceg Novi 10.09 321 *e*Pn Pn 13 06 25.4 -0.7
SRE Strehaia 10.20 344 ⇑P Pn 13 06 29.2 +1.5
SRE Strehaia 10.20 344 P Pn 13 06 29.2 +1.5
CFR Carcaliu 10.32 4 ⇑P Pn 13 06 32.2 +2.9
CFR Carcaliu 10.32 4 P Pn 13 06 32.1 +2.9
TLCR 10.38 7 ⇓P Pn 13 06 33.7 +3.6
TLCR 10.38 7 P Pn 13 06 33.6 +3.6
BRY Bratogost 10.39 323 *e*Pn Pn 13 06 26.5 -3.9
UPM Unac-Piva 10.44 325 *e*Pn Pn 13 06 30.2 -1.0
GRER 10.48 360 ⇑P Pn 13 06 35.9 +4.3
RAFF Raffo Rosso 10.54 286 Pn 13 06 32.3 0.0
VAE Valguarnera 10.54 288 Pn Pn 13 06 33.4 +0.9
comp=Z,0.9nm,0.3s,baz=182,slow=5.6,SNR=6.9
VAE Sn **Sn 13 08 25.6 -4.7**
comp=Z,1.4nm,0.3s,baz=106,slow=7.4,SNR=2.0
VAE LR LR 13 11 16.7
comp=Z,773nm,19.6s,baz=94,slow=42
comp=Z,11nm,0.8s
RUDO Rudo 10.56 328 *e*Pn Pn 13 06 31.4 -1.2
MLR Muntele Rosu 10.63 356 Pn Pn 13 06 31.2 -2.4
comp=Z,0.1nm,0.3s,baz=143,slow=15,SNR=2.3
MLR LR LR 13 11 03.6
comp=Z,1µm,18.2s,baz=183,slow=41
comp=Z,5.7nm,0.9s
MLR Muntele Rosu 10.63 356 ⇓P Pn 13 06 36.6 +2.9
MLR Muntele Rosu 10.63 356 P Pn 13 06 36.5 +2.9
ARR Arges 10.63 351 ⇓P Pn 13 06 37.2 +3.5
VOIR 10.65 352 ⇑P Pn 13 06 36.9 +3.0
VOIR 10.65 352 P Pn 13 06 36.9 +3.0
DIVS Divibare 10.69 331 Pn Pn 13 06 33.2 -1.3
DIVS Divibare 10.69 331 *e*Pn Pn 13 06 35.5 +1.0
MDVR Moldovita 10.70 339 ⇑P Pn 13 06 37.5 +2.9
BBLS Lazići 10.74 329 *e*Pn Pn 13 06 28.4 -6.7
STON Ston 10.80 320 *e*Pn Pn 13 06 32.6 -3.2
LOT Lotru 10.85 348 ⇓P Pn 13 06 38.7 +2.0
ODBI Odobesti 10.87 0 ⇑P Pn 13 06 41.1 +4.3
PLOR Plostina 10.96 359 ⇓P Pn 13 06 41.7 +3.5
PLOR Plostina 10.96 359 P Pn 13 06 41.6 +3.5
COVR Voineasa-Covas 10.97 357 ⇑P Pn 13 06 40.9 +2.7
VRI Vrincioaia 10.97 359 ⇑P Pn 13 06 42.5 +4.2
VRI Vrincioaia 10.97 359 P Pn 13 06 42.4 +4.2
VLDR Vladesti 10.98 4 ⇓P Pn 13 06 42.3 +4.0
GZR Gura Zlata 10.99 344 ⇑P Pn 13 06 42.3 +3.8
DOPR Dopca 11.14 354 ⇓P Pn 13 06 42.4 +1.8
GHRR 11.17 1 ⇓P Pn 13 06 44.6 +3.7
SGRT San Giovanni R 11.22 311 Pn Pn 13 06 38.9 -2.8
OZUR 11.24 355 ⇓P Pn 13 06 44.0 +2.1
SIM Simferopol' 11.42 26 *e*P Pn 13 06 46.3 +2.0
SIM *e*S **Sn 13 08 55.9 +4.3**
SIM pmax pmax
comp=E,59µm,0.9s
DEV Deva 11.43 345 ⇓P Pn 13 06 48.3 +3.7
DEV Deva 11.43 345 P Pn 13 06 48.2 +3.7
SURR Surduc 11.49 342 ⇑P Pn 13 06 48.8 +3.5
BZS Buzias 11.49 341 ⇓P Pn 13 06 48.2 +2.9
BZS Buzias 11.49 341 P Pn 13 06 48.2 +2.9
PAOL Paolisi 11.60 306 Pn 13 06 46.5 -0.5
TESR Tescani 11.62 359 ⇑P Pn 13 06 51.4 +4.3
FRGS Fruska Gora 11.66 334 ⇓P Pn 13 06 49.4 +1.8
FRGS Fruska Gora 11.66 334 *e*Pn Pn 13 06 48.8 +1.1
SRKY Kupres RS 11.93 323 *e*Pn Pn 13 06 35.9 -16
SIRR Siria 12.08 342 ⇓P Pn 13 06 57.1 +3.6
MILM Milestii Mici 12.10 6 *e*P Pn 13 06 57.0 +3.4
comp=E,60nm,1.4s
MILM *e*S **Sn 13 09 13.0 +4.8**
MILM *e*L L 13 10 05.0
MILM LQM 13 11 00.0
comp=E,3µm,16.5s
MILM LRM MLR 13 12 05.0
comp=E,2µm,11.0s
MILM Milestii Mici 12.10 6 *e*P Pn 13 06 57.0 +3.4
MILM *e*S **Sn 13 09 13.0 +4.8**
MILM pmax pmax
comp=Z,60nm,1.4s
MILM MLR MLR
comp=Z,2µm,12.0s
MILM MLR MLR
comp=N,2µm,11.0s
CJR Cluj-Napoca 12.10 349 ⇓P Pn 13 06 57.1 +3.4
CJR Cluj-Napoca 12.10 349 P Pn 13 06 57.1 +3.4
MARR Marisel-Cluj 12.15 347 ⇑P Pn 13 06 57.1 +2.6
DRGR 12.34 346 P Pn 13 06 59.4 +2.4
DRGR pmax pmax
comp=Z,17nm,0.9s
BLY Banja Luka 12.42 325 *e*Pn Pn 13 06 55.4 -2.7
INTR Introdacqua 12.52 309 Pn 13 06 58.7 -0.7
A050A Klekovaca 12.54 323 *e*Pn Pn 13 06 57.2 -2.6
A051A Mrakovica 12.75 326 *e*Pn Pn 13 06 59.9 -2.7
BURAR Bucovina Array 12.79 354 ⇑P Pn 13 07 07.4 +4.2
BURAR Bucovina Array 12.79 354 P Pn 13 07 07.4 +4.2
MORH Mrgy, Hungar 12.99 333 ⇓P Pn 13 07 08.5 +2.7
AQU L'Aquila 13.01 309 P Pn 13 07 08.2 +2.0
AQU pmax pmax
comp=Z,37nm,1.2s
SOC Sochi 13.10 45 *e*P Pn 13 07 04.3 -3.0
SOC *e*SS Sn 13 09 43.8 +11
SOC MLR MLR
comp=Z,778nm,15.0s
CAMP Campotosto 13.10 310 Pn 13 07 06.1 -1.3
FDMO Fiordimonte 13.56 311 Pn 13 07 11.7 -2.0
CESX Cesi 13.67 309 Pn 13 07 12.4 -2.6
BOJS Bojanci 13.91 323 *e*Pn Pn 13 07 16.1 -2.2
MURB Monte Urbino 14.03 311 Pn 13 07 20.1 0.0
CRES Cresnjev 14.04 325 *e*Pn Pn 13 07 16.3 -3.9
UZH Uzhgorod 14.18 347 *e*P P 13 07 25.9 -3.6
UZH *e*S **Sn 13 10 01.9 +2.8**
UZH MLR MLR
comp=N,500nm,13.0s
UZH MLR MLR
comp=E,1µm,13.0s
UZH MLR MLR
comp=Z,260nm,13.0s
SRO Srobarova 14.47 336 P Pn 13 07 28.7 +2.6
SRO pmax pmax
comp=Z,85nm,1.2s
SRO Srobarova 14.47 336 *e*PN P 13 07 33.6 +0.8
CEY Cerknica 14.48 322 *e*Pn Pn 13 07 23.7 -2.6
KEST Kesra 14.49 278 Pn Pn 13 07 27.1 +0.7
comp=Z,0.3nm,0.3s,baz=72,slow=10,SNR=6.5
KEST Sn **Sn 13 10 03.2 -3.6**
comp=Z,0.3nm,0.3s,baz=52,slow=19,SNR=1.6
comp=Z,11nm,1.1s
KEST Kesra 14.49 278 Pn 13 07 26.5 +0.1
SKDS Skadanscina 14.56 321 *e*Pn Pn 13 07 22.9 -4.4
NEY Neytrino 14.75 51 *i* P Pn 13 07 30.9 +0.9
CASP Castiglione de 14.87 307 Pn Pn 13 07 30.7 -0.8
VYHS Vyhne 14.91 338 *e*P Pn 13 07 34.0 +2.0
VYHS Vyhne 14.91 338 *e*PN Pn 13 07 34.0 +2.0
ONI Oni 14.92 54 Pn 13 07 31.5 -0.7
ONI Oni 14.92 54 P Pn 13 07 31.5 -0.7
SHA1 Shidzhatmaz 14.95 49 *i* P Pn 13 07 35.0 +2.2
OSSC Osservatorio P 14.97 310 Pn 13 07 31.6 -1.2
OBKA Obir 14.97 325 *e*Pn Pn 13 07 33.1 +0.2
comp=Z,6.8nm,0.8s
OBKA Obir 14.97 325 *e*Pn Pn 13 07 31.4 -1.5
GNI Garni 14.98 64 Pn P 13 07 39.2 +0.6
comp=Z,0.6nm,0.3s,baz=49,slow=4.3,SNR=7.1
GNI LR LR 13 14 43.3
comp=Z,1µm,19.9s,baz=274,slow=43
GNI Garni 14.98 64 P 13 07 37.6 -1.1
GNI Garni 14.98 64 P P 13 07 39.4 +0.7
SOP Sopron 15.01 332 P Pn 13 07 34.5 +1.2
SOP pmax pmax
comp=Z,14nm,1.0s
SABO M.te Sabotino 15.07 321 Pn 13 07 34.0 -0.2
KIV Kislovodsk 15.08 48 P P 13 07 40.2 +0.5
KIV Kislovodsk 15.08 48 *i* P P 13 07 37.1 -2.6
KIV *i* S **Sn 13 10 25.5 +4.3**
KIV pmax pmax
comp=Z,101nm,1.3s
KIV MLR MLR
comp=Z,661nm,16.0s
KIV Kislovodsk 15.08 48 *i* P P 13 07 39.2 -0.5
SNR=6.3
KIV Kislovodsk 15.08 48 P P 13 07 40.9 +1.2
ARSA Arzberg 15.09 328 *i* Pn Pn 13 07 35.1 +0.7
comp=Z,5.4nm,0.7s,SNR=10
KVAR Kislovodsk Arr 15.09 48 Pn P 13 07 40.1 +0.3
baz=104,slow=19
LVV L'vov 15.09 352 *e*P P 13 07 37.4 -2.2
LVV *e*S **Sn 13 10 25.3 +4.1**
LVV pmax pmax
comp=Z,170nm,2.4s
LVV MLR MLR
comp=E,1µm,8.0s
LVV MLR MLR
comp=N,2µm,9.0s
LVV MLR MLR
comp=Z,2µm,9.0s
KBZ Khabaz 15.10 49 Pn P 13 07 40.7 +1.0
comp=Z,0.9nm,0.3s,baz=240,slow=8.3,SNR=55
KBZ Khabaz 15.10 49 *ce*P Pn 13 07 35.2 +0.7
RONA Rosalia, Austr 15.12 331 *i* Pn Pn 13 07 35.8 +0.9
comp=Z,3.8nm,0.6s,SNR=9.0
STHS Stebnicka Huta 15.14 345 *e*P P 13 07 39.6 -0.6
STHS Stebnicka Huta 15.14 345 *e*PN P 13 07 39.6 -0.6
MODS Modra-Piesok 15.31 335 *e*P Pn 13 07 39.5 +2.1
MODS Modra-Piesok 15.31 335 *e*PN Pn 13 07 39.5 +2.1
NCK Nalchik 15.42 51 *i* P P 13 07 41.8 -1.6
NCK pmax pmax
comp=Z,243nm,1.8s
CONA Conrad Observa 15.48 331 *e*Pn Pn 13 07 39.9 +0.3
comp=Z,3.8nm,0.6s
MYKA Terra Mystica 15.49 323 *e*Pn P 13 07 44.6 +0.4
comp=Z,8.6nm,0.6s
PII Pisa 15.52 310 P Pn 13 07 41.0 +0.9
PII pmax pmax
comp=Z,47nm,0.7s
JAVC Velka Javorina 15.60 336 *e*PN Pn 13 07 42.1 +1.0
STAL STALIGIAL 15.72 321 Pn 13 07 41.0 -1.7
TEOL Teolo 15.72 316 Pn 13 07 40.8 -1.9
CLUD Cludinico 15.76 321 Pn Pn 13 07 40.8 -2.4
AKASG Malin Array Be 15.89 5 Pn Pn 13 07 42.2 -2.6
comp=Z,2.3nm,0.3s,baz=194,slow=11,SNR=64
AKASG Sn **Sn 13 10 37.0 -3.6**
baz=183,slow=26
AKASG LR LR 13 13 47.5
comp=Z,566nm,18.7s,baz=190,slow=38
comp=Z,1.8nm,0.7s
AKASG Malin Array Be 15.89 5 Pn Pn 13 07 43.1 -1.6
AKASG Malin Array Be 15.89 5 *i* P Pn 13 07 43.2 -1.6
AKASG pmax pmax
comp=Z,33nm,0.8s
AKBB Malin Array Si 15.89 5 Pn 13 07 43.3 -1.5
AKBB Malin Array Si 15.89 5 *i* P Pn 13 07 45.7 +0.9
AKBB pmax pmax
comp=Z,54nm,1.2s
KBA Koelnbreinsper 15.96 324 *e*Pn Pn 13 07 46.4 +0.5
comp=Z,8.6nm,0.6s
KBA Koelnbreinsper 15.96 324 P Pn 13 07 45.6 -0.3
KBA pmax pmax
comp=Z,33nm,1.2s
MAUC Maruska 15.99 338 *e*P P 13 07 51.2 +1.6
PGF Pioggiola 16.02 304 P P 13 07 49.3 -0.8
PGF pmax pmax
comp=Z,39nm,1.0s
MOA Molln 16.09 327 *e*Pn Pn 13 07 48.9 +1.4
comp=Z,7.1nm,0.9s
ABTA Abfaltersbach 16.14 322 *e*Pn Pn 13 07 47.1 -1.1
comp=Z,6.2nm,0.7s
CTI Castel Tesino 16.15 318 Pn 13 07 46.5 -1.8
CTI Castel Tesino 16.15 318 P Pn 13 07 46.5 -1.8
CTI pmax pmax
comp=Z,21nm,0.8s
PRMA PARMA 16.18 313 P P 13 07 51.6 -0.1
KRUC Moravsky 16.21 334 *e*PN Pn 13 07 49.5 +0.6
KRUC Moravsky 16.21 334 P P 13 07 51.4 -0.6
KRUC pmax pmax
comp=Z,15nm,1.6s
OJC Ojcow 16.22 343 P P 13 07 51.7 -0.4
OJC Ojcow 16.22 343 P P 13 07 51.7 -0.4
OJC pmax pmax
comp=Z,37nm,1.2s
BIOA Bad Ischl, Aus 16.26 326 *i* Pn Pn 13 07 49.7 +0.1
comp=Z,7.9nm,0.6s,SNR=6.7
OKC Ostrava-Krasne 16.31 339 *e*P P 13 07 55.2 +2.1
OKC AMS AMS 13 15 20.0
comp=Z,2µm,7.8s
OKC Ostrava-Krasne 16.31 339 *e*P P 13 07 55.2 +2.1
OKC MLR MLR
comp=Z,2µm,7.8s
VRAC Vranov 16.35 335 Pn Pn 13 07 49.6 -1.1
comp=Z,0.7nm,0.3s,baz=150,slow=11,SNR=9.9
comp=Z,7.3nm,0.8s
VRAC Vranov 16.35 335 *e*PN Pn 13 07 51.1 +0.4
MORC Moravsky Berou 16.44 338 *e*PN P 13 07 53.3 -1.3
MORC Moravsky Berou 16.44 338 P P 13 07 55.4 +0.8
MORC pmax pmax
comp=Z,22nm,1.0s
MSSA Maissana 16.45 310 Pn 13 07 51.6 -0.5
SALO Salr 16.52 315 Pn Pn 13 07 51.4 -1.6
RJOB Jochberg 16.69 325 *e*P Pn 13 07 54.3 -0.8
comp=Z,9.1nm,0.8s
TREC Trest 16.73 333 AMS AMS 13 14 50.0
comp=Z,2µm,9.4s
GROC Groznyy 16.74 55 *e*P Pn 13 07 56.1 +0.4
GROC pmax pmax
comp=Z,51nm,0.7s
CKRC Cesky Krumlov 16.82 330 *e*P Pn 13 07 57.0 +0.3
WTTA Wattenberg 16.93 322 *i* Pn P 13 08 00.3 0.0
comp=Z,13nm,0.7s,SNR=7.3
WTTA *e*Sn S 13 11 38.1 +22
comp=Z,11nm,1.0s
WTTA Wattenberg 16.93 322 P Pn 13 07 59.2 +0.9
WTTA pmax pmax
comp=Z,31nm,1.7s
KRLC Kraliky 16.94 337 *e*P Pn 13 07 58.9 +0.6
KRLC AMS AMS 13 16 10.0
comp=Z,1µm,7.4s
KRLC Kraliky 16.94 337 *e*P Pn 13 07 58.9 +0.6
KRLC MLR MLR
comp=Z,1µm,7.4s
WATA Walderalm 17.01 322 *i* Pn P 13 08 00.4 -0.7
comp=Z,14nm,0.8s,SNR=7.8
GEC2 GERESS Array S 17.09 329 Pn Pn 13 07 59.4 -0.9
GEC2 GERESS Array S 17.09 329 *e*P Pn 13 07 59.9 -0.4
comp=Z,11nm,0.8s
GERES GERESS Array B 17.09 329 Pn Pn 13 07 59.7 -0.6
comp=Z,0.5nm,0.3s,baz=132,slow=13,SNR=29
GERES LR LR 13 14 57.4
comp=Z,649nm,19.7s,baz=142,slow=39
comp=Z,5.4nm,0.7s
GERES GERESS Array B 17.09 329 Pn 13 07 59.3 -1.0
SQTA Sankt Quirin 17.12 321 *e*Pn Pn 13 08 01.1 +0.4
comp=Z,20nm,0.7s,SNR=10
FETA Feichten 17.25 320 *i* Pn Pn 13 08 02.7 +0.4
comp=Z,17nm,0.8s,SNR=11
FETA *e*Sn S 13 11 44.8 +22
comp=Z,8.3nm,0.9s
FUORN Ofenpass-Fuorn 17.26 318 Pn 13 08 01.2 -1.3
MOTA Moosalm 17.26 321 *i* Pn Pn 13 08 02.9 +0.5
comp=Z,7.9nm,0.9s,SNR=7.7
MOTA *e*Sn S 13 11 42.0 +19
comp=Z,16nm,1.0s
DPC Dobruska-Polom 17.33 336 *e*P Pn 13 08 01.0 -2.1
DPC AMS AMS 13 16 30.0
comp=Z,2µm,7.7s
DPC Dobruska-Polom 17.33 336 *e*P Pn 13 08 01.0 -2.1
DPC MLR MLR
comp=Z,2µm,7.7s
KHC Kasperske Hory 17.36 329 Pn 13 08 02.0 -1.5
KHC Kasperske Hory 17.36 329 *e*P Pn 13 08 02.5 -1.1
KHC *ex* x 13 08 18.5
KHC AMS AMS 13 15 10.0
comp=Z,2µm,9.3s
KHC Kasperske Hory 17.36 329 *i* P Pn 13 08 03.2 -0.4
KHC pmax pmax
comp=Z,50nm,1.2s
GOPC GO Pecny, Ondr 17.50 333 AMS AMS 13 15 20.0
comp=Z,2µm,9.9s
RETA Reutte 17.53 321 *e*Pn Pn 13 08 05.2 -0.5
comp=Z,7.0nm,0.6s
BEL Belsk 17.53 347 P P 13 08 08.2 +1.5
BEL pmax pmax
comp=Z,76nm,1.1s
OSTC Ostas 17.54 337 *e*P Pn 13 08 06.0 +0.3
OSTC AMS AMS 13 16 10.0
comp=Z,1µm,11.1s
SAOF Saorge 17.56 307 P Pn 13 08 05.5 -0.5
SAOF pmax pmax
comp=Z,101nm,0.9s
DAVOX Davos/Dischmat 17.57 318 P Pn 13 08 04.4 -1.8
comp=Z,0.4nm,0.3s,baz=146,slow=14,SNR=13
comp=Z,6.6nm,0.8s
UPC Upice 17.57 336 *e*P Pn 13 08 06.4 +0.4
UPC AMS AMS 13 16 50.0
comp=Z,2µm,11.5s
UPC Upice 17.57 336 *e*P Pn 13 08 06.4 +0.4
UPC MLR MLR
comp=Z,2µm,11.5s
SBF Sospel 17.59 307 *e*P Pn 13 08 05.8 -0.6
SBF pmax pmax
comp=Z,92nm,0.7s
PRU Pruhonice 17.66 333 *e*P Pn 13 08 05.7 -1.4
PRU AMS AMS 13 15 30.0
comp=Z,1µm,10.3s
PRU Pruhonice 17.66 333 *e*P Pn 13 08 05.7 -1.4
PRU MLR MLR
comp=Z,1µm,10.3s
SET Setif 17.67 281 P P 13 08 12.0 +3.6
FUR Furstenfeldbru 17.72 323 P Pn 13 08 07.8 -0.1
FUR Furstenfeldbru 17.72 323 *e*P Pn 13 08 07.9 -0.1
comp=Z,23nm,0.9s
KSP Ksiaz 17.76 337 P P 13 08 09.3 +0.1

KSP pmax pmax
comp=Z,18nm,1.1s
MAK Makhachkala 17.81 57 *e*P **Pn 13 08 08.8 -0.3**
MAK *e*S **Sn 13 11 27.2 -0.1**
MAK pmax pmax
comp=Z,372nm,1.2s
MAK MLR MLR
comp=Z,864nm,16.0s
DAVA Damuels 17.87 319 *i* Pn **P 13 08 10.4 -0.2**
comp=Z,18nm,0.6s,SNR=10
ISO Isola 17.97 307 P **P 13 08 11.5 -0.1**
ISO pmax pmax
comp=Z,35nm,1.2s
UBR Ueberruh 17.99 320 *e*P **Pn 13 08 10.2 -1.2**
comp=Z,32nm,0.7s
LMR La Mourre 18.01 304 *e*P **P 13 08 11.9 0.0**
LMR pmax pmax
comp=Z,27nm,1.1s
PZZ Stroppo 18.06 308 P **P 13 08 12.7 0.0**
PZZ pmax pmax
comp=Z,33nm,0.9s
PVCC Panska Ves 18.09 334 *e*P **Pn 13 08 11.9 -0.5**
PVCC AMS AMS 13 15 50.0
comp=Z,2µm,7.0s
PVCC Panska Ves 18.09 334 *e*P **Pn 13 08 11.9 -0.5**
PVCC MLR MLR
comp=Z,2µm,7.0s
LLS Linth-Limmern 18.09 317 P **P 13 08 13.8 +0.7**
LLS pmax pmax
comp=Z,46nm,0.7s
MMK Mattmark 18.26 313 P **Pn 13 08 13.6 -1.3**
MMK pmax pmax
comp=Z,37nm,0.7s
MBDF Montbardon 18.38 308 *e*P **P 13 08 14.7 -1.5**
MBDF pmax pmax
comp=Z,31nm,0.8s
ROTZ Rotzenmuhle 18.43 328 *e*P **P 13 08 15.7 -0.9**
comp=Z,1.3nm,0.8s
RRL Rocca Remolon 18.45 309 P **Pn 13 08 18.3 +1.1**
RRL pmax pmax
comp=Z,31nm,0.7s
VSR Storozhevoye 18.53 25 *e*P **P 13 08 16.4 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.5s
BNI Bardonecchia 18.58 309 P **Pn 13 08 19.9 +1.2**
BNI pmax pmax
comp=Z,109nm,1.0s
BRG Berggiesshubel 18.60 333 *i* P **P 13 08 18.3 -0.1**
BRG Amp 13 08 22.9
comp=Z,10nm,1.0s
BRG Amp 13 15 53.0
comp=N,1.3nm,16.5s
BRG Amp 13 16 16.0
comp=E,1.1nm,17.4s
BRG Amp 13 16 18.0
comp=Z,1.5nm,10.3s
BRG Berggiesshubel 18.60 333 *i* P **P 13 08 18.3 -0.1**
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG MLR MLR
comp=N,1µm,16.5s
BRG MLR MLR
comp=E,1µm,17.4s
BRG MLR MLR
comp=Z,1µm,10.3s
BRG Berggiesshubel 18.60 333 *e*P **P 13 08 18.2 -0.3**
comp=Z,11nm,1.0s
ZUR Degenried 18.63 318 P **P 13 08 18.3 -0.5**
ZUR pmax pmax
comp=Z,47nm,1.0s
MANZ Manzenberg 18.64 329 *e*P **P 13 08 18.4 -0.5**
comp=Z,3.0nm,0.9s
NKC Novy Kostel 18.68 330 *e*P **P 13 08 18.4 -1.0**
NKC AMS AMS 13 16 10.0
comp=Z,2µm,11.0s
NKC Novy Kostel 18.68 330 *e*P **P 13 08 18.4 -1.0**
NKC MLR MLR
comp=Z,2µm,11.0s
WERN Wernitzgruen 18.75 330 *e*P **Pn 13 08 20.9 +0.2**
comp=Z,11nm,0.8s
LPL La Plagne 18.76 311 *e*P **P 13 08 19.6 -0.8**
LPL pmax pmax
comp=Z,19nm,0.7s
GRA1 Grafenberg Arr 18.81 327 P **P 13 08 20.4 -0.4**
GRF Grafenberg Arr 18.81 327 P **P 13 08 20.4 -0.4**
GRF pmax pmax
comp=Z,63nm,1.4s
GRF Grafenberg Arr 18.81 327 *e*P **Pn 13 08 21.1 -0.2**
comp=Z,17nm,0.8s
GRFO Grafenberg 18.81 327 P **P 13 08 20.3 -0.5**
GRFO Grafenberg 18.81 327 P **P 13 08 20.3 -0.5**
GRFO pmax pmax
comp=Z,54nm,1.3s
TANN Tannenbergstha 18.82 330 *e*P **P 13 08 20.4 -0.5**
comp=Z,12nm,0.8s
SENIN Lac Senin/Sane 18.82 313 P **P 13 08 19.9 -1.3**
GUNZ Gunzen 18.83 330 *e*P **Pn 13 08 21.8 +0.3**
comp=Z,12nm,0.7s
WERD Werda 18.90 330 *e*P **P 13 08 21.8 0.0**
comp=Z,13nm,0.7s
SLE Schleitheim 18.91 318 P **P 13 08 21.1 -0.8**
SLE pmax pmax
comp=Z,26nm,0.8s
VORR Voronezh 18.93 24 *e*P **Pn 13 08 22.6 0.0**
VORR *e*S **S 13 11 56.5 0.0**
VORR pmax pmax
comp=Z,30nm,1.6s
ORIF Oris-en-Rattie 19.04 308 *e*P **P 13 08 23.3 -0.1**
ORIF pmax pmax
comp=Z,22nm,1.0s
STU Stuttgart 19.16 322 P **P 13 08 23.9 -0.7**
STU Stuttgart 19.16 322 P **P 13 08 23.9 -0.7**
STU pmax pmax
comp=Z,24nm,0.9s
STU Stuttgart 19.16 322 *e*P **P 13 08 24.2 -0.4**
comp=Z,44nm,0.8s
CLL Collm 19.30 333 P **P 13 08 25.9 -0.1**
CLL Collm 19.30 333 *i* P **P 13 08 26.4 +0.3**
comp=Z,19nm,0.7s
CLL *i* sP **sP 13 08 31.1 0.0**
CLL *ex* x 13 08 35.0
CLL *i* PP **PnPn 13 08 40.1 0.0**
CLL *e*S **Sn 13 12 03.0 -0.2**
CLL *e*SSS SSS 13 12 36.0
CLL Collm 19.30 333 P **P 13 08 26.0 -0.1**
CLL pmax pmax
comp=Z,18nm,0.8s
CLL Collm 19.30 333 *e*P **Pn 13 08 26.6 -0.5**
comp=Z,16nm,0.7s
BFO Black Forest 19.34 320 P **P 13 08 25.0 -1.5**
BFO Black Forest 19.34 320 P **P 13 08 25.0 -1.5**
BFO pmax pmax
comp=Z,20nm,0.9s
BFO Black Forest 19.34 320 *e*P **P 13 08 25.7 -0.8**
comp=Z,14nm,0.8s
MOX Moxa 19.34 329 P **Pn 13 08 27.2 -0.5**
MOX pmax pmax
comp=Z,21nm,0.9s
MOX Moxa 19.34 329 *e*P **P 13 08 25.9 -0.7**
comp=Z,12nm,0.8s
VRH Novokhopyorsk 19.46 29 *e*P **P 13 08 27.5 -0.3**
VRH pmax pmax
comp=Z,140nm,1.4s
MNK Minsk 19.62 1 *i* P **P 13 08 27.6 -2.0**
comp=E,4.0nm,0.9s
MNK *i* P **P 13 08 27.6 -2.0**
comp=N,53nm,0.9s
MNK *i* P **P 13 08 27.6 -2.0**
comp=Z,25nm,0.8s,baz=182
MNK *i* PP **PnPn 13 08 42.9 -1.7**
MNK *i* S **S 13 12 07.3 -3.3**
MNK *i* SS **SnSn 13 12 24.3 -1.0**
MNK *i* LQ LQ 13 14 24.3
MNK *i* LR LR 13 16 15.0
MNK *i* LRM MLR 13 17 03.5
comp=N,496nm,11.5s
MNK *i* LRM MLR 13 17 06.1
comp=Z,407nm,10.9s
MNK *i* LRM MLR 13 17 25.3
comp=E,79nm,11.5s
MNK Minsk 19.62 1 *i* P **P 13 08 27.6 -2.0**
MNK *i* S **S 13 12 07.2 -3.3**
MNK pmax pmax
comp=Z,25nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.9s

MNK pmax pmax
comp=N,53nm,0.9s
MNK MLR MLR
comp=N,496nm,12.0s
MNK MLR MLR
comp=Z,407nm,11.0s
MNK MLR MLR
comp=E,79nm,12.0s
LPSR Galich'ya Gora 19.63 22 *e*P **P 13 08 28.5 -1.2**
LPSR pmax pmax
comp=Z,50nm,1.0s
RAYN Ar Rayn 19.65 120 P **Pn 13 08 31.3 -0.3**
RAYN Ar Rayn 19.65 120 P **Pn 13 08 31.3 -0.3**
RAYN pmax pmax
comp=Z,28nm,1.3s
RAYN Ar Rayn 19.65 120 *i* P **Pn 13 08 31.9 +0.3**
SNR=8.2
RAYN Ar Rayn 19.65 120 P **Pn 13 08 31.9 +0.3**
GKP Gorka Klasztor 19.65 342 P **Pn 13 08 32.0 +0.7**
GKP Gorka Klasztor 19.65 342 *e*P **Pn 13 08 31.1 -0.2**
NEUB Neuenburg 19.70 331 *e*P **Pn 13 08 31.8 -0.2**
comp=Z,25nm,0.9s
VIVF Saint-Julien-l 19.80 307 *e*P **P 13 08 31.6 -0.1**
VIVF pmax pmax
comp=Z,79nm,1.4s
HINF Hinteralfeld 19.85 317 *e*P **P 13 08 32.4 +0.2**
HINF pmax pmax
comp=Z,14nm,0.8s
ECH Echery 19.90 318 P **P 13 08 31.4 -1.3**
ECH Echery 19.90 318 P **P 13 08 31.4 -1.3**
ECH pmax pmax
comp=Z,14nm,0.9s
CDF Champ du Feu 19.95 319 *e*P **P 13 08 32.2 -1.1**
CDF pmax pmax
comp=Z,18nm,0.9s
RUE Ruedersdorf 19.98 336 *e*P **P 13 08 33.7 +0.3**
RUE Ruedersdorf 19.98 336 *e*P **Pn 13 08 34.9 -0.3**
comp=Z,34nm,0.8s
NACGM Naroch 20.02 360 *e*P **P 13 08 32.7 -1.2**
comp=N,2µm,1.2s
HAU Haudompre 20.24 317 *e*P **P 13 08 34.5 -1.9**
HAU pmax pmax
comp=Z,17nm,0.6s
KLNR Kaliningrad 20.29 348 *i* P **P 13 08 36.8 0.0**
KLNR pmax pmax
comp=Z,173nm,0.9s
IDID Didziasalis 20.43 359 *e*P **P 13 08 37.3 -1.1**
IIGN Ignalina 20.48 359 *e*P **P 13 08 39.1 +0.3**
TNS Taunus Mts 20.48 324 P Pn 13 08 41.4 +0.2
TNS pmax pmax
comp=Z,35nm,1.1s
TNS Taunus Mts 20.48 324 *e*P **P 13 08 38.4 -0.6**
comp=Z,25nm,0.9s
ISAL Salakas 20.70 359 *e*P **P 13 08 41.4 +0.2**
GTTG Gottingen 20.71 329 *e*P **P 13 08 39.3 -2.1**
comp=Z,27nm,0.8s
PABE Paberze 20.73 355 P **P 13 08 40.7 -0.9**
PABE IAmb IAmb 13 08 47.8
comp=Z,58nm,0.6s
PABE Paberze 20.73 355 *e*P **P 13 08 42.0 +0.4**
CLZ Clausthal 20.76 330 *e*P **P 13 08 42.0 0.0**
comp=Z,7.9nm,0.8s
FLTG Flechtingen 20.78 332 *e*P **P 13 08 39.5 -2.7**
comp=Z,9.9nm,0.9s
MTLF Montolieu 20.98 301 *e*P **P 13 08 42.6 -1.9**
MTLF pmax pmax
comp=Z,29nm,1.0s
SMF Signal de Mont 21.06 311 *e*P **P 13 08 44.3 -1.0**
SMF pmax pmax
comp=Z,36nm,0.7s
KASTN Kahler Asten 21.15 326 *e*P **P 13 08 45.4 -0.9**
comp=Z,8.6nm,0.9s
VSVD Vaisvydziai 21.21 355 *e*P **P 13 08 46.9 +0.2**
OBN Obninsk 21.28 15 P **P 13 08 46.0 -1.5**
comp=Z,6.2nm,0.4s,baz=140,slow=1.1,SNR=13
OBN LR LR 13 17 20.9
comp=Z,119nm,21.0s,baz=206,slow=38
comp=Z,6.2nm,0.4s
WLF Walferdange 21.28 320 P **P 13 08 46.4 -1.2**
WLF IAmb IAmb 13 09 08.2
comp=Z,42nm,1.0s
WLF Walferdange 21.28 320 P **P 13 08 46.4 -1.2**
WLF pmax pmax
comp=Z,42nm,1.0s
WLF Walferdange 21.28 320 *d*P **P 13 08 46.8 -0.8**
comp=Z,28nm,1.0s
WLF Walferdange 21.28 320 *e*P **P 13 08 47.0 -0.6**
comp=Z,35nm,1.0s
LOR Lormes 21.33 312 *e*P **P 13 08 46.1 -2.1**
LOR pmax pmax
comp=Z,27nm,0.8s
AHRW Bad Neuenahr-A 21.35 323 *e*P **P 13 08 47.9 -0.5**
comp=Z,26nm,0.8s
NRDL Niedersach Rie 21.36 331 *e*P **P 13 08 51.3 +3.0**
comp=Z,9.1nm,0.9s
AVF Avril sur Loir 21.43 311 *e*P **P 13 08 47.6 -1.6**
AVF pmax pmax
comp=Z,41nm,0.8s
SSF Saint Saulge 21.45 312 *e*P **P 13 08 47.6 -1.9**
SSF pmax pmax
comp=Z,68nm,0.9s
CAF Calviac 21.56 305 *e*P **P 13 08 49.6 -1.1**
CAF pmax pmax
comp=Z,8.0nm,0.7s
BHOU Houvegnez 21.77 322 *d*P **P 13 08 53.8 +0.9**
comp=Z,18nm,0.8s
BUG Bochum--Univer 21.84 325 P **P 13 08 51.5 -2.1**
BUG Bochum--Univer 21.84 325 *e*P **P 13 08 51.5 -2.1**
comp=Z,21nm,0.9s
BTNL Ternell 21.85 322 *d*P **P 13 08 53.4 -0.3**
comp=Z,28nm,1.1s
BSD Bornholm Skovb 21.91 341 *e*P **P 13 08 53.6 -0.7**
MEM Membach 21.93 322 P **P 13 08 55.6 +1.1**
MEM pmax pmax
comp=Z,55nm,1.0s
MEM Membach 21.93 322 *d*P **P 13 08 54.4 -0.1**
comp=Z,33nm,0.9s
TCF Toulx Ste Croi 21.95 309 *e*P **P 13 08 53.7 -1.1**
TCF pmax pmax
comp=Z,12nm,0.8s
RJF Les Rejaudoux 22.05 306 *e*P **P 13 08 54.6 -1.3**
RJF pmax pmax
comp=Z,35nm,0.9s
RCHB Rochefort 22.05 320 *d*P **P 13 08 56.0 +0.1**
MOS Moscow 22.09 16 *e*P **P 13 08 53.1 -3.1**
MOS *e*PPP PPP 13 09 25.7
MOS *e*S **S 13 12 58.3 -0.9**
MOS pmax pmax
comp=Z,108nm,1.1s
MOS MLR MLR
comp=Z,700nm,16.0s
BSTI Sart Tilman 22.13 322 *d*P **P 13 08 56.7 -0.1**
comp=Z,7.5nm,1.0s
BCLA Clavier 22.17 321 *d*P **P 13 08 57.8 +0.6**
comp=Z,17nm,0.9s
IBBN Ibbenburen 22.21 328 *e*P **P 13 08 52.1 -5.4**
comp=Z,9.0nm,0.8s
GIVF Givet 22.24 320 *e*P **P 13 08 57.6 -0.3**
GIVF pmax pmax
comp=Z,31nm,1.0s
EPF Esparros 22.24 299 *e*P **P 13 08 56.4 -1.7**
EPF pmax pmax
comp=Z,7.0nm,0.9s
BGES Gesves 22.26 321 *d*P **P 13 08 57.7 -0.4**
BGES *d*PP **PnPn 13 09 19.4 -1.3**
DOU Dourbes 22.35 320 *d*P **P 13 08 57.3 -1.8**
comp=Z,20nm,0.9s
BMRD Maredsous 22.38 320 *d*P **P 13 08 59.1 -0.3**
comp=Z,11nm,1.1s
BSEG Bad Segeberg 22.38 333 P **P 13 08 56.1 -3.2**
BSEG Bad Segeberg 22.38 333 *e*P **P 13 08 56.2 -3.2**
comp=Z,7.9nm,0.8s
SHMA Al-Shehemyia 22.46 107 P **P 13 09 01.9 +1.4**
BAIF Baives 22.54 319 *e*P **P 13 09 00.2 -0.9**
BAIF pmax pmax
comp=Z,46nm,1.0s
CLF Chambon-Foret 22.63 313 P **P 13 09 01.1 -1.1**
CLF IAmb IAmb 13 09 08.2
comp=Z,97nm,1.3s
CART Cartagena 22.76 285 P **P 13 09 02.6 -1.0**
CART IAmb IAmb 13 09 20.3
comp=Z,47nm,1.5s
BLEU Blekinge 22.76 344 *i* P **P 13 08 59.0 -4.3**
LUNU Lund 22.77 340 *i* P **P 13 09 02.3 -1.2**
BELG Belogornoye 22.84 34 P **P 13 09 03.5 -0.7**
comp=Z,36nm,0.6s,baz=57,slow=3.4,SNR=14

BELG LR LR 13 19 39.6
comp=Z,352nm,18.8s,baz=239,slow=41
comp=Z,36nm,0.6s
BELG Belogornoye 22.84 34 *i* P **P 13 09 04.3 0.0**
BELG pmax pmax
comp=Z,11nm,0.8s
BJUU Bjuv 23.27 340 *i* P **P 13 09 09.6 +0.9**
SJPF Ste Jean 23.38 299 *e*P **P 13 09 11.0 +1.1**
SJPF pmax pmax
comp=Z,32nm,0.8s
DEL Delary 23.39 341 *i* P **P 13 09 06.0 -3.8**
MFF Saint Martin d 23.58 308 *e*P **P 13 09 09.8 -2.0**
MFF pmax pmax
comp=Z,35nm,1.1s
VSU Vasula 23.59 360 *i* P **P 13 09 11.7 0.0**
VSU pmax pmax
comp=Z,69nm,1.2s
VSU Vasula 23.59 360 *e*P **P 13 09 12.8 +1.1**
MTSE Matsula 23.94 356 *e*P **P 13 09 15.1 0.0**
LDF La Druitiere 24.31 313 *e*P **P 13 09 16.6 -2.1**
LDF pmax pmax
comp=Z,74nm,1.4s
FLN La Foliniere 24.60 313 *e*P **P 13 09 19.3 -2.0**
FLN pmax pmax
comp=Z,22nm,0.7s
GRR Gorron 24.68 312 *e*P **P 13 09 20.1 -2.0**
GRR pmax pmax
comp=Z,35nm,1.0s
GHWR Ruwais 24.92 109 P **P 13 09 27.3 +2.9**
GHWR P **P 13 09 27.3 +2.9**
PUL Pulkovo 24.99 4*c**e*P **P 13 09 25.5 +0.8**
PUL pmax pmax
comp=Z,102nm,0.6s
ESBB Sonseca Array 25.07 290 P **P 13 09 25.6 -0.1**
ESBB IAmb IAmb 13 09 29.4
comp=Z,16nm,0.8s
ESDC Sonseca Array 25.07 290 P **P 13 09 25.7 -0.1**
comp=Z,12nm,0.7s,baz=81,slow=9.7,SNR=194
comp=Z,12nm,0.7s
ESDC Sonseca Array 25.07 290 P **P 13 09 25.1 -0.7**
GEYT Alibeck 25.13 74 P **P 13 09 27.0 +0.7**
comp=Z,6.3nm,0.4s,baz=283,slow=7.4,SNR=22
GEYT LR LR 13 21 58.3
comp=Z,345nm,21.1s,baz=296,slow=43
comp=Z,6.3nm,0.4s
GEYT Alibeck 25.13 74 P **P 13 09 26.7 +0.4**
GEYT IAmb IAmb 13 09 51.5
comp=Z,22nm,1.1s
GYA0B ALIBECK ARRAY 25.13 74 P **P 13 09 26.7 +0.4**
GYA0B IAmb IAmb 13 09 37.2
comp=Z,27nm,1.1s
PAB San Pablo 25.36 290 P **P 13 09 28.3 -0.1**
PAB IAmb IAmb 13 09 31.1
comp=Z,24nm,1.1s
PAB San Pablo 25.36 290 P **P 13 09 28.3 -0.1**
PAB pmax pmax
comp=Z,24nm,1.2s
MEF Metsahovi 25.41 357 *e*P **P 13 09 29.4 +0.9**
SGMF Saint Gilles 25.68 310 *e*P **P 13 09 32.2 +1.0**
SGMF pmax pmax
comp=Z,39nm,1.2s
QUIF Quistinic 25.95 309 *e*P **P 13 09 34.6 +1.0**
QUIF pmax pmax
comp=Z,34nm,0.8s
ROSF Rostrenen 26.16 310 *e*P **P 13 09 33.2 -2.3**
ROSF pmax pmax
comp=Z,32nm,0.7s
MDT Midelt 26.32 275 P **P 13 09 36.9 -0.3**
comp=Z,2.5nm,0.6s,baz=87,slow=13,SNR=7.7
MDT LR LR 13 23 05.1
comp=Z,567nm,19.7s,baz=88,slow=44
comp=Z,2.5nm,0.6s
ASUD Al Ashush, Dub 26.51 105 P **P 13 09 40.6 +1.7**
ASUD Al Ashush, Dub 26.51 105 P **P 13 09 40.5 +1.7**
FINES FINESS Array B 26.59 359 P **P 13 09 37.5 -1.6**
comp=Z,4.9nm,0.4s,baz=155,slow=11,SNR=31
FINES LR LR 13 19 53.6
comp=Z,314nm,20.3s,baz=184,slow=36
comp=Z,4.9nm,0.4s
FINES FINESS Array B 26.59 359 P **P 13 09 37.2 -1.9**
FIA1 FINESS Array S 26.59 359 P **P 13 09 37.3 -1.8**
FIA1 IAmb IAmb 13 09 44.1
comp=Z,15nm,0.8s
NAZ Nazwa, Dubai 26.60 104 P **P 13 09 41.1 +1.4**
NAZ Nazwa, Dubai 26.60 104 P **P 13 09 41.0 +1.4**
FAQ Al Faqa, Dubai 26.66 105 P **P 13 09 41.6 +1.3**
FAQ Al Faqa, Dubai 26.66 105 P **P 13 09 41.5 +1.3**
FAQ P **P 13 09 41.5 +1.3**
BANOM Banah 26.68 102 P **P 13 09 41.9 +1.5**
BANOM Banah 26.68 102 P **P 13 09 42.3 +1.8**
HFS Hagfors 26.72 345 P **P 13 09 38.1 -2.3**
comp=Z,9.4nm,0.7s,baz=133,slow=8.9,SNR=28
HFS LR LR 13 20 49.7
comp=Z,692nm,20.2s,baz=156,slow=38
comp=Z,9.4nm,0.7s
MASF Masafi 26.82 103 P **P 13 09 43.1 +1.4**
MSFE Esma-Masafi 26.83 103 P **P 13 09 42.8 +1.0**
MDH Madha 26.97 103 P **P 13 09 44.5 +1.5**
HATD Hatta, Dubai 27.05 104 *i* P **P 13 09 45.0 +1.2**
SNR=12
HATD Hatta, Dubai 27.05 104 P **P 13 09 44.8 +1.1**
SNR=7.2
HATD P **P 13 09 44.8 +1.1**
SNR=7.2
UOSS Minazif 27.06 104 P **P 13 09 43.8 0.0**
UOSS IAmb IAmb 13 09 48.2
comp=Z,26nm,0.9s
UOSS Minazif 27.06 104 *i* P **P 13 09 44.2 +0.4**
SNR=9.6
UOSS Minazif 27.06 104 P **P 13 09 44.5 +0.7**
UOSS P **P 13 09 44.5 +0.7**
ASHO Ashiyiah 27.06 104 P **P 13 09 44.6 +0.7**
ASHO Ashiyiah 27.06 104 P **P 13 09 44.9 +1.0**
ASHO P **P 13 09 44.9 +1.0**
ALNE Al Ain 27.13 106 P **P 13 09 45.6 +1.2**
ALNE Al Ain 27.13 106 P **P 13 09 45.7 +1.2**
KLMR Klimovskoe 27.20 13 *e*P **P 13 09 41.2 -3.5**
KLMR AMP 13 09 44.1
comp=Z,49nm,1.1s
KLMR pP **pwP 13 09 53.0 +1.0**
KLMR LQ LQ 13 19 14.6
KLMR LQ LQ 13 19 14.6
KLMR LR LR 13 19 53.4
KLMR AMP 13 21 30.2
comp=Z,756nm,10.5s
KLMR LRM MLR 13 21 33.7
KLMR Klimovskoe 27.20 13 *e*P **P 13 09 41.1 -3.6**
KLMR *PP **pwP 13 09 52.9 +1.0**
KLMR pmax pmax
comp=Z,49nm,1.1s
KLMR MLR MLR
comp=Z,756nm,11.0s
PBRG Braganca 27.27 295 *e*P **P 13 09 45.3 -0.3**
comp=Z,29nm,1.2s
KONO Kongsberg 27.29 341 *e*P **P 13 09 44.7 -0.8**
AKTO Aktyubinsk 27.31 46 P **P 13 09 44.7 -1.2**
comp=Z,12nm,0.7s,baz=250,slow=10,SNR=25
AKTO LR LR 13 23 56.0
comp=Z,404nm,19.6s,baz=238,slow=44
comp=Z,12nm,0.7s
AKTO Aktyubinsk 27.31 46 P **P 13 09 44.9 -1.0**
UMZA Um Al Zommool 27.36 109 P **P 13 09 47.7 +1.2**
UMZA P **P 13 09 47.7 +1.2**
MVO Moncorvo 27.45 293 *e*P **P 13 09 46.9 -0.4**
comp=Z,42nm,1.8s
PBAR Barrancos 27.50 287 *e*P **P 13 09 47.3 -0.4**
comp=Z,32nm,1.6s
SOHO SOHO 27.71 105 *i* P **P 13 09 50.6 +1.1**
SNR=22
SOHO SOHO 27.71 105 P **P 13 09 50.7 +1.1**
SOHO P **P 13 09 50.7 +1.1**
PMRV Marv??o 27.72 290 *e*P **P 13 09 49.2 -0.4**
comp=Z,19nm,1.0s
NC602 NORSAR Array S 27.74 344 P **P 13 09 47.5 -2.1**
NC602 NORSAR Array S 27.74 344 *e*P **P 13 09 47.9 -1.6**
NORES NORESS Array B 27.74 344 P **P 13 09 48.0 -1.5**
PCBR Castelo Branco 27.78 291 *e*P **P 13 09 49.7 -0.4**
comp=Z,16nm,1.4s
PESTR Estremoz 27.89 288 *e*P **P 13 09 50.7 -0.5**
comp=Z,26nm,1.5s
PESTR Estremoz 27.89 288 P **P 13 09 50.4 -0.8**
KIRV Kirov 27.97 25 P **P 13 09 48.4 -3.1**
comp=Z,16nm,0.7s,baz=126,slow=2.2,SNR=6.7
KIRV LR LR 13 21 42.7
comp=Z,314nm,18.3s,baz=226,slow=38

comp=Z,16nm,0.7s
KIRV Kirov 27.97 25*ce*P **P 13 09 50.4 -1.2**
PVRL Vila Real 27.97 294 *e*P **P 13 09 53.2 +1.3**
comp=Z,24nm,1.7s
NAO01 NORSAR Array S 27.99 343 P **P 13 09 49.7 -2.0**
NAO01 IAmb IAmb 13 09 55.1
comp=Z,49nm,1.3s
NC405 NORSAR Array S 28.03 344 P **P 13 09 49.2 -2.9**
NC405 IAmb IAmb 13 10 18.6
comp=Z,32nm,1.4s
POLO Lamas de Olo 28.04 294 *e*P **P 13 09 52.3 -0.2**
comp=Z,18nm,1.7s
AB31 Akbulak array 28.07 49 *i*P **P 13 09 51.5 -1.1**
ABKAR Akbulak array 28.07 49 P **P 13 09 52.2 -0.4**
NB201 NORSAR Array S 28.07 344 P **P 13 09 50.3 -2.3**
NB201 IAmb IAmb 13 09 52.1
comp=Z,47nm,1.4s
NB2 NORSAR Subarra 28.08 344 P **P 13 09 51.3 -1.4**
comp=Z,2.6nm,0.6s,baz=150,slow=11
NB2 NORSAR Subarra 28.08 344 P **P 13 09 51.3 -1.4**
baz=150,slow=11
NOA NORSAR Array B 28.08 344 P **P 13 09 50.9 -1.8**
comp=Z,2.6nm,0.9s,baz=149,slow=8.6,SNR=9.7
NOA LR LR 13 22 03.2
comp=Z,348nm,19.2s,baz=155,slow=39
comp=Z,2.6nm,0.9s
PVIS Viseu 28.10 292 *e*P **P 13 09 53.0 0.0**
comp=Z,34nm,1.6s
PVAQ Vaqueiros 28.10 285 *e*P **P 13 09 52.6 -0.4**
comp=Z,60nm,1.5s
PVAQ Vaqueiros 28.10 285 P **P 13 09 52.3 -0.7**
PVAQ IAmb IAmb 13 09 53.6
comp=Z,30nm,1.4s
ARQ Araqi 28.10 106 P **P 13 09 54.6 +1.4**
ARQ P **P 13 09 54.6 +1.4**
PBEJ Beja 28.16 287 *e*P **P 13 09 56.7 +3.1**
comp=Z,40nm,1.5s
NBO00 NORSAR Array S 28.18 343 P **P 13 09 51.5 -2.0**
NBO00 IAmb IAmb 13 09 53.6
comp=Z,57nm,1.4s
PCAB Cabril 28.22 295 *e*P **P 13 09 54.5 +0.4**
comp=Z,35nm,1.6s
EVO Evora 28.24 288 *e*P **P 13 09 54.5 +0.2**
comp=Z,27nm,1.7s
PCVE Castro Verde 28.33 286 *e*P **P 13 09 56.0 +0.9**
NC204 NORSAR Array S 28.39 343 P **P 13 09 54.4 -1.1**
NC204 IAmb IAmb 13 10 14.3
comp=Z,19nm,1.1s
PCAS Casmilo, Conde 28.56 291 *e*P **P 13 09 54.4 -2.7**
HOQ Hoqain 28.60 105 P **P 13 09 58.5 +0.8**
SNR=8.9
HOQ P **P 13 09 58.5 +0.8**
SNR=8.9
BSY Bisya 28.94 107 P **P 13 10 01.5 +0.8**
BSY P **P 13 10 01.5 +0.8**
DOK Doka 28.97 117 P **P 13 10 01.9 +1.0**
WHFO Wadi Hawf 29.16 119 P **P 13 10 03.6 +1.0**
EKA Eskdalemuir Ar 29.17 324 P **P 13 10 00.8 -1.5**
comp=Z,2.9nm,0.5s,baz=131,slow=11,SNR=16
EKA LR LR 13 24 33.1
comp=Z,394nm,18.4s,baz=58,slow=42
comp=Z,2.9nm,0.5s
ESK Eskdalemuir 29.18 324 P **P 13 10 01.5 -1.0**
ESK IAmb IAmb 13 10 12.4
comp=Z,49nm,1.3s
ESK Eskdalemuir 29.18 324 P **P 13 10 01.5 -1.0**
ESK pmax pmax
comp=Z,49nm,1.3s
ABTO Aybut 29.19 120 P **P 13 10 04.1 +1.2**
PRGR Permogore 29.27 18 *e*P **P 13 10 01.1 -2.0**
BIDO Bidbid 29.28 104 P **P 13 10 04.7 +1.0**
SMDO Samad 29.45 105 P **P 13 10 06.2 +0.9**
SNR=7.6
SMDO P **P 13 10 06.2 +0.9**
SNR=7.6
WSAR Wadi Sarin 29.82 104 P **P 13 10 09.3 +0.9**
comp=Z,7.2nm,0.8s,baz=280,slow=11,SNR=5.2
WSAR LR LR 13 26 29.2
comp=Z,479nm,19.5s,baz=316,slow=45
comp=Z,7.2nm,0.8s
WSAR Wadi Sarin 29.82 104 P **P 13 10 09.7 +1.2**
DSB Dublin 29.84 318 P **P 13 10 07.6 -0.7**
JMDO Jabal Madar 29.84 106 P **P 13 10 09.3 +0.6**
JMDO P **P 13 10 09.3 +0.6**
ADZR Andozero 29.88 10 *e*P **P 13 10 06.1 -2.4**
ADZR pmax pmax
comp=Z,24nm,0.6s
DMTO DMTO 30.15 117 P **P 13 10 12.2 +0.9**
ARU Arti 30.37 35 P **P 13 10 11.6 -1.3**
comp=Z,3.1nm,0.4s,baz=203,slow=7.0,SNR=10
ARU LR LR 13 24 09.6
comp=Z,417nm,20.0s,baz=251,slow=40
comp=Z,3.1nm,0.4s
ARU Arti 30.37 35 P **P 13 10 11.8 -1.1**
ARU IAmb IAmb 13 10 19.5
comp=Z,10nm,0.7s
ARU Arti 30.37 35*d i*P **P 13 10 12.1 -0.9**
ARU 13 13 08.2
ARU S **S 13 15 11.4 -1.4**
ARU pmax pmax
comp=Z,15nm,1.0s
WBK Wadi Bani Khal 30.41 105 P **P 13 10 15.4 +1.7**
WBK P **P 13 10 15.4 +1.7**
MHTO MHTO 30.48 109 P **P 13 10 16.5 +2.2**
SNR=7.1
MHTO P **P 13 10 16.5 +2.2**
SNR=7.1
DQM DQM 30.75 111 P **P 13 10 17.6 +1.0**
SNR=7.0
DQM P **P 13 10 17.6 +1.0**
SNR=7.0
JLN Jalan Bani Buh 30.99 106 P **P 13 10 20.0 +1.2**
SNR=7.4
JLN P **P 13 10 20.0 +1.2**
SNR=7.4
NSS Namsos 31.07 347 *e*P **P 13 10 17.6 -1.4**
TORD Torodi Ar. Bea 31.53 233 P **P 13 10 24.6 +1.0**
comp=Z,16nm,0.9s,baz=36,slow=9.1,SNR=44
comp=Z,16nm,0.9s
TORD Torodi Ar. Bea 31.53 233 P **P 13 10 24.6 +1.0**
SVE Sverdlovsk 31.56 36 *e*P **P 13 10 23.9 +0.5**
APA Apatity 32.93 4 ||*i*P **P 13 10 35.6 +0.2**
APA pmax pmax
comp=Z,18nm,0.6s
APA MLR MLR
comp=Z,4μm,10.0s
FAUS Fauske 33.25 352 *e*P **P 13 10 38.5 +0.4**
LVZ Lovozero 33.35 5 P **P 13 10 38.5 -0.5**
LVZ Lovozero 33.35 5 *i*P **P 13 10 39.7 +0.7**
LVZ pmax pmax
comp=Z,34nm,1.0s
STEI Steigen 33.78 352 *e*P **P 13 10 41.0 -1.7**
KTK1 Kautokeino 34.25 358 *e*P **P 13 10 45.5 -1.2**
KK31 Karatay Array 34.44 63 P **P 13 10 49.2 +0.3**
KK31 IAmb IAmb 13 10 55.4
comp=Z,13nm,0.8s
KK31 Karatay Array 34.44 63 *i*P **P 13 10 49.6 +0.8**
KKAR Karatay Array 34.44 63 P **P 13 10 49.1 +0.3**
KKAR Karatay Array 34.44 63 P **P 13 10 49.3 +0.4**
KKAR IAmb IAmb 13 10 55.4
comp=Z,13nm,0.8s
KKAR Karatay Array 34.44 63 P **P 13 10 49.3 +0.4**
KKAR pmax pmax
comp=Z,13nm,0.9s
GAR Garm 34.58 70 P **P 13 10 50.5 +0.3**
GAR IAmb IAmb 13 11 12.9
comp=Z,28nm,1.1s
ARA0 ARCESS Array S 34.72 359 *e*P **P 13 10 49.5 -1.3**
ARCES ARCESS Array B 34.72 359 P **P 13 10 48.1 -2.7**
comp=Z,4.1nm,0.5s,baz=184,slow=7.9,SNR=23
ARCES LR LR 13 25 44.0
comp=Z,504nm,19.5s,baz=168,slow=38
comp=Z,4.1nm,0.5s
ARCES ARCESS Array B 34.72 359 P **P 13 10 50.3 -0.5**
ARCES ARCESS Array B 34.72 359 P **P 13 10 50.3 -0.5**
ARCES pmax pmax
comp=Z,66nm,1.5s
JETT Jettan, Norway 34.92 356 *e*P **P 13 10 53.8 +1.1**
KEV Kevo 34.93 360 P **P 13 10 51.8 -0.8**
KEV Kevo 34.93 360 P **P 13 10 51.8 -0.8**
KEV pmax pmax
comp=Z,80nm,1.5s
VADS Vadso 35.32 1 *e*P **P 13 10 55.4 -0.6**
BRVK Borovoye 35.37 46 P **P 13 10 56.1 -0.6**
BRVK IAmb IAmb 13 10 58.3
comp=Z,18nm,1.2s

BRVK Borovoye 35.37 46*ce*P **P 13 10 55.9 -0.7**
BRVK pmax pmax
comp=Z,38nm,2.5s
BVA0 Borovoye Array 35.42 46 *i*P **P 13 10 57.6 +0.5**
BVAR Borovoye Array 35.42 46 LR LR 13 28 50.5
comp=Z,491nm,21.1s,baz=256,slow=42
AML Almayashu 36.84 64 P **P 13 11 10.9 +1.1**
SNR=5.6
EKS2 Erkin-Say 36.86 64 P **P 13 11 11.3 +1.6**
SNR=13
KMBO Kilima Mbogo 37.08 163 LR LR 13 27 38.7
comp=Z,517nm,18.0s,baz=292,slow=38
USP Ospenovka 37.35 62 P **P 13 11 14.5 +0.7**
SNR=8.8
AAK Ala-Archa 37.39 64 P **P 13 11 15.4 +1.2**
SNR=15
AAK Ala-Archa 37.39 64 P **P 13 11 15.4 +1.2**
comp=Z,6.9nm,0.7s,baz=246,slow=4.7,SNR=36
comp=Z,6.9nm,0.7s
AAK Ala-Archa 37.39 64 P **P 13 11 14.9 +0.6**
AAK IAmb IAmb 13 11 22.6
comp=Z,14nm,0.8s
AAK Ala-Archa 37.39 64*ce*P **P 13 11 11.8 -2.5**
AAK pmax pmax
comp=Z,21nm,1.3s
AAK Ala-Archa 37.39 64 *i*P **P 13 11 15.6 +1.4**
SNR=26
UCH Uchtor 37.44 64 P **P 13 11 16.8 +1.8**
SNR=8.2
CHMS Chumysh 37.55 63 P **P 13 11 16.9 +1.4**
SNR=9.2
KBK Karagaybulak 37.72 63 P **P 13 11 19.3 +2.2**
SNR=7.7
NIL Nilore 37.94 78 P **P 13 11 19.7 +0.8**
NIL IAmb IAmb 13 11 39.5
comp=Z,22nm,0.9s
NIL Nilore 37.94 78 P **P 13 11 19.7 +0.8**
NIL pmax pmax
comp=Z,22nm,1.0s
TKM2 Tokmak 2 38.18 63 P **P 13 11 22.7 +1.7**
SNR=9.4
KSH Kashi 38.86 68 P **P 13 11 26.7 0.0**
KSH pP pP 13 11 30.0 -0.4
KSH PcP **PcP 13 13 40.2 +2.7**
KSH pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 40.09 51 P **P 13 11 37.0 +0.4**
comp=Z,16nm,0.8s,baz=276,slow=8.8,SNR=152
KURBB PP **PP 13 13 10.3 +1.6**
comp=Z,9.1nm,1.1s,baz=274,slow=11,SNR=6.7
KURBB PcP **PcP 13 13 42.2 +1.2**
comp=Z,2.8nm,0.8s,baz=271,slow=4.3,SNR=3.0
KURBB LR LR 13 31 41.8
comp=Z,310nm,19.0s,baz=224,slow=42
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 40.09 51 P **P 13 11 35.7 -0.9**
KURK Kurchatov 40.15 51 P **P 13 11 37.0 -0.1**
KURK 13 13 42.2
DBIC Dimbokro 40.63 234 P **P 13 11 41.8 +0.4**
comp=Z,4.2nm,0.8s,baz=44,slow=9.7,SNR=7.4
DBIC LR LR 13 32 53.0
comp=Z,465nm,18.9s,baz=46,slow=43
comp=Z,4.2nm,0.8s
DBIC Dimbokro 40.63 234 P **P 13 11 41.8 +0.4**
TIC Toumodi 40.76 234 ||*i*P **P 13 11 41.9 -0.6**
comp=Z,6.3nm,0.5s
KIC Kosan Boka 40.78 233 ||*e*P **P 13 11 42.9 +0.2**
comp=Z,3.5nm,0.4s
JMIC Jan Mayen 40.79 343 LR LR 13 29 31.6
comp=Z,218nm,20.2s,baz=226,slow=38
LIC Lamto 41.08 233 ||*e*P **P 13 11 46.3 +1.2**
comp=Z,28nm,0.9s
BORG Borgarnes 41.54 331 LR LR 13 30 05.8
comp=Z,202nm,20.2s,baz=122,slow=38
MAKZ Makanchi 42.41 56 P **P 13 11 55.5 -0.3**
MAKZ Makanchi 42.41 56 P **P 13 11 55.5 -0.3**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 42.63 56 P **P 13 11 57.7 +0.1**
MK31 IAmb IAmb 13 11 59.5
comp=Z,15nm,0.8s
MK31 Makanchi Array 42.63 56 *i*P **P 13 11 56.3 -1.3**
MKAR Makanchi Array 42.63 56 P **P 13 11 58.1 +0.6**
comp=Z,17nm,0.7s,baz=278,slow=6.6,SNR=192
MKAR ScP **ScP 13 17 41.6 +1.8**
comp=Z,0.9nm,0.9s,baz=268,slow=3.3,SNR=2.9
MKAR LR LR 13 33 33.3
comp=Z,220nm,18.4s,baz=308,slow=42
comp=Z,17nm,0.7s
MKAR Makanchi Array 42.63 56 P **P 13 11 57.5 -0.1**
MKAR Makanchi Array 42.63 56 *i*P **P 13 11 58.0 +0.4**
MKAR pmax pmax
comp=Z,18nm,0.6s
SPB2 Spitsbergen Ar 43.64 357 P **P 13 12 04.9 -0.3**
SPB2 IAmb IAmb 13 12 26.1
comp=Z,41nm,1.2s
SPA0 Spitsbergen Ar 43.64 357 *e*P **P 13 12 06.2 +0.9**
SPITS Spitsbergen Ar 43.64 357 LR LR 13 31 26.5
comp=Z,307nm,18.2s,baz=146,slow=38
SPITS Spitsbergen Ar 43.64 357 P **P 13 12 05.2 -0.1**
SPITS pmax pmax
comp=Z,65nm,1.4s
BBTS Babate 43.98 254 P **P 13 12 10.9 +2.1**
comp=Z,14nm,0.6s,baz=142,slow=20,SNR=1.9
comp=Z,14nm,0.6s
ZAA0 Zalesovo Array 44.08 46 P **P 13 12 08.9 -0.1**
ZAA0 IAmb IAmb 13 12 11.3
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 44.08 46 P **P 13 12 09.3 +0.2**
comp=Z,13nm,0.7s,baz=267,slow=9.4,SNR=33
ZALV LR LR 13 34 14.3
comp=Z,289nm,20.3s,baz=259,slow=41
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 44.08 46 P **P 13 12 08.8 -0.3**
ZALV Zalesovo Beam 44.08 46 *i*P **P 13 12 09.3 +0.2**
ZALV pmax pmax
comp=Z,14nm,0.7s
DGZ Jazzator, Alta 45.83 52 *e*P **P 13 12 24.4 +1.1**
DGZ pmax pmax
comp=Z,14nm,0.7s
NRIK Noril'sk 47.47 25 P **P 13 12 35.8 +0.1**
comp=Z,15nm,0.6s,baz=234,slow=3.3,SNR=33
NRIK LR LR 13 35 30.6
comp=Z,283nm,18.4s,baz=279,slow=40
comp=Z,15nm,0.6s
NRIK Noril'sk 47.47 25 P **P 13 12 35.7 +0.1**
NRIK Noril'sk 47.47 25*ce*P **P 13 12 36.1 +0.4**
NRIK pmax pmax
comp=Z,17nm,0.7s
DANN Dangsing 48.19 81 *e*P **P 13 12 43.0 +0.8**
comp=Z,59nm,0.7s
GKN Gorkha 49.04 81 *e*P **P 13 12 48.7 +0.2**
comp=Z,27nm,0.7s
NOR Nord 49.42 352 *i*P **P 13 12 48.8 -1.8**
NOR Nord 49.42 352 *i*P **P 13 12 48.8 -1.8**
DMN Daman 49.57 82 *e*P **P 13 12 53.3 +0.5**
SUMG Summit 49.79 339 *i*P **P 13 12 54.3 +0.4**
SUMG Summit 49.79 339 *i*P **P 13 12 54.3 +0.4**
PKIN Phulchoki 49.82 81 *e*P **P 13 12 55.1 +0.4**
comp=Z,33nm,0.8s
PKI Pulchoki 49.84 81 *e*P **P 13 12 55.7 +0.8**
comp=Z,32nm,0.8s
LSZ Lusaka 49.89 179 P **P 13 12 58.6 +3.6**
comp=Z,1.4nm,0.5s,baz=205,slow=15,SNR=3.1
comp=Z,1.4nm,0.5s
JIRN Jiri 50.43 81 *e*P **P 13 12 59.8 +0.4**
comp=Z,28nm,0.8s
TAPN Taplejung 51.79 81 *e*P **P 13 13 09.8 +0.2**
comp=Z,25nm,0.9s
DY2G Dye2 51.96 331 *i*P **P 13 13 09.6 -0.5**
DY2G Dye2 51.96 331 *i*P **P 13 13 09.6 -0.5**
NEEM North Greenlan 53.66 345 *i*P **P 13 13 20.9 -1.7**
NEEM North Greenlan 53.66 345 *i*P **P 13 13 20.9 -1.7**
SFJD Kangerlussuaq 53.67 332 LR LR 13 38 26.3
comp=Z,260nm,18.8s,baz=93,slow=39
SFJD Kangerlussuaq 53.67 332 P **P 13 13 21.7 -0.8**
SFJD Kangerlussuaq 53.67 332 P **P 13 13 21.7 -0.8**
SFJD pmax pmax
comp=Z,51nm,1.5s
MOY Mondy 54.05 48 *e*P **P 13 13 28.0 +2.3**
MOY pmax pmax
comp=Z,38nm,2.1s
GOMU GeErMu 54.10 68 P **P 13 13 27.9 +1.3**
GOMU sP pwP 13 13 55.0 +22
GOMU PcP **PcP 13 14 33.6 +2.3**
GOMU pmax pmax

comp=Z,3.0nm,0.7s
TSUM Tsumeb 54.53 191 LR LR 13 38 20.5
comp=Z,664nm,18.4s,baz=338,slow=38
ZAK Zakamensk 55.76 49 *e*P **P 13 13 39.3 +1.2**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
PALK Pallekele 56.29 106 LR LR 13 39 41.6
comp=Z,244nm,19.8s,baz=65,slow=38
OPO Ambohidratompo 56.50 157 LR LR 13 40 05.0
comp=Z,192nm,18.8s,baz=168,slow=38
GTA Gaotai 56.72 62 *e*P **P 13 13 46.2 +1.1**
GTA pP sP 13 13 51.1 +0.5
GTA sP pwP 13 13 54.4 +2.5
GTA pmax pmax
comp=Z,3.0nm,1.0s
BRDH Bariadhala 57.04 84 LR LR 13 45 21.8
comp=Z,186nm,18.3s,baz=276,slow=44
TULEG Thule 57.74 344 P **P 13 13 50.1 -1.5**
TULEG IAmb IAmb 13 14 09.1
comp=Z,11nm,1.1s
SONM Songino Array 58.46 51 P **P 13 13 58.3 +1.1**
comp=Z,4.4nm,0.7s,baz=282,slow=8.2,SNR=51
SONM LR LR 13 43 01.8
comp=Z,534nm,20.9s,baz=305,slow=40
comp=Z,4.4nm,0.7s
SONM Songino Array 58.46 51 P **P 13 13 57.5 +0.3**
SONM IAmb IAmb 13 14 00.4
comp=Z,5.6nm,0.7s
ULN Ulaanbaatar 58.87 51 P **P 13 14 00.9 +0.8**
ULN IAmb IAmb 13 14 02.2
comp=Z,6.4nm,0.8s
ULN Ulaanbaatar 58.87 51*ce*P **P 13 13 58.6 -1.5**
ULN pmax pmax
comp=Z,20nm,2.5s
LBTB Lobatse 59.59 182 LR LR 13 40 49.3
comp=Z,380nm,18.3s,baz=356,slow=37
BOD Bodaibo 59.71 38 *e*P **P 13 14 05.2 -0.4**
BOD pmax pmax
comp=Z,13nm,1.6s
EUNU Eureka 59.75 349 P **P 13 14 04.6 -1.0**
TIXI Tiksi 60.88 21 LR LR 13 44 51.0
comp=Z,240nm,18.9s,baz=356,slow=40
TIXI Tiksi 60.88 21*ce*P **P 13 14 11.9 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 60.92 64 *e*P **P 13 14 15.5 +1.1**
LZH pP sP 13 14 20.5 +0.6
LZH pmax pmax
comp=Z,19nm,1.6s
DRLN Deer Lake 61.24 312 P **P 13 14 15.9 -0.2**
FRB Frobisher Bay 61.69 330 LR LR 13 42 02.8
comp=Z,237nm,18.8s,baz=48,slow=37
BOSA Boshof 63.18 182 P **P 13 14 30.8 +1.4**
comp=Z,3.2nm,0.7s,baz=1.2,slow=6.6,SNR=8.3
comp=Z,3.2nm,0.7s
BOSA Boshof 63.18 182 P **P 13 14 30.8 +1.4**
BOSA IAmb IAmb 13 14 38.6
comp=Z,10nm,1.2s
RES Resolute Bay 64.33 346 LR LR 13 42 42.0
comp=Z,162nm,18.5s,baz=27,slow=36
RES Resolute Bay 64.33 346 P **P 13 14 35.8 -0.5**
RES Resolute Bay 64.33 346 P **P 13 14 35.8 -0.5**
RES pmax pmax
comp=Z,4.0nm,1.0s
SCHQ Schefferville 64.40 320 P **P 13 14 37.0 -0.1**
comp=Z,33nm,0.5s,baz=63,slow=4.7,SNR=69
comp=Z,33nm,0.5s
SCHQ Schefferville 64.40 320 P **P 13 14 36.7 -0.4**
CHTO Chiang Mai 64.88 84 P **P 13 14 40.5 -0.3**
CHTO IAmb IAmb 13 14 53.1
comp=Z,12nm,1.2s
CHTO Chiang Mai 64.88 84 P **P 13 14 40.5 -0.3**
CHTO pmax pmax
comp=Z,12nm,1.3s
CMAR Chiang Mai Arr 65.06 84 P **P 13 14 42.1 +0.2**
comp=Z,3.5nm,0.8s,baz=297,slow=8.2,SNR=21
CMAR LR LR 13 49 16.5
comp=Z,46nm,19.5s,baz=300,slow=42
comp=Z,3.5nm,0.8s
YAK Yakutsk 65.33 30 LR LR 13 48 01.1
comp=Z,119nm,19.9s,baz=270,slow=40
YAK Yakutsk 65.33 30 P **P 13 14 42.5 -0.5**
YAK Yakutsk 65.33 30 *e*P **P 13 14 43.4 +0.4**
YAK pmax pmax
comp=Z,15nm,0.9s
CRAI Chiangrai 65.34 82 P **P 13 14 43.7 -0.1**
CRAI IAmb IAmb 13 14 47.9
comp=Z,4.9nm,0.8s
XAN Xi'an 65.56 65 P **P 13 14 44.8 -0.3**
XAN pP pwP 13 14 54.1 +2.2
XAN pmax pmax
comp=Z,6.0nm,0.7s
PHRA Phrae 66.09 84 P **P 13 14 48.9 +0.3**
HIA Hailar 66.11 46 P **P 13 14 48.4 0.0**
HIA IAmb IAmb 13 14 57.0
comp=Z,11nm,0.8s
HIA Hailar 66.11 46 P **P 13 14 48.4 0.0**
HIA pmax pmax
comp=Z,11nm,0.8s
HAL Halifax 66.92 309 P **P 13 14 53.8 +0.3**
HAL Halifax 66.92 309 P **P 13 14 53.8 +0.3**
HAL pmax pmax
comp=Z,63nm,1.2s
LMN Caledonia Moun 67.14 311 P **P 13 14 55.3 +0.4**
SUR Sutherland 67.17 186 LR LR 13 47 31.7
comp=Z,369nm,18.4s,baz=359,slow=39
SUR Sutherland 67.17 186 P **P 13 14 57.5 +2.2**
BATG Bathurst New B 67.26 313 P **P 13 14 56.1 +0.4**
ZEA Zeya 68.19 39 *e*P **P 13 15 03.5 +2.1**
GGN Saint George 68.75 311 P **P 13 15 05.2 +0.2**
D62A Allapoint, All 69.15 313 P **P 13 15 08.0 +0.5**
F64A Sherman 69.32 312 P **P 13 15 09.0 +0.4**
E62A Clayton Lake 69.66 313 P **P 13 15 11.4 +0.7**
E62A IAmb IAmb 13 15 24.1
comp=Z,18nm,1.0s
HEH HeiHe 70.02 42 *e*P **P 13 15 13.8 +1.0**
HEH pmax pmax
comp=Z,19nm,0.9s
HEH pmax pmax
comp=Z,260nm,4.9s
HEH LR LR
comp=N,340nm,14.2s
HEH LR LR
comp=E,350nm,13.3s
HEH LR LR
comp=Z,380nm,14.7s
TIA Tai'an 70.49 59 P P 13 15 25.1 +9.1
TIA pmax pmax
comp=Z,10.0nm,0.9s
LATQ La Tuque 71.20 315 P **P 13 15 20.3 +0.2**
LATQ IAmb IAmb 13 15 34.0
comp=Z,13nm,0.9s
A36M Sachs Harbour 71.66 351 P **P 13 15 21.9 -0.5**
RCBR Riachuelo 71.67 249 LR LR 13 48 21.6
comp=Z,185nm,18.8s,baz=195,slow=37
BNX BinXian 72.37 46 ||P **P 13 15 28.7 +1.6**
BNX pmax pmax
comp=Z,10.0nm,1.0s
BNX pmax pmax
comp=Z,260nm,5.5s
BILL Bilibino 72.94 15 *i*P **P 13 15 28.9 -1.2**
BILL *i* 13 18 13.1
BILL pmax pmax
comp=Z,5.0nm,1.2s
KLR Kul'dur 72.95 42 LR LR 13 51 39.9
comp=Z,198nm,18.6s,baz=302,slow=39
KLR Kul'dur 72.95 42*ce*P **P 13 15 30.3 -0.2**
KLR pmax pmax
comp=Z,17nm,1.7s
SEY Seymchan 73.22 23*ce*P **P 13 15 33.1 +1.3**
SEY pmax pmax
comp=Z,29nm,2.5s
KULM Kulim 73.54 95 P **P 13 15 35.0 +0.4**
KULM IAmb IAmb 13 15 41.0
comp=Z,13nm,0.9s
PSI Prapat 73.55 98 P **P 13 15 35.4 +0.6**
PSI pmax pmax
comp=Z,7.0nm,0.8s
RPSI Rantau Prapat 73.61 98 P **P 13 15 35.4 +0.4**
RPSI IAmb IAmb 13 15 42.8
comp=Z,7.3nm,0.8s
C36M Paulatuk 73.92 350 P **P 13 15 34.8 -1.1**
FCC Fort Churchill 74.67 332 P **P 13 15 40.7 +0.3**
FCC IAmb IAmb 13 15 45.6
comp=Z,18nm,1.4s
FCC Fort Churchill 74.67 332 P **P 13 15 40.7 +0.3**

FCC pmax pmax
comp=Z,17nm,1.4s
MA2 Magadan 75.06 26 LR LR 13 53 05.1
comp=Z,137nm,18.4s,baz=309,slow=39
L59A Walton 75.35 311 P **P 13 15 44.8 0.0**
USA0B Ussuriysk Arra 75.93 46 P **P 13 15 47.6 -0.4**
USA0B IAmb IAmb 13 15 50.8
comp=Z,15nm,1.1s
USA0B Ussuriysk Arra 75.93 46 *i* P **P 13 15 46.8 -1.1**
USRK Ussuriysk Ar. 75.93 46 P **P 13 15 47.5 -0.4**
comp=Z,8.2nm,0.7s,baz=285,slow=2.3,SNR=16
USRK LR LR 13 54 46.6
comp=Z,117nm,19.3s,baz=309,slow=40
comp=Z,8.2nm,0.7s
USRK Ussuriysk Ar. 75.93 46 P **P 13 15 48.0 0.0**
USRK Ussuriysk Ar. 75.93 46 P **P 13 15 48.0 0.0**
INK Inuvik 76.10 353 LR LR 13 53 21.4
comp=Z,108nm,18.1s,baz=0.5,slow=39
INK Inuvik 76.10 353 P **P 13 15 47.5 -1.0**
INK Inuvik 76.10 353 P **P 13 15 47.5 -1.0**
INK pmax pmax
comp=Z,7.0nm,1.3s
SADO Sadowa 76.33 315 LR LR 13 51 11.0
comp=Z,111nm,18.1s,baz=101,slow=37
TOLK Toolik Lake Re 76.76 359 P **P 13 15 52.2 -0.1**
PDSI Padang 76.95 100 P P 13 16 01.1 +6.9
N58A Sunbury 77.15 311 P **P 13 15 55.0 +0.1**
N58A IAmb IAmb 13 16 12.1
comp=Z,19nm,1.1s
KSAR Wonju Array Be 77.19 53 P **P 13 15 55.1 -0.1**
KSAR Wonju Array Be 77.19 53 P **P 13 15 55.1 -0.1**
KSRS Korea Array 77.21 53 P **P 13 15 55.4 +0.1**
comp=Z,3.3nm,0.9s,baz=306,slow=4.6,SNR=12
KSRS LR LR 13 54 17.0
comp=Z,193nm,21.8s,baz=315,slow=39
comp=Z,3.3nm,0.9s
BMAR Burnt Mountain 77.81 357 P **P 13 15 58.5 +0.3**
YKA Yellowknife Ar 78.18 343 P **P 13 15 59.7 -0.6**
comp=Z,7.3nm,0.8s,baz=35,slow=5.8,SNR=72
comp=Z,7.3nm,0.8s
COLD Coldfoot 78.19 359 P **P 13 16 00.3 +0.1**
E46A Sault Ste Mari 78.26 319 P **P 13 16 01.4 +0.3**
UGL Uglegorsk 78.44 37 *e*P **P 13 16 00.0 -1.9**
UGL pmax pmax
comp=Z,30nm,1.0s
MDP Montagnes des 78.65 268 LR LR 13 51 12.5
comp=Z,97nm,19.8s,baz=109,slow=36
GDSD La Dsirade Is 79.35 282 P **P 13 16 06.8 -0.7**
IMAR Indian Mountai 79.45 0 P **P 13 16 07.5 +0.3**
H24K Noodor Dome 79.53 358 P **P 13 16 07.4 -0.3**
H24K IAmb IAmb 13 16 20.2
comp=Z,14nm,1.4s
H23K Yukon River 79.58 359 P **P 13 16 08.0 +0.1**
H23K IAmb IAmb 13 16 11.2
comp=Z,14nm,1.2s
Q56A Snyder Ridge, 79.74 311 P **P 13 16 10.1 +0.8**
Q56A IAmb IAmb 13 16 12.4
comp=Z,11nm,0.8s
H21K Melozitna Rive 79.78 360 P **P 13 16 09.3 +0.2**
YSS Yuzh-Sakhalins 80.18 39 P **P 13 16 11.9 +0.5**
YSS IAmb IAmb 13 16 15.6
comp=Z,15nm,0.9s
YSS Yuzh-Sakhalins 80.18 39 *e*P **P 13 16 12.9 +1.4**
YSS pmax pmax
comp=Z,20nm,1.0s
EGAK Eagle 80.24 355 P **P 13 16 11.4 0.0**
I23K Minto, Yukon-K 80.26 358 P **P 13 16 11.6 0.0**
I21K Tanana 80.26 360 P **P 13 16 11.9 +0.3**
I21K IAmb IAmb 13 16 38.6
comp=Z,21nm,1.3s
MDM Murphy Dome 80.42 358 P **P 13 16 12.4 -0.1**
MDM IAmb IAmb 13 16 15.1
comp=Z,15nm,1.2s
ILAR Eielson Array 80.56 357 P **P 13 16 12.1 -1.1**
comp=Z,1.8nm,0.9s,baz=338,slow=3.9,SNR=18
ILAR LR LR 13 55 38.3
comp=Z,72nm,18.6s,baz=3.0,slow=39
comp=Z,1.8nm,0.9s
ILAR Eielson Array 80.56 357 P **P 13 16 12.8 -0.4**
ILAR Eielson Array 80.56 357 P **P 13 16 12.8 -0.4**
FFC Flin Flon 80.59 333 P **P 13 16 13.4 -0.2**
FFC IAmb IAmb 13 16 15.9
comp=Z,9.0nm,0.9s
FFC Flin Flon 80.59 333 P **P 13 16 13.4 -0.2**
FFC pmax pmax
comp=Z,9.0nm,0.9s
J26L Joseph Creek 80.67 356 P **P 13 16 13.6 -0.4**
CCB Clear Creek Bu 80.72 358 P **P 13 16 14.0 0.0**
O52A Adamsville 80.72 313 P **P 13 16 14.8 +0.3**
O52A IAmb IAmb 13 16 17.5
comp=Z,27nm,1.2s
R55A Marlinton 80.78 310 P **P 13 16 15.9 +0.9**
DAWY Dawson 80.80 354 P **P 13 16 14.5 -0.1**
P53A Whipple 80.83 312 P **P 13 16 15.9 +0.7**
P53A IAmb IAmb 13 16 40.3
comp=Z,18nm,1.1s
WRH Wood River Hil 80.90 358 P **P 13 16 14.5 -0.5**
WRH IAmb IAmb 13 16 16.6
comp=Z,7.7nm,0.8s
HDA Harding Lake 80.92 357 P **P 13 16 14.8 -0.4**
EYMN Ely 80.95 323 P **P 13 16 15.7 +0.1**
EYMN IAmb IAmb 13 16 29.1
comp=Z,21nm,1.4s
K27K Chicken 81.04 355 P **P 13 16 15.8 0.0**
K27K IAmb IAmb 13 16 19.2
comp=Z,10nm,1.1s
P52A Corning 81.19 312 P **P 13 16 17.2 +0.1**
P52A IAmb IAmb 13 16 28.7
comp=Z,14nm,1.1s
SCRK Sand Creek 81.22 356 P **P 13 16 17.0 +0.1**
J20K Nowinta River 81.27 1 P **P 13 16 17.4 +0.4**
J20K IAmb IAmb 13 16 19.4
comp=Z,7.5nm,0.8s
BPAW Bear Paw Mtn. 81.34 359 P **P 13 16 17.3 -0.1**
ULM Lac du Bonnet 81.39 327 P **P 13 16 17.1 -0.9**
comp=Z,4.1nm,0.5s,baz=48,slow=5.4,SNR=10
ULM LR LR 13 51 41.9
comp=Z,137nm,20.9s,baz=41,slow=35
comp=Z,4.1nm,0.5s
ULM Lac du Bonnet 81.39 327 P **P 13 16 17.4 -0.5**
ULM IAmb IAmb 13 16 28.0
comp=Z,9.3nm,1.1s
ULM Lac du Bonnet 81.39 327 P **P 13 16 17.4 -0.5**
ULM pmax pmax
comp=Z,9.0nm,1.1s
RIDG Independent Ri 81.50 356 P **P 13 16 18.9 +0.6**
RIDG IAmb IAmb 13 16 40.8
comp=Z,19nm,1.5s
N49A Columbus Grove 81.61 314 P **P 13 16 19.0 -0.3**
N49A IAmb IAmb 13 16 30.7
comp=Z,15nm,1.1s
MCK McKinley 81.67 358 P **P 13 16 19.5 +0.4**
MCK IAmb IAmb 13 16 21.6
comp=Z,13nm,1.2s
MCK McKinley 81.67 358 P **P 13 16 19.5 +0.4**
MCK pmax pmax
comp=Z,13nm,1.2s
JNU Nakatsue 81.68 55 LR LR 13 56 15.9
comp=Z,90nm,18.1s,baz=302,slow=38
KTH Kantishna Hill 81.88 359 P **P 13 16 19.9 -0.5**
KTH IAmb IAmb 13 16 24.9
comp=Z,26nm,1.4s
FARO Faro, Yukon 81.94 351 P **P 13 16 20.6 0.0**
FARO IAmb IAmb 13 16 23.9
comp=Z,10.0nm,1.1s
ASAJ Asahikawa 81.97 41 LR LR 13 58 02.5
comp=Z,129nm,18.1s,baz=324,slow=40
BCAR Beaver Creek A 81.98 355 P **P 13 16 21.0 +0.1**
TRF Thorofare Moun 81.98 359 P **P 13 16 20.1 -0.9**
TRF IAmb IAmb 13 16 47.9
comp=Z,17nm,1.4s
L27K Beaver Creek, 81.98 355 P **P 13 16 21.4 +0.5**
M30M Minto, Yukon 82.01 353 P **P 13 16 20.8 -0.2**
CAST Castle Rocks 82.03 360 P **P 13 16 20.4 -0.7**
CAST IAmb IAmb 13 16 23.6
comp=Z,7.3nm,0.9s
K20K Telida 82.09 1 P **P 13 16 21.0 -0.4**
M31M Drury Creek, Y 82.10 351 P **P 13 16 21.4 0.0**
M31M IAmb IAmb 13 16 25.1
comp=Z,7.7nm,1.0s
O49A Covington 82.17 314 P **P 13 16 22.7 +0.5**
HILA High Level 82.19 342 P **P 13 16 22.7 +0.7**
DHY Denali Highway 82.28 357 P **P 13 16 22.4 -0.2**
DHY IAmb IAmb 13 16 24.8
comp=Z,8.4nm,0.9s

I42A Draeger Farm, 82.35 319 P **P 13 16 22.8 -0.3**
I42A IAmb IAmb 13 16 25.8
comp=Z,12nm,0.8s
PETK Petropavlovsk- 82.45 27 LR LR 13 59 07.1
comp=Z,157nm,18.1s,baz=311,slow=40
PPLA Purkeypile 82.56 360 P **P 13 16 23.7 -0.3**
N31M Braeburn, Yuko 82.96 352 P **P 13 16 25.5 -0.4**
N31M IAmb IAmb 13 16 48.5
comp=Z,14nm,1.2s
M24K Tolsona, Glenn 83.19 357 P **P 13 16 28.4 +1.1**
M24K IAmb IAmb 13 16 41.1
comp=Z,14nm,1.1s
L19K White Mountain 83.26 1 P **P 13 16 26.9 -0.6**
L19K IAmb IAmb 13 16 30.3
comp=Z,8.6nm,1.1s
F36A Milaca 83.40 323 P **P 13 16 28.3 -0.2**
F36A IAmb IAmb 13 16 30.6
comp=Z,10nm,0.8s
SKT Skwentna 83.47 359 P **P 13 16 27.4 -1.2**
SKT IAmb IAmb 13 16 44.4
comp=Z,8.9nm,1.0s
SCM Sheep Creek Mo 83.52 357 P **P 13 16 28.5 -0.4**
SCM Sheep Creek Mo 83.52 357 P **P 13 16 28.5 -0.4**
SCM pmax pmax
comp=Z,17nm,1.0s
M20K Styx River 83.57 0 P **P 13 16 29.0 -0.2**
M20K IAmb IAmb 13 16 49.6
comp=Z,15nm,1.4s
SML Sawmill 83.58 358 P **P 13 16 28.8 -0.4**
SML IAmb IAmb 13 16 55.6
comp=Z,15nm,1.4s
N25K Chitina, Valde 83.61 356 P **P 13 16 29.2 -0.2**
KLU Klutina 83.80 357 P **P 13 16 29.9 -0.4**
KLU IAmb IAmb 13 16 52.6
comp=Z,15nm,1.4s
HYT Haines Junctio 83.80 352 P **P 13 16 30.7 +0.3**
HYT IAmb IAmb 13 16 33.9
comp=Z,19nm,1.4s
P33M Teslin, Yukon 83.81 350 P **P 13 16 30.3 -0.2**
P33M IAmb IAmb 13 16 43.2
comp=Z,12nm,1.4s
KNK Knik Glacier 83.98 358 P **P 13 16 31.5 +0.3**
SUA Susitna One 83.98 359 P **P 13 16 30.9 -0.4**
SUA IAmb IAmb 13 16 54.6
comp=Z,9.3nm,0.8s
RC01 Rabbit Creek A 84.33 358 P **P 13 16 32.8 -0.2**
RC01 IAmb IAmb 13 16 35.8
comp=Z,9.0nm,1.0s
SVW2 Sparrevohn 84.34 1 P **P 13 16 33.1 +0.1**
SVW2 IAmb IAmb 13 16 35.6
comp=Z,8.8nm,1.1s
MJAR Matsushiro Arr 84.34 49 P **P 13 16 33.7 +0.2**
comp=Z,2.5nm,0.8s,baz=317,slow=4.4,SNR=7.2
MJAR LR LR 13 59 08.3
comp=Z,138nm,20.5s,baz=314,slow=39
comp=Z,2.5nm,0.8s
V52A Sevierville 84.47 310 P **P 13 16 34.4 +0.2**
V52A IAmb IAmb 13 16 37.0
comp=Z,6.8nm,0.9s
T50A Nancy 84.49 312 P **P 13 16 34.5 +0.2**
TKL Tuckaleechee C 84.70 310 LR LR 13 55 22.2
comp=Z,142nm,18.6s,baz=57,slow=36
DLBC Dease Lake 85.07 348 LR LR 13 55 12.5
comp=Z,168nm,19.4s,baz=22,slow=36
DLBC Dease Lake 85.07 348 P **P 13 16 37.5 +0.7**
DLBC IAmb IAmb 13 16 44.7
comp=Z,20nm,1.4s
CPCT Cooper Cave 85.30 310 P **P 13 16 38.8 +0.4**
SEW Seward 85.31 358 P **P 13 16 38.0 +0.1**
SEW IAmb IAmb 13 16 46.0
comp=Z,14nm,1.2s
U49A Red Boiling Sp 85.39 312 P **P 13 16 39.2 +0.4**
BRLK Bradley Lake 85.69 359 P **P 13 16 40.1 +0.2**
BRLK IAmb IAmb 13 16 41.3
comp=Z,16nm,1.0s
WAPA Wapiti River 85.75 341 P **P 13 16 40.8 +0.5**
EDM Edmonton 85.76 337 P **P 13 16 40.3 0.0**
EDM IAmb IAmb 13 16 42.2
comp=Z,12nm,0.7s
EDM Edmonton 85.76 337 P **P 13 16 40.3 0.0**
EDM pmax pmax
comp=Z,12nm,0.7s
W50A Signal Mountai 85.96 311 P **P 13 16 42.1 +0.4**
CLTN Cedars of Leba 86.01 312 P **P 13 16 42.2 +0.3**
CLTN IAmb IAmb 13 16 55.1
comp=Z,19nm,1.3s
Y52A Lilburn 86.02 309 P **P 13 16 42.5 +0.5**
Y52A IAmb IAmb 13 16 44.9
comp=Z,10nm,0.8s
BRLDA Berland Lookou 86.22 340 P **P 13 16 42.7 +0.1**
255A Hazlehurst 86.22 307 P **P 13 16 43.2 +0.2**
E28A Huff 86.27 327 P **P 13 16 43.0 0.0**
ECSD EROS Data Cent 86.45 323 P **P 13 16 44.3 +0.4**
ECSD IAmb IAmb 13 16 55.1
comp=Z,14nm,1.4s
FPAL Fort Paine 86.57 310 P **P 13 16 45.0 +0.3**
FPAL IAmb IAmb 13 16 47.8
comp=Z,14nm,0.9s
S44A Carbondale 86.70 315 P **P 13 16 45.5 +0.3**
N38A Joes South For 86.81 319 P **P 13 16 45.8 +0.1**
WVT Waverly 86.89 313 P **P 13 16 45.9 -0.3**
WVT IAmb IAmb 13 16 57.2
comp=Z,10.0nm,1.2s
WVT Waverly 86.89 313 P **P 13 16 45.9 -0.3**
WVT pmax pmax
comp=Z,10.0nm,1.2s
BDFB Brasilia 87.04 249 P **P 13 16 49.2 +2.0**
comp=Z,3.2nm,0.9s,baz=18,slow=7.5,SNR=3.4
BDFB LR LR 13 57 57.1
comp=Z,199nm,18.1s,baz=119,slow=37
comp=Z,3.2nm,0.9s
WRAK Wrangell Islan 87.38 349 P **P 13 16 47.8 -0.3**
WRAK IAmb IAmb 13 17 10.3
comp=Z,8.6nm,0.8s
Y49A Blount Mountai 87.52 310 P **P 13 16 49.3 0.0**
CCM Cathedral Cave 87.60 316 P **P 13 16 49.7 +0.1**
CCM Cathedral Cave 87.60 316 P **P 13 16 49.7 +0.1**
CCM pmax pmax
comp=Z,14nm,0.9s
R40A Maddies Statio 88.02 317 P **P 13 16 51.6 0.0**
SHEM Shemya Is, Ala 88.14 19 LR LR 13 59 58.4
comp=Z,81nm,20.5s,baz=305,slow=38
OHAK Old Harbor 88.25 0 P **P 13 16 53.0 +0.8**
LRAL Lakeview Retre 88.43 310 P **P 13 16 53.8 +0.2**
LRAL IAmb IAmb 13 16 56.7
comp=Z,13nm,1.1s
Y45A Yeager Farm, C 89.45 312 P **P 13 16 58.6 +0.2**
WALA Waterton Lakes 89.50 336 P **P 13 16 58.2 -0.3**
WALA IAmb IAmb 13 17 16.4
comp=Z,13nm,1.3s
BBB Bella Bella 90.61 345 LR LR 14 02 13.1
comp=Z,54nm,18.7s,baz=331,slow=39
NEW Newport 91.25 337 LR LR 13 58 14.9
comp=Z,134nm,21.6s,baz=25,slow=36
BOZ Bozeman (W) 91.61 332 P **P 13 17 08.4 0.0**
BOZ Bozeman (W) 91.61 332 P **P 13 17 08.4 0.0**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
PHWY Pilot Hill 92.53 326 P **P 13 17 13.0 0.0**
PHWY IAmb IAmb 13 17 15.4
comp=Z,4.6nm,0.8s
PDAR Pinedale Array 93.14 330 P **P 13 17 14.7 -1.0**
comp=Z,0.5nm,0.6s,baz=88,slow=2.9,SNR=6.6
PDAR LR LR 14 00 40.1
comp=Z,175nm,18.5s,baz=34,slow=37
comp=Z,0.5nm,0.6s
HWUT Hardware Ranch 94.93 330 P **P 13 17 23.5 -0.4**
ELK Elko 97.12 332 LR LR 14 04 23.7
comp=Z,223nm,18.6s,baz=37,slow=37
SIV San Ignacio 97.47 256 LR LR 14 05 29.4
comp=Z,78nm,18.1s,baz=105,slow=38
ANMO Albuquerque 98.07 323 LR LR 14 04 31.6
comp=Z,49nm,18.7s,baz=134,slow=37
CLN7 Carlsbad 7 98.70 320 P **P 13 17 40.2 -0.8**
YBH Yreka Blue Hor 98.86 338 LR LR 14 04 28.8
comp=Z,166nm,18.4s,baz=2.0,slow=37
WRA Warramunga Arr 115.02 98 PKP **PKPdf 13 22 42.1 -0.6**
comp=Z,0.6nm,0.8s,baz=297,slow=3.7,SNR=2.6
ASAR Alice Springs 116.47 101 PKP **PKPdf 13 22 45.0 -0.5**
comp=Z,0.5nm,0.6s,baz=308,slow=1.7,SNR=10
ASAR Alice Springs 116.47 101 PKIKP **PKPdf 13 22 45.0 -0.5**

IDC 01 13:24:52.5±3.3,15°12S×175°20W,h0km,mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=175.0km

s-min=28.4km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.22**	**257**	P	P	13 33 35.2	-0.1
	0.9nm,0.7s,baz=90,slow=7.0,SNR=9.5						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**48.55**	**252**	P	P	13 33 37.7	-0.2
	7.8nm,0.6s,baz=88,slow=7.7,SNR=224						
	7.8nm,0.6s						
ILAR	**Eielson Array**	**82.52**	**12**	P	P	13 37 16.8	+0.1
	0.2nm,0.5s,baz=226,slow=5.3,SNR=8.9						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**83.23**	**42**	P	P	13 37 21.1	-0.1
	0.1nm,0.5s,baz=193,slow=3.7,SNR=2.2						
	0.1nm,0.5s						

*DDA **01** 13:30:16.0±0.0,34°.39N×26°.50E,h15km,ML2.9*
*IDC **01** 13:30:22.1±1.4,35°.15N×26°.90E,h0km,mb3.7/9, mbtmp3.5/12,ML3.0/3, Error ellipse: s-maj=31.9km s-min=20.0km az=160.0*
*ISK **01** 13:30:23.4,34°.94N×27°.14E,h7km,ML3.1/22*
*THE **01** 13:30:24.9,34°.98N×27°.03E,h0km±3km,ML2.9/2, Error ellipse: s-maj=6.5km s-min=1.2km az=149.0*
*ATH **01** 13:30:26.4,35°.07N×26°.93E,h10km±31km,ML2.9/4, Error ellipse: s-maj=31.6km s-min=1.7km az=0.0*

ISC 01 13:30:22.7±1.6,34°.94N±0°.06×26°.97E±0°.03,h8km±10km, n58,σ1s12/67,mb3.5/9,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.63**	**15**	P	**Pb**	**13 30 36.0**	**+0.1**
KARP				S	**Sb**	**13 30 45.8**	**+0.9**
	2μm,0.5s						
KARP	**Karpathos**	**0.63**	**15**	Pg	**Pb**	**13 30 35.7**	**-0.2**
KARP	**Karpathos**	**0.63**	**15**	P	**Pb**	**13 30 36.1**	**+0.1**
KARP				S	**Sg**	**13 30 43.1**	**0.0**
KARP				AML	AML	13 30 55.1	
	comp=N,3675μm,0.5s						
KARP				AML	AML	13 30 55.4	
	comp=E,5144μm,0.6s						
ZKR	**Zakros**	**0.64**	**286**	P	**Pn**	**13 30 38.0**	**0.0**
ZKR				S	**Sn**	**13 30 49.6**	**+1.2**
	comp=E,1μm,0.5s						
ZKR	**Zakros**	**0.64**	**286**	Pg	**Pn**	**13 30 38.1**	**0.0**
ZKR				Sg	**Sn**	**13 30 50.2**	**+1.8**
ZKR	**Zakros**	**0.64**	**286**	P	**Pn**	**13 30 38.0**	**0.0**
ZKR				S	**Sb**	**13 30 46.0**	**+0.8**
ZKR				AML	AML	13 30 53.2	
	comp=N,1378μm,0.6s						
ZKR				AML	AML	13 31 01.1	
	comp=E,2696μm,0.5s						
FRMA	**Ierapetra Chan**	**1.02**	**275**	P	**Pg**	**13 30 42.1**	**-0.1**
HRKL	**Herakleio**	**1.57**	**284**	Pn	**Pg**	**13 30 54.5**	**+1.6**
ARG	**Arkhangelos**	**1.59**	**36**	P	**Pn**	**13 30 51.1**	**0.0**
ARG	**Arkhangelos**	**1.59**	**36**	Pn	**Pn**	**13 30 51.4**	**+0.3**
ARG	**Arkhangelos**	**1.59**	**36**	P	**Pb**	**13 30 52.6**	**+0.4**
ARG				AML	AML	13 31 20.3	
	comp=E,540μm,0.7s						
ARG				AML	AML	13 31 28.1	
	comp=N,566μm,0.9s						
NISR	**Nisiros**	**1.68**	**4**	P	**Pb**	**13 30 53.8**	**0.0**
NISR	**Nisiros**	**1.68**	**4**	P	**Pb**	**13 30 53.5**	**-0.2**
NISR				AML	AML	13 31 29.1	
	comp=E,1178μm,0.7s						
NISR				AML	AML	13 31 32.9	
	comp=N,821μm,0.6s						
DAT	**Datca**	**1.85**	**15**	P	**Pb**	**13 30 56.5**	**-0.4**
DAT	**Datca**	**1.85**	**15**	Pn	**Pn**	**13 30 55.7**	**+0.8**
SANT	**Santorini**	**1.89**	**320**	Pn	**Pg**	**13 30 58.1**	**-0.7**
THT2	**Imerovigli**	**1.95**	**320**	Pn	**Pb**	**13 30 59.1**	**+0.6**
THT2				Sn	**Sg**	**13 31 25.1**	**-0.3**
CMBO	**Columbo, Santo**	**1.99**	**321**	P	**Pb**	**13 30 59.2**	**+0.1**
BODT	**Bodrum**	**2.14**	**7**	P	**Pn**	**13 30 59.7**	**+1.0**
BODT	**Bodrum**	**2.14**	**7**	Pn	**Pn**	**13 31 00.2**	**+1.5**
BDRM	**Kayabasi**	**2.16**	**10**	P	**Pn**	**13 31 00.2**	**+1.3**
DALY	**Dalyan (Mula)**	**2.32**	**36**	Pn	**Pn**	**13 31 01.9**	**+0.7**
GVDS	**Gavdos**	**2.37**	**269**	Pn	**Pb**	**13 31 05.9**	**+0.4**
GVD	**Gavdhos**	**2.37**	**268**	Pn	**Pb**	**13 31 06.1**	**+0.5**
FETY	**Fethiye**	**2.41**	**45**	Pn	**Pn**	**13 31 02.7**	**+0.2**
APE	**Apeiranthos**	**2.42**	**332**	Pn	**Pb**	**13 31 05.7**	**-0.9**
YER	**Yerkesik**	**2.44**	**26**	Pn	**Pn**	**13 31 03.8**	**+1.0**
MLSB	**Milas**	**2.44**	**15**	Pn	**Pn**	**13 31 04.2**	**+1.3**
KSL	**Kastellorizon**	**2.45**	**60**	P	**Pn**	**13 31 04.2**	**+1.2**
IMMV	**Iera Moni Meta**	**2.50**	**283**	Pn	**Pb**	**13 31 07.8**	**0.0**
AKAS	**Kas**	**2.51**	**58**	Pn	**Pn**	**13 31 04.1**	**+0.3**
AKAS	**Kas**	**2.51**	**58**	P	**Pn**	**13 31 04.2**	**+0.3**
MULA	**Mugla, Merkez-**	**2.56**	**25**	P	**Pn**	**13 31 06.8**	**+2.2**
MULA				S	**Sg**	**13 31 44.3**	**-0.6**
MULA				*i* AML	AML	13 31 54.0	
	comp=N,46nm,0.7s						
MULA				*i* AML	AML	13 31 55.0	
	comp=N,21nm,0.9s						
GCAM	**G?zelcaml?**	**2.77**	**4**	Pn	**Pn**	**13 31 09.7**	**+2.4**
AYDN	**Tasoluk**	**2.81**	**15**	P	**Pn**	**13 31 09.9**	**+1.8**
TAVA	**DENIZLI_Tavas**	**2.97**	**31**	P	**Pn**	**13 31 11.2**	**+0.9**
TAVA				S	**Sb**	**13 31 55.2**	**+2.7**
TAVA				*i* AML	AML	13 32 03.0	
	comp=N,30nm,0.7s						
ELL	**Elmali**	**3.00**	**52**	Pn	**Pn**	**13 31 11.3**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**3.09**	**14**	Pn	**Pn**	**13 31 13.3**	**+1.4**
GOLH	**Golhisar**	**3.11**	**42**	P	**Pn**	**13 31 13.4**	**+1.3**
APMY	**Acipayam-Deniz**	**3.16**	**36**	Pn	**Pn**	**13 31 13.5**	**+0.8**
URLA	**Izmir**	**3.43**	**355**	Pn	**Pn**	**13 31 18.4**	**+2.0**
CHOS	**Chios island**	**3.52**	**348**	P	**Pn**	**13 31 19.0**	**+1.3**
CHOS	**Chios island**	**3.52**	**348**	Pn	**Pn**	**13 31 19.5**	**+1.8**
PASA	**Karahalli, USA**	**3.96**	**30**	P	**Pn**	**13 31 24.2**	**+0.4**
USAK	**Uak-Merkez**	**4.11**	**23**	P	**Pn**	**13 31 26.3**	**+0.4**
SEDI	**Konya, Seydise**	**4.61**	**56**	P	**Pn**	**13 31 35.0**	**+2.2**
SEDI				S	**Sn**	**13 32 27.8**	**+1.2**
BRTR	**Keskin Array B**	**7.15**	**46**	Pn	**Pn**	**13 32 07.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=220,slow=13,SNR=4.7						
	comp=N,0.7nm,0.8s						
AKASG	**Malin Array Be**	**15.84**	**5**	Pn	**Pn**	**13 34 03.8**	**-2.1**
	comp=N,0.1nm,0.3s,baz=193,slow=11,SNR=1.7						
	comp=N,0.1nm,0.3s						
GERES	**GERESS Array B**	**17.01**	**329**	Pn	**Pn**	**13 34 19.2**	**-1.8**
	baz=141,slow=11,SNR=1.5						
	comp=N,0.2nm,0.6s						
ESDC	**Sonseca Array**	**24.98**	**290**	P	**P**	**13 35 46.9**	**0.0**
	comp=N,0.4nm,0.4s,baz=83,slow=9.5,SNR=15						
	comp=N,0.4nm,0.4s						
FINES	**FINESS Array B**	**26.53**	**359**	P	**P**	**13 35 58.8**	**-1.8**
	comp=N,9.8nm,1.2s,baz=165,slow=11,SNR=5.9						
	comp=N,9.8nm,1.2s						
EKA	**Eskdalemuir Ar**	**29.09**	**324**	P	**P**	**13 36 22.4**	**-1.0**
	comp=N,1.5nm,0.8s,baz=117,slow=11,SNR=1.6						
	comp=N,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.51**	**233**	P	**P**	**13 36 46.3**	**+1.0**
	comp=N,0.3nm,0.7s,baz=38,slow=8.7,SNR=2.4						
	comp=N,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**34.66**	**359**	P	**P**	**13 37 11.0**	**-1.2**
	comp=N,3.6nm,1.0s,baz=158,slow=10,SNR=1.8						
	comp=N,3.6nm,1.0s						
KURBB	**Kurchatov Arra**	**40.11**	**51**	P	**P**	**13 37 58.5**	**-0.1**
	comp=N,0.3nm,0.6s,baz=275,slow=8.6,SNR=3.0						
	comp=N,0.3nm,0.6s						
MKAR	**Makanchi Array**	**42.66**	**56**	P	**P**	**13 38 19.9**	**+0.2**
	comp=N,0.3nm,0.5s,baz=274,slow=7.8,SNR=6.7						
	comp=N,0.3nm,0.5s						
SONM	**Songino Array**	**58.48**	**51**	P	**P**	**13 40 19.8**	**+0.6**
	comp=N,0.2nm,0.5s,baz=287,slow=8.1,SNR=2.3						
	comp=N,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**78.11**	**343**	P	**P**	**13 42 21.0**	**-0.8**
	comp=N,0.2nm,0.8s,baz=41,slow=6.2,SNR=4.4						
	comp=N,0.2nm,0.8s						

*IDC **01** 13:39:10.6±1.9,6°.13S×103°.15E,h0km,mb3.8/10, mbtmp3.8/11,ML4.1/1, Error ellipse: s-maj=60.6km s-min=17.4km az=51.0*
*DJA **01** 13:39:18.2±0.5,6°.5S±4°×10°.4E±°,h10km,M4.1/13, MLv4.1/13*
*NEIC **01** 13:39:19.0±1.5,5°.8S±0°.1×103°.8E±0°.1,h35km±2km, mb4.1/4, Error ellipse: s-maj=32.3km s-min=11.5km az=223.0*

ISC 01 13:39:17.2±0.8,5°98S±0°.09×103°57E±0°.08,h35km,n40, σ2s07/34,mb3.9/11,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.03**	**64**	P	**Pn**	**13 39 34.7**	**-0.4**
KASI				S	**Sn**	**13 39 46.8**	**-1.6**

LWLI	**Liwa**	**1.07**	**27**	P		**Pn**	**13 39 37.6**	**+1.7**
MDSI	**Maura Dua**	**1.60**	**22**	P		**Pn**	**13 39 44.9**	**+1.8**
KLI	**Kotabumi**	**1.70**	**49**	P		**Pn**	**13 39 47.9**	**+3.6**
MNAI	**Manna**	**1.72**	**339**	Pn		**Pn**	**13 39 46.6**	**+1.9**
MNAI	**Manna**	**1.72**	**339**	P		**Pn**	**13 39 49.2**	**+4.5**
BLSI	**Bandar Lampung**	**1.78**	**70**	P		**Pn**	**13 39 47.5**	**+2.0**
CGJI	**Cibinong**	**2.20**	**107**	P		**Pn**	**13 39 50.6**	**-0.7**
SBJI	**Serang**	**2.55**	**93**	P		**Pn**	**13 39 58.1**	**+2.0**
MASI	**Maura Aman, Be**	**3.12**	**335**	P		Pn	13 40 09.4	+5.5
PMBI	**Palembang**	**3.26**	**22**	Pn		**Pn**	**13 40 06.0**	**+0.1**
CNJI	**Cibinong**	**3.78**	**111**	P		**Pn**	**13 40 13.1**	**+0.1**
LEM	**Lembang**	**4.11**	**102**	Pn		**Pn**	**13 40 22.1**	**+4.4**
	9.3nm,0.3s,baz=319,slow=20,SNR=4.2							
LEM				Sn		**Sn**	**13 41 11.4**	**+6.7**
	5.2nm,0.3s,baz=0.0,slow=20,SNR=2.0							
	21nm,0.4s							
LEM	**Lembang**	**4.11**	**102**	P		**Pn**	**13 40 18.6**	**+0.9**
CMJI	**Cimerak**	**5.17**	**111**	P		**Pn**	**13 40 32.3**	**+0.2**
UGM	**Wanagama**	**7.17**	**106**	Pn		**Pn**	**13 41 00.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**10.79**	**104**	Pn		**Pn**	**13 41 48.9**	**-0.4**
BATI	**Baumata**	**20.33**	**103**	P		Pn	13 43 52.7	-0.1
	11nm,0.4s,baz=170,slow=21,SNR=1.9							
	11nm,0.4s							
SOEI	**Soe**	**20.84**	**102**	P		**P**	**13 43 55.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**24.71**	**349**	P		**P**	**13 44 34.5**	**-0.8**
	1.4nm,0.8s,baz=181,slow=9.1,SNR=16							
	1.4nm,0.8s							
H01W3	**Cape Leeuwin H**	**30.37**	**163**	T		T	14 17 36.9	
	baz=342							
H01W2	**Cape Leeuwin H**	**30.39**	**163**	T		T	14 17 38.6	
	baz=342							
H01W1	**Cape Leeuwin H**	**30.39**	**163**	T		T	14 17 34.6	
	baz=342							
H08S2	**Diego Garcia H**	**30.90**	**265**	T		T	14 18 21.4	
	baz=86							
H08S3	**Diego Garcia H**	**30.91**	**265**	T		T	14 18 18.9	
	baz=86							
H08S1	**Diego Garcia H**	**30.91**	**265**	T		T	14 18 16.4	
	baz=86							
WRA	**Warramunga Arr**	**32.96**	**118**	P		**P**	**13 45 50.7**	**+1.8**
	0.6nm,1.0s,baz=307,slow=8.6,SNR=2.0							
	0.6nm,1.0s							
ASAR	**Alice Springs**	**34.06**	**124**	P		**P**	**13 45 58.5**	**0.0**
	0.2nm,0.5s,baz=308,slow=7.7,SNR=2.2							
	0.2nm,0.5s							
AS31	**Alice Springs**	**34.07**	**124**	P		**P**	**13 45 57.6**	**-1.0**
AS31				IAmb		IAmb	13 46 19.6	
	comp=Z,1.7nm,1.2s							
STKA	**Stephens Creek**	**43.87**	**131**	P		**P**	**13 47 19.9**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=286,slow=7.4,SNR=1.6							
	comp=Z,1.5nm,0.7s							
BJT	**Baijiatuau**	**47.22**	**13**	P		**P**	**13 47 45.2**	**-1.5**
BJT				IAmb		IAmb	13 48 21.6	
	comp=Z,7.0nm,1.4s							
KSRS	**Korea Array**	**48.82**	**26**	P		**P**	**13 47 59.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=220,slow=7.4,SNR=3.3							
	comp=Z,0.7nm,0.6s							
SONM	**Songino Array**	**53.64**	**2**	P		**P**	**13 48 35.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=185,slow=8.3,SNR=4.0							
	comp=Z,0.3nm,0.5s							
SONM	**Songino Array**	**53.64**	**2**	P		**P**	**13 48 33.9**	**-1.4**
MKAR	**Makanchi Array**	**55.83**	**342**	P		**P**	**13 48 49.8**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=143,slow=7.7,SNR=11							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**55.83**	**342**	P		**P**	**13 48 51.4**	**+0.3**
KLR	**Kul'dur**	**60.23**	**21**	P		**P**	**13 49 21.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=174,slow=4.7,SNR=4.8							
	comp=Z,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**61.75**	**348**	P		**P**	**13 49 32.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=150,slow=6.5,SNR=5.2							
	comp=Z,1.4nm,0.5s							
ABKAR	**Akbulak array**	**66.82**	**331**	P		**P**	**13 50 05.6**	**+0.2**
TXAR	**Lajitas Array**	**145.35**	**45**	PKPbc		**PKPbc**	**13 58 51.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=267,slow=1.0,SNR=9.4							

*ASRS **01** 13:40:30.7±0.2,55°N±2°×8°4E±°, h0km, ML3.2/10, Error ellipse: s-maj=3.7km s-min=1.9km az=26.0, confirmed*
*NNC **01** 13:40:53.1±2.4,53°.68N×83°.38E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=17.2km s-min=11.4km az=32.0*

ISC 01 13:40:30.8±0.9,54°.65N±0°.03×83°.63E±0°.02, h4km±7km, n25, σ1§86/45, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHAR	**Kharino, NSO,**	**0.05**	**213**	Pg	**Pg**	**13 40 32.2**	**+0.3**
KHAR				Sg	**Sg**	**13 40 33.6**	**+0.9**
NVSII	**Novosibirsk**	**0.30**	**310**	⇓Pg	**Pg**	**13 40 35.9**	**-0.7**
NVSII				Sg	**Sg**	**13 40 39.8**	**-0.7**
NVS	**Novosibirsk**	**0.30**	**309**	⇓Pg	**Pg**	**13 40 35.9**	**-0.7**
NVS				Sg	**Sg**	**13 40 39.8**	**-0.6**
BSTK	**Bystrovka, Nov**	**0.58**	**262**	Pg	**Pb**	**13 40 42.8**	**-0.6**
BSTK				Sg	**Sb**	**13 40 50.9**	**-1.0**
SALR	**Pechorkino, Sa**	**1.23**	**100**	Pg	Pn	13 40 47.7	-7.0
SALR				Sg	**Sb**	**13 41 05.3**	**-5.4**
BJR1	**Bachatsky 1, K**	**1.47**	**105**	Pg	**Pg**	**13 40 58.8**	**0.0**
BJR1				Sg	**Sg**	**13 41 18.1**	**+0.3**
BJR2	**Bachatsky-2, K**	**1.50**	**103**	Pg	**Pg**	**13 40 59.7**	**+0.2**
BJR2				Sg	**Sg**	**13 41 19.9**	**+0.8**
BJR3	**Bachatsky-3 (S**	**1.54**	**105**	Pg	**Pg**	**13 41 00.4**	**+0.2**
BJR3				Sg	**Sg**	**13 41 20.3**	**+0.2**
KEM	**Kemerovo**	**1.57**	**63**	Pg	**Pb**	**13 41 00.4**	**0.0**
KEM				Sg	**Sb**	**13 41 21.1**	**+0.4**
BJR4	**Bachatsky-4, K**	**1.58**	**102**	Pg	**Pg**	**13 41 01.4**	**+0.3**
BJR4				Sg	**Sg**	**13 41 23.9**	**+2.4**
POMOR	**Pomortsevo, Ku**	**1.70**	**97**	Pg	**Pg**	**13 41 04.4**	**+1.0**
POMOR				Sg	**Sg**	**13 41 29.5**	**+4.1**
VCHU	**Verkh-Chumysh,**	**1.79**	**112**	Pg	**Pg**	**13 41 04.9**	**-0.2**
VCHU				Sg	**Sg**	**13 41 29.5**	**+1.3**
ELT	**Eltsovka**	**2.08**	**131**	Pg	**Pb**	**13 41 07.4**	**-1.6**
ELT				Sg	**Sg**	**13 41 36.0**	**-1.5**
ERU	**Erunakovo, Kuz**	**2.25**	**102**	Pg	**Pg**	**13 41 12.6**	**-1.3**
ERU				Sg	**Sg**	**13 41 44.2**	**+1.2**
BRCR	**Berchikul'**	**2.87**	**68**	Pg	Pn	**13 41 18.7**	**+1.5**
BRCR				Sg	**Sb**	**13 41 55.4**	**-2.5**
GALT	**Gorno-Altaysk,**	**3.03**	**152**	Pg	Pn	**13 41 21.0**	**+1.5**
GALT				Sg	**Sg**	**13 42 08.8**	**+0.7**
TASR	**Tashtagol**	**3.16**	**125**	Pg	**Pb**	**13 41 27.6**	**+0.2**
TASR				Sg	**Sg**	**13 42 07.8**	**-4.3**
LUZB	**Luzhba, Kemero**	**3.25**	**106**	Pg	**Pb**	**13 41 27.1**	**-2.0**
LUZB				Sg	**Sb**	**13 42 09.3**	**+0.4**
ARTR	**Artybash**	**3.60**	**141**	Pg	Pn	**13 41 28.1**	**+0.7**
ARTR				Sg	**Sb**	**13 42 15.1**	**-4.0**
UKR	**Ust'-Kan**	**3.79**	**169**	Pg	**Pg**	**13 41 42.2**	**-1.1**
UKR				Sg	**Sg**	**13 42 34.2**	**+1.9**
ULGR	**Ulagan, Altay**	**4.82**	**145**	Sg	**Sg**	**13 43 04.5**	**-1.0**
CHBI	**Chibit, Altay**	**4.95**	**150**	Sg	**Sg**	**13 43 12.0**	**+2.5**
KURBB	**Kurchatov Arra**	**5.09**	**220**	⇓Pn	**Pb**	**13 41 59.9**	**-0.5**
	4.7nm,0.8s,baz=45,slow=14							
KURBB				⇑Sn	**Sn**	**13 42 50.5**	**+3.6**
	12nm,0.7s							
KURBB				⇓Lg	Lg	13 43 09.0	
	21nm,0.7s,baz=43,slow=29							
MK31	**Makanchi Array**	**7.92**	**187**	⇑Pn	Pn	13 42 34.7	+8.2
	0.6nm,0.5s,baz=14,slow=12,SNR=11							
MK31				⇓Sn	**Sn**	**13 43 57.1**	**+0.6**
	0.6nm,0.6s							
MK31				⇑Lg	Lg	13 44 33.5	
	4.7nm,0.9s							
MAKZ	**Makanchi**	**7.92**	**188**	⇑Pn	Pn	13 42 35.6	+8.9
	2.8nm,1.2s							
MAKZ				⇑Sn	**Sn**	**13 43 57.9**	**+1.1**
	1.0nm,0.7s							
MAKZ				⇑Lg	Lg	13 44 35.3	
	4.2nm,0.9s							

WEL 01 13:52:18.7±0.3,42°S±3°×17°4E±°, h9km±3km, M3.3/59, ML3.3/17, MLv3.3/59, Error ellipse: s-maj=0.0km s-min=0.0km az=157.3, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.27**	**221**	P	Pb	13 52 25.0	-0.8
CMWZ				S	Sb	13 52 30.8	+0.3
WEL	**Wellington**	**0.35**	**43**	P	Pb	13 52 27.1	0.0
WEL				S	Sb	13 52 33.7	+0.9
TCW	**Tory Channel**	**0.36**	**338**	P	Pb	13 52 27.1	-0.1
TCW				S	Sb	13 52 33.0	0.0
TUWZ	**Tuamarina**	**0.40**	**287**	P	Pb	13 52 27.4	-0.6
TUWZ				S	Sb	13 52 33.5	-0.6
BSWZ	**Blackbirch Sta**	**0.46**	**248**	P	Pg	13 52 28.3	+0.6
BSWZ				S	Sb	13 52 35.5	-0.6
PLWZ	**Palliser**	**0.60**	**93**	P	Pb	13 52 31.2	-0.3
CAW	**Cannon Point**	**0.64**	**47**	P	Pb	13 52 31.8	-0.2
PAWZ	**Paruwai Farm**	**0.75**	**78**	P	Pb	13 52 33.9	0.0
PAWZ				S	Sn	13 52 45.7	-1.3
KIW	**Kapiti Island**	**0.77**	**27**	P	Pb	13 52 34.2	0.0
KIW				S	Sb	13 52 45.4	+0.7
DUWZ	**D'Urville Isla**	**0.84**	**332**	P	Pb	13 52 35.6	+0.1
NNZ	**Nelson**	**0.87**	**292**	P	Pb	13 52 35.7	-0.3
MTW	**Mount Morrison**	**0.88**	**64**	P	Pb	13 52 36.0	-0.1
MTW				S	Sn	13 52 50.1	-0.1
OGWZ	**Otaki Gorge**	**0.91**	**37**	P	Pb	13 52 36.4	-0.1
TRWZ	**Traveller**	**0.94**	**81**	P	Pg	13 52 36.4	-0.3
TRWZ				S	Sb	13 52 50.4	+0.6
HOWZ	**Holdsworth Sta**	**1.03**	**52**	P	Pg	13 52 38.5	0.0
KHZ	**Kahutara**	**1.10**	**218**	P	Pg	13 52 38.3	-1.5
TMWZ	**Te Maipa**	**1.17**	**69**	P	Pb	13 52 39.7	-1.4
THZ	**Tophouse**	**1.18**	**259**	P	Pb	13 52 40.5	-0.8
MRZ	**Mangatainoka R**	**1.23**	**44**	P	Pn	13 52 41.4	-0.6
TKNZ	**Takaka Hill**	**1.23**	**294**	P	Pn	13 52 41.8	-0.4
MRNZ	**Matariki Terra**	**1.28**	**276**	P	Pn	13 52 42.5	-0.2
OHWZ	**Ohakea**	**1.49**	**26**	P	Pg	13 52 47.1	-0.1
BFZ	**Birch Farm**	**1.61**	**58**	P	Pb	13 52 48.6	+0.1
QRZ	**Quartz Range**	**1.62**	**296**	P	Pn	13 52 48.0	+0.6
GVZ	**Greta Valley S**	**1.77**	**216**	P	Pn	13 52 47.1	-2.4
WAZ	**Wanganui**	**1.83**	**13**	P	Pb	13 52 53.0	+0.6
TSZ	**Takapari Road**	**1.88**	**38**	P	Pn	13 52 50.1	-0.9
DSZ	**Denniston Nort**	**1.99**	**263**	P	Pn	13 52 52.1	-0.5
LTZ	**Lake Taylor**	**2.04**	**232**	P	Pn	13 52 51.2	-2.1
LREZ	**Lake Rotokare**	**2.08**	**359**	P	Pg	13 52 58.3	-0.3
WPHZ	**Waipukurau**	**2.11**	**46**	P	Pn	13 52 52.9	-1.4
NEZ	**North Egmont**	**2.29**	**353**	P	Pg	13 53 02.9	+0.4
NBEZ	**Newall Road No**	**2.32**	**349**	P	Pg	13 53 03.7	+0.7
MOVZ	**Moawhango**	**2.35**	**25**	P	Pb	13 53 00.9	-0.4
BHHZ	**Black Hill Sta**	**2.39**	**31**	P	Pn	13 52 58.1	0.0
KRHZ	**Kereru**	**2.40**	**38**	P	Pn	13 52 56.7	-1.4
OKCZ	**Okains Bay**	**2.41**	**205**	P	Pn	13 52 54.9	-3.4
VRZ	**Vera Road**	**2.43**	**6**	P	Pb	13 53 01.1	-1.5
TUVZ	**Tukino**	**2.45**	**22**	P	Pb	13 53 03.4	+0.3
OXZ	**Oxford**	**2.52**	**224**	P	Pn	13 52 56.4	-3.5
NGZ	**Ngauruhoe**	**2.52**	**21**	P	Pb	13 53 05.0	+0.7
INZ	**Inchbonnie**	**2.53**	**241**	P	Pn	13 52 58.3	-1.7
MQZ	**McQueen's Vall**	**2.54**	**211**	P	Pn	13 52 56.0	-4.0
KAHZ	**Kahuranaki**	**2.54**	**47**	P	Pn	13 52 57.9	-2.3
NNVZ	**North Ngauruho**	**2.57**	**21**	P	Pb	13 53 04.7	-0.3
WTVZ	**West Tongariro**	**2.58**	**20**	P	Pb	13 53 05.5	+0.3
TWVZ	**Taurewa**	**2.58**	**17**	P	Pb	13 53 04.3	-0.9
AKCZ	**Akaroa Harbour**	**2.59**	**206**	P	Pn	13 52 57.2	-3.6
ETVZ	**East Tongariro**	**2.59**	**22**	P	Pb	13 53 05.4	0.0
TMVZ	**Te Maari**	**2.61**	**22**	P	Pb	13 53 06.4	+0.7
KRVZ	**Karewarewa**	**2.61**	**21**	P	Pb	13 53 03.6	-2.1
RACZ	**Rakaia**	**2.77**	**217**	P	Pn	13 52 59.4	-3.9
RITZ	**Rihia Road**	**2.78**	**23**	P	Pb	13 53 09.7	+1.1
BKZ	**Black Stump Fm**	**2.84**	**34**	P	Pb	13 53 10.6	+1.0
MHCZ	**Mount Hutt**	**2.91**	**226**	P	Pn	13 53 01.7	-3.5
HIZ	**Hauiti**	**3.04**	**6**	P	Pb	13 53 12.1	-0.9
WACZ	**Wakanui South**	**3.07**	**218**	P	Pn	13 53 04.2	-3.2
RPZ	**Rata Peaks**	**3.31**	**228**	P	Pn	13 53 08.3	-2.5
ARCZ	**Arundel**	**3.40**	**224**	P	Pn	13 53 08.7	-3.3
TMZ	**Timaru**	**3.80**	**221**	P	Pn	13 53 14.3	-3.1
ODZ	**Otahua Downs**	**4.47**	**217**	P	Pn	13 53 23.1	-3.5

*IDC **01** 14:07:52.7±1.4,58°.93N×154°.73W, h120km±27km, mb3.7/3, mbtmp4.0/6, Error ellipse: s-maj=29.3km s-min=16.0km az=113.0*
*NEIC **01** 14:07:53.0±2.1,58°.77N±0°.06×154°.7W±0°.1, h132km±11km, Error ellipse: s-maj=9.6km s-min=8.0km az=98.0*
*AEIC **01** 14:07:54.9±1.9,58°.80N±0°.05×154°.8W±0°.1, h131km±7km, ML3.4, mb3.8/2(NEIC), ML3.6/80(NEIC), Error ellipse: s-maj=8.7km s-min=7.9km az=68.0*

ISC 01 14:07:53.2±0.7,58°.81N±0°.04×154°.70W±0°.04, h140km±6km, n195, σ0§96/207, mb3.9/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q18K	**Katmai Hardscr**	**0.23**	**225**	P	**Pn**	**14 08 12.3**	**-0.2**
	baz=44						
Q18K				S	**Sn**	**14 08 25.8**	**-1.3**
	baz=44						
P18K	**Big Mountain,**	**0.65**	**335**	Pn	**Pn**	**14 08 13.8**	**-0.5**
P18K	**Big Mountain,**	**0.65**	**335**	P	**Pn**	**14 08 13.8**	**-0.5**
	baz=157						
P18K				S	**Sn**	**14 08 28.8**	**-1.6**
	baz=157						
Q17K	**Contact Creek**	**0.83**	**229**	P	**Pn**	**14 08 15.6**	**-0.1**
	baz=48						
Q17K				S	**Sn**	**14 08 31.9**	**-0.9**
	baz=48						
P17K	**Kvichak River**	**0.98**	**294**	P	**Pn**	**14 08 16.8**	**0.0**
	baz=114						
P17K				S	**Sn**	**14 08 33.9**	**-0.8**
	baz=114						
Q16K	**King Salmon**	**1.03**	**263**	P	**Pn**	**14 08 17.3**	**+0.1**
	baz=83						
Q16K				S	**Sn**	**14 08 34.7**	**-0.8**
	baz=83						
O18K	**Koktuh Hills**	**1.08**	**346**		**Pn**	**14 08 17.6**	**-0.2**
P19K	**Oil Pt**	**1.14**	**41**	Pn	**Pn**	**14 08 19.0**	**+0.7**
P19K				IAML		14 08 38.7	
	comp=E,893nm,0.8s						
P19K				IAML		14 08 39.1	
	comp=N,689nm,0.7s						
P19K	**Oil Pt**	**1.14**	**41**	P	**Pn**	**14 08 19.2**	**+0.9**
	baz=222						
P19K				S	**Sn**	**14 08 38.0**	**+0.6**
	baz=222						
Q20K	**Shuyak Island**	**1.22**	**98**	P	**Pn**	**14 08 19.8**	**+0.7**
	baz=280						
Q20K				S	**Sn**	**14 08 39.3**	**+0.5**
	baz=280						
O19K	**Port Alsworth**	**1.41**	**8**		**Pn**	**14 08 20.8**	**-0.1**
O19K				IAML		14 08 42.5	
	comp=N,334nm,0.4s						
O19K				IAML		14 08 42.8	
	comp=E,403nm,0.5s						
O19K	**Port Alsworth**	**1.41**	**8**	P	**Pn**	**14 08 21.0**	**+0.1**
	baz=189						
ILSW	**Iliamna Southw**	**1.42**	**33**		**Pn**	**14 08 21.4**	**+0.2**
ILSW				IAML		14 08 43.1	
	comp=N,235nm,0.7s						
ILSW				IAML		14 08 44.3	
	comp=E,204nm,0.7s						
R17K	**Ugashik Creek**	**1.47**	**218**	P	**Pn**	**14 08 22.1**	**+0.4**
	baz=36						
KDAK	**Kodiak Island**	**1.52**	**132**	P	**Pn**	**14 08 22.1**	**-0.1**
	comp=E,90nm,0.3s,baz=45,slow=2.1,SNR=782						
KDAK				S	**Sn**	**14 08 43.2**	**-1.1**
	comp=E,157nm,0.4s,baz=228,slow=23,SNR=44						
KDAK	**Kodiak Island**	**1.52**	**132**	Pn	**Pn**	**14 08 22.0**	**-0.2**
KDAK				IAML		14 08 44.5	
	comp=E,490nm,0.4s						
KDAK				IAML		14 08 44.6	
	comp=E,516nm,0.4s						
O17K	**Koliganek Bris**	**1.56**	**309**	P	**Pn**	**14 08 22.6**	**-0.1**
	baz=128						
O20K	**Slope Mountain**	**1.66**	**39**	P	**Pn**	**14 08 24.8**	**+1.0**
	baz=221						
O20K				S	**Sn**	**14 08 47.8**	**+0.5**
	baz=221						
P16K	**Nushagak River**	**1.72**	**279**	P	**Pn**	**14 08 24.6**	**+0.2**
	baz=97						
P16K				S	**Sn**	**14 08 47.9**	**-0.3**
	baz=97						
OHAK	**Old Harbor**	**1.76**	**154**		**Pn**	**14 08 24.4**	**-0.5**
OHAK				IAML		14 08 48.0	
	comp=N,685nm,0.4s						
OHAK				IAML		14 08 48.1	
	comp=E,606nm,0.4s						
OHAK	**Old Harbor**	**1.76**	**154**	P	**Pn**	**14 08 24.5**	**-0.4**
	baz=334						
OHAK				S	**Sn**	**14 08 47.5**	**-1.6**
	baz=334						
HOM	**Homer**	**1.79**	**60**	Pn	**Pn**	**14 08 26.1**	**+0.8**
O16K	**Kokwok River B**	**1.91**	**296**	P	**Pn**	**14 08 26.7**	**0.0**
	baz=114						
CNPM	**China Poot**	**1.93**	**67**		**Pn**	**14 08 27.3**	**+0.5**
CNPM				IAML		14 08 54.5	
	comp=E,377nm,0.5s						
CNPM				IAML		14 08 55.9	
	comp=N,314nm,0.5s						
RSO	**Redoubt South**	**1.93**	**30**		**Pn**	**14 08 28.3**	**+1.2**
R16K	**Pilot Point**	**1.96**	**232**	P	**Pn**	**14 08 27.6**	**+0.3**
	baz=50						
N19K	**Bonanza Creek**	**2.01**	**3**		**Pn**	**14 08 28.4**	**+0.4**
BRLK	**Bradley Lake**	**2.18**	**62**		**Pn**	**14 08 30.2**	**+0.3**
BRLK	**Bradley Lake**	**2.18**	**62**	IAML		14 08 57.7	
	comp=N,384nm,0.6s						
BRLK				IAML		14 08 59.1	
	comp=E,369nm,0.5s						
BRSE	**Bradley Lake S**	**2.24**	**64**		**Pn**	**14 08 30.9**	**+0.3**
BRSE	**Bradley Lake S**	**2.24**	**64**	P	**Pn**	**14 08 30.8**	**+0.3**
	baz=247						
SII	**Sitkinak Islan**	**2.27**	**173**	Pn	**Pn**	**14 08 30.6**	**-0.5**
SII				IAML		14 09 00.5	
	comp=N,528nm,0.6s						
SII	**Sitkinak Islan**	**2.27**	**173**		**Sn**	**14 08 58.6**	**-1.5**
SII	**Sitkinak Islan**	**2.27**	**173**	P	**Pn**	**14 08 30.7**	**-0.3**
	baz=353						
SII				S	**Sn**	**14 08 58.6**	**-1.5**
	baz=353						
SVW2	**Sparrevohn**	**2.34**	**350**		**Pn**	**14 08 31.9**	**+0.1**
N16K	**Nishlik Lake**	**2.66**	**311**	P	**Pn**	**14 08 36.2**	**+0.4**
	baz=128						
CAPN	**Captain Cook N**	**2.66**	**41**	Pn	**Pn**	**14 08 37.7**	**+1.9**
CAPN				IAML		14 09 36.7	
	comp=E,268nm,1.2s						
N20K	**Mount Spurr**	**2.71**	**27**	P	**Pn**	**14 08 37.1**	**+0.6**
	baz=209						
SPCR	**Spurr Chakacha**	**2.71**	**27**	P	**Pn**	**14 08 37.1**	**+0.7**
	baz=209						
SPU	**Mount Spurr**	**2.73**	**28**		**Pn**	**14 08 37.9**	**+1.2**
SLKM	**Skilak Lake**	**2.84**	**51**		**Pn**	**14 08 38.3**	**+0.2**
SEW	**Seward**	**2.98**	**62**		**Pn**	**14 08 40.7**	**+0.9**
SEW	**Seward**	**2.98**	**62**	P	**Pn**	**14 08 40.1**	**+0.3**
	baz=246						
O22K	**Cooper Landing**	**3.03**	**54**		**Pn**	**14 08 40.9**	**+0.4**
O22K	**Cooper Landing**	**3.03**	**54**	P	**Pn**	**14 08 41.2**	**+0.7**
	baz=238						
CHIR	**Chirikof Islan**	**3.04**	**190**	Pn	**Pn**	**14 08 39.7**	**-1.0**
CHIR				IAML		14 09 15.2	
	comp=N,260nm,1.4s						
CHIR				IAML		14 09 15.2	
	comp=E,178nm,0.7s						
M20K	**Styx River**	**3.18**	**14**		**Pn**	**14 08 43.0**	**+0.5**
M20K	**Styx River**	**3.18**	**14**	P	**Pn**	**14 08 43.2**	**+0.7**
	baz=195						
CHGN	**Chignik**	**3.21**	**220**		**Pn**	**14 08 42.7**	**-0.1**
CHGN				IAML		14 10 08.7	
	comp=N,217nm,0.1s						
CHGN				IAML		14 10 09.0	
	comp=E,134nm,0.1s						
CHGN	**Chignik**	**3.21**	**220**	P	**Pn**	**14 08 42.9**	**0.0**
	baz=37						
SUA	**Susitna One**	**3.32**	**35**		**Pn**	**14 08 44.6**	**+0.4**
SUA				IAML		14 09 24.3	
	comp=E,78nm,1.2s						
SUA				IAML		14 09 26.0	
	comp=N,65nm,0.3s						
SUA	**Susitna One**	**3.32**	**35**	P	**Pn**	**14 08 44.7**	**+0.4**
	baz=218						
L19K	**White Mountain**	**3.38**	**359**		**Pn**	**14 08 45.7**	**+0.6**
RC01	**Rabbit Creek A**	**3.39**	**45**		**Pn**	**14 08 45.3**	**+0.2**
RC01	**Rabbit Creek A**	**3.39**	**45**	IAML		14 09 25.1	
	comp=E,195nm,0.3s						
RC01				IAML		14 09 25.2	
	comp=N,182nm,0.2s						
RC01	**Rabbit Creek A**	**3.39**	**45**	P	**Pn**	**14 08 45.3**	**+0.2**
	baz=230						
SKT	**Skwentna**	**3.55**	**25**	Pn	**Pn**	**14 08 47.8**	**+0.5**
SKT	**Skwentna**	**3.55**	**25**	P	**Pn**	**14 08 47.7**	**+0.5**
	baz=208						
M22K	**Willow**	**3.73**	**36**		**Pn**	**14 08 49.6**	**+0.1**
M22K	**Willow**	**3.73**	**36**	P	**Pn**	**14 08 49.8**	**+0.3**
	baz=220						
PWL	**Port Wells**	**3.82**	**55**	Pn	**Pn**	**14 08 50.4**	**-0.3**
PWL	**Port Wells**	**3.82**	**55**	P	**Pn**	**14 08 50.5**	**-0.2**
	baz=240						
P23K	**Montague Islan**	**3.92**	**69**	P	**Pn**	**14 08 52.7**	**+0.7**
	baz=255						
PMR	**Palmer**	**3.94**	**43**		**Pn**	**14 08 51.2**	**-1.1**
PMR				IAML		14 09 36.4	
	comp=N,56nm,0.2s						
PMR				IAML		14 09 37.8	
	comp=E,60nm,0.2s						
PMR	**Palmer**	**3.94**	**43**	P	**Pn**	**14 08 51.4**	**-0.9**
	baz=227						
KNK	**Knik Glacier**	**4.07**	**47**		**Pn**	**14 08 53.3**	**-0.8**
KNK				IAML		14 09 42.0	
	comp=N,88nm,0.3s						
KNK				IAML		14 09 46.1	
	comp=E,73nm,0.4s						
KNK	**Knik Glacier

baz=251
DHY Denali Highway 5.57 37 Pn 14 09 13.2 -0.9
DHY Denali Highway 5.57 37 P **Pn 14 09 13.2 -0.9**
baz=223
BPAW Bear Paw Mtn. 5.60 17 Pn **Pn 14 09 13.7 -0.6**
BPAW Bear Paw Mtn. 5.60 17 P **Pn 14 09 13.9 -0.4**
baz=200
MCK McKinley 5.67 27 Pn **Pn 14 09 14.6 -0.7**
MCK McKinley 5.67 27 P **Pn 14 09 14.7 -0.5**
baz=212
N25K Chitina, Valde 5.77 57 Pn 14 09 17.1 +0.5
N25K Chitina, Valde 5.77 57 P **Pn 14 09 16.7 +0.1**
baz=245
HARP HAARP 5.92 49 P **Pn 14 09 18.5 -0.1**
baz=237
BWN Browne 5.94 23 Pn **Pn 14 09 18.5 -0.3**
GCSA Galena City Sc 6.05 351 Pn 14 09 20.5 +0.2
GLB Gilahina Butte 6.05 60 Pn 14 09 20.5 +0.1
PAX Paxson 6.14 43 Pn 14 09 21.1 -0.6
PAX Paxson 6.14 43 P **Pn 14 09 21.2 -0.4**
baz=231
VRDI Verde Repeater 6.14 62 Pn 14 09 22.0 +0.2
SNH Sunshine Point 6.20 72 Pn 14 09 23.7 +1.3
NEA2 Nenana 6.39 22 Pn 14 09 23.3 -1.5
NEA2 Nenana 6.39 22 P **Pn 14 09 23.5 -1.4**
baz=207
WRH Wood River Hil 6.49 26 Pn 14 09 24.7 -1.5
MLY Manley 6.52 15 Pn 14 09 25.4 -1.2
MLY Manley 6.52 15 P **Pn 14 09 25.7 -0.9**
baz=199
I21K Tanana 6.52 10 Pn **Pn 14 09 26.4 -0.2**
KIAG Kiagna River 6.57 66 Pn 14 09 27.9 +0.5
K24K Donnelly Dome 6.60 37 P **Pn 14 09 28.6 +0.9**
baz=225
BALM Baldy 6.60 65 Pn 14 09 28.2 +0.4
BAGL Bagley Icefiel 6.61 70 Pn 14 09 29.2 +1.3
CCB Clear Creek Bu 6.71 26 Pn 14 09 27.5 -1.6
HDA Harding Lake 6.72 30 Pn 14 09 27.7 -1.6
HDA Harding Lake 6.72 30 P **Pn 14 09 28.0 -1.3**
baz=217
MENT Mentasta 6.77 48 Pn 14 09 30.2 +0.1
M26K Nabesna, AK 6.79 53 Pn 14 09 30.9 +0.6
I23K Minto, Yukon-K 6.84 19 Pn 14 09 29.7 -1.2
I23K Minto, Yukon-K 6.84 19 P **Pn 14 09 29.5 -1.3**
baz=204
RIDG Independent Ri 6.85 40 Pn 14 09 30.8 -0.4
RIDG Independent Ri 6.85 40 P **Pn 14 09 30.8 -0.4**
baz=228
MDM Murphy Dome 6.88 24 Pn 14 09 30.1 -1.4
TCOL CIGO, UAF Yank 6.89 25 Pn 14 09 30.2 -1.3
TCOL CIGO, UAF Yank 6.89 25 P **Pn 14 09 30.6 -0.9**
baz=211
COLA College 6.89 25 Pn 14 09 30.1 -1.4
BARN Barnard Glacie 6.93 65 Pn 14 09 33.0 +0.7
H21K Melozitna Rive 6.93 7 Pn 14 09 32.3 +0.2
L26K Log Cabin Wild 6.96 48 Pn **Pn 14 09 33.4 +0.8**
IL31 7.03 28 Pn 14 09 32.1 -1.4
ILAR Eielson Array 7.03 28 P **Pn 14 09 31.9 -1.6**
comp=E,11nm,0.4s,baz=216,slow=13,SNR=176
ILAR S **Sn 14 10 47.6 -4.3**
comp=E,1.0nm,0.5s,baz=196,slow=22,SNR=4.8
ILAR Eielson Array 7.03 28 Pn **Pn 14 09 32.1 -1.4**
DOT Dot Lake 7.06 42 Pn 14 09 32.8 -1.1
IMAR Indian Mountai 7.22 3 Pn **Pn 14 09 36.2 +0.3**
M27K Edge Creek, AK 7.25 55 Pn 14 09 37.4 +0.9
SCRK Sand Creek 7.30 40 Pn 14 09 36.0 -1.2
SCRK Sand Creek 7.30 40 P **Pn 14 09 36.0 -1.2**
baz=230
H23K Yukon River 7.44 17 Pn 14 09 37.9 -1.0
PCA Pinnacle 7.48 74 Pn **Pn 14 09 40.8 +1.3**
L27K Beaver Creek, 7.58 50 Pn 14 09 40.9 0.0
BCAR Beaver Creek A 7.60 50 Pn 14 09 41.4 +0.3
ANM Nome 7.68 323 Pn **Pn 14 09 43.3 +1.2**
H24K Noodor Dome 7.73 21 Pn 14 09 41.2 -1.7
BCPM Bancas Point 7.78 75 Pn **Pn 14 09 43.3 -0.3**
J26L Joseph Creek 7.78 38 Pn 14 09 42.5 -1.1
PNL Peninsula 7.90 77 Pn 14 09 46.3 +1.2
PNL Peninsula 7.90 77 P **Pn 14 09 46.3 +1.2**
baz=270
PRP Porcupine Dome 7.98 29 Pn **Pn 14 09 45.0 -1.2**
PRP Porcupine Dome 7.98 29 P **Pn 14 09 45.3 -0.9**
baz=217
K27K Chicken 8.00 44 Pn 14 09 46.6 +0.2
UNV Unalaska Valle 8.22 238 Pn **Pn 14 09 48.8 -0.7**
COLD Coldfoot 8.59 12 Pn **Pn 14 09 54.5 -1.1**
EGAK Eagle 8.76 41 Pn **Pn 14 09 55.2 -1.4**
FYU Fort Yukon 8.91 25 Pn **Pn 14 09 57.0 -1.6**
DAWY Dawson 9.02 48 Pn **Pn 14 10 00.4 +0.3**
F24K Squaw Lake 9.26 16 P **Pn 14 10 02.0 -1.3**
baz=203
M30M Minto, Yukon 9.55 59 Pn **Pn 14 10 08.3 +1.1**
J29M Klondike Camp 9.65 47 Pn **Pn 14 10 09.6 +0.9**
BMAR Burnt Mountain 9.77 24 Pn **Pn 14 10 07.5 -2.6**
N31M Braeburn, Yuko 9.80 66 Pn **Pn 14 10 12.1 +1.5**
TOLK Toolik Lake Re 10.12 11 Pn **Pn 14 10 14.3 -0.5**
SIT Sitka 10.45 91 Pn **Pn 14 10 19.9 +0.8**
M31M Drury Creek, Y 10.56 63 Pn **Pn 14 10 22.5 +1.8**
JIS Juneau Island 10.63 84 Pn **Pn 14 10 24.6 +3.1**
FARO Faro, Yukon 11.05 63 Pn **Pn 14 10 28.2 +1.1**
EPYK Eagle Plains 11.19 40 Pn **Pn 14 10 30.1 +1.1**
WRAK Wrangell Islan 12.21 92 Pn **Pn 14 10 44.3 +2.1**
DLBC Dease Lake 12.84 81 P **P 14 10 54.8 -1.2**
comp=E,3.1nm,0.4s,baz=315,slow=11,SNR=28
DLBC S **Sn 14 13 13.3 +1.1**
comp=E,0.3nm,0.4s,baz=20,slow=12,SNR=1.1
DLBC Dease Lake 12.84 81 Pn **Pn 14 10 52.0 +1.5**
INK Inuvik 13.32 36 P **Pn 14 10 55.3 -1.1**
comp=E,1.1nm,0.3s,baz=224,slow=12,SNR=22
INK Inuvik 13.32 36 Pn **Pn 14 10 56.1 -0.3**
C36M Paulatuk 16.82 39 P **P 14 11 38.5 -1.2**
C36M lAmb lAmb 14 11 41.2
comp=Z,4.3nm,0.5s
A36M Sachs Harbour 17.73 30 P **P 14 11 48.7 -1.0**
A36M lAmb lAmb 14 11 53.3
comp=Z,2.7nm,0.8s
YKA Yellowknife Ar 19.76 62 P **P 14 12 13.3 +1.4**
comp=Z,1.2nm,0.7s,baz=277,slow=9.5,SNR=24
YKA Yellowknife Ar 19.76 62 P **P 14 12 13.1 +1.2**
PETK Petropavlovsk- 26.77 279 P **P 14 13 19.2 -0.4**
comp=Z,3.4nm,0.9s,baz=71,slow=13,SNR=1.8
comp=Z,3.4nm,0.9s
KLR Kul'dur 42.14 290 P **P 14 15 31.9 +0.6**
comp=Z,1.2nm,0.5s,baz=55,slow=5.8,SNR=6.1
comp=Z,1.2nm,0.5s
SONM Songino Array 54.78 305 P **P 14 17 09.6 +1.5**
comp=Z,1.5nm,0.7s,baz=50,slow=6.8,SNR=12
comp=Z,1.5nm,0.7s

*IDC **01** 14:12:03.7±0.3,3.˚57N×128.˚34E,h0km,mb4.7/47, mbtmp4.7/48,ML4.3/1,MS4.5/3,Error ellipse: s-maj=15.0km s-min=7.8km az=71.0*
*BJI **01** 14:12:05.0±0.0,3.˚48N×128.˚73E,h25km,mb4.8/75, mB5.2/66,Ms5.2/75,Ms7 4.9/71*
*NEIC **01** 14:12:05.7±1.4,3.˚64N±0.˚06×128.˚59E±0.˚08,h11km±1km, mb5.6/108,Mwb5.2/17,Error ellipse: s-maj=13.6km s-min=9.7km az=67.0,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr6.87; Mθθ0.83; Mϕϕ-7.70; Mrθ-0.67; Mrϕ-2.04; Mθr4.46; Fault plane solution: M=8.84000×10^16^ NP1:ϕs206.81000°,δ31.90000°, λ112.63000°. NP2:ϕs0.65000°,δ60.81000°,λ76.53000°. Principal axes: T 8.3251, Plg71.0000°, Azm240.0000°; N 0.9496, Plg12.0000°, Azm7.0000°; P -9.2747, Plg15.0000°, Azm100.0000°;*
*KLM **01** 14:12:05,3.˚76N×128.˚97E,h10km,mb5.1*
*MOS **01** 14:12:05.9±1.0,3.˚60N×128.˚38E,h24km,mb5.1/42,Error ellipse: s-maj=9.7km s-min=5.2km az=106.2*
*GCMT **01** 14:12:09.7±0.2,3.˚71N±0.˚02×128.˚56E±0.˚01,h27km, MW5.4/142,Moment Tensor Solution. s87,c126; s142,c219; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.75±.04; Mθθ-0.25±.03; Mϕϕ-1.51±.03; Mrθ-0.28±.05; Mθϕ-0.02±.02; Mϕr0.20±.04; Best double couple: M=1.66100×10^17^ NP1:ϕs353.00000°,δ49.00000°, λ80.00000°. NP2:ϕs188.00000°,δ42.00000°,λ102.00000°. Principal axes: T 1.8000, Plg82.0000°, Azm204.0000°; N -0.2840, Plg8.0000°, Azm360.0000°; P -1.5220, Plg3.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

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*DJA **01** 14:12:09.8±0.4,4.˚1N×12.˚9E±.˚,h66km±4km,M5.1/39, mb5.1/39,mB5.5/30,MLv5.4/13,Mw(mB)5.0/30, MwMwp5.2/26,Mwp5.5/26*
ISC 01 14:12:08.6±0.4,3.˚59N±0.˚03×**128.˚57E**±0.˚04,**h31**km±2km, **h31**km:**pP-P,n653,**σ1°63/720,**mb4.9**/129,**MS4.9**/39, **22C-12D,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SGSI	**Sangihe**	**3.04**	**272**	P		**Pn**	**14 12 57.0**	**+2.4**
TNTI	**Ternate**	**3.05**	**203**			**Pn**	**14 12 54.2**	**-0.5**
TNTI	**Ternate**	**3.05**	**203**	P		**Pn**	**14 12 57.6**	**+2.8**
TNTI	**Ternate**	**3.05**	**203**	P		**Pb**	**14 12 58.6**	**-3.7**
DDMP	**Don Marcelino,**	**3.79**	**311**	*e*P		**Pn**	**14 13 04.9**	**0.0**
MATI	**Mati**	**4.05**	**325**	*e*P		**Pn**	**14 13 12.0**	**+3.5**
GSPH	**General Santos**	**4.38**	**305**	*i*P		**Pn**	**14 13 14.2**	**+1.0**
DAV	**Davao City (W)**	**4.56**	**319**	Pn		**Pn**	**14 13 15.4**	**-0.2**
	12nm,0.3s,baz=101,slow=2.0,SNR=2.8							
DAV				Sn		**Sn**	**14 14 08.3**	**+0.7**
	45nm,0.3s,baz=281,slow=22,SNR=3.7							
DAV	**Davao City (W)**	**4.56**	**319**	Pn		**Pn**	**14 13 14.9**	**-0.7**
DAV	**Davao City (W)**	**4.56**	**319**	P		**Pn**	**14 13 19.3**	**+3.7**
DAV	**Davao City (W)**	**4.56**	**319**	P		**Pn**	**14 13 18.2**	**+2.7**
KCP	**Kidapawan**	**4.85**	**315**	*e*P		**Pn**	**14 13 19.4**	**-0.2**
SKMP	**Bagumbayan, Su**	**4.95**	**306**	*e*P		**Pn**	**14 13 24.4**	**+3.4**
SIJI	**Sorong**	**5.19**	**149**	Pn		**Pn**	**14 13 24.4**	**+0.2**
	9.9nm,0.3s,baz=342,slow=12,SNR=28							
SIJI				Sn		**Sn**	**14 14 20.8**	**-2.2**
	6.2nm,0.3s,baz=247,slow=24,SNR=11							
	26nm,0.4s							
CTBH	**Cotabato--PC H**	**5.61**	**310**	*e*P		**Pn**	**14 13 30.8**	**+0.8**
SANI	**Sanana**	**6.17**	**205**	P		**Pn**	**14 13 39.1**	**+1.4**
SANI	**Sanana**	**6.17**	**205**	P		**Pn**	**14 13 39.8**	**+2.1**
	190nm,0.9s,4µm6µm2.1nm							
CGP	**Cagayan de Oro**	**6.18**	**322**	*e*P		Pn	14 13 44.0	+6.2
GTOI	**Gorontalo**	**6.28**	**242**	P		**Pn**	**14 13 42.5**	**+3.2**
	126nm,1.1s,2µm1.1nm							
PAGZ	**Pagadian**	**6.67**	**310**	*e*P		**Pn**	**14 13 44.9**	**+0.3**
PAGZ				*e*S		**Sn**	**14 15 03.9**	**+4.3**
MSAI	**Masohi**	**6.90**	**177**	P		**Pn**	**14 13 51.4**	**+3.6**
	19nm,0.7s,362nm0.1nm							
NLAI	**Namlea**	**6.94**	**192**	P		**Pn**	**14 13 52.0**	**+3.7**
	231nm,1.2s,133µm1.3nm							
DCPH	**Dipolog City**	**7.18**	**314**	*e*P		**Pn**	**14 13 52.6**	**+1.1**
AAI	**Ambon**	**7.24**	**183**	P		**Pn**	**14 13 55.5**	**+3.1**
	166nm,0.9s,2µm0.9nm							
MRSI	**Marisa**	**7.31**	**245**	P		**Pn**	**14 13 56.9**	**+3.5**
	2µm,0.6s,13µm9µm6.3nm							
LUWI	**Luwuk**	**7.40**	**232**	Pn		**Pn**	**14 13 55.2**	**+0.6**
LUWI	**Luwuk**	**7.40**	**232**	P		**Pn**	**14 13 58.4**	**+3.8**
LUWI	**Luwuk**	**7.40**	**232**	P		**Pn**	**14 13 58.6**	**+4.0**
	277nm,0.8s,4µm8µm3.0nm							
FAKI	**Fak Fak**	**7.44**	**150**	Pn		**Pn**	**14 13 55.1**	**-0.1**
FAKI	**Fak Fak**	**7.44**	**150**	P		**Pn**	**14 13 56.1**	**+0.9**
FAKI	**Fak Fak**	**7.44**	**150**	P		**Pn**	**14 13 56.6**	**+1.4**
	39nm,0.7s,8µm0.5nm							
MSLP	**Maasin**	**7.47**	**331**	*e*P		**Pn**	**14 13 59.9**	**+4.3**
RKPI	**Ransiki, Papua**	**7.56**	**132**	P		**Pn**	**14 13 59.0**	**+2.2**
	116nm,0.9s,7µm9µm1.1nm							
TBP	**Tagbilaran**	**7.65**	**323**	*e*P		Pn	14 13 48.9	-9.1
TOLI2	**Tolitoli**	**8.16**	**253**	Pn		**Pn**	**14 14 05.8**	**+0.7**
TOLI2	**Tolitoli**	**8.16**	**253**	P		**Pn**	**14 14 06.2**	**+1.1**
APSI	**Ampana**	**8.24**	**237**	P		**Pn**	**14 14 09.1**	**+3.0**
	357nm,1.1s,6µm10µm							
CNOP	**Candoni, Negro**	**8.55**	**317**	*e*P		**Pn**	**14 14 13.3**	**+3.0**
GUIM	**Jordan**	**9.17**	**320**	*e*P		**Pn**	**14 14 22.3**	**+3.5**
MPSI	**Mapaga**	**9.25**	**250**	P		**Pn**	**14 14 22.5**	**+2.5**
	88nm,0.9s,2µm10µm							
RCP	**Roxas**	**9.80**	**324**	*e*P		**Pn**	**14 14 29.6**	**+2.2**
RCP				*e*S		Sn	14 15 58.6	-18
SMPI	**Sarmi**	**11.55**	**119**	P		**Pn**	**14 14 51.3**	**-0.3**
	32nm,0.7s,8µm							
SPSI	**Sidrap Palu**	**11.56**	**230**	P		**Pn**	**14 14 53.3**	**+1.6**
	70nm,0.6s,1µm							
BNSI	**Bone**	**11.60**	**227**	P		**Pn**	**14 14 54.3**	**+2.1**
	46nm,0.8s,772nm3µm							
SPMM	**Sapulut**	**12.12**	**276**	P		**Pn**	**14 15 04.0**	**+4.6**
BKSI	**Bulukumba**	**12.23**	**224**	P		**Pn**	**14 15 04.3**	**+3.5**
	47nm,1.3s,1µm4µm							
KAPI	**Kappang**	**12.28**	**226**	Pn		**Pn**	**14 15 02.8**	**+1.4**
	2.2nm,0.3s,baz=60,slow=5.4,SNR=10							
KAPI				Sn		**Sn**	**14 17 14.7**	**-2.6**
	baz=203,slow=22							
KAPI	**Kappang**	**12.28**	**226**			**Pn**	**14 15 01.0**	**-0.4**
KAPI	**Kappang**	**12.28**	**226**	P		**Pn**	**14 15 05.6**	**+4.1**
KAPI	**Kappang**	**12.28**	**226**	P		**Pn**	**14 15 01.0**	**-0.4**
LQP	**Lukban**	**12.55**	**327**	*e*P		Pn	14 14 57.4	-7.9
KKM	**Kota Kinabalu**	**12.55**	**282**	Pn		**Pn**	**14 15 04.0**	**-1.3**
LUBP	**Lubang**	**13.00**	**321**	*e*P		**Pn**	**14 15 15.1**	**+3.7**
LUBP				*e*S		S	14 18 32.3	+32
SOEI	**Soe**	**13.94**	**198**			**Pn**	**14 15 21.5**	**-2.8**
SOEI	**Soe**	**13.94**	**198**	P		**Pn**	**14 15 26.6**	**+2.4**
	114nm,1.4s,3µm							
MTKI	**Muara Teweh, K**	**14.39**	**252**	P		**Pn**	**14 15 30.4**	**0.0**
	181nm,1.4s,7µm7µm							
BATI	**Baumata**	**14.55**	**200**	Pn		**Pn**	**14 15 34.0**	**+1.5**
	0.9nm,0.3s,baz=276,slow=23,SNR=3.0							
BATI	**Baumata**	**14.55**	**200**	P		**Pn**	**14 15 34.6**	**+2.0**
	92nm,0.9s,2µm							
BBKI	**Banjar Baru**	**15.41**	**243**	P		**Pn**	**14 15 44.8**	**+0.8**
	100nm,1.9s,3µm12µm							
SBUM	**Sibu**	**16.37**	**266**			**Pn**	**14 15 56.4**	**+0.1**
PLAI	**Plampang**	**16.37**	**221**	P		**P**	**14 16 01.5**	**+2.6**
PLAI	**Plampang**	**16.37**	**221**	P		**P**	**14 15 58.3**	**-0.6**
	181nm,0.9s,3µm5µm							
MTN	**Manton Dam**	**16.53**	**171**	P		**P**	**14 15 59.8**	**-0.8**
	baz=16,SNR=19							
MTN	**Manton Dam**	**16.53**	**171**	Pn		**Pn**	**14 15 58.0**	**-0.3**
MTN	**Manton Dam**	**16.53**	**171**	P		**P**	**14 15 59.8**	**-0.8**
KDU	**Kakadu**	**16.63**	**167**	P		**Pn**	**14 15 58.8**	**-0.8**
	baz=17,SNR=10							
KDU	**Kakadu**	**16.63**	**167**	P		**Pn**	**14 16 00.1**	**+0.5**
TWSI	**Taliwang, Sumb**	**16.91**	**224**	P		**P**	**14 16 05.0**	**+0.1**
	184nm,1.2s,2µm5µm							
SRBI	**Singaraja**	**17.67**	**229**	P		**Pn**	**14 16 12.9**	**+0.4**
	178nm,1.0s,7µm							
BLJI	**Banyuglugur**	**18.71**	**233**	P		**P**	**14 16 23.2**	**-1.6**
	144nm,0.8s,2µm8µm							
JAGI	**Jajag, Banyuwa**	**18.72**	**230**	P		**Pn**	**14 16 29.5**	**+4.1**
JAGI	**Jajag, Banyuwa**	**18.72**	**230**	P		**P**	**14 16 24.0**	**-0.9**
	120nm,0.9s,4µm7µm							
GMJI	**Gumukmas**	**19.14**	**232**	P		**P**	**14 16 29.5**	**0.0**
	131nm,1.1s,4µm12µm							
KNRA	**Kununurra**	**19.15**	**179**	P		**Pn**	**14 16 30.3**	**-0.2**
	baz=19,SNR=53							
KNRA	**Kununurra**	**19.15**	**179**	Pn		**Pn**	**14 16 30.3**	**-0.2**
KNRA	**Kununurra**	**19.15**	**179**	P		**Pn**	**14 16 32.1**	**+1.5**
TBJI	**Tambak Boyo**	**19.64**	**238**	P		**P**	**14 16 33.1**	**-1.8**
	475nm,0.9s,4µm							
NGJI	**Ngawi**	**20.25**	**237**	P		**P**	**14 16 41.2**	**-0.4**
	132nm,1.0s							
PWJI	**Pagerwojo**	**20.32**	**235**	P		**P**	**14 16 42.7**	**+0.3**
	106nm,1.0s,2µm							
TWG	**Pinlang**	**20.45**	**340**	P		**P**	**14 16 40.8**	**-2.9**
YULB	**Yu-li**	**20.90**	**341**	P		**P**	**14 16 45.7**	**-2.9**
YULB	**Yu-li**	**20.90**	**341**	P		Pn	14 16 53.2	+1.9
SMRI	**Semarang**	**20.96**	**240**	P		**P**	**14 16 48.4**	**-0.9**
	104nm,1.0s							
TPUB	**Ta-pu**	**21.04**	**339**	P		**P**	**14 16 47.0**	**-3.1**
UGM	**Wanagama**	**21.32**	**238**	P		**P**	**14 16 56.2**	**+2.9**
SSLB	**Suanglung**	**21.38**	**341**	P		**P**	**14 16 52.3**	**-1.5**
SSLB	**Suanglung**	**21.38**	**341**	P		**P**	**14 16 53.7**	**-0.1**
YOJ	**Yonaguni jima**	**21.43**	**346**	P		**P**	**14 16 57.6**	**+3.4**
NACB	**Ninganchiao**	**21.54**	**342**	P		**P**	**14 16 55.4**	**0.0**
FITZ	**Fitzroy Crossi**	**21.75**	**188**	P		**P**	**14 16 57.1**	**-0.6**
YHNB	**Yeheng**	**22.07**	**342**	P		**P**	**14 17 00.9**	**-0.4**
YHNB	**Yeheng**	**22.07**	**342**	P		**P**	**14 17 04.2**	**+2.9**
KPJI	**Karang Pucung**	**22.40**	**241**	P		**P**	**14 17 04.3**	**-0.5**
	99nm,0.9s							
PMG	**Port Moresby**	**22.58**	**125**	P		**P**	**14 17 10.3**	**+3.6**
	30nm,0.8s,baz=320,slow=7.3,SNR=11							
PMG	**Port Moresby**	**22.58**	**125**	P		**P**	**14 17 06.1**	**-0.6**
PMG	**Port Moresby**	**22.58**	**125**	*i* P		**P**	**14 17 09.4**	**+2.7**
KNMB	**Chin-men Tao**	**22.95**	**336**	P		**P**	**14 17 09.3**	**-1.3**
JOW	**Kunigami**	**23.11**	**359**	P		**P**	**14 17 11.4**	**-0.7**
	22nm,0.9s,baz=157,slow=8.3,SNR=5.4							
	22nm,0.9s							
JOW	**Kunigami**	**23.11**	**359**	P		**P**	**14 17 10.9**	**-1.2**
QZH	**Quanzhou**	**23.30**	**337**	*i*P		**P**	**14 17 13.2**	**-0.8**
QZH				S		**S**	**14 21 24.4**	**-0.2**
QZH				pmax		pmax		
	comp=Z,500nm,4.6s							
QZH				LR		LR		
	comp=N,2µm,14.7s							
QZH				LR		LR		
	comp=E,1µm,10.9s							
QZH				LR		LR		
	comp=Z,2µm,18.0s							
LEM	**Lembang**	**23.34**	**244**	P		**P**	**14 17 16.7**	**+2.0**
	44nm,0.9s,baz=28,slow=2.7,SNR=7.5							
LEM	**Lembang**	**23.34**	**244**	P		**P**	**14 17 18.0**	**+3.3**
LEM				pmax		pmax		
	comp=Z,75nm,1.3s							
BBJI	**Bungbulang**	**23.59**	**242**	P		**P**	**14 17 19.4**	**+2.4**
QIZ	**Qiongzhong**	**23.88**	**311**	P		**P**	**14 17 19.4**	**-0.3**
QIZ				sP		**pwP**	**14 17 32.0**	**-0.7**
QIZ				pmax		pmax		
	comp=Z,1µm,8.0s							
QIZ				LR		LR		
	comp=Z,5µm,19.9s							
QIZ				LR		LR		
	comp=Z,3µm,18.3s							
QIZ				LR		LR		
	comp=Z,3µm,24.7s							
WB0	**Warramunga Arr**	**23.91**	**166**	P		**P**	**14 17 19.5**	**-0.4**
CNJI	**Cibinong**	**23.98**	**243**	P		**P**	**14 17 20.4**	**-0.3**
	comp=Z,44nm,1.0s,comp=Z,651nmcomp=Z,1µm							
WRAB	**Tennant Creek**	**24.06**	**167**	P		**P**	**14 17 22.1**	**+0.8**
WRAB	**Tennant Creek**	**24.06**	**167**	*i* P		**P**	**14 17 21.2**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,39nm,1.3s							
WRA	**Warramunga Arr**	**24.07**	**167**	P		**P**	**14 17 21.4**	**+0.1**
	comp=Z,16nm,0.6s,baz=345,slow=10,SNR=97							
WRA				S		**S**	**14 21 36.4**	**-0.6**
	comp=Z,12nm,1.3s,baz=352,slow=22,SNR=1.5							
	comp=Z,16nm,0.6s							
WRA	**Warramunga Arr**	**24.07**	**167**	P		**P**	**14 17 21.0**	**-0.4**
WRA	**Warramunga Arr**	**24.07**	**167**	*e*P		**P**	**14 17 22.1**	**+0.7**
WB2	**Warramunga Arr**	**24.07**	**167**	P		**P**	**14 17 21.3**	**-0.1**
WR0	**Warramunga Arr**	**24.13**	**166**	P		**P**	**14 17 22.1**	**+0.1**
DSRI	**Dabo**	**24.32**	**261**	P		**P**	**14 17 24.2**	**+0.4**
KRVT	**Keravat (AS076**	**24.72**	**108**	P		**P**	**14 17 30.2**	**+2.8**
	comp=Z,54nm,0.7s,baz=224,slow=3.6,SNR=4.1							
	comp=Z,54nm,0.7s							
MYKOM	**Kota Tinggi**	**24.76**	**267**	P		**P**	**14 17 26.7**	**-1.1**
MYKOM	**Kota Tinggi**	**24.76**	**267**	P		**P**	**14 17 33.0**	**+5.2**
UBPT	**Khong Chiam**	**25.54**	**299**	P		**P**	**14 17 34.1**	**-0.7**
JRMM	**Jerantut**	**26.04**	**271**	P		**P**	**14 17 43.0**	**+3.6**
MBWA	**Marble Bar**	**26.08**	**199**	P		**P**	**14 17 38.7**	**-1.0**
MBWA	**Marble Bar**	**26.08**	**199**	P		**P**	**14 17 42.6**	**+2.9**
MBWA	**Marble Bar**	**26.08**	**199**	P		**P**	**14 17 40.0**	**+0.3**
QIS	**Mount Isa**	**26.33**	**156**	P		**P**	**14 17 42.5**	**+0.5**
	baz=26,SNR=8.1							
QIS	**Mount Isa**	**26.33**	**156**	P		**P**	**14 17 43.6**	**+1.6**
IPM	**Ipoh**	**27.49**	**273**	P		**P**	**14 17 54.0**	**+1.5**
AS31	**Alice Springs**	**27.59**	**169**	P		**P**	**14 17 51.8**	**-1.4**
ASAR	**Alice Springs**	**27.59**	**169**	P		**P**	**14 17 52.6**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=351,slow=6.2,SNR=68							
ASAR				PcP		**PcP**	**14 21 12.2**	**+1.5**
	comp=Z,6.8nm,0.6s,baz=354,slow=2.3,SNR=10							
ASAR				ScP		**ScP**	**14 24 51.3**	**+2.1**
	comp=Z,2.6nm,0.9s,baz=336,slow=2.0,SNR=3.8							
	comp=Z,2.7nm,0.6s							
ASAR	**Alice Springs**	**27.59**	**169**	P		**P**	**14 17 51.8**	**-1.5**
ASAR	**Alice Springs**	**27.59**	**169**	P		**P**	**14 17 51.8**	**-1.5**
KULM	**Kulim**	**27.89**	**274**	P		**P**	**14 17 59.0**	**+2.9**
SSE	**Sheshan**	**28.23**	**347**	P		**P**	**14 17 57.6**	**-1.3**
SSE				S		**S**	**14 22 45.1**	**+2.3**
SSE				pmax		pmax		
	comp=Z,10.0nm,0.8s							
SSE				pmax		pmax		
	comp=Z,160nm,7.0s							
SSE				LR		LR		
	comp=Z,360nm,12.9s							
SSE				LR		LR		
	comp=Z,1µm,12.6s							
WRKA	**Warakurna**	**28.46**	**181**	P		**P**	**14 18 00.2**	**-0.8**
	baz=28,SNR=47							
WRKA	**Warakurna**	**28.46**	**181**	P		**P**	**14 18 01.1**	**0.0**
CNSH	**ChangSha**	**28.64**	**330**	*i*P		P	14 17 53.4	-9.1
CNSH				S		S	14 22 33.2	-16
CNSH				SS		**SnSn**	**14 24 12.3**	**+1.3**
CNSH				LR		LR		
	comp=N,2µm,17.4s							
CNSH				LR		LR		
	comp=E,3µm,18.2s							
CNSH				LR		LR		
	comp=Z,2µm,16.5s							
NAYO	**Nakonayok**	**28.91**	**293**	P		**P**	**14 18 07.3**	**+2.2**
	comp=Z,512nm,0.7s							
CTA	**Charters Tower**	**29.25**	**144**	P		**P**	**14 18 09.7**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=324,slow=11,SNR=5.6							
	comp=Z,2.0nm,0.7s							
JNU	**Nakatsue**	**29.46**	**4**	P		**P**	**14 18 09.4**	**-0.4**
	comp=Z,4.6nm,0.8s,baz=146,slow=8.8,SNR=1.7							
	comp=Z,4.6nm,0.8s							
JNU	**Nakatsue**	**29.46**	**4**	P		**P**	**14 18 09.0**	**-0.8**
GIRL	**Giralia**	**29.60**	**208**	P		**P**	**14 18 12.9**	**+1.7**
	baz=30,SNR=3.9							
GIRL	**Giralia**	**29.60**	**208**	P		**P**	**14 18 11.7**	**+0.6**
GIRL	**Giralia**	**29.60**	**208**	P		**P**

CHTO pmax pmax
comp=Z,145nm,1.8s
KMI Kunming 32.80 313 ⇑P **P** **14 18 40.9 +1.3**
KMI pP pP 14 18 47.3 -0.2
KMI sP sP 14 18 50.5 -0.4
KMI PP **PP** **14 19 49.0 -5.1**
KMI S **S** **14 23 46.4 -8.6**
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI pmax pmax
comp=Z,340nm,7.5s
KMI LR LR
comp=Z,2μm,18.0s
KMI LR LR
comp=Z,2μm,24.9s
KMI LR LR
comp=Z,2μm,19.2s
QLP Quilpie 33.61 154 P **P** **14 18 47.1 +0.7**
baz=34,SNR=3.2
KSAR Wonju Array Be 33.69 359 P **P** **14 18 46.2 -0.8**
KSAR Wonju Array Be 33.69 359 P **P** **14 18 46.2 -0.8**
KSRS Korea Array 33.70 359 P **P** **14 18 47.8 +0.7**
comp=Z,8.4nm,0.8s,baz=174,slow=9.9,SNR=3.7
comp=Z,8.4nm,0.8s
HNR Honiara 33.84 113 P **P** **14 18 49.7 +1.1**
comp=Z,134nm,0.3s,baz=144,slow=9.3,SNR=4.9
MAJO Matsushiro 33.97 14 P **P** **14 18 47.8 -1.6**
MAJO Matsushiro 33.97 14 P **P** **14 18 51.8 +2.3**
comp=Z,20nm,1.0s
MAJO Matsushiro 33.97 14 *i* P **P** **14 18 51.2 +1.7**
MAJO pmax pmax
comp=Z,20nm,0.9s
MJAR Matsushiro Arr 33.97 14 P **P** **14 18 49.2 -0.3**
comp=Z,7.3nm,0.8s,baz=189,slow=9.0,SNR=15
comp=Z,7.3nm,0.8s
MJB9 Matsu-Tunnel 33.97 14 P **P** **14 18 47.8 -1.6**
MJA0 Matsu Arr-Jizo 33.98 14 *e*P **P** **14 18 49.6 0.0**
MULG Mulgathing 34.09 172 P **P** **14 18 51.1 +0.6**
TIA Tai'an 34.13 343 ⇓P **P** **14 18 53.9 +3.0**
TIA S **S** **14 24 12.9 -2.2**
TIA pmax pmax
comp=Z,13nm,0.6s
TIA pmax pmax
comp=Z,180nm,6.7s
TIA LR LR
comp=Z,1μm,10.0s
TIA LR LR
comp=Z,2μm,12.1s
TIA LR LR
comp=Z,290nm,8.5s
FORT Forrest 34.18 181 P **P** **14 18 50.7 -0.6**
baz=34,SNR=21
FORT Forrest 34.18 181 P **P** **14 18 49.4 -1.9**
FORT Forrest 34.18 181 P **P** **14 18 52.5 +1.2**
LYN LuoYang 34.25 336⇑ *e*P **P** **14 18 51.2 -0.6**
LYN S **S** **14 24 15.4 -1.5**
LYN pmax pmax
comp=Z,20nm,0.3s
LYN pmax pmax
comp=Z,250nm,3.8s
LYN LR LR
comp=Z,1μm,24.0s
LYN LR LR
comp=Z,1μm,23.1s
PZH PanZhiHua 34.34 314 P **P** **14 18 53.3 +0.4**
PZH S **S** **14 24 16.6 -2.1**
PZH sS **sS** **14 24 36.1 +3.5**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,5.0s
PZH LR LR
comp=Z,5μm,24.5s
PZH LR LR
comp=Z,4μm,23.0s
PZH LR LR
comp=Z,11μm,26.0s
MORW Morawa 34.63 200 P **P** **14 18 55.6 +0.4**
baz=35,SNR=10
MORW Morawa 34.63 200 P **P** **14 18 54.5 -0.7**
MORW Morawa 34.63 200 P **P** **14 18 55.3 +0.1**
LCRK Leigh Creek 35.08 165 P **P** **14 19 02.3 +3.2**
KMBL Kambalda 35.34 190 P **P** **14 19 01.3 0.0**
baz=35,SNR=8.0
KMBL Kambalda 35.34 190 P **P** **14 19 01.7 +0.3**
comp=Z,16nm,1.0s
XAN Xi'an 35.39 331 ⇑P **P** **14 19 01.1 -0.7**
XAN pP pP 14 19 08.6 -1.3
XAN S **S** **14 24 34.9 +0.3**
XAN pmax pmax
comp=Z,53nm,1.3s
XAN pmax pmax
comp=Z,340nm,4.7s
XAN LR LR
comp=Z,740nm,11.4s
XAN LR LR
comp=Z,2μm,14.3s
XAN LR LR
comp=Z,2μm,18.1s
DL2 Dalian 35.71 351 P P 14 19 10.9 +6.5
DL2 S **S** **14 24 36.9 -2.4**
DL2 pmax pmax
comp=Z,260nm,10.2s
DL2 LR LR
comp=N,1μm,10.9s
DL2 LR LR
comp=E,3μm,20.5s
DL2 LR LR
comp=Z,950nm,20.8s
RMQ Roma 35.72 148 P **P** **14 19 06.5 +1.9**
baz=36,SNR=4.8
BLDU Ballidu 35.85 198 P **P** **14 19 05.5 -0.2**
baz=36,SNR=8.9
BLDU Ballidu 35.85 198 P **P** **14 19 05.3 -0.4**
CD2 Chengdu 35.86 322 P **P** **14 19 06.7 +0.8**
CD2 pP pP 14 19 14.2 +0.3
CD2 S **S** **14 24 43.5 +1.6**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,360nm,5.3s
JMM Marumori 35.90 17 P **P** **14 19 05.1 -0.9**
TNCH TengChong 35.91 309 ⇑P **P** **14 19 06.4 -0.2**
TNCH pP pP 14 19 13.9 -0.6
TNCH S **S** **14 24 42.6 -0.5**
TNCH sS pS 14 24 55.1 +2.1
TNCH ScS **ScS** **14 29 20.7 -2.5**
TNCH pmax pmax
comp=Z,16nm,0.9s
TNCH pmax pmax
comp=Z,410nm,5.7s
TNCH LR LR
comp=Z,850nm,12.2s
TNCH LR LR
comp=Z,700nm,12.8s
TNCH LR LR
comp=Z,1μm,17.8s
HNS HongShan 35.97 341 ⇑P **P** **14 19 06.2 -0.4**
HNS S **S** **14 24 43.1 -0.1**
HNS pmax pmax
comp=Z,21nm,1.2s
HNS LR LR
comp=Z,1μm,15.2s
HNS LR LR
comp=Z,2μm,14.7s
KLBR Kellerberrin 36.47 196 P **P** **14 19 12.1 +1.1**
baz=37,SNR=6.1
BBOO Buckleboo 36.89 169 P **P** **14 19 16.0 +1.4**
baz=37,SNR=12
BBOO Buckleboo 36.89 169 P **P** **14 19 15.0 +0.4**
BBOO Buckleboo 36.89 169 P **P** **14 19 15.7 +1.1**
TIY Taiyuan 37.04 339 ⇓P **P** **14 19 16.9 +1.1**
TIY pP **pP** **14 19 23.7 +0.1**
TIY sP **pwP** **14 19 29.4 -0.3**
TIY S **S** **14 25 02.7 +3.0**
TIY pmax pmax
comp=Z,19nm,0.6s
TIY pmax pmax
comp=Z,310nm,4.3s
TIY LR LR
comp=Z,940nm,7.7s
TIY LR LR
comp=Z,1μm,11.2s
TIY LR LR
comp=Z,1μm,17.7s
MUN Mundaring 37.28 197 P **P** **14 19 18.6 +0.8**
baz=37,SNR=6.0
MUN Mundaring 37.28 197 P **P** **14 19 18.5 +0.7**
STKA Stephens Creek 37.39 162 P **P** **14 19 18.3 -0.5**
comp=Z,10nm,0.6s,baz=338,slow=9.5,SNR=38
comp=Z,10nm,0.6s
STKA Stephens Creek 37.39 162 P **P** **14 19 20.0 +1.2**
baz=38,SNR=14
STKA Stephens Creek 37.39 162 P **P** **14 19 18.6 -0.2**
STKA Stephens Creek 37.39 162 P **P** **14 19 19.8 +1.0**
STKA Stephens Creek 37.39 162 *i* P **P** **14 19 18.8 0.0**
NWAO Narrogin (SRO) 37.88 196 P **P** **14 19 21.2 -1.7**
comp=Z,4.3nm,0.6s
comp=Z,4.3nm,0.6s
NWAO Narrogin (SRO) 37.88 196 P **P** **14 19 23.0 +0.1**
baz=38,SNR=5.5
NWAO P **P** **14 19 23.0 +0.1**
baz=38,SNR=5.5
NWAO Narrogin (SRO) 37.88 196 P **P** **14 19 22.6 -0.3**
NWAO Narrogin (SRO) 37.88 196 P **P** **14 19 23.6 +0.7**
comp=Z,14nm,1.6s
NWAO Narrogin (SRO) 37.88 196 P **P** **14 19 23.7 +0.8**
comp=Z,14nm,1.6s
NWAO Narrogin (SRO) 37.88 196 P **P** **14 19 22.6 -0.3**
NWAO Narrogin (SRO) 37.88 196 P **P** **14 19 22.9 0.0**
HTT Hallett 38.10 166 P **P** **14 19 27.2 +2.3**
baz=38,SNR=5.5
HTT Hallett 38.10 166 P **P** **14 19 27.0 +2.1**
SNY Shenyang 38.33 354 ⇑P **P** **14 19 28.6 +2.0**
SNY S **S** **14 25 20.0 +1.0**
SNY pmax pmax
comp=Z,16nm,1.5s
SNY pmax pmax
comp=Z,170nm,4.1s
SNY LR LR
comp=Z,2μm,12.6s
SNY LR LR
comp=Z,2μm,13.7s
SNY LR LR
comp=Z,2μm,12.0s
RKGY Rocky Gully 39.53 195 P **P** **14 19 38.1 +1.3**
LZH Lanzhou 39.57 328 *e*P **P** **14 19 38.4 +1.1**
LZH pP pP 14 19 45.0 -0.5
LZH S **S** **14 25 40.7 +2.4**
LZH sS sS 14 25 57.1 +5.1
LZH pmax pmax
comp=Z,59nm,1.4s
LZH pmax pmax
comp=Z,530nm,4.6s
LZH LR LR
comp=Z,2μm,15.5s
LZH LR LR
comp=Z,3μm,16.2s
LZH LR LR
comp=Z,4μm,16.5s
H11S3 WAKE ISLAND Hy 40.11 65 T T 15 02 48.5
baz=253,slow=74,SNR=28
H11S2 WAKE ISLAND Hy 40.13 65 T T 15 02 38.5
baz=253,slow=74,SNR=75
H11S1 WAKE ISLAND Hy 40.13 65 T T 15 02 39.3
baz=253,slow=74,SNR=66
HHC Hu-ho-hao-te 40.13 340 *e*P **P** **14 19 43.4 +1.6**
HHC S **S** **14 25 50.4 +4.0**
HHC pmax pmax
comp=Z,73nm,0.9s
HHC pmax pmax
comp=Z,540nm,4.3s
HHC LR LR
comp=Z,3μm,12.9s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,4μm,15.0s
CN2 Changchun 40.14 356 *e*P **P** **14 19 42.3 +0.6**
CN2 *es*P pP 14 19 49.3 -0.3
CN2 *e*S **S** **14 25 47.8 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,16.0s
ARMA Armidale 40.37 149 P **P** **14 19 46.3 +2.4**
baz=40,SNR=13
ARMA Armidale 40.37 149 P **P** **14 19 42.7 -1.2**
ARMA Armidale 40.37 149 P **P** **14 19 46.6 +2.7**
BTO Baotou 40.47 338 *e*P **P** **14 19 41.4 -3.2**
BTO S **S** **14 25 49.8 -1.7**
BTO LR LR
comp=Z,3μm,13.2s
BTO LR LR
comp=Z,7μm,15.3s
BRDH Bariadhala 40.47 301 P **P** **14 19 43.8 -1.0**
comp=Z,122nm,0.3s,baz=274,slow=19,SNR=2.1
BRDH LR LR 14 38 46.3
comp=Z,1μm,18.9s,baz=116,slow=40
USA0B Ussuriysk Arra 40.55 4 P **P** **14 19 44.0 -1.1**
USA0B Ussuriysk Arra 40.55 4 *i* P **P** **14 19 46.5 +1.4**
USRK Ussuriysk Ar. 40.55 4 P **P** **14 19 45.1 0.0**
comp=Z,8.9nm,0.7s,baz=187,slow=6.4,SNR=15
comp=Z,8.9nm,0.7s
H11N1 WAKE ISLAND Hy 40.66 64 T T 15 03 25.2
baz=249,slow=75
H11N2 WAKE ISLAND Hy 40.67 64 T T 15 03 39.5
baz=249
H11N3 WAKE ISLAND Hy 40.68 64 T T 15 03 28.9
baz=249,slow=75
MDJ Mudanjiang 40.87 1 P **P** **14 19 47.0 -0.7**
MDJ Mudanjiang 40.87 1 P **P** **14 19 49.4 +1.7**
MDJ pP sP 14 19 57.3 -1.5
MDJ S **S** **14 26 00.9 +3.9**
MDJ pmax pmax
comp=Z,25nm,1.3s
MDJ pmax pmax
comp=Z,410nm,6.5s
MDJ LR LR
comp=Z,1μm,15.1s
MDJ LR LR
comp=Z,1μm,10.6s
MDJ LR LR
comp=Z,1μm,14.7s
SHL Shillong 41.44 305 P **P** **14 19 51.9 -1.1**
SHL Shillong 41.44 305 P **P** **14 19 51.9 -1.1**
SHL pmax pmax
comp=Z,253nm,1.5s
SHL Shillong 41.44 305 P **P** **14 19 53.3 +0.3**
SNR=17
XLT XiLinHaoTe 41.63 346 *e*P **P** **14 19 54.4 +0.2**
XLT pP pP 14 20 01.8 -0.2
XLT S **S** **14 26 05.6 -3.1**
XLT pmax pmax
comp=Z,14nm,0.8s
XLT pmax pmax
comp=Z,210nm,6.1s
XLT LR LR
comp=Z,1μm,14.0s
XLT LR LR
comp=Z,1μm,16.6s
BNX BinXian 41.99 359 ⇑P **P** **14 19 58.1 +1.2**
BNX S **S** **14 26 18.7 +5.0**
BNX sS **sS** **14 26 26.2 -0.1**
BNX pmax pmax
comp=Z,4.0nm,0.5s
BNX pmax pmax
comp=Z,240nm,6.5s
BNX LR LR
comp=Z,1μm,12.0s
BNX LR LR
comp=Z,840nm,11.4s
BNX LR LR
comp=Z,1μm,15.2s
ARPS Mount Arapiles 42.02 164 P **P** **14 20 00.1 +2.8**
baz=42,SNR=8.1
ARPS Mount Arapiles 42.02 164 P **P** **14 19 59.2 +1.9**
comp=Z,37nm,0.8s
ASAJ Asahikawa 42.22 15 P **P** **14 19 58.4 -0.4**
comp=Z,8.2nm,0.8s,baz=251,slow=9.6,SNR=7.5
comp=Z,8.2nm,0.8s
ASAJ Asahikawa 42.22 15 P **P** **14 19 57.8 -1.0**
JKA Kamikawa-asahi 42.22 15 P **P** **14 19 57.8 -1.0**
TOO Toolangi 43.87 161 P **P** **14 20 13.4 +1.1**
LSA Lhasa 43.92 310 P **P** **14 20 14.6 +1.2**
LSA S **S** **14 26 38.3 -5.1**
LSA pmax pmax
comp=Z,13nm,1.3s
LSA pmax pmax
comp=Z,370nm,3.6s
LSA LR LR
comp=Z,710nm,15.7s
LSA LR LR
comp=Z,470nm,17.1s
LSA LR LR
comp=Z,1μm,18.5s
GTA Gaotai 44.18 328 *e*P **P** **14 20 14.9 0.0**
GTA pP pP 14 20 20.4 -2.7
GTA sP sP 14 20 23.8 -2.0
GTA S **S** **14 26 45.0 -1.3**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,360nm,8.0s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,2μm,19.5s
GTA LR LR
comp=Z,2μm,18.3s
YSS Yuzh-Sakhalins 44.91 14 *e*P **P** **14 20 21.7 +1.3**
YSS *e*S **S** **14 26 57.3 +0.9**
YSS pmax pmax
comp=Z,10.0nm,0.8s
GOMU GeErMu 44.94 320 P **P** **14 20 23.4 +2.0**
GOMU S **S** **14 26 56.6 -1.4**
GOMU pmax pmax
comp=Z,14nm,1.4s
GOMU pmax pmax
comp=Z,350nm,8.4s
GOMU LR LR
comp=Z,1μm,18.7s
GOMU LR LR
comp=Z,1μm,16.6s
GOMU LR LR
comp=Z,1μm,17.1s
DZM Mont Dzumac 44.97 126 *e*LR LR 14 32 58.6
comp=Z,3μm,31.6s
KLR Kul'dur 45.55 3 P **P** **14 20 25.1 -0.4**
comp=Z,6.5nm,0.6s,baz=190,slow=4.2,SNR=20
comp=Z,6.5nm,0.6s
KLR Kul'dur 45.55 3 *i* P **P** **14 20 24.9 -0.6**
KLR pmax pmax
comp=Z,11nm,1.1s
TAPN Taplejung 45.59 305 *e*P **P** **14 20 28.0 +1.5**
ODAN Odare 45.65 305 *e*P **P** **14 20 27.8 +0.8**
RAMN Ramite 46.34 304 *e*P **P** **14 20 33.6 +1.2**
HEH HeiHe 46.51 359 *e*P **P** **14 20 32.5 -0.5**
HEH pP **pP** **14 20 37.2 -3.8**
HEH S **S** **14 27 17.1 -2.2**
HEH SS **SS** **14 30 43.8 -1.8**
HEH pmax pmax
comp=Z,23nm,1.5s
HEH pmax pmax
comp=Z,500nm,6.3s
HEH LR LR
comp=Z,480nm,14.7s
HEH LR LR
comp=Z,1μm,15.0s
HEH LR LR
comp=Z,1μm,15.3s
UGL Uglegorsk 46.76 12⇑ *e*P **P** **14 20 37.8 +2.8**
UGL *i* 14 22 05.2
UGL pmax pmax
comp=Z,30nm,1.0s
UGL pmax pmax
comp=Z,690nm,4.0s
UGL pmax pmax
comp=Z,80nm,1.0s
JIRN Jiri 46.95 305 *e*P **P** **14 20 38.2 +0.9**
GRNR Gornyy 47.48 7⇓ *i*P **P** **14 20 41.6 +1.0**
GRNR pmax pmax
comp=N,4.0nm,1.0s
GRNR pmax pmax
comp=Z,8.0nm,1.0s
PKI Pulchoki 47.55 305 *e*P **P** **14 20 42.6 +0.6**
PKIN Phulchoki 47.56 305 *e*P **P** **14 20 42.4 +0.4**
KKN Kakani 47.74 305 *e*P **P** **14 20 43.7 +0.4**
DMN Daman 47.81 305 *e*P **P** **14 20 43.7 -0.2**
comp=Z,21nm,0.7s
ULN Ulaanbaatar 47.84 341 P **P** **14 20 42.6 -1.0**
ULN Ulaanbaatar 47.84 341 *i* P **P** **14 20 43.2 -0.4**
ULN pmax pmax
comp=Z,27nm,1.2s
SONM Songino Array 48.03 340 P **P** **14 20 44.7 -0.4**
comp=Z,8.1nm,1.1s,baz=164,slow=5.5,SNR=33
comp=Z,8.1nm,1.1s
SONM Songino Array 48.03 340 P **P** **14 20 43.8 -1.4**
SONM Songino Array 48.03 340 *e*P **P** **14 20 44.8 -0.3**
GKN Gorkha 48.35 305 *e*P **P** **14 20 48.1 +0.2**
TYV Tymovskoe 48.58 12 *e*P **P** **14 20 48.8 -0.3**
TYV *e*S **S** **14 27 51.5 +2.8**
TYV pmax pmax
comp=Z,300nm,3.1s
TYV pmax pmax
comp=Z,10.0nm,1.0s
TYV smax smax
comp=N,300nm,5.2s
TYV smax smax
comp=E,300nm,5.2s
KOLN Koldanda 49.12 304 *e*P **P** **14 20 52.7 -1.2**
DANN Dangsing 49.20 305 *e*P **P** **14 20 54.1 -0.5**
comp=E,87nm,0.6s
ZEA Zeya 50.00 359 *e*P **P** **14 20 59.2 -0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=N,400nm,16.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
HYB Hyderabad 50.89 289 *e*P **P** **14 21 08.1 +0.8**
HYB IVmB_BB 14 21 08.8
comp=Z,399nm,2.6s
HYB *e*pP **pP** **14 21 10.0 -5.6**
HYB *e*S **S** **14 28 23.7 +1.5**
ZAK Zakamensk 51.28 339 *e*P **P** **14 21 10.6 +0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
PCHI Peechi 52.23 280⇑ *e*P **P** **14 21 18.0 +0.7**
PCHI *e*S **S** **14 28 42.7 +2.1**
MOY Mondy 53.15 339 *e*P **P** **14 21 24.4 +0.7**
MOY pmax pmax
comp=Z,66nm,3.1s
MSVF Nonsavu 53.19 115 P **P** **14 21 26.9 +2.5**
comp=Z,12nm,0.8s,baz=192,slow=11,SNR=5.7
comp=Z,12nm,0.8s
WMQ Urumqi 53.90 324 *e*P **P** **14 21 31.0 +1.7**
WMQ pP pP 14 21 38.8 +1.2
WMQ PcP **PcP** **14 22 37.3 +2.8**
WMQ S **S** **14 29 03.5 +0.8**
WMQ pmax pmax
comp=Z,42nm,0.9s
WMQ pmax pmax
comp=Z,320nm,4.9s
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,1μm,14.1s
WMQ LR LR
comp=Z,870nm,20.1s
PEA0B Petropavlovsk- 54.88 21 P **P** **14 21 35.3 -0.8**
PEA0B Petropavlovsk- 54.88 21 P **P** **14 21 35.3 -0.8**
PEA0B pmax pmax
comp=Z,59nm,1.2s
PETK Petropavlovsk- 54.88 21 P **P** **14 21 37.5 +1.4**
comp=Z,12nm,0.9s,baz=191,slow=4.2,SNR=16
comp=Z,12nm,0.9s
PETK Petropavlovsk- 54.88 21 *e*P **P** **14 21 38.5 +2.4**
PETK pmax pmax
comp=Z,8.0nm,0.7s
PET Petropavlovsk 55.16 22 *e*P P 14 21 27.1 -11
PET *e*S **S** **14 29 10.8 -8.3**
PET pmax pmax
comp=Z,22nm,1.0s
PET pmax pmax
comp=Z,300nm,13.0s
PET MLR MLR
comp=Z,500nm,19.0s
BOD Bodaibo 55.28 351 *e*P **P** **14 21 38.5 -0.4**
BOD pmax pmax
comp=Z,25nm,1.8s
OUZ Omahuta 57.19 136 P **P** **14 21 52.1 -0.9**

DGZ **Jazzator, Alta** 57.63 330 *i* P **P** 14 21 56.0 0.0
DGZ pmax pmax
comp=Z,20nm,1.5s
ZSN **Zaisan** 57.63 326 *e*P **P** 14 21 56.0 +0.1
baz=326
YAK **Yakutsk** 58.31 1 P **P** 14 22 00.3 0.0
comp=Z,41nm,0.6s,baz=2.5,slow=2.2,SNR=40
comp=Z,41nm,0.6s
YAK **Yakutsk** 58.31 1 P **P** 14 21 59.5 -0.7
YAK **Yakutsk** 58.31 1 *e*P **P** 14 21 59.6 -0.7
YAK *e**PP **pP** 14 22 09.0 +0.5
YAK *e* 14 24 11.5
YAK *e*S **S** 14 29 59.9 -0.5
YAK pmax pmax
comp=Z,59nm,0.8s
YAK pmax pmax
comp=N,9.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=Z,79nm,1.4s
YAK smax smax
comp=E,27nm,2.0s
YAK smax smax
comp=N,66nm,3.3s
MA2 **Magadan** 58.41 13 P **P** 14 22 02.0 +1.0
comp=N,9.5nm,0.9s,baz=178,slow=5.7,SNR=4.0
comp=N,9.5nm,0.9s
MA2 **Magadan** 58.41 13 *i* P **P** 14 22 02.8 +1.7
MA2 pmax pmax
comp=Z,48nm,1.7s
SHLS **Shalkode** 58.63 320 *e*P **P** 14 22 01.1 -2.0
comp=Z,36nm,2.2s,baz=320
SHLS **Shalkode** 58.63 320 *e*P **P** 14 22 01.1 -2.0
PDGK **Podgornoye** 58.70 320 *i* P **P** 14 22 04.5 +0.9
PDGK pmax pmax
comp=Z,25nm,0.9s
MK31 **Makanchi Array** 58.72 324 P **P** 14 22 02.8 -0.7
MK31 **Makanchi Array** 58.72 324 *e*P **P** 14 22 03.2 -0.4
MKAR **Makanchi Array** 58.72 324 P **P** 14 22 03.0 -0.5
comp=Z,12nm,0.6s,baz=118,slow=8.1,SNR=88
comp=Z,12nm,0.6s
MKAR **Makanchi Array** 58.72 324 P **P** 14 22 02.8 -0.8
MKAR **Makanchi Array** 58.72 324 *i* P **P** 14 22 03.4 -0.2
UZB **Uzynbulak** 58.91 319 *e*P **P** 14 22 03.6 -1.5
baz=320
UZB **Uzynbulak** 58.91 319 *e*P **P** 14 22 05.7 +0.6
UZB pmax pmax
comp=Z,93nm,3.0s
MAKZ **Makanchi** 58.91 324 P **P** 14 22 04.2 -0.7
MAKZ **Makanchi** 58.91 324 P **P** 14 22 04.2 -0.7
KPKS **Kokpek** 59.28 320 *e*P **P** 14 22 07.0 -0.6
baz=320
KPKS **Kokpek** 59.28 320 *e*P **P** 14 22 06.8 -0.8
KPKS pmax pmax
comp=Z,98nm,3.2s
ZHN **Zhinishke** 59.30 319 *e*P **P** 14 22 07.2 -0.6
baz=319
KSH **Kashi** 59.44 314 P **P** 14 22 11.8 +3.0
KSH sP pwP 14 22 27.4 +5.3
KSH S **S** 14 30 21.6 +5.3
KSH LR LR
comp=Z,1µm,17.3s
KSH LR LR
comp=Z,660nm,11.6s
KSH LR LR
comp=Z,970nm,24.7s
NIL **Nilore** 59.47 307 P **P** 14 22 09.0 0.0
NIL **Nilore** 59.47 307 P **P** 14 22 09.0 0.0
NIL pmax pmax
comp=Z,194nm,1.4s
MRNZ **Matariki Terra** 60.17 143 P **P** 14 22 13.8 +0.2
MDOK **Medeo** 60.21 319 *e*P **P** 14 22 13.5 -0.6
baz=319
TNSS **Tian-Shan** 60.22 319 *e*P **P** 14 22 14.1 -0.4
baz=319
AAA **Alma-Ata** 60.32 319 *e*P **P** 14 22 14.2 -0.5
baz=319
THZ **Tophouse** 60.48 143 P **P** 14 22 15.5 -0.2
CHKK **Chushkaly** 60.55 319 *e*P **P** 14 22 15.6 -0.6
baz=320
LBZ **Lake Benmore** 60.55 147 P **P** 14 22 16.0 -0.2
RPZ **Rata Peaks** 60.60 146 P **P** 14 22 18.0 +1.4
comp=Z,11nm,0.7s,baz=300,slow=20,SNR=2.1
comp=Z,11nm,0.7s
LTZ **Lake Taylor** 60.72 144 P **P** 14 22 17.8 +0.4
TCW **Tory Channel** 60.99 142 P **P** 14 22 19.4 +0.2
KUU **Kurty** 60.99 319 *e*P **P** 14 22 19.0 -0.2
comp=Z,30nm,1.8s,baz=319
TKM2 **Tokmak 2** 61.07 318 P **P** 14 22 19.9 -0.1
URZ **Urewera** 61.20 138 P **P** 14 22 22.9 +2.3
comp=Z,8.2nm,0.6s,baz=23,slow=2.3,SNR=8.0
comp=Z,8.2nm,0.6s
BKZ **Black Stump Fm** 61.26 139 P **P** 14 22 21.0 -0.1
BHW **Baring Head** 61.47 142 P **P** 14 22 22.2 -0.1
UCH **Uchtor** 61.52 317 P **P** 14 22 26.3 +3.0
SNR=13
ZAA0 **Zalesovo Array** 61.55 332 P **P** 14 22 21.5 -1.2
ZALV **Zalesovo Beam** 61.55 332 P **P** 14 22 22.1 -0.7
comp=Z,3.3nm,0.5s,baz=123,slow=7.6,SNR=11
comp=Z,3.3nm,0.5s
ZALV **Zalesovo Beam** 61.55 332 P **P** 14 22 21.2 -1.6
ZALV **Zalesovo Beam** 61.55 332 *e*P **P** 14 22 22.2 -0.6
ZALV pmax pmax
comp=Z,3.0nm,0.5s
AAK **Ala-Archa** 61.70 317 P **P** 14 22 23.6 -0.5
comp=Z,2.2nm,0.6s,baz=134,slow=8.5,SNR=8.5
comp=Z,2.2nm,0.6s
AAK **Ala-Archa** 61.70 317 *i* P **P** 14 22 23.7 -0.5
AAK pmax pmax
comp=Z,21nm,2.0s
AAK **Ala-Archa** 61.70 317 P **P** 14 22 24.1 -0.1
AAK P **P** 14 22 24.1 -0.1
SEY **Seymchan** 61.77 12 P **P** 14 22 23.8 -0.2
comp=Z,5.5nm,0.9s,baz=236,slow=6.3,SNR=7.9
comp=Z,5.5nm,0.9s
SEY **Seymchan** 61.77 12 *i* P **P** 14 22 25.8 +1.8
SEY pmax pmax
comp=Z,24nm,1.4s
SGDS **Sogindy** 61.93 318 *i* P **P** 14 22 24.7 -1.0
baz=318
KURBB **Kurchatov Arra** 62.85 327 P **P** 14 22 30.4 -1.1
comp=Z,11nm,0.6s,baz=128,slow=6.4,SNR=72
comp=Z,11nm,0.6s
BTLS **Baital** 62.96 320 *e*P **P** 14 22 31.8 -0.6
baz=320
BTLS **Baital** 62.96 320 *e*P **P** 14 22 31.6 -0.8
BTLS pmax pmax
comp=Z,32nm,2.6s
KBL **Kabul** 63.07 307 P **P** 14 22 32.7 -0.9
KBL **Kabul** 63.07 307 P **P** 14 22 32.7 -0.9
KBL pmax pmax
comp=Z,90nm,1.5s
KBL **Kabul** 63.07 307 P **P** 14 22 34.7 +1.1
SNR=8.9
GAR **Garm** 63.37 312 P **P** 14 22 34.8 -0.6
CHGR **Chuyangaron** 64.13 311 P **P** 14 22 39.5 -0.9
CHGR pmax pmax
comp=Z,66nm,1.2s
KK31 **Karatay Array** 64.59 317 P **P** 14 22 41.7 -1.5
KK31 **Karatay Array** 64.59 317 *i* P **P** 14 22 42.6 -0.6
KKAR **Karatay Array** 64.59 317 P **P** 14 22 41.9 -1.3
KKAR **Karatay Array** 64.59 317 P **P** 14 22 41.7 -1.5
KKAR **Karatay Array** 64.59 317 P **P** 14 22 41.9 -1.3
IUG **Iuzhnay** 64.60 315 *e*P **P** 14 22 42.0 -1.4
baz=316
IUG **Iuzhnay** 64.60 315 *e*P **P** 14 22 42.9 -0.5
TIXI **Tiksi** 67.97 0 P **P** 14 23 03.5 -0.7
comp=Z,30nm,0.6s,baz=90,slow=23,SNR=49
comp=Z,30nm,0.6s
TIXI **Tiksi** 67.97 0 P **P** 14 23 03.6 -0.6
TIXI **Tiksi** 67.97 0 *i* P **P** 14 23 03.6 -0.6
TIXI pmax pmax
comp=Z,10.0nm,0.9s
BVA0 **Borovoye Array** 68.44 327 *i* P **P** 14 23 07.3 -0.3
BVAR **Borovoye Array** 68.44 327 P **P** 14 23 06.4 -1.2
comp=Z,7.1nm,0.6s,baz=134,slow=8.0,SNR=23
comp=Z,7.1nm,0.6s
BRVK **Borovoye** 68.51 327 P **P** 14 23 06.2 -1.8
BRVK **Borovoye** 68.51 327 *i* P **P** 14 23 07.9 -0.1
BRVK pmax pmax
comp=Z,20nm,0.7s
BRVK **Borovoye** 68.51 327 P **P** 14 23 07.6 -0.4
BRVK P **P** 14 23 07.6 -0.4
BILL **Bilibino** 69.22 14 *i* P **P** 14 23 14.5 +2.3
BILL *i* 14 23 22.1
BILL *i* 14 23 39.7
BILL pmax pmax
comp=Z,4.0nm,1.0s
JLN **Jalan Bani Buh** 69.36 292 P **P** 14 23 14.3 +0.4
JLN P **P** 14 23 14.3 +0.4
WBK **Wadi Bani Khal** 69.80 293 P **P** 14 23 17.6 +0.9
WBK P **P** 14 23 17.6 +0.9
WSAR **Wadi Sarin** 70.17 293 P **P** 14 23 19.2 +0.3
comp=Z,3.6nm,0.6s,baz=190,slow=4.6,SNR=8.3
comp=Z,3.6nm,0.6s
WSAR **Wadi Sarin** 70.17 293 P **P** 14 23 20.5 +1.6
JMDO **Jabal Madar** 70.58 292 P **P** 14 23 22.3 +0.8
MHTO **MHTO** 70.61 291 P **P** 14 23 22.0 +0.3
SNR=9.3
MHTO P **P** 14 23 22.0 +0.3
SNR=9.3
SMDO **Samad** 70.68 293 P **P** 14 23 23.4 +1.3
DQM **DQM** 70.95 290 P **P** 14 23 24.7 +1.0
SNR=6.0
NRIK **Noril'sk** 71.01 346 P **P** 14 23 22.4 -0.7
comp=Z,6.8nm,0.8s,baz=124,slow=5.7,SNR=13
comp=Z,6.8nm,0.8s
NRIK **Noril'sk** 71.01 346 P **P** 14 23 21.9 -1.1
NRIK **Noril'sk** 71.01 346 *e*P **P** 14 23 24.1 +1.0
NRIK pmax pmax
comp=Z,7.0nm,0.8s
JASK **Jask - Hormozg** 71.09 296 P **P** 14 23 25.3 +0.8
BSY **Bisya** 71.44 293 P **P** 14 23 27.0 +0.4
BSY P **P** 14 23 27.0 +0.4
GYA0B **ALIBECK ARRAY** 72.41 309 P **P** 14 23 29.8 -2.4
MASF **Masafi** 72.58 295 P **P** 14 23 35.2 +1.7
ASHO **Ashiyiah** 72.62 295 ⇑P **P** 14 23 34.9 +1.2
ALNE **Al Ain** 72.86 294 P **P** 14 23 36.2 +1.1
SNR=7.6
FAQ **Al Faqa, Dubai** 73.05 295 P **P** 14 23 37.3 +1.1
ASUD **Al Ashush, Dub** 73.28 295 P **P** 14 23 38.6 +1.1
UMZA **Um Al Zommool** 73.32 293 P **P** 14 23 39.4 +1.6
UMZA P **P** 14 23 39.4 +1.6
AB31 **Akbulak array** 73.42 320 *i* P **P** 14 23 36.4 -1.5
ABKAR **Akbulak array** 73.42 320 P **P** 14 23 36.6 -1.3
ABKAR **Akbulak array** 73.42 320 P **P** 14 23 36.5 -1.4
DOK **Doka** 74.12 288 P **P** 14 23 45.0 +2.4
SNR=7.0
WHFO **Wadi Hawf** 74.44 287 P **P** 14 23 44.5 -0.1
WHFO P **P** 14 23 44.5 -0.1
ABTO **Aybut** 74.89 287 P **P** 14 23 46.1 -1.0
AKTO **Aktyubinsk** 74.91 321 P **P** 14 23 45.4 -1.2
comp=Z,5.5nm,0.6s,baz=116,slow=8.2,SNR=12
comp=Z,5.5nm,0.6s
AKTO **Aktyubinsk** 74.91 321 P **P** 14 23 45.5 -1.1
SVE **Sverdlovsk** 75.04 328 *e*P **P** 14 23 47.1 -0.1
ARU **Arti** 76.04 327 P **P** 14 23 51.9 -1.0
comp=Z,3.7nm,0.5s,baz=126,slow=4.2,SNR=9.8
comp=Z,3.7nm,0.5s
ARU **Arti** 76.04 327 P **P** 14 23 51.0 -1.9
ARU **Arti** 76.04 327 *d i* P **P** 14 23 53.2 +0.3
ARU 14 26 46.9
ARU S **S** 14 33 34.7 +0.6
ARU SS **SS** 14 38 28.9 +1.6
ARU pmax pmax
comp=Z,6.0nm,0.7s
N16K **Nishlik Lake** 78.38 29 P **P** 14 24 06.2 +0.2
baz=257
O16K **Kokwok River B** 78.51 30 P **P** 14 24 06.9 +0.2
baz=257
O17K **Koliganek Bris** 79.05 30 P **P** 14 24 10.4 +0.8
baz=258
Q18K **Katmai Hardscr** 79.89 31 P **P** 14 24 14.5 +0.1
baz=260
P18K **Big Mountain,** 79.90 30 P **P** 14 24 15.1 +0.7
baz=260
SII **Sitkinak Islan** 79.99 33 P **P** 14 24 14.7 -0.1
baz=261
O18K **Koktuh Hills** 80.00 30 P **P** 14 24 15.0 +0.1
baz=260
TTA **Tatalina** 80.19 27 P **P** 14 24 15.9 0.0
baz=259
GCSA **Galena City Sc** 80.20 25 P **P** 14 24 16.4 +0.7
baz=258
O19K **Port Alsworth** 80.49 30 P **P** 14 24 17.6 +0.2
baz=261
N19K **Bonanza Creek** 80.52 29 P **P** 14 24 18.3 +0.6
baz=260
OHAK **Old Harbor** 80.57 33 P **P** 14 24 18.6 +0.7
baz=262
L19K **White Mountain** 80.58 28 P **P** 14 24 18.4 +0.5
baz=260
AKT **Akhty** 80.77 311 *e*P **P** 14 24 15.8 -3.7
AKT *e* 14 24 22.3
AKT pmax pmax
comp=Z,20nm,1.6s
P19K **Oil Pt** 80.95 30 P **P** 14 24 20.3 +0.3
baz=262
MAK **Makhachkala** 81.02 313 *e*P **P** 14 24 16.7 -4.0
MAK *e* 14 27 22.9
MAK *e*PPP PPP 14 29 12.9
MAK *e*S S 14 34 24.2 -3.8
MAK *e*SS **SS** 14 39 40.0 -2.8
MAK *e*SSS SSS 14 43 06.8
MAK pmax pmax
comp=Z,390nm,2.1s
KDAK **Kodiak Island** 81.03 32 P **P** 14 24 21.0 +0.7
comp=Z,5.4nm,0.6s,baz=322,slow=10,SNR=9.1
KDAK LR LR 14 55 45.2
comp=Z,387nm,22.0s,baz=269,slow=32
comp=Z,5.4nm,0.6s
KDAK **Kodiak Island** 81.03 32 P **P** 14 24 21.1 +0.7
baz=262
L20K **Farewell, AK** 81.08 27 P **P** 14 24 21.0 +0.3
baz=261
K20K **Telida** 81.14 26 P **P** 14 24 21.4 +0.5
baz=260
Q20K **Shuyak Island** 81.23 31 P **P** 14 24 22.0 +0.6
baz=262
J20K **Nowinta River** 81.25 26 P **P** 14 24 22.9 +1.4
J20K **Nowinta River** 81.25 26 P **P** 14 24 22.3 +0.9
baz=260
KIRV **Kirov** 81.29 329 P **P** 14 24 21.8 0.0
comp=Z,12nm,0.6s,baz=141,slow=1.7,SNR=4.8
comp=Z,12nm,0.6s
O20K **Slope Mountain** 81.32 30 P **P** 14 24 22.7 +0.7
baz=262
M20K **Styx River** 81.33 28 P **P** 14 24 22.6 +0.6
M20K **Styx River** 81.33 28 P **P** 14 24 22.5 +0.4
baz=261
BELG **Belogornoye** 81.64 322 *i* P **P** 14 24 23.7 0.0
BELG pmax pmax
comp=Z,6.0nm,0.9s
N20K **Mount Spurr** 81.67 29 P **P** 14 24 24.8 +1.0
baz=262
SPCR **Spurr Chakacha** 81.67 29 P **P** 14 24 24.3 +0.5
baz=262
IMAR **Indian Mountai** 81.72 24 P **P** 14 24 24.7 +0.7
HOM **Homer** 81.75 30 P **P** 14 24 25.1 +0.9
baz=263
A21K **Barrow** 81.77 18 P **P** 14 24 25.2 +1.2
baz=257
G21K **Allakaket** 81.91 23 P **P** 14 24 25.9 +1.0
baz=260
PPLA **Purkeypile** 81.91 27 P **P** 14 24 25.9 +0.8
PPLA **Purkeypile** 81.91 27 P **P** 14 24 26.3 +1.1
baz=262
CNPM **China Poot** 81.94 30 P **P** 14 24 26.2 +1.0
CAST **Castle Rocks** 82.03 27 P **P** 14 24 26.1 +0.5
baz=262
F21K **Alatna River** 82.04 23 P **P** 14 24 27.0 +1.4
baz=260
H21K **Melozitna Rive** 82.05 24 P **P** 14 24 27.5 +1.8
baz=261,SNR=8.2
SKT **Skwentna** 82.09 28 P **P** 14 24 25.2 -0.7
SKT **Skwentna** 82.09 28 P **P** 14 24 27.3 +1.3
baz=263
BRLK **Bradley Lake** 82.14 30 P **P** 14 24 25.8 -0.6
BRSE **Bradley Lake S** 82.22 30 P **P** 14 24 27.2 +0.5
baz=264
RAYN **Ar Rayn** 82.22 293 P **P** 14 24 26.2 -1.3
RAYN **Ar Rayn** 82.22 293 P **P** 14 24 26.2 -1.3
RAYN pmax pmax
comp=Z,37nm,1.3s
RAYN **Ar Rayn** 82.22 293 P **P** 14 24 28.0 +0.4
I21K **Tanana** 82.32 25 P **P** 14 24 27.4 +0.3
I21K **Tanana** 82.32 25 P **P** 14 24 28.5 +1.4
baz=262
SUA **Susitna One** 82.40 29 P **P** 14 24 28.1 +0.4
SUA **Susitna One** 82.40 29 P **P** 14 24 28.3 +0.5
baz=264
KTH **Kantishna Hill** 82.57 26 P **P** 14 24 27.7 -0.8
F22K **John River** 82.58 22 P **P** 14 24 29.3 +0.9
baz=261
BPAW **Bear Paw Mtn.** 82.61 26 P **P** 14 24 30.0 +1.3
baz=263
H22K **Ishtalitna Cre** 82.67 24 P **P** 14 24 30.1 +1.2
baz=262,SNR=9.5
CUT **Chulitna** 82.73 28 P **P** 14 24 30.6 +1.4
baz=264
M22K **Willow** 82.73 28 P **P** 14 24 30.1 +0.8
baz=264
G22K **Bettles** 82.76 23 P **P** 14 24 30.8 +1.5
baz=262
O22K **Cooper Landing** 82.80 30 P **P** 14 24 30.3 +0.7
baz=265
MLY **Manley** 82.83 25 P **P** 14 24 28.5 -1.3
MLY **Manley** 82.83 25 P **P** 14 24 30.2 +0.4
baz=263,SNR=7.8
TRF **Thorofare Moun** 82.84 27 P **P** 14 24 29.5 -0.5
TRF **Thorofare Moun** 82.84 27 P **P** 14 24 30.9 +0.8
baz=264
RC01 **Rabbit Creek A** 82.85 29 P **P** 14 24 29.9 -0.1
RC01 **Rabbit Creek A** 82.85 29 P **P** 14 24 30.9 +1.0
baz=264
SEW **Seward** 82.90 30 P **P** 14 24 30.9 +0.8
baz=265
VNDA **Vanda** 83.06 173 P **P** 14 24 31.0 +0.3
comp=Z,2.7nm,0.9s,baz=314,slow=8.0,SNR=12
comp=Z,2.7nm,0.9s
VNDA **Vanda** 83.06 173 P **P** 14 24 31.0 +0.3
VNDA **Vanda** 83.06 173 P **P** 14 24 31.0 +0.3
PMR **Palmer** 83.19 29 P **P** 14 24 31.3 -0.3
PMR **Palmer** 83.19 29 P **P** 14 24 32.1 +0.5
baz=265
PMR **Palmer** 83.19 29 P **P** 14 24 31.3 -0.3
PMR pmax pmax
comp=Z,64nm,1.3s
COLD **Coldfoot** 83.31 23 P **P** 14 24 32.1 0.0
COLD **Coldfoot** 83.31 23 P **P** 14 24 33.0 +0.9
baz=263,SNR=20
G23K **Bananza Creek** 83.31 23 P **P** 14 24 33.3 +1.0
baz=264
D23K **Nanushuk River** 83.34 21 P **P** 14 24 33.7 +1.4
baz=263
H23K **Yukon River** 83.41 24 P **P** 14 24 34.1 +1.3
baz=264
I23K **Minto, Yukon-K** 83.42 25 P **P** 14 24 32.2 -0.6
I23K **Minto, Yukon-K** 83.42 25 P **P** 14 24 34.1 +1.4
baz=264,SNR=14
MCK **McKinley** 83.47 26 P **P** 14 24 32.4 -0.7
MCK **McKinley** 83.47 26 P **P** 14 24 33.3 +0.2
baz=265,SNR=7.3
MCK **McKinley** 83.47 26 P **P** 14 24 32.4 -0.7
MCK pmax pmax
comp=Z,163nm,1.4s
RND **Reindeer** 83.48 27 P **P** 14 24 31.5 -1.7
RND **Reindeer** 83.48 27 P **P** 14 24 31.5 -1.7
RND pmax pmax
comp=Z,67nm,1.2s
NEA2 **Nenana** 83.49 25 P **P** 14 24 31.6 -1.6
NEA2 **Nenana** 83.49 25 P **P** 14 24 34.2 +1.0
baz=265,SNR=5.7
KNK **Knik Glacier** 83.49 29 P **P** 14 24 32.7 -0.5
KNK **Knik Glacier** 83.49 29 P **P** 14 24 34.0 +0.7
baz=266
PRGR **Permogore** 83.50 332 *e*P **P** 14 24 32.5 -0.7
PWL **Port Wells** 83.51 29 P **P** 14 24 33.0 -0.4
PWL **Port Wells** 83.51 29 P **P** 14 24 33.5 +0.1
baz=266,SNR=7.3
WAT1 **Susitna Watana** 83.56 27 P **P** 14 24 34.3 +0.7
baz=265
SML **Sawmill** 83.58 28 P **P** 14 24 33.3 -0.5
SML **Sawmill** 83.58 28 P **P** 14 24 34.3 +0.6
baz=266,SNR=8.4
SML **Sawmill** 83.58 28 P **P** 14 24 33.7 -0.1
SML pmax pmax
comp=Z,150nm,1.2s
E23K **Chandalar** 83.62 22 P **P** 14 24 34.5 +0.7
baz=264
ZEI **Tsey** 83.66 312 *e*P **P** 14 24 38.4 +3.6
ZEI pmax pmax
comp=Z,11nm,1.0s
TOLK **Toolik Lake Re** 83.70 21 P **P** 14 24 34.0 -0.2
TOLK **Toolik Lake Re** 83.70 21 P **P** 14 24 35.6 +1.3
baz=264
M23K **Glacier View** 83.87 28 P **P** 14 24 36.4 +1.2
baz=266,SNR=6.6
MDM **Murphy Dome** 83.88 25 P **P** 14 24 34.4 -0.8
WRH **Wood River Hil** 83.90 26 P **P** 14 24 34.5 -0.8
P23K **Montague Islan** 83.92 30 P **P** 14 24 36.6 +1.2
baz=267
WAT6 **Susitna Watana** 83.92 28 P **P** 14 24 35.8 +0.2
baz=266,SNR=12
D24K **Happy Valley** 84.03 21 P **P** 14 24 36.9 +1.1
baz=264
TCOL **CIGO, UAF Yank** 84.03 25 P **P** 14 24 37.3 +1.4
baz=266
COLA **College** 84.03 25 P **P** 14 24 37.5 +1.6
baz=266
COLA **College** 84.03 25 *i* P **P** 14 24 37.7 +1.8
COLA pmax pmax
comp=Z,4.0nm,0.8s
CCB **Clear Creek Bu** 84.04 25 P **P** 14 24 34.2 -1.7
E24K **Your Creek** 84.05 22 P **P** 14 24 37.6 +1.6
baz=265
TBI **Tubuai** 84.05 114 *e*S **S** 14 34 58.0 -1.7
comp=Z,1µm,24.0s
TBI *e*SS **SS** 14 40 28.4 -0.4
comp=Z,2µm,26.8s
TBI **Tubuai** 84.05 114 *e*LR LR 14 51 05.9
comp=Z,22µm,23.5s
TBI *e*LR LR 14 51 06.0
comp=Z,6µm,27.5s
SCM **Sheep Creek Mo** 84.06 28 P **P** 14 24 35.0 -1.3
SCM **Sheep Creek Mo** 84.06 28 P **P** 14 24 37.7 +1.4
baz=266
SCM **Sheep Creek Mo** 84.06 28 P **P** 14 24 35.0 -1.3
SCM pmax pmax
comp=Z,173nm,1.3s
H24K **Noodor Dome** 84.10 24 P **P** 14 24 38.1 +1.8
baz=266,SNR=7.0
DHY **Denali Highway** 84.12 27 P **P** 14 24 35.5 -1.1
DHY **Denali Highway** 84.12 27 P **P** 14 24 38.2 +1.6
baz=266
C24K **Franklin Bluff** 84.12 20 P **P** 14 24 37.9 +1.6
baz=264
F24K **Squaw Lake** 84.22 23 P **P** 14 24 38.8 +1.9
baz=265
MAW **Mawson** 84.27 201 P **P** 14 24 37.0 0.0
comp=Z,4.6nm,0.6s,baz=81,slow=6.2,SNR=8.5
comp=Z,4.6nm,0.6s
MAW **Mawson** 84.27 201 P **P** 14 24 37.9 +0.9
baz=84,SNR=5.5
MAW **Mawson** 84.27 201 P **P** 14 24 35.5 -1.4
MAW **Mawson** 84.27 201 P **P** 14 24 35.5 -1.4
G24K **Hadweenzic Riv** 84.32 23 P **P** 14 24 39.1 +1.7
baz=266
HDA **Harding Lake** 84.39 26 P **P** 14 24 37.1 -0.7
HDA **Harding Lake** 84.39 26 P **P** 14 24 38.5 +0.7
baz=267
KBZ **Khabaz** 84.41 313 P **P** 14 24 38.3 +0.1
comp=Z,1.3nm,0.8s,baz=59,slow=13,SNR=1.0
comp=Z,1.3nm,0.8s
ILAR **Eielson Array** 84.44 25 P **P** 14 24 38.1 +0.2
comp=Z,1.6nm,0.8s,baz=250,slow=5.5,SNR=15
comp=Z,1.6nm,0.8s
ILAR **Eielson Array** 84.44 25 P **P** 14 24 37.3 -0.7
ILAR **Eielson Array** 84.44 25 *e*P **P** 14 24 38.8 +0.8
KIV **Kislovodsk** 84.56 314 *i* P **P** 14 24 38.6 -0.6
KIV pmax pmax
comp=Z,20nm,1.9s
SHA1 **Shidzhatmaz** 84.58 313 *i* P **P** 14 24 39.8 +0.3
M24K **Tolsona, Glenn** 84.62 28 P **P** 14 24 39.9 +0.9
baz=268
KLU **Klutina** 84.71 29 P **P** 14 24 40.7 +1.1
baz=268
EYAK **Cordova Ski Ar** 84.76 30 P **P** 14 24 41.0 +1.3
baz=268
G25K **Bearman Lake** 84.87 23 P **P** 14 24 42.2 +2.1
baz=267
K24K **Donnelly Dome** 84.87 26 P **P** 14 24 41.5 +1.2
baz=268
D25K **Kavik River** 84.91 21 P **P** 14 24 41.9 +1.6
baz=267
PAX **Paxson** 84.98 27 P **P** 14 24 42.1 +1.2
baz=268,SNR=8.7
PAX **Paxson** 84.98 27 P **P** 14 24 38.0 -2.9

PAX pmax pmax
comp=Z,83nm,1.4s
PRP Porcupine Dome 85.05 25 P **P** **14 24 42.6 +1.4**
baz=268
F25K Christian Rive 85.09 23 P **P** **14 24 42.8 +1.5**
baz=268
HARP HAARP 85.11 28 P **P** **14 24 42.9 +1.5**
baz=268
E25K Arctic Village 85.14 22 P **P** **14 24 43.1 +1.6**
baz=268
VRH Novokhopyorsk 85.25 321 *e*P **P** **14 24 40.7 -1.6**
VRH pmax pmax
comp=Z,20nm,0.9s
RIDG Independent Ri 85.28 26 P **P** **14 24 43.5 +1.1**
baz=268
BMRM Bremner River 85.34 29 P **P** **14 24 44.3 +1.7**
baz=269
N25K Chitina, Valde 85.35 29 P **P** **14 24 44.3 +1.5**
baz=269
C26K Camden Bay 85.45 20 P **P** **14 24 45.2 +2.2**
baz=268
F26K Sheenjek River 85.67 22 P **P** **14 24 46.0 +1.8**
baz=269
SCRK Sand Creek 85.67 26 P **P** **14 24 46.0 +1.6**
baz=269
GLB Gilahina Butte 85.73 29 P **P** **14 24 42.8 -1.8**
G26K Porcupine Rive 85.79 23 P **P** **14 24 46.9 +2.2**
baz=269
C27K Jago River 85.86 21 P **P** **14 24 46.4 +1.3**
baz=269
J26L Joseph Creek 85.86 26 P **P** **14 24 44.8 -0.5**
J26L Joseph Creek 85.86 26 P **P** **14 24 46.4 +1.1**
baz=270
M26K Nabesna, AK 86.11 28 P **P** **14 24 47.6 +1.1**
baz=270
KLMR Klimovskoe 86.42 331 *e*P **P** **14 24 45.6 -2.3**
KLMR AMP 14 24 49.6
comp=Z,32nm,2.2s
KLMR Klimovskoe 86.42 331 *e*P **P** **14 24 45.6 -2.3**
KLMR pmax pmax
comp=Z,32nm,2.2s
K27K Chicken 86.51 26 P **P** **14 24 49.6 +1.2**
baz=271
E27K Coleen River 86.63 22 P **P** **14 24 50.4 +1.5**
baz=271
G27K Doyon Strip 86.63 23 P **P** **14 24 50.7 +1.8**
baz=271
M27K Edge Creek, AK 86.64 28 P **P** **14 24 50.3 +1.2**
baz=271
L27K Beaver Creek, 86.64 27 P **P** **14 24 50.6 +1.5**
baz=271
I27K Kandik River 86.68 25 P **P** **14 24 50.9 +1.7**
baz=271
H27K Steamboat Moun 86.70 24 P **P** **14 24 51.0 +1.7**
baz=271
BARN Barnard Glacie 86.77 29 P **P** **14 24 49.2 -0.7**
VSR Storozhevoye 86.85 321 *e*P **P** **14 24 48.7 -1.5**
VSR pmax pmax
comp=Z,9.0nm,0.8s
EGAK Eagle 86.89 25 P **P** **14 24 49.8 -0.4**
EGAK Eagle 86.89 25 P **P** **14 24 52.2 +2.1**
baz=272
LPSR Galich'ya Gora 86.95 322 *e*P **P** **14 24 49.6 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
O28M Mount Upton 87.50 29 P **P** **14 24 55.2 +1.6**
baz=273
YUK8 Steele Glacier 87.68 29 P **P** **14 24 55.7 +1.3**
baz=273
DAWY Dawson 87.69 26 P **P** **14 24 53.9 -0.3**
DAWY Dawson 87.69 26 P **P** **14 24 55.8 +1.7**
baz=273
YUK4 Talbot Arm 88.21 29 P **P** **14 24 58.7 +1.9**
baz=274
M29M Somme Creek 88.22 28 P **P** **14 24 58.3 +1.5**
baz=274
OBN Obninsk 88.23 325 P **P** **14 24 55.4 -1.4**
comp=Z,1.7nm,0.5s,baz=123,slow=22,SNR=1.8
comp=Z,1.7nm,0.5s
ANN Anapa 88.30 315 *e*P **P** **14 24 55.8 -1.5**
ANN *e*S **SKSac** **14 35 22.9 -1.2**
ANN pmax pmax
comp=Z,60nm,1.5s
L29M L29M 88.32 27 P **P** **14 24 58.2 +1.1**
baz=275
K29M Barlow Dome 88.53 26 P **P** **14 24 58.9 +0.7**
baz=275
EPYK Eagle Plains 88.63 24 P **P** **14 24 59.1 +0.6**
baz=276
APA Apatity 88.68 338 ‖ *i*P P 14 25 04.4 +5.7
APA pmax pmax
comp=Z,12nm,1.1s
G30M tAoh Zraii Nji 88.76 23 P **P** **14 24 59.7 +0.6**
baz=276
HYT Haines Junctio 88.81 29 P **P** **14 24 59.8 +0.2**
baz=275
M30M Minto, Yukon 88.98 27 P **P** **14 24 59.9 -0.4**
baz=276
N31M Braeburn, Yuko 89.57 29 P **P** **14 25 02.1 -0.9**
INK Inuvik 89.61 22 P **P** **14 25 02.3 -0.7**
comp=Z,1.6nm,0.9s,baz=301,slow=3.8,SNR=4.8
comp=Z,1.6nm,0.9s
INK Inuvik 89.61 22 P **P** **14 25 02.0 -1.0**
INK Inuvik 89.61 22 P **P** **14 25 03.2 +0.2**
baz=279
INK Inuvik 89.61 22 P **P** **14 25 02.0 -1.0**
F31M Tsiigehtchic 89.66 22 P **P** **14 25 03.2 -0.1**
baz=278
FARO Faro, Yukon 90.61 28 P **P** **14 25 08.7 +0.8**
baz=279
S32K Killisnoo 90.69 32 P **P** **14 25 07.8 -0.4**
baz=278
ARCES ARCESS Array B 91.21 340 P **P** **14 25 09.1 -1.3**
comp=Z,5.5nm,0.9s,baz=79,slow=6.3,SNR=7.3
comp=Z,5.5nm,0.9s
ARCES ARCESS Array B 91.21 340 *e*P **P** **14 25 12.4 +1.9**
BRTR Keskin Array B 91.52 310 P **P** **14 25 11.2 -1.5**
comp=Z,0.6nm,0.9s,baz=77,slow=7.7,SNR=1.9
comp=Z,0.6nm,0.9s
A36M Sachs Harbour 91.57 17 P **P** **14 25 10.6 -1.5**
A36M Sachs Harbour 91.57 17 P **P** **14 25 12.4 +0.4**
baz=286
CRAG Craig 91.77 34 P **P** **14 25 13.1 -0.2**
baz=279
TAOE Nuku Hiva Isla 91.81 99 *e*S **S** **14 36 10.5 -3.7**
comp=Z,364nm,25.0s
TAOE Nuku Hiva Isla 91.81 99 *e*LR LR 14 54 41.0
comp=Z,1μm,23.3s
WRAK Wrangell Islan 92.05 33 P **P** **14 25 15.2 +0.7**
baz=280
R33M Jennings River 92.25 30 P **P** **14 25 15.6 -0.1**
baz=281
C36M Paulatuk 92.72 20 P **P** **14 25 18.0 +0.6**
baz=288
FINES FINESS Array B 92.82 332 P **P** **14 25 16.4 -1.6**
comp=Z,1.3nm,0.6s,baz=62,slow=6.5,SNR=9.7
comp=Z,1.3nm,0.6s
FINES FINESS Array B 92.82 332 *e*P **P** **14 25 17.7 -0.3**
DLBC Dease Lake 92.92 31 P **P** **14 25 19.1 +0.4**
baz=282
T35M Bob Quinn 93.09 33 P **P** **14 25 20.2 +0.8**
baz=281
AKASG Malin Array Be 93.16 321 P **P** **14 25 17.5 -2.3**
comp=Z,1.0nm,0.6s,baz=62,slow=4.6,SNR=5.2
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 93.16 321 *e*P **P** **14 25 19.6 -0.2**
AKBB Malin Array Si 93.16 321 *i*P **P** **14 25 18.8 -1.0**
MNK Minsk 93.29 325 *i*P **P** **14 25 18.4 -2.0**
comp=E,2.0nm,1.0s
MNK *i*P **P** **14 25 18.4 -2.0**
comp=N,29nm,0.7s
MNK *i*P **P** **14 25 18.4 -2.0**
comp=Z,6.0nm,0.8s,baz=259
MNK *i*PP **PP** **14 29 02.0 -2.1**
MNK *i*PPP PPP 14 31 02.3
MNK *i*S **SKSac** **14 35 49.5 -2.9**
MNK *i*PS PS 14 37 40.7 -1.5
MNK *i*SS **SS** **14 42 40.4 -1.1**
MNK *i*SSS SSS 14 46 21.1
MNK *i*LR LR 15 05 54.8
MNK *i*LRM MLR 15 08 12.5
comp=E,29nm,12.2s
MNK *i*LRM MLR 15 08 39.0
comp=N,227nm,16.6s
MNK *i*LRM MLR 15 08 55.6
comp=Z,271nm,13.4s
MNK Minsk 93.29 325 *i*P **P** **14 25 18.3 -2.0**
MNK *i* 14 29 01.9
MNK *i*PPP PPP 14 31 02.2
MNK *i*S **SKSac** **14 35 49.5 -2.9**
MNK *i*PS PS 14 37 40.7 -1.5
MNK *i*SS **SS** **14 42 40.3 -1.1**
MNK *i*SSS SSS 14 46 21.0
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,29nm,0.7s
MNK MLR MLR
comp=E,29nm,12.0s
MNK MLR MLR
comp=N,227nm,17.0s
MNK MLR MLR
comp=Z,271nm,13.0s
RES Resolute Bay 97.61 11 P **P** **14 25 38.6 -1.1**
comp=Z,2.7nm,0.8s,baz=243,slow=4.5,SNR=8.0
comp=Z,2.7nm,0.8s
YKA Yellowknife Ar 98.86 25 P **P** **14 25 44.5 -1.0**
comp=Z,0.6nm,0.8s,baz=304,slow=4.2,SNR=10
YKA PKKPbc **PKKPbc** **14 42 13.4 -1.8**
comp=Z,0.2nm,0.8s,baz=100,slow=3.6,SNR=3.7
YKA LR LR 15 08 04.3
comp=Z,73nm,21.8s,baz=296,slow=34
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 98.86 25 *i*P Pdif 14 25 47.2 +1.7
HFS Hagfors 98.99 333 P **P** **14 25 44.3 -1.8**
comp=Z,6.7nm,1.1s,baz=91,slow=5.8,SNR=1.8
comp=Z,6.7nm,1.1s
CLL Collm 102.82 324 *e*SKSac **SKSac** **14 36 42.0 +1.0**
CLL *e*PS PS 14 39 24.0 -1.5
CLL *ex* x 14 41 24.0
CLL *e*SS **SS** **14 44 54.0 -1.3**
CLL *ex* x 14 45 54.0
CLL *e*SSS SSS 14 48 54.0
CLL *ex* x 14 50 12.0
CLL *e*SSSS 14 52 12.0
CLL *ex* x 14 54 06.0
CLL LmH 15 13 00.0
comp=N,400nm,18.7s
CLL LmH 15 13 00.0
comp=E,600nm,21.3s
PKM Mcpherson Peak 105.47 52 P **PKiKP** **14 30 28.4 -1.0**
baz=286
GRAC Grapevine Rang 106.77 50 P **PKiKP** **14 30 32.4 +0.8**
baz=288
H17A Grant Village 108.88 41 P **PKiKP** **14 30 33.2 -2.4**
baz=295
BW06 Boulder Array 110.24 42 P **PKiKP** **14 30 37.2 -1.0**
baz=296
PDAR Pinedale Array 110.24 42 PKKPbc PKKPbc 14 41 40.0 -0.5
comp=E,0.2nm,0.7s,baz=113,slow=6.9,SNR=3.6
PDAR PKKPab **PKKPab** **14 41 50.5 -0.5**
comp=E,0.6nm,0.9s,baz=122,slow=7.7,SNR=3.6
ISCO Idaho Springs 114.22 43 P PKPdf 14 30 45.6 -0.3
baz=298
SUSD Miller 116.06 36 P **PKPdf** **14 30 50.2 +1.3**
baz=305
ECSD EROS Data Cent 117.84 36 P **PKPdf** **14 30 51.4 -1.0**
baz=307
EYMN Ely 117.87 29 P **PKPdf** **14 30 52.2 -0.1**
baz=314
MNTX Cornudas Mount 117.91 51 P **PKiKP** **14 30 53.8 +1.0**
baz=294
ESDC Sonseca Array 118.76 320 PKP **PKiKP** **14 30 54.9 +0.6**
comp=E,0.3nm,0.5s,baz=34,slow=2.9,SNR=2.0
TXAR Lajitas Rrray 120.22 63 PKP **PKiKP** **14 30 59.1 +1.5**
comp=E,0.5nm,0.7s,baz=201,slow=0.8,SNR=7.8
TXAR PKKPbc **PKKPab** **14 41 06.3 -0.6**
comp=E,0.3nm,0.7s,baz=125,slow=7.5,SNR=5.6
WMOK Wichita Mounta 121.44 45 P **PKiKP** **14 31 00.1 +0.3**
baz=301
JCT Junction City 122.75 50 P **PKiKP** **14 31 03.7 +1.3**
baz=298
833A Chaparral WMA, 124.04 52 P **PKiKP** **14 31 05.6 +0.6**
baz=297
TORD Torodi Ar. Bea 124.70 289 PKP **PKPdf** **14 31 05.8 -0.5**
comp=E,4.2nm,0.7s,baz=46,slow=3.0,SNR=23
MIAR Mount Ida 125.15 43 P **PKiKP** **14 31 07.6 +0.5**
baz=305
P49A Miami Univ. Ec 127.28 32 P **PKiKP** **14 31 11.7 +0.5**
baz=317
ERPA Erie 127.64 27 P **PKPdf** **14 31 09.9 -1.3**
baz=323
WVT Waverly 127.86 37 P **PKPdf** **14 31 10.5 -1.3**
baz=312
P52A Corning 128.55 30 P **PKPdf** **14 31 12.8 -0.2**
baz=320
PKME Peaks-Kenny Pk 128.81 16 P **PKiKP** **14 31 14.4 +0.4**
baz=337
TZTN Tazewell 130.08 34 P **PKPdf** **14 31 15.2 -0.8**
baz=316
L61B Northampton 130.29 21 P **PKiKP** **14 31 16.9 -0.1**
baz=332
LRAL Lakeview Retre 130.41 40 P **PKPdf** **14 31 17.0 +0.3**
baz=310
BRAL Brewton 131.56 42 P **PKiKP** **14 31 19.9 0.0**
baz=309
DBIC Dimbokro 132.40 282 PKP **PKiKP** **14 31 21.6 -0.5**
comp=E,3.7nm,0.7s,baz=99,slow=5.6,SNR=7.4
DBIC SKPbc **SKPbc** **14 34 46.2 +0.4**
comp=E,10nm,0.8s,baz=95,slow=2.8,SNR=12
CMIG Matias Romero 132.43 63 PKP **PKPdf** **14 31 21.2 +0.2**
comp=E,1.5nm,0.7s,baz=316,slow=6.0,SNR=2.5
NHSC New Hope 134.48 34 P **PKPdf** **14 31 23.1 -1.2**
baz=318
DWPF Disney Wildern 137.25 41 P **PKPdf** **14 31 28.3 -1.4**
baz=313
PLCA Paso Flores 139.21 158 PKP **PKiKP** **14 31 34.8 -0.6**
comp=E,2.3nm,0.7s,baz=245,slow=2.7,SNR=9.8
CO01 Juntas del Tor 148.36 148 PKPab **PKiKP** **14 31 54.2 -0.4**
AC05 El Transito 149.16 146 PKPab **PKiKP** **14 31 57.2 +1.0**
SIV San Ignacio 164.45 143 PKP **PKPdf** **14 32 10.3 -0.1**
comp=E,1.0nm,0.8s,baz=280,slow=6.1,SNR=3.0

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*BJI **01** 14:13:32.5±0.0,3.˙50N×128.˙73E,h20km,mb5.0/76, mB5.5/58,Ms5.2/64,Ms7 4.9/64*
*IDC **01** 14:13:32.8±0.3,3.˙65N×128.˙40E,h0km,mb5.0/55, mbtmp5.0/56,ML4.3/1,MS4.6/19,Error ellipse: s-maj=12.3km s-min=7.7km az=71.0*
*NEIC **01** 14:13:34.1±1.2,3.˙59N±0.˙08×128.˙24E±0.˙09,h10km±1km, mb5.6/147,Mwb5.3/36,Error ellipse: s-maj=15.6km s-min=11.7km az=53.0,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr9.04; Mθθ-2.12; Mφφ-6.92; Mrθ0.55; Mθφ-0.18; Mrφ5.63; Fault plane solution: Mo9.95000×10^16^ NP1:φs181.25000°, δ27.36000°, λ87.56000°. NP2:φs4.00000°, δ62.67000°, λ91.26000°. Principal axes: T 10.8426, Plg72.0000°, Azm277.0000°; N -2.1168, Plg1.0000°, Azm183.0000°; P -8.7257, Plg18.0000°, Azm93.0000°;*
*MOS **01** 14:13:34.3±1.1,3.˙55N×128.˙31E,h25km,mb5.6/68, MS4.8/5 Error ellipse: s-maj=9.3km s-min=5.0km az=106.3*
*GCMT **01** 14:13:38.1±0.1,3.˙63N±0.˙01×128.˙60E±0.˙01,h19km, MW5.4/147,Moment Tensor Solution. s121,c180; s147,c282; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.56±.03; Mθθ-0.20±.02; Mφφ-1.36±.02; Mrθ0.26±.04; Mθφ-0.12±.01; Mrφ0.65±.04; Best double couple: Mo1.62500×10^17^ NP1:φs12.00000°, δ58.00000°, λ96.00000°. NP2:φs181.00000°, δ33.00000°, λ81.00000°. Principal axes: T 1.7270, Plg76.0000°, Azm301.0000°; N -0.2060, Plg5.0000°, Azm189.0000°; P -1.5220, Plg12.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **01** 14:13:39.1±0.9,4.˙N±4.˙×12.˙9E±.˙,h32km±7km,M5.5/43, mB5.9/33,mb5.3/43,MLv5.4/9,Mw(mB)5.5/33, MwMwp5.7/7,Mwp5.8/7*

ISC 01 14:13:34.5±0.2,3.˙65N±0.˙03×128.˙37E±0.˙04,h10km,n751, σ1s60/792,mb5.4/201,MS4.9/44,34C-7D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.84**	**271**	P	**Pg**	**14 14 26.0**	**-2.9**
TNTI	**Ternate**	**3.03**	**199**	P	**Pb**	**14 14 27.7**	**-0.8**
DAV	**Davao City (W)**	**4.39**	**321**	Sn	**Sb**	**14 15 37.7**	**-7.1**

32nm,0.3s,baz=286,slow=21,SNR=2.7

DAV LR LR 14 16 22.4
comp=Z,12μm,19.0s,baz=285,slow=38
SIJI Sorong 5.34 147 Pn **Pn** **14 14 54.9 +0.6**
11nm,0.3s,baz=342,slow=21,SNR=3.7
SIJI Sn **Sn** **14 15 49.8 -6.1**
6.2nm,0.3s,baz=162,slow=22,SNR=3.0
SIJI LR LR 14 16 59.8
comp=Z,14μm,18.2s,baz=326,slow=39
53nm,0.4s
SANI Sanana 6.14 203 P Pn 14 15 10.1 +4.8
NLAI Namlea 6.96 191 P **Pn** **14 15 18.8 +2.3**
58nm,1.3s,0.7nm
MRSI Marisa 7.16 244 P **Pn** **14 15 19.8 +0.5**
2μm,1.4s,27μm42μm6.3nm
LUWI Luwuk 7.28 230 P Pn 14 15 24.9 +3.9
LUWI Luwuk 7.28 230 P **Pn** **14 15 23.4 +2.4**
890nm,0.8s,10μm34μm3.7nm
TOLI2 Tolitoli 7.99 252 P Pn 14 15 35.1 +4.4
KAPI Kappang 12.17 225 Pn Pn 14 16 32.0 +3.9
2.2nm,0.3s,baz=37,slow=9.9,SNR=6.8
KAPI Sn **Sn** **14 18 42.5 -1.4**
0.4nm,0.3s,baz=26,slow=22,SNR=1.5
KAPI LR LR 14 21 02.0
comp=Z,4μm,20.7s,baz=64,slow=37
KAPI Kappang 12.17 225 P Pn 14 16 33.0 +4.9
KKM Kota Kinabalu 12.34 282 Pn **Pn** **14 16 29.2 -1.3**
KKM Kota Kinabalu 12.34 282 P Pn 14 16 37.1 +6.6
GENI Genyem 13.32 118 P **Pn** **14 16 47.2 +3.4**
SOEI Soe 13.93 197 Pn **Pn** **14 16 51.5 -0.6**
BATI Baumata 14.54 199 Pn **P** **14 17 02.9 -4.3**
0.8nm,0.3s,baz=180,slow=23,SNR=2.5
BATI LR LR 14 22 47.4
comp=Z,5μm,19.1s,baz=28,slow=38
SAMP Sagada Mountai 15.23 332 ‖ *e*P **P** **14 17 14.5 -0.3**
SBUM Sibu 16.17 266 P **P** **14 17 21.8 -3.4**
PLAI Plampang 16.28 220 P **P** **14 17 27.9 +1.4**
PLAI Plampang 16.28 220 P **P** **14 17 27.0 +0.5**
469nm,1.4s,7μm
KDU Kakadu 16.73 166 P **P** **14 17 32.1 +0.7**
TWSI Taliwang, Sumb 16.81 223 P **P** **14 17 36.6 +4.3**
86nm,1.2s,5μm
SRBI Singaraja 17.55 228 P **P** **14 17 45.4 +4.9**
340nm,1.9s,6μm
BLJI Banyuglugur 18.58 232 P Pn 14 17 58.3 +6.2
121nm,0.7s,4μm
JAGI Jajag, Banyuwa 18.60 230 P **Pn** **14 17 57.0 +4.6**
JAGI Jajag, Banyuwa 18.60 230 P **Pn** **14 17 56.1 +3.7**
340nm,1.7s,9μm
GMJI Gumukmas 19.02 231 P **Pn** **14 18 01.8 +4.3**
235nm,1.4s,6μm
GUMO Guam 19.05 58 LR LR 14 25 00.0
comp=Z,3μm,18.6s,baz=240,slow=36
GUMO Guam 19.05 58 P **P** **14 17 58.1 +1.0**
GUMO IAmb IAmb 14 18 01.4
comp=Z,293nm,1.1s
GUMO Guam 19.05 58 P **P** **14 17 58.1 +1.0**
GUMO pmax pmax
comp=Z,293nm,1.2s
KNRA Kununurra 19.20 179 P **Pn** **14 18 00.4 +0.8**
baz=19,SNR=5.6
KNRA Kununurra 19.20 179 Pn **Pn** **14 17 58.8 -0.8**
KNRA IAmb IAmb 14 18 01.2
comp=Z,628nm,1.8s
KNRA Kununurra 19.20 179 P **Pn** **14 18 00.4 +0.8**
MANU Manus Island 19.81 106 P **P** **14 18 05.6 +0.2**
MANU Manus Island 19.81 106 P **P** **14 18 07.0 +1.6**
UWJI Ujung Watu 20.07 240 P **Pn** **14 18 12.2 +2.2**
comp=Z,171nm,1.3s,comp=Z,3μm
NGJI Ngawi 20.11 237 P **Pn** **14 18 14.2 +3.7**
comp=Z,232nm,1.3s,comp=Z,5μm
PWJI Pagerwojo 20.19 235 P Pn 14 18 12.9 +1.5
comp=Z,138nm,1.2s,comp=Z,3μm
TWG Pinlang 20.33 340 P **P** **14 18 09.2 -1.8**
YULB Yu-li 20.79 341 P **P** **14 18 15.2 -0.7**
YULB Yu-li 20.79 341 P Pn 14 18 17.4 -1.0
SMRI Semarang 20.81 239 P Pn 14 18 20.5 +1.8
TPUB Ta-pu 20.92 340 P **P** **14 18 16.5 -0.9**
TPUB Ta-pu 20.92 340 P Pn 14 18 20.2 +0.2
SSLB Suanglung 21.27 341 P **P** **14 18 25.7 +4.6**
FITZ Fitzroy Crossi 21.77 187 P **P** **14 18 29.6 +3.1**
baz=22
FITZ Fitzroy Crossi 21.77 187 P **P** **14 18 22.5 -4.1**
FITZ Fitzroy Crossi 21.77 187 P **P** **14 18 29.5 +2.9**
YHNB Yeheng 21.96 343 P **P** **14 18 27.3 -1.3**
YHNB Yeheng 21.96 343 P **P** **14 18 29.6 +1.0**
KPJI Karang Pucung 22.26 241 P **P** **14 18 37.1 +5.3**
comp=Z,211nm,1.5s
PMG Port Moresby 22.78 125 P **P** **14 18 37.6 +0.2**
comp=Z,153nm,1.3s,baz=328,slow=9.9,SNR=15
PMG LR LR 14 28 31.7
comp=Z,1μm,19.6s,baz=327,slow=40
comp=Z,153nm,1.3s
PMG Port Moresby 22.78 125 P **P** **14 18 37.9 +0.5**
PMG IAmb IAmb 14 18 41.9
comp=Z,442nm,1.6s
PMG Port Moresby 22.78 125 P **P** **14 18 38.6 +1.2**
PMG Port Moresby 22.78 125 *ce*P **P** **14 18 38.3 +0.9**
KNMB Chin-men Tao 22.82 336 P **P** **14 18 37.0 -0.8**
KNMB IAmb IAmb 14 18 41.2
comp=Z,241nm,1.3s
CMJI Cimerak 22.89 240 P **P** **14 18 41.0 +2.4**
comp=Z,174nm,1.5s,comp=Z,3μm
JOW Kunigami 23.05 360 P **P** **14 18 40.7 +0.5**
comp=Z,60nm,1.0s,baz=172,slow=10.0,SNR=4.7
JOW S **S** **14 22 50.0 -1.3**
comp=Z,5.7nm,0.7s,baz=79,slow=29,SNR=1.3
comp=Z,60nm,1.0s
JOW Kunigami 23.05 360 P **P** **14 18 40.2 0.0**
JOW IAmb IAmb 14 18 47.8
comp=Z,244nm,1.4s
HKPS Hong Kong Po S 23.09 325 P **P** **14 18 43.5 +2.9**
QZH Quanzhou 23.17 337 ‖ *i*P **P** **14 18 42.4 +1.0**
QZH S **S** **14 22 55.2 +2.0**
QZH pmax pmax
comp=Z,940nm,7.9s
QZH LR LR
comp=Z,2μm,14.7s
QZH LR LR
comp=Z,2μm,15.6s
LEM Lembang 23.18 243 P **P** **14 18 43.2 +1.4**
comp=Z,105nm,1.1s,baz=78,slow=8.8,SNR=10
LEM LR LR 14 28 10.3
comp=Z,2μm,18.4s,baz=68,slow=38
comp=Z,105nm,1.1s
LEM Lembang 23.18 243 P **P** **14 18 46.1 +4.3**
comp=Z,162nm,1.2s,comp=Z,4μm
BBJI Bungbulang 23.44 242 P **P** **14 18 47.1 +2.8**
QIZ Qiongzhong 23.70 312 P **P** **14 18 48.4 +1.7**
QIZ S **S** **14 23 02.4 +0.5**
QIZ pmax pmax
comp=Z,63nm,1.5s
QIZ pmax pmax
comp=Z,1μm,6.6s
QIZ LR LR
comp=Z,4μm,13.6s
QIZ LR LR
comp=Z,4μm,15.1s
QIZ LR LR
comp=Z,3μm,20.1s
CNJI Cibinong 23.83 243 P **P** **14 18 50.2 +2.2**
comp=Z,112nm,1.3s,comp=Z,2μm
TPRI Tanjung Pinang 23.98 264 P **P** **14 18 52.4 +3.0**
comp=Z,128nm,1.3s,comp=Z,4μm
DSRI Dabo 24.13 261 P **P** **14 18 53.9 +3.0**
comp=Z,77nm,1.5s,comp=Z,3μm
WRAB Tennant Creek 24.16 166 P **P** **14 18 51.9 +0.9**
WRAB Tennant Creek 24.16 166 *ce*P **P** **14 18 51.8 +0.8**
WRAB pmax pmax
comp=Z,104nm,1.3s
WRA Warramunga Arr 24.16 166 P **P** **14 18 50.4 -0.7**
comp=Z,22nm,1.0s,baz=344,slow=10,SNR=5.6
WRA ScP **ScP** **14 26 09.3 -1.6**
comp=Z,3.8nm,1.1s,baz=322,slow=4.1,SNR=4.5
WRA LR LR 14 28 51.0
comp=Z,833nm,20.6s,baz=334,slow=38
comp=Z,22nm,1.0s
WRA Warramunga Arr 24.16 166 P **P** **14 18 49.5 -1.6**
WRA Warramunga Arr 24.16 166 P **P** **14 18 49.5 -1.6**
WR0 Warramunga Arr 24.23 166 P **P** **14 18 50.9 -0.8**
WR0 IAmb IAmb 14 19 11.3
comp=Z,124nm,1.2s
SBJI Serang 24.23 246 P **P** **14 18 55.0 +3.2**
comp=Z,221nm,1.3s
PMBI Palembang 24.47 255 P **P** **14 18 52.1 -1.9**
PMBI Palembang 24.47 255 P **P** **14 18 58.7 +4.7**
MYKOM Kota Tinggi 24.56 266 P **P** **14 18 53.6 -1.2**

MYKOM IAmb IAmb 14 19 10.6
comp=Z,329nm,1.7s
CGJI Cibinong 24.83 246 P **P** **14 18 58.7 +1.5**
comp=Z,89nm,1.3s,comp=Z,3µm
KRVT Keravat (AS076 24.92 108 P **P** **14 18 59.2 +1.1**
comp=Z,144nm,1.0s,baz=315,slow=1.4,SNR=7.6
KRVT LR LR 14 26 35.6
comp=Z,4µm,18.6s,baz=61,slow=31
comp=Z,144nm,1.0s
KLI Kotabumi 24.96 250 P P 14 19 04.1 +5.6
KLI pmax pmax
comp=Z,156nm,1.1s
KLI Kotabumi 24.96 250 P **P** **14 19 02.6 +4.1**
comp=Z,151nm,1.1s,comp=Z,7µm
RABL Rabaul 25.02 108 P **P** **14 18 58.7 -0.3**
RABL IAmb IAmb 14 19 16.9
comp=Z,165nm,1.1s
RABL Rabaul 25.02 108 P **P** **14 19 02.0 +3.0**
UBPT Khong Chiam 25.34 299 P **P** **14 19 04.6 +2.8**
MDSI Maura Dua 25.49 252 P **P** **14 19 06.7 +3.5**
comp=Z,99nm,1.5s,comp=Z,3µm
MBWA Marble Bar 26.07 199 P **P** **14 19 06.0 -2.3**
QIS Mount Isa 26.46 156 P **P** **14 19 12.3 +0.3**
baz=26,SNR=4.3
QIS Mount Isa 26.46 156 P **P** **14 19 11.8 -0.2**
XMI Christmas Isla 26.57 238 P **P** **14 19 15.9 +2.9**
JCJ Chichijima 26.80 28 P **P** **14 19 16.6 +1.7**
comp=Z,155nm,0.9s,baz=253,slow=17,SNR=5.2
JCJ LR LR 14 30 55.2
comp=Z,939nm,18.3s,baz=262,slow=39
comp=Z,155nm,0.9s
JCJ Chichijima 26.80 28 P **P** **14 19 13.8 -1.2**
JCJ Chichijima 26.80 28 P **P** **14 19 17.1 +2.2**
MASI Maura Aman, Be 26.97 256 P **P** **14 19 19.8 +3.1**
comp=Z,102nm,1.6s,comp=Z,2µm
SDSI Sungai Dareh 27.31 261 P **P** **14 19 21.8 +2.1**
comp=Z,21nm,1.5s,comp=Z,1µm
BKNI Bangkinang 27.51 264 P **P** **14 19 18.4 -3.1**
BKNI Bangkinang 27.51 264 P **P** **14 19 25.7 +4.2**
BKNI Bangkinang 27.51 264 P **P** **14 19 24.7 +3.2**
comp=Z,188nm,1.3s,comp=Z,2µm
AS31 Alice Springs 27.68 169 P **P** **14 19 20.8 -2.1**
ASAR Alice Springs 27.68 169 P **P** **14 19 22.3 -0.6**
comp=Z,4.2nm,0.8s,baz=355,slow=7.9,SNR=1.5
ASAR PcP **PcP** **14 22 40.7 +0.6**
comp=Z,3.5nm,0.8s,baz=355,slow=2.6,SNR=2.1
ASAR ScP **ScP** **14 26 19.6 -1.6**
comp=Z,6.0nm,1.1s,baz=354,slow=3.4,SNR=8.6
comp=Z,4.2nm,0.8s
ASAR Alice Springs 27.68 169 P **P** **14 19 21.9 -1.0**
ASAR Alice Springs 27.68 169 P **P** **14 19 21.9 -1.0**
JSU Suzuyama 27.78 4 P **P** **14 19 27.8 +4.1**
PDSI Padang 28.26 261 P **P** **14 19 30.1 +1.9**
comp=Z,32nm,1.1s
NAYO Nakonayok 28.70 293 P **P** **14 19 35.5 +3.4**
MNSI Mandailing Nat 28.91 265 P **P** **14 19 34.3 +0.4**
comp=Z,28nm,1.1s,comp=Z,2µm
SRIT Nakonsritamara 29.01 281 P P 14 19 38.7 +3.8
SURA Surathani 29.07 282 P P 14 19 39.2 +3.8
TV1H Townsville Har 29.10 142 P **P** **14 19 37.4 +1.8**
CTA Charters Tower 29.41 144 P **P** **14 19 38.8 +0.4**
comp=Z,1.7nm,0.7s,baz=319,slow=10,SNR=7.5
comp=Z,1.7nm,0.7s
CTAO Charters Tower 29.41 144 P **P** **14 19 37.1 -1.3**
CTAO Charters Tower 29.41 144 P **P** **14 19 40.4 +2.1**
CTAO Charters Tower 29.41 144 P **P** **14 19 37.1 -1.3**
CTAO pmax pmax
comp=Z,85nm,1.6s
PSI Prapat 29.41 269 P **P** **14 19 41.2 +2.6**
PSI Prapat 29.41 269 P **P** **14 19 35.5 -3.1**
PSI pmax pmax
comp=Z,110nm,1.6s
RPSI Rantau Prapat 29.42 269 P **P** **14 19 35.5 -3.0**
RPSI IAmb IAmb 14 19 46.2
comp=Z,110nm,1.6s
JNU Nakatsue 29.42 4 P **P** **14 19 39.8 +1.5**
comp=Z,40nm,0.9s,baz=121,slow=2.9,SNR=10
comp=Z,40nm,0.9s
NJ2 Nanjing 29.64 344 *e*P **P** **14 19 42.2 +2.0**
NJ2 pmax pmax
comp=Z,16nm,0.6s
WHN Wuhan 29.85 335 ⇓P **P** **14 19 45.1 +3.0**
WHN S **S** **14 24 42.5 +3.4**
WHN LR LR
comp=Z,7µm,12.3s
WHN LR LR
comp=Z,10µm,10.9s
WHN LR LR
comp=Z,10µm,20.1s
LOEI Loei 29.93 299 P **P** **14 19 44.7 +1.7**
JMN Monobe 30.37 9 P **P** **14 19 47.0 +0.3**
JMN IAmb IAmb 14 20 02.0
comp=Z,72nm,1.2s
JMN Monobe 30.37 9 P **P** **14 19 48.1 +1.4**
GYA Guiyang 30.77 320 ⇑P **P** **14 19 52.5 +2.0**
GYA S **S** **14 24 53.9 -0.1**
GYA pmax pmax
comp=Z,20nm,1.7s
GYA pmax pmax
comp=Z,770nm,8.8s
GYA LR LR
comp=Z,2µm,16.0s
GYA LR LR
comp=Z,1µm,19.9s
GYA LR LR
comp=Z,2µm,17.6s
GSI Gunungsitoli 30.85 266 P **P** **14 19 48.5 -2.7**
GSI IAmb IAmb 14 19 53.8
comp=Z,80nm,1.2s
GSI Gunungsitoli 30.85 266 P **P** **14 19 52.8 +1.6**
GSI Gunungsitoli 30.85 266 P **P** **14 19 52.4 +1.2**
comp=Z,58nm,1.6s
JHJ Hachijo jima 2 31.20 19 LR LR 14 35 07.3
comp=Z,1µm,18.0s,baz=196,slow=42
JHS Saijyo 31.50 7 P **P** **14 19 57.6 +0.9**
JHS IAmb IAmb 14 20 35.0
comp=Z,55nm,1.2s
MEEK Meekatharra 31.55 197 P **P** **14 19 57.6 +0.4**
baz=32,SNR=4.2
MEEK Meekatharra 31.55 197 P **P** **14 19 57.2 0.0**
ENH Enshi 31.94 328 P **P** **14 19 59.8 -0.8**
ENH Enshi 31.94 328 P **P** **14 20 02.7 +2.1**
JSG Sagara 32.19 15 P **P** **14 20 01.4 -1.3**
JSG Sagara 32.19 15 P **P** **14 20 06.2 +3.5**
CM31 Chiang Mai Arr 32.33 299 P **P** **14 20 01.4 -2.8**
CM31 IAmb IAmb 14 20 10.2
comp=Z,177nm,1.7s
CMAR Chiang Mai Arr 32.33 299 P **P** **14 20 06.2 +2.0**
comp=Z,11nm,1.0s,baz=122,slow=7.6,SNR=11
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 32.33 299*ce*P **P** **14 20 07.6 +3.4**
CHTO Chiang Mai 32.47 300 P **P** **14 20 02.3 -3.1**
CHTO IAmb IAmb 14 20 11.1
comp=Z,145nm,1.8s
CHTO Chiang Mai 32.47 300 P **P** **14 20 02.3 -3.1**
CHTO pmax pmax
comp=Z,145nm,1.8s
INU Inuyama 32.55 13 P **P** **14 20 05.0 -0.8**
INU IAmb IAmb 14 20 10.3
comp=Z,79nm,1.0s
INU Inuyama 32.55 13 P **P** **14 20 06.3 +0.5**
TJN Taejon 32.58 358 P **P** **14 20 05.0 -1.2**
TJN Taejon 32.58 358 P **P** **14 20 08.4 +2.3**
TJN Taejon 32.58 358*ce*P **P** **14 20 06.5 +0.4**
KMI Kunming 32.61 313 ⇑P **P** **14 20 08.4 +1.6**
KMI pP sP 14 20 15.9 +6.2
KMI PP **PnPn** **14 21 16.5 +2.0**
KMI S **S** **14 25 14.7 -8.3**
KMI pmax pmax
comp=Z,67nm,1.5s
KMI pmax pmax
comp=Z,440nm,6.5s
KMI LR LR
comp=Z,1µm,18.5s
KMI LR LR
comp=Z,960nm,23.2s
KMI LR LR
comp=Z,3µm,16.3s
JGF Kuroka 32.87 14 P **P** **14 20 08.9 +0.2**
INKA Innaminka 33.41 160 P **P** **14 20 14.1 +0.7**
KSAR Wonju Array Be 33.64 359 P **P** **14 20 16.1 +0.8**
KSAR Wonju Array Be 33.64 359 P **P** **14 20 16.1 +0.8**
KSRS Korea Array 33.65 359 P **P** **14 20 16.2 +0.9**
comp=Z,9.3nm,1.0s,baz=177,slow=11,SNR=9.7
comp=Z,9.3nm,1.0s

KS19 Wonju Array Si 33.70 359 P **P** **14 20 15.9 +0.1**
MAJO Matsushiro 33.97 14 P **P** **14 20 16.8 -1.4**
MAJO IAmb IAmb 14 20 22.4
comp=Z,73nm,0.9s
MAJO Matsushiro 33.97 14 P **P** **14 20 18.4 +0.2**
MAJO Matsushiro 33.97 14 *i*P **P** **14 20 18.0 -0.2**
MAJO pmax pmax
comp=Z,86nm,1.0s
MJAR Matsushiro Arr 33.97 14 P **P** **14 20 17.2 -1.0**
comp=Z,39nm,0.8s,baz=187,slow=8.9,SNR=22
MJAR LR LR 14 36 12.8
comp=Z,2µm,18.0s,baz=206,slow=40
comp=Z,39nm,0.8s
MJB9 Matsu-Tunnel 33.97 14 P **P** **14 20 16.6 -1.7**
MJB9 IAmb IAmb 14 20 22.4
comp=Z,72nm,0.9s
TIA Tai'an 34.03 344 P **P** **14 20 19.0 +0.2**
TIA pmax pmax
comp=Z,14nm,0.8s
HNR Honiara 34.04 113 P **P** **14 20 17.8 -1.4**
comp=Z,1µm,1.0s,baz=210,slow=6.9,SNR=12
HNR LR LR 14 33 19.7
comp=Z,29µm,21.9s,baz=284,slow=35
HNR Honiara 34.04 113 P **P** **14 20 18.0 -1.2**
HNR Honiara 34.04 113 P **P** **14 20 19.6 +0.4**
HNR Honiara 34.04 113 P **P** **14 20 18.0 -1.2**
HNR pmax pmax
comp=Z,490nm,1.7s
LYN LuoYang 34.12 336 ⇑*i*P **P** **14 20 21.3 +1.8**
LYN sP sP 14 20 29.3 +6.8
LYN PP **PP** **14 21 39.1 +2.2**
LYN S **S** **14 25 45.8 +0.2**
LYN sS sS 14 25 57.0 +7.0
LYN pmax pmax
comp=Z,40nm,1.3s
LYN pmax pmax
comp=Z,530nm,2.9s
LYN LR LR
comp=Z,1µm,18.1s
LYN LR LR
comp=Z,1µm,11.7s
LYN LR LR
comp=Z,1µm,12.2s
PZH PanZhiHua 34.16 314 P **P** **14 20 21.8 +1.6**
PZH PP **PP** **14 21 34.8 -2.8**
PZH S **S** **14 25 47.0 +0.3**
PZH sS sS 14 25 59.2 +8.2
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,480nm,6.7s
PZH LR LR
comp=Z,3µm,19.4s
PZH LR LR
comp=Z,2µm,18.0s
PZH LR LR
comp=Z,3µm,17.7s
MULG Mulgathing 34.17 171 P **P** **14 20 20.9 +0.8**
FORT Forrest 34.23 180 P **P** **14 20 18.5 -2.1**
FORT IAmb IAmb 14 20 21.5
comp=Z,64nm,0.9s
FORT Forrest 34.23 180 P **P** **14 20 20.8 +0.2**
MORW Morawa 34.62 199 P **P** **14 20 26.4 +2.5**
baz=35,SNR=3.2
MORW Morawa 34.62 199 P **P** **14 20 21.6 -2.3**
XAN Xi'an 35.25 331 ⇑P **P** **14 20 30.7 +1.3**
XAN pP sP 14 20 35.6 +3.2
XAN S **S** **14 26 04.8 +1.6**
XAN pmax pmax
comp=Z,130nm,1.6s
XAN pmax pmax
comp=Z,730nm,3.5s
XAN LR LR
comp=Z,1µm,11.9s
XAN LR LR
comp=Z,1µm,13.0s
XAN LR LR
comp=Z,2µm,16.9s
KMBL Kambalda 35.36 190 P **P** **14 20 30.3 -0.1**
DL2 Dalian 35.63 351 P **P** **14 20 33.8 +1.3**
DL2 S **S** **14 26 11.2 +2.4**
DL2 pmax pmax
comp=Z,22nm,1.5s
DL2 LR LR
comp=Z,1µm,12.6s
DL2 LR LR
comp=Z,1µm,11.4s
DL2 LR LR
comp=Z,1µm,12.9s
CD2 Chengdu 35.70 322 P **P** **14 20 34.5 +1.2**
CD2 pP sP 14 20 38.0 +1.8
CD2 sP pP 14 20 42.8 +7.4
CD2 S **S** **14 26 10.2 0.0**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,580nm,5.5s
CD2 LR LR
comp=Z,2µm,17.2s
CD2 LR LR
comp=Z,4µm,14.7s
CD2 LR LR
comp=Z,3µm,21.1s
TNCH TengChong 35.73 309 ⇑P **P** **14 20 35.9 +2.1**
TNCH pP sP 14 20 38.8 +2.2
TNCH sP pP 14 20 41.0 +5.2
TNCH PP **PP** **14 21 57.7 +2.7**
TNCH S **S** **14 26 13.9 +2.8**
TNCH PcS **PcS** **14 26 49.1 -0.5**
TNCH ScS **ScS** **14 30 52.0 -1.7**
TNCH pmax pmax
comp=Z,45nm,1.4s
TNCH pmax pmax
comp=Z,610nm,4.2s
TNCH LR LR
comp=Z,730nm,9.9s
TNCH LR LR
comp=Z,750nm,11.0s
TNCH LR LR
comp=Z,1µm,17.1s
BLDU Ballidu 35.84 197 P **P** **14 20 34.4 -0.1**
HNS HongShan 35.85 341 ⇑P **P** **14 20 35.3 +0.8**
HNS S **S** **14 26 11.9 -0.4**
HNS pmax pmax
comp=Z,53nm,1.7s
HNS LR LR
comp=Z,2µm,13.9s
HNS LR LR
comp=Z,1µm,15.5s
HNS LR LR
comp=Z,2µm,17.6s
RMQ Roma 35.87 148 P **P** **14 20 38.0 +3.2**
JMM Marumori 35.91 17 P **P** **14 20 36.7 +1.8**
MND Mandalay 36.22 303 P **P** **14 20 40.2 +2.3**
EIDS Eidsvold 36.30 144 P **P** **14 20 36.9 -1.5**
EIDS Eidsvold 36.30 144 P **P** **14 20 40.6 +2.1**
KLBR Kellerberrin 36.47 195 P **P** **14 20 39.8 0.0**
baz=37,SNR=4.7
KLBR Kellerberrin 36.47 195 P **P** **14 20 40.4 +0.5**
TIY Taiyuan 36.91 339 ⇑P **P** **14 20 45.2 +1.6**
TIY PP **PP** **14 22 10.4 +2.6**
TIY S **S** **14 26 30.0 +1.3**
TIY pmax pmax
comp=Z,27nm,0.7s
TIY LR LR
comp=Z,1µm,10.5s
TIY LR LR
comp=Z,1µm,11.8s
TIY LR LR
comp=Z,1µm,14.9s
BBOO Buckleboo 36.98 169 P **P** **14 20 41.6 -2.6**
BBOO IAmb IAmb 14 20 54.4
comp=Z,107nm,1.6s
STKA Stephens Creek 37.50 161 P **P** **14 20 47.6 -1.0**
comp=Z,11nm,0.9s,baz=326,slow=8.8,SNR=4.2
comp=Z,11nm,0.9s
STKA Stephens Creek 37.50 161 P **P** **14 20 50.0 +1.4**
baz=38,SNR=7.5
STKA Stephens Creek 37.50 161 P **P** **14 20 47.0 -1.6**
STKA Stephens Creek 37.50 161 P **P** **14 20 51.2 +2.6**
STKA Stephens Creek 37.50 161 *i*P **P** **14 20 46.7 -1.9**
NWAO Narrogin (SRO) 37.88 195 P **P** **14 20 51.0 -0.8**
comp=Z,18nm,1.0s
comp=Z,18nm,1.0s
NWAO Narrogin (SRO) 37.88 195 P **P** **14 20 52.8 +1.0**
baz=38,SNR=3.9
NWAO P **P** **14 20 52.8 +1.0**
baz=38,SNR=3.9
NWAO Narrogin (SRO) 37.88 195 P **P** **14 20 49.4 -2.3**
NWAO IAmb IAmb 14 21 01.1
comp=Z,139nm,1.7s
NWAO Narrogin (SRO) 37.88 195 P **P** **14 20 49.7 -2.0**
NWAO IAmb IAmb 14 21 01.1
comp=Z,111nm,1.7s
NWAO Narrogin (SRO) 37.88 195 P **P** **14 20 52.3 +0.5**
NWAO Narrogin (SRO) 37.88 195 P **P** **14 20 52.2 +0.5**
NWAO Narrogin (SRO) 37.88 195 P **P** **14 20 49.7 -2.0**
AULRC Lightning Ridg 37.89 152 P **P** **14 20 51.6 -0.3**
SNY Shenyang 38.26 354 ⇓P **P** **14 20 55.1 +0.3**
SNY S **S** **14 26 43.3 -5.4**
SNY pmax pmax
comp=Z,17nm,1.2s
SNY pmax pmax
comp=Z,530nm,8.3s
SNY LR LR
comp=Z,920nm,13.5s
SNY LR LR
comp=Z,1µm,13.0s
SNY LR LR
comp=Z,2µm,12.8s
CMSA Cobar Meteorol 38.68 156 P **P** **14 20 58.2 -0.4**
JTM Tenmabayashi 38.70 15 P **P** **14 20 58.2 -0.4**
JTM IAmb IAmb 14 21 03.9
comp=Z,224nm,1.2s
JTM Tenmabayashi 38.70 15 P **P** **14 21 00.3 +1.7**
LZH Lanzhou 39.42 328 ⇑P **P** **14 21 07.5 +2.6**
LZH pP sP 14 21 13.0 +5.1
LZH sP pP 14 21 16.7 +10
LZH S **S** **14 27 07.5 +0.6**
LZH pmax pmax
comp=Z,120nm,1.6s
LZH pmax pmax
comp=Z,1µm,5.5s
LZH LR LR
comp=Z,2µm,15.1s
LZH LR LR
comp=Z,3µm,15.5s
LZH LR LR
comp=Z,4µm,14.4s
HHC Hu-ho-hao-te 40.01 340 *e*P **P** **14 21 11.2 +1.5**
HHC sP sP 14 21 19.1 +6.4
HHC S **S** **14 27 19.6 +4.1**
HHC pmax pmax
comp=Z,110nm,1.1s
HHC pmax pmax
comp=Z,1µm,4.3s
HHC LR LR
comp=Z,2µm,11.3s
HHC LR LR
comp=Z,2µm,15.7s
HHC LR LR
comp=Z,3µm,20.2s
CN2 Changchun 40.07 357 *e*P **P** **14 21 10.5 +0.5**
CN2 *es*P sP 14 21 17.4 +4.3
CN2 *e*S **S** **14 27 16.0 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,700nm,13.0s
BRDH Bariadhala 40.27 301 P **P** **14 21 13.3 +1.3**
comp=Z,166nm,0.3s,baz=77,slow=10,SNR=5.5
H11S3 WAKE ISLAND Hy 40.27 66 T T 15 04 19.1
baz=253,slow=74
H11S2 WAKE ISLAND Hy 40.28 66 T T 15 04 20.5
baz=253,slow=74
H11S1 WAKE ISLAND Hy 40.29 66 T T 15 04 19.0
baz=253
ERM Erimo 40.43 17 P **P** **14 21 13.1 +0.1**
ERM Erimo 40.43 17 P **P** **14 21 13.1 +0.1**
ERM pmax pmax
comp=Z,89nm,1.3s
USA0B Ussuriysk Arra 40.51 4 P **P** **14 21 12.3 -1.4**
USA0B Ussuriysk Arra 40.51 4 *i*P **P** **14 21 14.0 +0.4**
USRK Ussuriysk Ar. 40.51 4 P **P** **14 21 14.1 +0.4**
comp=Z,15nm,0.9s,baz=190,slow=7.4,SNR=12
USRK LR LR 14 40 01.5
comp=Z,406nm,18.4s,baz=172,slow=39
comp=Z,15nm,0.9s
USRK Ussuriysk Ar. 40.51 4 P **P** **14 21 12.7 -1.0**
USRK Ussuriysk Ar. 40.51 4 P **P** **14 21 12.7 -1.0**
ARMA Armidale 40.52 148 P **P** **14 21 12.2 -1.8**
ARMA Armidale 40.52 148 P **P** **14 21 14.4 +0.4**
AUDCS Dubbo College 40.54 153 P **P** **14 21 16.6 +2.5**
MDJ Mudanjiang 40.82 1 P **P** **14 21 16.6 +0.4**
MDJ IAmb IAmb 14 21 18.9
comp=Z,98nm,1.3s
MDJ Mudanjiang 40.82 1 P **P** **14 21 17.2 +1.1**
MDJ S **S** **14 27 32.7 +5.5**
MDJ pmax pmax
comp=Z,65nm,1.5s
MDJ pmax pmax
comp=Z,620nm,4.2s
MDJ LR LR
comp=Z,670nm,10.8s
MDJ LR LR
comp=Z,2µm,11.8s
MDJ LR LR
comp=Z,1µm,15.2s
MDJ Mudanjiang 40.82 1 P **P** **14 21 17.3 +1.1**
H11N1 WAKE ISLAND Hy 40.82 64 T T 15 04 41.8
baz=249
H11N2 WAKE ISLAND Hy 40.83 64 T T 15 05 04.6
baz=249
H11N3 WAKE ISLAND Hy 40.84 64 T T 15 04 43.4
baz=249
SHL Shillong 41.25 305 P **P** **14 21 19.8 -0.5**
SHL pmax pmax
comp=Z,181nm,1.2s
XLT XiLinHaoTe 41.53 347 *e*P **P** **14 21 22.5 +0.3**
XLT S **S** **14 27 34.8 -3.3**
XLT pmax pmax
comp=Z,27nm,1.3s
XLT pmax pmax
comp=Z,370nm,3.6s
XLT LR LR
comp=Z,1µm,18.3s
XLT LR LR
comp=Z,1µm,17.4s
TEY Ternei 41.85 9⇑*e*P **P** **14 21 24.0 -0.6**
TEY *e* 14 27 39.0
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY pmax pmax
comp=Z,10.0nm,1.1s
TEY pmax pmax
comp=N,100nm,3.5s
TEY pmax pmax
comp=Z,100nm,3.6s
BNX BinXian 41.93 359 ⇑P **P** **14 21 25.2 -0.1**
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX pmax pmax
comp=Z,340nm,6.9s
ARPS Mount Arapiles 42.13 164 P **P** **14 21 27.8 +0.8**
baz=42
ARPS Mount Arapiles 42.13 164 P **P** **14 21 28.3 +1.3**
ASAJ Asahikawa 42.22 15 P **P** **14 21 28.1 +0.5**
comp=Z,36nm,1.2s,baz=208,slow=12,SNR=5.0
comp=Z,36nm,1.2s
ASAJ Asahikawa 42.22 15 P **P** **14 21 27.4 -0.3**
JKA Kamikawa-asahi 42.22 15 P **P** **14 21 27.4 -0.3**
JKA IAmb IAmb 14 21 48.1
comp=Z,131nm,1.6s
AUMAG Moama Anglican 42.41 160 P **P** **14 21 31.3 +2.0**
LSA Lhasa 43.73 310 P **P** **14 21 38.7 -2.1**
LSA IAmb IAmb 14 21 53.5
comp=Z,235nm,1.8s
LSA Lhasa 43.73 310 P **P** **14 21 38.7 -2.1**
LSA pmax pmax
comp=Z,235nm,1.8s
LSA Lhasa 43.73 310 P **P** **14 21 43.5 +2.8**
TOO Toolangi 43.99 160 P **P** **14 21 40.5 -1.7**
TOO Toolangi 43.99 160 P **P** **14 21 43.4 +1.2**

TOO Toolangi 43.99 160 P P 14 21 40.5 -1.7
TOO pmax pmax
comp=Z,24nm,1.1s
GTA Gaotai 44.02 328 ⇑P P 14 21 44.3 +1.7
GTA pP sP 14 21 51.4 +5.9
GTA sP pP 14 21 54.1 +9.4
GTA S S **14 28 17.7 +2.8**
GTA pmax pmax
comp=Z,27nm,1.8s
GTA pmax pmax
comp=Z,550nm,8.8s
GTA LR LR
comp=Z,1μm,19.5s
GTA LR LR
comp=Z,2μm,19.1s
GTA LR LR
comp=Z,3μm,18.7s
GOMU GeErMu 44.78 321 P P 14 21 51.4 +2.5
GOMU pmax pmax
comp=Z,22nm,1.6s
GOMU pmax pmax
comp=Z,440nm,5.5s
GOMU LR LR
comp=Z,1μm,19.1s
GOMU LR LR
comp=Z,1μm,16.9s
GOMU LR LR
comp=Z,1μm,17.1s
YSS Yuzh-Sakhalins 44.91 14 P P 14 21 48.5 -0.8
YSS IAmb IAmb 14 21 53.4
comp=Z,54nm,1.2s
YSS Yuzh-Sakhalins 44.91 14 P P 14 21 50.5 +1.2
YSS Yuzh-Sakhalins 44.91 14 *e*P P 14 21 49.9 +0.6
YSS *e* 14 23 39.6
YSS *e*S **S 14 28 24.6 -2.6**
YSS pmax pmax
comp=Z,30nm,1.3s
LIFNC LIFOU 45.19 124 P P 14 21 50.4 -1.5
KLR Kul'dur 45.51 3 P P 14 21 54.5 +0.4
comp=Z,35nm,1.0s,baz=204,slow=6.7,SNR=16
comp=Z,35nm,1.0s
KLR Kul'dur 45.51 3*ce*P P 14 21 53.0 -1.1
KLR pmax pmax
comp=Z,63nm,1.1s
OUENC Ouen Island, N 45.65 126 P P 14 21 55.1 -0.5
HIA Hailar 46.05 352 P P 14 21 58.2 -0.1
HIA IAmb IAmb 14 22 18.2
comp=Z,86nm,1.8s
HIA Hailar 46.05 352 P P 14 21 59.0 +0.6
HIA Hailar 46.05 352 P P 14 21 58.2 -0.1
HEH HeiHe 46.45 359 *e*P P 14 22 01.7 +0.2
HEH sP **sP 14 22 09.8 +5.2**
HEH S S **14 28 46.8 -2.6**
HEH pmax pmax
comp=Z,53nm,1.4s
HEH pmax pmax
comp=Z,630nm,5.7s
HEH LR LR
comp=Z,960nm,14.2s
HEH LR LR
comp=Z,1μm,13.3s
HEH LR LR
comp=Z,1μm,17.5s
GRNR Gornyy 47.45 7⇓ *i*P P 14 22 10.0 +0.7
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=E,3.0nm,1.1s
GRNR pmax pmax
comp=Z,40nm,1.2s
GRNR MLR MLR
comp=E,630nm,13.0s
GRNR MLR MLR
comp=N,430nm,16.0s
PALK Pallekele 47.57 276 P P 14 22 10.9 +0.1
comp=N,23nm,1.2s,baz=335,slow=19,SNR=2.7
comp=N,23nm,1.2s
PALK Pallekele 47.57 276 P P 14 22 08.2 -2.7
PALK IAmb IAmb 14 22 14.9
comp=Z,110nm,1.6s
PALK Pallekele 47.57 276 P P 14 22 08.2 -2.7
PALK pmax pmax
comp=Z,110nm,1.6s
ULN Ulaanbaatar 47.72 341*ce*P P 14 22 11.7 0.0
ULN pmax pmax
comp=Z,93nm,1.3s
SONM Songino Array 47.91 340 P P 14 22 13.7 +0.6
comp=Z,48nm,1.2s,baz=163,slow=7.1,SNR=16
SONM PcP **PcP 14 23 41.9 +0.3**
comp=Z,8.2nm,0.9s,baz=159,slow=3.4,SNR=2.8
SONM LR LR 14 45 55.1
comp=Z,486nm,18.6s,baz=162,slow=40
comp=Z,48nm,1.2s
SONM Songino Array 47.91 340 P P 14 22 12.1 -1.0
SONM IAmb IAmb 14 22 17.8
comp=Z,62nm,1.3s
SONM Songino Array 47.91 340 P P 14 22 12.1 -1.0
TYV Tymovskoe 48.56 12 *e*P P 14 22 19.7 +1.8
TYV *e*S **S 14 29 22.0 +2.6**
TYV pmax pmax
comp=Z,25nm,1.2s
TYV pmax pmax
comp=Z,500nm,3.7s
TYV smax smax
comp=N,900nm,5.7s
TYV smax smax
comp=E,2μm,5.7s
ZEA Zeya 49.94 359 *e*P P 14 22 28.3 -0.1
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,20nm,1.1s
HYB Hyderabad 50.69 289 *e*P P 14 22 35.9 +1.2
HYB IVmB_BB 14 22 37.8
comp=Z,999nm,2.2s
HYB *e*S **S 14 29 51.9 +1.7**
ZAK Zakamensk 51.16 340 *e*P P 14 22 39.1 +1.3
ZAK pmax pmax
comp=Z,17nm,1.3s
PCHI Peechi 52.02 280⇑ *e*P P 14 22 46.7 +2.0
IRK Irkutsk 52.41 342 *e*P P 14 22 48.5 +1.5
IRK pmax pmax
comp=Z,92nm,2.4s
MSVF Nonsavu 53.39 115 P P 14 22 55.1 +0.2
comp=Z,14nm,0.8s,baz=314,slow=6.7,SNR=3.8
comp=Z,14nm,0.8s
MSVF Nonsavu 53.39 115 P P 14 22 52.7 -2.2
MSVF pmax pmax
comp=Z,59nm,1.2s
WMQ Urumqi 53.74 324 *e*P P 14 22 58.9 +1.9
WMQ sP sP 14 23 08.5 +8.5
WMQ ScP **ScP 14 28 01.4 +0.1**
WMQ S S **14 30 32.1 +0.6**
WMQ pmax pmax
comp=Z,81nm,1.5s
WMQ pmax pmax
comp=Z,710nm,3.9s
WMQ LR LR
comp=Z,2μm,22.3s
WMQ LR LR
comp=Z,1μm,16.1s
WMQ LR LR
comp=Z,1μm,22.3s
PEA0B Petropavlovsk- 54.90 21 P P 14 23 05.0 -0.2
PEA0B Petropavlovsk- 54.90 21*ce*P P 14 23 06.8 +1.5
PETK Petropavlovsk- 54.90 21 P P 14 23 05.0 -0.3
comp=Z,17nm,0.9s,baz=197,slow=3.2,SNR=7.4
comp=Z,17nm,0.9s
HMDM Hanimaadhoo 55.02 276 P P 14 23 03.5 -3.3
PET Petropavlovsk 55.18 22 P P 14 23 07.2 -0.1
PET IAmb IAmb 14 23 09.6
comp=Z,77nm,1.3s
PET Petropavlovsk 55.18 22*ce*P P 14 23 07.9 +0.7
PET pmax pmax
comp=Z,57nm,1.7s
BOD Bodaibo 55.20 351 *e*P P 14 23 08.1 +0.8
BOD pmax pmax
comp=Z,81nm,1.5s
DGAR Diego Garcia 56.87 259*ce*P P 14 23 23.5 +3.5
DGAR pmax pmax
comp=Z,505nm,2.5s
ZSN Zaisan 57.47 326 *e*P P 14 23 24.4 +0.7
comp=Z,68nm,3.0s,baz=326
DGZ Jazzator, Alta 57.48 330 *i*P P 14 23 24.9 +0.9
DGZ pmax pmax
comp=Z,37nm,1.5s

YAK Yakutsk 58.26 1 P P 14 23 28.7 -0.2
comp=Z,29nm,0.8s,baz=173,slow=2.5,SNR=14
comp=Z,29nm,0.8s
YAK Yakutsk 58.26 1 P P 14 23 28.7 -0.2
YAK Yakutsk 58.26 1*ce*P P 14 23 29.2 +0.3
YAK pmax pmax
comp=Z,175nm,1.3s
MA2 Magadan 58.40 13 P P 14 23 30.3 +0.3
comp=Z,18nm,0.8s,baz=210,slow=4.9,SNR=4.8
comp=Z,18nm,0.8s
MA2 Magadan 58.40 13 P P 14 23 29.9 -0.1
MA2 IAmb IAmb 14 23 35.5
comp=Z,47nm,1.1s
MA2 Magadan 58.40 13*ce*P P 14 23 31.5 +1.5
MA2 pmax pmax
comp=Z,94nm,1.7s
SHLS Shalkode 58.46 320 *e*P P 14 23 29.9 -1.1
comp=Z,72nm,2.6s,baz=320
SHLS Shalkode 58.46 320 *e*P P 14 23 29.3 -1.6
SHLS pmax pmax
comp=Z,77nm,2.8s
MK31 Makanchi Array 58.56 325 P P 14 23 30.1 -1.4
MK31 IAmb IAmb 14 23 43.5
comp=Z,79nm,1.4s
MK31 Makanchi Array 58.56 325*c i*P P 14 23 32.6 +1.1
MKAR Makanchi Array 58.56 325 P P 14 23 32.2 +0.8
comp=Z,6.6nm,0.5s,baz=111,slow=7.5,SNR=8.2
MKAR PKPPKP P'P'df 14 53 01.2 -9.3
comp=Z,0.9nm,1.1s,baz=336,slow=3.2,SNR=3.8
MKAR PKP2bc 14 53 19.8
comp=Z,2.6nm,1.2s,baz=329,slow=2.9,SNR=4.9
comp=Z,6.6nm,0.5s
MKAR Makanchi Array 58.56 325 P P 14 23 30.4 -1.0
MKAR Makanchi Array 58.56 325 P P 14 23 30.4 -1.0
UZB Uzunbulak 58.74 319 *e*P P 14 23 33.6 +0.6
baz=319
UZB Uzunbulak 58.74 319 *e*P P 14 23 32.5 -0.4
UZB pmax pmax
comp=Z,69nm,1.9s
MAKZ Makanchi 58.75 324 P P 14 23 31.5 -1.3
MAKZ Makanchi 58.75 324 P P 14 23 31.5 -1.3
MAKZ pmax pmax
comp=Z,139nm,1.5s
KPKS Kokpek 59.11 320 *e*P P 14 23 35.9 +0.5
comp=Z,84nm,2.1s,baz=320
KPKS Kokpek 59.11 320 *e*P P 14 23 35.0 -0.4
KPKS pmax pmax
comp=Z,115nm,2.8s
ZHN Zhinishke 59.13 319 *e*P P 14 23 36.4 +0.8
baz=319
KSH Kashi 59.26 315 P P 14 23 39.9 +3.3
KSH pP sP 14 23 47.9 +8.3
KSH sP pP 14 23 54.2 +15
KSH S **S 14 31 49.1 +4.1**
KSH pmax pmax
comp=Z,36nm,1.7s
KSH LR LR
comp=Z,730nm,16.5s
KSH LR LR
comp=Z,820nm,15.8s
KSH LR LR
comp=Z,920nm,19.2s
HIZ Hauiti 60.01 139 P P 14 23 40.0 -1.5
MDOK Medeo 60.04 319 *e*P P 14 23 42.6 +0.7
baz=319
TNSS Tian-Shan 60.05 319 *e*P P 14 23 43.5 +1.3
baz=318
AAA Alma-Ata 60.15 319 *e*P P 14 23 43.2 +0.7
baz=319
MRNZ Matariki Terra 60.34 143 P P 14 23 43.0 -0.7
CHKK Chushkaly 60.38 319 *e*P P 14 23 44.6 +0.6
baz=319
THZ Tophouse 60.64 143 P P 14 23 45.4 -0.5
THZ IAmb IAmb 14 23 49.0
comp=Z,32nm,0.7s
RPZ Rata Peaks 60.76 146 P P 14 23 46.3 -0.2
comp=Z,38nm,1.3s,baz=114,slow=23,SNR=1.8
comp=Z,38nm,1.3s
KUU Kurty 60.82 319 *e*P P 14 23 47.1 0.0
baz=319
TKM2 Tokmak 2 60.90 318 P P 14 23 49.5 +1.7
SNR=5.8
TUWZ Tuamarina 61.07 142 P P 14 23 47.7 -1.0
URZ Urewera 61.37 138 P P 14 23 50.0 -0.8
comp=Z,11nm,0.9s,baz=94,slow=9.1,SNR=3.7
comp=Z,11nm,0.9s
KHZ Kahutara 61.41 143 P P 14 23 50.2 -0.7
ZAA0 Zalesovo Array 61.41 332 P P 14 23 49.9 -0.9
ZAA0 IAmb IAmb 14 24 12.6
comp=Z,79nm,1.6s
ZALV Zalesovo Beam 61.41 332 P P 14 23 50.8 0.0
comp=Z,7.8nm,0.9s,baz=111,slow=8.1,SNR=9.2
ZALV PKP2bc 14 53 10.8
comp=Z,2.0nm,0.9s,baz=298,slow=3.1,SNR=5.2
comp=Z,7.8nm,0.9s
ZALV Zalesovo Beam 61.41 332 P P 14 23 49.3 -1.5
ZALV Zalesovo Beam 61.41 332 P P 14 23 49.3 -1.5
BKZ Black Stump Fm 61.44 139 P P 14 23 50.6 -0.7
BKZ IAmb IAmb 14 23 51.9
comp=Z,46nm,1.0s
RTZ Ruatahuna 61.47 138 P P 14 23 50.2 -1.3
RTZ IAmb IAmb 14 23 52.5
comp=Z,58nm,1.0s
CHMS Chumysh 61.49 318 P P 14 23 49.7 -2.0
SNR=6.4
AAK Ala-Archa 61.52 317 P P 14 23 52.5 +0.4
comp=Z,2.7nm,0.7s,baz=110,slow=7.4,SNR=7.7
comp=Z,2.7nm,0.7s
AAK Ala-Archa 61.52 317*ce*P P 14 23 53.8 +1.8
AAK pmax pmax
comp=Z,54nm,2.5s
AAK Ala-Archa 61.52 317 *i*P P 14 23 53.8 +1.8
SNR=7.1
SEY Seymchan 61.76 12 P P 14 23 53.2 +0.2
comp=Z,48nm,1.3s,baz=208,slow=5.8,SNR=14
comp=Z,48nm,1.3s
SEY Seymchan 61.76 12*ce*P P 14 23 54.1 +1.1
SEY pmax pmax
comp=Z,87nm,1.7s
SGDS Sogindy 61.76 318 *e*P P 14 23 53.2 -0.3
comp=Z,49nm,2.9s,baz=318
USP Ospenovka 61.77 318 P P 14 23 55.6 +2.0
SNR=8.2
AML Almayashu 61.87 317 P P 14 23 57.3 +2.7
SNR=6.9
PLWZ Palliser 61.96 142 P P 14 23 54.1 -0.7
EKS2 Erkin-Say 62.02 317 P P 14 23 57.4 +2.1
SNR=7.2
KURBB Kurchatov Arra 62.70 327 P P 14 23 59.9 +0.4
comp=Z,33nm,1.1s,baz=130,slow=5.5,SNR=16
comp=Z,33nm,1.1s
BTLS Baital 62.79 320 *e*P P 14 24 00.1 -0.2
comp=Z,48nm,2.5s,baz=320
BTLS Baital 62.79 320 *e*P P 14 23 59.5 -0.8
BTLS pmax pmax
comp=Z,71nm,3.4s
KBL Kabul 62.88 307 P P 14 23 59.5 -1.8
KBL Kabul 62.88 307 P P 14 23 59.5 -1.8
KBL pmax pmax
comp=Z,126nm,1.6s
MCQ Macquarie Isla 63.27 161 P P 14 24 02.7 -0.4
MCQ Macquarie Isla 63.27 161 P P 14 24 02.7 -0.4
MCQ pmax pmax
comp=Z,193nm,1.8s
DZA Taraz 63.77 317 *e*P P 14 24 07.0 +0.1
baz=316
CHGR Chuyangaron 63.94 312 P P 14 24 09.6 +1.4
IUG Iuzhnay 64.42 315 *e*P P 14 24 12.2 +1.0
baz=315
IUG Iuzhnay 64.42 315 *e*P P 14 24 11.4 +0.2
TIXI Tiksi 67.91 0 P P 14 24 33.4 +0.5
comp=Z,31nm,0.7s,baz=90,slow=24,SNR=16
comp=Z,31nm,0.7s
TIXI Tiksi 67.91 0 P P 14 24 32.1 -0.8
TIXI IAmb IAmb 14 24 36.8
comp=Z,40nm,0.8s
TIXI Tiksi 67.91 0*ce*P P 14 24 31.2 -1.7
TIXI pmax pmax
comp=Z,90nm,1.7s
BVAR Borovoye Array 68.29 327 P P 14 24 36.5 +0.8
comp=Z,40nm,1.1s,baz=116,slow=6.9,SNR=13
comp=Z,40nm,1.1s
HRA Herat 68.31 306 P P 14 24 34.8 -1.6
HRA IAmb IAmb 14 24 55.2
comp=Z,71nm,1.6s
BRVK Borovoye 68.36 327 P P 14 24 35.8 -0.3
BRVK Borovoye 68.36 327*ce*P P 14 24 36.9 +0.8
BRVK pmax pmax
comp=Z,76nm,1.3s
BILL Bilibino 69.22 14 P P 14 24 41.6 +0.5
BILL IAmb IAmb 14 24 59.6
comp=Z,80nm,1.7s
BILL Bilibino 69.22 14 *i*P P 14 24 40.9 -0.3
BILL *i* 14 24 51.0
BILL *i* 14 25 02.8
BILL *i* 14 27 17.1
BILL pmax pmax
comp=Z,16nm,1.3s
BILL MLR MLR
comp=Z,493nm,17.0s
WSAR Wadi Sarin 69.96 293 P P 14 24 47.5 +0.8
comp=Z,14nm,1.2s,baz=122,slow=5.6,SNR=7.1
comp=Z,14nm,1.2s
NRIK Noril'sk 70.91 346 P P 14 24 51.7 +0.2
comp=Z,19nm,0.9s,baz=132,slow=6.0,SNR=12
comp=Z,19nm,0.9s
NRIK Noril'sk 70.91 346 P P 14 24 51.0 -0.5
NRIK IAmb IAmb 14 25 09.9
comp=Z,45nm,1.1s
NRIK Noril'sk 70.91 346*ce*P P 14 24 51.3 -0.2
NRIK pmax pmax
comp=Z,59nm,1.4s
NIKH Nikolski High 70.95 35 P P 14 24 52.1 0.0
baz=250
SOHO SOHO 71.95 294 *i*P P 14 24 59.6 +0.9
SNR=8.5
GEYT Alibeck 72.22 309 P P 14 25 01.4 +1.3
comp=Z,13nm,1.1s,baz=90,slow=2.9,SNR=2.9
comp=Z,13nm,1.1s
BANOM Banah 72.29 296 *i*P P 14 25 01.8 +1.0
SNR=5.3
HATD Hatta, Dubai 72.36 295 *i*P P 14 25 02.0 +0.8
SNR=6.7
MSFE Esma-Masafi 72.38 295 *i*P P 14 25 01.8 +0.4
SNR=5.2
UNV Unalaska Valle 72.56 34 P P 14 25 02.0 +0.2
UNV Unalaska Valle 72.56 34 P P 14 25 01.8 0.0
baz=252
ALNE Al Ain 72.65 294 *i*P P 14 25 04.5 +1.6
SNR=7.3
NAZ Nazwa, Dubai 72.80 295 P P 14 25 04.8 +1.0
FAQ Al Faqa, Dubai 72.84 295 P P 14 25 05.1 +1.0
ASUD Al Ashush, Dub 73.08 295 P P 14 25 07.0 +1.6
ABKAR Akbulak array 73.25 320 P P 14 25 05.0 -1.0
ABKAR Akbulak array 73.25 320 P P 14 25 05.4 -0.5
ABKAR IAmb IAmb 14 25 16.3
comp=Z,106nm,1.7s
RAR Rarotonga 74.50 113 LR LR 14 55 03.3
comp=Z,116nm,21.4s,baz=258,slow=33
AKTO Aktyubinsk 74.74 321 P P 14 25 14.2 -0.5
comp=Z,13nm,0.9s,baz=108,slow=6.6,SNR=9.6
comp=Z,13nm,0.9s
SVE Sverdlovsk 74.89 328 *e*P P 14 25 16.2 +0.8
SVE pmax pmax
comp=Z,88nm,1.5s
ARU Arti 75.88 327 P P 14 25 19.6 -1.5
comp=Z,7.9nm,0.7s,baz=94,slow=3.1,SNR=6.7
comp=Z,7.9nm,0.7s
ARU Arti 75.88 327 P P 14 25 19.5 -1.6
ARU Arti 75.88 327*d i*P P 14 25 20.8 -0.3
ARU 14 28 07.9
ARU PPP PPP 14 29 55.8
ARU S **S 14 35 02.3 -1.3**
ARU SS **SS 14 39 49.5 -6.3**
ARU pmax pmax
comp=Z,46nm,1.6s
TNA Tin City 76.03 23 P P 14 25 22.4 +0.6
baz=247
SDPT Sand Point 76.35 34 P P 14 25 24.6 +0.9
baz=256
ANM Nome 76.67 24 P P 14 25 26.0 +0.6
baz=250
CHGN Chignik 77.70 33 P P 14 25 32.0 +0.7
baz=258
N16K Nishlik Lake 78.43 29 P P 14 25 36.1 +0.7
baz=257
P16K Nushagak River 78.50 30 P P 14 25 36.0 +0.4
baz=258
O16K Kokwok River B 78.56 30 P P 14 25 36.8 +0.7
baz=258
R17K Ugashik Creek 79.05 32 P P 14 25 39.7 +1.0
baz=260
O17K Koliganek Bris 79.10 30 P P 14 25 39.7 +0.7
baz=258,SNR=7.0
Q16K King Salmon 79.10 31 P P 14 25 39.8 +0.8
baz=259
P17K Kvichak River 79.31 30 P P 14 25 40.8 +0.6
baz=259
Q17K Contact Creek 79.42 31 P P 14 25 41.4 +0.5
baz=260
Q18K Katmai Hardscr 79.94 31 P P 14 25 44.2 +0.4
baz=260
P18K Big Mountain, 79.96 30 P P 14 25 44.3 +0.5
baz=260
O18K Koktuh Hills 80.05 30 P P 14 25 45.0 +0.7
O18K IAmb IAmb 14 25 49.1
comp=Z,92nm,1.2s
O18K Koktuh Hills 80.05 30 P P 14 25 45.1 +0.8
baz=260,SNR=13
SII Sitkinak Islan 80.05 33 P P 14 25 44.5 +0.2
baz=262
GCSA Galena City Sc 80.23 25 P P 14 25 45.7 +0.7
baz=258
TTA Tatalina 80.24 27 P P 14 25 46.5 +1.2
baz=259,SNR=9.5
TTA Tatalina 80.24 27 P P 14 25 43.6 -1.7
TTA pmax pmax
comp=Z,54nm,1.2s
O19K Port Alsworth 80.55 30 P P 14 25 48.0 +1.1
baz=261,SNR=5.0
N19K Bonanza Creek 80.57 29 P P 14 25 48.1 +1.0
baz=261
AKT Akhty 80.58 311 *e*P P 14 25 53.8 +6.2
AKT pmax pmax
comp=Z,8.0nm,0.2s
AKT Akhty 80.58 311 *e*Pg P 14 25 53.7 +6.1
comp=Z,8.0nm,0.2s
L19K White Mountain 80.62 28 P P 14 25 48.3 +1.0
baz=260
OHAK Old Harbor 80.64 33 P P 14 25 47.8 +0.4
OHAK IAmb IAmb 14 25 54.1
comp=Z,135nm,1.5s
OHAK Old Harbor 80.64 33 P P 14 25 48.3 +0.9
baz=262
MAK Makhachkala 80.84 313 *e*P P 14 25 44.7 -4.1
MAK *e* 14 28 52.8
MAK *e*PPP PPP 14 30 40.2
MAK *e*S **S 14 35 51.0 -6.3**
MAK *e*SS **SS 14 41 09.4 -1.5**
MAK pmax pmax
comp=Z,404nm,1.8s
P19K Oil Pt 81.00 30 P P 14 25 50.1 +0.7
baz=262
KDAK Kodiak Island 81.09 32 P P 14 25 49.0 -0.7
comp=Z,23nm,0.9s,baz=273,slow=5.8,SNR=6.1
comp=Z,23nm,0.9s
KDAK Kodiak Island 81.09 32 P P 14 25 49.1 -0.7
KDAK IAmb IAmb 14 25 54.3
comp=Z,62nm,1.1s
KDAK Kodiak Island 81.09 32 P P 14 25 50.7 +0.9
baz=263
KDAK Kodiak Island 81.09 32 P P 14 25 49.1 -0.7
KDAK pmax pmax
comp=Z,62nm,1.2s
L20K Farewell, AK 81.12 27 P P 14 25 51.1 +1.2
baz=261,SNR=5.7
KIRV Kirov 81.14 329 P P 14 25 49.9 -0.1
comp=Z,28nm,0.8s,baz=92,slow=8.4,SNR=9.7
comp=Z,28nm,0.8s
KIRV Kirov 81.14 329*ce*P P 14 25 50.1 +0.1
K20K Telida 81.18 26 P P 14 25 50.3 +0.1
K20K IAmb IAmb 14 25 53.4
comp=Z,68nm,1.2s
K20K Telida 81.18 26 P P 14 25 52.1 +1.9
baz=261
J20K Nowinta River 81.28 26 P P 14 25 52.2 +1.5
baz=260,SNR=16
Q20K Shuyak Island 81.29 31 P P 14 25 52.7 +1.8
baz=263
M20K Styx River 81.38 28 P P 14 25 51.9 +0.4
M20K IAmb IAmb 14 25 54.4
comp=Z,55nm,1.2s
M20K Styx River 81.38 28 P P 14 25 52.7 +1.3
baz=262

BELG Belogornoye 81.47 322 P P 14 25 51.5 -0.5
comp=Z,55nm,1.0s,baz=304,slow=4.3,SNR=11
comp=Z,55nm,1.0s
BELG Belogornoye 81.47 322 *i* P P 14 25 52.7 +0.8
BELG pmax pmax
comp=Z,8.0nm,0.8s
N20K Mount Spurr 81.72 29 P P 14 25 52.9 -0.3
baz=263
SPCR Spurr Chakacha 81.72 29 P P 14 25 53.1 -0.1
baz=263
IMAR Indian Mountai 81.75 24 P P 14 25 53.9 +0.7
A21K Barrow 81.78 18 P P 14 25 54.0 +0.8
A21K IAmb IAmb 14 25 56.0
comp=Z,96nm,1.1s
A21K Barrow 81.78 18 P P 14 25 54.5 +1.3
baz=257
SPU Mount Spurr 81.79 29 P P 14 25 53.0 -0.5
HOM Homer 81.81 30 P P 14 25 54.2 +0.6
baz=263
G21K Allakaket 81.94 23 P P 14 25 55.3 +1.1
baz=261
PPLA Purkeypile 81.96 27 P P 14 25 55.3 +0.8
baz=262
RAYN Ar Rayn 82.02 293 P P 14 25 54.4 -1.2
RAYN pmax pmax
comp=Z,79nm,1.6s
RAYN Ar Rayn 82.02 293 *i* P P 14 25 56.0 +0.5
SNR=9.9
CHUM Lake Minchumin 82.03 26 P P 14 25 55.8 +1.1
baz=262
F21K Alatna River 82.07 23 P P 14 25 55.3 +0.4
baz=261
CAST Castle Rocks 82.07 27 P P 14 25 55.0 +0.1
CAST IAmb IAmb 14 25 57.5
comp=Z,62nm,1.4s
CAST Castle Rocks 82.07 27 P P 14 25 55.7 +0.7
baz=262,SNR=11
H21K Melozitna Rive 82.09 24 P P 14 25 55.3 +0.3
H21K IAmb IAmb 14 26 00.2
comp=Z,78nm,1.1s
H21K Melozitna Rive 82.09 24 P P 14 25 56.2 +1.2
baz=261,SNR=20
GROC Groznyy 82.10 313 *e* P P 14 25 54.3 -1.2
GROC *e* 14 25 59.1
GROC *e* 14 29 03.2
GROC pmax pmax
comp=Z,13nm,0.5s
SKT Skwentna 82.14 28 P P 14 25 55.5 +0.1
SKT IAmb IAmb 14 25 58.8
comp=Z,60nm,1.3s
SKT Skwentna 82.14 28 P P 14 25 55.2 -0.1
baz=263,SNR=9.6
BRSE Bradley Lake S 82.27 30 P P 14 25 56.1 +0.1
baz=264,SNR=7.1
I21K Tanana 82.36 25 P P 14 25 57.4 +1.0
I21K Tanana 82.36 25 P P 14 25 57.5 +1.1
baz=262
SUA Susitna One 82.45 29 P P 14 25 56.7 -0.4
SUA IAmb IAmb 14 25 59.8
comp=Z,48nm,1.1s
SUA Susitna One 82.45 29 P P 14 25 57.1 0.0
baz=264,SNR=9.1
KTH Kantishna Hill 82.61 26 P P 14 25 58.0 +0.2
F22K John River 82.61 22 P P 14 25 59.3 +1.6
baz=262
BPAW Bear Paw Mtn. 82.64 26 P P 14 25 58.1 +0.1
BPAW IAmb IAmb 14 26 03.2
comp=Z,82nm,1.2s
BPAW Bear Paw Mtn. 82.64 26 P P 14 25 58.5 +0.6
baz=263
H22K Ishtalitna Cre 82.70 24 P P 14 25 59.5 +1.3
baz=263,SNR=27
CUT Chulitna 82.78 28 P P 14 25 58.1 -0.4
CUT Chulitna 82.78 28 P P 14 25 58.2 -0.4
baz=264,SNR=9.4
M22K Willow 82.78 28 P P 14 25 58.4 -0.2
M22K Willow 82.78 28 P P 14 25 58.4 -0.2
baz=264
G22K Bettles 82.79 23 P P 14 25 59.5 +0.9
baz=262
O22K Cooper Landing 82.85 30 P P 14 25 59.3 +0.3
baz=265
MLY Manley 82.86 25 P P 14 25 59.9 +0.8
baz=263,SNR=18
TRF Thorofare Moun 82.88 27 P P 14 25 59.0 -0.3
TRF Thorofare Moun 82.88 27 P P 14 25 59.5 +0.1
baz=264,SNR=14
RC01 Rabbit Creek A 82.90 29 P P 14 25 59.4 +0.1
baz=265,SNR=7.9
SEW Seward 82.95 30 P P 14 25 59.4 -0.1
SEW IAmb IAmb 14 26 07.0
comp=Z,84nm,1.5s
SEW Seward 82.95 30 P P 14 26 00.1 +0.6
baz=265
VNDA Vanda 83.14 173 P P 14 25 59.1 -1.1
comp=Z,5.9nm,0.9s,baz=330,slow=7.7,SNR=4.8
comp=Z,5.9nm,0.9s
VNDA Vanda 83.14 173 P P 14 25 59.6 -0.6
VNDA Vanda 83.14 173 P P 14 25 59.6 -0.6
PMR Palmer 83.23 29 P P 14 26 00.3 -0.7
PMR IAmb IAmb 14 26 02.6
comp=Z,64nm,1.3s
PMR Palmer 83.23 29 P P 14 26 01.2 +0.2
baz=265,SNR=12
PMR Palmer 83.23 29 P P 14 26 00.3 -0.7
PMR pmax pmax
comp=Z,64nm,1.3s
COLD Coldfoot 83.33 23 P P 14 26 02.7 +1.3
baz=264,SNR=24
G23K Bananza Creek 83.34 23 P P 14 26 03.3 +1.8
baz=264
GHO Glory Hole Cre 83.35 28 P P 14 26 01.0 -0.7
GHO IAmb IAmb 14 26 05.8
comp=Z,53nm,1.2s
PRGR Permogore 83.36 332 *e* P P 14 26 02.3 +0.7
PRGR pmax pmax
comp=Z,192nm,1.4s
D23K Nanushuk River 83.36 21 P P 14 26 03.4 +1.9
baz=263
H23K Yukon River 83.44 24 P P 14 26 03.0 +0.9
H23K Yukon River 83.44 24 P P 14 26 03.4 +1.3
baz=264
I23K Minto, Yukon-K 83.45 25 P P 14 26 03.0 +1.0
I23K Minto, Yukon-K 83.45 25 P P 14 26 03.2 +1.2
baz=265,SNR=30
ZEI Tsey 83.48 312 *e* P P 14 26 02.6 -0.3
ZEI pmax pmax
comp=Z,33nm,1.4s
MCK McKinley 83.51 26 P P 14 26 02.3 -0.1
MCK McKinley 83.51 26 P P 14 26 02.8 +0.4
baz=265,SNR=23
MCK McKinley 83.51 26 P P 14 26 02.3 -0.1
MCK pmax pmax
comp=Z,163nm,1.4s
RND Reindeer 83.52 27 P P 14 26 02.2 -0.3
RND IAmb IAmb 14 26 03.9
comp=Z,66nm,1.2s
RND Reindeer 83.52 27 P P 14 26 02.2 -0.3
RND pmax pmax
comp=Z,67nm,1.2s
NEA2 Nenana 83.53 26 P P 14 26 02.2 -0.2
NEA2 IAmb IAmb 14 26 05.5
comp=Z,48nm,1.2s
NEA2 Nenana 83.53 26 P P 14 26 02.9 +0.5
baz=265,SNR=14
PPT Papeete 83.53 108 LR LR 15 00 13.4
comp=Z,337nm,19.0s,baz=272,slow=34
KNK Knik Glacier 83.54 29 P P 14 26 02.6 0.0
KNK Knik Glacier 83.54 29 P P 14 26 03.5 +0.8
baz=266,SNR=12
VOI Vohitsoka 83.55 248 P P 14 26 06.1 +2.5
PWL Port Wells 83.56 29 P P 14 26 02.6 -0.1
PWL Port Wells 83.56 29 P P 14 26 03.1 +0.4
baz=266,SNR=15
WAT1 Susitna Watana 83.61 27 P P 14 26 03.3 +0.4
baz=266
SML Sawmill 83.63 28 P P 14 26 03.1 0.0
SML Sawmill 83.63 28 P P 14 26 03.8 +0.7
baz=266,SNR=19
E23K Chandalar 83.65 22 P P 14 26 04.5 +1.3
baz=264
TOLK Toolik Lake Re 83.72 21 P P 14 26 03.6 +0.1
TOLK Toolik Lake Re 83.72 21 P P 14 26 04.6 +1.2
baz=264
AKH Akhalkalaki 83.76 311 P P 14 26 06.1 +1.7
ONI Oni 83.81 312 P P 14 26 02.9 -1.6
ONI IAmb IAmb 14 26 35.0
comp=Z,23nm,1.0s
ONI Oni 83.81 312 P P 14 26 04.5 0.0
ONI Oni 83.81 312 P P 14 26 02.9 -1.6
ONI pmax pmax
comp=Z,23nm,1.0s
MDM Murphy Dome 83.92 25 P P 14 26 03.9 -0.6
MDM IAmb IAmb 14 26 08.1
comp=Z,46nm,1.2s
M23K Glacier View 83.92 28 P P 14 26 04.9 +0.4
baz=266,SNR=9.8
WRH Wood River Hil 83.94 26 P P 14 26 04.2 -0.3
WAT6 Susitna Watana 83.96 28 P P 14 26 05.5 +0.5
baz=266,SNR=22
P23K Montague Islan 83.97 30 P P 14 26 05.4 +0.6
baz=267
D24K Happy Valley 84.05 21 P P 14 26 06.1 +1.1
baz=265
TCOL CIGO, UAF Yank 84.06 25 P P 14 26 04.8 -0.4
baz=266
KARS Kars 84.07 310 P P 14 26 06.4 +0.5
COLA College 84.07 25 P P 14 26 05.4 +0.2
baz=266
COLA College 84.07 25 *i* P P 14 26 05.6 +0.4
COLA pmax pmax
comp=Z,12nm,1.1s
E24K Your Creek 84.07 22 P P 14 26 06.1 +0.9
baz=265
CCB Clear Creek Bu 84.07 25 P P 14 26 05.0 -0.3
CCB IAmb IAmb 14 26 06.5
comp=Z,71nm,1.3s
SCM Sheep Creek Mo 84.11 28 P P 14 26 05.7 +0.1
SCM Sheep Creek Mo 84.11 28 P P 14 26 06.3 +0.7
baz=267,SNR=14
SCM Sheep Creek Mo 84.11 28 P P 14 26 05.7 +0.1
SCM pmax pmax
comp=Z,173nm,1.3s
H24K Noodor Dome 84.13 24 P P 14 26 05.7 +0.1
H24K Noodor Dome 84.13 24 P P 14 26 06.7 +1.1
baz=266,SNR=19
C24K Franklin Bluff 84.14 20 P P 14 26 06.2 +0.7
baz=265
DHY Denali Highway 84.16 27 P P 14 26 05.9 0.0
DHY IAmb IAmb 14 26 35.0
comp=Z,79nm,1.6s
DHY Denali Highway 84.16 27 P P 14 26 06.3 +0.3
baz=267,SNR=9.9
KBZ Khabaz 84.22 313 P P 14 26 06.5 +0.1
comp=Z,5.8nm,1.2s,baz=312,slow=1.9,SNR=5.4
KBZ LR LR 15 10 01.5
comp=Z,292nm,18.3s,baz=78,slow=40
comp=Z,5.8nm,1.2s
KBZ Khabaz 84.22 313 *ce* P P 14 26 07.6 +1.2
KBZ pmax pmax
comp=Z,4.0nm,1.4s
MAW Mawson 84.25 201 P P 14 26 06.0 0.0
comp=Z,27nm,1.2s,baz=58,slow=7.4,SNR=9.3
comp=Z,27nm,1.2s
MAW Mawson 84.25 201 P P 14 26 07.6 +1.6
baz=84,SNR=8.3
MAW Mawson 84.25 201 P P 14 26 04.8 -1.2
F24K Squaw Lake 84.25 23 P P 14 26 07.5 +1.3
baz=266
G24K Hadweenzic Riv 84.35 23 P P 14 26 07.5 +0.8
baz=266
KIV Kislovodsk 84.38 314 *i* P P 14 26 07.6 +0.2
KIV pmax pmax
comp=Z,19nm,1.3s
SHA1 Shidzhatmaz 84.40 313 *i* P P 14 26 08.2 +0.5
HDA Harding Lake 84.43 26 P P 14 26 06.3 -0.8
HDA Harding Lake 84.43 26 P P 14 26 07.0 0.0
baz=267
IL31 84.47 25 P P 14 26 06.3 -0.9
IL31 IAmb IAmb 14 26 08.0
comp=Z,43nm,1.4s
ILAR Eielson Array 84.47 25 P P 14 26 06.5 -0.8
comp=Z,8.2nm,1.1s,baz=268,slow=4.8,SNR=15
ILAR PP PP 14 29 20.6 -1.8
comp=Z,6.2nm,1.2s,baz=260,slow=6.4,SNR=6.2
comp=Z,8.2nm,1.1s
ILAR Eielson Array 84.47 25 P P 14 26 05.8 -1.5
ILAR Eielson Array 84.47 25 P P 14 26 05.8 -1.5
M24K Tolsona, Glenn 84.67 28 P P 14 26 07.9 -0.5
M24K Tolsona, Glenn 84.67 28 P P 14 26 09.0 +0.6
baz=268,SNR=11
KLU Klutina 84.76 29 P P 14 26 08.3 -0.6
KLU IAmb IAmb 14 26 11.4
comp=Z,51nm,1.3s
KLU Klutina 84.76 29 P P 14 26 10.0 +1.0
baz=268
EYAK Cordova Ski Ar 84.81 30 P P 14 26 10.0 +1.0
baz=268
DIV Divide 84.82 29 P P 14 26 09.8 +0.5
G25K Bearman Lake 84.90 23 P P 14 26 10.8 +1.5
baz=267
K24K Donnelly Dome 84.91 26 P P 14 26 09.7 +0.1
baz=268
D25K Kavik River 84.93 21 P P 14 26 10.8 +1.3
baz=267
PAX Paxson 85.02 27 P P 14 26 10.6 +0.4
PAX IAmb IAmb 14 26 12.5
comp=Z,83nm,1.4s
PAX Paxson 85.02 27 P P 14 26 10.8 +0.6
baz=268,SNR=18
PAX Paxson 85.02 27 P P 14 26 10.6 +0.4
PAX pmax pmax
comp=Z,83nm,1.4s
VRH Novokhopyorsk 85.08 321 *e* P P 14 26 08.0 -2.6
VRH pmax pmax
comp=Z,90nm,1.3s
PRP Porcupine Dome 85.08 25 P P 14 26 10.5 0.0
PRP Porcupine Dome 85.08 25 P P 14 26 11.8 +1.3
baz=268
F25K Christian Rive 85.12 23 P P 14 26 12.2 +1.7
baz=268
HARP HAARP 85.15 28 P P 14 26 11.9 +1.1
baz=269,SNR=7.1
E25K Arctic Village 85.17 22 P P 14 26 12.5 +1.8
baz=268,SNR=18
RIDG Independent Ri 85.33 26 P P 14 26 11.9 +0.2
RIDG IAmb IAmb 14 26 14.2
comp=Z,56nm,1.3s
RIDG Independent Ri 85.33 26 P P 14 26 11.7 +0.1
baz=269,SNR=8.1
BMRM Bremner River 85.39 29 P P 14 26 12.4 +0.4
BMRM IAmb IAmb 14 26 17.2
comp=Z,63nm,1.1s
BMRM Bremner River 85.39 29 P P 14 26 13.4 +1.4
baz=269
N25K Chitina, Valde 85.40 29 P P 14 26 13.0 +0.9
baz=269,SNR=10
C26K Camden Bay 85.47 20 P P 14 26 13.9 +1.8
baz=268
BMAR Burnt Mountain 85.52 23 P P 14 26 13.2 +0.6
DOT Dot Lake 85.67 27 P P 14 26 13.2 -0.1
F26K Sheenjek River 85.69 22 P P 14 26 15.1 +1.7
baz=269
SCRK Sand Creek 85.71 26 P P 14 26 13.4 -0.3
SCRK Sand Creek 85.71 26 P P 14 26 14.7 +1.1
baz=270,SNR=5.7
GLB Gilahina Butte 85.78 29 P P 14 26 14.4 +0.4
GLB IAmb IAmb 14 26 17.0
comp=Z,62nm,1.2s
G26K Porcupine Rive 85.82 23 P P 14 26 15.0 +1.0
baz=270
C27K Jago River 85.88 21 P P 14 26 15.6 +1.4
baz=269,SNR=11
J26L Joseph Creek 85.90 26 P P 14 26 14.6 0.0
J26L Joseph Creek 85.90 26 P P 14 26 15.5 +0.9
baz=270
VRDI Verde Repeater 85.95 29 P P 14 26 15.4 +0.4
VRDI IAmb IAmb 14 26 17.3
comp=Z,36nm,1.2s
L26K Log Cabin Wild 85.99 27 P P 14 26 15.7 +0.7
baz=270
M26K Nabesna, AK 86.16 28 P P 14 26 16.6 +0.8
baz=271
KLMR Klimovskoe 86.28 331 *e* P P 14 26 15.0 -1.4
KLMR AMP 14 26 31.7
comp=Z,49nm,1.4s
KLMR LQ LQ 14 57 52.4
KLMR LQ LQ 14 57 52.4
KLMR LR LR 15 00 11.6
KLMR Klimovskoe 86.28 331 *e* P P 14 26 14.9 -1.4
KLMR pmax pmax
comp=Z,49nm,1.4s
SOC Sochi 86.53 313 *e* P P 14 26 14.2 -3.8
SOC *e* 14 29 45.1
SOC *e* PPP PPP 14 31 34.8
SOC *e* S SKSac 14 36 36.8 -8.1
SOC *e* SS SS 14 42 32.6 -2.6
SOC *e* SSS SSS 14 46 02.9
K27K Chicken 86.55 26 P P 14 26 18.1 +0.4
K27K IAmb IAmb 14 26 36.3
comp=Z,55nm,1.6s
K27K Chicken 86.55 26 P P 14 26 18.6 +1.0
baz=271
VORR Voronezh 86.64 321 *e* P P 14 26 18.4 +0.1
VORR pmax pmax
comp=Z,30nm,1.4s
E27K Coleen River 86.65 22 P P 14 26 19.3 +1.2
baz=272
G27K Doyon Strip 86.66 23 P P 14 26 19.4 +1.2
baz=272
M27K Edge Creek, AK 86.68 28 P P 14 26 19.4 +0.9
baz=272,SNR=6.4
VSR Storozhevoye 86.68 321 *e* P P 14 26 17.2 -1.4
VSR pmax pmax
comp=Z,50nm,1.7s
L27K Beaver Creek, 86.69 27 P P 14 26 19.5 +1.1
baz=272
BCAR Beaver Creek A 86.70 27 P P 14 26 19.4 +0.8
I27K Kandik River 86.71 25 P P 14 26 19.7 +1.2
baz=272
H27K Steamboat Moun 86.73 24 P P 14 26 19.5 +0.9
baz=272
ADZR Andozero 86.79 334 *e* P P 14 26 17.0 -1.8
ADZR pmax pmax
comp=Z,25nm,1.2s
LPSR Galich'ya Gora 86.79 322 *e* P P 14 26 18.7 -0.3
LPSR pmax pmax
comp=Z,20nm,0.8s
EGAK Eagle 86.93 25 P P 14 26 19.2 -0.3
EGAK Eagle 86.93 25 P P 14 26 20.0 +0.5
baz=272
YUK3 Moose Creek 87.37 28 P P 14 26 22.3 +0.3
baz=273
MOS Moscow 87.43 326 *e* P P 14 26 20.7 -1.4
MOS *e* 14 26 31.0
MOS *e* 14 29 46.5
MOS *e* S S 14 37 07.2 +4.3
MOS pmax pmax
comp=Z,35nm,1.2s
MOS MLR MLR
comp=Z,800nm,19.0s
DAWY Dawson 87.73 26 P P 14 26 23.6 +0.2
DAWY Dawson 87.73 26 P P 14 26 24.2 +0.7
baz=274
PNL Peninsula 88.01 30 P P 14 26 24.6 -0.2
baz=274
OBN Obninsk 88.07 325 P P 14 26 23.9 -1.2
comp=Z,1.7nm,0.3s,baz=61,slow=8.5,SNR=5.3
comp=Z,1.7nm,0.3s
I29M Ogilvie Camp, 88.10 25 P P 14 26 25.2 0.0
I29M Ogilvie Camp, 88.10 25 P P 14 26 25.2 0.0
baz=275,SNR=6.1
ANN Anapa 88.12 315 *e* P P 14 26 26.0 +0.4
ANN *e* S SKSac 14 36 51.9 -2.6
ANN pmax pmax
comp=Z,37nm,0.9s
YUK4 Talbot Arm 88.26 29 P P 14 26 26.1 -0.1
baz=275
M29M Somme Creek 88.26 28 P P 14 26 26.2 +0.1
baz=275
L29M L29M 88.36 27 P P 14 26 26.0 -0.5
baz=275
O29M Mount Kennedy 88.38 30 P P 14 26 26.9 +0.2
baz=275
YUK6 Outpost Mounta 88.43 29 P P 14 26 27.0 0.0
baz=275
APA Apatity 88.56 338 *i* P P 14 26 32.1 +4.9
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,2µm,16.0s
K29M Barlow Dome 88.57 26 P P 14 26 27.4 -0.2
baz=275
EPYK Eagle Plains 88.66 24 P P 14 26 27.1 -0.7
baz=276,SNR=9.1
G30M tAoh Zraii Nji 88.79 23 P P 14 26 28.2 -0.2
baz=276
HYT Haines Junctio 88.86 29 P P 14 26 29.0 +0.1
baz=276
M30M Minto, Yukon 89.02 27 P P 14 26 29.9 +0.2
M30M Minto, Yukon 89.02 27 P P 14 26 29.8 +0.2
baz=276
MAYO Mayo, Yukon 89.32 26 P P 14 26 30.8 -0.2
baz=277
O30N Mendenhall 89.56 29 P P 14 26 32.2 0.0
baz=277
N31M Braeburn, Yuko 89.62 29 P P 14 26 32.5 +0.1
baz=277
INK Inuvik 89.64 22 P P 14 26 30.7 -1.5
comp=Z,16nm,1.3s,baz=258,slow=5.5,SNR=6.0
comp=Z,16nm,1.3s
INK Inuvik 89.64 22 P P 14 26 31.3 -1.0
INK Inuvik 89.64 22 P P 14 26 32.3 +0.1
baz=279,SNR=9.8
INK Inuvik 89.64 22 P P 14 26 31.3 -1.0
F31M Tsiigehtchic 89.69 22 P P 14 26 32.6 +0.1
baz=279,SNR=14
BNN Bunyan 89.70 309 P P 14 26 31.5 -2.0
SKAG Skagway 90.09 31 P P 14 26 34.8 +0.3
baz=277
WHY Whitehorse 90.16 29 P P 14 26 34.9 -0.1
WHY Whitehorse 90.16 29 P P 14 26 35.3 +0.3
baz=278
M31M Drury Creek, Y 90.18 28 P P 14 26 34.9 -0.1
M31M Drury Creek, Y 90.18 28 P P 14 26 35.3 +0.3
baz=278
FARO Faro, Yukon 90.66 28 P P 14 26 37.1 -0.2
FARO IAmb IAmb 14 26 39.9
comp=Z,28nm,1.4s
FARO Faro, Yukon 90.66 28 P P 14 26 37.8 +0.6
baz=279
R32K Eaglecrest 90.67 32 P P 14 26 37.5 +0.2
baz=278
S32K Killisnoo 90.75 32 P P 14 26 38.0 +0.3
baz=278
ARCES ARCESS Array B 91.09 340 P P 14 26 38.0 -1.0
comp=Z,11nm,0.9s,baz=82,slow=6.8,SNR=5.9
comp=Z,11nm,0.9s
EIL Elat 91.19 300 LR LR 15 15 25.4
comp=Z,82nm,18.0s,baz=76,slow=41
KMBO Kilima Mbogo 91.19 269 P P 14 26 40.2 -0.7
comp=Z,2.1nm,0.8s,baz=88,slow=3.4,SNR=6.7
comp=Z,2.1nm,0.8s
P33M Teslin, Yukon 91.24 30 P P 14 26 40.2 +0.2
baz=280
BRTR Keskin Array B 91.33 310 P P 14 26 41.3 +0.3
comp=Z,1.2nm,0.9s,baz=98,slow=6.1,SNR=2.4
comp=Z,1.2nm,0.9s
A36M Sachs Harbour 91.58 17 P P 14 26 40.9 -0.3
A36M Sachs Harbour 91.58 17 P P 14 26 41.1 -0.2
baz=287
Q32M Nakina River 91.72 31 P P 14 26 41.7 -0.8
baz=280
WRAK Wrangell Islan 92.12 33 P P 14 26 43.5 -0.5
baz=280
R33M Jennings River 92.30 30 P P 14 26 44.5 -0.5
baz=281
FINES FINESS Array B 92.68 332 P P 14 26 46.4 -0.2
comp=Z,4.0nm,0.9s,baz=86,slow=5.8,SNR=4.0
comp=Z,4.0nm,0.9s
V35K Ketchikan 92.71 34 P P 14 26 46.3 -0.5
baz=280
C36M Paulatuk 92.74 20 P P 14 26 45.8 -0.8
C36M IAmb IAmb 14 26 47.7
comp=Z,34nm,1.4s
C36M Paulatuk 92.74 20 P P 14 26 46.5 -0.1
baz=288,SNR=11
DLBC Dease Lake 92.97 31 P P 14 26 48.2 +0.1
baz=282
AKASG Malin Array Be 92.99 321 P P 14 26 46.8 -1.4
comp=Z,2.8nm,0.8s,baz=64,slow=4.3,SNR=12
comp=Z,2.8nm,0.8s
AKASG Malin Array Be 92.99 321 P P 14 26 46.4 -1.8
AKASG Malin Array Be 92.99 321 P P 14 26 46.4 -1.8
AKBB Malin Array Si 92.99 321 P P 14 26 46.7 -1.5
AKBB IAmb IAmb 14 26 52.1
comp=Z,69nm,1.9s
AKBB Malin Array Si 92.99 321 *ce* P P 14 26 46.7 -1.5
AKBB pmax pmax

comp=Z,7.0nm,1.1s
MNK Minsk 93.13 325 *i* P **P** **14 26 47.7 -1.1**
comp=E,3.0nm,0.9s
MNK *i* P **P** **14 26 47.7 -1.1**
comp=N,54nm,0.9s
MNK *i* P **P** **14 26 47.7 -1.1**
comp=Z,8.0nm,0.8s,baz=259
MNK *i* PP **PP** **14 30 30.9 -0.9**
MNK *i* PPP PPP 14 32 31.1
MNK *i* S **SKSac** **14 37 18.7 -4.3**
MNK *i* PS **PS** **14 39 09.2 +0.2**
MNK *i* SS **SS** **14 44 08.5 -1.6**
MNK *i* SSS SSS 14 47 49.0
MNK *i* LQ LQ 15 02 55.5
MNK *i* LR LR 15 09 10.1
MNK *i* LRM MLR 15 11 33.2
comp=Z,619nm,19.2s
MNK *i* LRM MLR 15 11 47.2
comp=E,86nm,18.5s
MNK *i* LRM MLR 15 11 54.3
comp=N,1μm,21.1s
MNK Minsk 93.13 325 *i* P **P** **14 26 47.6 -1.1**
MNK *i* 14 30 30.8
MNK *i* PPP PPP 14 32 31.1
MNK *i* S **SKSac** **14 37 18.7 -4.3**
MNK *i* PS **PS** **14 39 09.2 +0.2**
MNK *i* SS **SS** **14 44 08.5 -1.6**
MNK *i* SSS SSS 14 47 49.0
MNK pmax pmax
comp=N,54nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=Z,619nm,19.0s
MNK MLR MLR
comp=E,86nm,19.0s
MNK MLR MLR
comp=N,1μm,21.0s
WTLY Watson Lake, Y 93.23 29 P **P** **14 26 49.2 +0.1**
WTLY IAmb IAmb 14 27 08.6
comp=Z,24nm,1.4s
WTLY Watson Lake, Y 93.23 29 P **P** **14 26 49.0 -0.2**
baz=283
NACGM Naroch 93.68 325 *e*P P 14 26 55.8 +4.5
comp=Z,12nm,0.9s,baz=79
WRGLY Wrigley 94.85 26 P **P** **14 26 56.5 0.0**
baz=288
BBB Bella Bella 95.38 37 LR LR 15 03 28.2
comp=Z,197nm,20.9s,baz=306,slow=31
RES Resolute Bay 97.60 11 P **P** **14 27 07.8 -0.9**
comp=Z,5.0nm,0.9s,baz=305,slow=7.1,SNR=5.5
comp=Z,5.0nm,0.9s
RES Resolute Bay 97.60 11 P **P** **14 27 08.3 -0.4**
RES Resolute Bay 97.60 11 P **P** **14 27 08.4 -0.4**
RES pmax pmax
comp=Z,9.0nm,1.0s
UZH Uzhgorod 97.82 320 ⇓ *i* P **P** **14 27 09.7 -0.6**
UZH *i* 14 27 15.6
ELIB Princess Elisa 98.09 198 *d*P Pdif 14 27 13.0 +1.8
comp=Z,5.4nm,1.3s
HFS Hagfors 98.85 333 P **P** **14 27 14.2 -0.4**
comp=Z,6.7nm,0.9s,baz=90,slow=1.5,SNR=4.5
comp=Z,6.7nm,0.9s
YKA Yellowknife Ar 98.89 25 P **Pdif** **14 27 13.6 -1.2**
comp=Z,3.0nm,1.1s,baz=295,slow=4.2,SNR=9.5
YKA PP **PP** **14 31 15.6 -0.5**
comp=Z,2.8nm,1.2s,baz=298,slow=7.3,SNR=4.5
comp=Z,3.0nm,1.1s
YKA Yellowknife Ar 98.89 25 P **Pdif** **14 27 14.2 -0.6**
YKA Yellowknife Ar 98.89 25 P **Pdif** **14 27 14.2 -0.6**
NOA NORSAR Array B 99.58 334 P **Pdif** **14 27 15.9 -2.1**
comp=Z,3.0nm,1.1s,baz=66,slow=4.7,SNR=4.3
comp=Z,3.0nm,1.1s
MORC Moravsky Berou 100.48 322 *e*PDIFF **Pdif** **14 27 22.7 +0.4**
JAVC Velka Javorina 100.69 321 *e*PDIFF **Pdif** **14 27 24.3 +1.1**
VRAC Vranov 101.22 322 *e*PDIFF **Pdif** **14 27 25.3 -0.2**
KRUC Moravsky 101.42 322 *e*PDIFF **Pdif** **14 27 25.6 -0.8**
BRG Berggiesshubel 102.28 324 *e*PKP **PKiKP** **14 31 53.8 +1.7**
BRG Amp 14 31 58.7
comp=Z,5.8nm,1.3s
BRG Amp 15 13 51.0
comp=N,0.7nm,18.9s
BRG Amp 15 13 57.0
comp=Z,0.6nm,19.5s
BRG Amp 15 13 59.0
comp=E,0.7nm,17.8s
CLL Collm 102.66 324 *e*Pdif **Pdif** **14 27 32.0 +0.2**
CLL *e*PP **PP** **14 31 43.0 -1.9**
NVAR Mina Array Bea 105.74 49 PP **PP** **14 32 06.1 -2.5**
comp=E,1.0nm,0.9s,baz=254,slow=5.5,SNR=4.5
PDAR Pinedale Array 110.33 42 PKKPbc PKKPbc 14 43 08.8 -0.6
comp=E,1.1nm,1.0s,baz=117,slow=5.5,SNR=5.3
PDAR PKKPab **PKKPab** **14 43 19.2 -0.6**
comp=E,2.0nm,1.0s,baz=119,slow=5.4,SNR=7.1
O20A White River Ci 112.36 44 P **PKiKP** **14 32 10.4 -1.1**
baz=296
RSSD Black Hills 113.24 38 P **PKiKP** **14 32 12.0 -1.1**
baz=301
RSSD Black Hills 113.24 38 P **PKiKP** **14 32 11.4 -1.7**
baz=301
S22A 4UR Ranch, Cre 114.39 46 P **PKiKP** **14 32 14.3 -1.3**
baz=296
121A Cookes Peak, D 115.83 51 P **PKPdf** **14 32 17.8 -0.5**
baz=293
121A Cookes Peak, D 115.83 51 P **PKPdf** **14 32 17.4 -0.9**
baz=293
ANMO Albuquerque 115.86 48 P **PKPdf** **14 32 19.2 +0.9**
baz=295
ANMO Albuquerque 115.86 48 P **PKiKP** **14 32 16.9 -1.4**
baz=295
Y22A Socorro 115.90 49 P **PKiKP** **14 32 18.3 0.0**
baz=294
T25A Trinidad 116.39 45 P **PKPdf** **14 32 18.8 -0.5**
baz=298
ECSD EROS Data Cent 117.91 35 P **PKPdf** **14 32 21.2 -0.6**
baz=307
ECSD EROS Data Cent 117.91 35 P **PKPdf** **14 32 20.4 -1.4**
baz=307
MNTX Cornudas Mount 118.03 51 P **PKiKP** **14 32 23.0 +0.7**
baz=294
MNTX Cornudas Mount 118.03 51 P **PKPdf** **14 32 21.4 -1.0**
baz=294
F36A Milaca 118.29 32 P **PKPdf** **14 32 22.3 -0.1**
baz=311
ESDC Sonseca Array 118.59 319 PKP **PKiKP** **14 32 25.0 +1.7**
comp=E,0.9nm,1.0s,baz=58,slow=1.8,SNR=4.7
ESDC PP **PP** **14 33 40.8 +0.8**
comp=E,2.5nm,1.2s,baz=46,slow=5.5,SNR=2.5
ESDC PKKPbc **PKKPbc** **14 42 39.5 -1.3**
comp=E,1.4nm,1.2s,baz=204,slow=2.8,SNR=4.6
MSTX Muleshoe 119.03 48 P **PKPdf** **14 32 23.8 -0.5**
baz=298
MSTX Muleshoe 119.03 48 P **PKPdf** **14 32 23.1 -1.2**
baz=298
TX31 Lajitas Ar. Si 120.35 53 P **PKiKP** **14 32 27.8 +0.7**
baz=294
TXAR Lajitas Array 120.35 53 PKP **PKPdf** **14 32 26.9 -0.1**
comp=E,0.5nm,0.8s,baz=173,slow=0.7,SNR=5.0
TXAR PKKPbc **PKKPab** **14 42 35.5 -0.1**
comp=E,1.6nm,1.1s,baz=121,slow=4.8,SNR=7.4
WMOK Wichita Mounta 121.54 45 P **PKiKP** **14 32 29.9 +0.7**
baz=301
WMOK Wichita Mounta 121.54 45 P **PKPdf** **14 32 27.8 -1.2**
baz=301
P38A Dawn 122.25 38 P **PKPdf** **14 32 29.9 -0.3**
baz=308
JCT Junction City 122.87 50 P **PKiKP** **14 32 32.6 +0.7**
baz=298
JCT Junction City 122.87 50 P **PKPdf** **14 32 29.9 -1.8**
baz=298
TUL1 Leonard 122.98 42 P **PKiKP** **14 32 33.0 +1.1**
baz=304
P40A Paris 123.20 37 P **PKPdf** **14 32 31.6 -0.5**
baz=310
S39A Bolivar 123.55 39 P **PKPdf** **14 32 32.6 -0.2**
baz=307
U38A Gravette 123.61 41 P **PKPdf** **14 32 32.4 -0.5**
baz=306
R40A Maddies Statio 123.84 38 P **PKPdf** **14 32 32.5 -0.8**
baz=309
WHTX Lake Whitney, 123.89 47 P **PKPdf** **14 32 33.4 -0.1**
baz=301
WHTX Lake Whitney, 123.89 47 P **PKPdf** **14 32 32.0 -1.6**
baz=301
HDIL Hopedale 124.13 34 P **PKPdf** **14 32 32.2 -1.5**
baz=313
833A Chaparral WMA, 124.17 52 P **PKiKP** **14 32 34.3 -0.2**
baz=297
833A Chaparral WMA, 124.17 52 P **PKPdf** **14 32 33.4 -0.8**
baz=297
TORD Torodi Ar. Bea 124.50 289 PKP **PKiKP** **14 32 35.2 -0.2**
comp=E,8.5nm,1.0s,baz=44,slow=1.7,SNR=16
TORD PP **PP** **14 34 22.6 +1.3**
comp=E,5.7nm,1.2s,baz=74,slow=3.6,SNR=3.8
CCM Cathedral Cave 124.62 38 P **PKPdf** **14 32 34.3 -0.5**
baz=310
CCM Cathedral Cave 124.62 38 P **PKPdf** **14 32 33.5 -1.3**
baz=310
MIAR Mount Ida 125.24 42 P **PKPdf** **14 32 35.7 -0.4**
baz=305
MIAR Mount Ida 125.24 42 P **PKPdf** **14 32 34.8 -1.2**
baz=305
L48A N Adams 125.71 30 P **PKPdf** **14 32 36.4 -0.4**
baz=318
L48A P **PKPdf** **14 32 36.4 -0.4**
baz=318
OLIL Olney 126.04 35 P **PKiKP** **14 32 37.9 0.0**
baz=313
HKT Hockley 126.12 49 P **PKPdf** **14 32 37.7 -0.1**
baz=301
O48B Farmland 126.59 32 P **PKPdf** **14 32 37.0 -1.5**
baz=317
ACSO Alum Creek Sta 127.72 30 P **PKPdf** **14 32 40.1 -0.6**
baz=319
WCNY West Carthage 127.90 22 P **PKPdf** **14 32 40.8 -0.1**
baz=329
WVT Waverly 127.94 37 P **PKPdf** **14 32 40.9 -0.3**
baz=312
WVT Waverly 127.94 37 P **PKPdf** **14 32 39.6 -1.6**
baz=312
OXF Oxford 128.00 40 P **PKiKP** **14 32 42.6 +0.6**
baz=309
J58A Remsen 128.57 22 P **PKiKP** **14 32 42.5 -0.3**
baz=329
J58A P **PKiKP** **14 32 42.5 -0.3**
baz=329
O53A New Philadelph 128.58 29 P **PKPdf** **14 32 40.9 -1.5**
baz=321
T50A Nancy 129.08 34 P **PKPdf** **14 32 42.8 -0.5**
baz=316
T50A P **PKPdf** **14 32 42.8 -0.5**
baz=316
Z47A Carrollton 129.70 40 P **PKPdf** **14 32 44.8 +0.2**
baz=310
SSPA Standing Stone 129.80 26 P **PKPdf** **14 32 43.0 -1.6**
baz=325
LRAL Lakeview Retre 130.49 40 P **PKPdf** **14 32 45.5 -0.6**
baz=311
DBIC Dimbokro 132.19 282 PKP **PKPdf** **14 32 49.7 -0.1**
comp=E,7.0nm,0.9s,baz=110,slow=4.3,SNR=6.0
DBIC SKPbc **SKPbc** **14 36 14.4 -2.2**
comp=E,10nm,1.0s,baz=92,slow=3.2,SNR=6.5
KMSC Kings Mountain 132.39 33 P **PKPdf** **14 32 48.7 -0.9**
baz=318
CMIG Matias Romero 132.59 63 PKP **PKPdf** **14 32 50.3 -0.1**
comp=E,3.5nm,0.9s,baz=288,slow=3.3,SNR=3.4
PLCA Paso Flores 139.33 158 PKP **PKiKP** **14 33 03.6 -1.2**
comp=E,6.6nm,1.1s,baz=198,slow=1.6,SNR=4.3
COVE Coope Vega, Sa 144.39 66 **PKPab** **14 33 09.8 -0.4**
BO01 Tunca 144.46 152 PKPdf **PKPab** **14 33 09.5 -0.5**
TRQA Tornquist 144.47 166 PKPdf PKPbc 14 33 09.6 -0.5
TRQA Tornquist 144.47 166 PKiKP **PKPab** **14 33 09.6 -0.3**
VA05 Santo Domingo 144.80 150 **PKPab** **14 33 10.2 -1.0**
ZON Zonda 147.94 152 **PKPbc** **14 33 20.7 -0.1**
ZON Zonda 147.94 152 PKP2 **PKPbc** **14 33 20.7 -0.1**
CO01 Juntas del Tor 148.51 148 PKPbc **PKPdf** **14 33 20.3 +1.3**
LCO Las Campanas 148.94 146 PKPbc **PKPdf** **14 33 21.1 +1.3**
LCO Las Campanas 148.94 146 PKP2 **PKiKP** **14 33 24.7 -0.4**
ATAH Atahualpa 153.13 99 PKP **PKPdf** **14 33 27.9 +1.1**
comp=E,9.1nm,0.9s,baz=297,slow=4.5,SNR=6.3
SJG San Juan 154.07 33 PKP **PKPdf** **14 33 27.6 +0.2**
comp=E,18nm,1.0s,baz=27,slow=2.2,SNR=3.0
LVC Limon Verde 154.79 140 PKPbc **PKiKP** **14 33 37.3 -0.2**
comp=E,3.9nm,0.9s,baz=125,slow=9.7,SNR=3.2
LVC PKPab **PKPab** **14 33 52.7 +0.4**
comp=E,6.4nm,0.9s,baz=276,slow=2.9,SNR=4.9
CPUP Villa Florida 156.79 167 PKP **PKPdf** **14 33 30.9 -0.1**
comp=E,1.9nm,0.9s,baz=74,slow=1.8,SNR=2.1
SDV Santo Domingo 157.33 57 PKP **PKPdf** **14 33 31.7 -0.5**
comp=E,12nm,1.0s,baz=290,slow=1.0,SNR=9.7
SIV San Ignacio 164.62 144 PKP **PKPdf** **14 33 39.3 -0.4**
comp=E,1.9nm,1.0s,baz=229,slow=5.0,SNR=5.6
SIV PKPab **PKPab** **14 34 34.4 -0.3**
comp=E,2.3nm,1.0s,baz=231,slow=4.9,SNR=3.6
BDFB Brasilia 167.56 196 PKP **PKPdf** **14 33 41.6 -0.6**
comp=E,1.5nm,0.8s,baz=90,slow=4.0,SNR=1.8
BDFB PKPab **PKPab** **14 34 47.9 +0.2**
comp=E,8.8nm,1.2s,baz=7.4,slow=3.6,SNR=3.7

*DJA **01** 14:17:51.7±1.9,4°N±17°×12°9E±°, h10km, M5.0/7, mb4.8/7, MLv5.0/7*
*IDC **01** 14:17:52.0±0.7,3°.59N×128°.58E, h0km, mb4.0/16, mbtmp4.0/17, ML3.7/1, Error ellipse: s-maj=34.0km s-min=14.5km az=73.0*
*NEIC **01** 14:17:54.0±1.2,3°.52N±0°.06×128°.72E±0°.06, h10km±1km, mb4.7/28, Error ellipse: s-maj=12.0km s-min=7.1km az=132.0*
ISC 01 14:17:58.0±0.5,3°.56N±0°.05×128°.69E±0°.08,h45km,n71,
σ1s06/70,mb4.4/27,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.06**	**206**	Pn	**Pn**	**14 18 41.6**	**-2.4**
TNTI	**Ternate**	**3.06**	**206**	P	**Pn**	**14 18 46.2**	**+2.2**
DAV	**Davao City (W)**	**4.67**	**319**	Pn	**Pn**	**14 19 07.8**	**+1.8**
	18nm,0.3s,baz=135,slow=20,SNR=1.4						
DAV				Sn	**Sn**	**14 19 56.5**	**-2.5**
	28nm,0.3s,baz=227,slow=20,SNR=1.5						
SIJI	**Sorong**	**5.09**	**150**	Pn	**Pn**	**14 19 11.6**	**-0.2**
	2.5nm,0.3s,baz=334,slow=19,SNR=2.3						
SIJI				Sn	**Sn**	**14 20 08.9**	**-0.5**
	1.4nm,0.3s,baz=305,slow=23,SNR=1.9						
	6.6nm,0.4s						
SANI	**Sanana**	**6.19**	**206**	P	**Pn**	**14 19 26.8**	**-0.1**
	85nm,0.9s,0.9nm						
GTOI	**Gorontalo**	**6.37**	**243**	P	**Pn**	**14 19 30.2**	**+0.8**
	40nm,1.0s,0.3nm						
FAKI	**Fak Fak**	**7.35**	**151**	Pn	**Pn**	**14 19 40.0**	**-2.9**
MRSI	**Marisa**	**7.41**	**246**	P	**Pn**	**14 19 45.3**	**+1.7**
	217nm,0.7s,0.9nm						
LUWI	**Luwuk**	**7.47**	**232**	Pn	**Pn**	**14 19 43.3**	**-1.2**
LUWI	**Luwuk**	**7.47**	**232**	P	**Pn**	**14 19 47.5**	**+3.0**
	139nm,1.6s,0.7nm						
TOLI2	**Tolitoli**	**8.27**	**253**		**Pn**	**14 19 54.9**	**-0.5**
APSI	**Ampana**	**8.32**	**238**	P	**Pn**	**14 19 56.8**	**+0.7**
	143nm,1.4s						
BKSI	**Bulukumba**	**12.29**	**224**	P	**Pn**	**14 20 52.9**	**+2.4**
	18nm,1.8s						
KAPI	**Kappang**	**12.34**	**226**	Pn	**Pn**	**14 20 51.4**	**+0.3**
	0.5nm,0.3s,baz=71,slow=18,SNR=1.9						
KAPI	**Kappang**	**12.34**	**226**	Pn	**Pn**	**14 20 50.5**	**-0.6**
PLAI	**Plampang**	**16.42**	**221**	P	**P**	**14 21 49.2**	**+1.5**
MTN	**Manton Dam**	**16.47**	**172**	P	**Pn**	**14 21 46.9**	**+0.8**
SBUM	**Sibu**	**16.48**	**267**	Pn	**Pn**	**14 21 45.5**	**-0.8**
JAGI	**Jajag, Banyuwa**	**18.79**	**230**		**P**	**14 22 13.7**	**-0.1**
JAGI				IAmb	IAmb	14 22 21.5	
	comp=Z,67nm,1.2s						
KNRA	**Kununurra**	**19.11**	**180**		**Pn**	**14 22 18.6**	**+0.1**
KNRA				IAmb	IAmb	14 22 35.5	
	comp=Z,79nm,1.3s						
TWG	**Pinlang**	**20.52**	**340**	Pn	Pn	14 22 34.9	-0.3
TWG				IAmb	IAmb	14 22 52.2	
	comp=Z,55nm,1.3s						
SSLB	**Suanglung**	**21.46**	**340**	P	**P**	**14 22 42.2**	**-0.5**
SSLB				IAmb	IAmb	14 22 56.9	
	comp=Z,23nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.73**	**188**	P	**P**	**14 22 44.5**	**-1.1**
YHNB	**Yeheng**	**22.14**	**342**	P	**P**	**14 22 49.6**	**-0.5**
WB0	**Warramunga Arr**	**23.84**	**167**	P	**P**	**14 23 06.9**	**-0.4**
WRA	**Warramunga Arr**	**24.00**	**167**	P	**P**	**14 23 09.2**	**+0.5**
	comp=Z,9.6nm,1.2s,baz=346,slow=10,SNR=4.4						
	comp=Z,9.6nm,1.2s						
WB2	**Warramunga Arr**	**24.00**	**167**	P	**P**	**14 23 09.9**	**+1.1**
ASAR	**Alice Springs**	**27.53**	**170**	P	**P**	**14 23 41.0**	**+0.3**
	comp=Z,1.4nm,1.0s,baz=351,slow=8.3,SNR=0.9						
ASAR				PcP	**PcP**	**14 26 59.4**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=347,slow=2.4,SNR=7.7						
	comp=Z,1.4nm,1.0s						
CRAI	**Chiangrai**	**32.19**	**303**	P	**P**	**14 24 22.4**	**+0.4**
CRAI				IAmb	IAmb	14 24 47.2	
	comp=Z,13nm,1.4s						
CM31	**Chiang Mai Arr**	**32.66**	**299**	P	**P**	**14 24 25.7**	**-0.4**
CM31				IAmb	IAmb	14 25 08.5	
	comp=Z,9.9nm,1.4s						
CMAR	**Chiang Mai Arr**	**32.66**	**299**	P	**P**	**14 24 26.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=94,slow=6.3,SNR=6.0						
	comp=Z,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.66**	**299**	P	**P**	**14 24 25.7**	**-0.4**
CHTO	**Chiang Mai**	**32.80**	**300**	P	**P**	**14 24 27.0**	**-0.3**
KSRS	**Korea Array**	**33.74**	**359**	P	**P**	**14 24 36.2**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=179,slow=10,SNR=5.3						
	comp=Z,1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**33.98**	**14**	P	**P**	**14 24 36.7**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=198,slow=8.5,SNR=1.5						
	comp=Z,0.9nm,0.9s						
FORT	**Forrest**	**34.15**	**181**	P	**P**	**14 24 38.9**	**0.0**
MORW	**Morawa**	**34.64**	**200**	P	**P**	**14 24 42.3**	**-0.8**
MORW				IAmb	IAmb	14 24 53.9	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**36.83**	**170**	P	**P**	**14 25 01.5**	**-0.5**
STKA	**Stephens Creek**	**37.31**	**162**	P	**P**	**14 25 06.7**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=333,slow=10,SNR=1.2						
	comp=Z,1.6nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.02**	**65**	T	T	15 08 39.6	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**40.03**	**65**	T	T	15 08 41.2	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**40.03**	**65**	T	T	15 08 36.8	
	baz=253						
USRK	**Ussuriysk Ar.**	**40.58**	**4**	P	**P**	**14 25 33.2**	**0.0**
	comp=Z,1.6nm,0.6s,baz=175,slow=7.2,SNR=3.0						
	comp=Z,1.6nm,0.6s						
KLR	**Kul'dur**	**45.58**	**3**	P	**P**	**14 26 13.9**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=181,slow=8.0,SNR=2.4						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**48.11**	**340**	P	**P**	**14 26 33.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=153,slow=9.7,SNR=1.4						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**48.11**	**340**	P	**P**	**14 26 34.3**	**+0.8**
YAK	**Yakutsk**	**58.34**	**1**	P	**P**	**14 27 48.6**	**+0.3**
	comp=Z,9.4nm,0.6s,baz=217,slow=0.9,SNR=8.3						
	comp=Z,9.4nm,0.6s						
YAK	**Yakutsk**	**58.34**	**1**	P	**P**	**14 27 48.8**	**+0.5**
MK31	**Makanchi Array**	**58.83**	**324**	P	**P**	**14 27 51.9**	**-0.1**
MK31				IAmb	IAmb	14 28 22.3	
	comp=Z,8.4nm,1.4s						
MKAR	**Makanchi Array**	**58.83**	**324**	P	**P**	**14 27 51.4**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=113,slow=7.5,SNR=14						
	comp=Z,1.4nm,0.4s						
MKAR	**Makanchi Array**	**58.83**	**324**	P	**P**	**14 27 52.0**	**0.0**
MAKZ	**Makanchi**	**59.02**	**324**	P	**P**	**14 27 53.3**	**0.0**
ZALV	**Zalesovo Beam**	**61.64**	**332**	P	**P**	**14 28 10.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=117,slow=5.7,SNR=1.6						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**62.95**	**327**	P	**P**	**14 28 19.5**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=126,slow=6.2,SNR=14						
	comp=Z,1.8nm,0.5s						
KKAR	**Karatay Array**	**64.70**	**316**	P	**P**	**14 28 31.3**	**-0.3**
TIXI	**Tiksi**	**68.00**	**0**	P	**P**	**14 28 52.4**	**+0.3**
TIXI				IAmb	IAmb	14 28 53.6	
	comp=Z,5.2nm,0.7s						
BVAR	**Borovoye Array**	**68.54**	**326**	P	**P**	**14 28 55.4**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=124,slow=7.9,SNR=4.3						
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**73.53**	**320**	P	**P**	**14 29 25.1**	**-1.1**
AKTO	**Aktyubinsk**	**75.02**	**321**	P	**P**	**14 29 34.8**	**0.0**
	comp=Z,0.7nm,0.4s,baz=102,slow=8.6,SNR=1.6						
	comp=Z,0.7nm,0.4s						
IMAR	**Indian Mountai**	**81.71**	**24**	P	**P**	**14 30 12.1**	**+0.6**
PPLA	**Purkeypile**	**81.89**	**27**	P	**P**	**14 30 13.1**	**+0.4**
CAST	**Castle Rocks**	**82.01**	**27**	P	**P**	**14 30 13.8**	**+0.6**
CAST				IAmb	IAmb	14 30 34.3	
	comp=Z,7.1nm,1.3s						
SKT	**Skwentna**	**82.07**	**28**	P	**P**	**14 30 14.4**	**+0.9**
SKT				IAmb	IAmb	14 30 50.8	
	comp=Z,12nm,1.5s						
H23K	**Yukon River**	**83.40**	**24**	P	**P**	**14 30 21.1**	**+0.8**
H23K				IAmb	IAmb	14 30 30.8	
	comp=Z,7.6nm,1.3s						
I23K	**Minto, Yukon-K**	**83.40**	**25**	P	**P**	**14 30 21.5**	**+1.3**
TOLK	**Toolik Lake Re**	**83.69**	**21**	P	**P**	**14 30 23.0**	**+1.2**
TOLK				IAmb	IAmb	14 30 45.2	
	comp=Z,6.1nm,1.1s						
ILAR	**Eielson Array**	**84.42**	**25**	P	**P**	**14 30 25.6**	**0.0**
	comp=Z,0.3nm,0.7s,baz=243,slow=4.3,SNR=1.0						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**84.42**	**25**	P	**P**	**14 30 27.0**	**+1.4**
BCAR	**Beaver Creek A**	**86.64**	**27**	P	**P**	**14 30 38.0**	**+1.3**
BARN	**Barnard Glacie**	**86.75**	**29**	P	**P**	**14 30 38.3**	**+0.9**
BARN				IAmb	IAmb	14 30 46.1	
	comp=Z,8.9nm,1.2s						
TORD	**Torodi Ar. Bea**	**124.83**	**289**	PKP	**PKiKP**	**14 36 54.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=63,slow=2.7,SNR=1.8						

*TIF **01** 14:25:27.1,41°.27N×45°.72E, h32km±2km*
*DRS **01** 14:25:29.6±0.0,41°.40N×45°.70E, h18km*
ISC 01 14:25:25.8±1.6,41°.19N±0°.08×45°.66E±0°.03,h34km±3km,
n16,σ1s18/29,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDFL	**Dedoflistskaro**	**0.43**	**53**	P	**Pn**	**14 25 35.9**	**+0.3**
DDFL				S	**Sn**	**14 25 44.6**	**+2.4**
LGD	**Lagodekhi**	**0.78**	**34**	P	**Pn**	**14 25 40.6**	**+0.3**
LGD				S	**Sb**	**14 25 51.3**	**0.0**
BTNK	**Botanikuri**	**0.82**	**307**	P	Pn	14 25 36.4	-4.4
BTNK				S	**Sn**	**14 25 47.7**	**-4.1**
DMNI	**Dmanisi**	**1.12**	**278**	P	**Pb**	**14 25 46.8**	**+0.1**
DMNI				S	**Sb**	**14 26 02.0**	**+0.9**
TRLG	**Trialeti**	**1.23**	**287**	P	**Pb**	**14 25 48.1**	**-0.4**
TRLG				S	**Sb**	**14 26 04.6**	**+0.4**
KMKR	**Kumukh**	**1.43**	**48**	*e*Pg	**Pb**	**14 25 51.4**	**-0.6**
	3.0nm,0.0s						
KMKR				*e*Sg	**Sb**	**14 26 09.7**	**-0.3**
	28nm,0.6s						
BTLR	**Botlikh**	**1.53**	**16**	*e*Pg	**Pb**	**14 25 53.6**	**0.0**
	8.0nm,0.8s						
BTLR				*e*Sg	**Sb**	**14 26 13.7**	**+1.0**
	17nm,0.4s						
GNBR	**Gunib**	**1.54**	**39**	*e*Pg	**Pb**	**14 25 53.1**	**-0.7**
	7.0nm,0.6s						
GNBR				*e*Sg	**Sb**	**14 26 13.1**	**+0.1**
	17nm,0.6s						
XNZR	**Khunzakh**	**1.56**	**30**	*e*Pg	**Pb**	**14 25 54.0**	**-0.1**
	4.0nm,0.8s						
XNZR				*e*Sg	**Sb**	**14 26 14.4**	**+0.7**
	20nm,0.4s						
AKT	**Akhty**	**1.58**	**79**	*e*Sg	**Sb**	**14 26 14.2**	**0.0**
	17nm,0.5s						
PNSH	**Pansheti**	**1.64**	**332**	P	**Pb**	**14 25 55.7**	**+0.1**
PNSH				S	**Sb**	**14 26 16.8**	**+0.8**
ARKR	**Arakani**	**1.73**	**35**	*e*Pg	**Pb**	**14 25 56.7**	**-0.2**
	1.0nm,0.6s						
ARKR				*e*Sg	**Sb**	**14 26 19.1**	**+0.8**
	7.0nm,0.5s						
UNCR	**Uncukul**	**1.74**	**29**	*e*Pg	**Pb**	**14 25 55.8**	**-1.4**
	12nm,0.8s						
UNCR				*e*Sg	**Sb**	**14 26 18.3**	**-0.4**
	13nm,0.3s						
ALIG	**Mtskhetisjvari**	**1.77**	**302**	P	**Pb**	**14 25 57.5**	**-0.1**
ALIG				S	**Sb**	**14 26 20.8**	**+1.4**
KRNR	**Karanay**	**1.88**	**29**	*e*Pg	**Pb**	**14 25 58.6**	**-1.0**
	8.0nm,0.7s						
KRNR				*e*Sg	**Sb**	**14 26 23.1**	**+0.4**
	7.0nm,0.5s						
ONI	**Oni**	**2.16**	**311**	S	**Sb**	**14 26 32.1**	**+1.3**

IDC 01 14:32:39.5±2.0,3°.50N×128°.34E,h0km,mb3.4/3,
mbtmp3.4/3,Error ellipse: s-maj=161.0km
s-min=25.4km az=68.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.03**	**166**	P	P	14 37 56.9	+0.5
	0.7nm,0.7s,baz=346,slow=10.0,SNR=6.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**27.54**	**169**	P	P	14 38 27.6	-0.7
	0.3nm,0.8s,baz=346,slow=8.3,SNR=5.9						
ASAR				PcP	PcP	14 41 45.9	-0.6
	0.2nm,0.6s,baz=344,slow=3.4,SNR=4.4						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**58.66**	**325**	P	P	14 42 39.0	+0.2
	0.

IDC ***01*** *14:43:50.0±1.6,6˚.51S×154˚.55E,h0km,mb3.6/5, mbtmp3.6/6,ML3.5/1,Error ellipse: s-maj=48.0km s-min=25.5km az=116.0*

ISC 01 14:43:56.5±1.3,**6˚.6S**±0˚.2×**154˚.6E**±0˚.2,**h48**km,**n7**,σ0^{s}**80**/7, **mb3.6**/5,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.46**	**312**	Pn	Pn	14 44 41.2	-6.7
	4.9nm,0.3s,baz=309,slow=2.3,SNR=12						
KRVT				Sn	**Sn**	**14 45 27.4**	**-0.4**
	26nm,0.3s,baz=336,slow=23,SNR=7.6 37nm,0.6s						
WRA	**Warramunga Arr**	**23.71**	**234**	P	**P**	**14 49 04.1**	**-0.2**
	0.6nm,0.7s,baz=58,slow=9.4,SNR=5.8 0.6nm,0.7s						
ASAR	**Alice Springs**	**26.13**	**227**	P	**P**	**14 49 26.6**	**+0.2**
	0.6nm,0.7s,baz=58,slow=8.8,SNR=13 0.6nm,0.7s						
SONM	**Songino Array**	**68.83**	**327**	P	**P**	**14 54 56.5**	**+0.4**
	0.5nm,0.5s,baz=145,slow=5.3,SNR=8.4 0.5nm,0.5s						
MKAR	**Makanchi Array**	**82.89**	**319**	P	**P**	**14 56 17.1**	**+0.9**
	0.3nm,0.5s,baz=106,slow=7.2,SNR=6.3 0.3nm,0.5s						
ILAR	**Eielson Array**	**83.18**	**22**	P	**P**	**14 56 16.9**	**-0.4**
	0.4nm,0.6s,baz=242,slow=5.5,SNR=8.9 0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**152.56**	**286**	PKPbc	**PKPbc**	**15 03 47.7**	**-1.1**
	0.2nm,0.4s,baz=55,slow=1.8,SNR=2.1						

IDC ***01*** *14:47:13.1±1.7,6˚.32S×128˚.75E,h273km±18km,mb3.4/7, mbtmp4.0/11,Error ellipse: s-maj=26.6km s-min=10.8km az=81.0*

ISC 01 14:47:11.0±0.7,**6˚.35S**±0˚.06×**128˚.72E**±0˚.08,**h250**km,**n19**, σ2^{s}**48**/23,**mb3.6**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.90**	**46**	P	**Pn**	**14 48 28.0**	**+2.4**
SANI	**Sanana**	**5.07**	**327**	P	**Pn**	**14 48 30.9**	**+3.3**
SOEI	**Soe**	**5.56**	**232**	P	**Pn**	**14 48 36.7**	**+2.9**
SIJI	**Sorong**	**6.01**	**25**	P	**Pn**	**14 48 40.7**	**+1.4**
	3.1nm,0.2s,baz=38,slow=23,SNR=11						
SIJI				S	**S**	**14 49 46.0**	**-4.0**
	3.7nm,0.3s,baz=108,slow=24,SNR=8.8						
BATI	**Baumata**	**6.30**	**232**	P	**Pn**	**14 48 45.3**	**+2.3**
	19nm,0.3s,baz=103,slow=4.6,SNR=9.4						
BATI				S	**S**	**14 49 52.9**	**-3.8**
	23nm,0.3s,baz=324,slow=8.1,SNR=2.3						
MTN	**Manton Dam**	**6.88**	**160**	P	**Pn**	**14 48 53.1**	**+2.9**
KDU	**Kakadu**	**7.30**	**150**	P	**Pn**	**14 48 58.6**	**+3.1**
KNRA	**Kununurra**	**9.27**	**180**	P	**Pn**	**14 49 22.5**	**+2.1**
PLAI	**Plampang**	**11.12**	**257**	P	**Pn**	**14 49 45.7**	**+1.9**
WRA	**Warramunga Arr**	**14.57**	**159**	P	**P**	**14 50 27.3**	**+1.1**
	1.0nm,0.5s,baz=335,slow=13,SNR=12						
WRA				S	**S**	**14 53 02.2**	**-5.3**
	0.8nm,0.8s,baz=338,slow=20,SNR=2.8						
QIS	**Mount Isa**	**17.63**	**144**	P	**Pn**	**14 51 02.5**	**+0.1**
ASAR	**Alice Springs**	**17.93**	**164**	P	**Pn**	**14 51 05.5**	**-0.3**
	3.0nm,0.5s,baz=343,slow=11,SNR=75						
ASAR				S	**S**	**14 54 15.0**	**-0.6**
	1.4nm,0.7s,baz=347,slow=21,SNR=6.8						
KSRS	**Korea Array**	**43.58**	**359**	P	**P**	**14 54 51.0**	**+0.4**
	0.7nm,0.5s,baz=178,slow=9.9,SNR=5.6 0.7nm,0.5s						
MJAR	**Matsushiro Arr**	**43.58**	**11**	P	**P**	**14 54 48.9**	**-1.7**
	1.5nm,0.8s,baz=177,slow=8.6,SNR=6.6 1.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.40**	**3**	P	**P**	**14 55 43.0**	**-0.1**
	1.3nm,0.6s,baz=175,slow=6.6,SNR=6.3 1.3nm,0.6s						
SONM	**Songino Array**	**57.43**	**342**	P	**P**	**14 56 34.3**	**+0.4**
	0.4nm,0.7s,baz=158,slow=7.4,SNR=3.8 0.4nm,0.7s						
MKAR	**Makanchi Array**	**66.99**	**327**	P	**P**	**14 57 36.7**	**-0.4**
	0.6nm,0.4s,baz=120,slow=8.7,SNR=20 0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**70.44**	**334**	P	**P**	**14 57 57.1**	**-1.0**
	0.6nm,0.3s,baz=140,slow=7.0,SNR=1.9 0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**71.30**	**329**	P	**P**	**14 58 02.7**	**-0.6**
	1.4nm,0.2s,baz=129,slow=4.9,SNR=15 1.4nm,0.2s						

NEIC ***01*** *14:54:39.1±0.7,36˚.7S±0˚.2×179˚.2W±0˚.2,h10km±2km, mb4.2/4,Error ellipse: s-maj=43.2km s-min=20.3km az=153.0*

IDC ***01*** *14:54:44.3±2.9,36˚.33S×179˚.69E,h0km,mb3.9/2, mbtmp4.0/4,ML3.7/2,Error ellipse: s-maj=68.2km s-min=30.8km az=123.0*

WEL ***01*** *14:54:46.7±0.9,37˚.9°S×18˚0W±1˚.2,h108km±22km, M3.9/54,ML4.1/31,MLv3.9/54,Error ellipse: s-maj=0.0km s-min=0.0km az=117.4,confirmed*

ISC 01 14:54:42.1±1.8,**36˚.56S**±0˚.09×**179˚.5W**±0˚.1,**h28**km,**n75**, σ1^{s}**29**/88,**mb3.8**/4,**East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.04**	**240**	Pn	**Pn**	**14 55 15.2**	**+0.7**
PUZ	**Puketiti**	**2.36**	**229**	P	**Pn**	**14 55 20.8**	**+1.8**
PUZ				S	**Sn**	**14 55 47.5**	**+0.5**
PKGZ	**Pakihiroa**	**2.37**	**235**	P	**Pn**	**14 55 20.4**	**+1.3**
PKGZ				S	**Sn**	**14 55 47.4**	**+0.2**
HAZ	**Te Kaha**	**2.50**	**241**	P	**Pn**	**14 55 22.3**	**+1.4**
HAZ				S	**Sn**	**14 55 50.5**	**+0.1**
TWGZ	**Tauwhareparae**	**2.60**	**231**	P	**Pn**	**14 55 24.8**	**+2.5**
TWGZ				S	**Sn**	**14 55 54.1**	**+1.2**
CNGZ	**Carnagh Statio**	**2.67**	**223**	P	**Pn**	**14 55 26.0**	**+2.8**
RUGZ	**Raukumara Rang**	**2.67**	**237**	P	**Pn**	**14 55 25.3**	**+1.9**
TKGZ	**Te Karaka**	**2.84**	**228**	P	**Pn**	**14 55 27.5**	**+1.9**
TKGZ				S	**Sn**	**14 55 58.5**	**-0.3**
MWZ	**Matawai**	**2.98**	**233**	P	**Pn**	**14 55 28.7**	**+1.2**
MWZ				S	**Sn**	**14 56 02.0**	**-0.3**
RIGZ	**Rimuhau**	**3.07**	**225**	P	**Pn**	**14 55 30.1**	**+1.3**
WHRZ	**Whale Island**	**3.12**	**244**	P	**Pn**	**14 55 30.6**	**+1.1**
RAGZ	**Rawiri**	**3.14**	**231**	P	**Pn**	**14 55 31.7**	**+1.9**
URZ	**Urewera**	**3.21**	**237**	Pn	**Pn**	**14 55 31.3**	**+0.7**
	19nm,0.3s,baz=1.4,slow=2.0,SNR=152						
URZ				Sn	**Sn**	**14 56 05.9**	**-2.0**
	21nm,0.3s,baz=278,slow=15,SNR=12 45nm,0.3s						
URZ	**Urewera**	**3.21**	**237**	P	**Pn**	**14 55 31.5**	**+0.9**
URZ				S	**Sn**	**14 56 06.9**	**-1.1**
KNZ	**Kokohu**	**3.34**	**222**	P	**Pn**	**14 55 33.6**	**+1.2**
KNZ				S	**Sn**	**14 56 11.1**	**-0.1**
SNGZ	**Shannon Statio**	**3.37**	**228**	P	**Pn**	**14 55 34.6**	**+1.8**
SNGZ				S	**Sn**	**14 56 12.3**	**+0.4**
MARZ	**Manawahe**	**3.39**	**244**	P	**Pn**	**14 55 33.7**	**+0.5**
EDRZ	**Edgecumbe**	**3.39**	**242**	P	**Pn**	**14 55 34.4**	**+1.2**
OPRZ	**Ohinepanea**	**3.42**	**247**	P	**Pn**	**14 55 33.8**	**+0.3**
RTZ	**Ruatahuna**	**3.49**	**233**	Pn	**Pn**	**14 55 34.9**	**+0.3**
RTZ	**Ruatahuna**	**3.49**	**233**	P	**Pn**	**14 55 36.6**	**+2.0**
MUGZ	**Murupara**	**3.55**	**236**	P	**Pn**	**14 55 35.9**	**+0.6**
MUGZ				S	**Sn**	**14 56 13.7**	**-2.7**
RAHZ	**Arahi**	**3.60**	**228**	P	**Pn**	**14 55 38.1**	**+1.9**
TGRZ	**Tauranga**	**3.61**	**250**	P	**Pn**	**14 55 36.1**	**0.0**
TARZ	**Mount Tarawera**	**3.62**	**241**	P	**Pn**	**14 55 37.6**	**+1.2**
WHHZ	**Waihua**	**3.62**	**225**	P	**Pn**	**14 55 37.9**	**+1.5**
OMRZ	**Omania**	**3.66**	**244**	P	**Pn**	**14 55 37.8**	**+0.9**
RRRZ	**Republican Roa**	**3.66**	**240**	P	**Pn**	**14 55 37.9**	**+1.1**
MTHZ	**Maungataniwha**	**3.71**	**231**	P	**Pn**	**14 55 39.0**	**+1.3**
MTHZ				S	**Sn**	**14 56 20.0**	**-0.6**
HLRZ	**Highlands Stat**	**3.73**	**242**	P	**Pn**	**14 55 39.0**	**+1.1**
PRRZ	**Plateau Road**	**3.82**	**238**	P	**Pn**	**14 55 39.4**	**+0.4**
HSRZ	**Hossack Road**	**3.83**	**242**	P	**Pn**	**14 55 37.5**	**-1.7**
ALRZ	**Allen Road**	**3.88**	**238**	P	**Pn**	**14 55 40.3**	**+0.4**
NMHZ	**Naumai**	**3.89**	**228**	P	**Pn**	**14 55 41.7**	**+1.7**
GRRZ	**Galatos Road**	**3.95**	**242**	P	**Pn**	**14 55 41.6**	**+0.8**
MRHZ	**Matea Rd**	**3.98**	**234**	P	**Pn**	**14 55 41.9**	**+0.6**
BKZ	**Black Stump Fm**	**4.12**	**230**	Pn	**Pn**	**14 55 43.4**	**+0.1**
BKZ	**Black Stump Fm**	**4.12**	**230**	P	**Pn**	**14 55 43.9**	**+0.6**
CKHZ	**Cape Kidnapper**	**4.12**	**220**	P	**Pn**	**14 55 44.0**	**+0.8**
MCHZ	**McNeill Hill**	**4.18**	**225**	P	**Pn**	**14 55 44.9**	**+0.9**
MCHZ				S	**Sn**	**14 56 32.8**	**+0.9**
TOZ	**Tahuroa Road**	**4.18**	**252**	P	**Pn**	**14 55 44.1**	**+0.1**
KUTZ	**Kaahu Road**	**4.21**	**241**	P	**Pn**	**14 55 45.5**	**+1.1**
KAHZ	**Kahuranaki**	**4.33**	**221**	P	**Pn**	**14 55 46.7**	**+0.6**
KAHZ				S	**Sn**	**14 56 34.8**	**-0.9**
RITZ	**Rihia Road**	**4.42**	**235**	P	**Pn**	**14 55 49.3**	**+1.9**
KRHZ	**Kereru**	**4.50**	**226**	P	**Pn**	**14 55 49.4**	**+1.0**
KRHZ				S	**Sn**	**14 56 37.4**	**-2.5**
PXZ	**Pawanui**	**4.51**	**219**	P	**Pn**	**14 55 48.7**	**+0.2**
PXZ				S	**Sn**	**14 56 37.9**	**-2.1**
BHHZ	**Black Hill Sta**	**4.58**	**229**	P	**Pn**	**14 55 50.3**	**+0.7**
TMVZ	**Te Maari**	**4.59**	**235**	P	**Pn**	**14 55 50.0**	**+0.2**
ETVZ	**East Tongariro**	**4.60**	**235**	P	**Pn**	**14 55 50.2**	**+0.3**
NNVZ	**North Ngauruho**	**4.66**	**235**	P	**Pn**	**14 55 54.9**	**+4.1**
MOVZ	**Moawhango**	**4.72**	**232**	P	**Pn**	**14 55 52.2**	**+0.6**
TWVZ	**Taurewa**	**4.75**	**237**	P	**Pn**	**14 55 53.5**	**+1.6**
WPHZ	**Waipukurau**	**4.75**	**221**	P	**Pn**	**14 55 51.8**	**-0.1**
HIZ	**Hauiti**	**4.91**	**245**	P	**Pn**	**14 55 55.4**	**+1.3**
TSZ	**Takapari Road**	**5.01**	**224**	P	**Pn**	**14 55 54.8**	**-0.7**
WCZ	**Waipu Caves**	**5.04**	**275**	P	**Pn**	**14 55 56.3**	**+0.5**
VRZ	**Vera Road**	**5.24**	**239**	P	**Pn**	**14 56 00.1**	**+1.6**
WAZ	**Wanganui**	**5.41**	**232**	P	**Pn**	**14 56 02.2**	**+1.3**
TUWZ	**Tuamarina**	**7.07**	**225**	Pn	**Pn**	**14 56 23.1**	**-0.6**
BSWZ	**Blackbirch Sta**	**7.30**	**223**	Pn	**Pn**	**14 56 26.9**	**+0.1**
THZ	**Tophouse**	**7.88**	**226**	Pn	**Pn**	**14 56 33.1**	**-1.7**
LTZ	**Lake Taylor**	**8.89**	**223**	Pn	**Pn**	**14 56 47.1**	**-1.7**
OXZ	**Oxford**	**9.39**	**221**	Pn	**Pn**	**14 56 55.2**	**-0.3**
RPZ	**Rata Peaks**	**10.18**	**222**	Pn	**Pn**	**14 57 06.2**	**-0.2**
	0.4nm,0.3s,baz=40,slow=17,SNR=1.9						
RPZ				Sn	Sn	14 58 47.1	-12
	0.3nm,0.3s,baz=126,slow=14,SNR=2.6 6.8nm,0.5s						
AS31	**Alice Springs**	**41.95**	**274**	P	**P**	**15 02 31.1**	**+0.4**
AS31				IAmb	IAmb	15 02 38.5	
	comp=Z,2.2nm,1.4s						
ASAR	**Alice Springs**	**41.95**	**274**	P	**P**	**15 02 31.4**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=121,slow=7.8,SNR=23 comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**41.95**	**274**	P	**P**	**15 02 30.9**	**+0.3**
WRAB	**Tennant Creek**	**43.49**	**279**	P	**P**	**15 02 43.9**	**+0.8**
WRA	**Warramunga Arr**	**43.49**	**279**	P	**P**	**15 02 43.7**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=121,slow=7.8,SNR=8.1 comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**43.49**	**279**	P	**P**	**15 02 44.1**	**+0.9**
WB0	**Warramunga Arr**	**43.55**	**280**	P	**P**	**15 02 44.0**	**+0.4**
WB0				IAmb	IAmb	15 03 06.5	
	comp=Z,16nm,1.4s						
H03N3	**Juan Fernandez**	**78.33**	**123**	T	T	16 33 22.8	
	baz=236,slow=72,SNR=5.2						
H03N2	**Juan Fernandez**	**78.34**	**123**	T	T	16 33 24.5	
	baz=236,slow=72,SNR=3.6						
H03N1	**Juan Fernandez**	**78.35**	**123**	T	T	16 33 21.8	
	baz=236,slow=72,SNR=4.7						
FINES	**FINESS Array B**	**150.36**	**335**	PKPbc	**PKPab**	**15 14 35.0**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=64,slow=6.3,SNR=6.9						

JMA ***01*** *14:55:06.7±0.1,40˚.9N±0˚.3×142˚.1E±0˚.8,h51km±2km, MV3.7/37,E OFF AOMORI PREF*

JMA Felt I J1 at E OFF AOMORI PREF .

IDC ***01*** *14:55:07.8±2.2,40˚.91N×142˚.20E,h71km±23km,mb3.5/7, mbtmp3.7/9,Error ellipse: s-maj=37.0km s-min=15.3km az=88.0*

ISC 01 14:55:07.0±1.0,**40˚.90N**±0˚.03×**142˚.04E**±0˚.05,**h56**km±9km, **n33**,σ0^{s}**68**/38,**mb3.6/7**,**14D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.52**	**282**	⇓*i*P	**Pn**	**14 55 19.0**	**+0.2**
JARK				⇓S	**Sn**	**14 55 27.7**	**+0.3**
JAHD	**Aomorihigashid**	**0.64**	**305**	⇓*i*P	**Pn**	**14 55 20.3**	**+0.1**
JAHD				⇓*e*S	**Sn**	**14 55 30.0**	**+0.1**
JANG	**Nango**	**0.66**	**217**	⇓*i*P	**Pn**	**14 55 20.6**	**0.0**
JANG				⇓S	**Sn**	**14 55 30.4**	**0.0**
JKEN	**Kujiedanarisaw**	**0.74**	**200**	*i* P	**Pn**	**14 55 21.2**	**-0.3**
JKEN				S	**Sn**	**14 55 31.8**	**-0.3**
JTM	**Tenmabayashi**	**0.74**	**261**	⇓*i*P	**Pn**	**14 55 21.8**	**+0.3**
JTM				⇓S	**Sn**	**14 55 32.8**	**+0.6**
JOT	**Ohata**	**0.89**	**303**	⇓*i*P	**Pn**	**14 55 23.4**	**0.0**
JOT				⇓*e*S	**Sn**	**14 55 35.7**	**+0.3**
JKB	**Kayabe**	**1.24**	**323**	⇓*i*P	**Pn**	**14 55 28.1**	**+0.1**
JKB				⇓S	**Sn**	**14 55 43.5**	**-0.3**
JAH	**Hinai**	**1.28**	**237**	⇓*i*P	**Pn**	**14 55 29.4**	**+0.7**
JAH				⇓S	**Sn**	**14 55 46.1**	**+1.2**
JSR	**Shiriuchi**	**1.37**	**298**	*i* P	**Pn**	**14 55 30.5**	**+0.7**
JEM	**Erimo**	**1.39**	**37**	P	**Pn**	**14 55 30.6**	**+0.5**
JEM				S	**Sn**	**14 55 48.4**	**+0.9**
JNBK	**Urakawa-nobuka**	**1.48**	**21**	*e*P	**Pn**	**14 55 31.3**	**+0.1**
JNBK				*e*S	**Sn**	**14 55 49.7**	**+0.2**
JOM	**Ohasama**	**1.54**	**202**	*i* P	**Pn**	**14 55 32.5**	**+0.4**
JOM				S	**Sn**	**14 55 51.0**	**0.0**
JIW	**Iwasaki**	**1.57**	**259**	P	**Pn**	**14 55 33.2**	**+0.7**
JIAM	**Iburiatsuma**	**1.72**	**357**	*e*P	**Pn**	**14 55 35.7**	**+1.1**
JIAM				*e*S	**Sn**	**14 55 56.4**	**+1.0**
JNB	**Noboribetsu**	**1.73**	**335**	*i* P	**Pn**	**14 55 34.5**	**-0.3**
JNB				S	**Sn**	**14 55 55.5**	**-0.2**
ASAJ	**Asahikawa**	**3.24**	**7**	P	**Pn**	**14 55 55.8**	**+0.5**
	7.5nm,0.3s,baz=220,slow=11,SNR=21						
ASAJ				S	**Sn**	**14 56 33.7**	**+1.1**
	14nm,0.6s,baz=5.3,slow=26,SNR=1.9						
MJAR	**Matsushiro Arr**	**5.28**	**216**	P	**Pn**	**14 56 25.6**	**+2.2**
	0.8nm,0.5s,baz=36,slow=12,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**29.91**	**127**	T	T	15 32 50.6	
	baz=320,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**29.93**	**127**	T	T	15 32 47.3	
	baz=320,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**29.93**	**127**	T	T	15 32 52.6	
	baz=320,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**30.74**	**129**	T	T	15 33 48.1	
	baz=322,slow=74						
H11S3	**WAKE ISLAND Hy**	**30.75**	**129**	T	T	15 33 47.8	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**30.76**	**129**	T	T	15 33 49.2	
	baz=322,slow=74						
ZALV	**Zalesovo Beam**	**39.76**	**309**	P	**P**	**15 02 34.1**	**0.0**
	0.7nm,0.4s,baz=91,slow=10,SNR=1.9 0.7nm,0.4s						
MKAR	**Makanchi Array**	**42.58**	**299**	P	**P**	**15 02 57.2**	**-0.1**
	0.5nm,0.4s,baz=88,slow=9.8,SNR=8.3 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**44.09**	**305**	P	**P**	**15 03 08.8**	**-0.6**
	0.7nm,0.6s,baz=80,slow=9.2,SNR=7.1 0.7nm,0.6s						
BVAR	**Borovoye Array**	**48.40**	**310**	P	**P**	**15 03 43.4**	**+0.2**
	1.3nm,0.3s,baz=82,slow=8.3,SNR=7.3 1.3nm,0.3s						
WRA	**Warramunga Arr**	**60.95**	**188**	P	**P**	**15 05 13.3**	**-1.0**
	1.7nm,0.6s,baz=3.5,slow=6.9,SNR=5.6 0.2nm,0.4s						
ASAR	**Alice Springs**	**64.68**	**188**	P	**P**	**15 05 38.5**	**-0.6**
	0.2nm,0.4s,baz=7.9,slow=8.3,SNR=6.2 0.2nm,0.4s						
FINES	**FINESS Array B**	**65.63**	**332**	P	**P**	**15 05 44.4**	**-0.4**
	1.7nm,0.6s,baz=44,slow=8.7,SNR=15 1.7nm,0.6s						
H03N2	**Juan Fernandez**	**146.75**	**90**	T	T	17 59 39.5	
	baz=299						
H03N3	**Juan Fernandez**	**146.77**	**90**	T	T	17 59 35.7	
	baz=299						
H03N1	**Juan Fernandez**	**146.77**	**90**	T	T	17 59 41.6	
	baz=299						

WEL 01 14:58:28.2±0.5,**42˚S**±3˚×**17˚3E**±˚,**h3**km±3km,**M2.4**/7, **ML2.6**/11,**MLv2.4**/7,**Error ellipse: s-maj=0.0km s-min=0.0km az=12.4,confirmed,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.29**	**238**	P	Pg	14 58 33.7	-0.1
THZ				S	Sg	14 58 38.1	+0.6
NNZ	**Nelson**	**0.41**	**16**	P	Pg	14 58 36.2	+0.2
MRNZ	**Matariki Terra**	**0.41**	**300**	P	Pg	14 58 36.9	+0.8
MRNZ				S	Sg	14 58 42.9	+1.5
BSWZ	**Blackbirch Sta**	**0.50**	**103**	P	Pg	14 58 38.4	+0.7
BSWZ				S	Sb	14 58 45.7	-1.4
TUWZ	**Tuamarina**	**0.56**	**72**	P	Pg	14 58 38.6	-0.4
TKNZ	**Takaka Hill**	**0.61**	**340**	P	Pg	14 58 40.1	+0.2
KHZ	**Kahutara**	**0.84**	**164**	P	Pb	14 58 45.0	-0.4
TCW	**Tory Channel**	**0.88**	**64**	P	Pg	14 58 44.3	-0.7
QRZ	**Quartz Range**	**0.94**	**326**	P	Pg	14 58 45.9	-0.3
DSZ	**Denniston Nort**	**1.08**	**262**	P	Pg	14 58 48.5	-0.3
DSZ				S	Sg	14 59 02.9	+0.1
CAW	**Cannon Point**	**1.47**	**71**	P	Pn	14 58 55.5	0.0
KIW	**Kapiti Island**	**1.47**	**60**	P	Pn	14 58 54.3	-1.2
OGWZ	**Otaki Gorge**	**1.66**	**62**	P	Pb	14 58 59.1	-0.4

IDC ***01*** *15:13:37.9±0.8,3˚.65N×128˚.75E,h0km,mb3.7/9, mbtmp3.7/11,ML3.8/2,MS3.0/1,Error ellipse: s-maj=39.8km s-min=14.1km az=67.0*

NEIC ***01*** *15:13:39.5±1.3,3˚.63N±0˚.09×128˚.66E±0˚.09,h10km±1km, mb4.5/18,Error ellipse: s-maj=16.8km s-min=14.5km az=51.0*

DJA ***01*** *15:13:39.4±1.3,4˚.N±12˚×12˚.9E±˚,h10km,M4.3/8,mB5.1/1, mb4.4/8,MLv4.3/8,Mw(mB)4.5/1*

ISC 01 15:13:43.1±0.6,**3˚.52N**±0˚.05×**128˚.72E**±0˚.08,**h45**km,**n45**, σ1^{s}**63**/49,**mb4.2**/18,**3C**,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.04**	**206**	Pn	**Pn**	**15 14 27.8**	**-1.1**
SGSI	**Sangihe**	**3.19**	**273**	P	**Pn**	**15 14 29.9**	**-1.0**
DDMP	**Don Marcelino,**	**3.95**	**311**	⇑*e*P	**Pn**	**15 14 41.5**	**+0.2**
DDMP				*e*S	**Sn**	**15 15 30.6**	**+4.2**
DAV	**Davao City (W)**	**4.72**	**319**	Pn	**Pn**	**15 14 50.1**	**-1.7**
	8.3nm,0.3s,baz=180,slow=5.1,SNR=1.4						
DAV				Sn	**Sn**	**15 15 47.3**	**+2.0**
	12nm,0.3s,baz=269,slow=14,SNR=1.5						
DAV				LR	LR	15 16 10.0	
	comp=Z,183nm,20.3s,baz=347,slow=33 26nm,0.3s						
KCP	**Kidapawan**	**5.01**	**314**	⇑*i*P	Pn	15 15 00.0	+4.1
KCP				*i* S	**Sn**	**15 15 46.6**	**-6.0**
SIJI	**Sorong**	**5.04**	**150**	Pn	**Pn**	**15 14 58.0**	**+1.7**
	1.5nm,0.3s,baz=151,slow=23,SNR=8.7						
SIJI				Sn	**Sn**	**15 15 50.5**	**-2.9**
	1.4nm,0.3s,baz=163,slow=23,SNR=1.9 2.7nm,0.3s						
SKMP	**Bagumbayan, Su**	**5.12**	**306**	⇑*e*P	**Pn**	**15 14 57.7**	**+0.4**
SANI	**Sanana**	**6.17**	**206**	P	**Pn**	**15 15 12.4**	**+0.7**
	18nm,0.9s,0.1nm						
GTOI	**Gorontalo**	**6.38**	**244**	P	**Pn**	**15 15 16.0**	**+1.3**
	20nm,1.0s,0.1nm						
MRSI	**Marisa**	**7.42**	**246**	P	**Pn**	**15 15 29.3**	**+0.4**
	123nm,0.6s,1μm0.4nm						
LUWI	**Luwuk**	**7.47**	**233**	Pn	**Pn**	**15 15 28.6**	**-1.1**
LUWI	**Luwuk**	**7.47**	**233**	P	**Pn**	**15 15 30.3**	**+0.6**
	50nm,1.0s,0.2nm						
TOLI2	**Tolitoli**	**8.29**	**253**		**Pn**	**15 15 39.6**	**-1.2**
APSI	**Ampana**	**8.33**	**238**	P	**Pn**	**15 15 41.8**	**+0.4**
	29nm,0.8s						
BKSI	**Bulukumba**	**12.28**	**224**	P	**Pn**	**15 16 37.5**	**+2.0**
MTN	**Manton Dam**	**16.43**	**172**	Pn	**Pn**	**15 17 30.2**	**-0.4**
MTN				IAmb	IAmb	15 18 13.9	
	comp=Z,74nm,1.4s						
SBUM	**Sibu**	**16.51**	**267**	Pn	**Pn**	**15 17 30.1**	**-1.7**
KNRA	**Kununurra**	**19.07**	**180**		**Pn**	**15 18 03.7**	**+0.6**
TPUB	**Ta-pu**	**21.17**	**339**	P	**P**	**15 18 21.8**	**-2.9**
FITZ	**Fitzroy Crossi**	**21.69**	**188**	P	**P**	**15 18 30.1**	**-0.2**
WB0	**Warramunga Arr**	**23.80**	**167**	P	**P**	**15 18 52.8**	**+0.8**
WB0				IAmb	IAmb	15 18 58.4	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**23.96**	**167**	P	**P**	**15 18 55.2**	**+1.8**
	comp=Z,1.1nm,0.5s,baz=346,slow=10,SNR=13 comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**23.96**	**167**	P	**P**	**15 18 52.8**	**-0.7**
ASAR	**Alice Springs**	**27.49**	**170**	P	**P**	**15 19 27.0**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=349,slow=8.0,SNR=14						
ASAR				PcP	**PcP**	**15 22 45.1**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=346,slow=2.3,SNR=6.9 comp=Z,0.3nm,0.4s						
KULM	**Kulim**	**28.04**	**275**	P	**P**	**15 19 29.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**32.70**	**299**	P	**P**	**15 20 11.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=116,slow=6.0,SNR=5.7 comp=Z,0.6nm,0.7s						
MJAR	**Matsushiro Arr**	**34.01**	**14**	P	**P**	**15 20 22.1**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=179,slow=9.6,SNR=4.0 comp=Z,1.0nm,0.8s						
BBOO	**Buckleboo**	**36.79**	**170**	P	**P**	**15 20 48.4**	**+1.7**
STKA	**Stephens Creek**	**37.27**	**162**	P	**P**	**15 20 52.0**	**+1.3**
	comp=Z,0.8nm,0.4

GO03	**Copiap**	**1.76**	**48**	⇓*iP*		**Pb**	**15 19 37.2**	**-0.4**
GO03				*i* S		**Sn**	**15 19 58.5**	**-0.4**
GO03				IAML			15 20 06.1	
	comp=N,3μm,0.4s							
GO03	**Copiap**	**1.76**	**48**	*eP*		**Pb**	**15 19 37.4**	**-0.2**
GO03				*eS*		**Sg**	**15 20 01.1**	**-0.1**
CO01	**Juntas del Tor**	**1.83**	**131**	Pn		**Pn**	**15 19 37.6**	**+0.4**
CO01	**Juntas del Tor**	**1.83**	**131**	⇓*iP*		**Pn**	**15 19 37.9**	**+0.7**
CO01				*i* S		**Sn**	**15 19 59.0**	**-2.0**
CO01				IAML			15 20 00.8	
	comp=N,3μm,0.3s							
CO01	**Juntas del Tor**	**1.83**	**131**	*eP*		**Pn**	**15 19 38.1**	**+0.9**
CO01				*eS*		**Sn**	**15 19 59.6**	**-1.4**
CO01				IAML			15 20 01.8	
	comp=Z,2μm,0.4s							
AC06	**Mina Casimiro**	**1.86**	**40**			**Pb**	**15 19 39.1**	**-0.2**
AC06	**Mina Casimiro**	**1.86**	**40**	⇑*iP*		**Pb**	**15 19 39.2**	**0.0**
AC06				IAML			15 20 06.6	
	comp=E,4μm,0.4s							
CO03	**El Pedregal**	**2.22**	**157**	Pn		**Pn**	**15 19 43.3**	**+0.9**
CO03	**El Pedregal**	**2.22**	**157**	⇑*iP*		**Pn**	**15 19 43.3**	**+0.9**
CO03				*eS*		**Sn**	**15 20 09.8**	**-0.5**
CO03				IAML			15 20 21.9	
	comp=E,3μm,0.5s							
CO03	**El Pedregal**	**2.22**	**157**	*eP*		Pn	15 19 38.1	-4.4
CO03				*eP*		**Pn**	**15 19 43.4**	**+0.9**
CO03				*eS*		**Sb**	**15 20 14.1**	**+0.7**
CO03				IAML			15 20 15.8	
	comp=Z,1μm,0.6s							
AROD	**Rodeo**	**2.37**	**126**	*eP*		**Pn**	**15 19 47.0**	**+2.3**
AROD				*eP*		**Pb**	**15 19 47.4**	**-0.9**
AROD				*eS*		**Sn**	**15 20 16.7**	**+2.2**
CO02	**Combarbal**	**2.48**	**166**			**Pn**	**15 19 47.1**	**+1.0**
CO02	**Combarbal**	**2.48**	**166**	*eP*		**Pn**	**15 19 47.1**	**+1.0**
CO02	**Combarbal**	**2.48**	**166**	*eP*		**Pn**	**15 19 47.0**	**+1.0**
CO02				*eS*		**Sn**	**15 20 17.6**	**+0.8**
CO02				IAML			15 20 25.8	
	comp=Z,3μm,0.5s							
ACDV	**Cuesta del Vie**	**2.63**	**122**	*eP*		**Pb**	**15 19 52.0**	**-0.6**
ACDV				IAML			15 20 32.5	
	comp=Z,876nm,0.5s							
AC01	**Pan de Azucar**	**2.81**	**21**	Pn		**Pn**	**15 19 50.9**	**+0.5**
AC01	**Pan de Azucar**	**2.81**	**21**	IAML			15 20 44.1	
	comp=E,910nm,0.4s							
AC01	**Pan de Azucar**	**2.81**	**21**	*eP*		**Pn**	**15 19 51.0**	**+0.5**
AC01				*eS*		**Sn**	**15 20 25.5**	**+0.7**
AC01				*eS*		**Sb**	**15 20 31.6**	**+1.3**
AC01				IAML			15 20 40.0	
	comp=Z,840nm,0.8s							
ACCO	**Cerro Coronel**	**2.90**	**129**	*eP*		**Pn**	**15 19 55.0**	**+3.0**
ACCO				*eP*		**Pn**	**15 19 55.1**	**+3.0**
ACCO				*eS*		**Sb**	**15 20 34.3**	**+1.0**
AC02	**Maricunga**	**2.99**	**50**			**Pn**	**15 19 54.3**	**+0.9**
AC02	**Maricunga**	**2.99**	**50**	⇑*iP*		**Pn**	**15 19 55.6**	**+2.2**
AC02	**Maricunga**	**2.99**	**50**	*eP*		**Pn**	**15 19 55.0**	**+1.6**
AC02				*eS*		**Sn**	**15 20 31.1**	**+1.0**
AC02				IAML			15 20 41.0	
	comp=Z,911nm,0.9s							
VCA	**Vinchina**	**3.06**	**90**	*eP*		**Pb**	**15 19 58.0**	**-1.9**
VCA				*eP*		Pn	15 19 59.1	+5.0
VCA				*eS*		**Sn**	**15 20 34.6**	**+3.3**
VCA				IAML			15 20 48.3	
	comp=Z,1μm,0.8s							
RTLL	**Cerro Villicun**	**3.77**	**133**	*eP*		**Pn**	**15 20 06.8**	**+3.1**
RTLL				*eS*		**Sn**	**15 20 50.6**	**+2.1**
VA06	**Catapilco**	**3.77**	**175**			**Pn**	**15 20 04.1**	**+0.4**
VA03	**San Esteban**	**4.08**	**166**			**Pn**	**15 20 08.8**	**+0.7**
VA03	**San Esteban**	**4.08**	**166**	*eP*		**Pn**	**15 20 09.8**	**+1.8**
VA03				*eP*		Pb	15 20 10.1	-7.2
VA03				*eS*		**Sb**	**15 21 03.6**	**-3.3**
VA03				IAML			15 21 17.0	
	comp=Z,619nm,0.6s							
CFA	**Coronel Fontan**	**4.10**	**134**	Pn		**Pn**	**15 20 10.4**	**+2.1**
	comp=Z,23nm,0.3s,baz=325,slow=11,SNR=136							
CFA				Sn		**Sn**	**15 20 53.2**	**-3.5**
	comp=Z,17nm,0.3s,baz=52,slow=19,SNR=3.6							
CFA				Lg		Lg	15 21 02.0	
	comp=Z,47nm,0.3s,baz=76,slow=17,SNR=9.9							
AVFE	**Valle Fertil**	**4.13**	**118**	*eP*		**Pn**	**15 20 10.9**	**+2.2**
AVFE				*eS*		**Sn**	**15 20 59.1**	**+1.6**
AVFE				IAML			15 21 18.2	
	comp=Z,472nm,0.6s							
ROC1	**El Roble**	**4.21**	**172**			**Pn**	**15 20 10.4**	**+0.4**
ROC1	**El Roble**	**4.21**	**172**	*eP*		**Pn**	**15 20 11.2**	**+1.2**
ROC1				*eS*		**Sb**	**15 21 14.8**	**+3.9**
VA01	**Torpederas**	**4.22**	**179**	Pn		**Pn**	**15 20 09.8**	**0.0**
PB14	**IPOC Station P**	**4.31**	**16**	Pn		**Pn**	**15 20 11.7**	**+0.4**
PB14	**IPOC Station P**	**4.31**	**16**	*eP*		**Pn**	**15 20 12.0**	**+0.7**
PB14				*eS*		**Sn**	**15 21 02.5**	**+0.3**
PB14				IAML			15 21 31.0	
	comp=Z,317nm,0.5s							
PEL	**Peldehue**	**4.42**	**169**	*eP*		**Pn**	**15 20 13.8**	**+1.1**
MT02	**Curacav**	**4.48**	**174**			**Pn**	**15 20 13.3**	**-0.1**
MT02	**Curacav**	**4.48**	**174**	*eP*		**Pn**	**15 20 14.0**	**+0.6**
MT02				*eS*		**Sn**	**15 21 11.1**	**+5.1**
MT02				IAML			15 21 34.9	
	comp=Z,309nm,0.6s							
MT05	**Renca**	**4.66**	**170**	Pn		**Pn**	**15 20 15.8**	**-0.2**
MT05	**Renca**	**4.66**	**170**	*eP*		**Pn**	**15 20 18.2**	**+2.2**
MT05				*eS*		**Sn**	**15 21 11.7**	**+1.2**
MT05				IAML			15 21 37.1	
	comp=Z,424nm,1.1s							
MT03	**Universidad Ad**	**4.79**	**168**			**Pn**	**15 20 17.1**	**-0.8**
MT03	**Universidad Ad**	**4.79**	**168**	*eP*		**Pn**	**15 20 20.4**	**+2.5**
MT03				*eS*		**Sn**	**15 21 16.2**	**+2.2**
MT03				*eS*		**Sb**	**15 21 31.6**	**+4.0**
MT03				IAML			15 21 47.6	
	comp=Z,444nm,0.8s							
VA05	**Santo Domingo**	**4.85**	**179**			**Pn**	**15 20 18.3**	**-0.2**
ACHE	**Chepes**	**4.96**	**120**	*eP*		Pn	15 20 10.1	-10
ACHE				*eS*		**Sb**	**15 21 31.6**	**-0.8**
MT09	**Talagante**	**5.00**	**173**			**Pn**	**15 20 20.7**	**-0.1**
MT01	**Popeta**	**5.07**	**176**			**Pn**	**15 20 21.8**	**+0.3**
MT01	**Popeta**	**5.07**	**176**	*eP*		**Pn**	**15 20 22.8**	**+1.3**
MT01				*eS*		**Sb**	**15 21 32.6**	**-2.8**
MT01				IAML			15 21 41.1	
	comp=Z,264nm,0.6s							
CYA	**Choya**	**5.19**	**88**	*eP*		**Pn**	**15 20 25.3**	**+2.1**
CYA				*eS*		**Sn**	**15 21 28.5**	**+4.9**
CYA				IAML			15 21 30.1	
	comp=Z,312nm,0.6s							
PB10	**IPOC Station P**	**5.36**	**11**			**Pn**	**15 20 24.8**	**-0.7**
PB10	**IPOC Station P**	**5.36**	**11**	*eP*		**Pn**	**15 20 25.6**	**+0.1**
PB10				IAML			15 22 07.2	
	comp=Z,122nm,0.8s							
BO01	**Tunca**	**5.61**	**175**	Pn		**Pn**	**15 20 27.9**	**-1.0**
PB15	**IPOC Station P**	**5.91**	**20**			**Pn**	**15 20 33.2**	**-0.1**
BO02	**Sierra Bellavi**	**6.03**	**173**			**Pn**	**15 20 34.2**	**-0.6**
GO05	**Huala**	**6.20**	**182**	Pn		**Pn**	**15 20 36.6**	**-0.5**
PB06	**IPOC Station P**	**6.36**	**18**	Pn		**Pn**	**15 20 38.8**	**-0.6**
PB04	**IPOC Station P**	**6.58**	**13**			**Pn**	**15 20 41.2**	**-1.2**
LVC	**Limon Verde**	**6.65**	**23**	Pn		**Pn**	**15 20 44.2**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=199,slow=10.0,SNR=23							
LVC				Sn		**Sn**	**15 21 57.6**	**-2.4**
	comp=Z,6.4nm,0.3s,baz=133,slow=2.8,SNR=4.9							
LVC				Lg		Lg	15 22 23.3	
	comp=Z,9.0nm,0.3s,baz=64,slow=19,SNR=9.1							
	comp=Z,2.4nm,0.3s							
LVC	**Limon Verde**	**6.65**	**23**	Pn		**Pn**	**15 20 43.5**	**-0.1**
LVC	**Limon Verde**	**6.65**	**23**	*eP*		Pn	15 20 50.8	+7.2
PB03	**IPOC Station P**	**6.94**	**15**			**Pn**	**15 20 46.9**	**-0.5**
ML02	**Panimavida**	**6.95**	**178**			**Pn**	**15 20 46.5**	**-0.9**
PB07	**IPOC Station P**	**7.22**	**13**			**Pn**	**15 20 50.7**	**-0.6**
PB09	**IPOC Station P**	**7.31**	**18**			**Pn**	**15 20 52.4**	**-0.1**
H03N1	**Juan Fernandez**	**7.73**	**231**	Pn		**Pn**	**15 20 59.0**	**+1.2**
	baz=112,slow=18							
H03N1				Sn		**Sn**	**15 22 22.1**	**-3.6**
	baz=279,slow=7.7							
H03N1				T		T	15 28 51.8	
	baz=60,slow=72,SNR=4777							
H03N2	**Juan Fernandez**	**7.74**	**231**	Pn		**Pn**	**15 20 59.3**	**+1.4**
	baz=112,slow=18							
H03N2				Sn		**Sn**	**15 22 23.0**	**-3.0**
	baz=279,slow=7.7							
H03N2				T		T	15 28 55.4	
	baz=60,slow=72,SNR=3348							
H03N3	**Juan Fernandez**	**7.75**	**231**	Pn		**Pn**	**15 20 59.1**	**+1.0**
	baz=112,slow=18							
H03N3				Sn		**Sn**	**15 22 22.8**	**-3.3**
	baz=279,slow=7.7							
H03N3				T		T	15 28 58.7	
	baz=60,slow=72,SNR=2694							
VA04	**Juan Fernndez**	**7.79**	**230**	Pn		**Pn**	**15 20 59.2**	**+0.3**
H03S3	**Juan Fernandez**	**7.95**	**229**	Pn		**Pn**	**15 21 02.0**	**+1.1**
	baz=54,slow=74							
H03S3				Sn		**Sn**	**15 22 26.7**	**-4.5**
	baz=324,slow=18							
H03S1	**Juan Fernandez**	**7.96**	**229**	Pn		**Pn**	**15 21 01.6**	**+0.6**
	baz=324,slow=18							
H03S1				Sn		**Sn**	**15 22 24.7**	**-6.7**
H03S2	**Juan Fernandez**	**7.97**	**229**	Pn		**Pn**	**15 21 02.0**	**+0.9**
	baz=246,slow=74							
H03S2				Sn		**Sn**	**15 22 24.4**	**-7.3**
	baz=324,slow=18							
PB01	**IPOC Station P**	**7.97**	**15**	Pn		**Pn**	**15 21 00.0**	**-1.5**
PSGCX	**Pisagua**	**9.27**	**9**	Pn		**Pn**	**15 21 17.7**	**-1.6**
GO01	**Chusmiza**	**9.36**	**15**	Pn		**Pn**	**15 21 21.0**	**0.0**
VACA	**Villa Angela C**	**9.76**	**86**	*eP*		**Pn**	**15 21 29.1**	**+3.2**
PB12	**IPOC Station P**	**10.21**	**7**	Pn		**Pn**	**15 21 30.6**	**-1.6**
MECA	**Mercedes**	**11.84**	**96**	*eP*		**Pn**	**15 21 52.9**	**-1.6**
PLCA	**Paso Flores**	**11.95**	**176**	Pn		**Pn**	**15 21 54.6**	**-1.4**
	baz=27,slow=16,SNR=1.6							
	comp=Z,1.8nm,1.1s							
PLCA	**Paso Flores**	**11.95**	**176**	*eP*		**Pn**	**15 21 58.4**	**+2.5**
TRQA	**Tornquist**	**12.29**	**141**			**Pn**	**15 21 59.1**	**-1.5**
LPAZ	**La Paz**	**12.87**	**16**	Pn		**Pn**	**15 22 09.3**	**+0.2**
LPAZ	**La Paz**	**12.87**	**16**	*eP*		Pn	15 22 13.6	+4.5
CPUP	**Villa Florida**	**12.98**	**82**	Pn		**Pn**	**15 22 07.3**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=257,slow=10,SNR=5.7							
CPUP				Sn		**Sn**	**15 24 29.7**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=184,slow=18,SNR=2.0							
	comp=Z,0.7nm,0.4s							
CPUP	**Villa Florida**	**12.98**	**82**	Pn		**Pn**	**15 22 07.7**	**-2.3**
CPUP	**Villa Florida**	**12.98**	**82**	*eP*		**Pn**	**15 22 08.3**	**-1.7**
ITQB	**Itaqui**	**13.19**	**97**	*eP*		**Pn**	**15 22 11.3**	**-1.6**
AZCA	**Azaras, Argent**	**13.85**	**91**	*eP*		**Pn**	**15 22 19.9**	**-1.9**
RODS	**Rosario do Sul**	**14.44**	**100**	*eP*		**Pn**	**15 22 28.1**	**-1.9**
UNIS	**Unistalda (Bra**	**14.56**	**95**	*eP*		**Pn**	**15 22 31.0**	**-0.6**
MURT	**Porto Murtinho**	**14.58**	**64**	*eP*		**P**	**15 22 38.4**	**-0.2**
BBRB	**Robore, Bolivi**	**15.10**	**49**	*eP*		**P**	**15 22 41.4**	**-2.9**
BBSD	**Serra de San D**	**15.40**	**44**	*eP*		**P**	**15 22 46.1**	**-1.6**
BBLB	**La Banda, Boli**	**15.51**	**52**	*eP*		**P**	**15 22 55.3**	**+6.3**
CRSM	**Crissiumal (Br**	**15.63**	**89**	*eP*		**P**	**15 22 49.4**	**-0.7**
ANTJ	**Antonio Joao (**	**15.70**	**68**	*eP*		**P**	**15 22 55.8**	**+4.8**
PLTB	**Pedras Altas**	**15.91**	**105**	Pn		**Pn**	**15 22 47.0**	**-2.5**
PLTB	**Pedras Altas**	**15.91**	**105**	*eP*		**Pn**	**15 22 47.0**	**-2.5**
CPSB	**Cacapava Do Su**	**15.96**	**100**	*eP*		**Pn**	**15 22 49.4**	**-0.8**
SIV	**San Ignacio**	**16.07**	**40**	Pn		**Pn**	**15 22 51.4**	**-0.4**
	baz=228,slow=13,SNR=4.4							
	comp=Z,2.9nm,0.8s							
AMBA	**Amambai (Brazi**	**16.12**	**73**	*eP*		**P**	**15 22 55.1**	**-0.6**
ALGR	**Alto Alegre (B**	**16.37**	**95**	*eP*		**Pn**	**15 22 57.1**	**+1.6**
AQDB	**Aquidauana**	**16.72**	**64**	*eP*		**P**	**15 23 04.9**	**+2.5**
FRBT	**Francisco Belt**	**16.79**	**85**	*eP*		**P**	**15 23 04.3**	**+1.2**
ITAB	**Concordia**	**17.35**	**90**	*eP*		**P**	**15 23 10.6**	**+1.3**
PTLB	**Pontes e Lacer**	**17.63**	**44**	*eP*		**P**	**15 23 16.5**	**+4.0**
RVDE	**Rio Verde (Bra**	**18.12**	**61**	*eP*		P	15 23 30.4	+13
TRCB	**Terra Rica**	**18.16**	**75**	*eP*		**P**	**15 23 23.5**	**+5.2**
VILB	**Vilhena**	**19.05**	**37**	*eP*		**Pn**	**15 23 35.2**	**+6.4**
SALV	**Santo Antonio**	**19.56**	**52**	*eP*		**P**	**15 23 33.8**	**+0.2**
ETMB	**Extrema**	**19.57**	**16**	*eP*		**Pn**	**15 23 36.7**	**+1.7**
TER01	**Tubaro-SC**	**19.80**	**95**	*eP*		**Pn**	**15 23 40.4**	**+2.6**
PCMB	**Pacaembu**	**19.81**	**73**	*eP*		**P**	**15 23 36.2**	**-0.2**
FRTB	**Fartura**	**20.60**	**80**	*eP*		**P**	**15 23 44.3**	**-0.7**
NBRS	**Nobres**	**20.61**	**49**	*eP*		**P**	**15 23 45.1**	**-0.1**
CZSB	**Cruzeiro do Su**	**20.97**	**357**	*eP*		Pn	15 23 52.8	+1.2
SAML	**Samuel**	**21.30**	**24**	P		**P**	**15 23 51.2**	**-1.3**
ITRB	**Iturama**	**21.43**	**70**	*eP*		**P**	**15 23 53.9**	**0.0**
DVLD	**Doverlandia**	**21.66**	**60**	*eP*		**P**	**15 23 56.6**	**+0.1**
PDRB	**Porto dos Gac**	**22.08**	**42**	*eP*		**P**	**15 24 02.8**	**+1.9**
PET01	**Itanhaem-SP**	**22.29**	**84**	*eP*		**P**	**15 24 08.9**	**+5.7**
BB19B	**Bebedouro**	**22.35**	**75**	*eP*		**P**	**15 24 02.0**	**-1.8**
SPB	**Sao Paulo**	**22.36**	**82**	*eP*		**P**	**15 24 09.1**	**+5.2**
ARAG	**Araguaiana, MT**	**22.50**	**59**	*eP*		**P**	**15 24 04.7**	**-0.7**
RCLB	**Rio Claro- Sao**	**22.67**	**79**	*eP*		**P**	**15 24 08.7**	**+1.4**
VAO	**Valinhos**	**22.96**	**81**	*eP*		**P**	**15 24 08.7**	**-1.7**
IPMB	**Ipameri, GO**	**24.04**	**69**	*eP*		**P**	**15 24 27.3**	**+6.1**
BDFB	**Brasilia**	**25.47**	**64**	P		**P**	**15 24 32.6**	**-1.5**
	comp=Z,3.3nm,0.8s,baz=244,slow=6.3,SNR=5.4							
	comp=Z,3.3nm,0.8s							
BDFB	**Brasilia**	**25.47**	**64**	P		**P**	**15 24 32.6**	**-1.5**
BDFB				IAmb		IAmb	15 24 46.8	
	comp=Z,4.6nm,0.8s							
BDFB	**Brasilia**	**25.47**	**64**	*eP*		**P**	**15 24 33.6**	**-0.6**
BSCB	**Bom Sucesso**	**25.58**	**78**	*eP*		**P**	**15 24 40.5**	**+5.4**
NPGB	**Novo Progresso**	**26.57**	**39**	*eP*		P	15 24 53.0	+9.0
BAUV	**El Baul**	**37.68**	**6**	P		**P**	**15 26 20.5**	**-0.8**
SNAA	**Sanae**	**56.31**	**159**	P		**P**	**15 28 45.4**	**-0.9**
SNAA				IAmb		IAmb	15 28 55.4	
	comp=Z,3.0nm,0.7s							
QSPA	**South Pole Qui**	**61.43**	**180**	P		**P**	**15 29 22.3**	**+0.3**
QSPA				IAmb		IAmb	15 29 43.4	
	comp=Z,2.1nm,1.1s							
TXAR	**Lajitas Array**	**65.38**	**329**	P		**P**	**15 29 51.5**	**+2.9**
	comp=Z,0.5nm,0.7s,baz=161,slow=8.1,SNR=7.5							
	comp=Z,0.5nm,0.7s							
DBIC	**Dimbokro**	**73.28**	**72**	P		**P**	**15 30 36.5**	**-1.2**
	comp=Z,3.3nm,0.9s,baz=233,slow=8.6,SNR=5.2							
	comp=Z,3.3nm,0.9s							
PDAR	**Pinedale Array**	**79.27**	**333**	P		**P**	**15 31 13.1**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=128,slow=5.8,SNR=2.9							
	comp=Z,0.3nm,0.6s							
ULM	**Lac du Bonnet**	**81.57**	**345**	P		**P**	**15 31 24.6**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=173,slow=7.0,SNR=4.7							
	comp=Z,2.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.18**	**70**	P		**P**	**15 31 27.0**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=258,slow=5.1,SNR=15							
	comp=Z,3.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.18**	**70**	P		**P**	**15 31 26.5**	**-0.8**
TORD				IAmb		IAmb	15 31 28.0	
	comp=Z,2.1nm,0.8s							
BOSA	**Boshof**	**82.25**	**118**	P		**P**	**15 31 27.2**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=240,slow=3.9,SNR=5.6							
	comp=Z,2.5nm,0.8s							
BOSA	**Boshof**	**82.25**	**118**	P		**P**	**15 31 27.2**	**-0.6**
BOSA				IAmb		IAmb	15 31 27.7	
	comp=Z,5.3nm,1.1s							
LBTB	**Lobatse**	**84.24**	**115**	P		**P**	**15 31 36.4**	**-1.7**
BRTR	**Keskin Array B**	**118.95**	**58**	PKP		**PKiKP**	**15 37 54.6**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=5.7,slow=2.9,SNR=3.6							
ASAR	**Alice Springs**	**122.31**	**208**	PKP		**PKPdf**	**15 38 01.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=140,slow=1.5,SNR=5.9							
WRA	**Warramunga Arr**	**125.42**	**210**	PKP		**PKiKP**	**15 38 07.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=160,slow=1.7,SNR=11							
H11S2	**WAKE ISLAND Hyl**	**25.98**	**273**	T		T	17 57 03.7	
	baz=115,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hyl**	**25.99**	**273**	T		T	17 57 00.3	
	baz=115,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hyl**	**26.00**	**273**	T		T	17 57 00.8	
	baz=115,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hyl**	**26.26**	**274**	T		T	17 57 18.3	
	baz=113,slow=75,SNR=31							
H11N1	**WAKE ISLAND Hyl**	**26.28**	**274**	T		T	17 57 18.8	
	baz=113,slow=75,SNR=9.8							
H11N2	**WAKE ISLAND Hyl**	**26.28**	**274**	T		T	17 57 18.9	
	baz=113,slow=75,SNR=27							
ZALV	**Zalesovo Beam**	**149.58**	**28**	PKPbc		**PKiKP**	**15 38 55.1**	**-1.0**
	comp=Z,5.1nm,0.6s,baz=310,slow=3.5,SNR=21							
MKAR	**Makanchi Array**	**152.89**	**41**	PKPbc		**PKiKP**	**15 39 03.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=328,slow=2.3,SNR=16							

WEL 01 15:40:03.9±0.6, 42°S±3°×17°4E±°, h6km±4km, M2.2/9, ML2.6/8, MLv2.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=132.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.30**	**16**	P	Pg	15 40 10.3	+0.6
BSWZ				S	Sg	15 40 15.0	+1.3
KHZ	**Kahutara**	**0.45**	**202**	P	Pg	15 40 13.1	+0.6
KHZ				S	Sg	15 40 19.7	+1.3
TUWZ	**Tuamarina**	**0.59**	**13**	P	Pg	15 40 15.7	+0.5
TUWZ				S	Sb	15 40 24.5	-0.7
THZ	**Tophouse**	**0.69**	**290**	P	Pg	15 40 17.4	+0.3
THZ				S	Sg	15 40 26.9	+0.8
NNZ	**Nelson**	**0.84**	**340**	P	Pg	15 40 19.9	-0.1
TCW	**Tory Channel**	**0.88**	**26**	P	Pg	15 40 20.6	-0.3
MRNZ	**Matariki Terra**	**0.97**	**308**	P	Pg	15 40 22.7	+0.2
MRNZ				S	Sb	15 40 36.4	+0.4
WEL	**Wellington**	**1.04**	**47**	P	Pb	15 40 24.2	-0.1
CAW	**Cannon Point**	**1.32**	**48**	P	Pn	15 40 27.6	-1.3
LTZ	**Lake Taylor**	**1.35**	**234**	P	Pn	15 40 28.8	-0.6

IDC 01 15:48:29.9±29.0, 18°98S×173°57W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=535.7km

s-min=178.1km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.82**	**261**	P	P	15 55 48.9	+0.4
	3.4nm,1.1s,baz=91,slow=10.0,SNR=6.0						
	3.4nm,1.1s						
STKA	**Stephens Creek**	**42.20**	**243**	P	P	15 56 24.9	+0.1
	0.9nm,0.5s,baz=100,slow=11,SNR=3.0						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**48.94**	**255**	P	P	15 57 17.9	-0.5
	0.8nm,0.6s,baz=90,slow=8.3,SNR=36						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**48.96**	**260**	P	P	15 57 18.1	-0.4
	0.3nm,0.5s,baz=99,slow=7.9,SNR=2.1						
	0.3nm,0.5s						

*SCB **01** 15:58:50.8±1.0, 20°71S×67°93W, h152km±16km, ML2.6/2, MW4.4, Error ellipse: s-maj=4.5km s-min=3.4km az=0.0*

ISC 01 15:58:49.7±2.0, 20°73S±0°05×67°96W±0°06, h178km±19km, n26, σ0°95/39, 12C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**1.26**	**297**	⇑*iP*		**Pn**	**15 59 20.6**	**+0.8**
PB08				*i* S		**Sn**	**15 59 43.6**	**+0.6**
PB08				IAML			15 59 45.7	
	comp=N,37nm,0.2s							
PB01	**IPOC Station P**	**1.46**	**257**	⇑*iP*		**Pn**	**15 59 21.4**	**+0.2**
PB01				*i* S		**Sn**	**15 59 45.0**	**-0.6**
PB01				IAML			15 59 46.5	
	comp=E,82nm,0.3s							
GO01	**Chusmiza**	**1.57**	**312**	⇑*iP*		**Pn**	**15 59 23.4**	**+0.7**
GO01				IAML			15 59 56.7	
	comp=N,110nm,0.1s							
GO01	**Chusmiza**	**1.57**	**312**	Pg		**Pn**	**15 59 23.4**	**+0.7**
PB09	**IPOC Station P**	**1.60**	**228**	⇑*iP*		**Pn**	**15 59 23.5**	**+0.9**
PB09				IAML			15 59 51.2	
	comp=E,29nm,0.2s							
PB11	**IPOC Station P**	**1.86**	**301**	⇑*iP*		**Pn**	**15 59 25.8**	**+0.5**
PB11				*i* S		**Sn**	**15 59 52.6**	**-0.3**
PB11				IAML			15 59 54.9	
	comp=E,146nm,0.2s							
PB02	**IPOC Station P**	**1.90**	**252**	⇓*iP*		**Pn**	**15 59 26.2**	**+0.6**
PB02				*i* S		**Sn**	**15 59 52.8**	**-0.8**
PB02				IAML			15 59 53.9	
	comp=N,174nm,0.3s							
PB02	**IPOC Station P**	**1.90**	**252**	Pg		**Pn**	**15 59 26.3**	**+0.6**
PB02				Sg		**Sn**	**15 59 52.9**	**-0.6**
PB02				IAML			15 59 53.6	
	comp=N,137nm,0.2s							
PB07	**IPOC Station P**	**2.05**	**241**	⇑*iP*		**Pn**	**15 59 27.8**	**+0.5**
PB07				IAML			15 59 56.7	

AF01				IAML		16 15 10.6
	comp=N,659nm,0.4s					
PB09	**IPOC Station P**	**0.77**	**313**	*eP*	Pn	16 14 55.4 +0.5
PB09				*i* S	Sn	16 15 10.0 +1.1
PB06	**IPOC Station P**	**0.94**	**246**	*eP*	Pn	16 14 57.1 +0.7
PB06				*i* S	Sn	16 15 13.1 +1.4
PB06				IAML		16 15 15.7
	comp=N,651nm,0.2s					
PB03	**IPOC Station P**	**1.07**	**285**	*eP*	Pn	16 14 58.4 +0.5
PB03				*i* S	Sn	16 15 15.2 +1.0
PB03				IAML		16 15 15.8
	comp=N,767nm,0.4s					
PB15	**IPOC Station P**	**1.16**	**221⇑**	*iP*	Pn	16 14 59.8 +0.8
PB15				*i* S	Sn	16 15 17.6 +1.5
PB07	**IPOC Station P**	**1.30**	**297**	*eP*	Pn	16 15 01.1 +0.6
PB07				*i* S	Sn	16 15 20.1 +1.1
PB07				IAML		16 15 21.2
	comp=N,645nm,0.2s					
PB04	**IPOC Station P**	**1.40**	**270**	*eP*	Pn	16 15 01.9 +0.3
PB04				*i* S	Sn	16 15 21.8 +0.9
PB04				IAML		16 15 25.0
	comp=N,332nm,0.3s					
PB01	**IPOC Station P**	**1.50**	**328**	*eP*	Pn	16 15 03.7 +0.8
PB01				*i* S	Sn	16 15 24.3 +1.3
PB01				IAML		16 15 25.7
	comp=N,160nm,0.2s					
PB02	**IPOC Station P**	**1.54**	**310**	*eP*	Pn	16 15 03.8 +0.5
PB02				*eS*	Sn	16 15 24.7 +0.8
PB02				IAML		16 15 28.0
	comp=E,381nm,0.4s					
PB10	**IPOC Station P**	**2.12**	**236**	*eP*	Pn	16 15 11.2 +0.6
PB10				*eS*	Sn	16 15 36.9 +0.1

IDC 01 16:24:27.4±2.3, 6.84S×129.25E, h0km, mb3.7/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=171.7km s-min=31.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.93**	**160**	Pn	Pn	16 27 45.5	-0.8
	0.2nm,0.3s,baz=342,slow=13,SNR=2.5						
WRA				Sn	Sn	16 30 07.6	-14
	0.2nm,0.3s,baz=338,slow=23,SNR=1.9 0.7nm,0.9s						
ASAR	**Alice Springs**	**17.32**	**166**	P	Pn	16 28 31.3	+0.5
	0.2nm,0.3s,baz=346,slow=11,SNR=16						
ASAR				S	Sn	16 31 31.4	-13
	0.6nm,1.0s,baz=355,slow=26,SNR=1.1 0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	16 35 26.6	0.0
	0.4nm,0.5s,baz=128,slow=7.9,SNR=7.7 0.4nm,0.5s						

IDC 01 16:32:21.0±65.0, 16.44S×176.19W, h401km±175km, mb3.0/3, mbtmp3.9/4, Error ellipse: s-maj=912.8km s-min=157.2km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.66**	**256**	P	P	16 33 50.2	+0.3
	17nm,0.4s,baz=56,slow=16,SNR=21						
STKA	**Stephens Creek**	**41.20**	**240**	P	P	16 39 28.4	-0.3
	1.4nm,0.7s,baz=99,slow=9.4,SNR=1.9 1.4nm,0.7s						
WRA	**Warramunga Arr**	**47.00**	**258**	P	P	16 40 14.4	+0.1
	0.6nm,0.8s,baz=90,slow=7.4,SNR=3.1 0.6nm,0.8s						
ASAR	**Alice Springs**	**47.24**	**253**	P	P	16 40 16.1	-0.1
	1.1nm,0.5s,baz=88,slow=8.1,SNR=42 1.1nm,0.5s						

ANF 01 16:33:55.4±0.9, 55.10N×138.19W, h0km, ML3.7/2, Error ellipse: s-maj=9.5km s-min=5.2km az=37.0, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIT	**Sitka**	**2.53**	**38**	S	Sn	16 35 10.5	+1.2
	baz=220						
CRAG	**Craig**	**2.92**	**81**	S	Sn	16 35 16.9	-1.9
	baz=265						
U33K	**Whale Pass**	**3.05**	**68**	P	Pn	16 34 43.9	-0.9
	baz=253						
U33K				S	Sn	16 35 21.6	-0.3
	baz=253						
S31K	**Pelican**	**3.07**	**20**	P	Pn	16 34 44.8	-0.3
	baz=202						
S31K				S	Sn	16 35 22.3	-0.1
	baz=202						
S32K	**Killisnoo**	**3.11**	**39**	P	Pn	16 34 46.3	+0.6
	baz=222						
S32K				S	Sn	16 35 25.8	+2.3
	baz=222						
WRAK	**Wrangell Islan**	**3.56**	**66**	P	Pn	16 34 51.9	+0.1
	baz=251						
WRAK				S	Sn	16 35 35.4	+1.0
	baz=251						
R31K	**City Hall, Gus**	**3.58**	**21**	S	Sn	16 35 36.9	+1.8
	baz=203						
V35K	**Ketchikan**	**3.77**	**84**	P	Pn	16 34 53.3	-1.5
	baz=269						
V35K				S	Sn	16 35 38.8	-1.0
	baz=269						
PLBC	**Pleasant Camp**	**4.48**	**12**	P	Pn	16 35 05.4	+0.9
	baz=194,SNR=26						
PLBC				S	Sn	16 35 58.9	+1.7
	baz=194						
PNL	**Peninsula**	**4.63**	**352**	P	Pn	16 35 06.4	-0.1
	baz=171						
PNL				S	Sn	16 35 59.9	-1.1
	baz=171						
S34M	**Telegraph Cree**	**4.82**	**51**	S	Sn	16 36 07.2	+1.6
	baz=237						
T35M	**Bob Quinn**	**4.83**	**64**	P	Pn	16 35 08.9	-0.5
	baz=250						
T35M				S	Sn	16 36 08.0	+2.0
	baz=250						
PINM	**Pinnacle**	**5.13**	**348**	P	Pn	16 35 13.2	-0.3
	baz=167,SNR=23						
PINM				S	Sn	16 36 12.3	-1.1
	baz=167						
O29M	**Mount Kennedy**	**5.22**	**358**	P	Pn	16 35 14.7	-0.1
	baz=178						
O29M				S	Sn	16 36 15.0	-0.7
	baz=178						
DLBC	**Dease Lake**	**5.60**	**50**	P	Pn	16 35 21.1	+1.2
	baz=237						
O28M	**Mount Upton**	**5.79**	**350**	P	Pn	16 35 22.7	0.0
	baz=168						
O28M				S	Sn	16 36 27.8	-2.0
	baz=168						
O30N	**Mendenhall**	**5.79**	**10**	S	Sn	16 36 31.0	+1.3
	baz=192						
WHY	**Whitehorse**	**5.85**	**16**	P	Pn	16 35 25.1	+1.7
	baz=199,SNR=28						
WHY				S	Sn	16 36 32.7	+1.6
	baz=199						
YUK6	**Outpost Mounta**	**5.86**	**359**	P	Pn	16 35 25.0	+1.3
	baz=179						
DAWY	**Dawson**	**9.01**	**357**	P	Pn	16 36 07.8	+1.1
	baz=176,SNR=15						

*IDC **01** 16:50:46.5±3.2, 11.58S×162.94E, h58km±26km, mb3.6/6, mbtmp3.9/9, ML2.6/3, MS3.7/20, Error ellipse: s-maj=29.4km s-min=18.8km az=69.0*
ISC 01 16:50:44.3±1.0, 11.58S±0.1×163.1E±0.1, h35km, n25, σ1°40/11, mb3.9/6, MS3.6/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.67**	**303**	P	**Pn**	**16 51 38.6**	**+0.1**
	1μm,0.5s,baz=183,slow=5.7,SNR=25						
HNR				S	**Sn**	**16 52 23.2**	**+2.6**
	2μm,0.7s,baz=176,slow=14,SNR=3.5						
DZM	**Mont Dzumac**	**11.02**	**163**	P	**Pn**	**16 53 21.3**	**+1.6**
	0.2nm,0.3s,baz=323,slow=20,SNR=8.5 5.6nm,1.0s						
PMG	**Port Moresby**	**15.77**	**276**	P	**Pn**	**16 54 23.5**	**-0.3**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.7						
PMG				LR	LR	17 01 07.8	
	comp=Z,665nm,18.1s,baz=86,slow=40 7.1nm,0.9s						
CTA	**Charters Tower**	**18.28**	**240**	P	**Pn**	**16 54 55.6**	**+0.3**
	baz=64,slow=15,SNR=2.5						
CTA				LR	LR	17 01 48.4	
	comp=Z,266nm,18.1s,baz=70,slow=36 2.3nm,0.9s						
STKA	**Stephens Creek**	**28.35**	**221**	LR	LR	17 07 06.1	
	comp=Z,68nm,19.0s,baz=27,slow=35						
WRA	**Warramunga Arr**	**28.86**	**249**	P	**P**	**16 56 38.0**	**-1.9**
	1.4nm,0.8s,baz=78,slow=9.9,SNR=6.0 1.4nm,0.8s						
ASAR	**Alice Springs**	**30.25**	**242**	P	**P**	**16 56 50.6**	**-1.5**
	0.6nm,0.8s,baz=62,slow=10,SNR=7.3						
ASAR				LR	LR	17 09 04.8	
	comp=Z,144nm,18.5s,baz=132,slow=36 0.6nm,0.8s						
RPZ	**Rata Peaks**	**32.86**	**169**	LR	LR	17 10 19.9	
	comp=Z,116nm,18.3s,baz=350,slow=36						
SIJI	**Sorong**	**33.27**	**286**	LR	LR	17 11 39.3	
	comp=Z,121nm,19.6s,baz=41,slow=38						
BATI	**Baumata**	**38.69**	**268**	LR	LR	17 15 36.9	
	comp=Z,126nm,18.1s,baz=219,slow=39						
NWAO	**Narrogin (SRO)**	**47.04**	**236**	LR	LR	17 18 12.4	
	comp=Z,52nm,19.3s,slow=35						
JOW	**Kunigami**	**50.90**	**319**	LR	LR	17 21 52.5	
	comp=Z,46nm,18.1s,baz=82,slow=37						
MJAR	**Matsushiro Arr**	**53.19**	**335**	LR	LR	17 22 42.3	
	comp=Z,34nm,19.9s,baz=108,slow=36						
LEM	**Lembang**	**54.86**	**270**	LR	LR	17 27 12.8	
	comp=Z,40nm,18.1s,baz=184,slow=40						
KSRS	**Korea Array**	**58.78**	**328**	LR	LR	17 24 25.0	
	comp=Z,19nm,20.2s,baz=185,slow=34						
USRK	**Ussuriysk Ar.**	**62.19**	**335**	P	**P**	**17 01 01.7**	**-0.4**
	2.4nm,1.0s,baz=134,slow=5.5,SNR=5.1 2.4nm,1.0s						
PETK	**Petropavlovsk-**	**64.49**	**356**	LR	LR	17 24 50.0	
	comp=Z,30nm,20.6s,baz=105,slow=32						
SONM	**Songino Array**	**77.47**	**325**	P	**P**	**17 02 36.2**	**-0.1**
	2.2nm,1.1s,baz=141,slow=4.8,SNR=11						
SONM				LR	LR	17 36 49.1	
	comp=Z,28nm,19.5s,baz=62,slow=36 2.2nm,1.1s						
KDAK	**Kodiak Island**	**77.97**	**23**	LR	LR	17 33 36.8	
	comp=Z,49nm,19.5s,baz=241,slow=33						
PALK	**Pallekele**	**84.00**	**279**	LR	LR	17 44 23.8	
	comp=Z,26nm,18.8s,baz=239,slow=38						
ILAR	**Eielson Array**	**84.77**	**19**	P	**P**	**17 03 14.9**	**+0.3**
	0.2nm,0.8s,baz=226,slow=4.7,SNR=1.9						
ILAR				LR	LR	17 37 57.8	
	comp=Z,53nm,19.0s,baz=212,slow=33 0.2nm,0.8s						
YBH	**Yreka Blue Hor**	**86.09**	**46**	LR	LR	17 34 59.1	
	comp=Z,46nm,19.4s,baz=334,slow=31						
DLBC	**Dease Lake**	**88.05**	**29**	LR	LR	17 37 36.0	
	comp=Z,86nm,18.4s,baz=290,slow=32						
INK	**Inuvik**	**91.17**	**19**	LR	LR	17 44 16.4	
	comp=Z,43nm,20.5s,baz=266,slow=35						
MKAR	**Makanchi Array**	**92.03**	**317**	P	**P**	**17 03 49.2**	**-0.5**
	0.8nm,0.7s,baz=107,slow=5.3,SNR=9.4 0.8nm,0.7s						

*NEIC **01** 16:54:06.7±0.9, 21.12N±0.08×98.45E±0.04, h64km±7km, mb4.6/4, Error ellipse: s-maj=11.0km s-min=5.7km az=173.0*
ISC 01 16:54:04.2±1.2, 20.98N±0.05×98.33E±0.09, h10km, n12, σ2°01/11, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**2.06**	**111**	Pn	**Pn**	**16 54 38.6**	**-0.2**
CHTO	**Chiang Mai**	**2.23**	**165**	Pn	**Pn**	**16 54 41.9**	**+0.6**
MND	**Mandalay**	**2.31**	**297**	Pn	**Pn**	**16 54 43.1**	**+0.8**
CM31	**Chiang Mai Arr**	**2.58**	**167**		**Pn**	**16 54 47.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**2.58**	**167**		**Pn**	**16 54 47.1**	**+1.1**
PHRA	**Phrae**	**3.05**	**144**		**Pn**	**16 54 53.1**	**+0.6**
TNCH	**TengChong**	**4.03**	**2**	Pn	**Pn**	**16 55 05.8**	**-0.4**
TNCH				Pg	**Pg**	**16 55 22.7**	**+1.2**
TNCH				Sn	**Sb**	**16 56 04.3**	**-0.1**
TNCH				Sg	**Sg**	**16 56 16.2**	**+2.4**
TNCH				smax	smax		
	comp=N,75nm,1.1s						
TNCH				smax	smax		
	comp=E,88nm,0.6s						
TNCH				LR	LR		
	comp=N,140nm,3.1s						
TNCH				LR	LR		
	comp=E,130nm,3.1s						
TARG	**Taragay, Kyrgy**	**26.98**	**325**	P	**P**	**16 59 42.1**	**-4.6**
KS19	**Wonju Array Si**	**30.41**	**51**	P	P	17 00 10.0	-6.7
USA0B	**Ussuriysk Arra**	**36.22**	**42**	P	P	17 01 00.1	-7.2
USA0B				IAmb	IAmb	17 01 03.2	
	comp=Z,9.3nm,1.4s						
USRK	**Ussuriysk Ar.**	**36.22**	**42**	P	P	17 00 59.9	-7.4
BFO	**Black Forest**	**74.62**	**316**	P	P	17 05 38.5	-5.2
BFO				IAmb	IAmb	17 05 53.2	
	comp=Z,13nm,1.5s						

IDC 01 17:03:46.4±17.0, 19.07S×178.03W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=432.5km s-min=51.6km az=121.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.79**	**261**	P	P	17 12 02.3	0.0
	0.2nm,0.3s,baz=97,slow=7.6,SNR=7.5 0.2nm,0.3s						
ASAR	**Alice Springs**	**44.84**	**255**	P	P	17 12 02.5	-0.2
	0.9nm,0.7s,baz=89,slow=8.5,SNR=15 0.9nm,0.7s						
MJAR	**Matsushiro Arr**	**69.05**	**323**	P	P	17 14 53.9	-0.2
	0.8nm,0.8s,baz=154,slow=6.1,SNR=4.3 0.8nm,0.8s						

*TAP **01** 17:17:60.0, 24.80N×122.26E, h8km, ML2.6, C*
*JMA **01** 17:18:00.6±0.1, 24.76N±0.5×122.31E±0.2, h38km±2km, MV2.0/8, TAIWAN REGION*
ISC 01 17:17:59.2±1.1, 24.76N±0.03×122.31E±0.02, h15km±9km, n53, σ0°61/94, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.38**	**309⇑**	*iP*	**Pb**	**17 18 07.1**	**-0.6**
	baz=310						
TWB1				*i* S	**Sg**	**17 18 11.8**	**-0.4**
	baz=310						
TWC	**Suao**	**0.45**	**250**	*i* P	**Pb**	**17 18 08.3**	**-0.4**
	baz=242						
TWC				S	**Sb**	**17 18 14.7**	**-0.6**
	baz=242						
TIPB	**Shuangxi**	**0.49**	**295**	*i* P	**Pb**	**17 18 09.3**	**-0.2**
	baz=293						
TIPB				*eS*	**Sb**	**17 18 17.2**	**+0.7**
	baz=293						
ILA	**Ilan**	**0.51**	**270**	*eP*	**Pb**	**17 18 10.3**	**+0.5**
	baz=265						
ILA				*eS*	**Sb**	**17 18 17.1**	**-0.1**
	baz=265						
SXI1	**Grass Mountain**	**0.52**	**310**	*i* P	**Pb**	**17 18 09.9**	**-0.1**
	baz=310						
SXI1				*eS*	**Sb**	**17 18 17.2**	**-0.1**
	baz=310						
NDS	**Dongshan**	**0.56**	**257**	*eP*	**Pb**	**17 18 10.4**	**-0.2**
	baz=251						
NDS				*eS*	**Sb**	**17 18 18.5**	**0.0**
	baz=251						
NWF	**Wu-fen Shan**	**0.57**	**302**	P	**Pb**	**17 18 11.6**	**+0.7**
	baz=302						
NWF				*eS*	**Sb**	**17 18 19.5**	**+0.5**
	baz=302						
WFSB	**Wu-fen Shan**	**0.57**	**302**	*eP*	**Pb**	**17 18 11.6**	**+0.7**
	baz=302						
WFSB				*eS*	**Sb**	**17 18 19.5**	**+0.6**
	baz=302						
EWUT	**Wuta**	**0.58**	**237**	P	**Pb**	**17 18 10.9**	**-0.1**
	baz=231						
EWUT				*eS*	**Sb**	**17 18 18.9**	**-0.3**
	baz=231						
TWE	**Neicheng**	**0.59**	**266**	*eP*	**Pb**	**17 18 11.1**	**-0.1**
	baz=261						
TWE				*eS*	**Sb**	**17 18 19.4**	**0.0**
	baz=261						
ENA	**Nanau**	**0.62**	**237**	P	**Pb**	**17 18 11.7**	**0.0**
	baz=231						
ENA				S	**Sb**	**17 18 20.0**	**-0.2**
	baz=231						
TNOU	**National Taiwa**	**0.62**	**308**	P	**Pb**	**17 18 12.2**	**+0.5**
	baz=308						
TNOU				*eS*	**Sb**	**17 18 20.8**	**+0.5**
	baz=308						
JYNG	**Yonagunijimaku**	**0.65**	**118**	P	**Pb**	**17 18 12.8**	**+0.5**
JYNG				S	**Sb**	**17 18 21.8**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.66**	**270**	*eP*	**Pb**	**17 18 13.0**	**+0.6**
	baz=266						
FUSB				*eS*	**Sb**	**17 18 22.2**	**+0.8**
	baz=266						
ENTT	**Nioudou**	**0.69**	**260**	P	**Pb**	**17 18 13.3**	**+0.3**
	baz=255						
ENTT				*eS*	**Sb**	**17 18 22.9**	**+0.6**
	baz=255						
TWA	**Mucha**	**0.70**	**288**	P	**Pn**	**17 18 14.0**	**-0.5**
	baz=286						
TWA				*eS*	**Sb**	**17 18 23.4**	**+1.0**
	baz=286						
YOJ	**Yonaguni jima**	**0.70**	**115**	P	**Pb**	**17 18 13.7**	**+0.6**
YOJ				S	**Sb**	**17 18 23.2**	**+0.6**
NWRT	**Kuosheng**	**0.74**	**306**	*eP*	**Pb**	**17 18 14.0**	**+0.3**
	baz=306						
NWRT				*eS*	**Sb**	**17 18 23.8**	**+0.2**
	baz=306						
NWLT	**Wulai**	**0.74**	**271**	*eP*	**Pn**	**17 18 14.3**	**-0.8**
	baz=268						
NWLT				*eS*	**Sb**	**17 18 23.7**	**+0.1**
	baz=268						
NHDH	**Xindian Distri**	**0.74**	**286**	P	**Pn**	**17 18 15.0**	**-0.1**
	baz=283						
NHDH				*eS*	**Sn**	**17 18 25.0**	**-1.2**
	baz=283						
NDT	**Datong Townshi**	**0.75**	**258**	*eP*	**Pg**	**17 18 12.3**	**-1.5**
	baz=253						
NDT				*eS*	**Sb**	**17 18 23.2**	**-0.7**
	baz=253						
LATG	**Datong**	**0.75**	**252**	*i* P	**Pb**	**17 18 14.2**	**+0.2**
	baz=248						
LATG				S	**Sb**	**17 18 24.7**	**+0.6**
	baz=248						
YM01	**YM01**	**0.78**	**300**	*eP*	**Pn**	**17 18 15.1**	**-0.5**
	baz=299						
YM01				*eS*	**Sb**	**17 18 25.5**	**+0.8**
	baz=299						
YM08	**YM08**	**0.78**	**303**	*eP*	**Pb**	**17 18 14.6**	**+0.1**
	baz=302						
TWY	**Chenhua**	**0.82**	**308**	*eP*	**Pn**	**17 18 15.9**	**-0.3**
	baz=308						
TWY				*eS*	**Sn**	**17 18 27.2**	**-1.0**
	baz=308						
BACT	**New Taipei Cit**	**0.82**	**287**	*eP*	**Pb**	**17 18 15.3**	**+0.1**
	baz=285						
YHNB	**Yeheng**	**0.86**	**264**	*eP*	**Pn**	**17 18 16.3**	**-0.5**
	baz=261						
YHNB				*eS*	**Sb**	**17 18 27.6**	**+0.5**
	baz=261						
ETL	**Fush Village**	**0.87**	**226**	*eP*	**Pn**	**17 18 16.5**	**-0.4**
	baz=222						
ETL				*eS*	**Sn**	**17 18 28.9**	**-0.5**
	baz=222						
NSK	**Sanguang**	**0.87**	**264**	*eP*	**Pn**	**17 18 16.9**	**0.0**
	baz=261						
NSK				*eS*	**Sn**	**17 18 28.4**	**-1.1**
	baz=261						
NACB	**Ninganchiao**	**0.88**	**228**	*i* P	**Pb**	**17 18 16.4**	**+0.3**
	baz=224						
NACB				*eS*	**Sb**	**17 18 28.4**	**+0.6**
	baz=224						
TWS1	**Kuangyinshan**	**0.88**	**293**	*eP*	**Pn**	**17 18 17.6**	**+0.6**
	baz=291						
TWS1				*eS*	**Sn**	**17 18 29.0**	**-0.5**
	baz=291						
PCYT	**Pengchaiyu**	**0.89**	**346**	*eP*	**Pn**	**17 18 17.2**	**+0.1**
	baz=349						
NNSB	**Datong**	**0.91**	**249**	*eP*	**Pn**	**17 18 17.1**	**-0.5**
	baz=245						
NNSB				*eS*	**Sn**	**17 18 30.0**	**-0.4**
	baz=245						
NNSH	**Datong**	**0.91**	**249**	*eP*	**Pn**	**17 18 17.2**	**-0.3**
	baz=245						
NNSH				*eS*	**Sn**	**17 18 30.0**	**-0.4**
	baz=245						
NNS	**Nan Shan**	**0.92**	**250**	*eP*	**Pn**	**17 18 18.0**	**+0.4**
	baz=245						
NNS				*eS*	**Sn**	**17 18 30.8**	**+0.3**
	baz=245						
ETLH	**Xiulin Townshi**	**0.94**	**234**	*i* P	**Pn**	**17 18 17.5**	**-0.4**
	baz=230						
ETLH				*eS*	**Sb**	**17 18 29.9**	**+0.4**
	baz=230						
TWD	**Chiawan**	**0.94**	**224**	*eP*	**Pn**	**17 18 18.1**	**+0.2**
	baz=220						
NFF	**Wufeng Townshi**	**1.10**	**263**	P	**Pn**	**17 18 20.9**	**+0.8**
	baz=261						
NFF				*eS*	**Sn**	**17 18 35.9**	**+1.0**
	baz=261						
WHF	**Hehuan Shan**	**1.14**	**237**	*eP*	**Pn**	**17 18 21.4**	**+0.5**
	baz=234						
WHF				*eS*	**Sn**	**17 18 36.1**	**-0.4**
	baz=234						
LIOB	**Emei**	**1.19**	**265**	*eP*	**Pg**	**17 18 22.2**	**+0.2**
	baz=262						
LIOB				*eS*	**Sn**	**17 18 39.4**	**+2.3**
	baz=262						
NSTT	**Nanjuang**	**1.20**	**264**	*eP*	**Pg**	**17 18 22.3**	**-0.1**
	baz=261						
CHGB	**Renai**	**1.25**	**236**	*eP*	**Pg**	**17 18 23.7**	**+0.3**
	baz=233						
CHGB				*eS*	**Sg**	**17 18 40.2**	**+0.4**
	baz=233						
WUSB	**Renai**	**1.33**	**235**	*eP*	**Pg**	**17 18 25.1**	**+0.2**
	baz=232						
WUSB				*eS*	**Sg**	**17 18 42.5**	**+0.2**
	baz=232						
IRIF	**Iriomote-Funau**	**1.36**	**108**	P	**Pn**	**17 18 23.2**	**-0.4**
IRIF				S	**Sn**	**17 18 40.0**	**-1.3**
DPDB	**Guoxing**	**1.46**	**240**	*eP*	**Pg**	**17 18 28.1**	**+0.9**
	baz=238						
VWDT	**VWDT**	**1.47**	**227**	*eP*	**Pg**	**17 18 27.5**	**+0.1**
	baz=224						
HGSD	**Ruisui**	**1.50**	**213**	*eP*	**Pb**	**17 18 26.8**	**0.0**
	baz=210						
SMLT	**Sun Moon Lake**	**1.56**	**236**	*eP*	**Pg**	**17 18 30.1**	**+0.9**
	baz=233						
SSLB	**Suanglung**	**1.58**	**232**	*eP*	**Pg**	**17 18 29.2**	**-0.3**
	baz=230						
TYC	**Yuchr**	**1.58**	**237**	*eP*	**Pg**	**17 18 29.9**	**+0.3**
	baz=235						
JKRS	**Kuro-shima**	**1.63**	**108**	P	**Pn**	**17 18 27.6**	**+0.3**
JKRS				S	**Sn**	**17 18 46.8**	**-1.3**
YULB	**Yu-li**	**1.65**	**214**	*eP*	**Pb**	**17 18 28.5**	**-0.8**
	baz=212						
JIJ	**Ishigaki jima**	**1.71**	**103**	P	**Pn**	**17 18 28.5**	**0.0**
JIJ				*eS*	**Sn**	**17 18 49.3**	**-0.8**

WEL 01 17:23:00.5±0.3, 42.3S±3.17.4E±, h10km±3km, M3.3/64, ML3.3/19, MLv3.3/64, Error ellipse: s-maj=0.0km s-min=0.0km az=154.0, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**220**	P	Pb	17 23 04.7	-0.4
CMWZ				S	Sg	17 23 08.3	+2.5
BSWZ	**Blackbirch Sta**	**0.34**	**259**	P	Pg	17 23 07.9	+0.5
BSWZ				S	Sb	17 23 13.8	-0.3
TUWZ	**Tuamarina**	**0.36**	**307**	P	Pb	17 23 08.7	-0.2
TUWZ				S	Sb	17 23 14.9	+0.2
TCW	**Tory Channel**	**0.44**	**355**	P	Pb	17 23 10.3	0.0
TCW				S	Sb	17 23 17.0	+0.1
WEL	**Wellington**	**0.49**	**42**	P	Pb	17 23 11.5	+0.3
PLWZ	**Palliser**	**0.70**	**84**	P	Pb	17 23 15.0	+0.3
MSWZ	**Moikau Station**	**0.73**	**72**	P	Pn	17 23 16.0	-0.8
CAW	**Cannon Point**	**0.78**	**46**	P	Pb	17 23 16.2	+0.2
NNZ	**Nelson**	**0.83**	**301**	P	Pb	17 23 16.8	-0.1
PAWZ	**Paruwai Farm**	**0.87**	**72**	P	Pb	17 23 17.5	-0.1
PAWZ				S	Sn	17 23 31.4	0.0
DUWZ	**D'Urville Isla**	**0.90**	**340**	P	Pb	17 23 18.3	+0.2
KIW	**Kapiti Island**	**0.90**	**29**	P	Pb	17 23 18.3	+0.2
KHZ	**Kahutara**	**0.97**	**217**	P	Pg	17 23 18.3	-0.7
MTW	**Mount Morrison**	**1.01**	**61**	P	Pg	17 23 19.5	-0.3
OGWZ	**Otaki Gorge**	**1.05**	**38**	P	Pb	17 23 20.8	+0.2
TRWZ	**Traveller**	**1.05**	**77**	P	Pg	17 23 19.7	-1.0
THZ	**Tophouse**	**1.07**	**263**	P	Pg	17 23 20.5	-0.6
HOWZ	**Holdsworth Sta**	**1.17**	**50**	P	Pb	17 23 21.9	-

MRNZ	**Matariki Terra**	**1.21**	**281**	P		Pn	17 23 23.2	-0.2
TMWZ	**Te Maipa**	**1.29**	**66**	P		Pn	17 23 23.1	-1.5
MRZ	**Mangatainoka R**	**1.37**	**44**	P		Pn	17 23 24.9	-0.6
TIWZ	**Tintock**	**1.46**	**54**	P		Pn	17 23 25.8	-1.1
QRZ	**Quartz Range**	**1.59**	**301**	P		Pb	17 23 29.4	-0.4
CPWZ	**Castlepoint**	**1.59**	**63**	P		Pn	17 23 27.3	-1.3
OHWZ	**Ohakea**	**1.62**	**28**	P		Pb	17 23 30.2	-0.2
GVZ	**Greta Valley S**	**1.63**	**216**	P		Pn	17 23 27.1	-2.1
PRWZ	**Pori Road**	**1.65**	**49**	P		Pn	17 23 28.4	-1.0
POWZ	**Post Office Ro**	**1.66**	**41**	P		Pn	17 23 29.3	-0.2
BFZ	**Birch Farm**	**1.74**	**57**	P		Pn	17 23 28.8	-1.9
DSZ	**Denniston Nort**	**1.89**	**266**	P		Pn	17 23 32.6	-0.2
LTZ	**Lake Taylor**	**1.90**	**233**	P		Pn	17 23 31.3	-1.7
DVHZ	**Dannevirke**	**1.94**	**47**	P		Pn	17 23 32.0	-1.5
WAZ	**Wanganui**	**1.96**	**15**	P		Pb	17 23 36.5	+0.4
AMCZ	**Amberley**	**1.97**	**219**	P		Pg	17 23 38.4	+0.2
TSZ	**Takapari Road**	**2.01**	**38**	P		Pn	17 23 33.6	-0.9
PNHZ	**Pukenui**	**2.24**	**40**	P		Pn	17 23 36.4	-1.2
WPHZ	**Waipukurau**	**2.25**	**46**	P		Pn	17 23 37.0	-0.7
KHEZ	**Kahui Hut**	**2.36**	**354**	P		Pb	17 23 43.6	+0.5
NEZ	**North Egmont**	**2.38**	**356**	P		Pb	17 23 44.3	+0.8
OXZ	**Oxford**	**2.38**	**225**	P		Pn	17 23 36.9	-2.7
INZ	**Inchbonnie**	**2.40**	**242**	P		Pn	17 23 38.3	-1.4
MQZ	**McQueen's Vall**	**2.40**	**210**	P		Pn	17 23 36.1	-3.6
PKE	**Pukeiti**	**2.47**	**354**	P		Pb	17 23 45.5	+0.6
PKVZ	**Pokaka**	**2.48**	**19**	P		Pb	17 23 45.0	-0.1
MOVZ	**Moawhango**	**2.49**	**26**	P		Pb	17 23 45.6	+0.3
WNVZ	**Wahianoa**	**2.51**	**23**	P		Pb	17 23 46.4	+0.6
BHHZ	**Black Hill Sta**	**2.53**	**32**	P		Pn	17 23 41.9	+0.3
KRHZ	**Kereru**	**2.54**	**38**	P		Pn	17 23 40.2	-1.4
VRZ	**Vera Road**	**2.54**	**8**	P		Pn	17 23 43.7	+2.0
TUVZ	**Tukino**	**2.58**	**23**	P		Pb	17 23 46.8	-0.2
NGZ	**Ngauruhoe**	**2.65**	**22**	P		Pb	17 23 48.6	+0.5
SNVZ	**South Ngauruho**	**2.66**	**23**	P		Pb	17 23 48.5	+0.4
KAHZ	**Kahuranaki**	**2.68**	**47**	P		Pn	17 23 41.6	-2.1
OTVZ	**Oturere**	**2.68**	**23**	P		Pb	17 23 49.0	+0.4
NNVZ	**North Ngauruho**	**2.70**	**22**	P		Pn	17 23 45.2	+1.2
WTVZ	**West Tongariro**	**2.71**	**21**	P		Pb	17 23 47.8	-1.2
TWVZ	**Taurewa**	**2.71**	**19**	P		Pb	17 23 47.5	-1.6
ETVZ	**East Tongariro**	**2.72**	**23**	P		Pb	17 23 48.1	-1.2
TMVZ	**Te Maari**	**2.74**	**23**	P		Pn	17 23 44.8	+0.3
KRVZ	**Karewarewa**	**2.74**	**22**	P		Pb	17 23 49.0	-0.6
NTVZ	**North Tongarir**	**2.75**	**22**	P		Pn	17 23 45.3	+0.7
MHCZ	**Mount Hutt**	**2.77**	**226**	P		Pn	17 23 42.1	-2.9
WVZ	**Waitaha Valley**	**3.02**	**241**	P		Pn	17 23 47.6	-0.7
HIZ	**Hauiti**	**3.16**	**8**	P		Pn	17 23 52.6	+2.4
RPZ	**Rata Peaks**	**3.18**	**228**	P		Pn	17 23 47.8	-2.6
TMZ	**Timaru**	**3.66**	**221**	P		Pn	17 23 54.3	-2.8
ODZ	**Otahua Downs**	**4.33**	**217**	P		Pn	17 24 03.2	-3.0
JCZ	**Jackson Bay**	**4.74**	**237**	P		Pn	17 24 10.6	-1.4
MBAZ	**Motutapu North**	**4.89**	**5**	P		Pb	17 24 20.4	-5.8

*IDC **01** 17:26:43.0±4.1,37°.58N×71°.95E,h92km±29km,mb3.5/9, mbtmp3.8/15,Error ellipse: s-maj=42.7km s-min=17.9km az=160.0*

*NNC **01** 17:26:49.7±5.3,38°.79N×72°.13E,h0km,mb3.8,mpv3.6, Error ellipse: s-maj=41.7km s-min=19.2km az=5.0*

ISC 01 17:26:46.1±0.7,**37°.62N**±0.07×**71°.91E**±0.07,**h130**km,**n38,** σ1**°90**/36,**mb3.7**/8,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.79**	**180**	P	**Pn**	**17 27 46.0**	**+2.7**
CHCP	**Chirah Chowk**	**4.11**	**164**	P	**Pn**	**17 27 49.0**	**+1.7**
AML	**Almayashu**	**4.71**	**16**	P	**Pn**	**17 27 55.7**	**+0.1**
	SNR=145						
IUG	**Iuzhnay**	**4.75**	**343**	Pg	**Pn**	**17 27 57.7**	**+1.8**
	8.7nm,0.2s						
IUG				Lg	Lg	17 28 48.3	
	105nm,0.5s						
THW	**Thamme Wali**	**4.82**	**182**	P	**Pn**	**17 27 57.5**	**+0.6**
UCH	**Uchtor**	**5.01**	**23**	P	**Pn**	**17 27 59.9**	**+0.1**
	SNR=33						
MRKS	**Merke**	**5.21**	**11**	Pg	**Pn**	**17 28 02.5**	**+0.4**
	15nm,0.6s						
EKS2	**Erkin-Say**	**5.23**	**15**	P	**Pn**	**17 28 02.8**	**+0.5**
	SNR=18						
AAK	**Ala-Archa**	**5.38**	**21**	P	**Pn**	**17 28 05.0**	**+0.5**
	SNR=27						
AAK	**Ala-Archa**	**5.38**	**21**	P	**Pn**	**17 28 05.0**	**+0.5**
	12nm,0.3s,baz=152,slow=5.9,SNR=62						
AAK				S	**Sn**	**17 29 02.7**	**-2.8**
	24nm,0.5s,baz=322,slow=20,SNR=4.6						
KBK	**Karagaybulak**	**5.54**	**24**	P	**Pn**	**17 28 09.7**	**+3.2**
	SNR=7.9						
ULHL	**Ulahol**	**5.69**	**34**	P	**Pn**	**17 28 08.8**	**+0.2**
	SNR=10						
CHMS	**Chumysh**	**5.79**	**21**	P	**Pn**	**17 28 10.1**	**+0.3**
	SNR=16						
USP	**Ospenovka**	**5.97**	**18**	P	**Pn**	**17 28 12.1**	**-0.2**
	SNR=13						
TKM2	**Tokmak 2**	**6.00**	**27**	P	**Pn**	**17 28 12.7**	**0.0**
	SNR=16						
KST	**Kastek**	**6.24**	**28**	Pg	Pn	17 28 23.2	+7.4
	2.6nm,0.6s						
KST				Lg	Lg	17 29 31.9	
	13nm,0.7s						
KTBS	**Karatobe**	**7.08**	**29**	Pg	Pn	17 28 40.5	+13
	1.1nm,0.7s						
KTBS				Lg	Lg	17 30 02.2	
	15nm,1.1s						
GEYT	**Alibeck**	**10.93**	**276**	P	**Pn**	**17 29 18.4**	**-0.4**
	0.5nm,0.3s,baz=107,slow=10,SNR=5.1						
GEYT				S	**Sn**	**17 31 13.6**	**-5.6**
	0.8nm,0.3s,baz=118,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**11.96**	**37**	P	**Pn**	**17 29 30.8**	**-1.5**
	1.0nm,0.8s,baz=216,slow=12,SNR=11						
DANN	**Dangsing**	**13.57**	**130**	*eP*	Pn	17 29 49.9	-3.7
	7.4nm,0.2s						
DANN				*eS*	Sn	17 32 07.2	-16
KURBB	**Kurchatov Arra**	**13.83**	**18**	P	**Pn**	**17 29 53.3**	**-3.1**
	0.9nm,0.9s,baz=206,slow=12,SNR=6.2						
GKN	**Gorkha**	**14.36**	**128**	*eP*	Pn	17 30 00.1	-3.4
	7.1nm,0.3s						
GKN				*eS*	Sn	17 32 25.9	-16
DMN	**Daman**	**14.93**	**128**	*eP*	**Pn**	**17 30 08.5**	**-2.3**
	6.3nm,0.4s						
DMN				*eS*	Sn	17 32 39.9	-16
PKIN	**Phulchoki**	**15.13**	**128**	*eP*	**Pn**	**17 30 11.0**	**-2.4**
	2.7nm,0.2s						
PKIN				*eS*	Sn	17 32 44.6	-17
PKI	**Pulchoki**	**15.14**	**128**	*eP*	**Pn**	**17 30 10.9**	**-2.7**
	1.5nm,0.2s						
PKI				*eS*	Sn	17 32 44.5	-17
BVAR	**Borovoye Array**	**15.44**	**357**	P	**Pn**	**17 30 15.0**	**-1.7**
	2.0nm,0.5s,baz=166,slow=9.9,SNR=6.6						
JIRN	**Jiri**	**15.58**	**125**	*eP*	**Pn**	**17 30 16.0**	**-3.1**
	5.3nm,0.3s						
JIRN				*eS*	Sn	17 32 55.4	-17
AKTO	**Aktyubinsk**	**16.21**	**327**	P	**Pn**	**17 30 26.1**	**-0.2**
	1.1nm,0.4s,baz=129,slow=11,SNR=5.7						
ZALV	**Zalesovo Beam**	**18.59**	**24**	P	**P**	**17 30 52.9**	**-0.1**
	3.6nm,0.5s,baz=216,slow=11,SNR=14						
ARU	**Arti**	**20.83**	**339**	P	**P**	**17 31 18.4**	**+1.2**
	1.3nm,0.3s,baz=150,slow=4.4,SNR=5.1						
	1.3nm,0.3s						
SONM	**Songino Array**	**27.10**	**57**	P	**P**	**17 32 17.3**	**+0.6**
	0.3nm,0.7s,baz=238,slow=8.0,SNR=2.6						
	0.3nm,0.7s						
NRIK	**Noril'sk**	**32.89**	**10**	P	**P**	**17 33 08.3**	**+0.9**
	0.7nm,0.3s,baz=223,slow=3.6,SNR=4.3						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**36.97**	**325**	P	**P**	**17 33 43.7**	**+1.3**
	7.3nm,1.1s,baz=117,slow=7.5,SNR=5.1						
	7.3nm,1.1s						
NOA	**NORSAR Array B**	**43.93**	**322**	P	**P**	**17 34 41.1**	**+1.4**
	0.5nm,0.6s,baz=101,slow=7.3,SNR=1.5						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.47**	**269**	P	**P**	**17 37 23.2**	**+1.2**
	0.4nm,0.5s,baz=47,slow=8.0,SNR=4.5						
	0.4nm,0.5s						
INK	**Inuvik**	**72.68**	**10**	P	**P**	**17 38 00.7**	**+1.5**
	0.9nm,0.5s,baz=340,slow=6.1,SNR=9.6						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**73.50**	**16**	P	**P**	**17 38 04.3**	**+0.2**
	0.3nm,0.8s,baz=283,slow=4.5,SNR=3.5						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**80.09**	**3**	P	**P**	**17 38 42.3**	**+1.3**
	0.8nm,0.5s,baz=350,slow=5.6,SNR=21						
	0.8nm,0.5s						

*IDC **01** 17:46:59.8±1.2,43°.69S×74°.16W,h0km,mb4.0/5, mbtmp4.0/6,ML3.8/1,MS3.3/5,Error ellipse: s-maj=40.6km s-min=21.3km az=133.0*

*NEIC **01** 17:47:02.5±2.7,43°.45S±0°.05×74°.5W±0°.1,h19km±5km, mb4.2/11,ML4.0(GUC),Error ellipse: s-maj=14.5km s-min=6.9km az=88.0*

*GUC **01** 17:47:06.0±0.7,43°.47S×74°.20W,h19km±4km,ML4.0*

ISC 01 17:47:00.8±1.9,**43°.54S**±0°.03×**74°.49W**±0°.08,**h13**km±10km, **n52,** σ1**°29**/60,**mb4.1**/8,**MS3.5**/4,**2C-3D,Southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.74**	**55**		**Pg**	**17 47 15.9**	**+0.8**
GO07	**Milladeo Hill,**	**0.74**	**55**	⇓*iP*	**Pb**	**17 47 16.0**	**+0.5**
GO07				*i* S	**Sg**	**17 47 23.9**	**-0.9**
GO07				IAML		17 47 25.6	
	comp=E,33μm,0.7s						
LL07	**Hotel Espejo d**	**1.02**	**47**		**Pb**	**17 47 21.0**	**+0.7**
LL07	**Hotel Espejo d**	**1.02**	**47**	⇓*iP*	**Pb**	**17 47 21.0**	**+0.7**
LL07				*i* S	**Sb**	**17 47 32.3**	**-1.4**
LL07				IAML		17 47 34.5	
	comp=E,22μm,0.5s						
LL06	**Loncomilla**	**1.47**	**26**		**Pn**	**17 47 27.5**	**+0.5**
LL06	**Loncomilla**	**1.47**	**26**	⇑*iP*	**Pb**	**17 47 28.7**	**+0.8**
LL06				*i* S	**Sn**	**17 47 46.3**	**+0.2**
LL06				IAML		17 47 51.6	
	comp=N,6μm,0.4s						
AY01	**Puyuhuapi**	**1.59**	**124**		**Pb**	**17 47 30.4**	**+0.3**
AY01	**Puyuhuapi**	**1.59**	**124**	⇓*iP*	**Pb**	**17 47 30.4**	**+0.3**
AY01				*i* S	**Sb**	**17 47 50.4**	**+0.2**
AY01				IAML		17 47 54.5	
	comp=N,8μm,0.5s						
LL01	**San Ignacio de**	**1.92**	**53**		**Pn**	**17 47 33.8**	**+0.7**
LL01	**San Ignacio de**	**1.92**	**53**	⇑*iP*	**Pn**	**17 47 33.8**	**+0.7**
LL01				*i* S	**Sn**	**17 47 56.9**	**-0.2**
LL01				IAML		17 48 03.3	
	comp=E,1μm,0.4s						
LL05	**Los Muermos**	**2.26**	**20**		**Pn**	**17 47 38.6**	**+0.7**
LL05	**Los Muermos**	**2.26**	**20**	*eP*	**Pb**	**17 47 41.4**	**-0.1**
LL05				*i* S	**Sb**	**17 48 09.1**	**-0.3**
LL05				IAML		17 48 22.7	
	comp=N,1μm,0.4s						
COYC	**Coyhaique**	**2.66**	**141**		**Pb**	**17 47 46.4**	**-1.9**
COYC	**Coyhaique**	**2.66**	**141**	*eP*	**Pb**	**17 47 48.2**	**-0.1**
COYC				*i* S	**Sb**	**17 48 20.7**	**-0.3**
COYC				IAML		17 48 31.7	
	comp=E,448nm,0.5s						
LL03	**Petrohue**	**2.85**	**34**		**Pn**	**17 47 46.8**	**+0.7**
LL03	**Petrohue**	**2.85**	**34**	*eP*	**Pn**	**17 47 48.4**	**+2.3**
LL03				*i* S	**Sn**	**17 48 22.0**	**+1.7**
LL04	**Puerto Octay**	**3.05**	**31**	Pn	**Pn**	**17 47 49.8**	**+1.1**
LL04	**Puerto Octay**	**3.05**	**31**	*eP*	**Pn**	**17 47 50.1**	**+1.4**
LL04				*i* S	**Sn**	**17 48 23.8**	**-1.3**
LR04	**Corral**	**3.74**	**13**	Pn	**Pn**	**17 47 58.3**	**+0.1**
PLCA	**Paso Flores**	**4.06**	**48**	Pn	**Pn**	**17 48 04.2**	**+1.5**
	comp=E,1.4nm,0.3s,baz=231,slow=11,SNR=26						
PLCA				Pg	**Pb**	**17 48 12.7**	**+0.6**
	comp=E,2.5nm,0.3s,baz=220,slow=16,SNR=14						
PLCA				Sn	**Sn**	**17 48 50.0**	**-0.1**
	comp=E,4.3nm,0.3s,baz=240,slow=20,SNR=3.1						
PLCA				Lg	Lg	17 49 06.4	
	comp=E,9.1nm,0.3s,baz=151,slow=19,SNR=5.3						
PLCA				LR	LR	17 49 11.2	
	comp=E,55nm,20.8s,baz=220,slow=33						
	comp=E,5.1nm,0.4s						
PLCA	**Paso Flores**	**4.06**	**48**		**Pn**	**17 48 03.7**	**+1.0**
GO06	**Curarrehue**	**4.55**	**31**		**Pn**	**17 48 11.0**	**+1.4**
GO05	**Huala**	**8.75**	**14**	Pn	**Pn**	**17 49 07.5**	**+0.5**
BO02	**Sierra Bellavi**	**9.20**	**19**	Pn	**Pn**	**17 49 12.8**	**-0.5**
BO01	**Tunca**	**9.51**	**17**	Pn	**Pn**	**17 49 16.0**	**-1.4**
MT01	**Popeta**	**9.99**	**16**	Pn	**Pn**	**17 49 23.2**	**-0.8**
BO04	**La Punta**	**10.01**	**19**	Pn	**Pn**	**17 49 22.8**	**-1.5**
MT09	**Talagante**	**10.12**	**17**	Pn	**Pn**	**17 49 24.2**	**-1.8**
CO02	**Combarbal**	**12.62**	**14**	Pn	**Pn**	**17 49 58.5**	**-1.6**
CO03	**El Pedregal**	**13.03**	**15**	Pn	**Pn**	**17 50 04.6**	**-1.1**
AC05	**El Transito**	**15.06**	**14**	Pn	**Pn**	**17 50 33.2**	**-0.2**
PB14	**IPOC Station P**	**19.16**	**11**	P	**P**	**17 51 21.2**	**-3.1**
PB10	**IPOC Station P**	**20.24**	**10**	P	**P**	**17 51 34.1**	**-1.6**
PB10				IAmb	IAmb	17 52 04.5	
	comp=Z,13nm,0.9s						
PB15	**IPOC Station P**	**20.70**	**13**	P	**P**	**17 51 38.0**	**-3.0**
PB15				IAmb	IAmb	17 51 42.9	
	comp=Z,14nm,0.7s						
PB03	**IPOC Station P**	**21.79**	**12**	P	**P**	**17 51 52.0**	**-0.7**
PB03				IAmb	IAmb	17 52 08.1	
	comp=Z,8.4nm,1.1s						
PB07	**IPOC Station P**	**22.09**	**11**	P	**P**	**17 51 54.4**	**-1.5**
PB07				IAmb	IAmb	17 51 59.6	
	comp=Z,6.4nm,1.0s						
CPUP	**Villa Florida**	**22.12**	**45**	P	**P**	**17 51 55.4**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=229,slow=7.8,SNR=13						
CPUP				LR	LR	18 01 22.1	
	comp=Z,112nm,18.3s,baz=207,slow=39						
	comp=Z,1.9nm,0.6s						
CPUP	**Villa Florida**	**22.12**	**45**	P	**P**	**17 51 53.0**	**-3.0**
CPUP				IAmb	IAmb	17 52 27.8	
	comp=Z,9.4nm,1.4s						
PSGCX	**Pisagua**	**24.15**	**10**	P	**P**	**17 52 14.6**	**-2.2**
PSGCX				IAmb	IAmb	17 52 51.2	
	comp=Z,10nm,1.0s						
NNA	**Nana**	**31.50**	**356**	LR	LR	18 03 56.1	
	comp=Z,26nm,19.3s,baz=192,slow=32						
SAML	**Samuel**	**35.85**	**19**	P	**P**	**17 53 59.6**	**-0.6**
BELA	**Belgrano 2**	**37.92**	**167**	P	**P**	**17 54 18.7**	**+1.4**
QSPA	**South Pole Qui**	**46.71**	**180**	P	**P**	**17 55 29.9**	**+0.7**
CMIG	**Matias Romero**	**63.17**	**338**	LR	LR	18 17 19.0	
	comp=Z,104nm,20.9s,baz=200,slow=29						
TXAR	**Lajitas Array**	**77.30**	**334**	P	**P**	**17 58 57.3**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=147,slow=7.5,SNR=4.6						
	comp=Z,0.3nm,0.7s						
BOSA	**Boshof**	**77.36**	**117**	P	**P**	**17 58 55.4**	**-0.2**
	comp=Z,5.4nm,1.1s,baz=182,slow=4.8,SNR=3.8						
	comp=Z,5.4nm,1.1s						
DBIC	**Dimbokro**	**80.08**	**71**	P	**P**	**17 59 10.3**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=157,slow=8.5,SNR=3.3						
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**89.20**	**71**	P	**P**	**17 59 56.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=230,slow=3.3,SNR=5.4						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**89.20**	**71**	P	**P**	**17 59 55.4**	**-1.1**
TORD				IAmb	IAmb	17 59 56.7	
	comp=Z,1.6nm,1.2s						
MSVF	**Nonsavu**	**90.01**	**245**	LR	LR	18 36 21.4	
	comp=Z,32nm,18.6s,baz=159,slow=33						
ILAR	**Eielson Array**	**121.73**	**331**	PKP	**PKiKP**	**18 05 54.9**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=132,slow=2.6,SNR=3.1						
MKAR	**Makanchi Array**	**163.32**	**71**	PKPab	**PKPab**	**18 07 53.7**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=292,slow=4.4,SNR=5.2						

*SJA **01** 18:02:52.1±0.7,32°.11S×71°.28W,h84km±4km,ML4.2, MW3.9*

*NEIC **01** 18:02:52.8±1.6,32°.08S±0°.05×71°.3W±0°.1,h90km±4km, mb4.4/7,ML4.2(GUC),Error ellipse: s-maj=13.9km s-min=6.7km az=98.0*

*IDC **01** 18:02:52.5±4.3,32°.07S×70°.81W,h67km±39km,mb3.6/4, mbtmp3.8/6,ML4.1/2,MS2.5/1,Error ellipse: s-maj=46.6km s-min=33.4km az=146.0*

*GUC **01** 18:02:53.6±0.7,32°.12S×71°.18W,h88km±3km,ML4.2*

ISC 01 18:02:52.1±0.7,**32°.11S**±0°.02×**71°.33W**±0°.05,**h83**km±6km, **n104,** σ1**°73**/144,**mb4.1**/6,**5C-18D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.46**	**176**		**Pn**	**18 03 07.6**	**+1.9**
VA06	**Catapilco**	**0.46**	**176**	⇓*iP*	**Pn**	**18 03 07.7**	**+2.0**
VA06				*i* S	**Sn**	**18 03 18.0**	**+2.2**
VA06				IAML		18 03 19.0	
	comp=E,13μm,0.6s						
ROCH	**El Roble**	**0.91**	**163**	⇓*iP*	**Pn**	**18 03 11.9**	**+1.4**
ROCH				*i* S	**Sn**	**18 03 25.2**	**+1.1**
ROCH				IAML		18 03 26.5	
	comp=N,7μm,0.3s						
ROC1	**El Roble**	**0.91**	**163**		**Pn**	**18 03 11.3**	**+0.7**
ROC1	**El Roble**	**0.91**	**163**	*eP*	**Pn**	**18 03 08.7**	**-1.9**
ROC1				*eP*	**Pn**	**18 03 11.7**	**+1.1**
VA03	**San Esteban**	**0.93**	**135**		**Pn**	**18 03 11.1**	**+0.5**
VA03	**San Esteban**	**0.93**	**135**	⇑*iP*	**Pn**	**18 03 11.3**	**+0.7**
VA03				*i* S	**Sn**	**18 03 24.2**	**-0.2**
VA03				IAML		18 03 24.9	
	comp=E,19μm,0.2s						
VA03	**San Esteban**	**0.93**	**135**	*eP*	**Pn**	**18 03 08.7**	**-2.0**
VA03				*eP*	**Pn**	**18 03 11.2**	**+0.7**
VA03				*eS*	**Sn**	**18 03 24.8**	**+0.3**
VA03				IAML		18 03 27.5	
	comp=Z,6μm,0.2s						
CO02	**Combarbal**	**0.94**	**18**		**Pn**	**18 03 11.9**	**+1.1**
CO02	**Combarbal**	**0.94**	**18**	⇓*iP*	**Pn**	**18 03 12.2**	**+1.5**
CO02				*i* S	**Sn**	**18 03 25.7**	**+1.1**
CO02	**Combarbal**	**0.94**	**18**	*eP*	**Pn**	**18 03 08.7**	**-2.1**
CO02				*eP*	**Pn**	**18 03 11.8**	**+1.1**
CO02				*eS*	**Sn**	**18 03 26.2**	**+1.5**
CO02				IAML		18 03 26.7	
	comp=Z,8μm,0.2s						
VA01	**Torpederas**	**0.95**	**196**		**Pn**	**18 03 13.1**	**+2.4**
VA01	**Torpederas**	**0.95**	**196**	*eP*	**Pn**	**18 03 12.8**	**+2.1**
VA01				*i* S	**Sn**	**18 03 27.4**	**+2.7**
VA01				IAML		18 03 29.0	
	comp=N,6μm,0.1s						
VA01	**Torpederas**	**0.95**	**196**	*eP*	**Pn**	**18 03 08.7**	**-2.1**
VA01				*eP*	**Pn**	**18 03 13.0**	**+2.3**
MT02	**Curacav**	**1.16**	**172**		**Pn**	**18 03 14.6**	**+1.4**
MT02	**Curacav**	**1.16**	**172**	⇓*iP*	**Pn**	**18 03 14.7**	**+1.4**
MT02				*i* S	**Sn**	**18 03 30.3**	**+1.1**
MT02				IAML		18 03 31.6	
	comp=E,3μm,0.2s						
MT02	**Curacav**	**1.16**	**172**	*eP*	**Pn**	**18 03 14.0**	**+0.7**
MT02				*eS*	**Sn**	**18 03 30.7**	**+1.5**
PEL	**Peldehue**	**1.17**	**152**	⇓*iP*	**Pn**	**18 03 14.6**	**+1.1**
PEL				*i* S	**Sn**	**18 03 30.4**	**+1.0**
PEL				IAML		18 03 31.1	
	comp=N,7μm,0.2s						
CO03	**El Pedregal**	**1.38**	**24**	Pn	**Pn**	**18 03 17.4**	**+1.4**
CO03	**El Pedregal**	**1.38**	**24**	⇓*iP*	**Pn**	**18 03 17.4**	**+1.4**
CO03				*i* S	**Sn**	**18 03 35.3**	**+1.2**
CO03				IAML		18 03 37.9	
	comp=N,19μm,0.2s						
CO03	**El Pedregal**	**1.38**	**24**	*eP*	Pn	18 03 11.7	-4.4
CO03				*eP*	**Pn**	**18 03 17.0**	**+0.9**
CO03				*eP*	**Pn**	**18 03 17.3**	**+1.2**
CO03				*eS*	**Sn**	**18 03 35.8**	**+1.7**
CO03				IAML		18 03 37.2	
	comp=Z,9μm,0.2s						
MT05	**Renca**	**1.38**	**159**	Pn	**Pn**	**18 03 17.2**	**+1.2**
MT05	**Renca**	**1.38**	**159**	⇓*iP*	**Pn**	**18 03 17.3**	**+1.2**
MT05				*i* S	**Sn**	**18 03 34.6**	**+0.6**
MT05				IAML		18 03 39.4	
	comp=E,7μm,0.3s						
MT05	**Renca**	**1.38**	**159**	*eP*	Pn	18 03 11.7	-4.4
MT05				*eP*	**Pn**	**18 03 17.0**	**+1.0**
MT05				*eS*	**Sn**	**18 03 36.0**	**+2.0**
MT05				IAML		18 03 40.8	
	comp=Z,2μm,0.2s						
FCH	**Farellones**	**1.50**	**145**	⇓*iP*	**Pn**	**18 03 19.0**	**+1.1**
FCH				*i* S	**Sn**	**18 03 38.3**	**+1.0**
FCH				IAML		18 03 40.8	
	comp=E,4μm,0.1s						
MT03	**Universidad Ad**	**1.55**	**154**		**Pn**	**18 03 19.3**	**+1.2**
MT03	**Universidad Ad**	**1.55**	**154**	⇓*iP*	**Pn**	**18 03 19.4**	**+1.2**
MT03				*i* S	**Sn**	**18 03 38.4**	**+0.4**
MT03				IAML		18 03 39.6	
	comp=E,6μm,0.5s						
MT03	**Universidad Ad**	**1.55**	**154**	*eP*	**Pn**	**18 03 19.4**	**+1.2**
MT03				*eS*	**Sn**	**18 03 39.6**	**+1.6**
MT03				IAML		18 03 41.1	
	comp=Z,2μm,0.1s						
VA05	**Santo Domingo**	**1.57**	**189**		**Pn**	**18 03 20.0**	**+1.6**
VA05	**Santo Domingo**	**1.57**	**189**	⇑*iP*	**Pn**	**18 03 20.3**	**+1.9**
VA05				*i* S	**Sn**	**18 03 39.9**	**+1.6**
VA05				IAML		18 03 41.8	
	comp=N,7μm,0.5s						
MT09	**Talagante**	**1.69**	**170**		**Pn**	**18 03 21.6**	**+1.5**
MT09	**Talagante**	**1.69**	**170**	⇓*iP*	**Pn**	**18 03 21.7**	**+1.5**
MT09				*i* S	**Sn**	**18 03 42.4**	**+1.0**
MT09				IAML		18 03 44.2	
	comp=N,4μm,0.2s						
MT01	**Popeta**	**1.75**	**178**		**Pn**	**18 03 22.3**	**+1.5**
MT01	**Popeta**	**1.75**	**178**	⇓*iP*	**Pn**	**18 03 22.6**	**+1.7**
MT01				*i* S	**Sn**	**18 03 43.8**	**+1.1**
MT01				IAML		18 03

AC04 Llanos de Chal 3.89 3 *eP* **Pn 18 03 50.9 +1.2**
AC04 Llanos de Chal 3.89 3 *eP* **Pn 18 03 51.1 +1.5**
AC04 IAML 18 04 54.8
comp=Z,231nm,0.8s
VCA Vinchina 4.31 40 *eP* **Pn 18 03 56.8 +1.4**
VCA *eS* **Sn 18 04 49.4 +4.8**
VCA IAML 18 04 49.8
comp=Z,280nm,0.5s
GO03 Copiap 4.60 12 Pn 18 03 59.7 +0.4
GO03 Copiap 4.60 12 *eP* **Pn 18 04 00.0 +0.7**
GO03 *eS* **Sn 18 04 51.6 +0.2**
AC06 Mina Casimiro 4.81 10 Pn Pn 18 04 02.3 +0.2
BI05 Punta Hualpn 4.88 198 Pn Pn 18 04 03.1 +0.1
AC02 Maricunga 5.59 21 Pn Pn 18 04 13.2 0.0
AC01 Pan de Azucar 5.97 6 Pn 18 04 16.3 -1.7
GO06 Curarrehue 7.46 181 Pn Pn 18 04 39.2 +0.9
LR04 Corral 7.94 192 Pn Pn 18 04 42.8 -1.9
PLCA Paso Flores 8.63 176 P **Pn 18 04 55.1 +0.8**
comp=Z,0.7nm,0.3s,baz=346,slow=12,SNR=33
comp=Z,2.1nm,0.4s
PLCA Paso Flores 8.63 176 Pn Pn 18 04 54.2 0.0
LL04 Puerto Octay 8.83 185 Pn 18 04 55.0 -1.8
PB15 IPOC Station P 9.02 11 Pn 18 04 57.1 -2.6
TRQA Tornquist 9.69 130 Pn Pn 18 05 07.5 -1.1
LVC Limon Verde 9.70 13 Pn Pn 18 05 05.5 -3.7
ITQB Itaqui 12.86 83 Pn Pn 18 05 46.2 -5.5
CPUP Villa Florida 13.51 68 P Pn 18 05 54.9 -5.4
comp=Z,0.1nm,0.3s,baz=239,slow=11,SNR=3.2
comp=Z,0.4nm,0.4s
PB16 IPOC Station P 13.81 7 Pn Pn 18 06 03.4 -1.4
PLTB Pedras Altas 15.06 93 Pn Pn 18 06 15.2 -5.2
PLTB IAmb IAmb 18 06 50.1
comp=Z,4.0nm,0.9s
LPAZ La Paz 16.01 11 Pn Pn 18 06 29.3 -3.8
MG01 Puerto William 22.97 175 P P 18 07 49.4 0.0
BDFB Brasilia 26.80 58 P **P 18 08 23.1 -1.6**
comp=Z,0.5nm,0.3s,baz=260,slow=2.3,SNR=2.4
comp=Z,0.5nm,0.3s
SNAA Sanae 53.12 158 P **P 18 12 00.4 -0.5**
SNAA IAmb IAmb 18 12 03.1
comp=Z,3.8nm,0.7s
QSPA South Pole Qui 58.13 180 P **P 18 12 38.2 +1.4**
QSPA IAmb IAmb 18 13 10.4
comp=Z,9.7nm,1.4s
TXAR Lajitas Array 68.39 330 P **P 18 13 48.5 +3.5**
comp=Z,0.3nm,0.9s,baz=179,slow=14,SNR=1.5
TXAR pP **pP 18 14 07.4 +1.0**
comp=Z,0.3nm,0.7s,baz=150,slow=9.3,SNR=3.7
comp=Z,0.3nm,0.9s
DBIC Dimbokro 74.01 71 P **P 18 14 19.4 +0.2**
comp=Z,2.3nm,0.7s,baz=226,slow=4.6,SNR=4.0
comp=Z,2.3nm,0.7s
TORD Torodi Ar. Bea 83.00 70 P **P 18 15 08.4 -0.2**
comp=Z,2.4nm,0.8s,baz=253,slow=6.7,SNR=12
comp=Z,2.4nm,0.8s
TORD Torodi Ar. Bea 83.00 70 P **P 18 15 08.1 -0.5**
TORD IAmb IAmb 18 15 09.7
comp=Z,1.6nm,0.8s
ZALV Zalesovo Beam 152.31 31 PKPbc **PKiKP 18 22 38.9 +0.8**
comp=Z,2.6nm,0.4s,baz=305,slow=2.9,SNR=13
MKAR Makanchi Array 155.05 46 PKPab **PKPab 18 23 00.3 +0.3**
comp=Z,0.6nm,0.7s,baz=300,slow=4.1,SNR=6.5

*IDC **01** 18:14:54.9±9.9, 16°.30N×98°.33W, h33km±57km, mb3.2/6, mbtmp3.3/9, ML3.1/3, MS3.4/2, Error ellipse: s-maj=92.5km s-min=24.5km az=28.0*
*MEX **01** 18:14:56.7±0.6, 16°.51N×98°.45W, h15km±6km, MD4.2*
ISC 01 18:14:52.4±1.2, 16°.53N±0°.03×98°.40W±0°.02, h10km±8km, n65, σ1$80/113, mb3.5/6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**118**	*eP*	**Pn**	**18 15 02.5**	**-0.2**
PNIG				*i* S	**Sb**	**18 15 07.8**	**+3.1**
MGIG	**Malinaltepec**	**0.74**	**342**	*eP*	**Pb**	**18 15 08.1**	**+0.7**
MGIG				*eS*	**Sb**	**18 15 18.1**	**+0.4**
YOIG	**Yosondua**	**0.88**	**68**	*eP*	**Pn**	**18 15 11.4**	**+0.4**
YOIG				*i* S	**Sn**	**18 15 23.3**	**-0.8**
TXIG	**Tlaxiaco**	**0.94**	**40**	*i* P	**Pn**	**18 15 12.6**	**+0.1**
TXIG				*i* S	**Sn**	**18 15 24.6**	**-1.0**
TLIG	**Tlapa**	**1.04**	**351**	*eP*	**Pn**	**18 15 13.3**	**+0.1**
TLIG				*i* S	**Sg**	**18 15 26.0**	**0.0**
HMTT	**Tlapaneco**	**1.27**	**353**	*eP*	**Pg**	**18 15 17.2**	**+0.4**
HMTT				*eS*	**Sb**	**18 15 32.5**	**-0.5**
DAIG	**Los Arroyos**	**1.30**	**292**	*eP*	**Pn**	**18 15 16.5**	**-0.1**
DAIG				*i* S	**Sb**	**18 15 31.9**	**-1.8**
PEIG	**Puerto Escondi**	**1.31**	**114**	*eP*	**Pg**	**18 15 17.7**	**+0.2**
PEIG				*i* S	**Sg**	**18 15 34.7**	**+0.1**
FTIG	**Fresnillo de T**	**1.39**	**10**	*eP*	**Pg**	**18 15 19.2**	**+0.1**
FTIG				*eS*	**Sn**	**18 15 36.5**	**-0.1**
HLIG	**Huajuapan de L**	**1.41**	**24**	*eP*	**Pg**	**18 15 19.3**	**-0.2**
HLIG				*i* S	**Sg**	**18 15 37.8**	**0.0**
ACP2	**Acapulco**	**1.47**	**284**	*eP*	**Pg**	**18 15 20.9**	**+0.3**
ACP2				*eS*	**Sn**	**18 15 36.0**	**-2.3**
VHO	**Vista Hermosa**	**1.68**	**71**	*eP*	**Pb**	**18 15 23.6**	**0.0**
VHO				*eS*	**Sb**	**18 15 44.5**	**-0.5**
MEIG	**Mezcala**	**1.81**	**320**	*eP*	**Pb**	**18 15 25.0**	**-0.8**
MEIG				*eS*	**Sn**	**18 15 46.9**	**-0.1**
CAIG	**El Cayaco**	**1.86**	**286**	*eP*	**Pn**	**18 15 24.6**	**+0.2**
CAIG				*eS*	**Sn**	**18 15 44.9**	**-3.2**
TOIG	**Toxpalan**	**2.01**	**39**	*eP*	**Pb**	**18 15 28.3**	**-0.8**
TOIG				*eS*	**Sb**	**18 15 54.7**	**+0.4**
ATYC	**Atoyac**	**2.06**	**290**	*i* P	**Pn**	**18 15 27.1**	**0.0**
ATYC				*i* S	**Sn**	**18 15 50.1**	**-2.8**
HUIG	**Huatulco**	**2.33**	**109**	*eP*	**Pb**	**18 15 33.4**	**-1.1**
HUIG				*i* S	**Sn**	**18 15 57.6**	**-1.8**
YAIG	**Yautepec**	**2.41**	**345**	*eP*	**Pb**	**18 15 35.1**	**-0.8**
YAIG				*eS*	**Sn**	**18 15 55.7**	**-5.9**
PPM	**Popocatepetl**	**2.53**	**355**	*eP*	**Pn**	**18 15 36.2**	**+2.1**
PPM				*i* S	**Sb**	**18 16 07.7**	**-2.1**
ARIG	**Puente Sto Nin**	**2.55**	**313**	*eP*	**Pb**	**18 15 37.9**	**-0.4**
ARIG				*eS*	**Sn**	**18 16 05.6**	**+0.6**
AMVM	**AMECAMECA**	**2.62**	**352**	*eP*	**Pb**	**18 15 40.3**	**+0.7**
AMVM				*eS*	**Sn**	**18 16 04.9**	**-2.1**
MAVM	**Malinalco, Edo**	**2.63**	**337**	*eP*	**Pg**	**18 15 44.0**	**+1.2**
MAVM				*eS*	**Sb**	**18 16 13.7**	**+1.4**
MPVM	**San Francisco**	**2.72**	**348**	*eP*	**Pb**	**18 15 40.0**	**-1.4**
MPVM				*eS*	**Sn**	**18 16 07.9**	**-1.6**
NEUV	**Arroyo Zacate**	**2.75**	**64**	*eP*	**Pn**	**18 15 37.9**	**+1.3**
NEUV				*eS*	**Sb**	**18 16 15.7**	**+0.3**
TLVM	**San Miguel Top**	**2.76**	**345**	*eP*	**Pb**	**18 15 40.6**	**-1.5**
TLVM				*eS*	**Sn**	**18 16 08.2**	**-2.5**
XCVM	**Xochimilco**	**2.79**	**346**	*eP*	**Pn**	**18 15 40.0**	**+2.6**
XCVM				*eS*	**Sn**	**18 16 08.9**	**-2.4**
THVM	**De Xico**	**2.82**	**349**	*eP*	**Pn**	**18 15 39.9**	**+2.1**
THVM				*eS*	**Sn**	**18 16 10.9**	**-1.1**
AOVM	**Tlapan**	**2.86**	**342**	*eP*	**Pn**	**18 15 39.4**	**+0.8**
AOVM				*eS*	**Sn**	**18 16 13.9**	**+0.6**
CUP5	**Mexico City**	**2.88**	**345**	*e*	**Sb**	**18 16 22.8**	**+3.2**
TEJU	**Tejupilco**	**2.90**	**325**	*eP*	**Pb**	**18 15 42.6**	**-1.7**
TEJU				*i* S	**Sn**	**18 16 13.5**	**-0.3**
INVM	**La Marquesa**	**2.90**	**341**	*eP*	**Pb**	**18 15 42.7**	**-1.8**
INVM				*eS*	**Sn**	**18 16 14.4**	**+0.2**
BJVM	**Benito Juarez**	**2.92**	**346**	*eP*	**Pn**	**18 15 41.4**	**+2.2**
BJVM				*i* S	**Sn**	**18 16 16.7**	**+2.1**
SCT2	**Benito Juarez**	**2.94**	**346**	*e*	**Sb**	**18 16 20.4**	**-0.7**
CJVM	**Cuajimalpa**	**2.94**	**343**	*eP*	**Pb**	**18 15 44.9**	**-0.2**
CJVM				*eS*	**Sn**	**18 16 14.5**	**-0.5**
MHVM	**Bosque de Chap**	**2.96**	**345**	*eP*	**Pb**	**18 15 44.2**	**-1.3**
MHVM				*i* S	**Sn**	**18 16 15.8**	**+0.1**
PBVM	**Pinon**	**2.97**	**347**	*eP*	**Pn**	**18 15 41.3**	**+1.7**
PBVM				*eS*	**Sn**	**18 16 15.7**	**+0.4**
TOVM	**TOLUCA**	**3.00**	**336**	*eP*	**Pb**	**18 15 44.4**	**-1.7**
TOVM				*eS*	**Sn**	**18 16 17.1**	**+0.6**
GMVM	**Gustavo A Made**	**3.02**	**347**	*eP*	**Pb**	**18 15 44.3**	**-2.3**
GMVM				*eS*	**Sn**	**18 16 17.6**	**+0.5**
PTVM	**Pico Tres Padr**	**3.12**	**347**	*eP*	**Pb**	**18 15 47.0**	**-1.2**
PTVM				*eS*	**Sn**	**18 16 19.6**	**+0.1**
ZIIG	**Zihuatanejo**	**3.12**	**290**	*eP*	**Pn**	**18 15 44.5**	**+2.8**
ZIIG				*eS*	**Sn**	**18 16 16.9**	**-2.2**
AZVM	**Cuida Lopez Ma**	**3.15**	**345**	*eP*	**Pn**	**18 15 44.1**	**+1.7**
AZVM				*eS*	**Sb**	**18 16 25.0**	**-2.3**
JAUV	**Jalcomulco**	**3.20**	**28**	*eP*	**Pn**	**18 15 43.4**	**+0.6**
JAUV				*eS*	**Sn**	**18 16 17.3**	**-3.9**
ZUVM	**ZUMPANGO**	**3.34**	**349**	*eP*	**Pn**	**18 15 44.9**	**-0.1**
ZUVM				*eS*	**Sn**	**18 16 22.6**	**-2.3**
CMIG	**Matias Romero**	**3.41**	**80**	Pn	**Pn**	**18 15 46.1**	**+0.4**
	1.6nm,0.3s,baz=260,slow=9.4,SNR=20						
CMIG				Pg	**Pg**	**18 15 56.8**	**-0.9**
	4.0nm,0.3s,baz=267,slow=16,SNR=19						
CMIG				Lg	Lg	18 16 43.7	
	9.7nm,0.3s,baz=343,slow=17,SNR=17						
	3.1nm,0.3s						
CMIG	**Matias Romero**	**3.41**	**80**	*eP*	**Pn**	**18 15 46.1**	**+0.4**
CMIG				*eS*	**Sn**	**18 16 28.5**	**+2.3**
ATVM	**ATLACOMULCO**	**3.50**	**337**	*eP*	**Pb**	**18 15 55.7**	**+1.1**
ATVM				*eS*	**Sn**	**18 16 29.3**	**+0.5**
LVIG	**Laguna Verde**	**3.69**	**30**	*eP*	**Pn**	**18 15 48.4**	**-1.1**
LVIG				*i* S	**Sn**	**18 16 32.2**	**-0.9**
CXUV	**Coxquihui**	**3.70**	**12**	*eP*	**Pb**	**18 15 56.1**	**-1.9**
CXUV				*i* S	**Sn**	**18 16 33.0**	**-0.5**
ACIG	**Acambay**	**3.71**	**338**	*eP*	**Pn**	**18 15 51.9**	**+1.9**
ACIG				*i* S	**Sn**	**18 16 34.3**	**+0.4**
DEIG	**Demacu**	**3.80**	**351**	*eP*	**Pb**	**18 15 57.9**	**-1.8**
DEIG				*i* S	**Sn**	**18 16 37.5**	**+1.4**
MOIG	**Morelia**	**4.11**	**320**	*eP*	**Pn**	**18 15 59.2**	**+3.8**
MOIG				*eS*	**Sn**	**18 16 46.1**	**+2.4**
UXUV	**UXUV**	**4.14**	**78**	*eP*	**Pn**	**18 15 56.2**	**+0.5**
UXUV				*eS*	**Sn**	**18 16 49.2**	**+4.9**
JRQG	**Juriquilla Cam**	**4.58**	**335**	*e*	**Pb**	**18 16 16.0**	**+2.9**
JRQG				*eS*	**Sn**	**18 17 02.1**	**+6.6**
CTUV	**Llano Grande**	**4.92**	**0**	*e*	**Pg**	**18 16 25.6**	**-1.0**
CTUV				*e*		18 17 28.4	
TXAR	**Lajitas Array**	**13.63**	**340**	Pn	**P**	**18 18 12.6**	**-2.3**
	baz=160,slow=12,SNR=2.1						
TXAR				Lg	Lg	18 22 11.1	
	baz=222,slow=20,SNR=3.4						
TXAR				LR	LR	18 23 55.4	
	comp=Z,111nm,19.7s,baz=140,slow=39						
	0.2nm,0.7s						
ANMO	**Albuquerque**	**19.71**	**340**	P	**Pn**	**18 19 23.8**	**+0.1**
	baz=194,slow=5.7,SNR=3.9						
ANMO				LR	LR	18 27 32.2	
	comp=Z,119nm,19.3s,baz=246,slow=38						
	0.7nm,0.6s						
PDAR	**Pinedale Array**	**27.84**	**342**	P	**P**	**18 20 44.1**	**+1.8**
	0.3nm,0.7s,baz=161,slow=9.4,SNR=2.6						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**27.95**	**325**	P	**P**	**18 20 46.0**	**+2.6**
	0.5nm,0.7s,baz=144,slow=10,SNR=4.2						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**47.31**	**350**	P	**P**	**18 23 25.8**	**-0.1**
	0.4nm,0.8s,baz=158,slow=7.7,SNR=6.7						
	0.4nm,0.8s						
H03N2	**Juan Fernandez**	**53.05**	**160**	T	T	19 21 06.5	
	baz=337,slow=77,SNR=15						
H03N1	**Juan Fernandez**	**53.06**	**160**	T	T	19 21 09.0	
	baz=337,slow=77,SNR=26						
H03N3	**Juan Fernandez**	**53.07**	**160**	T	T	19 21 07.2	
	baz=337,slow=77,SNR=22						
INK	**Inuvik**	**56.35**	**345**	P	**P**	**18 24 33.8**	**+0.5**
	0.7nm,0.7s,baz=132,slow=6.8,SNR=3.2						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**58.13**	**338**	P	**P**	**18 24 46.7**	**+0.7**
	0.3nm,1.0s,baz=139,slow=5.6,SNR=2.6						
	0.3nm,1.0s						
GERES	**GERESS Array B**	**91.50**	**38**	P	**P**	**18 27 58.0**	**-1.4**
	0.1nm,0.4s,baz=235,slow=3.5,SNR=1.7						
	0.1nm,0.4s						

*IDC **01** 18:34:20.0±1.3, 3°.44N×127°.98E, h0km, mb3.2/4, mbtmp3.3/5, ML2.8/1, Error ellipse: s-maj=99.8km s-min=20.3km az=67.0*
ISC 01 18:34:25.8±1.2, 3.7N±0°.4×128.7E±0°.7, h50km, n8, σ0$67/6, mb3.2/4, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.20**	**151**	Pn	**Pn**	**18 35 40.4**	**-0.7**
	0.3nm,0.3s,baz=322,slow=20,SNR=1.6						
SIJI				Sn	**Sn**	**18 36 40.8**	**+0.9**
	1.2nm,0.3s,baz=342,slow=23,SNR=9.1						
	1.8nm,0.2s						
WRA	**Warramunga Arr**	**24.14**	**167**	P	**P**	**18 39 37.2**	**-0.1**
	0.5nm,0.7s,baz=343,slow=10,SNR=6.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**27.67**	**170**	P	**P**	**18 40 09.2**	**+0.1**
	0.1nm,0.5s,baz=348,slow=6.8,SNR=5.3						
	0.1nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**39.92**	**65**	T	T	19 25 01.6	
	baz=253,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**39.94**	**65**	T	T	19 25 02.2	
	baz=253,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**39.94**	**65**	T	T	19 25 03.2	
	baz=253,slow=75,SNR=6.3						
SONM	**Songino Array**	**47.98**	**340**	P	**P**	**18 42 59.9**	**+0.1**
	0.2nm,0.7s,baz=148,slow=8.5,SNR=2.0						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.73**	**324**	P	**P**	**18 44 18.7**	**+0.2**
	0.3nm,0.5s,baz=113,slow=7.3,SNR=9.6						
	0.3nm,0.5s						

IDC 01 18:56:34.2±2.1, 8°.37S×130°.11E, h0km, mb3.3/1, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=94.4km s-min=32.8km az=68.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.21**	**161**	Pn	Pn	18 59 29.8	+0.3
	0.1nm,0.3s,baz=340,slow=13,SNR=5.5						
WRA				Sn	Sn	19 01 41.5	-5.0
	0.2nm,0.3s,baz=348,slow=23,SNR=2.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**15.64**	**167**	Pn	Pn	19 00 15.7	-0.4
	0.1nm,0.3s,baz=341,slow=9.3,SNR=7.5						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**69.43**	**327**	P	P	19 07 44.2	0.0
	0.1nm,0.4s,baz=128,slow=6.0,SNR=4.7						
	0.1nm,0.4s						

*DJA **01** 19:18:52.1±0.5, 8°.S±7°×11°.5E±°, h293km±6km, M3.9/14, mb4.3/3, MLv3.7/14*
*IDC **01** 19:18:53.1±2.9, 7°.47S×115°.55E, h310km±24km, mb3.3/7, mbtmp4.0/9, Error ellipse: s-maj=50.1km s-min=11.7km az=60.0*
ISC 01 19:18:52.4±0.6, 7°.62S±0°.07×115°.54E±0°.06, h300km, n46, σ1$40/48, mb3.9/17, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.56**	**215**	P	**Pn**	**19 19 30.3**	**-0.8**
SRBI				S	**S**	**19 20 00.9**	**-1.0**
DNP	**Denpasar**	**1.10**	**197**	P	**Pn**	**19 19 32.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**1.61**	**238**	P	**Pn**	**19 19 35.5**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.61**	**238**	P	**Pn**	**19 19 35.4**	**-0.9**
TWSI	**Taliwang, Sumb**	**1.73**	**130**	P	**Pn**	**19 19 35.9**	**-1.2**
BLJI	**Banyuglugur**	**1.93**	**266**	P	**Pn**	**19 19 37.5**	**-1.1**
GMJI	**Gumukmas**	**2.18**	**253**	P	**Pn**	**19 19 39.3**	**-1.3**
PLAI	**Plampang**	**2.52**	**119**	P	**Pn**	**19 19 42.6**	**-0.9**
GRJI	**Gresik**	**3.12**	**283**	P	**Pn**	**19 19 48.3**	**-1.0**
BWJI	**Bawean**	**3.36**	**301**	P	**Pn**	**19 19 49.3**	**-2.5**
PWJI	**Pagerwojo**	**3.72**	**264**	P	**Pn**	**19 19 53.7**	**-1.9**
BBKI	**Banjar Baru**	**4.19**	**350**	P	**Pn**	**19 20 01.2**	**+0.4**
KAPI	**Kappang**	**4.92**	**58**	P	**Pn**	**19 20 10.0**	**+1.0**
	5.9nm,0.6s,baz=177,slow=6.2,SNR=4.2						
UGM	**Wanagama**	**4.98**	**266**	P	**Pn**	**19 20 08.7**	**-1.0**
	152nm,1.9s						
UGM	**Wanagama**	**4.98**	**266**	P	**Pn**	**19 20 07.9**	**-1.8**
BKSI	**Bulukumba**	**5.09**	**64**	P	**Pn**	**19 20 12.5**	**+1.5**
	19nm,0.6s,0.1nm						
BASI	**Baing, Sumba**	**5.61**	**118**	P	**Pn**	**19 20 16.8**	**-0.2**
	197nm,0.8s,0.9nm						
MMRI	**Maumere**	**6.71**	**99**	P	**Pn**	**19 20 30.4**	**+0.2**
	54nm,1.4s						
MMRI	**Maumere**	**6.71**	**99**	P	**Pn**	**19 20 30.0**	**-0.2**
JCJI	**Jatiwangi**	**7.30**	**278**	P	Pn	19 20 42.9	+5.4
BBJI	**Bungbulang**	**7.83**	**271**	P	**Pn**	**19 20 45.1**	**+1.2**
	34nm,1.2s						
BATI	**Baumata**	**8.43**	**108**	P	**Pn**	**19 20 50.9**	**-0.4**
	14nm,0.3s,baz=290,slow=4.1,SNR=14						
BATI				S	**S**	**19 22 24.2**	**-3.6**
	21nm,0.5s,baz=324,slow=20,SNR=2.1						
SOEI	**Soe**	**8.88**	**104**	P	**Pn**	**19 20 56.7**	**-0.3**
	56nm,1.2s						
MNAI	**Manna**	**12.93**	**284**	P	**P**	**19 21 48.1**	**+1.4**
	218nm,1.4s						
KNRA	**Kununurra**	**15.22**	**123**	P	**Pn**	**19 22 13.0**	**-0.4**
	60nm,1.9s						
MTN	**Manton Dam**	**16.19**	**110**	P	**Pn**	**19 22 24.2**	**-0.7**
	27nm,2.0s						
DAV	**Davao City (W)**	**17.70**	**35**	P	**P**	**19 22 40.1**	**+1.2**
MEEK	**Meekatharra**	**19.14**	**172**	P	**P**	**19 22 55.7**	**+1.5**
	12nm,1.9s						
WRKA	**Warakurna**	**21.18**	**146**	P	**P**	**19 23 16.0**	**+1.0**
	6.7nm,0.5s						
WRA	**Warramunga Arr**	**21.95**	**126**	P	**P**	**19 23 22.8**	**+0.7**
	1.2nm,0.3s,baz=295,slow=12,SNR=49						
	1.2nm,0.3s						
BLDU	**Ballidu**	**22.90**	**177**	P	**P**	**19 23 32.7**	**+2.1**
	23nm,2.3s						
ASAR	**Alice Springs**	**23.77**	**134**	P	**P**	**19 23 39.2**	**+0.7**
	3.0nm,0.6s,baz=309,slow=8.5,SNR=48						
ASAR				ScP	**ScP**	**19 30 21.0**	**-1.8**
	0.2nm,0.4s,baz=317,slow=2.7,SNR=5.6						
	3.0nm,0.6s						
FORT	**Forrest**	**25.85**	**155**	P	**P**	**19 23 58.8**	**+1.7**
	20nm,1.9s						
RKGY	**Rocky Gully**	**26.89**	**177**	P	**P**	**19 24 07.4**	**+1.0**
	37nm,1.1s						
OOD	**Oodnadatta**	**27.68**	**139**	P	**P**	**19 24 14.3**	**+0.9**
	18nm,0.5s						
MULG	**Mulgathing**	**28.45**	**145**	P	**P**	**19 24 21.4**	**+1.1**
	9.8nm,2.3s						
CMAR	**Chiang Mai Arr**	**30.66**	**328**	P	**P**	**19 24 39.7**	**-0.1**
	0.2nm,0.5s,baz=161,slow=8.6,SNR=2.4						
	0.2nm,0.5s						
LCRK	**Leigh Creek**	**31.09**	**140**	P	**P**	**19 24 45.1**	**+1.6**
	15nm,2.8s						
BBOO	**Buckleboo**	**31.47**	**146**	P	**P**	**19 24 47.7**	**+0.9**
	18nm,2.2s						
QLP	**Quilpie**	**33.14**	**128**	P	**P**	**19 25 03.6**	**+2.3**
	14nm,0.5s						
HTT	**Hallett**	**33.58**	**143**	P	**P**	**19 25 06.9**	**+1.9**
	7.9nm,2.0s						
STKA	**Stephens Creek**	**34.22**	**138**	P	**P**	**19 25 11.7**	**+1.3**
	4.4nm,0.5s,baz=319,slow=8.2,SNR=32						
	4.4nm,0.5s						
STKA	**Stephens Creek**	**34.22**	**138**	P	**P**	**19 25 11.8**	**+1.3**
	1.5nm,1.2s						
USRK	**Ussuriysk Ar.**	**53.68**	**15**	P	**P**	**19 27 42.8**	**-0.9**
	1.8nm,0.7s,baz=194,slow=6.9,SNR=5.5						
	1.8nm,0.7s						
SONM	**Songino Array**	**55.80**	**353**	P	**P**	**19 27 57.6**	**-1.4**
	1.7nm,0.7s,baz=171,slow=8.6,SNR=16						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**61.72**	**335**	P	**P**	**19 28 37.1**	**-2.3**
	0.1nm,0.3s,baz=152,slow=8.1,SNR=4.9						
	0.1nm,0.3s						

WEL 01 19:39:11.3±0.2, 42°.S±3°×17°.4E±°, h17km±2km, M3.1/21, ML3.4/21, MLv3.1/21, Error ellipse: s-maj=0.0km s-min=0.0km az=150.3, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**186**	P	Pb	19 39 17.1	+1.8
CMWZ				S	Sb	19 39 21.7	+3.7
BSWZ	**Blackbirch Sta**	**0.28**	**251**	P	Pb	19 39 18.7	+0.7
BSWZ				S	Sb	19 39 23.6	+1.2
TUWZ	**Tuamarina**	**0.29**	**312**	P	Pb	19 39 18.9	+0.8
TUWZ				S	Sb	19 39 24.1	+1.5
TCW	**Tory Channel**	**0.41**	**5**	P	Pb	19 39 20.8	+0.7
WEL	**Wellington**	**0.53**	**50**	P	Pn	19 39 23.2	-0.9
NNZ	**Nelson**	**0.76**	**302**	P	Pg	19 39 26.5	+0.4
PLWZ	**Palliser**	**0.77**	**86**	P	Pg	19 39 26.6	+0.3
PLWZ				S	Sn	19 39 38.4	-0.2
CAW	**Cannon Point**	**0.81**	**51**	P	Pn	19 39 27.9	-0.1
CAW				S	Sn	19 39 40.2	+0.6
DUWZ	**D'Urville Isla**	**0.85**	**344**	P	Pn	19 39 28.3	-0.2
DUWZ				S	Sn	19 39 40.1	-0.6
KIW	**Kapiti Island**	**0.92**	**34**	P	Pg	19 39 29.2	0.0
PAWZ	**Paruwai Farm**	**0.93**	**75**	P	Pb	19 39 28.9	-0.1
KHZ	**Kahutara**	**0.95**	**213**	P	Pb	19 39 29.0	-0.2
KHZ				S	Sg	19 39 41.8	-0.3
THZ	**Tophouse**	**1.00**	**262**	P	Pb	19 39 29.9	-0.4
MTW	**Mount Morrison**	**1.06**	**64**	P	Pb	19 39 30.8	-0.5
OGWZ	**Otaki Gorge**	**1.07**	**42**	P	Pn	19 39 31.7	+0.2
OGWZ				S	Sg	19 39 47.6	+1.6
TRWZ	**Traveller**	**1.12**	**79**	P	Pb	19 39 31.2	-0.9
TKNZ	**Takaka Hill**	**1.12**	**301**	P	Pb	19 39 32.5	+0.2
MRNZ	**Matariki Terra**	**1.13**	**281**	P	Pb	19 39 32.5	+0.2
HOWZ	**Holdsworth Sta**	**1.21**	**54**	P	Pn	19 39 32.9	-0.5
TMWZ	**Te Maipa**	**1.35**	**68**	P	Pn	19 39 34.3	-1.1
MRZ	**Mangatainoka R**	**1.40**	**47**	P	Pn	19 39 35.8	-0.3
TIWZ	**Tintock**	**1.51**	**56**	P	Pn	19 39 36.8	-0.8
QRZ	**Quartz Range**	**1.51**	**301**	P	Pb	19 39 38.8	-0.1
GVZ	**Greta Valley S**	**1.61**	**213**	P	Pn	19 39 37.6	-1.4
OHWZ	**Ohakea**	**1.64**	**30**	P	Pb	19 39 41.3	+0.3
POWZ	**Post Office Ro**	**1.69**	**44**	P	Pn	19

*JMA **01** 19:44:05.5±0.1,25°N±1°×14°1E±°, h166km, MV4.6/20, IOTO ISLANDS REGION*

ISC 01 19:44:02.7±1.0, 24°21N±0°09×141°3E±0°2, h150km, n21, σ1s95/24, mb3.4/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**2.53**	**18**	P	**Pn**	**19 44 45.6**	**+1.4**
JHH2				*e*S	**Sn**	**19 45 17.2**	**+0.9**
JHH2	**Haha-jima-NKT2**	**2.53**	**18**	A		19 44 45.6	
	comp=E,6.0nm,0.4s,comp=E,5.0nm,0.4s						
CBIJ	**Chichi jima**	**2.98**	**15**	P	**Pn**	**19 44 51.1**	**+1.4**
CBIJ				*e*S	**Sn**	**19 45 25.9**	**-0.4**
JCJ	**Chichijima**	**2.98**	**15**	P	**Pn**	**19 44 53.9**	**+4.1**
	162nm,0.4s,baz=294,slow=23,SNR=114						
JCJ				S	**Sn**	**19 45 28.9**	**+2.7**
	460nm,0.4s,baz=309,slow=23,SNR=31						
BSO1	**Boso 1**	**10.41**	**358**	P	**Pn**	**19 46 26.1**	**-1.4**
BSO1				*e*S	**Sn**	**19 48 18.3**	**-4.0**
BSO3	**Boso 3**	**10.57**	**356**	P	**Pn**	**19 46 28.1**	**-1.9**
JIM2	**Oshima 3**	**10.59**	**352**	*e*P	**Pn**	**19 46 29.3**	**-1.3**
JOD2	**Odawara 2**	**11.18**	**351**	P	**Pn**	**19 46 37.9**	**-0.3**
JHU	**Hanno**	**11.73**	**352**	*e*P	**Pn**	**19 46 43.5**	**-1.9**
JAG	**Ashikaga**	**12.28**	**353**	P	**Pn**	**19 46 49.5**	**-3.0**
MJAR	**Matsushiro Arr**	**12.57**	**348**	P	**Pn**	**19 46 55.0**	**-1.4**
	0.4nm,0.3s,baz=160,slow=11,SNR=7.5						
KSRS	**Korea Array**	**17.48**	**322**	P	**Pn**	**19 47 57.4**	**+0.1**
	0.4nm,0.5s,baz=142,slow=10,SNR=2.1						
ASAJ	**Asahikawa**	**19.88**	**3**	P	**P**	**19 48 23.8**	**+1.5**
	2.7nm,0.5s,baz=233,slow=5.1,SNR=6.5						
SONM	**Songino Array**	**36.31**	**319**	P	**P**	**19 50 53.8**	**+1.8**
	0.2nm,0.7s,baz=119,slow=6.1,SNR=1.6						
	0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.77**	**270**	P	**P**	**19 51 22.7**	**+1.5**
	0.4nm,0.6s,baz=58,slow=8.0,SNR=5.1						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.41**	**189**	P	**P**	**19 51 57.7**	**-0.9**
	1.0nm,0.7s,baz=8.0,slow=8.6,SNR=12						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**48.13**	**189**	P	**P**	**19 52 26.1**	**-1.6**
	0.2nm,0.5s,baz=1.0,slow=4.8,SNR=6.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**51.74**	**311**	P	**P**	**19 52 55.1**	**+0.4**
	0.4nm,0.5s,baz=88,slow=9.4,SNR=9.0						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**60.61**	**28**	P	**P**	**19 53 56.5**	**-0.9**
	0.4nm,0.6s,baz=254,slow=4.6,SNR=6.3						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**75.04**	**28**	P	**P**	**19 55 26.7**	**-0.9**
	0.2nm,0.4s,baz=297,slow=6.0,SNR=5.9						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**80.17**	**334**	P	**P**	**19 55 55.4**	**-0.6**
	1.2nm,0.8s,baz=53,slow=5.4,SNR=6.1						
	1.2nm,0.8s						

WEL 01 19:48:07.3±0.3, 43°S±3°×17°3E±°, h12km±3km, M2.8/9, ML2.9/19, MLv2.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=126.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.29**	**58**	P	Pg	19 48 13.6	+0.4
KHZ				S	Sb	19 48 18.5	-0.7
GVZ	**Greta Valley S**	**0.42**	**198**	P	Pb	19 48 17.3	+0.5
GVZ				S	Sb	19 48 24.9	+1.8
LTZ	**Lake Taylor**	**0.72**	**252**	P	Pg	19 48 21.3	-0.1
LTZ				S	Sg	19 48 31.3	+0.4
AMCZ	**Amberley**	**0.73**	**214**	P	Pn	19 48 22.9	-0.7
THZ	**Tophouse**	**0.84**	**344**	P	Pg	19 48 22.4	-1.1
BSWZ	**Blackbirch Sta**	**0.98**	**30**	P	Pg	19 48 26.2	-0.1
OXZ	**Oxford**	**1.15**	**228**	P	Pn	19 48 29.2	0.0
OXZ				S	Sn	19 48 45.1	+0.2
MQZ	**McQueen's Vall**	**1.21**	**199**	P	Pn	19 48 28.9	-1.2
MQZ				S	Sb	19 48 45.3	-0.4
MRNZ	**Matariki Terra**	**1.22**	**344**	P	Pn	19 48 29.3	-0.8
TUWZ	**Tuamarina**	**1.26**	**26**	P	Pn	19 48 30.7	0.0
TUWZ				S	Sg	19 48 49.6	+1.6
INZ	**Inchbonnie**	**1.31**	**263**	P	Pn	19 48 31.2	-0.3
DSZ	**Denniston Nort**	**1.33**	**308**	P	Pn	19 48 31.5	-0.3
NNZ	**Nelson**	**1.35**	**5**	P	Pn	19 48 31.7	-0.3
RACZ	**Rakaia**	**1.40**	**214**	P	Pn	19 48 31.9	-0.8
MHCZ	**Mount Hutt**	**1.54**	**231**	P	Pn	19 48 33.8	-0.9
TKNZ	**Takaka Hill**	**1.54**	**353**	P	Pn	19 48 34.7	+0.1
QRZ	**Quartz Range**	**1.81**	**343**	P	Pn	19 48 38.8	+0.4
PLWZ	**Palliser**	**1.82**	**57**	P	Pn	19 48 37.3	-1.2
DUWZ	**D'Urville Isla**	**1.84**	**17**	P	Pb	19 48 39.9	-1.1
WVZ	**Waitaha Valley**	**1.89**	**254**	P	Pn	19 48 39.3	-0.1
RPZ	**Rata Peaks**	**1.95**	**233**	P	Pn	19 48 39.6	-0.6
CAW	**Cannon Point**	**2.01**	**44**	P	Pn	19 48 40.4	-0.8
ARCZ	**Arundel**	**2.03**	**226**	P	Pn	19 48 40.5	-0.9

WEL 01 19:48:55.4, 39°S±2°×17°5E±°, h25km±4km, M3.4/95, ML3.8/34, MLv3.4/95, Error ellipse: s-maj=0.0km s-min=0.0km az=124.6, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.18**	**161**	P	Pb	19 49 01.3	+0.4
VRZ	**Vera Road**	**0.18**	**161**	P	Pb	19 49 01.3	+0.5
VRZ				S	Sb	19 49 06.0	+1.5
MHEZ	**Mangahewa**	**0.31**	**247**	P	Pb	19 49 03.3	+0.8
MHEZ	**Mangahewa**	**0.31**	**247**	P	Pb	19 49 03.3	+0.8
MHEZ				S	Sn	19 49 09.4	-0.7
DREZ	**Durham Road**	**0.44**	**238**	P	Pb	19 49 05.1	+0.4
DREZ	**Durham Road**	**0.44**	**238**	P	Pb	19 49 05.2	+0.4
HIZ	**Hauiti**	**0.46**	**17**	P	Pb	19 49 05.3	+0.3
HIZ				S	Sn	19 49 12.8	-1.1
LREZ	**Lake Rotokare**	**0.55**	**203**	P	Pb	19 49 06.7	+0.2
LREZ				S	Sn	19 49 15.7	-0.4
NEZ	**North Egmont**	**0.56**	**235**	P	Pb	19 49 07.1	+0.4
NEZ	**North Egmont**	**0.56**	**235**	S	Sn	19 49 16.0	-0.3
PKE	**Pukeiti**	**0.59**	**246**	P	Pb	19 49 07.6	+0.4
PKE	**Pukeiti**	**0.59**	**246**	S	Sn	19 49 16.6	-0.6
TWVZ	**Taurewa**	**0.60**	**101**	P	Pb	19 49 07.1	-0.2
TWVZ	**Taurewa**	**0.60**	**101**	P	Pb	19 49 07.2	-0.2
PKVZ	**Pokaka**	**0.61**	**123**	P	Pb	19 49 07.5	-0.1
PKVZ	**Pokaka**	**0.61**	**123**	P	Pb	19 49 07.5	-0.1
PKVZ				S	Sb	19 49 16.2	+0.4
KHEZ	**Kahui Hut**	**0.62**	**237**	P	Pb	19 49 08.1	+0.3
NBEZ	**Newall Road No**	**0.71**	**244**	P	Pb	19 49 09.1	0.0
NBEZ				S	Sn	19 49 20.6	+0.6
WTVZ	**West Tongariro**	**0.72**	**103**	P	Pb	19 49 09.2	-0.3
WTVZ	**West Tongariro**	**0.72**	**103**	P	Pb	19 49 09.2	-0.2
FWVZ	**Far West T-bar**	**0.74**	**114**	P	Pb	19 49 09.6	-0.2
FWVZ	**Far West T-bar**	**0.74**	**114**	P	Pb	19 49 09.6	-0.2
NNVZ	**North Ngauruho**	**0.74**	**104**	P	Pb	19 49 09.7	-0.2
NNVZ	**North Ngauruho**	**0.74**	**104**	P	Pb	19 49 09.6	-0.2
MTVZ	**Mangateitei**	**0.75**	**125**	P	Pb	19 49 09.5	-0.3
MTVZ	**Mangateitei**	**0.75**	**125**	P	Pb	19 49 09.5	-0.3
NGZ	**Ngauruhoe**	**0.75**	**107**	P	Pb	19 49 09.6	-0.3
NGZ	**Ngauruhoe**	**0.75**	**107**	P	Pb	19 49 09.6	-0.3
TRVZ	**Turoa**	**0.75**	**117**	P	Pb	19 49 09.8	-0.3
TRVZ	**Turoa**	**0.75**	**117**	P	Pb	19 49 09.8	-0.3
KRVZ	**Karewarewa**	**0.76**	**101**	P	Pb	19 49 09.8	-0.2
KRVZ	**Karewarewa**	**0.76**	**101**	P	Pb	19 49 09.8	-0.2
WHVZ	**Whangaehu Hut**	**0.78**	**115**	P	Pb	19 49 10.6	+0.2
NMEZ	**Namu Road**	**0.78**	**234**	P	Pb	19 49 10.1	-0.1
NMEZ				S	Sn	19 49 22.4	+0.8
SNVZ	**South Ngauruho**	**0.78**	**108**	P	Pb	19 49 10.2	-0.2
SNVZ	**South Ngauruho**	**0.78**	**108**	P	Pb	19 49 10.2	-0.2
NTVZ	**North Tongarir**	**0.79**	**101**	P	Pb	19 49 10.3	-0.2
NTVZ	**North Tongarir**	**0.79**	**101**	P	Pb	19 49 10.3	-0.2
KATZ	**Kakaramea**	**0.79**	**92**	P	Pb	19 49 10.5	0.0
KATZ	**Kakaramea**	**0.79**	**92**	P	Pb	19 49 10.5	0.0
OTVZ	**Oturere**	**0.79**	**106**	P	Pb	19 49 10.6	-0.1
OTVZ	**Oturere**	**0.79**	**106**	P	Pb	19 49 10.5	-0.1
WNVZ	**Wahianoa**	**0.80**	**118**	P	Pb	19 49 10.6	-0.2
WNVZ	**Wahianoa**	**0.80**	**118**	P	Pb	19 49 10.5	-0.3
TMVZ	**Te Maari**	**0.81**	**102**	P	Pb	19 49 10.8	-0.1
TMVZ	**Te Maari**	**0.81**	**102**	P	Pb	19 49 10.8	-0.1
TUVZ	**Tukino**	**0.82**	**113**	P	Pb	19 49 11.2	+0.2
TUVZ	**Tukino**	**0.82**	**113**	P	Pb	19 49 11.2	+0.2
ETVZ	**East Tongariro**	**0.82**	**103**	P	Pb	19 49 11.0	-0.1
ETVZ	**East Tongariro**	**0.82**	**103**	P	Pb	19 49 11.0	-0.1
WAZ	**Wanganui**	**0.83**	**164**	P	Pb	19 49 11.4	+0.1
RATZ	**Rangitukua**	**0.85**	**84**	P	Pb	19 49 11.7	+0.1
RATZ	**Rangitukua**	**0.85**	**84**	P	Pb	19 49 11.7	+0.1
WATZ	**Wairara**	**0.85**	**74**	P	Pb	19 49 11.5	-0.1
WATZ	**Wairara**	**0.85**	**74**	P	Pb	19 49 11.5	-0.1
TLZ	**Tolley Road**	**0.91**	**47**	P	Pb	19 49 12.1	-0.5
TLZ				S	Sb	19 49 24.4	0.0
RITZ	**Rihia Road**	**0.92**	**92**	P	Pn	19 49 13.0	+0.3
RITZ	**Rihia Road**	**0.92**	**92**	P	Pn	19 49 13.0	+0.3
MOVZ	**Moawhango**	**0.94**	**119**	P	Pb	19 49 12.8	-0.4
MOVZ				S	Sb	19 49 25.1	-0.3
KUTZ	**Kaahu Road**	**1.00**	**63**	P	Pn	19 49 13.9	0.0
WHTZ	**Whakaora**	**1.03**	**74**	P	Pb	19 49 14.9	+0.2
BHHZ	**Black Hill Sta**	**1.20**	**117**	P	Pn	19 49 16.5	-0.1
BHHZ				S	Sn	19 49 32.3	+0.2
WPRZ	**Whakapapatarin**	**1.23**	**70**	P	Pn	19 49 16.9	-0.2
GRRZ	**Galatos Road**	**1.27**	**62**	P	Pn	19 49 17.6	0.0
OHWZ	**Ohakea**	**1.34**	**159**	P	Pn	19 49 19.2	+0.7
MRHZ	**Matea Rd**	**1.36**	**85**	P	Pn	19 49 18.8	0.0
HSRZ	**Hossack Road**	**1.38**	**63**	P	Pb	19 49 20.9	+0.4
TOZ	**Tahuroa Road**	**1.38**	**28**	P	Pn	19 49 19.0	-0.1
UTU	**Utuhina**	**1.42**	**57**	P	Pb	19 49 21.2	+0.1
BKZ	**Black Stump Fm**	**1.42**	**99**	P	Pb	19 49 20.6	-0.7
KWHZ	**Kaweka Forest**	**1.43**	**110**	P	Pn	19 49 20.6	+0.8
KRHZ	**Kereru**	**1.48**	**118**	P	Pn	19 49 21.2	+0.7
TSZ	**Takapari Road**	**1.48**	**139**	P	Pn	19 49 21.0	+0.5
KMRZ	**Kaimai**	**1.48**	**42**	P	Pn	19 49 21.2	+0.7
PNHZ	**Pukenui**	**1.51**	**130**	P	Pn	19 49 21.8	+0.8
MCHZ	**McNeill Hill**	**1.64**	**108**	P	Pb	19 49 25.4	+0.5
NMHZ	**Naumai**	**1.66**	**96**	P	Pb	19 49 25.9	+0.6
POWZ	**Post Office Ro**	**1.66**	**150**	P	Pb	19 49 24.2	-1.1
MTHZ	**Maungataniwha**	**1.69**	**87**	P	Pb	19 49 25.5	-0.3
TGRZ	**Tauranga**	**1.74**	**46**	P	Pn	19 49 23.9	-0.1
WPHZ	**Waipukurau**	**1.75**	**130**	P	Pb	19 49 26.6	-0.3
DVHZ	**Dannevirke**	**1.76**	**140**	P	Pb	19 49 26.2	-0.9
MRZ	**Mangatainoka R**	**1.84**	**158**	P	Pb	19 49 27.0	-1.3
RAHZ	**Arahi**	**1.87**	**90**	P	Pb	19 49 29.5	+0.6
PRWZ	**Pori Road**	**1.88**	**149**	P	Pb	19 49 27.9	-1.1
MKAZ	**Moumakai**	**1.89**	**12**	P	Pn	19 49 26.0	0.0
AWAZ	**Awhitu Peninsu**	**1.89**	**359**	P	Pn	19 49 26.0	-0.1
KAHZ	**Kahuranaki**	**1.89**	**117**	P	Pb	19 49 28.9	-0.4
OGWZ	**Otaki Gorge**	**1.90**	**169**	P	Pn	19 49 27.6	+1.4
KIW	**Kapiti Island**	**1.91**	**175**	P	Pn	19 49 27.5	+1.1
DUWZ	**D'Urville Isla**	**1.94**	**197**	P	Pn	19 49 28.2	+1.4
WHHZ	**Waihua**	**1.99**	**94**	P	Pb	19 49 30.6	-0.4
PRHZ	**Porangahau**	**2.00**	**132**	P	Pb	19 49 30.0	-1.1
ETAZ	**East Tamaki Re**	**2.01**	**6**	P	Pn	19 49 27.8	0.0
WTAZ	**Waiatarua**	**2.02**	**357**	P	Pn	19 49 28.0	0.0
URZ	**Urewera**	**2.02**	**71**	P	Pb	19 49 30.8	-0.7
ANWZ	**Angora Road**	**2.04**	**138**	P	Pb	19 49 30.5	-1.3
TIWZ	**Tintock**	**2.04**	**153**	P	Pn	19 49 30.0	+1.8
HOWZ	**Holdsworth Sta**	**2.04**	**162**	P	Pb	19 49 30.1	-1.8
BFZ	**Birch Farm**	**2.10**	**146**	P	Pn	19 49 30.3	+1.3
CAW	**Cannon Point**	**2.17**	**172**	P	Pn	19 49 31.5	+1.6
RVAZ	**Riverhead Bore**	**2.18**	**358**	P	Pn	19 49 30.0	-0.2
WIAZ	**Waiheke Island**	**2.19**	**9**	P	Pn	19 49 30.3	+0.1
MBAZ	**Motutapu North**	**2.19**	**4**	P	Pn	19 49 30.1	-0.1
TCW	**Tory Channel**	**2.27**	**188**	P	Pn	19 49 32.8	+1.4
MTW	**Mount Morrison**	**2.29**	**164**	P	Pb	19 49 33.9	-2.1
MWZ	**Matawai**	**2.31**	**75**	P	Pn	19 49 33.7	+1.8
WEL	**Wellington**	**2.33**	**178**	P	Pn	19 49 34.2	+2.1
TMWZ	**Te Maipa**	**2.34**	**157**	P	Pn	19 49 33.6	+1.3
KUZ	**Kuaotunu**	**2.35**	**21**	P	Pn	19 49 31.9	-0.6
TKNZ	**Takaka Hill**	**2.46**	**212**	P	Pn	19 49 33.7	-0.3
NNZ	**Nelson**	**2.47**	**204**	P	Pn	19 49 34.2	+0.1
PAWZ	**Paruwai Farm**	**2.49**	**167**	P	Pb	19 49 37.3	-2.2
TUWZ	**Tuamarina**	**2.54**	**193**	P	Pn	19 49 37.2	+2.2
RUGZ	**Raukumara Rang**	**2.55**	**68**	P	Pb	19 49 38.6	-1.9
TRWZ	**Traveller**	**2.56**	**163**	P	Pb	19 49 39.0	-1.6
PLWZ	**Palliser**	**2.65**	**171**	P	Pn	19 49 37.7	+1.1
HAZ	**Te Kaha**	**2.71**	**65**	P	Pn	19 49 39.6	+2.2
GRZ	**Great Barrier**	**2.77**	**13**	P	Pn	19 49 37.7	-0.5
BSWZ	**Blackbirch Sta**	**2.83**	**192**	P	Pn	19 49 41.8	+2.8
MRNZ	**Matariki Terra**	**2.85**	**211**	P	Pn	19 49 39.3	-0.1
WCZ	**Waipu Caves**	**3.02**	**355**	P	Pn	19 49 41.3	-0.4
THZ	**Tophouse**	**3.12**	**205**	P	Pn	19 49 43.6	+0.5
OUZ	**Omahuta**	**3.83**	**347**	P	Pn	19 49 52.6	-0.1
LTZ	**Lake Taylor**	**4.24**	**205**	P	Pn	19 49 59.0	+0.5
INZ	**Inchbonnie**	**4.50**	**212**	P	Pn	19 50 01.5	-0.4
FOZ	**Fox Glacier**	**5.86**	**217**	P	Pn	19 50 20.5	-0.2

IDC 01 19:50:23.5±8.7, 18°67S×175°98W, h303km±50km, mb3.5/4, mbtmp4.2/6, Error ellipse: s-maj=117.2km s-min=83.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.75**	**278**	P	Pn	19 51 49.8	-0.3
	19nm,0.6s,baz=117,slow=17,SNR=15						
DZM	**Mont Dzumac**	**16.82**	**255**	P	Pn	19 54 02.2	-1.1
	3.7nm,0.7s,baz=70,slow=16,SNR=2.0						
CTA	**Charters Tower**	**35.61**	**261**	P	P	19 56 53.4	+0.1
	3.5nm,0.5s,baz=97,slow=9.3,SNR=13						
	3.5nm,0.5s						
STKA	**Stephens Creek**	**40.31**	**243**	P	P	19 57 31.6	-0.5
	0.8nm,0.4s,baz=73,slow=11,SNR=4.6						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**46.77**	**260**	P	P	19 58 22.9	-0.6
	0.7nm,0.4s,baz=97,slow=6.9,SNR=25						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**46.81**	**255**	P	P	19 58 23.8	0.0
	6.2nm,0.6s,baz=89,slow=8.3,SNR=126						
ASAR				PcP	PcP	19 59 51.8	+0.2
	0.3nm,0.5s,baz=100,slow=4.8,SNR=4.2						
	6.2nm,0.6s						

*NEIC **01** 20:08:13.7±2.6, 43°57N±0°03×105°22W±0°05, h0km±2km, ML3.3/44, Error ellipse: s-maj=6.7km s-min=3.1km az=234.0*

*IDC **01** 20:08:13.7±2.1, 43°50N×105°46W, h0km, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=43.7km s-min=9.7km az=152.0*

ISC 01 20:08:13.6±1.0, 43°61N±0°05×105°18W±0°06, h0km, n36, σ1s59/34, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.97**	**58**	Pn	**Pb**	**20 08 34.7**	**+1.2**
K22A	**Casper**	**1.37**	**226**		**Pg**	**20 08 38.3**	**-1.6**
K22A				IAML		20 09 07.0	
	comp=E,282nm,0.7s						
PHWY	**Pilot Hill**	**2.31**	**185**		**Pn**	**20 08 54.7**	**+1.5**
RWWY	**Rawlins**	**2.43**	**219**		**Pn**	**20 08 54.2**	**-0.6**
RWWY				IAML		20 09 29.6	
	comp=E,144nm,1.4s						
RWWY				IAML		20 09 30.2	
	comp=E,217nm,1.3s						
N23A	**Red Feather La**	**2.77**	**192**		**Pn**	**20 09 00.5**	**+1.0**
N23A				IAML		20 09 42.9	
	comp=E,99nm,0.8s						
N23A				IAML		20 09 47.1	
	comp=N,110nm,0.7s						
LAO	**LASA Array**	**3.17**	**347**	Pn	**Pn**	**20 09 02.1**	**-2.7**
RLMT	**Red Lodge**	**3.30**	**299**	Pn	**Pn**	**20 09 07.4**	**+0.7**
RLMT				IAML		20 10 15.2	
	comp=N,89nm,1.4s						
RLMT				IAML		20 11 03.7	
	comp=N,61nm,3.6s						
PD31	**Pinedale Array**	**3.31**	**257**		**Pn**	**20 09 05.1**	**-1.8**
PDAR	**Pinedale Array**	**3.31**	**257**	Pn	**Pn**	**20 09 06.4**	**-0.5**
	comp=N,3.2nm,0.3s,baz=79,slow=16,SNR=44						
PDAR				Lg	Lg	20 09 50.7	
	comp=N,13nm,0.3s,baz=74,slow=30,SNR=12						
PDAR	**Pinedale Array**	**3.31**	**257**	Pn	**Pn**	**20 09 04.3**	**-2.6**
BW06	**Boulder Array**	**3.31**	**257**		**Pn**	**20 09 06.3**	**-0.6**
BW06				IAML		20 09 57.1	
	comp=N,44nm,0.5s						
BW06				IAML		20 10 00.1	
	comp=N,44nm,0.6s						
OGNE	**Ogallala**	**3.54**	**138**	Pn	**Pn**	**20 09 07.2**	**-2.7**
YMP	**Mirror Lake Pl**	**3.75**	**289**	Pn	**Pn**	**20 09 12.6**	**-0.5**
ISCO	**Idaho Springs**	**3.82**	**185**		**Pn**	**20 09 12.3**	**-1.6**
GCMT	**Greycliff**	**3.87**	**306**	Pn	**Pn**	**20 09 12.8**	**-1.8**
LKWY	**Lake**	**3.88**	**286**	Pn	**Pn**	**20 09 14.8**	**0.0**
LKWY				IAML		20 11 32.6	
	comp=N,64nm,3.6s						
LOHW	**Long Hollow**	**3.94**	**272**		**Pn**	**20 09 16.6**	**+1.1**
LOHW				IAML		20 10 32.2	
	comp=N,38nm,2.5s						
LOHW				IAML		20 10 34.0	
	comp=N,32nm,3.1s						
H17A	**Grant Village**	**3.97**	**283**	Pn	**Pn**	**20 09 15.7**	**-0.3**
H17A				IAML		20 10 23.2	
	comp=E,40nm,2.5s						
H17A				IAML		20 10 24.8	
	comp=N,54nm,2.1s						
MOOW	**Moose Ponds**	**4.04**	**274**	Pn	**Pn**	**20 09 18.3**	**+1.4**
REDW	**Red Top Meadow**	**4.13**	**269**	Pn	**Pn**	**20 09 17.3**	**-0.9**
FXWY	**Fox Creek**	**4.24**	**272**		**Pn**	**20 09 19.6**	**-0.2**
FXWY				IAML		20 10 40.8	
	comp=N,29nm,2.7s						
AHID	**Auburn Hatcher**	**4.41**	**261**	Pn	**Pn**	**20 09 20.7**	**-1.3**
AHID				IAML		20 10 54.3	
	comp=N,34nm,1.3s						
Q24A	**Divide**	**4.64**	**180**	Pn	**Pn**	**20 09 27.0**	**+1.8**
Q24A				IAML		20 10 46.6	
	comp=E,26nm,1.2s						
Q24A				IAML		20 11 54.3	
	comp=N,21nm,2.8s						
BOZ	**Bozeman (W)**	**5.02**	**296**		**Pn**	**20 09 33.8**	**+3.6**
BOZ				IAML		20 12 27.6	
	comp=N,16nm,4.4s						
BOZ				IAML		20 12 42.5	
	comp=N,20nm,4.1s						
HWUT	**Hardware Ranch**	**5.12**	**249**	Pn	**Pn**	**20 09 30.4**	**-1.3**
PV07	**Paradox Valley**	**5.79**	**208**		**Pn**	**20 09 42.0**	**+1.0**
PV15	**Paradox Valley**	**5.82**	**206**	Pn	**Pn**	**20 09 43.8**	**+2.4**
SPUT	**South Promonto**	**5.85**	**249**	Pn	**Pn**	**20 09 42.6**	**+0.9**
HVU	**Hansel Valley**	**5.89**	**255**	Pn	**Pn**	**20 09 41.5**	**-0.7**
PV23	**Carpenter Ridg**	**5.91**	**211**	Pn	**Pn**	**20 09 44.5**	**+1.9**
SRU	**San Rafael Swe**	**6.03**	**224**		**Pn**	**20 09 44.6**	**+0.4**
PV13	**Radium Mtn., P**	**6.10**	**208**		**Pn**	**20 09 46.3**	**+1.1**
ECSD	**EROS Data Cent**	**6.21**	**86**	Pn	Pn	20 09 54.5	+7.9
I10CA	**LAC DU BONNET**	**9.09**	**40**	I	I	21 01 20.0	
	comp=N,0.1nm,1.7s,baz=220,slow=316,SNR=6.0						
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**20 10 29.1**	**+1.6**
	comp=N,0.6nm,0.3s,baz=234,slow=13,SNR=4.1						
ULM				Lg	Lg	20 13 01.1	
	comp=N,0.5nm,0.3s,baz=180,slow=8.1,SNR=2.7						
	comp=N,1.4nm,0.4s						
YKA	**Yellowknife Ar**	**19.71**	**347**	P	**Pn**	**20 12 46.0**	**+0.3**
	comp=N,0.1nm,0.3s,baz=156,slow=12,SNR=7.0						
	comp=N,0.2nm,0.7s						

IDC 01 20:18:24.0±4.6, 26°72S×65°18W, h0km, mb3.9/1, mbtmp3.6/2, ML3.6/1, MS2.7/2, Error ellipse: s-maj=250.3km s-min=32.9km az=5.0, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFA	**Coronel Fontan**	**5.55**	**208**	LR	LR	20 21 50.6	
	comp=Z,81nm,19.2s,baz=156,slow=37						
CPUP	**Villa Florida**	**7.04**	**89**	Pn	Pn	20 20 08.8	+0.4
	0.3nm,0.3s,baz=260,slow=12,SNR=5.4						
CPUP				Pg	Pb	20 20 32.5	+5.3
	1.2nm,0.3s,baz=265,slow=13,SNR=10						
CPUP				Lg	Lg	20 22 08.0	
	2.0nm,0.3s,baz=194,slow=20,SNR=1.8						
CPUP				LR	LR	20 23 34.3	
	comp=Z,44nm,20.0s,baz=230,slow=44						
	0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**76.05**	**67**	P	P	20 30 13.0	-0.7
	0.9nm,0.7s,baz=257,slow=5.2,SNR=5.3						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**147.46**	**43**	PKPbc	PKPbc	20 38 10.0	+0.2
	0.2nm,0.5s,baz=285,slow=2.8,SNR=2.0						

**IDC 01 20:18:46.2±9.3, 18°69S×179°34W, h491km±34km, mb2.9/3, mbtmp3.7/4, Error ellipse: s-maj=288.3km s-min=34.2km az=142.0,

Error ellipse: s-maj=39.2km s-min=36.1km az=12.0
*IDC **01** 20:50:41.8±2.7,36°41N×71°15E,h188km±21km,mb3.6/14, mbtmp4.1/21,MS3.4/1,Error ellipse: s-maj=22.2km s-min=13.1km az=159.0*
ISC 01 20:50:42.2±0.5,36°55N±0°05×71°19E±0°05,h188km,n47, σ2§68/58,mb3.8/14,6C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.90**	**18**	P	**Pn**	**20 52 11.2**	**+2.9**
	SNR=318						
UCH	**Uchtor**	**6.22**	**23**	P	**Pn**	**20 52 15.8**	**+3.2**
	SNR=65						
EKS2	**Erkin-Say**	**6.42**	**17**	P	**Pn**	**20 52 17.8**	**+3.0**
	SNR=35						
KK31	**Karatay Array**	**6.56**	**356**	⇑P	**Pn**	**20 52 13.4**	**-3.2**
	3.2nm,0.3s,baz=173,slow=12,SNR=282						
KK31				⇓S	**Sn**	**20 53 28.1**	**-3.1**
	15nm,0.4s						
AAK	**Ala-Archa**	**6.59**	**22**	P	**Pn**	**20 52 20.3**	**+3.2**
	SNR=44						
AAK	**Ala-Archa**	**6.59**	**22**	P	**Pn**	**20 52 20.1**	**+3.1**
	19nm,0.3s,baz=193,slow=5.9,SNR=210						
AAK				S	**Sn**	**20 53 28.5**	**-3.6**
	12nm,0.5s,baz=186,slow=8.0,SNR=5.4						
KBK	**Karagaybulak**	**6.75**	**24**	P	**Pn**	**20 52 22.6**	**+3.4**
	SNR=42						
ULHL	**Ulahol**	**6.90**	**33**	P	**Pn**	**20 52 24.6**	**+3.4**
	SNR=7.1						
CHMS	**Chumysh**	**7.00**	**22**	P	**Pn**	**20 52 24.8**	**+2.5**
	SNR=24						
USP	**Ospenovka**	**7.17**	**20**	P	**Pn**	**20 52 26.5**	**+1.9**
	SNR=25						
TKM2	**Tokmak 2**	**7.21**	**27**	P	**Pn**	**20 52 28.2**	**+3.0**
	SNR=15						
TKM2	**Tokmak 2**	**7.21**	**27**	⇑P	**Pn**	**20 52 24.1**	**-1.1**
	29nm,0.5s						
TKM2				⇓S	**Sn**	**20 53 45.3**	**-1.5**
	23nm,0.8s						
MDOK	**Medeo**	**7.99**	**33**	⇑P	**Pn**	**20 52 36.5**	**+1.0**
	12nm,0.6s						
GEYT	**Alibeck**	**10.51**	**281**	P	**Pn**	**20 53 07.5**	**-0.7**
	2.0nm,0.6s,baz=116,slow=10,SNR=7.3						
GEYT				S	**Sn**	**20 55 01.0**	**-4.3**
	1.5nm,0.7s,baz=96,slow=14,SNR=2.1						
MAKZ	**Makanchi**	**13.03**	**35**	⇓P	**Pn**	**20 53 40.0**	**-0.3**
	4.0nm,0.5s						
MK31	**Makanchi Array**	**13.16**	**36**	⇑P	**Pn**	**20 53 42.6**	**+0.6**
	2.5nm,0.7s,baz=213,slow=12,SNR=21						
MKAR	**Makanchi Array**	**13.16**	**36**	P	**Pn**	**20 53 43.2**	**+1.2**
	0.7nm,0.3s,baz=209,slow=11,SNR=19						
MKAR				S	**S**	**20 56 10.6**	**-0.3**
	0.4nm,0.8s,baz=228,slow=15,SNR=1.3						
DANN	**Dangsing**	**13.39**	**124**	*eP*	**Pn**	**20 53 48.9**	**+3.6**
	4.2nm,0.2s						
DANN				*eS*	**Sn**	**20 56 09.7**	**-5.0**
GKN	**Gorkha**	**14.21**	**123**	*eP*	**P**	**20 53 59.5**	**+2.3**
	7.7nm,0.3s						
GKN				*eS*	Sn	20 56 28.5	-5.4
DMN	**Daman**	**14.78**	**123**	*eP*	**P**	**20 54 07.8**	**+4.1**
	11nm,0.5s						
DMN				*eS*	**Sn**	**20 56 43.7**	**-4.0**
PKIN	**Phulchoki**	**14.99**	**123**	*eP*	**P**	**20 54 10.8**	**+4.7**
	13nm,0.4s						
PKIN				*eS*	**S**	**20 56 48.7**	**-4.4**
PKI	**Pulchoki**	**15.01**	**123**	*eP*	**P**	**20 54 10.8**	**+4.5**
	7.3nm,0.4s						
PKI				*eS*	**S**	**20 56 48.7**	**-4.8**
KURBB	**Kurchatov Arra**	**15.03**	**18**	P	**Pn**	**20 54 05.2**	**+0.2**
	0.4nm,0.4s,baz=206,slow=10,SNR=6.8						
KURBB				S	**Sn**	**20 56 51.6**	**-1.2**
	0.9nm,1.0s,baz=213,slow=20,SNR=4.3						
AB31	**Akbulak array**	**15.11**	**331**	⇑P	**Pn**	**20 54 04.8**	**-1.2**
	1.3nm,0.5s,baz=141,slow=13,SNR=70						
JIRN	**Jiri**	**15.49**	**121**	*eP*	**P**	**20 54 14.6**	**+3.0**
	16nm,0.4s						
JIRN				*eS*	**S**	**20 57 00.7**	**-3.3**
BVA0	**Borovoye Array**	**16.48**	**358**	⇑P	**Pn**	**20 54 25.0**	**+2.4**
	2.4nm,1.2s,baz=278,slow=34,SNR=16						
BVAR	**Borovoye Array**	**16.48**	**358**	P	**Pn**	**20 54 23.2**	**+0.6**
	1.9nm,0.5s,baz=163,slow=10,SNR=13						
BRVK	**Borovoye**	**16.52**	**358**	⇓P	**Pn**	**20 54 27.1**	**+4.0**
	2.1nm,0.5s						
AKTO	**Aktyubinsk**	**16.81**	**330**	P	**Pn**	**20 54 26.9**	**+0.4**
	4.4nm,0.3s,baz=142,slow=9.2,SNR=12						
AKTO	**Aktyubinsk**	**16.81**	**330**	⇓P	**Pn**	**20 54 26.7**	**+0.1**
	4.2nm,0.8s						
ZALV	**Zalesovo Beam**	**19.80**	**24**	P	**P**	**20 54 58.3**	**+0.3**
	1.6nm,0.3s,baz=218,slow=11,SNR=10						
ZALV				S	**S**	**20 58 25.0**	**-5.6**
	0.4nm,0.4s,baz=218,slow=21,SNR=1.4						
ARU	**Arti**	**21.63**	**341**	P	**P**	**20 55 17.3**	**-0.1**
	1.0nm,0.3s,baz=186,slow=10,SNR=4.3						
	1.0nm,0.3s						
BELG	**Belogornoye**	**22.94**	**321**	P	**P**	**20 55 31.1**	**+1.3**
	5.8nm,0.6s,baz=165,slow=12,SNR=8.3						
	5.8nm,0.6s						
ASF	**Jabal al Asfar**	**28.55**	**271**	P	**P**	**20 56 21.2**	**+0.7**
	2.4nm,0.5s,baz=22,slow=13,SNR=2.5						
	2.4nm,0.5s						
AKASG	**Malin Array Be**	**33.03**	**309**	P	**P**	**20 57 00.2**	**+0.7**
	0.9nm,0.5s,baz=102,slow=10,SNR=10						
	0.9nm,0.5s						
NRIK	**Noril'sk**	**34.05**	**10**	P	**P**	**20 57 09.8**	**+1.8**
	2.3nm,0.6s,baz=217,slow=5.1,SNR=4.3						
	2.3nm,0.6s						
FINES	**FINESS Array B**	**37.52**	**326**	P	**P**	**20 57 38.2**	**+0.6**
	1.9nm,0.4s,baz=120,slow=10,SNR=29						
	1.9nm,0.4s						
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**20 58 08.6**	**+1.0**
	23nm,1.2s,baz=108,slow=8.6,SNR=18						
	23nm,1.2s						
NB2	**NORSAR Subarra**	**44.43**	**323**	P	**P**	**20 58 33.5**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.43**	**323**	P	**P**	**20 58 34.0**	**0.0**
	comp=Z,1.9nm,0.5s,baz=104,slow=7.3,SNR=12						
	comp=Z,1.9nm,0.5s						
KEST	**Kesra**	**49.16**	**289**	LR	LR	21 27 08.1	
	comp=Z,38nm,18.5s,baz=271,slow=44						
ESDC	**Sonseca Array**	**57.56**	**298**	P	**P**	**21 00 12.3**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=54,slow=7.2,SNR=1.7						
	comp=Z,0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.87**	**269**	P	**P**	**21 01 06.5**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=55,slow=6.0,SNR=8.6						
	comp=Z,1.1nm,0.6s						
INK	**Inuvik**	**73.83**	**9**	P	**P**	**21 01 56.5**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=333,slow=5.6,SNR=20						
	comp=Z,2.2nm,0.6s						
ILAR	**Eielson Array**	**74.69**	**16**	P	**P**	**21 02 00.3**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.2,SNR=6.2						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**21 02 36.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=353,slow=5.4,SNR=18						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**84.16**	**125**	P	**P**	**21 02 52.0**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=307,slow=6.0,SNR=5.9						
	comp=Z,0.6nm,0.7s						

*IDC **01** 20:58:20.9±3.8,5°93S×146°92E,h44km±30km,mb3.6/2, mbtmp3.9/4,ML4.1/1, Error ellipse: s-maj=33.5km s-min=21.8km az=132.0*
ISC 01 20:58:24.2±1.7,6°0S±0°1×147°1E±0°1,h78km,n17, σ1§40/20,mb3.8/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**178**	P	**Pn**	**20 59 13.2**	**-1.1**
	18nm,0.3s,baz=328,slow=9.5,SNR=18						
PMG				S	**Sn**	**20 59 52.4**	**-0.7**
	16nm,0.3s,baz=0.0,slow=20,SNR=1.9						
PMG	**Port Moresby**	**3.36**	**178**	P	**Pn**	**20 59 13.2**	**-1.1**
KDU	**Kakadu**	**15.84**	**244**	P	**Pn**	**21 02 03.2**	**+0.6**
QIS	**Mount Isa**	**16.15**	**206**	P	**Pn**	**21 02 07.1**	**+0.5**
WRAB	**Tennant Creek**	**18.54**	**221**	P	**P**	**21 02 35.1**	**+0.4**
WRA	**Warramunga Arr**	**18.55**	**221**	P	**P**	**21 02 35.3**	**+0.4**
	0.6nm,0.3s,baz=42,slow=12,SNR=24						
WRA				S	**S**	**21 05 59.6**	**-2.5**
	0.6nm,0.9s,baz=45,slow=24,SNR=2.0						
	4.0nm,0.6s						
KNRA	**Kununurra**	**20.35**	**240**	P	**P**	**21 02 55.5**	**+1.0**
QLP	**Quilpie**	**20.62**	**187**	P	**P**	**21 02 57.6**	**+0.4**
ASAR	**Alice Springs**	**21.63**	**214**	P	**P**	**21 03 08.1**	**-0.1**
	1.7nm,0.4s,baz=44,slow=8.8,SNR=74						
ASAR				S	**S**	**21 07 06.9**	**+3.3**
	0.7nm,0.8s,baz=33,slow=21,SNR=4.7						
	1.7nm,0.4s						
KOUNC	**Koumac, New Ca**	**22.08**	**132**	P	**P**	**21 03 14.6**	**+1.6**
	14nm,2.3s						
FITZ	**Fitzroy Crossi**	**24.11**	**238**	P	**P**	**21 03 33.8**	**+1.1**
OOD	**Oodnadatta**	**24.19**	**205**	P	**P**	**21 03 33.9**	**+0.5**
LCRK	**Leigh Creek**	**25.68**	**198**	P	**P**	**21 03 47.5**	**+0.6**
WRKA	**Warakurna**	**26.09**	**222**	P	**P**	**21 03 50.7**	**-0.1**
STKA	**Stephens Creek**	**26.22**	**191**	P	**P**	**21 03 52.2**	**+0.4**
	1.0nm,0.7s,baz=22,slow=7.1,SNR=3.7						
	1.0nm,0.7s						
MULG	**Mulgathing**	**27.05**	**205**	P	**P**	**21 03 59.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**145.16**	**284**	PKPbc	**PKPbc**	**21 17 50.8**	**-2.7**
	0.1nm,0.3s,baz=68,slow=3.5,SNR=2.3						

IDC 01 21:02:38.5±12.0,2°60N×99°28E,h213km±117km,mb2.7/4, mbtmp3.3/5,Error ellipse: s-maj=100.4km s-min=17.7km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.77**	**359**	P	Pn	21 06 09.7	+0.1
	0.5nm,0.3s,baz=190,slow=11,SNR=12						
WRA	**Warramunga Arr**	**41.06**	**125**	P	P	21 10 01.5	-0.1
	0.2nm,0.5s,baz=298,slow=9.1,SNR=6.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**42.62**	**130**	P	P	21 10 14.2	-0.1
	0.1nm,0.3s,baz=305,slow=7.3,SNR=5.0						
	0.1nm,0.3s						
SONM	**Songino Array**	**45.48**	**7**	P	P	21 10 35.8	-0.9
	0.1nm,0.4s,baz=186,slow=10,SNR=1.9						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**46.44**	**344**	P	P	21 10 44.2	+0.1
	0.3nm,0.4s,baz=158,slow=9.5,SNR=9.1						
	0.3nm,0.4s						

*TEH **01** 21:07:26.7,27°09N×53°75E,h13km±195km,ML2.8*
*OMAN **01** 21:07:27.2±1.2,26°94N×54°11E,h13km,mb5.0/1, ml2.6/13,Error ellipse: s-maj=14.8km s-min=7.1km az=21.0*
ISC 01 21:07:25.6±0.9,26°99N±0°05×53°88E±0°05,h19km,n23, σ1§17/35,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.73**	**299**	Pg	**Pb**	**21 07 38.8**	**-0.9**
LAR1	**LAR**	**0.81**	**33**	Pg	**Pb**	**21 07 42.6**	**+1.6**
JHRM	**Jahrom**	**1.54**	**350**	Pg	**Pg**	**21 07 55.1**	**-0.1**
QIR1	**Qir**	**1.66**	**334**	Pg	**Pg**	**21 07 56.0**	**-1.6**
QIR1				Sg	**Sg**	**21 08 18.6**	**-0.6**
SHME	**Shamm**	**2.23**	**114**	P	Pn	21 07 59.3	-2.2
SHME				S	**Sn**	**21 08 27.2**	**-1.3**
JRN	**Qarnain Island**	**2.24**	**205**	P	**Pn**	**21 08 05.3**	**+3.6**
BANOM	**Banah**	**2.41**	**116**	P	**Pn**	**21 08 05.7**	**+1.7**
MASF	**Masafi**	**2.60**	**128**	P	**Pn**	**21 08 08.2**	**+1.5**
MASF				S	**Sn**	**21 08 38.1**	**+0.3**
ASUD	**Al Ashush, Dub**	**2.69**	**151**	P	**Pn**	**21 08 09.0**	**+1.2**
FAQ	**Al Faqa, Dubai**	**2.71**	**145**	P	**Pn**	**21 08 09.4**	**+1.2**
UOSS	**Minazif**	**2.92**	**134**	P	**Pn**	**21 08 10.8**	**-0.1**
UOSS				S	**Sn**	**21 08 46.1**	**+0.6**
HATD	**Hatta, Dubai**	**2.96**	**136**	P	**Pn**	**21 08 11.8**	**+0.3**
HATD				S	**Sn**	**21 08 47.9**	**+1.4**
ASHO	**Ashiyiah**	**3.02**	**139**	P	**Pn**	**21 08 12.7**	**+0.3**
	SNR=8.2						
ASHO				S	**Sn**	**21 08 47.8**	**-0.3**
ALNE	**Al Ain**	**3.37**	**150**	P	**Pn**	**21 08 17.5**	**+0.2**
SOHO	**SOHO**	**3.72**	**139**	P	**Pn**	**21 08 21.6**	**-0.3**
SOHO				S	**Sn**	**21 09 05.9**	**+0.7**
UMZA	**Um Al Zommool**	**4.41**	**164**	P	**Pn**	**21 08 31.5**	**0.0**
UMZA				S	**Sn**	**21 09 22.5**	**+0.1**
IRAM	**Ramesheh**	**4.98**	**345**	Pn	**Pn**	**21 08 40.2**	**+0.7**
BSY	**Bisya**	**5.19**	**144**	P	**Pn**	**21 08 42.1**	**-0.1**
BSY				S	**Sn**	**21 09 40.7**	**-0.9**
SMDO	**Samad**	**5.44**	**135**	P	**Pn**	**21 08 46.3**	**+0.5**
SMDO				S	**Sn**	**21 09 47.5**	**-0.4**
WSAR	**Wadi Sarin**	**5.70**	**130**	P	**Pn**	**21 08 49.4**	**+0.1**
WSAR				S	**Sn**	**21 09 52.7**	**-1.4**
WBK	**Wadi Bani Khal**	**6.35**	**132**	P	**Pn**	**21 08 57.8**	**-0.5**
WBK				S	**Sn**	**21 10 08.7**	**-1.7**
JLN	**Jalan Bani Buh**	**6.96**	**133**	P	**Pn**	**21 09 06.6**	**0.0**
JLN				S	**Sn**	**21 10 23.4**	**-2.0**
MHTO	**MHTO**	**7.05**	**147**	P	**Pn**	**21 09 07.1**	**-0.6**
	SNR=6.4						

IDC 01 21:10:45.1±3.0,5°85S×154°32E,h0km,mb3.4/2, mbtmp3.5/3,ML3.1/1,Error ellipse: s-maj=57.3km s-min=35.1km az=66.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.76**	**304**	Pn	Pn	21 11 29.9	-0.7
	3.1nm,0.3s,baz=105,slow=20,SNR=1.7						
KRVT				Sn	Sn	21 12 05.4	+0.8
	12nm,0.3s,baz=186,slow=12,SNR=2.4						
	64nm,0.8s						
WRA	**Warramunga Arr**	**23.95**	**232**	P	P	21 16 00.9	-0.3
	0.5nm,0.8s,baz=60,slow=8.5,SNR=1.8						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**26.45**	**226**	P	P	21 16 23.6	-0.5
	1.4nm,1.1s,baz=56,slow=9.6,SNR=6.9						
	1.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**152.07**	**287**	PKPbc	PKiKP	21 30 44.5	+0.6
	0.2nm,0.5s,baz=78,slow=2.6,SNR=2.1						

*HVO **01** 21:14:17.6±0.7,19°18N±0°04×155°48W±0°03,h36km±5km, Md2.6/30,ML2.5/48(NEIC),Error ellipse: s-maj=6.9km s-min=2.6km az=154.0*
NEIC 01 21:14:16.2±0.6,19°20N±0°03×155°49W±0°02,h40km±3km, Error ellipse: s-maj=4.0km s-min=2.2km az=161.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**64**		Pn	21 14 23.2	+0.4
HPO	**Honuapo**	**0.13**	**211**		Pn	21 14 23.2	+0.2
KHU	**Kahuku**	**0.13**	**292**		Pn	21 14 23.5	+0.2
AIN	**Ainahou**	**0.18**	**9**		Pn	21 14 24.0	+0.4
AIN				IAML		21 14 30.9	
	comp=E,456nm,0.3s						
AIN	**Ainahou**	**0.18**	**9**		Sn	21 14 31.1	+2.4
HLP	**Hilina Pali**	**0.19**	**60**		Pn	21 14 23.9	+0.3
HLP				IAML		21 14 33.4	
	comp=E,431nm,1.0s						
HLP				IAML		21 14 37.7	
	comp=N,472nm,0.6s						
SDHHI	**Sand Hill**	**0.26**	**43**		Pn	21 14 24.3	+0.1
SDHHI	**Sand Hill**	**0.26**	**43**		Sn	21 14 29.4	-0.4
WRMHI	**West Rim**	**0.27**	**40**		Pn	21 14 24.4	0.0
WRMHI					Sn	21 14 29.7	-0.3
RIM	**Rim**	**0.28**	**45**		Pn	21 14 24.4	0.0
RIM				IAML		21 14 31.8	
	comp=E,382nm,0.3s						
RIM				IAML		21 14 38.3	
	comp=N,450nm,0.8s						
UWE	**Uwekahuna**	**0.29**	**39**		Pn	21 14 24.6	0.0
UWE				IAML		21 14 35.5	
	comp=N,487nm,0.5s						
UWE	**Uwekahuna**	**0.29**	**39**		Sn	21 14 30.1	-0.2
KKO	**Keanakako`i**	**0.29**	**46**		Pn	21 14 24.6	+0.1
KKO				IAML		21 14 33.8	
	comp=E,355nm,0.4s						
KKO				IAML		21 14 34.8	
	comp=N,464nm,0.6s						
NPH	**North Pit**	**0.29**	**42**		Pn	21 14 24.5	0.0
OBL	**Observatory Le**	**0.29**	**41**		Pn	21 14 24.5	0.0
OBL				IAML		21 14 35.2	
	comp=E,491nm,0.7s						
UWB	**Uwekahuna B**	**0.30**	**41**		Pn	21 14 24.5	-0.1
UWB	**Uwekahuna B**	**0.30**	**41**		Sn	21 14 30.0	-0.4
BYL	**Byron's Ledge**	**0.30**	**45**		Pn	21 14 24.6	-0.1
BYL	**Byron's Ledge**	**0.30**	**45**		Sn	21 14 30.1	-0.4
MWH	**Moku'aweowe**	**0.30**	**340**		Pn	21 14 25.1	0.0
SBLHI	**Steaming Bluff**	**0.31**	**42**		Pn	21 14 24.6	-0.2
SBLHI				IAML		21 14 30.0	
	comp=N,325nm,0.2s						
SBLHI				IAML		21 14 30.0	
	comp=E,314nm,0.2s						
HATHI	**Halema'uma'u T**	**0.31**	**43**		Pn	21 14 24.6	-0.1
HATHI				IAML		21 14 30.3	
	comp=N,371nm,0.5s						
PUH	**Pauahi**	**0.31**	**55**		Pn	21 14 24.6	-0.1
PUH				IAML		21 14 30.1	
	comp=E,320nm,0.3s						
PUH				IAML		21 14 32.5	
	comp=N,408nm,1.7s						
MLH	**Mauna Loa**	**0.31**	**18**		Pn	21 14 25.1	+0.2
MLH				IAML		21 14 30.8	
	comp=E,384nm,0.3s						
MLH				IAML		21 14 31.1	
	comp=N,434nm,1.4s						
MLH	**Mauna Loa**	**0.31**	**18**		Sn	21 14 30.7	-0.2
RSD	**Rainshed**	**0.33**	**37**		Pn	21 14 24.9	-0.1
RSD				IAML		21 14 29.7	
	comp=N,360nm,3.7s						
RSD	**Rainshed**	**0.33**	**37**		Sn	21 14 30.4	-0.7
MLOA	**Mauna Loa Obse**	**0.35**	**346**		Pn	21 14 25.5	0.0
MLOA				IAML		21 14 37.8	
	comp=N,325nm,2.1s						
MLOA				IAML		21 14 40.1	
	comp=E,356nm,3.3s						
MLOA	**Mauna Loa Obse**	**0.35**	**346**		Sn	21 14 31.2	-0.7
KNHH	**Kane Nui o Ham**	**0.35**	**59**		Pn	21 14 25.1	0.0
ALEP	**Alea Permanent**	**0.37**	**336**		Pn	21 14 25.6	-0.1
ALEP					Sn	21 14 31.6	-0.7
STCH	**Steam Cracks**	**0.39**	**61**		Pn	21 14 25.5	-0.1
STCH	**Steam Cracks**	**0.39**	**61**	IAML		21 14 33.1	
	comp=N,257nm,0.7s						
STCH				IAML		21 14 34.0	
	comp=E,244nm,0.6s						
HMH	**Humu'ula Sheep**	**0.40**	**0**		Pn	21 14 26.5	+0.4
HMH				IAML		21 14 33.9	
	comp=E,384nm,0.3s						
HMH	**Humu'ula Sheep**	**0.40**	**0**		Sn	21 14 32.9	0.0
NPOC	**North of Pu'u**	**0.41**	**61**		Sn	21 14 31.7	-0.9
JCUZ	**Jacuzzi**	**0.41**	**63**		Sn	21 14 31.8	-0.8
CPH	**Captain Cook**	**0.50**	**305**		Sn	21 14 33.6	-0.9
JOKA	**Jonika Flow**	**0.51**	**63**		Pn	21 14 26.9	-0.3
JOKA					Sn	21 14 33.6	-1.2
KHLU	**Kahalu`u**	**0.55**	**316**		Pn	21 14 27.7	-0.1
KHLU				IAML		21 14 35.1	
	comp=E,236nm,0.6s						
KHLU				IAML		21 14 35.2	
	comp=N,279nm,0.1s						
KHLU	**Kahalu`u**	**0.55**	**316**		Sn	21 14 35.2	-0.7
POHA	**Pohakuloa**	**0.56**	**355**	Pn	Pn	21 14 27.8	-0.2
POHA				IAML		21 14 39.6	
	comp=N,218nm,0.4s						
POHA				IAML		21 14 40.6	
	comp=N,264nm,0.2s						
HUH	**Hualalai**	**0.59**	**326**		Pn	21 14 28.6	+0.2
HPAH	**Hawaii Prepara**	**0.85**	**346**		Sn	21 14 41.7	-1.5
HPAH	**Hawaii Prepara**	**0.85**	**346**	Pn	Pn	21 14 33.1	+1.3
HPAH				IAML		21 14 42.4	
	comp=N,279nm,0.2s						
HPAH				IAML		21 14 42.5	
	comp=E,230nm,0.2s						

*IDC **01** 21:25:21.3±0.8,3°71N×128°71E,h0km,mb3.8/8, mbtmp3.8/10,ML3.6/2,MS3.2/1,Error ellipse: s-maj=38.9km s-min=15.6km az=71.0*
ISC 01 21:25:27.1±0.7,3°62N±0°09×128°7E±0°1,h45km,n13, σ0§95/16,mb3.8/8,1D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.63**	**318**	LR	LR	21 28 45.8	
	comp=Z,244nm,18.8s,baz=231,slow=45						
KCP	**Kidapawan**	**4.93**	**313**	⇓P	**Pn**	**21 26 37.4**	**-1.3**
KCP				*i* S	**Sn**	**21 27 34.8**	**+0.2**
SIJI	**Sorong**	**5.14**	**150**	Pn	**Pn**	**21 26 41.6**	**-0.1**
	1.7nm,0.3s,baz=350,slow=18,SNR=9.1						
SIJI				Sn	**Sn**	**21 27 37.6**	**-2.2**
	2.4nm,0.3s,baz=343,slow=19,SNR=6.8						
	4.7nm,0.4s						
KAPI	**Kappang**	**12.40**	**226**	Pn	**Pn**	**21 28 20.9**	**-0.2**
	0.4nm,0.3s,baz=45,slow=1.4,SNR=2.0						
	4.2nm,0.6s						
WRA	**Warramunga Arr**	**24.06**	**167**	P	**P**	**21 30 39.1**	**+0.8**
	1.2nm,0.8s,baz=346,slow=10,SNR=7.6						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**27.59**	**170**	P	**P**	**21 31 11.2**	**+0.8**
	0.4nm,0.5s,baz=354,slow=8.0,SNR=7.8						
ASAR				PcP	**PcP**	**21 34 28.6**	**+1.2**
	0.2nm,0.6s,baz=352,slow=3.4,SNR=1.9						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.64**	**299**	P	**P**	**21 31 55.5**	**+0.4**
	0.5nm,0.5s,baz=118,slow=8.4,SNR=4.7						
	0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**33.91**	**14**	P	**P**	**21 32 05.8**	**-0.1**
	1.5nm,0.8s,baz=184,slow=8.6,SNR=4.7						
	1.5nm,0.8s						
STKA	**Stephens Creek**	**37.37**	**162**	P	**P**	**21 32 36.4**	**+0.8**
	0.8nm,0.3s,baz=328,slow=15,SNR=3.1						
	0.8nm,0.3s						
SONM	**Songino Array**	**48.05**	**340**	P	**P**	**21 34 02.0**	**-0.2**
	0.4nm,0.6s,baz=146,slow=6.9,SNR=3.0						
SONM				PcP	**PcP**	**21 35 30.5**	**+1.0**
	0.2nm,0.5s,baz=132,slow=2.1,SNR=2.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.78**	**324**	P	**P**	**21 35 20.7**	**-0.1**
	1.1nm,0.4s,baz=120,slow=8.3,SNR=37						
	1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**61.59**	**332**	P	**P**	**21 35 39.1**	**-0.8**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=1.5						
	0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**124.83**	**289**	PKP	**PKiKP**	**21 44 23.6**	**+0.1**
	0.2nm,0.6s,baz=61,slow=

KSRS	**Korea Array**	**57.09**	**328**	P		**P**		**21 40 01.7**	**-0.1**
	1.1nm,0.8s,baz=163,slow=7.3,SNR=4.7								
KSRS				LR		LR		22 03 13.5	
	comp=Z,23nm,20.4s,baz=120,slow=34								
	1.1nm,0.8s								
USRK	**Ussuriysk Ar.**	**60.62**	**336**	P		**P**		**21 40 26.5**	**+0.3**
	2.4nm,0.7s,baz=141,slow=5.1,SNR=5.8								
	2.4nm,0.7s								
USRK	**Ussuriysk Ar.**	**60.62**	**336**	P		**P**		**21 40 26.9**	**+0.7**
PETK	**Petropavlovsk-**	**63.40**	**357**	P		**P**		**21 40 45.1**	**+0.5**
	2.1nm,0.8s,baz=166,slow=8.6,SNR=1.3								
	2.1nm,0.8s								
KLR	**Kul'dur**	**64.92**	**339**	LR		LR		22 07 24.3	
	comp=Z,25nm,20.5s,baz=102,slow=34								
VNDA	**Vanda**	**67.04**	**180**	P		**P**		**21 41 08.3**	**+0.4**
	2.0nm,0.9s,baz=339,slow=6.0,SNR=3.8								
	2.0nm,0.9s								
SONM	**Songino Array**	**75.74**	**325**	P		**P**		**21 42 01.0**	**0.0**
	2.6nm,0.6s,baz=142,slow=5.6,SNR=26								
SONM				LR		LR		22 16 30.3	
	comp=Z,24nm,18.1s,baz=138,slow=37								
	2.6nm,0.6s								
SONM	**Songino Array**	**75.74**	**325**	P		**P**		**21 42 01.1**	**0.0**
YAK	**Yakutsk**	**76.40**	**345**	P		**P**		**21 42 04.1**	**-0.1**
YAK				IAmb		IAmb		21 42 04.8	
	comp=Z,11nm,0.7s								
SVW2	**Sparrevohn**	**78.94**	**20**	P		**P**		**21 42 19.6**	**+1.2**
CNPM	**China Poot**	**79.36**	**22**	P		**P**		**21 42 21.1**	**+0.3**
BRLK	**Bradley Lake**	**79.65**	**22**	P		**P**		**21 42 23.4**	**+1.0**
BRLK				IAmb		IAmb		21 42 23.7	
	comp=Z,9.5nm,1.0s								
L19K	**White Mountain**	**79.97**	**19**	P		**P**		**21 42 25.3**	**+1.3**
L19K				IAmb		IAmb		21 42 26.4	
	comp=Z,10nm,0.8s								
M20K	**Styx River**	**80.32**	**20**	P		**P**		**21 42 26.8**	**+0.8**
M20K				IAmb		IAmb		21 42 28.4	
	comp=Z,22nm,1.4s								
SUA	**Susitna One**	**80.86**	**21**	P		**P**		**21 42 29.0**	**+0.1**
SUA				IAmb		IAmb		21 42 30.0	
	comp=Z,14nm,1.4s								
CAST	**Castle Rocks**	**81.74**	**19**	P		**P**		**21 42 33.7**	**+0.3**
KTH	**Kantishna Hill**	**82.22**	**20**	P		**P**		**21 42 35.4**	**-0.6**
KTH				IAmb		IAmb		21 42 36.8	
	comp=Z,11nm,0.9s								
MCK	**McKinley**	**83.00**	**20**	P		**P**		**21 42 40.9**	**+0.9**
MCK				IAmb		IAmb		21 42 41.3	
	comp=Z,13nm,0.9s								
I21K	**Tanana**	**83.00**	**18**	P		**P**		**21 42 40.9**	**+0.9**
I21K				IAmb		IAmb		21 42 42.6	
	comp=Z,14nm,1.4s								
MLY	**Manley**	**83.28**	**18**	P		**P**		**21 42 42.2**	**+0.7**
NEA2	**Nenana**	**83.52**	**19**	P		**P**		**21 42 42.3**	**-0.3**
NEA2				IAmb		IAmb		21 42 43.6	
	comp=Z,6.9nm,0.9s								
WRH	**Wood River Hil**	**83.76**	**20**	P		**P**		**21 42 43.8**	**-0.1**
WRH				IAmb		IAmb		21 42 44.8	
	comp=Z,12nm,1.3s								
CCB	**Clear Creek Bu**	**83.97**	**20**	P		**P**		**21 42 44.5**	**-0.4**
CCB				IAmb		IAmb		21 42 45.3	
	comp=Z,4.6nm,0.8s								
HDA	**Harding Lake**	**84.10**	**20**	P		**P**		**21 42 46.3**	**+0.7**
HDA				IAmb		IAmb		21 42 47.0	
	comp=Z,7.5nm,0.9s								
M26K	**Nabesna, AK**	**84.30**	**23**	P		**P**		**21 42 47.8**	**+1.1**
IL31		**84.35**	**20**	P		**P**		**21 42 47.0**	**+0.2**
ILAR	**Eielson Array**	**84.35**	**20**	P		**P**		**21 42 46.6**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=244,slow=4.8,SNR=34								
ILAR				LR		LR		22 16 04.0	
	comp=Z,39nm,20.7s,baz=250,slow=32								
	comp=Z,1.7nm,0.6s								
DOT	**Dot Lake**	**84.64**	**21**	P		**P**		**21 42 49.6**	**+1.2**
DOT				IAmb		IAmb		21 42 50.3	
	comp=Z,4.5nm,0.7s								
SCRK	**Sand Creek**	**84.86**	**21**	P		**P**		**21 42 50.5**	**+0.9**
SCRK				IAmb		IAmb		21 42 51.6	
	comp=Z,3.6nm,0.7s								
EGAK	**Eagle**	**86.33**	**21**	P		**P**		**21 42 57.8**	**+1.1**
EGAK				IAmb		IAmb		21 42 58.8	
	comp=Z,3.6nm,0.8s								
DAWY	**Dawson**	**86.58**	**22**	P		**P**		**21 42 59.0**	**+1.0**
DAWY				IAmb		IAmb		21 43 00.9	
	comp=Z,4.9nm,1.1s								
DLBC	**Dease Lake**	**87.94**	**29**	LR		LR		22 24 03.9	
	comp=Z,48nm,18.0s,baz=10.0,slow=37								
EPYK	**Eagle Plains**	**88.74**	**21**	P		**P**		**21 43 10.1**	**+1.8**
NVAR	**Mina Array Bea**	**88.91**	**51**	P		**P**		**21 43 09.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=240,slow=7.1,SNR=1.5								
	comp=Z,0.4nm,0.5s								
PFO	**Pinyon Flats O**	**89.23**	**56**	LR		LR		22 14 20.6	
	comp=Z,32nm,21.4s,baz=196,slow=30								
MK31	**Makanchi Array**	**90.22**	**318**	P		**P**		**21 43 15.7**	**0.0**
MKAR	**Makanchi Array**	**90.22**	**318**	P		**P**		**21 43 14.5**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=100,slow=6.2,SNR=10								
	comp=Z,0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**93.54**	**321**	P		**P**		**21 43 29.5**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=109,slow=3.5,SNR=7.2								
	comp=Z,0.4nm,0.6s								
YKA	**Yellowknife Ar**	**96.41**	**28**	P		**P**		**21 43 43.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=261,slow=4.4,SNR=13								
	comp=Z,0.7nm,0.7s								
CLL	**Collm**	**131.80**	**334**	*e*PKPdf		**PKPdf**		**21 49 28.0**	**+0.1**

*IDC **01** 21:33:17.6±1.6,4.°92S×152.°21E,h91km±6km,mb3.5/8, mbtmp3.9/10,Error ellipse: s-maj=39.9km s-min=13.0km az=115.0*

ISC 01 21:33:18.2±1.2,4.°9S±0.°1×152.°2E±0.°2,h100km,n13, σ0s87/16,mb3.6/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.65**	**341**	P		**Pn**	**21 33 35.0**	**-0.2**
	341nm,0.4s,baz=251,slow=1.5,SNR=65							
KRVT				LR		LR	21 33 35.7	
	comp=Z,49nm,19.1s,baz=166,slow=28							
KRVT				S		**Sn**	**21 33 47.1**	**-0.8**
	594nm,0.3s,baz=263,slow=22,SNR=13							
PMG	**Port Moresby**	**6.73**	**228**	P		**Pn**	**21 34 55.3**	**+0.9**
	34nm,0.4s,baz=48,slow=10,SNR=11							
PMG				S		**Sn**	**21 36 08.3**	**-1.4**
	38nm,0.5s,baz=121,slow=15,SNR=6.5							
CTA	**Charters Tower**	**16.16**	**201**	P		**Pn**	**21 36 59.2**	**-0.3**
	1.1nm,0.5s,baz=6.1,slow=14,SNR=2.1							
WRA	**Warramunga Arr**	**22.95**	**228**	P		**P**	**21 38 13.1**	**-1.1**
	2.6nm,0.6s,baz=52,slow=10,SNR=15							
	2.6nm,0.6s							
ASAR	**Alice Springs**	**25.69**	**222**	P		**P**	**21 38 39.7**	**+0.6**
	0.6nm,0.4s,baz=56,slow=9.0,SNR=16							
	0.6nm,0.4s							
CMAR	**Chiang Mai Arr**	**57.43**	**295**	P		**P**	**21 42 57.9**	**+0.9**
	1.4nm,0.8s,baz=118,slow=5.6,SNR=7.0							
	1.4nm,0.8s							
SONM	**Songino Array**	**66.13**	**328**	P		**P**	**21 43 56.1**	**+1.0**
	0.3nm,0.4s,baz=140,slow=6.2,SNR=4.9							
SONM				PcP		**PcP**	**21 44 23.5**	**-1.1**
	0.2nm,0.5s,baz=147,slow=4.4,SNR=1.4							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**80.05**	**319**	P		**P**	**21 45 17.1**	**+0.2**
	0.4nm,0.5s,baz=96,slow=6.7,SNR=5.5							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**80.95**	**326**	P		**P**	**21 45 21.7**	**+0.2**
	0.6nm,0.3s,baz=101,slow=7.2,SNR=2.5							
	0.6nm,0.3s							
ILAR	**Eielson Array**	**82.48**	**22**	P		**P**	**21 45 29.4**	**+0.1**
	0.5nm,0.7s,baz=241,slow=5.1,SNR=8.1							
	0.5nm,0.7s							
BVAR	**Borovoye Array**	**89.01**	**323**	P		**P**	**21 46 01.1**	**-0.7**
	0.4nm,0.6s,baz=107,slow=5.0,SNR=2.7							
	0.4nm,0.6s							
GERES	**GERESS Array B**	**123.87**	**328**	PKP		**PKiKP**	**21 52 05.7**	**+0.6**
	0.2nm,0.5s,baz=63,slow=4.5,SNR=4.8							
TORD	**Torodi Ar. Bea**	**149.82**	**288**	PKPbc		**PKiKP**	**21 52 57.8**	**-0.9**
	2.7nm,0.6s,baz=77,slow=2.3,SNR=26							

*NEIC **01** 21:35:54.5±1.8,3.°72N±0.°09×128.°7E±0.°1,h10km±1km, mb4.4/10,Error ellipse: s-maj=19.9km s-min=12.6km az=56.0*

*IDC **01** 21:35:58.3±2.4,3.°75N×128.°82E,h39km±21km,mb3.7/13, mbtmp4.0/16,ML4.1/3,MS3.0/7,Error ellipse: s-maj=29.3km s-min=12.8km az=68.0*

*DJA **01** 21:36:03.7±0.8,3.°N±10.°×12.°9E±.°,h155km±8km,M4.3/8, mB5.3/3,mb4.4/7,MLv4.2/8,Mw(mB)4.7/3*

ISC 01 21:35:57.6±0.6,3.°64N±0.°06×128.°81E±0.°09,h35km,n52, σ1s42/49,mb4.1/19,MS2.9/4,3C-2D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**3.19**	**207**			**Pn**	**21 36 47.0**	**+1.6**
TNTI	**Ternate**	**3.19**	**207**	P		**Pn**	**21 36 44.1**	**-1.3**
SGSI	**Sangihe**	**3.27**	**271**	P		Pn	21 36 53.5	+7.0
DDMP	**Don Marcelino,**	**3.94**	**309**	*e*P		Pn	21 36 51.5	-4.1
DDMP				*e*S		**Sn**	**21 37 43.8**	**+3.3**
DAV	**Davao City (W)**	**4.68**	**317**	Pn		**Pn**	**21 37 05.1**	**-0.8**
	15nm,0.3s,baz=163,slow=12,SNR=1.2							
DAV				Sn		**Sn**	**21 38 00.7**	**+1.8**
	37nm,0.3s,baz=349,slow=14,SNR=2.3							
DAV				LR		LR	21 39 26.5	
	comp=Z,372nm,19.2s,baz=228,slow=45							
	78nm,0.4s							
KCP	**Kidapawan**	**4.99**	**312**	*e*P		**Pn**	**21 37 09.8**	**-0.4**
KCP				*i* S		**Sn**	**21 38 03.4**	**-3.2**
SIJI	**Sorong**	**5.11**	**151**	Pn		**Pn**	**21 37 14.0**	**+2.2**
	2.1nm,0.3s,baz=353,slow=18,SNR=6.6							
SIJI				Sn		**Sn**	**21 38 10.9**	**+1.2**
	4.5nm,0.3s,baz=332,slow=22,SNR=11							
SIJI				LR		LR	21 38 56.1	
	comp=Z,90nm,19.0s,baz=24,slow=34							
	5.8nm,0.3s							
SKMP	**Bagumbayan, Su**	**5.12**	**304**	*e*P		**Pn**	**21 37 12.4**	**+0.5**
SKMP				*e*S		**Sn**	**21 38 09.8**	**0.0**
CTBH	**Cotabato--PC H**	**5.76**	**308**	*e*P		**Pn**	**21 37 24.4**	**+3.6**
CGP	**Cagayan de Oro**	**6.29**	**320**	*e*P		Pn	21 37 39.6	+12
SANI	**Sanana**	**6.32**	**207**	P		**Pn**	**21 37 26.4**	**-2.0**
	29nm,0.8s,0.1nm							
GTOI	**Gorontalo**	**6.52**	**243**	P		**Pn**	**21 37 32.4**	**+1.3**
	20nm,1.0s,0.1nm							
MRSI	**Marisa**	**7.55**	**246**	P		**Pn**	**21 37 46.0**	**+0.8**
	184nm,0.6s,2µm0.7nm							
TOLI2	**Tolitoli**	**8.40**	**253**			**Pn**	**21 37 55.9**	**-1.1**
APSI	**Ampana**	**8.46**	**238**	P		**Pn**	**21 37 56.8**	**-1.0**
	80nm,1.1s,809nm0.3nm							
MPSI	**Mapaga**	**9.49**	**250**	P		**Pn**	**21 38 11.6**	**-0.3**
	15nm,0.7s							
KAPI	**Kappang**	**12.48**	**227**	Pn		**Pn**	**21 38 53.5**	**+0.6**
	2.6nm,0.3s,baz=47,slow=15,SNR=5.6							
KAPI				LR		LR	21 44 27.3	
	comp=Z,50nm,20.4s,baz=56,slow=40							
	5.0nm,0.4s							
SBUM	**Sibu**	**16.60**	**266**	P		**Pn**	**21 39 48.5**	**+0.6**
KNRA	**Kununurra**	**19.20**	**180**			**P**	**21 40 18.7**	**+0.1**
KNRA				IAmb		IAmb	21 40 55.0	
	comp=Z,72nm,1.3s							
WB0	**Warramunga Arr**	**23.90**	**167**	P		**P**	**21 41 09.7**	**+1.4**
WB0				IAmb		IAmb	21 41 42.5	
	comp=Z,14nm,1.2s							
WRA	**Warramunga Arr**	**24.06**	**167**	P		**P**	**21 41 11.3**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=347,slow=10,SNR=8.3							
	comp=Z,1.8nm,0.7s							
WRA	**Warramunga Arr**	**24.06**	**167**	P		**P**	**21 41 09.5**	**-0.4**
WB2	**Warramunga Arr**	**24.06**	**167**	P		**P**	**21 41 09.9**	**0.0**
WB2				IAmb		IAmb	21 41 28.5	
	comp=Z,8.7nm,0.9s							
KRVT	**Keravat (AS076**	**24.51**	**109**	LR		LR	21 49 12.9	
	comp=Z,35nm,18.3s,baz=117,slow=32							
ASAR	**Alice Springs**	**27.60**	**170**	P		**P**	**21 41 42.8**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=356,slow=7.9,SNR=6.0							
ASAR				ScP		**ScP**	**21 48 37.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=0.0,slow=3.9,SNR=2.6							
	comp=Z,0.3nm,0.5s							
CTA	**Charters Tower**	**29.15**	**145**	LR		LR	21 53 06.0	
	comp=Z,27nm,21.6s,baz=316,slow=35							
CMAR	**Chiang Mai Arr**	**32.71**	**299**	P		**P**	**21 42 28.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=104,slow=5.5,SNR=4.3							
CMAR				LR		LR	21 56 08.6	
	comp=Z,21nm,19.5s,baz=135,slow=37							
	comp=Z,0.5nm,0.7s							
MJAR	**Matsushiro Arr**	**33.87**	**14**	P		**P**	**21 42 37.4**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=182,slow=9.9,SNR=6.2							
	comp=Z,1.8nm,0.8s							
FORT	**Forrest**	**34.24**	**181**	P		**P**	**21 42 38.8**	**-1.5**
XAN	**Xi'an**	**35.46**	**331**	P		P	21 42 42.9	-8.0
XAN				pP		pP	21 42 51.0	-8.3
XAN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
STKA	**Stephens Creek**	**37.36**	**162**	P		**P**	**21 43 08.6**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=342,slow=9.6,SNR=4.1							
STKA				LR		LR	22 00 31.4	
	comp=Z,44nm,18.2s,baz=24,slow=39							
	comp=Z,0.8nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**39.88**	**65**	T		T	22 26 39.3	
	baz=253,slow=74,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**39.89**	**65**	T		T	22 26 39.2	
	baz=253							
H11S2	**WAKE ISLAND Hy**	**39.89**	**65**	T		T	22 26 34.4	
	baz=253,slow=74,SNR=4.2							
SONM	**Songino Array**	**48.07**	**340**	P		**P**	**21 44 34.0**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=144,slow=8.4,SNR=3.8							
	comp=Z,0.7nm,0.9s							
PETK	**Petropavlovsk-**	**54.75**	**21**	P		**P**	**21 45 22.1**	**-1.6**
	comp=Z,3.6nm,0.8s,baz=178,slow=4.3,SNR=2.2							
	comp=Z,3.6nm,0.8s							
MKAR	**Makanchi Array**	**58.82**	**324**	P		**P**	**21 45 52.6**	**0.0**
	comp=Z,1.4nm,0.4s,baz=112,slow=7.8,SNR=15							
	comp=Z,1.4nm,0.4s							
MKAR	**Makanchi Array**	**58.82**	**324**	P		**P**	**21 45 52.4**	**-0.3**
ZALV	**Zalesovo Beam**	**61.62**	**332**	P		**P**	**21 46 09.2**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=116,slow=3.4,SNR=2.3							
	comp=Z,0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**62.94**	**327**	P		**P**	**21 46 19.9**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=127,slow=6.3,SNR=20							
	comp=Z,2.1nm,0.6s							
GAR	**Garm**	**63.51**	**312**	P		**P**	**21 46 22.8**	**-2.0**
BVAR	**Borovoye Array**	**68.53**	**326**	P		**P**	**21 46 56.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=128,slow=7.3,SNR=9.1							
	comp=Z,1.3nm,0.7s							
BRVK	**Borovoye**	**68.60**	**326**	P		**P**	**21 46 56.3**	**-0.8**
BRVK				IAmb		IAmb	21 47 07.0	
	comp=Z,3.5nm,0.9s							
ABKAR	**Akbulak array**	**73.53**	**320**	P		**P**	**21 47 25.9**	**-1.1**
ABKAR	**Akbulak array**	**73.53**	**320**	P		**P**	**21 47 26.1**	**-0.9**
ABKAR				IAmb		IAmb	21 47 26.6	
	comp=Z,1.6nm,0.8s							
AKTO	**Aktyubinsk**	**75.02**	**321**	P		**P**	**21 47 34.7**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=95,slow=4.4,SNR=2.1							
	comp=Z,0.7nm,0.4s							
IMAR	**Indian Mountai**	**81.58**	**24**	P		**P**	**21 48 13.8**	**+2.2**
CAST	**Castle Rocks**	**81.88**	**27**	P		**P**	**21 48 14.1**	**+0.8**
CAST				IAmb		IAmb	21 48 17.2	
	comp=Z,3.9nm,1.2s							
ILAR	**Eielson Array**	**84.29**	**25**	P		**P**	**21 48 25.3**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=254,slow=6.5,SNR=2.6							
	comp=Z,0.3nm,0.6s							
BMAR	**Burnt Mountain**	**85.36**	**23**	P		**P**	**21 48 31.9**	**+0.9**
FINES	**FINESS Array B**	**92.88**	**332**	P		**P**	**21 49 06.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**124.91**	**289**	PKP		**PKPdf**	**21 54 55.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=72,slow=1.8,SNR=2.3							

*OSPL **01** 21:37:32.4±3.6,19.°01N×67.°50W,h25km±69km,ML2.9*
*RSPR **01** 21:37:34.0,18.°86N×67.°54W,h6km±1km,MD3.3/16*
*NEIC **01** 21:37:33.5±0.9,18.°85N±0.°05×67.°52W±0.°01,h23km±11km, ML2.9/30,Md3.3/16(RSPR),Error ellipse: s-maj=6.6km s-min=1.6km az=180.0*

ISC 01 21:37:31.8±1.3,18.°93N±0.°06×67.°58W±0.°03,h26km±12km, n60,σ0s83/65,15C,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.55**	**170**	*e*P		**Pb**	**21 37 43.2**	**+0.4**
IDE	**Isla Desecheo**	**0.55**	**170**	*e*S		**Sn**	**21 37 50.6**	**-1.7**
IDE	**Isla Desecheo**	**0.55**	**170**			**Pb**	**21 37 43.2**	**+0.4**
IDE						**Sn**	**21 37 50.6**	**-1.7**
AGPR	**Aguadilla, PR**	**0.64**	**136**	*i*P		**Pb**	**21 37 44.5**	**+0.1**
AGPR	**Aguadilla, PR**	**0.64**	**136**	*e*S		**Sb**	**21 37 52.6**	**-0.2**
AGPR	**Aguadilla, PR**	**0.64**	**136**			**Pb**	**21 37 44.6**	**+0.3**
AGPR	**Aguadilla, PR**	**0.64**	**136**	IAML			21 37 53.4	
	comp=E,2µm,0.5s							
AGPR				IAML			21 37 53.4	
	comp=N,1µm,0.4s							
AGPR	**Aguadilla, PR**	**0.64**	**136**	*i* P		**Pb**	**21 37 44.4**	**+0.1**
AGPR				*e*S		**Sb**	**21 37 52.7**	**-0.1**
AGPR				IAML			21 37 53.7	
	comp=Z,523nm,0.2s							
PRSN	**Puerto Rico Se**	**0.82**	**150**			**Pb**	**21 37 47.3**	**-0.1**
PCDR	**Punta Cana, DR**	**0.87**	**242**	*e*P		**Pb**	**21 37 49.0**	**+0.8**
PCDR	**Punta Cana, DR**	**0.87**	**242**			**Pn**	**21 37 49.2**	**+0.9**
PCDR						**Sn**	**21 38 01.7**	**+1.6**
PCDR				IAML			21 38 08.6	
	comp=N,374nm,0.8s							
PCDR	**Punta Cana, DR**	**0.87**	**242**	*i* P		**Pb**	**21 37 49.0**	**+0.8**
PCDR				*e*S		**Sn**	**21 38 01.0**	**+0.9**
PCDR				IAML			21 38 09.1	
	comp=Z,222nm,0.4s							
LSP	**Las Mesas**	**0.88**	**148**	*e*P		**Pb**	**21 37 48.6**	**+0.1**
LSP	**Las Mesas**	**0.88**	**148**	*e*S		**Sn**	**21 37 60.0**	**-0.6**
LSP	**Las Mesas**	**0.88**	**148**			**Pb**	**21 37 48.6**	**+0.1**
LSP						**Sn**	**21 37 60.0**	**-0.6**
AOPR	**Arecibo Observ**	**0.97**	**126**	*e*P		**Pb**	**21 37 49.3**	**-0.7**
AOPR	**Arecibo Observ**	**0.97**	**126**	*e*S		**Sb**	**21 38 01.8**	**-0.6**
AOPR	**Arecibo Observ**	**0.97**	**126**			**Pb**	**21 37 49.3**	**-0.7**
AOPR						**Sb**	**21 38 02.2**	**-0.2**
AOPR				IAML			21 38 03.9	
	comp=N,392nm,0.3s							
AOPR				IAML			21 38 07.1	
	comp=E,788nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.02**	**154**	*e*P		**Pb**	**21 37 50.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.02**	**154**	*e*S		**Sn**	**21 38 03.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.02**	**154**			**Sn**	**21 38 03.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.02**	**154**			**Pn**	**21 37 51.0**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.02**	**154**	IAML			21 38 07.9	
	comp=N,376nm,0.5s							
CRPR				IAML			21 38 08.4	
	comp=E,296nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.02**	**154**	*i* P		**Pn**	**21 37 50.7**	**+0.3**
CRPR				IAML			21 38 07.8	
	comp=Z,458nm,0.3s							
MLPR	**Magueyes Islan**	**1.08**	**152**	*e*P		**Pb**	**21 37 51.4**	**-0.4**
MLPR	**Magueyes Islan**	**1.08**	**152**	*e*S		**Sb**	**21 38 04.5**	**-0.9**
MLPR	**Magueyes Islan**	**1.08**	**152**			**Pb**	**21 37 51.6**	**-0.2**
MLPR						**Sn**	**21 38 06.2**	**+0.8**
MLPR				IAML			21 38 09.3	
	comp=E,257nm,0.2s							
MLPR				IAML			21 38 10.4	
	comp=N,197nm,0.7s							
EMPR	**Esperanza - Ma**	**1.09**	**114**	*e*P		**Pn**	**21 37 51.9**	**+0.5**
EMPR	**Esperanza - Ma**	**1.09**	**114**	*e*S		**Sb**	**21 38 04.9**	**-0.9**
EMPR	**Esperanza - Ma**	**1.09**	**114**			**Pn**	**21 37 51.9**	**+0.5**
EMPR	**Esperanza - Ma**	**1.09**	**114**			**Sb**	**21 38 06.1**	**+0.3**
EMPR				IAML			21 38 07.1	
	comp=N,254nm,0.5s							
EMPR				IAML			21 38 10.1	
	comp=E,314nm,0.3s							
GBPR	**Guanica, Bosqu**	**1.16**	**145**	*e*P		**Pn**	**21 37 52.9**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.16**	**145**	*e*S		**Sb**	**21 38 06.6**	**-1.1**
GBPR	**Guanica, Bosqu**	**1.16**	**145**			**Pn**	**21 37 52.9**	**+0.6**
GBPR						**Sb**	**21 38 06.6**	**-1.1**
CELP	**Cerrillos**	**1.27**	**132**	*e*P		**Pn**	**21 37 54.4**	**+0.5**
CELP	**Cerrillos**	**1.27**	**132**	*e*S		**Sn**	**21 38 10.1**	**-0.1**
CELP	**Cerrillos**	**1.27**	**132**			**Pn**	**21 37 54.4**	**+0.5**
CELP						**Sn**	**21 38 10.1**	**-0.1**
CELP	**Cerrillos**	**1.27**	**132**	IAML			21 38 15.7	
	comp=N,233nm,0.3s							
OBIP	**Obispado Ponce**	**1.27**	**134**	*e*P		**Pn**	**21 37 54.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.27**	**134**	*e*S		**Sb**	**21 38 10.8**	**-0.3**
OBIP	**Obispado Ponce**	**1.27**	**134**			**Sb**	**21 38 10.8**	**-0.3**
OBIP	**Obispado Ponce**	**1.27**	**134**			**Pn**	**21 37 54.5**	**+0.6**
OBIP	**Obispado Ponce**	**1.27**	**134**	IAML			21 38 16.5	
	comp=N,92nm,0.2s							
GCPR	**Guaynabo City**	**1.54**	**113**	*e*P		**Pn**	**21 37 58.4**	**+0.7**
GCPR	**Guaynabo City**	**1.54**	**113**	*e*S		**Sn**	**21 38 17.8**	**+0.9**
GCPR	**Guaynabo City**	**1.54**	**113**			**Pn**	**21 37 58.4**	**+0.7**
GCPR	**Guaynabo City**	**1.54**	**113**			**Sb**	**21 38 18.4**	**-0.5**
SJG	**San Juan**	**1.58**	**121**			**Pn**	**21 37 58.6**	**+0.5**
SJG				IAML			21 38 24.6	
	comp=N,141nm,0.3s				

comp=Z,6.8nm,0.3s,baz=176,slow=12,SNR=352
KK31 ⇑Lg Lg 22 09 28.4
comp=Z,23nm,0.6s,baz=180,slow=31
KK31 Karatay Array 6.64 354 PN **Pn 22 08 18.8 -0.7**
KKAR Karatay Array 6.64 354 **Pn 22 08 18.5 -0.9**
KKAR Karatay Array 6.64 354 **Pn 22 08 18.8 -0.7**
KKAR Karatay Array 6.64 354 PN **Pn 22 08 18.8 -0.7**
KBK Karagaybulak 6.72 23 P **Pn 22 08 20.9 +0.3**
SNR=8.0
ULHL Ulahol 6.83 31 P **Pn 22 08 21.6 -0.7**
SNR=11
CHMS Chumysh 6.97 20 P **Pn 22 08 23.4 -0.5**
SNR=22
SMLA Simla 7.15 137 *e*P **Pn 22 08 24.6 -1.8**
SMLA *e*S Sn 22 09 37.2 -8.9
SMLA IAML 22 09 42.7
comp=N,116nm,0.2s
SMLA IAML 22 09 42.8
comp=E,117nm,0.4s
USP Ospenovka 7.16 18 P **Pn 22 08 26.1 -0.3**
SNR=16
TKM2 Tokmak 2 7.17 25 ⇑Pn **Pn 22 08 25.4 -1.4**
TKM2 ⇑Lg Lg 22 09 52.4
comp=E,8.0nm,0.6s
TKM2 Tokmak 2 7.17 25 PN **Pn 22 08 25.3 -1.4**
TARG Taragay, Kyrgy 7.18 41 **Pn 22 08 26.4 -0.8**
TARG Taragay, Kyrgy 7.18 41 PN **Pn 22 08 26.4 -0.8**
HRA Herat 7.81 257 **Pn 22 08 34.7 -0.8**
MDOK Medeo 7.92 31 ⇓Pn **Pn 22 08 35.5 -1.5**
comp=E,8.2nm,0.8s
MDOK Lg Lg 22 10 22.5
comp=E,9.1nm,1.0s
MDOK Medeo 7.92 31 PN **Pn 22 08 35.5 -1.5**
DDI Dehra Dun 8.26 136 *e*P **Pn 22 08 39.9 -1.6**
DDI *e*S Sn 22 10 03.7 -9.4
DDI IAML 22 10 11.1
comp=N,132nm,0.8s
DDI IAML 22 10 12.1
comp=E,100nm,0.2s
GEYT Alibeck 10.74 282 P **Pn 22 09 11.9 -3.1**
comp=E,5.0nm,0.3s,baz=139,slow=10.0,SNR=44
GEYT S **Sn 22 11 07.6 -5.7**
comp=E,8.4nm,0.4s,baz=116,slow=20,SNR=12
GEYT Alibeck 10.74 282 Pn **Pn 22 09 12.1 -2.9**
GYA0B ALIBECK ARRAY 10.74 282 Pn **Pn 22 09 11.3 -3.7**
MAKZ Makanchi 12.95 34 **Pn 22 09 42.6 -1.5**
MAKZ Makanchi 12.95 34 P **Pn 22 09 42.6 -1.5**
MK31 Makanchi Array 13.08 35 Pn **Pn 22 09 44.7 -1.1**
MK31 Makanchi Array 13.08 35 *i* P **Pn 22 09 45.0 -0.8**
MKAR Makanchi Array 13.08 35 P **Pn 22 09 43.5 -2.3**
comp=E,0.7nm,0.7s,baz=213,slow=14,SNR=9.1
MKAR Makanchi Array 13.08 35 Pn **Pn 22 09 44.9 -0.8**
MKAR Makanchi Array 13.08 35 *i* P **Pn 22 09 45.0 -0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
DANN Dangsing 13.17 125 *e*P Pn 22 09 42.3 -5.1
comp=Z,9.6nm,0.2s
DANN *e*S Sn 22 11 58.8 -14
GKN Gorkha 13.99 124 *e*P Pn 22 09 52.6 -5.2
comp=Z,22nm,0.2s
GKN *e*S Sn 22 12 17.0 -15
WMQ Urumqi 14.40 54 *e*P **P 22 10 06.8 +0.4**
WMQ pmax pmax
comp=Z,12nm,0.6s
DMN Daman 14.56 124 *e*P **Pn 22 10 00.7 -4.5**
comp=Z,24nm,0.3s
DMN *e*S Sn 22 12 31.1 -15
PKIN Phulchoki 14.77 123 *e*P **Pn 22 10 03.3 -4.6**
comp=Z,11nm,0.3s
PKIN *e*S Sn 22 12 36.1 -15
PKI Pulchoki 14.79 123 *e*P **Pn 22 10 03.5 -4.6**
comp=Z,11nm,0.2s
PKI *e*S Sn 22 12 36.1 -16
KURBB Kurchatov Arra 15.01 18 P **P 22 10 12.8 -0.3**
comp=Z,0.9nm,0.2s,baz=202,slow=11,SNR=5.2
JIRN Jiri 15.26 121 *e*P **Pn 22 10 08.7 -5.5**
comp=Z,24nm,0.3s
JIRN *e*S Sn 22 12 47.2 -16
AB31 Akbulak array 15.27 330 ⇑P **Pn 22 10 11.6 -2.1**
comp=Z,0.6nm,0.3s,baz=114,slow=7.2,SNR=36
AB31 ⇓S Sn 22 12 46.4 -16
comp=Z,2.3nm,0.6s
AB31 Akbulak array 15.27 330 P **Pn 22 10 11.6 -2.1**
ABKAR Akbulak array 15.27 330 Pn **Pn 22 10 12.9 -0.8**
ABKAR Akbulak array 15.27 330 Pn **Pn 22 10 12.9 -0.8**
ABKAR IAmb IAmb 22 10 37.8
comp=Z,2.1nm,0.8s
RAMN Ramite 15.99 122 *e*P **Pn 22 10 18.5 -4.7**
comp=Z,8.5nm,0.3s
RAMN *e*S Sn 22 13 04.5 -16
TAPN Taplejung 16.52 119 *e*P **Pn 22 10 24.6 -5.0**
comp=Z,12nm,0.3s
TAPN *e*S Sn 22 13 15.3 -18
BVA0 Borovoye Array 16.55 358 ⇑P **Pn 22 10 29.6 +0.1**
comp=Z,1.1nm,0.6s,baz=158,slow=10,SNR=14
BVA0 Borovoye Array 16.55 358 P **Pn 22 10 29.6 +0.1**
BVAR Borovoye Array 16.55 358 P **Pn 22 10 29.2 -0.3**
comp=Z,1.1nm,0.4s,baz=155,slow=9.0,SNR=14
BRVK Borovoye 16.59 358 P **P 22 10 30.6 +0.2**
BRVK Borovoye 16.59 358 ⇑P **Pn 22 10 27.2 -2.8**
comp=Z,1.3nm,0.7s
BRVK Borovoye 16.59 358 *ce*P **Pn 22 10 29.3 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,1.7s
AKTO Aktyubinsk 16.97 329 P **P 22 10 35.8 +0.9**
comp=Z,1.5nm,0.3s,baz=131,slow=10,SNR=9.1
AKTO S Sn 22 13 31.5 -12
comp=Z,2.7nm,0.8s,baz=151,slow=19,SNR=3.7
AKTO Aktyubinsk 16.97 329 ⇓P **P 22 10 40.4 +5.6**
comp=Z,3.4nm,1.1s
AKTO ⇓S Sn 22 13 28.2 -15
comp=Z,4.5nm,1.0s
DGZ Jazzator, Alta 17.56 36 *i* P **P 22 10 41.7 +0.2**
DGZ pmax pmax
comp=Z,8.0nm,2.2s
LSA Lhasa 17.82 107 P **P 22 10 43.9 -0.8**
LSA Lhasa 17.82 107 P **P 22 10 43.9 -0.8**
LSA pmax pmax
comp=Z,6.0nm,0.9s
GOMU GeErMu 18.81 84 P **Pn 22 10 56.5 -0.7**
GOMU pP pP 22 11 11.7 -5.7
GOMU sP sP 22 11 21.4 -11
GOMU pmax pmax
comp=Z,6.0nm,0.9s
MAK Makhachkala 19.49 297 *e*P **P 22 11 03.4 +1.0**
MAK *e*S **S 22 14 38.3 +1.9**
MAK pmax pmax
comp=Z,169nm,1.2s
MAK MLR MLR
comp=Z,712nm,14.0s
ZAA0 Zalesovo Array 19.77 24 P **P 22 11 05.4 +0.1**
ZAA0 IAmb IAmb 22 11 06.4
comp=Z,8.1nm,0.4s
ZALV Zalesovo Beam 19.77 24 P **P 22 11 04.8 -0.5**
comp=Z,9.2nm,0.3s,baz=214,slow=10,SNR=44
ZALV Zalesovo Beam 19.77 24 P **P 22 11 05.5 +0.2**
ZALV Zalesovo Beam 19.77 24 *i* P **P 22 11 05.3 0.0**
ZALV pmax pmax
comp=Z,9.0nm,0.3s
SHL Shillong 20.57 116 P **P 22 11 14.0 -0.4**
SHL IAmb IAmb 22 11 14.5
comp=Z,10nm,0.8s
SHL Shillong 20.57 116 P **P 22 11 14.0 -0.4**
SHL pmax pmax
comp=Z,10.0nm,0.8s
GROC Groznyy 20.77 297 *e*P **P 22 11 14.2 -1.9**
GROC *e**SP **sP 22 11 49.0 -3.2**
GROC S **S 22 14 59.8 -1.8**
ARU Arti 21.76 340 P **P 22 11 26.9 +0.3**
comp=Z,2.2nm,0.6s,baz=220,slow=5.7,SNR=4.7
comp=Z,2.2nm,0.6s
ARU Arti 21.76 340 *c* *i*P **P 22 11 27.1 +0.5**
ARU 22 11 53.9
ARU S **S 22 15 22.0 +1.8**
ARU SS **SnSn 22 16 03.5 +7.2**
ARU pmax pmax
comp=Z,13nm,2.1s
GTA Gaotai 22.51 74 *e*P **P 22 11 36.6 +1.9**
GTA pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 22.94 297 P **P 22 11 40.9 +2.2**
comp=Z,1.0nm,0.7s,baz=84,slow=15,SNR=1.8
comp=Z,1.0nm,0.7s
KBZ Khabaz 22.94 297 *i* P **P 22 11 39.1 +0.5**
KBZ pmax pmax
comp=Z,4.0nm,1.4s
KIV Kislovodsk 23.12 298 *i* P **P 22 11 40.9 +0.3**
KIV *i* *PP **pP 22 12 04.0 +0.6**
KIV pmax pmax
comp=Z,9.0nm,1.4s
BELG Belogornoye 23.13 321 P **P 22 11 43.2 +2.8**
comp=Z,2.2nm,0.5s,baz=186,slow=15,SNR=5.2
comp=Z,2.2nm,0.5s
LZH Lanzhou 26.04 81 *e*P **P 22 12 10.4 +3.2**
LZH pP pP 22 12 32.4 -0.7
LZH pmax pmax
comp=Z,6.0nm,1.3s
PZH PanZhiHua 27.57 103 P **P 22 12 23.9 +2.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,40nm,4.7s
SONM Songino Array 28.03 55 P **P 22 12 24.6 -0.2**
comp=Z,0.3nm,0.8s,baz=260,slow=7.9,SNR=3.3
comp=Z,0.3nm,0.8s
BRTR Keskin Array B 29.79 288 P **P 22 12 41.1 +0.6**
comp=Z,0.3nm,0.7s,baz=72,slow=9.2,SNR=1.2
comp=Z,0.3nm,0.7s
EIL Elat 31.21 268 LR LR 22 27 26.2
comp=Z,20nm,19.1s,baz=346,slow=40
HHC Hu-ho-hao-te 31.41 70 *e*P **P 22 12 56.7 +1.9**
AKASG Malin Array Be 33.24 309 P **P 22 13 12.0 +1.5**
comp=Z,0.4nm,0.4s,baz=84,slow=6.7,SNR=8.5
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 33.24 309 *ce*P **P 22 13 12.8 +2.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
NRIK Noril'sk 34.07 10 P **P 22 13 18.2 +0.9**
comp=Z,1.9nm,0.4s,baz=205,slow=5.5,SNR=4.4
comp=Z,1.9nm,0.4s
NRIK Noril'sk 34.07 10 *i* P **P 22 13 17.8 +0.4**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
MNK Minsk 34.77 315 *i* P **P 22 13 22.4 -1.2**
comp=E,2.0nm,0.9s
MNK *i* P **P 22 13 22.4 -1.2**
comp=N,6.0nm,0.6s
MNK *i* P **P 22 13 22.4 -1.2**
comp=Z,4.0nm,0.8s,baz=283
MNK *i* pP **pP 22 13 47.0 -2.5**
MNK *i* PP **PnPn 22 14 42.4 -1.2**
MNK *i* S **S 22 18 45.3 -0.1**
MNK *i* sS **ScP 22 19 28.7 -0.6**
MNK *i* SS **SnSn 22 21 11.8 +0.6**
MNK *i* 22 23 32.0
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,4.0nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.6s
MNK MLR MLR
comp=Z,80nm,13.0s
MNK MLR MLR
comp=E,32nm,13.0s
MNK MLR MLR
comp=N,341nm,18.0s
BURAR Bucovina Array 35.60 303 P **P 22 13 33.4 +2.4**
BURAR Bucovina Array 35.60 303 P **P 22 13 34.1 +3.1**
BURAR pmax pmax
comp=Z,1.0nm,0.8s
UBPT Khong Chiam 36.89 116 P **P 22 13 41.5 -0.6**
FIA1 FINESS Array S 37.70 326 P **P 22 13 50.2 +1.8**
FINES FINESS Array B 37.70 326 P **P 22 13 50.1 +1.7**
comp=Z,1.3nm,0.4s,baz=121,slow=9.4,SNR=22
comp=Z,1.3nm,0.4s
FINES FINESS Array B 37.70 326 P **P 22 13 49.5 +1.1**
FINES FINESS Array B 37.70 326 *i* P **P 22 13 50.4 +2.0**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 41.29 337 P **P 22 14 19.4 +1.2**
comp=Z,3.3nm,0.9s,baz=120,slow=9.5,SNR=7.2
comp=Z,3.3nm,0.9s
YAK Yakutsk 43.76 35 *i* P **P 22 14 38.9 +0.8**
YAK pmax pmax
comp=Z,2.0nm,0.5s
NC405 NORSAR Array S 44.38 323 P **P 22 14 43.7 +0.5**
NC602 NORSAR Array S 44.42 323 P **P 22 14 44.5 +1.0**
NORES NORESS Array B 44.42 323 P **P 22 14 44.8 +1.3**
NC303 NORSAR Array S 44.55 323 P **P 22 14 46.4 +1.9**
NB2 NORSAR Subarra 44.61 323 P **P 22 14 46.3 +1.2**
comp=Z,1.0nm,0.5s,baz=109,slow=7.9
NOA NORSAR Array B 44.61 323 P **P 22 14 46.2 +1.2**
comp=Z,1.0nm,0.4s,baz=101,slow=7.3,SNR=13
comp=Z,1.0nm,0.4s
NBO00 NORSAR Array S 44.82 323 P **P 22 14 46.8 +0.1**
FUORN Ofenpass-Fuorn 45.85 303 P **P 22 14 56.3 +1.1**
FUORN IAmb IAmb 22 14 59.4
comp=Z,9.4nm,1.5s
KMBO Kilima Mbogo 49.10 228 P **P 22 15 21.0 +0.2**
comp=Z,0.5nm,0.2s,baz=96,slow=8.2,SNR=3.8
comp=Z,0.5nm,0.2s
KMBO Kilima Mbogo 49.10 228 P **P 22 15 22.9 +2.2**
KMBO IAmb IAmb 22 15 40.2
comp=Z,2.9nm,1.1s
KMBO Kilima Mbogo 49.10 228 *i* P **P 22 15 22.2 +1.4**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
EKA Eskdalemuir Ar 52.55 316 P **P 22 15 46.7 +0.8**
comp=Z,0.4nm,0.4s,baz=90,slow=6.4,SNR=1.8
comp=Z,0.4nm,0.4s
LSZ Lusaka 65.72 227 P **P 22 17 18.5 +1.3**
LSZ IAmb IAmb 22 17 19.2
comp=Z,1.7nm,0.7s
LSZ Lusaka 65.72 227 P **P 22 17 18.5 +1.3**
LSZ pmax pmax
comp=Z,2.0nm,0.7s
TORD Torodi Ar. Bea 66.09 269 P **P 22 17 18.7 -0.9**
comp=Z,0.6nm,0.6s,baz=51,slow=5.6,SNR=7.4
comp=Z,0.6nm,0.6s
TORD Torodi Ar. Bea 66.09 269 P **P 22 17 18.6 -1.0**
IMAR Indian Mountai 72.07 18 P **P 22 17 55.8 +0.1**
BMAR Burnt Mountain 72.86 14 P **P 22 18 01.5 +1.0**
C36M Paulatuk 73.85 6 P **P 22 18 06.2 +0.1**
C36M IAmb IAmb 22 18 07.1
comp=Z,3.3nm,0.9s
INK Inuvik 73.85 9 P **P 22 18 06.9 +0.8**
comp=Z,0.8nm,0.5s,baz=322,slow=5.6,SNR=9.5
comp=Z,0.8nm,0.5s
INK Inuvik 73.85 9 P **P 22 18 06.9 +0.8**
K20K Telida 74.09 20 P **P 22 18 08.3 +0.6**
K20K IAmb IAmb 22 18 35.8
comp=Z,5.0nm,1.2s
BPAW Bear Paw Mtn. 74.28 18 P **P 22 18 08.6 -0.2**
BPAW IAmb IAmb 22 18 32.1
comp=Z,3.7nm,1.4s
CAST Castle Rocks 74.57 19 P **P 22 18 10.7 +0.2**
CAST IAmb IAmb 22 18 27.2
comp=Z,4.5nm,1.4s
ILAR Eielson Array 74.68 16 P **P 22 18 10.5 -0.6**
comp=Z,0.1nm,0.4s,baz=316,slow=4.9,SNR=2.0
comp=Z,0.1nm,0.4s
FRB Frobisher Bay 75.18 343 P **P 22 18 15.3 +1.5**
comp=Z,0.6nm,0.4s,baz=15,slow=5.2,SNR=4.2
comp=Z,0.6nm,0.4s
YKA Yellowknife Ar 81.23 3 P **P 22 18 47.9 +0.6**
comp=Z,0.6nm,0.7s,baz=343,slow=5.3,SNR=13
comp=Z,0.6nm,0.7s
YKA Yellowknife Ar 81.23 3 *i* P **P 22 18 48.2 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 81.67 122 P **P 22 18 49.1 -1.1**
comp=Z,0.3nm,0.6s,baz=323,slow=5.1,SNR=1.3
comp=Z,0.3nm,0.6s
ASAR Alice Springs 83.94 125 P **P 22 19 00.7 -1.2**
comp=Z,0.4nm,0.9s,baz=313,slow=4.8,SNR=6.8
comp=Z,0.4nm,0.9s

*IDC **01** 22:09:26.0±1.9,5°.98S×152°.52E,h0km,mb3.7/3,*
mbtmp3.9/4,ML2.5/1,MS2.9/2,Error ellipse: s-maj=57.7km
s-min=22.3km az=113.0
ISC 01 22:09:32.5±1.6,5°.9S±0°.1×152°.3E±0°.2,h38km,n6,σ1s12/8,
mb3.6/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.59**	**351**	Pn	**Pn**		**P**	**22 09 57.6**	**-0.5**
	50nm,0.3s,baz=122,slow=13,SNR=20								
KRVT				Sn	**Sn**		**P**	**22 10 18.2**	**+0.9**
	116nm,0.3s,baz=142,slow=19,SNR=15								
PMG	**Port Moresby**	**6.15**	**235**	Pn	**Pn**		**P**	**22 11 01.8**	**+0.9**
	6.2nm,0.3s,baz=66,slow=7.1,SNR=6.6								
PMG				Sn	**Sn**		**P**	**22 12 09.1**	**-0.9**
	4.1nm,0.3s,baz=342,slow=20,SNR=1.8								
PMG				LR	LR			22 13 05.1	
	comp=Z,45nm,19.4s,baz=347,slow=35								
	14nm,0.3s								
WRA	**Warramunga Arr**	**22.34**	**230**	P	**P**		**P**	**22 14 27.4**	**+0.2**
	2.2nm,0.8s,baz=55,slow=10,SNR=8.7								
WRA				LR	LR			22 22 07.8	
	comp=Z,72nm,22.0s,baz=108,slow=34								
	2.2nm,0.8s								
ASAR	**Alice Springs**	**25.00**	**223**	P	**P**		**P**	**22 14 52.6**	**-0.3**
	2.9nm,0.8s,baz=60,slow=8.8,SNR=33								
	2.9nm,0.8s								
ILAR	**Eielson Array**	**83.36**	**22**	P	**P**		**P**	**22 21 56.1**	**+0.8**
	0.3nm,0.7s,baz=254,slow=5.5,SNR=1.7								
	0.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**150.12**	**286**	PKPbc	**PKPbc**			**22 29 18.6**	**-1.7**
	0.3nm,0.3s,baz=72,slow=3.1,SNR=5.4								

*SKHL **01** 22:14:44.7±0.2,45°.00N×151°.10E,h54km±2km,mb4.9/2*
*MOS **01** 22:14:44.0±1.5,45°.07N×151°.04E,h49km,mb4.3/1,Error*
ellipse: s-maj=16.2km s-min=12.7km az=160.0
*JMA **01** 22:14:45.3±0.7,46°.N±5°.×15°.1E±°,h30km,MV4.2/9,*
KURILE ISLANDS REGION
*IDC **01** 22:14:49.4±3.9,45°.47N×150°.73E,h66km±32km,mb3.5/8,*
mbtmp3.8/10,ML3.1/2,MS2.6/2,Error ellipse:
s-maj=54.9km s-min=22.0km az=165.0
ISC 01 22:14:44.6±0.8,44°.95N±0°.09×151°.09E±0°.07,h35km,n43,
σ1s90/47,mb3.9/9,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.30**	**278**	*e*P	N		**Pn**	**22 15 19.1**	**-0.8**
KUR				*i* S			**Sn**	**22 15 43.3**	**-3.7**
KUR				pmax	pmax				
	comp=Z,185nm,0.4s								
KUR				smax	smax				
	comp=N,620nm,0.5s								
KUR				smax	smax				
	comp=E,505nm,0.5s								
KUR	**Kuril'sk**	**2.30**	**278**	*e*P			**Pn**	**22 15 19.1**	**-0.8**
KUR				AMB	AMB			22 15 19.7	
	comp=E,190nm,0.4s								
KUR				*i* S			**Sn**	**22 15 44.7**	**-2.3**
KUR				A	A			22 15 45.4	
	comp=E,620nm,0.5s								
KUR				A	A			22 15 45.4	
	comp=E,500nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**3.85**	**258**	*e*PN			**Pn**	**22 15 41.7**	**+0.5**
YUK				*e*S			**Sn**	**22 16 26.6**	**+1.4**
YUK				pmax	pmax				
	comp=Z,109nm,0.3s								
YUK				pmax	pmax				
	comp=N,31nm,0.2s								
YUK				pmax	pmax				
	comp=E,35nm,0.2s								
YUK				smax	smax				
	comp=N,278nm,0.5s								
YUK				smax	smax				
	comp=E,407nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**3.85**	**258**	*e*P			**Pn**	**22 15 42.5**	**+1.3**
YUK				AMB	AMB			22 15 47.8	
	comp=E,110nm,0.3s								
YUK				*e*S			**Sn**	**22 16 26.0**	**+0.8**
YUK				A	A			22 16 37.3	
	comp=E,280nm,0.6s								
YUK				A	A			22 16 37.3	
	comp=E,410nm,0.6s								
NEM2	**Nemuro 2**	**4.16**	**249**	*e*P			**Pn**	**22 15 46.7**	**+1.2**
NEM2				*e*S			**Sn**	**22 16 32.0**	**-0.8**
NMR	**Nemuro--Hokkai**	**4.17**	**250**	*e*PN			**Pn**	**22 15 46.0**	**+0.4**
NMR				*e*S			**Sn**	**22 16 31.9**	**-1.1**
NMR	**Nemuro--Hokkai**	**4.17**	**250**	*e*P			**Pn**	**22 15 46.0**	**+0.4**
NMR				*e*S			**Sn**	**22 16 31.9**	**-1.1**
RUSJ	**Misakicho**	**4.26**	**261**	*e*PN			**Pn**	**22 15 49.6**	**+2.7**
RUSJ				*e*S			**Sn**	**22 16 38.5**	**+3.2**
JRA	**Rausu**	**4.39**	**259**	*e*P			**Pn**	**22 15 50.6**	**+1.9**
JRA				*e*S			**Sn**	**22 16 40.4**	**+1.9**
JNK	**Nakash**	**4.77**	**256**	*e*P			**Pn**	**22 15 55.5**	**+1.6**
AKK	**Akkeshi**	**4.90**	**249**	*e*P			**Pn**	**22 15 57.7**	**+2.0**
JAK	**Akkeshi**	**5.01**	**249**	*e*P			**Pn**	**22 15 57.8**	**+0.6**
JAK				*e*S			**Sn**	**22 16 52.5**	**-1.3**
JTKR	**Abashiri--Toko**	**5.23**	**262**	*e*P			**Pn**	**22 16 01.9**	**+1.7**
JAR	**Ashorobuto**	**5.52**	**255**	*e*P			**Pn**	**22 16 06.4**	**+2.2**
JCH	**Churui**	**6.06**	**250**	*e*P			**Pn**	**22 16 13.3**	**+1.7**
JKA	**Kamikawa-asahi**	**6.12**	**265**	*e*P			**Pn**	**22 16 14.8**	**+2.3**
ASAJ	**Asahikawa**	**6.13**	**265**	P			**Pn**	**22 16 14.8**	**+2.2**
	comp=E,0.5nm,0.3s,baz=78,slow=15,SNR=3.5								
	comp=E,12nm,0.9s								
YSS	**Yuzh-Sakhalins**	**6.15**	**292**	*e*PN			**Pn**	**22 16 14.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**6.15**	**292**	*e*P			**Pn**	**22 16 14.2**	**+1.4**
YSS				*e*S			**Sn**	**22 17 21.3**	**-0.5**
MYR	**Moyori**	**6.26**	**248**	*e*P			**Pn**	**22 16 16.5**	**+2.2**
JTH	**Tanohata**	**8.46**	**237**	*e*S			**Sn**	**22 18 13.0**	**-5.7**
PETK	**Petropavlovsk-**	**9.24**	**26**	P			**Pn**	**22 16 54.8**	**-0.5**
	comp=E,0.7nm,0.3s,baz=212,slow=15,SNR=13								
PETK				LR	LR			22 20 19.3	
	comp=E,41nm,20.7s,baz=234,slow=37								
	comp=E,4.0nm,0.8s								
MJAR	**Matsushiro Arr**	**12.87**	**234**	LR	LR			22 22 58.4	
	comp=E,28nm,21.7s,baz=31,slow=38								
KLR	**Kul'dur**	**13.85**	**295**	P			**Pn**	**22 18 00.1**	**+1.9**
	comp=E,1.6nm,1.0s,baz=98,slow=18,SNR=5.7								
YAK	**Yakutsk**	**21.15**	**332**	*e*P			**P**	**22 19 28.1**	**+1.9**
YAK				pmax	pmax				
	comp=Z,10.0nm,1.1s								
YAK				pmax	pmax				
	comp=N,4.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.2s								
YAK	**Yakutsk**	**21.15**	**332**	*e*P			**P**	**22 19 28.1**	**+1.9**
H11N2	**WAKE ISLAND Hy**	**28.37**	**147**	T			T	22 51 24.6	
	baz=336,slow=75,SNR=77								
H11N1	**WAKE ISLAND Hy**	**28.38**	**147**	T			T	22 51 28.3	
	baz=336,slow=75,SNR=63								
H11N3	**WAKE ISLAND Hy**	**28.39**	**147**	T			T	22 51 24.7	
	baz=336,slow=75,SNR=55								
H11S1	**WAKE ISLAND Hy**	**29.41**	**149**	T			T	22 52 43.2	
	baz=337,slow=76,SNR=98								
H11S3	**WAKE ISLAND Hy**	**29.42**	**149**	T			T	22 52 39.5	
	baz=337,slow=76,SNR=48								
H11S2	**WAKE ISLAND Hy**	**29.43**	**149**	T			T	22 52 42.3	
	baz=337,slow=76,SNR=60								
INK	**Inuvik**	**43.93**	**31**	P			**P**	**22 22 46.9**	**-0.5**
	comp=E,0.5nm,0.4s,baz=277,slow=7.0,SNR=4.2								
	comp=E,0.5nm,0.4s								
MKAR	**Makanchi Array**	**46.52**	**298**	P			**P**	**22 23 06.1**	**-2.3**
	comp=E,0.5nm,1.0s,baz=65,slow=8.2,SNR=2.8								
	comp=E,0.5nm,1.0s								
MKAR	**Makanchi Array**	**46.52**	**298**	*e*P			**P**	**22 23 06.1**	**-2.3**
KURK	**Kurchatov**	**47.20**	**304**	P			**P**	**22 23 12.4**	**-1.1**
KURK	**Kurchatov**	**47.20**	**304**	*e*P			**P**	**22 23 12.4**	**-1.1**
KURBB	**Kurchatov Arra**	**47.28**	**304**	P			**P**	**22 23 12.4**	**-1.8**
	comp=E,0.7nm,0.2s,baz=73,slow=8.6,SNR=1.4								
	comp=E,0.7nm,0.2s								
YKA	**Yellowknife Ar**	**53.21**	**35**	P			**P**	**22 23 58.9**	**0.0**
	comp=E,0.5nm,0.7s,baz=298,slow=6.2,SNR=6.8								
	comp=E,0.5nm,0.7s								
NVAR	**Mina Array Bea**	**64.54**	**60**	P			**P**	**22 25 19.8**	**+1.6**
	comp=E,0.3nm,0.4s,baz=300,slow=4.1,SNR=3.8								
	comp=E,0.3nm,0.4s								
PDAR	**Pinedale Array**	**66.96**	**52**	P			**P**	**22 25 34.5**	**+0.8**
	comp=E,1.0nm,0.8s,baz=328,slow=3.2,SNR=9.4								
	comp=E,1.0nm,0.8s								
FRB	**Frobisher Bay**	**67.21**	**18**	P			**P**	**22 25 32.6**	**-1.9**
	comp=E,1.7nm,0.7s,baz=311,slow=9.3,SNR=5.2								
	comp=E,1.7nm,0.7s								
TXAR	**Lajitas Array**	**79.62**	**59**	P			**P**	**22 26 49.1**	**+0.7**
	comp=E,0.8nm,0.7s,baz=310,slow=4.2,SNR=6.4								
	comp=E,0.8nm,0.7s								

*IDC **01** 22:22:17.7±9.2,35°.95N×71°.37E,h198km±33km,mb3.4/3, mbtmp3.7/8,Error ellipse: s-maj=141.6km s-min=26.6km az=157.0*

ISC 01 22:22:20.5±4.1,36°.3N±0°.4×71°.2E±0°.2,h200km,n10, σ0°.44/11,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.88**	**21**	P	**Pn**	**22 23 59.3**	**+0.1**
	1.7nm,0.3s,baz=214,slow=8.6,SNR=12						
AAK				S	Sn	22 25 11.0	-6.6
	1.3nm,0.4s,baz=320,slow=23,SNR=9.2						
AAK	**Ala-Archa**	**6.88**	**21**	P	**Pn**	**22 23 59.3**	**+0.1**
AAK	**Ala-Archa**	**6.88**	**21**	*e*P	**Pn**	**22 23 59.3**	**+0.1**
GEYT	**Alibeck**	**10.55**	**283**	P	**Pn**	**22 24 47.0**	**+0.1**
	0.9nm,0.6s,baz=98,slow=10,SNR=2.8						
GEYT				S	Sn	22 26 44.2	-0.5
	0.5nm,0.4s,baz=112,slow=20,SNR=2.3						
MKAR	**Makanchi Array**	**13.42**	**35**	P	**Pn**	**22 25 23.2**	**+0.1**
	0.4nm,0.5s,baz=221,slow=11,SNR=6.3						
KURBB	**Kurchatov Arra**	**15.32**	**18**	P	**Pn**	**22 25 46.1**	**-0.2**
	0.4nm,0.2s,baz=210,slow=11,SNR=2.0						
BVAR	**Borovoye Array**	**16.78**	**358**	P	**P**	**22 26 03.2**	**+0.5**
	0.6nm,0.3s,baz=158,slow=10,SNR=8.2						
ZALV	**Zalesovo Beam**	**20.09**	**24**	P	**P**	**22 26 37.8**	**-0.7**
	1.1nm,0.3s,baz=216,slow=12,SNR=5.6						
	1.1nm,0.3s						
FINES	**FINESS Array B**	**37.76**	**326**	P	**P**	**22 29 17.5**	**+0.6**
	2.3nm,1.0s,baz=118,slow=8.0,SNR=4.6						
	2.3nm,1.0s						
ARCES	**ARCESS Array B**	**41.42**	**338**	P	**P**	**22 29 46.7**	**-0.3**
	3.3nm,0.9s,baz=106,slow=9.5,SNR=1.3						
	3.3nm,0.9s						

*IDC **01** 22:28:39.1±0.8,28°.11N×57°.26E,h0km,mb3.9/18, mbtmp3.9/20,ML3.6/2,MS3.3/2,Error ellipse: s-maj=19.1km s-min=15.4km az=163.0*
*TEH **01** 22:28:42.0,28°.13N×57°.32E,h15km±33km,ML3.8*
*DSN **01** 22:28:42.6±1.2,27°.99N×57°.62E,h10km,ML3.7/14,Error ellipse: s-maj=28.9km s-min=11.5km az=125.0*
*OMAN **01** 22:28:43.9±1.2,28°.03N×57°.05E,h5km,mb5.2/13, ml3.7/20,Error ellipse: s-maj=10.8km s-min=7.3km az=153.0*

ISC 01 22:28:42.3±1.2,28°.18N±0°.04×57°.30E±0°.04,h18km±7km, n133,σ1°.78/158,mb3.8/17,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.42**	**122**	Pg	**Pg**	**22 28 50.3**	**-0.6**
KHNJ				Sg	**Sg**	**22 28 55.8**	**-1.0**
IBND	**Bandar-abas**	**0.99**	**223**	Pg	**Pb**	**22 29 01.3**	**+0.4**
BNDS	**Bandar-Abbas**	**1.27**	**233**	Pg	**Pg**	**22 29 07.0**	**+0.2**
NGRK	**Negar Kerman**	**1.55**	**341**	Pg	**Pn**	**22 29 09.9**	**+0.6**
CHMN	**Cheshme madani**	**1.69**	**7**	Pg	**Pn**	**22 29 13.0**	**+1.7**
KRBR	**Kerman**	**1.86**	**345**	Pn	**Pn**	**22 29 15.7**	**+2.1**
TVBK	**TV Kerman**	**1.87**	**345**	Pn	**Pn**	**22 29 15.8**	**+2.2**
KHGB	**Koh Gabri**	**2.31**	**342**	Pn	**Pn**	**22 29 22.5**	**+2.8**
SHME	**Shamm**	**2.36**	**206**	P	**Pn**	**22 29 21.2**	**+1.1**
	SNR=25						
SHME				S	**Sn**	**22 29 50.7**	**+2.1**
SHME	**Shamm**	**2.36**	**206**	Pn	**Pn**	**22 29 21.1**	**+1.0**
BANOM	**Banah**	**2.42**	**202**	*e*P	**Pn**	**22 29 21.8**	**+0.9**
	SNR=33						
BANOM	**Banah**	**2.42**	**202**	P	**Pn**	**22 29 22.3**	**+1.4**
	SNR=33						
BANOM				S	**Sn**	**22 29 52.3**	**+2.3**
BANOM	**Banah**	**2.42**	**202**	Pn	**Pn**	**22 29 22.1**	**+1.2**
LAR1	**LAR**	**2.64**	**260**	Pn	**Pn**	**22 29 25.7**	**+1.6**
ZRDN	**Zarand Kerman**	**2.86**	**347**	Pn	**Pb**	**22 29 32.3**	**-0.7**
MASF	**Masafi**	**2.97**	**200**	P	**Pn**	**22 29 30.9**	**+2.3**
MASF				S	**Sn**	**22 30 04.1**	**+0.2**
MSFE	**Esma-Masafi**	**2.98**	**200**	*e*P	**Pn**	**22 29 30.4**	**+1.6**
	SNR=8.6						
MSFE	**Esma-Masafi**	**2.98**	**200**	Pn	**Pn**	**22 29 31.0**	**+2.2**
MDH	**Madha**	**3.00**	**198**	*e*P	**Pn**	**22 29 28.9**	**0.0**
	SNR=5.9						
MDH	**Madha**	**3.00**	**198**	P	**Pn**	**22 29 29.0**	**0.0**
	SNR=6.2						
MDH				S	**Sn**	**22 30 02.6**	**-1.9**
MDH	**Madha**	**3.00**	**198**	Pn	**Pn**	**22 29 28.6**	**-0.4**
UMQ	**Umm Al-Quwin**	**3.02**	**209**	*i* P	**Pn**	**22 29 30.6**	**+1.4**
	SNR=8.0						
UMQ	**Umm Al-Quwin**	**3.02**	**209**	P	**Pn**	**22 29 31.7**	**+2.5**
	SNR=8.0						
UMQ				S	**Sn**	**22 30 06.3**	**+1.4**
UMQ	**Umm Al-Quwin**	**3.02**	**209**	Pn	**Pn**	**22 29 31.8**	**+2.6**
JHRM	**Jahrom**	**3.30**	**277**	Pn	**Pn**	**22 29 36.0**	**+2.8**
ZHDN	**Zahedan**	**3.31**	**68**	Pn	**Pn**	**22 29 36.7**	**+3.3**
ZHSF	**Zahedan**	**3.36**	**64**	Pn	**Pn**	**22 29 35.5**	**+1.4**
UOSS	**Minazif**	**3.36**	**197**	P	**Pn**	**22 29 33.9**	**0.0**
UOSS	**Minazif**	**3.36**	**197**	P	**Pn**	**22 29 34.2**	**+0.2**
UOSS	**Minazif**	**3.36**	**197**	Pn	**Pn**	**22 29 34.0**	**0.0**
HATD	**Hatta, Dubai**	**3.50**	**198**	P	**Pn**	**22 29 35.7**	**-0.1**
HATD	**Hatta, Dubai**	**3.50**	**198**	P	**Pn**	**22 29 37.1**	**+1.3**
HATD				S	**Sn**	**22 30 17.8**	**+1.1**
HATD	**Hatta, Dubai**	**3.50**	**198**	Pn	**Pn**	**22 29 36.6**	**+0.8**
NAZ	**Nazwa, Dubai**	**3.50**	**205**	*i* P	**Pn**	**22 29 37.3**	**+1.5**
	SNR=11						
NAZ				S	**Sn**	**22 30 18.8**	**+2.0**
NAZ	**Nazwa, Dubai**	**3.50**	**205**	P	**Pn**	**22 29 37.7**	**+1.9**
	SNR=11						
NAZ				S	**Sn**	**22 30 17.1**	**+0.3**
NAZ	**Nazwa, Dubai**	**3.50**	**205**	Pn	**Pn**	**22 29 37.4**	**+1.6**
ASHO	**Ashiyiah**	**3.65**	**198**	*i* P	**Pn**	**22 29 39.3**	**+1.3**
	SNR=38						
ASHO	**Ashiyiah**	**3.65**	**198**	P	**Pn**	**22 29 40.0**	**+2.0**
	SNR=38						
ASHO				S	**Sn**	**22 30 23.1**	**+2.5**
ASHO	**Ashiyiah**	**3.65**	**198**	Pn	**Pn**	**22 29 39.6**	**+1.6**
IBAF	**Bafgh**	**3.72**	**337**	Pn	**Pn**	**22 29 42.6**	**+3.5**
FAQ	**Al Faqa, Dubai**	**3.74**	**205**	*i* P	**Pn**	**22 29 40.6**	**+1.4**
	SNR=19						
FAQ	**Al Faqa, Dubai**	**3.74**	**205**	P	**Pn**	**22 29 40.6**	**+1.4**
	SNR=19						
FAQ				S	**Sn**	**22 30 24.7**	**+1.9**
FAQ	**Al Faqa, Dubai**	**3.74**	**205**	Pn	**Pn**	**22 29 40.4**	**+1.2**
CHBR	**Chabahar**	**3.83**	**131**	Pn	**Pn**	**22 29 41.9**	**+1.6**
ASUD	**Al Ashush, Dub**	**3.95**	**207**	*i* P	**Pn**	**22 29 44.1**	**+2.0**
	SNR=56						
ASUD	**Al Ashush, Dub**	**3.95**	**207**	P	**Pn**	**22 29 44.1**	**+2.0**
	SNR=56						
ASUD				S	**Sn**	**22 30 29.9**	**+1.9**
ASUD	**Al Ashush, Dub**	**3.95**	**207**	Pn	**Pn**	**22 29 44.0**	**+2.0**
IMEH	**Mehriz**	**3.97**	**325**	Pn	**Pn**	**22 29 44.9**	**+2.5**
NHDN	**Nehbandan**	**4.00**	**36**	Pn	**Pn**	**22 29 45.2**	**+2.4**
ESRB	**Sir Abu**	**4.03**	**224**	Pn	**Pn**	**22 29 44.3**	**+1.3**
SOHO	**SOHO**	**4.08**	**190**	*i* P	**Pn**	**22 29 43.3**	**-0.6**
	SNR=23						
SOHO	**SOHO**	**4.08**	**190**	P	**Pn**	**22 29 43.2**	**-0.6**
SOHO	**SOHO**	**4.08**	**190**	Pn	**Pn**	**22 29 43.3**	**-0.6**
BSRN	**Basiran**	**4.09**	**22**	Pn	**Pn**	**22 29 47.5**	**+3.4**
AJN	**Ajban**	**4.16**	**211**	*i* P	**Pn**	**22 29 46.3**	**+1.5**
	SNR=92						
AJN	**Ajban**	**4.16**	**211**	P	**Pn**	**22 29 46.3**	**+1.5**
	SNR=92						
AJN				S	**Sn**	**22 30 33.2**	**+0.2**
AJN	**Ajban**	**4.16**	**211**	Pn	**Pn**	**22 29 46.6**	**+1.8**
ALNE	**Al Ain**	**4.33**	**199**	P	**Pn**	**22 29 49.0**	**+1.7**
	SNR=15						
ALNE				S	**Sn**	**22 30 39.0**	**+1.6**
ALNE	**Al Ain**	**4.33**	**199**	Pn	**Pn**	**22 29 48.8**	**+1.5**
NGCH	**Negor - Chabah**	**4.43**	**128**	P	**Pn**	**22 29 49.7**	**+1.1**
	SNR=11						
NGCH	**Negor - Chabah**	**4.43**	**128**	Pn	**Pn**	**22 29 50.0**	**+1.4**
IKOO	**Kooshah**	**4.48**	**19**	Pn	**Pn**	**22 29 52.7**	**+3.1**
HOQ	**Hoqain**	**4.57**	**180**	P	**Pn**	**22 29 50.5**	**-0.1**
	SNR=31						
HOQ	**Hoqain**	**4.57**	**180**	Pn	**Pn**	**22 29 50.7**	**+0.1**
SRVN	**Saravan**	**4.58**	**98**	Pn	**Pn**	**22 29 53.1**	**+2.3**
BIDO	**Bidbid**	**4.69**	**171**	P	**Pn**	**22 29 52.4**	**+0.2**
BIDO	**Bidbid**	**4.69**	**171**	Pn	**Pn**	**22 29 52.0**	**-0.3**
YZKH	**Yazd**	**4.81**	**331**	Pn	**Pn**	**22 29 56.4**	**+2.5**
ARQ	**Araqi**	**4.87**	**188**	P	**Pn**	**22 29 57.0**	**+2.3**
	SNR=97						
ARQ				S	**Sn**	**22 30 52.4**	**+1.8**
ISAD	**Sadrabad**	**4.87**	**321**	Pn	**Pn**	**22 29 58.2**	**+3.2**
BAGH	**Bagheran - Bir**	**4.88**	**19**	Pn	**Pn**	**22 29 58.0**	**+3.0**
WSAR	**Wadi Sarin**	**5.06**	**166**	Pn	**Pn**	**22 29 57.3**	**0.0**
	2.8nm,0.3s,baz=341,slow=5.2,SNR=55						
WSAR				S	**Sn**	**22 30 51.0**	**-4.3**
	12nm,0.3s,baz=241,slow=19,SNR=11						
	8.2nm,0.4s						
WSAR	**Wadi Sarin**	**5.06**	**166**	P	**Pn**	**22 29 58.3**	**+1.0**
SMDO	**Samad**	**5.14**	**172**	P	**Pn**	**22 29 60.0**	**+1.5**
AHBU	**AHRAM**	**5.33**	**279**	Pn	**Pn**	**22 30 03.3**	**+2.4**
DSBU	**Dashti - Bushe**	**5.33**	**273**	Pn	**Pn**	**22 30 03.2**	**+2.1**
MZWR	**Madinat Zayed**	**5.37**	**216**	P	**Pn**	**22 30 02.1**	**+0.6**
MZWR				S	**Sn**	**22 31 01.1**	**-1.8**
MZWR	**Madinat Zayed**	**5.37**	**216**	Pn	**Pn**	**22 30 02.3**	**+0.8**
BSY	**Bisya**	**5.41**	**181**	P	**Pn**	**22 30 04.6**	**+2.5**
BSY				S	**Sn**	**22 31 05.4**	**+1.4**
TKDS	**Koohdasht(Taba**	**5.42**	**358**	Pn	**Pn**	**22 30 05.2**	**+2.8**
AFRZ	**Afriz**	**5.44**	**15**	Pn	**Pn**	**22 30 06.3**	**+3.7**
IRAM	**Ramesheh**	**5.60**	**312**	Pn	**Pn**	**22 30 07.6**	**+2.7**
KLNJ	**Kolanjah**	**5.72**	**301**	Pn	**Pn**	**22 30 08.3**	**+1.7**
WBK	**Wadi Bani Khal**	**5.74**	**164**	P	**Pn**	**22 30 07.4**	**+0.7**
	SNR=13						
WBK				S	**Sn**	**22 31 10.4**	**-1.8**
WBK	**Wadi Bani Khal**	**5.74**	**164**	Pn	**Pn**	**22 30 08.1**	**+1.4**
UMZA	**Um Al Zommool**	**5.77**	**200**	P	**Pn**	**22 30 07.2**	**+0.2**
UMZA				S	**Sn**	**22 31 10.4**	**-2.4**
UMZA	**Um Al Zommool**	**5.77**	**200**	Pn	**Pn**	**22 30 07.3**	**+0.2**
GHWR	**Ruwais**	**5.78**	**225**	P	**Pn**	**22 30 07.2**	**0.0**
GHWR				S	**Sn**	**22 31 11.1**	**-2.0**
GHWR	**Ruwais**	**5.78**	**225**	Pn	**Pn**	**22 30 07.0**	**-0.2**
JMDO	**Jabal Madar**	**5.83**	**173**	P	**Pn**	**22 30 09.5**	**+1.7**
JMDO				S	**Sn**	**22 31 14.5**	**+0.3**
ANAR	**Anarak**	**5.87**	**329**	Pn	**Pn**	**22 30 12.0**	**+3.5**
SHRT	**Shahrakht**	**6.03**	**24**	Pn	**Pn**	**22 30 14.6**	**+3.9**
SHMA	**Al-Shehemyia**	**6.11**	**249**	P	**Pn**	**22 30 12.6**	**+0.9**
SHMA				S	**Sn**	**22 31 19.3**	**-1.8**
MZR	**Muzera**	**6.20**	**215**	*i* P	**Pn**	**22 30 12.6**	**-0.3**
	SNR=15						
MZR	**Muzera**	**6.20**	**215**	P	**Pn**	**22 30 13.0**	**+0.1**
	SNR=15						
MZR				S	**Sn**	**22 31 21.6**	**-1.9**
MZR	**Muzera**	**6.20**	**215**	Pn	**Pn**	**22 30 13.0**	**+0.1**
IGAR	**Gharneh**	**6.20**	**314**	Pn	**Pn**	**22 30 16.0**	**+2.9**
JLN	**Jalan Bani Buh**	**6.29**	**162**	P	**Pn**	**22 30 15.0**	**+0.7**
	SNR=15						
IZEF	**Zefreh**	**6.37**	**319**	Pn	**Pn**	**22 30 18.1**	**+2.6**
SAKB	**Bahrain**	**6.42**	**252**	P	**Pn**	**22 30 16.4**	**+0.5**
SAKB				S	**Sn**	**22 31 26.1**	**-2.6**
SLWR	**Sila**	**6.49**	**232**	P	**Pn**	**22 30 16.0**	**-0.9**
SLWR				S	**Sn**	**22 31 27.5**	**-3.0**
SMRA	**Abu-Samra**	**6.74**	**241**	P	**Pn**	**22 30 21.2**	**+0.9**
SMRA				S	**Sn**	**22 31 35.6**	**-1.0**
IPIR	**Pirpir**	**7.13**	**311**	Pn	**Pn**	**22 30 28.4**	**+2.4**
MHTO	**MHTO**	**7.18**	**175**	P	**Pn**	**22 30 27.9**	**+1.5**
TBJM	**Torbat-e-JAM**	**7.53**	**19**	Pn	**Pn**	**22 30 35.7**	**+4.4**
ISFB	**Sefidab**	**7.53**	**326**	Pn	**Pn**	**22 30 34.5**	**+3.3**
AMIS	**Naft Sefid**	**7.78**	**299**	Pn	**Pn**	**22 30 37.3**	**+2.7**
DQM	**DQM**	**8.21**	**178**	P	**Pn**	**22 30 41.1**	**+0.5**
GEYT	**Alibeck**	**9.75**	**4**	Pn	Pn	22 31 07.4	+5.7
	0.3nm,0.3s,baz=181,slow=12,SNR=5.0						
DOK	**Doka**	**9.95**	**198**	P	**Pn**	**22 31 03.8**	**-0.6**
DMTO	**DMTO**	**10.63**	**192**	P	**Pn**	**22 31 12.4**	**-1.4**
WHFO	**Wadi Hawf**	**10.71**	**198**	P	**Pn**	**22 31 13.4**	**-1.5**
	SNR=58						
ABTO	**Aybut**	**11.38**	**200**	P	**Pn**	**22 31 22.4**	**-1.7**
	SNR=40						
ASF	**Jabal al Asfar**	**18.09**	**288**	P	**Pn**	**22 32 52.7**	**0.0**
	0.1nm,0.3s,baz=120,slow=8.1,SNR=2.2						
	1.0nm,0.3s						
AAK	**Ala-Archa**	**20.06**	**39**	P	**P**	**22 33 15.9**	**+1.2**
	1.7nm,0.5s,baz=232,slow=14,SNR=9.5						
	1.7nm,0.5s						
AKTO	**Aktyubinsk**	**22.24**	**1**	P	**P**	**22 33 39.1**	**+1.2**
	6.0nm,0.7s,baz=173,slow=7.3,SNR=12						
	6.0nm,0.7s						
BRTR	**Keskin Array B**	**22.69**	**307**	P	**P**	**22 33 44.1**	**+1.1**
	0.8nm,0.8s,baz=126,slow=13,SNR=5.6						
	0.8nm,0.8s						
BELG	**Belogornoye**	**25.25**	**346**	P	**P**	**22 34 06.8**	**-0.3**
	4.0nm,0.8s,baz=100,slow=6.1,SNR=1.6						
	4.0nm,0.8s						
BVAR	**Borovoye Array**	**26.65**	**18**	P	**P**	**22 34 20.2**	**+0.3**
	1.3nm,0.5s,baz=195,slow=8.5,SNR=9.6						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**26.99**	**40**	P	**P**	**22 34 23.3**	**+0.3**
	0.9nm,0.6s,baz=225,slow=8.6,SNR=10						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**27.59**	**30**	P	**P**	**22 34 29.0**	**+0.7**
	1.1nm,0.6s,baz=229,slow=8.4,SNR=14						
	1.1nm,0.6s						
PALK	**Pallekele**	**30.36**	**129**	LR	LR	22 44 25.1	
	comp=Z,43nm,21.1s,baz=110,slow=31						
ZALV	**Zalesovo Beam**	**32.68**	**30**	P	**P**	**22 35 13.1**	**-0.2**
	2.7nm,0.3s,baz=248,slow=9.5,SNR=17						
	2.7nm,0.3s						
FINES	**FINESS Array B**	**39.23**	**337**	P	**P**	**22 36 09.1**	**-0.1**
	2.3nm,0.9s,baz=139,slow=11,SNR=5.3						
	2.3nm,0.9s						
DAVOX	**Davos/Dischmat**	**41.26**	**310**	P	**P**	**22 36 25.6**	**-1.0**
	1.0nm,0.6s,baz=139,slow=9.3,SNR=5.0						
	1.0nm,0.6s						
SONM	**Songino Array**	**42.56**	**49**	P	**P**	**22 36 37.1**	**0.0**
	0.8nm,0.5s,baz=249,slow=9.2,SNR=9.5						
	0.8nm,0.5s						
ESDC	**Sonseca Array**	**51.23**	**300**	P	**P**	**22 37 44.6**	**-0.3**
	0.2nm,0.6s,baz=59,slow=6.7,SNR=1.1						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**53.71**	**266**	P	**P**	**22 38 02.2**	**-1.4**
	1.2nm,0.5s,baz=64,slow=7.3,SNR=14						
	1.2nm,0.5s						
KSRS	**Korea Array**	**58.83**	**61**	P	**P**	**22 38 38.4**	**-1.4**
	0.7nm,0.5s,baz=273,slow=6.9,SNR=2.8						
	0.7nm,0.5s						
DBIC	**Dimbokro**	**62.37**	**262**	P	**P**	**22 39 03.5**	**-0.8**
	1.6nm,0.9s,baz=51,slow=6.5,SNR=1.6						
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**88.45**	**113**	P	**P**	**22 41 34.2**	**+0.3**
	0.7nm,0.6s,baz=317,slow=4.1,SNR=6.5						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**89.42**	**356**	P	**P**	**22 41 37.1**	**-0.6**
	0.2nm,0.7s,baz=9.6,slow=4.8,SNR=5.5						
YKA				LR	LR	23 25 59.3	
	comp=Z,15nm,18.1s,baz=290,slow=38						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**89.99**	**117**	P	**P**	**22 41 41.0**	**-0.1**
	0.3nm,0.5s,baz=304,slow=4.8,SNR=6.4						
	0.3nm,0.5s						

*HEL **01** 22:34:07.5±0.2,67°.87N×20°.05E,h0km,ML1.6,Explosion*
*UPP **01** 22:34:08.1±0.1,67°.83N×20°.17E,h0km,ML2.6,Confirmed Induced event*

ISC 01 22:34:08.1±0.9,67°.79N±0°.02×20°.26E±0°.03,h0km,n25, σ1°.19/37,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.26**	**279**	P	**Pg**	**22 34 12.6**	**-0.4**
KOVU	**Salmi**	**0.44**	**355**	P	**Pg**	**22 34 15.9**	**-0.6**
KOVU				S	**Sg**	**22 34 20.8**	**-1.4**
NIKU	**Nikkaluokta**	**0.47**	**281**	P	**Pg**	**22 34 15.9**	**-1.2**
LANU	**Lannavaara**	**0.70**	**67**	P	**Pg**	**22 34 21.3**	**-0.2**
LANU	**Lannavaara**	**0.70**	**67**	PG	**Pg**	**22 34 21.1**	**-0.4**
LANU				SB	**Sg**	**22 34 31.3**	**+0.7**
MASU	**Masugnsbyn**	**0.74**	**116**	P	**Pb**	**22 34 23.2**	**-0.7**
SALU	**Saltoluokta**	**0.79**	**240**	P	**Pg**	**22 34 22.9**	**-0.2**
KIF	**Kilpisjarvi**	**1.24**	**9**	*e*P	**Pb**	**22 34 32.1**	**-0.2**
KIF	**Kilpisjarvi**	**1.24**	**9**	PN	**Pg**	**22 34 31.6**	**-0.2**
KIF				MSG		22 34 44.3	
	comp=Z,5.3nm,0.2s						
KIF				SN	**Sb**	**22 34 49.0**	**+0.1**
PAJU	**Pajala**	**1.34**	**123**	P	**Pg**	**22 34 33.3**	**-0.4**
PAJU	**Pajala**	**1.34**	**123**	PG	**Pg**	**22 34 33.4**	**-0.3**
PAJU				SN	**Sn**	**22 34 53.4**	**+0.9**
HEF	**Hetta**	**1.42**	**62**	*e*P		**22 34 35.2**	**-0.2**
HEF	**Hetta**	**1.42**	**62**	PN	**Pb**	**22 34 35.1**	**-0.3**
HEF				MSG		22 34 51.3	
	comp=Z,2.9nm,0.2s						
HEF				SN	**Sn**	**22 34 55.0**	**+0.5**
ERTU	**Ertsjaerv**	**1.45**	**148**	P	**Pb**	**22 34 35.9**	**0.0**
ERTU	**Ertsjaerv**	**1.45**	**148**	PG	**Pb**	**22 34 35.8**	**0.0**
ERTU				SN	**Sn**	**22 34 58.2**	**+3.1**
HARU	**Harads**	**1.65**	**170**	P	**Pb**	**22 34 39.2**	**-0.2**
KTK1	**Kautokeino**	**1.65**	**40**	PG	**Pb**	**22 34 38.9**	**-0.5**
KTK1				SN	**Sg**	**22 35 02.2**	**+1.1**
KALU	**Kalix**	**2.29**	**146**	PG	**Pb**	**22 34 49.2**	**-1.0**
KALU				SG	**Sg**	**22 35 21.1**	**-0.4**
TOF	**Tornio**	**2.34**	**135**	PG	**Pb**	**22 34 51.2**	**+0.1**
TOF				MSG		22 35 20.3	
	comp=Z,2.8nm,0.2s						
TOF				SG	**Sg**	**22 35 24.0**	**+0.7**
SGF	**Sodankyl**	**2.42**	**95**	PG	**Pb**	**22 34 52.0**	**-0.5**
	baz=281						
SGF				SG	**Sg**	**22 35 24.7**	**-1.1**
RNF	**Rovaniemi**	**2.53**	**115**	PG	**Pb**	**22 34 53.5**	**-0.8**
	baz=300						
RNF				SG	**Sg**	**22 35 27.7**	**-1.6**
ARA0	**ARCESS Array S**	**2.60**	**45**	PB	**Pn**	**22 34 52.6**	**+1.3**
	baz=228						
ARA0				SG	**Sb**	**22 35 26.2**	**-1.8**
KEV	**Kevo**	**3.15**	**48**	SB	**Sn**	**22 35 39.6**	**+2.4**
OUL	**Oulu**	**3.53**	**138**	SG	**Sg**	**22 35 59.4**	**-2.0**
VRF	**Varrio**	**3.55**	**86**	SG	**Sg**	**22 35 59.0**	**-3.1**

*IDC **01** 22:45:17.4±10.0,1°.02N×98°.80E,h0km,mb3.9/4, mbtmp3.9/4,MS2.9/1,Error ellipse: s-maj=534.7km s-min=175.3km az=88.0*
*DJA **01** 22:45:22.0±0.3,1°.N±3°.×9°9E±°,h10km,M3.5/9,MLv3.5/9*

ISC 01 22:45:21.0±0.9,1°.37N±0°.08×99°.28E±0°.07,h10km,n12, σ1°.39/12,mb3.9/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.65**	**153**	P	**Pg**	**22 45 32.7**	**-0.8**
GSI	**Gunungsitoli**	**1.71**	**268**	P	**Pn**	**22 45 53.2**	**+2.3**
PBSI	**Pulau Batu**	**1.74**	**215**	P	**Pn**	**22 45 51.6**	**+0.3**
BKNI	**Bangkinang**	**2.04**	**121**	P	**Pn**	**22 45 57.1**	**+1.7**
BKNI				S	**Sb**	**22 46 23.6**	**-0.1**
PDSI	**Padang**	**2.56**	**153**	P	**Pn**	**22 46 04.5**	**+1.9**
KCSI	**Kotacane, Aceh**	**2.62**	**325**	P	**Pn**	**22 46 04.5**	**+1.1**
SDSI	**Sungai Dareh**	**3.14**	**137**	P	**Pn**	**22 46 11.9**	**+1.4**
MKAR	**Makanchi Array**	**47.61**	**344**	P	**P**	**22 53 56.9**	**-0.3**
	0.3nm,0.4s,baz=156,slow=7.9,SNR=9.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**52.13**	**343**	P	**P**	**22 54 30.7**	**-0.8**
	0.6nm,0.8s,baz=164,slow=7.0,SNR=5.6						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**53.74**	**349**	P	**P**	**22 54 43.1**	**-0.2**
	0.9nm,0.4s,baz=164,slow=5.7,SNR=5.8						
	0.9nm,0.4s						
OPO	**Ambohidratompo**	**54.90**	**246**	LR	LR	23 11 22.8	
	comp=Z,11nm,20.2s,baz=156,slow=29						
ARCES	**ARCESS Array B**	**83.08**	**340**	P	**P**	**22 57 45.6**	**-1.0**
	4.8nm,0.9s,baz=111,slow=4.9,SNR=2.4						
	4.8nm,0.9s						

*NEIC **01** 22:49:29.9±0.8,22°.4S±0°.1×171°.48E±0°.09,h101km±10km, mb4.6/20,Error ellipse: s-maj=19.1km s-min=11.4km az=186.0*
*IDC **01** 22:49:30.8±2.7,22°.21S×171°.37E,h116km±20km,mb3.8/8, mbtmp4.2/10,MS2.6/2,Error ellipse: s-maj=39.2km s-min=15.6km az=159.0*
*NOU **01** 22:49:34.6,22°.27S×170°.88E,h0km,MLv4.7/8,Southeast of Loyalty Islands*

ISC 01 22:49:29.1±0.5,22°.45S±0°.08×171°.47E±0°.06,h98km,n76, σ1°.48/85,mb4.5/21,16C-12D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.33**	**286**	Pn	**Pn**	**22 50 19.3**	**0.0**
MARNC					**Sn**	**22 50 58.4**	**+0.3**
MARNC	**Mare, Loyalty**	**3.33**	**286**	P	**Pn**	**22 50 19.4**	**+0.2**
YATNC	**Mamie plateau,**	**4.26**	**274**	P	**Pn**	**22 50 33.4**	**+1.7**
LIFNC	**LIFOU**	**4.27**	**292**	Pn	**Pn**	**22 50 32.6**	**+0.7**
LIFNC	**LIFOU**	**4.27**	**292**	P	**Pn**	**22 50 33.1**	**+1.2**
OUENC	**Ouen Island, N**	**4.28**	**270**	Pn	**Pn**	**22 50 32.7**	**+0.7**
OUENC					**Sn**	**22 51 21.8**	**+0.9**
OUENC	**

comp=Z,230nm,4.8s
NVAR Mina Array Bea 89.38 48 P **P** **23 02 14.4 -0.6**
comp=Z,0.5nm,0.4s,baz=230,slow=7.7,SNR=5.6
comp=Z,0.5nm,0.4s
SONM Songino Array 91.03 322 P **P** **23 02 21.5 -0.9**
comp=Z,1.1nm,0.7s,baz=130,slow=4.9,SNR=8.8
comp=Z,1.1nm,0.7s
ILAR Eielson Array 92.68 17 P **P** **23 02 27.1 -2.4**
comp=Z,0.4nm,0.9s,baz=236,slow=6.4,SNR=3.1
comp=Z,0.4nm,0.9s
BOSA Boshof 119.68 214 PKP **PKPdf** **23 08 07.3 -1.0**
comp=Z,2.6nm,1.0s,baz=180,slow=5.1,SNR=1.9
SORM Soroca 141.04 320 ⇓P **PKiKP** **23 08 54.5 +4.0**
SORM ⇑P **pPKPdf** **23 09 16.8 +2.5**
CFR Carcaliu 142.49 316 ⇑P **PKPdf** **23 08 51.0 +0.6**
VRI Vrincioaia 143.08 318 ⇑P **PKiKP** **23 08 57.7 +2.9**
VRI ⇑P **pPKPdf** **23 09 21.3 +3.2**
BURAR Bucovina Array 143.13 321 ⇓P **PKiKP** **23 08 54.8 -0.1**
BURAR ⇑P **sPKPdf** **23 09 29.6 +1.3**
PLOR Plostina 143.13 318 ⇓P **PKiKP** **23 08 53.4 -1.4**
PLOR ⇑P **pPKPdf** **23 09 19.5 +1.2**
GRER 143.14 317 ⇑P **PKPdf** **23 08 50.7 -0.8**
MLR Muntele Rosu 143.74 318 ⇓P PKPab 23 08 48.3 -1.6
MLR ⇑P pPKPdf 23 09 24.4 +4.9
SECR 143.87 317 ⇑P PKPbc 23 08 51.0 +0.1
VOIR 144.32 318 ⇓P **PKPab** **23 08 51.9 -0.1**
CJR Cluj-Napoca 144.55 321 ⇑P **PKPab** **23 08 51.6 -1.2**
ARR Arges 144.61 318 ⇑P PKPbc 23 08 53.2 0.0
COPA Copaceanca 144.82 316 ⇑P **PKPab** **23 08 51.9 -1.9**
MARR Marisel-Cluj 144.84 321 ⇑P **PKPab** **23 08 52.1 -1.8**
MARR ⇑P **sPKPdf** **23 09 36.5 +5.2**
DRGR 145.02 322 ⇑P PKPbc 23 08 53.8 -0.7
SIRR Siria 145.91 322 ⇓P **PKPdf** **23 08 54.3 -2.0**
BZS Buzias 146.30 321 ⇓P **PKPbc** **23 08 58.5 +0.1**
BZS ⇓P sPKPab 23 09 41.1 +5.8
MDVR Moldovita 146.69 319 ⇑P **PKPbc** **23 08 59.0 -0.5**
FRGS Fruska Gora 147.61 321 ⇑P **PKPdf** **23 09 00.4 +1.1**
MORH Mrgy, Hungar 147.64 324 ⇑P **PKPdf** **23 09 00.4 +1.2**
RONA Rosalia, Austr 147.90 328 *e*PKP **PKPbc** **23 09 01.7 -1.2**
comp=Z,0.8nm,0.4s
CONA Conrad Observa 147.96 328 *e*PKP **PKPdf** **23 09 01.4 +1.5**
comp=Z,0.2nm,0.2s
GERES GERESS Array B 148.29 332 PKPbc **PKPdf** **23 09 01.9 +1.5**
comp=Z,0.4nm,0.6s,baz=90,slow=1.3,SNR=4.8
WTTA Wattenberg 150.40 332 *e*PKP **PKPbc** **23 09 07.0 -2.3**
comp=Z,0.9nm,0.4s
MOTA Moosalm 150.56 332 *e*PKP **PKPbc** **23 09 08.1 -1.5**
comp=Z,0.3nm,0.3s
TORD Torodi Ar. Bea 166.58 228 PKP **PKPdf** **23 09 22.9 -0.9**
comp=Z,0.3nm,0.7s,baz=84,slow=2.2,SNR=2.5
TORD PKPab **PKPab** **23 10 25.9 -0.5**
comp=Z,0.4nm,0.7s,baz=129,slow=3.7,SNR=2.7

WEL 01 22:53:36.3, 43˚S±5˚×17˚2E±˚, h13km±11km, M2.8/12, ML3.1/25, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=80.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.31**	**126**	P	Pb	22 53 43.7	-0.1
INZ	**Inchbonnie**	**0.38**	**251**	P	Pb	22 53 44.8	-0.1
OXZ	**Oxford**	**0.73**	**174**	P	Pn	22 53 52.0	-0.3
AMCZ	**Amberley**	**0.78**	**138**	P	Pn	22 53 53.5	+0.4
DSZ	**Denniston Nort**	**0.86**	**354**	P	Pn	22 53 53.7	-0.5
GVZ	**Greta Valley S**	**0.89**	**115**	P	Pn	22 53 55.3	+0.8
MHCZ	**Mount Hutt**	**0.97**	**196**	P	Pn	22 53 56.2	+0.5
WVZ	**Waitaha Valley**	**1.00**	**241**	P	Pn	22 53 56.4	+0.4
THZ	**Tophouse**	**1.11**	**41**	P	Pb	22 53 56.9	-0.5
RACZ	**Rakaia**	**1.14**	**172**	P	Pg	22 53 59.2	+1.0
KHZ	**Kahutara**	**1.20**	**82**	P	Pg	22 54 00.4	+1.0
MQZ	**McQueen's Vall**	**1.22**	**155**	P	Pg	22 53 59.9	0.0
RPZ	**Rata Peaks**	**1.28**	**210**	P	Pg	22 54 01.7	+0.6
WACZ	**Wakanui South**	**1.34**	**183**	P	Pg	22 54 03.6	+1.4
MRNZ	**Matariki Terra**	**1.35**	**27**	P	Pg	22 54 02.5	+0.2
GCSZ	**Gaunt Creek Bo**	**1.38**	**238**	P	Pg	22 54 03.2	+0.4
OKCZ	**Okains Bay**	**1.39**	**144**	P	Pg	22 54 02.9	-0.2
ARCZ	**Arundel**	**1.45**	**202**	P	Pg	22 54 04.0	-0.3
BSWZ	**Blackbirch Sta**	**1.69**	**59**	P	Pg	22 54 08.5	-0.4
TKNZ	**Takaka Hill**	**1.75**	**26**	P	Pb	22 54 08.1	-0.1
NNZ	**Nelson**	**1.75**	**38**	P	Pb	22 54 08.7	+0.3
FOZ	**Fox Glacier**	**1.81**	**238**	P	Pb	22 54 09.2	-0.1
QRZ	**Quartz Range**	**1.83**	**14**	P	Pb	22 54 09.0	-0.7
TUWZ	**Tuamarina**	**1.90**	**53**	P	Pb	22 54 11.3	+0.5
TMZ	**Timaru**	**1.91**	**200**	P	Pn	22 54 09.5	+0.9
LBZ	**Lake Benmore**	**2.19**	**215**	P	Pg	22 54 17.4	-0.9
LBZ	**Lake Benmore**	**2.19**	**215**	P	Pg	22 54 17.3	-1.1
TCW	**Tory Channel**	**2.23**	**52**	P	Pb	22 54 15.5	-1.0
DUWZ	**D'Urville Isla**	**2.33**	**40**	P	Pb	22 54 17.4	-0.8
ODZ	**Otahua Downs**	**2.61**	**200**	P	Pn	22 54 19.4	+1.1
JCZ	**Jackson Bay**	**2.73**	**236**	P	Pn	22 54 22.0	+2.1
MRZ	**Mangatainoka R**	**3.35**	**56**	P	Pn	22 54 29.3	+0.9
PKE	**Pukeiti**	**3.74**	**25**	P	Pn	22 54 36.8	+2.9
VRZ	**Vera Road**	**4.08**	**33**	P	Pn	22 54 42.0	+3.6
OTVZ	**Oturere**	**4.45**	**41**	P	Pn	22 54 46.4	+2.8

*IDC **01** 22:57:56.0±0.6, 4˚.00N×94˚.62E, h0km, mb4.3/19, mbtmp4.2/20, ML4.0/1, MS3.3/7, Error ellipse: s-maj=24.5km s-min=15.3km az=50.0*
*BJI **01** 22:57:59.3±0.0, 4˚.02N×94˚.65E, h29km, mb4.4/36, mB5.0/15, Ms4.4/3, Ms7 4.1/4*
*DJA **01** 22:58:00.8±0.6, 4˚N±4˚×95˚E±˚, h35km±7km, M4.5/13, mB5.3/4, mb4.7/13, MLv4.4/11, Mw(mB)4.7/4*
*NEIC **01** 22:58:01.6±0.8, 3˚.97N±0˚.09×94˚.60E±0˚.07, h31km±5km, mb4.6/44, Error ellipse: s-maj=13.5km s-min=8.6km az=204.0*

ISC 01 22:58:00.1±0.4, 3˚.90N±0˚.06×94˚.60E±0˚.06, h29km, n134, σ1s03/134, mb4.5/59, MS3.5/6, 3C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**1.84**	**79**	P	**Pn**	**22 58 30.2**	**+0.4**
SNSI	**Sinabang, Aceh**	**2.28**	**131**	P	**Pn**	**22 58 36.0**	**+0.2**
SNSI				S	**Sn**	**22 59 00.4**	**-2.5**
LHMI	**Lhok Sumawe**	**2.69**	**61**	Pn	**Pn**	**22 58 41.9**	**+0.5**
LHMI	**Lhok Sumawe**	**2.69**	**61**	P	**Pn**	**22 58 43.7**	**+2.2**
KCSI	**Kotacane, Aceh**	**3.19**	**97**	P	**Pn**	**22 58 49.4**	**+1.0**
GSI	**Gunungsitoli**	**3.94**	**131**	Pn	**Pn**	**22 59 00.0**	**+1.3**
GSI	**Gunungsitoli**	**3.94**	**131**	P	**Pn**	**22 58 59.1**	**+0.4**
TSI	**Tuntungan**	**3.98**	**96**	P	**Pn**	**22 59 00.9**	**+1.6**
RPSI	**Rantau Prapat**	**4.49**	**105**	Pn	**Pn**	**22 59 07.9**	**+1.7**
PBSI	**Pulau Batu**	**5.39**	**137**	P	**Pn**	**22 59 18.9**	**+0.3**
	274nm,2.0s,1.1nm						
MNSI	**Mandailing Nat**	**5.86**	**122**	P	**Pn**	**22 59 26.7**	**+1.6**
	116nm,0.5s,2µm0.5nm						
KULM	**Kulim**	**6.19**	**77**	Pn	**Pn**	**22 59 30.4**	**+0.7**
IPM	**Ipoh**	**6.44**	**85**	Pn	**Pn**	**22 59 34.1**	**+1.0**
PALK	**Pallekele**	**14.22**	**284**	Pn	**Pn**	**23 01 20.6**	**+0.8**
	0.7nm,0.3s,baz=110,slow=18,SNR=5.5						
PALK				Sn	Sn	23 03 44.0	-13
	1.1nm,0.3s,baz=288,slow=19,SNR=8.3						
PALK				LR	LR	23 06 31.3	
	comp=Z,95nm,18.4s,baz=217,slow=36						
	1.6nm,0.3s						
CM31	**Chiang Mai Arr**	**15.08**	**16**	P	**P**	**23 01 35.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**15.08**	**16**	Pn	**P**	**23 01 35.9**	**-0.4**
	1.0nm,0.3s,baz=211,slow=12,SNR=39						
CMAR				LR	LR	23 07 28.6	
	comp=Z,76nm,18.1s,baz=215,slow=38						
CMAR	**Chiang Mai Arr**	**15.08**	**16**	P	**P**	**23 01 35.5**	**-0.8**
CHTO	**Chiang Mai**	**15.42**	**16**		**P**	**23 01 39.1**	**-0.9**
PHRA	**Phrae**	**15.52**	**20**	P	**P**	**23 01 41.2**	**0.0**
PHRA				IAmb	IAmb	23 01 41.6	
	comp=Z,74nm,1.2s						
UBPT	**Khong Chiam**	**15.57**	**43**	P	**P**	**23 01 42.3**	**+0.5**
LEM	**Lembang**	**16.81**	**129**	LR	LR	23 09 21.5	
	comp=Z,164nm,19.0s,baz=293,slow=41						
CRAI	**Chiangrai**	**17.18**	**19**	P	**P**	**23 01 59.6**	**0.0**
SHL	**Shillong**	**21.70**	**353**	P	**P**	**23 02 50.5**	**+1.4**
SHL				IAmb	IAmb	23 02 52.5	
	comp=Z,10nm,0.6s						
KMI	**Kunming**	**22.51**	**20**	⇑P	**P**	**23 02 59.7**	**+1.9**
KMI				sP	sP	23 03 11.1	+2.1
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KMI				LR	LR		
	comp=Z,150nm,19.6s						
KMI				LR	LR		
	comp=Z,180nm,15.4s						
KMI				LR	LR		
	comp=Z,200nm,14.2s						
PZH	**PanZhiHua**	**23.49**	**16**	P	**P**	**23 03 07.2**	**-0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,4.7s						
MYLDM	**Lahad Datu**	**23.86**	**86**	P	**P**	**23 03 11.9**	**+0.6**
MYLDM				IAmb	IAmb	23 03 46.8	
	comp=Z,33nm,1.3s						
H08S2	**Diego Garcia H**	**24.86**	**243**	T	T	23 29 12.7	
	baz=63,slow=75,SNR=1938						
H08S3	**Diego Garcia H**	**24.86**	**243**	T	T	23 29 12.7	
	baz=63,slow=75,SNR=3206						
H08S1	**Diego Garcia H**	**24.88**	**243**	T	T	23 29 13.9	
	baz=63,slow=75,SNR=276						
MPSI	**Mapaga**	**25.53**	**97**	P	**P**	**23 03 27.5**	**+1.0**
	comp=Z,14nm,1.1s,comp=Z,900nm						
LSA	**Lhasa**	**25.86**	**353**	P	**P**	**23 03 29.5**	**-0.5**
LSA				IAmb	IAmb	23 03 32.1	
	comp=Z,10nm,0.7s						
BKSI	**Bulukumba**	**27.09**	**110**	P	**P**	**23 03 42.1**	**+1.4**
	comp=Z,10nm,1.1s						
XAN	**Xi'an**	**32.82**	**22**	P	**P**	**23 04 30.5**	**-0.7**
XAN				pP	sP	23 04 41.7	-1.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LZH	**Lanzhou**	**33.15**	**14**	*e*P	**P**	**23 04 31.4**	**-2.8**
LZH				sP	sP	23 04 49.2	+3.2
LZH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA	**Gaotai**	**35.66**	**7**	*e*P	**P**	**23 04 55.2**	**-0.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NIL	**Nilore**	**35.66**	**329**	P	**P**	**23 04 55.9**	**0.0**
FITZ	**Fitzroy Crossi**	**37.61**	**127**	P	**P**	**23 05 12.4**	**-0.3**
HNS	**HongShan**	**38.09**	**26**	⇓P	**P**	**23 05 17.7**	**+1.2**
HNS				pmax	pmax		
	comp=Z,14nm,0.8s						
FAKI	**Fak Fak**	**38.23**	**100**	P	**P**	**23 05 17.2**	**-0.8**
KSH	**Kashi**	**39.27**	**337**	P	**P**	**23 05 25.7**	**-0.8**
KSH				sP	sP	23 05 38.6	+0.7
KSH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.83**	**20**	*e*P	**P**	**23 05 34.2**	**+3.1**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,300nm,5.2s						
WMQ	**Urumqi**	**40.22**	**352**	*e*P	**P**	**23 05 36.2**	**+2.0**
WMQ				pP	sP	23 05 45.4	-0.2
WMQ				PP	**PP**	**23 07 08.0**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
TARG	**Taragay, Kyrgy**	**40.55**	**341**	P	**P**	**23 05 37.5**	**0.0**
BJT	**Baijiatuan**	**40.90**	**26**	P	**P**	**23 05 39.4**	**-0.5**
GAR	**Garm**	**41.32**	**331**	P	**P**	**23 05 43.2**	**-0.2**
GAR				IAmb	IAmb	23 05 43.6	
	comp=Z,9.5nm,0.6s						
CHGR	**Chuyangaron**	**41.63**	**330**	P	**P**	**23 05 45.6**	**-0.4**
CHGR				IAmb	IAmb	23 05 46.1	
	comp=Z,14nm,0.7s						
UCH	**Uchtor**	**42.16**	**338**	P	**P**	**23 05 51.8**	**+1.1**
	SNR=18						
KBK	**Karagaybulak**	**42.37**	**338**	P	**P**	**23 05 53.5**	**+1.5**
	SNR=18						
AML	**Almayashu**	**42.40**	**337**	P	**P**	**23 05 53.8**	**+1.3**
	SNR=28						
AAK	**Ala-Archa**	**42.52**	**338**	P	**P**	**23 05 55.6**	**+2.3**
	SNR=6.3						
AAK	**Ala-Archa**	**42.52**	**338**	LR	LR	23 24 36.5	
	comp=Z,25nm,19.6s,baz=268,slow=38						
AAK	**Ala-Archa**	**42.52**	**338**	P	**P**	**23 05 53.5**	**+0.2**
AAK				IAmb	IAmb	23 05 56.2	
	comp=Z,6.0nm,0.8s						
H01W3	**Cape Leeuwin H**	**42.73**	**156**	T	T	23 51 33.9	
	baz=331,slow=76,SNR=7.7						
H01W2	**Cape Leeuwin H**	**42.75**	**156**	T	T	23 51 34.8	
	baz=331,slow=76,SNR=7.2						
H01W1	**Cape Leeuwin H**	**42.75**	**156**	T	T	23 51 31.8	
	baz=331,slow=76,SNR=7.2						
EKS2	**Erkin-Say**	**42.81**	**337**	P	**P**	**23 05 57.0**	**+1.3**
	SNR=12						
USP	**Osinovka**	**43.06**	**338**	P	**P**	**23 05 58.8**	**+1.3**
	SNR=6.5						
MK31	**Makanchi Array**	**44.04**	**348**	P	**P**	**23 06 05.1**	**-0.2**
MKAR	**Makanchi Array**	**44.04**	**348**	P	**P**	**23 06 05.5**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=166,slow=7.7,SNR=60						
	comp=Z,4.7nm,0.6s						
MKAR	**Makanchi Array**	**44.04**	**348**	P	**P**	**23 06 05.3**	**0.0**
MAKZ	**Makanchi**	**44.12**	**348**	P	**P**	**23 06 06.3**	**+0.4**
KK31	**Karatay Array**	**44.51**	**335**	P	**P**	**23 06 09.5**	**+0.4**
KK31				IAmb	IAmb	23 06 10.8	
	comp=Z,9.3nm,0.7s						
KKAR	**Karatay Array**	**44.51**	**335**	P	**P**	**23 06 09.1**	**-0.1**
KKAR	**Karatay Array**	**44.51**	**335**	P	**P**	**23 06 09.7**	**+0.5**
KKAR				IAmb	IAmb	23 06 10.8	
	comp=Z,9.3nm,0.7s						
JNU	**Nakatsue**	**44.63**	**45**	LR	LR	23 27 41.1	
	comp=Z,43nm,18.2s,baz=218,slow=40						
SONM	**Songino Array**	**44.93**	**11**	P	**P**	**23 06 11.2**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=189,slow=8.8,SNR=13						
SONM				PcP	**PcP**	**23 07 54.3**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=197,slow=4.4,SNR=11						
SONM				LR	LR	23 27 33.9	
	comp=Z,42nm,18.2s,baz=230,slow=40						
	comp=Z,1.6nm,0.8s						
WRA	**Warramunga Arr**	**45.67**	**123**	P	**P**	**23 06 19.0**	**+0.3**
	comp=Z,7.5nm,0.7s,baz=301,slow=9.1,SNR=45						
	comp=Z,7.5nm,0.7s						
WR0	**Warramunga Arr**	**45.85**	**123**	P	**P**	**23 06 20.7**	**+0.6**
FORT	**Forrest**	**47.01**	**140**	P	**P**	**23 06 29.8**	**+0.8**
JMN	**Monobe**	**47.08**	**46**	P	**P**	**23 06 29.8**	**+0.2**
AS31	**Alice Springs**	**47.09**	**128**	P	**P**	**23 06 29.9**	**+0.1**
ASAR	**Alice Springs**	**47.09**	**128**	P	**P**	**23 06 30.1**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=295,slow=7.9,SNR=43						
ASAR				PcP	**PcP**	**23 08 02.1**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=297,slow=3.7,SNR=6.7						
	comp=Z,3.8nm,0.8s						
JHS	**Saijyo**	**47.20**	**44**	P	**P**	**23 06 30.9**	**+0.3**
GEYT	**Alibeck**	**47.49**	**320**	P	**P**	**23 06 33.8**	**+1.0**
	comp=Z,5.3nm,0.7s,baz=142,slow=7.5,SNR=15						
	comp=Z,5.3nm,0.7s						
GEYT	**Alibeck**	**47.49**	**320**	P	**P**	**23 06 32.5**	**-0.2**
GEYT				IAmb	IAmb	23 06 34.7	
	comp=Z,5.4nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**47.49**	**320**	P	**P**	**23 06 32.4**	**-0.3**
GYA0B				IAmb	IAmb	23 06 34.7	
	comp=Z,5.5nm,0.7s						
HIA	**Hailar**	**50.01**	**21**	P	**P**	**23 06 50.5**	**-1.4**
JGF	**Kuroka**	**50.50**	**46**	P	**P**	**23 06 53.6**	**-2.2**
ZAA0	**Zalesovo Array**	**50.53**	**353**	P	**P**	**23 06 55.8**	**+0.2**
ZAA0				IAmb	IAmb	23 06 56.5	
	comp=Z,6.3nm,1.0s						
ZALV	**Zalesovo Beam**	**50.53**	**353**	P	**P**	**23 06 55.7**	**+0.1**
	comp=Z,3.6nm,0.4s,baz=180,slow=6.5,SNR=26						
ZALV				PcP	**PcP**	**23 08 12.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=157,slow=4.1,SNR=1.4						
	comp=Z,3.6nm,0.4s						
ZALV	**Zalesovo Beam**	**50.53**	**353**	P	**P**	**23 06 55.9**	**+0.2**
BRVK	**Borovoye**	**52.94**	**342**	P	**P**	**23 07 13.4**	**-0.2**
BRVK				IAmb	IAmb	23 07 16.2	
	comp=Z,2.4nm,0.5s						
ABKAR	**Akbulak array**	**53.93**	**333**	P	**P**	**23 07 21.4**	**+0.4**
ABKAR				IAmb	IAmb	23 07 22.2	
	comp=Z,1.1nm,1.2s						
ABKAR	**Akbulak array**	**53.93**	**333**	P	**P**	**23 07 21.4**	**+0.4**
KLR	**Kul'dur**	**55.09**	**29**	P	**P**	**23 07 30.4**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=270,slow=4.1,SNR=4.2						
	comp=Z,1.4nm,0.6s						
AKTO	**Aktyubinsk**	**55.64**	**333**	P	**P**	**23 07 33.2**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=121,slow=6.3,SNR=5.4						
	comp=Z,1.6nm,0.6s						
CTA	**Charters Tower**	**56.04**	**117**	LR	LR	23 34 36.8	
	comp=Z,46nm,18.3s,baz=276,slow=39						
ARU	**Arti**	**59.71**	**338**	P	**P**	**23 08 01.2**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=135,slow=8.6,SNR=3.5						
	comp=Z,1.7nm,0.6s						
KBZ	**Khabaz**	**60.34**	**319**	P	**P**	**23 08 05.7**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=117,slow=4.5,SNR=3.8						
	comp=Z,1.6nm,0.9s						
BRTR	**Keskin Array B**	**65.38**	**312**	P	**P**	**23 08 40.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=130,slow=6.8,SNR=9.2						
	comp=Z,1.2nm,0.7s						
NRIK	**Noril'sk**	**65.50**	**357**	P	**P**	**23 08 39.2**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=143,slow=7.6,SNR=3.0						
	comp=Z,1.0nm,0.4s						
TIXI	**Tiksi**	**71.02**	**11**	P	**P**	**23 09 13.7**	**-1.1**
TIXI				IAmb	IAmb	23 09 14.6	
	comp=Z,6.1nm,0.8s						
AKASG	**Malin Array Be**	**71.54**	**322**	P	**P**	**23 09 17.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=83,slow=4.9,SNR=15						
	comp=Z,0.3nm,0.4s						
AKASG	**Malin Array Be**	**71.54**	**322**	P	**P**	**23 09 17.5**	**-1.0**
TESR	**Tescani**	**72.08**	**318**	⇑P	**P**	**23 09 22.2**	**+0.3**
PRAR	**RASCA**	**72.56**	**319**	⇑P	**P**	**23 09 28.8**	**+4.1**
MNK	**Minsk**	**73.44**	**326**	*i* P	**P**	**23 09 29.0**	**-0.7**
	comp=E,4.0nm,1.4s						
MNK				*i* P	**P**	**23 09 29.0**	**-0.7**
	comp=N,36nm,0.9s						
MNK				*i* P	**P**	**23 09 29.0**	**-0.7**
	comp=Z,8.0nm,0.9s,baz=287						
MNK				*i* PcP	**PcP**	**23 09 45.0**	**-0.8**
MNK				*i* PP	**PP**	**23 12 12.5**	**-1.1**
MNK				*i* PPP	PPP	23 13 57.5	
MNK				*i* S	**S**	**23 18 56.2**	**-1.0**
MNK				*i* SS	**SS**	**23 23 39.6**	**-0.3**
MNK				*i* SSS	SSS	23 27 01.0	
MNK				*i* LQ	LQ	23 38 25.3	
MNK				*i* LR	LR	23 42 51.7	
MNK				*i* LRM	MLR	23 44 13.0	
	comp=Z,73nm,14.1s						
MNK				*i* LRM	MLR	23 44 18.6	
	comp=E,58nm,19.8s						
MNK				*i* LRM	MLR	23 44 30.1	
	comp=N,395nm,16.6s						
BOSA	**Boshof**	**73.90**	**239**	P	**P**	**23 09 33.7**	**+0.6**
	comp=N,1.4nm,0.7s,baz=17,slow=2.6,SNR=3.7						
	comp=N,1.4nm,0.7s						
FINES	**FINESS Array B**	**76.42**	**333**	P	**P**	**23 09 46.5**	**-0.3**
	comp=N,2.0nm,0.5s,baz=94,slow=5.4,SNR=28						
	comp=N,2.0nm,0.5s						
OJC	**Ojcow**	**77.30**	**321**	P	**P**	**23 09 52.6**	**+0.7**
OJC				IAmb	IAmb	23 09 53.3	
	comp=Z,4.8nm,0.7s						
JAVC	**Velka Javorina**	**78.47**	**319**	*e*P	**P**	**23 10 00.0**	**+1.4**
MORC	**Moravsky Berou**	**78.67**	**320**	*e*P	**P**	**23 10 00.6**	**+0.9**
ARCES	**ARCESS Array B**	**79.13**	**340**	P	**P**	**23 10 01.9**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=96,slow=6.7,SNR=9.2						
	comp=Z,3.5nm,0.8s						
KRLC	**Kraliky**	**79.20**	**320**	*e*P	**P**	**23 10 02.9**	**+0.3**
VRAC	**Vranov**	**79.23**	**319**	*e*P	**P**	**23 10 01.8**	**-0.9**
RONA	**Rosalia, Austr**	**79.25**	**318**	*e*P	**P**	**23 10 03.7**	**+0.8**
	comp=Z,0.4nm,0.3s						
KRUC	**Moravsky**	**79.33**	**319**	*e*P	**P**	**23 10 03.6**	**+0.4**
DPC	**Dobruska-Polom**	**79.52**	**320**	*e*P	**P**	**23 10 05.2**	**+0.9**
OSTC	**Ostas**	**79.61**	**321**	*e*P	**P**	**23 10 05.2**	**+0.4**
ARSA	**Arzberg**	**79.73**	**317**	*e*P	**P**	**23 10 07.2**	**+1.7**
	comp=Z,1.4nm,0.5s						
UPC	**Upice**	**79.74**	**321**	*e*P	**P**	**23 10 05.9**	**+0.5**
OBKA	**Obir**	**80.33**	**316**	*e*P	**P**	**23 10 10.0**	**+1.1**
	comp=Z,0.9nm,0.5s						
CKRC	**Cesky Krumlov**	**80.68**	**319**	*e*P	**P**	**23 10 11.3**	**+0.7**
BIOA	**Bad Ischl, Aus**	**81.04**	**318**	*e*P	**P**	**23 10 12.8**	**+0.2**
	comp=Z,1.5nm,0.5s						
GEC2	**GERESS Array S**	**81.08**	**319**	P	**P**	**23 10 13.7**	**+0.9**
GEC2				IAmb	IAmb	23 10 14.4	
	comp=Z,6.1nm,0.8s						
GERES	**GERESS Array B**	**81.08**	**319**	P	**P**	**23 10 13.5**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=103,slow=6.0,SNR=29						
	comp=Z,3.7nm,0.8s						
KHC	**Kasperske Hory**	**81.18**	**319**	*e*P	**P**	**23 10 13.4**	**+0.1**
KBA	**Koelnbreinsper**	**81.19**	**317**	*e*P	**P**	**23 10 13.6**	**0.0**
	comp=Z,1.8nm,0.6s						
CLUD	**Cludinico**	**81.47**	**316**	P	**P**	**23 10 15.4**	**+0.5**
STAL	**STALIGIAL**	**81.58**	**316**	P	**P**	**23 10 15.6**	**+0.1**
STAL				IAmb	IAmb	23 10 37.4	
	comp=Z,9.0nm,1.4s						
CLL	**Collm**	**81.71**	**321**	*e*pP	pP	23 10 27.0	+2.2
CIMO	**Cimolais**	**81.77**	**316**	P	**P**	**23 10 16.8**	**+0.3**
CIMO				IAmb	IAmb	23 10 17.7	
	comp=Z,8.1nm,1.1s						
CTI	**Castel Tesino**	**82.31**	**316**	P	**P**	**23 10 19.7**	**+0.4**
CTI				IAmb	IAmb	23 10 20.4	
	comp=Z,4.8nm,0.8s						
WTTA	**Wattenberg**	**82.37**	**317**	*i* P	**P**	**23 10 19.6**	**-0.2**
	comp=Z,2.7nm,0.5s,SNR=7.6						
WATA	**Walderalm**	**82.41**	**317**	*e*P	**P**	**23 10 19.7**	**-0.2**
	comp=Z,1.7nm,0.6s						
SQTA	**Sankt Quirin**	**82.66**	**317**	*i* P	**P**	**23 10 21.2**	**0.0**
	comp=Z,2.7nm,0.4s,SNR=5.0						
MOTA	**Moos

	baz=272							
ENTT	**Nioudou**	**1.30**	**294**	P		**Pb**	**23 21 08.8**	**-0.2**
	baz=294							
SXI1	**Grass Mountain**	**1.33**	**318**	*e*P		**Pn**	**23 21 07.9**	**-0.7**
	baz=330							
SXI1				*e*S		**Sb**	**23 21 26.1**	**-0.1**
	baz=330							
FUSB	**Fushanzhiwuyua**	**1.33**	**299**	*e*P		**Pb**	**23 21 10.1**	**+0.5**
	baz=311							
EGFH	**Guangfu**	**1.39**	**252**	*e*S		**Sn**	**23 21 26.8**	**-0.3**
	baz=250							
NNS	**Nan Shan**	**1.40**	**284**	*e*P		**Pb**	**23 21 10.6**	**-0.2**
	baz=283							
JISG	**Ishigakijimahi**	**1.40**	**70**	P		**Pn**	**23 21 09.8**	**+0.3**
JISG				S		**Sn**	**23 21 27.9**	**+0.5**
NWLT	**Wulai**	**1.41**	**298**	*e*P		**Pb**	**23 21 10.9**	**0.0**
	baz=313							
HGSD	**Ruisui**	**1.46**	**245**	*e*P		**Pn**	**23 21 10.4**	**+0.1**
	baz=244							
WHF	**Hehuan Shan**	**1.46**	**272**	P		**Pn**	**23 21 10.3**	**-0.5**
	baz=270							
WHF				*e*S		**Sn**	**23 21 29.1**	**-0.3**
	baz=270							
YHNB	**Yeheng**	**1.47**	**293**	P		**Pb**	**23 21 11.5**	**-0.4**
	baz=275							
YHNB				*e*S		**Sb**	**23 21 31.1**	**+0.9**
	baz=275							
NSK	**Sanguang**	**1.48**	**293**	P		**Pb**	**23 21 11.5**	**-0.7**
	baz=275							
NSK				S		**Sb**	**23 21 31.1**	**+0.4**
	baz=275							
CHGB	**Renai**	**1.55**	**268**	*i* P		**Pn**	**23 21 11.8**	**0.0**
	baz=267							
CHGB				S		**Sn**	**23 21 31.3**	**0.0**
	baz=267							
WUSB	**Renai**	**1.60**	**266**	*e*P		**Pn**	**23 21 12.7**	**+0.3**
	baz=265							
WUSB				*e*S		**Sn**	**23 21 33.0**	**+0.5**
	baz=265							
YULB	**Yu-li**	**1.60**	**244**	P		**Pn**	**23 21 11.5**	**-0.8**
	baz=230							
YULB				S		**Sn**	**23 21 31.0**	**-1.4**
	baz=230							
EYUL	**Yuli**	**1.61**	**242**	*e*P		**Pn**	**23 21 12.8**	**+0.4**
	baz=241							
EYUL				*e*S		**Sn**	**23 21 32.5**	**0.0**
	baz=241							
VWDT	**VWDT**	**1.62**	**258**	*e*P		**Pn**	**23 21 12.3**	**-0.1**
	baz=256							
VWDT				*e*S		**Sn**	**23 21 32.7**	**0.0**
	baz=256							
LIOB	**Emei**	**1.77**	**288**	*e*P		**Pn**	**23 21 15.7**	**+1.1**
	baz=288							
NSTT	**Nanjuang**	**1.78**	**287**	*e*P		**Pn**	**23 21 15.6**	**+0.9**
	baz=287							

SKO ***01*** *23:22:14.2, 40.81N×22.69E, h40km, ML2.6*
ISK ***01*** *23:22:16.9, 40.96N×22.73E, h8km, ML2.4/13*
THE ***01*** *23:22:17.8, 40.97N×22.76E, h6km, ML2.0/16, Error ellipse: s-maj=1.0km s-min=0.5km az=350.0*
ATH ***01*** *23:22:18.1, 40.96N×22.77E, h6km±2km, ML2.1/9, Error ellipse: s-maj=2.3km s-min=1.0km az=7.0*
BEO ***01*** *23:22:18.9±0.4, 41.01N×22.76E, h0km, ML1.9/8*

ISC 01 23:22:17.7±0.9, 40.95N±0.02×22.75E±0.01, h9km±7km, n73, σ0 970/117, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KNT	**Kendrikon**	**0.24**	**28**	P		**Pg**	**23 22 22.5**	**0.0**
KNT				S		**Sg**	**23 22 25.6**	**-0.2**
	2μm,0.1s							
KNT	**Kendrikon**	**0.24**	**28**	Pg		**Pg**	**23 22 22.3**	**-0.2**
KNT				Sg		**Sg**	**23 22 25.8**	**0.0**
KNT	**Kendrikon**	**0.24**	**28**	*i* Pg		**Pg**	**23 22 22.5**	**0.0**
KNT				*i* Sg		**Sg**	**23 22 25.6**	**-0.2**
KNT	**Kendrikon**	**0.24**	**28**	P		**Pg**	**23 22 22.5**	**0.0**
KNT				S		**Sg**	**23 22 25.1**	**-0.7**
KNT				AML	AML		23 22 25.2	
	comp=E,3681μm,0.3s							
KNT				AML	AML		23 22 25.3	
	comp=N,2568μm,0.2s							
GRG	**Griva**	**0.27**	**271**	P		**Pg**	**23 22 22.8**	**-0.2**
GRG				S		**Sg**	**23 22 26.7**	**+0.1**
	comp=N,1μm,0.3s							
GRG	**Griva**	**0.27**	**271**	Pg		**Pg**	**23 22 22.6**	**-0.5**
GRG				Sg		**Sg**	**23 22 26.6**	**-0.1**
GRG	**Griva**	**0.27**	**271**	*i* Pg		**Pg**	**23 22 22.9**	**-0.2**
GRG				*i* Sg		**Sg**	**23 22 26.8**	**+0.1**
GRG	**Griva**	**0.27**	**271**	P		**Pg**	**23 22 22.8**	**-0.2**
GRG				S		**Sg**	**23 22 26.7**	**+0.1**
GRG				AML	AML		23 22 27.1	
	comp=N,2009μm,0.3s							
GRG				AML	AML		23 22 27.2	
	comp=E,2135μm,0.3s							
THE	**Thessaloniki**	**0.36**	**153**	P		**Pg**	**23 22 24.8**	**+0.1**
THE				S		**Sg**	**23 22 29.8**	**+0.4**
	comp=E,335nm,0.1s							
THE	**Thessaloniki**	**0.36**	**153**	*i* Pg		**Pg**	**23 22 24.8**	**+0.1**
THE				*i* Sg		**Sg**	**23 22 29.9**	**+0.4**
THE	**Thessaloniki**	**0.36**	**153**	P		**Pg**	**23 22 24.8**	**+0.1**
THE				S		**Sg**	**23 22 28.9**	**-0.6**
THE				AML	AML		23 22 30.2	
	comp=E,668μm,0.2s							
THE				AML	AML		23 22 30.6	
	comp=N,678μm,0.2s							
VAY	**Valandovo**	**0.39**	**340**	*e*Pg		**Pg**	**23 22 25.1**	**-0.3**
VAY				*e*Sg		**Sg**	**23 22 30.4**	**-0.2**
VAY	**Valandovo**	**0.39**	**340**	*i* Pg		**Pg**	**23 22 25.1**	**-0.3**
VAY				*i* Sg		**Sg**	**23 22 30.6**	**-0.1**
VAY				*e*Lg		Lg	23 22 30.6	
	comp=E,643nm,0.3s							
HORT	**Hortiatis**	**0.44**	**143**	P		**Pg**	**23 22 26.4**	**+0.1**
HORT				S		**Sb**	**23 22 33.1**	**-1.4**
	comp=E,188nm,0.2s							
HORT	**Hortiatis**	**0.44**	**143**	Pg		**Pg**	**23 22 26.5**	**+0.1**
HORT				Sg		**Sb**	**23 22 33.5**	**-1.0**
HORT	**Hortiatis**	**0.44**	**143**	P		**Pg**	**23 22 26.6**	**+0.3**
HORT				S		**Sg**	**23 22 32.7**	**+0.6**
HORT				AML	AML		23 22 34.1	
	comp=N,386μm,0.2s							
HORT				AML	AML		23 22 35.0	
	comp=E,352μm,0.2s							
SOH	**Sokhos**	**0.47**	**106**	P		**Pg**	**23 22 27.1**	**+0.2**
SOH				S		**Sb**	**23 22 34.3**	**-1.1**
	comp=E,265nm,0.3s							
SOH	**Sokhos**	**0.47**	**106**	*i* Pg		**Pg**	**23 22 27.1**	**+0.2**
SOH	**Sokhos**	**0.47**	**106**	P		**Pg**	**23 22 27.1**	**+0.2**
SRS	**Serrai**	**0.66**	**75**	P		**Pg**	**23 22 30.0**	**-0.4**
SRS				S		**Sg**	**23 22 38.8**	**-0.2**
	comp=E,105nm,0.2s							
SRS	**Serrai**	**0.66**	**75**	*e*Pg		**Pg**	**23 22 29.9**	**-0.4**
SRS				*e*Sg		**Sg**	**23 22 39.0**	**+0.1**
SRS	**Serrai**	**0.66**	**75**	*i* Pg		**Pg**	**23 22 30.0**	**-0.4**
SRS				*i* Sg		**Sg**	**23 22 39.1**	**+0.1**
SRS	**Serrai**	**0.66**	**75**	P		**Pg**	**23 22 30.1**	**-0.3**
KTI	**Kastanea**	**0.74**	**221**	P		**Pg**	**23 22 31.5**	**-0.5**
STIP	**Stip**	**0.85**	**330**	*i* Pg		**Pg**	**23 22 32.3**	**-1.9**
STIP				*i* Sg		**Sg**	**23 22 43.5**	**-1.9**
STIP				*e*Lg		Lg	23 22 43.8	
	comp=E,87nm,0.4s							
LIT	**Litokhoron**	**0.87**	**193**	P		**Pg**	**23 22 34.1**	**-0.4**
NVR	**Nevrokopi**	**0.93**	**64**	P		**Pb**	**23 22 35.9**	**-0.1**
NVR				S		**Sb**	**23 22 48.3**	**-0.1**
	comp=E,92nm,0.3s							
NVR	**Nevrokopi**	**0.93**	**64**	P		**Pb**	**23 22 36.1**	**+0.1**
NVR				S		**Sg**	**23 22 47.2**	**-0.4**
NVR				AML	AML		23 22 52.4	
	comp=N,170μm,0.3s							
NVR				AML	AML		23 22 52.8	
	comp=E,197μm,0.3s							
KOKK	**Kokkinochori,**	**0.95**	**98**	P		**Pg**	**23 22 35.8**	**-0.2**
KOKK				S		**Sb**	**23 22 49.2**	**0.0**
	comp=E,108nm,0.3s							
KOKK	**Kokkinochori,**	**0.95**	**98**	P		**Pg**	**23 22 35.9**	**-0.1**
KZN	**Kozani**	**0.99**	**230**	P		**Pb**	**23 22 37.4**	**+0.4**
KZN				S		**Sn**	**23 22 51.6**	**-0.4**
	comp=E,60nm,0.5s							
KZN	**Kozani**	**0.99**	**230**	P		**Pb**	**23 22 37.5**	**+0.5**
KZN				S		**Sb**	**23 22 51.2**	**+1.1**
KZN				AML	AML		23 22 55.0	
	comp=N,161μm,0.4s							
KZN				AML	AML		23 22 55.1	
	comp=E,198μm,0.5s							

FNA	**Florina**	**1.06**	**261**	P		**Pg**	**23 22 36.9**	**-1.2**
FNA	**Florina**	**1.06**	**261**	Pg		**Pg**	**23 22 36.8**	**-1.2**
FNA	**Florina**	**1.06**	**261**	*e*Pg		**Pg**	**23 22 36.9**	**-1.2**
FNA				*e*Sg		**Sb**	**23 22 53.2**	**+1.0**
FNA	**Florina**	**1.06**	**261**	P		**Pg**	**23 22 36.9**	**-1.2**
FNA				S		**Sb**	**23 22 53.7**	**+1.4**
FNA				AML	AML		23 22 57.1	
	comp=N,139μm,0.6s							
FNA				AML	AML		23 22 58.4	
	comp=E,94μm,0.4s							
OUR	**Ouranopolis**	**1.12**	**123**	P		**Pb**	**23 22 39.1**	**-0.2**
OUR				S		**Sn**	**23 22 54.8**	**-0.3**
	comp=E,120nm,0.4s							
OUR	**Ouranopolis**	**1.12**	**123**	Pn		**Pg**	**23 22 38.8**	**-0.4**
OUR				Sn		**Sn**	**23 22 55.4**	**+0.3**
OUR	**Ouranopolis**	**1.12**	**123**	P		**Pb**	**23 22 39.0**	**-0.2**
PAIG	**Paliouri**	**1.25**	**145**	P		**Pg**	**23 22 40.6**	**-1.0**
PAIG				S		**Sn**	**23 22 59.5**	**+1.3**
	comp=E,52nm,0.5s							
PAIG	**Paliouri**	**1.25**	**145**	P		**Pg**	**23 22 40.6**	**-1.0**
TYRN	**Tyrnavos**	**1.30**	**198**	P		**Pn**	**23 22 41.4**	**-0.7**
TYRN				S		**Sn**	**23 23 00.1**	**+0.5**
	comp=E,78nm,0.5s							
TYRN	**Tyrnavos**	**1.30**	**198**	P		**Pn**	**23 22 41.4**	**-0.7**
TYRN				S		**Sn**	**23 23 00.3**	**+0.7**
KAVA	**Kavala**	**1.33**	**88**	P		**Pn**	**23 22 42.0**	**-0.5**
KAVA				S		**Sg**	**23 23 00.2**	**-0.4**
	comp=E,42nm,0.4s							
NEST	**Nestorio**	**1.40**	**248**	P		**Pn**	**23 22 43.6**	**0.0**
NEST	**Nestorio**	**1.40**	**248**	P		**Pn**	**23 22 43.2**	**-0.3**
OHR	**Ohrid**	**1.49**	**277**	*e*Pg		**Pn**	**23 22 44.9**	**+0.2**
OHR				*e*Sg		**Sg**	**23 23 05.5**	**0.0**
THL	**Klokotos Trika**	**1.50**	**202**	P		**Pn**	**23 22 44.9**	**+0.1**
THAS	**Thassos island**	**1.53**	**102**	P		**Pn**	**23 22 45.2**	**0.0**
THAS				S		**Sn**	**23 23 05.7**	**+0.4**
	comp=E,35nm,0.3s							
THAS	**Thassos island**	**1.53**	**102**	P		**Pb**	**23 22 46.0**	**-0.3**
BOSS	**Bosilegrad**	**1.56**	**353**	*e*Pg		**Pn**	**23 22 46.5**	**+0.9**
BOSS				*e*Sg		**Sn**	**23 23 06.3**	**+0.4**
PRVS	**Prvonek**	**1.64**	**342**	*e*Pg		**Pn**	**23 22 47.2**	**+0.5**
PRVS				*e*Sg		**Sn**	**23 23 07.6**	**-0.3**
NEO	**Neokhori**	**1.68**	**167**	P		**Pn**	**23 22 46.7**	**-0.6**
NEO	**Neokhori**	**1.68**	**167**	P		**Pn**	**23 22 46.7**	**-0.6**
NEO				S		**Sn**	**23 23 08.1**	**-0.9**
NEO				AML	AML		23 23 08.7	
	comp=E,120μm,0.3s							
NEO				AML	AML		23 23 10.1	
	comp=N,85μm,0.3s							
VTS	**Vitosha**	**1.70**	**12**	*e*Pg		**Pn**	**23 22 48.2**	**+0.4**
VTS				*e*Sg		**Sn**	**23 23 08.8**	**-1.0**
PLD	**Plovdiv**	**1.86**	**51**	Pn		**Pn**	**23 22 50.2**	**+0.4**
AGG	**Agios Georgios**	**1.96**	**190**	P		**Pn**	**23 22 51.3**	**+0.2**
AGG	**Agios Georgios**	**1.96**	**190**	Pn		**Pn**	**23 22 51.0**	**-0.1**
AGG	**Agios Georgios**	**1.96**	**190**	P		**Pn**	**23 22 51.3**	**+0.2**
BARS	**Barje**	**1.99**	**340**	*e*Pn		**Pn**	**23 22 52.8**	**+1.2**
BARS				*e*Sn		**Sn**	**23 23 18.1**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.00**	**194**	P		**Pn**	**23 22 51.8**	**+0.2**
MAKR				S		**Sn**	**23 23 18.1**	**+1.3**
	comp=N,30nm,0.5s							
MAKR	**Makrakomi, Fth**	**2.00**	**194**	P		**Pn**	**23 22 51.9**	**+0.2**
MAKR				AML	AML		23 23 19.8	
	comp=E,111μm,0.5s							
MAKR				AML	AML		23 23 29.1	
	comp=N,101μm,0.5s							
RDO	**Rodhopi**	**2.12**	**84**	Pn		**Pn**	**23 22 53.9**	**+0.6**
KDZ	**Kurdzhali**	**2.12**	**70**	Pn		**Pn**	**23 22 53.1**	**-0.3**
ZAPS	**Zavoj**	**2.32**	**358**	*e*Pn		**Pb**	**23 22 59.0**	**-0.8**
ZAPS				*e*Sn		**Sn**	**23 23 26.1**	**+1.2**
ANX	**Ano Chora**	**2.44**	**195**	P		**Pn**	**23 22 57.0**	**-0.9**
ANX				S		**Sn**	**23 23 29.4**	**+1.5**
	comp=N,25nm,0.4s							
ANX	**Ano Chora**	**2.44**	**195**	P		**Pn**	**23 22 57.7**	**-0.2**
ALN	**Alexandroupoli**	**2.50**	**90**	P		**Pn**	**23 22 58.4**	**-0.1**
ALN	**Alexandroupoli**	**2.50**	**90**	Pn		**Pn**	**23 22 59.4**	**+0.9**
ENEZ	**Enez**	**2.59**	**94**	Pn		**Pn**	**23 23 00.7**	**+0.9**
BOVS	**Bovan**	**2.79**	**344**	*e*Pn		**Pn**	**23 23 04.8**	**+2.2**
UKOP	**Uzunkopru-Edir**	**2.94**	**85**	Pn		**Pn**	**23 23 06.0**	**+1.4**
EDRB	**Edirne**	**3.13**	**72**	Pn		**Pn**	**23 23 07.8**	**+0.5**

IDC ***01*** *23:28:45.5±3.0, 27.16N×53.82E, h0km, mb3.5/5, mbtmp3.5/5, MS2.9/2, Error ellipse: s-maj=68.8km s-min=31.7km az=157.0*
TEH ***01*** *23:28:46.8, 26.95N×53.73E, h20km±75km, ML3.5*
DSN ***01*** *23:28:47.6±1.4, 26.97N×53.86E, h10km, ML3.0/10, Error ellipse: s-maj=14.7km s-min=10.9km az=161.0*
OMAN ***01*** *23:28:54.6±0.5, 26.11N×53.79E, h3km±7km, mb4.9/3, ml2.7/17, Error ellipse: s-maj=11.4km s-min=4.3km az=338.0*

ISC 01 23:28:47.5±0.7, 26.93N±0.04×53.75E±0.04, h19km, n81, σ1 958/92, mb3.4/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LMD1	**Lamerd**	**0.66**	**308**	Pg		**Pb**	**23 28 58.7**	**-1.7**
LMD1				Sg		**Sb**	**23 29 08.9**	**-0.3**
LAR1	**LAR**	**0.92**	**37**	Pg		**Pb**	**23 29 04.2**	**-0.7**
LAR1				Sg		**Sn**	**23 29 18.8**	**+0.5**
JHRM	**Jahrom**	**1.57**	**354**	Pg		**Pn**	**23 29 15.4**	**+0.8**
QIR1	**Qir**	**1.66**	**338**	Pg		**Pn**	**23 29 16.2**	**+0.5**
JRN	**Qarnain Island**	**2.14**	**203**	P		**Pn**	**23 29 23.0**	**+0.8**
BNDS	**Bandar-Abbas**	**2.20**	**77**	Pn		**Pn**	**23 29 22.5**	**-0.7**
SHME	**Shamm**	**2.31**	**112**	Pn		**Pn**	**23 29 25.7**	**+1.1**
BANOM	**Banah**	**2.49**	**113**	P		**Pn**	**23 29 28.5**	**+1.4**
BANOM	**Banah**	**2.49**	**113**	Pn		**Pn**	**23 29 28.2**	**+1.1**
IBND	**Bandar-abas**	**2.54**	**78**	Pn		**Pn**	**23 29 27.9**	**+0.3**
NAZ	**Nazwa, Dubai**	**2.59**	**138**	P		**Pn**	**23 29 29.7**	**+1.3**
AJN	**Ajban**	**2.61**	**154**	P		**Pn**	**23 29 29.8**	**+1.2**
AJN	**Ajban**	**2.61**	**154**	Pn		**Pn**	**23 29 32.2**	**+3.6**
MASF	**Masafi**	**2.66**	**125**	P		**Pn**	**23 29 32.2**	**+2.7**
MASF				S		**Sn**	**23 30 03.2**	**+2.0**
MSFE	**Esma-Masafi**	**2.67**	**125**	P		**Pn**	**23 29 30.1**	**+0.6**
MSFE	**Esma-Masafi**	**2.67**	**125**	Pn		**Pn**	**23 29 31.9**	**+2.4**
ASUD	**Al Ashush, Dub**	**2.70**	**148**	P		**Pn**	**23 29 32.3**	**+2.4**
ASUD	**Al Ashush, Dub**	**2.70**	**148**	P		**Pn**	**23 29 32.2**	**+2.3**
SHMA	**Al-Shehemyia**	**2.72**	**247**	P		**Pb**	**23 29 36.5**	**+0.9**
FAQ	**Al Faqa, Dubai**	**2.74**	**142**	P		**Pn**	**23 29 32.0**	**+1.6**
FAQ	**Al Faqa, Dubai**	**2.74**	**142**	P		**Pn**	**23 29 32.3**	**+1.9**
FAQ	**Al Faqa, Dubai**	**2.74**	**142**	Pn		**Pn**	**23 29 33.1**	**+2.7**
MDH	**Madha**	**2.81**	**125**	P		**Pn**	**23 29 34.5**	**+3.1**
MDH				S		**Sn**	**23 30 06.1**	**+1.4**
MDH	**Madha**	**2.81**	**125**	Pn		**Pn**	**23 29 33.6**	**+2.3**
UOSS	**Minazif**	**2.96**	**131**	P		**Pn**	**23 29 33.6**	**+0.1**
UOSS	**Minazif**	**2.96**	**131**	P		**Pn**	**23 29 35.8**	**+2.3**
UOSS	**Minazif**	**2.96**	**131**	Pn		**Pn**	**23 29 34.5**	**+1.0**
HATD	**Hatta, Dubai**	**3.00**	**134**	P		**Pn**	**23 29 33.4**	**-0.7**
HATD	**Hatta, Dubai**	**3.00**	**134**	P		**Pn**	**23 29 35.2**	**+1.1**
HATD	**Hatta, Dubai**	**3.00**	**134**	Pn		**Pn**	**23 29 34.6**	**+0.6**
SAKB	**Bahrain**	**3.04**	**252**	P		**Pb**	**23 29 41.7**	**+0.8**
ASHO	**Ashiyiah**	**3.05**	**137**	P		**Pn**	**23 29 35.8**	**+1.0**
ASHO				S		**Sn**	**23 30 12.9**	**+2.0**
ASHO	**Ashiyiah**	**3.05**	**137**	P		**Pn**	**23 29 36.0**	**+1.2**
ASHO	**Ashiyiah**	**3.05**	**137**	Pn		**Pn**	**23 29 35.8**	**+1.0**
MZWR	**Madinat Zayed**	**3.16**	**178**	P		**Pn**	**23 29 34.3**	**-1.9**
MZWR	**Madinat Zayed**	**3.16**	**178**	Pn		**Pn**	**23 29 37.9**	**+1.7**
ALNE	**Al Ain**	**3.38**	**147**	P		**Pn**	**23 29 39.3**	**0.0**
ALNE	**Al Ain**	**3.38**	**147**	Pn		**Pn**	**23 29 37.1**	**-2.2**
SOHO	**SOHO**	**3.75**	**137**	P		**Pn**	**23 29 44.5**	**+0.2**
SOHO	**SOHO**	**3.75**	**137**	P		**Pn**	**23 29 45.0**	**+0.7**
SOHO	**SOHO**	**3.75**	**137**	Pn		**Pn**	**23 29 42.9**	**-1.5**
NGRK	**Negar Kerman**	**3.77**	**43**	Pn		**Pn**	**23 29 45.3**	**+0.4**
MZR	**Muzera**	**3.92**	**184**	P		**Pn**	**23 29 48.6**	**+1.9**
MZR	**Muzera**	**3.92**	**184**	Pn		**Pn**	**23 29 49.2**	**+2.5**
KRBR	**Kerman**	**4.03**	**40**	Pn		**Pn**	**23 29 50.0**	**+1.5**
KHGB	**Koh Gabri**	**4.18**	**34**	Pn		**Pn**	**23 29 51.5**	**+1.0**
UMZA	**Um Al Zommool**	**4.39**	**163**	P		**Pn**	**23 29 52.0**	**-1.1**
UMZA	**Um Al Zommool**	**4.39**	**163**	Pn		**Pn**	**23 29 55.3**	**+2.2**
CHMN	**Cheshme madani**	**4.43**	**48**	Pn		**Pn**	**23 29 54.9**	**+0.9**
KLNJ	**Kolanjah**	**4.48**	**336**	Pn		**Pn**	**23 29 54.9**	**+0.2**
IMEH	**Mehriz**	**4.51**	**9**	Pn		**Pn**	**23 29 55.8**	**+0.8**
HOQ	**Hoqain**	**4.64**	**135**	P		**Pn**	**23 29 58.4**	**+1.9**
HOQ				S		**Sn**	**23 30 48.7**	**-1.1**
HOQ	**Hoqain**	**4.64**	**135**	Pn		**Pn**	**23 29 57.6**	**+1.0**
IRAM	**Ramesheh**	**5.00**	**346**	Pn		**Pn**	**23 30 02.5**	**+0.7**
BSY	**Bisya**	**5.21**	**142**	P		**Pn**	**23 30 05.6**	**+1.1**
	SNR=11							
ICHK	**Chekchek**	**5.32**	**6**	Pn		**Pn**	**23 30 07.2**	**+1.0**
SMDO	**Samad**	**5.48**	**134**	P		**Pn**	**23 30 09.8**	**+1.5**
SMDO				S		**Sn**	**23 31 11.1**	**+0.2**
YZKH	**Yazd**	**5.49**	**7**	Pn		**Pn**	**23 30 10.9**	**+2.6**

WSAR	**Wadi Sarin**	**5.75**	**129**	LR		LR	23 33 05.2	
	comp=Z,53nm,18.7s,baz=82,slow=44							
WSAR	**Wadi Sarin**	**5.75**	**129**	P		**Pn**	**23 30 14.2**	**+2.3**
WSAR				S		**Sn**	**23 31 16.7**	**-0.6**
SHK1	**Shahrekord**	**5.93**	**336**	Pn		**Pn**	**23 30 15.6**	**+1.1**
JMDO	**Jabal Madar**	**6.02**	**138**	P		**Pn**	**23 30 17.4**	**+1.8**
JMDO				S		**Sn**	**23 31 21.7**	**-2.4**
IZEF	**Zefreh**	**6.07**	**349**	Pn		**Pn**	**23 30 15.6**	**-0.8**
AMIS	**Naft Sefid**	**6.12**	**321**	Pn		**Pn**	**23 30 17.3**	**+0.4**
ANAR	**Anarak**	**6.24**	**360**	Pn		**Pn**	**23 30 18.9**	**+0.2**
WBK	**Wadi Bani Khal**	**6.40**	**131**	P		**Pn**	**23 30 22.0**	**+1.1**
	SNR=6.0							
WBK				S		**Sn**	**23 31 33.0**	**-0.5**
WBK	**Wadi Bani Khal**	**6.40**	**131**	Pn		**Pn**	**23 30 21.3**	**+0.5**
BSRN	**Basiran**	**6.86**	**42**	Pn		**Pn**	**23 30 28.1**	**+0.9**
JLN	**Jalan Bani Buh**	**7.01**	**132**	P		**Pn**	**23 30 31.2**	**+2.0**
JLN				S		**Sn**	**23 31 46.7**	**-1.8**
MHTO	**MHTO**	**7.06**	**146**	P		**Pn**	**23 30 30.5**	**+0.6**
MHTO				S		**Sn**	**23 31 45.1**	**-4.5**
SRVN	**Saravan**	**7.71**	**85**	Pn		**Pn**	**23 30 39.6**	**+0.7**
ASAO	**Ashtian**	**8.24**	**338**	Pn		**Pn**	**23 30 48.8**	**+2.5**
SHRT	**Shahrakht**	**8.76**	**39**	Pn		**Pn**	**23 30 55.0**	**+1.8**
WHFO	**Wadi Hawf**	**8.97**	**180**	P		**Pn**	**23 30 55.2**	**-1.0**
WHFO				S		Sn	23 32 29.4	-7.3
DMTO	**DMTO**	**9.24**	**173**	P		**Pn**	**23 30 58.6**	**-1.2**
DMTO				S		Sn	23 32 35.2	-8.0
ABTO	**Aybut**	**9.54**	**183**	P		**Pn**	**23 31 02.9**	**-1.1**
	SNR=6.2							
ABTO				S		Sn	23 32 41.9	-8.8
MKAR	**Makanchi Array**	**29.98**	**41**	P		**P**	**23 34 53.8**	**-0.9**
	0.2nm,0.5s,baz=237,slow=11,SNR=4.7 0.2nm,0.5s							
AKASG	**Malin Array Be**	**30.21**	**328**	P		**P**	**23 34 56.9**	**+0.3**
	0.1nm,0.2s,baz=119,slow=7.5,SNR=2.3							
AKASG				LR		LR	23 50 14.3	
	comp=Z,38nm,19.1s,baz=48,slow=43 0.1nm,0.2s							
ZALV	**Zalesovo Beam**	**35.37**	**32**	P		**P**	**23 35 40.7**	**-1.0**
	0.5nm,0.3s,baz=238,slow=8.0,SNR=2.1 0.5nm,0.3s							
FINES	**FINESS Array B**	**39.20**	**339**	P		**P**	**23 36 12.6**	**-1.4**
	1.1nm,0.6s,baz=151,slow=9.5,SNR=6.8 1.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**50.47**	**265**	P		**P**	**23 37 45.9**	**+1.4**
	0.2nm,0.4s,baz=71,slow=6.8,SNR=2.2 0.2nm,0.4s							

NOU 02 00:01:20.3, 19.47S×170.78E, h279km, mb3.8/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTV	**Rentapao**	**2.79**	**306**	P		Pn	00 02 13.4	+0.9
DVP	**Devils Point**	**3.01**	**305**	P		Pn	00 02 13.7	-1.1
MARNC	**Mare, Loyalty**	**3.26**	**232**	P		Pn	00 02 17.2	-0.1
YATNC	**Mamie plateau,**	**4.46**	**234**	P		Pn	00 02 31.6	+0.9
OUENC	**Ouen Island, N**	**4.71**	**231**	P		Pn	00 02 32.9	-0.7
DZM	**Mont Dzumac**	**4.81**	**237**	P		Pn	00 02 34.7	-0.2
KOUNC	**Koumac, New Ca**	**6.20**	**259**	P		Pn	00 02 51.6	+0.1
	23nm,1.2s							

REN ***02*** *00:07:40.5±1.6, 38.38N±0.01×118.92W±0.01, h7km±5km, ML2.6/19, ML2.5/62(NEIC), Error ellipse: s-maj=2.2km s-min=1.1km az=144.0*

NEIC 02 00:07:40.9±1.2, 38.38N±0.01×118.93W±0.01, h9km±5km, Error ellipse: s-maj=1.9km s-min=0.9km az=147.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TVH1	**TV Hill, Hawth**	**0.15**	**

LCH				IAML		00 08 34.4		
	comp=E,37nm,0.5s							
AFDM	**Forest Hills D**	**1.70**	**290**		Pb	00 08 11.8	-0.5	
AFDM				IAML		00 08 37.3		
	comp=E,51nm,0.3s							
AFDM				IAML		00 08 40.8		
	comp=N,43nm,0.6s							
WVA	**Winnemucca Val**	**1.71**	**336**		Pb	00 08 12.6	0.0	
GRAC	**Grapevine Rang**	**1.85**	**138**		Pg	00 08 16.4	0.0	
BEKR	**Beckworth**	**1.86**	**324**	Pn	Pb	00 08 14.8	-0.3	
BEKR				IAML		00 08 41.2		
	comp=E,36nm,0.6s							
KPK	**Kanaka Peak**	**2.21**	**304**		Pb	00 08 21.1	0.0	
ORV	**Oroville**	**2.33**	**301**		Pb	00 08 23.3	+0.4	
ORV				IAML		00 08 55.2		
	comp=E,16nm,1.0s							
PLTX	**Planet X, Gerl**	**2.36**	**350**	Pg	Pg	00 08 27.2	+1.1	
WCT	**Wildcat Mounta**	**2.42**	**130**		Pn	00 08 20.2	-0.4	
BMN	**Battle Mountai**	**2.44**	**32**		Pn	00 08 20.3	-0.8	
BBGB	**Big Mountain B**	**2.46**	**224**		Pb	00 08 25.1	-0.2	
TPNV	**Topopah Spring**	**2.56**	**123**		Pg	00 08 29.1	-0.8	
SAO	**San Andreas Ge**	**2.57**	**232**	Pn	Pn	00 08 22.3	-0.5	
S11A	**Rachel**	**2.62**	**105**		Pn	00 08 22.5	-1.0	
R11A	**Troy Canyon, C**	**2.62**	**90**		Pb	00 08 27.8	-0.4	
R11A				IAML		00 09 08.1		
	comp=N,17nm,0.7s							
PMPB	**Monarch Peak**	**2.63**	**215**	Pg	Pb	00 08 29.6	+1.5	
ISA	**Isabella, Lake**	**2.74**	**172**		Pb	00 08 30.9	+0.8	
ISA				IAML		00 09 09.1		
	comp=N,13nm,0.2s							
ISA				IAML		00 09 10.2		
	comp=E,17nm,0.5s							
GWY	**Greenwater Val**	**2.83**	**140**		Pg	00 08 34.8	-0.3	
QSM	**Queen of Sheba**	**2.92**	**145**	Pn	Pn	00 08 27.4	-0.1	
QSM					Pg	00 08 35.4	-1.3	
PRN	**Pahroc Range**	**3.21**	**106**		Pg	00 08 41.7	-0.8	
SPR3	**Spring Creek 3**	**3.65**	**79**	IAML		00 09 40.5		
	comp=N,8.2nm,1.0s							
SPR3				IAML		00 09 44.1		
	comp=E,7.8nm,1.3s							
ELK	**Elko**	**3.70**	**49**	IAML		00 09 40.2		
	comp=E,6.5nm,0.5s							

IDC ***02*** *00:12:57.8±0.5,36°.54S×52°.40E, h0km, mb4.3/26, mbtmp4.3/27, ML4.6/1, MS5.0/59, Error ellipse: s-maj=16.3km s-min=13.7km az=38.0*

MOS ***02*** *00:13:04.6±1.3, 35°.98S×52°.20E, h10km, mb5.2/40, MS5.0/7, Error ellipse: s-maj=14.0km s-min=6.8km az=97.1*

GCMT ***02*** *00:13:04.3±0.1, 36°.63S±0°.01×52°.42E±0°.01, h15km, MW5.8/144, Moment Tensor Solution. s139,c280; s144,c328; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr-0.37±.05; Mθθ 1.02±.05; Mϕϕ-0.65±.05; Mrθ 1.07±.14; Mθϕ 5.55±.05; Mrϕ 0.52±.14; Best double couple: M0 5.72600×10^17 NP1:ϕs95.00000°, δ85.00000°, λ10.00000°. NP2:ϕs4.00000°, δ80.00000°, λ175.00000°. Principal axes: T 6.0040, Plg10.0000°, Azm320.0000°; N -0.5570, Plg79.0000°, Azm120.0000°; P -5.4470, Plg4.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***02*** *00:13:06.3±2.8, 36°.04S±0°.09×51°.9E±0°.1, h10km±1km, mb5.2/97, Ms_20 5.4/119, Mwb5.7/21 Error ellipse: s-maj=16.8km s-min=14.6km az=69.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.13; Mθθ1.03; Mϕϕ-1.16; Mrθ-0.52; Mθϕ4.94; Mϕr1.25; Fault plane solution: M0 5.24000×10^17 NP1:ϕs186.87000°, δ83.97000°, λ-167.37000°. NP2:ϕs95.53000°, δ77.44000°, λ-6.18000°. Principal axes: T 5.0274, Plg5.0000°, Azm321.0000°; N 0.4017, Plg76.0000°, Azm212.0000°; P -5.4292, Plg13.0000°, Azm52.0000°;*

ISC 02 00:13:06.0±0.3, 35°.91S±0°.05×51°.93E±0°.05, h10km, n479, σ2s19/385, mb5.0/118, MS5.2/141, 19C-13D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**14.65**	**341**	Pn	**Pn**	**00 16 33.9**	**+0.3**
ABPO	**Ambohimpanom**	**17.33**	**345**	Pn	**Pn**	**00 17 08.4**	**+0.1**
ABPO	**Ambohimpanom**	**17.33**	**345**	P	**Pn**	**00 17 08.4**	**+0.1**
ABPO				pmax	pmax		
	comp=Z,85nm,1.8s						
OPO	**Ambohidratompo**	**17.77**	**345**	P	**P**	**00 17 16.8**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=164,slow=10,SNR=18						
OPO				S	S	00 20 52.3	+13
	comp=Z,2.2nm,0.5s,baz=271,slow=23,SNR=2.2						
OPO				LR	LR	00 23 12.9	
	comp=Z,5μm,19.1s,baz=2.0,slow=33						
	comp=Z,9.4nm,0.6s						
PAF	**Port-aux-Franc**	**18.94**	**141**		**P**	**00 17 23.2**	**-3.8**
PAF	**Port-aux-Franc**	**18.94**	**141**	P	**P**	**00 17 23.2**	**-3.8**
PAF				pmax	pmax		
	comp=Z,604nm,1.5s						
GRHM	**Grahamstown, E**	**21.18**	**270**	P	**P**	**00 17 51.6**	**0.0**
GRHM				IAmb	IAmb	00 18 09.0	
	comp=Z,81nm,1.2s						
MOPA	**Mopani**	**21.64**	**299**	*i* P	**P**	**00 17 57.7**	**+1.2**
SOE	**Somerset East**	**21.99**	**271**	P	**P**	**00 18 01.0**	**+0.6**
MUSN	**Musina, Limpop**	**23.51**	**299**	*i* P	**P**	**00 18 15.7**	**-0.6**
BOSA	**Boshof**	**23.65**	**280**	P	**P**	**00 18 15.7**	**-2.1**
	comp=Z,17nm,0.7s,baz=128,slow=8.2,SNR=18						
BOSA				LR	LR	00 25 22.9	
	comp=Z,6μm,21.7s,baz=122,slow=31						
	comp=Z,17nm,0.7s						
BOSA	**Boshof**	**23.65**	**280**	P	**P**	**00 18 16.8**	**-0.9**
BOSA				IAmb	IAmb	00 18 33.5	
	comp=Z,55nm,0.8s						
BOSA	**Boshof**	**23.65**	**280**	P	**P**	**00 18 16.8**	**-0.9**
BOSA				pmax	pmax		
	comp=Z,55nm,0.8s						
LBTB	**Lobatse**	**25.09**	**288**	P	**P**	**00 18 30.7**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=133,slow=10,SNR=8.8						
LBTB				LR	LR	00 27 07.8	
	comp=Z,6μm,19.4s,baz=106,slow=33						
	comp=Z,4.7nm,0.6s						
LBTB	**Lobatse**	**25.09**	**288**	P	**P**	**00 18 31.0**	**0.0**
LBTB	**Lobatse**	**25.09**	**288**	P	**P**	**00 18 31.0**	**0.0**
LBTB				pmax	pmax		
	comp=Z,33nm,1.3s						
SUR	**Sutherland**	**25.94**	**269**	P	**P**	**00 18 36.8**	**-1.9**
	comp=Z,11nm,0.9s,baz=117,slow=6.5,SNR=7.0						
SUR				LR	LR	00 27 07.0	
	comp=Z,4μm,20.3s,baz=118,slow=32						
	comp=Z,11nm,0.9s						
SUR	**Sutherland**	**25.94**	**269**	P	**P**	**00 18 37.5**	**-1.2**
LSZ	**Lusaka**	**29.53**	**308**	LR	LR	00 29 49.5	
	comp=Z,7μm,19.6s,baz=139,slow=34						
LSZ	**Lusaka**	**29.53**	**308**	P	**P**	**00 19 09.8**	**-1.2**
LSZ				IAmb	IAmb	00 19 39.7	
	comp=Z,73nm,1.7s						
LSZ	**Lusaka**	**29.53**	**308**	IAMs_20	IAMs_20	00 29 37.7	
	comp=Z,7μm,18.0s						
LSZ	**Lusaka**	**29.53**	**308**	*i* P	**P**	**00 19 11.4**	**+0.4**
LSZ	**Lusaka**	**29.53**	**308**	P	**P**	**00 19 09.8**	**-1.2**
LSZ				pmax	pmax		
	comp=Z,73nm,1.7s						
LSZ				MLR	MLR		
	comp=Z,7μm,18.0s						
MAW	**Mawson**	**32.35**	**172**	LR	LR	00 29 09.9	
	comp=Z,6μm,19.3s,baz=340,slow=31						
MAW	**Mawson**	**32.35**	**172**	P	**P**	**00 19 34.0**	**-1.1**
MAW	**Mawson**	**32.35**	**172**	P	**P**	**00 19 34.1**	**-1.1**
H08S1	**Diego Carcia H**	**33.83**	**39**	T	T	00 55 56.2	
	baz=209,slow=76,SNR=88						
H08S2	**Diego Garcia H**	**33.84**	**39**	T	T	00 55 54.6	
	baz=209,slow=76,SNR=119						
H08S3	**Diego Garcia H**	**33.85**	**39**	T	T	00 55 57.7	
	baz=209,slow=76,SNR=192						
TSUM	**Tsumeb**	**34.48**	**290**	P	**P**	**00 19 53.0**	**-1.4**
	comp=Z,4.8nm,0.8s,baz=130,slow=11,SNR=4.8						
TSUM				LR	LR	00 32 46.6	
	comp=Z,4μm,20.8s,baz=124,slow=34						
	comp=Z,4.8nm,0.8s						
TSUM	**Tsumeb**	**34.48**	**290**	P	**P**	**00 19 54.8**	**+0.4**
KMBO	**Kilima Mbogo**	**37.20**	**335**	P	**P**	**00 20 18.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=200,slow=8.9,SNR=2.6						
KMBO				LR	LR	00 33 54.5	
	comp=Z,5μm,21.5s,baz=145,slow=33						
	comp=Z,0.9nm,0.3s						
KMBO	**Kilima Mbogo**	**37.20**	**335**	P	**P**	**00 20 17.8**	**0.0**
KMBO	**Kilima Mbogo**	**37.20**	**335**	IAMs_20	IAMs_20	00 33 44.2	
	comp=Z,5μm,21.0s						
KMBO	**Kilima Mbogo**	**37.20**	**335**	*i* P	**P**	**00 20 16.8**	**-1.0**
KMBO	**Kilima Mbogo**	**37.20**	**335**	*e*P	**P**	**00 20 14.6**	**-3.2**
KMBO				*e*S	S	00 26 21.4	+17
KMBO	**Kilima Mbogo**	**37.20**	**335**	*e*P	**P**	**00 20 21.5**	**+3.7**
KMBO				*e*S	**S**	**00 25 59.4**	**-5.4**
ELIB	**Princess Elisa**	**39.01**	**194**	*d*P	P	00 20 22.6	-10
MBAR	**Mbarara**	**40.27**	**326**	LR	LR	00 37 01.8	
	comp=Z,2μm,18.1s,baz=132,slow=35						
MBAR	**Mbarara**	**40.27**	**326**	*e*P	P	00 20 38.5	-5.1
MBAR				*e*S	**S**	**00 26 55.2**	**+4.1**
NVL	**N'lazarevskaya**	**40.82**	**199**	*e*P	P	00 20 35.7	-12
NVL				*e*PPP	PPP	00 22 42.8	
NVL				pmax	pmax		
	comp=Z,18nm,0.9s						
NVL				MLR	MLR		
	comp=Z,1μm,17.0s						
KAAM	**Kaadhehdhoo**	**41.19**	**33**	P	**P**	**00 20 51.2**	**+0.3**
LODK	**Lodwar**	**42.09**	**335**	IAMs_20	IAMs_20	00 36 14.8	
	comp=Z,4μm,22.0s						
LODK	**Lodwar**	**42.09**	**335**	*e*P	P	00 20 49.1	-9.2
LODK				*e*S	**S**	**00 27 20.0**	**+2.1**
DILA	**Dilla**	**44.03**	**340**	*e*P	P	00 21 06.1	-8.1
CASY	**Casey**	**45.16**	**151**	IAMs_20	IAMs_20	00 36 21.5	
	comp=Z,5μm,20.0s						
SNAA	**Sanae**	**45.40**	**201**	P	P	00 21 13.8	-11
	comp=Z,18nm,0.9s,baz=111,slow=5.4,SNR=15						
SNAA				LR	LR	00 35 27.5	
	comp=Z,2μm,21.9s,baz=64,slow=30						
	comp=Z,18nm,0.9s						
SNAA	**Sanae**	**45.40**	**201**	*i* P	**P**	**00 21 27.2**	**+2.8**
SNAA				pmax	pmax		
	comp=Z,31nm,1.0s						
FURI	**Furi**	**46.28**	**342**	IAMs_20	IAMs_20	00 41 43.2	
	comp=Z,2μm,18.0s						
FURI	**Furi**	**46.28**	**342**	*e*P	P	00 21 23.0	-9.2
FURI				*e*S	**S**	**00 28 25.2**	**+5.7**
FURI	**Furi**	**46.28**	**342**	*e*P	P	00 21 24.9	-7.3
FURI				*e*S	**S**	**00 28 20.3**	**+0.8**
AAE	**Adis Abeba**	**46.39**	**342**	*e*P	P	00 21 23.9	-9.1
AAE				*e*S	**S**	**00 28 23.9**	**+3.0**
ANKE	**Ethiopia-Afar**	**46.70**	**343**	*e*P	P	00 21 26.4	-9.2
ANKE				*e*S	**S**	**00 28 31.0**	**+5.5**
ATD	**Arta Tunnel**	**47.96**	**348**	LR	LR	00 41 42.1	
	comp=Z,1μm,18.1s,baz=161,slow=35						
ATD	**Arta Tunnel**	**47.96**	**348**	*e*P	P	00 21 36.9	-8.1
ATD				*e*S	S	00 28 52.6	+10
DESE	**Dese**	**48.19**	**344**	*e*P	P	00 21 38.0	-9.2
DESE				*e*S	S	00 28 56.9	+10
H01W2	**Cape Leeuwin H**	**49.93**	**108**	T	T	01 14 28.5	
	baz=249,slow=75,SNR=341						
H01W3	**Cape Leeuwin H**	**49.94**	**108**	T	T	01 14 29.1	
	baz=249,slow=75,SNR=269						
H01W1	**Cape Leeuwin H**	**49.95**	**108**	T	T	01 14 29.8	
	baz=249,slow=75,SNR=332						
PALK	**Pallekele**	**50.77**	**38**	LR	LR	00 38 02.2	
	comp=Z,2μm,20.7s,baz=313,slow=30						
PALK	**Pallekele**	**50.77**	**38**	*ce*P	**P**	**00 22 05.0**	**-1.5**
PCHI	**Peechi**	**51.62**	**31**	*e*P	**P**	**00 22 12.5**	**-0.3**
PCHI				*e*S	**S**	**00 29 39.7**	**+5.8**
NWAO	**Narrogin (SRO)**	**53.05**	**107**	LR	LR	00 38 56.0	
	comp=Z,3μm,21.8s,slow=30						
NWAO	**Narrogin (SRO)**	**53.05**	**107**	IAMs_20	IAMs_20	00 38 56.1	
	comp=Z,3μm,19.0s						
QSPA	**South Pole Qui**	**54.28**	**180**	P	P	00 22 19.9	-12
	comp=Z,17nm,1.0s,baz=262,slow=4.7,SNR=18						
QSPA				LR	LR	00 42 38.0	
	comp=Z,5μm,21.8s,baz=268,slow=33						
	comp=Z,17nm,1.0s						
QSPA	**South Pole Qui**	**54.28**	**180**	P	P	00 22 21.3	-11
QSPA				IAmb	IAmb	00 22 39.3	
	comp=Z,47nm,1.1s						
BELA	**Belgrano 2**	**54.48**	**195**	P	**P**	**00 22 36.1**	**+2.8**
BELA				IAmb	IAmb	00 22 42.1	
	comp=Z,46nm,1.6s						
BKNI	**Bangkinang**	**58.12**	**63**	P	**P**	**00 23 02.2**	**+2.1**
RPSI	**Rantau Prapat**	**58.28**	**59**	P	**P**	**00 23 01.1**	**0.0**
RPSI				IAmb	IAmb	00 23 20.7	
	comp=Z,22nm,1.2s						
PSI	**Prapat**	**58.35**	**59**	P	**P**	**00 23 01.1**	**-0.7**
PSI				pmax	pmax		
	comp=Z,22nm,1.2s						
LEM	**Lembang**	**58.44**	**74**	LR	LR	00 44 15.6	
	comp=Z,654nm,19.5s,baz=204,slow=32						
VNDA	**Vanda**	**59.35**	**166**	P	P	00 22 55.9	-12
	comp=Z,1.8nm,1.1s,baz=223,slow=22,SNR=2.2						
VNDA				LR	LR	00 45 06.6	
	comp=Z,3μm,21.6s,baz=242,slow=33						
	comp=Z,1.8nm,1.1s						
VNDA	**Vanda**	**59.35**	**166**	P	**P**	**00 23 10.3**	**+2.5**
VNDA				IAmb	IAmb	00 23 17.4	
	comp=Z,17nm,1.2s						
SBA	**Scott Base**	**60.10**	**167**	IAMs_20	IAMs_20	00 45 27.5	
	comp=Z,2μm,20.0s						
HOPE	**Hope Point**	**60.91**	**222**	IAMs_20	IAMs_20	00 42 28.5	
	comp=Z,3μm,21.0s						
IPM	**Ipoh**	**61.01**	**59**	P	**P**	**00 23 21.0**	**+1.0**
IPM				IAmb	IAmb	00 23 38.6	
	comp=Z,25nm,1.1s						
FORT	**Forrest**	**62.30**	**109**	P	**P**	**00 23 29.6**	**+1.1**
SMAI	**San Martin Ant**	**66.81**	**201**	P	**P**	**00 23 60.0**	**+2.6**
EIL	**Elat**	**67.16**	**344**	LR	LR	00 50 33.0	
	comp=Z,400nm,21.3s,baz=175,slow=33						
BBOO	**Buckleboo**	**67.37**	**115**	P	**P**	**00 24 00.1**	**-1.4**
BBOO				IAmb	IAmb	00 24 06.4	
	comp=Z,20nm,0.8s						
SBUM	**Sibu**	**67.84**	**70**	P	**P**	**00 24 06.3**	**+1.6**
SBUM				IAmb	IAmb	00 24 26.5	
	comp=Z,19nm,1.4s						
PMSA	**Palmer Station**	**67.96**	**205**	LR	LR	00 47 36.6	
	comp=Z,1μm,21.2s,baz=124,slow=31						
DBIC	**Dimbokro**	**68.02**	**296**	P	**P**	**00 24 02.0**	**-3.8**
	comp=Z,3.2nm,1.0s,baz=104,slow=16,SNR=2.3						
DBIC				LR	LR	00 51 02.2	
	comp=Z,2μm,21.7s,baz=137,slow=33						
	comp=Z,3.2nm,1.0s						
DBIC	**Dimbokro**	**68.02**	**296**	P	**P**	**00 24 05.5**	**-0.3**
DBIC				IAmb	IAmb	00 24 18.2	
	comp=Z,12nm,1.1s						
DBIC	**Dimbokro**	**68.02**	**296**	P	**P**	**00 24 05.5**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,12nm,1.1s						
TORD	**Torodi Ar. Bea**	**68.05**	**306**	P	**P**	**00 24 02.6**	**-3.3**
	comp=Z,4.2nm,1.0s,baz=122,slow=5.3,SNR=19						
	comp=Z,4.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**68.05**	**306**	P	**P**	**00 24 03.8**	**-2.1**
TORD				IAmb	IAmb	00 24 31.9	
	comp=Z,16nm,1.3s						
KAPI	**Kappang**	**69.15**	**81**	LR	LR	00 48 00.8	
	comp=Z,1μm,21.8s,baz=224,slow=30						
BATI	**Baumata**	**69.31**	**88**	LR	LR	00 49 15.4	
	comp=Z,541nm,21.1s,baz=232,slow=32						
BRDH	**Bariadhala**	**69.33**	**39**	LR	LR	00 50 08.8	
	comp=Z,2μm,21.8s,baz=198,slow=32						
CM31	**Chiang Mai Arr**	**70.02**	**48**	P	**P**	**00 24 17.4**	**-0.7**
CM31				IAmb	IAmb	00 24 35.8	
	comp=Z,17nm,0.9s						
CMAR	**Chiang Mai Arr**	**70.02**	**48**	P	**P**	**00 24 13.7**	**-4.5**
	comp=Z,1.7nm,0.9s,baz=228,slow=6.1,SNR=8.5						
CMAR				LR	LR	00 49 19.4	
	comp=Z,1μm,21.6s,baz=220,slow=31						
	comp=Z,1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**70.02**	**48**	P	**P**	**00 24 16.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**70.02**	**48**	P	**P**	**00 24 18.1**	**0.0**
TAU	**Tasmania Unive**	**70.12**	**129**	P	**P**	**00 24 21.2**	**+2.7**
TAU				IAMs_20	IAMs_20	00 48 43.3	
	comp=Z,1μm,18.0s						
TAU	**Tasmania Unive**	**70.12**	**129**	P	**P**	**00 24 21.2**	**+2.7**
TAU				pmax	pmax		
	comp=Z,140nm,1.6s						
MMAI	**Mount Meron Ar**	**70.29**	**345**	LR	LR	00 53 59.9	
	comp=Z,1μm,18.6s,baz=37,slow=35						
CHTO	**Chiang Mai**	**70.30**	**47**	P	**P**	**00 24 19.6**	**-0.2**
CHTO				IAmb	IAmb	00 24 39.7	
	comp=Z,17nm,1.4s						
CHTO	**Chiang Mai**	**70.30**	**47**	IAMs_20	IAMs_20	00 46 25.0	
	comp=Z,1μm,20.0s						
CHTO	**Chiang Mai**	**70.30**	**47**	P	**P**	**00 24 19.6**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,17nm,1.4s						
ASAR	**Alice Springs**	**70.31**	**105**	P	P	00 24 09.8	-10
	comp=Z,2.3nm,0.8s,baz=234,slow=6.0,SNR=27						
ASAR				LR	LR	00 49 33.4	
	comp=Z,2μm,21.3s,baz=236,slow=32						
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**70.31**	**105**	P	**P**	**00 24 17.2**	**-2.9**
ASAR	**Alice Springs**	**70.31**	**105**	P	**P**	**00 24 17.2**	**-2.9**
AS31	**Alice Springs**	**70.31**	**105**	P	**P**	**00 24 17.9**	**-2.2**
DMN	**Daman**	**70.50**	**31**	*e*P	**P**	**00 24 16.8**	**-4.4**
RAMN	**Ramite**	**70.56**	**33**	*e*P	**P**	**00 24 17.0**	**-4.6**
HRA	**Herat**	**70.59**	**9**	P	**P**	**00 24 21.3**	**-0.3**
PKI	**Pulchoki**	**70.59**	**31**	*e*P	**P**	**00 24 17.5**	**-4.4**
	comp=Z,0.9nm,0.2s						
PKIN	**Phulchoki**	**70.59**	**31**	*e*P	**P**	**00 24 17.3**	**-4.5**
	comp=Z,2.6nm,0.3s						
DANN	**Dangsing**	**70.61**	**30**	*e*P	**P**	**00 24 18.1**	**-3.8**
GKN	**Gorkha**	**70.65**	**30**	*e*P	**P**	**00 24 17.6**	**-4.4**
JIRN	**Jiri**	**71.00**	**32**	*e*P	P	00 24 19.5	-4.9
TAPN	**Taplejung**	**71.40**	**33**	*e*P	P	00 24 21.9	-4.8
SHL	**Shillong**	**71.85**	**38**	P	**P**	**00 24 29.7**	**+0.3**
SHL	**Shillong**	**71.85**	**38**	P	**P**	**00 24 29.7**	**+0.3**
SHL				pmax	pmax		
	comp=Z,74nm,1.8s						
KBL	**Kabul**	**71.89**	**15**	P	**P**	**00 24 29.2**	**-0.2**
KBL	**Kabul**	**71.89**	**15**	P	**P**	**00 24 29.2**	**-0.2**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
STKA	**Stephens Creek**	**71.89**	**116**	P	P	00 24 20.9	-8.5
	comp=Z,2.3nm,0.5s,baz=276,slow=7.0,SNR=4.0						
STKA				LR	LR	00 48 43.4	
	comp=Z,2μm,21.4s,baz=236,slow=30						
	comp=Z,2.3nm,0.5s						
STKA	**Stephens Creek**	**71.89**	**116**	P	**P**	**00 24 30.4**	**+1.0**
STKA	**Stephens Creek**	**71.89**	**116**	*i* P	**P**	**00 24 30.3**	**+0.8**
NIL	**Nilore**	**72.02**	**19**	P	**P**	**00 24 30.1**	**+0.2**
NIL				IAmb	IAmb	00 24 55.9	
	comp=Z,54nm,1.9s						
NIL	**Nilore**	**72.02**	**19**	P	**P**	**00 24 30.1**	**+0.2**
NIL				pmax	pmax		
	comp=Z,54nm,1.9s						
CRAI	**Chiangrai**	**72.24**	**48**	P	**P**	**00 24 30.1**	**-1.5**
WRA	**Warramunga Arr**	**72.61**	**102**	P	P	00 24 24.4	-10
	comp=Z,2.7nm,0.8s,baz=231,slow=5.0,SNR=9.5						
WRA				LR	LR	00 52 53.5	
	comp=Z,1μm,18.4s,baz=263,slow=33						
	comp=Z,2.7nm,0.8s						
WRA	**Warramunga Arr**	**72.61**	**102**	P	**P**	**00 24 32.8**	**-1.2**
WRA	**Warramunga Arr**	**72.61**	**102**	P	**P**	**00 24 32.8**	**-1.2**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.6s						
WB2	**Warramunga Arr**	**72.62**	**102**	P	**P**	**00 24 31.4**	**-2.7**
WB2				IAmb	IAmb	00 24 40.6	
	comp=Z,25nm,1.0s						
WRAB	**Tennant Creek**	**72.62**	**102**	IAMs_20	IAMs_20	00 49 50.3	
	comp=Z,1μm,20.0s						
WB0	**Warramunga Arr**	**72.75**	**102**	P	**P**	**00 24 30.6**	**-4.2**
WB0				IAmb	IAmb	00 24 41.2	
	comp=Z,21nm,0.8s						
WR0	**Warramunga Arr**	**72.76**	**102**	P	**P**	**00 24 34.5**	**-0.4**
TOLI2	**Tolitoli**	**73.65**	**76**	P	**P**	**00 24 39.4**	**-0.7**
GEYT	**Alibeck**	**73.69**	**5**	P	**P**	**00 24 35.2**	**-4.6**
	comp=Z,0.4nm,0.4s,baz=297,slow=6.3,SNR=1.5						
	comp=Z,0.4nm,0.4s						
GEYT	**Alibeck**	**73.69**	**5**	P	**P**	**00 24 40.7**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**73.69**	**5**	P	**P**	**00 24 41.1**	**+1.3**
LUWI	**Luwuk**	**73.92**	**79**	P	**P**	**00 24 41.2**	**-0.5**
GURO	**Guroymak-BITLI**	**74.65**	**352**	P	**P**	**00 24 46.4**	**+0.9**
KARP	**Karpathos**	**74.74**	**339**	IAMs_20	IAMs_20	01 00 11.1	
	comp=Z,2μm,20.0s						
TNCH	**TengChong**	**74.91**	**43**	*e*P	**P**	**00 24 50.5**	**+3.1**
TNCH				pP	pwP	00 24 53.7	-0.1
TNCH				S	**S**	**00 34 27.4**	**+2.5**
TNCH				SKS	**SKSac**	**00 34 54.6**	**-1.8**
TNCH				SS	**SS**	**00 39 17.7**	**+3.9**
TNCH				pmax	pmax		
	comp=Z,270nm,4.1s						
TNCH				LR	LR		
	comp=Z,750nm,25.7s						
TNCH				LR	LR		
	comp=Z,530nm,27.1s						
TNCH				LR	LR		
	comp=Z,2μm,27.1s						
LSA	**Lhasa**	**74.97**	**35**	P	**P**	**00 24 47.5**	**-0.5**
LSA				IAmb	IAmb	00 25 21.6	
	comp=Z,17nm,1.1s						
LSA				IAMs_20	IAMs_20	00 52 10.6	
	comp=Z,2μm,22.0s						
LSA	**Lhasa**	**74.97**	**35**	P	**P**	**00 24 47.5**	**-0.5**
LSA				pmax	pmax		
	comp=Z,17nm,1.1s						
CAN	**Canberra**	**75.26**	**123**	P	**P**	**00 24 49.3**	**0.0**
CAN				IAmb	IAmb	00 24 51.4	
	comp=Z,40nm,1.3s						
CAN	**Canberra**	**75.26**	**123**	P	**P**	**00 24 49.3**	**0.0**
CAN				pmax	pmax		
	comp=Z,40nm,1.3s						
CHGR	**Chuyangaron**	**75.89**	**14**	P	**P**	**00 24 50.9**	**-1.7**
CHGR	**Chuyangaron**	**75.89**	**14**	P	**P**	**00 24 50.9**	**-1.7**
CHGR				pmax	pmax		
	comp=Z,120nm,1.3s						
USHA	**Ushuaia**	**76.18**	**211**	LR	LR	00 50 54.5	
	comp=Z,2μm,21.6s,baz=132,slow=30						
GAR	**Garm**	**76.45**	**15**	P	**P**	**00 24 55.7**	**-0.1**
AKT	**Akhty**	**77.11**	**357**	*e*P	**P**	**00 25 01.4**	**+1.9**
AKT				*e*		00 25 06.6	
AKT				pm

MAK MLR MLR
comp=Z,838nm,14.0s
ZEI Tsey 78.67 354 *e*P **P 00 25 06.3 -1.9**
ZEI pmax pmax
comp=Z,21nm,1.2s
GROC Groznyy 78.94 355 *e*P **P 00 25 09.7 +0.3**
GROC *e* 00 25 18.1
GROC pmax pmax
comp=Z,18nm,0.9s
KBZ Khabaz 79.69 353 P **P 00 25 10.6 -2.9**
comp=Z,2.0nm,1.0s,baz=204,slow=20,SNR=3.9
KBZ LR LR 01 00 26.0
comp=Z,269nm,21.4s,baz=176,slow=35
comp=Z,2.0nm,1.0s
KBZ Khabaz 79.69 353 *i*P **P 00 25 13.9 +0.5**
KBZ pmax pmax
comp=Z,6.0nm,1.1s
SHA1 Shidzhatmaz 79.72 353 *i*P **P 00 25 14.1 +0.1**
ARMA Armidale 79.86 120 P **P 00 25 16.5 +1.3**
ARMA IAmb IAmb 00 25 22.0
comp=Z,26nm,1.2s
SOC Sochi 79.90 351 *e*P **P 00 25 13.2 -1.4**
SOC *e* 00 28 14.0
SOC *e*PPP PPP 00 30 03.2
SOC *e*S **S 00 35 16.8 -1.0**
SOC *e*SS **SS 00 40 24.4 -3.8**
SOC *e*SSS SSS 00 43 47.1
SOC pmax pmax
comp=Z,73nm,1.0s
SOC MLR MLR
comp=Z,239nm,17.0s
KIV Kislovodsk 79.93 353 P **P 00 25 15.4 +0.5**
KIV IAmb IAmb 00 25 48.7
comp=Z,48nm,1.4s
KIV Kislovodsk 79.93 353 *ce*P **P 00 25 16.1 +1.2**
KIV *e* 00 28 15.7
KIV *e*S **S 00 35 18.6 +0.2**
KIV *e*SS **SS 00 40 31.5 +2.5**
KIV pmax pmax
comp=Z,17nm,1.3s
KIV MLR MLR
comp=Z,461nm,21.0s
RDO Rodhopi 80.42 340 P **P 00 25 18.1 +0.6**
KK31 Karatay Array 80.44 14 P **P 00 25 17.8 +0.1**
KK31 IAmb IAmb 00 25 33.4
comp=Z,20nm,1.0s
KK31 Karatay Array 80.44 14 P **P 00 25 17.8 +0.1**
KK31 pmax pmax
comp=Z,20nm,1.0s
KKAR Karatay Array 80.44 14 P **P 00 25 14.9 -2.7**
KKAR Karatay Array 80.44 14 P **P 00 25 14.8 -2.9**
KKAR IAmb IAmb 00 25 33.4
comp=Z,20nm,1.0s
KKAR Karatay Array 80.44 14 P **P 00 25 14.9 -2.7**
MLZ Mavora Lakes 80.70 140 P **P 00 25 19.9 +0.5**
GYA Guiyang 80.71 48 P **P 00 25 20.9 +1.3**
GYA S **S 00 35 25.8 -1.7**
GYA pmax pmax
comp=Z,260nm,4.5s
GYA LR LR
comp=Z,510nm,25.9s
GYA LR LR
comp=Z,840nm,22.7s
GYA LR LR
comp=Z,2µm,26.0s
TARG Taragay, Kyrgy 80.82 19 P **P 00 25 20.6 +0.4**
TARG Taragay, Kyrgy 80.82 19 P **P 00 25 20.6 +0.4**
TARG pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 80.84 17 LR LR 00 57 27.0
comp=Z,394nm,20.0s,baz=211,slow=33
AAK Ala-Archa 80.84 17 P **P 00 25 19.5 -0.5**
AAK IAmb IAmb 00 26 00.2
comp=Z,28nm,1.2s
AAK Ala-Archa 80.84 17 *ce*P **P 00 25 18.7 -1.3**
AAK pmax pmax
comp=Z,9.0nm,1.7s
SIJI Sorong 80.85 84 LR LR 00 55 28.3
comp=Z,368nm,22.0s,baz=288,slow=32
CEL Celeste 80.98 332 IAMs_20 IAMs_20 01 05 50.2
comp=Z,1µm,19.0s
DAV Davao City (W) 81.06 75 LR LR 00 56 42.4
comp=Z,269nm,18.5s,baz=252,slow=32
GRG Griva 81.16 338 P **P 00 25 22.8 +1.3**
GRG pmax pmax
comp=Z,7.0nm,0.9s
KNT Kendrikon 81.19 338 P **P 00 25 24.0 +2.3**
KNT pmax pmax
comp=Z,8.0nm,1.0s
TIP Timpagrande 81.47 333 IAMs_20 IAMs_20 01 06 37.0
comp=Z,948nm,19.0s
KEST Kesra 81.56 326 P **P 00 25 20.8 -3.0**
comp=Z,1.8nm,0.9s,baz=96,slow=16,SNR=2.0
KEST LR LR 01 03 39.2
comp=Z,2µm,18.4s,baz=114,slow=37
comp=Z,1.8nm,0.9s
KEST Kesra 81.56 326 P **P 00 25 25.8 +2.0**
KEST IAmb IAmb 00 25 59.7
comp=Z,39nm,1.6s
SCTE Santa Cesarea 81.65 335 P **P 00 25 24.2 +0.2**
SCTE IAmb IAmb 00 25 30.7
comp=Z,28nm,1.2s
CTA Charters Tower 81.85 109 LR LR 00 58 17.3
comp=Z,984nm,18.4s,baz=233,slow=34
CTAO Charters Tower 81.85 109 P **P 00 25 22.3 -3.5**
CTAO IAmb IAmb 00 25 29.1
comp=Z,22nm,1.1s
CTAO Charters Tower 81.85 109 IAMs_20 IAMs_20 00 55 20.6
comp=Z,1µm,22.0s
CTAO Charters Tower 81.85 109 P **P 00 25 22.3 -3.5**
CTAO pmax pmax
comp=Z,23nm,1.1s
BBTS Babate 81.86 295 LR LR 00 59 03.5
comp=Z,3µm,20.1s,baz=120,slow=34
GOMU GeErMu 82.08 34 P **P 00 25 30.3 +3.3**
GOMU PP **PP 00 28 41.7 +6.3**
GOMU S **S 00 35 37.9 -3.9**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,130nm,7.8s
GOMU LR LR
comp=Z,770nm,23.7s
GOMU LR LR
comp=Z,880nm,24.1s
TIR Tirane 82.32 336 IAMs_20 IAMs_20 01 01 13.5
comp=Z,1µm,21.0s
CD2 Chengdu 82.37 43 *e*P **P 00 25 30.0 +1.8**
EIDS Eidsvold 82.42 116 P **P 00 25 28.0 -0.7**
EIDS IAmb IAmb 00 25 34.8
comp=Z,13nm,0.8s
VTS Vitosha 82.43 339 ⇑P **P 00 25 25.9 -2.5**
VTS Vitosha 82.43 339 P **P 00 25 29.8 +1.5**
VTS Vitosha 82.43 339 P **P 00 25 29.8 +1.5**
VTS pmax pmax
comp=Z,8.0nm,1.2s
PLTB Pedras Altas 83.07 236 P **P 00 25 30.4 -1.6**
PLTB IAmb IAmb 00 25 41.8
comp=Z,26nm,1.5s
RPZ Rata Peaks 83.36 140 LR LR 00 56 08.8
comp=Z,3µm,18.1s,baz=252,slow=31
CFR Carcaliu 83.53 343 P **P 00 25 36.2 +2.4**
CFR pmax pmax
comp=Z,13nm,0.9s
SPB Sao Paulo 83.61 246 IAMs_20 IAMs_20 00 54 51.5
comp=Z,1µm,20.0s
MQZ McQueen's Vall 84.19 141 IAMs_20 IAMs_20 00 55 50.8
comp=Z,2µm,19.0s
TRQA Tornquist 84.33 226 P **P 00 25 38.6 +0.2**
TRQA IAmb IAmb 00 25 46.4
comp=Z,17nm,0.8s
TRQA IAMs_20 IAMs_20 00 56 13.9
comp=Z,2µm,19.0s
TRQA Tornquist 84.33 226 P **P 00 25 38.6 +0.2**
TRQA pmax pmax
comp=Z,17nm,0.8s
MLR Muntele Rosu 84.36 342 LR LR 01 02 59.3
comp=Z,624nm,20.6s,baz=160,slow=35
MLR Muntele Rosu 84.36 342 ⇑P **P 00 25 35.7 -2.5**
MLR Muntele Rosu 84.36 342 P **P 00 25 38.8 +0.6**
MLR IAmb IAmb 00 26 09.5
comp=Z,34nm,1.4s
MLR Muntele Rosu 84.36 342 P **P 00 25 38.8 +0.6**
MLR pmax pmax
comp=Z,34nm,1.4s
COYC Coyhaique 84.45 216 P **P 00 25 37.9 -0.9**
comp=Z,1µm,22.0s
VRI Vrincioaia 84.52 343 ⇓P **P 00 25 34.6 -4.2**
VRI Vrincioaia 84.52 343 P **P 00 25 40.3 +1.5**
VRI pmax pmax
comp=Z,20nm,0.9s
PLOR Plostina 84.52 343 ⇓P **P 00 25 34.8 -4.1**
PLOR Plostina 84.52 343 P **P 00 25 34.7 -4.1**
VOIR 84.54 341 ⇓P **P 00 25 35.6 -3.4**
VOIR 84.54 341 P **P 00 25 40.4 +1.4**
VOIR pmax pmax
comp=Z,11nm,1.1s
ARR Arges 84.58 341 ⇓P **P 00 25 34.6 -4.6**
MDVR Moldovita 84.86 339 ⇓P **P 00 25 37.0 -3.6**
RCBR Riachuelo 84.87 267 LR LR 00 55 41.6
comp=Z,717nm,20.6s,baz=267,slow=30
ABKAR Akbulak array 85.09 5 P **P 00 25 41.6 0.0**
ABKAR IAmb IAmb 00 26 05.6
comp=Z,20nm,1.3s
GZR Gura Zlata 85.11 340 ⇑P **P 00 25 39.8 -2.1**
GZR Gura Zlata 85.11 340 P **P 00 25 39.7 -2.1**
DSZ Denniston Nort 85.14 139 IAMs_20 IAMs_20 00 55 50.5
comp=Z,2µm,19.0s
ENH Enshi 85.19 47 P **P 00 25 42.7 +0.1**
DEV Deva 85.53 340 ⇑P **P 00 25 40.5 -3.3**
DEV Deva 85.53 340 P **P 00 25 44.3 +0.5**
DEV pmax pmax
comp=Z,15nm,1.0s
SURR Surduc 85.62 340 ⇑P **P 00 25 42.0 -2.3**
BZS Buzias 85.64 339 ⇓P **P 00 25 41.4 -3.1**
BZS Buzias 85.64 339 P **P 00 25 45.1 +0.7**
BZS pmax pmax
comp=Z,6.0nm,1.9s
WMQ Urumqi 85.76 25 *e*P **P 00 25 49.8 +4.6**
WMQ Urumqi 85.76 25 S **S 00 36 17.3 -0.5**
WMQ pmax pmax
comp=Z,15nm,1.7s
WMQ LR LR
comp=N,750nm,20.9s
WMQ LR LR
comp=E,790nm,19.1s
WMQ LR LR
comp=Z,560nm,20.9s
FRGS Fruska Gora 85.77 338 ⇑P **P 00 25 40.9 -4.2**
MARR Marisel-Cluj 86.20 341 ⇑P **P 00 25 44.8 -2.5**
SIRR Siria 86.23 339 ⇑P **P 00 25 44.3 -3.0**
LZH Lanzhou 86.38 40 ⇑P **P 00 25 50.7 +2.1**
LZH pP pwP 00 25 56.8 +1.8
LZH SKS **SKSac 00 36 10.3 -4.7**
LZH S **S 00 36 25.2 +0.8**
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,160nm,5.5s
LZH LR LR
comp=Z,840nm,18.7s
LZH LR LR
comp=Z,740nm,18.1s
LZH LR LR
comp=Z,1µm,20.3s
ITQB Itaqui 86.40 236 P **P 00 25 50.7 +1.9**
DRGR 86.41 340 ⇓P **P 00 25 44.3 -4.1**
DRGR 86.41 340 P **P 00 25 50.8 +2.5**
DRGR pmax pmax
comp=Z,25nm,1.7s
MDT Midelt 86.44 315 LR LR 01 04 23.9
comp=Z,4µm,21.8s,baz=156,slow=35
BURAR Bucovina Array 86.52 342 ⇑P **P 00 25 45.6 -3.3**
BURAR Bucovina Array 86.52 342 P **P 00 25 50.8 +1.9**
BURAR Bucovina Array 86.52 342 P **P 00 25 50.8 +1.9**
BUR08 Bucovina Ar. S 86.55 342 P **P 00 25 50.4 +1.3**
BUR08 IAmb IAmb 00 26 08.6
comp=Z,42nm,1.9s
MAKZ Makanchi 86.66 20 P **P 00 25 49.2 -0.3**
MAKZ Makanchi 86.66 20 P **P 00 25 49.2 -0.3**
MAKZ pmax pmax
comp=Z,7.0nm,1.3s
MK31 Makanchi Array 86.73 20 P **P 00 25 48.3 -1.5**
MK31 Makanchi Array 86.73 20 *i*P **P 00 25 50.5 +0.7**
MKAR Makanchi Array 86.73 20 P P 00 25 44.9 -5.0
comp=Z,0.3nm,0.6s,baz=211,slow=4.4,SNR=7.7
MKAR LR LR 01 00 44.2
comp=Z,511nm,20.7s,baz=204,slow=33
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 86.73 20 P **P 00 25 49.5 -0.3**
MKAR Makanchi Array 86.73 20 *ce*P **P 00 25 48.7 -1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
GTA Gaotai 86.99 35 *e*P **P 00 25 52.4 +1.0**
GTA pP pwP 00 25 56.8 -1.1
GTA sP sP 00 25 59.9 +5.4
GTA SKS **SKSac 00 36 12.4 -6.1**
GTA S **S 00 36 31.5 +1.4**
GTA SS **SS 00 42 15.8 +2.0**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,6.8s
GTA LR LR
comp=Z,700nm,23.5s
GTA LR LR
comp=Z,500nm,19.9s
GTA LR LR
comp=Z,990nm,20.7s
MORH Mrgy, Hungar 87.08 338 ⇓P **P 00 25 47.5 -4.0**
VRH Novokhopyorsk 87.20 354 *e*P **P 00 25 53.1 +1.2**
VRH pmax pmax
comp=Z,20nm,1.2s
PLCA Paso Flores 87.23 220 P P 00 25 45.7 -7.1
comp=Z,4.4nm,1.0s,baz=143,slow=7.0,SNR=4.6
PLCA LR LR 00 58 16.7
comp=Z,729nm,20.2s,baz=132,slow=31
comp=Z,4.4nm,1.0s
PLCA Paso Flores 87.23 220 P **P 00 25 53.4 +0.6**
PLCA Paso Flores 87.23 220 P **P 00 25 53.4 +0.6**
PLCA pmax pmax
comp=Z,76nm,1.7s
MAHO Mahon 87.27 325 IAMs_20 IAMs_20 01 05 11.4
comp=Z,2µm,18.0s
VSR Storozhevoye 87.48 352 *e*P **P 00 25 53.6 +0.3**
VSR pmax pmax
comp=Z,10.0nm,1.1s
XAN Xi'an 87.60 44 P P 00 25 59.6 +5.2
XAN pP pwP 00 26 04.2 +3.3
XAN SKS **SKSac 00 36 23.8 +1.5**
XAN S **ScS 00 36 44.5 +1.6**
XAN SS **SS 00 42 20.4 -2.3**
XAN pmax pmax
comp=Z,14nm,1.4s
XAN LR LR
comp=Z,370nm,15.1s
XAN LR LR
comp=Z,770nm,19.0s
XAN LR LR
comp=Z,1µm,21.6s
TRPA Tarpa 87.69 341 ⇓P **P 00 25 52.4 -2.0**
VORR Voronezh 87.92 352 P **P 00 25 57.0 +1.6**
VORR pmax pmax
comp=Z,35nm,1.7s
BELG Belogornoye 88.01 357 LR LR 01 06 57.0
comp=Z,236nm,19.6s,baz=160,slow=36
CART Cartagena 88.05 321 IAMs_20 IAMs_20 01 06 18.8
comp=Z,2µm,19.0s
LL04 Puerto Octay 88.06 219 P **P 00 25 56.7 0.0**
VLC Villacollemand 88.17 331 IAMs_20 IAMs_20 01 05 30.3
comp=Z,920nm,19.0s
UZH Uzhgorod 88.21 341 *e*P **P 00 25 59.1 +2.2**
PSZ Piszkesteto 88.23 339 P **P 00 25 58.3 +1.2**
PSZ IAmb IAmb 00 26 11.5
comp=Z,8.8nm,1.1s
PSZ Piszkesteto 88.23 339 P **P 00 25 58.3 +1.2**
PSZ pmax pmax
comp=Z,9.0nm,1.1s
AKASG Malin Array Be 88.53 346 P **P 00 25 55.4 -2.9**
comp=Z,1.5nm,0.8s,baz=174,slow=3.8,SNR=2.0
AKASG LR LR 01 04 59.9
comp=Z,213nm,20.9s,baz=174,slow=35
comp=Z,1.5nm,0.8s
AKASG Malin Array Be 88.53 346 P **P 00 25 59.2 +0.9**
AKASG IAmb IAmb 00 26 29.9
comp=Z,15nm,1.4s
AKASG Malin Array Be 88.53 346 *ce*P **P 00 25 59.5 +1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 88.53 346 P **P 00 25 59.3 +1.0**
AKBB IAmb IAmb 00 26 12.5
comp=Z,21nm,1.1s
AKBB Malin Array Si 88.53 346 *ce*P **P 00 25 59.5 +1.2**
AKBB pmax pmax
comp=Z,39nm,3.3s
SABO M.te Sabotino 88.54 334 P **P 00 25 60.0 +1.5**
SABO IAmb IAmb 00 26 58.5
comp=Z,62nm,1.8s
SOKA Soboth 88.65 336 *e*P **P 00 26 01.8 +2.7**
comp=Z,4.0nm,0.9s
OBKA Obir 88.67 335 *e*P **P 00 26 01.9 +2.7**
comp=Z,3.7nm,0.9s
PMG Port Moresby 88.75 101 LR LR 01 01 58.0
comp=Z,950nm,18.9s,baz=232,slow=33
PMG Port Moresby 88.75 101 IAMs_20 IAMs_20 00 58 58.1
comp=Z,1µm,20.0s
BDFB Brasilia 88.77 252 P P 00 25 54.1 -6.5
comp=Z,1.5nm,0.6s,baz=76,slow=8.3,SNR=2.5
BDFB LR LR 00 56 58.9
comp=Z,833nm,21.9s,baz=130,slow=30
comp=Z,1.5nm,0.6s
LPSR Galich'ya Gora 88.87 352 *e*P **P 00 26 00.9 +1.1**
LPSR pmax pmax
comp=Z,9.0nm,1.1s
ARSA Arzberg 88.99 336 P **P 00 26 02.3 +1.7**
comp=Z,6.1nm,1.6s
CPUP Villa Florida 89.01 238 P P 00 25 53.9 -7.6
comp=Z,1.0nm,0.9s,baz=90,slow=6.1,SNR=1.7
CPUP LR LR 00 58 57.7
comp=Z,757nm,20.2s,baz=142,slow=31
comp=Z,1.0nm,0.9s
CPUP Villa Florida 89.01 238 P **P 00 26 00.8 -0.6**
CPUP Villa Florida 89.01 238 P **P 00 26 00.8 -0.6**
CPUP pmax pmax
comp=Z,49nm,2.0s
SOP Sopron 89.03 337 P **P 00 26 01.1 +0.3**
VYHS Vyhne 89.06 339 *e*P P 00 26 06.4 +5.5
VYHS *e* 00 26 13.5
VYHS Vyhne 89.06 339 *e*P P 00 26 06.4 +5.5
VYHS *e* 00 26 13.5
HIZ Hauiti 89.09 139 IAMs_20 IAMs_20 01 00 11.1
comp=Z,2µm,19.0s
STAL STALIGIAL 89.09 334 P **P 00 26 01.9 +0.8**
STAL IAmb IAmb 00 26 34.5
comp=Z,13nm,1.2s
RONA Rosalia, Austr 89.13 337 *e*pP pP 00 26 08.7 +5.1
comp=Z,5.3nm,1.2s
CLUD Cludinico 89.20 334 P **P 00 26 02.6 +0.9**
CLUD IAmb IAmb 00 26 18.2
comp=Z,11nm,1.2s
CIMO Cimolais 89.23 334 P **P 00 26 03.1 +1.4**
CIMO IAmb IAmb 00 26 42.8
comp=Z,15nm,1.4s
CTI Castel Tesino 89.29 333 P **P 00 26 02.9 +0.7**
CTI IAmb IAmb 00 26 35.9
comp=Z,45nm,1.8s
CTI Castel Tesino 89.29 333 P **P 00 26 02.9 +0.7**
CTI pmax pmax
comp=Z,45nm,1.8s
MODS Modra-Piesok 89.42 338 *e*P **P 00 26 05.3 +2.6**
MODS Modra-Piesok 89.42 338 *e*P **P 00 26 05.2 +2.6**
MODS *e* 00 26 16.2
CONA Conrad Observa 89.47 337 *e*pP pP 00 26 08.3 +3.0
comp=Z,3.9nm,1.3s
ABTA Abfaltersbach 89.58 334 *e*P **P 00 26 06.2 +2.7**
comp=Z,6.1nm,1.0s
MOA Molln 89.93 336 *e*P **P 00 26 07.7 +2.7**
comp=Z,4.5nm,1.2s
BIOA Bad Ischl, Aus 90.00 335 *e*pP pP 00 26 12.6 +4.9
comp=Z,10nm,1.0s
LYN LuoYang 90.01 46 ⇓P **P 00 26 06.3 +0.6**
LYN S **S 00 36 56.8 -1.8**
LYN SS **SS 00 42 58.5 +0.9**
LYN pmax pmax
comp=Z,110nm,4.4s
LYN LR LR
comp=Z,1µm,23.1s
LYN LR LR
comp=Z,580nm,19.8s
LYN LR LR
comp=Z,2µm,27.1s
BVAR Borovoye Array 90.01 11 *ce*P **P 00 26 06.2 +0.9**
comp=Z,167nm,19.1s,baz=202,slow=34
BRVK Borovoye 90.03 11 *ce*P **P 00 26 06.2 +0.9**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
RTZ Ruatahuna 90.13 140 IAMs_20 IAMs_20 00 59 48.6
comp=Z,2µm,20.0s
MAUC Maruska 90.14 338 *e*P P 00 26 20.9 +15
KRUC Moravsky 90.30 338 *e*P **P 00 26 08.1 +1.4**
WTTA Wattenberg 90.33 334 *e*PcP **PcP 00 26 10.6 +2.3**
comp=Z,8.9nm,1.2s
WTTA Wattenberg 90.33 334 P **P 00 26 08.6 +1.5**
WTTA pmax pmax
comp=Z,12nm,1.1s
OJC Ojcow 90.34 340 P **P 00 26 06.8 0.0**
OJC IAmb IAmb 00 26 26.9
comp=Z,19nm,1.8s
OJC Ojcow 90.34 340 P **P 00 26 06.8 0.0**
OJC pmax pmax
comp=Z,19nm,1.8s
FETA Feichten 90.45 333 *e*P **P 00 26 09.6 +2.0**
comp=Z,7.1nm,1.7s
VRAC Vranov 90.46 338 *e*P **P 00 26 09.1 +1.7**
URZ Urewera 90.47 140 LR LR 00 59 29.5
comp=Z,2µm,20.9s,baz=286,slow=31
TUE Stuetta 90.51 332 IAMs_20 IAMs_20 01 09 24.2
comp=Z,862nm,20.0s
CKRC Cesky Krumlov 90.76 336 AMS AMS 01 04 50.0
comp=Z,900nm,18.2s
TREC Trest 90.79 337 AMS AMS 01 03 50.0
comp=Z,800nm,18.7s
RETA Reutte 90.84 333 *e*P **P 00 26 10.8 +1.4**
comp=Z,14nm,1.1s
DGZ Jazzator, Alta 90.86 22 *i*P **P 00 26 10.0 +0.5**
DGZ pmax pmax
comp=Z,10.0nm,1.9s
GERES GERESS Array B 90.98 336 P P 00 26 05.1 -4.9
comp=Z,0.3nm,0.7s,baz=203,slow=9.6,SNR=1.8
GERES LR LR 01 09 00.7
comp=Z,275nm,20.4s,baz=164,slow=37
comp=Z,0.3nm,0.7s
GERES GERESS Array B 90.98 336 P **P 00 26 11.0 +1.0**
GERES GERESS Array B 90.98 336 P **P 00 26 11.0 +1.0**
ESDC Sonseca Array 91.14 320 P **P 00 26 08.8 -2.1**
comp=Z,1.0nm,0.9s,baz=145,slow=3.0,SNR=5.3
ESDC LR LR 01 09 03.0
comp=Z,2µm,19.2s,baz=133,slow=37
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 91.14 320 P **P 00 26 11.4 +0.5**
FUR Furstenfeldbru 91.23 334 P **P 00 26 13.2 +2.1**
FUR pmax pmax
comp=Z,23nm,1.0s
PAB San Pablo 91.25 320 IAMs_20 IAMs_20 01 09 15.6
comp=Z,2µm,20.0s
KHC Kasperske Hory 91.27 336 *ex* x 00 26 04.0
KHC *e*P P 00 26 24.4 +13
KHC AMS AMS 01 05 40.0
comp=Z,900nm,20.2s
KHC Kasperske Hory 91.27 336 *e*P P 00 26 04.0 -7.2
KHC MLR MLR
comp=Z,900nm,20.2s
DPC Dobruska-Polom 91.46 338 *e*P P 00 26 26.3 +14
DPC AMS AMS 01 03 30.0
comp=Z,600nm,18.0s
GOPC GO Pecny, Ondr 91.56 337 AMS AMS 01 03 10.0
comp=Z,600nm,24.3s
AQDB Aquidauana 91.57 243 P **P 00 26 11.3 -2.2**
OSTC Ostas 91.68 338 *e*P P 00 26 27.2 +14
OSTC AMS AMS 01 14 10.0
comp=Z,900nm,18.5s
UPC Upice 91.69 338 *e*P P 00 26 27.4 +14
UPC AMS AMS 01 14 30.0
comp=Z,800nm,17.3s
PRU Pruhonice 91.70 337 *e*P P 00 26 27.2 +14
PRU AMS AMS 01 13 20.0
comp=Z,600nm,21.4s
ARU Arti 92.15 4 P **P 00 26 15.9 +0.8**
ARU 00 29 56.3
ARU S **SKSac 00 36 48.8 +1.1**
ARU SS **SS 00 43 22.9 -4.9**
PVCC Panska Ves 92.16 337 AMS AMS 01 13 50.0
comp=Z,700nm,17.6s
NJ2 Nanjing 92.19 51 *e*P **P 00 26 17.3 +1.4**
NJ2 pmax pmax
comp=Z,15nm,0.6s

NJ2					LR	LR				
	comp=Z,530nm,22.6s									
NJ2					LR	LR				
	comp=Z,490nm,25.0s									
NJ2					LR	LR				
	comp=Z,670nm,20.6s									
MNK	**Minsk**	**92.40**	**346**	*i* P	**P**		**00 26 15.5**	**-0.7**		
	comp=E,2.0nm,1.0s									
MNK				*i* P	**P**		**00 26 15.5**	**-0.7**		
	comp=N,10.0nm,1.0s,baz=161									
MNK				*i* P	**P**		**00 26 15.5**	**-0.7**		
	comp=Z,10.0nm,1.0s									
MNK				*i* PP	**PP**		**00 29 55.7**	**-2.0**		
MNK				*i* PPP	PPP		00 31 54.8			
MNK				*i* SKS			00 36 06.1			
MNK				*i* S	**SKSac**		**00 36 49.1**	**0.0**		
MNK				*i* SP	**SP**		**00 38 22.3**	**-8.1**		
MNK				*i* PS	PnS		00 38 50.0	+17		
MNK				*i* SS	SS		00 43 05.4	-26		
MNK				*i* SSS	SSS		00 46 35.6			
MNK				*i* LQ	LQ		01 02 33.2			
MNK				*i* LR	LR		01 06 02.4			
MNK				*i* LRM	MLR		01 08 40.8			
	comp=N,238nm,19.4s									
MNK				*i* LRM	MLR		01 08 44.6			
	comp=E,42nm,19.4s									
MNK				*i* LRM	MLR		01 08 49.7			
	comp=Z,428nm,19.4s									
MNK	**Minsk**	**92.40**	**346**	*i* P	**P**		**00 26 15.5**	**-0.7**		
MNK				*i*			00 29 55.7			
MNK				*i* S	**SKSac**		**00 36 49.1**	**0.0**		
MNK				pmax	pmax					
	comp=Z,10.0nm,1.0s									
MNK				pmax	pmax					
	comp=E,2.0nm,1.0s									
MNK				pmax	pmax					
	comp=N,10.0nm,1.0s									
MNK				MLR	MLR					
	comp=N,238nm,19.0s									
MNK				MLR	MLR					
	comp=E,42nm,19.0s									
MNK				MLR	MLR					
	comp=Z,428nm,19.0s									
CFA	**Coronel Fontan**	**92.50**	**228**	LR	LR		01 02 21.9			
	comp=Z,819nm,19.7s,baz=125,slow=32									
NKC	**Novy Kostel**	**92.59**	**336**	*e*P	P		00 26 32.1	+15		
NKC				AMS	AMS		01 06 10.0			
	comp=Z,1μm,20.1s									
MT01	**Popeta**	**92.62**	**224**	P	**P**		**00 26 18.0**	**-0.2**		
BRG	**Berggiesshubel**	**92.66**	**337**	*e*P	P		00 26 31.9	+14		
BRG				Amp			00 26 32.8			
	comp=Z,8.8nm,1.1s									
BRG	**Berggiesshubel**	**92.66**	**337**	P	**P**		**00 26 19.7**	**+2.1**		
BRG				pmax	pmax					
	comp=Z,6.0nm,1.0s									
NACGM	**Naroch**	**93.00**	**346**	*e*P	**P**		**00 26 21.5**	**+2.5**		
	comp=Z,14nm,1.0s,baz=160									
HNS	**HongShan**	**93.29**	**45**	⇑P	P		00 26 27.8	+7.0		
HNS	**HongShan**	**93.29**	**45**	S	**S**		**00 37 34.8**	**+6.7**		
HNS	**HongShan**	**93.29**	**45**	SS	SS		00 43 55.8	+11		
HNS				pmax	pmax					
	comp=Z,7.0nm,1.1s									
HNS				LR	LR					
	comp=N,910nm,22.4s									
HNS				LR	LR					
	comp=E,1μm,23.0s									
HNS				LR	LR					
	comp=Z,2μm,22.6s									
CLL	**Collm**	**93.33**	**337**	*e*P	**P**		**00 26 20.0**	**-0.6**		
CLL				*ex*	x		00 26 35.0			
	comp=Z,11nm,1.1s									
CLL				*e*PP	**PP**		**00 30 06.0**	**+0.9**		
CLL				*e*PPPP			00 33 43.0			
CLL				*e*S	**S**		**00 37 32.0**	**+4.2**		
CLL				*e*PS	**PS**		**00 38 42.0**	**-0.3**		
CLL				*e*PPS	PPS		00 39 12.0			
CLL				*ex*	x		00 43 00.0			
CLL				*e*SS	SS		00 44 00.0	+15		
CLL				*ex*	x		00 45 00.0			
CLL				*ex*	x		00 47 00.0			
CLL				*e*SSS	SSS		00 47 36.0			
CLL				*e*SSSS			00 50 42.0			
CLL				*ex*	x		00 53 06.0			
CLL				Lm	MLR		01 12 00.0			
	comp=Z,700nm,19.2s									
MTE	**Manteigas**	**93.56**	**319**	IAMs_20	IAMs_20		01 09 48.6			
	comp=Z,2μm,20.0s									
ZAA0	**Zalesovo Array**	**93.90**	**19**	P	**P**		**00 26 22.7**	**-0.5**		
ZALV	**Zalesovo Beam**	**93.90**	**19**	P	P		00 26 18.4	-4.9		
	comp=Z,1.5nm,0.6s,baz=214,slow=3.8,SNR=5.7									
ZALV				LR	LR		01 05 25.7			
	comp=Z,298nm,20.4s,baz=176,slow=33									
	comp=Z,1.5nm,0.6s									
ZALV	**Zalesovo Beam**	**93.90**	**19**	P	**P**		**00 26 21.7**	**-1.5**		
ZALV	**Zalesovo Beam**	**93.90**	**19**	P	**P**		**00 26 21.7**	**-1.5**		
HHC	**Hu-ho-hao-te**	**93.97**	**41**	*e*P	**P**		**00 26 25.8**	**+1.8**		
HHC				SKS	**SKSac**		**00 36 59.6**	**+0.8**		
HHC				S	**S**		**00 37 28.2**	**-6.0**		
HHC				SS	**SS**		**00 43 52.5**	**-2.2**		
HHC				pmax	pmax					
	comp=Z,22nm,0.8s									
HHC				pmax	pmax					
	comp=Z,110nm,4.0s									
HHC				LR	LR					
	comp=Z,920nm,19.7s									
HHC				LR	LR					
	comp=Z,400nm,19.0s									
HHC				LR	LR					
	comp=Z,1μm,21.6s									
KIRV	**Kirov**	**94.16**	**359**	LR	LR		01 11 14.9			
	comp=Z,375nm,20.2s,baz=199,slow=37									
WLF	**Walferdange**	**94.36**	**332**	IAMs_20	IAMs_20		01 15 23.0			
	comp=Z,916nm,20.0s									
KOUNC	**Koumac, New Ca**	**94.91**	**120**	IAMs_20	IAMs_20		01 01 36.8			
	comp=Z,2μm,20.0s									
JOW	**Kunigami**	**95.22**	**61**	LR	LR		01 01 39.8			
	comp=Z,293nm,21.4s,baz=255,slow=31									
DZM	**Mont Dzumac**	**95.41**	**122**	LR	LR		00 59 30.9			
	comp=Z,582nm,21.2s,baz=214,slow=30									
DZM	**Mont Dzumac**	**95.41**	**122**	*e*SS	SS		00 44 14.0	-0.4		
	comp=Z,771nm,23.0s									
DZM	**Mont Dzumac**	**95.41**	**122**	*e*LR	LR		00 57 24.0			
	comp=Z,4μm,30.2s									
KRVT	**Keravat (AS076**	**95.65**	**99**	LR	LR		01 06 14.1			
	comp=Z,615nm,19.8s,baz=13,slow=34									
LCO	**Las Campanas**	**95.84**	**228**	IAMs_20	IAMs_20		01 03 30.6			
	comp=Z,928nm,21.0s									
BJT	**Baijiatuan**	**95.92**	**44**	IAMs_20	IAMs_20		01 05 10.3			
	comp=Z,1μm,22.0s									
ULN	**Ulaanbaatar**	**96.84**	**34**	P	**P**		**00 26 38.5**	**+1.5**		
ULN	**Ulaanbaatar**	**96.84**	**34**	IAMs_20	IAMs_20		01 06 07.8			
	comp=Z,1μm,22.0s									
ULN	**Ulaanbaatar**	**96.84**	**34**	P	**P**		**00 26 38.5**	**+1.5**		
ULN				pmax	pmax					
	comp=Z,5.0nm,1.5s									
SIV	**San Ignacio**	**98.35**	**243**	LR	LR		01 04 38.2			
	comp=Z,997nm,20.0s,baz=136,slow=32									
HNR	**Honiara**	**98.78**	**108**	IAMs_20	IAMs_20		01 05 05.4			
	comp=Z,1μm,22.0s									
LVC	**Limon Verde**	**99.28**	**234**	LR	LR		01 05 16.6			
	comp=Z,473nm,20.6s,baz=152,slow=32									
NNA	**Nana**	**112.14**	**235**	IAMs_20	IAMs_20		01 13 22.4			
	comp=Z,967nm,20.0s									
NNA	**Nana**	**112.14**	**235**	*c i* PKIKP	**PKiKP**		**00 31 42.1**	**-0.4**		
YAK	**Yakutsk**	**115.71**	**31**	IAMs_20	IAMs_20		01 18 20.8			
	comp=Z,644nm,21.0s									
YAK	**Yakutsk**	**115.71**	**31**	*i* PKIKP	**PKiKP**		**00 31 49.1**	**+1.5**		
YAK				pmax	pmax					
	comp=Z,3.0nm,0.8s									
TBI	**Tubuai**	**117.69**	**158**	*e*SS	SS		00 49 23.7	+8.0		
	comp=Z,3μm,31.8s									
TBI	**Tubuai**	**117.69**	**158**	*e*LR	LR		01 07 43.9			
	comp=Z,7μm,23.2s									
TBI				*e*LR	LR		01 07 43.9			
	comp=Z,34μm,22.5s									
TIXI	**Tiksi**	**119.72**	**21**	*i* PKIKP	**PKPdf**		**00 31 53.9**	**-1.2**		
TIXI				pmax	pmax					
	comp=Z,1.0nm,1.0s									
SEUS	**St. Eustatius**	**120.05**	**271**	IAMs_20	IAMs_20		01 15 28.3			
	comp=Z,1μm,21.0s									
SABA	**Saba**	**120.33**	**270**	IAMs_20	IAMs_20		01 16 15.7			
	comp=Z,829nm,21.0s									
BILL	**Bilibino**	**131.83**	**27**	⇓*e*PKIKP	**PKiKP**		**00 32 19.5**	**+0.1**		
BILL				*e*			00 34 44.2			
BILL				*e*SS	SS		00 52 16.0	+1.2		
BILL				pmax	pmax					
	comp=Z,3.0nm,1.3s									
JTS	**Las Juntas de**	**133.38**	**248**	IAMs_20	IAMs_20		01 30 39.6			
	comp=Z,447nm,20.0s									
TAOE	**Nuku Hiva Isla**	**134.04**	**163**	*e*LR	LR		01 15 19.7			
	comp=Z,2μm,25.1s									
CNNC	**Cliffs of the**	**139.55**	**284**	IAMs_20	IAMs_20		01 29 52.5			
	comp=Z,707nm,22.0s									
M53A	**WI Miller and**	**142.96**	**293**	IAMs_20	IAMs_20		01 27 18.4			
	comp=Z,842nm,21.0s									
U54A	**Nelsons Funny**	**142.96**	**285**		**PKPdf**		**00 32 39.6**	**-0.4**		
P52A	**Corning**	**143.80**	**290**	IAMs_20	IAMs_20		01 31 24.7			
	comp=Z,897nm,22.0s									
C24K	**Franklin Bluff**	**144.31**	**12**	P	PKPbc		00 32 39.9	+0.3		
	baz=331									
TZTN	**Tazewell**	**144.32**	**284**		**PKPdf**		**00 32 42.5**	**+0.2**		
D23K	**Nanushuk River**	**144.60**	**14**	P	**PKPdf**		**00 32 42.6**	**+0.9**		
	baz=327									
Q51A	**Peebles**	**144.63**	**289**	PKPdf	**PKPdf**		**00 32 43.9**	**+1.2**		
Q51A				pPKPdf	**PKiKP**		**00 32 50.5**	**+4.0**		
V51A	**Loudon**	**144.79**	**283**		**PKPdf**		**00 32 43.5**	**+0.4**		
V51A				pPKPdf	**PKiKP**		**00 32 50.3**	**+3.4**		
CPCT	**Cooper Cave**	**144.84**	**282**		**PKPdf**		**00 32 43.0**	**-0.2**		
D25K	**Kavik River**	**145.04**	**11**	P	**PKPab**		**00 32 42.2**	**+0.2**		
	baz=334									
E22K	**Anaktuvuk Pass**	**145.06**	**15**	P	**PKPab**		**00 32 42.2**	**+0.1**		
	baz=325									
C27K	**Jago River**	**145.16**	**10**	P	**PKPdf**		**00 32 42.7**	**-0.1**		
	baz=338									
F21K	**Alatna River**	**145.42**	**17**	P	**PKPbc**		**00 32 43.3**	**0.0**		
	baz=322									
FPAL	**Fort Paine**	**145.48**	**280**	PKPdf	**PKPdf**		**00 32 43.0**	**-1.4**		
N49A	**Columbus Grove**	**145.52**	**292**		**PKPab**		**00 32 44.7**	**+0.1**		
E23K	**Chandalar**	**145.58**	**14**	P	**PKPab**		**00 32 44.1**	**0.0**		
	baz=328									
Y49A	**Blount Mountai**	**145.95**	**279**	PKPdf	**PKPdf**		**00 32 44.0**	**-1.2**		
G22K	**Bettles**	**146.13**	**16**	P	**PKPbc**		**00 32 45.4**	**0.0**		
	baz=325									
C36M	**Paulatuk**	**146.43**	**357**	PKPdf	**PKPdf**		**00 32 44.4**	**-0.4**		
C36M	**Paulatuk**	**146.43**	**357**	P	**PKPdf**		**00 32 44.5**	**-0.4**		
	baz=5.9									
G23K	**Bananza Creek**	**146.63**	**16**	P	**PKPbc**		**00 32 46.5**	**-0.5**		
	baz=326									
E27K	**Coleen River**	**146.78**	**9**	P	**PKPbc**		**00 32 46.7**	**-0.7**		
	baz=340									
WCI	**Wyandotte Cave**	**146.78**	**287**	PKPdf	**PKPdf**		**00 32 44.6**	**-1.8**		
WCI	**Wyandotte Cave**	**146.78**	**287**	PKIKP	**PKPdf**		**00 32 44.6**	**-1.8**		
H21K	**Melozitna Rive**	**146.83**	**18**	P	**PKPbc**		**00 32 47.3**	**-0.3**		
	baz=322									
F26K	**Sheenjek River**	**146.88**	**11**	P	**PKPbc**		**00 32 47.5**	**-0.1**		
	baz=336									
H22K	**Ishlitna Cre**	**146.99**	**17**	P	**PKPbc**		**00 32 48.3**	**+0.3**		
	baz=324									
INK	**Inuvik**	**147.41**	**4**	P	**PKPbc**		**00 32 48.0**	**-1.0**		
	baz=352									
I21K	**Tanana**	**147.42**	**19**	P	**PKPbc**		**00 32 48.9**	**-0.2**		
	baz=322									
H23K	**Yukon River**	**147.48**	**16**	P	**PKPbc**		**00 32 49.1**	**-0.2**		
	baz=326									
J20K	**Nowinta River**	**147.60**	**21**	P	**PKPbc**		**00 32 48.8**	**-0.8**		
	baz=318									
WVT	**Waverly**	**147.61**	**282**		**PKPdf**		**00 32 48.1**	**+0.2**		
WVT	**Waverly**	**147.61**	**282**	IAMs_20	IAMs_20		01 45 26.4			
	comp=Z,692nm,18.0s									
WVT	**Waverly**	**147.61**	**282**	P	**PKPdf**		**00 32 48.5**	**+0.6**		
	baz=102									
WVT	**Waverly**	**147.61**	**282**	PKIKP	**PKPdf**		**00 32 48.1**	**+0.2**		
G26K	**Porcupine Rive**	**147.61**	**11**	P	**PKPbc**		**00 32 49.4**	**-0.2**		
	baz=336									
H24K	**Noodor Dome**	**147.84**	**15**	P	**PKPbc**		**00 32 50.0**	**-0.3**		
	baz=329									
G27K	**Doyon Strip**	**148.07**	**10**	P	**PKPbc**		**00 32 50.1**	**-0.9**		
	baz=339									
I23K	**Minto, Yukon-K**	**148.09**	**17**	P	**PKPbc**		**00 32 50.5**	**-0.4**		
	baz=326									
CHUM	**Lake Minchumin**	**148.35**	**20**	P	**PKPbc**		**00 32 51.4**	**-0.2**		
	baz=321									
POKR	**Poker Plat Res**	**148.55**	**16**	P	**PKPbc**		**00 32 51.1**	**-1.1**		
	baz=329									
PRP	**Porcupine Dome**	**148.60**	**14**	P	**PKPbc**		**00 32 51.7**	**-0.8**		
	baz=332									
NEA2	**Nenana**	**148.62**	**17**	P	**PKPbc**		**00 32 51.4**	**-1.0**		
	baz=326									
CAST	**Castle Rocks**	**148.77**	**21**		**PKPbc**		**00 32 51.5**	**-1.4**		
CAST	**Castle Rocks**	**148.77**	**21**	P	**PKPbc**		**00 32 51.6**	**-1.2**		
	baz=320									
L19K	**White Mountain**	**148.83**	**24**	P	**PKPbc**		**00 32 51.9**	**-1.2**		
	baz=315									
ILAR	**Eielson Array**	**148.97**	**16**	PKPbc	**PKPdf**		**00 32 46.7**	**-2.5**		
	comp=Z,2.6nm,0.8s,baz=316,slow=3.3,SNR=24									
S44A	**Carbondale**	**149.01**	**285**	PKPdf	**PKPdf**		**00 32 50.3**	**+0.2**		
EPYK	**Eagle Plains**	**149.08**	**7**	P	**PKPbc**		**00 32 52.6**	**-1.0**		
	baz=346									
I27K	**Kandik River**	**149.20**	**11**	P	**PKPbc**		**00 32 53.1**	**-0.8**		
	baz=338									
MCK	**McKinley**	**149.37**	**18**	PKP2	**PKPab**		**00 32 57.8**	**-1.3**		
J26L	**Joseph Creek**	**149.88**	**13**	P	**PKPbc**		**00 32 55.2**	**-0.4**		
	baz=334									
I29M	**Ogilvie Camp,**	**149.89**	**9**	P	**PKPbc**		**00 32 54.3**	**-1.2**		
	baz=343									
SKT	**Skwentna**	**150.04**	**22**	P	**PKPbc**		**00 32 53.8**	**-2.2**		
	baz=320									
WAT1	**Susitna Watana**	**150.21**	**19**	P	**PKPbc**		**00 32 55.4**	**-1.0**		
	baz=325									
SCRK	**Sand Creek**	**150.28**	**14**		**PKPbc**		**00 32 56.8**	**+0.1**		
DHY	**Denali Highway**	**150.31**	**18**	P	**PKPbc**		**00 32 56.0**	**-0.8**		
	baz=327									
K27K	**Chicken**	**150.59**	**13**	P	**PKPbc**		**00 32 56.8**	**-0.4**		
	baz=336									
SUA	**Susitna One**	**150.68**	**22**	P	**PKPbc**		**00 32 56.6**	**-1.1**		
	baz=320									
J29M	**Klondike Camp**	**150.77**	**9**		**PKPbc**		**00 32 55.5**	**-2.2**		
PAX	**Paxson**	**150.85**	**16**	P	**PKPbc**		**00 32 57.1**	**-0.9**		
	baz=330									
FCAR	**Ozark Folk Cen**	**150.98**	**281**		**PKPbc**		**00 32 58.1**	**-0.9**		
DAWY	**Dawson**	**150.98**	**10**		**PKPbc**		**00 32 57.2**	**-1.0**		
DAWY	**Dawson**	**150.98**	**10**	P	**PKPbc**		**00 32 57.4**	**-0.8**		
	baz=341									
WHAR	**Wooly Hollow**	**151.00**	**279**		**PKPbc**		**00 32 57.6**	**-1.5**		
RC01	**Rabbit Creek A**	**151.28**	**22**	P	**PKPbc**		**00 32 57.8**	**-1.2**		
	baz=321									
MGMO	**Mountain Grove**	**151.31**	**283**	PKPab	**PKPab**		**00 33 07.4**	**-0.5**		
K29M	**Barlow Dome**	**151.44**	**9**	P	**PKPbc**		**00 32 58.5**	**-0.9**		
	baz=344									
L27K	**Beaver Creek,**	**151.52**	**13**	P	**PKPbc**		**00 32 58.8**	**-0.6**		
	baz=336									
MIAR	**Mount Ida**	**151.87**	**277**		**PKPab**		**00 33 10.5**	**+0.2**		
YKA	**Yellowknife Ar**	**152.09**	**347**	PKPbc	**PKPdf**		**00 32 56.8**	**+2.7**		
	comp=Z,1.6nm,0.7s,baz=40,slow=2.1,SNR=14									
M27K	**Edge Creek, AK**	**152.15**	**14**		**PKPdf**		**00 32 57.0**	**+2.6**		
ULM	**Lac du Bonnet**	**152.71**	**312**	PKPbc	**PKPdf**		**00 32 57.2**	**+1.8**		
	comp=Z,5.4nm,1.0s,baz=125,slow=3.3,SNR=3.6									
M31M	**Drury Creek, Y**	**153.39**	**7**		**PKPbc**		**00 33 01.7**	**-2.0**		
FARO	**Faro, Yukon**	**153.45**	**6**	PKPdf	**PKPdf**		**00 32 59.2**	**+3.0**		
FARO					**pPKPab**		**00 33 17.7**	**-0.7**		
OK053	**SW of W Deep R**	**154.73**	**280**	IAMs_20	IAMs_20		01 47 41.7			
	comp=Z,743nm,20.0s									
OK052	**Battle Ridge R**	**154.74**	**279**	IAMs_20	IAMs_20		01 47 48.9			
	comp=Z,832nm,22.0s									
OK033	**Mehan**	**154.85**	**280**	IAMs_20	IAMs_20		01 39 05.0			
	comp=Z,681nm,21.0s									
OK046	**Pawnee Station**	**154.88**	**280**	IAMs_20	IAMs_20		01 38 08.8			
	comp=Z,841nm,20.0s									
KSU1	**Kansas State U**	**154.90**	**287**	IAMs_20	IAMs_20		01 38 00.5			
	comp=Z,921nm,22.0s									
OK045	**Pawnee Station**	**154.90**	**280**	IAMs_20	IAMs_20		01 51 18.3			
	comp=Z,767nm,20.0s									
OK050	**Pawnee Station**	**154.94**	**280**	IAMs_20	IAMs_20		01 38 22.4			
	comp=Z,825nm,22.0s									
OK029	**Liberty Lake**	**155.23**	**279**	IAMs_20	IAMs_20		01 39 02.9			
	comp=Z,691nm,22.0s									
OK032	**Salt Plains WL**	**155.97**	**281**	IAMs_20	IAMs_20		01 43 55.7			
	comp=Z,787nm,20.0s									
OK038	**West end E0370**	**156.36**	**280**	IAMs_20	IAMs_20		01 38 00.9			
	comp=Z,844nm,21.0s									
TXAR	**Lajitas Array**	**158.45**	**259**	PKP	**PKPdf**		**00 32 59.1**	**-4.8**		
	comp=Z,0.4nm,0.8s,baz=151,slow=2.1,SNR=3.2									
PDAR	**Pinedale Array**	**164.14**	**301**	PKP	**PKPdf**		**00 33 05.5**	**-4.2**		
	comp=Z,0.7nm,0.9s,baz=166,slow=0.7,SNR=3.0									
HLID	**Hailey**	**167.01**	**310**	PKPdf	**PKPdf**		**00 33 13.3**	**+1.3**		
HLID					**PKPab**		**00 34 16.3**	**+0.4**		
NVAR	**Mina Array Bea**	**171.81**	**291**	PKP	**PKPdf**		**00 33 10.4**	**-4.7**		
	comp=Z,0.2nm,0.6s,baz=243,slow=0.4,SNR=1.3									

TAP ***02*** *00:16:06.5,23°.71N×122°.99E,h51km±1km,ML3.1,D*
JMA ***02*** *00:16:06.3±0.1,23°.8N±1°.0×122°.9E±0°.4,h56km±3km,*

MV2.7/10, NEAR ISHIGAKIJIMA ISLAND
ISC 02 00:16:06.6±1.2, 23°.68N±0°.04×122°.99E±0°.03, h50km, n70, σ1s22/109, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.77**	**357**	P	**Pn**	**00 16 20.3**	**-0.9**
JYNG				*e*S	**Sn**	**00 16 30.2**	**-1.6**
YOJ	**Yonaguni jima**	**0.78**	**2**	P	**Pn**	**00 16 20.7**	**-0.7**
YOJ	**Yonaguni jima**	**0.78**	**2**	P	**Pn**	**00 16 20.5**	**-0.8**
YOJ				*e*S	**Sn**	**00 16 30.7**	**-1.4**
HATJ	**Hateruma jima**	**0.84**	**63**	P	**Pn**	**00 16 22.1**	**0.0**
HATJ				S	**Sn**	**00 16 33.7**	**+0.2**
IRIF	**Iriomote-Funau**	**0.94**	**46**	P	**Pn**	**00 16 23.4**	**-0.1**
IRIF				S	**Sn**	**00 16 35.7**	**-0.2**
JKRS	**Kuro-shima**	**1.09**	**59**	P	**Pn**	**00 16 25.9**	**+0.4**
JKRS				S	**Sn**	**00 16 39.8**	**+0.3**
JIJ	**Ishigaki jima**	**1.26**	**57**	P	**Pn**	**00 16 27.8**	**0.0**
JIJ				*e*S	**Sn**	**00 16 43.5**	**-0.1**
EHP	**Heping Village**	**1.30**	**299**	*e*P	**Pn**	**00 16 29.0**	**+0.6**
	baz=298						
TWD	**Chiawan**	**1.33**	**288**	*e*P	**Pn**	**00 16 27.9**	**-0.9**
	baz=286						
TWD				*e*S	**Sn**	**00 16 43.9**	**-1.5**
	baz=286						
ETL	**Fush Village**	**1.33**	**291**	*e*P	**Pn**	**00 16 29.7**	**+0.8**
	baz=279						
EWUT	**Wuta**	**1.34**	**305**	*e*P	**Pn**	**00 16 30.1**	**+1.1**
	baz=293						
EWUT				*e*S	**Sn**	**00 16 45.8**	**+0.2**
	baz=293						
ENA	**Nanau**	**1.36**	**303**	P	**Pn**	**00 16 29.3**	**+0.1**
	baz=302						
NACB	**Ninganchiao**	**1.36**	**291**	P	**Pn**	**00 16 29.6**	**+0.3**
NACB	**Ninganchiao**	**1.36**	**291**	*e*P	**Pn**	**00 16 28.4**	**-0.9**
	baz=290						
NACB				*e*S	**Sn**	**00 16 43.4**	**-2.8**
	baz=290						
TWC	**Suao**	**1.39**	**312**	P	**Pn**	**00 16 29.5**	**-0.1**
	baz=311						
ETM	**Tongmen**	**1.40**	**282**	*e*P	**Pn**	**00 16 28.6**	**-1.2**
	baz=275						
ETM				S	**Sn**	**00 16 45.4**	**-1.6**
	baz=275						
EGFH	**Guangfu**	**1.43**	**270**	*e*S	**Sn**	**00 16 46.8**	**-1.1**
	baz=268						
HGSD	**Ruisui**	**1.45**	**263**	P	**Pn**	**00 16 29.6**	**-0.7**
	baz=261						
HGSD				*e*S	**Sn**	**00 16 46.0**	**-2.2**
	baz=261						
ETLH	**Xiulin Townshi**	**1.47**	**291**	*e*P	**Pn**	**00 16 30.6**	**-0.2**
	baz=290						
ETLH				*e*S	**Sn**	**00 16 47.2**	**-1.8**
	baz=290						
JISG	**Ishigakijimahi**	**1.51**	**53**	*e*P	**Pn**	**00 16 31.0**	**-0.2**
JISG				*e*S	**Sn**	**00 16 49.4**	**-0.4**
EHY	**Hungye**	**1.54**	**264**	P	**Pn**	**00 16 31.4**	**-0.3**
	baz=262						
EHY				*e*S	**Sn**	**00 16 48.8**	**-1.7**
	baz=262						
EYUL	**Yuli**	**1.57**	**258**	*e*P	**Pn**	**00 16 32.1**	**+0.1**
	baz=248						
EYUL				S	**Sn**	**00 16 50.0**	**-1.2**
	baz=248						
YULB	**Yu-li**	**1.58**	**260**	P	**Pn**	**00 16 32.6**	**+0.4**
YULB	**Yu-li**	**1.58**	**260**	*e*P	**Pn**	**00 16 32.1**	**-0.1**
	baz=250						
YULB				*e*S	**Sn**	**00 16 50.4**	**-1.1**
	baz=250						
LATG	**Datong**	**1.58**	**303**	P	**Pn**	**00 16 32.6**	**+0.3**
	baz=291						
LATG				*e*S	**Sn**	**00 16 52.3**	**+0.6**
	baz=291						
TWE	**Neicheng**	**1.59**	**311**	P	**Pn**	**00 16 32.6**	**+0.3**
	baz=310						
TWB1	**Santiao Chiao**	**1.60**	**326**	*e*P	**Pn**	**00 16 32.9**	**+0.4**
	baz=325						
ENTT	**Nioudou**	**1.61**	**307**	P	**Pn**	**00 16 33.2**	**+0.6**
	baz=294						
WHF	**Hehuan Shan**	**1.64**	**287**	P	**Pn**	**00 16 32.8**	**-0.6**

TPUB	**Ta-pu**	**2.20 260**	*e*P	**Pn**	**00 16 42.5**	**+1.8**
	baz=258					
TPUB			*e*S	**Sn**	**00 17 08.1**	**+1.4**
	baz=258					
CHN4	**Tsaushan**	**2.22 262**	*e*P	**Pn**	**00 16 43.1**	**+2.1**
	baz=252					
CHN4			*e*S	**Sn**	**00 17 09.5**	**+2.3**
	baz=252					
WTP	**Ta-pu**	**2.22 259**	*e*P	**Pn**	**00 16 43.0**	**+1.9**
	baz=257					
WTP			*e*S	**Sn**	**00 17 09.3**	**+2.0**
	baz=257					
CHN1	**Nanshi**	**2.31 258**	*e*P	**Pn**	**00 16 44.9**	**+2.7**
	baz=256					
CHN1			*e*S	**Sn**	**00 17 12.2**	**+2.7**
	baz=256					
TWK	**Hsinying**	**2.33 260**	*e*P	**Pn**	**00 16 44.8**	**+2.3**
	baz=258					
TWK			*e*S	**Sn**	**00 17 12.7**	**+2.7**
	baz=258					
EAST	**Anshuo**	**2.36 237**	*e*P	**Pn**	**00 16 42.6**	**-0.3**
	baz=242					
EAST			*e*S	**Sn**	**00 17 09.4**	**-1.2**
	baz=242					
MASBT	**Mashibuluo**	**2.41 244**	*e*P	**Pn**	**00 16 44.3**	**+0.7**
	baz=237					
SCZT	**Fangliau**	**2.54 240**	*e*P	**Pn**	**00 16 46.8**	**+1.4**
	baz=242					
SMST	**Manzhou Townsh**	**2.58 231**	*e*P	**Pn**	**00 16 47.1**	**+1.1**
	baz=219					
SMST			*e*S	**Sn**	**00 17 16.2**	**+0.1**
	baz=219					
VWUC	**VWUC**	**3.48 293**	*e*P	**Pn**	**00 16 58.6**	**+0.3**
	baz=292					

IDC ***02*** *00:18:48.3±1.4,37.˝19S×52.˝33E, h0km, mb3.8/4, mbtmp3.9/5, ML4.3/1, Error ellipse: s-maj=54.4km s-min=27.1km az=20.0*
NEIC ***02*** *00:18:49.2±1.4,37.˝16S±0.˝06×52.˝3E±0.˝1, h10km±1km, mb5.0/38, Error ellipse: s-maj=19.5km s-min=5.9km az=66.0*

ISC 02 00:18:48.7±0.4,37.˝16S±0.˝08×52.˝33E±0.˝09, h10km, n54, σ1९16/48, mb4.8/23, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**9.27**	**182**	Pn	**Pn**	**00 21 02.8**	**+0.5**
VOI	**Vohitsoka**	**15.94**	**341**	Pn	**Pn**	**00 22 32.1**	**-1.2**
ABPO	**Ambohimpanom**	**18.62**	**345**	P	**Pn**	**00 23 09.6**	**+2.7**
OPO	**Ambohidratompo**	**19.06**	**345**	P	**Pn**	**00 23 13.7**	**+1.5**
	0.1nm,0.3s,baz=162,slow=8.5,SNR=5.3						
	3.5nm,0.5s						
AIS	**Amsterdam Isla**	**20.03**	**100**	P	**P**	**00 23 21.8**	**+0.1**
AIS				IAmb	IAmb	00 23 56.4	
	comp=Z,210nm,1.2s						
BOSA	**Boshof**	**24.22**	**283**	P	**P**	**00 24 07.3**	**+1.5**
	comp=Z,3.8nm,0.9s,baz=137,slow=13,SNR=3.1						
	comp=Z,3.8nm,0.9s						
BOSA	**Boshof**	**24.22**	**283**	P	**P**	**00 24 06.0**	**+0.2**
LSZ	**Lusaka**	**30.56**	**309**	P	**P**	**00 25 02.6**	**-0.2**
LSZ				IAmb	IAmb	00 25 04.6	
	comp=Z,8.7nm,1.3s						
H08S1	**Diego Carcia H**	**34.62**	**37**	T	T	01 01 51.5	
	baz=215						
H08S2	**Diego Garcia H**	**34.63**	**37**	T	T	01 01 51.4	
	baz=215						
H08S3	**Diego Garcia H**	**34.64**	**37**	T	T	01 01 49.6	
	baz=215						
KAAM	**Kaadhehdhoo**	**42.07**	**32**	P	**P**	**00 26 40.9**	**+0.1**
KAAM				IAmb	IAmb	00 26 49.1	
	comp=Z,70nm,1.0s						
ATD	**Arta Tunnel**	**49.24**	**348**	P	**P**	**00 27 35.4**	**-2.2**
ATD				IAmb	IAmb	00 27 57.6	
	comp=Z,4.3nm,0.9s						
H01W2	**Cape Leeuwin H**	**49.25**	**107**	T	T	01 20 43.3	
	baz=249,slow=75,SNR=9.5						
H01W3	**Cape Leeuwin H**	**49.25**	**107**	T	T	01 20 43.2	
	baz=249,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**49.26**	**107**	T	T	01 20 43.5	
	baz=249,slow=75,SNR=10.0						
SBA	**Scott Base**	**58.81**	**167**	P	**P**	**00 28 45.9**	**-0.8**
SBA				IAmb	IAmb	00 28 47.8	
	comp=Z,44nm,1.5s						
IPM	**Ipoh**	**61.38**	**59**	P	**P**	**00 29 05.6**	**+0.4**
IPM				IAmb	IAmb	00 29 10.6	
	comp=Z,37nm,1.4s						
TORD	**Torodi Ar. Bea**	**69.04**	**306**	P	**P**	**00 29 55.5**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=136,slow=4.3,SNR=4.2						
	comp=Z,1.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**69.04**	**306**	P	**P**	**00 29 55.0**	**+0.2**
MCQ	**Macquarie Isla**	**69.19**	**143**	P	**P**	**00 29 55.8**	**+0.5**
ASAR	**Alice Springs**	**69.67**	**105**	P	**P**	**00 30 00.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=230,slow=6.0,SNR=7.5						
	comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**70.64**	**47**	P	**P**	**00 30 05.0**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=221,slow=5.4,SNR=1.8						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**70.64**	**47**	P	**P**	**00 30 04.7**	**+0.2**
HRA	**Herat**	**71.78**	**9**	P	**P**	**00 30 10.3**	**-1.1**
HRA				IAmb	IAmb	00 30 12.5	
	comp=Z,7.2nm,1.8s						
SHL	**Shillong**	**72.65**	**37**	P	**P**	**00 30 17.6**	**+0.8**
SHL				IAmb	IAmb	00 30 28.8	
	comp=Z,11nm,1.6s						
KKM	**Kota Kinabalu**	**73.33**	**69**	P	**P**	**00 30 18.7**	**-2.3**
KKM				IAmb	IAmb	00 30 20.3	
	comp=Z,42nm,1.2s						
MTN	**Manton Dam**	**73.49**	**94**	P	**P**	**00 30 22.1**	**+0.2**
CHGR	**Chuyangaron**	**77.03**	**13**	P	**P**	**00 30 41.9**	**+0.2**
CHGR				IAmb	IAmb	00 30 51.3	
	comp=Z,11nm,1.2s						
TNTI	**Ternate**	**78.57**	**80**	P	**P**	**00 30 50.4**	**-0.5**
TNTI				IAmb	IAmb	00 31 09.3	
	comp=Z,52nm,0.8s						
ODZ	**Otahua Downs**	**81.05**	**141**	P	**P**	**00 31 04.9**	**+1.0**
ODZ				IAmb	IAmb	00 31 18.0	
	comp=Z,49nm,1.4s						
KK31	**Karatay Array**	**81.58**	**13**	P	**P**	**00 31 06.2**	**-0.2**
KKAR	**Karatay Array**	**81.58**	**13**	P	**P**	**00 31 06.4**	**0.0**
KKAR	**Karatay Array**	**81.58**	**13**	P	**P**	**00 31 06.9**	**+0.5**
KKAR				IAmb	IAmb	00 31 08.3	
	comp=Z,2.2nm,1.1s						
LIT	**Litokhoron**	**81.62**	**337**	P	**P**	**00 31 08.5**	**+1.8**
LIT				IAmb	IAmb	00 31 14.8	
	comp=Z,7.5nm,1.1s						
FNA	**Florina**	**82.59**	**337**	P	**P**	**00 31 12.5**	**+0.6**
ITQB	**Itaqui**	**85.96**	**236**	P	**P**	**00 31 29.4**	**0.0**
ITQB				IAmb	IAmb	00 31 32.4	
	comp=Z,40nm,1.7s						
GO07	**Milladeo Hill,**	**86.23**	**216**	P	**P**	**00 31 32.2**	**+1.7**
ABKAR	**Akbulak array**	**86.31**	**5**	P	**P**	**00 31 31.5**	**+1.2**
BFZ	**Birch Farm**	**87.05**	**141**	P	**P**	**00 31 33.6**	**-0.9**
BURAR	**Bucovina Array**	**87.81**	**342**	P	**P**	**00 31 38.0**	**+0.2**
HIZ	**Hauiti**	**87.94**	**139**	P	**P**	**00 31 38.7**	**-0.2**
TWG	**Pinlang**	**87.98**	**59**	P	**P**	**00 31 38.5**	**-0.6**
TPUB	**Ta-pu**	**88.00**	**59**	P	**P**	**00 31 38.6**	**-0.6**
AKASG	**Malin Array Be**	**89.82**	**346**	P	**P**	**00 31 47.0**	**-0.1**
AKASG				IAmb	IAmb	00 31 47.6	
	comp=Z,5.1nm,1.6s						
AQDB	**Aquidauana**	**91.30**	**243**	P	**P**	**00 31 54.2**	**-0.7**
AQDB				IAmb	IAmb	00 31 55.8	
	comp=Z,12nm,1.7s						
MACI	**Morro de la Ar**	**91.65**	**305**	P	**P**	**00 31 55.3**	**-1.1**
MORC	**Moravsky Berou**	**91.87**	**338**	P	**P**	**00 31 57.8**	**+1.1**
MORC				IAmb	IAmb	00 32 08.9	
	comp=Z,13nm,1.8s						
MT09	**Talagante**	**91.87**	**224**	P	**P**	**00 31 55.0**	**-2.6**
MT09				IAmb	IAmb	00 31 59.0	
	comp=Z,40nm,1.4s						
GEC2	**GERESS Array S**	**92.25**	**336**	P	**P**	**00 31 58.4**	**-0.2**
GEC2				IAmb	IAmb	00 32 17.3	
	comp=Z,7.7nm,1.6s						
AC02	**Maricunga**	**95.88**	**230**	P	**P**	**00 32 15.8**	**-0.7**
AC02				IAmb	IAmb	00 32 28.4	
	comp=Z,5.7nm,1.1s						
VA04	**Juan Fernndez**	**96.14**	**219**	P	**P**	**00 32 16.7**	**-0.2**
W50A	**Signal Mountai**	**145.96**	**280**			**PKPdf**	**00 38 24.9**	**-3.0**
ILAR	**Eielson Array**	**150.08**	**16**	PKPbc		**PKiKP**	**00 38 40.1**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=319,slow=3.8,SNR=3.3							

TEH ***02*** *00:29:39.5,29.˝57N×50.˝89E, h11km, ML4.3*
ISN ***02*** *00:29:39.5±1.3,29.˝54N×50.˝93E, h15km±437km, ML4.4*
NEIC ***02*** *00:29:39.4±1.5,29.˝47N±0.˝08×50.˝82E±0.˝07, h10km±1km, mb4.2/40, Error ellipse: s-maj=13.6km s-min=9.9km az=198.0*
MOS ***02*** *00:29:40.2±1.1,29.˝55N×50.˝82E, h26km, mb4.4/23, Error ellipse: s-maj=7.1km s-min=4.7km az=111.3*
IDC ***02*** *00:29:42.4±3.3,29.˝55N×50.˝85E, h30km±23km, mb4.0/26, mbtmp4.2/33, ML3.8/7, MS4.1/8, Error ellipse: s-maj=15.8km s-min=11.8km az=167.0*
GII ***02*** *00:29:43.8±0.0,29.˝45N×50.˝84E, h10km*
DSN ***02*** *00:29:45.1±1.0,29.˝46N×51.˝48E, h10km, mb4.6/1, ML4.4/13, Error ellipse: s-maj=13.9km s-min=9.4km az=65.0*
OMAN ***02*** *00:29:47.5±1.0,29.˝01N×50.˝95E, h33km, mb5.5/29, ml4.6/1, ms3.8/2, Error ellipse: s-maj=8.3km s-min=5.3km az=0.0*

ISC 02 00:29:40.8±0.3,29.˝46N±0.˝03×50.˝81E±0.˝03, h24km, n344, σ1९96/390, mb4.3/56, MS4.3/10, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHBU	**AHRAM**	**0.73**	**145**	Pg	**Pb**	**00 29 53.7**	**-1.2**
AHBU				Sg	**Sn**	**00 30 08.0**	**+2.0**
KAZ1	**Kazerun**	**0.74**	**77**	Pg	**Pb**	**00 29 52.4**	**-2.7**
DSBU	**Dashti - Bushe**	**1.17**	**160**	Pg	**Pb**	**00 30 03.2**	**+0.9**
DSBU				Sg	**Sb**	**00 30 22.1**	**+5.1**
ABEH	**Behbahan**	**1.23**	**337**	Pg	**Pn**	**00 30 02.3**	**-0.3**
SHI	**Shiraz**	**1.49**	**83**	P	**Pn**	**00 30 07.5**	**+1.2**
SHI	**Shiraz**	**1.49**	**83**	Pg	**Pn**	**00 30 07.1**	**+0.8**
SHI				Sg	**Sb**	**00 30 27.5**	**+1.0**
KLNJ	**Kolanjah**	**1.68**	**23**	Pg	**Pn**	**00 30 09.2**	**+0.1**
QIR1	**Qir**	**2.19**	**116**	Pn	**Pn**	**00 30 17.6**	**+1.8**
IBRJ	**Brojen**	**2.47**	**9**	Pn	**Pn**	**00 30 20.3**	**+0.6**
AMIS	**Naft Sefid**	**2.56**	**329**	Pn	**Pn**	**00 30 21.8**	**+1.0**
JHRM	**Jahrom**	**2.60**	**111**	Pn	**Pn**	**00 30 23.2**	**+1.7**
AHWZ	**Ahwaz**	**2.64**	**315**	Pn	**Pn**	**00 30 23.5**	**+1.6**
IRAM	**Ramesheh**	**2.70**	**30**	Pn	**Pn**	**00 30 24.2**	**+1.2**
SHK1	**Shahrekord**	**2.86**	**1**	Pn	**Pn**	**00 30 25.8**	**+0.7**
LMD1	**Lamerd**	**2.96**	**135**	Pn	**Pn**	**00 30 28.5**	**+2.2**
IGAR	**Gharneh**	**3.12**	**19**	Pn	**Pn**	**00 30 29.3**	**+0.6**
IPIR	**Pirpir**	**3.21**	**1**	Pn	**Pn**	**00 30 31.2**	**+1.2**
ISAD	**Sadrabad**	**3.48**	**45**	Pn	**Pn**	**00 30 34.7**	**+1.0**
SAKB	**Bahrain**	**3.48**	**184**	P	**Pn**	**00 30 34.1**	**+0.6**
SAKB				S	**Sn**	**00 31 12.6**	**-1.3**
SAKB	**Bahrain**	**3.48**	**184**	Pn	**Pn**	**00 30 36.4**	**+2.9**
SHMA	**Al-Shehemyia**	**3.60**	**178**	P	**Pn**	**00 30 35.5**	**+0.4**
SHMA				S	**Sn**	**00 31 18.8**	**-2.0**
LAR1	**LAR**	**3.61**	**119**	Pn	**Pn**	**00 30 36.8**	**+1.6**
IZEF	**Zefreh**	**3.66**	**20**	Pn	**Pn**	**00 30 36.9**	**+0.7**
NASN	**Na'in**	**3.74**	**27**	Pn	**Pn**	**00 30 37.9**	**+0.6**
IMEH	**Mehriz**	**3.80**	**59**	Pn	**Pn**	**00 30 38.8**	**+0.7**
IKLH	**Kolahrood**	**3.90**	**9**	Pn	**Pn**	**00 30 40.2**	**+0.8**
ICHK	**Chekchek**	**4.15**	**47**	Pn	**Pn**	**00 30 43.5**	**+0.6**
KHMZ	**Khomeyn**	**4.32**	**351**	Pn	**Pn**	**00 30 46.8**	**+1.5**
YZKH	**Yazd**	**4.36**	**47**	Pn	**Pn**	**00 30 46.5**	**+0.8**
ANAR	**Anarak**	**4.47**	**33**	Pn	**Pn**	**00 30 47.5**	**+0.3**
IBAF	**Bafgh**	**4.62**	**61**	Pn	**Pn**	**00 30 50.0**	**+0.7**
RAFI	**Al-Rafai**	**4.63**	**300**	*e*Pn	Pn	00 30 54.0	+4.7
RAFI				*e*Sn	**Sn**	**00 31 48.0**	**+5.6**
RAFI				AML	AML	00 32 26.8	
	comp=E,924nm,0.7s						
SMRA	**Abu-Samra**	**4.70**	**180**	P	**Pn**	**00 30 50.9**	**+0.7**
JRN	**Qarnain Island**	**4.86**	**158**	P	**Pn**	**00 30 52.5**	**+0.2**
JRN				S	**Sn**	**00 31 44.7**	**-3.1**
	SNR=6.4						
KHGB	**Koh Gabri**	**5.00**	**78**	Pn	**Pn**	**00 30 55.6**	**+1.0**
GHVR	**GHOM**	**5.02**	**5**	Pn	**Pn**	**00 30 56.0**	**+1.3**
ISFB	**Sefidab**	**5.02**	**14**	Pn	**Pn**	**00 30 55.4**	**+0.6**
HSAM	**Samen**	**5.09**	**339**	Pn	**Pn**	**00 30 57.3**	**+1.4**
ASAO	**Ashtian**	**5.11**	**353**	Pn	**Pn**	**00 30 57.4**	**+1.2**
BNDS	**Bandar-Abbas**	**5.15**	**112**	Pn	**Pn**	**00 30 57.8**	**+1.2**
NGRK	**Negar Kerman**	**5.16**	**87**	Pn	**Pn**	**00 30 58.0**	**+1.1**
ZRDN	**Zarand Kerman**	**5.17**	**72**	Pn	**Pn**	**00 30 57.7**	**+0.7**
TVBK	**TV Kerman**	**5.20**	**83**	Pn	**Pn**	**00 30 59.0**	**+1.6**
IQOM	**Qom**	**5.37**	**2**	Pn	**Pn**	**00 30 59.5**	**-0.1**
IBND	**Bandar-abas**	**5.43**	**110**	Pn	**Pn**	**00 31 01.9**	**+1.7**
IKOM	**Komasi**	**5.47**	**330**	Pn	**Pn**	**00 31 02.4**	**+1.4**
HAGD	**Aghdareh**	**5.53**	**346**	Pn	**Pn**	**00 31 03.0**	**+1.1**
IBDR	**Badra**	**5.54**	**312**	*e*Pn	Pn	00 31 06.0	+4.3
IBDR				*e*Sn	**Sn**	**00 32 08.0**	**+3.3**
IBDR				AML	AML	00 32 55.0	
	comp=N,352nm,0.5s						
IBDR				AML	AML	00 33 07.3	
	comp=E,376nm,0.7s						
IVRN	**Varamin**	**5.57**	**8**	Pn	**Pn**	**00 31 02.2**	**0.0**
IBZA	**Bozab**	**5.59**	**334**	Pn	**Pn**	**00 31 02.9**	**+0.2**
ILBA	**Ilam Banvizeh**	**5.71**	**318**	Pn	**Pn**	**00 31 04.8**	**+0.6**
KCHF	**Cheshme Sefid,**	**5.77**	**327**	Pn	**Pn**	**00 31 06.8**	**+1.7**
SHME	**Shamm**	**5.82**	**125**	P	**Pn**	**00 31 06.1**	**+0.4**
SHME				S	**Sn**	**00 32 09.7**	**-1.9**
SHME	**Shamm**	**5.82**	**125**	Pn	**Pn**	**00 31 05.4**	**-0.2**
KER	**Kermanshah**	**5.82**	**328**	Pn	**Pn**	**00 31 06.2**	**+0.5**
CHMN	**Cheshme madani**	**5.87**	**84**	Pn	**Pn**	**00 31 07.7**	**+1.1**
IRAZ	**Razeghan**	**5.97**	**353**	Pn	**Pn**	**00 31 08.9**	**+1.0**
BANOM	**Banah**	**6.01**	**125**	*i* P	**Pn**	**00 31 08.7**	**+0.4**
	SNR=17						
BANOM	**Banah**	**6.01**	**125**	P	**Pn**	**00 31 08.6**	**+0.4**
	SNR=17						
BANOM				S	**Sn**	**00 32 12.7**	**-3.6**
BANOM	**Banah**	**6.01**	**125**	Pn	**Pn**	**00 31 08.6**	**+0.4**
AJN	**Ajban**	**6.14**	**142**	*i* P	**Pn**	**00 31 12.1**	**+2.0**
	SNR=34						
AJN	**Ajban**	**6.14**	**142**	P	**Pn**	**00 31 12.5**	**+2.5**
	SNR=34						
AJN				S	**Sn**	**00 32 16.6**	**-2.8**
AJN	**Ajban**	**6.14**	**142**	Pn	**Pn**	**00 31 12.3**	**+2.3**
ILAS	**Lasjerd**	**6.17**	**17**	Pn	**Pn**	**00 31 10.8**	**+0.1**
IDMV	**Damavand**	**6.18**	**9**	Pn	**Pn**	**00 31 11.2**	**+0.3**
NAZ	**Nazwa, Dubai**	**6.20**	**135**	*i* P	**Pn**	**00 31 11.8**	**+0.9**
	SNR=31						
NAZ	**Nazwa, Dubai**	**6.20**	**135**	P	**Pn**	**00 31 12.1**	**+1.1**
	SNR=31						
NAZ				S	**Sn**	**00 32 20.0**	**-1.2**
	SNR=12						
NAZ	**Nazwa, Dubai**	**6.20**	**135**	Pn	**Pn**	**00 31 12.0**	**+1.1**
IMHD	**Mahdasht**	**6.21**	**359**	Pn	**Pn**	**00 31 11.2**	**+0.1**
DAMV	**Damavand**	**6.23**	**9**	Pn	**Pn**	**00 31 11.9**	**+0.5**
KHNJ	**Kahnooj**	**6.24**	**102**	Pn	**Pn**	**00 31 11.0**	**-0.4**
MASF	**Masafi**	**6.26**	**129**	P	**Pn**	**00 31 12.6**	**+0.8**
	SNR=17						
MASF				S	**Sn**	**00 32 19.6**	**-2.9**
	SNR=8.3						
MSFE	**Esma-Masafi**	**6.27**	**129**	*i* P	**Pn**	**00 31 11.8**	**0.0**
	SNR=17						
MSFE				S	**Sn**	**00 32 19.3**	**-3.4**
MSFE	**Esma-Masafi**	**6.27**	**129**	Pn	**Pn**	**00 31 12.4**	**+0.6**
ASUD	**Al Ashush, Dub**	**6.28**	**139**	*i* P	**Pn**	**00 31 13.8**	**+1.9**
	SNR=160						
ASUD	**Al Ashush, Dub**	**6.28**	**139**	P	**Pn**	**00 31 13.6**	**+1.7**
	SNR=160						
ASUD				S	**Sn**	**00 32 20.1**	**-2.8**
	SNR=12						
ASUD	**Al Ashush, Dub**	**6.28**	**139**	Pn	**Pn**	**00 31 13.6**	**+1.7**
SNGE	**Sanandaj**	**6.33**	**333**	Pn	**Pn**	**00 31 13.1**	**+0.2**
FAQ	**Al Faqa, Dubai**	**6.34**	**137**	*i* P	**Pn**	**00 31 14.2**	**+1.4**
	SNR=35						
FAQ	**Al Faqa, Dubai**	**6.34**	**137**	P	**Pn**	**00 31 14.3**	**+1.4**
	SNR=35						
FAQ				S	**Sn**	**00 32 21.8**	**-2.7**
	SNR=8.2						
FAQ	**Al Faqa, Dubai**	**6.34**	**137**	Pn	**Pn**	**00 31 14.2**	**+1.4**
ILIN	**Lien**	**6.34**	**330**	Pn	**Pn**	**00 31 12.6**	**-0.5**
IFIR	**Firoozkooh**	**6.37**	**14**	Pn	**Pn**	**00 31 14.1**	**+0.6**
MDH	**Madha**	**6.40**	**129**	P	**Pn**	**00 31 13.7**	**0.0**
MDH	**Madha**	**6.40**	**129**	P	**Pn**	**00 31 14.5**	**+0.8**
MDH				S	**Sn**	**00 32 22.9**	**-3.1**
	SNR=8.7						
MDH	**Madha**	**6.40**	**129**	Pn	**Pn**	**00 31 13.7**	**0.0**
IDHR	**Dehrash**	**6.43**	**325**	Pn	**Pn**	**00 31 14.6**	**+0.4**
CHTH	**Charan**	**6.43**	**2**	Pn	**Pn**	**00 31 15.1**	**+0.9**
IANJ	**Anjilo**	**6.53**	**23**	Pn	**Pn**	**00 31 15.7**	**+0.1**
UOSS	**Minazif**	**6.58**	**132**	Pn	**Pn**	**00 31 15.9**	**-0.1**
UOSS				S	**Sn**	**00 32 28.3**	**-2.1**
UOSS	**Minazif**	**6.58**	**132**	*i* P	**Pn**	**00 31 16.0**	**-0.1**
	SNR=6.9						
UOSS	**Minazif**	**6.58**	**132**	P	**Pn**	**00 31 16.4**	**+0.3**
UOSS				S	**Sn**	**00 32 27.7**	**-2.7**
UOSS	**Minazif**	**6.58**	**132**	Pn	**Pn**	**00 31 16.2**	**+0.1**
HATD	**Hatta, Dubai**	**6.62**	**133**	*i* P	**Pn**	**00 31 16.7**	**+0.1**
	SNR=13						
HATD	**Hatta, Dubai**	**6.62**	**133**	P	**Pn**	**00 31 17.6**	**+1.0**
	SNR=12						
HATD				S	**Sn**	**00 32 28.8**	**-2.6**
HATD	**Hatta, Dubai**	**6.62**	**133**	Pn	**Pn**	**00 31 17.3**	**+0.6**
ISHM	**Shahmirzad**	**6.66**	**18**	Pn	**Pn**	**00 31 17.2**	**-0.3**
TNSJ	**Nastanj**	**6.67**	**46**	Pn	**Pn**	**00 31 17.8**	**+0.4**
ASHO	**Ashiyiah**	**6.67**	**134**	*i* P	**Pn**	**00 31 17.6**	**+0.2**
	SNR=42						
ASHO	**Ashiyiah**	**6.67**	**134**	P	**Pn**	**00 31 17.8**	**+0.4**
	SNR=42						
ASHO				S	**Sn**	**00 32 30.3**	**-2.4**
	SNR=10						
ASHO	**Ashiyiah**	**6.67**	**134**	Pn	**Pn**	**00 31 17.6**	**+0.2**
TKDS	**Koohdasht(Taba**	**6.79**	**51**	Pn	**Pn**	**00 31 20.1**	**+1.0**
TABS	**Tabas**	**6.81**	**51**	Pn	**Pn**	**00 31 20.0**	**+0.7**
MZR	**Muzera**	**6.87**	**159**	*i* P	**Pn**	**00 31 21.9**	**+1.9**
	SNR=47						
MZR	**Muzera**	**6.87**	**159**	P	**Pn**	**00 31 22.0**	**+1.9**
	SNR=45						
MZR				S	**Sn**	**00 32 33.9**	**-3.5**
	SNR=8.2						
MZR	**Muzera**	**6.87**	**159**	Pn	**Pn**	**00 31 21.9**	**+1.9**
IPRN	**Peran**	**6.88**	**10**	Pn	**Pn**	**00 31 21.5**	**+1.2**
IGZV	**Ghazvin**	**6.92**	**356**	Pn	**Pn**	**00 31 21.6**	**+0.6**
QALM	**Alamut, Qazvin**	**6.95**	**359**	Pn	**Pn**	**00 31 22.6**	**+1.3**
ALNE	**Al Ain**	**6.96**	**140**	*i* P	**Pn**	**00 31 22.2**	**+0.9**
	SNR=55						
ALNE	**Al Ain**	**6.96**	**140**	P	**Pn**	**00 31 22.7**	**+1.3**
	SNR=55						
ALNE				S	**Sn**	**00 32 37.0**	**-2.8**
	SNR=6.8						
ALNE	**Al Ain**	**6.96**	**140**	Pn	**Pn**	**00 31 22.6**	**+1.3**
MZPU	**Pul - Mazandar**	**6.99**	**5**	Pn	**Pn**	**00 31 23.0**	**+1.1**
KLST	**Kelardasht - M**	**7.04**	**2**	Pn	**Pn**	**00 31 23.0**	**+0.4**
JASK	**Jask - Hormozg**	**7.21**	**118**	P	**Pn**	**00 31 25.6**	**+0.9**
	SNR=6.3						
JASK				S	**Sn**	**00 32 44.3**	**-1.5**
JASK	**Jask - Hormozg**	**7.21**	**118**	Pn	**Pn**	**00 31 26.3**	**+1.6**
JIR1	**Jirandeh**	**7.27**	**354**	Pn	**Pn**	**00 31 26.2**	**+0.4**
SOHO	**SOHO**	**7.37**	**135**	*i* P	**Pn**	**00 31 26.6**	**-0.3**
	SNR=19						
SOHO	**SOHO**	**7.37**	**135**	P	**Pn**	**00 31 27.0**	**+0.1**
SOHO				S	**Sn**	**00 32 47.2**	**-2.6**
SOHO	**SOHO**	**7.37**	**135**	Pn	**Pn**	**00 31 26.7**	**-0.2**
ZNJK	**Zanjan**	**7.41**	**347**	Pn	**Pn**	**00 31 28.1**	**+0.5**
IGLO	**Ghaloghah**	**7.46**	**19**	Pn	**Pn**	**00 31 29.1**	**+0.8**
GIDE	**GILAN DEYLAMAN**	**7.48**	**354**	Pn	**Pn**	**00 31 30.0**	**+1.4**
BSRN	**Basiran**	**7.58**	**69**	Pn	**Pn**	**00 31 30.3**	**+0.3**
ITEG	**Tejag**	**7.61**	**61**	Pn	**Pn**	**00 31 29.9**	**-0.5**
IKOO	**Kooshah**	**7.63**	**65**	Pn	**Pn**	**00 31 31.2**	**+0.5**
SHRO	**Shahrood**	**7.84**	**33**	Pn	**Pn**	**00 31 34.1**	**+0.7**
ARQ	**Araqi**	**7.96**	**139**	P	**Pn**	**00 31 35.7**	**+0.6**
	SNR=52						
ARQ				S	**Sn**	**00 33 02.0**	**-2.5**
AFRZ	**Afriz**	**8.04**	**59**	Pn	**Pn**	**00 31 36.1**	**-0.1**
IKRK	**Kirkuk**	**8.06**	**319**	*e*Pn	**Pn**	**00 31 40.0**	**+3.6**
IKRK				*e*Sn	**Sn**	**00 33 09.5**	**+2.8**
NHDN	**Nehbandan**	**8.20**	**74**	Pn	**Pn**	**00 31 39.5**	**+1.0**
HOQ	**Hoqain**	**8.26**	**134**	P	**Pn**	**00 31 39.6**	**+0.5**
	SNR=8.5						
HOQ				S	**Sn**	**00 33 08.4**	**-3.2**
HOQ	**Hoqain**	**8.26**	**134**	Pn	**Pn**	**00 31 39.4**	**+0.3**
MAHB	**Mahabad**	**8.45**	**331**	Pn	**Pn**	**00 31 41.9**	**+0.1**
IMND	**Minoodasht**	**8.67**	**25**	Pn	**Pn**	**00 31 44.8**	**+0.1**
ZHSF	**Zahedan**	**8.68**	**87**	Pn	**Pn**	**00 31 43.2**	**+1.8**
ZHDN	**Zahedan**	**8.72**	**88**	Pn	**Pn**	**00 31 45.3**	**-0.3**
ISRB	**Sarab**	**8.74**	**343**	Pn	**Pn**	**00 31 46.5**	**+0.6**
BSY	**Bisya**	**8.81**	**138**	P	**Pn**	**00 31 47.2**	**+0.4**
	SNR=59						
BSY				S	**Sn**	**00 33 20.8**	**-4.7**
BIDO	**Bidbid**	**8.

comp=Z,213nm,1.2s
MAK MLR MLR
comp=Z,454nm,15.0s
PRNI Paran 13.74 278 Pn **P 00 32 58.9 -3.7**
BLGI Bet Lehem HaGe 13.78 288 Pn **P 00 32 59.5 -3.4**
EIL Elat 13.81 275 Pn **P 00 32 59.2 -4.1**
comp=Z,0.3nm,0.3s,baz=296,slow=6.2,SNR=4.8
EIL Sn **Sn 00 35 28.2 +0.5**
comp=Z,1.1nm,0.3s,baz=6.8,slow=17,SNR=1.3
EIL Lg Lg 00 37 12.4
baz=282,slow=19
MBRI Mt Berech 13.84 275 Pn **P 00 33 00.4 -3.3**
KRMI Paran Flat 13.99 277 Pn **P 00 33 01.3 -4.0**
KZIT Kziot 14.27 280 Pn **P 00 33 07.6 -0.9**
GROC Groznyy 14.29 345 *eP* **Pn 00 32 59.4 -2.2**
GROC pmax pmax
comp=Z,15nm,0.8s
ONI Oni 14.38 338 P **P 00 33 08.4 -1.2**
ONI Oni 14.38 338 P **P 00 33 08.4 -1.2**
ZEI Tsey 14.41 339 *eP* **Pn 00 33 03.4 -0.1**
ZEI pmax pmax
comp=Z,13nm,1.4s
NEY Neytrino 15.21 337 *i* P **Pn 00 33 13.5 -0.7**
BNN Bunyan 15.51 311 Pn **Pn 00 33 18.4 +0.2**
KBZ Khabaz 15.58 338 Pn **Pn 00 33 20.3 +1.5**
comp=Z,0.1nm,0.3s,baz=156,slow=9.1,SNR=9.3
comp=Z,3.8nm,0.8s
KBZ Khabaz 15.58 338 *i* P **Pn 00 33 19.5 +0.7**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
SHA1 Shidzhatmaz 15.67 338 *i* P **Pn 00 33 21.2 +1.0**
CSS Mathiatis 15.78 295 **Pn 00 33 19.9 -1.5**
KVAR Kislovodsk Arr 15.85 338 Pn **P 00 33 26.3 +0.3**
baz=138,slow=16
comp=Z,4.8nm,0.9s
KIV Kislovodsk 15.85 338 **Pn 00 33 21.9 -0.5**
KIV IAmb IAmb 00 33 33.7
comp=Z,22nm,1.0s
KIV Kislovodsk 15.85 338 *eP* **Pn 00 33 22.7 +0.3**
KIV pmax pmax
comp=Z,21nm,1.0s
KBL Kabul 16.27 67 **Pn 00 33 27.8 -0.1**
KBL Kabul 16.27 67 P **Pn 00 33 27.8 -0.1**
KBL pmax pmax
comp=Z,5.0nm,0.9s
SOC Sochi 16.65 331 *eP* **Pn 00 33 30.8 -1.7**
SOC *e* 00 36 37.3
SOC MLR MLR
comp=Z,201nm,14.0s
BR131 Keskin Array S 17.43 311 **Pn 00 33 40.4 -2.0**
BR131 Keskin Array S 17.43 311 *i* P **P 00 33 44.1 +0.5**
BRTR Keskin Array B 17.43 311 P **P 00 33 44.0 +0.4**
comp=Z,0.1nm,0.3s,baz=135,slow=12,SNR=13
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 17.43 311 Pn **Pn 00 33 41.8 -0.6**
BRTR Keskin Array B 17.43 311 *eP* **P 00 33 44.4 +0.8**
CHGR Chuyangaron 17.73 54 Pn **Pn 00 33 45.2 -0.9**
CHGR IAmb IAmb 00 33 55.4
comp=Z,14nm,1.0s
CHGR Chuyangaron 17.73 54 P **Pn 00 33 45.2 -0.9**
CHGR pmax pmax
comp=Z,14nm,1.0s
BR231 Keskin MP Arra 18.06 310 P **P 00 33 50.5 0.0**
BR231 IAmb IAmb 00 33 56.7
comp=Z,16nm,1.1s
ANTO Ankara 18.06 310 **Pn 00 33 49.0 -1.2**
ANTO IAmb IAmb 00 33 56.6
comp=Z,15nm,1.1s
ANTO Ankara 18.06 310 P **Pn 00 33 49.0 -1.2**
ANTO pmax pmax
comp=Z,15nm,1.1s
THW Thamme Wali 18.22 74 P **Pn 00 33 52.2 0.0**
CEP Cherat 18.47 71 P **Pn 00 33 55.7 +0.4**
GAR Garm 18.69 54 P **P 00 33 57.1 -0.3**
GAR IAmb IAmb 00 34 14.2
comp=Z,7.6nm,0.6s
ISP Isparta 18.81 302 P **Pn 00 33 58.8 -0.6**
ISP Isparta 18.81 302 P **Pn 00 33 58.8 -0.6**
ISP pmax pmax
comp=Z,8.0nm,0.8s
ELL Elmali 18.94 298 P **Pn 00 34 00.1 -0.8**
ELL Elmali 18.94 298 P **Pn 00 34 00.1 -0.8**
ELL pmax pmax
comp=Z,43nm,0.8s
NIL Nilore 19.56 72 P **P 00 34 06.8 -0.2**
NIL Nilore 19.56 72 P **P 00 34 06.8 -0.2**
NIL pmax pmax
comp=Z,12nm,0.5s
CHCP Chirah Chowk 19.57 72 P **P 00 34 06.6 -0.5**
BORA Eskisehir 19.67 307 P **Pn 00 34 08.3 -1.3**
BORA IAmb IAmb 00 34 19.5
comp=Z,11nm,1.0s
MANT Manisa 20.50 302 P **P 00 34 17.5 +0.2**
KK31 Karatay Array 20.85 44 P **P 00 34 21.7 +0.9**
KK31 Karatay Array 20.85 44 P **P 00 34 21.7 +0.9**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 20.85 44 P **P 00 34 21.3 +0.5**
KKAR Karatay Array 20.85 44 IAmb IAmb 00 34 25.8
comp=Z,5.6nm,0.8s
KKAR Karatay Array 20.85 44 P **P 00 34 21.3 +0.5**
ABKAR Akbulak array 20.96 17 P **P 00 34 21.3 -0.6**
ABKAR IAmb IAmb 00 34 24.0
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 20.96 17 P **P 00 34 21.4 -0.5**
BALB Balikesir 21.39 304 P **P 00 34 27.6 +1.0**
BALB IAmb IAmb 00 34 37.8
comp=Z,15nm,1.0s
AKTO Aktyubinsk 21.64 13 P **P 00 34 28.9 -0.4**
comp=Z,9.1nm,0.6s,baz=206,slow=9.7,SNR=32
AKTO LR LR 00 44 27.1
comp=Z,249nm,20.2s,baz=286,slow=41
comp=Z,9.1nm,0.6s
VRH Novokhopyorsk 22.76 345 *eP* **P 00 34 39.7 -1.5**
VRH *eS* **S 00 38 51.2 +2.7**
VRH pmax pmax
comp=Z,30nm,0.7s
VRH smax smax
comp=N,40nm,0.9s
KSH Kashi 22.97 57 P **P 00 34 40.4 -3.3**
KSH pmax pmax
comp=Z,11nm,0.6s
KSH LR LR
comp=N,410nm,12.4s
KSH LR LR
comp=E,540nm,11.0s
KSH LR LR
comp=Z,800nm,23.4s
BELG Belogornoye 23.03 355 P **P 00 34 43.5 -0.5**
comp=Z,14nm,0.8s,baz=0.7,slow=4.6,SNR=3.0
comp=Z,14nm,0.8s
AAK Ala-Archa 23.13 49 P **P 00 34 46.3 +0.9**
comp=Z,1.5nm,0.5s,baz=251,slow=4.6,SNR=11
comp=Z,1.5nm,0.5s
AAK Ala-Archa 23.13 49 P **P 00 34 46.1 +0.7**
AAK Ala-Archa 23.13 49 *i* P **P 00 34 45.9 +0.5**
AAK pmax pmax
comp=Z,2.0nm,0.9s
VSR Storozhevoye 23.41 341 *eP* **P 00 34 46.6 -1.3**
VSR *eS* **S 00 38 57.2 -2.4**
VSR pmax pmax
comp=Z,6.0nm,0.5s
VSR smax smax
comp=N,50nm,0.9s
RDO Rodhopi 23.61 306 P **P 00 34 52.1 +2.3**
RDO IAmb IAmb 00 35 16.1
comp=Z,12nm,1.0s
VORR Voronezh 23.81 342 *eP* P 00 34 44.4 -7.3
VORR *eS* **S 00 39 02.3 -3.6**
VORR pmax pmax
comp=Z,10.0nm,1.6s
LPSR Galich'ya Gora 24.73 343 *eP* **P 00 34 58.7 -1.4**
LPSR *eS* **S 00 39 20.6 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR smax smax
comp=E,30nm,1.5s
TARG Taragay, Kyrgy 25.02 53 P **P 00 35 03.8 +0.4**
TARG IAmb IAmb 00 35 10.5
comp=Z,3.0nm,0.7s
TARG Taragay, Kyrgy 25.02 53 P **P 00 35 03.8 +0.4**
TARG pmax pmax
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 25.26 316 P **P 00 35 06.6 +1.4**
comp=Z,4.2nm,0.8s,baz=132,slow=2.7,SNR=7.7
comp=Z,4.2nm,0.8s
MLR Muntele Rosu 25.26 316 P **P 00 35 06.9 +1.7**
MLR Muntele Rosu 25.26 316 P **P 00 35 06.9 +1.7**
MLR pmax pmax
comp=Z,7.0nm,0.6s
IAS Iasi 25.27 321 P **P 00 35 04.9 -0.2**
IAS pmax pmax
comp=Z,65nm,0.9s
AGG Agios Georgios 25.32 300 P **P 00 35 09.8 +4.1**
AGG pmax pmax
comp=Z,2.0nm,0.8s
LIT Litokhoron 25.47 302 P **P 00 35 07.5 +0.5**
LIT Litokhoron 25.47 302 P **P 00 35 07.5 +0.5**
LIT pmax pmax
comp=Z,9.0nm,0.7s
VTS Vitosha 25.75 308 P **P 00 35 10.5 +0.9**
VTS IAmb IAmb 00 35 25.2
comp=Z,3.2nm,0.9s
VTS Vitosha 25.75 308 P **P 00 35 10.5 +0.9**
VTS pmax pmax
comp=Z,3.0nm,0.9s
GRG Griva 25.78 304 P **P 00 35 10.4 +0.6**
GRG pmax pmax
comp=Z,11nm,0.8s
VOIR 25.78 315 P **P 00 35 13.4 +3.6**
VOIR pmax pmax
comp=Z,13nm,0.8s
FNA Florina 26.47 303 P **P 00 35 17.0 +0.8**
FNA IAmb IAmb 00 35 24.9
comp=Z,3.4nm,0.8s
FNA Florina 26.47 303 P **P 00 35 17.0 +0.8**
FNA pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 26.70 329 P **P 00 35 17.1 -1.0**
comp=Z,5.1nm,0.8s,baz=132,slow=9.1,SNR=33
comp=Z,5.1nm,0.8s
AKASG Malin Array Be 26.70 329 P **P 00 35 17.2 -0.8**
AKASG Malin Array Be 26.70 329 *eP* **P 00 35 17.5 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 26.70 329 P **P 00 35 17.2 -0.8**
AKBB **P 00 35 17.6 -0.5**
AKBB IAmb IAmb 00 35 22.3
comp=Z,8.7nm,0.9s
AKBB Malin Array Si 26.70 329 *i* P **P 00 35 17.9 -0.1**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
BURAR Bucovina Array 26.81 320 P **P 00 35 20.0 +0.8**
BURAR Bucovina Array 26.81 320 P **P 00 35 20.3 +1.1**
BURAR pmax pmax
comp=Z,3.0nm,0.8s
BUR08 Bucovina Ar. S 26.84 320 P **P 00 35 19.4 -0.1**
BUR08 IAmb IAmb 00 35 57.7
comp=Z,6.4nm,1.1s
ARU Arti 27.51 9 P **P 00 35 25.4 +0.2**
comp=Z,0.8nm,0.4s,baz=180,slow=18,SNR=3.4
ARU LR LR 00 47 25.5
comp=Z,188nm,19.3s,baz=180,slow=39
comp=Z,0.8nm,0.4s
ARU Arti 27.51 9 P **P 00 35 26.1 +0.9**
ARU IAmb IAmb 00 35 42.5
comp=Z,4.3nm,0.8s
ARU Arti 27.51 9*c* *i*P **P 00 35 26.1 +0.9**
ARU 00 36 07.4
ARU S **S 00 40 10.1 +5.6**
ARU pmax pmax
comp=Z,8.0nm,2.3s
BRVK Borovoye 27.57 26 P **P 00 35 26.3 +0.5**
BRVK IAmb IAmb 00 35 27.4
comp=Z,3.9nm,0.6s
BRVK Borovoye 27.57 26 *i* P **P 00 35 26.5 +0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 27.58 26 P **P 00 35 26.5 +0.5**
comp=Z,8.6nm,0.5s,baz=223,slow=7.3,SNR=57
BVAR PcP **PcP 00 38 44.0 +0.8**
comp=Z,2.0nm,0.5s,baz=213,slow=1.2,SNR=5.6
BVAR ScP **ScP 00 42 21.5 -0.8**
comp=Z,0.6nm,0.6s,baz=239,slow=4.2,SNR=3.2
comp=Z,8.6nm,0.5s
DANN Dangsing 28.81 84 *eP* **P 00 35 37.4 -0.1**
comp=Z,25nm,0.6s
KIRV Kirov 29.13 358 P **P 00 35 39.1 -0.4**
comp=Z,8.0nm,0.7s,baz=180,slow=2.6,SNR=4.8
comp=Z,8.0nm,0.7s
KIRV Kirov 29.13 358 *i* P **P 00 35 40.2 +0.6**
GKN Gorkha 29.64 84 *eP* **P 00 35 43.9 -0.8**
comp=Z,7.3nm,0.3s
KURBB Kurchatov Arra 29.66 37 P **P 00 35 45.1 +0.7**
comp=Z,2.1nm,0.6s,baz=237,slow=9.2,SNR=25
KURBB PcP **PcP 00 38 48.9 +0.5**
comp=Z,0.5nm,0.6s,baz=230,slow=3.4,SNR=5.9
comp=Z,2.1nm,0.6s
KURK Kurchatov 29.76 37 P **P 00 35 45.1 -0.2**
KURK 00 38 48.9
MK31 Makanchi Array 29.94 46 P **P 00 35 46.3 -0.7**
MK31 Makanchi Array 29.94 46 *i* P **P 00 35 50.6 +3.6**
MKAR Makanchi Array 29.94 46 P **P 00 35 47.6 +0.7**
comp=Z,0.8nm,0.7s,baz=236,slow=8.2,SNR=13
MKAR PcP **PcP 00 38 48.7 -0.5**
comp=Z,0.4nm,0.5s,baz=252,slow=2.5,SNR=4.1
comp=Z,0.8nm,0.7s
DMN Daman 30.12 85 *eP* **P 00 35 48.4 -0.7**
comp=Z,8.4nm,0.3s
PKIN Phulchoki 30.38 85 *eP* **P 00 35 50.6 -0.8**
comp=Z,10nm,0.5s
PKI Pulchoki 30.39 85 *eP* **P 00 35 50.5 -1.1**
VYHS Vyhne 30.97 317 *eP* **P 00 35 59.3 +3.3**
VYHS Vyhne 30.97 317 *eP* **P 00 35 59.3 +3.3**
JIRN Jiri 31.05 85 *eP* **P 00 35 54.9 -2.5**
comp=Z,6.6nm,0.5s
RAMN Ramite 31.56 86 *eP* **P 00 36 00.4 -1.4**
comp=Z,2.7nm,0.2s
TAPN Tapejung 32.44 85 *eP* P 00 36 04.7 -4.8
comp=Z,2.7nm,0.2s
WMQ Urumqi 32.59 54 *eP* **P 00 36 13.8 +3.4**
WMQ LR LR
comp=N,450nm,21.7s
WMQ LR LR
comp=E,810nm,18.7s
WMQ LR LR
comp=Z,870nm,21.7s
CAMP Campotosto 32.69 304 P **P 00 36 11.0 -0.4**
DPC Dobruska-Polom 33.26 319 *eP* P 00 36 25.7 +10
DPC Dobruska-Polom 33.26 319 *eP* P 00 36 25.7 +10
CESX Cesi 33.30 304 P **P 00 36 16.2 -0.4**
UPC Upice 33.50 319 *eP* P 00 36 27.9 +10
UPC Upice 33.50 319 *eP* P 00 36 27.9 +10
GERES GERESS Array B 34.23 315 P **P 00 36 26.8 +2.1**
comp=Z,0.3nm,0.6s,baz=108,slow=9.4,SNR=2.2
comp=Z,0.3nm,0.6s
DGZ Jazzator, Alta 34.24 43 *i* P **P 00 36 25.5 +0.6**
DGZ pmax pmax
comp=Z,4.0nm,1.6s
KHC Kasperske Hory 34.41 315 *eP* **P 00 36 29.2 +3.1**
KHC Kasperske Hory 34.41 315 *eP* **P 00 36 29.2 +3.1**
ZAA0 Zalesovo Array 34.71 35 P **P 00 36 29.1 +0.4**
ZALV Zalesovo Beam 34.71 35 P **P 00 36 28.9 +0.3**
comp=Z,4.6nm,0.6s,baz=245,slow=8.7,SNR=18
comp=Z,4.6nm,0.6s
ZALV Zalesovo Beam 34.71 35 P **P 00 36 28.8 +0.2**
KEST Kesra 35.29 291 P **P 00 36 36.0 +1.9**
comp=Z,1.4nm,0.8s,baz=43,slow=14,SNR=2.4
comp=Z,1.4nm,0.8s
SQTA Sankt Quirin 35.31 311 *eP* **P 00 36 33.9 -0.2**
comp=Z,2.3nm,0.5s
FINES FINESS Array B 35.93 340 P **P 00 36 37.9 -1.1**
comp=Z,1.2nm,0.4s,baz=138,slow=12,SNR=7.5
comp=Z,1.2nm,0.4s
FINES FINESS Array B 35.93 340 *eP* **P 00 36 38.5 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.4s
DAVA Damuels 36.20 311 *eP* **P 00 36 41.1 -0.7**
comp=Z,5.8nm,0.7s
GOMU GeErMu 37.33 68 P **P 00 36 53.7 +1.9**
GOMU pmax pmax
comp=Z,2.0nm,0.7s
NORES NORESS Array B 40.72 332 P **P 00 37 23.2 +3.9**
NB2 NORSAR Subarra 41.02 332 P **P 00 37 20.6 -1.2**
comp=Z,9.7nm,1.1s,baz=122,slow=8.6
NOA NORSAR Array B 41.02 332 P **P 00 37 20.9 -0.9**
comp=Z,2.0nm,0.6s,baz=122,slow=8.3,SNR=10
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 42.66 347 P **P 00 37 34.8 -0.4**
comp=Z,4.3nm,1.0s,baz=171,slow=12,SNR=5.6
ARCES PcP **PcP 00 39 27.2 +0.5**
comp=Z,4.0nm,0.9s,baz=158,slow=3.9,SNR=5.2
comp=Z,4.3nm,1.0s
LZH Lanzhou 44.62 67 *eP* P 00 37 41.1 -10
LZH pP pP 00 37 44.6 -14
LZH pmax pmax
comp=Z,16nm,1.1s
PZH PanZhiHua 44.78 81 P **P 00 37 55.0 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.0s
CMAR Chiang Mai Arr 45.05 93 P **P 00 37 56.0 +1.0**
comp=Z,0.4nm,0.5s,baz=294,slow=9.8,SNR=2.2
comp=Z,0.4nm,0.5s
NRIK Noril'sk 45.13 17 P **P 00 37 55.4 +0.6**
comp=Z,2.1nm,0.5s,baz=239,slow=6.6,SNR=8.0
comp=Z,2.1nm,0.5s
NRIK Noril'sk 45.13 17 P **P 00 37 55.8 +0.9**
NRIK IAmb IAmb 00 37 58.6
comp=Z,5.6nm,1.2s
NRIK Noril'sk 45.13 17 *i* P **P 00 37 55.5 +0.6**
NRIK pmax pmax
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 45.62 298 P **P 00 37 59.6 +0.2**
comp=Z,0.5nm,0.9s,baz=71,slow=7.3,SNR=1.0
EKA Eskdalemuir Ar 46.00 320 P **P 00 38 05.7 +3.7**
SONM Songino Array 46.07 51 P **P 00 38 02.8 0.0**
comp=Z,0.4nm,0.8s,baz=270,slow=5.8,SNR=2.5
comp=Z,0.4nm,0.8s
TORD Torodi Ar. Bea 48.20 261 P **P 00 38 21.3 +1.6**
comp=Z,4.7nm,0.8s,baz=55,slow=7.5,SNR=18
comp=Z,4.7nm,0.8s
TORD Torodi Ar. Bea 48.20 261 P **P 00 38 20.3 +0.7**
TORD IAmb IAmb 00 38 25.6
comp=Z,2.8nm,0.8s
HHC Hu-ho-hao-te 50.05 60 *eP* **P 00 38 34.5 +0.8**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,230nm,5.2s
DBIC Dimbokro 56.98 258 P **P 00 39 26.5 +1.8**
comp=Z,3.3nm,0.6s,baz=60,slow=8.5,SNR=7.9
comp=Z,3.3nm,0.6s
TIXI Tiksi 58.58 21 *i* P **P 00 39 34.8 -0.3**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
LBTB Lobatse 59.33 207 LR LR 01 06 00.6
comp=Z,295nm,18.5s,baz=292,slow=37
CN2 Changchun 59.68 54 P P 00 39 49.7 +6.5
CN2 pmax pmax
comp=Z,10.0nm,0.5s
BOSA Boshof 62.70 205 P **P 00 40 04.9 +1.0**
comp=Z,2.8nm,0.9s,baz=14,slow=9.2,SNR=3.4
BOSA LR LR 01 07 05.0
comp=Z,280nm,20.7s,baz=351,slow=36
comp=Z,2.8nm,0.9s
KSRS Korea Array 63.18 60 P **P 00 40 06.5 -0.5**
comp=Z,1.2nm,0.6s,baz=287,slow=6.2,SNR=3.5
comp=Z,1.2nm,0.6s
USRK Ussuriysk Ar. 64.14 52 LR LR 01 12 57.2
comp=Z,147nm,20.2s,baz=238,slow=40
SUR Sutherland 67.78 207 LR LR 01 09 29.0
comp=Z,313nm,18.7s,baz=354,slow=35
ASAJ Asahikawa 71.34 49 LR LR 01 16 37.8
comp=Z,255nm,19.5s,baz=180,slow=40
BILL Bilibino 71.79 21‖ *eP* **P 00 41 02.3 +1.4**
BILL *e* 00 41 12.1
BILL pmax pmax
comp=Z,11nm,1.5s
BILL MLR MLR
comp=Z,89nm,17.0s
ILAR Eielson Array 85.06 8 P **P 00 42 13.8 -0.5**
comp=Z,1.3nm,0.6s,baz=325,slow=4.0,SNR=30
comp=Z,1.3nm,0.6s
ILAR Eielson Array 85.06 8 *eP* **P 00 42 13.7 -0.5**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 87.62 353 P **P 00 42 27.1 +0.3**
comp=Z,1.6nm,0.7s,baz=22,slow=5.7,SNR=33
comp=Z,1.6nm,0.7s
ASAR Alice Springs 95.69 114 P **P 00 43 04.0 -0.9**
comp=Z,0.4nm,0.7s,baz=309,slow=4.6,SNR=4.5
comp=Z,0.4nm,0.7s

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*NEIC **02** 00:32:35.4±1.5,29.3°N±0.1×50.82°E±0.05,h10km±2km, mb4.0/18, Error ellipse: s-maj=21.3km s-min=6.9km az=186.0*
*IDC **02** 00:32:36.2±2.3,29.59°N×50.71°E, h0km, mb4.0/10, mbtmp4.0/11, ML3.2/1, MS4.3/2, Error ellipse: s-maj=52.4km s-min=24.4km az=154.0*
*TEH **02** 00:32:38.9,29.55°N×50.95°E, h9km±30km, ML3.6*
ISC 02 00:32:38.7±0.5, 29.47°N±0.04×50.86°E±0.05, h24km, n66, σ1°98/68, mb4.0/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAZ1	**Kazerun**	**0.69**	**77**	Pg	**Pb**	**00 32 50.6**	**-1.6**
AHBU	**AHRAM**	**0.71**	**148**	Pg	**Pn**	**00 32 52.9**	**-0.4**
AHBU				Sg	**Sn**	**00 33 04.6**	**+1.1**
DSBU	**Dashti - Bushe**	**1.16**	**162**	Pg	**Pb**	**00 33 02.8**	**+2.8**
DSBU				Sg	**Sn**	**00 33 20.0**	**+5.5**
ABEH	**Behbahan**	**1.24**	**335**	Pg	**Pb**	**00 33 02.6**	**+1.1**
SHI	**Shiraz**	**1.45**	**83**	Pg	**Pn**	**00 33 05.5**	**+1.9**
SHI				Sg	**Sn**	**00 33 25.0**	**+3.1**
KLNJ	**Kolanjah**	**1.66**	**22**	Pg	**Pn**	**00 33 08.1**	**+1.5**
IBRJ	**Brojen**	**2.45**	**8**	Pn	**Pn**	**00 33 19.5**	**+2.1**
JHRM	**Jahrom**	**2.56**	**111**	Pn	**Pb**	**00 33 23.1**	**-1.0**
IRAM	**Ramesheh**	**2.67**	**29**	Pn	**Pn**	**00 33 23.3**	**+2.8**
SHK1	**Shahrekord**	**2.85**	**0**	Pn	**Pn**	**00 33 24.9**	**+2.0**
IGAR	**Gharneh**	**3.09**	**19**	Pn	**Pn**	**00 33 28.8**	**+2.5**
IPIR	**Pirpir**	**3.20**	**0**	Pn	**Pn**	**00 33 30.2**	**+2.4**
ISAD	**Sadrabad**	**3.44**	**44**	Pn	**Pn**	**00 33 33.6**	**+2.6**
IZEF	**Zefreh**	**3.64**	**20**	Pn	**Pn**	**00 33 36.0**	**+2.3**
NASN	**Na'in**	**3.71**	**26**	Pn	**Pn**	**00 33 36.8**	**+1.9**
IMEH	**Mehriz**	**3.76**	**59**	Pn	**Pn**	**00 33 38.1**	**+2.6**
IKLH	**Kolahrood**	**3.88**	**9**	Pn	**Pn**	**00 33 39.8**	**+2.7**
ICHK	**Chekchek**	**4.11**	**47**	Pn	**Pn**	**00 33 42.4**	**+2.2**
KHMZ	**Khomeyn**	**4.32**	**350**	Pn	**Pn**	**00 33 45.7**	**+2.6**
YZKH	**Yazd**	**4.33**	**47**	Pn	**Pn**	**00 33 45.6**	**+2.5**
IBAF	**Bafgh**	**4.58**	**61**	Pn	**Pn**	**00 33 48.4**	**+1.8**
GHVR	**GHOM**	**5.01**	**4**	Pn	**Pn**	**00 33 54.8**	**+2.4**
BNDS	**Bandar-Abbas**	**5.11**	**113**	Pn	**Pn**	**00 33 57.8**	**+3.9**
ASAO	**Ashtian**	**5.11**	**352**	Pn	**Pn**	**00 33 56.9**	**+2.9**
ZRDN	**Zarand Kerman**	**5.13**	**72**	Pn	**Pn**	**00 33 56.3**	**+2.1**
KRBR	**Kerman**	**5.16**	**83**	Pn	**Pn**	**00 33 57.5**	**+2.9**
IQOM	**Qom**	**5.36**	**2**	Pn	**Pn**	**00 33 58.4**	**+1.0**
IANJ	**Anjilo**	**6.51**	**23**	Pn	**Pn**	**00 34 14.3**	**+1.1**
ISHM	**Shahmirzad**	**6.64**	**17**	Pn	**Pn**	**00 34 16.6**	**+1.5**
WSAR	**Wadi Sarin**	**9.33**	**130**	Sn	**Sn**	**00 36 31.4**	**-4.5**
	0.9nm,0.3s,baz=181,slow=22,SNR=2.0						
WSAR				LR		00 39 33.9	
	comp=Z,957nm,19.6s,baz=218,slow=44						
GEYT	**Alibeck**	**10.37**	**34**	Pn	**Pn**	**00 35 07.4**	**+1.4**
	0.2nm,0.3s,baz=216,slow=12,SNR=4.6						
	3.8nm,0.8s						
GEYT	**Alibeck**	**10.37**	**34**		**Pn**	**00 35 07.0**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**10.37**	**34**	Pn	**Pn**	**00 35 06.9**	**+0.9**
GURO	**Guroymak-BITLI**	**11.64**	**323**	Pn	**Pn**	**00 35 22.5**	**-0.9**
GAZ	**Gaziantep**	**13.75**	**308**	Pn	**Pn**	**00 35 51.0**	**-1.1**
ONI	**Oni**	**14.39**	**337**	Pn	**Pn**	**00 36 01.4**	**+0.5**
KIV	**Kislovodsk**	**15.86**	**338**	Pn	**Pn**	**00 36 21.6**	**+1.2**
KIV				IAmb	IAmb	00 36 26.5	
	comp=Z,14nm,1.1s						
KBL	**Kabul**	**16.22**	**67**	Pn	**Pn**	**00 36 24.8**	**-0.4**
CHGR	**Chuyangaron**	**17.69**	**54**		**Pn**	**00 36 42.8**	**-0.7**
GAR	**Garm**	**18.65**	**54**	P	**P**	**00 36 55.1**	**+0.2**
GAR				IAmb	IAmb	00 37 00.3	
	comp=Z,7.9nm,1.0s						
ATD	**Arta Tunnel**	**19.35**	**204**	P	**P**	**00 36 57.7**	**-4.9**
ATD				IAmb	IAmb	00 37 04.4	
	comp=Z,18nm,1.7s						
NIL	**Nilore**	**19.52**	**72**	P	**P**	**00 37 04.4**	**0.0**
NIL				IAmb	IAmb	00 37 10.4	
	comp=Z,9.6nm,1.1s						
KK31	**Karatay Array**	**20.81**	**44**	P	**P**	**00 37 18.7**	**+0.4**
KK31				IAmb	IAmb	00 37 26.9	
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**20.81**	**44**	P	**P**	**00 37 18.9**	**+0.5**
KKAR	**Karatay Array**	**20.81**	**44**	P	**P**	**00 37 18.6**	**+0.3**
KKAR				IAmb	IAmb	00 37 26.9	
	comp=Z,5.0nm,1.1s						
ABKAR	**Akbulak array**	**20.94**	**17**	P	**P**	**00 37 19.0**	**-0.5**
AKTO	**Aktyubinsk**	**21.62**	**12**	P	**P**	**00 37 27.1**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=183,slow=7.8,SNR=6.7						

comp=Z,3.4nm,0.5s
AAK Ala-Archa 23.09 49 P P 00 37 44.1 +1.3
FNA Florina 26.51 303 P P 00 38 15.0 +0.7
AKASG Malin Array Be 26.72 329 P P 00 38 16.0 0.0
comp=Z,0.4nm,0.3s,baz=137,slow=9.6,SNR=3.6
comp=Z,0.4nm,0.3s
BRVK Borovoye 27.55 26 P P 00 38 22.9 -0.6
BRVK IAmb IAmb 00 38 24.8
comp=Z,2.5nm,0.8s
BVAR Borovoye Array 27.56 26 P P 00 38 24.8 +1.2
comp=Z,3.4nm,0.7s,baz=225,slow=6.8,SNR=5.3
comp=Z,3.4nm,0.7s
KURBB Kurchatov Arra 29.63 37 P P 00 38 43.4 +1.4
comp=Z,1.6nm,0.9s,baz=238,slow=9.2,SNR=5.9
comp=Z,1.6nm,0.9s
PSZ Piszkesteto 30.10 316 P P 00 38 45.2 -1.1
CEL Celeste 30.19 296 P P 00 38 46.5 -0.7
PAOL Paolisi 31.59 301 P P 00 38 58.1 -1.4
ZAA0 Zalesovo Array 34.68 35 P P 00 39 25.4 -0.8
ZAA0 IAmb IAmb 00 39 27.7
comp=Z,2.8nm,0.8s
ZALV Zalesovo Beam 34.68 35 P P 00 39 26.8 +0.6
comp=Z,2.0nm,0.6s,baz=249,slow=8.7,SNR=5.0
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 34.68 35 P P 00 39 25.6 -0.6
HFS Hagfors 39.51 332 P P 00 40 07.2 +0.1
comp=Z,1.0nm,0.3s,baz=133,slow=8.2,SNR=10
comp=Z,1.0nm,0.3s
NOA NORSAR Array B 41.03 332 P P 00 40 18.4 -1.5
comp=Z,1.2nm,0.9s,baz=127,slow=9.0,SNR=4.0
comp=Z,1.2nm,0.9s
ESDC Sonseca Array 45.66 298 P P 00 40 56.1 -1.4
ESDC IAmb IAmb 00 41 17.5
comp=Z,3.2nm,1.4s
TORD Torodi Ar. Bea 48.24 261 P P 00 41 18.9 +1.0
comp=Z,1.1nm,0.7s,baz=59,slow=8.2,SNR=3.7
comp=Z,1.1nm,0.7s
KLR Kul'dur 62.60 47 LR LR 01 14 21.5
comp=Z,496nm,21.8s,baz=242,slow=40
ILAR Eielson Array 85.05 8 P P 00 45 11.8 -0.1
comp=Z,0.6nm,0.7s,baz=321,slow=4.4,SNR=6.1
comp=Z,0.6nm,0.7s
YKA Yellowknife Ar 87.62 353 P P 00 45 25.4 +0.7
comp=Z,1.0nm,0.8s,baz=22,slow=5.7,SNR=9.6
comp=Z,1.0nm,0.8s

IDC ***02*** *00:38:09.7±0.8,29°.43N×50°.81E,h0km,mb4.1/27, mbtmp4.1/34,ML3.7/7,Error ellipse: s-maj=17.0km s-min=12.6km az=161.0*

ISN ***02*** *00:38:11.9±1.0,29°.52N×50°.84E,h18km±351km,ML4.0*

NEIC ***02*** *00:38:11.4±1.8,29°.45N±0°.09×50°.82E±0°.10,h10km±2km, mb4.1/29,Error ellipse: s-maj=17.7km s-min=10.6km az=219.0*

TEH ***02*** *00:38:12.9,29°.52N×50°.86E,h19km±24km,ML4.2*

MOS ***02*** *00:38:13.3±0.9,29°.48N×50°.78E,h40km,mb4.4/20,Error ellipse: s-maj=7.7km s-min=5.3km az=94.0*

OMAN ***02*** *00:38:17.2±0.8,29°.45N×51°.14E,h33km,mb5.2/23, ml4.2/1,ms3.5/2,Error ellipse: s-maj=8.7km s-min=6.1km az=33.0*

DSN ***02*** *00:38:17.1±1.1,29°.37N×51°.28E,h10km,ML3.9/12,Error ellipse: s-maj=20.7km s-min=10.1km az=44.0*

ISC 02 00:38:13.4±0.4,**29°.50N**±0°.03×**50°.86E**±0°.04,**h24**km,**n279,**
σ1**s55**/312,**mb4.2**/53,**21C-4D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KAZ1	Kazerun	0.69	80	Pg	Pb	Pb	00 38 25.3	-1.5
AHBU	AHRAM	0.74	149	Pg	Pb	Pb	00 38 27.6	-0.1
AHBU				Sg	Sn	Sn	00 38 39.8	+0.9
DSBU	Dashti - Bushe	1.19	163	Pg	Pb	Pb	00 38 35.9	+0.6
ABEH	Behbahan	1.21	334	Pg	Pb	Pb	00 38 35.4	-0.3
SHI	Shiraz	1.45	84	P	Pb	Pb	00 38 40.6	+0.8
SHI	Shiraz	1.45	84	Pg	Pb	Pb	00 38 39.8	0.0
KLNJ	Kolanjah	1.63	23	Pg	Pb	Pb	00 38 42.8	-0.2
QIR1	Qir	2.17	118	Pn	Pn	Pn	00 38 50.0	+1.9
IBRJ	Brojen	2.42	8	Pn	Pn	Pn	00 38 53.5	+1.8
AMIS	Naft Sefid	2.55	328	Pn	Pn	Pn	00 38 54.2	+1.0
JHRM	Jahrom	2.58	112	Pn	Pn	Pn	00 38 55.6	+1.8
AHWZ	Ahwaz	2.64	314	Pn	Pn	Pn	00 38 56.5	+2.0
IRAM	Ramesheh	2.64	29	Pn	Pn	Pn	00 38 57.0	+2.2
SHK1	Shahrekord	2.81	0	Pn	Pn	Pn	00 38 58.9	+1.7
LMD1	Lamerd	2.96	136	Pn	Pn	Pn	00 39 00.9	+1.9
IGAR	Gharneh	3.06	19	Pn	Pn	Pn	00 39 02.6	+2.0
IPIR	Pirpir	3.17	0	Pn	Pn	Pn	00 39 04.6	+2.5
ISAD	Sadrabad	3.42	45	Pn	Pn	Pn	00 39 08.0	+2.5
SAKB	Bahrain	3.52	185	P	Pn	Pn	00 39 08.5	+1.8
SAKB	Bahrain	3.52	185	Pn	Pn	Pn	00 39 08.2	+1.5
LAR1	LAR	3.59	120	Pn	Pn	Pn	00 39 09.1	+1.5
IZEF	Zefreh	3.61	20	Pn	Pn	Pn	00 39 10.0	+2.0
IMEH	Mehriz	3.74	59	Pn	Pn	Pn	00 39 11.9	+2.0
IKLH	Kolahrood	3.85	9	Pn	Pn	Pn	00 39 13.5	+2.1
ICHK	Chekchek	4.09	47	Pn	Pn	Pn	00 39 16.6	+1.9
ANAR	Anarak	4.42	33	Pn	Pn	Pn	00 39 20.9	+1.9
IBAF	Bafgh	4.56	62	Pn	Pn	Pn	00 39 23.0	+1.9
RAFI	Al-Rafai	4.65	300	*e*Pn	Pn	Pn	00 39 25.0	+2.8
RAFI				*e*Sn	Sn	Sn	00 40 19.0	+3.6
RAFI				AML	AML	AML	00 40 23.4	
	comp=E,257nm,0.3s							
SMRA	Abu-Samra	4.74	180	P	Pn	Pn	00 39 24.6	+1.2
JRN	Qarnain Island	4.88	158	P	Pn	Pn	00 39 26.4	+1.1
JRN				S	Sn	Sn	00 40 22.7	+1.7
JRN	Qarnain Island	4.88	158	Pn	Pn	Pn	00 39 26.8	+1.6
KHGB	Koh Gabri	4.95	79	Pn	Pn	Pn	00 39 28.3	+1.8
ISFB	Sefidab	4.97	13	Pn	Pn	Pn	00 39 28.0	+1.3
HSAM	Samen	5.07	338	Pn	Pn	Pn	00 39 29.4	+1.2
NGRK	Negar Kerman	5.11	87	Pn	Pn	Pn	00 39 31.0	+2.1
ZRDN	Zarand Kerman	5.12	72	Pn	Pn	Pn	00 39 30.7	+1.8
TVBK	TV Kerman	5.15	83	Pn	Pn	Pn	00 39 31.7	+2.3
IQOM	Qom	5.33	2	Pn	Pn	Pn	00 39 32.5	+0.8
IBND	Bandar-abas	5.40	111	Pn	Pn	Pn	00 39 32.9	+0.4
IKOM	Komasi	5.46	329	Pn	Pn	Pn	00 39 35.0	+1.6
HAGD	Aghdareh	5.50	345	Pn	Pn	Pn	00 39 35.4	+1.4
IVRN	Varamin	5.52	7	Pn	Pn	Pn	00 39 35.4	+1.2
IBDR	Badra	5.54	312	*e*Pn	Pn	Pn	00 39 37.0	+2.6
IBDR				*e*Sn	Sn	Sn	00 40 40.0	+2.6
IBZA	Bozab	5.57	334	Pn	Pn	Pn	00 39 35.6	+0.6
ILBA	Ilam Banvizeh	5.71	317	Pn	Pn	Pn	00 39 37.1	+0.3
SHME	Shamm	5.81	125	P	Pn	Pn	00 39 37.7	-0.4
SHME	Shamm	5.81	125	Pn	Pn	Pn	00 39 38.0	-0.1
KER	Kermanshah	5.81	328	Pn	Pn	Pn	00 39 39.3	+1.2
CHMN	Cheshme madani	5.82	85	Pn	Pn	Pn	00 39 40.6	+2.0
IRAZ	Razeghan	5.94	353	Pn	Pn	Pn	00 39 41.3	+1.3
BANOM	Banah	6.00	125	*i* P	Pn	Pn	00 39 41.0	+0.3
	SNR=15							
BANOM	Banah	6.00	125	P	Pn	Pn	00 39 40.7	0.0
BANOM	Banah	6.00	125	Pn	Pn	Pn	00 39 41.0	+0.3
IGHG	Ghaleghazi	6.04	324	Pn	Pn	Pn	00 39 42.9	+1.4
ILAS	Lasjerd	6.12	16	Pn	Pn	Pn	00 39 43.7	+1.1
IDMV	Damavand	6.13	9	Pn	Pn	Pn	00 39 43.6	+0.8
AJN	Ajban	6.14	142	*i* P	Pn	Pn	00 39 44.7	+2.0
	SNR=22							
AJN	Ajban	6.14	142	P	Pn	Pn	00 39 43.8	+1.2
AJN	Ajban	6.14	142	Pn	Pn	Pn	00 39 44.4	+1.7
NAZ	Nazwa, Dubai	6.20	135	*i* P	Pn	Pn	00 39 45.0	+1.5
	SNR=38							
NAZ				S	Sn	Sn	00 40 52.4	-1.3
NAZ	Nazwa, Dubai	6.20	135	P	Pn	Pn	00 39 45.0	+1.5
NAZ				S	Sn	Sn	00 40 53.5	-0.2
NAZ	Nazwa, Dubai	6.20	135	Pn	Pn	Pn	00 39 44.9	+1.5
KHNJ	Kahnooj	6.21	103	Pn	Pn	Pn	00 39 43.9	+0.3
MASF	Masafi	6.25	130	P	Pn	Pn	00 39 45.0	+0.8
MASF				S	Sn	Sn	00 40 53.5	-1.5
MSFE	Esma-Masafi	6.26	130	*i* P	Pn	Pn	00 39 44.7	+0.4
	SNR=8.7							
MSFE	Esma-Masafi	6.26	130	Pn	Pn	Pn	00 39 44.8	+0.4
ASUD	Al Ashush, Dub	6.28	140	*i* P	Pn	Pn	00 39 46.4	+1.8
	SNR=83							
ASUD	Al Ashush, Dub	6.28	140	P	Pn	Pn	00 39 46.1	+1.5
ASUD				S	Sn	Sn	00 40 56.4	+0.7
ASUD	Al Ashush, Dub	6.28	140	Pn	Pn	Pn	00 39 46.5	+1.8
IFIR	Firoozkooh	6.32	14	Pn	Pn	Pn	00 39 47.5	+2.1
ILIN	Lien	6.33	330	Pn	Pn	Pn	00 39 46.3	+0.8
FAQ	Al Faqa, Dubai	6.34	137	*i* P	Pn	Pn	00 39 46.5	+1.0
	SNR=21							
FAQ	Al Faqa, Dubai	6.34	137	P	Pn	Pn	00 39 46.5	+1.0
FAQ				S	Sn	Sn	00 40 57.3	+0.1
FAQ	Al Faqa, Dubai	6.34	137	Pn	Pn	Pn	00 39 46.5	+1.0
MDH	Madha	6.39	130	P	Pn	Pn	00 39 46.2	0.0
MDH	Madha	6.39	130	P	Pn	Pn	00 39 46.4	+0.3
MDH				S	Sn	Sn	00 40 56.4	-2.0
MDH	Madha	6.39	130	Pn	Pn	Pn	00 39 46.1	0.0
IDHR	Dehrash	6.42	325	Pn	Pn	Pn	00 39 47.2	+0.5
IANJ	Anjilo	6.48	23	Pn	Pn	Pn	00 39 48.6	+1.0
UOSS	Minazif	6.58	132	Pn	Pn	Pn	00 39 48.4	-0.2
UOSS				Sn	Sn	Sn	00 40 59.8	-3.1
UOSS	Minazif	6.58	132	*i* P	Pn	Pn	00 39 48.3	-0.2
	SNR=13							
UOSS	Minazif	6.58	132	P	Pn	Pn	00 39 48.4	-0.2
UOSS				S	Sn	Sn	00 41 01.5	-1.3
UOSS	Minazif	6.58	132	Pn	Pn	Pn	00 39 48.5	-0.2
ISHM	Shahmirzad	6.61	17	Pn	Pn	Pn	00 39 50.4	+1.0
TNSJ	Nastanj	6.61	46	Pn	Pn	Pn	00 39 51.2	+2.0
HATD	Hatta, Dubai	6.61	134	*i* P	Pn	Pn	00 39 49.6	+0.4
	SNR=5.6							
HATD	Hatta, Dubai	6.61	134	P	Pn	Pn	00 39 49.3	+0.1
HATD				S	Sn	Sn	00 41 02.4	-1.5
HATD	Hatta, Dubai	6.61	134	Pn	Pn	Pn	00 39 50.2	+1.0
ASHO	Ashiyiah	6.67	135	*i* P	Pn	Pn	00 39 50.1	+0.1
	SNR=41							
ASHO	Ashiyiah	6.67	135	P	Pn	Pn	00 39 49.9	0.0
ASHO				S	Sn	Sn	00 41 04.0	-1.3
ASHO	Ashiyiah	6.67	135	Pn	Pn	Pn	00 39 50.5	+0.5
TKDS	Koohdasht(Taba	6.73	51	Pn	Pn	Pn	00 39 52.2	+1.3
IPRN	Peran	6.83	10	Pn	Pn	Pn	00 39 54.5	+2.3
MZR	Muzera	6.89	159	*i* P	Pn	Pn	00 39 54.3	+1.4
	SNR=12							
MZR	Muzera	6.89	159	P	Pn	Pn	00 39 54.3	+1.4
MZR				S	Sn	Sn	00 41 10.3	-0.3
MZR	Muzera	6.89	159	Pn	Pn	Pn	00 39 54.5	+1.5
QALM	Alamut, Qazvin	6.91	359	Pn	Pn	Pn	00 39 55.4	+1.9
MZPU	Pul - Mazandar	6.94	5	Pn	Pn	Pn	00 39 55.7	+1.8
ALNE	Al Ain	6.97	140	*i* P	Pn	Pn	00 39 55.0	+1.0
	SNR=39							
ALNE	Al Ain	6.97	140	P	Pn	Pn	00 39 55.2	+1.1
ALNE				S	Sn	Sn	00 41 11.7	-0.8
ALNE	Al Ain	6.97	140	Pn	Pn	Pn	00 39 55.3	+1.3
KLST	Kelardasht - M	7.00	1	Pn	Pn	Pn	00 39 56.1	+1.5
JASK	Jask - Hormozg	7.19	119	P	Pn	Pn	00 39 56.8	-0.2
JASK	Jask - Hormozg	7.19	119	Pn	Pn	Pn	00 39 56.3	-0.7
JIR1	Jirandeh	7.24	353	Pn	Pn	Pn	00 39 59.5	+1.6
SOHO	SOHO	7.37	135	*i* P	Pn	Pn	00 39 59.1	-0.4
	SNR=6.9							
SOHO	SOHO	7.37	135	P	Pn	Pn	00 39 59.4	-0.1
SOHO				P	Pn	Pn	00 39 59.4	-0.1
SOHO				S	Sn	Sn	00 41 21.3	-1.1
SOHO				S	Sn	Sn	00 41 21.3	-1.1
SOHO	SOHO	7.37	135	Pn	Pn	Pn	00 39 59.3	-0.2
IGLO	Ghaloghah	7.41	19	Pn	Pn	Pn	00 40 02.3	+2.1
ITEG	Tejag	7.55	61	Pn	Pn	Pn	00 40 03.8	+1.6
IKOO	Kooshah	7.57	65	Pn	Pn	Pn	00 40 04.5	+2.0
ARQ	Araqi	7.96	139	P	Pn	Pn	00 40 08.5	+0.7
ARQ				P	Pn	Pn	00 40 08.5	+0.7
ARQ				S	Sn	Sn	00 41 35.1	-2.0
ARQ				S	Sn	Sn	00 41 35.1	-2.0
AFRZ	Afriz	7.98	59	Pn	Pn	Pn	00 40 09.4	+1.3
IKRK	Kirkuk	8.06	319	*e*Pn	Pn	Pn	00 40 13.0	+4.1
IKRK				*e*Sn	Sn	Sn	00 41 40.0	+0.7
NHDN	Nehbandan	8.15	74	Pn	Pn	Pn	00 40 12.1	+1.8
HOQ	Hoqain	8.25	134	S	Sn	Sn	00 41 42.3	-1.9
	SNR=6.6							
HOQ	Hoqain	8.25	134	Pn	Pn	Pn	00 40 12.1	+0.4
MAHB	Mahabad	8.43	331	Pn	Pn	Pn	00 40 15.1	+0.9
IMND	Minoodasht	8.61	25	Pn	Pn	Pn	00 40 17.7	+1.1
ZHDN	Zahedan	8.67	88	Pn	Pn	Pn	00 40 19.1	+1.5
BSY	Bisya	8.81	138	P	Pn	Pn	00 40 20.1	+0.7
BSY				S	Sn	Sn	00 41 53.2	-4.9
SHRT	Shahrakht	9.04	60	Pn	Pn	Pn	00 40 25.8	+3.3
SMDO	Samad	9.10	133	P	Pn	Pn	00 40 23.4	+0.1
SMDO				S	Sn	Sn	00 42 02.3	-2.7
MRVT	Maraveh tapeh	9.23	27	Pn	Pn	Pn	00 40 26.5	+1.4
IHRS	Heris	9.35	341	Pn	Pn	Pn	00 40 27.7	+0.9
WSAR	Wadi Sarin	9.35	130	Pn	Pn	Pn	00 40 25.7	-1.0
	comp=E,0.5nm,0.3s,baz=46,slow=6.7,SNR=11							
WSAR				Sn	Sn	Sn	00 42 06.2	-5.0
	comp=E,1.7nm,0.3s,baz=145,slow=19,SNR=6.7							
	comp=E,7.1nm,0.8s							
WSAR	Wadi Sarin	9.35	130	P	Pn	Pn	00 40 26.1	-0.6
WSAR				S	Sn	Sn	00 42 07.3	-3.8
CHBR	Chabahar	9.38	112	Pn	Pn	Pn	00 40 26.2	-1.0
JMDO	Jabal Madar	9.64	136	P	Pn	Pn	00 40 30.5	-0.2
NGCH	Negor - Chabah	10.02	112	P	Pn	Pn	00 40 35.3	-0.5
NGCH				S	Sn	Sn	00 42 23.1	-4.3
NGCH	Negor - Chabah	10.02	112	Pn	Pn	Pn	00 40 35.4	-0.5
JRKH	Jarkhoshk	10.22	49	Pn	Pn	Pn	00 40 40.9	+2.1
GEYT	Alibeck	10.35	34	Pn	Pn	Pn	00 40 42.6	+2.3
	comp=E,0.7nm,0.3s,baz=217,slow=14,SNR=29							
	comp=E,11nm,0.7s							
GEYT	Alibeck	10.35	34			Pn	00 40 41.6	+1.3
GYA0B	ALIBECK ARRAY	10.35	34			Pn	00 40 41.3	+0.9
SRVN	Saravan	10.37	99	Pn	Pn	Pn	00 40 42.1	+1.3
MHTO	MHTO	10.64	141	P	Pn	Pn	00 40 44.5	+0.1
	SNR=33							
GEVA	Gevas	10.91	326	Pn	Pn	Pn	00 40 47.9	-0.3
DOK	Doka	11.24	164	P	Pn	Pn	00 40 55.0	+2.4
	SNR=8.7							
DQM	DQM	11.30	146	P	Pn	Pn	00 40 54.0	+0.6
	SNR=9.0							
MARD	Mardin	11.47	315	Pn	Pn	Pn	00 40 54.6	-1.2
MARD						Sn	00 42 57.4	-5.8
GURO	Guroymak-BITLI	11.62	323			Sn	00 43 04.7	-2.1
GNI	Garni	11.75	336	P	Pn	Pn	00 41 00.4	+0.8
WHFO	Wadi Hawf	11.84	166	P	Pn	Pn	00 41 02.0	+1.1
	SNR=9.2							
ASF	Jabal al Asfar	12.29	286	Pn	Pn	Pn	00 41 06.6	-0.5
	comp=E,1.6nm,0.3s,baz=244,slow=0.9,SNR=8.0							
	comp=E,3.5nm,0.4s							
ABTO	Aybut	12.30	169	P	Pn	Pn	00 41 07.0	-0.2
	SNR=7.3							
DMTO	DMTO	12.31	161	P	Pn	Pn	00 41 06.3	-1.1
	SNR=21							
GHAJ	Ghor Haditha	13.32	282	Pn	Pn	Pn	00 41 17.9	-3.2
MMAI	Mount Meron Ar	13.68	289	Pn	Pn	Pn	00 41 26.3	+0.4
	comp=E,1.0nm,0.3s,baz=102,slow=16,SNR=7.6							
	comp=E,2.3nm,0.7s							
EIL	Elat	13.85	275	Pn	Pn	Pn	00 41 29.6	+1.3
	comp=E,0.4nm,0.3s,baz=59,slow=23,SNR=1.5							
GROC	Groznyy	14.26	345	*e*P	Pn	Pn	00 41 33.3	-0.5
ONI	Oni	14.36	337	P	P	P	00 41 40.0	-2.0
ONI	Oni	14.36	337	P	P	P	00 41 40.0	-2.0
ZEI	Tsey	14.39	339	*e*P	Pn	Pn	00 41 35.1	-0.7
ZEI				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BNN	Bunyan	15.52	311	P	Pn	Pn	00 41 52.5	+1.7
BNN				IAmb	IAmb		00 42 15.4	
	comp=Z,17nm,1.1s							
KBZ	Khabaz	15.56	338	Pn	Pn	Pn	00 41 53.0	+1.9
	comp=Z,2nm,0.3s,baz=150,slow=7.4,SNR=9.9							
	comp=Z,4.6nm,0.8s							
KBZ	Khabaz	15.56	338	*ce*P	Pn	Pn	00 41 52.3	+1.2
KBZ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
SHA1	Shidzhatmaz	15.64	337	*i* P	Pn	Pn	00 41 52.1	-0.4
KVAR	Kislovodsk Arr	15.83	338	Pn	Pn	Pn	00 41 55.2	+0.4
	baz=256,slow=23							
	comp=Z,3.1nm,0.8s							
KIV	Kislovodsk	15.83	338			Pn	00 41 54.1	-0.6
KIV				IAmb	IAmb		00 42 00.7	
	comp=Z,16nm,1.0s							
KIV	Kislovodsk	15.83	338	*e*P	Pn	Pn	00 41 54.5	-0.2
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
KBL	Kabul	16.21	67	P	Pn	Pn	00 42 00.3	+0.5
KBL	Kabul	16.21	67	P	Pn	Pn	00 42 00.3	+0.5
KBL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SOC	Sochi	16.64	331	*e*P	Pn	Pn	00 42 00.6	-4.4
SOC				*e*			00 45 05.0	
SOC				MLR	MLR			
	comp=Z,189nm,19.0s							
BR131	Keskin Array S	17.43	310			Pn	00 42 14.3	-0.8
BR131	Keskin Array S	17.43	310	*i* P	Pn	Pn	00 42 14.3	-0.8
BRTR	Keskin Array B	17.43	310	P	P	P	00 42 15.9	-0.4
	comp=Z,0.2nm,0.3s,baz=134,slow=11,SNR=13							
	comp=Z,1.8nm,0.7s							
BRTR	Keskin Array B	17.43	310			Pn	00 42 14.6	-0.6
CHGR	Chuyangaron	17.67	54			Pn	00 42 17.7	-0.3
CHGR	Chuyangaron	17.67	54	P	Pn	Pn	00 42 17.7	-0.3
CHGR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
THW	Thamme Wali	18.17	74	P	Pn	Pn	00 42 24.2	+0.1
GAR	Garm	18.63	54	P	Pn	Pn	00 42 30.0	+0.2
GAR				IAmb	IAmb		00 42 48.1	
	comp=Z,8.7nm,1.0s							
ELL	Elmali	18.96	298	P	Pn	Pn	00 42 33.6	-0.2
ELL	Elmali	18.96	298	P	Pn	Pn	00 42 33.6	-0.2
ELL				pmax	pmax			
	comp=Z,40nm,1.1s							
NIL	Nilore	19.51	72	P	P	P	00 42 39.2	+0.2
NIL				IAmb	IAmb		00 42 57.8	
	comp=Z,8.1nm,0.9s							
NIL	Nilore	19.51	72	P	P	P	00 42 39.2	+0.2
NIL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BORA	Eskisehir	19.68	307	P	P	P	00 42 39.8	-1.0
BORA				IAmb	IAmb		00 42 44.6	
	comp=Z,4.7nm,0.7s							
MANT	Manisa	20.51	302	P	P	P	00 42 49.2	-0.8
MANT				IAmb	IAmb		00 42 57.3	
	comp=Z,10nm,0.9s							
KK31	Karatay Array	20.79	44	P	P	P	00 42 53.0	+0.2
KK31				IAmb	IAmb		00 42 57.7	
	comp=Z,7.9nm,1.1s							
KK31	Karatay Array	20.79	44	P	P	P	00 42 53.0	+0.2
KK31				pmax	pmax			
	comp=Z,8.0nm,1.2s							
KKAR	Karatay Array	20.79	44	P	P	P	00 42 53.5	+0.7
KKAR	Karatay Array	20.79	44	P	P	P	00 42 53.5	+0.7
KKAR				IAmb	IAmb		00 42 57.7	
	comp=Z,7.9nm,1.1s							
KKAR	Karatay Array	20.79	44	P	P	P	00 42 53.5	+0.7
KARP	Karpathos	20.85	293	P	P	P	00 42 52.7	-0.9
ABKAR	Akbulak array	20.91	17	P	P	P	00 42 53.8	-0.2
ABKAR	Akbulak array	20.91	17	P	P	P	00 42 54.1	+0.1
ABKAR				IAmb	IAmb		00 42 58.9	
	comp=Z,5.9nm,1.1s							
BALB	Balikesir	21.40	304	P	P	P	00 42 56.1	-3.3
BALB				IAmb	IAmb		00 43 04.2	
	comp=Z,9.1nm,0.7s							
AKTO	Aktyubinsk	21.59	12	P	P	P	00 43 01.8	+0.4
	comp=Z,5.5nm,0.6s,baz=200,slow=9.8,SNR=18							
	comp=Z,5.5nm,0.6s							
VRH	Novokhopyorsk	22.73	345	*e*P	P	P	00 43 11.4	-2.1
VRH				pmax	pmax			
	comp=Z,20nm,0.8s							
BELG	Belogornoye	22.99	355	P	P	P	00 43 15.5	-0.7
	comp=Z,7.3nm,0.7s,baz=303,slow=8.4,SNR=2.2							
	comp=Z,7.3nm,0.7s							
AAK	Ala-Archa	23.07	49	P	P	P	00 43 18.8	+1.5
	comp=Z,2.0nm,0.8s,baz=208,slow=9.3,SNR=7.5							
	comp=Z,2.0nm,0.8s							
AAK	Ala-Archa	23.07	49	P	P	P	00 43 16.9	-0.5
AAK	Ala-Archa	23.07	49	*ce*P	P	P	00 43 19.0	+1.6
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
VSR	Storozhevoye	23.39	341	*e*P	P	P	00 43 15.2	-5.0
VSR				pmax	pmax			
	comp=Z,20nm,1.3s							
RAZG	Razgrad	23.97	312	⇓P	P	P	00 43 26.3	+0.3
GHRR		24.70	318	⇑P	P	P	00 43 33.5	+0.9
LPSR	Galich'ya Gora	24.70	342	*e*P	P	P	00 43 31.7	-0.8
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PLOR	Plostina	25.03	317	⇓P	P	P	00 43 36.1	+0.5
MLR	Muntele Rosu	25.26	316	P	P	P	00 43 39.6	+1.8
	comp=Z,4.1nm,0.9s,baz=270,slow=0.1,SNR=4.8							
	comp=Z,4.1nm,0.9s							
MLR	Muntele Rosu	25.26	316	⇑P	P	P	00 43 39.2	+1.4
MLR	Muntele Rosu	25.26	316	P	P	P	00 43 38.0	+0.2
COVR	Voineasa-Covas	25.29	317	⇑P	P	P	00 43 38.9	+0.9
TESR	Tescani	25.39	319	⇑P	P	P	00 43 39.1	+0.3
HUMR	Humele	25.39	313	⇑P	P	P	00 43 40.6	+1.8
SORM	Soroca	25.41	323	⇓P	P	P	00 43 38.1	-0.8
VTS	Vitosha	25.75	308	P	P	P	00 43 42.2	-0.1
VTS				IAmb	IAmb		00 43 48.1	
	comp=Z,2.8nm,1.0s							
VTS	Vitosha	25.75	308	P	P	P	00 43 42.2	-

	comp=Z,0.6nm,0.3s								
FINES	**FINESS Array B**	**35.90**	**340**	P		**P**	**00 45 10.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=142,slow=10,SNR=8.2								
	comp=Z,0.5nm,0.4s								
FINES	**FINESS Array B**	**35.90**	**340**	*ce*P		**P**	**00 45 11.1**	**-0.3**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.4s								
DAVA	**Damuels**	**36.20**	**311**	*e*P		**P**	**00 45 13.7**	**-0.7**
	comp=Z,1.7nm,0.5s								
HFS	**Hagfors**	**39.48**	**332**	P		**P**	**00 45 41.3**	**-0.3**
	comp=Z,3.3nm,0.4s,baz=135,slow=8.4,SNR=29								
	comp=Z,3.3nm,0.4s								
NB2	**NORSAR Subarra**	**41.00**	**332**	P		**P**	**00 45 53.1**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=123,slow=7.9								
NOA	**NORSAR Array B**	**41.00**	**332**	P		**P**	**00 45 53.2**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=125,slow=8.5,SNR=7.4								
	comp=Z,0.9nm,0.5s								
GTA	**Gaotai**	**41.12**	**63**	*e*P		**P**	**00 45 57.0**	**+1.3**
GTA				pP		pP	00 46 02.2	-0.9
GTA				sP		sP	00 46 05.3	-0.7
GTA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ARCES	**ARCESS Array B**	**42.63**	**347**	P		**P**	**00 46 07.8**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=161,slow=7.7,SNR=5.5								
	comp=Z,1.7nm,0.8s								
LZH	**Lanzhou**	**44.56**	**67**	*e*P		**P**	**00 46 24.2**	**+0.5**
LZH				pP		pP	00 46 28.2	-2.9
LZH				pmax		pmax			
	comp=Z,11nm,0.8s								
PZH	**PanZhiHua**	**44.74**	**81**	P		**P**	**00 46 27.0**	**+1.8**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,90nm,6.0s								
NRIK	**Noril'sk**	**45.08**	**17**	P		**P**	**00 46 27.6**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=232,slow=6.2,SNR=5.2								
	comp=Z,1.4nm,0.7s								
NRIK	**Noril'sk**	**45.08**	**17**	*ce*P		**P**	**00 46 27.9**	**+0.8**
NRIK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
ESDC	**Sonseca Array**	**45.64**	**298**	P		**P**	**00 46 31.5**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=77,slow=7.5,SNR=5.3								
	comp=Z,0.4nm,0.8s								
EKA	**Eskdalemuir Ar**	**45.99**	**320**	P		**P**	**00 46 34.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=104,slow=7.7,SNR=4.7								
	comp=Z,1.4nm,0.6s								
SONM	**Songino Array**	**46.02**	**51**	P		**P**	**00 46 35.7**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=283,slow=7.3,SNR=5.2								
	comp=Z,0.5nm,0.8s								
ULN	**Ulaanbaatar**	**46.46**	**51**	*ce*P		**P**	**00 46 40.1**	**+1.5**
ULN				pmax		pmax			
	comp=Z,2.0nm,1.3s								
MDT	**Midelt**	**47.13**	**289**	P		**P**	**00 46 45.1**	**+1.2**
	comp=Z,1.6nm,0.9s,baz=87,slow=7.5,SNR=7.6								
	comp=Z,1.6nm,0.9s								
TORD	**Torodi Ar. Bea**	**48.24**	**261**	P		**P**	**00 46 52.7**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=59,slow=7.3,SNR=11								
	comp=Z,1.6nm,0.7s								
HHC	**Hu-ho-hao-te**	**49.99**	**60**	*e*P		**P**	**00 47 06.1**	**+0.2**
HHC				pmax		pmax			
	comp=Z,30nm,0.9s								
HHC				pmax		pmax			
	comp=Z,250nm,4.1s								
HHC				LR		LR			
	comp=N,880nm,17.8s								
HHC				LR		LR			
	comp=E,610nm,17.8s								
HHC				LR		LR			
	comp=Z,1μm,17.8s								
SPITS	**Spitsbergen Ar**	**51.13**	**351**	P		**P**	**00 47 14.3**	**+0.5**
	comp=Z,4.7nm,0.6s,baz=148,slow=9.7,SNR=6.2								
	comp=Z,4.7nm,0.6s								
BOD	**Bodaibo**	**51.34**	**38**	*e*P		**P**	**00 47 15.4**	**-0.2**
BOD				pmax		pmax			
	comp=Z,20nm,1.4s								
DBIC	**Dimbokro**	**57.03**	**258**	P		**P**	**00 47 57.1**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=20,slow=3.8,SNR=6.1								
	comp=Z,3.1nm,0.8s								
TIXI	**Tiksi**	**58.52**	**21**	*i* P		**P**	**00 48 07.7**	**+0.4**
TIXI				pmax		pmax			
	comp=Z,6.0nm,2.1s								
YAK	**Yakutsk**	**59.22**	**33**	*ce*P		**P**	**00 48 12.3**	**0.0**
YAK				pmax		pmax			
	comp=Z,3.0nm,0.5s								
KLR	**Kul'dur**	**62.58**	**47**	*ce*P		**P**	**00 48 34.8**	**-0.6**
KLR				pmax		pmax			
	comp=Z,7.0nm,2.5s								
BOSA	**Boshof**	**62.76**	**205**	P		**P**	**00 48 35.5**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=354,slow=6.8,SNR=3.4								
	comp=Z,2.4nm,0.9s								
KSRS	**Korea Array**	**63.12**	**60**	P		**P**	**00 48 38.3**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=222,slow=5.4,SNR=1.9								
	comp=Z,0.7nm,0.5s								
SEY	**Seymchan**	**69.14**	**29**	*ce*P		**P**	**00 49 17.9**	**+0.5**
SEY				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BILL	**Bilibino**	**71.74**	**21**	*ce*P		**P**	**00 49 33.9**	**+0.7**
BILL				pmax		pmax			
	comp=Z,4.0nm,1.0s								
ILAR	**Eielson Array**	**85.02**	**8**	P		**P**	**00 50 46.5**	**0.0**
	comp=Z,0.7nm,0.7s,baz=322,slow=4.3,SNR=12								
	comp=Z,0.7nm,0.7s								
YKA	**Yellowknife Ar**	**87.58**	**353**	P		**P**	**00 50 59.8**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=26,slow=5.8,SNR=17								
	comp=Z,1.4nm,0.9s								
YKA	**Yellowknife Ar**	**87.58**	**353**	*i* P		**P**	**00 50 59.7**	**+0.5**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								

IDC ***02*** *00:42:04.1±0.7,29˚45N×50˚80E,h0km,mb4.2/30, mbtmp4.3/38,ML3.9/8,MS4.4/6,Error ellipse: s-maj=15.7km s-min=11.9km az=165.0*

ISN ***02*** *00:42:05.3±1.0,29˚43N×50˚83E,h17km±362km,ML4.4*

TEH ***02*** *00:42:06.7,29˚51N×50˚85E,h18km±20km,ML4.7*

NEIC ***02*** *00:42:06.3±2.0,29˚38N±0˚09×50˚82E±0˚08,h10km±1km, mb4.4/47,Error ellipse: s-maj=15.7km s-min=10.5km az=204.0*

MOS ***02*** *00:42:06.2±1.1,29˚46N×50˚82E,h25km,mb4.6/27,Error ellipse: s-maj=6.5km s-min=4.0km az=111.4*

THR ***02*** *00:42:07.4±0.6,29˚60N×50˚92E,h15km,ML4.6*

DSN ***02*** *00:42:08.2±0.6,29˚47N×51˚04E,h10km,mb4.9/2, ML4.5/14,Error ellipse: s-maj=12.6km s-min=5.3km az=53.0*

GII ***02*** *00:42:08.8±0.0,29˚48N×50˚87E,h10km*

OMAN ***02*** *00:42:09.2±1.2,29˚38N×51˚16E,h10km,mb6.0/29, ml4.9/1,Error ellipse: s-maj=11.9km s-min=7.2km az=19.0*

ISC 02 00:42:08.3±0.3,**29˚49N**±0˚04×**50˚91E**±0˚04,**h24km**,**n434,**
σ1§**51**/454,**mb4.3**/84,**MS4.7**/7,**22C-11D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	**Kazerun**	**0.65**	**78**	Pg	**Pb**	**00 42 19.3**	**-1.7**
AHBU	**AHRAM**	**0.71**	**152**	Pg	**Pb**	**00 42 21.2**	**-0.8**
DSBU	**Dashti - Bushe**	**1.16**	**165**	Pg	**Pb**	**00 42 30.4**	**+0.7**
ABEH	**Behbahan**	**1.25**	**333**	Pg	**Pn**	**00 42 29.6**	**-0.6**
SHI	**Shiraz**	**1.40**	**83**	P	**Pb**	**00 42 34.6**	**+0.7**
SHI	**Shiraz**	**1.40**	**83**	Pg	**Pb**	**00 42 34.2**	**+0.3**
KLNJ	**Kolanjah**	**1.62**	**21**	Pg	**Pn**	**00 42 36.4**	**+0.7**
QIR1	**Qir**	**2.12**	**118**	Pn	**Pn**	**00 42 43.7**	**+1.4**
IBRJ	**Brojen**	**2.43**	**7**	Pn	**Pn**	**00 42 47.8**	**+1.1**
JHRM	**Jahrom**	**2.53**	**112**	Pn	**Pn**	**00 42 49.4**	**+1.4**
AMIS	**Naft Sefid**	**2.58**	**328**	Pn	**Pn**	**00 42 48.4**	**-0.2**
IRAM	**Ramesheh**	**2.64**	**28**	Pn	**Pn**	**00 42 51.0**	**+1.4**
SHK1	**Shahrekord**	**2.83**	**360**	Pn	**Pn**	**00 42 52.8**	**+0.6**
LMD1	**Lamerd**	**2.92**	**137**	Pn	**Pn**	**00 42 54.8**	**+1.5**
IGAR	**Gharneh**	**3.06**	**18**	Pn	**Pn**	**00 42 56.5**	**+1.1**
ISAD	**Sadrabad**	**3.40**	**44**	Pn	**Pn**	**00 43 02.1**	**+2.1**
SAKB	**Bahrain**	**3.51**	**186**	P	**Pn**	**00 43 02.7**	**+1.3**
SAKB				S	**Sn**	**00 43 44.0**	**+1.8**
SAKB	**Bahrain**	**3.51**	**186**	Pn	**Pn**	**00 43 02.5**	**+1.1**
LAR1	**LAR**	**3.54**	**120**	Pn	**Pn**	**00 43 03.3**	**+1.4**
IZEF	**Zefreh**	**3.61**	**19**	Pn	**Pn**	**00 43 04.2**	**+1.2**
SHMA	**Al-Shehemyia**	**3.62**	**179**	P	**Pn**	**00 43 05.0**	**+2.1**
NASN	**Na'in**	**3.68**	**26**	*e*Pn	**Pn**	**00 43 04.8**	**+0.9**
IMEH	**Mehriz**	**3.72**	**58**	Pn	**Pn**	**00 43 06.4**	**+2.0**
IKLH	**Kolahrood**	**3.86**	**8**	Pn	**Pn**	**00 43 07.3**	**+0.9**
ICHK	**Chekchek**	**4.07**	**47**	Pn	**Pn**	**00 43 10.5**	**+1.3**
YZKH	**Yazd**	**4.28**	**47**	*e*Pn	**Pn**	**00 43 13.7**	**+1.7**
KHMZ	**Khomeyn**	**4.31**	**349**	*e*Pn	**Pn**	**00 43 13.6**	**+1.0**
ANAR	**Anarak**	**4.41**	**32**	Pn	**Pn**	**00 43 15.0**	**+1.2**
IBAF	**Bafgh**	**4.53**	**61**	Pn	**Pn**	**00 43 17.2**	**+1.8**
RAFI	**Al-Rafai**	**4.70**	**299**	*e*Pn	**Pn**	**00 43 19.5**	**+1.9**
RAFI				*e*Sn	**Sn**	**00 44 13.0**	**+1.7**
SMRA	**Abu-Samra**	**4.73**	**181**	P	**Pn**	**00 43 20.5**	**+2.5**
JRN	**Qarnain Island**	**4.85**	**159**	P	**Pn**	**00 43 21.7**	**+2.0**
	SNR=5.5						
JRN	**Qarnain Island**	**4.85**	**159**	Pn	**Pn**	**00 43 20.9**	**+1.2**
IDOB	**Doab**	**4.88**	**332**	Pn	**Pn**	**00 43 19.8**	**-0.5**
KHGB	**Koh Gabri**	**4.91**	**78**	Pn	**Pn**	**00 43 22.2**	**+1.4**
ISFB	**Sefidab**	**4.98**	**13**	Pn	**Pn**	**00 43 22.2**	**+0.6**
GHVR	**GHOM**	**4.99**	**4**	*e*Pn	**Pn**	**00 43 22.8**	**+1.1**
NGRK	**Negar Kerman**	**5.07**	**87**	Pn	**Pn**	**00 43 25.1**	**+2.0**
BNDS	**Bandar-Abbas**	**5.08**	**113**	*e*Pn	**Pn**	**00 43 23.0**	**-0.1**
BNDS				IAML		00 44 46.2	
	comp=E,244nm,0.7s						
BNDS				IAML		00 44 53.3	
	comp=N,211nm,0.4s						
ZRDN	**Zarand Kerman**	**5.08**	**72**	Pn	**Pn**	**00 43 24.8**	**+1.6**
ASAO	**Ashtian**	**5.10**	**352**	*e*Pn	**Pn**	**00 43 24.7**	**+1.3**
HSAM	**Samen**	**5.10**	**338**	Pn	**Pn**	**00 43 23.5**	**+0.1**
KRBR	**Kerman**	**5.11**	**83**	*e*Pn	**Pn**	**00 43 25.5**	**+1.9**
KRBR				IAML		00 44 30.3	
	comp=E,231nm,0.8s						
KRBR				IAML		00 45 03.0	
	comp=N,353nm,0.8s						
TVBK	**TV Kerman**	**5.11**	**83**	Pn	**Pn**	**00 43 25.9**	**+2.2**
ESRB	**Sir Abu**	**5.18**	**144**	Pn	**Pn**	**00 43 24.8**	**+0.5**
IQOM	**Qom**	**5.34**	**1**	Pn	**Pn**	**00 43 26.7**	**0.0**
IBND	**Bandar-abas**	**5.36**	**111**	Pn	**Pn**	**00 43 27.4**	**+0.7**
IKOM	**Komasi**	**5.50**	**329**	Pn	**Pn**	**00 43 28.6**	**-0.1**
HAGD	**Aghdareh**	**5.53**	**345**	Pn	**Pn**	**00 43 29.5**	**+0.2**
IVRN	**Varamin**	**5.53**	**7**	Pn	**Pn**	**00 43 29.5**	**+0.3**
IBDR	**Badra**	**5.58**	**312**	*e*Pn	**Pn**	**00 43 31.0**	**+1.2**
IBDR				*e*Sn	**Sn**	**00 44 35.0**	**+1.7**
IBZA	**Bozab**	**5.60**	**333**	Pn	**Pn**	**00 43 29.6**	**-0.7**
ILBA	**Ilam Banvizeh**	**5.75**	**317**	*e*Pn	**Pn**	**00 43 33.7**	**+1.4**
ILBA	**Ilam Banvizeh**	**5.75**	**317**	Pn	**Pn**	**00 43 31.8**	**-0.4**
SHME	**Shamm**	**5.76**	**125**	P	**Pn**	**00 43 32.4**	**+0.1**
	SNR=9.3						
SHME	**Shamm**	**5.76**	**125**	Pn	**Pn**	**00 43 32.3**	**0.0**
UMQ	**Umm Al-Quwin**	**5.78**	**132**	P	**Pn**	**00 43 33.9**	**+1.4**
UMQ	**Umm Al-Quwin**	**5.78**	**132**	P	**Pn**	**00 43 33.9**	**+1.5**
CHMN	**Cheshme madani**	**5.78**	**85**	Pn	**Pn**	**00 43 34.3**	**+1.5**
KCHF	**Cheshme Sefid,**	**5.80**	**326**	Pn	**Pn**	**00 43 33.6**	**+0.7**
KER	**Kermanshah**	**5.84**	**328**	Pn	**Pn**	**00 43 32.6**	**-0.9**
BANOM	**Banah**	**5.95**	**125**	*i* P	**Pn**	**00 43 34.8**	**-0.1**
	SNR=36						
BANOM				S	**Sn**	**00 44 42.8**	**+0.4**
BANOM	**Banah**	**5.95**	**125**	P	**Pn**	**00 43 34.9**	**-0.1**
	SNR=8.6						
BANOM	**Banah**	**5.95**	**125**	Pn	**Pn**	**00 43 34.7**	**-0.3**
IRAZ	**Razeghan**	**5.96**	**352**	Pn	**Pn**	**00 43 36.2**	**+1.1**
IGHG	**Ghaleghazi**	**6.08**	**324**	Pn	**Pn**	**00 43 36.7**	**-0.1**
AJN	**Ajban**	**6.11**	**143**	*i* P	**Pn**	**00 43 38.2**	**+1.2**
	SNR=49						
AJN	**Ajban**	**6.11**	**143**	P	**Pn**	**00 43 38.7**	**+1.7**
	SNR=49						
AJN				S	**Sn**	**00 44 46.4**	**+0.2**
AJN	**Ajban**	**6.11**	**143**	Pn	**Pn**	**00 43 38.4**	**+1.4**
ILAS	**Lasjerd**	**6.12**	**16**	Pn	**Pn**	**00 43 38.3**	**+0.8**
IDMV	**Damavand**	**6.14**	**9**	Pn	**Pn**	**00 43 38.0**	**+0.2**
KHNJ	**Kahnooj**	**6.16**	**103**	Pn	**Pn**	**00 43 38.0**	**+0.2**
NAZ	**Nazwa, Dubai**	**6.16**	**136**	*i* P	**Pn**	**00 43 38.4**	**+0.6**
	SNR=111						
NAZ	**Nazwa, Dubai**	**6.16**	**136**	P	**Pn**	**00 43 38.7**	**+0.9**
	SNR=111						
NAZ				S	**Sn**	**00 44 47.5**	**0.0**
	SNR=12						
NAZ	**Nazwa, Dubai**	**6.16**	**136**	Pn	**Pn**	**00 43 38.9**	**+1.1**
IMHD	**Mahdasht**	**6.18**	**358**	Pn	**Pn**	**00 43 38.5**	**+0.3**
DAMV	**Damavand**	**6.19**	**8**	*e*Pn	**Pn**	**00 43 38.5**	**+0.1**
MASF	**Masafi**	**6.21**	**130**	P	**Pn**	**00 43 38.7**	**+0.2**
	SNR=11						
MASF				S	**Sn**	**00 44 47.2**	**-1.6**
MSFE	**Esma-Masafi**	**6.22**	**130**	*i* P	**Pn**	**00 43 38.6**	**0.0**
	SNR=23						
MSFE	**Esma-Masafi**	**6.22**	**130**	Pn	**Pn**	**00 43 38.6**	**0.0**
ASUD	**Al Ashush, Dub**	**6.24**	**140**	*i* P	**Pn**	**00 43 40.4**	**+1.5**
	SNR=209						
ASUD	**Al Ashush, Dub**	**6.24**	**140**	P	**Pn**	**00 43 40.4**	**+1.5**
	SNR=209						
ASUD				S	**Sn**	**00 44 50.7**	**+1.2**
ASUD	**Al Ashush, Dub**	**6.24**	**140**	Pn	**Pn**	**00 43 40.4**	**+1.5**
FAQ	**Al Faqa, Dubai**	**6.30**	**137**	*i* P	**Pn**	**00 43 40.3**	**+0.5**
	SNR=90						
FAQ	**Al Faqa, Dubai**	**6.30**	**137**	P	**Pn**	**00 43 40.4**	**+0.7**
	SNR=90						
FAQ				S	**Sn**	**00 44 51.7**	**+0.7**
FAQ	**Al Faqa, Dubai**	**6.30**	**137**	Pn	**Pn**	**00 43 40.5**	**+0.7**
IFIR	**Firoozkooh**	**6.33**	**14**	Pn	**Pn**	**00 43 40.4**	**+0.1**
SNGE	**Sanandaj**	**6.35**	**333**	*e*Pn	**Pn**	**00 43 39.6**	**-1.0**
MDH	**Madha**	**6.35**	**130**	*i* P	**Pn**	**00 43 40.0**	**-0.4**
	SNR=16						
MDH	**Madha**	**6.35**	**130**	P	**Pn**	**00 43 40.4**	**0.0**
	SNR=16						
MDH				S	**Sn**	**00 44 50.4**	**-1.8**
MDH	**Madha**	**6.35**	**130**	Pn	**Pn**	**00 43 40.1**	**-0.4**
ILIN	**Lien**	**6.36**	**329**	Pn	**Pn**	**00 43 40.5**	**-0.2**
CHTH	**Charan**	**6.40**	**2**	*e*Pn	**Pn**	**00 43 42.0**	**+0.7**
IDHR	**Dehrash**	**6.46**	**325**	Pn	**Pn**	**00 43 41.2**	**-0.9**
IANJ	**Anjilo**	**6.48**	**22**	Pn	**Pn**	**00 43 42.8**	**+0.5**
UOSS	**Minazif**	**6.53**	**133**	Pn	**Pn**	**00 43 42.4**	**-0.5**
UOSS				S	**Sn**	**00 44 54.1**	**-2.6**
UOSS	**Minazif**	**6.53**	**133**	*i* P	**Pn**	**00 43 42.5**	**-0.5**
	SNR=11						
UOSS	**Minazif**	**6.53**	**133**	P	**Pn**	**00 43 42.6**	**-0.3**
UOSS				S	**Sn**	**00 44 54.6**	**-2.1**
UOSS	**Minazif**	**6.53**	**133**	Pn	**Pn**	**00 43 42.4**	**-0.5**
HATD	**Hatta, Dubai**	**6.57**	**134**	*i* P	**Pn**	**00 43 43.4**	**0.0**
	SNR=20						
HATD	**Hatta, Dubai**	**6.57**	**134**	P	**Pn**	**00 43 43.8**	**+0.4**
	SNR=21						
HATD				S	**Sn**	**00 44 55.1**	**-2.6**
	SNR=7.0						
HATD	**Hatta, Dubai**	**6.57**	**134**	Pn	**Pn**	**00 43 43.6**	**+0.2**
TNSJ	**Nastanj**	**6.59**	**46**	Pn	**Pn**	**00 43 44.9**	**+1.1**
ISHM	**Shahmirzad**	**6.61**	**17**	Pn	**Pn**	**00 43 44.5**	**+0.2**
ASHO	**Ashiyiah**	**6.63**	**135**	*i* P	**Pn**	**00 43 44.0**	**-0.2**
	SNR=64						
ASHO	**Ashiyiah**	**6.63**	**135**	P	**Pn**	**00 43 44.5**	**+0.3**
	SNR=13						
ASHO				S	**Sn**	**00 44 57.5**	**-1.6**
	SNR=8.1						
ASHO	**Ashiyiah**	**6.63**	**135**	Pn	**Pn**	**00 43 44.4**	**+0.1**
TKDS	**Kondasht(Taba**	**6.71**	**51**	Pn	**Pn**	**00 43 46.7**	**+1.3**
TABS	**Tabas**	**6.73**	**50**	*e*Pn	**Pn**	**00 43 47.1**	**+1.5**
IPRN	**Peran**	**6.84**	**10**	Pn	**Pn**	**00 43 48.3**	**+1.1**
MZR	**Muzera**	**6.86**	**160**	*i* P	**Pn**	**00 43 48.2**	**+0.8**
	SNR=66						
MZR	**Muzera**	**6.86**	**160**	P	**Pn**	**00 43 48.6**	**+1.2**
	SNR=66						
MZR				S	**Sn**	**00 45 03.7**	**-1.0**
	SNR=8.2						
MZR	**Muzera**	**6.86**	**160**	Pn	**Pn**	**00 43 48.6**	**+1.2**
ALNE	**Al Ain**	**6.93**	**140**	*i* P	**Pn**	**00 43 49.0**	**+0.7**
	SNR=121						
ALNE	**Al Ain**	**6.93**	**140**	P	**Pn**	**00 43 49.2**	**+0.8**
	SNR=121						
ALNE				S	**Sn**	**00 45 05.5**	**-0.9**
ALNE	**Al Ain**	**6.93**	**140**	Pn	**Pn**	**00 43 49.4**	**+1.1**
QALM	**Alamut, Qazvin**	**6.93**	**358**	Pn	**Pn**	**00 43 49.5**	**+1.0**
MZPU	**Pul - Mazandar**	**6.95**	**4**	Pn	**Pn**	**00 43 49.4**	**+0.6**
KLST	**Kelardasht - M**	**7.01**	**1**	Pn	**Pn**	**00 43 50.4**	**+0.7**
JASK	**Jask - Hormozg**	**7.14**	**119**	P	**Pn**	**00 43 50.4**	**-0.8**
JASK	**Jask - Hormozg**	**7.14**	**119**	Pn	**Pn**	**00 43 51.2**	**0.0**
JIR1	**Jirandeh**	**7.26**	**353**	Pn	**Pn**	**00 43 53.1**	**+0.2**
SOHO	**SOHO**	**7.33**	**135**	*i* P	**Pn**	**00 43 54.0**	**+0.2**
	SNR=15						
SOHO	**SOHO**	**7.33**	**135**	P	**Pn**	**00 43 53.5**	**-0.4**
SOHO				S	**Sn**	**00 45 14.5**	**-1.6**
SOHO	**SOHO**	**7.33**	**135**	Pn	**Pn**	**00 43 53.4**	**-0.4**
ZNJK	**Zanjan**	**7.40**	**346**	*e*Pn	**Pn**	**00 43 55.0**	**-0.1**
IGLO	**Ghaloghah**	**7.41**	**19**	Pn	**Pn**	**00 43 56.5**	**+1.4**
GIDE	**GILAN DEYLAMAN**	**7.46**	**354**	*e*Pn	**Pn**	**00 43 56.5**	**+0.7**
BSRN	**Basiran**	**7.49**	**69**	*e*Pn	**Pn**	**00 43 58.0**	**+1.8**
BSRN	**Basiran**	**7.49**	**69**	Pn	**Pn**	**00 43 58.1**	**+2.0**
ITEG	**Tejag**	**7.52**	**61**	Pn	**Pn**	**00 43 58.3**	**+1.6**
IKOO	**Kooshah**	**7.54**	**65**	Pn	**Pn**	**00 43 58.6**	**+1.7**
SHRO	**Shahrood**	**7.77**	**32**	*e*Pn	**Pn**	**00 44 01.1**	**+1.1**
ARQ	**Araqi**	**7.93**	**139**	P	**Pn**	**00 44 02.1**	**0.0**
	SNR=51						
ARQ				S	**Sn**	**00 45 27.4**	**-3.6**
AFRZ	**Afriz**	**7.96**	**58**	Pn	**Pn**	**00 44 03.5**	**+1.0**
IKRK	**Kirkuk**	**8.10**	**318**	*e*Pn	**Pn**	**00 44 07.0**	**+2.7**
IKRK				*e*Sn	**Sn**	**00 45 35.0**	**-0.1**
IKRK				AML	AML	00 45 38.5	
	comp=N,118nm,0.3s						
IKRK				AML	AML	00 45 44.9	
	comp=E,113nm,0.8s						
NHDN	**Nehbandan**	**8.11**	**74**	Pn	**Pn**	**00 44 07.8**	**+3.1**
HOQ	**Hoqain**	**8.21**	**134**	P	**Pn**	**00 44 06.0**	**0.0**
	SNR=24						
HOQ	**Hoqain**	**8.21**	**134**	Pn	**Pn**	**00 44 05.8**	**-0.2**
MAHB	**Mahabad**	**8.47**	**330**	Pn	**Pn**	**00 44 08.7**	**-0.8**
ZHSF	**Zahedan**	**8.59**	**87**	*e*Pn	**Pn**	**00 44 09.2**	**-2.1**
IMND	**Minoodasht**	**8.61**	**25**	Pn	**Pn**	**00 44 12.3**	**+1.0**
ZHDN	**Zahedan**	**8.63**	**88**	Pn	**Pn**	**00 44 13.2**	**+1.3**
ISRB	**Sarab**	**8.74**	**343**	Pn	**Pn**	**00 44 13.0**	**-0.4**
BSY	**Bisya**	**8.78**	**138**	P	**Pn**	**00 44 13.7**	**0.0**
	SNR=127						
BSY				S	**Sn**	**00 45 47.9**	**-4.0**
BIDO	**Bidbid**	**8.78**	**131**	P	**Pn**	**00 44 13.7**	**0.0**
BIDO				S	**Sn**	**00 45 47.0**	**-5.0**
BIDO	**Bidbid**	**8.78**	**131**	Pn	**Pn**	**00 44 12.8**	**-0.9**
SHRT	**Shahrakht**	**9.01**	**60**	*e*Pn	**Pn**	**00 44 19.1**	**+2.2**
SHRT	**Shahrakht**	**9.01**	**60**	Pn	**Pn**	**00 44 20.2**	**+3.2**
SMDO	**Samad**	**9.05**	**133**	P	**Pn**	**00 44 17.1**	**-0.5**
	SNR=12						
SMDO				S	**Sn**	**00 45 56.9**	**-2.0**
MRVT	**Maraveh tapeh**	**9.22**	**27**	*e*Pn	**Pn**	**00 44 21.3**	**+1.5**
MRVT	**Maraveh tapeh**	**9.22**	**27**	Pn	**Pn**	**00 44 21.2**	**+1.4**
WSAR	**Wadi Sarin**	**9.31**	**130**	Pn	**Pn**	**00 44 19.5**	**-1.5**
	comp=E,2.6nm,0.3s,baz=341,slow=7.0,SNR=9.0						
WSAR				Sn	**Sn**	**00 46 01.1**	**-3.9**
	comp=E,7.0nm,0.3s,baz=175,slow=20,SNR=7.2						
	comp=E,13nm,0.5s						
WSAR	**Wadi Sarin**	**9.31**	**130**	P	**Pn**	**00 44 19.9**	**-1.1**
	SNR=16						
WSAR				S	**Sn**	**00 46 01.9**	**-3.0**
CHBR	**Chabahar**	**9.34**	**112**	*e*Pn	**Pn**	**00 44 20.5**	**-0.9**
IHRS	**Heris**	**9.37**	**341**	Pn	**Pn**	**00 44 21.5**	**-0.6**
JMDO	**Jabal Madar**	**9.60**	**136**	P	**Pn**	**00 44 24.0**	**-1.0**
	SNR=24						
GRMI	**Germi**	**9.62**	**346**	*e*Pn	**Pn**	**00 44 26.6**	**+1.3**
WBK	**Wadi Bani Khal**	**9.97**	**132**	P	**Pn**	**00 44 28.6**	**-1.5**
	SNR=14						
NGCH	**Negor - Chabah**	**9.97**	**112**	P	**Pn**	**00 44 29.1**	**-1.0**
	SNR=64						
NGCH				S	**Sn**	**00 46 18.1**	**-3.1**
NGCH	**Negor - Chabah**	**9.97**	**112**	Pn	**Pn**	**00 44 29.0**	**-1.1**
IMYA	**Miami**	**10.31**	**46**	Pn	**Pn**	**00 44 37.9**	**+3.1**
SRVN	**Saravan**	**10.32**	**99**	Pn	**Pn**	**00 44 35.7**	**+0.7**
GEYT	**Alibeck**	**10.33**	**34**	Pn	**Pn**	**00 44 36.8**	**+1.8**
	comp=E,1.6nm,0.3s,baz=220,slow=13,SNR=24						
GEYT				LR	LR	00 49 05.6	
	comp=E,804nm,19.3s,baz=196,slow=40						
	comp=E,14nm,0.8s						
GEYT	**Alibeck**	**10.33**	**34**	Pn	**Pn**	**00 44 36.6**	**+1.5**

CHGR IAmb IAmb 00 46 26.2
comp=Z,33nm,1.3s
CHGR Chuyangaron 17.64 54 P **Pn** **00 46 12.5 0.0**
CHGR pmax pmax
comp=Z,33nm,1.3s
BR231 Keskin MP Arra 18.11 310 P **Pn** **00 46 17.4 -0.9**
ANTO Ankara 18.11 310 P **Pn** **00 46 17.7 -0.6**
ANTO Ankara 18.11 310 P **Pn** **00 46 17.7 -0.6**
ANTO pmax pmax
comp=Z,20nm,1.2s
THW Thamme Wali 18.13 74 P **Pn** **00 46 17.8 -0.7**
CEP Cherat 18.38 71 P **Pn** **00 46 22.7 +1.0**
ISP Isparta 18.87 301 **P** **00 46 25.1 -1.8**
ISP Isparta 18.87 301 P **P** **00 46 25.1 -1.8**
ISP pmax pmax
comp=Z,13nm,0.9s
ELL Elmali 19.00 298 P **P** **00 46 28.2 -0.2**
ELL Elmali 19.00 298 P **P** **00 46 28.2 -0.2**
ELL pmax pmax
comp=Z,89nm,1.0s
TAS Tashkent 19.03 47 P **Pn** **00 46 29.8 +0.4**
TAS Tashkent 19.03 47 P **Pn** **00 46 29.8 +0.4**
TAS pmax pmax
comp=Z,58nm,0.9s
ATD Arta Tunnel 19.39 204 LR LR 00 55 24.2
comp=Z,230nm,18.9s,baz=14,slow=41
NIL Nilore 19.47 72 P **P** **00 46 33.6 +0.1**
NIL IAmb IAmb 00 46 52.9
comp=Z,14nm,0.7s
NIL Nilore 19.47 72 P **P** **00 46 33.6 +0.1**
NIL pmax pmax
comp=Z,14nm,0.7s
MDUB Mudurnu 19.48 309 **P** **00 46 33.8 +0.3**
CHCP Chirah Chowk 19.48 72 P **P** **00 46 33.0 -0.6**
BORA Eskisehir 19.72 307 **P** **00 46 36.6 +0.5**
BORA IAmb IAmb 00 46 40.4
comp=Z,21nm,0.8s
MANT Manisa 20.56 302 P **P** **00 46 45.6 +0.2**
KK31 Karatay Array 20.77 44 P **P** **00 46 47.9 +0.5**
KK31 IAmb IAmb 00 46 56.0
comp=Z,20nm,1.2s
KK31 Karatay Array 20.77 44 P **P** **00 46 47.9 +0.5**
KK31 pmax pmax
comp=Z,20nm,1.2s
KKAR Karatay Array 20.77 44 P **P** **00 46 47.9 +0.5**
KKAR IAmb IAmb 00 46 56.0
comp=Z,20nm,1.2s
KKAR Karatay Array 20.77 44 P **P** **00 46 47.9 +0.5**
KKAR pmax pmax
comp=Z,20nm,1.2s
ABKAR Akbulak array 20.91 17 P **P** **00 46 48.5 -0.4**
ABKAR Akbulak array 20.91 17 P **P** **00 46 48.8 0.0**
ABKAR IAmb IAmb 00 47 01.0
comp=Z,8.1nm,1.0s
BALB Balikesir 21.45 304 P **P** **00 46 54.5 -0.2**
AKTO Aktyubinsk 21.60 12 P **P** **00 46 56.0 -0.2**
comp=Z,12nm,0.7s,baz=205,slow=9.4,SNR=16
comp=Z,12nm,0.7s
VRH Novokhopyorsk 22.76 345 *e*P **P** **00 47 06.7 -1.9**
VRH *e*S **S** **00 51 11.6 -4.3**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH smax smax
comp=N,100nm,1.6s
KSH Kashi 22.88 57 P **P** **00 47 07.3 -2.9**
KSH sP sP 00 47 21.3 +1.2
KSH pmax pmax
comp=Z,17nm,0.8s
BELG Belogornoye 23.01 355 P **P** **00 47 10.7 -0.5**
comp=Z,22nm,1.0s,baz=204,slow=0.9,SNR=4.4
comp=Z,22nm,1.0s
BELG Belogornoye 23.01 355 *i* P **P** **00 47 10.5 -0.7**
BELG pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 23.05 49 P **P** **00 47 14.2 +2.2**
comp=Z,3.0nm,0.5s,baz=222,slow=10,SNR=9.6
comp=Z,3.0nm,0.5s
AAK Ala-Archa 23.05 49 P **P** **00 47 13.6 +1.6**
AAK IAmb IAmb 00 47 21.1
comp=Z,17nm,1.4s
AAK Ala-Archa 23.05 49*ce*P **P** **00 47 14.9 +2.9**
AAK pmax pmax
comp=Z,14nm,1.3s
VSR Storozhevoye 23.42 341 *e*P **P** **00 47 12.6 -2.8**
VSR *e*S **S** **00 51 23.7 -3.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR smax smax
comp=N,100nm,1.0s
TPGR Topolog 23.48 317 ⇑P **P** **00 47 16.5 +0.4**
RDO Rodhopi 23.66 306 P **P** **00 47 17.4 -0.4**
RDO IAmb IAmb 00 47 46.5
comp=Z,10nm,0.9s
VORR Voronezh 23.82 342 P **P** **00 47 22.4 +3.2**
VORR *e*S **S** **00 51 32.7 -0.7**
VORR pmax pmax
comp=Z,10.0nm,1.0s
RAZG Razgrad 24.01 312 ⇑P **P** **00 47 20.9 -0.3**
MILM Milestii Mici 24.45 321 ⇑P **P** **00 47 23.9 -1.2**
MILM Milestii Mici 24.45 321 P **P** **00 47 23.9 -1.2**
LPSR Galich'ya Gora 24.73 342 *e*P **P** **00 47 26.6 -1.0**
LPSR *e*S **S** **00 51 46.7 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR smax smax
comp=E,30nm,1.6s
GHRR 24.74 318 ⇑P **P** **00 47 27.5 -0.3**
TARG Taragay, Kyrgy 24.93 53 P **P** **00 47 30.8 +0.7**
TARG IAmb IAmb 00 48 00.1
comp=Z,8.0nm,1.1s
TARG Taragay, Kyrgy 24.93 53 P **P** **00 47 30.8 +0.7**
TARG pmax pmax
comp=Z,8.0nm,1.1s
SRS Serrai 25.03 305 P **P** **00 47 31.2 +0.7**
SRS pmax pmax
comp=Z,11nm,1.1s
NEHR Nehoiu 25.06 316 ⇓P **P** **00 47 31.4 +0.7**
PLOR Plostina 25.07 317 ⇑P **P** **00 47 31.2 +0.4**
PLOR Plostina 25.07 317 P **P** **00 47 31.1 +0.4**
SOH Sokhos 25.11 304 P **P** **00 47 33.7 +2.5**
SOH pmax pmax
comp=Z,14nm,0.9s
MLR Muntele Rosu 25.30 316 P **P** **00 47 33.9 +0.9**
comp=Z,7.2nm,0.9s,baz=105,slow=3.5,SNR=9.2
comp=Z,7.2nm,0.9s
MLR Muntele Rosu 25.30 316 ⇓P **P** **00 47 34.4 +1.4**
MLR Muntele Rosu 25.30 316 P **P** **00 47 34.6 +1.6**
MLR IAmb IAmb 00 47 41.9
comp=Z,13nm,0.9s
IAS Iasi 25.30 321 P **P** **00 47 32.3 -0.5**
IAS pmax pmax
comp=Z,53nm,0.8s
COVR Voineasa-Covas 25.33 317 ⇑P **P** **00 47 34.6 +1.4**
AGG Agios Georgios 25.38 300 P **P** **00 47 34.4 +0.7**
AGG pmax pmax
comp=Z,4.0nm,0.9s
TESR Tescani 25.43 319 ⇓P **P** **00 47 33.7 -0.3**
HUMR Humele 25.43 313 ⇑P **P** **00 47 34.1 0.0**
SORM Soroca 25.45 323 ⇑P **P** **00 47 32.7 -1.4**
SORM Soroca 25.45 323 P **P** **00 47 32.7 -1.4**
LIT Litokhoron 25.53 302 P **P** **00 47 34.8 -0.2**
LIT Litokhoron 25.53 302 P **P** **00 47 34.8 -0.2**
LIT pmax pmax
comp=Z,15nm,0.9s
OZUR 25.71 317 ⇓P **P** **00 47 36.8 +0.2**
VTS Vitosha 25.80 308 ⇓P **P** **00 47 37.4 -0.2**
VTS Vitosha 25.80 308 P **P** **00 47 37.7 +0.1**
VTS Vitosha 25.80 308 P **P** **00 47 37.7 +0.1**
VTS pmax pmax
comp=Z,4.0nm,1.0s
VOIR 25.82 315 ⇑P **P** **00 47 39.3 +1.6**
VOIR 25.82 315 P **P** **00 47 39.3 +1.6**
VAY Valandovo 25.82 305 *i* P **P** **00 47 38.0 +0.4**
GRG Griva 25.84 304 P **P** **00 47 36.9 -0.9**
GRG pmax pmax
comp=Z,17nm,0.9s
DOPR Dopca 25.88 316 ⇓P **P** **00 47 38.3 +0.1**
ARR Arges 26.04 315 ⇑P **P** **00 47 40.3 +0.6**
STIP Stip 26.22 305 *i* P **P** **00 47 39.8 -1.4**
FNA Florina 26.53 303 P **P** **00 47 43.8 -0.3**
FNA IAmb IAmb 00 47 50.3
comp=Z,5.7nm,0.7s
FNA Florina 26.53 303 P **P** **00 47 43.8 -0.3**
FNA pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 26.73 328 P **P** **00 47 43.9 -1.8**
comp=Z,11nm,0.9s,baz=133,slow=8.9,SNR=32
comp=Z,11nm,0.9s
AKASG Malin Array Be 26.73 328 P **P** **00 47 44.2 -1.5**
AKASG Malin Array Be 26.73 328 P **P** **00 47 44.2 -1.5**
AKBB Malin Array Si 26.73 328 P **P** **00 47 44.5 -1.2**
AKBB Malin Array Si 26.73 328*ce*P **P** **00 47 44.2 -1.5**
AKBB pmax pmax
comp=Z,15nm,1.0s
SKO Skopje 26.83 306 *i* P **P** **00 47 50.7 +4.0**
BURAR Bucovina Array 26.85 319 ⇓P **P** **00 47 47.3 +0.3**
BURAR Bucovina Array 26.85 319 P **P** **00 47 47.6 +0.6**
BURAR Bucovina Array 26.85 319 P **P** **00 47 47.2 +0.3**
BUR08 Bucovina Ar. S 26.88 320 P **P** **00 47 47.9 +0.7**
BUR08 IAmb IAmb 00 48 06.9
comp=Z,9.0nm,1.1s
OHR Ohrid 27.04 304 *i* P **P** **00 47 52.7 +3.9**
HERR Herculane 27.23 312 ⇓P **P** **00 47 50.9 +0.6**
ARU Arti 27.47 9 P **P** **00 47 53.0 +0.7**
comp=Z,1.5nm,0.6s,baz=192,slow=9.3,SNR=2.0
comp=Z,1.5nm,0.6s
ARU Arti 27.47 9 P **P** **00 47 53.2 +0.9**
ARU IAmb IAmb 00 48 07.1
comp=Z,7.2nm,1.0s
ARU Arti 27.47 9*d* *i*P **P** **00 47 53.5 +1.2**
ARU S **S** **00 52 36.8 +5.4**
ARU SS **SnSn** **00 53 47.9 +5.8**
ARU pmax pmax
comp=Z,20nm,3.7s
BRVK Borovoye 27.51 26 P **P** **00 47 52.7 0.0**
BRVK IAmb IAmb 00 47 57.0
comp=Z,8.7nm,1.2s
BRVK Borovoye 27.51 26*ce*P **P** **00 47 53.9 +1.2**
BRVK pmax pmax
comp=Z,17nm,2.5s
BVAR Borovoye Array 27.52 26 P **P** **00 47 53.4 +0.5**
comp=Z,8.0nm,0.5s,baz=223,slow=7.4,SNR=31
comp=Z,8.0nm,0.5s
MARR Marisel-Cluj 27.60 316 ⇓P **P** **00 47 54.5 +0.8**
MDVR Moldovita 27.65 312 ⇓P **P** **00 47 54.8 +0.6**
DANN Dangsing 28.73 84 *e*P **P** **00 48 04.1 -0.1**
comp=Z,37nm,0.6s
KIRV Kiv 29.11 358 P **P** **00 48 06.5 -0.3**
comp=Z,6.3nm,0.7s,baz=204,slow=0.9,SNR=4.4
comp=Z,6.3nm,0.7s
GKN Gorkha 29.55 85 *e*P **P** **00 48 11.0 -0.4**
comp=Z,4.5nm,0.3s
KURBB Kurchatov Arra 29.59 37 P **P** **00 48 12.2 +1.0**
comp=Z,3.6nm,0.8s,baz=237,slow=9.2,SNR=25
KURBB PcP **PcP** **00 51 14.9 -0.7**
comp=Z,0.2nm,0.5s,baz=238,slow=3.4,SNR=4.5
comp=Z,3.6nm,0.8s
MAKZ Makanchi 29.67 46 P **P** **00 48 12.1 +0.1**
KURK Kurchatov 29.69 37 P **P** **00 48 12.3 +0.2**
KURK 00 51 14.9
MK31 Makanchi Array 29.86 46 P **P** **00 48 14.4 +0.7**
MK31 Makanchi Array 29.86 46 *i* P **P** **00 48 14.8 +1.1**
MKAR Makanchi Array 29.86 46 P **P** **00 48 14.4 +0.7**
comp=Z,0.8nm,0.6s,baz=242,slow=9.6,SNR=12
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 29.86 46 P **P** **00 48 14.3 +0.6**
DMN Daman 30.04 85 *e*P **P** **00 48 15.8 0.0**
comp=Z,2.9nm,0.2s
MORH Mrgy, Hungar 30.19 313 ⇑P **P** **00 48 16.2 -0.4**
PKIN Phulchoki 30.29 85 *e*P **P** **00 48 18.0 -0.1**
PKI Pulchoki 30.31 85 *e*P **P** **00 48 18.1 -0.1**
NACGM Naroch 30.75 333 *e*P **P** **00 48 22.7 +1.2**
comp=Z,8.0nm,1.2s,baz=136
JIRN Jiri 30.97 85 *e*P **P** **00 48 23.5 -0.6**
comp=Z,4.3nm,0.2s
VYHS Vyhne 31.01 317 *e*P **P** **00 48 24.1 +0.3**
VYHS Vyhne 31.01 317 *e*P **P** **00 48 24.1 +0.3**
MODS Modra-Piesok 31.90 316 *e*P **P** **00 48 35.5 +3.8**
MODS Modra-Piesok 31.90 316 *e*P **P** **00 48 35.5 +3.8**
MAUC Maruska 31.99 318 *e*P **P** **00 48 34.6 +2.1**
RONA Rosalia, Austr 32.24 314 *e*pP **P** **00 48 38.2 +3.5**
comp=Z,0.3nm,0.3s
INTR Introdacqua 32.28 303 P **P** **00 48 35.2 -0.1**
INTR IAmb IAmb 00 48 39.6
comp=Z,3.7nm,0.9s
MORC Moravsky Berou 32.34 318 *e*P **P** **00 48 35.6 +0.1**
WMQ Urumqi 32.50 54 *e*P **P** **00 48 40.7 +3.6**
WMQ pP pP 00 48 45.3 +0.9
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ LR LR
comp=Z,460nm,21.7s
VRAC Vranov 32.69 317 P **P** **00 48 38.6 -0.1**
comp=Z,1.5nm,0.7s,baz=81,slow=5.6,SNR=4.2
comp=Z,1.5nm,0.7s
VRAC Vranov 32.69 317 *e*P **P** **00 48 37.8 -0.8**
KRUC Moravsky 32.71 316 *e*P **P** **00 48 37.9 -0.9**
CAMP Campotosto 32.74 304 P **P** **00 48 39.5 +0.2**
KRLC Kraliky 32.91 318 *e*P **P** **00 48 40.5 -0.1**
KRLC Kraliky 32.91 318 *e*P **P** **00 48 40.5 -0.1**
NRCA Norcia 33.01 304 P **P** **00 48 41.4 -0.2**
NRCA IAmb IAmb 00 48 46.1
comp=Z,7.1nm,1.0s
FDMO Fiordimonte 33.07 305 P **P** **00 48 40.9 -1.2**
FDMO IAmb IAmb 00 48 46.4
comp=Z,11nm,1.3s
DPC Dobruska-Polom 33.29 319 *e*P **P** **00 48 42.2 -1.7**
DPC Dobruska-Polom 33.29 319 *e*P **P** **00 48 42.2 -1.7**
CESX Cesi 33.36 304 P **P** **00 48 44.3 -0.2**
CESX IAmb IAmb 00 48 49.0
comp=Z,6.1nm,0.9s
VSU Vasula 33.41 337 *i* P **P** **00 48 43.6 -1.1**
VSU pmax pmax
comp=Z,25nm,1.2s
MURB Monte Urbino 33.52 305 P **P** **00 48 45.7 -0.3**
MOA Molln 33.57 313 *e*P **P** **00 48 46.5 +0.1**
comp=Z,2.1nm,0.8s
KBA Koelnbreinsper 33.92 312 *e*P **P** **00 48 50.5 +1.0**
comp=Z,1.3nm,0.5s
BIOA Bad Ischl, Aus 33.92 313 *e*P **P** **00 48 50.4 +1.0**
comp=Z,1.4nm,0.4s
DGZ Jazzator, Alta 34.16 43 *i* P **P** **00 48 52.7 +1.1**
DGZ pmax pmax
comp=Z,5.0nm,1.3s
GERES GERESS Array B 34.27 315 P **P** **00 48 54.8 +2.3**
comp=Z,0.2nm,0.4s,baz=140,slow=5.2,SNR=2.4
KHC Kasperske Hory 34.45 315 *e*P P 00 48 38.5 -15
KHC x x 00 49 03.5
ZAA0 Zalesovo Array 34.64 35 P **P** **00 48 56.1 +0.6**
ZAA0 IAmb IAmb 00 48 57.2
comp=Z,6.1nm,0.7s
ZALV Zalesovo Beam 34.64 35 P **P** **00 48 55.7 +0.2**
comp=Z,5.9nm,0.6s,baz=245,slow=8.8,SNR=22
comp=Z,5.9nm,0.6s
WTTA Wattenberg 35.09 311 *e*P **P** **00 48 58.3 -1.4**
comp=Z,2.8nm,0.7s
WATA Walderalm 35.15 312 *e*P **P** **00 48 58.5 -1.6**
comp=Z,1.5nm,0.5s
SQTA Sankt Quirin 35.35 311 *e*P **P** **00 49 00.3 -1.6**
comp=Z,2.2nm,0.6s
KEST Kesra 35.37 291 P **P** **00 49 04.6 +2.5**
comp=Z,2.2nm,0.8s,baz=47,slow=6.2,SNR=4.5
MOTA Moosalm 35.46 311 *e*P **P** **00 49 01.0 -1.9**
comp=Z,0.9nm,0.5s
MBAR Mbarara 35.59 216 *i* P **P** **00 49 04.4 +0.2**
MBAR pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 35.61 319 *e*P **P** **00 49 04.0 +0.2**
FETA Feichten 35.62 311 *e*P **P** **00 49 03.9 -0.3**
comp=Z,0.9nm,0.6s
RETA Reutte 35.72 311 *e*P **P** **00 49 03.2 -1.8**
comp=Z,0.9nm,0.3s
FINES FINESS Array B 35.93 340 P **P** **00 49 04.8 -1.7**
comp=Z,0.9nm,0.4s,baz=142,slow=11,SNR=10
comp=Z,0.9nm,0.4s
DAVOX Davos/Dischmat 36.12 310 P **P** **00 49 07.1 -1.4**
comp=Z,0.9nm,0.5s,baz=118,slow=18,SNR=5.4
comp=Z,0.9nm,0.5s
DAVA Damuels 36.25 311 *e*P **P** **00 49 07.8 -1.8**
comp=Z,2.4nm,0.4s
BSD Bornholm Skovb 36.28 325 *i* P **P** **00 49 05.9 -3.6**
BSD IAmb IAmb 00 49 09.6
comp=Z,12nm,0.7s
BLEU Blekinge 36.47 327 *i* P **P** **00 49 09.8 -1.3**
GOMU GeErMu 37.24 68 P **P** **00 49 18.3 -0.2**
DEL Delary 37.48 327 *i* P **P** **00 49 18.0 -1.7**
BJUU Bjuv 37.69 326 *i* P **P** **00 49 19.1 -2.4**
LLD Lille Linde 37.74 324 *i* P P 00 49 16.3 -5.7
COP Copenhagen 37.80 325 *i* P **P** **00 49 21.4 -1.0**
FABU Falkenberg 38.29 327 *i* P **P** **00 49 28.1 +1.6**
HFS Hagfors 39.51 332 P **P** **00 49 35.3 -1.4**
comp=Z,5.3nm,0.4s,baz=127,slow=9.5,SNR=32
comp=Z,5.3nm,0.4s
NB2 NORSAR Subarra 41.03 332 P **P** **00 49 46.9 -2.5**
comp=Z,1.3nm,0.5s,baz=123,slow=8.6
NOA NORSAR Array B 41.03 332 P **P** **00 49 46.9 -2.5**
comp=Z,1.2nm,0.5s,baz=128,slow=8.7,SNR=9.3
comp=Z,1.2nm,0.5s
GTA Gaotai 41.09 63 *e*P **P** **00 49 51.7 +1.4**
GTA sP pP 00 49 58.3 +0.6
GTA pmax pmax
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 42.66 347 P **P** **00 50 02.0 -0.5**
comp=Z,5.0nm,1.1s,baz=130,slow=8.4,SNR=2.1
comp=Z,5.0nm,1.1s
LZH Lanzhou 44.53 67 *e*P **P** **00 50 19.4 +1.1**
LZH pP pP 00 50 25.0 -0.7
LZH sP sP 00 50 29.7 +1.0
LZH pmax pmax
comp=Z,13nm,1.0s
PZH PanZhiHua 44.70 81 P **P** **00 50 22.0 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,5.0s
NRIK Noril'sk 45.08 17 P **P** **00 50 22.6 +0.6**
comp=Z,1.5nm,0.5s,baz=232,slow=7.5,SNR=8.5
comp=Z,1.5nm,0.5s
NRIK Noril'sk 45.08 17 P **P** **00 50 22.6 +0.6**
NRIK IAmb IAmb 00 50 29.1
comp=Z,7.3nm,1.3s
NRIK Noril'sk 45.08 17*ce*P **P** **00 50 22.8 +0.8**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
ESDC Sonseca Array 45.69 298 P **P** **00 50 26.2 -1.1**
comp=Z,0.5nm,0.8s,baz=74,slow=7.3,SNR=9.2
comp=Z,0.5nm,0.8s
SONM Songino Array 45.99 51 P **P** **00 50 29.5 -0.2**
comp=Z,0.3nm,0.4s,baz=256,slow=9.9,SNR=3.8
comp=Z,0.3nm,0.4s
EKA Eskdalemuir Ar 46.03 320 P **P** **00 50 28.7 -1.0**
comp=Z,1.1nm,0.5s,baz=100,slow=8.0,SNR=2.1
comp=Z,1.1nm,0.5s
ULN Ulaanbaatar 46.44 51 P **P** **00 50 33.8 +0.6**
ULN IAmb IAmb 00 50 37.6
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 46.44 51*ce*P **P** **00 50 36.0 +2.8**
ULN pmax pmax
comp=Z,3.0nm,1.0s
MDT Midelt 47.17 289 P **P** **00 50 39.1 0.0**
comp=Z,2.2nm,0.8s,baz=94,slow=10,SNR=6.9
comp=Z,2.2nm,0.8s
MVO Moncorvo 47.89 300 *e*LR LR 00 58 52.0
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 48.28 261 P **P** **00 50 46.8 -1.0**
comp=Z,3.1nm,0.8s,baz=55,slow=7.7,SNR=18
comp=Z,3.1nm,0.8s
TORD Torodi Ar. Bea 48.28 261 P **P** **00 50 47.6 -0.2**
TORD IAmb IAmb 00 50 52.5
comp=Z,2.8nm,0.8s
PMRV Marv??o 48.35 298 *e*LR LR 00 57 48.6
comp=Z,1μm,18.0s
MTE Manteigas 48.35 299 *e*LR LR 00 58 12.3
comp=Z,1μm,20.0s
PGAV Gavieira, Arco 48.75 302 *e*LR LR 00 58 51.3
comp=Z,2μm,20.0s
PVAQ Vaqueiros 48.88 296 *e*LR LR 00 57 16.1
comp=Z,978nm,20.0s
HHC Hu-ho-hao-te 49.97 60 *e*P **P** **00 51 01.5 +1.0**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,250nm,5.5s
SPITS Spitsbergen Ar 51.15 351 P **P** **00 51 08.3 -0.5**
comp=Z,4.1nm,0.6s,baz=141,slow=9.7,SNR=6.5
comp=Z,4.1nm,0.6s
DBIC Dimbokro 57.06 258 P **P** **00 51 52.1 -0.7**
comp=Z,9.7nm,0.9s,baz=69,slow=8.6,SNR=8.9
comp=Z,9.7nm,0.9s
DBIC Dimbokro 57.06 258 P **P** **00 51 52.2 -0.5**
DBIC Dimbokro 57.06 258 P **P** **00 51 52.3 -0.5**
DBIC pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 58.52 21*ce*P **P** **00 52 02.1 -0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
YAK Yakutsk 59.20 33 LR LR 01 20 53.1
comp=Z,474nm,20.4s,baz=258,slow=39
YAK Yakutsk 59.20 33*ce*P **P** **00 52 07.0 -0.1**
YAK pmax pmax
comp=Z,6.0nm,0.8s
HEH HeiHe 59.59 46 *e*P **P** **00 52 10.4 +0.5**
HEH pmax pmax
comp=Z,3.0nm,0.8s
HEH pmax pmax
comp=Z,260nm,5.6s
HEH LR LR
comp=N,260nm,23.8s
HEH LR LR
comp=E,310nm,23.5s
HEH LR LR
comp=Z,900nm,23.8s
CN2 Changchun 59.59 54 P **P** **00 52 13.7 +3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
BOSA Boshof 62.77 205 P **P** **00 52 31.0 -0.8**
comp=Z,2.8nm,0.8s,baz=107,slow=6.6,SNR=4.2
comp=Z,2.8nm,0.8s
KSRS Korea Array 63.09 60 P **P** **00 52 33.1 -0.8**
comp=Z,1.2nm,0.5s,baz=279,slow=6.5,SNR=5.0
comp=Z,1.2nm,0.5s
SFJD Kangerlussuaq 67.55 335 LR LR 01 26 04.9
comp=Z,532nm,19.6s,baz=104,slow=39
SEY Seymchan 69.13 29*ce*P **P** **00 53 12.9 +0.7**
SEY pmax pmax
comp=Z,11nm,1.7s
YSS Yuzh-Sakhalins 70.27 47 *e*P **P** **00 53 24.2 +4.7**
BILL Bilibino 71.74 21*ce*P **P** **00 53 28.7 +0.7**
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL MLR MLR
comp=Z,239nm,21.0s
FRB Frobisher Bay 75.64 336 LR LR 01 29 30.7
comp=Z,359nm,19.8s,baz=107,slow=38
ILAR Eielson Array 85.03 8 P **P** **00 54 40.9 -0.6**
comp=Z,1.4nm,0.7s,baz=322,slow=4.2,SNR=22
comp=Z,1.4nm,0.7s
YKA Yellowknife Ar 87.60 353 P **P** **00 54 53.8 -0.3**
comp=Z,2.8nm,0.9s,baz=19,slow=5.4,SNR=27
comp=Z,2.8nm,0.9s
YKA Yellowknife Ar 87.60 353 *i* P **P** **00 54 53.7 -0.4**
YKA pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 94.14 110 P **P** **00 55 24.4 -0.9**
comp=Z,0.3nm,0.8s,baz=305,slow=3.6,SNR=1.4
comp=Z,0.3nm,0.8s
ASAR Alice Springs 95.62 114 P **P** **00 55 29.0 -3.1**
comp=Z,0.2nm,0.5s,baz=308,slow=4.6,SNR=4.0
BBB Bella Bella 98.67 359 LR LR 01 48 16.9
comp=Z,537nm,20.7s,baz=91,slow=40

TEH **02** *00:55:44.2,29˚.54N×50˚.94E,h11km±20km,ML3.3*
DSN **02** *00:55:48.7±1.8,29˚.24N×51˚.14E,h10km,ML3.2/8,Error ellipse: s-maj=25.8km s-min=17.6km az=58.0*
OMAN **02** *00:55:55.0±1.2,28˚.50N×51˚.06E,h10km,mb4.7/6,Error ellipse: s-maj=9.7km s-min=8.7km az=20.0*
ISC 02 00:55:44.9±1.0,**29.45N**±0.05×**50.95E**±0.06,**h24**km,**n58,**
α**2**$**25**/67,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KAZ1	**Kazerun**	**0.62**	**74**	Pg	Pg	**Pb**	**00 55 55.7**	**-1.5**
AHBU	**AHRAM**	**0.66**	**153**	Pg	Pg	**Pb**	**00 55 58.4**	**+0.6**
AHBU				Sg	Sg	**Sn**	**00 56 09.9**	**+1.6**
DSBU	**Dashti - Bushe**	**1.12**	**166**	Pg	Pg	**Pb**	**00 56 08.1**	**+2.4**
ABEH	**Behbahan**	**1.29**	**332**	Pg	Pg	**Pn**	**00 56 07.6**	**+0.1**
SHI	**Shiraz**	**1.37**	**82**	Pg	Pg	**Pb**	**00 56 10.9**	**+0.9**
KLNJ	**Kolanjah**	**1.65**	**20**	Pg	Pg	**Pn**	**00 56 13.8**	**+1.1**
QIR1	**Qir**	**2.08**	**117**	Pn	Pn	**Pb**	**00 56 21.6**	**-0.4**
IBRJ	**Brojen**	**2.46**	**6**	Pn	Pn	**Pn**	**00 56 25.4**	**+1.5**
AMIS	**Naft Sefid**	**2.63**	**327**	Pn	Pn	**Pn**	**00 56 27.2**	**+1.2**
IRAM	**Ramesheh**	**2.65**	**27**	Pn	Pn	**Pn**	**00 56 28.6**	**+2.1**
SHK1	**Shahrekord**	**2.87**	**359**	Pn	Pn	**Pn**	**00 56 30.6**	**+1.2**
IGAR	**Gharneh**	**3.09**	**17**	Pn	Pn	**Pn**	**00 56 34.3**	**+1.9**
ISAD	**Sadrabad**	**3.40**	**43**	Pn	Pn	**Pn**	**00 56 39.9**	**+3.1**

IZEF	Zefreh	3.63	19	Pn	Pn	00 56 42.0	+2.1
NASN	Na'in	3.70	25	Pn	Pn	00 56 42.8	+1.9
IMEH	Mehriz	3.71	58	Pn	Pn	00 56 43.8	+2.9
IKLH	Kolahrood	3.89	8	Pn	Pn	00 56 45.2	+1.7
ICHK	Chekchek	4.07	46	Pn	Pn	00 56 47.4	+1.5
YZKH	Yazd	4.28	46	Pn	Pn	00 56 51.2	+2.4
KHMZ	Khomeyn	4.36	349	Pn	Pn	00 56 51.5	+1.6
ANAR	Anarak	4.42	32	Pn	Pn	00 56 52.4	+1.8
IBAF	Bafgh	4.52	61	Pn	Pn	00 56 54.0	+2.0
KHGB	Koh Gabri	4.88	78	Pn	Pn	00 56 59.8	+2.6
ISFB	Sefidab	5.01	12	Pn	Pn	00 56 59.5	+0.9
GHVR	GHOM	5.02	3	Pn	Pn	00 57 00.7	+1.9
BNDS	Bandar-Abbas	5.03	113	Pn	Pn	00 57 02.9	+3.8
NGRK	Negar Kerman	5.04	86	Pn	Pn	00 57 02.1	+2.8
KRBR	Kerman	5.08	83	Pn	Pn	00 57 03.0	+3.1
ASAO	Ashtian	5.14	351	Pn	Pn	00 57 02.3	+1.7
IKOM	Komasi	5.54	329	Pn	Pn	00 57 07.5	+1.4
CHMN	Cheshme madani	5.75	84	Pn	Pn	00 57 11.8	+2.7
ILBA	Ilam Banvizeh	5.80	317	Pn	Pn	00 57 11.0	+1.4
BANOM	Banah	5.90	125	P	Pn	00 57 14.3	+3.4
NAZ	Nazwa, Dubai	6.11	136	P	Pn	00 57 15.6	+1.8
MASF	Masafi	6.16	130	P	Pn	00 57 15.1	+0.6
MASF				S	Sn	00 58 23.1	-1.1
ASUD	Al Ashush, Dub	6.19	140	P	Pn	00 57 16.8	+2.0
ASUD	Al Ashush, Dub SNR=13	6.19	140	P	Pn	00 57 17.5	+2.6
FAQ	Al Faqa, Dubai	6.25	138	P	Pn	00 57 17.6	+1.9
FAQ	Al Faqa, Dubai	6.25	138	P	Pn	00 57 17.6	+1.9
MDH	Madha	6.30	130	P	Pn	00 57 16.1	-0.2
UOSS	Minazif	6.48	133	P	Pn	00 57 20.8	+1.9
UOSS	Minazif	6.48	133	P	Pn	00 57 20.3	+1.4
UOSS				S	Sn	00 58 29.7	-2.4
ASHO	Ashiyiah	6.58	135	P	Pn	00 57 20.9	+0.6
ASHO	Ashiyiah	6.58	135	P	Pn	00 57 21.3	+1.1
ASHO				S	Sn	00 58 33.4	-1.1
TNSJ	Nastanj	6.59	46	Pn	Pn	00 57 22.4	+1.9
TKDS	Koohdasht(Taba	6.70	50	Pn	Pn	00 57 23.3	+1.3
TABS	Tabas	6.72	50	Pn	Pn	00 57 24.6	+2.3
MZR	Muzera	6.81	160	P	Pn	00 57 25.7	+2.3
MZR	Muzera	6.81	160	P	Pn	00 57 25.9	+2.5
ALNE	Al Ain	6.88	140	P	Pn	00 57 26.5	+2.2
ALNE				S	Sn	00 58 42.8	+0.9
SOHO	SOHO	7.27	135	P	Pn	00 57 30.3	+0.6
BSY	Bisya SNR=7.8	8.72	139	P	Pn	00 57 50.9	+1.2
BSY				S	Sn	00 59 24.0	-3.3
JMDO	Jabal Madar	9.55	136	P	Pn	00 58 01.5	+0.6
JMDO				S	Sn	00 59 43.6	-3.9
WBK	Wadi Bani Khal	9.92	132	S	Sn	00 59 52.6	-4.0
MHTO	MHTO	10.55	141	P	Pn	00 58 15.2	+0.5
MHTO				S	Sn	01 00 07.1	-5.0
DOK	Doka	11.17	164	P	Pn	00 58 23.1	-0.1
DOK				S	Sn	01 00 20.4	-6.9
ABTO	Aybut SNR=6.4	12.23	169	P	Pn	00 58 37.7	-0.1
ABTO				S	Sn	01 00 45.3	-8.2
DMTO	DMTO	12.24	162	P	Pn	00 58 36.9	-0.9
DMTO				S	Sn	01 00 45.0	-8.6

VAO ***02*** *01:07:10.7±2.4, 27.99S×68.45W, h21km±16km, mb4.1*
SJA ***02*** *01:07:13.3±0.7, 28.03S×68.35W, h135km±5km, ML4.1, MW4.0*
IDC ***02*** *01:07:13.7±3.5, 28.13S×68.40W, h87km±31km, mb3.8/2, mbtmp3.8/4, Error ellipse: s-maj=55.1km s-min=29.1km az=154.0*
NEIC ***02*** *01:07:14.1±2.8, 28.08S±0.06×68.5W±0.1, h146km±16km, mb4.3/6, ML4.1(GUC), Error ellipse: s-maj=13.0km s-min=8.1km az=94.0*
GUC ***02*** *01:07:16.6±0.9, 27.99S×68.61W, h130km±10km, ML4.1*
ISC 02 01:07:14.7±0.7,**28.02S**±0.03×**68.36W**±0.03,**h112**km±7km, **n165,** σ1§**66**/223, **mb4.1**/4, **6C-4D**, **La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AC02	**Maricunga**	**1.36**	**330**	Pn		**Pn**	**01 07 43.2**	**+2.7**
AC02				eS		Sn	01 08 02.8	+2.7
AC02	**Maricunga**	**1.36**	**330**	⇓*i*	P	**Pn**	**01 07 43.3**	**+2.7**
AC02				eS		Sn	01 08 03.2	+3.2
AC02	**Maricunga**	**1.36**	**330**	*e*	P	**Pn**	**01 07 43.0**	**+2.4**
AC02	**Maricunga**	**1.36**	**330**	*e*	P	**Pn**	**01 07 43.0**	**+2.4**
GO03	**Copiap**	**1.71**	**284**			**Pn**	**01 07 45.4**	**+1.1**
GO03				Sn		Sn	01 08 07.2	+0.4
GO03	**Copiap**	**1.71**	**284**	⇓*i*	P	**Pn**	**01 07 45.5**	**+1.1**
GO03				eS		Sn	01 08 07.3	+0.5
GO03				IAML			01 08 08.8	
	comp=E,3μm,0.4s							
GO03	**Copiap**	**1.71**	**284**	*e*	P	**Pn**	**01 07 45.4**	**+1.1**
GO03				eS		Sn	01 08 08.5	+1.8
GO03	**Copiap**	**1.71**	**284**	*e*	P	**Pn**	**01 07 45.4**	**+1.1**
GO03				eS		Sn	01 08 08.5	+1.8
ACLC	**CERRO LA CRUZ**	**1.87**	**139**	*e*	P	**Pn**	**01 07 47.0**	**+0.7**
ACLC				eS		Sn	01 08 11.5	+1.1
ACLC				IAML			01 08 13.4	
	comp=Z,1μm,0.2s							
ACLC	**CERRO LA CRUZ**	**1.87**	**139**	*e*	P	**Pn**	**01 07 47.0**	**+0.7**
ACLC				eS		Sn	01 08 11.5	+1.1
ACLC				IAML			01 08 13.4	
	comp=Z,1μm,0.2s							
AC05	**El Transito**	**1.87**	**244**	Pn		**Pn**	**01 07 47.6**	**+1.4**
AC05				Sn		Sn	01 08 11.0	+0.7
AC05	**El Transito**	**1.87**	**244**	⇑*i*	P	**Pn**	**01 07 47.7**	**+1.4**
AC05				eS		Sn	01 08 11.5	+1.1
AC05				IAML			01 08 12.6	
	comp=E,3μm,0.3s							
AC05	**El Transito**	**1.87**	**244**	*e*	P	**Pn**	**01 07 47.0**	**+0.7**
AC05				eS		Sn	01 08 12.2	+1.8
AC05				IAML			01 08 13.0	
	comp=Z,2μm,1.1s							
AC05	**El Transito**	**1.87**	**244**	*e*	P	**Pn**	**01 07 47.0**	**+0.7**
AC05				eS		Sn	01 08 12.2	+1.8
AC05				IAML			01 08 13.0	
	comp=Z,2μm,1.1s							
AC06	**Mina Casimiro**	**1.89**	**290**			**Pn**	**01 07 47.2**	**+0.7**
AC06	**Mina Casimiro**	**1.89**	**290**	*e*	P	**Pn**	**01 07 47.1**	**+0.7**
AC06				eS		Sn	01 08 10.2	-0.3
ACDV	**Cuesta del Vie**	**2.25**	**197**	*e*	P	**Pn**	**01 07 51.6**	**+0.5**
ACDV				eS		Sn	01 08 21.8	+2.9
ACDV				IAML			01 08 22.2	
	comp=Z,507nm,1.2s							
ACDV	**Cuesta del Vie**	**2.25**	**197**	*e*	P	**Pn**	**01 07 51.6**	**+0.5**
ACDV				eS		Sn	01 08 21.8	+2.9
ACDV				IAML			01 08 22.2	
	comp=Z,507nm,1.2s							
LCO	**Las Campanas**	**2.29**	**244**	Pn		**Pn**	**01 07 52.3**	**+0.7**
LCO	**Las Campanas**	**2.29**	**244**	⇑*i*	P	**Pn**	**01 07 52.4**	**+0.7**
LCO				eS		Sn	01 08 19.4	+0.8
CYA	**Choya**	**2.30**	**101**	⇓*i*	P	**Pn**	**01 07 53.4**	**+1.8**
CYA				eS		Sn	01 08 20.1	+0.2
CYA				IAML			01 08 21.7	
	comp=E,951nm,0.5s							
CYA	**Choya**	**2.30**	**101**	*e*	P	**Pn**	**01 07 53.0**	**+1.4**
CYA				eS		Sn	01 08 20.6	+0.7
CYA				IAML			01 08 20.9	
	comp=Z,662nm,0.8s							
CYA	**Choya**	**2.30**	**101**	*e*	P	**Pn**	**01 07 53.0**	**+1.4**
CYA				eS		Sn	01 08 20.6	+0.7
CYA				IAML			01 08 20.9	
	comp=Z,662nm,0.8s							
AROD	**Rodeo**	**2.35**	**204**	*e*	P	**Pn**	**01 07 53.5**	**+0.9**
AROD				eS		Sn	01 08 23.4	+1.8
AROD	**Rodeo**	**2.35**	**204**	*e*	P	**Pn**	**01 07 53.5**	**+0.9**
AROD				eS		Sn	01 08 23.4	+1.8
AC04	**Llanos de Chal**	**2.40**	**265**	Pn		**Pn**	**01 07 53.2**	**+0.3**
AC04	**Llanos de Chal**	**2.40**	**265**	*i*	P	**Pn**	**01 07 53.2**	**+0.3**
AC04				eS		Sn	01 08 21.0	-1.3
AC04				IAML			01 08 22.0	
	comp=N,1μm,0.2s							
AC04	**Llanos de Chal**	**2.40**	**265**	*e*	P	**Pn**	**01 07 53.7**	**+0.7**
AC04				eS		Sn	01 08 21.9	-0.3
AC04				IAML			01 08 22.7	
	comp=Z,612nm,0.6s							
AC04	**Llanos de Chal**	**2.40**	**265**	*e*	P	**Pn**	**01 07 53.7**	**+0.7**
AC04				eS		Sn	01 08 21.9	-0.3
AC04				IAML			01 08 22.7	
	comp=Z,612nm,0.6s							
CO01	**Juntas del Tor**	**2.47**	**217**	Pn		**Pn**	**01 07 55.2**	**+1.2**
CO01	**Juntas del Tor**	**2.47**	**217**	⇑*i*	P	**Pn**	**01 07 55.7**	**+1.7**
ACCO	**Cerro Coronel**	**2.63**	**193**	*e*	P	**Pn**	**01 07 57.0**	**+0.8**
ACCO				eS		Sn	01 08 29.8	+1.6
ACCO	**Cerro Coronel**	**2.63**	**193**	*e*	P	**Pn**	**01 07 57.0**	**+0.8**
ACCO				eS		Sn	01 08 29.8	+1.6
AC01	**Pan de Azucar**	**2.73**	**313**	Pn		**Pn**	**01 07 57.9**	**+0.7**
AC01	**Pan de Azucar**	**2.73**	**313**	⇓*i*	P	**Pn**	**01 07 58.2**	**+1.0**
AC01				eS		Sn	01 08 29.4	-0.6
AC01				IAML			01 08 36.3	
	comp=E,359nm,0.4s							
APLL	**PUNTA DE LOS L**	**2.86**	**146**	*e*	P	**Pn**	**01 07 59.3**	**+0.3**
APLL				eS		Sn	01 08 35.6	+2.7
APLL	**PUNTA DE LOS L**	**2.86**	**146**	*e*	P	**Pn**	**01 07 59.3**	**+0.3**
APLL				eS		Sn	01 08 35.6	+2.7
AHML	**Horco Molle**	**2.96**	**66**	⇑*i*	P	**Pn**	**01 08 02.6**	**+2.3**
AHML	**Horco Molle**	**2.96**	**66**	*e*	P	**Pn**	**01 08 02.4**	**+1.7**
AHML				eS		Sn	01 08 33.4	-2.0
AHML				eS		Sn	01 08 33.9	-1.5
AHML	**Horco Molle**	**2.96**	**66**	*e*	P	**Pn**	**01 08 02.0**	**+1.7**
AHML				eS		Sn	01 08 33.4	-2.0
AHML				eS		Sn	01 08 33.9	-1.5
GO04	**Tololo Observa**	**3.03**	**224**	Pn		**Pn**	**01 08 00.9**	**-0.4**
GO04	**Tololo Observa**	**3.03**	**224**	⇑*i*	P	**Pn**	**01 08 01.2**	**0.0**
GO04	**Tololo Observa**	**3.03**	**224**	*e*	P	**Pn**	**01 08 01.3**	**0.0**
GO04				eS		Sn	01 08 38.2	+1.0
GO04	**Tololo Observa**	**3.03**	**224**	*e*	P	**Pn**	**01 08 01.3**	**0.0**
GO04				eS		Sn	01 08 38.2	+1.0
CO05	**La Serena**	**3.15**	**232**	Pn		**Pn**	**01 08 01.6**	**-1.1**
CO05	**La Serena**	**3.15**	**232**	*i*	P	**Pn**	**01 08 02.0**	**-0.7**
CO05				IAML			01 08 46.4	
	comp=N,550nm,0.4s							
RTLL	**Cerro Villicun**	**3.30**	**182**	*e*	P	**Pn**	**01 08 05.0**	**+0.2**
RTLL				eS		Sn	01 08 43.3	-0.2
RTLL	**Cerro Villicun**	**3.30**	**182**	*e*	P	**Pn**	**01 08 05.0**	**+0.2**
RTLL				eS		Sn	01 08 43.3	-0.2
CO03	**El Pedregal**	**3.47**	**215**	Pn		**Pn**	**01 08 07.0**	**0.0**
CO03	**El Pedregal**	**3.47**	**215**	⇑*i*	P	**Pn**	**01 08 07.1**	**+0.1**
CO03				IAML			01 08 57.4	
	comp=E,216nm,0.3s							
CO03	**El Pedregal**	**3.47**	**215**	*e*	P	**Pn**	**01 08 07.2**	**+0.2**
CO03				eS		Sn	01 08 50.5	+3.1
CO03	**El Pedregal**	**3.47**	**215**	*e*	P	**Pn**	**01 08 07.2**	**+0.2**
CO03				eS		Sn	01 08 50.5	+3.1
ZON	**Zonda**	**3.52**	**184**			**Pn**	**01 08 08.6**	**+0.8**
ZON	**Zonda**	**3.52**	**184**	*e*	P	**Pn**	**01 08 07.6**	**-0.2**
ZON				eS		Sn	01 08 49.1	+0.3
ZON				IAML			01 08 50.0	
	comp=Z,191nm,0.5s							
ZON	**Zonda**	**3.52**	**184**	*e*	P	**Pn**	**01 08 07.6**	**-0.2**
ZON				eS		Sn	01 08 49.1	+0.3
ZON				IAML			01 08 50.0	
	comp=Z,191nm,0.5s							
PB14	**IPOC Station P**	**3.84**	**331**	Pn		**Pn**	**01 08 14.5**	**+2.2**
PB14	**IPOC Station P**	**3.84**	**331**	*e*	P	**Pn**	**01 08 13.6**	**+1.3**
PB14				eS		Sn	01 08 59.0	+2.1
PB14				IAML			01 09 06.5	
	comp=Z,265nm,0.7s							
PB14	**IPOC Station P**	**3.84**	**331**	*e*	P	**Pn**	**01 08 13.6**	**+1.3**
PB14				eS		Sn	01 08 59.0	+2.1
PB14				IAML			01 09 06.5	
	comp=Z,265nm,0.7s							
RTLS	**Leoncito**	**3.85**	**192**	*e*	P	**Pn**	**01 08 12.5**	**+0.1**
RTLS				eS		Sn	01 08 57.5	+0.4
RTLS				IAML			01 08 59.8	
	comp=Z,475nm,0.5s							
RTLS	**Leoncito**	**3.85**	**192**	*e*	P	**Pn**	**01 08 12.5**	**+0.1**
RTLS				eS		Sn	01 08 57.5	+0.4
RTLS				IAML			01 08 59.8	
	comp=Z,475nm,0.5s							
CO02	**Combarbal**	**3.92**	**215**			**Pn**	**01 08 12.3**	**-0.8**
CO02	**Combarbal**	**3.92**	**215**	*e*	P	**Pn**	**01 08 12.3**	**-0.8**
CO02				eS		Sn	01 08 59.5	+1.2
CO02				IAML			01 09 26.7	
	comp=Z,179nm,0.5s							
CO02	**Combarbal**	**3.92**	**215**	*e*	P	**Pn**	**01 08 12.3**	**-0.8**
CO02				eS		Sn	01 08 59.5	+1.2
CO02				IAML			01 09 26.7	
	comp=Z,179nm,0.5s							
SLA	**San Lorenzo**	**4.17**	**39**	*e*	P	**Pn**	**01 08 18.6**	**+2.1**
SLA	**San Lorenzo**	**4.17**	**39**	*e*	P	**Pn**	**01 08 18.6**	**+2.1**
AZAP	**Zapla**	**4.80**	**39**	*e*	P	**Pn**	**01 08 24.6**	**-0.5**
AZAP	**Zapla**	**4.80**	**39**	*e*	P	**Pn**	**01 08 24.6**	**-0.5**
PB15	**IPOC Station P**	**4.89**	**348**			**Pn**	**01 08 28.5**	**+2.1**
PB15	**IPOC Station P**	**4.89**	**348**	*e*	P	**Pn**	**01 08 27.4**	**+1.0**
PB15				eS		Sn	01 09 22.4	+0.4
PB15				eS		Sn	01 09 23.4	+1.4
PB15				IAML			01 09 34.0	
	comp=Z,429nm,0.2s							
PB15	**IPOC Station P**	**4.89**	**348**	*e*	P	**Pn**	**01 08 27.4**	**+1.0**
PB15				eS		Sn	01 09 22.4	+0.4
PB15				eS		Sn	01 09 23.4	+1.4
PB15				IAML			01 09 34.0	
	comp=Z,429nm,0.2s							
PB10	**IPOC Station P**	**4.90**	**336**			**Pn**	**01 08 26.9**	**+0.6**
PB10	**IPOC Station P**	**4.90**	**336**	*e*	P	**Pn**	**01 08 26.6**	**+0.4**
PB10				eS		Sn	01 09 20.4	-1.6
PB10				IAML			01 09 36.0	
	comp=Z,102nm,0.9s							
PB10	**IPOC Station P**	**4.90**	**336**	*e*	P	**Pn**	**01 08 26.6**	**+0.4**
PB10				eS		Sn	01 09 20.4	-1.6
PB10				IAML			01 09 36.0	
	comp=Z,102nm,0.9s							
MRA	**San Martin**	**4.95**	**153**	*e*	P	**Pn**	**01 08 26.9**	**0.0**
MRA				eS		Sn	01 09 20.4	-2.6
MRA				IAML			01 09 47.8	
	comp=Z,395nm,0.7s							
MRA	**San Martin**	**4.95**	**153**	*e*	P	**Pn**	**01 08 26.9**	**0.0**
MRA				eS		Sn	01 09 20.4	-2.6
MRA				IAML			01 09 47.8	
	comp=Z,395nm,0.7s							
AF01	**San Pedro de A**	**5.05**	**2**	Pn		**Pn**	**01 08 29.9**	**+1.4**
VA03	**San Esteban**	**5.09**	**201**			**Pn**	**01 08 28.4**	**-0.4**
VA03	**San Esteban**	**5.09**	**201**	*e*	P	**Pn**	**01 08 28.7**	**-0.2**
VA03				eS		Sn	01 09 27.6	+0.9
VA03				eS		Sn	01 09 28.7	+2.1
VA03				IAML			01 10 02.5	
	comp=Z,83nm,0.8s							
VA03	**San Esteban**	**5.09**	**201**	*e*	P	**Pn**	**01 08 28.7**	**-0.2**
VA03				eS		Sn	01 09 27.6	+0.9
VA03				eS		Sn	01 09 28.7	+2.1
VA03				IAML			01 10 02.5	
	comp=Z,83nm,0.8s							
VA06	**Catapilco**	**5.19**	**209**	Pn		**Pn**	**01 08 27.7**	**-2.4**
PB06	**IPOC Station P**	**5.40**	**348**	Pn		**Pn**	**01 08 34.0**	**+0.8**
LVC	**Limon Verde**	**5.41**	**355**	Pn		**Pn**	**01 08 34.5**	**+1.0**
ROC1	**El Roble**	**5.45**	**204**	Pn		**Pn**	**01 08 31.0**	**-2.8**
ROC1	**El Roble**	**5.45**	**204**	*e*	P	**Pn**	**01 08 33.0**	**-0.8**
ROC1				eS		Sn	01 09 33.4	-2.0
ROC1	**El Roble**	**5.45**	**204**	*e*	P	**Pn**	**01 08 33.0**	**-0.8**
ROC1				eS		Sn	01 09 33.4	-2.0
MT05	**Renca**	**5.73**	**200**	Pn		**Pn**	**01 08 35.7**	**-1.8**
MT02	**Curacav**	**5.75**	**204**	Pn		**Pn**	**01 08 34.7**	**-2.9**
MT03	**Universidad Ad**	**5.76**	**198**	Pn		**Pn**	**01 08 36.2**	**-1.7**
PB04	**IPOC Station P**	**5.89**	**344**	Pn		**Pn**	**01 08 39.0**	**-0.7**
LMEL	**Las Melosas**	**6.02**	**195**	Pn		**Pn**	**01 08 40.2**	**-1.3**
PB03	**IPOC Station P**	**6.08**	**348**	Pn		**Pn**	**01 08 42.0**	**-0.3**
MT09	**Talagante**	**6.17**	**201**	Pn		**Pn**	**01 08 40.3**	**-3.1**
PB09	**IPOC Station P**	**6.25**	**352**	Pn		**Pn**	**01 08 45.7**	**+1.1**
BO04	**La Punta**	**6.26**	**197**	Pn		**Pn**	**01 08 42.0**	**-2.5**
VA05	**Santo Domingo**	**6.28**	**206**	Pn		**Pn**	**01 08 40.8**	**-4.0**
MT01	**Popeta**	**6.33**	**202**	Pn		**Pn**	**01 08 42.8**	**-2.8**
PB07	**IPOC Station P**	**6.42**	**347**	Pn		**Pn**	**01 08 46.5**	**-0.4**
BO01	**Tunca**	**6.77**	**199**	Pn		**Pn**	**01 08 47.7**	**-3.7**
PB02	**IPOC Station P**	**6.81**	**348**	Pn		**Pn**	**01 08 52.1**	**-0.2**
PB01	**IPOC Station P**	**7.02**	**351**	Pn		**Pn**	**01 08 54.0**	**-1.0**
BO02	**Sierra Bellavi**	**7.06**	**196**	Pn		**Pn**	**01 08 52.5**	**-3.0**
TA01	**Diego Aracena**	**7.60**	**347**	Pn		**Pn**	**01 09 00.5**	**-2.4**
GO05	**Huala**	**7.61**	**203**	Pn		Pn	01 08 57.8	-5.0
PB08	**IPOC Station P**	**7.88**	**355**	Pn		**Pn**	**01 09 06.5**	**-0.4**
ML02	**Panimavida**	**8.14**	**198**	Pn		**Pn**	**01 09 05.9**	**-4.2**
PB11	**IPOC Station P**	**8.31**	**352**	Pn		**Pn**	**01 09 10.1**	**-2.5**
PSGCX	**Pisagua**	**8.54**	**349**	Pn		**Pn**	**01 09 12.4**	**-3.2**
MNMC	**Minye Minye**	**8.92**	**352**	Pn		**Pn**	**01 09 18.5**	**-2.5**
ESFA	**Espinillo Form**	**9.35**	**73**	*e*	P	**Pn**	**01 09 23.7**	**-2.9**
PB12	**IPOC Station P**	**9.54**	**349**	Pn		**Pn**	**01 09 25.6**	**-3.5**
PB16	**IPOC Station P**	**9.70**	**354**	Pn		**Pn**	**01 09 29.6**	**-2.2**
CPUP	**Villa Florida**	**9.97**	**83**	P		**Pn**	**01 09 34.8**	**0.0**
	comp=Z,0.8nm,0.5s,baz=257,slow=14,SNR=4.2							
CPUP	**Villa Florida**	**9.97**	**83**	Pn		**Pn**	**01 09 33.7**	**-1.2**
CPUP	**Villa Florida**	**9.97**	**83**	*e*	P	**Pn**	**01 09 33.8**	**-1.0**
ITQB	**Itaqui**	**10.42**	**102**	Pn		**Pn**	**01 09 38.8**	**-2.2**
ITQB	**Itaqui**	**10.42**	**102**	*e*	P	**Pn**	**01 09 39.8**	**-1.2**
PB18	**Visviri**	**10.43**	**354**	Pn		**Pn**	**01 09 40.6**	**-1.1**
H03N1	**Juan Fernandez**	**10.56**	**237**	P		**Pn**	**01 09 39.9**	**-2.7**
	baz=114,slow=19,SNR=5.2							
H03N1				T		T	01 18 01.0	
	baz=63,slow=72,SNR=48							
H03N2	**Juan Fernandez**	**10.58**	**237**	P		**Pn**	**01 09 40.4**	**-2.4**
	baz=114,slow=19,SNR=5.5							
H03N2				T		T	01 18 04.2	
	baz=63,slow=72,SNR=21							
H03N3	**Juan Fernandez**	**10.58**	**237**	P		**Pn**	**01 09 40.2**	**-2.7**
	baz=114,slow=19,SNR=6.9							
H03N3				T		T	01 18 03.8	
	baz=63,slow=72,SNR=2.0							
AZCA	**Azaras, Argent**	**10.94**	**93**	*e*	P	**Pn**	**01 09 47.4**	**-0.6**
TRQA	**Tornquist**	**11.35**	**154**	Pn		**Pn**	**01 09 51.9**	**-1.5**
MURT	**Porto Murtinho**	**11.63**	**59**	*e*	P	**Pn**	**01 09 57.2**	**-0.1**
LPAZ	**La Paz**	**11.68**	**1**	Pn		**Pn**	**01 09 56.2**	**-2.3**
LPAZ	**La Paz**	**11.68**	**1**	*e*	P	**Pn**	**01 09 56.4**	**-2.1**
UNIS	**Unistalda (Bra**	**11.73**	**98**	*e*	P	**Pn**	**01 09 56.9**	**-1.6**
RODS	**Rosario do Sul**	**11.73**	**105**	*e*	P	**Pn**	**01 09 57.1**	**-1.5**
GO06	**Curarrehue**	**11.82**	**192**	Pn		**Pn**	**01 09 55.3**	**-4.5**
BBRB	**Robore, Bolivi**	**12.48**	**41**	*e*	P	**Pn**	**01 10 06.8**	**-1.7**
ANTJ	**Antonio Joao (**	**12.70**	**65**	*e*	P	**Pn**	**01 10 11.7**	**+0.3**
BBLB	**La Banda, Boli**	**12.79**	**45**	*e*	P	**Pn**	**01 10 12.1**	**-0.5**
PLCA	**Paso Flores**	**12.81**	**188**	*e*	P	**Pn**	**01 10 12.0**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=8.2,slow=15,SNR=3.2							
BBSD	**Serra de San D**	**12.93**	**35**	*e*	P	**Pn**	**01 10 13.6**	**-0.8**
BDQN	**Bodoquena, MS**	**12.99**	**57**	*e*	P	**Pn**	**01 10 15.2**	**0.0**
AMBA	**Amambai (Brazi**	**13.10**	**70**	*e*	P	**Pn**	**01 10 16.9**	**+0.4**
CPSB	**Cacapava Do Su**	**13.25**	**104**	*e*	P	**Pn**	**01 10 18.3**	**-0.1**
MCR1	**Marechal Candi**	**13.33**	**78**	*e*	P	**Pn**	**01 10 20.7**	**+1.1**
PLTB	**Pedras Altas**	**13.33**	**110**	Pn		**Pn**	**01 10 17.5**	**-2.1**
ALGR	**Alto Alegre (B**	**13.52**	**97**	*e*	P	**Pn**	**01 10 23.4**	**+1.4**
AQDB	**Aquidauana**	**13.77**	**60**	Pn		**Pn**	**01 10 25.3**	**0.0**
AQDB	**Aquidauana**	**13.77**	**60**	*e*	P	**Pn**	**01 10 26.6**	**+1.3**
CNLB	**Canela**	**15.43**	**99**	*e*	P	**P**	**01 10 49.1**	**+0.7**
POCN	**Pocone**	**15.62**	**46**	*e*	P	**P**	**01 10 50.5**	**0.0**
PTET	**Porto Estrela**	**16.31**	**42**	*e*	P	**P**	**01 10 59.4**	**+1.2**
VILB	**Vilhena**	**16.82**	**29**			**P**	**01 11 04.0**	**+0.1**
VILB					IAmb	IAmb	01 11 05.7	
	comp=Z,8.0nm,0.9s							
VILB	**Vilhena**	**16.82**	**29**	*e*	P	**P**	**01 11 04.6**	**+0.7**
SALV	**Santo Antonio**	**16.82**	**47**	*e*	P	**P**	**01 11 04.4**	**+0.6**
NBRS	**Nobres**	**17.96**	**43**	*e*	P	**Pn**	**01 11 19.0**	**+1.5**
ETMB	**Extrema**	**18.22**	**7**	P		**P**	**01 11 19.9**	**+0.7**
ETMB					IAmb	IAmb	01 11 25.4	
	comp=Z,6.5nm,0.8s							
ETMB	**Extrema**	**18.22**	**7**	*e*	P	**Pn**	**01 11 22.2**	**+1.8**
SPB	**Sao Paulo**	**19.35**	**82**	*e*	P	**Pn**	**01 11 37.2**	**+3.5**
PDRB	**Porto dos Gac**	**19.63**	**36**	*e*	P	**Pn**	**01 11 36.0**	**-1.0**
CZSB	**Cruzeiro do Su**	**20.59**	**348**	P		**P**	**01 11 41.6**	**-3.4**
CZSB					IAmb	IAmb	01 11 48.5	
	comp=Z,9.3nm,0.6s							
CZSB	**Cruzeiro do Su**	**20.59**	**348**	*e*	P	Pn	01 11 48.0	-0.3
TBTG	**Tabatinga, AM**	**23.75**	**356**	P		**P**	**01 12 19.3**	**+2.4**
T

LKD2	**Lefkada island**	**0.84**	**345**	P	**Pb**	**01 17 09.6**	**-1.7**
LKD2				S	**Sg**	**01 17 23.0**	**0.0**
	comp=N,3μm,0.4s						
LKD2	**Lefkada island**	**0.84**	**345**	P	**Pb**	**01 17 09.4**	**-1.9**
LKD2				AML	AML	01 17 29.6	
	comp=E,7421μm,0.3s						
LKD2				AML	AML	01 17 31.0	
	comp=N,4840μm,0.6s						
LAKA	**Lakka**	**0.87**	**72**	P	**Pb**	**01 17 10.6**	**-1.1**
LAKA				S	**Sb**	**01 17 23.4**	**+0.4**
	comp=N,5μm,0.3s						
LAKA	**Lakka**	**0.87**	**72**	P	**Pb**	**01 17 10.7**	**-1.0**
LAKA				AML	AML	01 17 27.0	
	comp=N,9668μm,0.3s						
LAKA				AML	AML	01 17 27.2	
	comp=E,9862μm,0.3s						
TSLK	**Tsoukalades, L**	**0.88**	**346**	P	**Pb**	**01 17 11.2**	**-0.7**
TSLK				S	**Sg**	**01 17 24.1**	**0.0**
	comp=E,2μm,0.5s						
TSLK	**Tsoukalades, L**	**0.88**	**346**	P	**Pb**	**01 17 11.2**	**-0.7**
EFP	**Efpalio**	**0.89**	**59**	P	**Pb**	**01 17 11.5**	**-0.6**
EFP				S	**Sg**	**01 17 24.4**	**-0.1**
	comp=E,4μm,0.3s						
EFP	**Efpalio**	**0.89**	**59**	P	**Pb**	**01 17 11.3**	**-0.8**
EFP				AML	AML	01 17 26.9	
	comp=E,6122μm,0.4s						
EFP				AML	AML	01 17 28.0	
	comp=N,7889μm,0.2s						
KLV	**Kalavryta, Ach**	**0.97**	**85**	P	**Pb**	**01 17 12.4**	**-1.0**
KLV				S	**Sg**	**01 17 27.0**	**+0.1**
	comp=N,870nm,0.3s						
KLV	**Kalavryta, Ach**	**0.97**	**85**	P	**Pb**	**01 17 12.2**	**-1.2**
KLV				S	**Sb**	**01 17 26.1**	**+0.3**
KLV				AML	AML	01 17 30.2	
	comp=E,1735μm,0.3s						
KLV				AML	AML	01 17 32.0	
	comp=N,1915μm,0.5s						
TRIZ	**Trizonia**	**0.98**	**66**	P	**Pb**	**01 17 12.6**	**-1.1**
TRIZ				S	**Sb**	**01 17 26.5**	**+0.3**
	comp=N,832nm,0.3s						
TRIZ	**Trizonia**	**0.98**	**66**	P	**Pb**	**01 17 12.5**	**-1.1**
SERG	**Sergoula**	**0.99**	**63**	P	**Pb**	**01 17 13.8**	**0.0**
SERG				S	**Sn**	**01 17 27.4**	**-0.2**
	comp=N,3μm,0.3s						
SERG	**Sergoula**	**0.99**	**63**	P	**Pb**	**01 17 14.0**	**+0.1**
SERG				AML	AML	01 17 30.8	
	comp=N,8529μm,0.3s						
SERG				AML	AML	01 17 31.0	
	comp=E,6201μm,0.3s						
ANX	**Ano Chora**	**0.99**	**51**	P	**Pb**	**01 17 13.5**	**-0.5**
ANX				S	**Sn**	**01 17 27.7**	**-0.1**
	comp=E,4μm,0.4s						
ANX	**Ano Chora**	**0.99**	**51**	P	**Pb**	**01 17 13.4**	**-0.5**
ANX				AML	AML	01 17 29.7	
	comp=E,7467μm,0.4s						
ANX				AML	AML	01 17 30.7	
	comp=N,8592μm,0.4s						
ITM	**Ithomi**	**1.12**	**135**	P	**Pn**	**01 17 15.3**	**-0.6**
ITM				S	**Sn**	**01 17 30.8**	**0.0**
	comp=N,905nm,0.5s						
ITM	**Ithomi**	**1.12**	**135**	P	**Pn**	**01 17 15.0**	**-0.9**
ITM				AML	AML	01 17 36.7	
	comp=N,1962μm,0.5s						
ITM				AML	AML	01 17 37.8	
	comp=E,1662μm,0.5s						
EVR	**Evrytania**	**1.17**	**36**	P	**Pn**	**01 17 16.9**	**+0.3**
EVR				AML	AML	01 17 41.7	
	comp=N,1202μm,0.6s						
EVR				AML	AML	01 17 43.7	
	comp=E,1311μm,0.5s						
PYL	**PYLOS**	**1.25**	**149**	P	**Pn**	**01 17 16.9**	**-0.8**
PYL				S	**Sn**	**01 17 34.7**	**+0.6**
	comp=E,530nm,0.5s						
PYL	**PYLOS**	**1.25**	**149**	P	**Pn**	**01 17 16.8**	**-1.0**
DLFA	**Delphi**	**1.33**	**67**	P	**Pn**	**01 17 19.2**	**+0.4**
THAL	**Thalero**	**1.37**	**87**	P	**Pn**	**01 17 19.1**	**-0.2**
THAL				AML	AML	01 17 52.6	
	comp=E,5715μm,0.5s						
THAL				AML	AML	01 17 54.6	
	comp=N,3738μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.40**	**42**	P	**Pb**	**01 17 20.7**	**-0.1**
MAKR				AML	AML	01 17 46.0	
	comp=N,3100μm,0.3s						
MAKR				AML	AML	01 17 46.1	
	comp=E,4163μm,0.3s						
AGG	**Agios Georgios**	**1.52**	**46**	P	**Pn**	**01 17 22.3**	**+0.8**
AGG				AML	AML	01 17 48.1	
	comp=N,969μm,0.4s						
AGG				AML	AML	01 17 49.4	
	comp=E,922μm,0.4s						
AXAR	**Agios Charalam**	**1.57**	**59**	P	**Pn**	**01 17 22.9**	**+0.8**
AXAR				AML	AML	01 17 52.4	
	comp=E,3881μm,0.4s						
AXAR				AML	AML	01 17 58.5	
	comp=N,3569μm,0.5s						
LOUT	**Loutraki**	**1.61**	**89**	P	**Pn**	**01 17 23.5**	**+0.8**
IGT	**Igoumenitsa**	**1.63**	**343**	P	**Pb**	**01 17 24.3**	**-0.4**
IGT				AML	AML	01 17 57.3	
	comp=E,742μm,0.3s						
IGT				AML	AML	01 17 57.5	
	comp=N,810μm,0.4s						
JAN	**Janina**	**1.68**	**358**	P	**Pb**	**01 17 26.2**	**+0.6**
JAN				AML	AML	01 18 01.1	
	comp=E,1158μm,0.4s						
JAN				AML	AML	01 18 01.9	
	comp=N,764μm,0.7s						
LKR	**Lokris**	**1.76**	**67**	P	**Pn**	**01 17 26.1**	**+1.3**
LKR				AML	AML	01 17 56.6	
	comp=N,779μm,0.3s						
LKR				AML	AML	01 17 58.6	
	comp=E,718μm,0.3s						
THL	**Klokotos Trika**	**1.80**	**28**	P	**Pb**	**01 17 28.2**	**+0.5**
THL				AML	AML	01 18 01.9	
	comp=N,393μm,0.7s						
THL				AML	AML	01 18 02.3	
	comp=E,611μm,0.5s						
KRND	**KRANIDI**	**1.86**	**108**	P	**Pb**	**01 17 28.5**	**0.0**
KRND				AML	AML	01 17 59.5	
	comp=N,871μm,0.5s						
KRND				AML	AML	01 18 05.7	
	comp=E,808μm,1.0s						
KEK	**Kerkira**	**1.95**	**333**	P	**Pb**	**01 17 29.3**	**-0.8**
KEK				AML	AML	01 18 08.0	
	comp=N,567μm,0.5s						
KEK				AML	AML	01 18 13.2	
	comp=E,670μm,0.8s						
TYRN	**Tyrnavos**	**2.01**	**30**	P	**Pb**	**01 17 30.7**	**-0.5**
TYRN				AML	AML	01 18 05.4	
	comp=N,551μm,1.0s						
TYRN				AML	AML	01 18 07.4	
	comp=E,627μm,0.7s						
VLI	**Velíai**	**2.03**	**127**	P	**Pb**	**01 17 31.7**	**+0.1**
VLI				AML	AML	01 18 12.0	
	comp=N,422μm,1.1s						
VLI				AML	AML	01 18 14.5	
	comp=E,450μm,0.7s						
ATH	**Athens Observa**	**2.20**	**89**	P	**Pb**	**01 17 33.0**	**-1.4**
ATH				AML	AML	01 18 13.0	
	comp=E,649μm,0.5s						
ATH				AML	AML	01 18 15.6	
	comp=N,724μm,0.8s						
NEO	**Neokhori**	**2.23**	**53**	P	**Pb**	**01 17 33.4**	**-1.7**
NEO				AML	AML	01 18 08.4	
	comp=N,736μm,0.5s						
NEO				AML	AML	01 18 08.5	
	comp=E,437μm,0.5s						
XOR	**Xorichti**	**2.25**	**51**	P	**Pb**	**01 17 33.7**	**-1.6**
ATHU	**Athens Univers**	**2.25**	**89**	P	**Pb**	**01 17 33.9**	**-1.5**
VLY	**Voula,Athens**	**2.27**	**92**	P	**Pn**	**01 17 33.8**	**+2.1**
PTL	**Penteli**	**2.32**	**87**	P	**Pb**	**01 17 35.4**	**-1.0**
DION	**Dionisos Attik**	**2.37**	**87**	P	**Pb**	**01 17 36.3**	**-1.1**
DION				AML	AML	01 18 10.0	
	comp=N,669μm,0.7s						
DION				AML	AML	01 18 12.8	
	comp=E,731μm,0.7s						
KZN	**Kozani**	**2.42**	**15**	P	**Pb**	**01 17 37.3**	**-0.9**
KZN				AML	AML	01 18 25.3	
	comp=N,243μm,0.5s						
KZN				AML	AML	01 18 33.5	
	comp=E,366μm,0.6s						
KYMI	**Kymi, Euboea I**	**2.58**	**74**	P	**Pn**	**01 17 37.9**	**+1.9**
ANKY	**Antikythira Is**	**2.83**	**137**	P	**Pn**	**01 17 41.7**	**+2.2**
OHR	**Ohrid**	**3.14**	**358**	*i* Pn	**Pb**	**01 17 48.6**	**-1.8**
VAY	**Valandovo**	**3.58**	**20**	*i* Pn	**Pb**	**01 17 57.8**	**0.0**
STIP	**Stip**	**3.84**	**14**	*i* Pn	**Pn**	**01 17 56.8**	**+3.5**
DRME	**Dracevica, Mon**	**4.42**	**343**	*e*Pn	**Pn**	**01 18 01.6**	**+0.4**
HCY	**Herceg Novi**	**4.84**	**338**	*e*Pn	**Pn**	**01 18 06.1**	**-1.0**
TREB	**Trebinje**	**5.13**	**338**	*e*Pn	**Pn**	**01 18 10.0**	**-1.0**
VAE	**Valguarnera**	**5.19**	**267**	Pn	**Pn**	**01 18 13.7**	**+1.8**
	comp=E,0.5nm,0.3s,baz=146,slow=11,SNR=9.0						
VAE				Sn	**Sn**	**01 19 10.7**	**-0.6**
	comp=E,1.2nm,0.3s,baz=336,slow=6.8,SNR=2.1						
	comp=E,3.5nm,0.5s						
BRY	**Bratogost**	**5.25**	**340**	*e*Pn	**Pn**	**01 18 11.8**	**-1.0**
UPM	**Unac-Piva**	**5.45**	**344**	*e*Pn	**Pn**	**01 18 14.5**	**-1.1**
STON	**Ston**	**5.48**	**334**	*e*Pn	**Pn**	**01 18 14.8**	**-1.0**
RUDO	**Rudo**	**5.76**	**349**	*e*Pn	**Pn**	**01 18 21.0**	**+1.3**
DIVS	**Divibare**	**6.16**	**354**	*e*Pn	**Pn**	**01 18 25.3**	**+0.1**
SRKY	**Kupres RS**	**6.72**	**336**	*e*Pn	**Pn**	**01 18 32.7**	**-0.3**
MGRS	**Mrkonjic Grad**	**7.06**	**337**	*e*Pn	**Pn**	**01 18 41.5**	**+4.0**
FRGS	**Fruska Gora**	**7.23**	**354**	*e*Pn	**Pn**	**01 18 39.8**	**0.0**
A050A	**Klekovaca**	**7.30**	**334**	*e*Pn	**Pn**	**01 18 40.5**	**-0.4**
BLY	**Banja Luka**	**7.33**	**339**	*e*Pn	**Pn**	**01 18 37.9**	**-3.3**
A051A	**Mrakovica**	**7.65**	**338**	*e*Pn	**Pn**	**01 18 44.5**	**-1.2**
BOJS	**Bojanci**	**8.64**	**332**	*e*Pn	**Pn**	**01 18 58.3**	**-0.8**
CRES	**Cresnjev**	**8.84**	**334**	*e*Pn	**Pn**	**01 19 00.8**	**-1.2**
CEY	**Cerknica**	**9.15**	**330**	*e*Pn	**Pn**	**01 19 05.2**	**-1.0**
SKDS	**Skadanscina**	**9.16**	**328**	*e*Pn	**Pn**	**01 19 05.7**	**-0.6**
KEST	**Kesra**	**9.55**	**260**	Pn	**Pn**	**01 19 12.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=8.9,slow=11,SNR=4.7						
	comp=E,1.9nm,0.9s						
OBKA	**Obir**	**9.75**	**333**	*e*Pn	**Pn**	**01 19 16.0**	**+1.5**
	comp=E,1.1nm,0.3s						
OBKA	**Obir**	**9.75**	**333**	*e*Pn	**Pn**	**01 19 13.3**	**-1.2**
BRTR	**Keskin Array B**	**10.07**	**76**	Pn	Pn	01 19 24.3	+5.4
	comp=E,0.1nm,0.3s,baz=255,slow=13,SNR=4.9						
	comp=E,0.4nm,0.6s						
MOA	**Molln**	**11.01**	**336**	Pn	**Pn**	**01 19 32.9**	**+1.3**
	comp=E,0.2nm,0.2s						
WTTA	**Wattenberg**	**11.53**	**327**	*e*Pn	**Pn**	**01 19 42.4**	**+3.5**
	comp=E,0.9nm,0.5s						
GERES	**GERESS Array B**	**12.06**	**337**	Sn	**Sn**	**01 21 56.0**	**-4.1**
	comp=E,0.1nm,0.3s,baz=150,slow=22,SNR=2.1						
ESDC	**Sonseca Array**	**19.46**	**283**	P	**Pn**	**01 21 23.1**	**+1.1**
	baz=76,slow=11,SNR=2.3						
	comp=E,0.6nm,1.0s						
HFS	**Hagfors**	**22.65**	**351**	P	**P**	**01 21 55.7**	**+0.7**
	comp=E,1.7nm,0.9s,baz=126,slow=10.0,SNR=0.8						
	comp=E,1.7nm,0.9s						
FINES	**FINESS Array B**	**23.71**	**6**	P	**P**	**01 22 07.2**	**+1.5**
	comp=E,1.6nm,0.8s,baz=185,slow=15,SNR=1.4						
	comp=E,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.08**	**220**	P	**P**	**01 23 04.2**	**+0.8**
	comp=E,0.2nm,0.5s,baz=29,slow=9.9,SNR=1.7						
	comp=E,0.2nm,0.5s						
MKAR	**Makanchi Array**	**45.13**	**58**	P	**P**	**01 25 09.8**	**-0.6**
	comp=E,0.2nm,0.5s,baz=275,slow=7.8,SNR=7.5						
	comp=E,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**45.59**	**48**	P	**P**	**01 25 14.4**	**+0.6**
	comp=E,0.5nm,0.3s,baz=286,slow=10,SNR=1.9						
	comp=E,0.5nm,0.3s						

*JMA **02** 01:20:07.9±0.1, 24.6N±0.2×121.8E±0.3, h77km±1km, MV3.7/13, TAIWAN REGION*
*TAP **02** 01:20:08.1, 24.60N×121.84E, h76km, ML4.0, B*
ISC 02 01:20:07.7±1.2, 24.61N±0.02×121.83E±0.02, h83km±4km, n169, σ0.98/318, 17C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.02**	**100**	⇓*i* P	**Pn**	**01 20 19.6**	**+0.2**
TWC	baz=51			*i* S	**Sn**	**01 20 27.9**	**-0.2**
NDS	**Dongshan**	**0.11**	**281**	*i* P	**Pn**	**01 20 20.0**	**+0.5**
NDS	baz=289			*i* S	**Sn**	**01 20 28.6**	**+0.4**
ILA	**Ilan**	**0.17**	**334**	*e*P	**Pn**	**01 20 20.3**	**+0.7**
ILA	baz=335			*e*S	**Sn**	**01 20 29.4**	**+0.8**
EWUT	**Wuta**	**0.17**	**196**	⇑*i* P	**Pn**	**01 20 19.6**	**-0.1**
EWUT	baz=201			S	**Sn**	**01 20 28.0**	**-0.5**
TWE	**Neicheng**	**0.18**	**306**	*i* P	**Pn**	**01 20 20.2**	**+0.5**
TWE	baz=310			S	**Sn**	**01 20 29.2**	**+0.6**
ENA	**Nanau**	**0.20**	**204**	⇑*i* P	**Pn**	**01 20 19.8**	**0.0**
ENA	baz=207			S	**Sn**	**01 20 28.8**	**0.0**
NTC	**Toucheng**	**0.24**	**360**	*e*P	**Pn**	**01 20 20.7**	**+0.7**
NTC	baz=358			*e*S	**Sn**	**01 20 29.4**	**+0.3**
ENTT	**Nioudou**	**0.24**	**277**	⇓*i* P	**Pn**	**01 20 20.3**	**+0.3**
ENTT	baz=280			S	**Sn**	**01 20 29.1**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.27**	**304**	⇓*i* P	**Pn**	**01 20 20.4**	**+0.3**
FUSB	baz=305			S	**Sn**	**01 20 29.0**	**-0.4**
LATG	**Datong**	**0.29**	**255**	⇑*i* P	**Pn**	**01 20 20.6**	**+0.2**
LATG	baz=258			*e*S	**Sn**	**01 20 29.4**	**-0.3**
NDT	**Datong Townshi**	**0.29**	**268**	*e*P	**Pn**	**01 20 18.3**	**-1.9**
	baz=272						
EHP	**Heping Village**	**0.31**	**195**	*e*P	**Pn**	**01 20 20.5**	**+0.1**
EHP	baz=196			*e*S	**Sn**	**01 20 28.9**	**-0.8**
NWLT	**Wulai**	**0.34**	**299**	⇓*i* P	**Pn**	**01 20 20.6**	**+0.1**
NWLT	baz=301			*i* S	**Sn**	**01 20 29.2**	**-0.9**
TIPB	**Shuangxi**	**0.36**	**359**	⇑*i* P	**Pn**	**01 20 21.0**	**+0.3**
TIPB	baz=358			S	**Sn**	**01 20 29.9**	**-0.4**
TWB1	**Santiao Chiao**	**0.42**	**20**	⇓*i* P	**Pn**	**01 20 21.1**	**+0.1**
TWB1	baz=19			*i* S	**Sn**	**01 20 30.1**	**-0.8**
YHNB	**Yeheng**	**0.42**	**278**	P	**Pn**	**01 20 21.6**	**+0.5**
YHNB	**Yeheng**	**0.42**	**278**	⇓*i* P	**Pn**	**01 20 21.1**	**-0.1**
YHNB	baz=280			*e*S	**Sn**	**01 20 30.4**	**-0.7**
TWA	**Mucha**	**0.43**	**328**	⇓*i* P	**Pn**	**01 20 21.5**	**+0.3**
TWA	baz=329			*e*S	**Sn**	**01 20 31.1**	**0.0**
NSK	**Sanguang**	**0.43**	**278**	⇓*i* P	**Pn**	**01 20 21.1**	**-0.1**
NSK	baz=280			*e*S	**Sn**	**01 20 30.4**	**-0.8**
NHDH	**Xindian Distri**	**0.45**	**321**	⇓*i* P	**Pn**	**01 20 21.4**	**+0.2**
NHDH	baz=322			*e*S	**Sn**	**01 20 30.9**	**-0.4**
NNSB	**Datong**	**0.45**	**246**	⇑*i* P	**Pn**	**01 20 21.8**	**+0.4**
NNSB	baz=248			S	**Sn**	**01 20 31.1**	**-0.5**
NNSH	**Datong**	**0.45**	**246**	⇑*i* P	**Pn**	**01 20 21.7**	**+0.3**
NNSH	baz=248			*e*S	**Sn**	**01 20 31.0**	**-0.5**
NNS	**Nan Shan**	**0.45**	**248**	P	**Pn**	**01 20 21.8**	**+0.3**
NNS	baz=250			S	**Sn**	**01 20 31.1**	**-0.5**
NWF	**Wu-fen Shan**	**0.46**	**354**	⇑*i* P	**Pn**	**01 20 21.8**	**+0.3**
NWF	baz=353			*e*S	**Sn**	**01 20 31.4**	**-0.3**
WFSB	**Wu-fen Shan**	**0.46**	**354**	⇑P	**Pn**	**01 20 21.8**	**+0.4**
WFSB	baz=353			*e*S	**Sn**	**01 20 31.3**	**-0.1**
TATO	**Taipei**	**0.48**	**319**	P	**Pn**	**01 20 21.6**	**+0.1**
SXI1	**Grass Mountain**	**0.48**	**5**	⇑*i* P	**Pn**	**01 20 21.8**	**+0.1**
SXI1	baz=4.0			S	**Sn**	**01 20 31.5**	**-0.5**
NACB	**Ninganchiao**	**0.49**	**206**	P	**Pn**	**01 20 20.8**	**-0.8**
NACB	**Ninganchiao**	**0.49**	**206**	⇑*i* P	**Pn**	**01 20 20.9**	**-0.6**
NACB	baz=208			*e*S	**Sn**	**01 20 30.7**	**-1.2**
NHY	**Taipei**	**0.49**	**331**	*e*P	**Pn**	**01 20 22.0**	**+0.5**
NHY	baz=331			*e*S	**Sn**	**01 20 32.1**	**+0.3**
ETL	**Fush Village**	**0.49**	**203**	*i* P	**Pn**	**01 20 21.1**	**-0.6**
ETL	baz=205			*e*S	**Sn**	**01 20 31.4**	**-0.6**
TAP1	**Taipei**	**0.51**	**327**	*e*P	**Pn**	**01 20 23.3**	**+1.6**
TAP1	baz=326			*e*S	**Sn**	**01 20 33.1**	**+0.9**
ETLH	**Xiulin Townshi**	**0.51**	**218**	⇑*i* P	**Pn**	**01 20 21.6**	**-0.3**
ETLH	baz=220			*e*S	**Sn**	**01 20 31.4**	**-1.1**
TAP	**Taipei**	**0.52**	**325**	*e*P	**Pn**	**01 20 22.0**	**+0.1**
TAP	baz=326			*e*S	**Sn**	**01 20 32.3**	**0.0**
BACT	**New Taipei Cit**	**0.52**	**317**	*e*P	**Pn**	**01 20 21.7**	**-0.1**
BACT	baz=318			*e*S	**Sn**	**01 20 32.7**	**+0.4**
TNOU	**National Taiwa**	**0.54**	**354**	⇑*i* P	**Pn**	**01 20 22.2**	**+0.2**
TNOU	baz=354			*e*S	**Sn**	**01 20 32.2**	**-0.4**
TWD	**Chiawan**	**0.57**	**202**	P	**Pn**	**01 20 21.7**	**-0.6**
TWD	baz=203			*e*S	**Sn**	**01 20 31.7**	**-1.5**
YM01	**YM01**	**0.58**	**336**	⇑*i* P	**Pn**	**01 20 22.8**	**+0.3**
YM01	baz=336			*e*S	**Sn**	**01 20 33.4**	**0.0**
NWRT	**Kuosheng**	**0.61**	**345**	*e*P	**Pn**	**01 20 23.1**	**+0.4**
NWRT	baz=345			*e*S	**Sn**	**01 20 33.6**	**-0.1**
YM08	**YM08**	**0.61**	**339**	*e*P	**Pn**	**01 20 22.9**	**+0.1**
YM08	baz=339			*e*S	**Sn**	**01 20 33.5**	**-0.4**
TWS1	**Kuangyinshan**	**0.61**	**322**	P	**Pn**	**01 20 23.2**	**+0.5**
TWS1	baz=323			*e*S	**Sn**	**01 20 34.5**	**+0.6**
NTY	**Taoyuan**	**0.62**	**309**	*e*P	**Pn**	**01 20 23.1**	**+0.4**
NTY	baz=309			*e*S	**Sn**	**01 20 34.4**	**+0.5**
NFF	**Wufeng Townshi**	**0.65**	**272**	⇓*i* P	**Pn**	**01 20 23.3**	**+0.2**
NFF	baz=273			S	**Sn**	**01 20 33.9**	**-0.7**
NTST	**Danshui**	**0.65**	**328**	*e*P	**Pn**	**01 20 23.7**	**+0.6**
NTST	baz=328			*e*S	**Sn**	**01 20 34.9**	**+0.5**
HWA	**Hwalien**	**0.67**	**198**	*e*P	**Pn**	**01 20 23.0**	**-0.2**
HWA	baz=199			*e*S	**Sn**	**01 20 34.5**	**-0.2**
NCU	**National Centr**	**0.69**	**301**	P	**Pn**	**01 20 23.7**	**+0.3**
NCU	baz=302			*e*S	**Sn**	**01 20 35.3**	**+0.2**
NCUH	**Zhongli**	**0.69**	**301**	P	**Pn**	**01 20 23.6**	**+0.2**
NCUH	baz=302			*e*S	**Sn**	**01 20 35.0**	**-0.1**
NJD	**Zhudong**	**0.69**	**280**	*e*P	**Pn**	**01 20 25.0**	**+1.6**
NJD	baz=282			*e*S	**Sn**	**01 20 36.6**	**+1.5**
TWY	**Chenhua**	**0.69**	**342**	P	**Pn**	**01 20 24.1**	**+0.7**
TWY	baz=343			*e*S	**Sn**	**01 20 36.1**	**+0.9**
WHF	**Hehuan Shan**	**0.69**	**228**	⇑P	**Pn**	**01 20 24.1**	**+0.1**
WHF	baz=229			*e*S	**Sn**	**01 20 35.6**	**-0.4**
TWT	**Tachien**	**0.70**	**239**	*e*P	**Pn**	**01 20 24.6**	**+0.9**
TWT	baz=241			*e*S	**Sn**	**01 20 35.9**	**+0.3**
NSM	**Shimen**	**0.71**	**342**	*e*P	**Pn**	**01 20 24.5**	**+0.8**
NSM	baz=342			*e*S	**Sn**	**01 20 36.6**	**+1.1**
TDCB	**Techi**	**0.71**	**240**	*e*P	**Pn**	**01 20 24.7**	**+0.9**
TDCB	baz=241			*e*S	**Sn**	**01 20 35.8**	**-0.1**
ETM	**Tongmen**	**0.71**	**206**	P	**Pn**	**01 20 22.9**	**-0.8**
ETM	baz=207			*e*S	**Sn**	**01 20 34.0**	**-1.6**
LIOB	**Emei**	**0.74**	**273**	⇓*i* P	**Pn**	**01 20 24.4**	**+0.3**
LIOB	baz=274			*e*S	**Sn**	**01 20 36.3**	**+0.1**
NSTT	**Nanjuang**	**0.76**	**272**	⇓P	**Pn**	**01 20 24.3**	**+0.2**
NSTT	baz=273			*e*S	**Sn**	**01 20 36.4**	**0.0**
HSN1	**Hsinchu**	**0.76**	**283**	⇓P	**Pn**	**01 20 24.6**	**+0.5**
HSN1	baz=284			*e*S	**Sn**	**01 20 36.7**	**+0.3**
TEYL	**Yanliau Villag**	**0.77**	**196**	*e*P	**Pn**	**01 20 24.4**	**+0.1**
TEYL	baz=198			*e*S	**Sn**	**01 20 37.7**	**+1.1**
SBCB	**Hsinchu**	**0.79**	**283**	⇓*e*P	**Pn**	**01 20 24.9**	**+0.4**
SBCB	baz=284			*e*S	**Sn**	**01 20 37.2**	**+0.2**
HSN	**Hsinchu**	**0.81**	**284**	⇓*e*P	**Pn**	**01 20 24.8**	**+0.1**
HSN	baz=287			*e*S	**Sn**	**01 20 36.8**	**-0.5**
CHGB	**Renai**	**0.81**	**228**	⇑*e*P	**Pn**	**01 20 25.6**	**+0.6**
CHGB	baz=229			*e*S	**Sn**	**01 20 37.8**	**0.0**
NHW	**Xinwu Township**	**0.81**	**299**	*e*P	**Pn**	**01 20 25.1**	**+0.4**
NHW	baz=300			*e*S	**Sn**	**01 20 38.0**	**+0.5**
WHP	**Taichung City**	**0.87**	**248**	⇓*e*P	**Pn**	**01 20 26.5**	**+1.0**
WHP	baz=249			*e*S	**Sn**	**01 20 39.4**	**+0.6**
ESL	**Shilin**	**0.87**	**205**	*e*P	**Pn**	**01 20 24.4**	**-1.1**
ESL	baz=205			*e*S	**Sn**	**01 20 36.9**	**-1.8**
NJN	**Zhunan**	**0.88**	**275**	*e*P	**Pn**	**01 20 26.0**	**+0.6**
NJN	baz=276			*e*S	**Sn**	**01 20 39.1**	**+0.4**
WUSB	**Renai**	**0.90**	**227**	P	**Pn**	**01 20 26.4**	**+0.6**
WUSB	baz=228			*e*S	**Sn**	**01 20 39.8**	**+0.4**
TEGC	**Jichi Village**	**0.94**	**197**	*e*P	**Pn**	**01 20 26.3**	**+0.1**
TEGC	baz=197			*e*S	**Sn**	**01 20 40.9**	**+0.9**
NMLH	**Miaoli**	**0.95**	**266**	⇓P	**Pn**	**01 20 26.8**	**+0.5**
NMLH	baz=267			*e*S	**Sn**	**01 20 40.2**	**-0.1**
NSY	**Sanyi**	**0.99**	**259**	*e*P	**Pn**	**01 20 27.4**	**+0.6**
NSY	baz=260			*e*S	**Sn**	**01 20 41.8**	**+0.7**
WPL	**Puli Township**	**1.00**	**233**	*e*P	**Pn**	**01 20 27.9**	**+1.1**
WPL	baz=234			*e*S	**Sn**	**01 20 42.5**	**+1.3**
TWQ1	**Liyutan**	**1.00**	**255**	*e*P	**Pn**	**01 20 27.4**	**+0.5**
	baz=256						

TWQ1				*e*S	**Sn**	**01 20 41.3**	**+0.1**
	baz=256							
WCS	**Beigang Elemen**	**1.00**	**237**	*e*P	**Pn**	**01 20 27.8**	**+0.9**
	baz=238							
WCS				*e*S	**Sn**	**01 20 42.0**	**+0.7**
	baz=238							
DPDB	**Guoxing**	**1.01**	**235**	*e*P	**Pn**	**01 20 27.8**	**+0.8**
	baz=236							
DPDB				*e*S	**Sn**	**01 20 42.3**	**+0.8**
	baz=236							
EGFH	**Guangfu**	**1.01**	**202**	*e*P	**Pn**	**01 20 25.9**	**-1.2**
	baz=202							
EGFH				*e*S	**Sn**	**01 20 39.6**	**-1.8**
	baz=202							
JYNG	**Yonagunijimaku**	**1.03**	**99**	*i* P	**Pn**	**01 20 27.2**	**+0.1**
JYNG				*e*S	**Sn**	**01 20 41.3**	**-0.5**
PCYT	**Pengchaiyu**	**1.04**	**12**	⇑*i*P	**Pn**	**01 20 27.8**	**+0.5**
	baz=12							
PCYT				*e*S	**Sn**	**01 20 43.4**	**+1.4**
	baz=12							
VWDT	**VWDT**	**1.06**	**217**	⇑P	**Pn**	**01 20 28.2**	**+0.6**
	baz=217							
VWDT				*e*S	**Sn**	**01 20 42.8**	**+0.3**
	baz=217							
YOJ	**Yonaguni jima**	**1.08**	**98**	P	**Pn**	**01 20 27.7**	**-0.2**
YOJ	**Yonaguni jima**	**1.08**	**98**	P	**Pn**	**01 20 27.9**	**0.0**
YOJ				*e*S	**Sn**	**01 20 42.8**	**-0.2**
WDJ	**Dajia District**	**1.12**	**257**	*e*P	**Pn**	**01 20 29.0**	**+0.8**
	baz=257							
WDJ				*e*S	**Sn**	**01 20 44.4**	**+0.6**
	baz=257							
SMLT	**Sun Moon Lake**	**1.12**	**230**	*e*P	**Pn**	**01 20 29.4**	**+1.0**
	baz=230							
SMLT				*e*S	**Sn**	**01 20 45.4**	**+1.4**
	baz=230							
TYC	**Yuchr**	**1.14**	**232**	*e*P	**Pn**	**01 20 29.4**	**+0.9**
	baz=232							
TYC				*e*S	**Sn**	**01 20 45.2**	**+1.1**
	baz=232							
SSLB	**Suanglung**	**1.15**	**224**	P	**Pn**	**01 20 29.8**	**+1.1**
SSLB	**Suanglung**	**1.15**	**224**	*e*P	**Pn**	**01 20 29.7**	**+1.1**
	baz=225							
SSLB				*e*S	**Sn**	**01 20 45.6**	**+1.1**
	baz=225							
TCU	**Taichung**	**1.15**	**247**	*e*P	**Pn**	**01 20 29.3**	**+0.6**
	baz=247							
TCU				*e*S	**Sn**	**01 20 44.9**	**+0.4**
	baz=247							
HGSD	**Ruisui**	**1.18**	**199**	*e*P	**Pn**	**01 20 28.9**	**-0.1**
	baz=199							
HGSD				*e*S	**Sn**	**01 20 46.1**	**+1.1**
	baz=199							
WWF	**Wufeng**	**1.18**	**241**	*e*P	**Pn**	**01 20 29.9**	**+0.9**
	baz=242							
WWF				*e*S	**Sn**	**01 20 46.0**	**+0.9**
	baz=242							
EHY	**Hungye**	**1.20**	**203**	*e*P	**Pn**	**01 20 28.0**	**-1.2**
	baz=203							
EHY				*e*S	**Sn**	**01 20 43.8**	**-1.7**
	baz=203							
WNT1	**Nantou City**	**1.26**	**236**	*e*P	**Pn**	**01 20 30.9**	**+0.8**
	baz=237							
WNT1				*e*S	**Sn**	**01 20 47.9**	**+1.0**
	baz=237							
WCHH	**Zhanghua**	**1.28**	**246**⇓	*e*P	**Pn**	**01 20 30.7**	**+0.4**
	baz=246							
WCHH				*e*S	**Sn**	**01 20 47.1**	**-0.1**
	baz=246							
WHYT	**Xinyi Township**	**1.28**	**225**	*e*P	**Pn**	**01 20 31.5**	**+1.2**
	baz=225							
WHYT				*e*S	**Sn**	**01 20 49.6**	**+2.3**
	baz=225							
WNT	**Mingjian**	**1.28**	**235**	*e*P	**Pn**	**01 20 30.9**	**+0.6**
	baz=236							
WNT				*e*S	**Sn**	**01 20 48.4**	**+1.1**
	baz=236							
WJS	**Zhushan**	**1.28**	**232**	*e*P	**Pn**	**01 20 31.2**	**+0.9**
	baz=233							
WJS				*e*S	**Sn**	**01 20 48.0**	**+0.7**
	baz=233							
YULB	**Yu-li**	**1.31**	**202**	P	**Pn**	**01 20 30.4**	**-0.3**
YULB	**Yu-li**	**1.31**	**202**	*e*P	**Pn**	**01 20 29.4**	**-1.3**
	baz=203							
YULB				*e*S	**Sn**	**01 20 46.1**	**-1.9**
	baz=203							
WYL	**Yuanlin Townsh**	**1.31**	**241**	*e*P	**Pn**	**01 20 31.7**	**+1.0**
	baz=241							
WYL				*e*S	**Sn**	**01 20 48.8**	**+0.7**
	baz=241							
ECBN	**Changbin**	**1.34**	**195**	*e*P	**Pn**	**01 20 31.0**	**0.0**
	baz=196							
ECBN				*e*S	**Sn**	**01 20 48.7**	**+0.2**
	baz=196							
EYUL	**Yuli**	**1.34**	**201**	*e*P	**Pn**	**01 20 30.2**	**-0.9**
	baz=201							
EYUL				*e*S	**Sn**	**01 20 49.7**	**+0.9**
	baz=201							
TWF1	**Yuli**	**1.35**	**201**	*e*P	**Pn**	**01 20 29.9**	**-1.2**
	baz=202							
TWF1				*e*S	**Sn**	**01 20 47.1**	**-1.7**
	baz=202							
ALS	**Alishan**	**1.44**	**221**	*e*P	**Pn**	**01 20 33.9**	**+1.2**
	baz=221							
ALS				*e*S	**Sn**	**01 20 54.0**	**+2.5**
	baz=221							
CHN5	**Tsauling**	**1.46**	**226**	*e*P	**Pn**	**01 20 33.5**	**+0.9**
	baz=227							
CHN5				*e*S	**Sn**	**01 20 52.4**	**+0.9**
	baz=227							
WDLH	**Douliu**	**1.50**	**232**	*e*P	**Pn**	**01 20 34.0**	**+1.0**
	baz=233							
WDLH				*e*S	**Sn**	**01 20 52.7**	**+0.5**
	baz=233							
WRL	**Guolierlin Hig**	**1.50**	**242**	*e*P	**Pn**	**01 20 33.4**	**+0.3**
	baz=243							
WRL				*e*S	**Sn**	**01 20 51.7**	**-0.7**
	baz=243							
CHKT	**Chengkung**	**1.56**	**196**	*e*P	**Pn**	**01 20 33.6**	**-0.4**
	baz=196							
CHKT				*e*S	**Sn**	**01 20 54.3**	**+0.5**
	baz=196							
EHD	**Haiduan**	**1.56**	**202**	*e*P	**Pn**	**01 20 33.2**	**-0.7**
	baz=202							
EHD				*e*S	**Sn**	**01 20 53.1**	**-0.8**
	baz=202							
WTCT	**Ta-ch'eng**	**1.60**	**243**	*e*P	**Pn**	**01 20 34.8**	**+0.4**
	baz=243							
WTCT				*e*S	**Sn**	**01 20 54.8**	**+0.3**
	baz=243							
ELDTW	**Lidau**	**1.60**	**208**	*e*P	**Pn**	**01 20 34.5**	**-0.1**
	baz=208							
ELDTW				*e*S	**Sn**	**01 20 55.2**	**+0.4**
	baz=208							
WTK	**Tuku**	**1.61**	**235**	*e*P	**Pn**	**01 20 35.2**	**+0.7**
	baz=236							
WTK				*e*S	**Sn**	**01 20 54.8**	**+0.1**
	baz=236							
ECS	**Chishang**	**1.61**	**200**	*e*P	**Pn**	**01 20 34.9**	**+0.3**
	baz=201							
WCKO	**Fanlu**	**1.62**	**224**	*e*P	**Pn**	**01 20 35.9**	**+1.3**
	baz=225							
WCKO				*e*S	**Sn**	**01 20 56.8**	**+1.7**
	baz=225							
CHN2	**Minshiung**	**1.64**	**229**	*e*P	**Pn**	**01 20 35.9**	**+1.0**
	baz=230							
CHN4	**Tsaushan**	**1.69**	**222**	*e*P	**Pn**	**01 20 36.8**	**+1.2**
	baz=223							
CHN4				*e*S	**Sn**	**01 20 59.5**	**+2.7**
	baz=223							
CHY	**Chiayi**	**1.70**	**230**	*e*P	**Pn**	**01 20 36.5**	**+0.8**
	baz=230							
CHY				*e*S	**Sn**	**01 20 57.6**	**+0.7**
	baz=230							
EDH	**Donghe**	**1.70**	**197**	*e*P	**Pn**	**01 20 35.4**	**-0.4**
	baz=197							
EDH				*e*S	**Sn**	**01 20 56.4**	**-0.6**
	baz=197							
TPUB	**Ta-pu**	**1.71**	**220**	P	**Pn**	**01 20 37.4**	**+1.6**
TPUB	**Ta-pu**	**1.71**	**220**	*e*P	**Pn**	**01 20 37.0**	**+1.2**
	baz=221							
TPUB				*e*S	**Sn**	**01 20 58.5**	**+1.3**
	baz=221							
STYH	**Taoyuan**	**1.73**	**214**	*e*P	**Pn**	**01 20 37.5**	**+1.4**
	baz=215							
STYH				*e*S	**Sn**	**01 20 58.9**	**+1.2**
	baz=215							
STYT	**Tauyuan**	**1.75**	**215**	*e*P	**Pn**	**01 20 37.9**	**+1.5**
	baz=215							
STYT				*e*S	**Sn**	**01 21 00.2**	**+2.1**
	baz=215							
IRIF	**Iriomote-Funau**	**1.75**	**99**	P	**Pn**	**01 20 36.4**	**0.0**
IRIF				S	**Sn**	**01 20 57.8**	**-0.3**
WTP	**Ta-pu**	**1.76**	**220**	*e*P	**Pn**	**01 20 37.7**	**+1.2**
	baz=220							
WTP				*e*S	**Sn**	**01 20 59.6**	**+1.2**
	baz=220							
WSF	**Szhu**	**1.76**	**237**	*e*P	**Pn**	**01 20 36.9**	**+0.4**
	baz=237							
WSF				*e*S	**Sn**	**01 20 58.8**	**+0.4**
	baz=237							
LONT	**Longtian**	**1.82**	**201**	*e*P	**Pn**	**01 20 36.6**	**-0.6**
	baz=201							
LONT				*e*S	**Sn**	**01 20 58.4**	**-1.3**
	baz=201							
TWK	**Hsinying**	**1.82**	**223**	*e*P	**Pn**	**01 20 38.4**	**+1.1**
	baz=223							
TWK				*e*S	**Sn**	**01 21 01.1**	**+1.3**
	baz=223							
WSL	**Shuilin Townsh**	**1.82**	**234**	*e*P	**Pn**	**01 20 37.8**	**+0.5**
	baz=234							
WSL				*e*S	**Sn**	**01 21 00.2**	**+0.4**
	baz=234							
SNST	**Tainan City**	**1.85**	**222**	*e*P	**Pn**	**01 20 41.0**	**+3.3**
	baz=222							
SNST				*e*S	**Sn**	**01 21 04.8**	**+4.4**
	baz=222							
CHN1	**Nanshi**	**1.85**	**220**	*e*P	**Pn**	**01 20 38.9**	**+1.1**
	baz=221							
CHN1				*e*S	**Sn**	**01 21 01.9**	**+1.3**
	baz=221							
HATJ	**Hateruma jima**	**1.88**	**107**	P	**Pn**	**01 20 38.2**	**+0.1**
HATJ				*e*S	**Sn**	**01 21 01.2**	**0.0**
ICHU	**Yijhu**	**1.89**	**229**	*e*P	**Pn**	**01 20 39.1**	**+0.9**
	baz=229							
ICHU				*e*S	**Sn**	**01 21 02.4**	**+1.0**
	baz=229							
SGST	**Jiashian**	**1.90**	**217**	*e*P	**Pn**	**01 20 39.2**	**+0.8**
	baz=217							
SGST				*e*S	**Sn**	**01 21 01.9**	**+0.2**
	baz=217							
TWG	**Pinlang**	**1.91**	**201**	*e*P	**Pn**	**01 20 37.7**	**-0.9**
	baz=202							
TWG				*e*S	**Sn**	**01 21 00.0**	**-2.0**
	baz=202							
TWGBT	**Beinan**	**1.92**	**201**	P	**Pn**	**01 20 38.1**	**-0.4**
TWGBT	**Beinan**	**1.92**	**201**	*e*P	**Pn**	**01 20 37.8**	**-0.7**
	baz=202							
TWGBT				*e*S	**Sn**	**01 20 60.0**	**-2.1**
	baz=202							
CHN8	**Yiju**	**1.95**	**230**	*e*P	**Pn**	**01 20 39.6**	**+0.7**
	baz=230							
CHN8				*e*S	**Sn**	**01 21 03.8**	**+1.1**
	baz=230							
TTN	**Taitung**	**1.95**	**199**	*e*P	**Pn**	**01 20 40.0**	**+1.0**
	baz=199							
TTN				*e*S	**Sn**	**01 21 03.4**	**+0.6**
	baz=199							
LDUT	**Ludao**	**1.96**	**190**	*e*P	**Pn**	**01 20 37.8**	**-1.3**
	baz=190							
LDUT				*e*S	**Sn**	**01 21 01.6**	**-1.4**
	baz=190							
JKRS	**Kuro-shima**	**2.02**	**100**	P	**Pn**	**01 20 40.4**	**+0.5**
JKRS				*e*S	**Sn**	**01 21 04.5**	**+0.1**
SCST	**Cishan**	**2.11**	**216**	*e*P	**Pn**	**01 20 42.4**	**+1.2**
	baz=216							
JIJ	**Ishigaki jima**	**2.12**	**96**	P	**Pn**	**01 20 41.4**	**+0.1**
JIJ				S	**Sn**	**01 21 06.2**	**-0.7**
SSD	**Sandimen**	**2.16**	**211**	*e*P	**Pn**	**01 20 44.6**	**+2.8**
	baz=211							
SSD				*e*S	**Sn**	**01 21 10.0**	**+2.2**
	baz=211							
ECL	**Taimali**	**2.16**	**202**	*e*P	**Pn**	**01 20 41.6**	**-0.2**
	baz=202							
ECL				*e*S	**Sn**	**01 21 06.2**	**-1.7**
	baz=202							
TSCK	**Chigu Township**	**2.16**	**228**	*e*P	**Pn**	**01 20 42.6**	**+0.8**
	baz=228							
TSCK				*e*S	**Sn**	**01 21 08.4**	**+0.5**
	baz=228							
VWUC	**VWUC**	**2.20**	**280**⇓	*e*P	**Pn**	**01 20 42.1**	**-0.2**
	baz=280							
VWUC				*e*S	**Sn**	**01 21 06.5**	**-2.2**
	baz=280							
JISG	**Ishigakijimahi**	**2.26**	**90**	P	**Pn**	**01 20 43.5**	**+0.4**
JISG				*e*S	**Sn**	**01 21 10.3**	**+0.2**
MASBT	**Mashibuluo**	**2.27**	**209**	*e*P	**Pn**	**01 20 44.6**	**+1.3**
	baz=209							
MASBT				*e*S	**Sn**	**01 21 11.8**	**+1.3**
	baz=209							
MATB	**Ma-tsu**	**2.29**	**312**⇓	*e*P	**Pn**	**01 20 43.2**	**-0.3**
	baz=312							
MATB				*e*S	**Sn**	**01 21 09.3**	**-1.7**
	baz=312							
MSUT	**Lienchiang**	**2.32**	**312**	*e*P	**Pn**	**01 20 43.6**	**-0.3**
	baz=312							
MSUT				*e*S	**Sn**	**01 21 09.9**	**-1.7**
	baz=312							
PNG	**Penghu**	**2.33**	**244**	*e*P	**Pn**	**01 20 43.5**	**-0.5**
	baz=244							
PNG				*e*S	**Sn**	**01 21 10.6**	**-1.1**
	baz=244							
PHUB	**P'eng-hu**	**2.34**	**243**	*e*P	**Pn**	**01 20 43.6**	**-0.5**
	baz=242							
PHUB				*e*S	**Sn**	**01 21 09.8**	**-2.2**
	baz=242							
EAST	**Anshuo**	**2.40**	**202**	*e*P	**Pn**	**01 20 45.4**	**+0.4**
	baz=202							
EAST				*e*S	**Sn**	**01 21 13.9**	**+0.3**
	baz=202							
WDGT	**Dungji**	**2.40**	**236**	*e*P	**Pn**	**01 20 45.5**	**+0.5**
	baz=236							
WDGT				*e*S	**Sn**	**01 21 11.2**	**-2.3**
	baz=236							
TAWH	**Dawu Township**	**2.42**	**201**	*e*P	**Pn**	**01 20 45.6**	**+0.3**
	baz=201							
TAWH				*e*S	**Sn**	**01 21 14.6**	**+0.5**
	baz=201							
SCZT	**Fangliau**	**2.49**	**207**	*e*P	**Pn**	**01 20 47.9**	**+1.6**
	baz=207							
PTMZ	**Houxiangcun**	**2.50**	**280**⇓	*e*P	**Pn**	**01 20 46.1**	**-0.2**
	baz=280							
PTMZ				*e*S	**Sn**	**01 21 13.3**	**-2.6**
	baz=280							
SLIU	**Shizi**	**2.57**	**202**	*e*P	**Pn**	**01 20 48.0**	**+0.8**
	baz=202							
LAY	**Lan-yu**	**2.58**	**186**	*e*P	**Pn**	**01 20 46.8**	**-0.5**
	baz=186							
VCHM	**Qimei**	**2.60**	**238**	*e*P	**Pn**	**01 20 47.4**	**-0.3**
	baz=238							
LYUB	**Lan-yu**	**2.61**	**185**	*e*P	**Pn**	**01 20 46.1**	**-1.6**
	baz=185							
LYUB				*e*S	**Sn**	**01 21 16.0**	**-2.6**
	baz=185							
JTJ	**Tarama**	**2.61**	**89**	P	**Pn**	**01 20 48.9**	**+1.1**
JTJ				*e*S	**Sn**	**01 21 19.8**	**+1.1**
LYJJ	**Jianjiangzhen**	**2.69**	**316**⇓	*e*P	**Pn**	**01 20 48.6**	**-0.2**
	baz=316							
LYJJ				*e*S	**Sn**	**01 21 18.9**	**-1.5**
	baz=316							
SMST	**Manzhou Townsh**	**2.74**	**200**	*e*P	**Pn**	**01 20 50.1**	**+0.6**
	baz=200							
SMST				*e*S	**Sn**	**01 21 22.1**	**+0.4**
	baz=200							
XPSS	**Dashiqiu**	**2.74**	**328**	*e*P	**Pn**	**01 20 49.5**	**0.0**
	baz=327							
XPSS				*e*S	**Sn**	**01 21 19.8**	**-1.9**
	baz=327							
MHZQ	**Yeshan**	**2.94**	**301**	*e*P	**Pn**	**01 20 51.8**	**-0.4**
	baz=301							
MHZQ				*e*S	**Sn**	**01 21 24.8**	**-1.7**
	baz=301							
JIRB	**Irabujima**	**3.05**	**85**	P	**Pn**	**01 20 54.7**	**+1.1**
JIRB				*e*S	**Sn**	**01 21 29.9**	**+0.7**
KNM	**Kinmen**	**3.10**	**267**	*e*P	**Pn**	**01 20 55.8**	**+1.4**
	baz=267							
KNMB	**Chin-men Tao**	**3.14**	**268**⇓	*e*P	**Pn**	**01 20 54.5**	**-0.4**
	baz=268							
JMJ2	**Miyako jima3**	**3.18**	**87**	P	**Pn**	**01 20 56.9**	**+1.3**
JMJ2				*e*S	**Sn**	**01 21 33.1**	**+0.7**
AXDP	**Jialang**	**3.52**	**275**	*e*P	**Pn**	**01 21 00.2**	**+0.1**
	baz=275							
ZPLA	**Ao Xicun**	**3.79**	**261**	*e*P	**Pn**	**01 21 04.4**	**+0.7**
	baz=260							
ZPLA				*e*S	**Sn**	**01 21 46.4**	**-0.8**
	baz=260							
DSXP	**Dongshan**	**4.12**	**258**	*e*P	**Pn**	**01 21 07.5**	**-0.8**
	baz=258							

ISK ***02*** *01:50:56.7,39.˚54N×26.˚14E,h6km,ML3.6/28*
DDA ***02*** *01:50:57.1±0.0,39.˚54N×26.˚16E,h10km±1km,MW3.5*
THE ***02*** *01:50:57.9,39.˚54N×26.˚11E,h10km±1km,ML3.3/11,Error ellipse: s-maj=1.5km s-min=0.6km az=100.0*
SOF ***02*** *01:50:58.2,39.˚66N×26.˚03E,h10km,MD3.2*
ATH ***02*** *01:50:58.6,39.˚50N×26.˚09E,h17km±1km,ML3.1/22,Error ellipse: s-maj=2.2km s-min=0.9km az=126.0*

ISC 02 01:50:57.3±0.8,39.˚54N±0.˚01×26.˚13E±0.02,h10km±5km, n127,σ0.˚77/163,7C-12D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**167**	P	**Pg**	**01 50 59.2**	**-0.1**
KOCA				S	**Sg**	**01 51 00.5**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.08**	**177**	Pg	**Pg**	**01 50 59.2**	**-0.5**
PRK	**Paraskevi**	**0.31**	**159**	P	**Pg**	**01 51 04.9**	**+1.3**
PRK				S	**Sg**	**01 51 09.6**	**+1.9**
	10μm,0.6s						
PRK	**Paraskevi**	**0.31**	**159**	P	**Pg**	**01 51 04.9**	**+1.3**
PRK				S	**Sb**	**01 51 09.8**	**-0.2**
PRK				AML	AML	01 51 10.7	
	comp=E,18234μm,0.6s						
PRK				AML	AML	01 51 11.6	
	comp=N,19875μm,0.5s						
BOZC	**Bozcaada**	**0.31**	**349**	Pg	**Pg**	**01 51 03.7**	**+0.1**
BOZC				Sg	**Sg**	**01 51 08.1**	**+0.3**
BOZC	**Bozcaada**	**0.31**	**349**	P	**Pg**	**01 51 03.7**	**+0.1**
BOZC				P	**Pg**	**01 51 03.8**	**+0.1**
BOZC				S	**Sg**	**01 51 07.8**	**0.0**
EZN	**Ezine**	**0.33**	**28**	P	**Pg**	**01 51 03.9**	**0.0**
EZN				S	**Sg**	**01 51 08.6**	**+0.3**
	comp=N,4μm,0.2s						
EZN	**Ezine**	**0.33**	**28**	Pg	**Pg**	**01 51 03.9**	**0.0**
EZN				Sg	**Sg**	**01 51 08.6**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.38**	**58**	P	**Pg**	**01 51 04.5**	**-0.4**
BAYC				S	**Sg**	**01 51 08.0**	**-2.0**
SIGR	**SIGRI**	**0.39**	**213**	P	**Pg**	**01 51 05.3**	**+0.2**
SIGR				S	**Sg**	**01 51 11.1**	**+1.0**
	comp=N,6μm,0.5s						
SIGR	**SIGRI**	**0.39**	**213**	Pg	**Pg**	**01 51 05.2**	**+0.2**
SIGR				Sg	**Sg**	**01 51 10.9**	**+0.8**
SIGR	**SIGRI**	**0.39**	**213**	P	**Pg**	**01 51 05.2**	**+0.2**
SIGR				S	**Sg**	**01 51 11.0**	**+1.0**
SIGR				AML	AML	01 51 11.8	
	comp=N,15077μm,0.6s						
SIGR				AML	AML	01 51 16.0	
	comp=E,10781μm,0.4s						
AYVA	**Ayvalik**	**0.49**	**117**	P	**Pg**	**01 51 06.8**	**-0.1**
ECEA	**Canakkale, Ece**	**0.51**	**4**	P	**Pg**	**01 51 07.3**	**0.0**
GOKA	**anakkale-Gk**	**0.68**	**346**	P	**Pg**	**01 51 10.2**	**-0.2**
GOKA				S	**Sg**	**01 51 18.7**	**-0.6**
GADA	**Gvkgeada**	**0.68**	**345**	Pg	**Pg**	**01 51 19.4**	**-0.3**
GADA				Sg	**Sg**	**01 51 19.4**	**0.0**
BUHA	**Balikesir, Bur**	**0.73**	**92**	P	**Pg**	**01 51 11.3**	**-0.3**
BUHA				S	**Sg**	**01 51 20.4**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.90**	**17**	Pg	**Pg**	**01 51 14.2**	**-0.5**
GELI				Sg	**Sg**	**01 51 27.2**	**+0.7**
ZEDA	**zmir-Bergama**	**0.93**	**127**	P	**Pg**	**01 51 14.8**	**-0.5**
ZEDA				S	**Sg**	**01 51 27.1**	**-0.2**
FOCM	**Foa**	**0.95**	**150**	Pg	**Pg**	**01 51 15.4**	**-0.2**
LPK	**Lapseki**	**0.97**	**30**	Pg	**Pg**	**01 51 15.4**	**-0.6**
LPK				Sg	**Sb**	**01 51 29.4**	**+0.4**
SMTH	**Samothraki Isl**	**1.04**	**334**	P	**Pg**	**01 51 17.0**	**-0.4**
SMTH				S	**Sb**	**01 51 31.7**	**+0.5**
	comp=E,1μm,0.2s						
SMTH	**Samothraki Isl**	**1.04**	**334**	P	**Pg**	**01 51 16.9**	**-0.4**
SMTH				S	**Sb**	**01 51 31.6**	**+0.5**
SMTH				AML	AML	01 51 33.0	
	comp=N,3277μm,0.2s						
SMTH				AML	AML	01 51 33.8	
	comp=E,2424μm,0.4s						
PSRA	**Psara**	**1.09**	**204**	P	**Pb**	**01 51 18.1**	**0.0**
PSRA				AML	AML	01 51 37.5	
	comp=N,6800μm,0.3s						
PSRA				AML	AML	01 51 37.7	
	comp=E,7270μm,0.4s						
CHOS	**Chios island**	**1.15**	**183**	P	**Pb**	**01 51 18.8**	**-0.5**
CHOS				S	**Sb**	**01 51 34.6**	**+0.3**
	comp=E,2μm,0.4s						
CHOS	**Chios island**	**1.15**	**183**	Pn	**Pb**	**01 51 18.9**	**-0.4**
CHOS	**Chios island**	**1.15**	**183**	P	**Pb**	**01 51 18.8**	**-0.5**
CHOS				AML	AML	01 51 40.4	
	comp=N,3185μm,0.4s						
CHOS				AML	AML	01 51 41.3	
	comp=E,4603μm,0.5s						
CAVK	**Edirne/Enez-Ca**	**1.16**	**2**	P	**Pb**	**01 51 18.2**	**-1.1**
CAVK				S	**Sb**	**01 51 34.6**	**+0.2**
ERIK	**Erikli-Kesan**	**1.17**	**14**	Pn	**Pb**	**01 51 18.9**	**-0.7**
ENEZ	**Enez**	**1.20**	**1**	P	**Pb**	**01 51 19.9**	**-0.2**
ENEZ				S	**Sg**	**01 51 36.4**	**+0.4**
	comp=E,4μm,0.4s						
ENEZ	**Enez**	**1.20**	**1**	Pn	**Pb**	**01 51 19.7**	**-0.4**
URLA	**Izmir**	**1.23**	**163**	Pn	**Pn**	**01 51 20.0**	**-0.6**
URLA	**Izmir**	**1.23**	**163**	P	**Pn**	**01 51 19.9**	**-0.7**
URLA				S	**Sb**	**01 51 35.6**	**-1.0**
KRBG	**Karabiga-Canak**	**1.24**	**46**	Pn	**Pn**	**01 51 20.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.24**	**97**	P	**Pn**	**01 51 21.0**	**+0.3**
STEP				S	**Sb**	**01 51 37.9**	**+1.0**
KNL	**Balıkesir**	**1.30**	**55**	P	**Pn**	**01 51 21.1**	**-0.4**
KNL				S	**Sb**	**01 51 37.9**	**-0.7**
GONE	**Gonen-Balikesi**	**1.30**	**66**	Pn	**Pn**	**01 51 21.2**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**1.33**	**167**	P	**Pn**	**01 51 21.2**	**-0.6**
ZEYE				S	**Sb**	**01 51 38.1**	**-1.2**
BLCB	**Balcova**	**1.35**	**148**	P	**Pn**	**01 51 22.2**	**0.0**
BLCB				S	**Sb**	**01 51 40.0**	**0.0**
BLCB	**Balcova**	**1.35**	**148**	Pn	**Pn**	**01 51 22.7**	**+0.5**
KESN	**Edirne-Kesan**	**1.36**	**18**	P	**Pn**	**01 51 22.0**	**-0.6**
KESN				S	**Sb**	**01 51 40.1**	**-0.4**
BALB	**Balikesir**	**1.36**	**85**	Pn	**Pn**	**01 51 22.1**	**-0.2**
ALN	**Alexandroupoli**	**1.36**	**357**	P	**Pn**	**01 51 22.4**	**+0.1**
ALN				S	**Sb**	**01 51 40.7**	**+0.4**
	comp=E,2μm,0.4s						
ALN	**Alexandroupoli**	**1.36**	**357**	Pn	**Pn**	**01 51 22.7**	**+0.4**
ALN	**Alexandroupoli**	**1.36**	**357**	P	**Pn**	**01 51 22.4**	**+0.1**
ALN				AML	AML	01 51 41.6	
	comp=E,4512μm,0.4s						
ALN				AML	AML	01 51 43.8	
	comp=N,2888μm,0.5s						
RKY	**Sarkoy-Tekirda**	**1.40**	**35**	Pn	**Pn**	**01 51 22.7**	**-0.3**
AKHS	**Akhisar**	**1.47**	**116**	P	**Pn**	**01 51 23.6**	**-0.2**
THAS	**Thassos island**	**1.52**	**315**	P	**Pn**	**01 51 25.0**	**+0.5**
THAS				S	**Sn**	**01 51 44.2**	**-0.1**
	comp

DST	Dursunbey	1.93 87	Pn	Pn	01 51 30.8	+0.6	
PAIG	Paliouri	1.93 282	P	Pn	01 51 30.0	-0.1	
PAIG			S	Sn	01 51 53.6	-0.8	
	comp=N,198nm,0.6s						
PAIG	Paliouri	1.93 282	P	Pn	01 51 29.8	-0.4	
PAIG			AML	AML	01 52 02.7		
	comp=N,463µm,0.7s						
PAIG			AML	AML	01 52 03.7		
	comp=E,325µm,0.5s						
KVLA	Kavala	1.93 317	P	Pn	01 51 31.0	+0.8	
CRLT	Corlu	2.01 37	Pn	Pn	01 51 32.0	+0.7	
GCAM	G?zelcaml?	2.03 154	Pn	Pn	01 51 32.6	+1.1	
GCAM	G?zelcaml?	2.03 154	P	Pb	01 51 34.3	+0.1	
KOKK	Kokkinochori,	2.07 309	P	Pn	01 51 31.8	-0.3	
KOKK	Kokkinochori,	2.07 309	P	Pn	01 51 31.6	-0.6	
KOKK			AML	AML	01 52 04.2		
	comp=E,604µm,0.4s						
KOKK			AML	AML	01 52 07.1		
	comp=N,593µm,0.4s						
AYDB	Zeytinkoy-Aydi	2.10 138	Pn	Pn	01 51 32.7	0.0	
MANT	Manisa	2.16 118	P	Pn	01 51 33.2	-0.3	
KDZ	Kurdzhali	2.18 346	P	Pn	01 51 34.0	+0.4	
KULA	Kula-Manisa	2.22 117	Pn	Pn	01 51 34.5	+0.2	
DION	Dionisos Attik	2.25 230	P	Pn	01 51 34.2	-0.4	
DION			AML	AML	01 52 18.9		
	comp=E,522µm,0.5s						
DION			AML	AML	01 52 19.9		
	comp=N,592µm,0.7s						
SIMA	Simav-Kutahya	2.26 101	Pn	Pn	01 51 36.3	+1.5	
NEO	Neokhori	2.26 265	P	Pn	01 51 34.1	-0.6	
NEO			AML	AML	01 52 13.2		
	comp=N,381µm,0.5s						
NEO			AML	AML	01 52 13.8		
	comp=E,292µm,0.6s						
PTL	Penteli	2.31 231	P	Pn	01 51 34.8	-0.6	
RZN	Rozhen	2.40 334	P	Pn	01 51 37.4	+0.5	
VLY	Voula,Athens	2.48 228	P	Pn	01 51 36.6	-1.2	
VLY			AML	AML	01 52 24.5		
	comp=E,391µm,0.9s						
VLY			AML	AML	01 52 26.6		
	comp=N,298µm,0.7s						
SRS	Serrai	2.50 310	P	Pn	01 51 37.5	-0.5	
SRS			AML	AML	01 52 19.7		
	comp=E,300µm,0.4s						
SRS			AML	AML	01 52 19.8		
	comp=N,212µm,0.4s						
NVR	Nevrokopi	2.50 317	P	Pn	01 51 39.1	+1.0	
NVR			AML	AML	01 52 18.7		
	comp=N,178µm,0.5s						
NVR			AML	AML	01 52 19.1		
	comp=E,170µm,0.6s						
APE	Apeiranthos	2.51 191	P	Pn	01 51 36.9	-1.2	
APE			AML	AML	01 52 23.5		
	comp=E,398µm,0.7s						
APE			AML	AML	01 52 25.6		
	comp=N,270µm,0.4s						
DIM	Dimitrovgrad	2.55 350	P	Pn	01 51 39.3	+0.6	
HORT	Hortiatis	2.55 295	P	Pn	01 51 39.3	+0.4	
HORT			AML	AML	01 52 21.6		
	comp=N,130µm,0.5s						
HORT			AML	AML	01 52 22.5		
	comp=E,218µm,0.6s						
VIL2	Platees	2.59 240	P	Pn	01 51 38.4	-1.0	
VIL2			AML	AML	01 52 28.2		
	comp=E,530µm,0.6s						
VIL2			AML	AML	01 52 31.9		
	comp=N,239µm,0.7s						
MMB	Musomiste	2.75 319	P	Pn	01 51 41.2	-0.3	
PLD	Plovdiv	2.79 338	P	Pn	01 51 43.0	+1.1	
LIT	Litokhoron	2.86 283	P	Pn	01 51 42.6	-0.3	
LOUT	Loutraki	2.91 239	P	Pn	01 51 42.8	-0.9	
JMB	Yambol	2.95 7	P	Pb	01 51 50.0	+0.1	
KNT	Kendrikon	2.95 304	P	Pn	01 51 44.7	+0.4	
KNT			AML	AML	01 52 33.7		
	comp=N,242µm,0.5s						
KNT			AML	AML	01 52 34.4		
	comp=E,207µm,0.6s						
AGG	Agios Georgios	2.99 261	P	Pn	01 51 44.6	-0.2	
AGG			AML	AML	01 52 36.5		
	comp=N,72µm,0.7s						
AGG			AML	AML	01 52 41.1		
	comp=E,71µm,0.9s						
THAL	Thalero	3.09 242	P	Pn	01 51 45.4	-0.8	
MAKR	Makrakomi, Fth	3.15 262	P	Pn	01 51 47.3	+0.4	
MAKR			AML	AML	01 52 43.2		
	comp=N,176µm,1.1s						
MAKR			AML	AML	01 52 45.4		
	comp=E,116µm,0.5s						
VAY	Valandovo	3.25 304	*i* Pn	Pn	01 51 48.4	+0.1	
KKB	Krupnik	3.28 316	*e*P	Pn	01 51 50.2	+1.4	
EVR	Evrytania	3.41 261	P	Pn	01 51 51.9	+1.3	
KLV	Kalavryta, Ach	3.45 246	P	Pn	01 51 50.0	-1.1	
LAKA	Lakka	3.49 250	P	Pn	01 51 51.6	0.0	
STIP	Stip	3.69 307	*i* Pn	Pn	01 51 53.6	-0.8	
VTS	Vitosha	3.78 326	P	Pn	01 51 56.5	+0.8	
PRD	Provadia	3.78 14	P	Pn	01 51 56.0	+0.4	
DRO	Drossia	3.80 247	P	Pn	01 51 56.3	+0.4	
PLVB	Pleven	4.01 344	⇓P	Pn	01 51 60.0	+1.2	
RAZG	Razgrad	4.04 4	⇓P	Pn	01 52 00.1	+1.0	
COPA	Copaceanca	4.64 352	⇓P	Pn	01 52 09.0	+1.5	
BOVS	Bovan	5.27 322	⇓P	Pn	01 52 16.7	+0.7	
ARR	Arges	5.93 350	⇓P	Pn	01 52 26.1	+0.9	
VOIR		5.95 353	⇑P	Pn	01 52 27.4	+1.9	
MLR	Muntele Rosu	5.95 359	⇑P	Pn	01 52 27.2	+1.6	
HERR	Herculane	6.01 334	⇓P	Pn	01 52 26.2	0.0	
MDVR	Moldovita	6.18 329	⇑P	Pn	01 52 28.7	+0.1	
COVR	Voineasa-Covas	6.31 0	⇓P	Pn	01 52 32.8	+2.5	
PLOR	Plostina	6.32 3	⇑P	Pn	01 52 33.0	+2.4	
VRI	Vrincioaia	6.34 4	⇑P	Pn	01 52 33.0	+2.2	
GZR	Gura Zlata	6.36 338	⇑P	Pn	01 52 31.7	+0.6	
OZUR		6.56 358	⇑P	Pn	01 52 35.0	+1.1	
SURR	Surduc	6.88 336	⇓P	Pn	01 52 38.8	+0.7	
BZS	Buzias	6.93 333	⇓P	Pn	01 52 38.7	-0.1	
TESR	Tescani	6.98 3	⇓P	Pn	01 52 41.1	+1.5	
MARR	Marisel-Cluj	7.47 344	⇓P	Pn	01 52 47.3	+1.0	
SIRR	Siria	7.48 335	⇓P	Pn	01 52 46.1	-0.4	

MEX 02 02:07:46.6±0.5, 14°.74N×93°.00W, h14km±44km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.73	77	*e*S	Sg	02 08 10.2	-0.3
PATR	El Naranjo	0.83	63	*e*P	Pg	02 08 00.2	-2.6
PATR				*e*S	Sg	02 08 10.4	-3.4
PAVE	Pavencul	0.92	60	*e*P	Pg	02 08 01.6	-2.9
PAVE				*e*S	Sg	02 08 13.3	-3.2
CHUJ	Union Juarez	0.93	68	*e*P	Pg	02 08 01.6	-3.1
CHUJ				*e*S	Sg	02 08 13.7	-3.3

*IDC **02** 02:10:08.3±1.3, 40°.81N×114°.44E, h0km, mb3.4/4, mbtmp3.5/5, ML4.1/1, Error ellipse: s-maj=36.8km s-min=21.2km az=65.0*

ISC 02 02:10:10.6±0.7, 40°.85N±0°.04×114°.34E±0°.04, h13km, n14, σ2s13/24, mb3.5/4, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTO	Baotou	3.29	267	*e*Pn	Pn	02 11 01.8	-0.1
BTO				Pg	Pb	02 11 08.1	-0.8
BTO				Sn	Sn	02 11 41.6	+0.6
BTO				Sg	Sb	02 11 49.9	+1.0
BTO				smax	smax		
	comp=N,2µm,0.5s						
BTO				smax	smax		
	comp=E,1µm,0.6s						
XLT	XiLinHaoTe	3.31	22	*e*Pg	Pn	02 11 04.1	+1.9
XLT				Sg	Sg	02 11 56.8	-0.1
XLT				smax	smax		
	comp=N,54nm,1.0s						
XLT				smax	smax		
	comp=E,900nm,0.9s						
HNS	HongShan	3.46	175	*e*Pn	Pn	02 11 02.6	-1.4
HNS				Pg	Pb	02 11 10.7	-0.9
HNS				Sn	Sn	02 11 42.8	-2.0
HNS				Sg	Sb	02 11 52.9	-0.6
HNS				smax	smax		
	comp=N,840nm,0.5s						
HNS				smax	smax		
	comp=E,1µm,1.0s						
TIA	Tai'an	5.12	154	Pn	Pb	02 11 31.5	-8.4
TIA				Pg	Pg	02 11 40.8	-7.8
TIA				Sg	Sb	02 12 45.0	+3.7
TIA				smax	smax		
	comp=N,82nm,0.8s						
TIA				smax	smax		
	comp=E,96nm,0.8s						
DL2	Dalian	5.93	107	Pg	Pg	02 12 03.5	-0.6
DL2				Sg	Sg	02 13 21.5	+0.6
DL2				smax	smax		
	comp=N,45nm,0.8s						
DL2				smax	smax		
	comp=E,34nm,0.7s						
LYN	LuoYang	6.46	194	Pg	Pb	02 12 05.5	+2.7
LYN				Sg	Sb	02 13 25.3	+5.4
LYN				smax	smax		
	comp=N,100nm,0.5s						
LYN				smax	smax		
	comp=E,170nm,0.7s						
XAN	Xi'an	8.04	214	Pn	Pn	02 12 04.7	-2.5
XAN				Sg	Sb	02 14 11.8	+6.2
XAN				smax	smax		
	comp=N,51nm,0.8s						
XAN				smax	smax		
	comp=E,39nm,0.9s						
SONM	Songino Array	9.01	323	Pn	Pn	02 12 19.3	-1.1
	comp=E,1.8nm,0.3s,baz=145,slow=13,SNR=72						
SONM				Sn	Sn	02 14 05.9	+4.2
	comp=E,0.2nm,0.3s,baz=135,slow=20,SNR=3.6						
SONM				Lg	Lg	02 14 54.0	
	comp=E,1.1nm,0.3s,baz=137,slow=24,SNR=5.3						
	comp=E,3.3nm,0.4s						
GOMU	GeErMu	15.96	259	P	Pn	02 13 53.6	-1.6
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMQ	Urumqi	19.89	287	*e*P	P	02 14 41.7	0.0
MKAR	Makanchi Array	23.77	295	P	P	02 15 24.2	+1.5
	comp=Z,0.4nm,0.8s,baz=99,slow=11,SNR=3.1						
	comp=Z,0.4nm,0.8s						
CMAR	Chiang Mai Arr	25.94	215	P	P	02 15 42.9	+0.2
	comp=Z,0.3nm,0.3s,baz=38,slow=7.4,SNR=2.1						
	comp=Z,0.3nm,0.3s						
ASAR	Alice Springs	66.71	160	P	P	02 21 00.0	-1.3
	comp=Z,0.5nm,0.7s,baz=343,slow=6.8,SNR=5.1						
	comp=Z,0.5nm,0.7s						
YKA	Yellowknife Ar	69.78	22	P	P	02 21 20.3	+0.3
	comp=Z,0.3nm,0.8s,baz=339,slow=5.0,SNR=4.9						
	comp=Z,0.3nm,0.8s						

*ANF **02** 02:11:07.6±0.8, 38°.83N×118°.54W, h3km±6km, ML4.0/21, Error ellipse: s-maj=6.0km s-min=3.1km az=122.0*
*REN **02** 02:11:10.0±1.0, 38°.70N±0°.02×118°.48W±0°.02, h11km±2km, Mwr3.5, ML3.6/62(NEIC), Error ellipse: s-maj=2.6km s-min=2.2km az=179.0*
*IDC **02** 02:11:09.8±1.5, 38°.75N×118°.49W, h0km, mb2.9/1, mbtmp3.0/2, ML3.8/1, Error ellipse: s-maj=16.4km s-min=7.2km az=88.0*
*NEIC **02** 02:11:10.5±1.2, 38°.69N±0°.02×118°.47W±0°.03, h15km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=52.0*
*NEIC **02** 02:11:12, 38°.70N×118°.48W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr0.37; Mθθ-0.76; Mϕϕ0.40; Mrθ0.75; Mrϕ2.10; Mθϕ0.76; Fault plane solution: M◎2.45000×10^14^ NP1:∅s85.00000°, δ74.00000°, λ22.00000°. NP2:∅s349.00000°, δ69.00000°, λ163.00000°. Principal axes: T 2.5176, Plg26.0000°, Azm308.0000°; N -0.1481, Plg64.0000°, Azm120.0000°; P -2.3695, Plg3.0000°, Azm217.0000°:*

ISC 02 02:11:10.4±0.9, 38°.70N±0°.02×118°.46W±0°.02, h11km±6km, n136, σ1s101/160, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RYN	Ryan	0.08	213	Pg	Pg	02 11 12.9	-0.3
RYN				Sg	Sg	02 11 14.5	-0.6
NV09	Mina Array Sit	0.28	159		Pg	02 11 16.3	0.0
NVAR	Mina Array Bea	0.30	155	Pg	Pg	02 11 16.1	-0.4
	2µm,0.3s,baz=336,slow=16,SNR=1379						
NVAR				Lg	Lg	02 11 20.5	
	4µm,0.3s,baz=325,slow=19,SNR=41						
NVAR	Mina Array Bea	0.30	155		Pg	02 11 16.5	0.0
NV08	Mina Array Sit	0.32	159		Pg	02 11 16.8	-0.1
TVH1	TV Hill, Hawth	0.34	225		Pg	02 11 17.1	-0.3
TVH1					Sg	02 11 22.3	+0.4
NV11	Mina Array Sit	0.36	138		Pb	02 11 18.6	-0.3
NV11				Sg	Sg	02 11 23.4	+1.0
LHV	Little Huntoon	0.45	184		Pg	02 11 19.3	+0.1
LHV				Sg	Sg	02 11 25.6	+0.5
LHV				IAML		02 11 26.6	
	comp=N,7µm,0.3s						
KVN	Kaiserville	0.45	39		Pg	02 11 19.2	-0.1
YERR	Yerington	0.67	296		Pg	02 11 23.0	-0.5
YERR				IAML		02 11 33.1	
	comp=N,2µm,0.3s						
YERR				IAML		02 11 36.8	
	comp=E,4µm,0.4s						
WAKR	Walker	0.79	256		Pg	02 11 25.3	-0.3
WAKR				Sg	Sg	02 11 35.7	-0.3
LUL	Lundy Lake	0.86	221		Pg	02 11 26.5	-0.5
PNTR	Pine Nut	0.97	294		Pg	02 11 28.4	-0.7
PNTR	Pine Nut	0.97	294	Sg	Sg	02 11 41.4	-0.4
PNTR				IAML		02 11 45.1	
	comp=N,3µm,0.8s						
BENR	Benton	0.98	185		Pg	02 11 28.8	-0.6
Q09A	Carvers	1.01	82	Pg	Pg	02 11 29.8	-0.2
ORC	Owens River	1.07	188		Pg	02 11 30.5	-0.5
VCNR	Virginia City	1.10	303		Pg	02 11 30.8	-0.8
VCNR				Sg	Sg	02 11 45.2	-0.8
VCNR				IAML		02 11 48.9	
	comp=E,1µm,0.5s						
MCBM	Casa Benchmark	1.11	198		Pg	02 11 31.2	-0.5
MLAC	Mammoth, Mammo	1.11	195		Pg	02 11 31.3	-0.4
MLAC	Mammoth, Mammo	1.11	195	P	Pg	02 11 31.0	-0.7
	baz=14,SNR=13						
MLAC				S	Sg	02 11 46.4	+0.3
	baz=14						
MLNR	Milner Canyon	1.11	175		Pg	02 11 31.2	-0.5
MDYM	Dry Creek	1.12	203		Pg	02 11 31.7	-0.4
TPH	Tonopah	1.16	122		Pb	02 11 32.1	-0.4
TPH					Sb	02 11 48.0	+0.4
OMMB	Old Mammoth Mi	1.16	201		Pg	02 11 32.0	-0.8
MDPB	Devils Postpil	1.17	205		Pb	02 11 32.1	-0.6
MDPB				Sg	Sg	02 11 47.2	-0.9
RCCR	Rock Creek Can	1.23	190		Pb	02 11 33.3	-0.5
EMB	Emerald Bay	1.31	283		Pn	02 11 34.3	-0.5
EMB					Sn	02 11 52.3	0.0
EMB				IAML		02 11 53.5	
	comp=E,2µm,0.5s						
EMB				IAML		02 11 54.7	
	comp=N,2µm,0.5s						
MZP	Montezuma Peak	1.31	139		Pn	02 11 34.1	-0.7
MZP				Sg	Sb	02 11 51.3	-0.7
MZP				IAML		02 11 54.7	
	comp=E,622nm,0.7s						
POCCA	Poleta Canyon	1.34	174		Pn	02 11 35.4	+0.2
SCHCA	Scheelite	1.35	188		Pn	02 11 35.4	+0.1
MPK	Martis Peak	1.36	297		Pn	02 11 35.1	-0.4
MPK				Sg	Sg	02 11 53.9	-0.3
MPK				IAML		02 11 57.6	
	comp=E,1µm,0.8s						
MPK				IAML		02 12 00.2	
	comp=N,1µm,0.9s						
DSP	Deep Springs	1.38	163	Pn	Pn	02 11 35.8	+0.2
DSP					Sn	02 11 54.0	+0.3
DSP				IAML		02 11 59.2	
	comp=E,638nm,0.5s						
PEAR	Peavine Mounta	1.48	308		Pn	02 11 36.6	-0.5
PEAR					Sg	02 11 58.3	+0.3
KCC	Kaiser Creek	1.53	206		Pn	02 11 37.7	0.0
BABR	Babbit Peak	1.56	306		Pn	02 11 37.7	-0.6
DONR	Donner Summit	1.59	295		Pn	02 11 37.9	-0.7
LCH	Last Change Ra	1.60	156		Pn	02 11 38.2	-0.5
LCH				IAML		02 12 03.8	
	comp=N,1µm,0.5s						
WVA	Winnemucca Val	1.63	320		Pn	02 11 38.7	-0.5
CMB	Columbia Colle	1.65	247	Pn	Pn	02 11 39.1	-0.2
CMB				IAML		02 12 02.8	
	comp=N,621nm,0.3s						
CMB				IAML		02 12 04.2	
	comp=E,706nm,0.5s						
TIN	Tinemaha, Big	1.65	173		Pb	02 11 41.3	+0.4
TIN	Tinemaha, Big	1.65	173	Pb	Pb	02 11 41.3	+0.4
	baz=353,SNR=53						
TIN				S	Sg	02 12 03.4	-0.1
	baz=353						
LOY	Loyalton	1.68	305		Pn	02 11 39.5	-0.3
BEKR	Beckworth	1.88	309	Pn	Pn	02 11 41.6	-0.9
GRAC	Grapevine Rang	1.91	153		Pn	02 11 43.0	+0.2
GRAC	Grapevine Rang	1.91	153	Pn	Pn	02 11 42.0	-0.8
GRAC	Grapevine Rang	1.91	153	P	Pn	02 11 43.1	+0.2
	baz=333						
GRAC				S	Sg	02 12 11.5	-0.3
	baz=333						
AFDM	Forest Hills D	1.98	278		Pn	02 11 43.6	-0.2
BMN	Battle Mountai	1.98 29		Pn	Pn	02 11 42.8	-1.2
SGV	South Grapevin	2.06	146		Pn	02 11 45.0	0.0
PLTX	Planet X, Gerl	2.15	339	Pn	Pn	02 11 45.4	-0.9
CWC	Cottonwood Cre	2.27	172		Pn	02 11 48.5	+0.5
CWC	Cottonwood Cre	2.27	172	P	Pn	02 11 48.4	+0.4
	baz=352						
CWC				Sb	Sg	02 12 22.6	-1.0
	baz=352						
R11A	Troy Canyon, C	2.29 98		Pn	Pn	02 11 47.6	-0.6
R11A				IAML		02 12 23.7	
	comp=E,553nm,0.5s						
R11A	Troy Canyon, C	2.29 98		P	Pn	02 11 47.5	-0.6
	baz=280						
R11A				Sb	Sg	02 12 22.2	-1.7
	baz=280						
KPK	Kanaka Peak	2.38	293		Pn	02 11 49.5	+0.1
S11A	Rachel	2.39	115	Pn	Pn	02 11 49.3	-0.2
WCT	Wildcat Mounta	2.40	142		Pn	02 11 49.5	-0.1
TPNV	Topopah Spring	2.48	134	Pn	Pn	02 11 50.8	0.0
TPNV				IAML		02 12 33.8	
	comp=E,288nm,0.8s						
TPNV				IAML		02 12 38.1	
	comp=E,366nm,1.0s						
TPNV	Topopah Spring	2.48	134	P	Pn	02 11 50.6	-0.1
	baz=316						
TPNV				Sb	Sg	02 12 29.1	-0.8
	baz=316						
VOG	Valley Oaks Go	2.48	197	Sb	Sg	02 12 28.7	-1.5
	baz=16						
ORV	Oroville	2.51	291	Pn	Pn	02 11 50.8	-0.3
FURC	Furnace Creek,	2.56	150	Pb	Pb	02 11 56.6	+0.2
	baz=331						
FURC				Sb	Sg	02 12 32.1	-0.7
	baz=331						
CPY	CP-1	2.60	132		Pn	02 11 52.4	0.0
SDH	Striped Hills	2.66	140		Pn	02 11 53.6	+0.4
MPMC	Manual Prospec	2.75	163	P	Pn	02 11 54.7	+0.2
	baz=344,SNR=44						
MPMC				Sb	Sg	02 12 37.5	-1.2
	baz=344						
AMDNV	Amargosa	2.83	142		Pn	02 11 56.2	+0.7
Q12A	Willow Creek R	2.86 82			Pn	02 11 56.9	+0.9
GWY	Greenwater Val	2.89	150	Pn	Pn	02 11 56.3	-0.1
VES	Vestal, Richgr	2.90	190	Pb	Pb	02 12 02.5	+0.5
	baz=9.3,SNR=77						
VES				Sb	Sb	02 12 40.4	+3.1
	baz=9.3						
BBGB	Big Mountain B	2.94	225	Pn	Pn	02 11 56.9	-0.3
PRN	Pahroc Range	2.99	115	Pn	Pn	02 11 57.7	-0.1
QSM	Queen of Sheba	3.01	155	Pn	Pn	02 11 57.2	-0.8
ISA	Isabella, Lake	3.03	180	Pn	Pn	02 11 58.1	-0.2
ISA				IAML		02 12 47.7	
	comp=N,140nm,0.6s						
ISA				IAML		02 12 47.8	
	comp=E,198nm,1.0s						
ISA	Isabella, Lake	3.03	180	Pb	Pb	02 12 05.3	+1.0
	baz=360						
ISA				Sb	Sb	02 12 44.8	+3.4
	baz=360						
PMPB	Monarch Peak	3.10	218	Pn	Pn	02 11 58.5	-0.7
ELK	Elko	3.22 50		Pn	Pn	02 12 00.2	-0.9
ELK				IAML		02 12 56.4	
	comp=E,96nm,0.6s						
ELK				IAML		02 12 56.8	
	comp=E,116nm,0.6s						
SPR3	Spring Creek 3	3.24 83			Pn	02 12 01.1	-0.3
SHOC	Shoshone, Teco	3.29	147	P	Pn	02 12 01.9	+0.1
	baz=329,SNR=36						
SHOC				Sb	Sg	02 12 55.1	-1.1
	baz=329						
GDXM	Geysers	3.39	273	Pn	Pn	02 12 02.6	-0.6
LTIM	Timbered Crate	3.40	318		Pn	02 12 04.9	+1.5
SHPR	Sheep Range	3.42	129		Pn	02 12 03.7	0.0
MOD	Modoc Plateau	3.50	337		Pn	02 12 04.6	-0.2
MOD				IAML		02 13 08.4	
	comp=E,138nm,0.7s						
MOD				IAML		02 13 11.2	
	comp=N,116nm,1.3s						
ARVC	Arvin	3.58	185	Pb	Pb	02 12 13.8	+0.2
	baz=4.3						
ARVC				Sb	Sg	02 13 02.0	-3.3
	baz=4.3						
GSC	Goldstone, Bar	3.64	158		Pn	02 12 06.6	-0.1
GSC				IAML		02 13 10.5	
	comp=N,99nm,0.8s						
GSC				IAML		02 13 19.8	
	comp=E,100nm,1.1s						
GSC	Goldstone, Bar	3.64	158	Sb	Sg	02 13 05.1	-2.2
	baz=339						
WVOR	Wild Horse Val	3.73	358	Pn	Pn	02 12 08.7	+0.7
WVOR				IAML		02 13 09.3	
	comp=E,93nm,0.7s						
WVOR				IAML		02 13 09.8	
	comp=E,89nm,0.6s						
BCW	Bitter Crk WRg	3.83	192	Pn	Pn	02 12 08.3	-1.0
BCW				IAML		02 13 13.4	
	comp=E,120nm,1.3s						
BCW				IAML		02 13 16.6	
	comp=N,106nm,0.8s						
EDW2	Edwards Air Fo	3.83	174	Sb	Sg	02 13 10.5	-2.9
	baz=354						
TUQ	Turquoise Moun	3.84	147	Sb	Sg	02 13 11.5	-2.1
	baz=329						
ICU	Indian Springs	3.91	112		Pn	02 12 11.6	+1.1
PKM	Mcpherson Peak	3.95	196	Sb	Sg	02 13 13.2	-4.2
	baz=15						
RRX	Edison Barstow	3.99	162	Sb	Sg	02 13 17.3	-1.3
	baz=343						
V12A	Nelson	4.14	135	Pn	Pn	02 12 13.7	+0.2
CCUT	Cedar City	4.18	104		Pn	02 12 13.8	-0.5
HEC	Hector,Ludlow	4.22	155	Sb	Sg	02 13 23.5	-2.5
	baz=337						
SZCU	Shurtz Canyon	4.38	103	Pn	Pn	02 12 16.5	-0.5
DECC	Green Verdugo	4.44	179	Sb	Sg	02 13 29.5	-3.3
	baz=358						
LCMT	Little Creek M	4.46	111		Pn	02 12 16.9	-1.2
PASC	Pasadena Art C	4.52	177	Pn	Pn	02 12 16.8	-2.0
DUG	Dugway, Tooele	4.62	69		Pn	02 12 20.6	+0.4
J08A	Circle Bar Ran	4.66	360	Pn	Pn	02 12 21.1	+0.5
BGU	Big Grassy Mou	4.74	60		Pn	02 12 21.9	0.0
KNB	Kanab	4.77	109		Pn	02 12 21.9	-0.4
MVU	Marysvale	4.90	90		Pn	02 12 23.7	-0.5
MSU	Marysvale	4.93	90	Pn	Pn	02 12 24.6	+0.1
BELC	Belle Mtn. Jos	5.09	156	P	Pn	02 12 27.4	+0.7
	baz=338						
NLU	North Lily Min	5.11 74		Pn	Pn	02 12 26.8	-0.2
MFID	Camas Ranch	5.12 22		Pn	Pn	02 12 25.7	-1.3
HUMO	Hull Mountain	5.19	320	Pn	Pn	02 12 30.2	+2.3
SPUT	South Promonto	5.30	59	Pn	Pn	02 12 30.5	+0.8
PMD	Palm Desert	5.32	161	Pn	Pn	02 12 29.9	+0.2
PFO	Pinyon Flats O	5.33	162	Pn	Pn	02 12 29.3	-0.6
PFO	Pinyon Fl

comp=N,0.2nm,0.3s,baz=239,slow=12,SNR=8.2
PDAR Lg Lg 02 15 16.3
comp=N,0.3nm,0.3s,baz=232,slow=26,SNR=2.9
comp=N,0.5nm,0.5s
PDAR Pinedale Array 7.89 56 Pn **Pn 02 13 05.5 +0.4**
YKA Yellowknife Ar 23.94 4 P **P 02 16 25.6 +1.5**
comp=N,0.4nm,0.9s,baz=200,slow=9.0,SNR=3.2
comp=N,0.4nm,0.9s

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*MEX **02** 02:13:11.3±0.7, 32°41'N×114°99'W, h5km, MD3.7*
*ECX **02** 02:13:11.8±0.5, 32°37'N×115°20'W, h9km±1km, MD2.2, ML2.4*

ISC 02 02:13:13.2±0.9, 32°40'N±0°04'×115°26'W±0°04, h11km±5km, n18, σ1°25'/26, 5C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CPBX	**Cerro Prieto**	**0.05**	**297**	*eP*		**Pg**	**02 13 15.9**	**+0.5**
CPBX				*eS*		**Sg**	**02 13 18.8**	**+1.8**
CPBX				⇑*e*			02 13 20.6	
CPBX				IAML			02 13 20.6	
	comp=E,6μm,0.2s							
CPBX				IAML			02 13 21.4	
	comp=N,5μm,0.4s							
CPBX				⇑*e*			02 13 21.4	
MBIG	**Mexicali**	**0.05**	**79**	⇓*iP*		**Pg**	**02 13 14.4**	**-1.0**
MBIG				*eS*		**Sg**	**02 13 16.7**	**-0.3**
MBIG	**Mexicali**	**0.05**	**79**	*iP*		**Pg**	**02 13 14.4**	**-1.0**
MBIG				*eP*			02 13 15.8	
MBIG				*iS*		**Sg**	**02 13 16.7**	**-0.3**
MBIG				*eS*			02 13 18.4	
CTLX	**Tlaxcala, TLX**	**0.12**	**51**	*eP*		**Pg**	**02 13 16.4**	**+0.1**
RHX	**Rio Hardy**	**0.26**	**185**	⇓*eP*		**Pg**	**02 13 19.1**	**+0.5**
RHX				*eS*		**Sg**	**02 13 23.5**	**+1.2**
UABX	**UABC, Campus M**	**0.28**	**326**	*eS*		**Sb**	**02 13 26.3**	**+1.3**
EMSC	**East Mesa**	**0.41**	**34**	*eP*		**Pb**	**02 13 21.7**	**-0.7**
DREC	**Desert Rsrch C**	**0.44**	**338**	*eP*		**Pb**	**02 13 23.2**	**+0.3**
SGL	**Mount Signal**	**0.47**	**302**	⇑*iP*		**Pb**	**02 13 23.6**	**+0.1**
COA	**Coachella**	**0.48**	**13**	⇓*iP*		**Pb**	**02 13 23.1**	**-0.5**
YUH2	**Yuha Desert**	**0.62**	**294**	*eP*		**Pb**	**02 13 25.6**	**-0.4**
CRR	**Carrizo Plain**	**0.78**	**309**	*eP*		**Pb**	**02 13 28.4**	**-0.3**
SJX	**San Joaquin**	**0.87**	**224**	⇑*eP*		**Pg**	**02 13 27.9**	**-2.1**
SJX				*eS*		**Sg**	**02 13 38.0**	**-3.4**
SJX				⇓*e*			02 13 38.4	
SJX				IAML			02 13 38.4	
	comp=E,185nm,0.1s							
SJX				IAML			02 13 38.9	
	comp=N,161nm,0.1s							
SJX				⇑*e*			02 13 38.9	
ECBX	**El Chinero**	**0.94**	**169**	*eP*		**Pn**	**02 13 31.6**	**-0.7**
ECBX				IAML			02 13 45.3	
	comp=N,64nm,0.3s							
ECBX				IAML			02 13 45.3	
	comp=E,134nm,0.2s							
ECBX				⇓*e*			02 13 45.3	
TJIG	**Tijuana**	**1.20**	**272**	*eP*		**Pn**	**02 13 35.3**	**-0.6**
TJIG				*eS*		**Sg**	**02 13 52.2**	**+0.3**
BAR	**Barrett**	**1.23**	**284**			**Sn**	**02 13 53.2**	**+0.3**
BAR	**Barrett**	**1.23**	**284**	*eP*		**Pg**	**02 13 36.7**	**-0.2**
BAR				*eS*		**Sn**	**02 13 53.2**	**+0.3**
BAR				IAML			02 13 54.1	
	comp=N,47nm,0.2s							
SPIG	**San Pedro Mart**	**1.36**	**188**	*eP*		**Pg**	**02 13 40.5**	**+1.1**
SPIG				*eS*		**Sn**	**02 13 59.1**	**+2.5**

IDC 02 02:50:42.9±2.6, 4°41'N×127°10E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=209.7km s-min=27.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
WRA	**Warramunga Arr**	**25.22**	**164**	P		P	02 56 09.8	-0.9
	1.8nm,0.8s,baz=343,slow=10,SNR=8.5 1.8nm,0.8s							
ASAR	**Alice Springs**	**28.68**	**167**	P		P	02 56 42.8	+1.0
	0.4nm,0.7s,baz=349,slow=9.4,SNR=5.4 0.4nm,0.7s							
MKAR	**Makanchi Array**	**57.22**	**325**	P		P	03 00 32.0	-0.1
	0.5nm,0.8s,baz=126,slow=8.2,SNR=4.9 0.5nm,0.8s							

IDC 02 03:06:29.1±1.8, 0°81S×127°35E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=156.4km s-min=27.7km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
WRA	**Warramunga Arr**	**20.21**	**161**	P		P	03 11 05.9	+0.2
	1.0nm,0.4s,baz=339,slow=11,SNR=12 1.0nm,0.4s							
ASAR	**Alice Springs**	**23.59**	**165**	P		P	03 11 41.6	-0.1
	0.3nm,0.3s,baz=345,slow=11,SNR=11 0.3nm,0.3s							
SONM	**Songino Array**	**51.77**	**342**	P		P	03 15 38.5	-0.2
	0.6nm,0.9s,baz=138,slow=6.9,SNR=3.1 0.6nm,0.9s							

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*IDC **02** 03:07:23.9±2.0, 5°77S×153°23E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=56.5km s-min=23.5km az=106.0*

ISC 02 03:07:29.8±1.4, 5°75'S±0°1'×153°1'E±0°2, h35km, n7, σ0°57/8, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
KRVT	**Keravat (AS076**	**1.74**	**324**	Pn		**Pn**	**03 07 57.4**	**-0.3**
	17nm,0.3s,baz=272,slow=2.3,SNR=11							
KRVT					Sn	**Sn**	**03 08 18.7**	**+0.1**
	63nm,0.3s,baz=139,slow=23,SNR=17							
WRA	**Warramunga Arr**	**23.04**	**230**	P		**P**	**03 12 31.6**	**-0.6**
	2.3nm,0.9s,baz=56,slow=10,SNR=7.3 2.3nm,0.9s							
ASAR	**Alice Springs**	**25.65**	**224**	P		**P**	**03 12 56.7**	**+0.2**
	1.3nm,0.9s,baz=59,slow=9.0,SNR=15 1.3nm,0.9s							
PETK	**Petropavlovsk-**	**58.74**	**3**	P		**P**	**03 17 23.5**	**-0.7**
	4.4nm,1.0s,baz=191,slow=12,SNR=4.3 4.4nm,1.0s							
SONM	**Songino Array**	**67.24**	**328**	P		**P**	**03 18 21.5**	**+0.6**
	0.2nm,0.4s,baz=123,slow=5.3,SNR=2.5 0.2nm,0.4s							
MKAR	**Makanchi Array**	**81.19**	**319**	P		**P**	**03 19 42.7**	**+0.6**
	0.5nm,0.8s,baz=125,slow=4.2,SNR=4.3 0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**150.82**	**287**	PKPbc		**PKPbc**	**03 27 19.6**	**-0.1**
	0.9nm,0.7s,baz=67,slow=2.0,SNR=6.7							

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*NOU **02** 03:08:45.4, 42°67S×173°59E, h5km, MLv4.1/9, South Island, New Zealand*
*WEL **02** 03:08:47.3±0.4, 43°S±3°×17°3E±°, h11km±3km, M3.8/18, ML4.0/18, MLv3.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=119.9, confirmed*

ISC 02 03:08:46.1±1.1, 42°62S±0°04×173°54E±0°04, h13km±7km, n100, σ0°90/109, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
KHZ	**Kahutara**	**0.20**	**1**	P		**Pg**	**03 08 51.0**	**+0.4**
KHZ	**Kahutara**	**0.20**	**1**	P		**Pg**	**03 08 51.2**	**+0.6**
KHZ				S		**Sg**	**03 08 53.7**	**+0.1**
GVZ	**Greta Valley S**	**0.51**	**226**	P		**Pn**	**03 08 59.0**	**-0.1**
GVZ				S		**Sn**	**03 09 07.6**	**-0.1**
AMCZ	**Amberley**	**0.86**	**229**	P		**Pn**	**03 09 04.5**	**+0.7**
AMCZ				S		**Sn**	**03 09 18.6**	**+2.4**
BSWZ	**Blackbirch Sta**	**0.94**	**16**	P		**Pb**	**03 09 04.5**	**+0.3**
BSWZ				S		**Sn**	**03 09 19.6**	**+1.3**
LTZ	**Lake Taylor**	**0.95**	**260**	P		**Pg**	**03 09 04.4**	**0.0**
LTZ				S		**Sg**	**03 09 16.1**	**-0.7**
THZ	**Tophouse**	**0.97**	**331**	P		**Pg**	**03 09 03.5**	**-1.5**
CMWZ	**Cape Campbell**	**1.00**	**30**	P		**Pn**	**03 09 07.0**	**+1.1**
OKCZ	**Okains Bay**	**1.16**	**197**	P		**Pn**	**03 09 09.4**	**+1.4**
TUWZ	**Tuamarina**	**1.23**	**14**	P		**Pb**	**03 09 09.3**	**+0.1**
TUWZ				S		**Sb**	**03 09 25.7**	**+0.8**
MQZ	**McQueen's Vall**	**1.26**	**210**	P		**Pn**	**03 09 09.7**	**+0.3**
OXZ	**Oxford**	**1.31**	**237**	P		**Pn**	**03 09 10.0**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.33**	**200**	P		**Pn**	**03 09 11.5**	**+1.0**
MRNZ	**Matariki Terra**	**1.35**	**334**	P		**Pn**	**03 09 10.2**	**-0.5**
NNZ	**Nelson**	**1.41**	**355**	P		**Pn**	**03 09 11.6**	**+0.2**
RACZ	**Rakaia**	**1.51**	**222**	P		**Pn**	**03 09 13.0**	**+0.2**
TCW	**Tory Channel**	**1.51**	**22**	P		**Pn**	**03 09 12.9**	**0.0**
INZ	**Inchbonnie**	**1.54**	**265**	P		**Pn**	**03 09 13.5**	**+0.2**
DSZ	**Denniston Nort**	**1.55**	**304**	P		**Pn**	**03 09 13.3**	**-0.2**
SNZO	**South Karori**	**1.57**	**34**	P		**Pn**	**03 09 14.0**	**+0.3**
WEL	**Wellington**	**1.62**	**35**	P		**Pn**	**03 09 14.8**	**+0.4**
TKNZ	**Takaka Hill**	**1.64**	**345**	P		**Pn**	**03 09 15.4**	**+0.7**
TKNZ					S	**Sn**	**03 09 35.8**	**+0.2**
PLWZ	**Palliser**	**1.66**	**51**	P		**Pn**	**03 09 15.0**	**+0.1**
MHCZ	**Mount Hutt**	**1.71**	**237**	P		**Pn**	**03 09 15.4**	**-0.2**
WACZ	**Wakanui South**	**1.81**	**223**	P		**Pn**	**03 09 17.2**	**+0.2**
DUWZ	**D'Urville Isla**	**1.84**	**9**	P		**Pn**	**03 09 17.5**	**+0.1**
PAWZ	**Paruwai Farm**	**1.88**	**49**	P		**Pn**	**03 09 17.7**	**-0.2**
CAW	**Cannon Point**	**1.90**	**38**	P		**Pn**	**03 09 18.2**	**0.0**
QRZ	**Quartz Range**	**1.94**	**337**	P		**Pn**	**03 09 19.5**	**+0.7**
QRZ	**Quartz Range**	**1.94**	**337**	P		**Pn**	**03 09 19.3**	**+0.4**
QRZ					S	**Sn**	**03 09 42.9**	**-0.2**
TRWZ	**Traveller**	**2.02**	**53**	P		**Pn**	**03 09 19.8**	**0.0**
KIW	**Kapiti Island**	**2.04**	**31**	P		**Pn**	**03 09 20.5**	**+0.4**
MTW	**Mount Morrison**	**2.07**	**46**	P		**Pn**	**03 09 20.2**	**-0.3**
WVZ	**Waitaha Valley**	**2.11**	**257**	P		**Pn**	**03 09 21.6**	**+0.6**
WVZ					S	**Sn**	**03 09 46.1**	**-1.0**
RPZ	**Rata Peaks**	**2.12**	**238**	P		**Pn**	**03 09 21.3**	**0.0**
RPZ	**Rata Peaks**	**2.12**	**238**	P		**Pn**	**03 09 21.2**	**-0.1**
ARCZ	**Arundel**	**2.17**	**232**	P		**Pn**	**03 09 21.8**	**-0.3**
OGWZ	**Otaki Gorge**	**2.18**	**35**	P		**Pn**	**03 09 22.0**	**0.0**
HOWZ	**Holdsworth Sta**	**2.27**	**41**	P		**Pn**	**03 09 23.1**	**-0.2**
TMWZ	**Te Maipa**	**2.32**	**50**	P		**Pn**	**03 09 23.6**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**2.46**	**252**	P		**Pn**	**03 09 26.9**	**+1.1**
MRZ	**Mangatainoka R**	**2.48**	**39**	P		**Pn**	**03 09 25.8**	**-0.4**
TIWZ	**Tintock**	**2.55**	**44**	P		**Pn**	**03 09 26.9**	**-0.2**
TMZ	**Timaru**	**2.55**	**225**	P		**Pn**	**03 09 27.4**	**+0.2**
PRWZ	**Port Road**	**2.75**	**42**	P		**Pn**	**03 09 29.8**	**-0.2**
POWZ	**Post Office Ro**	**2.79**	**38**	P		**Pn**	**03 09 30.6**	**+0.2**
BFZ	**Birch Farm**	**2.81**	**47**	P		**Pn**	**03 09 30.3**	**-0.4**
BFZ	**Birch Farm**	**2.81**	**47**	P		**Pn**	**03 09 29.8**	**-0.9**
FOZ	**Fox Glacier**	**2.87**	**250**	P		**Pn**	**03 09 33.1**	**+1.5**
LBZ	**Lake Benmore**	**3.01**	**233**	P		**Pn**	**03 09 34.0**	**+0.5**
DVHZ	**Dannevirke**	**3.05**	**41**	P		**Pn**	**03 09 33.0**	**-1.1**
WAZ	**Wanganui**	**3.06**	**21**	P		**Pn**	**03 09 35.8**	**+1.6**
ANWZ	**Angora Road**	**3.09**	**47**	P		**Pn**	**03 09 35.0**	**+0.5**
ODZ	**Otahua Downs**	**3.20**	**220**	P		**Pn**	**03 09 36.6**	**+0.5**
ODZ	**Otahua Downs**	**3.20**	**220**	P		**Pn**	**03 09 36.2**	**+0.1**
NMEZ	**Namu Road**	**3.21**	**5**	P		**Pb**	**03 09 41.9**	**-1.1**
LREZ	**Lake Rotokare**	**3.22**	**12**	P		**Pn**	**03 09 38.7**	**+2.2**
KHEZ	**Kahui Hut**	**3.34**	**6**	P		**Pn**	**03 09 40.3**	**+2.1**
NBEZ	**Newall Road No**	**3.36**	**4**	P		**Pb**	**03 09 42.5**	**-3.0**
PNHZ	**Pukenui**	**3.37**	**38**	P		**Pn**	**03 09 37.7**	**-0.7**
NEZ	**North Egmont**	**3.37**	**7**	P		**Pn**	**03 09 40.8**	**+2.2**
PKE	**Pukeiti**	**3.44**	**6**	P		**Pn**	**03 09 41.1**	**+1.7**
PKVZ	**Pokaka**	**3.60**	**23**	P		**Pn**	**03 09 42.3**	**+0.6**
VRZ	**Vera Road**	**3.61**	**15**	P		**Pn**	**03 09 43.4**	**+1.6**
MOVZ	**Moawhango**	**3.62**	**28**	P		**Pn**	**03 09 42.0**	**0.0**
WNVZ	**Wahianoa**	**3.64**	**26**	P		**Pn**	**03 09 43.1**	**+0.8**
BHHZ	**Black Hill Sta**	**3.66**	**32**	P		**Pn**	**03 09 42.6**	**0.0**
KRHZ	**Kereru**	**3.66**	**37**	P		**Pn**	**03 09 41.3**	**-1.2**
TUVZ	**Tukino**	**3.71**	**26**	P		**Pn**	**03 09 44.2**	**+0.9**
JCZ	**Jackson Bay**	**3.76**	**246**	P		**Pn**	**03 09 45.1**	**+1.2**
NGZ	**Ngauruhoe**	**3.78**	**25**	P		**Pn**	**03 09 44.9**	**+0.7**
SNVZ	**South Ngauruho**	**3.78**	**26**	P		**Pn**	**03 09 44.9**	**+0.6**
KAHZ	**Kahuranaki**	**3.78**	**43**	P		**Pn**	**03 09 44.3**	**+0.1**
OTVZ	**Oturere**	**3.81**	**26**	P		**Pn**	**03 09 45.2**	**+0.5**
NNVZ	**North Ngauruho**	**3.82**	**25**	P		**Pn**	**03 09 45.6**	**+0.7**
TWVZ	**Taurewa**	**3.83**	**23**	P		**Pn**	**03 09 45.4**	**+0.6**
WTVZ	**West Tongariro**	**3.83**	**25**	P		**Pn**	**03 09 45.4**	**+0.5**
ETVZ	**East Tongariro**	**3.85**	**26**	P		**Pn**	**03 09 45.8**	**+0.6**
TMVZ	**Te Maari**	**3.87**	**26**	P		**Pn**	**03 09 46.0**	**+0.6**
KWHZ	**Kaweka Forest**	**3.87**	**35**	P		**Pn**	**03 09 45.4**	**0.0**
NTVZ	**North Tongariro**	**3.87**	**25**	P		**Pn**	**03 09 46.1**	**+0.6**
MCHZ	**McNeill Hill**	**3.97**	**38**	P		**Pn**	**03 09 47.8**	**+1.0**
KATZ	**Kakaramea**	**3.99**	**25**	P		**Pn**	**03 09 48.3**	**+1.2**
EAZ	**Earnscleugh**	**4.02**	**228**	P		**Pn**	**03 09 47.7**	**+0.3**
BKZ	**Black Stump Fm**	**4.11**	**34**	P		**Pn**	**03 09 50.3**	**+1.6**
BKZ	**Black Stump Fm**	**4.11**	**34**	P		**Pn**	**03 09 48.8**	**0.0**
HIZ	**Hauiti**	**4.22**	**14**	P		**Pn**	**03 09 52.0**	**+1.8**
HIZ	**Hauiti**	**4.22**	**14**	P		**Pn**	**03 09 51.5**	**+1.3**
NMHZ	**Naumai**	**4.30**	**36**	P		**Pn**	**03 09 51.9**	**+0.5**
TOZ	**Tahuroa Road**	**5.11**	**18**	P		**Pn**	**03 10 02.6**	**+0.3**
URZ	**Urewera**	**5.14**	**33**	P		**Pn**	**03 10 02.1**	**-0.6**
	27nm,1.0s							
URZ	**Urewera**	**5.14**	**33**	P		**Pn**	**03 10 01.7**	**-1.0**
MWZ	**Matawai**	**5.25**	**37**	P		**Pn**	**03 10 04.1**	**-0.2**
AWZ	**Awhitu Peninsu**	**5.61**	**9**	P		**Pn**	**03 10 03.8**	**+1.0**
RUGZ	**Raukumara Rang**	**5.62**	**36**	P		**Pn**	**03 10 08.4**	**-1.1**
MKAZ	**Moumakai**	**5.65**	**13**	P		**Pn**	**03 10 09.9**	**+0.2**
ETAZ	**East Tamaki Re**	**5.76**	**11**	P		**Pn**	**03 10 12.2**	**+0.9**
RVAZ	**Riverhead Bore**	**5.90**	**8**	P		**Pn**	**03 10 14.2**	**+1.1**
MBAZ	**Motutapu North**	**5.94**	**11**	P		**Pn**	**03 10 14.7**	**+1.0**
WIAZ	**Waiheke Island**	**5.95**	**12**	P		**Pn**	**03 10 13.3**	**-0.5**

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*NEIC **02** 03:08:50.0±1.1, 20°69S±0°06×178°6W±0°2, h602km±14km, mb4.3/15, Error ellipse: s-maj=28.4km s-min=7.7km az=84.0*
*IDC **02** 03:08:50.7±2.0, 20°74S×178°67W, h602km, 19km, mb3.3/12, mbtmp4.3/13, Error ellipse: s-maj=36.2km s-min=14.0km az=148.0*

ISC 02 03:08:50.2±1.0, 20°8S±0°2×178°7W±0°1, h600km, n38, σ0°79/39, mb4.2/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
MSVF	**Nonsavu**	**4.31**	**314**	P		**P**	**03 10 17.7**	**-0.4**
	24nm,0.6s,baz=137,slow=9.0,SNR=10							
MSVF	**Nonsavu**	**4.31**	**314**	P		**P**	**03 10 18.0**	**-0.1**
MARNC	**Mare, Loyalty**	**12.44**	**264**	P		**P**	**03 11 32.7**	**-0.6**
CTA	**Charters Tower**	**32.84**	**265**	P		**P**	**03 14 37.2**	**+0.9**
	2.7nm,0.5s,baz=93,slow=10.0,SNR=4.2 2.7nm,0.5s							
STKA	**Stephens Creek**	**37.12**	**244**	P		**P**	**03 15 11.9**	**+0.4**
	2.1nm,0.7s,baz=91,slow=8.8,SNR=5.0 2.1nm,0.7s							
STKA	**Stephens Creek**	**37.12**	**244**	P		**P**	**03 15 11.8**	**+0.3**
BBOO	**Buckleboo**	**41.88**	**244**	P		**P**	**03 15 49.0**	**-0.5**
BBOO				IAmb	IAmb		03 15 56.3	
	comp=Z,28nm,1.4s							
WR0	**Warramunga Arr**	**43.76**	**262**	P		**P**	**03 16 04.2**	**-0.2**
WR0				IAmb	IAmb		03 16 39.0	
	comp=Z,8.7nm,1.3s							
AS31	**Alice Springs**	**43.85**	**257**	P		**P**	**03 16 04.5**	**-0.5**
ASAR	**Alice Springs**	**43.85**	**257**	P		**P**	**03 16 05.3**	**+0.3**
	comp=Z,4.1nm,0.5s,baz=93,slow=7.7,SNR=72							
ASAR				PcP		**PcP**	**03 17 37.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=96,slow=3.6,SNR=7.6							
ASAR				S		**S**	**03 21 53.0**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=90,slow=16,SNR=4.4 comp=Z,4.1nm,0.5s							
ASAR	**Alice Springs**	**43.85**	**257**	P		**P**	**03 16 04.4**	**-0.7**
WB0	**Warramunga Arr**	**43.92**	**263**	P		**P**	**03 16 05.5**	**-0.2**
WB0				IAmb	IAmb		03 16 05.7	
	comp=Z,15nm,1.3s							
WB2	**Warramunga Arr**	**43.93**	**262**	P		**P**	**03 16 05.5**	**-0.2**
WB2				IAmb	IAmb		03 16 25.8	
	comp=Z,6.3nm,1.1s							
WRA	**Warramunga Arr**	**43.95**	**262**	P		**P**	**03 16 05.5**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=98,slow=7.9,SNR=49 comp=Z,2.4nm,0.4s							
WRA	**Warramunga Arr**	**43.95**	**262**	P		**P**	**03 16 04.8**	**-1.0**
MTN	**Manton Dam**	**48.54**	**271**	P		**P**	**03 16 40.5**	**+0.1**
FORT	**Forrest**	**48.62**	**247**	P		**P**	**03 16 41.1**	**+0.2**
FORT				IAmb	IAmb		03 17 07.0	
	comp=Z,30nm,1.2s							
KNRA	**Kununurra**	**50.02**	**267**	P		**P**	**03 16 51.5**	**+0.2**
SIJI	**Sorong**	**52.70**	**285**	P		**P**	**03 17 11.2**	**+0.6**
	comp=Z,6.2nm,0.4s,baz=97,slow=7.5,SNR=6.0 comp=Z,6.2nm,0.4s							
MBWA	**Marble Bar**	**57.19**	**258**	P		**P**	**03 17 40.9**	**-0.8**
MBWA				IAmb	IAmb		03 17 44.9	
	comp=Z,20nm,1.3s							
MORW	**Morawa**	**59.15**	**248**	P		**P**	**03 17 54.3**	**-0.6**
MORW				IAmb	IAmb		03 18 20.4	
	comp=Z,21nm,1.4s							
MJAR	**Matsushiro Arr**	**70.04**	**324**	P		**P**	**03 19 03.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=162,slow=6.3,SNR=5.9 comp=Z,1.2nm,0.6s							
MAJO	**Matsushiro**	**70.04**	**324**	P		**P**	**03 19 02.1**	**-1.0**
MAJO				IAmb	IAmb		03 19 21.2	
	comp=Z,14nm,1.3s							
MJB9	**Matsu-Tunnel**	**70.05**	**324**	P		**P**	**03 19 02.5**	**-0.6**
MJB9				IAmb	IAmb		03 19 25.4	
	comp=Z,20nm,1.4s							
PEA0B	**Petropavlovsk-**	**76.35**	**346**	P		**P**	**03 19 37.9**	**-0.6**
PETK	**Petropavlovsk-**	**76.35**	**346**	P		**P**	**03 19 37.4**	**-1.1**
	comp=Z,6.6nm,1.1s,baz=128,slow=6.6,SNR=4.4 comp=Z,6.6nm,1.1s							
USRK	**Ussuriysk Ar.**	**78.82**	**326**	P		**P**	**03 19 53.7**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=151,slow=3.3,SNR=5.6 comp=Z,1.7nm,0.8s							
TXAR	**Lajitas Array**	**87.72**	**58**	P		**P**	**03 20 37.6**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=209,slow=10.0,SNR=4.1 comp=Z,0.7nm,0.9s							
ILAR	**Eielson Array**	**88.70**	**13**	P		**P**	**03 20 39.4**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=218,slow=5.7,SNR=9.3 comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**89.57**	**43**	P		**P**	**03 20 45.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=231,slow=5.0,SNR=5.9 comp=Z,0.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P		**P**	**03 20 47.6**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=129,slow=3.7,SNR=5.7 comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**110.91**	**313**	PKiKP		**PKiKP**	**03 26 15.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=173,slow=0.8,SNR=4.9							
ARCES	**ARCESS Array B**	**129.05**	**349**	PKP		**PKiKP**	**03 26 49.7**	**-1.3**
	comp=Z,4.5nm,1.0s,baz=52,slow=2.0,SNR=3.9							
FINES	**FINESS Array B**	**135.83**	**343**	PKP		**PKiKP**	**03 27 05.1**	**+0.3**
	comp=Z,3.2nm,1.0s,baz=170,slow=3.5,SNR=4.2							
AKASG	**Malin Array Be**	**142.92**	**330**	PKP			03 27 13.4	
	comp=Z,4.4nm,0.5s,baz=38,slow=4.2,SNR=27							
BRTR	**Keskin Array B**	**146.54**	**312**	PKPbc		**PKPbc**	**03 27 25.4**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=147,slow=4.1,SNR=10							
CLL	**Collm**	**148.16**	**346**	*i* PKPbc		**PKiKP**	**03 27 29.1**	**-1.4**
GERES	**GERESS Array B**	**150.26**	**343**	PKPbc		**PKiKP**	**03 27 34.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=45,slow=2.1,SNR=8.0							

IDC 02 03:15:14.2±3.2, 32°40S×179°62W, h0km, mb3.5/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=68.7km s-min=36.6km az=102.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
URZ	**Urewera**	**6.43**	**204**	Pn		Pn	03 16 50.5	+0.4
	1.1nm,0.3s,baz=360,slow=3.5,SNR=7.4							
URZ					Sn	Sn	03 18 04.1	-0.1
	0.4nm,0.3s,baz=158,slow=9.2,SNR=1.3 7.0nm,0.6s							
ASAR	**Alice Springs**	**41.67**	**270**	P		P	03 23 04.6	-0.1
	0.6nm,0.9s,baz=115,slow=7.8,SNR=6.5 0.6nm,0.9s							
WRA	**Warramunga Arr**	**42.84**	**275**	P		P	03 23 14.2	-0.1
	0.3nm,0.4s,baz=114,slow=8.0,SNR=5.8 0.3nm,0.4s							
FINES	**FINESS Array B**	**146.51**	**338**	PKPbc		PKPdf	03 34 55.7	+0.5
	1.6nm,0.9s,baz=26,slow=3.5,SNR=3.6							

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*IDC **02** 03:21:36.0±0.5, 10°68S×161°82E, h38km±3km, mb4.3/17, mbtmp4.5/19, ML2.8/1, MS3.7/45, Error ellipse: s-maj=16.9km s-min=12.8km az=97.0*
*NEIC **02** 03:21:37.3±1.8, 10°74S±0°08×162°05E±0°09, h51km±7km, mb5.1/68, Error ellipse: s-maj=13.5km s-min=10.7km az=223.0*
*NOU **02** 03:21:37.5, 10°70S×161°97E, h50km, mb5.2/34, Solomon Islands*
*GCMT **02** 03:21:38.3±0.3, 10°74S±0°02×161°89E±0°02, h41km±1km, MW5.0/74, Moment Tensor Solution. s25,c28; s74,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.13±.23; $M_{\theta\theta}$-1.02±.16; $M_{\phi\phi}$-1.11±.14; $M_{r\theta}$-1.13±.12; $M_{r\phi}$2.56±.10; $M_{\theta\phi}$-0.66±.11; Best double couple: M_o3.38600×10^{16} NP1:ϕ_s284.00000°, δ59.00000°, λ45.00000°. NP2: ϕ_s167.00000°, δ53.00000°, λ140.00000°. Principal axes: T 3.1270, Plg52.0000°, Azm139.0000°; N 0.5180, Plg38.0000°, Azm312.0000°; P -3.6450, Plg3.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

**ISC 02 03:21:36.2±0.4, 10°74S±0°05×162°01E±0°06, h41km±3km, h41km:pP-P, n298, σ1°36/265, mb5.0/67, MS3.8/44, 4C

baz=189,slow=76,SNR=121
GUMO Guam 29.55 324 LR LR 03 38 49.0
comp=Z,162nm,22.0s,baz=111,slow=35
LCRK Leigh Creek 29.56 225 P **P**
AS31 Alice Springs 29.69 241 P **P**
ASAR Alice Springs 29.69 241 P **P** **03 27 37.0 -1.6**
1.7nm,0.6s,baz=62,slow=9.9,SNR=23
ASAR LR LR 03 39 16.9
comp=Z,474nm,18.4s,baz=56,slow=36
1.7nm,0.6s
ASAR Alice Springs 29.69 241 P **P** **03 27 37.3 -1.4**
OOD Oodnadatta 29.98 232 P **P** **03 27 40.7 -0.3**
MXZ Matakaoa Point 30.47 154 P **P** **03 27 43.4 -1.8**
WHTZ Whakaora 30.48 158 P P 03 27 54.4 +9.0
URZ Urewera 30.57 156 P **P** **03 27 47.3 +1.3**
15nm,0.8s,baz=48,slow=9.7,SNR=7.1
15nm,0.8s
TOO Toolangi 30.57 206 P **P** **03 27 46.9 +0.7**
baz=31,SNR=7.4
TOO Toolangi 30.57 206 P **P** **03 27 46.7 +0.5**
TOO Toolangi 30.57 206 P **P** **03 27 46.9 +0.7**
H11N1 WAKE ISLAND Hy 30.64 9 T T 03 59 59.0
baz=188,slow=76,SNR=310
H11N3 WAKE ISLAND Hy 30.65 9 T T 04 00 09.7
baz=188,slow=76,SNR=412
H11N2 WAKE ISLAND Hy 30.66 9 T T 04 00 11.0
baz=188,slow=76,SNR=289
NNVZ North Ngauruho 30.77 159 P **P** **03 27 50.5 +2.4**
ETVZ East Tongariro 30.81 159 P **P** **03 27 51.2 +2.8**
OTVZ Oturere 30.82 159 P **P** **03 27 52.1 +3.6**
RTZ Ruatahuna 30.82 157 P **P** **03 27 48.6 +0.2**
RTZ IAmb IAmb 03 27 52.5
comp=Z,39nm,0.9s
MTVZ Mangateitei 30.95 159 P P 03 27 54.2 +4.7
HTT Hallett 30.96 220 P **P** **03 27 49.9 +0.2**
baz=31,SNR=3.8
BKZ Black Stump Fm 31.12 158 P **P** **03 27 51.0 0.0**
BKZ IAmb IAmb 03 27 53.9
comp=Z,40nm,1.0s
BKZ Black Stump Fm 31.12 158 P **P** **03 27 52.1 +1.1**
BKZ Black Stump Fm 31.12 158 P **P** **03 27 52.2 +1.2**
NMHZ Naumai 31.18 157 P **P** **03 27 54.0 +2.4**
BHHZ Black Hill Sta 31.25 159 P **P** **03 27 53.7 +1.6**
KWHZ Kaweka Forest 31.32 158 P **P** **03 27 55.1 +2.3**
MCHZ McNeill Hill 31.44 158 P **P** **03 27 55.5 +1.7**
PNHZ Pukenui 31.67 159 P **P** **03 27 56.6 +0.7**
MRNZ Matariki Terra 31.97 165 P **P** **03 27 59.5 +1.1**
SIJI Sorong 32.08 286 LR LR 03 43 07.2
comp=Z,120nm,18.3s,baz=70,slow=40
MRZ Mangatainoka R 32.13 160 P **P** **03 27 58.7 -1.1**
TCW Tory Channel 32.22 162 P **P** **03 28 02.0 +1.3**
TUWZ Tuamarina 32.33 163 P **P** **03 28 01.1 -0.4**
THZ Tophouse 32.35 165 P **P** **03 28 01.5 -0.4**
THZ IAmb IAmb 03 28 29.8
comp=Z,26nm,1.1s
BFZ Birch Farm 32.37 160 P **P** **03 28 01.8 -0.2**
BFZ Birch Farm 32.37 160 P **P** **03 28 03.6 +1.6**
BBOO Buckleboo 32.44 223 P **P** **03 28 02.6 -0.1**
baz=32,SNR=7.2
BBOO Buckleboo 32.44 223 P **P** **03 28 02.6 -0.1**
BBOO IAmb IAmb 03 28 23.8
comp=Z,26nm,1.2s
BBOO Buckleboo 32.44 223 P **P** **03 28 02.6 -0.1**
MULG Mulgathing 32.46 229 P **P** **03 28 02.4 -0.4**
KNRA Kununurra 32.71 258 P **P** **03 28 04.6 -0.6**
baz=33,SNR=19
KNRA Kununurra 32.71 258 P **P** **03 28 04.4 -0.8**
KNRA IAmb IAmb 03 28 15.7
comp=Z,36nm,0.8s
KNRA Kununurra 32.71 258 P **P** **03 28 04.6 -0.6**
LTZ Lake Taylor 33.16 166 P **P** **03 28 09.3 +0.4**
LTZ IAmb IAmb 03 28 11.3
comp=Z,29nm,0.9s
OXZ Oxford 33.62 167 P **P** **03 28 12.4 -0.4**
RPZ Rata Peaks 33.78 168 P **P** **03 28 14.5 +0.3**
comp=Z,24nm,0.8s,baz=316,slow=1.9,SNR=7.3
comp=Z,24nm,0.8s
RPZ Rata Peaks 33.78 168 P **P** **03 28 14.6 +0.4**
RPZ IAmb IAmb 03 28 16.1
comp=Z,29nm,0.9s
MQZ McQueen's Vall 34.12 166 P **P** **03 28 17.2 0.0**
WRKA Warakurna 34.97 241 P **P** **03 28 23.7 -1.2**
baz=35,SNR=5.8
WRKA Warakurna 34.97 241 P **P** **03 28 23.6 -1.2**
FORT Forrest 37.26 233 P **P** **03 28 42.6 -1.7**
FORT IAmb IAmb 03 28 55.5
comp=Z,30nm,1.0s
FORT Forrest 37.26 233 P **P** **03 28 45.6 +1.3**
DAV Davao City (W) 40.35 294 LR LR 03 47 06.1
comp=Z,53nm,18.1s,baz=100,slow=38
MBWA Marble Bar 41.83 250 P **P** **03 29 21.7 -0.8**
MBWA Marble Bar 41.83 250 P **P** **03 29 23.2 +0.7**
comp=Z,15nm,1.2s
MBWA Marble Bar 41.83 250 P **P** **03 29 21.3 -1.2**
MBWA pP **pP** **03 29 33.6 -0.2**
MBWA sP **sP** **03 29 39.2 +0.7**
JCJ Chichijima 42.24 333 LR LR 03 45 01.3
comp=Z,98nm,21.7s,baz=46,slow=33
MEEK Meekatharra 43.80 243 P **P** **03 29 38.5 0.0**
baz=44,SNR=12
MEEK Meekatharra 43.80 243 P **P** **03 29 38.5 0.0**
KLBR Kellerberrin 45.80 236 P **P** **03 29 53.7 -0.5**
baz=46,SNR=6.3
KLBR Kellerberrin 45.80 236 P **P** **03 29 53.8 -0.5**
BLDU Ballidu 46.39 238 P **P** **03 29 58.9 0.0**
baz=46,SNR=9.0
BLDU Ballidu 46.39 238 P **P** **03 29 58.9 0.0**
MORW Morawa 46.57 240 P **P** **03 30 00.4 -0.1**
baz=47,SNR=5.9
MORW Morawa 46.57 240 P **P** **03 29 59.7 -0.7**
MORW IAmb IAmb 03 30 00.8
comp=Z,42nm,1.5s
MORW Morawa 46.57 240 P **P** **03 30 00.3 -0.1**
NWAO Narrogin (SRO) 46.62 235 P **P** **03 30 00.3 -0.4**
NWAO IAmb IAmb 03 30 27.4
comp=Z,29nm,1.4s
PPT Papeete 47.33 104 LR LR 03 47 13.8
comp=Z,100nm,18.1s,baz=267,slow=32
PPT2 Papeete2 47.33 104 *e*LR LR 03 43 32.1
comp=Z,494nm,29.0s
TBI Tubuai 47.85 112 *e*LR LR 03 43 46.6
comp=Z,1μm,31.2s
TBI *e*LR LR 03 43 46.8
comp=Z,3μm,25.8s
JHJ Hachijo jima 2 48.49 335 LR LR 03 52 45.9
comp=Z,50nm,18.4s,baz=70,slow=39
KHU Kahuku 51.30 55 P **P** **03 30 37.7 +0.7**
INU Inuyama 51.57 334 P **P** **03 30 41.9 +3.5**
INU pP **pP** **03 30 54.4 +4.2**
MJAR Matsushiro Arr 52.09 336 pP **pP** **03 30 51.0 -3.1**
comp=Z,3.7nm,0.8s,baz=170,slow=8.9,SNR=6.6
MJAR LR LR 03 51 26.2
comp=Z,48nm,21.9s,baz=148,slow=34
JNU Nakatsue 52.75 327 LR LR 03 54 11.1
comp=Z,23nm,18.1s,baz=153,slow=37
LEM Lembang 53.84 269 LR LR 03 56 32.3
comp=Z,42nm,19.8s,baz=165,slow=39
TAOE Nuku Hiva Isla 56.96 94 *e*LR LR 03 47 59.9
comp=Z,192nm,25.6s
ASAJ Asahikawa 57.37 343 LR LR 03 52 10.8
comp=Z,90nm,21.9s,baz=168,slow=32
KSRS Korea Array 57.61 328 P **P** **03 31 20.8 -1.5**
comp=Z,2.5nm,1.1s,baz=131,slow=7.0,SNR=4.5
KSRS pP **pP** **03 31 32.6 -1.6**
comp=Z,2.6nm,0.8s,baz=149,slow=6.6,SNR=5.2
KSRS LR LR 03 54 23.6
comp=Z,46nm,19.1s,baz=130,slow=34
comp=Z,2.5nm,1.1s
DRV Dumont d'Urvil 57.81 190 P **P** **03 31 23.1 -0.1**
DRV sP **sP** **03 31 41.6 +2.0**
NJ2 Nanjing 59.27 317 *e*P **P** **03 31 34.8 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
USRK Ussuriysk Ar. 61.09 336 P **P** **03 31 45.9 -0.2**
comp=Z,2.1nm,0.8s,baz=131,slow=5.8,SNR=7.7
USRK pP **pP** **03 31 57.1 -1.1**
comp=Z,15nm,0.9s,baz=151,slow=6.0,SNR=22
USRK LR LR 03 55 21.7
comp=Z,43nm,21.6s,baz=133,slow=33
comp=Z,2.1nm,0.8s
BKNI Bangkinang 61.58 276 P **P** **03 31 48.8 -1.3**
CN2 Changchun 63.65 331 P P 03 32 14.0 +11
CN2 pmax pmax
comp=Z,20nm,0.8s
PETK Petropavlovsk- 63.70 357 pP **pP** **03 32 14.7 -0.8**
comp=Z,9.0nm,0.9s,baz=199,slow=12,SNR=4.8
PETK LR LR 03 56 20.9
comp=Z,61nm,21.6s,baz=157,slow=33
SHEM Shemya Is, Ala 64.06 8 LR LR 03 52 15.5
comp=Z,57nm,21.2s,baz=168,slow=29
BNX BinXian 64.26 334 ⇑P P 03 32 14.0 +6.8
BNX pmax pmax
comp=Z,4.0nm,0.5s
BNX pmax pmax
comp=Z,93nm,5.3s
HNS HongShan 65.24 320 ⇑P P 03 32 24.3 +11
HNS pmax pmax
comp=Z,15nm,1.0s
KLR Kul'dur 65.38 339 LR LR 03 57 06.9
comp=Z,51nm,21.9s,baz=148,slow=33
VNDA Vanda 66.77 180 P **P** **03 32 23.8 +0.7**
comp=Z,13nm,0.7s,baz=345,slow=6.5,SNR=74
comp=Z,13nm,0.7s
VNDA Vanda 66.77 180 P **P** **03 32 23.3 +0.3**
VNDA IAmb IAmb 03 32 24.6
comp=Z,18nm,0.8s
VNDA Vanda 66.77 180 P **P** **03 32 23.5 +0.5**
VNDA pP **pP** **03 32 35.3 +0.3**
SBA Scott Base 67.15 179 P **P** **03 32 26.6 +1.1**
SBA IAmb IAmb 03 32 28.2
comp=Z,19nm,1.1s
SBA Scott Base 67.15 179 P **P** **03 32 27.1 +1.6**
XAN Xi'an 67.23 314 ⇑P P 03 32 36.9 +10
XAN pP sP 03 32 49.4 +5.7
XAN pmax pmax
comp=Z,15nm,1.1s
HEH HeiHe 67.83 337 *e*P **P** **03 32 33.4 +3.3**
HEH pmax pmax
comp=Z,8.0nm,1.0s
HEH pmax pmax
comp=Z,130nm,4.2s
CCD Concordia, Ant 67.84 190 P **P** **03 32 30.3 0.0**
XLT XiLinHaoTe 68.52 326 *e*P P 03 32 45.3 +11
XLT pmax pmax
comp=Z,25nm,1.3s
XLT pmax pmax
comp=Z,140nm,4.2s
CMAR Chiang Mai Arr 68.64 295 P **P** **03 32 35.1 -0.7**
comp=Z,1.0nm,0.3s,baz=126,slow=5.7,SNR=1.5
CMAR pP **pP** **03 32 46.4 -1.5**
comp=Z,5.3nm,0.8s,baz=121,slow=4.8,SNR=6.1
CMAR LR LR 04 04 37.8
comp=Z,16nm,18.1s,baz=130,slow=38
comp=Z,1.0nm,0.3s
PZH PanZhiHua 69.23 304 P **P** **03 32 40.9 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.8s
HHC Hu-ho-hao-te 69.26 321 *e*P **P** **03 32 41.8 +2.4**
CD2 Chengdu 69.52 309 P **P** **03 32 41.0 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 Magadan 70.66 354 LR LR 04 00 16.9
comp=Z,31nm,21.6s,baz=162,slow=33
LZH Lanzhou 71.86 314 ⇑P P 03 33 06.5 +11
LZH pP sP 03 33 19.7 +7.3
LZH sP PcP 03 33 26.2 +12
LZH pmax pmax
comp=Z,19nm,1.0s
SEY Seymchan 73.82 355 P **P** **03 33 06.7 +0.5**
comp=Z,1.3nm,0.6s,baz=201,slow=6.9,SNR=6.9
comp=Z,1.3nm,0.6s
CHGN Chignik 74.42 22 P **P** **03 33 09.3 -0.6**
GTA Gaotai 76.22 315 ⇓P P 03 33 31.1 +10
GTA pP pP 03 33 37.6 +4.4
GTA sP sP 03 33 41.1 +3.2
GTA pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 76.28 325 P **P** **03 33 20.5 -0.4**
comp=Z,2.1nm,0.7s,baz=144,slow=5.6,SNR=18
SONM pP **PcP** **03 33 31.3 -1.5**
comp=Z,5.8nm,0.6s,baz=137,slow=5.7,SNR=18
SONM LR LR 04 05 09.9
comp=Z,63nm,21.9s,baz=162,slow=34
comp=Z,2.1nm,0.7s
SONM Songino Array 76.28 325 P **P** **03 33 20.8 -0.1**
BRDH Bariadhala 76.46 297 LR LR 04 05 37.0
comp=Z,32nm,21.9s,baz=103,slow=35
YAK Yakutsk 76.81 345 LR LR 04 02 44.4
comp=Z,23nm,21.8s,baz=90,slow=32
OHAK Old Harbor 77.02 23 P **P** **03 33 24.5 -0.2**
OHAK IAmb IAmb 03 33 39.2
comp=Z,18nm,1.0s
OHAK Old Harbor 77.02 23 P **P** **03 33 26.2 +1.5**
Q18K Katmai Hardscr 77.40 21 P **P** **03 33 27.5 +0.5**
baz=223
KDAK Kodiak Island 77.69 23 P **P** **03 33 29.2 +0.8**
comp=Z,10nm,0.7s,baz=265,slow=5.5,SNR=14
KDAK pP **pP** **03 33 41.1 +0.3**
comp=Z,19nm,0.8s,baz=257,slow=4.6,SNR=8.1
KDAK LR LR 04 03 08.0
comp=Z,94nm,19.5s,baz=253,slow=32
comp=Z,10nm,0.7s
KDAK Kodiak Island 77.69 23 P **P** **03 33 28.9 +0.5**
KDAK IAmb IAmb 03 33 41.3
comp=Z,19nm,0.8s
KDAK Kodiak Island 77.69 23 P **P** **03 33 29.6 +1.2**
baz=226
P18K Big Mountain, 77.87 21 P **P** **03 33 30.2 +0.7**
baz=223
Q19K Cape Douglas, 78.10 22 P **P** **03 33 30.4 -0.4**
O18K Koktuh Hills 78.22 21 P **P** **03 33 30.5 -0.9**
O18K IAmb IAmb 03 33 39.4
comp=Z,27nm,1.5s
GOMU GeErMu 78.50 310 P P 03 33 44.7 +11
GOMU pP pP 03 33 50.4 +4.0
GOMU pmax pmax
comp=Z,2.0nm,0.5s
BILL Bilibino 78.63 2 P **P** **03 33 33.1 -0.3**
SVW2 Sparrevohn 79.01 19 P **P** **03 33 35.1 -0.6**
SVW2 IAmb IAmb 03 33 49.8
comp=Z,30nm,0.8s
QSPA South Pole Qui 79.26 180 P **P** **03 33 37.0 -0.2**
QSPA IAmb IAmb 03 33 51.1
comp=Z,19nm,1.2s
CNPM China Poot 79.40 22 P **P** **03 33 37.9 0.0**
CNPM IAmb IAmb 03 33 51.5
comp=Z,35nm,1.0s
BRLK Bradley Lake 79.70 22 P **P** **03 33 38.6 -0.9**
BRLK IAmb IAmb 03 33 52.8
comp=Z,18nm,1.0s
L19K White Mountain 80.04 19 P **P** **03 33 42.2 +0.9**
L19K IAmb IAmb 03 33 55.3
comp=Z,23nm,0.9s
L19K White Mountain 80.04 19 P **P** **03 33 43.0 +1.7**
baz=223
TTA Tatalina 80.23 18 P **P** **03 33 43.7 +1.3**
baz=222
M20K Styx River 80.39 20 P **P** **03 33 43.5 +0.3**
M20K IAmb IAmb 03 33 57.0
comp=Z,19nm,1.1s
M20K Styx River 80.39 20 P **P** **03 33 44.5 +1.2**
baz=224
L20K Farewell, AK 80.57 19 P **P** **03 33 45.5 +1.4**
SUA Susitna One 80.91 21 P **P** **03 33 45.8 -0.3**
SUA IAmb IAmb 03 33 58.4
comp=Z,18nm,1.1s
K20K Telida 81.15 18 P **P** **03 33 46.8 -0.4**
K20K IAmb IAmb 03 34 01.2
comp=Z,21nm,1.1s
K20K Telida 81.15 18 P **P** **03 33 49.1 +1.9**
baz=224
GCSA Galena City Sc 81.35 17 P **P** **03 33 49.3 +1.1**
baz=221
PWL Port Wells 81.38 22 P **P** **03 33 48.6 +0.2**
PWL IAmb IAmb 03 34 03.7
comp=Z,19nm,0.9s
PMR Palmer 81.57 21 P **P** **03 33 50.1 +0.7**
baz=228
KNK Knik Glacier 81.69 22 P **P** **03 33 48.7 -1.4**
KNK IAmb IAmb 03 34 08.8
comp=Z,16nm,1.2s
J20K Nowinta River 81.72 18 P **P** **03 33 51.3 +1.1**
baz=223
CAST Castle Rocks 81.82 19 P **P** **03 33 50.5 -0.3**
CAST IAmb IAmb 03 34 03.4
comp=Z,22nm,0.9s
CAST Castle Rocks 81.82 19 P **P** **03 33 51.0 +0.2**
baz=225
TRF Thorofare Moun 82.42 20 P **P** **03 33 53.2 -0.9**
TRF Thorofare Moun 82.42 20 P **P** **03 33 54.0 -0.1**
baz=227
WAT1 Susitna Watana 82.59 21 P **P** **03 33 55.4 +0.5**
baz=229
KLU Klutina 82.68 22 P **P** **03 33 55.9 +0.5**
KLU IAmb IAmb 03 34 12.5
comp=Z,14nm,0.9s
KLU Klutina 82.68 22 P **P** **03 33 57.7 +2.3**
baz=231
WAT6 Susitna Watana 82.72 21 P **P** **03 33 56.1 +0.5**
baz=230
PALK Pallekele 82.87 279 LR LR 04 12 05.2
comp=Z,30nm,21.3s,baz=213,slow=37
M24K Tolsona, Glenn 82.97 22 P **P** **03 33 58.0 +1.1**
M24K Tolsona, Glenn 82.97 22 P **P** **03 33 58.5 +1.6**
baz=231
MCK McKinley 83.06 20 P **P** **03 33 57.5 +0.3**
baz=228
I21K Tanana 83.09 18 P **P** **03 33 58.6 +1.3**
baz=225
DHY Denali Highway 83.16 21 P **P** **03 33 58.6 +0.7**
baz=230
H21K Melozitna Rive 83.19 17 P **P** **03 33 58.1 +0.3**
H21K IAmb IAmb 03 34 11.7
comp=Z,24nm,1.1s
H21K Melozitna Rive 83.19 17 P **P** **03 33 59.1 +1.3**
baz=224
N25K Chitina, Valde 83.25 23 P **P** **03 33 59.7 +1.3**
baz=232
MLY Manley 83.37 18 P **P** **03 33 59.5 +0.7**
baz=226
HARP HAARP 83.53 22 P **P** **03 34 01.0 +1.4**
baz=232
NEA2 Nenana 83.59 19 P **P** **03 33 59.8 -0.2**
baz=228
G21K Allakaket 83.61 16 P **P** **03 34 00.9 +1.0**
baz=224
H22K Ishtalitna Cre 83.77 17 P **P** **03 34 02.2 +1.4**
baz=226
WRH Wood River Hil 83.83 19 P **P** **03 34 00.6 -0.5**
WRH IAmb IAmb 03 34 13.8
comp=Z,34nm,1.4s
I23K Minto, Yukon-K 83.88 19 P **P** **03 34 01.4 +0.1**
baz=228
HDA Harding Lake 84.17 20 P **P** **03 34 03.9 +1.0**
baz=230
TCOL CIGO, UAF Yank 84.17 19 P **P** **03 34 03.3 +0.4**
baz=229
H23K Yukon River 84.28 18 P **P** **03 34 04.5 +1.0**
baz=228
M26K Nabesna, AK 84.33 23 P **P** **03 34 04.8 +1.0**
M26K IAmb IAmb 03 34 17.5
comp=Z,9.1nm,0.8s
M26K Nabesna, AK 84.33 23 P **P** **03 34 05.1 +1.3**
baz=234
ILAR Eielson Array 84.42 20 P **P** **03 34 03.7 -0.4**
comp=Z,1.9nm,0.6s,baz=244,slow=4.3,SNR=29
ILAR pP **pP** **03 34 15.7 -0.9**
comp=Z,7.3nm,0.9s,baz=246,slow=4.7,SNR=18
ILAR LR LR 04 05 32.3
comp=Z,81nm,20.3s,baz=252,slow=31
comp=Z,1.9nm,0.6s
H02S1 DAWSON INLET T 84.43 33 T T 05 07 12.6
SNR=179
G22K Bettles 84.45 17 P **P** **03 34 05.5 +1.3**
baz=226
RIDG Independent Ri 84.47 21 P **P** **03 34 05.2 +0.7**
baz=232
O28M Mount Upton 84.51 25 P **P** **03 34 07.0 +1.9**
baz=237
M27K Edge Creek, AK 84.73 23 P **P** **03 34 07.8 +1.8**
baz=235
G23K Bananza Creek 84.73 17 P **P** **03 34 06.8 +1.0**
baz=227
SCRK Sand Creek 84.92 21 P **P** **03 34 07.9 +1.1**
baz=233
YUK3 Moose Creek 84.95 24 P **P** **03 34 08.6 +1.4**
baz=236
YUK8 Steele Glacier 84.96 24 P **P** **03 34 09.1 +1.8**
baz=237
TIXI Tiksi 85.12 350 pP **pP** **03 34 18.3 -1.7**
comp=Z,4.0nm,0.8s,baz=90,slow=23,SNR=5.1
TIXI LR LR 04 11 19.7
comp=Z,14nm,20.7s,baz=298,slow=35
L27K Beaver Creek, 85.16 22 P **P** **03 34 09.5 +1.6**
baz=235
E22K Anaktuvuk Pass 85.22 16 P **P** **03 34 09.3 +1.1**
baz=225
PLBC Pleasant Camp 85.45 27 P **P** **03 34 10.5 +1.1**
baz=240
YUK4 Talbot Arm 85.45 25 P **P** **03 34 11.9 +2.3**
baz=238
K27K Chicken 85.63 21 P **P** **03 34 12.9 +2.7**
baz=235
F24K Squaw Lake 85.90 17 P **P** **03 34 14.2 +2.7**
baz=229
D23K Nanushuk River 86.11 15 P **P** **03 34 14.7 +2.3**
baz=226
M29M Somme Creek 86.11 24 P **P** **03 34 14.5 +1.7**
baz=238
WMQ Urumqi 86.30 316 *e*P **P** **03 34 17.7 +3.6**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 86.32 47 LR LR 04 10 20.3
comp=Z,38nm,18.0s,baz=300,slow=34
EGAK Eagle 86.38 21 P **P** **03 34 15.0 +1.1**
EGAK Eagle 86.38 21 P **P** **03 34 15.6 +1.6**
baz=235
L29M L29M 86.59 23 P **P** **03 34 16.7 +1.7**
baz=238
F25K Christian Rive 86.61 18 P **P** **03 34 17.4 +2.3**
baz=231
DAWY Dawson 86.62 22 P **P** **03 34 17.0 +1.9**
baz=237
I27K Kandik River 86.70 20 P **P** **03 34 16.8 +1.3**
baz=235
D24K Happy Valley 86.72 16 P **P** **03 34 17.5 +2.0**
baz=228
G26K Porcupine Rive 86.78 19 P **P** **03 34 17.4 +1.7**
baz=233
M30M Minto, Yukon 86.84 24 P **P** **03 34 17.8 +1.6**
baz=240
H27K Steamboat Moun 87.09 20 P **P** **03 34 19.0 +1.6**
baz=235
C24K Franklin Bluff 87.14 15 P **P** **03 34 19.4 +2.0**
baz=228
J29M Klondike Camp 87.27 22 P **P** **03 34 20.3 +2.0**
baz=238
G27K Doyon Strip 87.38 19 P **P** **03 34 20.5 +1.7**
baz=235
D25K Kavik River 87.50 16 P **P** **03 34 20.5 +1.1**
baz=230
I29M Ogilvie Camp, 87.72 21 P **P** **03 34 21.6 +1.2**
baz=238
DLBC Dease Lake 87.91 29 LR LR 04 08 30.4
comp=Z,100nm,18.6s,baz=258,slow=32
E27K Coleen River 88.19 18 P **P** **03 34 24.4 +1.8**
baz=235
C26K Camden Bay 88.27 16 P **P** **03 34 24.9 +2.0**
baz=232
C27K Jago River 88.42 17 P **P** **03 34 25.5 +1.9**
baz=233
DSP Deep Springs 88.64 52 P **P** **03 34 24.0 -1.4**
DSP IAmb IAmb 03 34 39.7
comp=Z,5.8nm,1.0s
NVAR Mina Array Bea 88.65 51 P **P** **03 34 26.7 +0.9**
comp=Z,1.4nm,0.7s,baz=232,slow=7.6,SNR=6.4
NVAR pP **pP** **03 34 38.7 +0.5**
comp=Z,3.6nm,0.8s,baz=246,slow=8.3,SNR=4.9
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 88.65 51 P **P** **03 34 25.0 -0.7**
EPYK Eagle Plains 88.80 21 P **P** **03 34 25.6 +0.1**
EPYK Eagle Plains 88.80 21 P **P** **03 34 26.7 +1.2**
baz=240
PFO Pinyon Flats O 88.93 56 LR LR 04 05 48.7
comp=Z,97nm,21.6s,baz=258,slow=30
G30M tAoh Zraii Nji 89.28 20 P **P** **03 34 29.2 +1.4**
baz=240
GLA Glamis 90.13 56 P **P** **03 34 30.1 -2.4**
SHPR Sheep Range 90.62 53 P **P** **03 34 32.0 -2.9**
H06S1 SOCORRO T 90.63 71 T T 05 14 49.9
SNR=12
H06E1 SOCORRO T-PHAS 90.67 71 T T 05 14 49.6
SNR=22
R11A Troy Canyon, C 90.70 51 P **P** **03 34 36.3 +1.0**
baz=257

MK31	**Makanchi Array**	**90.80**	**317**	P		**P**		**03 34 33.3**	**-2.0**
MKAR	**Makanchi Array**	**90.80**	**317**	P		**P**		**03 34 33.6**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=97,slow=6.0,SNR=6.9								
MKAR				pP		**pP**		**03 34 45.1**	**-2.8**
	comp=Z,2.9nm,0.7s,baz=97,slow=6.2,SNR=21								
MKAR				LR		LR		04 14 20.9	
	comp=Z,20nm,22.0s,baz=126,slow=35								
	comp=Z,0.3nm,0.5s								
INK	**Inuvik**	**90.82**	**20**	P		**P**		**03 34 34.8**	**0.0**
	comp=Z,1.0nm,0.8s,baz=264,slow=3.8,SNR=7.0								
INK				LR		LR		04 09 36.0	
	comp=Z,111nm,20.0s,baz=217,slow=32								
	comp=Z,1.0nm,0.8s								
INK	**Inuvik**	**90.82**	**20**	P		**P**		**03 34 35.2**	**+0.4**
INK				IAmb		IAmb		03 34 51.6	
	comp=Z,12nm,1.4s								
INK	**Inuvik**	**90.82**	**20**	P		**P**		**03 34 35.7**	**+0.8**
	baz=242								
PRN	**Pahroc Range**	**90.91**	**52**	P		**P**		**03 34 35.4**	**-0.8**
ZALV	**Zalesovo Beam**	**91.17**	**325**	pP		**pP**		**03 34 46.6**	**-2.8**
	comp=Z,0.6nm,0.4s,baz=67,slow=8.2,SNR=2.3								
ZALV				LR		LR		04 16 22.8	
	comp=Z,22nm,19.2s,baz=50,slow=36								
ELK	**Elko**	**91.50**	**49**	LR		LR		04 07 30.8	
	comp=Z,44nm,20.2s,baz=250,slow=30								
NEW	**Newport**	**91.92**	**41**	pP		**pP**		**03 34 53.1**	**0.0**
	comp=Z,6.0nm,0.9s,baz=216,slow=4.0,SNR=6.6								
NEW				LR		LR		04 11 51.5	
	comp=Z,59nm,18.9s,baz=280,slow=33								
PLID	**Pearl Lake**	**91.93**	**45**	P		**P**		**03 34 39.5**	**-1.4**
PLID				IAmb		IAmb		03 34 54.8	
	comp=Z,6.2nm,0.9s								
ELIB	**Princess Elisa**	**93.11**	**192**	*d*P		**P**		**03 34 44.7**	**-1.0**
	comp=Z,3.7nm,0.9s								
C36M	**Paulatuk**	**94.39**	**20**	P		**P**		**03 34 50.2**	**-1.1**
C36M	**Paulatuk**	**94.39**	**20**	P		**P**		**03 34 51.3**	**0.0**
	baz=251								
BOZ	**Bozeman (W)**	**95.05**	**45**	P		**P**		**03 34 55.9**	**+0.8**
	baz=260								
AAK	**Ala-Archa**	**95.36**	**312**	LR		LR		04 18 58.8	
	comp=Z,36nm,20.9s,baz=110,slow=36								
PDAR	**Pinedale Array**	**96.06**	**48**	LR		LR		04 12 21.3	
	comp=Z,38nm,19.3s,baz=315,slow=32								
YKA	**Yellowknife Ar**	**96.40**	**28**	P		**P**		**03 34 59.7**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=260,slow=4.2,SNR=27								
YKA				pP		**pP**		**03 35 11.9**	**-1.4**
	comp=Z,4.5nm,1.1s,baz=255,slow=4.2,SNR=11								
YKA				LR		LR		04 16 53.9	
	comp=Z,44nm,18.4s,baz=290,slow=34								
	comp=Z,1.7nm,0.7s								
SNAA	**Sanae**	**97.15**	**185**	P		**P**		**03 35 02.6**	**-1.5**
SNAA				IAmb		IAmb		03 35 19.5	
	comp=Z,7.4nm,1.3s								
ANMO	**Albuquerque**	**97.31**	**56**	LR		LR		04 12 58.8	
	comp=Z,38nm,18.1s,baz=356,slow=32								
TXAR	**Lajitas Array**	**98.91**	**62**	LR		LR		04 10 57.7	
	comp=Z,71nm,20.9s,baz=287,slow=30								
BVAR	**Borovoye Array**	**99.46**	**322**	LR		LR		04 19 41.1	
	comp=Z,31nm,20.9s,baz=80,slow=35								
ARCES	**ARCESS Array B**	**115.09**	**344**	PKP		**PKiKP**		**03 40 11.0**	**-1.5**
	comp=Z,5.0nm,1.0s,baz=56,slow=1.7,SNR=7.2								
BOSA	**Boshof**	**122.76**	**226**	PKP		**PKiKP**		**03 40 28.2**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=56,slow=1.8,SNR=4.9								
NACGM	**Naroch**	**123.64**	**331**	*e*PKP		**PKPdf**		**03 40 27.9**	**-1.4**
	comp=Z,9.0nm,1.0s,baz=56								
AKASG	**Malin Array Be**	**124.56**	**325**	pPKP		pPKPdf		03 40 43.0	-1.2
	comp=Z,0.6nm,0.5s,baz=63,slow=1.8,SNR=2.7								
ESDC	**Sonseca Array**	**148.60**	**339**	PKPbc		**PKPbc**		**03 41 18.3**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=9.1,slow=7.3,SNR=1.5								
TORD	**Torodi Ar. Bea**	**160.59**	**279**	PKP		**PKPdf**		**03 41 30.6**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=32,slow=2.9,SNR=5.2								

GCMT ***02*** *03:35:14.0±0.4, 64.°32S±0.°03×177.°48E±0.°06, h34km, MW5.1/63, Moment Tensor Solution. s22,c27; s63,c76; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.21±.46; Mθθ 6.15±.30; Mϕϕ-0.94±.28; Mrθ-0.10±.22; Mθϕ 0.72±.13; Mϕr-1.89±.23; Best double couple: M○ 6.08000×10^16 NP1: ϕs 65.00000°, δ 50.00000°, λ-118.00000°. NP2: ϕs 284.00000°, δ 47.00000°, λ-61.00000°. Principal axes: T 6.2310, Plg2.0000°, Azm174.0000°; N -0.3080, Plg21.0000°, Azm83.0000°; P -5.9290, Plg69.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 02 03:35:09.1±4.5, 64.°57S×175.°79E, h0km, mb4.0/3, mbtmp3.9/4, ML3.5/1, MS4.0/16 Error ellipse: s-maj=165.3km s-min=25.5km az=69.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.70**	**193**	Pn	Pn	03 38 22.4	-1.8
	0.2nm,0.3s,baz=32,slow=15,SNR=14						
VNDA				LR	LR	03 42 36.9	
	comp=Z,620nm,18.5s,baz=19,slow=33						
	1.4nm,0.6s						
RPZ	**Rata Peaks**	**21.07**	**350**	LR	LR	03 47 04.0	
	comp=Z,390nm,18.1s,baz=187,slow=34						
QSPA	**South Pole Qui**	**25.52**	**180**	P	P	03 40 39.2	+0.3
	3.4nm,0.8s,baz=25,slow=3.2,SNR=10.0						
QSPA				LR	LR	03 49 30.3	
	comp=Z,513nm,18.4s,baz=42,slow=34						
	3.4nm,0.8s						
URZ	**Urewera**	**26.36**	**2**	LR	LR	03 50 00.4	
	comp=Z,215nm,18.9s,baz=268,slow=34						
DZM	**Mont Dzumac**	**42.93**	**347**	LR	LR	03 59 57.5	
	comp=Z,268nm,18.1s,baz=202,slow=35						
DZM	**Mont Dzumac**	**42.93**	**347**	*e*LR	LR	03 55 08.9	
	comp=Z,356nm,24.8s						
PMSA	**Palmer Station**	**43.78**	**148**	LR	LR	03 59 08.6	
	comp=Z,141nm,18.9s,baz=210,slow=33						
RAR	**Rarotonga**	**46.27**	**32**	LR	LR	03 58 06.5	
	comp=Z,138nm,19.0s,baz=175,slow=30						
MSVF	**Nonsavu**	**46.82**	**3**	LR	LR	04 00 42.0	
	comp=Z,92nm,18.7s,baz=340,slow=33						
H01W1	**Cape Leeuwin H**	**46.98**	**278**	T	T	04 34 50.0	
	baz=148,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**46.98**	**278**	T	T	04 34 36.5	
	baz=148,slow=76,SNR=23						
H01W3	**Cape Leeuwin H**	**46.99**	**278**	T	T	04 34 36.8	
	baz=148,slow=76,SNR=21						
TBI	**Tubuai**	**47.04**	**46**	*e*LR	LR	03 56 38.5	
	comp=Z,1μm,24.8s						
TBI				*e*LR	LR	03 56 38.7	
	comp=Z,429nm,27.8s						
TBI	**Tubuai**	**47.04**	**46**	*e*T	T	04 33 45.8	
	29nm,0.3s						
CTA	**Charters Tower**	**48.62**	**322**	LR	LR	04 02 05.9	
	comp=Z,146nm,18.7s,baz=96,slow=33						
ASAR	**Alice Springs**	**49.10**	**306**	P	P	03 43 58.1	+0.1
	2.0nm,0.9s,baz=155,slow=7.2,SNR=13						
	2.0nm,0.9s						
WRA	**Warramunga Arr**	**52.39**	**308**	P	P	03 44 22.3	-0.5
	1.3nm,0.9s,baz=154,slow=6.7,SNR=6.0						
	1.3nm,0.9s						
VAH	**Vaihoa**	**55.23**	**44**	*e*T	T	04 44 02.2	
	110nm,0.3s						
PMG	**Port Moresby**	**58.64**	**326**	LR	LR	04 06 09.4	
	comp=Z,124nm,21.0s,baz=136,slow=32						
PLCA	**Paso Flores**	**62.96**	**129**	LR	LR	04 08 11.2	
	comp=Z,44nm,18.5s,baz=214,slow=32						
H03S2	**Juan Fernandez**	**66.10**	**119**	T	T	04 58 21.5	
	baz=205,slow=74,SNR=5.5						
H03S1	**Juan Fernandez**	**66.10**	**119**	T	T	04 58 26.6	
	baz=205,slow=74,SNR=5.9						
H03S3	**Juan Fernandez**	**66.11**	**119**	T	T	04 58 26.7	
	baz=205,slow=74,SNR=4.5						
NNA	**Nana**	**86.56**	**111**	LR	LR	04 18 56.5	
	comp=Z,65nm,18.7s,baz=228,slow=30						
LBTB	**Lobatse**	**87.74**	**207**	LR	LR	04 25 13.8	
	comp=Z,156nm,18.8s,baz=173,slow=34						
ATAH	**Atahualpa**	**90.31**	**107**	LR	LR	04 20 08.2	
	comp=Z,97nm,18.5s,baz=235,slow=30						
TSUM	**Tsumeb**	**94.82**	**201**	LR	LR	04 31 11.9	
	comp=Z,117nm,18.3s,baz=152,slow=36						
PALK	**Pallekele**	**98.71**	**269**	LR	LR	04 25 44.2	
	comp=Z,38nm,20.2s,baz=232,slow=31						
H06S1	**SOCORRO T**	**99.79**	**67**	T	T	05 39 55.6	
	SNR=10						
H02S1	**DAWSON INLET TI**	**124.03**	**35**	T	T	06 09 55.5	
	SNR=9.5						
BRTR	**Keskin Array B**	**146.84**	**240**	PKPbc	PKPbc	03 54 51.9	-0.5
	1.2nm,0.9s,baz=132,slow=2.1,SNR=5.7						

LDG ***02*** *03:36:13.9±0.1, 42.°72N×12.°69E, h8km, Ml3.6/38, Error ellipse: s-maj=4.6km s-min=2.3km az=39.0*

ROM ***02*** *03:36:13.5±0.0, 42.°804N±0.°002×12.°753E±0.°003, h8km, ML4.1/128, Mw3.9, Error ellipse: s-maj=0.2km s-min=0.1km az=37.0, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr 0.15; Mθθ 4.77; Mϕϕ-4.91; Mrθ 0.17; Mϕθ-6.99; Mϕr-2.61; Fault plane solution: M○ 8.88604×10^14 NP1: ϕs 73.00000°, δ 74.00000°, λ-177.00000°. NP2: ϕs 342.00000°, δ 87.00000°, λ-16.00000°.*

IDC ***02*** *03:36:14.3±0.9, 42.°93N×12.°55E, h0km, mb3.9/9, mbtmp3.8/17, ML3.5/7, MS3.2/13 Error ellipse: s-maj=14.5km s-min=12.7km az=83.0*

MED_RC ***02*** *03:36:14.0±0.5, 42.°80N×12.°75E, h10km, MW4.1/12, Moment Tensor Solution. Mantle waves: s12,c16; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr 0.12±.16; Mθθ 0.92±.14; Mϕϕ-1.03±.14; Mrθ-0.10±.40; Mθϕ-1.28±.14; Mϕr 0.03±.39; Best double couple: M○ 1.61000×10^15 NP1: ϕs 251.00000°, δ 88.00000°, λ 177.00000°. NP2: ϕs 341.00000°, δ 87.00000°, λ 2.00000°. Principal axes: T 1.5600, Plg4.0000°, Azm206.0000°; N 0.1100, Plg86.0000°, Azm36.0000°; P -1.6600, Plg1.0000°, Azm296.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

PDG ***02*** *03:36:14.2±1.2, 42.°81N×12.°75E, h8km±1km, MD4.2/3, ML4.1/12 Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*

NEIC ***02*** *03:36:14.5±2.0, 42.°79N±0.°05×12.°74E±0.°07, h10km±1km, mb4.3/23, ML4.1(VIE), Error ellipse: s-maj=10.5km s-min=7.3km az=221.0*

PRU ***02*** *03:36:16.4±0.0, 42.°90N×12.°75E, h0km, M4.3*

BEO ***02*** *03:36:19.4±0.6, 42.°95N×13.°05E, h10km, ML4.1/10*

ISC 02 03:36:14.5±0.7, 42.°80N±0.°01×12.°71E±0.°02, h10km±4km, n502, σ2s11/600, mb4.3/23, MS3.2/4, 48C-81D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMA	**Monte Martano**	**0.10**	**270**	⇓P	**Pg**	**03 36 17.1**	**-0.2**
MOMA				S	**Sg**	**03 36 19.4**	**+0.1**
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
T1221	**Campello sul C**	**0.11**	**60**	⇑P	**Pg**	**03 36 16.2**	**-1.3**
T1221				S	**Sg**	**03 36 17.8**	**-1.7**
T1215	**Vallo di Nera,**	**0.12**	**91**	⇓P	**Pg**	**03 36 16.1**	**-1.3**
T1215				S	**Sg**	**03 36 17.8**	**-1.7**
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1217	**Poggiodomo (PG**	**0.18**	**119**	⇓P	**Pg**	**03 36 17.6**	**-0.9**
T1217				S	**Sg**	**03 36 20.6**	**-0.7**
CESX	**Cesi**	**0.22**	**207**	Pg	**Pg**	**03 36 18.9**	**-0.1**
CESX	**Cesi**	**0.22**	**207**	⇑P	**Pg**	**03 36 18.9**	**-0.1**
CESX				S	**Sg**	**03 36 23.0**	**+0.9**
CESX				AML	AML		
CESX				AML	AML		
	comp=E,95700μm,0.6s						
CESX				AML	AML		
ARRO	**Arrone**	**0.23**	**170**	⇑P	**Pg**	**03 36 19.0**	**-0.1**
ARRO				S	**Sg**	**03 36 22.9**	**+0.5**
ARRO				AML	AML		
	comp=E,87000μm,0.6s						
ARRO				AML	AML		
	comp=N,63850μm,1.6s						
ARRO				AML	AML		
	comp=N,63850μm,0.4s						
T1216	**Preci, Frazion**	**0.24**	**69**	⇑P	**Pg**	**03 36 18.7**	**-0.8**
T1216				S	**Sg**	**03 36 22.4**	**-0.5**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
CESI	**CESI - Serrava**	**0.25**	**35**	⇑P	**Pg**	**03 36 18.9**	**-0.7**
CESI				S	**Sg**	**03 36 23.1**	**+0.1**
CESI				AML	AML		
CESI				AML	AML		
CESI				AML	AML		
T1212	**Cascia, Frazio**	**0.25**	**102**	⇓P	**Pg**	**03 36 18.8**	**-0.9**
T1212				S	**Sg**	**03 36 21.9**	**-1.2**
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1211	**Morro Reatino**	**0.29**	**159**	⇓P	**Pg**	**03 36 20.1**	**-0.3**
T1211				S	**Sg**	**03 36 25.0**	**+0.7**
T1211				AML	AML		
	comp=E,74950μm,0.6s						
T1211				AML	AML		
T1211				AML	AML		
T1211				AML	AML		
	comp=E,74950μm,0.6s						
T1211				AML	AML		
	comp=E,74950μm,1.4s						
T1211				AML	AML		
T1211				AML	AML		
	comp=E,75550μm,1.0s						
FEMA	**Monte Fema**	**0.29**	**57**	⇑P	**Pg**	**03 36 19.8**	**-0.7**
FEMA				S	**Sg**	**03 36 24.4**	**-0.1**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
NRCA	**Norcia**	**0.30**	**84**	Pg	**Pg**	**03 36 19.6**	**-1.0**
NRCA	**Norcia**	**0.30**	**84**	⇓P	**Pg**	**03 36 19.5**	**-1.0**
NRCA				S	**Sg**	**03 36 24.0**	**-0.5**
NRCA				AML	AML		
	comp=E,74150μm,0.8s						
NRCA				AML	AML		
	comp=N,87250μm,0.9s						
NRCA				AML	AML		
	comp=N,87300μm,0.9s						
NRCA				AML	AML		
	comp=E,74100μm,0.8s						
NRCA				AML	AML		
	comp=E,79750μm,0.8s						
NRCA				AML	AML		
	comp=N,87250μm,1.1s						
NRCA				AML	AML		
	comp=N,87300μm,1.1s						
NRCA				AML	AML		
	comp=E,79750μm,1.2s						
NRCA				AML	AML		
	comp=E,74100μm,1.2s						
LNSS	**Leonessa**	**0.31**	**130**	⇓P	**Pg**	**03 36 20.0**	**-0.8**
LNSS				S	**Sg**	**03 36 24.9**	**-0.2**
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
T1213	**Norcia, Frazio**	**0.31**	**104**	⇓P	**Pg**	**03 36 19.9**	**-0.9**
T1213				S	**Sg**	**03 36 24.8**	**-0.3**
T1218	**Civita (PG)**	**0.33**	**114**	⇓P	**Pg**	**03 36 20.1**	**-0.9**
T1218				S	**Sg**	**03 36 25.3**	**-0.1**
T1218				AML	AML		
T1218				AML	AML		
	comp=E,58650μm,0.9s						
T1218				AML	AML		
	comp=E,59550μm,0.5s						
T1218				AML	AML		
T1218				AML	AML		
	comp=E,58650μm,0.9s						
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
	comp=E,58650μm,1.1s						
T1218				AML	AML		
	comp=E,59550μm,1.5s						
T1219	**Muccia, Frazio**	**0.33**	**41**	⇑P	**Pg**	**03 36 20.3**	**-0.9**
T1219				S	**Sg**	**03 36 25.6**	**0.0**
T1219				AML	AML		
T1219				AML	AML		
	comp=N,59050μm,0.7s						
T1219				AML	AML		
	comp=E,99350μm,0.4s						
T1219				AML	AML		
	comp=N,61750μm,0.7s						
T1219				AML	AML		
T1219				AML	AML		
	comp=N,59050μm,1.3s						
T1219				AML	AML		
	comp=N,61750μm,1.3s						
T1219				AML	AML		
	comp=E,99350μm,1.6s						
T1245	**Castelsantange**	**0.35**	**81**	⇓P	**Pg**	**03 36 20.6**	**-1.0**
T1245				S	**Sg**	**03 36 26.1**	**-0.2**
T1245				AML	AML		
	comp=E,75000μm,0.5s						
T1245				AML	AML		
T1245				AML	AML		
	comp=E,83400μm,0.5s						
T1245				AML	AML		
T1245				AML	AML		
	comp=E,75000μm,0.5s						
T1245				AML	AML		
FDMO	**Fiordimonte**	**0.36**	**50**	Pg	**Pg**	**03 36 20.8**	**-0.8**
FDMO	**Fiordimonte**	**0.36**	**50**	⇑P	**Pg**	**03 36 20.8**	**-0.8**
FDMO				S	**Sg**	**03 36 26.4**	**-0.1**
FDMO				AML	AML		
	comp=N,34300μm,0.5s						
FDMO				AML	AML		
	comp=E,48150μm,0.8s						
MC2	**Monte Cornacci**	**0.37**	**73**	⇓P	**Pg**	**03 36 20.9**	**-0.9**
MC2				S	**Sg**	**03 36 27.4**	**+0.6**
T1214	**Arquata del Tr**	**0.37**	**97**	⇓P	**Pg**	**03 36 20.8**	**-1.0**
T1214				S	**Sg**	**03 36 26.8**	**+0.1**
T1214				AML	AML		
	comp=E,53050μm,0.6s						
T1214				AML	AML		
	comp=N,45900μm,1.1s						
T1214				AML	AML		
	comp=E,55400μm,0.6s						
T1214				AML	AML		
	comp=N,46950μm,1.1s						
T1214				AML	AML		
	comp=N,45850μm,1.1s						
SEF1	**Sefro**	**0.38**	**27**	P	**Pg**	**03 36 21.3**	**-0.8**
SEF1				S	**Sg**	**03 36 27.3**	**+0.1**
SEF1				AML	AML		
	comp=E,49100μm,0.2s						
SEF1				AML	AML		
	comp=N,45400μm,0.7s						
SEF1				AML	AML		
	comp=N,45400μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.39**	**352**	⇓P	**Pg**	**03 36 21.8**	**-0.4**
ATCC				S	**Sg**	**03 36 28.2**	**+0.9**
ATCC				AML	AML		
	comp=E,82150μm,0.5s						
ATCC				AML	AML		
	comp=N,47050μm,1.4s						
ATCC				AML	AML		
	comp=N,47050μm,0.6s						
ATCC				AML	AML		
	comp=E,82150μm,1.5s						
T1202	**Accumoli, Fraz**	**0.39**	**105**	⇓P	**Pg**	**03 36 21.2**	**-1.0**
T1202				S	**Sg**	**03 36 28.2**	**+0.8**
T1220	**Camerino, Fraz**	**0.41**	**42**	⇑P	**Pg**	**03 36 21.8**	**-0.8**
T1220				S	**Sg**	**03 36 28.4**	**+0.3**
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
FIU1	**Fiuminata**	**0.42**	**23**	P	**Pg**	**03 36 21.8**	**-1.0**
T1201	**Domo (RI)**	**0.42**	**110**	⇓P	**Pg**	**03 36 21.9**	**-0.9**
T1201				S	**Sg**	**03 36 28.7**	**+0.3**
T1256	**Bolognola (MC)**	**0.43**	**62**	⇑P	**Pg**	**03 36 22.1**	**-0.9**
T1256				S	**Sg**	**03 36 28.5**	**-0.2**
T1256				AML	AML		
	comp=E,55100μm,0.7s						
T1256				AML	AML		
	comp=N,57100μm,1.1s						
T1256				AML	AML		
	comp=E,57700μm,0.6s						
T1256				AML	AML		
	comp=N,61950μm,1.0s						
T1256				AML	AML		
	comp=E,57700μm,0.7s						
T1256				AML	AML		
	comp=N,61950μm,1.1s						
T1256				AML	AML		
	comp=E,55100μm,1.3s						
T1256				AML	AML		
	comp=E,57700μm,1.3s						
T1256				AML	AML		
	comp=N,61950μm,0.9s						
T1256				AML	AML		
	comp=N,57100μm,0.9s						
T1244	**Arquata del Tr**	**0.43**	**96**	⇓P	**Pg**	**03 36 22.2**	**-0.8**
T1244				S	**Sg**	**03 36 29.4**	**+0.6**
MGAB	**Montegabbione**	**0.46**	**284**	⇓P	**Pg**	**03 36 23.3**	**-0.1**
MGAB				AML	AML		
	comp=N,26450μm,0.9s						
MGAB				AML	AML		
	comp=N,28950μm,0.4s						
MGAB				AML	AML		
	comp=E,26050μm,0.5s						
MGAB				AML	AML		
	comp=E,32600μm,0.5s						
MGAB				AML	AML		
	comp=N,26450μm,1.1s						
T1204	**Amatrice, Fraz**	**0.46**	**106**	⇓P	**Pg**	**03 36 22.7**	**-0.9**
RM33	**Pellescritta (**	**0.47**	**128**	⇓P	**Pg**	**03 36 22.7**	**-1.0**
RM33				S	**Sg**	**03 36 30.3**	**+0.3**
RM33				AML	AML		
	comp=E,37750μm,1.2s						
RM33				AML	AML		
	comp=N,34900μm,1.3s						
RM33				AML	AML		
	comp=E,36400μm,1.2s						
RM33				AML	AML		
	comp=E,37750μm,1.2s						
RM33				AML	AML		
	comp=N,34750μm,1.3s						
RM33				AML	AML		
	comp=E,36400μm,0.8s						
RM33				AML	AML		
	comp=N,34900μm,0.7s						
RM33				AML	AML		
	comp=E,37750μm,0.8s						
RM33				AML	AML		
	comp=N,34750μm,0.7s						
ATTE	**AVT- Monte Tez**	**0.47**	**326**	⇓P	**Pg**	**03 36 23.3**	**-0.4**
ATTE				AML	AML		
	comp=E,13700μm,0.5s						
ATTE				AML	AML		
	comp=N,11965μm,0.4s						
ATTE				AML	AML		
	comp=E,13700μm,1.5s						
MURB	**Monte Urbino**	**0.48**	**343**	Pg	**Pg**	**03 36 23.6**	**-0.3**
MURB	**Monte Urbino**	**0.48**	**343**	⇓P	**Pg**	**03 36 23.5**	**-0.3**
MURB				S	**Sb**	**03 36 31.9**	**-0.3**
MURB				AML	AML		
	comp=N,99000μm,0.4s						
MURB				AML	AML		
	comp=E,78200μm,0.6s						
MURB				AML	AML		
	comp=N,99000μm,0.3s						
MURB				AML	AML		
	comp=E,81000μm,0.6s						
MURB				AML	AML		
	comp=N,99400μm,0.3s						
SNTG	**Esanatoglia**	**0.48**	**20**	⇑P	**Pg**	**03 36 23.0**	**-0.9**
SNTG				S	**Sg**	**03 36 30.5**	**+0.2**
SNTG				AML	AML		
	comp=E,20300μm,1.2s						
SNTG				AML	AML		

comp=N,16750µm,1.6s
SNTG AML AML
comp=E,19050µm,1.2s
SNTG AML AML
comp=E,20300µm,1.2s
SNTG AML AML
comp=N,16750µm,1.6s
SNTG AML AML
comp=N,17650µm,0.5s
SNTG AML AML
comp=N,16750µm,0.4s
SNTG AML AML
comp=E,20300µm,0.8s
SNTG AML AML
comp=E,19050µm,0.8s
SMA1 SAN MARTINO 0.49 110 ⇓P Pg 03 36 23.2 -0.9
SMA1 AML AML
comp=N,56000µm,0.5s
SMA1 AML AML
comp=E,51800µm,0.4s
FOSV Fossato di Vic 0.49 4 P **Pg 03 36 23.4 -0.8**
FOSV AML AML
comp=E,19900µm,0.6s
FOSV AML AML
comp=N,15050µm,0.9s
FOSV AML AML
comp=E,19900µm,1.4s
GAG1 Gagliole 0.51 31 ⇑P Pg 03 36 23.7 -0.6
GAG1 S **Sg 03 36 31.7 +0.6**
GAG1 AML AML
comp=E,78600µm,0.3s
GAG1 AML AML
comp=E,78550µm,0.3s
GAG1 AML AML
GAG1 AML AML
comp=E,78550µm,1.7s
GUMA Gualdo di Mace 0.53 60 Pg **Pg 03 36 23.9 -0.8**
GUMA Gualdo di Mace 0.53 60 ⇑P Pg 03 36 24.1 -0.7
GUMA S **Sg 03 36 31.9 +0.2**
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
T1241 Roccafluvione, 0.53 84 ⇓P Pg 03 36 23.7 -1.1
T1241 S **Sg 03 36 31.4 -0.5**
T1241 AML AML
comp=N,27600µm,0.5s
T1241 AML AML
comp=E,25150µm,0.9s
T1241 AML AML
comp=N,27850µm,0.5s
T1241 AML AML
comp=E,26150µm,1.2s
T1241 AML AML
comp=E,26150µm,0.8s
T1241 AML AML
comp=N,27600µm,1.5s
T1241 AML AML
comp=E,25150µm,1.1s
T1241 AML AML
comp=N,27850µm,1.5s
T1243 Rocca Santa Ma 0.55 101 ⇓P Pg 03 36 23.9 -1.3
T1243 S **Sg 03 36 32.4 -0.2**
ATLO AVT- Montelove 0.56 337 ⇓P Pg 03 36 24.8 -0.6
T1247 Pizzolo (AQ) 0.56 130 ⇓P Pg 03 36 24.4 -1.1
T1247 AML AML
comp=N,41200µm,0.8s
T1247 AML AML
comp=E,44050µm,0.6s
T1247 AML AML
comp=N,41200µm,1.2s
ATVA AVT- Monte Val 0.57 327 ⇓P Pg 03 36 24.9 -0.6
ATFO Monte Foce - G 0.57 350 ⇓P Pg 03 36 25.2 -0.4
ATFO S **Sg 03 36 34.1 +0.9**
ATFO AML AML
comp=E,20100µm,1.2s
ATFO AML AML
comp=E,20100µm,0.8s
ATFO AML AML
comp=N,23950µm,0.6s
CAMP Campotosto 0.58 117 Pg **Pg 03 36 24.5 -1.3**
CAMP Campotosto 0.58 117 ⇓P Pg 03 36 24.5 -1.3
CAMP AML AML
comp=E,15300µm,0.7s
CAMP AML AML
comp=N,11905µm,0.8s
CAMP AML AML
comp=N,11905µm,1.2s
SRES S.Oreste - Sor 0.58 195 ⇑P Pg 03 36 25.4 -0.4
SRES AML AML
comp=E,12000µm,0.7s
SRES AML AML
comp=N,14300µm,1.3s
SRES AML AML
comp=N,14300µm,0.7s
SACS San Casciano d 0.59 275 ⇓P Pg 03 36 26.0 0.0
SACS AML AML
comp=E,8840µm,0.6s
SACS AML AML
comp=E,8995µm,1.2s
SACS AML AML
comp=N,14300µm,0.8s
SACS AML AML
comp=E,8840µm,1.4s
SACS AML AML
comp=E,8995µm,0.8s
SACS AML AML
comp=N,14150µm,0.8s
EL6 Elcito 0.60 28 ⇑P Pg 03 36 25.2 -1.0
EL6 S **Sg 03 36 34.6 +0.6**
EL6 AML AML
comp=E,45450µm,1.3s
EL6 AML AML
comp=N,35650µm,0.7s
EL6 AML AML
comp=E,45400µm,1.3s
EL6 AML AML
comp=N,35600µm,0.7s
EL6 AML AML
comp=E,45400µm,0.7s
FIAM Fiamignano 0.61 151 ⇓P Pg 03 36 25.3 -1.1
FIAM S **Sg 03 36 34.6 +0.1**
FIAM AML AML
comp=E,26650µm,1.3s
FIAM AML AML
comp=N,25350µm,0.8s
FIAM AML AML
comp=N,25350µm,1.2s
FIAM AML AML
comp=E,26650µm,0.7s
ATVO AVT- Monte Val 0.62 339 ⇓P Pg 03 36 25.8 -0.7
ATVO AML AML
comp=E,12350µm,0.5s
ATVO AML AML
comp=N,13300µm,0.7s
ATSC Scheggia e Pas 0.62 358 P **Pg 03 36 25.7 -0.9**
ATMI Monte Miggiano 0.62 329 P **Pg 03 36 26.2 -0.4**
ATMI AML AML
comp=E,40500µm,1.3s
ATMI AML AML
comp=N,45750µm,0.5s
ATMI AML AML
comp=E,40500µm,0.7s
SSFR Montelago di S 0.64 5 ⇓P Pg 03 36 25.9 -0.9
SSFR AML AML
comp=N,28100µm,0.3s
SSFR AML AML
comp=E,20900µm,0.8s
SSFR AML AML
comp=E,19800µm,0.7s
SSFR AML AML
comp=N,24700µm,0.2s
MNTP Montappone 0.65 59 P **Pg 03 36 26.5 -0.6**
MNTP AML AML
comp=N,43050µm,0.9s
MNTP AML AML
comp=N,43050µm,0.9s
MNTP AML AML
comp=E,43550µm,0.8s
MNTP AML AML
comp=N,43050µm,1.1s
CING Cingoli 0.67 32 ⇑P Pg 03 36 26.4 -1.1
CING S **Sg 03 36 36.7 +0.3**
CING AML AML
comp=E,14250µm,1.2s
CING AML AML
comp=N,11950µm,0.3s
CING AML AML
comp=E,14250µm,0.8s
TERO Teramo 0.68 105 ⇓P Pg 03 36 26.0 -1.6
TERO AML AML
comp=N,16750µm,0.6s
TERO AML AML
comp=E,14000µm,0.6s
TERO AML AML
comp=N,17000µm,0.4s
TERO AML AML
comp=E,13750µm,0.6s
TERO AML AML
comp=E,13750µm,1.4s
TERO AML AML
comp=E,14000µm,1.4s
ATPI Pietralunga - 0.69 341 P **Pg 03 36 27.1 -0.6**
ATPI AML AML
comp=E,17800µm,0.7s
ATPI AML AML
comp=N,15000µm,0.5s
ATPI AML AML
comp=E,17800µm,1.3s
LATE Laterza 0.70 254 Pg **Pg 03 36 27.9 0.0**
LATE Laterza 0.70 254 P **Pg 03 36 27.8 -0.1**
FRON Frontone 0.71 1 P **Pg 03 36 27.2 -1.1**
FRON AML AML
comp=N,13800µm,0.6s
FRON AML AML
comp=E,11600µm,0.8s
GIGS Gran Sasso 0.72 119 ⇓P Pg 03 36 26.8 -1.7
GIGS AML AML
comp=E,4965µm,1.3s
GIGS AML AML
comp=N,2845µm,0.7s
GIGS AML AML
comp=N,2845µm,1.3s
OFFI Offida 0.73 79 ⇓P Pg 03 36 28.0 -0.5
OFFI AML AML
comp=E,36350µm,0.7s
OFFI AML AML
comp=E,36350µm,1.3s
OFFI AML AML
comp=N,57500µm,0.9s
PIEI Pieia 0.74 350 P **Pg 03 36 28.2 -0.7**
PIEI AML AML
comp=E,10240µm,0.4s
PIEI AML AML
comp=N,9910µm,1.4s
CAFI Castiglion Fio 0.76 314 ⇓P Pg 03 36 28.6 -0.5
CAFI AML AML
comp=E,11105µm,1.4s
CAFI AML AML
comp=N,10750µm,1.3s
CAFI AML AML
comp=E,11240µm,0.6s
CAFI AML AML
comp=N,11150µm,1.3s
CAFI AML AML
comp=E,11105µm,0.6s
CAFI AML AML
comp=N,10750µm,0.7s
CAFI AML AML
comp=N,11150µm,0.7s
MCIV Monte Civitell 0.76 268 P **Pg 03 36 28.7 -0.5**
MCIV AML AML
comp=N,5695µm,0.6s
MCIV AML AML
comp=E,7620µm,0.4s
MCIV AML AML
comp=N,5695µm,1.4s
SF04 Casetta 0.78 273 P **Pg 03 36 29.2 -0.2**
SF04 AML AML
comp=E,8855µm,1.2s
SF04 AML AML
comp=N,6775µm,0.3s
SF04 AML AML
comp=E,8855µm,0.8s
SF04 AML AML
comp=N,6770µm,0.3s
MTCE Montecelio 0.78 178 ⇑P Pg 03 36 28.4 -1.1
MTCE AML AML
comp=E,15700µm,0.7s
MTCE AML AML
comp=N,9940µm,0.5s
APEC Apecchio 0.78 344 P **Pg 03 36 28.9 -0.7**
APEC AML AML
comp=E,16250µm,1.0s
APEC AML AML
comp=E,18200µm,0.6s
APEC AML AML
comp=N,13200µm,0.4s
APEC AML AML
comp=N,17500µm,0.7s
BADI Badiali 0.79 334 ⇓P Pg 03 36 29.0 -0.7
BADI AML AML
comp=E,487µm,0.8s
BADI AML AML
comp=N,8505µm,1.2s
BADI AML AML
comp=E,488µm,0.8s
BADI AML AML
comp=N,8510µm,1.2s
BADI AML AML
comp=N,8510µm,0.8s
MPAG Monte Paganucc 0.83 2 P **Pg 03 36 29.2 -1.2**
FAGN Fagnano 0.84 130 ⇓P Pg 03 36 29.0 -1.7
FAGN AML AML
comp=E,41300µm,0.5s
FAGN AML AML
comp=N,19000µm,0.6s
SF01 Poggio Pratacc 0.85 271 P **Pg 03 36 30.7 -0.1**
SF01 AML AML
comp=E,7025µm,0.8s
SF01 AML AML
comp=N,9915µm,0.7s
SF01 AML AML
comp=N,9940µm,0.7s
SF01 AML AML
comp=N,9940µm,1.3s
SF01 AML AML
comp=E,7025µm,0.7s
COR1 Corinaldo 0.85 14 P **Pg 03 36 30.5 -0.5**
COR1 AML AML
comp=E,26800µm,0.7s
COR1 AML AML
comp=E,13800µm,0.7s
COR1 AML AML
comp=N,28550µm,0.8s
COR1 AML AML
comp=E,13850µm,0.7s
COR1 AML AML
comp=N,28500µm,0.8s
COR1 AML AML
comp=E,26800µm,1.3s
COR1 AML AML
comp=E,13850µm,1.3s
COR1 AML AML
comp=N,30700µm,0.8s
PP3 Marolino 0.87 49 P **Pg 03 36 30.8 -0.5**
PP3 AML AML
comp=E,31200µm,0.7s
PP3 AML AML
comp=E,30350µm,0.7s
PP3 AML AML
comp=N,25200µm,1.4s
PP3 AML AML
comp=N,24900µm,1.3s
CERT Cerreto 0.88 167 ⇑P Pg 03 36 30.0 -1.3
CERT AML AML
comp=E,11150µm,1.1s
CERT AML AML
comp=N,7970µm,0.5s
CERT AML AML
comp=N,7970µm,1.5s
CERT AML AML
comp=E,11150µm,0.9s
SSP9 Sansepolcro 0.88 331 P **Pg 03 36 31.4 -0.1**
SSP9 AML AML
comp=N,8625µm,0.7s
SSP9 AML AML
comp=N,8625µm,1.3s
SSP9 AML AML
comp=E,7090µm,1.1s
TRTR Tortoreto Alta 0.88 89 ⇓P Pg 03 36 31.1 -0.4
TRTR AML AML
comp=N,43700µm,1.5s
TRTR AML AML
comp=E,40600µm,0.7s
TRTR AML AML
comp=N,43700µm,0.5s
FSSB Fossombrone 0.89 3 P **Pg 03 36 30.4 -1.2**
FSSB AML AML
comp=E,26700µm,0.4s
FSSB AML AML
comp=N,21600µm,0.4s
FSSB AML AML
comp=N,21600µm,1.6s
FSSB AML AML
comp=E,26700µm,1.6s
PE3 Peglio 0.91 350 P **Pg 03 36 31.4 -0.6**
PE3 AML AML
comp=E,22400µm,0.4s
PE3 AML AML
comp=N,38µm,0.3s
ARCI Arcidosso 0.91 273 P **Pg 03 36 31.5 -0.5**
ARCI AML AML
comp=E,2730µm,0.8s
ARCI AML AML
comp=N,1580µm,0.5s
PARC Parchiule 0.91 338 P **Pg 03 36 31.4 -0.7**
PARC AML AML
comp=E,9750µm,0.7s
PARC AML AML
comp=N,8135µm,0.4s
PARC AML AML
comp=E,9750µm,1.3s
VCEL Villa Celiera 0.93 116 P **Pg 03 36 30.5 -1.9**
VCEL AML AML
comp=E,24400µm,1.5s
VCEL AML AML
comp=N,16950µm,0.5s
VCEL AML AML
comp=N,16950µm,1.5s
VCEL AML AML
comp=E,24400µm,0.5s
PTQR Pietraquaria 0.93 147 P **Pg 03 36 30.4 -2.1**
PTQR AML AML
comp=N,9720µm,1.1s
PTQR AML AML
comp=E,13000µm,1.4s
T0110 Collepietro 0.98 126 ⇓P Pg 03 36 31.2 -2.1
T0110 AML AML
comp=E,18700µm,0.9s
T0110 AML AML
comp=N,14000µm,1.1s
T0110 AML AML
comp=N,14000µm,0.9s
SENI Senigallia 0.98 23 ⇑P Pg 03 36 32.9 -0.4
SENI AML AML
comp=N,51800µm,0.4s
SENI AML AML
comp=N,11100µm,0.9s
SENI AML AML
comp=N,11100µm,1.1s
SENI AML AML
comp=N,51800µm,1.6s
SENI AML AML
comp=E,46450µm,0.6s
SENI AML AML
comp=E,18000µm,0.9s
CRE Caprese Michel 0.99 326 P **Pg 03 36 32.7 -0.8**
CRE AML AML
comp=E,4500µm,1.6s
CRE AML AML
comp=N,6420µm,1.1s
CRE AML AML
comp=E,4500µm,0.4s
AOI Ancona 0.99 41 ⇑P Pg 03 36 32.3 -1.2
AOI AML AML
comp=E,9075µm,1.2s
AOI AML AML
comp=N,7145µm,0.8s
AOI AML AML
comp=E,9075µm,0.8s
RMP Rome, Mte Porz 0.99 180 P **Pg 03 36 32.4 -1.2**
RMP AML AML
comp=E,13000µm,1.6s
RMP AML AML
comp=N,15750µm,0.5s
MA9 Marino 1.03 182 P **Pg 03 36 33.3 -1.1**
MA9 AML AML
comp=N,18900µm,0.6s
MA9 AML AML
comp=E,25000µm,0.7s
MA9 AML AML
comp=N,18900µm,1.4s
RDP Rocca di Papa 1.04 180 AML AML
comp=N,29450µm,0.7s
RDP AML AML
comp=E,33600µm,0.5s
VIVA Pratoni del Vi 1.05 178 P **Pg 03 36 33.5 -1.3**
VIVA AML AML
comp=E,28650µm,0.6s
VIVA AML AML
comp=N,28450µm,0.4s
VIVA AML AML
comp=E,28650µm,1.4s
GUAR Guarcino 1.10 156 P **Pg 03 36 33.6 -2.0**
GUAR AML AML
comp=E,13350µm,1.0s
GUAR AML AML
comp=E,13350µm,1.0s
GUAR AML AML
comp=N,13850µm,0.6s
LAV9 Lanuvio 1.12 181 P **Pg 03 36 34.9 -1.2**
PESA Pesaro 1.14 5 P **Pb 03 36 35.5 -0.8**
PESA AML AML
comp=E,14350µm,1.0s
PESA AML AML
comp=N,11350µm,0.4s
VVLD Villa Vallelon 1.15 144 P **Pg 03 36 34.6 -2.0**
VVLD AML AML
comp=E,9110µm,0.6s
VVLD AML AML
comp=N,8215µm,0.9s
VVLD AML AML
comp=E,9110µm,1.4s
INTR Introdacqua 1.19 131 **Pb 03 36 35.0 -2.0**
INTR Introdacqua 1.19 131 P **Pb 03 36 34.7 -2.4**
INTR AML AML
comp=E,9µm,1.0s
INTR AML AML
comp=N,9µm,0.9s
INTR AML AML
comp=E,8940µm,1.0s
INTR AML AML
comp=N,13350µm,0.9s
ASQU Asqua 1.20 326 P **Pb 03 36 36.4 -0.9**
ASQU AML AML
comp=E,3525µm,0.5s
ASQU AML AML
comp=N,4570µm,0.6s
FROS Frosini 1.21 290 ⇓P Pb 03 36 37.2 -0.3
FROS AML AML
comp=E,6030µm,0.9s
FROS AML AML
comp=N,2870µm,1.3s
MAON Monte Argentar 1.23 253 ⇓P Pn 03 36 37.0 -0.6
MAON AML AML
comp=E,1720µm,0.9s
MAON AML AML
comp=N,2415µm,0.8s
CSNT Castellina Chi 1.24 303 ⇓P Pn 03 36 37.6 -0.2
CSNT AML AML
comp=E,1995µm,0.5s
CSNT AML AML
comp=N,2045µm,0.9s
CSNT AML AML
comp=E,1995µm,1.5s
SFI Santa Sofia 1.27 330 P **Pn 03 36 37.2 -1.0**
SFI AML AML
comp=E,3495µm,1.0s
SFI AML AML
comp=N,3260µm,0.8s
SFI AML AML
comp=E,3515µm,1.0s
SFI AML AML
comp=N,3345µm,1.1s
SFI AML AML
comp=E,3515µm,1.0s
SFI AML AML

	comp=N,3345µm,0.9s							
SFI				AML	AML			
	comp=N,3260µm,1.2s							
OSSC	**Osservatorio P**	**1.29 304**		Pn	**Pn**	**03 36 37.8**	**-0.7**	
OSSC	**Osservatorio P**	**1.29 304**		⇓P	**Pn**	**03 36 38.4**	**-0.1**	
OSSC				AML	AML			
	comp=E,2505µm,1.0s							
OSSC				AML	AML			
	comp=N,2405µm,1.0s							
OSSC				AML	AML			
	comp=E,2720µm,0.6s							
OSSC				AML	AML			
	comp=E,2505µm,1.0s							
OSSC				AML	AML			
	comp=N,2405µm,1.0s							
OSSC				AML	AML			
	comp=N,2815µm,0.6s							
GIUL	**Giuliano Di Ro**	**1.31 162**		P	**Pn**	**03 36 37.3**	**-1.4**	
GIUL				AML	AML			
	comp=E,5635µm,1.6s							
GIUL				AML	AML			
	comp=N,4920µm,0.6s							
GIUL				AML	AML			
	comp=E,5635µm,0.4s							
GIUL				AML	AML			
	comp=N,4920µm,1.4s							
POFI	**Posta Fibreno**	**1.31 145**		P	**Pn**	**03 36 38.6**	**-0.3**	
POFI				AML	AML			
	comp=E,5365µm,1.1s							
POFI				AML	AML			
	comp=E,5515µm,1.1s							
POFI				AML	AML			
	comp=N,3970µm,1.0s							
POFI				AML	AML			
	comp=E,5515µm,0.9s							
POFI				AML	AML			
	comp=E,5365µm,0.9s							
POFI				AML	AML			
	comp=N,4225µm,1.0s							
LATB	**Latina**	**1.32 172**		P	**Pn**	**03 36 37.2**	**-1.7**	
LATB				AML	AML			
	comp=E,1495µm,0.8s							
LATB				AML	AML			
	comp=N,1490µm,1.2s							
LATB				AML	AML			
	comp=E,1495µm,1.2s							
LATB				AML	AML			
	comp=N,1490µm,0.8s							
LRP	**Arpino**	**1.32 150**		AML	AML			
	comp=N,4780µm,0.7s							
LRP				AML	AML			
	comp=E,4985µm,0.8s							
LPEL	**Lama dei Pelig**	**1.33 124**		P	**Pn**	**03 36 37.0**	**-2.0**	
LPEL				AML	AML			
	comp=N,5730µm,0.9s							
LPEL				AML	AML			
	comp=E,8265µm,0.9s							
LPEL				AML	AML			
	comp=N,5730µm,1.1s							
CAFR	**Castel Frentan**	**1.34 115**		AML	AML			
	comp=N,5515µm,0.4s							
CAFR				AML	AML			
	comp=E,5380µm,0.5s							
BLLA	**Bellaria**	**1.35 353**		P	**Pb**	**03 36 40.1**	**+0.3**	
BLLA				AML	AML			
	comp=N,8415µm,1.4s							
BLLA				AML	AML			
	comp=E,7110µm,1.2s							
RUFI	**Rufina**	**1.36 320**		P	**Pn**	**03 36 39.2**	**-0.2**	
RUFI				AML	AML			
	comp=N,4055µm,1.5s							
RUFI				AML	AML			
	comp=E,3835µm,0.7s							
CASP	**Castiglione de**	**1.36 270**		Pn	**Pn**	**03 36 37.8**	**-1.7**	
CASP	**Castiglione de**	**1.36 270**		⇓P	**Pn**	**03 36 38.8**	**-0.7**	
CASP				AML	AML			
	comp=E,1059µm,0.8s							
CASP				AML	AML			
	comp=N,812µm,0.8s							
CASP				AML	AML			
	comp=N,812µm,1.2s							
TRIF	**Trifonti**	**1.36 284**		⇓P	**Pn**	**03 36 39.3**	**-0.3**	
TRIF				AML	AML			
	comp=N,1940µm,0.9s							
TRIF				AML	AML			
	comp=N,1940µm,1.1s							
TRIF				AML	AML			
	comp=E,1495µm,0.7s							
LIK	**San Giovanni I**	**1.44 154**		AML	AML			
	comp=N,12650µm,0.9s							
LIK				AML	AML			
	comp=N,12650µm,1.1s							
LIK				AML	AML			
	comp=E,10090µm,1.1s							
LMD	**Lutirano**	**1.47 330**		P	**Pn**	**03 36 41.1**	**+0.1**	
LMD				AML	AML			
	comp=E,3165µm,1.1s							
LMD				AML	AML			
	comp=N,2300µm,0.6s							
LMD				AML	AML			
	comp=E,3165µm,0.9s							
RNI2	**Rionero Sannit**	**1.53 135**		P	**Pn**	**03 36 42.0**	**0.0**	
CERA	**Filignano**	**1.55 141**		P	**Pn**	**03 36 42.0**	**-0.1**	
CERA				AML	AML			
	comp=E,7805µm,0.8s							
CERA				AML	AML			
	comp=E,7955µm,0.8s							
CERA				AML	AML			
	comp=N,7090µm,0.8s							
CERA				AML	AML			
	comp=E,7955µm,1.2s							
CERA				AML	AML			
	comp=E,7805µm,1.2s							
CERA				AML	AML			
	comp=N,6930µm,0.8s							
A318A	**Donoratico (LI**	**1.60 282**		P	**Pn**	**03 36 42.8**	**0.0**	
BRIS	**BRISIGHELLA**	**1.60 327**		P	**Pn**	**03 36 43.4**	**+0.6**	
BRIS				AML	AML			
	comp=E,3885µm,1.1s							
BRIS				AML	AML			
	comp=N,3750µm,0.5s							
BRIS				AML	AML			
	comp=E,3985µm,1.1s							
BRIS				AML	AML			
	comp=N,3795µm,0.6s							
BRIS				AML	AML			
	comp=E,3985µm,0.9s							
BRIS				AML	AML			
	comp=E,3885µm,0.9s							
CRMI	**Carmignano**	**1.61 308**		P	**Pn**	**03 36 42.8**	**-0.1**	
CRMI				AML	AML			
	comp=E,1295µm,1.0s							
CRMI				AML	AML			
	comp=N,1245µm,0.8s							
CRMI				AML	AML			
	comp=N,1235µm,0.8s							
CRMI				AML	AML			
	comp=E,1320µm,1.0s							
MIDA	**Miranda**	**1.63 135**		P	**Pn**	**03 36 43.0**	**-0.2**	
MIDA				AML	AML			
	comp=E,3520µm,0.9s							
MIDA				AML	AML			
	comp=N,2810µm,1.1s							
MIDA				AML	AML			
	comp=E,3505µm,0.9s							
MIDA				AML	AML			
	comp=N,2750µm,1.2s							
MIDA				AML	AML			
	comp=N,2810µm,0.9s							
MIDA				AML	AML			
	comp=E,3520µm,1.1s							
MIDA				AML	AML			
	comp=N,2750µm,0.8s							
MIDA				AML	AML			
	comp=E,3505µm,1.1s							
MPPT	**Montemurlo**	**1.65 315**		P	**Pn**	**03 36 43.4**	**-0.1**	
FRES	**Fresagrandinar**	**1.67 119**		P	**Pn**	**03 36 44.7**	**+1.0**	
TRIV	**Trivento**	**1.71 127**		P	**Pb**	**03 36 46.0**	**0.0**	
MTCR	**Monte La Croce**	**1.75 315**		P	**Pn**	**03 36 44.4**	**-0.5**	
FNVD	**Fontana Vidola**	**1.79 320**		P	**Pn**	**03 36 45.3**	**-0.1**	
VAGA	**Valle Agricola**	**1.79 140**		P	**Pb**	**03 36 47.1**	**-0.3**	
MTRZ	**Monterenzio**	**1.81 330**		P	**Pn**	**03 36 46.9**	**+1.1**	
PII	**Pisa**	**1.84 301**		P	**Pn**	**03 36 46.0**	**-0.1**	
PII				AML	AML			
	comp=N,1195µm,0.8s							
PII				AML	AML			
	comp=E,1055µm,0.7s							
MODR	**Mondragone**	**1.87 152**		P	**Pn**	**03 36 47.2**	**+0.7**	
MODR				AML	AML			
	comp=E,1200µm,0.7s							
MODR				AML	AML			
	comp=N,1925µm,1.1s							
MODR				AML	AML			
	comp=N,1925µm,0.9s							
MODR				AML	AML			
	comp=E,1200µm,1.3s							
BSSO	**Busso**	**1.88 131**		P	**Pb**	**03 36 48.2**	**-0.7**	
MAIM	**Mastiano**	**1.96 305**		P	**Pn**	**03 36 47.9**	**+0.1**	
BDI	**Bagni Di Lucca**	**1.99 310**		P	**Pn**	**03 36 48.0**	**-0.2**	
BDI				AML	AML			
	comp=E,1011µm,0.7s							
BDI				AML	AML			
	comp=N,446µm,1.0s							
BDI				AML	AML			
	comp=E,1011µm,1.3s							
BDI				AML	AML			
	comp=E,430µm,0.8s							
BDI				AML	AML			
	comp=N,1000µm,1.0s							
BDI				AML	AML			
	comp=N,446µm,1.0s							
ZCCA	**Zocca**	**2.00 321**		Pn	**Pn**	**03 36 49.0**	**+0.8**	
ZCCA	**Zocca**	**2.00 321**		P	**Pb**	**03 36 50.3**	**-0.5**	
CARD	**Cardoso**	**2.03 308**		P	**Pn**	**03 36 48.6**	**-0.2**	
CARD				AML	AML			
	comp=N,988µm,0.9s							
CARD				AML	AML			
	comp=E,1030µm,0.5s							
CARD				AML	AML			
	comp=N,988µm,1.1s							
SACR	**S. Croce Del S**	**2.04 133**		P	**Pb**	**03 36 51.4**	**-0.2**	
VENT	**Ventotene**	**2.08 165**		P	**Pn**	**03 36 49.5**	**+0.3**	
VENT				AML	AML			
	comp=E,1420µm,1.1s							
VENT				AML	AML			
	comp=N,1290µm,1.1s							
VENT				AML	AML			
	comp=E,1420µm,0.9s							
MELA	**Melanico ??? S**	**2.10 121**		P	**Pn**	**03 36 50.9**	**+1.3**	
VLC	**Villacollemand**	**2.17 309**		Pn	**Pn**	**03 36 49.8**	**-0.8**	
VLC	**Villacollemand**	**2.17 309**		P	**Pn**	**03 36 51.2**	**+0.6**	
VLC				AML	AML			
	comp=E,686µm,1.6s							
VLC				AML	AML			
	comp=E,662µm,1.6s							
VLC				AML	AML			
	comp=N,1160µm,1.4s							
VLC				AML	AML			
	comp=N,1180µm,1.1s							
VLC				AML	AML			
	comp=E,686µm,0.4s							
VLC				AML	AML			
	comp=N,1160µm,0.6s							
VLC				AML	AML			
	comp=E,662µm,0.4s							
SARO	**Sassorosso**	**2.18 310**		P	**Pn**	**03 36 50.5**	**-0.3**	
SARO				AML	AML			
	comp=E,1780µm,0.8s							
SARO				AML	AML			
	comp=N,1985µm,0.6s							
TREM	**Isole Tremiti**	**2.18 107**		P	**Pn**	**03 36 51.8**	**+1.1**	
GSCL	**Gusciola**	**2.19 316**		P	**Pn**	**03 36 51.2**	**+0.3**	
BRJN	**Brijuni**	**2.23 19**		P	**Pn**	**03 36 51.4**	**-0.1**	
PAOL	**Paolisi**	**2.25 141**		Pn	**Pn**	**03 36 51.8**	**+0.1**	
PAOL	**Paolisi**	**2.25 141**		P	**Pn**	**03 36 51.7**	**0.0**	
RAVA	**Ravarino**	**2.27 330**		P	**Pb**	**03 36 54.2**	**-1.2**	
EQUI	**Equi**	**2.31 307**		P	**Pn**	**03 36 52.9**	**+0.4**	
EQUI				AML	AML			
	comp=N,542µm,1.5s							
EQUI				AML	AML			
	comp=N,542µm,0.5s							
EQUI				AML	AML			
	comp=E,512µm,0.7s							
APRC	**Apricena**	**2.35 116**		P	**Pn**	**03 36 53.9**	**+0.8**	
APRC				AML	AML			
	comp=E,1970µm,1.3s							
APRC				AML	AML			
	comp=N,2340µm,0.7s							
APRC				AML	AML			
	comp=E,1970µm,0.7s							
PLMA	**Palmaria, Port**	**2.43 302**		AML	AML			
	comp=E,357µm,1.6s							
PLMA				AML	AML			
	comp=N,381µm,1.4s							
PLMA				AML	AML			
	comp=N,381µm,0.6s							
PLMA				AML	AML			
	comp=E,357µm,0.4s							
SGRT	**San Giovanni R**	**2.48 114**		Pn	**Pn**	**03 36 55.6**	**+0.6**	
SGRT	**San Giovanni R**	**2.48 114**		P	**Pn**	**03 36 56.3**	**+1.3**	
SGRT				AML	AML			
	comp=E,1815µm,0.7s							
SGRT				AML	AML			
	comp=N,1530µm,0.6s							
SGRT				AML	AML			
	comp=N,1530µm,1.4s							
SGRT				AML	AML			
	comp=E,1815µm,1.3s							
SGTA	**Sant Agata di**	**2.59 129**		P	**Pn**	**03 36 58.1**	**+1.7**	
MSAG	**Monte S. Angel**	**2.61 114**		P	**Pn**	**03 36 57.7**	**+1.0**	
MSAG				AML	AML			
	comp=E,2390µm,0.7s							
MSAG				AML	AML			
	comp=N,2930µm,0.5s							
MSAG				AML	AML			
	comp=E,2405µm,0.7s							
MSAG				AML	AML			
	comp=N,2940µm,0.6s							
MSAG				AML	AML			
	comp=N,2930µm,1.5s							
MSAG				AML	AML			
	comp=E,2390µm,1.3s							
MSAG				AML	AML			
	comp=E,2405µm,1.3s							
MSAG				AML	AML			
	comp=N,2940µm,1.4s							
PRMA	**PARMA**	**2.62 319**		Pn	**Pn**	**03 36 58.8**	**+2.1**	
SMPL	**Sampolo**	**2.63 256**		P	**Pn**	**03 36 57.4**	**+0.4**	
SMPL				AML	AML			
	comp=E,103µm,0.9s							
SMPL				AML	AML			
	comp=N,99µm,1.2s							
SMPL				AML	AML			
	comp=N,99µm,0.8s							
SNAL	**S. Angelo Dei**	**2.65 134**		P	**Pn**	**03 36 59.6**	**+2.4**	
TEOL	**Teolo**	**2.66 344**			**Pn**	**03 36 57.7**	**+0.3**	
MCRV	**Calabrutti - M**	**2.73 137**		P	**Pn**	**03 36 58.9**	**+0.5**	
PGF	**Pioggiola**	**2.75 266**		*e*P	**Pn**	**03 36 58.9**	**+0.2**	
PGF				*e*Sn	**Sn**	**03 37 28.3**	**-3.7**	
	comp=N,115nm,0.8s							
PGF	**Pioggiola**	**2.75 266**		AML	AML			
	comp=N,129µm,1.2s							
PGF				AML	AML			
	comp=E,147µm,1.0s							
PGF				AML	AML			
	comp=E,147µm,1.0s							
MSSA	**Maissana**	**2.77 304**			**Pn**	**03 36 58.9**	**-0.1**	
MSSA	**Maissana**	**2.77 304**		P	**Pn**	**03 36 59.4**	**+0.5**	
RIY	**Rijeka**	**2.83 26**		*e*Pn	**Pn**	**03 37 00.4**	**+0.8**	
RIY				*e*Sn	**Sn**	**03 37 32.6**	**-1.1**	
SKDS	**Skadanscina**	**2.90 18**		*i* Pn	**Pn**	**03 37 00.5**	**-0.2**	
SKDS				IAML		03 37 39.6		
	comp=Z,310nm,0.5s							
SKDS	**Skadanscina**	**2.90 18**	⇑	*i* Pn	**Pn**	**03 37 00.3**	**-0.3**	
KNDS	**Knezji Dol**	**2.98 23**		*i* Pn	**Pn**	**03 37 02.0**	**+0.3**	
CDRU	**Civita di Ruta**	**3.02 139**		P	**Pn**	**03 37 03.3**	**+0.9**	
PALZ	**Palazzo San Ge**	**3.06 126**		P	**Pn**	**03 37 03.8**	**+1.0**	
ROVR	**Rover Verones**	**3.08 338**		P	**Pn**	**03 37 03.5**	**+0.3**	
ROVR				AML	AML			
	comp=E,750µm,0.8s							
ROVR				AML	AML			
	comp=N,983µm,0.7s							
ROVR				AML	AML			
	comp=E,310µm,0.8s							
ROVR				AML	AML			
	comp=N,382µm,0.7s							
ROVR				AML	AML			
	comp=E,750µm,1.2s							
ROVR				AML	AML			
	comp=N,983µm,1.3s							
ROVR				AML	AML			
	comp=E,310µm,1.2s							
ROVR				AML	AML			
	comp=N,382µm,1.3s							
CGRP	**Cima Grappa**	**3.15 348**		P	**Pn**	**03 37 04.0**	**-0.1**	
CGRP				AML	AML			
	comp=N,968µm,0.6s							
CGRP				AML	AML			
	comp=N,998µm,0.6s							
CGRP				AML	AML			
	comp=E,1050µm,0.6s							
CGRP				AML	AML			
	comp=E,1059µm,0.6s							
CMPR	**Campora**	**3.15 141**		P	**Pn**	**03 37 04.2**	**+0.1**	
CEY	**Cerknica**	**3.18 22**	⇑	*i* Pn	**Pn**	**03 37 04.6**	**+0.1**	
RNCA	**Ronca, Sant'Ol**	**3.20 303**		P	**Pn**	**03 37 05.6**	**+0.8**	
SALO	**Salr**	**3.22 332**		Pn	**Pn**	**03 37 04.7**	**-0.4**	
SABO	**M.te Sabotino**	**3.24 11**			**Pn**	**03 37 05.1**	**-0.2**	
SABO	**M.te Sabotino**	**3.24 11**		P	**Pn**	**03 37 05.6**	**+0.2**	
SABO				AML	AML			
	comp=E,7235µm,0.6s							
SABO				AML	AML			
	comp=N,8335µm,0.8s							
SABO				AML	AML			
	comp=N,2115µm,0.8s							
SABO				AML	AML			
	comp=E,1665µm,0.6s							
A050A	**Klekovaca**	**3.24 58**	⇑	*i* Pn	**Pn**	**03 37 06.7**	**+1.3**	
BOJS	**Bojanci**	**3.26 33**		AML	AML			
	comp=N,1645µm,0.6s							
BOJS				AML	AML			
	comp=E,1910µm,1.0s							
BOJS	**Bojanci**	**3.26 33**		*e*Pn	**Pn**	**03 37 05.9**	**+0.3**	
DOSS	**Dosso del Somm**	**3.27 341**		P	**Pn**	**03 37 06.0**	**+0.2**	
DOSS				AML	AML			
	comp=E,730µm,0.6s							
DOSS				AML	AML			
	comp=N,576µm,0.7s							
DOSS				AML	AML			
	comp=E,573µm,0.7s							
DOSS				AML	AML			
	comp=N,726µm,0.6s							
DOSS				AML	AML			
	comp=N,576µm,1.3s							
DOSS				AML	AML			
	comp=E,573µm,1.3s							
DOSS				AML	AML			
	comp=N,726µm,1.4s							
DOSS				AML	AML			
	comp=E,730µm,1.4s							
CTI	**Castel Tesino**	**3.33 347**		Pn	**Pn**	**03 37 06.3**	**-0.4**	
CTI	**Castel Tesino**	**3.33 347**		P	**Pn**	**03 37 07.2**	**+0.5**	
LUSI	**Trento, Gardas**	**3.40 339**		P	**Pn**	**03 37 07.8**	**+0.3**	
LUSI				AML	AML			
	comp=N,789µm,0.7s							
LUSI				AML	AML			
	comp=E,718µm,0.7s							
MTSN	**Montesano sull**	**3.41 137**		P	**Pn**	**03 37 09.9**	**+2.2**	
STAL	**STALIGIAL**	**3.46 360**		Pn	**Pn**	**03 37 08.5**	**+0.2**	
STAL	**STALIGIAL**	**3.46 360**		P	**Pn**	**03 37 08.7**	**+0.4**	
STAL				AML	AML			
	comp=N,814µm,0.8s							
STAL				AML	AML			
	comp=N,718µm,0.8s							
STAL				AML	AML			
	comp=E,820µm,0.6s							
STAL				AML	AML			
	comp=E,717µm,0.6s							
AMUR	**Altamura**	**3.47 122**		P	**Pn**	**03 37 09.4**	**+0.9**	
SRKY	**Kupres RS**	**3.48 67**	⇑	*i* Pn	**Pn**	**03 37 10.9**	**+2.2**	
ROBS	**Robic**	**3.49 9**		*i* Pn	**Pn**	**03 37 08.9**	**+0.2**	
ROBS				*e*Sn	**Sn**	**03 37 50.2**	**+0.2**	
LJU	**Ljubljana**	**3.49 21**		AML	AML			
	comp=N,6365µm,0.7s							
LJU				AML	AML			
	comp=E,4820µm,0.8s							
LJU				AML	AML			
	comp=N,6365µm,1.3s							
ZONE	**Zone**	**3.50 329**		P	**Pn**	**03 37 09.4**	**+0.5**	
ZONE				AML	AML			
	comp=N,509µm,0.3s							
ZONE				AML	AML			
	comp=N,509µm,1.7s							
ZONE				AML	AML			
	comp=E,384µm,0.5s							
CADS	**Cadrg**	**3.50 12**		*i* Pn	**Pn**	**03 37 09.0**	**+0.1**	
CADS				*e*Sn	**Sn**	**03 37 50.9**	**+0.5**	
CADS				IAML		03 37 53.6		
	comp=Z,205nm,0.5s							
CIMO	**Cimolais**	**3.51 357**		Pn	**Pn**	**03 37 08.8**	**-0.3**	
CIMO	**Cimolais**	**3.51 357**		P	**Pn**	**03 37 09.1**	**0.0**	
CIMO				AML	AML			
	comp=E,230µm,0.7s							
CIMO				AML	AML			
	comp=N,332µm,0.8s							
CIMO				AML	AML			
	comp=E,226µm,0.7s							
CIMO				AML	AML			
	comp=N,323µm,0.8s							
CIMO				AML	AML			
	comp=E,226µm,1.3s							
CIMO				AML	AML			
	comp=E,230µm,1.3s							
QLNO	**Quiliano**	**3.52 297**		P	**Pn**	**03 37 09.5**	**+0.3**	
CANO	**Canova, Maglio**	**3.54 295**		P	**Pn**	**03 37 09.5**	**-0.1**	
MGRS	**Mrkonjic Grad**	**3.56 62**		*e*Pn	**Pn**	**03 37 11.3**	**+1.6**	
CRES	**Cresnjev**	**3.61 32**	⇑	*i* Pn	**Pn**	**03 37 10.8**	**+0.4**	
MABI	**Malga Bissina**	**3.61 335**		P	**Pn**	**03 37 11.3**	**+0.7**	
PRIJ	**Prijedor**	**3.62 52**		*e*Pn	**Pn**	**03 37 11.6**	**+1.1**	
RORO	**Rocca Rossa**	**3.63 293**		P	**Pn**	**03 37 10.5**	**-0.1**	
PTCC	**Patocco-Chiusa**	**3.63 7**		P	**Pn**	**03 37 10.8**	**+0.1**	
PTCC				AML	AML			
	comp=N,408µm,1.0s							
PTCC				AML	AML			
	comp=E,528µm,0.8s							
CLUD	**Cludinico**	**3.66 2**		Pn	**Pn**	**03 37 10.9**	**-0.2**	
CLUD	**Cludinico**	**3.66 2**		P	**Pn**	**03 37 11.6**	**+0.6**	
CLUD				AML	AML			
	comp=E,612µm,1.1s							
CLUD				AML	AML			
	comp=N,729µm,0.8s							
CLUD				AML	AML			
	comp=E,636µm,1.1s							
CLUD				AML	AML			
	comp=N,707µm,0.8s							
CLUD				AML	AML			
	comp=E,636µm,0.9s							
CLUD				AML	AML			
	comp=E,612µm,0.9s							
STON	**Ston**	**3.67 87**		*e*Pn	**Pn**	**03 37 12.1**	**+0.9**	
STON				*e*Sn	**Sn**	**03 37 52.0**	**-2.4**	
STON	**Ston**	**3.67 87**		*e*Pn	**Pn**	**03 37 12.1**	**+0.9**	
A051A	**Mrakovica**	**3.75 52**		*e*Pn	**Pn**	**03 37 14.0**	**+1.6**	
BLY	**Banja Luka**	**3.78 57**		*e*Pn	**Pn**	**03 37 14.2**	**+1.5**	
BLY				*e*Sn	**Sn**	**03 37 54.7**	**-2.4**	
BLY	**Banja Luka**	**3.78 57**		*e*Pn	**Pn**	**03 37 14.1**	**+1.4**	
KOSI	**Kohlern**	**3.78 346**		P	**Pn**	**03 37 14.7**	**+1.8**	
FVI	**Forni Avoltri**	**3.79 1**		P	**Pn**	**03 37 14.2**	**+1.2**	
NOCI	**Noci**	**3.83 120**		P	**Pn**	**03 37 14.3**	**+1.0**	
MYKA	**Terra Mystica**	**3.88 10**		*i* Pn	**Pn**	**03 37 15.5**	**+1.3**	
	comp=E,19nm,0.5s,SNR=20							
MYKA				*e*Sn	**Sn**	**03 38 02.1**	**+2.2**	
	comp=E,73nm,0.5s							
OBKA	**Obir**	**3.93 19**		*e*Pn	**Pn**	**03 37 15.4**	**+0.6**	
	comp=E,27nm,0.5s							
OBKA	**Obir**	**3.93 19**		*e*Pn	**Pn**	**03 37 15.2**	**+0.3**	
ABTA	**Abfaltersbach**	**3.95 358**		*i* Pn	**Pn**	**03 37 16.4**	**+1.3**	
	comp=E,97nm,0.7s,SNR=78							
ABTA				*e*Sn	**Sn**	**03 38 05.3**	**+3.9**	
	comp=E,134nm,0.9s							
SBF	**Sospel**	**3.99 287**		*e*P	**Pn**	**03 37 16.1**	**+0.4**	
SBF				*e*Sn	**Sn**	**03 37 57.9**	**-4.7**	
	comp=E,79nm,0.6s							
MUGIO	**Muggio**	**4.08 321**		P	**Pn**	**03 37 16.8**	**-0.1**	
CET2	**Cetraro**	**4.08 142**		P	**Pn**	**03 37 18.8**	**+1.8**	
TAR1	**Taranto**	**4.11 122**		P	**Pn**	**03 37 18.5**	**+1.3**	
TREB	**Trebinje**	**4.15 89**		*e*Pn	**Pn**	**03 37 19.1**	**+1.3**	
TREB				*e*Sn	**Sn**	**03 38 04.2**	**-2.2**	
TREB	**Trebinje**	**4.15 89**		*e*Pn	**Pn**	**03 37 18.9**	**+1.1**	
VSL	**Villasalto**	**4.15 218**		P	**Pn**	**03 37 18.8**	**+0.9**	
VSL				AML	AML			
	comp=N,119µm,0.6s							
VSL				AML	AML			
	comp=E,201µm,0.6s							
A052A	**Srbac**	**4.16 55**		*e*Pn	**Pn**	**03 37 22.3**	**+4.4**	
RISI	**Rein**	**4.17 354**		P	**Pn**	**03 37 19.6**	**+1.3**	
FUORN	**Ofenpass-Fuorn**	**4.20 336**		Pn	**Pn**	**03 37 19.3**	**+0.7**	
SOKA	**Soboth**	**4.21 22**		*i* Pn	**Pn**	**03 37 20.9**	**+2.2**	

comp=E,13nm,0.5s,SNR=13
ROSI Rosskopf 4.23 348 P **Pn** **03 37 20.2 +1.2**
HCY Herceg Novi 4.28 93 Pn **Pn** **03 37 20.6 +1.0**
HCY Herceg Novi 4.28 93 ⇓*i*Pn **Pn** **03 37 20.5 +0.9**
HCY *i* Sn **Sn** **03 38 11.6 +2.0**
BRY Bratogost 4.29 87 *e*Pn **Pn** **03 37 20.8 +1.0**
BRY Bratogost 4.29 87 ⇓*i*Pn **Pn** **03 37 20.8 +1.0**
BRY *i* Sn **Sn** **03 38 11.9 +2.0**
KBA Koelnbreinsper 4.30 6 *i* Pn **Pn** **03 37 21.5 +1.5**
comp=E,87nm,0.8s,SNR=62
TUE Stuetta 4.38 328 Pn **Pn** **03 37 21.7 +0.5**
CAR1 CAROLEI 4.42 142 P **Pn** **03 37 22.5 +0.9**
KOGS Kog 4.43 34 AML AML
comp=E,2450µm,1.0s
KOGS AML AML
comp=N,3245µm,1.4s
KOGS AML AML
comp=N,3245µm,0.6s
FETA Feichten 4.45 342 *i* Pn **Pn** **03 37 24.5 +2.5**
comp=N,19nm,0.4s,SNR=29
DAVOX Davos/Dischmat 4.46 334 Pn **Pn** **03 37 24.1 +1.9**
comp=N,8.2nm,0.3s,baz=140,slow=12,SNR=87
DAVOX Sn **Sn** **03 38 15.5 +1.3**
comp=N,4.4nm,0.3s,baz=107,slow=13,SNR=1.4
DAVOX LR LR 03 39 10.3
comp=N,134nm,20.5s,baz=146,slow=41
TRAV Traversella 4.48 309 P **Pn** **03 37 22.6 +0.2**
TRAV AML AML
comp=N,104µm,0.6s
TRAV AML AML
comp=E,127µm,0.6s
TRAV AML AML
comp=N,104µm,1.4s
WTTA Wattenberg 4.53 351 *i* Pn **Pn** **03 37 25.3 +2.2**
comp=N,21nm,0.4s,SNR=18
WTTA *e*Sn **Sb** **03 38 23.7 -4.9**
comp=N,74nm,0.4s
WTTA Wattenberg 4.53 351 P **Pn** **03 37 25.1 +1.9**
SQTA Sankt Quirin 4.54 347 **Pn** **03 37 25.7 +2.4**
SQTA Sankt Quirin 4.54 347 *i* Pn **Pn** **03 37 25.7 +2.4**
comp=N,19nm,0.2s,SNR=25
UPM Unac-Piva 4.56 83 *e*Pn **Pn** **03 37 25.6 +2.0**
UPM Unac-Piva 4.56 83 ⇑*i*Pn **Pn** **03 37 25.6 +2.0**
UPM *i* Sn **Sn** **03 38 18.2 +1.5**
LMR La Mourre 4.58 279 *e*Pn **Pn** **03 37 24.4 +0.8**
LMR *e*Sn **Sn** **03 38 11.9 -4.9**
comp=N,24nm,0.7s
CEME Cevo 4.58 91 ⇓*i*Pn **Pn** **03 37 24.9 +1.1**
CEME *i* Sn **Sn** **03 38 18.9 +1.8**
NKME Niksic 4.59 88 ⇓*i*Pn **Pn** **03 37 25.1 +1.2**
NKME *i* Sn **Sn** **03 38 18.8 +1.5**
WATA Walderalm 4.60 350 **Pn** **03 37 26.4 +2.2**
WATA Walderalm 4.60 350 *i* Pn **Pn** **03 37 26.4 +2.2**
SNR=21
MOTA Moosalm 4.68 346 **Pn** **03 37 27.9 +2.6**
MOTA Moosalm 4.68 346 *i* Pn **Pn** **03 37 27.9 +2.6**
comp=N,50nm,0.5s,SNR=29
MBDF Montbardon 4.71 296 *e*P **Pn** **03 37 26.8 +1.1**
MBDF *e*Sn **Sn** **03 38 15.2 -5.2**
comp=N,63nm,0.7s
HAPS Han Pijesak,BI 4.72 72 *e*Pn **Pn** **03 37 27.0 +1.3**
TIP Timpagrande 4.74 138 ⇑P **Pn** **03 37 30.3 +4.3**
TIP Timpagrande 4.74 138 Pn **Pn** **03 37 26.2 +0.2**
DRME Dracevica, Mon 4.83 95 *e*Pn **Pn** **03 37 28.1 +1.0**
DRME Dracevica, Mon 4.83 95 ⇓*i*Pn **Pn** **03 37 28.6 +1.5**
DRME *i* Sn **Sn** **03 38 24.7 +1.7**
PDG Podgorica 4.84 92 ⇑P **Pn** **03 37 28.8 +1.5**
PDG Podgorica 4.84 92 **Pn** **03 37 28.0 +0.7**
PDG Podgorica 4.84 92 P **Pn** **03 37 28.7 +1.5**
PDG Podgorica 4.84 92 *e*Pn **Pn** **03 37 27.9 +0.6**
PDG *e*Sn **Sn** **03 38 21.4 -2.0**
PDG Podgorica 4.84 92 ⇓*i*Pn **Pn** **03 37 28.7 +1.4**
PDG *i* Sn **Sn** **03 38 24.8 +1.4**
PLONS Plons/SG 4.86 332 P **Pn** **03 37 29.8 +2.1**
ARSA Arzberg 4.87 23 *i* Pn **Pn** **03 37 27.9 +0.2**
comp=N,9.1nm,0.3s,SNR=17
ARSA *e*Sn **Sn** **03 38 25.1 +0.9**
comp=N,45nm,0.7s
RETA Reutte 4.88 344 *i* Pn **Pn** **03 37 30.8 +2.8**
comp=N,47nm,0.8s,SNR=23
BNI Bardonecchia 4.90 299 Pn **Pn** **03 37 28.4 +0.1**
DAVA Damuels 4.91 337 *i* Pn **Pn** **03 37 30.6 +2.2**
comp=N,38nm,0.5s,SNR=28
ULC Ulcinj 4.91 98 ⇓*i*Pn **Pn** **03 37 29.3 +1.0**
ULC *i* Sn **Sn** **03 38 26.2 +1.1**
PLE Pljevlja 4.92 82 ⇑*i*Pn **Pn** **03 37 29.7 +1.2**
PLE *i* Sn **Sn** **03 38 27.2 +1.7**
BIOA Bad Ischl, Aus 4.93 7 **Pn** **03 37 30.5 +1.9**
BIOA Bad Ischl, Aus 4.93 7 *i* Pn **Pn** **03 37 30.5 +1.9**
comp=N,14nm,0.3s,SNR=36
RUDO Rudo 4.93 78 ⇑*i*Pn **Pn** **03 37 29.5 +0.9**
BBLS Lazići 5.00 75 *e*Pn **Pn** **03 37 31.0 +1.5**
BBLS *e*Sn **Sn** **03 38 23.1 -4.2**
BBLS Lazići 5.00 75 ⇑P **Pn** **03 37 31.0 +1.5**
KOME Kolasin 5.00 87 ⇓*i*Pn **Pn** **03 37 31.7 +2.1**
KOME *i* Sn **Sn** **03 38 29.2 +1.7**
LPL La Plagne 5.08 304 *e*P **Pn** **03 37 32.7 +1.8**
LPL *e*Sn **Sn** **03 38 24.1 -5.6**
comp=N,34nm,0.6s
SCTE Santa Cesarea 5.11 120 **Pn** **03 37 31.4 +0.4**
MOA Molln 5.16 12 *i* Pn **Pn** **03 37 33.0 +1.3**
comp=N,19nm,0.3s,SNR=15
MOA Molln 5.16 12 *e*Pn **Pn** **03 37 32.8 +1.0**
MOA *e*Sn **Sn** **03 38 30.7 -0.6**
SENIN Lac Senin/Sane 5.25 314 Pn **Pn** **03 37 34.4 +1.2**
IVA Berane 5.28 87 ⇓*i*Pn **Pn** **03 37 35.0 +1.6**
IVA *i* Sn **Sn** **03 38 35.9 +1.6**
SMRF Simiane la Rot 5.33 285 *e*P **Pn** **03 37 35.9 +1.8**
SMRF *e*Sn **Sn** **03 38 29.9 -5.6**
comp=N,24nm,0.8s
SJES Sjenica 5.34 83 *e*Pn **Pn** **03 37 36.4 +2.1**
PVY Plav 5.34 90 ⇑*i*Pn **Pn** **03 37 35.7 +1.4**
PVY *i* Sn **Sn** **03 38 36.7 +0.7**
ORIF Oris-en-Rattie 5.37 295 *e*P **Pn** **03 37 38.3 +3.6**
ORIF *e*Sn **Sn** **03 38 30.8 -5.8**
comp=N,20nm,0.4s
DIVS Divibare 5.46 74 **Pn** **03 37 36.4 +0.6**
DIVS Divibare 5.46 74 *e*Pn **Pn** **03 37 36.7 +0.9**
DIVS Divibare 5.46 74 ⇑*i*Pn **Pn** **03 37 36.6 +0.8**
VAE Valguarnera 5.48 166 Pn Pb 03 37 43.9 -6.2
comp=N,0.4nm,0.3s,baz=353,slow=8.1,SNR=2.7
IVAS Ivanjica 5.49 79 *e*Pn **Pn** **03 37 37.3 +1.0**
IVAS *e*Sn **Sn** **03 38 35.6 -4.0**
RONA Rosalia, Austr 5.51 26 **Pn** **03 37 37.0 +0.5**
RONA **Sn** **03 38 41.3 +1.3**
RONA Rosalia, Austr 5.51 26 *i* Pn **Pn** **03 37 37.0 +0.5**
comp=N,29nm,0.4s,SNR=27
RONA *e*Sn **Sn** **03 38 41.3 +1.3**
comp=N,37nm,0.8s
TIR Tirane 5.52 103 ⇑P **Pn** **03 37 38.0 +1.4**
TIR Tirane 5.52 103 Pn **Pn** **03 37 36.5 -0.1**
TIR Tirane 5.52 103 *e*Pn **Pn** **03 37 36.8 +0.2**
CONA Conrad Observa 5.58 22 *i* Pn **Pn** **03 37 38.1 +0.5**
comp=N,22nm,0.6s,SNR=18
CONA *e*Sn **Sn** **03 38 42.1 +0.3**
comp=N,20nm,0.5s
FRGS Fruska Gora 5.64 63 ⇓P **Pn** **03 37 40.1 +1.8**
FRGS Fruska Gora 5.64 63 *e*Pn **Pn** **03 37 39.5 +1.3**
FRGS Fruska Gora 5.64 63 *e*Pn **Pn** **03 37 39.6 +1.3**
TRUS Trudelj 5.77 73 *e*Pn **Pn** **03 37 40.7 +0.6**
GRUS Gruza 5.94 77 *e*Pn **Pn** **03 37 43.2 +0.9**
CABF La Chapelle 6.06 311 *e*P **Pn** **03 37 45.6 +1.4**
CABF *e*Sn **Sn** **03 38 47.4 -6.2**
comp=N,21nm,0.6s
GEC2 GERESS Array S 6.08 6 Pn **Pn** **03 37 43.7 -0.7**
GERES GERESS Array B 6.08 6 Pn **Pn** **03 37 44.6 +0.2**
comp=N,1.3nm,0.3s,baz=174,slow=13,SNR=40
GERES Sn **Sn** **03 38 52.7 -1.4**
comp=N,8.6nm,0.3s,baz=189,slow=23,SNR=11
GERES LR LR 03 40 49.0
comp=N,176nm,21.2s,baz=162,slow=46
comp=N,3.4nm,0.4s
GERES GERESS Array B 6.08 6 Pn **Pn** **03 37 43.7 -0.7**
CKRC Cesky Krumlov 6.12 10 *e*PN **Pn** **03 37 45.8 +0.9**
CKRC *e*SN **Sn** **03 38 54.5 -0.4**
VIVF Saint-Julien-l 6.17 292 *e*P **Pn** **03 37 47.7 +2.2**
VIVF *e*Sn **Sn** **03 38 49.8 -6.3**
comp=N,4.7nm,0.5s
KEK Kerkira 6.17 118 Pn **Pn** **03 37 46.2 +0.7**
KEK Kerkira 6.17 118 P **Pn** **03 37 47.3 +1.8**
SELS Selova 6.18 83 *e*Pn **Pn** **03 37 46.8 +1.1**
OHR Ohrid 6.26 103 *i* Pn **Pn** **03 37 49.5 +2.6**
BFO Black Forest 6.32 332 Pn **Pn** **03 37 47.1 -0.6**

SVIS Svilajnac 6.35 74 *e*Pn **Pn** **03 37 48.7 +0.7**
KHC Kasperske Hory 6.36 5 **Pn** **03 37 48.0 -0.2**
KHC Kasperske Hory 6.36 5 *e*PN **Pn** **03 37 48.8 +0.6**
KHC *e*SN **Sn** **03 38 58.9 -1.9**
SRO Srobarova 6.38 36 *e*PN Pn 03 37 54.0 +5.6
MODS Modra-Piesok 6.42 28 *e*PN **Pn** **03 37 48.8 -0.3**
MODS *e*SN **Sn** **03 39 03.2 +0.8**
HINF Hinteralfeld 6.49 323 *e*P **Pn** **03 37 51.1 +1.1**
HINF *e*Sn **Sn** **03 38 58.2 -5.9**
comp=N,32nm,0.5s
SKO Skopje 6.52 94 *i* Pn **Pn** **03 37 52.2 +1.8**
LASF Ste Croix 6.57 284 *e*P **Pn** **03 37 53.1 +2.0**
LASF *e*Sn **Sn** **03 38 59.5 -6.5**
comp=N,35nm,1.4s
IGT Igoumenitsa 6.61 117 P **Pn** **03 37 53.0 +1.4**
BOVS Bovan 6.62 80 ⇓P **Pn** **03 37 52.3 +0.5**
BOVS Bovan 6.62 80 *e*Pn **Pn** **03 37 52.1 +0.3**
BOVS *e*Sn **Sn** **03 39 01.8 -5.5**
ECH Echery 6.67 326 **Pn** **03 37 50.8 -1.7**
BARS Barje 6.70 87 *e*Pn **Pn** **03 37 53.8 +1.0**
KRUC Moravsky 6.76 21 *e*PN **Pn** **03 37 54.1 +0.4**
KRUC *e*SN **Sn** **03 39 08.8 -1.9**
CDF Champ du Feu 6.78 328 *e*Pn **Pn** **03 37 53.9 -0.1**
CDF *e*Sn **Sn** **03 39 05.2 -6.0**
comp=N,54nm,0.6s
FNA Florina 6.78 104 **Pn** **03 37 54.4 +0.3**
FNA Florina 6.78 104 P **Pn** **03 37 55.7 +1.7**
MDVR Moldovita 6.81 70 ⇑P **Pn** **03 37 55.6 +1.2**
HAU Haudompre 6.86 321 *e*P **Pn** **03 37 55.4 +0.3**
HAU *e*Sn **Sn** **03 39 06.5 -6.7**
comp=N,50nm,0.5s
JAN Janina 6.89 114 P **Pn** **03 37 58.2 +2.7**
PRVS Prvonek 6.91 89 *e*Pn **Pn** **03 37 56.8 +1.0**
PRVS *e*Sn **Sn** **03 39 09.8 -4.6**
GRA1 Grafenberg Arr 6.97 352 Pn **Pn** **03 37 56.0 -0.5**
JAVC Velka Javorina 6.97 28 *e*PN **Pn** **03 37 57.6 +1.0**
ZAGS Zajecar 7.02 79 *e*Pn **Pn** **03 37 57.6 +0.4**
VRAC Vranov 7.04 21 Pn **Pn** **03 37 58.1 +0.6**
comp=N,0.4nm,0.3s,baz=218,slow=14,SNR=3.0
VRAC Sn **Sn** **03 39 15.7 -1.9**
comp=N,1.6nm,0.3s,baz=312,slow=14,SNR=4.5
comp=N,1.7nm,0.4s
VRAC Vranov 7.04 21 *e*PN **Pn** **03 37 58.1 +0.6**
VRAC *e*SN **Sn** **03 39 15.2 -2.4**
STIP Stip 7.12 96 *i* Pn **Pn** **03 38 01.5 +3.0**
VYHS Vyhne 7.12 35 *e*PN **Pn** **03 37 59.4 +0.7**
VYHS *e*SN **Sn** **03 39 17.5 -2.1**
TSLK Tsoukalades, L 7.22 121 P **Pn** **03 38 03.1 +3.2**
GOPC GO Pecny, Ondr 7.26 11 *e*PN **Pn** **03 38 00.1 -0.4**
GOPC *e*SN **Sn** **03 39 19.3 -3.5**
SIRR Siria 7.27 58 ⇑P **Pn** **03 38 02.5 +1.9**
ZAPS Zavoj 7.29 83 *e*Pn **Pn** **03 38 02.4 +1.5**
PRU Pruhonice 7.30 9 *e*PN **Pn** **03 38 00.6 -0.4**
PRU *e*SN **Sn** **03 39 21.1 -2.7**
NYDR Nydri-Lefkada 7.31 121 P **Pn** **03 38 03.8 +2.6**
HERR Herculane 7.32 70 ⇑P **Pn** **03 38 02.3 +1.0**
DJES Djerdap 7.34 72 **Pn** **03 38 02.5 +0.8**
SMF Signal de Mont 7.39 304 *e*P **Pn** **03 38 04.6 +2.3**
SMF *e*Sn **Sn** **03 39 19.1 -7.1**
comp=N,20nm,0.6s
NKC Novy Kostel 7.43 359 *e*PN **Pn** **03 38 04.7 +1.8**
NKC *e*SN **Sn** **03 39 24.5 -2.7**
GRG Griva 7.46 101 P **Pn** **03 38 05.8 +2.5**
MAUC Maruska 7.46 27 *e*PN **Pn** **03 38 05.2 +1.9**
VAY Valandovo 7.48 98 *i* Pn **Pn** **03 38 05.3 +1.8**
KEST Kesra 7.53 201 LR LR 03 41 12.4
comp=N,199nm,18.6s,baz=115,slow=39
PAGF Fort de Pagny 7.55 322 *e*Pn **Pn** **03 38 02.5 -2.0**
PAGF *e*Sn **Sn** **03 39 23.2 -6.8**
comp=N,67nm,0.8s
VLS Valsamata 7.57 125 P **Pn** **03 38 07.4 +2.5**
PSDA Pessada-Kefalo 7.61 125 P **Pn** **03 38 09.7 +4.4**
SFTF Sexfontaines 7.63 318 *e*Pn **Pn** **03 38 05.1 -0.5**
SFTF *e*Sn **Sn** **03 39 24.5 -7.5**
comp=N,19nm,0.6s
LOR Lormes 7.70 308 *e*Pn **Pn** **03 38 06.5 0.0**
baz=125
LOR *e*Sn **Sn** **03 39 26.2 -7.5**
comp=N,8.4nm,0.4s
MTLF Montolieu 7.70 278 *e*P **Pn** **03 38 09.4 +2.8**
MTLF *e*Sn **Sn** **03 39 26.4 -7.5**
comp=N,1.2nm,0.4s
THL Klokotos Trika 7.72 112 P **Pn** **03 38 09.9 +3.0**
KKB Krupnik 7.74 93 P Pn 03 38 02.2 -4.9
VTS Vitosha 7.75 88 ⇓P **Pn** **03 38 07.9 +0.4**
VTS Vitosha 7.75 88 Pn **Pn** **03 38 08.0 +0.6**
VTS Vitosha 7.75 88 P **Pn** **03 38 08.8 +1.4**
AVF Avril sur Loir 7.76 304 *e*Pn **Pn** **03 38 08.2 +0.9**
AVF *e*Sn **Sn** **03 39 27.7 -7.4**
comp=N,4.4nm,0.5s
SSF Saint Saulge 7.79 306 *e*P **Pn** **03 38 08.1 +0.2**
SSF *e*Sn **Sn** **03 39 28.8 -7.3**
comp=N,7.1nm,0.5s
TYRN Tyrnavos 7.81 110 P **Pn** **03 38 09.7 +1.7**
SRE Strehaia 7.82 73 ⇑P **Pn** **03 38 10.4 +2.2**
LIT Litokhoron 7.83 107 Pn **Pn** **03 38 08.6 +0.3**
MEZF Maizieres J'vi 7.83 319 *e*P **Pn** **03 38 09.7 +1.5**
baz=134
MEZF *e*Sn **Sn** **03 39 29.2 -7.6**
comp=N,17nm,0.5s
SAVF Savonnieres en 7.87 320 *e*P **Pn** **03 38 11.3 +2.4**
baz=136
SAVF *e*Sn **Sn** **03 39 30.3 -7.6**
comp=N,20nm,0.6s
PVO Paravola 7.89 119 P **Pn** **03 38 11.1 +1.9**
EVR Evrytania 7.91 116 P **Pn** **03 38 13.1 +3.5**
DEV Deva 7.93 64 ⇓P **Pn** **03 38 12.3 +2.6**
LRSO Larissa Observ 7.94 110 P Pg 03 38 54.0 +7.6
DPC Dobruska-Polom 7.95 17 *e*PN **Pn** **03 38 09.5 -0.5**
DPC *e*SN **Sn** **03 39 34.9 -5.0**
BGF Bois d'Agland 7.97 301 *e*P **Pn** **03 38 11.9 +1.7**
BGF *e*Sn **Sn** **03 39 32.7 -7.7**
comp=N,16nm,0.5s
CAF Calviac 7.98 289 *e*P **Pn** **03 38 11.8 +1.3**
CAF *e*Sn **Sn** **03 39 33.2 -7.5**
comp=N,0.7nm,0.4s
UPC Upice 8.03 15 *e*PN **Pn** **03 38 11.1 0.0**
UPC *e*SN **Sn** **03 39 39.6 -2.3**
MAKR Makrakomi, Fth 8.07 115 P Pn 03 38 17.1 +5.4
BRG Berggiesshubel 8.12 6 *e*P **Pn** **03 38 14.0 +1.8**
BRG Amp 03 38 17.3
comp=Z,4.1nm,0.7s
BRG r 03 39 41.4
BRG r 03 40 43.8
BRG Amp 03 41 22.1
comp=Z,30nm,1.3s
BRG Amp 03 41 50.0
comp=E,0.3nm,11.0s
BRG Amp 03 42 04.0
comp=N,0.3nm,19.7s
BRG Amp 03 42 06.0
comp=Z,0.4nm,16.1s
OSTC Ostas 8.12 16 *e*PN **Pn** **03 38 13.5 +1.2**
OSTC *e*SN **Sn** **03 39 41.1 -3.0**
DRGR 8.15 57 ⇑P **Pn** **03 38 16.0 +3.2**
ANX Ano Chora 8.16 118 P **Pn** **03 38 17.4 +4.4**
WLF Walferdange 8.23 329 **Pn** **03 38 13.3 -0.4**
MMB Musomiste 8.27 95 P **Pn** **03 38 15.5 +1.1**
TCF Toulx Ste Croi 8.27 299 *e*P **Pn** **03 38 16.6 +2.2**
TCF *e*Sn **Sn** **03 39 40.1 -7.7**
comp=Z,3.8nm,0.6s
SRS Serrai 8.28 98 P **Pn** **03 38 16.4 +1.9**
MARR Marisel-Cluj 8.36 59 ⇑P **Pn** **03 38 18.5 +2.8**
HYF Humbligny 8.41 305 *e*P **Pn** **03 38 19.2 +2.9**
HYF *e*Sn **Sn** **03 39 43.2 -8.1**
NVR Nevrokopi 8.42 96 P **Pn** **03 38 18.5 +2.0**
RJF Les Rejaudoux 8.44 291 *e*P **Pn** **03 38 19.3 +2.6**
MESR Meseseni 8.46 56 ⇑P **Pn** **03 38 20.4 +3.5**
CLL Collm 8.51 1 Pn **Pn** **03 38 16.5 -1.1**
CLL Collm 8.51 1 *e*Pn **Pn** **03 38 19.0 +1.4**
CLL *e*Pg **Pn** **03 38 19.0 +1.4**
CLL *e*Sn Sn 03 39 35.0 -19
CLL *ex* x 03 39 53.0
CLL *ex* x 03 40 21.0
CLL *e*Sg **Sg** **03 40 40.0 -7.4**
comp=Z,33nm,1.1s
CLL Lmax 03 42 00.0
VLAD Vladila 8.60 78 ⇑P **Pn** **03 38 20.1 +1.3**
KLV Kalavryta, Ach 8.62 120 P **Pn** **03 38 22.6 +3.3**
TRPA Tarpa 8.72 49 ⇓P **Pn** **03 38 24.1 +3.7**
PLVB Pleven 8.73 82 ⇑P **Pn** **03 38 22.3 +1.5**
BHOU Houvegnez 8.85 331 *d*P **Pn** **03 38 23.5 +1.2**

STHS Stebnicka Huta 8.88 39 *e*PN **Pn** **03 38 25.4 +2.7**
PLD Plovdiv 8.89 90 P **Pn** **03 38 24.0 +1.1**
LFF La Frestale 8.91 288 *e*P **Pn** **03 38 25.5 +2.4**
LFF *e*Sn **Sn** **03 39 55.5 -7.9**
comp=Z,1.1nm,0.2s
ARR Arges 8.96 69 ⇓P **Pn** **03 38 25.7 +1.9**
RZN Rozhen 8.97 93 P **Pn** **03 38 26.3 +2.1**
RCHB Rochefort 8.98 328 *d*P **Pn** **03 38 27.9 +3.8**
RCHB *d*S **Sn** **03 40 02.3 -2.9**
BTNL Ternell 9.00 332 *d*P **Pn** **03 38 27.0 +2.6**
BTNL *d*S **Sn** **03 40 01.5 -4.2**
MEM Membach 9.06 332 *d*P **Pn** **03 38 26.5 +1.4**
MEM *d*PP **PbPb** **03 38 53.2 -1.1**
EPF Esparros 9.08 276 *e*P **Pn** **03 38 28.5 +2.9**
EPF *e*Sn Sn 03 39 59.6 -8.3
comp=Z,0.4nm,0.2s
GIVF Givet 9.10 326 *e*P **Pn** **03 38 29.6 +3.8**
GIVF *e*Sn Sn 03 39 59.7 -8.5
comp=Z,3.5nm,0.3s
BCLA Clavier 9.16 329 *d*P **Pn** **03 38 29.7 +3.1**
BCLA *d*PP **PbPb** **03 38 57.8 +1.8**
BCLA *d*S **Sn** **03 40 07.9 -1.8**
DOU Dourbes 9.19 325 *d*P **Pn** **03 38 29.2 +2.2**
DOU *d*S **Sn** **03 40 11.0 +0.7**
BGES Gesves 9.22 328 *d*x x 03 38 40.2
BGES *d*S **Sn** **03 40 10.8 -0.2**
MTUR Matau 9.22 71 ⇑P **Pn** **03 38 30.1 +2.5**
VOIR 9.26 69 ⇑P **Pn** **03 38 30.2 +2.3**
BMRD Maredsous 9.28 327 *d*P **Pn** **03 38 32.8 +4.6**
BAIF Baives 9.33 324 *e*P **Pn** **03 38 31.6 +2.7**
BAIF *e*Sn Sn 03 40 05.2 -8.5
comp=Z,30nm,1.0s
KDZ Kurdzhali 9.50 93 P **Pn** **03 38 30.3 -0.9**
DOPR Dopca 9.61 66 ⇓P **Pn** **03 38 35.1 +2.4**
RDO Rodhopi 9.70 96 Pn **Pn** **03 38 34.9 +1.0**
ETSF Etsaut 9.75 275 *e*P **Pn** **03 38 37.6 +2.9**
MLR Muntele Rosu 9.88 70 Pn **Pn** **03 38 39.9 +3.3**
comp=Z,0.5nm,0.3s,baz=243,slow=5.1,SNR=11
MLR LR LR 03 42 33.2
comp=Z,199nm,18.8s,baz=281,slow=38
comp=Z,6.3nm,0.8s
MLR Muntele Rosu 9.88 70 ⇓P **Pn** **03 38 39.2 +2.6**
MFF Saint Martin d 9.91 297 *e*P **Pn** **03 38 39.3 +2.5**
MFF *e*Sn Sn 03 40 19.2 -8.8
comp=Z,0.6nm,0.4s
OZUR 9.91 66 ⇑P **Pn** **03 38 38.9 +2.0**
BURAR Bucovina Array 10.05 57 ⇓P **Pn** **03 38 42.1 +3.3**
RAZG Razgrad 10.11 81 ⇓P **Pn** **03 38 40.9 +1.3**
NEHR Nehoiu 10.12 70 ⇑P **Pn** **03 38 41.2 +1.6**
SJPF Ste Jean 10.22 276 *e*P **Pn** **03 38 44.3 +3.1**
PLOR Plostina 10.44 68 ⇑P **Pn** **03 38 45.6 +1.4**
LDF La Druitiere 10.68 307 *e*P **Pn** **03 38 50.1 +2.8**
LDF *e*Sn Sn 03 40 37.5 -9.3
comp=Z,1.2nm,0.4s
FLN La Foliniere 10.97 307 *e*P **Pn** **03 38 54.1 +2.8**
baz=119
FLN *e*Sn Sn 03 40 44.4 -9.5
comp=Z,1.5nm,0.4s
GRR Gorron 11.02 305 *e*P **Pn** **03 38 54.8 +2.8**
GRR *e*Sn Sn 03 40 45.7 -10
comp=Z,1.4nm,0.4s
QUIF Quistinic 12.28 300 *e*P **Pn** **03 39 11.9 +2.7**
QUIF *e*Sn Sn 03 41 15.6 -10
comp=Z,0.8nm,0.4s
ESDC Sonseca Array 12.94 262 Pn **Pn** **03 39 17.3 -1.0**
baz=68,slow=13,SNR=4.8
ESDC LR LR 03 44 17.4
comp=Z,103nm,18.7s,baz=94,slow=38
comp=Z,0.4nm,0.6s
AKASG Malin Array Be 13.78 49 Pn **Pn** **03 39 30.9 +1.2**
comp=Z,0.3nm,0.6s,baz=240,slow=13,SNR=1.7
ELL Elmali 14.53 109 Pn **Pn** **03 39 40.0 -0.2**
BR131 Keskin Array S 16.03 94 Pn **Pn** **03 39 57.6 -2.4**
BRTR Keskin Array B 16.03 94 Pn **Pn** **03 40 01.7 +1.7**
baz=287,slow=16,SNR=2.9
comp=Z,0.9nm,0.8s
BRTR Keskin Array B 16.03 94 Pn **Pn** **03 39 58.7 -1.3**
EKA Eskdalemuir Ar 16.24 326 Pn **Pn** **03 40 02.6 +0.2**
baz=133,slow=15
EKA LR LR 03 45 50.6
comp=Z,81nm,20.9s,baz=158,slow=36
comp=Z,1.7nm,0.7s
HFS Hagfors 17.37 2 LR LR 03 47 48.4
comp=Z,89nm,20.3s,baz=186,slow=40
NB2 NORSAR Subarra 18.29 358 P **P** **03 40 30.1 +1.9**
comp=Z,6.3nm,1.0s,baz=173,slow=12
NOA NORSAR Array B 18.29 358 P **P** **03 40 29.1 +0.9**
baz=175,slow=12,SNR=4.6
NOA LR LR 03 47 50.7
comp=Z,46nm,18.6s,baz=320,slow=38
comp=Z,1.8nm,0.8s
NC204 NORSAR Array S 18.54 357 P **P** **03 40 29.9 -1.1**
NC204 IAmb IAmb 03 41 02.4
comp=Z,26nm,1.4s
OBN Obninsk 19.81 43 LR LR 03 50 35.6
comp=Z,18nm,18.2s,baz=200,slow=44
FINES FINESS Array B 20.32 19 P **P** **03 40 51.1 +0.8**
comp=Z,2.2nm,0.6s,baz=206,slow=8.6,SNR=7.5
FINES LR LR 03 49 03.1
comp=Z,103nm,18.4s,baz=210,slow=38
comp=Z,2.2nm,0.6s
FINES FINESS Array B 20.32 19 P **P** **03 40 51.3 +1.0**
KIV Kislovodsk 21.77 77 P **P** **03 41 05.6 -0.6**
KIV IAmb IAmb 03 41 11.0
comp=Z,18nm,1.2s
ASF Jabal al Asfar 21.86 111 P **P** **03 41 12.1 +4.8**
comp=Z,3.0nm,0.7s,baz=284,slow=5.5,SNR=4.4
comp=Z,3.0nm,0.7s
KBZ Khabaz 21.95 77 P **P** **03 41 11.4 +3.4**
comp=Z,7.3nm,0.9s,baz=245,slow=11,SNR=11
comp=Z,7.3nm,0.9s
MARD Mardin 22.12 95 P **P** **03 41 09.4 -0.7**
ONI Oni 22.54 80 P **P** **03 41 13.1 -1.4**
ONI IAmb IAmb 03 41 24.9
comp=Z,7.6nm,1.0s
GURO Guroymak-BITLI 22.58 91 P **P** **03 41 14.9 -0.1**
KARS Kars 22.72 85 P **P** **03 41 15.5 -0.9**
GNI Garni 24.07 85 LR LR 03 53 27.9
comp=Z,47nm,18.2s,baz=294,slow=43
TORD Torodi Ar. Bea 31.05 201 P **P** **03 42 34.1 +1.6**
comp=Z,2.9nm,0.7s,baz=13,slow=9.1,SNR=19
comp=Z,2.9nm,0.7s
TORD Torodi Ar. Bea 31.05 201 P **P** **03 42 32.4 -0.1**
ARU Arti 32.03 49 LR LR 03 57 22.0
comp=Z,51nm,19.9s,baz=167,slow=40
ABKAR Akbulak array 32.98 62 P **P** **03 42 48.6 -0.5**
BRVK Borovoye 38.92 54 P **P** **03 43 41.6 +1.6**
BRVK IAmb IAmb 03 43 51.5
comp=Z,3.1nm,0.7s
KK31 Karatay Array 41.56 69 P **P** **03 44 00.7 -1.5**
KKAR Karatay Array 41.56 69 P **P** **03 44 02.7 +0.6**
KSH Kashi 46.75 72 P **P** **03 44 46.5 +2.7**
MK31 Makanchi Array 48.06 60 P **P** **03 44 55.8 +1.9**
MK31 IAmb IAmb 03 44 57.2
comp=Z,1.7nm,0.8s
MKAR Makanchi Array 48.06 60 P **P** **03 44 55.5 +1.6**
comp=Z,1.7nm,0.6s,baz=287,slow=6.5,SNR=25
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 48.06 60 P **P** **03 44 53.9 +0.1**
EUNU Eureka 49.73 347 P **P** **03 45 06.3 +0.1**
EUNU IAmb IAmb 03 45 14.9
comp=Z,3.3nm,1.1s
WMQ Urumqi 52.76 61 *e*P **P** **03 45 30.6 +1.1**
WMQ pP sP 03 45 36.6 +2.2
WMQ pmax pmax
comp=Z,12nm,0.7s
SONM Songino Array 62.07 50 P **P** **03 46 37.4 +2.3**
comp=Z,0.6nm,0.7s,baz=286,slow=8.9,SNR=6.4
comp=Z,0.6nm,0.7s
INK Inuvik 66.36 347 P **P** **03 47 02.2 -0.6**
comp=Z,1.0nm,0.8s,baz=2.1,slow=6.5,SNR=5.5
comp=Z,1.0nm,0.8s
INK Inuvik 66.36 347 P **P** **03 47 01.7 -1.0**
INK IAmb IAmb 03 47 10.1
comp=Z,3.6nm,1.4s
YKA Yellowknife Ar 66.89 336 P **P** **03 47 07.4 +1.1**
comp=Z,0.7nm,0.7s,baz=45,slow=6.5,SNR=12
comp=Z,0.7nm,0.7s
LZH Lanzhou 67.34 61 *e*P P 03 47 03.4 -6.4
LZH pP pP 03 47 09.6 -3.7
LZH pmax pmax
comp=Z,18nm,1.5s
BMAR Burnt Mountain 68.75 351 P **P** **03 47 18.0 0.0**
HHC Hu-ho-hao-te 69.19 53 *e*P **P** **03 47 20.4 -0.9**
HHC pmax pmax

comp=Z,16nm,0.7s
IMAR Indian Mountai 71.04 354 P **P** **03 47 33.7 +1.7**
DAWY Dawson 71.21 347 P **P** **03 47 34.2 +1.0**
DAWY IAmb IAmb 03 47 36.9
comp=Z,5.0nm,1.2s
H21K Melozitna Rive 71.29 354 P **P** **03 47 35.8 +2.2**
J26L Joseph Creek 71.42 349 P **P** **03 47 33.9 -0.5**
J26L IAmb IAmb 03 47 40.1
comp=Z,3.6nm,1.4s
ILAR Eielson Array 71.58 351 P **P** **03 47 36.1 +0.9**
comp=Z,0.5nm,0.7s,baz=8.8,slow=6.4,SNR=7.3
comp=Z,0.5nm,0.7s
PZH PanZhiHua 71.84 71 P **P** **03 47 38.1 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.8s
L27K Beaver Creek, 72.54 348 P **P** **03 47 41.3 +0.2**
L27K IAmb IAmb 03 47 49.3
comp=Z,5.1nm,1.5s
J20K Nowinta River 72.86 354 P **P** **03 47 43.8 +0.9**
J20K IAmb IAmb 03 48 08.6
comp=Z,3.2nm,1.1s
TRF Thorofare Moun 73.23 352 P **P** **03 47 45.4 +0.1**
DHY Denali Highway 73.27 351 P **P** **03 47 46.9 +1.3**
DHY IAmb IAmb 03 47 49.3
comp=Z,3.4nm,0.8s
PPLA Purkeypile 73.96 353 P **P** **03 47 49.9 +0.2**
PPLA IAmb IAmb 03 47 52.9
comp=Z,4.9nm,1.0s
SCM Sheep Creek Mo 74.47 350 P **P** **03 47 53.4 +0.8**
SML Sawmill 74.62 351 P **P** **03 47 53.7 +0.3**
MJAR Matsushiro Arr 86.72 41 LR LR 04 31 22.1
comp=Z,32nm,18.5s,baz=176,slow=38

*TRN **02** 03:38:21.8, 10.08N×63.54W, h64km, MD4.2*
*IDC **02** 03:38:23.3±0.9, 10.43N×63.00W, h0km, mb4.0/8, mbtmp4.1/10, ML3.2/2, MS3.4/3, Error ellipse: s-maj=22.2km s-min=16.6km az=158.0*
*FUNV **02** 03:38:26.6, 10.18N×62.98W, h5km, MW4.1*
ISC 02 03:38:24.3±1.2, 10.16N±0.04×63.02W±0.03, h12km±9km, n66, σ1965/85, mb4.0/8, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.56**	**338**	*eP*	**Pb**	**03 38 35.0**	**-1.1**
CRUV				*eS*	**Sb**	**03 38 42.9**	**-1.1**
TPP	**Pointe-a-Pierr**	**1.55**	**84**	*eP*	**Pg**	**03 38 54.8**	**+0.7**
PCRV	**Puerto La Cruz**	**1.59**	**271**	Pn	**Pn**	**03 38 52.8**	**+0.4**
	32nm,0.3s,baz=97,slow=3.0,SNR=391						
PCRV				Sn	**Sg**	**03 39 16.2**	**+0.7**
	47nm,0.3s,baz=308,slow=7.1,SNR=5.7						
PCRV	**Puerto La Cruz**	**1.59**	**271**	*eP*	**Pn**	**03 38 52.8**	**+0.4**
PCRV				*eS*	**Sg**	**03 39 15.4**	**-0.1**
TRN	**Trinidad (W)**	**1.66**	**73**	*eP*	**Pg**	**03 38 56.0**	**-0.3**
TRN				*eS*	**Sg**	**03 39 21.0**	**+3.1**
TBH	**Brigand Hill**	**1.95**	**80**	*eP*	**Pg**	**03 39 00.5**	**-1.2**
PRGV	**PARIAGUAN**	**2.12**	**229**	*eP*	**Pb**	**03 39 02.0**	**-0.8**
PRGV				*eS*	**Sb**	**03 39 29.9**	**+0.8**
GRGR	**Grenville**	**2.38**	**34**	*eP*	**Pn**	**03 39 04.0**	**+0.8**
GRGR				*eS*	**Sb**	**03 39 35.2**	**-1.2**
TPR	**Prospect**	**2.43**	**65**	*eP*	**Pb**	**03 39 06.5**	**-1.5**
BOT	**Bacolet**	**2.48**	**66**	*eP*	**Pb**	**03 39 08.2**	**-0.6**
TOSP	**Speyside**	**2.69**	**65**	*eP*	**Pb**	**03 39 09.7**	**-2.8**
TOSP				*eS*	**Sb**	**03 39 45.0**	**-0.6**
GCMP	**Grenada, Carri**	**2.79**	**34**	*eP*	**Pn**	**03 39 09.9**	**+1.0**
GCMP				*eS*	**Sn**	**03 39 44.4**	**+1.9**
MERV	**Las Mercedes**	**3.35**	**255**	*eP*	**Pn**	**03 39 18.8**	**+2.2**
MERV				*eS*	**Sn**	**03 39 58.7**	**+2.2**
SVB	**Belmont**	**3.55**	**29**	*eP*	**Pn**	**03 39 19.8**	**+0.5**
SVB				*eS*	**Sn**	**03 40 01.8**	**+0.6**
FUNV	**FUNVISIS**	**3.74**	**275**	*eP*	**Pn**	**03 39 23.8**	**+1.7**
FUNV				*eS*	**Sn**	**03 40 07.3**	**+1.1**
CARV	**Caracas**	**3.86**	**275**	*eP*	**Pn**	**03 39 27.6**	**+3.9**
CARV				*eS*	**Sn**	**03 40 10.6**	**+1.4**
TACV	**Tcata**	**3.94**	**270**	*eP*	**Pn**	**03 39 27.2**	**+2.4**
TACV				*eS*	**Sn**	**03 40 11.9**	**+0.8**
MCLT	**Moule a Chique**	**4.07**	**30**	*eP*	**Pn**	**03 39 26.6**	**+0.1**
MCLT	**Moule a Chique**	**4.07**	**30**	*eS*	**Sn**	**03 40 15.7**	**+1.4**
SLB	**Belfond**	**4.13**	**28**	*eP*	**Pn**	**03 39 27.2**	**-0.1**
SLCP	**Castries, St.**	**4.31**	**27**	*eP*	**Pn**	**03 39 29.6**	**-0.2**
CACV	**CAICARA DEL OR**	**4.33**	**234**	*eP*	**Pn**	**03 39 26.3**	**-3.8**
CACV				*eS*	Sn	03 40 12.2	-8.2
SLBI	**Saint Lucia, B**	**4.33**	**27**	*eP*	**Pn**	**03 39 29.8**	**-0.3**
SLBI	**Saint Lucia, B**	**4.33**	**27**	*eS*	**Sn**	**03 40 20.2**	**-0.3**
BENV	**Beln**	**4.51**	**268**	*eP*	**Pn**	**03 39 35.0**	**+2.4**
BENV				*eS*	**Sn**	**03 40 25.8**	**+0.6**
TURV	**Turiamo**	**4.75**	**274**	*eP*	**Pn**	**03 39 36.7**	**+0.8**
TURV				*eS*	**Sn**	**03 40 30.1**	**-0.8**
BAUV	**El Baul**	**5.10**	**257**	*eP*	**Pn**	**03 39 42.5**	**+1.9**
BAUV				*eS*	**Sn**	**03 40 39.2**	**-0.3**
MAPV	**Macapo**	**5.37**	**267**	*eP*	**Pn**	**03 39 45.7**	**+1.3**
MAPV				*eS*	**Sn**	**03 40 44.5**	**-1.7**
SIQV	**Siquisique**	**6.70**	**275**	*eP*	**Pn**	**03 40 03.9**	**+1.3**
SIQV				*eS*	**Sn**	**03 41 16.2**	**-2.8**
CURV	**Curarigua**	**6.84**	**269**	*eP*	**Pn**	**03 40 06.3**	**+1.7**
SDV	**Santo Domingo**	**7.62**	**261**	Pn	**Pn**	**03 40 16.1**	**+0.7**
	9.9nm,0.3s,baz=71,slow=9.6,SNR=26						
SDV				Sn	**Sn**	**03 41 41.1**	**-0.8**
	3.8nm,0.3s,baz=51,slow=21,SNR=6.6						
	24nm,0.4s						
SOCV	**Socops**	**7.96**	**257**	*eP*	**Pn**	**03 40 20.9**	**+0.9**
SOCV				*eS*	**Sn**	**03 41 46.4**	**-3.6**
TAMC	**Tame, Arauca**	**9.43**	**248**	*eP*	**Pn**	**03 40 40.1**	**-0.2**
CRJC	**Cerrejon, Guaj**	**9.73**	**276**	*eP*	**Pn**	**03 40 44.8**	**+0.4**
PAMC	**Pamplona, Colo**	**9.97**	**254**	*eP*	**Pn**	**03 40 46.7**	**-1.2**
BARC	**Barichara**	**10.66**	**251**	*eP*	**Pn**	**03 40 57.6**	**+0.4**
PTGC	**Puerto Gaitan,**	**10.80**	**237**	*eP*	**Pn**	**03 40 57.9**	**-1.1**
RUSC	**La Rusia**	**10.83**	**248**	*eP*	**Pn**	**03 40 57.9**	**-1.8**
BRRC	**Barranca, Sant**	**11.00**	**255**	*eP*	**Pn**	**03 41 00.2**	**-1.5**
ARGC	**Ariguani, Magd**	**11.06**	**269**	*eP*	**Pn**	**03 41 02.7**	**+0.2**
MDP	**Montagnes des**	**11.45**	**115**	Pn	**Pn**	**03 41 06.0**	**-1.8**
	1.2nm,0.3s,baz=301,slow=14,SNR=21						
MDP				Sn	Sn	03 43 05.5	-10
	2.4nm,0.3s,baz=37,slow=19,SNR=10						
MDP				LR	LR	03 46 29.3	
	comp=Z,16nm,19.8s,baz=180,slow=42						
PTBC	**PUERTO BERRIO,**	**11.87**	**253**	*eP*	**Pn**	**03 41 11.4**	**-2.3**
CHIC	**Chingaza**	**11.96**	**243**	*eP*	**Pn**	**03 41 15.5**	**+0.4**
ZARC	**Zaragoza, Cauc**	**11.99**	**258**	*eP*	**Pn**	**03 41 13.6**	**-1.7**
VILC	**Villavicencio,**	**12.17**	**241**	*eP*	**Pn**	**03 41 20.3**	**+2.5**
GUVC	**San Jose del G**	**12.18**	**232**	*eP*	**Pn**	**03 41 15.9**	**-1.9**
ROSC	**El Rosal**	**12.38**	**246**	Pn	**Pn**	**03 41 23.2**	**+2.2**
	1.5nm,0.3s,baz=97,slow=12,SNR=7.9						
ROSC				LR	LR	03 47 17.0	
	comp=Z,169nm,21.7s,baz=343,slow=43						
	12nm,0.6s						
ROSC	**El Rosal**	**12.38**	**246**	*eP*	**Pn**	**03 41 22.6**	**+1.6**
UREC	**San Jos de Ur**	**12.59**	**260**	*eP*	**Pn**	**03 41 20.3**	**-3.1**
NORC	**Norcasia**	**12.59**	**250**	*eP*	**Pn**	**03 41 20.3**	**-3.2**
GUY2C	**Guyana, Caldas**	**13.18**	**249**	*eP*	**Pn**	**03 41 31.6**	**-0.3**
MACC	**Macarena, Meta**	**13.38**	**234**	*eP*	**Pn**	**03 41 31.6**	**-2.7**
ANIL	**Santa Ana**	**13.51**	**246**	*eP*	**Pn**	**03 41 36.0**	**-0.2**
ORTC	**Ortega, Tolima**	**13.62**	**244**	*eP*	**Pn**	**03 41 38.3**	**+0.6**
PLMC	**San Jos del P**	**14.14**	**249**	*eP*	**P**	**03 41 54.0**	**+1.6**
YOTC	**Yotoco, Valle**	**14.57**	**246**	*eP*	**Pn**	**03 41 51.7**	**+1.0**
FLOC	**Florencia**	**15.17**	**237**	*eP*	**Pn**	**03 41 57.8**	**-0.9**
ATAH	**Atahualpa**	**23.01**	**222**	P	**P**	**03 43 32.9**	**+3.0**
	8.2nm,0.7s,baz=3.6,slow=7.0,SNR=3.3						
ATAH				LR	LR	03 53 42.1	
	comp=Z,62nm,21.8s,baz=49,slow=40						
	8.2nm,0.7s						
SIV	**San Ignacio**	**26.05**	**176**	P	**P**	**03 44 00.6**	**+2.8**
	1.5nm,0.9s,baz=10,slow=4.0,SNR=4.8						
	1.5nm,0.9s						
ULM	**Lac du Bonnet**	**48.30**	**332**	P	**P**	**03 47 05.0**	**-0.4**
	3.6nm,0.7s,baz=136,slow=5.9,SNR=4.1						
	3.6nm,0.7s						
PDAR	**Pinedale Array**	**51.88**	**317**	P	**P**	**03 47 32.9**	**-0.3**
	1.1nm,0.7s,baz=114,slow=11,SNR=14						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**63.30**	**80**	P	**P**	**03 48 54.6**	**+0.8**
	1.9nm,0.8s,baz=286,slow=5.6,SNR=10						
	1.9nm,0.8s						
YKA	**Yellowknife Ar**	**63.95**	**336**	P	**P**	**03 48 56.1**	**-1.0**
	1.1nm,0.7s,baz=109,slow=7.3,SNR=16						
	1.1nm,0.7s						
RES	**Resolute Bay**	**66.98**	**351**	LR	LR	04 18 31.8	
	comp=Z,52nm,20.2s,baz=9.0,slow=36						
GERES	**GERESS Array B**	**73.69**	**42**	P	**P**	**03 49 57.9**	**-0.3**
	0.7nm,0.7s,baz=264,slow=3.6,SNR=7.8						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**78.27**	**334**	P	**P**	**03 50 22.9**	**-1.0**
	0.3nm,0.6s,baz=100,slow=4.0,SNR=7.8						
	0.3nm,0.6s						

*NEIC **02** 03:52:56.3±2.4, 6.78S±0.04×130.61E±0.09, h91km±8km, mb4.4/22, Error ellipse: s-maj=13.0km s-min=5.3km az=75.0*
*DJA **02** 03:52:57.9±0.2, 7.5S×13.1E±, h87km±9km, M4.9/13, mB5.5/7, mb4.9/11, MLv4.8/13, Mw(mB)5.0/7*
*IDC **02** 03:52:57.4±2.7, 6.59S×130.37E, h86km±23km, mb4.1/6, mbtmp4.5/8, MS3.3/2, Error ellipse: s-maj=24.5km s-min=15.1km az=83.0*
ISC 02 03:52:56.8±0.5, 6.68S±0.04×130.54E±0.06, h90km, n94, σ1891/98, mb4.5/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.50**	**150**	Pn	**Pn**	**03 53 19.1**	**-3.5**
SAUI	**Saumlaki**	**1.50**	**150**	P	**Pn**	**03 53 20.8**	**-1.8**
SAUI	**Saumlaki**	**1.50**	**150**	P	**Pn**	**03 53 20.8**	**-1.8**
SAUI				S	**Sn**	**03 53 43.0**	**+0.9**
BNDI	**Bandanaira**	**2.23**	**344**	P	**Pn**	**03 53 33.9**	**+1.9**
BNDI	**Bandanaira**	**2.23**	**344**	P	**Pn**	**03 53 34.0**	**+1.9**
BNDI				S	**Sn**	**03 54 02.3**	**+3.3**
MSAI	**Masohi**	**3.68**	**334**	P	**Pn**	**03 53 54.4**	**+2.9**
AAI	**Ambon**	**3.78**	**322**	P	**Pn**	**03 53 55.4**	**+2.6**
FAKI	**Fak Fak**	**4.10**	**25**	Pn	**Pn**	**03 53 57.2**	**-0.1**
FAKI	**Fak Fak**	**4.10**	**25**	P	**Pn**	**03 53 57.7**	**+0.5**
FAKI	**Fak Fak**	**4.10**	**25**	P	**Pn**	**03 53 57.8**	**+0.5**
FAKI				S	**Sn**	**03 54 42.1**	**-2.1**
NLAI	**Namlea**	**4.84**	**315**	P	**Pn**	**03 54 10.5**	**+3.3**
SIJI	**Sorong**	**5.81**	**7**	P	**Pn**	**03 54 20.1**	**-0.4**
	48nm,0.3s,baz=24,slow=8.9,SNR=41						
SIJI				S	**Sn**	**03 55 20.5**	**-5.4**
	101nm,0.2s,baz=253,slow=23,SNR=13						
MTN	**Manton Dam**	**6.16**	**175**	Pn	**Pn**	**03 54 25.3**	**+0.1**
MTN	**Manton Dam**	**6.16**	**175**	P	**Pn**	**03 54 26.8**	**+1.6**
	94nm,0.4s						
KDU	**Kakadu**	**6.27**	**162**	P	**Pn**	**03 54 27.9**	**+1.2**
	70nm,0.5s						
RKPI	**Ransiki, Papua**	**6.29**	**35**	P	**Pn**	**03 54 28.1**	**+1.1**
	221nm,0.6s,24µm5.8nm						
SANI	**Sanana**	**6.46**	**315**	P	**Pn**	**03 54 32.5**	**+3.2**
	24nm,0.8s,0.1nm						
SOEI	**Soe**	**6.92**	**243**	Pn	**Pn**	**03 54 35.6**	**-0.1**
SOEI	**Soe**	**6.92**	**243**	P	**Pn**	**03 54 37.4**	**+1.7**
	92nm,0.8s						
SOEI	**Soe**	**6.92**	**243**	P	**Pn**	**03 54 37.4**	**+1.7**
	89nm,0.7s,2µm1.3nm						
BATI	**Baumata**	**7.65**	**242**	P	**Pn**	**03 54 46.6**	**+1.0**
	49nm,0.3s,baz=284,slow=2.4,SNR=14						
BATI				S	**Sn**	**03 56 07.9**	**-2.9**
	162nm,0.4s,baz=111,slow=18,SNR=7.8						
BATI	**Baumata**	**7.65**	**242**	P	**Pn**	**03 54 46.2**	**+0.6**
	64nm,0.4s,2µm						
WAMI	**Wamena**	**8.60**	**72**	P	**Pn**	**03 55 01.2**	**+2.7**
KNRA	**Kununurra**	**9.11**	**191**	Pn	**Pn**	**03 55 04.5**	**-1.0**
KNRA	**Kununurra**	**9.11**	**191**	P	**Pn**	**03 55 05.1**	**-0.4**
	123nm,1.4s						
SMPI	**Sarmi**	**9.38**	**61**	P	**Pn**	**03 55 10.0**	**+0.8**
	65nm,0.8s						
KAPI	**Kappang**	**10.86**	**278**	LR	LR	03 58 59.3	
	comp=Z,98nm,21.3s,baz=75,slow=34						
FITZ	**Fitzroy Crossi**	**12.32**	**202**	Pn	**Pn**	**03 55 45.9**	**-3.1**
PLAI	**Plampang**	**12.82**	**260**	P	**Pn**	**03 55 54.8**	**-1.0**
	42nm,0.7s						
WB0	**Warramunga Arr**	**13.54**	**164**	Pn	**Pn**	**03 56 02.1**	**-3.1**
WRAB	**Tennant Creek**	**13.69**	**165**	P	**Pn**	**03 56 05.0**	**-2.1**
	15nm,0.6s						
WRA	**Warramunga Arr**	**13.69**	**165**	P	**Pn**	**03 56 04.4**	**-2.8**
	5.1nm,0.5s,baz=344,slow=13,SNR=32						
WRA				S	Sn	03 58 28.1	-10
	20nm,0.6s,baz=340,slow=23,SNR=12						
WRA	**Warramunga Arr**	**13.69**	**165**	Pn	**Pn**	**03 56 03.7**	**-3.5**
WB2	**Warramunga Arr**	**13.70**	**165**	Pn	**Pn**	**03 56 04.3**	**-3.0**
WR0	**Warramunga Arr**	**13.77**	**164**	Pn	**Pn**	**03 56 04.8**	**-3.4**
BBKI	**Banjar Baru**	**15.96**	**281**	P	**P**	**03 56 40.0**	**+2.0**
JAGI	**Jajag, Banyuwa**	**16.34**	**263**	Pn	**Pn**	**03 56 39.5**	**-1.5**
JAGI				IAmb	IAmb	03 56 49.5	
	comp=Z,61nm,1.4s						
QIS	**Mount Isa**	**16.36**	**148**	P	**P**	**03 56 42.7**	**+0.3**
	comp=Z,8.4nm,0.5s						
AS31	**Alice Springs**	**17.20**	**170**		**Pn**	**03 56 50.3**	**-1.2**
ASAR	**Alice Springs**	**17.20**	**170**	P	**Pn**	**03 56 51.3**	**-0.2**
	comp=Z,11nm,0.6s,baz=340,slow=8.3,SNR=96						
ASAR				S	Sn	03 59 48.6	-14
	comp=Z,2.8nm,0.5s,baz=336,slow=17,SNR=4.3						
ASAR	**Alice Springs**	**17.20**	**170**		**Pn**	**03 56 50.9**	**-0.6**
MBWA	**Marble Bar**	**17.80**	**215**	Pn	**P**	**03 56 58.1**	**-0.1**
MBWA				IAmb	IAmb	03 56 59.9	
	comp=Z,16nm,0.5s						
MBWA	**Marble Bar**	**17.80**	**215**	P	**Pn**	**03 56 59.7**	**+1.0**
	comp=Z,12nm,1.0s						
WRKA	**Warakurna**	**18.38**	**186**	P	**Pn**	**03 57 06.2**	**+0.4**
	comp=Z,19nm,0.7s						
KKM	**Kota Kinabalu**	**19.08**	**311**	P	**Pn**	**03 57 14.2**	**0.0**
	comp=Z,22nm,1.1s						
CTAO	**Charters Tower**	**20.26**	**133**	P	**P**	**03 57 21.1**	**-4.0**
SBUM	**Sibu**	**20.41**	**296**	P	**P**	**03 57 26.3**	**-0.5**
SBUM				IAmb	IAmb	03 57 31.1	
	comp=Z,16nm,1.2s						
OOD	**Oodnadatta**	**21.57**	**168**	P	**P**	**03 57 41.5**	**+2.4**
	comp=Z,44nm,0.7s						
GIRL	**Giralia**	**22.34**	**223**	P	**P**	**03 57 49.0**	**+1.6**
	comp=Z,85nm,1.5s						
BBJI	**Bungbulang**	**22.73**	**267**	P	**P**	**03 57 50.4**	**-1.2**
	comp=Z,42nm,0.7s						
MEEK	**Meekatharra**	**22.87**	**208**	P	**P**	**03 57 53.8**	**+0.9**
	comp=Z,11nm,1.3s						
MULG	**Mulgathing**	**23.71**	**172**	P	**P**	**03 58 02.3**	**+1.7**
	comp=Z,22nm,1.2s						
FORT	**Forrest**	**24.09**	**185**	P	**P**	**03 58 01.9**	**-2.1**
FORT	**Forrest**	**24.09**	**185**	P	**P**	**03 58 06.4**	**+2.4**
	comp=Z,64nm,0.9s						
LCRK	**Leigh Creek**	**24.72**	**164**	P	**P**	**03 58 12.8**	**+3.0**
	comp=Z,51nm,0.7s						
XMI	**Christmas Isla**	**24.85**	**260**	P	**P**	**03 58 10.1**	**-1.0**
	comp=Z,61nm,0.8s						
KMBL	**Kambalda**	**25.87**	**197**	P	**P**	**03 58 20.8**	**+0.7**
	comp=Z,36nm,0.8s						
MORW	**Morawa**	**26.14**	**210**	P	**P**	**03 58 19.4**	**-3.2**
MORW				IAmb	IAmb	03 58 37.1	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**26.14**	**210**	P	**P**	**03 58 23.0**	**+0.3**
	comp=Z,16nm,1.2s						
BBOO	**Buckleboo**	**26.51**	**170**	P	**P**	**03 58 23.8**	**-2.1**
BBOO				IAmb	IAmb	03 58 27.8	
	comp=Z,9.4nm,0.8s						
BBOO	**Buckleboo**	**26.51**	**170**	P	**P**	**03 58 27.2**	**+1.3**
	comp=Z,19nm,2.9s						
STKA	**Stephens Creek**	**27.12**	**159**	P	**P**	**03 58 33.3**	**+1.9**
	comp=Z,5.2nm,0.3s,baz=324,slow=9.4,SNR=28						
STKA				LR	LR	04 08 54.7	
	comp=Z,86nm,19.7s,baz=185,slow=35						
	comp=Z,5.2nm,0.3s						
STKA	**Stephens Creek**	**27.12**	**159**	P	**P**	**03 58 33.0**	**+1.6**
STKA	**Stephens Creek**	**27.12**	**159**	P	**P**	**03 58 33.5**	**+2.1**
	comp=Z,2.4nm,1.8s						
BLDU	**Ballidu**	**27.12**	**207**	P	**P**	**03 58 32.6**	**+1.1**
	comp=Z,20nm,1.9s						
HTT	**Hallett**	**27.74**	**165**	P	**P**	**03 58 38.9**	**+1.9**
NWAO	**Narrogin (SRO)**	**28.90**	**204**	P	**P**	**03 58 48.4**	**+1.1**
	comp=Z,4.7nm,0.4s						
	comp=Z,4.7nm,0.4s						
NWAO	**Narrogin (SRO)**	**28.90**	**204**	P	**P**	**03 58 46.9**	**-0.3**
NWAO				IAmb	IAmb	03 58 59.9	
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**28.90**	**204**	P	**P**	**03 58 48.9**	**+1.6**
	comp=Z,24nm,1.5s						
ARPS	**Mount Arapiles**	**31.68**	**163**	P	**P**	**03 59 14.8**	**+3.0**
	comp=Z,24nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.94**	**309**	P	**P**	**04 00 22.0**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=140,slow=7.6,SNR=11						
	comp=Z,0.9nm,0.3s						
CHTO	**Chiang Mai**	**40.15**	**310**	P	**P**	**04 00 22.8**	**-1.4**
CHTO				IAmb	IAmb	04 00 24.5	
	comp=Z,5.5nm,0.9s						
PZH	**PanZhiHua**	**43.22**	**321**	P	**P**	**04 00 48.7**	**-0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
SHL	**Shillong**	**49.38**	**312**	P	**P**	**04 01 36.2**	**-1.5**
SHL				IAmb	IAmb	04 01 38.5	
HHC	**Hu-ho-hao-te**	**50.41**	**341**	*e*P	**P**	**04 01 48.8**	**+3.6**
WMQ	**Urumqi**	**63.42**	**327**	*e*P	**P**	**04 03 19.3**	**+2.3**
WMQ				sP	PcP	04 03 53.1	-0.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
MK31	**Makanchi Array**	**68.25**	**327**	P	**P**	**04 03 48.4**	**+0.4**
MKAR	**Makanchi Array**	**68.25**	**327**	P	**P**	**04 03 48.3**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=116,slow=7.8,SNR=59						
	comp=Z,1.7nm,0.4s						
MKAR	**Makanchi Array**	**68.25**	**327**	P	**P**	**04 03 48.4**	**+0.4**
MAKZ	**Makanchi**	**68.43**	**326**	P	**P**	**04 03 49.2**	**+0.1**
MAKZ				IAmb	IAmb	04 03 50.2	
	comp=Z,9.0nm,1.4s						
AAK	**Ala-Archa**	**70.64**	**320**	P	**P**	**04 04 02.8**	**-0.1**
KBL	**Kabul**	**70.97**	**310**	P	**P**	**04 04 04.7**	**-0.5**
KBL				IAmb	IAmb	04 04 05.7	
	comp=Z,9.0nm,1.2s						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**04 04 06.7**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=144,slow=5.4,SNR=3.7						
	comp=Z,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**04 04 05.9**	**-1.9**
GAR	**Garm**	**71.82**	**315**	P	**P**	**04 04 09.0**	**-1.1**
CHGR	**Chuyangaron**	**72.50**	**314**	P	**P**	**04 04 12.5**	**-1.6**
VNDA	**Vanda**	**72.70**	**173**	P	**P**	**04 04 16.1**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=310,slow=11,SNR=13						
	comp=Z,0.8nm,0.5s						
KK31	**Karatay Array**	**73.45**	**319**	P	**P**	**04 04 19.7**	**+0.2**
KKAR	**Karatay Array**	**73.45**	**319**	P	**P**	**04 04 19.2**	**-0.4**
TIXI	**Tiksi**	**78.17**	**359**	P	**P**	**04 04 45.9**	**+0.1**
TIXI				IAmb	IAmb	04 05 02.4	
	comp=Z,3.9nm,0.5s						
ABKAR	**Akbulak array**	**82.59**	**321**	P	**P**	**04 05 09.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**129.27**	**281**	PKP	**PKPdf**	**04 11 56.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=102,slow=1.7,SNR=3.2						
DBIC	**Dimbokro**	**135.71**	**273**	PKP	**PKiKP**	**04 12 09.3**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=94,slow=1.9,SNR=5.1						
CPUP	**Villa Florida**	**146.31**	**167**	PKPbc	**PKPab**	**04 12 29.5**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=198,slow=1.3,SNR=6.6						

*IDC **02** 04:02:25.6±1.3, 3.73N×128.62E, h0km, mb3.7/5, mbtmp3.7/6, ML3.3/1, MS3.3/2, Error ellipse: s-maj=111.7km s-min=18.4km az=68.0*
ISC 02 04:02:31.4±1.2, 3.38N±0.2×129.1E±0.3, h50km, n7, σ0964/8, mb3.6/5, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**5.11**	**308**	*e*P	Pn	04 03 58.3	+13
KCP				*i* S	**Sn**	**04 04 43.0**	**-0.2**
SIJI	**Sorong**	**5.13**	**155**	Pn	**Pn**	**04 03 45.7**	**-0.1**
	1.1nm,0.3s,baz=345,slow=20,SNR=2.0						
SIJI				Sn	**Sn**	**04 04 43.1**	**-0.7**
	2.2nm,0.3s,baz=219,slow=21,SNR=6.7						
SIJI				LR	LR	04 05 24.4	
	comp=Z,101nm,18.9s,baz=252,slow=34						
	3.1nm,0.3s						
WRA	**Warramunga Arr**	**24.17**	**168**	P	**P**	**04 07 43.6**	**+0.4**
	1.5nm,0.8s,baz=347,slow=10,SNR=5.9						
WRA				LR	LR	04 19 30.1	
	comp=Z,183nm,18.9s,baz=162,slow=42						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**27.72**	**171**	P	**P**	**04 08 16.3**	**+1.0**
	0.5nm,0.6s,baz=356,slow=7.8,SNR=5.4						
	0.5nm,0.6s						
SONM	**Songino Array**	**48.01**	**340**	P	**P**	**04 11 05.9**	**+0.3**
	0.5nm,0.8s,baz=161,slow=6.1,SNR=3.9						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**58.85**	**324**	P	**P**	**04 12 24.9**	**-0.2**
	0.9nm,0.5s,baz=115,slow=8.1,SNR=14						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**62.96**	**326**	P	**P**	**04 12 52.3**	**-0.5**
	1.0nm,0.6s,baz=127,slow=5.9,SNR=12						
	1.0nm,0.6s						

*INMG **02** 04:03:10.4±1.4, 36.49N×9.60W, h18km±5km, ML1.6, Error ellipse: s-maj=7.7km s-min=4.1

mb4.0/9, Error ellipse: s-maj=12.5km s-min=9.7km az=66.0

ISC 02 04:25:38.2±0.6, 2°94S±0.05×129°99E±0.05, h25km, n36, σ1ᵗ76/37, mb3.9/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.13 249**		P	**Pb**	**04 26 00.3**	**+1.3**
MSAI				S	**Sb**	**04 26 16.5**	**+3.2**
BNDI	**Bandanaira**	**1.57 183**		P	**Pb**	**04 26 07.5**	**+0.9**
BNDI				S	**Sb**	**04 26 30.6**	**+4.6**
AAI	**Ambon**	**1.94 247**		P	**Pb**	**04 26 11.7**	**-1.1**
AAI				S	**Sb**	**04 26 36.9**	**+0.4**
FAKI	**Fak Fak**	**2.26 89**		P	**Pn**	**04 26 14.3**	**+0.3**
FAKI	**Fak Fak**	**2.26 89**		P	**Pn**	**04 26 14.7**	**+0.7**
SIJI	**Sorong**	**2.42 32**		Pn	**Pn**	**04 26 15.7**	**-0.5**
	12nm,0.3s,baz=218,slow=19,SNR=60						
SIJI				Sn	**Sn**	**04 26 45.9**	**+0.8**
	11nm,0.3s,baz=190,slow=24,SNR=4.8						
SIJI				LR	LR	04 27 35.7	
	comp=Z,262nm,19.8s,baz=168,slow=48 33nm,0.2s						
NLAI	**Namlea**	**2.90 264**		P	**Pn**	**04 26 24.0**	**+1.3**
SANI	**Sanana**	**4.09 282**		P	**Pn**	**04 26 38.3**	**-0.9**
RKPI	**Ransiki, Papua**	**4.42 71**		P	**Pn**	**04 26 44.4**	**+0.7**
LUWI	**Luwuk**	**7.45 285**		Pn	**Pn**	**04 27 26.1**	**+0.7**
BATI	**Baumata**	**9.56 221**		LR	LR	04 31 42.9	
	comp=Z,323nm,18.9s,baz=276,slow=39						
MTN	**Manton Dam**	**9.90 173**		Pn	**Pn**	**04 27 58.5**	**-0.5**
TOLI2	**Tolitoli**	**10.04 294**		Pn	**Pn**	**04 28 01.2**	**+0.2**
KAPI	**Kappang**	**10.41 258**		LR	LR	04 32 50.5	
	comp=Z,99nm,18.9s,baz=78,slow=42						
KNRA	**Kununurra**	**12.71 185**		Pn	**Pn**	**04 28 34.2**	**-3.2**
WB0	**Warramunga Arr**	**17.27 166**			**P**	**04 29 38.4**	**-0.7**
WB0				IAmb	IAmb	04 29 44.8	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**17.42 166**		P	**Pn**	**04 29 37.0**	**-2.7**
	comp=Z,0.7nm,0.3s,baz=351,slow=11,SNR=17						
WRA				S	Sn	04 32 39.9	-13
	comp=Z,0.9nm,0.7s,baz=339,slow=22,SNR=4.7 comp=Z,0.7nm,0.3s						
WRA	**Warramunga Arr**	**17.42 166**		Pn	**Pn**	**04 29 38.7**	**-1.0**
WB2	**Warramunga Arr**	**17.43 166**		Pn	**Pn**	**04 29 36.7**	**-3.0**
WB2				IAmb	IAmb	04 29 48.0	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**17.49 166**		Pn	**Pn**	**04 29 39.1**	**-1.4**
WR0				IAmb	IAmb	04 29 48.6	
	comp=Z,13nm,1.3s						
AS31	**Alice Springs**	**20.95 170**		P	**P**	**04 30 19.1**	**-0.3**
AS31				IAmb	IAmb	04 30 20.6	
	comp=Z,3.3nm,0.7s						
ASAR	**Alice Springs**	**20.95 170**		P	**P**	**04 30 18.8**	**-0.6**
	comp=Z,7.1nm,0.7s,baz=347,slow=10,SNR=93						
ASAR				S	**S**	**04 34 06.6**	**-5.2**
	comp=Z,1.3nm,0.6s,baz=347,slow=15,SNR=8.3 comp=Z,7.1nm,0.7s						
ASAR	**Alice Springs**	**20.95 170**		P	**P**	**04 30 18.9**	**-0.5**
CTA	**Charters Tower**	**23.29 138**		P	**P**	**04 30 45.1**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=330,slow=8.1,SNR=2.8 comp=Z,2.0nm,0.8s						
CTAO	**Charters Tower**	**23.29 138**		P	**P**	**04 30 46.6**	**+2.3**
JOW	**Kunigami**	**29.65 357**		LR	LR	04 41 37.4	
	comp=Z,27nm,20.1s,baz=276,slow=32						
STKA	**Stephens Creek**	**30.79 160**		P	**P**	**04 31 51.6**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=347,slow=10,SNR=5.2 comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**30.79 160**		P	**P**	**04 31 51.2**	**-0.7**
SONM	**Songino Array**	**54.62 341**		P	**P**	**04 35 04.8**	**0.0**
	comp=Z,1.0nm,0.9s,baz=145,slow=5.3,SNR=5.6 comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**54.62 341**		P	**P**	**04 35 04.9**	**0.0**
MK31	**Makanchi Array**	**64.86 326**		P	**P**	**04 36 15.1**	**-0.2**
MK31				IAmb	IAmb	04 36 52.5	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**64.86 326**		P	**P**	**04 36 15.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=113,slow=8.2,SNR=12 comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**64.86 326**		P	**P**	**04 36 14.9**	**-0.4**
SEY	**Seymchan**	**67.85 11**		P	**P**	**04 36 35.2**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=216,slow=8.7,SNR=5.3 comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**79.35 321**		P	**P**	**04 37 41.6**	**-0.3**
OPO	**Ambohidratompo**	**82.25 252**		LR	LR	05 09 13.1	
	comp=Z,18nm,21.2s,baz=241,slow=32						

*IDC **02** 04:36:12.1±11.0, 18°96N×145°88E, h177km±106km, mb3.5/8, mbtmp3.9/8, Error ellipse: s-maj=83.4km s-min=25.4km az=84.0*

ISC 02 04:36:04.9±2.5, 19°0N±0°2×145°9E±0°7, h109km, n8, σ0ˢ85/8, mb3.9/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**32.29 343**		P	**P**	**04 42 23.6**	**+0.4**
	0.7nm,0.4s,baz=150,slow=11,SNR=4.8 0.7nm,0.4s						
WRA	**Warramunga Arr**	**40.29 197**		P	**P**	**04 43 31.8**	**+0.2**
	0.2nm,0.3s,baz=18,slow=8.2,SNR=2.0 0.2nm,0.3s						
SONM	**Songino Array**	**43.09 321**		P	**P**	**04 43 54.7**	**+0.4**
	0.3nm,0.6s,baz=131,slow=6.4,SNR=2.4 0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.45 314**		P	**P**	**04 45 49.5**	**+0.1**
	0.4nm,0.6s,baz=94,slow=8.7,SNR=1.9 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**61.28 318**		P	**P**	**04 46 08.0**	**-0.6**
	1.3nm,0.6s,baz=92,slow=7.6,SNR=13 1.3nm,0.6s						
BVAR	**Borovoye Array**	**66.42 320**		P	**P**	**04 46 41.8**	**-0.5**
	1.8nm,0.5s,baz=97,slow=7.5,SNR=11 1.8nm,0.5s						
ARCES	**ARCESS Array B**	**82.32 342**		P	**P**	**04 48 14.8**	**+0.7**
	14nm,1.2s,baz=72,slow=8.6,SNR=2.3 14nm,1.2s						
FINES	**FINESS Array B**	**86.75 335**		P	**P**	**04 48 35.0**	**-1.5**
	0.7nm,0.4s,baz=44,slow=4.4,SNR=8.7 0.7nm,0.4s						

*INET **02** 05:00:01.9±0.3, 11°57N×86°08W, h144km±5km, MW3.5*
*UCR **02** 05:00:02.9±0.9, 11°62N×86°21W, h114km±17km, MW3.6*

ISC 02 05:00:03.3±2.9, 11°55N±0°07×86°10W±0°10, h130km±23km, n23, σ0ˢ61/32, 1C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.47 88**		*e*P	**Pn**	**05 00 22.2**	**0.0**
TISN	**Laguna Tiscapa**	**0.61 345**		*e*P	**Pn**	**05 00 23.1**	**-0.1**
GBS2	**Las Lilas**	**0.95 138**		*e*P	**Pn**	**05 00 25.2**	**-0.7**
GBS2				*i* S	**Sn**	**05 00 42.8**	**-0.1**
MOMN	**Momotombo**	**0.96 333**		*e*P	**Pn**	**05 00 25.6**	**-0.3**
GBS3	**Finca Las Img**	**0.99 140**		⇓*i*P	**Pn**	**05 00 25.7**	**-0.6**
GBS3				*e*S	**Sn**	**05 00 43.5**	**-0.1**
BOAB	**BOACO BROADBAN**	**0.99 25**		*e*P	**Pn**	**05 00 26.1**	**-0.1**
ACON	**Acoyapa**	**1.00 65**		*e*P	**Pn**	**05 00 25.8**	**-0.5**
ACON				*e*S	**Sn**	**05 00 43.7**	**0.0**
GB1A	**Borinquen Arri**	**1.00 136**		*e*P	**Pn**	**05 00 26.3**	**-0.1**
GB1A				*i* S	**Sn**	**05 00 43.6**	**-0.3**
LAPC	**Finca la Perla**	**1.02 140**		⇑*i*P	**Pn**	**05 00 25.7**	**-0.7**
LAPC				*e*S	**Sn**	**05 00 43.8**	**-0.2**
GPS2	**Hotel Rincn d**	**1.08 137**		*e*P	Pn	05 00 36.4	+9.2
GP77	**Hacienda Santa**	**1.09 136**		*e*P	**Pn**	**05 00 27.9**	**+0.6**
GP77				*e*S	**Sn**	**05 00 45.0**	**-0.4**
CLARA	**Aguas Claras**	**1.18 130**		⇓*i*P	**Pn**	**05 00 28.0**	**-0.1**
GUAB	**Guayabo de Bag**	**1.20 134**		*e*P	**Pn**	**05 00 30.0**	**+1.8**
GUAB				*e*S	**Sn**	**05 00 47.4**	**+0.2**
MESS	**Mesas**	**1.20 132**		*e*P	**Pn**	**05 00 27.7**	**-0.6**
VMAR	**Armenia, Volca**	**1.22 127**		*e*P	**Pn**	**05 00 27.9**	**-0.5**
HORNC	**Hornillas**	**1.23 132**		*e*P	**Pn**	**05 00 28.7**	**+0.1**
HORNC				*e*S	**Sn**	**05 00 49.0**	**+1.1**
COLC	**Colonia**	**1.24 135**		*e*S	**Sn**	**05 00 49.0**	**+0.9**
CANAL	**Canalete**	**1.25 125**		*i* P	**Pn**	**05 00 28.3**	**-0.5**
CUI	**Cuipilapa**	**1.28 134**		*e*P	**Pn**	**05 00 29.1**	**0.0**
CUI				*e*S	**Sn**	**05 00 49.4**	**+0.7**
ACAL	**Aguas Claras**	**1.39 131**		*i* P	**Pn**	**05 00 30.1**	**-0.2**
CRIN	**San Cristobal**	**1.47 321**		*e*P	**Pn**	**05 00 30.8**	**-0.5**
CRIN				*e*S	**Sn**	**05 00 53.4**	**+0.9**
SAAN	**San Antonio**	**1.49 154**		*e*P	**Pn**	**05 00 31.2**	**-0.2**
DUNO	**Dulce Nombre,**	**1.58 158**		*e*P	**Pn**	**05 00 31.9**	**-0.4**

*NNC **02** 05:28:02.9±0.4, 44°04N×78°91E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=3.7km s-min=2.5km az=153.0*

*SOME **02** 05:28:04.3, 44°00N×78°90E, h15km*

ISC 02 05:28:03.4±1.1, 44°04N±0°03×78°87E±0°02, h2km±10km, n55, σ1ᵗ18/85, 14C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.59 193**		P	**Pg**	**05 28 15.1**	**+0.4**
	256nm,0.1s						
KPKS				S	**Sg**	**05 28 23.0**	**+0.6**
	2µm,0.2s						
KPKS	**Kokpek**	**0.59 193**		*e*P	**Pg**	**05 28 15.1**	**+0.4**
	256nm,0.1s						
KPKS				*e*S	**Sg**	**05 28 23.0**	**+0.6**
	2µm,0.2s						
DJR	**Jarkent**	**0.72 66**		P	**Pg**	**05 28 16.5**	**-0.8**
	114nm,0.2s						
DJR				S	**Sg**	**05 28 25.5**	**-1.2**
	1µm,0.2s						
DJR	**Jarkent**	**0.72 66**		*e*P	**Pg**	**05 28 16.5**	**-0.8**
	119nm,0.1s						
DJR				*e*S	**Sg**	**05 28 25.5**	**-1.2**
	1µm,0.2s						
KURS	**Kuram**	**0.75 223**		P	**Pg**	**05 28 18.5**	**+0.7**
	104nm,0.3s						
KURS				S	**Sg**	**05 28 28.6**	**+1.1**
	394nm,0.2s						
KURS	**Kuram**	**0.75 223**		*e*P	**Pg**	**05 28 18.4**	**+0.7**
	104nm,0.3s						
KURS				*e*S	**Sg**	**05 28 28.6**	**+1.1**
	394nm,0.2s						
UZB	**Uzynbulak**	**0.90 173**		P	**Pg**	**05 28 20.3**	**-0.3**
	171nm,0.1s						
UZB				S	**Sg**	**05 28 31.7**	**-0.6**
	379nm,0.2s						
UZB	**Uzynbulak**	**0.90 173**		*e*P	**Pg**	**05 28 20.4**	**-0.3**
	171nm,0.1s						
UZB				*e*S	**Sg**	**05 28 31.7**	**-0.6**
	379nm,0.2s						
SHLS	**Shalkode**	**0.98 154**		P	**Pn**	**05 28 24.1**	**-0.3**
	21nm,0.1s						
SHLS				S	**Sn**	**05 28 38.9**	**0.0**
	767nm,0.2s						
SHLS	**Shalkode**	**0.98 154**		*e*P	**Pn**	**05 28 24.1**	**-0.3**
	21nm,0.1s						
SHLS				*e*S	**Sn**	**05 28 38.9**	**0.0**
	767nm,0.2s						
CHKK	**Chushkaly**	**1.37 263**		P	**Pn**	**05 28 29.0**	**-0.6**
	211nm,0.2s						
CHKK				S	**Sb**	**05 28 46.8**	**-0.9**
	3µm,0.2s						
CHKK	**Chushkaly**	**1.37 263**		*e*P	**Pn**	**05 28 29.0**	**-0.6**
	211nm,0.2s						
CHKK				*e*S	**Sb**	**05 28 46.8**	**-0.9**
	3µm,0.2s						
KOTS	**Kotyrbulak**	**1.51 238**		P	**Pb**	**05 28 31.8**	**-0.5**
	68nm,0.2s						
KOTS				S	**Sb**	**05 28 51.9**	**0.0**
	1µm,0.2s						
KOTS	**Kotyrbulak**	**1.51 238**		*e*P	**Pb**	**05 28 31.8**	**-0.5**
	68nm,0.2s						
KOTS				*e*S	**Sb**	**05 28 51.9**	**0.0**
	1µm,0.2s						
MDOK	**Medeo**	**1.59 237**		⇑P	**Pn**	**05 28 32.5**	**-0.1**
	8.9nm,0.2s						
MDOK				Pg	**Pn**	**05 28 32.6**	**-0.1**
	62nm,0.1s						
MDOK				Lg	Lg	05 28 52.9	
	278nm,0.2s						
MDOK				⇑S	**Sb**	**05 28 54.4**	**+0.2**
	218nm,0.5s						
MDOK	**Medeo**	**1.59 237**		*e*P	**Pn**	**05 28 32.6**	**-0.1**
	62nm,0.1s						
MDOK				*e*S	**Sn**	**05 28 52.9**	**-0.9**
	278nm,0.2s						
KNDC	**Almaty**	**1.61 240**		⇑P	**Pb**	**05 28 33.4**	**-0.5**
	42nm,0.2s						
KNDC				⇑S	**Sg**	**05 28 55.6**	**+0.5**
	1µm,0.5s						
AAA	**Alma-Ata**	**1.64 240**		P	**Pb**	**05 28 34.3**	**-0.2**
	109nm,0.2s						
AAA				S	**Sg**	**05 28 56.6**	**+0.4**
	1µm,0.3s						
AAA	**Alma-Ata**	**1.64 240**		*e*P	**Pb**	**05 28 34.3**	**-0.2**
	109nm,0.2s						
AAA				*e*S	**Sg**	**05 28 56.6**	**+0.4**
	1µm,0.2s						
TNSS	**Tian-Shan**	**1.72 235**		P	**Pb**	**05 28 35.3**	**-0.6**
	39nm,0.1s						
TNSS				S	**Sb**	**05 28 57.9**	**-0.3**
	249nm,0.2s						
TNSS	**Tian-Shan**	**1.72 235**		*e*P	**Pb**	**05 28 35.3**	**-0.6**
	39nm,0.1s						
TNSS				*e*S	**Sb**	**05 28 57.9**	**-0.3**
	249nm,0.2s						
KUU	**Kurty**	**1.83 266**		P	**Pn**	**05 28 35.9**	**0.0**
	256nm,0.2s						
KUU				S	**Sn**	**05 28 58.8**	**-0.9**
	1µm,0.4s						
KUU	**Kurty**	**1.83 266**		*e*P	**Pn**	**05 28 35.9**	**0.0**
	256nm,0.2s						
KUU				*e*S	**Sn**	**05 28 58.8**	**-0.9**
	1µm,0.4s						
MTBS	**Maitube**	**1.99 244**		Pg	**Pb**	**05 28 40.4**	**0.0**
	127nm,0.3s						
MTBS				Lg	Lg	05 29 06.4	
	1µm,0.3s						
MTBS	**Maitube**	**1.99 244**		*e*Pg	**Pb**	**05 28 40.4**	**0.0**
	127nm,0.3s						
MTBS				*e*Lg	Lg	05 29 06.4	
	1µm,0.3s						
KRBS	**Karabastau**	**2.33 263**		Pg	**Pb**	**05 28 46.2**	**-0.1**
KRBS				Lg	Lg	05 29 16.3	
	152nm,0.2s						
KRBS	**Karabastau**	**2.33 263**		*e*P	**Pb**	**05 28 46.2**	**-0.1**
KRBS				*e*S	**Sb**	**05 29 16.3**	**+0.8**
	152nm,0.2s						
KST	**Kastek**	**2.34 246**		Pg	**Pb**	**05 28 46.3**	**0.0**
	39nm,0.2s						
KST				Lg	Lg	05 29 16.4	
	187nm,0.2s						
KST	**Kastek**	**2.34 246**		*e*Pg	**Pb**	**05 28 46.3**	**0.0**
	39nm,0.2s						
KST				*e*Lg	Lg	05 29 16.4	
	187nm,0.2s						
DGS	**Degeres**	**2.38 251**		Pg	**Pb**	**05 28 46.8**	**-0.4**
	19nm,0.2s						
DGS				Lg	Lg	05 29 17.3	
	798nm,0.4s						
DGS	**Degeres**	**2.38 251**		*e*Pg	**Pb**	**05 28 46.8**	**-0.4**
	19nm,0.2s						
DGS				*e*Lg	Lg	05 29 17.3	
	798nm,0.4s						
ULHL	**Ulahol**	**2.63 228**		P	**Pg**	**05 28 54.2**	**+0.4**
	SNR=16						
TKM2	**Tokmak 2**	**2.63 246**		P	**Pg**	**05 28 53.5**	**-0.3**
	SNR=25						
TKM2	**Tokmak 2**	**2.63 246**		⇓Pn	**Pb**	**05 28 49.5**	**-1.9**
	21nm,0.5s						
TKM2				⇓Lg	Lg	05 29 25.3	
	54nm,0.2s						
CHMS	**Chumysh**	**3.17 252**		P	**Pb**	**05 29 02.0**	**+1.5**
	SNR=12						
CHMS	**Chumysh**	**3.17 252**		⇓Pg	**Pb**	**05 29 01.2**	**+0.7**
	27nm,0.7s						
CHMS				⇑Lg	Lg	05 29 41.5	
	51nm,0.5s						
KBK	**Karagaybulak**	**3.18 246**		P	**Pg**	**05 29 03.5**	**-0.7**
	SNR=21						
USP	**Ospenovka**	**3.26 258**		P	**Pn**	**05 28 56.3**	**+0.6**
	SNR=5.8						
AAK	**Ala-Archa**	**3.48 248**		P	**Pb**	**05 29 08.3**	**+2.4**
	SNR=19						
MAKZ	**Makanchi**	**3.53 37**		⇑Pn	**Pn**	**05 29 01.1**	**+1.9**
	0.7nm,0.2s						
MAKZ				⇑Pg	**Pb**	**05 29 08.4**	**+1.9**
	6.7nm,0.3s						
MAKZ				⇓Lg	Lg	05 29 52.5	
	33nm,0.7s						
BTLS	**Baital**	**3.59 288**		Pg	**Pb**	**05 29 08.2**	**+0.7**
	42nm,0.4s						
BTLS				Lg	Lg	05 29 54.4	
	13nm,0.4s						
BTLS	**Baital**	**3.59 288**		*e*Pg	**Pb**	**05 29 08.2**	**+0.7**
	42nm,0.4s						
BTLS				*e*Lg	Lg	05 29 54.4	
	13nm,0.4s						
MK31	**Makanchi Array**	**3.66 40**		⇑Pn	**Pn**	**05 29 01.2**	**+0.1**
	0.9nm,0.2s,baz=213,slow=15,SNR=299						
MK31				⇑Pg	**Pb**	**05 29 10.1**	**+1.4**
	3.4nm,0.2s,baz=218,slow=15,SNR=84						
MK31				⇓Lg	Lg	05 29 56.7	
	31nm,0.5s						
UCH	**Uchtor**	**3.67 242**		P	**Pg**	**05 29 11.6**	**-2.0**
	SNR=19						
EKS2	**Erkin-Say**	**3.96 251**		P	**Pb**	**05 29 15.9**	**+1.9**
	SNR=16						
AML	**Almayshu**	**4.24 245**		P	**Pb**	**05 29 21.7**	**+2.7**
	SNR=10						
MRKS	**Merke**	**4.31 254**		Pg	**Pb**	**05 29 21.1**	**+1.2**
	8.0nm,0.3s						
MRKS				Lg	Lg	05 30 16.6	
	43nm,0.5s						
MRKS	**Merke**	**4.31 254**		*e*Pg	**Pb**	**05 29 21.1**	**+1.2**
	8.0nm,0.3s						
MRKS				*e*Lg	Lg	05 30 16.6	
	43nm,0.5s						
ZSN	**Zaisan**	**5.41 49**		Pg	**Pb**	**05 29 38.3**	**-0.3**
	2.1nm,0.2s						
ZSN				Lg	Lg	05 30 46.1	
	25nm,0.4s						
ZSN	**Zaisan**	**5.41 49**		*e*Pg	**Pb**	**05 29 38.3**	**-0.3**
	2.1nm,0.2s						
ZSN				*e*Lg	Lg	05 30 46.1	
	25nm,0.4s						
KK31	**Karatay Array**	**6.14 264**		⇓Pg	**Pb**	**05 29 54.5**	**+3.4**
	2.0nm,0.4s,baz=76,slow=15,SNR=26						
KK31				⇓Lg	Lg	05 31 14.3	
	41nm,0.9s,baz=72,slow=29,SNR=20						
OTUK	**Ortayu**	**6.18 315**		⇓Pn	**Pn**	**05 29 34.9**	**-0.8**
	1.3nm,0.5s						
OTUK				⇑Sn	**Sn**	**05 30 43.8**	**-3.2**
	5.8nm,0.7s						
OTUK				⇑Lg	Lg	05 31 15.3	
	20nm,0.6s						
KURBB	**Kurchatov Arra**	**6.59 358**		⇓Pg	**Pb**	**05 30 02.7**	**+4.0**
	3.7nm,0.7s						
KURBB				⇑Lg	Lg	05 31 30.6	
	54nm,0.8s						
BVA0	**Borovoye Array**	**10.59 331**		Pn	**Pn**	**05 30 34.1**	**-2.0**
	1.9nm,1.1s,baz=142,slow=13,SNR=6.9						
BVA0				⇓Sn	**Sn**	**05 32 37.7**	**+2.4**
	1.3nm,0.8s						
BVA0				⇓Lg	Lg	05 33 41.6	
	5.5nm,1.1s,baz=120,slow=26,SNR=4.7						
BRVK	**Borovoye**	**10.66 331**		⇑Pn	**Pn**	**05 30 34.8**	**-2.2**
	1.5nm,0.9s						
BRVK				⇓Sn	**Sn**	**05 32 38.2**	**+1.3**
	2.2nm,0.8s						
BRVK				⇑Lg	Lg	05 33 42.1	
	17nm,0.8s						

*REN **02** 05:33:39.6±1.3, 38°359N±0°010×118°90W±0°01, h8km±4km, ML2.5/18, ML2.4/56(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=148.0*

NEIC 02 05:33:40.0±1.3, 38°35N±0°01×118°90W±0°01, h9km±1km, Error ellipse: s-maj=1.8km s-min=1.6km az=202.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.15 45**			Pg	05 33 43.4	0.0
TVH1					Sg	05 33 46.0	+0.1
LHV	**Little Huntoon**	**0.33 108**			Pg	05 33 46.9	+0.4
LHV					Sg	05 33 51.8	+1.0
LHV	**Little Huntoon**	**0.33 108**		IAML		05 33 52.0	
	comp=N,2µm,0.3s						
LHV				IAML		05 33 52.2	
	comp=E,2µm,0.3s						
LUL	**Lundy Lake**	**0.37 217**			Pg	05 33 47.4	0.0
RYN	**Ryan**	**0.41 47**			Pg	05 33 48.0	+0.1
RYN					Sg	05 33 53.9	+0.5
RYN	**Ryan**	**0.41 47**		IAML		05 33 54.0	
	comp=N,430nm,0.4s						
RYN				IAML		05 33 55.0	
	comp=E,434nm,0.2s						
WAKR	**Walker**	**0.45 290**			Pg	05 33 48.6	-0.2
WAKR				IAML		05 33 55.3	
	comp=N,232nm,0.6s						
WAKR				IAML		05 33 58.2	
	comp=E,206nm,0.4s						
WAKR	**Walker**	**0.45 290**			Sg	05 33 55.0	+0.3
NV09	**Mina Array Sit**	**0.45 79**			Pg	05 33 48.8	-0.1
NV08	**Mina Array Sit**	**0.46 83**			Pg	05 33 48.9	-0.1
NVAR	**Mina Array Bea**	**0.48 80**			Pg	05 33 49.0	-0.3
NV11	**Mina Array Sit**	**0.59 82**			Pb	05 33 52.3	-0.4
NV11	**Mina Array Sit**	**0.59 82**		IAML		05 34 00.7	
	comp=N,179nm,0.6s						
NV11				IAML		05 34 02.8	
	comp=E,130nm,0.5s						
BENR	**Benton**	**0.69 158**			Pg	05 33 53.1	-0.2
YERR	**Yerington**	**0.69 337**			Pg	05 33 53.0	-0.3
YERR					Sg	05 34 02.7	+0.4
YERR	**Yerington**	**0.69 337**		IAML		05 34 03.6	
	comp=E,263nm,0.4s						
YERR				IAML		05 34 04.0	
	comp=N,190nm,0.3s						
MDYM	**Dry Creek**	**0.70 187**			Sb	05 34 03.8	-0.6
MCBM	**Casa Benchmark**	**0.71 180**			Sb	05 34 04.0	-0.7
MDPB	**Devils Postpil**	**0.73 191**			Pg	05 33 53.8	-0.3
MDPB				IAML		05 34 04.1	
	comp=E,200nm,0.3s						
MDPB				IAML		05 34 04.6	
	comp=N,144nm,0.3s						
MDPB	**Devils Postpil**	**0.73 191**			Sg	05 34 03.9	+0.1
ORC	**Owens River**	**0.74 165**			Pg	05 33 54.2	-0.1
OMMB	**Old Mammoth Mi**	**0.74 186**			Pg	05 33 54.0	-0.3
OMMB	**Old Mammoth Mi**	**0.74 186**			Sg	05 34 04.4	+0.4
MLNR	**Milner Canyon**	**0.88 150**			Pg	05 33 56.7	-0.1
PNTR	**Pine Nut**	**0.92 324**			Pg	05 33 57.0	-0.7
PNTR				IAML		05 34 16.3	
	comp=E,100nm,0.7s						
PNTR				IAML		05 34 16.4	
	comp=N,89nm,0.7s						
PNTR	**Pine Nut**	**0.92 324**			Sg	05 34 09.7	+0.1
KVN	**Kaiserville**	**0.94 42**			Pg	05 33 57.5	-0.6
KVN					Sg	05 34 10.3	0.0
KVN				IAML		05 34 13.9	
	comp=E,68nm,0.3s						
KVN				IAML		05 34 14.7	
	comp=N,66nm,0.5s						
SCHCA	**Scheelite**	**1.00 170**			Pg	05 33 59.0	-0.3
KCC	**Kaiser Creek**	**1.08 198**			Pg	05 34 00.0	-0.7
KCC					Sg	05 34 14.1	-0.7
VCNR	**Virginia City**	**1.11 328**			Pg	05 34 00.6	-0.7
VCNR	**Virginia City**	**1.11 328**			Sg	05 34 15.8	0.0
EMB	**Emerald Bay**	**1.13 304**			Pg	05 34 01.3	-0.4

WCT	Wildcat Mounta	2.38	130	Pn	Pn	05 34 19.7	+0.4	
PLTX	Planet X, Gerl	2.39	350	Pn	Pn	05 34 20.1	+0.6	
BMN	Battle Mountai	2.45	32			05 34 18.9	-1.5	
BBGB	Big Mountain B	2.46	225	Pn	Pn	05 34 19.5	-0.9	
TPNV	Topopah Spring	2.53	123	Pn	Pn	05 34 20.1	-1.4	
TPNV	comp=E,26nm,0.7s			IAML		05 35 08.3		
TPNV	comp=E,24nm,1.2s			IAML		05 35 09.5		
SAO	San Andreas Ge	2.57	233	Pn	Pn	05 34 21.6	-0.3	
S11A	Rachel	2.59	105	Pn	Pn	05 34 22.2	-0.1	
R11A	Troy Canyon, C	2.61	89	Pn	Pn	05 34 21.9	-0.6	
R11A	comp=E,19nm,0.2s			IAML		05 35 04.1		
PMPB	Monarch Peak	2.62	216	Pn	Pn	05 34 21.8	-0.8	
CPY	CP-1	2.67	121		Pn	05 34 23.9	+0.6	
ISA	Isabella, Lake	2.71	173	Pn	Pn	05 34 22.5	-1.3	
ISA	comp=N,18nm,0.2s			IAML		05 35 05.5		
ISA	comp=E,18nm,0.4s			IAML		05 35 05.6		
GWY	Greenwater Val	2.80	140	Pn	Pn	05 34 24.1	-1.0	
PRN	Pahroc Range	3.19	106	Pn	Pn	05 34 29.1	-1.4	
BCW	Bitter Crk WRg	3.43	187	Pn	Pn	05 34 34.9	+1.1	
SHPR	Sheep Range	3.50	121	Pn	Pn	05 34 33.8	-1.0	
SPR3	Spring Creek 3	3.63	78	Pn	Pn	05 34 34.8	-2.0	
ELK	Elko	3.70	49		Pn	05 34 37.1	-0.6	
WVOR	Wild Horse Val	4.08	3	Pn	Pn	05 34 43.2	+0.4	

SSNC ***02*** *05:34:11.1±1.3, 19.°56N×77.°80W, h1km±5km, MD2.8, ML2.0, MW2.7*

JSN ***02*** *05:34:29.1±3.4, 18.°61N×77.°01W, h0km±212km, MD2.6*

ISC 02 05:34:09.3±1.4**,19.°56N**±0.°03×**77.°81W**±0.°05**,h10**km±11km**,**
n12,σ1ᵹ**11**/19**,1C,Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.91	56	⇑*i*P	Pg	05 34 27.2	+0.4
LMGC				*e*S	Sg	05 34 38.7	-0.1
LMGC	comp=E,308nm,0.1s			IAML		05 34 40.7	
LMGC	comp=N,336nm,0.1s			IAML		05 34 41.4	
BBJ	Bamboo Saint A	1.28	156	*i* P	Pg	05 34 34.2	+0.3
MTDJ	Mount Denham	1.35	169	*e*P	Pg	05 34 35.2	-0.1
MTDJ				*e*S	Sg	05 34 51.3	-1.6
MCJ	Malvern	1.63	176	*i* P	Pg	05 34 48.6	+8.0
MCJ				*i* S	Sn	05 34 59.9	+0.6
CCCC	Cccc	1.63	1	*e*P	Pn	05 34 38.8	+0.7
CCCC				*e*S	Sn	05 34 59.4	+0.2
CCCC	comp=E,14nm,0.3s			IAML		05 35 02.3	
CCCC	comp=N,10nm,0.3s			IAML		05 35 07.2	
STH	Stony Hill	1.75	147	*i* P	Pn	05 34 40.2	+0.4
GWJ	Greenwich	1.80	145	*i* P	Pn	05 34 41.3	+0.8
PCJ	Portland Cotta	1.91	161	*i* P	Pn	05 34 43.8	+1.8
RCC	Rio Carpintero	2.04	77	*e*P	Pn	05 34 43.5	-0.2
RCC				*e*S	Sn	05 35 07.7	-1.5
RCC	comp=E,3.7nm,0.1s			IAML		05 35 09.0	
RCC	comp=N,4.9nm,0.1s			IAML		05 35 09.3	
HLGC	Holguin	2.11	51	*e*P	Pn	05 34 46.7	+2.0
HLGC				*e*S	Sn	05 35 11.2	+0.1
HLGC	comp=N,6.8nm,0.3s			IAML		05 35 15.2	
HLGC	comp=E,6.7nm,0.3s			IAML		05 35 15.3	
GTBY	Guantanamo Bay	2.57	81	*e*P	Pn	05 34 51.1	+0.1
GTBY				*e*S	Sn	05 35 20.8	-1.5
MGV	Manicaragua	3.25	322	*e*P	Pn	05 35 00.4	+0.1
MGV				*e*S	Sn	05 35 37.6	-1.5
MGV	comp=N,2.0nm,0.9s			IAML		05 35 43.9	
MGV	comp=E,1.4nm,0.4s			IAML		05 35 47.1	

NOU 02 05:47:00.3,21.°33S×169.°91E,h0km,mB5.3/12,
Southeast of Loyalty Islands,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.76	265	P	Pn	05 47 31.2	-0.8
LIFNC	LIFOU	2.55	282	P	Pn	05 47 42.5	-0.5
YATNC	Mamie plateau,	2.90	255	P	Pn	05 47 47.7	-0.1
OUENC	Ouen Island, N	3.05	249	P	Pn	05 47 49.7	-0.1
DZM	Mont Dzumac	3.31	256	P	Pn	05 47 53.4	0.0
RTV	Rentapao	3.79	338	P	Pn	05 47 59.2	-0.8
DVP	Devils Point	3.94	335	P	Pn	05 48 01.8	-0.2
KOUNC	Koumac, New Ca	5.31	277	P	Pn	05 48 21.5	+0.5

IDC ***02*** *05:59:07.0±1.5, 41.°57S×174.°30E, h0km, mb3.8/2, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=42.1km s-min=29.6km az=149.0*

NOU ***02*** *05:59:08.2, 41.°87S×174.°71E, h5km, MLv4.3/13, Cook Strait, New Zealand*

NEIC ***02*** *05:59:09.8±2.3, 41.°62S±0.°05×174.°46E±0.°04, h19km±4km, mb4.3/7, Error ellipse: s-maj=7.6km s-min=1.9km az=151.0*

WEL ***02*** *05:59:10.2±0.4, 42.°5±3.°×17.°4E±.°, h10km±4km, M3.9/17, ML4.2/17, MLv3.9/17, Error ellipse: s-maj=0.0km s-min=0.0km az=153.2, confirmed*

ISC 02 05:59:09.4±2.8**,41.°66S**±0.°03×**174.°45E**±0.°02**,h16**km±19km**,**
n169,σ1ᵹ**09**/188**,mb4.1**/7**,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.20	244	Pg	Pb	05 59 15.6	+0.9
CMWZ				Sg	Sb	05 59 18.9	+0.6
CMWZ	Cape Campbell	0.20	244	P	Pb	05 59 15.3	+0.6
CMWZ				S	Sb	05 59 19.9	+1.7
SNZO	South Karori	0.40	29	Pg	Pb	05 59 18.3	+0.3
SNZO				Sg	Sb	05 59 24.2	+0.3
SNZO	South Karori	0.40	29	P	Pb	05 59 18.3	+0.3
BHW	Baring Head	0.40	51	Pg	Pb	05 59 18.5	+0.4
BHW				Sg	Sb	05 59 22.8	-1.3
BSWZ	Blackbirch Sta	0.43	263	Pg	Pb	05 59 19.2	+0.5
BSWZ				Sg	Sb	05 59 25.8	+0.7
BSWZ	Blackbirch Sta	0.43	263	P	Pb	05 59 19.1	+0.4
BSWZ				S	Sb	05 59 26.1	+1.1
WEL	Wellington	0.45	32	P	Pb	05 59 19.0	+0.1
WEL				S	Sb	05 59 25.9	+0.7
TUWZ	Tuamarina	0.45	301	Pg	Pb	05 59 19.0	+0.1
TUWZ				Sg	Sb	05 59 25.5	+0.2
TUWZ	Tuamarina	0.45	301	P	Pb	05 59 18.8	-0.1
TUWZ				S	Sb	05 59 25.1	-0.3
TCW	Tory Channel	0.47	344	Pg	Pb	05 59 19.2	-0.1
TCW				Sg	Sb	05 59 24.5	-1.5
TCW	Tory Channel	0.47	344	P	Pb	05 59 19.0	-0.3
TCW				S	Sb	05 59 25.5	-0.5
PLWZ	Palliser	0.61	82	Pg	Pn	05 59 23.0	-0.5
PLWZ	Palliser	0.61	82	P	Pb	05 59 22.8	+1.1
MSWZ	Moikau Station	0.65	68	Pg	Pb	05 59 23.1	+0.8
MSWZ	Moikau Station	0.65	68	P	Pb	05 59 23.2	+0.9
MSWZ				S	Sn	05 59 35.1	+1.2
CAW	Cannon Point	0.72	40	P	Pb	05 59 23.7	+0.1
PAWZ	Paruwai Farm	0.78	69	P	Pb	05 59 25.5	+0.9
PAWZ				S	Sn	05 59 38.5	+1.2
KIW	Kapiti Island	0.87	23	P	Pb	05 59 26.2	+0.1
KIW				S	Sb	05 59 38.4	+0.5
NNZ	Nelson	0.92	298	Pn	Pb	05 59 27.3	+0.4
NNZ	Nelson	0.92	298	P	Pb	05 59 27.1	+0.2
NNZ				S	Sn	05 59 41.2	+0.6
MTW	Mount Morrison	0.94	58	P	Pn	05 59 28.0	+0.1
MTW				S	Sn	05 59 42.0	+1.0
DUWZ	D'Urville Isla	0.95	335	P	Pb	05 59 27.6	+0.2
TRWZ	Traveller	0.96	75	P	Pb	05 59 28.2	+0.5
OGWZ	Otaki Gorge	1.00	33	P	Pb	05 59 28.6	+0.2
KHZ	Kahutara	1.02	222	Pn	Pn	05 59 29.5	+0.5
KHZ					Sn	05 59 43.7	+0.7
KHZ	Kahutara	1.02	222	P	Pn	05 59 29.5	+0.5
KHZ	Kahutara	1.02	222	P	Pn	05 59 29.4	+0.4
KHZ				S	Sn	05 59 43.9	+0.9
HOWZ	Holdsworth Sta	1.11	47	P	Pb	05 59 30.5	+0.4
HOWZ				S	Sn	05 59 46.3	+1.1
THZ	Tophouse	1.16	264	Pn	Pb	05 59 31.9	+0.7
THZ	Tophouse	1.16	264	P	Pb	05 59 31.7	+0.5
TMWZ	Te Maipa	1.22	63	P	Pn	05 59 31.6	-0.2
TKNZ	Takaka Hill	1.29	299	Pn	Pb	05 59 33.6	+0.4
TKNZ	Takaka Hill	1.29	299	P	Pb	05 59 33.6	+0.4
MRNZ	Matariki Terra	1.30	281	Pn	Pb	05 59 34.0	+0.6
MRNZ	Matariki Terra	1.30	281	P	Pb	05 59 33.9	+0.4
MRZ	Mangatainoka R	1.31	41		Pn	05 59 33.4	+0.4
MRZ	Mangatainoka R	1.31	41	P	Pn	05 59 33.5	+0.4
CPWZ	Castlepoint	1.52	61	P	Pn	05 59 36.1	+0.2
PRWZ	Pori Road	1.59	47	P	Pn	05 59 37.1	+0.1
OHWZ	Ohakea	1.59	24	P	Pb	05 59 39.3	+0.9
POWZ	Post Office Ro	1.61	39	P	Pn	05 59 37.5	+0.3
BFZ	Birch Farm	1.67	55	Pn	Pn	05 59 37.3	-0.6
BFZ	Birch Farm	1.67	55	P	Pn	05 59 37.6	-0.4
BFZ	Birch Farm	1.67	55	P	Pn	05 59 37.4	-0.6
QRZ	Quartz Range	1.67	299	P	Pb	05 59 40.2	+0.4
QRZ	Quartz Range	1.67	299	P	Pb	05 59 39.8	-0.1
GVZ	Greta Valley S	1.68	218		Pn	05 59 38.2	0.0
GVZ	Greta Valley S	1.68	218	P	Pn	05 59 38.1	0.0
DVHZ	Dannevirke	1.88	44	P	Pn	05 59 40.5	-0.4
ANWZ	Angora Road	1.94	53	P	Pn	05 59 42.2	+0.4
WAZ	Wanganui	1.95	12	P	Pb	05 59 45.0	+0.5
TSZ	Takapari Road	1.97	36	P	Pn	05 59 42.5	+0.4
LTZ	Lake Taylor	1.97	235		Pn	05 59 42.3	+0.2
LTZ	Lake Taylor	1.97	235	P	Pn	05 59 42.4	+0.2
DSZ	Denniston Nort	1.98	267	Pn	Pn	05 59 42.3	-0.1
DSZ	Denniston Nort	1.98	267	P	Pn	05 59 43.5	+1.2
AMCZ	Amberley	2.02	221		Pn	05 59 42.3	-0.5
AMCZ	Amberley	2.02	221	P	Pn	05 59 42.4	-0.4
PRHZ	Porangahau	2.16	51	P	Pn	05 59 44.3	-0.4
PNHZ	Pukenui	2.19	38	P	Pn	05 59 45.0	-0.2
WPHZ	Waipukurau	2.19	44	P	Pn	05 59 45.1	-0.2
LREZ	Lake Rotokare	2.20	359	P	Pn	05 59 51.5	+2.7
NMEZ	Namu Road	2.29	349	P	Pn	05 59 51.0	+0.8
KHEZ	Kahui Hut	2.39	352	P	Pn	05 59 52.2	+0.2
KHEZ	Kahui Hut	2.39	352	P	Pn	05 59 52.0	-0.1
MTVZ	Mangateitei	2.40	19	P	Pb	05 59 53.9	+1.6
NEZ	North Egmont	2.40	353	P	Pb	05 59 53.0	+0.6
NBEZ	Newall Road No	2.43	349	P	Pb	05 59 52.0	-0.8
MQZ	McQueen's Vall	2.44	212		Pn	05 59 47.1	-1.4
MQZ	McQueen's Vall	2.44	212	P	Pn	05 59 47.0	-1.5
OXZ	Oxford	2.44	226		Pn	05 59 47.8	-0.8
OXZ	Oxford	2.44	226	P	Pn	05 59 47.5	-1.1
PXZ	Pawanui	2.45	49	P	Pb	05 59 54.3	+1.3
MOVZ	Moawhango	2.46	24	P	Pn	05 59 50.3	+1.4
PKVZ	Pokaka	2.46	16	P	Pb	05 59 54.2	+0.9
INZ	Inchbonnie	2.48	244		Pn	05 59 49.6	+0.5
INZ	Inchbonnie	2.48	244	P	Pn	05 59 49.4	+0.4
DREZ	Durham Road	2.48	355	P	Pn	05 59 55.5	+2.0
AKCZ	Akaroa Harbour	2.48	207	P	Pn	05 59 48.1	-1.1
KRHZ	Kereru	2.49	37	P	Pn	05 59 48.9	-0.4
WNVZ	Wahianoa	2.49	21	P	Pn	05 59 51.4	+2.0
PKE	Pukeiti	2.49	352	P	Pb	05 59 52.4	-1.4
BHHZ	Black Hill Sta	2.49	30	P	Pn	05 59 50.1	+0.8
TRVZ	Turoa	2.50	20	P	Pb	05 59 54.1	0.0
WHVZ	Whangaehu Hut	2.53	20	P	Pb	05 59 55.3	+0.7
VRZ	Vera Road	2.54	5	P	Pb	05 59 53.0	-1.7
FWVZ	Far West T-bar	2.54	20	P	Pb	05 59 55.2	+0.3
TUVZ	Tukino	2.56	21	P	Pn	05 59 52.6	+2.2
KAHZ	Kahuranaki	2.62	45	P	Pn	05 59 50.1	-1.0
NGZ	Ngauruhoe	2.63	20	P	Pn	05 59 53.7	+2.3
SNVZ	South Ngauruho	2.63	21	P	Pn	05 59 53.3	+1.9
OTVZ	Oturere	2.66	21	P	Pn	05 59 53.4	+1.6
NNVZ	North Ngauruho	2.68	20	P	Pn	05 59 53.9	+1.9
RACZ	Rakaia	2.68	219	P	Pn	05 59 50.5	-1.3
WTVZ	West Tongariro	2.69	19	P	Pn	05 59 54.4	+2.3
KWHZ	Kaweka Forest	2.69	35	P	Pn	05 59 52.1	0.0
TWVZ	Taurewa	2.69	17	P	Pn	05 59 56.9	-0.4
ETVZ	East Tongariro	2.70	21	P	Pn	05 59 54.1	+1.9
TMVZ	Te Maari	2.72	21	P	Pn	05 59 54.0	+1.6
KRVZ	Karewarewa	2.72	20	P	Pb	05 59 55.6	-2.2
NTVZ	North Tongarir	2.72	20	P	Pn	05 59 54.2	+1.6
MCHZ	McNeill Hill	2.80	38	P	Pn	05 59 53.4	-0.1
MHCZ	Mount Hutt	2.83	228	P	Pn	05 59 52.9	-1.2
KATZ	Kakaramea	2.85	20	P	Pb	06 00 01.0	+1.1
RITZ	Rihia Road	2.89	22	P	Pb	06 00 00.7	+0.1
BKZ	Black Stump Fm	2.94	33	Pn	Pn	05 59 55.2	-0.3
BKZ	Black Stump Fm	2.94	33	P	Pn	05 59 56.2	+0.7
BKZ	Black Stump Fm	2.94	33	P	Pn	05 59 55.3	-0.3
RATZ	Rangitukua	2.97	20	P	Pb	06 00 03.4	+1.5
WACZ	Wakanui South	2.98	219	P	Pn	05 59 54.8	-1.2
WVZ	Waitaha Valley	3.10	242	P	Pn	05 59 58.0	+0.5
WATZ	Wairara	3.11	19	P	Pb	06 00 05.8	+1.5
NMHZ	Naumai	3.13	36	P	Pn	05 59 58.9	+0.8
HIZ	Hauiti	3.16	6	Pn	Pn	05 59 56.3	-2.2
HIZ	Hauiti	3.16	6	P	Pn	06 00 03.1	-2.0
HIZ	Hauiti	3.16	6	P	Pn	06 00 01.3	+2.9
MRHZ	Matea Rd	3.20	29	P	Pb	06 00 06.3	+0.5
RPZ	Rata Peaks	3.24	230	Pn	Pn	05 59 58.8	-0.7
RPZ	14nm,0.3s,baz=87,slow=2.3,SNR=63			Sn	Sn	06 00 35.8	-2.0
RPZ	15nm,0.3s,baz=345,slow=22,SNR=15			Sn	Sn	06 00 35.8	-2.0
RPZ	36nm,0.3s	3.24	230		Pn	05 59 59.1	-0.5
RPZ	Rata Peaks	3.24	230	P	Pn	05 59 58.8	-0.7
RPZ	Rata Peaks	3.24	230	P	Pn	05 59 58.9	-0.7
ARCZ	Arundel	3.32	225	P	Pn	05 59 59.6	-1.1
MTHZ	Maungataniwha	3.35	34	P	Pn	06 00 01.1	0.0
GCSZ	Gaunt Creek Bo	3.47	240	P	Pn	06 00 03.5	+0.8
TMZ	Timaru	3.71	222	P	Pn	06 00 05.0	-1.1
NGRZ	Ngongotaha	3.80	21	P	Pn	06 00 08.6	+1.3
FOZ	Fox Glacier	3.90	240	Pn	Pn	06 00 08.8	+0.2
FOZ	Fox Glacier	3.90	240	P	Pn	06 00 09.0	+0.4
URZ	Urewera	3.96	32	Pn	Pn	06 00 09.3	-0.2
URZ	0.7nm,0.3s,baz=99,slow=16,SNR=1.7			Sn	Sn	06 00 54.1	-1.6
URZ	4.3nm,0.3s,baz=243,slow=10,SNR=3.8				Pn	05 59 59.1	-0.5
URZ	1.6nm,0.3s	3.96	32	P	Pn	06 00 11.3	+1.8
URZ	Urewera	3.96	32	P	Pn	06 00 09.5	0.0
TOZ	Tahuroa Road	4.01	12	P	Pb	06 00 18.3	-1.3
LBZ	Lake Benmore	4.15	228	Pn	Pn	06 00 12.1	0.0
LBZ	Lake Benmore	4.15	228	P	Pn	06 00 11.6	-0.5
ODZ	Otahua Downs	4.38	218	Pn	Pn	06 00 13.7	-1.5
ODZ	Otahua Downs	4.38	218	P	Pn	06 00 14.0	-1.2
ODZ	Otahua Downs	4.38	218	P	Pn	06 00 13.7	-1.5
TWGZ	Tauwhareparae	4.41	39	P	Pn	06 00 16.2	+0.4
MKAZ	Moumakai	4.58	7	P	Pn	06 00 20.0	+2.0
AWAZ	Awhitu Peninsu	4.59	2	P	Pb	06 00 25.9	-3.7
HAZ	Te Kaha	4.67	34	P	Pn	06 00 18.7	-0.5
PKGZ	Pakihiroa	4.69	38	P	Pn	06 00 25.3	+5.8
ETAZ	East Tamaki Re	4.71	5	P	Pn	06 00 22.6	+2.8
JCZ	Jackson Bay	4.81	238	P	Pn	06 00 23.0	+1.7
JCZ	Jackson Bay	4.81	238	P	Pn	06 00 26.5	+5.2
MXZ	Matakaoa Point	5.06	37	Pn	Pn	06 00 22.7	-1.9
MXZ	Matakaoa Point	5.06	37	P	Pn	06 00 24.7	+0.1
WKZ	Wanaka	5.08	230	Pn	Pn	06 00 23.9	-1.0
WKZ	Wanaka	5.08	230	P	Pn	06 00 23.8	-1.0
EAZ	Earnscleugh	5.17	225	P	Pn	06 00 25.1	-1.0
TUZ	Tuapeka	5.53	217	P	Pn	06 00 29.7	-1.3
MLZ	Mavora Lakes	5.91	229	Pn	Pn	06 00 35.7	-0.6
SYZ	Scrubby Hill	6.20	216	P	Pn	06 00 39.2	-0.9
SYZ	Scrubby Hill	6.20	216	P	Pn	06 00 39.6	-0.6
WHZ	Wether Hill Ro	6.33	226	Pn	Pn	06 00 41.4	-0.6
DCZ	Deep Cove	6.52	232	Pn	Pn	06 00 43.5	-1.2
AS31	Alice Springs	38.15	285	P	P	06 06 26.3	-1.7
AS31	comp=Z,0.9nm,0.9s			IAmb	IAmb	06 06 35.4	
ASAR	Alice Springs	38.15	285	P	P	06 06 27.1	-1.0
ASAR	comp=Z,0.3nm,0.4s,baz=123,slow=7.2,SNR=17						
ASAR	comp=Z,0.3nm,0.4s						
WB2	Alice Springs	38.15	285	P	P	06 06 26.9	-1.2
WB2	Warramunga Arr	40.21	290	P	P	06 06 44.2	-1.0
WB2	comp=Z,17nm,1.4s			IAmb	IAmb	06 07 03.2	
WRAB	Tennant Creek	40.21	290	P	P	06 06 44.1	-1.2
WRA	Warramunga Arr	40.21	290	P	P	06 06 43.9	-1.4
WRA	comp=Z,1.1nm,0.5s,baz=127,slow=8.0,SNR=15						
WRA	comp=Z,1.1nm,0.5s						
WRA	Warramunga Arr	40.21	290	P	P	06 06 44.6	-0.7
WB0	Warramunga Arr	40.29	290	P	P	06 06 44.1	-1.8
WB0	comp=Z,4.8nm,1.1s			IAmb	IAmb	06 07 19.3	
FITZ	Fitzroy Crossi	47.64	284	P	P	06 07 45.2	+0.3
FITZ	comp=Z,3.3nm,1.4s			IAmb	IAmb	06 08 02.3	
QSPA	South Pole Qui	48.47	180	P	P	06 07 52.2	+1.3
QSPA	comp=Z,10nm,1.5s			IAmb	IAmb	06 08 13.0	
YKA	Yellowknife Ar	118.22	30	PKP	PKPdf	06 17 54.6	-0.1
	comp=Z,0.1nm,0.5s,baz=232,slow=0.7,SNR=3.9						
TORD	Torodi Ar. Bea	150.90	195	PKPbc	PKPbc	06 19 01.8	+0.1
	comp=Z,0.4nm,0.5s,baz=153,slow=1.8,SNR=6.2						

IDC ***02*** *06:14:40.0±3.1, 36.°91N×70.°30E, h0km, mb3.6/5, mbtmp3.7/11, ML3.3/6, MS3.5/1, Error ellipse: s-maj=52.9km s-min=21.9km az=161.0*

NNC ***02*** *06:14:44.9±4.1, 37.°63N×69.°30E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=39.1km s-min=26.6km az=20.0*

ISC 02 06:14:47.6±1.9**,37.°4N**±0.°2×**69.°8E**±0.°1**,h30**km**,n23,**
σ1ᵹ01/20**,mb3.4**/4**,3C-5D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.62	31	P	Pn	06 16 10.0	+0.5
KK31	SNR=32						
KK31	Karatay Array	5.75	5	⇓Pn	Pn	06 16 09.5	-1.5
KK31	0.6nm,0.3s,baz=196,slow=16,SNR=16			⇑Pg	Pb	06 16 28.0	+0.8
KK31	4.9nm,0.7s,baz=195,slow=14,SNR=5.1			⇓Lg	Lg	06 17 40.0	
UCH	9.3nm,0.6s,baz=194,slow=30,SNR=5.1 Uchtor	6.05	35	P	Pn	06 16 16.4	+1.0
EKS2	SNR=11 Erkin-Say	6.10	29	P	Pn	06 16 08.1	-7.7
AAK	SNR=7.4 Ala-Archa	6.37	33	P	Pn	06 16 20.6	+1.0
AAK	SNR=9.9 Ala-Archa	6.37	33	Pn	Pn	06 16 20.5	+1.0
AAK	3.6nm,0.3s,baz=174,slow=2.5,SNR=24			Lg	Lg	06 18 03.7	
CHMS	1.6nm,0.3s,baz=5.2,slow=20,SNR=2.4 5.9nm,0.3s Chumysh	6.77	32	P	Pn	06 16 25.7	+0.8
CHMS	SNR=6.3 Chumysh	6.77	32	⇓Pn	Pn	06 16 25.5	+0.5
USP	8.6nm,0.8s Ospenovka	6.89	30	P	Pn	06 16 26.8	+0.2
TKM2	SNR=5.2 Tokmak 2	7.09	37	⇓Pn	Pn	06 16 29.5	-0.1
TKM2	7.5nm,1.4s			⇑Lg	Lg	06 18 31.3	
GEYT	7.9nm,0.9s Alibeck	9.30	277	Pn	Pn	06 17 00.3	+0.5
GEYT	0.4nm,0.3s,baz=98,slow=11,SNR=3.0			Sn	Sn	06 18 42.7	-0.7
GEYT	0.8nm,0.3s,baz=124,slow=13,SNR=4.4			Lg	Lg	06 20 02.7	
MKAR	0.3nm,0.3s,baz=105,slow=27,SNR=2.5 1.0nm,0.5s Makanchi Array	13.19	41	Pn	Pn	06 17 51.2	-1.6
AB31	0.1nm,0.3s,baz=230,slow=11,SNR=7.4 0.8nm,0.8s Akbulak array	13.88	332	⇑Pn	Pn	06 17 57.2	-5.0
AB31	0.4nm,0.5s,baz=161,slow=13,SNR=6.0			⇓Sn	Sn	06 20 25.4	-10
KURBB	0.9nm,0.7s,baz=151,slow=25,SNR=6.0 Kurchatov Arra	14.64	22	Pn	Pn	06 18 08.2	-4.4
BVAR	baz=209,slow=13,SNR=3.3 0.6nm,0.2s Borovoye Array	15.66	1	Pn	Pn	06 18 26.2	+0.2
ZALV	baz=177,slow=10,SNR=5.0 Zalesovo Beam	19.55	27	P	P	06 19 10.5	-2.1
ARU	0.4nm,0.3s,baz=206,slow=9.7,SNR=4.5 0.8nm,0.3s Arti	20.51	342	P	Pn	06 19 25.3	-0.1
AKASG	2.7nm,0.7s,baz=144,slow=14,SNR=4.5 2.7nm,0.7s Malin Array Be	31.67	308	P	P	06 21 08.6	+0.5
ARCES	0.2nm,0.3s,baz=81,slow=7.7,SNR=4.1 0.2nm,0.3s ARCESS Array B	39.99	338	P	P	06 22 18.9	-0.2
JHJ	3.7nm,0.9s,baz=118,slow=11,SNR=2.0 3.7nm,0.9s Hachijo jima 2	56.10	72	LR	LR	06 50 01.5	
ILAR	comp=Z,45nm,18.7s,baz=100,slow=38 Eielson Array	74.20	15	P	P	06 26 21.4	+0.3
YKA	0.4nm,0.9s,baz=347,slow=2.8,SNR=2.9 0.4nm,0.9s Yellowknife Ar	80.42	2	P	P	06 26 56.4	+0.5
	0.2nm,0.8s,baz=353,slow=4.5,SNR=3.4 0.2nm,0.8s						

NEIC ***02*** *06:19:11.0±2.1, 27.°51S±0.°09×172.°82W±0.°07, h10km±1km, mb4.9/25, Error ellipse: s-maj=16.0km s-min=10.7km az=6.0*

IDC ***02*** *06:20:32.8±2.7, 29.°79S×179.°44W, h355km±24km, mb3.7/9, mbtmp4.4/9, Error ellipse: s-maj=22.3km s-min=14.4km az=57.0*

NOU ***02*** *06:20:33.4, 30.°36S×178.°89W, h388km, mb4.5/20, Kermadec Islands, New Zealand*

ISC 02 06:20:31.5±0.6**,30.°22S**±0.°06×**179.°10W**±0.°09**,h350**km**,**
n162,σ2ᵹ**79**/163**,mb4.1**/19**,1D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	7.63	196	P	Pn	06 22 23.1	+2.0
KUZ	Kuaotunu	7.81	212	P	Pn	06 22 26.5	+3.2
OUZ	Omahuta	7.92	229		Pn	06 22 28.7	+4.2
OUZ	Omahuta	7.92	229	P	Pn	06 22 28.7	+4.2
UR

KHEZ	**Kahui Hut**	**10.67 210**	P	**P**	**06 23 00.3**	**+2.0**
WAZ	**Wanganui**	**10.67 205**	P	**Pn**	**06 22 57.1**	**-0.2**
WAZ	**Wanganui**	**10.67 205**	P	**S**	**06 24 55.2**	**-1.9**
NBEZ	**Newall Road No**	**10.71 211**	P	**P**	**06 23 02.1**	**+3.4**
DVHZ	**Dannevirke**	**10.77 200**	P	**Pn**	**06 22 58.0**	**-0.5**
DVHZ	**Dannevirke**	**10.77 200**	P	**S**	**06 24 55.7**	**-3.6**
NMEZ	**Namu Road**	**10.83 210**	P	**P**	**06 23 03.6**	**+3.6**
ANWZ	**Angora Road**	**10.83 198**	P	**Pn**	**06 22 59.9**	**+0.7**
ANWZ	**Angora Road**	**10.83 198**	P	**S**	**06 24 58.1**	**-2.5**
POWZ	**Post Office Ro**	**10.98 201**	P	**Pn**	**06 23 01.2**	**+0.3**
PRWZ	**Pori Road**	**11.06 200**	P	**Pn**	**06 23 01.2**	**-0.8**
BFZ	**Birch Farm**	**11.10 199**	P	**Pn**	**06 23 01.4**	**-1.0**
BFZ	**Birch Farm**	**11.10 199**	P	**Pn**	**06 22 60.0**	**-2.5**
BFZ	**Birch Farm**	**11.10 199**	P	**S**	**06 25 00.1**	**-6.5**
MRZ	**Mangatainoka R**	**11.28 201**	P	**Pn**	**06 23 01.0**	**-3.5**
MRZ	**Mangatainoka R**	**11.28 201**	P	**S**	**06 25 04.0**	**-6.6**
TIWZ	**Tintock**	**11.29 200**	P	**Pn**	**06 23 03.8**	**-0.9**
CPWZ	**Castlepoint**	**11.33 198**	P	**Pn**	**06 23 05.4**	**+0.4**
CPWZ	**Castlepoint**	**11.33 198**	P	**S**	**06 25 08.7**	**-2.9**
HOWZ	**Holdsworth Sta**	**11.52 201**	P	**Pn**	**06 23 03.9**	**-3.4**
OGWZ	**Otaki Gorge**	**11.55 202**	P	**Pn**	**06 23 05.5**	**-2.2**
OGWZ	**Otaki Gorge**	**11.55 202**	P	**S**	**06 25 12.4**	**-4.3**
TMWZ	**Te Maipa**	**11.60 199**	P	**Pn**	**06 23 06.5**	**-1.8**
KIW	**Kapiti Island**	**11.68 203**	P	**Pn**	**06 23 05.9**	**-3.3**
KIW	**Kapiti Island**	**11.68 203**	P	**S**	**06 25 14.7**	**-4.7**
MTW	**Mount Morrison**	**11.76 200**	P	**Pn**	**06 23 08.8**	**-1.4**
MTW	**Mount Morrison**	**11.76 200**	P	S	06 25 12.9	-8.3
CAW	**Cannon Point**	**11.85 202**	P	**P**	**06 23 07.3**	**-3.9**
CAW	**Cannon Point**	**11.85 202**	P	**S**	**06 25 18.1**	**-5.0**
TRWZ	**Traveller**	**11.92 199**	P	**P**	**06 23 11.4**	**-0.7**
TRWZ	**Traveller**	**11.92 199**	P	**S**	**06 25 18.5**	**-6.3**
DUWZ	**D'Urville Isla**	**11.98 206**	P	**P**	**06 23 10.1**	**-2.7**
DUWZ	**D'Urville Isla**	**11.98 206**	P	**S**	**06 25 22.8**	**-3.3**
PAWZ	**Paruwai Farm**	**11.98 200**	P	**P**	**06 23 11.6**	**-1.3**
PAWZ	**Paruwai Farm**	**11.98 200**	P	**S**	**06 25 19.8**	**-6.4**
WEL	**Wellington**	**12.11 203**	P	**P**	**06 23 12.8**	**-1.3**
WEL	**Wellington**	**12.11 203**	P	**S**	**06 25 25.8**	**-2.8**
SNZO	**South Karori**	**12.15 203**	P	**P**	**06 23 14.7**	**+0.1**
BHW	**Baring Head**	**12.18 202**		**P**	**06 23 13.4**	**-1.6**
BHW			IAmb	IAmb	06 23 15.9	
	comp=Z,98nm,0.5s					
PLWZ	**Palliser**	**12.21 200**	P	**P**	**06 23 12.8**	**-2.5**
PLWZ	**Palliser**	**12.21 200**	P	**S**	**06 25 26.1**	**-4.8**
TCW	**Tory Channel**	**12.21 204**	P	**P**	**06 23 13.0**	**-2.2**
TCW	**Tory Channel**	**12.21 204**	P	**S**	**06 25 25.0**	**-5.7**
TUWZ	**Tuamarina**	**12.52 205**	P	**S**	**06 25 30.6**	**-6.6**
NNZ	**Nelson**	**12.55 207**	P	**S**	**06 25 32.9**	**-4.9**
TKNZ	**Takaka Hill**	**12.57 209**	P	**S**	**06 25 33.8**	**-4.4**
QRZ	**Quartz Range**	**12.58 210**	P	**P**	**06 23 18.8**	**-0.5**
CMWZ	**Cape Campbell**	**12.71 203**	P	**P**	**06 23 20.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**12.79 204**	P	**P**	**06 23 20.7**	**-1.0**
KHZ	**Kahutara**	**13.53 204**	P	**P**	**06 23 28.7**	**-1.1**
KHZ	**Kahutara**	**13.53 204**	P	**P**	**06 23 28.7**	**-1.1**
LTZ	**Lake Taylor**	**14.32 207**	P	**P**	**06 23 37.7**	**-0.8**
OUENC	**Ouen Island, N**	**14.80 298**	P	**Pn**	**06 23 47.0**	**+0.9**
OXZ	**Oxford**	**14.87 206**	P	**P**	**06 23 42.9**	**-1.6**
OXZ			IAmb	IAmb	06 23 46.7	
	comp=Z,50nm,0.5s					
YATNC	**Mamie plateau,**	**14.97 300**	P	**Pn**	**06 23 48.6**	**+0.5**
DZM	**Mont Dzumac**	**15.30 299**	P	**P**	**06 23 48.9**	**-0.7**
	comp=Z,20nm,0.5s,baz=150,slow=11,SNR=35					
DZM	**Mont Dzumac**	**15.30 299**	P	**Pn**	**06 23 51.5**	**-0.5**
LIFNC	**LIFOU**	**15.50 304**	P	**Pn**	**06 23 53.7**	**-0.5**
RPZ	**Rata Peaks**	**15.58 207**	P	**P**	**06 23 52.9**	**+0.6**
	comp=Z,15nm,0.4s,baz=60,slow=1.9,SNR=15					
RPZ			S	**S**	**06 26 36.9**	**-1.9**
	comp=Z,8.2nm,0.4s,baz=139,slow=11,SNR=2.7					
RPZ	**Rata Peaks**	**15.58 207**	P	**P**	**06 23 52.7**	**+0.4**
JCZ	**Jackson Bay**	**16.84 211**	P	**P**	**06 24 05.8**	**-0.1**
ODZ	**Otahua Downs**	**16.86 206**	P	**P**	**06 24 07.1**	**+1.1**
DCZ	**Deep Cove**	**18.65 212**	P	**P**	**06 24 26.3**	**+1.2**
DCZ			IAmb	IAmb	06 24 45.7	
	comp=Z,32nm,1.3s					
ARMA	**Armidale**	**25.24 262**	P	**P**	**06 25 28.5**	**+1.4**
ARMA			IAmb	IAmb	06 25 48.1	
	comp=Z,14nm,1.3s					
EIDS	**Eidsvold**	**26.78 273**	P	**P**	**06 25 40.7**	**+0.1**
EIDS			IAmb	IAmb	06 25 55.7	
	comp=Z,9.9nm,1.3s					
CAN	**Canberra**	**27.23 251**	P	**P**	**06 25 46.0**	**+1.4**
CAN			IAmb	IAmb	06 25 50.4	
	comp=Z,39nm,1.5s					
TAU	**Tasmania Unive**	**29.59 235**	P	**P**	**06 26 07.0**	**+1.7**
TOO	**Toolangi**	**30.16 246**	P	**P**	**06 26 12.9**	**+2.5**
TOO			IAmb	IAmb	06 26 31.5	
	comp=Z,24nm,1.3s					
CTA	**Charters Tower**	**32.83 280**	P	**P**	**06 26 32.4**	**-1.3**
	comp=Z,3.2nm,0.3s,baz=105,slow=11,SNR=14					
	comp=Z,3.2nm,0.3s					
CTAO	**Charters Tower**	**32.83 280**	P	**P**	**06 26 29.9**	**-3.8**
STKA	**Stephens Creek**	**33.59 257**	P	**P**	**06 26 40.5**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=113,slow=16,SNR=5.0					
	comp=Z,1.3nm,0.4s					
STKA	**Stephens Creek**	**33.59 257**	P	**P**	**06 26 42.0**	**+2.0**
BBOO	**Buckleboo**	**38.10 254**	P	**P**	**06 27 17.8**	**-0.2**
BBOO			IAmb	IAmb	06 27 37.9	
	comp=Z,24nm,1.4s					
AS31	**Alice Springs**	**42.17 267**	P	**P**	**06 27 49.2**	**-2.0**
ASAR	**Alice Springs**	**42.17 267**	P	**P**	**06 27 49.1**	**-2.1**
	comp=Z,2.4nm,0.5s,baz=103,slow=7.6,SNR=49					
ASAR			ScP	**ScP**	**06 32 54.7**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=122,slow=4.5,SNR=5.4					
	comp=Z,2.4nm,0.5s					
ASAR	**Alice Springs**	**42.17 267**	P	**P**	**06 27 47.8**	**-3.4**
WR0	**Warramunga Arr**	**42.96 273**	P	P	06 27 52.6	-4.9
WR0			IAmb	IAmb	06 27 56.6	
	comp=Z,8.8nm,1.1s					
WB2	**Warramunga Arr**	**43.13 273**	P	**P**	**06 27 54.4**	**-4.5**
WB2			IAmb	IAmb	06 27 58.3	
	comp=Z,13nm,1.1s					
WRA	**Warramunga Arr**	**43.14 273**	P	**P**	**06 27 56.5**	**-2.5**
	comp=Z,5.4nm,0.5s,baz=113,slow=7.1,SNR=54					
	comp=Z,5.4nm,0.5s					
WRA	**Warramunga Arr**	**43.14 273**	P	**P**	**06 27 55.4**	**-3.6**
WB0	**Warramunga Arr**	**43.16 273**	P	**P**	**06 27 54.9**	**-4.2**
WB0			IAmb	IAmb	06 27 58.1	
	comp=Z,8.7nm,0.6s					
FORT	**Forrest**	**45.17 255**	P	**P**	**06 28 13.5**	**-1.3**
FORT			IAmb	IAmb	06 28 34.4	
	comp=Z,13nm,0.9s					
VNDA	**Vanda**	**48.18 185**	P	**P**	**06 28 40.9**	**+3.8**
	comp=Z,1.6nm,0.8s,baz=1.8,slow=7.8,SNR=6.5					
VNDA			ScP	**ScP**	**06 33 20.1**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=22,slow=3.7,SNR=6.8					
	comp=Z,1.6nm,0.8s					
MTN	**Manton Dam**	**49.02 279**	P	P	06 28 36.0	-8.3
KNRA	**Kununurra**	**49.74 275**	P	P	06 28 43.4	-6.4
QSPA	**South Pole Qui**	**59.89 180**	P	**P**	**06 30 05.2**	**+4.0**
	comp=Z,18nm,0.6s,baz=328,slow=0.3,SNR=139					
	comp=Z,18nm,0.6s					
ELIB	**Princess Elisa**	**76.91 187**	*d*P	**P**	**06 31 47.7**	**+2.2**
	comp=Z,14nm,0.7s					
MJAR	**Matsushiro Arr**	**77.56 326**	P	**P**	**06 31 47.2**	**-2.3**
	comp=Z,1.6nm,0.8s,baz=156,slow=6.7,SNR=3.2					
	comp=Z,1.6nm,0.8s					
PLCA	**Paso Flores**	**83.32 134**	P	**P**	**06 32 23.9**	**+3.9**
	comp=Z,2.3nm,1.0s,baz=235,slow=9.2,SNR=4.4					
	comp=Z,2.3nm,1.0s					
PETK	**Petropavlovsk-**	**85.41 346**	P	**P**	**06 32 29.0**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=111,slow=8.1,SNR=5.0					
	comp=Z,4.4nm,0.9s					
MKAR	**Makanchi Array**	**116.93 310**	PKP	**PKPdf**	**06 38 33.3**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=230,slow=3.0,SNR=4.8					
MKAR			PKKPbc	**PKKPbc**	**06 49 04.0**	**+1.9**
	comp=Z,0.3nm,0.9s,baz=274,slow=2.1,SNR=4.6					
GEYT	**Alibeck**	**132.62 295**	SKPbc	**SKPbc**	**06 41 58.9**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=343,slow=3.1,SNR=6.1					
ARCES	**ARCESS Array B**	**138.21 347**	SKPbc	**SKPbc**	**06 42 12.8**	**-2.1**
	comp=Z,5.1nm,0.9s,baz=43,slow=5.4,SNR=4.3					
KBZ	**Khabaz**	**144.22 304**	PKP	**PKPab**	**06 39 24.4**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=213,slow=3.6,SNR=5.5					
FINES	**FINESS Array B**	**144.65 339**	PKP	PKPbc	06 39 24.4	-1.4
	comp=Z,8.3nm,0.4s,baz=54,slow=4.4,SNR=97					
NB2	**NORSAR Subarra**	**148.43 350**	PKP	**PKPbc**	**06 39 35.6**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=18,slow=2.6					
NOA	**NORSAR Array B**	**148.43 350**	PKPbc	**PKPbc**	**06 39 35.7**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=16,slow=4.2,SNR=7.5					
AKASG	**Malin Array Be**	**150.58 322**	PKPbc	**PKPbc**	**06 39 41.0**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=45,slow=3.0,SNR=23					
AKASG			PKPab	**PKPab**	**06 39 48.3**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=46,slow=4.5,SNR=9.2					
BRTR	**Keskin Array B**	**151.68 298**	PKPbc	**PKPbc**	**06 39 44.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=2.7,slow=3.0,SNR=2.6					
BRTR			PKPab	**PKPab**	**06 39 54.2**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=156,slow=4.8,SNR=6.4					
DBIC	**Dimbokro**	**155.95 166**	PKPab	**PKPab**	**06 40 16.5**	**+2.7**
	comp=Z,1.5nm,0.6s,baz=185,slow=5.0,SNR=4.0					
GERES	**GERESS Array B**	**159.00 336**	PKPab	**PKPab**	**06 40 24.8**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=19,slow=8.5,SNR=4.0					
TORD	**Torodi Ar. Bea**	**162.99 183**	PKPab	**PKPab**	**06 40 45.9**	**+1.6**
	comp=Z,3.7nm,0.6s,baz=180,slow=4.1,SNR=22					

*IDC **02** 06:27:38.0±8.2,5.°68S×153.°02E,h33km±56km, mb3.9/6, mbtmp4.1/6, MS3.2/4, Error ellipse: s-maj=57.1km s-min=18.1km az=98.0*

ISC 02 06:27:38.4±1.4,5.7S±0.°1×153.°0E±0.°2, h37km, n12, σ0.°58/9, mb3.8/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.70**	**323**	Pn	**Pn**	**06 28 04.8**	**-0.6**
	20nm,0.3s,baz=269,slow=1.7,SNR=26						
KRVT				Sn	**Sn**	**06 28 26.2**	**+0.3**
	90nm,0.3s,baz=146,slow=21,SNR=18						
HNR	**Honiara**	**7.80**	**119**	LR	LR	06 32 06.3	
	comp=Z,840nm,19.8s,baz=238,slow=34						
CTA	**Charters Tower**	**15.77**	**204**	LR	LR	06 36 56.9	
	comp=Z,36nm,18.5s,baz=82,slow=36						
WRA	**Warramunga Arr**	**23.06**	**230**	P	**P**	**06 32 41.7**	**+1.0**
	4.8nm,1.1s,baz=54,slow=9.5,SNR=11						
	4.8nm,1.1s						
ASAR	**Alice Springs**	**25.68**	**224**	P	**P**	**06 33 04.6**	**-0.5**
	1.7nm,0.7s,baz=59,slow=8.8,SNR=18						
	1.7nm,0.7s						
STKA	**Stephens Creek**	**28.18**	**201**	P	**P**	**06 33 27.2**	**-0.2**
	1.1nm,0.7s,baz=344,slow=13,SNR=3.0						
	1.1nm,0.7s						
DAV	**Davao City (W)**	**30.19**	**294**	LR	LR	06 44 18.8	
	comp=Z,27nm,19.9s,baz=140,slow=33						
KAPI	**Kapang**	**33.15**	**270**	LR	LR	06 49 09.8	
	comp=Z,23nm,18.8s,baz=70,slow=39						
PETK	**Petropavlovsk-**	**58.70**	**3**	P	**P**	**06 37 32.5**	**+0.5**
	3.9nm,0.9s,baz=166,slow=6.0,SNR=10						
	3.9nm,0.9s						
MKAR	**Makanchi Array**	**81.14**	**319**	P	**P**	**06 39 50.3**	**+0.2**
	0.9nm,0.9s,baz=113,slow=5.5,SNR=6.4						
	0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**82.01**	**326**	P	**P**	**06 39 54.1**	**-0.3**
	1.5nm,0.6s,baz=104,slow=4.7,SNR=5.2						
	1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.80**	**287**	PKPbc	**PKPbc**	**06 47 27.9**	**0.0**
	1.8nm,0.7s,baz=66,slow=2.5,SNR=11						

*IDC **02** 06:43:00.8±1.8,29.°61N×50.°72E, h0km, mb3.9/11, mbtmp3.9/12, ML3.2/1, Error ellipse: s-maj=46.9km s-min=19.8km az=144.0*
*TEH **02** 06:43:02.2,29.°53N×50.°92E, h14km±3.3km, ML3.7*
*SGS **02** 06:43:02.1,29.°85N×51.°03E, h21km, Ml3.6*
*NEIC **02** 06:43:02.9±1.6,29.°65N±0.°08×50.°8E±0.°1, h10km±2km, mb4.5/29, Error ellipse: s-maj=21.1km s-min=3.7km az=231.0*

ISC 02 06:43:04.1±0.6,29.°55N±0.°05×50.°92E±0.°05, h24km, n108, σ1.°30/108, mb4.3/25, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAZ1	**Kazerun**	**0.63**	**83**	Pg	**Pb**	**06 43 13.6**	**-3.0**
AHBU	**AHRAM**	**0.76**	**154**	Pg	**Pb**	**06 43 16.5**	**-2.1**
ABEH	**Behbahan**	**1.20**	**331**	Pg	**Pn**	**06 43 25.1**	**-0.3**
DSBU	**Dashti - Bushe**	**1.22**	**166**	Pg	**Pb**	**06 43 25.2**	**-1.3**
SHI	**Shiraz**	**1.39**	**86**	Pg	**Pn**	**06 43 29.0**	**+0.9**
KLNJ	**Kolanjah**	**1.57**	**22**	Pg	**Pn**	**06 43 32.0**	**+1.3**
QIR1	**Qir**	**2.15**	**119**	Pn	**Pn**	**06 43 38.6**	**+0.2**
IBRJ	**Brojen**	**2.37**	**7**	Pn	**Pn**	**06 43 43.2**	**+1.4**
AMIS	**Naft Sefid**	**2.54**	**327**	Pn	**Pn**	**06 43 44.5**	**+0.8**
IRAM	**Ramesheh**	**2.58**	**29**	Pn	**Pn**	**06 43 45.9**	**+1.3**
SHK1	**Shahrekord**	**2.77**	**359**	Pn	**Pn**	**06 43 48.8**	**+1.6**
IGAR	**Gharneh**	**3.01**	**18**	Pn	**Pn**	**06 43 51.6**	**+1.1**
IPIR	**Pirpir**	**3.13**	**360**	Pn	**Pn**	**06 43 54.4**	**+2.2**
IZEF	**Zefreh**	**3.55**	**20**	Pn	**Pn**	**06 43 59.5**	**+1.6**
NASN	**Na'in**	**3.62**	**26**	Pn	**Pn**	**06 44 00.8**	**+1.8**
IMEH	**Mehriz**	**3.68**	**59**	Pn	**Pn**	**06 44 00.8**	**+1.1**
IKLH	**Kolahrood**	**3.80**	**8**	Pn	**Pn**	**06 44 03.0**	**+1.6**
QYSM	**Um Kedad**	**3.93**	**246**	P	**Pn**	**06 44 02.7**	**-0.2**
QYSM				S	Sb	06 45 10.0	+10
ICHK	**Chekchek**	**4.03**	**47**	Pn	**Pn**	**06 44 05.6**	**+1.1**
SMAN	**Sihmah**	**4.20**	**218**	S	**Sn**	**06 44 56.6**	**+1.6**
SMAN	**Sihmah**	**4.20**	**218**	P	**Pn**	**06 44 06.8**	**+0.2**
YZKH	**Yazd**	**4.24**	**47**	Pn	**Pn**	**06 44 09.1**	**+1.8**
KHMZ	**Khomeyn**	**4.26**	**349**	Pn	**Pn**	**06 44 09.2**	**+1.6**
ANAR	**Anarak**	**4.36**	**33**	Pn	**Pn**	**06 44 09.5**	**+0.7**
KRSH	**Karshahi**	**4.53**	**13**	Pn	**Pn**	**06 44 13.1**	**+1.8**
IKFM	**Kafar-mosalman**	**4.75**	**327**	Pn	**Pn**	**06 44 15.5**	**+1.3**
IDOB	**Doab**	**4.83**	**332**	Pn	**Pn**	**06 44 17.4**	**+1.9**
RQBS	**RQBS**	**4.89**	**244**	P	**Pn**	**06 44 15.9**	**-0.1**
KHGB	**Koh Gabri**	**4.89**	**79**	Pn	**Pn**	**06 44 16.9**	**+0.5**
ISFB	**Sefidab**	**4.92**	**13**	Pn	**Pn**	**06 44 18.1**	**+1.5**
GHVR	**GHOM**	**4.93**	**4**	Pn	**Pn**	**06 44 18.2**	**+1.5**
ASAR	**Ashtian**	**5.04**	**352**	Pn	**Pn**	**06 44 20.4**	**+2.0**
NGRK	**Negar Kerman**	**5.06**	**87**	Pn	**Pn**	**06 44 20.3**	**+1.5**
BNDS	**Bandar-Abbas**	**5.10**	**114**	Pn	**Pn**	**06 44 21.1**	**+2.0**
KRBR	**Kerman**	**5.10**	**84**	Pn	**Pn**	**06 44 21.5**	**+2.2**
IQOM	**Qom**	**5.28**	**1**	Pn	**Pn**	**06 44 22.4**	**+0.7**
IKOM	**Komasi**	**5.45**	**329**	Pn	**Pn**	**06 44 24.7**	**+0.8**
IVRN	**Varamin**	**5.47**	**7**	Pn	**Pn**	**06 44 25.4**	**+1.2**
ILBA	**Ilam Banvizeh**	**5.71**	**317**	Pn	**Pn**	**06 44 28.4**	**+0.9**
IRAZ	**Razeghan**	**5.90**	**352**	Pn	**Pn**	**06 44 31.5**	**+1.3**
IGHG	**Ghaleghazi**	**6.03**	**323**	Pn	**Pn**	**06 44 34.0**	**+2.0**
IDMV	**Damavand**	**6.09**	**9**	Pn	**Pn**	**06 44 33.8**	**+1.0**
DAMV	**Damavand**	**6.13**	**8**	Pn	**Pn**	**06 44 34.8**	**+1.5**
IFIR	**Firoozkooh**	**6.27**	**14**	Pn	**Pn**	**06 44 35.6**	**+0.3**
SNGE	**Sanandaj**	**6.30**	**332**	Pn	**Pn**	**06 44 36.0**	**+0.3**
CHTH	**Charan**	**6.34**	**2**	Pn	**Pn**	**06 44 37.7**	**+1.4**
IDHR	**Dehrash**	**6.41**	**324**	Pn	**Pn**	**06 44 39.1**	**+1.9**
UOSS	**Minazif**	**6.57**	**133**	Pn	**Pn**	**06 44 42.4**	**+3.2**
TKDS	**Koohdasht(Taba**	**6.67**	**51**	Pn	**Pn**	**06 44 42.0**	**+1.4**
TABS	**Tabas**	**6.69**	**51**	Pn	**Pn**	**06 44 42.6**	**+1.8**
QALM	**Alamut, Qazvin**	**6.87**	**358**	Pn	**Pn**	**06 44 45.2**	**+1.7**
ZNJK	**Zanjan**	**7.34**	**346**	Pn	**Pn**	**06 44 51.1**	**+1.0**
BSRN	**Basiran**	**7.46**	**69**	Pn	**Pn**	**06 44 52.2**	**+0.6**
SHRO	**Shahrood**	**7.72**	**32**	Pn	**Pn**	**06 44 56.9**	**+1.8**
SHRT	**Shahrakht**	**8.98**	**61**	Pn	**Pn**	**06 45 14.9**	**+2.6**
MRVT	**Maraveh tapeh**	**9.17**	**27**	Pn	**Pn**	**06 45 17.0**	**+2.1**
GEYT	**Alibeck**	**10.28**	**34**	Pn	**Pn**	**06 45 32.3**	**+2.1**
	0.2nm,0.3s,baz=224,slow=10,SNR=7.0						
	3.7nm,0.8s						
GEYT	**Alibeck**	**10.28**	**34**		**Pn**	**06 45 29.7**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**10.28**	**34**		**Pn**	**06 45 31.2**	**+1.1**
GEVA	**Gevas**	**10.90**	**325**	Pn	**Pn**	**06 45 37.7**	**-1.0**
BRTR	**Keskin Array B**	**17.44**	**310**	P	**Pn**	**06 47 07.4**	**+1.5**
	0.7nm,0.5s,baz=131,slow=12,SNR=4.6						
BORA	**Eskisehir**	**19.69**	**307**	P	**P**	**06 47 30.4**	**-1.2**
BORA				IAmb	IAmb	06 47 47.5	
	comp=Z,13nm,1.3s						
KK31	**Karatay Array**	**20.72**	**44**	P	**P**	**06 47 43.0**	**+0.2**
KKAR	**Karatay Array**	**20.72**	**44**	P	**P**	**06 47 43.3**	**+0.6**
ABKAR	**Akbulak array**	**20.85**	**17**	P	**P**	**06 47 44.8**	**+0.8**
AKTO	**Aktyubinsk**	**21.54**	**12**	P	**P**	**06 47 51.7**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=192,slow=10.0,SNR=11						
	comp=Z,4.0nm,0.6s						
SANT	**Santorini**	**22.38**	**294**	P	**P**	**06 47 58.7**	**-1.9**
SANT				IAmb	IAmb	06 48 01.2	
	comp=Z,28nm,1.1s						
AAK	**Ala-Archa**	**23.01**	**49**	P	**P**	**06 48 08.4**	**+1.0**
TIRR	**Tirgusor**	**23.23**	**316**	P	**P**	**06 48 08.0**	**-1.3**
TIRR				IAmb	IAmb	06 48 27.0	
	comp=Z,43nm,1.4s						
FNA	**Florina**	**26.50**	**303**	P	**P**	**06 48 39.6**	**-0.1**
AKASG	**Malin Array Be**	**26.68**	**328**	P	**P**	**06 48 40.2**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=133,slow=9.5,SNR=14						
	comp=Z,1.4nm,0.6s						
AKASG	**Malin Array Be**	**26.68**	**328**	P	**P**	**06 48 39.3**	**-1.7**
AKBB	**Malin Array Si**	**26.68**	**328**	P	**P**	**06 48 40.7**	**-0.4**
AKBB				IAmb	IAmb	06 49 06.8	
	comp=Z,9.4nm,1.4s						
BURAR	**Bucovina Array**	**26.81**	**319**	P	**P**	**06 48 41.1**	**-1.3**
BUR08	**Bucovina Ar. S**	**26.83**	**319**	P	**P**	**06 48 41.6**	**-1.0**
BRVK	**Borovoye**	**27.45**	**26**	P	**P**	**06 48 48.6**	**+0.6**
BVAR	**Borovoye Array**	**27.47**	**26**	P	**P**	**06 48 49.1**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=212,slow=6.9,SNR=9.7						
	comp=Z,1.7nm,0.6s						
TIR	**Tirane**	**27.75**	**303**	P	**P**	**06 48 51.8**	**+0.9**
KURBB	**Kurchatov Arra**	**29.54**	**37**	P	**P**	**06 49 07.6**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=233,slow=9.3,SNR=4.6						
	comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**34.59**	**36**	P	**P**	**06 49 51.2**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=239,slow=11,SNR=4.9						
	comp=Z,1.1nm,0.7s						
FINES	**FINESS Array B**	**35.88**	**340**	P	**P**	**06 50 01.1**	**-0.7**
	comp=Z,2.5nm,1.0s,baz=125,slow=12,SNR=3.6						
	comp=Z,2.5nm,1.0s						
NOA	**NORSAR Array B**	**40.98**	**332**	P	**P**	**06 50 43.6**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=124,slow=8.5,SNR=3.4						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**48.30**	**261**	P	**P**	**06 51 43.4**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=58,slow=7.8,SNR=6.8						
	comp=Z,1.5nm,1.0s						
DBIC	**Dimbokro**	**57.08**	**258**	P	**P**	**06 52 48.3**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=52,slow=11,SNR=4.7						
	comp=Z,2.4nm,0.6s						
A36M	**Sachs Harbour**	**78.71**	**359**	P	**P**	**06 55 04.0**	**+0.2**
A36M				IAmb	IAmb	06 55 04.9	
	comp=Z,5.8nm,0.7s						
BMAR	**Burnt Mountain**	**82.62**	**6**	P	**P**	**06 55 25.0**	**0.0**
IMAR	**Indian Mountai**	**82.90**	**10**	P	**P**	**06 55 26.9**	**+0.5**
H23K	**Yukon River**	**83.63**	**8**	P	**P**	**06 55 31.3**	**+1.1**
H23K				IAmb	IAmb	06 55 41.5	
	comp=Z,3.3nm,1.4s						
ILAR	**Eielson Array**	**84.97**	**8**	P	**P**	**06 55 36.5**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=328,slow=4.1,SNR=5.6						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**84.97**	**8**	P	**P**	**06 55 37.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**85.08**	**9**		**P**	**06 55 37.7**	**+0.1**
BPAW				IAmb	IAmb	06 55 55.7	
	comp=Z,3.1nm,1.2s						
CAST	**Castle Rocks**	**85.56**	**10**	P	**P**	**06 55 40.6**	**+0.6**
CAST				IAmb	IAmb	06 55 59.6	
	comp=Z,1.5nm,1.2s						
J26L	**Joseph Creek**	**85.58**	**6**	P	**P**	**06 55 40.7**	**+0.5**
J26L				IAmb	IAmb	06 55 45.8	
	comp=Z,3.5nm,1.3s						
MCK	**McKinley**	**85.72**	**9**	P	**P**	**06 55 41.2**	**+0.4**
MCK				IAmb	IAmb	06 55 43.6	
	comp=Z,9.4nm,1.5s						
SCRK	**Sand Creek**	**86.05**	**7**	P	**P**	**06 55 42.8**	**

PLWZ	**Palliser**	**0.70**	**80**	P		**Pg**	**07 13 26.5**	**+0.3**
CAW	**Cannon Point**	**0.80**	**44**	P		**Pb**	**07 13 27.3**	**-0.4**
CAW				S		**Sb**	**07 13 38.0**	**-0.1**
NNZ	**Nelson**	**0.86**	**303**	P		**Pb**	**07 13 28.4**	**-0.3**
NNZ				S		**Sb**	**07 13 39.9**	**0.0**
PAWZ	**Paruwai Farm**	**0.88**	**70**	P		**Pb**	**07 13 29.2**	**+0.2**
KIW	**Kapiti Island**	**0.93**	**28**	P		**Pb**	**07 13 29.6**	**-0.4**
KHZ	**Kahutara**	**0.94**	**219**	P		**Pg**	**07 13 31.1**	**+0.4**
KHZ	**Kahutara**	**0.94**	**219**	P		**Pg**	**07 13 30.9**	**+0.2**
DUWZ	**D'Urville Isla**	**0.94**	**340**	P		**Pb**	**07 13 29.6**	**-0.5**
MTW	**Mount Morrison**	**1.02**	**59**	P		**Pb**	**07 13 31.4**	**-0.1**
TRWZ	**Traveller**	**1.05**	**74**	P		**Pb**	**07 13 31.6**	**-0.4**
THZ	**Tophouse**	**1.07**	**266**	P		**Pg**	**07 13 32.9**	**-0.3**
OGWZ	**Otaki Gorge**	**1.07**	**36**	P		**Pb**	**07 13 32.1**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.19**	**49**	P		**Pn**	**07 13 33.8**	**-0.2**
MRNZ	**Matariki Terra**	**1.22**	**283**	P		**Pg**	**07 13 35.5**	**-0.5**
TKNZ	**Takaka Hill**	**1.23**	**302**	P		**Pb**	**07 13 35.2**	**+0.2**
TMWZ	**Te Maipa**	**1.31**	**64**	P		**Pn**	**07 13 35.0**	**-0.6**
MRZ	**Mangatainoka R**	**1.39**	**43**	P		**Pn**	**07 13 36.8**	**0.0**
TIWZ	**Tintock**	**1.48**	**53**	P		**Pn**	**07 13 37.7**	**-0.4**
GVZ	**Greta Valley S**	**1.60**	**217**	P		**Pn**	**07 13 39.9**	**+0.2**
QRZ	**Quartz Range**	**1.61**	**302**	P		**Pb**	**07 13 41.9**	**+0.3**
QRZ	**Quartz Range**	**1.61**	**302**	P		**Pb**	**07 13 41.5**	**0.0**
PRWZ	**Pori Road**	**1.68**	**48**	P		**Pn**	**07 13 40.3**	**-0.4**
BFZ	**Birch Farm**	**1.76**	**56**	P		**Pg**	**07 13 46.6**	**+0.3**
BFZ	**Birch Farm**	**1.76**	**56**	P		**Pn**	**07 13 40.8**	**-1.0**
LTZ	**Lake Taylor**	**1.88**	**234**	P		**Pn**	**07 13 43.9**	**+0.3**
DSZ	**Denniston Nort**	**1.90**	**267**	P		**Pb**	**07 13 45.3**	**-1.1**
DVHZ	**Dannevirke**	**1.96**	**46**	P		**Pn**	**07 13 43.7**	**-1.0**
WAZ	**Wanganui**	**1.99**	**15**	P		**Pb**	**07 13 48.3**	**+0.2**
PNHZ	**Pukenui**	**2.27**	**39**	P		**Pn**	**07 13 48.3**	**-0.6**
INZ	**Inchbonnie**	**2.38**	**243**	P		**Pn**	**07 13 51.1**	**+0.7**
KHEZ	**Kahui Hut**	**2.41**	**354**	P		**Pb**	**07 13 54.6**	**-0.5**
KHEZ	**Kahui Hut**	**2.41**	**354**	P		**Pb**	**07 13 54.9**	**-0.2**
PKE	**Pukeiti**	**2.51**	**354**	P		**Pb**	**07 13 58.4**	**+1.6**
PKVZ	**Pokaka**	**2.52**	**18**	P		**Pb**	**07 13 56.1**	**-0.9**
MOVZ	**Moawhango**	**2.52**	**26**	P		**Pb**	**07 13 56.3**	**-0.9**
WNVZ	**Wahianoa**	**2.55**	**23**	P		**Pb**	**07 13 57.0**	**-0.7**
BHHZ	**Black Hill Sta**	**2.56**	**31**	P		**Pb**	**07 13 57.8**	**0.0**
KRHZ	**Kereru**	**2.56**	**38**	P		**Pn**	**07 13 52.1**	**-0.9**
VRZ	**Vera Road**	**2.58**	**7**	P		**Pb**	**07 13 57.0**	**-1.1**
NGZ	**Ngauruhoe**	**2.69**	**21**	P		**Pb**	**07 14 00.4**	**+0.4**
SNVZ	**South Ngauruho**	**2.69**	**22**	P		**Pn**	**07 13 56.9**	**+2.0**
OTVZ	**Oturere**	**2.72**	**22**	P		**Pn**	**07 13 56.5**	**+1.2**
NNVZ	**North Ngauruho**	**2.73**	**21**	P		**Pn**	**07 13 57.2**	**+1.8**
WTVZ	**West Tongariro**	**2.74**	**21**	P		**Pb**	**07 14 01.5**	**+0.6**
ETVZ	**East Tongariro**	**2.76**	**23**	P		**Pn**	**07 13 56.9**	**+1.1**
KWHZ	**Kaweka Forest**	**2.77**	**36**	P		**Pb**	**07 14 02.3**	**+1.1**
TMVZ	**Te Maari**	**2.77**	**23**	P		**Pn**	**07 13 58.2**	**+2.3**
NTVZ	**North Tongarir**	**2.78**	**22**	P		**Pn**	**07 13 57.2**	**+1.1**
BKZ	**Black Stump Fm**	**3.01**	**34**	P		**Pb**	**07 14 05.5**	**+0.1**
BKZ	**Black Stump Fm**	**3.01**	**34**	P		**Pb**	**07 14 06.3**	**+0.8**
HIZ	**Hauiti**	**3.20**	**7**	P		**Pb**	**07 14 05.6**	**-3.0**
HIZ	**Hauiti**	**3.20**	**7**	P		**Pn**	**07 14 04.5**	**+2.9**
NMHZ	**Naumai**	**3.20**	**37**	P		**Pn**	**07 14 02.2**	**+0.4**
TMZ	**Timaru**	**3.63**	**221**	P		**Pn**	**07 14 07.4**	**-0.3**

*IDC **02** 07:16:42.2±1.0,34˚.77N×73˚.54E,h0km,mb3.8/12, mbtmp3.7/17,ML3.4/5,MS3.3/2,Error ellipse: s-maj=24.6km s-min=19.2km az=73.0*

*NEIC **02** 07:16:47.5±1.0,34˚.88N±0˚.04×73˚.8E±0˚.1,h25km±6km, mb4.2/22,Error ellipse: s-maj=12.5km s-min=4.8km az=100.0*

*NDI **02** 07:16:48.2±2.6,34˚.91N×73˚.17E,h33km,ML3.7*

*NNC **02** 07:16:52.3±6.2,35˚.40N×72˚.98E,h0km, mb3.9,mpv3.8, Error ellipse: s-maj=54.8km s-min=45.8km az=131.0*

ISC 02 07:16:46.5±0.5,34˚.91N±0˚.04×73˚.57E±0˚.06,h21km,n68, σ1§98/82,mb4.1/20,6C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIL	**Nilore**	**1.28**	**192**			**Pn**	**07 17 09.1**	**-0.2**
NIL				Sn		**Sb**	**07 17 28.4**	**+2.4**
JMU	**Jammu**	**2.45**	**153**	*eP*		**Pn**	**07 17 26.9**	**+1.6**
JMU				*eS*		**Sb**	**07 17 59.9**	**+0.3**
THN	**Thein Dam**	**3.05**	**143**	*eP*		**Pb**	**07 17 39.8**	**-0.2**
THN				*eS*		**Sb**	**07 18 14.8**	**-2.0**
THN				IAML			07 18 23.0	
	comp=E,180nm,0.4s							
THN				IAML			07 18 23.3	
	comp=N,180nm,0.5s							
DHRM	**DHARAMSHALA**	**3.50**	**139**	*eP*		**Pn**	**07 17 43.4**	**+3.5**
DHRM				*eP*		**Pb**	**07 17 43.8**	**-4.0**
DHRM				*eS*		**Sn**	**07 18 23.4**	**+2.6**
DHRM				*eS*		**Sb**	**07 18 23.9**	**-6.0**
DHRM				IAML			07 18 26.0	
	comp=N,302nm,0.5s							
DHRM				IAML			07 18 26.3	
	comp=N,336nm,0.5s							
DHRM				IAML			07 18 27.5	
	comp=E,528nm,0.2s							
DHRM				IAML			07 18 27.6	
	comp=E,496nm,0.4s							
KBL	**Kabul**	**3.74**	**266**			**Pn**	**07 17 47.0**	**+3.7**
BHK	**Bhakra**	**4.22**	**145**	*eP*		**Pb**	**07 18 02.4**	**+2.3**
BHK				*eS*		**Sn**	**07 18 41.1**	**+2.8**
BHK				IAML			07 18 43.3	
	comp=E,174nm,0.3s							
BHK				IAML			07 18 43.4	
	comp=N,181nm,0.3s							
SMLA	**Simla**	**4.83**	**140**	*eP*		**Pn**	**07 18 00.2**	**+2.2**
SMLA				*eS*		**Sn**	**07 18 53.9**	**+0.6**
SMLA				IAML			07 18 57.8	
	comp=N,112nm,0.4s							
SMLA				IAML			07 18 58.2	
	comp=E,108nm,0.2s							
GAR	**Garm**	**4.84**	**328**			**Pn**	**07 18 01.5**	**+3.2**
CHGR	**Chuyangaron**	**5.15**	**318**			**Pn**	**07 18 04.5**	**+2.0**
KUDL	**Kundal**	**7.19**	**159**	*eP*		**Pn**	**07 18 31.7**	**+1.3**
KUDL				*eS*		**Sn**	**07 19 47.9**	**-3.5**
TAS	**Tashkent**	**7.24**	**334**	Pn		**Pn**	**07 18 32.8**	**+1.8**
AAK	**Ala-Archa**	**7.75**	**5**	Pn		**Pn**	**07 18 41.2**	**+3.0**
	comp=E,0.9nm,0.3s,baz=187,slow=11,SNR=5.9							
AAK				Sn		**Sn**	**07 20 08.5**	**+3.1**
	comp=E,0.3nm,0.3s,baz=126,slow=19,SNR=1.3 comp=E,1.5nm,0.3s							
AAK	**Ala-Archa**	**7.75**	**5**			**Pn**	**07 18 38.1**	**-0.2**
TKM2	**Tokmak 2**	**8.16**	**11**	⇓P		**Pn**	**07 18 47.0**	**+3.2**
	comp=E,3.4nm,0.7s							
TKM2				⇑S		**Sn**	**07 20 15.3**	**-0.2**
	comp=E,2.6nm,0.6s							
KK31	**Karatay Array**	**8.52**	**345**			**Pn**	**07 18 50.2**	**+1.5**
KK31	**Karatay Array**	**8.52**	**345**	⇑P		**Pn**	**07 18 50.6**	**+1.9**
	comp=E,1.6nm,0.3s,baz=156,slow=12,SNR=62							
KK31				⇑S		**Sn**	**07 20 23.1**	**-1.1**
	comp=E,2.8nm,0.3s,baz=186,slow=24,SNR=4.7							
KKAR	**Karatay Array**	**8.52**	**345**			**Pn**	**07 18 50.4**	**+1.8**
KKAR	**Karatay Array**	**8.52**	**345**			**Pn**	**07 18 50.5**	**+1.8**
GEYT	**Allbeck**	**12.80**	**288**	Pn		**Pn**	**07 19 48.4**	**+1.1**
GYA0B	**ALIBECK ARRAY**	**12.80**	**288**	Pn		**Pn**	**07 19 48.7**	**+1.4**
MK31	**Makanchi Array**	**13.57**	**26**	Pn		**Pn**	**07 19 57.0**	**+0.8**
MKAR	**Makanchi Array**	**13.57**	**26**	Pn		**Pn**	**07 19 59.3**	**+1.5**
	baz=198,slow=13,SNR=2.3							
MKAR				LR		LR	07 25 39.2	
	comp=E,41nm,19.3s,baz=70,slow=39 comp=E,0.2nm,0.5s							
MKAR	**Makanchi Array**	**13.57**	**26**	Pn		**Pn**	**07 19 56.6**	**-1.2**
KURBB	**Kurchatov Arra**	**16.12**	**11**	Pn		**Pn**	**07 20 29.5**	**-2.1**
	baz=203,slow=10,SNR=2.8 comp=E,0.3nm,0.5s							
AB31	**Akbulak array**	**17.50**	**329**	⇑P		**Pn**	**07 20 48.9**	**-0.3**
	comp=E,0.6nm,0.5s,baz=142,slow=12,SNR=4.5							
AB31				⇑S		**Sn**	**07 23 54.4**	**-8.9**
	comp=E,0.7nm,0.7s,baz=148,slow=22,SNR=3.0							
ABKAR	**Akbulak array**	**17.50**	**329**	Pn		**Pn**	**07 20 49.4**	**+0.2**
UOSS	**Minazif**	**18.01**	**241**	Pn		**P**	**07 20 55.9**	**0.0**
UOSS				IAmb		IAmb	07 21 06.9	
	comp=Z,15nm,1.4s							
BVAR	**Borovoye Array**	**18.25**	**354**	P		**Pn**	**07 20 58.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=151,slow=8.2,SNR=9.2							
BVAR				S		**Sn**	**07 24 20.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=226,slow=37,SNR=1.2 comp=Z,1.4nm,0.4s							
BRVK	**Borovoye**	**18.30**	**354**			**P**	**07 20 59.7**	**+0.8**
AKTO	**Aktyubinsk**	**19.21**	**329**	P		**P**	**07 21 09.6**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=148,slow=7.2,SNR=12 comp=Z,2.7nm,0.3s							
AKTO	**Aktyubinsk**	**19.21**	**329**	⇑P		**P**	**07 21 09.2**	**+0.2**
	comp=Z,2.2nm,0.6s							
ZAA0	**Zalesovo Array**	**20.61**	**19**	P		**P**	**07 21 23.7**	**-0.5**
ZALV	**Zalesovo Beam**	**20.61**	**19**	P		**P**	**07 21 24.0**	**-0.2**
	comp=Z,3.6nm,0.5s,baz=215,slow=9.4,SNR=13 comp=Z,3.6nm,0.5s							
ZALV	**Zalesovo Beam**	**20.61**	**19**	P		**P**	**07 21 23.7**	**-0.5**
ARU	**Arti**	**23.84**	**339**	P		**P**	**07 21 58.9**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=127,slow=20,SNR=3.0 comp=Z,1.7nm,0.3s							
SONM	**Songino Array**	**27.59**	**52**	P		**P**	**07 22 32.9**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=254,slow=10,SNR=2.9 comp=Z,0.2nm,0.6s							
FIA1	**FINESS Array S**	**39.96**	**327**	P		**P**	**07 24 20.5**	**+1.4**
FINES	**FINESS Array B**	**39.96**	**327**	P		**P**	**07 24 19.3**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=124,slow=12,SNR=5.6 comp=Z,1.3nm,0.6s							
FINES	**FINESS Array B**	**39.96**	**327**	P		**P**	**07 24 19.2**	**+0.1**
ARCES	**ARCESS Array B**	**43.41**	**338**	P		**P**	**07 24 48.0**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=115,slow=8.2,SNR=12 comp=Z,4.8nm,0.9s							
ARCES	**ARCESS Array B**	**43.41**	**338**	P		**P**	**07 24 47.5**	**+0.2**
ARCES				IAmb		IAmb	07 24 58.7	
	comp=Z,2.3nm,0.9s							
NOA	**NORSAR Array B**	**46.90**	**324**	P		**P**	**07 25 14.0**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=96,slow=7.7,SNR=2.0 comp=Z,0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**67.80**	**271**	P		**P**	**07 27 41.5**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=50,slow=6.1,SNR=5.0 comp=Z,0.9nm,0.8s							
IMAR	**Indian Mountai**	**73.04**	**18**	P		**P**	**07 28 14.8**	**+0.4**
BMAR	**Burnt Mountain**	**73.98**	**14**	P		**P**	**07 28 21.1**	**+1.1**
H23K	**Yukon River**	**74.22**	**17**	P		**P**	**07 28 21.9**	**+0.5**
H23K				IAmb		IAmb	07 28 43.8	
	comp=Z,3.8nm,1.4s							
J20K	**Nowinta River**	**74.34**	**20**	P		**P**	**07 28 23.3**	**+1.2**
J20K				IAmb		IAmb	07 28 32.5	
	comp=Z,7.6nm,1.5s							
K20K	**Telida**	**75.00**	**20**	P		**P**	**07 28 27.1**	**+1.1**
K20K				IAmb		IAmb	07 28 27.9	
	comp=Z,6.8nm,1.2s							
INK	**Inuvik**	**75.12**	**10**	P		**P**	**07 28 26.4**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=339,slow=4.9,SNR=9.1 comp=Z,0.7nm,0.4s							
INK	**Inuvik**	**75.12**	**10**	P		**P**	**07 28 27.2**	**+0.7**
INK				IAmb		IAmb	07 28 28.3	
	comp=Z,4.3nm,1.5s							
C36M	**Paulatuk**	**75.24**	**6**	P		**P**	**07 28 27.5**	**+0.3**
C36M				IAmb		IAmb	07 28 33.7	
	comp=Z,2.9nm,1.5s							
NEA2	**Nenana**	**75.34**	**18**	P		**P**	**07 28 28.6**	**+0.7**
CAST	**Castle Rocks**	**75.50**	**19**	P		**P**	**07 28 29.9**	**+1.1**
CAST				IAmb		IAmb	07 28 43.0	
	comp=Z,2.5nm,1.3s							
CCB	**Clear Creek Bu**	**75.60**	**17**	P		**P**	**07 28 29.9**	**+0.6**
KTH	**Kantishna Hill**	**75.71**	**19**	P		**P**	**07 28 30.4**	**+0.2**
KTH				IAmb		IAmb	07 28 36.4	
	comp=Z,5.5nm,1.2s							
ILAR	**Eielson Array**	**75.72**	**17**	P		**P**	**07 28 28.5**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=322,slow=5.5,SNR=3.2							
ILAR				LR		LR	08 05 44.6	
	comp=Z,49nm,18.9s,baz=187,slow=39 comp=Z,0.2nm,0.7s							
PPLA	**Purkeypile**	**75.89**	**20**	P		**P**	**07 28 31.8**	**+0.5**
M20K	**Styx River**	**76.43**	**21**	P		**P**	**07 28 35.1**	**+0.8**
J26L	**Joseph Creek**	**76.71**	**16**	P		**P**	**07 28 36.2**	**+0.4**
SKT	**Skwentna**	**76.81**	**20**	P		**P**	**07 28 36.6**	**+0.3**
DHY	**Denali Highway**	**77.02**	**18**	P		**P**	**07 28 37.2**	**-0.5**
DHY				IAmb		IAmb	07 28 55.0	
	comp=Z,3.4nm,1.3s							
RSO	**Redoubt South**	**77.67**	**22**	P		**P**	**07 28 41.5**	**+0.1**
CNPM	**China Poot**	**78.88**	**21**	P		**P**	**07 28 48.3**	**+0.4**
WRA	**Warramunga Arr**	**79.38**	**123**	P		**P**	**07 28 49.5**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=303,slow=8.1,SNR=1.8 comp=Z,0.3nm,0.7s							
WR0	**Warramunga Arr**	**79.53**	**123**	P		**P**	**07 28 50.5**	**-1.4**
WR0				IAmb		IAmb	07 29 14.7	
	comp=Z,4.2nm,1.1s							
FARO	**Faro, Yukon**	**80.79**	**12**	P		**P**	**07 28 58.8**	**+0.6**
FARO				IAmb		IAmb	07 29 16.6	
	comp=Z,4.9nm,1.5s							
ASAR	**Alice Springs**	**81.63**	**126**	P		**P**	**07 29 02.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=306,slow=5.2,SNR=4.9 comp=Z,0.3nm,0.6s							
YKA	**Yellowknife Ar**	**82.71**	**4**	P		**P**	**07 29 08.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=351,slow=5.3,SNR=12 comp=Z,0.3nm,0.5s							

*IDC **02** 07:18:05.9±7.3,13˚.23N×146˚.04E,h0km,mb3.9/7, mbtmp3.9/7,Error ellipse: s-maj=207.0km s-min=38.2km az=179.0*

ISC 02 07:18:14.7±6.6,14˚N±1˚×146˚.0E±0˚.3,h50km,n13,σ0§77/7, mb4.1/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**20.49**	**73**	T		T	07 44 20.1	
	baz=271							
H11S1	**WAKE ISLAND Hy**	**20.50**	**73**	T		T	07 44 15.5	
	baz=271							
H11S2	**WAKE ISLAND Hy**	**20.50**	**73**	T		T	07 44 20.3	
	baz=271							
H11N1	**WAKE ISLAND Hy**	**20.93**	**70**	T		T	07 44 47.0	
	baz=263							
H11N2	**WAKE ISLAND Hy**	**20.94**	**70**	T		T	07 44 40.4	
	baz=263							
H11N3	**WAKE ISLAND Hy**	**20.95**	**70**	T		T	07 44 47.8	
	baz=263							
SONM	**Songino Array**	**47.38**	**324**	P		**P**	**07 26 44.2**	**+0.1**
	0.2nm,0.4s,baz=133,slow=8.1,SNR=2.7 0.2nm,0.4s							
MKAR	**Makanchi Array**	**62.27**	**316**	P		**P**	**07 28 32.1**	**+0.5**
	0.7nm,0.4s,baz=91,slow=8.6,SNR=20 0.7nm,0.4s							
KURBB	**Kurchatov Arra**	**65.35**	**320**	P		**P**	**07 28 51.7**	**0.0**
	2.1nm,0.6s,baz=98,slow=7.4,SNR=33 2.1nm,0.6s							
ILAR	**Eielson Array**	**68.13**	**25**	P		**P**	**07 29 08.7**	**-0.6**
	0.2nm,0.4s,baz=252,slow=5.9,SNR=10 0.2nm,0.4s							
BVAR	**Borovoye Array**	**70.62**	**322**	P		**P**	**07 29 24.8**	**-0.1**
	1.4nm,0.6s,baz=95,slow=7.9,SNR=7.2 1.4nm,0.6s							
YKA	**Yellowknife Ar**	**82.38**	**28**	P		**P**	**07 30 32.1**	**+1.0**
	0.2nm,0.5s,baz=288,slow=4.5,SNR=5.4 0.2nm,0.5s							
FINES	**FINESS Array B**	**91.64**	**335**	P		**P**	**07 31 15.3**	**-0.9**
	0.4nm,0.3s,baz=72,slow=4.5,SNR=1.2 0.4nm,0.3s							

*MOS **02** 07:31:04.3±1.1,53˚.33N×108˚.68E,h12km,mb4.5/35, MS3.6/9,Error ellipse: s-maj=6.4km s-min=4.9km az=73.8*

MOS Felt (IV) at Onguryeny, Suvo; (III-IV) at Barguzin; (II-III) at Chita.

*IDC **02** 07:31:04.1±0.4,53˚.36N×108˚.58E,h0km,mb4.2/24, mbtmp4.1/32,ML3.8/7,MS3.6/36,Error ellipse: s-maj=10.9km s-min=9.3km az=156.0*

*NEIC **02** 07:31:05.8±1.7,53˚.41N±0˚.08×108˚.60E±0˚.03,h10km±1km, mb4.5/82,Error ellipse: s-maj=13.2km s-min=2.9km az=192.0*

*BYKL **02** 07:31:06.4±0.1,53˚.38N×108˚.60E,h21km±2km, Mw4.3/9(IEC), #STATIONS AAK MA2 KBS KIV BFO KDAK CHTO QIZ MAJO FELT I=IV-V MSK at Maksimikha,IV at Ust-barguzin,Barguzin, Chitkan,Suvo,Sarma, III-IV at Onguren, II at Chita*

ISC 02 07:31:05.4±0.8,53˚.41N±0˚.02×108˚.61E±0˚.02,h10km±4km, n280,σ1§82/340,mb4.5/84,MS3.6/37,14C-34D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXMB	**Maximikha**	**0.17**	**152**	⇓*i*Pg		**Pb**	**07 31 11.3**	**+2.3**
MXMB				*e*Sg		**Sg**	**07 31 14.3**	**+2.8**
OGRR	**Ongureny**	**0.65**	**291**	⇑*i*PG		**Pn**	**07 31 22.5**	**+1.8**
OGRR				*e*			07 31 31.9	
OGRR				pmax	pmax			
	comp=Z,8μm,0.3s							
OGRR				smax	smax			
	comp=N,11μm,0.4s							
KELR	**Kotokel**	**0.73**	**206**	⇑*i*Pg		**Pg**	**07 31 19.3**	**-0.1**
KELR				*e*Sg		**Sb**	**07 31 29.1**	**-1.1**
SYVR	**Suvo**	**0.86**	**73**	⇓*i*Pg		**Pg**	**07 31 22.5**	**+0.5**
SYVR				⇓*i*Pg		**Pg**	**07 31 22.5**	**+0.5**
	comp=N,306nm,0.4s							
SYVR				⇓*i*Pg		**Pg**	**07 31 22.5**	**+0.5**
	comp=N,611nm,0.4s							
SYVR				⇓*i*Pg		**Pg**	**07 31 22.5**	**+0.5**
	comp=N,988nm,0.4s							
SYVR				Pmax			07 31 26.0	
	comp=N,2μm,0.4s							
SYVR				*e*Sg		**Sb**	**07 31 34.5**	**+0.4**
SYVR				Smax			07 31 35.1	
	comp=N,23μm,0.4s							
SYVR				*e*Sb		**Sn**	**07 31 37.7**	**+1.4**
SYVR	**Suvo**	**0.86**	**73**	⇓*i*PG		**Pg**	**07 31 22.5**	**+0.5**
SYVR				*e*			07 31 34.5	
SYVR				pmax	pmax			
	comp=Z,2μm,0.4s							
SYVR				smax	smax			
	comp=N,23μm,0.3s							
TRG	**Tyrgan**	**1.52**	**245**	⇑*i*Pg		**Pn**	**07 31 32.8**	**+0.2**
	comp=N,102nm,0.7s							
TRG				⇑*i*Pg		**Pn**	**07 31 32.8**	**+0.2**
	comp=N,276nm,0.7s							
TRG				⇓*i*Pg		**Pn**	**07 31 32.8**	**+0.2**
	comp=N,291nm,0.7s							
TRG				*e*Pb		**Pb**	**07 31 33.6**	**0.0**
TRG				max			07 31 33.7	
	comp=N,734nm,0.2s							
TRG				*e*Sg		**Sb**	**07 31 52.8**	**0.0**
TRG				Smax			07 31 58.9	
	comp=N,9μm,0.3s							
TRG	**Tyrgan**	**1.52**	**245**	⇓*i*PN		**Pn**	**07 31 32.8**	**+0.2**
TRG				*e*			07 31 52.9	
TRG				pmax	pmax			
	comp=Z,730nm,0.2s							
TRG				smax	smax			
	comp=N,9μm,0.3s							
FFNB	**Fofonovo**	**1.77**	**220**	*e*Pg		**Pb**	**07 31 37.2**	**-0.7**
FFNB				*e*			07 31 38.8	
FFNB				*e*Sg		**Sg**	**07 32 01.2**	**-1.0**
KAB	**Kabansk**	**1.81**	**222**	*e*Pg		**Pb**	**07 31 38.5**	**-0.1**
KAB				Pmax			07 31 39.0	
	comp=N,1μm,0.4s							
KAB				*e*Sg		**Sg**	**07 32 03.1**	**-0.5**
KAB				Smax			07 32 09.7	
	comp=N,15μm,0.9s							
KAB	**Kabansk**	**1.81**	**222**	*e*PN		**Pb**	**07 31 38.8**	**+0.2**
KAB				*e*			07 32 01.4	
KAB				pmax	pmax			
	comp=Z,1μm,0.4s							
KAB				smax	smax			
	comp=N,7μm,0.9s							
YLYR	**Ulyunkhan**	**2.10**	**45**	⇓*i*Pn		**Pn**	**07 31 41.8**	**+1.2**
	comp=N,265nm,0.5s							
YLYR				⇓*i*Pn		**Pn**	**07 31 41.8**	**+1.2**
	comp=N,321nm,0.5s							
YLYR				⇓*i*Pn		**Pn**	**07 31 41.8**	**+1.2**
	comp=N,608nm,0.5s							
YLYR				*e*Pg		**Pb**	**07 31 43.9**	**+0.4**
YLYR				Pmax			07 31 53.7	
	comp=N,976nm,0.6s							
YLYR				*e*Sn		**Sn**	**07 32 07.4**	**+0.7**
YLYR				*e*Sg		**Sg**	**07 32 12.4**	**-0.3**
YLYR				*e*			07 32 19.7	
YLYR				max			07 32 20.1	
	comp=N,6μm,0.8s							
YLYR	**Ulyunkhan**	**2.10**	**45**	⇓*i*PN		**Pn**	**07 31 41.8**	**+1.2**
YLYR				*e*			07 31 43.7	
YLYR				*e*S		**Sb**	**07 32 09.1**	**-0.5**
YLYR				*e*			07 32 12.3	
YLYR				pmax	pmax			
	comp=Z,978nm,0.5s							
YLYR				smax	smax			
	comp=N,6μm,0.6s							
BGT	**Bolshoye Golou**	**2.38**	**236**	*e*Pn		**Pn**	**07 31 44.5**	**0.0**
BGT				*e*Pg		**Pb**	**07 31 48.4**	**+0.1**
BGT				Pmax			07 31 54.2	
	comp=N,200nm,0.3s							
BGT				*e*Sn		**Sn**	**07 32 13.1**	**-0.6**
BGT				*e*Sg		**Sg**	**07 32 19.4**	**-2.5**
BGT				Smax			07 32 23.6	
	comp=N,2μm,0.7s							
NIZ	**Nizh Angarsk**	**2.43**	**12**	*e*Pn		**Pn**	**07 31 47.1**	**+2.0**
NIZ				*e*Pg		**Pb**	**07 31 50.7**	**+1.6**
NIZ				Pmax			07 31 51.2	
	comp=N,446nm,0.2s							
NIZ				*e*			07 32 17.9	
NIZ				*e*Sg		**Sg**	**07 32 22.7**	**-0.6**
NIZ				Smax			07 32 24.5	
	comp=N,6μm,0.4s							
NIZ	**Nizh Angarsk**	**2.43**	**12**	*e*PN		**Pn**	**07 31 47.1**	**+2.0**
NIZ				*e*			07 31 50.7	
NIZ				*e*			07 32 23.1	
NIZ				pmax	pmax			
	comp=Z,443nm,0.3s							
NIZ				smax

TLY	**Talaya**	**3.50**	**242**	*e*Pn	**Pn**	**07 31 59.8**	**0.0**		
TLY				*e*Pg	**Pb**	**07 32 07.9**	**+0.6**		
TLY				Pmax		07 32 25.9			
	comp=N,164nm,0.8s								
TLY				*e*Sg	**Sb**	**07 32 52.9**	**+3.1**		
TLY				Smax		07 32 57.6			
	comp=N,1μm,0.6s								
TLY	**Talaya**	**3.50**	**242**	⇓*i*PN	**Pn**	**07 31 59.8**	**0.0**		
TLY				*e*		07 32 08.8			
TLY				*e*		07 32 51.9			
TLY				pmax	pmax				
	comp=Z,214nm,1.0s								
TLY				smax	smax				
	comp=E,1μm,0.6s								
UKT	**Uakit**	**3.59**	**53**	⇓*i*PN	**Pn**	**07 32 02.3**	**+1.2**		
UKT				*e*		07 32 11.3			
UKT				*e*		07 32 58.0			
UKT				pmax	pmax				
	comp=Z,380nm,0.9s								
UKT				smax	smax				
	comp=E,2μm,0.6s								
SVKR	**Severomuysk**	**3.94**	**45**	*e*Pn	**Pn**	**07 32 07.8**	**+1.9**		
SVKR				*e*Pg	**Pb**	**07 32 18.1**	**+3.2**		
SVKR				Pmax		07 32 24.9			
	comp=E,526nm,0.8s								
SVKR				*e*Sn	**Sn**	**07 32 52.5**	**+0.2**		
SVKR				*e*Sg	**Sg**	**07 33 10.5**	**-1.4**		
SVKR				Smax		07 33 17.0			
	comp=E,10μm,0.8s								
ARS	**Arshan**	**4.05**	**251**	*e*Pn	**Pn**	**07 32 07.8**	**+0.3**		
ARS				*e*Pg	**Pb**	**07 32 17.9**	**+1.0**		
ARS				Pmax		07 32 31.6			
	comp=E,389nm,0.5s								
ARS				*e*Sg	**Sb**	**07 33 10.3**	**+4.4**		
ARS				Smax		07 33 12.8			
	comp=E,3μm,0.5s								
ARS	**Arshan**	**4.05**	**251**	*e*PN	**Pn**	**07 32 07.7**	**+0.3**		
ARS				*e*		07 32 18.6			
ARS				*e*		07 33 09.0			
ARS				pmax	pmax				
	comp=Z,272nm,0.5s								
ARS				smax	smax				
	comp=E,3μm,0.5s								
KPC	**Khapcheranga**	**4.39**	**146**	⇓*i*Pn	**Pn**	**07 32 11.0**	**-1.2**		
KPC				*e*Pg	**Pb**	**07 32 24.7**	**+2.1**		
KPC				Pmax		07 32 31.8			
	comp=E,819nm,1.0s								
KPC				*e*Sg	**Sg**	**07 33 20.6**	**-5.8**		
KPC				Smax		07 33 27.8			
	comp=E,3μm,1.0s								
KPC	**Khapcheranga**	**4.39**	**146**	⇓*i*PN	**Pn**	**07 32 11.0**	**-1.2**		
KPC				*e*		07 32 23.3			
KPC				*e*		07 33 19.3			
KPC				pmax	pmax				
	comp=Z,816nm,1.0s								
KPC				smax	smax				
	comp=E,3μm,1.1s								
ZAK	**Zakamensk**	**4.49**	**230**	⇓*i*Pn	**Pn**	**07 32 14.4**	**+1.0**		
ZAK				*e*Pg	**Pb**	**07 32 27.2**	**+3.0**		
ZAK				Pmax		07 32 39.6			
	comp=E,111nm,1.0s								
ZAK				*e*Sg	**Sg**	**07 33 24.7**	**-4.6**		
ZAK				Smax		07 33 33.0			
	comp=E,1μm,0.5s								
ZAK	**Zakamensk**	**4.49**	**230**	⇓*i*PN	**Pn**	**07 32 14.3**	**+0.9**		
ZAK				*e*		07 32 27.2			
ZAK				*e*		07 33 24.4			
ZAK				pmax	pmax				
	comp=Z,81nm,0.3s								
ZAK				smax	smax				
	comp=N,1μm,0.5s								
MOY	**Mondy**	**4.97**	**252**	*e*Pn	**Pn**	**07 32 21.5**	**+1.4**		
MOY				*e*Pg	**Pb**	**07 32 35.2**	**+2.7**		
MOY				Pmax		07 32 45.0			
	comp=N,246nm,1.0s								
MOY				*e*		07 33 20.4			
MOY				*e*Sg	**Sg**	**07 33 39.0**	**-5.8**		
MOY				Smax		07 33 42.2			
	comp=N,2μm,1.2s								
MOY	**Mondy**	**4.97**	**252**	*e*PN	**Pn**	**07 32 21.2**	**+1.1**		
MOY				*e*		07 32 34.0			
MOY				*e*S	**Sn**	**07 33 18.4**	**+0.8**		
MOY				*e*		07 33 39.0			
MOY				pmax	pmax				
	comp=Z,92nm,0.4s								
MOY				smax	smax				
	comp=E,2μm,1.1s								
NLYR	**Nelyaty**	**5.12**	**50**	⇓Pn	**Pn**	**07 32 22.9**	**+0.8**		
NLYR				*e*Pg	**Pb**	**07 32 39.2**	**+4.3**		
NLYR				Pmax		07 32 46.2			
	comp=E,235nm,0.5s								
NLYR				*e*Sg	**Sg**	**07 33 46.3**	**-3.3**		
NLYR				Smax		07 34 03.6			
	comp=E,3μm,1.0s								
NLYR	**Nelyaty**	**5.12**	**50**	⇓*i*PN	**Pn**	**07 32 22.9**	**+0.8**		
NLYR				*e*		07 32 36.5			
NLYR				*e*		07 33 45.4			
NLYR				pmax	pmax				
	comp=Z,306nm,0.8s								
NLYR				smax	smax				
	comp=E,3μm,1.3s								
BOD	**Bodaibo**	**5.37**	**32**	*e*Pn	**Pn**	**07 32 26.2**	**+0.8**		
BOD				*e*Pg	**Pb**	**07 32 43.0**	**+3.8**		
BOD				Pmax		07 33 07.6			
	comp=E,126nm,0.9s								
BOD				*e*Sg	**Sg**	**07 33 52.7**	**-4.9**		
BOD				Smax		07 33 59.2			
	comp=E,996nm,0.6s								
BOD	**Bodaibo**	**5.37**	**32**	*e*PN	**Pn**	**07 32 26.1**	**+0.7**		
BOD				*e*		07 32 42.5			
BOD				*e*		07 33 52.4			
BOD				pmax	pmax				
	comp=Z,110nm,1.2s								
BOD				smax	smax				
	comp=E,994nm,0.9s								
ORL	**Orlik**	**5.39**	**264**	*e*Pn	**Pn**	**07 32 27.8**	**+1.9**		
ORL				max		07 32 43.8			
	comp=E,165nm,1.1s								
ORL				*e*Sg	**Sg**	**07 33 53.8**	**-4.5**		
ORL				Smax		07 34 02.9			
	comp=E,1μm,1.0s								
ORL	**Orlik**	**5.39**	**264**	*e*PN	**Pn**	**07 32 27.9**	**+2.0**		
ORL				*e*		07 32 43.1			
ORL				*e*S	**Sn**	**07 33 28.5**	**+0.4**		
ORL				*e*		07 33 54.9			
ORL				pmax	pmax				
	comp=Z,150nm,0.4s								
ORL				smax	smax				
	comp=N,1μm,1.0s								
ULN	**Ulaanbaatar**	**5.64**	**191**		**Pn**	**07 32 29.4**	**0.0**		
ULN	**Ulaanbaatar**	**5.64**	**191**	*d*iPN	**Pn**	**07 32 29.7**	**+0.3**		
ULN				pmax	pmax				
	comp=Z,24nm,0.6s								
ULN				MLR	MLR				
	comp=Z,1μm,12.0s								
SONM	**Songino Array**	**5.76**	**195**	Pn	**Pn**	**07 32 31.5**	**+0.5**		
	comp=Z,11nm,0.3s,baz=11,slow=13,SNR=266								
SONM				Pg	**Pb**	**07 32 48.3**	**+2.3**		
	comp=Z,25nm,0.3s,baz=6.7,slow=17,SNR=20								
SONM				Sn	**Sn**	**07 33 39.1**	**+2.0**		
	comp=Z,23nm,0.3s,baz=15,slow=18,SNR=4.7								
SONM				Lg	Lg	07 34 06.7			
	comp=Z,115nm,0.3s,baz=16,slow=28,SNR=19								
	comp=Z,21nm,0.4s								
VTMR	**Vitim**	**6.42**	**18**	*e*Pn	**Pn**	**07 32 41.8**	**+1.9**		
VTMR				*e*Pg	Pb	07 33 03.0	+5.9		
VTMR				*e*Sg	**Sg**	**07 34 26.8**	**-4.6**		
CRS	**Chara**	**6.54**	**54**	*e*Pn	**Pn**	**07 32 42.9**	**+1.3**		
CRS				*e*Pg	Pb	07 33 05.3	+6.1		
CRS				Pmax		07 33 14.5			
	comp=Z,166nm,1.1s								
CRS				*e*Sg	**Sg**	**07 34 30.0**	**-5.2**		
CRS				Smax		07 34 38.5			
	comp=E,2μm,1.9s								
CRS	**Chara**	**6.54**	**54**	*e*PN	**Pn**	**07 32 43.1**	**+1.5**		
CRS				*e*		07 33 06.1			
CRS				*e*		07 34 28.9			
CRS				pmax	pmax				
	comp=Z,167nm,1.0s								
CRS				smax	smax				
	comp=E,2μm,1.5s								
TUP	**Tupik**	**6.78**	**77**	⇓*i*Pn	**Pn**	**07 32 44.9**	**+0.1**		
TUP				*e*Pg	**Pb**	**07 33 07.7**	**+4.5**		
TUP				*e*		07 33 14.2			
	comp=E,93nm,0.8s			max		07 33 14.8			
TUP				*e*Sn	**Sn**	**07 34 00.0**	**-2.0**		
TUP				*e*Sg	**Sg**	**07 34 35.5**	**-7.2**		
TUP				Smax		07 34 44.2			
	comp=E,3μm,0.9s								
TUP	**Tupik**	**6.78**	**77**	*e*PN	**Pn**	**07 32 44.9**	**+0.1**		
TUP				*e*		07 33 05.8			
TUP				*e*S	**Sn**	**07 34 01.9**	**-0.1**		
TUP				*e*		07 34 35.1			
TUP				pmax	pmax				
	comp=Z,87nm,0.5s								
TUP				smax	smax				
	comp=N,3μm,0.6s								
KHNR	**Khani**	**7.40**	**57**	*e*Pn	**Pn**	**07 32 54.6**	**+1.3**		
KHNR				*e*Pg	Pg	07 33 21.1	-5.7		
KHNR				*e*Sg	**Sg**	**07 34 57.6**	**-4.9**		
HIA	**Hailar**	**8.11**	**116**	Pn	**Pn**	**07 33 01.2**	**-1.9**		
HIA	**Hailar**	**8.11**	**116**	PN	**Pn**	**07 33 01.2**	**-1.9**		
KZLR	**Kyzyl**	**8.80**	**264**	*e*Sg	Sg	07 35 38.3	-9.1		
IENR	**Iengra**	**9.79**	**67**	*e*Sg	Sn	07 36 10.6	+55		
CLNS	**Chul'man**	**9.93**	**63**	*e*Pn	**Pn**	**07 33 28.1**	**+0.1**		
CLNS				*e*Sg	Sn	07 36 13.2	+54		
XLT	**XiLinHaoTe**	**10.72**	**150**	*e*P	**Pn**	**07 33 41.9**	**+3.0**		
XLT				S	**Sn**	**07 35 45.1**	**+6.2**		
XLT				pmax	pmax				
	comp=Z,6.0nm,0.9s								
XLT				pmax	pmax				
	comp=Z,96nm,4.9s								
XLT				LR	LR				
	comp=N,94nm,9.4s								
XLT				LR	LR				
	comp=E,640nm,10.0s								
XLT				LR	LR				
	comp=Z,1μm,11.5s								
ZEA	**Zeya**	**11.09**	**81**	*e*P	**Pn**	**07 33 45.4**	**+1.6**		
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ZEA				MLR	MLR				
	comp=Z,600nm,11.0s								
HEH	**HeiHe**	**12.05**	**98**	*e*P	**Pn**	**07 33 55.4**	**-1.6**		
HEH				S	**Sn**	**07 36 08.5**	**-2.7**		
HEH				smax	smax				
	comp=N,1μm,0.9s								
HEH				smax	smax				
	comp=E,710nm,0.9s								
HEH				LR	LR				
	comp=N,1μm,5.9s								
HEH				LR	LR				
	comp=E,830nm,6.5s								
HEH				LR	LR				
	comp=Z,1μm,8.9s								
HHC	**Hu-ho-hao-te**	**12.73**	**170**	*e*P	Pn	07 34 11.0	+4.6		
HHC				pmax	pmax				
	comp=Z,27nm,0.9s								
HHC				pmax	pmax				
	comp=Z,290nm,5.3s								
HHC				LR	LR				
	comp=N,2μm,6.7s								
HHC				LR	LR				
	comp=E,660nm,6.3s								
HHC				LR	LR				
	comp=Z,2μm,6.7s								
DGZ	**Jazzator, Alta**	**13.68**	**263**	⇓*e*P	**Pn**	**07 34 21.8**	**+2.4**		
DGZ				pmax	pmax				
	comp=Z,1.0nm,1.1s								
ZAA0	**Zalesovo Array**	**14.10**	**282**		**Pn**	**07 34 23.3**	**-1.7**		
ZALV	**Zalesovo Beam**	**14.10**	**282**	Pn	**Pn**	**07 34 24.7**	**-0.2**		
	comp=Z,0.4nm,0.3s,baz=64,slow=10,SNR=3.6								
ZALV				Lg	Lg	07 38 29.4			
	comp=Z,0.6nm,0.3s,baz=105,slow=26,SNR=6.5								
ZALV	**Zalesovo Beam**	**14.10**	**282**		**Pn**	**07 34 22.4**	**-2.5**		
ZALV	**Zalesovo Beam**	**14.10**	**282**	*i* P	**Pn**	**07 34 27.1**	**+2.2**		
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.5s								
YAK	**Yakutsk**	**14.12**	**44**	Pn	**Pn**	**07 34 23.0**	**-2.2**		
	comp=Z,0.1nm,0.3s,baz=218,slow=1.4,SNR=5.8								
YAK				Sn	Sn	07 36 52.4	-9.3		
	comp=Z,0.1nm,0.3s,baz=234,slow=19,SNR=1.8								
YAK				Lg	Lg	07 38 23.2			
	comp=Z,0.1nm,0.3s,baz=234,slow=19,SNR=7.6								
	comp=Z,5.4nm,0.6s								
YAK	**Yakutsk**	**14.12**	**44**	Pn	**Pn**	**07 34 23.7**	**-1.5**		
YAK	**Yakutsk**	**14.12**	**44**	*e*P	**Pn**	**07 34 23.7**	**-1.5**		
YAK				*e*S	**Sn**	**07 36 59.6**	**-2.1**		
YAK				pmax	pmax				
	comp=Z,18nm,1.0s								
YAK				pmax	pmax				
	comp=N,5.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,9.0nm,1.1s								
YAK				smax	smax				
	comp=E,79nm,3.6s								
YAK				smax	smax				
	comp=N,37nm,3.0s								
YAK				MLR	MLR				
	comp=Z,479nm,9.0s								
YAK				MLR	MLR				
	comp=E,382nm,11.0s								
YAK				MLR	MLR				
	comp=N,213nm,8.0s								
BJT	**Baijiatuau**	**14.35**	**156**		**Pn**	**07 34 27.7**	**-0.8**		
BJT	**Baijiatuau**	**14.35**	**156**	P	**Pn**	**07 34 27.7**	**-0.8**		
KLR	**Kul'dur**	**15.04**	**97**	Pn	**Pn**	**07 34 36.6**	**-1.1**		
	comp=N,0.1nm,0.3s,baz=302,slow=12,SNR=6.1								
KLR				Sn	**Sn**	**07 37 26.6**	**+2.5**		
	comp=N,0.4nm,0.3s,baz=287,slow=20,SNR=2.0								
KLR				Lg	Lg	07 38 58.0			
	comp=N,1.3nm,0.3s,baz=356,slow=9.7,SNR=8.5								
KLR				LR	LR	07 40 54.5			
	comp=N,334nm,18.3s,baz=286,slow=39								
	comp=N,1.6nm,0.9s								
KLR	**Kul'dur**	**15.04**	**97**	⇑*e*P	**Pn**	**07 34 36.1**	**-1.6**		
KLR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
GTA	**Gaotai**	**15.24**	**207**	*e*P	**Pn**	**07 34 41.2**	**+0.5**		
GTA				sP	pP	07 34 47.8	-0.7		
GTA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
GTA				pmax	pmax				
	comp=Z,140nm,5.6s								
GTA				LR	LR				
	comp=N,690nm,10.0s								
GTA				LR	LR				
	comp=E,220nm,8.8s								
GTA				LR	LR				
	comp=Z,800nm,10.0s								
MDJ	**Mudanjiang**	**16.29**	**114**	Pn	**Pn**	**07 34 50.3**	**-3.7**		
HNS	**HongShan**	**16.57**	**163**	*e*P	**Pn**	**07 34 52.4**	**-5.2**		
HNS				*e*S	Sn	07 37 48.9	-12		
HNS				LR	LR				
	comp=N,980nm,10.2s								
HNS				LR	LR				
	comp=E,490nm,10.8s								
HNS				LR	LR				
	comp=Z,900nm,10.4s								
WMQ	**Urumqi**	**16.78**	**244**	*e*P	**P**	**07 35 05.2**	**+2.6**		
WMQ				sP	sP	07 35 12.4	+5.6		
WMQ				S	**Sn**	**07 38 06.7**	**+0.1**		
WMQ				pmax	pmax				
	comp=Z,25nm,1.1s								
WMQ				smax	smax				
	comp=N,26nm,1.7s								
WMQ				smax	smax				
	comp=E,32nm,1.7s								
WMQ				LR	LR				
	comp=N,63nm,13.5s								
WMQ				LR	LR				
	comp=E,470nm,15.9s								
WMQ				LR	LR				
	comp=Z,250nm,19.7s								
LZH	**Lanzhou**	**17.64**	**193**	*e*P	**P**	**07 35 13.7**	**+1.4**		
LZH				pP	sP	07 35 21.9	+5.4		
LZH				pmax	pmax				
	comp=Z,9.0nm,1.2s								
LZH				LR	LR				
	comp=N,750nm,10.8s								
LZH				LR	LR				
	comp=E,970nm,11.7s								
LZH				LR	LR				
	comp=Z,980nm,13.0s								
USA0B	**Ussuriysk Arra**	**17.87**	**112**	Pn	**Pn**	**07 35 09.8**	**-4.1**		
USA0B	**Ussuriysk Arra**	**17.87**	**112**	⇑*e*P	**Pn**	**07 35 12.6**	**-1.3**		
USRK	**Ussuriysk Ar.**	**17.87**	**112**	P	**P**	**07 35 14.8**	**+0.3**		
	comp=Z,0.1nm,0.3s,baz=306,slow=12,SNR=4.0								
USRK				Lg	Lg	07 40 30.0			
	comp=Z,0.3nm,0.3s,baz=302,slow=30,SNR=5.4								
USRK				LR	LR	07 42 53.2			
	comp=Z,295nm,18.3s,baz=296,slow=40								
	comp=Z,2.2nm,0.8s								
USRK	**Ussuriysk Ar.**	**17.87**	**112**	Pn	**Pn**	**07 35 12.2**	**-1.7**		
MK31	**Makanchi Array**	**18.07**	**259**	Pn	**Pn**	**07 35 13.8**	**-2.6**		
MK31	**Makanchi Array**	**18.07**	**259**	P	**Pn**	**07 35 13.8**	**-2.6**		
MK31				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**18.07**	**259**	P	**Pn**	**07 35 15.4**	**-1.0**		
	comp=Z,0.1nm,0.3s,baz=69,slow=10,SNR=9.2								
MKAR				Lg	Lg	07 40 37.3			
	baz=74,slow=32,SNR=3.8								
MKAR				LR	LR	07 42 26.1			
	comp=Z,248nm,19.6s,baz=64,slow=38								
	comp=Z,0.9nm,0.7s								
MKAR	**Makanchi Array**	**18.07**	**259**	Pn	**Pn**	**07 35 12.9**	**-3.5**		
MAKZ	**Makanchi**	**18.25**	**260**		**Pn**	**07 35 17.7**	**-0.9**		
MAKZ	**Makanchi**	**18.25**	**260**	P	**Pn**	**07 35 17.7**	**-0.9**		
MAKZ				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KURK	**Kurchatov**	**18.57**	**274**	P	**P**	**07 35 21.6**	**-0.6**		
KURBB	**Kurchatov Arra**	**18.66**	**274**	P	**P**	**07 35 21.6**	**-1.6**		
	comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=13								
KURBB				Lg	Lg	07 40 56.5			
	baz=73,slow=34,SNR=5.9								
	comp=Z,1.6nm,0.7s								
NRIK	**Noril'sk**	**18.71**	**337**	P	**P**	**07 35 22.6**	**-1.0**		
	comp=Z,0.2nm,0.3s,baz=126,slow=15,SNR=9.3								
NRIK				S	**Sn**	**07 38 43.5**	**-10**		
	comp=Z,21nm,1.0s,baz=164,slow=20,SNR=6.1								
NRIK				Lg	Lg	07 40 59.8			
	comp=Z,0.1nm,0.3s,baz=191,slow=19,SNR=4.3								
	comp=Z,8.1nm,0.8s								
NRIK	**Noril'sk**	**18.71**	**337**	P	**P**	**07 35 22.5**	**-1.1**		
NRIK	**Noril'sk**	**18.71**	**337**	*d*iP	**Pn**	**07 35 25.7**	**+1.7**		
NRIK				pmax	pmax				
	comp=Z,14nm,0.9s								
GOMU	**GeErMu**	**19.74**	**215**	P	**Pn**	**07 35 36.2**	**-0.8**		
GOMU				S	**Sn**	**07 39 23.6**	**+4.8**		
GOMU				pmax	pmax				
	comp=Z,11nm,1.1s								
GOMU				pmax	pmax				
	comp=Z,90nm,4.0s								
GOMU				LR	LR				
	comp=N,200nm,11.6s								
GOMU				LR	LR				
	comp=E,190nm,9.9s								
GOMU				LR	LR				
	comp=Z,310nm,12.5s								
TIXI	**Tiksi**	**20.34**	**18**	P	**P**	**07 35 41.7**	**+0.4**		
	comp=Z,7.7nm,0.6s,baz=270,slow=22,SNR=31								
TIXI				S	**S**	**07 39 21.5**	**-7.3**		
	comp=Z,3.4nm,0.7s,baz=270,slow=23,SNR=1.6								
TIXI				LR	LR	07 42 54.5			
	comp=Z,77nm,18.4s,baz=300,slow=35								
	comp=Z,7.7nm,0.6s								
TIXI	**Tiksi**	**20.34**	**18**	P	**P**	**07 35 41.2**	**-0.1**		
TIXI	**Tiksi**	**20.34**	**18**	*c*eP	**P**	**07 35 41.5**	**+0.2**		
TIXI				pmax	pmax				
	comp=Z,18nm,1.0s								
TIXI				MLR	MLR				
	comp=Z,215nm,16.0s								
KSAR	**Wonju Array Be**	**20.82**	**132**	P	**P**	**07 35 46.8**	**0.0**		
KSAR	**Wonju Array Be**	**20.82**	**132**	P	**P**	**07 35 46.8**	**0.0**		
KSRS	**Korea Array**	**20.83**	**132**	P	**P**	**07 35 48.0**	**+1.1**		
	comp=Z,4.9nm,0.9s,baz=323,slow=11,SNR=15								
	comp=Z,4.9nm,0.9s								
YSS	**Yuzh-Sakhalins**	**22.64**	**93**	P	**P**	**07 36 05.5**	**-0.8**		
YSS				IAmb	IAmb	07 36 09.0			
	comp=Z,19nm,1.1s								
YSS	**Yuzh-Sakhalins**	**22.64**	**93**	*e*P	**P**	**07 36 08.1**	**+1.9**		
YSS				*e*S	**S**	**07 40 14.2**	**+0.3**		
YSS				pmax	pmax				
	comp=Z,10.0nm,0.9s								
BVAR	**Borovoye Array**	**22.71**	**285**	P	**P**	**07 36 05.9**	**-1.2**		
	comp=Z,2.6nm,0.5s,baz=66,slow=14,SNR=16								
BVAR				PcP	**PcP**	**07 39 58.6**	**-0.2**		
	comp=Z,1.2nm,0.7s,baz=57,slow=5.3,SNR=1.7								
BVAR				LR	LR	07 45 32.7			
	comp=Z,205nm,19.7s,baz=74,slow=38								
	comp=Z,2.6nm,0.5s								
BRVK	**Borovoye**	**22.77**	**285**	P	**P**	**07 36 06.7**	**-0.9**		
BRVK				IAmb	IAmb	07 36 27.7			
	comp=Z,13nm,0.7s								
BRVK	**Borovoye**	**22.77**	**285**	⇓*e*P	**P**	**07 36 07.2**	**-0.4**		
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.3s								
ENH	**Enshi**	**23.13**	**178**	P	**P**	**07 36 10.5**	**-1.1**		
TARG	**Taragay, Kyrgy**	**23.65**	**253**	P	**P**	**07 36 17.1**	**0.0**		
TARG	**Taragay, Kyrgy**	**23.65**	**253**	P	**P**	**07 36 17.1**	**0.0**		
TARG				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MA2	**Magadan**	**23.74**	**58**	P	**P**	**07 36 19.3**	**+1.9**		
	comp=Z,10nm,0.8s,baz=246,slow=13,SNR=4.9								
MA2				LR	LR	07 46 22.8			
	comp=Z,52nm,21.0s,baz=277,slow=39								
	comp=Z,10nm,0.8s								
MA2	**Magadan**	**23.74**	**58**	P	**P**	**07 36 16.5**	**-0.9**		
MA2				IAmb	IAmb	07 36 20.5			
	comp=Z,12nm,0.9s								
MA2	**Magadan**	**23.74**	**58**	⇓*e*P	**P**	**07 36 19.4**	**+2.0**		
MA2				pmax	pmax				
	comp=Z,13nm,1.0s								
ASAJ	**Asahikawa**	**24.05**	**99**	LR	LR	07 46 47.8			
	comp=Z,196nm,18.3s,baz=310,slow=39								
SEY	**Seymchan**	**24.49**	**50**	P	**P**	**07 36 26.1**	**+1.9**		
	comp=Z,2.6nm,0.8s,baz=260,slow=20,SNR=7.3								
	comp=Z,2.6nm,0.8s								
SEY	**Seymchan**	**24.49**	**50**	⇑*e*P	**P**	**07 36 25.5**	**+1.2**		
SEY				pmax	pmax				
	comp=Z,4.0nm,1.0s								
SEY				MLR	MLR				
	comp=Z,250nm,16.0s								
AAK	**Ala-Archa**	**25.00**	**258**	P	**P**	**07 36 30.6**	**+1.3**		
	comp=Z,2.1nm,0.7s,baz=52,slow=12,SNR=6.5								
AAK				LR	LR	07 46 40.1			
	comp=Z,156nm,21.0s,baz=70,slow=38								
	comp=Z,2.1nm,0.7s								
AAK	**Ala-Archa**	**25.00**	**258**	P	**P**	**07 36 28.9**	**-0.4**		
AAK	**Ala-Archa**	**25.00**	**258**	⇑*e*P	**P**	**07 36 30.9**	**+1.6**		
AAK				pmax	pmax				
	comp=Z,7.0nm,2.1s								
JTM	**Tenmabayashi**	**25.20**	**107**	P	**P**	**07 36 30.1**	**-0.8**		
ERM	**Erimo**	**25.63**	**102**	P	**P**	**07 36 35.6**	**+0.8**		
ERM	**Erimo**	**25.63**	**102**	P	**P**	**07 36 35.6**	**+0.8**		
ERM				pmax	pmax				
	comp=Z,25nm,1.0s								
MJAR	**Matsushiro Arr**	**26.61**	**117**	LR	LR	07 47 38.2			
	comp=Z,130nm,19.8s,baz=338,slow=37								
JMN	**Monobe**	**26.64**	**127**	P	**P**	**07 36 43.5**	**-0.5**		
JMN				IAmb	IAmb	07 37 10.8			
	comp=Z,22nm,1.1s								
KK31	**Karatay Array**	**27.08**

comp=Z,81nm,18.0s
CHGR Chuyangaron 30.66 257 P **P** **07 37 20.1 +0.2**
CHGR Chuyangaron 30.66 257 P **P** **07 37 20.2 +0.2**
CHGR pmax pmax
comp=Z,21nm,0.9s
AKTO Aktyubinsk 30.82 285 LR LR 07 50 41.0
comp=Z,143nm,18.8s,baz=26,slow=38
YOJ Yonaguni jima 30.88 154 P **P** **07 37 21.2 -0.6**
YOJ Yonaguni jima 30.88 154 P **P** **07 37 21.2 -0.6**
TPUB Ta-pu 31.42 158 P **P** **07 37 27.6 +1.0**
KIRV Kirov 32.55 303‖ *e*P **P** **07 37 37.1 +0.9**
PHRA Phrae 35.45 194 P **P** **07 38 02.5 +0.8**
CMAR Chiang Mai Arr 35.69 196 P **P** **07 38 04.0 +0.2**
comp=Z,2.0nm,0.8s,baz=0.1,slow=8.4,SNR=12
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 35.69 196 P **P** **07 38 04.0 +0.2**
APA Apatity 37.03 322‖ *i*P **P** **07 38 15.5 +0.8**
APA pmax pmax
comp=Z,10.0nm,1.1s
GEYT Alibeck 37.68 267 LR LR 07 54 51.6
comp=Z,101nm,20.2s,baz=0.5,slow=38
GEYT Alibeck 37.68 267 P **P** **07 38 20.0 -0.6**
GYA0B ALIBECK ARRAY 37.68 267 P **P** **07 38 20.2 -0.5**
SHEM Shemya Is, Ala 38.10 64 LR LR 07 54 26.7
comp=Z,77nm,19.0s,baz=340,slow=37
ARCES ARCESS Array B 39.19 326 LR LR 07 58 40.3
comp=Z,19nm,18.9s,baz=279,slow=42
OBN Obninsk 40.39 302 LR LR 07 57 21.9
comp=Z,76nm,18.0s,baz=245,slow=39
FINES FINESS Array B 42.28 315 P **P** **07 38 58.9 +0.4**
comp=Z,1.2nm,0.6s,baz=67,slow=11,SNR=4.7
FINES LR LR 07 58 14.2
comp=Z,190nm,18.3s,baz=32,slow=38
comp=Z,1.2nm,0.6s
FINES FINESS Array B 42.28 315 *i* P **P** **07 39 00.2 +1.7**
FINES pmax pmax
comp=Z,1.0nm,0.6s
KIV Kislovodsk 43.08 285 *ce*P **P** **07 39 07.7 +2.3**
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV MLR MLR
comp=Z,44nm,17.0s
KBZ Khabaz 43.09 285 LR LR 07 59 00.4
comp=Z,39nm,18.4s,baz=51,slow=39
GNI Garni 44.23 279 LR LR 07 57 47.8
comp=Z,25nm,21.2s,baz=56,slow=36
MNK Minsk 45.02 306 *i* P **P** **07 39 20.3 -0.4**
comp=E,2.0nm,1.0s
MNK *i* P **P** **07 39 20.3 -0.4**
comp=N,17nm,1.0s
MNK *i* P **P** **07 39 20.3 -0.4**
comp=Z,10.0nm,1.0s,baz=57
MNK *i* PcP **PcP** **07 40 54.7 -6.7**
MNK *i* PP PP 07 41 16.1 +11
MNK *i* PPP PPP 07 42 02.2
MNK *i* S **S** **07 46 00.3 +1.4**
MNK *i* SS ScS 07 48 57.8 -20
MNK *i* SSS SSS 07 50 16.5
MNK *i* LQ LQ 07 56 03.2
MNK *i* LR LR 07 58 23.2
MNK *i* LRM MLR 07 59 44.6
comp=E,11nm,17.5s
MNK *i* LRM MLR 07 59 49.7
comp=N,122nm,17.0s
MNK *i* LRM MLR 07 59 57.5
comp=Z,69nm,17.0s
MNK Minsk 45.02 306 *i* P **P** **07 39 20.2 -0.4**
MNK *i* S **S** **07 46 00.3 +1.4**
MNK *i* SSS SSS 07 50 16.4
MNK pmax pmax
comp=N,17nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,10.0nm,1.0s
MNK MLR MLR
comp=E,11nm,17.0s
MNK MLR MLR
comp=N,122nm,17.0s
MNK MLR MLR
comp=Z,69nm,17.0s
NACGM Naroch 45.33 306 *e*P P 07 39 29.8 +6.7
comp=Z,13nm,1.0s,baz=58
IMAR Indian Mountai 45.71 35 P **P** **07 39 26.5 +0.5**
H21K Melozitna Rive 46.22 35 P **P** **07 39 31.3 +1.3**
H21K IAmb IAmb 07 39 32.2
comp=Z,9.4nm,1.1s
AKASG Malin Array Be 46.51 301 P **P** **07 39 33.5 +1.1**
comp=Z,2.0nm,0.6s,baz=50,slow=8.6,SNR=26
AKASG PcP **PcP** **07 41 05.2 -1.4**
comp=Z,0.1nm,0.3s,baz=48,slow=8.3,SNR=1.0
AKASG LR LR 08 01 08.6
comp=Z,215nm,18.1s,baz=49,slow=39
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 46.51 301 P **P** **07 39 32.9 +0.5**
AKBB IAmb IAmb 07 39 33.8
comp=Z,11nm,1.4s
AKBB Malin Array Si 46.51 301⇑ *e*P **P** **07 39 33.3 +0.9**
H23K Yukon River 47.21 33 P **P** **07 39 39.1 +1.3**
H23K IAmb IAmb 07 39 40.3
comp=Z,8.3nm,1.1s
BMAR Burnt Mountain 47.77 30 P **P** **07 39 43.9 +1.7**
WSAR Wadi Sarin 48.06 251 LR LR 08 02 43.6
comp=Z,61nm,18.8s,baz=63,slow=40
HFS Hagfors 48.10 318 LR LR 08 01 50.9
comp=Z,138nm,18.3s,baz=56,slow=38
DAV Davao City (W) 48.22 157 LR LR 08 01 53.2
comp=Z,71nm,18.9s,baz=351,slow=38
COLA College 48.35 34⇑ *e*P **P** **07 39 47.9 +1.3**
COLA pmax pmax
comp=Z,4.0nm,1.0s
CCB Clear Creek Bu 48.51 34 P **P** **07 39 48.5 +0.7**
CCB IAmb IAmb 07 39 50.0
comp=Z,3.2nm,0.9s
NB2 NORSAR Subarra 48.53 320 P **P** **07 39 49.2 +1.1**
comp=Z,0.5nm,0.5s,baz=49,slow=7.9
NOA NORSAR Array B 48.53 320 P **P** **07 39 49.2 +1.1**
comp=Z,0.9nm,0.7s,baz=50,slow=7.2,SNR=3.7
NOA LR LR 08 01 18.9
comp=Z,30nm,19.8s,baz=40,slow=37
comp=Z,0.9nm,0.7s
IL31 48.74 34 P **P** **07 39 50.1 +0.6**
IL31 IAmb IAmb 07 39 51.6
comp=Z,8.8nm,1.1s
ILAR Eielson Array 48.74 34 P **P** **07 39 50.9 +1.2**
comp=Z,4.4nm,0.9s,baz=299,slow=6.3,SNR=44
ILAR PcP **PcP** **07 41 14.7 +0.3**
comp=Z,1.0nm,0.7s,baz=299,slow=4.7,SNR=2.0
comp=Z,4.4nm,0.9s
ILAR Eielson Array 48.74 34 P **P** **07 39 49.9 +0.3**
HDA Harding Lake 48.95 34 P **P** **07 39 52.3 +1.1**
HDA IAmb IAmb 07 39 52.9
comp=Z,5.3nm,1.0s
A36M Sachs Harbour 49.35 19 P **P** **07 39 53.4 -0.7**
A36M IAmb IAmb 07 40 06.9
comp=Z,3.5nm,1.1s
SUA Susitna One 49.49 38 P **P** **07 39 55.4 -0.2**
DHY Denali Highway 49.67 35 P **P** **07 39 57.0 +0.1**
DHY IAmb IAmb 07 39 57.7
comp=Z,3.4nm,0.8s
J26L Joseph Creek 50.00 33 P **P** **07 39 58.5 -0.8**
SCRK Sand Creek 50.22 33 P **P** **07 40 02.4 +1.3**
INK Inuvik 50.24 25 P **P** **07 40 00.7 -0.2**
INK Inuvik 50.24 25 P **P** **07 40 00.7 -0.2**
INK pmax pmax
comp=Z,3.0nm,1.1s
TULEG Thule 50.31 359 P **P** **07 40 01.6 +0.2**
PAX Paxson 50.39 35 P **P** **07 40 03.0 +0.7**
PAX IAmb IAmb 07 40 04.5
comp=Z,6.3nm,1.3s
PAX Paxson 50.39 35 P **P** **07 40 03.0 +0.7**
PAX pmax pmax
comp=Z,6.0nm,1.3s
DOT Dot Lake 50.41 34 P **P** **07 40 00.7 -1.7**
DOT IAmb IAmb 07 40 04.9
comp=Z,8.4nm,1.3s
BUR08 Bucovina Ar. S 50.46 299 P **P** **07 40 03.2 +0.1**
BUR08 IAmb IAmb 07 40 10.8
comp=Z,4.0nm,1.0s
BURAR Bucovina Array 50.47 299 P **P** **07 40 03.7 +0.5**
BURAR Bucovina Array 50.47 299 P **P** **07 40 03.7 +0.5**
BURAR pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 50.98 287 P **P** **07 40 06.9 -0.3**
BR131 IAmb IAmb 07 40 09.8
comp=Z,4.9nm,0.8s
BR131 Keskin Array S 50.98 287 P **P** **07 40 06.9 -0.3**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 50.98 287 P **P** **07 40 08.8 +1.7**
comp=Z,2.3nm,0.7s,baz=68,slow=5.9,SNR=12
BRTR LR LR 08 03 20.6
comp=Z,32nm,19.8s,baz=30,slow=38
comp=Z,2.3nm,0.7s
BRTR Keskin Array B 50.98 287 P **P** **07 40 07.5 +0.3**
BRTR Keskin Array B 50.98 287 *i* P **P** **07 40 08.8 +1.7**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 51.22 8 LR LR 08 02 56.9
comp=Z,50nm,18.9s,baz=7.0,slow=37
OHAK Old Harbor 51.22 44 P **P** **07 40 07.3 -1.3**
ISR Istrita 51.38 296 P **P** **07 40 08.9 -1.1**
ISR pmax pmax
comp=Z,10.0nm,1.1s
MLR Muntele Rosu 51.46 297 LR LR 08 04 07.5
comp=Z,64nm,19.6s,baz=80,slow=38
L27K Beaver Creek, 51.55 33 P **P** **07 40 11.4 +0.5**
L27K IAmb IAmb 07 40 13.7
comp=Z,3.1nm,0.8s
BCAR Beaver Creek A 51.56 33 P **P** **07 40 11.3 +0.2**
DAWY Dawson 51.62 31 P **P** **07 40 11.1 -0.4**
DAWY IAmb IAmb 07 40 19.9
comp=Z,6.6nm,1.4s
C36M Paulatuk 51.67 21 P **P** **07 40 11.2 -0.5**
C36M IAmb IAmb 07 40 12.3
comp=Z,8.5nm,1.3s
BARN Barnard Glacie 53.01 35 P **P** **07 40 22.6 +0.5**
BARN IAmb IAmb 07 40 24.2
comp=Z,6.2nm,0.9s
VYHS Vyhne 53.16 304 *e*P **P** **07 40 25.4 +2.3**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 53.16 304 *e*P **P** **07 40 25.4 +2.3**
VRAC Vranov 53.72 306 LR LR 08 05 44.1
comp=Z,70nm,20.0s,baz=44,slow=39
M31M Drury Creek, Y 54.54 31 P **P** **07 40 33.7 +0.7**
M31M IAmb IAmb 07 40 35.7
comp=Z,5.4nm,1.1s
N31M Braeburn, Yuko 54.65 32 P **P** **07 40 34.6 +0.8**
KHC Kasperske Hory 55.29 307‖ *e*P **P** **07 40 40.7 +2.1**
KHC pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 55.42 307 P **P** **07 40 40.7 +1.0**
comp=Z,0.7nm,0.8s,baz=46,slow=9.5,SNR=6.0
GERES LR LR 08 06 52.0
comp=Z,86nm,19.5s,baz=48,slow=39
comp=Z,0.7nm,0.8s
GERES GERESS Array B 55.42 307 P **P** **07 40 40.5 +0.8**
BORG Borgarnes 56.03 337 LR LR 08 07 01.6
comp=Z,44nm,18.9s,baz=350,slow=38
P33M Teslin, Yukon 56.56 32 P **P** **07 40 48.2 +0.6**
P33M IAmb IAmb 07 40 49.8
comp=Z,5.7nm,1.1s
DAVOX Davos/Dischmat 58.71 307 LR LR 08 09 06.8
comp=Z,126nm,18.3s,baz=53,slow=39
YKA Yellowknife Ar 59.54 22 P **P** **07 41 08.2 -0.2**
comp=Z,3.2nm,0.8s,baz=331,slow=6.8,SNR=40
comp=Z,2.3nm,0.8s
YKA Yellowknife Ar 59.54 22 P **P** **07 41 08.3 0.0**
YKA Yellowknife Ar 59.54 22 P **P** **07 41 08.3 0.0**
LEM Lembang 60.02 181 LR LR 08 10 39.9
comp=Z,110nm,18.6s,baz=308,slow=40
KEST Kesra 67.22 299 P **P** **07 41 60.0 +0.3**
comp=Z,3.2nm,0.8s,baz=52,slow=5.4,SNR=4.4
comp=Z,3.2nm,0.8s
FFC Flin Flon 69.30 18 P **P** **07 42 12.8 +0.5**
FFC IAmb IAmb 07 42 29.3
comp=Z,3.1nm,1.2s
FFC Flin Flon 69.30 18 P **P** **07 42 12.8 +0.5**
FFC pmax pmax
comp=Z,3.0nm,1.3s
ESDC Sonseca Array 70.61 311 P **P** **07 42 21.4 +0.7**
comp=Z,3.2nm,0.8s,baz=28,slow=6.2,SNR=14
ESDC LR LR 08 17 45.8
comp=Z,102nm,18.2s,baz=72,slow=40
comp=Z,3.2nm,0.8s
ESDC Sonseca Array 70.61 311 P **P** **07 42 20.3 -0.4**
ESDC IAmb IAmb 07 42 22.7
comp=Z,5.1nm,1.1s
PMG Port Moresby 70.61 139 LR LR 08 11 52.0
comp=Z,16nm,21.9s,baz=2.5,slow=35
B08A Colville Reser 70.77 32 P **P** **07 42 21.6 +0.1**
B08A IAmb IAmb 07 42 23.5
comp=Z,5.0nm,0.9s
NEW Newport 71.53 30 LR LR 08 18 04.4
comp=Z,81nm,20.1s,baz=302,slow=39
C09A Chrisman Ranch 71.59 31 P **P** **07 42 27.1 +0.7**
F10A Beach Ranch, E 73.55 31 P **P** **07 42 38.4 +0.1**
MSO Missoula 73.77 29 P **P** **07 42 40.1 +0.5**
MSO IAmb IAmb 07 42 43.0
comp=Z,6.2nm,0.8s
HRY Holter Researc 74.47 28 P **P** **07 42 44.1 +0.4**
BMO Blue Mountains 74.52 32 P **P** **07 42 45.0 +1.0**
BMO Blue Mountains 74.52 32 P **P** **07 42 45.0 +1.0**
BMO pmax pmax
comp=Z,8.0nm,0.9s
PLID Pearl Lake 74.72 31 P **P** **07 42 46.2 +0.9**
DGMT Dagmar 74.75 22 P **P** **07 42 46.0 +0.9**
WB0 Warramunga Arr 76.21 155 P **P** **07 42 53.2 -0.5**
BCYI Bear Canyon 76.21 30 P **P** **07 42 54.2 +0.3**
WVOR Wild Horse Val 76.25 34 P **P** **07 42 55.2 +1.2**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
MFID Camas Ranch 76.28 32 P **P** **07 42 54.9 +0.7**
MFID IAmb IAmb 07 42 55.7
comp=Z,3.0nm,0.8s
WRAB Tennant Creek 76.36 155‖ *e*P **P** **07 42 53.8 -0.7**
WRAB pmax pmax
comp=Z,8.0nm,1.3s
WRA Warramunga Arr 76.36 155 P **P** **07 42 54.0 -0.5**
comp=Z,5.1nm,0.8s,baz=348,slow=6.2,SNR=24
comp=Z,5.1nm,0.8s
WRA Warramunga Arr 76.36 155 P **P** **07 42 53.5 -1.0**
WB2 Warramunga Arr 76.37 155 P **P** **07 42 54.1 -0.5**
WR0 Warramunga Arr 76.43 155 P **P** **07 42 54.2 -0.7**
HLID Hailey 76.59 31 P **P** **07 42 57.3 +1.3**
RLMT Red Lodge 76.63 27 P **P** **07 42 57.5 +1.3**
RLMT IAmb IAmb 07 42 58.1
comp=Z,4.3nm,0.8s
IMW Indian Meadow 77.30 28 P **P** **07 43 00.6 +0.5**
IMW IAmb IAmb 07 43 03.6
comp=Z,4.1nm,0.9s
MOOW Moose Ponds 77.50 28 P **P** **07 43 02.2 +1.1**
MOOW IAmb IAmb 07 43 03.6
comp=Z,5.5nm,1.1s
LOHW Long Hollow 77.66 28 P **P** **07 43 03.2 +1.1**
LOHW IAmb IAmb 07 43 04.0
comp=Z,2.7nm,0.8s
REDW Red Top Meadow 77.82 28 P **P** **07 43 04.6 +1.7**
REDW IAmb IAmb 07 43 05.4
comp=Z,5.8nm,1.1s
PD31 Pinedale Array 78.73 28 P **P** **07 43 08.3 +0.3**
PDAR Pinedale Array 78.73 28 P **P** **07 43 08.2 +0.2**
comp=Z,1.2nm,0.7s,baz=25,slow=3.0,SNR=14
comp=Z,1.2nm,0.7s
PDAR Pinedale Array 78.73 28 P **P** **07 43 08.4 +0.3**
ELK Elko 78.88 32 LR LR 08 21 16.4
comp=Z,77nm,18.5s,baz=340,slow=38
RSSD Black Hills 78.89 23 P **P** **07 43 09.2 +0.4**
RSSD pmax pmax
comp=Z,5.0nm,2.2s
HWUT Hardware Ranch 79.23 30 P **P** **07 43 11.7 +1.0**
HWUT IAmb IAmb 07 43 13.3
comp=Z,9.4nm,1.0s
KVN Kaiserville 79.45 35 P **P** **07 43 13.4 +1.4**
KVN IAmb IAmb 07 43 14.2
comp=Z,3.7nm,1.1s
KVN Kaiserville 79.45 35 P **P** **07 43 13.4 +1.4**
KVN pmax pmax
comp=Z,4.0nm,1.1s
SUSD Miller 79.70 20 P **P** **07 43 13.4 +0.4**
AS31 Alice Springs 79.83 157 P **P** **07 43 13.8 0.0**
AS31 IAmb IAmb 07 43 14.3
comp=Z,2.3nm,0.7s
ASAR Alice Springs 79.83 157 P **P** **07 43 13.6 -0.2**
comp=Z,6.7nm,0.7s,baz=353,slow=5.4,SNR=94
comp=Z,6.7nm,0.7s
NVAR Mina Array Bea 79.94 36 P **P** **07 43 15.9 +1.3**
comp=Z,1.0nm,0.8s,baz=339,slow=2.2,SNR=5.7
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 79.94 36 P **P** **07 43 15.3 +0.7**
CTA Charters Tower 80.09 144 P **P** **07 43 14.8 -0.4**
CTA pmax pmax
comp=Z,6.0nm,1.0s
CTAO Charters Tower 80.09 144 P **P** **07 43 14.9 -0.3**
CTAO pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway, Tooele 80.15 31 P **P** **07 43 16.7 +1.1**
DUG IAmb IAmb 07 43 17.9
comp=Z,3.8nm,1.1s
DUG Dugway, Tooele 80.15 31 P **P** **07 43 16.7 +1.1**
DUG pmax pmax
comp=Z,4.0nm,1.1s
NLU North Lily Min 80.59 31 P **P** **07 43 18.9 +0.8**
NLU IAmb IAmb 07 43 20.2
comp=Z,4.9nm,1.0s
RDMU Red Mountain 80.76 28 P **P** **07 43 20.0 +0.9**
RDMU IAmb IAmb 07 43 21.1
comp=Z,8.1nm,1.0s
P17A Butcher Ranch, 81.44 30 P **P** **07 43 23.9 +1.3**
P17A IAmb IAmb 07 43 24.6
comp=Z,3.4nm,0.8s
O20A White River Ci 81.54 28 P **P** **07 43 23.6 +0.4**
O20A IAmb IAmb 07 43 25.0
comp=Z,8.1nm,1.2s
WCT Wildcat Mounta 81.99 35 P **P** **07 43 26.8 +1.3**
WCT IAmb IAmb 07 43 27.8
comp=Z,5.1nm,1.0s
MBAR Mbarara 83.26 260 P **P** **07 43 31.2 -1.2**
MBAR pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 86.89 28 LR LR 08 30 04.1
comp=Z,44nm,18.3s,baz=79,slow=41
ANMO Albuquerque 86.89 28‖ *e*P **P** **07 43 51.7 +1.3**
ANMO pmax pmax
comp=Z,2.0nm,1.3s
WMOK Wichita Mounta 89.05 22 P **P** **07 44 00.9 +0.4**
WMOK pmax pmax
comp=Z,4.0nm,3.0s
TORD Torodi Ar. Bea 89.35 291 P **P** **07 44 01.9 -0.2**
comp=Z,1.2nm,0.7s,baz=40,slow=5.4,SNR=6.8
comp=Z,1.2nm,0.7s
STKA Stephens Creek 89.64 152 P **P** **07 44 02.0 -0.9**
comp=Z,2.4nm,0.6s,baz=4.9,slow=5.4,SNR=7.2
comp=Z,2.4nm,0.6s
TXAR Lajitas Array 92.95 28 P **P** **07 44 18.9 +0.1**
comp=Z,0.3nm,0.9s,baz=321,slow=1.3,SNR=3.3
comp=Z,0.3nm,0.9s
CPUP Villa Florida 150.99 333 PKPbc **PKPbc** **07 50 56.8 -1.3**
comp=Z,3.0nm,0.8s,baz=26,slow=4.3,SNR=9.7

IDC 02 07:40:01.9±2.4, 30°.48S×177°.38W, h0km, mb3.7/3, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=71.4km s-min=37.4km az=135.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.99**	**209**	Pn		Pn	Pn	07 42 13.0	-0.1
	0.2nm,0.3s,baz=154,slow=12,SNR=1.2								
URZ				Sn		Sn	Sn	07 43 49.0	-6.0
	0.6nm,0.3s,baz=129,slow=22,SNR=5.9								
	3.5nm,0.8s								
ASAR	**Alice Springs**	**43.64**	**267**	P		P	P	07 48 07.6	-0.9
	0.2nm,0.5s,baz=107,slow=7.5,SNR=5.4								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**44.63**	**272**	P		P	P	07 48 16.7	+0.2
	0.4nm,0.3s,baz=111,slow=8.1,SNR=10								
	0.4nm,0.3s								
ILAR	**Eielson Array**	**97.89**	**13**	P		P	P	07 53 36.7	-2.2
	0.4nm,1.0s,baz=212,slow=4.9,SNR=2.5								
	0.4nm,1.0s								
FINES	**FINESS Array B**	**145.40**	**340**	PKPbc		PKPab	PKPab	07 59 41.9	+0.7
	0.4nm,0.4s,baz=42,slow=2.3,SNR=6.5								

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*IDC **02** 08:00:34.4±8.3, 18°.30S×178°.21W, h633km±104km, mb2.7/6, mbtmp3.7/6, Error ellipse: s-maj=91.7km s-min=36.0km az=149.0*

ISC 02 08:00:27.6±1.5, 18°.2S±0°.6×178°.1W±0°.4, h550km, n6, σ0s94/7, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.76**	**242**	P		**P**	**P**	**08 07 05.6**	**+0.3**
	1.9nm,0.9s,baz=80,slow=6.1,SNR=3.8								
	1.9nm,0.9s								
WRA	**Warramunga Arr**	**44.88**	**260**	P		**P**	**P**	**08 07 53.8**	**+0.1**
	0.4nm,0.4s,baz=97,slow=7.5,SNR=11								
	0.4nm,0.4s								
ASAR	**Alice Springs**	**45.01**	**255**	P		**P**	**P**	**08 07 55.1**	**+0.5**
	1.4nm,0.8s,baz=91,slow=7.4,SNR=20								
ASAR				PcP		**PcP**	**PcP**	**08 09 22.2**	**-1.8**
	0.3nm,0.5s,baz=95,slow=3.8,SNR=4.9								
	1.4nm,0.8s								
TXAR	**Lajitas Array**	**85.89**	**57**	P		**P**	**P**	**08 12 10.2**	**+0.3**
	0.3nm,0.7s,baz=205,slow=5.5,SNR=4.4								
	0.3nm,0.7s								
ILAR	**Eielson Array**	**86.11**	**13**	P		**P**	**P**	**08 12 10.0**	**0.0**
	0.1nm,0.3s,baz=219,slow=4.8,SNR=6.2								
	0.1nm,0.3s								
PDAR	**Pinedale Array**	**87.35**	**43**	P		**P**	**P**	**08 12 16.8**	**+0.1**
	0.2nm,0.8s,baz=229,slow=4.2,SNR=1.9								
	0.2nm,0.8s								

IDC 02 08:23:52.5±4.9, 6°.31S×130°.78E, h170km±74km, mb3.5/1, mbtmp3.8/4, Error ellipse: s-maj=183.0km s-min=18.3km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.43**	**5**	P		P	Pn	08 25 13.8	+1.9
	5.3nm,0.2s,baz=0.0,slow=20,SNR=2.0								
SIJI				S			Sn	08 26 13.7	-0.6
	12nm,0.3s,baz=130,slow=23,SNR=6.2								
WRA	**Warramunga Arr**	**13.98**	**166**	P			Pn	08 27 01.9	-1.5
	0.8nm,0.8s,baz=349,slow=12,SNR=12								
WRA				S			Sn	08 29 29.5	-10
	1.2nm,0.5s,baz=350,slow=18,SNR=9.2								
ASAR	**Alice Springs**	**17.52**	**170**	P			Pn	08 27 45.8	-0.7
	0.9nm,0.5s,baz=345,slow=11,SNR=26								
ASAR				S			S	08 30 52.8	-5.8
	0.5nm,0.5s,baz=355,slow=24,SNR=5.9								
MKAR	**Makanchi Array**	**68.08**	**326**	P			P	08 34 33.8	0.0
	0.7nm,0.5s,baz=116,slow=8.0,SNR=13								
	0.7nm,0.5s								

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*IDC **02** 08:34:26.4±1.1, 12°.64N×123°.39E, h0km, mb3.7/6, mbtmp3.7/6, MS3.2/2, Error ellipse: s-maj=62.2km s-min=21.3km az=70.0*

*MAN **02** 08:34:28.5, 12°.70N×123°.32E, h8km, mb4.6, ML3.5, MS3.3*

ISC 02 08:34:26.8±2.6, 12°.69N±0°.07×123°.33E±0°.10, h1km±19km, n14, σ1s04/17, mb3.7/6, 2C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.44**	**139**⇑	*i*P			**Pb**	**08 34 37.7**	**+0.4**
MMPH				*i* S			**Sb**	**08 34 45.0**	**+0.6**
RCP	**Roxas**	**1.26**	**207**⇑	*e*P			**Pg**	**08 34 50.5**	**-0.6**
RCP				*e*S			**Sg**	**08 35 07.9**	**+0.4**
GQP	**Guinayangan**	**1.48**	**325**‖	*e*P			**Pn**	**08 34 54.4**	**-0.2**
GQP				*e*S			**Sb**	**08 35 15.6**	**+1.1**
LQP	**Lukban**	**2.24**	**309**‖	*e*P			**Pn**	**08 35 05.3**	**0.0**
LQP				*e*S			**Sb**	**08 35 36.7**	**+0.1**
LLP	**Lapu-Lapu**	**2.44**	**165**‖	*e*P			**Pn**	**08 35 09.0**	**+1.1**
LLP				*i* S			**Sb**	**08 35 40.2**	**-1.9**
CNOP	**Candoni, Negro**	**2.93**	**193**‖	*e*P			**Pn**	**08 35 16.0**	**+1.5**
WRA	**Warramunga Arr**	**34.19**	**161**	P			**P**	**08 41 12.2**	**-1.9**
	0.3nm,0.6s,baz=333,slow=8.9,SNR=1.4								
	0.3nm,0.6s								
ASAR	**Alice Springs**	**37.59**	**164**	P			**P**	**08 41 43.0**	**-0.1**
	0.5nm,0.9s,baz=340,slow=6.8,SNR=3.2								
	0.5nm,0.9s								
SONM	**Songino Array**	**37.78**	**341**	P			**P**	**08 41 44.2**	**-0.5**
	0.4nm,0.6s,baz=159,slow=9.7,SNR=4.5								
	0.4nm,0.6s								
PALK	**Pallekele**	**42.29**	**267**	LR			LR	09 01 47.2	
	comp=Z,12nm,18.2s,baz=310,slow=39								
MKAR	**Makanchi Array**	**48.37**	**323**	P			**P**	**08 43 11.2**	**+0.9**
	1.0nm,0.7s,baz=123,slow=8.3,SNR=13								
	1.0nm,0.7s								
PETK	**Petropavlovsk-**	**48.71**	**27**	P			**P**	**08 43 13.1**	**+0.3**
	1.6nm,0.7s,baz=231,slow=9.1,SNR=1.3								
	1.6nm,0.7s								
ZALV	**Zalesovo Beam**	**51.14**	**332**	P			**P**	**08 43 31.2**	**0.0**
	0.6nm,0.3s,baz=126,slow=7.5,SNR=4.6								
	0.6nm,0.3s								

JMIC	**Jan Mayen**	**90.41**	**346**	LR	LR	09 34 17.5	
	comp=Z,25nm,18.4s,baz=301,slow=40						

*GUC **02** 08:39:13.6±0.6,33.˙94S×70.˙55W,h89^{km}±2^{km}, ML3.6*
*NEIC **02** 08:39:13.8±1.9,33.˙93S±0.˙05×70.˙62W±0.˙05,h95^{km}±7^{km}, mb4.2/4,ML3.6(GUC),Error ellipse: s-maj=7.1km s-min=6.2km az=145.0*

ISC 02 08:39:13.4±0.8,33.˙93S±0.˙04×70.˙58W±0.˙05,h96^{km}±6^{km}, n70,σ1º12/89,10C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BO04	**La Punta**	**0.06**	**201**		**Pn**	**08 39 26.9**	**0.0**
BO04	**La Punta**	**0.06**	**201**	⇑*iP*	**Pn**	**08 39 27.0**	**+0.1**
BO04				*i*S	**Sn**	**08 39 37.1**	**+0.1**
LMEL	**Las Melosas**	**0.33**	**75**		**Pn**	**08 39 27.9**	**0.0**
LMEL	**Las Melosas**	**0.33**	**75**	⇑*iP*	**Pn**	**08 39 27.9**	**0.0**
LMEL				*i*S	**Sn**	**08 39 39.2**	**+0.5**
LMEL				IAML		08 39 41.3	
	comp=N,4μm,0.2s						
MT09	**Talagante**	**0.37**	**295**		**Pn**	**08 39 28.6**	**+0.5**
MT09	**Talagante**	**0.37**	**295**	⇑*iP*	**Pn**	**08 39 28.6**	**+0.5**
MT09				*e*S	**Sn**	**08 39 39.7**	**+0.6**
MT09				IAML		08 39 40.1	
	comp=E,5μm,0.3s						
MT03	**Universidad Ad**	**0.44**	**8**		**Pn**	**08 39 28.9**	**+0.4**
MT03	**Universidad Ad**	**0.44**	**8**	⇑*iP*	**Pn**	**08 39 28.8**	**+0.3**
MT03				*i*S	**Sn**	**08 39 40.3**	**+0.6**
MT03				IAML		08 39 41.7	
	comp=E,5μm,0.1s						
MT05	**Renca**	**0.55**	**346**		**Pn**	**08 39 30.0**	**+0.6**
MT05	**Renca**	**0.55**	**346**	⇑*iP*	**Pn**	**08 39 29.9**	**+0.6**
MT05				*e*S	**Sn**	**08 39 42.3**	**+1.2**
MT01	**Popeta**	**0.56**	**277**		**Pn**	**08 39 29.9**	**+0.6**
MT01	**Popeta**	**0.56**	**277**	⇑*iP*	**Pn**	**08 39 29.7**	**+0.5**
MT01				*i*S	**Sn**	**08 39 41.8**	**+0.7**
MT01				IAML		08 39 45.0	
	comp=E,3μm,0.1s						
BO01	**Tunca**	**0.62**	**222**		**Pn**	**08 39 30.2**	**+0.5**
BO01	**Tunca**	**0.62**	**222**	⇓*iP*	**Pn**	**08 39 30.2**	**+0.5**
BO01				*e*S	**Sn**	**08 39 42.6**	**+0.6**
BO01				IAML		08 39 43.2	
	comp=N,5μm,0.2s						
FCH	**Farellones**	**0.65**	**22**	⇑*iP*	**Pn**	**08 39 30.7**	**+0.3**
FCH				*e*S	**Sn**	**08 39 44.1**	**+1.0**
FCH				IAML		08 39 44.9	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**0.79**	**354**	*e*P	**Pn**	**08 39 31.7**	**+0.2**
PEL				*e*S	**Sn**	**08 39 45.9**	**+1.0**
PEL				IAML		08 39 47.8	
	comp=N,3μm,0.2s						
MT02	**Curacav**	**0.82**	**325**	Pn	**Pn**	**08 39 32.3**	**+0.6**
MT02	**Curacav**	**0.82**	**325**	⇑*iP*	**Pn**	**08 39 32.3**	**+0.6**
MT02				*i*S	**Sn**	**08 39 46.2**	**+0.9**
BO02	**Sierra Bellavi**	**0.87**	**191**		**Pn**	**08 39 33.2**	**+0.9**
BO02	**Sierra Bellavi**	**0.87**	**191**	⇓*iP*	**Pn**	**08 39 33.2**	**+0.9**
BO02				*e*S	**Sn**	**08 39 47.8**	**+1.4**
BO02				IAML		08 39 49.1	
	comp=E,5μm,0.2s						
VA05	**Santo Domingo**	**0.90**	**287**		**Pn**	**08 39 32.5**	**+0.1**
VA05	**Santo Domingo**	**0.90**	**287**	⇑*iP*	**Pn**	**08 39 32.9**	**+0.5**
VA05				*e*S	**Sn**	**08 39 47.2**	**+0.5**
VA05				IAML		08 39 54.9	
	comp=E,2μm,0.2s						
ROC1	**El Roble**	**1.02**	**339**		**Pn**	**08 39 34.7**	**+0.6**
ROCH	**El Roble**	**1.02**	**339**	⇑*iP*	**Pn**	**08 39 34.7**	**+0.6**
ROCH				*e*S	**Sn**	**08 39 51.1**	**+1.6**
ROCH				IAML		08 39 55.5	
	comp=N,2μm,0.2s						
VA03	**San Esteban**	**1.17**	**1**		**Pn**	**08 39 36.6**	**+1.0**
VA03	**San Esteban**	**1.17**	**1**	*e*P	**Pn**	**08 39 36.4**	**+0.9**
VA03				*e*S	**Sn**	**08 39 54.2**	**+1.9**
VA03				IAML		08 39 57.2	
	comp=E,3μm,0.1s						
VA01	**Torpederas**	**1.27**	**315**		**Pn**	**08 39 37.5**	**+0.9**
VA01	**Torpederas**	**1.27**	**315**	*e*P	**Pn**	**08 39 37.9**	**+1.2**
VA01				*i*S	**Sn**	**08 39 55.9**	**+1.7**
BO03	**Pichilemu**	**1.27**	**243**	*e*P	**Pn**	**08 39 37.2**	**+0.5**
BO03				*i*S	**Sn**	**08 39 56.1**	**+1.9**
BO03				IAML		08 40 00.1	
	comp=N,682nm,0.2s						
VA06	**Catapilco**	**1.49**	**336**		**Pn**	**08 39 40.2**	**+0.8**
VA06	**Catapilco**	**1.49**	**336**	*e*P	**Pn**	**08 39 40.0**	**+0.7**
VA06				*e*S	**Sn**	**08 39 59.6**	**+0.6**
VA06				IAML		08 40 01.4	
	comp=E,1μm,0.4s						
GO05	**Huala**	**1.55**	**226**	Pn	**Pn**	**08 39 40.7**	**+0.6**
GO05	**Huala**	**1.55**	**226**	⇓*iP*	**Pn**	**08 39 40.4**	**+0.3**
GO05				*i*S	**Sn**	**08 40 00.6**	**+0.3**
GO05				IAML		08 40 04.7	
	comp=E,782nm,0.3s						
ML02	**Panimavida**	**1.95**	**200**		**Pn**	**08 39 46.0**	**+0.7**
ML02	**Panimavida**	**1.95**	**200**	⇓*iP*	**Pn**	**08 39 45.9**	**+0.7**
ML02				*i*S	**Sn**	**08 40 10.4**	**+1.0**
ML02				IAML		08 40 16.1	
	comp=E,430nm,0.5s						
CO02	**Combarbal**	**2.74**	**353**		**Pn**	**08 39 56.5**	**+0.7**
CO02	**Combarbal**	**2.74**	**353**	*e*P	**Pn**	**08 39 56.1**	**+0.3**
ZON	**Zonda**	**2.87**	**35**	Pn	**Pn**	**08 39 58.4**	**+1.0**
CO03	**El Pedregal**	**3.09**	**358**	Pn	**Pn**	**08 40 01.1**	**+0.7**
CO03	**El Pedregal**	**3.09**	**358**	*e*P	**Pn**	**08 40 01.3**	**+0.9**
BI05	**Punta Hualpn**	**3.53**	**216**	Pn	**Pn**	**08 40 05.1**	**-1.1**
BI05	**Punta Hualpn**	**3.53**	**216**	*e*P	**Pn**	**08 40 05.0**	**-1.1**
GO04	**Tololo Observa**	**3.75**	**357**	Pn	**Pn**	**08 40 10.0**	**+0.5**
GO04	**Tololo Observa**	**3.75**	**357**	*e*P	**Pn**	**08 40 09.1**	**-0.4**
CO01	**Juntas del Tor**	**3.96**	**6**		**Pn**	**08 40 13.5**	**+1.1**
CO01	**Juntas del Tor**	**3.96**	**6**	*e*P	**Pn**	**08 40 13.7**	**+1.3**
CO05	**La Serena**	**4.04**	**352**	Pn	**Pn**	**08 40 13.2**	**+0.1**
CO05	**La Serena**	**4.04**	**352**	*e*P	**Pn**	**08 40 12.8**	**-0.3**
LCO	**Las Campanas**	**4.91**	**359**	Pn	**Pn**	**08 40 24.5**	**-0.6**
AC05	**El Transito**	**5.09**	**3**	Pn	**Pn**	**08 40 27.5**	**+0.1**
GO06	**Curarrehue**	**5.69**	**187**	Pn	**Pn**	**08 40 34.6**	**-0.9**
AC04	**Llanos de Chal**	**5.72**	**356**	Pn	**Pn**	**08 40 34.1**	**-1.9**
LR03	**Panguipulli**	**5.86**	**193**		**Pn**	**08 40 36.9**	**-0.9**
GO03	**Copiap**	**6.33**	**3**	Pn	**Pn**	**08 40 42.9**	**-1.3**
LR04	**Corral**	**6.36**	**200**	Pn	**Pn**	**08 40 42.1**	**-2.4**
AC06	**Mina Casimiro**	**6.56**	**2**	Pn	**Pn**	**08 40 45.8**	**-1.6**
PLCA	**Paso Flores**	**6.79**	**180**	Pn	**Pn**	**08 40 50.4**	**-0.1**
VA04	**Juan Fernndez**	**6.87**	**270**	Pn	**Pn**	**08 40 50.7**	**-0.8**
LL04	**Puerto Octay**	**7.11**	**191**	Pn	**Pn**	**08 40 51.7**	**-3.1**
AC02	**Maricunga**	**7.18**	**10**	Pn	**Pn**	**08 40 55.2**	**-1.1**
AC01	**Pan de Azucar**	**7.76**	**360**	Pn	**Pn**	**08 41 00.1**	**-3.6**
LL05	**Los Muermos**	**7.80**	**196**	Pn	**Pn**	**08 41 00.3**	**-3.9**
TRQA	**Tornquist**	**8.10**	**123**	Pn	**Pn**	**08 41 07.6**	**-0.6**
LL06	**Loncomilla**	**8.61**	**195**	Pn	**Pn**	**08 41 15.0**	**-0.1**
PB14	**IPOC Station P**	**9.28**	**1**	Pn	**Pn**	**08 41 22.2**	**-2.4**
PB08	**IPOC Station P**	**13.80**	**6**	Pn	**Pn**	**08 42 24.5**	**-0.8**
PB12	**IPOC Station P**	**15.26**	**1**	Pn	**Pn**	**08 42 43.5**	**-0.3**
PB12				IAmb	IAmb	08 42 44.3	
	comp=Z,6.4nm,0.6s						
ETMB	**Extrema**	**24.34**	**10**	P	**P**	**08 44 22.3**	**-0.1**
ETMB				IAmb	IAmb	08 44 25.4	
	comp=Z,2.0nm,0.8s						
SNAA	**Sanae**	**51.19**	**158**	P	**P**	**08 48 06.7**	**+0.2**
QSPA	**South Pole Qui**	**56.30**	**180**	P	**P**	**08 48 45.5**	**+1.6**
QSPA				IAmb	IAmb	08 49 02.7	
	comp=Z,5.1nm,1.4s						

*NOU **02** 08:39:21.1,23.˙57S×179.˙68W,h578^{km}, mb4.2/19, South of Fiji Islands*
*IDC **02** 08:39:21.9±1.5,23.˙53S×179.˙84E,h538^{km}±17^{km},mb3.2/8, mbtmp4.1/11,Error ellipse: s-maj=22.7km s-min=14.5km az=149.0*
*NEIC **02** 08:39:22.5±1.4,23.˙48S±0.˙08×180.˙0E±0.˙2,h563^{km}±14^{km}, mb4.2/14,Error ellipse: s-maj=21.7km s-min=11.1km az=95.0*

ISC 02 08:39:21.1±0.6,23.˙66S±0.˙08×179.˙95E±0.˙08,h535^{km},n59, σ1º34/61,mb4.1/16,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**5.52**	**12**	P	**P**	**08 40 55.8**	**+1.1**
MSVF	**Nonsavu**	**6.16**	**343**	P	**P**	**08 41 00.4**	**-0.2**
	6.8nm,0.4s,baz=193,slow=22,SNR=5.2						
MSVF	**Nonsavu**	**6.16**	**343**	P	**P**	**08 41 01.4**	**+0.8**
TAVE	**Taveuni**	**6.91**	**1**	P	**P**	**08 41 09.5**	**+1.7**
NIUE	**Niue**	**10.47**	**66**	P	**P**	**08 41 43.6**	**-0.2**
NIUE	**Niue**	**10.47**	**66**	P	**P**	**08 41 41.6**	**-2.2**
MARNC	**Mare, Loyalty**	**11.22**	**279**	P	**P**	**08 41 53.0**	**+1.5**
DZM	**Mont Dzumac**	**12.55**	**275**	P	**P**	**08 42 06.4**	**+0.9**
	4.9nm,0.7s,baz=138,slow=21,SNR=5.9						
DZM	**Mont Dzumac**	**12.55**	**275**	P	**P**	**08 42 08.0**	**+2.5**
KUZ	**Kuaotunu**	**13.54**	**195**	P	**P**	**08 42 16.4**	**+0.9**
MXZ	**Matakaoa Point**	**13.93**	**185**	P	**P**	**08 42 22.0**	**+2.5**
PKGZ	**Pakihiroa**	**14.28**	**186**	P	**P**	**08 42 26.3**	**+3.2**
RUGZ	**Raukumara Rang**	**14.39**	**187**	P	**P**	**08 42 26.0**	**+1.5**
PUZ	**Puketiti**	**14.44**	**185**	P	**P**	**08 42 26.3**	**+1.5**
TWGZ	**Tauwhareparae**	**14.57**	**186**	P	**P**	**08 42 21.8**	**-4.4**
URZ	**Urewera**	**14.76**	**189**	P	**P**	**08 42 28.3**	**+0.3**
	17nm,0.6s,baz=104,slow=1.1,SNR=16						
URZ				S	**S**	**08 45 01.8**	**-0.4**
	15nm,0.8s,baz=275,slow=20,SNR=6.6						
URZ	**Urewera**	**14.76**	**189**	P	**P**	**08 42 28.2**	**+0.1**
URZ	**Urewera**	**14.76**	**189**	P	**P**	**08 42 26.2**	**-1.8**
MWZ	**Matawai**	**14.78**	**187**	P	**P**	**08 42 28.1**	**-0.3**
TLZ	**Tolley Road**	**15.10**	**193**	P	P	08 42 39.6	+7.9
HIZ	**Hauiti**	**15.43**	**195**	P	**P**	**08 42 36.3**	**+1.2**
NMHZ	**Naumai**	**15.62**	**189**	P	**P**	**08 42 37.7**	**+0.5**
BKZ	**Black Stump Fm**	**15.74**	**190**	P	**P**	**08 42 36.5**	**-1.8**
SNVZ	**South Ngauruho**	**15.91**	**192**	P	**P**	**08 42 39.6**	**-0.5**
KWHZ	**Kaweka Forest**	**16.00**	**190**	P	**P**	**08 42 40.6**	**-0.3**
BHHZ	**Black Hill Sta**	**16.12**	**191**	P	**P**	**08 42 41.6**	**-0.5**
BFZ	**Birch Farm**	**17.26**	**190**	P	**P**	**08 42 51.4**	**-1.3**
QRZ	**Quartz Range**	**18.22**	**198**	P	**P**	**08 43 02.0**	**+0.5**
RPZ	**Rata Peaks**	**21.31**	**198**	P	**P**	**08 43 31.6**	**+2.1**
	5.7nm,0.5s,baz=350,slow=2.6,SNR=6.7						
	5.7nm,0.5s						
RPZ	**Rata Peaks**	**21.31**	**198**	P	**P**	**08 43 29.3**	**-0.2**
JCZ	**Jackson Bay**	**22.33**	**202**	P	**P**	**08 43 37.6**	**-1.2**
EIDS	**Eidsvold**	**26.30**	**260**	P	**P**	**08 44 14.1**	**0.0**
EIDS				IAmb	IAmb	08 44 47.9	
	comp=Z,11nm,1.4s						
EIDS	**Eidsvold**	**26.30**	**260**	P	**P**	**08 44 14.9**	**+0.7**
CMSA	**Cobar Meteorol**	**31.26**	**248**	P	**P**	**08 44 57.8**	**+0.6**
CTA	**Charters Tower**	**31.43**	**270**	P	**P**	**08 44 59.5**	**+0.7**
CTAO	**Charters Tower**	**31.43**	**270**	P	**P**	**08 44 59.0**	**+0.2**
CTAO	**Charters Tower**	**31.43**	**270**	P	**P**	**08 44 59.6**	**+0.7**
PMG	**Port Moresby**	**34.37**	**289**	P	**P**	**08 45 21.5**	**-2.3**
PMG				IAmb	IAmb	08 45 24.6	
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**34.77**	**248**	P	**P**	**08 45 27.2**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=95,slow=10,SNR=5.7						
	comp=Z,0.9nm,0.4s						
STKA	**Stephens Creek**	**34.77**	**248**	P	**P**	**08 45 27.8**	**+0.9**
LCRK	**Leigh Creek**	**37.62**	**250**	P	**P**	**08 45 50.7**	**+0.3**
BBOO	**Buckleboo**	**39.50**	**247**	P	**P**	**08 46 05.3**	**-0.3**
AS31	**Alice Springs**	**42.03**	**260**	P	**P**	**08 46 25.2**	**-0.7**
AS31				IAmb	IAmb	08 46 27.0	
	comp=Z,1.8nm,0.3s						
ASAR	**Alice Springs**	**42.03**	**260**	P	**P**	**08 46 25.9**	**0.0**
	comp=Z,2.3nm,0.6s,baz=93,slow=7.3,SNR=67						
ASAR				ScP	**ScP**	**08 51 09.5**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=108,slow=4.7,SNR=5.9						
ASAR				S	**S**	**08 52 05.4**	**-1.1**
	comp=Z,0.4nm,1.0s,baz=90,slow=14,SNR=2.4						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**42.03**	**260**	P	**P**	**08 46 25.2**	**-0.8**
WR0	**Warramunga Arr**	**42.19**	**266**	P	**P**	**08 46 25.7**	**-1.5**
WR0				IAmb	IAmb	08 46 31.1	
	comp=Z,9.7nm,1.3s						
WB0	**Warramunga Arr**	**42.37**	**266**	P	**P**	**08 46 27.2**	**-1.4**
WB0				IAmb	IAmb	08 46 28.7	
	comp=Z,6.1nm,0.7s						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**08 46 28.2**	**-0.5**
	comp=Z,4.2nm,0.5s,baz=90,slow=5.8,SNR=130						
	comp=Z,4.2nm,0.5s						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**08 46 26.5**	**-2.2**
FORT	**Forrest**	**46.35**	**249**	P	**P**	**08 46 59.1**	**-0.1**
FORT				IAmb	IAmb	08 47 41.7	
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.80**	**265**	P	**P**	**08 47 33.1**	**+0.7**
MORW	**Morawa**	**56.91**	**250**	P	**P**	**08 48 15.5**	**0.0**
MORW				IAmb	IAmb	08 48 52.3	
	comp=Z,16nm,1.4s						
JCJ	**Chichijima**	**62.26**	**322**	P	**P**	**08 48 49.7**	**-1.3**
QSPA	**South Pole Qui**	**66.42**	**180**	P	**P**	**08 49 17.5**	**+0.5**
QSPA				IAmb	IAmb	08 49 54.6	
	comp=Z,4.3nm,1.3s						
NVAR	**Mina Array Bea**	**84.61**	**44**	P	**P**	**08 50 58.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=217,slow=10,SNR=2.3						
	comp=Z,0.2nm,0.5s						
TXAR	**Lajitas Array**	**90.34**	**58**	P	**P**	**08 51 26.6**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=217,slow=7.0,SNR=8.8						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**91.81**	**14**	P	**P**	**08 51 31.4**	**+0.1**
	comp=Z,0.4nm,1.0s,baz=224,slow=7.1,SNR=2.7						
	comp=Z,0.4nm,1.0s						
PDAR	**Pinedale Array**	**92.55**	**44**	P	**P**	**08 51 34.9**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.0,SNR=4.5						
	comp=Z,0.4nm,0.7s						
AKASG	**Malin Array Be**	**144.74**	**327**	PKP	**PKPdf**	**08 57 56.0**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=33,slow=4.3,SNR=5.9						

*IDC **02** 08:55:23.3±0.5,43.˙80N×86.˙36E,h0^{km},mb4.1/27, mbtmp4.2/32,ML3.7/6,MS3.2/15,Error ellipse: s-maj=12.8km s-min=8.9km az=42.0*
*NNC **02** 08:55:25.4±1.0,43.˙85N×86.˙28E,h0^{km},mb4.7,mpv4.6, Error ellipse: s-maj=8.0km s-min=5.2km az=111.0*
*MOS **02** 08:55:26.6±0.9,43.˙83N×86.˙34E,h31^{km},mb4.5/27,Error ellipse: s-maj=7.4km s-min=5.0km az=134.1*
*NEIC **02** 08:55:29.9±1.7,43.˙85N±0.˙05×86.˙27E±0.˙09,h35^{km}±2^{km}, mb4.6/64,Error ellipse: s-maj=13.2km s-min=4.2km az=127.0*

ISC 02 08:55:28.4±0.3,43.˙85N±0.˙04×86.˙35E±0.˙03,h30^{km},n263, σ1º39/275,mb4.4/83,MS3.2/13,18C-15D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.98**	**91**	Pg	**Pn**	**08 55 45.4**	**-0.8**
WMQ				Sg	**Sn**	**08 55 59.0**	**-0.1**
WMQ				smax	smax		
	comp=N,2μm,0.9s						
WMQ				smax	smax		
	comp=E,2μm,0.7s						
ZSN	**Zaisan**	**3.74**	**344**	Pg	**Pb**	**08 56 34.0**	**+0.2**
	comp=E,240nm,0.6s						
ZSN				Lg	Lg	08 57 25.2	
	comp=E,419nm,0.5s						
ZSN	**Zaisan**	**3.74**	**344**	*e*Pn	**Pn**	**08 56 25.7**	**+1.5**
	baz=344						
ZSN				*e*Pg	**Pb**	**08 56 36.8**	**+3.0**
	baz=344						
MK31	**Makanchi Array**	**4.10**	**317**	Pn	**Pn**	**08 56 30.6**	**+1.5**
MK31	**Makanchi Array**	**4.10**	**317**	⇓Pn	**Pn**	**08 56 30.4**	**+1.3**
	comp=E,10nm,0.3s,baz=130,slow=14,SNR=903						
MK31				⇑Pg	**Pb**	**08 56 41.4**	**+1.5**
	comp=E,102nm,0.5s,baz=136,slow=17,SNR=23						
MK31				⇑Sn	**Sn**	**08 57 18.6**	**+2.6**
	comp=E,65nm,0.3s,baz=139,slow=13,SNR=7.0						
MK31				⇓Lg	Lg	08 57 37.3	
	comp=E,106nm,0.3s,baz=129,slow=28,SNR=6.9						
MK31	**Makanchi Array**	**4.10**	**317**	P	**Pn**	**08 56 30.6**	**+1.5**
MKAR	**Makanchi Array**	**4.10**	**317**	Pn	**Pn**	**08 56 30.5**	**+1.4**
	comp=E,15nm,0.3s,baz=133,slow=13,SNR=544						
MKAR				Sn	**Sn**	**08 57 18.6**	**+2.6**
	comp=E,95nm,0.3s,baz=140,slow=24,SNR=6.1						
MKAR				Lg	Lg	08 57 33.5	
	comp=E,114nm,0.3s,baz=121,slow=29,SNR=7.8						
	comp=E,24nm,0.4s						
MKAR	**Makanchi Array**	**4.10**	**317**		**Pn**	**08 56 30.3**	**+1.2**
MAKZ	**Makanchi**	**4.27**	**315**	Pn	**Pn**	**08 56 32.6**	**+1.3**
MAKZ	**Makanchi**	**4.27**	**315**	⇓Pn	**Pn**	**08 56 32.5**	**+1.2**
	comp=E,26nm,0.3s						
MAKZ				⇓Sn	**Sn**	**08 57 22.3**	**+2.1**
	comp=E,171nm,0.5s						
MAKZ				⇑Lg	Lg	08 57 41.6	
	comp=E,238nm,0.5s						
MAKZ	**Makanchi**	**4.27**	**315**	P	**Pn**	**08 56 32.7**	**+1.3**
KTMS	**Ketmen**	**4.37**	**267**	Pg	**Pb**	**08 56 43.8**	**-0.8**
	comp=E,43nm,0.5s						
KTMS				Lg	Lg	08 57 43.6	
	comp=E,217nm,0.3s						
SHLS	**Shalkode**	**5.05**	**264**	Pg	Pb	08 56 50.2	-6.1
	comp=E,31nm,0.3s						
SHLS				Lg	Lg	08 57 53.5	
	comp=E,382nm,0.5s						
SHLS	**Shalkode**	**5.05**	**264**	*e*Pn	**Pn**	**08 56 39.4**	**-2.9**
	baz=264						
SHLS				*e*Pg	**Pb**	**08 56 54.4**	**-1.8**
	baz=264						
UZB	**Uzynbulak**	**5.37**	**265**	*e*Pn	**Pn**	**08 56 47.0**	**+0.3**
	baz=266						
KPKS	**Kokpek**	**5.57**	**269**	Pg	**Pb**	**08 57 05.3**	**+0.3**
	comp=E,33nm,0.3s						
KPKS				Lg	Lg	08 58 20.3	
	comp=E,280nm,0.4s						
KPKS	**Kokpek**	**5.57**	**269**	*e*Pn	**Pn**	**08 56 49.5**	**+0.1**
	baz=269						
KPKS				*e*Sn	**Sn**	**08 57 53.4**	**+1.0**
	baz=269						
ZHN	**Zhinishke**	**5.79**	**266**	Pg	**Pb**	**08 57 09.4**	**+0.6**
	comp=E,32nm,0.2s						
ZHN				Lg	Lg	08 58 26.3	
	comp=E,136nm,0.2s						
ZHN	**Zhinishke**	**5.79**	**266**	*e*Pn	**Pn**	**08 56 51.5**	**-0.9**
	comp=E,2.0nm,0.5s,baz=266						
ZHN				*e*Sn	**Sn**	**08 58 00.1**	**+2.2**
	baz=266						
TDK	**Taldyqorghan**	**5.80**	**284**	*e*Pn	**Pn**	**08 56 52.2**	**-0.2**
	baz=284						
TDK				*e*Pg	Pb	08 57 13.5	+4.7
	baz=284						
TDK				*e*Sn	**Sn**	**08 57 58.8**	**+0.9**
	baz=284						
SATY	**Saty**	**5.83**	**265**	*e*Pn	**Pn**	**08 56 53.6**	**+0.6**
	comp=E,12nm,0.9s,baz=265						
DGZ	**Jazzator, Alta**	**5.90**	**7**	*d iP*	**Pn**	**08 56 55.9**	**+2.0**
DGZ				pmax	pmax		
	comp=Z,18nm,0.6s						
KURS	**Kuram**	**5.94**	**269**	Pg	**Pb**	**08 57 12.0**	**+0.8**
	comp=Z,20nm,0.6s						
KURS				Lg	Lg	08 58 31.3	
	comp=Z,93nm,0.6s						
TARG	**Taragay, Kyrgy**	**6.63**	**254**	Pn	**Pn**	**08 57 04.7**	**+0.5**
TARG	**Taragay, Kyrgy**	**6.63**	**254**	P	**Pn**	**08 57 04.7**	**+0.5**
CHKK	**Chushkaly**	**6.76**	**273**	Pg	**Pb**	**08 57 27.2**	**+2.0**
	comp=Z,15nm,0.4s						
CHKK				Lg	Lg	08 58 57.6	
	comp=Z,99nm,0.2s						
CHKK	**Chushkaly**	**6.76**	**273**	*e*Pn	**Pn**	**08 57 04.9**	**-0.8**
	baz=274						
MDOK	**Medeo**	**6.79**	**267**	Pn	**Pn**	**08 57 06.1**	**-0.1**
	comp=Z,24nm,0.7s						
MDOK				Pg	**Pb**	**08 57 29.5**	**+3.6**
	comp=Z,26nm,0.4s						
MDOK				Lg	Lg	08 59 00.8	
	comp=Z,134nm,0.8s						
MDOK				Lg	Lg	08 59 01.0	
	comp=Z,106nm,0.8s						
MDOK	**Medeo**	**6.79**	**267**	*i* Pn	**Pn**	**08 57 06.4**	**+0.2**
	baz=268						
MDOK	**Medeo**	**6.79**	**267**	P	**Pn**	**08 57 06.1**	**-0.1**
KNDC	**Almaty**	**6.85**	**268**	⇑Pn	**Pn**	**08 57 07.2**	**+0.3**
	comp=Z,33nm,0.5s						
KNDC				⇓Lg	Lg	08 59 01.5	
	comp=Z,238nm,0.8s						
KNDC	**Almaty**	**6.85**	**268**	P	**Pn**	**08 57 07.1**	**+0.3**
AAA	**Alma-Ata**	**6.88**	**268**	Pg	**Pb**	**08 57 31.3**	**+4.0**
	comp=Z,51nm,0.5s						
AAA				Lg	Lg	08 59 04.7	
	comp=Z,167nm,0.8s						
AAA	**Alma-Ata**	**6.88**	**268**	*e*Pn	**Pn**	**08 57 07.1**	**-0.3**
	baz=268						
TNSS	**Tian-Shan**	**6.89**	**266**	Pg	**Pb**	**08 57 30.9**	**+3.3**
	comp=Z,14nm,0.4s						
TNSS				Lg	Lg	08 59 03.3	
	comp=Z,26nm,0.6s						
TNSS	**Tian-Shan**	**6.89**	**266**	*i* Pn	**Pn**	**08 57 07.1**	**-0.6**
	baz=267						
KUU	**Kurty**	**7.23**	**274**	*e*Pn	**Pn**	**08 57 11.4**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=274						
MTBS	**Maitube**	**7.25**	**268**	Pg	**Pb**	**08 57 35.9**	**+2.4**
	comp=Z,14nm,0.5s						
MTBS				Lg	Lg	08 59 12.1	
	comp=Z,44nm,0.3s						
ULHL	**Ulahol**	**7.57**	**261**	P	**Pn**	**08 57 16.6**	**-0.3**
	SNR=12						
KST	**Kastek**	**7.60**	**267**	Pg	Pb	08 57 44.3	+4.8
	comp=Z,16nm,0.4s						
KST				Lg	Lg	08 59 26.6	
	comp=Z,70nm,0.8s						
TKM2	**Tokmak 2**	**7.88**	**

GTA Gaotai 11.01 109 *e*P **Pn** **08 58 03.2 -0.8**
GTA pP 08 58 08.1
GTA sP 08 58 10.6
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,74nm,4.4s
GTA LR LR
comp=N,140nm,7.2s
GTA LR LR
comp=E,170nm,7.6s
GTA LR LR
comp=Z,150nm,10.4s
KK31 Karatay Array 11.53 272 Pn **08 58 09.4 -1.6**
KK31 Karatay Array 11.53 272 Pn **Pn** **08 58 10.8 -0.2**
comp=Z,0.7nm,0.3s,baz=75,slow=14,SNR=26
KK31 Lg Lg 09 01 33.4
comp=Z,16nm,0.8s,baz=75,slow=30,SNR=3.6
KK31 Karatay Array 11.53 272 P **Pn** **08 58 09.4 -1.6**
KKAR Karatay Array 11.53 272 Pn **Pn** **08 58 11.0 0.0**
KKAR Karatay Array 11.53 272 Pn **Pn** **08 58 10.9 0.0**
KKAR Karatay Array 11.53 272 P **Pn** **08 58 11.0 0.0**
GAR Garm 12.96 254 Pn **08 58 29.2 -1.4**
CHGR Chuyangaron 13.93 254 Pn **Pn** **08 58 42.9 -0.9**
CHGR Chuyangaron 13.93 254 P **Pn** **08 58 42.9 -0.9**
BVA0 Borovoye Array 13.98 317 ⇑Pn **Pn** **08 58 44.9 +0.5**
comp=Z,3.9nm,0.8s,baz=117,slow=13,SNR=21
BVA0 ⇑Lg Lg 09 02 49.0
comp=Z,55nm,1.1s
BVA0 Borovoye Array 13.98 317 P **Pn** **08 58 44.9 +0.5**
BVAR Borovoye Array 13.98 317 Pn **Pn** **08 58 42.6 -1.8**
comp=Z,0.2nm,0.3s,baz=110,slow=15,SNR=13
BVAR Sn **Sn** **09 01 11.3 -7.1**
comp=Z,0.3nm,0.3s,baz=99,slow=24,SNR=7.2
BVAR Lg Lg 09 02 47.3
comp=Z,0.1nm,0.3s,baz=108,slow=24,SNR=3.6
BVAR LR LR 09 03 47.0
comp=Z,33nm,18.7s,baz=131,slow=36
comp=Z,1.6nm,0.3s
BRVK Borovoye 14.06 317 Pn **Pn** **08 58 44.5 -0.8**
BRVK Borovoye 14.06 317 ⇓Pn **Pn** **08 58 45.3 0.0**
comp=Z,4.3nm,0.6s
BRVK ⇑Lg Lg 09 02 49.0
comp=Z,44nm,1.1s
BRVK Borovoye 14.06 317⇑*e*P **Pn** **08 58 44.5 -0.8**
NIL Nilore 14.41 229 Pn **Pn** **08 58 48.7 -1.6**
NIL Nilore 14.41 229 P **Pn** **08 58 48.7 -1.6**
SONM Songino Array 14.52 67 Pn **Pn** **08 58 50.4 -1.5**
comp=Z,0.1nm,0.3s,baz=269,slow=13,SNR=4.2
SONM Lg Lg 09 03 04.0
comp=Z,0.2nm,0.3s,baz=267,slow=30,SNR=5.3
SONM Songino Array 14.52 67 Pn **Pn** **08 58 51.8 -0.1**
SONM Songino Array 14.52 67 P **Pn** **08 58 51.8 -0.1**
LSA Lhasa 14.64 163 P **P** **08 59 01.5 +1.6**
LSA pmax pmax
comp=Z,19nm,0.9s
ULN Ulaanbaatar 14.97 67 **P** **08 59 03.4 +0.3**
ULN Ulaanbaatar 14.97 67⇑*e*P **Pn** **08 58 57.5 -0.4**
LZH Lanzhou 15.48 114 *e*P **P** **08 59 10.7 +1.8**
LZH pP pP 08 59 17.5 +0.3
LZH pmax pmax
comp=Z,19nm,1.3s
LZH LR LR
comp=N,240nm,11.2s
LZH LR LR
comp=E,220nm,10.2s
LZH LR LR
comp=Z,150nm,11.4s
DANN Dangsing 15.61 188 *e*P **P** **08 59 09.2 -1.3**
comp=Z,30nm,0.4s
GKN Gorkha 15.88 186 *e*P **P** **08 59 12.7 -0.6**
comp=Z,21nm,0.3s
JIRN Jiri 16.16 180 *e*P **P** **08 59 16.0 -0.7**
comp=Z,49nm,0.5s
DMN Daman 16.24 184 *e*P **P** **08 59 16.2 -1.3**
comp=Z,12nm,0.4s
PKI Pulchoki 16.27 183 *e*P **P** **08 59 17.0 -0.8**
comp=Z,13nm,0.4s
KBL Kabul 16.29 241 Pn **Pn** **08 59 14.8 -0.4**
KBL Kabul 16.29 241 P **Pn** **08 59 14.8 -0.4**
KBL pmax pmax
comp=Z,22nm,1.2s
SHL Shillong 18.80 164 P **P** **08 59 44.6 -0.9**
SHL IAmb IAmb 08 59 45.8
comp=Z,33nm,1.5s
SHL Shillong 18.80 164 P **P** **08 59 44.7 -0.9**
SHL pmax pmax
comp=Z,33nm,1.5s
AB31 Akbulak array 18.89 296 Pn **P** **08 59 45.5 -0.8**
comp=Z,2.0nm,0.5s,baz=95,slow=11,SNR=114
AB31 Akbulak array 18.89 296 P **P** **08 59 45.5 -0.8**
ABKAR Akbulak array 18.89 296 P **P** **08 59 45.6 -0.7**
AKTO Aktyubinsk 20.28 299 P **P** **09 00 00.5 -1.0**
comp=Z,4.7nm,0.6s,baz=101,slow=13,SNR=3.1
AKTO S **S** **09 03 41.2 -6.0**
comp=Z,1.9nm,0.7s,baz=94,slow=19,SNR=2.8
comp=Z,4.7nm,0.6s
AKTO Aktyubinsk 20.28 299 ⇓Pn Pn 09 00 04.1 +0.5
comp=Z,3.9nm,0.8s
SVE Sverdlovsk 20.76 318 *e*P **P** **09 00 06.6 0.0**
ARU Arti 21.62 315 P **P** **09 00 15.3 -0.6**
comp=Z,2.6nm,0.3s,baz=114,slow=7.0,SNR=8.4
ARU LR LR 09 10 05.4
comp=Z,20nm,20.0s,baz=142,slow=41
comp=Z,2.6nm,0.3s
ARU Arti 21.62 315 P **P** **09 00 15.9 +0.1**
ARU Arti 21.62 315*d* *i*P **P** **09 00 14.9 -1.0**
ARU 09 00 35.8
ARU S **S** **09 04 14.4 +0.8**
ARU SS **SnSn** **09 04 39.6 +1.4**
ARU pmax pmax
comp=Z,5.0nm,0.7s
GEYT Alibeck 22.08 264 P **P** **09 00 20.3 -0.7**
comp=Z,3.8nm,0.8s,baz=57,slow=16,SNR=6.6
GEYT LR LR 09 09 58.1
comp=Z,67nm,18.5s,baz=138,slow=40
comp=Z,3.8nm,0.8s
GEYT Alibeck 22.08 264 P **P** **09 00 19.5 -1.5**
GYA0B ALIBECK ARRAY 22.08 264 P **P** **09 00 19.9 -1.1**
BOD Bodaibo 22.16 41 *e*P **P** **09 00 25.0 +3.4**
BOD pmax pmax
comp=Z,9.0nm,1.1s
NRIK Noril'sk 25.56 1 P **P** **09 00 54.2 0.0**
comp=Z,2.6nm,0.4s,baz=167,slow=5.3,SNR=7.7
comp=Z,2.6nm,0.4s
NRIK Noril'sk 25.56 1 P **P** **09 00 54.4 +0.2**
NRIK IAmb IAmb 09 01 22.4
comp=Z,10nm,1.0s
NRIK Noril'sk 25.56 1 *e*P **P** **09 00 54.3 0.0**
NRIK pmax pmax
comp=Z,5.0nm,0.5s
CRAI Chiangrai 26.31 149 P **P** **09 01 03.2 +1.7**
CHTO Chiang Mai 27.12 153 P **P** **09 01 07.9 -0.9**
CHTO Chiang Mai 27.12 153 P **P** **09 01 07.9 -0.9**
CHTO pmax pmax
comp=Z,10.0nm,1.4s
CMAR Chiang Mai Arr 27.45 153 P **P** **09 01 11.9 +0.1**
comp=Z,1.3nm,0.5s,baz=333,slow=8.7,SNR=12
comp=Z,1.3nm,0.5s
CMAR Chiang Mai Arr 27.45 153 P **P** **09 01 12.3 +0.5**
CMAR Chiang Mai Arr 27.45 153 *i* P **P** **09 01 12.3 +0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
PHRA Phrae 27.85 151 P **P** **09 01 15.8 +0.5**
WSAR Wadi Sarin 30.69 237 P **P** **09 01 41.4 +0.8**
comp=Z,3.3nm,0.8s,baz=66,slow=10.0,SNR=4.9
comp=Z,3.3nm,0.8s
ONI Oni 31.03 283 P **P** **09 01 44.8 +1.4**
ONI IAmb IAmb 09 01 45.5
comp=Z,9.8nm,0.6s
ONI Oni 31.03 283 P **P** **09 01 44.8 +1.4**
ONI pmax pmax
comp=Z,10.0nm,0.6s
KBZ Khabaz 31.10 285 P **P** **09 01 43.9 0.0**
comp=Z,2.6nm,0.7s,baz=90,slow=6.1,SNR=7.5
KBZ LR LR 09 16 58.7
comp=Z,54nm,18.2s,baz=92,slow=42
comp=Z,2.6nm,0.7s
KLR Kul'dur 31.32 64 P **P** **09 01 45.2 -0.6**
comp=Z,0.2nm,0.3s,baz=288,slow=13,SNR=1.2
KLR LR LR 09 15 57.2
comp=Z,46nm,19.2s,baz=298,slow=39
comp=Z,0.2nm,0.3s
AKH Akhalkalaki 31.37 281 P **P** **09 01 48.4 +1.8**
AKH IAmb IAmb 09 01 48.9
comp=Z,14nm,0.9s

AKH Akhalkalaki 31.37 281 P **P** **09 01 48.4 +1.8**
AKH pmax pmax
comp=Z,14nm,0.9s
KSRS Korea Array 31.93 87 LR LR 09 14 49.5
comp=Z,14nm,19.2s,baz=285,slow=37
USA0B Ussuriysk Arra 32.50 73⇓*e*P **P** **09 01 52.9 -3.3**
TIXI Tiksi 34.54 22 LR LR 09 17 09.3
comp=Z,84nm,18.6s,baz=234,slow=38
TIXI Tiksi 34.54 22 P **P** **09 02 17.5 +3.9**
TIXI IAmb IAmb 09 02 36.6
comp=Z,4.7nm,0.5s
TIXI Tiksi 34.54 22⇑*e*P **P** **09 02 13.2 -0.5**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TPUB Ta-pu 34.80 115 P **P** **09 02 17.4 +0.9**
MARD Mardin 34.86 275 P **P** **09 02 18.3 +1.2**
JNU Nakatsue 36.08 92 LR LR 09 18 43.7
comp=Z,52nm,18.4s,baz=276,slow=39
AKASG Malin Array Be 38.50 301 P **P** **09 02 46.9 -0.8**
comp=Z,0.4nm,0.3s,baz=60,slow=8.4,SNR=12
AKASG PcP **PcP** **09 04 58.9 -1.2**
comp=Z,0.2nm,0.4s,baz=63,slow=4.3,SNR=2.4
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 38.50 301 P **P** **09 02 47.5 -0.2**
AKASG Malin Array Be 38.50 301*c**e*P **P** **09 02 47.2 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 38.50 301 P **P** **09 02 47.4 -0.3**
AKBB Malin Array Si 38.50 301 P **P** **09 02 47.4 -0.3**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
VSU Vasula 38.77 314 P **P** **09 02 49.8 0.0**
FIA1 FINESS Array S 38.93 318 P **P** **09 02 50.7 -0.4**
FIA1 IAmb IAmb 09 03 12.6
comp=Z,19nm,1.4s
FINES FINESS Array B 38.93 318 P **P** **09 02 50.9 -0.2**
comp=Z,1.1nm,0.3s,baz=76,slow=8.0,SNR=15
FINES PcP **PcP** **09 05 00.3 -0.9**
comp=Z,1.9nm,0.6s,baz=108,slow=3.3,SNR=5.6
comp=Z,1.1nm,0.3s
FINES FINESS Array B 38.93 318 *i* P **P** **09 02 51.2 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.3s
BR131 Keskin Array S 38.96 283 P **P** **09 02 52.2 +0.3**
BR131 IAmb IAmb 09 02 53.7
comp=Z,7.4nm,0.8s
BR131 Keskin Array S 38.96 283⇑*e*P **P** **09 02 51.2 -0.7**
BRTR Keskin Array B 38.97 283 P **P** **09 02 51.8 -0.1**
comp=Z,4.5nm,0.7s,baz=86,slow=7.2,SNR=20
comp=Z,4.5nm,0.7s
BRTR Keskin Array B 38.97 283 P **P** **09 02 52.5 +0.5**
BRTR Keskin Array B 38.97 283 *i* P **P** **09 02 52.2 +0.3**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
ANTO Ankara 39.50 283 P **P** **09 02 57.7 +1.4**
ANTO pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 39.62 331 P **P** **09 02 56.7 -0.1**
comp=Z,7.1nm,1.1s,baz=88,slow=7.1,SNR=8.5
ARCES PcP **PcP** **09 05 02.6 -0.7**
comp=Z,1.4nm,0.5s,baz=99,slow=4.7,SNR=5.6
comp=Z,7.1nm,1.1s
ARCES ARCESS Array B 39.62 331 P **P** **09 02 57.6 +0.7**
ARCES ARCESS Array B 39.62 331 P **P** **09 02 57.6 +0.7**
ARCES pmax pmax
comp=Z,27nm,1.3s
KULM Kulim 40.42 158 P **P** **09 03 03.5 -0.5**
PABE Paberze 40.66 309 P **P** **09 03 04.2 -1.3**
PABE IAmb IAmb 09 03 06.7
comp=Z,13nm,0.8s
CFR Carcaliu 40.74 293 P **P** **09 03 05.8 -0.6**
CFR pmax pmax
comp=Z,5.0nm,2.8s
TIRR Tirgusor 40.80 292 P **P** **09 03 08.0 +1.1**
TIRR pmax pmax
comp=Z,22nm,1.6s
MA2 Magadan 41.13 44 LR LR 09 20 56.5
comp=Z,26nm,18.4s,baz=298,slow=37
IPM Ipoh 41.30 157 P **P** **09 03 10.5 -0.8**
IPM IAmb IAmb 09 03 13.8
comp=Z,9.5nm,0.9s
BURAR Bucovina Array 41.86 297 P **P** **09 03 15.5 -0.3**
BUR08 Bucovina Ar. S 41.87 297 P **P** **09 03 16.2 +0.4**
MLR Muntele Rosu 42.09 294 LR LR 09 22 18.0
comp=Z,49nm,19.1s,baz=215,slow=38
JHJ Hachijo jima 2 42.52 86 LR LR 09 20 58.3
comp=Z,53nm,20.8s,baz=108,slow=36
ELL Elmali 42.90 281 P **P** **09 03 25.3 +0.9**
ELL Elmali 42.90 281 P **P** **09 03 25.3 +0.9**
ELL pmax pmax
comp=Z,35nm,0.6s
DRGR 43.75 297 P **P** **09 03 31.1 +0.1**
DRGR pmax pmax
comp=Z,8.0nm,1.0s
NIE Niedzica 44.38 301 *e*P **P** **09 03 37.3 +1.3**
NIE Niedzica 44.38 301 P **P** **09 03 36.9 +0.9**
NIE pmax pmax
comp=Z,6.0nm,0.9s
OJC Ojcow 44.43 303 P **P** **09 03 36.8 +0.5**
OJC IAmb IAmb 09 03 37.3
comp=Z,10nm,1.2s
OJC Ojcow 44.43 303 P **P** **09 03 36.8 +0.5**
OJC pmax pmax
comp=Z,10.0nm,1.2s
VTS Vitosha 44.98 291 P **P** **09 03 42.0 +1.0**
VTS Vitosha 44.98 291 P **P** **09 03 42.0 +1.0**
VTS pmax pmax
comp=Z,2.0nm,0.8s
SRS Serrai 45.37 289 P **P** **09 03 44.4 +0.5**
SRS pmax pmax
comp=Z,7.0nm,1.0s
KARP Karpathos 45.43 281 P **P** **09 03 44.6 +0.1**
KNT Kendrikon 45.83 290 P **P** **09 03 47.7 +0.2**
KNT pmax pmax
comp=Z,5.0nm,0.9s
NC405 NORSAR Array S 45.84 319 P **P** **09 03 47.0 -0.3**
NC405 IAmb IAmb 09 04 01.6
comp=Z,11nm,1.1s
KKM Kota Kinabalu 45.88 136 P **P** **09 03 50.1 +1.8**
NC303 NORSAR Array S 45.98 319 P **P** **09 03 48.9 +0.4**
NC602 NORSAR Array S 46.01 319 P **P** **09 03 48.9 +0.2**
NC602 IAmb IAmb 09 04 07.3
comp=Z,14nm,1.1s
NORES NORESS Array B 46.01 319 P **P** **09 03 51.5 +2.8**
NB201 NORSAR Array S 46.05 319 P **P** **09 03 49.7 +0.6**
NB2 NORSAR Subarra 46.09 319 P **P** **09 03 49.2 -0.2**
comp=Z,0.7nm,0.5s,baz=75,slow=7.9
NOA NORSAR Array B 46.09 319 P **P** **09 03 48.5 -0.9**
comp=Z,1.2nm,0.6s,baz=77,slow=7.8,SNR=5.7
NOA LR LR 09 25 08.1
comp=Z,22nm,18.9s,baz=95,slow=39
comp=Z,1.2nm,0.6s
NC204 NORSAR Array S 46.25 320 P **P** **09 03 50.8 +0.1**
KRLC Kraliky 46.31 303 P **P** **09 03 51.6 +0.3**
KRLC pmax pmax
comp=Z,4.0nm,1.9s
KSP Ksiaz 46.34 305 P **P** **09 03 52.0 +0.6**
KSP pmax pmax
comp=Z,3.0nm,0.9s
PETK Petropavlovsk- 46.35 52 LR LR 09 24 46.7
comp=Z,59nm,19.0s,baz=151,slow=38
DPC Dobruska-Polom 46.49 304 P **P** **09 03 53.5 +0.8**
DPC pmax pmax
comp=Z,8.0nm,2.6s
DIVS Divibare 46.54 295 P **P** **09 03 53.5 +0.3**
DIVS IAmb IAmb 09 04 17.1
comp=Z,10nm,1.5s
UPC Upice 46.62 304 P **P** **09 03 54.5 +0.8**
UPC pmax pmax
comp=Z,8.0nm,0.8s
VRAC Vranov 46.70 302 LR LR 09 25 08.5
comp=Z,32nm,18.2s,baz=344,slow=38
KRUC Moravsky 46.91 302 P **P** **09 03 56.6 +0.7**
KRUC pmax pmax
comp=Z,5.0nm,2.8s
FNA Florina 47.03 290 P **P** **09 03 57.0 0.0**
FNA Florina 47.03 290 P **P** **09 03 57.0 0.0**
FNA pmax pmax
comp=Z,3.0nm,1.4s
AGG Agios Georgios 47.17 287 P **P** **09 03 58.2 +0.1**
AGG Agios Georgios 47.17 287 P **P** **09 03 58.2 +0.1**
AGG pmax pmax
comp=Z,2.0nm,1.3s
CONA Conrad Observa 47.66 301 *e*pP **P** **09 04 03.0 +1.1**
comp=Z,1.7nm,0.6s

CLL Collm 48.12 306 *i* P **P** **09 04 05.6 +0.4**
comp=Z,7.0nm,0.7s
CLL Collm 48.12 306 P **P** **09 04 05.4 +0.2**
GERES GERESS Array B 48.63 303 P **P** **09 04 09.9 +0.5**
comp=Z,0.6nm,0.5s,baz=64,slow=8.9,SNR=2.6
comp=Z,0.6nm,0.5s
SOKA Soboth 48.68 300 *i* P **P** **09 04 09.9 +0.1**
comp=Z,1.4nm,0.4s
OBKA Obir 49.05 300 *i* P **P** **09 04 13.2 +0.6**
comp=Z,2.3nm,0.4s
SABO M.te Sabotino 49.87 299 P **P** **09 04 18.6 -0.2**
SABO IAmb IAmb 09 04 19.0
comp=Z,6.3nm,0.9s
ABTA Abfaltersbach 50.23 301 *e*pP **P** **09 04 22.6 +1.0**
comp=Z,0.5nm,0.3s
WTTA Wattenberg 50.55 302 *e*P **P** **09 04 24.6 +0.5**
comp=Z,7.3nm,0.6s
WTTA Wattenberg 50.55 302 P **P** **09 04 24.3 +0.2**
WTTA pmax pmax
comp=Z,12nm,1.4s
WATA Walderalm 50.55 302 *e*P **P** **09 04 24.9 +0.8**
comp=Z,0.5nm,0.2s
SQTA Sankt Quirin 50.83 302 *i* P **P** **09 04 27.0 +0.8**
comp=Z,5.2nm,0.4s
MOTA Moosalm 50.84 302 *e*pP **P** **09 04 27.9 +1.6**
comp=Z,0.5nm,0.2s
FETA Feichten 51.21 302 *i* P **P** **09 04 29.2 +0.2**
comp=Z,0.5nm,0.3s,SNR=4.2
FDMO Fiordimonte 51.52 296 P **P** **09 04 31.3 0.0**
FDMO IAmb IAmb 09 04 32.7
comp=Z,9.9nm,1.1s
CAMP Campotosto 51.54 296 P **P** **09 04 30.1 -1.5**
CAMP IAmb IAmb 09 04 44.5
comp=Z,10nm,1.4s
NRCA Norcia 51.59 296 P **P** **09 04 32.2 +0.3**
NRCA IAmb IAmb 09 04 33.7
comp=Z,6.5nm,1.0s
FUORN Ofenpass-Fuorn 51.67 301 P **P** **09 04 32.8 +0.1**
FUORN IAmb IAmb 09 04 40.3
comp=Z,4.0nm,0.9s
SAOF Saorge 54.60 300 P **P** **09 04 54.0 +0.1**
ORIF Oris-en-Rattie 55.18 301 P **P** **09 04 57.5 -0.7**
EKA Eskdalemuir Ar 55.24 316 P **P** **09 04 58.0 -0.3**
KEST Kesra 57.74 290 P **P** **09 05 15.9 -0.6**
KEST IAmb IAmb 09 05 29.9
comp=Z,13nm,1.4s
COLD Coldfoot 61.27 22 P **P** **09 05 41.6 +1.3**
COLD IAmb IAmb 09 05 48.6
comp=Z,12nm,1.4s
J20K Nowinta River 62.32 25 P **P** **09 05 49.4 +2.0**
J20K IAmb IAmb 09 05 57.8
comp=Z,11nm,1.4s
A36M Sachs Harbour 62.33 11 P **P** **09 05 48.1 +0.8**
A36M IAmb IAmb 09 05 55.4
comp=Z,2.6nm,0.8s
BMAR Burnt Mountain 62.56 20 P **P** **09 05 50.4 +1.3**
H24K Noodor Dome 62.93 22 P **P** **09 05 52.6 +1.1**
H24K IAmb IAmb 09 06 06.4
comp=Z,6.5nm,1.5s
NEA2 Nenana 63.53 23 P **P** **09 05 55.6 +0.2**
NEA2 IAmb IAmb 09 06 06.2
comp=Z,4.4nm,1.3s
COLA College 63.66 23⇑*e*P **P** **09 05 55.5 -0.8**
COLA pmax pmax
comp=Z,2.0nm,1.1s
KTH Kantishna Hill 63.76 25 P **P** **09 05 58.2 +1.1**
KTH IAmb IAmb 09 06 03.2
comp=Z,9.0nm,1.3s
PPLA Purkeypile 63.85 26 P **P** **09 05 58.9 +1.1**
ILAR Eielson Array 64.01 22 P **P** **09 05 58.2 -0.4**
comp=Z,0.5nm,0.8s,baz=318,slow=5.0,SNR=7.3
comp=Z,0.5nm,0.8s
ILAR Eielson Array 64.01 22 P **P** **09 05 58.9 +0.3**
ILAR Eielson Array 64.01 22 P **P** **09 05 58.9 +0.3**
SVW2 Sparrevohn 64.02 28 P **P** **09 06 00.8 +2.1**
SVW2 IAmb IAmb 09 06 02.2
comp=Z,6.0nm,1.1s
ESBB Sonseca Array 64.15 301 P **P** **09 05 58.7 -1.3**
ESDC Sonseca Array 64.15 301 P **P** **09 05 59.7 -0.3**
comp=Z,0.7nm,0.6s,baz=49,slow=6.5,SNR=7.0
comp=Z,0.7nm,0.6s
INK Inuvik 64.25 15 P **P** **09 06 00.6 +0.6**
comp=Z,1.8nm,1.0s,baz=332,slow=7.8,SNR=3.9
comp=Z,1.8nm,1.0s
INK Inuvik 64.25 15 P **P** **09 06 01.2 +1.1**
INK IAmb IAmb 09 06 22.8
comp=Z,4.7nm,1.4s
INK Inuvik 64.25 15 P **P** **09 06 01.2 +1.1**
INK pmax pmax
comp=Z,5.0nm,1.4s
C36M Paulatuk 64.90 11 P **P** **09 06 04.5 +0.2**
ROCAM Rodrigues Isla 66.71 204 P **P** **09 06 15.8 -0.8**
BCAR Beaver Creek A 66.75 22 P **P** **09 06 17.3 +0.9**
KDAK Kodiak Island 67.48 30 P **P** **09 06 21.2 +0.2**
comp=Z,1.9nm,0.5s,baz=353,slow=8.1,SNR=7.0
comp=Z,1.9nm,0.5s
YKA Yellowknife Ar 72.67 10 P **P** **09 06 52.8 0.0**
comp=Z,1.2nm,0.8s,baz=338,slow=6.0,SNR=16
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 72.67 10 P **P** **09 06 53.0 +0.2**
YKA Yellowknife Ar 72.67 10 P **P** **09 06 53.0 +0.2**
TORD Torodi Ar. Bea 77.19 276 P **P** **09 07 18.6 -1.0**
comp=Z,1.5nm,0.6s,baz=38,slow=5.2,SNR=12
comp=Z,1.5nm,0.6s
WRA Warramunga Arr 77.21 134 P **P** **09 07 18.8 -0.8**
comp=Z,2.0nm,0.6s,baz=332,slow=4.7,SNR=22
comp=Z,2.0nm,0.6s
SCHQ Schefferville 79.07 345 P **P** **09 07 29.4 0.0**
comp=Z,2.2nm,0.7s,baz=8.1,slow=7.1,SNR=1.5
comp=Z,2.2nm,0.7s
ASAR Alice Springs 80.09 137 P **P** **09 07 34.5 -0.8**
comp=Z,2.0nm,0.9s,baz=333,slow=5.4,SNR=16
comp=Z,2.0nm,0.9s
FFC Flin Flon 81.54 5 P **P** **09 07 42.3 -0.4**
FFC IAmb IAmb 09 07 43.0
comp=Z,3.1nm,0.8s
FFC Flin Flon 81.54 5 P **P** **09 07 42.3 -0.4**
FFC pmax pmax
comp=Z,3.0nm,0.9s
B08A Colville Reser 85.44 17 P **P** **09 08 03.6 +0.7**
B08A IAmb IAmb 09 08 04.6
comp=Z,2.2nm,0.7s
DBIC Dimbokro 86.30 276 P **P** **09 08 06.7 -1.0**
comp=Z,5.7nm,0.5s,baz=51,slow=4.9,SNR=17
comp=Z,5.7nm,0.5s
DBIC Dimbokro 86.30 276 P **P** **09 08 06.9 -0.8**
DBIC Dimbokro 86.30 276 P **P** **09 08 06.9 -0.8**
DBIC pmax pmax
comp=Z,6.0nm,0.6s
LBTB Lobatse 88.26 232 P **P** **09 08 16.5 -0.4**
comp=Z,4.9nm,0.8s,baz=21,slow=6.0,SNR=5.7
comp=Z,4.9nm,0.8s
LBTB Lobatse 88.26 232 P **P** **09 08 17.2 +0.3**
LBTB IAmb IAmb 09 08 17.2
comp=Z,5.5nm,0.9s
LBTB Lobatse 88.26 232 P **P** **09 08 17.2 +0.3**
LBTB pmax pmax
comp=Z,6.0nm,1.0s
PLID Pearl Lake 89.24 16 P **P** **09 08 22.2 +0.6**
PLID IAmb IAmb 09 08 22.3
comp=Z,1.6nm,0.7s
GCMT Greycliff 89.61 11 P **P** **09 08 24.1 +0.8**
STKA Stephens Creek 90.69 136 P **P** **09 08 26.3 -1.7**
comp=Z,1.9nm,0.7s,baz=310,slow=3.3,SNR=4.5
comp=Z,1.9nm,0.7s
WVOR Wild Horse Val 91.22 18 P **P** **09 08 31.4 +0.6**
WVOR pmax pmax
comp=Z,3.0nm,1.6s
PDAR Pinedale Array 92.59 12 P **P** **09 08 36.7 -0.5**
comp=Z,2.0nm,0.6s,baz=354,slow=2.8,SNR=2.3
comp=Z,2.0nm,0.6s
CPUP Villa Florida 145.86 289 PKPbc **PKPdf** **09 15 03.3 -0.9**
comp=Z,1.8nm,0.6s,baz=74,slow=7.4,SNR=10

INET ***02*** *08:58:33.7±1.5, 9.°75N×83.°79W, h2km±9km, MW2.6*
UPA ***02*** *08:58:35.0±0.8, 9.°80N×83.°87W, h3km±3km, MW3.8*
ISC 02 08:58:35.0±0.9, **9.°76N**±0.°04×**83.°86W**±0.°04, **h9**km±7km, **n12,**
σ0**82/19, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RIMA	**Rio Macho**	**0.01**	**322**	*e*P		**Pg**		**08 58 36.2**	**-0.7**
CDM	**Cerro de Muert**	**0.23**	**155**	*e*P		**Pg**		**08 58 40.2**	**+0.4**
CDM				*e*S		**Sg**		**08 58 44.5**	**+1.5**
HDC3	**Heredia 3**	**0.35**	**314**	*e*P		**Pg**		**08 58 42.3**	**+0.4**

HDC	**Heredia**	**0.35**	**314**	*eP*	**Pg**	**08 58 42.3**	**+0.3**
HDC				*eS*	**Sg**	**08 58 47.7**	**+1.1**
PEZE	**Perez Zeledon,**	**0.41**	**155**	*eP*	**Pg**	**08 58 43.3**	**+0.1**
PEZE				*eS*	**Sg**	**08 58 49.4**	**+0.7**
BATAN	**Batan**	**0.58**	**55**	*eP*	**Pb**	**08 58 47.5**	**+0.1**
BATAN				*i S*	**Sb**	**08 58 56.0**	**+0.2**
JACO	**JACO, Garabito**	**0.80**	**263**	*eP*	**Pg**	**08 58 50.3**	**-0.1**
LAFE	**Finca La Fe, P**	**1.04**	**273**	*eP*	**Pb**	**08 58 55.2**	**0.0**
JTS	**Las Juntas de**	**1.20**	**296**	*i P*	**Pg**	**08 58 57.3**	**-0.8**
JTS				*i S*	**Sg**	**08 59 13.9**	**+0.2**
BRU2	**Volcan**	**1.50**	**130**	*eP*	**Pn**	**08 59 02.5**	**+0.1**
BRU2				*i S*	**Sb**	**08 59 21.4**	**-1.1**
DUNO	**Dulce Nombre,**	**1.64**	**281**	*eP*	**Pn**	**08 59 03.9**	**-0.3**
DVD	**David**	**1.91**	**133**	*eP*	**Pn**	**08 59 08.3**	**+0.5**
DVD				*i S*	**Sg**	**08 59 34.9**	**-1.8**

*IDC **02** 09:00:05.6±4.3,3˝.79S×101˝.36E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=188.4km s-min=23.4km az=55.0*

ISC 02 09:00:10.6±4.1,**3˝.8S**±0˝.7×**101˝.4E**±1˝.0, **h34**km, **n9,** σ0§**28**/6, **mb3.7**/5, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.99**	**261**	T	T	09 36 02.2	
	baz=85,slow=74						
H08S3	**Diego Garcia H**	**29.00**	**261**	T	T	09 36 13.9	
	baz=85,slow=74						
H08S1	**Diego Carcia H**	**29.01**	**261**	T	T	09 36 06.1	
	baz=85						
WRA	**Warramunga Arr**	**35.91**	**119**	P	**P**	**09 07 08.0**	**0.0**
	0.2nm,0.4s,baz=306,slow=8.7,SNR=1.3						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**37.10**	**125**	P	**P**	**09 07 18.1**	**0.0**
	0.4nm,0.5s,baz=297,slow=8.1,SNR=6.4						
	0.4nm,0.5s						
SONM	**Songino Array**	**51.59**	**4**	P	**P**	**09 09 13.7**	**+0.1**
	0.5nm,0.5s,baz=180,slow=8.9,SNR=4.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**53.11**	**344**	P	**P**	**09 09 25.1**	**+0.2**
	0.5nm,0.5s,baz=160,slow=8.7,SNR=7.5						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**59.17**	**349**	P	**P**	**09 10 07.5**	**-0.4**
	0.4nm,0.4s,baz=165,slow=6.0,SNR=2.5						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**145.21**	**40**	PKPbc	**PKPbc**	**09 19 45.2**	**0.0**
	0.6nm,0.5s,baz=225,slow=1.0,SNR=17						

*MAN **02** 09:09:04.1, 16˝.29N×119˝.27E, h2km, mb4.1, ML2.9, MS2.6*
*IDC **02** 09:09:04.6±1.2, 16˝.04N×119˝.73E, h0km, mb3.6/5, mbtmp3.6/5, MS2.6/1, Error ellipse: s-maj=94.9km s-min=21.9km az=69.0*

ISC 02 09:09:06.0±1.3,**16˝.1N**±0˝.1×**119˝.3E**±0˝.2, **h10**km, **n9,** σ2§**12**/7, **mb3.6**/5, **1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**1.84**	**107**	*eP*	**Pn**	**09 09 36.2**	**-1.4**
LUBP	**Lubang**	**2.54**	**158**	*eP*	**Pg**	**09 09 55.4**	**+0.8**
JCNP	**Jose Panganiba**	**3.77**	**118**	*eP*	**Pn**	**09 10 06.8**	**+2.6**
CMAR	**Chiang Mai Arr**	**19.55**	**280**	LR	LR	09 21 18.9	
	comp=Z,15nm,18.2s,baz=235,slow=37						
SONM	**Songino Array**	**33.38**	**344**	P	**P**	**09 15 45.8**	**+1.1**
	0.4nm,0.7s,baz=157,slow=7.7,SNR=4.1						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**38.76**	**157**	P	**P**	**09 16 28.7**	**-2.2**
	0.9nm,0.7s,baz=335,slow=9.5,SNR=3.5						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**42.03**	**160**	P	**P**	**09 16 56.4**	**-1.6**
	0.7nm,0.5s,baz=336,slow=6.3,SNR=11						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**43.29**	**323**	P	P	09 17 10.8	+2.8
	0.4nm,0.8s,baz=132,slow=8.6,SNR=4.2						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**91.09**	**22**	P	**P**	**09 22 10.6**	**-0.1**
	0.5nm,1.0s,baz=300,slow=4.9,SNR=3.7						
	0.5nm,1.0s						

ROM 02 09:09:54.8±0.1,**42˝.912N**±0˝.003×**13˝.213E**±0˝.005, **h9**km, **ML1.4**/6, **Error ellipse: s-maj=0.3km s-min=0.3km az=92.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.06**	**198**	P	Pg	09 09 57.0	0.0
T1245				S	Sg	09 09 58.2	-0.2
T1245				AML	AML		
	comp=N,1310μm,0.7s						
T1245				AML	AML		
	comp=E,696μm,1.1s						
T1245				AML	AML		
	comp=N,956μm,0.7s						
T1245				AML	AML		
	comp=E,696μm,0.9s						
T1245				AML	AML		
	comp=E,800μm,0.3s						
T1245	**Castelsantange**	**0.06**	**198**	P	Pg	09 09 56.9	0.0
T1245				S	Sg	09 09 58.2	-0.2
MMO1	**Montemonaco**	**0.09**	**98**	P	Pg	09 09 57.5	+0.3
MMO1				S	Sg	09 09 59.1	+0.3
MMO1	**Montemonaco**	**0.09**	**98**	S	Sg	09 09 59.2	+0.4
T1256	**Bolognola (MC)**	**0.10**	**6**	P	Pg	09 09 57.7	+0.4
T1256				S	Sg	09 09 59.5	+0.3
NRCA	**Norcia**	**0.11**	**223**	P	Pg	09 09 57.8	+0.3
NRCA				S	Sg	09 09 59.9	+0.6
NRCA				AML	AML		
	comp=E,547μm,1.0s						
NRCA				AML	AML		
	comp=N,388μm,1.3s						
NRCA				AML	AML		
	comp=E,553μm,0.1s						
NRCA				AML	AML		
	comp=N,388μm,0.7s						
NRCA				AML	AML		
	comp=N,322μm,0.2s						
NRCA	**Norcia**	**0.11**	**223**	P	Pg	09 09 57.8	+0.4
NRCA				S	Sg	09 09 60.0	+0.7
NRCA				AML	AML		
	comp=E,547μm,1.0s						
NRCA				AML	AML		
	comp=N,388μm,1.3s						
NRCA				AML	AML		
	comp=E,553μm,0.1s						
NRCA				AML	AML		
	comp=N,322μm,0.2s						
NRCA				AML	AML		
	comp=E,547μm,1.0s						
NRCA				AML	AML		
	comp=N,388μm,1.3s						
NRCA				AML	AML		
	comp=E,553μm,0.1s						
NRCA				AML	AML		
	comp=N,322μm,0.2s						
NRCA				AML	AML		
	comp=N,322μm,0.2s						
NRCA				AML	AML		
	comp=E,553μm,0.1s						
NRCA				AML	AML		
	comp=E,547μm,1.0s						
NRCA				AML	AML		
	comp=N,388μm,0.7s						
T1216	**Preci, Frazion**	**0.14**	**262**	P	Pg	09 09 58.6	+0.7
T1216				S	Sg	09 10 01.2	+1.0
T1216				AML	AML		
	comp=E,248μm,0.4s						
T1216				AML	AML		
	comp=N,130μm,0.4s						
T1214	**Arquata del Tr**	**0.15**	**181**	P	Pg	09 09 58.9	+0.7
T1214				S	Sg	09 10 01.6	+1.0
T1214	**Arquata del Tr**	**0.15**	**181**	P	Pg	09 09 58.9	+0.7
T1214				S	Sg	09 10 01.8	+1.2
FDMO	**Fiordimonte**	**0.15**	**324**	P	Pg	09 09 58.7	+0.5
FDMO				S	Sg	09 10 01.3	+0.8
FDMO				AML	AML		
	comp=N,78μm,0.1s						
FDMO				AML	AML		
	comp=E,106μm,0.1s						
FDMO				AML	AML		
	comp=N,78μm,1.9s						
FDMO	**Fiordimonte**	**0.15**	**324**	AML	AML		
	comp=N,57μm,0.2s						
FDMO				AML	AML		
	comp=E,71μm,0.5s						
FDMO				AML	AML		
	comp=N,57μm,0.2s						
FDMO				AML	AML		
	comp=E,71μm,0.5s						
T1241	**Roccafluvione,**	**0.17**	**109**	P	Pg	09 09 59.2	+0.8
T1241				S	Sg	09 10 02.3	+1.4
T1241				AML	AML		
	comp=E,59μm,1.3s						
T1241				AML	AML		
	comp=N,58μm,0.1s						
T1241				AML	AML		
	comp=E,59μm,1.3s						
T1241				AML	AML		
	comp=N,58μm,0.1s						
T1241				AML	AML		
	comp=E,59μm,0.7s						
T1241				AML	AML		
	comp=N,58μm,0.1s						
GUMA	**Gualdo di Mace**	**0.18**	**31**	P	Pg	09 09 59.6	+1.1
GUMA				S	Sg	09 10 03.0	+1.9
GUMA				AML	AML		
	comp=E,321μm,0.6s						
GUMA				AML	AML		
	comp=N,181μm,0.3s						
GUMA				AML	AML		
	comp=E,321μm,0.6s						
GUMA				AML	AML		
	comp=N,181μm,0.3s						
GUMA				AML	AML		
	comp=E,321μm,0.6s						
GUMA				AML	AML		
	comp=N,181μm,0.3s						
T1212	**Cascia, Frazio**	**0.20**	**218**	P	Pg	09 09 59.7	+0.7
T1212				S	Sg	09 10 03.2	+1.4
T1219	**Muccia, Frazio**	**0.21**	**314**	S	Sg	09 09 59.6	-2.4
T1219				AML	AML		
	comp=E,56μm,0.8s						
T1219				AML	AML		
	comp=N,77μm,0.1s						
T1220	**Camerino, Fraz**	**0.22**	**335**	P	Pg	09 09 60.0	+0.7
T1220				S	Sg	09 10 03.9	+1.6
T1220				AML	AML		
	comp=E,190μm,0.9s						
T1220				AML	AML		
	comp=N,192μm,1.3s						
T1220				AML	AML		
	comp=N,192μm,0.7s						
T1218	**Civita (PG)**	**0.25**	**197**	P	Pb	09 10 01.1	-0.5
T1218				S	Sb	09 10 04.9	-1.2
T1215	**Vallo di Nera,**	**0.28**	**247**	P	Pg	09 10 01.0	+0.7
T1215				S	Sb	09 10 05.6	-1.2
RM33	**Pellescritta (**	**0.40**	**180**	S	Sb	09 10 10.2	-0.2

*WEL **02** 09:12:00, 38˝.60S×176˝.19E, h5km, ML3.8, Mw4.0, Moment Tensor Solution. s11 Moment tensor: Scale 10¹⁵Nm; Mrr=1.05; Mθθ=0.34; Mφφ=0.70; Mrθ=-0.04; Mrφ=0.47; Mθφ=0.60; Fault plane solution: M₀1.19000×10¹⁵ NP1: φs=49.00000°, δ34.00000°, λ=-64.00000°. NP2:φs198.00000°, δ60.00000°, λ=-107.00000°. Principal axes: T 113.1700, Plg13.0000°, Azm300.0000°; N 12.1500, Plg14.0000°, Azm206.0000°; P -125.3200, Plg70.0000°, Azm71.0000°;*
*WEL **02** 09:12:54.7±0.5, 39˝.5S×2˝.7E×17˝.6E×°, h4km×2km, M4.0/21, ML4.3/21, MLv4.0/21 Error ellipse: s-maj=0.0km s-min=0.0km az=86.1, confirmed*
*NOU **02** 09:12:55.3, 38˝.63S×176˝.20E, h0km, MLv4.2/13, North Island, New Zealand*
*IDC **02** 09:12:57.1±3.4, 37˝.73S×177˝.27E, h56km±24km, mb3.8/2, mbtmp4.0/2, MS3.1/7, Error ellipse: s-maj=59.7km s-min=36.6km az=38.0*

ISC 02 09:12:55.1±1.0, **38˝.63S**±0˝.02×**176˝.22E**±0˝.02, **h3**km±8km, **n169,** σ1§**04**/172, **MS3.2**/7, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WPRZ	**Whakapapatarin**	**0.12**	**339**	P	**Pg**	**09 12 57.4**	**0.0**
WPRZ				S	**Sg**	**09 12 59.9**	**+0.9**
ALRZ	**Allen Road**	**0.12**	**57**	P	**Pg**	**09 12 56.9**	**-0.6**
ALRZ				S	**Sg**	**09 12 59.8**	**+0.8**
PRRZ	**Plateau Road**	**0.19**	**48**	P	**Pg**	**09 12 58.3**	**-0.5**
PRRZ				S	**Sg**	**09 13 01.9**	**+0.6**
WHTZ	**Whakaora**	**0.20**	**259**	P	**Pg**	**09 12 59.9**	**+0.7**
HRRZ	**Handcock Road**	**0.24**	**13**	P	**Pg**	**09 12 59.4**	**-0.4**
HRRZ				S	**Sg**	**09 13 04.0**	**+1.0**
MRHZ	**Matea Rd**	**0.26**	**143**	P	**Pg**	**09 12 59.9**	**-0.3**
MRHZ				S	**Sg**	**09 13 04.9**	**+1.3**
GRRZ	**Galatos Road**	**0.29**	**343**	P	**Pg**	**09 13 00.4**	**-0.3**
HSRZ	**Hossack Road**	**0.32**	**4**	P	**Pg**	**09 13 01.6**	**+0.3**
HSRZ				S	**Sg**	**09 13 06.4**	**+1.0**
KUTZ	**Kaahu Road**	**0.34**	**294**	P	**Pg**	**09 13 01.2**	**-0.4**
RRRZ	**Republican Roa**	**0.37**	**39**	P	**Pg**	**09 13 01.8**	**-0.5**
RRRZ				S	**Sg**	**09 13 07.5**	**+0.4**
WATZ	**Wairara**	**0.39**	**258**	P	**Pg**	**09 13 02.2**	**-0.3**
HLRZ	**Highlands Stat**	**0.39**	**16**	P	**Pg**	**09 13 02.5**	**-0.1**
RATZ	**Rangitukua**	**0.42**	**235**	P	**Pg**	**09 13 03.9**	**+0.7**
RITZ	**Rihia Road**	**0.45**	**218**	P	**Pg**	**09 13 03.5**	**-0.2**
UTU	**Utuhina**	**0.45**	**358**	P	**Pg**	**09 13 04.0**	**+0.2**
TARZ	**Mount Tarawera**	**0.45**	**30**	P	**Pg**	**09 13 03.8**	**-0.1**
MUGZ	**Murupara**	**0.46**	**71**	P	**Pg**	**09 13 03.6**	**-0.4**
MUGZ				S	**Sg**	**09 13 10.7**	**+0.8**
NGRZ	**Ngongotaha**	**0.53**	**358**	P	**Pg**	**09 13 05.8**	**+0.6**
MKRZ	**Makatiti**	**0.53**	**22**	P	**Pg**	**09 13 05.5**	**+0.3**
OMRZ	**Omania**	**0.53**	**13**	P	**Pg**	**09 13 05.4**	**0.0**
KATZ	**Kakaramea**	**0.54**	**229**	P	**Pg**	**09 13 06.0**	**+0.6**
MTHZ	**Maungataniwha**	**0.54**	**115**	P	**Pg**	**09 13 05.4**	**-0.1**
MTHZ				S	**Sb**	**09 13 14.3**	**-1.2**
BKZ	**Black Stump Fm**	**0.58**	**158**	P	**Pb**	**09 13 06.8**	**-1.2**
BKZ	**Black Stump Fm**	**0.58**	**158**	P	**Pg**	**09 13 06.2**	**-0.1**
BKZ				S	**Sb**	**09 13 15.3**	**-1.4**
RTZ	**Ruatahuna**	**0.60**	**89**	P	**Pg**	**09 13 06.7**	**0.0**
RTZ				S	**Sb**	**09 13 15.8**	**-1.5**
KARZ	**Kaharoa**	**0.61**	**2**	P	**Pg**	**09 13 07.5**	**+0.7**
TLZ	**Tolley Road**	**0.61**	**299**	P	**Pg**	**09 13 05.7**	**-1.1**
TMVZ	**Te Maari**	**0.63**	**219**	P	**Pg**	**09 13 06.9**	**-0.4**
NTVZ	**North Tongarir**	**0.63**	**222**	P	**Pg**	**09 13 07.0**	**-0.3**
LIRZ	**Lichensteins R**	**0.64**	**12**	P	**Pg**	**09 13 08.3**	**-0.6**
ETVZ	**East Tongariro**	**0.64**	**218**	P	**Pg**	**09 13 06.8**	**-0.7**
KRVZ	**Karewarewa**	**0.65**	**224**	P	**Pg**	**09 13 07.5**	**-0.1**
NMHZ	**Naumai**	**0.66**	**136**	P	**Pb**	**09 13 08.4**	**-0.9**
EDRZ	**Edgecumbe**	**0.66**	**39**	P	**Pg**	**09 13 07.9**	**+0.1**
OTVZ	**Oturere**	**0.69**	**219**	P	**Pg**	**09 13 07.7**	**-0.6**
NNVZ	**North Ngauruho**	**0.69**	**223**	P	**Pg**	**09 13 08.5**	**+0.1**
WTVZ	**West Tongariro**	**0.69**	**225**	P	**Pg**	**09 13 08.5**	**+0.1**
SNVZ	**South Ngauruho**	**0.72**	**219**	P	**Pg**	**09 13 08.4**	**-0.5**
NGZ	**Ngauruhoe**	**0.73**	**221**	P	**Pg**	**09 13 09.5**	**+0.3**
MARZ	**Manawahe**	**0.74**	**30**	P	**Pg**	**09 13 09.2**	**0.0**
RAHZ	**Arahi**	**0.74**	**113**	P	**Pb**	**09 13 09.9**	**-0.8**
TWVZ	**Taurewa**	**0.75**	**234**	P	**Pg**	**09 13 09.9**	**+0.3**
TUVZ	**Tukino**	**0.78**	**214**	P	**Pg**	**09 13 10.0**	**0.0**
URZ	**Urewera**	**0.79**	**63**	P	**Pg**	**09 13 10.2**	**-0.1**
	2μm,0.6s,baz=328,slow=9.5,SNR=414						
URZ				S	**Sg**	**09 13 20.3**	**-0.3**
	1μm,0.5s,baz=84,slow=19,SNR=7.8						
URZ				LR	LR	09 13 32.9	
	comp=Z,528nm,21.1s,baz=71,slow=66						
URZ	**Urewera**	**0.79**	**63**	P	**Pg**	**09 13 09.9**	**-0.5**
URZ	**Urewera**	**0.79**	**63**	P	**Pg**	**09 13 09.6**	**-0.7**
KMRZ	**Kaimai**	**0.81**	**344**	P	**Pg**	**09 13 10.5**	**-0.1**
FWVZ	**Far West T-bar**	**0.81**	**219**	P	**Pg**	**09 13 10.6**	**-0.1**
KWHZ	**Kaweka Forest**	**0.81**	**169**	P	**Pg**	**09 13 10.6**	**-0.1**
WHVZ	**Whangaehu Hut**	**0.82**	**217**	P	**Pg**	**09 13 10.7**	**-0.1**
OPRZ	**Ohinepanea**	**0.83**	**19**	P	**Pg**	**09 13 10.8**	**-0.2**
TRVZ	**Turoa**	**0.85**	**218**	P	**Pg**	**09 13 11.5**	**0.0**
WNVZ	**Wahianoa**	**0.85**	**214**	P	**Pg**	**09 13 11.1**	**-0.3**
MOVZ	**Moawhango**	**0.86**	**205**	P	**Pg**	**09 13 10.2**	**-1.4**
BHHZ	**Black Hill Sta**	**0.87**	**188**	P	**Pg**	**09 13 10.9**	**-1.0**
SNGZ	**Shannon Statio**	**0.89**	**100**	P	**Pb**	**09 13 12.7**	**-0.7**
TGRZ	**Tauranga**	**0.90**	**2**	P	**Pg**	**09 13 12.1**	**-0.2**
MCHZ	**McNeill Hill**	**0.90**	**155**	P	**Pn**	**09 13 13.8**	**-1.0**
WHHZ	**Waihua**	**0.91**	**120**	P	**Pn**	**09 13 14.4**	**-0.6**
PKVZ	**Pokaka**	**0.95**	**225**	P	**Pg**	**09 13 13.3**	**0.0**
RAGZ	**Rawiri**	**0.95**	**82**	P	**Pb**	**09 13 13.6**	**-0.8**
MTVZ	**Mangateitei**	**0.95**	**217**	P	**Pg**	**09 13 13.1**	**-0.4**
WHRZ	**Whale Island**	**0.97**	**38**	P	**Pn**	**09 13 14.9**	**-0.9**
KRHZ	**Kereru**	**1.02**	**173**	P	**Pg**	**09 13 14.4**	**-0.4**
TOZ	**Tahuroa Road**	**1.06**	**328**	P	**Pg**	**09 13 14.1**	**-1.3**
MWZ	**Matawai**	**1.07**	**75**	P	**Pg**	**09 13 15.1**	**-0.6**
HIZ	**Hauiti**	**1.07**	**276**	P	**Pg**	**09 13 15.4**	**-0.3**
HIZ	**Hauiti**	**1.07**	**276**	P	**Pg**	**09 13 14.6**	**-1.1**
KNZ	**Kokohu**	**1.21**	**110**	P	**Pn**	**09 13 19.4**	**+0.5**
RIGZ	**Rimuhau**	**1.21**	**94**	P	**Pn**	**09 13 20.0**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.23**	**147**	P	**Pg**	**09 13 20.4**	**+1.7**
VRZ	**Vera Road**	**1.24**	**246**	P	**Pn**	**09 13 18.2**	**-1.2**
KAHZ	**Kahuranaki**	**1.27**	**156**	P	**Pg**	**09 13 21.0**	**+1.4**
PNHZ	**Pukenui**	**1.28**	**181**	P	**Pn**	**09 13 19.0**	**-1.1**
TKGZ	**Te Karaka**	**1.29**	**82**	P	**Pg**	**09 13 20.7**	**+0.7**
RUGZ	**Raukumara Rang**	**1.33**	**61**	P	**Pn**	**09 13 19.2**	**-1.5**
WIZ	**White Island**	**1.34**	**35**	P	**Pg**	**09 13 22.6**	**+1.7**
MYRZ	**Mayor Island**	**1.34**	**1**	P	**Pn**	**09 13 20.4**	**-0.5**
MHGZ	**Mahia Peninsul**	**1.42**	**112**	P	**Pg**	**09 13 23.1**	**+0.7**
TSZ	**Takapari Road**	**1.44**	**188**	P	**Pb**	**09 13 22.1**	**-0.6**
WPHZ	**Waipukurau**	**1.45**	**173**	P	**Pg**	**09 13 22.8**	**-0.1**
TWGZ	**Tauwhareparae**	**1.46**	**73**	P	**Pg**	**09 13 22.8**	**-0.3**
WAZ	**Wanganui**	**1.48**	**220**	P	**Pb**	**09 13 22.7**	**-0.5**
PXZ	**Pawanui**	**1.49**	**161**	P	**Pg**	**09 13 23.4**	**-0.3**
HAZ	**Te Kaha**	**1.51**	**55**	P	**Pn**	**09 13 21.6**	**-1.4**
MHEZ	**Mangahewa**	**1.54**	**253**	P	**Pg**	**09 13 24.8**	**+0.1**
CNGZ	**Carnagh Statio**	**1.57**	**85**	P	**Pg**	**09 13 25.4**	**+0.2**
LREZ	**Lake Rotokare**	**1.64**	**239**	P	**Pn**	**09 13 22.0**	**-2.9**
PKGZ	**Pakihiroa**	**1.64**	**64**	P	**Pb**	**09 13 25.6**	**-0.4**
DREZ	**Durham Road**	**1.67**	**250**	P	**Pb**	**09 13 26.3**	**-0.2**
PRHZ	**Porangahau**	**1.67**	**169**	P	**Pb**	**09 13 25.7**	**-0.8**
DVHZ	**Dannevirke**	**1.67**	**181**	P	**Pb**	**09 13 25.7**	**-0.8**
PUZ	**Puketiti**	**1.70**	**72**	P	**Pb**	**09 13 26.4**	**-0.7**
OHWZ	**Ohakea**	**1.72**	**204**	P	**Pb**	**09 13 27.2**	**-0.2**
MKAZ	**Moumakai**	**1.73**	**331**	P	**Pn**	**09 13 23.7**	**-2.5**
NEZ	**North Egmont**	**1.77**	**248**	P	**Pn**	**09 13 27.2**	**+0.4**
POWZ	**Post Office Ro**	**1.80**	**191**	P	**Pb**	**09 13 28.1**	**-0.6**
PKE	**Pukeiti**	**1.83**	**251**	P	**Pb**	**09 13 28.0**	**-1.2**
KHEZ	**Kahui Hut**	**1.84**	**248**	P	**Pb**	**09 13 28.3**	**-1.2**
KHEZ	**Kahui Hut**	**1.84**	**248**	P	**Pn**	**09 13 28.1**	**+0.4**
ANWZ	**Angora Road**	**1.84**	**174**	P	**Pg**	**09 13 33.1**	**+2.6**
WMGZ	**Waiomatatini S**	**1.91**	**66**	P	**Pb**	**09 13 29.4**	**-1.2**
KUZ	**Kuaotunu**	**1.92**	**348**	P	**Pn**	**09 13 29.3**	**+0.6**
KUZ	**Kuaotunu**	**1.92**	**348**	P	**Pg**	**09 13 31.6**	**-0.3**
PRWZ	**Pori Road**	**1.93**	**186**	P	**Pb**	**09 13 30.7**	**-0.4**
NBEZ	**Newall Road No**	**1.94**	**250**	P	**Pb**	**09 13 29.8**	**-1.4**
ETAZ	**East Tamaki Re**	**1.96**	**328**	P	**Pn**	**09 13 28.9**	**-0.4**
MXZ	**Matakaoa Point**	**1.96**	**58**	P	**Pb**	**09 13 31.4**	**-0.1**
MXZ	**Matakaoa Point**	**1.96**	**58**	P	**Pb**	**09 13 30.4**	**-1.1**
NMEZ	**Namu Road**	**1.98**	**246**	P	**Pb**	**09 13 30.5**	**-1.3**
AWAZ	**Awhitu Peninsu**	**2.00**	**321**	P	**Pn**	**09 13 27.7**	**-2.1**
WIAZ	**Waiheke Island**	**2.02**	**335**	P	**Pb**	**09 13 32.2**	**-0.4**
BFZ	**Birch Farm**	**2.05**	**179**	P	**Pn**	**09 13 30.1**	**-0.5**
BFZ	**Birch Farm**	**2.05**	**179**	P	**Pn**	**09 13 30.3**	**-0.2**
MRZ	**Mangatainoka R**	**2.09**	**193**	P	**Pn**	**09 13 31.3**	**+0.2**
EPAZ	**Eden Park BICE**	**2.10**	**326**	P	**Pb**	**09 13 34.7**	**+0.8**
MBAZ	**Motutapu North**	**2.13**	**330**	P	**Pn**	**09 13 31.0**	**-0.6**
WTAZ	**Waiatarua**	**2.13**	**322**	P	**Pn**	**09 13 29.9**	**-1.8**
TIWZ	**Tintock**	**2.16**	**187**	P	**Pn**	**09 13 32.1**	**0.0**
RVAZ	**Riverhead Bore**	**2.26**	**325**	P	**Pn**	**09 13 33.0**	**-0.5**
HOWZ	**Holdsworth Sta**	**2.33**	**193**	P	**Pn**	**09 13 34.1**	**-0.3**
OGWZ	**Otaki Gorge**	**2.33**	**200**	P	**Pn**	**09 13 35.0**	**+0.6**
GRZ	**Great Barrier**	**2.45**	**346**	P	**Pb**	**09 13 40.9**	**+1.1**
KIW	**Kapiti Island**	**2.45**	**204**	P	**Pn**	**09 13 37.0**	**+1.0**
TMWZ	**Te Maipa**	**2.49**	**186**	P	**Pn**	**09 13 36.5**	**-0.1**
MTW	**Mount Morrison**	**2.59**	**192**	P	**Pn**	**09 13 37.7**	**-0.2**
CAW	**Cannon Point**	**2.63**	**199**	P	**Pn**	**09 13 38.7**	**+0.2**
TRWZ	**Traveller**	**2.80**	**188**	P	**Pb**	**09 13 43.0**	**-2.8**
DUWZ	**D'Urville Isla**	**2.80**	**218**	P	**Pb**	**09 13 42.8**	**-3.0**
PAWZ	**Paruwai Farm**	**2.82**	**192**	P	**Pn**	**09 13 41.1**	**0.0**
WEL	**Wellington**	**2.88**	**202**	P	**Pn**	**09 13 42.1**	**+0.2**
SNZO	**South Karori**	**2.92**	**203**	P	**Pn**	**09 13 41.8**	**-0.7**
TCW	**Tory Channel**	**2.98**	**209**	P	**Pb**	**09 13 48.1**	**-0.8**
PLWZ	**Palliser**	**3.03**	**194**	P	**Pn**	**09 13 43.7**	**-0.4**
WCZ	**Waipu Caves**	**3.07**	**330**	P	**Pn**	**09 13 43.7**	**-0.9**
TUWZ	**Tuamarina**	**3.30**	**211**	P	**Pn**	**09 13 47.8**	**+0.1**
NNZ	**Nelson**	**3.38**	**219**	P	**Pn**	**09 13 50.4**	**+1.5**
QRZ	**Quartz Range**	**3.59**	**231**	P	**Pn**	**09 13 52.4**	**+0.7**
QRZ	**Quartz Range**	**3.59**	**231**	P	**Pn**	**09 13 52.8**	**+1.1**
MRNZ	**Matariki Terra**	**3.84**	**223**	P	**Pn**	**09 13 56.4**	**+1.3**
OUZ	**Omahuta**	**4.00**	**328**	P	**Pn**	**09 13 56.5**	**-0.8**
OUZ	**Omahuta**	**4.00**	**328**	P	**Pn**	**09 13 56.3**	**-1.0**
THZ	**Tophouse**	**4.03**	**218**	P	**Pn**	**09 13 58.7**	**+0.9**
KHZ	**Kahutara**	**4.30**	**207**	P	**Pn**	**09 14 00.3**	**-1.2**
DSZ	**Denniston Nort**	**4.59**	**226**	P	**Pn**	**09 14 07.0**	**+1.4**
GVZ	**Greta Valley S**	**4.96**	**208**	P	**Pn**	**09 14 10.5**	**-0.1**
LTZ	**Lake Taylor**	**5.12**	**215**	P	**Pn**	**09 14 11.4**	**-1.4**
INZ	**Inchbonnie**	**5.47**	**220**	P	Pn	09 14 21.9	+4.4
OXZ	**Oxford**	**5.66**	**213**	P	**Pn**	**09 14 18.7**	**-1.4**
MQZ	**McQueen's Vall**	**5.74**	**207**	P	**Pn**	**09

TEPK	Tepekoy-MERSIN	2.06	74	Pn		Pn	09 24 45.8	-0.7
YESI	Yesilovacik-Me	2.13	75	Pn		Pn	09 24 46.2	-1.2
KKBE	Karaman, Kazim	2.15	43	P		Pn	09 24 47.8	+0.1
KKBE				S		Sn	09 25 13.0	-0.4
TISA	Tisan-Mersin	2.15	76	Pn		Pn	09 24 46.9	-0.8
IKL	Isikli	2.18	74	Pn		Pn	09 24 46.9	-1.1
KARG	Kargicak-Mersi	2.19	75	Pn		Pn	09 24 46.9	-1.3
BRDR	BURDUR-Merkez	2.19	338	P		Pb	09 24 51.2	-1.7
BRDR				S		Sn	09 25 17.0	+2.7
ISP	Isparta	2.20	348	Pn		Pn	09 24 49.4	+1.0
DALY	Dalyan (Mula)	2.28	301	Pn		Pn	09 24 50.4	+0.9
APMY	Acipayam-Deniz	2.31	322	Pn		Pn	09 24 51.0	+1.1
KMER	Konya-Meram	2.33	26	P		Pn	09 24 51.0	+0.7
KMER				S		Sn	09 25 16.9	-1.1
SILI	Silifke-Mersin	2.40	72	Pn		Pn	09 24 50.2	-0.8
BASM	Basmaki-Afyon	2.40	340	Pn		Pn	09 24 51.8	+0.6
ARG	Arkhangelos	2.47	284	P		Pn	09 24 52.8	+0.7
ARG				S		Sn	09 25 17.4	-3.8
ARG	Arkhangelos	2.47	284	Pn		Pn	09 24 52.5	+0.4
KONT	Konya--Tatoy	2.49	24	Pn		Pn	09 24 52.2	-0.2
EREN	Erenkoy	2.51	92	Pn		Pn	09 24 51.2	-1.4
KIZK	Mersin	2.60	71	Pn		Pn	09 24 53.3	-0.5
KZIL	AFYON_Kizioren	2.70	344	P		Pn	09 24 56.6	+1.3
KZIL				S		Sn	09 25 29.7	+2.8
YER	Yerkesik	2.70	304	P		Pn	09 24 56.4	+1.1
YER				S		Sn	09 25 24.3	-2.6
YER	Yerkesik	2.70	304	Pn		Pn	09 24 56.2	+0.9
LADK	Ladik-KONYA	2.73	22	Pn		Pn	09 24 55.8	+0.1
MULA	Mugla, Merkez-	2.74	306	P		Pn	09 24 57.9	+2.0
MULA				S		Sn	09 25 27.3	-0.7
SHUT	Suhut-Afyon	2.91	352	Pn		Pn	09 24 59.3	+1.0
YESY	Yesilyurt	3.00	44	Pn		Pn	09 24 59.1	-0.3
DAT	Datca	3.04	291	P		Pn	09 25 01.2	+1.3
DAT				S		Sn	09 25 32.6	-2.7
DAT	Datca	3.04	291	Pn		Pn	09 25 00.4	+0.5
MLSB	Milas	3.13	302	Pn		Pn	09 25 01.8	+0.6
SULT	Sultanhani-AKS	3.19	37	Pn		Pn	09 25 02.0	0.0
KARP	Karpathos	3.21	269	P		Pn	09 25 03.7	+1.5
KARP				S		Sn	09 25 37.1	-2.3
KARP	Karpathos	3.21	269	Pn		Pn	09 25 02.6	+0.4
CHBY	Cihanbeyli	3.24	26	Pn		Pn	09 25 02.8	0.0
BODT	Bodrum	3.36	296	Pn		Pn	09 25 05.1	+0.8
AYDB	Zeytinkoy-Aydi	3.43	312	Pn		Pn	09 25 05.5	+0.1
KULA	Kula-Manisa	3.44	326	Pn		Pn	09 25 05.9	+0.4
USAK	Uak-Merkez	3.46	332	P		Pn	09 25 05.6	-0.2
KARA	Karaisali	3.56	62	Pn		Pn	09 25 06.5	-0.6
DDIM	Aydin, Didim	3.58	301	P		Pn	09 25 07.1	-0.2
GULA	Gulagac	3.67	42	Pn		Pn	09 25 09.1	+0.5
KULU	Kulu	3.70	24	Pn		Pn	09 25 09.1	+0.1
CMRD	Camardi-Nigde	3.71	56	Pn		Pn	09 25 08.8	-0.4
SIMA	Simav-Kutahya	3.80	334	Pn		Pn	09 25 11.1	+0.6
YAYX	Yaylak	3.92	33	Pn		Pn	09 25 11.4	-0.7
CEYT	Ceyhan	3.99	69	Pn		Pn	09 25 12.1	-0.8
ZKR	Zakros	4.02	264	P		Pn	09 25 14.8	+1.4
ZKR				S		Sn	09 25 58.4	-1.1
ZKR	Zakros	4.02	264	Pn		Pn	09 25 14.2	+0.8
KOZT	Kozan	4.22	63	Pn		Pn	09 25 15.2	-0.9
BLCB	Balcova	4.23	311	Pn		Pn	09 25 16.8	+0.6
HNTI	Hanita	4.24	126	Pn		Pn	09 25 19.0	+2.5
MMA0B	Mount Meron ar	4.44	125	Pn		Pn	09 25 21.7	+2.5
MMA0B				Sn		Sn	09 26 09.8	0.0
URLA	Izmir	4.49	308	Pn		Pn	09 25 20.2	+0.3
BRTR	Keskin Array B	4.53	26	Pn		Pn	09 25 20.2	-0.2
	0.7nm,0.3s,baz=195,slow=15,SNR=22							
BRTR				Sn		Sn	09 26 09.7	-2.3
	1.8nm,0.3s,baz=190,slow=24,SNR=9.2 1.3nm,0.3s							
SANT	Santorini	4.62	280	Pn		Pn	09 25 22.2	+0.5
APE	Apeiranthos	4.70	289	Pn		Pn	09 25 22.9	+0.1
MMLI	Mount Malkishu	4.82	131	Pn		Pn	09 25 22.4	-2.0
MMLI	Mount Malkishu	4.82	131	Pn		Pn	09 25 25.6	+1.2
MMLI				Sn		Sn	09 26 20.8	+1.5
CHOS	Chios island	4.86	305	Pn		Pn	09 25 24.9	-0.1
BNN	Bunyan	4.95	49	Pn		Pn	09 25 25.1	-1.1
HMDT	Nahal Hemdat	5.01	132	Pn		Pn	09 25 28.5	+1.5
HMDT				Sn		Sn	09 26 24.1	+0.2
KMRS	Kahramanmaras	5.02	67	Pn		Pn	09 25 26.1	-1.0
SARI	SarD1z-Kayseri	5.06	56	Pn		Pn	09 25 27.0	-0.8
GAZ	Gaziantep	5.16	71	Pn		Pn	09 25 27.2	-1.8
MATC	Matruh	5.38	218	P		Pn	09 25 33.7	+1.6
	baz=217							
DSI	Dead Sea	5.43	138	Pn		Pn	09 25 35.1	+2.4
DSI				Sn		Sn	09 26 34.8	+0.7
MSBI	Mazada	5.62	139	Pn		Pn	09 25 36.9	+1.7
KOT	Kottamia	5.76	174	P		Pn	09 25 38.2	+0.9
	baz=172							
KOT				S		Sn	09 26 40.6	-1.7
	baz=172							
GVDS	Gavdos	5.79	264	Pn		Pn	09 25 37.5	-0.2
GVD	Gavdhos	5.79	264	Pn		Pn	09 25 37.3	-0.4
IMMV	Iera Moni Meta	5.80	270	Pn		Pn	09 25 37.7	-0.2
ASF	Jabal al Asfar	5.95	124	Pn		Pn	09 25 42.8	+2.8
	0.6nm,0.3s,baz=301,slow=5.9,SNR=3.2							
ASF				Sn		Sn	09 26 55.0	+7.8
	0.7nm,0.3s,baz=342,slow=20,SNR=1.3 3.1nm,0.5s							
HNAT	Natroun	6.03	184	P		Pn	09 25 43.6	+2.6
	baz=183							
HSAF	As Saff	6.04	176	P		Pn	09 25 42.7	+1.5
	baz=175							
GLL	Jalalah	6.09	175	P		Pn	09 25 43.5	+1.6
	baz=173							
PRNI	Paran	6.23	147	Pn		Pn	09 25 45.1	+1.3
PRNI				Sn		Sn	09 26 54.6	+0.6
KRMI	Paran Flat	6.32	150	Pn		Pn	09 25 46.1	+1.1
KRMI				Sn		Sn	09 26 55.8	-0.3
SLUM	Salum	6.44	231	P		Pn	09 25 47.2	+0.6
	baz=231							
SLUM				S		Sn	09 26 53.2	-5.8
	baz=231							
HRFI	Mount Harif	6.52	148	Pn		Pn	09 25 49.0	+1.2
HRFI				Sn		Sn	09 27 02.1	+1.0
MBRI	Mt Berech	6.68	150	Pn		Pn	09 25 51.0	+1.0
MBRI				Sn		Sn	09 27 07.3	+2.2
EIL	Elat	6.80	150	Pn		Pn	09 25 52.9	+1.3
	1.8nm,0.3s,baz=349,slow=15,SNR=4.5 8.2nm,0.5s							
EIL	Elat	6.80	150	Pn		Pn	09 25 52.7	+1.0
EIL				Sn		Sn	09 27 07.6	-0.5
NBNS	Bani Suef	7.03	179	P		Pn	09 25 56.1	+1.4
	baz=177							
HFRF	Wahat Farafira	8.82	196	P		Pn	09 26 20.3	+1.1
	baz=196							
AKASG	Malin Array Be	15.09	355	Pn		Pn	09 27 45.9	+1.2
	0.3nm,0.3s,baz=179,slow=9.9,SNR=5.2							
GEYT	Alibeck	21.73	76	P		P	09 29 05.6	+3.0
	1.3nm,0.7s,baz=266,slow=14,SNR=3.5 1.3nm,0.7s							
FINES	FINESS Array B	25.99	354	P		P	09 29 42.0	-1.6
	1.1nm,0.6s,baz=167,slow=13,SNR=4.0 1.1nm,0.6s							
ARCES	ARCESS Array B	34.06	356	P		P	09 30 53.5	-1.5
	3.2nm,1.0s,baz=167,slow=10,SNR=1.6 3.2nm,1.0s							
MKAR	Makanchi Array	39.43	57	P		P	09 31 41.2	+0.2
	0.6nm,0.7s,baz=264,slow=6.7,SNR=6.2 0.6nm,0.7s							

WEL ***02*** *09:47:00, 42˚.34S×173˚.53E, h11km, ML4.6, Mw4.1, Moment Tensor Solution. s8 Moment tensor: Scale 10^{15} Nm; M_{rr}1.15; $M_{\theta\theta}$-1.30; $M_{\phi\phi}$0.15; $M_{r\theta}$0.41; $M_{\theta\phi}$-1.33; $M_{\phi r}$1.05; Fault plane solution: $M_0$2.09000×10^{15} NP1: ϕ_s273.00000°, δ42.00000°, λ146.00000°. NP2: ϕ_s30.00000°, δ68.00000°, λ53.00000°. Principal axes: T -232.3000, Plg52.0000°, Azm257.0000°; N 45.8300, Plg33.0000°, Azm45.0000°; P 186.4700, Plg15.0000°, Azm146.0000°;*

IDC ***02*** *09:47:15.2±1.0, 42˚.26S×173˚.63E, h0km, mb4.0/6, mbtmp4.1/8, ML4.0/2, MS3.0/5 Error ellipse: s-maj=35.0km s-min=24.8km az=159.0*

NOU ***02*** *09:47:17.1, 42˚.53S×173˚.71E, h5km, MLv4.7/15, South Island, New Zealand*

WEL ***02*** *09:47:19.4±0.5, 42˚S×17˚4E±˚, h6km±4km, M4.6/13, ML4.8/13, MLv4.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=117.3, confirmed*

NEIC ***02*** *09:47:19.1±1.2, 42˚.45S±0˚.04×173˚.62E±0˚.06, h24km±3km, mb4.4/13, Error ellipse: s-maj=8.1km s-min=4.8km az=132.0*

ISC 02 09:47:17.6±0.9, **42˚.44S**±0˚.02×**173˚.67E**±0˚.03, **h20**km±4km,

n224,σ1°**56**/233, **mb4.2**/11, **MS3.1**/4, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.10	283		Pg	09 47 21.6	+0.1
KHZ	Kahutara	0.10	283	P	Pg	09 47 21.3	-0.2
KHZ	Kahutara	0.10	283	P	Pg	09 47 21.6	+0.1
KHZ				S	Sg	09 47 23.7	-0.4
GVZ	Greta Valley S	0.70	221		Pn	09 47 34.0	+1.5
GVZ	Greta Valley S	0.70	221	P	Pn	09 47 33.8	+1.3
GVZ				S	Sn	09 47 45.5	+2.6
BSWZ	Blackbirch Sta	0.74	12		Pg	09 47 32.5	+0.4
BSWZ	Blackbirch Sta	0.74	12	P	Pg	09 47 32.2	0.0
BSWZ				S	Sg	09 47 42.6	+0.6
CMWZ	Cape Campbell	0.80	31	Pn	Pn	09 47 35.5	+1.7
CMWZ	Cape Campbell	0.80	31	P	Pn	09 47 35.1	+1.3
THZ	Tophouse	0.88	320		Pb	09 47 33.5	-0.7
THZ	Tophouse	0.88	320	P	Pb	09 47 33.4	-0.8
THZ				S	Sb	09 47 43.9	-1.8
TUWZ	Tuamarina	1.03	12		Pg	09 47 37.9	+0.3
TUWZ	Tuamarina	1.03	12	P	Pg	09 47 37.5	-0.1
TUWZ				S	Sg	09 47 51.4	+0.2
AMCZ	Amberley	1.05	225	Pn	Pg	09 47 38.6	+0.5
AMCZ	Amberley	1.05	225	P	Pg	09 47 39.2	+1.1
LTZ	Lake Taylor	1.09	251	Pn	Pn	09 47 38.2	+0.4
LTZ	Lake Taylor	1.09	251	P	Pg	09 47 38.5	-0.2
NNZ	Nelson	1.24	350		Pb	09 47 40.4	+0.1
NNZ	Nelson	1.24	350	P	Pb	09 47 40.3	0.0
NNZ				S	Sn	09 47 56.6	+0.7
MRNZ	Matariki Terra	1.24	327		Pb	09 47 40.4	0.0
MRNZ	Matariki Terra	1.24	327	P	Pn	09 47 40.0	+0.2
MRNZ				S	Sn	09 47 56.5	+0.5
TCW	Tory Channel	1.31	21		Pb	09 47 42.0	+0.4
TCW	Tory Channel	1.31	21	P	Pb	09 47 41.8	+0.2
TCW				S	Sg	09 47 59.4	-0.6
BHW	Baring Head	1.37	42		Pb	09 47 43.0	+0.5
SNZO	South Karori	1.37	35	Pn	Pb	09 47 43.1	+0.6
SNZO	South Karori	1.37	35	P	Pb	09 47 42.7	+0.2
WEL	Wellington	1.42	36	P	Pb	09 47 43.6	+0.3
PLWZ	Palliser	1.47	54		Pb	09 47 44.4	+0.2
PLWZ	Palliser	1.47	54	P	Pb	09 47 44.1	-0.2
MQZ	McQueen's Vall	1.47	210		Pb	09 47 43.8	-0.4
MQZ	McQueen's Vall	1.47	210	P	Pn	09 47 43.5	+0.5
OXZ	Oxford	1.49	233		Pn	09 47 44.0	+0.7
OXZ	Oxford	1.49	233	P	Pn	09 47 43.7	+0.4
TKNZ	Takaka Hill	1.50	339		Pn	09 47 44.1	+0.7
TKNZ	Takaka Hill	1.50	339	P	Pb	09 47 44.8	0.0
AKCZ	Akaroa Harbour	1.54	201	P	Pb	09 47 45.4	0.0
DSZ	Denniston Nort	1.55	296	Pn	Pb	09 47 45.3	-0.4
DSZ	Denniston Nort	1.55	296	P	Pb	09 47 45.2	-0.4
DSZ				S	Sb	09 48 05.8	+0.9
DUWZ	D'Urville Isla	1.65	7	P	Pb	09 47 47.7	+0.4
INZ	Inchbonnie	1.67	259		Pn	09 47 46.5	+0.8
INZ	Inchbonnie	1.67	259	P	Pn	09 47 46.4	+0.7
PAWZ	Paruwai Farm	1.69	52	P	Pn	09 47 46.8	+0.8
CAW	Cannon Point	1.69	39	P	Pb	09 47 47.2	-0.9
RACZ	Rakaia	1.71	220	P	Pn	09 47 46.9	+0.7
QRZ	Quartz Range	1.82	332	P	Pb	09 47 49.6	-0.7
QRZ	Quartz Range	1.82	332	P	Pb	09 47 49.6	-0.7
QRZ				S	Sb	09 48 12.3	-0.4
KIW	Kapiti Island	1.83	31	P	Pn	09 47 49.3	+1.3
TRWZ	Traveller	1.83	56	P	Pn	09 47 48.8	+0.8
MTW	Mount Morrison	1.88	48	P	Pn	09 47 49.3	+0.7
MHCZ	Mount Hutt	1.89	234	P	Pn	09 47 49.1	+0.2
OGWZ	Otaki Gorge	1.97	35	P	Pn	09 47 51.0	+1.0
WACZ	Wakanui South	2.01	221	P	Pn	09 47 51.1	+0.6
HOWZ	Holdsworth Sta	2.07	43	P	Pn	09 47 51.9	+0.6
TMWZ	Te Maipa	2.13	52	P	Pn	09 47 52.6	+0.5
MRZ	Mangatainoka R	2.28	40	Pn	Pn	09 47 55.0	+0.8
MRZ	Mangatainoka R	2.28	40	P	Pn	09 47 54.8	+0.6
RPZ	Rata Peaks	2.30	235	Pn	Pn	09 47 54.9	+0.5
	105nm,0.3s,baz=79,slow=17,SNR=568						
RPZ				Sn	Sn	09 48 22.4	+0.2
	177nm,0.3s,baz=331,slow=23,SNR=41						
RPZ				LR	LR	09 48 43.7	
	comp=Z,102nm,19.1s,baz=35,slow=37 479nm,0.5s						
RPZ	Rata Peaks	2.30	235	Pn	Pn	09 47 55.2	+0.7
RPZ	Rata Peaks	2.30	235	P	Pn	09 47 54.8	+0.3
RPZ	Rata Peaks	2.30	235	P	Pn	09 47 54.1	-0.3
TIWZ	Tintock	2.35	46	P	Pn	09 47 55.9	+0.7
ARCZ	Arundel	2.37	230	P	Pn	09 47 55.5	+0.2
OHWZ	Ohakea	2.55	30	P	Pn	09 48 00.3	+2.4
PRWZ	Pori Road	2.56	43	P	Pn	09 47 58.3	+0.3
POWZ	Post Office Ro	2.58	38	P	Pn	09 47 59.0	+0.6
GCSZ	Gaunt Creek Bo	2.61	249	P	Pn	09 47 59.8	+1.2
BFZ	Birch Farm	2.61	49		Pn	09 47 59.3	+0.6
BFZ	Birch Farm	2.61	49	P	Pn	09 47 59.1	+0.4
BFZ	Birch Farm	2.61	49	P	Pn	09 47 58.8	0.0
TMZ	Timaru	2.75	224	P	Pn	09 48 01.0	+0.5
DVHZ	Dannevirke	2.85	42	P	Pn	09 48 01.7	-0.3
WAZ	Wanganui	2.86	21	P	Pn	09 48 05.0	+2.8
TSZ	Takapari Road	2.94	37	P	Pn	09 48 08.4	-1.0
LREZ	Lake Rotokare	3.03	11	P	Pn	09 48 12.5	+1.7
NMEZ	Namu Road	3.03	3	P	Pb	09 48 08.4	-2.4
FOZ	Fox Glacier	3.03	248	Pn	Pn	09 48 05.4	+1.0
FOZ	Fox Glacier	3.03	248	P	Pn	09 48 03.2	-1.2
PRHZ	Porangahau	3.11	47	P	Pn	09 48 06.3	+0.6
KHEZ	Kahui Hut	3.15	5	P	Pn	09 48 10.2	-2.8
KHEZ	Kahui Hut	3.15	5	P	Pn	09 48 09.2	+3.0
WPHZ	Waipukurau	3.16	42	P	Pn	09 48 06.5	+0.2
PNHZ	Pukenui	3.17	38	P	Pn	09 48 06.4	0.0
NBEZ	Newall Road No	3.17	3	P	Pn	09 48 09.4	+3.0
NEZ	North Egmont	3.18	6	P	Pn	09 48 10.1	+3.5
LBZ	Lake Benmore	3.20	231	Pn	Pn	09 48 07.6	+0.8
LBZ	Lake Benmore	3.20	231	P	Pn	09 48 07.4	+0.6
PKE	Pukeiti	3.25	4	P	Pn	09 48 10.9	+3.4
DREZ	Durham Road	3.27	7	P	Pn	09 48 11.3	+3.5
MTVZ	Mangateitei	3.34	25	P	Pn	09 48 11.3	+2.5
PKVZ	Pokaka	3.39	23	P	Pn	09 48 11.8	+2.3
MHEZ	Mangahewa	3.40	9	P	Pb	09 48 13.9	-3.2
ODZ	Otahua Downs	3.40	219	Pn	Pn	09 48 10.5	+0.9
ODZ	Otahua Downs	3.40	219	P	Pn	09 48 10.1	+0.5
ODZ	Otahua Downs	3.40	219	P	Pn	09 48 10.0	+0.5
PXZ	Pawanui	3.40	46	P	Pn	09 48 09.6	0.0
VRZ	Vera Road	3.41	14	P	Pn	09 48 12.4	+2.6
MOVZ	Moawhango	3.42	28	P	Pn	09 48 11.0	+1.1
WNVZ	Wahianoa	3.44	26	P	Pn	09 48 12.3	+2.1
TRVZ	Turoa	3.44	25	P	Pn	09 48 17.7	-0.4
BHHZ	Black Hill Sta	3.46	32	P	Pn	09 48 11.0	+0.6
KRHZ	Kereru	3.46	37	P	Pn	09 48 10.1	-0.3
WHVZ	Whangaehu Hut	3.47	25	P	Pb	09 48 15.2	-3.4
FWVZ	Far West T-bar	3.49	25	P	Pb	09 48 17.3	-1.5
TUVZ	Tukino	3.51	26	P	Pn	09 48 13.1	+1.9
SNVZ	South Ngauruho	3.58	25	P	Pn	09 48 13.7	+1.6
KAHZ	Kahuranaki	3.58	44	P	Pn	09 48 11.7	-0.5
OTVZ	Oturere	3.61	26	P	Pn	09 48 14.1	+1.5
NNVZ	North Ngauruho	3.62	25	P	Pn	09 48 14.4	+1.7
TWVZ	Taurewa	3.62	22	P	Pn	09 48 23.8	+2.8
ETVZ	East Tongariro	3.65	26	P	Pn	09 48 14.5	+1.5
KRVZ	Karewarewa	3.66	25	P	Pn	09 48 15.7	+2.5
TMVZ	Te Maari	3.66	26	P	Pn	09 48 14.8	+1.5
KWHZ	Kawhia Forest	3.66	36	P	Pn	09 48 13.2	0.0
NTVZ	North Tongarir	3.67	25	P	Pn	09 48 15.0	+1.7
MCHZ	McNeill Hill	3.77	39	P	Pn	09 48 15.2	+0.5
KATZ	Kakaramea	3.79	25	P	Pn	09 48 24.6	+0.8
RITZ	Rihia Road	3.84	26	P	Pn	09 48 18.8	+3.2
BKZ	Black Stump Fm	3.91	34	Pn	Pn	09 48 19.4	+2.7
BKZ	Black Stump Fm	3.91	34	P	Pn	09 48 16.3	-0.3
RATZ	Rangitukua	3.91	25	P	Pb	09 48 29.0	+3.1
JCZ	Jackson Bay	3.92	244	P	Pn	09 48 17.6	+0.8
JCZ	Jackson Bay	3.92	244	P	Pn	09 48 17.3	+0.5
HIZ	Hauiti	4.02	13	Pn	Pn	09 48 21.3	+3.1
HIZ	Hauiti	4.02	13	P	Pn	09 48 20.7	+2.6
HIZ	Hauiti	4.02	13	P	Pn	09 48 20.7	+2.6
WATZ	Wairara	4.04	24	P	Pb	09 48 24.0	-4.2
HHSZ	Highcliff Hill	4.09	212	P	Pn	09 48 20.2	+1.1
NMHZ	Naumai	4.10	37	P	Pn	09 48 19.4	+0.1
WKZ	Wanaka	4.13	233	P	Pn	09 48 19.7	0.0
WHTZ	Whakaora	4.15	26	P	Pg	09 48 37.1	-0.1
MRHZ	Matea Rd	4.16	31	P	Pn	09 48 19.5	-0.6
EAZ	Earnscleugh	4.21	227	P	Pn	09 48 20.7	0.0
KUTZ	Kaahu Road	4.27	23	P	Pb	09 48 33.1	+1.0
WHHZ	Waihua	4.31	40	P	Pg	09 48 46.9	+6.6
MTHZ	Maungataniwha	4.32	35	P	Pn	09 48 22.5	+0.2
TLZ	Tolley Road	4.34	20	P	Pn	09 48 24.0	+1.4
WPRZ	Whakapapatarin	4.35	27	P	Pb	09 48 34.3	+0.9
RAHZ	Arahi	4.37	38	P	Pn	09 48 26.8	+3.8
ALRZ	Allen Road	4.38	29	P	Pn	09 48 25.3	+2.3
PRRZ	Plateau Road	4.45	29	P	Pn	09 48 26.8	+2.8
GRRZ	Galatos Road	4.49	25	P	Pg	09 48 41.4	-2.2
TUZ	Tuapeka	4.56	218	P	Pn	09 48 25.9	+0.5
HSRZ	Hossack Road	4.57	26	P	Pb	09 48 38.4	+1.3
RTZ	Ruatahuna	4.58	35	P	Pn	09 48 30.5	+4.7
MHGZ	Mahia Peninsul	4.60	46	P	Pn	09 48 28.2	+2.2
SNGZ	Shannon Statio	4.60	39	P	Pn	09 48 25.6	-0.5
MUGZ	Murupara	4.61	32	P	Pn	09 48 27.5	+1.3
RRRZ	Republican Roa	4.63	29	P	Pn	09 48 31.6	+5.1
UTU	Utuhina	4.67	25	P	Pg	09 48 45.8	-1.3
TARZ	Mount Tarawera	4.72	28	P	Pn	09 48 32.1	+4.3
MSZ	Milford Sound	4.73	240	P	Pn	09 48 27.3	-0.5
OMRZ	Omania	4.79	26	P	Pb	09 48 39.4	-1.6
KARZ	Kaharoa	4.83	25	P	Pb	09 48 45.5	+3.9
RIGZ	Rimuhau	4.86	41	P	Pn	09 48 30.7	+1.1
RAGZ	Rawiri	4.87	37	P	Pn	09 48 32.7	+2.9
KMRZ	Kaimai	4.91	22	P	Pb	09 48 43.8	+0.9
TOZ	Tahuroa Road	4.91	17	P	Pn	09 48 31.6	+1.4
URZ	Urewera	4.93	33	Pn	Pn	09 48 29.8	-0.8
	2.0nm,0.3s,baz=312,slow=6.8,SNR=15						
URZ				Sn	Sn	09 49 24.1	-3.0
	13nm,0.3s,baz=122,slow=15,SNR=7.2 4.6nm,0.3s						
URZ	Urewera	4.93	33	P	Pn	09 48 30.1	-0.5
MLZ	Mavora Lakes	4.96	232	Pn	Pn	09 48 30.8	-0.3
MLZ	Mavora Lakes	4.96	232	P	Pn	09 48 30.7	-0.4
MWZ	Matawai	5.05	37	P	Pn	09 48 31.1	-1.1
TGRZ	Tauranga	5.11	24	P	Pn	09 48 34.6	+1.6
TKGZ	Te Karaka	5.11	40	P	Pn	09 48 36.2	+3.2
SYZ	Scrubby Hill	5.22	217	P	Pn	09 48 35.9	+1.3
SYZ	Scrubby Hill	5.22	217	P	Pn	09 48 35.8	+1.2
WHZ	Wether Hill Ro	5.37	228	P	Pn	09 48 35.6	-1.1
TWGZ	Tauwhareparae	5.38	39	P	Pn	09 48 38.1	+1.2
AWAZ	Awhitu Peninsu	5.42	8	P	Pn	09 48 39.5	+2.2
RUGZ	Raukumara Rang	5.42	36	P	Pn	09 48 37.0	-0.4
MKAZ	Moumakai	5.45	13	P	Pn	09 48 39.1	+1.4
WTAZ	Waiatarua	5.54	8	P	Pn	09 48 41.6	+2.6
ETAZ	East Tamaki Re	5.56	10	P	Pn	09 48 41.4	+2.1
DCZ	Deep Cove	5.59	235	Pn	Pn	09 48 39.2	-0.3
DCZ	Deep Cove	5.59	235	P	Pn	09 48 39.3	-0.3
PUZ	Puketiti	5.60	40	P	Pn	09 48 41.9	+2.1
EPAZ	Eden Park BICE	5.62	9	P	Pn	09 48 42.4	+2.4
HAZ	Te Kaha	5.64	35	P	Pn	09 48 40.0	-0.3
RVAZ	Riverhead Bore	5.70	7	P	Pn	09 48 43.6	+2.4
MBAZ	Motutapu North	5.74	10	P	Pn	09 48 43.9	+2.2
WIAZ	Waiheke Island	5.75	12	P	Pn	09 48 42.9	+1.1
WMGZ	Waiomatatini S	5.87	40	P	Pn	09 48 43.9	+0.3
KUZ	Kuaotunu	5.90	16	P	Pn	09 48 46.5	+2.6
KUZ	Kuaotunu	5.90	16	P	Pn	09 48 48.5	+4.6
APZ	The Paps	5.97	221	P	Pn	09 48 45.5	+0.5
MXZ	Matakaoa Point	6.03	38	P	Pn	09 48 46.9	+1.2
MXZ	Matakaoa Point	6.03	38	P	Pn	09 48 47.0	+1.3
PYZ	Puysegur Point	6.25	231	P	Pn	09 48

IDC ***02*** *10:15:15.7±0.4,23˚.27S×179˚.17E,h547km±3km,mb4.9/42, mbtmp5.8/44, Error ellipse: s-maj=6.4km s-min=5.6km az=51.0*

NEIC ***02*** *10:15:15.6±2.3,23˚.28S±0˚.08×179˚.26E±0˚.09,h548km±5km, mb5.3/429, Error ellipse: s-maj=12.6km s-min=11.7km az=102.0*

NOU ***02*** *10:15:16.2,23˚.25S×179˚.34E,h552km,ML5.2/179, South of Fiji Islands*

BGR ***02*** *10:15:17.0,23˚.39S×179˚.44W,h573km±1km*

GCMT ***02*** *10:15:20.6±0.1,23˚.27S±0˚.01×179˚.27E±0˚.01,h568km, MW5.9/153, Moment Tensor Solution. s153,c318; Duration: 2s2 Moment tensor: Scale 10¹⁸Nm; Mrr-0.79±.01; Mθθ0.62±.01; Mϕϕ0.16±.01; Mrθ0.17±.01; Mθϕ-0.63±.01; Mϕr0.03±.01; Best double couple: Mo0.95200×10¹⁸ NP1:ϕs293.00000˚,δ50.00000˚, λ-106.00000˚. NP2:ϕs138.00000˚,δ43.00000˚, λ-71.00000˚. Principal axes: T 1.0760, Plg4.0000˚, Azm35.0000˚; N -0.2470, Plg12.0000˚, Azm304.0000˚; P -0.8280, Plg77.0000˚, Azm142.0000˚; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 02 10:15:16.1±0.2,23˚.26S±0˚.03×179˚.24E±0˚.03,h555km±1km, h556km:pP-P,n1704,σ1s55/1839,mb5.3/366,104C-98D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.32**	**20**	P	**P**	**10 16 49.0**	**-0.1**
	131nm,0.7s						
MSVF	**Nonsavu**	**5.61**	**348**	P	**P**	**10 16 50.4**	**-1.3**
	473nm,0.5s,baz=146,slow=13,SNR=80						
MSVF				S	**S**	**10 18 09.1**	**-0.6**
	307nm,0.9s,baz=17,slow=23,SNR=6.3						
MSVF	**Nonsavu**	**5.61**	**348**	P	**P**	**10 16 50.7**	**-1.0**
MSVF	**Nonsavu**	**5.61**	**348**	P	**P**	**10 16 51.3**	**-0.4**
	1µm,0.9s						
MSVF	**Nonsavu**	**5.61**	**348**	*i* P	**P**	**10 16 50.3**	**-1.4**
RIZ	**Raoul Island**	**6.48**	**157**	P	**P**	**10 17 00.7**	**+1.5**
RIZ				S	**S**	**10 18 23.0**	**-0.7**
GLKZ	**Green Lake**	**6.50**	**157**	P	**P**	**10 17 01.8**	**+2.4**
GLKZ				S	**S**	**10 18 22.9**	**-1.1**
TAVE	**Taveuni**	**6.57**	**7**	P	**P**	**10 17 00.6**	**+0.3**
	9µm,0.7s						
DGTI	**Dogotuki**	**6.94**	**4**	P	**P**	**10 17 03.6**	**-0.3**
FUTU	**Fugatoga**	**9.25**	**16**	P	**P**	**10 17 26.1**	**-0.5**
	2µm,0.8s						
MARNC	**Mare, Loyalty**	**10.52**	**278**	P	**P**	**10 17 39.0**	**-0.5**
MARNC	**Mare, Loyalty**	**10.52**	**278**	P	**P**	**10 17 39.9**	**+0.4**
	17nm,0.7s						
NIUE	**Niue**	**10.93**	**70**	P	**P**	**10 17 42.4**	**-1.2**
	baz=11,SNR=97						
NIUE	**Niue**	**10.93**	**70**		**P**	**10 17 42.2**	**-1.5**
NIUE	**Niue**	**10.93**	**70**	P	**P**	**10 17 43.1**	**-0.6**
	4µm,1.1s						
NIUE	**Niue**	**10.93**	**70**	P	**P**	**10 17 42.9**	**-0.7**
NIUE				S	**S**	**10 19 47.6**	**+2.6**
LIFNC	**LIFOU**	**11.40**	**280**	P	**P**	**10 17 48.5**	**0.0**
LIFNC				S	**S**	**10 19 59.3**	**+5.5**
LIFNC	**LIFOU**	**11.40**	**280**	P	**P**	**10 17 49.5**	**+1.0**
	2µm,1.1s						
OUENC	**Ouen Island, N**	**11.46**	**272**		**P**	**10 17 49.9**	**+0.8**
OUENC	**Ouen Island, N**	**11.46**	**272**	P	**P**	**10 17 51.0**	**+1.9**
	408nm,0.8s						
YATNC	**Mamie plateau,**	**11.46**	**274**	P	**P**	**10 17 51.5**	**+2.3**
	208nm,0.9s						
RTV	**Rentapao**	**11.50**	**296**	P	**P**	**10 17 50.5**	**+1.0**
	915nm,0.7s						
NFK	**Norfolk Island**	**11.67**	**238**	P	**P**	**10 17 53.1**	**+2.0**
	baz=12,SNR=27						
NFK	**Norfolk Island**	**11.67**	**238**	P	**P**	**10 17 52.4**	**+1.3**
	3µm,1.0s						
DVP	**Devils Point**	**11.73**	**296**	P	**P**	**10 17 53.1**	**+1.2**
	4µm,0.8s						
ONTNC	**Ouen Toro**	**11.83**	**272**		**P**	**10 17 53.0**	**+0.1**
ONTNC	**Ouen Toro**	**11.83**	**272**	P	**P**	**10 17 54.6**	**+1.7**
	277nm,0.9s						
DZM	**Mont Dzumac**	**11.87**	**273**	P	**P**	**10 17 52.9**	**-0.6**
	79nm,0.9s,baz=85,slow=16,SNR=31						
DZM				S	**S**	**10 20 04.9**	**+2.0**
	26nm,0.7s,baz=289,slow=12,SNR=3.3						
DZM	**Mont Dzumac**	**11.87**	**273**	*e*Pn	**P**	**10 17 53.2**	**-0.3**
	407nm,1.3s						
DZM				*e*Sn	**S**	**10 20 02.8**	**-0.2**
	642nm,1.6s						
DZM	**Mont Dzumac**	**11.87**	**273**		**P**	**10 17 52.7**	**-0.8**
DZM	**Mont Dzumac**	**11.87**	**273**	P	**P**	**10 17 54.2**	**+0.7**
	155nm,0.9s						
OUZ	**Omahuta**	**12.89**	**201**		**P**	**10 18 05.5**	**+1.9**
OUZ	**Omahuta**	**12.89**	**201**	P	**P**	**10 18 05.7**	**+2.1**
	645nm,1.0s						
OUZ	**Omahuta**	**12.89**	**201**	P	**P**	**10 18 05.6**	**+2.0**
KUZ	**Kuaotunu**	**13.78**	**192**	P	**P**	**10 18 13.5**	**+0.7**
	751nm,1.0s						
KOUNC	**Koumac, New Ca**	**14.14**	**278**		**P**	**10 18 17.1**	**+0.4**
KOUNC	**Koumac, New Ca**	**14.14**	**278**	P	**P**	**10 18 18.1**	**+1.4**
	192nm,0.9s						
MYRZ	**Mayor Island**	**14.21**	**190**	P	**P**	**10 18 19.4**	**+2.2**
MXZ	**Matakaoa Point**	**14.28**	**183**	P	**P**	**10 18 15.4**	**-2.4**
MXZ				S	**S**	**10 20 43.9**	**-3.6**
MXZ	**Matakaoa Point**	**14.28**	**183**	P	**P**	**10 18 17.4**	**-0.5**
	413nm,0.5s						
WIZ	**White Island**	**14.33**	**187**	P	**P**	**10 18 20.5**	**+2.1**
TGRZ	**Tauranga**	**14.64**	**189**	P	**P**	**10 18 23.4**	**+1.8**
FUNA	**Funafuti**	**14.65**	**360**	P	**P**	**10 18 19.9**	**-2.1**
FUNA	**Funafuti**	**14.65**	**360**	P	**P**	**10 18 21.4**	**-0.6**
	653nm,1.0s						
WHRZ	**Whale Island**	**14.68**	**187**	P	**P**	**10 18 23.6**	**+1.6**
WHRZ				S	**S**	**10 20 58.5**	**+3.4**
OPRZ	**Ohinepanea**	**14.72**	**188**	P	**P**	**10 18 22.7**	**+0.4**
OPRZ				S	**S**	**10 20 57.6**	**+1.9**
RUGZ	**Raukumara Rang**	**14.72**	**185**	P	**P**	**10 18 20.7**	**-1.8**
RUGZ				S	**S**	**10 20 48.6**	**-7.3**
TOZ	**Tahuroa Road**	**14.78**	**192**	P	**P**	**10 18 25.4**	**+2.4**
KMRZ	**Kaimai**	**14.81**	**190**	P	**P**	**10 18 25.1**	**+1.8**
MARZ	**Manawahe**	**14.84**	**188**	P	**P**	**10 18 27.3**	**-0.6**
LIRZ	**Lichensteins R**	**14.90**	**189**	P	**P**	**10 18 27.3**	**+3.1**
TWGZ	**Tauwhareparae**	**14.91**	**184**	P	**P**	**10 18 22.8**	**-1.5**
EDRZ	**Edgecumbe**	**14.95**	**188**	P	**P**	**10 18 24.4**	**-0.5**
EDRZ				S	**S**	**10 20 57.2**	**-3.0**
OMRZ	**Omania**	**15.00**	**189**	P	**P**	**10 18 25.7**	**+0.4**
MKRZ	**Makatiti**	**15.02**	**188**	P	**P**	**10 18 28.5**	**+3.0**
URZ	**Urewera**	**15.06**	**186**	P	**P**	**10 18 23.1**	**-2.7**
	608nm,0.8s,baz=60,slow=2.4,SNR=87						
URZ				S	**S**	**10 20 55.4**	**-6.5**
	264nm,0.6s,baz=184,slow=21,SNR=15						
URZ	**Urewera**	**15.06**	**186**	P	**P**	**10 18 22.1**	**-3.7**
URZ				S	**S**	**10 20 55.1**	**-6.9**
UTU	**Utuhina**	**15.09**	**189**	P	**P**	**10 18 28.7**	**+2.5**
MWZ	**Matawai**	**15.10**	**185**	P	**P**	**10 18 23.6**	**-2.7**
MWZ				S	**S**	**10 20 57.6**	**-5.0**
TARZ	**Mount Tarawera**	**15.11**	**188**	P	**P**	**10 18 26.6**	**+0.1**
TARZ				S	**S**	**10 21 06.7**	**+3.7**
HLRZ	**Highlands Stat**	**15.14**	**189**	P	**P**	**10 18 27.0**	**+0.3**
TKGZ	**Te Karaka**	**15.18**	**184**	P	**P**	**10 18 24.2**	**-2.8**
CNGZ	**Carnagh Statio**	**15.20**	**183**	P	**P**	**10 18 24.6**	**-2.6**
HSRZ	**Hossack Road**	**15.22**	**189**	P	**P**	**10 18 28.0**	**+0.5**
RAGZ	**Rawiri**	**15.27**	**185**	P	**P**	**10 18 25.5**	**-2.6**
RAGZ				S	**S**	**10 20 59.6**	**-6.0**
GRRZ	**Galatos Road**	**15.28**	**189**	P	**P**	**10 18 28.7**	**+0.6**
HRRZ	**Handcock Road**	**15.29**	**189**	P	**P**	**10 18 27.5**	**-0.8**
HRRZ				S	**S**	**10 21 05.8**	**-0.2**
MUGZ	**Murupara**	**15.31**	**187**	P	**P**	**10 18 25.8**	**-2.7**
MUGZ				S	**S**	**10 21 00.5**	**-5.8**
TLZ	**Tolley Road**	**15.35**	**191**	P	**P**	**10 18 29.8**	**+1.0**
TLZ				S	**S**	**10 21 19.1**	**+12**
PRRZ	**Plateau Road**	**15.38**	**188**	P	**P**	**10 18 27.9**	**-1.2**
PRRZ				S	**S**	**10 21 06.7**	**-0.8**
RTZ	**Ruatahuna**	**15.43**	**187**	P	**P**	**10 18 27.1**	**-2.6**
RTZ	**Ruatahuna**	**15.43**	**187**	P	**P**	**10 18 28.1**	**-1.6**
RTZ				S	**S**	**10 21 02.3**	**-6.1**
WPRZ	**Whakapapatarin**	**15.44**	**189**	P	**P**	**10 18 29.9**	**+0.2**
WPRZ				S	**S**	**10 21 06.7**	**-1.8**
RIGZ	**Rimuhau**	**15.45**	**184**	P	**P**	**10 18 26.8**	**-3.1**
RIGZ				S	**S**	**10 21 04.9**	**-3.7**
ALRZ	**Allen Road**	**15.45**	**189**	P	**P**	**10 18 28.0**	**-1.9**
ALRZ				S	**S**	**10 21 08.5**	**-0.2**
KUTZ	**Kaahu Road**	**15.46**	**190**	P	**P**	**10 18 30.6**	**+0.6**
SNGZ	**Shannon Statio**	**15.56**	**186**	P	**P**	**10 18 27.6**	**-3.4**
SNGZ				S	**S**	**10 21 04.0**	**-6.4**
WHTZ	**Whakaora**	**15.61**	**190**	P	**P**	**10 18 33.8**	**+2.3**
HIZ	**Hauiti**	**15.66**	**193**		**P**	**10 18 33.0**	**+1.1**
HIZ	**Hauiti**	**15.66**	**193**	P	**P**	**10 18 33.9**	**+2.0**
	490nm,1.0s						
HIZ	**Hauiti**	**15.66**	**193**	P	**P**	**10 18 32.5**	**+0.6**
MTHZ	**Maungatapiwha**	**15.68**	**187**	P	**P**	**10 18 30.6**	**-1.6**
MTHZ				S	**S**	**10 21 06.7**	**-5.8**
WATZ	**Wairara**	**15.69**	**190**	P	**P**	**10 18 32.6**	**+0.3**
MRHZ	**Matea Rd**	**15.71**	**188**	P	**P**	**10 18 29.6**	**-2.9**
MRHZ				S	**S**	**10 21 08.5**	**-4.6**
RAHZ	**Arahi**	**15.71**	**186**	P	**P**	**10 18 30.0**	**-2.5**
RAHZ				S	**S**	**10 21 06.7**	**-6.4**
KNZ	**Kokohu**	**15.77**	**184**	P	**P**	**10 18 29.8**	**-3.2**
KNZ				S	**S**	**10 21 08.5**	**-5.4**
RATZ	**Rangitukua**	**15.83**	**190**	P	**P**	**10 18 33.9**	**+0.2**
RATZ				S	**S**	**10 21 16.5**	**+1.3**
WHHZ	**Waihua**	**15.86**	**186**	P	**P**	**10 18 31.6**	**-2.3**
WHHZ				S	**S**	**10 21 09.6**	**-5.8**
MHGZ	**Mahia Peninsul**	**15.88**	**184**	P	**P**	**10 18 32.2**	**-1.9**
MHGZ				S	**S**	**10 21 11.1**	**-4.7**
NMHZ	**Naumai**	**15.92**	**187**	P	**P**	**10 18 32.4**	**-2.2**
NMHZ				S	**S**	**10 21 11.8**	**-4.9**
RITZ	**Rihia Road**	**15.93**	**190**	P	**P**	**10 18 33.4**	**-1.2**
RITZ				S	**S**	**10 21 13.8**	**-2.9**
KATZ	**Kakaramea**	**15.95**	**190**	P	**P**	**10 18 34.5**	**-0.5**
BKZ	**Black Stump Fm**	**16.03**	**188**	P	**P**	**10 18 32.3**	**-3.3**
BKZ	**Black Stump Fm**	**16.03**	**188**	P	**P**	**10 18 31.4**	**-4.1**
NTVZ	**North Tongarir**	**16.08**	**190**	P	**P**	**10 18 34.9**	**-1.2**
KRVZ	**Karewarewa**	**16.08**	**190**	P	**P**	**10 18 35.1**	**-1.0**
TMVZ	**Te Maari**	**16.09**	**190**	P	**P**	**10 18 34.3**	**-1.9**
TMVZ				S	**S**	**10 21 18.2**	**-1.2**
TWVZ	**Taurewa**	**16.09**	**191**	P	**P**	**10 18 36.7**	**+0.5**
ETVZ	**East Tongariro**	**16.11**	**190**	P	**P**	**10 18 34.4**	**-2.0**
ETVZ				S	**S**	**10 21 16.5**	**-3.3**
WTVZ	**West Tongariro**	**16.11**	**190**	P	**P**	**10 18 35.1**	**-1.3**
WTVZ				S	**S**	**10 21 20.0**	**+0.2**
NNVZ	**North Ngauruho**	**16.12**	**190**	P	**P**	**10 18 35.2**	**-1.3**
NNVZ				S	**S**	**10 21 24.4**	**+4.4**
OTVZ	**Oturere**	**16.14**	**190**	P	**P**	**10 18 34.4**	**-2.3**
OTVZ				S	**S**	**10 21 17.3**	**-3.1**
NGZ	**Ngauruhoe**	**16.16**	**190**	P	**P**	**10 18 36.1**	**-0.9**
SNVZ	**South Ngauruho**	**16.17**	**190**	P	**P**	**10 18 35.3**	**-1.7**
SNVZ				S	**S**	**10 21 23.5**	**+2.7**
TUVZ	**Tukino**	**16.25**	**190**	P	**P**	**10 18 36.8**	**-0.9**
FWVZ	**Far West T-bar**	**16.25**	**190**	P	**P**	**10 18 37.5**	**-0.3**
VRZ	**Vera Road**	**16.27**	**193**	P	**P**	**10 18 39.2**	**+1.5**
WHVZ	**Whangaehu Hut**	**16.27**	**190**	P	**P**	**10 18 37.5**	**-0.5**
MCHZ	**McNeill Hill**	**16.28**	**187**	P	**P**	**10 18 35.5**	**-2.3**
KWHZ	**Kaweka Forest**	**16.29**	**188**	P	**P**	**10 18 34.9**	**-3.1**
TRVZ	**Turoa**	**16.29**	**190**	P	**P**	**10 18 38.1**	**-0.1**
MHEZ	**Mangahewa**	**16.31**	**194**	P	**P**	**10 18 42.7**	**+4.6**
WNVZ	**Wahianoa**	**16.31**	**190**	P	**P**	**10 18 36.3**	**-2.0**
PKVZ	**Pokaka**	**16.32**	**191**	P	**P**	**10 18 37.9**	**-0.4**
MOVZ	**Moawhango**	**16.37**	**190**	P	**P**	**10 18 37.5**	**-1.2**
MTVZ	**Mangateitei**	**16.39**	**190**	P	**P**	**10 18 38.5**	**-0.5**
BHHZ	**Black Hill Sta**	**16.40**	**189**	P	**P**	**10 18 35.3**	**-3.7**
DREZ	**Durham Road**	**16.45**	**194**	P	**P**	**10 18 42.5**	**+3.1**
CKHZ	**Cape Kidnapper**	**16.45**	**186**	P	**P**	**10 18 37.6**	**-1.7**
PKE	**Pukeiti**	**16.50**	**195**	P	**P**	**10 18 42.7**	**+2.9**
KRHZ	**Kereru**	**16.51**	**188**	P	**P**	**10 18 37.2**	**-2.8**
NEZ	**North Egmont**	**16.55**	**194**	P	**P**	**10 18 42.9**	**+2.5**
KHEZ	**Kahui Hut**	**16.59**	**194**	P	**P**	**10 18 42.5**	**+1.7**
	1µm,0.7s						
KHEZ	**Kahui Hut**	**16.59**	**194**	P	**P**	**10 18 44.2**	**+3.4**
KHEZ				S	**S**	**10 21 33.3**	**+5.7**
NBEZ	**Newall Road No**	**16.60**	**195**	P	**P**	**10 18 42.7**	**+2.0**
KAHZ	**Kahuranaki**	**16.60**	**186**	P	**P**	**10 18 38.3**	**-2.6**
LREZ	**Lake Rotokare**	**16.66**	**193**	P	**P**	**10 18 43.0**	**+1.7**
NMEZ	**Namu Road**	**16.73**	**195**	P	**P**	**10 18 45.5**	**+3.6**
PNHZ	**Pukenui**	**16.80**	**188**	P	**P**	**10 18 40.0**	**-2.6**
WAZ	**Wanganui**	**16.83**	**191**	P	**P**	**10 18 42.1**	**-0.7**
PXZ	**Pawanui**	**16.84**	**186**	P	**P**	**10 18 40.2**	**-2.6**
WPHZ	**Waipukurau**	**16.92**	**187**	P	**P**	**10 18 42.0**	**-1.6**
TSZ	**Takapari Road**	**16.98**	**189**	P	**P**	**10 18 43.3**	**-0.9**
PRHZ	**Porangahau**	**17.10**	**187**	P	**P**	**10 18 43.2**	**-2.0**
DVHZ	**Dannevirke**	**17.18**	**188**	P	**P**	**10 18 43.7**	**-2.3**
OHWZ	**Ohakea**	**17.22**	**190**	P	**P**	**10 18 46.0**	**-0.3**
ANWZ	**Angora Road**	**17.30**	**187**	P	**P**	**10 18 47.1**	**0.0**
POWZ	**Post Office Ro**	**17.33**	**189**	P	**P**	**10 18 46.0**	**-1.3**
PRWZ	**Pori Road**	**17.46**	**188**	P	**P**	**10 18 47.0**	**-1.6**
BFZ	**Birch Farm**	**17.55**	**188**	P	**P**	**10 18 48.0**	**-1.4**
	446nm,0.6s						
BFZ	**Birch Farm**	**17.55**	**188**	P	**P**	**10 18 46.9**	**-2.5**
MRZ	**Mangatainoka R**	**17.62**	**189**	P	**P**	**10 18 47.6**	**-2.4**
MRZ	**Mangatainoka R**	**17.62**	**189**	P	**P**	**10 18 47.2**	**-2.8**
TIWZ	**Tintock**	**17.69**	**188**	P	**P**	**10 18 49.5**	**-1.2**
HOWZ	**Holdsworth Sta**	**17.86**	**189**	P	**P**	**10 18 50.2**	**-2.1**
KIW	**Kapiti Island**	**17.92**	**191**	P	**P**	**10 18 51.0**	**-1.8**
CAW	**Cannon Point**	**18.14**	**190**	P	**P**	**10 18 53.1**	**-1.6**
TCW	**Tory Channel**	**18.38**	**192**	P	**P**	**10 18 55.5**	**-1.4**
SNZO	**South Karori**	**18.39**	**191**	P	**P**	**10 18 55.0**	**-2.0**
SNZO	**South Karori**	**18.39**	**191**	P	**P**	**10 18 56.8**	**-0.2**
	510nm,0.7s						
QRZ	**Quartz Range**	**18.40**	**196**	P	**P**	**10 18 57.8**	**+0.6**
	1µm,1.0s						
RAR	**Rarotonga**	**19.54**	**88**	P	**P**	**10 19 07.7**	**-0.1**
	26nm,0.8s,baz=313,slow=6.1,SNR=4.8						
LHI	**Lord Howe Isla**	**19.69**	**241**	P	**P**	**10 19 08.1**	**-1.0**
	baz=20,SNR=12						
LHI	**Lord Howe Isla**	**19.69**	**241**	P	**P**	**10 19 08.6**	**-0.4**
LHI	**Lord Howe Isla**	**19.69**	**241**	P	**P**	**10 19 09.6**	**+0.6**
	420nm,1.1s						
LTZ	**Lake Taylor**	**20.31**	**195**		**P**	**10 19 13.0**	**-1.6**
INZ	**Inchbonnie**	**20.46**	**197**	P	**P**	**10 19 14.4**	**-1.4**
AMCZ	**Amberley**	**20.60**	**194**		**P**	**10 19 15.4**	**-1.7**
RPZ	**Rata Peaks**	**21.49**	**196**	P	**P**	**10 19 24.3**	**-0.8**
	131nm,0.6s,baz=359,slow=1.5,SNR=76						
RPZ				S	**S**	**10 22 42.8**	**-3.4**
	58nm,0.7s,baz=91,slow=22,SNR=5.6						
RPZ				ScP	**ScP**	**10 25 50.0**	**+0.6**
	18nm,0.7s,baz=319,slow=1.9,SNR=3.3						
	131nm,0.6s						
RPZ	**Rata Peaks**	**21.49**	**196**	P	**P**	**10 19 24.6**	**-0.5**
	181nm,0.5s						
JCZ	**Jackson Bay**	**22.47**	**200**	P	**P**	**10 19 34.6**	**+0.6**
	463nm,0.7s						
ODZ	**Otahua Downs**	**22.84**	**196**	P	**P**	**10 19 36.2**	**-0.9**
	67nm,1.5s						
HNR	**Honiara**	**23.02**	**304**	P	**P**	**10 19 39.2**	**0.0**
	8µm,0.8s,baz=205,slow=1.8,SNR=42						
HNR				S	**S**	**10 23 13.7**	**+2.7**
	218nm,0.4s,baz=342,slow=13,SNR=1.4						
HNR	**Honiara**	**23.02**	**304**	P	**P**	**10 19 37.4**	**-1.7**
HNR	**Honiara**	**23.02**	**304**	P	**P**	**10 19 40.2**	**+1.0**
	742nm,0.9s						
GC1S	**Gold Coast 1 S**	**23.67**	**253**	P	**P**	**10 19 46.0**	**+1.2**
	114nm,0.7s						
AUWSH	**Wavell State H**	**24.02**	**255**	P	**P**	**10 19 49.8**	**+1.9**
	222nm,1.5s						
AUBSH	**Beerwah State**	**24.07**	**256**	P	**P**	**10 19 50.4**	**+2.1**
	148nm,0.9s						
TARA	**Tarawa**	**25.23**	**345**	P	**P**	**10 19 58.8**	**+0.1**
TARA	**Tarawa**	**25.23**	**345**	P	**P**	**10 19 59.5**	**+0.8**
	1µm,1.1s						
ARMA	**Armidale**	**25.60**	**248**	P	**P**	**10 20 03.0**	**+1.0**
	baz=26,SNR=80						
ARMA	**Armidale**	**25.60**	**248**	P	**P**	**10 20 03.7**	**+1.7**
	190nm,0.9s						
GD1S	**Gladstone Soft**	**25.72**	**263**	P	**P**	**10 20 04.7**	**+1.7**
	92nm,1.0s						
EIDS	**Eidsvold**	**25.73**	**260**	P	**P**	**10 20 03.1**	**+0.1**
	baz=26,SNR=63						
EIDS	**Eidsvold**	**25.73**	**260**	P	**P**	**10 20 04.1**	**+1.1**
	160nm,0.9s						
NTLH	**Newcastle Hard**	**26.06**	**242**	P	**P**	**10 20 07.3**	**+1.5**
	419nm,1.0s						
AUPHS	**Peel High Scho**	**26.35**	**247**	P	**P**	**10 20 10.7**	**+2.3**
WOLH	**Wollongong Har**	**27.13**	**239**	P	**P**	**10 20 16.2**	**+1.0**
	228nm,0.9s						
AUUHS	**Ulladulla High**	**27.73**	**238**	P	**P**	**10 20 22.5**	**+2.1**
	348nm,0.9s						
RMQ	**Roma**	**27.81**	**257**	P	**P**	**10 20 22.1**	**+0.8**
	baz=28,SNR=196						
RMQ	**Roma**	**27.81**	**257**	P	**P**	**10 20 23.4**	**+2.1**
	392nm,0.9s						
AUDCS	**Dubbo College**	**28.45**	**245**	P	**P**	**10 20 29.5**	**+2.7**
	129nm,1.1s						
CNB	**Canberra Magne**	**28.58**	**238**	P	**P**	**10 20 29.0**	**+1.0**
	528nm,0.9s						
AULRC	**Lightning Ridg**	**28.62**	**251**	P	**P**	**10 20 29.3**	**+1.0**
	486nm,0.9s						
TBI	**Tubuai**	**28.72**	**96**	*e*P	**P**	**10 20 28.8**	**-0.4**
	357nm,1.2s						
TBI				*es*P	**sP**	**10 23 04.7**	**+2.8**
	3µm,29.2s						
TBI				*e*S	**S**	**10 24 43.0**	**+3.0**
	5µm,42.8s						
CAN	**Canberra**	**28.87**	**239**	P	**P**	**10 20 29.9**	**-0.5**
CAN	**Canberra**	**28.87**	**239**	P	**P**	**10 20 31.6**	**+1.2**
	642nm,0.9s						
CAN	**Canberra**	**28.87**	**239**	P	**P**	**10 20 29.9**	**-0.5**
MILA	**Mila**	**29.28**	**235**	P	**P**	**10 20 34.9**	**+0.9**
	baz=29,SNR=17						
MILA	**Mila**	**29.28**	**235**	P	**P**	**10 20 34.9**	**+0.9**
	113nm,1.4s						
AUSMG	**Snowy Mountain**	**29.49**	**237**	P	**P**	**10 20 34.7**	**-1.2**
	97nm,1.4s						
PPT2	**Papeete2**	**29.73**	**85**	*e*P	**P**	**10 20 36.0**	**-2.1**
	112nm,1.0s						
PPT2				*ep*P	**pP**	**10 22 03.5**	**-3.0**
	103nm,1.4s						
PPT2				*es*P	**sP**	**10 23 09.7**	**-0.6**
	854nm,25.8s						
PPT2				*e*S	**S**	**10 24 59.2**	**+3.4**
	2µm,27.2s						
PPT	**Papeete**	**29.73**	**85**	P	**P**	**10 20 38.1**	**0.0**
	138nm,1.0s,baz=64,slow=1.9,SNR=9.7						
	138nm,1.0s						
PPTF	**Pamatai, Papee**	**29.74**	**85**	P	**P**	**10 20 37.6**	**-0.6**
PPTF	**Pamatai, Papee**	**29.74**	**85**	P	**P**	**10 20 38.0**	**-0.2**
	190nm,1.0s						
TIAR	**Tiarei**	**29.95**	**85**	*e*P	**P**	**10 20 39.9**	**-0.1**
	21nm,0.9s						
TVO	**Taravao**	**29.97**	**85**	*e*P	**P**	**10 20 39.4**	**-0.8**
	47nm,0.8s						
TVO				*ep*P	**pP**	**10 22 03.2**	**-5.7**
	113nm,1.5s						
TV1H	**Townsville Har**	**30.46**	**271**	P	**P**	**10 20 44.6**	**+0.3**
	332nm,0.8s						
CTA	**Charters Tower**	**30.78**	**270**	P	**P**	**10 20 46.9**	**-0.1**
	480nm,0.4s,baz=93,slow=9.9,SNR=533						
CTA				PcP	**PcP**	**10 23 28.1**	**+0.9**
	17nm,0.7s,baz=90,slow=2.6,SNR=2.4						
CTA				S	**S**	**10 25 11.4**	**-0.5**
	21nm,1.1s,baz=313,slow=17,SNR=14						
CTA				ScP	**ScP**	**10 26 20.0**	**+2.5**
	18nm,1.0s,baz=109,slow=5.2,SNR=3.7						
	480nm,0.4s						
CTAO	**Charters Tower**	**30.78**	**270**	P	**P**	**10 20 46.6**	**-0.5**
CTAO	**Charters Tower**	**30.78**	**270**	P	**P**	**10 20 47.3**	**+0.2**
	957nm,0.8s						
CTAO	**Charters Tower**	**30.78**	**270**	P	**P**	**10 20 46.6**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,632nm,0.7s						
CTAO	**Charters Tower**	**30.78**	**270**	P	**P**	**10 20 47.0**	**-0.1**
CTAO				ScP	**ScP**	**10 26 20.7**	**+3.2**
CMSA	**Cobar Meteorol**	**30.81**	**247**	P	**P**	**10 20 47.2**	**0.0**
	baz=31,SNR=318						
CMSA	**Cobar Meteorol**	**30.81**	**247**	P	**P**	**10 20 47.3**	**+0.1**
	comp=Z,422nm,0.9s						
MEH	**Mehetia**	**31.03**	**86**	*e*P	**P**	**10 20 49.3**	**0.0**
	comp=Z,86nm,1.2s						
AUSSC	**Sale College,**	**31.18**	**234**	P	**P**	**10 20 51.5**	**+1.3**
	comp=Z,364nm,0.9s						
QLP	**Quilpie**	**31.86**	**257**	P	**P**	**10 20 56.0**	**-0.2**
	baz=32,SNR=78						
QLP	**Quilpie**	**31.86**	**257**	P	**P**	**10 20 58.0**	**+1.8**
	comp=Z,734nm,1.0s						
TOO	**Toolangi**	**32.22**	**236**	P	**P**	**10 20 59.3**	**+0.2**
	baz=32,SNR=49						
TOO	**Toolangi**	**32.22**	**236**	P	**P**	**10 20 58.8**	**-0.4**
TOO	**Toolangi**	**32.22**	**236**	P	**P**	**10 21 00.9**	**+1.7**
	comp=Z,228nm,1.1s						
TOO	**Toolangi**	**32.22**	**236**	P	**P**	**10 20 58.8**	**-0.4**
TOO				pmax	pmax		
	comp=Z,193nm,1.0s						
VAH	**Vaihoa**	**32.23**	**82**	*e*P

MULG **Mulgathing** 40.73 250 P **P** 10 22 08.9 -0.3
comp=Z,338nm,0.8s
TAOE **Nuku Hiva Isla** 41.41 77 *e*P P 10 22 08.9 -6.0
comp=Z,454nm,1.0s
TAOE *e*S **S** 10 27 52.9 +2.4
comp=Z,1µm,24.9s
TAOE *e*SS **SS** 10 31 18.6 +2.3
comp=Z,494nm,30.4s
TAOE Nuku Hiva Isla 41.41 77 P **P** 10 22 13.3 -1.7
TAOE Nuku Hiva Isla 41.41 77 P **P** 10 22 16.0 +1.1
comp=Z,236nm,0.9s
TAOE Nuku Hiva Isla 41.41 77 P **P** 10 22 15.9 +1.0
AS31 Alice Springs 41.45 260 P **P** 10 22 14.4 -0.6
AS31 IAmb IAmb 10 22 17.4
comp=Z,62nm,0.8s
ASAR Alice Springs 41.45 260 P **P** 10 22 14.1 -1.0
comp=Z,272nm,0.8s,baz=95,slow=6.3,SNR=412
ASAR PcP **PcP** 10 24 00.3 +0.6
comp=Z,12nm,0.6s,baz=94,slow=5.6,SNR=2.5
ASAR ScP **ScP** 10 26 59.7 +2.5
comp=Z,28nm,0.9s,baz=109,slow=3.8,SNR=12
ASAR S **S** 10 27 48.8 -2.1
comp=Z,15nm,0.8s,baz=62,slow=9.2,SNR=8.0
ASAR PKiKP **PKiKP** 10 31 04.6 -0.5
comp=Z,0.9nm,0.5s,baz=94,slow=1.2,SNR=4.5
ASAR PKP2ab 10 55 31.6
comp=Z,0.6nm,0.9s,baz=268,slow=3.9,SNR=4.3
ASAR P4KPbc 11 00 08.8
comp=Z,0.2nm,0.6s,baz=113,slow=4.3,SNR=5.5
comp=Z,272nm,0.8s
ASAR Alice Springs 41.45 260 P **P** 10 22 14.3 -0.8
WRAB Tennant Creek 41.75 266 P **P** 10 22 15.9 -1.5
WRAB Tennant Creek 41.75 266 P **P** 10 22 16.6 -0.8
comp=Z,369nm,0.9s
WRAB Tennant Creek 41.75 266*c i*P **P** 10 22 15.8 -1.6
WRAB pmax pmax
comp=Z,285nm,0.8s
WRAB Tennant Creek 41.75 266 P **P** 10 22 16.2 -1.3
WRAB ScP **ScP** 10 27 01.0 +2.6
WRA Warramunga Arr 41.76 266 P **P** 10 22 16.1 -1.4
comp=Z,285nm,0.8s,baz=95,slow=8.5,SNR=677
WRA PcP **PcP** 10 24 01.1 +0.4
comp=Z,18nm,0.7s,baz=98,slow=4.3,SNR=5.1
WRA ScP **ScP** 10 27 00.8 +2.5
comp=Z,33nm,1.0s,baz=101,slow=4.3,SNR=12
WRA S **S** 10 27 51.9 -3.3
comp=Z,30nm,0.9s,baz=92,slow=14,SNR=12
comp=Z,285nm,0.8s
GENI Genyem 43.04 293 P **P** 10 22 28.7 +1.1
comp=Z,387nm,0.8s
GENI Genyem 43.04 293 P **P** 10 22 27.1 -0.5
comp=Z,382nm,0.8s,comp=Z,5µm
WAKE Wake Island 44.03 343 P **P** 10 22 35.6 +0.5
WAKE Wake Island 44.03 343 P **P** 10 22 34.4 -0.7
comp=Z,445nm,1.1s
WAKE Wake Island 44.03 343 P **P** 10 22 33.5 -1.6
WAKE pP **PcP** 10 24 11.2 +2.9
SMPI Sarmi 44.59 292 P **P** 10 22 39.7 +0.1
comp=Z,156nm,0.9s
KDU Kakadu 45.54 275 P **P** 10 22 45.4 -1.4
baz=46,SNR=97
KDU Kakadu 45.54 275 P **P** 10 22 46.2 -0.6
comp=Z,172nm,0.8s
FORT Forrest 45.88 249 P **P** 10 22 48.1 -1.1
baz=46,SNR=45
FORT Forrest 45.88 249 P **P** 10 22 47.6 -1.6
FORT Forrest 45.88 249 P **P** 10 22 49.1 -0.1
comp=Z,702nm,0.8s
WRKA Warakurna 46.30 257 P **P** 10 22 51.5 -1.1
baz=46,SNR=488
WRKA Warakurna 46.30 257 P **P** 10 22 52.0 -0.5
comp=Z,311nm,0.9s
MTN Manton Dam 46.71 274 P **P** 10 22 54.0 -1.8
baz=47,SNR=33
MTN Manton Dam 46.71 274 IAmb IAmb 10 22 56.5
comp=Z,100nm,0.8s
MTN Manton Dam 46.71 274 P **P** 10 22 56.5 +0.8
comp=Z,122nm,0.7s
KNRA Kununurra 47.99 270 P **P** 10 23 04.4 -0.9
baz=48,SNR=340
KNRA Kununurra 47.99 270 P **P** 10 23 05.7 +0.4
comp=Z,481nm,0.7s
POHA Pohakuloa 49.34 32 P **P** 10 23 15.9 +0.4
POHA Pohakuloa 49.34 32 P **P** 10 23 15.7 +0.3
KEKH Kekaha 49.42 26 P **P** 10 23 14.7 -1.0
HON Honolulu 49.55 28 P **P** 10 23 16.7 0.0
HON Honolulu 49.55 28 P **P** 10 23 16.7 0.0
HON pmax pmax
comp=Z,207nm,0.9s
KIP Kipapa 49.64 28 P **P** 10 23 17.4 +0.1
KIP IAmb IAmb 10 23 20.3
comp=Z,100nm,0.9s
KIP Kipapa 49.64 28 P **P** 10 23 18.2 +0.9
comp=Z,119nm,1.3s
KIP Kipapa 49.64 28 P **P** 10 23 17.6 +0.3
comp=Z,119nm,1.3s
KIP Kipapa 49.64 28 P **P** 10 23 17.4 +0.1
KIP pmax pmax
comp=Z,100nm,1.0s
KIP Kipapa 49.64 28 P **P** 10 23 17.4 +0.1
GUMO Guam 49.73 314 P **P** 10 23 17.3 -0.8
comp=Z,401nm,0.7s,baz=163,slow=9.6,SNR=15
comp=Z,401nm,0.7s
GUMO Guam 49.73 314 P **P** 10 23 17.5 -0.6
GUMO Guam 49.73 314 P **P** 10 23 19.6 +1.5
comp=Z,636nm,0.9s
GUMO Guam 49.73 314 P **P** 10 23 17.5 -0.6
GUMO pmax pmax
comp=Z,407nm,0.8s
GUMO Guam 49.73 314 P **P** 10 23 18.6 +0.5
FAKI Fak Fak 49.73 287 P **P** 10 23 17.3 -1.0
FAKI Fak Fak 49.73 287 P **P** 10 23 17.7 -0.5
comp=Z,155nm,0.9s
OPA Opana 49.87 28 IAmb IAmb 10 23 23.2
comp=Z,107nm,0.8s
DRV Dumont d'Urvil 49.91 199 P **P** 10 23 18.5 -0.1
DRV pP **pP** 10 25 02.6 +1.7
DRV ScP **ScP** 10 27 30.3 -1.2
KMBL Kambalda 51.12 248 P **P** 10 23 27.7 -0.4
baz=51,SNR=15
KMBL Kambalda 51.12 248 P **P** 10 23 27.4 -0.7
comp=Z,123nm,1.1s
SIJI Sorong 51.57 289 P **P** 10 23 30.9 -0.8
comp=Z,548nm,0.9s,baz=75,slow=6.9,SNR=98
SIJI S **S** 10 30 09.5 -2.0
comp=Z,3.4nm,0.5s,baz=235,slow=23,SNR=1.6
comp=Z,548nm,0.9s
SOEI Soe 54.09 275 P **P** 10 23 51.9 +2.2
comp=Z,780nm,0.8s
BATI Baumata 54.48 274 P **P** 10 23 53.7 +1.4
comp=Z,145nm,0.4s,baz=150,slow=2.4,SNR=21
BATI S **S** 10 30 45.2 -4.9
comp=Z,22nm,0.6s,baz=293,slow=21,SNR=2.5
comp=Z,145nm,0.4s
KLBR Kellerberrin 54.59 247 P **P** 10 23 51.8 -1.1
baz=55,SNR=88
KLBR Kellerberrin 54.59 247 P **P** 10 23 53.0 +0.1
comp=Z,374nm,0.9s
MEEK Meekatharra 54.63 253 P **P** 10 23 51.6 -1.6
baz=55,SNR=36
MEEK Meekatharra 54.63 253 P **P** 10 23 52.8 -0.4
comp=Z,86nm,0.9s
MBWA Marble Bar 54.80 260 P **P** 10 23 52.9 -1.5
MBWA IAmb IAmb 10 23 55.7
comp=Z,148nm,0.8s
MBWA Marble Bar 54.80 260 P **P** 10 23 54.0 -0.4
comp=Z,145nm,0.9s
MBWA Marble Bar 54.80 260 P **P** 10 23 53.4 -1.0
MBWA Marble Bar 54.80 260 P **P** 10 23 53.1 -1.3
MBWA ScP **ScP** 10 27 55.8 +2.0
NWAO Narrogin (SRO) 54.87 245 P **P** 10 23 53.8 -0.9
comp=Z,27nm,0.5s
comp=Z,27nm,0.5s
NWAO Narrogin (SRO) 54.87 245 P **P** 10 23 53.9 -0.9
baz=55,SNR=31
NWAO P **P** 10 23 53.9 -0.9
baz=55,SNR=31
NWAO Narrogin (SRO) 54.87 245 P **P** 10 23 53.7 -1.1
NWAO Narrogin (SRO) 54.87 245 IAmb IAmb 10 23 55.9
comp=Z,43nm,0.8s
NWAO Narrogin (SRO) 54.87 245 P **P** 10 23 54.8 +0.1
comp=Z,82nm,1.4s
NWAO Narrogin (SRO) 54.87 245 P **P** 10 23 55.1 +0.4
comp=Z,82nm,1.4s
NWAO Narrogin (SRO) 54.87 245 P **P** 10 23 53.9 -0.8
NWAO Narrogin (SRO) 54.87 245 P **P** 10 23 54.4 -0.3
NWAO pP **pP** 10 25 40.3 +0.7

RKGY Rocky Gully 54.89 243 P **P** 10 23 55.5 +0.6
baz=55,SNR=6.9
RKGY Rocky Gully 54.89 243 P **P** 10 23 55.7 +0.8
comp=Z,169nm,0.9s
VNDA Vanda 54.96 185 P **P** 10 23 55.9 +1.3
comp=Z,12nm,0.6s,baz=3.6,slow=7.8,SNR=25
VNDA PcP **PcP** 10 24 48.9 +1.1
comp=Z,13nm,0.7s,baz=344,slow=6.1,SNR=6.2
VNDA ScP **ScP** 10 27 53.8 +0.4
comp=Z,3.6nm,0.6s,baz=350,slow=3.1,SNR=3.1
VNDA S **S** 10 30 54.2 -0.1
comp=Z,1.5nm,1.0s,baz=7.4,slow=13,SNR=1.7
comp=Z,12nm,0.6s
VNDA Vanda 54.96 185 P **P** 10 23 55.7 +1.2
VNDA Vanda 54.96 185 P **P** 10 23 56.4 +1.8
SBA Scott Base 54.97 183 P **P** 10 23 57.4 +2.7
SBA IAmb IAmb 10 23 59.1
comp=Z,95nm,0.9s
SBA Scott Base 54.97 183 P **P** 10 23 57.4 +2.7
SBA pmax pmax
comp=Z,95nm,0.9s
SBA Scott Base 54.97 183 P **P** 10 23 57.1 +2.4
BLDU Ballidu 55.62 248 P **P** 10 23 58.9 -1.1
baz=56,SNR=80
BLDU Ballidu 55.62 248 P **P** 10 23 59.6 -0.4
comp=Z,94nm,1.4s
SANI Sanana 55.68 284 P **P** 10 24 00.6 0.0
comp=Z,283nm,0.8s
TNTI Ternate 55.77 288 P **P** 10 24 00.1 -1.1
TNTI Ternate 55.77 288 P **P** 10 24 03.1 +1.8
comp=Z,300nm,0.8s
MUN Mundaring 55.85 246 P **P** 10 24 00.9 -0.7
baz=56,SNR=28
MUN Mundaring 55.85 246 P **P** 10 24 01.5 -0.1
comp=Z,135nm,0.9s
MTKN Mount Kenneth 56.22 246 P **P** 10 24 04.2 +0.1
comp=Z,361nm,0.8s
MMRI Maumere 56.37 275 P **P** 10 24 06.2 +0.8
comp=Z,261nm,0.7s
MORW Morawa 56.44 250 P **P** 10 24 04.7 -1.0
baz=56,SNR=66
MORW Morawa 56.44 250 IAmb IAmb 10 24 06.7
comp=Z,112nm,0.9s
MORW Morawa 56.44 250 P **P** 10 24 05.1 -0.6
comp=Z,149nm,1.0s
LUWI Luwuk 59.00 284 P **P** 10 24 24.8 +1.6
comp=Z,336nm,1.0s
CCD Concordia, Ant 59.16 194 P **P** 10 24 24.5 +0.6
CCD ScP **ScP** 10 28 12.1 -0.5
GIRL Giralia 59.38 257 P **P** 10 24 25.7 0.0
baz=59,SNR=16
GIRL Giralia 59.38 257 P **P** 10 24 28.5 +2.8
comp=Z,392nm,1.3s
KAPI Kappang 60.05 278 P **P** 10 24 29.6 -0.6
comp=Z,38nm,0.7s,baz=158,slow=4.0,SNR=21
comp=Z,38nm,0.7s
KAPI Kappang 60.05 278 P **P** 10 24 29.6 -0.6
KAPI Kappang 60.05 278 P **P** 10 24 31.3 +1.1
comp=Z,82nm,1.0s
KAPI Kappang 60.05 278*c i*P **P** 10 24 30.0 -0.2
KAPI pmax pmax
comp=Z,37nm,0.7s
KAPI Kappang 60.05 278 P **P** 10 24 30.0 -0.2
KAPI Kappang 60.05 278 P **P** 10 24 30.1 -0.1
CASY Casey 60.38 206 P **P** 10 24 31.2 -0.3
CASY IAmb IAmb 10 24 33.1
comp=Z,97nm,0.8s
CASY Casey 60.38 206 P **P** 10 24 31.2 -0.3
CASY sP **sP** 10 27 17.1 -1.2
PLAI Plampang 60.39 273 P **P** 10 24 32.2 -0.3
comp=Z,552nm,0.8s
DAV Davao City (W) 60.47 293 S **S** 10 32 07.9 +1.7
comp=Z,42nm,0.3s,baz=134,slow=10.0,SNR=1.1
JCJ Chichijima 61.55 322 P **P** 10 24 41.6 +1.8
comp=Z,185nm,0.5s,baz=115,slow=14,SNR=42
JCJ S **S** 10 32 21.8 +2.6
comp=Z,45nm,0.8s,baz=342,slow=16,SNR=1.1
comp=Z,185nm,0.5s
JCJ Chichijima 61.55 322 P **P** 10 24 40.1 +0.3
comp=Z,354nm,0.7s
TOLI2 Tolitoli 61.74 285 P **P** 10 24 41.2 -0.2
comp=Z,360nm,0.8s
JAGI Jajag, Banyuwa 63.85 272 P **P** 10 24 55.4 +0.4
comp=Z,209nm,1.1s
RPN Rapa Nui 63.95 110 P **P** 10 24 57.3 +1.9
comp=Z,77nm,0.7s,baz=307,slow=9.7,SNR=6.4
comp=Z,77nm,0.7s
RPN Rapa Nui 63.95 110 P **P** 10 24 57.8 +2.4
MYLDM Lahad Datu 65.64 287 IAmb IAmb 10 25 26.9
comp=Z,79nm,0.8s
QSPA South Pole Qui 66.82 180 P **P** 10 25 13.5 +0.8
comp=Z,136nm,0.7s,baz=337,slow=0.4,SNR=467
QSPA S **S** 10 33 23.3 +1.7
comp=Z,15nm,1.1s,baz=155,slow=22,SNR=20
comp=Z,136nm,0.7s
QSPA South Pole Qui 66.82 180 P **P** 10 25 14.0 +1.2
QSPA South Pole Qui 66.82 180 P **P** 10 25 13.7 +0.9
UGM Wanagama 67.39 271 P **P** 10 25 17.1 0.0
comp=Z,283nm,0.9s
JMZ Minamidaito 2 67.40 313 P **P** 10 25 17.5 +0.7
comp=Z,184nm,1.0s
JHJ Hachijo jima 2 67.52 325 P **P** 10 25 19.0 +1.6
comp=Z,221nm,0.7s,baz=39,slow=22,SNR=9.3
JHJ S **S** 10 33 31.3 +0.9
comp=Z,90nm,1.0s,baz=68,slow=15,SNR=1.3
comp=Z,221nm,0.7s
SMRI Semarang 67.79 272 P **P** 10 25 20.5 +1.0
comp=Z,184nm,0.9s
KKM Kota Kinabalu 68.05 287 P **P** 10 25 20.6 -0.6
comp=Z,129nm,0.8s
JSG Sagara 69.56 325 P **P** 10 25 30.5 +0.8
comp=Z,338nm,0.9s
JOW Kunigami 70.05 312 P **P** 10 25 32.5 -0.3
comp=Z,194nm,0.7s,baz=127,slow=9.4,SNR=45
JOW S **S** 10 34 01.0 +1.3
comp=Z,6.7nm,0.8s,baz=220,slow=17,SNR=1.2
comp=Z,194nm,0.7s
JOW Kunigami 70.05 312 P **P** 10 25 33.3 +0.5
comp=Z,304nm,0.9s
BBJI Bungbulang 70.20 270 P **P** 10 25 33.9 -0.2
comp=Z,284nm,0.8s
LEM Lembang 70.47 271 P **P** 10 25 35.4 -0.4
comp=Z,378nm,0.7s,baz=66,slow=4.3,SNR=52
comp=Z,378nm,0.7s
INU Inuyama 70.70 324 IAmb IAmb 10 25 40.2
comp=Z,65nm,1.1s
INU Inuyama 70.70 324 P **P** 10 25 36.9 +0.5
comp=Z,60nm,1.0s
INU Inuyama 70.70 324 P **P** 10 25 36.7 +0.3
JGF Kuroka 70.71 325 IAmb IAmb 10 25 39.5
comp=Z,42nm,0.7s
JGF Kuroka 70.71 325 P **P** 10 25 38.2 +1.7
comp=Z,61nm,0.8s
JMM Marumori 70.73 329 P **P** 10 25 36.9 +0.4
comp=Z,40nm,1.1s
XMI Christmas Isla 70.92 267 P **P** 10 25 39.3 +1.1
comp=Z,150nm,0.8s
MJAR Matsushiro Arr 70.98 326 P **P** 10 25 37.0 -1.0
comp=Z,65nm,0.8s,baz=157,slow=6.1,SNR=46
MJAR S **S** 10 34 11.6 +1.6
comp=Z,0.4nm,0.4s,baz=119,slow=18,SNR=0.9
comp=Z,65nm,0.8s
MAJO Matsushiro 70.98 326 P **P** 10 25 37.9 -0.2
MAJO IAmb IAmb 10 25 41.6
comp=Z,91nm,0.8s
MAJO Matsushiro 70.98 326 P **P** 10 25 38.6 +0.5
comp=Z,113nm,0.9s
MAJO Matsushiro 70.98 326 P **P** 10 25 37.9 -0.2
MAJO pmax pmax
comp=Z,91nm,0.9s
MAJO Matsushiro 70.98 326 P **P** 10 25 37.2 -0.8
MJB9 Matsu-Tunnel 70.98 326 IAmb IAmb 10 25 41.6
comp=Z,92nm,0.9s
JMN Monobe 71.25 321 P **P** 10 25 39.5 -0.2
JMN IAmb IAmb 10 25 44.3
comp=Z,64nm,0.9s
JMN Monobe 71.25 321 P **P** 10 25 40.6 +0.9
comp=Z,82nm,1.1s
JSU Suzuyama 71.74 317 P **P** 10 25 42.7 +0.1
comp=Z,241nm,1.1s
YOJ Yonaguni jima 72.29 307 P **P** 10 25 47.1 +1.2
comp=Z,155nm,1.5s
JNU Nakatsue 72.59 319 P **P** 10 25 46.7 -0.8
comp=Z,78nm,0.8s,baz=63,slow=2.6,SNR=30
JNU S **S** 10 34 30.1 +2.0
comp=Z,4.3nm,1.0s,baz=79,slow=19,SNR=1.6
comp=Z,78nm,0.8s
JNU Nakatsue 72.59 319 IAmb IAmb 10 25 51.1
comp=Z,110nm,1.0s
JNU Nakatsue 72.59 319 P **P** 10 25 48.1 +0.6
comp=Z,131nm,0.9s
JHS Saijyo 72.60 322 P **P** 10 25 48.2 +0.7
comp=Z,201nm,1.1s
TWGBT Beinan 72.77 305 P **P** 10 25 48.0 -0.7
comp=Z,91nm,0.7s
TWG Pinlang 72.78 305 IAmb IAmb 10 25 48.7
comp=Z,58nm,0.7s
JTM Tenmabayashi 72.94 331 IAmb IAmb 10 25 53.5
comp=Z,133nm,1.0s
JTM Tenmabayashi 72.94 331 P **P** 10 25 50.3 +1.1
comp=Z,147nm,1.1s
YULB Yu-li 72.94 305 P **P** 10 25 50.2 +0.5
comp=Z,42nm,1.0s
ERM Erimo 73.02 333 P **P** 10 25 50.6 +0.9
ERM IAmb IAmb 10 25 55.8
comp=Z,61nm,0.9s
ERM Erimo 73.02 333 P **P** 10 25 52.0 +2.3
comp=Z,116nm,0.9s
ERM Erimo 73.02 333*ce*P **P** 10 25 51.4 +1.7
ERM pmax pmax
comp=Z,53nm,0.9s
JEM Erimo 73.02 333 P **P** 10 25 52.2 +2.5
comp=Z,45nm,0.9s
NACB Ninganchiao 73.17 306 IAmb IAmb 10 25 52.0
comp=Z,110nm,0.8s
NACB Ninganchiao 73.17 306 P **P** 10 25 51.1 +0.2
comp=Z,146nm,0.8s
TPUB Ta-pu 73.38 305 P **P** 10 25 50.7 -1.6
comp=Z,198nm,0.8s
SSLB Suanglung 73.42 306 P **P** 10 25 51.8 -0.7
comp=Z,224nm,0.8s
YHNB Yeheng 73.62 307 IAmb IAmb 10 25 56.6
comp=Z,98nm,0.8s
YHNB Yeheng 73.62 307 P **P** 10 25 54.0 +0.4
comp=Z,138nm,0.9s
YUK Yuzh-Kuril'sk 73.63 336*ce*P **P** 10 25 53.8 +0.7
TATO Taipei 73.71 307 P **P** 10 25 52.6 -1.4
TATO Taipei 73.71 307 P **P** 10 25 54.6 +0.6
comp=Z,252nm,0.8s
TATO Taipei 73.71 307 P **P** 10 25 52.8 -1.2
ADK Adak 74.91 3 P **P** 10 25 59.4 -0.7
ADK Adak 74.91 3 P **P** 10 26 00.9 +0.8
comp=Z,241nm,1.0s
ADK Adak 74.91 3 P **P** 10 25 59.4 -0.7
ADK pmax pmax
comp=Z,161nm,0.8s
JKA Kamikawa-asahi 74.98 334 IAmb IAmb 10 26 06.4
comp=Z,117nm,0.9s
ASAJ Asahikawa 74.98 334 P **P** 10 26 02.7 +1.9
comp=Z,96nm,0.8s,baz=215,slow=3.5,SNR=32
ASAJ S **S** 10 34 56.9 +3.1
comp=Z,3.2nm,0.8s,baz=157,slow=27,SNR=1.4
comp=Z,96nm,0.8s
SHEM Shemya Is, Ala 75.80 357 P **P** 10 26 04.6 -0.4
comp=Z,76nm,0.7s,baz=311,slow=7.2,SNR=5.7
comp=Z,76nm,0.7s
QZH Quanzhou 75.84 305*i i*P **P** 10 26 06.4 +0.4
QZH S **S** 10 35 04.7 +0.9
QZH ScS **ScS** 10 35 29.8 +0.7
QZH pmax pmax
comp=Z,67nm,0.8s
QZH pmax pmax
comp=Z,420nm,6.0s
SKR Severo-Kuril's 76.41 345 *e*P **P** 10 26 06.1 -2.3
SKR *e*S **S** 10 35 10.7 +2.0
SKR pmax pmax
comp=Z,100nm,1.4s
SKR pmax pmax
comp=Z,41nm,1.8s
NIKH Nikolski High 76.61 7 P **P** 10 26 09.7 +0.1
baz=191
NIKH Nikolski High 76.61 7 P **P** 10 26 10.0 +0.4
comp=Z,527nm,0.9s
TJN Taejon 76.92 319 P **P** 10 26 12.9 +1.3
comp=Z,414nm,0.9s
TJN Taejon 76.92 319*ce*P **P** 10 26 12.2 +0.6
BELA Belgrano 2 77.15 173 P **P** 10 26 12.0 -0.3
YSS Yuzh-Sakhalins 77.26 335 P **P** 10 26 14.3 +1.0
YSS Yuzh-Sakhalins 77.26 335 P **P** 10 26 14.0 +0.8
comp=Z,266nm,0.9s
YSS Yuzh-Sakhalins 77.26 335 *e*P **P** 10 26 14.1 +0.8
YSS *e**PP **pP** 10 28 09.6 +0.2
YSS *e* 10 29 16.7
YSS *e*S **S** 10 35 20.6 +2.6
YSS *e*SS **SS** 10 40 32.8 +0.1
YSS pmax pmax
comp=E,300nm,4.9s
YSS pmax pmax
comp=Z,400nm,4.9s
YSS pmax pmax
comp=Z,220nm,0.7s
YSS smax smax
comp=N,800nm,4.6s
MYKOM Kota Tinggi 77.31 278 IAmb IAmb 10 26 16.2
comp=Z,80nm,0.7s
KSRS Korea Array 77.31 320 P **P** 10 26 14.0 +0.3
comp=Z,40nm,0.8s,baz=134,slow=5.8,SNR=35
KSRS S **S** 10 35 20.3 +1.4
comp=Z,0.6nm,0.6s,baz=117,slow=40,SNR=1.4
comp=Z,40nm,0.8s
SSE Sheshan 77.55 312 P **P** 10 26 14.7 -0.4
SSE S **S** 10 35 21.1 -0.5
SSE pmax pmax
comp=Z,15nm,0.8s
SSE pmax pmax
comp=Z,180nm,8.8s
UNV Unalaska Valle 77.77 9 P **P** 10 26 16.1 +0.3
baz=193
PET Petropavlovsk 78.05 347 P **P** 10 26 16.8 -0.5
PET IAmb IAmb 10 26 20.1
comp=Z,80nm,0.6s
PET Petropavlovsk 78.05 347 P **P** 10 26 18.4 +1.1
comp=Z,477nm,0.7s
PET Petropavlovsk 78.05 347 *e*P **P** 10 26 15.8 -1.5
PET *e**PP **pP** 10 28 12.4 -1.2
PET *i* S **S** 10 35 24.5 -1.4
PET *e*SPP SPP 10 36 41.8
PET *e*SS **SS** 10 40 47.4 +3.3
PET pmax pmax
comp=Z,200nm,7.7s
PET pmax pmax
comp=Z,158nm,0.6s
PET pmax pmax
comp=Z,300nm,6.2s
INCN Inchon 78.09 320 P **P** 10 26 18.9 +0.9
comp=Z,96nm,1.8s
MAW Mawson 78.10 201 P **P** 10 26 18.3 +0.8
comp=Z,55nm,0.6s,baz=131,slow=6.4,SNR=84
MAW S **S** 10 35 26.4 +0.1
comp=Z,2.3nm,0.3s,baz=228,slow=9.6,SNR=7.5
comp=Z,55nm,0.6s
MAW Mawson 78.10 201 P **P** 10 26 18.1 +0.6
baz=78,SNR=20
MAW Mawson 78.10 201 P **P** 10 26 18.3 +0.8
PEA0B Petropavlovsk- 78.32 347*ce*P **P** 10 26 19.1 +0.3
PETK Petropavlovsk- 78.32 347 P **P** 10 26 18.7 -0.1
comp=Z,108nm,0.8s,baz=96,slow=4.8,SNR=59
PETK PKiKP **PKiKP** 10 31 48.6 -1.0
comp=Z,2.3nm,0.7s,baz=121,slow=1.8,SNR=6.0
PETK S **S** 10 35 36.2 +7.3
comp=Z,5.0nm,0.9s,baz=257,slow=13,SNR=2.6
comp=Z,108nm,0.8s
HJU Haeju 79.00 320 P **P** 10 26 21.3 -1.5
HJU pP **pP** 10 28 18.4 -1.0
HJU S **S** 10 35 38.7 +2.2
HJU AmB
comp=Z,44nm,0.8s
FALS False Pass 79.21 10 P **P** 10 26 23.6 +0.2
baz=196
HHU Hamhung 79.21 322 P **P** 10 26 22.8 -1.0
HHU S **S** 10 35 43.0 +4.4
HHU AmB
comp=Z,48nm,2.0s
UGL Uglegorsk 79.28 336 *e*P **P** 10 26 25.0 +1.0
UGL *e*S **S** 10 35 34.0 -4.9
UGL pmax pmax
comp=Z,180nm,0.9s
UGL smax smax
comp=E,2µm,8.0s
UGL smax smax
comp=N,2µm,8.6s
BKNI Bangkinang 79.29 275 IAmb IAmb 10 26 28.2
comp=Z,100nm,0.8s
BKNI Bangkinang 79.29 275 P **P** 10 26 26.5 +1.6
comp=Z,150nm,0.8s

PYAG	**Pyongyang**	**79.64**	**320**	P	**P**		**10 26 25.6**	**-0.5**
PYAG				S	**S**		**10 35 46.6**	**+3.5**
PYAG				AmB				
	comp=Z,227nm,2.8s							
NJ2	**Nanjing**	**79.72**	**311**	*e*P	**P**		**10 26 27.1**	**+0.4**
NJ2				sP	**sP**		**10 29 17.4**	**-2.4**
NJ2				S	**S**		**10 35 43.8**	**-0.3**
NJ2				SKS	**SKSac**		**10 35 52.1**	**+1.3**
NJ2				sS	**sS**		**10 39 13.2**	**+0.4**
NJ2				pmax	pmax			
	comp=Z,61nm,0.8s							
PMSA	**Palmer Station**	**79.77**	**157**	P	**P**		**10 26 27.3**	**+0.9**
	comp=Z,77nm,0.7s,baz=238,slow=3.3,SNR=21							
	comp=Z,77nm,0.7s							
PMSA	**Palmer Station**	**79.77**	**157**	P	**P**		**10 26 27.1**	**+0.7**
PMSA				IAmb	IAmb		10 26 28.9	
	comp=Z,76nm,0.7s							
PMSA	**Palmer Station**	**79.77**	**157**	*e*P	**P**		**10 26 27.6**	**+1.2**
USA0B	**Ussuriysk Arra**	**79.85**	**328**	IAmb	IAmb		10 26 31.3	
	comp=Z,82nm,0.9s							
USA0B	**Ussuriysk Arra**	**79.85**	**328**	*d* iP	**P**		**10 26 27.1**	**0.0**
USRK	**Ussuriysk Ar.**	**79.85**	**328**	P	**P**		**10 26 27.4**	**+0.3**
USRK	comp=Z,63nm,0.8s,baz=122,slow=3.2,SNR=42			S	**S**		**10 35 48.4**	**+3.3**
	comp=Z,0.9nm,0.6s,baz=146,slow=40,SNR=1.8							
	comp=Z,63nm,0.8s							
SDPT	**Sand Point**	**80.19**	**12**	P	**P**		**10 26 28.9**	**+0.3**
	baz=199							
S12K	**Black Hills**	**80.25**	**11**	P	**P**		**10 26 30.0**	**+1.1**
	baz=197							
TYV	**Tymovskoe**	**80.55**	**337**	*e*P	**P**		**10 26 32.0**	**+1.4**
TYV				*e*S	**S**		**10 35 48.9**	**-2.9**
TYV				pmax	pmax			
	comp=Z,111nm,0.8s							
TYV				pmax	pmax			
	comp=Z,300nm,2.1s							
TYV				smax	smax			
	comp=N,500nm,5.5s							
TYV				smax	smax			
	comp=E,400nm,5.5s							
SPIA	**Saint Paul Isl**	**80.61**	**6**	P	**P**		**10 26 32.1**	**+1.4**
	baz=190							
IPM	**Ipoh**	**80.98**	**279**	P	**P**		**10 26 33.3**	**-0.4**
IPM	**Ipoh**	**80.98**	**279**	P	**P**		**10 26 34.5**	**+0.8**
	comp=E,184nm,0.8s							
SNCC	**San Nicolas Is**	**80.99**	**48**	P	**P**		**10 26 34.2**	**+0.8**
	baz=235							
SUJ	**Sinuiju**	**81.07**	**321**	P	**P**		**10 26 32.9**	**-0.6**
SUJ				S	**S**		**10 35 58.2**	**+0.7**
SUJ				AmB				
	comp=Z,194nm,1.9s							
SCZ2	**Santa Cruz Isl**	**81.35**	**47**	P	**P**		**10 26 36.5**	**+1.3**
	baz=234,SNR=7.0							
MDJ	**Mudanjiang**	**81.35**	**327**	IAmb	IAmb		10 26 39.0	
	comp=Z,76nm,0.8s							
MDJ	**Mudanjiang**	**81.35**	**327**	P	**P**		**10 26 35.1**	**+0.2**
MDJ				pP	pwP		10 28 34.7	-2.1
MDJ				S	**S**		**10 35 58.5**	**-1.7**
MDJ				SS	**SS**		**10 41 32.2**	**-1.0**
MDJ				pmax	pmax			
	comp=Z,42nm,2.1s							
MDJ				pmax	pmax			
	comp=Z,590nm,7.3s							
MDJ	**Mudanjiang**	**81.35**	**327**	P	**P**		**10 26 35.9**	**+1.0**
	comp=Z,100nm,0.8s							
CHGN	**Chignik**	**81.48**	**12**	P	**P**		**10 26 37.1**	**+1.9**
	baz=201							
CHIR	**Chirikof Islan**	**81.62**	**14**	P	**P**		**10 26 37.0**	**+1.0**
CHIR	**Chirikof Islan**	**81.62**	**14**	P	**P**		**10 26 37.8**	**+1.8**
	baz=203							
KULM	**Kulim**	**81.65**	**279**	P	**P**		**10 26 36.8**	**-0.4**
KULM				IAmb	IAmb		10 26 39.2	
	comp=Z,74nm,0.8s							
PKM	**Mcpherson Peak**	**81.75**	**47**	P	**P**		**10 26 38.3**	**+0.9**
	baz=234,SNR=8.5							
SAO	**San Andreas Ge**	**81.79**	**44**	IAmb	IAmb		10 26 41.8	
	comp=Z,68nm,1.0s							
CIS	**Catalina Islan**	**81.84**	**48**	P	**P**		**10 26 38.5**	**+0.8**
	baz=235							
SMMC	**Simmler**	**81.87**	**46**	P	**P**		**10 26 39.4**	**+1.5**
	baz=234,SNR=7.3							
BBGB	**Big Mountain B**	**81.94**	**45**	IAmb	IAmb		10 26 43.4	
	comp=Z,71nm,1.2s							
DL2	**Dalian**	**82.03**	**318**	P	**P**		**10 26 40.3**	**+1.9**
DL2				pP	**pP**		**10 28 37.1**	**+0.9**
DL2				SKS	**S**		**10 36 03.7**	**-3.5**
DL2				S	**SKKSac**		**10 36 10.2**	**-0.5**
DL2				pmax	pmax			
	comp=Z,40nm,0.7s							
DL2				pmax	pmax			
	comp=Z,470nm,6.6s							
BCW	**Bitter Crk WRg**	**82.05**	**47**	IAmb	IAmb		10 26 43.5	
	comp=Z,73nm,0.9s							
WHN	**Wuhan**	**82.06**	**308**	⇑P	**P**		**10 26 39.3**	**+0.5**
WHN				pP	**pwP**		**10 28 39.4**	**-2.1**
WHN				SKS	**S**		**10 36 04.8**	**-3.1**
WHN				S	**SKKSac**		**10 36 09.7**	**-1.7**
WHN				pmax	pmax			
	comp=Z,190nm,0.9s							
WHN				pmax	pmax			
	comp=Z,1μm,8.7s							
FMP	**Fort Macarthur**	**82.10**	**48**	P	**P**		**10 26 40.2**	**+1.3**
	baz=235							
HOPS	**Hopland Field**	**82.13**	**42**	IAmb	IAmb		10 26 43.7	
	comp=Z,105nm,1.1s							
RPSI	**Rantau Prapat**	**82.17**	**276**	IAmb	IAmb		10 26 40.8	
	comp=Z,57nm,0.8s							
PSI	**Prapat**	**82.21**	**276**	P	**P**		**10 26 40.4**	**+0.2**
	comp=Z,90nm,1.0s							
KCPM	**Cahto Peak**	**82.25**	**41**	IAmb	IAmb		10 26 43.2	
	comp=Z,80nm,1.1s							
OSI	**Osito Audit: C**	**82.32**	**47**	P	**P**		**10 26 41.5**	**+1.3**
	baz=235							
DECC	**Green Verdugo**	**82.38**	**48**	P	**P**		**10 26 41.8**	**+1.3**
	baz=235							
KMPM	**Mount Pierce**	**82.39**	**40**	IAmb	IAmb		10 26 44.6	
	comp=Z,101nm,0.9s							
109C	**Camp Elliot, M**	**82.46**	**50**	P	**P**		**10 26 41.8**	**+1.0**
	baz=236,SNR=7.7							
KMRM	**Mail Ridge**	**82.51**	**40**	IAmb	IAmb		10 26 46.1	
	comp=Z,122nm,1.1s							
ARVC	**Arvin**	**82.54**	**47**	P	**P**		**10 26 42.3**	**+1.1**
	baz=235,SNR=13							
MG04	**Isla Riesco**	**82.59**	**145**	IAmb	IAmb		10 26 44.5	
	comp=Z,80nm,0.7s							
SII	**Sitkinak Islan**	**82.62**	**14**	IAmb	IAmb		10 26 44.7	
	comp=Z,110nm,0.8s							
SII	**Sitkinak Islan**	**82.62**	**14**	P	**P**		**10 26 42.5**	**+1.4**
	baz=204							
SII	**Sitkinak Islan**	**82.62**	**14**	P	**P**		**10 26 41.4**	**+0.3**
	comp=Z,160nm,0.7s							
MG05	**Puerto Natales**	**82.65**	**143**	IAmb	IAmb		10 26 44.1	
	comp=Z,69nm,0.7s							
SNY	**Shenyang**	**82.72**	**322**	P	**P**		**10 26 42.5**	**+0.7**
SNY				pmax	pmax			
	comp=Z,56nm,0.8s							
VES	**Vestal, Richgr**	**82.78**	**46**	P	**P**		**10 26 42.9**	**+0.5**
	baz=235,SNR=26							
MURC	**Murrieta**	**82.80**	**49**	P	**P**		**10 26 43.6**	**+1.1**
	baz=236,SNR=19							
GRNR	**Gornyy**	**82.82**	**334**	⇓ *i*P	**P**		**10 26 42.7**	**+0.5**
GRNR				pmax	pmax			
	comp=N,7.0nm,0.9s							
GRNR				pmax	pmax			
	comp=Z,20nm,1.1s							
GRNR				MLR	MLR			
	comp=N,90nm,15.0s							
BFSC	**Mount Baldy Ra**	**82.83**	**48**	P	**P**		**10 26 43.8**	**+1.0**
	baz=236							
GSI	**Gunungsitoli**	**82.85**	**274**	P	**P**		**10 26 44.5**	**+1.2**
	comp=N,211nm,0.8s							
VOG	**Valley Oaks Go**	**82.87**	**46**	P	**P**		**10 26 43.9**	**+1.1**
	baz=234							
KHMM	**Horse Mountain**	**82.90**	**40**	IAmb	IAmb		10 26 47.5	
	comp=Z,68nm,0.8s							
GO09	**Cerro Castillo**	**82.94**	**143**	IAmb	IAmb		10 26 46.9	
	comp=Z,175nm,1.8s							
CN2	**Changchun**	**82.96**	**324**	P	**P**		**10 26 42.3**	**-0.8**
CN2				pP	pP		10 28 40.2	-1.0
CN2				SKS	**S**		**10 36 10.5**	**-5.8**
CN2				S	**SKKSac**		**10 36 17.5**	**-0.1**
CN2				pmax	pmax			
	comp=Z,120nm,0.9s							
CN2				pmax	pmax			
	comp=Z,600nm,5.0s							
EDW2	**Edwards Air Fo**	**82.97**	**47**	P	**P**		**10 26 44.6**	**+1.2**
	baz=235,SNR=22							
RMX	**La Rumorosa**	**83.03**	**50**	IAmb	IAmb		10 26 48.1	
	comp=Z,80nm,0.9s							
IKP	**In-Ko-Pah, Jac**	**83.03**	**50**	P	**P**		**10 26 45.1**	**+1.3**
	baz=237,SNR=17							
ISA	**Isabella, Lake**	**83.09**	**47**	IAmb	IAmb		10 26 48.4	
	comp=Z,80nm,0.9s							
ISA	**Isabella, Lake**	**83.09**	**47**	P	**P**		**10 26 45.4**	**+1.4**
	baz=235,SNR=52							
SRIG	**Santa Rosalia**	**83.09**	**57**	IAmb	IAmb		10 26 48.8	
	comp=Z,66nm,0.9s							
SLBS	**Sierra La Lagu**	**83.10**	**61**	P	**P**		**10 26 45.6**	**+1.3**
SLBS				IAmb	IAmb		10 26 48.7	
	comp=Z,70nm,0.8s							
R17K	**Ugashik Creek**	**83.14**	**13**	P	**P**		**10 26 44.7**	**+1.1**
	baz=202							
CMB	**Columbia Colle**	**83.22**	**44**	IAmb	IAmb		10 26 48.6	
	comp=Z,55nm,0.9s							
BNX	**BinXian**	**83.24**	**326**	⇑P	**P**		**10 26 44.4**	**0.0**
BNX				pP	**pP**		**10 28 43.7**	**+1.0**
BNX				sP	**sP**		**10 29 37.6**	**-0.9**
BNX				S	**S**		**10 36 21.3**	**+2.4**
BNX				pmax	pmax			
	comp=Z,30nm,1.1s							
BNX				pmax	pmax			
	comp=Z,450nm,7.5s							
TIA	**Tai'an**	**83.29**	**314**	*e*P	**P**		**10 26 44.1**	**-0.8**
TIA				S	**S**		**10 36 12.9**	**-7.0**
TIA				pmax	pmax			
	comp=Z,150nm,0.7s							
TIA				pmax	pmax			
	comp=Z,420nm,3.9s							
PFO	**Pinyon Flats O**	**83.31**	**49**	P	**P**		**10 26 45.3**	**+0.1**
PFO	**Pinyon Flats O**	**83.31**	**49**	P	**P**		**10 26 45.5**	**+0.2**
	baz=236,SNR=7.1							
PFO	**Pinyon Flats O**	**83.31**	**49**	⇓ *e*P	**P**		**10 26 45.2**	**0.0**
PFO				pmax	pmax			
	comp=Z,43nm,1.1s							
TPFO	**Pinon Flats**	**83.31**	**49**	P	**P**		**10 26 45.8**	**+0.6**
	baz=236							
BBRC	**Big Bear Solar**	**83.35**	**48**	P	**P**		**10 26 45.7**	**+0.1**
	baz=236							
PMD	**Palm Desert**	**83.39**	**49**	IAmb	IAmb		10 26 49.7	
	comp=Z,32nm,1.1s							
AFDM	**Forest Hills D**	**83.40**	**43**	IAmb	IAmb		10 26 49.5	
	comp=Z,67nm,1.0s							
SWSC	**Sam W. Stewart**	**83.41**	**50**	P	**P**		**10 26 45.8**	**+0.3**
	baz=237,SNR=8.9							
ORV	**Oroville**	**83.43**	**42**	IAmb	IAmb		10 26 49.7	
	comp=Z,56nm,1.0s							
OHAK	**Old Harbor**	**83.44**	**15**	IAmb	IAmb		10 26 48.5	
	comp=Z,98nm,1.0s							
OHAK	**Old Harbor**	**83.44**	**15**	P	**P**		**10 26 45.8**	**+0.8**
	baz=205							
CPBX	**Cerro Prieto**	**83.48**	**51**	IAmb	IAmb		10 26 52.3	
	comp=Z,64nm,0.8s							
MG01	**Puerto William**	**83.56**	**148**	IAmb	IAmb		10 26 49.0	
	comp=Z,53nm,0.7s							
ELIB	**Princess Elisa**	**83.60**	**187**	*d*P	**P**		**10 26 45.4**	**-0.6**
KLR	**Kul'dur**	**83.64**	**331**	PKKPbc	PKKPbc		10 45 00.9	-0.5
	comp=Z,1.1nm,0.8s,baz=327,slow=4.9,SNR=4.8							
KLR	**Kul'dur**	**83.64**	**331**	*ce*P	**P**		**10 26 47.3**	**+1.0**
KLR				pmax	pmax			
	comp=Z,18nm,0.6s							
RRX	**Edison Barstow**	**83.64**	**48**	P	**P**		**10 26 47.5**	**+0.8**
	baz=236,SNR=5.2							
CWC	**Cottonwood Cre**	**83.79**	**46**	P	**P**		**10 26 48.6**	**+1.0**
	baz=235							
Q17K	**Contact Creek**	**83.82**	**13**	P	**P**		**10 26 46.8**	**-0.3**
	baz=203,SNR=11							
MDPB	**Devils Postpil**	**83.82**	**45**	IAmb	IAmb		10 26 52.1	
	comp=Z,44nm,0.9s							
BELC	**Belle Mtn. Jos**	**83.85**	**49**	P	**P**		**10 26 48.4**	**+0.5**
	baz=237,SNR=11							
SRIT	**Nakonsritamara**	**83.96**	**282**	P	**P**		**10 26 50.0**	**+1.3**
MPMC	**Manual Prospec**	**83.97**	**47**	P	**P**		**10 26 48.8**	**+0.2**
	baz=236,SNR=44							
GSC	**Goldstone, Bar**	**84.01**	**48**	IAmb	IAmb		10 26 52.8	
	comp=Z,53nm,1.1s							
GSC	**Goldstone, Bar**	**84.01**	**48**	P	**P**		**10 26 49.4**	**+0.8**
	baz=236,SNR=26							
BC3	**Big Chuckawall**	**84.04**	**50**	P	**P**		**10 26 49.6**	**+0.8**
	baz=237,SNR=5.3							
YBH	**Yreka Blue Hor**	**84.04**	**40**	IAmb	IAmb		10 26 53.4	
	comp=Z,49nm,0.9s							
TIN	**Tinemaha, Big**	**84.04**	**46**	P	**P**		**10 26 49.0**	**+0.3**
	baz=235,SNR=6.4							
Q16K	**King Salmon**	**84.05**	**12**	P	**P**		**10 26 47.9**	**-0.1**
	baz=202,SNR=19							
HEC	**Hector,Ludlow**	**84.07**	**48**	P	**P**		**10 26 49.2**	**+0.3**
	baz=236,SNR=84							
WAKR	**Walker**	**84.10**	**44**	IAmb	IAmb		10 26 53.7	
	comp=Z,60nm,1.2s							
KDAK	**Kodiak Island**	**84.11**	**15**	P	**P**		**10 26 48.3**	**-0.1**
	comp=Z,20nm,0.7s,baz=219,slow=3.5,SNR=16							
KDAK				S	**S**		**10 36 18.3**	**-8.5**
	comp=Z,5.5nm,1.0s,baz=325,slow=16,SNR=1.5							
	comp=Z,20nm,0.7s							
KDAK	**Kodiak Island**	**84.11**	**15**	P	**P**		**10 26 47.7**	**-0.7**
KDAK	**Kodiak Island**	**84.11**	**15**	P	**P**		**10 26 49.2**	**+0.8**
	baz=206							
KDAK	**Kodiak Island**	**84.11**	**15**	*c* iP	**P**		**10 26 48.6**	**+0.2**
KDAK				pmax	pmax			
	comp=Z,33nm,0.9s							
GLA	**Glamis**	**84.16**	**50**	IAmb	IAmb		10 26 53.7	
	comp=Z,68nm,0.8s							
GLA	**Glamis**	**84.16**	**50**	P	**P**		**10 26 49.8**	**+0.5**
	baz=238,SNR=31							
SURA	**Surathani**	**84.17**	**283**	P	**P**		**10 26 50.9**	**+1.2**
	comp=Z,97nm,0.8s							
PNTR	**Pine Nut**	**84.34**	**43**	IAmb	IAmb		10 26 54.1	
	comp=Z,51nm,0.9s							
Q18K	**Katmai Hardscr**	**84.36**	**13**	P	**P**		**10 26 49.5**	**-0.2**
	baz=204,SNR=24							
HUMO	**Hull Mountain**	**84.44**	**39**	IAmb	IAmb		10 26 55.5	
	comp=Z,95nm,1.1s							
GMRC	**Granite Mounta**	**84.51**	**49**	P	**P**		**10 26 51.5**	**+0.3**
	baz=237,SNR=33							
IRM	**Iron Mountain**	**84.53**	**49**	P	**P**		**10 26 51.5**	**+0.4**
	baz=237,SNR=35							
P17K	**Kvichak River**	**84.57**	**12**	P	**P**		**10 26 51.5**	**+0.9**
	baz=202							
GRAC	**Grapevine Rang**	**84.58**	**46**	IAmb	IAmb		10 26 55.9	
	comp=Z,122nm,1.7s							
GRAC	**Grapevine Rang**	**84.58**	**46**	P	**P**		**10 26 51.7**	**+0.4**
	baz=236,SNR=12							
DBO	**Dodson Butte**	**84.60**	**38**	IAmb	IAmb		10 26 56.0	
	comp=Z,56nm,1.1s							
FURC	**Furnace Creek,**	**84.62**	**47**	P	**P**		**10 26 52.9**	**+1.6**
	baz=236,SNR=9.9							
O16K	**Kokwok River B**	**84.63**	**11**	P	**P**		**10 26 51.0**	**+0.1**
	baz=201							
TUQ	**Turquoise Moun**	**84.68**	**48**	P	**P**		**10 26 51.9**	**-0.1**
	baz=237							
SHOC	**Shoshone, Teco**	**84.70**	**47**	P	**P**		**10 26 52.1**	**+0.2**
	baz=236,SNR=5.7							
BLYC	**Blythe**	**84.74**	**50**	IAmb	IAmb		10 26 56.2	
	comp=Z,44nm,0.9s							
NVAR	**Mina Array Bea**	**84.78**	**44**	P	**P**		**10 26 52.5**	**0.0**
	comp=Z,29nm,1.0s,baz=223,slow=7.5,SNR=51							
NVAR				pP	**pP**		**10 28 51.8**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=224,slow=7.6,SNR=1.5							
NVAR				PKKPbc	**PKKPbc**		**10 44 58.0**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=90,slow=3.6,SNR=5.1							
NVAR				PKPPKP	**P'P'df**		**10 53 02.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=64,slow=2.1,SNR=3.6							
	comp=Z,29nm,1.0s							
NAYO	**Nakonayok**	**84.83**	**288**	P	**P**		**10 26 54.0**	**+1.1**
	comp=Z,291nm,1.0s							
NONG	**Nongkai**	**84.88**	**292**	P	**P**		**10 26 53.6**	**+0.5**
	comp=Z,262nm,1.0s							
Q20K	**Shuyak Island**	**84.90**	**14**	P	**P**		**10 26 52.1**	**-0.1**
	baz=206							
Q19K	**Cape Douglas,**	**84.91**	**14**	P	**P**		**10 26 52.6**	**+0.3**
	baz=205							
HSIG		**84.93**	**56**	IAmb	IAmb		10 26 57.2	
	comp=Z,70nm,0.8s							
O17K	**Koliganek Bris**	**84.98**	**12**	P	**P**		**10 26 53.4**	**+0.8**
	baz=202							
LHMI	**Lhok Sumawe**	**84.99**	**278**	P	**P**		**10 26 54.9**	**+1.1**
	comp=Z,196nm,0.8s							
P18K	**Big Mountain,**	**85.00**	**13**	IAmb	IAmb		10 26 54.9	
	comp=Z,51nm,0.8s							
P18K	**Big Mountain,**	**85.00**	**13**	P	**P**		**10 26 53.4**	**+0.6**
	baz=204,SNR=9.7							
214A	**Organ Pipe Nat**	**85.03**	**52**	IAmb	IAmb		10 26 58.4	
	comp=Z,53nm,1.0s							
214A	**Organ Pipe Nat**	**85.03**	**52**	P	**P**		**10 26 53.2**	**-0.4**
	baz=239							
NEE2	**Needles Airpor**	**85.22**	**49**	P	**P**		**10 26 55.1**	**+0.7**
	baz=238,SNR=10							
KVN	**Kaiserville**	**85.27**	**44**	IAmb	IAmb		10 26 58.1	
	comp=Z,30nm,0.7s							
TPNV	**Topopah Spring**	**85.30**	**47**	P	**P**		**10 26 55.4**	**+0.4**
	baz=236,SNR=18							
SNAA	**Sanae**	**85.31**	**179**	P	**P**		**10 26 53.3**	**-1.1**
	comp=Z,17nm,0.5s,baz=207,slow=7.2,SNR=117							
SNAA				S	**S**		**10 36 34.0**	**-4.6**
	comp=Z,4.3nm,1.1s,baz=245,slow=23,SNR=4.2							
	comp=Z,17nm,0.5s							
SNAA	**Sanae**	**85.31**	**179**	P	**P**		**10 26 53.6**	**-0.7**
SNAA				IAmb	IAmb		10 26 55.0	
	comp=Z,24nm,0.5s							
SNAA	**Sanae**	**85.31**	**179**	*de*P	**P**		**10 26 53.0**	**-1.3**
SNAA				pmax	pmax			
	comp=Z,14nm,0.5s							
N16K	**Nishlik Lake**	**85.34**	**11**	P	**P**		**10 26 55.1**	**+0.8**
	baz=200							
PLTX	**Planet X, Gerl**	**85.37**	**42**	IAmb	IAmb		10 26 59.5	
	comp=Z,42nm,0.9s							
O18K	**Koktuh Hills**	**85.42**	**13**	P	**P**		**10 26 54.1**	**-0.7**
	baz=204,SNR=27							
ENH	**Enshi**	**85.50**	**305**	IAmb	IAmb		10 26 59.6	
	comp=Z,77nm,0.9s							
ENH	**Enshi**	**85.50**	**305**	P	**P**		**10 26 56.3**	**+0.4**
	comp=Z,95nm,0.9s							
LYN	**LuoYang**	**85.54**	**310**	⇓ *e*P	**P**		**10 26 56.0**	**0.0**
LYN				pP	pP		10 28 51.2	-3.7
LYN				SKS	**SKSac**		**10 36 26.7**	**-1.8**
LYN				S	**S**		**10 36 44.3**	**+2.6**
LYN				pmax	pmax			
	comp=Z,30nm,1.3s							
LYN				pmax	pmax			
	comp=Z,490nm,7.4s							
HNS	**HongShan**	**85.56**	**314**	⇑P	**P**		**10 26 57.2**	**+1.3**
HNS				pP	**pP**		**10 28 56.2**	**+1.3**
HNS				S	**S**		**10 36 44.0**	**+2.3**
HNS				pmax	pmax			
	comp=Z,70nm,1.0s							
HNS				pmax	pmax			
	comp=Z,550nm,4.3s							
MOD	**Modoc Plateau**	**85.57**	**41**	IAmb	IAmb		10 27 00.3	
	comp=Z,42nm,0.8s							
WTNK	**Soaring Height**	**85.72**	**48**	IAmb	IAmb		10 30 05.8	
	comp=Z,9.3nm,0.8s							
MA2	**Magadan**	**85.79**	**346**	P	**P**		**10 26 55.4**	**-1.1**
	comp=Z,84nm,0.8s,baz=145,slow=6.4,SNR=30							
MA2				S	**SKSac**		**10 36 22.8**	**-6.0**
	comp=Z,1.3nm,0.3s,baz=191,slow=23,SNR=1.3							
	comp=Z,84nm,0.8s							
MA2	**Magadan**	**85.79**	**346**	P	**P**		**10 26 55.5**	**-1.0**
MA2	**Magadan**	**85.79**	**346**	P	**P**		**10 26 56.4**	**-0.1**
	comp=Z,155nm,1.0s							
MA2	**Magadan**	**85.79**	**346**	*de*P	**P**		**10 26 56.0**	**-0.5**
MA2				pmax	pmax			
	comp=Z,151nm,1.0s							
NVL	**N'lazarevskaya**	**85.81**	**184**	*e*P	**P**		**10 26 56.1**	**-0.5**
NVL				*e*S	**SKSac**		**10 36 27.9**	**-1.2**
NVL				*e*SS	**SS**		**10 42 40.6**	**+5.2**
NVL				*e*SSS	SSS		10 46 22.2	
NVL				pmax	pmax			
	comp=Z,35nm,0.7s							
GYA	**Guiyang**	**85.82**	**301**	P	**P**		**10 26 59.0**	**+1.4**
GYA				pP	pP		10 28 54.4	-2.2
GYA				SKS	**SKSac**		**10 36 29.9**	**-0.9**
GYA				S	**ScS**		**10 36 48.3**	**-3.0**
GYA				pmax	pmax			
	comp=Z,28nm,1.6s							
GYA				pmax	pmax			
	comp=Z,380nm,6.8s							
O19K	**Port Alsworth**	**85.92**	**13**	P	**P**		**10 26 56.2**	**-0.8**
	baz=204,SNR=33							
ILSW	**Iliamna Southw**	**85.97**	**14**	IAmb	IAmb		10 27 00.5	
	comp=Z,184nm,0.8s							
HOM	**Homer**	**86.01**	**14**	P	**P**		**10 26 57.8**	**+0.3**
	baz=207							
S11A	**Rachel**	**86.01**	**46**	IAmb	IAmb		10 27 02.3	
	comp=Z,50nm,1.1s							
AY01	**Puyuhuapi**	**86.04**	**137**	IAmb	IAmb		10 27 02.0	
	comp=Z,41nm,0.9s							
BJT	**Baijiatuan**	**86.08**	**317**	IAmb	IAmb		10 27 01.8	
	comp=Z,40nm,0.8s							
BJI	**Beijing**	**86.09**	**317**	ScS	**S**		**10 36 42.9**	**-3.7**
BJI				pmax	pmax			
	comp=Z,54nm,0.8s							
BJI				pmax	pmax			
	comp=Z,530nm,5.5s							
H04A	**Detroit Lake**	**86.17**	**38**	IAmb	IAmb		10 27 02.7	
	comp=Z,46nm,1.1s							
O20K	**Slope Mountain**	**86.17**	**14**	P	**P**		**10 26 58.1**	**-0.3**
	baz=206,SNR=5.1							
BRLK	**Bradley Lake**	**86.28**	**15**	IAmb	IAmb		10 27 01.9	
	comp=Z,100nm,1.2s							
BRSE	**Bradley Lake S**	**86.29**	**15**	P	**P**		**10 26 59.4**	**+0.5**
	baz=208,SNR=19							
HEH	**HeiHe**	**86.34**	**330**	⇑P	**P**		**10 26 59.8**	**+0.4**
HEH				pP	**pP**		**10 28 58.6**	**-0.1**
HEH				SKS	**SKSac**		**10 36 30.8**	**-1.8**
HEH				S	**ScS**		**10 36 52.0**	**-2.2**
HEH				sS	**sS**		**10 40 21.6**	**-0.3**
HEH				SS	**SS**		**10 42 43.3**	**-2.5**
HEH				pmax	pmax			
	comp=Z,63nm,1.2s							
HEH				pmax	pmax			
	comp=Z,390nm,7.4s							
PRN	**Pahroc Range**	**86.35**	**47**	IAmb	IAmb		10 27 04.6	
	comp=Z,56nm,1.1s							
N19K	**Bonanza Creek**	**86.45**	**13**	IAm

comp=Z,77nm,1.2s
XAN Xi'an 87.80 309 ⇑ *i*P **P 10 27 07.7 +1.0**
XAN pP pP 10 29 06.0 -0.4
XAN SKS **SKSac 10 36 41.9 -0.3**
XAN S **S 10 37 04.1 +1.0**
XAN pmax pmax
comp=Z,99nm,0.8s
XAN pmax pmax
comp=Z,670nm,8.8s
SUA Susitna One 87.83 14 P **P 10 27 05.5 -0.7**
baz=207,SNR=51
PWL Port Wells 87.85 15 P **P 10 27 05.6 -0.6**
baz=210,SNR=40
WUAZ Wupatki 87.88 50 IAmb IAmb 10 27 11.7
comp=Z,38nm,1.1s
WUAZ Wupatki 87.88 50 P **P 10 27 05.6 -1.6**
baz=239
LL04 Puerto Octay 87.90 134 IAmb IAmb 10 27 10.8
comp=Z,69nm,1.4s
PGC Sidney 87.97 34 IAmb IAmb 10 27 11.2
comp=Z,51nm,0.8s
HPIG 88.04 60 IAmb IAmb 10 27 12.4
comp=Z,49nm,0.9s
ELK Elko 88.04 44 S **SKSac 10 36 45.5 +1.8**
comp=Z,0.2nm,0.3s,baz=128,slow=15,SNR=1.2
ELK Elko 88.04 44 IAmb IAmb 10 27 11.9
comp=Z,40nm,1.0s
BBB Bella Bella 88.05 29 S **SKSac 10 36 40.2 -2.4**
comp=Z,8.8nm,0.7s,baz=16,slow=12,SNR=1.3
DUN6 Lazy B Ranch 88.06 53 IAmb IAmb 10 27 13.0
comp=Z,447nm,2.0s
L20K Farewell, AK 88.09 12 P **P 10 27 06.2 -1.2**
baz=205
TTA Tatalina 88.11 11 IAmb IAmb 10 27 10.8
comp=Z,47nm,1.0s
TTA Tatalina 88.11 11 P **P 10 27 07.1 -0.4**
baz=203,SNR=19
SKT Skwentna 88.12 13 P **P 10 27 06.5 -0.9**
baz=207,SNR=12
F07A Phinny Hill Vi 88.17 38 IAmb IAmb 10 27 12.3
comp=Z,36nm,0.9s
CRAI Chiangrai 88.18 293 IAmb IAmb 10 27 11.3
comp=Z,25nm,0.9s
M22K Willow 88.22 14 P **P 10 27 07.3 -0.5**
baz=208,SNR=22
EYAK Cordova Ski Ar 88.23 16 P **P 10 27 07.4 -0.6**
baz=212
EYAK Cordova Ski Ar 88.23 16 P **P 10 27 08.9 +1.0**
comp=Z,79nm,0.9s
PMR Palmer 88.30 15 P **P 10 27 07.9 -0.3**
baz=209,SNR=37
KNK Knik Glacier 88.31 15 P **P 10 27 08.0 -0.3**
baz=210,SNR=26
XLT XiLinHaoTe 88.35 320 *e*P **P 10 27 09.7 +0.7**
XLT pP pP 10 29 09.6 +0.5
XLT SKS **SKSac 10 36 42.0 -3.1**
XLT S **S 10 37 08.8 +1.0**
XLT pmax pmax
comp=Z,20nm,1.2s
XLT pmax pmax
comp=Z,290nm,7.3s
ANM Nome 88.35 7 P **P 10 27 08.4 0.0**
baz=194
SEY Seymchan 88.50 348 P **P 10 27 08.7 -0.4**
comp=Z,77nm,0.9s,baz=151,slow=4.7,SNR=44
SEY pP **pP 10 29 09.1 -0.1**
comp=Z,5.9nm,0.8s,baz=155,slow=8.5,SNR=2.4
SEY PKKPbc **PKKPbc 10 44 48.9 -1.4**
comp=Z,1.3nm,0.5s,baz=104,slow=3.3,SNR=9.3
comp=Z,77nm,0.9s
SEY Seymchan 88.50 348 ⇓ *e*P **P 10 27 08.7 -0.4**
SEY pmax pmax
comp=Z,102nm,1.0s
LTY Liberty 88.58 36 IAmb IAmb 10 27 13.8
comp=Z,49nm,0.9s
SIT Sitka 88.64 23 P **P 10 27 10.0 +0.1**
baz=221
CM31 Chiang Mai Arr 88.65 291 IAmb IAmb 10 27 16.1
comp=Z,37nm,0.9s
CM31 Chiang Mai Arr 88.65 291 P **P 10 27 14.0 +3.1**
SNR=18
CMAR Chiang Mai Arr 88.65 291 P **P 10 27 12.2 +1.2**
comp=Z,16nm,0.8s,baz=125,slow=3.1,SNR=63
CMAR pP **pP 10 29 10.2 -0.7**
comp=Z,9.3nm,1.1s,baz=146,slow=3.9,SNR=3.9
CMAR S **SKSac 10 36 51.8 +4.1**
comp=Z,0.3nm,0.4s,baz=264,slow=15,SNR=1.4
CMAR PKKP **PKKPdf 10 44 42.0 -0.8**
comp=Z,0.3nm,0.5s,baz=199,slow=30,SNR=2.5
CMAR PKKPbc **PKKPbc 10 44 48.4 +0.4**
comp=Z,1.8nm,0.5s,baz=282,slow=4.3,SNR=13
CMAR PKPPKP **P'P'df 10 52 56.9 0.0**
comp=Z,0.3nm,0.4s,baz=272,slow=4.4,SNR=1.8
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 88.65 291 *ce*P **P 10 27 12.1 +1.2**
CMAR pmax pmax
comp=Z,18nm,0.8s
SML Sawmill 88.68 15 IAmb IAmb 10 27 26.0
comp=Z,33nm,1.0s
SML Sawmill 88.68 15 P **P 10 27 10.8 +0.7**
baz=210,SNR=9.7
HAWA Hanford 88.69 37 IAmb IAmb 10 27 14.7
comp=Z,57nm,0.9s
ZAIG Zacatecas 88.71 65 IAmb IAmb 10 27 16.5
comp=Z,52nm,1.0s
TCRU Three Creeks R 88.73 47 IAmb IAmb 10 27 16.1
comp=Z,45nm,1.2s
U33K Whale Pass 88.75 24 P **P 10 27 12.0 +1.6**
baz=223
V35K Ketchikan 88.77 26 P **P 10 27 11.4 +0.9**
baz=224
CUT Chulitna 88.77 14 P **P 10 27 10.3 -0.1**
baz=208,SNR=32
CHTO Chiang Mai 88.80 291 P **P 10 27 11.7 +0.1**
CHTO IAmb IAmb 10 27 14.3
comp=Z,32nm,0.8s
CHTO Chiang Mai 88.80 291 P **P 10 27 11.7 +0.1**
CHTO pmax pmax
comp=Z,32nm,0.8s
PPLA Purkeypile 88.81 13 P **P 10 27 11.4 +0.6**
baz=206,SNR=5.1
M23K Glacier View 88.81 15 P **P 10 27 11.0 +0.3**
baz=210,SNR=15
ZEA Zeya 88.82 332 *e*P **P 10 27 11.7 +0.8**
ZEA *e* 10 29 15.0
ZEA *e* 10 36 46.2
ZEA *e*S **S 10 37 14.8 +3.4**
ZEA *e* 10 38 16.4
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA pmax pmax
comp=Z,100nm,5.8s
ZEA smax smax
comp=N,200nm,5.6s
ZEA smax smax
comp=E,800nm,10.2s
W18A Petrified Fore 88.84 51 IAmb IAmb 10 27 16.1
comp=Z,31nm,1.1s
W18A Petrified Fore 88.84 51 P **P 10 27 11.6 0.0**
baz=240
K20K Telida 88.86 12 IAmb IAmb 10 27 13.9
comp=Z,46nm,0.9s
K20K Telida 88.86 12 P **P 10 27 10.6 -0.2**
baz=204
BMRM Bremner River 88.89 17 P **P 10 27 11.0 -0.1**
baz=213
SCM Sheep Creek Mo 88.94 15 P **P 10 27 11.1 -0.3**
baz=210,SNR=38
KLU Klutina 88.99 16 IAmb IAmb 10 27 14.2
comp=Z,20nm,0.8s
KLU Klutina 88.99 16 P **P 10 27 12.0 +0.4**
baz=212
E08A Dider Farm, El 89.01 37 IAmb IAmb 10 27 16.1
comp=Z,64nm,1.2s
121A Cookes Peak, D 89.01 54 IAmb IAmb 10 27 16.9
comp=Z,32nm,0.8s
121A Cookes Peak, D 89.01 54 P **P 10 27 13.9 +1.3**
baz=242
121A Cookes Peak, D 89.01 54 P **P 10 27 12.4 -0.1**
baz=242
S31K Pelican 89.01 22 P **P 10 27 12.0 +0.4**
baz=220
BMO Blue Mountains 89.06 40 IAmb IAmb 10 27 16.3
comp=Z,35nm,1.4s

TNA Tin City 89.09 5 P **P 10 27 12.5 +0.7**
baz=192
MFID Camas Ranch 89.14 41 IAmb IAmb 10 27 16.9
comp=Z,44nm,0.9s
GO06 Curarrehue 89.17 133 IAmb IAmb 10 27 17.1
comp=Z,66nm,1.4s
PLCA Paso Flores 89.21 135 P **P 10 27 14.6 +1.2**
comp=Z,12nm,0.9s,baz=217,slow=4.5,SNR=19
PLCA PKKPbc **PKKPbc 10 44 46.8 -0.5**
comp=Z,1.3nm,0.7s,baz=94,slow=1.4,SNR=5.8
comp=Z,12nm,0.9s
PLCA Paso Flores 89.21 135 IAmb IAmb 10 27 17.4
comp=Z,39nm,1.2s
PLCA Paso Flores 89.21 135 *e*P **P 10 27 15.0 +1.7**
PLCA *e*pP **pP 10 29 18.5 +4.0**
S32K Killisnoo 89.22 23 P **P 10 27 13.7 +1.1**
baz=222
WRAK Wrangell Islan 89.27 25 P **P 10 27 14.1 +1.2**
baz=223
CAST Castle Rocks 89.30 12 P **P 10 27 11.8 -1.1**
baz=206,SNR=49
DUG Dugway, Tooele 89.31 45 IAmb IAmb 10 27 17.7
comp=Z,26nm,1.1s
DUG Dugway, Tooele 89.31 45 P **P 10 27 14.4 +0.7**
baz=238,SNR=22
PNL Peninsula 89.31 20 P **P 10 27 12.8 -0.3**
baz=217
PNL Peninsula 89.31 20 P **P 10 27 14.4 +1.3**
comp=Z,98nm,0.9s
T33K Petersburg 89.33 24 P **P 10 27 13.9 +0.8**
baz=223
PINM Pinnacle 89.40 19 P **P 10 27 13.5 0.0**
baz=217,SNR=11
VRDI Verde Repeater 89.41 17 IAmb IAmb 10 27 17.1
comp=Z,38nm,1.0s
N25K Chitina, Valde 89.43 16 IAmb IAmb 10 27 17.1
comp=Z,72nm,1.4s
N25K Chitina, Valde 89.43 16 P **P 10 27 13.9 +0.3**
baz=213,SNR=19
M24K Tolsona, Glenn 89.45 15 IAmb IAmb 10 27 18.0
comp=Z,51nm,1.1s
M24K Tolsona, Glenn 89.45 15 P **P 10 27 14.2 +0.4**
baz=212,SNR=9.3
HHC Hu-ho-hao-te 89.48 315 *e*P **P 10 27 15.0 +0.6**
HHC pP pP 10 29 13.5 -1.1
HHC SKS **SKSac 10 36 51.7 -0.1**
HHC S **ScS 10 37 19.6 -1.3**
HHC pmax pmax
comp=Z,87nm,1.0s
HHC pmax pmax
comp=Z,680nm,6.7s
HIA Hailar 89.48 326 IAmb IAmb 10 27 17.1
comp=Z,34nm,1.5s
HIA Hailar 89.48 326 P **P 10 27 15.3 +1.2**
comp=Z,16nm,0.9s
WAT6 Susitna Watana 89.49 15 P **P 10 27 14.0 0.0**
baz=210,SNR=19
GLB Gilahina Butte 89.50 17 IAmb IAmb 10 27 17.2
comp=Z,47nm,1.1s
WAT1 Susitna Watana 89.52 14 P **P 10 27 14.0 0.0**
baz=209
E09A Wood Farm, Sta 89.53 38 IAmb IAmb 10 27 18.1
comp=Z,24nm,0.9s
J20K Nowinta River 89.59 11 IAmb IAmb 10 27 17.4
comp=Z,42nm,1.1s
J20K Nowinta River 89.59 11 P **P 10 27 14.0 -0.2**
baz=204
KIDD KIDD Seismic O 89.61 55 P **P 10 27 16.7 +1.5**
baz=242
KTH Kantishna Hill 89.65 13 IAmb IAmb 10 27 16.4
comp=Z,42nm,1.0s
GCSA Galena City Sc 89.66 10 P **P 10 27 14.6 +0.2**
baz=202,SNR=19
MCARA McCarthy YSAT 89.66 17 P **P 10 27 15.2 +0.6**
baz=213,SNR=30
CHUM Lake Minchumin 89.67 12 P **P 10 27 14.2 -0.3**
baz=206,SNR=12
NLU North Lily Min 89.67 46 IAmb IAmb 10 27 19.7
comp=Z,23nm,0.9s
TRF Thorofare Moun 89.69 13 P **P 10 27 14.4 -0.5**
baz=208,SNR=36
F10A Beach Ranch, E 89.75 39 IAmb IAmb 10 27 18.9
comp=Z,40nm,0.8s
PZH PanZhiHua 89.76 299 P **P 10 27 17.5 +1.4**
PZH SKS **SKSac 10 36 51.0 -3.1**
PZH S **S 10 37 19.3 -2.2**
PZH sS **sS 10 40 54.8 -2.3**
PZH pmax pmax
comp=Z,30nm,0.6s
PZH pmax pmax
comp=Z,370nm,5.7s
BARN Barnard Glacie 89.77 18 IAmb IAmb 10 27 20.2
comp=Z,58nm,1.1s
B08A Colville Reser 89.96 36 IAmb IAmb 10 27 19.7
comp=Z,37nm,1.1s
HARP HAARP 89.96 16 P **P 10 27 15.8 -0.2**
baz=212,SNR=8.7
O28M Mount Upton 89.96 19 P **P 10 27 15.7 -0.7**
baz=217
PLID Pearl Lake 89.96 40 IAmb IAmb 10 27 20.6
comp=Z,93nm,1.9s
LLLB Lillooet 89.99 33 IAmb IAmb 10 27 20.2
comp=Z,24nm,0.9s
MPU Maple Canyon 89.99 46 IAmb IAmb 10 27 21.2
comp=Z,42nm,0.9s
DHY Denali Highway 90.00 15 P **P 10 27 15.9 -0.5**
baz=210,SNR=9.9
O29M Mount Kennedy 90.07 20 P **P 10 27 16.9 +0.2**
baz=218
HLID Hailey 90.08 42 P **P 10 27 16.7 -0.5**
baz=237,SNR=36
PLBC Pleasant Camp 90.11 21 P **P 10 27 17.4 +0.7**
baz=220
EFI East Falkland 90.12 148 P **P 10 27 17.8 +0.7**
EFI East Falkland 90.12 148 ⇑ *e*P **P 10 27 17.0 -0.1**
EFI pmax pmax
comp=Z,67nm,0.8s
BPAW Bear Paw Mtn. 90.13 13 IAmb IAmb 10 29 25.4
comp=Z,84nm,1.9s
BPAW Bear Paw Mtn. 90.13 13 P **P 10 27 17.6 +0.9**
baz=207
CD2 Chengdu 90.15 304 P **P 10 27 18.3 +0.6**
MCK McKinley 90.23 14 IAmb IAmb 10 27 19.9
comp=Z,46nm,1.0s
MCK McKinley 90.23 14 P **P 10 27 17.1 -0.1**
baz=209,SNR=30
Y22A Socorro 90.28 53 P **P 10 27 19.9 +1.5**
baz=242
P17A Butcher Ranch, 90.31 47 IAmb IAmb 10 27 23.4
comp=Z,45nm,0.9s
PAX Paxson 90.36 15 P **P 10 27 17.5 -0.4**
baz=212,SNR=8.0
Y22F Passcal Instru 90.38 53 P **P 10 27 17.4 -1.3**
baz=242
JLU Jordanelle 90.41 45 IAmb IAmb 10 27 22.9
comp=Z,23nm,0.9s
MNTX Cornudas Mount 90.43 56 IAmb IAmb 10 27 23.2
comp=Z,35nm,0.8s
MNTX Cornudas Mount 90.43 56 P **P 10 27 19.9 +1.0**
baz=243
MNTX Cornudas Mount 90.43 56 P **P 10 27 18.2 -0.7**
baz=242
P30M Million Dollar 90.44 20 P **P 10 27 18.8 +0.5**
baz=220
SKAG Skagway 90.46 21 IAmb IAmb 10 29 30.4
comp=Z,47nm,1.5s
SKAG Skagway 90.46 21 P **P 10 27 18.9 +0.6**
baz=221
T35M Bob Quinn 90.48 25 P **P 10 27 19.4 +0.9**
baz=225
YUK8 Steele Glacier 90.50 18 P **P 10 27 19.0 +0.2**
baz=217,SNR=25
M26K Nabesna, AK 90.51 17 IAmb IAmb 10 27 21.9
comp=Z,24nm,1.1s
M26K Nabesna, AK 90.51 17 P **P 10 27 19.3 +0.7**
baz=214
YUK6 Outpost Mounta 90.64 19 P **P 10 27 20.4 +1.0**
baz=218,SNR=5.8
TX31 Lajitas Ar. Si 90.69 58 P **P 10 27 21.3 +1.1**
baz=244
TX32 Lajitas Array 90.69 58 IAmb IAmb 10 27 24.9
comp=Z,38nm,1.0s
TXAR Lajitas Array 90.69 58 P **P 10 27 20.9 +0.6**
comp=Z,28nm,0.9s,baz=218,slow=4.5,SNR=92
TXAR pP **pP 10 29 22.0 +0.2**
comp=Z,1.3nm,0.9s,baz=216,slow=4.5,SNR=2.0
TXAR S **SKSac 10 37 00.6 +1.4**
comp=Z,0.6nm,1.0s,baz=185,slow=8.8,SNR=3.8

TXAR PKKPbc **PKKPbc 10 44 43.1 -0.4**
comp=Z,1.1nm,0.7s,baz=128,slow=3.5,SNR=12
comp=Z,28nm,0.9s
YUK3 Moose Creek 90.69 18 P **P 10 27 19.2 -0.4**
baz=216,SNR=58
P18A Preston Nutter 90.72 47 IAmb IAmb 10 27 24.4
comp=Z,23nm,0.8s
MVCO Mesa Verde 90.73 50 P **P 10 27 20.5 0.0**
baz=241
MENT Mentasta 90.77 16 IAmb IAmb 10 27 23.0
comp=Z,17nm,0.7s
M27K Edge Creek, AK 90.77 17 IAmb IAmb 10 27 23.5
comp=Z,26nm,0.8s
M27K Edge Creek, AK 90.77 17 P **P 10 27 20.1 +0.2**
baz=215
S34M Telegraph Cree 90.81 24 P **P 10 27 20.4 +0.5**
baz=224,SNR=14
HYT Haines Junctio 90.81 20 P **P 10 27 20.2 +0.1**
baz=219,SNR=9.7
HWUT Hardware Ranch 90.85 45 IAmb IAmb 10 27 23.9
comp=Z,20nm,0.8s
YUK4 Talbot Arm 90.87 19 P **P 10 27 20.7 +0.2**
baz=218,SNR=11
I21K Tanana 90.90 12 IAmb IAmb 10 27 23.1
comp=Z,34nm,1.0s
I21K Tanana 90.90 12 P **P 10 27 20.3 +0.1**
baz=206
PV10 Paradox Valley 90.92 48 IAmb IAmb 10 27 27.7
comp=Z,23nm,0.8s
L26K Log Cabin Wild 90.94 16 P **P 10 27 20.4 -0.1**
baz=214
NEA2 Nenana 90.96 13 IAmb IAmb 10 29 28.6
comp=Z,55nm,1.9s
NEA2 Nenana 90.96 13 P **P 10 27 20.5 -0.1**
baz=209
K24K Donnelly Dome 91.00 15 P **P 10 27 20.6 -0.2**
baz=212,SNR=8.0
MLY Manley 91.01 12 IAmb IAmb 10 29 28.8
comp=Z,50nm,1.8s
MLY Manley 91.01 12 P **P 10 27 20.3 -0.5**
baz=207,SNR=11
WRH Wood River Hil 91.06 14 IAmb IAmb 10 27 23.4
comp=Z,53nm,1.2s
BVCY Beaver Creek 91.09 17 P **P 10 27 21.2 0.0**
baz=216,SNR=22
ML02 Panimavida 91.10 130 IAmb IAmb 10 27 25.2
comp=Z,32nm,0.9s
P32M Atlin 91.11 22 P **P 10 27 21.4 0.0**
baz=222
NEW Newport 91.11 37 S **SKSac 10 37 00.5 0.0**
comp=Z,1.0nm,0.7s,baz=66,slow=23,SNR=1.4
ANMO Albuquerque 91.12 52 P **P 10 27 22.3 0.0**
ANMO Albuquerque 91.12 52 P **P 10 27 22.8 +0.6**
baz=242
ANMO Albuquerque 91.12 52 P **P 10 27 21.7 -0.6**
baz=242
ANMO Albuquerque 91.12 52 P **P 10 27 22.3 0.0**
ANMO pmax pmax
comp=Z,16nm,0.9s
Q32M Nakina River 91.15 23 P **P 10 27 21.9 +0.1**
baz=224
RIDG Independent Ri 91.17 15 P **P 10 27 21.9 +0.3**
baz=213,SNR=8.0
H21K Melozitna Rive 91.18 11 IAmb IAmb 10 27 24.8
comp=Z,20nm,0.9s
H21K Melozitna Rive 91.18 11 P **P 10 27 21.9 +0.3**
baz=206
O30N Mendenhall 91.21 20 P **P 10 27 22.3 +0.5**
baz=220,SNR=8.4
HDA Harding Lake 91.25 14 IAmb IAmb 10 29 31.6
comp=Z,26nm,1.0s
HDA Harding Lake 91.25 14 P **P 10 27 21.4 -0.5**
baz=211,SNR=22
CCB Clear Creek Bu 91.27 14 IAmb IAmb 10 27 24.1
comp=Z,45nm,1.4s
DOT Dot Lake 91.28 15 IAmb IAmb 10 27 25.0
comp=Z,17nm,0.9s
PV15 Paradox Valley 91.29 49 IAmb IAmb 10 27 26.5
comp=Z,23nm,0.9s
L27K Beaver Creek, 91.36 17 P **P 10 27 22.4 -0.1**
baz=215
I23K Minto, Yukon-K 91.39 13 IAmb IAmb 10 29 31.6
comp=Z,46nm,1.6s
I23K Minto, Yukon-K 91.39 13 P **P 10 27 22.2 -0.2**
baz=209
TCOL CIGO, UAF Yank 91.46 13 P **P 10 27 22.2 -0.6**
baz=210
COLA College 91.46 13 P **P 10 27 22.1 -0.7**
COLA College 91.46 13 P **P 10 27 22.1 -0.7**
baz=210
COLA College 91.46 13 P **P 10 27 22.5 -0.3**
COLA College 91.46 13 P **P 10 27 22.1 -0.7**
COLA pmax pmax
comp=Z,115nm,1.8s
WHY Whitehorse 91.52 21 IAmb IAmb 10 29 33.9
comp=Z,58nm,1.9s
WHY Whitehorse 91.52 21 P **P 10 27 22.4 -0.9**
baz=221,SNR=10
BILL Bilibino 91.53 355 P **P 10 27 22.7 -0.5**
BILL Bilibino 91.53 355 *de*P **P 10 27 22.6 -0.5**
BILL *i* *PP **pP 10 29 24.1 +0.4**
BILL *e* 10 31 07.0
BILL *i* S **SKSac 10 37 02.5 +0.6**
BILL *e*SS **SS 10 44 03.0 +3.6**
BILL pmax pmax
comp=Z,38nm,0.8s
SCRK Sand Creek 91.58 15 IAmb IAmb 10 29 33.9
comp=Z,85nm,2.0s
SCRK Sand Creek 91.58 15 P **P 10 27 23.1 -0.5**
baz=213,SNR=12
IL31 91.58 14 IAmb IAmb 10 29 32.6
comp=Z,73nm,1.7s
ILAR Eielson Array 91.58 14 P **P 10 27 22.2 -1.2**
comp=Z,4.2nm,0.5s,baz=227,slow=3.9,SNR=61
ILAR pP **pP 10 29 23.8 -0.3**
comp=Z,5.0nm,0.8s,baz=229,slow=5.5,SNR=6.3
ILAR PP **PP 10 31 09.3 -2.7**
comp=Z,13nm,1.2s,baz=220,slow=6.7,SNR=7.5
ILAR PKiKP **PKiKP 10 32 10.2 -0.5**
comp=Z,1.1nm,0.7s,baz=222,slow=3.6,SNR=5.7
ILAR S **SKSac 10 37 02.4 +0.1**
comp=Z,1.2nm,1.1s,baz=204,slow=7.3,SNR=4.7
ILAR PKKP **PKKPdf 10 44 39.0 -0.8**
comp=Z,0.6nm,0.7s,baz=15,slow=2.6,SNR=6.1
comp=Z,4.2nm,0.5s
DLBC Dease Lake 91.59 24 P **P 10 27 23.8 +0.1**
comp=Z,6.9nm,0.8s,baz=226,slow=9.1,SNR=10.0
comp=Z,6.9nm,0.8s
DLBC Dease Lake 91.59 24 IAmb IAmb 10 29 32.8
comp=Z,37nm,1.7s
DLBC Dease Lake 91.59 24 P **P 10 27 24.1 +0.4**
baz=225
RDMU Red Mountain 91.64 46 IAmb IAmb 10 27 27.7
comp=Z,22nm,0.8s
H22K Ishtalitna Cre 91.66 12 P **P 10 27 23.8 0.0**
baz=207
AHID Auburn Hatcher 91.73 44 IAmb IAmb 10 27 29.1
comp=Z,23nm,1.1s
TNCH TengChong 91.76 296 *e*P **P 10 27 25.5 +0.1**
TNCH pP pP 10 29 27.1 +1.3
TNCH SKS **SKSac 10 37 05.2 -0.3**
TNCH S **S 10 37 37.9 -1.4**
TNCH pmax pmax
comp=Z,390nm,4.4s
POKR Poker Plat Res 91.76 13 P **P 10 27 24.7 +0.5**
baz=210
M29M Somme Creek 91.79 18 P **P 10 27 24.4 -0.2**
baz=218
G21K Allakaket 91.84 11 P **P 10 27 24.7 +0.2**
baz=205
N31M Braeburn, Yuko 91.86 20 IAmb IAmb 10 29 35.3
comp=Z,39nm,1.4s
N31M Braeburn, Yuko 91.86 20 P **P 10 27 25.2 +0.5**
baz=221,SNR=6.0
P33M Teslin, Yukon 91.87 22 P **P 10 27 25.8 +0.8**
baz=223,SNR=5.8
R33M Jennings River 91.93 23 P **P 10 27 25.8 +0.5**
baz=225,SNR=6.1
H23K Yukon River 91.95 12 IAmb IAmb 10 30 13.3
comp=Z,41nm,1.9s
H23K Yukon River 91.95 12 P **P 10 27 25.8 +0.7**
baz=208
K27K Chicken 92.09 16 IAmb IAmb 10 27 29.3
comp=Z,16nm,0.8s
K27K Chicken 92.09 16 P **P 10 27 26.7 +0.9**
baz=215
J26L Joseph Creek 92.11 15 IAmb IAmb 10 27 29.5
comp=Z,32nm,0.9s

J26L	**Joseph Creek**	**92.11**	**15**	P	**P**	**10 27 26.9**	**+0.9**
	baz=214							
MSO	**Missoula**	**92.12**	**39**	P	**P**	**10 27 27.3**	**+0.9**
	baz=238,SNR=5.3							
S22A	**4UR Ranch, Cre**	**92.16**	**50**	IAmb	IAmb	10 27 31.2		
	comp=Z,17nm,0.9s							
S22A	**4UR Ranch, Cre**	**92.16**	**50**	P	**P**	**10 27 27.8**	**+0.7**
	baz=242							
H24K	**Noodor Dome**	**92.29**	**13**	P	**P**	**10 27 27.2**	**+0.5**
	baz=210							
O20A	**White River Ci**	**92.31**	**47**	IAmb	IAmb	10 27 30.8		
	comp=Z,26nm,0.9s							
O20A	**White River Ci**	**92.31**	**47**	P	**P**	**10 27 27.5**	**-0.1**
	baz=241,SNR=16							
M30M	**Minto, Yukon**	**92.38**	**19**	P	**P**	**10 27 27.1**	**-0.1**
	baz=220							
L29M	**L29M**	**92.41**	**18**	P	**P**	**10 27 27.2**	**-0.1**
	baz=219							
LZH	**Lanzhou**	**92.43**	**308**	⇑P	**P**	**10 27 29.5**	**+1.3**
LZH				pP	pP	10 29 28.1	-0.7
LZH				SKS	**SKSac**	**10 37 07.5**	**-1.2**
LZH				S	**S**	**10 37 44.8**	**+0.1**
LZH				pmax	pmax		
	comp=Z,100nm,1.4s						
LZH				pmax	pmax		
	comp=Z,260nm,6.3s						
F21K	**Alatna River**	**92.49**	**10**	P	**P**	**10 27 28.1**	**+0.6**
	baz=205							
PRP	**Porcupine Dome**	**92.52**	**14**	IAmb	IAmb	10 29 37.3		
	comp=Z,39nm,1.6s							
PRP	**Porcupine Dome**	**92.52**	**14**	P	**P**	**10 27 28.3**	**+0.4**
	baz=212							
G22K	**Bettles**	**92.56**	**11**	P	**P**	**10 27 28.7**	**+0.9**
	baz=207							
G23K	**Bananza Creek**	**92.64**	**12**	P	**P**	**10 27 28.8**	**+0.5**
	baz=208							
BW06	**Boulder Array**	**92.72**	**44**	P	**P**	**10 27 29.3**	**-0.2**
	baz=241							
PDAR	**Pinedale Array**	**92.72**	**44**	P	**P**	**10 27 29.2**	**-0.2**
	comp=Z,8.9nm,0.7s,baz=209,slow=2.7,SNR=36							
PDAR				pP	**pP**	**10 29 31.2**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=211,slow=4.7,SNR=4.8							
PDAR				PP	**PP**	**10 31 21.4**	**-0.3**
	comp=Z,6.0nm,1.2s,baz=238,slow=5.1,SNR=4.5							
PDAR				PKKP	**PKKPdf**	**10 44 36.0**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=77,slow=3.8,SNR=7.7							
PDAR				PKPPKP	**P'P'df**	**10 52 46.4**	**-1.4**
	comp=Z,0.5nm,1.0s,baz=304,slow=0.5,SNR=3.5							
	comp=Z,8.9nm,0.7s							
SMCO	**Snowmass**	**92.72**	**48**	IAmb	IAmb	10 27 32.9		
	comp=Z,16nm,0.8s							
DAWY	**Dawson**	**92.82**	**17**	P	**P**	**10 27 29.3**	**+0.1**
	baz=218,SNR=26							
M31M	**Drury Creek, Y**	**92.83**	**20**	IAmb	IAmb	10 31 22.0		
	comp=Z,19nm,1.2s							
M31M	**Drury Creek, Y**	**92.83**	**20**	P	**P**	**10 27 29.4**	**+0.1**
	baz=222,SNR=6.6							
BOZ	**Bozeman (W)**	**92.84**	**41**	IAmb	IAmb	10 29 41.1		
	comp=Z,45nm,1.7s							
BOZ	**Bozeman (W)**	**92.84**	**41**	P	**P**	**10 27 29.9**	**0.0**
	baz=239,SNR=13							
H17A	**Grant Village**	**92.88**	**42**	P	**P**	**10 27 30.3**	**+0.1**
	baz=240,SNR=8.6							
EGAK	**Eagle**	**92.94**	**16**	IAmb	IAmb	10 27 32.5		
	comp=Z,27nm,0.8s							
EGAK	**Eagle**	**92.94**	**16**	P	**P**	**10 27 29.1**	**-0.5**
	baz=216,SNR=23							
F22K	**John River**	**92.97**	**11**	P	**P**	**10 27 31.1**	**+1.4**
	baz=206							
COLD	**Coldfoot**	**93.06**	**11**	IAmb	IAmb	10 29 39.7		
	comp=Z,33nm,1.5s							
COLD	**Coldfoot**	**93.06**	**11**	P	**P**	**10 27 31.4**	**+1.3**
	baz=208							
SDCO	**Great Sand Dun**	**93.09**	**50**	IAmb	IAmb	10 27 34.9		
	comp=Z,14nm,0.8s							
SDCO	**Great Sand Dun**	**93.09**	**50**	P	**P**	**10 27 32.2**	**+0.8**
	baz=243							
SDCO	**Great Sand Dun**	**93.09**	**50**	P	**P**	**10 27 31.2**	**-0.1**
	baz=243,SNR=26							
G24K	**Hadweenzic Riv**	**93.12**	**13**	P	**P**	**10 27 31.7**	**+1.2**
	baz=210							
K29M	**Barlow Dome**	**93.16**	**18**	P	**P**	**10 27 31.5**	**+0.7**
	baz=219							
FARO	**Faro, Yukon**	**93.18**	**20**	P	**P**	**10 27 32.6**	**+1.7**
	baz=223,SNR=6.2							
WTLY	**Watson Lake, Y**	**93.22**	**23**	P	**P**	**10 27 32.2**	**+1.1**
	baz=226							
MSTX	**Muleshoe**	**93.40**	**55**	IAmb	IAmb	10 27 36.1		
	comp=Z,21nm,1.1s							
MSTX	**Muleshoe**	**93.40**	**55**	P	**P**	**10 27 33.8**	**+1.1**
	baz=244							
MSTX	**Muleshoe**	**93.40**	**55**	P	**P**	**10 27 32.4**	**-0.3**
	baz=244,SNR=5.6							
MAYO	**Mayo, Yukon**	**93.43**	**18**	P	**P**	**10 27 32.7**	**+0.8**
	baz=221,SNR=26							
J29M	**Klondike Camp**	**93.44**	**17**	P	**P**	**10 27 32.2**	**+0.2**
	baz=219,SNR=12							
G25K	**Bearman Lake**	**93.46**	**13**	P	**P**	**10 27 33.2**	**+1.3**
	baz=212							
I27K	**Kandik River**	**93.50**	**15**	P	**P**	**10 27 33.6**	**+1.3**
	baz=216							
E22K	**Anaktuvuk Pass**	**93.59**	**10**	P	**P**	**10 27 33.2**	**+0.6**
	baz=206							
T25A	**Trinidad**	**93.59**	**51**	IAmb	IAmb	10 27 36.5		
	comp=Z,14nm,0.8s							
T25A	**Trinidad**	**93.59**	**51**	P	**P**	**10 27 33.7**	**+0.1**
	baz=244,SNR=13							
833A	**Chaparral WMA,**	**93.65**	**61**	IAmb	IAmb	10 27 37.5		
	comp=Z,23nm,0.9s							
833A	**Chaparral WMA,**	**93.65**	**61**	P	**P**	**10 27 35.1**	**+1.3**
	baz=246							
833A	**Chaparral WMA,**	**93.65**	**61**	P	**P**	**10 27 33.8**	**+0.1**
	baz=246,SNR=10.0							
YAK	**Yakutsk**	**93.73**	**339**	*e*P	**P**	**10 27 33.5**	**+0.2**
YAK				*e**PP	**pP**	**10 29 33.4**	**-0.6**
YAK				*e*S	**SKSac**	**10 37 15.8**	**+1.7**
YAK				*e*		10 37 55.1		
YAK				pmax	pmax		
	comp=Z,29nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,144nm,3.8s						
YAK				pmax	pmax		
	comp=N,35nm,2.0s						
YAK				pmax	pmax		
	comp=E,136nm,5.1s						
YAK				smax	smax		
	comp=E,198nm,2.8s						
YAK				smax	smax		
	comp=N,62nm,1.7s						
F24K	**Squaw Lake**	**93.75**	**12**	P	**P**	**10 27 34.4**	**+1.0**
	baz=210							
Q24A	**Divide**	**93.89**	**49**	IAmb	IAmb	10 27 38.7		
	comp=Z,16nm,1.0s							
Q24A	**Divide**	**93.89**	**49**	P	**P**	**10 27 36.4**	**+1.4**
	baz=243,SNR=5.6							
E23K	**Chandalar**	**93.90**	**11**	P	**P**	**10 27 35.8**	**+1.7**
	baz=208							
ISCO	**Idaho Springs**	**93.94**	**48**	P	**P**	**10 27 35.9**	**+0.6**
	baz=243							
ISCO	**Idaho Springs**	**93.94**	**48**	P	**P**	**10 27 36.6**	**+1.4**
	baz=243,SNR=8.4							
WAPA	**Wapiti River**	**94.02**	**30**	IAmb	IAmb	10 27 37.4		
	comp=Z,18nm,0.9s							
H27K	**Steamboat Moun**	**94.03**	**15**	P	**P**	**10 27 35.9**	**+1.2**
	baz=216							
RLMT	**Red Lodge**	**94.05**	**42**	P	**P**	**10 27 35.7**	**+0.2**
	baz=241							
CO03	**El Pedregal**	**94.08**	**126**	IAmb	IAmb	10 27 38.7		
	comp=Z,24nm,0.8s							
G26K	**Porcupine Rive**	**94.11**	**14**	P	**P**	**10 27 36.1**	**+1.2**
	baz=214							
E24K	**Your Creek**	**94.12**	**12**	P	**P**	**10 27 36.9**	**+1.8**
	baz=210							
I29M	**Ogilvie Camp,**	**94.13**	**16**	P	**P**	**10 27 35.8**	**+0.7**
	baz=218,SNR=11							
JCT	**Junction City**	**94.21**	**59**	P	**P**	**10 27 36.7**	**+0.3**
	baz=246							
JCT	**Junction City**	**94.21**	**59**	P	**P**	**10 27 36.2**	**-0.2**
	baz=246,SNR=5.3							
N23A	**Red Feather La**	**94.22**	**47**	P	**P**	**10 27 36.6**	**+0.2**
	baz=243							
F25K	**Christian Rive**	**94.26**	**13**	P	**P**	**10 27 36.7**	**+1.0**
	baz=212							
BRLDA	**Berland Lookou**	**94.27**	**32**	IAmb	IAmb	10 27 39.2		
	comp=Z,22nm,0.9s							
G27K	**Doyon Strip**	**94.47**	**15**	P	**P**	**10 27 37.4**	**+0.8**
	baz=216							
D23K	**Nanushuk River**	**94.53**	**10**	P	**P**	**10 27 37.7**	**+1.0**
	baz=208							
K22A	**Casper**	**94.63**	**45**	P	**P**	**10 27 38.7**	**+0.5**
	baz=243							
K22A	**Casper**	**94.63**	**45**	P	**P**	**10 27 38.6**	**+0.5**
	baz=243							
F26K	**Sheenjek River**	**94.66**	**13**	P	**P**	**10 27 39.4**	**+1.9**
	baz=213							
E25K	**Arctic Village**	**94.72**	**13**	P	**P**	**10 27 39.7**	**+1.9**
	baz=212							
LCO	**Las Campanas**	**94.98**	**124**	P	**P**	**10 27 40.5**	**+0.3**
LCO	**Las Campanas**	**94.98**	**124**	P	**P**	**10 27 40.6**	**+0.3**
LCO				pmax	pmax		
	comp=Z,21nm,0.7s						
KOTAN	**Kotaneelee Air**	**95.01**	**25**	P	**P**	**10 27 40.7**	**+1.5**
	baz=230							
D24K	**Happy Valley**	**95.01**	**11**	P	**P**	**10 27 40.2**	**+1.3**
	baz=209							
EGMT	**Eagleton**	**95.17**	**40**	IAmb	IAmb	10 31 40.0		
	comp=Z,22nm,1.4s							
EGMT	**Eagleton**	**95.17**	**40**	P	**P**	**10 27 41.0**	**+0.6**
	baz=241							
ABTX	**Abilene, Hawle**	**95.21**	**57**	IAmb	IAmb	10 27 43.7		
	comp=Z,13nm,0.9s							
ABTX	**Abilene, Hawle**	**95.21**	**57**	P	**P**	**10 27 40.8**	**0.0**
	baz=246							
ABTX	**Abilene, Hawle**	**95.21**	**57**	P	**P**	**10 27 40.5**	**-0.3**
	baz=246,SNR=5.8							
EPYK	**Eagle Plains**	**95.33**	**16**	IAmb	IAmb	10 27 43.3		
	comp=Z,16nm,0.8s							
EPYK	**Eagle Plains**	**95.33**	**16**	P	**P**	**10 27 39.9**	**-0.6**
	baz=220,SNR=12							
AC05	**El Transito**	**95.39**	**124**	IAmb	IAmb	10 27 45.9		
	comp=Z,25nm,0.9s							
C24K	**Franklin Bluff**	**95.53**	**11**	P	**P**	**10 27 42.0**	**+0.7**
	baz=209							
D25K	**Kavik River**	**95.60**	**12**	P	**P**	**10 27 42.1**	**+0.4**
	baz=212							
E27K	**Coleen River**	**95.61**	**14**	P	**P**	**10 27 42.1**	**+0.4**
	baz=216							
KSCO	**Kaye Shedlock'**	**95.67**	**50**	IAmb	IAmb	10 27 46.1		
	comp=Z,21nm,0.8s							
KSCO	**Kaye Shedlock'**	**95.67**	**50**	P	**P**	**10 27 43.6**	**+0.7**
	baz=245							
KSCO	**Kaye Shedlock'**	**95.67**	**50**	P	**P**	**10 27 42.6**	**-0.3**
	baz=245,SNR=8.7							
ULN	**Ulaanbaatar**	**95.79**	**320**	⇓P	**P**	**10 27 43.3**	**+0.1**
ULN	**Ulaanbaatar**	**95.79**	**320**	P	**P**	**10 27 43.6**	**+0.4**
EDM	**Edmonton**	**95.82**	**34**	IAmb	IAmb	10 31 44.8		
	comp=Z,14nm,1.0s							
A21K	**Barrow**	**95.82**	**8**	P	**P**	**10 27 43.4**	**+0.9**
	baz=202							
G30M	**Aloh Zraii Nji**	**95.93**	**16**	P	**P**	**10 27 43.5**	**+0.3**
	baz=220							
SONM	**Songino Array**	**96.17**	**320**	P	**P**	**10 27 44.2**	**-0.6**
	comp=Z,9.5nm,1.2s,baz=141,slow=3.7,SNR=18							
SONM				pP	**pP**	**10 29 45.7**	**0.0**
	comp=Z,0.9nm,0.8s,baz=133,slow=6.3,SNR=1.4							
SONM				PP	**PP**	**10 31 46.2**	**-1.6**
	comp=Z,3.9nm,1.0s,baz=132,slow=6.6,SNR=6.5							
SONM				PKKPbc	**PKKPbc**	**10 44 29.5**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=276,slow=3.0,SNR=9.1							
	comp=Z,9.5nm,1.2s							
C27K	**Jago River**	**96.36**	**12**	P	**P**	**10 27 45.8**	**+0.7**
	baz=214							
C26K	**Camden Bay**	**96.38**	**12**	P	**P**	**10 27 46.1**	**+1.0**
	baz=213							
LAO	**LASA Array**	**96.66**	**42**	IAmb	IAmb	10 27 51.1		
	comp=Z,9.9nm,0.8s							
LAO	**LASA Array**	**96.66**	**42**	P	**P**	**10 27 48.4**	**+1.4**
	baz=243							
LAO	**LASA Array**	**96.66**	**42**	P	**P**	**10 27 46.9**	**-0.2**
	baz=243							
WMOK	**Wichita Mounta**	**96.72**	**55**	P	**P**	**10 27 48.5**	**+1.0**
	baz=246							
WMOK	**Wichita Mounta**	**96.72**	**55**	P	**P**	**10 27 46.5**	**-1.0**
	baz=246							
GTA	**Gaotai**	**96.75**	**310**	*e*P	**P**	**10 27 48.1**	**+0.4**
GTA				pP	pP	10 29 50.4	+1.8
GTA				SKS	**SKSac**	**10 37 26.8**	**-4.5**
GTA				S	**ScS**	**10 38 25.0**	**+3.3**
GTA				pmax	pmax		
	comp=Z,11nm,1.4s						
GTA				pmax	pmax		
	comp=Z,160nm,8.8s						
RSSD	**Black Hills**	**96.91**	**45**	P	**P**	**10 27 48.2**	**-0.2**
RSSD				IAmb	IAmb	10 27 51.4		
	comp=Z,13nm,0.9s							
RSSD	**Black Hills**	**96.91**	**45**	P	**P**	**10 27 49.1**	**+0.6**
	baz=244							
RSSD	**Black Hills**	**96.91**	**45**	P	**P**	**10 27 47.7**	**-0.7**
	baz=244							
RSSD	**Black Hills**	**96.91**	**45**	P	**P**	**10 27 48.2**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,13nm,1.0s						
F31M	**Tsiigehtchic**	**96.91**	**17**	P	**P**	**10 27 47.3**	**-0.2**
	baz=223							
INK	**Inuvik**	**97.61**	**16**	P	Pdif	10 27 49.4	-1.2
	comp=Z,8.6nm,0.9s,baz=204,slow=5.3,SNR=19							
INK				PP	**PP**	**10 31 56.9**	**-1.1**
	comp=Z,8.9nm,1.1s,baz=221,slow=6.8,SNR=6.1							
INK				PKiKP	**PKiKP**	**10 32 20.6**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=185,slow=2.6,SNR=5.5							
INK				PKKPbc	**PKKPbc**	**10 44 25.3**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=6.9,slow=7.0,SNR=5.8							
	comp=Z,8.6nm,0.9s							
INK	**Inuvik**	**97.61**	**16**	P	**P**	**10 27 50.7**	**+0.1**
	baz=223							
CBKS	**Cedar Bluff**	**97.64**	**51**	P	**P**	**10 27 52.4**	**+0.8**
	baz=246							
R32A	**Long Quarter,**	**98.23**	**52**	P	**P**	**10 27 55.3**	**+1.1**
	baz=247							
DGMT	**Dagmar**	**98.68**	**41**	P	**P**	**10 27 57.4**	**+1.5**
	baz=245							
DGMT	**Dagmar**	**98.68**	**41**	P	**P**	**10 27 56.1**	**+0.1**
	baz=245							
GOMU	**GeErMu**	**99.13**	**305**	P	**Pdif**	**10 27 59.2**	**+0.5**
GOMU				SKS	**SKSac**	**10 37 42.7**	**-1.1**
GOMU				SKKS	**SKKSac**	**10 38 10.9**	**-7.4**
GOMU				S	**S**	**10 38 44.3**	**+1.7**
GOMU				SS	**SS**	**10 45 50.9**	**+3.2**
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,130nm,6.5s						
ZAK	**Zakamensk**	**99.14**	**321**	*e*P	**Pdif**	**10 27 57.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BGNE	**Belgrade**	**99.78**	**49**	P	**Pdif**	**10 28 01.1**	**+0.2**
	baz=248							
K31A	**O'Neill**	**99.82**	**48**	P	**Pdif**	**10 28 02.7**	**+1.6**
	baz=248							
KSU1	**Kansas State U**	**100.01**	**52**	P	**Pdif**	**10 28 03.5**	**+1.5**
	baz=248							
KSU1	**Kansas State U**	**100.01**	**52**	P	**Pdif**	**10 28 01.8**	**-0.2**
	baz=248							
YKA	**Yellowknife Ar**	**100.09**	**26**	P	**Pdif**	**10 28 01.3**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=244,slow=4.2,SNR=19							
YKA				PP	**PP**	**10 32 13.6**	**-3.1**
	comp=Z,3.1nm,1.1s,baz=245,slow=7.0,SNR=6.6							
YKA				PKiKP	**PKiKP**	**10 32 26.2**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=250,slow=1.0,SNR=10							
YKA				PKKPbc	**PKKPbc**	**10 44 18.1**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=53,slow=3.0,SNR=15							
TIXI	**Tiksi**	**100.76**	**346**	⇓*e*P	**Pdif**	**10 28 04.1**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
C36M	**Paulatuk**	**100.83**	**18**	P	**Pdif**	**10 28 05.1**	**+0.2**
	baz=232							
ECSD	**EROS Data Cent**	**101.69**	**47**	P	**Pdif**	**10 28 10.2**	**+0.8**
	baz=249							
ECSD	**EROS Data Cent**	**101.69**	**47**	P	**Pdif**	**10 28 08.8**	**-0.6**
	baz=249							
A36M	**Sachs Harbour**	**102.19**	**15**	P	**Pdif**	**10 28 10.8**	**-0.1**
	baz=231							
ULM	**Lac du Bonnet**	**104.39**	**41**	PKiKP	**PKiKP**	**10 32 34.0**	**0.0**
	comp=Z,2.5nm,0.5s,baz=253,slow=2.4,SNR=6.6							
ULM				PP	**PP**	**10 32 50.3**	**+1.6**
	comp=Z,3.7nm,0.8s,baz=232,slow=4.3,SNR=3.0							
JFWS	**Jewell Farm**	**105.81**	**50**	P	**PKiKP**	**10 32 35.6**	**-1.3**
	baz=253							
DWPF	**Disney Wildern**	**108.41**	**67**	P	**PKiKP**	**10 32 40.8**	**-1.3**
	baz=253							
TZTN	**Tazewell**	**109.01**	**58**	P	**PKiKP**	**10 32 41.6**	**-1.4**
	baz=255							
ZSN	**Zaisan**	**109.63**	**314**	*e*PKiKP	**PKiKP**	**10 32 43.4**	**-0.5**
	baz=314							
ACSO	**Alum Creek Sta**	**110.36**	**54**	P	**PKiKP**	**10 32 44.2**	**-1.3**
	baz=256							
P52A	**Corning**	**110.86**	**55**	P	**PKiKP**	**10 32 45.6**	**-0.8**
	baz=257							
ZALV	**Zalesovo Beam**	**111.02**	**321**	Pdiff	**Pdif**	**10 28 50.9**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=48,slow=2.1,SNR=2.4							
ZALV				PKiKP	**PKiKP**	**10 32 45.2**	**-1.0**
	comp=Z,5.3nm,0.5s,baz=175,slow=0.9,SNR=19							
ZALV				PP	**PP**	**10 33 35.1**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=106,slow=4.8,SNR=3.5							
ZALV				PKKPbc	**PKKPbc**	**10 43 43.4**	**-2.7**
	comp=Z,0.9nm,0.5s,baz=276,slow=3.1,SNR=4.3							
ZALV				PKKPab	**PKKPab**	**10 43 55.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=270,slow=8.6,SNR=4.5							
RES	**Resolute Bay**	**111.16**	**17**	PKiKP	**PKiKP**	**10 32 45.0**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=261,slow=3.2,SNR=15							
RES				PP	**PP**	**10 33 36.2**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=203,slow=16,SNR=6.5							
RES				SKP		10 35 29.6		
	comp=Z,3.2nm,0.8s,baz=330,slow=1.7,SNR=5.6							
RES				PKKPab	**PKKPab**	**10 43 55.9**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=12,slow=4.1,SNR=4.9							
RES	**Resolute Bay**	**111.16**	**17**	*i* PKiKP	**PKiKP**	**10 32 45.0**	**-1.0**
MK31	**Makanchi Array**	**111.21**	**313**	*i* PKiKP	**PKiKP**	**10 32 45.4**	**-1.5**
MKAR	**Makanchi Array**	**111.21**	**313**	Pdiff	**Pdif**	**10 28 52.4**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=95,slow=5.3,SNR=22							
MKAR				PKiKP	**PKiKP**	**10 32 46.0**	**-0.9**
	comp=Z,5.1nm,0.5s,baz=76,slow=1.5,SNR=39							
MKAR				PP	**PP**	**10 33 43.8**	**+6.0**
	comp=Z,3.1nm,0.9s,baz=112,slow=9.3,SNR=4.1							
MKAR				SKP		10 35 30.4		
	comp=Z,2.0nm,0.6s,baz=192,slow=0.9,SNR=5.2							
MKAR				PKKPbc	**PKKPbc**	**10 43 44.2**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=287,slow=3.8,SNR=10							
MKAR				PKKPab	**PKKPab**	**10 43 54.9**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=278,slow=3.7,SNR=20							
MAKZ	**Makanchi**	**111.42**	**313**	⇓PKiKP	**PKiKP**	**10 32 46.4**	**-0.9**
BLA	**Blacksburg**	**111.61**	**58**	P	**PKiKP**	**10 32 47.0**	**-1.0**
	baz=257							
O53A	**New Philadelph**	**111.68**	**54**	P	**PKiKP**	**10 32 47.4**	**-0.6**
	baz=257							
NRIK	**Noril'sk**	**112.13**	**337**	Pdiff	**Pdif**	**10 28 55.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=52,slow=7.6,SNR=1.5							
NRIK				PKiKP	**PKiKP**	**10 32 47.2**	**-0.8**
	comp=Z,4.7nm,0.6s,baz=111,slow=3.6,SNR=9.3							
NRIK				PP	**PP**	**10 33 42.1**	**-1.5**
	comp=Z,5.2nm,1.0s,baz=90,slow=7.1,SNR=6.3							
NRIK				PKKPab	**PKKPab**	**10 43 52.1**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=0.6,slow=6.6,SNR=1.8							
NRIK	**Noril'sk**	**112.13**	**337**	*d* iPKiKP	**PKiKP**	**10 32 47.4**	**-0.5**
M53A	**WI Miller and**	**112.33**	**53**	P	**PKiKP**	**10 32 49.5**	**+0.4**
	baz=258							
SHLS	**Shalkode**	**112.45**	**309**	*e*PKiKP	**PKiKP**	**10 32 48.5**	**-1.1**
	baz=309							
UZB	**Uzynbulak**	**112.77**	**309**	*e*PKiKP	**PKiKP**	**10 32 49.1**	**-1.1**
	baz=309							
KPKS	**Kokpek**	**113.07**	**309**	*e*PKiKP	**PKiKP**	**10 32 49.4**	**-1.3**
	baz=309							
CNNC	**Cliffs of the**	**113.16**	**60**	P	**PKiKP**	**10 32 51.1**	**+0.2**
	baz=257							
TDK	**Taldyqorghan**	**113.54**	**311**	*e*PKiKP	**PKiKP**	**10 32 50.8**	**-0.7**
	baz=310							
TDK				*e*PP	**PP**	**10 33 51.7**	**-2.5**
	baz=310							
CBN	**Corbin Frederi**	**114.18**	**57**	P	PKPdf	10 32 52.3	-0.5
	baz=259							
TNSS	**Tian-Shan**	**114.24**	**308**	*e*PKP	PKPdf	10 32 52.1	-1.2
	baz=308							
TNSS				*e*PP	**PP**	**10 33 58.9**	**-0.8**
	baz=308							
SSPA	**Standing Stone**	**114.25**	**54**	P	PKPdf	10 32 52.9	0.0
	baz=260							
KURBB	**Kurchatov Arra**	**114.30**	**317**	PKiKP	PKPdf	10 32 50.8	-1.8
KSH	**Kashi**	**114.34**	**304**	PKP	**PKiKP**	**10 32 53.8**	**+0.5**
ULHL	**Ulahol**	**114.62**	**307**	P	PKPdf	10 32 53.1	-0.7
	SNR=9.0							
KUU	**Kurty**	**114.82**	**309**	*e*PKP	PKPdf	10 32 53.0	-0.9
	baz=309							
KUU				*e*PP	**PP**	**10 34 00.9**	**-2.3**
	baz=309							
TKM2	**Tokmak 2**	**115.20**	**308**	P	**PKPdf**	**10 32 54.0**	**-1.0**
	SNR=19							
TKM2	**Tokmak 2**	**115.20**	**308**	PKiKP	**PKPdf**	**10 32 53.3**	**-1.6**
KBK	**Karagaybulak**	**115.63**	**308**	P	**PKPdf**	**10 32 54.8**	**-1.0**
	SNR=9.0							
CHMS	**Chumysh**	**115.83**	**308**	P	**PKPdf**	**10 32 55.3**	**-0.6**
	SNR=20							
CHMS	**Chumysh**	**115.83**	**308**	PKiKP	**PKPdf**	**10 32 54.7**	**-1.2**
UCH	**Uchtor**	**115.89**	**307**	P	**PKPdf**	**10 32 55.9**	**-0.7**
	SNR=16							
BINY	**Binghamton**	**115.92**	**53**	P	**PKiKP**	**10 32 56.6**	**+0.5**
	baz=261							
AAK	**Ala-Archa**	**115.96**	**307**	P	**PKPdf**	**10 32 55.8**	**-0.5**
	SNR=11							
AAK	**Ala-Archa**	**115.96**	**307**	PKPdf	**PKPdf**	**10 32 55.0**	**-1.3**
AAK	**Ala-Archa**	**115.96**	**307**	*d* iPKiKP	**PKPdf**	**10 32 55.3**	**-1.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.7s

SPA0 IAmb IAmb 10 33 13.4
comp=Z,49nm,0.8s
SVE Sverdlovsk 124.75 324 *e*PKIKP **PKPdf 10 33 12.7 +0.2**
SVE pmax pmax
comp=Z,48nm,0.9s
JLN Jalan Bani Buh 124.84 282 P **PKPdf 10 33 13.6 -0.2**
SNR=12
ILULI Ilulissat 125.19 20 *i* P **PKPdf 10 33 12.7 -0.4**
WBK Wadi Bani Khal 125.34 282 P **PKPdf 10 33 14.1 -0.7**
SNR=5.1
LBTB Lobatse 125.63 210 PKP **PKPdf 10 33 14.0 -1.5**
comp=Z,7.1nm,0.8s,baz=180,slow=3.2,SNR=7.8
WSAR Wadi Sarin 125.79 283 P **PKiKP 10 33 17.8 +1.7**
SNR=8.5
MHTO MHTO 125.87 280 P **PKPdf 10 33 15.3 -0.5**
SNR=19
ARU Arti 125.96 324 PKPdf **PKPdf 10 33 14.5 -0.3**
ARU Arti 125.96 324 *i* PKIKP **PKPdf 10 33 14.4 -0.5**
ARU 10 35 16.1
ARU 10 39 33.2
ARU SS SS 10 51 33.6 -2.7
DQM DQM 126.00 278 P **PKiKP 10 33 16.3 -0.2**
SNR=11
JMDO Jabal Madar 126.07 281 P **PKPdf 10 33 15.8 -0.3**
SNR=8.7
AB31 Akbulak array 126.27 315 *i* PKIKP **PKPdf 10 33 15.4 -0.3**
SMDO Samad 126.27 282 P **PKPdf 10 33 16.5 -0.2**
SNR=13
BIDO Bidbid 126.30 283 P **PKiKP 10 33 17.7 +0.6**
SNR=8.5
SUMG Summit 126.42 13 *i* P **PKPdf 10 33 14.9 -0.9**
SFJD Kangerlussuaq 126.45 22 SKP 10 35 59.5
comp=Z,10nm,0.9s,baz=19,slow=9.9,SNR=3.4
SFJD Kangerlussuaq 126.45 22 PKPdf **PKPdf 10 33 14.2 -1.3**
SFJD Kangerlussuaq 126.45 22 *i* P **PKPdf 10 33 14.7 -0.8**
SFJD Kangerlussuaq 126.45 22 PKIKP **PKPdf 10 33 14.2 -1.3**
BSY Bisya 126.97 282 P **PKPdf 10 33 17.3 -0.6**
SNR=6.6
HOQ Hoqain 127.05 283 P **PKPdf 10 33 17.7 -0.3**
SNR=11
NUUK Nuuk 127.35 25 *i* P **PKPdf 10 33 17.2 0.0**
AKTO Aktyubinsk 127.36 317 PKIKP **PKPdf 10 33 17.1 -0.6**
ARQ Araqi 127.70 282 P **PKiKP 10 33 21.0 +1.1**
SNR=10
DMTO DMTO 127.78 275 P **PKPdf 10 33 18.9 -0.6**
SNR=8.8
SOHO SOHO 127.85 283 *i* PKPdf **PKPdf 10 33 19.2 -0.3**
SNR=14
SOHO SOHO 127.85 283 P **PKPdf 10 33 19.0 -0.4**
DBG Daneborg 127.87 7 *i* P **PKPdf 10 33 17.0 -1.0**
GEYT Alibeck 128.04 301 PKhKP PKPpre 10 33 05.8
comp=Z,1.7nm,0.5s,baz=222,slow=2.0,SNR=5.8
GEYT PKP **PKPdf 10 33 19.4 -0.2**
comp=Z,26nm,0.7s,baz=192,slow=1.5,SNR=31
GEYT pPKP pPKPdf 10 35 28.9 +1.1
comp=Z,1.5nm,0.7s,baz=183,slow=2.9,SNR=2.1
GEYT PP **PP 10 35 37.3 +5.4**
comp=Z,5.8nm,0.9s,baz=40,slow=2.5,SNR=5.0
GYA0 ALIBECK ARRAY 128.04 301 PKIKP **PKPdf 10 33 19.2 -0.3**
DY2G Dye2 128.20 21 *i* P **PKPdf 10 33 19.0 -0.1**
MDH Madha 128.28 285 PKPdf **PKPdf 10 33 19.8 -0.4**
MDH Madha 128.28 285 P **PKPdf 10 33 19.6 -0.7**
UOSS Minazif 128.30 284 PKPdf **PKPdf 10 33 19.7 -0.6**
UOSS Minazif 128.30 284 PKPdf **PKPdf 10 33 20.1 -0.2**
UOSS Minazif 128.30 284 P **PKPdf 10 33 20.6 +0.2**
HATD Hatta, Dubai 128.35 284 *i* PKPdf **PKPdf 10 33 20.0 -0.4**
SNR=5.6
HATD Hatta, Dubai 128.35 284 P **PKiKP 10 33 22.0 +0.9**
SNR=8.3
ASHO Ashiyiah 128.38 284 *i* PKPdf **PKPdf 10 33 20.3 -0.3**
SNR=13
ASHO Ashiyiah 128.38 284 P **PKPdf 10 33 20.4 -0.1**
SNR=11
RBK Rabkut 128.41 274 P **PKiKP 10 33 22.0 +0.5**
SNR=16
MSFE Esma-Masafi 128.42 285 *i* PKiKP **PKPdf 10 33 20.8 +0.3**
SNR=6.1
MASF Masafi 128.42 285 P **PKiKP 10 33 21.3 -0.1**
SNR=7.2
ALNE Al Ain 128.54 283 PKiKP **PKiKP 10 33 21.5 -0.1**
ALNE Al Ain 128.54 283 P **PKiKP 10 33 21.6 +0.1**
SNR=8.5
ICESG Greenland Ices 128.57 17 *i* P **PKPdf 10 33 17.5 -2.5**
DOK Doka 128.77 276 P **PKiKP 10 33 22.0 -0.1**
SNR=15
NAZ Nazwa, Dubai 128.80 284 PKiKP **PKiKP 10 33 21.9 -0.1**
NAZ Nazwa, Dubai 128.80 284 P **PKiKP 10 33 22.1 +0.1**
SNR=6.0
FAQ Al Faqa, Dubai 128.81 284 PKiKP **PKiKP 10 33 21.9 -0.1**
FAQ Al Faqa, Dubai 128.81 284 P **PKiKP 10 33 22.0 0.0**
WHFO Wadi Hawf 128.91 275 P **PKPdf 10 33 22.0 +0.3**
SNR=13
ASUD Al Ashush, Dub 129.03 284 PKiKP **PKiKP 10 33 22.9 +0.4**
ASUD Al Ashush, Dub 129.03 284 P **PKPdf 10 33 21.9 +0.2**
ABTO Aybut 129.20 274 P **PKiKP 10 33 24.0 +0.9**
SNR=12
VADS Vadso 129.88 347 *e*PKPdf **PKiKP 10 33 22.6 -0.2**
KIRV Kirov 130.02 328 ||*i*PKIKP **PKPdf 10 33 22.8 +0.3**
IVI Ivigtut 130.16 28 *i* P **PKPdf 10 33 21.3 -1.4**
MZR Muzera 130.38 281 *i* PKiKP **PKiKP 10 33 25.1 -0.2**
SNR=16
MZR Muzera 130.38 281 P **PKiKP 10 33 24.9 -0.4**
SNR=6.0
PRGR Permogore 130.39 333 *e*PKIKP **PKPdf 10 33 23.0 -0.1**
HAMF Hammerfest 130.50 350 *e*PKPdf **PKPdf 10 33 23.1 0.0**
HAMF IAmb IAmb 10 33 25.0
comp=Z,37nm,0.7s
ARA0 ARCESS Array S 131.12 348 *e*PKPdf **PKPdf 10 33 24.3 -0.1**
ARA0 IAmb IAmb 10 33 26.4
comp=Z,33nm,0.7s
ARCES ARCESS Array B 131.12 348 PKhKP PKPpre 10 33 14.8
comp=Z,2.1nm,0.6s,baz=67,slow=2.0,SNR=13
ARCES PKP **PKPdf 10 33 23.8 -0.5**
comp=Z,24nm,0.6s,baz=23,slow=4.2,SNR=53
ARCES SKPbc **SKPab 10 35 58.5 0.0**
comp=Z,32nm,0.8s,baz=35,slow=4.4,SNR=15
ARCES ARCESS Array B 131.12 348 **PKPdf 10 33 23.5 -0.9**
ISOG Isortoq, Green 131.13 20 *i* P **PKPdf 10 33 24.4 0.0**
SCO Scoresbysund 131.15 9 *i* P **PKPdf 10 33 23.4 -1.0**
JRN Qarnain Island 131.30 283 P **PKPdf 10 33 25.3 -0.7**
JETT Jettan, Norway 131.99 350 *e*PKPdf **PKiKP 10 33 27.9 +0.7**
KTK1 Kautokeino 131.99 349 *e*PKPdf **PKPdf 10 33 25.9 -0.1**
KTK1 IAmb IAmb 10 33 27.3
comp=Z,12nm,0.5s
TRO Tromso 132.14 351 *e*PKPdf **PKiKP 10 33 27.1 -0.3**
LSZ Lusaka 132.37 219 **PKPdf 10 33 26.2 -2.3**
LSZ Lusaka 132.37 219 PKIKP **PKPdf 10 33 26.2 -2.3**
BELG Belogornoye 133.21 321 *d* *i*PKIKP **PKiKP 10 33 29.6 -0.4**
KLMR Klimovskoe 133.31 334 *e*PKPdf **PKPdf 10 33 28.2 -0.4**
KLMR AMP 10 33 32.2
comp=Z,44nm,1.4s
KLMR *e*PP **pPKPdf 10 35 38.6 +1.5**
KLMR *e*SKPab **SKPbc 10 36 03.7 -1.5**
KLMR Klimovskoe 133.31 334 *e*PKIKP **PKPdf 10 33 28.2 -0.4**
KLMR *e* 10 36 03.7
KLMR pmax pmax
comp=Z,44nm,1.4s
TSUM Tsumeb 134.15 204 SKPbc **SKPbc 10 36 09.9 +0.3**
comp=Z,13nm,0.9s,baz=140,slow=6.9,SNR=8.0
TSUM Tsumeb 134.15 204 PKPpre 10 33 24.5
STEI Steigen 134.24 352 *e*PKPdf **PKPdf 10 33 30.4 +0.2**
LOF Lofoten 134.26 353 *e*PKPdf **PKPdf 10 33 30.8 +0.5**
FAUS Fauske 134.75 351 *e* PKPdf 10 33 19.6 -12
RCBR Riachuelo 135.12 126 PKP **PKPdf 10 33 32.2 -1.4**
comp=Z,13nm,0.9s,baz=299,slow=3.9,SNR=2.5
RCBR SKPbc **SKPbc 10 36 11.3 -1.3**
comp=Z,34nm,0.7s,baz=40,slow=4.1,SNR=19
MAK Makhachkala 135.73 308 *i* PKIKP **PKiKP 10 33 34.9 -0.6**
MAK *e* 10 36 19.8
MAK *e*PPP PPP 10 39 28.4
MAK *e*SSS SSS 10 58 48.9
MAK pmax pmax
comp=Z,50nm,0.6s
KMBO Kilima Mbogo 135.79 242 PKhKP PKPpre 10 33 28.9
comp=Z,4.6nm,0.7s,baz=150,slow=3.0,SNR=2.6
KMBO PKP **PKPdf 10 33 34.7 -0.4**
comp=Z,4.2nm,0.6s,baz=141,slow=2.1,SNR=5.9
KMBO SKPbc **SKPbc 10 36 15.0 +0.1**
comp=Z,9.2nm,0.8s,baz=66,slow=2.3,SNR=13
KMBO Kilima Mbogo 135.79 242 ||*i*PKIKP **PKPdf 10 33 32.0 -3.1**
KMBO Kilima Mbogo 135.79 242 PKPdf **PKPdf 10 33 34.3 -0.8**
KMBO Kilima Mbogo 135.79 242 P **PKiKP 10 33 37.4 +0.6**
AKT Akhty 135.81 306 *e*PKIKP **PKiKP 10 33 36.6 +0.7**
AKT *e* 10 36 21.6
AKT pmax pmax
comp=Z,28nm,0.7s
KONS Konsvik 135.87 352 *e*PKPdf **PKPdf 10 33 34.1 +0.8**
MOR8 Moi Rana 136.00 351 *e*PKPdf **PKPdf 10 33 34.2 +0.6**
GROC Groznyy 136.91 309 *e*PKIKP **PKPdf 10 33 36.2 +0.3**
GROC *e* 10 35 44.6
GROC *e* 10 36 26.9
GROC *e* 10 36 38.4
GROC pmax pmax
comp=Z,33nm,0.7s
MOS Moscow 137.02 329 *i* PKIKP **PKPdf 10 33 33.5 -2.2**
MOS pmax pmax
comp=Z,48nm,0.8s
VRH Novokhopyorsk 137.05 321 *e*PKIKP **PKPdf 10 33 35.3 -0.6**
VRH pmax pmax
comp=Z,60nm,0.9s
FINES FINESS Array B 137.62 341 PKhKP PKPpre 10 33 26.7
comp=Z,7.8nm,0.6s,baz=50,slow=4.3,SNR=12
FINES PKP **PKPdf 10 33 36.6 0.0**
comp=Z,24nm,0.7s,baz=62,slow=1.7,SNR=15
FINES SKPbc **SKPbc 10 36 18.8 +0.5**
comp=Z,38nm,0.7s,baz=56,slow=3.4,SNR=20
LPSR Galich'ya Gora 137.97 324 *e*PKIKP **PKPdf 10 33 37.0 -0.6**
LPSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 138.26 323 PKIKP **PKPdf 10 33 33.1 -5.0**
VORR pmax pmax
comp=Z,89nm,1.7s
ZEI Tsey 138.36 309 *i* PKIKP **PKiKP 10 33 40.1 -1.1**
ZEI pmax pmax
comp=Z,16nm,1.0s
VSR Storozhevoye 138.49 322 *e*PKIKP **PKPdf 10 33 38.2 -0.4**
VSR pmax pmax
comp=Z,30nm,1.0s
TASB TASBURUN-IGDIR 138.68 305 *e*P **PKiKP 10 33 40.9 -0.8**
ONI Oni 138.73 309 *e*P **PKPdf 10 33 40.4 +1.0**
KBZ Khabaz 138.84 311 PKhKP PKPpre 10 33 31.7
comp=Z,3.1nm,0.7s,baz=50,slow=3.6,SNR=7.4
KBZ PKP **PKPdf 10 33 38.7 -0.7**
comp=Z,5.9nm,0.8s,baz=56,slow=3.6,SNR=4.6
KBZ SKPbc **SKPbc 10 36 23.2 +0.9**
comp=Z,4.9nm,0.8s,baz=204,slow=1.8,SNR=3.9
KBZ SKPab **SKPab 10 36 32.8 -0.3**
comp=Z,8.8nm,0.9s,baz=102,slow=3.5,SNR=5.2
KIV Kislovodsk 138.92 311 *e*PKIKP **PKPdf 10 33 35.1 -4.6**
KIV *e* 10 36 38.2
KIV pmax pmax
comp=Z,8.0nm,0.7s
KIV Kislovodsk 138.92 311 PKiKP **PKiKP 10 33 41.4 -0.7**
MEF Metsahovi 139.10 341 *e*P **PKPdf 10 33 38.5 -0.8**
VANB Van 139.56 303 *e*P **PKiKP 10 33 42.7 -0.9**
AGRB Hanur-Agry 139.69 304 *e*P **PKPdf 10 33 35.1 -6.3**
VSU Vasula 139.72 338 *e*P **PKPdf 10 33 33.6 -7.0**
LODK Lodwar 139.89 246 PKPpre 10 33 35.9
AKDM Akdamar-Van 139.92 302 *e*P **PKPdf 10 33 35.4 -6.4**
SENK Senkaya-Erzuru 139.98 306 *e*P **PKPdf 10 33 42.9 +1.0**
MTSE Matsula 140.48 340 *e*P **PKPdf 10 33 37.4 -4.6**
GURO Guroymak-BITLI 140.61 303 *e*P **PKPdf 10 33 39.2 -3.8**
AKN Aaknes 140.74 354 *e*PKPdf **PKPdf 10 33 39.5 -2.8**
VRTB Varto-Mus 140.94 304 *e*P **PKPdf 10 33 40.4 -3.2**
SOC Sochi 141.09 311 *e*PKIKP **PKPdf 10 33 41.5 -2.0**
SOC *e* 10 36 50.7
SOC *e*PPP PPP 10 40 07.5
SOC *e*SS SS 10 54 34.7 -2.5
SOC *e*SSS SSS 11 00 06.7
MBAR Mbarara 141.26 237 **PKPdf 10 33 40.3 -4.7**
MBAR Mbarara 141.26 237 PKHKP PKPpre 10 33 40.3
SVAN Silvan-Diyarba 141.33 302 *e*P **PKPdf 10 33 40.7 -3.5**
NB2 NORSAR Subarra 141.34 351 PKP **PKPdf 10 33 38.2 -5.3**
comp=Z,17nm,0.8s,baz=16,slow=3.2
NB2 SKPa 10 36 27.2
comp=Z,595nm,5.0s,baz=14,slow=2.6
NOA NORSAR Array B 141.34 351 PKhKP PKPpre 10 33 37.9
comp=Z,26nm,0.7s,baz=16,slow=4.8,SNR=70
NOA SKPbc **SKPbc 10 36 28.0 -0.4**
comp=Z,8.1nm,0.6s,baz=15,slow=4.2,SNR=9.5
FOO Floro 141.48 356 *e*PKPdf **PKPdf 10 33 39.8 -3.8**
BNGB Bingl 141.57 304 *e*P **PKPdf 10 33 37.9 -6.8**
NC602 NORSAR Array S 141.58 350 *e*PKPdf **PKPdf 10 33 39.0 -4.8**
HYA Hoyanger 141.81 355 *e*PKPdf **PKPdf 10 33 41.4 -2.8**
SLIT Slitere, Latvi 141.84 340 *e*P **PKPdf 10 33 40.0 -4.3**
SUE Sulen 142.03 356 *e*PKPdf **PKPdf 10 33 41.0 -3.7**
SUE IAmb IAmb 10 33 43.8
comp=Z,54nm,0.6s
MAZI Mazidag 142.04 302 *e*P **PKPdf 10 33 42.1 -3.5**
IDID Didziasalis 142.05 335 *e*P **PKPdf 10 33 38.4 -6.5**
SKAR Skarslia 142.08 353 *e*PKPdf **PKPdf 10 33 42.0 -2.8**
SKAR IAmb IAmb 10 33 44.4
comp=Z,36nm,1.0s
ISAL Salakas 142.10 335 *e*P **PKPdf 10 33 44.1 -0.8**
MNK Minsk 142.16 333 *i* PKP **PKPdf 10 33 43.4 -1.7**
MNK comp=E,2.0nm,0.9s
i PKP **PKPdf 10 33 43.4 -1.7**
MNK comp=N,23nm,0.9s
i PKP **PKPdf 10 33 43.4 -1.7**
MNK comp=Z,49nm,0.9s,baz=46
i pPKP **pPKPdf 10 35 52.2 -1.5**
MNK *i* sPKP 10 36 45.7
MNK *i* PP **PP 10 37 02.8 +4.4**
MNK *i* SKS SKSdf 10 39 43.9 -18
MNK *i* PPP PPP 10 40 11.8
MNK *i* SKKS **SKKPbc 10 44 53.6 +1.6**
MNK *i* SS **SS 10 54 49.4 +1.3**
MNK *i* SSS SSS 10 59 47.6
MNK Minsk 142.16 333 *i* PKIKP **PKPdf 10 33 43.3 -1.7**
MNK *i* 10 35 52.2
MNK *i* 10 36 45.7
MNK *i* 10 37 02.7
MNK *i* PPP PPP 10 40 11.7
MNK *i* SS SS 10 54 49.4 +1.3
MNK pmax pmax
comp=N,23nm,0.9s
MNK pmax pmax
comp=Z,49nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
DYBB Diyarbakir 142.19 302 *e*P **PKPdf 10 33 42.9 -2.9**
ANN Anapa 142.22 314 *i* PKIKP **PKiKP 10 33 47.8 -0.9**
ANN *e* 10 35 55.5
ANN pmax pmax
comp=Z,166nm,1.0s
IIGN Ignalina 142.22 335 *e*P **PKPdf 10 33 39.7 -5.5**
NACGM Naroch 142.33 334 ||*i*PKP **PKPdf 10 33 43.2 -2.1**
comp=Z,128nm,1.0s,baz=44
OSL Oslo 142.47 351 *e*PKPdf **PKPdf 10 33 44.0 -1.5**
ESPY Espiye-Giresun 142.57 308 *e*P **PKPdf 10 33 43.7 -2.6**
PTK Pertek 142.57 304 *e*P **PKPdf 10 33 44.7 -1.9**
ASK Askoy 142.57 355 *e*PKPdf **PKPdf 10 33 43.0 -2.6**
ASK IAmb IAmb 10 33 45.2
comp=Z,181nm,0.7s
VSVD Vaisvydziai 142.60 337 *e*P **PKPdf 10 33 43.6 -2.1**
BER Bergen 142.66 355 *e*PKPdf **PKPdf 10 33 44.5 -1.2**
BER IAmb IAmb 10 33 45.5
comp=Z,152nm,0.7s
KONO Kongsberg 142.91 351 ||PKHKP PKPpre 10 33 43.4
KONO Kongsberg 142.91 351 *e*PKPdf **PKPdf 10 33 45.9 -0.4**
PABE Paberze 142.96 337 *e*P **PKPdf 10 33 44.5 -1.9**
ODD1 Odda 143.01 354 *e*PKPbc PKPab 10 33 44.2 +0.2
ODD1 IAmb IAmb 10 33 46.7
comp=Z,58nm,0.7s
LRW Lerwick 143.15 0 *e*P PKPab 10 33 44.2 -0.2
PBUR Paburge 143.26 339 *e*P PKPbc 10 33 45.4 0.0
URFA Urfa 143.31 302 *e*P **PKPdf 10 33 48.9 +1.1**
ARPR Arapgir-MALATY 143.33 305 *e*P PKPab 10 33 46.2 +0.1
BLS5 Blasjo 143.51 354 *e*PKPbc PKPab 10 33 45.9 -0.1
BLS5 IAmb IAmb 10 33 48.3
comp=Z,139nm,0.8s
RSDY Resadiye-TOKAT 143.74 307 *e*P **PKPdf 10 33 48.1 -0.3**
KMY Karmoy 143.83 355 *e*P **PKPdf 10 33 47.8 0.0**
KMY IAmb IAmb 10 33 49.6
comp=Z,270nm,0.8s
AKASG Malin Array Be 144.06 327 PKP PKPbc 10 33 46.4 -1.6
comp=Z,32nm,0.4s,baz=44,slow=4.1,SNR=144
AKASG pPKP pPKPdf 10 35 56.6 -0.7
comp=Z,2.4nm,0.6s,baz=246,slow=26,SNR=1.5
AKASG SKPbc **SKiKP 10 36 36.0 0.0**
comp=Z,23nm,0.8s,baz=46,slow=2.4,SNR=12
AKBB Malin Array Si 144.06 327 *e*PKIKP PKPbc 10 33 46.5 -1.5
DARE Darende-Malaty 144.10 304 *e*P PKPbc 10 33 48.1 -0.6
SVSK Karacayir 144.11 307 *e*P **PKPdf 10 33 49.2 +0.3**
SIM Simferopol' 144.32 316 *e*PKIKP **PKPab 10 33 50.2 +0.7**
SIM pmax pmax
comp=Z,192nm,0.7s
TOKT Tokat 144.33 307 *e*P PKPbc 10 33 48.1 -1.2
HOMB Homborsund 144.40 352 *e*PKPbc PKPbc 10 33 48.8 0.0
HOMB IAmb IAmb 10 33 51.5
comp=Z,169nm,0.7s
KVT Kavak 144.46 309 *e*P **PKPab 10 33 50.4 +0.2**
SNART Snartemo 144.49 353 *e*PKPbc PKPbc 10 33 49.1 0.0
SNART IAmb IAmb 10 33 53.2
comp=Z,359nm,1.1s
GAZ Gaziantep 144.62 302 *e*P PKPbc 10 33 50.3 0.0
KMRS Kahramanmaras 144.79 303 *e*P **PKPab 10 33 51.5 -0.1**
DIKM Dikmen 144.83 310 ||P **PKPab 10 33 51.5 0.0**
DIKM Dikmen 144.83 310 *e*P **PKiKP 10 33 53.3 -0.9**
LINV Loch Inver, As 145.00 4 *e*P **PKPdf 10 33 49.5 -0.4**
OVD Ostervraa, Den 145.06 350 *i* P **PKPbc 10 33 51.1 +0.3**
BNN Bunyan 145.26 305 *e*P **PKPdf 10 33 51.3 +0.1**
YOZ Yozgat 145.43 307 *e*P **PKPdf 10 33 51.9 +0.5**
BZK Bozkurt 145.60 311 ||P **PKPdf 10 33 51.7 +0.2**
BZK Bozkurt 145.60 311 *e*P **PKPdf 10 33 50.8 -0.6**
KOZT Kozan 145.63 303 *e*P **PKPbc 10 33 52.9 -0.3**
MCD Coleburn Disti 145.67 2 *e*P **PKPdf 10 33 51.8 +0.8**
CORM Corum 145.77 308 *e*P **PKPbc 10 33 54.5 +0.8**
KPL Plockton 145.77 5 *e*P **PKPdf 10 33 52.0 +0.8**
MUD Monsted U'grnd 146.05 350 *i* P **PKPbc 10 33 53.7 0.0**
SORM Soroca 146.08 324 ||P **PKPbc 10 33 53.1 -1.0**
SORM Soroca 146.08 324 ||PKIKP **PKPbc 10 33 53.1 -1.0**
BSD Bornholm Skovb 146.11 344 *i* P **PKPbc 10 33 52.9 -1.0**
BSD Bornholm Skovb 146.11 344 *e*P **PKPbc 10 33 54.2 +0.2**
PURM Purcari 146.14 321 ||P **PKPbc 10 33 54.8 +0.5**
COP Copenhagen 146.17 347 *i* P **PKPbc 10 33 54.2 +0.1**
CMRD Camardi-Nigde 146.23 303 *e*P **PKPbc 10 33 54.5 -0.5**
ASCN Ascension 146.26 155 PKPab **PKPbc 10 33 55.2 -0.4**
CANT Cankiri 146.35 309 *e*P **PKPbc 10 33 54.9 -0.3**
DRUM Mains of Drumt 146.36 2 *e*P **PKPdf 10 33 52.6 +0.4**
KIS Kishinev 146.49 322 *i* PKP **PKPbc 10 33 54.7 -0.6**
KIS comp=Z,140nm,0.8s
*e*pPKP **pPKPdf 10 36 02.0 +0.4**
KIS Kishinev 146.49 322 ||P **PKPbc 10 33 54.9 -0.3**
KIS Kishinev 146.49 322 *i* PKP2 **PKPbc 10 33 55.0 -0.3**
KIS pmax pmax
comp=Z,140nm,0.8s
MILM Milestii Mici 146.53 322 ||*e*PKP **PKPbc 10 33 54.8 -0.6**
comp=Z,120nm,0.6s
MILM *i* pPKP pPKPab 10 36 01.0 -0.5
MILM Milestii Mici 146.53 322 ||P **PKPbc 10 33 55.3 0.0**
MILM Milestii Mici 146.53 322 *i* PKIKP **PKPbc 10 33 55.0 -0.4**
MILM *e* 10 36 01.0
MILM pmax pmax
comp=Z,120nm,0.6s
LLD Lille Linde 146.55 347 *i* P **PKPbc 10 33 55.5 +0.4**
BR131 Keskin Array S 146.64 308 P **PKPdf 10 33 53.9 +0.5**
SNR=26
BRTR Keskin Array B 146.64 308 PKPbc **PKPbc 10 33 55.5 -0.6**
comp=Z,23nm,0.7s,baz=143,slow=4.7,SNR=63
BRTR pPKPbc **pPKPdf 10 36 01.8 -0.4**
comp=Z,4.6nm,0.8s,baz=117,slow=1.0,SNR=2.7
BRTR Keskin Array B 146.64 308 PKPdf **PKPdf 10 33 53.0 -0.5**
BRTR Keskin Array B 146.64 308 PKIKP **PKPdf 10 33 53.0 -0.5**
EDU Dundee 146.71 2 *e*P **PKPbc 10 33 55.3 -0.2**
INVG Invergeldie, C 146.78 3 *e*P **PKPdf 10 33 54.0 +1.0**
MMAI Mount Meron Ar 146.80 295 PKPbc **PKPbc 10 33 56.9 +0.2**
baz=72,slow=4.7
MMLI Mount Malkishu 146.86 294 *e*P **PKPbc 10 33 57.1 +0.3**
UJAP Al Uja 146.88 293 *e*P **PKPbc 10 33 57.1 +0.4**
DRBR Darabani 146.95 326 ||P **PKPbc 10 33 57.0 +0.5**
BEL Belsk 147.00 335 *e*PKPbc **PKPbc 10 33 56.3 -0.1**
EAB Aberfoyle 147.01 4 *e*P **PKPbc 10 33 56.0 -0.3**
GKP Gorka Klasztor 147.07 340 *e*PKPbc **PKPbc 10 33 56.5 0.0**
GKP Gorka Klasztor 147.07 340 *e*P **PKPbc 10 33 57.4 +0.8**
IAS Iasi 147.07 323 ||P **PKPab 10 34 01.0 +0.8**
IAS Iasi 147.07 323 ||PKP2 **PKPab 10 34 01.0 +0.8**
LEOM Leova 147.11 322 ||P **PKPbc 10 33 57.4 +0.5**
LEOM Leova 147.11 322 ||PKP2 **PKPbc 10 33 57.4 +0.5**
LVV L'vov 147.14 330 *e*PKIKP **PKPdf 10 33 54.8 +1.0**
LVV *e* 10 37 34.1
LVV MLR MLR
comp=Z,1μm,24.0s
KIZK Mersin 147.18 302 *e*P **PKPbc 10 33 57.5 0.0**
ANTO Ankara 147.20 308 PKPdf **PKPdf 10 33 54.3 0.0**
ANTO Ankara 147.20 308 *e*P **PKPbc 10 33 57.3 -0.2**
ANTO Ankara 147.20 308 PKIKP **PKPdf 10 33 54.3 0.0**
ANTO Ankara 147.20 308 P **PKPdf 10 33 54.7 +0.4**
SULT Sultanhani-AKS 147.20 305 *e*P **PKPdf 10 33 55.9 +1.5**
LOD Lodumlu 147.22 308 *e*P **PKPbc 10 33 55.1 +0.6**
VASR Vasiui 147.27 322 ||P **PKPbc 10 33 58.0 +0.6**
KULU Kulu 147.32 307 *e*P **PKPbc 10 33 58.4 +0.5**
EDI Edinburgh 147.33 3 *e*P **PKPbc 10 33 57.0 -0.2**
ESY Stoneypath 147.35 2 *e*P **PKPbc 10 33 56.8 -0.4**
EREN Erenkoy 147.37 300 *e*P **PKPbc 10 33 57.8 -0.2**
SILI Silifke-Mersin 147.38 302 *e*P **PKPbc 10 33 57.9 -0.1**
EBL Broad Law 147.48 2 *e*P **PKPbc 10 33 56.9 -0.7**
TLCR 147.49 320 ||P **PKPdf 10 33 55.7 +1.2**
TLCR 147.49 320 ||PKIKP **PKPdf 10 33 55.7 +1.2**
EIL Elat 147.49 289 PKPbc **PKPbc 10 33 58.6 +0.1**
comp=Z,53nm,0.7s,baz=193,slow=0.7,SNR=11
EIL Elat 147.49 289 *e*P **PKiKP 10 33 59.6 -0.4**
CHBY Cihanbeyli 147.55 306 *e*P **PKPbc 10 33 56.8 -1.7**
VLDR Vladesti 147.56 321 ||P **PKPbc 10 33 58.6 +0.5**
BIR Birlad 147.58 322 ||P **PKiKP 10 33 59.8 +0.1**
BIR Birlad 147.58 322 ||PKP2 **PKiKP 10 33 59.8 +0.1**
IKL Isikli 147.59 301 *e*P **PKPdf 10 33 56.4 +1.5**
KDZE Karadeniz Ereo 147.62 311 ||P **PKPbc 10 33 58.9 +0.4**
JURR Jurilovca 147.67 319 ||P **PKiKP 10 33 59.4 -0.5**
GIUM Giurgiulesti 147.69 320 ||P **PKPbc 10 33 59.2 +0.7**
SCTR Scanteiesti 147.70 321 ||P **PKiKP 10 33 59.7 -0.3**
AKKU Akkuyu-Mersin 147.72 301 *e*P **PKPbc 10 33 58.4 -0.5**
YUVA Yuva-Kibriscik 147.81 310 *e*P **PKPbc 10 33 58.5 -0.6**
GHRR 147.82 322 ||P **PKiKP 10 33 59.7 -0.5**
SLCR Slobozia Conac 147.88 321 ||P **PKiKP 10 33 59.6 -0.7**
CFR Carcaliu 147.90 320 ||P **PKPbc 10 33 59.5 +0.5**
CFR Carcaliu 147.90 320 ||PKP2 **PKPbc 10 33 59.5 +0.5**
SCHL Schela 147.90 321 ||P **PKPbc 10 33 58.9 -0.1**
TPGR Topolog 147.90 319 ||P **PKiKP 10 34 00.2 -0.3**
IZVR Izvoarele 147.91 321 ||P **PKPbc 10 33 59.7 +0.7**
BERE Bereket-Mersin 147.93 302 *e*P **PKPbc 10 33 58.9 -0.7**
ESK Eskdalemuir 147.93 3 **PKPbc 10 33 58.0 -0.7**
ESK Eskdalemuir 147.93 3 *e*P **PKPbc 10 33 57.3 -1.4**
ESK Eskdalemuir 147.93 3 PKHKP PKPpre 10 33 58.1
LFK Lefkose 147.93 300 *e*P **PKPbc 10 34 00.1 +0.6**
TESR Tescani 147.98 323 ||P **PKPbc 10 33 57.9 -1.3**
BURAR Bucovina Array 148.05 326 ||P **PKiKP 10 34 01.3 +0.5**
BURAR Bucovina Array 148.05 326 ||PKP2 **PKiKP 10 34 01.3 +0.5**
NEWG New Galloway 148.08 4 *e*P **PKPbc 10 33 57.9 -1.3**
TIRR Tirgusor 148.12 319 ||P **PKPbc 10 33 59.3 -0.2**
TIRR Tirgusor 148.12 319 ||P **PKPbc 10 33 59.3 -0.2**
TIRR Tirgusor 148.12 319 *e*P **PKPdf 10 33 56.1 +0.6**
TIRR Tirgusor 148.12 319 ||PKHKP PKPpre 10 33 59.3
MDUB Mudurnu 148.12 310 *e*P **PKPdf 10 33 57.3 +1.5**
TSCT Constanta Port 148.12 318 ||P **PKiKP 10 34 00.9 0.0**
CSS Mathiatis 148.16 299 *e*P **PKPbc 10 33 59.1 -1.0**
EFOR EFORIE 148.18 318 ||P **PKPbc 10 33 59.7 0.0**
ODBI Odobesti 148.19 322 ||P **PKiKP 10 34 01.7 +0.7**
BSEG Bad Segeberg 148.25 348 *e*PKPbc **PKPbc 10 33 59.9 +0.3**
baz=22,slow=2.2
MFTR Murfatlar 148.26 318 ||P **PKPbc 10 34 00.1 +0.2**
HARR Harsova 148.28 319 ||P **PKPbc 10 34 00.4 +0.4**
HARR Harsova 148.28 319 ||PKP2 **PKPbc 10 34 00.4 +0.4**
GAL1 Galloway 148.30 4 *e*P **PKPbc 10 33 58.7 -1.0**
VRI Vrincioaia 148.32 322 ||P **PKPbc 10 34 00.4 +0.3**
VRI Vrincioaia 148.32 322 *e*P **PKiKP 10 34 01.7 +0.4**
VRI Vrincioaia 148.32 322 ||PKP2 **PKPbc 10 34 00.4 +0.3**
MANR Mangalia 148.34 317 ||P **PKPbc 10 34 00.2 0.0**
PLOR Plostina 148.37 322 ||P **PKPbc 10 34 00.2 0.0**
PLOR Plostina 148.37 322 ||PKHKP PKPpre 10 34 00.2
CVDA Cernavoda 148.41 319 ||P **PKiKP 10 34 02.0 +0.5**
HLG Helgoland 148.44 350 *e*PKPbc **PKPbc 10 34 00.5 +0.5**
baz=22,slow=2.2
EDMD Edmundbyers 148.46 1 *e*P **PKPbc 10 33 59.2 -0.9**
GRER 148.46 321 ||P **PKPbc 10 34 00.4 0.0**
LEF Lefka 148.48 300 *e*P **PKPbc 10 34 00.9 +0.1**
BISRR Bisoca 148.52 322 ||P **PKiKP 10 34 01.4 -0.3**
GULT Gulveren 148.61 310 *e*P **PKPbc 10 33 59.1 -2.0**
SAUV Serdivan-Sakar 148.62 311 *e*P **PKPbc 10 34 00.9 -0.1**
COVR Voineasa-Covas 148.63 322 ||P **PKPbc 10 34 00.4 -0.5**
KALB Balgarevo 148.66 317 ||

RUE	**Ruedersdorf**	**148.78**	**343**	*e*PKPbc	**PKPbc**	**10 34 01.2**	**+0.3**
	baz=22,slow=2.2							
UZH	**Uzhgorod**	**148.78**	**330**	*e*PKHKP	PKPpre	10 34 01.2		
UZH				*e*		10 34 08.0		
NEHR	**Nehoiu**	**148.82**	**322**	⇓P	**PKiKP**	**10 34 02.4**	**+0.1**
ISR	**Istrita**	**148.86**	**321**	⇑P	**PKiKP**	**10 34 02.3**	**-0.2**
ISR	**Istrita**	**148.86**	**321**	⇑PKP2	**PKiKP**	**10 34 02.3**	**-0.2**
BMR	**Baia Mare**	**148.88**	**328**	⇑P	**PKPbc**	**10 34 01.6**	**+0.2**
BMR	**Baia Mare**	**148.88**	**328**	⇑PKHKP	PKPpre	10 34 01.6		
GDLE	**Glaisdale, N Y**	**148.88**	**0**	*e*P	**PKPbc**	**10 34 00.8**	**-0.3**
IOMK	**Kirk Michael**	**148.91**	**4**	*e*P	**PKPdf**	**10 33 57.1**	**+0.6**
SILT	**Sile**	**148.92**	**312**	*e*P	**PKPbc**	**10 34 00.8**	**-0.9**
MLR	**Muntele Rosu**	**148.98**	**322**	⇓P	**PKPbc**	**10 34 02.0**	**+0.2**
MLR	**Muntele Rosu**	**148.98**	**322**	*e*P	**PKPdf**	**10 33 58.2**	**+1.1**
MLR	**Muntele Rosu**	**148.98**	**322**	⇓PKHKP	PKPpre	10 34 02.1		
ILTH	**Belurgan, Co L**	**148.99**	**6**	*e*P	**PKPbc**	**10 34 00.6**	**-0.8**
DOPR	**Dopca**	**149.00**	**323**	⇓P	**PKPbc**	**10 34 02.0**	**+0.3**
TRPA	**Tarpa**	**149.03**	**329**	⇓P	**PKiKP**	**10 34 02.2**	**-0.4**
HRT	**Hereke**	**149.04**	**312**	*e*P	**PKPdf**	**10 33 59.6**	**+2.4**
LEHL	**Lehliu**	**149.07**	**320**	⇑P	**PKiKP**	**10 34 02.9**	**+0.1**
NIE	**Niedzica**	**149.08**	**333**	*e*PKPbc	**PKiKP**	**10 34 03.1**	**+0.3**
TGMR	**Targu Mures**	**149.12**	**325**	⇑P	**PKiKP**	**10 34 03.5**	**+0.6**
ADVT	**Abdulvahap**	**149.16**	**311**	*e*P	**PKPbc**	**10 34 00.9**	**-1.4**
CAVI	**Cavuskoy**	**149.18**	**310**	*e*P	**PKPbc**	**10 34 02.4**	**0.0**
KLYT	**Kilyos**	**149.28**	**313**	*e*P	**PKPdf**	**10 33 59.8**	**+2.3**
SULR		**149.28**	**321**	⇑P	**PKiKP**	**10 34 03.0**	**-0.2**
SHUT	**Suhut-Afyon**	**149.29**	**307**	*e*P	**PKPbc**	**10 34 02.8**	**0.0**
SUTC	**Sutluce-Ispart**	**149.32**	**305**	*e*P	**PKPbc**	**10 34 02.1**	**-0.9**
HPK	**Haverah Park**	**149.34**	**1**	*e*P	**PKPbc**	**10 34 01.4**	**-0.9**
ISK	**Istanbul-Kandi**	**149.35**	**312**	*e*P	**PKPbc**	**10 34 01.2**	**-1.5**
PRD	**Provadia**	**149.40**	**317**	P	**PKiKP**	**10 34 04.4**	**+0.9**
MDB	**Medias**	**149.44**	**324**	⇑P	**PKiKP**	**10 34 04.3**	**+0.7**
MDB	**Medias**	**149.44**	**324**	⇑PKP2	**PKiKP**	**10 34 04.3**	**+0.7**
KSP	**Ksiaz**	**149.44**	**339**	*e*PKPbc	**PKiKP**	**10 34 03.2**	**-0.2**
CBBR	**Cluj-Babes-Bol**	**149.47**	**326**	⇑P	**PKPbc**	**10 34 01.5**	**-1.3**
CJR	**Cluj-Napoca**	**149.48**	**326**	⇑P	**PKPbc**	**10 34 02.7**	**-0.2**
CJR	**Cluj-Napoca**	**149.48**	**326**	⇑PKHKP	PKPpre	10 34 02.7		
BGKT	**Bogazkoy**	**149.49**	**313**	*e*P	**PKPdf**	**10 33 56.8**	**-1.0**
MESR	**Meseseni**	**149.51**	**327**	⇑P	**PKiKP**	**10 34 04.1**	**+0.4**
VOIR		**149.52**	**323**	⇑P	**PKiKP**	**10 34 04.1**	**+0.3**
VOIR		**149.52**	**323**	⇑PKP2	**PKiKP**	**10 34 04.1**	**+0.3**
GEMT	**Gemlik**	**149.53**	**311**	*e*P	**PKPbc**	**10 34 02.1**	**-1.1**
FLTG	**Flechtingen**	**149.55**	**345**	*e*PKPbc	**PKPbc**	**10 34 02.8**	**0.0**
	baz=22,slow=2.2							
RETH	**Rethem/Aller,**	**149.57**	**348**	*e*PKPbc	**PKPbc**	**10 34 03.1**	**+0.2**
	baz=22,slow=2.2							
OKC	**Ostrava-Krasne**	**149.61**	**335**	⇑*e*PKP	**PKiKP**	**10 34 04.1**	**+0.3**
OKC	**Ostrava-Krasne**	**149.61**	**335**	*e*PKHKP	PKPpre	10 34 04.1		
LANS	**Liptovska Anna**	**149.63**	**333**	*e*PKHKP	PKPpre	10 33 59.9		
LANS	**Liptovska Anna**	**149.63**	**333**	*e*PKP	**PKPdf**	**10 33 59.9**	**+2.0**
LANS				*e*		10 34 04.2		
MTUR	**Matau**	**149.64**	**322**	⇑P	**PKiKP**	**10 34 04.6**	**+0.5**
MTUR	**Matau**	**149.64**	**322**	⇑PKP2	**PKiKP**	**10 34 04.6**	**+0.5**
CTKS	**Kestanelik-??a**	**149.65**	**313**	*e*P	**PKPbc**	**10 34 02.6**	**-0.8**
NRDL	**Niedersach Rie**	**149.65**	**347**	*e*PKPbc	**PKPbc**	**10 34 03.3**	**+0.3**
	baz=22,slow=2.2							
CTYL	**Yalikoy Yolu**	**149.68**	**314**	*e*P	**PKPbc**	**10 34 02.4**	**-1.1**
ARMT	**Armutlu**	**149.70**	**312**	*e*P	**PKPbc**	**10 34 01.9**	**-1.7**
KECS	**Kecovo**	**149.71**	**331**	*e*PKP2	**PKiKP**	**10 34 05.2**	**+1.2**
KECS	**Kecovo**	**149.71**	**331**	*e*PKP	**PKiKP**	**10 34 05.2**	**+1.2**
SGRR	**Singureni**	**149.71**	**320**	⇑P	**PKPbc**	**10 34 03.5**	**0.0**
OSTC	**Ostas**	**149.71**	**338**	⇑*e*PKP	**PKiKP**	**10 34 04.1**	**+0.1**
MARR	**Marisel-Cluj**	**149.75**	**326**	⇑P	**PKiKP**	**10 34 04.2**	**-0.1**
RAZG	**Razgrad**	**149.76**	**319**	⇑P	**PKPbc**	**10 34 03.7**	**0.0**
ANTB	**Antalya**	**149.76**	**304**	*e*P	**PKPdf**	**10 33 55.2**	**-3.2**
WPS	**Cemaes, Angles**	**149.77**	**4**	*e*P	**PKPbc**	**10 34 02.0**	**-1.2**
MDNY	**Mudanya-Bursa**	**149.77**	**311**	*e*P	**PKPbc**	**10 34 03.7**	**0.0**
UPC	**Upice**	**149.82**	**338**	⇑*e*PKP	**PKiKP**	**10 34 04.9**	**+0.7**
UPC	**Upice**	**149.82**	**338**	*e*PKHKP	PKPpre	10 34 04.9		
DPC	**Dobruska-Polom**	**149.85**	**338**	⇑*e*PKP	**PKiKP**	**10 34 05.1**	**+0.8**
DPC				*e*PKPAB	**PKPab**	**10 34 14.4**	**+2.8**
DPC	**Dobruska-Polom**	**149.85**	**338**	*e*PKP2	**PKiKP**	**10 34 05.1**	**+0.8**
SLVT	**Silivri**	**149.85**	**313**	*e*P	**PKPbc**	**10 34 04.2**	**+0.3**
ASSE	**Asse, Remlinge**	**149.87**	**346**	*e*PKPbc	**PKiKP**	**10 34 03.8**	**-0.3**
	baz=22,slow=2.2							
DRGR		**149.88**	**327**	⇓P	**PKPbc**	**10 34 04.2**	**+0.3**
DRGR		**149.88**	**327**	*e*P	**PKPbc**	**10 34 04.0**	**+0.1**
DRGR		**149.88**	**327**	⇓PKHKP	PKPpre	10 34 04.2		
MORC	**Moravsky Berou**	**149.89**	**336**	*e*PKP	**PKPdf**	**10 33 57.4**	**-0.9**
MORC				*e*		10 36 13.3		
LBWR	**Ladybower, Pea**	**149.90**	**1**	*e*P	**PKPbc**	**10 34 03.0**	**-0.7**
KRLC	**Kraliky**	**149.92**	**337**	⇑*e*PKP	**PKiKP**	**10 34 05.1**	**+0.6**
KRLC				*e*PKPAB	**PKPab**	**10 34 14.3**	**+2.4**
KRLC	**Kraliky**	**149.92**	**337**	*e*PKHKP	PKPpre	10 34 05.1		
KORT	**Korkueli**	**149.96**	**304**	*e*P	**PKPbc**	**10 34 04.6**	**+0.1**
CLL	**Collm**	**150.04**	**343**	*e*PKPdf	**PKPdf**	**10 34 00.0**	**+1.6**
CLL				*e*PKPbc	**PKPbc**	**10 34 03.0**	**-1.0**
	comp=Z,110nm,0.7s							
CLL				*i* (PKiKP)		10 34 05.4		
CLL				*e*PKPbc(2)		10 34 06.0		
	comp=Z,329nm,0.7s							
CLL				*e*PKPab	**PKPab**	**10 34 14.0**	**+1.7**
	comp=Z,55nm,0.8s							
CLL				*ex*	x	10 34 20.0		
CLL				*ex*	x	10 34 57.0		
CLL				*ep*PKPdf	**pPKPdf**	**10 36 08.0**	**+0.7**
CLL				*ep*PKPbc	**pPKPbc**	**10 36 12.0**	**+0.5**
CLL				*ep*PKPab	**pPKPab**	**10 36 16.0**	**+1.1**
CLL				*e*SKPdf	**SKPdf**	**10 36 41.0**	**+1.4**
CLL				*e*SKKSac	**SKKSac**	**10 43 41.0**	**+1.5**
CLL				*e*SKSP		10 47 06.0		
CLL				*e*PSKS		10 47 54.0		
CLL				*e*SPP	SPP	10 49 49.0		
CLL				*e*PPS	PPS	10 50 48.0		
CLL				*e*PPS		10 52 23.0		
CLL				*e*SS	**SS**	**10 56 22.0**	**+6.2**
CLL				*e*SKSSKSac	**S'S'ac**	**10 57 06.0**	**-3.8**
CLL				*e*sSS		10 59 54.0		
CLL				*e*SSS	SSS	11 02 00.0		
CLL				*e*SSSS		11 05 48.0		
CLL				*ex*	x	11 08 48.0		
CLL				*ex*	x	11 11 42.0		
CLL	**Collm**	**150.04**	**343**	*e*PKPbc	**PKPbc**	**10 34 04.2**	**+0.2**
	baz=22,slow=2.2							
HUMR	**Humele**	**150.11**	**321**	⇑P	**PKPbc**	**10 34 04.0**	**-0.4**
MAUC	**Maruska**	**150.12**	**335**	⇑*e*PKP	**PKiKP**	**10 34 06.2**	**+1.3**
BRG	**Berggiesshubel**	**150.16**	**341**	⇓*e*PKPf		10 33 58.7		
BRG				Amp		10 34 01.1		
	comp=Z,18nm,1.2s							
BRG				⇑*i*PKP	**PKPbc**	**10 34 04.2**	**-0.1**
BRG				Amp		10 34 06.6		
	comp=Z,179nm,0.7s							
BRG	**Berggiesshubel**	**150.16**	**341**	P	**PKPab**	**10 34 14.0**	**+1.2**
BRG				Amp		10 34 16.7		
	comp=Z,53nm,0.9s							
BRG	**Berggiesshubel**	**150.16**	**341**	*e*PKIKP	**PKPdf**	**10 33 58.7**	**+0.1**
BRG				pmax	pmax			
	comp=Z,18nm,1.2s							
BRG	**Berggiesshubel**	**150.16**	**341**	*e*PKPbc	**PKiKP**	**10 34 04.6**	**-0.3**
	baz=22,slow=2.2							
KCTX	**Karacabey (Bur**	**150.18**	**312**	*e*P	**PKiKP**	**10 34 05.7**	**+0.4**
COPA	**Copaceanca**	**150.20**	**321**	⇓P	**PKPbc**	**10 34 04.6**	**0.0**
CLZ	**Clausthal**	**150.21**	**346**	*e*PKPbc	**PKiKP**	**10 34 04.9**	**-0.1**
	baz=22,slow=2.2							
CRLT	**Corlu**	**150.21**	**313**	*e*P	**PKiKP**	**10 34 05.1**	**-0.2**
LOT	**Lotru**	**150.21**	**324**	⇑P	**PKPbc**	**10 34 04.1**	**-0.6**
SIMA	**Simav-Kutahya**	**150.23**	**309**	*e*P	**PKPbc**	**10 34 04.7**	**-0.3**
SZH	**Strazhica**	**150.27**	**319**	P	**PKPbc**	**10 34 04.3**	**-0.5**
PVCC	**Panska Ves**	**150.27**	**340**	⇑*e*PKP	**PKiKP**	**10 34 05.7**	**+0.6**
PVCC	**Panska Ves**	**150.27**	**340**	*e*PKIKP	**PKiKP**	**10 34 05.7**	**+0.6**
IBBN	**Ibbenburen**	**150.27**	**349**	*e*PKPbc	**PKPbc**	**10 34 04.7**	**+0.2**
	baz=22,slow=2.2							
JMB	**Yambol**	**150.30**	**317**	P	**PKiKP**	**10 34 06.5**	**+1.1**
FOEL	**Foel Wylfa**	**150.36**	**3**	*e*P	**PKPbc**	**10 34 03.8**	**-1.0**
ELL	**Elmali**	**150.38**	**304**	*e*P	**PKPbc**	**10 34 05.4**	**0.1**
DEV	**Deva**	**150.39**	**325**	⇓P	**PKiKP**	**10 34 05.6**	**+0.1**
DEV	**Deva**	**150.39**	**325**	⇓PKIKP	**PKiKP**	**10 34 05.6**	**+0.1**
PSZ	**Piszkesteto**	**150.39**	**331**	⇑P	**PKiKP**	**10 34 05.8**	**+0.2**
PSZ	**Piszkesteto**	**150.39**	**331**	⇑PKIKP	**PKiKP**	**10 34 05.8**	**+0.2**
ZIMR		**150.39**	**320**	⇓P	**PKiKP**	**10 34 05.9**	**+0.4**
ZIMR		**150.39**	**320**	⇓PKIKP	**PKiKP**	**10 34 05.9**	**+0.4**
VYHS	**Vyhne**	**150.41**	**333**	*e*PKIKP	**PKPdf**	**10 33 59.6**	**+0.5**
VYHS	**Vyhne**	**150.41**	**333**	*e*PKP	**PKPdf**	**10 33 59.6**	**+0.5**
VYHS				*e*		10 34 05.2		
VYHS				*e*		10 34 15.9		
VYHS				*e*		10 36 14.3		
NEUB	**Neuenburg**	**150.46**	**344**	*e*PKPbc	**PKPbc**	**10 34 05.2**	**+0.2**
	baz=22,slow=2.2							
EDC	**Edincik**	**150.48**	**312**	*e*P	**PKPbc**	**10 34 04.7**	**-0.7**
EDRB	**Edirne**	**150.51**	**315**	P	**PKPbc**	**10 34 04.0**	**-1.4**
EDRB	**Edirne**	**150.51**	**315**	*e*P	**PKPbc**	**10 34 04.9**	**-0.5**
WACR	**West Acre**	**150.56**	**358**	*e*P	**PKPbc**	**10 34 04.6**	**-0.6**
IWEX	**Carrickbyrne,**	**150.57**	**8**	*e*P	**PKPbc**	**10 34 04.9**	**-0.3**
GTTG	**Gottingen**	**150.57**	**346**	*e*PKPbc	**PKPbc**	**10 34 05.5**	**+0.2**
	baz=22,slow=2.2							
JAVC	**Velka Javorina**	**150.59**	**335**	*e*PKP	**PKPdf**	**10 34 00.1**	**+0.7**
JAVC				*e*		10 34 06.8		
APMY	**Acipayam-Deniz**	**150.59**	**306**	*e*P	**PKPbc**	**10 34 06.1**	**+0.2**
VRAC	**Vranov**	**150.62**	**337**	*e*PKP	**PKPdf**	**10 33 59.1**	**-0.3**
VRAC				*e*		10 34 05.6		
VRAC				*e*		10 36 14.5		
PVL	**Pavlikeni**	**150.66**	**319**	P	**PKiKP**	**10 34 07.8**	**+1.7**
KULA	**Kula-Manisa**	**150.69**	**308**	P	**PKPbc**	**10 34 04.9**	**-1.2**
KULA	**Kula-Manisa**	**150.69**	**308**	*e*P	**PKPbc**	**10 34 05.6**	**-0.5**
GOPC	**GO Pecny, Ondr**	**150.74**	**339**	⇑*e*PKP	**PKiKP**	**10 34 06.8**	**+0.7**
GOPC	**GO Pecny, Ondr**	**150.74**	**339**	*e*PKIKP	**PKiKP**	**10 34 06.8**	**+0.7**
HLM1	**Long Mynd**	**150.75**	**3**	*e*P	**PKPbc**	**10 34 04.6**	**-1.0**
PRU	**Pruhonice**	**150.75**	**340**	⇑*e*PKP	**PKiKP**	**10 34 06.7**	**+0.6**
PRU				*e*PKPAB	**PKPab**	**10 34 14.5**	**-0.8**
PRU	**Pruhonice**	**150.75**	**340**	*e*PKIKP	**PKiKP**	**10 34 06.7**	**+0.6**
PRU				*e*		10 34 14.5		
SIRR	**Siria**	**150.76**	**327**	⇑P	**PKiKP**	**10 34 06.3**	**0.0**
AKAS	**Kas**	**150.77**	**303**	*e*P	**PKPbc**	**10 34 05.6**	**-0.8**
GZR	**Gura Zlata**	**150.78**	**325**	⇓P	**PKPbc**	**10 34 05.9**	**-0.1**
GZR	**Gura Zlata**	**150.78**	**325**	⇓PKIKP	**PKPbc**	**10 34 05.9**	**-0.1**
BALB	**Balikesir**	**150.78**	**311**	*e*P	**PKPbc**	**10 34 05.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**150.79**	**313**	*e*P	**PKPbc**	**10 34 05.8**	**-0.4**
SURR	**Surduc**	**150.88**	**326**	⇓P	**PKPbc**	**10 34 05.7**	**-0.5**
KRUC	**Moravsky**	**150.90**	**336**	*e*PKP	**PKPdf**	**10 33 59.2**	**-0.6**
KRUC				*e*		10 34 05.8		
UKOP	**Uzunkopru-Edir**	**150.94**	**314**	*e*P	**PKPbc**	**10 34 06.3**	**-0.1**
SMOL	**Smolenice**	**150.96**	**335**	*e*PKIKP	**PKiKP**	**10 34 06.8**	**+0.2**
SMOL				*e*		10 34 17.3		
PLVB	**Pleven**	**150.99**	**320**	⇓P	**PKPbc**	**10 34 06.5**	**0.0**
TANN	**Tannenbergstha**	**151.00**	**342**	*e*PKPbc	**PKPbc**	**10 34 06.5**	**+0.1**
	baz=22,slow=2.2							
WERD	**Werda**	**151.01**	**343**	*e*PKPbc	**PKPbc**	**10 34 06.5**	**+0.1**
	baz=22,slow=2.2							
MOX	**Moxa**	**151.01**	**344**	*e*PKPbc	**PKPbc**	**10 34 06.4**	**+0.1**
	baz=22,slow=2.2							
MOX				*e*PKPab	**PKPab**	**10 34 16.3**	**-0.2**
	baz=22,slow=2.2							
PLN	**Plauen**	**151.02**	**343**	*e*PKPbc	**PKPbc**	**10 34 06.5**	**+0.1**
	baz=22,slow=2.2							
PLN				*e*PKPab	**PKPab**	**10 34 17.0**	**+0.5**
	baz=22,slow=2.2							
SRE	**Strehaia**	**151.02**	**323**	⇓P	**PKiKP**	**10 34 07.1**	**+0.2**
SRE	**Strehaia**	**151.02**	**323**	⇓PKIKP	**PKiKP**	**10 34 07.1**	**+0.2**
TREC	**Trest**	**151.03**	**338**	⇑*e*PKP	**PKiKP**	**10 34 07.4**	**+0.6**
TREC	**Trest**	**151.03**	**338**	*e*PKIKP	**PKiKP**	**10 34 07.4**	**+0.6**
FETY	**Fethiye**	**151.04**	**304**	*e*P	**PKPbc**	**10 34 05.6**	**-1.2**
GUNZ	**Gunzen**	**151.08**	**343**	*e*PKPdf	**PKPdf**	**10 34 00.5**	**+0.4**
	baz=22,slow=2.2							
GUNZ				*e*PKPbc	**PKiKP**	**10 34 06.8**	**0.0**
	baz=22,slow=2.2							
GUNZ				*e*PKPab	**PKPab**	**10 34 17.5**	**+0.8**
	baz=22,slow=2.2							
LPW	**Lampeter**	**151.08**	**4**	*e*P	**PKPbc**	**10 34 05.2**	**-1.2**
MODS	**Modra-Piesok**	**151.13**	**335**	*e*PKIKP	**PKPdf**	**10 34 00.0**	**-0.2**
MODS	**Modra-Piesok**	**151.13**	**335**	*e*PKP	**PKPdf**	**10 34 00.0**	**-0.2**
MODS				*e*		10 34 07.2		
MODS				*e*		10 36 20.7		
WERN	**Wernitzgruen**	**151.13**	**342**	*e*PKPdf	**PKPdf**	**10 33 59.5**	**-0.7**
	baz=22,slow=2.2							
WERN				*e*PKPbc	**PKiKP**	**10 34 07.0**	**0.0**
	baz=22,slow=2.2							
WERN				*e*PKPab	**PKPab**	**10 34 17.7**	**+0.7**
	baz=22,slow=2.2							
SRO	**Srobarova**	**151.16**	**333**	*e*PKIKP	**PKiKP**	**10 34 07.7**	**+0.7**
SRO	**Srobarova**	**151.16**	**333**	*e*PKP	**PKiKP**	**10 34 07.7**	**+0.7**
NKC	**Novy Kostel**	**151.16**	**342**	⇑*e*PKP	**PKiKP**	**10 34 07.8**	**+0.8**
NKC				*e*PKPAB	**PKPab**	**10 34 15.2**	**-1.9**
NKC	**Novy Kostel**	**151.16**	**342**	*e*PKIKP	**PKiKP**	**10 34 07.8**	**+0.8**
NKC				*e*		10 34 15.2		
ELMS	**Elmsett, Ipswi**	**151.18**	**358**	*e*P	**PKPbc**	**10 34 04.6**	**-1.9**
BUG	**Bochum--Univer**	**151.19**	**350**	*e*PKPbc	**PKPbc**	**10 34 06.5**	**-0.2**
	baz=22,slow=2.2							
BUG				*ep*PKPbc	**pPKPab**	**10 36 19.0**	**-0.6**
RSBS	**Rosebush, Pemb**	**151.19**	**5**	*e*P	**PKPbc**	**10 34 05.2**	**-1.4**
KASTN	**Kahler Asten**	**151.21**	**348**	*e*PKPbc	**PKPbc**	**10 34 06.8**	**0.0**
	baz=22,slow=2.2							
LPK	**Lapseki**	**151.22**	**313**	*e*P	**PKPbc**	**10 34 06.9**	**-0.2**
BZS	**Buzias**	**151.23**	**326**	⇑P	**PKPbc**	**10 34 05.9**	**-1.0**
BZS	**Buzias**	**151.23**	**326**	*e*P	**PKPbc**	**10 34 05.8**	**-1.1**
BZS	**Buzias**	**151.23**	**326**	⇑PKIKP	**PKPbc**	**10 34 05.9**	**-1.0**
ERIK	**Erikli-Kesan**	**151.25**	**314**	*e*P	**PKPbc**	**10 34 06.1**	**-1.0**
UBBA	**Unterbreizbach**	**151.25**	**346**	*e*PKPdf	**PKPdf**	**10 34 00.7**	**+0.7**
	baz=22,slow=2.2							
UBBA				*e*PKPbc	**PKiKP**	**10 34 07.1**	**+0.1**
	baz=22,slow=2.2							
UBBA				*e*PKPab	**PKPab**	**10 34 18.7**	**+1.5**
	baz=22,slow=2.2							
MCH1	**Michaelchurch**	**151.26**	**3**	*e*P	**PKPbc**	**10 34 05.4**	**-1.3**
RMGR	**Halanga-Turnu**	**151.30**	**324**	⇓P	**PKiKP**	**10 34 09.1**	**+1.7**
DALY	**Dalyan (Mula)**	**151.31**	**305**	*e*P	**PKPbc**	**10 34 06.3**	**-1.1**
HERR	**Herculane**	**151.31**	**324**	⇓P	**PKPbc**	**10 34 06.7**	**-0.5**
BAIL	**Bailesti**	**151.35**	**322**	⇑P	**PKiKP**	**10 34 08.5**	**+0.9**
DJES	**Djerdap**	**151.39**	**324**	⇑P	**PKPbc**	**10 34 06.7**	**-0.7**
GELI	**Tayfur-Gelibol**	**151.40**	**313**	*e*P	**PKPbc**	**10 34 06.1**	**-1.4**
PUNG	**Punghina**	**151.42**	**323**	⇓P	**PKiKP**	**10 34 08.7**	**+1.0**
ALN	**Alexandroupoli**	**151.44**	**314**	*e*P	**PKPbc**	**10 34 04.7**	**-2.9**
ENEZ	**Enez**	**151.45**	**314**	*e*P	**PKPbc**	**10 34 06.8**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**151.46**	**307**	*e*P	**PKPbc**	**10 34 07.2**	**-0.7**
KDZ	**Kurdzhali**	**151.47**	**316**	*e*P	**PKPbc**	**10 34 07.6**	**0.0**
KDZ	**Kurdzhali**	**151.47**	**316**	P	**PKiKP**	**10 34 08.8**	**+0.9**
YER	**Yerkesik**	**151.47**	**306**	P	**PKPbc**	**10 34 07.7**	**-0.2**
YER	**Yerkesik**	**151.47**	**306**	*e*P	**PKPbc**	**10 34 07.9**	**0.0**
MANZ	**Manzenberg**	**151.48**	**342**	*e*PKPdf	**PKPdf**	**10 34 00.0**	**-0.7**
	baz=22,slow=2.2							
MANZ				*e*PKPbc	**PKiKP**	**10 34 07.6**	**-0.1**
	baz=22,slow=2.2							
BANR	**Banloc**	**151.64**	**326**	⇓P	**PKiKP**	**10 34 08.8**	**+0.7**
RDO	**Rodhopi**	**151.65**	**315**	P	**PKPbc**	**10 34 07.2**	**-0.8**
RDO	**Rodhopi**	**151.65**	**315**	*e*P	**PKPbc**	**10 34 07.6**	**-0.4**
ROTZ	**Rotzenmuhle**	**151.65**	**342**	*e*PKPdf	**PKPdf**	**10 34 01.7**	**+0.8**
	baz=22,slow=2.2							
ROTZ				*e*PKPbc	**PKPbc**	**10 34 07.8**	**0.0**
	baz=22,slow=2.2							
ROTZ				*e*PKPab	**PKPab**	**10 34 20.1**	**+0.9**
	baz=22,slow=2.2							
MDVR	**Moldovita**	**151.75**	**325**	⇓P	**PKPbc**	**10 34 08.2**	**0.0**
EZN	**Ezine**	**151.77**	**312**	P	**PKiKP**	**10 34 08.9**	**+0.4**
EZN	**Ezine**	**151.77**	**312**	*e*P	**PKPdf**	**10 34 02.1**	**+0.8**
SWN1	**Swindon**	**151.78**	**1**	*e*P	**PKPbc**	**10 34 06.8**	**-1.1**
MLSB	**Milas**	**151.79**	**306**	*e*P	**PKiKP**	**10 34 09.1**	**+0.4**
KHC	**Kasperske Hory**	**151.81**	**340**	*e*PKPDF	**PKPdf**	**10 34 02.2**	**+1.0**
KHC				⇑*e*PKP	**PKiKP**	**10 34 09.2**	**+0.8**
KHC				*e*PKPAB	**PKPab**	**10 34 22.3**	**+2.4**
KHC				*x*	x	10 36 19.0		
KHC	**Kasperske Hory**	**151.81**	**340**	*e*PKIKP	**PKPdf**	**10 34 02.2**	**+1.0**
CKRC	**Cesky Krumlov**	**151.84**	**339**	⇑*e*PKP	**PKiKP**	**10 34 10.4**	**+1.9**
GADA	**Gukgeada**	**151.89**	**313**	*e*P	**PKPbc**	**10 34 07.2**	**-1.4**
BLCB	**Balcova**	**151.90**	**309**	*e*P	**PKPbc**	**10 34 07.7**	**-1.0**
BOZC	**Bozcaada**	**151.95**	**312**	*e*P	**PKPbc**	**10 34 07.7**	**-1.0**
GRF	**Grafenberg Arr**	**151.99**	**343**	*e*PKPdf	**PKPdf**	**10 34 02.1**	**+0.7**
	baz=22,slow=2.2							
GRF				*e*PKPbc	**PKiKP**	**10 34 08.7**	**0.0**
	baz=22,slow=2.2							
GRF				*e*PKPab	**PKPab**	**10 34 20.6**	**0.0**
	baz=22,slow=2.2							
GEC2	**GERESS Array S**	**152.02**	**339**	*e*PKPdf	**PKPdf**	**10 34 01.4**	**-0.2**
	baz=22,slow=2.2							
GEC2				*e*PKPbc	**PKPbc**	**10 34 08.6**	**-0.1**
	baz=22,slow=2.2							
GEC2				*e*PKPab	**PKPab**	**10 34 21.4**	**+0.5**
	baz=22,slow=2.2							
GERES	**GERESS Array B**	**152.02**	**339**	PKP	**PKPdf**	**10 34 01.6**	**0.0**
	comp=Z,3.0nm,0.7s,baz=78,slow=1.9,SNR=17							
GERES				PKPbc	**PKPbc**	**10 34 08.4**	**-0.3**
	comp=Z,20nm,0.7s,baz=24,slow=1.7,SNR=33							
GERES				PKPab	**PKPab**	**10 34 20.8**	**-0.1**
	comp=Z,13nm,0.7s,baz=45,slow=4.5,SNR=8.7							
GERES				pPKPbc	**pPKPbc**	**10 36 15.8**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=341,slow=2.1,SNR=1.8							
GERES				pPKPab	**pPKPab**	**10 36 23.3**	**+0.2**
	comp=Z,6.1nm,0.8s,baz=15,slow=4.3,SNR=4.9							
GCAM	**G?zelcaml?**	**152.04**	**307**	*e*P	**PKPbc**	**10 34 07.9**	**-1.1**
CONA	**Conrad Observa**	**152.04**	**336**	*e*PKP	**PKPdf**	**10 34 01.4**	**-0.3**
	comp=Z,20nm,1.6s							
CONA				*e*PKP	**PKiKP**	**10 34 09.9**	**+0.9**
	comp=Z,45nm,0.6s							
CONA				*e*PKP	**PKPab**	**10 34 22.2**	**+1.2**
	comp=Z,56nm,0.8s							
BEBN	**Eben Emael**	**152.06**	**351**	*d*PKP	**PKiKP**	**10 34 09.8**	**+1.0**
BEBN				*d*PKPab	**PKPab**	**10 34 21.6**	**+0.9**
BEBN				*dp*PKP	**pPKPab**	**10 36 21.1**	**-2.1**
RONA	**Rosalia, Austr**	**152.06**	**335**	*i* PKP	**PKPdf**	**10 34 00.6**	**-1.0**
	comp=Z,13nm,1.2s,SNR=14							
RONA				*e*PKP	**PKiKP**	**10 34 09.7**	**+0.8**
	comp=Z,75nm,0.7s							
RONA				*e*PKP	**PKPab**	**10 34 22.1**	**+1.1**
	comp=Z,37nm,0.9s							
PRK	**Paraskevi**	**152.07**	**311**

	comp=Z,38nm,1.0s								
ABTA	**Abfaltersbach**	**154.24**	**339**	*i*	PKP	**PKPdf**	**10 34 04.0**	**-0.8**
	comp=Z,14nm,1.0s,SNR=13								
ABTA				*e*	PKP	**PKPbc**	**10 34 14.1**	**+0.5**
	comp=Z,20nm,0.6s								
ABTA				*e*	PKP	**PKPab**	**10 34 30.5**	**+0.2**
	comp=Z,24nm,1.2s								
FNA	**Florina**	**154.47**	**318**		P	**PKiKP**	**10 34 14.1**	**-0.1**
FLN	**La Foliniere**	**154.55**	**360**	*e*	PKIKP	**PKPdf**	**10 34 06.2**	**+1.2**
FLN					pmax	pmax			
	comp=Z,34nm,1.0s								
DAVA	**Damuels**	**154.55**	**343**	*e*	PKP	**PKPdf**	**10 34 07.0**	**+1.7**
	comp=Z,14nm,1.0s								
DAVA				*e*	PKP	**PKPbc**	**10 34 16.7**	**+2.4**
	comp=Z,13nm,1.1s								
DAVA				*e*	PKP	**PKPab**	**10 34 32.8**	**+1.0**
	comp=Z,51nm,0.7s								
FETA	**Feichten**	**154.56**	**342**	*i*	PKP	**PKPdf**	**10 34 04.4**	**-0.9**
	comp=Z,13nm,1.6s,SNR=8.6								
FETA				*e*	PKP	**PKPbc**	**10 34 15.5**	**+1.2**
	comp=Z,25nm,0.9s								
FETA				*e*	PKP	**PKPab**	**10 34 33.3**	**+1.4**
	comp=Z,30nm,1.0s								
PDG	**Podgorica**	**154.65**	**324**	⇑	P	**PKPbc**	**10 34 14.7**	**+0.3**
PDG	**Podgorica**	**154.65**	**324**	*e*	P	**PKPab**	**10 34 33.7**	**+1.5**
HAU	**Haudompre**	**154.66**	**349**	*e*	PKIKP	**PKPdf**	**10 34 08.8**	**+3.5**
HAU					pmax	pmax			
	comp=Z,11nm,0.7s								
LDF	**La Druitiere**	**154.72**	**359**	*e*	PKIKP	**PKPdf**	**10 34 05.0**	**-0.3**
LDF					pmax	pmax			
	comp=Z,12nm,0.7s								
HINF	**Hinteralfeld**	**154.75**	**348**	*e*	PKIKP	**PKPdf**	**10 34 07.5**	**+2.1**
HINF					pmax	pmax			
	comp=Z,33nm,1.5s								
AGG	**Agios Georgios**	**154.86**	**314**	*e*	P	**PKiKP**	**10 34 14.2**	**-0.8**
GRR	**Gorron**	**154.93**	**0**	*e*	PKIKP	**PKPdf**	**10 34 06.8**	**+1.2**
GRR					pmax	pmax			
	comp=Z,100nm,1.7s								
MAKR	**Makrakomi, Fth**	**154.99**	**314**		P	**PKPbc**	**10 34 17.1**	**+1.8**
DAVOX	**Davos/Dischmat**	**155.02**	**343**		PKP	**PKPdf**	**10 34 05.9**	**-0.1**
	comp=Z,11nm,0.7s,baz=356,slow=2.6,SNR=21								
DAVOX					PKPbc	PKPab	10 34 15.7	-18	
	comp=Z,20nm,0.7s,baz=90,slow=2.0,SNR=9.2								
DAVOX					PKPab	PKPab	10 34 33.7	-0.2	
	comp=Z,33nm,0.8s,baz=65,slow=6.9,SNR=11								
DAVOX					pPKPbc	pPKPbc	10 36 24.1	+0.6	
	comp=Z,9.3nm,0.8s,baz=328,slow=2.9,SNR=2.9								
TIR	**Tirane**	**155.02**	**321**		PKIKP	PKPdf	10 33 46.2	-20	
IMMV	**Iera Moni Meta**	**155.32**	**305**		P	**PKPab**	**10 34 37.6**	**+2.2**
IMMV	**Iera Moni Meta**	**155.32**	**305**	*e*	P	**PKPab**	**10 34 34.9**	**-0.5**
LOR	**Lormes**	**155.76**	**352**	*e*	PKIKP	**PKPdf**	**10 34 08.1**	**+1.3**
LOR					pmax	pmax			
	comp=Z,39nm,1.5s								
SSF	**Saint Saulge**	**156.01**	**353**	*e*	PKIKP	**PKPdf**	**10 34 08.4**	**+1.3**
SSF					pmax	pmax			
	comp=Z,18nm,1.0s								
CABF	**La Chapelle**	**156.06**	**348**	*e*	PKIKP	**PKPdf**	**10 34 07.4**	**+0.1**
CABF					pmax	pmax			
	comp=Z,81nm,1.6s								
LKD2	**Lefkada island**	**156.08**	**315**		P	**PKPab**	**10 34 38.4**	**-0.1**
AVF	**Avril sur Loir**	**156.29**	**353**	*e*	PKIKP	**PKPdf**	**10 34 08.3**	**+0.9**
AVF					pmax	pmax			
	comp=Z,38nm,1.7s								
BGF	**Bois d'Agland**	**156.57**	**354**	*e*	PKIKP	**PKPdf**	**10 34 10.3**	**+2.5**
BGF					pmax	pmax			
	comp=Z,46nm,1.6s								
MFF	**Saint Martin d**	**156.71**	**359**	*e*	PKIKP	**PKPdf**	**10 34 09.2**	**+1.2**
MFF					pmax	pmax			
	comp=Z,30nm,1.1s								
TCF	**Toulx Ste Croi**	**156.90**	**355**	*e*	PKIKP	**PKPdf**	**10 34 09.5**	**+1.2**
TCF					pmax	pmax			
	comp=Z,13nm,0.9s								
LPL	**La Plagne**	**156.98**	**346**	*e*	PKIKP	**PKPdf**	**10 34 11.0**	**+2.4**
LPL					pmax	pmax			
	comp=Z,16nm,1.2s								
MATE	**Matera**	**157.27**	**324**	⇓	P	**PKPab**	**10 34 43.7**	**+0.2**
MATE	**Matera**	**157.27**	**324**	*e*	P	**PKPdf**	**10 34 05.1**	**-3.7**
MBDF	**Montbardon**	**157.72**	**346**	*e*	PKIKP	**PKPdf**	**10 34 09.8**	**+0.3**
MBDF					pmax	pmax			
	comp=Z,13nm,1.0s								
ORIF	**Oris-en-Rattie**	**157.72**	**347**	*e*	PKIKP	**PKPdf**	**10 34 12.1**	**+2.7**
ORIF					pmax	pmax			
	comp=Z,7.0nm,0.8s								
RJF	**Les Rejaudoux**	**157.93**	**356**	*e*	PKIKP	**PKPdf**	**10 34 10.8**	**+1.3**
RJF					pmax	pmax			
	comp=Z,101nm,1.8s								
TIP	**Timpagrande**	**158.24**	**321**	⇑	P	**PKPdf**	**10 34 10.2**	**0.0**
CAF	**Calviac**	**158.27**	**355**	*e*	PKIKP	**PKPdf**	**10 34 11.5**	**+1.5**
CAF					pmax	pmax			
	comp=Z,17nm,1.2s								
LFF	**La Frestale**	**158.34**	**357**	*e*	PKIKP	**PKPdf**	**10 34 10.9**	**+0.9**
LFF					pmax	pmax			
	comp=Z,5.0nm,0.4s								
PGF	**Pioggiola**	**159.12**	**339**	*e*	PKIKP	**PKPdf**	**10 34 13.2**	**+2.1**
PGF					pmax	pmax			
	comp=Z,21nm,0.9s								
SJPF	**Ste Jean**	**160.20**	**1**	*e*	PKIKP	**PKPdf**	**10 34 15.6**	**+3.4**
SJPF					pmax	pmax			
	comp=Z,21nm,1.0s								
EPF	**Esparros**	**160.26**	**358**	*e*	PKIKP	**PKPdf**	**10 34 12.0**	**-0.3**
EPF					pmax	pmax			
	comp=Z,18nm,1.0s								
PGAV	**Gavieira, Arco**	**160.32**	**17**	*e*	PKPab	**PKPab**	**10 34 57.3**	**+0.4**
ETSF	**Etsaut**	**160.41**	**360**	*e*	PKIKP	**PKPdf**	**10 34 13.1**	**+0.6**
ETSF					pmax	pmax			
	comp=Z,13nm,0.9s								
PCAB	**Cabril**	**160.62**	**17**	*e*	PKPab	**PKPab**	**10 34 59.5**	**+1.4**
PBRG	**Braganca**	**160.84**	**14**	*e*	PKPab	**PKPab**	**10 34 59.6**	**+0.5**
POLO	**Lamas de Olo**	**161.00**	**16**	*e*	PKPdf	**PKPdf**	**10 34 14.8**	**+1.6**
POLO	**Lamas de Olo**	**161.00**	**16**	*e*	PKPab	**PKPab**	**10 34 59.5**	**-0.4**
PVRL	**Vila Real**	**161.11**	**16**	*e*	PKPdf	**PKPdf**	**10 34 15.0**	**+1.7**
PVRL	**Vila Real**	**161.11**	**16**	*e*	PKPab	**PKPab**	**10 35 00.4**	**+0.1**
MVO	**Moncorvo**	**161.39**	**15**	*e*	PKPdf	**PKPdf**	**10 34 14.6**	**+1.0**
MVO	**Moncorvo**	**161.39**	**15**	*e*	PKPab	**PKPab**	**10 35 03.1**	**+1.6**
PVIS	**Viseu**	**161.59**	**17**	*e*	PKPdf	**PKPdf**	**10 34 15.3**	**+1.5**
PVIS	**Viseu**	**161.59**	**17**	*e*	PKPab	**PKPab**	**10 35 03.9**	**+1.5**
MTE	**Manteigas**	**161.98**	**17**	*e*	PKPdf	**PKPdf**	**10 34 16.5**	**+2.3**
MTE	**Manteigas**	**161.98**	**17**	*e*	PKPab	**PKPab**	**10 35 05.7**	**+1.5**
PCAS	**Casmilo, Conde**	**162.03**	**20**	*e*	PKPdf	**PKPdf**	**10 34 14.4**	**+0.2**
PCBR	**Castelo Branco**	**162.52**	**17**	*e*	PKPdf	**PKPdf**	**10 34 15.6**	**+0.9**
PCBR	**Castelo Branco**	**162.52**	**17**	*e*	PKPab	**PKPab**	**10 35 07.8**	**+1.4**
LIC	**Lamto**	**162.57**	**166**	⇓	*e*	PKP1	**PKPdf**	**10 34 14.4**	**-1.1**
	comp=Z,68nm,0.9s								
KIC	**Kosan Boka**	**162.76**	**167**	⇑	*e*	PKP1	**PKPdf**	**10 34 15.1**	**-0.6**
	comp=Z,11nm,0.7s								
BBTS	**Babate**	**162.82**	**117**		PKP	**PKPdf**	**10 34 16.9**	**+1.3**
	comp=Z,18nm,0.4s,baz=137,slow=17,SNR=5.5								
BBTS					PKPab	**PKPab**	**10 35 09.2**	**+0.7**	
	comp=Z,27nm,0.6s,baz=151,slow=23,SNR=2.4								
PMRV	**Marv??o**	**162.93**	**18**	*e*	PKPab	**PKPab**	**10 35 08.8**	**+0.5**
TIC	**Toumodi**	**162.98**	**165**	⇑	*e*	PKP1	**PKPdf**	**10 34 14.2**	**-1.7**
	comp=Z,53nm,0.7s								
PMTG	**Montargil**	**163.01**	**20**	*e*	PKPdf	**PKPdf**	**10 34 19.8**	**+4.6**
DBIC	**Dimbokro**	**163.04**	**166**		PKP	**PKPdf**	**10 34 15.5**	**-0.4**
	comp=Z,16nm,0.7s,baz=191,slow=0.9,SNR=26								
DBIC					PKPab	**PKPab**	**10 35 08.9**	**-0.3**	
	comp=Z,20nm,0.8s,baz=178,slow=3.1,SNR=12								
DBIC	**Dimbokro**	**163.04**	**166**			**PKPdf**	**10 34 11.8**	**-4.2**
PESTR	**Estremoz**	**163.39**	**19**	*e*	PKPab	**PKPab**	**10 35 12.3**	**+2.0**
ESBB	**Sonseca Array**	**163.41**	**9**		PKPab	**PKPab**	**10 35 10.4**	**-0.1**
ESDC	**Sonseca Array**	**163.41**	**9**		PKP	**PKPdf**	**10 34 16.6**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=348,slow=2.5,SNR=7.6								
ESDC					PKPab	**PKPab**	**10 35 09.9**	**-0.6**	
	comp=Z,16nm,0.9s,baz=346,slow=3.8,SNR=23								
ESDC					pPKPab	**pPKPab**	**10 37 13.4**	**+1.3**	
	comp=Z,0.9nm,0.8s,baz=338,slow=4.5,SNR=2.2								
ESDC					PP	**PP**	**10 39 03.8**	**+7.3**	
	comp=Z,4.0nm,1.0s,baz=358,slow=5.4,SNR=6.4								
ESDC	**Sonseca Array**	**163.41**	**9**			**PKPab**	**10 35 09.5**	**-1.0**
PAB	**San Pablo**	**163.48**	**10**	⇑	PKP2	**PKPab**	**10 35 11.2**	**+0.4**
EVO	**Evora**	**163.57**	**20**	*e*	PKPdf	**PKPdf**	**10 34 17.9**	**+2.2**
PNCL	**Nicolau / Gran**	**163.77**	**22**	*e*	PKPdf	**PKPdf**	**10 34 16.9**	**+1.0**
PNCL	**Nicolau / Gran**	**163.77**	**22**	*e*	PKPab	**PKPab**	**10 35 12.9**	**+0.9**
PBEJ	**Beja**	**164.07**	**21**	*e*	PKPdf	**PKPdf**	**10 34 17.6**	**+1.4**
PBEJ	**Beja**	**164.07**	**21**	*e*	PKPab	**PKPab**	**10 35 14.3**	**+0.9**
PBAR	**Barrancos**	**164.19**	**18**	*e*	PKPab	**PKPab**	**10 34 17.4**	**+1.1**
PTEO	**Sao Teotonio**	**164.20**	**24**	*e*	PKPdf	**PKPdf**	**10 34 19.7**	**+3.4**
PCVE	**Castro Verde**	**164.37**	**22**	*e*	PKPdf	**PKPdf**	**10 34 19.7**	**+3.2**
MORF	**Marmelete**	**164.44**	**24**	*e*	PKPdf	**PKPdf**	**10 34 17.8**	**+1.2**
KEST	**Kesra**	**164.79**	**327**		PKP	**PKPdf**	**10 34 16.5**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=135,slow=1.4,SNR=5.9								
KEST					PKPab	**PKPab**	**10 35 16.4**	**-0.3**	
	comp=Z,16nm,0.8s,baz=56,slow=16,SNR=9.6								
TORD	**Torodi Ar. Bea**	**169.67**	**193**		PKP	**PKPdf**	**10 34 19.8**	**-1.2**
	comp=Z,18nm,1.1s,baz=214,slow=0.5,SNR=29								
TORD					PKPab	**PKPab**	**10 35 38.4**	**-0.2**	
	comp=Z,24nm,0.8s,baz=165,slow=4.2,SNR=37								
TORD					pPKPab	**pPKPab**	**10 37 40.5**	**+0.7**	
	comp=Z,3.2nm,1.0s,baz=155,slow=3.9,SNR=2.8								
TORD					PP	**PP**	**10 39 29.3**	**+1.2**	
	comp=Z,8.1nm,1.1s,baz=141,slow=3.9,SNR=10.0								
TORD	**Torodi Ar. Bea**	**169.67**	**193**			**PKPdf**	**10 34 19.5**	**-1.4**
MDT	**Midelt**	**169.90**	**19**		PKP	**PKPdf**	**10 34 21.4**	**+0.7**
	comp=Z,17nm,0.8s,baz=125,slow=1.7,SNR=20								
MDT					PKPab	**PKPab**	**10 35 39.6**	**+0.2**	
	comp=Z,38nm,0.9s,baz=253,slow=2.6,SNR=23								

*GCMT **02** 10:22:18.6±0.4,9.˚68S±0.˚03×155.˚10E±0.˚02,h24km±2km, MW5.1/70,Moment Tensor Solution. s12,c12; s70,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.57±.64; $M_{\theta\theta}$-0.95±.41; $M_{\phi\phi}$2.52±.37; $M_{r\theta}$2.37±.67; $M_{r\phi}$5.63±.28; $M_{\theta\phi}$1.81±.51; Best double couple: $M_0$6.45500×10^{16} NP1:ϕ_s81.00000°,δ88.00000°,λ23.00000°. NP2: ϕ_s350.00000°,δ67.00000°,λ178.00000°. Principal axes: T 7.5780, Plg17.0000°, Azm308.0000°; N -2.2470, Plg67.0000°, Azm84.0000°; P -5.3320, Plg15.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **02** 10:22:18.1±0.6,9.˚59S×155.˚22E,h0km,mb4.4/19, mbtmp4.5/23,ML3.8/2,MS4.2/12 Error ellipse: s-maj=18.5km s-min=14.5km az=94.0*

*NEIC **02** 10:22:20.6±1.9,9.˚49S±0.˚10×155.˚3E±0.˚1,h10km±1km, mb4.9/42,Error ellipse: s-maj=19.5km s-min=14.6km az=234.0*

ISC 02 10:22:23.2±0.5,9˚57S±0˚06×155˚24E±0˚07,h33km,n74, σ0$80/62,mb4.8/31,MS4.0/9,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.65**	**89**	Pn		**Pn**		**10 23 30.9**	**-0.2**
	511nm,0.6s,baz=176,slow=8.7,SNR=2.2								
HNR				Lg		LR	LR	10 24 59.0	
	comp=Z,32μm,19.5s,baz=220,slow=34								
KRVT	**Keravat (AS076**	**6.12**	**328**	Pn		**Pn**		**10 23 50.2**	**-1.2**
	3.3nm,0.3s,baz=102,slow=20,SNR=3.8								
KRVT				Sn		**Sn**		**10 25 00.8**	**+0.4**
	4.0nm,0.3s,baz=232,slow=23,SNR=1.5								
KRVT				Lg		LR	LR	10 26 08.9	
	comp=Z,1μm,19.5s,baz=293,slow=38								
	127nm,0.8s								
PMG	**Port Moresby**	**7.97**	**270**	Pn		**Pn**		**10 24 15.4**	**-1.3**
	14nm,0.7s,baz=48,slow=8.3,SNR=1.9								
PMG				Lg		LR	LR	10 27 24.2	
	comp=Z,4μm,20.5s,baz=136,slow=38								
PMG	**Port Moresby**	**7.97**	**270**	Pn		**Pn**		**10 24 17.1**	**+0.3**
CTA	**Charters Tower**	**13.59**	**219**	Sn		**Sn**		**10 28 04.8**	**+1.1**
	0.2nm,0.3s,baz=56,slow=19,SNR=1.5								
DZM	**Mont Dzumac**	**16.44**	**140**	Pn		**Pn**		**10 26 10.8**	**-0.9**
	0.2nm,0.3s,baz=353,slow=16,SNR=3.7								
DZM				Lg		LR	LR	10 31 26.4	
	comp=Z,2μm,20.2s,baz=273,slow=33								
	17nm,1.0s								
DZM	**Mont Dzumac**	**16.44**	**140**	P		**P**		**10 26 13.9**	**-0.2**
ONTNC	**Ouen Toro**	**16.62**	**141**			**Pn**		**10 26 14.3**	**+0.5**
ONTNC					IAmb	IAmb		10 26 17.1	
	comp=Z,79nm,1.2s								
OUENC	**Ouen Island, N**	**16.95**	**140**			**Pn**		**10 26 18.1**	**+0.2**
WR0	**Warramunga Arr**	**22.50**	**240**	P		**P**		**10 27 21.0**	**+0.9**
WR0					IAmb	IAmb		10 27 35.8	
	comp=Z,37nm,1.2s								
WB0	**Warramunga Arr**	**22.54**	**241**	P		**P**		**10 27 20.7**	**0.0**
WRAB	**Tennant Creek**	**22.65**	**241**	P		**P**		**10 27 22.5**	**+0.8**
WB2	**Warramunga Arr**	**22.65**	**241**	P		**P**		**10 27 22.5**	**+0.7**
WB2					IAmb	IAmb		10 27 29.8	
	comp=Z,24nm,0.8s								
WRA	**Warramunga Arr**	**22.66**	**241**	P		**P**		**10 27 22.1**	**+0.2**
	comp=Z,11nm,0.8s,baz=65,slow=9.8,SNR=6.2								
	comp=Z,11nm,0.8s								
WRA	**Warramunga Arr**	**22.66**	**241**	P		**P**		**10 27 21.5**	**-0.4**
MSVF	**Nonsavu**	**23.59**	**113**	LR		LR		10 35 01.1	
	comp=Z,1μm,20.0s,baz=275,slow=32								
AS31	**Alice Springs**	**24.73**	**233**	P		**P**		**10 27 40.7**	**-1.1**
ASAR	**Alice Springs**	**24.74**	**233**	P		**P**		**10 27 41.5**	**-0.4**
	comp=Z,9.4nm,0.8s,baz=64,slow=9.1,SNR=4.9								
ASAR				PcP		**PcP**		**10 31 17.7**	**-0.7**
	comp=Z,7.6nm,1.0s,baz=64,slow=2.2,SNR=8.2								
	comp=Z,9.4nm,0.8s								
ASAR	**Alice Springs**	**24.74**	**233**	P		**P**		**10 27 41.7**	**-0.2**
SIJI	**Sorong**	**25.36**	**289**	LR		LR		10 38 31.1	
	comp=Z,518nm,22.0s,baz=92,slow=38								
STKA	**Stephens Creek**	**25.55**	**208**	P		**P**		**10 27 48.3**	**-0.8**
	comp=Z,11nm,0.9s,baz=342,slow=17,SNR=2.1								
	comp=Z,11nm,0.9s								
STKA	**Stephens Creek**	**25.55**	**208**	P		**P**		**10 27 49.5**	**+0.4**
URZ	**Urewera**	**34.68**	**149**	P		**P**		**10 29 10.8**	**+1.0**
	comp=Z,36nm,1.0s,baz=322,slow=16,SNR=4.3								
URZ				Lg		LR	LR	10 41 46.1	
	comp=Z,874nm,18.0s,baz=50,slow=34								
	comp=Z,36nm,1.0s								
RPZ	**Rata Peaks**	**36.70**	**161**	LR		LR		10 43 09.9	
	comp=Z,565nm,18.3s,baz=328,slow=34								
NWAO	**Narrogin (SRO)**	**42.02**	**231**	P		**P**		**10 30 10.4**	**-1.3**
	comp=Z,3.2nm,0.5s								
	comp=Z,3.2nm,0.5s								
RAR	**Rarotonga**	**44.75**	**110**	LR		LR		10 45 28.0	
	comp=Z,121nm,20.1s,baz=276,slow=31								
MJAR	**Matsushiro Arr**	**48.58**	**342**	P		**P**		**10 31 03.0**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=169,slow=7.2,SNR=2.6								
MJAR				Lg		LR	LR	10 48 47.6	
	comp=Z,73nm,21.1s,baz=178,slow=33								
	comp=Z,1.6nm,0.9s								
KSRS	**Korea Array**	**53.32**	**333**	P		**P**		**10 31 40.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=136,slow=7.5,SNR=1.9								
	comp=Z,0.6nm,0.7s								
PPT	**Papeete**	**54.08**	**105**	LR		LR		10 49 58.0	
	comp=Z,131nm,20.9s,baz=272,slow=31								
ASAJ	**Asahikawa**	**54.65**	**349**	P		**P**		**10 31 48.6**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=221,slow=9.3,SNR=2.2								
	comp=Z,3.1nm,0.7s								
USRK	**Ussuriysk Ar.**	**57.52**	**340**	P		**P**		**10 32 09.3**	**+0.1**
	comp=Z,8.8nm,1.0s,baz=152,slow=6.5,SNR=4.5								
	comp=Z,2.8nm,1.0s								
CMAR	**Chiang Mai Arr**	**62.12**	**297**	P		**P**		**10 32 41.3**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=107,slow=3.0,SNR=2.8								
	comp=Z,1.9nm,0.9s								
PETK	**Petropavlovsk-**	**62.46**	**2**	P		**P**		**10 32 43.5**	**+0.5**
	comp=Z,8.0nm,1.0s,baz=145,slow=5.2,SNR=2.6								
	comp=Z,8.0nm,1.0s								
SONM	**Songino Array**	**71.62**	**328**	P		**P**		**10 33 42.2**	**+0.7**
	comp=Z,2.1nm,1.0s,baz=138,slow=4.9,SNR=3.0								
	comp=Z,2.1nm,1.0s								
SEY	**Seymchan**	**72.31**	**359**	P		**P**		**10 33 45.5**	**+0.3**
	comp=Z,4.2nm,1.0s,baz=244,slow=3.4,SNR=4.1								
	comp=Z,4.2nm,1.0s								
YAK	**Yakutsk**	**74.10**	**348**	LR		LR		11 07 16.6	
	comp=Z,60nm,18.9s,baz=96,slow=36								
BILL	**Bilibino**	**77.81**	**4**			**P**		**10 34 16.7**	**-0.1**
BILL					IAmb	IAmb		10 34 25.9	
	comp=Z,15nm,1.0s								
QSPA	**South Pole Qui**	**80.43**	**180**	P		**P**		**10 34 31.2**	**-0.3**
	comp=Z,12nm,1.0s,baz=0.7,slow=1.4,SNR=4.6								
	comp=Z,12nm,1.0s								
L19K	**White Mountain**	**81.25**	**21**	P		**P**		**10 34 35.5**	**-0.2**
I21K	**Tanana**	**84.14**	**20**	P		**P**		**10 34 50.8**	**+0.2**
MLY	**Manley**	**84.47**	**20**	P		**P**		**10 34 52.8**	**+0.5**
MLY					IAmb	IAmb		10 35 00.2	
	comp=Z,10nm,1.2s								
DHY	**Denali Highway**	**84.55**	**23**	P		**P**		**10 34 52.1**	**-0.8**
NEA2	**Nenana**	**84.79**	**21**		IAmb	IAmb		10 35 01.7	
	comp=Z,10nm,1.0s								
VRDI	**Verde Repeater**	**85.15**	**25**	P		**P**		**10 34 56.8**	**+0.8**
CCB	**Clear Creek Bu**	**85.27**	**21**		IAmb	IAmb		10 35 03.3	
	comp=Z,12nm,1.2s								
MDM	**Murphy Dome**	**85.29**	**21**		IAmb	IAmb		10 35 04.9	
	comp=Z,16nm,1.5s								
H23K	**Yukon River**	**85.34**	**20**		IAmb	IAmb		10 35 05.7	
	comp=Z,13nm,1.1s								
COLA	**College**	**85.38**	**21**	P		**P**		**10 34 56.5**	**-0.3**
ILAR	**Eielson Array**	**85.66**	**21**	P		**P**		**10 34 58.0**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=257,slow=5.4,SNR=7.1								
	comp=Z,2.4nm,1.0s								
ILAR	**Eielson Array**	**85.66**	**21**	P		**P**		**10 34 57.1**	**-1.1**
L26K	**Log Cabin Wild**	**86.09**	**24**		IAmb	IAmb		10 35 09.9	
	comp=Z,12nm,1.1s								
DOT	**Dot Lake**	**86.12**	**23**	P		**P**		**10 35 00.9**	**+0.3**
ZALV	**Zalesovo Beam**	**86.43**	**326**	P		**P**		**10 35 03.7**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=103,slow=6.2,SNR=1.6								
	comp=Z,2.3nm,0.8s								
L27K	**Beaver Creek,**	**86.71**	**24**	P		**P**		**10 35 05.0**	**+1.5**
BCAR	**Beaver Creek A**	**86.73**	**24**	P		**P**		**10 35 04.9**	**+1.2**
BMAR	**Burnt Mountain**	**87.88**	**20**	P		**P**		**10 35 08.3**	**-0.8**
SKAG	**Skagway**	**88.00**	**29**	P		**P**		**10 35 10.1**	**+0.4**
DAWY	**Dawson**	**88.14**	**24**	P		**P**		**10 35 11.5**	**+1.1**
M30M	**Minto, Yukon**	**88.57**	**25**	P		**P**		**10 35 14.0**	**+1.5**
M31M	**Drury Creek, Y**	**89.46**	**26**	IAmb		IAmb		10 35 18.6	
	comp=Z,13nm,1.4s								
RPN	**Rapa Nui**	**90.47**	**117**	LR		LR		11 07 57.7	
	comp=Z,64nm,21.1s,baz=288,slow=30								
AFDM	**Forest Hills D**	**91.16**	**51**	P		**P**		**10 35 26.3**	**+1.2**
AFDM					IAmb	IAmb		10 35 34.7	
	comp=Z,10nm,1.2s								
INK	**Inuvik**	**92.02**	**21**	P		**P**		**10 35 28.7**	**+0.3**
	comp=Z,3.9nm,1.1s,baz=240,slow=8.4,SNR=4.4								
	comp=Z,3.9nm,1.1s								
KKAR	**Karatay Array**	**92.64**	**313**	P		**P**		**10 35 31.6**	**-0.3**
NVAR	**Mina Array Bea**	**93.12**	**52**	P		**P**		**10 35 34.0**	**-0.4**
	comp=Z,4.2nm,1.1s,baz=245,slow=6.5,SNR=9.0								
	comp=Z,4.2nm,1.1s								
NVAR	**Mina Array Bea**	**93.12**	**52**	P		**P**		**10 35 34.2**	**-0.2**
NV11	**Mina Array Sit**	**93.23**	**52**	P		**P**		**10 35 36.5**	**+1.7**
NV11					IAmb	IAmb		10 35 45.4	
	comp=Z,7.7nm,1.2s								
KVN	**Kaiserville**	**93.38**	**51**	P		**P**		**10 35 34.3**	**-1.3**
KVN					IAmb	IAmb		10 35 45.1	
	comp=Z,9.1nm,1.3s								
YKA	**Yellowknife Ar**	**98.48**	**28**	P		Pdif		10 35 59.1	+1.1
	comp=Z,0.5nm,0.8s,baz=262,slow=3.0,SNR=3.7								
	comp=Z,0.5nm,0.8s								
AKASG	**Malin Array Be**	**119.75**	**324**		PKP	**PKPdf**		**10 41 09.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=50,slow=2.7,SNR=1.3								
ESDC	**Sonseca Array**	**144.74**	**332**		PKP	**PKPab**		**10 41 56.0**	**0.0**
	comp=Z,4.3nm,1.2s,baz=35,slow=4.2,SNR=4.6								
BDFB	**Brasilia**	**145.98**	**137**		PKPbc	**PKPdf**		**10 41 58.6**	**-1.3**
	comp=Z,4.6nm,0.8s,baz=205,slow=2.2,SNR=5.6								
BDFB	**Brasilia**	**145.98**	**137**			**PKPdf**		**10 41 59.5**	**-0.5**
**MD

comp=E,87nm,21.7s,baz=292,slow=39
LVC Limon Verde 1.89 136 *eP* **Pn 10 56 39.0 +1.7**
LVC *eS* **Sn 10 57 01.4 +1.2**
GO01 Chusmiza 1.89 34 Pn 10 56 38.5 +1.1
GO01 Chusmiza 1.89 34 *iP* **Pn 10 56 38.3 +0.9**
GO01 *eS* **Sn 10 57 01.2 +0.8**
GO01 IAML 10 57 06.0
comp=N,11μm,0.1s
PB15 IPOC Station P 2.11 158 Pn 10 56 40.5 +0.4
PB15 IPOC Station P 2.11 158 *iP* **Pn 10 56 40.4 +0.3**
MNMC Minye Minye 2.21 18 Pn 10 56 42.7 +1.1
MNMC Minye Minye 2.21 18 *iP* **Pn 10 56 42.8 +1.2**
MNMC *eS* **Sn 10 57 08.3 +0.4**
PB10 IPOC Station P 2.27 185 Pn **Pn 10 56 42.3 +0.2**
PB10 IPOC Station P 2.27 185 *iP* **Pn 10 56 42.2 +0.2**
PB12 IPOC Station P 2.62 0 Pn 10 56 47.8 +0.8
PB12 IPOC Station P 2.62 0 *iP* **Pn 10 56 47.7 +0.8**
PB12 *eS* **Sn 10 57 15.9 -1.6**
PB12 IAML 10 57 19.8
comp=E,2μm,0.6s
AF01 San Pedro de A 2.62 131 Pn 10 56 49.0 +1.8
AF01 San Pedro de A 2.62 131 *eP* **Pn 10 56 48.8 +1.6**
AP01 Chacalluta 2.86 360 Pn 10 56 51.5 +1.4
AP01 Chacalluta 2.86 360 *eP* **Pn 10 56 51.3 +1.1**
PB16 IPOC Station P 2.99 15 Pn 10 56 54.1 +1.6
PB16 IPOC Station P 2.99 15 *iP* **Pn 10 56 53.9 +1.3**
PB14 IPOC Station P 3.37 181 Pn **Pn 10 56 57.0 -0.4**
PB14 IPOC Station P 3.37 181 *eP* **Pn 10 56 57.2 -0.3**
PB18 Visviri 3.72 13 *iP* **Pn 10 57 06.4 +3.9**
AC01 Pan de Azucar 4.89 183 Pn **Pn 10 57 16.7 -1.3**
LPAZ La Paz 5.35 23 Pn **Pn 10 57 28.5 +3.6**
AC04 Llanos de Chal 6.96 185 Pn Pn 10 57 43.4 -3.1
AC05 El Transito 7.56 180 Pn **Pn 10 57 53.5 -1.3**
LCO Las Campanas 7.74 182 Pn **Pn 10 57 54.8 -2.5**
CO02 Combarbal 9.94 183 Pn **Pn 10 58 24.5 -2.8**
BBSD Serra de San D 10.03 68 *eP* **Pn 10 58 25.8 -2.6**
SIV San Ignacio 10.21 61 P **Pn 10 58 28.7 -2.3**
comp=E,12nm,0.7s,baz=242,slow=11,SNR=61
BBRB Robore, Bolivi 10.34 75 *eP* **Pn 10 58 28.8 -3.8**
CFA Coronel Fontan 10.49 170 P **Pn 10 58 32.2 -2.4**
comp=E,2.0nm,0.3s,baz=348,slow=12,SNR=9.3
CFA S Sn 11 00 20.5 -10
comp=E,2.3nm,0.4s,baz=215,slow=19,SNR=2.3
ETMB Extrema 12.03 20 Pn **Pn 10 58 53.7 -2.1**
ETMB Extrema 12.03 20 *eP* **Pn 10 58 54.0 -1.8**
PTLB Pontes e Lacer 12.09 63 *eP* **Pn 10 58 52.6 -3.9**
VILB Vilhena 12.71 51 Pn **Pn 10 59 05.0 -0.1**
VILB Vilhena 12.71 51 *eP* **Pn 10 59 01.2 -3.9**
CPUP Villa Florida 12.93 116 P **Pn 10 59 09.3 +1.3**
comp=E,0.7nm,0.4s,baz=258,slow=9.3,SNR=2.3
CZSB Cruzeiro do Su 13.63 350 *eP* **Pn 10 59 16.2 -1.4**
AQDB Aquidauana 13.70 89 *eP* **Pn 10 59 17.2 -1.3**
H03N1 Juan Fernandez 14.34 210 P **Pn 10 59 25.7 -1.0**
baz=110,slow=14,SNR=23
H03N1 T T 11 14 38.2
baz=34,slow=73,SNR=255
H03N2 Juan Fernandez 14.35 210 P **Pn 10 59 26.5 -0.3**
baz=110,slow=14,SNR=12
H03N2 T T 11 14 38.5
baz=34,slow=73,SNR=54
H03N3 Juan Fernandez 14.35 210 P **Pn 10 59 26.9 -0.1**
baz=110,slow=14,SNR=25
H03N3 T T 11 14 28.4
baz=34,slow=73,SNR=57
VA04 Juan Fernndez 14.46 210 Pn **Pn 10 59 27.9 -0.7**
H03S3 Juan Fernandez 14.65 209 P **Pn 10 59 30.7 -0.2**
baz=34,slow=71,SNR=14
H03S1 Juan Fernandez 14.67 209 P **Pn 10 59 29.4 -1.6**
baz=34,slow=71,SNR=8.3
H03S2 Juan Fernandez 14.67 209 P **Pn 10 59 30.2 -0.9**
baz=34,slow=71,SNR=10
SALV Santo Antonio 14.85 71 *eP* **Pn 10 59 31.0 -2.8**
PPTE Ponte de Pedra 15.02 79 *eP* **Pn 10 59 34.0 -1.9**
PDRB Porto dos Gac 16.17 56 *eP* **Pn 10 59 46.5 -4.2**
TRCB Terra Rica 16.48 99 *eP* **Pn 10 59 52.7 -1.9**
PTGB Pitanga 17.17 105 *eP* **P 11 00 03.4 -0.8**
CLDB Colider 17.34 56 *eP* **Pn 11 00 03.8 -1.6**
ITAB Concordia 17.63 113 *eP* **P 11 00 08.7 -0.4**
CPSB Cacapava Do Su 17.71 124 *eP* **P 11 00 11.3 +1.2**
PCMB Pacaembu 17.76 95 *eP* **Pn 11 00 09.1 -1.4**
TRQA Tornquist 18.24 159 P **P 11 00 14.4 -1.4**
GO06 Curarrehue 18.31 183 P **P 11 00 15.6 -1.0**
ITRB Iturama 18.77 89 *eP* **P 11 00 20.1 -1.7**
FRTB Fartura 19.33 100 *eP* **P 11 00 27.4 -0.5**
PLCA Paso Flores 19.43 181 P **P 11 00 29.5 +0.6**
comp=E,4.1nm,0.7s,baz=355,slow=12,SNR=17
PLCA Paso Flores 19.43 181 P **P 11 00 29.7 +0.8**
PLCA IAmb IAmb 11 00 36.1
comp=Z,17nm,1.1s
PLCA Paso Flores 19.43 181 *eP* **Pn 11 00 30.8 +0.3**
LL04 Puerto Octay 19.68 185 P **P 11 00 33.1 +1.5**
LL04 IAmb IAmb 11 00 33.4
comp=Z,17nm,0.7s
NPGB Novo Progresso 20.22 48 *eP* **P 11 00 34.3 -3.3**
MACA Manacapuru-AM 20.28 29 P **P 11 00 37.6 -0.5**
MACA IAmb IAmb 11 00 38.0
comp=Z,43nm,0.6s
MACA Manacapuru-AM 20.28 29 *eP* **P 11 00 36.7 -1.5**
SNDB Serra Nova Dou 20.42 66 *eP* **P 11 00 37.9 -1.8**
IPMB Ipameri, GO 21.08 85 *eP* **P 11 00 44.9 -2.1**
RCLB Rio Claro- Sao 21.17 97 *eP* **P 11 00 48.1 +0.8**
SGCB SCo Gabriel d 21.24 9 *eP* **P 11 00 48.7 +0.2**
SPB Sao Paulo 21.29 101 *eP* **P 11 00 49.6 +0.5**
VAO Valinhos 21.71 99 *eP* **P 11 00 54.3 +0.7**
BDFB Brasilia 21.88 79 P **P 11 00 55.0 -0.5**
comp=Z,5.3nm,0.5s,baz=272,slow=11,SNR=10
comp=Z,5.3nm,0.5s
BDFB Brasilia 21.88 79 P **P 11 00 55.2 -0.3**
BDFB IAmb IAmb 11 00 58.3
comp=Z,6.8nm,0.6s
BDFB Brasilia 21.88 79 *eP* **P 11 00 54.7 -0.8**
ITTB Itaituba 21.96 42 *eP* **P 11 00 53.8 -2.5**
MALB Monte Alegre 24.83 41 *eP* **P 11 01 23.6 -0.7**
PRPB Parauapebas 24.88 56 *eP* **P 11 01 23.6 -1.2**
SMTB Santa Maria do 25.13 64 *eP* **P 11 01 26.0 -1.1**
DIAM Diamantina, MG 25.25 88 *eP* **P 11 01 27.6 -0.7**
BOAV Boa Vista 25.38 23 P **P 11 01 29.0 -0.3**
BOAV IAmb IAmb 11 01 31.2
comp=Z,6.4nm,0.8s
BOAV Boa Vista 25.38 23 *eP* **P 11 01 29.5 +0.2**
JANB Januaria 25.46 80 *eP* **P 11 01 28.5 -1.6**
SDBA SAO DESIDERIO 25.84 74 *eP* **P 11 01 34.5 +1.0**
DUB01 Friburgo-RJ 25.98 97 *eP* **P 11 01 35.2 +0.4**
MCPB Macapa, AP 27.37 43 *eP* **P 11 01 46.6 -0.6**
NAN01 Guarapari, ES 28.64 89 *eP* **P 11 01 59.4 +0.8**
GDU01 Guandu, BA 30.23 81 *eP* **P 11 02 11.7 -1.1**
MDP Montagnes des 31.41 36 P **P 11 02 25.5 +2.4**
comp=Z,15nm,0.9s,baz=222,slow=6.2,SNR=4.1
comp=Z,15nm,0.9s
RCBR Riachuelo 36.69 70 P **P 11 03 11.4 +2.5**
RCBR IAmb IAmb 11 03 12.5
comp=Z,13nm,0.8s
TXAR Lajitas Array 59.67 326 P **P 11 06 10.4 +4.4**
comp=Z,0.1nm,0.5s,baz=129,slow=7.1,SNR=1.9
PDAR Pinedale Array 73.24 331 P **P 11 07 33.2 +0.8**
comp=Z,0.2nm,0.5s,baz=170,slow=6.4,SNR=3.9
comp=Z,0.2nm,0.5s
NVAR Mina Array Bea 74.48 323 P **P 11 07 41.0 +1.1**
comp=Z,0.4nm,0.7s,baz=153,slow=8.1,SNR=2.3
comp=Z,0.4nm,0.7s
VNDA Vanda 76.87 190 P **P 11 07 54.3 +1.6**
comp=Z,1.5nm,0.9s,baz=108,slow=6.4,SNR=2.2
comp=Z,1.5nm,0.9s
TORD Torodi Ar. Bea 78.52 71 P **P 11 08 01.8 -1.1**
comp=Z,0.4nm,0.4s,baz=258,slow=6.0,SNR=4.8
comp=Z,0.4nm,0.4s
YKA Yellowknife Ar 90.51 341 P **P 11 09 02.5 +0.2**
comp=Z,0.5nm,0.8s,baz=131,slow=5.0,SNR=8.3
comp=Z,0.5nm,0.8s
H11S2 WAKE ISLAND Hyl 26.53 278 T T 13 34 32.7
baz=102,slow=75,SNR=197
H11S1 WAKE ISLAND Hyl 26.54 278 T T 13 34 33.3
baz=102,slow=75,SNR=164
H11S3 WAKE ISLAND Hyl 26.55 278 T T 13 34 34.0
baz=102,slow=75,SNR=168
H11N3 WAKE ISLAND Hyl 26.61 279 T T 13 34 38.3
baz=102,slow=75,SNR=87
H11N2 WAKE ISLAND Hyl 26.63 279 T T 13 34 39.9
baz=102,slow=75,SNR=96
H11N1 WAKE ISLAND Hyl 26.63 279 T T 13 34 39.6
baz=102,slow=75,SNR=72
ASAR Alice Springs 129.51 209 PKP **PKPdf 11 15 10.0 -0.4**
comp=Z,0.5nm,0.9s,baz=149,slow=2.6,SNR=5.6
WRA Warramunga Arr 132.48 212 PKP **PKPdf 11 15 16.1 0.0**
comp=Z,0.7nm,0.7s,baz=148,slow=1.8,SNR=7.5
ZALV Zalesovo Beam 142.27 24 PKP **PKPdf 11 15 32.8 -0.2**
comp=Z,0.5nm,0.6s,baz=282,slow=6.8,SNR=3.7
MKAR Makanchi Array 146.19 35 PKPbc **PKPdf 11 15 40.6 +0.5**
comp=Z,0.7nm,0.7s,baz=305,slow=3.0,SNR=7.4

*IDC **02** 11:02:48.3±1.2, 22°.56N×145°.18E, h0km, mb3.4/5, mbtmp3.5/6, ML3.7/1, MS3.3/1, Error ellipse: s-maj=46.2km s-min=24.7km az=93.0*
ISC 02 11:02:50.0±1.1, 22°.6N±0°.1×145°.1E±0°.2, h10km, n7, σ1§01/7, mb3.4/5, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.18**	**330**	Pn	**Pn**	**11 04 07.8**	**+0.2**
	2.6nm,0.3s,baz=81,slow=19,SNR=1.6						
JCJ				Sn	**Sn**	**11 05 06.6**	**-0.9**
	6.8nm,0.3s,baz=106,slow=24,SNR=9.7						
	37nm,0.9s						
ASAJ	**Asahikawa**	**21.55**	**355**	LR	LR	11 15 25.4	
	comp=Z,96nm,22.0s,baz=152,slow=35						
WRA	**Warramunga Arr**	**43.56**	**195**	P	**P**	**11 10 53.1**	**-1.2**
	1.1nm,0.7s,baz=17,slow=8.9,SNR=5.1						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**47.26**	**194**	P	**P**	**11 11 23.9**	**+0.4**
	0.5nm,0.9s,baz=11,slow=6.7,SNR=5.0						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**55.38**	**312**	P	**P**	**11 12 25.4**	**+1.0**
	0.1nm,0.7s,baz=96,slow=7.4,SNR=1.9						
	0.1nm,0.7s						
YKA	**Yellowknife Ar**	**74.84**	**28**	P	**P**	**11 14 29.8**	**-0.7**
	0.2nm,0.5s,baz=292,slow=4.8,SNR=2.5						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**85.52**	**45**	P	**P**	**11 15 29.2**	**+0.4**
	0.1nm,0.5s,baz=298,slow=1.9,SNR=1.6						
	0.1nm,0.5s						

IDC 02 11:25:21.1±2.9, 3°.43S×137°.55E, h0km, mb3.2/2, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=73.8km s-min=30.0km az=73.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.78**	**292**	Pn	Pn	11 27 04.0	+2.1
	5.3nm,0.3s,baz=56,slow=16,SNR=14						
	12nm,0.3s						
WRA	**Warramunga Arr**	**16.70**	**191**	Pn	Pn	11 29 16.8	+0.1
	0.1nm,0.3s,baz=9.4,slow=12,SNR=6.6						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**20.42**	**190**	P	P	11 29 59.9	-0.2
	0.3nm,0.3s,baz=12,slow=11,SNR=16						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**69.66**	**323**	P	P	11 36 32.0	-0.6
	0.2nm,0.5s,baz=123,slow=7.7,SNR=2.2						
	0.2nm,0.5s						

HEL 02 12:05:08.9±0.3, 67°.60N×33°.85E, h0km, ML1.3, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.43**	**45**	PG	Pg	12 05 16.4	-0.7
	baz=225						
LVZ				SG	Sg	12 05 22.0	-0.7
VRF	**Varrio**	**1.63**	**277**	PG	Pn	12 05 38.0	-0.8
VRF				SG	Sn	12 05 56.8	-3.6
VRF				MSG		12 05 57.6	
	comp=Z,2.8nm,0.2s						
KU6	**Riekki**	**2.22**	**227**	PG	Pn	12 05 48.4	+1.4
KU6				MSG		12 06 14.7	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sb	12 06 17.9	-0.1
KEV	**Kevo**	**3.31**	**314**	SN	Sn	12 06 40.3	-1.6

*AEIC **02** 12:12:41.2±2.1, 64°.00N±0°.02×150°.45W±0°.07, h11km±6km, ML3.2, ML3.4/144(NEIC), Error ellipse: s-maj=4.4km s-min=2.8km az=90.0*
*NEIC **02** 12:12:41.3±1.7, 64°.00N±0°.02×150°.43W±0°.07, h8km±8km, Error ellipse: s-maj=4.4km s-min=2.8km az=94.0*
*IDC **02** 12:12:42.0±1.2, 64°.14N×150°.22W, h0km, mb3.2/3, mbtmp3.3/7, ML3.3/4, Error ellipse: s-maj=16.5km s-min=10.1km az=128.0*
ISC 02 12:12:41.1±1.1, 64°.01N±0°.02×150°.43W±0°.02, h5km±9km, n208, σ0§92/205, mb3.3/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPAW	**Bear Paw Mtn.**	**0.26**	**290**		**Pn**	**12 12 50.2**	**-1.4**
BPAW	**Bear Paw Mtn.**	**0.26**	**290**	IAML		12 12 51.0	
	comp=E,3μm,0.4s						
BPAW				IAML		12 12 51.4	
	comp=N,2μm,0.2s						
BPAW	**Bear Paw Mtn.**	**0.26**	**290**	P	**Pg**	**12 12 46.5**	**+0.3**
	baz=112						
BPAW				S	**Pn**	**12 12 50.2**	**-1.4**
	baz=112						
BWN	**Browne**	**0.45**	**69**		**Pb**	**12 12 51.7**	**+0.1**
KTH	**Kantishna Hill**	**0.51**	**205**		**Pg**	**12 12 50.4**	**-0.5**
TRF	**Thorofare Moun**	**0.57**	**173**	Pg	**Pg**	**12 12 52.0**	**-0.1**
TRF				IAML		12 12 59.6	
	comp=E,2μm,0.5s						
TRF	**Thorofare Moun**	**0.57**	**173**		**Sg**	**12 12 59.4**	**-0.1**
TRF	**Thorofare Moun**	**0.57**	**173**	P	**Pg**	**12 12 51.8**	**-0.2**
	baz=353						
MCK	**McKinley**	**0.72**	**112**	Pg	**Pg**	**12 12 54.7**	**-0.2**
MCK				IAML		12 13 04.9	
	comp=N,2μm,0.3s						
MCK				IAML		12 13 07.3	
	comp=E,1μm,0.5s						
MCK	**McKinley**	**0.72**	**112**		**Sg**	**12 13 04.1**	**-0.2**
MCK	**McKinley**	**0.72**	**112**	P	**Pg**	**12 12 54.7**	**-0.2**
	baz=293						
NEA2	**Nenana**	**0.83**	**45**		**Pg**	**12 12 57.0**	**-0.1**
NEA2	**Nenana**	**0.83**	**45**		**Sb**	**12 13 09.1**	**-0.4**
NEA2	**Nenana**	**0.83**	**45**	P	**Pg**	**12 12 56.8**	**-0.3**
	baz=226						
NEA2				S	**Sb**	**12 13 09.3**	**-0.2**
	baz=226						
RND	**Reindeer**	**0.93**	**130**		**Pg**	**12 12 58.6**	**-0.3**
CAST	**Castle Rocks**	**0.95**	**232**	Pg	**Pg**	**12 12 58.5**	**-0.8**
CAST				IAML		12 13 13.7	
	comp=E,803nm,0.7s						
CAST				IAML		12 13 14.1	
	comp=N,1μm,0.6s						
CAST	**Castle Rocks**	**0.95**	**232**	P	**Pg**	**12 12 58.4**	**-0.8**
	baz=50						
MLY	**Manley**	**1.03**	**353**		**Pg**	**12 13 01.2**	**+0.4**
MLY	**Manley**	**1.03**	**353**	P	**Pg**	**12 13 01.2**	**+0.4**
	baz=173						
WRH	**Wood River Hil**	**1.12**	**65**		**Pg**	**12 13 02.1**	**-0.5**
I23K	**Minto, Yukon-K**	**1.23**	**22**		**Pn**	**12 13 03.9**	**-1.0**
I23K				IAML		12 13 22.3	
	comp=E,1μm,0.5s						
I23K				IAML		12 13 22.3	
	comp=N,1μm,0.5s						
I23K	**Minto, Yukon-K**	**1.23**	**22**	P	**Pn**	**12 13 04.0**	**-0.9**
	baz=203						
I23K				S	**Sg**	**12 13 21.2**	**+0.7**
	baz=203						
CCB	**Clear Creek Bu**	**1.31**	**60**		**Pn**	**12 13 04.8**	**-1.2**
CCB				IAML		12 13 23.0	
	comp=N,533nm,0.4s						
CCB				IAML		12 13 23.6	
	comp=E,440nm,0.4s						
MDM	**Murphy Dome**	**1.35**	**44**		**Pn**	**12 13 05.2**	**-1.4**
MDM				IAML		12 13 24.6	
	comp=E,456nm,0.3s						
I21K	**Tanana**	**1.35**	**331**		**Pn**	**12 13 06.0**	**-0.5**
I21K				IAML		12 13 25.9	
	comp=N,464nm,0.6s						
I21K	**Tanana**	**1.35**	**331**	P	**Pn**	**12 13 06.0**	**-0.5**
	baz=150						
PPLA	**Purkeypile**	**1.37**	**216**		**Pn**	**12 13 05.8**	**-1.2**
PPLA	**Purkeypile**	**1.37**	**216**		**Sb**	**12 13 24.6**	**-0.5**
PPLA	**Purkeypile**	**1.37**	**216**	P	**Pn**	**12 13 05.7**	**-1.2**
	baz=34						
PPLA				S	**Sb**	**12 13 24.6**	**-0.5**
	baz=34						
WAT7	**Susitna Watana**	**1.38**	**148**		**Pn**	**12 13 06.5**	**-0.6**
WAT7					**Sg**	**12 13 25.9**	**+0.4**
TCOL	**CIGO, UAF Yank**	**1.41**	**51**		**Pn**	**12 13 06.2**	**-1.2**
TCOL	**CIGO, UAF Yank**	**1.41**	**51**	P	**Pn**	**12 13 06.2**	**-1.2**
	baz=233						
COLA	**College**	**1.41**	**51**		**Pn**	**12 13 06.3**	**-1.1**
WAT1	**Susitna Watana**	**1.46**	**144**		**Pn**	**12 13 07.7**	**-0.4**
WAT1	**Susitna Watana**	**1.46**	**144**	P	**Pn**	**12 13 07.7**	**-0.4**
	baz=325						
HDA	**Harding Lake**	**1.57**	**74**		**Pn**	**12 13 08.3**	**-1.4**
HDA	**Harding Lake**	**1.57**	**74**	IAML		12 13 33.7	
	comp=E,407nm,0.3s						
HDA				IAML		12 13 36.2	
	comp=N,414nm,0.6s						
HDA	**Harding Lake**	**1.57**	**74**	P	**Pn**	**12 13 09.3**	**-0.4**
	baz=257						
CUT	**Chulitna**	**1.62**	**177**		**Pn**	**12 13 10.2**	**0.0**
CUT	**Chulitna**	**1.62**	**177**	P	**Pb**	**12 13 10.6**	**-0.8**
	baz=357						
J20K	**Nowinta River**	**1.64**	**277**		**Pn**	**12 13 09.9**	**-0.6**
J20K				IAML		12 13 36.9	
	comp=E,517nm,0.7s						
J20K				IAML		12 13 40.1	
	comp=N,538nm,0.5s						
DHY	**Denali Highway**	**1.66**	**123**		**Pn**	**12 13 10.7**	**-0.3**
DHY				IAML		12 13 34.7	
	comp=E,632nm,0.6s						
DHY				IAML		12 13 35.5	
	comp=N,577nm,0.5s						
DHY	**Denali Highway**	**1.66**	**123**		**Sb**	**12 13 33.2**	**-0.3**
DHY	**Denali Highway**	**1.66**	**123**	P	**Pn**	**12 13 10.7**	**-0.3**
	baz=306						
DHY				S	**Sb**	**12 13 33.2**	**-0.3**
	baz=306						
POKR	**Poker Plat Res**	**1.71**	**48**		**Pn**	**12 13 10.4**	**-1.0**
POKR				IAML		12 13 36.2	
	comp=E,321nm,0.4s						
POKR	**Poker Plat Res**	**1.71**	**48**	P	**Pn**	**12 13 10.4**	**-1.0**
	baz=231						
POKR				S	**Sn**	**12 13 33.9**	**+0.3**
	baz=231						
IL31		**1.72**	**62**		**Pn**	**12 13 10.5**	**-1.1**
ILAR	**Eielson Array**	**1.72**	**62**	Pg	**Pn**	**12 13 10.4**	**-1.2**
	comp=E,3.7nm,0.3s,baz=252,slow=13,SNR=99						
ILAR				Lg	Lg	12 13 33.7	
	comp=E,47nm,0.3s,baz=245,slow=29,SNR=6.8						
ILAR				LR	LR	12 13 33.8	
	comp=E,42nm,21.8s,baz=304,slow=33						
ILAR	**Eielson Array**	**1.72**	**62**		**Pn**	**12 13 10.1**	**-1.6**
K20K	**Telida**	**1.75**	**249**		**Pn**	**12 13 10.7**	**-1.4**
K20K				IAML		12 13 39.1	
	comp=N,266nm,0.7s						
K20K				IAML		12 13 41.4	
	comp=E,264nm,0.6s						
K20K	**Telida**	**1.75**	**249**	P	**Pn**	**12 13 11.0**	**-1.1**
	baz=66						
K20K				S	**Sn**	**12 13 34.7**	**0.0**
	baz=66						
H23K	**Yukon River**	**1.86**	**11**		**Pn**	**12 13 13.1**	**-0.5**
H23K				IAML		12 13 43.1	
	comp=E,391nm,0.6s						
H23K				IAML		12 13 44.2	
	comp=N,329nm,0.5s						
WAT6	**Susitna Watana**	**1.88**	**139**		**Pn**	**12 13 13.4**	**-0.6**
WAT6	**Susitna Watana**	**1.88**	**139**	P	**Pn**	**12 13 13.4**	**-0.6**
	baz=321						
H22K	**Ishtalitna Cre**	**1.93**	**348**	P	**Pn**	**12 13 14.1**	**-0.4**
	baz=168						
H21K	**Melozitna Rive**	**1.94**	**330**		**Pn**	**12 13 14.4**	**-0.2**
K24K	**Donnelly Dome**	**2.07**	**94**	P	**Pn**	**12 13 16.7**	**+0.2**
	baz=278						
SKT	**Skwentna**	**2.10**	**194**		**Pn**	**12 13 16.9**	**0.0**
SKT				IAML		12 13 48.4	
	comp=N,388nm,0.7s						
SKT				IAML		12 13 50.0	
	comp=E,388nm,0.6s						
SKT	**Skwentna**	**2.10**	**194**	P	**Pn**	**12 13 16.6**	**-0.3**
	baz=13						
H24K	**Noodor Dome**	**2.13**	**30**		**Pn**	**12 13 16.3**	**-1.0**
H24K	**Noodor Dome**	**2.13**	**30**	P	**Pn**	**12 13 16.3**	**-1.0**
	baz=212						
L20K	**Farewell, AK**	**2.19**	**227**	P	**Pn**	**12 13 17.5**	**-0.7**
	baz=44						
M22K	**Willow**	**2.27**	**176**		**Pn**	**12 13 19.3**	**+0.1**
M22K	**Willow**	**2.27**	**176**	P	**Pn**	**12 13 18.9**	**-0.3**
	baz=356						
GHO	**Glory Hole Cre**	**2.35**	**162**		**Pn**	**12 13 20.2**	**-0.2**
GHO				IAML		12 13 56.1	
	comp=E,258nm,0.8s						
SML	**Sawmill**	**2.42**	**156**		**Pn**	**12 13 20.4**	**-0.8**
SML	**Sawmill**	**2.42**	**156**	IAML		12 13 57.4	
	comp=E,176nm,1.1s						
SML				IAML		12 13 59.8	
	comp=N,299nm,1.0s						
SML	**Sawmill**	**2.42**	**156**	P	**Pn**	**12 13 20.6**	**-0.6**
	baz=337						
IMAR	**Indian Mountai**	**2.43**	**326**		**Pn**	**12 13 20.8**	**-0.5**
PAX	**Paxson**	**2.46**	**113**		**Pn**	**12 13 21.9**	**0.0**
PAX	**Paxson**	**2.46**	**113**	P	**Pn**	**12 13 22.2**	**+0.3**
	baz=297						
M20K	**Styx River**	**2.47**	**211**		**Pn**	**12 13 22.2**	**+0.2**
M20K				IAML		12 13 59.3	
	comp=N,139nm,0.5s						
M20K				IAML		12 14 02.9	
	comp=E,151nm,0.6s						
M20K	**Styx River**	**2.47**	**211**	P	**Pn**	**12 13 22.1**	**0.0**
	baz=29						
RIDG	**Independent Ri**	**2.49**	**94**		**Pn**	**12 13 20.6**	**-1.6**
RIDG	**Independent Ri**	**2.49**	**94**	IAML		12 14 01.8	
	comp=E,254nm,0.7s						
RIDG	**Independent Ri**	**2.49**	**94**	P	**Pn**	**12 13 22.0**	**-0.2**
	baz=279						
PMR	**Palmer**	**2.50**	**166**		**Pn**	**12 13 22.3**	**-0.1**
PMR				IAML		12 14 00.6	
	comp=E,204nm,0.6s						
PMR	**Palmer**	**2.50**	**166**	P	**Pn**	**12 13 22.0**	**-0.3**
	baz=346						
M23K	**Glacier View**	**2.55**	**150**	P	**Pn**	**12 13 22.8**	**-0.3**
	baz=332						
SUA	**Susitna One**	**2.56**	**183**		**Pn**	**12 13 23.4**	**+0.1**
SUA	**Susitna One**	**2.56**	**183**	IAML		12 14 03.4	
	comp=N,250nm,0.6s						
SUA				IAML		12 14 07.6	
	comp=E,161nm,0.7s						
SUA	**Susitna One**	**2.56**	**183**	P	**Pn**	**12 13 23.4**	**+0.1**
	baz=2.9						
PRP	**Porcupine Dome**	**2.59**	**52**		**Pn**	**12 13 23.0**	**-0.7**
PRP				IAML		12 14 05.7	
	comp=E,141nm,0.4s						
PRP				IAML		12 14 06.4	
	comp=N,151nm,0.3s						
PRP	**Porcupine Dome**	**2.59**	**52**	P	**Pn**	**12 13 22.9**	**-0.7**
	baz=236						
SCM	**Sheep Creek Mo**	**2.61**	**146**		**Pn**	**12 13 23.5**	**-0.4**
SCM	**Sheep Creek Mo**	**2.61**	**146**	IAML		12 14 08.0	
	comp=N,233nm,1.1s						
SCM				IAML		12 14 10.0	
	comp=E,143nm,1.8s						
SCM	**Sheep Creek Mo**	**2.61**	**146**	P	**Pn**	**12 13 23.5**	**-0.4**
	baz=328						
L19K	**White Mountain**	**2.72**	**230**		**Pn**	**12 13 24.6**	**-0.8**
L19K				IAML		12 14 10.4	
	comp=E,133nm,1.1s						
L19K	**White Mountain**	**2.72**	**230**	P	**Pn**	**12 13 24.6**	**-0.8**
	baz=46						
M24K	**Tolsona, Glenn**	**2.73**	**133**		**Pn**	**12 13 26.1**	**+0.6**
M24K	**Tolsona, Glenn**	**2.73**	**133**	P	**Pn**	**12 13 26.1**	**+0.6**
	baz=316						
TTA	**Tatalina**	**2.73**	**249**		**Pn**	**12 13 25.6**	**+0.1**
TTA	**Tatalina**	**2.73**	**249**	P	**Pn**	**12 13 25.0**	**-0.6**
	baz=64						
KNK	**Knik Glacier**	**2.77**	**160**		**Pn**	**12 13 25.9**	**-0.1**
**KN

SPU	Mount Spurr	2.94	195			Pn	12 13 30.0	+1.5
N20K	Mount Spurr	2.94	197	P		Pn	12 13 28.8	+0.3
	baz=15							
RC01	Rabbit Creek A	2.95	173			Pn	12 13 29.1	+0.6
RC01	Rabbit Creek A	2.95	173	P		Pn	12 13 29.1	+0.6
	baz=354							
G24K	Hadweenzic Riv	2.97	23	P		Pn	12 13 28.0	-0.8
	baz=206							
J26L	Joseph Creek	3.04	78			Pn	12 13 28.7	-1.1
J26L	Joseph Creek	3.04	78	P		Pn	12 13 29.9	+0.1
	baz=264							
MENT	Mentasta	3.20	107			Pn	12 13 32.1	+0.1
MENT					IAML		12 14 26.6	
	comp=E,130nm,0.8s							
COLD	Coldfoot	3.23	2			Pn	12 13 32.6	+0.2
COLD	Coldfoot	3.23	2	P		Pn	12 13 32.3	-0.1
	baz=182							
KLU	Klutina	3.27	139			Pn	12 13 34.2	+1.1
KLU	Klutina	3.27	139		IAML		12 14 27.5	
	comp=N,87nm,0.8s							
KLU					IAML		12 14 28.1	
	comp=E,71nm,0.6s							
KLU	Klutina	3.27	139	P		Pn	12 13 33.7	+0.7
	baz=322							
CAPN	Captain Cook N	3.27	186			Pn	12 13 32.0	-0.9
G25K	Bearman Lake	3.30	31	P		Pn	12 13 32.6	-0.8
	baz=215							
PWL	Port Wells	3.31	162			Pn	12 13 35.1	+1.5
PWL	Port Wells	3.31	162		IAML		12 14 31.5	
	comp=N,142nm,0.8s							
PWL	Port Wells	3.31	162	P		Pn	12 13 34.5	+1.0
	baz=344							
L26K	Log Cabin Wild	3.33	104			Pn	12 13 34.1	+0.3
L26K	Log Cabin Wild	3.33	104	P		Pn	12 13 33.5	-0.2
	baz=290							
FYU	Fort Yukon	3.37	38			Pn	12 13 34.7	+0.4
FYU					IAML		12 14 31.9	
	comp=N,88nm,0.9s							
FYU					IAML		12 14 51.3	
	comp=E,69nm,2.7s							
F21K	Alatna River	3.46	340	P		Pn	12 13 35.9	+0.4
	baz=157							
SLKM	Skilak Lake	3.52	178			Pn	12 13 37.0	+0.6
O22K	Cooper Landing	3.56	174			Pn	12 13 37.7	+0.8
F22K	John River	3.58	349	P		Pn	12 13 38.2	+0.9
	baz=168							
N25K	Chitina, Valde	3.61	129			Pn	12 13 38.7	+1.0
N25K					IAML		12 14 33.9	
	comp=E,67nm,0.8s							
N25K					IAML		12 14 35.5	
	comp=N,55nm,0.6s							
N25K	Chitina, Valde	3.61	129	P		Pn	12 13 38.4	+0.8
	baz=314							
DIV	Divide	3.61	141			Pn	12 13 38.7	+1.0
F24K	Squaw Lake	3.67	15	P		Pn	12 13 38.5	0.0
	baz=198							
K27K	Chicken	3.68	86			Pn	12 13 37.2	-1.4
K27K					IAML		12 14 36.2	
	comp=N,60nm,0.6s							
K27K	Chicken	3.68	86	P		Pn	12 13 37.1	-1.4
	baz=273							
N19K	Bonanza Creek	3.72	212			Pn	12 13 39.2	0.0
N19K					IAML		12 14 38.8	
	comp=E,45nm,0.7s							
N19K					IAML		12 14 47.4	
	comp=N,62nm,1.0s							
N19K	Bonanza Creek	3.72	212	P		Pn	12 13 38.3	-1.0
	baz=29							
RSO	Redoubt South	3.73	198			Pn	12 13 41.0	+1.6
M26K	Nabesna, AK	3.74	112			Pn	12 13 41.2	+1.8
M26K					IAML		12 14 44.5	
	comp=E,60nm,0.7s							
M26K					IAML		12 14 44.6	
	comp=N,85nm,0.6s							
M26K	Nabesna, AK	3.74	112	P		Pn	12 13 40.5	+1.1
	baz=299							
SVW2	Sparrevohn	3.77	221			Pn	12 13 40.0	+0.1
SVW2					IAML		12 14 44.4	
	comp=E,76nm,0.7s							
SVW2					IAML		12 14 44.5	
	comp=N,72nm,0.8s							
SEW	Seward	3.95	173			Pn	12 13 42.2	-0.1
SEW	Seward	3.95	173	P		Pn	12 13 42.2	-0.1
	baz=354							
L27K	Beaver Creek,	3.97	100			Pn	12 13 41.2	-1.3
L27K					IAML		12 14 47.1	
	comp=N,38nm,0.7s							
BCAR	Beaver Creek A	3.99	100			Pn	12 13 42.7	-0.1
GLB	Gilahina Butte	3.99	127			Pn	12 13 43.9	+1.0
GLB	Gilahina Butte	3.99	127		IAML		12 14 51.7	
	comp=N,44nm,1.6s							
G26K	Porcupine Rive	4.04	40	P		Pn	12 13 42.5	-1.0
	baz=226							
E23K	Chandalar	4.08	4	P		Pn	12 13 44.4	+0.3
	baz=185							
BMRM	Bremner River	4.08	136			Pn	12 13 44.2	+0.1
BMRM	Bremner River	4.08	136	P		Pn	12 13 44.2	+0.1
	baz=321							
I27K	Kandik River	4.09	63	P		Pn	12 13 44.1	-0.2
	baz=251							
EGAK	Eagle	4.10	75			Pn	12 13 44.0	-0.3
EGAK	Eagle	4.10	75	P		Pn	12 13 43.7	-0.6
	baz=263							
F25K	Christian Rive	4.10	27	P		Pn	12 13 43.9	-0.5
	baz=211							
EYAK	Cordova Ski Ar	4.11	146			Pn	12 13 44.9	+0.5
EYAK	Cordova Ski Ar	4.11	146	P		Pn	12 13 44.4	0.0
	baz=330							
E24K	Your Creek	4.16	10	P		Pn	12 13 44.8	-0.4
	baz=192							
E22K	Anaktuvuk Pass	4.18	353	P		Pn	12 13 45.8	+0.4
	baz=172							
BMAR	Burnt Mountain	4.20	33	Pn		Pn	12 13 45.2	-0.4
M27K	Edge Creek, AK	4.22	109			Pn	12 13 45.6	-0.4
M27K					IAML		12 14 56.9	
	comp=E,33nm,0.8s							
M27K					IAML		12 15 01.0	
	comp=N,50nm,0.8s							
M27K	Edge Creek, AK	4.22	109	P		Pn	12 13 45.8	-0.2
	baz=297							
ILSW	Iliamna Southw	4.24	199	Pn		Pn	12 13 47.2	+0.8
ILSW					IAML		12 14 15.2	
	comp=N,23nm,2.1s							
ILSW					IAML		12 15 42.0	
	comp=E,24nm,2.6s							
O19K	Port Alsworth	4.25	207	Pn		Pn	12 13 45.8	-0.5
O19K	Port Alsworth	4.25	207	P		Pn	12 13 46.0	-0.3
	baz=24							
VRDI	Verde Repeater	4.27	128			Pn	12 13 47.5	+0.7
BRLK	Bradley Lake	4.27	183	Pn		Pn	12 13 47.6	+0.9
BRLK					IAML		12 15 03.3	
	comp=E,29nm,0.6s							
MCARA	McCarthy VSAT	4.31	124			Pn	12 13 48.7	+1.4
MCARA	McCarthy VSAT	4.31	124		IAML		12 15 08.1	
	comp=E,49nm,1.4s							
MCARA	McCarthy VSAT	4.31	124	P		Pn	12 13 48.0	+0.7
	baz=311							
H27K	Steamboat Moun	4.37	55	P		Pn	12 13 47.7	-0.4
	baz=244							
F26K	Sheenjek River	4.51	32	P		Pn	12 13 49.5	-0.4
	baz=218							
CNPM	China Poot	4.52	185			Pn	12 13 51.8	+1.7
CNPM	China Poot	4.52	185		IAML		12 15 07.6	
	comp=N,28nm,2.0s							
CNPM					IAML		12 15 16.9	
	comp=E,29nm,1.9s							
P19K	Oil Pt	4.57	198	Pn		Pn	12 13 51.3	+0.5
E25K	Arctic Village	4.58	23	P		Pn	12 13 50.4	-0.5
	baz=208							
G27K	Doyon Strip	4.62	49	P		Pn	12 13 50.2	-1.3
	baz=237							
O18K	Koktuh Hills	4.74	211	Pn		Pn	12 13 52.2	-1.0
O18K					IAML		12 15 24.8	
	comp=N,44nm,2.9s							
O18K					IAML		12 15 58.4	
	comp=E,33nm,4.4s							
DAWY	Dawson	4.86	84	Pn		Pn	12 13 54.2	-0.5
DAWY					IAML		12 15 22.3	
	comp=E,36nm,0.7s							
DAWY					IAML		12 15 27.8	
	comp=N,35nm,0.8s							
DAWY	Dawson	4.86	84	P		Pn	12 13 53.3	-1.4
	baz=274							
KIAG	Kiagna River	4.86	126			Pn	12 13 54.8	-0.1
D23K	Nanushuk River	4.97	359	P		Pn	12 13 57.8	+1.5
	baz=179							
BARN	Barnard Glacie	5.03	122			Pn	12 13 57.8	+0.6
BARN					IAML		12 15 32.2	
	comp=N,20nm,3.3s							
YUK3	Moose Creek	5.08	112	P		Pn	12 13 58.8	+0.8
	baz=300							
P18K	Big Mountain,	5.17	208			Pn	12 13 58.4	-0.6
P18K					IAML		12 15 45.6	
	comp=E,25nm,4.3s							
P18K					IAML		12 15 59.3	
	comp=N,32nm,4.5s							
Q19K	Cape Douglas,	5.33	198	Pn		Pn	12 14 03.7	+2.4
I29M	Ogilvie Camp,	5.38	70			Pn	12 14 01.1	-0.8
I29M					IAML		12 15 43.7	
	comp=N,19nm,0.9s							
I29M					IAML		12 15 51.1	
	comp=E,16nm,2.5s							
Q20K	Shuyak Island	5.50	191	P		Pn	12 14 04.6	+1.0
	baz=8.9							
D25K	Kavik River	5.57	15	P		Pn	12 14 05.5	+1.0
	baz=199							
YUK8	Steele Glacier	5.63	114	P		Pn	12 14 06.3	+0.8
	baz=304							
PCA	Pinnacle	6.19	125	Pn		Pn	12 14 13.1	+0.1
C27K	Jago River	6.23	22	P		Pn	12 14 14.2	+0.7
	baz=208							
EPYK	Eagle Plains	6.24	62			Pn	12 14 13.9	+0.3
C26K	Camden Bay	6.31	18	P		Pn	12 14 15.0	+0.4
	baz=203							
M30M	Mirio, Yukon	6.32	97	Pn		Pn	12 14 13.0	-1.8
KDAK	Kodiak Island	6.34	190	Pn		Pn	12 14 14.4	-0.7
	comp=E,0.6nm,0.3s,baz=45,slow=9.4,SNR=43							
KDAK					Sn	Sn	12 15 26.1	-1.6
	comp=E,0.1nm,0.3s,baz=154,slow=22,SNR=1.5							
	comp=E,4.7nm,0.8s							
KDAK	Kodiak Island	6.34	190	Pn		Pn	12 14 15.0	-0.1
ANM	Nome	6.53	282	Pn		Pn	12 14 17.9	+0.3
HYT	Haines Junctio	6.80	112	Pn		Pn	12 14 23.0	+1.6
OHAK	Old Harbor	6.96	193	Pn		Pn	12 14 21.7	-1.8
TNA	Tin City	7.62	290	Pn		Pn	12 14 30.0	-2.6
INK	Inuvik	8.07	50	Pn		Pn	12 14 38.6	-0.1
	comp=E,0.2nm,0.3s,baz=248,slow=7.5,SNR=11							
INK					Sn	Sn	12 16 06.2	-4.0
	comp=E,0.2nm,0.3s,baz=122,slow=30,SNR=7.8							
INK					Lg	Lg	12 16 55.0	
	comp=E,0.1nm,0.3s,baz=190,slow=18,SNR=3.2							
	comp=E,0.6nm,0.4s							
DLBC	Dease Lake	11.28	110	Pn		Pn	12 15 25.2	+2.5
	comp=E,0.2nm,0.3s,baz=182,slow=8.8,SNR=6.1							
	comp=E,1.4nm,0.9s							
YKA	Yellowknife Ar	16.07	79	Pn		Pn	12 16 26.4	-0.9
	comp=E,0.1nm,0.3s,baz=295,slow=9.9,SNR=3.5							
	comp=E,0.1nm,0.5s							
PDAR	Pinedale Array	31.50	113	P		P	12 19 05.6	+1.9
	comp=E,0.3nm,0.7s,baz=339,slow=7.2,SNR=3.4							
	comp=E,0.3nm,0.7s							
TXAR	Lajitas Array	45.49	117	P		P	12 21 02.4	+1.3
	comp=E,0.1nm,0.5s,baz=338,slow=6.6,SNR=3.9							
	comp=E,0.1nm,0.5s							
SONM	Songino Array	53.43	305	P		P	12 22 02.7	+1.1
	comp=E,0.3nm,0.7s,baz=20,slow=4.6,SNR=3.0							
	comp=E,0.3nm,0.7s							

NEIC ***02*** *12:16:36.1±0.6, 19°.5S±0°.2×177°.7W±0°.2, h576km±7km, mb4.1/10, Error ellipse: s-maj=28.1km s-min=25.5km az=74.0*

IDC ***02*** *12:16:36.1±2.4, 19°.45S×177°.66W, h577km±25km, mb3.0/5, mbtmp4.0/6, Error ellipse: s-maj=34.2km s-min=28.6km az=173.0*

ISC 02 12:16:38.3±1.2, 19°.4S±0°.2×177°.9W±0°.2, h600km, n19, σ0s98/20, mb4.1/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.17	293	P	P	12 18 03.0	-2.1
	15nm,0.4s,baz=118,slow=15,SNR=10						
MSVF	Nonsavu	4.17	293	P	P	12 18 02.8	-2.3
CTA	Charters Tower	33.70	263	P	P	12 22 32.4	+0.9
	3.0nm,0.4s,baz=92,slow=8.6,SNR=7.8						
	3.0nm,0.4s						
CTAO	Charters Tower	33.70	263	P	P	12 22 32.4	+0.9
CTAO				IAmb	IAmb	12 22 34.2	
	comp=Z,11nm,1.4s						
BBOO	Buckleboo	43.12	242	P	P	12 23 47.4	0.0
WR0	Warramunga Arr	44.66	261	P	P	12 23 59.5	+0.2
WR0				IAmb	IAmb	12 24 26.6	
	comp=Z,9.0nm,1.4s						
WB0	Warramunga Arr	44.82	261	P	P	12 24 01.0	+0.4
WB0				IAmb	IAmb	12 24 22.5	
	comp=Z,7.3nm,1.2s						
WB2	Warramunga Arr	44.84	261	P	P	12 24 01.1	+0.4
WB2				IAmb	IAmb	12 24 27.8	
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	44.85	261	P	P	12 24 01.5	+0.7
	comp=Z,0.8nm,0.3s,baz=98,slow=7.5,SNR=27						
	comp=Z,0.8nm,0.3s						
WRA	Warramunga Arr	44.85	261	P	P	12 24 01.0	+0.2
AS31	Alice Springs	44.86	256	P	P	12 24 01.7	+0.8
ASAR	Alice Springs	44.87	256	P	P	12 24 01.9	+0.9
	comp=Z,1.6nm,0.6s,baz=87,slow=8.0,SNR=30						
ASAR				PcP	PcP	12 25 29.8	+0.4
	comp=Z,0.1nm,0.3s,baz=116,slow=4.2,SNR=2.0						
	comp=Z,1.6nm,0.6s						
ASAR	Alice Springs	44.87	256	P	P	12 24 01.7	+0.8
KNRA	Kununurra	50.83	265	P	P	12 24 45.0	-0.2
QSPA	South Pole Qui	70.67	180	P	P	12 26 53.8	-0.7
	comp=Z,1.0nm,0.8s,baz=319,slow=1.2,SNR=6.8						
	comp=Z,1.0nm,0.8s						
QSPA	South Pole Qui	70.67	180	P	P	12 26 54.0	-0.5
QSPA				IAmb	IAmb	12 27 25.9	
	comp=Z,4.0nm,1.5s						
YSS	Yuzh-Sakhalins	74.94	333	P	P	12 27 19.8	+0.8
YSS				IAmb	IAmb	12 27 24.4	
	comp=Z,12nm,1.1s						
IMAR	Indian Mountai	87.05	10	P	P	12 28 21.5	+0.9
ILAR	Eielson Array	87.22	13	P	P	12 28 21.2	-0.2
	comp=Z,0.2nm,0.6s,baz=222,slow=5.0,SNR=4.7						
	comp=Z,0.2nm,0.6s						

IDC ***02*** *12:21:52.5±4.5, 38°.94S×177°.58E, h34km±24km, mb4.2/3, mbtmp4.4/4, ML4.5/1, Error ellipse: s-maj=46.2km s-min=32.2km az=103.0*

NOU ***02*** *12:21:53.6, 38°.95S×177°.59E, h85km, MLv4.3/16, North Island, New Zealand*

NEIC ***02*** *12:21:55.4±1.2, 38°.93S±0°.07×177°.57E±0°.09, h62km±7km, mb4.4/10, Error ellipse: s-maj=12.9km s-min=7.2km az=133.0*

WEL ***02*** *12:21:56.4±1.1, 39°.S±4°×17°.7E±°, h51km±8km, M4.0/11, ML4.4/11, MLv4.0/11, Error ellipse: s-maj=0.0km s-min=0.0km az=130.9, confirmed*

ISC 02 12:21:56.1±0.7, 38.79S±0.03×177.39E±0.04, h69km±5km, n202, σ1s35/208, mb4.4/8, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNGZ	Shannon Statio	0.04	281	P	Pn	12 22 05.9	-0.3
SNGZ				S	Sn	12 22 12.6	-0.8
RAHZ	Arahi	0.27	242	P	Pn	12 22 07.0	0.0
RAHZ				S	Sn	12 22 14.6	-0.4
RAGZ	Rawiri	0.29	4	P	Pn	12 22 06.7	-0.6
RAGZ				S	Sn	12 22 14.0	-1.3
RIGZ	Rimuhau	0.30	74	P	Pn	12 22 07.7	+0.5
RIGZ				S	Sn	12 22 15.8	+0.5
WHHZ	Waihua	0.31	203	P	Pn	12 22 07.9	+0.6
WHHZ				S	Sn	12 22 16.5	+1.1
KNZ	Kokohu	0.32	136	P	Pn	12 22 07.9	+0.6
RTZ	Ruatahuna	0.36	298		Pn	12 22 07.0	-0.7
RTZ	Ruatahuna	0.36	298	P	Pn	12 22 07.2	-0.5
RTZ				S	Sn	12 22 14.8	-1.4
MTHZ	Maungataniwha	0.43	261	P	Pn	12 22 08.1	-0.2
MTHZ				S	Sn	12 22 16.6	-0.6
MWZ	Matawai	0.47	14	P	Pn	12 22 08.0	-0.6
MWZ				S	Sn	12 22 16.5	-1.2
TKGZ	Te Karaka	0.50	46	P	Pn	12 22 09.1	+0.3
TKGZ				S	Sn	12 22 18.5	+0.4
MHGZ	Mahia Peninsul	0.54	132	P	Pn	12 22 10.5	+1.2
NMHZ	Naumai	0.55	236	P	Pn	12 22 10.1	+0.7
NMHZ				S	Sn	12 22 20.5	+1.4
URZ	Urewera	0.57	338	LR	LR	12 22 05.1	
	comp=Z,51nm,20.8s,baz=171,slow=16						
URZ				Pg	Pn	12 22 08.7	-0.8
	545nm,0.3s,baz=317,slow=5.5,SNR=4528						
URZ				Lg	Lg	12 22 17.6	
	1µm,0.3s,baz=75,slow=7.8,SNR=25						
URZ	Urewera	0.57	338	P	Pn	12 22 08.7	-0.8
URZ	Urewera	0.57	338	P	Pn	12 22 08.7	-0.8
URZ				S	Sn	12 22 17.2	-2.2
MUGZ	Murupara	0.57	303	P	Pn	12 22 09.2	-0.3
CNGZ	Carnagh Statio	0.71	65	P	Pn	12 22 12.1	+1.1
MRHZ	Matea Rd	0.76	266	P	Pn	12 22 11.7	0.0
MRHZ				S	Sn	12 22 22.4	-0.8
TWGZ	Tauwhareparae	0.77	37	P	Pn	12 22 12.6	+0.8
BKZ	Black Stump Fm	0.79	241	Pn	Pn	12 22 12.7	+0.6
BKZ				S	Sn	12 22 24.2	+0.3
BKZ	Black Stump Fm	0.79	241	P	Pn	12 22 12.6	+0.6
BKZ	Black Stump Fm	0.79	241	P	Pn	12 22 12.6	+0.6
RRRZ	Republican Roa	0.82	303	P	Pn	12 22 12.0	-0.3
PRRZ	Plateau Road	0.83	290	P	Pn	12 22 12.1	-0.3
MCHZ	McNeill Hill	0.85	219	P	Pn	12 22 13.7	+1.0
ALRZ	Allen Road	0.85	285	P	Pn	12 22 12.5	-0.2
EDRZ	Edgecumbe	0.85	323	P	Pn	12 22 12.3	-0.5
RUGZ	Raukumara Rang	0.85	16	P	Pn	12 22 12.8	-0.1
TARZ	Mount Tarawera	0.89	308	P	Pn	12 22 13.1	-0.1
CKHZ	Cape Kidnapper	0.90	195	P	Pn	12 22 14.1	+0.8
HRRZ	Handcock Road	0.95	294	P	Pn	12 22 13.6	-0.4
MKRZ	Makatiti	0.97	312	P	Pn	12 22 14.7	+0.5
HLRZ	Highlands Stat	0.97	303	P	Pn	12 22 14.0	-0.2
MARZ	Manawahe	0.98	325	P	Pn	12 22 13.7	-0.6
KWHZ	Kaweka Forest	0.98	230	P	Pn	12 22 15.0	+0.6
WHRZ	Whale Island	0.99	341	P	Pn	12 22 14.0	-0.4
PUZ	Puketiti	0.99	44	P	Pn	12 22 14.8	+0.4
WPRZ	Whakapapatarin	1.00	285	P	Pn	12 22 14.4	-0.1
HSRZ	Hossack Road	1.01	298	P	Pn	12 22 14.6	-0.1
HATZ	Hinemaiaia	1.02	264	P	Pn	12 22 14.7	0.0
OMRZ	Omania	1.05	310	P	Pn	12 22 14.7	-0.5
PKGZ	Pakihiroa	1.05	31	P	Pn	12 22 15.7	+0.5
HAZ	Te Kaha	1.08	17	P	Pn	12 22 15.1	-0.3
KAHZ	Kahuranaki	1.08	201	P	Pn	12 22 16.3	+0.7
GRRZ	Galatos Road	1.09	293	P	Pn	12 22 15.9	+0.1
LIRZ	Lichensteins R	1.11	315	P	Pn	12 22 15.6	-0.4
UTU	Utuhina	1.12	303	P	Pn	12 22 16.1	0.0
WHTZ	Whakaora	1.13	276	P	Pn	12 22 16.6	+0.4
OPRZ	Ohinepanea	1.15	325	P	Pn	12 22 15.6	-0.8
KRHZ	Kereru	1.16	223	P	Pn	12 22 16.9	+0.3
NGRZ	Ngongotaha	1.17	306	P	Pn	12 22 16.8	+0.1
KARZ	Kaharoa	1.18	310	P	Pn	12 22 16.2	-0.6
RITZ	Rihia Road	1.21	261	P	Pn	12 22 17.6	+0.3
BHHZ	Black Hill Sta	1.25	235	P	Pn	12 22 18.3	+0.6
KUTZ	Kaahu Road	1.26	283	P	Pn	12 22 17.9	0.0
WMGZ	Waiomatatini S	1.26	40	P	Pn	12 22 18.4	+0.6
RATZ	Rangitukua	1.26	266	P	Pn	12 22 18.4	+0.4
WIZ	White Island	1.27	353	P	Pn	12 22 16.9	-1.0
WSRZ	White Island S	1.28	352	P	Pn	12 22 17.0	-1.1
WATZ	Wairara	1.30	273	P	Pn	12 22 18.6	+0.2
PXZ	Pawanui	1.30	198	P	Pn	12 22 18.4	0.0
KATZ	Kakaramea	1.33	261	P	Pn	12 22 19.2	+0.3
ETVZ	East Tongariro	1.35	255	P	Pn	12 22 19.4	+0.3
TMVZ	Te Maari	1.35	256	P	Pn	12 22 19.4	+0.3
NTVZ	North Tongarir	1.37	256	P	Pn	12 22 19.6	+0.2
TGRZ	Tauranga	1.38	320	P	Pn	12 22 18.6	-0.8
OTVZ	Oturere	1.39	254	P	Pn	12 22 20.1	+0.3
KRVZ	Karewarewa	1.40	257	P	Pn	12 22 20.0	+0.2
MOVZ	Moawhango	1.41	244	P	Pn	12 22 20.2	+0.3
SNVZ	South Ngauruho	1.42	253	P	Pn	12 22 20.4	+0.3
MXZ	Matakaoa Point	1.42	31		Pn	12 22 20.7	+0.7
MXZ	Matakaoa Point	1.42	31	P	Pn	12 22 20.6	+0.7
MXZ	Matakaoa Point	1.42	31	P	Pn	12 22 20.5	+0.6
NNVZ	North Ngauruho	1.42	256	P	Pn	12 22 20.5	+0.3
TUVZ	Tukino	1.43	250	P	Pn	12 22 20.7	+0.5
WTVZ	West Tongariro	1.44	256	P	Pn	12 22 20.6	+0.3
NGZ	Ngauruhoe	1.45	254	P	Pn	12 22 20.8	+0.3
PNHZ	Pukenui	1.45	219	P	Pn	12 22 20.4	0.0
WPHZ	Waipukurau	1.47	210	P	Pn	12 22 20.6	0.0
KMRZ	Kaimai	1.48	309	P	Pn	12 22 20.0	-0.7
WHVZ	Whangaehu Hut	1.49	250	P	Pn	12 22 21.4	+0.3
WNVZ	Wahianoa	1.49	248	P	Pn	12 22 21.5	+0.4
DRZ	Dome Shelter	1.50	251	P	Pn	12 22 21.8	+0.5
FWVZ	Far West T-bar	1.50	251	P	Pn	12 22 21.5	+0.3
TLZ	Tolley Road	1.52	287	P	Pn	12 22 21.0	-0.3
TRVZ	Turoa	1.52	250	P	Pn	12 22 21.8	+0.3
TWVZ	Taurewa	1.55	259	P	Pn	12 22 21.7	0.0
PRHZ	Porangahau	1.59	201	P	Pn	12 22 22.0	-0.2
MTVZ	Mangateitei	1.61	248	P	Pn	12 22 22.9	+0.4
PKVZ	Pokaka	1.67	252	P	Pn	12 22 23.6	+0.3
TSZ	Takapari Road	1.68	221	P	Pn	12 22 23.1	-0.3
MYRZ	Mayor Island	1.76	329	P	Pn	12 22 24.3	-0.2
DVHZ	Dunmavrie	1.78	212	P	Pn	12 22 24.1	-0.7
ANWZ	Angora Road	1.81	203	P	Pn	12 22 25.0	-0.2
TOZ	Tahuroa Road	1.82	305	P	Pn	12 22 24.8	-0.4
HIZ	Hauiti	2.00	277	Pn	Pn	12 22 29.0	+1.3
HIZ	Hauiti	2.00	277	P	Pn	12 22 28.6	+0.9
HIZ	Hauiti	2.00	277	P	Pn	12 22 28.5	+0.9
POWZ	Post Office Ro	2.03	218	P	Pn	12 22 27.6	-0.6
PRWZ	Pori Road	2.08	211	P	Pn	12 22 28.2	-0.5
VRZ	Vera Road	2.08	260	P	Pn	12 22 29.4	+0.7
BFZ	Birch Farm	2.08	205		Pn	12 22 28.1	-0.7
BFZ	Birch Farm	2.08	205	P	Pn	12 22 28.0	-0.8
BFZ	Birch Farm	2.08	205	P	Pn	12 22 28.0	-0.8
WAZ	Wanganui	2.10	242	P	Pn	12 22 30.0	+1.0
OHWZ	Ohakea	2.14	228	P	Pn	12 22 30.2	+0.7
TIWZ	Tintock	2.30	210	P	Pn	12 22 30.9	-0.9
CPWZ	Castlepoint	2.31	203	P	Pn	12

RPZ				Sn	Sn	12 24 42.0	-8.5
	11nm,0.3s,baz=313,slow=23,SNR=29						
	19nm,0.3s						
RPZ	**Rata Peaks**	**6.85**	**222**		**Pn**	**12 23 32.3**	**-1.6**
RPZ	**Rata Peaks**	**6.85**	**222**	P	**Pn**	**12 23 31.5**	**-2.4**
GCSZ	**Gaunt Creek Bo**	**6.99**	**227**	P	**Pn**	**12 23 33.7**	**-2.1**
FOZ	**Fox Glacier**	**7.42**	**228**	Pn	**Pn**	**12 23 38.8**	**-2.8**
LBZ	**Lake Benmore**	**7.77**	**222**	Pn	**Pn**	**12 23 42.9**	**-3.5**
ODZ	**Otahua Downs**	**8.02**	**217**	Pn	**Pn**	**12 23 46.6**	**-3.2**
ODZ	**Otahua Downs**	**8.02**	**217**	P	**Pn**	**12 23 46.0**	**-3.8**
JCZ	**Jackson Bay**	**8.34**	**228**	P	**Pn**	**12 23 50.5**	**-3.8**
WKZ	**Wanaka**	**8.68**	**223**	Pn	**Pn**	**12 23 55.6**	**-3.3**
SYZ	**Scrubby Hill**	**9.84**	**215**	P	**Pn**	**12 24 11.6**	**-3.0**
DCZ	**Deep Cove**	**10.11**	**225**	Pn	**Pn**	**12 24 15.5**	**-2.8**
PYZ	**Puysegur Point**	**10.80**	**224**	P	**Pn**	**12 24 24.7**	**-3.1**
TOO	**Toolangi**	**25.04**	**263**	P	**P**	**12 27 15.7**	**+1.9**
CTA	**Charters Tower**	**32.67**	**296**	P	**P**	**12 28 24.2**	**+2.4**
	2.3nm,0.5s,baz=134,slow=8.4,SNR=7.5						
	2.3nm,0.5s						
CTAO	**Charters Tower**	**32.67**	**296**	P	**P**	**12 28 23.4**	**+1.6**
CTAO				IAmb	IAmb	12 28 57.6	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**39.74**	**279**	P	**P**	**12 29 22.2**	**+0.1**
AS31				IAmb	IAmb	12 29 24.2	
	comp=Z,3.4nm,0.7s						
ASAR	**Alice Springs**	**39.74**	**279**	P	**P**	**12 29 23.2**	**+1.1**
	comp=Z,8.0nm,0.8s,baz=128,slow=8.8,SNR=92						
	comp=Z,8.0nm,0.8s						
ASAR	**Alice Springs**	**39.74**	**279**	P	**P**	**12 29 22.6**	**+0.5**
FORT	**Forrest**	**40.88**	**266**	P	**P**	**12 29 31.0**	**-0.4**
WR0	**Warramunga Arr**	**41.35**	**284**	P	**P**	**12 29 36.2**	**+0.8**
WR0				IAmb	IAmb	12 30 11.7	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**41.50**	**284**	P	**P**	**12 29 37.0**	**+0.4**
WB2				IAmb	IAmb	12 29 45.0	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**41.51**	**284**	P	**P**	**12 29 37.5**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=126,slow=7.3,SNR=28						
	comp=Z,1.4nm,0.5s						
WRA	**Warramunga Arr**	**41.51**	**284**	P	**P**	**12 29 37.5**	**+0.8**
WB0	**Warramunga Arr**	**41.58**	**285**	P	**P**	**12 29 37.4**	**+0.2**
WB0				IAmb	IAmb	12 29 47.2	
	comp=Z,10nm,1.4s						
FITZ	**Fitzroy Crossi**	**49.24**	**280**	P	**P**	**12 30 37.3**	**-0.5**
QSPA	**South Pole Qui**	**51.34**	**180**	P	**P**	**12 30 52.1**	**-1.2**
QSPA				IAmb	IAmb	12 31 28.6	
	comp=Z,4.1nm,1.3s						
H03S2	**Juan Fernandez**	**78.94**	**125**	T	T	14 00 07.5	
	baz=228						
H03S1	**Juan Fernandez**	**78.95**	**125**	T	T	14 00 10.6	
	baz=228						
H03S3	**Juan Fernandez**	**78.95**	**125**	T	T	13 59 57.7	
	baz=228						
H03N3	**Juan Fernandez**	**79.18**	**124**	T	T	14 00 23.1	
	baz=233						
H03N2	**Juan Fernandez**	**79.18**	**124**	T	T	14 00 21.9	
	baz=233						
H03N1	**Juan Fernandez**	**79.20**	**124**	T	T	14 00 21.9	
	baz=233						
MKAR	**Makanchi Array**	**120.07**	**308**	PKP	**PKiKP**	**12 40 38.9**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=156,slow=3.5,SNR=2.3						
ARCES	**ARCESS Array B**	**145.74**	**343**	PKPbc	**PKPab**	**12 41 26.4**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=55,slow=3.4,SNR=6.7						

JMA ***02*** *12:25:22.0±0.1,24°.4N±0°.3×121°.8E±0°.5,h61km±1km, MV2.4/10,TAIWAN REGION*
TAP ***02*** *12:25:22.4,24°.40N×121°.78E,h59km,ML3.0,C*

ISC 02 12:25:22.8±1.2,24°.40N±0°.02×121°.82E±0°.03,h58km±5km, n92,σ0s59/171,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.06**	**318**	P			**Pn**	**12 25 31.5**	**-0.1**
	baz=356								
EWUT				S			**Sn**	**12 25 38.2**	**+0.3**
	baz=356								
ENA	**Nanau**	**0.07**	**289**	P			**Pn**	**12 25 31.6**	**0.0**
	baz=307								
ENA				S			**Sn**	**12 25 38.7**	**+0.7**
	baz=307								
TWC	**Suao**	**0.21**	**8**	P			**Pn**	**12 25 32.2**	**0.0**
	baz=19								
TWC				S			**Sn**	**12 25 39.4**	**+0.5**
	baz=19								
NDS	**Dongshan**	**0.25**	**338**	eP			**Pn**	**12 25 32.4**	**0.0**
	baz=345								
NDS				eS			**Sn**	**12 25 39.8**	**+0.5**
	baz=345								
LATG	**Datong**	**0.30**	**296**	P			**Pn**	**12 25 32.5**	**-0.3**
	baz=299								
LATG				S			**Sn**	**12 25 40.2**	**0.0**
	baz=299								
ETL	**Fush Village**	**0.30**	**216**	eP			**Pn**	**12 25 32.5**	**-0.3**
	baz=210								
ETL				eS			**Sn**	**12 25 40.1**	**0.0**
	baz=210								
NACB	**Ninganchiao**	**0.31**	**222**	P			**Pn**	**12 25 32.4**	**-0.5**
NACB	**Ninganchiao**	**0.31**	**222**	P			**Pn**	**12 25 32.4**	**-0.5**
	baz=216								
NACB				S			**Sn**	**12 25 40.0**	**-0.1**
	baz=216								
ENTT	**Nioudou**	**0.33**	**316**	*i* P			**Pn**	**12 25 32.9**	**-0.1**
	baz=320								
ENTT				eS			**Sn**	**12 25 40.3**	**-0.1**
	baz=320								
TWE	**Neicheng**	**0.34**	**336**	P			**Pn**	**12 25 33.1**	**-0.1**
	baz=344								
TWE				eS			**Sn**	**12 25 41.0**	**+0.4**
	baz=344								
ETLH	**Xiulin Townshi**	**0.36**	**237**	P			**Pn**	**12 25 33.1**	**-0.3**
	baz=234								
ETLH				S			**Sn**	**12 25 40.8**	**-0.2**
	baz=234								
ILA	**Ilan**	**0.36**	**350**	eP			**Pn**	**12 25 33.4**	**+0.1**
	baz=356								
ILA				eS			**Sn**	**12 25 41.8**	**+0.8**
	baz=356								
TWD	**Chiawan**	**0.38**	**212**	P			**Pn**	**12 25 33.1**	**-0.3**
	baz=206								
TWD				eS			**Sn**	**12 25 41.0**	**-0.1**
	baz=206								
NNSB	**Datong**	**0.40**	**274**	P			**Pn**	**12 25 33.6**	**-0.2**
	baz=273								
NNSB				S			**Sn**	**12 25 41.4**	**-0.3**
	baz=273								
NNS	**Nan Shan**	**0.41**	**275**	P			**Pn**	**12 25 33.7**	**-0.1**
	baz=275								
NNS				S			**Sn**	**12 25 41.5**	**-0.3**
	baz=275								
FUSB	**Fushanzhiwuyua**	**0.41**	**329**	P			**Pn**	**12 25 33.7**	**-0.2**
	baz=333								
FUSB				S			**Sn**	**12 25 41.9**	**+0.1**
	baz=333								
YHNB	**Yeheng**	**0.48**	**303**	P			**Pn**	**12 25 34.1**	**-0.5**
YHNB	**Yeheng**	**0.48**	**303**	P			**Pn**	**12 25 34.2**	**-0.3**
	baz=305								
YHNB				S			**Sn**	**12 25 42.3**	**-0.7**
	baz=305								
NSK	**Sanguang**	**0.50**	**303**	P			**Pn**	**12 25 34.4**	**-0.3**
	baz=305								
NSK				eS			**Sn**	**12 25 42.9**	**-0.4**
	baz=305								
TIPB	**Shuangxi**	**0.56**	**1**	P			**Pn**	**12 25 35.6**	**+0.2**
	baz=4.0								
TIPB				S			**Sn**	**12 25 45.3**	**+0.7**
	baz=4.0								
WHF	**Hehuan Shan**	**0.57**	**243**	eP			**Pn**	**12 25 36.0**	**+0.2**
	baz=240								
WHF				eS			**Sn**	**12 25 44.4**	**-0.9**
	baz=240								
TWT	**Tachien**	**0.60**	**256**	eP			**Pn**	**12 25 35.6**	**-0.5**
	baz=254								
TWT				eS			**Sn**	**12 25 45.6**	**0.0**
	baz=254								
TWA	**Mucha**	**0.61**	**340**	eP			**Pn**	**12 25 35.7**	**-0.3**
	baz=343								
TWA				eS			**Sn**	**12 25 45.0**	**-0.5**
	baz=343								
NHDH	**Xindian Distri**	**0.62**	**334**	eP			**Pn**	**12 25 36.0**	**0.0**
	baz=337								
NHDH				eS			**Sn**	**12 25 45.7**	**+0.1**
	baz=337								
TDCB	**Techi**	**0.62**	**256**	eP			**Pn**	**12 25 35.6**	**-0.6**
	baz=255								
TDCB				eS			**Sn**	**12 25 45.6**	**-0.3**
	baz=255								
TWB1	**Santiao Chiao**	**0.62**	**14**	eP			**Pn**	**12 25 36.6**	**+0.6**
	baz=18								
TWB1				eS			**Sn**	**12 25 46.5**	**+0.9**
	baz=18								
NWF	**Wu-fen Shan**	**0.67**	**357**	eP			**Pn**	**12 25 36.8**	**+0.1**
NWF				eS			**Sn**	**12 25 46.9**	**+0.2**
NFF	**Wufeng Townshi**	**0.68**	**290**	eP			**Pn**	**12 25 36.6**	**-0.2**
	baz=290								
NFF				eS			**Sn**	**12 25 47.0**	**0.0**
	baz=290								
CHGB	**Renai**	**0.68**	**240**	eP			**Pn**	**12 25 37.1**	**+0.1**
	baz=238								
CHGB				eS			**Sn**	**12 25 47.8**	**+0.5**
	baz=238								
ESL	**Shilin**	**0.69**	**211**	eP			**Pn**	**12 25 36.1**	**-0.7**
	baz=207								
ESL				eS			**Sn**	**12 25 46.9**	**-0.1**
	baz=207								
SXI1	**Grass Mountain**	**0.69**	**4**	eP			**Pn**	**12 25 37.0**	**0.0**
	baz=7.0								
SXI1				eS			**Sn**	**12 25 48.0**	**+0.7**
	baz=7.0								
WUSB	**Renai**	**0.76**	**237**	eP			**Pn**	**12 25 38.1**	**+0.2**
	baz=235								
WUSB				eS			**Sn**	**12 25 48.7**	**-0.2**
	baz=235								
LIOB	**Emei**	**0.77**	**288**	eP			**Pn**	**12 25 37.7**	**-0.2**
	baz=289								
LIOB				eS			**Sn**	**12 25 49.0**	**+0.1**
	baz=289								
YM01	**YM01**	**0.77**	**343**	eP			**Pn**	**12 25 37.4**	**-0.6**
	baz=345								
YM01				eS			**Sn**	**12 25 48.4**	**-0.6**
	baz=345								
NSTT	**Nanjuang**	**0.78**	**287**	eP			**Pn**	**12 25 37.7**	**-0.3**
	baz=287								
NSTT				eS			**Sn**	**12 25 49.0**	**-0.1**
	baz=287								
TWS1	**Kuangyinshan**	**0.78**	**332**	eP			**Pn**	**12 25 37.8**	**-0.2**
	baz=334								
TWS1				eS			**Sn**	**12 25 48.8**	**-0.4**
	baz=334								
NCUH	**Zhongli**	**0.80**	**314**	eP			**Pn**	**12 25 38.1**	**-0.2**
	baz=315								
NCUH				eS			**Sn**	**12 25 49.4**	**-0.3**
	baz=315								
NCU	**National Centr**	**0.81**	**315**	eP			**Pn**	**12 25 38.2**	**-0.1**
	baz=316								
NCU				eS			**Sn**	**12 25 49.4**	**-0.3**
	baz=316								
WHP	**Taichung City**	**0.81**	**261**	eP			**Pn**	**12 25 38.5**	**+0.1**
	baz=260								
WHP				eS			**Sn**	**12 25 50.0**	**+0.2**
	baz=260								
EGFH	**Guangfu**	**0.81**	**206**	eP			**Pn**	**12 25 38.1**	**-0.3**
	baz=203								
EGFH				eS			**Sn**	**12 25 49.6**	**-0.2**
	baz=203								
ANP	**Anpu**	**0.82**	**341**	eS			**Sn**	**12 25 50.6**	**+0.3**
	baz=343								
NTST	**Danshui**	**0.83**	**336**	eS			**Sn**	**12 25 50.2**	**+0.1**
	baz=338								
SBCB	**Hsinchu**	**0.85**	**297**	eS			**Sn**	**12 25 50.8**	**+0.1**
	baz=298								
HSN	**Hsinchu**	**0.87**	**297**	eS			**Sn**	**12 25 50.3**	**-0.8**
	baz=301								
TWY	**Chenhua**	**0.89**	**347**	eP			**Pn**	**12 25 39.5**	**+0.1**
	baz=349								
TWY				eS			**Sn**	**12 25 52.0**	**+0.4**
	baz=349								
VWDT	**VWDT**	**0.90**	**224**	eP			**Pn**	**12 25 39.7**	**+0.3**
	baz=222								
VWDT				eS			**Sn**	**12 25 52.6**	**+0.9**
	baz=222								
WCS	**Beigang Elemen**	**0.90**	**248**	eP			**Pn**	**12 25 40.0**	**+0.6**
	baz=246								
WCS				eS			**Sn**	**12 25 52.6**	**+0.9**
	baz=246								
NMLH	**Miaoli**	**0.95**	**278**	eP			**Pn**	**12 25 40.0**	**-0.1**
	baz=278								
NMLH				eS			**Sn**	**12 25 52.9**	**0.0**
	baz=278								
TWQ1	**Liyutan**	**0.95**	**267**	eP			**Pn**	**12 25 40.1**	**-0.1**
	baz=266								
TWQ1				eS			**Sn**	**12 25 52.9**	**-0.2**
	baz=266								
HGSD	**Ruisui**	**0.98**	**202**	eP			**Pn**	**12 25 40.4**	**-0.2**
	baz=199								
HGSD				eS			**Sn**	**12 25 53.8**	**+0.2**
	baz=199								
SMLT	**Sun Moon Lake**	**0.99**	**238**	eP			**Pn**	**12 25 41.8**	**+1.0**
	baz=236								
SMLT				eS			**Sn**	**12 25 53.8**	**-0.2**
	baz=236								
SSLB	**Suanglung**	**1.00**	**232**	P			**Pn**	**12 25 42.2**	**+1.3**
SSLB	**Suanglung**	**1.00**	**232**	eP			**Pn**	**12 25 41.0**	**+0.1**
	baz=230								
SSLB				eS			**Sn**	**12 25 54.2**	**0.0**
	baz=230								
EHY	**Hungye**	**1.00**	**207**	eP			**Pn**	**12 25 40.5**	**-0.4**
	baz=204								
EHY				eS			**Sn**	**12 25 53.8**	**-0.4**
	baz=204								
TYC	**Yuchr**	**1.01**	**241**	eP			**Pn**	**12 25 40.9**	**0.0**
	baz=239								
TYC				eS			**Sn**	**12 25 54.4**	**+0.1**
	baz=239								
WDJ	**Dajia District**	**1.08**	**267**	eS			**Sn**	**12 25 56.0**	**+0.1**
	baz=266								
YOJ	**Yonaguni jima**	**1.09**	**87**	P			**Pn**	**12 25 41.7**	**-0.2**
YULB	**Yu-li**	**1.11**	**205**	P			**Pn**	**12 25 43.6**	**+1.3**
YULB	**Yu-li**	**1.11**	**205**	eP			**Pn**	**12 25 42.3**	**-0.1**
	baz=203								
YULB				eS			**Sn**	**12 25 56.7**	**-0.1**
	baz=203								
WHYT	**Xinyi Township**	**1.13**	**232**	eP			**Pn**	**12 25 43.7**	**+1.2**
	baz=230								
WHYT				eS			**Sn**	**12 25 59.3**	**+2.1**
	baz=230								
EYUL	**Yuli**	**1.15**	**204**	eP			**Pn**	**12 25 42.5**	**-0.3**
	baz=201								
EYUL				eS			**Sn**	**12 25 57.3**	**-0.2**
	baz=201								
WJS	**Zhushan**	**1.15**	**240**	eP			**Pn**	**12 25 42.9**	**0.0**
	baz=238								
WJS				eS			**Sn**	**12 25 57.5**	**-0.2**
	baz=238								
WNT	**Mingjian**	**1.16**	**243**	eP			**Pn**	**12 25 42.9**	**-0.1**
	baz=242								
WNT				eS			**Sn**	**12 25 57.8**	**-0.1**
	baz=242								
ALS	**Alishan**	**1.28**	**226**	eP			**Pn**	**12 25 44.8**	**-0.1**
	baz=224								
ALS				eS			**Sn**	**12 26 01.2**	**-0.1**
	baz=224								
CHN5	**Tsauling**	**1.32**	**233**	eP			**Pn**	**12 25 46.3**	**+1.2**
	baz=231								
CHN5				eS			**Sn**	**12 26 03.2**	**+1.5**
	baz=231								
EHD	**Haiduan**	**1.37**	**204**	eP			**Pn**	**12 25 45.7**	**0.0**
	baz=202								
EHD				eS			**Sn**	**12 26 02.6**	**-0.4**
	baz=202								
WDLH	**Douliu**	**1.37**	**239**	eP			**Pn**	**12 25 45.6**	**-0.1**
	baz=237								
WDLH				eS			**Sn**	**12 26 02.9**	**0.0**
	baz=237								
WRL	**Guolierlin Hig**	**1.41**	**249**	eP			**Pn**	**12 25 46.2**	**0.0**
	baz=248								
WRL				eS			**Sn**	**12 26 03.3**	**-0.6**
	baz=248								
ELDTW	**Lidau**	**1.42**	**211**	eP			**Pn**	**12 25 46.0**	**-0.4**
	baz=209								
ELDTW				eS			**Sn**	**12 26 03.5**	**-0.6**
	baz=209								
WCKO	**Fanlu**	**1.47**	**229**	eP			**Pn**	**12 25 47.3**	**+0.2**
	baz=228								
WCKO				eS			**Sn**	**12 26 05.4**	**+0.1**
	baz=228								
WTK	**Tuku**	**1.49**	**242**	eP			**Pn**	**12 25 47.2**	**-0.1**
	baz=240								
WTK				eS			**Sn**	**12 26 05.8**	**0.0**
	baz=240								
EDH	**Donghe**	**1.50**	**198**	eP			**Pn**	**12 25 47.3**	**-0.2**
	baz=197								
EDH				eS			**Sn**	**12 26 05.9**	**-0.2**
	baz=197								
CHN4	**Tsaushan**	**1.54**	**227**	eP			**Pn**	**12 25 49.7**	**+1.7**
	baz=226								
CHN4				eS			**Sn**	**12 26 07.0**	**+0.1**
	baz=226								
TPUB	**Ta-pu**	**1.55**	**225**	P			**Pn**	**12 25 49.6**	**+1.4**
TPUB	**Ta-pu**	**1.55**	**225**	eP			**Pn**	**12 25 49.5**	**+1.4**
	baz=223								
TPUB				eS			**Sn**	**12 26 07.4**	**+0.1**
	baz=223								
STYH	**Taoyuan**	**1.56**	**218**	eP			**Pn**	**12 25 48.4**	**+0.2**
	baz=216								
STYH				eS			**Sn**	**12 26 07.2**	**-0.1**
	baz=216								
CHY	**Chiayi**	**1.56**	**235**	eP			**Pn**	**12 25 48.4**	**+0.1**
	baz=233								
CHY				eS			**Sn**	**12 26 07.0**	**-0.5**
	baz=233								
WTP	**Ta-pu**	**1.60**	**224**	eP			**Pn**	**12 25 49.5**	**+0.6**
	baz=222								
WTP				eS			**Sn**	**12 26 10.0**	**+1.5**
	baz=222								
WSF	**Szhu**	**1.65**	**243**	eP			**Pn**	**12 25 49.1**	**-0.4**
	baz=241								
WSF				eS			**Sn**	**12 26 09.0**	**-0.6**
	baz=241								
TWK	**Hsinying**	**1.66**	**227**	eP			**Pn**	**12 25 50.1**	**+0.3**
	baz=225								
TWK				eS			**Sn**	**12 26 10.1**	**0.0**
	baz=225								
CHN1	**Nanshi**	**1.69**	**225**	eP			**Pn**	**12 25 50.2**	**+0.1**
	baz=223								
CHN1				eS			**Sn**	**12 26 10.3**	**-0.5**
	baz=223								
WSL	**Shuilin Townsh**	**1.70**	**239**	eP			**Pn**	**12 25 49.9**	**-0.3**
	baz=238								
WSL				eS			**Sn**	**12 26 10.5**	**-0.4**
	baz=238								
TWG	**Pinlang**	**1.72**	**204**	eP			**Pn**	**12 25 50.6**	**+0.2**
	baz=202								
TWG				eS			**Sn**	**12 26 11.2**	**-0.1**
	baz=202								
TWGBT	**Beinan**	**1.72**	**203**	P			**Pn**	**12 25 54.2**	**+3.7**
TWGBT	**Beinan**	**1.72**	**203**	eP			**Pn**	**12 25 50.8**	**+0.3**
	baz=202								
TWGBT				eS			**Sn**	**12 26 11.2**	**-0.1**
	baz=202								
SGST	**Jiashian**	**1.74**	**221**	eP			**Pn**	**12 25 50.4**	**-0.3**
	baz=219								
SGST				eS			**Sn**	**12 26 11.4**	**-0.4**
	baz=219								
IRIF	**Iriomote-Funau**	**1.75**	**92**	P			**Pn**	**12 25 50.3**	**-0.5**
IRIF				eS			**Sn**	**12 26 11.4**	**-0.6**
JKRS	**Kuro-shima**	**2.00**	**94**	P			**Pn**	**12 25 54.5**	**+0.2**
JKRS				S			**Sn**	**12 26 18.7**	**+0.4**
MASBT	**Mashibuluo**	**2.09**	**212**	eP			**Pn**	**12 25 55.4**	**-0.1**
	baz=210								
MASBT				eS			**Sn**	**12 26 19.6**	**-0.8**
	baz=210								
JIJ	**Ishigaki jima**	**2.12**	**91**	P			**Pn**	**12 25 55.5**	**-0.4**
JIJ				S			**Sn**	**12 26 20.1**	**-1.0**
JISG	**Ishigakijimahi**	**2.28**	**85**	P			**Pn**	**12 25 57.6**	**-0.5**
JISG				S			**Sn**	**12 26 24.7**	**-0.3**
JTJ	**Tarama**	**2.64**	**84**	P			**Pn**	**12 26 03.3**	**+0.4**

MOS ***02*** *12:26:02.4±0.8,45°.01N×149°.77E,h53km,mb4.0/1,Error ellipse: s-maj=19.0km s-min=11.8km az=150.3*
SKHL ***02*** *12:26:02.4±0.6,45°.00N×149°.90E,h54km±5km,mb4.7/2*
JMA ***02*** *12:26:02.7±1.2,45°N±4°×15°0E±°,h30km,MV3.9/14,SE OFF ETOROFU*
IDC ***02*** *12:26:05.2±3.4,44°.98N×149°.79E,h60km±31km,mb3.1/7, mbtmp3.5/10,ML3.3/2,MS3.2/1,Error ellipse: s-maj=35.0km s-min=15.3km az=144.0*

ISC 02 12:26:03.6±0.8,44°.85N±0°.06×149°.85E±0°.07,h51km,n47, σ1s84/54,mb3.5/7,1C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.46**	**286**	*d* iPN			**Pn**	**12 26 25.3**	**-2.2**
KUR				eS			**Sn**	**12 26 41.7**	**-3.7**
KUR				pmax		pmax			
	comp=N,156nm,0.3s								
KUR				pmax		pmax			
	comp=Z,381nm,0.3s								
KUR				pmax		pmax			
	comp=E,45nm,0.2s								
KUR				smax		smax			
	comp=N,523nm,0.3s								
KUR				smax		smax			
	comp=E,277nm,0.2s								
KUR	**Kuril'sk**	**1.46**	**286**	*i* P			**Pn**	**12 26 25.3**	**-2.2**
KUR				AMB		AMB		12 26 31.3	
	comp=E,280nm,0.3s								
KUR				eS			**Sn**	**12 26 42.9**	**-2.5**
KUR				A		A		12 26 43.8	
	comp=E,560nm,0.3s								
KUR				A		A		12 26 43.8	
	comp=E,380nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.97**	**255**	*d* iPN			**Pn**	**12 26 48.6**	**+0.4**
YUK				eS			**Sn**	**12 27 23.8**	**+1.2**
YUK				pmax		pmax			
	comp=N,20nm,0.2s								
YUK				pmax		pmax			
	comp=E,43nm,0.2s								
YUK				pmax		pmax			
	comp=Z,99nm,0.2s								
YUK				smax		smax			
	comp=E,190nm,0.4s								
YUK				smax		smax			
	comp=N,371nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.97**	**255**	*i* P			**Pn**	**12 26 48.6**	**+0.4**
YUK				AMB		AMB		12 26 52.4	
	comp=N,50nm,0.2s								
YUK				eS			**Sn**	**12 27 22.8**	**+0.2**
YUK				A		A		12 27 31.7	
	comp=N,370nm,0.4s								
YUK				A		A		12 27 31.7	
	comp=N,190nm,0.4s								
NEM2	**Nemuro 2**	**3.31**	**245**	eP			**Pn**	**12 26 51.1**	**-1.7**
NEM2				eS			**Sn**	**12 27 27.3**	**-3.6**
NMR	**Nemuro--Hokkai**	**3.32**	**245**	i iPN			**Pn**	**12 26 52.4**	**-0.5**
NMR				eS			**Sn**	**12 27 31.2**	**+0.1**
NMR	**Nemuro--Hokkai**	**3.32**	**245**	*i* P			**Pn**	**12 26 52.7**	**-0.2**
NMR				eS			**Sn**	**12 27 31.2**	**+0.1**
RUSJ	**Misakicho**	**3.38**	**259**	ePN			**Pn**	**12 26 54.6**	**+0.8**
RUSJ				eS			**Sn**	**12 27 36.5**	**+3.9**
JRA	**Rausu**	**3.51**	**257**	eP			**Pn**	**12 26 56.2**	**+0.7**
JNK	**Nakash**	**3.90**	**253**	eP			**Pn**	**12 27 01.2**	**+0.3**
JNK				eS			**Sn**	**12 27 44.1**	**-1.3**
AKK	**Akkeshi**	**4.05**	**245**	eP			**Pn**	**12 27 03.7**	**+0.7**
JAK	**Akkeshi**	**4.16**	**245**	eP			**Pn**	**12 27 03.2**	**-1.2**
JAK				eS			**Sn**	**12 27 49.1**	**-2.7**
JTKR	**Abashiri--Toko**	**4.35**	**260**	eP			**Pn**	**12 27 08.5**	**+1.4**
JAR	**Ashorobuto**	**4.65**	**253**	eP			**Pn**	**12 27 12.3**	**+1.1**
JAR				eS			**Sn**	**12 28 05.0**	**+1.2**
JOB	**Onbets**	**4.76**	**248**	eP			**Pn**	**12 27 13.5**	**+0.7**
JOB				eS			**

baz=335,slow=76,SNR=181
H11N3 WAKE ISLAND Hy 28.79 145 T T 13 02 45.1
baz=335,slow=76,SNR=199
H11S1 WAKE ISLAND Hy 29.80 146 T T 13 03 50.3
baz=336,slow=76,SNR=333
H11S3 WAKE ISLAND Hy 29.81 146 T T 13 04 03.7
baz=336,slow=76,SNR=225
H11S2 WAKE ISLAND Hy 29.82 146 T T 13 03 51.8
baz=336,slow=76,SNR=222
ILAR Eielson Array 39.45 37 P **P 12 33 28.5 +0.2**
comp=Z,0.4nm,1.0s,baz=266,slow=7.4,SNR=7.1
comp=Z,0.4nm,1.0s
ZALV Zalesovo Beam 41.89 307 LR LR 12 51 55.8
comp=Z,29nm,18.6s,baz=98,slow=37
MKAR Makanchi Array 45.79 298 P **P 12 34 19.8 -0.2**
comp=Z,0.1nm,0.5s,baz=88,slow=7.4,SNR=1.3
MKAR PcP **PcP 12 35 55.8 -1.0**
comp=Z,0.3nm,0.6s,baz=58,slow=2.8,SNR=3.5
comp=Z,0.1nm,0.5s
MKAR Makanchi Array 45.79 298 *e*P **P 12 34 19.8 -0.2**
CMAR Chiang Mai Arr 49.69 255 P **P 12 34 50.9 +0.4**
comp=Z,0.4nm,0.4s,baz=21,slow=7.7,SNR=2.5
comp=Z,0.4nm,0.4s
YKA Yellowknife Ar 53.80 35 P **P 12 35 20.4 -0.2**
comp=Z,0.3nm,0.6s,baz=298,slow=7.5,SNR=3.1
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 66.02 196 P **P 12 36 45.4 +0.6**
comp=Z,1.0nm,1.0s,baz=27,slow=7.8,SNR=3.5
comp=Z,1.0nm,1.0s
ASAR Alice Springs 69.72 196 P **P 12 37 09.9 +1.9**
comp=Z,0.4nm,0.7s,baz=14,slow=4.8,SNR=4.4
comp=Z,0.4nm,0.7s
ASAR Alice Springs 69.72 196 P **P 12 37 10.0 +1.9**
TXAR Lajitas Array 80.42 58 P **P 12 38 10.7 +0.7**
comp=Z,0.3nm,0.5s,baz=295,slow=4.4,SNR=8.7
comp=Z,0.3nm,0.5s
H03N2 Juan Fernandez 141.03 90 T T 15 22 59.6
baz=304,slow=74
H03N1 Juan Fernandez 141.04 90 T T 15 23 15.0
baz=304
H03N3 Juan Fernandez 141.04 90 T T 15 22 47.1
baz=304,slow=74

*IDC **02** 12:41:42.4±0.7, 20°.53S×169°.69E, h114km±5km, mb4.0/12, mbtmp4.3/15, MS3.0/7, Error ellipse: s-maj=17.3km s-min=10.5km az=150.0*
*NOU **02** 12:41:43.2, 20°.53S×169°.70E, h116km, mb4.7/43, Vanuatu Islands*
*NEIC **02** 12:41:43.8±2.7, 20°.7S±0°.1×169°.8E±0°.1, h122km±7km, mb4.7/32, Error ellipse: s-maj=17.4km s-min=14.2km az=215.0*
ISC 02 12:41:42.4±0.6, **20°.58S**±0°.06×**169°.77E**±0°.06, **h114**km±5km, **h115**km:**pP-P, n122, o1s09/123, mb4.6/29, 2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.85**	**241**		**Pn**	**12 42 13.2**	**-0.5**
MARNC	**Mare, Loyalty**	**1.85**	**241**	P	**Pn**	**12 42 13.2**	**-0.5**
LIFNC	**LIFOU**	**2.37**	**265**	Pn	**Pn**	**12 42 20.3**	**0.0**
LIFNC	**LIFOU**	**2.37**	**265**	P	**Pn**	**12 42 20.4**	**+0.1**
RTV	**Rentapao**	**3.05**	**335**	P	**Pn**	**12 42 30.5**	**+1.4**
YATNC	**Mamie plateau,**	**3.06**	**241**	P	**Pn**	**12 42 29.2**	**0.0**
DVP	**Devils Point**	**3.21**	**332**	P	**Pn**	**12 42 31.0**	**-0.3**
OUENC	**Ouen Island, N**	**3.28**	**236**	Pn	**Pn**	**12 42 32.3**	**+0.2**
OUENC	**Ouen Island, N**	**3.28**	**236**	P	**Pn**	**12 42 32.3**	**+0.2**
DZM	**Mont Dzumac**	**3.43**	**244**	P	**Pn**	**12 42 34.3**	**0.0**
	317nm,0.4s,baz=104,slow=8.4,SNR=1983						
DZM				S	**Sn**	**12 43 13.6**	**-0.9**
	1µm,0.5s,baz=145,slow=21,SNR=20						
DZM				LR	LR	12 43 17.8	
	comp=Z,79nm,18.6s,baz=53,slow=28						
DZM	**Mont Dzumac**	**3.43**	**244**	Pn	**Pn**	**12 42 33.7**	**-0.6**
DZM	**Mont Dzumac**	**3.43**	**244**	P	**Pn**	**12 42 34.3**	**0.0**
ONTNC	**Ouen Toro**	**3.53**	**240**	Pn	**Pn**	**12 42 35.6**	**+0.1**
ONTNC	**Ouen Toro**	**3.53**	**240**	P	**Pn**	**12 42 35.7**	**+0.2**
KOUNC	**Koumac, New Ca**	**5.13**	**269**	Pn	**Pn**	**12 42 58.1**	**+1.0**
KOUNC	**Koumac, New Ca**	**5.13**	**269**	P	**Pn**	**12 42 58.6**	**+1.6**
MSVF	**Nonsavu**	**8.33**	**71**	P	**Pn**	**12 43 41.2**	**+0.8**
	2.2nm,0.4s,baz=210,slow=20,SNR=2.0						
MSVF				LR	LR	12 46 18.4	
	comp=Z,217nm,20.9s,baz=261,slow=33						
NFK	**Norfolk Island**	**8.59**	**191**	P	**Pn**	**12 43 45.0**	**+1.2**
OUZ	**Omahuta**	**14.97**	**168**	P	**P**	**12 45 10.1**	**-0.5**
OUZ	**Omahuta**	**14.97**	**168**	P	**P**	**12 45 09.6**	**-1.1**
KUZ	**Kuaotunu**	**16.92**	**163**	P	P	12 45 41.3	+9.0
EIDS	**Eidsvold**	**17.85**	**251**	P	**Pn**	**12 45 45.2**	**+1.7**
EIDS	**Eidsvold**	**17.85**	**251**	P	**Pn**	**12 45 44.7**	**+1.2**
LIRZ	**Lichensteins R**	**18.29**	**163**	P	**Pn**	**12 45 49.4**	**+0.8**
MXZ	**Matakaoa Point**	**18.48**	**158**	P	**Pn**	**12 45 51.8**	**+1.0**
MXZ	**Matakaoa Point**	**18.48**	**158**	P	**Pn**	**12 45 51.9**	**+1.0**
MXZ	**Matakaoa Point**	**18.48**	**158**	P	**Pn**	**12 45 52.4**	**+1.5**
RUGZ	**Raukumara Rang**	**18.63**	**160**	P	**Pn**	**12 45 56.5**	**+3.6**
PKGZ	**Pakihiroa**	**18.69**	**159**	P	**Pn**	**12 45 54.2**	**+0.8**
URZ	**Urewera**	**18.73**	**162**	P	**Pn**	**12 45 53.5**	**-0.3**
	14nm,0.5s,baz=65,slow=5.1,SNR=11						
URZ	**Urewera**	**18.73**	**162**	P	**Pn**	**12 45 54.6**	**+0.8**
WMGZ	**Waiomatatini S**	**18.75**	**158**	P	**Pn**	**12 45 54.1**	**+0.1**
PUZ	**Puketiti**	**18.92**	**159**	P	**Pn**	**12 45 55.6**	**-0.5**
TWGZ	**Tauwhareparae**	**18.92**	**160**	P	**Pn**	**12 45 56.5**	**+0.4**
RTZ	**Ruatahuna**	**19.02**	**162**		**Pn**	**12 45 57.3**	**0.0**
RTZ				IAmb	IAmb	12 45 58.7	
	comp=Z,38nm,0.8s						
ARMA	**Armidale**	**19.05**	**235**	P	**Pn**	**12 45 58.7**	**+0.9**
ARMA				IAmb	IAmb	12 45 59.5	
	comp=Z,38nm,0.8s						
ARMA	**Armidale**	**19.05**	**235**	P	**Pn**	**12 45 58.3**	**+0.4**
MRHZ	**Matea Rd**	**19.07**	**164**	P	**Pn**	**12 45 58.8**	**+0.8**
SNGZ	**Shannon Statio**	**19.28**	**162**	P	**Pn**	**12 45 60.0**	**-0.4**
BKZ	**Black Stump Fm**	**19.41**	**164**	P	**Pn**	**12 46 01.4**	**-0.4**
BKZ				IAmb	IAmb	12 46 02.0	
	comp=Z,34nm,0.7s						
BKZ	**Black Stump Fm**	**19.41**	**164**	P	**Pn**	**12 46 01.0**	**-0.8**
RMQ	**Roma**	**20.13**	**249**	P	Pn	12 46 09.7	-0.6
QRZ	**Quartz Range**	**20.32**	**174**	P	**P**	**12 46 10.8**	**+1.5**
MRZ	**Mangatainoka R**	**20.62**	**167**	P	**P**	**12 46 12.7**	**+0.2**
MRZ				IAmb	IAmb	12 46 13.7	
	comp=Z,35nm,0.8s						
BFZ	**Birch Farm**	**20.79**	**166**	P	**P**	**12 46 13.9**	**-0.3**
BFZ				IAmb	IAmb	12 46 22.6	
	comp=Z,71nm,1.2s						
BFZ	**Birch Farm**	**20.79**	**166**	P	**P**	**12 46 14.0**	**-0.3**
TCW	**Tory Channel**	**20.92**	**170**	P	**P**	**12 46 16.7**	**+1.0**
TUWZ	**Tuamarina**	**21.08**	**171**	P	**P**	**12 46 18.9**	**+1.4**
SNZO	**South Karori**	**21.09**	**170**	P	**P**	**12 46 19.3**	**+1.8**
SNZO	**South Karori**	**21.09**	**170**	P	**P**	**12 46 19.6**	**+2.1**
THZ	**Tophouse**	**21.28**	**174**	P	**P**	**12 46 21.1**	**+1.4**
PLWZ	**Palliser**	**21.43**	**169**	P	**P**	**12 46 23.2**	**+1.9**
TV1H	**Townsville Har**	**21.64**	**269**	P	**P**	**12 46 24.0**	**+0.4**
	comp=Z,14nm,1.0s						
CTA	**Charters Tower**	**22.05**	**267**	P	**P**	**12 46 28.2**	**+0.1**
	comp=Z,10nm,0.5s,baz=91,slow=11,SNR=38						
CTA				LR	LR	12 54 30.0	
	comp=Z,43nm,19.4s,baz=88,slow=35						
	comp=Z,10nm,0.5s						
CTA	**Charters Tower**	**22.05**	**267**	P	**P**	**12 46 28.7**	**+0.6**
CTAO	**Charters Tower**	**22.05**	**267**	P	**P**	**12 46 28.6**	**+0.6**
CTAO	**Charters Tower**	**22.05**	**267**	P	**P**	**12 46 28.1**	**+0.1**
LTZ	**Lake Taylor**	**22.23**	**175**	P	**P**	**12 46 31.1**	**+1.4**
LTZ				IAmb	IAmb	12 46 32.4	
	comp=Z,37nm,1.3s						
OXZ	**Oxford**	**22.76**	**176**	P	**P**	**12 46 35.7**	**+0.8**
OXZ				IAmb	IAmb	12 46 35.9	
	comp=Z,30nm,1.0s						
RPZ	**Rata Peaks**	**23.09**	**178**	P	**P**	**12 46 39.1**	**+1.0**
	comp=Z,9.6nm,0.7s,baz=286,slow=1.5,SNR=6.8						
	comp=Z,9.6nm,0.7s						
RPZ	**Rata Peaks**	**23.09**	**178**	P	**P**	**12 46 39.1**	**+1.0**
CNB	**Canberra Magne**	**23.18**	**226**	P	**P**	**12 46 40.0**	**+0.9**
CAN	**Canberra**	**23.43**	**227**	P	**P**	**12 46 42.5**	**+1.1**
CAN				IAmb	IAmb	12 46 44.0	
	comp=Z,20nm,0.7s						
CAN	**Canberra**	**23.43**	**227**	P	**P**	**12 46 41.8**	**+0.4**
QLP	**Quilpie**	**24.13**	**251**	P	**P**	**12 46 48.1**	**+0.4**
CMSA	**Cobar Meteorol**	**24.17**	**238**	P	**P**	**12 46 48.5**	**+0.4**
PMG	**Port Moresby**	**24.46**	**294**	P	**P**	**12 46 50.6**	**-0.2**
	comp=Z,22nm,0.9s,baz=112,slow=6.2,SNR=9.1						
	comp=Z,22nm,0.9s						
TOO	**Toolangi**	**27.02**	**226**	P	**P**	**12 47 12.9**	**-1.0**
INKA	**Innaminka**	**27.38**	**249**	P	**P**	**12 47 17.1**	**+0.1**
STKA	**Stephens Creek**	**27.58**	**240**	P	**P**	**12 47 19.0**	**+0.2**
	comp=Z,8.9nm,0.7s,baz=89,slow=11,SNR=18						
STKA				LR	LR	12 57 19.4	
	comp=Z,41nm,21.4s,baz=23,slow=34						
	comp=Z,8.9nm,0.7s						
STKA	**Stephens Creek**	**27.58**	**240**	P	**P**	**12 47 19.1**	**+0.2**
QIS	**Mount Isa**	**28.22**	**265**	P	**P**	**12 47 24.3**	**-0.4**
RAR	**Rarotonga**	**28.45**	**97**	LR	LR	12 58 29.7	
	comp=Z,23nm,19.2s,baz=230,slow=35						
LCRK	**Leigh Creek**	**30.03**	**245**	P	**P**	**12 47 40.4**	**-0.2**
HTT	**Hallett**	**30.19**	**238**	P	**P**	**12 47 42.3**	**+0.3**
OOD	**Oodnadatta**	**31.83**	**250**	P	**P**	**12 47 56.7**	**+0.3**
BBOO	**Buckleboo**	**32.34**	**241**	P	**P**	**12 48 01.1**	**+0.2**
BBOO				IAmb	IAmb	12 48 01.6	
	comp=Z,13nm,0.8s						
BBOO	**Buckleboo**	**32.34**	**241**	P	**P**	**12 48 00.9**	**0.0**
WR0	**Warramunga Arr**	**33.01**	**265**	P	**P**	**12 48 06.0**	**-0.9**
WR0				IAmb	IAmb	12 48 06.9	
	comp=Z,8.8nm,0.8s						
WB0	**Warramunga Arr**	**33.17**	**265**	P	**P**	**12 48 07.0**	**-1.2**
WB0				IAmb	IAmb	12 48 07.7	
	comp=Z,12nm,1.0s						
WB2	**Warramunga Arr**	**33.19**	**265**	P	**P**	**12 48 07.3**	**-1.1**
WB2				IAmb	IAmb	12 48 08.5	
	comp=Z,37nm,1.5s						
WRAB	**Tennant Creek**	**33.19**	**265**	P	**P**	**12 48 06.9**	**-1.6**
WRA	**Warramunga Arr**	**33.20**	**265**	P	**P**	**12 48 07.1**	**-1.5**
	comp=Z,6.9nm,0.8s,baz=92,slow=8.2,SNR=92						
WRA				pP	**pP**	**12 48 32.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=90,slow=8.2,SNR=2.5						
WRA				LR	LR	13 01 13.5	
	comp=Z,25nm,18.9s,baz=150,slow=35						
	comp=Z,6.9nm,0.8s						
WRA	**Warramunga Arr**	**33.20**	**265**	P	**P**	**12 48 07.0**	**-1.5**
AS31	**Alice Springs**	**33.31**	**258**	P	**P**	**12 48 09.0**	**-0.5**
AS31				IAmb	IAmb	12 48 09.9	
	comp=Z,11nm,0.9s						
ASAR	**Alice Springs**	**33.31**	**258**	P	**P**	**12 48 08.7**	**-0.8**
	comp=Z,27nm,0.8s,baz=95,slow=8.9,SNR=365						
ASAR				pP	**pP**	**12 48 35.3**	**+1.8**
	comp=Z,5.6nm,0.6s,baz=75,slow=8.3,SNR=4.8						
ASAR				LR	LR	13 00 44.2	
	comp=Z,50nm,18.1s,baz=344,slow=34						
	comp=Z,27nm,0.8s						
MULG	**Mulgathing**	**33.55**	**246**	P	**P**	**12 48 10.9**	**-0.5**
MTN	**Manton Dam**	**37.72**	**276**	P	**P**	**12 48 47.2**	**0.0**
MTN	**Manton Dam**	**37.72**	**276**	P	**P**	**12 48 46.9**	**-0.3**
WRKA	**Warakurna**	**38.38**	**255**	P	**P**	**12 48 52.0**	**-0.7**
FORT	**Forrest**	**38.74**	**246**	P	**P**	**12 48 54.6**	**-1.1**
FORT	**Forrest**	**38.74**	**246**	P	**P**	**12 48 55.0**	**-0.6**
KNRA	**Kununurra**	**39.20**	**270**	P	**P**	**12 48 59.0**	**-0.5**
KNRA	**Kununurra**	**39.20**	**270**	P	**P**	**12 48 58.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**41.62**	**266**		**P**	**12 49 19.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**48.05**	**244**	P	**P**	**12 50 09.9**	**-0.4**
NWAO				IAmb	IAmb	12 50 48.1	
	comp=Z,18nm,0.9s						
BKSI	**Bulukumba**	**50.48**	**280**	P	**P**	**12 50 26.2**	**-2.9**
	comp=Z,23nm,1.1s						
MPSI	**Mapaga**	**53.00**	**287**	P	**P**	**12 50 46.7**	**-1.1**
	comp=Z,9.7nm,0.9s,comp=Z,3µm						
MPSI				pP	**pP**	**12 51 12.4**	**-1.9**
	comp=Z,9.7nm,0.9s,comp=Z,3µm						
VNDA	**Vanda**	**57.11**	**182**	P	**P**	**12 51 16.0**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=321,slow=7.6,SNR=6.6						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**57.11**	**182**	P	**P**	**12 51 16.4**	**0.0**
SBA	**Scott Base**	**57.34**	**181**	P	**P**	**12 51 19.4**	**+1.4**
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**12 52 37.9**	**-0.4**
NJ2	**Nanjing**	**71.51**	**316**	*e*P	**P**	**12 52 53.3**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
GYA	**Guiyang**	**76.99**	**305**	µP	**P**	**12 53 23.6**	**+0.6**
GYA				sP	sP	12 54 06.8	+3.2
GYA				pmax	pmax		
	comp=Z,17nm,0.5s						
CMAR	**Chiang Mai Arr**	**79.50**	**294**	P	**P**	**12 53 37.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=132,slow=4.3,SNR=6.0						
CMAR				pP	**pP**	**12 54 06.2**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=128,slow=4.3,SNR=3.9						
	comp=Z,0.8nm,0.7s						
BELA	**Belgrano 2**	**80.72**	**175**	P	**P**	**12 53 41.0**	**-1.5**
PZH	**PanZhiHua**	**80.85**	**303**	P	**P**	**12 53 46.0**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,4.5s						
HHC	**Hu-ho-hao-te**	**81.56**	**319**	*e*P	**P**	**12 53 50.5**	**+3.0**
HHC				pmax	pmax		
	comp=Z,37nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,5.0s						
ELIB	**Princess Elisa**	**84.91**	**190**	*d*P	**P**	**12 54 03.0**	**-1.4**
	comp=Z,4.9nm,0.9s						
SNAA	**Sanae**	**87.85**	**182**	P	**P**	**12 54 17.4**	**-1.2**
SNAA				IAmb	IAmb	12 54 18.2	
	comp=Z,6.1nm,0.7s						
SONM	**Songino Array**	**88.58**	**323**	P	**P**	**12 54 21.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=157,slow=4.7,SNR=2.7						
SONM				pP	**pP**	**12 54 51.3**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=136,slow=4.2,SNR=6.3						
	comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea 89.32 48** P **P**					**12 54 26.2**	**0.0**
	comp=Z,1.2nm,0.7s,baz=226,slow=9.0,SNR=10						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array 91.36 17** P **P**					**12 54 32.6**	**-2.1**
	comp=Z,0.2nm,0.6s,baz=238,slow=5.3,SNR=7.0						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array 97.16 47** P Pdif					12 55 03.9	+1.6
	comp=Z,0.1nm,0.5s,baz=213,slow=3.1,SNR=2.1						
	comp=Z,0.1nm,0.5s						
WMQ	**Urumqi**	**98.49**	**314**	*e*P	Pdif	12 55 10.0	+2.1
KHC	**Kasperske Hory**	**145.75**	**332**	*e*PKP	pPKPdf	13 01 36.5	-1.5
GERES	**GERESS Array B**	**145.90**	**331**	PKPbc	**PKPdf**	**13 01 07.7**	**0.0**
	comp=Z,1.8nm,0.7s,baz=27,slow=3.6,SNR=9.8						
GERES				pPKPbc	**pPKPdf**	**13 01 37.7**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=25,slow=3.5,SNR=6.3						
BIOA	**Bad Ischl, Aus**	**146.77**	**330**	*e*PKiKP	**PKiKP**	**13 01 15.3**	**+1.7**
	comp=Z,3.4nm,0.6s						
ABTA	**Abfaltersbach**	**147.99**	**330**	*e*PKP	**PKPdf**	**13 01 12.4**	**+1.1**
	comp=Z,2.0nm,0.7s						
MOTA	**Moosalm**	**148.18**	**332**	*e*PKP	**PKPbc**	**13 01 13.6**	**-1.5**
	comp=Z,4.2nm,0.8s						
SQTA	**Sankt Quirin**	**148.23**	**332**	*e*PKP	**PKPbc**	**13 01 13.9**	**-1.2**
	comp=Z,3.1nm,0.5s						
FETA	**Feichten**	**148.59**	**332**	*e*PKP	**PKPbc**	**13 01 14.6**	**-1.6**
	comp=Z,1.7nm,0.6s						

HEL 02 12:59:50.2±0.2, **61°.38N**×**21°.88E, h0**km, **ML1.2, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAF	**Rauma**	**0.36**	**189**	PG	Pg	12 59 56.5	-0.5
	baz=21						
RAF				SG	Sg	13 00 01.2	-0.4
KEF	**Keuruu**	**1.63**	**59**	MSG		13 00 38.9	
	comp=Z,0.7nm,0.2s						
KEF				SN	Sn	13 00 40.0	-1.8
VAF	**Ylistaro**	**1.71**	**12**	MSG		13 00 41.5	
	comp=Z,1.5nm,0.2s						
PVF	**Pernaja**	**2.12**	**111**	MSG		13 00 52.9	
	comp=Z,0.8nm,0.2s						
PVF				SG	Sb	13 00 55.8	-0.3
HEMU	**Hemsoen**	**2.23**	**307**	SG	Sb	13 00 59.6	+0.1
UMAU	**Umeaa**	**2.58**	**348**	PG	Pb	13 00 35.5	-1.7
	baz=174						
UMAU				SG	Sb	13 01 10.1	+0.7
SLIT	**Slitere, Latvi**	**3.76**	**177**	PG	Pb	13 00 57.2	-0.3

*ANF **02** 13:05:07.6±0.7, 38°.45N×119°.01W, h5km±4km, ML3.7/9, Error ellipse: s-maj=5.5km s-min=2.8km az=138.0*
*REN **02** 13:05:08.7±1.3, 38°.389N±0°.010×118°.93W±0°.01, h7km±3km, Mwr3.5, ML3.4/64(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=59.0*
*NEIC **02** 13:05:09.2±1.5, 38°.39N±0°.01×118°.93W±0°.02, h13km±2km, Error ellipse: s-maj=2.5km s-min=1.8km az=81.0*
*NEIC **02** 13:05:10, 38°.39N×118°.93W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr0.25; Mθθ-1.87; Mφφ 1.62; Mrθ 1.20; Mrφ-0.32; Mθφ-0.06; Fault plane solution: M0 2.15000×10^14^ NP1:ϕ1311.00000°, δ80.00000°, λ-156.00000°. NP2:ϕ2216.00000°, δ67.00000°, λ-11.00000°. Principal axes: T 1.6766, Plg9.0000°, Azm82.0000°; N 0.7522, Plg64.0000°, Azm332.0000°; P -2.4288, Plg24.0000°, Azm176.0000°;*
ISC 02 13:05:09.0±0.9, **38°.39N**±0°.02×**118°.93W**±0°.02, **h12**km±7km,

n100, σ0s65/108, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVH1	**TV Hill, Hawth**	**0.15**	**63**		**Pg**	**13 05 12.4**	**-0.4**
TVH1					**Sg**	**13 05 15.0**	**-0.5**
LHV	**Little Huntoon**	**0.37**	**112**		**Pg**	**13 05 16.5**	**+0.2**
LHV					**Sg**	**13 05 21.9**	**+0.7**
LHV	**Little Huntoon**	**0.37**	**112**	IAML		13 05 22.1	
	comp=N,15µm,0.4s						
LHV				IAML		13 05 22.3	
	comp=E,9µm,0.5s						
LUL	**Lundy Lake**	**0.39**	**210**		**Pg**	**13 05 16.8**	**-0.1**
LUL					**Sg**	**13 05 22.7**	**+0.6**
RYN	**Ryan**	**0.40**	**54**		**Pg**	**13 05 17.0**	**0.0**
RYN					**Sg**	**13 05 22.9**	**+0.5**
RYN	**Ryan**	**0.40**	**54**	IAML		13 05 23.2	
	comp=N,11µm,0.3s						
RYN				IAML		13 05 23.3	
	comp=E,16µm,0.4s						
WAKR	**Walker**	**0.41**	**286**		**Pg**	**13 05 17.4**	**+0.2**
WAKR					**Sg**	**13 05 23.4**	**+0.7**
WAKR	**Walker**	**0.41**	**286**	IAML		13 05 25.2	
	comp=N,3µm,0.3s						
WAKR				IAML		13 05 26.4	
	comp=E,2µm,0.5s						
NV09	**Mina Array Sit**	**0.47**	**84**		**Pg**	**13 05 18.2**	**-0.2**
NV08	**Mina Array Sit**	**0.48**	**88**		**Pg**	**13 05 18.3**	**-0.2**
NVAR	**Mina Array Bea**	**0.50**	**85**		**Pg**	**13 05 18.4**	**-0.4**
NV11	**Mina Array Sit**	**0.61**	**86**		**Pb**	**13 05 21.5**	**-0.3**
YERR	**Yerington**	**0.64**	**338**		**Pg**	**13 05 21.4**	**-0.1**
YERR					**Sg**	**13 05 30.6**	**+0.6**
YERR	**Yerington**	**0.64**	**338**	IAML		13 05 31.3	
	comp=N,2µm,0.3s						
YERR				IAML		13 05 31.6	
	comp=E,2µm,0.4s						
BENR	**Benton**	**0.73**	**157**		**Pg**	**13 05 22.8**	**-0.4**
MDYM	**Dry Creek**	**0.73**	**185**		**Pg**	**13 05 23.1**	**-0.2**
MDYM					**Sb**	**13 05 33.8**	**-0.3**
MCBM	**Casa Benchmark**	**0.75**	**178**		**Pg**	**13 05 23.3**	**-0.2**
MLAC	**Mammoth, Mammo**	**0.76**	**174**		**Pg**	**13 05 23.6**	**-0.2**
MLAC	**Mammoth, Mammo**	**0.76**	**174**	P	**Pg**	**13 05 23.6**	**-0.2**
	baz=354						
MDPB	**Devils Postpil**	**0.77**	**189**		**Pg**	**13 05 23.4**	**-0.4**
MDPB					**Sg**	**13 05 34.1**	**+0.2**
OMMB	**Old Mammoth Mi**	**0.78**	**184**		**Pg**	**13 05 23.7**	**-0.4**
OMMB					**Sg**	**13 05 34.4**	**0.0**
ORC	**Owens River**	**0.79**	**164**		**Pg**	**13 05 23.8**	**-0.4**
PNTR	**Pine Nut**	**0.87**	**323**		**Sb**	**13 05 37.7**	**-0.2**
PNTR	**Pine Nut**	**0.87**	**323**		**Pg**	**13 05 25.4**	**-0.5**
PNTR	**Pine Nut**	**0.87**	**323**	IAML		13 05 38.2	
	comp=E,2µm,0.6s						
PNTR				IAML		13 05 41.8	
	comp=N,1µm,0.5s						
RCCR	**Rock Creek Can**	**0.92**	**169**		**Pg**	**13 05 26.3**	**-0.4**
MLNR	**Milner Canyon**	**0.92**	**149**		**Pg**	**13 05 26.5**	**-0.3**
KVN	**Kaiserville**	**0.93**	**44**		**Pg**	**13 05 26.5**	**-0.4**
KVN					**Sb**	**13 05 39.4**	**0.0**
KVN	**Kaiserville**	**0.93**	**44**	IAML		13 05 43.0	
	comp=N,1µm,0.3s						
VCNR	**Virginia City**	**1.06**	**328**		**Pg**	**13 05 29.1**	**-0.4**
VCNR					**Sb**	**13 05 43.8**	**+0.4**
VCNR	**Virginia City**	**1.06**	**328**	IAML		13 05 46.9	
	comp=E,2µm,0.5s						
EMB	**Emerald Bay**	**1.08**	**303**		**Pg**	**13 05 29.8**	**-0.1**
EMB					**Sb**	**13 05 44.7**	**+0.7**
EMB	**Emerald Bay**	**1.08**	**303**	IAML		13 05 48.9	
	comp=E,1µm,0.6s						
KCC	**Kaiser Creek**	**1.11**	**196**		**Pg**	**13 05 29.6**	**-0.8**
POCCA	**Poleta Canyon**	**1.15**	**153**		**Pg**	**13 05 30.5**	**-0.6**
CMB	**Columbia Colle**	**1.20**	**253**	Pg	**Pg**	**13 05 31.2**	**-0.8**
CMB				IAML		13 05 51.1	
	comp=E,488nm,0.5s						
CMB				IAML		13 05 52.3	
	comp=N,524nm,0.5s						
MPK	**Martis Peak**	**1.24**	**317**		**Pg**	**13 05 32.5**	**-0.4**
MPK	**Martis Peak**	**1.24**	**317**	IAML		13 05 53.4	
	comp=E,930nm,0.7s						
MPK				IAML		13 05 56.1	
	comp=N,1µm,0.6s						
DSP	**Deep Springs**	**1.27**	**143**		**Pn**	**13 05 32.8**	**+0.3**
DSP					**Sn**	**13 05 50.3**	**+0.8**
TPH	**Tonopah**	**1.38**	**103**		**Pn**	**13 05 34.4**	**+0.1**
MZP	**Montezuma Peak**	**1.41**	**119**		**Pn**	**13 05 34.7**	**0.0**
MZP				IAML		13 05 57.9	
	comp=N,513nm,0.5s						
Q09A	**Carvers**	**1.44**	**72**		**Pn**	**13 05 35.6**	**+0.5**
DONR	**Donner Summit**	**1.45**	**312**		**Pn**	**13 05 35.1**	**-0.1**
TIN	**Tinemaha, Big**	**1.45**	**157**		**Pb**	**13 05 36.0**	**+0.1**
TIN	**Tinemaha, Big**	**1.45**	**157**	P	**Pb**	**13 05 36.0**	**+0.1**
	baz=338						
PEAR	**Peavine Mounta**	**1.46**	**327**		**Pb**	**13 05 36.2**	**+0.1**
BABR	**Babbit Peak**	**1.52**	**323**		**Pb**	**13 05 37.6**	**+0.4**
LCH	**Last Change Ra**	**1.54**	**138**		**Pn**	**13 05 36.9**	**+0.5**
LCH	**Last Change Ra**	**1.54**	**138**	IAML		13 06 02.8	
	comp=E,304nm,0.6s						

ELK				IAML		13 07 07.9		
	comp=E,73nm,0.5s							
ELK				IAML		13 07 09.3		
	comp=E,59nm,0.3s							
PASC	**Pasadena Art C**	**4.25**	**172**	Pn	**Pn**	**13 06 13.0**	**-0.6**
YBH	**Yreka Blue Hor**	**4.42**	**320**	Pn	**Pn**	**13 06 16.6**	**+0.7**
CCUT	**Cedar City**	**4.48**	**99**	Pn	**Pn**	**13 06 17.2**	**+0.3**
LCMT	**Little Creek M**	**4.72**	**105**		**Pn**	**13 06 20.1**	**+0.1**
KNB	**Kanab**	**5.04**	**104**	Pn	**Pn**	**13 06 25.1**	**+0.6**
DUC	**Dugway, Tooele**	**5.08**	**67**		**Pn**	**13 06 25.5**	**+0.4**
PMD	**Palm Desert**	**5.17**	**156**	Pn	**Pn**	**13 06 25.1**	**-1.1**
PFO	**Pinyon Flats O**	**5.17**	**156**	Pn	**Pn**	**13 06 24.9**	**-1.4**
HUMO	**Hull Mountain**	**5.21**	**325**	Pn	**Pn**	**13 06 25.1**	**-1.6**
BGU	**Big Grassy Mou**	**5.21**	**59**		**Pn**	**13 06 26.0**	**-0.9**
MVU	**Marysvale**	**5.28**	**87**	Pn	**Pn**	**13 06 26.9**	**-0.9**
NLU	**North Lily Min**	**5.55**	**72**	Pn	**Pn**	**13 06 31.7**	**+0.1**
I07A	**Izee**	**5.70**	**356**	Pn	**Pn**	**13 06 34.1**	**+0.6**
HVU	**Hansel Valley**	**5.81**	**52**	Pn	**Pn**	**13 06 35.3**	**+0.2**
TCUT	**Toone Canyon**	**6.41**	**62**	Pn	**Pn**	**13 06 43.7**	**+0.3**
P18A	**Preston Nutter**	**6.88**	**77**	Pn	**Pn**	**13 06 48.6**	**-1.3**
PLID	**Pearl Lake**	**7.04**	**17**	Pn	**Pn**	**13 06 50.5**	**-1.5**

IDC 02 13:05:52.0±10.0, **4°74S**×**153°50E, h152**km±67km, **mb3.1**/3, **mbtmp3.7**/4, **Error ellipse: s-maj=111.8km s-min=41.7km az=102.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.82**	**233**	P	Pn	13 07 42.9	-0.1
	15nm,0.5s,baz=41,slow=11,SNR=7.0						
PMG				S	Sn	13 09 11.2	+0.9
	5.1nm,0.4s,baz=295,slow=21,SNR=2.0						
WRA	**Warramunga Arr**	**24.01**	**229**	P	P	13 10 53.6	+0.7
	1.2nm,0.7s,baz=55,slow=9.9,SNR=13						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**26.67**	**223**	P	P	13 11 16.4	-0.6
	0.5nm,0.6s,baz=54,slow=9.1,SNR=13						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**80.74**	**319**	P	P	13 17 48.6	+0.1
	0.2nm,0.6s,baz=103,slow=6.6,SNR=1.9						
	0.2nm,0.6s						

VAO ***02*** *13:13:47.5±0.6, 4°.90S×76°.28W, h98km±5km, mb5.9*

MOS ***02*** *13:13:47.1±1.2, 4°.89S×76°.45W, h109km, mb6.0/47, Error ellipse: s-maj=8.6km s-min=5.3km az=86.4*

NEIC ***02*** *13:13:48.7±1.7, 4°.90S±0°.06×76°.37W±0°.07, h106km±1km, mb6.1/731, Mwb5.9/57, Mww5.9, Error ellipse: s-maj=11.8km s-min=9.9km az=246.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=7.81; $M_{\theta\theta}$=0.98; $M_{\phi\phi}$=6.83; $M_{r\theta}$=-1.68; $M_{r\phi}$=-1.71; $M_{\theta\phi}$=2.04; Fault plane solution: M_o=8.01000×10^{17} NP1:ϕ_s=351.44000°, δ=36.54000°, λ=-78.77000°. NP2:ϕ_s=157.56000°, δ=54.27000°, λ=-98.21000°. Principal axes: T 7.6716, Plg9.0000°, Azm253.0000°; N 0.6470, Plg7.0000°, Azm162.0000°; P -8.3186, Plg79.0000°, Azm36.0000°;*

IDC ***02*** *13:13:48.2±0.3, 4°.85S×76°.39W, h106km±3km, mb5.5/32, mbtmp5.8/38, MS4.7/22 Error ellipse: s-maj=8.7km s-min=6.4km az=93.0*

BGR ***02*** *13:13:48.2, 5°.45S×75°.73W, h105km, mb6.2, Ms5.1*

GCMT ***02*** *13:13:49.7±0.1, 4°.95S±0°.01×76°.46W±0°.01, h120km, MW5.9/150, Moment Tensor Solution. s141,c283; s150,c409; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}=0.83±.01; $M_{\theta\theta}$=-0.08±.01; $M_{\phi\phi}$=0.90±.01; $M_{r\theta}$=0.18±.01; $M_{r\phi}$=-0.25±.01; $M_{\theta\phi}$=0.24±.01; Best double couple: M_o=0.94400×10^{18} NP1:ϕ_s=158.00000°, δ=54.00000°, λ=-101.00000°. NP2:ϕ_s=356.00000°, δ=37.00000°, λ=-76.00000°. Principal axes: T 1.0050, Plg8.0000°, Azm256.0000°; N -0.1220, Plg9.0000°, Azm165.0000°; P -0.8840, Plg78.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BJI ***02*** *13:13:49.5±0.0, 4°.90S×76°.30W, h115km, mB5.9/35*

NEIC ***02*** *13:13:53, 4°.88S×76°.31W, h120km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=8.41; $M_{\theta\theta}$=0.66; $M_{\phi\phi}$=7.75; $M_{r\theta}$=-1.46; $M_{r\phi}$=-2.05; $M_{\theta\phi}$=4.09; Fault plane solution: M_o=9.42000×10^{17} NP1: ϕ_s=347.00000°, δ=31.00000°, λ=-86.00000°. NP2: ϕ_s=163.00000°, δ=59.00000°, λ=-92.00000°. Principal axes: T 9.3570, Plg14.0000°, Azm254.0000°; N 0.1193, Plg2.0000°, Azm164.0000°; P -9.4763, Plg76.0000°, Azm67.0000°;*

ISC 02 13:13:48.1±0.2, **4°94S**×**0°03**×**76°34W**±0°.04, **h110**km±2km, **h110**km:**pP-P, n1706,** σ**1**§**42**/1643, **mb6.0**/534, **34C-34D, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.99**	**223**	P	**Pn**	**13 14 34.8**	**+0.5**
	34µm,0.7s,baz=24,slow=9.0,SNR=2894						
ATAH				S	**Sn**	**13 15 10.8**	**+0.9**
	24µm,0.8s,baz=198,slow=22,SNR=14						
ATAH				LR	LR	13 15 48.8	
	comp=Z,28µm,21.9s,baz=299,slow=40						
CZSB	**Cruzeiro do Su**	**4.55**	**128**	Pn	**Pn**	**13 14 56.2**	**+1.4**
CZSB	**Cruzeiro do Su**	**4.55**	**128**	*eP*	**Pn**	**13 14 56.5**	**+1.6**
BONI	**La Bonita**	**5.49**	**347**	*eP*	**Pn**	**13 15 07.9**	**+0.1**
CUSE	**Cuicocha Este**	**5.61**	**338**	*eP*	**Pn**	**13 15 11.6**	**+2.0**
PAC1	**Pacto, Paraso**	**5.73**	**335**	*eP*	**Pn**	**13 15 12.6**	**+1.6**
TULM	**Tulcn-Chalpat**	**5.80**	**345**	*eP*	**Pn**	**13 15 14.1**	**+1.8**
GCUF	**Volcan Galeras**	**6.21**	**351**	*eP*	**Pn**	**13 15 18.9**	**+1.2**
TBTG	**Tabatinga, AM**	**6.45**	**84**		**Pn**	**13 15 21.0**	**+0.4**
TBTG	**Tabatinga, AM**	**6.45**	**84**	*eP*	**Pn**	**13 15 21.2**	**+0.6**
TBTG	**Tabatinga, AM**	**6.45**	**84**	*eP*	**Pn**	**13 15 20.9**	**+0.3**
CRUC	**La Cruz**	**6.50**	**355**	*eP*	**Pn**	**13 15 22.4**	**+0.8**
FLOC	**Florencia**	**6.52**	**6**	*eP*	**Pn**	**13 15 21.8**	**+0.3**
NNA	**Nana**	**7.02**	**184**	P	**Pn**	**13 15 29.4**	**+1.1**
	991nm,0.3s,baz=0.7,slow=10.0,SNR=221						
NNA				S	**Sn**	**13 16 43.9**	**-2.8**
	5µm,0.5s,baz=284,slow=15,SNR=12						
NNA	**Nana**	**7.02**	**184**	Pn	**Pn**	**13 15 29.1**	**+0.8**
GARC	**Garzon, Huila**	**7.13**	**7**	*eP*	**Pn**	**13 15 29.6**	**-0.5**
TUMC	**Tumaco**	**7.13**	**340**		**Pn**	**13 15 30.8**	**+1.0**
TUMC	**Tumaco**	**7.13**	**340**	*eP*	**Pn**	**13 15 31.5**	**+1.6**
MACC	**Macarena, Meta**	**7.47**	**19**↑	*iP*	**Pn**	**13 15 33.8**	**-0.6**
GR1C	**Gorgona, Isla**	**8.10**	**347**	*eP*	**Pn**	**13 15 44.8**	**+1.8**
GUVC	**San Jose del G**	**8.31**	**27**	*eP*	**Pn**	**13 15 46.1**	**+0.3**
ORTC	**Ortega, Tolima**	**8.86**	**7**	*eP*	**Pn**	**13 15 52.1**	**-1.3**
YOTC	**Yotoco, Valle**	**8.87**	**360**	*eP*	**Pn**	**13 15 56.4**	**+2.9**
VILC	**Villavicencio,**	**9.37**	**16**	*eP*	**Pn**	**13 16 01.0**	**+0.6**
PLMC	**San Jos del P**	**9.78**	**0**	*eP*	**Pn**	**13 16 06.4**	**+0.5**
CHIC	**Chingaza**	**9.86**	**15**	*eP*	**Pn**	**13 16 07.0**	**-0.2**
ROSC	**El Rosal**	**9.92**	**12**	P	**Pn**	**13 16 08.6**	**+0.6**
	54nm,0.4s,baz=180,slow=8.0,SNR=22						
ROSC	**El Rosal**	**9.92**	**12**		**Pn**	**13 16 08.0**	**0.0**
ROSC	**El Rosal**	**9.92**	**12**	*eP*	**Pn**	**13 16 11.1**	**+3.1**
PTGC	**Puerto Gaitan,**	**10.00**	**25**	*eP*	**Pn**	**13 16 07.6**	**-1.3**
GUY2C	**Guyana, Caldas**	**10.14**	**5**	*eP*	**Pn**	**13 16 14.0**	**+2.8**
MAPC	**Malpelo**	**10.33**	**329**	*eP*	**Pn**	**13 16 12.6**	**-0.7**
SGCB	**SEo Gabriel D**	**10.45**	**63**	*eP*	**Pn**	**13 16 12.5**	**-2.4**
CBOC	**Ciudad Bolivar**	**10.74**	**2**	*eP*	**Pn**	**13 16 21.2**	**+2.2**
ETMB	**Extrema**	**11.14**	**116**	Pn	**Pn**	**13 16 21.1**	**-3.1**
ETMB	**Extrema**	**11.14**	**116**	*eP*	**Pn**	**13 16 20.8**	**-3.4**
RUSC	**La Rusia**	**11.24**	**17**	Pn	**Pn**	**13 16 25.3**	**-0.7**
RUSC	**La Rusia**	**11.24**	**17**	*eP*	**Pn**	**13 16 25.4**	**-0.6**
PTBC	**PUERTO BERRIO,**	**11.56**	**9**	*eP*	**Pn**	**13 16 28.5**	**-1.3**
DBBC	**Dabeiba**	**11.88**	**1**	*eP*	**Pn**	**13 16 38.0**	**+3.9**
TAMC	**Tame, Arauca**	**12.18**	**22**	*eP*	**Pn**	**13 16 37.9**	**-0.2**
BRRC	**Barranca, Sant**	**12.25**	**12**	*eP*	**Pn**	**13 16 38.3**	**-0.7**
ZARC	**Zaragoza, Cauc**	**12.44**	**7**	*eP*	**Pn**	**13 16 40.9**	**-0.6**
UREC	**San Jos de Ur**	**12.63**	**4**	*eP*	**Pn**	**13 16 45.0**	**+1.0**
PAMC	**Pamplona, Colo**	**12.73**	**17**	*eP*	**Pn**	**13 16 46.2**	**+0.6**
APAC	**Apartado, Choc**	**12.76**	**359**	*eP*	**P**	**13 16 49.2**	**-3.1**
AZU	**Azuero**	**13.25**	**343**	*eP*	**Pn**	**13 16 52.3**	**+0.3**
UPD2	**Meteti**	**13.51**	**353**	*eP*	**P**	**13 17 01.5**	**+0.9**
SAML	**Samuel**	**13.65**	**108**	Pn	**Pn**	**13 16 53.5**	**-3.7**
LCBC	**Los crdobas,**	**13.71**	**360**	*eP*	**P**	**13 17 06.8**	**+3.9**
LPAZ	**La Paz**	**13.85**	**145**	Pn	**Pn**	**13 16 57.1**	**-3.4**
LPAZ	**La Paz**	**13.85**	**145**	P	**Pn**	**13 16 57.1**	**-3.4**
LPAZ	**La Paz**	**13.85**	**145**	*eP*	**Pn**	**13 16 57.2**	**-3.3**
PB18	**Visviri**	**14.25**	**152**	Pn	**Pn**	**13 17 05.1**	**-0.3**
BCIP	**Isla Barro Col**	**14.44**	**346**	P	**Pn**	**13 17 06.8**	**-0.6**
BCIP	**Isla Barro Col**	**14.44**	**346**	P	**Pn**	**13 17 06.8**	**-0.6**
BCIP	**Isla Barro Col**	**14.44**	**346**	*eP*	**Pn**	**13 17 08.2**	**+0.8**
PAYG	**Puerto Ayora**	**14.56**	**287**	Pn	**Pn**	**13 17 07.8**	**-1.2**
AP01	**Chacalluta**	**14.57**	**157**		**Pn**	**13 17 09.9**	**+0.9**
LL1C	**La Loma 1 Cana**	**14.65**	**11**	*eP*	**P**	**13 17 14.1**	**+0.7**
SJCC	**San Jacinto, C**	**14.79**	**4**	*eP*	**P**	**13 17 16.3**	**+1.4**
PB12	**IPOC Station P**	**14.80**	**157**	Pn	**Pn**	**13 17 12.5**	**+0.5**
ARGC	**Ariguani, Magd**	**14.85**	**8**	*eP*	**Pn**	**13 17 13.6**	**+1.0**
SDV	**Santo Domingo**	**14.87**	**22**	P	**Pn**	**13 17 13.1**	**+0.1**
	150nm,0.5s,baz=197,slow=5.6,SNR=57						
SDV				LR	LR	13 24 43.4	
	comp=Z,2µm,18.8s,baz=207,slow=44						
SDV	**Santo Domingo**	**14.87**	**22**	Pn	**Pn**	**13 17 12.5**	**-0.5**
SDV	**Santo Domingo**	**14.87**	**22**	*eP*	**Pn**	**13 17 12.8**	**-0.2**
PB16	**IPOC Station P**	**14.89**	**154**	Pn	**Pn**	**13 17 14.2**	**+0.6**
CDITO	**Canoas**	**14.93**	**334**	Pn	**Pn**	**13 17 13.3**	**-0.2**
BRU2	**Volcan**	**15.04**	**335**	Pn	**Pn**	**13 17 14.6**	**-0.6**
BRU2	**Volcan**	**15.04**	**335**	*eP*	**Pn**	**13 17 16.4**	**+1.2**
BRU2	**Volcan**	**15.04**	**335**	*eP*	**P**	**13 17 16.7**	**-1.2**
EDP2	**Potrero Grande**	**15.45**	**334**	*eP*	**P**	**13 17 23.2**	**+0.9**
POTG	**Potrero Grande**	**15.46**	**334**	*eP*	**Pn**	**13 17 20.7**	**+0.3**
MNMC	**Minye Minye**	**15.56**	**156**	P	**Pn**	**13 17 22.6**	**+0.8**
MACA	**Manacapuru-AM**	**15.71**	**84**	Pn	**Pn**	**13 17 19.8**	**-3.7**
MACA	**Manacapuru-AM**	**15.71**	**84**	*eP*	**Pn**	**13 17 19.8**	**-3.7**
SRBA	**San Rafael, Bu**	**15.73**	**334**	P	**Pn**	**13 17 24.5**	**+0.8**
SRBA	**San Rafael, Bu**	**15.73**	**334**	*eP*	**P**	**13 17 25.8**	**+0.4**
PSGCX	**Pisagua**	**15.77**	**158**		**Pn**	**13 17 24.8**	**+0.6**
BAUV	**El Baul**	**16.08**	**31**		**Pn**	**13 17 26.4**	**-1.6**
PB11	**IPOC Station P**	**16.10**	**157**	Pn	**Pn**	**13 17 28.5**	**+0.1**
SMRC	**Santa Marta, M**	**16.14**	**7**	*eP*	**P**	**13 17 30.4**	**+0.5**
BUS1	**Rivas**	**16.18**	**333**	*eP*	**P**	**13 17 32.3**	**+1.4**
CDM	**Cerro de Muert**	**16.19**	**333**	*eP*	**P**	**13 17 32.2**	**+1.3**
CRJC	**Cerrejon, Guaj**	**16.23**	**12**	*eP*	**Pn**	**13 17 28.8**	**-1.1**
VTCV	**VTCV, Calle Va**	**16.55**	**334**	*eP*	**P**	**13 17 37.3**	**+2.6**
LCOCO	**El Coco**	**16.57**	**334**	*eP*	**P**	**13 17 35.2**	**+0.6**
OCM	**Ochomogo**	**16.58**	**333**	*eP*	**P**	**13 17 36.1**	**+1.1**
CVTV	**Tajo**	**16.58**	**334**	*eP*	**P**	**13 17 37.5**	**+2.4**
VTCE	**Turrialba Volc**	**16.61**	**334**	*eP*	**P**	**13 17 38.6**	**+3.1**
VICA	**Volcano Irazu**	**16.61**	**333**	*eP*	**P**	**13 17 39.0**	**+3.5**
TA01	**Diego Aracena**	**16.64**	**159**		**P**	**13 17 35.3**	**-0.1**
CVIMO	**Finca Echandi**	**16.69**	**333**	*eP*	**P**	**13 17 39.9**	**+3.7**
JACO	**JACO, Garabito**	**16.71**	**330**	*eP*	**P**	**13 17 37.8**	**+1.5**
HDC	**Heredia**	**16.75**	**332**	*eP*	**Pn**	**13 17 36.2**	**-0.2**
HDC	**Heredia**	**16.75**	**332**	*eP*	**P**	**13 17 39.1**	**+2.3**
HDC3	**Heredia 3**	**16.75**	**332**	*eP*	**P**	**13 17 39.3**	**+2.6**
TRB2	**Turrubares**	**16.83**	**331**	*eP*	**P**	**13 17 37.5**	**-0.1**
RIFO	**Rio Frio, Sara**	**16.94**	**334**	*eP*	**P**	**13 17 40.2**	**+1.5**
LAFE	**Finca La Fe, P**	**16.96**	**330**	*eP*	**P**	**13 17 40.9**	**+2.0**
CRPO	**Crater poas**	**16.97**	**332**	*eP*	**P**	**13 17 42.4**	**+3.0**
POAS	**Crater Von Fra**	**16.98**	**332**	*eP*	**P**	**13 17 42.5**	**+3.0**
CPMI	**Catarata Coope**	**17.12**	**332**	*eP*	**Pn**	**13 17 43.5**	**+2.6**
SOCE	**Pocosol**	**17.32**	**332**	*eP*	**Pn**	**13 17 45.9**	**+2.7**
POPE	**POPE, Guanacas**	**17.36**	**329**	*eP*	**Pn**	**13 17 44.5**	**+0.8**
BOAV	**Boa Vista**	**17.40**	**66**	P	**P**	**13 17 43.5**	**-0.3**
BOAV	**Boa Vista**	**17.40**	**66**↑	*iP*	**P**	**13 17 42.8**	**-1.0**
BOAV	**Boa Vista**	**17.40**	**66**	*eP*	**P**	**13 17 43.0**	**-0.8**
JTS	**Las Juntas de**	**17.40**	**330**	LR	LR	13 23 58.7	
	comp=Z,3µm,21.5s,slow=35						
JTS	**Las Juntas de**	**17.40**	**330**		**Pn**	**13 17 44.6**	**+0.5**
JTS	**Las Juntas de**	**17.40**	**330**	P	**Pn**	**13 17 44.7**	**+0.5**
JTS	**Las Juntas de**	**17.40**	**330**	*eP*	**Pn**	**13 17 45.3**	**+1.1**
NARJA	**Naranjal**	**17.43**	**328**	*eP*	**Pn**	**13 17 46.5**	**+1.9**
COVE	**Coope Vega, Sa**	**17.51**	**333**↓	*eP*	**Pn**	**13 17 48.0**	**+2.5**
NICO	**Nicoya**	**17.51**	**329**	*eP*	**Pn**	**13 17 49.5**	**+4.0**
SAJU	**San Juanillo,**	**17.59**	**328**	*eP*	**Pn**	**13 17 47.2**	**+0.7**
ORTG	**Ortega, Santa**	**17.71**	**329**	*eP*	**Pn**	**13 17 48.7**	**+0.7**
HATIL	**Hatillo**	**17.78**	**328**	*eP*	**Pn**	**13 17 48.8**	**0.0**
VILB	**Vilhena**	**17.80**	**118**	P	**P**	**13 17 48.6**	**+0.3**
VILB	**Vilhena**	**17.80**	**118**	*eP*	**Pn**	**13 17 49.1**	**+0.1**
CUI	**Cuipilapa**	**17.82**	**330**	*eP*	**P**	**13 17 48.6**	**+0.2**
VMAR	**Armenia, Volca**	**17.93**	**331**	*eP*	**Pn**	**13 17 51.9**	**+1.3**
ELI1	**Hacienda Flor**	**18.00**	**329**	*eP*	**Pn**	**13 17 53.9**	**+2.5**
VRLE	**La Escondida,**	**18.03**	**330**	*eP*	**Pn**	**13 17 54.1**	**+2.3**
HZTE	**Horizontes, Gu**	**18.08**	**329**	*eP*	**Pn**	**13 17 53.3**	**+0.9**
SIV	**San Ignacio**	**18.58**	**127**	P	**Pn**	**13 17 57.8**	**-0.5**
	100nm,0.6s,baz=297,slow=9.7,SNR=99						
PB06	**IPOC Station P**	**18.83**	**160**	P	**Pn**	**13 18 01.0**	**-0.4**
LVC	**Limon Verde**	**18.98**	**158**	P	**Pn**	**13 18 04.4**	**+1.2**
	142nm,0.7s,baz=340,slow=7.1,SNR=137						
LVC				S	**Sn**	**13 21 36.3**	**-0.1**
	39nm,0.9s,baz=319,slow=12,SNR=2.6						
LVC	**Limon Verde**	**18.98**	**158**	Pn	**Pn**	**13 18 04.2**	**+0.9**
LVC	**Limon Verde**	**18.98**	**158**	*eP*	**Pn**	**13 18 02.6**	**-0.7**
PCRV	**Puerto La Cruz**	**19.01**	**38**	P	**Pn**	**13 18 03.3**	**-0.1**
	85nm,0.6s,baz=195,slow=7.4,SNR=53						
PB10	**IPOC Station P**	**19.29**	**164**	P	**Pn**	**13 18 06.0**	**-0.5**
PB15	**IPOC Station P**	**19.33**	**161**	P	**Pn**	**13 18 06.6**	**-0.7**
BBSD	**Serra de San D**	**19.63**	**130**	*eP*	**P**	**13 18 08.7**	**+0.4**
PTLB	**Pontes e Lacer**	**19.87**	**123**	*eP*	**P**	**13 18 11.6**	**+0.8**
PDRB	**Porto dos Gac**	**20.49**	**110**	*eP*	**P**	**13 18 17.1**	**-0.4**
CRIN	**San Cristobal**	**20.51**	**329**	*eP*	**Pn**	13 18 19.5	-1.4
ITTB	**Itaituba**	**20.54**	**89**	*eP*	**P**	**13 18 17.3**	**-0.7**
BBRB	**Robore, Bolivi**	**20.89**	**131**	*eP*	**P**	**13 18 21.9**	**+0.1**
NPGB	**Nova Progresso**	**20.97**	**97**	*eP*	**P**	**13 18 21.4**	**-1.3**
CLDB	**Colider**	**21.17**	**107**	*eP*	**P**	**13 18 24.6**	**-0.3**
MALB	**Monte Alegre**	**22.24**	**83**	*eP*	**P**	**13 18 35.6**	**-0.6**
GRGR	**Grenville**	**22.38**	**41**	P	**P**	**13 18 36.5**	**-1.1**
SNET	**Serv Nac Est T**	**22.50**	**325**	P	**P**	**13 18 39.2**	**+0.3**
TOSP	**Speyside**	**22.53**	**44**	P	**P**	**13 18 39.1**	**+0.1**
MCJ	**Malvern**	**22.76**	**357**	*i* P	**P**	**13 18 44.1**	**+2.7**
HOJ	**Hope**	**22.80**	**359**	*i* P	**P**	**13 18 45.3**	**+3.5**
GWJ	**Greenwich**	**22.87**	**359**	*i* P	**P**	**13 18 45.1**	**+2.5**
STH	**Stony Hill**	**22.88**	**359**↓	*i*P	**P**	**13 18 44.2**	**+1.7**
CMJ	**Castle Mountai**	**22.93**	**360**↑	*i*P	**P**	**13 18 47.8**	**+4.7**
SALV	**Santo Antonio**	**23.01**	**120**	*eP*	**P**	**13 18 44.7**	**+0.9**
CVJ	**Coleyville**	**23.05**	**357**↑	*i*P	**P**	**13 18 46.4**	**+2.2**
BNJ	**Bonny Gate**	**23.12**	**359**↑	*i*P	**P**	**13 18 47.7**	**+2.9**
BBJ	**Bamboo Saint A**	**23.20**	**358**	*i* P	**P**	**13 18 48.2**	**+2.7**
PP1B	**Ponte de Pedra**	**24.48**	**123**	*eP*	**P**	**13 18 58.1**	**+1.0**
LCO	**Las Campanas**	**24.53**	**168**	P	**P**	**13 18 58.2**	**+0.4**
LCO	**Las Campanas**	**24.53**	**168**	P	**P**	**13 18 58.2**	**+0.4**
MLPR	**Magueyes Islan**	**24.54**	**22**	P	**P**	**13 18 57.4**	**-0.3**
MURT	**Porto Murtinho**	**24.61**	**134**	*eP*	**P**	**13 18 58.7**	**+0.4**
MCPB	**Macapa, AP**	**24.67**	**80**	*eP*	**P**	**13 18 59.1**	**+0.1**
FDF	**Fort de France**	**24.67**	**37**	P	**P**	**13 18 58.5**	**-0.5**
FDF				pmax	pmax		
	comp=Z,290nm,1.3s						
GTBY	**Guantanamo Bay**	**24.74**	**3**	P	**P**	**13 18 59.4**	**-0.1**
SJG	**San Juan**	**25.02**	**23**	P	**P**	**13 19 02.0**	**0.0**
	comp=Z,710nm,0.8s,baz=199,slow=4.7,SNR=141						
	comp=Z,710nm,0.8s						
SJG	**San Juan**	**25.02**	**23**	P	**P**	**13 19 01.2**	**-0.8**
SJG	**San Juan**	**25.02**	**23**	P	**P**	**13 19 02.0**	**0.0**
RVDE	**Rio Verde (Bra**	**25.13**	**126**	*eP*	**P**	**13 19 04.0**	**+0.8**
EMPR	**Esperanza - Ma**	**25.20**	**22**	IAmb	IAmb	13 19 08.1	
	comp=Z,277nm,0.7s						
CBYP	**Canovanas**	**25.28**	**24**	IAmb	IAmb	13 19 06.8	
	comp=Z,321nm,0.8s						
CDVI	**St. Croix**	**25.28**	**27**	IAmb	IAmb	13 19 06.1	
	comp=Z,397nm,0.8s						
CO05	**La Serena**	**25.30**	**170**	IAmb	IAmb	13 19 08.5	
	comp=Z,289nm,0.7s						
AQDB	**Aquidauana**	**25.31**	**129**	*eP*	**P**	**13 19 05.8**	**+1.1**
CUPR	**Culebra, Puert**	**25.55**	**25**	P	**P**	**13 19 05.7**	**-1.1**
GO04	**Tololo Observa**	**25.63**	**169**	IAmb	IAmb	13 19 38.1	
	comp=Z,324nm,0.9s						
MDP	**Montagnes des**	**25.68**	**67**	P	**P**	**13 19 08.9**	**+0.8**
	comp=Z,209nm,0.7s,baz=238,slow=8.0,SNR=61						
	comp=Z,209nm,0.7s						
SNDB	**Serra Nova Dou**	**25.72**	**107**	*eP*	**P**	**13 19 09.4**	**+0.9**
SABA	**Saba**	**25.88**	**30**	IAmb	IAmb	13 19 51.4	
	comp=Z,1µm,2.0s						
GDSD	**La Dsirade Is**	**25.96**	**35**	IAmb	IAmb	13 19 11.4	
	comp=Z,372nm,0.9s						
TICA	**Tres Isletas**	**26.22**	**146**	*eP*	**P**	**13 19 14.0**	**+1.2**
ARAG	**Araguaiana, MT**	**26.36**	**116**	*eP*	**P**	**13 19 14.6**	**+0.4**
PRPB	**Parauapebas**	**26.42**	**94**	*eP*	**P**	**13 19 14.6**	**-0.3**
CO02	**Combarbal**	**26.60**	**170**	IAmb	IAmb	13 19 20.6	
	comp=Z,457nm,1.1s						
C2SB	**Chapadao do Su**	**26.73**	**123**	*eP*	**P**	**13 19 18.4**	**+0.8**
GRTK	**Grand Turk**	**26.78**	**11**	IAmb	IAmb	13 19 21.6	
	comp=Z,763nm,1.1s						
AMBA	**Amambai (Brazi**	**27.29**	**133**	*eP*	**P**	**13 19 22.9**	**+0.4**
CFA	**Coronel Fontan**	**27.59**	**165**	P	**P**	**13 19 26.6**	**+1.4**
	comp=Z,66nm,0.7s,baz=343,slow=9.7,SNR=77						
CFA				LR	LR	13 30 47.0	
	comp=Z,670nm,19.4s,baz=345,slow=37						
	comp=Z,66nm,0.7s						
TEIG	**Tepich**	**27.63**	**335**	P	**P**	**13 19 25.2**	**-0.3**
CPUP	**Villa Florida**	**27.98**	**141**	P	**P**	**13 19 28.9**	**+0.3**
	comp=Z,70nm,0.8s,baz=323,slow=9.1,SNR=109						
	comp=Z,70nm,0.8s						
TMAB	**Tom-Au,PA,Br**	**28.30**	**86**	*eP*	**P**	**13 19 32.2**	**+0.6**
SOR	**Soroa**	**28.33**	**347**	P	**P**	**13 19 34.4**	**+2.7**
SOR				pmax	pmax		
	comp=Z,66nm,1.3s						
CMIG	**Matias Romero**	**28.55**	**320**	P	**P**	**13 19 33.7**	**-0.1**
	comp=Z,27nm,0.5s,baz=119,slow=7.5,SNR=92						
CMIG				LR	LR	13 29 47.4	
	comp=Z,1µm,20.2s,baz=168,slow=34						
	comp=Z,27nm,0.5s						
MT05	**Renca**	**28.78**	**170**	P	**P**	**13 19 37.5**	**+1.8**
SMTB	**Santa Maria do**	**28.80**	**99**	*eP*	**P**	**13 19 36.8**	**+0.7**
MCR1	**Marechal Candi**	**28.92**	**134**	*eP*	**P**	**13 19 38.1**	**+1.1**
TRCB	**Terra Rica**	**28.97**	**130**	*eP*	**P**	**13 19 37.6**	**+0.1**
ITRB	**Iturama**	**29.24**	**122**	*eP*	**P**	**13 19 40.2**	**+0.3**
LMEL	**Las Melosas**	**29.32**	**170**	IAmb	IAmb	13 19 45.5	
	comp=Z,212nm,0.8s						
BO04	**La Punta**	**29.39**	**170**	IAmb	IAmb	13 19 45.3	
	comp=Z,220nm,0.8s						
PCMB	**Pacaembu**	**29.41**	**127**	*eP*	**P**	**13 19 41.4**	**-0.1**
BDFB	**Brasilia**	**29.78**	**113**	P	**P**	**13 19 45.8**	**+0.9**
	comp=Z,55nm,0.7s,baz=275,slow=10,SNR=52						
	comp=Z,55nm,0.7s						
BDFB	**Brasilia**	**29.78**	**113**	P	**P**	**13 19 45.3**	**+0.5**
BDFB	**Brasilia**	**29.78**	**113**	*eP*	**P**	**13 19 45.4**	**+0.5**
AZCA	**Azaras, Argent**	**30.06**	**142**	*eP*	**P**	**13 19 47.7**	**+0.6**
IPMB	**Ipameri, GO**	**30.39**

Y58A Scranton 38.77 356 P **P** **13 21 02.6 +0.7**
baz=175,SNR=18
Y58A P **P** **13 21 02.6 +0.7**
baz=175,SNR=18
Y60A Bolivia 38.78 358 IAmb IAmb 13 21 04.6
comp=Z,295nm,0.8s
Y60A Bolivia 38.78 358 P **P** **13 21 04.1 +2.1**
baz=177,SNR=5.7
Y60A P **P** **13 21 04.1 +2.1**
baz=177,SNR=5.7
Y57A Sumter 38.94 355 P **P** **13 21 03.9 +0.6**
baz=174,SNR=53
Y57A P **P** **13 21 03.9 +0.6**
baz=174,SNR=53
Z51A Franklin 38.96 348 P **P** **13 21 02.9 -0.7**
Z51A IAmb IAmb 13 21 05.5
comp=Z,271nm,0.8s
Z51A Franklin 38.96 348 P **P** **13 21 03.6 0.0**
baz=166,SNR=29
ABR01 Abrolhos, BA 38.99 113 *e*P **P** **13 21 05.0 +0.9**
LRAL Lakeview Retre 39.10 346 P **P** **13 21 03.6 -1.1**
LRAL IAmb IAmb 13 21 06.4
comp=Z,399nm,0.9s
LRAL Lakeview Retre 39.10 346 P **P** **13 21 04.0 -0.7**
baz=163,SNR=215
LRAL Lakeview Retre 39.10 346 P **P** **13 21 04.2 -0.5**
baz=163,SNR=215
LRAL S **S** **13 26 52.9 -3.4**
baz=163
342A Flagon Creek P 39.21 338 IAmb IAmb 13 21 08.1
comp=Z,481nm,1.1s
342B Flagon Creek P 39.21 338 P **P** **13 21 07.4 +1.8**
baz=154,SNR=34
146A Union 39.28 343 IAmb IAmb 13 21 07.9
comp=Z,443nm,1.2s
146A Union 39.28 343 P **P** **13 21 05.7 -0.5**
baz=160,SNR=11
Y52A Lilburn 39.28 350 IAmb IAmb 13 21 08.2
comp=Z,358nm,1.4s
Y52A Lilburn 39.28 350 P **P** **13 21 06.1 -0.2**
baz=168,SNR=43
Y52A P **P** **13 21 06.1 -0.2**
baz=168,SNR=43
JSC Jenkinsville 39.29 354 IAmb IAmb 13 21 08.6
comp=Z,187nm,0.8s
JSC Jenkinsville 39.29 354 P **P** **13 21 06.6 +0.4**
baz=172,SNR=45
VBMS Vicksburg 39.34 341 IAmb IAmb 13 21 08.4
comp=Z,238nm,1.0s
VBMS Vicksburg 39.34 341 P **P** **13 21 06.6 -0.1**
baz=157,SNR=8.9
VBMS Vicksburg 39.34 341 P **P** **13 21 06.2 -0.6**
baz=157,SNR=8.9
VBMS S **S** **13 26 58.7 -1.2**
baz=157
HODGE Hodges 39.36 352 IAmb IAmb 13 21 09.3
comp=Z,577nm,1.3s
HODGE Hodges 39.36 352 P **P** **13 21 07.2 +0.3**
baz=171,SNR=98
X58A Rowland 39.39 356 IAmb IAmb 13 21 09.5
comp=Z,273nm,0.8s
X58A Rowland 39.39 356 P **P** **13 21 07.7 +0.6**
baz=175,SNR=37
X58A P **P** **13 21 07.7 +0.6**
baz=175,SNR=37
HKT Hockley 39.41 333 P **P** **13 21 07.0 -0.3**
HKT Hockley 39.41 333 P **P** **13 21 07.0 -0.3**
HKT pmax pmax
comp=Z,75nm,1.1s
HKT Hockley 39.41 333 P **P** **13 21 07.3 +0.1**
HKT pP **pP** **13 21 31.8 -0.4**
HKT sP **sP** **13 21 44.8 +0.1**
HKT PcP **PcP** **13 23 14.0 +0.6**
735A Kenedy 39.45 330 P **P** **13 21 09.0 +1.3**
baz=145,SNR=49
Z47A Carrollton 39.53 344 P **P** **13 21 07.8 -0.6**
baz=162,SNR=66
Y49A Blount Mountai 39.75 347 P **P** **13 21 08.6 -1.5**
Y49A IAmb IAmb 13 21 11.3
comp=Z,198nm,0.9s
Y49A Blount Mountai 39.75 347 P **P** **13 21 09.1 -1.1**
baz=164,SNR=72
833A Chaparral WMA, 39.84 327 IAmb IAmb 13 21 13.7
comp=Z,238nm,1.3s
833A Chaparral WMA, 39.84 327 P **P** **13 21 13.1 +2.1**
baz=143,SNR=39
833A Chaparral WMA, 39.84 327 P **P** **13 21 11.3 +0.3**
baz=143,SNR=39
833A S **S** **13 27 06.8 -0.7**
baz=143
PAULI Pauline 39.89 353 P **P** **13 21 11.3 +0.1**
baz=172,SNR=138
CNNC Cliffs of the 39.99 358 IAmb IAmb 13 21 14.5
comp=Z,190nm,0.8s
CNNC Cliffs of the 39.99 358 P **P** **13 21 12.9 +0.8**
baz=178,SNR=18
CNNC Cliffs of the 39.99 358 P **P** **13 21 12.5 +0.4**
baz=178,SNR=18
CNNC S **S** **13 27 09.2 -0.3**
baz=178
W57A Gilead 40.03 355 IAmb IAmb 13 21 14.7
comp=Z,300nm,0.8s
W57A Gilead 40.03 355 P **P** **13 21 12.8 +0.3**
baz=174,SNR=53
W57A P **P** **13 21 12.8 +0.3**
baz=174,SNR=53
143A Socs Landing, 40.08 340 IAmb IAmb 13 21 15.6
comp=Z,263nm,0.8s
143A pP 13 21 38.4 +0.5
143A Socs Landing, 40.08 340 P **P** **13 21 12.5 -0.3**
baz=156,SNR=21
X51A Calhoun 40.11 349 IAmb IAmb 13 21 14.8
comp=Z,458nm,1.1s
X51A Calhoun 40.11 349 P **P** **13 21 12.8 -0.3**
baz=167,SNR=58
X51A P **P** **13 21 12.8 -0.3**
baz=167,SNR=58
KMSC Kings Mountain 40.15 354 IAmb IAmb 13 21 15.9
comp=Z,443nm,0.9s
KMSC Kings Mountain 40.15 354 P **P** **13 21 13.8 +0.4**
baz=172,SNR=99
KMSC Kings Mountain 40.15 354 P **P** **13 21 13.6 +0.2**
baz=172,SNR=99
KMSC S **S** **13 27 11.9 0.0**
baz=172
CASEE Lake Jocassee 40.20 352 P **P** **13 21 14.2 +0.3**
baz=170,SNR=213
RCBR Riachuelo 40.26 93 P **P** **13 21 15.6 +0.8**
comp=Z,39nm,0.5s,baz=47,slow=7.6,SNR=37
comp=Z,39nm,0.5s
RCBR Riachuelo 40.26 93 P **P** **13 21 14.3 -0.4**
RCBR Riachuelo 40.26 93 *e*P **P** **13 21 15.4 +0.7**
RCBR Riachuelo 40.26 93 P **P** **13 21 15.4 +0.7**
W52A Murphy 40.46 350 P **P** **13 21 16.1 +0.1**
baz=168,SNR=128
NATX Nacogdoches 40.46 336 IAmb IAmb 13 21 18.5
comp=Z,463nm,1.0s
NATX Nacogdoches 40.46 336 P **P** **13 21 16.4 +0.3**
baz=151,SNR=40
NATX Nacogdoches 40.46 336 P **P** **13 21 16.2 +0.1**
baz=151,SNR=40
NATX S **S** **13 27 16.7 0.0**
baz=151
X48A Hartselle 40.47 346 IAmb IAmb 13 21 17.2
comp=Z,219nm,0.9s
X48A Hartselle 40.47 346 P **P** **13 21 15.2 -0.9**
baz=164,SNR=97
V61A Roper 40.52 360 P **P** **13 21 18.3 +1.9**
baz=180,SNR=20
V61A P **P** **13 21 18.3 +1.9**
baz=180,SNR=20
Y45A Yeager Farm, C 40.57 343 P **P** **13 21 16.6 -0.3**
baz=160,SNR=74
V58A Windy Hill, Pi 40.60 357 IAmb IAmb 13 21 19.5
comp=Z,272nm,1.0s
V58A Windy Hill, Pi 40.60 357 P **P** **13 21 17.4 +0.3**
baz=176,SNR=42
V58A P **P** **13 21 17.4 +0.3**
baz=176,SNR=42
COYC Coyhaique 40.64 175 P **P** **13 21 18.1 +0.8**
COYC IAmb IAmb 13 21 21.0
comp=Z,219nm,0.9s
COYC Coyhaique 40.64 175 P **P** **13 21 19.0 +1.7**
COYC pP **pP** **13 21 45.5 +3.1**
W50A Signal Mountai 40.81 349 P **P** **13 21 18.6 -0.4**
baz=166,SNR=164
V55A Taylorsville 40.84 354 IAmb IAmb 13 21 22.6
comp=Z,310nm,1.1s
V55A Taylorsville 40.84 354 P **P** **13 21 19.3 +0.2**
baz=173,SNR=49
V55A P **P** **13 21 19.3 +0.2**
baz=173,SNR=49
V53A Saluda 40.85 352 IAmb IAmb 13 21 21.3
comp=Z,356nm,0.8s
V53A Saluda 40.85 352 P **P** **13 21 19.0 -0.3**
baz=170,SNR=131
V53A P **P** **13 21 19.0 -0.3**
baz=170,SNR=131
435B Jarrell 40.92 332 P **P** **13 21 20.9 +1.0**
baz=147,SNR=51
435B Jarrell 40.92 332 P **P** **13 21 20.2 +0.3**
baz=147
435B S **S** **13 27 22.9 -0.7**
baz=147
SWET Sewanee 40.95 348 IAmb IAmb 13 21 21.3
comp=Z,367nm,0.8s
TKL Tuckaleechee C 40.99 351 P **P** **13 21 19.8 -0.5**
comp=Z,176nm,0.7s,baz=174,slow=12,SNR=150
comp=Z,176nm,0.7s
TKL Tuckaleechee C 40.99 351 IAmb IAmb 13 21 22.0
comp=Z,256nm,0.9s
TKL Tuckaleechee C 40.99 351 P **P** **13 21 20.0 -0.3**
baz=169,SNR=80
U59A Littleton 41.10 358 IAmb IAmb 13 21 23.9
comp=Z,251nm,1.6s
U59A Littleton 41.10 358 P **P** **13 21 21.6 +0.4**
baz=178,SNR=46
U59A P **P** **13 21 21.6 +0.4**
baz=178,SNR=46
OXF Oxford 41.14 344 IAmb IAmb 13 21 50.0
comp=Z,436nm,1.4s
OXF Oxford 41.14 344 P **P** **13 21 20.5 -1.0**
baz=160,SNR=27
OXF Oxford 41.14 344 P **P** **13 21 19.5 -2.0**
baz=160,SNR=27
V52A Sevierville 41.14 351 P **P** **13 21 21.0 -0.5**
baz=169,SNR=211
237A Washetta, Mont 41.15 335 P **P** **13 21 22.8 +1.1**
baz=150,SNR=30
PLAL Pickwick Lake 41.22 345 IAmb IAmb 13 21 23.0
comp=Z,252nm,1.1s
V51A Loudon 41.22 350 P **P** **13 21 21.7 -0.5**
baz=168,SNR=201
U56A King 41.25 355 P **P** **13 21 22.9 +0.5**
baz=174,SNR=160
U56A P **P** **13 21 22.9 +0.5**
baz=174,SNR=160
CCAR Cane Creek 41.31 340 IAmb IAmb 13 21 24.7
comp=Z,392nm,0.9s
CCAR Cane Creek 41.31 340 P **P** **13 21 23.0 0.0**
baz=156,SNR=26
U54A Nelsons Funny 41.56 353 P **P** **13 21 25.2 +0.1**
baz=172,SNR=121
U54A P **P** **13 21 25.2 +0.1**
baz=172,SNR=121
WLAR White Oak Lake 41.57 339 IAmb IAmb 13 21 27.3
comp=Z,418nm,0.9s
V48A Smith Brothers 41.65 347 P **P** **13 21 24.6 -1.2**
baz=164,SNR=267
W45A Hickory Valley 41.68 344 P **P** **13 21 24.6 -1.4**
baz=161,SNR=44
T59A Double "B" Far 41.71 359 IAmb IAmb 13 21 28.9
comp=Z,446nm,1.0s
T59A Double "B" Far 41.71 359 P **P** **13 21 26.9 +0.8**
baz=178,SNR=92
T59A P **P** **13 21 26.9 +0.8**
baz=178,SNR=92
JCT Junction City 41.77 329 IAmb IAmb 13 21 58.3
comp=Z,590nm,1.9s
JCT Junction City 41.77 329 P **P** **13 21 27.6 +0.8**
baz=144,SNR=34
JCT Junction City 41.77 329 P **P** **13 21 27.1 +0.2**
baz=144,SNR=34
JCT S **S** **13 27 36.5 +0.3**
baz=144
T57A Hurt 41.81 356 P **P** **13 21 27.1 +0.1**
baz=176,SNR=197
T57A P **P** **13 21 27.1 +0.1**
baz=176,SNR=197
TZTN Tazewell 41.82 351 P **P** **13 21 26.6 -0.5**
baz=169,SNR=149
TZTN Tazewell 41.82 351 P **P** **13 21 26.7 -0.5**
baz=169,SNR=149
TZTN S **S** **13 27 33.4 -3.3**
baz=169
T60A Surry 41.87 360 P **P** **13 21 28.6 +1.1**
baz=179,SNR=24
T60A P **P** **13 21 28.6 +1.1**
baz=179,SNR=24
WHTX Lake Whitney, 41.88 333 P **P** **13 21 27.9 +0.3**
baz=148,SNR=121
WHTX Lake Whitney, 41.88 333 P **P** **13 21 27.9 +0.3**
baz=148,SNR=121
WHTX S **S** **13 27 35.3 -2.3**
baz=148
CLTN Cedars of Leba 41.88 348 IAmb IAmb 13 21 28.8
comp=Z,189nm,0.9s
Z38A Mt. Pleasant 41.91 336 IAmb IAmb 13 21 30.3
comp=Z,280nm,1.2s
Z38A Mt. Pleasant 41.91 336 P **P** **13 21 28.4 +0.6**
baz=152,SNR=27
BLA Blacksburg 42.11 355 IAmb IAmb 13 21 32.2
comp=Z,378nm,0.8s
BLA Blacksburg 42.11 355 P **P** **13 21 30.2 +0.7**
baz=174,SNR=76
BLA Blacksburg 42.11 355 P **P** **13 21 30.1 +0.6**
baz=174,SNR=76
BLA S **S** **13 27 41.1 +0.1**
baz=174
U49A Red Boiling Sp 42.18 349 IAmb IAmb 13 21 30.9
comp=Z,734nm,1.8s
U49A Red Boiling Sp 42.18 349 P **P** **13 21 28.8 -1.2**
baz=166,SNR=100
X40A Basin Creek Fa 42.20 340 P **P** **13 21 30.7 +0.5**
baz=155,SNR=38
X40A P **P** **13 21 30.7 +0.5**
baz=155,SNR=38
WVT Waverly 42.25 346 P **P** **13 21 28.3 -2.3**
WVT Waverly 42.25 346 P **P** **13 21 28.7 -1.9**
baz=163,SNR=102
WVT Waverly 42.25 346 P **P** **13 21 28.5 -2.1**
baz=163
WVT S **S** **13 27 37.9 -5.1**
baz=163
WVT Waverly 42.25 346 P **P** **13 21 28.3 -2.3**
WVT pmax pmax
comp=Z,117nm,0.7s
WVT Waverly 42.25 346 P **P** **13 21 28.5 -2.1**
WVT pP **pP** **13 21 52.7 -3.1**
WVT sP **sP** **13 22 06.9 -1.5**
WVT PcP **PcP** **13 23 22.6 -0.1**
UALR University of 42.29 340 IAmb IAmb 13 21 32.0
comp=Z,297nm,0.9s
HBAR Harrisburg 42.47 343 IAmb IAmb 13 21 34.2
comp=Z,466nm,1.2s
HBAR Harrisburg 42.47 343 P **P** **13 21 33.4 +1.0**
baz=159,SNR=12
T50A Nancy 42.49 350 IAmb IAmb 13 21 33.6
comp=Z,911nm,1.9s
MIAR Mount Ida 42.51 339 P **P** **13 21 32.1 -0.6**
baz=154,SNR=39
MIAR Mount Ida 42.51 339 P **P** **13 21 31.7 -1.0**
baz=154,SNR=39
MIAR S S 13 27 36.7 -10
baz=154
S57A Dark Hollow, R 42.55 357 IAmb IAmb 13 21 35.6
comp=Z,416nm,0.9s
S57A Dark Hollow, R 42.55 357 P **P** **13 21 33.7 +0.7**
baz=176,SNR=114
S57A P **P** **13 21 33.7 +0.7**
baz=176,SNR=114
LNXT Lenox 42.65 344 P **P** **13 21 32.7 -1.1**
baz=160,SNR=14
GNAR Gosnell 42.67 344 pP pP 13 22 00.1 +0.9
R58B Mineral 42.71 358 IAmb IAmb 13 21 37.3
comp=Z,307nm,1.1s
R58B Mineral 42.71 358 P **P** **13 21 34.7 +0.4**
baz=178,SNR=61
R58B P **P** **13 21 34.7 +0.4**
baz=178,SNR=61
WHAR Wooly Hollow 42.74 341 IAmb IAmb 13 21 35.6
comp=Z,240nm,1.0s
FW06 Azle 42.75 333 IAmb IAmb 13 21 37.5
comp=Z,501nm,0.9s
S54A Dingess, Beckl 42.77 354 P **P** **13 21 35.0 +0.2**
baz=173,SNR=84
S54A P **P** **13 21 35.0 +0.2**
baz=173,SNR=84
S51A Beattyville 42.90 352 P **P** **13 21 35.4 -0.4**
baz=169,SNR=133
S51A P **P** **13 21 35.4 -0.4**
baz=169,SNR=133
T47A Sharon Grove 42.91 347 IAmb IAmb 13 21 36.5
comp=Z,226nm,0.8s
T47A Sharon Grove 42.91 347 P **P** **13 21 34.4 -1.5**
baz=164,SNR=90
Z35A Perchaven, San 42.92 334 P **P** **13 21 36.8 +0.8**
baz=149,SNR=132
CBN Corbin Frederi 42.94 359 IAmb IAmb 13 21 39.0
comp=Z,548nm,1.1s
CBN Corbin Frederi 42.94 359 P **P** **13 21 37.9 +1.8**
baz=178,SNR=26
CBN Corbin Frederi 42.94 359 P **P** **13 21 36.8 +0.7**
baz=178,SNR=26
CBN S **S** **13 27 54.9 +1.9**
baz=178
TXAR Lajitas Array 43.02 324 P **P** **13 21 37.1 +0.1**
comp=Z,37nm,0.8s,baz=146,slow=8.6,SNR=154
TXAR PcP **PcP** **13 23 26.4 +0.9**
comp=Z,12nm,0.8s,baz=139,slow=4.0,SNR=3.5
comp=Z,37nm,0.8s
TX31 Lajitas Ar. Si 43.02 324 IAmb IAmb 13 21 39.5
comp=Z,206nm,1.0s
TX31 Lajitas Ar. Si 43.02 324 P **P** **13 21 36.9 -0.1**
baz=138,SNR=138
FW03 Perrin-Whitt E 43.03 333 IAmb IAmb 13 21 39.9
comp=Z,289nm,0.7s
LCAR Lake Charles 43.10 342 IAmb IAmb 13 21 38.2
comp=Z,240nm,1.0s
LCAR Lake Charles 43.10 342 P **P** **13 21 35.9 -1.6**
baz=158,SNR=118
R55A Marlinton 43.15 356 P **P** **13 21 38.9 +0.9**
baz=174,SNR=116
R55A P **P** **13 21 38.9 +0.9**
baz=174,SNR=116
X37A Clayton 43.23 337 IAmb IAmb 13 21 40.8
comp=Z,636nm,1.4s
X37A Clayton 43.23 337 P **P** **13 21 38.5 0.0**
baz=152,SNR=133
T45B Paducah 43.30 346 P **P** **13 21 37.6 -1.4**
baz=162,SNR=25
R53A Hurricane 43.37 354 IAmb IAmb 13 21 41.4
comp=Z,394nm,1.1s
R53A Hurricane 43.37 354 P **P** **13 21 39.4 -0.2**
baz=172,SNR=48
R53A P **P** **13 21 39.4 -0.2**
baz=172,SNR=48
SLBS Sierra La Lagu 43.41 312 P **P** **13 21 40.9 +0.6**
SLBS pP **pP** **13 22 05.6 0.0**
SLBS Sierra La Lagu 43.41 312 P **P** **13 21 40.4 +0.1**
SLBS pP **pP** **13 22 06.0 +0.4**
ABTX Abilene, Hawle 43.43 331 IAmb IAmb 13 21 42.9
comp=Z,209nm,0.8s
ABTX Abilene, Hawle 43.43 331 P **P** **13 21 40.8 +0.6**
baz=145,SNR=72
ABTX Abilene, Hawle 43.43 331 P **P** **13 21 40.6 +0.3**
baz=145,SNR=72
ABTX S **S** **13 27 59.5 -1.0**
baz=145
LOOK Love County 43.45 335 IAmb IAmb 13 21 43.1
comp=Z,733nm,1.4s
PBMO Poplar Bluff 43.55 344 IAmb IAmb 13 21 41.6
comp=Z,278nm,1.3s
PBMO Poplar Bluff 43.55 344 P **P** **13 21 39.6 -1.5**
baz=159,SNR=12
R50A Paris 43.64 351 P **P** **13 21 41.2 -0.5**
baz=168,SNR=148
R50A P **P** **13 21 41.2 -0.5**
baz=168,SNR=148
R49A Shelbyville 43.79 350 IAmb IAmb 13 21 44.0
comp=Z,314nm,0.9s
R49A Shelbyville 43.79 350 P **P** **13 21 42.1 -0.8**
baz=167,SNR=92
R49A P **P** **13 21 42.1 -0.8**
baz=167,SNR=92
CGM3 Cape Girardeau 43.82 345 IAmb IAmb 13 21 43.7
comp=Z,325nm,1.4s
Q56A Snyder Ridge, 43.84 357 IAmb IAmb 13 21 46.6
comp=Z,414nm,1.0s
Q56A Snyder Ridge, 43.84 357 P **P** **13 21 44.5 +1.1**
baz=176,SNR=77
Q56A P **P** **13 21 44.5 +1.1**
baz=176,SNR=77
U40A Yellville 43.90 341 P **P** **13 21 43.0 -0.9**
baz=156,SNR=164
U40A P **P** **13 21 43.0 -0.9**
baz=156,SNR=164
Q54A Coxs Mills 43.90 355 IAmb IAmb 13 21 45.9
comp=Z,515nm,1.1s
Q54A Coxs Mills 43.90 355 P **P** **13 21 43.6 -0.3**
baz=174,SNR=126
Q54A P **P** **13 21 43.6 -0.3**
baz=174,SNR=126
LPIG La Paz 43.92 313 P **P** **13 21 44.0 -0.2**
comp=Z,14nm,0.3s,baz=20,slow=3.1,SNR=5.6
comp=Z,14nm,0.3s
WCI Wyandotte Cave 43.94 349 P **P** **13 21 41.8 -2.4**
WCI IAmb IAmb 13 21 44.8
comp=Z,293nm,1.1s
WCI Wyandotte Cave 43.94 349 P **P** **13 21 42.7 -1.4**
baz=166,SNR=72
WCI Wyandotte Cave 43.94 349 P **P** **13 21 42.4 -1.7**
baz=166
WCI Wyandotte Cave 43.94 349 P **P** **13 21 41.8 -2.4**
WCI pmax pmax
comp=Z,293nm,1.1s
WCI Wyandotte Cave 43.94 349 P **P** **13 21 42.6 -1.6**
Q52A Bidwell 44.03 353 IAmb IAmb 13 21 46.7
comp=Z,374nm,0.8s
Q52A Bidwell 44.03 353 P **P** **13 21 44.5 -0.3**
baz=172,SNR=60
Q52A P **P** **13 21 44.5 -0.3**
baz=172,SNR=60
S44A Carbondale 44.09 345 IAmb IAmb 13 21 45.8
comp=Z,330nm,1.1s
S44A Carbondale 44.09 345 P **P** **13 21 43.9 -1.5**
baz=161,SNR=77
SDMD Soldier's Deli 44.13 359 P **P** **13 21 46.4 +0.7**
baz=179,SNR=32
HHAR Hobbs 44.20 339 IAmb IAmb 13 21 47.4
comp=Z,265nm,1.0s
Q51A Peebles 44.23 352 IAmb IAmb 13 21 49.3
comp=Z,201nm,0.9s
Q51A Peebles 44.23 352 P **P** **13 21 45.5 -0.9**
baz=170,SNR=70
Q51A P **P** **13 21 45.5 -0.9**
baz=170,SNR=70
P57A Homestead Farm 44.23 358 IAmb IAmb 13 21 51.0
comp=Z,470nm,1.6s
P57A Homestead Farm 44.23 358 P **P** **13 21 47.4 +1.0**
baz=178,SNR=31
P57A P **P** **13 21 47.4 +1.0**
baz=178,SNR=31
X34A Smith Ranch, M 44.25 334 IAmb IAmb 13 21 49.6
comp=Z,412nm,0.9s
P61A Hammonton 44.42 2 P **P** **13 21 50.0 +2.1**
baz=182,SNR=14
P61A P **P** **13 21 50.0 +2.1**
baz=182,SNR=14
MGMO Mountain Grove 44.44 342 IAmb IAmb 13 21 49.1
comp=Z,353nm,0.9s
P53A Whipple 44.45 354 P **P** **13 21 48.3 +0.1**
baz=173,SNR=97
P53A P **P** **13 21 48.3 +0.1**
baz=173,SNR=97
RLO Rose Lookout 44.48 338 IAmb IAmb 13 21 50.1
comp=Z,304nm,0.9s
MCWV Mont Chateau 44.50 356 IAmb IAmb 13 21 51.2
comp=Z,404nm,1.2s
MCWV Mont Chateau 44.50 356 P **P** **13 21 48.9 +0.3**
baz=175,SNR=61
MCWV Mont Chateau 44.50 356 P **P** **13 21 48.9 +0.3**
baz=175,SNR=61
MCWV S **S** **13 28 15.1 -0.6**
baz=175
U38A Gravette 44.50 339 P **P** **13 21 47.6 -1.1**
baz=154,SNR=67
TUL1 Leonard 44.55 337 IAmb IAmb 13 21 50.9
comp=Z,347nm,1.1s
TUL1 Leonard 44.55 337 P **P** **13 21 48.7 -0.3**
baz=152,SNR=66
TUL1 Leonard 44.55 337 P **P** **13 21 48.6 -0.5**
baz=152,SNR=66
TUL1 S **S** **13 28 13.2 -3.4**

baz=152
P51A Williamsport 44.64 353 IAmb IAmb 13 21 51.0
comp=Z,297nm,1.1s
P51A Williamsport 44.64 353 P **P** **13 21 50.4 +0.7**
baz=170,SNR=48
P51A P **P** **13 21 50.4 +0.7**
baz=170,SNR=48
WUPA West Chester U 44.66 1 IAmb IAmb 13 21 52.8
comp=Z,336nm,1.7s
P52A Corning 44.68 354 IAmb IAmb 13 21 51.5
comp=Z,409nm,0.9s
P52A Corning 44.68 354 P **P** **13 21 49.2 -0.8**
baz=172,SNR=80
P52A S **S** **13 28 16.2 -2.1**
baz=172
DEOK Depew 44.77 337 IAmb IAmb 13 21 52.5
comp=Z,566nm,1.1s
WMOK Wichita Mounta 44.78 333 IAmb IAmb 13 21 53.1
comp=Z,188nm,1.1s
WMOK Wichita Mounta 44.78 333 P **P** **13 21 50.5 -0.5**
baz=147,SNR=161
WMOK Wichita Mounta 44.78 333 P **P** **13 21 50.7 -0.3**
baz=147,SNR=161
WMOK S **S** **13 28 17.4 -2.6**
baz=147
OLIL Olney 44.80 347 IAmb IAmb 13 21 51.3
comp=Z,196nm,0.9s
OLIL Olney 44.80 347 P **P** **13 21 49.3 -1.7**
baz=163,SNR=45
OK025 Westminster Rd 44.88 336 IAmb IAmb 13 21 53.3
comp=Z,233nm,0.9s
P49A Miami Univ. Ec 44.93 351 IAmb IAmb 13 21 52.5
comp=Z,468nm,1.1s
P49A Miami Univ. Ec 44.93 351 P **P** **13 21 50.6 -1.4**
baz=168,SNR=44
P49A Miami Univ. Ec 44.93 351 P **P** **13 21 50.3 -1.7**
baz=168,SNR=44
P49A S **S** **13 28 17.4 -4.5**
baz=168
CCM Cathedral Cave 44.97 343 P **P** **13 21 50.2 -2.2**
CCM Cathedral Cave 44.97 343 P **P** **13 21 50.3 -2.1**
baz=159,SNR=83
CCM Cathedral Cave 44.97 343 P **P** **13 21 50.3 -2.1**
baz=159
CCM S **S** **13 28 15.9 -6.6**
baz=159
CCM Cathedral Cave 44.97 343 P **P** **13 21 50.2 -2.1**
CCM pmax pmax
comp=Z,115nm,0.9s
CCM Cathedral Cave 44.97 343 P **P** **13 21 50.6 -1.8**
CCM pP **pP** **13 22 15.5 -2.4**
CCM PcP **PcP** **13 23 31.5 -0.4**
P48A Milroy 44.97 350 IAmb IAmb 13 21 52.7
comp=Z,386nm,1.1s
P48A Milroy 44.97 350 P **P** **13 21 50.6 -1.7**
baz=167,SNR=110
P48A P **P** **13 21 50.6 -1.7**
baz=167,SNR=110
BCOK Bluff Creek, N 45.05 335 IAmb IAmb 13 21 54.8
comp=Z,179nm,1.0s
O54A Avella 45.06 356 P **P** **13 21 53.5 +0.5**
baz=174,SNR=54
O54A P **P** **13 21 53.5 +0.5**
baz=174,SNR=54
OK029 Liberty Lake 45.11 336 IAmb IAmb 13 21 55.3
comp=Z,433nm,1.1s
O52A Adamsville 45.12 354 P **P** **13 21 53.1 -0.4**
baz=172,SNR=141
O52A P **P** **13 21 53.1 -0.4**
baz=172,SNR=141
PANJ Princeton 45.12 2 P **P** **13 21 54.8 +1.3**
baz=182,SNR=130
QUOK Quay 45.13 337 IAmb IAmb 13 21 55.5
comp=Z,422nm,1.1s
Q44A Meyer Farm, Va 45.18 346 IAmb IAmb 13 21 54.2
comp=Z,286nm,1.1s
Q44A Meyer Farm, Va 45.18 346 P **P** **13 21 52.5 -1.5**
baz=162,SNR=51
O53A New Philadelph 45.19 355 IAmb IAmb 13 21 56.0
comp=Z,520nm,1.2s
O53A New Philadelph 45.19 355 P **P** **13 21 53.6 -0.5**
baz=173,SNR=71
SLM Saint Louis 45.23 345 P **P** **13 21 54.3 -0.1**
baz=160,SNR=9.7
S39A Bolivar 45.27 341 IAmb IAmb 13 21 55.5
comp=Z,204nm,1.1s
S39A Bolivar 45.27 341 P **P** **13 21 53.6 -1.1**
baz=156,SNR=62
ACSO Alum Creek Sta 45.37 353 P **P** **13 21 54.8 -0.6**
baz=171,SNR=126
ACSO Alum Creek Sta 45.37 353 P **P** **13 21 54.6 -0.9**
baz=171,SNR=126
ACSO S **S** **13 28 24.5 -3.8**
baz=171
SSPA Standing Stone 45.38 358 P **P** **13 21 55.7 +0.1**
SSPA Standing Stone 45.38 358 P **P** **13 21 56.4 +0.8**
baz=178,SNR=110
SSPA Standing Stone 45.38 358 P **P** **13 21 56.2 +0.7**
baz=178
SSPA S **S** **13 28 30.2 +1.9**
baz=178
SSPA Standing Stone 45.38 358 P **P** **13 21 56.3 +0.8**
SSPA pP **pP** **13 22 21.7 +0.6**
OK046 Pawnee Station 45.41 337 IAmb IAmb 13 21 57.8
comp=Z,536nm,1.1s
BRNJ Basking Ridge 45.43 2 IAmb IAmb 13 21 59.0
comp=Z,264nm,0.8s
BRNJ Basking Ridge 45.43 2 P **P** **13 21 58.2 +2.3**
baz=182,SNR=29
OK050 Pawnee Station 45.44 336 IAmb IAmb 13 21 58.1
comp=Z,422nm,1.0s
OK048 Pawnee Station 45.44 337 IAmb IAmb 13 21 58.1
comp=Z,505nm,1.1s
P46A Rosedale 45.46 348 IAmb IAmb 13 21 56.5
comp=Z,165nm,0.9s
P46A Rosedale 45.46 348 P **P** **13 21 55.7 -0.5**
baz=165,SNR=28
R40A Maddies Statio 45.49 342 P **P** **13 21 54.6 -1.9**
baz=158,SNR=58
CSTR Hydro, Custer 45.50 334 IAmb IAmb 13 22 00.2
comp=Z,77nm,1.4s
O49A Covington 45.51 351 IAmb IAmb 13 21 57.5
comp=Z,342nm,0.9s
O49A Covington 45.51 351 P **P** **13 21 55.2 -1.3**
baz=169,SNR=64
O49A P **P** **13 21 55.2 -1.3**
baz=169,SNR=64
N58A Sunbury 45.56 360 IAmb IAmb 13 22 00.0
comp=Z,499nm,1.1s
N58A Sunbury 45.56 360 P **P** **13 21 57.8 +0.8**
baz=180,SNR=84
N58A P **P** **13 21 57.8 +0.8**
baz=180,SNR=84
CPNY Central Park 45.56 3 IAmb IAmb 13 21 59.5
comp=Z,239nm,0.9s
FOR Fordham 45.64 3 P **P** **13 21 58.2 +0.6**
baz=183,SNR=44
O48B Farmland 45.70 351 P **P** **13 21 56.6 -1.5**
baz=168,SNR=246
O48B Farmland 45.70 351 P **P** **13 21 56.6 -1.5**
baz=168,SNR=246
O48B S **S** **13 28 28.9 -4.2**
baz=168
T35A Sooner Cattle 45.71 337 IAmb IAmb 13 22 00.1
comp=Z,200nm,0.8s
T35B Sooner Cattle 45.71 337 P **P** **13 21 57.6 -0.7**
baz=151,SNR=83
N53A Lisbon 45.71 355 IAmb IAmb 13 22 00.0
comp=Z,464nm,0.9s
N53A Lisbon 45.71 355 P **P** **13 21 58.0 -0.2**
baz=174,SNR=105
N53A P **P** **13 21 58.0 -0.2**
baz=174,SNR=105
N62A Caumsett State 45.73 3 P **P** **13 21 59.6 +1.3**
baz=184,SNR=5.5
N62A P **P** **13 21 59.6 +1.3**
baz=184,SNR=5.5
MNTX Cornudas Mount 45.76 325 P **P** **13 21 58.2 -0.5**
baz=138,SNR=147
MNTX Cornudas Mount 45.76 325 P **P** **13 21 58.2 -0.5**
baz=138,SNR=147
MNTX S **S** **13 28 35.2 +1.0**
baz=138
PAL Palisades 45.78 3 IAmb IAmb 13 22 01.2
comp=Z,375nm,0.8s
PAL Palisades 45.78 3 P **P** **13 21 58.8 +0.1**
baz=183,SNR=70
PAL Palisades 45.78 3 P **P** **13 21 59.0 +0.4**
baz=183,SNR=70
PAL S **S** **13 28 36.6 +2.5**
baz=183
ODNJ Ogdensburg 45.83 2 P **P** **13 21 59.6 +0.6**
baz=182,SNR=42
TRNY Table Rock, Ra 45.91 2 IAmb IAmb 13 22 02.5
comp=Z,426nm,1.0s
CROK Carrier 45.94 336 IAmb IAmb 13 22 01.9
comp=Z,335nm,0.9s
N51A Ashland 45.97 354 IAmb IAmb 13 22 01.4
comp=Z,518nm,1.1s
N51A Ashland 45.97 354 P **P** **13 21 59.4 -0.8**
baz=172,SNR=53
N51A P **P** **13 21 59.4 -0.8**
baz=172,SNR=53
P43A Skaggs, Pawnee 46.00 346 IAmb IAmb 13 22 00.9
comp=Z,302nm,1.1s
P43A Skaggs, Pawnee 46.00 346 P **P** **13 21 58.9 -1.6**
baz=162,SNR=48
M57A Sunshine Farm, 46.06 359 P **P** **13 22 02.5 +1.6**
baz=179,SNR=163
M57A P **P** **13 22 02.5 +1.6**
baz=179,SNR=163
MSTX Muleshoe 46.07 329 P **P** **13 22 01.3 0.0**
baz=142,SNR=46
MSTX Muleshoe 46.07 329 P **P** **13 22 01.1 -0.1**
baz=142,SNR=46
MSTX S **S** **13 28 39.5 +0.8**
baz=142
SFIN Lafayette 46.17 349 IAmb IAmb 13 22 01.8
comp=Z,402nm,1.4s
SFIN Lafayette 46.17 349 P **P** **13 21 59.9 -1.9**
baz=165,SNR=43
SFIN Lafayette 46.17 349 P **P** **13 21 59.6 -2.2**
baz=165,SNR=43
ELIS Ellis County 46.17 334 IAmb IAmb 13 22 04.8
comp=Z,467nm,1.2s
BRNY Black Rk. Fore 46.18 2 P **P** **13 22 03.9 +2.1**
baz=183,SNR=34
N49A Columbus Grove 46.20 352 IAmb IAmb 13 22 03.0
comp=Z,365nm,0.8s
N49A Columbus Grove 46.20 352 P **P** **13 22 01.1 -1.0**
baz=169,SNR=99
N49A P **P** **13 22 01.1 -1.0**
baz=169,SNR=99
M55A Ridgway 46.24 357 P **P** **13 22 02.5 +0.1**
baz=177,SNR=114
M55A P **P** **13 22 02.5 +0.1**
baz=177,SNR=114
O44A Mansfield 46.24 347 P **P** **13 22 00.8 -1.6**
baz=163,SNR=51
AMTX Amarillo 46.25 331 IAmb IAmb 13 22 04.8
comp=Z,210nm,1.0s
AMTX Amarillo 46.25 331 P **P** **13 22 02.7 +0.1**
baz=144,SNR=24
AMTX Amarillo 46.25 331 P **P** **13 22 02.5 -0.2**
baz=144
AMTX S **S** **13 28 39.9 -1.4**
baz=144
U32A Winter Ranch, 46.26 335 P **P** **13 22 02.8 +0.2**
baz=148,SNR=66
KSPA Keystone Colle 46.28 1 IAmb IAmb 13 22 05.7
comp=Z,345nm,1.0s
KSPA Keystone Colle 46.28 1 P **P** **13 22 03.5 +0.8**
baz=181,SNR=65
OK032 Salt Plains WL 46.29 336 IAmb IAmb 13 22 05.6
comp=Z,322nm,0.9s
M63A Gales Ferry 46.29 4 P **P** **13 22 03.7 +1.1**
baz=186,SNR=44
M63A P **P** **13 22 03.7 +1.1**
baz=186,SNR=44
KAN14 Manchester OK 46.32 336 IAmb IAmb 13 22 05.7
comp=Z,434nm,1.1s
M53A WI Miller and 46.33 355 IAmb IAmb 13 22 04.9
comp=Z,395nm,0.9s
M53A WI Miller and 46.33 355 P **P** **13 22 02.6 -0.4**
baz=174,SNR=91
N47A Urbana 46.40 350 P **P** **13 22 02.1 -1.5**
baz=167,SNR=170
N47A P **P** **13 22 02.1 -1.5**
baz=167,SNR=170
KAN01 Argonia South 46.40 336 pP 13 22 28.9 -0.5
KAN05 Bluff City Nor 46.41 336 pP 13 22 29.1 -0.3
NOKA Waynoka 46.45 335 IAmb IAmb 13 22 06.5
comp=Z,490nm,0.9s
M52A Chesterland 46.49 355 IAmb IAmb 13 22 05.7
comp=Z,348nm,0.8s
M52A Chesterland 46.49 355 P **P** **13 22 03.8 -0.5**
baz=173,SNR=34
M52A P **P** **13 22 03.8 -0.5**
baz=173,SNR=34
ALLY Alegheny Colle 46.50 356 P **P** **13 22 04.4 0.0**
baz=175,SNR=122
KAN10 Anthony SW Sta 46.51 336 IAmb IAmb 13 22 06.6
comp=Z,256nm,1.1s
NPNY Mohonk Preserv 46.52 2 P **P** **13 22 05.3 +0.8**
baz=183,SNR=47
KSCT Kent School, K 46.52 3 IAmb IAmb 13 22 07.0
comp=Z,210nm,0.8s
M50A Fremont 46.53 353 P **P** **13 22 03.9 -0.7**
baz=171,SNR=90
M50A P **P** **13 22 03.9 -0.7**
baz=171,SNR=90
KAN08 Anthony NE Sta 46.55 336 pP 13 22 29.4 -1.1
P40A Paris 46.57 343 P **P** **13 22 03.0 -1.9**
baz=158,SNR=43
M65A Busby, Falmout 46.57 6 P **P** **13 22 04.1 -0.7**
baz=188
MG05 Puerto Natales 46.69 177 P **P** **13 22 07.0 +1.3**
HDIL Hopedale 46.81 346 P **P** **13 22 05.0 -1.8**
baz=162,SNR=54
HDIL Hopedale 46.81 346 P **P** **13 22 04.9 -1.9**
baz=162,SNR=54
BRYW Bryant College 46.84 5 IAmb IAmb 13 22 09.8
comp=Z,288nm,1.0s
L56A Greenwood 46.87 359 P **P** **13 22 07.9 +0.6**
baz=178,SNR=161
L56A P **P** **13 22 07.9 +0.6**
baz=178,SNR=161
BINY Binghamton 46.92 0 P **P** **13 22 08.3 +0.7**
baz=180,SNR=211
BINY Binghamton 46.92 0 P **P** **13 22 08.6 +1.0**
baz=180,SNR=211
BINY S **S** **13 28 53.3 +2.8**
baz=180
L59A Walton 46.92 1 IAmb IAmb 13 22 10.8
comp=Z,418nm,1.1s
L59A Walton 46.92 1 P **P** **13 22 08.2 +0.5**
baz=182,SNR=53
L59A P **P** **13 22 08.2 +0.5**
baz=182,SNR=53
L64A Middleborough 46.92 6 P **P** **13 22 09.0 +1.4**
baz=188,SNR=15
L64A P **P** **13 22 09.0 +1.4**
baz=188,SNR=15
ERPA Erie 46.95 356 P **P** **13 22 07.8 -0.1**
baz=175,SNR=105
ERPA Erie 46.95 356 P **P** **13 22 07.6 -0.3**
baz=175,SNR=105
P38A Dawn 47.10 342 P **P** **13 22 07.5 -1.6**
baz=156,SNR=68
QUA2 Belchertown 47.14 4 IAmb IAmb 13 22 12.8
comp=Z,333nm,0.9s
QUA2 Belchertown 47.14 4 P **P** **13 22 10.9 +1.6**
baz=185,SNR=52
WVNY West Valley, N 47.17 358 P **P** **13 22 09.7 +0.1**
baz=177,SNR=122
L48A N Adams 47.24 352 P **P** **13 22 09.0 -1.2**
baz=169,SNR=68
L48A P **P** **13 22 09.0 -1.2**
baz=169,SNR=68
L61B Northampton 47.28 4 IAmb IAmb 13 22 12.9
comp=Z,207nm,0.9s
L61B Northampton 47.28 4 P **P** **13 22 10.9 +0.4**
baz=185,SNR=37
L61B Northampton 47.28 4 P **P** **13 22 10.8 +0.4**
baz=185,SNR=37
L61B S **S** **13 28 56.8 +1.3**
baz=185
WES Weston 47.32 5 IAmb IAmb 13 22 13.4
comp=Z,271nm,1.2s
WES Weston 47.32 5 P **P** **13 22 11.4 +0.7**
baz=187,SNR=35
M44A Midewin, Midew 47.34 348 IAmb IAmb 13 22 10.7
comp=Z,453nm,1.4s
M44A Midewin, Midew 47.34 348 P **P** **13 22 09.8 -1.1**
baz=164,SNR=18
N41A Harden Midland 47.34 345 IAmb IAmb 13 22 11.2
comp=Z,545nm,1.4s
N41A Harden Midland 47.34 345 P **P** **13 22 09.4 -1.5**
baz=160,SNR=24
HSIG 47.40 317 P **P** **13 22 10.9 -0.7**
HRV Adam Dziewonsk 47.42 5 P **P** **13 22 12.5 +1.1**
HRV IAmb IAmb 13 22 14.5
comp=Z,265nm,0.9s
HRV Adam Dziewonsk 47.42 5 P **P** **13 22 12.2 +0.7**
HRV Adam Dziewonsk 47.42 5 P **P** **13 22 12.2 +0.7**
baz=186
HRV Adam Dziewonsk 47.42 5 P **P** **13 22 12.6 +1.1**
HRV Adam Dziewonsk 47.42 5 P **P** **13 22 12.0 +0.5**
HCNY Howe Caverns 47.45 2 P **P** **13 22 12.2 +0.5**
baz=183,SNR=79
K57A Scipio Center 47.45 360 P **P** **13 22 12.5 +0.8**
baz=180,SNR=219
AAM Ann Arbor 47.49 353 IAmb IAmb 13 22 13.2
comp=Z,373nm,0.8s
AAM Ann Arbor 47.49 353 P **P** **13 22 12.7 +0.6**
baz=170,SNR=29
AAM Ann Arbor 47.49 353 P **P** **13 22 10.7 -1.3**
baz=170,SNR=29
AAM S **S** **13 28 55.6 -2.9**
baz=170
TRY Troy 47.51 3 IAmb IAmb 13 22 15.3
comp=Z,411nm,1.0s
TRY Troy 47.51 3 P **P** **13 22 13.1 +1.0**
baz=184,SNR=60
K62A Royalston 47.53 4 IAmb IAmb 13 22 15.2
comp=Z,326nm,1.0s
K62A Royalston 47.53 4 P **P** **13 22 14.2 +1.9**
baz=186,SNR=36
K62A P **P** **13 22 14.2 +1.9**
baz=186,SNR=36
L46A Eue Claire 47.60 350 P **P** **13 22 11.2 -1.7**
baz=167,SNR=36
L46A P **P** **13 22 11.2 -1.7**
baz=167,SNR=36
KSU1 Kansas State U 47.66 339 P **P** **13 22 12.9 -0.5**
baz=152,SNR=105
KSU1 Kansas State U 47.66 339 P **P** **13 22 12.6 -0.9**
baz=152,SNR=105
KSU1 S **S** **13 28 57.5 -3.7**
baz=152
HQIL Hanson Quary C 47.69 348 IAmb IAmb 13 22 13.4
comp=Z,706nm,1.5s
HQIL pP 13 22 39.4 0.0
121A Cookes Peak, D 47.77 323 P **P** **13 22 15.2 +0.7**
baz=136,SNR=106
121A Cookes Peak, D 47.77 323 P **P** **13 22 15.5 +0.9**
baz=136,SNR=106
121A S **S** **13 29 01.8 -1.3**
baz=136
K50A Casco 47.84 354 P **P** **13 22 13.6 -1.1**
baz=172,SNR=26
K50A P **P** **13 22 13.6 -1.1**
baz=172,SNR=26
319A Douglas 47.87 321 IAmb IAmb 13 22 18.2
comp=Z,223nm,1.1s
R32A Long Quarter, 47.88 336 P **P** **13 22 15.4 +0.3**
baz=149,SNR=141
MG04 Isla Riesco 47.92 176 IAmb IAmb 13 22 20.3
comp=Z,220nm,1.1s
MG04 pP 13 22 42.3 +1.3
J56A Wolcott 48.00 359 P **P** **13 22 16.3 +0.4**
baz=179,SNR=123
J56A P **P** **13 22 16.3 +0.4**
baz=179,SNR=123
J55A Hilton 48.00 359 P **P** **13 22 15.8 -0.1**
baz=178,SNR=77
J55A P **P** **13 22 15.8 -0.1**
baz=178,SNR=77
J54A Appleton 48.04 358 P **P** **13 22 16.4 +0.1**
baz=177,SNR=45
J54A P **P** **13 22 16.4 +0.1**
baz=177,SNR=45
UNH University of 48.07 5 P **P** **13 22 18.1 +1.7**
baz=187,SNR=30
L44A Lake County Fo 48.07 348 IAmb IAmb 13 22 16.4
comp=Z,326nm,1.0s
L44A Lake County Fo 48.07 348 P **P** **13 22 15.6 -0.9**
baz=164,SNR=12
L44A Lake County Fo 48.07 348 P **P** **13 22 14.1 -2.4**
baz=164,SNR=12
L44A S **S** **13 28 59.3 -7.4**
baz=164
N38A Joes South For 48.08 343 IAmb IAmb 13 22 17.1
comp=Z,331nm,0.8s
N38A Joes South For 48.08 343 P **P** **13 22 15.4 -1.2**
baz=157,SNR=34
J58A Remsen 48.09 1 IAmb IAmb 13 22 19.4
comp=Z,299nm,0.9s
J58A Remsen 48.09 1 P **P** **13 22 17.4 +0.7**
baz=181,SNR=66
J58A P **P** **13 22 17.4 +0.7**
baz=181,SNR=66
J57A Williamstown 48.13 0 P **P** **13 22 17.0 +0.1**
baz=180,SNR=111
J57A P **P** **13 22 17.0 +0.1**
baz=180,SNR=111
ACCN Adirondack Com 48.16 3 IAmb IAmb 13 22 20.3
comp=Z,96nm,1.1s
ACCN Adirondack Com 48.16 3 P **P** **13 22 18.1 +0.9**
baz=184,SNR=71
J61A Chester 48.19 4 IAmb IAmb 13 22 20.6
comp=Z,450nm,1.1s
J61A Chester 48.19 4 P **P** **13 22 18.6 +1.2**
baz=185,SNR=55
J61A P **P** **13 22 18.6 +1.2**
baz=185,SNR=55
J59A Piesco 48.21 2 P **P** **13 22 18.3 +0.7**
baz=182,SNR=160
J59A P **P** **13 22 18.3 +0.7**
baz=182,SNR=160
GO10 Punta Arenas 48.26 176 IAmb IAmb 13 22 22.9
comp=Z,197nm,0.9s
L42A Oliver, Polo 48.28 347 IAmb IAmb 13 22 19.0
comp=Z,379nm,1.0s
L42A Oliver, Polo 48.28 347 P **P** **13 22 16.1 -2.0**
baz=162,SNR=58
Y22A Socorro 48.30 325 P **P** **13 22 19.5 +0.8**
baz=137,SNR=36
FFD Franklin Falls 48.37 5 IAmb IAmb 13 22 21.7
comp=Z,230nm,0.8s
FFD Franklin Falls 48.37 5 P **P** **13 22 20.5 +1.7**
baz=186,SNR=25
Y22D IRIS PASSCAL I 48.38 326 P **P** **13 22 20.0 +0.8**
baz=137
Y22D S **S** **13 29 14.0 +2.4**
baz=137
Y22F Passcal Instru 48.38 326 P **P** **13 22 20.1 +0.9**
baz=137
Y22F S **S** **13 29 14.7 +3.1**
baz=137
HNH Hanover 48.56 4 IAmb IAmb 13 22 23.4
comp=Z,361nm,0.9s
HNH Hanover 48.56 4 P **P** **13 22 21.0 +0.8**
baz=185,SNR=62
DUN6 Lazy B Ranch 48.56 322 IAmb IAmb 13 22 23.6
comp=Z,434nm,1.0s
J47A Sunmer 48.57 352 P **P** **13 22 19.2 -1.1**
baz=169,SNR=232
J47A P **P** **13 22 19.2 -1.1**
baz=169,SNR=232
CBKS Cedar Bluff 48.63 336 P **P** **13 22 21.2 +0.2**
baz=148,SNR=119
CBKS Cedar Bluff 48.63 336 P **P** **13 22 21.1 +0.2**
baz=148,SNR=119
CBKS S **S** **13 29 15.1 +0.3**
baz=148
K43A Burlington 48.66 348 P **P** **13 22 19.1 -1.9**
baz=164,SNR=46
WCNY West Carthage 48.70 1 P **P** **13 22 22.3 +1.0**
baz=181,SNR=45
L40A Anamosa 48.71 345 IAmb IAmb 13 22 22.4
comp=Z,315nm,0.9s
L40A Anamosa 48.71 345 P **P** **13 22 19.4 -2.0**
baz=160,SNR=82
NCB Newcomb 48.73 2 IAmb IAmb 13 22 24.3
comp=Z,346nm,0.8s
NCB Newcomb 48.73 2 P **P** **13 22 22.3 +0.8**
baz=183,SNR=98
MCVT Middlebury Col 48.76 3 P **P** **13 22 22.8 +1.0**
baz=184,SNR=44
ANMO Albuquerque 48.77 327 P **P** **13 22 22.0 -0.2**
ANMO IAmb IAmb 13 22 24.9
comp=Z,192nm,1.1s

ANMO	**Albuquerque**	**48.77**	**327**	P	**P**	**13 22 22.3**	**+0.1**
	baz=138,SNR=261						
ANMO	**Albuquerque**	**48.77**	**327**	P	**P**	**13 22 22.4**	**+0.2**
	baz=138						
ANMO				S	**S**	**13 29 17.0**	**-0.2**
	baz=138						
ANMO	**Albuquerque**	**48.77**	**327**	P	**P**	**13 22 22.0**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,192nm,1.1s						
ANMO	**Albuquerque**	**48.77**	**327**	P	**P**	**13 22 22.6**	**+0.3**
ANMO				pP	**pP**	**13 22 47.4**	**-0.7**
ANMO				PcP	**PcP**	**13 23 46.2**	**+0.5**
I62A	**Tamworth**	**48.80**	**5**	P	**P**	**13 22 24.2**	**+2.1**
	baz=187,SNR=11						
I62A				P	**P**	**13 22 24.2**	**+2.1**
	baz=187,SNR=11						
N35A	**Tabor**	**48.90**	**341**	P	**P**	**13 22 21.6**	**-1.3**
	baz=154,SNR=55						
EFI	**East Falkland**	**49.00**	**165**	P	**P**	**13 22 24.1**	**+0.6**
EFI				pmax	pmax		
	comp=Z,182nm,0.9s						
EFI	**East Falkland**	**49.00**	**165**	P	**P**	**13 22 24.4**	**+0.9**
EFI				pP	**pP**	**13 22 48.4**	**-0.9**
EFI				sP	**sP**	**13 23 00.1**	**-1.6**
I49A	**Point Hope**	**49.01**	**354**	P	**P**	**13 22 22.6**	**-1.1**
	baz=171,SNR=40						
I49A				P	**P**	**13 22 22.6**	**-1.1**
	baz=171,SNR=40						
I63A	**Otisfield**	**49.04**	**5**	IAmb	IAmb	13 22 26.8	
	comp=Z,192nm,0.8s						
I63A	**Otisfield**	**49.04**	**5**	P	**P**	**13 22 24.9**	**+1.0**
	baz=188,SNR=31						
I63A				P	**P**	**13 22 24.9**	**+1.0**
	baz=188,SNR=31						
SCIA	**State Center**	**49.10**	**343**	P	**P**	**13 22 22.9**	**-1.5**
	baz=158,SNR=39						
SCIA	**State Center**	**49.10**	**343**	P	**P**	**13 22 22.8**	**-1.6**
	baz=158,SNR=39						
LBNH	**Lisbon**	**49.12**	**4**	P	**P**	**13 22 25.3**	**+0.8**
	baz=186						
LBNH				S	**S**	**13 29 24.4**	**+3.0**
	baz=186						
VT1	**Waterbury**	**49.16**	**3**	IAmb	IAmb	13 22 28.9	
	comp=Z,259nm,1.0s						
VT1	**Waterbury**	**49.16**	**3**	P	**P**	**13 22 25.7**	**+0.9**
	baz=185,SNR=49						
JFWS	**Jewell Farm**	**49.28**	**347**	IAmb	IAmb	13 22 25.5	
	comp=Z,151nm,0.7s						
JFWS	**Jewell Farm**	**49.28**	**347**	P	**P**	**13 22 24.0**	**-1.7**
	baz=162,SNR=43						
JFWS	**Jewell Farm**	**49.28**	**347**	P	**P**	**13 22 23.8**	**-2.0**
	baz=162,SNR=43						
JFWS				S	**S**	**13 29 20.2**	**-3.5**
	baz=162						
LONY	**Lake Ozonia**	**49.36**	**2**	IAmb	IAmb	13 22 29.9	
	comp=Z,298nm,0.9s						
LONY	**Lake Ozonia**	**49.36**	**2**	P	**P**	**13 22 26.9**	**+0.5**
	baz=182,SNR=69						
LONY				S	**S**	**13 29 25.9**	**+1.1**
	baz=182						
T25A	**Trinidad**	**49.38**	**330**	P	**P**	**13 22 27.5**	**+0.6**
	baz=142,SNR=190						
T25A				S	**S**	**13 29 27.8**	**+2.0**
	baz=142						
N33B	**J Bar K, Exete**	**49.41**	**339**	P	**P**	**13 22 26.4**	**-0.4**
	baz=152,SNR=61						
TUC	**Tucson**	**49.44**	**321**	P	**P**	**13 22 26.8**	**-0.5**
TUC	**Tucson**	**49.44**	**321**	P	**P**	**13 22 27.4**	**+0.1**
	baz=132						
TUC				S	**S**	**13 29 25.6**	**-0.9**
	baz=132						
TUC	**Tucson**	**49.44**	**321**	P	**P**	**13 22 26.8**	**-0.5**
TUC				pmax	pmax		
	comp=Z,72nm,0.9s						
TUC	**Tucson**	**49.44**	**321**	P	**P**	**13 22 27.3**	**0.0**
TUC				pP	**pP**	**13 22 52.2**	**-1.1**
H62A	**Milan**	**49.51**	**5**	IAmb	IAmb	13 22 30.6	
	comp=Z,359nm,1.3s						
H62A	**Milan**	**49.51**	**5**	P	**P**	**13 22 29.6**	**+2.1**
	baz=187,SNR=24						
H62A				P	**P**	**13 22 29.6**	**+2.1**
	baz=187,SNR=24						
I45A	**Fountain**	**49.56**	**351**	IAmb	IAmb	13 22 28.1	
	comp=Z,384nm,1.4s						
I45A	**Fountain**	**49.56**	**351**	P	**P**	**13 22 26.7**	**-1.2**
	baz=167,SNR=6.1						
I45A				P	**P**	**13 22 26.7**	**-1.2**
	baz=167,SNR=6.1						
BMNY	**Brushton-Moira**	**49.58**	**2**	P	**P**	**13 22 28.2**	**+0.2**
	baz=182,SNR=98						
FRNY	**Flat Rock**	**49.61**	**3**	P	**P**	**13 22 28.8**	**+0.5**
	baz=184,SNR=195						
WVL	**Waterville**	**49.65**	**6**	IAmb	IAmb	13 22 31.5	
	comp=Z,220nm,1.1s						
WVL	**Waterville**	**49.65**	**6**	P	**P**	**13 22 30.5**	**+2.0**
	baz=189,SNR=18						
K38A	**Parkersburg**	**49.66**	**344**	IAmb	IAmb	13 22 28.8	
	comp=Z,367nm,1.4s						
K38A	**Parkersburg**	**49.66**	**344**	P	**P**	**13 22 26.8**	**-1.9**
	baz=158,SNR=26						
I42A	**Draeger Farm,**	**49.92**	**348**	P	**P**	**13 22 29.3**	**-1.3**
	baz=164,SNR=103						
KSCO	**Kaye Shedlock'**	**50.04**	**333**	P	**P**	**13 22 32.1**	**+0.3**
	baz=145,SNR=89						
KSCO	**Kaye Shedlock'**	**50.04**	**333**	P	**P**	**13 22 32.0**	**+0.2**
	baz=145,SNR=89						
KSCO				S	**S**	**13 29 35.3**	**+0.6**
	baz=145						
EMMW	**East Machias**	**50.06**	**8**	IAmb	IAmb	13 22 34.4	
	comp=Z,458nm,1.6s						
EMMW	**East Machias**	**50.06**	**8**	P	**P**	**13 22 33.4**	**+1.8**
	baz=192,SNR=12						
GLMI	**Grayling**	**50.10**	**352**	P	**P**	**13 22 31.6**	**-0.3**
	baz=169,SNR=7.7						
GLMI	**Grayling**	**50.10**	**352**	P	**P**	**13 22 30.0**	**-1.9**
	baz=169,SNR=7.7						
GLMI				S	**S**	**13 29 31.0**	**-4.0**
	baz=169						
L34A	**Svendsen Farm,**	**50.13**	**341**	P	**P**	**13 22 30.9**	**-1.4**
	baz=154,SNR=41						
USHA	**Ushuaia**	**50.15**	**174**	P	**P**	**13 22 33.9**	**+1.7**
	comp=Z,159nm,0.8s,baz=350,slow=4.4,SNR=26						
	comp=Z,159nm,0.8s						
G62A	**West of Eustis**	**50.20**	**5**	P	**P**	**13 22 34.0**	**+1.2**
	baz=188,SNR=84						
G62A				P	**P**	**13 22 34.0**	**+1.2**
	baz=188,SNR=84						
H43A	**Windswept, Lux**	**50.25**	**349**	P	**P**	**13 22 32.5**	**-0.6**
	baz=165,SNR=23						
BGNE	**Belgrade**	**50.25**	**339**	P	**P**	**13 22 32.8**	**-0.5**
	baz=151,SNR=108						
BGNE	**Belgrade**	**50.25**	**339**	P	**P**	**13 22 32.5**	**-0.7**
	baz=151,SNR=108						
I40A	**Norwalk**	**50.29**	**347**	IAmb	IAmb	13 22 33.8	
	comp=Z,263nm,1.1s						
I40A	**Norwalk**	**50.29**	**347**	P	**P**	**13 22 32.6**	**-0.8**
	baz=161,SNR=17						
MG01	**Puerto William**	**50.34**	**173**	IAmb	IAmb	13 22 37.5	
	comp=Z,154nm,1.1s						
PKME	**Peaks-Kenny Pk**	**50.38**	**6**	IAmb	IAmb	13 22 36.8	
	comp=Z,248nm,0.9s						
PKME	**Peaks-Kenny Pk**	**50.38**	**6**	P	**P**	**13 22 34.9**	**+0.9**
	baz=189,SNR=34						
PKME	**Peaks-Kenny Pk**	**50.38**	**6**	P	**P**	**13 22 34.8**	**+0.9**
	baz=189,SNR=34						
SDCO	**Great Sand Dun**	**50.39**	**330**	IAmb	IAmb	13 22 37.5	
	comp=Z,283nm,0.9s						
SDCO	**Great Sand Dun**	**50.39**	**330**	P	**P**	**13 22 34.9**	**+0.2**
	baz=141,SNR=486						
SDCO	**Great Sand Dun**	**50.39**	**330**	P	**P**	**13 22 35.2**	**+0.5**
	baz=141,SNR=486						
SDCO				S	**S**	**13 29 42.2**	**+2.2**
	baz=141						
G45A	**Suttons Bay**	**50.45**	**351**	P	**P**	**13 22 33.2**	**-1.4**
	baz=168,SNR=28						
G45A				P	**P**	**13 22 33.2**	**-1.4**
	baz=168,SNR=28						
214A	**Organ Pipe Nat**	**50.51**	**319**	P	**P**	**13 22 35.6**	**+0.3**
	baz=130,SNR=39						
214A				S	**S**	**13 29 42.4**	**+1.2**
	baz=130						
G65A	**Princeton**	**50.53**	**8**	IAmb	IAmb	13 22 38.1	
	comp=Z,299nm,0.9s						
G65A	**Princeton**	**50.53**	**8**	P	**P**	**13 22 37.1**	**+2.0**
	baz=191,SNR=37						
G65A				P	**P**	**13 22 37.1**	**+2.0**
	baz=191,SNR=37						
HAL	**Halifax**	**50.66**	**12**	IAmb	IAmb	13 22 39.5	
	comp=Z,170nm,0.9s						
W18A	**Petrified Fore**	**50.74**	**324**	IAmb	IAmb	13 22 40.1	
	comp=Z,223nm,1.0s						
W18A	**Petrified Fore**	**50.74**	**324**	P	**P**	**13 22 37.7**	**+0.5**
	baz=135,SNR=52						
W18A				S	**S**	**13 29 47.1**	**+2.5**
	baz=135						
F63A	**Nahmakanta, Br**	**50.83**	**7**	IAmb	IAmb	13 22 40.2	
	comp=Z,196nm,1.4s						
F63A	**Nahmakanta, Br**	**50.83**	**7**	P	**P**	**13 22 37.8**	**+0.3**
	baz=189,SNR=17						
F63A				P	**P**	**13 22 37.8**	**+0.3**
	baz=189,SNR=17						
F62A	**Pittston Farm,**	**50.93**	**6**	IAmb	IAmb	13 22 40.9	
	comp=Z,151nm,0.8s						
F62A	**Pittston Farm,**	**50.93**	**6**	P	**P**	**13 22 39.0**	**+0.8**
	baz=188,SNR=27						
F62A				P	**P**	**13 22 39.0**	**+0.8**
	baz=188,SNR=27						
TRQ	**Mont Tremblant**	**50.96**	**2**	P	**P**	**13 22 38.1**	**-0.4**
TRQ				IAmb	IAmb	13 22 40.7	
	comp=Z,257nm,1.0s						
S22A	**4UR Ranch, Cre**	**51.07**	**329**	IAmb	IAmb	13 22 42.5	
	comp=Z,240nm,1.2s						
S22A	**4UR Ranch, Cre**	**51.07**	**329**	P	**P**	**13 22 40.0**	**+0.3**
	baz=140,SNR=172						
S22A				S	**S**	**13 29 51.1**	**+1.8**
	baz=140						
F64A	**Sherman**	**51.08**	**7**	P	**P**	**13 22 40.5**	**+1.2**
	baz=190,SNR=38						
F64A				P	**P**	**13 22 40.5**	**+1.2**
	baz=190,SNR=38						
I37A	**Lemond, Waseca**	**51.10**	**344**	IAmb	IAmb	13 23 55.8	
	comp=Z,186nm,1.0s						
I37B	**Waseca**	**51.10**	**344**	P	**P**	**13 22 37.8**	**-1.7**
	baz=158,SNR=20						
Q24A	**Divide**	**51.17**	**331**	IAmb	IAmb	13 22 42.9	
	comp=Z,444nm,1.6s						
Q24A	**Divide**	**51.17**	**331**	P	**P**	**13 22 40.6**	**+0.1**
	baz=142,SNR=118						
Q24A				S	**S**	**13 29 50.8**	**+0.1**
	baz=142						
OGNE	**Ogallala**	**51.38**	**335**	P	**P**	**13 22 41.9**	**+0.2**
	baz=146,SNR=81						
OGNE	**Ogallala**	**51.38**	**335**	P	**P**	**13 22 41.9**	**+0.2**
	baz=146,SNR=81						
OGNE				S	**S**	**13 29 53.5**	**+0.5**
	baz=146						
G40A	**Rib Lake**	**51.50**	**348**	IAmb	IAmb	13 22 43.0	
	comp=Z,117nm,0.9s						
G40A	**Rib Lake**	**51.50**	**348**	P	**P**	**13 22 41.5**	**-1.0**
	baz=162,SNR=36						
K31A	**O'Neill**	**51.53**	**339**	P	**P**	**13 22 42.5**	**-0.2**
	baz=151,SNR=164						
MVCO	**Mesa Verde**	**51.55**	**327**	IAmb	IAmb	13 22 45.8	
	comp=Z,351nm,1.7s						
MVCO	**Mesa Verde**	**51.55**	**327**	P	**P**	**13 22 43.3**	**0.0**
	baz=138,SNR=45						
MVCO				S	**S**	**13 29 56.7**	**+0.8**
	baz=138						
F42A	**Maple Grove Fa**	**51.56**	**349**	IAmb	IAmb	13 22 43.4	
	comp=Z,187nm,0.9s						
F42A	**Maple Grove Fa**	**51.56**	**349**	P	**P**	**13 22 41.4**	**-1.5**
	baz=165,SNR=24						
E46A	**Sault Ste Mari**	**51.57**	**353**	IAmb	IAmb	13 22 43.2	
	comp=Z,357nm,1.3s						
E46A	**Sault Ste Mari**	**51.57**	**353**	P	**P**	**13 22 41.4**	**-1.5**
	baz=170,SNR=51						
LMN	**Caledonia Moun**	**51.60**	**10**	P	**P**	**13 22 43.2**	**0.0**
E63A	**Oxbow**	**51.62**	**7**	P	**P**	**13 22 44.2**	**+0.9**
	baz=190,SNR=25						
E63A				P	**P**	**13 22 44.2**	**+0.9**
	baz=190,SNR=25						
ECSD	**EROS Data Cent**	**51.79**	**341**	IAmb	IAmb	13 22 45.3	
	comp=Z,146nm,0.8s						
ECSD	**EROS Data Cent**	**51.79**	**341**	P	**P**	**13 22 43.0**	**-1.7**
	baz=154,SNR=167						
ECSD	**EROS Data Cent**	**51.79**	**341**	P	**P**	**13 22 43.0**	**-1.7**
	baz=154,SNR=167						
ECSD				S	**S**	**13 29 53.5**	**-5.0**
	baz=154						
GBN	**Guysborough**	**51.85**	**13**	P	**P**	**13 22 45.2**	**+0.3**
GBN				IAmb	IAmb	13 22 47.2	
	comp=Z,376nm,1.2s						
PQI	**Presque Isle**	**51.92**	**7**	IAmb	IAmb	13 22 48.3	
	comp=Z,305nm,1.1s						
E43A	**Lone Tree Farm**	**51.96**	**351**	IAmb	IAmb	13 22 45.6	
	comp=Z,119nm,0.7s						
E43A	**Lone Tree Farm**	**51.96**	**351**	P	**P**	**13 22 44.1**	**-1.7**
	baz=166,SNR=25						
WUAZ	**Wupatki**	**51.98**	**324**	IAmb	IAmb	13 22 49.3	
	comp=Z,199nm,1.1s						
WUAZ	**Wupatki**	**51.98**	**324**	P	**P**	**13 22 46.7**	**+0.3**
	baz=134,SNR=41						
WUAZ				S	**S**	**13 30 04.1**	**+2.5**
	baz=134						
ISCO	**Idaho Springs**	**52.05**	**331**	P	**P**	**13 22 47.0**	**0.0**
	baz=142,SNR=150						
ISCO	**Idaho Springs**	**52.05**	**331**	P	**P**	**13 22 47.0**	**0.0**
	baz=142,SNR=150						
ISCO				S	**S**	**13 30 04.5**	**+1.7**
	baz=142						
SPMN	**Marine on St.**	**52.07**	**345**	IAmb	IAmb	13 22 47.0	
	comp=Z,227nm,1.0s						
SPMN	**Marine on St.**	**52.07**	**345**	P	**P**	**13 22 44.9**	**-1.8**
	baz=159,SNR=61						
SPMN	**Marine on St.**	**52.07**	**345**	P	**P**	**13 22 44.7**	**-2.0**
	baz=159,SNR=61						
SPMN				S	**S**	**13 29 56.3**	**-5.8**
	baz=159						
PV15	**Paradox Valley**	**52.38**	**328**	IAmb	IAmb	13 22 52.3	
	comp=Z,354nm,1.2s						
CPBX	**Cerro Prieto**	**52.45**	**318**	IAmb	IAmb	13 22 52.6	
	comp=Z,190nm,1.1s						
GLA	**Glamis**	**52.52**	**319**	P	**P**	**13 22 50.3**	**0.0**
	baz=129,SNR=34						
GLA				S	**S**	**13 30 08.7**	**-0.1**
	baz=129						
PV07	**Paradox Valley**	**52.53**	**328**	IAmb	IAmb	13 22 53.2	
	comp=Z,197nm,1.2s						
PV10	**Paradox Valley**	**52.70**	**328**	IAmb	IAmb	13 22 54.4	
	comp=Z,342nm,1.4s						
BLYC	**Blythe**	**52.76**	**320**	P	**P**	**13 22 51.7**	**-0.3**
F36A	**Milaca**	**52.85**	**345**	IAmb	IAmb	13 22 53.6	
	comp=Z,232nm,1.1s						
F36A	**Milaca**	**52.85**	**345**	P	**P**	**13 22 50.5**	**-1.9**
	baz=158,SNR=111						
D41A	**Chassel**	**52.90**	**350**	IAmb	IAmb	13 22 53.7	
	comp=Z,452nm,1.6s						
D41A	**Chassel**	**52.90**	**350**	P	**P**	**13 22 52.5**	**-0.2**
	baz=165,SNR=11						
N23A	**Red Feather La**	**53.07**	**332**	IAmb	IAmb	13 22 56.8	
	comp=Z,151nm,1.3s						
N23A	**Red Feather La**	**53.07**	**332**	P	**P**	**13 22 54.6**	**+0.1**
	baz=142,SNR=45						
N23A				S	**S**	**13 30 16.9**	**+0.4**
	baz=142						
E38A	**The Farm, Brul**	**53.07**	**347**	IAmb	IAmb	13 22 54.5	
	comp=Z,226nm,0.8s						
E38A	**The Farm, Brul**	**53.07**	**347**	P	**P**	**13 22 52.6**	**-1.5**
	baz=161,SNR=46						
SWSC	**Sam W. Stewart**	**53.10**	**318**	P	**P**	**13 22 54.5**	**0.0**
	baz=128,SNR=12						
SWSC				S	**S**	**13 30 20.4**	**+3.8**
	baz=128						
IKP	**In-Ko-Pah, Jac**	**53.13**	**318**	P	**P**	**13 22 54.7**	**-0.2**
	baz=127,SNR=17						
IKP				S	**S**	**13 30 18.5**	**+1.3**
	baz=127						
PHWY	**Pilot Hill**	**53.17**	**333**	IAmb	IAmb	13 22 57.4	
	comp=Z,189nm,1.3s						
SUSD	**Miller**	**53.20**	**340**	P	**P**	**13 22 53.7**	**-1.4**
	baz=152,SNR=155						
SUSD	**Miller**	**53.20**	**340**	P	**P**	**13 22 53.8**	**-1.2**
	baz=152,SNR=155						
SUSD				S	**S**	**13 30 14.1**	**-3.5**
	baz=152						
BC3	**Big Chuckawall**	**53.31**	**319**	P	**P**	**13 22 56.4**	**+0.2**
	baz=128,SNR=12						
BC3				S	**S**	**13 30 19.1**	**-0.6**
	baz=128						
IRM	**Iron Mountain**	**53.42**	**320**	P	**P**	**13 22 57.2**	**+0.3**
	baz=129,SNR=72						
IRM				S	**S**	**13 30 23.1**	**+2.1**
	baz=129						
NEE2	**Needles Airpor**	**53.47**	**321**	P	**P**	**13 22 57.2**	**0.0**
	baz=130,SNR=12						
NEE2				S	**S**	**13 30 23.5**	**+1.9**
	baz=130						
O20A	**White River Ci**	**53.59**	**330**	IAmb	IAmb	13 23 00.9	
	comp=Z,180nm,0.9s						
O20A	**White River Ci**	**53.59**	**330**	P	**P**	**13 22 58.4**	**+0.2**
	baz=139,SNR=64						
O20A				S	**S**	**13 30 24.3**	**+0.7**
	baz=139						
F33A	**5 Mile Ranch,**	**53.60**	**343**	IAmb	IAmb	13 22 58.4	
	comp=Z,334nm,1.4s						
F33A	**5 Mile Ranch,**	**53.60**	**343**	P	**P**	**13 22 56.2**	**-1.6**
	baz=155,SNR=75						
PKCU	**Pink Cliffs**	**53.85**	**325**	IAmb	IAmb	13 23 03.3	
	comp=Z,285nm,1.4s						
KNB	**Kanab**	**53.85**	**324**	IAmb	IAmb	13 23 03.2	
	comp=Z,437nm,1.8s						
BELC	**Belle Mtn. Jos**	**53.88**	**319**	P	**P**	**13 23 00.5**	**+0.1**
	baz=128,SNR=17						
BELC				S	**S**	**13 30 29.6**	**+2.2**
	baz=128						
PMD	**Palm Desert**	**53.91**	**318**	IAmb	IAmb	13 23 03.0	
	comp=Z,106nm,1.4s						
TPFO	**Pinon Flats**	**53.94**	**318**	P	**P**	**13 23 01.0**	**+0.3**
	baz=128,SNR=17						
TPFO				S	**S**	**13 30 32.5**	**+4.3**
	baz=128						
109C	**Camp Elliot, M**	**53.94**	**317**	IAmb	IAmb	13 23 31.9	
	comp=Z,245nm,1.9s						
109C	**Camp Elliot, M**	**53.94**	**317**	P	**P**	**13 23 00.5**	**-0.1**
	baz=126,SNR=7.9						
109C				S	**S**	**13 30 28.3**	**+0.3**
	baz=126						
PFO	**Pinyon Flats O**	**53.94**	**318**	P	**P**	**13 23 00.8**	**0.0**
	comp=Z,37nm,0.9s,baz=121,slow=5.7,SNR=38						
	comp=Z,37nm,0.9s						
PFO	**Pinyon Flats O**	**53.94**	**318**	P	**P**	**13 23 00.3**	**-0.5**
PFO	**Pinyon Flats O**	**53.94**	**318**	P	**P**	**13 23 01.0**	**+0.2**
	baz=128,SNR=12						
PFO				S	**S**	**13 30 31.8**	**+3.6**
	baz=128						
PFO	**Pinyon Flats O**	**53.94**	**318**	P	**P**	**13 23 01.0**	**+0.2**
PFO				pP	**pP**	**13 23 26.7**	**-0.4**
SRU	**San Rafael Swe**	**54.03**	**327**	IAmb	IAmb	13 23 03.7	
	comp=Z,474nm,1.6s						
GMRC	**Granite Mounta**	**54.14**	**320**	P	**P**	**13 23 02.5**	**+0.3**
	baz=129,SNR=66						
GMRC				S	**S**	**13 30 33.3**	**+2.4**
	baz=129						
MTPU	**Mount Pierson**	**54.19**	**325**	IAmb	IAmb	13 23 05.3	
	comp=Z,213nm,1.8s						
Q16A	**Castle Valley**	**54.24**	**327**	IAmb	IAmb	13 23 06.6	
	comp=Z,209nm,1.5s						
P18A	**Preston Nutter**	**54.25**	**328**	IAmb	IAmb	13 24 08.3	
	comp=Z,104nm,0.9s						
RWWY	**Rawlins**	**54.28**	**332**	IAmb	IAmb	13 23 05.9	
	comp=Z,233nm,0.9s						
EYMN	**Ely**	**54.33**	**348**	IAmb	IAmb	13 23 03.5	
	comp=Z,150nm,0.9s						
EYMN	**Ely**	**54.33**	**348**	P	**P**	**13 23 01.6**	**-1.6**
	baz=161,SNR=24						
EYMN	**Ely**	**54.33**	**348**	P	**P**	**13 23 01.4**	**-1.8**
	baz=161,SNR=24						
EYMN				S	**S**	**13 30 27.4**	**-5.3**
	baz=161						
P17A	**Butcher Ranch,**	**54.40**	**327**	IAmb	IAmb	13 23 06.4	
	comp=Z,449nm,1.5s						
MURC	**Murrieta**	**54.42**	**318**	P	**P**	**13 23 04.3**	**+0.1**
	baz=127,SNR=32						
MURC				S	**S**	**13 30 35.3**	**+0.8**
	baz=127						
HEC	**Hector,Ludlow**	**54.60**	**320**	P	**P**	**13 23 06.1**	**+0.5**
	baz=128,SNR=18						
HEC				S	**S**	**13 30 39.2**	**+2.1**
	baz=128						
BBRC	**Big Bear Solar**	**54.64**	**319**	P	**P**	**13 23 06.7**	**+0.7**
	baz=128,SNR=13						
BBRC				S	**S**	**13 30 40.8**	**+3.0**
	baz=128						
K22A	**Casper**	**54.72**	**333**	IAmb	IAmb	13 23 08.7	
	comp=Z,328nm,1.2s						
K22A	**Casper**	**54.72**	**333**	P	**P**	**13 23 06.5**	**+0.2**
	baz=142,SNR=91						
K22A	**Casper**	**54.72**	**333**	P	**P**	**13 23 06.2**	**-0.1**
	baz=142,SNR=91						
K22A				S	**S**	**13 30 40.3**	**+1.8**
	baz=142						
TUQ	**Turquoise Moun**	**54.72**	**320**	P	**P**	**13 23 06.2**	**-0.2**
	baz=129						
TUQ				S	**S**	**13 30 40.0**	**+1.3**
	baz=129						
TCRU	**Three Creeks R**	**54.73**	**326**	IAmb	IAmb	13 23 09.3	
	comp=Z,140nm,1.2s						
RSSD	**Black Hills**	**54.83**	**336**	P	**P**	**13 23 06.9**	**-0.3**
RSSD				IAmb	IAmb	13 23 09.8	
	comp=Z,180nm,0.8s						
RSSD	**Black Hills**	**54.83**	**336**	P	**P**	**13 23 07.4**	**+0.1**
	baz=146,SNR=148						
RSSD	**Black Hills**	**54.83**	**336**	P	**P**	**13 23 07.3**	**+0.1**
	baz=146						
RSSD				S	**S**	**13 30 41.5**	**+1.4**
	baz=146						
RSSD	**Black Hills**	**54.83**	**336**	P	**P**	**13 23 06.9**	**-0.3**
RSSD				pmax	pmax		
	comp=Z,180nm,0.9s						
RSSD	**Black Hills**	**54.83**	**336**	P	**P**	**13 23 07.5**	**+0.3**
RSSD				pP	**pP**	**13 23 34.4**	**+0.8**
D32A	**Dogwood Acres,**	**54.98**	**343**	IAmb	IAmb	13 23 08.8	
	comp=Z,140nm,0.6s						
D32B	**Dogwood Acres,**	**54.98**	**343**	P	**P**	**13 23 06.9**	**-1.0**
	baz=155,SNR=8.5						
RRX	**Edison Barstow**	**55.06**	**319**	P	**P**	**13 23 09.1**	**+0.3**
	baz=128,SNR=6.3						
RRX				S	**S**	**13 30 45.6**	**+2.6**
	baz=128						
BFSC	**Mount Baldy Ra**	**55.11**	**318**	P	**P**	**13 23 09.3**	**0.0**
	baz=127						
BFSC				S	**S**	**13 30 47.0**	**+3.1**
	baz=127						
CIS	**Catalina Islan**	**55.13**	**317**	P	**P**	**13 23 09.0**	**-0.3**
	baz=126						
CIS				S	**S**	**13 30 46.1**	**+2.0**
	baz=126						
GSC	**Goldstone, Bar**	**55.20**	**320**	P	**P**	**13 23 10.2**	**+0.4**
	baz=128,SNR=41						
GSC				S	**S**	**13 30 47.7**	**+2.7**
	baz=128						
B35A	**Bob, Littlefor**	**55.23**	**346**	IAmb	IAmb	13 23 10.1	
	comp=Z,169nm,0.8s						
B35A	**Bob, Littlefor**	**55.23**	**346**	P	**P**	**13 23 08.5**	**-1.1**
	baz=159,SNR=50						
FMP	**Fort Macarthur**	**55.23**	**317**	P	**P**	**13 23 10.0**	**+0.1**
	baz=126						
FMP				S	**S**	**13 30 46.1**	**+0.9**
	baz=126						
SHOC	**Shoshone, Teco**	**55.23**	**321**	P	**P**	**13 23 09.9**	**-0.1**
	baz=129,SNR=10						
SHOC				S	**S**	**13 30 47.2**	**+2.0**
	baz=129						
PASC	**Pasadena Art C**	**55.42**	**318**	IAmb	IAmb	13 23 14.1	
	comp=Z,141nm,1.2s						
DECC	**Green Verdugo**	**55.57**	**318**	P	**P**	**13 23 12.5**	**+0.1**
	baz=126,SNR=18						
DECC				S	**S**

TCUT Toone Canyon 55.94 328 IAmb IAmb 13 23 51.0
comp=Z,179nm,0.7s
FURC Furnace, Creek, 55.96 321 P **P** **13 23 15.3 +0.3**
baz=129,SNR=21
FURC S **S** **13 30 56.7 +1.9**
baz=129
DUG Dugway, Tooele 56.04 327 IAmb IAmb 13 23 18.6
comp=Z,261nm,1.2s
DUG Dugway, Tooele 56.04 327 P **P** **13 23 16.0 +0.2**
baz=134,SNR=193
DUG S **S** **13 30 57.0 +0.9**
baz=134
OSI Osito Audit: C 56.05 318 P **P** **13 23 15.6 -0.3**
baz=126
OSI S **S** **13 30 55.5 -0.7**
baz=126
SPR3 Spring Creek 3 56.07 325 IAmb IAmb 13 23 18.5
comp=Z,212nm,1.5s
MPMC Manual Prospec 56.10 320 P **P** **13 23 16.2 -0.2**
baz=128,SNR=40
MPMC S **S** **13 31 00.5 +3.3**
baz=128
BW06 Boulder Array 56.23 331 P **P** **13 23 16.6 -0.7**
baz=139
BW06 S **S** **13 30 57.0 -1.7**
baz=139
PD31 Pinedale Array 56.23 331 IAmb IAmb 13 23 19.0
comp=Z,220nm,1.4s
PDAR Pinedale Array 56.23 331 P **P** **13 23 16.4 -0.9**
comp=Z,35nm,0.7s,baz=124,slow=7.7,SNR=187
PDAR LR LR 13 50 01.3
comp=Z,625nm,18.8s,baz=158,slow=39
PDAR PKP2bc 13 53 19.8
comp=Z,0.7nm,0.9s,baz=64,slow=2.1,SNR=4.2
comp=Z,35nm,0.7s
SCZ2 Santa Cruz Isl 56.30 317 P **P** **13 23 17.3 -0.4**
baz=125
R11A Troy Canyon, C 56.37 323 P **P** **13 23 18.6 +0.3**
baz=131,SNR=102
R11A S **S** **13 31 01.1 +0.4**
baz=131
MDND Maddock 56.41 341 P **P** **13 23 18.2 +0.1**
baz=152,SNR=70
MDND Maddock 56.41 341 P **P** **13 23 17.8 -0.3**
baz=152,SNR=70
ARVC Arvin 56.42 318 P **P** **13 23 18.5 +0.1**
baz=126,SNR=23
ARVC S **S** **13 31 02.7 +1.7**
baz=126
ISA Isabella, Lake 56.50 319 P **P** **13 23 19.0 -0.1**
baz=127,SNR=24
ISA S **S** **13 31 03.0 +0.7**
baz=127
GRAC Grapevine Rang 56.60 321 IAmb IAmb 13 23 22.6
comp=Z,288nm,1.8s
GRAC Grapevine Rang 56.60 321 P **P** **13 23 20.1 +0.4**
baz=128,SNR=29
GRAC S **S** **13 31 07.3 +3.8**
baz=128
SBC Santa Barbara 56.61 317 P **P** **13 23 19.6 -0.2**
baz=125
SBC S **S** **13 31 06.2 +2.7**
baz=125
SPUT South Promonto 56.63 328 IAmb IAmb 13 23 22.2
comp=Z,326nm,1.3s
BGU Big Grassy Mou 56.67 327 IAmb IAmb 13 23 22.4
comp=Z,179nm,1.3s
CWC Cottonwood Cre 56.71 320 P **P** **13 23 20.7 0.0**
baz=128
CWC S **S** **13 31 06.3 +1.1**
baz=128
PKM Mcpherson Peak 56.94 318 P **P** **13 23 22.2 -0.1**
baz=125,SNR=20
PKM S **S** **13 31 10.3 +2.0**
baz=125
AHID Auburn Hatcher 56.99 330 IAmb IAmb 13 23 24.1
comp=Z,102nm,0.8s
VES Vestal, Richgr 57.01 319 P **P** **13 23 23.1 +0.5**
baz=126,SNR=38
VES S **S** **13 31 11.8 +3.2**
baz=126
HVU Hansel Valley 57.13 328 IAmb IAmb 13 23 25.5
comp=Z,166nm,1.4s
TIN Tinemaha, Big 57.18 321 P **P** **13 23 24.2 +0.3**
baz=128,SNR=8.4
TIN S **S** **13 31 14.2 +2.9**
baz=128
SMMC Simmler 57.30 318 P **P** **13 23 24.7 0.0**
baz=125,SNR=23
SMMC S **S** **13 31 15.0 +2.3**
baz=125
SNOW Snow King Moun 57.33 331 IAmb IAmb 13 23 26.5
comp=Z,80nm,0.6s
LOHW Long Hollow 57.37 331 IAmb IAmb 13 23 28.7
comp=Z,84nm,0.8s
ULM Lac du Bonnet 57.51 345 P **P** **13 23 24.1 -1.8**
comp=Z,358nm,0.7s,baz=157,slow=7.4,SNR=321
ULM pP **pP** **13 23 51.2 -1.1**
comp=Z,56nm,0.8s,baz=167,slow=5.9,SNR=3.1
ULM PKP2bc 13 53 21.9
comp=Z,3.4nm,0.9s,baz=175,slow=3.1,SNR=3.8
comp=Z,358nm,0.7s
Q09A Carvers 57.64 323 IAmb IAmb 13 23 29.9
comp=Z,148nm,1.0s
LAO LASA Array 57.82 336 IAmb IAmb 13 23 30.0
comp=Z,294nm,1.5s
LAO LASA Array 57.82 336 P **P** **13 23 28.1 -0.1**
baz=144,SNR=23
LAO LASA Array 57.82 336 P **P** **13 23 27.5 -0.7**
baz=144,SNR=23
LAO S **S** **13 31 18.6 -0.5**
baz=144
RLMT Red Lodge 57.89 333 IAmb IAmb 13 23 30.8
comp=Z,174nm,1.2s
RLMT Red Lodge 57.89 333 P **P** **13 23 28.2 -0.6**
baz=140,SNR=69
RLMT S **S** **13 31 20.1 -0.3**
baz=140
MLAC Mammoth, Mammo 57.92 321 P **P** **13 23 29.1 -0.1**
baz=128
MLAC S **S** **13 31 23.6 +2.5**
baz=128
H17A Grant Village 57.94 332 IAmb IAmb 13 23 37.8
comp=Z,291nm,1.9s
H17A Grant Village 57.94 332 P **P** **13 23 29.7 +0.4**
baz=139,SNR=35
H17A S **S** **13 31 22.2 +1.0**
baz=139
LKWY Lake 57.99 332 IAmb IAmb 13 23 32.7
comp=Z,104nm,0.9s
OMMB Old Mammoth Mi 58.01 321 IAmb IAmb 13 23 32.4
comp=Z,116nm,1.0s
OMMB pP pP 13 23 55.9 -0.7
NVAR Mina Array Bea 58.07 322 P **P** **13 23 30.6 +0.3**
comp=Z,40nm,0.7s,baz=123,slow=7.1,SNR=185
NVAR pP **pP** **13 23 56.5 -0.4**
comp=Z,10nm,0.5s,baz=131,slow=7.2,SNR=3.3
comp=Z,40nm,0.7s
YUF Upper Falls 58.15 332 IAmb IAmb 13 23 34.6
comp=Z,204nm,1.6s
YNR Norris Junctio 58.23 332 IAmb IAmb 13 23 33.9
comp=Z,207nm,1.6s
DGMT Dagmar 58.51 339 IAmb IAmb 13 23 35.2
comp=Z,149nm,0.8s
DGMT Dagmar 58.51 339 P **P** **13 23 33.5 +0.6**
baz=147,SNR=56
DGMT Dagmar 58.51 339 P **P** **13 23 32.9 0.0**
baz=147,SNR=56
DGMT S **S** **13 31 29.8 +1.8**
baz=147
BMN Battle Mountai 58.69 324 IAmb IAmb 13 23 36.6
comp=Z,130nm,0.9s
HOPE Hope Point 58.81 154 P **P** **13 23 36.6 +1.8**
HOPE IAmb IAmb 13 23 39.0
comp=Z,208nm,0.9s
HOPE Hope Point 58.81 154 P **P** **13 23 36.6 +1.8**
HOPE pmax pmax
comp=Z,208nm,1.0s
HOPE Hope Point 58.81 154 P **P** **13 23 36.6 +1.8**
HOPE pP **pP** **13 24 03.2 +1.7**
WAKR Walker 58.82 321 IAmb IAmb 13 25 41.7
comp=Z,316nm,1.4s
YERR Yerington 58.99 322 P **P** **13 23 36.6 0.0**
YERR IAmb IAmb 13 25 43.2
comp=Z,206nm,1.4s
SAO San Andreas Ge 59.09 318 IAmb IAmb 13 25 29.8
comp=Z,117nm,1.1s
CMB Columbia Colle 59.14 320 IAmb IAmb 13 25 36.6
comp=Z,173nm,1.1s
HLID Hailey 59.25 329 IAmb IAmb 13 23 40.8
comp=Z,103nm,1.1s
HLID Hailey 59.25 329 P **P** **13 23 38.2 -0.1**
baz=134,SNR=117
HLID S **S** **13 31 41.8 +3.8**
baz=134
PNTR Pine Nut 59.28 322 IAmb IAmb 13 25 42.0
comp=Z,166nm,1.0s
BOZ Bozeman (W) 59.34 332 IAmb IAmb 13 23 41.1
comp=Z,231nm,1.0s
BOZ Bozeman (W) 59.34 332 P **P** **13 23 38.7 -0.1**
baz=138,SNR=374
BOZ S **S** **13 31 39.3 +0.3**
baz=138
VCNR Virginia City 59.43 322 IAmb IAmb 13 23 42.3
comp=Z,98nm,0.9s
AFDM Forest Hills D 60.05 321 IAmb IAmb 13 25 37.5
comp=Z,136nm,1.1s
SCHQ Schefferville 60.08 6 P **P** **13 23 43.5 -0.1**
comp=Z,276nm,0.9s,baz=202,slow=5.3,SNR=167
comp=Z,276nm,0.9s
SCHQ Schefferville 60.08 6 P **P** **13 23 43.2 -0.4**
PLTX Planet X, Gerl 60.19 323 IAmb IAmb 13 25 47.4
comp=Z,243nm,1.4s
BEKR Beckworth 60.22 322 P **P** **13 23 44.8 -0.2**
BEKR IAmb IAmb 13 23 47.5
comp=Z,95nm,0.9s
EGMT Eagleton 60.34 335 IAmb IAmb 13 23 47.6
comp=Z,319nm,1.3s
EGMT Eagleton 60.34 335 P **P** **13 23 45.2 -0.3**
baz=141,SNR=140
EGMT S **S** **13 31 50.8 -0.9**
baz=141
PMSA Palmer Station 60.36 174 P **P** **13 23 46.5 +1.2**
comp=Z,71nm,0.6s,baz=352,slow=4.7,SNR=28
comp=Z,71nm,0.6s
PMSA Palmer Station 60.36 174 P **P** **13 23 46.5 +1.2**
PMSA Palmer Station 60.36 174 *eP* **P** **13 23 46.2 +1.0**
PMSA Palmer Station 60.36 174 P **P** **13 23 46.7 +1.4**
ORV Oroville 60.74 321 P **P** **13 23 48.3 0.0**
ORV IAmb IAmb 13 23 51.1
comp=Z,274nm,1.1s
ORV Oroville 60.74 321 P **P** **13 23 48.3 0.0**
ORV pmax pmax
comp=Z,274nm,1.1s
WVOR Wild Horse Val 60.79 325 IAmb IAmb 13 25 54.6
comp=Z,207nm,1.2s
MCCM Marconi Confer 60.81 319 P **P** **13 23 49.0 +0.2**
MCCM IAmb IAmb 13 25 29.2
comp=Z,162nm,1.2s
PLID Pearl Lake 61.12 329 P **P** **13 23 50.0 -1.1**
PLID IAmb IAmb 13 23 52.6
comp=Z,167nm,1.5s
GDXM Geysers 61.13 320 P **P** **13 23 51.3 +0.2**
GDXM IAmb IAmb 13 25 32.3
comp=Z,163nm,1.4s
J08A Circle Bar Ran 61.29 326 IAmb IAmb 13 25 57.5
comp=Z,247nm,1.2s
MSO Missoula 61.33 331 P **P** **13 23 52.4 +0.1**
baz=136,SNR=180
MSO S **S** **13 32 02.7 -1.6**
baz=136
ASCN Ascension 61.61 96 P **P** **13 23 55.5 +0.8**
ASCN IAmb IAmb 13 23 57.2
comp=Z,151nm,0.8s
MBO M'Bour 61.93 71 P **P** **13 23 57.8 +1.1**
MBO M'Bour 61.93 71 P **P** **13 23 58.4 +1.6**
MBO pP **pP** **13 24 25.3 +1.7**
KCPM Cahto Peak 62.13 320 IAmb IAmb 13 25 32.6
comp=Z,220nm,1.1s
I07A Izee 62.33 326 IAmb IAmb 13 24 01.6
comp=Z,241nm,1.1s
F10A Beach Ranch, E 62.36 329 IAmb IAmb 13 24 01.6
comp=Z,356nm,1.4s
BBTS Babate 62.39 71 P **P** **13 24 01.2 +1.4**
comp=Z,260nm,1.0s,baz=298,slow=6.9,SNR=22
comp=Z,260nm,1.0s
KMRM Mail Ridge 62.51 321 IAmb IAmb 13 25 33.5
comp=Z,307nm,1.1s
KHMM Horse Mountain 62.89 321 IAmb IAmb 13 24 05.5
comp=Z,381nm,1.5s
WALA Waterton Lakes 62.94 333 IAmb IAmb 13 24 05.1
comp=Z,124nm,0.9s
PINE Pine Mountain 62.96 325 IAmb IAmb 13 25 52.5
comp=Z,301nm,1.2s
JCC Jaby Creek, 63.05 321 IAmb IAmb 13 24 06.4
comp=Z,442nm,1.3s
FFC Flin Flon 63.17 344 P **P** **13 24 03.1 -1.2**
FFC IAmb IAmb 13 24 05.8
comp=Z,236nm,0.9s
FFC Flin Flon 63.17 344 P **P** **13 24 03.1 -1.2**
FFC pmax pmax
comp=Z,236nm,1.0s
FFC Flin Flon 63.17 344 P **P** **13 24 03.6 -0.7**
FFC pP **pP** **13 24 30.7 -0.6**
KRPM Rodgers 63.24 321 IAmb IAmb 13 24 08.0
comp=Z,468nm,1.3s
G06A Carlson Farm, 63.69 327 IAmb IAmb 13 24 11.1
comp=Z,364nm,1.6s
HAWA Hanford 63.84 328 IAmb IAmb 13 26 02.8
comp=Z,172nm,1.1s
KBO Bosley Butte 63.96 322 IAmb IAmb 13 24 14.4
comp=Z,238nm,1.1s
HOOD Mount Hood Mea 64.30 326 IAmb IAmb 13 24 15.8
comp=Z,534nm,1.7s
BUCK Buck Mountain 64.38 325 IAmb IAmb 13 24 14.2
comp=Z,167nm,0.8s
KEBM Edson Butte 64.40 323 IAmb IAmb 13 25 40.4
comp=Z,364nm,1.2s
COR Corvallis 64.79 325 P **P** **13 24 15.4 +0.3**
COR IAmb IAmb 13 24 17.2
comp=Z,135nm,0.8s
COR Corvallis 64.79 325 P **P** **13 24 15.4 +0.3**
COR pmax pmax
comp=Z,135nm,0.8s
COR Corvallis 64.79 325 P **P** **13 24 15.7 +0.6**
COR pP **pP** **13 24 42.9 +0.7**
FCC Fort Churchill 65.07 350 IAmb IAmb 13 24 17.7
comp=Z,296nm,1.1s
EDM Edmonton 65.80 337 IAmb IAmb 13 24 22.7
comp=Z,367nm,1.0s
E03A Lebam 66.11 326 IAmb IAmb 13 24 26.1
comp=Z,184nm,1.0s
RADR Rader Ridge 66.16 326 IAmb IAmb 13 25 53.5
comp=Z,287nm,1.4s
MACI Morro de la Ar 66.33 56 P **P** **13 24 26.8 +1.2**
WISH Wishkah 66.56 327 IAmb IAmb 13 25 54.8
comp=Z,200nm,1.1s
NLWA Neilton Lookou 66.78 327 IAmb IAmb 13 24 30.7
comp=Z,248nm,1.2s
PMOZ Porto Moniz, M 67.41 52 *eP* **P** **13 24 34.0 +1.8**
comp=Z,361nm,1.3s
PMOZ *e*pP **pP** **13 24 59.4 -0.1**
PMAR Madeira 67.59 52 *eP* **P** **13 24 35.0 +1.5**
BRLDA Berland Lookou 68.08 335 IAmb IAmb 13 24 37.3
comp=Z,320nm,1.1s
PMPST Porto Santo, M 68.18 52 *eP* **P** **13 24 35.6 -1.3**
OZB Mount Ozzard 68.59 328 IAmb IAmb 13 24 42.2
comp=Z,155nm,0.9s
IVI Ivigtut 69.49 14 P **P** **13 24 44.5 +0.1**
IVI IAmb IAmb 13 24 46.9
comp=Z,464nm,1.1s
IVI Ivigtut 69.49 14 *i* P **P** **13 24 44.0 -0.4**
IVI IAmb IAmb 13 24 46.0
comp=Z,141nm,0.7s
IVI Ivigtut 69.49 14 P **P** **13 24 44.6 +0.2**
WAPA Wapiti River 69.61 335 IAmb IAmb 13 24 46.7
comp=Z,274nm,1.1s
NRS Narsarsuaq 70.15 15 P **P** **13 24 48.3 -0.1**
NRS Narsarsuaq 70.15 15 *i* P **P** **13 24 48.0 -0.5**
NRS IAmb IAmb 13 24 49.8
comp=Z,244nm,0.7s
NRS Narsarsuaq 70.15 15 P **P** **13 24 48.3 -0.1**
NRS pmax pmax
comp=Z,474nm,1.0s
NUUK Nuuk 71.35 11 *i* P **P** **13 24 55.0 -0.6**
NUUK IAmb IAmb 13 24 57.9
comp=Z,51nm,0.9s
BBB Bell Bella 71.81 329 IAmb IAmb 13 25 01.6
comp=Z,206nm,1.1s
LIC Lamto 72.05 82⇑ *eP* **P** **13 25 01.0 +0.1**
comp=Z,291nm,1.1s
TIC Toumodi 72.11 81⇑ *eP* **P** **13 24 58.5 -2.8**
comp=Z,412nm,1.1s
DBIC Dimbokro 72.27 81 P **P** **13 25 02.7 +0.4**
comp=Z,193nm,1.1s,baz=270,slow=5.3,SNR=98
comp=Z,193nm,1.1s
DBIC Dimbokro 72.27 81 IAmb IAmb 13 25 05.0
comp=Z,319nm,1.1s
KIC Kosan Boka 72.35 82 *eP* **P** **13 25 02.5 -0.2**
comp=Z,69nm,0.6s
PPTF Pamatai, Papee 72.55 253 **P** **13 25 01.2 -2.8**
PPTF IAmb IAmb 13 25 02.7
comp=Z,173nm,0.9s
PPT Papeete 72.56 253 LR LR 13 49 53.4
comp=Z,580nm,20.9s,baz=104,slow=30
YKA Yellowknife Ar 73.30 343 P **P** **13 25 06.2 -1.2**
comp=Z,96nm,0.7s,baz=137,slow=6.0,SNR=434
YKA pP **pP** **13 25 33.0 -2.0**
comp=Z,18nm,0.5s,baz=136,slow=6.4,SNR=3.4
YKA LR LR 14 00 21.2
comp=Z,413nm,18.6s,baz=126,slow=38
comp=Z,96nm,0.7s
SFJD Kangerlussuaq 74.09 10 P **P** **13 25 11.5 -0.3**
comp=Z,52nm,0.7s,baz=192,slow=3.7,SNR=28
SFJD LR LR 13 56 12.9
comp=Z,479nm,21.7s,baz=189,slow=34
comp=Z,52nm,0.7s
SFJD Kangerlussuaq 74.09 10 P **P** **13 25 11.0 -0.8**
SFJD Kangerlussuaq 74.09 10 *i* P **P** **13 25 10.8 -1.0**
SFJD IAmb IAmb 13 25 12.4
comp=Z,37nm,0.7s
DY2G Dye2 74.47 12 *i* P **P** **13 25 13.5 -0.9**
DY2G IAmb IAmb 13 25 15.5
comp=Z,216nm,0.7s
DIB Dawson Inlet, 74.60 329 IAmb IAmb 13 25 54.0
comp=Z,307nm,1.1s
KOTAN Kotaneelee Air 74.84 337 P **P** **13 25 16.6 +0.2**
baz=130,SNR=146
KOTAN S **S** **13 34 44.1 -0.2**
baz=130
V35K Ketchikan 75.28 331 P **P** **13 25 19.2 +0.3**
baz=122,SNR=18
V35K S **S** **13 34 49.8 +0.5**
baz=122
PFVI Vila Bisbo 75.33 50 *eP* **P** **13 25 22.3 +2.6**
comp=Z,342nm,1.6s
PFVI *e*pP **pP** **13 25 48.5 +1.0**
ISOG Isortoq, Green 75.42 15 *i* P **P** **13 25 18.8 -0.7**
ISOG IAmb IAmb 13 25 20.5
comp=Z,415nm,0.7s
MORF Marmelete 75.52 50 *eP* **P** **13 25 21.3 +0.5**
MORF IAmb IAmb 13 25 24.8
comp=Z,462nm,1.2s
MORF *e*S **S** **13 34 53.6 +0.8**
MORF Marmelete 75.52 50 *eP* **P** **13 25 22.8 +2.0**
comp=Z,678nm,1.7s
MORF *e*pP **pP** **13 25 49.7 +1.1**
MORF Marmelete 75.52 50 *eP* **P** **13 25 21.3 +0.5**
MORF *e*S **S** **13 34 53.6 +0.8**
PTEO Sao Teotonio 75.54 49 *eP* **P** **13 25 23.5 +2.7**
comp=Z,246nm,2.2s
T35M Bob Quinn 75.54 333 P **P** **13 25 21.2 +0.7**
baz=124,SNR=81
T35M S **S** **13 34 53.0 +0.8**
baz=124
ANGG Ammassalik, Gr 75.82 16 IAmb IAmb 13 25 23.3
comp=Z,300nm,0.8s
ANGG Ammassalik, Gr 75.82 16 *i* P **P** **13 25 20.5 -1.3**
ANGG IAmb IAmb 13 25 22.8
comp=Z,205nm,0.8s
PNCL Nicolau / Gran 75.86 49 *eP* **P** **13 25 24.2 +1.5**
comp=Z,170nm,1.8s
PNCL *e*pP **pP** **13 25 50.8 +0.3**
ILULI Ilulissat 76.01 9 IAmb IAmb 13 25 24.5
comp=Z,604nm,1.6s
ILULI Ilulissat 76.01 9 *i* P **P** **13 25 21.7 -1.1**
ILULI IAmb IAmb 13 25 23.6
comp=Z,94nm,0.6s
PCVE Castro Verde 76.08 49 *eP* **P** **13 25 25.4 +1.4**
comp=Z,198nm,1.5s
PCVE *e*pP **pP** **13 25 52.6 +0.8**
CRAG Craig 76.09 331 P **P** **13 25 23.5 0.0**
baz=121
PSBE So Bento 76.10 47 *eP* **P** **13 25 26.1 +2.0**
comp=Z,291nm,1.7s
WRAK Wrangell Islan 76.21 332 P **P** **13 25 24.2 0.0**
baz=122,SNR=15
DLBC Dease Lake 76.26 334 LR LR 14 01 30.7
comp=Z,841nm,19.1s,baz=100,slow=38
DLBC Dease Lake 76.26 334 IAmb IAmb 13 25 27.4
comp=Z,234nm,1.0s
DLBC Dease Lake 76.26 334 P **P** **13 25 25.0 +0.4**
baz=124,SNR=144
DLBC S **S** **13 35 03.1 +3.0**
baz=124
PVAQ Vaqueiros 76.26 50 *eP* **P** **13 25 27.4 +2.4**
PVAQ *e*pP **pP** **13 25 53.0 +0.2**
PBEJ Beja 76.33 49 *eP* **P** **13 25 27.3 +1.9**
comp=Z,147nm,1.6s
PBEJ *e*pP **pP** **13 25 53.0 -0.3**
EVO Evora 76.38 49 *eP* **P** **13 25 26.8 +1.2**
comp=Z,169nm,1.6s
PMTG Montargil 76.38 48 *eP* **P** **13 25 26.3 +0.7**
comp=Z,168nm,1.6s
PMTG *e*pP **pP** **13 25 53.6 +0.1**
U33K Whale Pass 76.42 331 P **P** **13 25 25.4 0.0**
baz=121,SNR=6.4
S34M Telegraph Cree 76.45 333 P **P** **13 25 26.0 +0.4**
baz=123,SNR=57
S34M S **S** **13 35 03.9 +1.7**
baz=123
PCAS Casmilo, Conde 76.49 47 *eP* **P** **13 25 28.1 +1.9**
comp=Z,289nm,1.9s
WRGLY Wrigley 76.66 340 P **P** **13 25 26.7 +0.1**
baz=131,SNR=182
WRGLY S **S** **13 35 03.3 -0.8**
baz=131
T33K Petersburg 76.70 332 P **P** **13 25 27.3 +0.4**
baz=121
WTLY Watson Lake, Y 76.71 336 P **P** **13 25 27.0 0.0**
baz=126,SNR=83
PTO Porto 76.76 46 *eP* **P** **13 25 28.2 +0.5**
comp=Z,311nm,1.3s
PTO *e*pP **pP** **13 25 55.6 0.0**
PESTR Estremoz 76.79 48 *eP* **P** **13 25 29.1 +1.1**
comp=Z,259nm,1.8s
PESTR *e*pP **pP** **13 25 56.0 +0.1**
PBAR Barrancos 77.00 49 *eP* **P** **13 25 30.0 +0.9**
comp=Z,132nm,1.5s
PMRV Marv??o 77.11 48 *eP* **P** **13 25 30.0 +0.3**
comp=Z,101nm,1.8s
PVIS Viseu 77.13 46 *eP* **P** **13 25 30.4 +0.5**
comp=Z,214nm,1.4s
PVIS *e*pP **pP** **13 25 57.6 -0.2**
PCBR Castelo Branco 77.17 47 *eP* **P** **13 25 30.5 +0.5**
comp=Z,154nm,1.6s
PCBR *e*pP **pP** **13 25 57.8 -0.1**
R33M Jennings River 77.20 335 P **P** **13 25 30.4 +0.5**
baz=124
R33M S **S** **13 35 11.6 +1.1**
baz=124
PGAV Gavieira, Arco 77.26 45 *eP* **P** **13 25 32.2 +1.6**
comp=Z,227nm,1.8s
MTE Manteigas 77.29 47 *eP* **P** **13 25 31.1 +0.3**
comp=Z,113nm,2.3s
MTE *e*pP **pP** **13 25 58.4 -0.3**
PCAB Cabril 77.35 45 *eP* **P** **13 25 32.5 +1.5**
comp=Z,182nm,1.5s
POLO Lamas de Olo 77.41 46 *eP* **P** **13 25 31.9 +0.4**
comp=Z,83nm,1.2s
PVRL Vila Real 77.44 46 *eP* **P** **13 25 32.0 +0.5**
comp=Z,178nm,1.2s
Q32M Nakina River 77.53 334 P **P** **13 25 32.5 +0.6**
baz=122
S32K Killisnoo 77.80 332 P **P** **13 25 33.5 +0.4**
baz=120
NUUG Nuugaatsiaq 77.83 7 *i* P **P** **13 25 32.3 -0.7**
NUUG IAmb IAmb 13 25 35.3
comp=Z,45nm,0.7s
MVO Moncorvo 77.89 46 *eP* **P** **13 25 34.8 +0.7**
comp=Z,205nm,1.3s
MVO *e*pP **pP** **13 26 02.0 -0.1**
SIT Sitka 77.95 331 P **P** **13 25 34.1 +0.1**
baz=119,SNR=5.6
ICESG Greenland Ices 78.06 13 *i* P **P** **13 25 34.1 -0.6**
ICESG IAmb IAmb 13 25 37.2
comp=Z,368nm,0.7s
JIS Juneau Island 78.12 333 pP 13 26 02.5 -0.3
R32K Eaglecrest 78.18 333 P **P** **13 25 35.8 +0.6**
baz=120,SNR=20
PBRG Braganca 78.29 46 *eP* **P** **13 25 36.9 +0.6**
comp=Z,158nm,1.9s

PBRG ePP **pP** **13 26 04.2 -0.1**
P33M Teslin, Yukon 78.43 335 P **P** **13 25 36.9 +0.2**
baz=122,SNR=99
BESE Bessie Mountai 78.48 333 IAmb IAmb 13 25 39.8
comp=Z,217nm,1.1s
P32M Atlin 78.49 334 P **P** **13 25 37.0 0.0**
baz=121,SNR=34
UPNV Upernavik 78.65 6 *i* P **P** **13 25 36.6 -0.9**
UPNV IAmb IAmb 13 25 38.4
comp=Z,49nm,0.7s
R31K City Hall, Gus 78.81 332 P **P** **13 25 38.7 +0.1**
baz=119
S31K Pelican 78.82 332 P **P** **13 25 39.1 +0.5**
baz=118,SNR=12
SKAG Skagway 79.13 334 P **P** **13 25 40.7 +0.3**
baz=120,SNR=14
PAB San Pablo 79.40 48 P **P** **13 25 42.7 +0.2**
PAB San Pablo 79.40 48 P **P** **13 25 43.1 +0.7**
TORD Torodi Ar. Bea 79.52 76 P **P** **13 25 43.1 -0.3**
comp=Z,203nm,1.1s,baz=285,slow=4.8,SNR=164
TORD PKKPbc **PKKPbc** **13 44 32.9 +1.5**
comp=Z,4.0nm,1.1s,baz=212,slow=1.4,SNR=4.1
comp=Z,203nm,1.1s
WHY Whitehorse 79.54 335 P **P** **13 25 42.5 -0.3**
baz=120,SNR=28
PLBC Pleasant Camp 79.59 333 P **P** **13 25 43.5 +0.5**
baz=119,SNR=19
FARO Faro, Yukon 79.72 336 P **P** **13 25 43.8 +0.1**
baz=122,SNR=110
ESDC Sonseca Array 79.72 48 P **P** **13 25 44.4 +0.3**
comp=Z,59nm,1.0s,baz=260,slow=5.1,SNR=80
ESDC pP **pP** **13 26 12.5 +0.3**
comp=Z,3.9nm,0.8s,baz=262,slow=6.3,SNR=1.0
comp=Z,59nm,1.0s
O30N Mendenhall 80.11 335 P **P** **13 25 46.0 +0.2**
baz=119,SNR=70
M31M Drury Creek, Y 80.12 336 IAmb IAmb 13 25 48.4
comp=Z,434nm,1.8s
M31M Drury Creek, U 80.12 336 P **P** **13 25 46.2 +0.4**
baz=121,SNR=84
SNAA Sanae 80.17 162 P **P** **13 25 46.9 +1.0**
comp=Z,140nm,0.8s,baz=274,slow=4.2,SNR=56
SNAA pP **pP** **13 26 14.4 +0.4**
comp=Z,199nm,0.9s,baz=268,slow=3.6,SNR=7.1
comp=Z,140nm,0.8s
P30M Million Dollar 80.18 334 P **P** **13 25 46.6 +0.4**
baz=118
KULLO Kullorsuaq 80.25 5 *i* P **P** **13 25 45.7 -0.5**
KULLO IAmb IAmb 13 25 47.2
comp=Z,127nm,0.7s
N31M Braeburn, Yuko 80.33 335 IAmb IAmb 13 25 49.5
comp=Z,215nm,1.2s
N31M Braeburn, Yuko 80.33 335 P **P** **13 25 47.1 +0.2**
baz=120,SNR=56
BORG Borgarnes 80.34 21 P **P** **13 25 47.7 +0.9**
BORG IAmb IAmb 13 25 50.2
comp=Z,295nm,1.0s
BORG Borgarnes 80.34 21 P **P** **13 25 47.7 +0.9**
BORG pmax pmax
comp=Z,295nm,1.0s
IGLA Glengowla, Co 80.51 34 eP **P** **13 25 48.4 +0.4**
HYT Haines Junctio 80.75 334 P **P** **13 25 50.0 +0.7**
baz=118,SNR=41
C36M Paulatuk 80.93 345 P **P** **13 25 48.3 -1.5**
baz=132,SNR=33
O29M Mount Kennedy 80.98 334 P **P** **13 25 50.6 +0.1**
baz=117
PNL Peninsula 81.06 333 P **P** **13 25 51.2 +0.4**
baz=116
SUMG Summit 81.06 11 *i* P **P** **13 25 50.5 -0.5**
SUMG IAmb IAmb 13 25 52.8
comp=Z,217nm,0.8s
YUK6 Outpost Mounta 81.17 334 P **P** **13 25 52.3 +0.7**
baz=117
PUH Pauahi 81.19 290 pP 13 26 19.6 -1.0
M30M Minto, Yukon 81.28 336 P **P** **13 25 51.8 -0.1**
baz=119
BCPM Bancas Point 81.30 333 IAmb IAmb 13 25 54.9
comp=Z,229nm,1.0s
MAYO Mayo, Yukon 81.42 337 IAmb IAmb 13 26 23.8
comp=Z,250nm,1.0s
MAYO Mayo, Yukon 81.42 337 P **P** **13 25 52.6 0.0**
baz=120,SNR=14
TULEG Thule 81.48 2 IAmb IAmb 13 25 55.2
comp=Z,316nm,1.1s
TULEG Thule 81.48 2 *i* P **P** **13 25 52.6 0.0**
TULEG IAmb IAmb 13 25 54.2
comp=Z,87nm,0.8s
YUK4 Talbot Arm 81.48 334 P **P** **13 25 53.8 +0.5**
baz=117,SNR=124
IWEX Carrickbyrne, 81.62 35 eP **P** **13 25 54.2 +0.3**
PINM Pinnacle 81.64 333 P **P** **13 25 54.1 +0.2**
baz=115,SNR=24
O28M Mount Upton 81.90 334 P **P** **13 25 55.8 +0.3**
baz=115
M29M Somme Creek 81.90 335 P **P** **13 25 55.8 +0.4**
baz=117,SNR=364
YUK8 Steele Glacier 81.94 334 P **P** **13 25 56.1 +0.4**
baz=116
L29M L29M 82.07 336 P **P** **13 25 56.4 +0.3**
baz=118
RAR Rarotonga 82.12 249 LR LR 13 55 38.8
comp=Z,117nm,20.8s,baz=100,slow=31
IDGL Inch Island, C 82.13 33 eP **P** **13 25 56.9 +0.4**
IDGL IAmb IAmb 13 25 58.4
comp=Z,290nm,1.2s
K29M Barlow Dome 82.18 337 P **P** **13 25 56.7 0.0**
baz=118
ILTH Belurgan, Co L 82.42 34 eP **P** **13 25 58.3 +0.3**
YUK3 Moose Creek 82.45 334 P **P** **13 25 58.4 +0.1**
baz=115,SNR=173
QUIF Quistinic 82.49 40 eP **P** **13 25 59.5 +1.0**
QUIF pmax pmax
comp=Z,201nm,1.3s
ROSF Rostrenen 82.53 40 eP **P** **13 25 58.8 0.0**
ROSF pmax pmax
comp=Z,159nm,0.8s
HTL Hartland 82.54 37 eP **P** **13 25 59.3 +0.6**
HTL IAmb IAmb 13 26 01.1
comp=Z,407nm,1.6s
SJPF Ste Jean 82.58 46 eP **P** **13 26 00.7 +1.6**
SJPF pmax pmax
comp=Z,94nm,0.7s
F31M Tsiigehtchic 82.64 341 P **P** **13 25 58.8 0.0**
baz=122,SNR=213
BARN Barnard Glacie 82.67 334 IAmb IAmb 13 26 05.3
comp=Z,307nm,1.1s
RSBS Rosebush, Pemb 82.67 36⇑ eP **P** **13 25 59.6 +0.2**
RSBS IAmb IAmb 13 26 01.4
comp=Z,177nm,1.0s
J29M Klondike Camp 82.73 337 P **P** **13 25 59.7 +0.1**
baz=118,SNR=5.5
CLGH Cloghs, Cushen 82.89 33 eP **P** **13 26 00.7 +0.3**
BVCY Beaver Creek 82.89 335 P **P** **13 26 00.5 +0.1**
baz=115
A36M Sachs Harbour 82.97 346 P **P** **13 25 59.6 -0.9**
baz=131,SNR=373
SGMF Saint Gilles 82.97 40 eP **P** **13 26 01.9 +0.9**
SGMF pmax pmax
comp=Z,298nm,1.0s
ETSF Etsaut 83.00 46 eP **P** **13 26 01.9 +0.5**
ETSF pmax pmax
comp=Z,96nm,1.1s
DAWY Dawson 83.01 337 IAmb IAmb 13 26 02.9
comp=Z,201nm,1.1s
DAWY Dawson 83.01 337 P **P** **13 26 00.2 -0.8**
baz=116,SNR=107
INK Inuvik 83.03 342 IAmb IAmb 13 26 03.0
comp=Z,317nm,0.9s
INK Inuvik 83.03 342 P **P** **13 26 00.6 -0.3**
baz=122,SNR=384
EPYK Eagle Plains 83.10 339 IAmb IAmb 13 26 03.5
comp=Z,204nm,0.8s
EPYK Eagle Plains 83.10 339 P **P** **13 26 01.2 -0.2**
baz=119,SNR=123
LPW Lampeter 83.12 36 eP **P** **13 26 01.8 +0.1**
I29M Ogilvie Camp, 83.19 338 IAmb IAmb 13 26 04.0
comp=Z,255nm,1.1s
I29M Ogilvie Camp, 83.19 338 P **P** **13 26 01.5 -0.3**
baz=118,SNR=106
G30M tAoh Zraii Nji 83.23 340 P **P** **13 26 01.7 -0.3**
baz=120
M27K Edge Creek, AK 83.30 335 IAmb IAmb 13 26 05.2
comp=Z,359nm,0.9s
M27K Edge Creek, AK 83.30 335 P **P** **13 26 02.3 -0.3**
baz=114
MCARA McCarthy VSAT 83.41 334 P **P** **13 26 02.7 -0.3**
baz=113,SNR=237
SCO Scoresbysund 83.43 16 IAmb IAmb 13 26 05.6
comp=Z,222nm,1.2s
SCO Scoresbysund 83.43 16 *i* P **P** **13 26 02.3 -0.6**
SCO IAmb IAmb 13 26 04.7
comp=Z,64nm,0.7s
JVM Valle D.L. Mar 83.45 39⇑ eP **P** **13 26 04.1 +0.6**
NEEM North Greenlan 83.48 5 *i* P **P** **13 26 03.0 -0.4**
NEEM IAmb IAmb 13 26 06.2
comp=Z,229nm,0.8s
IOMK Kirk Michael 83.48 34 eP **P** **13 26 04.1 +0.6**
IOMK IAmb IAmb 13 26 05.7
comp=Z,1µm,1.5s
LEWI Lewis, Hebride 83.52 30 eP **P** **13 26 04.0 +0.3**
LEWI IAmb IAmb 13 26 05.6
comp=Z,190nm,0.8s
L27K Beaver Creek, 83.57 335 IAmb IAmb 13 26 06.4
comp=Z,271nm,0.8s
L27K Beaver Creek, 83.57 335 P **P** **13 26 04.0 +0.2**
baz=114
LLW Llanuwychllyn 83.57 36 eP **P** **13 26 03.5 -0.5**
GAL1 Galloway 83.58 34 eP **P** **13 26 04.0 0.0**
EPF Esparros 83.67 46 eP **P** **13 26 04.9 +0.1**
EPF pmax pmax
comp=Z,330nm,1.2s
MCH1 Michaelchurch 83.72 37 eP **P** **13 26 04.5 -0.3**
MCH1 IAmb IAmb 13 26 07.0
comp=Z,203nm,0.9s
M26K Nabesna, AK 83.80 335 IAmb IAmb 13 26 07.8
comp=Z,288nm,1.2s
M26K Nabesna, AK 83.80 335 P **P** **13 26 04.4 -0.7**
baz=113
FOEL Foel Wylfa 83.85 36 eP **P** **13 26 05.6 +0.2**
FOEL IAmb IAmb 13 26 07.3
comp=Z,210nm,1.1s
KPL Plockton 83.87 31 eP **P** **13 26 05.6 +0.2**
KPL IAmb IAmb 13 26 07.3
comp=Z,336nm,0.8s
NEWG New Galloway 83.92 33⇑ eP **P** **13 26 05.6 -0.2**
NEWG IAmb IAmb 13 26 07.8
comp=Z,280nm,0.9s
HLM1 Long Mynd 83.94 36 eP **P** **13 26 05.8 -0.1**
HLM1 IAmb IAmb 13 26 07.9
comp=Z,193nm,1.1s
BMRM Bremner River 83.96 333 P **P** **13 26 04.7 -1.2**
baz=112
EGAK Eagle 84.01 337 IAmb IAmb 13 26 08.1
comp=Z,244nm,0.8s
EGAK Eagle 84.01 337 P **P** **13 26 05.9 -0.1**
baz=115
K27K Chicken 84.06 336 P **P** **13 26 06.8 +0.5**
baz=114
GRR Gorron 84.10 40 eP **P** **13 26 05.6 -1.2**
GRR pmax pmax
comp=Z,284nm,0.9s
STRD Stroud 84.16 37⇑ eP **P** **13 26 07.4 +0.4**
STRD IAmb IAmb 13 26 09.0
comp=Z,245nm,0.8s
L26K Log Cabin Wild 84.19 335 IAmb IAmb 13 26 09.1
comp=Z,201nm,1.1s
L26K Log Cabin Wild 84.19 335 P **P** **13 26 05.3 -1.7**
baz=113,SNR=40
EAB Aberfoyle 84.19 32⇑ eP **P** **13 26 07.1 0.0**
N25K Chitina, Valde 84.19 333 P **P** **13 26 07.1 0.0**
baz=112
Q23K Middleton Isla 84.23 331 P **P** **13 26 06.8 -0.4**
baz=110
SWN1 Swindon 84.31 37 eP **P** **13 26 08.2 +0.5**
SWN1 IAmb IAmb 13 26 09.9
comp=Z,469nm,1.0s
EYAK Cordova Ski Ar 84.33 332 P **P** **13 26 06.9 -0.8**
baz=110
LINV Loch Inver, As 84.36 30 eP **P** **13 26 08.0 +0.1**
LINV IAmb IAmb 13 26 09.6
comp=Z,124nm,0.9s
KESW Keswick, Cumbr 84.39 34 eP **P** **13 26 08.2 +0.1**
KESW IAmb IAmb 13 26 10.3
comp=Z,282nm,1.0s
INVG Invergeldie, C 84.42 32⇑ eP **P** **13 26 08.3 +0.1**
INVG IAmb IAmb 13 26 10.0
comp=Z,111nm,1.0s
FLN La Foliniere 84.44 40 eP **P** **13 26 08.5 0.0**
FLN pmax pmax
comp=Z,430nm,1.0s
I27K Kandik River 84.54 338 P **P** **13 26 07.8 -1.0**
baz=115
ESK Eskdalemuir 84.55 33 P **P** **13 26 08.7 -0.2**
ESK IAmb IAmb 13 26 11.0
comp=Z,156nm,0.9s
ESK Eskdalemuir 84.55 33 eP **P** **13 26 08.7 -0.2**
ESK IAmb IAmb 13 26 10.7
comp=Z,176nm,1.0s
ESK Eskdalemuir 84.55 33 P **P** **13 26 08.7 -0.2**
ESK pmax pmax
comp=Z,156nm,1.0s
WOL Wolverton 84.60 38 eP **P** **13 26 09.4 +0.2**
LDF La Druitiere 84.63 40 eP **P** **13 26 08.3 -1.2**
LDF pmax pmax
comp=Z,343nm,1.0s
HARP HAARP 84.73 334 P P 13 26 01.9 -7.8
baz=111
KLU Klutina 84.74 333 P **P** **13 26 08.1 -1.7**
baz=110
NVL N'lazarevskaya 84.76 161 eP **P** **13 26 13.0 +3.3**
NVL eS **S** **13 36 22.6 -5.7**
NVL pmax pmax
comp=Z,89nm,0.7s
EBL Broad Law 84.77 33 eP **P** **13 26 10.2 +0.2**
H27K Steamboat Moun 84.77 338 P **P** **13 26 09.2 -0.7**
baz=115
SCRK Sand Creek 84.82 336 P **P** **13 26 09.3 -0.9**
baz=112,SNR=130
LBWR Ladybower, Pea 84.85 35 eP **P** **13 26 10.8 +0.3**
LBWR IAmb IAmb 13 26 12.8
comp=Z,371nm,1.1s
J26L Joseph Creek 84.85 336 IAmb IAmb 13 26 12.6
comp=Z,414nm,1.4s
J26L Joseph Creek 84.85 336 P **P** **13 26 10.3 0.0**
baz=113,SNR=143
P23K Montague Islan 84.92 331 P **P** **13 26 10.0 -0.7**
baz=109
RJF Les Rejaudoux 84.99 44 eP **P** **13 26 11.1 -0.3**
RJF pmax pmax
comp=Z,269nm,1.0s
EDU Dundee 85.00 32⇑ eP **P** **13 26 11.9 +0.8**
ESY Stoneypath 85.04 33 eP **P** **13 26 11.3 -0.1**
EUNU Eureka 85.05 358 IAmb IAmb 13 26 14.4
comp=Z,210nm,1.1s
HPK Haverah Park 85.05 35 eP **P** **13 26 11.7 +0.3**
G27K Doyon Strip 85.06 339 P **P** **13 26 10.5 -0.7**
baz=115
PAX Paxson 85.07 335 P **P** **13 26 10.1 -1.4**
baz=111
M24K Tolsona, Glenn 85.07 334 P **P** **13 26 10.1 -1.4**
baz=110
MTLF Montolieu 85.08 46 eP **P** **13 26 10.8 -1.1**
MTLF pmax pmax
comp=Z,297nm,1.1s
RIDG Independent Ri 85.08 335 P **P** **13 26 08.8 -2.7**
baz=112,SNR=109
EDMD Edmundbyers 85.10 34 eP **P** **13 26 11.9 +0.3**
EDMD IAmb IAmb 13 26 13.8
comp=Z,177nm,1.0s
QSPA South Pole Qui 85.14 180 P **P** **13 26 13.2 +1.3**
comp=Z,232nm,1.0s,baz=167,slow=2.9,SNR=9.7
QSPA pP **pP** **13 26 40.9 +0.6**
comp=Z,196nm,1.0s,baz=212,slow=3.5,SNR=4.9
comp=Z,232nm,1.0s
MCD Coleburn Disti 85.18 31 eP **P** **13 26 12.3 +0.3**
CAF Calviac 85.29 44 eP **P** **13 26 11.9 -1.0**
CAF pmax pmax
comp=Z,154nm,0.9s
MLA1 Latheron 85.33 30 eP **P** **13 26 13.2 +0.5**
HMNX Herstmonceux 85.45 38⇑ eP **P** **13 26 14.2 +0.8**
SCM Sheep Creek Mo 85.49 333 P **P** **13 26 11.4 -2.2**
baz=109
SCM S **S** **13 36 34.7 -1.2**
baz=109
K24K Donnelly Dome 85.49 335 P P 13 26 07.5 -6.0
baz=111
E27K Coleen River 85.61 340 P **P** **13 26 13.8 -0.3**
baz=115
E27K S **S** **13 36 34.2 -2.6**
baz=115
PWL Port Wells 85.64 332 P **P** **13 26 12.1 -2.2**
baz=108
M23K Glacier View 85.66 333 P **P** **13 26 12.5 -1.8**
baz=109
M23K S **S** **13 36 35.1 -2.3**
baz=109
TCF Toulx Ste Croi 85.67 43 eP **P** **13 26 14.3 -0.5**
TCF pmax pmax
comp=Z,78nm,0.9s
KNK Knik Glacier 85.87 333 P **P** **13 26 13.9 -1.5**
baz=108
KNK S **S** **13 36 37.9 -1.6**
baz=108
G26K Porcupine Rive 85.88 339 P **P** **13 26 14.0 -1.3**
baz=113
G26K S **S** **13 36 38.0 -1.3**
baz=113
WAT6 Susitna Watana 85.92 334 P **P** **13 26 14.6 -1.2**
baz=109
WAT6 S **S** **13 36 36.8 -3.5**
baz=109
DHY Denali Highway 85.92 334 P **P** **13 26 14.1 -1.7**
baz=109
DHY S **S** **13 36 37.8 -2.4**
baz=109
SML Sawmill 85.93 333 P **P** **13 26 14.5 -1.2**
baz=108
SEW Seward 85.94 331 P **P** **13 26 14.7 -1.0**
baz=107
PRP Porcupine Dome 86.00 337 P **P** **13 26 14.7 -1.4**
baz=111,SNR=28
ELSH Elham, Standar 86.00 38 eP **P** **13 26 16.7 +0.4**
ELSH IAmb IAmb 13 26 18.4
comp=Z,408nm,1.0s
DBG Daneborg 86.05 13 *i* P **P** **13 26 16.6 +0.6**
DBG IAmb IAmb 13 26 18.4
comp=Z,54nm,0.8s
CLF Chambon-Foret 86.05 41 IAmb IAmb 13 26 19.8
comp=Z,350nm,1.3s
WACR West Acre 86.06 36 eP **P** **13 26 16.8 +0.4**
WACR IAmb IAmb 13 26 18.9
comp=Z,911nm,1.0s
ELMS Elmsett, Ipswi 86.13 37 eP **P** **13 26 17.1 +0.3**
BGF Bois d'Agland 86.15 43 eP **P** **13 26 17.6 +0.5**
BGF pmax pmax
comp=Z,116nm,0.9s
O22K Cooper Landing 86.18 332 P **P** **13 26 16.0 -0.9**
baz=107
HDA Harding Lake 86.18 336 P **P** **13 26 16.1 -0.8**
baz=110
PMR Palmer 86.23 333 P **P** **13 26 15.8 -1.3**
baz=108
SET Setif 86.24 53 P **P** **13 26 20.0 +2.1**
FYU Fort Yukon 86.27 338 IAmb IAmb 13 26 19.6
comp=Z,374nm,1.3s
ILAR Eielson Array 86.28 336 P **P** **13 26 18.3 +0.9**
comp=Z,67nm,1.0s,baz=146,slow=3.1,SNR=68
ILAR pP **pP** **13 26 44.4 -1.4**
comp=Z,15nm,0.8s,baz=119,slow=4.1,SNR=2.1
ILAR PP **PP** **13 29 37.9 -1.8**
comp=Z,20nm,0.9s,baz=109,slow=6.6,SNR=9.2
ILAR LR LR 14 10 46.6
comp=Z,382nm,18.5s,baz=72,slow=40
comp=Z,67nm,1.0s
F26K Sheenjek River 86.30 339 P **P** **13 26 16.6 -0.8**
baz=112
WAT1 Susitna Watana 86.35 334 P **P** **13 26 16.9 -0.9**
baz=108
RC01 Rabbit Creek A 86.36 332 P **P** **13 26 16.7 -1.0**
baz=107
BRSE Bradley Lake S 86.45 331 P **P** **13 26 17.5 -0.8**
baz=106
AVF Avril sur Loir 86.54 43 eP **P** **13 26 18.1 -0.9**
AVF pmax pmax
comp=Z,36nm,0.8s
POKR Poker Flat Res 86.62 336 P **P** **13 26 18.5 -0.5**
baz=109
POKR S **S** **13 36 45.3 -1.3**
baz=109
G25K Bearman Lake 86.67 338 P **P** **13 26 19.0 -0.1**
baz=110
COLA College 86.70 336 P **P** **13 26 18.4 -0.9**
baz=109
TCOL CIGO, UAF Yank 86.71 336 P **P** **13 26 18.4 -0.9**
baz=109
M22K Willow 86.73 333 P **P** **13 26 19.0 -0.5**
baz=107
F25K Christian Rive 86.79 339 P **P** **13 26 19.2 -0.7**
baz=111
MCK McKinley 86.79 335 P **P** **13 26 19.3 -0.6**
baz=108
KDAK Kodiak Island 86.87 329 LR LR 14 05 53.5
comp=Z,433nm,20.5s,baz=127,slow=36
KDAK Kodiak Island 86.87 329 P **P** **13 26 19.5 -0.8**
baz=104
HOM Homer 86.87 331 P **P** **13 26 19.2 -1.1**
baz=105
C27K Jago River 86.90 341 P **P** **13 26 20.2 -0.1**
baz=113
LRW Lerwick 86.92 29 eP **P** **13 26 19.8 -0.7**
CAPN Captain Cook N 86.93 332 P **P** **13 26 20.5 -0.1**
baz=106
SUA Susitna One 86.93 332 P **P** **13 26 20.0 -0.7**
baz=106
SUA S **S** **13 36 48.4 -1.6**
baz=106
E25K Arctic Village 86.96 339 P **P** **13 26 20.7 +0.1**
baz=111,SNR=190
LOR Lormes 86.97 42 eP **P** **13 26 20.1 -1.0**
LOR pmax pmax
comp=Z,32nm,0.7s
Q20K Shuyak Island 86.98 329 P **P** **13 26 20.2 -0.6**
baz=104
CUT Chulitna 86.98 333 P **P** **13 26 19.6 -1.2**
baz=106
CUT S **S** **13 36 48.3 -1.8**
baz=106
H24K Noodor Dome 87.03 337 P **P** **13 26 20.8 -0.2**
baz=109
H24K S **S** **13 36 50.3 -0.3**
baz=109
VIVF Saint-Julien-l 87.10 45 eP **P** **13 26 22.8 +1.0**
VIVF pmax pmax
comp=Z,116nm,1.4s
OHAK Old Harbor 87.10 328 P **P** **13 26 20.6 -0.8**
baz=104
NEA2 Nenana 87.11 336 P **P** **13 26 20.7 -0.7**
baz=108
NEA2 S **S** **13 36 49.3 -2.1**
baz=108
G24K Hadweenzic Riv 87.16 338 P **P** **13 26 21.6 0.0**
baz=109
TRF Thorofare Moun 87.29 334 P **P** **13 26 21.8 -0.6**
baz=106
TRF S **S** **13 36 52.2 -1.2**
baz=106
C26K Camden Bay 87.40 341 P **P** **13 26 23.0 +0.4**
baz=112
I23K Minto, Yukon-K 87.40 336 P **P** **13 26 22.1 -0.6**
baz=108
I23K S **S** **13 36 52.1 -2.0**
baz=108
SII Sitkinak Islan 87.43 327 IAmb IAmb 13 26 25.0
comp=Z,196nm,1.0s
SII Sitkinak Islan 87.43 327 P **P** **13 26 22.0 -1.1**
baz=103
SKT Skwentna 87.43 333 P **P** **13 26 22.4 -0.6**
baz=105
SKT S **S** **13 36 49.4 -5.2**
baz=105
O20K Slope Mountain 87.46 331 P **P** **13 26 22.0 -1.2**
baz=104
N20K Mount Spurr 87.54 332 P **P** **13 26 23.0 -0.6**
baz=105
SPCR Spurr Chakacha 87.54 332 P **P** **13 26 22.7 -0.9**
baz=105
F24K Squaw Lake 87.58 339 P **P** **13 26 20.3 -3.3**
baz=109,SNR=84
P19K Oil Pt 87.65 330 P **P** **13 26 22.4 -1.7**
baz=104
D25K Kavik River 87.66 340 P **P** **13 26 23.8 -0.2**
baz=110
H23K Yukon River 87.68 337 P **P** **13 26 22.9 -1.2**
baz=107
H23K S **S** **13 36 54.4 -2.4**
baz=107
Q19K Cape Douglas, 87.69 330 P **P** **13 26 22.9 -1.4**
baz=103
BAIF Baives 87.70 40 eP **P** **13 26 24.0 -0.5**
BAIF pmax pmax

BPAW **Bear Paw Mtn.** 87.77 335 P **P** 13 26 24.0 -0.6
baz=106
BPAW S **S** 13 36 53.8 -3.9
baz=106
MLY Manley 87.92 336 P **P** 13 26 24.4 -0.9
baz=106
DOU Dourbes 87.95 40 *d*P **P** 13 26 25.4 -0.3
DOU *dx* x 13 26 37.3
ORIF Oris-en-Rattie 87.96 45 *e*P **P** 13 26 26.2 +0.2
ORIF pmax pmax
comp=Z,109nm,1.0s
PPLA Purkeypile 87.97 334 P **P** 13 26 25.4 -0.3
baz=105
PPLA S **S** 13 36 57.2 -2.7
baz=105
E24K Your Creek 87.97 339 P **P** 13 26 22.0 -3.5
baz=108
CAST Castle Rocks 88.06 334 P **P** 13 26 24.8 -1.1
baz=105
CHIR Chirikof Islan 88.06 326 P **P** 13 26 26.1 +0.1
baz=102
BMRD Maredsous 88.10 39 *d*PcP **PcP** 13 26 27.3 -0.7
GIVF Givet 88.10 40 *e*P **P** 13 26 26.2 -0.2
GIVF pmax pmax
comp=Z,134nm,0.8s
G23K Bananza Creek 88.12 338 P **P** 13 26 26.4 +0.2
baz=107
M20K Styx River 88.14 333 P **P** 13 26 25.5 -0.9
baz=104
CHUM Lake Minchumin 88.28 335 P **P** 13 26 26.0 -0.9
baz=105
O19K Port Alsworth 88.31 331 P **P** 13 26 26.0 -1.1
baz=103
BGES Gesves 88.32 39 *d*P **P** 13 26 27.6 +0.2
comp=Z,53nm,1.2s
Q18K Katmai Hardscr 88.32 329 P **P** 13 26 26.7 -0.7
baz=102
ELIB Princess Elisa 88.33 162 *d*P **P** 13 26 28.2 +0.9
comp=Z,84nm,0.9s
COLD Coldfoot 88.34 338 P **P** 13 26 27.3 +0.1
baz=107
RCHB Rochefort 88.37 40 *d*P **P** 13 26 27.4 -0.2
comp=Z,50nm,0.8s
E23K Chandalar 88.37 339 P **P** 13 26 27.6 +0.2
baz=107
H22K Ishtalitna Cre 88.42 337 P **P** 13 26 26.9 -0.7
baz=106
D24K Happy Valley 88.43 340 P **P** 13 26 27.1 -0.5
baz=108
BCLA Clavier 88.46 39 *d*P **P** 13 26 27.9 -0.1
comp=Z,27nm,1.3s
I21K Tanana 88.47 336 P **P** 13 26 26.3 -1.5
baz=105
N19K Bonanza Creek 88.53 331 P **P** 13 26 27.2 -1.1
baz=103
MBDF Montbardon 88.56 45 *e*P **P** 13 26 28.8 -0.1
MBDF pmax pmax
comp=Z,47nm,0.8s
C24K Franklin Bluff 88.57 341 P **P** 13 26 28.3 +0.2
baz=108
P18K Big Mountain, 88.59 330 P **P** 13 26 27.3 -1.2
baz=102
L20K Farewell, AK 88.62 333 P **P** 13 26 28.0 -0.7
baz=103
LPL La Plagne 88.64 44 *e*P **P** 13 26 28.5 -0.9
LPL pmax pmax
comp=Z,99nm,0.9s
BSTI Sart Tilman 88.65 39 *d*P **P** 13 26 29.4 +0.4
comp=Z,17nm,0.7s
O18K Koktuh Hills 88.67 330 P **P** 13 26 28.3 -0.6
baz=102
Q17K Contact Creek 88.69 329 P **P** 13 26 28.6 -0.5
baz=102
G22K Bettles 88.75 338 P **P** 13 26 28.9 -0.2
baz=106
HAU Haudompre 88.75 42 *e*P **P** 13 26 28.8 -0.8
HAU pmax pmax
comp=Z,46nm,0.8s
BEBN Eben Emael 88.75 39 *d*P **P** 13 26 29.4 -0.1
comp=Z,108nm,0.9s
R17K Ugashik Creek 88.83 328 P **P** 13 26 29.6 -0.1
baz=101
WLF Walferdange 88.88 40 IAmb IAmb 13 26 32.7
comp=Z,228nm,1.0s
WLF Walferdange 88.88 40 *d*P **P** 13 26 30.6 +0.6
comp=Z,135nm,1.0s
WLF Walferdange 88.88 40 *e*P **P** 13 26 30.6 +0.6
comp=Z,290nm,1.1s,baz=264,slow=4.7
BHOU Houvegnez 88.89 39 *d*P **P** 13 26 30.5 +0.3
comp=Z,54nm,1.1s
K20K Telida 88.91 334 P **P** 13 26 29.3 -0.6
baz=103
K20K S **S** 13 37 03.7 -4.8
baz=103
H21K Melozitna Rive 88.93 336 P **P** 13 26 29.2 -0.8
baz=104
MEM Membach 88.93 39 *d*P **P** 13 26 29.9 -0.4
MEM *d*PcP **PcP** 13 26 31.5 -0.3
comp=Z,37nm,1.2s
L19K White Mountain 89.00 333 P **P** 13 26 30.0 -0.4
baz=102
BTNL Ternell 89.01 39 *d*P **P** 13 26 31.1 +0.4
comp=Z,47nm,0.8s
D23K Nanushuk River 89.01 340 P P 13 26 25.1 -5.2
baz=106
D23K S **S** 13 37 07.4 -1.8
baz=106
HINF Hinteralfeld 89.06 42 *e*P **P** 13 26 31.0 0.0
HINF pmax pmax
comp=Z,67nm,1.2s
J20K Nowinta River 89.13 335 P **P** 13 26 30.2 -0.8
baz=103
F22K John River 89.15 338 P **P** 13 26 30.4 -0.6
baz=105
F22K S **S** 13 37 10.2 -0.4
baz=105
SENIN Lac Senin/Sane 89.15 43 IAmb IAmb 13 26 34.1
comp=Z,192nm,0.9s
P17K Kvichak River 89.16 330 P **P** 13 26 31.2 +0.1
baz=101
Q16K King Salmon 89.17 329 P **P** 13 26 30.8 -0.4
baz=101
E22K Anaktuvuk Pass 89.19 339 P **P** 13 26 31.1 -0.1
baz=105
ECH Echery 89.32 42 IAmb IAmb 13 26 34.3
comp=Z,148nm,0.9s
KEST Kesra 89.35 54 P **P** 13 26 32.9 +0.1
comp=Z,95nm,1.1s,baz=174,slow=2.3,SNR=26
comp=Z,95nm,1.1s
G21K Allakaket 89.41 337 P **P** 13 26 31.6 -0.6
baz=104
G21K S **S** 13 37 11.7 -1.3
baz=104
CDF Champ du Feu 89.42 41 *e*P **P** 13 26 31.1 -1.7
CDF pmax pmax
comp=Z,159nm,0.9s
F21K Alatna River 89.57 338 P **P** 13 26 32.9 -0.1
baz=104
O17K Koliganek Bris 89.59 330 P **P** 13 26 32.3 -0.8
baz=100
AHRW Bad Neuenahr-A 89.60 39 *e*P **P** 13 26 34.1 +0.7
comp=Z,243nm,1.3s,baz=264,slow=4.7
TTA Tatalina 89.68 333 P **P** 13 26 32.7 -0.9
baz=101
CHGN Chignik 89.69 326 P **P** 13 26 31.6 -2.0
baz=99
BUG Bochum--Univer 89.84 38 *e*P **P** 13 26 34.9 +0.4
comp=Z,224nm,1.3s,baz=264,slow=4.7
P16K Nushagak River 89.91 329 P **P** 13 26 34.3 -0.4
baz=100
O16K Kokwok River B 90.06 330 P **P** 13 26 34.2 -1.2
baz=100
ASK Askoy 90.10 29 *e*P **P** 13 26 36.0 +0.5
BFO Black Forest 90.11 42 P **P** 13 26 35.1 -0.7
BFO Black Forest 90.11 42 P **P** 13 26 35.2 -0.7
BFO pmax pmax
comp=Z,63nm,1.0s
BFO Black Forest 90.11 42 *e*P **P** 13 26 35.3 -0.6
comp=Z,78nm,1.1s,baz=264,slow=4.7
IBBN Ibbenburen 90.26 38 *e*P **P** 13 26 36.9 +0.4
comp=Z,196nm,0.9s,baz=264,slow=4.7
GCSA Galena City Sc 90.41 335 P **P** 13 26 36.7 -0.1
baz=101
TNS Taunus Mts 90.42 40 *e*P **P** 13 26 37.6 +0.2
comp=Z,172nm,1.2s,baz=264,slow=4.7
KASTN Kahler Asten 90.53 39 *e*P **P** 13 26 37.9 +0.1
comp=Z,122nm,1.3s,baz=264,slow=4.7

N16K Nishlik Lake 90.54 331 P **P** 13 26 37.8 +0.2
baz=99
BLS5 Blasjo 90.55 30 *e*P **P** 13 26 38.2 +0.6
BLS5 IAmb IAmb 13 26 42.6
comp=Z,48nm,0.9s
TUE Stuetta 90.57 44 IAmb IAmb 13 26 40.7
comp=Z,102nm,0.9s
NOR Nord 90.61 7 *i* P **P** 13 26 37.2 -0.3
NOR IAmb IAmb 13 26 39.8
comp=Z,25nm,0.7s
SBA Scott Base 90.68 191 P **P** 13 26 39.7 +1.7
SBA IAmb IAmb 13 26 41.7
comp=Z,157nm,1.2s
SBA Scott Base 90.68 191 P **P** 13 26 39.7 +1.7
SBA pmax pmax
comp=Z,157nm,1.2s
HYA Hoyanger 90.69 29 *e*P **P** 13 26 40.2 +2.0
HYA IAmb IAmb 13 26 40.8
comp=Z,55nm,1.0s
SDPT Sand Point 90.70 325 P **P** 13 26 37.1 -1.3
baz=98
ODD1 Odda 90.71 30 *e*P **P** 13 26 38.7 +0.3
STU Stuttgart 90.73 41 IAmb IAmb 13 26 40.9
comp=Z,163nm,1.0s
STU Stuttgart 90.73 41 P **P** 13 26 39.7 +0.9
STU Stuttgart 90.73 41 *e*P **P** 13 26 38.6 -0.1
comp=Z,457nm,1.1s,baz=264,slow=4.7
SNART Snartemo 90.78 32 *i* P **P** 13 26 39.8 +1.0
SNART Snartemo 90.78 32 *e*P **P** 13 26 40.8 +2.1
SNART IAmb IAmb 13 26 42.1
comp=Z,270nm,1.4s
DAVOX Davos/Dischmat 90.97 43 LR LR 14 03 11.4
comp=Z,387nm,21.7s,baz=288,slow=33
DAVA Damuels 91.03 43 *i* P **P** 13 26 40.8 +0.4
comp=Z,105nm,0.9s,SNR=38
VLC Villacollemand 91.06 46 IAmb IAmb 13 26 41.6
comp=Z,88nm,1.0s
UBR Ueberruh 91.22 42 *e*P **P** 13 26 41.4 +0.2
comp=Z,236nm,1.1s,baz=264,slow=4.7
CASP Castiglione de 91.27 47 IAmb IAmb 13 26 43.5
comp=Z,136nm,1.2s
RETH Rethem/Aller, 91.29 37 *e*P **P** 13 26 42.2 +1.0
comp=Z,280nm,1.3s,baz=264,slow=4.7
SALO Salr 91.30 45 IAmb IAmb 13 26 44.1
comp=Z,138nm,0.9s
HOMB Homborsund 91.45 32 *e*P **P** 13 26 42.5 +0.7
UBBA Unterbreizbach 91.48 39 *e*P **P** 13 26 43.1 +1.1
comp=Z,110nm,1.6s,baz=264,slow=4.7
GTTG Gottingen 91.53 39 *e*P **P** 13 26 42.9 +0.6
comp=Z,111nm,1.1s,baz=264,slow=4.7
A21K Barrow 91.54 341 IAmb IAmb 13 26 44.0
comp=Z,101nm,1.0s
A21K Barrow 91.54 341 P **P** 13 26 41.5 -0.5
baz=101
FETA Feichten 91.58 43 *i* P **P** 13 26 43.2 +0.3
comp=Z,117nm,1.2s,SNR=35
MUD Monsted U'grnd 91.60 34 *i* P **P** 13 26 43.2 +0.7
MUD IAmb IAmb 13 26 47.4
comp=Z,25nm,0.8s
RETA Reutte 91.64 43 *i* P **P** 13 26 43.5 +0.4
comp=Z,66nm,1.0s,SNR=22
NRDL Niedersach Rie 91.72 38 *e*P **P** 13 26 44.1 +1.0
comp=Z,109nm,1.3s,baz=264,slow=4.7
VNDA Vanda 91.76 191 LR LR 14 01 09.6
comp=Z,379nm,19.3s,baz=125,slow=31
CLZ Clausthal 91.81 38 *e*P **P** 13 26 44.4 +0.6
comp=Z,146nm,1.2s,baz=264,slow=4.7
MOTA Moosalm 91.86 43 *i* P **P** 13 26 44.2 0.0
comp=Z,119nm,1.0s,SNR=41
SQTA Sankt Quirin 91.92 43 *i* P **P** 13 26 44.7 +0.3
comp=Z,107nm,0.9s,SNR=42
BSEG Bad Segeberg 91.98 36 *e*P **P** 13 26 45.2 +0.8
comp=Z,105nm,1.1s,baz=264,slow=4.7
BSEG *e*PP **PP** 13 30 25.5 +0.2
ASSE Asse, Remlinge 92.03 38 *e*P **P** 13 26 45.6 +1.0
comp=Z,114nm,1.4s,baz=264,slow=4.7
FUR Furstenfeldbru 92.05 42 *e*P **P** 13 26 45.2 +0.3
comp=Z,167nm,1.2s,baz=264,slow=4.7
TSUM Tsumeb 92.08 109 LR LR 14 04 18.4
comp=Z,885nm,21.8s,baz=243,slow=33
TSUM Tsumeb 92.08 109 P **P** 13 26 46.1 +0.3
TSUM IAmb IAmb 13 26 49.4
comp=Z,87nm,1.2s
GRFO Grafenberg 92.15 40 P **P** 13 26 45.6 +0.3
GRFO IAmb IAmb 13 26 48.8
comp=Z,142nm,1.4s
GRFO Grafenberg 92.15 40 P **P** 13 26 45.6 +0.3
GRFO pmax pmax
comp=Z,142nm,1.4s
GRA1 Grafenberg Arr 92.15 40 IAmb IAmb 13 26 48.9
comp=Z,150nm,1.4s
GRF Grafenberg Arr 92.15 40 *e*P **P** 13 26 45.9 +0.6
comp=Z,149nm,1.4s,baz=264,slow=4.7
GRF *e*L L 13 52 02.7
comp=Z,638nm,22.0s
WATA Walderalm 92.18 43 *i* P **P** 13 26 46.1 +0.4
comp=Z,122nm,1.4s,SNR=32
WTTA Wattenberg 92.22 43 *i* P **P** 13 26 46.2 +0.3
comp=Z,98nm,1.2s,SNR=50
FLTG Flechtingen 92.39 38 *e*P **P** 13 26 46.6 +0.3
comp=Z,124nm,1.2s,baz=264,slow=4.7
MOX Moxa 92.48 40 *e*P **P** 13 26 47.4 +0.6
comp=Z,99nm,1.3s,baz=264,slow=4.7
MOX *e*L L 14 06 29.3
comp=Z,764nm,21.5s
NEUB Neuenburg 92.63 39 *e*P **P** 13 26 48.2 +0.7
comp=Z,135nm,1.4s,baz=264,slow=4.7
CIMO Cimolais 92.69 44 IAmb IAmb 13 26 50.9
comp=Z,106nm,1.2s
MANZ Manzenberg 92.75 40 *e*P **P** 13 26 49.0 +0.9
comp=Z,70nm,1.9s,baz=264,slow=4.7
ABTA Abfaltersbach 92.77 43 *i* P **P** 13 26 48.6 +0.2
comp=Z,122nm,1.1s,SNR=46
ROTZ Rotzenmuhle 92.79 40 *e*P **P** 13 26 49.0 +0.7
comp=Z,34nm,1.4s,baz=264,slow=4.7
ROTZ *e*PP **PP** 13 30 32.6 +0.7
PLN Plauen 92.81 40 *e*P **P** 13 26 49.0 +0.6
comp=Z,154nm,1.5s,baz=264,slow=4.7
STAL STALIGIAL 92.87 44 IAmb IAmb 13 26 50.8
comp=Z,245nm,1.9s
NBO00 NORSAR Array S 92.89 29 IAmb IAmb 13 26 51.3
comp=Z,98nm,1.1s
NC204 NORSAR Array S 92.90 29 IAmb IAmb 13 26 52.1
comp=Z,70nm,1.2s
WERD Werda 92.91 40 *e*P **P** 13 26 49.5 +0.7
comp=Z,122nm,1.3s,baz=264,slow=4.7
GUNZ Gunzen 92.92 40 *e*P **P** 13 26 49.7 +0.8
comp=Z,171nm,1.7s,baz=264,slow=4.7
STRU Stroemstad 92.92 31 *i* P **P** 13 26 48.4 -0.2
NAO01 NORSAR Array S 92.92 29 IAmb IAmb 13 26 51.6
comp=Z,124nm,1.4s
WERN Wernitzgruen 92.94 40 *e*P **P** 13 26 49.8 +0.8
comp=Z,136nm,1.3s,baz=264,slow=4.7
WERN *e*PP **PP** 13 30 33.6 +0.6
NKC Novy Kostel 92.98 40 *e*P **P** 13 26 50.2 +1.0
NKC Novy Kostel 92.98 40 *e*P **P** 13 26 50.2 +1.0
TANN Tannenbergstha 93.00 40 *e*P **P** 13 26 50.1 +0.8
comp=Z,165nm,1.3s,baz=264,slow=4.7
CLUD Cludinico 93.00 44 IAmb IAmb 13 26 52.3
comp=Z,107nm,0.9s
RJOB Jochberg 93.03 43 *e*P **P** 13 26 49.6 +0.1
comp=Z,78nm,1.2s,baz=264,slow=4.7
TJOU Tjoern 93.07 32 *i* P **P** 13 26 49.5 +0.2
GUMA Gualdo di Mace 93.10 47 IAmb IAmb 13 29 59.5
comp=Z,1µm,0.4s
NB2 NORSAR Subarra 93.10 29 P **P** 13 26 50.3 +0.8
comp=Z,175nm,1.7s,baz=263,slow=4.8
NB2 NORSAR Subarra 93.10 29 P **P** 13 26 50.3 +0.8
slow=4.8
NOA NORSAR Array B 93.10 29 P **P** 13 26 50.3 +0.8
comp=Z,24nm,1.0s,baz=266,slow=4.8,SNR=18
NOA PP **PP** 13 30 31.3 -2.7
comp=Z,1.2nm,0.8s,baz=285,slow=5.2,SNR=3.4
comp=Z,24nm,1.0s
NB201 NORSAR Array S 93.14 29 IAmb IAmb 13 26 53.3
comp=Z,72nm,1.1s
ONAU Onsala 93.18 33 *i* P **P** 13 26 49.2 -0.7
NC303 NORSAR Array S 93.19 29 IAmb IAmb 13 26 52.6
comp=Z,206nm,1.8s
LLD Lille Linde 93.20 35 *i* P **P** 13 26 51.9 +1.9
NC405 NORSAR Array S 93.34 29 IAmb IAmb 13 26 53.2
comp=Z,70nm,1.1s
COP Copenhagen 93.35 35 *i* P **P** 13 26 51.9 +1.2
KBA Koelnbreinsper 93.36 43 *i* P **P** 13 26 51.4 +0.2
comp=Z,63nm,1.8s,SNR=12
SUR Sutherland 93.40 123 LR LR 14 07 01.1
comp=Z,352nm,20.4s,baz=256,slow=34

CLL Collm 93.41 39 IAmb IAmb 13 26 53.8
comp=Z,81nm,1.2s
CLL Collm 93.41 39 *i* P **P** 13 26 51.3 +0.3
comp=Z,90nm,1.3s
CLL *ex* x 13 27 03.0
CLL *ex* x 13 27 27.0
CLL *es*P **sP** 13 27 35.0 +3.7
CLL *i* PP **PP** 13 30 36.1 -0.5
comp=Z,36nm,1.5s
CLL *es*PP 13 31 18.0
CLL *e*SKSac **SKSac** 13 37 18.0 +2.7
CLL *e*SKKSac **SKKSac** 13 37 36.0 +0.9
CLL *es*SKKSac 13 38 20.0
CLL *es*PS 13 39 47.0
CLL *ex* x 13 53 05.0
CLL Collm 93.41 39 *e*P **P** 13 26 51.6 +0.5
comp=Z,90nm,1.3s,baz=264,slow=4.7
CLL *e*PP **PP** 13 30 36.9 +0.3
SABO M.te Sabotino 93.47 44 IAmb IAmb 13 26 55.0
comp=Z,192nm,1.3s
RAFF Raffo Rosso 93.51 53 IAmb IAmb 13 26 54.8
comp=Z,168nm,1.3s
MYKA Terra Mystica 93.54 44 *i* P **P** 13 26 51.9 +0.1
comp=Z,26nm,0.7s,SNR=21
CADS Cadrg 93.58 44 *e*P **P** 13 26 52.0 -0.1
FABU Falkenberg 93.59 33 *i* P **P** 13 26 51.9 +0.1
BIOA Bad Ischl, Aus 93.60 43 *i* P **P** 13 26 52.6 +0.5
comp=Z,76nm,1.5s,SNR=31
KHC Kasperske Hory 93.64 41 IAmb IAmb 13 26 54.8
comp=Z,67nm,1.3s
KHC Kasperske Hory 93.64 41 *e*P **P** 13 26 53.3 +1.0
KHC x x 13 27 45.5
KHC Kasperske Hory 93.64 41 *e*P **P** 13 26 53.3 +1.0
BORU Boraas 93.66 33 *i* P **P** 13 26 52.2 +0.2
NSS Namsos 93.69 26 *e*P **P** 13 26 52.4 +0.4
NSS IAmb IAmb 13 26 53.2
comp=Z,63nm,1.3s
BJUU Bjuv 93.70 34 *i* P **P** 13 26 52.8 +0.5
GEC2 GERESS Array S 93.71 41 *e*P **P** 13 26 52.7 0.0
comp=Z,71nm,1.7s,baz=264,slow=4.7
GERES GERESS Array B 93.71 41 P **P** 13 26 52.8 +0.2
comp=Z,8.9nm,0.7s,baz=254,slow=2.5,SNR=51
GERES PKKPbc **PKKPdf** 13 43 57.2 -0.1
comp=Z,1.1nm,0.6s,baz=87,slow=4.5,SNR=6.2
comp=Z,8.9nm,0.7s
RGN Rugen 93.79 36 *e*P **P** 13 26 54.1 +1.4
comp=Z,392nm,1.0s,baz=264,slow=4.7
PAOL Paolisi 93.89 49 IAmb IAmb 13 26 55.6
comp=Z,112nm,1.7s
LUNU Lund 93.92 35 *i* P **P** 13 26 53.5 +0.2
RUE Ruedersdorf 93.95 38 *e*P **P** 13 26 54.9 +1.4
RUE Ruedersdorf 93.95 38 *e*P **P** 13 26 54.0 +0.5
comp=Z,121nm,1.3s,baz=264,slow=4.7
BRG Berggiesshubel 93.97 39 *i* P **P** 13 26 54.4 +0.7
BRG Amp 13 26 56.7
comp=Z,98nm,1.1s
BRG Berggiesshubel 93.97 39 P P 13 27 04.3 +11
BRG Amp 13 27 05.4
comp=Z,20nm,1.0s
BRG pP pP 13 27 32.2 +10
BRG Amp 13 27 34.2
comp=Z,16nm,1.1s
BRG sP sP 13 27 41.4 +7.4
BRG Amp 13 27 42.3
comp=Z,12nm,0.9s
BRG Berggiesshubel 93.97 39 *i* P **P** 13 26 54.4 +0.7
BRG 13 27 32.2
BRG pmax pmax
comp=Z,98nm,1.1s
BRG pmax pmax
comp=Z,12nm,0.9s
BRG Berggiesshubel 93.97 39 *e*P **P** 13 26 54.3 +0.7
comp=Z,98nm,1.1s,baz=264,slow=4.7
ANM Nome 94.01 334 P **P** 13 26 53.9 +0.3
baz=93
MOA Molln 94.03 42 *i* P **P** 13 26 54.4 +0.4
comp=Z,65nm,1.4s,SNR=24
CEY Cerknica 94.03 45 *e*P **P** 13 26 54.2 +0.1
CKRC Cesky Krumlov 94.11 41 *e*P **P** 13 26 56.7 +2.3
LJU Ljubljana 94.12 44 *e*P **P** 13 26 54.7 +0.2
OBKA Obir 94.16 44 *i* P **P** 13 26 54.6 -0.1
comp=Z,60nm,2.0s,SNR=14
DEL Delary 94.20 34 *i* P **P** 13 26 54.6 0.0
PRU Pruhonice 94.31 40 *e*P **P** 13 26 57.0 +1.7
PRU Pruhonice 94.31 40 *e*P **P** 13 26 57.0 +1.7
PVCC Panska Ves 94.35 40 *e*P **P** 13 26 57.4 +2.0
PVCC Panska Ves 94.35 40 *e*P **P** 13 26 57.4 +2.0
GOPC GO Pecny, Ondr 94.47 40 *e*P **P** 13 26 57.9 +1.9
GOPC GO Pecny, Ondr 94.47 40 *e*P **P** 13 26 57.9 +1.9
SOKA Soboth 94.50 44 *i* P **P** 13 26 56.1 -0.2
comp=Z,24nm,1.6s,SNR=11
BSD Bornholm Skovb 94.73 35 *i* P **P** 13 26 57.6 +0.6
BSD IAmb IAmb 13 26 59.0
comp=Z,50nm,0.8s
BSD Bornholm Skovb 94.73 35 *e*P **P** 13 26 58.3 +1.3
MOR8 Moi Rana 94.80 24 *e*P **P** 13 26 58.1 +1.0
MOR8 IAmb IAmb 13 26 59.3
comp=Z,40nm,1.2s
SGRT San Giovanni R 94.81 49 IAmb IAmb 13 26 58.8
comp=Z,94nm,1.5s
ARSA Arzberg 94.86 43 *i* P **P** 13 26 58.4 +0.5
comp=Z,46nm,1.2s,SNR=19
CONA Conrad Observa 95.11 42 *i* P **P** 13 26 59.5 +0.4
comp=Z,96nm,1.5s,SNR=34
STEI Steigen 95.14 22 *e*P **P** 13 26 59.0 +0.4
FAUS Fauske 95.15 23 *e*P **P** 13 26 59.1 +0.4
HSPB Hornsund (broa 95.20 13 *e*P **P** 13 27 00.3 +1.5
BLEU Blekinge 95.27 34 *i* P **P** 13 26 59.8 +0.4
UPC Upice 95.27 40 *e*P **P** 13 27 01.8 +2.1
UPC Upice 95.27 40 *e*P **P** 13 27 01.8 +2.1
SPITS Spitsbergen Ar 95.36 12 PKKPbc PKKPbc 13 43 52.8 -2.5
comp=Z,5.1nm,0.6s,baz=101,slow=7.5,SNR=5.3
SPITS LR LR 14 12 25.5
comp=Z,232nm,18.5s,baz=238,slow=37
SPB2 Spitsbergen Ar 95.36 12 IAmb IAmb 13 29 41.0
comp=Z,85nm,1.4s
RONA Rosalia, Austr 95.39 43 *i* P **P** 13 27 00.7 +0.4
comp=Z,41nm,0.9s,SNR=24
OSTC Ostas 95.41 40 *e*P **P** 13 27 01.5 +1.2
NIKH Nikolski High 95.43 323 P **P** 13 26 58.9 -1.4
baz=91
KSP Ksiaz 95.46 40 *e*P **P** 13 27 00.9 +0.4
DPC Dobruska-Polom 95.47 40 *e*P **P** 13 27 01.7 +1.1
DPC Dobruska-Polom 95.47 40 *e*P **P** 13 27 01.7 +1.1
TIP Timpagrande 95.49 51 ⇓P **P** 13 27 00.4 -0.6
TIP Timpagrande 95.49 51 IAmb IAmb 13 27 01.9
comp=Z,57nm,1.4s
KRUC Moravsky 95.49 41 *e*P **P** 13 27 01.0 +0.3
MATE Matera 95.49 50 ⇑P **P** 13 26 59.7 -1.1
SOP Sopron 95.57 43 P **P** 13 27 02.2 +1.1
VRAC Vranov 95.62 41 *e*P **P** 13 27 01.8 +0.5
KRLC Kraliky 95.76 40 *e*P **P** 13 27 04.3 +2.4
KRLC Kraliky 95.76 40 *e*P **P** 13 27 04.3 +2.4
MODS Modra-Piesok 96.06 42 *e*P **P** 13 27 04.1 +0.8
MODS Modra-Piesok 96.06 42 *e*PDIFF **P** 13 27 04.1 +0.8
GKP Gorka Klasztor 96.07 37 *e*P **P** 13 27 05.4 +2.2
GKP Gorka Klasztor 96.07 37 *e*P **P** 13 27 05.3 +2.2
SMOL Smolenice 96.17 42 *e*P **P** 13 27 05.4 +1.6
SPIA Saint Paul Isl 96.25 327 P **P** 13 27 03.0 -0.9
baz=89
MORC Moravsky Berou 96.25 41 IAmb IAmb 13 27 07.3
comp=Z,101nm,1.3s
MORC Moravsky Berou 96.25 41 *e*P **P** 13 27 05.0 +0.8
JAVC Velka Javorina 96.33 42 *e*P **P** 13 27 05.5 +0.9
MAUC Maruska 96.43 41 *e*P **P** 13 27 06.8 +1.8
TRO Tromso 96.44 21 *e*P **P** 13 27 04.8 +0.3
OKC Ostrava-Krasne 96.64 41 *e*P **P** 13 27 08.1 +2.2
OKC Ostrava-Krasne 96.64 41 *e*P **P** 13 27 08.1 +2.2
SRO Srobarova 96.76 43 *e*P **P** 13 27 08.3 +1.9
SRO Srobarova 96.76 43 *e*PDIFF **P** 13 27 08.3 +1.9
SCTE Santa Cesarea 96.83 50 IAmb IAmb 13 27 09.7
comp=Z,96nm,1.4s
JETT Jettan, Norway 96.96 21 *e*P **P** 13 27 07.3 +0.3
MORH Mrgy, Hungar 96.99 44 ⇑P **P** 13 27 07.9 +0.5
VYHS Vyhne 97.10 42 *e*P Pdif 13 27 08.8 +0.7
VYHS Vyhne 97.10 42 *e*PDIFF Pdif 13 27 08.8 +0.7
PDG Podgorica 97.43 48 ⇑P Pdif 13 27 11.4 +1.8
PDG Podgorica 97.43 48 IAmb IAmb 13 27 12.5
comp=Z,80nm,1.3s
LANS Liptovska Anna 97.51 41 *e*P Pdif 13 27 12.6 +2.7
LANS Liptovska Anna 97.51 41 *e*PDIFF Pdif 13 27 12.6 +2.7
OJC Ojcow 97.70 40 *e*P Pdif 13 27 13.1 +2.5
OJC Ojcow 97.70 40 IAmb IAmb 13 27 13.8
comp=Z,75nm,1.2s

OJC	Ojcow	97.70	40	P	Pdif	13 27 12.5	+1.8		
BOSA	Boshof	97.77	120	P	Pdif	13 27 12.2	+0.5		
	comp=Z,8.1nm,0.8s,baz=272,slow=3.9,SNR=15								
BOSA				LR	LR	14 08 47.6			
	comp=Z,343nm,20.8s,baz=255,slow=34								
	comp=Z,8.1nm,0.8s								
BOSA	Boshof	97.77	120	pP	pP	13 27 40.0	-0.4		
FRGS	Fruska Gora	97.81	45	⇓P	Pdif	13 27 12.8	+1.5		
PSZ	Piszkesteto	97.82	42	⇑P	Pdif	13 27 12.4	+1.0		
PSZ	Piszkesteto	97.82	42	⇑P	Pdif	13 27 12.4	+1.0		
KEK	Kerkira	97.85	51	IAmb	IAmb	13 27 15.2			
	comp=Z,48nm,1.0s								
DIVS	Divibare	97.96	46	IAmb	IAmb	13 27 14.9			
	comp=Z,38nm,1.1s								
KTK1	Kautokeino	98.02	21	*e*P	Pdif	13 27 11.9	+0.3		
KTK1				IAmb	IAmb	13 27 12.3			
	comp=Z,13nm,0.7s								
KECS	Kecovo	98.20	42	*e*P	Pdif	13 27 16.0	+3.1		
KECS	Kecovo	98.20	42	*e*PDIFF	Pdif	13 27 16.0	+3.1		
RAF	Rauma	98.23	29	*e*P	**P**	**13 27 12.2**	**-0.5**		
LKD2	Lefkada island	98.52	52	P	**P**	**13 27 14.0**	**-0.6**		
OHR	Ohrid	98.60	49	*i* P	Pdif	13 27 17.2	+2.2		
STHS	Stebnicka Huta	98.66	41	*e*P	Pdif	13 27 16.6	+1.6		
STHS	Stebnicka Huta	98.66	41	*e*PDIFF	Pdif	13 27 16.6	+1.6		
LBTB	Lobatse	98.68	116	LR	LR	14 10 04.8			
	comp=Z,336nm,20.0s,baz=255,slow=34								
ARA0	ARCESS Array S	98.74	20	*e*P	**P**	**13 27 14.5**	**-0.4**		
ARCES	ARCESS Array B	98.74	20	P	**P**	**13 27 13.1**	**-1.8**		
	comp=Z,13nm,0.6s,baz=275,slow=3.2,SNR=61								
ARCES				PKKPbc	**PKKPbc**	**13 43 41.9**	**-3.8**		
	comp=Z,2.1nm,0.5s,baz=106,slow=4.3,SNR=12								
	comp=Z,13nm,0.6s								
SLIT	Slitere, Latvi	98.77	33	*e*P	Pdif	13 27 16.9	+1.6		
SKO	Skopje	99.06	48	*i* P	**Pdif**	**13 27 18.8**	**+1.9**		
BZS	Buzias	99.07	45	⇑P	**Pdif**	**13 27 17.9**	**+1.0**		
BZS	Buzias	99.07	45	⇑P	**Pdif**	**13 27 17.9**	**+1.0**		
SIRR	Siria	99.08	44	⇑P	**Pdif**	**13 27 18.7**	**+1.8**		
MDVR	Moldovita	99.17	46	⇓P	**Pdif**	**13 27 17.5**	**+0.1**		
BOVS	Bovan	99.21	47	⇓P	**Pdif**	**13 27 16.3**	**-1.3**		
DRO	Drossia	99.36	52	P	Pdif	13 27 20.9	+2.5		
UZH	Uzhgorod	99.39	42	*e*P	**Pdif**	**13 27 20.0**	**+1.8**		
UZH				*e*		13 27 49.8			
PYL	PYLOS	99.40	54	P	**Pdif**	**13 27 11.7**	**-6.9**		
SURR	Surduc	99.42	45	⇓P	**Pdif**	**13 27 19.5**	**+1.1**		
MTSE	Matsula	99.48	31	*e*P	**Pdif**	**13 27 19.4**	**+1.0**		
THL	Klokotos Trika	99.56	51	P	**Pdif**	**13 27 19.2**	**0.0**		
TRPA	Tarpa	99.58	42	⇑P	**Pdif**	**13 27 20.9**	**+1.9**		
MEF	Metsahovi	99.60	30	*e*P	**Pdif**	**13 27 19.4**	**+0.5**		
STIP	Stip	99.63	49	*i* P	**Pdif**	**13 27 21.6**	**+2.2**		
DJES	Djerdap	99.75	46	⇓P	**Pdif**	**13 27 18.6**	**-1.3**		
GRG	Griva	99.82	49	P	**Pdif**	**13 27 22.0**	**+1.6**		
URZ	Urewera	99.83	230	LR	LR	14 04 03.9			
	comp=Z,1μm,18.8s,baz=192,slow=30								
PABE	Paberze	99.89	35	*e*P	**Pdif**	**13 27 21.7**	**+1.4**		
VAY	Valandovo	99.93	49	*i* P	**Pdif**	**13 27 21.9**	**+1.1**		
MARR	Marisel-Cluj	100.06	44	⇓P	**Pdif**	**13 27 21.3**	**-0.1**		
KNT	Kendrikon	100.18	49	P	**Pdif**	**13 27 24.3**	**+2.3**		
FINES	FINESS Array B	100.25	28	P	**Pdif**	**13 27 21.5**	**-0.2**		
	comp=Z,10nm,0.8s,baz=294,slow=1.9,SNR=19								
FINES				pP	**pPdif**	**13 27 49.5**	**-1.0**		
	comp=Z,3.0nm,0.6s,baz=289,slow=4.2,SNR=2.3								
FINES				PKKPbc	**PKKPbc**	**13 43 38.8**	**-2.4**		
	comp=Z,3.1nm,0.6s,baz=99,slow=3.0,SNR=11								
VTS	Vitosha	100.37	48	⇓P	**Pdif**	**13 27 24.5**	**+1.5**		
VTS	Vitosha	100.37	48	⇓P	**Pdif**	**13 27 24.5**	**+1.5**		
CJR	Cluj-Napoca	100.39	44	⇓P	**Pdif**	**13 27 23.7**	**+0.9**		
CJR	Cluj-Napoca	100.39	44	⇓P	**Pdif**	**13 27 23.7**	**+0.9**		
PAIG	Paliouri	100.83	50	P	**Pdif**	**13 27 26.3**	**+1.5**		
ARCR	ARCALIA	100.88	43	⇑P	**Pdif**	**13 27 25.9**	**+0.9**		
VSU	Vasula	101.03	31	*e*P	**Pdif**	**13 27 25.8**	**+0.5**		
IIGN	Ignalina	101.19	35	*e*P	**Pdif**	**13 27 26.1**	**0.0**		
ARR	Arges	101.21	45	⇑P	**Pdif**	**13 27 27.2**	**+0.7**		
BURAR	Bucovina Array	101.42	43	⇑P	**Pdif**	**13 27 29.9**	**+2.5**		
BURAR	Bucovina Array	101.42	43	⇑P	**Pdif**	**13 27 29.9**	**+2.5**		
IDID	Didziasalis	101.48	35	*e*P	**Pdif**	**13 27 26.2**	**-1.1**		
NACGM	Naroch	101.48	35	*e*P	**Pdif**	**13 27 30.1**	**+2.3**		
	comp=Z,50nm,1.2s,baz=276								
DOPR	Dopca	101.69	44	⇓P	**Pdif**	**13 27 29.5**	**+0.9**		
APA	Apatity	102.02	22	⇓*i*P	**Pdif**	**13 27 33.9**	**+4.4**		
APA				pmax	pmax				
	comp=Z,10.0nm,1.1s								
MLR	Muntele Rosu	102.12	45	⇑P	**Pdif**	**13 27 30.6**	**0.0**		
MLR	Muntele Rosu	102.12	45	⇑P	**Pdif**	**13 27 30.6**	**0.0**		
AKASG	Malin Array Be	103.65	39	Pdiff	**Pdif**	**13 27 36.9**	**-0.2**		
	comp=Z,1.1nm,0.7s,baz=276,slow=4.4,SNR=6.6								
AKASG				PP	**PP**	**13 31 51.3**	**-3.4**		
	comp=Z,12nm,1.1s,baz=273,slow=6.8,SNR=18								
BRTR	Keskin Array B	108.48	50	Pdiff	**Pdif**	**13 27 59.7**	**+0.6**		
	comp=Z,0.7nm,0.7s,baz=222,slow=1.7,SNR=4.3								
BRTR				PP	**PP**	**13 32 28.7**	**-2.1**		
	comp=Z,10.0nm,1.1s,baz=282,slow=5.8,SNR=15								
BRTR				PKKPbc	**PKKPbc**	**13 43 15.3**	**-0.5**		
	comp=Z,1.5nm,0.7s,baz=132,slow=5.0,SNR=3.6								
BRTR				PKKP	**PKKPab**	**13 43 29.1**	**+0.9**		
	comp=Z,2.5nm,0.8s,baz=164,slow=2.9,SNR=4.6								
LODK	Lodwar	111.89	88	*e*P	**PKiKP**	**13 32 05.5**	**-6.0**		
LODK	Lodwar	111.89	88	*e*P	**PKiKP**	**13 32 19.1**	**+7.6**		
KMBO	Kilima Mbogo	113.39	93	*e*P	**PKiKP**	**13 32 11.8**	**-2.8**		
NRIK	Noril'sk	114.82	6	PKKPbc	PKKPbc	13 42 52.9	-2.8		
	comp=Z,5.0nm,0.7s,baz=140,slow=1.8,SNR=6.1								
DILA	Dilla	114.96	85	*e*P	**PKiKP**	**13 32 18.4**	**+0.9**		
ZEI	Tsey	115.29	45	*i* PKIKP	**PKPdf**	**13 32 18.4**	**+1.0**		
ZEI				pmax	pmax				
	comp=Z,52nm,1.0s								
KARS	Kars	115.34	47	*e*P	**PKPdf**	**13 32 21.2**	**+3.8**		
MLAZ	Malazgirt-MUS	115.34	49	*e*P	**PKPdf**	**13 32 24.2**	**+6.7**		
FURI	Furi	115.43	83	*e*P	**PKPdf**	**13 32 16.7**	**-1.8**		
FURI	Furi	115.43	83	*e*P	**PKiKP**	**13 32 21.0**	**+2.4**		
AAE	Adis Abeba	115.52	82	*e*P	**PKPdf**	**13 32 14.5**	**-4.2**		
AAE	Adis Abeba	115.52	82	*e*P	**PKiKP**	**13 32 21.0**	**+2.3**		
AGRB	Hanur-Agry	115.56	48	*e*P	**PKPdf**	**13 32 22.0**	**+5.0**		
AKDM	Akdamar-Van	115.88	50	*e*P	**PKiKP**	**13 32 22.5**	**+3.9**		
VANB	Van	116.12	49	*e*P	**PKiKP**	**13 32 21.2**	**+2.2**		
TASB	TASBURUN-IGDIR	116.37	48	*e*P	**PKPdf**	**13 32 19.0**	**-0.3**		
DESE	Dese	116.40	80	*e*P	**PKiKP**	**13 32 25.4**	**+5.0**		
DESE	Dese	116.40	80	*e*P	**PKiKP**	**13 32 22.9**	**+2.5**		
ANKE	Ethiopia-Afar	116.48	82	*e*P	PKPdf	13 32 12.1	-8.5		
ANKE	Ethiopia-Afar	116.48	82	*e*P	**PKPdf**	**13 32 20.3**	**-0.4**		
CUKT	Cukurca	116.64	51	*e*P	**PKiKP**	**13 32 21.1**	**+1.1**		
MAK	Makhachkala	117.74	44	*i* PKIKP	**PKPdf**	**13 32 19.1**	**-2.6**		
MAK				*e*		13 32 49.9			
MAK				*e*		13 33 33.5			
MAK				*e*SS	SS	13 49 41.1	+0.9		
MAK				*e*SSS	SSS	13 53 58.2			
MAK				pmax	pmax				
	comp=Z,26nm,0.4s								
YAK	Yakutsk	119.84	346	PKPdf	**PKPdf**	**13 32 24.0**	**-1.2**		
YAK	Yakutsk	119.84	346	*e*PKIKP	**PKPdf**	**13 32 24.5**	**-0.7**		
YAK				*e*		13 33 46.7			
YAK				*e*		13 39 29.5			
YAK				*e*SS	SS	13 50 08.3	+2.7		
YAK				pmax	pmax				
	comp=N,4.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,41nm,1.2s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.2s								
YAK				pmax	pmax				
	comp=Z,222nm,1.9s								
YAK				pmax	pmax				
	comp=N,120nm,1.8s								
YAK				pmax	pmax				
	comp=E,53nm,1.6s								
AKTO	Aktyubinsk	120.74	32	PKKPbc	PKKPbc	13 42 31.9	-2.0		
	comp=E,6.9nm,0.6s,baz=64,slow=3.4,SNR=10								
BVAR	Borovoye Array	124.84	24	PKP	**PKiKP**	**13 32 35.6**	**+0.1**		
	comp=E,21nm,0.7s,baz=248,slow=0.8,SNR=6.5								
BVAR				PKKPbc	**PKKPab**	**13 42 16.0**	**0.0**		
	comp=E,5.9nm,0.8s,baz=147,slow=3.5,SNR=9.4								
BVAR				SKKPbc	SKKPbc	13 45 58.1	-1.3		
	comp=E,3.0nm,0.8s,baz=108,slow=4.7,SNR=2.8								
YSS	Yuzh-Sakhalins	126.31	328	PKPdf	**PKPdf**	**13 32 36.9**	**-1.2**		
YSS	Yuzh-Sakhalins	126.31	328	*e*PKIKP	**PKPdf**	**13 32 37.2**	**-0.9**		
YSS				*e*		13 33 05.6			
YSS				pmax	pmax				
	comp=Z,30nm,0.9s								
GEYT	Alibeck	127.17	45	PKP	**PKiKP**	**13 32 41.6**	**+1.0**		
	comp=Z,21nm,0.9s,baz=292,slow=4.5,SNR=5.5								
STKA	Stephens Creek	128.58	222	PKP	**PKPdf**	**13 32 42.7**	**-0.3**		
	comp=Z,27nm,0.7s,baz=121,slow=2.2,SNR=23								
ZALV	Zalesovo Beam	128.78	14	PKP	**PKPdf**	**13 32 42.5**	**-0.1**		
	comp=Z,104nm,0.9s,baz=325,slow=1.8,SNR=46								
KURK	Kurchatov	129.78	20	PKIKP	**PKPdf**	**13 32 44.9**	**+0.3**		
KURK						13 33 14.2			
KURBB	Kurchatov Arra	129.83	21	PKP	**PKPdf**	**13 32 44.9**	**+0.2**		
	comp=Z,13nm,1.0s,baz=320,slow=2.7,SNR=6.6								
KURBB				pPKP	**pPKPdf**	**13 33 14.2**	**-0.4**		
	comp=Z,33nm,1.0s,baz=313,slow=2.5,SNR=3.4								
KURBB				SKKPbc	SKKPbc	13 45 43.0	+0.9		
	comp=Z,1.1nm,0.7s,baz=150,slow=4.2,SNR=4.1								
HEH	HeiHe	130.62	340	PKP	**PKPdf**	**13 32 45.1**	**-1.1**		
HEH				AMB	AMB				
	comp=Z,770nm,3.9s								
CTA	Charters Tower	131.32	238	PKP	**PKPdf**	**13 32 48.3**	**-0.2**		
	comp=Z,6.9nm,0.5s,baz=140,slow=3.6,SNR=25								
CTA				pPKP	**pPKPdf**	**13 33 19.0**	**+0.6**		
	comp=Z,6.3nm,0.5s,baz=115,slow=12,SNR=3.5								
CTAO	Charters Tower	131.32	238	PKPdf	**PKPdf**	**13 32 47.9**	**-0.5**		
CTAO	Charters Tower	131.32	238	PKIKP	**PKPdf**	**13 32 47.9**	**-0.5**		
WSAR	Wadi Sarin	132.94	63	PKP	**PKPdf**	**13 32 51.6**	**+0.1**		
	comp=Z,19nm,0.8s,baz=250,slow=2.9,SNR=7.2								
WSAR				pPKP	**pPKPdf**	**13 33 22.2**	**+0.9**		
	comp=Z,8.6nm,0.6s,baz=274,slow=0.4,SNR=1.9								
USRK	Ussuriysk Ar.	133.65	332	PKP	**PKPdf**	**13 32 52.2**	**+0.1**		
	comp=Z,6.2nm,0.7s,baz=207,slow=2.1,SNR=8.7								
MKAR	Makanchi Array	134.40	21	PKP	**PKPdf**	**13 32 53.1**	**-0.4**		
	comp=Z,13nm,0.6s,baz=305,slow=2.1,SNR=13								
MKAR				pPKP	**pPKPdf**	**13 33 21.2**	**-2.2**		
	comp=Z,5.6nm,0.5s,baz=299,slow=2.4,SNR=3.6								
BNX	BinXian	134.41	337	PKP	**PKPdf**	**13 32 53.8**	**+0.3**		
ZAK	Zakamensk	134.72	0	*e*PKIKP	**PKPdf**	**13 32 50.0**	**-4.1**		
ZAK				pmax	pmax				
	comp=Z,25nm,1.7s								
MJAR	Matsushiro Arr	135.37	319	PKhKP	PKPpre	13 32 44.5			
	comp=Z,2.1nm,0.6s,baz=73,slow=2.4,SNR=5.4								
MJAR				PKP	**PKPdf**	**13 32 54.3**	**-1.4**		
	comp=Z,4.8nm,0.6s,baz=81,slow=1.4,SNR=7.7								
MJAR				pPKP	pPKPdf	13 33 23.6	-1.9		
	comp=Z,8.6nm,0.7s,baz=78,slow=2.4,SNR=5.0								
ULN	Ulaanbaatar	137.14	357		**PKPdf**	**13 32 58.7**	**-0.1**		
ULN	Ulaanbaatar	137.14	357	PKIKP	**PKPdf**	**13 32 58.7**	**-0.1**		
SONM	Songino Array	137.20	357	PKhKP	PKPpre	13 32 47.7			
	comp=Z,9.0nm,0.9s,baz=328,slow=2.1,SNR=8.0								
SONM				PKP	**PKPdf**	**13 32 58.9**	**0.0**		
	comp=Z,33nm,1.0s,baz=334,slow=1.2,SNR=13								
SONM				pPKP	pPKPdf	13 33 28.9	+0.1		
	comp=Z,14nm,0.6s,baz=334,slow=2.0,SNR=3.2								
SONM				SKKPbc	SKKPbc	13 45 05.7	-9.4		
	comp=Z,2.1nm,0.8s,baz=180,slow=4.6,SNR=4.4								
KSH	Kashi	137.45	32	PKP	**PKiKP**	**13 33 02.2**	**+0.7**		
WMQ	Urumqi	138.80	18	PKP	**PKiKP**	**13 33 03.7**	**-0.3**		
WMQ				PKS	**PKSdf**	**13 36 37.4**	**-0.5**		
WMQ				SS	SS	13 54 00.7	+1.5		
WMQ				AMB	AMB				
	comp=Z,630nm,3.7s								
ASAR	Alice Springs	139.03	225	PKhKP	PKPpre	13 32 52.4			
	comp=Z,9.9nm,0.6s,baz=133,slow=2.6,SNR=29								
ASAR				PKP	**PKPdf**	**13 33 02.4**	**-0.4**		
	comp=Z,28nm,0.8s,baz=126,slow=2.0,SNR=21								
SNY	Shenyang	139.20	337	⇑PKP	**PKPdf**	**13 33 03.3**	**+0.8**		
SNY				AMB	AMB				
	comp=Z,490nm,7.8s								
XLT	XiLinHaoTe	139.69	346	*e*PKP	**PKPdf**	**13 33 03.6**	**+0.1**		
XLT				AMB	AMB				
	comp=Z,640nm,6.1s								
NWAO	Narrogin (SRO)	140.20	198	PKhKP	PKPpre	13 32 57.1			
KSRS	Korea Array	140.78	329	PKhKP	PKPpre	13 32 57.6			
	comp=Z,5.9nm,0.7s,baz=56,slow=3.4,SNR=21								
KSRS				PKP	**PKPdf**	**13 33 04.7**	**-0.7**		
	comp=Z,25nm,0.9s,baz=43,slow=1.5,SNR=20								
KSRS				pPKP	pPKPdf	13 33 34.0	-1.4		
	comp=Z,13nm,0.9s,baz=44,slow=2.9,SNR=3.3								
KSAR	Wonju Array Be	140.81	329		PKPpre	13 32 56.4			
KSAR	Wonju Array Be	140.81	329	PKHKP	PKPpre	13 32 56.4			
WRAB	Tennant Creek	141.00	230		PKPpre	13 32 59.4			
WRAB	Tennant Creek	141.00	230	PKHKP	PKPpre	13 32 59.4			
WRA	Warramunga Arr	141.00	230	PKhKP	PKPpre	13 32 59.9			
	comp=Z,22nm,0.7s,baz=125,slow=2.9,SNR=53								
WRA				pPKP	pPKPdf	13 33 35.1	-1.2		
	comp=Z,18nm,0.8s,baz=119,slow=2.1,SNR=4.3								
JNU	Nakatsue	142.19	321	PKhKP	PKPpre	13 33 01.6			
	comp=Z,11nm,0.8s,baz=290,slow=8.2,SNR=3.9								
DL2	Dalian	142.47	337	PKP	**PKPdf**	**13 33 03.1**	**-5.4**		
DL2				AMB	AMB				
	comp=Z,800nm,7.6s								
BHK	Bhakra	143.29	41	*i* x	**PKPdf**	**13 33 10.6**	**+0.4**		
HHC	Hu-ho-hao-te	143.55	350	*e*PKP	PKPbc	13 33 07.7	-0.4		
HHC				pPKP	pPKPdf	13 33 39.0	-1.4		
HHC				AMB	AMB				
	comp=Z,2μm,5.6s								
MORW	Morawa	144.15	199	PKPdf	**PKPab**	**13 33 08.9**	**-0.7**		
AJM	Ajmer	144.97	49	*e*P	**PKPab**	**13 33 12.9**	**+0.1**		
AJM				*i* x	x	13 33 45.9			
AJM				*ex*	x	13 41 18.9			
DDI	Dehra Dun	145.07	41	*ex*	**PKPab**	**13 33 16.5**	**+3.4**		
KUDL	Kundal	145.37	45	*e*P	**PKPab**	**13 33 14.6**	**+0.5**		
GTA	Gaotai	145.51	5	PKPbc	**PKPdf**	**13 33 13.7**	**-0.3**		
GTA				PP	**PP**	**13 36 34.8**	**+1.1**		
NDI	New Delhi	145.55	44	*i* x	**PKPdf**	**13 33 13.9**	**-0.3**		
NDI				*i* x	x	13 33 15.0			
SONA	Sohna	145.73	45	*e*P	**PKPdf**	**13 33 13.9**	**-0.5**		
SONA				*i* x	x	13 33 15.0			
HNS	HongShan	146.15	344	⇓PKPbc	**PKPdf**	**13 33 15.1**	**+0.2**		
HNS				PKPab	**PKPab**	**13 33 17.1**	**+0.3**		
HNS				AMB	AMB				
	comp=Z,890nm,7.6s								
	comp=Z,340nm,23.0s								
HNS				LR	LR				
	comp=Z,620nm,24.0s								
HNS				LR	LR				
	comp=Z,610nm,24.5s								
TIY	Taiyuan	146.41	347	PKPbc	**PKPbc**	**13 33 16.6**	**-0.3**		
JMZ	Minamidaito 2	146.43	311	PKPdf	**PKPdf**	**13 33 16.1**	**+0.4**		
LGTI	Lohaghat	147.06	40	*e*P	**PKPbc**	**13 33 18.2**	**-0.7**		
LGTI				*i* x	x	13 33 18.8			
GOMU	GeErMu	147.85	14	PKPbc	**PKPdf**	**13 33 19.5**	**+1.2**		
GOMU				PKPab	**PKPab**	**13 33 25.6**	**+1.6**		
GOMU				AMB	AMB				
	comp=Z,2μm,6.4s								
POO	Poona	147.91	63	*ex*	**PKPdf**	**13 33 18.1**	**-0.3**		
JOW	Kunigami	147.98	315	PKPbc	**PKPbc**	**13 33 20.8**	**-0.7**		
	comp=Z,175nm,1.0s,baz=86,slow=2.0,SNR=20								
JOW				pPKPbc	**pPKPdf**	**13 33 48.7**	**+0.4**		
	comp=Z,60nm,0.7s,baz=348,slow=4.7,SNR=4.8								
JHNI	Jhansi	148.43	47	*e*P	**PKPdf**	**13 33 19.3**	**+0.2**		
JHNI				*i* x	x	13 33 52.7			
GOA	Goa	148.87	68	*ex*	**PKPdf**	**13 33 21.4**	**+1.4**		
LZH	Lanzhou	149.00	360	PKPbc	**PKPdf**	**13 33 20.9**	**+1.0**		
LZH				pPKP	pPKPdf	13 33 48.3	-1.6		
LZH				sPKP		13 33 59.4			
LZH				PP	**PP**	**13 36 55.0**	**+0.8**		
LZH				AMB	AMB				
	comp=Z,2μm,12.7s								
MNCY	Minicoy	149.40	82	*ex*	x	13 33 23.0			
LYN	LuoYang	149.43	346	⇓*i*PKPbc	**PKPdf**	**13 33 20.0**	**-0.4**		
NJ2	Nanjing	149.51	334	*e*PKPbc	**PKPbc**	**13 33 25.6**	**+0.4**		
MBWA	Marble Bar	149.65	211	PKPdf	**PKPdf**	**13 33 20.5**	**-0.6**		
AKL	Akola	149.74	56	*i* x	x	13 33 21.8			
AKL				*e*P	**PKPdf**	**13 33 22.5**	**+1.2**		
FAKI	Fak Fak	150.39	255		**PKPbc**	**13 33 27.6**	**-0.3**		
MNGI	Mangalore	150.45	72	*e*P	**PKPdf**	**13 33 23.6**	**+1.1**		
MNGI				*i* x	x	13 34 01.8			
XAN	Xi'an	150.64	351	PKPbc	**PKPdf**	**13 33 22.3**	**-0.1**		
XAN				sPKP		13 34 01.5			
XAN				AMB	AMB				
	comp=Z,790nm,9.8s								
VLK	Valmikinagar	150.82	38	*e*P	**PKPdf**	**13 33 20.3**	**-2.5**		
VLK				*i* x	x	13 33 38.2			
VAR	Varanasi	151.68	42	*e*P	**PKPdf**	**13 33 24.5**	**+0.3**		
SIJI	Sorong	151.83	259	PKPbc	**PKPbc**	**13 33 30.2**	**-1.0**		
	comp=Z,40nm,0.6s,baz=34,slow=9.0,SNR=4.7								
PCHI	Peechi	152.38	77	⇓*ex*	**PKPdf**	**13 33 25.8**	**+0.3**		
PCHI				*ex*	x	13 37 03.6			
HYB	Hyderabad	152.47	61	*e*PKPdf	**PKPdf**	**13 33 25.3**	**-0.3**		
HYB				*e*PKiKP	**PKiKP**	**13 33 33.1**	**+0.3**		
HYB				*e*PKPab	**PKPab**	**13 33 42.9**	**-0.3**		
HYB	Hyderabad	152.47	61	*ex*	x	13 33 24.6			
HYB	Hyderabad	152.47	61	*i*	**PKPab**	**13 33 44.0**	**+0.8**		
HYB	Hyderabad	152.47	61	*e*	**PKiKP**	**13 33 33.4**	**+0.6**		
WHN	Wuhan	152.62	340	⇑PKPbc	**PKPdf**	**13 33 26.5**	**+1.1**		
WHN				PKPab	**PKPab**	**13 33 43.5**	**+0.3**		
WHN				pPKP	**pPKPbc**	**13 33 59.1**	**-3.2**		
WHN				sPKP		13 34 05.4			
WHN				PP	**PP**	**13 37 13.4**	**-1.6**		
TRD	Trivandrum	153.25	81	*ex*	**PKPdf**	**13 33 26.2**	**-0.6**		
KOD	Kodaikanal	153.51	77	*e*P	**PKPdf**	**13 33 26.7**	**-0.8**		
KOD				*i* x	x	13 33 28.0			
SALM	Salem	153.95	74	*e*P	**PKPdf**	**13 33 27.1**	**-0.6**		
CD2	Chengdu	154.17	360	PKPbc	**PKPdf**	**13 33 26.0**	**-1.7**		
BOK	Bokaro	154.61	41	*ex*	**PKPdf**	**13 33 27.9**	**-0.6**		
VJD	Vijayawada	154.67	61	*e*P	**PKPdf**	**13 33 27.8**	**-0.9**		
VJD				*i* x	x	13 33 28.5			
BATI	Baumata	155.03	233	PKPab	**PKPab**	**13 33 54.5**	**+0.4**		
	comp=Z,76nm,0.9s,baz=163,slow=7.0,SNR=4.8								
MDRS	Chennai	155.52	69	*ex*	**PKPdf**	**13 33 29.5**	**-0.4**		
ZIRO	ZIRO	155.67	22	*ex*	x	13 33 27.9			
ZIRO				*eP*	**PKPdf**	**13 33 27.9**	**-2.2**		
ZIRO				*i* x	x	13 33 56.6			
ZIRO	ZIRO	155.67	22	*ex*	x	13 33 28.0			
ITAN	ITANAGAR	155.97	22	*i* x	**PKPab**	**13 34 00.0**	**+2.4**		
TEZP	TEZPUR	156.08	25	*i* x	**PKPab**	**13 33 57.6**	**-0.4**		
VIS	Vishakhapatnam	156.40	56	*ex*	**PKPdf**	**13 33 27.9**	**-3.1**		
LKP	Lekhapani	156.52	18	*ex*	**PKPdf**	**13 33 29.5**	**-1.5**		
SHL	Shillong	156.59	28	*ex*	**PKPdf**	**13 33 27.9**	**-3.5**		
MOKO	MOKOCHONG	157.01	21	*e*P	**PKPdf**	**13 33 34.6**	**+2.8**		
MOKO				*i* x	x	13 34 02.0			
MOKO	MOKOCHONG	157.01	21	*ex*	x	13 33 34.4			
IMP	Imphal	158.13	24	*ex*	x	13 33 31.1			
IMP				*e*P	**PKPdf**	**13 33 33.9**	**+0.8**		
IMP				⇓*ix*	x	13 34 08.5			
GYA	Guiyang	158.41	353	⇑*i*PKP	**PKPdf**	**13 33 34.6**	**+1.1**		
GYA				pPKP	PKPab	13 34 07.3	-1.0		
GYA				PKPab	**pPKPdf**	**13 34 09.1**	**+5.6**		
GYA				PP	**PP**	**13 37 46.8**	**-0.4**		
GYA				AMB	AMB				
	comp=Z,850nm,7.8s								
PZH	PanZhiHua	158.48	5	PKP	**PKPdf**	**13 33 32.8**	**-0.8**		
PZH				P

DZM *e*Sn **S** 13 18 58.0 +7.2
comp=Z,1μm,1.6s
DZM Mont Dzumac 11.93 273 P **P** 13 16 40.6 -0.2
DZM Mont Dzumac 11.93 273 ⇑P **P** 13 16 41.8 +0.9
DZM ⇑S **ScP** 13 24 21.1 +3.9
OUZ Omahuta 12.87 201 ⇑P **P** 13 16 51.7 +1.5
OUZ ⇓S **ScP** 13 24 20.4 +2.2
OUZ Omahuta 12.87 201 P **P** 13 16 52.5 +2.3
WCZ Waipu Caves 13.30 198 P **P** 13 16 57.1 +2.4
GRZ Great Barrier 13.32 194 P **P** 13 16 56.5 +1.6
MYRZ Mayor Island 14.17 190 P **P** 13 17 06.5 +2.8
KOUNC **Koumac, New Ca** 14.20 278 P **P** 13 17 04.0 -0.2
KOUNC **Koumac, New Ca** 14.20 278 ⇑P **P** 13 17 04.3 +0.2
KOUNC ⇓S **ScP** 13 24 24.4 +3.7
HAZ Te Kaha 14.46 185 P **P** 13 17 04.1 -2.5
WMGZ Waiomatatini S 14.49 183 P **P** 13 17 04.0 -2.8
PKGZ Pakihiroa 14.57 184 P **P** 13 17 04.9 -2.9
TGRZ Tauranga 14.61 190 P **P** 13 17 09.3 +1.2
WHRZ Whale Island 14.64 187 P **P** 13 17 09.8 +1.4
WHRZ S **S** 13 19 34.6 -6.5
RUGZ Raukumara Rang 14.68 185 P **P** 13 17 06.7 -2.2
RUGZ S **S** 13 19 37.9 -4.1
OPRZ Ohinepanea 14.68 189 P **P** 13 17 09.6 +0.8
OPRZ S **S** 13 19 43.9 +2.1
FUNA Funafuti 14.70 360 P **P** 13 17 07.7 -1.6
FUNA Funafuti 14.70 360 ⇓P **P** 13 17 08.1 -1.2
TOZ Tahuroa Road 14.74 192 P **P** 13 17 10.4 +1.0
KMRZ Kaimai 14.78 190 P **P** 13 17 11.1 +1.3
MARZ Manawahe 14.80 188 P **P** 13 17 10.1 0.0
MARZ S **S** 13 19 46.8 +2.6
LIRZ Lichensteins R 14.86 189 P **P** 13 17 09.6 -1.1
TWGZ Tauwhareparae 14.87 184 P **P** 13 17 08.5 -2.3
KARZ Kaharoa 14.90 189 P **P** 13 17 12.1 +1.0
EDRZ Edgecumbe 14.91 188 P **P** 13 17 10.9 -0.4
EDRZ S **S** 13 19 45.1 -1.1
OMRZ Omania 14.96 189 P **P** 13 17 12.5 +0.8
MKRZ Makatiti 14.98 189 P **P** 13 17 14.7 +2.7
NGRZ Ngongotaha 14.99 190 P **P** 13 17 13.5 +1.5
URZ Urewera 15.02 187 P **P** 13 17 09.1 -3.1
comp=Z,476nm,0.3s,baz=8.0,slow=2.7,SNR=130
URZ S **S** 13 19 42.3 -5.7
comp=Z,418nm,0.6s,baz=229,slow=21,SNR=15
URZ ScP **ScP** 13 24 20.9 -1.0
comp=Z,47nm,0.7s,baz=90,slow=2.4,SNR=3.7
URZ ScS **ScS** 13 27 55.9 -4.3
comp=Z,75nm,1.0s,baz=195,slow=22,SNR=16
URZ Urewera 15.02 187 ⇑P **P** 13 17 09.1 -3.1
URZ ⇑S **S** 13 19 50.4 +2.4
URZ Urewera 15.02 187 P **P** 13 17 09.1 -3.1
URZ S **S** 13 19 43.1 -4.9
MWZ Matawai 15.06 185 P **P** 13 17 09.7 -3.0
MWZ S **S** 13 19 43.9 -4.8
UTU Utuhina 15.06 189 P **P** 13 17 14.6 +1.9
TARZ Mount Tarawera 15.07 188 P **P** 13 17 13.8 +0.9
HLRZ Highlands Stat 15.11 189 P **P** 13 17 13.4 +0.2
TKGZ Te Karaka 15.14 184 P **P** 13 17 11.0 -2.4
TKGZ S **S** 13 19 44.7 -5.2
CNGZ Carnagh Statio 15.16 183 P **P** 13 17 11.1 -1.8
CNGZ S **S** 13 19 48.8 -1.6
RRRZ Republican Roa 15.17 188 P **P** 13 17 13.4 -0.4
RRRZ S **S** 13 19 53.9 +3.1
HSRZ Hossack Road 15.18 189 P **P** 13 17 14.6 +0.6
RAGZ Rawiri 15.23 186 P **P** 13 17 12.0 -2.5
RAGZ S **S** 13 19 47.6 -4.2
GRRZ Galatos Road 15.24 190 P **P** 13 17 15.1 +0.6
HRRZ Handcock Road 15.26 189 P **P** 13 17 14.2 -0.5
MUGZ Murupara 15.28 188 P **P** 13 17 12.3 -2.6
MUGZ S **S** 13 19 48.0 -4.5
TLZ Tolley Road 15.32 191 P **P** 13 17 16.1 +0.8
PRRZ Plateau Road 15.35 189 P **P** 13 17 14.2 -1.4
PRRZ S **S** 13 19 51.1 -2.5
RTZ Ruatahuna 15.39 187 P **P** 13 17 13.2 -2.9
RTZ S **S** 13 19 50.0 -4.5
WPRZ Whakapapatarin 15.40 189 P **P** 13 17 16.1 -0.1
RIGZ Rimuhau 15.41 185 P **P** 13 17 13.1 -3.1
RIGZ S **S** 13 19 49.6 -5.2
ALRZ Allen Road 15.41 189 P **P** 13 17 15.2 -1.1
ALRZ S **S** 13 19 53.3 -1.5
KUTZ Kaahu Road 15.42 190 P **P** 13 17 17.2 +0.8
SNGZ Shannon Statio 15.52 186 P **P** 13 17 14.5 -2.8
SNGZ S **S** 13 19 52.5 -4.1
HIZ Hauiti 15.62 193 P **P** 13 17 18.3 0.0
HIZ Hauiti 15.62 193 P **P** 13 17 19.6 +1.3
MTHZ Maungataniwha 15.64 187 P **P** 13 17 15.5 -3.1
MTHZ S **S** 13 19 54.1 -4.5
WATZ Wairara 15.65 190 P **P** 13 17 18.6 0.0
MRHZ Matea Rd 15.67 188 P **P** 13 17 16.0 -2.9
KNZ Kokohu 15.73 185 P **P** 13 17 17.0 -2.3
KNZ S **S** 13 19 53.6 -6.4
WHHZ Waihua 15.82 186 P **P** 13 17 17.7 -2.6
WHHZ S **S** 13 19 54.9 -6.6
MHGZ Mahia Peninsul 15.84 184 P **P** 13 17 18.2 -2.3
NMHZ Naumai 15.88 187 P **P** 13 17 17.9 -3.1
NMHZ S **S** 13 19 58.5 -4.3
RITZ Rihia Road 15.89 190 P **P** 13 17 20.3 -0.7
KATZ Kakaramea 15.92 190 P **P** 13 17 21.1 -0.3
BKZ Black Stump Fm 15.99 188 P **P** 13 17 18.3 -3.7
BKZ S **S** 13 20 00.6 -3.8
NTVZ North Tongarir 16.04 190 P **P** 13 17 21.5 -1.1
KRVZ Karewarewa 16.04 190 P **P** 13 17 21.4 -1.2
NNVZ North Ngauruho 16.08 190 P **P** 13 17 22.1 -0.9
OTVZ Oturere 16.11 190 P **P** 13 17 20.9 -2.3
NGZ Ngauruhoe 16.13 190 P **P** 13 17 22.8 -0.6
SNVZ South Ngauruho 16.13 190 P **P** 13 17 21.6 -1.9
TUVZ Tukino 16.21 190 P **P** 13 17 24.3 +0.2
FWVZ Far West T-bar 16.21 190 P **P** 13 17 23.4 -0.9
VRZ Vera Road 16.23 193 P **P** 13 17 25.9 +1.7
WHVZ Whangaehu Hut 16.24 190 P **P** 13 17 24.5 0.0
MCHZ McNeill Hill 16.24 187 P **P** 13 17 20.9 -3.4
KWHZ Kaweka Forest 16.25 188 P **P** 13 17 21.6 -2.9
TRVZ Turoa 16.26 190 P **P** 13 17 22.3 -2.9
WNVZ Wahianoa 16.28 190 P **P** 13 17 22.7 -2.1
PKVZ Pokaka 16.28 191 P **P** 13 17 24.2 -0.6
MOVZ Moawhango 16.33 190 P **P** 13 17 23.4 -1.8
MTVZ Mangateitei 16.36 191 P **P** 13 17 25.2 -0.2
BHHZ Black Hill Sta 16.36 189 P **P** 13 17 21.7 -3.8
DREZ Durham Road 16.41 194 P **P** 13 17 28.8 +2.9
PKE Pukeiti 16.47 195 P **P** 13 17 29.3 +2.9
NEZ North Egmont 16.52 194 P **P** 13 17 29.3 +2.4
KHEZ Kahui Hut 16.56 195 P **P** 13 17 31.1 +3.8
KAHZ Kahuranaki 16.57 187 P **P** 13 17 24.9 -2.4
NBEZ Newall Road No 16.57 195 P **P** 13 17 29.7 +2.5
LREZ Lake Rotokare 16.63 193 P **P** 13 17 29.8 +2.0
NMEZ Namu Road 16.70 195 P **P** 13 17 31.7 +3.3
PNHZ Pukenui 16.76 188 P **P** 13 17 26.5 -2.6
WAZ Wanganui 16.80 192 P **P** 13 17 28.7 -0.7
PXZ Pawanui 16.80 186 P **P** 13 17 27.0 -2.3
WPHZ Waipukurau 16.88 188 P **P** 13 17 27.7 -2.4
TSZ Takapari Road 16.94 189 P **P** 13 17 27.9 -2.7
PRHZ Porangahau 17.06 187 P **P** 13 17 29.8 -1.8
DVHZ Dannevirke 17.15 188 P **P** 13 17 30.4 -2.1
OHWZ Ohakea 17.18 190 P **P** 13 17 32.9 +0.2
ANWZ Angora Road 17.27 187 P **P** 13 17 32.5 -1.1
POWZ Post Office Ro 17.29 189 P **P** 13 17 32.1 -1.6
PRWZ Pori Road 17.43 188 P **P** 13 17 33.6 -1.4
BFZ Birch Farm 17.51 188 P **P** 13 17 33.7 -2.1
BFZ Birch Farm 17.51 188 P **P** 13 17 33.9 -1.9
MRZ Mangatainoka R 17.58 189 P **P** 13 17 33.8 -2.6
MRZ Mangatainoka R 17.58 189 P **P** 13 17 34.1 -2.4
TIWZ Tintock 17.65 189 P **P** 13 17 35.6 -1.6
CPWZ Castlepoint 17.74 188 P **P** 13 17 38.5 +0.6
OGWZ Otaki Gorge 17.80 190 P **P** 13 17 36.7 -1.7
HOWZ Holdsworth Sta 17.83 189 P **P** 13 17 36.6 -2.1
KIW Kapiti Island 17.89 191 P **P** 13 17 37.8 -1.5
TMWZ Te Maipa 17.98 188 P **P** 13 17 38.6 -1.5
DUWZ D'Urville Isla 18.02 193 P **P** 13 17 40.3 -0.2
MTW Mount Morrison 18.08 189 P **P** 13 17 39.0 -2.1
CAW Cannon Point 18.10 190 P **P** 13 17 39.8 -1.4
PAWZ Paruwai Farm 18.31 189 P **P** 13 17 41.7 -1.5
TCW Tory Channel 18.34 192 P **P** 13 17 41.9 -1.5
TCW Tory Channel 18.34 192 P **P** 13 17 42.9 -0.5
SNZO South Karori 18.36 191 P **P** 13 17 41.9 -1.6
SNZO South Karori 18.36 191 ⇑P **P** 13 17 42.1 -1.4
SNZO ⇓S **S** 13 20 45.1 +2.1
MSWZ Moikau Station 18.37 190 P **P** 13 17 42.8 -0.9
BHW Baring Head 18.43 191 P **P** 13 17 42.5 -1.6
TKNZ Takaka Hill 18.46 195 P **P** 13 17 43.4 -1.1
PLWZ Palliser 18.52 190 P **P** 13 17 43.5 -1.6
NNZ Nelson 18.54 194 P **P** 13 17 44.2 -1.0
TUWZ Tuamarina 18.62 193 P **P** 13 17 44.8 -1.1

MRNZ Matariki Terra 18.86 195 P **P** 13 17 47.7 -0.4
CMWZ Cape Campbell 18.88 192 P **P** 13 17 47.5 -0.8
BSWZ Blackbirch Sta 18.91 193 P **P** 13 17 47.5 -1.0
THZ Tophouse 19.16 195 P **P** 13 17 50.1 -0.8
DSZ Denniston Nort 19.43 197 P **P** 13 17 53.3 0.0
RAR Rarotonga 19.49 88 P **P** 13 17 54.7 +0.6
comp=Z,71nm,0.9s,baz=248,slow=6.7,SNR=13
RAR ScP **ScP** 13 24 32.1 +0.6
comp=Z,37nm,0.8s,baz=227,slow=4.6,SNR=4.6
RAR Rarotonga 19.49 88 P **P** 13 17 53.6 -0.5
KHZ Kahutara 19.65 193 P **P** 13 17 53.7 -1.5
LHI Lord Howe Isla 19.71 241 P **P** 13 17 58.5 +2.5
baz=20,SNR=56
LHI Lord Howe Isla 19.71 241 ⇑P **P** 13 17 58.5 +2.5
LTZ Lake Taylor 20.28 195 P **P** 13 17 59.8 -1.2
INZ Inchbonnie 20.43 197 P **P** 13 18 01.6 -0.7
AMCZ Amberley 20.57 194 P **P** 13 18 02.5 -1.0
OXZ Oxford 20.85 195 P **P** 13 18 04.6 -1.5
MQZ McQueen's Vall 21.07 193 P **P** 13 18 07.0 -1.1
RPZ Rata Peaks 21.46 197 P **P** 13 18 10.9 -0.7
comp=Z,474nm,0.6s,baz=342,slow=1.4,SNR=82
RPZ S **S** 13 21 28.5 -3.9
comp=Z,220nm,0.9s,baz=148,slow=15,SNR=4.7
RPZ ScP **ScP** 13 24 35.9 -0.1
comp=Z,196nm,1.0s,baz=46,slow=1.8,SNR=6.4
RPZ ScS **ScS** 13 28 20.1 -0.7
comp=Z,168nm,1.2s,baz=175,slow=21,SNR=12
comp=Z,474nm,0.6s
RPZ Rata Peaks 21.46 197 P **P** 13 18 10.8 -0.9
FOZ Fox Glacier 21.64 199 P **P** 13 18 12.2 -1.0
ODZ Otahua Downs 22.81 196 P **P** 13 18 22.4 -1.2
ODZ Otahua Downs 22.81 196 ⇑P **P** 13 18 22.8 -0.8
WKZ Wanaka 23.05 199 P **P** 13 18 24.8 -1.1
HNR Honiara 23.09 304 P **P** 13 18 25.6 -0.9
comp=Z,9μm,0.6s,baz=208,slow=2.9,SNR=50
HNR ScP **ScP** 13 24 42.4 +1.7
comp=Z,962nm,0.7s,baz=248,slow=6.2,SNR=5.0
HNR Honiara 23.09 304 ⇑P **P** 13 18 25.7 -0.9
MLZ Mavora Lakes 23.82 200 P **P** 13 18 32.7 0.0
DCZ Deep Cove 24.21 201 P **P** 13 18 35.6 -0.5
WHZ Wether Hill Ro 24.34 199 P **P** 13 18 37.1 -0.1
TARA Tarawa 25.29 345 P **P** 13 18 45.1 -0.9
TARA Tarawa 25.29 345 ⇑P **P** 13 18 45.9 -0.1
ARMA Armidale 25.63 248 P **P** 13 18 50.6 +1.6
baz=26,SNR=341
ARMA Armidale 25.63 248 P **P** 13 18 48.8 -0.3
ARMA Armidale 25.63 248 ⇓P **P** 13 18 50.5 +1.4
EIDS Eidsvold 25.77 260 P **P** 13 18 50.8 +0.6
baz=26,SNR=324
EIDS Eidsvold 25.77 260 P **P** 13 18 50.3 +0.1
EIDS Eidsvold 25.77 260 ⇑P **P** 13 18 49.5 -0.7
RMQ Roma 27.85 257 P **P** 13 19 10.0 +1.6
baz=28,SNR=536
TBI Tubuai 28.66 96 *e*P **P** 13 19 17.0 +1.5
comp=Z,183nm,0.9s
TBI *e*pP **pP** 13 20 39.9 -4.5
comp=Z,342nm,1.1s
TBI *e*sP **sP** 13 21 49.8 +1.3
comp=Z,8μm,36.2s
TBI *e*S **S** 13 23 26.4 +0.6
comp=Z,7μm,30.0s
TBI *e*ScP **ScP** 13 24 56.7 -0.4
comp=Z,595nm,0.9s
TBI Tubuai 28.66 96 *e*T T 13 44 50.5
comp=Z,8.8nm,0.3s
CAN Canberra 28.89 239 P **P** 13 19 18.1 +0.7
CAN Canberra 28.89 239 ⇓P **P** 13 19 18.6 +1.2
CAN Canberra 28.89 239 P **P** 13 19 18.1 +0.7
MILA Mila 29.30 235 P **P** 13 19 22.3 +1.3
baz=29,SNR=38
MILA Mila 29.30 235 ⇑P **P** 13 19 21.9 +1.0
PPT2 Papeete2 29.68 85 *e*P **P** 13 19 24.3 -0.2
comp=Z,184nm,1.2s
PPT2 *e*pP **pP** 13 20 50.0 -3.4
comp=Z,332nm,1.5s
PPT2 *e*ScP **ScP** 13 25 00.1 -0.5
comp=Z,178nm,1.1s
PPT2 Papeete2 29.68 85 *e*T T 13 45 52.4
comp=Z,8.2nm,0.4s
PPT Papeete 29.69 85 P **P** 13 19 26.9 +2.4
comp=Z,114nm,0.8s,baz=42,slow=4.1,SNR=12
PPT ScP **ScP** 13 25 01.8 +1.3
comp=Z,134nm,0.8s,baz=358,slow=2.4,SNR=9.4
comp=Z,114nm,0.8s
PPTF Pamatai, Papee 29.69 85 P **P** 13 19 25.0 +0.4
PPTF IAmb IAmb 13 20 55.2
comp=Z,901nm,1.7s
TIAR Tiarei 29.90 85 *e*P **P** 13 19 27.3 +1.0
comp=Z,36nm,1.1s
TIAR *e*pP **pP** 13 20 53.1 -2.2
comp=Z,16nm,0.9s
TIAR *e*ScP **ScP** 13 25 01.7 +0.5
comp=Z,27nm,0.8s
TVO Taravao 29.93 85 *e*P **P** 13 19 26.5 -0.1
comp=Z,97nm,1.0s
TVO *e*pP **pP** 13 20 53.0 -2.5
comp=Z,256nm,1.5s
TVO *e*ScP **ScP** 13 25 01.4 +0.1
comp=Z,44nm,0.8s
TVO Taravao 29.93 85 *e*T T 13 46 00.5
comp=Z,1.8nm,0.3s
CTA Charters Tower 30.83 270 P **P** 13 19 34.8 +0.5
comp=Z,1μm,0.4s,baz=96,slow=11,SNR=1045
CTA PcP **PcP** 13 22 14.9 +1.0
comp=Z,52nm,0.7s,baz=172,slow=1.9,SNR=3.1
CTA S **S** 13 24 00.0 +0.7
comp=Z,30nm,1.0s,baz=207,slow=22,SNR=12
CTA ScP **ScP** 13 25 06.9 +2.6
comp=Z,77nm,1.0s,baz=178,slow=3.0,SNR=6.2
CTA PKiKP **PKiKP** 13 29 43.1 -0.3
comp=Z,3.5nm,0.6s,baz=268,slow=21,SNR=3.2
comp=Z,1μm,0.4s
CTAO Charters Tower 30.83 270 P **P** 13 19 34.8 +0.5
CTAO Charters Tower 30.83 270 ⇓P **P** 13 19 34.7 +0.5
CTAO Charters Tower 30.83 270 P **P** 13 19 34.8 +0.5
CTAO pmax pmax
comp=Z,3μm,1.0s
CTAO Charters Tower 30.83 270 P **P** 13 19 35.0 +0.7
CTAO pP **pP** 13 21 06.3 +1.8
CTAO ScP **ScP** 13 25 06.6 +2.3
CMSA Cobar Meteorol 30.84 247 P **P** 13 19 34.8 +0.6
baz=31,SNR=688
MEH Mehetia 30.99 86 *e*P P 13 19 27.6 -8.1
comp=Z,184nm,1.1s
MEH *e*pP pP 13 20 53.3 -12
comp=Z,86nm,0.9s
MEH *e*ScP **ScP** 13 25 01.8 -3.0
comp=Z,135nm,0.8s
QLP Quilpie 31.90 257 P **P** 13 19 43.7 +0.3
baz=32,SNR=525
QLP Quilpie 31.90 257 ⇓P **P** 13 19 43.6 +0.3
VAH Vaihoa 32.18 82 *e*P **P** 13 19 43.3 -2.5
comp=Z,146nm,1.0s
VAH *e*ScP **ScP** 13 25 09.4 +0.5
comp=Z,189nm,0.9s
TOO Toolangi 32.23 236 P **P** 13 19 46.9 +0.8
baz=32,SNR=392
TOO Toolangi 32.23 236 P **P** 13 19 46.7 +0.6
TOO IAmb IAmb 13 19 50.0
comp=Z,802nm,1.4s
TOO Toolangi 32.23 236 ⇓P **P** 13 19 46.9 +0.8
TOO ⇑S **S** 13 24 21.0 +0.6
TOO Toolangi 32.23 236 P **P** 13 19 46.7 +0.6
TOO pmax pmax
comp=Z,802nm,1.4s
KRVT Keravat (AS076 32.41 302 P **P** 13 19 47.7 0.0
comp=Z,1μm,0.7s,baz=347,slow=2.1,SNR=60
comp=Z,1μm,0.7s
MOO Moorlands 32.76 227 P **P** 13 19 51.6 +1.3
baz=33,SNR=22
TAU Tasmania Unive 32.87 226 P **P** 13 19 51.7 +0.4
TAU IAmb IAmb 13 19 54.3
comp=Z,850nm,1.6s
TAU Tasmania Unive 32.87 226 ⇓P **P** 13 19 52.0 +0.6
TAU Tasmania Unive 32.87 226 P **P** 13 19 51.7 +0.4
TAU pmax pmax
comp=Z,850nm,1.7s
TAU Tasmania Unive 32.87 226 P **P** 13 19 51.9 +0.6
TAU pP **pP** 13 21 23.8 +0.9
TAU ScP **ScP** 13 25 12.3 +1.4
PMG Port Moresby 33.69 289 P **P** 13 19 58.6 +0.1
comp=Z,2μm,1.0s,baz=85,slow=5.1,SNR=260
PMG ScP **ScP** 13 25 15.9 +1.7
comp=Z,127nm,1.0s,baz=42,slow=1.9,SNR=10
comp=Z,2μm,1.0s
PMG Port Moresby 33.69 289 P **P** 13 19 58.3 -0.3

PMG Port Moresby 33.69 289 *d*iP **P** 13 19 58.5 -0.1
PMG pmax pmax
comp=Z,2μm,1.1s
PMG Port Moresby 33.69 289 P **P** 13 19 58.7 +0.1
PMG ScP **ScP** 13 25 17.2 +2.9
XMAS Kiritimati 33.88 45 P **P** 13 20 00.2 0.0
XMAS Kiritimati 33.88 45 ⇑P **P** 13 20 00.9 +0.7
XMAS Kiritimati 33.88 45 P **P** 13 20 00.8 +0.6
XMAS pP **pP** 13 21 33.1 +0.2
XMAS ScP **ScP** 13 25 16.2 +1.3
STKA Stephens Creek 34.35 247 P **P** 13 20 04.6 +0.7
comp=Z,395nm,0.8s,baz=89,slow=9.9,SNR=209
STKA PcP **PcP** 13 22 25.3 +1.5
comp=Z,49nm,0.6s,baz=44,slow=6.8,SNR=3.2
STKA ScP **ScP** 13 25 18.6 +2.2
comp=Z,16nm,0.4s,baz=94,slow=4.6,SNR=4.8
STKA PKiKP **PKiKP** 13 29 45.6 0.0
comp=Z,11nm,1.1s,baz=181,slow=1.4,SNR=3.2
STKA P3KPbc 13 50 49.8
comp=Z,4.2nm,0.9s,baz=319,slow=8.6,SNR=4.9
comp=Z,395nm,0.8s
STKA Stephens Creek 34.35 247 P **P** 13 20 04.6 +0.7
baz=34,SNR=246
STKA Stephens Creek 34.35 247 P **P** 13 20 04.2 +0.3
STKA Stephens Creek 34.35 247 *ce*P **P** 13 20 03.9 0.0
MCQ Macquarie Isla 34.67 201 P **P** 13 20 07.0 +0.8
MCQ IAmb IAmb 13 20 09.1
comp=Z,348nm,0.9s
MCQ Macquarie Isla 34.67 201 P **P** 13 20 07.0 +0.8
MCQ pmax pmax
comp=Z,349nm,1.0s
ARPS Mount Arapiles 34.87 239 P **P** 13 20 08.6 +0.5
baz=35,SNR=138
PATS Pohnpei 36.31 323 P **P** 13 20 20.9 +0.6
baz=36,SNR=7.7
PATS Pohnpei 36.31 323 P **P** 13 20 20.1 -0.2
HTT Hallett 36.73 245 P **P** 13 20 23.9 +0.2
baz=37,SNR=229
HTT Hallett 36.73 245 ⇓P **P** 13 20 23.8 +0.1
QIS Mount Isa 36.84 266 P **P** 13 20 24.2 -0.5
baz=37,SNR=208
MANU Manus Island 37.47 300 P **P** 13 20 29.3 -0.5
MANU Manus Island 37.47 300 ⇑P **P** 13 20 29.7 -0.2
BBOO Buckleboo 39.09 246 P **P** 13 20 42.6 -0.2
baz=39,SNR=165
BBOO Buckleboo 39.09 246 P **P** 13 20 42.1 -0.7
BBOO IAmb IAmb 13 20 45.2
comp=Z,508nm,0.8s
TAOE Nuku Hiva Isla 41.37 76 *e*P **P** 13 21 01.3 -0.1
comp=Z,581nm,1.3s
TAOE *e*ScP **ScP** 13 25 40.9 -2.7
comp=Z,355nm,0.8s
TAOE Nuku Hiva Isla 41.37 76 P **P** 13 21 02.5 +1.1
TAOE sP **sP** 13 23 41.0 -1.0
TAOE ScP **ScP** 13 25 44.6 +1.0
AS31 Alice Springs 41.49 260 P **P** 13 21 01.8 -0.4
AS31 IAmb IAmb 13 21 05.3
comp=Z,279nm,0.9s
ASAR Alice Springs 41.49 260 P **P** 13 21 01.9 -0.3
comp=Z,825nm,0.9s,baz=93,slow=7.5,SNR=1029
ASAR PcP **PcP** 13 22 49.0 +2.5
comp=Z,74nm,0.8s,baz=108,slow=4.8,SNR=7.2
ASAR ScP **ScP** 13 25 45.8 +1.8
comp=Z,39nm,0.7s,baz=110,slow=3.8,SNR=7.3
ASAR S **S** 13 26 37.1 -1.0
comp=Z,70nm,1.1s,baz=93,slow=14,SNR=11
ASAR PKiKP **PKiKP** 13 29 50.6 -1.2
comp=Z,6.8nm,1.0s,baz=111,slow=2.0,SNR=3.6
ASAR ScS **SS** 13 30 04.4 +0.3
comp=Z,35nm,1.1s,baz=102,slow=6.8,SNR=5.6
ASAR P3KPbc 13 50 21.1
comp=Z,1.4nm,0.8s,baz=285,slow=3.7,SNR=9.4
comp=Z,825nm,0.9s
ASAR Alice Springs 41.49 260 P **P** 13 21 01.7 -0.5
WR0 Warramunga Arr 41.61 266 P **P** 13 21 02.1 -1.0
WR0 IAmb IAmb 13 21 05.2
comp=Z,777nm,1.1s
WB2 Warramunga Arr 41.79 266 P **P** 13 21 03.8 -0.8
WB0 Warramunga Arr 41.79 266 P **P** 13 21 03.6 -0.9
WRAB Tennant Creek 41.79 266 P **P** 13 21 03.6 -1.0
WRAB Tennant Creek 41.79 266 ⇓P **P** 13 21 03.5 -1.0
WRAB Tennant Creek 41.79 266 *d*iP **P** 13 21 03.7 -0.8
WRAB pmax pmax
comp=Z,1μm,1.1s
WRAB Tennant Creek 41.79 266 P **P** 13 21 03.7 -0.8
WRA Warramunga Arr 41.80 266 P **P** 13 21 03.6 -1.1
comp=Z,633nm,0.7s,baz=89,slow=5.8,SNR=872
WRA PcP **PcP** 13 22 49.8 +2.2
comp=Z,29nm,0.6s,baz=98,slow=5.1,SNR=6.6
WRA ScP **ScP** 13 25 46.6 +1.4
comp=Z,34nm,0.8s,baz=100,slow=4.3,SNR=10
WRA S **S** 13 26 39.9 -2.7
comp=Z,39nm,0.7s,baz=100,slow=14,SNR=9.2
WRA PKiKP **PKiKP** 13 29 51.3 -0.8
comp=Z,4.6nm,0.6s,baz=80,slow=0.5,SNR=7.6
WRA ScS **SS** 13 30 07.9 -1.2
comp=Z,68nm,1.3s,baz=98,slow=8.8,SNR=11
WRA P3KPbc 13 50 20.8
comp=Z,0.4nm,0.5s,baz=292,slow=2.4,SNR=5.2
comp=Z,633nm,0.7s
WRA Warramunga Arr 41.80 266 P **P** 13 21 03.6 -1.1
WRA Warramunga Arr 41.80 266 *i*P **P** 13 21 03.5 -1.1
WRA pmax pmax
comp=Z,185nm,0.3s
GENI Genyem 43.10 293 P **P** 13 21 14.7 -0.1
comp=Z,2μm,1.4s,comp=Z,23μmcomp=Z,21μm
WAKE Wake Island 44.09 343 P **P** 13 21 23.5 +1.2
SMPI Sarmi 44.65 292 P **P** 13 21 26.5 -0.3
comp=Z,882nm,1.4s,comp=Z,13μmcomp=Z,14μm
KDU Kakadu 45.59 275 P **P** 13 21 32.6 -1.3
baz=46,SNR=441
KDU Kakadu 45.59 275 ⇓P **P** 13 21 33.0 -0.9
FORT Forrest 45.91 249 P **P** 13 21 35.7 -0.6
baz=46,SNR=504
FORT Forrest 45.91 249 P **P** 13 21 35.3 -0.9
FORT Forrest 45.91 249 ⇓P **P** 13 21 35.5 -0.7
WRKA Warakurna 46.34 257 P **P** 13 21 39.1 -0.5
baz=46,SNR=678
WRKA Warakurna 46.34 257 ⇓P **P** 13 21 39.0 -0.5
MTN Manton Dam 46.77 274 P **P** 13 21 41.5 -1.4
baz=47,SNR=293
MTN Manton Dam 46.77 274 P **P** 13 21 41.5 -1.4
MTN IAmb IAmb 13 21 44.6
comp=Z,327nm,0.5s
MTN Manton Dam 46.77 274 ⇑P **P** 13 21 41.5 -1.4
SRPI Seruí, Papua 46.83 291 P **P** 13 21 43.7 +0.3
comp=Z,1μm,1.4s,comp=Z,13μmcomp=Z,10μm
KNRA Kununurra 48.04 270 P **P** 13 21 52.1 -0.3
baz=48,SNR=241
KNRA Kununurra 48.04 270 P **P** 13 21 51.8 -0.7
SAUI Saumlaki 48.42 280 P **P** 13 21 55.1 -0.2
SAUI Saumlaki 48.42 280 P **P** 13 21 55.9 +0.6
comp=Z,3μm,1.3s,comp=Z,33μmcomp=Z,20μm
RKPI Ransiki, Papua 48.79 290 P **P** 13 21 57.9 -0.1
comp=Z,543nm,1.1s,comp=Z,14μmcomp=Z,16μm
KHLU Kahalu`u 49.03 32 P **P** 13 21 59.5 -0.3
KHLU IAmb IAmb 13 22 04.7
comp=Z,382nm,0.9s
AIN Ainahou 49.06 32 P **P** 13 22 00.1 0.0
MWH Moku'aweowe 49.09 32 P **P** 13 22 00.0 -0.6
MLOA Mauna Loa Obse 49.14 32 P **P** 13 22 00.3 -0.6
STCH Steam Cracks 49.23 33 P **P** 13 22 00.5 -0.7
STCH IAmb IAmb 13 22 06.1
comp=Z,512nm,0.8s
POHA Pohakuloa 49.35 32 P **P** 13 22 02.0 -0.2
POHA IAmb IAmb 13 22 14.0
comp=Z,308nm,0.8s
POHA Pohakuloa 49.35 32 ⇓P **P** 13 22 02.7 +0.4
POHA Pohakuloa 49.35 32 P **P** 13 22 02.3 +0.1
POHA ScP **ScP** 13 26 18.7 +1.9
KEKH Kekaha 49.44 26 P **P** 13 22 02.6 0.0
KEKH IAmb IAmb 13 22 07.6
comp=Z,528nm,1.0s
HPAH Hawaii Prepara 49.50 32 P **P** 13 22 03.1 -0.1
HPAH IAmb IAmb 13 22 08.2
comp=Z,647nm,0.8s
MHA Mahukona 49.54 31 P **P** 13 22 03.1 -0.1
MHA Mahukona 49.54 31 P **P** 13 22 03.2 -0.1
KIP Kipapa 49.65 28 *e*P **P** 13 22 04.0 -0.1
KIP pmax pmax
comp=Z,274nm,1.7s
KIP Kipapa 49.65 28 P **P** 13 22 04.2 0.0
KIP ScP **ScP** 13 26 18.9 +1.2
FAKI Fak Fak 49.79 287 P **P** 13 22 04.0 -1.4
FAKI Fak Fak 49.79 287 P **P** 13 22 04.8 -0.6

comp=Z,748nm,1.5s,comp=Z,13μmcomp=Z,17μm
GUMO Guam 49.79 314 P **P** **13 22 05.8 +0.5**
comp=Z,987nm,0.6s,baz=166,slow=8.2,SNR=50
comp=Z,987nm,0.6s
GUMO Guam 49.79 314 P **P** **13 22 04.9 -0.4**
GUMO Guam 49.79 314 ⇑P **P** **13 22 05.1 -0.2**
GUMO Guam 49.79 314 P **P** **13 22 05.0 -0.4**
DRV Dumont d'Urvil 49.89 199 P **P** **13 22 05.4 +0.2**
DRV ScP **ScP** **13 26 17.6 -0.4**
FITZ Fitzroy Crossi 50.23 265 P **P** **13 22 08.3 -0.2**
BNDI Bandanaira 51.14 284 P **P** **13 22 15.1 -0.1**
comp=Z,2μm,1.8s,comp=Z,25μmcomp=Z,19μm
KMBL Kambalda 51.15 248 P **P** **13 22 14.3 -0.8**
baz=51,SNR=97
MIDW Midway 51.32 4 P **P** **13 22 15.3 -0.9**
SIJI Sorong 51.63 289 P **P** **13 22 18.3 -0.5**
comp=Z,949nm,0.7s,baz=96,slow=5.8,SNR=184
comp=Z,949nm,0.7s
MSAI Masohi 52.53 284 P **P** **13 22 24.5 -0.8**
comp=Z,131nm,0.6s,comp=Z,1μm
AAI Ambon 53.04 284 P **P** **13 22 27.7 -1.2**
comp=Z,2μm,1.4s,comp=Z,23μmcomp=Z,14μm
SOEI Soe 54.15 275 P **P** **13 22 36.5 -0.4**
SOEI Soe 54.15 275 P **P** **13 22 37.6 +0.7**
comp=Z,3μm,1.3s,comp=Z,33μmcomp=Z,16μm
NLAI Namlea 54.22 283 P **P** **13 22 36.4 -0.8**
comp=Z,664nm,1.4s,comp=Z,11μm
BATI Baumata 54.54 274 P **P** **13 22 40.0 +0.5**
comp=Z,914nm,1.2s,comp=Z,16μmcomp=Z,15μm
KLBR Kellerberrin 54.62 247 P **P** **13 22 39.2 -0.6**
baz=54,SNR=290
MEEK Meekatharra 54.66 253 P **P** **13 22 39.0 -1.2**
baz=55,SNR=150
MBWA Marble Bar 54.84 260 P **P** **13 22 40.4 -1.0**
MBWA IAmb IAmb 13 22 44.0
comp=Z,1μm,1.3s
MBWA Marble Bar 54.84 260 ⇓P **P** **13 22 40.6 -0.9**
MBWA Marble Bar 54.84 260 P **P** **13 22 40.8 -0.7**
MBWA Marble Bar 54.84 260 P **P** **13 22 40.6 -0.9**
MBWA pP **pP** **13 28.9 +2.4**
MBWA ScP **ScP** **13 26 41.0 +0.4**
NWAO Narrogin (SRO) 54.89 245 P **P** **13 22 41.3 -0.3**
comp=Z,176nm,0.7s
comp=Z,176nm,0.7s
NWAO Narrogin (SRO) 54.89 245 P **P** **13 22 41.2 -0.5**
baz=55,SNR=33
NWAO P **P** **13 22 41.2 -0.5**
baz=55,SNR=33
NWAO Narrogin (SRO) 54.89 245 P **P** **13 22 41.0 -0.7**
NWAO IAmb IAmb 13 22 44.0
comp=Z,1μm,1.6s
NWAO Narrogin (SRO) 54.89 245 P **P** **13 22 41.0 -0.7**
NWAO pmax pmax
comp=Z,1μm,1.6s
NWAO Narrogin (SRO) 54.89 245 P **P** **13 22 42.6 +0.9**
NWAO Narrogin (SRO) 54.89 245 P **P** **13 22 41.2 -0.5**
VNDA Vanda 54.91 185 P **P** **13 22 42.5 +1.4**
comp=Z,53nm,0.8s,baz=1.8,slow=7.8,SNR=98
VNDA ScP **ScP** **13 26 39.7 -0.1**
comp=Z,34nm,0.9s,baz=346,slow=3.9,SNR=7.7
comp=Z,53nm,0.8s
VNDA Vanda 54.91 185 P **P** **13 22 42.4 +1.3**
VNDA Vanda 54.91 185 P **P** **13 22 42.7 +1.7**
VNDA ScP **ScP** **13 26 39.4 -0.4**
RKGY Rocky Gully 54.92 243 P **P** **13 22 42.0 +0.2**
baz=55,SNR=19
SBA Scott Base 54.93 183 P **P** **13 22 42.6 +1.5**
SBA IAmb IAmb 13 22 46.5
comp=Z,941nm,1.2s
SBA Scott Base 54.93 183 P **P** **13 22 42.6 +1.5**
SBA pmax pmax
comp=Z,941nm,1.3s
SBA Scott Base 54.93 183 P **P** **13 22 44.3 +3.2**
SBA ScP **ScP** **13 26 40.3 +0.4**
BLDU Ballidu 55.65 248 P **P** **13 22 46.2 -0.7**
baz=56,SNR=360
SANI Sanana 55.74 284 P **P** **13 22 46.4 -1.4**
comp=Z,618nm,1.6s,comp=Z,13μmcomp=Z,16μm
TNTI Ternate 55.83 288 P **P** **13 22 47.8 -0.7**
TNTI IAmb IAmb 13 22 50.7
comp=Z,1μm,1.2s
TNTI Ternate 55.83 288 P **P** **13 22 47.7 -0.7**
comp=Z,1μm,1.4s,comp=Z,14μmcomp=Z,8μm
MUN Mundaring 55.87 246 P **P** **13 22 47.9 -0.6**
baz=56,SNR=137
MMRI Maumere 56.42 275 P **P** **13 22 51.7 -0.9**
MMRI IAmb IAmb 13 22 54.7
comp=Z,2μm,1.2s
MMRI Maumere 56.42 275 P **P** **13 22 51.9 -0.6**
comp=Z,1μm,1.5s,comp=Z,15μmcomp=Z,14μm
MORW Morawa 56.47 250 P **P** **13 22 52.0 -0.7**
baz=56,SNR=272
MORW Morawa 56.47 250 P **P** **13 22 51.8 -0.8**
MORW IAmb IAmb 13 22 55.5
comp=Z,862nm,1.2s
MORW Morawa 56.47 250 ⇓P **P** **13 22 51.9 -0.7**
H01W1 Cape Leeuwin H 57.20 243 P **P** **13 22 59.5 +2.3**
baz=110,slow=6.6,SNR=9.6
H01W2 Cape Leeuwin H 57.21 243 P **P** **13 22 58.7 +1.3**
baz=110,slow=6.6,SNR=11
H01W3 Cape Leeuwin H 57.21 243 P **P** **13 22 59.0 +1.7**
baz=110,slow=6.6,SNR=12
BBSI Bau Bau 57.35 279 P **P** **13 22 58.8 -0.1**
BASI Baing, Sumba 57.37 273 P **P** **13 23 00.0 +1.0**
comp=Z,3μm,1.5s,comp=Z,32μmcomp=Z,11μm
BSSI Bau Bau, Buton 58.98 277 P **P** **13 23 09.1 -0.8**
comp=Z,641nm,1.7s,comp=Z,11μmcomp=Z,12μm
LUWI Luwuk 59.06 284 P **P** **13 23 09.5 -0.9**
LUWI Luwuk 59.06 284 P **P** **13 23 10.1 -0.3**
comp=Z,1μm,1.4s,comp=Z,20μmcomp=Z,10μm
CCD Concordia, Ant 59.13 194 P **P** **13 23 10.7 +0.4**
CCD pP **pP** **13 24 57.9 0.0**
CCD ScP **ScP** **13 26 58.8 -0.2**
GIRL Giralia 59.42 257 P **P** **13 23 13.3 +0.6**
baz=59,SNR=87
GIRL Giralia 59.42 257 P **P** **13 23 12.4 -0.2**
GIRL Giralia 59.42 257 ⇑P **P** **13 23 13.4 +0.7**
GTOI Gorontalo 59.60 285 P **P** **13 23 13.9 -0.1**
comp=Z,373nm,1.4s,comp=Z,5μm
BKSI Bulukumba 59.64 278 P **P** **13 23 13.1 -1.2**
comp=Z,682nm,1.1s,comp=Z,9μmcomp=Z,10μm
BNSI Bone 60.03 279 P **P** **13 23 16.2 -0.7**
comp=Z,579nm,1.5s,comp=Z,9μmcomp=Z,6μm
KAPI Kappang 60.10 278 P **P** **13 23 16.6 -0.7**
KAPI IAmb IAmb 13 23 20.0
comp=Z,2μm,1.9s
KAPI Kappang 60.10 278 P **P** **13 23 16.6 -0.7**
KAPI pmax pmax
comp=Z,2μm,1.9s
KAPI Kappang 60.10 278 P **P** **13 23 17.0 -0.3**
KAPI Kappang 60.10 278 P **P** **13 23 16.7 -0.6**
KAPI pP **pP** **13 25 05.3 -0.2**
APSI Ampana 60.12 283 P **P** **13 23 17.3 -0.2**
comp=Z,1μm,1.3s,comp=Z,15μmcomp=Z,11μm
CASY Casey 60.36 206 P **P** **13 23 17.8 -0.3**
CASY IAmb IAmb 13 23 20.7
comp=Z,1μm,1.6s
CASY Casey 60.36 206 ⇓P **P** **13 23 17.9 -0.3**
CASY Casey 60.36 206 P **P** **13 23 17.6 -0.5**
CASY pP **pP** **13 25 08.6 +2.4**
CASY ScP **ScP** **13 27 03.9 -0.2**
PLAI Plampang 60.44 273 P **P** **13 23 18.7 -0.9**
comp=Z,2μm,1.2s,comp=Z,21μmcomp=Z,12μm
MRSI Marisa 60.48 285 P **P** **13 23 18.1 -1.7**
comp=Z,450nm,1.5s,comp=Z,8μmcomp=Z,10μm
SPSI Sidrap Palu 60.52 279 P **P** **13 23 18.4 -1.7**
comp=Z,367nm,1.4s,comp=Z,6μmcomp=Z,8μm
TWSI Taliwang, Sumb 61.30 273 P **P** **13 23 23.9 -1.3**
comp=Z,1μm,1.3s,comp=Z,17μmcomp=Z,11μm
JCJ Chichijima 61.62 322 P **P** **13 23 25.6 -1.3**
JCJ IAmb IAmb 13 23 29.6
comp=Z,530nm,0.7s
JCJ Chichijima 61.62 322 ⇑P **P** **13 23 26.5 -0.5**
TOLI2 Tolitoli 61.80 285 P **P** **13 23 27.1 -1.4**
TOLI2 IAmb IAmb 13 23 30.2
comp=Z,997nm,1.3s
MPSI Mapaga 62.24 283 P **P** **13 23 30.1 -1.2**
comp=Z,486nm,1.2s,comp=Z,11μmcomp=Z,9μm
DNP Denpasar 62.85 272 P **P** **13 23 36.0 +0.7**
comp=Z,1μm,1.6s
SRBI Singaraja 63.07 273 P **P** **13 23 35.7 -1.0**
comp=Z,764nm,2.1s,comp=Z,13μmcomp=Z,13μm
RPN Rapa Nui 63.89 110 P **P** **13 23 43.4 +1.6**
comp=Z,238nm,1.2s,baz=328,slow=8.3,SNR=6.9
comp=Z,238nm,1.2s
JAGI Jajag, Banyuwa 63.90 272 P **P** **13 23 41.2 -0.8**
JAGI Jajag, Banyuwa 63.90 272 P **P** **13 23 41.3 -0.8**
comp=Z,861nm,1.4s,comp=Z,11μmcomp=Z,9μm
ABJI Asem Bagus 64.08 273 P **P** **13 23 43.3 +0.2**
comp=Z,761nm,1.3s,comp=Z,12μmcomp=Z,13μm
BKB Balikpapan 64.25 280 P **P** **13 23 45.5 +1.3**
comp=Z,503nm,1.4s,comp=Z,11μmcomp=Z,15μm
GMJI Gumukmas 64.63 272 P **P** **13 23 45.8 -0.8**
comp=Z,499nm,1.3s,comp=Z,9μm
BLJI Banyuglugur 64.68 272 P **P** **13 23 46.2 -0.8**
comp=Z,669nm,1.6s,comp=Z,11μmcomp=Z,11μm
BBKI Banjar Baru 65.20 277 P **P** **13 23 50.2 -0.1**
comp=Z,1μm,1.3s,comp=Z,19μm
MYLDM Lahad Datu 65.70 287 ⇓P **P** **13 23 55.0 +1.7**
GRJI Gresik 66.02 273 P **P** **13 23 54.8 -0.5**
comp=Z,2μm,1.2s,comp=Z,23μmcomp=Z,9μm
MTKI Muara Teweh, K 66.19 280 P **P** **13 23 56.3 -0.1**
comp=Z,405nm,1.5s,comp=Z,9μmcomp=Z,10μm
PWJI Pagerwojo 66.23 271 P **P** **13 23 56.6 0.0**
comp=Z,625nm,1.5s,comp=Z,9μm
BWJI Bawean 66.26 274 P **P** **13 23 56.4 -0.4**
comp=Z,514nm,1.5s,comp=Z,8μm
QSPA South Pole Qui 66.77 180 P **P** **13 24 00.6 +1.4**
comp=Z,699nm,1.1s,baz=20,slow=1.5,SNR=648
QSPA S **S** **13 32 10.1 +2.4**
comp=Z,26nm,1.0s,baz=58,slow=20,SNR=15
comp=Z,699nm,1.1s
QSPA South Pole Qui 66.77 180 P **P** **13 24 00.4 +1.1**
QSPA South Pole Qui 66.77 180 P **P** **13 24 00.8 +1.6**
NGJI Ngawi 66.78 272 P **P** **13 24 02.2 +2.1**
comp=Z,571nm,1.4s,comp=Z,10μm
UGM Wanagama 67.44 271 P **P** **13 24 03.4 -0.8**
UGM Wanagama 67.44 271 P **P** **13 24 03.2 -1.0**
comp=Z,712nm,1.1s,comp=Z,11μmcomp=Z,11μm
JMZ Minamidaito 2 67.46 313 P **P** **13 24 03.7 -0.2**
JMZ IAmb IAmb 13 24 25.1
comp=Z,777nm,1.2s
JMZ Minamidaito 2 67.46 313 P **P** **13 24 04.6 +0.7**
JMZ Minamidaito 2 67.46 313 ⇓P **P** **13 24 04.8 +0.8**
JHJ2 Minamidaito 2 67.56 325 ⇑P **P** **13 24 05.8 +1.4**
UWJI Ujung Watu 67.61 273 P **P** **13 24 05.2 0.0**
comp=Z,832nm,1.3s,comp=Z,14μm
YOGI Yogyakarta 67.69 271 P **P** **13 24 06.1 +0.5**
comp=Z,639nm,1.4s,comp=Z,8μm
SMRI Semarang 67.84 272 P **P** **13 24 06.9 +0.3**
comp=Z,777nm,1.6s,comp=Z,12μmcomp=Z,14μm
KKM Kota Kinabalu 68.11 287 P **P** **13 24 07.8 -0.5**
KKM Kota Kinabalu 68.11 287 ⇑P **P** **13 24 08.2 -0.1**
PBKI Pangkalan Bun 68.41 277 P **P** **13 24 10.8 +0.8**
comp=Z,2μm,1.3s,comp=Z,16μm
KPJI Kang Pucung 69.12 271 P **P** **13 24 13.8 -0.5**
comp=Z,503nm,1.4s,comp=Z,9μm
CMJI Cimerak 69.40 270 P **P** **13 24 15.1 -0.8**
comp=Z,565nm,1.0s,comp=Z,8μmcomp=Z,8μm
JSG Sagara 69.63 325 ⇑P **P** **13 24 18.4 +1.7**
JCJI Jatiwangi 70.05 271 P **P** **13 24 19.3 -0.5**
comp=Z,1μm,1.2s,comp=Z,20μmcomp=Z,12μm
SBUM Sibu 70.06 282 P **P** **13 24 19.5 -0.4**
SBUM IAmb IAmb 13 24 22.9
comp=Z,488nm,1.4s
SBUM Sibu 70.06 282 ⇑P **P** **13 24 20.0 +0.2**
SBUM ⇓P **P** **13 24 20.4 +0.5**
JOW Kunigami 70.11 312 P **P** **13 24 20.0 +0.1**
JOW Kunigami 70.11 312 P **P** **13 24 20.3 +0.4**
JOW Kunigami 70.11 312 ⇓P **P** **13 24 20.3 +0.4**
JRY Ryogami san 70.28 326 P **P** **13 24 20.6 -0.1**
LEM Lembang 70.52 271 P **P** **13 24 22.4 -0.4**
comp=Z,1μm,1.2s,comp=Z,16μmcomp=Z,9μm
INU Inuyama 70.76 324 P **P** **13 24 23.8 +0.3**
INU IAmb IAmb 13 24 26.6
comp=Z,812nm,1.7s
INU Inuyama 70.76 324 ⇑P **P** **13 24 24.4 +0.9**
INU Inuyama 70.76 324 P **P** **13 24 23.8 +0.3**
INU pP **pP** **13 26 15.2 -2.2**
JGF Kuroka 70.77 325 ⇑P **P** **13 24 23.8 +0.1**
CNJI Cibinong 70.79 270 P **P** **13 24 22.5 -1.7**
comp=Z,342nm,1.2s,comp=Z,4μmcomp=Z,3μm
JMM Marumori 70.79 329 P **P** **13 24 23.9 +0.3**
JMM Marumori 70.79 329 ⇓P **P** **13 24 24.9 +1.3**
XMI Christmas Isla 70.97 267 ⇓P **P** **13 24 25.5 +0.3**
MJAR Matsushiro Arr 71.04 326 P **P** **13 24 24.7 -0.4**
comp=Z,142nm,0.8s,baz=160,slow=5.9,SNR=114
comp=Z,142nm,0.8s
MAJO Matsushiro 71.05 326 P **P** **13 24 24.6 -0.6**
MAJO Matsushiro 71.05 326 ⇓P **P** **13 24 25.1 -0.1**
MAJO Matsushiro 71.05 326 *d* iP **P** **13 24 26.1 +0.9**
MAJO pmax pmax
comp=Z,243nm,0.9s
MAJO Matsushiro 71.05 326 P **P** **13 24 25.0 -0.2**
MJB9 Matsu-Tunnel 71.05 326 P **P** **13 24 24.4 -0.8**
JMN Monobe 71.31 321 P **P** **13 24 27.5 +0.7**
JMN Monobe 71.31 321 ⇓P **P** **13 24 27.6 +0.7**
CBJI Citeko 71.38 271 P **P** **13 24 26.2 -1.4**
comp=Z,735nm,1.5s,comp=Z,12μm
SKJI Sukabumi 71.43 270 P **P** **13 24 26.2 -1.7**
comp=Z,339nm,1.0s,comp=Z,4μm
JWT Wachi 71.59 323 P **P** **13 24 28.7 +0.4**
TNG Tangerang 71.66 271 P PcP 13 24 35.7 -8.9
comp=Z,870nm,1.7s,comp=Z,19μm
TNG P **P** **13 24 29.0 -0.3**
comp=Z,1μm,1.7s,comp=Z,29μm
JSU Suzuyama 71.81 317 ⇑P **P** **13 24 29.8 +0.1**
JOM Ohasama 71.84 330 P **P** **13 24 30.8 +1.0**
JAD Aida 72.03 322 P **P** **13 24 31.5 +0.6**
TPI Tanjungpandan 72.06 275 P **P** **13 24 30.4 -1.2**
SBJI Serang 72.16 271 P **P** **13 24 31.5 -0.6**
comp=Z,766nm,1.5s,comp=Z,10μm
YOJ Yonaguni jima 72.36 307 P **P** **13 24 32.7 -0.3**
YOJ Yonaguni jima 72.36 307 ⇓P **P** **13 24 33.8 +0.7**
YOJ Yonaguni jima 72.36 307 P **P** **13 24 32.7 -0.3**
YOJ pmax pmax
comp=Z,1μm,1.2s
CGJI Cibinong 72.37 270 P **P** **13 24 31.5 -1.9**
comp=Z,764nm,0.9s,comp=Z,10μm
JNU Nakatsue 72.66 319 P **P** **13 24 34.5 -0.1**
JNU Nakatsue 72.66 319 ⇑P **P** **13 24 34.9 +0.2**
JHS Saijyo 72.66 322 ⇓P **P** **13 24 35.6 +1.1**
JHS ⇓P **P** **13 24 35.7 +1.1**
JTM Tenmabayashi 73.00 331 P **P** **13 24 36.5 +0.1**
JTM IAmb IAmb 13 24 39.7
comp=Z,807nm,1.3s
JTM Tenmabayashi 73.00 331 ⇑P **P** **13 24 36.9 +0.6**
ERM Erimo 73.08 333 ⇓P **P** **13 24 38.5 +1.7**
ERM ⇑P **P** **13 24 39.1 +2.3**
ERM Erimo 73.08 333 *d* iP **P** **13 24 38.9 +2.1**
ERM pmax pmax
comp=Z,172nm,0.9s
NACB Ninganchiao 73.23 306 P **P** **13 24 37.1 -1.0**
BLSI Bandar Lampung 73.25 271 P **P** **13 24 37.4 -1.1**
comp=Z,491nm,1.5s,comp=Z,7μm
TPUB Ta-pu 73.45 305 P **P** **13 24 37.8 -1.6**
TPUB IAmb IAmb 13 24 40.3
comp=Z,314nm,0.8s
SSLB Suanglung 73.49 306 P **P** **13 24 38.0 -1.6**
SSLB IAmb IAmb 13 24 40.6
comp=Z,274nm,0.9s
YHNB Yeheng 73.68 307 P **P** **13 24 39.7 -1.0**
YHNB IAmb IAmb 13 24 42.8
comp=Z,643nm,1.2s
PPBI Pangkal Pinang 73.68 275 P **P** **13 24 41.3 +0.4**
comp=Z,439nm,1.7s,comp=Z,20μmcomp=Z,9μm
YUK Yuzh-Kuril'sk 73.69 336 *d* iP **P** **13 24 42.2 +2.0**
TATO Taipei 73.78 307 P **P** **13 24 41.2 0.0**
KLI Kotabumi 73.81 272 P **P** **13 24 40.1 -1.5**
comp=Z,465nm,1.2s,comp=Z,8μmcomp=Z,7μm
KASI Kota Agung 73.88 271 P **P** **13 24 40.2 -1.8**
comp=Z,532nm,1.2s,comp=Z,8μmcomp=Z,7μm
LWLI Liwa 74.48 271 P **P** **13 24 44.6 -1.0**
comp=Z,552nm,0.7s,comp=Z,11μmcomp=Z,7μm
JTU Tsushima 74.51 319 ⇓P **P** **13 24 45.7 +0.6**
JTU ⇓P **P** **13 24 46.8 +1.7**
MDSI Maura Dua 74.57 272 P **P** **13 24 44.2 -1.7**
comp=Z,316nm,2.0s,comp=Z,6μmcomp=Z,7μm
PMBI Palembang 74.63 273 P **P** **13 24 45.7 -0.6**
comp=Z,662nm,1.4s,comp=Z,10μmcomp=Z,7μm
JMP Maruseppu 74.65 334 P **P** **13 24 46.8 +1.1**
KIWB Kanaga Island 74.90 2 P **P** **13 24 47.4 +0.6**
JSH Shimam 74.94 331 P **P** **13 24 49.0 +1.7**
ADK Adak 74.95 3 P **P** **13 24 46.5 -0.6**
ADK Adak 74.95 3 ⇑P **P** **13 24 46.5 -0.6**
ADK Adak 74.95 3 P **P** **13 24 46.5 -0.6**
ADK pmax pmax
comp=Z,2μm,1.6s
JKA Kamikawa-asahi 75.05 334 P **P** **13 24 48.3 +0.4**
JKA Kamikawa-asahi 75.05 334 ⇑P **P** **13 24 49.6 +1.8**
ASAJ Asahikawa 75.05 334 P **P** **13 24 48.3 +0.4**
ASAJ pmax pmax
comp=Z,3μm,2.0s
GSTR Great Sitkin T 75.19 3 P **P** **13 24 48.9 +0.4**
MNAI Manna 75.75 271 P **P** **13 24 51.6 -0.9**
comp=Z,495nm,1.7s,comp=Z,17μmcomp=Z,10μm
DSRI Dabo 75.78 276 P **P** **13 24 52.7 0.0**
comp=Z,335nm,1.5s,comp=Z,7μmcomp=Z,8μm
SHEM Shemya Is, Ala 75.85 357 P **P** **13 24 52.5 +0.4**
comp=Z,158nm,0.5s,baz=5.6,slow=3.2,SNR=22
comp=Z,158nm,0.5s
QZH Quanzhou 75.91 305 ⇓ *i* P **P** **13 24 53.7 +0.6**
QZH pP **pwP** **13 26 52.7 -1.0**
QZH sP **sP** **13 27 43.5 -1.8**
QZH S **S** **13 33 49.5 -1.7**
QZH ScS **ScS** **13 34 14.2 -2.1**
QZH pmax pmax
comp=Z,250nm,1.5s
QZH pmax pmax
comp=Z,3μm,5.1s
JMBI JAMBI 76.18 274 P **P** **13 24 56.1 +1.2**
comp=Z,663nm,1.4s,comp=Z,10μm
KSI Kapahiang 76.35 272 P **P** **13 24 54.3 -1.6**
comp=Z,603nm,1.1s,comp=Z,12μm
TPRI Tanjung Pinang 76.39 277 P **P** **13 24 56.1 +0.1**
comp=Z,313nm,1.2s,comp=Z,7μmcomp=Z,8μm
SKR Severo-Kuril's 76.46 345 *e* P **P** **13 24 56.1 +0.6**
SKR *e* 13 34 21.7
SKR pmax pmax
comp=Z,500nm,4.2s
SKR pmax pmax
comp=Z,900nm,3.7s
NIKH Nikolsk High 76.65 7 P **P** **13 24 55.3 -1.2**
baz=191
MASI Maura Aman, Be 76.88 272 P **P** **13 24 58.0 -0.7**
comp=Z,450nm,1.3s,comp=Z,6μmcomp=Z,3μm
TJN Taejon 76.99 319 *de* P **P** **13 24 59.9 +1.2**
BELA Belgrano 2 77.10 173 P **P** **13 24 59.1 +0.3**
BELA IAmb IAmb 13 25 01.4
comp=Z,560nm,1.2s
YSS Yuzh-Sakhalins 77.33 335 P **P** **13 25 00.7 +0.4**
YSS IAmb IAmb 13 25 04.3
comp=Z,416nm,0.7s
YSS Yuzh-Sakhalins 77.33 335 ⇑P **P** **13 25 01.5 +1.2**
YSS Yuzh-Sakhalins 77.33 335 ⇓ *e* P **P** **13 25 01.8 +1.5**
YSS *e**PP **pwP** **13 27 00.2 -0.5**
YSS *e**SP **sP** **13 27 56.7 +3.5**
YSS *e* 13 28 10.3
YSS *e*S **S** **13 34 07.9 +2.6**
YSS *e* 13 34 29.5
YSS *e*SS **SS** **13 39 20.0 -0.3**
YSS pmax pmax
comp=Z,5μm,4.0s
YSS pmax pmax
comp=N,1μm,3.5s
YSS pmax pmax
comp=Z,510nm,0.6s
YSS smax smax
comp=E,5μm,6.5s
MYKOM Kota Tinggi 77.36 277 P **P** **13 25 01.0 -0.4**
MYKOM IAmb IAmb 13 25 04.0
comp=Z,1μm,1.6s
MYKOM Kota Tinggi 77.36 277 ⇑P **P** **13 25 01.4 +0.1**
MYKOM ⇓P **P** **13 25 01.7 +0.3**
KSRS Korea Array 77.38 320 P **P** **13 25 01.6 +0.8**
comp=Z,104nm,0.8s,baz=134,slow=5.8,SNR=152
comp=Z,104nm,0.8s
KSAR Wonju Array Be 77.39 320 P **P** **13 25 01.0 +0.1**
KSAR Wonju Array Be 77.39 320 P **P** **13 25 01.0 +0.1**
KS19 Wonju Array Si 77.44 320 P **P** **13 25 00.5 -0.8**
SSE Sheshan 77.61 312 P **P** **13 25 03.5 +1.3**
SSE PP **PP** **13 28 06.5 -1.4**
SSE S **S** **13 34 08.3 -0.7**
SSE pmax pmax
comp=Z,58nm,1.3s
SSE pmax pmax
comp=Z,1μm,6.0s
UNV Unalaska Valle 77.81 9 P **P** **13 25 02.5 -0.3**
baz=193,SNR=11
MAW Mawson 78.08 201 P **P** **13 25 05.2 +1.1**
comp=Z,175nm,1.0s,baz=123,slow=7.0,SNR=81
MAW S **S** **13 34 12.3 -0.4**
comp=Z,7.7nm,1.0s,baz=284,slow=20,SNR=3.4
comp=Z,175nm,1.0s
MAW Mawson 78.08 201 P **P** **13 25 05.0 +0.8**
baz=78,SNR=72
MAW Mawson 78.08 201 P **P** **13 25 04.9 +0.8**
MAW Mawson 78.08 201 ⇑P **P** **13 25 05.3 +1.1**
PET Petropavlovsk 78.10 347 P **P** **13 25 03.7 -0.6**
PET Petropavlovsk 78.10 347 ⇑P **P** **13 25 04.1 -0.2**
PET Petropavlovsk 78.10 347 *e* P **P** **13 25 04.1 -0.2**
PET *e**PP **pP** **13 27 01.2 +0.4**
PET *e* 13 27 58.1
PET *i* S **S** **13 34 13.7 +0.6**
PET *e*SP **SPn** **13 34 55.4 -3.5**
PET *e*SPP SPP 13 35 29.4
PET *e*SSS SSS 13 42 52.8
PET pmax pmax
comp=Z,3μm,4.5s
PET pmax pmax
comp=Z,332nm,0.7s
PET pmax pmax
comp=Z,900nm,5.2s
PET pmax pmax
comp=Z,1μm,5.4s
INCN Inchon 78.16 320 ⇓P **P** **13 25 06.3 +1.2**
INCN Inchon 78.16 320 P **P** **13 25 05.9 +0.8**
AKUT Akutan 78.19 9 ⇑P **P** **13 25 04.3 -0.5**
TEY Ternei 78.36 331 ⇓ *e* P **P** **13 25 07.8 +1.9**
TEY *e* 13 34 21.2
TEY pmax pmax
comp=N,100nm,4.5s
TEY pmax pmax
comp=E,100nm,4.5s
TEY pmax pmax
comp=Z,500nm,4.5s
TEY pmax pmax
comp=N,10.0nm,1.5s
TEY pmax pmax
comp=E,10.0nm,1.5s
TEY pmax pmax
comp=Z,30nm,1.5s
TEY pmax pmax
comp=E,200nm,11.7s
TEY pmax pmax
comp=N,200nm,10.2s
PEA0B Petropavlovsk- 78.38 347 P **P** **13 25 05.9 +0.1**
PEA0B Petropavlovsk- 78.38 347 *ce* P **P** **13 25 07.0 +1.2**
PETK Petropavlovsk- 78.38 347 P **P** **13 25 05.9 +0.1**
comp=N,173nm,0.6s,baz=89,slow=8.1,SNR=178
PETK PKiKP **PKiKP** **13 30 35.5 -0.9**
comp=N,4.0nm,0.6s,baz=116,slow=2.8,SNR=18
comp=N,173nm,0.6s
SDSI Sungai Dareh 78.49 274 P **P** **13 25 04.9 -2.5**
comp=N,138nm,1.7s,comp=N,3μmcomp=N,7μm
HJU Haeju 79.07 320 P **P** **13 25 10.7 +0.9**
HJU AmB
comp=Z,2μm,1.7s
PPSI Pulau Pagai 79.07 272 P **P** **13 25 10.9 +0.4**
comp=Z,690nm,1.5s,comp=Z,12μm
FALS False Pass 79.25 10 P **P** **13 25 08.0 -2.4**
baz=196
HHU Hamhung 79.28 322 P **P** **13 25 11.9 +1.0**
HHU AmB
comp=Z,3μm,1.8s
BKNI Bangkinang 79.34 275 P **P** **13 25 11.7 -0.2**
BKNI IAmb IAmb 13 25 14.9
comp=Z,842nm,1.4s
BKNI Bangkinang 79.34 275 P **P** **13 25 11.9 0.0**
comp=Z,469nm,1.4s,comp=Z,8μmcomp=Z,8μm
UGL Uglegorsk 79.34 336 ⇑ *i* P **P** **13 25 12.8 +1.8**
UGL *e*S **S** **13 34 28.0 +1.8**
UGL pmax pmax
comp=Z,4μm,4.0s
UGL pmax pmax
comp=Z,500nm,0.9s
UGL smax smax
comp=E,6μm,9.6s
UGL smax smax
comp=N,3μm,8.4s
PDSI Padang 79.38 274 P **P** **13 25 10.2 -2.0**
comp=N,183nm,1.6s,comp=N,4μmcomp=N,6μm
PMSA Palmer Station 79.71 157 P **P** **13 25 14.5 +1.7**
comp=N,207nm,1.0s,baz=231,slow=5.0,SNR=18
comp=N,207nm,1.0s
PMSA Palmer Station 79.71 157 P **P** **13 25 14.0 +1.1**
PMSA IAmb IAmb 13 25 16.5

comp=Z,457nm,1.1s
PMSA Palmer Station 79.71 157 ⇑P **P** **13 25 15.2 +2.3**
PMSA Palmer Station 79.71 157 *e*P **P** **13 25 14.2 +1.4**
PYAG Pyongyang 79.71 320 P **P** **13 25 14.4 +1.2**
PYAG AmB
comp=Z,2μm,2.1s
QIZ Qiongzhong 79.76 296 ⇓*i*P **P** **13 25 15.1 +1.2**
QIZ pP **pP** **13 27 09.0 -2.0**
QIZ sP **sP** **13 28 07.1 -0.3**
QIZ PP **PP** **13 28 26.0 +0.4**
QIZ S **S** **13 34 32.6 +0.8**
QIZ sS **sS** **13 38 03.6 +2.8**
QIZ pmax pmax
comp=Z,100nm,1.5s
QIZ pmax pmax
comp=Z,2μm,4.2s
NJ2 Nanjing 79.78 311 ⇑*i*P **P** **13 25 14.9 +1.1**
NJ2 PcP **PcP** **13 25 21.7 +2.4**
NJ2 sP **sP** **13 28 08.4 +1.2**
NJ2 PP **PP** **13 28 24.4 -1.2**
NJ2 S **S** **13 34 31.6 +0.1**
NJ2 SS **SS** **13 39 57.1 -0.2**
NJ2 pmax pmax
comp=Z,250nm,1.1s
NJ2 pmax pmax
comp=Z,4μm,4.4s
USRK Ussuriysk Ar. 79.92 328 P **P** **13 25 15.2 +1.0**
comp=Z,198nm,0.9s,baz=129,slow=3.2,SNR=164
comp=Z,198nm,0.9s
USRK Ussuriysk Ar. 79.92 328 P **P** **13 25 14.8 +0.6**
USA0B Ussuriysk Arra 79.92 328 P **P** **13 25 15.0 +0.8**
USA0B IAmb IAmb 13 25 18.0
comp=Z,2μm,1.8s
USA0B Ussuriysk Arra 79.92 328 P **P** **13 25 15.0 +0.8**
USA0B pmax pmax
comp=Z,2μm,1.8s
SDPT Sand Point 80.22 12 P **P** **13 25 16.2 +0.7**
SDPT IAmb IAmb 13 25 17.1
comp=Z,801nm,1.5s
SDPT Sand Point 80.22 12 P **P** **13 25 12.8 -2.7**
baz=199,SNR=6.2
S12K Black Hills 80.28 11 P **P** **13 25 14.2 -1.7**
baz=197,SNR=11
S12K S **S** **13 34 33.6 -2.0**
baz=197
TYV Tymovskoe 80.61 337 *e*P **P** **13 25 20.1 +2.5**
TYV *e*S **S** **13 34 40.7 +1.7**
TYV pmax pmax
comp=Z,350nm,1.2s
TYV pmax pmax
comp=Z,3μm,2.4s
TYV smax smax
comp=N,2μm,5.4s
TYV smax smax
comp=E,5μm,5.4s
SPIA Saint Paul Isl 80.65 6 P **P** **13 25 16.1 -1.6**
baz=190
MNSI Mandailing Nat 80.87 275 P **P** **13 25 18.2 -1.7**
comp=E,247nm,0.9s,comp=E,5μm
SNCC San Nicolas Is 80.98 48 P **P** **13 25 18.5 -1.6**
baz=234
SNCC S **S** **13 34 47.5 +3.8**
baz=234
IPM Ipoh 81.03 279 P **P** **13 25 20.3 -0.5**
SUJ Sinuiju 81.14 321 P **P** **13 25 22.3 +1.7**
SUJ pP **pP** **13 27 20.2 +2.0**
SUJ S **S** **13 34 45.4 +0.5**
SUJ AmB
comp=Z,4μm,2.2s
SCZ2 Santa Cruz Isl 81.34 47 P **P** **13 25 20.3 -1.6**
baz=234
SCZ2 S **S** **13 34 51.2 +3.9**
baz=234
MDJ Mudanjiang 81.41 327 IAmb IAmb 13 25 25.5
comp=Z,1μm,1.8s
MDJ Mudanjiang 81.41 327 P **P** **13 25 23.5 +1.6**
MDJ pP pwP 13 27 22.6 -1.8
MDJ S **S** **13 34 45.8 -1.7**
MDJ pmax pmax
comp=Z,390nm,1.4s
MDJ pmax pmax
comp=Z,5μm,5.3s
CHGN Chignik 81.52 12 P **P** **13 25 22.2 0.0**
CHGN IAmb IAmb 13 25 26.7
comp=Z,570nm,1.2s
CHGN Chignik 81.52 12 P **P** **13 25 22.1 0.0**
baz=201,SNR=19
CHGN S **S** **13 34 45.8 -2.1**
baz=201
SBC Santa Barbara 81.55 47 P **P** **13 25 22.0 -0.8**
baz=234
SBC S **S** **13 34 53.6 +4.3**
baz=234
CHIR Chirikof Islan 81.66 14 P **P** **13 25 22.3 -0.6**
baz=203
CHIR S **S** **13 34 48.8 -0.6**
baz=203
PKM Mcpherson Peak 81.74 47 P **P** **13 25 21.6 -2.5**
baz=234
PKM S **S** **13 34 52.3 +0.7**
baz=234
CIS Catalina Islan 81.83 48 P **P** **13 25 23.9 -0.5**
baz=235
CIS S **S** **13 34 53.2 +0.9**
baz=235
SMMC Simmler 81.87 46 P **P** **13 25 23.3 -1.2**
baz=234
SMMC S **S** **13 34 53.0 +0.4**
baz=234
CNSH ChangSha 81.92 305 ⇑P **P** **13 25 22.1 -2.8**
CNSH S **S** **13 34 53.6 +0.4**
CNSH pmax pmax
comp=Z,3μm,5.8s
DL2 Dalian 82.09 318 P **P** **13 25 26.4 +0.9**
DL2 pP **pP** **13 27 22.4 -1.0**
DL2 sP **sP** **13 28 19.8 +0.3**
DL2 SKS **S** **13 34 50.7 -3.8**
DL2 S **SKKSac** **13 34 57.3 -0.5**
DL2 pmax pmax
comp=Z,230nm,1.3s
DL2 pmax pmax
comp=Z,3μm,3.8s
FMP Fort Macarthur 82.09 48 P **P** **13 25 25.3 -0.3**
baz=235
FMP S **S** **13 34 54.5 -0.2**
baz=235
WHN Wuhan 82.13 308 ⇓P **P** **13 25 26.5 +0.6**
WHN sP **sP** **13 28 19.0 -0.9**
WHN PP **PP** **13 28 48.7 +4.0**
WHN S **S** **13 34 54.1 -1.1**
WHN pmax pmax
comp=Z,5μm,2.0s
WHN pmax pmax
comp=Z,10μm,3.2s
RPSI Rantau Prapat 82.23 276 P **P** **13 25 25.2 -1.6**
RPSI IAmb IAmb 13 25 28.4
comp=Z,607nm,1.5s
PSI Prapat 82.27 276 P **P** **13 25 25.2 -2.0**
PSI pmax pmax
comp=Z,607nm,1.5s
OSI Osito Audit: C 82.31 47 P **P** **13 25 24.5 -2.4**
baz=235
OSI S **S** **13 34 56.6 -0.5**
baz=235
DECC Green Verdugo 82.37 48 P **P** **13 25 25.6 -1.5**
baz=235
DECC S **S** **13 34 55.9 -1.7**
baz=235
GULI GuiLin 82.41 302 ⇑P **P** **13 25 30.2 +2.7**
GULI S **S** **13 34 58.1 -0.2**
GULI pmax pmax
comp=Z,330nm,1.4s
109C Camp Elliot, M 82.45 49 P **P** **13 25 24.3 -3.2**
baz=236
109C S **S** **13 34 58.1 -0.3**
baz=236
ARVC Arvin 82.54 47 P **P** **13 25 26.1 -1.7**
baz=235
ARVC S **S** **13 34 56.8 -2.4**
baz=235
GO10 Punta Arenas 82.66 145 IAmb IAmb 13 25 33.0
comp=Z,437nm,1.1s
SII Sitkinak Islan 82.66 14 P **P** **13 25 27.9 -0.1**
SII IAmb IAmb 13 25 31.0
comp=Z,311nm,0.8s
SII Sitkinak Islan 82.66 14 P **P** **13 25 26.4 -1.5**
baz=204
SII S **S** **13 35 00.1 +0.8**
baz=204
VES Vestal, Richgr 82.78 46 P **P** **13 25 27.1 -2.0**
baz=234
SNY Shenyang 82.78 322 ⇓P **P** **13 25 30.3 +1.4**
SNY pP **pP** **13 27 24.8 -2.3**
SNY sP **sP** **13 28 23.4 +0.2**
SNY S **S** **13 34 55.1 -6.1**
SNY pmax pmax
comp=Z,220nm,1.1s
MURC Murrieta 82.79 49 P **P** **13 25 28.7 -0.5**
baz=236
MURC S **S** **13 34 59.3 -2.4**
baz=236
BFSC Mount Baldy Ra 82.83 48 P **P** **13 25 27.8 -1.7**
baz=236
BFSC S **S** **13 34 59.1 -3.2**
baz=236
VOG Valley Oaks Go 82.86 46 P **P** **13 25 26.7 -2.7**
baz=234
VOG S **S** **13 35 04.8 +2.5**
baz=234
R16K Pilot Point 82.87 12 P **P** **13 25 28.6 -0.3**
baz=201
R16K S **S** **13 35 01.7 +0.4**
baz=201
TSI Tuntungan 82.88 277 P **P** **13 25 30.0 -0.1**
comp=Z,256nm,1.1s,comp=Z,15μmcomp=Z,8μm
GRNR Gornyy 82.88 334 ⇓*i*P **P** **13 25 29.7 +0.5**
GRNR *e* 13 27 29.5
GRNR pmax pmax
comp=E,50nm,0.8s
GRNR pmax pmax
comp=N,50nm,1.0s
GRNR pmax pmax
comp=Z,80nm,1.2s
GRNR MLR MLR
comp=Z,300nm,16.0s
GSI Gunungsitoli 82.91 274 IAmb IAmb 13 25 33.4
comp=Z,1μm,1.5s
GSI Gunungsitoli 82.91 274 P **P** **13 25 30.8 +0.5**
comp=Z,490nm,2.0s,comp=Z,10μmcomp=Z,11μm
EDW2 Edwards Air Fo 82.96 47 P **P** **13 25 29.1 -1.0**
baz=235
EDW2 S **S** **13 34 59.8 -3.7**
baz=235
LPIG La Paz 82.99 60 P **P** **13 25 31.7 +1.4**
comp=Z,86nm,0.9s,baz=118,slow=2.1,SNR=7.0
comp=Z,86nm,0.9s
IKP In-Ko-Pah, Jac 83.02 50 P **P** **13 25 27.1 -3.4**
baz=237
IKP S **S** **13 35 03.7 -0.6**
baz=237
CN2 Changchun 83.03 324 ⇓*i*P **P** **13 25 30.6 +0.5**
CN2 pP pP 13 27 28.0 -0.5
CN2 sP sP 13 28 22.4 -2.0
CN2 PP **PP** **13 28 52.8 +1.1**
CN2 SKS **SKSac** **13 34 56.3 -2.6**
CN2 S **SKKSac** **13 35 06.1 +1.4**
CN2 pmax pmax
comp=Z,720nm,1.4s
CN2 pmax pmax
comp=Z,4μm,3.0s
SLBS Sierra La Lagu 83.08 61 P **P** **13 25 30.5 -0.4**
SLBS Sierra La Lagu 83.08 61 ⇑P **P** **13 25 32.5 +1.6**
SLBS ⇓P **P** **13 25 32.8 +1.9**
SLBS ⇑P **PcP** **13 25 35.6 +1.5**
ISA Isabella, Lake 83.08 47 P **P** **13 25 29.7 -1.0**
baz=235
ISA S **S** **13 35 01.3 -3.4**
baz=235
USHA Ushuaia 83.15 147 P **P** **13 25 33.5 +2.9**
comp=Z,90nm,1.0s,baz=240,slow=6.0,SNR=8.9
comp=Z,90nm,1.0s
R17K Ugashik Creek 83.17 13 P **P** **13 25 31.2 +0.7**
baz=202
R17K S **S** **13 35 04.1 -0.3**
baz=202
NKL Nikolayevsk 83.19 338 *e*P **P** **13 25 31.8 +1.2**
NKL *e* 13 28 58.1
NKL *e*S **S** **13 35 02.9 -1.8**
NKL pmax pmax
comp=E,253nm,0.8s
NKL pmax pmax
comp=N,262nm,1.1s
NKL pmax pmax
comp=Z,1μm,1.1s
NKL smax smax
comp=E,780nm,2.3s
NKL smax smax
comp=N,543nm,2.8s
PFO Pinyon Flats O 83.31 49 P **P** **13 25 32.7 +0.8**
comp=N,26nm,0.9s,baz=249,slow=2.4,SNR=6.0
comp=N,26nm,0.9s
PFO Pinyon Flats O 83.31 49 P **P** **13 25 29.1 -2.8**
baz=236
PFO S **S** **13 35 04.6 -2.4**
baz=236
PFO Pinyon Flats O 83.31 49 *de*P **P** **13 25 32.9 +1.0**
PFO pmax pmax
comp=Z,72nm,1.1s
TPFO Pinon Flats 83.31 49 P **P** **13 25 29.9 -2.0**
baz=236
TPFO S **S** **13 35 04.6 -2.4**
baz=236
BNX BinXian 83.31 326 ⇓P **P** **13 25 31.4 -0.1**
BNX pP **pP** **13 27 27.9 -2.0**
BNX sP **sP** **13 28 22.8 -3.1**
BNX PP **PP** **13 28 53.2 -0.7**
BNX S **S** **13 35 03.6 -2.6**
BNX SS **SS** **13 40 49.2 +0.6**
BNX pmax pmax
comp=Z,300nm,1.1s
BNX pmax pmax
comp=Z,3μm,7.3s
BBRC Big Bear Solar 83.34 48 P **P** **13 25 31.0 -1.3**
baz=236
BBRC S **S** **13 35 04.4 -3.2**
baz=236
TIA Tai'an 83.36 314 ⇓P **P** **13 25 32.7 +0.7**
TIA S **S** **13 35 01.0 -6.2**
TIA pmax pmax
comp=Z,460nm,0.8s
TIA pmax pmax
comp=Z,4μm,2.8s
SWSC Sam W. Stewart 83.40 50 P **P** **13 25 31.5 -0.8**
baz=237
SWSC S **S** **13 35 06.5 -1.3**
baz=237
OHAK Old Harbor 83.47 15 P **P** **13 25 30.4 -1.5**
baz=205
OHAK S **S** **13 35 08.2 +1.0**
baz=205
MG01 Puerto William 83.49 148 IAmb IAmb 13 25 36.2
comp=Z,337nm,1.1s
LRMC Laurel Mtn Rad 83.51 47 P **P** **13 25 31.0 -1.9**
baz=235
LRMC S **S** **13 35 04.3 -4.7**
baz=235
ELIB Princess Elisa 83.57 187 *d*P **P** **13 25 33.1 +0.4**
KCSI Kotacane, Aceh 83.61 277 P **P** **13 25 32.6 -1.2**
comp=Z,117nm,1.6s,comp=Z,4μm
RRX Edison Barstow 83.63 48 P **P** **13 25 31.6 -1.8**
baz=236
RRX S **S** **13 35 05.8 -4.2**
baz=236
KLR Kul'dur 83.70 331 S **SKSac** **13 34 57.6 -5.3**
comp=Z,18nm,1.0s,baz=20,slow=7.5,SNR=10
KLR PKKPbc PKKPbc 13 43 45.6 -2.3
comp=Z,0.9nm,0.4s,baz=320,slow=2.1,SNR=4.7
KLR Kul'dur 83.70 331 *d*⇓*i*P **P** **13 25 34.4 +1.1**
KLR pmax pmax
comp=Z,597nm,2.5s
CWC Cottonwood Cre 83.79 46 P **P** **13 25 32.1 -2.2**
baz=235
CWC S **S** **13 35 06.6 -5.1**
baz=235
BELC Belle Mtn. Jos 83.84 49 P **P** **13 25 32.6 -2.0**
baz=237
BELC S **S** **13 35 08.2 -4.1**
baz=237
Q17K Contact Creek 83.85 13 P **P** **13 25 33.9 -0.1**
baz=203,SNR=52
Q17K S **S** **13 35 11.5 +0.3**
baz=203
MPMC Manual Prospec 83.97 47 P **P** **13 25 34.3 -0.9**
baz=236
MPMC S **S** **13 35 07.9 -5.6**
baz=236
MLAC Mammoth, Mammc 83.98 45 P **P** **13 25 33.9 -1.4**
baz=234
GSC Goldstone, Bar 84.00 48 P **P** **13 25 35.3 0.0**
baz=236
GSC S **S** **13 35 07.7 -6.1**
baz=236
BC3 Big Chuckawall 84.03 50 P **P** **13 25 35.1 -0.4**
baz=237
BC3 S **S** **13 35 10.5 -3.6**
baz=237
TIN Tinemaha, Big 84.04 46 P **P** **13 25 35.3 -0.2**
baz=235
HEC Hector,Ludlow 84.06 48 P **P** **13 25 34.5 -1.1**
baz=236
HEC S **S** **13 35 08.4 -5.9**
baz=236
Q16K King Salmon 84.08 12 P **P** **13 25 35.1 +0.2**
baz=202,SNR=34
Q16K S **S** **13 35 14.4 +1.3**
baz=202
KDAK Kodiak Island 84.14 15 P **P** **13 25 35.1 -0.1**
KDAK IAmb IAmb 13 25 38.3
comp=Z,603nm,1.8s
KDAK Kodiak Island 84.14 15 P **P** **13 25 34.8 -0.4**
baz=206
KDAK S **S** **13 35 15.3 +1.5**
baz=206
KDAK Kodiak Island 84.14 15 *de*P **P** **13 25 35.7 +0.5**
KDAK pmax pmax
comp=Z,267nm,1.2s
GLA Glamis 84.15 50 P **P** **13 25 35.1 -0.9**
baz=237
GLA S **S** **13 35 11.5 -3.6**
baz=237
P16K Nushagak River 84.16 12 P **P** **13 25 34.7 -0.6**
baz=201,SNR=7.7
P16K S **S** **13 35 15.3 +1.4**
baz=201
Q18K Katmai Hardscr 84.39 13 P **P** **13 25 35.5 -1.1**
baz=204,SNR=60
Q18K S **S** **13 35 16.9 +0.4**
baz=204
HUMO Hull Mountain 84.44 39 IAmb IAmb 13 25 41.1
comp=Z,111nm,1.0s
SNSI Sinabang, Aceh 84.49 275 P **P** **13 25 39.5 +1.4**
comp=Z,390nm,1.5s,comp=Z,7μmcomp=Z,5μm
GMRC Granite Mounta 84.50 49 P **P** **13 25 35.8 -2.0**
baz=237
GMRC S **S** **13 35 12.8 -5.9**
baz=237
IRM Iron Mountain 84.52 49 P **P** **13 25 35.6 -2.2**
baz=237
GRAC Grapevine Rang 84.58 46 P **P** **13 25 35.1 -2.9**
baz=236
P17K Kvichak River 84.60 12 P **P** **13 25 36.0 -1.5**
baz=202
P17K S **S** **13 35 19.3 +1.1**
baz=202
FURC Furnace Creek, 84.61 47 P **P** **13 25 35.8 -2.3**
baz=236
O16K Kokwok River B 84.67 11 P **P** **13 25 36.0 -1.8**
baz=201
O16K S **S** **13 35 19.1 +0.3**
baz=201
TUQ Turquoise Moun 84.68 48 P **P** **13 25 36.4 -2.3**
baz=236
SHOC Shoshone, Teco 84.69 47 P **P** **13 25 36.2 -2.4**
baz=236
NVAR Mina Array Bea 84.78 44 P **P** **13 25 40.2 +1.0**
comp=Z,57nm,1.0s,baz=222,slow=8.0,SNR=12
NVAR PKKPbc **PKKPbc** **13 43 47.6 +2.5**
comp=Z,2.0nm,0.6s,baz=73,slow=3.8,SNR=13
NVAR PKPPKP **P'P'df** **13 51 48.1 -1.1**
comp=Z,1.6nm,0.8s,baz=91,slow=3.6,SNR=5.3
comp=Z,57nm,1.0s
Q20K Shuyak Island 84.93 14 P **P** **13 25 38.4 -0.7**
baz=206,SNR=12
Q20K S **S** **13 35 21.7 +0.3**
baz=206
Q19K Cape Douglas, 84.94 14 IAmb IAmb 13 25 43.5
comp=Z,414nm,1.1s
Q19K Cape Douglas, 84.94 14 P **P** **13 25 35.7 -3.5**
baz=205,SNR=7.9
Q19K S **S** **13 35 21.3 -0.3**
baz=205
214A Organ Pipe Nat 85.02 52 P **P** **13 25 38.5 -1.8**
baz=239
214A S **S** **13 35 28.8 +5.3**
baz=239
O17K Koliganek Bris 85.02 12 P **P** **13 25 39.1 -0.4**
baz=202,SNR=11
O17K S **S** **13 35 24.4 +2.2**
baz=202
P18K Big Mountain, 85.03 13 P **P** **13 25 38.3 -1.3**
baz=203,SNR=23
P18K S **S** **13 35 22.2 -0.2**
baz=203
LHMI Lhok Sumawe 85.05 278 P **P** **13 25 41.1 +0.3**
comp=Z,501nm,1.3s,comp=Z,8μmcomp=Z,10μm
MLSI Meulaboh, Aceh 85.16 277 P **P** **13 25 41.7 +0.4**
comp=Z,324nm,1.1s,comp=Z,4μm
NEE2 Needles Airpor 85.21 49 P **P** **13 25 40.0 -1.1**
baz=237
NEE2 S **S** **13 35 33.5 +8.2**
baz=237
SNAA Sanae 85.27 179 P **P** **13 25 40.8 -0.1**
comp=Z,21nm,0.5s,baz=207,slow=7.6,SNR=86
SNAA S **SKSac** **13 35 10.7 -1.9**
comp=Z,12nm,1.1s,baz=254,slow=21,SNR=8.4
SNAA PKKPbc **PKKPbc** **13 43 41.5 -3.0**
comp=Z,1.7nm,0.6s,baz=184,slow=9.8,SNR=6.7
SNAA PKPPKP P'P'df 13 51 39.6 -9.5
comp=Z,4.1nm,0.9s,baz=74,slow=2.8,SNR=5.6
comp=Z,21nm,0.5s
SNAA Sanae 85.27 179 P **P** **13 25 40.8 -0.1**
SNAA IAmb IAmb 13 26 20.1
comp=Z,262nm,1.0s
SNAA Sanae 85.27 179 *ce*P **P** **13 25 40.9 0.0**
SNAA *i* *PP **pP** **13 27 39.1 -1.1**
SNAA pmax pmax
comp=Z,72nm,1.3s
TPNV Topopah Spring 85.29 46 P **P** **13 25 40.2 -1.4**
baz=236
TPNV S **S** **13 35 31.6 +5.4**
baz=236
N16K Nishlik Lake 85.37 11 P **P** **13 25 41.3 +0.1**
baz=200,SNR=22
N16K S **S** **13 35 24.8 -0.9**
baz=200
O18K Koktuh Hills 85.46 13 P **P** **13 25 41.0 -0.6**
O18K IAmb IAmb 13 25 44.0
comp=Z,284nm,0.8s
O18K Koktuh Hills 85.46 13 P **P** **13 25 41.4 -0.3**
baz=203,SNR=63
O18K S **S** **13 35 26.5 0.0**
baz=203
LYN LuoYang 85.61 310 ⇓*i*P **P** **13 25 44.7 +1.7**
LYN pP pwP 13 27 46.1 -1.4
LYN PP **PP** **13 29 08.9 -3.7**
LYN pmax pmax
comp=Z,320nm,1.6s
LYN pmax pmax
comp=Z,5μm,2.9s
HNS HongShan 85.62 314 ⇓P **P** **13 25 44.1 +1.1**
HNS PP **PP** **13 29 07.7 -4.9**
HNS S **S** **13 35 32.1 +3.1**
HNS pmax pmax
comp=Z,350nm,1.6s
HNS pmax pmax
comp=Z,4μm,5.8s
P19K Oil Pt 85.68 14 IAmb IAmb 13 25 45.1
comp=Z,264nm,0.8s
P19K Oil Pt 85.68 14 P **P** **13 25 40.9 -1.9**
baz=205
P19K S **S** **13 35 28.0 -0.7**
baz=205
COYC Coyhaique 85.77 138 IAmb IAmb 13 25 48.6
comp=Z,313nm,1.0s
COYC Coyhaique 85.77 138 ⇑P **P** **13 25 45.8 +2.1**
COYC ⇓P **P** **13 25 45.9 +2.1**
NVL N'lazarevskaya 85.77 184 ⇑*i*P **P** **13 25 42.9 -0.3**
NVL *e*S **SKSac** **13 35 13.0 -2.5**
NVL pmax pmax
comp=Z,203nm,1.1s
MA2 Magadan 85.85 346 P **P** **13 25 42.9 -0.6**

MA2 **Magadan** 85.85 346 *de*P P 13 25 43.3 -0.2
MA2 pmax pmax
comp=Z,692nm,1.3s
GYA **Guiyang** 85.89 301 ⇓*i*P P 13 25 45.9 +1.2
GYA sP sP 13 28 43.9 +4.2
GYA PP **PP** **13 29 15.3 +0.2**
GYA SKS **SKSac** **13 35 16.9 -1.0**
GYA S **S** **13 35 35.1 +2.8**
GYA pmax pmax
comp=Z,130nm,1.4s
GYA pmax pmax
comp=Z,3µm,3.8s
O19K **Port Alsworth** 85.95 13 IAmb IAmb 13 25 46.1
comp=Z,365nm,0.9s
O19K **Port Alsworth** 85.95 13 P P **13 25 43.3 -0.6**
baz=204,SNR=95
O19K S **S** **13 35 30.2 -0.9**
baz=204
ILSW **Iliamna Southw** 86.00 13 IAmb IAmb 13 25 46.4
comp=Z,448nm,1.0s
HOM **Homer** 86.04 14 P P **13 25 42.0 -2.4**
baz=206,SNR=10
HOM S **S** **13 35 31.1 -0.9**
baz=206
BJI **Beijing** 86.16 317 sS sS 13 38 52.9 -15
O20K **Slope Mountain** 86.20 14 P P **13 25 44.4 -0.9**
baz=206,SNR=8.2
O20K S **S** **13 35 32.7 -0.9**
baz=206
BRLK **Bradley Lake** 86.31 15 IAmb IAmb 13 26 20.4
comp=Z,238nm,0.9s
BRSE **Bradley Lake S** 86.32 15 P P **13 25 44.4 -1.4**
baz=207,SNR=68
BRSE S **S** **13 35 33.8 -1.0**
baz=207
HEH **HeiHe** 86.41 330 ⇑P P **13 25 47.6 +1.2**
HEH pP **pwP** **13 27 48.8 -2.1**
HEH SKS **SKSac** **13 35 18.0 -1.6**
HEH S **ScS** **13 35 40.3 -1.1**
HEH pmax pmax
comp=Z,370nm,1.4s
HEH pmax pmax
comp=Z,3µm,7.9s
N19K **Bonanza Creek** 86.48 13 P P **13 25 44.1 -2.5**
baz=204
N19K S **S** **13 35 34.1 -2.3**
baz=204
R11A **Troy Canyon, C** 86.50 46 P P **13 25 44.8 -2.6**
baz=236
R11A S **S** **13 35 41.0 +3.3**
baz=236
RSO **Redoubt South** 86.52 13 P P **13 25 46.3 -0.6**
SVW2 **Sparrevohn** 86.53 12 P P **13 25 46.0 -0.7**
SVW2 IAmb IAmb 13 26 32.8
comp=Z,294nm,1.3s
TUC **Tucson** 86.67 53 P P **13 25 45.5 -2.7**
baz=240
TUC S **S** **13 35 47.1 +7.7**
baz=240
TUC **Tucson** 86.67 53 ⇑P P **13 25 50.8 +2.5**
TUC ⇑P **PcP** **13 25 52.2 +2.4**
HG4B **Hotspring** 86.78 28 IAmb IAmb 13 25 52.0
comp=Z,387nm,1.5s
SEW **Seward** 86.95 15 P P **13 25 47.3 -1.3**
baz=208,SNR=20
SEW S **S** **13 35 38.0 -2.4**
baz=208
C03A **Quillayute Air** 86.95 34 IAmb IAmb 13 25 55.6
comp=Z,606nm,1.3s
MOBC **Moresby Island** 87.06 27 IAmb IAmb 13 25 55.1
comp=Z,134nm,1.1s
GAMB **Gambell** 87.08 4 P P **13 25 49.9 +0.7**
baz=188
GAMB S **S** **13 35 43.2 +1.7**
baz=188
CAPN **Captain Cook N** 87.15 14 P P **13 25 48.5 -1.0**
baz=207,SNR=8.4
CAPN S **S** **13 35 43.5 +1.2**
baz=207
Q23K **Middleton Isla** 87.15 17 IAmb IAmb 13 25 54.6
comp=Z,455nm,1.1s
Q23K **Middleton Isla** 87.15 17 P P **13 25 47.7 -1.9**
baz=211
Q23K S **S** **13 35 43.0 +0.7**
baz=211
MID **Middleton Isla** 87.15 17 IAmb IAmb 13 25 54.5
comp=Z,436nm,1.2s
O22K **Cooper Landing** 87.22 15 IAmb IAmb 13 26 03.2
comp=Z,274nm,0.8s
O22K **Cooper Landing** 87.22 15 P P **13 25 49.8 -0.2**
baz=208,SNR=38
O22K S **S** **13 35 42.0 -1.0**
baz=208
N20K **Mount Spurr** 87.30 13 P P **13 25 49.5 -0.9**
baz=206,SNR=60
N20K S **S** **13 35 40.2 -3.8**
baz=206
SPCR **Spurr Chakacha** 87.30 13 P P **13 25 49.0 -1.5**
baz=206,SNR=35
SPCR S **S** **13 35 41.5 -2.5**
baz=206
TIY **Taiyuan** 87.31 313 ⇓P P **13 25 53.0 +1.9**
TIY sP **sP** **13 28 46.2 -0.2**
TIY SKS **SKSac** **13 35 26.0 +0.2**
TIY S **ScS** **13 35 50.0 +0.3**
TIY pmax pmax
comp=Z,280nm,0.6s
P23K **Montague Islan** 87.36 16 P P **13 25 50.1 -0.6**
baz=210
P23K S **S** **13 35 45.0 +0.6**
baz=210
B04A **Port Angeles** 87.57 34 IAmb IAmb 13 25 55.5
comp=Z,272nm,1.2s
L19K **White Mountain** 87.67 12 IAmb IAmb 13 25 55.0
comp=Z,385nm,1.1s
L19K **White Mountain** 87.67 12 P P **13 25 52.4 +0.3**
baz=204,SNR=143
L19K S **S** **13 35 47.3 +0.1**
baz=204
M20K **Styx River** 87.73 13 P P **13 25 51.5 -0.9**
baz=205
M20K S **S** **13 35 45.3 -2.6**
baz=205
CLRS **Cowichan Lake** 87.74 34 IAmb IAmb 13 25 58.3
comp=Z,131nm,1.0s
RC01 **Rabbit Creek A** 87.75 14 IAmb IAmb 13 25 56.9
comp=Z,338nm,1.0s
RC01 **Rabbit Creek A** 87.75 14 P P **13 25 52.2 -0.2**
baz=208,SNR=105
RC01 S **S** **13 35 47.7 -0.3**
baz=208
SUA **Susitna One** 87.86 14 IAmb IAmb 13 26 22.9
comp=Z,250nm,0.9s
SUA **Susitna One** 87.86 14 P P **13 25 52.6 -0.5**
baz=207,SNR=103
SUA S **S** **13 35 47.7 -1.5**
baz=207
XAN **Xi'an** 87.87 308 ⇓*i*P P **13 25 55.1 +1.4**
XAN pP pP 13 27 54.4 +0.7
XAN sP sP 13 28 48.5 -0.8
XAN SKS **SKSac** **13 35 28.1 -1.1**
XAN S **ScS** **13 35 52.4 -2.0**
XAN SS **SS** **13 41 54.6 -0.6**
XAN pmax pmax
comp=Z,440nm,1.5s
XAN pmax pmax
comp=Z,4µm,6.7s
WUAZ **Wupatki** 87.87 50 P P **13 25 54.1 +0.3**
baz=239
WUAZ S **S** **13 35 58.2 +7.6**
baz=239
PWL **Port Wells** 87.88 15 IAmb IAmb 13 25 55.4
comp=Z,250nm,0.8s
PWL **Port Wells** 87.88 15 P P **13 25 52.9 -0.2**
baz=209,SNR=90
PWL S **S** **13 35 47.4 -1.9**
baz=209
PGC **Sidney** 87.98 34 IAmb IAmb 13 25 57.4
comp=Z,170nm,0.9s
BBB **Bella Bella** 88.06 29 IAmb IAmb 13 25 59.7
comp=Z,220nm,1.2s
L20K **Farewell, AK** 88.12 12 P P **13 25 53.4 -0.9**
baz=204
L20K S **S** **13 35 49.4 -2.0**
baz=204
TTA **Tatalina** 88.15 11 IAmb IAmb 13 25 59.1
comp=Z,152nm,1.1s

TTA **Tatalina** 88.15 11 P P **13 25 54.7 +0.4**
baz=203,SNR=70
TTA S **S** **13 35 53.2 +1.4**
baz=203
SKT **Skwentna** 88.15 13 P P **13 25 53.0 -1.3**
baz=207,SNR=28
SKT S **S** **13 35 46.8 -4.8**
baz=207
PKCU **Pink Cliffs** 88.21 48 IAmb IAmb 13 26 02.0
comp=Z,266nm,1.2s
CRAI **Chiangrai** 88.24 293 IAmb IAmb 13 25 59.6
comp=Z,594nm,1.6s
M22K **Willow** 88.25 14 P P **13 25 54.0 -0.8**
baz=208,SNR=94
M22K S **S** **13 35 51.8 -0.7**
baz=208
EYAK **Cordova Ski Ar** 88.26 16 IAmb IAmb 13 25 57.4
comp=Z,153nm,1.0s
EYAK **Cordova Ski Ar** 88.26 16 P P **13 25 54.5 -0.3**
baz=212
EYAK S **S** **13 35 52.7 +0.1**
baz=212
CRAG **Craig** 88.30 25 IAmb IAmb 13 26 01.1
comp=Z,201nm,1.5s
CRAG **Craig** 88.30 25 P P **13 25 52.4 -2.7**
baz=223
CRAG S **S** **13 35 56.5 +3.3**
baz=223
KNK **Knik Glacier** 88.33 15 IAmb IAmb 13 25 57.7
comp=Z,195nm,0.8s
KNK **Knik Glacier** 88.33 15 P P **13 25 53.8 -1.4**
baz=209,SNR=60
KNK S **S** **13 35 51.7 -1.6**
baz=209
PMR **Palmer** 88.33 15 IAmb IAmb 13 25 57.5
comp=Z,182nm,1.0s
PMR **Palmer** 88.33 15 P P **13 25 54.9 -0.3**
baz=209,SNR=99
PMR S **S** **13 35 50.8 -2.4**
baz=209
X18A **Snowflake** 88.39 51 IAmb IAmb 13 26 02.0
comp=Z,277nm,2.0s
ANM **Nome** 88.39 7 P P **13 25 54.1 -1.3**
baz=194
ANM S **S** **13 35 56.1 +2.4**
baz=194
GRNB **Grenville Isla** 88.41 27 IAmb IAmb 13 25 59.7
comp=Z,203nm,1.0s
XLT **XiLinHaoTe** 88.41 320 *e*P P **13 25 57.2 +1.1**
XLT sP sP 13 28 51.0 -0.7
XLT SKS **SKSac** **13 35 30.2 -1.9**
XLT S **S** **13 35 56.5 +1.5**
XLT pmax pmax
comp=Z,190nm,1.3s
XLT pmax pmax
comp=Z,2µm,7.2s
LR03 **Panguipulli** 88.49 133 IAmb IAmb 13 26 00.8
comp=Z,223nm,1.2s
SEY **Seymchan** 88.56 348⇑ *e*P P **13 25 56.2 +0.1**
SEY pmax pmax
comp=Z,485nm,1.3s
MTPU **Mount Pierson** 88.60 47 IAmb IAmb 13 26 02.2
comp=Z,214nm,1.6s
RUBB **Prince Rupert** 88.62 27 IAmb IAmb 13 26 02.5
comp=Z,130nm,1.1s
SIT **Sitka** 88.66 23 IAmb IAmb 13 26 02.2
comp=Z,109nm,1.2s
SIT **Sitka** 88.66 23 P P **13 25 55.0 -1.8**
baz=221
SIT S **S** **13 35 58.6 +2.2**
baz=221
SML **Sawmill** 88.71 15 IAmb IAmb 13 26 18.2
comp=Z,342nm,1.0s
SML **Sawmill** 88.71 15 P P **13 25 56.9 -0.1**
baz=209,SNR=18
SML S **S** **13 35 56.2 -0.7**
baz=209
CM31 **Chiang Mai Arr** 88.71 291 P P **13 25 59.3 +1.3**
CMAR **Chiang Mai Arr** 88.71 291 P P **13 25 59.5 +1.5**
comp=Z,166nm,1.1s,baz=128,slow=2.9,SNR=275
CMAR PP **PP** **13 29 38.2 +0.8**
comp=Z,14nm,0.9s,baz=126,slow=5.1,SNR=5.5
CMAR PKiKP **PKiKP** **13 30 55.5 +1.5**
comp=Z,2.8nm,0.7s,baz=235,slow=1.0,SNR=4.1
CMAR PKKPbc **PKKPbc** **13 43 35.2 +0.6**
comp=Z,5.9nm,0.5s,baz=285,slow=4.6,SNR=14
CMAR SKKPbc SKKPbc 13 46 19.9 -1.1
comp=Z,1.2nm,0.7s,baz=283,slow=3.9,SNR=4.5
CMAR PKPPKP **P'P'df** **13 51 41.0 -2.4**
comp=Z,0.5nm,0.3s,baz=289,slow=4.2,SNR=4.1
comp=Z,166nm,1.1s
DIV **Divide** 88.75 16 IAmb IAmb 13 25 59.7
comp=Z,246nm,1.1s
U33K **Whale Pass** 88.77 24 P P **13 25 56.8 -0.5**
baz=223
U33K S **S** **13 36 00.5 +3.0**
baz=223
V35K **Ketchikan** 88.78 26 P P **13 25 55.8 -1.6**
baz=224
V35K S **S** **13 36 03.3 +5.7**
baz=224
CUT **Chulitna** 88.80 14 P P **13 25 56.8 -0.4**
baz=208,SNR=47
CUT S **S** **13 35 53.4 -4.0**
baz=208
W18A **Petrified Fore** 88.83 51 P P **13 25 56.7 -1.7**
baz=240
W18A S **S** **13 36 05.8 +6.4**
baz=240
PPLA **Purkeypile** 88.84 13 P P **13 25 57.4 -0.3**
baz=206,SNR=15
M23K **Glacier View** 88.84 15 P P **13 25 57.4 -0.1**
baz=210,SNR=32
M23K S **S** **13 35 56.3 -1.6**
baz=210
CHTO **Chiang Mai** 88.86 291 P P **13 25 58.6 0.0**
CHTO **Chiang Mai** 88.86 291 P P **13 25 58.6 0.0**
CHTO pmax pmax
comp=Z,728nm,1.6s
ZEA **Zeya** 88.89 332 *e*P P **13 25 59.4 +1.5**
ZEA *e* 13 28 58.6
ZEA *e* 13 35 34.6
ZEA *e*S S **13 36 02.4 +3.7**
ZEA pmax pmax
comp=E,200nm,3.8s
ZEA pmax pmax
comp=N,300nm,2.0s
ZEA pmax pmax
comp=Z,1µm,4.9s
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,90nm,1.2s
ZEA pmax pmax
comp=Z,160nm,1.1s
ZEA smax smax
comp=E,2µm,10.2s
ZEA smax smax
comp=N,3µm,11.2s
K20K **Telida** 88.89 12 P P **13 25 58.0 +0.2**
baz=204
K20K S **S** **13 35 55.7 -2.7**
baz=204
BMRM **Bremner River** 88.92 17 P P **13 25 57.8 -0.2**
BMRM IAmb IAmb 13 26 08.1
comp=Z,322nm,1.1s
BMRM **Bremner River** 88.92 17 P P **13 25 57.8 -0.2**
baz=213
BMRM S **S** **13 35 58.5 -0.3**
baz=213
SCM **Sheep Creek Mo** 88.97 15 P P **13 25 58.0 -0.2**
SCM IAmb IAmb 13 26 00.8
comp=Z,278nm,0.9s
SCM **Sheep Creek Mo** 88.97 15 P P **13 25 58.3 +0.1**
baz=210,SNR=53
SCM S **S** **13 35 58.3 -1.0**
baz=210
SCM **Sheep Creek Mo** 88.97 15 P P **13 25 58.0 -0.2**
SCM pmax pmax
comp=Z,278nm,0.9s
121A **Cookes Peak, D** 89.00 54 P P **13 25 59.8 +0.6**
baz=241
121A **Cookes Peak, D** 89.00 54 P P **13 25 58.5 -0.7**
baz=241
121A S S 13 36 10.6 +10
baz=241
KLU **Klutina** 89.02 16 IAmb IAmb 13 26 11.8
comp=Z,195nm,0.8s

KLU **Klutina** 89.02 16 P P **13 25 59.1 +0.6**
baz=212
KLU S **S** **13 35 59.9 +0.1**
baz=212
S31K **Pelican** 89.03 22 P P **13 25 58.6 +0.1**
baz=220
S31K S **S** **13 36 02.6 +2.9**
baz=220
TNA **Tin City** 89.12 5 IAmb IAmb 13 26 01.8
comp=Z,208nm,1.1s
TNA **Tin City** 89.12 5 P P **13 25 59.6 +0.9**
baz=192
TNA S **S** **13 36 01.3 +1.0**
baz=192
PLCA **Paso Flores** 89.14 134 P P **13 26 01.7 +2.0**
comp=Z,36nm,1.0s,baz=238,slow=4.7,SNR=8.1
PLCA PKKPbc **PKKPbc** **13 43 32.7 -1.5**
comp=Z,1.9nm,0.4s,baz=70,slow=1.4,SNR=12
PLCA PKPPKP **P'P'df** **13 51 38.0 -5.2**
comp=Z,4.9nm,1.0s,baz=12,slow=3.0,SNR=4.6
comp=Z,36nm,1.0s
PLCA **Paso Flores** 89.14 134 *e*P P **13 26 01.5 +1.8**
S32K **Killisnoo** 89.24 23 P P **13 25 58.4 -1.0**
baz=221
S32K S **S** **13 36 04.0 +2.4**
baz=221
WRAK **Wrangell Islan** 89.29 25 S S **13 36 07.0 +4.8**
baz=223
DUG **Dugway, Tooele** 89.31 45 P P **13 25 59.8 -0.6**
baz=238
DUG S **S** **13 36 10.4 +6.9**
baz=238
CAST **Castle Rocks** 89.33 12 P P **13 25 58.1 -1.7**
baz=206,SNR=134
CAST S **S** **13 35 56.8 -5.6**
baz=206
PNL **Peninsula** 89.34 20 S S **13 36 03.6 +1.0**
baz=217
T33K **Petersburg** 89.35 24 P P **13 25 58.9 -1.0**
baz=223
T33K S **S** **13 36 06.8 +4.1**
baz=223
PINM **Pinnacle** 89.42 19 S S **13 36 04.0 +0.5**
baz=217
N25K **Chitina, Valde** 89.46 16 IAmb IAmb 13 26 03.4
comp=Z,310nm,1.4s
N25K **Chitina, Valde** 89.46 16 P P **13 25 58.4 -2.1**
baz=213,SNR=70
N25K S **S** **13 36 04.2 +0.4**
baz=213
M24K **Tolsona, Glenn** 89.48 15 P P **13 25 59.6 -1.0**
baz=211,SNR=40
M24K S **S** **13 36 04.3 +0.4**
baz=211
WAT6 **Susitna Watana** 89.52 15 P P **13 26 00.5 -0.4**
baz=210,SNR=117
WAT6 S **S** **13 36 03.1 -1.3**
baz=210
GLB **Gilahina Butte** 89.53 17 IAmb IAmb 13 26 07.3
comp=Z,301nm,1.1s
HHC **Hu-ho-hao-te** 89.54 315 *e*P P **13 26 03.4 +2.0**
HHC SKS **SKSac** **13 35 35.8 -3.0**
HHC S **ScS** **13 36 09.5 +1.4**
HHC pmax pmax
comp=Z,380nm,1.4s
HHC pmax pmax
comp=Z,5µm,7.9s
HIA **Hailar** 89.55 326 IAmb IAmb 13 26 03.9
comp=Z,244nm,1.7s
R31K **City Hall, Gus** 89.55 22 P P **13 26 01.0 +0.1**
baz=220
R31K S **S** **13 36 08.6 +4.2**
baz=220
WAT1 **Susitna Watana** 89.55 14 P P **13 25 59.9 -0.9**
baz=209
WAT1 S **S** **13 36 01.4 -3.0**
baz=209
KIDD **KIDD Seismic O** 89.59 55 P P **13 26 02.4 +0.4**
baz=242
J20K **Nowinta River** 89.63 11 IAmb IAmb 13 26 03.8
comp=Z,272nm,1.4s
J20K **Nowinta River** 89.63 11 P P **13 26 01.1 0.0**
baz=204
J20K S **S** **13 36 05.0 0.0**
baz=204
KTH **Kantishna Hill** 89.68 13 IAmb IAmb 13 26 26.0
comp=Z,281nm,1.0s
MCARA **McCarthy VSAT** 89.69 17 S S **13 36 06.1 +0.5**
baz=214
GCSA **Galena City Sc** 89.69 10 P P **13 26 01.4 +0.1**
baz=202
GCSA S **S** **13 36 07.1 +1.7**
baz=202
CHUM **Lake Minchumin** 89.70 12 P P **13 26 00.7 -0.7**
baz=206,SNR=53
CHUM S **S** **13 36 04.0 -1.6**
baz=206
TRF **Thorofare Moun** 89.72 13 IAmb IAmb 13 26 24.2
comp=Z,518nm,1.6s
TRF **Thorofare Moun** 89.72 13 P P **13 26 01.1 -0.7**
baz=208,SNR=52
TRF S **S** **13 36 04.1 -2.2**
baz=208
PZH **PanZhiHua** 89.83 299 P P **13 26 02.9 -0.2**
PZH pP **pwP** **13 28 06.3 -2.7**
PZH sP **sP** **13 28 59.4 +0.5**
PZH PP **PP** **13 29 44.5 -1.7**
PZH SKS **SKSac** **13 35 39.1 -2.0**
PZH **PanZhiHua** 89.83 299 S **S** **13 36 08.8 +0.1**
PZH **PanZhiHua** 89.83 299 SS SS 13 42 22.6 -1.1
PZH pmax pmax
comp=Z,120nm,1.4s
PZH pmax pmax
comp=Z,2µm,4.3s
R32K **Eaglecrest** 89.87 22 P P **13 26 01.3 -1.0**
baz=222
R32K S **S** **13 36 08.3 +0.9**
baz=222
TMUT **Trail Mountain** 89.90 47 IAmb IAmb 13 26 09.3
comp=Z,186nm,0.9s
HARP **HAARP** 89.98 16 S S **13 36 08.0 -0.3**
baz=212
O28M **Mount Upton** 89.98 19 S S **13 36 08.9 -0.1**
baz=217
RND **Reindeer** 89.99 14 IAmb IAmb 13 26 21.5
comp=Z,461nm,1.5s
DHY **Denali Highway** 90.03 14 P P **13 26 03.0 -0.3**
baz=210,SNR=40
DHY S **S** **13 36 07.3 -1.7**
baz=210
EFI **East Falkland** 90.06 148 *ce*P P **13 26 05.0 +1.4**
EFI pmax pmax
comp=Z,199nm,1.1s
HLID **Hailey** 90.08 42 P P **13 26 02.9 -1.1**
baz=237
HLID S **S** **13 36 14.5 +4.1**
baz=237
O29M **Mount Kennedy** 90.10 20 P P **13 26 02.4 -1.1**
baz=218
O29M S **S** **13 36 11.2 +1.6**
baz=218
SBM **South Baldy** 90.12 53 P P **13 26 04.9 +0.2**
PLBC **Pleasant Camp** 90.14 21 P P **13 26 04.2 +0.6**
baz=220
PLBC S **S** **13 36 12.7 +3.0**
baz=220
BPAW **Bear Paw Mtn.** 90.16 13 P P **13 26 03.8 +0.2**
baz=207
BPAW S **S** **13 36 06.5 -3.3**
baz=207
CD2 **Chengdu** 90.21 304 P P **13 26 07.0 +2.3**
CD2 pP pwP 13 28 08.6 -2.0
CD2 sP sP 13 29 04.2 +3.7
CD2 PP **PP** **13 29 48.5 -0.5**
CD2 SKS **SKSac** **13 35 42.0 -1.0**
CD2 S **ScS** **13 36 17.9 +3.9**
CD2 pmax pmax
comp=Z,430nm,1.4s
CD2 pmax pmax
comp=Z,3µm,4.8s
MCK **McKinley** 90.26 14 IAmb IAmb 13 26 21.8
comp=Z,168nm,1.0s
MCK **McKinley** 90.26 14 P P **13 26 03.6 -0.5**
baz=209,SNR=67
MCK S **S** **13 36 07.4 -3.3**
baz=209
Y22A **Socorro** 90.27 53 P P **13 26 05.2 +0.2**

baz=242
Y22D IRIS PASSCAL I **90.36 53** IAmb IAmb 13 26 13.5
comp=Z,130nm,1.1s
Y22D IRIS PASSCAL I **90.36 53** P **P** **13 26 05.7 +0.3**
baz=242
Y22F Passcal Instru **90.36 53** P **P** **13 26 04.5 -0.9**
baz=242
LENM Lemitar **90.36 53** P **P** **13 26 05.0 -0.5**
PAX Paxson **90.39 15** P **P** **13 26 04.5 -0.3**
PAX IAmb IAmb 13 26 13.1
comp=Z,231nm,1.0s
PAX Paxson **90.39 15** P **P** **13 26 04.2 -0.6**
baz=212,SNR=113
PAX S **S** **13 36 08.9 -3.2**
baz=212
PAX Paxson **90.39 15** P **P** **13 26 04.5 -0.3**
PAX pmax pmax
comp=Z,231nm,1.0s
MNTX Cornudas Mount **90.41 56** P **P** **13 26 06.5 +0.9**
baz=243
MNTX Cornudas Mount **90.41 56** P **P** **13 26 05.8 +0.2**
baz=243
MNTX S S 13 36 22.6 +9.1
baz=243
BTO Baotou **90.42 315** *e*P **P** **13 26 06.7 +1.2**
BTO S **S** **13 36 05.8 -7.5**
P30M Million Dollar **90.46 20** P **P** **13 26 05.4 +0.3**
baz=219
P30M S **S** **13 36 14.2 +1.5**
baz=219
SKAG Skagway **90.48 21** P **P** **13 26 06.6 +1.5**
baz=221
SKAG S **S** **13 36 17.0 +4.3**
baz=221
T35M Bob Quinn **90.50 25** S **S** **13 36 18.9 +5.7**
baz=225
YUK8 Steele Glacier **90.52 18** S **S** **13 36 15.9 +2.2**
baz=217
M26K Nabesna, AK **90.54 17** S **S** **13 36 13.2 -0.1**
baz=214
YUK6 Outpost Mounta **90.67 19** S **S** **13 36 16.5 +1.6**
baz=218
TX31 Lajitas Ar. Si **90.67 58** P **P** **13 26 07.5 +0.6**
baz=244
TXAR Lajitas Array **90.67 58** P **P** **13 26 08.4 +1.5**
comp=Z,34nm,0.9s,baz=214,slow=5.8,SNR=14
PKKPbc **PKKPbc** **13 43 30.6 +0.3**
comp=Z,3.0nm,0.5s,baz=133,slow=2.7,SNR=28
TXAR PKPPKP **P'P'df** **13 51 36.0 -3.2**
comp=Z,0.8nm,1.1s,baz=151,slow=2.1,SNR=3.5
comp=Z,34nm,0.9s
YUK3 Moose Creek **90.72 18** S **S** **13 36 16.8 +1.5**
baz=216
MVCO Mesa Verde **90.72 49** P **P** **13 26 05.2 -2.0**
baz=241
MVCO S **S** **13 36 22.7 +6.3**
baz=241
M27K Edge Creek, AK **90.80 17** S **S** **13 36 14.4 -1.4**
baz=215
MENT Mentasta **90.80 16** IAmb IAmb 13 26 09.5
comp=Z,433nm,1.7s
S34M Telegraph Cree **90.83 24** S **S** **13 36 20.4 +4.5**
baz=224
HYT Haines Junctio **90.84 20** P **P** **13 26 06.6 -0.4**
baz=219
HYT S **S** **13 36 18.6 +2.5**
baz=219
I21K Tanana **90.94 12** IAmb IAmb 13 26 29.4
comp=Z,98nm,0.9s
I21K Tanana **90.94 12** P **P** **13 26 06.0 -1.1**
baz=206
I21K S **S** **13 36 14.2 -2.4**
baz=206
L26K Log Cabin Wild **90.97 16** S **S** **13 36 17.0 0.0**
baz=214
NEA2 Nenana **90.99 13** P **P** **13 26 06.3 -1.1**
baz=209,SNR=20
NEA2 S **S** **13 36 14.4 -2.7**
baz=209
K24K Donnelly Dome **91.03 15** S **S** **13 36 15.5 -2.1**
baz=212
ML02 Panimavida **91.04 130** IAmb IAmb 13 26 12.2
comp=Z,115nm,1.2s
MLY Manley **91.04 12** P **P** **13 26 06.8 -0.9**
baz=207,SNR=28
MLY S **S** **13 36 15.1 -2.6**
baz=207
WRH Wood River Hil **91.09 14** IAmb IAmb 13 26 09.9
comp=Z,226nm,1.4s
ANMO Albuquerque **91.11 52** P **P** **13 26 09.5 +0.6**
baz=242
ANMO Albuquerque **91.11 52** P **P** **13 26 07.1 -1.8**
baz=242
ANMO S **S** **13 36 26.3 +6.4**
baz=242
ANMO Albuquerque **91.11 52***de*P **P** **13 26 09.8 +0.9**
ANMO pmax pmax
comp=Z,79nm,1.2s
BVCY Beaver Creek **91.12 17** S **S** **13 36 19.1 +0.6**
baz=216
P32M Atlin **91.13 22** P **P** **13 26 05.2 -3.0**
baz=222
P32M S **S** **13 36 22.7 +4.1**
baz=222
Q32M Nakina River **91.17 23** P P 13 26 02.4 -6.2
baz=223
Q32M S **S** **13 36 22.4 +3.1**
baz=223
RIDG Independent Ri **91.20 15** IAmb IAmb 13 26 13.6
comp=Z,242nm,1.0s
RIDG Independent Ri **91.20 15** S **S** **13 36 17.2 -2.0**
baz=212
H21K Melozitna Rive **91.22 11** IAmb IAmb 13 26 31.6
comp=Z,109nm,1.0s
H21K Melozitna Rive **91.22 11** P **P** **13 26 06.8 -1.7**
baz=205
H21K S **S** **13 36 19.5 +0.4**
baz=205
O30N Mendenhall **91.24 20** P **P** **13 26 07.9 -0.8**
baz=220
O30N S **S** **13 36 22.3 +2.7**
baz=220
HDA Harding Lake **91.28 14** IAmb IAmb 13 26 18.4
comp=Z,185nm,0.9s
HDA Harding Lake **91.28 14** P **P** **13 26 08.0 -0.8**
baz=211,SNR=51
HDA S **S** **13 36 17.6 -2.2**
baz=211
HDA S **S** **13 36 17.6 -2.2**
baz=211
CCB Clear Creek Bu **91.30 14** IAmb IAmb 13 26 20.6
comp=Z,135nm,1.2s
DOT Dot Lake **91.31 15** IAmb IAmb 13 26 11.6
comp=Z,180nm,0.8s
L27K Beaver Creek, **91.39 17** S **S** **13 36 18.5 -2.3**
baz=215
I23K Minto, Yukon-K **91.42 13** P **P** **13 26 07.4 -1.9**
baz=208,SNR=23
I23K S **S** **13 36 19.1 -1.7**
baz=208
PBA Port Blair **91.42 282** *i* x x 13 29 55.1
PBA Port Blair **91.42 282** *ex* P 13 26 02.1 -8.4
TCOL CIGO, UAF Yank **91.49 13** IAmb IAmb 13 26 21.1
comp=Z,119nm,0.8s
TCOL CIGO, UAF Yank **91.49 13** P **P** **13 26 08.3 -1.4**
baz=210,SNR=24
TCOL S **S** **13 36 18.5 -2.9**
baz=210
COLA College **91.49 13** P **P** **13 26 08.3 -1.4**
COLA IAmb IAmb 13 26 21.1
comp=Z,118nm,0.8s
COLA College **91.49 13** P **P** **13 26 06.9 -2.8**
baz=210
COLA S **S** **13 36 18.9 -2.5**
baz=210
COLA College **91.49 13***de*P **P** **13 26 09.0 -0.7**
COLA pmax pmax
comp=Z,82nm,1.1s
WHY Whitehorse **91.54 21** P **P** **13 26 08.4 -1.7**
baz=221
WHY S **S** **13 36 24.6 +2.2**
baz=221
BILL Bilibino **91.58 355** P **P** **13 26 09.8 -0.3**
BILL IAmb IAmb 13 26 12.9
comp=Z,119nm,0.8s
BILL Bilibino **91.58 355***d i*P **P** **13 26 09.6 -0.5**
BILL *e*'PP **pP** **13 28 12.4 +1.4**
BILL *e* 13 29 56.1
BILL *e*PPP PPP 13 32 01.1
BILL *i* S **S** **13 36 21.5 -0.7**
BILL *i* SS **SS** **13 42 44.9 -1.9**
BILL pmax pmax
comp=Z,228nm,1.3s
SCRK Sand Creek **91.60 15** IAmb IAmb 13 26 12.2
comp=Z,104nm,0.8s
SCRK Sand Creek **91.60 15** S **S** **13 36 21.3 -1.5**
baz=213
IL31 **91.61 14** P **P** **13 26 08.9 -1.2**
IL31 IAmb IAmb 13 26 18.9
comp=Z,109nm,1.0s
ILAR Eielson Array **91.61 14** P **P** **13 26 09.1 -1.2**
comp=Z,15nm,0.7s,baz=231,slow=4.5,SNR=54
ILAR PKiKP **PKiKP** **13 30 56.6 -0.9**
comp=Z,1.7nm,0.5s,baz=267,slow=3.1,SNR=5.4
ILAR PKKPbc **PKKPdf** **13 43 25.8 -0.6**
comp=Z,1.0nm,0.5s,baz=350,slow=2.0,SNR=14
ILAR PKPPKP **P'P'df** **13 51 33.6 -0.9**
comp=Z,0.8nm,0.9s,baz=320,slow=2.7,SNR=4.6
comp=Z,15nm,0.7s
ILAR Eielson Array **91.61 14** P **P** **13 26 08.9 -1.4**
DLBC Dease Lake **91.61 24** S **S** **13 36 27.6 +4.6**
baz=225
H22K Ishtalitna Cre **91.69 12** P **P** **13 26 08.4 -2.3**
baz=207
H22K S **S** **13 36 21.7 -1.6**
baz=207
POKR Poker Plat Res **91.79 13** IAmb IAmb 13 26 22.0
comp=Z,211nm,1.1s
POKR Poker Plat Res **91.79 13** P **P** **13 26 11.0 -0.1**
baz=210,SNR=8.7
M29M Somme Creek **91.82 18** P **P** **13 26 11.1 -0.3**
baz=218
M29M S **S** **13 36 25.4 +0.7**
baz=218
TNCH TengChong **91.82 296** ⇓P **P** **13 26 14.3 +1.9**
TNCH pP pwP 13 28 18.3 -0.3
TNCH PP **PP** **13 30 07.3 +5.5**
TNCH SKS **SKSac** **13 35 54.2 +1.7**
TNCH S **S** **13 36 27.2 +0.6**
TNCH pmax pmax
comp=Z,160nm,1.8s
TNCH pmax pmax
comp=Z,1μm,7.0s
DGPR DIGLIPUR **91.85 283** *ex* **P** **13 26 14.2 +1.7**
DGPR DIGLIPUR **91.85 283** *i* x x 13 29 53.4
G21K Allakaket **91.88 11** P **P** **13 26 11.4 -0.1**
G21K S **S** **13 36 23.9 -0.9**
baz=205
N31M Braeburn, Yuko **91.88 20** P **P** **13 26 11.1 -0.5**
baz=220
N31M S **S** **13 36 26.6 +1.4**
baz=220
P33M Teslin, Yukon **91.89 22** S **S** **13 36 28.0 +2.6**
baz=223
R33M Jennings River **91.95 23** S **S** **13 36 26.9 +0.8**
baz=224
H23K Yukon River **91.98 12** IAmb IAmb 13 26 26.0
comp=Z,108nm,0.9s
H23K Yukon River **91.98 12** P **P** **13 26 12.4 +0.4**
baz=208
H23K S **S** **13 36 23.9 -1.9**
baz=208
MT01 Popeta **92.10 128** IAmb IAmb 13 26 16.3
comp=Z,198nm,1.6s
MSO Missoula **92.12 39** P **P** **13 26 13.3 +0.1**
baz=238
MSO S **S** **13 36 33.8 +5.8**
baz=238
K27K Chicken **92.12 16** S **S** **13 36 23.2 -3.9**
baz=215
J26L Joseph Creek **92.14 15** S **S** **13 36 28.7 +1.3**
baz=214
S22A 4UR Ranch, Cre **92.14 50** P **P** **13 26 13.8 +0.1**
baz=242
S22A S **S** **13 36 36.1 +7.0**
baz=242
O20A White River Ci **92.31 47** S **S** **13 36 35.0 +4.8**
baz=241
H24K Noodor Dome **92.32 13** IAmb IAmb 13 26 23.2
comp=Z,242nm,1.1s
H24K Noodor Dome **92.32 13** S **S** **13 36 26.4 -2.5**
baz=210
M30M Minto, Yukon **92.41 19** S **S** **13 36 31.3 +1.5**
baz=220
L29M L29M **92.44 18** P **P** **13 26 15.5 +1.4**
baz=218
L29M S **S** **13 36 32.8 +2.8**
baz=218
LZH Lanzhou **92.50 308** ⇓P **P** **13 26 17.0 +1.7**
LZH pP pwP 13 28 20.2 -1.1
LZH sP sP 13 29 12.7 +1.4
LZH PP **PP** **13 30 12.4 +5.6**
LZH SKS **SKSac** **13 35 55.0 -0.7**
LZH S **ScS** **13 36 38.0 +4.9**
LZH SS **SS** **13 43 00.1 -1.4**
LZH pmax pmax
comp=Z,250nm,1.3s
LZH pmax pmax
comp=Z,2μm,6.4s
F21K Alatna River **92.52 10** P **P** **13 26 14.9 +0.4**
baz=205
F21K S **S** **13 36 30.0 -0.5**
baz=205
PRP Porcupine Dome **92.55 14** IAmb IAmb 13 26 18.1
comp=Z,130nm,1.1s
PRP Porcupine Dome **92.55 14** S **S** **13 36 27.9 -3.2**
baz=212
G22K Bettles **92.59 11** P **P** **13 26 14.4 -0.3**
baz=207
G22K S **S** **13 36 31.7 +0.7**
baz=207
G23K Bananza Creek **92.67 12** P **P** **13 26 15.5 +0.4**
baz=208
G23K S **S** **13 36 31.6 -0.3**
baz=208
MT05 Renca **92.70 128** IAmb IAmb 13 26 20.2
comp=Z,263nm,1.7s
BW06 Boulder Array **92.72 44** P **P** **13 26 14.1 -2.1**
baz=240
BW06 S **S** **13 36 37.8 +4.1**
baz=240
PDAR Pinedale Array **92.72 44** P **P** **13 26 16.5 +0.3**
comp=Z,14nm,0.7s,baz=198,slow=5.5,SNR=6.5
PDAR PKKPbc **PKKPdf** **13 43 24.3 +0.5**
comp=Z,1.6nm,0.6s,baz=92,slow=4.3,SNR=9.1
PDAR SKKPbc SKKPbc 13 46 11.3 -2.9
comp=Z,1.7nm,0.9s,baz=18,slow=0.3,SNR=5.4
PDAR PKPPKP **P'P'df** **13 51 32.9 -1.7**
comp=Z,1.2nm,1.0s,baz=106,slow=2.2,SNR=5.6
comp=Z,14nm,0.7s
BOZ Bozeman (W) **92.84 41** P **P** **13 26 14.2 -2.4**
baz=239
BOZ S **S** **13 36 40.3 +5.8**
baz=239
DAWY Dawson **92.85 17** S **S** **13 36 33.7 +0.2**
baz=217
M31M Drury Creek, Y **92.86 20** P **P** **13 26 15.2 -0.8**
baz=222
M31M S **S** **13 36 33.7 +0.1**
baz=222
CMIG Matias Romero **92.92 73** P **P** **13 26 17.7 +0.4**
comp=Z,10nm,1.1s,baz=250,slow=3.4,SNR=6.1
CMIG PKKPbc **PKKPbc** **13 43 24.1 +0.1**
comp=Z,0.6nm,0.3s,baz=88,slow=9.5,SNR=3.5
comp=Z,10nm,1.1s
F22K John River **93.00 11** P **P** **13 26 17.6 +1.0**
baz=206
F22K S **S** **13 36 35.4 +0.7**
baz=206
SDCO Great Sand Dun **93.08 50** P **P** **13 26 18.8 +0.7**
baz=243
SDCO Great Sand Dun **93.08 50** P **P** **13 26 18.3 +0.3**
baz=243
SDCO S **S** **13 36 38.9 +1.7**
baz=243
COLD Coldfoot **93.10 11** P **P** **13 26 17.2 +0.2**
baz=208
COLD S **S** **13 36 35.8 +0.3**
baz=208
G24K Hadweenzic Riv **93.16 13** P **P** **13 26 17.2 -0.2**
baz=210
K29M Barlow Dome **93.19 18** P **P** **13 26 18.4 +0.7**
baz=219
K29M S **S** **13 36 37.5 +0.9**
baz=219
FARO Faro, Yukon **93.20 20** S **S** **13 36 37.6 +0.9**
baz=223
WTLY Watson Lake, Y **93.24 23** P **P** **13 26 18.9 +1.0**
baz=226
WTLY S **S** **13 36 40.4 +3.4**
baz=226
MSTX Muleshoe **93.39 55** P **P** **13 26 20.0 +0.7**
baz=244
MSTX Muleshoe **93.39 55** P **P** **13 26 17.8 -1.6**
baz=244
MSTX S **S** **13 36 45.3 +5.6**
baz=244
MAYO Mayo, Yukon **93.46 18** P **P** **13 26 18.0 -0.8**
baz=220
MAYO S **S** **13 36 39.2 +0.5**
baz=220
J29M Klondike Camp **93.47 17** P **P** **13 26 18.6 -0.3**
baz=218
J29M S **S** **13 36 39.7 +0.8**
baz=218
I27K Kandik River **93.53 15** S **S** **13 36 38.6 -0.7**
baz=216
T25A Trinidad **93.58 51** S **S** **13 36 47.1 +5.7**
baz=243
CO02 Combarbal **93.60 126** IAmb IAmb 13 26 23.9
comp=Z,112nm,1.0s
E22K Anaktuvuk Pass **93.63 10** P **P** **13 26 20.1 +0.6**
baz=206
E22K S **S** **13 36 40.0 -0.1**
baz=206
833A Chaparral WMA, **93.63 61** P **P** **13 26 20.9 +0.5**
baz=246
833A Chaparral WMA, **93.63 61** S **S** **13 36 45.8 +4.0**
baz=245
F24K Squaw Lake **93.78 12** S **S** **13 36 41.6 +0.1**
baz=210
YAK Yakutsk **93.79 339** P **P** **13 26 20.1 -0.1**
YAK Yakutsk **93.79 339***d i*P **P** **13 26 20.8 +0.5**
YAK *e* 13 28 22.9
YAK *e*S **SKSac** **13 36 01.2 +0.2**
YAK *e* 13 36 44.7
YAK pmax pmax
comp=Z,150nm,1.3s
YAK pmax pmax
comp=N,28nm,1.4s
YAK pmax pmax
comp=E,30nm,1.2s
YAK pmax pmax
comp=E,39nm,1.8s
YAK pmax pmax
comp=Z,207nm,2.9s
YAK pmax pmax
comp=N,51nm,2.1s
YAK smax smax
comp=E,241nm,1.9s
YAK smax smax
comp=N,97nm,1.8s
Q24A Divide **93.88 49** P **P** **13 26 20.1 -1.6**
baz=243
ISCO Idaho Springs **93.94 48** P **P** **13 26 18.4 -3.5**
baz=243
E23K Chandalar **93.94 11** P **P** **13 26 21.8 +0.8**
baz=208
E23K S **S** **13 36 43.2 +0.3**
baz=208
RLMT Red Lodge **94.05 42** S **S** **13 36 51.2 +6.0**
baz=241
H27K Steamboat Moun **94.06 15** S **S** **13 36 42.8 -1.1**
baz=216
E24K Your Creek **94.16 12** S **S** **13 36 44.2 -0.5**
baz=209
I29M Ogilvie Camp, **94.16 16** S **S** **13 36 44.6 -0.2**
baz=218
JCT Junction City **94.19 59** P **P** **13 26 23.2 +0.2**
baz=245
JCT Junction City **94.19 59** S **S** **13 36 50.6 +4.0**
baz=245
N23A Red Feather La **94.21 47** S **S** **13 36 50.4 +3.6**
baz=243
F25K Christian Rive **94.29 13** S **S** **13 36 46.6 +0.7**
baz=212
CIT Chita **94.35 326** *e*P **P** **13 26 24.2 +1.0**
CIT *e* 13 28 27.2
CIT *e* 13 30 26.2
CIT *e* 13 36 04.2
CIT pmax pmax
comp=Z,213nm,2.9s
G27K Doyon Strip **94.50 14** S **S** **13 36 49.4 +1.7**
baz=216
D23K Nanushuk River **94.56 10** S **S** **13 36 46.0 -2.1**
baz=207
AMTX Amarillo **94.59 54** S **S** **13 36 52.1 +2.0**
baz=245
K22A Casper **94.63 45** S **S** **13 36 54.6 +4.5**
baz=242
F26K Sheenjek River **94.69 13** S **S** **13 36 52.0 +2.7**
baz=213
E25K Arctic Village **94.76 13** S **S** **13 36 50.0 +0.1**
baz=212
LCO Las Campanas **94.92 124** P **P** **13 26 26.6 -0.1**
LCO IAmb IAmb 13 26 30.3
comp=Z,82nm,1.1s
LCO Las Campanas **94.92 124** P **P** **13 26 26.6 -0.1**
LCO pmax pmax
comp=Z,82nm,1.2s
LKP Lekhapani **94.95 297** *i* x x 13 30 22.8
LKP *ex* x 13 33 30.8
LKP Lekhapani **94.95 297** *ex* **P** **13 26 26.4 -0.1**
LKP Lekhapani **94.95 297** *i* x x 13 30 21.1
KOTAN Kotaneelee Air **95.03 25** S **S** **13 36 55.3 +2.9**
baz=230
D24K Happy Valley **95.04 11** S **S** **13 36 52.2 +0.1**
baz=209
EGMT Eagleton **95.17 40** S **S** **13 36 57.6 +3.2**
baz=241
ABTX Abilene, Hawle **95.20 57** P **P** **13 26 27.8 +0.3**
baz=246
ABTX Abilene, Hawle **95.20 57** S **S** **13 36 59.7 +4.5**
baz=246
EPYK Eagle Plains **95.36 16** P **P** **13 26 27.6 +0.2**
baz=220
CFA Coronel Fontan **95.43 128** PKKPbc PKKPbc 13 43 18.0 0.0
comp=Z,2.7nm,0.5s,baz=101,slow=5.6,SNR=4.4
SAIH SAIHA **95.44 292** *e*P **P** **13 26 28.9 0.0**
SAIH IAmb IAmb 13 26 33.1
comp=Z,32nm,0.8s
SAIH *i* x x 13 30 27.1
SAIH SAIHA **95.44 292** *ex* x 13 26 26.9
IMP Imphal **95.54 295** *e*P **P** **13 26 29.2 0.0**
IMP IAmb IAmb 13 26 34.1
comp=Z,67nm,0.6s
IMP *ex* x 13 33 33.0
IMP Imphal **95.54 295** *ex* x 13 26 28.7
D25K Kavik River **95.63 12** S **S** **13 36 55.4 -1.9**
baz=211
E27K Coleen River **95.64 14** S **S** **13 36 57.6 +0.2**
baz=216
MOKO MOKOCHONG **95.65 296** *e*P **P** **13 26 30.1 +0.3**
MOKO IAmb IAmb 13 26 32.7
comp=Z,46nm,1.1s
MOKO MOKOCHONG **95.65 296** *ex* x 13 26 28.4
KSCO Kaye Shedlock' **95.66 50** IAmb IAmb 13 26 34.0
comp=Z,72nm,1.0s
KSCO Kaye Shedlock' **95.66 50** P **P** **13 26 29.8 +0.2**
baz=245
KSCO Kaye Shedlock' **95.66 50** P **P** **13 26 27.5 -2.0**
baz=245
DIBR DIBRUGARH **95.77 297** *i* x x 13 30 29.2
DIBR DIBRUGARH **95.77 297** *i* x x 13 30 32.1
DIBR *ex* x 13 33 30.8
DIBR DIBRUGARH **95.77 297** *ex* **P** **13 26 30.4 +0.3**
A21K Barrow **95.86 8** P **P** **13 26 29.8 +0.4**
baz=202
A21K S **S** **13 36 56.3 -2.6**
baz=202
ULN Ulaanbaatar **95.86 320** P **P** **13 26 30.1 -0.1**
ULN IAmb IAmb 13 26 32.9
comp=Z,261nm,1.6s
ULN Ulaanbaatar **95.86 320***de*P **P** **13 26 30.7 +0.5**
ULN pmax pmax
comp=Z,87nm,1.1s
ULN Ulaanbaatar **95.86 320** P **P** **13 26 28.2 -2.0**
G30M tAoh Zraii Nji **95.96 16** S **S** **13 36 58.5 -1.6**
baz=220
JORH JORHAT **96.03 296** *e*P **P** **13 26 32.1 +0.8**
435B Jarrell **96.06 59** S **S** **13 37 07.2 +4.6**
baz=246

SONM Songino Array 96.23 320 P **P** **13 26 32.6 +0.8**
comp=Z,76nm,1.2s,baz=137,slow=3.1,SNR=131
SONM PKiKP **PKiKP** **13 31 07.8 +1.5**
comp=Z,5.2nm,1.1s,baz=120,slow=1.1,SNR=12
SONM PKKPbc **PKKPbc** **13 43 15.8 -0.8**
comp=Z,3.2nm,0.6s,baz=260,slow=2.8,SNR=20
comp=Z,76nm,1.2s
SONM Songino Array 96.23 320 P **P** **13 26 31.5 -0.4**
SONM IAmb IAmb 13 26 34.4
comp=Z,169nm,1.5s
C26K Camden Bay 96.41 12 S **S** **13 36 59.7 -4.1**
baz=213
SILR SILCHAR 96.48 294 *i* x x 13 30 38.9
SILR SILCHAR 96.48 294 *ex* x 13 33 33.0
ITAN ITANAGAR 96.62 297 *eP* **P** **13 26 33.9 0.0**
ITAN IAmb IAmb 13 26 38.5
comp=Z,62nm,0.8s
ITAN *i* x x 13 30 36.4
ITAN *ex* x 13 33 30.1
ITAN ITANAGAR 96.62 297 *ex* x 13 26 35.3
ZIRO ZIRO 96.66 297 *eP* **P** **13 26 35.0 +0.6**
ZIRO IAmb IAmb 13 26 37.6
comp=Z,101nm,1.1s
ZIRO *i* x x 13 30 33.5
ZIRO ZIRO 96.66 297 *ex* x 13 26 35.0
LAO LASA Array 96.66 42 P **P** **13 26 35.4 +1.6**
baz=243
LAO LASA Array 96.66 42 S **S** **13 37 11.0 +3.9**
baz=243
GTA Gaotai 96.82 310 ⇓P **P** **13 26 35.9 +1.2**
GTA pP pP 13 28 35.4 -0.5
GTA sP sP 13 29 29.5 -1.5
GTA PP **PP** **13 30 38.5 -1.2**
GTA SKS **SKSac** **13 36 16.2 -2.0**
GTA S **ScS** **13 37 11.1 +2.2**
GTA SS **SS** **13 43 57.2 -4.6**
GTA pmax pmax
comp=Z,74nm,1.5s
GTA pmax pmax
comp=Z,810nm,11.2s
OGNE Ogallala 96.89 48 P **P** **13 26 35.8 +0.8**
baz=245
RSSD Black Hills 96.91 45 P **P** **13 26 35.2 +0.1**
baz=244
RSSD Black Hills 96.91 45 S **S** **13 37 14.3 +4.7**
baz=244
BELO BELONIA 97.04 292 *i* x x 13 29 03.1
TEZP TEZPUR 97.18 296 *eP* Pdif 13 26 36.7 +0.3
TEZP IAmb IAmb 13 26 41.0
comp=Z,44nm,0.6s
TEZP *i* x x 13 30 40.0
TEZP *ex* x 13 33 25.8
TEZP TEZPUR 97.18 296 *ex* x 13 26 36.5
BOD Bodaibo 97.28 331 *eP* Pdif 13 26 35.6 -0.5
BOD pmax pmax
comp=Z,28nm,1.5s
SHL Shillong 97.55 294 IAmb IAmb 13 26 43.2
comp=Z,167nm,1.8s
SHL Shillong 97.55 294 *ex* x 13 26 38.4
SHL Shillong 97.55 294 *i* x x 13 30 40.5
CBKS Cedar Bluff 97.63 51 P **P** **13 26 40.4 +2.1**
baz=246
INK Inuvik 97.64 16 PKKPbc PKKPbc 13 43 11.2 -2.0
comp=Z,2.1nm,0.6s,baz=65,slow=4.2,SNR=6.1
237A Washetta, Mont 97.93 59 P Pdif 13 26 39.3 -0.3
baz=248
R32A Long Quarter, 98.22 52 P **P** **13 26 42.2 +1.3**
baz=247
GOMU GeErMu 99.19 305 P **Pdif** **13 26 47.6 +1.9**
GOMU pP pP 13 28 44.9 -2.1
GOMU PP **PP** **13 30 58.9 +1.0**
GOMU SKS 13 36 29.0
GOMU S **S** **13 37 30.3 +0.5**
GOMU pmax pmax
comp=Z,30nm,2.2s
GOMU pmax pmax
comp=Z,620nm,9.8s
ZAK Zakamensk 99.20 321 *eP* **Pdif** **13 26 44.6 -0.4**
ZAK pmax pmax
comp=Z,23nm,1.3s
ZAK pmax pmax
comp=Z,24nm,1.6s
IRK Irkutsk 99.45 323 *eP* **Pdif** **13 26 46.3 +0.4**
IRK pmax pmax
comp=Z,56nm,2.5s
LVC Limon Verde 99.50 120 PKKPbc PKKPbc 13 43 07.2 0.0
comp=Z,11nm,0.5s,baz=0.8,slow=3.0,SNR=20
YKA Yellowknife Ar 100.11 26 PKiKP **PKiKP** **13 31 14.5 +2.0**
comp=Z,4.0nm,0.8s,baz=230,slow=1.3,SNR=5.9
YKA PKKPbc **PKKPbc** **13 43 03.8 -2.4**
comp=Z,2.7nm,0.5s,baz=50,slow=2.9,SNR=25
YKA SKKPbc SKKPbc 13 45 51.9 -4.8
comp=Z,2.0nm,0.9s,baz=55,slow=3.6,SNR=5.2
YKA PKPPKP **P'P'df** **13 51 21.7 +2.8**
comp=Z,0.6nm,0.8s,baz=55,slow=2.3,SNR=5.6
MOY Mondy 101.05 322 *eP* **Pdif** **13 26 53.8 +0.6**
MOY pmax pmax
comp=Z,75nm,3.7s
VJD Vijayawada 104.11 282 *ex* **PP** **13 31 30.7 -3.4**
ULM Lac du Bonnet 104.39 41 PKiKP **PKiKP** **13 31 23.5 +2.8**
comp=Z,2.7nm,0.5s,baz=224,slow=2.7,SNR=5.4
ULM PKKPbc **PKKPbc** **13 42 52.9 -0.5**
comp=Z,2.3nm,0.5s,baz=138,slow=3.6,SNR=5.9
KOD Kodaikanal 104.77 275 *ex* **PKiKP** **13 31 26.0 +3.1**
PCHI Peechi 105.90 275 *ex* **PKiKP** **13 31 24.8 +0.2**
CPUP Villa Florida 106.28 129 PKKPbc PKKPbc 13 42 46.9 -0.4
comp=Z,10nm,1.2s,baz=51,slow=2.4,SNR=4.8
HYB Hyderabad 106.30 282 *eP* **Pdif** **13 27 18.1 +0.8**
HYB *ePKiKP* **PKiKP** **13 31 22.7 -2.5**
HYB *ePP* **PP** **13 31 46.6 -3.5**
HYB *e*SKSac **SKSac** **13 37 03.2 -0.4**
HYB *e*SKKSac **SKKSac** **13 37 54.9 -0.9**
HYB Hyderabad 106.30 282 *i* x x 13 31 45.5
WMQ Urumqi 106.86 311 Pdif **Pdif** **13 27 20.6 +1.4**
WMQ PP **PP** **13 31 50.5 -3.2**
WMQ S **Sdif** **13 38 35.4 +3.0**
WMQ SS **SS** **13 46 12.7 -5.8**
WMQ AMB AMB
comp=Z,810nm,4.3s
ROSC El Rosal 106.94 92 PKKPbc PKKPbc 13 42 47.4 +2.2
comp=Z,21nm,0.6s,baz=136,slow=23,SNR=6.5
LGTI Lohaghat 108.57 295 *ex* **PKiKP** **13 31 29.7 +0.6**
AKL Akola 108.74 285 *ex* **PKiKP** **13 31 31.2 +1.5**
JHNI Jhansi 108.86 290 *ex* PP 13 31 57.4 -11
SIV San Ignacio 109.24 118 PKKPbc PKKPbc 13 42 36.9 -1.1
comp=Z,7.2nm,0.7s,baz=51,slow=2.5,SNR=21
ZSN Zaisan 109.70 314 *e*PKiKP **PKiKP** **13 31 30.4 -0.3**
baz=314
ZSN *e*PP **PP** **13 32 13.1 -0.8**
baz=314
ZALV Zalesovo Beam 111.08 321 Pdiff **Pdif** **13 27 38.6 +1.0**
comp=Z,2.3nm,0.6s,baz=103,slow=4.7,SNR=14
ZALV PKiKP **PKiKP** **13 31 32.4 -0.7**
comp=Z,9.8nm,0.4s,baz=154,slow=2.9,SNR=28
ZALV PKKPbc **PKKPbc** **13 42 31.4 -1.2**
comp=Z,1.2nm,0.5s,baz=247,slow=5.0,SNR=4.0
MKAR Makanchi Array 111.28 313 Pdiff **Pdif** **13 27 40.6 +1.9**
comp=Z,6.4nm,0.7s,baz=90,slow=5.5,SNR=40
MKAR PKiKP **PKiKP** **13 31 32.6 -1.2**
comp=Z,16nm,0.7s,baz=94,slow=2.1,SNR=42
MKAR PP **PP** **13 32 26.2 +1.2**
comp=Z,3.7nm,0.7s,baz=90,slow=7.0,SNR=3.8
MKAR SKP 13 34 17.4
comp=Z,21nm,0.8s,baz=72,slow=3.5,SNR=7.3
MKAR PKKPbc **PKKPbc** **13 42 32.2 +0.3**
comp=Z,1.7nm,0.5s,baz=288,slow=1.4,SNR=9.5
MKAR PKKPab **PKKPab** **13 42 43.0 +1.3**
comp=Z,4.6nm,0.7s,baz=246,slow=2.4,SNR=4.8
MKAR SKKPbc SKKPbc 13 45 19.7 -4.8
comp=Z,1.7nm,0.6s,baz=262,slow=2.1,SNR=2.8
MAKZ Makanchi 111.49 313 ⇑PKiKP **PKiKP** **13 31 33.3 -0.9**
NRIK Noril'sk 112.19 337 Pdiff **Pdif** **13 27 43.8 +1.6**
comp=Z,2.1nm,0.5s,baz=79,slow=5.3,SNR=5.4
NRIK PKiKP **PKiKP** **13 31 34.9 +0.2**
comp=Z,6.3nm,0.4s,baz=137,slow=1.3,SNR=13
NRIK SKP 13 34 18.7
comp=Z,18nm,0.9s,baz=50,slow=1.9,SNR=8.1
NRIK Noril'sk 112.19 337 ⇑*i*PKiKP **PKiKP** **13 31 34.7 -0.1**
BHK Bhakra 112.29 296 *ex* **PKiKP** **13 31 35.4 -0.7**
SHLS Shalkode 112.52 309 *e*PKiKP **PKiKP** **13 31 35.3 -1.1**
baz=309
SHLS *i* PP **PP** **13 32 30.6 -3.5**
baz=309
SHLS Shalkode 112.52 309 *e*PKiKP **PKiKP** **13 31 36.7 +0.3**
UZB Uzynbulak 112.83 309 *e*PKiKP **PKiKP** **13 31 36.2 -0.8**
baz=309
UZB *i* PP **PP** **13 32 34.7 -1.5**
baz=309
UZB Uzynbulak 112.83 309 *e*PKiKP **PKiKP** **13 31 36.5 -0.5**
THN Thein Dam 113.11 297 *ex* x 13 31 37.4
KPKS Kokpek 113.14 309 *e*PKiKP **PKiKP** **13 31 36.9 -0.6**
baz=309
KPKS *i* PP **PP** **13 32 36.9 -1.4**
baz=309
KPKS Kokpek 113.14 309 *e*PKiKP **PKiKP** **13 31 36.8 -0.7**
ZHN Zhinishke 113.26 309 *e*PKiKP **PKiKP** **13 31 37.2 -0.6**
baz=308
ZHN *e*PP **PP** **13 32 37.1 -2.1**
baz=308
SATY Saty 113.26 308 *e*PKiKP **PKiKP** **13 31 37.2 -0.6**
baz=308
SATY *i* PP **PP** **13 32 37.8 -1.4**
baz=308
TDK Taldyqorghan 113.61 311 *e*PKiKP **PKiKP** **13 31 38.0 -0.3**
baz=310
TDK *e*PP **PP** **13 32 41.5 +0.1**
baz=310
JMU Jammu 113.85 297 *ex* **PKiKP** **13 31 40.2 +1.1**
TNSS Tian-Shan 114.31 308 *e*PKP PKPdf 13 31 39.1 -1.0
baz=308
KURK Kurchatov 114.33 317 PKiKP PKPdf 13 31 38.4 -1.0
AAA Alma-Ata 114.36 308 *e*PKP PKPdf 13 31 39.1 -0.7
baz=308
KURBB Kurchatov Arra 114.37 317 PKP PKPdf 13 31 38.4 -1.1
comp=Z,32nm,0.8s,baz=106,slow=1.8,SNR=55
KURBB SKP 13 34 23.3
comp=Z,21nm,0.8s,baz=97,slow=2.0,SNR=9.1
KURBB PKKPbc **PKKPbc** **13 42 21.4 -0.3**
comp=Z,2.6nm,0.8s,baz=277,slow=4.2,SNR=8.4
KURBB SKKPbc SKKPbc 13 45 11.9 -3.5
comp=Z,3.6nm,0.7s,baz=278,slow=3.8,SNR=11
KSH Kashi 114.41 304 PKP **PKiKP** **13 31 41.5 +1.4**
KSH PP **PP** **13 32 48.6 +1.3**
KSH SKKS 13 38 48.9
KSH SS **SS** **13 48 03.0 +4.7**
KSH AMB AMB
comp=Z,1μm,5.2s
CHKK Chushkaly 114.42 309 *e*PKP PKPdf 13 31 39.5 -0.3
baz=309
ULHL Ulahol 114.69 307 P PKPdf 13 31 40.5 -0.1
SNR=23
KUU Kurty 114.89 309 *e*PKP PKPdf 13 31 39.8 -1.0
baz=309
KUU *e*PP **PP** **13 32 49.8 -0.6**
baz=309
TKM2 Tokmak 2 115.27 308 P **PKPdf** **13 31 40.7 -1.1**
SNR=19
NIL Nilore 115.40 297 PKPdf **PKPdf** **13 31 40.9 -1.2**
NIL Nilore 115.40 297 PKiKP **PKPdf** **13 31 40.9 -1.2**
NIL Nilore 115.40 297 P **PKPdf** **13 31 40.8 -1.3**
VOI Vohitsoka 115.52 229 PKP **PKiKP** **13 31 45.0 +2.1**
KBK Karagaybulak 115.70 308 P **PKPdf** **13 31 41.8 -0.8**
SNR=25
CHMS Chumysh 115.89 308 P **PKPdf** **13 31 42.2 -0.6**
SNR=32
UCH Uchtor 115.95 307 P **PKPdf** **13 31 43.4 0.0**
SNR=44
AAK Ala-Archa 116.03 307 P **PKPdf** **13 31 42.6 -0.6**
SNR=23
AAK Ala-Archa 116.03 307 PKP **PKPdf** **13 31 42.8 -0.4**
comp=Z,15nm,0.7s,baz=169,slow=3.0,SNR=41
AAK PKKPbc **PKKPbc** **13 42 16.2 +0.1**
comp=Z,5.6nm,0.5s,baz=225,slow=3.9,SNR=11
AAK SKKPbc SKKPbc 13 45 06.5 -3.5
comp=Z,4.0nm,0.5s,baz=160,slow=3.5,SNR=5.8
AAK Ala-Archa 116.03 307 PKPdf **PKPdf** **13 31 42.4 -0.8**
AAK Ala-Archa 116.03 307*d* iPKiKP **PKiKP** **13 31 43.2 0.0**
AAK pmax pmax
comp=Z,40nm,1.3s
AAK Ala-Archa 116.03 307 *i* PKiKP **PKiKP** **13 31 43.5 +0.3**
SNR=29
SGDS Sogindy 116.05 308 *e*PKP **PKPdf** **13 31 42.1 -1.0**
baz=308
USP Ospennovka 116.11 308 P **PKPdf** **13 31 42.3 -0.9**
SNR=48
AML Almayashu 116.54 307 P **PKPdf** **13 31 43.8 -0.7**
SNR=89
EKS2 Erkin-Say 116.56 307 P **PKPdf** **13 31 43.8 -0.3**
SNR=31
BTLS Baital 116.67 310 *e*PKiKP **PKPdf** **13 31 43.2 -0.9**
ABPO Ambohimpanom 117.09 232 PKPdf **PKiKP** **13 31 46.1 +0.1**
ABPO Ambohimpanom 117.09 232 PKiKP **PKiKP** **13 31 46.1 +0.1**
OPO Ambohidratompo117.40 232 PKP **PKiKP** **13 31 47.3 +0.7**
comp=Z,21nm,0.6s,baz=143,slow=1.4,SNR=40
OPO SKP 13 34 30.7
comp=Z,23nm,1.0s,baz=163,slow=2.5,SNR=7.5
TULEG Thule 117.56 14 *i* P **PKPdf** **13 31 43.0 -1.9**
PCRV Puerto La Cruz 117.83 91 PKP **PKPdf** **13 31 46.4 -0.9**
comp=Z,12nm,0.8s,baz=242,slow=22,SNR=1.1
BRZS Berezniki 118.05 316 *e*PKiKP PKiKP 13 31 55.3 +8.6
DZA Taraz 118.37 307 *e*PKP **PKPdf** **13 31 47.3 -0.2**
baz=307
KBL Kabul 119.00 298 PKPdf **PKPdf** **13 31 48.2 -0.9**
KBL Kabul 119.00 298 PKiKP **PKPdf** **13 31 48.3 -0.9**
KBL Kabul 119.00 298 P **PKPdf** **13 31 49.1 -0.1**
SJG San Juan 119.01 82 PKP **PKPdf** **13 31 48.2 -1.1**
comp=Z,34nm,0.7s,baz=308,slow=1.9,SNR=9.9
SJG SKP 13 34 31.5
comp=Z,22nm,0.7s,baz=77,slow=2.2,SNR=5.8
SJG San Juan 119.01 82 **PKPdf** **13 31 47.6 -1.7**
IUG luzhnay 119.25 306 *e*PKiKP **PKPdf** **13 31 49.0 -0.3**
BVAR Borovoye Array 119.57 319 PKP **PKPdf** **13 31 48.7 -0.8**
comp=Z,57nm,0.3s,baz=125,slow=2.0,SNR=120
BVAR SKP 13 34 33.5
comp=Z,36nm,0.9s,baz=108,slow=3.3,SNR=6.8
BVAR PKKPbc **PKKPbc** **13 42 03.4 -0.3**
comp=Z,2.1nm,0.7s,baz=268,slow=4.5,SNR=10
BVAR SKKPbc SKKPbc 13 44 53.6 -5.8
comp=Z,2.3nm,0.6s,baz=274,slow=3.8,SNR=6.4
BRVK Borovoye 119.63 319 PKPdf **PKPdf** **13 31 48.4 -1.2**
BRVK Borovoye 119.63 319*d* iPKiKP **PKPdf** **13 31 48.8 -0.7**
BRVK pmax pmax
comp=Z,118nm,1.3s
BRVK Borovoye 119.63 319 P **PKPdf** **13 31 48.9 -0.7**
BDFB Brasilia 119.68 125 PKP **PKiKP** **13 31 51.1 +0.1**
comp=Z,38nm,0.8s,baz=21,slow=25,SNR=1.1
BDFB PKKPbc **PKKPbc** **13 42 04.6 +1.4**
comp=Z,10nm,0.5s,baz=103,slow=2.7,SNR=9.9
NEEM North Greenlan 120.81 11 *i* P **PKPdf** **13 31 51.2 -0.4**
SUR Sutherland 120.93 201 PKP **PKiKP** **13 31 53.5 +0.3**
comp=Z,48nm,0.6s,baz=230,slow=0.9,SNR=50
SUR SKP 13 34 36.9
comp=Z,54nm,1.0s,baz=160,slow=3.0,SNR=6.9
SUR PKKPbc **PKKPbc** **13 42 00.1 +0.6**
comp=Z,19nm,0.9s,baz=335,slow=4.7,SNR=12
SUR Sutherland 120.93 201 PKPdf **PKiKP** **13 31 53.2 -0.1**
KULLO Kullorsuaq 120.98 15 *i* P **PKPdf** **13 31 50.7 -0.8**
NOR Nord 121.27 3 *i* P **PKPdf** **13 31 50.6 -1.4**
UPNV Upernavik 122.07 17 *i* P **PKPdf** **13 31 52.5 -1.2**
SCHQ Schefferville 122.42 39 PKP **PKPdf** **13 31 54.4 -0.5**
comp=Z,19nm,0.6s,baz=244,slow=3.9,SNR=19
SCHQ PKKPbc **PKKPab** **13 41 52.6 +0.1**
comp=Z,2.8nm,0.5s,baz=79,slow=2.8,SNR=8.9
SJMB Sao Joao De Ma 122.51 133 *eP* **PKPdf** **13 31 55.5 -0.7**
BOSA Boshof 122.64 207 PKP **PKPdf** **13 31 56.5 +0.1**
comp=Z,28nm,0.7s,baz=136,slow=1.6,SNR=38
BOSA SKP 13 34 41.0
comp=Z,33nm,1.0s,baz=159,slow=2.5,SNR=8.3
BOSA PKKPbc **PKKPbc** **13 41 52.8 -0.1**
comp=Z,10nm,0.7s,baz=352,slow=4.2,SNR=16
BOSA Boshof 122.64 207 *i* P **PKiKP** **13 31 56.8 +0.2**
BSFB Barra de Sao F 122.65 134 *eP* **PKPdf** **13 31 56.3 -0.1**
BBSR BB Station 123.42 66 **PKPdf** **13 31 57.0 -0.4**
NUUG Nuugaatsiaq 123.45 18 *i* P **PKPdf** **13 31 55.1 -1.2**
PRPB Parauapebas 123.81 115 *eP* **PKiKP** **13 31 59.2 +0.1**
MOPA Mopani 123.97 216 *i* P **PKiKP** **13 31 59.7 +0.4**
KBS Kingsbay 124.02 357 **PKiKP** **13 31 57.5 -0.2**
KBS Kingsbay 124.02 357 *i* P **PKiKP** **13 31 57.7 +0.1**
KBS Kingsbay 124.02 357*d* iPKiKP **PKPdf** **13 31 57.2 -0.1**
KBS pmax pmax
comp=Z,78nm,1.0s
KBS Kingsbay 124.02 357 *e*PKPdf **PKiKP** **13 31 57.7 +0.1**
KBS *e*SKSac **SKSac** **13 38 08.2 +0.7**
NGCH Negor - Chabah 124.06 286 P **PKiKP** **13 32 00.6 +1.3**
SNR=5.1
SPA0 Spitsbergen Ar 124.48 356 *e*PKPdf **PKiKP** **13 31 58.6 0.0**
SPA0 *e*PKSdf **PKSdf** **13 35 36.1 +1.8**
SPITS Spitsbergen Ar 124.48 356 SKP 13 34 42.9
comp=Z,71nm,1.0s,baz=149,slow=3.4,SNR=7.4
SPITS PKKPbc PKKPbc 13 41 44.6 -1.1
comp=Z,1.4nm,0.3s,baz=165,slow=6.6,SNR=34
SVE Sverdlovsk 124.82 324 *e*PKiKP **PKPdf** **13 31 59.5 +0.1**
SVE pmax pmax
comp=Z,140nm,1.0s
MCPB Macapa, AP 124.87 108 *eP* **PKiKP** **13 32 02.1 +0.8**
JLN Jalan Bani Buh 124.90 281 P **PKiKP** **13 32 01.0 0.0**
SNR=41
ILULI Ilulissat 125.22 20 *i* P **PKPdf** **13 31 58.3 -1.5**
WBK Wadi Bani Khal 125.40 282 P **PKPdf** **13 32 01.6 0.0**
SNR=18
LBTB Lobatse 125.61 210 PKP **PKiKP** **13 32 03.0 +0.4**
comp=Z,20nm,0.6s,baz=152,slow=4.2,SNR=27
LBTB SKP 13 34 46.0
comp=Z,14nm,0.9s,baz=140,slow=5.7,SNR=4.7
LBTB PKKPbc **PKKPbc** **13 41 41.3 0.0**
comp=Z,3.5nm,0.8s,baz=218,slow=3.4,SNR=4.2
LBTB Lobatse 125.61 210 *i* P **PKPdf** **13 32 02.1 0.0**
LBTB Lobatse 125.61 210 PKiKP **PKiKP** **13 32 03.0 +0.4**
MUSN Musina, Limpop 125.79 215 *i* P **PKiKP** **13 32 03.4 +0.4**
WSAR Wadi Sarin 125.85 283 PKP **PKPdf** **13 32 02.3 -0.1**
comp=Z,56nm,1.2s,baz=196,slow=2.1,SNR=35
WSAR PKKPbc **PKKPbc** **13 41 42.0 +2.6**
comp=Z,2.8nm,0.5s,baz=259,slow=11,SNR=8.2
WSAR SKKPbc SKKPbc 13 44 35.8 -0.8
comp=Z,5.6nm,0.8s,baz=264,slow=3.8,SNR=6.9
WSAR Wadi Sarin 125.85 283 P **PKiKP** **13 32 03.2 +0.4**
SNR=22
MHTO MHTO 125.92 280 P **PKiKP** **13 32 03.0 -0.1**
SNR=51
ARU Arti 126.02 324 PKKPbc PKKPbc 13 41 38.8 -0.4
comp=Z,8.2nm,0.8s,baz=181,slow=2.0,SNR=4.1
ARU SKKPbc SKKPbc 13 44 33.0 -5.2
comp=Z,9.0nm,0.7s,baz=214,slow=2.9,SNR=7.1
ARU Arti 126.02 324 PKPdf **PKPdf** **13 32 01.1 -0.6**
ARU Arti 126.02 324 *i* PKiKP **PKPdf** **13 32 01.4 -0.3**
ARU 13 34 00.4
ARU 13 38 14.3
DQM DQM 126.05 278 P **PKiKP** **13 32 04.0 +0.7**
SNR=19
JMDO Jabal Madar 126.13 281 P **PKPdf** **13 32 03.1 +0.2**
SNR=28
SMDO Samad 126.33 282 P **PKPdf** **13 32 03.6 +0.1**
SNR=29
BIDO Bidbid 126.36 283 P **PKPdf** **13 32 03.2 -0.1**
SNR=19
SUMG Summit 126.45 13 *i* P **PKPdf** **13 32 02.1 -0.5**
SFJD Kangerlussuaq 126.47 22 PKKPbc PKKPbc 13 41 37.1 -0.5
comp=Z,4.1nm,0.6s,baz=231,slow=3.8,SNR=4.1
SFJD Kangerlussuaq 126.47 22 PKPdf **PKPdf** **13 32 01.4 -0.9**
SFJD Kangerlussuaq 126.47 22 *i* P **PKPdf** **13 32 01.2 -1.0**
SFJD Kangerlussuaq 126.47 22 PKiKP **PKPdf** **13 32 01.4 -0.9**
BSY Bisya 127.03 282 P **PKPdf** **13 32 05.0 +0.3**
SNR=28
JASK Jask - Hormozg 127.06 286 P **PKiKP** **13 32 06.1 +0.9**
SNR=8.3
GDU01 Guandu, BA 127.08 130 *eP* **PKPdf** **13 32 04.3 -0.7**
HOQ Hoqain 127.10 283 P **PKPdf** **13 32 05.1 +0.2**
SNR=24
NUUK Nuuk 127.37 25 *i* P **PKPdf** **13 32 03.5 -0.5**
AKTO Aktyubinsk 127.42 317 PKhKP PKPpre 13 31 56.3
comp=Z,1.7nm,0.6s,baz=124,slow=2.1,SNR=3.9
AKTO PKP **PKPdf** **13 32 04.5 -0.1**
comp=Z,53nm,0.7s,baz=89,slow=1.8,SNR=53
AKTO SKPbc SKPbc 13 34 33.1
comp=Z,27nm,0.9s,baz=170,slow=1.5,SNR=5.4
AKTO SKKPbc **SKKPbc** **13 44 29.7 -3.4**
comp=Z,9.2nm,0.9s,baz=233,slow=3.1,SNR=6.6
ARQ Araqi 127.76 282 P **PKPdf** **13 32 06.0 -0.1**
SNR=21
DMTO DMTO 127.83 275 P **PKiKP** **13 32 06.9 -0.1**
SNR=26
DBG Daneborg 127.91 7 *i* P **PKPdf** **13 32 03.9 -1.0**
SOHO SOHO 127.91 283 *i* PKiKP **PKPdf** **13 32 06.0 -0.3**
SNR=38
GEYT Alibeck 128.11 301 PKhKP PKPpre 13 31 53.0
comp=Z,4.8nm,0.5s,baz=222,slow=2.0,SNR=8.8
GEYT PKP **PKiKP** **13 32 06.8 -0.2**
comp=Z,28nm,0.4s,baz=225,slow=1.9,SNR=46
GEYT SKPbc SKPbc 13 34 35.1
comp=Z,40nm,1.0s,baz=215,slow=1.8,SNR=9.8
GEYT SKKPbc **SKKPbc** **13 44 27.6 -2.3**
comp=Z,5.4nm,0.7s,baz=256,slow=5.6,SNR=11
DY2G Dye2 128.22 21 *i* P **PKPdf** **13 32 06.0 +0.1**
MDH Madha 128.34 285 *i* PKPdf **PKPdf** **13 32 06.1 -1.0**
SNR=19
MDH Madha 128.34 285 P **PKPdf** **13 32 06.3 -0.8**
SNR=13
UOSS Minazif 128.36 284 PKPdf **PKPdf** **13 32 06.1 -1.0**
UOSS Minazif 128.36 284 *i* PKPdf **PKPdf** **13 32 06.3 -0.9**
SNR=16
UOSS Minazif 128.36 284 P **PKPdf** **13 32 06.2 -0.9**
HATD Hatta, Dubai 128.41 284 *i* PKiKP **PKPdf** **13 32 06.8 -0.4**
SNR=14
HATD Hatta, Dubai 128.41 284 P **PKPdf** **13 32 06.7 -0.6**
SNR=29
ASHO Ashiyiah 128.44 284 *i* PKiKP **PKPdf** **13 32 07.0 -0.4**
SNR=17
ASHO Ashiyiah 128.44 284 P **PKPdf** **13 32 06.5 -0.9**
SNR=26
BANOM Banah 128.46 285 *i* PKiKP **PKiKP** **13 32 07.8 -0.3**
SNR=10
BANOM Banah 128.46 285 P **PKPdf** **13 32 07.6 +0.2**
SNR=7.2
RBK Rabkut 128.46 274 P **PKPdf** **13 32 07.8 +0.2**
SNR=50
MSFE Esma-Masafi 128.48 285 *i* PKPdf **PKPdf** **13 32 06.4 -1.0**
SNR=12
MASF Masafi 128.48 285 P **PKPdf** **13 32 07.1 -0.3**
SNR=16
ALNE Al Ain 128.60 283 *i* PKPdf **PKPdf** **13 32 06.7 -0.9**
SNR=6.9
ALNE Al Ain 128.60 283 P **PKPdf** **13 32 07.6 -0.1**
SNR=28
ICESG Greenland Ices 128.60 17 *i* P **PKPdf** **13 32 04.4 -2.3**
SHME Shamm 128.62 285 P **PKPdf** **13 32 07.6 0.0**
SNR=8.1
DOK Doka 128.83 276 P **PKiKP** **13 32 09.1 +0.2**
SNR=29
NAZ Nazwa, Dubai 128.85 284 *i* PKiKP **PKPdf** **13 32 08.2 +0.1**
SNR=12
NAZ Nazwa, Dubai 128.85 284 P **PKPdf** **13 32 08.3 +0.3**
SNR=16
UMZA Um Al Zommool 128.86 281 P **PKPdf** **13 32 07.9 -0.2**
FAQ Al Faqa, Dubai 128.87 284 *i* PKiKP **PKiKP** **13 32 08.6 -0.3**
SNR=7.0
FAQ Al Faqa, Dubai 128.87 284 P **PKPdf** **13 32 08.0 -0.1**
SNR=7.8
UMQ Umm Al-Quwin 128.95 285 *i* PKiKP **PKiKP** **13 32 09.3 +0.3**
SNR=6.4
UMQ Umm Al-Quwin 128.95 285 P **PKiKP** **13 32 09.8 +0.8**
SNR=5.3
WHFO Wadi Hawf 128.97 275 P **PKPdf** **13 32 08.1 -0.4**
SNR=39
ASUD Al Ashush, Dub 129.09 283 *i* PKiKP **PKiKP** **13 32 09.2 -0.1**
SNR=9.0
ASUD Al Ashush, Dub 129.09 283 P **PKiKP** **13 32 08.9 -0.4**
SNR=7.2
ABTO Aybut 129.25 274 P **PKPdf** **13 32 09.0 -0.1**
SNR=36
AJN Ajban 129.38 283 *i* PKiKP **PKPdf** **13 32 09.3 +0.2**
SNR=6.1
AJN Ajban 129.38 283 P **PKPdf** **13 32 08.8 -0.3**
SNR=5.8
VADS Vadso 129.93 347 *e*PKPdf **PKPdf** **13 32 08.9 +0.2**
VADS *e* 13 35 38.9
VADS *e*SS SS 13 51 13.8 +3.5
KIRV Kirov 130.08 328 SKPbc **SKPbc** **13 34 40.5 -0.1**
comp=Z,495nm,1.0s,baz=85,slow=1.1,SNR=35
KIRV SKKPbc **SKKPbc** **13 44 19.9 -4.3**
comp=Z,3.1nm,0.5s,baz=273,slow=2.2,SNR=3.9
KIRV Kirov 130.08 328*d* iPKiKP **PKiKP** **13 32 09.8 -0.4**
IVI Ivigtut 130.18 28 *i* P **PKPdf** **13 32 09.4 0.0**
MZWR Madinat Zayed 130.22 282 P **PKiKP** **13 32 11.6 0.0**
ROSB Rosrio 130.33 116 *eP* **PKPdf** **13 32 11.5 +0.3**
LVZ Lovozero 130.38 343 PKPdf **PKPdf** **13 32 10.1 +0.3**
LVZ Lovozero 130.38 343*c* iPKiKP **PKiKP** **13 32 10.8 +0.1**
MZR Muzera 130.43 281 *i* PKiKP **PKiKP** **13 32 12.4 +0.3**
SNR=16
MZR Muzera 130.43 281 P **PKiKP** **13 32 11.7 -0.4**
SNR=16
PRGR Permogore 130.45 333 *e*PKiKP **PKPdf** **13 32 10.2 +0.3**
PRGR *e* 13 34 42.4
HAMF Hammerfest 130.55 350 *e*PKPdf **PKPdf** **13 32 10.2 +0.2**
HAMF *e* 13 35 37.4
HAMF *i* 13 40 54.7
HAMF *e*SS SS 13 51 20.2 +2.4
KEV Kevo 130.70 348 PKPdf **PKPdf** **13 32 10.6 +0.4**

KEV Kevo 130.70 348 PKIKP PKPdf 13 32 10.6 +0.4
APA Apatity 130.95 343 ⇓*i* PKIKP PKPdf 13 32 09.8 -1.0
APA *i* 13 34 42.7
APA pmax pmax
comp=Z,38nm,0.9s
ISOG Isortoq, Green 131.16 20 *i* P PKPdf 13 32 10.0 -1.2
GHWR Ruwais 131.16 282 P PKPdf 13 32 12.9 +0.5
ARA0 ARCESS Array S 131.18 348 *e*PKPdf PKPdf 13 32 11.4 +0.2
ARA0 *e*SKSac SKSac 13 38 26.6 -2.3
ARA0 *e*SS SS 13 51 27.1 +1.7
ARCES ARCESS Array B 131.18 348 PKhKP PKPpre 13 31 57.9
comp=Z,3.7nm,0.7s,baz=7.8,slow=2.5,SNR=9.2
ARCES PKP PKPdf 13 32 10.8 -0.3
comp=Z,39nm,0.5s,baz=50,slow=1.4,SNR=20
ARCES SKPbc SKPab 13 34 45.3 0.0
comp=Z,159nm,0.8s,baz=35,slow=4.4,SNR=39
ARCES PKKPbc 13 41 22.1
comp=Z,5.2nm,0.8s,baz=215,slow=6.1,SNR=5.6
ARCES PKKP PKKPdf 13 42 09.0 -2.4
comp=Z,6.0nm,1.1s,baz=197,slow=2.0,SNR=5.2
ARCES SKKPbc SKKPbc 13 44 16.0 -4.9
comp=Z,6.6nm,0.9s,baz=215,slow=3.0,SNR=5.3
SCO Scoresbysund 131.19 9 *i* P PKPdf 13 32 11.6 +0.4
JRN Qarnain Island 131.36 283 P PKiKP 13 32 13.9 0.0
NRS Narsarsuaq 131.37 27 *i* P PKPdf 13 32 10.8 -0.9
ADZR Andozero 131.96 338 *e*PKIKP PKPdf 13 32 11.5 -1.2
ADZR *e* 13 34 40.5
ADZR pmax pmax
comp=Z,40nm,0.7s
JETT Jettan, Norway 132.04 350 *e*PKPdf PKPdf 13 32 12.2 -0.7
JETT *e*SKSac SKSac 13 38 30.7 -0.6
KTK1 Kautokeino 132.04 349 *e*PKPdf PKPdf 13 32 12.9 +0.1
KTK1 *e*SKSdf SKSdf 13 38 31.7 +0.5
KTK1 *e*SS SS 13 51 38.6 +2.7
TRO Tromso 132.20 351 *e*PKPdf PKPdf 13 32 13.2 +0.2
TRO IVmBBB 13 32 15.3
comp=Z,1μm,3.0s
TRO *e*SKSac SKSac 13 38 30.9 -0.6
TRO *e*SS SS 13 51 41.6 +4.1
SLWR Sila 132.25 282 P PKPdf 13 32 14.9 +0.4
LSZ Lusaka 132.36 219 PKP PKiKP 13 32 16.6 +0.2
comp=Z,33nm,0.6s,baz=147,slow=1.4,SNR=27
LSZ SKPbc SKPab 13 34 52.0 -0.1
comp=Z,58nm,0.8s,baz=166,slow=3.0,SNR=26
SMRA Abu-Samra 133.14 283 P PKPdf 13 32 15.2 -1.0
SHMA Al-Shehemyia 133.19 284 P PKiKP 13 32 17.3 -0.3
BELG Belogornoye 133.27 321 PKhKP PKPpre 13 32 04.5
comp=Z,39nm,0.6s,baz=299,slow=2.2,SNR=7.0
BELG PKP PKiKP 13 32 16.4 -0.5
comp=Z,282nm,0.9s,baz=167,slow=0.3,SNR=19
BELG SKPbc SKPbc 13 34 52.2 +0.3
comp=Z,1μm,0.9s,baz=115,slow=0.1,SNR=42
BELG SKKPbc SKKPbc 13 44 07.6 -4.7
comp=Z,30nm,0.9s,baz=64,slow=2.7,SNR=5.4
BELG Belogornoye 133.27 321 *d*PKIKP PKPdf 13 32 15.9 +0.4
KLMR Klimovskoe 133.37 334 *e*SKKPbc SKKPbc 13 44 07.8 -4.7
KLMR Klimovskoe 133.37 334 *e*PKHKP PKPpre 13 32 08.1
KLMR *e* 13 34 51.2
KLMR *e* 13 44 07.7
KLMR pmax pmax
comp=Z,85nm,1.0s
KLMR Klimovskoe 133.37 334 *e*PKPdf PKPdf 13 32 08.1 -7.4
KLMR Klimovskoe 133.37 334 AMP 13 32 18.8
comp=Z,85nm,1.0s
KLMR Klimovskoe 133.37 334 *e*PP PP 13 34 51.2 -0.1
SAKB Bahrain 133.59 284 P PKPdf 13 32 17.1 +0.1
TSUM Tsumeb 134.13 204 PKhKP PKPpre 13 32 09.2
comp=Z,3.2nm,0.6s,baz=139,slow=5.1,SNR=2.6
TSUM PKP PKiKP 13 32 19.5 -0.4
comp=Z,22nm,0.6s,baz=144,slow=2.5,SNR=20
TSUM SKPbc SKPbc 13 34 56.7 +0.6
comp=Z,113nm,1.0s,baz=152,slow=4.7,SNR=43
TSUM Tsumeb 134.13 204 PKPdf PKPdf 13 32 17.7 -0.7
STEI Steigen 134.29 352 *e*PKPdf PKPdf 13 32 17.0 0.0
STEI *e*SS SS 13 52 04.0 +1.5
LOF Lofoten 134.31 353 *e*PKPdf PKPdf 13 32 11.0 -6.0
LOF *e*SKSdf SKSdf 13 38 33.9 -1.4
LOF *e*SS SS 13 52 04.4 +1.7
KIBK Kibwezi 134.46 241 P PKiKP 13 32 21.8 +1.2
SNR=6.3
FAUS Fauske 134.80 351 *e*PKPdf PKPdf 13 32 16.4 -1.6
FAUS *e*SKSdf SKSdf 13 38 31.0 -5.1
FAUS *e*SS SS 13 52 10.7 +2.2
RCBR Riachuelo 135.06 126 SKPbc SKPbc 13 34 58.1 -0.9
comp=Z,149nm,0.8s,baz=46,slow=3.3,SNR=10.0
MAK Makhachkala 135.80 308 *de*P Pdif 13 29 32.8 +5.0
MAK *i* 13 32 22.9
MAK *e* 13 34 31.6
MAK *e* 13 35 07.5
MAK *e* 13 38 44.5
MAK *e*SS SS 13 52 21.6 -0.9
MAK pmax pmax
comp=Z,236nm,1.5s
KMBO Kilima Mbogo 135.81 242 PKhKP PKPpre 13 32 10.2
comp=Z,3.2nm,0.7s,baz=108,slow=4.5,SNR=5.5
KMBO PKP PKPdf 13 32 22.0 +0.2
comp=Z,19nm,0.8s,baz=52,slow=1.9,SNR=5.1
KMBO SKPbc SKPbc 13 35 01.4 -0.2
comp=Z,44nm,1.0s,baz=66,slow=3.2,SNR=15
KMBO Kilima Mbogo 135.81 242 *i* PKiKP PKiKP 13 32 23.4 -0.2
SNR=13
KMBO Kilima Mbogo 135.81 242 P PKPdf 13 32 22.4 +0.5
AKT Akhty 135.88 306 *e*P Pdif 13 29 27.7 -0.7
AKT *e* 13 32 21.8
AKT *e* 13 35 07.2
AKT pmax pmax
comp=Z,116nm,1.2s
KONS Konsvik 135.92 352 *e*PKPdf PKPdf 13 32 19.6 -0.5
MOR8 Moi Rana 136.06 351 *e*PKPdf PKPdf 13 32 20.2 -0.2
MOR8 *e* 13 38 30.2
MOR8 *e*SS SS 13 52 23.9 +0.5
BORG Borgarnes 136.43 13 SKPbc SKPbc 13 35 02.3 +0.9
comp=Z,106nm,0.9s,baz=34,slow=0.9,SNR=8.9
GROC Groznyy 136.98 309 *e*PKIKP PKPdf 13 32 21.9 -0.9
GROC *e* 13 35 15.0
GROC *e* 13 35 27.0
GROC *e* 13 38 41.2
GROC pmax pmax
comp=Z,131nm,0.9s
ATD Arta Tunnel 136.98 262 *e*P PKPdf 13 32 15.3 -8.4
ATD *e*S SKPbc 13 35 01.9 -2.8
ATD Arta Tunnel 136.98 262 *e*P PKPdf 13 32 17.4 -6.3
MOS Moscow 137.08 329 *i* PKHKP PKPpre 13 32 13.1
MOS *e*SS SS 13 52 38.9 +2.6
MOS pmax pmax
comp=Z,132nm,1.5s
VRH Novokhopyorsk 137.12 321 *e*PKIKP PKPdf 13 32 22.1 -0.6
VRH pmax pmax
comp=Z,120nm,0.6s
FINES FINESS Array B 137.68 341 PKhKP PKPpre 13 32 13.0
comp=Z,24nm,0.7s,baz=61,slow=3.7,SNR=28
FINES PKP PKPdf 13 32 24.4 +0.9
comp=Z,33nm,0.4s,baz=65,slow=3.1,SNR=14
FINES SKPbc SKPbc 13 35 05.7 +0.6
comp=Z,198nm,0.8s,baz=64,slow=4.4,SNR=37
FINES SKKPbc SKKPbc 13 43 51.2 -5.2
comp=Z,15nm,1.0s,baz=219,slow=1.8,SNR=9.0
OBN Obninsk 137.93 329 PKhKP PKPpre 13 32 15.4
comp=Z,5.1nm,0.5s,baz=52,slow=1.0,SNR=7.4
OBN PKP PKPdf 13 32 24.8 +0.7
comp=Z,6.7nm,0.4s,baz=239,slow=4.7,SNR=7.1
OBN SKPbc SKPbc 13 35 06.8 +0.8
comp=Z,43nm,0.8s,baz=42,slow=2.2,SNR=23
NSS Namsos 137.95 352 *e*PKPdf PKPdf 13 32 23.1 -0.7
LPSR Galich'ya Gora 138.04 324 *e*PKIKP PKPdf 13 32 23.7 -0.7
LPSR pmax pmax
comp=Z,110nm,1.3s
VORR Voronezh 138.33 323 PKHKP PKPpre 13 32 15.7
VORR pmax pmax
comp=Z,170nm,1.5s
GNI Garni 138.34 305 PKhKP PKPpre 13 32 19.9
comp=Z,11nm,0.6s,baz=53,slow=1.9,SNR=4.2
GNI PKP PKiKP 13 32 27.0 -0.8
comp=Z,38nm,1.0s,baz=209,slow=3.5,SNR=13
GNI SKPbc SKPbc 13 35 08.2 +0.2
comp=Z,76nm,1.1s,baz=330,slow=4.7,SNR=9.4
GNI Garni 138.34 305 PKPpre 13 32 19.6
GNI Garni 138.34 305 PKIKP PKPpre 13 32 19.6
GNI Garni 138.34 305 PKiKP PKiKP 13 32 26.9 -1.0
VSR Storozhevoye 138.56 322 *e*PKIKP PKPdf 13 32 25.4 0.0
VSR pmax pmax
comp=Z,200nm,1.5s
ONI Oni 138.79 309 *e*P PKiKP 13 32 27.4 -1.2
KBZ Khabaz 138.90 310 PKhKP PKPpre 13 32 15.5
comp=Z,7.6nm,0.8s,baz=202,slow=1.3,SNR=12
KBZ PKP PKPdf 13 32 27.2 +0.9
comp=Z,13nm,0.6s,baz=41,slow=3.3,SNR=14
KBZ SKPbc SKiKP 13 35 10.7 -1.5
comp=Z,15nm,0.7s,baz=138,slow=3.8,SNR=5.2
KVAR Kislovodsk Arr 138.98 311 PKP PKPdf 13 32 26.8 +0.2
comp=Z,8.8nm,0.8s,baz=90,slow=23,SNR=3.5
KIV Kislovodsk 138.99 311 *e*P PKPdf 13 32 24.9 -1.7
KIV Kislovodsk 138.99 311 ⇑*e*PKIKP PKPdf 13 32 26.6 0.0
KIV *i* SS SS 13 52 58.5 -1.4
KIV pmax pmax
comp=Z,101nm,1.6s
KIV Kislovodsk 138.99 311 *i* PKPdf PKPdf 13 32 26.9 +0.3
SNR=10
MEF Metsahovi 139.16 341 *e*P PKPpre 13 32 18.9
RAF Rauma 139.23 343 *e*P PKPpre 13 32 19.5
TBLU Trondheim 139.40 352 *e*SKSdf SKSdf 13 38 42.4 -1.7
TBLU *e*SS SS 13 53 02.7 +0.4
VSU Vasula 139.78 338 *e*P PKPdf 13 32 22.3 -5.1
SENK Senkaya-Erzuru 140.05 306 *e*P PKPpre 13 32 23.8
KOPR Koprukoy-ERZUR 140.54 305 *e*P PKPpre 13 32 25.3
MTSE Matsula 140.54 340 *e*P PKPpre 13 32 23.6
GURO Guroymak-BITLI 140.68 303 *e*P PKPdf 13 32 26.0 -3.9
DOMB Dombas 140.71 353 *e*PKPdf PKPpre 13 32 23.1
DOMB IVmB_BB 13 32 25.2
comp=Z,973nm,1.0s
DOMB *e*SS SS 13 53 20.9 +3.3
AKN Aaknes 140.79 354 *e*PKPdf PKPdf 13 32 26.2 -3.0
AKN *e*SS SS 13 53 23.4 +5.0
VRTB Varto-Mus 141.01 304 *e*P PKPdf 13 32 27.5 -3.0
CHOM Cayeli-Rize 141.10 307 *e*P PKPpre 13 32 26.2
SOC Sochi 141.16 311 *i* PKHKP PKPpre 13 32 25.6
MBAR Mbarara 141.28 237 PKhKP PKPpre 13 32 29.2
comp=Z,35nm,0.6s,baz=130,slow=6.3,SNR=9.9
MBAR SKPbc SKiKP 13 35 18.2 -0.1
comp=Z,23nm,0.9s,baz=148,slow=2.9,SNR=6.2
MBAR Mbarara 141.28 237 PKPpre 13 32 24.2
MBAR Mbarara 141.28 237 PKHKP PKPpre 13 32 24.2
MBAR Mbarara 141.28 237 *e*P PKPpre 13 32 18.5
MBAR Mbarara 141.28 237 *e*P PKPpre 13 32 20.9
SVAN Silvan-Diyarba 141.40 302 *e*P PKPpre 13 32 26.2
NB2 NORSAR Subarra 141.40 351 PKP PKPpre 13 32 24.7
comp=Z,302nm,2.0s,baz=16,slow=3.2
NB2 SKPa 13 35 15.7
comp=Z,172nm,1.0s,baz=17,slow=2.6
NB2 SKKP 13 43 40.3
comp=Z,3.6nm,1.2s,baz=202,slow=4.6
NB2 NORSAR Subarra 141.40 351 PKP PKPpre 13 32 24.7
slow=3.2
NOA NORSAR Array B 141.40 351 PKhKP PKPpre 13 32 25.1
comp=Z,9.6nm,0.5s,baz=349,slow=2.1,SNR=138
NOA SKPbc SKPbc 13 35 15.9 +0.7
comp=Z,76nm,0.8s,baz=14,slow=4.2,SNR=26
NOA SKKPbc SKKPab 13 43 38.2 -3.1
comp=Z,6.5nm,1.1s,baz=199,slow=4.3,SNR=5.3
FOO Floro 141.53 356 *e*PKPdf PKPpre 13 32 25.6
FOO *e*SS SS 13 53 29.1 +2.4
BNGB Bingl 141.64 304 *e*P PKPdf 13 32 28.1 -3.4
NC602 NORSAR Array S 141.64 350 *e*PKPdf PKPdf 13 32 25.7 -5.0
NC602 *e*SKSac SKSac 13 38 50.9 -3.4
NC602 *e*SS SS 13 53 30.2 +2.1
BAYT Aydıntepe-Bayb 141.73 306 *e*P PKPdf 13 32 29.6 -2.1
HFS Hagfors 141.84 348 PKhKP PKPpre 13 32 26.2
comp=Z,150nm,0.5s,baz=64,slow=3.4,SNR=215
HFS SKPbc SKPbc 13 35 16.6 +0.3
comp=Z,139nm,0.8s,baz=0.0,slow=0.0,SNR=20
HFS SKKPbc SKKPab 13 43 36.2 -3.0
comp=Z,25nm,1.0s,baz=215,slow=3.8,SNR=11
KTUT Trabzon 141.86 307 ⇓P PKPdf 13 32 28.3 -3.4
KTUT Trabzon 141.86 307 *e*P PKPpre 13 32 26.8
HYA Hoyanger 141.86 355 *e*PKPdf PKPdf 13 32 27.2 -3.8
SLIT Slitere, Latvi 141.90 340 *e*P PKPdf 13 32 25.4 -5.8
SUE Sulen 142.08 356 *e*PKPdf PKPpre 13 32 27.0
MAZI Mazidag 142.10 302 *e*P PKPdf 13 32 29.0 -3.4
IDID Didziasalis 142.11 335 *e*P PKPpre 13 32 25.0
SKAR Skarslia 142.13 353 *e*PKPdf PKPdf 13 32 28.1 -3.5
SKAR IVmB_BB 13 32 30.3
comp=Z,2μm,1.4s
SKAR *e* 13 38 39.6
SKAR *e*SS SS 13 53 35.2 +1.4
ISAL Salakas 142.16 335 *e*P PKPdf 13 32 30.2 -1.5
MNK Minsk 142.22 333 *i* PKP PKPdf 13 32 28.1 -3.8
comp=E,7.0nm,1.0s
MNK *i* PKP PKPdf 13 32 28.1 -3.8
comp=N,65nm,1.0s
MNK *i* PKP PKPdf 13 32 28.1 -3.8
comp=Z,199nm,1.0s,baz=46
MNK *i* pPKP pPKPdf 13 34 38.8 -2.0
MNK *i* sPKP 13 35 33.2
MNK *i* PP PP 13 35 42.7 -2.8
MNK *i* PKS PKSdf 13 36 03.8 -3.6
MNK *i* SKS SKSdf 13 38 29.9 -19
MNK *i* PPP PPP 13 38 57.2
MNK *i* SKKS SKKSac 13 41 08.8 -33
MNK *i* SS SS 13 53 30.7 -4.8
MNK *i* SSS SSS 13 58 55.5
MNK Minsk 142.22 333 *i* PKHKP PKPpre 13 32 28.1
MNK *i* 13 35 42.6
MNK *i* PPP PPP 13 38 57.2
MNK *i* SS SS 13 53 30.7 -4.8
MNK pmax pmax
comp=N,65nm,1.0s
MNK pmax pmax
comp=E,7.0nm,1.0s
MNK pmax pmax
comp=Z,199nm,1.0s
ERZN Erzincan 142.23 305 *e*P PKPdf 13 32 29.8 -2.8
DYBB Diyarbakir 142.25 302 *e*P PKPdf 13 32 29.6 -3.0
ANN Anapa 142.28 314 *e*PKIKP PKPdf 13 32 30.3 -2.0
IIGN Ignalina 142.29 335 *e*P PKPdf 13 32 26.9 -5.1
NACGM Naroch 142.39 334 ⇑*i* PKP PKPdf 13 32 30.4 -1.7
comp=Z,284nm,0.8s,baz=44
OSL Oslo 142.52 351 *e*PKPdf PKPdf 13 32 29.4 -2.9
OSL *e*SKSdf SKSdf 13 38 46.8 -2.4
ASK Askoy 142.62 355 *e*PKPdf PKPdf 13 32 29.4 -3.0
ESPY Espiye-Giresun 142.64 308 *e*P PKPdf 13 32 29.6 -3.5
PTK Pertek 142.64 304 *e*P PKPdf 13 32 31.4 -2.0
BER Bergen 142.71 355 *e*PKPdf PKPdf 13 32 29.6 -3.0
BER *e* 13 38 21.4
KONO Kongsberg 142.96 351 ⇑PKHKP PKPpre 13 32 30.8
KONO Kongsberg 142.96 351 *e*PKPdf PKPdf 13 32 30.3 -2.7
KONO *e* 13 38 40.4
KONO *e*SS SS 13 53 46.8 +3.6
PABE Paberze 143.02 337 *e*P PKPdf 13 32 32.3 -0.9
ODD1 Odda 143.06 354 *e*PKPab PKPab 13 32 30.7 -0.3
ODD1 *e*SS SS 13 53 46.8 +2.4
LRW Lerwick 143.20 0 *e*P PKPab 13 32 30.5 -0.9
STRU Stroemstad 143.31 350 *i* P PKPab 13 32 30.9 -1.0
PBUR Paburge 143.32 339 *e*P PKPbc 13 32 32.5 +0.3
URFA Urfa 143.38 302 *e*P PKPdf 13 32 36.1 +1.5
ARPR Arapgir-MALATY 143.39 305 *e*P PKPdf 13 32 34.8 +0.1
BLS5 Blasjo 143.56 354 *e*PKPab PKPab 13 32 32.7 -0.2
BLS5 *e* 13 38 25.3
RSDY Resadiye-TOKAT 143.80 307 *e*P PKPdf 13 32 35.3 +0.1
AKASG Malin Array Be 144.12 327 PKP PKPbc 13 32 34.0 -0.9
comp=Z,158nm,0.4s,baz=44,slow=4.2,SNR=152
AKASG SKPbc SKPbc 13 35 21.6 -0.4
comp=Z,104nm,0.8s,baz=42,slow=2.4,SNR=22
AKASG SKKPbc SKKPab 13 43 27.7 -1.4
comp=Z,13nm,0.9s,baz=241,slow=4.4,SNR=34
AKBB Malin Array Si 144.12 327 *de*PKIKP PKPbc 13 32 34.0 -0.9
DARE Darende-Malaty 144.16 304 *e*P PKPdf 13 32 36.1 +0.1
SVSK Karacayir 144.18 307 *e*P PKPab 13 32 36.8 +1.0
TJOU Tjoern 144.19 349 *i* P PKPbc 13 32 33.6 -1.3
BORU Boraas 144.35 348 *i* P PKPbc 13 32 34.4 -1.0
SIM Simferopol' 144.38 316 *e*PKIKP PKPab 13 32 37.4 +1.0
SIM pmax pmax
comp=Z,2μm,1.2s
TOKT Tokat 144.40 307 *e*P PKPdf 13 32 36.3 0.0
HOMB Homborsund 144.45 352 *i* P PKPdf 13 32 35.2 -0.5
HOMB Homborsund 144.45 352 *e*PKPab PKPdf 13 32 35.5 -0.1
HOMB *e* 13 38 34.6
HOMB *e*SS SS 13 54 03.0 +3.0
KVT Kavak 144.53 309 *e*P PKPab 13 32 37.6 +0.4
SNART Snartemo 144.54 353 *i* P PKPdf 13 32 35.3 -0.5
SNART Snartemo 144.54 353 *e*PKPab PKPdf 13 32 35.8 0.0
GAZ Gaziantep 144.69 302 *e*P PKPbc 13 32 37.4 +0.1
ONAU Onsala 144.73 348 *i* P PKPdf 13 32 35.4 -0.8
BIGH Upper Bighouse 144.77 3 *e*P PKPdf 13 32 35.9 -0.3
KMRS Kahramanmaras 144.86 303 *e*P PKPab 13 32 38.3 -0.3
BLEU Blekinge 144.88 344 *i* P PKPdf 13 32 36.0 -0.5
DIKM Dikmen 144.90 310 ⇑P PKPab 13 32 39.4 +0.9
DIKM Dikmen 144.90 310 *e*P PKPbc 13 32 37.8 +0.1
LEWI Lewis, Hebride 144.91 6 *e*P PKPdf 13 32 36.2 -0.3
FABU Falkenberg 144.95 347 *i* P PKPdf 13 32 36.0 -0.6
MLA1 Latheron 144.98 2 *e*P PKPdf 13 32 36.1 -0.4
SARI SarD1z-Kayseri 145.01 304 *e*P PKPbc 13 32 38.8 +0.5
OVD Ostervraa, Den 145.11 350 *i* P PKPbc 13 32 37.6 -0.2
DEL Delary 145.19 346 *i* P PKPdf 13 32 36.8 -0.2
BNN Bunyan 145.33 305 *e*P PKPab 13 32 40.3 -0.2
YOZ Yozgat 145.50 307 *e*P PKPbc 13 32 39.8 +0.1
BZK Bozkurt 145.66 311 ⇑P PKPdf 13 32 38.8 +0.5
BZK Bozkurt 145.66 311 *e*P PKPdf 13 32 38.2 -0.1
KOZT Kozan 145.69 303 *e*P PKPbc 13 32 40.3 +0.2
ASF Jabal al Asfar 145.71 293 PKPbc PKPab 13 32 41.6 -0.6
comp=Z,186nm,0.9s,baz=100,slow=2.0,SNR=48
ASF SKPbc SKiKP 13 35 27.4 +0.6
comp=Z,33nm,0.8s,baz=21,slow=3.0,SNR=4.2
MCD Coleburn Disti 145.71 2 *e*P PKPdf 13 32 37.9 +0.1
BJUU Bjuv 145.74 346 *i* P PKPdf 13 32 38.5 +0.6
MDO Dochfour 145.80 4 *e*P PKPbc 13 32 39.0 -0.8
KPL Plockton 145.81 5 *e*P PKPdf 13 32 38.7 +0.7
CORM Corum 145.84 308 *e*P PKPbc 13 32 41.3 +0.7
CEYT Ceyhan 145.87 302 *e*P PKPbc 13 32 41.2 +0.6
KOZK Kozakli-Nevseh 145.96 306 *e*P PKPbc 13 32 41.2 +0.2
LUNU Lund 146.06 346 *i* P PKPdf 13 32 39.1 +0.6
MUD Monsted U'grnd 146.10 350 *i* P PKPbc 13 32 41.5 +0.9
SORM Soroca 146.14 324 ⇑P PKPdf 13 32 39.2 +0.4
SORM Soroca 146.14 324 ⇑PKIKP PKPdf 13 32 39.2 +0.4
BSD Bornholm Skovb 146.17 344 *i* P PKPbc 13 32 40.0 -0.9
BSD Bornholm Skovb 146.17 344 *e*P PKPbc 13 32 41.0 +0.2
ASCN Ascension 146.20 155 PKPab PKPab 13 32 43.3 -1.0
PURM Purcari 146.21 321 ⇓P PKPbc 13 32 40.8 -0.4
COP Copenhagen 146.23 347 *i* P PKPbc 13 32 40.7 -0.3
HWQ Hawqa 146.24 297 *e*P PKPdf 13 32 39.8 +0.1
CMRD Camardi-Nigde 146.29 303 *e*P PKiKP 13 32 43.3 -0.9
KARA Karaisali 146.34 303 *e*P PKPbc 13 32 42.4 +0.4
DRUM Mains of Drumt 146.41 2 *e*P PKPbc 13 32 40.2 -1.2
CANT Cankiri 146.42 309 *e*P PKPbc 13 32 41.6 -0.5
RCY Rachaya 146.44 296 *e*P PKPdf 13 32 40.6 +0.5
BHL Bhannes 146.53 297 *e*P PKPdf 13 32 39.0 -1.2
KIS Kishinev 146.55 322 ⇑P PKPbc 13 32 42.3 +0.2
KIS Kishinev 146.55 322 ⇑PKIKP PKPbc 13 32 42.3 +0.2
MILM Milestii Mici 146.60 322 ⇑P PKPdf 13 32 40.9 +1.2
MILM Milestii Mici 146.60 322 ⇑PKIKP PKPdf 13 32 40.9 +1.2
LLD Lille Linde 146.60 347 *i* P PKPbc 13 32 42.0 +0.1
GULA Gulagac 146.68 305 *e*P PKPbc 13 32 42.9 -0.1
BR131 Keskin Array S 146.70 308 P PKPdf 13 32 40.3 0.0
SNR=39
BRTR Keskin Array B 146.70 308 PKPbc PKPbc 13 32 42.5 -0.5
comp=Z,55nm,0.8s,baz=149,slow=2.3,SNR=80
BRTR SKPbc SKPbc 13 35 27.8 -0.7
comp=Z,14nm,0.9s,baz=166,slow=3.9,SNR=2.6
BRTR Keskin Array B 146.70 308 PKPdf PKPdf 13 32 40.1 -0.2
BRTR Keskin Array B 146.70 308 PKIKP PKPdf 13 32 40.1 -0.2
EDU Dundee 146.75 2 *e*P PKPbc 13 32 41.9 -0.5
KAMT Kaman 146.76 307 *e*P PKPbc 13 32 42.9 -0.3
INVG Invergeldie, C 146.83 3 *e*P PKPbc 13 32 41.5 -1.1
YAYX Yaylak 146.83 306 *e*P PKPbc 13 32 43.7 +0.4
MMAI Mount Meron Ar 146.87 295 PKPbc PKPbc 13 32 44.3 +0.7
comp=Z,316nm,0.6s,baz=73,slow=5.7,SNR=99
MMAI SKKPbc SKKPbc 13 43 18.6 +0.5
comp=Z,15nm,0.9s,baz=262,slow=2.5,SNR=4.7
MMLI Mount Malkishu 146.92 294 *e*P PKiKP 13 32 44.8 -0.8
UJAP Al Uja 146.94 293 *e*P PKPbc 13 32 43.7 +0.1
SERE Sereflikochisa 147.01 306 *e*P PKPdf 13 32 42.0 +1.2
DRBR Darabani 147.02 326 ⇑P PKPbc 13 32 42.5 -0.9
EAB Aberfoyle 147.05 4 *e*P PKPdf 13 32 40.8 +0.7
BEL Belsk 147.07 335 *e*PKPdf PKPdf 13 32 40.9 +0.7
BEL *e*PKPbc PKPbc 13 32 43.5 +0.2
RGN Rugen 147.08 345 *e*PKPbc PKiKP 13 32 44.8 -0.3
baz=21,slow=2.2
GKP Gorka Klasztor 147.13 340 *e*PKPdf PKPdf 13 32 41.3 +1.0
GKP *e*PKPbc PKPbc 13 32 43.2 -0.3
GKP Gorka Klasztor 147.13 340 *e*P PKiKP 13 32 44.8 -0.5
IAS Iasi 147.14 323 ⇑P PKiKP 13 32 44.9 -0.6
IAS Iasi 147.14 323 *e*P PKiKP 13 32 43.3 -0.4
IAS Iasi 147.14 323 ⇑PKP2 PKiKP 13 32 44.9 -0.6
LEOM Leova 147.17 322 ⇑P PKPdf 13 32 42.0 +1.4
LEOM Leova 147.17 322 ⇑PKIKP PKPdf 13 32 42.0 +1.4
LVV L'vov 147.20 330 *e*PKIKP PKPdf 13 32 41.3 +0.7
LVV *e*SS SS 13 54 36.3 +4.5
AFSR Afar-Bala (An 147.21 307 *e*P PKPbc 13 32 42.9 -1.4
YESY Yesilyurt 147.22 304 *e*P PKPbc 13 32 43.3 -1.1
KIZK Mersin 147.24 302 *e*P PKPbc 13 32 44.9 +0.6
SULT Sultanhani-AKS 147.27 305 *e*P PKPdf 13 32 42.7 +1.5
LOD Lodumlu 147.28 308 *e*P PKPdf 13 32 42.6 +1.4
VASR Vaslui 147.33 322 ⇑P PKPbc 13 32 43.1 -1.2
EDI Edinburgh 147.37 3 *e*P PKPbc 13 32 43.3 -0.7
KULU Kulu 147.39 307 *e*P PKPbc 13 32 44.4 -0.4
ESY Stoneypath 147.40 2 *e*P PKPbc 13 32 43.0 -1.2
EREN Erenkoy 147.44 300 *e*P PKPbc 13 32 45.3 +0.4
SILI Silifke-Mersin 147.44 302 *e*P PKiKP 13 32 45.7 -0.7
EBL Broad Law 147.53 2 *e*P PKPbc 13 32 43.4 -1.1
EIL Elat 147.55 289 PKPbc PKiKP 13 32 46.8 -0.1
comp=Z,223nm,1.0s,baz=47,slow=1.2,SNR=16
EIL SKKPbc 13 43 15.2
comp=Z,26nm,0.9s,baz=319,slow=6.0,SNR=11
EIL Elat 147.55 289 *e*P PKPbc 13 32 44.0 -1.4
TLCR 147.56 319 ⇓P PKPbc 13 32 43.2 -1.6
TLCR 147.56 319 ⇓PKIKP PKPbc 13 32 43.2 -1.6
CHBY Cihanbeyli 147.62 306 *e*P PKPdf 13 32 42.9 +1.1
VLDR Vladesti 147.62 321 ⇑P PKPdf 13 32 42.6 +1.2
BIR Birlad 147.64 322 ⇑P PKPbc 13 32 43.6 -1.5
BIR Birlad 147.64 322 ⇑PKIKP PKPbc 13 32 43.6 -1.5
IKL Isikli 147.66 301 *e*P PKPbc 13 32 45.7 +0.3
KDZE Karadeniz Ereo 147.68 311 ⇑P PKPdf 13 32 42.3 +0.6
KDZE Karadeniz Ereo 147.68 311 *e*P PKPbc 13 32 44.0 -1.4
JURR Jurilovca 147.74 319 ⇓P PKiKP 13 32 46.6 -0.2
GIUM Giurgiulesti 147.75 320 ⇓P PKiKP 13 32 46.0 -0.7
SCTR Scanteiesti 147.77 321 ⇑P PKPdf 13 32 42.9 +1.3
TATR Tatarca 147.78 321 ⇑P PKiKP 13 32 46.6 -0.2
AKKU Akkuyu-Mersin 147.78 301 *e*P PKPbc 13 32 46.1 +0.4
GHRR 147.89 322 ⇑P PKPdf 13 32 43.5 +1.7
SLCR Slobozia Conac 147.95 321 ⇓P PKPbc 13 32 46.2 +0.4
EKA Eskdalemuir Ar 147.96 3 PKPbc PKPbc 13 32 44.9 -0.7
comp=Z,35nm,0.4s,baz=340,slow=3.1,SNR=54
CFR Carcaliu 147.96 320 ⇓P PKiKP 13 32 46.9 -0.3
CFR Carcaliu 147.96 320 ⇓PKP2 PKiKP 13 32 46.9 -0.3
SCHL Schela 147.96 321 ⇑P PKiKP 13 32 44.4 -1.5
TPGR Topolog 147.97 319 ⇑P PKPdf 13 32 43.2 +1.1
ESK Eskdalemuir 147.98 3 PKPbc 13 32 45.6 0.0
ESK Eskdalemuir 147.98 3 *e*P PKPbc 13 32 43.7 -1.9
ESK Eskdalemuir 147.98 3 PKHKP PKPpre 13 32 45.6
IZVR Izvoarele 147.98 321 ⇓P PKiKP 13 32 46.6 -0.6
BERE Bereket-Mersin 148.00 302 *e*P PKPbc 13 32 46.1 -0.4
LFK Lefkose 148.00 300 *e*P PKPbc 13 32 46.9 +0.5
TUDR 148.00 321 ⇑P PKPbc 13 32 44.7 -1.3
TESR Tescani 148.04 323 ⇓P PKPdf 13 32 43.3 +1.2
BURAR Bucovina Array 148.12 326 ⇑P PKPbc 13 32 46.6 +0.2
BURAR Bucovina Array 148.12 326 ⇑PKP2 PKPbc 13 32 46.6 +0.2
NEWG New Galloway 148.12 4 *e*P PKPdf 13 32 42.3 +0.4
LADK Ladik-KONYA 148.13 305 *e*P PKPbc 13 32 46.1 -0.6
TIRR Tirgusor 148.19 319 ⇑P PKPdf 13 32 43.2 +0.8
TIRR Tirgusor 148.19 319 ⇑P PKPdf 13 32 43.2 +0.8
TIRR Tirgusor 148.19 319 *e*P PKPbc 13 32 44.0 +1.6
TIRR Tirgusor 148.19 319 ⇑PKIKP PKPdf 13 32 43.2 +0.8
MDUB Mudurnu 148.19 310 *e*P PKPbc 13 32 46.8 0.0
KONT Konya--Tatoy 148.21 305 *e*P PKPdf 13 32 43.9 +1.2
CSS Mathiatis 148.23 299 *e*P PKPdf 13 32 44.2 +1.4
EFOR EFORIE 148.25 318 ⇑P PKPdf 13 32 44.0 +1.5
ODBI Odobesti 148.26 322 ⇑P PKiKP 13 32 47.4 -0.4
BSEG Bad Segeberg 148.30 348 *e*PKPdf PKPdf 13 32 43.4 +1.2
baz=21,slow=2.2
BSEG *e*PKPbc PKiKP 13 32 47.3 -0.3
baz=21,slow=2.2
BSEG *e*PKPab PKPab 13 32 52.9 +1.2
baz=21,slow=2.2
MFTR Murfatlar 148.33 318 ⇑P PKPdf 13 32 43.7 +1.1
SVRH Sivrihisar-ESK 148.34 308 *e*P PKPdf 13 32 44.8 +1.9
GAL1 Galloway 148.34 4 *e*P PKPdf 13 32 42.7 +0.4
HARR Harsova 148.35 319 ⇓P PKiKP 13 32 47.8 -0.3
HARR Harsova 148.35 319 ⇓PKP2 PKiKP 13 32 47.8 -0.3
TLBR Topalu 148.36 319 ⇑P PKiKP 13 32 47.6 -0.5
VRI Vrincioaia 148.39 322 ⇓P PKiKP 13 32 47.8 -0.4
VRI Vrincioaia 148.39 322 *e*P PKPdf 13 32 44.2 +1.5
VRI Vrincioaia 148.39 322 ⇓PKP2 PKiKP 13 32 47.8 -0.4
MANR Mangalia 148.41 317 ⇑P PKPbc 13 32 47.1 +0.1
PLOR Plostina 148.44 322 ⇓P PKPdf 13 32 43.6 +0.7
PLOR Plostina 148.44 322 ⇓PKHKP PKPpre 13 32 43.6
CVDA Cernavoda 148.48 319 ⇑P PKPbc 13 32 47.6 +0.4

baz=21,slow=2.2
EDMD Edmundbyers 148.50 1 ePPKPbc 13 32 45.0 -1.9
GRER 148.53 321 ⇑PPKiKP 13 32 50.6 +2.2
LEF Lefka 148.55 300 ePPKPbc 13 32 47.8 +0.1
BISRR Bisoca 148.58 322 ⇑PPKPdf 13 32 44.8 +1.7
GULT Gulveren 148.68 310 ePPKPdf 13 32 44.8 +1.4
SAUV Serdivan-Sakar 148.69 311 ePPKPdf 13 32 44.9 +1.6
COVR Voineasa-Covas 148.69 322 ⇓PPKPdf 13 32 43.6 +0.4
CIFT Cifteler, Eski 148.70 308 ePPKPdf 13 32 45.3 +1.8
OJC Ojcow 148.72 334 *e*PKPdf **PKPdf 13 32 43.8 +0.7**
OJC *e*PKPbc **PKPbc 13 32 47.6 -0.1**
ICOR Ion Corvin 148.74 319 ⇑PPKiKP 13 32 50.6 +1.8
STHS Stebnicka Huta 148.74 332 *e*PKiKP **PKPdf 13 32 43.5 +0.3**
STHS Stebnicka Huta 148.74 332 *e*PKP **PKPdf 13 32 43.5 +0.3**
STHS *e* 13 32 47.6
AMRR Amara 148.75 320 ⇑PPKPbc 13 32 47.9 +0.1
AMRR Amara 148.75 320 ⇑PKHKP PKPpre 13 32 47.9
SRCK Saricakaya, Es 148.76 310 ePPKPdf 13 32 45.3 +1.8
OZUR 148.77 323 ⇓PPKPdf 13 32 45.1 +1.7
PGOR Pogoanele 148.79 320 ⇑PPKiKP 13 32 48.9 -0.1
RUE Ruedersdorf 148.83 343 ePPKPdf 13 32 43.9 +0.7
RUE Ruedersdorf 148.83 343 *e*PKPdf **PKPdf 13 32 44.0 +0.9**
baz=21,slow=2.2
RUE *e*PKPbc **PKiKP 13 32 48.6 -0.1**
baz=21,slow=2.2
RUE *e*PKPab **PKPab 13 32 55.4 +1.5**
baz=21,slow=2.2
UZH Uzhgorod 148.85 330 *e*PKiKP **PKPdf 13 32 43.2 -0.1**
UZH *e* 13 32 54.6
NEHR Nehoiu 148.89 322 ⇑PPKPdf 13 32 45.6 +2.1
ARCR ARCALIA 148.91 326 ⇑PPKPbc 13 32 45.9 -2.3
ISR Istrita 148.93 321 ⇓PPKPbc 13 32 48.3 0.0
ISR Istrita 148.93 321 ⇓PKHKP PKPpre 13 32 48.3
BMR Baia Mare 148.95 328 ⇑PPKPbc 13 32 48.3 +0.1
BMR Baia Mare 148.95 328 ⇑PKHKP PKPpre 13 32 48.3
IOMK Kirk Michael 148.95 4 *e*P **PKPdf 13 32 43.8 +0.5**
SILT Sile 148.98 312 *e*P **PKPbc 13 32 48.9 +0.4**
MLR Muntele Rosu 149.05 322 PKPbc **PKPbc 13 32 48.7 -0.1**
comp=Z,120nm,0.7s,baz=19,slow=2.8,SNR=39
MLR SKKPbc 13 43 07.6
comp=Z,43nm,1.2s,baz=349,slow=0.6,SNR=12
MLR Muntele Rosu 149.05 322 ⇑PPKPbc 13 32 49.1 +0.3
MLR Muntele Rosu 149.05 322 *e*P **PKPdf 13 32 44.8 +0.9**
DOPR Dopca 149.07 323 ⇑PPKPdf 13 32 45.2 +1.4
RASA Rasa 149.08 319 ⇓PPKiKP 13 32 50.0 +0.4
TRPA Tarpa 149.09 329 ⇑PPKPdf 13 32 44.4 +0.7
HRT Hereke 149.11 312 *e*P **PKPdf 13 32 46.1 +2.0**
LEHL Lehliu 149.13 320 ⇓PPKiKP 13 32 49.4 -0.2
TGMR Targu Mures 149.18 325 ⇑PPKiKP 13 32 50.8 +1.1
ADVT Abdulvahap 149.22 311 *e*P **PKPdf 13 32 45.5 +1.3**
CAVI Cavuskoy 149.24 310 *e*P **PKPdf 13 32 45.2 +0.9**
PLAR PLOIESTI 149.34 321 ⇑PPKiKP 13 32 50.0 -0.1
KLYT Kilyos 149.35 313 *e*P **PKPdf 13 32 46.1 +1.8**
SULR 149.35 321 ⇓PPKPbc 13 32 49.3 0.0
SHUT Suhut-Afyon 149.36 307 *e*P **PKPdf 13 32 47.0 +2.4**
HPK Haverah Park 149.38 1 *e*P **PKPdf 13 32 46.1 +2.1**
SUTC Sutluce-Ispart 149.38 305 *e*P **PKPdf 13 32 46.3 +1.6**
ISK Istanbul-Kandi 149.42 312 *e*P **PKPdf 13 32 44.4 0.0**
KAVV Kandilli-Istan 149.42 312 *e*P **PKPdf 13 32 45.2 +0.8**
PRD Provadia 149.47 317 P PKiKP 13 32 52.1 +1.7
KSP Ksiaz 149.50 339 *e*PKPdf **PKPdf 13 32 45.3 +1.1**
KSP *e*PKPbc **PKPbc 13 32 49.8 +0.3**
MDB Medias 149.51 324 ⇑PPKPbc 13 32 48.3 -1.3
MDB Medias 149.51 324 ⇑PKHKP PKPpre 13 32 48.3
CBBR Cluj-Babes-Bol 149.53 326 ⇑PPKiKP 13 32 50.2 -0.3
CJR Cluj-Napoca 149.54 326 ⇑PPKPbc 13 32 49.6 -0.2
CJR Cluj-Napoca 149.54 326 ⇑PKHKP PKPpre 13 32 49.6
BGKT Bogazkoy 149.56 313 *e*P **PKPbc 13 32 49.1 -0.8**
MESR Meseseni 149.57 327 ⇑PPKPdf 13 32 46.8 +2.3
FLTG Flechtingen 149.61 345 *e*PKPdf **PKPdf 13 32 45.3 +0.9**
baz=21,slow=2.2
FLTG *e*PKPbc **PKiKP 13 32 50.2 -0.2**
baz=21,slow=2.2
FLTG *e*PKPab **PKPab 13 32 57.7 +0.5**
baz=21,slow=2.2
RETH Rethem/Aller, 149.62 348 *e*PKPdf **PKPdf 13 32 45.3 +1.0**
baz=21,slow=2.2
RETH *e*PKPab **PKPab 13 32 58.8 +1.6**
baz=21,slow=2.2
ISP Isparta 149.63 306 *e*P **PKPbc 13 32 48.1 -2.3**
BUC1 Bucharest 149.67 320 ⇑PPKPbc 13 32 49.3 -0.8
BUC1 Bucharest 149.67 320 ⇑PKHKP PKPpre 13 32 49.3
OKC Ostrava-Krasne 149.67 336 *e*PKPDF **PKPdf 13 32 45.9 +1.3**
OKC ⇑*e*PKP **PKiKP 13 32 51.0 +0.4**
OKC *e*PKPAB **PKPab 13 32 59.8 +2.3**
OKC *e*SKP 13 35 57.3
OKC *e*SS SS 13 55 12.6 +14
OKC Ostrava-Krasne 149.67 336 *e*PKHKP PKPpre 13 32 45.9
LANS Liptovska Anna 149.69 333 *e*PKHKP PKPpre 13 32 46.2
LANS Liptovska Anna 149.69 333 *e*PKP **PKPdf 13 32 46.2 +1.5**
LANS *e* 13 32 51.3
BCK Bucak 149.70 305 *e*P **PKPbc 13 32 48.9 -1.6**
MTUR Matau 149.71 322 ⇑PPKiKP 13 32 51.7 +0.8
MTUR Matau 149.71 322 ⇑PKHKP PKPpre 13 32 51.7
NRDL Niedersach Rie 149.71 347 *e*PKPdf **PKPdf 13 32 45.4 +1.0**
baz=21,slow=2.2
NRDL *e*PKPbc **PKiKP 13 32 50.7 +0.2**
baz=21,slow=2.2
NRDL *e*PKPab **PKPab 13 32 59.2 +1.7**
baz=21,slow=2.2
CTKS Kestanelik-??a 149.71 313 *e*P **PKPdf 13 32 46.1 +1.2**
CTYL Yalikoy Yolu 149.75 314 *e*P **PKPdf 13 32 45.9 +1.0**
KECS Kecovo 149.77 331 *e*PKHKP PKPpre 13 32 51.0
KECS Kecovo 149.77 331 *e*PKP **PKiKP 13 32 51.0 +0.1**
OSTC Ostas 149.77 338 *e*PKPDF **PKPdf 13 32 46.2 +1.4**
OSTC ⇑*e*PKP **PKiKP 13 32 51.1 +0.3**
OSTC *e*sPKP 13 35 57.8
OSTC *e*SS SS 13 55 08.9 +9.1
ARMT Armutlu 149.77 312 *e*P **PKPdf 13 32 45.3 +0.2**
SGRR Singureni 149.78 320 ⇑PPKPbc 13 32 49.1 -1.2
MARR Marisel-Cluj 149.81 326 ⇑PPKPbc 13 32 49.4 -1.1
WPS Cemaes, Angles 149.81 5 *e*P **PKPbc 13 32 46.0 +1.3**
TVSB Tavsanli 149.81 309 *e*P **PKPdf 13 32 47.6 +2.3**
RAZG Razgrad 149.82 319 ⇓PPKPbc 13 32 50.6 +0.1
ANTB Antalya 149.83 304 *e*P **PKPbc 13 32 50.7 0.0**
MDNY Mudanya-Bursa 149.84 311 *e*P **PKPbc 13 32 48.5 -2.1**
ARR Arges 149.86 323 ⇑PPKPbc 13 32 49.0 -1.6
UPC Upice 149.88 339 *e*PKPDF **PKPdf 13 32 46.3 +1.4**
UPC ⇑*e*PKP **PKiKP 13 32 50.9 -0.2**
UPC *e*PKPAB **PKPab 13 33 01.0 +2.6**
UPC *e*sPKP 13 35 58.7
UPC *e*SS SS 13 55 07.8 +6.8
UPC Upice 149.88 339 *e*PKiKP **PKPdf 13 32 46.3 +1.4**
UPC *e*SS SS 13 55 07.8 +6.8
LMK Market Rasen 149.89 360 *e*P **PKPbc 13 32 48.5 -1.8**
DPC Dobruska-Polom 149.91 338 *e*PKPDF **PKPdf 13 32 46.4 +1.4**
DPC ⇑*e*PKP **PKiKP 13 32 51.2 0.0**
DPC *e*PKPAB **PKPab 13 33 01.1 +2.5**
DPC *e*sPKP 13 35 56.3
DPC *e*SS SS 13 55 09.2 +7.8
DPC Dobruska-Polom 149.91 338 *e*PKHKP PKPpre 13 32 46.4
SLVT Silivri 149.92 313 *e*P **PKPbc 13 32 50.9 +0.1**
ASSE Asse, Remlinge 149.92 346 *e*PKPdf **PKPdf 13 32 45.8 +1.0**
baz=21,slow=2.2
ASSE *e*PKPbc **PKiKP 13 32 51.2 +0.2**
baz=21,slow=2.2
ASSE *e*PKPab **PKPab 13 32 58.9 +0.5**
baz=21,slow=2.2
DRGR 149.94 327 ⇑PPKPdf 13 32 47.4 +2.2
DRGR 149.94 327 *e*P **PKPdf 13 32 46.5 +1.3**
DRGR 149.94 327 ⇑PKHKP PKPpre 13 32 47.4
LBWR Ladybower, Pea 149.94 1 *e*P **PKPdf 13 32 46.6 +1.8**
MORC Moravsky Berou 149.95 336 *e*PKP **PKPdf 13 32 45.4 +0.3**
MORC *e* 13 32 51.7
BASM Basmaki-Afyon 149.95 306 *e*P **PKPbc 13 32 51.2 +0.1**
KRLC Kraliky 149.98 337 *e*PKPDF **PKPdf 13 32 46.3 +1.2**
KRLC ⇑*e*PKP **PKiKP 13 32 51.2 -0.1**
KRLC *e*PKPAB **PKPab 13 33 01.4 +2.5**
KRLC *e*sPKP 13 35 59.1
KRLC *e*SS SS 13 54 54.6 -7.6
KRLC Kraliky 149.98 337 *e*PKHKP PKPpre 13 32 47.0
STFAR Stefanesti-Arg 149.98 322 ⇑PPKiKP 13 32 51.9 +0.5
GEDZ Gediz 150.01 309 *e*P **PKiKP 13 32 51.5 -0.3**
KORT Korkueli 150.03 304 *e*P **PKPdf 13 32 47.7 +2.0**
CLL Collm 150.10 343 *e*PKPdf **PKPdf 13 32 46.0 +0.8**
CLL *e*PKPbc **PKPbc 13 32 51.0 +0.1**
comp=Z,852nm,1.2s
CLL *i* x x 13 32 53.5
comp=Z,520nm,0.9s
CLL *e*PKPab **PKPab 13 32 59.0 -0.3**
comp=Z,753nm,1.6s
CLL *ex* x 13 33 08.0
CLL *ep*PKPab **pPKPab 13 35 02.0 -0.1**
CLL *ex* x 13 35 08.0
CLL *e*SKPdf **SKPdf 13 35 22.0 -4.3**
comp=Z,65nm,1.1s
CLL *ex* x 13 35 37.0
CLL *es*PKPbc **sPKPbc 13 35 53.0 +0.7**
CLL *ePP* **PP 13 36 28.0 -3.0**
CLL *e*SKKSac **SKKSac 13 42 26.0 -0.4**
CLL *ex* x 13 43 46.0
CLL *e*(SKSP) 13 45 40.0
CLL *e*SKKSdf **SKKSdf 13 47 58.0 +3.2**
CLL *e*(PPS) 13 49 16.0
CLL *ep*PPS 13 51 03.0
CLL *es*PPS 13 52 14.0
CLL *e*SS **SS 13 54 54.0 -9.1**
CLL *e*SKSSKSac *e*S'ac 13 56 12.0 +15
CLL *e*(sSS) 13 58 12.0
CLL *e*SSS SSS 14 00 48.0
CLL *ex* x 14 02 48.0
CLL *es*SSS 14 03 54.0
CLL *e*SSSS 14 04 48.0
CLL *ex* x 14 08 18.0
CLL Collm 150.10 343 *e*PKPdf **PKPdf 13 32 45.9 +0.7**
baz=21,slow=2.2
CLL *e*PKPbc **PKiKP 13 32 51.4 0.0**
baz=21,slow=2.2
CLL *e*PKPab **PKPab 13 33 00.8 +1.6**
baz=21,slow=2.2
HUMR Humele 150.17 321 ⇓PPKPdf 13 32 48.3 +2.8
PHSR Pinarhisar 150.18 315 *e*P **PKPdf 13 32 46.6 +1.0**
BRG Berggiesshubel 150.22 341 *e*PKiKP **PKPdf 13 32 46.3 +0.9**
BRG S **PKPbc 13 32 48.0 -3.2**
BRG pmax pmax
comp=Z,90nm,1.5s
BRG Berggiesshubel 150.22 341 ⇓*e*PKPf 13 32 46.3
BRG Berggiesshubel 150.22 341 *e*PKPdf **PKPdf 13 32 46.3 +0.9**
baz=21,slow=2.2
BRG *e*PKPbc **PKiKP 13 32 52.0 +0.3**
baz=21,slow=2.2
BRG *e*PKPab **PKPab 13 33 01.4 +1.7**
baz=21,slow=2.2
KCTX Karacabey (Bur 150.25 311 *e*P **PKPdf 13 32 48.5 +2.7**
CLZ Clausthal 150.26 346 *e*PKPdf **PKPdf 13 32 46.4 +1.0**
baz=21,slow=2.2
CLZ *e*PKPbc **PKiKP 13 32 52.2 +0.3**
baz=21,slow=2.2
CLZ *e*PKPab **PKPab 13 33 01.2 +1.2**
baz=21,slow=2.2
COPA Copaceanca 150.27 321 ⇑PPKPbc 13 32 51.5 0.0
CRLT Corlu 150.28 313 *e*P **PKPdf 13 32 47.0 +1.2**
LOT Lotru 150.28 324 ⇑PPKPbc 13 32 49.9 -1.8
LOT Lotru 150.28 324 *e*P **PKPdf 13 32 48.3 +2.5**
SIMA Simav-Kutahya 150.30 309 *e*P **PKPbc 13 32 51.7 -0.2**
IBBN Ibbenburen 150.33 349 *e*PKPdf **PKPdf 13 32 47.1 +1.7**
baz=21,slow=2.2
IBBN *e*PKPbc **PKiKP 13 32 52.1 +0.3**
baz=21,slow=2.2
IBBN *e*PKPab **PKPab 13 33 01.2 +1.1**
baz=21,slow=2.2
PVCC Panska Ves 150.33 340 *e*PKPDF **PKPdf 13 32 47.8 +2.2**
PVCC ⇑*e*PKP **PKiKP 13 32 52.0 0.0**
PVCC *es*PKP 13 35 59.2
PVCC Panska Ves 150.33 340 *e*PKHKP PKPpre 13 32 47.8
SZH Strazhica 150.34 319 P PKiKP 13 32 53.6 +1.4
JMB Yambol 150.37 317 P PKiKP 13 32 53.9 +1.6
SBD1 Bryn Du 150.38 3 *e*P **PKPbc 13 32 49.5 -2.0**
FOEL Foel Wylfa 150.40 3 *e*P **PKPdf 13 32 46.5 +0.9**
LLW Llanuwychllyn 150.42 4 *e*P **PKPdf 13 32 45.8 +0.2**
ELL Elmali 150.44 304 *e*P **PKPdf 13 32 47.4 +1.0**
DEV Deva 150.46 325 ⇑PPKPdf 13 32 46.5 +0.6
DEV Deva 150.46 325 ⇑PKiKP **PKPdf 13 32 46.5 +0.6**
PSZ Piszkesteto 150.46 331 ⇑PPKPdf 13 32 47.9 +1.9
PSZ Piszkesteto 150.46 331 ⇑PKiKP **PKPdf 13 32 47.9 +1.9**
VYHS Vyhne 150.47 333 *e*PKiKP **PKPdf 13 32 45.9 0.0**
VYHS *e* 13 33 01.2
VYHS Vyhne 150.47 333 *e*PKP **PKPdf 13 32 45.9 0.0**
VYHS *e* 13 32 52.4
VYHS *e* 13 33 01.2
NEUB Neuenburg 150.51 344 *e*PKPdf **PKPdf 13 32 46.8 +1.0**
baz=21,slow=2.2
NEUB *e*PKPbc **PKiKP 13 32 52.5 +0.2**
baz=21,slow=2.2
NEUB *e*PKPab **PKPab 13 33 02.1 +1.1**
baz=21,slow=2.2
EDC Edincik 150.55 312 *e*P **PKPbc 13 32 51.7 -0.6**
EDRB Edirne 150.58 315 *e*P **PKPdf 13 32 48.1 +1.9**
WACR West Acre 150.61 358 *e*P **PKPdf 13 32 48.7 +2.8**
GTTG Gottingen 150.63 346 *e*PKPdf **PKPdf 13 32 46.8 +0.8**
baz=21,slow=2.2
GTTG *e*PKPbc **PKPbc 13 32 52.2 +0.1**
baz=21,slow=2.2
GTTG *e*PKPab **PKPab 13 33 02.7 +1.2**
baz=21,slow=2.2
JAVC Velka Javorina 150.65 335 *e*PKP **PKPdf 13 32 46.9 +0.7**
JAVC *e* 13 32 54.1
APMY Acipayam-Deniz 150.66 306 *e*P **PKPdf 13 32 47.4 +0.8**
VRAC Vranov 150.69 337 PKPbc **PKPbc 13 32 52.5 +0.2**
comp=Z,36nm,0.4s,baz=59,slow=1.6,SNR=37
VRAC Vranov 150.69 337 *e*PKP **PKPdf 13 32 46.8 +0.6**
VRAC *e* 13 32 52.4
PVL Pavlikeni 150.73 319 P PKiKP 13 32 55.2 +2.2
BSZH Besenyszg 150.75 330 ⇑PPKiKP 13 32 53.3 +0.4
KULA Kula-Manisa 150.75 308 *e*P **PKPdf 13 32 47.6 +0.9**
HLM1 Long Mynd 150.79 3 *e*P **PKPdf 13 32 46.0 -0.3**
GOPC GO Pecny, Ondr 150.80 339 *e*PKPDF **PKPdf 13 32 48.4 +2.0**
GOPC ⇑*e*PKP **PKiKP 13 32 52.8 -0.2**
GOPC *e*PKPAB **PKPab 13 33 04.5 +2.2**
GOPC *es*PKP 13 36 00.3
GOPC *e*SS SS 13 55 25.5 +15
GOPC GO Pecny, Ondr 150.80 339 *e*PKiKP **PKPdf 13 32 48.4 +2.0**
PRU Pruhonice 150.81 340 *e*PKPDF **PKPdf 13 32 48.2 +1.9**
PRU ⇑*e*PKP **PKiKP 13 32 52.8 -0.2**
PRU *e*PKPAB **PKPab 13 33 04.4 +2.1**
PRU *es*PKP 13 36 05.7
PRU *e*SS SS 13 55 26.4 +15
PRU Pruhonice 150.81 340 *e*PKiKP **PKPdf 13 32 48.2 +1.9**
PRU *e* 13 32 52.8
PRU *e* 13 33 04.4
VLAD Vladila 150.82 321 ⇑PPKiKP 13 32 53.1 -0.1
SIRR Siria 150.83 327 ⇑PPKPdf 13 32 47.4 +0.9
AKAS Kas 150.83 303 *e*P **PKPdf 13 32 49.6 +2.6**
GZR Gura Zlata 150.85 325 ⇑PPKiKP 13 32 53.5 +0.2
GZR Gura Zlata 150.85 325 ⇑PKiKP **PKiKP 13 32 53.5 +0.2**
BALB Balikesir 150.85 311 *e*P **PKPdf 13 32 48.3 +1.6**
RKY Sarkoy-Tekirda 150.86 313 *e*P **PKPdf 13 32 47.9 +1.1**
SURR Surduc 150.94 326 ⇓PPKPbc 13 32 52.8 -0.2
KRUC Moravsky 150.96 337 *e*PKP **PKPdf 13 32 46.4 -0.2**
KRUC *e* 13 32 53.0
UKOP Uzunkopru-Edir 151.01 314 *e*P **PKPdf 13 32 49.1 +2.2**
SMOL Smolenice 151.02 335 *e*PKiKP **PKPdf 13 32 47.1 +0.4**
SMOL *e* 13 33 05.0
TANN Tannenbergstha 151.05 342 *e*PKPdf **PKPdf 13 32 47.7 +0.9**
baz=21,slow=2.2
TANN *e*PKPbc **PKiKP 13 32 53.4 -0.1**
baz=21,slow=2.2
TANN *e*PKPab **PKPab 13 33 04.9 +1.5**
baz=21,slow=2.2
PLVB Pleven 151.06 320 ⇓PPKPdf 13 32 49.9 +3.0
WERD Werda 151.07 343 *e*PKPdf **PKPdf 13 32 47.7 +0.9**
baz=21,slow=2.2
WERD *e*PKPbc **PKiKP 13 32 53.9 +0.3**
baz=21,slow=2.2
WERD *e*PKPab **PKPab 13 33 04.9 +1.5**
baz=21,slow=2.2
MOX Moxa 151.07 344 *e*PKPdf **PKPdf 13 32 47.5 +0.8**
baz=21,slow=2.2
MOX *e*PKPbc **PKiKP 13 32 53.4 -0.2**
baz=21,slow=2.2
MOX *e*PKPab **PKPab 13 33 04.6 +1.2**
baz=21,slow=2.2
PLN Plauen 151.07 343 *e*PKPdf **PKPdf 13 32 47.6 +0.8**
baz=21,slow=2.2
PLN *e*PKPbc **PKiKP 13 32 53.8 +0.3**
baz=21,slow=2.2
PLN *e*PKPab **PKPab 13 33 04.7 +1.3**
baz=21,slow=2.2
SRE Strehaia 151.09 323 ⇑PPKiKP 13 32 54.0 +0.3
SRE Strehaia 151.09 323 ⇑PKiKP **PKiKP 13 32 54.0 +0.3**
TREC Trest 151.09 338 ⇑*e*PKP **PKPbc 13 32 53.3 0.0**
TREC *e*PKPAB **PKPab 13 33 04.9 +1.3**
TREC Trest 151.09 338 *e*PKiKP **PKPbc 13 32 53.3 0.0**
TREC *e* 13 33 04.9
FETY Fethiye 151.11 304 *e*P **PKPdf 13 32 47.4 +0.1**
LPW Lampeter 151.12 4 *e*P **PKPdf 13 32 47.0 +0.3**
GUNZ Gunzen 151.14 343 *e*PKPdf **PKPdf 13 32 47.8 +0.9**
baz=21,slow=2.2
GUNZ *e*PKPbc **PKiKP 13 32 53.7 0.0**
baz=21,slow=2.2
GUNZ *e*PKPab **PKPab 13 33 05.3 +1.6**
baz=21,slow=2.2
MODS Modra-Piesok 151.19 335 *e*PKiKP **PKPdf 13 32 47.5 +0.5**
MODS *e* 13 33 05.3
MODS Modra-Piesok 151.19 335 *e*PKP **PKPdf 13 32 47.5 +0.5**
MODS *e* 13 32 54.5
MODS *e* 13 33 05.2
WERN Wernitzgruen 151.19 342 *e*PKPdf **PKPdf 13 32 48.0 +1.0**
baz=21,slow=2.2
WERN *e*PKPbc **PKiKP 13 32 54.5 +0.7**
baz=21,slow=2.2
WERN *e*PKPab **PKPab 13 33 05.5 +1.6**
baz=21,slow=2.2
SRO Srobarova 151.22 333 *e*PKiKP **PKiKP 13 32 54.6 +0.7**
SRO *e* 13 33 05.3
SRO Srobarova 151.22 333 *e*PKP **PKiKP 13 32 54.6 +0.7**
SRO *e* 13 33 05.3
NKC Novy Kostel 151.22 342 *e*PKPDF **PKPdf 13 32 50.0 +3.0**
NKC ⇑*e*PKP **PKiKP 13 32 54.5 +0.6**
NKC *e*PKPAB **PKPab 13 33 05.1 +1.0**
NKC Novy Kostel 151.22 342 *e*PKiKP **PKPdf 13 32 50.0 +3.0**
NKC *e* 13 33 05.1
RSBS Rosebush, Pemb 151.23 5 *e*P **PKPdf 13 32 47.3 +0.4**
BUG Bochum--Univer 151.24 350 *e*PKPdf **PKPdf 13 32 47.4 +0.5**
baz=21,slow=2.2
BUG *e*PKPbc **PKPbc 13 32 53.5 0.0**
baz=21,slow=2.2
BUG *e*PKPab **PKPab 13 33 04.5 +0.5**
baz=21,slow=2.2
DIM Dimitrovgrad 151.25 317 P PKiKP 13 32 55.5 +1.4
KASTN Kahler Asten 151.27 348 *e*PKPdf **PKPdf 13 32 48.0 +1.0**
baz=21,slow=2.2
KASTN *e*PKPbc **PKiKP 13 32 54.4 +0.5**
baz=21,slow=2.2
KASTN *e*PKPab **PKPab 13 33 05.3 +1.1**
baz=21,slow=2.2
LPK Lapseki 151.29 313 *e*P **PKPdf 13 32 48.3 +0.9**
BZS Buzias 151.30 326 ⇑PPKPdf 13 32 47.9 +0.7
BZS Buzias 151.30 326 *e*P **PKPdf 13 32 49.4 +2.2**
BZS Buzias 151.30 326 ⇑PKiKP **PKPdf 13 32 47.9 +0.7**
UBBA Unterbreizbach 151.30 346 *e*PKPdf **PKPdf 13 32 48.1 +1.2**
baz=21,slow=2.2
UBBA *e*PKPbc **PKiKP 13 32 54.7 +0.9**
baz=21,slow=2.2
UBBA *e*PKPab **PKPab 13 33 05.6 +1.4**
baz=21,slow=2.2
MCH1 Michaelchurch 151.30 3 *e*P **PKPbc 13 32 50.3 -3.3**
ERIK Erikli-Kesan 151.31 314 *e*P **PKPdf 13 32 48.1 +0.7**
DALY Dalyan (Mula) 151.37 305 *e*P **PKPdf 13 32 48.7 +1.1**
HERR Herculane 151.38 324 ⇓PPKPbc 13 32 51.8 -2.2
TIM Timisoara 151.42 327 ⇑PPKiKP 13 32 56.0 +1.7
TIM Timisoara 151.42 327 ⇑PKiKP **PKiKP 13 32 56.0 +1.7**
DJES Djerdap 151.46 324 ⇑PPKPdf 13 32 47.4 -0.1
GELI Tayfur-Gelibol 151.47 313 *e*P **PKPdf 13 32 47.4 -0.2**
PUNG Punghina 151.48 323 ⇑PPKPdf 13 32 48.4 +0.9
ALN Alexandroupoli 151.51 314 *e*P **PKPdf 13 32 49.1 +1.4**
ENEZ Enez 151.52 314 *e*P **PKPdf 13 32 48.3 +0.6**
AYDB Zeytinkoy-Aydi 151.53 307 *e*P **PKPdf 13 32 49.1 +1.1**
KDZ Kurdzhali 151.53 316 *e*P **PKPdf 13 32 48.3 +0.6**
KDZ Kurdzhali 151.53 316 P PKiKP 13 32 56.0 +1.2
MANZ Manzenberg 151.54 343 *e*PKPdf **PKPdf 13 32 48.3 +0.8**
baz=21,slow=2.2
MANZ *e*PKPbc **PKiKP 13 32 55.0 +0.4**
baz=21,slow=2.2
MANZ *e*PKPab **PKPab 13 33 06.9 +1.5**
baz=21,slow=2.2
MANZ *ep*PKPbc **pPKPab 13 35 11.9 +3.9**
YER Yerkesik 151.54 306 *e*P **PKPdf 13 32 49.8 +1.9**
BANR Banloc 151.71 326 ⇓PPKPbc 13 32 54.6 -0.1
ROTZ Rotzenmuhle 151.71 342 *e*PKPdf **PKPdf 13 32 48.5 +0.8**
baz=21,slow=2.2
ROTZ *e*PKPbc **PKiKP 13 32 55.4 +0.5**
baz=21,slow=2.2
ROTZ *e*PKPab **PKPab 13 33 07.7 +1.6**
baz=21,slow=2.2
RDO Rodhopi 151.72 315 *e*P **PKPdf 13 32 48.5 +0.5**
PLD Plovdiv 151.74 318 *e*P **PKPdf 13 32 49.2 +1.2**
PLD Plovdiv 151.74 318 P PKiKP 13 32 56.2 +1.1
MDVR Moldovita 151.81 325 ⇑PPKPdf 13 32 48.6 +0.5
SWN1 Swindon 151.83 1 *e*P **PKPdf 13 32 48.6 +0.8**
EZN Ezine 151.84 312 *e*P **PKPdf 13 32 49.4 +1.2**
MLSB Milas 151.86 306 *e*P **PKPdf 13 32 49.1 +0.7**
KHC Kasperske Hory 151.87 340 *e*PKPDF **PKPdf 13 32 49.2 +1.2**
KHC ⇑*e*PKP **PKiKP 13 32 55.2 0.0**
KHC *e*PKPAB **PKPab 13 33 09.3 +2.5**
KHC *ep*PKP **pPKPab 13 35 10.0 +0.6**
KHC *es*PKP 13 36 15.3
KHC *e*SS SS 13 55 36.7 +14
KHC Kasperske Hory 151.87 340 *e*PKiKP **PKPdf 13 32 49.2 +1.2**
KHC *e* 13 32 55.2
CKRC Cesky Krumlov 151.90 339 *e*PKPDF **PKPdf 13 32 49.9 +1.9**
CKRC ⇑*e*PKP **PKiKP 13 32 56.4 +1.1**
CKRC *e*PKPAB **PKPab 13 33 10.6 +3.3**
CKRC *e*SKP 13 36 13.8
CKRC *e*SS SS 13 55 33.4 +10
GADA Gvkgeada 151.96 313 *e*P **PKPdf 13 32 49.4 +1.1**
RZN Rozhen 151.96 317 P PKiKP 13 32 57.0 +1.1
BLCB Balcova 151.97 309 *e*P **PKPdf 13 32 49.4 +1.0**
ARG Arkhangelos 151.97 304 *e*P **PKPdf 13 32 49.6 +1.1**
BOZC Bozcaada 152.02 312 *e*P **PKPdf 13 32 50.2 +1.7**
GRF Grafenberg Arr 152.05 343 *e*PKPdf **PKPdf 13 32 49.0 +0.8**
baz=21,slow=2.2
GRF *e*PKPbc **PKiKP 13 32 56.3 +0.8**
baz=21,slow=2.2
GRF *e*PKPab **PKPab 13 33 09.2 +1.6**
baz=21,slow=2.2
GRF *ep*PKPbc **pPKPab 13 35 13.1 +3.1**
GEC2 GERESS Array S 152.08 339 *e*PKPdf **PKPdf 13 32 48.9 +0.5**
baz=21,slow=2.2
GEC2 *e*PKPbc **PKiKP 13 32 56.0 +0.2**
baz=21,slow=2.2
GEC2 *e*PKPab **PKPab 13 33 09.1 +1.3**
baz=21,slow=2.2
GEC2 *ep*PKPbc **pPKPab 13 35 13.3 +3.0**
GERES GERESS Array B 152.08 339 PKP **PKPdf 13 32 47.9 -0.6**
comp=Z,15nm,1.0s,baz=90,slow=1.3,SNR=20
GERES PKPbc **PKPbc 13 32 55.6 0.0**
comp=Z,28nm,0.5s,baz=31,slow=2.2,SNR=42
GERES SKKPbc 13 42 55.1
comp=Z,1.2nm,0.7s,baz=196,slow=9.3,SNR=4.1
CONA Conrad Observa 152.10 336 *i* PKP **PKPdf 13 32 48.8 +0.4**
comp=Z,46nm,1.4s,SNR=10
CONA *e*PKiKP **PKiKP 13 32 56.5 +0.7**
comp=Z,86nm,0.6s
CONA *e*PKP **PKPab 13 33 10.4 +2.4**
comp=Z,167nm,0.8s
CONA *ep*PKP **pPKPab 13 35 12.2 +1.7**
comp=Z,21nm,1.1s
GCAM G?zelcaml? 152.11 307 *e*P **PKPdf 13 32 49.2 +0.6**
BEBN Eben Emael 152.11 351 *d*PKPdf **PKPdf 13 32 49.4 +1.1**
BEBN *d*PKP **PKiKP 13 32 56.3 +0.7**
BEBN *d*PKPab **PKPab 13 33 08.6 +0.9**
RONA Rosalia, Austr 152.12 335 *i* PKP **PKPdf 13 32 47.9 -0.6**
comp=Z,53nm,1.3s,SNR=16
RONA *e*PKiKP **PKiKP 13 32 55.8 0.0**
comp=Z,137nm,0.7s
RONA *e*PKP **PKPab 13 33 10.0 +2.0**
comp=Z,323nm,1.3s
RONA *ep*PKP **pPKPab 13 35 09.9 -0.6**
comp=Z,55nm,1.4s
AHRW Bad Neuenahr-A 152.15 349 *e*PKPdf **PKPdf 13 32 49.3 +1.0**
baz=21,slow=2.2
AHRW *e*PKPbc **PKiKP 13 32 56.0 +0.3**
baz=21,slow=2.2
AHRW *e*PKPab **PKPab 13 33 08.6 +0.7**
baz=21,slow=2.2
TNS Taunus Mts 152.19 347 *e*PKPdf **PKPdf 13 32 48.9 +0.4**
baz=21,slow=2.2
TNS *e*PKPbc **PKPbc 13 32 55.6 -0.2**
baz=21,slow=2.2
TNS *e*PKPab **PKPab 13 33 09.2 +0.9**
baz=21,slow=2.2
DAT Datca 152.21 305 *e*P **PKPdf 13 32 48.5 -0.5**
MEM Membach 152.25 351 *d*PKP **PKPbc 13 32 55.1 -0.7**
MEM *d*PKPab **PKPab 13 33 08.5 +0.1**
BTNL Ternell 152.25 351 *d*PKPdf **PKPdf 13 32 48.5 +0.1**
BTNL *d*PKP **PKiKP 13 32 56.3 +0.3**
BTNL *d*PKPab **PKPab 13 33 07.6 -0.8**

BODT	**Bodrum**	**152.29**	**306**	P	**PKPbc**	13 32 56.0	-0.3
BODT	**Bodrum**	**152.29**	**306**	*e*P	**PKPdf**	13 32 49.1	+0.1
URLA	**Izmir**	**152.30**	**309**	*e*P	**PKPbc**	13 32 55.3	-1.0
MORH	**Mrgy, Hungar**	**152.30**	**330**	⇑P	**PKPdf**	13 32 48.6	-0.1
VTS	**Vitosha**	**152.33**	**320**	⇓P	**PKPdf**	13 32 48.3	-0.8
VTS	**Vitosha**	**152.33**	**320**	*e*P	**PKPdf**	13 32 50.2	+1.2
VTS	**Vitosha**	**152.33**	**320**	⇓PKIKP	**PKPdf**	13 32 48.3	-0.8
VTS	**Vitosha**	**152.33**	**320**	P	**PKiKP**	13 32 58.1	+1.5
BSTI	**Sart Tilman**	**152.34**	**351**	*d*PKPdf	**PKPdf**	13 32 49.7	+1.1
BSTI				*d*PKP	**PKiKP**	13 32 56.0	0.0
BSTI				*d*PKPab	**PKPab**	13 33 09.4	+0.7
SMG	**Samos**	**152.39**	**308**	P	**PKPbc**	13 32 56.2	-0.3
SIGR	**SIGRI**	**152.44**	**311**	*e*P	**PKPdf**	13 32 49.4	+0.3
BHOU	**Houvegnez**	**152.50**	**351**	*d*PKPdf	**PKPdf**	13 32 50.3	+1.5
BHOU				*d*PKP	**PKPbc**	13 32 55.6	-0.8
BHOU				*d*PKPab	**PKPab**	13 33 08.7	-0.7
FRGS	**Fruska Gora**	**152.53**	**327**	⇑P	**PKPdf**	13 32 50.6	+1.6
BCLA	**Clavier**	**152.53**	**352**	*d*PKPdf	**PKPdf**	13 32 49.6	+0.7
BCLA				*d*PKP	**PKiKP**	13 32 56.5	0.0
BCLA				*d*PKPab	**PKPab**	13 33 09.9	+0.4
BOVS	**Bovan**	**152.57**	**323**	⇑P	**PKPdf**	13 32 48.1	-1.1
BGES	**Gesves**	**152.59**	**352**	*d*PKPdf	**PKPdf**	13 32 49.4	+0.4
BGES				*d*PKP	**PKPbc**	13 32 56.3	-0.2
BGES				*d*PKPab	**PKPab**	13 33 09.4	-0.4
MMB	**Musomiste**	**152.63**	**318**	P	**PKiKP**	13 32 58.3	+1.2
CHOS	**Chios island**	**152.67**	**310**	P	**PKPbc**	13 32 56.7	-0.5
CHOS	**Chios island**	**152.67**	**310**	*e*P	**PKPdf**	13 32 50.2	+0.6
BMRD	**Maredsous**	**152.72**	**352**	*d*PKPdf	**PKPdf**	13 32 50.1	+1.0
BMRD				*d*PKP	**PKiKP**	13 32 57.5	+0.6
BMRD				*d*PKPab	**PKPab**	13 33 10.1	-0.3
MOA	**Molln**	**152.75**	**338**	*i* PKP	**PKPdf**	13 32 49.4	+0.1
	comp=Z,27nm,1.1s,SNR=6.9						
MOA				*e*PKP	**PKPbc**	13 32 57.0	0.0
	comp=Z,29nm,0.6s						
MOA				*e*PKP	**PKPab**	13 33 12.6	+2.0
	comp=Z,264nm,1.3s						
MOA				*ep*PKP	**pPKPab**	13 35 14.2	+1.1
	comp=Z,29nm,1.0s						
ARSA	**Arzberg**	**152.79**	**335**	*i* PKP	**PKPdf**	13 32 49.0	-0.4
	comp=Z,30nm,1.5s,SNR=7.6						
ARSA				*e*PKiKP	**PKiKP**	13 32 57.7	+0.5
	comp=Z,77nm,1.6s						
ARSA				*e*PKP	**PKPab**	13 33 12.1	+1.2
	comp=Z,76nm,0.8s						
ARSA				*ep*PKP	**pPKPab**	13 35 17.3	+4.1
	comp=Z,31nm,1.4s						
RCHB	**Rochefort**	**152.80**	**352**	*d*PKPdf	**PKPdf**	13 32 50.0	+0.7
RCHB				*d*PKP	**PKiKP**	13 32 57.6	+0.6
KKB	**Krupnik**	**152.87**	**319**	P	**PKiKP**	13 32 59.1	+1.6
GIVF	**Givet**	**152.91**	**352**	*e*PKIKP	**PKPdf**	13 32 49.6	+0.2
GIVF				pmax	pmax		
	comp=Z,124nm,1.0s						
KARP	**Karpathos**	**152.93**	**303**	*e*P	**PKPdf**	13 32 51.3	+1.3
DOU	**Dourbes**	**152.94**	**352**	*d*PKPdf	**PKPdf**	13 32 50.9	+1.5
DOU				*d*PKP	**PKPbc**	13 32 57.1	-0.1
DOU				*d*PKPab	**PKPab**	13 33 11.9	+0.6
SRS	**Serrai**	**152.97**	**317**	*e*P	**PKPdf**	13 32 48.7	-1.1
BAIF	**Baives**	**153.02**	**353**	*e*PKIKP	**PKPdf**	13 32 51.0	+1.4
BAIF				pmax	pmax		
	comp=Z,196nm,1.4s						
BIOA	**Bad Ischl, Aus**	**153.10**	**338**	*i* PKP	**PKPdf**	13 32 49.9	+0.1
	comp=Z,42nm,1.2s,SNR=9.9						
BIOA				*e*PKiKP	**PKiKP**	13 32 58.7	+0.9
	comp=Z,23nm,0.6s						
BIOA				*e*PKP	**PKPab**	13 33 13.8	+1.7
	comp=Z,230nm,1.3s						
BIOA				*ep*PKP	**pPKPab**	13 35 15.6	+1.1
	comp=Z,22nm,1.2s						
WLF	**Walferdange**	**153.15**	**350**	*d*PKPdf	**PKPdf**	13 32 50.4	+0.7
WLF				*d*PKP	**PKiKP**	13 32 59.1	+1.3
WLF				*d*PKPab	**PKPab**	13 33 13.3	+1.2
WLF	**Walferdange**	**153.15**	**350**	*e*PKPdf	**PKPdf**	13 32 50.6	+0.8
	baz=21,slow=2.2						
WLF				*e*PKPbc	**PKiKP**	13 32 58.7	+0.9
	baz=21,slow=2.2						
WLF				*e*PKPab	**PKPab**	13 33 13.5	+1.3
	baz=21,slow=2.2						
OUR	**Ouranopolis**	**153.15**	**315**	*e*P	**PKPdf**	13 32 50.5	+0.4
RJOB	**Jochberg**	**153.34**	**339**	*e*PKPdf	**PKPdf**	13 32 50.3	+0.1
	baz=21,slow=2.2						
RJOB				*e*PKPbc	**PKiKP**	13 32 58.5	+0.2
	baz=21,slow=2.2						
RJOB				*e*PKPab	**PKPab**	13 33 14.6	+1.4
	baz=21,slow=2.2						
KNT	**Kendrikon**	**153.38**	**318**	*e*P	**PKPbc**	13 32 58.0	-0.6
STU	**Stuttgart**	**153.40**	**345**	*e*PKPdf	**PKPdf**	13 32 50.7	+0.5
	baz=21,slow=2.2						
STU				*e*PKPbc	**PKiKP**	13 32 59.0	+0.7
	baz=21,slow=2.2						
STU				*e*PKPab	**PKPab**	13 33 13.8	+0.4
	baz=21,slow=2.2						
FUR	**Furstenfeldbru**	**153.42**	**342**	*e*PKPdf	**PKPdf**	13 32 50.7	+0.5
	baz=21,slow=2.2						
FUR				*e*PKPbc	**PKiKP**	13 32 59.1	+0.6
	baz=21,slow=2.2						
FUR				*e*PKPab	**PKPab**	13 33 14.4	+1.0
	baz=21,slow=2.2						
SOKA	**Soboth**	**153.46**	**335**	*i* PKP	**PKPdf**	13 32 50.3	-0.1
	comp=Z,59nm,1.2s,SNR=19						
SOKA				*e*PKiKP	**PKiKP**	13 32 59.5	+0.9
	comp=Z,117nm,1.5s						
SOKA				*e*PKP	**PKPab**	13 33 14.9	+1.2
	comp=Z,322nm,1.8s						
SOKA				*ep*PKP	**pPKPbc**	13 35 06.1	-0.7
	comp=Z,29nm,1.1s						
VAY	**Valandovo**	**153.50**	**318**	*i* P	**PKPdf**	13 32 50.7	+0.2
STIP	**Stip**	**153.51**	**319**	*i* P	**PKPdf**	13 32 52.3	+1.7
HORT	**Hortiatis**	**153.57**	**316**	*e*P	**PKPdf**	13 32 50.5	-0.3
APE	**Apeiranthos**	**153.60**	**307**	⇑P	**PKPdf**	13 32 50.0	-0.9
APE	**Apeiranthos**	**153.60**	**307**	*e*P	**PKPdf**	13 32 48.1	-2.8
APE	**Apeiranthos**	**153.60**	**307**	⇑PKIKP	**PKPdf**	13 32 50.0	-0.9
KBA	**Koelnbreinsper**	**153.73**	**338**	*i* PKP	**PKPdf**	13 32 50.2	-0.7
	comp=Z,59nm,1.4s,SNR=9.1						
KBA				*e*PKiKP	**PKiKP**	13 32 59.9	+0.6
	comp=Z,56nm,0.9s						
KBA				*e*PKP	**PKPab**	13 33 16.2	+1.1
	comp=Z,40nm,0.5s						
OBKA	**Obir**	**153.78**	**336**	*i* PKP	**PKPdf**	13 32 50.7	-0.3
	comp=Z,28nm,1.5s,SNR=7.0						
OBKA				*e*PKiKP	**PKiKP**	13 33 00.1	+0.7
	comp=Z,33nm,0.8s						
OBKA				*e*PKP	**PKPab**	13 33 15.8	+0.6
	comp=Z,44nm,0.9s						
SKO	**Skopje**	**153.78**	**320**	*i* P	**PKPdf**	13 32 51.7	+0.8
ZKR	**Zakros**	**153.81**	**303**	*e*P	**PKPdf**	13 32 51.1	-0.1
SANT	**Santorini**	**153.93**	**306**	⇑P	**PKPdf**	13 32 50.9	-0.5
SANT	**Santorini**	**153.93**	**306**	*e*P	**PKPbc**	13 32 58.6	-1.3
MYKA	**Terra Mystica**	**154.01**	**337**	*i* PKP	**PKPdf**	13 32 51.0	-0.2
	comp=Z,33nm,1.5s,SNR=6.9						
MYKA				*e*PKiKP	**PKiKP**	13 33 00.4	+0.6
	comp=Z,40nm,0.7s						
MYKA				*e*PKP	**PKPab**	13 33 16.6	+0.5
	comp=Z,84nm,0.6s						
MYKA				*ep*PKP	**pPKPab**	13 35 17.9	-0.5
	comp=Z,27nm,1.7s						
BFO	**Black Forest**	**154.01**	**346**	PKPdf	**PKPdf**	13 32 50.3	-0.8
BFO	**Black Forest**	**154.01**	**346**	PKIKP	**PKPdf**	13 32 50.3	-0.8
BFO	**Black Forest**	**154.01**	**346**	*e*PKPdf	**PKPdf**	13 32 51.5	+0.4
	baz=21,slow=2.2						
BFO				*e*PKPbc	**PKiKP**	13 33 00.1	+0.4
	baz=21,slow=2.2						
BFO				*e*PKPab	**PKPab**	13 33 16.3	+0.3
	baz=21,slow=2.2						
WATA	**Walderalm**	**154.08**	**341**	*i* PKP	**PKPdf**	13 32 50.9	-0.4
	comp=Z,72nm,1.3s,SNR=14						
WATA				*e*PKiKP	**PKiKP**	13 33 00.1	+0.1
	comp=Z,28nm,0.6s						
WATA				*e*PKP	**PKPab**	13 33 18.3	+1.8
	comp=Z,294nm,1.2s						
WATA				*ep*PKP	**pPKPab**	13 35 20.7	+1.8
	comp=Z,46nm,1.2s						
WTTA	**Wattenberg**	**154.12**	**341**	*i* PKP	**PKPdf**	13 32 51.0	-0.4
	comp=Z,92nm,1.5s,SNR=23						
WTTA				*e*PKiKP	**PKiKP**	13 33 00.3	+0.1
	comp=Z,47nm,0.6s						
WTTA				*e*PKP	**PKPab**	13 33 18.7	+2.0
	comp=Z,91nm,0.5s						
WTTA				*ep*PKP	**pPKPab**	13 35 18.9	-0.2
	comp=Z,14nm,0.7s						
CDF	**Champ du Feu**	**154.16**	**348**	*e*PKIKP	**PKPdf**	13 32 51.0	-0.4
CDF				pmax	pmax		
	comp=Z,57nm,1.4s						
LJU	**Ljubljana**	**154.18**	**335**	*i* PKPdf	**PKPdf**	13 32 51.0	-0.3
LJU				*i* PKPbc	**PKiKP**	13 33 00.5	+0.4
LJU				*e*PKPab	**PKPab**	13 33 17.3	+0.6
RETA	**Reutte**	**154.18**	**342**	*i* PKP	**PKPdf**	13 32 51.2	-0.2
	comp=Z,40nm,1.6s,SNR=10						
RETA				*e*PKiKP	**PKiKP**	13 33 02.0	+1.8
	comp=Z,42nm,1.1s						
RETA				*e*PKP	**PKPab**	13 33 18.6	+1.8
	comp=Z,322nm,1.6s						
RETA				*ep*PKP	**pPKPbc**	13 35 06.5	-2.0
	comp=Z,32nm,1.1s						
UBR	**Ueberruh**	**154.19**	**343**	*e*PKPdf	**PKPdf**	13 32 51.1	-0.3
	baz=21,slow=2.2						
UBR				*e*PKPbc	**PKiKP**	13 33 00.3	+0.2
	baz=21,slow=2.2						
UBR				*e*PKPab	**PKPab**	13 33 17.3	+0.5
	baz=21,slow=2.2						
MOTA	**Moosalm**	**154.21**	**341**	*i* PKP	**PKPdf**	13 32 51.2	-0.4
	comp=Z,73nm,1.2s,SNR=16						
MOTA				*e*PKiKP	**PKiKP**	13 33 01.3	+1.0
	comp=Z,145nm,1.4s						
MOTA				*e*PKP	**PKPab**	13 33 18.6	+1.6
	comp=Z,434nm,1.5s						
MOTA				*ep*PKP	**pPKPab**	13 35 18.2	-1.2
	comp=Z,36nm,1.3s						
LIT	**Litokhoron**	**154.24**	**316**	*e*P	**PKPdf**	13 32 52.4	+0.7
SQTA	**Sankt Quirin**	**154.29**	**341**	*i* PKP	**PKPdf**	13 32 51.3	-0.4
	comp=Z,59nm,1.1s,SNR=12						
SQTA				*e*PKiKP	**PKPbc**	13 33 00.9	+0.4
	comp=Z,54nm,0.9s						
SQTA				*e*PKP	**PKPab**	13 33 19.3	+1.9
	comp=Z,262nm,1.5s						
SQTA				*ep*PKP	**pPKPab**	13 35 17.6	-2.1
	comp=Z,33nm,1.3s						
ABTA	**Abfaltersbach**	**154.30**	**339**	*i* PKP	**PKPdf**	13 32 50.9	-0.7
	comp=Z,130nm,1.4s,SNR=25						
ABTA				*e*PKiKP	**PKPbc**	13 33 01.1	+0.7
	comp=Z,65nm,0.7s						
ABTA				*e*PKP	**PKPab**	13 33 17.9	+0.6
	comp=Z,102nm,0.8s						
ABTA				*ep*PKP	**pPKPab**	13 35 17.9	-1.7
	comp=Z,28nm,0.9s						
CADS	**Cadrg**	**154.32**	**336**	*e*PKPbc	**PKiKP**	13 33 00.1	-0.3
CADS				*e*PKPab	**PKPab**	13 33 17.2	-0.2
BOJS	**Bojanci**	**154.33**	**333**	*e*PKPdf	**PKPdf**	13 32 51.4	-0.2
CEY	**Cerknica**	**154.47**	**335**	*e*PKPdf	**PKPdf**	13 32 51.3	-0.5
FNA	**Florina**	**154.54**	**318**	*e*P	**PKPdf**	13 32 51.7	-0.4
FLN	**La Foliniere**	**154.59**	**360**	*e*PKIKP	**PKPdf**	13 32 51.6	-0.2
FLN				pmax	pmax		
	comp=Z,136nm,1.4s						
DAVA	**Damuels**	**154.61**	**343**	*i* PKP	**PKPdf**	13 32 51.4	-0.7
	comp=Z,43nm,1.6s,SNR=7.4						
DAVA				*e*PKP	**PKPab**	13 33 19.9	+1.1
	comp=Z,104nm,0.7s						
DAVA				*ep*PKP	**pPKPab**	13 35 21.2	+0.1
	comp=Z,31nm,1.2s						
FETA	**Feichten**	**154.61**	**342**	*i* PKP	**PKPdf**	13 32 51.8	-0.4
	comp=Z,111nm,1.5s,SNR=22						
FETA				*e*PKP	**PKPab**	13 33 20.8	+2.0
	comp=Z,159nm,1.3s						
FETA				*ep*PKP	**pPKPab**	13 35 18.8	-2.3
	comp=Z,27nm,1.0s						
OHR	**Ohrid**	**154.69**	**320**	*i* P	**PKPdf**	13 32 53.7	+1.4
HAU	**Haudompre**	**154.72**	**349**	*e*PKIKP	**PKPdf**	13 32 52.1	0.0
HAU				pmax	pmax		
	comp=Z,101nm,1.4s						
PDG	**Podgorica**	**154.72**	**324**	⇑P	**PKPdf**	13 32 52.5	+0.3
PDG	**Podgorica**	**154.72**	**324**	*e*P	**PKPdf**	13 32 52.8	+0.6
LDF	**La Druitiere**	**154.76**	**359**	*e*PKIKP	**PKPdf**	13 32 51.8	-0.3
LDF				pmax	pmax		
	comp=Z,26nm,0.8s						
IDI	**Anoyia**	**154.76**	**304**	PKP	**PKPdf**	13 32 53.1	+0.5
	comp=Z,38nm,1.1s,baz=178,slow=6.1,SNR=5.4						
HINF	**Hinteralfeld**	**154.81**	**348**	*e*PKIKP	**PKPdf**	13 32 53.1	+0.9
HINF				pmax	pmax		
	comp=Z,84nm,1.4s						
AGG	**Agios Georgios**	**154.92**	**314**	*e*P	**PKPdf**	13 32 51.5	-1.1
GRR	**Gorron**	**154.97**	**0**	*e*PKIKP	**PKPdf**	13 32 53.5	+1.2
GRR				pmax	pmax		
	comp=Z,82nm,1.4s						
SGMF	**Saint Gilles**	**155.06**	**3**	*e*PKIKP	**PKPdf**	13 32 54.2	+1.7
SGMF				pmax	pmax		
	comp=Z,181nm,1.6s						
DAVOX	**Davos/Dischmat**	**155.07**	**343**	PKP	**PKPdf**	13 32 53.4	+0.6
	comp=Z,19nm,0.8s,baz=306,slow=1.3,SNR=21						
DAVOX				PKPab	**PKPab**	13 33 22.5	+1.7
	comp=Z,82nm,0.6s,baz=294,slow=1.5,SNR=18						
TIR	**Tirane**	**155.09**	**321**	⇑P	PKPdf	13 33 03.4	+11
TIR	**Tirane**	**155.09**	**321**	*e*P	**PKPdf**	13 32 51.7	-1.0
QUIF	**Quistinic**	**155.36**	**4**	*e*PKIKP	**PKPdf**	13 32 55.8	+2.9
QUIF				pmax	pmax		
	comp=Z,61nm,1.3s						
IMMV	**Iera Moni Meta**	**155.39**	**305**	*e*P	**PKPdf**	13 32 54.1	+0.8
GVDS	**Gavdos**	**155.54**	**304**	*e*P	**PKPdf**	13 32 53.9	+0.4
GVD	**Gavdhos**	**155.54**	**304**	*e*P	**PKPdf**	13 32 53.7	+0.2
KNDR	**Palaiochora Ch**	**155.70**	**305**	*e*P	**PKPdf**	13 32 54.8	+1.1
LOR	**Lormes**	**155.81**	**352**	*e*PKIKP	**PKPdf**	13 32 53.7	+0.2
LOR				pmax	pmax		
	comp=Z,73nm,1.3s						
SSF	**Saint Saulge**	**156.06**	**353**	*e*PKIKP	**PKPdf**	13 32 54.0	+0.2
SSF				pmax	pmax		
	comp=Z,73nm,1.2s						
CABF	**La Chapelle**	**156.11**	**348**	*e*PKIKP	**PKPdf**	13 32 54.5	+0.5
CABF				pmax	pmax		
	comp=Z,146nm,1.4s						
ITM	**Ithomi**	**156.13**	**311**	*e*P	**PKPdf**	13 32 54.6	+0.3
LKD2	**Lefkada island**	**156.14**	**315**	*e*P	**PKPdf**	13 32 54.8	+0.5
KEK	**Kerkira**	**156.15**	**318**	*e*P	**PKPdf**	13 32 55.3	+1.1
AVF	**Avril sur Loir**	**156.34**	**353**	*e*PKIKP	**PKPdf**	13 32 52.8	-1.4
AVF				pmax	pmax		
	comp=Z,80nm,1.6s						
SMF	**Signal de Mont**	**156.43**	**352**	*e*PKIKP	**PKPdf**	13 32 55.2	+0.9
SMF				pmax	pmax		
	comp=Z,62nm,1.4s						
BGF	**Bois d'Agland**	**156.62**	**354**	*e*PKIKP	**PKPdf**	13 32 55.7	+1.1
BGF				pmax	pmax		
	comp=Z,85nm,1.3s						
MFF	**Saint Martin d**	**156.75**	**359**	*e*PKIKP	**PKPdf**	13 32 54.7	0.0
MFF				pmax	pmax		
	comp=Z,137nm,1.5s						
TCF	**Toulx Ste Croi**	**156.95**	**355**	*e*PKIKP	**PKPdf**	13 32 55.0	0.0
TCF				pmax	pmax		
	comp=Z,74nm,1.2s						
LPL	**La Plagne**	**157.03**	**347**	*e*PKIKP	**PKPdf**	13 32 55.7	+0.3
LPL				pmax	pmax		
	comp=Z,69nm,1.6s						
MATE	**Matera**	**157.33**	**324**	*e*P	**PKPdf**	13 32 52.2	-3.4
MBDF	**Montbardon**	**157.77**	**346**	*e*PKIKP	**PKPdf**	13 32 56.7	+0.4
MBDF				pmax	pmax		
	comp=Z,71nm,1.6s						
ORIF	**Oris-en-Rattie**	**157.78**	**348**	*e*PKIKP	**PKPdf**	13 32 56.1	-0.1
ORIF				pmax	pmax		
	comp=Z,14nm,0.8s						
RJF	**Les Rejaudoux**	**157.98**	**356**	*e*PKIKP	**PKPdf**	13 32 55.3	-1.0
RJF				pmax	pmax		
	comp=Z,88nm,1.5s						
VIVF	**Saint-Julien-l**	**158.06**	**350**	*e*PKIKP	**PKPdf**	13 32 58.7	+2.2
VIVF				pmax	pmax		
	comp=Z,161nm,1.9s						
TIP	**Timpagrande**	**158.31**	**321**	⇑P	**PKPdf**	13 32 57.0	+0.1
CAF	**Calviac**	**158.31**	**355**	*e*PKIKP	**PKPdf**	13 32 57.1	+0.3
CAF				pmax	pmax		
	comp=Z,31nm,1.1s						
LFF	**La Frestale**	**158.39**	**357**	*e*PKIKP	**PKPdf**	13 32 59.3	+2.5
LFF				pmax	pmax		
	comp=Z,13nm,0.6s						
SBF	**Sospel**	**158.43**	**344**	*e*PKIKP	**PKPdf**	13 33 00.2	+3.2
SBF				pmax	pmax		
	comp=Z,17nm,0.7s						
LMR	**La Mourre**	**159.15**	**345**	*e*PKIKP	**PKPdf**	13 32 59.8	+2.1
LMR				pmax	pmax		
	comp=Z,85nm,1.6s						
MTLF	**Montolieu**	**159.87**	**354**	*e*PKIKP	**PKPdf**	13 32 58.8	+0.2
MTLF				pmax	pmax		
	comp=Z,102nm,1.5s						
SJPF	**Ste Jean**	**160.24**	**1**	*e*PKIKP	**PKPdf**	13 33 02.4	+3.4
SJPF				pmax	pmax		
	comp=Z,50nm,1.4s						
EPF	**Esparros**	**160.31**	**358**	*e*PKIKP	**PKPdf**	13 32 59.4	+0.3
EPF				pmax	pmax		
	comp=Z,78nm,1.3s						
PGAV	**Gavieira, Arco**	**160.35**	**17**	*e*PKPdf	**PKPdf**	13 33 00.6	+1.4
PGAV	**Gavieira, Arco**	**160.35**	**17**	*e*PKPab	**PKPab**	13 33 43.6	-0.1
ETSF	**Etsaut**	**160.46**	**360**	*e*PKIKP	**PKPdf**	13 32 59.9	+0.6
ETSF				pmax	pmax		
	comp=Z,29nm,0.9s						
PCAB	**Cabril**	**160.65**	**17**	*e*PKPdf	**PKPdf**	13 33 00.7	+1.2
PCAB	**Cabril**	**160.65**	**17**	*e*PKPab	**PKPab**	13 33 46.8	+1.8
VAE	**Valguarnera**	**160.81**	**321**	PKPab	**PKPab**	13 33 48.0	+2.1
	comp=Z,24nm,0.8s,baz=300,slow=3.5,SNR=4.3						
PBRG	**Braganca**	**160.88**	**14**	*e*PKPdf	**PKPdf**	13 33 00.9	+1.2
PBRG	**Braganca**	**160.88**	**14**	*e*PKPab	**PKPab**	13 33 47.2	+1.2
POLO	**Lamas de Olo**	**161.03**	**17**	*e*PKPdf	**PKPdf**	13 33 00.5	+0.5
POLO	**Lamas de Olo**	**161.03**	**17**	*e*PKPab	**PKPab**	13 33 47.1	+0.4
PVRL	**Vila Real**	**161.14**	**17**	*e*PKPdf	**PKPdf**	13 33 01.5	+1.5
PVRL	**Vila Real**	**161.14**	**17**	*e*PKPab	**PKPab**	13 33 47.7	+0.5
MVO	**Moncorvo**	**161.42**	**15**	*e*PKPdf	**PKPdf**	13 33 02.0	+1.6
MVO	**Moncorvo**	**161.42**	**15**	*e*PKPab	**PKPab**	13 33 49.0	+0.6
PVIS	**Viseu**	**161.62**	**18**	*e*PKPdf	**PKPdf**	13 33 02.0	+1.4
PVIS	**Viseu**	**161.62**	**18**	*e*PKPab	**PKPab**	13 33 50.6	+1.3
MTE	**Manteigas**	**162.01**	**17**	*e*PKPdf	**PKPdf**	13 33 02.4	+1.4
MTE	**Manteigas**	**162.01**	**17**	*e*PKPab	**PKPab**	13 33 51.3	+0.3
PCAS	**Casmilo, Conde**	**162.05**	**20**	*e*PKPdf	**PKPdf**	13 33 01.1	+0.1
PCAS	**Casmilo, Conde**	**162.05**	**20**	*e*PKPab	**PKPab**	13 33 53.1	+2.0
PSBE	**So Bento**	**162.44**	**21**	*e*PKPab	**PKPab**	13 33 54.7	+1.8
LIC	**Lamto**	**162.51**	**166**	⇑*e*PKP1	**PKPdf**	13 33 01.2	-1.0
	comp=Z,178nm,1.0s						
PCBR	**Castelo Branco**	**162.55**	**18**	*e*PKPdf	**PKPdf**	13 33 02.1	+0.7
PCBR	**Castelo Branco**	**162.55**	**18**	*e*PKPab	**PKPab**	13 33 54.1	+0.8
KIC	**Kosan Boka**	**162.71**	**166**	⇑*e*PKP1	**PKPdf**	13 33 02.1	-0.3
	comp=Z,35nm,0.7s						
BBTS	**Babate**	**162.75**	**117**	PKP	**PKPdf**	13 33 02.8	+0.6
	comp=Z,26nm,0.4s,baz=326,slow=23,SNR=3.1						
BBTS				PKPab	**PKPab**	13 33 55.8	+0.8
	comp=Z,20nm,0.4s,baz=142,slow=8.4,SNR=5.2						
PMAFR	**Mafra**	**162.77**	**23**	*e*PKPdf	**PKPdf**	13 33 01.5	-0.2
PMAFR	**Mafra**	**162.77**	**23**	*e*PKPab	**PKPab**	13 33 56.1	+1.7
TIC	**Toumodi**	**162.92**	**165**	⇑*e*PKP1	**PKPdf**	13 33 02.5	-0.1
	comp=Z,108nm,0.8s						
PMRV	**Marv??o**	**162.95**	**18**	*e*PKPdf	**PKPdf**	13 33 02.4	+0.5
PMRV	**Marv??o**	**162.95**	**18**	*e*PKPab	**PKPab**	13 33 55.7	+0.6
DBIC	**Dimbokro**	**162.98**	**166**	PKP	**PKPdf**	13 33 02.1	-0.5
	comp=Z,44nm,0.7s,baz=163,slow=0.8,SNR=33						
DBIC				PKPab	**PKPab**	13 33 56.9	+1.1
	comp=Z,54nm,1.0s,baz=169,slow=6.8,SNR=14						
DBIC	**Dimbokro**	**162.98**	**166**		**PKPdf**	13 33 01.5	-1.1
PMTG	**Montargil**	**163.03**	**20**	*e*PKPdf	**PKPdf**	13 33 03.2	+1.3
PMTG	**Montargil**	**163.03**	**20**	*e*PKPab	**PKPab**	13 33 56.6	+1.1
PESTR	**Estremoz**	**163.41**	**19**	*e*PKPdf	**PKPdf**	13 33 02.7	+0.4
PESTR	**Estremoz**	**163.41**	**19**	*e*PKPab	**PKPab**	13 33 58.1	+0.9
ESDC	**Sonseca Array**	**163.45**	**9**	PKP	**PKPdf**	13 33 03.1	+0.8
	comp=Z,5.8nm,0.9s,baz=347,slow=2.7,SNR=21						
ESDC				PKPab	**PKPab**	13 33 57.1	-0.3
	comp=Z,46nm,1.0s,baz=352,slow=4.0,SNR=37						
ESDC				PP	**PP**	13 37 45.4	+2.0
	comp=Z,7.0nm,1.0s,baz=11,slow=3.2,SNR=3.3						
PAB	**San Pablo**	**163.52**	**10**	PKPab	**PKPab**	13 33 57.2	-0.4
PAB	**San Pablo**	**163.52**	**10**	PKP2	**PKPab**	13 33 57.3	-0.4
EVO	**Evora**	**163.59**	**21**	*e*PKPdf	**PKPdf**	13 33 04.3	+1.8
PNCL	**Nicolau / Gran**	**163.79**	**23**	*e*PKPdf	**PKPdf**	13 33 03.7	+

	baz=294							
WUSB	**Renai**	**0.81**	**289**	*e*P	Pn	13 29 02.2	-0.1	
	baz=288							
WUSB				*e*S	Sn	13 29 14.1	+0.3	
	baz=288							
EHD	**Haiduan**	**0.90**	**230**	*e*P	Pb	13 29 02.4	-0.6	
	baz=229							
EHD				*e*S	Sb	13 29 15.2	+0.5	
	baz=229							

*IDC **02** 13:33:33.6±5.8, 22°.52N×144°.72E, h40km±39km, mb3.7/7, mbtmp4.0/8, ML4.1/1, MS4.3/1, Error ellipse: s-maj=115.9km s-min=18.8km az=78.0*

ISC 02 13:33:32.7±2.4, 22°.5N±0°.2×144°.8E±0°.7, h35km, n10, σ0s76/9, mb3.8/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.17**	**333**	P	**Pn**	**13 34 49.0**	**+1.4**
	6.4nm,0.3s,baz=276,slow=22,SNR=6.7						
JCJ				S	**Sn**	**13 35 45.2**	**-0.9**
	29nm,0.4s,baz=309,slow=23,SNR=9.4 12nm,0.3s						
KSRS	**Korea Array**	**20.85**	**319**	P	Pn	13 38 13.9	-0.1
	1.2nm,0.6s,baz=145,slow=9.9,SNR=5.4						
USRK	**Ussuriysk Ar.**	**24.10**	**337**	LR	LR	13 47 44.4	
	comp=Z,729nm,21.4s,baz=324,slow=35						
KLR	**Kul'dur**	**28.62**	**342**	P	**P**	**13 39 25.3**	**-0.4**
	1.6nm,0.7s,baz=145,slow=10,SNR=4.3 1.6nm,0.7s						
SONM	**Songino Array**	**39.72**	**319**	P	**P**	**13 41 01.8**	**0.0**
	0.6nm,0.5s,baz=127,slow=6.6,SNR=4.8 0.6nm,0.5s						
WRA	**Warramunga Arr**	**43.40**	**194**	P	**P**	**13 41 32.1**	**0.0**
	0.8nm,0.5s,baz=16,slow=9.0,SNR=8.0 0.8nm,0.5s						
ASAR	**Alice Springs**	**47.09**	**194**	P	**P**	**13 42 01.4**	**0.0**
	0.9nm,1.1s,baz=13,slow=6.3,SNR=1.6 0.9nm,1.1s						
ZALV	**Zalesovo Beam**	**54.54**	**321**	P	**P**	**13 42 56.3**	**-0.8**
	0.9nm,0.4s,baz=108,slow=8.1,SNR=3.0 0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**57.99**	**317**	P	**P**	**13 43 21.8**	**0.0**
	1.8nm,0.7s,baz=93,slow=7.5,SNR=7.7 1.8nm,0.7s						
BVAR	**Borovoye Array**	**63.06**	**319**	P	**P**	**13 43 56.2**	**-0.2**
	1.3nm,0.4s,baz=92,slow=6.7,SNR=13 1.3nm,0.4s						

*IDC **02** 13:34:07.9±3.1, 3°.78N×128°.94E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=289.4km s-min=21.9km az=70.0*

ISC 02 13:34:12.6±4.5, 4°N±1°×12°9E±°, h35km, n6, σ0s68/6, mb4.2/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.20**	**168**	P	**P**	**13 39 26.9**	**+0.8**
	1.1nm,0.8s,baz=349,slow=10,SNR=1.9 1.1nm,0.8s						
ASAR	**Alice Springs**	**27.76**	**171**	P	**P**	**13 39 57.5**	**-0.8**
	0.8nm,0.9s,baz=354,slow=8.4,SNR=1.5 0.8nm,0.9s						
MKAR	**Makanchi Array**	**58.89**	**324**	P	**P**	**13 44 08.3**	**+0.2**
	1.3nm,0.5s,baz=113,slow=7.9,SNR=12 1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**61.62**	**332**	P	**P**	**13 44 26.3**	**-0.3**
	0.6nm,0.4s,baz=112,slow=6.7,SNR=2.5 0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**62.99**	**326**	P	**P**	**13 44 36.0**	**+0.2**
	1.7nm,0.5s,baz=126,slow=6.1,SNR=12 1.7nm,0.5s						
BVAR	**Borovoye Array**	**68.58**	**326**	P	**P**	**13 45 11.8**	**-0.1**
	2.7nm,0.8s,baz=154,slow=5.2,SNR=3.7 2.7nm,0.8s						

*IDC **02** 13:50:45.3±1.2, 36°.19N×21°.81E, h0km, mb3.9/9, mbtmp3.7/13, ML3.2/4, Error ellipse: s-maj=22.0km s-min=17.0km az=24.0*
*ATH **02** 13:50:48.8, 36°.12N×21°.96E, h10km±31km, ML3.3/6, Error ellipse: s-maj=31.6km s-min=1.3km az=0.0*
*THE **02** 13:50:48.2, 36°.06N×21°.98E, h2km±1km, ML3.4/12, Error ellipse: s-maj=1.5km s-min=0.6km az=51.0*
*NEIC **02** 13:50:48.4±2.0, 36°.22N±0°.08×21°.91E±0°.09, h10km±1km, mb4.4/14, Error ellipse: s-maj=15.1km s-min=9.7km az=220.0*

ISC 02 13:50:47.8±1.5, 36°.13N±0°.04×21°.94E±0°.04, h13km±9km, n67, σ1s14/84, mb4.1/14, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.78**	**348**	P	**Pg**	**13 51 03.5**	**+0.5**
PYL				S	**Sn**	**13 51 16.9**	**+0.6**
	2μm,0.5s						
PYL	**PYLOS**	**0.78**	**348**	P	**Pb**	**13 51 03.1**	**-0.3**
PYL				S	**Sn**	**13 51 14.6**	**-1.7**
PYL				AML	AML	13 51 21.3	
	comp=E,5246μm,0.5s						
PYL				AML	AML	13 51 22.6	
	comp=N,4623μm,0.5s						
KLMT	**Kalamata**	**0.94**	**6**	P	**Pn**	**13 51 06.5**	**-0.2**
KLMT				S	**Sn**	**13 51 21.9**	**+1.9**
	comp=N,3μm,0.4s						
VLI	**Velíai**	**0.99**	**53**	P	**Pn**	**13 51 07.5**	**0.0**
VLI				S	**Sn**	**13 51 22.9**	**+1.4**
	comp=N,2μm,0.6s						
VLI	**Velíai**	**0.99**	**53**	P	**Pg**	**13 51 07.1**	**+0.1**
VLI				S	**Sn**	**13 51 20.7**	**-0.8**
VLI				AML	AML	13 51 29.0	
	comp=N,2714μm,0.3s						
VLI				AML	AML	13 51 32.2	
	comp=E,4609μm,0.6s						
MNVA	**Monemvasia**	**1.04**	**57**	P	**Pg**	**13 51 09.3**	**+1.4**
MNVA				S	**Sn**	**13 51 23.2**	**+0.5**
MNVA				AML	AML	13 51 30.3	
	comp=N,1656μm,0.5s						
MNVA				AML	AML	13 51 31.9	
	comp=E,2184μm,0.8s						
ITM	**Ithomi**	**1.05**	**359**		**Pg**	**13 51 08.5**	**+0.4**
ITM	**Ithomi**	**1.05**	**359**	P	**Pg**	**13 51 08.7**	**+0.6**
ITM				S	**Sn**	**13 51 25.3**	**+2.4**
	comp=E,2μm,0.3s						
ITM	**Ithomi**	**1.05**	**359**	P	**Pg**	**13 51 08.3**	**+0.3**
ITM				S	**Sn**	**13 51 23.9**	**+1.0**
ITM				AML	AML	13 51 27.3	
	comp=E,5487μm,0.3s						
ITM				AML	AML	13 51 29.6	
	comp=N,4465μm,0.3s						
ANKY	**Antikythira Is**	**1.13**	**103**	P	**Pn**	**13 51 08.6**	**-0.8**
ANKY				S	**Sb**	**13 51 24.2**	**+0.3**
	comp=N,1μm,0.5s						
ANKY	**Antikythira Is**	**1.13**	**103**	P	**Pn**	**13 51 08.9**	**-0.5**
ANKY				S	**Sb**	**13 51 24.2**	**+0.3**
ANKY				AML	AML	13 51 29.5	
	comp=N,2131μm,0.4s						
ANKY				AML	AML	13 51 31.3	
	comp=E,3378μm,0.5s						
KRND	**KRANIDI**	**1.58**	**37**	P	**Pb**	**13 51 17.2**	**+0.2**
KRND				S	**Sg**	**13 51 38.8**	**0.0**
	comp=E,935nm,0.5s						
KRND	**KRANIDI**	**1.58**	**37**	P	**Pg**	**13 51 17.7**	**-0.6**
KNDR	**Palaiochora Ch**	**1.68**	**122**	P	**Pn**	**13 51 16.5**	**-0.4**
KNDR				S	**Sn**	**13 51 37.7**	**-0.5**
	comp=E,310nm,0.7s						
KNDR	**Palaiochora Ch**	**1.68**	**122**	P	**Pn**	**13 51 17.2**	**+0.4**
KNDR				AML	AML	13 51 55.1	
	comp=E,1672μm,0.4s						
KNDR				AML	AML	13 51 56.7	
	comp=N,1490μm,0.7s						
IMMV	**Iera Moni Meta**	**1.79**	**111**	P	**Pn**	**13 51 19.1**	**+0.7**
IMMV				S	**Sn**	**13 51 41.9**	**+0.9**
	comp=N,830nm,0.6s						
IMMV	**Iera Moni Meta**	**1.79**	**111**	P	**Pn**	**13 51 19.6**	**+1.2**
LTHK	**Lithakia**	**1.81**	**331**	P	**Pb**	**13 51 20.1**	**-0.8**
DRO	**Drossia**	**1.83**	**354**	P	**Pb**	**13 51 21.4**	**+0.2**
DRO				S	**Sg**	**13 51 46.4**	**-0.3**
	comp=N,1μm,0.6s						
DRO	**Drossia**	**1.83**	**354**	P	**Pb**	**13 51 21.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.92**	**5**	P	**Pb**	**13 51 22.8**	**0.0**
KLV				S	**Sg**	**13 51 49.0**	**-0.6**
	comp=N,382nm,0.8s						
KLV	**Kalavryta, Ach**	**1.92**	**5**	P	**Pb**	**13 51 22.5**	**-0.3**

RLS	**Riolos of Patr**	**1.96**	**349**	P	**Pb**	**13 51 23.1**	**-0.4**	
RLS				S	**Sg**	**13 51 49.7**	**-1.3**	
	comp=N,325nm,0.8s							
MHLO	**Agia Marina, M**	**2.06**	**73**	P	**Pn**	**13 51 22.8**	**+0.6**	
MHLO				S	**Sb**	**13 51 49.8**	**-0.9**	
	comp=N,2μm,0.4s							
GVD	**Gavdhos**	**2.17**	**126**	P	**Pn**	**13 51 25.3**	**+1.6**	
PRNS	**Prines Rethymn**	**2.21**	**109**	P	**Pn**	**13 51 24.7**	**+0.4**	
IDI	**Anoyia**	**2.54**	**108**	Pn	**Pn**	**13 51 30.2**	**+1.3**	
	comp=N,2.1nm,0.3s,baz=285,slow=14,SNR=12							
IDI				Lg	Lg	13 52 11.7		
	comp=N,10nm,0.3s,baz=51,slow=20,SNR=4.6 comp=N,10.0nm,0.4s							
SANT	**Santorini**	**2.85**	**84**		**Pn**	**13 51 33.8**	**+0.7**	
KEK	**Kerkira**	**3.96**	**335**	Pn	**Pn**	**13 51 51.2**	**+2.9**	
LIT	**Litokhoron**	**3.99**	**6**		**Pn**	**13 51 52.3**	**+3.5**	
FNA	**Florina**	**4.67**	**355**		**Pn**	**13 51 59.9**	**+1.7**	
SCTE	**Santa Cesarea**	**4.80**	**326**	Pn	**Pn**	**13 51 59.1**	**-0.7**	
ARG	**Arkhangelos**	**5.00**	**87**	Pn	**Pn**	**13 52 04.4**	**+1.8**	
TIP	**Timpagrande**	**5.12**	**308**	Pn	**Pn**	**13 52 04.8**	**+0.5**	
RAFF	**Raffo Rosso**	**6.19**	**282**	Pn	**Pn**	**13 52 19.3**	**+0.3**	
PDG	**Podgorica**	**6.63**	**342**	Pn	**Pn**	**13 52 25.1**	**+0.1**	
SGRT	**San Giovanni R**	**7.41**	**321**	Pn	**Pn**	**13 52 34.9**	**-0.9**	
DIVS	**Divibare**	**8.10**	**350**	Pn	**Pn**	**13 52 45.1**	**-0.2**	
BRTR	**Keskin Array B**	**9.91**	**65**	Pn	**Pn**	**13 53 12.7**	**+2.6**	
	comp=N,0.1nm,0.3s,baz=243,slow=14,SNR=3.5 comp=N,0.7nm,0.6s							
AKASG	**Malin Array Be**	**15.48**	**18**	Pn	**Pn**	**13 54 24.3**	**-1.5**	
	comp=N,0.2nm,0.3s,baz=209,slow=12,SNR=1.3 comp=N,0.1nm,0.2s							
KBZ	**Khabaz**	**17.75**	**58**	P	**P**	**13 54 56.3**	**+0.9**	
	comp=N,0.2nm,0.3s,baz=240,slow=7.5,SNR=6.1 comp=N,1.5nm,0.6s							
BELG	**Belogornoye**	**24.36**	**40**	P	**P**	**13 56 04.4**	**-1.0**	
	comp=N,3.7nm,0.5s,baz=49,slow=4.2,SNR=4.7 comp=N,3.7nm,0.5s							
HFS	**Hagfors**	**24.61**	**350**	P	**P**	**13 56 07.4**	**-0.2**	
	comp=N,1.4nm,0.5s,baz=160,slow=14,SNR=5.2 comp=N,1.4nm,0.5s							
FINES	**FINESS Array B**	**25.47**	**5**	P	**P**	**13 56 15.3**	**-0.1**	
	comp=N,2.2nm,0.8s,baz=168,slow=9.8,SNR=6.8 comp=N,2.2nm,0.8s							
FINES	**FINESS Array B**	**25.47**	**5**	P	**P**	**13 56 16.1**	**+0.7**	
FIA1	**FINESS Array S**	**25.47**	**5**	P	**P**	**13 56 16.3**	**+0.9**	
TORD	**Torodi Ar. Bea**	**29.24**	**224**	P	**P**	**13 56 49.1**	**-0.6**	
	comp=N,1.3nm,0.7s,baz=33,slow=9.3,SNR=7.0 comp=N,1.3nm,0.7s							
ABKAR	**Akbulak array**	**30.52**	**53**	P	**P**	**13 56 59.3**	**-1.4**	
ARCES	**ARCESS Array B**	**33.52**	**2**	P	**P**	**13 57 26.3**	**-0.5**	
	comp=N,4.2nm,1.0s,baz=187,slow=8.6,SNR=12 comp=N,4.2nm,1.0s							
ARCES	**ARCESS Array B**	**33.52**	**2**	P	**P**	**13 57 26.4**	**-0.4**	
BVAR	**Borovoye Array**	**37.61**	**48**	P	**P**	**13 58 01.5**	**-0.6**	
	comp=N,0.3nm,0.5s,baz=277,slow=13,SNR=2.3 comp=N,0.3nm,0.5s							
KK31	**Karatay Array**	**37.62**	**64**	P	**P**	**13 58 02.1**	**-0.3**	
KKAR	**Karatay Array**	**37.62**	**64**	P	**P**	**13 58 02.1**	**-0.3**	
GAR	**Garm**	**38.10**	**71**	P	**P**	**13 58 06.7**	**+0.2**	
GAR				IAmb	IAmb	13 58 16.1		
	comp=Z,5.6nm,1.4s							
MK31	**Makanchi Array**	**45.44**	**57**	P	**P**	**13 59 04.8**	**-1.6**	
MKAR	**Makanchi Array**	**45.44**	**57**	P	**P**	**13 59 05.0**	**-1.4**	
	comp=Z,0.8nm,0.5s,baz=268,slow=8.2,SNR=26 comp=Z,0.8nm,0.5s							
MKAR	**Makanchi Array**	**45.44**	**57**	P	**P**	**13 59 04.8**	**-1.6**	
ZALV	**Zalesovo Beam**	**46.24**	**47**	P	**P**	**13 59 10.7**	**-1.8**	
	comp=Z,0.4nm,0.3s,baz=263,slow=8.0,SNR=3.0 comp=Z,0.4nm,0.3s							
NRS	**Narsarsuaq**	**48.36**	**323**	P	**P**	**13 59 27.6**	**-1.3**	
ILULI	**Ilulissat**	**50.76**	**334**	P	**P**	**13 59 46.0**	**-1.2**	
MSEY	**Mahe Island**	**51.31**	**135**	P	**P**	**13 59 54.3**	**+2.3**	
TULEG	**Thule**	**55.38**	**343**	P	**P**	**14 00 21.3**	**+0.2**	
SONM	**Songino Array**	**60.89**	**50**	P	**P**	**14 00 58.9**	**-1.4**	
	comp=Z,0.2nm,0.5s,baz=278,slow=8.1,SNR=2.5 comp=Z,0.2nm,0.5s							
ULN	**Ulaanbaatar**	**61.28**	**50**	P	**P**	**14 01 03.9**	**+0.8**	
ULN				IAmb	IAmb	14 01 11.6		
	comp=Z,1.5nm,0.8s							
RES	**Resolute Bay**	**62.05**	**344**	P	**P**	**14 01 07.2**	**-0.3**	
RES				IAmb	IAmb	14 01 18.3		
	comp=Z,2.6nm,1.2s							
POGA	**Pongola**	**63.80**	**170**	P	**P**	**14 01 21.8**	**+2.1**	
POGA				IAmb	IAmb	14 01 24.5		
	comp=Z,4.1nm,0.9s							
BJT	**Baijiatuan**	**70.72**	**54**	P	**P**	**14 02 04.2**	**+0.6**	
BJT				IAmb	IAmb	14 02 04.6		

ROM 02 13:51:24.2±0.1, 42°.867N±0°.003×13°.233E±0°.004, h12km, ML2.0/19, Error ellipse: s-maj=0.4km s-min=0.1km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.04**	**252**	P	Pg	13 51 26.8	+0.2
T1245				S	Sg	13 51 28.2	0.0
T1245				AML	AML		
	comp=E,965μm,0.3s						
T1245				AML	AML		
	comp=N,692μm,1.5s						
T1245				AML	AML		
	comp=E,4940μm,0.7s						
T1245				AML	AML		
	comp=N,4045μm,1.2s						
T1245				AML	AML		
	comp=N,3775μm,1.3s						
T1245				AML	AML		
	comp=E,4755μm,0.7s						
T1245				AML	AML		
	comp=N,4045μm,0.8s						
T1245				AML	AML		
	comp=N,3775μm,0.7s						
MC2	**Monte Cornacci**	**0.06**	**326**	P	Pg	13 51 27.0	+0.2
MC2				S	Sg	13 51 28.8	+0.1
MMO1	**Montemonaco**	**0.08**	**65**	S	Sg	13 51 27.1	-1.7
NRCA	**Norcia**	**0.09**	**249**	P	Pg	13 51 27.4	+0.4
NRCA				S	Sg	13 51 29.3	+0.2
NRCA				AML	AML		
	comp=E,3950μm,0.1s						
NRCA				AML	AML		
	comp=E,4170μm,0.1s						
NRCA				AML	AML		
	comp=N,3670μm,0.2s						
NRCA				AML	AML		
	comp=N,3485μm,0.1s						
T1214	**Arquata del Tr**	**0.11**	**189**	P	Pg	13 51 27.7	+0.4
T1214				S	Sg	13 51 30.0	+0.5
T1214				AML	AML		
	comp=E,794μm,1.5s						
T1214				AML	AML		
	comp=N,801μm,1.4s						
T1214				AML	AML		
	comp=E,688μm,1.5s						
T1214				AML	AML		
	comp=N,742μm,1.4s						
T1214				AML	AML		
	comp=E,794μm,0.5s						
T1214				AML	AML		
	comp=E,688μm,0.5s						
T1214				AML	AML		
	comp=N,742μm,0.6s						
T1214				AML	AML		
	comp=N,801μm,0.6s						
T1256	**Bolognola (MC)**	**0.14**	**358**	S	Sg	13 51 28.3	-1.9
T1216	**Preci, Frazion**	**0.16**	**279**	P	Pg	13 51 28.4	+0.5
T1216				S	Sg	13 51 31.2	+0.7
T1216				AML	AML		
	comp=E,471μm,0.1s						
T1216				AML	AML		
	comp=N,533μm,0.5s						
T1212	**Cascia, Frazio**	**0.18**	**230**	P	Pg	13 51 28.8	+0.5
T1212				S	Sg	13 51 31.9	+0.9
T1212				AML	AML		
	comp=N,731μm,0.3s						
T1212				AML	AML		
	comp=E,356μm,0.3s						
FDMO	**Fiordimonte**	**0.20**	**328**	P	Pg	13 51 29.0	+0.4
FDMO				S	Sg	13 51 32.3	+0.7
FDMO				AML	AML		
	comp=E,162μm,0.2s						
FDMO				AML	AML		
	comp=N,246μm,0.2s						
T1243	**Rocca Santa Ma**	**0.23**	**137**	P	Pg	13 51 29.4	+0.3
T1243				S	Sg	13 51 33.2	+0.7
SMA1	**SAN MARTINO**	**0.25**	**162**	P	Pg	13 51 30.0	+0.6
SMA1				S	Sg	13 51 33.9	+1.0
SMA1				AML	AML		
	comp=N,180μm,1.2s						
SMA1				AML	AML		
	comp=E,170μm,0.4s						
T1219	**Muccia, Frazio**	**0.25**	**319**	P	Pg	13 51 29.9	+0.4
T1219				S	Sb	13 51 34.0	-1.0
T1219				AML	AML		
	comp=E,291μm,0.1s						
T1219				AML	AML		
	comp=N,316μm,1.4s						
T1219				AML	AML		
	comp=E,269μm,0.2s						
T1219				AML	AML		
	comp=N,315μm,1.4s						
T1219				AML	AML		
	comp=N,315μm,0.6s						
T1219				AML	AML		
	comp=N,316μm,0.6s						
T1220	**Camerino, Fraz**	**0.27**	**337**	S	Sg	13 51 30.1	-3.3
T1220				AML	AML		
	comp=E,623μm,0.7s						
T1220				AML	AML		
	comp=N,992μm,0.2s						
T1220				AML	AML		
	comp=N,990μm,0.2s						
T1220				AML	AML		
	comp=E,580μm,0.6s						
T1215	**Vallo di Nera,**	**0.28**	**256**	P	Pg	13 51 30.2	+0.4
T1215				S	Sg	13 51 34.7	+1.0
T1215				AML	AML		
	comp=N,130μm,0.2s						
T1215				AML	AML		
	comp=E,126μm,0.3s						
T1215	**Vallo di Nera,**	**0.28**	**256**	AML	AML		
	comp=N,130μm,0.2s						
T1215				AML	AML		
	comp=E,126μm,0.3s						
CESI	**CESI - Serrava**	**0.28**	**300**	P	Pg	13 51 30.4	+0.5
CESI				S	Sb	13 51 34.9	-1.0
CESI				AML	AML		
	comp=E,110μm,0.2s						
CESI				AML	AML		
	comp=N,125μm,0.3s						
CESI				AML	AML		
	comp=E,552μm,0.2s						
CESI				AML	AML		
	comp=N,607μm,0.3s						
LNSS	**Leonessa**	**0.30**	**208**	P	Pg	13 51 30.8	+0.5
LNSS				S	Sb	13 51 35.8	-0.7
LNSS				AML	AML		
	comp=N,284μm,1.2s						
LNSS				AML	AML		
	comp=E,308μm,0.2s						
LNSS				AML	AML		
	comp=N,284μm,1.2s						
LNSS				AML	AML		
	comp=N,284μm,0.8s						
CAMP	**Campotosto**	**0.36**	**159**	P	Pg	13 51 31.8	+0.5
CAMP				S	Sb	13 51 37.3	-0.8
CAMP				AML	AML		
	comp=E,103μm,0.3s						
CAMP				AML	AML		
	comp=N,111μm,0.2s						
RM33	**Pellescritta (**	**0.36**	**182**	P	Pb	13 51 32.3	-0.2
RM33				S	Sb	13 51 37.9	-0.2
RM33				AML	AML		
	comp=E,93μm,0.9s						
RM33				AML	AML		
	comp=N,83μm,1.1s						
RM33				AML	AML		
	comp=E,93μm,0.9s						
RM33				AML	AML		
	comp=N,82μm,1.1s						
RM33				AML	AML		
	comp=N,82μm,0.9s						
RM33				AML	AML		
	comp=E,93μm,1.1s						
TERO	**Teramo**	**0.37**	**132**	P	Pg	13 51 31.9	+0.4
TERO				S	Sb	13 51 37.7	-0.7
TERO				AML	AML		
	comp=E,258μm,1.2s						
TERO				AML	AML		
	comp=N,335μm,0.1s						
TERO				AML	AML		
	comp=E,242μm,1.2s						
TERO				AML	AML		
	comp=N,401μm,0.1s						
TERO				AML	AML		
	comp=E,242μm,0.8s						
TERO				AML	AML		
	comp=E,258μm,0.8s						
TERO				AML	AML		
	comp=N,335μm,1.9s						
TERO				AML	AML		
	comp=N,401μm,1.9s						
T1211	**Morro Reatino**	**0.43**	**220**	P	Pg	13 51 33.3	+0.5
T1211				S	Sb	13 51 40.0	-0.4
T1211				AML	AML		
	comp=N,145μm,1.5s						
T1211				AML	AML		
	comp=E,98μm,1.1s						
T1211				AML	AML		
	comp=N,146μm,1.6s						
T1211				AML	AML		
	comp=N,146μm,0.4s						
T1211				AML	AML		
	comp=E,98μm,0.9s						
GIGS	**Gran Sasso**	**0.48**	**149**	P	Pg	13 51 33.9	+0.2
GIGS				S	Sb	13 51 41.5	-0.3
GIGS				AML	AML		
	comp=E,58μm,0.3s						
GIGS				AML	AML		
	comp=N,38μm,0.6s						

IDC 02 13:54:12.0±2.5, 3°.76N×128°.89E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=177.9km s-min=26.7km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**167**	P	P	13 59 30.6	+0.5
	0.6nm,0.9s,baz=348,slow=10,SNR=1.3 0.6nm,0.9s						
ASAR	**Alice Springs**	**27.70**	**170**	P	P	14 00 01.6	-0.5
	0.4nm,0.6s,baz=342,slow=12,SNR=2.5 0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.77**	**324**	P	P	14 04 11.9	-0.1
	0.5nm,0.5s,baz=121,slow=8.2,SNR=9.4 0.5nm,0.5s						

*NEIC **02** 14:01:30.6±1.4, 24°.28S±0°.07×67°.4W±0°.2, h217km±13km, mb4.2/3, ML4.4(GUC), Error ellipse: s-maj=20.5km s-min=10.7km az=90.0*
*IDC **02** 14:01:30.4±1.5, 24°.28S×66°.99W, h170km±13km, mb3.3/6, mbtmp3.8/11, Error ellipse: s-maj=21.4km s-min=17.0km az=27.0*
*GUC **02** 14:01:31.6±0.6, 24°.33S×67°.39W, h199km±7km, ML4.3*
*VAO **02** 14:01:33.4±0.7, 23°.81S×67°.36W, h216km±7km, mb4.0*

ISC 02 14:01:29.8±0.7, 24°.28S±0°.04×67°.31W±0°.06, h193km±8km, n85, σ1s58/98, mb3.6/7, 10C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.54**	**329**		**Pn**	**14 02 05.8**	**+2.1**
AF01	**San Pedro de A**	**1.54**	**329**	*e*P	**Pn**	**14 02 05.6**	**+2.0**
AF01				*i* S	**S**	**14 02 31.5**	**+1.7**
LVC	**Limon Verde**	**2.22**	**318**	P	**Pn**	**14 02 12.3**	**+1.7**
	40nm,0.3s,baz=110,slow=10,SNR=176						
LVC				S	**S**	**14 02 41.7**	**-0.4**
	133nm,0.3s,baz=264,slow=18,SNR=49						
LVC	**Limon Verde**	**2.22**	**318**		**Pn**	**14 02 12.1**	**+1.6**
LVC	**Limon Verde**	**2.22**	**318**	⇑*i*P	**Pn**	**14 02 12.3**	**+1.7**
LVC				*i* S	**S**	**14 02 42.4**	**+0.2**
LVC	**Limon Verde**	**2.22**	**318**	*e*P	**Pn**	**14 02 12.1**	**+1.6**
PB15	**IPOC Station P**	**2.25**	**298**		**Pn**	**14 02 12.5**	**+1.8**
PB15	**IPOC Station P**	**2.25**	**298**	⇑*i*P	**Pn**	**14 02 12.8**	**+2.1**
PB15				*i* S	**S**	**14 02 43.4**	**+0.9**
PB06	**IPOC Station P**	**2.60**	**307**		**Pn**	**14 02 16.2**	**+1.6**
PB06	**IPOC Station P**	**2.60**	**307**	⇑*i*P	**Pn**	**14 02 16.5**	**+1.9**
PB06				*i* S	**S**	**14 02 49.6**	**+0.2**
PB06				IAML		14 02 52.0	

comp=E,1μm,0.1s
PB14 IPOC Station P 2.84 262 Pn 14 02 19.0 +1.5
PB14 IPOC Station P 2.84 262⇑ iP Pn 14 02 19.2 +1.7
PB14 i S **S** 14 02 55.0 +0.3
AC02 Maricunga 3.03 212 Pn 14 02 22.1 +2.1
PB09 IPOC Station P 3.04 324 Pn 14 02 21.7 +1.9
PB09 IPOC Station P 3.04 324⇑ iP Pn 14 02 21.8 +1.9
PB09 i S **S** 14 02 58.4 -0.4
PB09 IAML 14 03 01.3
comp=N,472nm,0.9s
PB10 IPOC Station P 3.06 284 Pn 14 02 21.6 +1.7
PB10 IPOC Station P 3.06 284⇑ iP Pn 14 02 21.9 +2.0
PB10 i S **S** 14 02 59.6 +0.7
PB10 IAML 14 03 05.3
comp=E,247nm,0.4s
PB03 IPOC Station P 3.16 314 Pn 14 02 22.3 +1.1
PB03 IPOC Station P 3.16 314⇑ iP Pn 14 02 22.7 +1.5
PB03 i S **S** 14 03 00.3 -1.0
PB03 IAML 14 03 02.4
comp=N,355nm,0.2s
PB04 IPOC Station P 3.25 306 Pn 14 02 23.3 +1.0
PB04 IPOC Station P 3.25 306⇓ iP Pn 14 02 24.0 +1.7
PB04 i S **S** 14 03 04.0 +0.8
PB07 IPOC Station P 3.47 316 Pn 14 02 26.1 +1.0
PB07 IPOC Station P 3.47 316⇑ iP Pn 14 02 26.3 +1.2
PB07 i S **S** 14 03 06.7 -1.5
AC01 Pan de Azucar 3.51 237 Pn 14 02 26.2 +0.9
AC01 Pan de Azucar 3.51 237 eP Pn 14 02 26.4 +1.1
AC01 i S **S** 14 03 08.5 -0.3
PB02 IPOC Station P 3.79 320 Pn 14 02 29.3 +0.5
PB02 IPOC Station P 3.79 320⇑ iP Pn 14 02 29.6 +0.7
PB02 i S **S** 14 03 12.5 -2.5
PB01 IPOC Station P 3.79 328 Pn 14 02 29.3 +0.4
PB01 IPOC Station P 3.79 328 eP Pn 14 02 29.4 +0.5
PB01 i S **S** 14 03 13.4 -1.8
AC06 Mina Casimiro 4.12 221 Pn 14 02 33.5 +0.7
GO03 Copiap 4.22 218 Pn 14 02 34.6 +0.4
GO03 Copiap 4.22 218 eP Pn 14 02 34.9 +0.7
GO03 i S **S** 14 03 24.5 -0.3
PB08 IPOC Station P 4.46 337 Pn 14 02 38.2 +0.6
PB08 IPOC Station P 4.46 337⇑ eP Pn 14 02 39.0 +1.5
PB08 i S **S** 14 03 29.5 -1.1
TA01 Diego Aracena 4.55 324 Pn Pn 14 02 38.7 +0.4
GO01 Chusmiza 4.91 339 Pn 14 02 43.9 +0.5
PB11 IPOC Station P 4.99 334 Pn 14 02 44.0 -0.2
AC04 Llanos de Chal 5.17 220 Pn 14 02 46.1 -0.1
AC05 El Transito 5.26 210 Pn 14 02 47.8 +0.3
PSGCX Pisagua 5.34 330 Pn Pn 14 02 48.2 -0.3
MNMC Minye Minye 5.54 337 Pn 14 02 51.3 -0.1
LCO Las Campanas 5.61 212 Pn 14 02 51.9 -0.2
PB12 IPOC Station P 6.30 333 Pn Pn 14 03 00.6 -0.4
GO04 Tololo Observa 6.64 207 Pn Pn 14 03 05.2 -0.3
CFA Coronel Fontan 7.35 186 P Pn 14 03 15.1 +0.6
comp=N,2.1nm,0.6s,baz=340,slow=8.8,SNR=5.7
CFA S **S** 14 04 32.8 -4.8
comp=N,4.4nm,0.6s,baz=360,slow=23,SNR=6.4
CO02 Combarbal 7.63 205 Pn Pn 14 03 18.3 -0.1
LPAZ La Paz 7.99 354 Pn Pn 14 03 24.6 +1.1
CPUP Villa Florida 9.26 105 P Pn 14 03 36.0 -3.5
comp=N,0.8nm,0.6s,baz=206,slow=9.5,SNR=2.1
BBSD Serra de San D 9.43 43 eP Pn 14 03 39.4 -2.5
SIV San Ignacio 10.11 37 P Pn 14 03 48.2 -2.5
comp=N,4.4nm,0.6s,baz=212,slow=12,SNR=24
SIV S S 14 05 27.4 -17
comp=N,0.8nm,0.6s,baz=242,slow=18,SNR=1.7
PTLB Pontes e Lacer 11.67 43 eP Pn 14 04 09.6 -1.1
CRSM Crissiumal (Br 12.37 108 eP P 14 04 25.2 +1.3
FRBT Francisco Belt 13.02 100 eP P 14 04 32.2 +1.0
VILB Vilhena 13.12 32 eP Pn 14 04 28.6 -0.5
TRCB Terra Rica 13.54 87 P P 14 04 38.0 +0.9
TRCB Terra Rica 13.54 87 eP P 14 04 37.7 +0.6
PTGB Pitanga 13.89 95 eP P 14 04 42.7 +1.8
PLTB Pedras Altas 14.21 125 Pn 14 04 43.8 +1.2
PCMB Pacaembu 15.02 83 eP P 14 04 55.4 +2.0
SAML Samuel 15.74 15 P Pn 14 05 01.2 -0.2
SAML IAmb IAmb 14 05 03.2
comp=Z,2.4nm,1.1s
ITRB Iturama 16.36 77 eP Pn 14 05 10.3 +1.4
ARAG Araguaiana, MT 16.87 63 eP Pn 14 05 15.7 +0.7
CLDB Colider 17.25 41 eP P 14 05 18.2 +0.2
IPMB Ipameri, GO 18.88 74 eP P 14 05 36.0 +0.2
BDFB Brasilia 20.05 68 P P 14 05 48.9 +0.4
comp=Z,12nm,0.8s,baz=241,slow=10,SNR=16
BDFB Brasilia 20.05 68 P P 14 05 48.7 +0.2
BDFB IAmb IAmb 14 05 49.4
comp=Z,12nm,0.8s
BDFB Brasilia 20.05 68 eP P 14 05 49.1 +0.7
TEFE Tefe 20.81 8 eP P 14 05 52.5 -3.9
JANB Januaria 23.49 71 eP P 14 06 22.5 +0.1
SDBA SAO DESIDERIO 24.28 65 eP P 14 06 29.6 0.0
SMTB Santa Maria do 24.28 54 eP P 14 06 29.9 +0.3
GDU01 Guandu, BA 28.19 73 eP P 14 07 04.1 -0.6
W50A Signal Mountai 61.56 343 P P 14 11 24.3 -2.3
W50A IAmb IAmb 14 11 24.4
comp=Z,7.9nm,1.1s
TXAR Lajitas Array 63.74 325 P P 14 11 45.1 +3.9
comp=Z,0.1nm,0.5s,baz=158,slow=7.4,SNR=2.7
comp=Z,0.1nm,0.5s
TORD Torodi Ar. Bea 76.93 69 P P 14 13 02.9 +1.6
comp=Z,0.7nm,0.5s,baz=260,slow=5.7,SNR=5.3
comp=Z,0.7nm,0.5s
PDAR Pinedale Array 77.24 329 P P 14 13 06.8 +4.1
comp=Z,0.3nm,0.7s,baz=126,slow=5.7,SNR=2.2
comp=Z,0.3nm,0.7s
NVAR Mina Array Bea 78.58 321 P P 14 13 15.6 +5.4
comp=Z,0.2nm,0.5s,baz=140,slow=7.1,SNR=2.1
comp=Z,0.2nm,0.5s
BOSA Boshof 80.86 117 P P 14 13 25.3 +2.6
comp=Z,2.5nm,0.9s,baz=292,slow=1.4,SNR=5.2
comp=Z,2.5nm,0.9s
YKA Yellowknife Ar 94.29 340 P P 14 14 30.2 +3.7
comp=Z,0.4nm,0.6s,baz=126,slow=4.7,SNR=8.0
comp=Z,0.4nm,0.6s
ASAR Alice Springs 128.09 205 PKP PKiKP 14 20 16.9 +2.7
comp=Z,0.5nm,0.7s,baz=125,slow=1.4,SNR=10.0
WRA Warramunga Arr 131.25 207 PKP PKiKP 14 20 22.9 +2.3
comp=Z,0.4nm,0.5s,baz=160,slow=1.6,SNR=9.9
ZALV Zalesovo Beam 143.77 28 PKP PKiKP 14 20 42.5 -2.4
comp=Z,0.7nm,0.5s,baz=298,slow=3.1,SNR=4.4
MKAR Makanchi Array 146.92 40 PKPbc PKiKP 14 20 51.0 -0.8
comp=Z,1.1nm,0.6s,baz=298,slow=3.2,SNR=14
KLR Kul'dur 150.95 334 PKPbc PKiKP 14 21 02.5 +2.6
comp=Z,0.2nm,0.2s,baz=49,slow=5.4,SNR=5.0
PZH PanZhiHua 169.86 75 PKP PKPdf 14 21 10.9 -4.0

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*IDC **02** 14:03:53.7±0.8, 1°.70N×98°.89E, h118km±5km, mb3.8/22, mbtmp4.2/23, MS4.5/1, Error ellipse: s-maj=24.6km s-min=11.1km az=51.0*
*NEIC **02** 14:03:55.6±1.6, 1°.90N±0°.06×98°.95E±0°.06, h120km±5km, mb4.5/36, Error ellipse: s-maj=8.6km s-min=8.2km az=87.0*
*DJA **02** 14:03:56.0±0.3, 2°N±2°×9°9E±°, h108km±4km, M4.2/17, mb4.0/1, MLv4.2/17*
ISC 02 14:03:54.9±0.5, 1°.87N±0°.03×98°.94E±0°.04, h122km±4km, n96, σ1°21/115, mb4.4/39, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.82**	**359**	Pn		**Pn**	**Pn**	**14 04 16.2**	**+0.7**
RPSI				Sn		Sn	**Sn**	**14 04 30.8**	**-0.3**
MNSI	**Mandailing Nat**	**1.24**	**149**	P		**Pn**	**Pn**	**14 04 20.4**	**+0.8**
GSI	**Gunungsitoli**	**1.47**	**248**	Pn		**Pn**	**Pn**	**14 04 23.8**	**+1.6**
GSI	**Gunungsitoli**	**1.47**	**248**	P		**Pn**	**Pn**	**14 04 23.8**	**+1.6**
GSI				S		Sn	**Sn**	**14 04 44.4**	**+1.5**
TSI	**Tuntungan**	**1.67**	**347**	P		**Pn**	**Pn**	**14 04 25.8**	**+1.4**
KCSI	**Kotacane, Aceh**	**2.02**	**325**	P		**Pn**	**Pn**	**14 04 29.8**	**+1.1**
KCSI				S		Sn	**Sn**	**14 04 54.4**	**-0.2**
PBSI	**Pulau Batu**	**2.02**	**199**	P		**Pn**	**Pn**	**14 04 30.1**	**+1.4**
PBSI				S		Sn	**Sn**	**14 04 54.9**	**+0.3**
BKNI	**Bangkinang**	**2.60**	**126**	Pn		**Pn**	**Pn**	**14 04 37.6**	**+1.6**
BKNI	**Bangkinang**	**2.60**	**126**	P		**Pn**	**Pn**	**14 04 37.6**	**+1.6**
SNSI	**Sinabang, Aceh**	**2.67**	**282**	P		**Pn**	**Pn**	**14 04 38.7**	**+1.8**
SNSI				S		Sn	**Sn**	**14 05 08.3**	**-1.0**
PDSI	**Padang**	**3.15**	**151**	P		**Pn**	**Pn**	**14 04 44.0**	**+0.8**
PDSI				S		Sn	**Sn**	**14 05 20.6**	**0.0**
IPM	**Ipoh**	**3.33**	**39**	Pn		**Pn**	**Pn**	**14 04 46.8**	**+1.2**
MLSI	**Meulaboh, Aceh**	**3.48**	**313**	P		**Pn**	**Pn**	**14 04 48.8**	**+1.2**
MLSI				S		Sn	**Sn**	**14 05 27.3**	**-1.0**
SDSI	**Sungai Dareh**	**3.73**	**138**	P		**Pn**	**Pn**	**14 04 51.8**	**+0.9**
KULM	**Kulim**	**3.81**	**27**	Pn		**Pn**	**Pn**	**14 04 52.7**	**+0.8**
LHMI	**Lhok Sumawe**	**3.89**	**329**	Pn		**Pn**	**Pn**	**14 04 53.9**	**+0.9**
LHMI	**Lhok Sumawe**	**3.89**	**329**	P		**Pn**	**Pn**	**14 04 53.9**	**+0.9**
LHMI				S		Sn	**Sn**	**14 05 37.9**	**-0.2**
PPSI	**Pulau Pagai**	**4.72**	**167**	P		**Pn**	**Pn**	**14 05 04.7**	**+0.6**
PPSI				S		Sn	**Sn**	**14 05 54.3**	**-3.7**
MYKOM	**Kota Tinggi**	**4.91**	**91**				**Pn**	**14 05 07.3**	**+0.7**
MASI	**Maura Aman, Be**	**5.97**	**146**	P		**Pn**	**Pn**	**14 05 22.5**	**+1.5**
MNAI	**Manna**	**7.37**	**147**	Pn		**Pn**	**Pn**	**14 05 39.4**	**-0.5**
COCO	**West Island**	**14.12**	**188**				**Pn**	**14 07 12.4**	**+2.9**
CM31	**Chiang Mai Arr**	**16.49**	**0**	P		**P**	**P**	**14 07 40.5**	**+0.9**
CM31				IAmb		IAmb	IAmb	14 07 41.3	
comp=Z,16nm,0.9s									
CMAR	**Chiang Mai Arr**	**16.49**	**0**	P		**P**		**14 07 40.4**	**+0.8**
comp=Z,6.1nm,0.5s,baz=191,slow=11,SNR=57									
CMAR	**Chiang Mai Arr**	**16.49**	**0**	P		**P**		**14 07 39.9**	**+0.3**
PHRA	**Phrae**	**16.58**	**4**	P		**P**		**14 07 41.6**	**+1.0**
CHTO	**Chiang Mai**	**16.84**	**0**	P		**P**		**14 07 43.5**	**0.0**
KKM	**Kota Kinabalu**	**17.72**	**76**	Pn		**Pn**		**14 07 54.9**	**+0.7**
KKM				IAmb		IAmb		14 08 34.5	
comp=Z,39nm,1.2s									
CRAI	**Chiangrai**	**18.31**	**4**	P		**Pn**		**14 08 00.4**	**-0.6**
PALK	**Pallekele**	**18.95**	**287**	S		**S**		**14 11 29.4**	**-6.4**
comp=Z,1.8nm,0.4s,baz=158,slow=18,SNR=0.8									
TOLI2	**Tolitoli**	**21.85**	**92**	P		**P**		**14 08 38.5**	**+0.6**
TOLI2				IAmb		IAmb		14 08 39.2	
comp=Z,7.9nm,0.8s									
LUWI	**Luwuk**	**24.00**	**97**	P		**P**		**14 08 59.1**	**+0.6**
LUWI				IAmb		IAmb		14 09 12.8	
comp=Z,27nm,0.8s									
PZH	**PanZhiHua**	**24.64**	**6**	P		**P**		**14 09 07.0**	**+2.7**
PZH				pmax		pmax			
comp=Z,10.0nm,0.5s									
PZH				pmax		pmax			
comp=Z,90nm,5.0s									
LSA	**Lhasa**	**28.66**	**346**	P		**P**		**14 09 40.6**	**-0.1**
LSA				IAmb		IAmb		14 09 42.8	
comp=Z,6.2nm,0.7s									
FITZ	**Fitzroy Crossi**	**32.93**	**128**	P		**P**		**14 10 18.7**	**+0.8**
KNRA	**Kununurra**	**34.25**	**122**	P		**P**		**14 10 28.5**	**-0.8**
NJ2	**Nanjing**	**35.41**	**30**	eP		**P**		**14 10 40.4**	**+1.3**
NJ2				pmax		pmax			
comp=Z,7.0nm,0.5s									
NIL	**Nilore**	**39.72**	**326**	P		**P**		**14 11 14.4**	**-1.1**
NIL				IAmb		IAmb		14 11 16.8	
comp=Z,7.3nm,0.5s									
HHC	**Hu-ho-hao-te**	**40.45**	**15**	eP		**P**		**14 11 22.8**	**+1.3**
HHC				pmax		pmax			
comp=Z,28nm,0.7s									
HHC				pmax		pmax			
comp=Z,340nm,7.0s									
WB0	**Warramunga Arr**	**40.89**	**123**	P		**P**		**14 11 23.9**	**-1.4**
WB0				IAmb		IAmb		14 11 27.2	
comp=Z,7.9nm,0.6s									
WRA	**Warramunga Arr**	**40.93**	**124**	P		**P**		**14 11 24.2**	**-1.5**
comp=Z,12nm,0.4s,baz=303,slow=8.9,SNR=62									
WRA				PcP		**PcP**		**14 13 23.7**	**-0.2**
comp=Z,0.4nm,0.6s,baz=312,slow=2.6,SNR=2.3									
WRA	**Warramunga Arr**	**40.93**	**124**	P		**P**		**14 11 24.3**	**-1.3**
WB2	**Warramunga Arr**	**40.94**	**124**	P		**P**		**14 11 24.6**	**-1.1**
WR0	**Warramunga Arr**	**41.11**	**124**	P		**P**		**14 11 25.9**	**-1.2**
JSU	**Suzuyama**	**41.88**	**42**	P		**P**		**14 11 33.1**	**-0.1**
JSU				IAmb		IAmb		14 11 34.9	
comp=Z,14nm,1.2s									
ASAR	**Alice Springs**	**42.43**	**129**	P		**P**		**14 11 36.4**	**-1.5**
comp=Z,2.5nm,0.5s,baz=296,slow=7.5,SNR=48									
ASAR				PcP		**PcP**		**14 13 28.9**	**0.0**
comp=Z,0.4nm,0.5s,baz=301,slow=2.4,SNR=4.5									
ASAR				ScP		**ScP**		**14 17 06.3**	**-2.2**
comp=Z,0.3nm,1.0s,baz=303,slow=4.2,SNR=1.5									
comp=Z,2.5nm,0.5s									
ASAR	**Alice Springs**	**42.43**	**129**	P		**P**		**14 11 36.1**	**-1.7**
AS31	**Alice Springs**	**42.43**	**129**	P		**P**		**14 11 36.1**	**-1.7**
FORT	**Forrest**	**42.69**	**142**	P		**P**		**14 11 39.3**	**-0.4**
KSH	**Kashi**	**42.92**	**334**	P		**P**		**14 11 41.4**	**-0.2**
KSH				pmax		pmax			
comp=Z,6.0nm,0.6s									
WMQ	**Urumqi**	**42.96**	**348**	eP		**P**		**14 11 43.5**	**+1.7**
WMQ				pmax		pmax			
comp=Z,20nm,0.7s									
WSAR	**Wadi Sarin**	**44.46**	**302**	P		**P**		**14 11 54.4**	**+0.3**
comp=Z,5.1nm,1.0s,baz=146,slow=7.6,SNR=3.4									
comp=Z,5.1nm,1.0s									
AAK	**Ala-Archa**	**46.11**	**335**	P		**P**		**14 12 08.2**	**+1.2**
comp=Z,0.8nm,0.3s,baz=185,slow=6.8,SNR=7.3									
comp=Z,0.8nm,0.3s									
AAK	**Ala-Archa**	**46.11**	**335**	P		**P**		**14 12 06.7**	**-0.3**
AAK				IAmb		IAmb		14 12 10.8	
comp=Z,2.2nm,0.7s									
SONM	**Songino Array**	**46.24**	**7**	P		**P**		**14 12 08.3**	**+0.4**
comp=Z,0.8nm,0.4s,baz=190,slow=9.3,SNR=12									
SONM				LR		LR		14 35 03.7	
comp=Z,464nm,18.8s,baz=334,slow=40									
comp=Z,0.8nm,0.4s									
SONM	**Songino Array**	**46.24**	**7**	P		**P**		**14 12 07.7**	**-0.2**
MK31	**Makanchi Array**	**47.05**	**344**	P		**P**		**14 12 14.5**	**+0.4**
MK31				IAmb		IAmb		14 12 16.6	
comp=Z,3.9nm,0.8s									
MKAR	**Makanchi Array**	**47.05**	**344**	P		**P**		**14 12 14.8**	**+0.8**
comp=Z,4.1nm,0.4s,baz=159,slow=8.2,SNR=89									
MKAR				pP		**pP**		**14 12 41.2**	**-1.6**
comp=Z,0.8nm,0.6s,baz=166,slow=8.2,SNR=2.2									
comp=Z,4.1nm,0.4s									
MKAR	**Makanchi Array**	**47.05**	**344**	P		**P**		**14 12 14.4**	**+0.4**
MAKZ	**Makanchi**	**47.15**	**344**	P		**P**		**14 12 15.2**	**+0.4**
MAKZ				IAmb		IAmb		14 12 16.2	
comp=Z,3.8nm,0.6s									
KK31	**Karatay Array**	**48.26**	**332**	P		**P**		**14 12 24.4**	**+0.9**
KKAR	**Karatay Array**	**48.26**	**332**	P		**P**		**14 12 24.3**	**+0.8**
USRK	**Usuriysk Ar.**	**51.32**	**30**	P		**P**		**14 12 47.4**	**+0.9**
comp=Z,0.6nm,0.5s,baz=228,slow=7.6,SNR=1.1									
comp=Z,0.6nm,0.5s									
KURBB	**Kurchatov Arra**	**51.57**	**344**	P		**P**		**14 12 48.9**	**+0.6**
comp=Z,2.4nm,0.4s,baz=160,slow=7.1,SNR=34									
KURBB				pP		**pP**		**14 13 16.1**	**-1.4**
comp=Z,0.7nm,0.6s,baz=162,slow=7.2,SNR=2.3									
comp=Z,2.4nm,0.4s									
GEYT	**Ailbeck**	**51.84**	**319**	P		**P**		**14 12 50.5**	**-0.1**
comp=Z,1.1nm,0.5s,baz=159,slow=4.5,SNR=3.6									
comp=Z,1.1nm,0.5s									
STKA	**Stephens Creek**	**52.53**	**133**	P		**P**		**14 12 54.8**	**-1.0**
comp=Z,1.0nm,0.5s,baz=295,slow=8.8,SNR=5.1									
comp=Z,1.0nm,0.5s									
STKA	**Stephens Creek**	**52.53**	**133**	P		**P**		**14 12 55.3**	**-0.5**
ZAA0	**Zalesovo Array**	**53.20**	**350**	P		**P**		**14 13 00.5**	**+0.2**
ZAA0				IAmb		IAmb		14 13 01.7	
comp=Z,6.6nm,0.7s									
ZALV	**Zalesovo Beam**	**53.20**	**350**	P		**P**		**14 13 00.8**	**+0.5**
comp=Z,4.5nm,0.3s,baz=176,slow=6.6,SNR=34									
ZALV				pP		**pP**		**14 13 28.8**	**-0.8**
comp=Z,0.9nm,0.4s,baz=159,slow=6.3,SNR=2.0									
comp=Z,4.5nm,0.3s									
ZALV	**Zalesovo Beam**	**53.20**	**350**	P		**P**		**14 13 00.5**	**+0.2**
KLR	**Kul'dur**	**54.89**	**26**	P		**P**		**14 13 13.6**	**+0.9**
comp=Z,0.8nm,0.5s,baz=253,slow=5.4,SNR=5.2									
comp=Z,0.8nm,0.5s									
BVAR	**Borovoye Array**	**56.22**	**340**	P		**P**		**14 13 22.2**	**+0.1**
comp=Z,2.2nm,0.5s,baz=136,slow=9.7,SNR=20									
comp=Z,2.2nm,0.5s									
BRVK	**Borovoye**	**56.28**	**340**	P		**P**		**14 13 22.7**	**+0.2**
BRVK				IAmb		IAmb		14 13 23.0	
comp=Z,2.7nm,0.5s									
ASAJ	**Asahikawa**	**57.09**	**36**	P		**P**		**14 13 28.7**	**+0.2**
comp=Z,5.3nm,1.1s,baz=268,slow=8.5,SNR=2.3									
comp=Z,5.3nm,1.1s									
EIDS	**Eidsvold**	**57.24**	**122**	P		**P**		**14 13 29.9**	**+0.1**
EIDS				IAmb		IAmb		14 13 52.8	
comp=Z,8.8nm,1.2s									
ABKAR	**Akbulak array**	**57.77**	**331**	P		**P**		**14 13 33.3**	**+0.3**
AKTO	**Aktyubinsk**	**59.48**	**331**	P		**P**		**14 13 44.2**	**-0.7**
comp=Z,1.2nm,0.4s,baz=138,slow=4.8,SNR=4.0									
AKTO				pP		**pP**		**14 14 13.1**	**-1.8**
comp=Z,1.3nm,0.6s,baz=104,slow=8.5,SNR=2.6									
comp=Z,1.2nm,0.4s									
KBZ	**Khabaz**	**64.72**	**318**	P		**P**		**14 14 19.6**	**-0.4**
comp=Z,3.4nm,1.1s,baz=107,slow=11,SNR=3.8									
comp=Z,3.4nm,1.1s									
BELG	**Belogornoye**	**65.90**	**328**	P		**P**		**14 14 26.9**	**-0.6**
comp=Z,5.4nm,0.6s,baz=124,slow=3.6,SNR=3.3									
comp=Z,5.4nm,0.6s									
BR131	**Keskin Array S**	**69.96**	**312**	P		**P**		**14 14 54.0**	**+0.6**
BR131				IAmb		IAmb		14 15 01.5	
comp=Z,3.8nm,1.0s									
BRTR	**Keskin Array B**	**69.96**	**312**	P		**P**		**14 14 53.1**	**-0.2**
comp=Z,0.9nm,0.8s,baz=138,slow=4.5,SNR=4.6									
comp=Z,0.9nm,0.8s									
BRTR	**Keskin Array B**	**69.96**	**312**	P		**P**		**14 14 53.5**	**+0.1**
PET	**Petropavlovsk**	**70.72**	**34**	P		**P**		**14 14 57.9**	**+0.5**
TIXI	**Tiksi**	**72.24**	**10**	P		**P**		**14 15 06.4**	**+0.1**
comp=Z,0.7nm,0.4s,baz=270,slow=15,SNR=2.4									
comp=Z,0.7nm,0.4s									
TIXI	**Tiksi**	**72.24**	**10**	P		**P**		**14 15 06.6**	**+0.3**
TIXI				IAmb		IAmb		14 15 51.1	
comp=Z,5.1nm,0.3s									
SEY	**Seymchan**	**72.48**	**23**	P		**P**		**14 15 07.7**	**-0.1**
comp=Z,0.7nm,0.3s,baz=246,slow=19,SNR=4.0									
comp=Z,0.7nm,0.3s									
AKASG	**Malin Array Be**	**75.80**	**322**	P		**P**		**14 15 27.0**	**-0.4**
comp=Z,0.1nm,0.3s,baz=83,slow=4.0,SNR=4.2									
comp=Z,0.1nm,0.3s									
BURAR	**Bucovina Array**	**77.68**	**318**	P		**P**		**14 15 38.3**	**+0.1**
RPZ	**Rata Peaks**	**78.44**	**135**	P		**P**		**14 15 42.5**	**+0.1**
FINES	**FINESS Array B**	**80.22**	**332**	P		**P**		**14 15 51.9**	**+0.3**
comp=Z,1.2nm,0.5s,baz=105,slow=5.0,SNR=11									
FINES				pP		**pP**		**14 16 22.1**	**-1.0**
comp=Z,2.0nm,0.7s,baz=116,slow=4.4,SNR=2.1									
comp=Z,1.2nm,0.5s									
FINES	**FINESS Array B**	**80.22**	**332**	P		**P**		**14 15 52.1**	**+0.5**
BKZ	**Black Stump Fm**	**81.54**	**130**	P		**P**		**14 15 58.9**	**-0.3**
ARCES	**ARCESS Array B**	**82.50**	**340**	P		**P**		**14 16 03.5**	**-0.1**
comp=Z,0.7nm,0.4s,baz=90,slow=4.5,SNR=7.2									
ARCES				pP		**pP**		**14 16 34.1**	**-1.1**
comp=Z,12nm,1.2s,baz=94,slow=6.4,SNR=3.0									
comp=Z,0.7nm,0.4s									
ARCES	**ARCESS Array B**	**82.50**	**340**	P		**P**		**14 16 04.1**	**+0.5**
GEC2	**GERESS Array S**	**85.47**	**319**	P		**P**		**14 16 19.2**	**+0.1**
TXAR	**Lajitas Array**	**142.18**	**33**	PKP		**PKPdf**		**14 23 12.1**	**-1.6**
comp=Z,0.1nm,0.5s,baz=222,slow=1.2,SNR=1.8									
TXAR				SKPbc		**SKPbc**		**14 26 39.5**	**-0.6**
comp=Z,0.2nm,0.7s,baz=278,slow=0.6,SNR=3.4									

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*JMA **02** 14:11:13.6±0.2, 24°.3N±1°.0×12°2E±°, h35km±3km, MV2.3/9, TAIWAN REGION*
*TAP **02** 14:11:14.1, 24°.40N×121°.80E, h19km, ML3.0, C*
ISC 02 14:11:14.3±0.9, 24°.41N±0°.01×121°.85E±0°.02, h18km±3km, n89, σ1°01/150, 11C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.07**	**295**	⇑ iP		**Pg**		**14 11 17.6**	**-0.1**
comp=Z,0.7nm,0.4s,baz=333									
EWUT				i S		**Sg**		**14 11 19.7**	**-0.3**
comp=Z,0.7nm,0.4s									
ENA	**Nanau**	**0.10**	**278**	⇑ iP		**Pg**		**14 11 17.9**	**-0.1**
comp=Z,0.7nm,0.4s,baz=295									
ENA				i S		**Sg**		**14 11 20.1**	**-0.4**
comp=Z,0.7nm,0.4s,baz=295									
EHP	**Heping Village**	**0.14**	**225**	i P		**Pg**		**14 11 18.2**	**-0.3**
comp=Z,0.7nm,0.4s,baz=207									
EHP				eS		**Sg**		**14 11 21.1**	**-0.2**
comp=Z,0.7nm,0.4s,baz=207									
TWC	**Suao**	**0.20**	**359**	⇓ iP		**Pg**		**14 11 19.5**	**+0.3**
comp=Z,0.7nm,0.4s,baz=15									
TWC				i S		**Sg**		**14 11 22.8**	**+0.3**
comp=Z,0.7nm,0.4s,baz=15									
NDS	**Dongshan**	**0.25**	**330**	⇑ iP		**Pg**		**14 11 20.1**	**+0.1**
comp=Z,0.7nm,0.4s,baz=341									
NDS				S		**Sg**		**14 11 23.9**	**0.0**
comp=Z,0.7nm,0.4s,baz=341									
LATG	**Datong**	**0.32**	**292**	⇓ iP		**Pg**		**14 11 20.8**	**-0.5**
comp=Z,0.7nm,0.4s,baz=298									
LATG				eS		**Sg**		**14 11 25.1**	**-0.9**
comp=Z,0.7nm,0.4s,baz=298									
ETL	**Fush Village**	**0.33**	**220**	i P		**Pg**		**14 11 20.6**	**-0.7**
comp=Z,0.7nm,0.4s,baz=214									
ETL				S		**Sg**		**14 11 25.4**	**-0.7**
comp=Z,0.7nm,0.4s,baz=214									
NACB	**Ninganchiao**	**0.34**	**225**	⇓ iP		**Pg**		**14 11 20.6**	**-0.9**
comp=Z,0.7nm,0.4s,baz=220									
NACB				S		**Sg**		**14 11 25.1**	**-1.1**
comp=Z,0.7nm,0.4s,baz=220									
ENTT	**Nioudou**	**0.34**	**311**	⇑ iP		**Pb**		**14 11 21.4**	**-0.5**
comp=Z,0.7nm,0.4s,baz=318									
ENTT				S		**Sg**		**14 11 26.2**	**-0.4**
comp=Z,0.7nm,0.4s,baz=318									
TWE	**Neicheng**	**0.35

WFSB	baz=358			*e*S	**Sb**	**14 11 36.6**	**+0.7**
NHY	**Taipei**	**0.67**	**338**	*e*P	**Pb**	**14 11 26.9**	**-0.5**
NHY	baz=342			*e*S	**Sg**	**14 11 35.2**	**-1.3**
TAP	**Taipei**	**0.70**	**333**	*e*P	**Pn**	**14 11 28.9**	**-0.3**
NFF	baz=337 **Wufeng Townshi**	**0.70**	**288**	⇓P	**Pg**	**14 11 27.6**	**-0.6**
NFF	baz=290			*e*S	**Sg**	**14 11 36.0**	**-1.5**
ESL	baz=290 **Shilin**	**0.71**	**213**	P	**Pg**	**14 11 27.0**	**-1.2**
ESL	baz=209			*e*S	**Sg**	**14 11 36.3**	**-1.3**
CHGB	baz=209 **Renai**	**0.71**	**241**	⇓*e*P	**Pg**	**14 11 27.4**	**-1.0**
CHGB	baz=239			*e*S	**Sg**	**14 11 36.3**	**-1.6**
TNOU	baz=239 **National Taiwa**	**0.74**	**354**	*e*P	**Pn**	**14 11 29.4**	**-0.3**
YM01	baz=358 **YM01**	**0.77**	**341**	*e*P	**Pn**	**14 11 29.7**	**-0.6**
YM01	baz=344			*e*S	**Sb**	**14 11 40.5**	**+1.1**
TWS1	baz=344 **Kuangyinshan**	**0.79**	**330**	*e*P	**Pn**	**14 11 30.2**	**-0.3**
TWS1	baz=334			*e*S	**Sn**	**14 11 41.8**	**-0.1**
WUSB	baz=334 **Renai**	**0.79**	**238**	*e*P	**Pg**	**14 11 28.9**	**-0.9**
WUSB	baz=237			*e*S	**Sg**	**14 11 39.6**	**-0.7**
LIOB	baz=237 **Emei**	**0.80**	**287**	*e*P	**Pb**	**14 11 29.8**	**+0.2**
LIOB	baz=289			*e*S	**Sg**	**14 11 40.0**	**-0.5**
NSTT	baz=289 **Nanjuang**	**0.81**	**286**	*e*P	**Pg**	**14 11 29.6**	**-0.4**
NSTT	baz=287			*e*S	**Sg**	**14 11 39.2**	**-1.6**
YM08	baz=287 **YM08**	**0.81**	**343**	*e*P	**Pn**	**14 11 30.2**	**-0.5**
NCUH	baz=346 **Zhongli**	**0.82**	**312**	*e*P	**Pb**	**14 11 30.4**	**+0.5**
NTST	baz=315 **Danshui**	**0.83**	**334**	*e*P	**Pn**	**14 11 30.9**	**-0.1**
EGFH	baz=337 **Guangfu**	**0.84**	**208**	*e*P	**Pg**	**14 11 29.3**	**-1.3**
WHP	baz=205 **Taichung City**	**0.84**	**261**	*e*P	**Pg**	**14 11 29.9**	**-0.7**
TWY	baz=261 **Chenhua**	**0.89**	**345**	*e*P	**Pn**	**14 11 32.3**	**+0.4**
TWY	baz=348			*e*S	**Sn**	**14 11 44.0**	**-0.3**
WPL	baz=348 **Puli Township**	**0.91**	**244**	*e*P	**Pg**	**14 11 31.1**	**-0.9**
VWDT	baz=243 **VWDT**	**0.93**	**225**	⇑*e*P	**Pg**	**14 11 31.4**	**-0.9**
VWDT	baz=223			*e*S	**Sg**	**14 11 43.1**	**-1.3**
DPDB	baz=223 **Guoxing**	**0.93**	**246**	*e*P	**Pg**	**14 11 31.7**	**-0.7**
WCS	baz=245 **Beigang Elemen**	**0.93**	**248**	*e*P	**Pg**	**14 11 31.4**	**-0.9**
WCS	baz=247			*e*S	**Sg**	**14 11 43.3**	**-1.3**
NHW	baz=247 **Xinwu Township**	**0.94**	**309**	*e*P	**Pb**	**14 11 32.1**	**+0.1**
NHW	baz=311			*e*S	**Sn**	**14 11 46.1**	**+0.5**
NMLH	baz=311 **Miaoli**	**0.97**	**277**	*e*P	**Pn**	**14 11 33.7**	**+0.7**
TWQ1	baz=278 **Liyutan**	**0.99**	**266**	*e*P	**Pn**	**14 11 34.0**	**+0.8**
TWQ1	baz=267			*e*S	**Sb**	**14 11 46.8**	**+1.2**
NSY	baz=267 **Sanyi**	**0.99**	**270**	*e*P	**Pb**	**14 11 33.8**	**+0.8**
NSY	baz=271			*e*S	**Sn**	**14 11 48.4**	**+1.5**
JYNG	baz=271 **Yonagunijimaku**	**1.00**	**88**	P	**Pn**	**14 11 33.4**	**0.0**
JYNG				*e*S	**Sn**	**14 11 47.9**	**+0.9**
HGSD	**Ruisui**	**1.00**	**203**	*e*P	**Pg**	**14 11 32.6**	**-1.1**
SMLT	baz=201 **Sun Moon Lake**	**1.02**	**239**	*e*P	**Pg**	**14 11 33.2**	**-0.8**
EHY	baz=238 **Hungye**	**1.03**	**208**	*e*P	**Pg**	**14 11 32.5**	**-1.7**
SSLB	baz=206 **Suanglung**	**1.03**	**233**	*e*P	**Pg**	**14 11 33.0**	**-1.3**
SSLB	baz=232			*e*S	**Sg**	**14 11 46.9**	**-1.0**
TYC	baz=232 **Yuchr**	**1.04**	**241**	*e*P	**Pg**	**14 11 33.4**	**-1.1**
YULB	baz=240 **Yu-li**	**1.14**	**207**	*e*P	**Pb**	**14 11 33.0**	**-2.4**
YULB	baz=205			*e*S	**Sg**	**14 11 49.0**	**-2.2**
WHYT	baz=205 **Xinyi Township**	**1.16**	**232**	*e*P	**Pb**	**14 11 36.0**	**+0.2**
EYUL	baz=231 **Yuli**	**1.17**	**205**	*e*P	**Pb**	**14 11 35.8**	**-0.1**
TWF1	baz=203 **Yuli**	**1.17**	**206**	*e*P	**Pb**	**14 11 33.6**	**-2.4**
TWF1	baz=203			*e*S	**Sb**	**14 11 50.0**	**-0.8**
WJS	baz=203 **Zhushan**	**1.19**	**240**	*e*P	**Pg**	**14 11 37.2**	**0.0**
ALS	baz=239 **Alishan**	**1.31**	**227**	*e*P	**Pn**	**14 11 38.4**	**+0.4**
ALS	baz=225			*e*S	**Sn**	**14 11 59.2**	**+4.0**
CHN5	baz=225 **Tsauling**	**1.35**	**233**	*e*P	**Pn**	**14 11 39.6**	**+1.3**
CHN5	baz=232			*e*S	**Sg**	**14 11 58.6**	**+0.7**
EHD	baz=232 **Haiduan**	**1.39**	**205**	*e*P	**Pn**	**14 11 37.2**	**-1.6**
WDLH	baz=204 **Douliu**	**1.40**	**239**	*e*P	**Pn**	**14 11 40.3**	**+1.4**
ELDTW	baz=238 **Lidau**	**1.44**	**212**	*e*P	**Pn**	**14 11 38.0**	**-1.6**
WRL	baz=210 **Guolierlin Hig**	**1.44**	**250**	*e*P	**Pb**	**14 11 41.0**	**+0.4**
WCKO	baz=249 **Fanlu**	**1.50**	**230**	*e*P	**Pb**	**14 11 42.3**	**+0.7**
CHN4	baz=229 **Tsaushan**	**1.56**	**228**	*e*P	**Pb**	**14 11 42.9**	**+0.2**
CHN4	baz=227			*e*S	**Sb**	**14 12 03.6**	**+1.5**
TPUB	baz=227 **Ta-pu**	**1.58**	**226**	*e*P	**Pn**	**14 11 42.6**	**+1.2**
WTP	baz=224 **Ta-pu**	**1.62**	**225**	*e*P	**Pn**	**14 11 43.5**	**+1.4**
WTP	baz=223			*e*S	**Sg**	**14 12 06.7**	**0.0**
LONT	baz=223 **Longtian**	**1.64**	**204**	*e*P	**Pn**	**14 11 41.2**	**-1.0**
TWK	baz=202 **Hsinying**	**1.69**	**228**	*e*P	**Pn**	**14 11 44.5**	**+1.6**
TWK	baz=226			*e*S	**Sb**	**14 12 07.4**	**+1.5**
IRIF	baz=226 **Iriomote-Funau**	**1.71**	**92**	*e*P	**Pn**	**14 11 43.6**	**+0.4**
IRIF				*e*S	**Sn**	**14 12 05.2**	**+0.6**
CHN1	**Nanshi**	**1.72**	**225**	*e*P	**Pn**	**14 11 44.8**	**+1.4**
CHN1	baz=224			*e*S	**Sb**	**14 12 08.1**	**+1.4**
TWG	baz=224 **Pinlang**	**1.74**	**204**	*e*P	**Pn**	**14 11 44.0**	**+0.4**
TWGBT	baz=203 **Beinan**	**1.74**	**204**	*e*P	**Pn**	**14 11 44.9**	**+1.3**
SGST	baz=203 **Jiashian**	**1.76**	**222**	*e*P	**Pn**	**14 11 44.6**	**+0.7**
SGST	baz=220			*e*S	**Sb**	**14 12 09.3**	**+1.4**
JKRS	baz=220 **Kuro-shima**	**1.98**	**95**	P	**Pn**	**14 11 47.8**	**+1.1**
JKRS				*e*S	**Sn**	**14 12 12.6**	**+1.5**
JIJ	**Ishigaki jima**	**2.09**	**91**	P	**Pn**	**14 11 49.0**	**+0.7**
JIJ				*e*S	**Sn**	**14 12 13.8**	**-0.1**
JISG	**Ishigakijimahi**	**2.25**	**85**	P	**Pn**	**14 11 50.8**	**+0.3**

*IDC **02** 14:19:38.4±3.0, 16°.12S×167°.65E, h43km±28km, mb4.0/14,*

mbtmp4.2/14, ML5.6/2, MS3.9/1, Error ellipse: s-maj=26.5km s-min=17.6km az=85.0

*NOU **02** 14:19:39.7, 16°.33S×167°.54E, h0km, MLv5.0/12, Vanuatu Islands*

*NEIC **02** 14:19:39.6±1.4, 16°.12S±0°.06×167°.55E±0°.07, h48km±8km, mb4.6/14, Error ellipse: s-maj=12.7km s-min=2.1km az=46.0*

ISC 02 14:19:38.8±0.5,**16°.08S**±0°.06×**167°.54E**±0°.06,**h39**km,**n61**, σ1§**12**/61,**mb4.4**/24,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.75**	**159**	P	**Pn**	**14 20 07.8**	**+1.2**
RTV	**Rentapao**	**1.90**	**154**	P	**Pn**	**14 20 10.1**	**+1.4**
LIFNC	**LIFOU**	**4.68**	**183**		**Pn**	**14 20 45.8**	**-1.8**
MARNC	**Mare, Loyalty**	**5.39**	**175**		**Pn**	**14 20 54.6**	**-2.1**
KOUNC	**Koumac, New Ca**	**5.42**	**214**		**Pn**	**14 20 57.2**	**+0.2**
KOUNC	**Koumac, New Ca**	**5.42**	**214**	P	**Pn**	**14 20 58.3**	**+1.3**
YATNC	**Mamie plateau,**	**5.98**	**186**	P	**Pn**	**14 21 06.0**	**+1.2**
DZM	**Mont Dzumac**	**6.05**	**190**	P	**Pn**	**14 21 06.1**	**+0.2**
	39nm,0.3s,baz=342,slow=19,SNR=412						
DZM				S	**Sn**	**14 22 13.8**	**-0.1**
	138nm,0.5s,baz=148,slow=22,SNR=7.3						
DZM	**Mont Dzumac**	**6.05**	**190**		**Pn**	**14 21 05.7**	**-0.1**
DZM	**Mont Dzumac**	**6.05**	**190**	P	**Pn**	**14 21 06.5**	**+0.7**
ONTNC	**Ouen Toro**	**6.28**	**189**		**Pn**	**14 21 09.2**	**+0.3**
ONTNC	**Ouen Toro**	**6.28**	**189**	P	**Pn**	**14 21 09.8**	**+0.9**
OUENC	**Ouen Island, N**	**6.34**	**186**		**Pn**	**14 21 10.1**	**+0.3**
OUENC	**Ouen Island, N**	**6.34**	**186**	P	**Pn**	**14 21 11.5**	**+1.8**
HNR	**Honiara**	**9.92**	**311**	P	**Pn**	**14 21 60.0**	**+1.1**
	189nm,0.3s,baz=156,slow=5.1,SNR=9.2						
HNR				S	**Sn**	**14 23 47.6**	**-1.5**
	312nm,0.4s,baz=198,slow=24,SNR=1.9						
HNR	**Honiara**	**9.92**	**311**	Pn	**Pn**	**14 21 59.2**	**+0.3**
MSVF	**Nonsavu**	**10.19**	**101**	P	Pn	14 22 07.8	+5.1
	39nm,0.9s,baz=263,slow=10,SNR=9.7						
MSVF	**Nonsavu**	**10.19**	**101**	Pn	**Pn**	**14 22 03.5**	**+0.8**
FUNA	**Funafuti**	**13.63**	**58**		**Pn**	**14 22 50.0**	**+0.3**
ARMA	**Armidale**	**20.39**	**223**	P	**P**	**14 24 13.2**	**+0.6**
ARMA				IAmb	IAmb	14 24 42.7	
	comp=Z,36nm,1.5s						
CTA	**Charters Tower**	**20.62**	**256**	P	**P**	**14 24 15.7**	**+0.7**
	comp=Z,7.4nm,1.0s,baz=78,slow=9.1,SNR=5.9						
	comp=Z,7.4nm,1.0s						
CTAO	**Charters Tower**	**20.62**	**256**	P	**P**	**14 24 16.2**	**+1.3**
CTAO				IAmb	IAmb	14 24 27.8	
	comp=Z,17nm,0.8s						
URZ	**Urewera**	**23.65**	**161**	P	**P**	**14 24 44.8**	**-1.7**
	comp=Z,7.3nm,0.9s,baz=270,slow=12,SNR=1.4						
	comp=Z,7.3nm,0.9s						
RTZ	**Ruatahuna**	**23.94**	**162**	P	**P**	**14 24 50.1**	**+0.8**
RTZ				IAmb	IAmb	14 25 18.3	
	comp=Z,21nm,1.3s						
MRZ	**Mangatainoka R**	**25.47**	**166**	P	**P**	**14 25 02.6**	**-0.5**
MRZ				IAmb	IAmb	14 25 25.4	
	comp=Z,48nm,1.4s						
PLWZ	**Palliser**	**26.26**	**167**	P	**P**	**14 25 08.8**	**-1.6**
RPZ	**Rata Peaks**	**27.71**	**175**	LR	LR	14 34 50.4	
	comp=Z,220nm,19.9s,baz=233,slow=33						
WR0	**Warramunga Arr**	**31.59**	**258**	P	**P**	**14 25 58.4**	**+0.3**
WR0				IAmb	IAmb	14 26 16.0	
	comp=Z,8.2nm,0.9s						
WB0	**Warramunga Arr**	**31.72**	**258**	P	**P**	**14 25 58.3**	**-0.9**
WB0				IAmb	IAmb	14 26 19.8	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**31.78**	**258**	P	**P**	**14 25 58.2**	**-1.5**
	comp=Z,1.6nm,0.8s,baz=85,slow=8.6,SNR=9.1						
	comp=Z,1.6nm,0.8s						
AS31	**Alice Springs**	**32.46**	**251**	P	**P**	**14 26 04.7**	**-1.0**
ASAR	**Alice Springs**	**32.46**	**251**	P	**P**	**14 26 05.0**	**-0.7**
	comp=Z,8.5nm,0.8s,baz=76,slow=9.1,SNR=104						
ASAR				PcP	**PcP**	**14 28 52.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=90,slow=2.3,SNR=2.2						
	comp=Z,8.5nm,0.8s						
ASAR	**Alice Springs**	**32.46**	**251**	P	**P**	**14 26 04.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**40.04**	**261**	P	**P**	**14 27 10.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**48.29**	**240**	P	**P**	**14 28 15.8**	**-0.6**
MJAR	**Matsushiro Arr**	**59.22**	**333**	P	**P**	**14 29 34.7**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=170,slow=7.9,SNR=9.4						
	comp=Z,1.7nm,0.6s						
ASAJ	**Asahikawa**	**64.09**	**340**	P	**P**	**14 30 09.2**	**+0.4**
	comp=Z,7.6nm,0.8s,baz=218,slow=12,SNR=9.5						
	comp=Z,7.6nm,0.8s						
YSS	**Yuzh-Sakhalins**	**66.58**	**342**	P	**P**	**14 30 24.5**	**-0.3**
NJ2	**Nanjing**	**66.82**	**316**	*e*P	**P**	**14 30 28.4**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
USA0B	**Ussuriysk Arra**	**68.20**	**333**	P	**P**	**14 30 33.6**	**-1.6**
USA0B				IAmb	IAmb	14 30 46.4	
	comp=Z,8.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**68.20**	**333**	P	**P**	**14 30 32.9**	**-2.3**
PETK	**Petropavlovsk-**	**69.42**	**354**	P	**P**	**14 30 41.9**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=140,slow=9.4,SNR=6.1						
	comp=Z,1.5nm,0.6s						
KLR	**Kul'dur**	**72.34**	**336**	P	**P**	**14 31 00.7**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=121,slow=2.2,SNR=13						
	comp=Z,2.7nm,0.7s						
QSPA	**South Pole Qui**	**73.96**	**180**	P	**P**	**14 31 09.7**	**-0.3**
QSPA				IAmb	IAmb	14 31 29.9	
	comp=Z,5.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**75.73**	**294**	P	**P**	**14 31 21.6**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=128,slow=3.6,SNR=6.1						
	comp=Z,0.9nm,0.9s						
PZH	**PanZhiHua**	**76.64**	**303**	P	**P**	**14 31 28.0**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	**Hu-ho-hao-te**	**76.78**	**320**	*e*P	**P**	**14 31 28.6**	**+2.1**
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,6.0s						
SEY	**Seymchan**	**79.64**	**353**	P	**P**	**14 31 40.6**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=131,slow=12,SNR=4.7						
	comp=Z,1.4nm,0.8s						
YAK	**Yakutsk**	**83.39**	**343**	P	**P**	**14 32 01.5**	**0.0**
	comp=Z,6.8nm,0.6s,baz=124,slow=2.6,SNR=6.7						
	comp=Z,6.8nm,0.6s						
SONM	**Songino Array**	**83.73**	**324**	P	**P**	**14 32 03.6**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=134,slow=4.2,SNR=9.6						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**83.73**	**324**	P	**P**	**14 32 04.2**	**+0.4**
IMAR	**Indian Mountai**	**86.80**	**15**	P	**P**	**14 32 18.4**	**-0.2**
BARN	**Barnard Glacie**	**86.84**	**22**	P	**P**	**14 32 18.1**	**-1.0**
ILAR	**Eielson Array**	**87.72**	**18**	P	**P**	**14 32 20.5**	**-2.5**
	comp=Z,0.4nm,0.5s,baz=233,slow=5.1,SNR=8.0						
ILAR				pP	**pP**	**14 32 35.9**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=238,slow=5.0,SNR=6.6						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**87.95**	**49**	pP	pP	14 32 38.6	+1.9
	comp=Z,0.7nm,0.8s,baz=232,slow=3.6,SNR=3.1						
WMQ	**Urumqi**	**93.85**	**314**	*e*P	**P**	**14 32 53.7**	**+1.5**
MKAR	**Makanchi Array**	**98.35**	**316**	P	**P**	**14 33 12.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=90,slow=5.2,SNR=2.3						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**98.62**	**27**	sP	sP	14 33 28.9	-0.2
	comp=Z,0.5nm,0.7s,baz=254,slow=4.2,SNR=6.7						
ARCES	**ARCESS Array B**	**121.61**	**345**	PKP	**PKPdf**	**14 38 26.4**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=77,slow=2.0,SNR=7.4						
FINES	**FINESS Array B**	**127.06**	**338**	PKP	**PKPdf**	**14 38 38.0**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=104,slow=5.9,SNR=1.6						
KEST	**Kesra**	**152.41**	**319**	PKPbc	**PKPbc**	**14 39 30.9**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=140,slow=7.9,SNR=2.7						

*ATH **02** 14:23:54.8, 34°.73N×27°.27E, h7km±3km, ML3.0/2, Error ellipse: s-maj=4.5km s-min=1.7km az=346.0*

*THE **02** 14:23:58.7, 34°.94N×27°.05E, h0km±1km, ML2.8/5, Error ellipse: s-maj=4.2km s-min=1.1km az=149.0*

*IDC **02** 14:23:59.6±1.8, 34°.95N×27°.24E, h0km, mb3.3/3, mbtmp3.2/4, ML3.6/1, Error ellipse: s-maj=41.9km s-min=22.5km az=164.0*

ISC 02 14:24:00.0±1.7,**35°.08N**±0°.09×**27°.08E**±0°.06,**h13**km±10km, **n13**,σ2§**16**/22,**mb3.2**/3,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.47**	**9**	P	**Pb**	**14 24 10.5**	**+0.3**
KARP				S	**Sn**	**14 24 20.9**	**+0.2**
	2µm,0.7s						
KARP	**Karpathos**	**0.47**	**9**	P	**Pb**	**14 24 10.2**	**-0.1**
KARP				S	**Sn**	**14 24 21.4**	**+0.6**
KARP				AML	AML	14 24 27.9	
	comp=E,3312µm,0.9s						
KARP				AML	AML	14 24 31.9	
	comp=N,2694µm,0.6s						
ZKR	**Zakros**	**0.70**	**273**	P	**Pg**	**14 24 13.6**	**-0.2**
ZKR				S	**Sg**	**14 24 24.6**	**+1.6**
	comp=N,748nm,0.4s						
ZKR	**Zakros**	**0.70**	**273**	P	**Pg**	**14 24 12.4**	**-1.4**
ZKR				S	**Sb**	**14 24 25.4**	**+1.6**
ZKR				AML	AML	14 24 26.8	
	comp=N,1205µm,0.4s						
ZKR				AML	AML	14 24 27.7	
	comp=E,1778µm,0.4s						
FRMA	**Ierapetra Chan**	**1.10**	**267**	P	**Pn**	**14 24 17.5**	**-3.7**
FRMA				S	**Sb**	**14 24 32.3**	**-2.9**
	comp=E,250nm,0.6s						
FRMA	**Ierapetra Chan**	**1.10**	**267**	P	**Pn**	**14 24 17.1**	**-4.1**
FRMA				S	**Sb**	**14 24 33.3**	**-1.9**
ARG	**Arkhangelos**	**1.42**	**37**	P	**Pg**	**14 24 26.3**	**-1.0**
ARG				S	**Sg**	**14 24 47.5**	**+1.7**
	comp=E,328nm,0.8s						
KOSK	**Kos Island**	**1.67**	**357**	P	**Pb**	**14 24 30.5**	**-0.1**
KOSK				S	**Sg**	**14 24 54.8**	**+1.0**
	comp=E,195nm,0.8s						
IDI	**Anoyia**	**1.80**	**277**	Pn	**Pb**	**14 24 33.3**	**+0.4**
	comp=E,3.3nm,0.3s,baz=97,slow=14,SNR=11						
IDI				Sn	**Sg**	**14 25 01.6**	**+3.5**
	comp=E,10nm,0.3s,baz=31,slow=19,SNR=4.1						
AKASG	**Malin Array Be**	**15.69**	**5**	Pn	**P**	**14 27 43.2**	**-1.5**
	comp=E,0.2nm,0.3s,baz=193,slow=11,SNR=1.8						
	comp=E,0.1nm,0.3s						
ESDC	**Sonseca Array**	**25.02**	**290**	P	**P**	**14 29 26.6**	**+2.8**
	comp=E,0.2nm,0.5s,baz=79,slow=9.7,SNR=1.9						
	comp=E,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**31.66**	**233**	P	**P**	**14 30 25.5**	**+2.2**
	comp=E,0.2nm,0.5s,baz=52,slow=10,SNR=1.8						
	comp=E,0.2nm,0.5s						
MKAR	**Makanchi Array**	**42.51**	**57**	P	**P**	**14 31 56.0**	**+1.0**
	comp=E,0.3nm,0.6s,baz=281,slow=6.6,SNR=4.8						
	comp=E,0.3nm,0.6s						

IDC 02 14:28:57.5±2.4,**2°.25S**×133°.81E,**h0**km,**mb3.2**/2, **mbtmp3.4**/4,**ML3.3**/2,**Error ellipse: s-maj=63.6km s-min=24.2km az=59.0**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.89**	**298**	Pn	Pn	14 29 45.8	+0.9
	6.0nm,0.3s,baz=75,slow=19,SNR=23						
SIJI				Sn	Sn	14 30 21.2	+0.8
	baz=108,slow=20						
	11nm,0.3s						
WRA	**Warramunga Arr**	**17.59**	**178**	P	Pn	14 33 04.6	+0.3
	0.1nm,0.3s,baz=356,slow=12,SNR=4.9						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**21.29**	**180**	P	P	14 33 45.8	-0.1
	1.1nm,0.7s,baz=4.8,slow=12,SNR=8.3						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**66.49**	**324**	P	P	14 39 48.8	-0.3
	0.2nm,0.8s,baz=118,slow=7.9,SNR=1.7						
	0.2nm,0.8s						

*DDA **02** 14:30:38.8±0.0, 39°.55N×26°.17E, h5km±1km, ML3.0*

*ISK **02** 14:30:38.2, 39°.54N×26°.17E, h6km, ML3.1/20*

*THE **02** 14:30:39.1, 39°.56N×26°.08E, h7km±1km, ML2.6/12, Error ellipse: s-maj=1.5km s-min=0.6km az=98.0*

*ATH **02** 14:30:39.5, 39°.55N×26°.07E, h8km±2km, ML2.7/6, Error ellipse: s-maj=3.1km s-min=1.0km az=215.0*

ISC 02 14:30:38.2±0.8,**39°.56N**±0°.01×**26°.16E**±0°.02,**h11**km±5km, **n59**,σ0§**76**/104,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.06**	**194**	P	**Pg**	**14 30 40.6**	**+0.2**
KOCA				S	**Sg**	**14 30 41.8**	**-0.2**
KOCA				*i* AML	AML	14 30 42.0	
	comp=N,4µm,0.2s						
KOCA				*i* AML	AML	14 30 42.0	
	comp=E,2µm,0.3s						
GPNR	**Gulpinar-Canak**	**0.10**	**190**	Pg	**Pg**	**14 30 40.7**	**-0.2**
BOZC	**Bozcaada**	**0.30**	**345**	Pg	**Pb**	**14 30 45.1**	**-0.5**
BOZC				Sg	**Sb**	**14 30 50.1**	**-0.4**
EZN	**Ezine**	**0.30**	**26**	P	**Pb**	**14 30 45.2**	**-0.4**
EZN				S	**Sb**	**14 30 49.8**	**-0.8**
	1µm,0.2s						
EZN	**Ezine**	**0.30**	**26**	Pg	**Pb**	**14 30 44.9**	**-0.7**
EZN				Sg	**Sb**	**14 30 49.9**	**-0.7**
PRK	**Paraskevi**	**0.32**	**164**	P	**Pb**	**14 30 46.3**	**+0.3**
PRK				S	**Sb**	**14 30 51.1**	**-0.1**
	3µm,0.3s						
PRK	**Paraskevi**	**0.32**	**164**	P	**Pb**	**14 30 46.1**	**+0.1**
PRK				S	**Sb**	**14 30 50.9**	**-0.3**
PRK				AML	AML	14 30 52.2	
	comp=E,6252µm,0.4s						
PRK				AML	AML	14 30 52.9	
	comp=N,6420µm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.35**	**58**	P	**Pb**	**14 30 46.0**	**-0.6**
BAYC				S	**Sb**	**14 30 50.8**	**-1.4**
SIGR	**SIGRI**	**0.41**	**214**	P	**Pg**	**14 30 46.7**	**+0.3**
SIGR				S	**Sg**	**14 30 52.5**	**+0.6**
	comp=N,2µm,0.2s						
SIGR	**SIGRI**	**0.41**	**214**	Pg	**Pg**	**14 30 46.7**	**+0.3**
SIGR				Sg	**Sg**	**14 30 52.5**	**+0.6**
SIGR	**SIGRI**	**0.41**	**214**	P	**Pg**	**14 30 46.5**	**+0.1**
SIGR				S	**Sg**	**14 30 52.2**	**+0.3**
SIGR				AML	AML	14 30 53.2	
	comp=N,4859µm,0.2s						
SIGR				AML	AML	14 30 53.4	
	comp=E,2691µm,0.2s						
ECEA	**Canakkale, Ece**	**0.49**	**2**	P	**Pb**	**14 30 48.7**	**-0.2**
ECEA				S	**Sb**	**14 30 56.2**	**+0.1**
ECEA				*i* AML	AML	14 31 02.0	
	comp=E,732nm,0.2s						
ECEA				*i* AML	AML	14 31 03.0	
	comp=E,639nm,0.3s						
GOKA	**anakkale-Gk**	**0.66**	**343**	P	**Pb**	**14 30 51.7**	**-0.1**
GOKA				*i* AML	AML	14 31 01.0	
	comp=E,814nm,0.2s						
GOKA				S	**Sb**	**14 31 01.4**	**+0.3**
GADA	**Gvkgeada**	**0.67**	**343**	Pg	**Pb**	**14 30 51.9**	**0.0**
GADA				Sg	**Sb**	**14 31 00.9**	**-0.2**
BUHA	**Balikesir, Bur**	**0.71**	**94**	P	**Pb**	**14 30 52.7**	**0.0**
BUHA				S	**Sb**	**14 31 02.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.88**	**16**	Pg	**Pn**	**14 30 55.9**	**-0.6**
GELI				Sg	**Sn**	**14 31 08.6**	**-0.7**
ZEDA	**zmir-Bergama**	**0.93**	**129**	P	**Pn**	**14 30 56.9**	**-0.3**
ZEDA				S	**Sn**	**14 31 10.2**	**-0.3**
LPK	**Lapseki**	**0.94**	**29**	Pg	**Pn**	**14 30 56.9**	**-0.5**
LPK				Sg	**

KNL	**Balıkesir**	**1.27**	**55**	P	**Pn**	**14 31 02.4**	**+0.5**
KNL				S	**Sn**	**14 31 20.4**	**+1.3**
GONE	**Gonen-Balikesi**	**1.28**	**67**	Pn	**Pn**	**14 31 03.0**	**+1.0**
GONE				Sn	**Sn**	**14 31 20.9**	**+1.7**
BALB	**Balikesir**	**1.33**	**86**	Pn	**Pg**	**14 31 03.5**	**-0.4**
BALB				Sn	**Sn**	**14 31 22.1**	**+1.5**
ZEYE	**Izmir, Urla-Ze**	**1.34**	**168**	P	**Pn**	**14 31 02.6**	**-0.3**
ZEYE				S	**Sg**	**14 31 20.5**	**-0.9**
ALN	**Alexandroupoli**	**1.34**	**356**	P	**Pg**	**14 31 03.5**	**-0.5**
ALN				S	**Sn**	**14 31 21.9**	**+1.1**
	comp=E,305nm,0.3s						
ALN	**Alexandroupoli**	**1.34**	**356**	Pn	**Pg**	**14 31 03.9**	**-0.1**
ALN				Sn	**Sn**	**14 31 22.6**	**+1.8**
ALN	**Alexandroupoli**	**1.34**	**356**	P	**Pg**	**14 31 03.5**	**-0.5**
ALN				AML	AML	14 31 22.9	
	comp=E,737µm,0.4s						
ALN				AML	AML	14 31 23.5	
	comp=N,482µm,0.4s						
BLCB	**Balcova**	**1.36**	**149**	Pn	**Pg**	**14 31 03.7**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.38**	**34**	Pn	**Pg**	**14 31 04.5**	**-0.2**
RKY				Sn	**Sn**	**14 31 23.9**	**+2.2**
THAS	**Thassos island**	**1.52**	**314**	P	**Pn**	**14 31 05.2**	**-0.2**
THAS				S	**Sn**	**14 31 25.8**	**+0.6**
	comp=N,108nm,0.3s						
THAS	**Thassos island**	**1.52**	**314**	P	**Pb**	**14 31 06.6**	**+0.1**
THAS				AML	AML	14 31 30.0	
	comp=E,251µm,0.2s						
THAS				AML	AML	14 31 30.5	
	comp=N,196µm,0.2s						
EDC	**Edincik**	**1.53**	**58**	Pn	**Pg**	**14 31 06.7**	**-0.9**
DGB	**zmir**	**1.60**	**159**	P	**Pb**	**14 31 07.1**	**-0.8**
DGB				S	**Sb**	**14 31 28.1**	**0.0**
UKOP	**Uzunkopru-Edir**	**1.61**	**13**	Pn	**Pg**	**14 31 08.3**	**-0.9**
RDO	**Rodhopi**	**1.66**	**344**	P	**Pn**	**14 31 07.5**	**+0.2**
RDO				S	**Sn**	**14 31 28.7**	**+0.2**
	comp=N,78nm,0.2s						
RDO	**Rodhopi**	**1.66**	**344**	Pn	**Pb**	**14 31 08.8**	**0.0**
RDO	**Rodhopi**	**1.66**	**344**	P	**Pb**	**14 31 08.4**	**-0.4**
OUR	**Ouranopolis**	**1.84**	**296**	P	**Pn**	**14 31 10.1**	**+0.3**
OUR				S	**Sn**	**14 31 32.8**	**-0.3**
	comp=N,140nm,0.5s						
OUR	**Ouranopolis**	**1.84**	**296**	P	**Pn**	**14 31 09.6**	**-0.2**
KAVA	**Kavala**	**1.91**	**319**	P	**Pn**	**14 31 11.0**	**+0.3**
KAVA				S	**Sn**	**14 31 34.0**	**-0.8**
	comp=N,90nm,0.2s						
KAVA	**Kavala**	**1.91**	**319**	P	**Pn**	**14 31 11.1**	**+0.3**
SMG	**Samos**	**1.92**	**164**	P	**Pb**	**14 31 12.5**	**-0.7**
SMG				S	**Sb**	**14 31 36.3**	**-0.9**
	comp=N,238nm,0.4s						
SMG	**Samos**	**1.92**	**164**	P	**Pb**	**14 31 12.5**	**-0.7**
PAIG	**Paliouri**	**1.94**	**282**	P	**Pn**	**14 31 11.3**	**+0.1**
PAIG				S	**Sn**	**14 31 35.0**	**-0.6**
	comp=N,35nm,0.4s						
MANT	**Manisa**	**2.15**	**119**	P	**Pb**	**14 31 16.7**	**-0.7**
MANT				S	**Sg**	**14 31 46.1**	**-1.3**
KIRK	**Kırklareli**	**2.34**	**18**	P	**Pn**	**14 31 18.1**	**+1.5**
KIRK				S	**Sg**	**14 31 52.1**	**-1.2**
ULDT	**Uludag**	**2.37**	**75**	P	**Pn**	**14 31 18.5**	**+1.2**
ULDT				S	**Sg**	**14 31 55.0**	**+0.6**

*HVO **02** 14:37:12.6±0.9, 19°.10N±0°.06×155°.36W±0°.06, h34km±7km, ML2.6/3,ML2.6/48(NEIC), Error ellipse: s-maj=11.2km s-min=4.8km az=141.0*

NEIC 02 14:37:10.9±0.8, 19°.11N±0°.04×155°.37W±0°.02, h40km±2km, Error ellipse: s-maj=5.8km s-min=2.5km az=164.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.13**	**348**		Pn	14 37 18.3	-0.2
HPO	**Honuapo**	**0.18**	**264**		Pn	14 37 18.2	-0.2
HLP	**Hilina Pali**	**0.20**	**17**		Pn	14 37 18.6	+0.1
HLP				IAML		14 37 23.9	
	comp=N,798nm,0.2s						
HLP				IAML		14 37 25.1	
	comp=E,709nm,0.5s						
KHU	**Kahuku**	**0.27**	**301**		Pn	14 37 19.3	+0.1
KHU	**Kahuku**	**0.27**	**301**		Sn	14 37 24.6	-0.6
KHU	**Kahuku**	**0.27**	**301**	IAML		14 37 24.7	
	comp=N,204nm,0.1s						
KHU				IAML		14 37 24.9	
	comp=E,372nm,0.4s						
AIN	**Ainahou**	**0.28**	**342**		Sn	14 37 25.0	-0.2
AIN	**Ainahou**	**0.28**	**342**		Pn	14 37 19.7	+0.5
AIN	**Ainahou**	**0.28**	**342**	IAML		14 37 25.4	
	comp=E,1µm,0.3s						
AIN				IAML		14 37 25.6	
	comp=N,2µm,0.2s						
SDHHI	**Sand Hill**	**0.29**	**14**		Pn	14 37 19.4	+0.1
SDHHI					Sn	14 37 24.5	-0.7
SDHHI	**Sand Hill**	**0.29**	**14**	IAML		14 37 25.7	
	comp=E,896nm,0.3s						
SDHHI				IAML		14 37 26.4	
	comp=N,1µm,0.2s						
RIM	**Rim**	**0.30**	**17**		Sn	14 37 24.5	-0.9
RIM	**Rim**	**0.30**	**17**	Pg	Pn	14 37 19.4	+0.1
RIM				IAML		14 37 24.2	
	comp=E,515nm,1.3s						
RIM	**Rim**	**0.30**	**17**	IAML		14 37 31.7	
	comp=N,810nm,1.1s						
PUH	**Pauahi**	**0.30**	**28**		Pn	14 37 19.4	0.0
PUH					Sn	14 37 24.2	-1.2
PUH	**Pauahi**	**0.30**	**28**	IAML		14 37 27.0	
	comp=E,188nm,0.2s						
PUH				IAML		14 37 29.1	
	comp=N,365nm,1.5s						
KKO	**Keanakako`i**	**0.30**	**18**		Pn	14 37 19.6	+0.2
KKO					Sn	14 37 24.4	-1.1
KKO	**Keanakako`i**	**0.30**	**18**	IAML		14 37 24.8	
	comp=E,1µm,0.8s						
KKO				IAML		14 37 25.9	
	comp=N,1µm,1.2s						
WRMHI	**West Rim**	**0.30**	**12**		Pn	14 37 19.5	+0.1
WRMHI					Sn	14 37 24.1	-1.4
OBL	**Observatory Le**	**0.32**	**14**		Sn	14 37 25.8	+0.1
OBL	**Observatory Le**	**0.32**	**14**	Pg	Pn	14 37 19.6	+0.1
OBL	**Observatory Le**	**0.32**	**14**	IAML		14 37 25.9	
	comp=E,1µm,0.4s						
OBL				IAML		14 37 29.6	
	comp=N,1µm,0.8s						
BYL	**Byron's Ledge**	**0.32**	**19**		Pn	14 37 19.6	+0.1
BYL					Sn	14 37 24.9	-0.7
BYL	**Byron's Ledge**	**0.32**	**19**	IAML		14 37 27.8	
	comp=N,521nm,1.7s						
BYL				IAML		14 37 27.9	
	comp=E,520nm,1.3s						
UWE	**Uwekahuna**	**0.32**	**13**		Sn	14 37 24.9	-0.8
UWE	**Uwekahuna**	**0.32**	**13**	Pg	Pn	14 37 19.7	+0.1
UWE	**Uwekahuna**	**0.32**	**13**	IAML		14 37 28.3	
	comp=E,1µm,1.2s						
UWE				IAML		14 37 31.0	
	comp=N,874nm,1.1s						
UWB	**Uwekahuna B**	**0.33**	**15**		Pn	14 37 19.7	+0.1
UWB	**Uwekahuna B**	**0.33**	**15**	IAML		14 37 26.0	
	comp=N,405nm,1.8s						
UWB				IAML		14 37 28.9	
	comp=E,215nm,2.7s						
HATHI	**Halema'uma'u T**	**0.33**	**18**		Pn	14 37 19.7	+0.1
HATHI					Sn	14 37 25.4	-0.5
HATHI	**Halema'uma'u T**	**0.33**	**18**	IAML		14 37 25.4	
	comp=E,793nm,1.0s						
HATHI				IAML		14 37 26.0	
	comp=N,577nm,0.9s						
KNHH	**Kane Nui o Ham**	**0.33**	**35**		Pn	14 37 19.7	+0.1
KNHH					Sn	14 37 25.6	-0.3
SBLHI	**Steaming Bluff**	**0.33**	**17**		Sn	14 37 24.8	-1.1
SBLHI	**Steaming Bluff**	**0.33**	**17**	Pg	Pn	14 37 19.7	0.0
SBLHI	**Steaming Bluff**	**0.33**	**17**	IAML		14 37 25.5	
	comp=N,560nm,0.7s						
SBLHI				IAML		14 37 25.9	
	comp=E,383nm,1.1s						
STCH	**Steam Cracks**	**0.36**	**40**		Pn	14 37 20.0	+0.1
STCH					Sn	14 37 25.5	-0.8
STCH	**Steam Cracks**	**0.36**	**40**	IAML		14 37 25.7	
	comp=E,348nm,0.2s						
STCH				IAML		14 37 25.8	
	comp=N,386nm,0.3s						
RSD	**Rainshed**	**0.36**	**14**		Sn	14 37 25.9	-0.6
RSD	**Rainshed**	**0.36**	**14**		Pn	14 37 19.8	-0.2
RSD	**Rainshed**	**0.36**	**14**	IAML		14 37 31.5	
	comp=E,341nm,2.4s						
RSD				IAML		14 37 36.6	
	comp=N,323nm,2.5s						

JCUZ	**Jacuzzi**	**0.37**	**42**		Sn	14 37 25.6	-0.9
JCUZ	**Jacuzzi**	**0.37**	**42**	Pg	Pn	14 37 20.1	+0.1
JCUZ	**Jacuzzi**	**0.37**	**42**	IAML		14 37 26.0	
	comp=E,420nm,0.5s						
JCUZ				IAML		14 37 28.4	
	comp=N,310nm,0.8s						
NPOC	**North of Pu'u**	**0.38**	**41**		Pn	14 37 20.2	+0.1
NPOC					Sn	14 37 25.7	-0.8
NPOC	**North of Pu'u**	**0.38**	**41**	IAML		14 37 33.6	
	comp=N,373nm,0.8s						
MLH	**Mauna Loa**	**0.39**	**358**		Pn	14 37 20.8	+0.4
MLH	**Mauna Loa**	**0.39**	**358**	IAML		14 37 27.2	
	comp=E,550nm,0.2s						
MLH				IAML		14 37 27.4	
	comp=N,746nm,0.2s						
MWH	**Moku'aweowe**	**0.43**	**330**		Pn	14 37 21.3	0.0
MWH	**Moku'aweowe**	**0.43**	**330**	IAML		14 37 25.5	
	comp=E,309nm,2.4s						
MWH				IAML		14 37 29.4	
	comp=N,238nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.47**	**335**		Sn	14 37 28.3	-0.8
MLOA	**Mauna Loa Obse**	**0.47**	**335**		Pn	14 37 21.7	0.0
MLOA	**Mauna Loa Obse**	**0.47**	**335**	IAML		14 37 37.4	
	comp=E,216nm,3.0s						
MLOA				IAML		14 37 40.7	
	comp=N,326nm,3.9s						
JOKA	**Jonika Flow**	**0.47**	**47**		Pn	14 37 21.2	-0.1
JOKA					Sn	14 37 27.8	-0.8
ALEP	**Alea Permanent**	**0.50**	**329**		Pn	14 37 21.9	-0.1
ALEP					Sn	14 37 29.6	-0.3
HMH	**Humu'ula Sheep**	**0.51**	**348**		Pn	14 37 22.4	+0.4
HMH	**Humu'ula Sheep**	**0.51**	**348**	IAML		14 37 30.0	
	comp=E,293nm,0.2s						
HMH				IAML		14 37 30.2	
	comp=N,447nm,0.2s						
CPH	**Captain Cook**	**0.64**	**306**		Pn	14 37 23.4	-0.2
POHA	**Pohakuloa**	**0.67**	**347**		Pn	14 37 24.1	0.0
POHA	**Pohakuloa**	**0.67**	**347**	Pn	Pn	14 37 24.0	-0.1
POHA	**Pohakuloa**	**0.67**	**347**	IAML		14 37 34.5	
	comp=N,284nm,0.1s						
POHA				IAML		14 37 34.9	
	comp=N,300nm,0.1s						
KHLU	**Kahalu`u**	**0.69**	**314**		Pn	14 37 24.2	-0.1
KHLU	**Kahalu`u**	**0.69**	**314**	IAML		14 37 32.1	
	comp=E,209nm,3.1s						
KHLU				IAML		14 37 34.1	
	comp=N,154nm,0.8s						
HPAH	**Hawaii Prepara**	**0.97**	**341**		Pn	14 37 28.0	-0.2
HPAH					Sn	14 37 39.3	-1.5
HPAH	**Hawaii Prepara**	**0.97**	**341**	IAML		14 37 39.8	
	comp=N,214nm,0.1s						
MHA	**Mahukona**	**1.19**	**335**	Pn	Pn	14 37 30.9	-0.1
KHLH	**Kahului Airpor**	**2.04**	**331**	Pn	Pn	14 37 43.1	+0.3
HON	**Honolulu**	**3.31**	**312**	Pn	Pn	14 37 59.4	-0.8
KEKH	**Kekaha**	**4.97**	**306**	Pn	Pn	14 38 22.1	-1.0

*HVO **02** 14:38:31.6±0.9, 19°.08N±0°.04×155°.36W±0°.01, h35km±2km, Md2.6/41, ML2.6, ML2.6/32(NEIC), Error ellipse: s-maj=5.8km s-min=1.0km az=170.0*

NEIC 02 14:38:29.6±0.7, 19°.08N±0°.04×155°.36W±0°.02, h45km±2km, Error ellipse: s-maj=6.4km s-min=2.3km az=168.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.16**	**348**		Pn	14 38 37.6	+0.3
HPO	**Honuapo**	**0.18**	**272**		Pn	14 38 37.5	+0.2
HLP	**Hilina Pali**	**0.22**	**14**		Pn	14 38 38.0	+0.3
HLP				IAML		14 38 43.1	
	comp=N,751nm,0.4s						
HLP				IAML		14 38 43.3	
	comp=E,922nm,0.3s						
KHU	**Kahuku**	**0.29**	**305**		Pn	14 38 38.6	+0.1
KHU				IAML		14 38 43.9	
	comp=N,771nm,0.2s						
AIN	**Ainahou**	**0.30**	**343**		Pn	14 38 38.9	+0.3
AIN	**Ainahou**	**0.30**	**343**		Sn	14 38 44.4	-0.4
AIN	**Ainahou**	**0.30**	**343**	IAML		14 38 45.0	
	comp=E,2µm,0.3s						
AIN				IAML		14 38 45.2	
	comp=N,2µm,0.2s						
PUH	**Pauahi**	**0.32**	**26**		Sn	14 38 43.6	-1.4
KKO	**Keanakako`i**	**0.33**	**16**		Sn	14 38 44.0	-1.2
KKO	**Keanakako`i**	**0.33**	**16**	Pn	Pn	14 38 38.8	+0.1
KKO				IAML		14 38 42.2	
	comp=N,796nm,1.4s						
KKO	**Keanakako`i**	**0.33**	**16**	IAML		14 38 44.1	
	comp=E,1µm,0.3s						
WRMHI	**West Rim**	**0.33**	**11**		Pn	14 38 38.7	0.0
NPH	**North Pit**	**0.34**	**13**		Pn	14 38 38.8	-0.1
UWE	**Uwekahuna**	**0.34**	**11**		Pn	14 38 38.8	-0.1
UWE				IAML		14 38 46.3	
	comp=N,604nm,1.2s						
KNHH	**Kane Nui o Ham**	**0.35**	**32**		Pn	14 38 39.0	0.0
SBLHI	**Steaming Bluff**	**0.35**	**15**		Pn	14 38 38.8	-0.2
SBLHI				IAML		14 38 54.3	
	comp=N,451nm,0.9s						
STCH	**Steam Cracks**	**0.38**	**37**		Sn	14 38 44.7	-1.2
STCH	**Steam Cracks**	**0.38**	**37**		Pn	14 38 39.1	-0.1
STCH	**Steam Cracks**	**0.38**	**37**	IAML		14 38 44.9	
	comp=E,530nm,0.5s						
STCH				IAML		14 38 45.4	
	comp=N,391nm,0.2s						
RSD	**Rainshed**	**0.39**	**12**		Pn	14 38 39.3	-0.2
JCUZ	**Jacuzzi**	**0.39**	**39**		Sn	14 38 45.1	-1.1
JCUZ	**Jacuzzi**	**0.39**	**39**		Pn	14 38 39.5	+0.1
JCUZ	**Jacuzzi**	**0.39**	**39**	IAML		14 38 45.3	
	comp=E,551nm,0.2s						
JCUZ				IAML		14 38 49.5	
	comp=N,347nm,0.7s						
NPOC	**North of Pu'u**	**0.39**	**38**		Sn	14 38 45.1	-1.2
NPOC	**North of Pu'u**	**0.39**	**38**		Pn	14 38 39.3	-0.1
NPOC	**North of Pu'u**	**0.39**	**38**	IAML		14 38 45.4	
	comp=E,424nm,0.3s						
NPOC				IAML		14 38 46.8	
	comp=N,419nm,0.6s						
MWH	**Moku'aweowe**	**0.46**	**331**		Sn	14 38 47.3	-1.0
MWH	**Moku'aweowe**	**0.46**	**331**		Pn	14 38 40.5	-0.1
MWH	**Moku'aweowe**	**0.46**	**331**	IAML		14 38 47.7	
	comp=N,431nm,0.3s						
MWH				IAML		14 38 48.9	
	comp=E,363nm,1.5s						
JOKA	**Jonika Flow**	**0.49**	**44**		Pn	14 38 40.5	0.0
JOKA					Sn	14 38 46.8	-1.4
MLOA	**Mauna Loa Obse**	**0.49**	**336**		Sn	14 38 48.0	-0.9
ALEP	**Alea Permanent**	**0.53**	**330**		Pn	14 38 41.2	-0.1
ALEP					Sn	14 38 48.7	-0.9
HMH	**Humu'ula Sheep**	**0.53**	**348**		Pn	14 38 41.6	+0.3
HMH				IAML		14 39 00.2	
	comp=N,441nm,3.4s						
CPH	**Captain Cook**	**0.66**	**308**		Pn	14 38 42.7	-0.1
CPH					Sn	14 38 50.9	-1.3
POHA	**Pohakuloa**	**0.69**	**347**		Pn	14 38 43.3	-0.1
POHA				IAML		14 38 57.9	
	comp=N,209nm,0.3s						
KHLU	**Kahalu`u**	**0.71**	**316**		Pn	14 38 43.5	0.0
HPAH	**Hawaii Prepara**	**0.99**	**342**		Pn	14 38 47.2	-0.1
HPAH				IAML		14 38 59.1	
	comp=N,168nm,0.1s						
HPAH				IAML		14 39 17.9	
	comp=E,158nm,3.3s						
MHA	**Mahukona**	**1.21**	**335**		Pn	14 38 50.3	+0.1
KHLH	**Kahului Airpor**	**2.06**	**331**	Pn	Pn	14 39 02.2	+0.3

*NOU **02** 14:41:57.8, 41°.77S×174°.60E, h8km, MLv4.0/10, Cook Strait, New Zealand*

*WEL **02** 14:41:59.7±0.4, 42°.5±3°.×17°.4E±°, h7km±3km, M3.7/18, ML4.0/18, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=161.5, confirmed*

ISC 02 14:41:58.6±1.0, 41.70S±0.03×174°.51E±0°.02, h18km±6km, n115, σ1.929/127, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.23**	**257**	P	**Pg**	**14 42 05.4**	**+1.4**
CMWZ				S	**Sg**	**14 42 10.5**	**+2.8**
SNZO	**South Karori**	**0.41**	**20**	P	**Pb**	**14 42 06.8**	**-0.5**
WEL	**Wellington**	**0.45**	**25**	P	**Pb**	**14 42 07.8**	**-0.3**
WEL				S	**Sg**	**14 42 14.0**	**0.0**
BSWZ	**Blackbirch Sta**	**0.48**	**267**	P	**Pb**	**14 42 08.6**	**+0.1**
BSWZ				S	**Sb**	**14 42 15.3**	**0.0**

TUWZ	**Tuamarina**	**0.51**	**302**	P	**Pg**	**14 42 07.8**	**-0.9**
TUWZ				S	**Sg**	**14 42 13.8**	**-1.8**
TCW	**Tory Channel**	**0.52**	**340**	P	**Pg**	**14 42 07.7**	**-1.3**
TCW				S	**Sg**	**14 42 13.1**	**-2.8**
PLWZ	**Palliser**	**0.57**	**77**	P	**Pn**	**14 42 11.9**	**+0.1**
MSWZ	**Moikau Station**	**0.62**	**63**	P	**Pn**	**14 42 12.3**	**-0.2**
MSWZ				S	**Sn**	**14 42 22.9**	**+0.9**
CAW	**Cannon Point**	**0.72**	**35**	P	**Pb**	**14 42 12.5**	**-0.1**
CAW				S	**Sg**	**14 42 21.7**	**-0.6**
PAWZ	**Paruwai Farm**	**0.75**	**66**	P	**Pn**	**14 42 14.6**	**+0.2**
PAWZ				S	**Sn**	**14 42 26.6**	**+1.2**
KIW	**Kapiti Island**	**0.89**	**20**	P	**Pg**	**14 42 14.9**	**-1.0**
MTW	**Mount Morrison**	**0.92**	**54**	P	**Pn**	**14 42 17.0**	**+0.4**
TRWZ	**Traveller**	**0.93**	**72**	P	**Pn**	**14 42 17.3**	**+0.5**
NNZ	**Nelson**	**0.98**	**299**	P	**Pg**	**14 42 16.1**	**-1.4**
DUWZ	**D'Urville Isla**	**1.00**	**333**	P	**Pg**	**14 42 16.3**	**-1.7**
OGWZ	**Otaki Gorge**	**1.01**	**30**	P	**Pb**	**14 42 17.2**	**-0.3**
KHZ	**Kahutara**	**1.02**	**225**	P	**Pn**	**14 42 18.2**	**+0.2**
KHZ	**Kahutara**	**1.02**	**225**	P	**Pn**	**14 42 19.0**	**+1.0**
HOWZ	**Holdsworth Sta**	**1.10**	**44**	P	**Pn**	**14 42 19.3**	**+0.2**
TMWZ	**Te Maipa**	**1.19**	**61**	P	**Pn**	**14 42 20.6**	**+0.2**
THZ	**Tophouse**	**1.21**	**266**	P	**Pn**	**14 42 21.0**	**+0.4**
THZ				S	**Sn**	**14 42 38.1**	**+1.5**
MRZ	**Mangatainoka R**	**1.31**	**38**	P	**Pn**	**14 42 22.3**	**+0.3**
MRZ				S	**Sb**	**14 42 40.1**	**+0.9**
TKNZ	**Takaka Hill**	**1.34**	**299**	P	**Pn**	**14 42 22.4**	**-0.1**
TKNZ				S	**Sg**	**14 42 39.9**	**-2.1**
MRNZ	**Matariki Terra**	**1.35**	**282**	P	**Pn**	**14 42 23.0**	**+0.4**
MRNZ				S	**Sn**	**14 42 41.8**	**+1.7**
TIWZ	**Tintock**	**1.38**	**49**	P	**Pn**	**14 42 23.2**	**+0.1**
CPWZ	**Castlepoint**	**1.49**	**59**	P	**Pg**	**14 42 29.7**	**+2.3**
PRWZ	**Pori Road**	**1.58**	**44**	P	**Pn**	**14 42 25.9**	**+0.1**
OHWZ	**Ohakea**	**1.61**	**22**	P	**Pb**	**14 42 28.0**	**+0.3**
POWZ	**Post Office Ro**	**1.61**	**36**	P	**Pn**	**14 42 26.6**	**+0.4**
BFZ	**Birch Farm**	**1.65**	**53**	P	**Pn**	**14 42 27.6**	**+0.9**
BFZ	**Birch Farm**	**1.65**	**53**	P	**Pn**	**14 42 26.4**	**-0.3**
GVZ	**Greta Valley S**	**1.68**	**220**	P	**Pb**	**14 42 27.8**	**-1.2**
QRZ	**Quartz Range**	**1.73**	**299**	P	**Pn**	**14 42 28.8**	**+1.0**
QRZ	**Quartz Range**	**1.73**	**299**	P	**Pn**	**14 42 28.6**	**+0.8**
DVHZ	**Dannevirke**	**1.87**	**42**	P	**Pn**	**14 42 29.3**	**-0.5**
TSZ	**Takapari Road**	**1.97**	**34**	P	**Pn**	**14 42 31.0**	**-0.1**
WAZ	**Wanganui**	**1.97**	**11**	P	**Pb**	**14 42 33.7**	**-0.3**
LTZ	**Lake Taylor**	**1.99**	**236**	P	**Pn**	**14 42 31.9**	**+0.5**
AMCZ	**Amberley**	**2.02**	**222**	P	**Pn**	**14 42 32.0**	**+0.2**
DSZ	**Denniston Nort**	**2.03**	**268**	P	**Pn**	**14 42 32.8**	**+0.9**
PRHZ	**Porangahau**	**2.15**	**49**	P	**Pn**	**14 42 33.2**	**-0.4**
WPHZ	**Waipukurau**	**2.19**	**42**	P	**Pn**	**14 42 33.8**	**-0.3**
PNHZ	**Pukenui**	**2.19**	**36**	P	**Pn**	**14 42 33.8**	**-0.4**
LREZ	**Lake Rotokare**	**2.23**	**358**	P	**Pb**	**14 42 37.5**	**-0.9**
NMEZ	**Namu Road**	**2.33**	**348**	P	**Pb**	**14 42 39.8**	**-0.2**
MTVZ	**Mangatetei**	**2.42**	**18**	P	**Pb**	**14 42 40.6**	**-1.1**
KHEZ	**Kahui Hut**	**2.43**	**351**	P	**Pn**	**14 42 39.6**	**+2.1**
KHEZ	**Kahui Hut**	**2.43**	**351**	P	**Pb**	**14 42 40.8**	**-1.0**
MQZ	**McQueen's Vall**	**2.43**	**214**	P	**Pn**	**14 42 36.8**	**-0.7**
PXZ	**Pawanui**	**2.44**	**48**	P	**Pn**	**14 42 36.4**	**-1.1**
NEZ	**North Egmont**	**2.44**	**352**	P	**Pb**	**14 42 41.7**	**-0.3**
OXZ	**Oxford**	**2.45**	**228**	P	**Pn**	**14 42 37.1**	**-0.6**
MOVZ	**Moawhango**	**2.47**	**23**	P	**Pb**	**14 42 42.3**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.48**	**208**	P	**Pn**	**14 42 37.8**	**-0.2**
NBEZ	**Newall Road No**	**2.48**	**348**	P	**Pn**	**14 42 39.8**	**+1.8**
PKVZ	**Pokaka**	**2.49**	**15**	P	**Pb**	**14 42 42.4**	**-0.4**
KRHZ	**Kereru**	**2.49**	**35**	P	**Pn**	**14 42 37.7**	**-0.6**
BHHZ	**Black Hill Sta**	**2.50**	**29**	P	**Pn**	**14 42 38.8**	**+0.4**
INZ	**Inchbonnie**	**2.50**	**245**	P	**Pn**	**14 42 38.8**	**+0.4**
WNVZ	**Wahianoa**	**2.51**	**20**	P	**Pn**	**14 42 40.0**	**+1.4**
DREZ	**Durham Road**	**2.52**	**354**	P	**Pb**	**14 42 41.6**	**-1.6**
PKEZ	**Pukeiti**	**2.53**	**351**	P	**Pn**	**14 42 41.6**	**+2.7**
WHVZ	**Whangaehu Hut**	**2.55**	**19**	P	**Pb**	**14 42 44.4**	**+0.5**
FWVZ	**Far West T-bar**	**2.56**	**18**	P	**Pb**	**14 42 43.6**	**-0.6**
VRZ	**Vera Road**	**2.58**	**4**	P	**Pn**	**14 42 41.6**	**+2.2**
TUVZ	**Tukino**	**2.58**	**20**	P	**Pn**	**14 42 41.4**	**+1.8**
KAHZ	**Kahuranaki**	**2.61**	**44**	P	**Pn**	**14 42 38.9**	**-1.1**
MHEZ	**Mangahewa**	**2.62**	**357**	P	**Pb**	**14 42 43.4**	**-1.6**
NGZ	**Ngauruhoe**	**2.65**	**19**	P	**Pb**	**14 42 45.8**	**+0.2**
SNVZ	**South Ngauruho**	**2.65**	**19**	P	**Pn**	**14 42 41.8**	**+1.2**
OTVZ	**Oturere**	**2.68**	**20**	P	**Pn**	**14 42 42.2**	**+1.2**
RACZ	**Rakaia**	**2.68**	**220**	P	**Pn**	**14 42 40.1**	**-0.7**
KWHZ	**Kaweka Forest**	**2.69**	**33**	P	**Pn**	**14 42 40.8**	**-0.3**
NNVZ	**North Ngauruho**	**2.70**	**19**	P	**Pn**	**14 42 42.6**	**+1.4**
WTVZ	**West Tongariro**	**2.71**	**18**	P	**Pb**	**14 42 46.3**	**-0.2**
ETVZ	**East Tongariro**	**2.71**	**20**	P	**Pn**	**14 42 42.6**	**+1.1**
TWVZ	**Taurewa**	**2.71**	**15**	P	**Pb**	**

IDC ***02*** *14:47:14.4±1.2,1.°41N×126.°61E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=87.9km s-min=18.6km az=65.0*

DJA ***02*** *14:47:21.5±1.2,2.°N±3.°×12.°7E±.°1,h16km±13km,M3.8/8, mb4.0/3,mB5.2/1,MLv3.7/8,Mw(mB)4.6/1,MwMwp5.0/1, Mwp5.3/1*

ISC 02 14:47:15.7±1.3,1.°**89N**±0.°07×**127.°6E**±0.°1,**h10**km,**n12,** σ1$**99**/**12**,**mb3.7/6,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.13**	**191**	P	**Pb**	**14 47 40.5**	**+3.2**
TNTI				S	**Sb**	**14 47 53.5**	**+1.4**
SGSI	**Sangihe**	**2.71**	**311**	P	**Pn**	**14 47 59.9**	**+0.5**
SGSI				S	**Sn**	**14 48 33.3**	**+1.0**
SANI	**Sanana**	**4.22**	**202**	P	**Pn**	**14 48 18.8**	**-1.3**
GTOI	**Gorontalo**	**4.73**	**255**	P	**Pn**	**14 48 23.8**	**-3.3**
LUWI	**Luwuk**	**5.62**	**239**	P	**Pn**	**14 48 38.3**	**-1.0**
	22nm,0.8s,2μm0.2nm						
APSI	**Ampana**	**6.55**	**245**	P	**Pn**	**14 48 51.1**	**-1.0**
WRA	**Warramunga Arr**	**22.69**	**163**	P	**P**	**14 52 16.1**	**-1.5**
	1.3nm,0.6s,baz=339,slow=10,SNR=10 1.3nm,0.6s						
ASAR	**Alice Springs**	**26.14**	**167**	P	**P**	**14 52 48.8**	**-1.4**
	0.2nm,0.4s,baz=343,slow=11,SNR=9.1						
ASAR				PcP	**PcP**	**14 56 15.9**	**-1.8**
	0.1nm,0.5s,baz=1.4,slow=3.8,SNR=1.2 0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.54**	**302**	P	P	14 53 42.2	-5.1
	0.3nm,0.2s,baz=115,slow=6.0,SNR=2.2 0.3nm,0.2s						
SONM	**Songino Array**	**49.30**	**341**	P	P	14 56 05.9	+0.9
	0.2nm,0.6s,baz=147,slow=8.0,SNR=1.8 0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.54**	**325**	P	**P**	**14 57 19.5**	**+0.1**
	0.4nm,0.4s,baz=115,slow=7.6,SNR=8.9 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.73**	**328**	P	P	14 57 47.2	-0.4
	0.9nm,0.7s,baz=130,slow=6.3,SNR=14 0.9nm,0.7s						

AZER ***02*** *14:56:59.9±0.1,40.°04N×53.°14E,h23km±7km,Error ellipse: s-maj=15.7km s-min=1.3km az=268.0*

IDC ***02*** *14:56:59.4±1.3,40.°04N×52.°82E,h0km,mb3.3/4, mbtmp3.5/11,ML3.6/7,Error ellipse: s-maj=23.1km s-min=9.7km az=2.0*

TEH ***02*** *14:57:00.6,40.°14N×53.°02E,h10km,ML3.7*

NNC ***02*** *14:57:04.7±3.7,40.°51N×53.°65E,h0km,mb3.6,Error ellipse: s-maj=44.5km s-min=10.7km az=67.0*

ISC 02 14:57:01.2±0.7,**40.°30N**±0.°05×**53.°03E**±0.°04,**h10**km,**n63,** σ1$**78**/**91**,**mb3.6/3,3C-3D,Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIZA	**Siyzn**	**3.24**	**285**	P	**Pn**	**14 57 54.3**	**+2.2**
	SNR=7.1						
SIZA				S	**Sb**	**14 58 37.2**	**-1.1**
PQL	**Pirkuli**	**3.42**	**280**	P	**Pn**	**14 57 56.3**	**+1.6**
PQL				S	**Sb**	**14 58 41.4**	**-2.2**
MRVT	**Maraveh tapeh**	**3.55**	**137**	Pn	**Pn**	**14 57 56.3**	**-0.2**
IMND	**Minoodasht**	**3.56**	**148**	Pn	**Pn**	**14 57 56.5**	**+0.1**
QUBA	**Quba, Azerbaij**	**3.60**	**289**	P	**Pn**	**14 57 59.2**	**+2.1**
QUBA				S	**Sn**	**14 58 44.4**	**+4.7**
LKRN	**Lenkeran, Azer**	**3.65**	**246**	P	**Pn**	**14 57 58.1**	**+0.4**
	SNR=7.3						
LKRN				S	**Sn**	**14 58 41.2**	**+0.4**
ASTR	**Astara**	**3.71**	**244**	P	**Pn**	**14 57 58.7**	**+0.1**
	SNR=7.0						
ASTR				S	**Sn**	**14 58 42.1**	**-0.3**
GLBA	**Clilabad**	**3.73**	**255**	P	**Pn**	**14 57 59.2**	**+0.5**
	SNR=6.4						
GLBA				S	**Sn**	**14 58 44.3**	**+1.6**
IML	**Ismayilli**	**3.73**	**279**	P	**Pn**	**14 58 00.4**	**+1.5**
IML				S	**Sn**	**14 58 45.7**	**+2.8**
QSAR	**Qusar**	**3.81**	**290**	P	**Pn**	**14 58 01.6**	**+1.6**
	SNR=6.6						
QSAR				S	**Sn**	**14 58 48.8**	**+3.9**
XNQ	**Khinaliq**	**3.82**	**285**	P	**Pn**	**14 58 01.9**	**+1.6**
	SNR=9.3						
XNQ				S	**Sn**	**14 58 49.9**	**+4.6**
IGLO	**Ghaloghah**	**3.84**	**170**	Pn	**Pn**	**14 58 01.0**	**+0.4**
YRD	**Yardimli**	**3.95**	**251**	P	**Pn**	**14 58 01.7**	**-0.4**
	SNR=9.5						
YRD				S	**Sn**	**14 58 48.6**	**+0.1**
LRK	**Lerik**	**3.99**	**247**	P	**Pn**	**14 58 02.6**	**+0.1**
	SNR=17						
LRK				S	**Sn**	**14 58 48.9**	**-0.6**
QBL	**Gabala**	**4.01**	**281**	P	**Pn**	**14 58 03.5**	**+0.9**
QBL				S	**Sn**	**14 58 52.0**	**+2.3**
MZPU	**Pul - Mazandar**	**4.02**	**197**	Pn	**Pn**	**14 58 02.2**	**-0.9**
KLST	**Kelardasht - M**	**4.08**	**203**	Pn	**Pn**	**14 58 02.8**	**-1.2**
IPRN	**Peran**	**4.08**	**188**	Pn	**Pn**	**14 58 02.4**	**-1.4**
GIDE	**GILAN DEYLAMAN**	**4.16**	**217**	Pn	**Pn**	**14 58 05.5**	**+0.5**
QALM	**Alamut, Qazvin**	**4.29**	**207**	Pn	**Pn**	**14 58 06.1**	**-0.7**
IGZV	**Ghazvin**	**4.49**	**210**	Pn	**Pn**	**14 58 08.7**	**-0.8**
SEKA	**Sheki**	**4.52**	**284**	P	**Pn**	**14 58 11.2**	**+1.4**
	SNR=6.9						
SEKA				S	**Sn**	**14 59 05.0**	**+2.6**
AGDM	**Agdam**	**4.54**	**270**	P	**Pn**	**14 58 10.5**	**+0.6**
AGDM				S	**Sn**	**14 59 05.3**	**+2.4**
GEYT	**Alibeck**	**4.61**	**119**	Pn	**Pn**	**14 58 10.6**	**-0.3**
	1.7nm,0.3s,baz=287,slow=15,SNR=20						
GEYT				Sn	**Sn**	**14 59 03.5**	**-1.0**
	5.3nm,0.3s,baz=306,slow=26,SNR=7.2						
GEYT				Lg	Lg	14 59 25.4	
	3.3nm,0.3s,baz=308,slow=32,SNR=2.6 3.3nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**4.61**	**119**	⇑Pn	**Pn**	**14 58 10.7**	**-0.2**
GYA0B				⇑Sn	**Sn**	**14 59 04.4**	**-0.1**
GYA0B				⇓Lg	Lg	14 59 23.2	
CHTH	**Charan**	**4.63**	**200**	Pn	**Pn**	**14 58 12.4**	**+1.0**
DAMV	**Damavand**	**4.73**	**191**	Pn	**Pn**	**14 58 13.4**	**+0.6**
ISRB	**Sarab**	**4.85**	**241**	Pn	**Pn**	**14 58 14.8**	**+0.4**
SHRO	**Shahrood**	**4.90**	**150**	Pn	**Pn**	**14 58 15.3**	**+0.3**
ZNJK	**Zanjan**	**4.97**	**225**	Pn	**Pn**	**14 58 15.8**	**-0.4**
ZKTA	**Zakatala**	**5.03**	**288**	P	**Pn**	**14 58 18.1**	**+1.4**
ZKTA				S	**Sn**	**14 59 19.6**	**+4.6**
IHRS	**Heris**	**5.05**	**249**	Pn	**Pn**	**14 58 18.4**	**+1.2**
GANJ	**Ganja**	**5.13**	**276**	P	**Pn**	**14 58 17.8**	**-0.3**
GANJ				S	**Sn**	**14 59 16.6**	**-0.7**
IEMG	**Emamgholi**	**5.25**	**121**	Pn	**Pn**	**14 58 20.1**	**+0.1**
IVRN	**Varamin**	**5.39**	**191**	Pn	**Pn**	**14 58 20.4**	**-1.3**
GDB	**GEDABAY**	**5.56**	**277**	P	**Pn**	**14 58 26.1**	**+1.9**
GDB				S	**Sn**	**14 59 28.3**	**0.0**
ORD	**Ordubad**	**5.60**	**258**	P	**Pn**	**14 58 24.8**	**+0.1**
ORD				S	**Sn**	**14 59 29.9**	**+0.8**
SBZ	**Shahbuz**	**5.83**	**264**	P	**Pn**	**14 58 28.7**	**+1.0**
SBZ				S	**Sn**	**14 59 35.5**	**+0.8**
QZX	**Qazax, Azerbai**	**5.87**	**280**	P	**Pn**	**14 58 28.6**	**+0.3**
QZX				S	**Sn**	**14 59 36.2**	**+0.5**
IMRD	**Marand**	**5.88**	**257**	Pn	**Pn**	**14 58 29.4**	**+0.8**
NAX	**Nakhchivan**	**5.92**	**261**	P	**Pn**	**14 58 30.2**	**+1.2**
NAX				S	**Sn**	**14 59 39.4**	**+2.6**
ISFB	**Sefidab**	**5.97**	**186**	Pn	**Pn**	**14 58 30.3**	**+0.6**
IPAY	**Payeh**	**6.06**	**127**	Pn	**Pn**	**14 58 31.1**	**+0.1**
ISHB	**Shabestar**	**6.09**	**253**	Pn	**Pn**	**14 58 32.5**	**+1.0**
IKRD	**Kardeh**	**6.18**	**123**	Pn	**Pn**	**14 58 33.1**	**+0.4**
GNI	**Garni**	**6.35**	**271**	Pn	**Pn**	**14 58 35.7**	**+0.8**
	0.7nm,0.3s,baz=130,slow=16,SNR=2.0						
GNI				Sn	**Sn**	**14 59 44.5**	**-3.1**
	0.3nm,0.3s,baz=20,slow=22,SNR=1.0 12nm,1.0s						
MAKU	**Maku**	**6.50**	**264**	Pn	**Pn**	**14 58 40.1**	**+3.1**
TNSJ	**Nastanj**	**6.94**	**155**	Pn	**Pn**	**14 58 43.5**	**+0.5**
TABS	**Tabas**	**7.40**	**152**	Pn	**Pn**	**14 58 50.0**	**+0.7**
TKDS	**Koohdasht(Taba**	**7.43**	**153**	Pn	**Pn**	**14 58 49.9**	**+0.1**
KBZ	**Khabaz**	**8.29**	**298**	Pn	**Pn**	**14 59 01.8**	**+0.4**
	0.3nm,0.3s,baz=115,slow=6.7,SNR=8.1						
KBZ				Sn	**Sn**	**15 00 32.0**	**-3.0**
	0.3nm,0.3s,baz=314,slow=19,SNR=1.8 0.6nm,0.3s						
KVAR	**Kislovodsk Arr**	**8.51**	**299**	Pn	**Pn**	**14 59 04.7**	**+0.2**
	baz=78,slow=20						
KVAR				Sn	**Sn**	**15 00 34.4**	**-6.1**
	baz=30,slow=16 1.1nm,0.3s						
AB31	**Akbulak array**	**10.21**	**26**	⇓Pn	**Pn**	**14 59 26.6**	**-1.2**
	0.4nm,0.3s,baz=202,slow=13,SNR=42						
AB31				Sn	**Sn**	**15 01 18.8**	**-3.4**
	1.0nm,0.5s,baz=207,slow=27,SNR=7.2						
AKTO	**Aktyubinsk**	**10.72**	**17**	Pn	**Pn**	**14 59 35.5**	**+0.8**
	0.5nm,0.3s,baz=214,slow=9.7,SNR=6.6						
AKTO				Sn	Sn	15 01 26.4	-8.3
	0.2nm,0.3s,baz=210,slow=20,SNR=2.4 1.2nm,0.3s						
AKTO	**Aktyubinsk**	**10.72**	**17**	⇑Pn	**Pn**	**14 59 35.9**	**+1.2**
	1.9nm,1.1s						
AKTO				⇓Sn	**Sn**	**15 01 32.9**	**-1.9**
	2.6nm,0.7s						
BELG	**Belogornoye**	**12.66**	**345**	Pn	**Pn**	**14 59 59.6**	**-1.5**
	0.6nm,0.3s,baz=143,slow=20,SNR=1.9						
BELG				Sn	Sn	15 02 14.8	-7.2
	0.6nm,0.3s,baz=341,slow=20,SNR=2.0						
AAK	**Ala-Archa**	**16.25**	**75**	Pn	**P**	**15 00 51.5**	**-1.2**
	0.1nm,0.3s,baz=209,slow=9.0,SNR=4.1						
BVAR	**Borovoye Array**	**17.37**	**37**	Pn	**Pn**	**15 01 02.4**	**-1.2**
	0.1nm,0.3s,baz=235,slow=10,SNR=14 1.6nm,0.6s						
AKASG	**Malin Array Be**	**19.58**	**310**	P	**P**	**15 01 28.5**	**-0.6**
	1.5nm,0.3s,baz=96,slow=8.8,SNR=12 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**20.55**	**51**	P	**P**	**15 01 41.1**	**+1.4**
	0.2nm,0.6s,baz=253,slow=13,SNR=3.7 0.2nm,0.6s						
MKAR	**Makanchi Array**	**22.10**	**63**	P	**P**	**15 01 59.4**	**+2.9**
	0.8nm,0.9s,baz=261,slow=11,SNR=6.4 0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**25.32**	**47**	P	**P**	**15 02 30.3**	**+2.4**
	0.6nm,0.4s,baz=247,slow=10,SNR=3.9 0.6nm,0.4s						
FINES	**FINESS Array B**	**26.80**	**331**	P	**P**	**15 02 42.9**	**+1.8**
	0.7nm,0.4s,baz=129,slow=11,SNR=7.0 0.7nm,0.4s						

MAN ***02*** *15:05:36.4,7.°94N×125.°16E,h1km,mb4.6,ML3.4,MS3.3*

IDC ***02*** *15:05:38.3±2.3,6.°77N×122.°96E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=251.9km s-min=28.7km az=63.0*

ISC 02 15:05:36.8±1.1,**7.°98N**±0.°02×**125.°23E**±0.°03,**h9**km±10km, **n20,** σ1$**72**/**34**,**mb3.3/3,13C-3D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.71**	**312**	⇑*i*P	**Pg**	**15 05 49.9**	**-0.6**
CGP				*i* S	**Sb**	**15 06 00.5**	**-0.6**
KCP	**Kidapawan**	**0.97**	**188**	⇑*i*P	**Pg**	**15 05 53.3**	**-2.3**
KCP				*i* S	**Sg**	**15 06 06.8**	**-1.5**
BIPH	**Bislig**	**1.14**	**80**	⇓*e*P	**Pg**	**15 05 57.8**	**-1.0**
BIPH				*e*S	**Sn**	**15 06 14.8**	**+0.1**
CTBH	**Cotabato--PC H**	**1.23**	**232**	⇑*i*P	**Pb**	**15 05 58.8**	**-1.5**
CTBH				*i* S	**Sb**	**15 06 16.0**	**-0.2**
MATI	**Mati**	**1.45**	**135**	⇑*e*P	**Pn**	**15 06 03.5**	**+0.3**
MATI				*e*S	**Sg**	**15 06 25.0**	**+1.6**
SKMP	**Bagumbayan, Su**	**1.60**	**205**	⇑*e*P	**Pn**	**15 06 05.0**	**-0.3**
SKMP				*e*S	**Sg**	**15 06 33.8**	**+5.4**
SCPH	**Surigao**	**1.81**	**8**	⇑*e*P	**Pn**	**15 06 07.5**	**-0.6**
PAGZ	**Pagadian**	**1.83**	**266**	⇑*e*P	**Pb**	**15 06 10.2**	**-0.3**
PAGZ				*i* S	**Sg**	**15 06 37.0**	**+1.2**
GSPH	**General Santos**	**1.90**	**188**	⇑*e*P	**Pb**	**15 06 11.2**	**-0.6**
GSPH				*i* S	**Sg**	**15 06 42.1**	**+4.1**
DDMP	**Don Marcelino,**	**1.93**	**166**	⇑*e*P	**Pn**	**15 06 10.5**	**+0.7**
DDMP				*e*S	**Sb**	**15 06 36.9**	**+0.7**
DCPH	**Dipolog City**	**1.95**	**288**	⇓*e*P	**Pn**	**15 06 10.4**	**+0.4**
GLSP	**General Luna,**	**2.00**	**26**	⇑*e*P	**Pn**	**15 06 12.7**	**-0.6**
GLSP				*e*S	**Sg**	**15 06 43.6**	**+2.4**
MSLP	**Maasin**	**2.17**	**350**	⇑*e*P	**Pn**	**15 06 12.7**	**-0.5**
MSLP				*e*S	**Sb**	**15 06 44.4**	**+1.1**
TBP	**Tagbilaran**	**2.17**	**322**	*e*P	**Pn**	**15 06 13.3**	**+0.2**
TBP				*i* S	**Sg**	**15 06 45.4**	**-1.2**
LLP	**Lapu-Lapu**	**2.63**	**332**	⇓*e*P	**Pn**	**15 06 21.4**	**+1.9**
LLP				*e*S	**Sb**	**15 06 56.0**	**-0.6**
CNOP	**Candoni, Negro**	**3.15**	**306**	⇑*e*P	**Pn**	**15 06 28.2**	**+1.7**
CNOP				*e*S	**Sb**	**15 07 10.6**	**-0.8**
RCP	**Roxas**	**4.32**	**326**	⇑*e*P	**Pn**	**15 06 45.2**	**+2.5**
WRA	**Warramunga Arr**	**29.16**	**162**	P	**P**	**15 11 37.7**	**-0.8**
	0.4nm,0.8s,baz=334,slow=11,SNR=2.1 0.4nm,0.8s						
ASAR	**Alice Springs**	**32.58**	**165**	P	**P**	**15 12 07.7**	**-1.0**
	0.3nm,0.5s,baz=340,slow=7.0,SNR=12 0.3nm,0.5s						
MKAR	**Makanchi Array**	**53.24**	**324**	P	**P**	**15 14 56.4**	**+0.7**
	0.3nm,0.8s,baz=143,slow=5.6,SNR=3.6 0.3nm,0.8s						

IDC ***02*** *15:13:11.7±1.7,16.°74S×69.°28W,h168km±16km,mb3.2/6, mbtmp3.8/9,Error ellipse: s-maj=21.3km s-min=14.7km az=24.0*

VAO ***02*** *15:13:13.2±0.7,16.°86S×69.°44W,h183km±5km,mb3.8*

GUC ***02*** *15:13:14.3±0.7,17.°05S×69.°66W,h204km±5km,ML3.7*

ISC 02 15:13:12.6±0.7,**16.°89S**±0.°06×**69.°43W**±0.°06,**h182**km±7km, **n61,** σ1$**30**/**72**,**mb3.5/6,3C-2D,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.38**	**65**	*e*P	**Pn**	**15 13 46.2**	**+1.8**
PB16	**IPOC Station P**	**1.44**	**183**	⇓*i*P	**Pn**	**15 13 46.8**	**+1.9**
PB16				*i* S	**Sn**	**15 14 12.4**	**+2.5**
AP01	**Chacalluta**	**1.71**	**210**	⇓*i*P	**Pn**	**15 13 46.9**	**+0.1**
AP01				*i* S	**Sn**	**15 14 12.8**	**-0.7**
AP01				IAML		15 14 13.9	
	comp=E,900nm,0.5s						
PB12	**IPOC Station P**	**1.92**	**206**	⇑*i*P	**Pn**	**15 13 49.0**	**-0.1**
PB12				*i* S	**Sn**	**15 14 16.1**	**-1.4**
PB12				IAML		15 14 17.8	
	comp=E,397nm,0.3s						
MNMC	**Minye Minye**	**2.24**	**184**	*e*P	**Pn**	**15 13 53.7**	**+1.0**
MNMC				*i* S	**Sn**	**15 14 24.7**	**+0.6**
MNMC				IAML		15 14 27.7	
	comp=E,240nm,0.5s						
PSGC	**Pisagua**	**2.78**	**194**	⇑*i*P	**Pn**	**15 13 58.5**	**-0.3**
PSGC				*i* S	**Sn**	**15 14 31.5**	**-3.4**
PSGC				IAML		15 14 36.3	
	comp=N,100nm,0.3s						
GO01	**Chusmiza**	**2.78**	**175**	*e*P	**Pn**	**15 14 00.7**	**+1.5**
GO01				*i* S	**Sn**	**15 14 35.8**	**+0.2**
PB11	**IPOC Station P**	**2.87**	**184**	⇑*i*P	**Pn**	**15 14 00.2**	**+0.3**
PB11				*e*S	**Sn**	**15 14 35.4**	**-1.5**
PB11				IAML		15 14 40.0	
	comp=N,126nm,0.5s						
PB08	**IPOC Station P**	**3.25**	**175**	*e*P	**Pn**	**15 14 06.0**	**+1.2**
PB08				*i* S	**Sn**	**15 14 44.8**	**-0.8**
TA01	**Diego Aracena**	**3.73**	**191**	*e*P	**Pn**	**15 14 09.4**	**-0.9**
LVC	**Limon Verde**	**5.72**	**175**	P	**Pn**	**15 14 36.9**	**+0.6**
	comp=N,2.1nm,0.3s,baz=68,slow=7.8,SNR=11						
LVC				S	**Sn**	**15 15 38.5**	**-3.7**
	comp=N,9.3nm,0.3s,baz=165,slow=19,SNR=16						
ETMB	**Extrema**	**7.69**	**24**	*e*P	**Pn**	**15 15 01.6**	**-0.3**
SIV	**San Ignacio**	**8.07**	**85**	P	**Pn**	**15 15 04.6**	**-2.4**
	comp=N,5.4nm,0.4s,baz=275,slow=11,SNR=34						
SIV				S	**Sn**	**15 16 33.3**	**-4.3**
	comp=N,1.5nm,0.6s,baz=323,slow=22,SNR=3.7						
BBSD	**Serra de San D**	**8.45**	**93**	*e*P	**Pn**	**15 15 09.8**	**-2.0**
NNA	**Nana**	**8.67**	**303**	P	**Pn**	**15 15 14.1**	**-0.7**
	comp=N,7.8nm,0.3s,baz=143,slow=12,SNR=4.1						
NNA				S	**Sn**	**15 16 51.2**	**-0.7**
	comp=N,5.8nm,0.3s,baz=235,slow=18,SNR=1.7						
CZSB	**Cruzeiro do Su**	**9.64**	**340**	*e*P	**Pn**	**15 15 27.2**	**-0.4**
VILB	**Vilhena**	**9.74**	**68**	*e*P	**Pn**	**15 15 30.5**	**+1.6**
MURT	**Porto Murtinho**	**12.13**	**115**	*e*P	**Pn**	**15 15 58.1**	**-1.6**
SALV	**Santo Antonio**	**13.22**	**88**	*e*P	**Pn**	**15 16 14.9**	**+1.3**
AMBA	**Amambai (Brazi**	**14.85**	**116**	*e*P	**P**	**15 16 35.3**	**+0.2**
MECA	**Mercedes**	**16.11**	**142**	*e*P	**Pn**	**15 16 49.8**	**+0.7**
MACA	**Manacapuru-AM**	**16.12**	**33**	*e*P	**Pn**	**15 16 49.8**	**+0.4**
MCR1	**Marechal Candi**	**16.25**	**120**	*e*P	**Pn**	**15 16 51.7**	**+0.8**
NPGB	**Novo Progresso**	**16.88**	**56**	*e*P	**P**	**15 16 57.7**	**+0.2**
ARAG	**Araguaiana, MT**	**16.96**	**89**	*e*P	**P**	**15 16 58.5**	**+0.1**
ITQB	**Itaqui**	**17.31**	**140**	*e*P	**P**	**15 17 03.2**	**+1.0**
FRBT	**Francisco Belt**	**17.71**	**123**	*e*P	**P**	**15 17 07.6**	**+1.1**
CRSM	**Crissiumal (Br**	**17.72**	**129**	*e*P	**P**	**15 17 07.0**	**+0.4**
PCMB	**Pacaembu**	**17.79**	**108**	*e*P	**P**	**15 17 08.9**	**+1.5**
PTGB	**Pitanga**	**18.00**	**119**	*e*P	**P**	**15 17 11.0**	**+1.2**
SNDB	**Serra Nova Dou**	**18.23**	**77**	*e*P	**P**	**15 17 12.4**	**+0.1**
ITTB	**Ituitaba**	**18.31**	**49**	*e*P	**P**	**15 17 12.9**	**-0.3**
ITRB	**Iturama**	**18.33**	**102**	*e*P	**P**	**15 17 14.0**	**+0.6**
RODS	**Rosario do Sul**	**18.68**	**138**	*e*P	**P**	**15 17 17.1**	**+0.2**
ITAB	**Concordia**	**19.04**	**126**	*e*P	**P**	**15 17 22.9**	**+1.9**
ALGR	**Alto Alegre (B**	**19.19**	**131**	*e*P	**P**	**15 17 23.5**	**+0.9**
FRTB	**Fartura**	**19.72**	**112**	*e*P	**P**	**15 17 29.3**	**+0.9**
CPSB	**Cacapava Do Su**	**19.86**	**136**	*e*P	**P**	**15 17 29.6**	**-0.1**
IPMB	**Ipameri, GO**	**20.28**	**96**	*e*P	**P**	**15 17 34.0**	**-0.4**
BDFB	**Brasilia**	**20.60**	**90**	P	**P**	**15 17 39.4**	**+1.4**
	comp=N,2.3nm,0.4s,baz=270,slow=13,SNR=4.1						
BDFB	**Brasilia**	**20.60**	**90**	*e*P	**P**	**15 17 37.9**	**0.0**
PLTB	**Pedras Altas**	**20.64**	**139**	*e*P	**P**	**15 17 37.8**	**-0.3**
CNLB	**Canela**	**21.06**	**129**	*e*P	**P**	**15 17 43.0**	**+0.4**
MALB	**Monte Alegre**	**21.11**	**47**	*e*P	**P**	**15 17 42.7**	**-0.6**
SPB	**Sao Paulo**	**21.68**	**112**	*e*P	**P**	**15 17 49.8**	**+0.7**
PRPB	**Parauapebas**	**21.95**	**63**	*e*P	**P**	**15 17 51.9**	**-0.1**
SMTB	**Santa Maria do**	**22.72**	**72**	*e*P	**P**	**15 17 58.7**	**-0.5**
MCPB	**Macapa, AP**	**23.72**	**48**	*e*P	**P**	**15 18 08.4**	**+0.2**
PLCA	**Paso Flores**	**23.78**	**182**	P	**P**	**15 18 11.0**	**+2.4**
	comp=N,1.6nm,0.7s,baz=9.5,slow=12,SNR=3.3 comp=N,1.6nm,0.7s						
PLCA	**Paso Flores**	**23.78**	**182**	*e*P	**P**	**15 18 09.5**	**+0.8**
SDBA	**SAO DESIDERIO**	**24.14**	**83**	*e*P	**P**	**15 18 12.6**	**+0.5**
JANB	**Januaria**	**24.22**	**89**	*e*P	**P**	**15 18 12.4**	**-0.5**
DIAM	**Diamantina, MG**	**24.59**	**97**	*e*P	**P**	**15 18 17.0**	**+0.7**
TXAR	**Lajitas Array**	**56.60**	**324**	P	**P**	**15 22 37.1**	**+0.4**
	comp=N,0.2nm,0.5s,baz=150,slow=7.3,SNR=2.5 comp=N,0.2nm,0.5s						
DBIC	**Dimbokro**	**67.98**	**75**	P	**P**	**15 23 51.6**	**-0.9**
	comp=N,1.7nm,0.7s,baz=254,slow=9.7,SNR=2.1 comp=N,1.7nm,0.7s						
PDAR	**Pinedale Array**	**69.89**	**330**	P	**P**	**15 24 04.8**	**+0.8**
	comp=N,0.1nm,0.5s,baz=125,slow=7.8,SNR=4.8 comp=N,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.32**	**72**	P	**P**	**15 24 40.7**	**-1.4**
	comp=N,0.8nm,0.6s,baz=255,slow=6.1,SNR=4.8 comp=N,0.8nm,0.6s						
YKA	**Yellowknife Ar**	**86.69**	**341**	P	**P**	**15 25 35.8**	**+0.4**
	comp=N,0.5nm,0.8s,baz=131,slow=4.2,SNR=5.5 comp=N,0.5nm,0.8s						
ASAR	**Alice Springs**	**133.69**	**210**	PKP	**PKPdf**	**15 32 07.2**	**-1.2**
	comp=N,0.3nm,0.8s,baz=114,slow=1.6,SNR=2.0						
WRA	**Warramunga Arr**	**136.59**	**213**	PKP	**PKPdf**	**15 32 13.3**	**-0.6**
	comp=N,0.1nm,0.3s,baz=152,slow=1.7,SNR=1.3						
SONM	**Songino Array**	**148.94**	**5**	PKPbc	**PKPbc**	**15 32 39.9**	**+0.8**
	comp=N,0.5nm,0.5s,baz=304,slow=1.2,SNR=6.3						

IDC ***02*** *15:20:52.1±1.7,25.°43S×179.°90E,h489km±15km,mb3.5/6, mbtmp4.4/9,Error ellipse: s-maj=20.9km s-min=17.9km az=132.0*

NEIC ***02*** *15:20:52.5±1.2,25.°5S±0.°1×180.°E±0.°2,h494km±9km, mb4.5/27,Error ellipse: s-maj=21.9km s-min=18.8km az=117.0*

NOU ***02*** *15:20:53.3,25.°35S×179.°84W,h540km,mb4.2/14,South of Fiji Islands*

ISC 02 15:20:52.5±0.6,**25.°46S**±0.°08×**179.°93E**±0.°10,**h493**km,**n66,** σ1$**19**/**69**,**mb4.3/18,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**7.28**	**9**	P	**P**	**15 22 42.3**	**+0.9**
MSVF	**Nonsavu**	**7.88**	**347**	P	**P**	**15 22 47.6**	**-0.2**
	18nm,0.7s,baz=157,slow=10,SNR=8.3						
MSVF	**Nonsavu**	**7.88**	**347**		**P**	**15 22 47.7**	**0.0**
TAVE	**Taveuni**	**8.71**	**1**	P	**P**	**15 22 57.8**	**+1.5**
OUZ	**Omahuta**	**11.16**	**208**	P	**P**	**15 23 26.2**	**+4.2**
MARNC	**Mare, Loyalty**	**11.61**	**287**	P	**P**	**15 23 27.9**	**+0.9**
KUZ	**Kuaotunu**	**11.81**	**197**	P	**P**	**15 23 32.3**	**+3.4**
MXZ	**Matakaoa Point**	**12.15**	**186**	P	**P**	**15 23 34.6**	**+2.1**
DZM	**Mont Dzumac**	**12.80**	**282**	P	**P**	**15 23 41.4**	**+1.6**
	8.5nm,0.9s,baz=82,slow=16,SNR=6.7						
DZM	**Mont Dzumac**	**12.80**	**282**	P	**P**	**15 23 41.1**	**+1.4**
DZM	**Mont Dzumac**	**12.80**	**282**	P	**P**	**15 23

comp=Z,9.5nm,1.2s
WRA Warramunga Arr 42.26 268 P **P** **15 28 01.1 -1.0**
comp=Z,3.6nm,0.6s,baz=103,slow=7.4,SNR=39
WRA ScP **ScP** **15 32 49.7 +1.4**
comp=Z,0.8nm,0.9s,baz=112,slow=3.1,SNR=3.3
comp=Z,3.6nm,0.6s
WRA Warramunga Arr 42.26 268 P **P** **15 28 01.1 -1.0**
FORT Forrest 45.73 251 P **P** **15 28 27.8 -1.1**
FORT IAmb IAmb 15 28 41.9
comp=Z,21nm,0.9s
KNRA Kununurra 48.63 271 P **P** **15 28 50.8 -0.3**
KNRA IAmb IAmb 15 28 54.1
comp=Z,37nm,1.2s
FITZ Fitzroy Crossi 50.66 267 P **P** **15 29 06.0 0.0**
SIJI Sorong 52.88 290 P **P** **15 29 21.2 -0.9**
comp=Z,8.5nm,0.7s,baz=130,slow=8.6,SNR=5.3
comp=Z,8.5nm,0.7s
MORW Morawa 56.29 251 P **P** **15 29 45.4 -0.6**
MORW IAmb IAmb 15 30 17.4
comp=Z,15nm,1.1s
QSPA South Pole Qui 64.63 180 P **P** **15 30 42.6 +1.9**
NVAR Mina Array Bea 85.91 44 P **P** **15 32 40.9 +0.8**
comp=Z,1.1nm,0.7s,baz=223,slow=8.9,SNR=8.6
comp=Z,1.1nm,0.7s
KVN Kaiserville 86.41 44 P **P** **15 32 42.9 +0.5**
K05A Summer Lake 87.00 39 P **P** **15 32 46.7 +1.7**
O18K Koktuh Hills 87.42 12 P **P** **15 32 46.2 -0.2**
PINE Pine Mountain 87.64 38 P **P** **15 32 49.4 +1.3**
PINE IAmb IAmb 15 32 50.3
comp=Z,8.0nm,0.9s
CNPM China Poot 87.94 14 P **P** **15 32 49.0 +0.1**
ILSW Iliamna Southw 87.95 13 P **P** **15 32 49.0 0.0**
ILSW IAmb IAmb 15 33 18.3
comp=Z,20nm,1.3s
L19K White Mountain 89.65 12 P **P** **15 32 56.5 -0.2**
L19K IAmb IAmb 15 33 23.9
comp=Z,8.1nm,1.4s
SUA Susitna One 89.80 14 P **P** **15 32 57.6 +0.1**
SUA IAmb IAmb 15 33 41.1
comp=Z,8.9nm,1.4s
MNTX Cornudas Mount 91.15 55 **P** **15 33 03.5 -0.8**
MNTX IAmb IAmb 15 33 10.3
comp=Z,11nm,0.9s
FRB Frobisher Bay 122.03 29 PKP **PKPdf** **15 38 48.5 -1.2**
comp=Z,1.2nm,0.5s,baz=259,slow=5.2,SNR=4.7
ARCES ARCESS Array B 133.39 348 PKP **PKPdf** **15 39 09.8 -1.5**
ARCES comp=Z,5.8nm,1.0s,baz=98,slow=2.7,SNR=6.9 SKPbc **SKPbc** **15 41 52.0 -1.2**
comp=Z,4.6nm,1.1s,baz=5.7,slow=3.6,SNR=3.5
FINES FINESS Array B 139.89 341 PKhKP PKPpre 15 39 15.9
comp=Z,2.2nm,0.9s,baz=50,slow=3.0,SNR=3.7
FINES SKPbc **SKPbc** **15 42 12.3 -0.2**
comp=Z,5.7nm,1.0s,baz=49,slow=4.6,SNR=9.6
NB2 NORSAR Subarra 143.60 351 PKP PKPab 15 39 28.1 -0.6
comp=Z,1.5nm,0.7s,baz=16,slow=3.3
NOA NORSAR Array B 143.60 351 PKP PKPab 15 39 28.1 -0.6
comp=Z,1.8nm,0.7s,baz=21,slow=3.8,SNR=7.2
AKASG Malin Array Be 146.23 326 PKPbc **PKPbc** **15 39 36.0 -1.0**
comp=Z,0.4nm,0.4s,baz=34,slow=3.7,SNR=6.9
BRTR Keskin Array B 148.44 305 PKPbc **PKPbc** **15 39 42.8 -0.6**
comp=Z,0.5nm,0.6s,baz=135,slow=3.8,SNR=3.1
BRTR Keskin Array B 148.44 305 PKPbc **PKPbc** **15 39 42.6 -0.8**
CLL Collm 152.31 342 *i* PKPbc **PKiKP** **15 39 51.9 -0.1**
TORD Torodi Ar. Bea 167.64 188 PKP **PKPdf** **15 40 02.0 -0.4**
comp=Z,0.4nm,0.7s,baz=126,slow=0.6,SNR=2.2
TORD PKPab **PKPab** **15 41 12.1 +0.3**
comp=Z,0.2nm,0.5s,baz=188,slow=2.8,SNR=3.5

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*ANF **02** 15:25:34.8±0.2, 36.°39N×96.°89W, h0km, ML3.7/14, Error ellipse: s-maj=2.1km s-min=1.7km az=32.0*
*NEIC **02** 15:25:35.0±0.7, 36.°41N±0.°01×96.°889W±0.°009, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.5km az=234.0*
*TUL **02** 15:25:35±1.1, 36.°40N±0.°02×96.°89W±0.°03, h4km±3km, ML3.3, mb_Lg3.2/97(NEIC), ML3.5/56(NEIC), Error ellipse: s-maj=3.2km s-min=1.4km az=59.0*
*IDC **02** 15:25:35.8±1.8, 36.°49N×97.°07W, h0km, mb3.2/2, mbtmp3.2/5, ML3.1/3, Error ellipse: s-maj=25.7km s-min=12.6km az=111.0*
ISC 02 15:25:34.8±0.8, 36.°40N±0.°02×96.°90W±0.°02, h6km±4km, n128, σ0s74/106, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OK046	**Pawnee Station**	**0.01**	**237**	Pg	**Pg**		**15 25 36.0**	**+0.1**
OK046				Sg	**Sg**		**15 25 36.7**	**0.0**
OK046				IAML			15 25 37.0	
	43μm,0.2s							
OK048	**Pawnee Station**	**0.04**	**288**		**Pg**		**15 25 36.5**	**+0.3**
OK048				Sg	**Sg**		**15 25 37.3**	**+0.2**
OK050	**Pawnee Station**	**0.07**	**263**		**Pg**		**15 25 37.0**	**+0.4**
OK050				Sg	**Sg**		**15 25 38.0**	**+0.3**
OK050				IAML			15 25 38.5	
	35μm,0.3s							
QUOK	**Quay**	**0.28**	**147**	Pg	**Pg**		**15 25 40.6**	**+0.4**
QUOK				Sg	**Sg**		**15 25 44.1**	**+0.2**
QUOK				IAML			15 25 44.6	
	comp=N,7μm,0.3s							
QUOK				IAML			15 25 46.2	
	comp=E,7μm,0.3s							
OK033	**Mehan**	**0.36**	**186**	Pg	**Pg**		**15 25 42.2**	**+0.4**
OK033				IAML			15 25 52.1	
	comp=E,4μm,0.5s							
OK053	**SW of W Deep R**	**0.40**	**167**	Pg	**Pg**		**15 25 43.0**	**+0.4**
OK053				Sg	**Sg**		**15 25 47.7**	**0.0**
OK053				IAML			15 25 50.0	
	comp=E,5μm,0.3s							
OK052	**Battle Ridge R**	**0.42**	**170**		**Pg**		**15 25 43.2**	**+0.3**
OK052				IAML			15 25 50.6	
	comp=E,4μm,0.3s							
OK034	**N. Norfolk Rd.**	**0.42**	**159**	Pg	**Pg**		**15 25 43.2**	**+0.3**
OK031	**S. Brethren Rd**	**0.45**	**174**	Pg	**Pg**		**15 25 43.9**	**+0.3**
OK030	**Cody Creek RV**	**0.48**	**169**		**Pg**		**15 25 44.4**	**+0.3**
OK030				IAML			15 25 51.1	
	comp=E,3μm,0.2s							
OK030				IAML			15 25 52.8	
	comp=E,2μm,0.3s							
T35A	**Sooner Cattle**	**0.60**	**31**	Pg	**Pg**		**15 25 46.6**	**+0.2**
T35B	**Sooner Cattle**	**0.60**	**31**	P	**Pg**		**15 25 46.5**	**+0.2**
	baz=211,SNR=70							
T35B				S	**Sg**		**15 25 54.4**	**+0.2**
	baz=211							
DEOK	**Depew**	**0.65**	**150**	Pg	**Pg**		**15 25 47.4**	**+0.2**
DEOK				IAML			15 25 59.5	
	comp=N,3μm,0.4s							
DEOK				IAML			15 26 01.2	
	comp=E,2μm,0.6s							
OK029	**Liberty Lake**	**0.76**	**217**		**Pg**		**15 25 49.7**	**+0.3**
OK029				IAML			15 26 03.9	
	comp=E,1μm,0.5s							
KAN13	**South Haven SW**	**0.77**	**323**		**Pg**		**15 25 49.9**	**+0.3**
OK005	**Luther M Schoo**	**0.79**	**198**	Pg	**Pg**		**15 25 50.0**	**+0.1**
CROK	**Carrier**	**0.88**	**277**		**Pg**		**15 25 52.0**	**+0.2**
CROK				IAML			15 26 04.6	
	comp=N,2μm,0.3s							
CROK				IAML			15 26 14.3	
	comp=E,2μm,0.3s							
GC02	**Grant County #**	**0.90**	**300**		**Pg**		**15 25 52.1**	**+0.1**
OK025	**Westminster Rd**	**0.90**	**204**		**Pg**		**15 25 51.9**	**-0.1**
OK025				IAML			15 26 06.8	
	comp=E,2μm,0.2s							
OK025				IAML			15 26 06.9	
	comp=E,2μm,0.1s							
OK009	**Oakdale Elemen**	**0.93**	**208**	Pg	**Pg**		**15 25 52.7**	**+0.1**
KAN09	**Caldwell North**	**0.93**	**322**		**Pg**		**15 25 52.9**	**+0.2**
BCOK	**Bluff Creek, N**	**0.94**	**218**		**Pg**		**15 25 52.9**	**0.0**
BCOK				IAML			15 26 07.4	
	comp=N,401nm,0.1s							
BCOK				IAML			15 26 07.8	
	comp=E,525nm,0.1s							
KS20	**Mayfield South**	**0.98**	**328**		**Pg**		**15 25 53.7**	**0.0**
KS20				IAML			15 26 08.5	
	comp=E,2μm,0.1s							
KS20				IAML			15 26 09.1	
	comp=E,1μm,0.2s							
KAN01	**Argonia South**	**1.02**	**317**		**Pg**		**15 25 54.5**	**+0.1**
KAN01				IAML			15 26 09.3	
	comp=E,1μm,0.1s							
KAN01				IAML			15 26 10.6	
	comp=N,1μm,0.1s							
TUL1	**Leonard**	**1.02**	**119**		**Pg**		**15 25 54.1**	**-0.3**
TUL1				IAML			15 26 08.4	
	comp=N,760nm,0.1s							
TUL1	**Leonard**	**1.02**	**119**	P	**Pg**		**15 25 54.1**	**-0.3**
	baz=300,SNR=400							
TUL1				S	**Sg**		**15 26 07.0**	**-0.6**
	baz=300							
KAN14	**Manchester OK**	**1.02**	**303**		**Pg**		**15 25 54.4**	**0.0**
KAN14				IAML			15 26 09.2	
	comp=E,1μm,0.1s							
KAN05	**Bluff City Nor**	**1.05**	**312**		**Pg**		**15 25 55.0**	**0.0**
KS21	**Milan North St**	**1.07**	**325**	IAML			15 26 12.0	
	comp=E,1μm,0.1s							
KS21				IAML			15 26 14.5	
	comp=E,710nm,0.1s							
KS21	**Milan North St**	**1.07**	**325**		**Pg**		**15 25 55.6**	**+0.1**
OK032	**Salt Plains WL**	**1.13**	**291**		**Pg**		**15 25 56.4**	**-0.2**
KAN06	**Argonia West S**	**1.14**	**318**		**Pg**		**15 25 56.5**	**-0.3**
KAN08	**Anthony NE Sta**	**1.19**	**314**	Pn	**Pg**		**15 25 57.5**	**-0.2**
KAN10	**Anthony SW Sta**	**1.20**	**307**	Pn	**Pg**		**15 25 57.7**	**-0.2**
FNO	**Franklin**	**1.22**	**200**	Pn	**Pg**		**15 25 57.2**	**-0.9**
FNO				IAML			15 26 16.2	
	comp=N,1μm,0.3s							
KAN12	**Harper NE Stat**	**1.26**	**316**		**Pg**		**15 25 58.3**	**-0.6**
OK038	**West end E0370**	**1.49**	**273**		**Pn**		**15 26 01.5**	**-0.7**
RLO	**Rose Lookout**	**1.53**	**98**	Pn	**Pn**		**15 26 01.9**	**-0.9**
CSTR	**Hydro, Custer**	**1.64**	**243**		**Pn**		**15 26 03.7**	**-0.5**
U32A	**Winter Ranch,**	**1.70**	**270**	Pn	**Pn**		**15 26 04.7**	**-0.4**
U32A	**Winter Ranch,**	**1.70**	**270**	P	**Pn**		**15 26 06.1**	**+1.1**
	baz=88,SNR=20							
U32A				S	**Sg**		**15 26 29.4**	**0.0**
	baz=88							
U38A	**Gravette**	**2.02**	**88**	P	**Pn**		**15 26 10.9**	**+1.4**
	baz=270,SNR=107							
ELIS	**Ellis County**	**2.07**	**261**	IAmb_Lg			15 26 45.1	
	comp=Z,88nm,0.9s							
X37A	**Clayton**	**2.20**	**145**	Pn	**Pn**		**15 26 12.3**	**+0.5**
X37A				IAmb_Lg			15 26 46.5	
	comp=E,86nm,0.7s							
X37A	**Clayton**	**2.20**	**145**	P	**Pn**		**15 26 12.5**	**+0.7**
	baz=326,SNR=153							
X37A				S	**Sn**		**15 26 40.9**	**+1.6**
	baz=326							
WMOK	**Wichita Mounta**	**2.26**	**223**	P	**Pn**		**15 26 13.8**	**+1.0**
	baz=42,SNR=83							
WMOK				S	**Sn**		**15 26 43.0**	**+2.0**
	baz=42							
LOOK	**Love County**	**2.42**	**186**		**Pn**		**15 26 14.9**	**0.0**
LOOK				IAmb_Lg			15 26 56.7	
	comp=Z,52nm,0.9s							
R32A	**Long Quarter,**	**2.48**	**325**	IAmb_Lg			15 26 52.2	
	comp=Z,78nm,0.7s							
R32A	**Long Quarter,**	**2.48**	**325**	P	**Pn**		**15 26 17.1**	**+1.3**
	baz=144,SNR=12							
R32A				S	**Sn**		**15 26 48.0**	**+1.6**
	baz=144							
Z35A	**Perchaven, San**	**3.08**	**186**	P	**Pn**		**15 26 24.8**	**+0.8**
	baz=5.4,SNR=14							
S39A	**Bolivar**	**3.13**	**65**	Pn	**Pn**		**15 26 25.1**	**+0.4**
S39A				IAmb_Lg			15 27 20.1	
	comp=Z,83nm,0.9s							
S39A	**Bolivar**	**3.13**	**65**	P	**Pn**		**15 26 26.4**	**+1.6**
	baz=247,SNR=9.5							
U40A	**Yellville**	**3.26**	**90**	P	**Pn**		**15 26 27.3**	**+0.8**
	baz=272,SNR=80							
U40A				P	**Pn**		**15 26 27.3**	**+0.8**
	baz=272,SNR=80							
U40A				S	**Sn**		**15 27 07.0**	**+1.3**
	baz=272							
U40A				S	**Sn**		**15 27 07.0**	**+1.3**
	baz=272							
MIAR	**Mount Ida**	**3.28**	**123**	Pn	**Pn**		**15 26 26.8**	**+0.1**
MIAR	**Mount Ida**	**3.28**	**123**	P	**Pn**		**15 26 27.7**	**+0.9**
	baz=306,SNR=20							
CBKS	**Cedar Bluff**	**3.30**	**318**	Pn	**Pn**		**15 26 26.8**	**-0.3**
FW06	**Azle**	**3.47**	**189**	Pn	**Pn**		**15 26 29.1**	**-0.2**
FW06				IAmb_Lg			15 27 32.3	
	comp=Z,50nm,0.8s							
FW03	**Perrin-Whitt E**	**3.49**	**196**	IAmb_Lg			15 27 32.3	
	comp=Z,32nm,0.7s							
Z38A	**Mt. Pleasant**	**3.51**	**153**	Pn	**Pn**		**15 26 29.9**	**0.0**
FW07	**Weatherford**	**3.77**	**192**	IAmb_Lg			15 27 39.1	
	comp=Z,36nm,0.8s							
MGMO	**Mountain Grove**	**3.79**	**77**	IAmb_Lg			15 27 37.5	
	comp=Z,47nm,0.7s							
X40A	**Basin Creek Fa**	**3.83**	**119**		**Pn**		**15 26 34.5**	**+0.2**
X40A				IAmb_Lg			15 27 46.3	
	comp=E,45nm,0.7s							
X40A	**Basin Creek Fa**	**3.83**	**119**	P	**Pn**		**15 26 35.4**	**+1.2**
	baz=301,SNR=16							
X40A				P	**Pn**		**15 26 35.4**	**+1.2**
	baz=301,SNR=16							
FCAR	**Ozark Folk Cen**	**3.90**	**96**		**Pn**		**15 26 35.4**	**+0.2**
FCAR				IAmb_Lg			15 27 36.8	
	comp=Z,72nm,0.8s							
WHAR	**Wooly Hollow**	**3.90**	**105**	Pn	**Pn**		**15 26 35.5**	**+0.2**
UALR	**University of**	**4.05**	**112**	Pn	**Pn**		**15 26 37.5**	**+0.2**
UALR				IAmb_Lg			15 27 52.4	
	comp=E,68nm,0.8s							
WLAR	**White Oak Lake**	**4.12**	**130**	Pn	**Pn**		**15 26 38.5**	**+0.2**
WLAR				IAmb_Lg			15 27 44.4	
	comp=Z,52nm,0.8s							
R40A	**Maddies Statio**	**4.14**	**62**		**Pn**		**15 26 38.7**	**+0.2**
R40A				IAmb_Lg			15 27 45.9	
	comp=Z,66nm,1.0s							
R40A	**Maddies Statio**	**4.14**	**62**	P	**Pn**		**15 26 39.4**	**+0.8**
	baz=244,SNR=18							
P38A	**Dawn**	**4.17**	**39**	IAmb_Lg			15 27 48.5	
	comp=Z,43nm,0.7s							
AMTX	**Amarillo**	**4.18**	**250**	IAmb_Lg			15 27 52.0	
	comp=Z,61nm,0.7s							
N33A	**J Bar K, Exete**	**4.35**	**354**	Pn	**Pn**		**15 26 41.8**	**+0.4**
N33A				IAmb_Lg			15 27 52.5	
	comp=Z,52nm,0.8s							
ABTX	**Abilene, Hawle**	**4.40**	**212**	Pn	**Pn**		**15 26 42.3**	**+0.1**
WHTX	**Lake Whitney,**	**4.43**	**186**	Pn	**Pn**		**15 26 42.7**	**+0.2**
WHTX	**Lake Whitney,**	**4.43**	**186**	P	**Pn**		**15 26 42.9**	**+0.4**
	baz=5.9,SNR=5.8							
237A	**Washetta, Mont**	**4.48**	**168**	Pn	**Pn**		**15 26 43.5**	**+0.2**
237A	**Washetta, Mont**	**4.48**	**168**	P	**Pn**		**15 26 43.5**	**+0.2**
	baz=349,SNR=12							
LCAR	**Lake Charles**	**4.65**	**92**	Pn	**Pn**		**15 26 45.7**	**+0.1**
LCAR				IAmb_Lg			15 28 02.5	
	comp=Z,46nm,0.8s							
LCAR	**Lake Charles**	**4.65**	**92**	P	**Pn**		**15 26 45.7**	**+0.1**
	baz=276,SNR=8.3							
CCM	**Cathedral Cave**	**4.80**	**68**	Pn	**Pn**		**15 26 48.0**	**+0.4**
CCAR	**Cane Creek**	**4.88**	**119**	Pn	**Pn**		**15 26 49.0**	**+0.4**
CCAR				IAmb_Lg			15 28 18.7	
	comp=Z,40nm,0.8s							
P40A	**Paris**	**4.94**	**49**	IAmb_Lg			15 28 09.2	
	comp=Z,50nm,0.7s							
NATX	**Nacogdoches**	**4.99**	**158**	IAmb_Lg			15 28 15.8	
	comp=Z,50nm,0.8s							
BGNE	**Belgrade**	**5.09**	**349**	Pn	**Pn**		**15 26 52.1**	**+0.4**
BGNE				IAmb_Lg			15 28 27.6	
	comp=Z,61nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.24**	**302**	IAmb_Lg			15 28 24.1	
	comp=Z,31nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.24**	**302**	P	**Pn**		**15 26 54.4**	**+0.6**
	baz=118							
N38A	**Joes South For**	**5.24**	**32**		**Pn**		**15 26 52.4**	**-1.2**
N38A				IAmb_Lg			15 28 34.3	
	comp=Z,55nm,0.8s							
MSTX	**Muleshoe**	**5.39**	**245**	Pn	**Pn**		**15 26 54.9**	**-1.0**
435B	**Jarrell**	**5.64**	**186**	Pn	**Pn**		**15 26 59.1**	**0.0**
SLM	**Saint Louis**	**5.74**	**65**	IAmb_Lg			15 28 42.6	
	comp=Z,34nm,0.7s							
143A	**Socs Landing,**	**5.84**	**128**	IAmb_Lg			15 28 51.3	
	comp=Z,34nm,0.7s							
CGM3	**Cape Girardeau**	**5.87**	**79**	IAmb_Lg			15 28 43.3	
	comp=Z,55nm,0.9s							
OGNE	**Ogallala**	**6.06**	**320**	Pn	**Pn**		**15 27 04.3**	**-0.7**
OGNE				IAmb_Lg			15 28 50.8	
	comp=Z,33nm,0.8s							
OGNE	**Ogallala**	**6.06**	**320**	P	**Pn**		**15 27 06.0**	**+1.0**
	baz=137,SNR=12							
T25A	**Trinidad**	**6.08**	**279**	IAmb_Lg			15 28 51.8	
	comp=Z,35nm,0.8s							
SCIA	**State Center**	**6.19**	**26**	Pn	**Pn**		**15 27 06.9**	**+0.1**
SCIA				IAmb_Lg			15 28 58.8	
	comp=Z,32nm,0.8s							
S44A	**Carbondale**	**6.25**	**76**	IAmb_Lg			15 28 51.0	
	comp=Z,45nm,0.7s							
K31A	**O'Neill**	**6.38**	**348**	IAmb_Lg			15 29 00.5	
	comp=Z,43nm,0.8s							
JCT	**Junction City**	**6.39**	**203**	IAmb_Lg			15 29 05.6	
	comp=Z,34nm,0.8s							
OXF	**Oxford**	**6.39**	**105**		**Pn**		**15 27 08.5**	**-1.0**
Y45A	**Yeager Farm, C**	**6.53**	**111**	IAmb_Lg			15 29 19.9	
	comp=Z,32nm,0.9s							
SDCO	**Great Sand Dun**	**7.01**	**284**	IAmb_Lg			15 29 18.1	
	comp=Z,22nm,1.2s							
Q24A	**Divide**	**7.03**	**294**	IAmb_Lg			15 29 31.1	
	comp=Z,23nm,0.7s							
L40A	**Anamosa**	**7.16**	**36**	IAmb_Lg			15 29 21.0	
	comp=Z,31nm,0.9s							
ECSD	**EROS Data Cent**	**7.33**	**2**	Pn	**Pn**		**15 27 22.5**	**+0.1**
WVT	**Waverly**	**7.33**	**89**	Pn	**Pn**		**15 27 22.4**	**0.0**
OLIL	**Olney**	**7.36**	**69**	IAmb_Lg			15 29 35.5	
	comp=Z,34nm,0.9s							
146A	**Union**	**7.48**	**118**	IAmb_Lg			15 29 47.9	
	comp=Z,20nm,0.7s							
USIN	**University of**	**7.53**	**75**	IAmb_Lg			15 29 37.8	
	comp=Z,37nm,1.0s							
O44A	**Mansfield**	**7.61**	**58**	IAmb_Lg			15 29 32.0	
	comp=Z,34nm,0.7s							
ISCO	**Idaho Springs**	**7.66**	**299**	P	**Pn**		**15 27 27.4**	**+0.1**
	baz=114							
T47A	**Sharon Grove**	**7.89**	**83**	Pn	**Pn**		**15 27 30.0**	**0.0**
T47A				IAmb_Lg			15 29 48.9	
	comp=Z,26nm,0.8s							
ANMO	**Albuquerque**	**7.92**	**262**	Pg	Pb		15 27 58.3	+5.8
	comp=Z,0.3nm,0.3s,baz=44,slow=16,SNR=5.6							
ANMO				Lg	Lg		15 29 41.8	
	comp=Z,0.7nm,0.3s,baz=93,slow=15,SNR=3.4							
L42A	**Oliver, Polo**	**7.92**	**43**	IAmb_Lg			15 29 49.3	
	comp=Z,29nm,1.1s							
X48A	**Hartselle**	**8.27**	**101**	IAmb_Lg			15 29 53.2	
	comp=Z,24nm,0.9s							
JFWS	**Jewell Farm**	**8.28**	**36**	IAmb_Lg			15 30 02.7	
	comp=Z,22nm,0.7s							
P46A	**Rosedale**	**8.29**	**64**	IAmb_Lg			15 30 03.8	
	comp=Z,26nm,0.7s							
N23A	**Red Feather La**	**8.38**	**305**	IAmb_Lg			15 30 06.9	
	comp=Z,29nm,0.9s							
SFIN	**Lafayette**	**8.66**	**60**	IAmb_Lg			15 30 15.0	
	comp=Z,27nm,0.8s							
I40A	**Norwalk**	**8.89**	**31**	IAmb_Lg			15 30 30.5	
	comp=Z,15nm,0.8s							
TXAR	**Lajitas Array**	**9.06**	**221**	Pn	**Pn**		**15 27 45.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=41,slow=12,SNR=4.4							
TXAR				Lg	Lg		15 30 16.2	
	comp=Z,0.6nm,0.3s,baz=39,slow=32,SNR=6.6							
	comp=Z,0.1nm,0.2s							
K22A	**Casper**	**9.70**	**313**	IAmb_Lg			15 30 58.5	
	comp=Z,17nm,1.0s							
TKL	**Tuckaleechee C**	**10.65**	**90**	Lg	Lg		15 31 05.0	
	comp=Z,0.7nm,0.3s,baz=355,slow=23,SNR=7.5							
PDAR	**Pinedale Array**	**11.65**	**307**	Pn	**Pn**		**15 28 21.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=116,slow=15,SNR=7.4							
PDAR				Lg	Lg		15 31 34.4	
	comp=Z,0.3nm,0.3s,baz=111,slow=35,SNR=2.2							
	comp=Z,0.3nm,0.4s							
ULM	**Lac du Bonnet**	**13.86**	**3**	Pn	**Pn**		**15 28 47.9**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=198,slow=13,SNR=1.5							
ULM				Sn	Sn		15 31 13.4	-12
	comp=Z,0.2nm,0.3s,baz=157,slow=7.5,SNR=1.4							
ULM				Lg	Lg		15 32 45.1	
	comp=Z,0.4nm,0.3s,baz=277,slow=21,SNR=3.1							
	comp=Z,1.1nm,0.5s							
SADO	**Sadowa**	**15.84**	**53**	Lg	Lg		15 33 47.1	
	comp=Z,0.1nm,0.3s,baz=77,slow=14,SNR=1.2							
YKA	**Yellowknife Ar**	**28.34**	**343**	P	**P**		**15 31 29.3**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=141,slow=7.9,SNR=4.9							
	comp=Z,0.1nm,0.5s							
ILAR	**Eielson Array**	**40.87**	**330**	P	**P**		**15 33 18.4**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=114,slow=8.1,SNR=3.7							
	comp=Z,0.3nm,0.6s							

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*IDC **02** 15:28:37.7±3.6, 36.°18N×97.°01W, h0km, mb3.4/2, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=46.9km s-min=32.1km az=3.0*
*ANF **02** 15:28:40.5±0.2, 36.°40N×96.°85W, h5km, ML3.8/10, Error ellipse: s-maj=2.5km s-min=2.2km az=56.0*
*TUL **02** 15:28:40.1±1.0, 36.°40N±0.°02×96.°89W±0.°02, h4km±1km, ML3.4, mb_Lg3.3/91(NEIC), ML3.5/56(NEIC), Error ellipse: s-maj=3.1km s-min=1.4km az=55.0*
*NEIC **02** 15:28:40.3±0.7, 36.°402N±0.°009×96.°90W±0.°03, h5km±1km, Error ellipse: s-maj=3.8km s-min=2.7km az=247.0*
ISC 02 15:28:39.7±0.7, 36.°41N±0.°02×96.°90W±0.°02, h8km±4km, n115, σ0s85/80, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OK046	**Pawnee Station**	**0.01**	**220**	Pg	**Pg**		**15 28 41.2**	**+0.1**
OK046				Sg	**Sg**		**15 28 41.9**	**-0.2**
OK046				IAML			15 28 42.2	
	60μm,0.2s							
OK048	**Pawnee Station**	**0.04**	**287**	Pg	**Pg**		**15 28 41.7**	**+0.5**
OK048				Sg	**Sg**		**15 28 42.4**	**-0.1**
OK050	**Pawnee Station**	**0.07**	**261**	Pg	**Pg**		**15 28 42.1**	**+0.5**
OK050				IAML			15 28 43.7	
	31μm,0.2s							
QUOK	**Quay**	**0.28**	**146**		**Pg**		**15 28 45.8**	**+0.6**
QUOK				Sg	**Sg**		**15 28 49.3**	**+0.4**
QUOK				IAML			15 28 49.8	
	comp=N,11μm,0.4s							
QUOK				IAML			15 28 52.6	
	comp=E,8μm,0.3s							
OK033	**Mehan**	**0.36**	**185**	Pg	**Pg**		**15 28 47.4**	**+0.7**
OK033				IAML			15 28 57.1	
	comp=E,5μm,0.4s							
OK053	**SW of W Deep R**	**0.40**	**167**	Pg	**Pg**		**15 28 48.0**	**+0.6**
OK053				IAML			15 28 55.3	
	comp=E,5μm,0.4s							
OK052	**Battle Ridge R**	**0.42**	**169**	Pg	**Pg**		**15 28 48.4**	**+0.6**
OK052				Sg	**Sg**		**15 28 53.6**	**+0.3**
OK052				IAML			15 28 57.5	
	comp=E,4μm,0.5s							
OK052				IA

TUL1	**Leonard**	**1.02**	**119**	Pg		**Pg**	**15 28 59.3**	**0.0**
TUL1	**Leonard**	**1.02**	**119**	P		**Pg**	**15 28 59.2**	**-0.1**
	baz=299,SNR=102							
TUL1				S		**Sg**	**15 29 12.3**	**-0.3**
	baz=299							
KAN05	**Bluff City Nor**	**1.05**	**312**			**Pb**	**15 29 00.2**	**0.0**
KS21	**Milan North St**	**1.07**	**325**	IAML			15 29 17.2	
	comp=E,930nm,0.1s							
KS21				IAML			15 29 17.2	
	comp=E,1µm,0.1s							
KS21	**Milan North St**	**1.07**	**325**			**Pb**	**15 29 00.6**	**+0.1**
OK032	**Salt Plains WL**	**1.13**	**291**			**Pg**	**15 29 01.4**	**+0.1**
KAN06	**Argonia West S**	**1.14**	**318**			**Pb**	**15 29 01.9**	**+0.2**
KAN08	**Anthony NE Sta**	**1.19**	**314**	Pg		**Pb**	**15 29 02.8**	**+0.3**
KAN10	**Anthony SW Sta**	**1.20**	**307**	Pg		**Pn**	**15 29 02.9**	**+0.1**
FNO	**Franklin**	**1.22**	**200**	Pg		**Pb**	**15 29 02.3**	**-0.6**
FNO				IAML			15 29 21.4	
	comp=N,2µm,0.3s							
KAN12	**Harper NE Stat**	**1.25**	**316**			**Pg**	**15 29 03.8**	**+0.1**
OK038	**West end E0370**	**1.49**	**273**			**Pb**	**15 29 07.7**	**0.0**
OK035	**E0210 Rd and N**	**1.49**	**282**			**Pb**	**15 29 07.7**	**0.0**
RLO	**Rose Lookout**	**1.54**	**98**	Pn		**Pb**	**15 29 08.3**	**0.0**
CSTR	**Hydro, Custer**	**1.64**	**243**			**Pn**	**15 29 09.4**	**+0.6**
NOKA	**Waynoka**	**1.65**	**279**	Pn		**Pb**	**15 29 10.4**	**0.0**
U32A	**Winter Ranch,**	**1.70**	**270**			**Pb**	**15 29 10.8**	**-0.4**
U32A	**Winter Ranch,**	**1.70**	**270**	P		**Pb**	**15 29 11.2**	**+0.1**
	baz=89,SNR=37							
U32A				S		**Sg**	**15 29 34.4**	**+0.2**
	baz=89							
U38A	**Gravette**	**2.03**	**88**	Pn		**Pb**	**15 29 16.0**	**-0.8**
U38A	**Gravette**	**2.03**	**88**	P		**Pb**	**15 29 16.1**	**-0.6**
	baz=270,SNR=52							
ELIS	**Ellis County**	**2.06**	**261**	Pn		**Pn**	**15 29 15.4**	**+0.7**
X37A	**Clayton**	**2.20**	**145**	Pn		**Pn**	**15 29 17.4**	**+0.9**
X37A				IAmb_Lg			15 29 50.5	
	comp=Z,129nm,0.8s							
X37A	**Clayton**	**2.20**	**145**	P		**Pn**	**15 29 18.0**	**+1.4**
X37A				S		**Sb**	**15 29 46.0**	**-1.1**
	baz=326							
WMOK	**Wichita Mounta**	**2.26**	**223**	P		**Pn**	**15 29 19.2**	**+1.8**
	baz=42							
WMOK				S		**Sb**	**15 29 48.0**	**-1.0**
	baz=42							
HHAR	**Hobbs**	**2.39**	**92**	P		**Pn**	**15 29 20.7**	**+1.5**
	baz=274							
LOOK	**Love County**	**2.42**	**186**			**Pn**	**15 29 20.0**	**+0.4**
LOOK				IAmb_Lg			15 30 01.9	
	comp=Z,64nm,0.8s							
R32A	**Long Quarter,**	**2.48**	**325**	P		**Pn**	**15 29 22.2**	**+1.9**
	baz=144							
R32A				S		**Sb**	**15 29 53.6**	**-1.6**
	baz=144							
KSU1	**Kansas State U**	**2.70**	**5**	IAmb_Lg			15 30 09.7	
	comp=Z,88nm,0.8s							
Z35A	**Perchaven, San**	**3.08**	**186**			**Pn**	**15 29 29.4**	**+0.7**
Z35A	**Perchaven, San**	**3.08**	**186**	P		**Pn**	**15 29 30.3**	**+1.7**
	baz=5.4,SNR=12							
S39A	**Bolivar**	**3.14**	**65**	IAmb_Lg			15 30 28.1	
	comp=Z,105nm,0.8s							
MIAR	**Mount Ida**	**3.29**	**123**	Pn		**Pn**	**15 29 32.5**	**+1.0**
MIAR				IAmb_Lg			15 30 32.4	
	comp=Z,69nm,0.9s							
MIAR	**Mount Ida**	**3.29**	**123**	P		**Pn**	**15 29 32.9**	**+1.4**
	baz=305,SNR=7.3							
FW06	**Azle**	**3.47**	**189**	Pn		**Pn**	**15 29 34.8**	**+0.8**
FW06				IAmb_Lg			15 30 38.4	
	comp=Z,41nm,0.7s							
FW03	**Perrin-Whitt E**	**3.49**	**196**	IAmb_Lg			15 30 37.9	
	comp=Z,36nm,0.7s							
Z38A	**Mt. Pleasant**	**3.51**	**153**	Pn		**Pn**	**15 29 35.6**	**+1.0**
FW07	**Weatherford**	**3.77**	**191**	IAmb_Lg			15 30 44.6	
	comp=Z,47nm,0.7s							
MGMO	**Mountain Grove**	**3.79**	**77**	Pn		**Pn**	**15 29 39.4**	**+1.0**
MGMO				IAmb_Lg			15 30 41.0	
	comp=Z,70nm,0.9s							
FCAR	**Ozark Folk Cen**	**3.90**	**96**	Pn		**Pn**	**15 29 41.0**	**+1.2**
FCAR				IAmb_Lg			15 30 42.0	
	comp=Z,94nm,0.8s							
WHAR	**Wooly Hollow**	**3.91**	**105**	Pn		**Pn**	**15 29 40.9**	**+0.9**
WHAR				IAmb_Lg			15 30 44.0	
	comp=Z,98nm,0.9s							
UALR	**University of**	**4.05**	**112**	Pn		**Pn**	**15 29 43.0**	**+1.0**
UALR				IAmb_Lg			15 30 57.6	
	comp=Z,89nm,0.8s							
WLAR	**White Oak Lake**	**4.12**	**130**	IAmb_Lg			15 30 49.6	
	comp=Z,74nm,0.8s							
P38A	**Dawn**	**4.17**	**39**	IAmb_Lg			15 30 54.4	
	comp=Z,56nm,0.7s							
AMTX	**Amarillo**	**4.18**	**250**	IAmb_Lg			15 30 56.3	
	comp=Z,74nm,0.9s							
N33A	**J Bar K, Exete**	**4.35**	**354**	IAmb_Lg			15 31 00.2	
	comp=Z,69nm,0.7s							
WHTX	**Lake Whitney,**	**4.43**	**186**	Pn		**Pn**	**15 29 48.0**	**+0.8**
237A	**Washetta, Mont**	**4.49**	**168**	Pn		**Pn**	**15 29 48.7**	**+0.8**
237A	**Washetta, Mont**	**4.49**	**168**	P		**Pn**	**15 29 48.7**	**+0.8**
	baz=349,SNR=6.7							
LCAR	**Lake Charles**	**4.66**	**92**	IAmb_Lg			15 31 07.7	
	comp=Z,59nm,0.8s							
CCM	**Cathedral Cave**	**4.80**	**68**	IAmb_Lg			15 31 09.8	
	comp=Z,91nm,0.8s							
CCAR	**Cane Creek**	**4.88**	**119**	IAmb_Lg			15 31 27.1	
	comp=Z,63nm,1.0s							
P40A	**Paris**	**4.94**	**49**	IAmb_Lg			15 31 14.4	
	comp=Z,74nm,0.7s							
BGNE	**Belgrade**	**5.09**	**349**	IAmb_Lg			15 31 35.9	
	comp=Z,91nm,0.7s							
N38A	**Joes South For**	**5.24**	**32**	IAmb_Lg			15 31 31.4	
	comp=Z,84nm,0.9s							
L34A	**Svendsen Farm,**	**5.57**	**4**	IAmb_Lg			15 31 53.1	
	comp=Z,88nm,0.8s							
435B	**Jarrell**	**5.64**	**186**	P		**Pn**	**15 30 04.3**	**+0.5**
	baz=5.7,SNR=5.4							
SLM	**Saint Louis**	**5.75**	**65**	IAmb_Lg			15 31 45.9	
	comp=Z,53nm,0.7s							
143A	**Socs Landing,**	**5.85**	**128**	IAmb_Lg			15 31 59.9	
	comp=Z,43nm,0.8s							
CGM3	**Cape Girardeau**	**5.87**	**79**	IAmb_Lg			15 31 49.2	
	comp=Z,68nm,0.9s							
OGNE	**Ogallala**	**6.05**	**320**	IAmb_Lg			15 31 60.0	
	comp=Z,50nm,0.7s							
OGNE	**Ogallala**	**6.05**	**320**	P		**Pn**	**15 30 11.5**	**+1.9**
	baz=137,SNR=6.3							
T25A	**Trinidad**	**6.07**	**279**	IAmb_Lg			15 31 57.0	
	comp=Z,45nm,0.8s							
SCIA	**State Center**	**6.19**	**26**	Pn		**Pn**	**15 30 12.3**	**+0.9**
SCIA				IAmb_Lg			15 32 03.9	
	comp=Z,40nm,0.8s							
S44A	**Carbondale**	**6.25**	**76**	Pn		**Pn**	**15 30 13.0**	**+0.9**
S44A				IAmb_Lg			15 32 01.7	
	comp=Z,77nm,1.0s							
Y45A	**Yeager Farm, C**	**6.54**	**111**	IAmb_Lg			15 32 25.4	
	comp=Z,35nm,0.7s							
K38A	**Parkersburg**	**7.00**	**26**	IAmb_Lg			15 32 41.7	
	comp=Z,47nm,1.0s							
Q24A	**Divide**	**7.02**	**294**	IAmb_Lg			15 32 29.9	
	comp=Z,27nm,0.7s							
L40A	**Anamosa**	**7.16**	**36**	IAmb_Lg			15 32 31.3	
	comp=Z,44nm,0.8s							
PLAL	**Pickwick Lake**	**7.32**	**99**	IAmb_Lg			15 32 33.3	
	comp=Z,30nm,0.9s							
O44A	**Mansfield**	**7.61**	**58**	IAmb_Lg			15 32 47.7	
	comp=Z,47nm,0.7s							
ISCO	**Idaho Springs**	**7.66**	**299**	IAmb_Lg			15 32 45.4	
	comp=Z,20nm,0.8s							
ANMO	**Albuquerque**	**7.91**	**262**	Lg		Lg	15 32 46.8	
	comp=Z,1.0nm,0.3s,baz=146,slow=13,SNR=3.4							
L42A	**Oliver, Polo**	**7.92**	**43**	IAmb_Lg			15 32 53.2	
	comp=Z,31nm,0.8s							
I37A	**Lemond, Waseca**	**8.06**	**18**	IAmb_Lg			15 33 09.7	
	comp=Z,21nm,0.8s							
PHWY	**Pilot Hill**	**8.27**	**309**	IAmb_Lg			15 33 06.2	
	comp=Z,18nm,0.7s							
X48A	**Hartselle**	**8.28**	**101**	IAmb_Lg			15 32 59.3	
	comp=Z,33nm,1.0s							
JFWS	**Jewell Farm**	**8.28**	**36**	IAmb_Lg			15 33 08.3	
	comp=Z,27nm,0.7s							
P46A	**Rosedale**	**8.29**	**64**	IAmb_Lg			15 33 15.3	
	comp=Z,38nm,0.8s							
833A	**Chaparral WMA,**	**8.33**	**195**	IAmb_Lg			15 33 25.4	
	comp=Z,23nm,1.2s							
N23A	**Red Feather La**	**8.38**	**305**	IAmb_Lg			15 33 19.2	
	comp=Z,48nm,0.9s							
M44A	**Midewin, Midew**	**8.51**	**52**	IAmb_Lg			15 33 08.9	
	comp=Z,40nm,0.8s							
SFIN	**Lafayette**	**8.66**	**60**	IAmb_Lg			15 33 20.6	
	comp=Z,34nm,0.7s							

HQIL	**Hanson Quary C**	**8.86**	**50**	IAmb_Lg			15 33 22.8	
	comp=Z,38nm,0.8s							
I40A	**Norwalk**	**8.89**	**31**	IAmb_Lg			15 33 33.2	
	comp=Z,18nm,0.8s							
TXAR	**Lajitas Array**	**9.06**	**221**	Lg		Lg	15 33 14.8	
	comp=Z,0.5nm,0.3s,baz=37,slow=32,SNR=2.5							
RSSD	**Black Hills**	**9.44**	**327**	IAmb_Lg			15 33 42.9	
	comp=Z,16nm,0.8s							
TKL	**Tuckaleechee C**	**10.66**	**90**	Lg		Lg	15 34 10.5	
	comp=Z,0.8nm,0.3s,baz=176,slow=23,SNR=6.8							
PDAR	**Pinedale Array**	**11.64**	**307**	Pn		**Pn**	**15 31 26.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=121,slow=16,SNR=2.0							
PDAR				Lg		Lg	15 34 43.3	
	comp=Z,0.3nm,0.3s,baz=104,slow=31,SNR=3.1							
	comp=Z,0.3nm,0.4s							
ULM	**Lac du Bonnet**	**13.86**	**3**	Pn		**Pn**	**15 31 53.3**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=183,slow=16,SNR=3.8							
ULM				Lg		Lg	15 35 50.8	
	comp=Z,0.3nm,0.3s,baz=273,slow=19,SNR=2.0							
	comp=Z,2.0nm,0.5s							
SADO	**Sadowa**	**15.84**	**53**	Lg		Lg	15 36 51.7	
	comp=Z,0.2nm,0.3s,baz=143,slow=20,SNR=3.2							
YKA	**Yellowknife Ar**	**28.34**	**343**	P		**P**	**15 34 34.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=138,slow=8.7,SNR=4.5							
	comp=Z,0.2nm,0.6s							
ILAR	**Eielson Array**	**40.87**	**330**	P		**P**	**15 36 23.2**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=105,slow=6.8,SNR=6.9							
	comp=Z,0.6nm,0.7s							

IDC 02 15:36:03.9±2.4, 3°.60N×128°.37E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=172.1km s-min=25.4km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.12**	**166**	P	P	15 41 20.9	-0.8
	0.5nm,0.9s,baz=346,slow=10,SNR=5.2						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**27.63**	**169**	P	P	15 41 54.1	+0.7
	0.4nm,0.9s,baz=354,slow=7.8,SNR=1.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**58.60**	**325**	P	P	15 46 02.8	0.0
	0.4nm,0.4s,baz=117,slow=8.6,SNR=14						
	0.4nm,0.4s						

JMA 02 15:39:28.8±0.2, 32°.4N±0°.5×132°.1E±0°.8, h27km±1km, MV0.6/25, HYUGANADA REGION, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.36**	**272**	P	Pb	15 39 36.7	-0.2
JSKE	**Saikikamae**	**0.39**	**340**	P	Pb	15 39 37.3	-0.1
JSKE				*e*S	Sb	15 39 43.3	+0.2
JTSN	**Tsuno**	**0.51**	**248**	*e*P	Pb	15 39 39.0	-0.3
JTSN				*e*S	Sb	15 39 46.3	0.0
JKIT	**Kitakata**	**0.55**	**291**	*e*P	Pb	15 39 39.5	-0.4
JUS	**Usuki**	**0.68**	**338**	*e*P	Pb	15 39 42.0	-0.2
JUS				*e*S	Sn	15 39 52.0	-0.5
JTO	**Tosashimizu**	**0.76**	**56**	*e*P	Pb	15 39 42.4	-1.0

*IDC **02** 16:04:03.8±0.9, 53°.17N×35°.32W, h0km, mb3.5/12, mbtmp3.6/14, ML2.8/2, Error ellipse: s-maj=31.6km s-min=15.7km az=12.0*

ISC 02 16:04:05.4±0.8, 53°.3N±0°.2×35°.3W±0°.1, h10km, n16, σ0s71/16, mb3.5/12, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**15.67**	**337**	Pn	**P**	**16 07 48.3**	**-1.7**
	0.3nm,0.3s,baz=176,slow=11,SNR=2.5						
	6.5nm,0.9s						
SCHQ	**Schefferville**	**18.48**	**288**	P	**P**	**16 08 21.0**	**-0.3**
	0.1nm,0.3s,baz=112,slow=7.1,SNR=2.9						
	6.2nm,1.1s						
ESDC	**Sonseca Array**	**25.28**	**110**	P	**P**	**16 09 31.8**	**+0.1**
	0.4nm,0.5s,baz=335,slow=5.7,SNR=3.0						
	0.4nm,0.5s						
NOA	**NORSAR Array B**	**25.92**	**54**	P	**P**	**16 09 37.6**	**+0.3**
	0.3nm,0.6s,baz=274,slow=9.0,SNR=4.7						
	0.3nm,0.6s						
GERES	**GERESS Array B**	**30.65**	**78**	P	**P**	**16 10 20.2**	**+0.5**
	1.0nm,1.0s,baz=324,slow=6.6,SNR=3.9						
	1.0nm,1.0s						
YKA	**Yellowknife Ar**	**40.54**	**315**	P	**P**	**16 11 44.5**	**+0.3**
	0.1nm,0.4s,baz=60,slow=8.8,SNR=2.1						
	0.1nm,0.4s						
BRTR	**Keskin Array B**	**47.54**	**77**	P	**P**	**16 12 40.6**	**-0.2**
	1.5nm,0.9s,baz=274,slow=7.3,SNR=5.3						
	1.5nm,0.9s						
PDAR	**Pinedale Array**	**48.61**	**289**	P	**P**	**16 12 48.9**	**-0.3**
	0.3nm,0.6s,baz=45,slow=8.6,SNR=4.7						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**49.62**	**130**	P	**P**	**16 12 56.4**	**-0.5**
	0.9nm,0.7s,baz=324,slow=8.1,SNR=5.4						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**51.12**	**329**	P	**P**	**16 13 08.9**	**+1.2**
	0.5nm,0.9s,baz=30,slow=6.5,SNR=4.7						
	0.5nm,0.9s						
TXAR	**Lajitas Array**	**54.31**	**272**	P	**P**	**16 13 32.1**	**+0.2**
	0.4nm,0.7s,baz=61,slow=10,SNR=4.4						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**56.45**	**291**	P	**P**	**16 13 48.0**	**+0.6**
	0.1nm,0.2s,baz=61,slow=7.4,SNR=1.8						
	0.1nm,0.2s						
MKAR	**Makanchi Array**	**67.08**	**41**	P	**P**	**16 14 58.6**	**0.0**
	0.6nm,0.9s,baz=352,slow=7.4,SNR=4.2						
	0.6nm,0.9s						
SONM	**Songino Array**	**74.17**	**26**	P	**P**	**16 15 42.0**	**+0.1**
	0.8nm,1.0s,baz=355,slow=1.6,SNR=4.7						
	0.8nm,1.0s						
WRA	**Warramunga Arr**	**145.81**	**17**	PKPbc	**PKPbc**	**16 23 44.2**	**-0.4**
	0.8nm,1.1s,baz=353,slow=3.1,SNR=1.9						
ASAR	**Alice Springs**	**149.35**	**20**	PKPbc	**PKPbc**	**16 23 53.3**	**-0.9**
	1.2nm,1.1s,baz=348,slow=2.3,SNR=9.5						

*IDC **02** 16:04:11.9±0.5, 53°.27N×35°.33W, h0km, mb4.2/22, mbtmp4.2/24, ML3.5/2, MS4.9/1, Error ellipse: s-maj=17.8km s-min=10.5km az=7.0*

*GCMT **02** 16:04:12.7±0.3, 53°.41N±0°.04×35°.57W±0°.03, h12km, MW5.1/95, Moment Tensor Solution. s15,c18; s95,c126; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.41±.17; Mθθ=0.46±.18; Mφφ=2.95±.12; Mrθ=0.89±.58; Mrφ=0.12±.12; Mθφ=5.66±.54; Best double couple: Mw6.55300×10^16 NP1: φs=188.00000°, δ76.00000°, λ-88.00000°. NP2: φs=360.00000°, δ15.00000°, λ-98.00000°. Principal axes: T 6.3150, Plg30.0000°, Azm276.0000°; N 0.4800, Plg2.0000°, Azm8.0000°; P -6.7910, Plg59.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 16:04:14.7±1.4, 53°.38N±0°.10×35°.3W±0°.1, h13km±4km, mb4.7/152 Error ellipse: s-maj=14.6km s-min=12.1km az=207.0*

ISC 02 16:04:14.5±0.4, 53°.34N±0°.07×35°.32W±0°.05, h16km, n276, σ0s94/272, mb4.6/117, MS4.4/15, 13C-15D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**9.55**	**329**	Pn	**Pn**	**16 06 30.7**	**-0.5**
IVI	**Ivigtut**	**10.50**	**324**	Pn	**Pn**	**16 06 42.3**	**-1.9**
H07N1	**FLORES T-PHASE**	**13.95**	**166**	T	T	16 21 40.0	
DY2G	**Dye2**	**14.24**	**342**	*i* P	**Pn**	**16 07 34.7**	**-0.7**
SFJD	**Kangerlussuaq**	**15.60**	**337**	Pn	**P**	**16 07 57.7**	**+0.2**
	0.5nm,0.3s,baz=149,slow=11,SNR=6.8						
SFJD	**Kangerlussuaq**	**15.60**	**337**	P	**P**	**16 07 57.9**	**+0.4**
SFJD	**Kangerlussuaq**	**15.60**	**337**	*i* P	**P**	**16 07 56.6**	**-1.0**
ICESG	**Greenland Ices**	**15.94**	**354**	*i* P	**P**	**16 08 00.6**	**-1.1**
ILULI	**Ilulissat**	**17.54**	**341**		**P**	**16 08 19.2**	**+0.2**
ILULI				IAmb	IAmb	16 08 31.8	
	comp=Z,52nm,1.2s						
SCHQ	**Schefferville**	**18.47**	**287**	P	**P**	**16 08 28.2**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=95,slow=8.3,SNR=16						
	comp=Z,15nm,0.8s						
SCHQ	**Schefferville**	**18.47**	**287**	P	**P**	**16 08 28.3**	**-1.1**
SCHQ				IAmb	IAmb	16 08 34.9	
	comp=Z,93nm,1.5s						
EKA	**Eskdalemuir Ar**	**18.77**	**71**	P	**P**	**16 08 32.8**	**+0.1**
	baz=282,slow=9.3						
	comp=Z,8.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**18.77**	**71**	P	**P**	**16 08 32.8**	**+0.1**

SUMG	**Summit**	**19.36**	**357**	*i* P		**Pn**	**16 08 41.0**	**+0.5**
FRB	**Frobisher Bay**	**19.98**	**314**	P		**P**	**16 08 46.0**	**+0.2**
	comp=Z,4.3nm,1.0s,baz=114,slow=11,SNR=5.1							
	comp=Z,4.3nm,1.0s							
HAL	**Halifax**	**20.38**	**256**	P		**P**	**16 08 49.4**	**-0.9**
HAL				IAmb		IAmb	16 09 01.6	
	comp=Z,70nm,1.4s							
LMN	**Caledonia Moun**	**20.42**	**260**	P		**P**	**16 08 49.6**	**-1.2**
LMN				IAmb		IAmb	16 09 20.6	
	comp=Z,56nm,1.5s							
BATG	**Bathurst New B**	**20.45**	**265**	P		**P**	**16 08 50.0**	**-1.1**
BATG				IAmb		IAmb	16 08 50.8	
	comp=Z,40nm,1.2s							
PQI	**Presque Isle**	**21.91**	**266**	P		**P**	**16 09 05.5**	**-1.3**
PQI				IAmb		IAmb	16 09 10.8	
	comp=Z,39nm,1.0s							
DBG	**Daneborg**	**21.93**	**11**	*i* P		**P**	**16 09 06.7**	**-0.1**
GGN	**Saint George**	**22.02**	**261**	P		**P**	**16 09 06.9**	**-1.1**
GGN				IAmb		IAmb	16 09 11.9	
	comp=Z,40nm,0.9s							
D62A	**Allapoint, All**	**22.33**	**267**	P		**P**	**16 09 10.3**	**-1.0**
D62A				IAmb		IAmb	16 09 16.2	
	comp=Z,30nm,0.9s							
G65A	**Princeton**	**22.41**	**262**	P		**P**	**16 09 10.7**	**-1.4**
G65A				IAmb		IAmb	16 09 18.0	
	comp=Z,56nm,1.4s							
F64A	**Sherman**	**22.52**	**264**	P		**P**	**16 09 11.7**	**-1.6**
F64A				IAmb		IAmb	16 09 23.2	
	comp=Z,32nm,1.4s							
EMMW	**East Machias**	**22.61**	**261**	P		**P**	**16 09 13.2**	**-1.1**
PKME	**Peaks-Kenny Pk**	**23.40**	**264**	P		**P**	**16 09 21.9**	**-0.5**
PKME				IAmb		IAmb	16 09 30.7	
	comp=Z,23nm,1.2s							
G62A	**West of Eustis**	**24.16**	**265**	P		**P**	**16 09 30.6**	**+0.8**
G62A				IAmb		IAmb	16 09 40.4	
	comp=Z,30nm,1.2s							
DOU	**Dourbes**	**24.71**	**81**	*d*P		**P**	**16 09 35.5**	**+0.8**
	comp=Z,9.5nm,1.3s							
BMRD	**Maredsous**	**24.73**	**81**	*d*P		**P**	**16 09 34.8**	**-0.1**
	comp=Z,11nm,1.1s							
NEEM	**North Greenlan**	**24.89**	**352**	*i* P		**P**	**16 09 38.2**	**+1.8**
BCLA	**Clavier**	**25.00**	**80**	*d*P		**P**	**16 09 37.2**	**-0.1**
	comp=Z,7.2nm,1.2s							
BCLA				*d*PP		**PnPn**	**16 10 10.8**	**+0.4**
RCHB	**Rochefort**	**25.06**	**81**	*d*P		**P**	**16 09 38.2**	**+0.4**
	comp=Z,10nm,1.1s							
BSTI	**Sart Tilman**	**25.10**	**80**	*d*P		**P**	**16 09 38.6**	**+0.4**
	comp=Z,3.3nm,1.0s							
ESDC	**Sonseca Array**	**25.30**	**110**	P		**P**	**16 09 39.6**	**-0.6**
	comp=Z,7.2nm,0.9s,baz=311,slow=6.9,SNR=13							
	comp=Z,7.2nm,0.9s							
MEM	**Membach**	**25.35**	**79**	*d*P		**P**	**16 09 41.0**	**+0.6**
BTNL	**Ternell**	**25.43**	**79**	*d*P		**P**	**16 09 42.0**	**+0.8**
BHOU	**Houvegnez**	**25.45**	**80**	*d*P		**P**	**16 09 41.9**	**+0.6**
	comp=Z,9.9nm,1.1s							
BHOU				*d*PP		**PnPn**	**16 10 16.3**	**-0.2**
NB2	**NORSAR Subarra**	**25.86**	**54**	P		**P**	**16 09 48.2**	**+3.2**
	comp=Z,13nm,1.2s,baz=257,slow=5.9							
NOA	**NORSAR Array B**	**25.86**	**54**	P		**P**	**16 09 45.3**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=276,slow=10.0,SNR=4.7							
	comp=Z,3.3nm,1.0s							
NOA	**NORSAR Array B**	**25.86**	**54**	P		**P**	**16 09 45.3**	**+0.3**
TRQ	**Mont Tremblant**	**26.05**	**270**	P		**P**	**16 09 47.1**	**+0.1**
TRQ				IAmb		IAmb	16 10 02.8	
	comp=Z,29nm,1.4s							
DAVA	**Damuels**	**29.09**	**83**	*e*P		**P**	**16 10 15.7**	**+1.4**
	comp=Z,8.1nm,1.4s							
CLL	**Collm**	**29.16**	**74**	P		**P**	**16 10 15.0**	**+0.3**
CLL				IAmb		IAmb	16 10 16.1	
	comp=Z,14nm,1.2s							
CLL	**Collm**	**29.16**	**74**	*i* P		**P**	**16 10 15.1**	**+0.5**
	comp=Z,12nm,1.2s							
CLL				*i* pP		**pP**	**16 10 19.4**	**+0.5**
NKC	**Novy Kostel**	**29.27**	**76**	AMS		AMS	16 22 30.0	
	comp=Z,900nm,15.7s							
DAVOX	**Davos/Dischmat**	**29.34**	**84**	P		**P**	**16 10 16.6**	**0.0**
	comp=Z,2.5nm,0.9s,baz=298,slow=10.0,SNR=3.7							
	comp=Z,2.5nm,0.9s							
RETA	**Reutte**	**29.52**	**83**	*e*pP		**P**	**16 10 19.9**	**+1.9**
	comp=Z,15nm,1.2s							
FUORN	**Ofenpass-Fuorn**	**29.65**	**84**	P		**P**	**16 10 20.3**	**+0.9**
FETA	**Feichten**	**29.73**	**83**	*e*P		**P**	**16 10 19.9**	**0.0**
	comp=Z,7.8nm,1.2s							
MOTA	**Moosalm**	**29.79**	**83**	*e*pP		**P**	**16 10 22.0**	**+1.6**
	comp=Z,13nm,1.2s							
BRG	**Berggiesshubel**	**29.88**	**75**	*e*P		**P**	**16 10 21.6**	**+0.6**
BRG				Amp			16 10 23.2	
	comp=Z,3.8

RONA	**Rosalia, Austr**	**32.69**	**79**	*e*P		**P**	**16 10 46.7**	**+0.8**
	comp=Z,8.7nm,1.1s							
OKC	**Ostrava-Krasne**	**32.75**	**74**	AMS		AMS	16 22 50.0	
	comp=Z,700nm,20.2s							
FINES	**FINESS Array B**	**32.88**	**51**	P		**P**	**16 10 47.2**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=297,slow=13,SNR=4.4							
	comp=Z,3.1nm,0.8s							
MODS	**Modra-Piesok**	**32.93**	**77**	*e*P		**P**	**16 10 49.6**	**+1.6**
PABE	**Paberze**	**33.66**	**62**	P		**P**	**16 10 53.7**	**-0.4**
VYHS	**Vyhne**	**33.78**	**76**	*e*P		**P**	**16 10 55.9**	**+0.5**
LANS	**Liptovska Anna**	**33.84**	**74**	*e*P		**P**	**16 10 57.2**	**+1.4**
P52A	**Corning**	**34.38**	**266**	P		**P**	**16 11 00.9**	**+0.3**
P52A				IAmb		IAmb	16 11 02.3	
	comp=Z,14nm,1.0s							
ACSO	**Alum Creek Sta**	**34.51**	**267**	P		**P**	**16 11 02.3**	**+0.5**
PSZ	**Piszkesteto**	**34.68**	**76**	⇑P		**P**	**16 11 01.9**	**-1.3**
PSZ	**Piszkesteto**	**34.68**	**76**	P		**P**	**16 11 03.5**	**+0.3**
PSZ				IAmb		IAmb	16 11 20.5	
	comp=Z,8.2nm,0.8s							
MORH	**Mrgy, Hungar**	**34.83**	**79**	⇑P		**P**	**16 11 04.7**	**+0.3**
P51A	**Williamsport**	**35.03**	**266**	P		**P**	**16 11 06.6**	**+0.4**
EYMN	**Ely**	**35.23**	**284**	P		**P**	**16 11 08.1**	**+0.2**
O49A	**Covington**	**35.35**	**268**	P		**P**	**16 11 09.3**	**+0.3**
Q51A	**Peebles**	**35.49**	**266**	P		**P**	**16 11 10.4**	**+0.2**
KEST	**Kesra**	**35.68**	**101**	P		**P**	**16 11 11.6**	**-0.4**
	comp=Z,11nm,0.9s,baz=246,slow=4.1,SNR=10							
	comp=Z,11nm,0.9s							
KEST	**Kesra**	**35.68**	**101**	P		**P**	**16 11 11.4**	**-0.5**
N47A	**Urbana**	**35.74**	**270**	P		**P**	**16 11 11.9**	**-0.4**
FRGS	**Fruska Gora**	**36.09**	**80**	⇑P		**P**	**16 11 16.8**	**+1.6**
TRPA	**Tarpa**	**36.11**	**74**	⇑P		**P**	**16 11 16.1**	**+0.8**
MNK	**Minsk**	**36.12**	**62**	*i* P		**P**	**16 11 13.6**	**-1.8**
	comp=E,2.0nm,1.0s							
MNK				*i* P		**P**	**16 11 13.6**	**-1.8**
	comp=N,23nm,1.0s							
MNK				*i* P		**P**	**16 11 13.6**	**-1.8**
	comp=Z,14nm,0.9s,baz=295							
MNK				*i* PP		**PnPn**	**16 12 34.2**	**-2.3**
MNK				*i* PPP		PPP	16 12 47.9	
MNK				*i* PcP		**PcP**	**16 13 40.1**	**-0.8**
MNK				*i* S		**S**	**16 16 52.8**	**-1.2**
MNK				*i* SS		**SnSn**	**16 19 17.9**	**-1.4**
MNK				*i* SSS		SSS	16 19 34.2	
MNK				*i* LQ		LQ	16 23 10.4	
MNK				*i* LR		LR	16 26 14.7	
MNK				*i* LRM		MLR	16 27 03.1	
	comp=E,37nm,15.5s							
MNK				*i* LRM		MLR	16 27 07.6	
	comp=Z,119nm,15.2s							
MNK				*i* LRM		MLR	16 27 11.6	
	comp=N,228nm,15.6s							
R50A	**Paris**	**36.56**	**266**	P		**P**	**16 11 19.4**	**+0.1**
R50A				IAmb		IAmb	16 11 29.4	
	comp=Z,9.5nm,1.0s							
ULM	**Lac du Bonnet**	**36.60**	**290**	P		**P**	**16 11 18.0**	**-1.5**
	comp=Z,6.1nm,0.8s,baz=60,slow=9.4,SNR=9.7							
	comp=Z,6.1nm,0.8s							
ULM	**Lac du Bonnet**	**36.60**	**290**	P		**P**	**16 11 18.4**	**-1.1**
ULM				IAmb		IAmb	16 11 21.5	
	comp=Z,7.7nm,0.8s							
DIVS	**Divibare**	**36.79**	**82**	P		**P**	**16 11 21.7**	**+0.3**
BZS	**Buzias**	**36.90**	**78**	⇑P		**P**	**16 11 23.0**	**+0.8**
DRGR		**36.91**	**76**	⇓P		**P**	**16 11 24.1**	**+1.8**
SURR	**Surduc**	**37.12**	**78**	⇑P		**P**	**16 11 24.7**	**+0.6**
MARR	**Marisel-Cluj**	**37.20**	**76**	⇑P		**P**	**16 11 25.8**	**+1.0**
JFWS	**Jewell Farm**	**37.25**	**277**	P		**P**	**16 11 25.1**	**-0.1**
JFWS				IAmb		IAmb	16 11 26.2	
	comp=Z,10nm,0.8s							
MDVR	**Moldovita**	**37.42**	**79**	⇑P		**P**	**16 11 27.0**	**+0.4**
F36A	**Milaca**	**37.51**	**283**	P		**P**	**16 11 27.1**	**-0.3**
AGMN	**Agassiz Nation**	**37.57**	**288**	P		**P**	**16 11 28.4**	**+0.5**
T50A	**Nancy**	**37.69**	**265**	P		**P**	**16 11 29.3**	**+0.3**
GZR	**Gura Zlata**	**37.70**	**78**	⇑P		**P**	**16 11 29.8**	**+0.7**
WCI	**Wyandotte Cave**	**37.77**	**267**	P		**P**	**16 11 29.8**	**+0.2**
WCI				IAmb		IAmb	16 11 43.1	
	comp=Z,12nm,1.1s							
BUR08	**Bucovina Ar. S**	**37.90**	**73**	P		**P**	**16 11 32.0**	**+1.3**
BUR08				IAmb		IAmb	16 11 33.3	
	comp=Z,19nm,1.5s							
BURAR	**Bucovina Array**	**37.92**	**73**	⇑P		**P**	**16 11 31.5**	**+0.6**
BURAR	**Bucovina Array**	**37.92**	**73**	P		**P**	**16 11 32.0**	**+1.1**
BOVS	**Bovan**	**38.07**	**81**	⇑P		**P**	**16 11 32.5**	**+0.4**
AKASG	**Malin Array Be**	**38.60**	**67**	P		**P**	**16 11 35.5**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=302,slow=8.4,SNR=11							
	comp=Z,2.0nm,0.9s							
AKASG	**Malin Array Be**	**38.60**	**67**	P		**P**	**16 11 35.6**	**-0.9**
AKBB	**Malin Array Si**	**38.60**	**67**	P		**P**	**16 11 35.9**	**-0.5**
P43A	**Skaggs, Pawnee**	**38.80**	**272**	P		**P**	**16 11 38.7**	**+0.4**
P43A				IAmb		IAmb	16 11 39.4	
	comp=Z,9.8nm,0.8s							
DOPR	**Dopca**	**38.91**	**76**	⇑P		**P**	**16 11 40.2**	**+1.1**
Q44A	**Meyer Farm, Va**	**38.97**	**270**	P		**P**	**16 11 39.6**	**-0.1**
Q44A				IAmb		IAmb	16 11 40.7	
	comp=Z,13nm,0.8s							
KLMR	**Klimovskoe**	**39.23**	**48**	*e*P		**P**	**16 11 40.6**	**-1.0**
KLMR				AMP			16 11 43.8	
	comp=Z,32nm,1.2s							
KLMR				LR		LR	16 24 30.2	
KLMR				AMP			16 26 30.4	
	comp=Z,292nm,13.8s							
FNA	**Florina**	**39.58**	**85**	P		**P**	**16 11 45.2**	**+0.4**
PLOR	**Plostina**	**39.71**	**75**	⇓P		**P**	**16 11 47.8**	**+1.9**
VRI	**Vrincioaia**	**39.74**	**75**	⇑P		**P**	**16 11 44.4**	**-1.7**
S44A	**Carbondale**	**39.89**	**269**	P		**P**	**16 11 47.1**	**-0.3**
S44A				IAmb		IAmb	16 11 48.8	
	comp=Z,19nm,0.9s							
A36M	**Sachs Harbour**	**40.47**	**331**	P		**P**	**16 11 52.3**	**+0.6**
A36M				IAmb		IAmb	16 11 59.0	
	comp=Z,11nm,0.9s							
YKA	**Yellowknife Ar**	**40.49**	**315**	P		**P**	**16 11 52.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=63,slow=8.8,SNR=9.6							
YKA				PcP		**PcP**	**16 13 53.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=68,slow=4.3,SNR=6.9							
	comp=Z,0.7nm,0.8s							
ECSD	**EROS Data Cent**	**40.53**	**282**	P		**P**	**16 11 53.0**	**+0.4**
ECSD				IAmb		IAmb	16 11 56.0	
	comp=Z,10nm,0.9s							
LIT	**Litokhoron**	**40.67**	**85**	P		**P**	**16 11 53.5**	**-0.4**
Y49A	**Blount Mountai**	**40.78**	**262**	P		**P**	**16 11 54.8**	**-0.1**
CCM	**Cathedral Cave**	**40.85**	**271**	P		**P**	**16 11 55.6**	**+0.3**
CFR	**Carcaliu**	**40.95**	**75**	⇓P		**P**	**16 11 55.4**	**-0.6**
R40A	**Maddies Statio**	**41.31**	**272**	P		**P**	**16 11 58.8**	**-0.3**
RDO	**Rodhopi**	**41.83**	**81**	P		**P**	**16 12 03.8**	**+0.5**
LCAR	**Lake Charles**	**42.11**	**269**	P		**P**	**16 12 05.1**	**-0.5**
WHAR	**Wooly Hollow**	**43.31**	**269**	P		**P**	**16 12 15.1**	**-0.3**
WHAR				IAmb		IAmb	16 12 18.4	
	comp=Z,9.1nm,0.9s							
KSU1	**Kansas State U**	**43.38**	**276**	P		**P**	**16 12 15.7**	**-0.3**
KSU1				IAmb		IAmb	16 12 18.5	
	comp=Z,18nm,0.8s							
X40A	**Basin Creek Fa**	**44.19**	**269**	P		**P**	**16 12 21.9**	**-0.5**
X40A				IAmb		IAmb	16 12 24.5	
	comp=Z,9.5nm,0.9s							
LAO	**LASA Array**	**44.32**	**291**	P		**P**	**16 12 24.7**	**+1.3**
MIAR	**Mount Ida**	**44.59**	**269**	P		**P**	**16 12 25.6**	**-0.1**
MIAR				IAmb		IAmb	16 12 28.7	
	comp=Z,14nm,1.1s							
INK	**Inuvik**	**44.68**	**328**	P		**P**	**16 12 26.4**	**+0.5**
KAN13	**South Haven SW**	**45.27**	**275**			**P**	**16 12 30.6**	**-0.5**
KAN09	**Caldwell North**	**45.27**	**275**	P		**P**	**16 12 30.7**	**-0.4**
KAN01	**Argonia South**	**45.34**	**275**			**P**	**16 12 31.6**	**0.0**
CBKS	**Cedar Bluff**	**45.43**	**278**	P		**P**	**16 12 31.6**	**-0.8**
CBKS				IAmb		IAmb	16 12 39.4	
	comp=Z,9.8nm,0.9s							
EGMT	**Eagleton**	**45.48**	**295**	P		**P**	**16 12 32.2**	**-0.6**
EGMT				IAmb		IAmb	16 12 36.3	
	comp=Z,12nm,1.1s							
OK030	**Cody Creek RV**	**45.58**	**273**	P		**P**	**16 12 33.6**	**+0.1**
KAN14	**Manchester OK**	**45.59**	**275**	P		**P**	**16 12 33.2**	**-0.5**
OK031	**S. Brethren Rd**	**45.59**	**273**	P		**P**	**16 12 33.8**	**+0.1**
MDUB	**Mudurnu**	**45.60**	**78**	P		**P**	**16 12 34.9**	**+1.1**
OK025	**Westminster Rd**	**46.14**	**273**	P		**P**	**16 12 38.1**	**+0.1**
BCOK	**Bluff Creek, N**	**46.25**	**274**	P		**P**	**16 12 39.2**	**+0.4**
BCOK				IAmb		IAmb	16 12 41.4	
	comp=Z,11nm,0.7s							
FNO	**Franklin**	**46.40**	**273**	P		**P**	**16 12 40.0**	**0.0**
GCMT	**Greycliff**	**46.77**	**292**	P		**P**	**16 12 43.4**	**+0.4**
EPYK	**Eagle Plains**	**46.80**	**327**	P		**P**	**16 12 43.5**	**+0.7**
K22A	**Casper**	**46.94**	**287**	P		**P**	**16 12 44.4**	**0.0**
K22A				IAmb		IAmb	16 12 47.6	
	comp=Z,9.4nm,0.9s							
RLMT	**Red Lodge**	**46.96**	**291**	P		**P**	**16 12 45.2**	**+0.6**
RLMT				IAmb		IAmb	16 12 48.2	
	comp=Z,5.6nm,0.9s							
LOOK	**Love County**	**47.13**	**272**	P		**P**	**16 12 46.3**	**+0.5**
LOOK				IAmb		IAmb	16 12 49.1	
	comp=Z,12nm,0.9s							
HRY	**Holter Researc**	**47.40**	**295**	P		**P**	**16 12 48.7**	**+0.9**
BRTR	**Keskin Array B**	**47.51**	**77**	P		**P**	**16 12 49.5**	**+0.6**
	comp=Z,6.8nm,1.0s,baz=321,slow=5.5,SNR=19							
	comp=Z,6.8nm,1.0s							
BRTR	**Keskin Array B**	**47.51**	**77**	P		**P**	**16 12 49.7**	**+0.8**
WMOK	**Wichita Mounta**	**47.58**	**274**			**P**	**16 12 49.0**	**-0.3**
WMOK				IAmb		IAmb	16 12 57.6	
	comp=Z,9.5nm,1.3s							
YMP	**Mirror Lake Pl**	**47.69**	**292**	P		**P**	**16 12 50.6**	**+0.3**
YMP				IAmb		IAmb	16 12 53.9	
	comp=Z,8.1nm,1.0s							
I29M	**Ogilvie Camp,**	**47.93**	**327**	P		**P**	**16 12 52.6**	**+1.0**
RWWY	**Rawlins**	**47.95**	**287**	P		**P**	**16 12 52.5**	**+0.1**
RWWY				IAmb		IAmb	16 12 57.1	
	comp=Z,7.4nm,1.0s							
BOZ	**Bozeman (W)**	**47.97**	**293**	P		**P**	**16 12 52.4**	**0.0**
BOZ				IAmb		IAmb	16 12 56.1	
	comp=Z,4.6nm,0.9s							
ISCO	**Idaho Springs**	**48.24**	**284**	P		**P**	**16 12 54.9**	**+0.2**
ISCO				IAmb		IAmb	16 12 58.3	
	comp=Z,5.0nm,0.9s							
LRM	**Limekiln Ridge**	**48.28**	**294**	P		**P**	**16 12 55.1**	**+0.2**
BMAR	**Burnt Mountain**	**48.56**	**331**	P		**P**	**16 12 57.6**	**+1.1**
PD31	**Pinedale Array**	**48.60**	**289**	P		**P**	**16 12 54.3**	**-3.0**
PDAR	**Pinedale Array**	**48.60**	**289**	P		**P**	**16 12 57.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=59,slow=8.1,SNR=17							
	comp=Z,1.2nm,0.6s							
PDAR	**Pinedale Array**	**48.60**	**289**	P		**P**	**16 12 54.8**	**-2.6**
WHTX	**Lake Whitney,**	**48.70**	**270**	P		**P**	**16 12 57.4**	**-0.5**
REDW	**Red Top Meadow**	**48.95**	**291**	P		**P**	**16 13 00.0**	**0.0**
HATO	**Hato, Curacao**	**49.01**	**226**	P		**P**	**16 13 01.6**	**+1.2**
DAWY	**Dawson**	**49.11**	**326**	P		**P**	**16 13 01.7**	**+0.9**
M30M	**Minto, Yukon**	**49.15**	**323**	P		**P**	**16 13 01.0**	**-0.1**
EGAK	**Eagle**	**49.24**	**327**	P		**P**	**16 13 02.2**	**+0.6**
EGAK				IAmb		IAmb	16 13 13.6	
	comp=Z,14nm,1.2s							
TORD	**Torodi Ar. Bea**	**49.66**	**130**	P		**P**	**16 13 04.1**	**-1.3**
	comp=Z,4.7nm,0.8s,baz=332,slow=7.8,SNR=24							
	comp=Z,4.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**49.66**	**130**	P		**P**	**16 13 04.3**	**-1.1**
ARU	**Arti**	**49.99**	**46**	P		**P**	**16 13 07.8**	**+0.4**
ARU				IAmb		IAmb	16 13 09.1	
	comp=Z,15nm,1.2s							
RDMU	**Red Mountain**	**50.03**	**287**	P		**P**	**16 13 08.9**	**+0.6**
RDMU				IAmb		IAmb	16 13 12.3	
	comp=Z,16nm,1.5s							
HWUT	**Hardware Ranch**	**50.48**	**289**	P		**P**	**16 13 11.7**	**+0.1**
HWUT				IAmb		IAmb	16 13 14.8	
	comp=Z,11nm,0.9s							
BCAR	**Beaver Creek A**	**50.58**	**326**	P		**P**	**16 13 11.5**	**-0.4**
H24K	**Noodor Dome**	**50.61**	**331**	P		**P**	**16 13 13.7**	**+1.6**
H24K				IAmb		IAmb	16 13 18.0	
	comp=Z,11nm,1.4s							
PLID	**Pearl Lake**	**50.68**	**295**	P		**P**	**16 13 13.6**	**+0.4**
SCRK	**Sand Creek**	**50.69**	**327**	P		**P**	**16 13 14.0**	**+1.2**
TCUT	**Toone Canyon**	**50.72**	**289**	P		**P**	**16 13 14.3**	**+0.8**
TCUT				IAmb		IAmb	16 13 16.4	
	comp=Z,7.4nm,0.9s							
NRIK	**Noril'sk**	**50.75**	**23**	P		**P**	**16 13 13.2**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=340,slow=2.7,SNR=3.8							
	comp=Z,2.6nm,0.9s							
NRIK	**Noril'sk**	**50.75**	**23**	P		**P**	**16 13 13.7**	**+0.7**
HLID	**Hailey**	**50.80**	**293**	P		**P**	**16 13 14.6**	**+0.5**
ILAR	**Eielson Array**	**51.06**	**329**	P		**P**	**16 13 16.6**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=40,slow=6.1,SNR=12							
	comp=Z,1.6nm,0.9s							
H23K	**Yukon River**	**51.10**	**331**	P		**P**	**16 13 17.1**	**+1.3**
H23K				IAmb		IAmb	16 13 24.8	
	comp=Z,9.9nm,1.2s							
PV11	**David Mesa, Pa**	**51.14**	**284**	P		**P**	**16 13 18.0**	**+1.4**
PV11				IAmb		IAmb	16 13 20.4	
	comp=Z,12nm,1.0s							
SPUT	**South Promonto**	**51.18**	**290**	P		**P**	**16 13 18.4**	**+1.5**
SPUT				IAmb		IAmb	16 13 19.9	
	comp=Z,9.5nm,1.3s							
PV13	**Radium Mtn., P**	**51.20**	**284**	P		**P**	**16 13 17.8**	**+0.7**
PV13				IAmb		IAmb	16 13 21.4	
	comp=Z,7.9nm,0.9s							
HDA	**Harding Lake**	**51.33**	**329**	P		**P**	**16 13 18.6**	**+1.1**
HDA				IAmb		IAmb	16 13 24.5	
	comp=Z,9.3nm,0.9s							
BAUV	**El Baul**	**51.54**	**223**	P		**P**	**16 13 21.5**	**+1.9**
BMO	**Blue Mountains**	**51.54**	**296**	P		**P**	**16 13 20.8**	**+1.4**
MVCO	**Mesa Verde**	**51.65**	**283**	P		**P**	**16 13 21.9**	**+1.3**
MVCO				IAmb		IAmb	16 13 32.2	
	comp=Z,12nm,1.4s							
NLU	**North Lily Min**	**51.87**	**288**	P		**P**	**16 13 22.8**	**+0.7**
ANMO	**Albuquerque**	**52.01**	**279**	LR		LR	16 34 58.4	
	comp=Z,1μm,19.7s,baz=148,slow=36							
ANMO	**Albuquerque**	**52.01**	**279**	P		**P**	**16 13 23.9**	**+0.7**
DUG	**Dugway, Tooele**	**52.13**	**289**	P		**P**	**16 13 24.7**	**+0.7**
H21K	**Melozitna Rive**	**52.15**	**332**	P		**P**	**16 13 24.9**	**+1.3**
IMAR	**Indian Mountai**	**52.17**	**333**	P		**P**	**16 13 24.6**	**+0.8**
DHY	**Denali Highway**	**52.41**	**328**	P		**P**	**16 13 27.3**	**+1.6**
DHY				IAmb		IAmb	16 13 33.6	
	comp=Z,11nm,1.0s							
DBIC	**Dimbokro**	**52.72**	**141**	P		**P**	**16 13 27.2**	**-1.1**
	comp=Z,4.1nm,0.7s,baz=2.8,slow=4.4,SNR=7.1							
	comp=Z,4.1nm,0.7s							
DBIC	**Dimbokro**	**52.72**	**141**	P		**P**	**16 13 27.4**	**-0.9**
DBIC				IAmb		IAmb	16 13 27.8	
	comp=Z,5.9nm,0.8s							
TRF	**Thorofare Moun**	**53.05**	**329**	P		**P**	**16 13 30.0**	**-0.4**
TRF				IAmb		IAmb	16 13 45.6	
	comp=Z,17nm,1.2s							
SBM	**South Baldy**	**53.11**	**279**	P		**P**	**16 13 32.5**	**+0.8**
CAST	**Castle Rocks**	**53.61**	**330**	P		**P**	**16 13 34.8**	**+0.4**
CAST				IAmb		IAmb	16 13 41.0	
	comp=Z,7.0nm,1.0s							
SML	**Sawmill**	**53.63**	**327**	P		**P**	**16 13 36.0**	**+1.3**
J20K	**Nowinta River**	**53.65**	**332**	P		**P**	**16 13 36.1**	**+1.5**
CUT	**Chulitna**	**53.81**	**328**	P		**P**	**16 13 36.1**	**+0.3**
PPLA	**Purkeypile**	**54.04**	**330**	P		**P**	**16 13 37.8**	**+0.1**
PPLA				IAmb		IAmb	16 13 46.9	
	comp=Z,12nm,1.2s							
PINE	**Pine Mountain**	**54.20**	**297**	P		**P**	**16 13 40.1**	**+0.9**
PINE				IAmb		IAmb	16 13 58.9	
	comp=Z,12nm,1.2s							
TX31	**Lajitas Ar. Si**	**54.32**	**272**	P		**P**	**16 13 40.4**	**+0.2**
TX31				IAmb		IAmb	16 13 55.1	
	comp=Z,13nm,1.2s							
TXAR	**Lajitas Array**	**54.32**	**272**	P		**P**	**16 13 40.6**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=47,slow=7.3,SNR=13							
	comp=Z,1.9nm,0.9s							
TXAR	**Lajitas Array**	**54.32**	**272**	P		**P**	**16 13 39.9**	**-0.3**
PWL	**Port Wells**	**54.33**	**326**	P		**P**	**16 13 41.1**	**+1.4**
BMN	**Battle Mountai**	**54.45**	**292**	P		**P**	**16 13 42.2**	**+1.2**
SKT	**Skwentna**	**54.53**	**329**	P		**P**	**16 13 41.9**	**+0.8**
TIXI	**Tiksi**	**54.81**	**6**	P		**P**	**16 13 43.8**	**+0.9**
TIXI				IAmb		IAmb	16 13 48.1	
	comp=Z,5.6nm,0.9s							
SPU	**Mount Spurr**	**55.30**	**328**	P		**P**	**16 13 48.1**	**+1.4**
ABKAR	**Akbulak array**	**55.35**	**52**	P		**P**	**16 13 47.1**	**-0.1**
KVN	**Kaiserville**	**55.89**	**291**	P		**P**	**16 13 52.2**	**+0.7**
KVN				IAmb		IAmb	16 13 54.7	
	comp=Z,7.2nm,1.1s							
TPH	**Tonopah**	**56.08**	**290**	P		**P**	**16 13 53.4**	**+0.5**
ANM	**Nome**	**56.28**	**337**	P		**P**	**16 13 54.1**	**+0.4**
NV11	**Mina Array Sit**	**56.35**	**291**	P		**P**	**16 13 55.9**	**+1.1**
NVAR	**Mina Array Bea**	**56.44**	**291**	P		**P**	**16 13 54.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=61,slow=7.5,SNR=3.7							
	comp=Z,0.4nm,0.4s							
LCH	**Last Change Ra**	**56.91**	**289**	P		**P**	**16 13 58.6**	**-0.1**
BRVK	**Borovoye**	**57.27**	**44**	P		**P**	**16 14 01.7**	**+0.9**
BRVK				IAmb		IAmb	16 14 05.2	
	comp=Z,9.8nm,1.1s							
BLYC	**Blythe**	**57.58**	**284**	P		**P**	**16 14 04.5**	**+1.2**
BLYC				IAmb		IAmb	16 14 07.3	
	comp=Z,8.7nm,0.8s							
ROSC	**El Rosal**	**57.90**	**228**	P		**P**	**16 14 07.1**	**+0.9**
	comp=Z,34nm,0.8s,baz=99,slow=7.2,SNR=9.6							
ROSC	**El Rosal**	**57.90**	**228**	P		**P**	**16 14 07.1**	**+0.9**
ZALV	**Zalesovo Beam**	**62.12**	**35**	P		**P**	**16 14 34.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=319,slow=8.3,SNR=4.7							
	comp=Z,0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**62.12**	**35**	P		**P**	**16 14 34.2**	**0.0**
GEYT	**Alibeck**	**62.52**	**63**	P		**P**	**16 14 38.0**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=280,slow=8.9,SNR=7.0							
	comp=Z,3.0nm,0.8s							
GEYT	**Alibeck**	**62.52**	**63**	P		**P**	**16 14 37.9**	**+0.7**
GEYT				IAmb		IAmb	16 14 39.4	
	comp=Z,6.8nm,1.2s							
GYA0B	**ALIBECK ARRAY**	**62.52**	**63**	P		**P**	**16 14 37.9**	**+0.7**
GYA0B				IAmb		IAmb	16 14 39.4	
	comp=Z,4.7nm,1.1s							
KKAR	**Karatay Array**	**64.84**	**51**	P		**P**	**16 14 52.6**	**+0.2**
KKAR	**Karatay Array**	**64.84**	**51**	P		**P**	**16 14 52.7**	**+0.2**
KKAR				IAmb		IAmb	16 14 56.4	
	comp=Z,5.2nm,1.1s							
MAKZ	**Makanchi**	**66.88**	**42**	P		**P**	**16 15 05.5**	**0.0**
MAKZ				IAmb		IAmb	16 15 07.1	
	comp=Z,8.0nm,1.1s							
MK31	**Makanchi Array**	**67.01**	**41**	P		**P**	**16 15 06.4**	**+0.1**
MKAR	**Makanchi Array**	**67.01**	**41**	P		**P**	**16 15 06.4**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=332,slow=5.7,SNR=24							
	comp=Z,3.5nm,0.9s							
MKAR	**Makanchi Array**	**67.01**	**41**	P		**P**	**16 15 06.4**	**+0.1**
AAK	**Ala-Archa**	**67.04**	**49**	P		**P**	**16 15 06.4**	**-0.3**
KSH	**Kashi**	**70.20**	**50**	P		**P**	**16 15 29.7**	**+3.2**
KSH				pP		pwP	16 15 35.0	+0.8
KSH				pmax		pmax		
	comp=Z,11nm,1.1s							
KSH				LR		LR		
	comp=N,140nm,15.1s							
KSH				LR		LR		
	comp=E,210nm,13.7s							
KSH				LR		LR		
	comp=Z,180nm,16.5s							
WMQ	**Urumqi**	**71.60**	**40**	*e*P		**P**	**16 15 36.2**	**+1.4**
WMQ				pP		sP	16 15 41.7	+0.8
WMQ				sP		pwP	16 15 43.8	+1.3
WMQ				pmax		pmax		
	comp=Z,9.0nm,0.9s							
WMQ				LR		LR		
	comp=Z,69nm,22.1s							
SONM	**Songino Array**	**74.08**	**26**	P		**P**	**16 15 50.1**	**+0.5**
	comp=Z,3.9nm,1.0s,baz=325,slow=5.6,SNR=16							
	comp=Z,3.9nm,1.0s							
SONM	**Songino Array**	**74.08**	**26**	P		**P**	**16 15 49.5**	**-0.1**
ULN	**Ulaanbaatar**	**74.22**	**25**	P		**P**	**16 15 51.3**	**+0.9**
ULN				IAmb		IAmb	16 15 52.6	
	comp=Z,9.3nm,1.1s							
HEH	**HeiHe**	**75.76**	**11**	*e*P		**P**	**16 15 58.3**	**-0.7**
HEH				pmax		pmax		
	comp=Z,3.0nm,1.2s							
HEH				pmax		pmax		
	comp=Z,140nm,5.7s							
LODK	**Lodwar**	**75.79**	**104**	P		**P**	**16 16 00.4**	**+0.6**
GTA	**Gaotai**	**79.82**	**34**	*e*P		**P**	**16 16 22.5**	**+0.5**
GTA				pP		sP	16 16 28.4	+0.3
GTA				sP		pwP	16 16 31.5	+1.8
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GOMU	**GeErMu**	**80.91**	**39**	P		**P**	**16 16 29.3**	**+1.0**
GOMU				pmax		pmax		
	comp=Z,2.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**81.93**	**25**	*e*P		**P**	**16 16 31.2**	**-2.0**
HHC				pmax		pmax		
	comp=Z,45nm,0.9s							
XAN	**Xi'an**	**87.60**	**29**	P		**P**	**16 17 01.9**	**0.0**
XAN				pP		pP	16 17 06.4	0.0
XAN				pmax		pmax		
	comp=Z,5.0nm,1.1s							
PZH	**PanZhiHua**	**92.19**	**38**	P		**P**	**16 17 22.5**	**-1.0**
PZH				pmax

comp=Z,1.4nm,1.0s
SPUT South Promonto 51.28 290 P **P** 16 14 23.8 **+0.2**
SPUT IAmb IAmb 16 14 37.9
comp=Z,9.6nm,1.3s
SIT Sitka 52.34 317 P **P** 16 14 32.3 **+1.3**
H21K Melozitna Rive 52.34 332 P **P** 16 14 32.2 **+1.2**
H21K IAmb IAmb 16 14 42.8
comp=Z,6.8nm,1.4s
IMAR Indian Mountai 52.36 333 P **P** 16 14 31.4 **+0.3**
I21K Tanana 52.46 332 P **P** 16 14 32.3 **+0.4**
KNK Knik Glacier 54.15 327 P **P** 16 14 46.1 **+1.7**
TXAR Lajitas Array 54.37 273 P **P** 16 14 44.8 **-1.7**
comp=Z,0.4nm,0.7s,baz=43,slow=5.4,SNR=1.4
comp=Z,0.4nm,0.7s
PWL Port Wells 54.52 326 P **P** 16 14 47.5 **+0.5**
SKT Skwentna 54.71 329 P **P** 16 14 48.6 **+0.2**
BRVK Borovoye 57.38 44 P **P** 16 15 08.0 **+0.4**
BRVK IAmb IAmb 16 15 14.3
comp=Z,6.1nm,1.1s
MK31 Makanchi Array 67.13 41 P **P** 16 16 12.8 **-0.3**
MK31 IAmb IAmb 16 16 19.8
comp=Z,3.0nm,1.2s
MKAR Makanchi Array 67.13 41 P **P** 16 16 11.7 **-1.4**
comp=Z,0.9nm,0.7s,baz=332,slow=5.1,SNR=4.5
comp=Z,0.9nm,0.7s
MKAR Makanchi Array 67.13 41 P **P** 16 16 13.0 **-0.1**
GAR Garm 68.02 54 P **P** 16 16 19.9 **+0.9**
SONM Songino Array 74.24 26 P **P** 16 16 56.3 **-0.2**
KMBO Kilima Mbogo 80.47 105 P **P** 16 17 31.6 **-0.4**
QSPA South Pole Qui 143.03 180 PKhKP PKPpre 16 24 47.8
comp=Z,1.6nm,1.1s,baz=184,slow=6.7,SNR=1.8
WRA Warramunga Arr 145.89 18 PKPbc **PKPdf** 16 24 57.8 **-0.7**
comp=Z,1.5nm,1.0s,baz=351,slow=2.9,SNR=2.0
ASAR Alice Springs 149.43 20 PKPbc **PKPbc** 16 25 06.8 **-1.9**
comp=Z,0.8nm,0.5s,baz=352,slow=2.3,SNR=5.7

IDC 02 16:06:14.4±2.8, 53°23N×35°36W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=97.2km s-min=40.2km az=55.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.29**	**110**	P	P	16 11 42.6	+0.3
	1.3nm,0.9s,baz=324,slow=8.4,SNR=2.1						
	1.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**49.61**	**130**	P	P	16 15 07.0	-0.3
	1.0nm,0.8s,baz=342,slow=5.9,SNR=1.9						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**67.12**	**41**	P	P	16 17 09.3	-0.1
	0.7nm,0.9s,baz=332,slow=4.9,SNR=2.7						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**145.84**	**17**	PKPbc	PKPdf	16 25 54.6	-0.3
	0.3nm,0.7s,baz=358,slow=2.6,SNR=1.6						
ASAR	**Alice Springs**	**149.38**	**20**	PKPbc	PKPbc	16 26 04.7	-0.4
	0.7nm,0.6s,baz=348,slow=2.4,SNR=5.5						

IDC 02 16:08:38.7±1.4, 53°24N×35°19W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=92.3km s-min=37.5km az=31.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**48.70**	**289**	P	P	16 17 24.7	-0.1
	0.2nm,0.4s,baz=54,slow=9.2,SNR=2.5						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**49.54**	**130**	P	P	16 17 31.0	-0.1
	0.7nm,0.9s,baz=328,slow=9.5,SNR=3.0						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**145.79**	**18**	PKPbc	PKPdf	16 28 19.2	0.0
	0.6nm,1.0s,baz=357,slow=3.3,SNR=2.9						
ASAR	**Alice Springs**	**149.33**	**20**	PKPbc	PKPbc	16 28 28.4	-0.8
	0.7nm,0.7s,baz=348,slow=2.5,SNR=7.4						

JMA 02 16:10:22.9±0.2, 37°4N±0°7×141°6E±0°9, h35km±2km, MV0.9/9, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.59**	**271**	*e*P	Pn	16 10 34.6	-0.2
JFK				*e*S	Sn	16 10 42.7	-0.5
JMST	**Minamisoumatoc**	**0.68**	**303**	*e*S	Sn	16 10 45.6	+0.1
JFFD	**Fukushimafurud**	**0.88**	**253**	P	Pn	16 10 38.8	-0.1
JFFD				*e*S	Sb	16 10 50.9	-0.3

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*BJI **02** 16:10:57.0±0.0, 38°.90N×142°.80E, h47km, mb4.2/28, mB4.4/9, Ms4.3/3, Ms7 4.0/3*
*NEIC **02** 16:10:59.1±2.9, 38°.87N±0°.01×142°.8E±0°.1, h35km±8km, mb4.6/29, Error ellipse: s-maj=12.1km s-min=2.1km az=89.0*
*NIED **02** 16:11:00.9, 38°.96N×142°.55E, h53km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=0.53; Mθθ2.66; Mϕϕ-2.13; Mrθ-0.24; Mθϕ-0.86; Mϕr1.50; Fault plane solution: M0 2.99000×10^15^ NP1: ϕs141.00000°, δ76.00000°, λ-28.00000°. NP2: ϕs239.00000°, δ62.00000°, λ-165.00000°.*
*JMA **02** 16:11:00.9±0.1, 39°.0N±0°.3×142°.6E±0°.8, h53km±1km, MD4.4/40, MV4.8/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*IDC **02** 16:11:01.3±0.5, 38°.91N×142°.61E, h55km±4km, mb3.7/20, mbtmp4.1/27, MS2.9/6, Error ellipse: s-maj=13.3km s-min=8.6km az=125.0*
ISC 02 16:10:59.2±0.5, 38°.89N±0°.04×142°.71E±0°.05, h41km±3km, n152, σ1§50/141, mb4.4/35, 23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.83**	**283**	⇓*i*P	Pn	16 11 15.1	+0.6
OFUJ				⇓S	Sn	16 11 25.2	-0.4
OFUJ	**Ofunato**	**0.83**	**283**	A	A	16 11 15.1	
	comp=E,6.0nm,1.2s,comp=E,11nm,0.4s						
JKMT	**Kesennumamotoy**	**0.97**	**266**	⇓*i*P	Pn	16 11 16.9	+0.6
JKMT				⇓S	Sn	16 11 28.1	-0.8
JKMT	**Kesennumamotoy**	**0.97**	**266**	A	A	16 11 16.9	
	comp=E,13nm,0.5s,comp=E,18nm,1.3s						
MIYJ	**Miyakonagasawa**	**0.97**	**315**	⇓*i*P	Pn	16 11 16.6	+0.2
MIYJ				⇓S	Sn	16 11 27.7	-1.3
MIYJ	**Miyakonagasawa**	**0.97**	**315**	A	A	16 11 16.6	
	comp=E,13nm,0.3s,comp=E,20nm,1.9s						
JIKH	**Ishinomakikobu**	**1.14**	**240**	A	A	16 11 19.9	
	comp=E,33nm,1.1s,comp=E,15nm,0.3s						
JIO	**Ouri**	**1.16**	**248**	*i* P	Pn	16 11 19.5	+0.6
JIO				S	Sn	16 11 32.3	-1.1
JIO	**Ouri**	**1.16**	**248**	A	A	16 11 19.5	
	comp=E,16nm,0.5s,comp=E,22nm,1.0s						
JMK	**Ichinoseki**	**1.17**	**273**	⇓*i*P	Pn	16 11 19.5	+0.5
JMK				⇓S	Sn	16 11 33.2	-0.5
JMK	**Ichinoseki**	**1.17**	**273**	A	A	16 11 19.5	
	comp=E,8.0nm,0.6s,comp=E,15nm,0.8s						
JTH	**Tanohata**	**1.23**	**328**	⇓*i*P	Pn	16 11 20.5	+0.5
JTH				⇓S	Sn	16 11 34.5	-0.9
JTH	**Tanohata**	**1.23**	**328**	A	A	16 11 20.5	
	comp=E,18nm,1.7s,comp=E,26nm,1.1s						
JOM	**Ohasama**	**1.25**	**298**	⇓*i*P	Pn	16 11 20.5	+0.4
JOM				⇓S	Sn	16 11 35.1	-0.6
JOM	**Ohasama**	**1.25**	**298**	A	A	16 11 20.5	
	comp=E,16nm,0.5s,comp=E,12nm,0.2s						
JOFO	**Osakifurukawao**	**1.44**	**259**	A	A	16 11 23.6	
	comp=E,98nm,0.7s,comp=E,75nm,0.5s						
JKEN	**Kujiedanarisaw**	**1.52**	**330**	A	A	16 11 24.6	
	comp=E,23nm,0.8s,comp=E,17nm,1.0s						
JKZ	**Kuzumaki**	**1.53**	**316**	A	A	16 11 24.6	
	comp=E,14nm,0.6s,comp=E,12nm,0.8s						
JSZI	**Iwateshizukuis**	**1.61**	**302**	A	A	16 11 26.1	
	comp=E,14nm,1.1s,comp=E,14nm,1.9s						
JOU	**Okura**	**1.69**	**252**	⇓*i*P	Pn	16 11 27.1	+0.9
JOU				⇓S	Sn	16 11 45.9	-0.7
JOU	**Okura**	**1.69**	**252**	A	A	16 11 27.1	
	comp=E,11nm,0.6s,comp=E,16nm,0.6s						
JRG	**Rokugo**	**1.69**	**288**	⇓*i*P	Pn	16 11 26.7	+0.4
JRG				⇓S	Sn	16 11 46.3	-0.4
JRG	**Rokugo**	**1.69**	**288**	A	A	16 11 26.7	
	comp=E,7.0nm,0.3s,comp=E,6.0nm,0.7s						
JANG	**Nango**	**1.74**	**328**	⇓*i*P	Pn	16 11 27.2	+0.2
JANG				⇓S	Sn	16 11 46.5	-1.4
JANG	**Nango**	**1.74**	**328**	A	A	16 11 27.2	
	comp=E,4.0nm,0.9s,comp=E,7.0nm,1.3s						
JMM	**Marumori**	**1.82**	**236**		Pn	16 11 28.7	+0.6
JMM	**Marumori**	**1.82**	**236**	P	Pn	16 11 28.7	+0.6
JMM	**Marumori**	**1.82**	**236**	*i* P	Pn	16 11 28.7	+0.6
JMM				S	Sn	16 11 49.0	-1.0
JYK	**Kaneyama**	**1.84**	**271**	⇓*i*P	Pn	16 11 28.9	+0.7
JYK				⇓*e*S	Sn	16 11 50.8	+0.6
JYK	**Kaneyama**	**1.84**	**271**	A	A	16 11 28.9	
	comp=E,4.0nm,5.4s,comp=E,4.0nm,1.1s						
JMST	**Minamisoumatoc**	**1.85**	**231**	A	A	16 11 30.2	
	comp=E,8.0nm,1.4s,comp=E,7.0nm,1.9s						
JYW	**Yuwa**	**2.05**	**289**	A	A	16 11 31.8	
	comp=E,8.0nm,0.6s,comp=E,8.0nm,2.5s						
JAH	**Hinai**	**2.06**	**309**	⇓*i*P	Pn	16 11 31.8	+0.5
JAH				⇓S	Sn	16 11 55.6	-0.2
JAH	**Hinai**	**2.06**	**309**	A	A	16 11 31.8	
	comp=E,5.0nm,2.7s,comp=E,7.0nm,0.8s						
JFK	**Kawauchi**	**2.10**	**224**	A	A	16 11 34.0	
	comp=E,3.0nm,0.6s,comp=E,3.0nm,0.8s						
JYS	**Shirataka**	**2.18**	**253**	A	A	16 11 34.4	
	comp=E,15nm,2.2s,comp=E,15nm,0.9s						
JYAR	**Yonezawaarcadi**	**2.24**	**245**	A	A	16 11 35.4	
	comp=E,10.0nm,1.3s,comp=E,11nm,1.2s						
JTM	**Tenmabayashi**	**2.28**	**327**		Pn	16 11 34.6	+0.3
JTM	**Tenmabayashi**	**2.28**	**327**	P	Pn	16 11 34.9	+0.6
ONAJ	**Iwakimizuishiy**	**2.34**	**221**	A	A	16 11 37.5	
	comp=E,6.0nm,0.3s,comp=E,4.0nm,0.3s						
JYA	**Atsumi**	**2.37**	**264**	A	A	16 11 36.6	
	comp=E,9.0nm,0.9s,comp=E,8.0nm,0.7s						
JNTW	**Noshirotokiwa**	**2.41**	**306**	A	A	16 11 36.9	
	comp=E,15nm,1.9s,comp=E,15nm,1.9s						
JHHS	**Hirosakihyakuz**	**2.52**	**315**	A	A	16 11 38.6	
	comp=E,9.0nm,4.4s,comp=E,9.0nm,2.7s						
JAHD	**Aomorihigashid**	**2.59**	**336**	A	A	16 11 40.0	
	comp=E,6.0nm,0.7s,comp=E,5.0nm,0.8s						
JSI2	**Shiura 2**	**2.79**	**321**	A	A	16 11 42.5	
	comp=E,6.0nm,1.1s,comp=E,10.0nm,1.3s						
JSB	**Shiboa**	**2.93**	**230**	A	A	16 11 45.5	
	comp=E,7.0nm,1.7s,comp=E,7.0nm,1.6s						
ERM	**Erimo**	**3.14**	**6**	Pn	Pn	16 11 46.9	+0.8
ERM	**Erimo**	**3.14**	**6**	P	Pn	16 11 47.2	+1.1
JEM	**Erimo**	**3.14**	**6**	P	Pn	16 11 47.3	+1.2
JSD	**Sado**	**3.60**	**258**		Pn	16 11 53.5	+1.1
JSD	**Sado**	**3.60**	**258**	P	Pn	16 11 53.5	+1.1
MJAR	**Matsushiro Arr**	**4.27**	**238**	P	Pn	16 12 04.3	+2.6
	134nm,0.5s,baz=32,slow=13,SNR=769						
MJAR				S	Sn	16 12 51.6	+1.2
	19nm,0.6s,baz=322,slow=20,SNR=1.4						
MAJO	**Matsushiro**	**4.28**	**238**	Pn	Pn	16 12 04.3	+2.5
MAJO	**Matsushiro**	**4.28**	**238**	P	Pn	16 12 04.5	+2.7
ASAJ	**Asahikawa**	**5.22**	**359**	P	Pn	16 12 16.0	+1.3
	95nm,0.4s,baz=212,slow=10.0,SNR=566						
ASAJ				S	Sn	16 13 11.4	-2.2
	42nm,0.4s,baz=221,slow=20,SNR=3.8						
ASAJ				LR	LR	16 14 17.5	
	comp=Z,83nm,20.1s,baz=209,slow=38						
JKA	**Kamikawa-asahi**	**5.22**	**359**	Pn	Pn	16 12 15.6	+0.9
JGF	**Kuroka**	**5.39**	**234**	Pn	Pn	16 12 19.4	+2.2
JGF	**Kuroka**	**5.39**	**234**	P	Pn	16 12 19.7	+2.6
JSG	**Sagara**	**5.56**	**222**		Pn	16 12 21.7	+2.3
JSG	**Sagara**	**5.56**	**222**	P	Pn	16 12 21.3	+1.9
INU	**Inuyama**	**5.76**	**234**	Pn	Pn	16 12 24.1	+1.9
INU	**Inuyama**	**5.76**	**234**	P	Pn	16 12 24.9	+2.7
JHJ2	**Mitsune**	**6.23**	**203**		Pn	16 12 28.6	+0.1
JHJ2	**Mitsune**	**6.23**	**203**	P	Pn	16 12 29.1	+0.5
JHJ	**Hachijo jima 2**	**6.23**	**203**	P	Pn	16 12 29.0	+0.4
	338nm,0.3s,baz=328,slow=17,SNR=76						
JHJ				S	Sn	16 13 34.0	-4.6
	198nm,0.3s,baz=45,slow=22,SNR=8.3						
YSS	**Yuzh-Sakhalins**	**8.06**	**0**	Pn	Pn	16 12 52.5	-1.1
YSS	**Yuzh-Sakhalins**	**8.06**	**0**	P	Pn	16 12 54.8	+1.2
JHS	**Saijyo**	**8.61**	**246**	Pn	Pn	16 13 03.5	+2.2
JHS	**Saijyo**	**8.61**	**246**	P	Pn	16 13 03.5	+2.2
JMN	**Monobe**	**8.80**	**237**	Pn	Pn	16 13 04.9	+1.1
JMN	**Monobe**	**8.80**	**237**	P	Pn	16 13 05.0	+1.1
USA0B	**Ussuriysk Arra**	**9.63**	**307**	Pn	Pn	16 13 16.8	+1.7
USRK	**Ussuriysk Ar.**	**9.63**	**307**	P	Pn	16 13 15.7	+0.6
	5.3nm,0.8s,baz=119,slow=15,SNR=9.4						
USRK				LR	LR	16 16 45.3	
	comp=Z,80nm,18.2s,baz=151,slow=36						
USRK	**Ussuriysk Ar.**	**9.63**	**307**	Pn	Pn	16 13 17.0	+1.9
JNU	**Nakatsue**	**11.18**	**243**	P	Pn	16 13 37.2	+0.8
	13nm,1.0s,baz=18,slow=15,SNR=2.7						
JNU				LR	LR	16 18 11.6	
	comp=Z,56nm,19.9s,baz=50,slow=39						
JNU	**Nakatsue**	**11.18**	**243**		Pn	16 13 38.1	+1.7
KSRS	**Korea Array**	**11.73**	**268**	P	Pn	16 13 47.0	+3.1
	2.0nm,0.5s,baz=74,slow=14,SNR=11						
KSRS				LR	LR	16 17 49.7	
	comp=Z,55nm,21.6s,baz=65,slow=35						
KSAR	**Wonju Array Be**	**11.77**	**268**	Pn	Pn	16 13 45.4	+1.0
KS19	**Wonju Array Si**	**11.77**	**268**	Pn	Pn	16 13 46.2	+1.8
JCJ	**Chichijima**	**11.77**	**182**	P	Pn	16 13 45.2	+0.7
	67nm,0.4s,baz=291,slow=22,SNR=29						
JCJ				S	Sn	16 15 45.6	-9.1
	33nm,0.4s,baz=28,slow=20,SNR=2.3						
JCJ	**Chichijima**	**11.77**	**182**		Pn	16 13 42.6	-2.0
JCJ	**Chichijima**	**11.77**	**182**	P	Pn	16 13 42.8	-1.8
JSU	**Suzuyama**	**12.44**	**237**	Pn	Pn	16 13 54.8	+1.2
KLR	**Kul'dur**	**12.98**	**326**	P	Pn	16 14 00.6	-0.3
	2.1nm,0.7s,baz=130,slow=12,SNR=10.0						
HEH	**HeiHe**	**15.71**	**321**	*e*P	Pn	16 14 35.6	-1.8
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**17.57**	**31**	P	Pn	16 14 59.7	-1.1
PETK	**Petropavlovsk-**	**17.57**	**31**	P	P	16 15 01.4	0.0
	2.5nm,0.8s,baz=237,slow=13,SNR=1.7						
PETK				LR	LR	16 22 08.9	
	comp=Z,20nm,20.0s,baz=216,slow=38						
XLT	**XiLinHaoTe**	**20.55**	**293**	*e*P	P	16 15 32.0	-2.3
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,54nm,4.6s						
MA2	**Magadan**	**21.33**	**11**	P	P	16 15 42.4	0.0
	11nm,0.6s,baz=196,slow=9.3,SNR=11						
	11nm,0.6s						
MA2	**Magadan**	**21.33**	**11**	P	P	16 15 41.4	-1.0
MA2				IAmb	IAmb	16 15 44.6	
	comp=Z,14nm,0.8s						
YHNB	**Yeheng**	**22.95**	**238**	P	P	16 15 57.1	-3.0
YHNB				IAmb	IAmb	16 16 00.2	
	comp=Z,13nm,0.7s						
SSLB	**Suanglung**	**23.83**	**237**	P	P	16 16 05.1	-3.5
SSLB				IAmb	IAmb	16 16 08.6	
	comp=Z,9.4nm,0.7s						
YULB	**Yu-li**	**23.89**	**236**	P	P	16 16 05.1	-4.0
YULB				IAmb	IAmb	16 16 13.4	
	comp=Z,25nm,1.3s						
HHC	**Hu-ho-hao-te**	**23.93**	**285**	*e*P	P	16 16 11.1	+1.7
HHC				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC				pmax	pmax		
	comp=Z,83nm,5.8s						
TPUB	**Ta-pu**	**24.39**	**237**	P	P	16 16 11.1	-2.6
TWG	**Pinlang**	**24.44**	**235**	P	P	16 16 12.4	-1.7
TWG				IAmb	IAmb	16 16 55.7	
	comp=Z,22nm,1.1s						
YAK	**Yakutsk**	**24.51**	**345**	P	P	16 16 14.0	-0.4
	comp=Z,5.3nm,0.4s,baz=136,slow=5.1,SNR=10.0						
YAK				S	S	16 20 26.2	-5.6
	comp=Z,1.8nm,0.4s,baz=192,slow=18,SNR=2.1						
	comp=Z,5.3nm,0.4s						
YAK	**Yakutsk**	**24.51**	**345**	P	P	16 16 13.0	-1.4
YAK				IAmb	IAmb	16 16 21.9	
	comp=Z,14nm,0.7s						
SEY	**Seymchan**	**24.77**	**11**	P	P	16 16 18.2	+1.4
	comp=Z,13nm,1.1s,baz=190,slow=10.0,SNR=15						
	comp=Z,13nm,1.1s						
SONM	**Songino Array**	**27.66**	**301**	P	P	16 16 42.7	-0.5
	comp=Z,0.8nm,0.5s,baz=99,slow=8.1,SNR=8.1						
SONM				LR	LR	16 27 48.1	
	comp=Z,58nm,21.5s,baz=248,slow=36						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**27.66**	**301**	P	P	16 16 43.0	-0.2
H11N2	**WAKE ISLAND Hy**	**28.30**	**126**	T	T	16 47 29.8	
	baz=318,slow=76,SNR=546						
H11N1	**WAKE ISLAND Hy**	**28.31**	**126**	T	T	16 47 38.5	
	baz=318,slow=76,SNR=620						
H11N3	**WAKE ISLAND Hy**	**28.32**	**126**	T	T	16 47 36.4	
	baz=318,slow=76,SNR=568						
H11S1	**WAKE ISLAND Hy**	**29.09**	**127**	T	T	16 48 23.4	
	baz=318,slow=76,SNR=326						
H11S3	**WAKE ISLAND Hy**	**29.09**	**128**	T	T	16 48 23.6	
	baz=318,slow=76,SNR=316						
H11S2	**WAKE ISLAND Hy**	**29.11**	**128**	T	T	16 48 23.1	
	baz=318,slow=76,SNR=231						
LZH	**Lanzhou**	**30.81**	**277**	*e*P	P	16 17 13.2	+1.9
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
PZH	**PanZhiHua**	**36.34**	**263**	P	P	16 18 01.8	+2.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,5.1s						
CRAI	**Chiangrai**	**40.83**	**255**	P	P	16 18 37.0	0.0
WMQ	**Urumqi**	**40.95**	**295**	*e*P	P	16 18 40.1	+2.3
ZAAQ	**Zalesovo Array**	**41.45**	**311**	P	P	16 18 40.8	-0.9
ZALV	**Zalesovo Beam**	**41.45**	**311**	P	P	16 18 41.6	-0.1
	comp=Z,1.3nm,0.5s,baz=86,slow=8.2,SNR=7.5						
	comp=Z,1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**41.45**	**311**	P	P	16 18 41.0	-0.7
PHRA	**Phrae**	**41.98**	**253**	P	P	16 18 45.7	-0.8
NRIK	**Noril'sk**	**42.03**	**334**	P	P	16 18 47.2	+1.0
	comp=Z,0.6nm,0.4s,baz=153,slow=11,SNR=1.4						
	comp=Z,0.6nm,0.4s						
FAKI	**Fak Fak**	**42.71**	**196**	P	P	16 18 51.0	-1.3
FAKI				IAmb	IAmb	16 19 20.5	
	comp=Z,18nm,1.0s						
CMAR	**Chiang Mai Arr**	**42.97**	**254**	P	P	16 18 54.5	0.0
	comp=Z,0.4nm,0.7s,baz=46,slow=4.9,SNR=2.7						
	comp=Z,0.4nm,0.7s						
MK31	**Makanchi Array**	**44.03**	**301**	P	P	16 19 02.5	-0.3
MKAR	**Makanchi Array**	**44.03**	**301**	P	P	16 19 02.8	+0.1
	comp=Z,1.9nm,0.6s,baz=86,slow=9.8,SNR=22						
	comp=Z,1.9nm,0.6s						
MKAR	**Makanchi Array**	**44.03**	**301**	P	P	16 19 02.5	-0.3
MAKZ	**Makanchi**	**44.23**	**301**	P	P	16 19 04.1	-0.3
KDAK	**Kodiak Island**	**45.04**	**43**	P	P	16 19 11.4	+0.9
	comp=Z,3.5nm,0.7s,baz=285,slow=7.0,SNR=6.1						
	comp=Z,3.5nm,0.7s						
KDAK	**Kodiak Island**	**45.04**	**43**	P	P	16 19 09.3	-1.3
KDAK				IAmb	IAmb	16 19 32.0	
	comp=Z,8.3nm,1.1s						
I23K	**Minto, Yukon-K**	**46.32**	**33**	P	P	16 19 21.1	+0.5
I23K				IAmb	IAmb	16 20 03.8	
	comp=Z,7.6nm,1.5s						
ILAR	**Eielson Array**	**47.38**	**33**	P	P	16 19 30.2	+1.3
	comp=Z,2.5nm,0.7s,baz=267,slow=6.0,SNR=31						
ILAR				pP	**sP**	16 19 43.9	-0.7
	comp=Z,2.3nm,0.8s,baz=270,slow=6.6,SNR=8.8						
	comp=Z,2.5nm,0.7s						
RIDG	**Independent Ri**	**48.34**	**35**	P	P	16 19 37.4	+1.0
RIDG				IAmb	IAmb	16 19 38.6	
	comp=Z,8.5nm,1.2s						
SCRK	**Sand Creek**	**48.69**	**34**	P	P	16 19 40.9	+1.7
SCRK				IAmb	IAmb	16 19 58.5	
	comp=Z,5.9nm,1.2s						
L27K	**Beaver Creek,**	**49.76**	**35**	P	P	16 19 49.2	+1.9
L27K				IAmb	IAmb	16 20 08.3	
	comp=Z,6.2nm,1.1s						
BCAR	**Beaver Creek A**	**49.78**	**35**	P	P	16 19 48.9	+1.5
EGAK	**Eagle**	**49.82**	**33**	P	P	16 19 47.8	+0.2
EGAK				IAmb	IAmb	16 20 24.5	
	comp=Z,13nm,1.5s						
INK	**Inuvik**	**52.26**	**28**	P	P	16 20 07.5	+1.7
	comp=Z,1.3nm,0.5s,baz=305,slow=8.0,SNR=12						
INK				pP	**sP**	16 20 19.9	-1.8
	comp=Z,2.6nm,0.5s,baz=299,slow=5.1,SNR=6.7						
	comp=Z,1.3nm,0.5s						
MTN	**Manton Dam**	**52.59**	**194**	P	P	16 20 09.4	+0.5
ABKAR	**Akbulak array**	**57.54**	**310**	P	P	16 20 46.7	+2.4
WB0	**Warramunga Arr**	**58.87**	**189**	P	P	16 20 53.3	-0.6
WRAB	**Tennant Creek**	**59.04**	**189**	P	P	16 20 54.4	-0.6
WB2	**Warramunga Arr**	**59.05**	**189**	P	P	16 20 54.5	-0.6
WB2				IAmb	IAmb	16 21 33.4	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**59.05**	**189**	P	P	16 20 54.5	-0.6
	comp=Z,1.3nm,0.8s,baz=5.4,slow=6.9,SNR=17						
WRA				pP	**sP**	16 21 11.9	+0.8
	comp=Z,3.6nm,0.7s,baz=4.4,slow=7.3,SNR=10						
	comp=Z,1.3nm,0.8s						
RES	**Resolute Bay**	**60.54**	**15**	P	P	16 21 05.0	+0.3
RES				IAmb	IAmb	16 21 25.6	
	comp=Z,7.5nm,1.5s						
YKA	**Yellowknife Ar**	**61.69**	**31**	P	P	16 21 13.4	+0.7
	comp=Z,0.6nm,0.6s,baz=301,slow=6.9,SNR=9.8						
YKA				pP	**sP**	16 21 28.2	-0.4
	comp=Z,0.5nm,0.8s,baz=307,slow=6.2,SNR=3.4						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**62.78**	**189**	P	P	16 21 20.7	+0.3
	comp=Z,0.6nm,0.7s,baz=7.3,slow=8.3,SNR=13						
ASAR				pP	**sP**	16 21 36.6	+0.2
	comp=Z,1.2nm,0.7s,baz=15,slow=5.7,SNR=6.4						
	comp=Z,0.6nm,0.7s						
RADR	**Rader Ridge**	**65.25**	**49**	P	P	16 21 35.7	-0.8
RADR				IAmb	IAmb	16 21 48.6	
	comp=Z,57nm,1.1s						
FINES	**FINESS Array B**	**67.65**	**332**	P	P	16 21 53.2	+1.7
	comp=Z,1.2nm,0.8s,baz

CESI	**CESI - Serrava**	**0.12 255**	P	Pg	16 11 54.1	+0.7
CESI			S	Sg	16 11 56.4	+0.9
T1216	**Preci, Frazion**	**0.15 193**	P	Pg	16 11 54.4	+0.5
T1216			S	Sg	16 11 56.9	+0.8
T1216			AML	AML		
	comp=E,411μm,0.4s					
T1216			AML	AML		
	comp=N,487μm,0.2s					
T1216			AML	AML		
	comp=E,410μm,0.4s					
T1216			AML	AML		
	comp=N,486μm,0.2s					
MC2	**Monte Cornacci**	**0.15 144**	P	Pg	16 11 54.8	+0.8
MC2			S	Sg	16 11 57.8	+1.3
GUMA	**Gualdo di Mace**	**0.20 83**	P	Pg	16 11 56.0	+1.4
GUMA			S	Sg	16 11 59.9	+2.4
GUMA			AML	AML		
	comp=E,852μm,0.3s					
GUMA			AML	AML		
	comp=N,950μm,0.2s					
GUMA			AML	AML		
	comp=E,1275μm,0.2s					
GUMA			AML	AML		
	comp=N,647μm,0.2s					
GUMA			AML	AML		
	comp=N,647μm,0.2s					
GUMA			AML	AML		
	comp=N,950μm,0.2s					
GUMA			AML	AML		
	comp=E,852μm,0.3s					
GUMA			AML	AML		
	comp=E,1275μm,0.2s					
GAG1	**Gaglíole**	**0.20 0**	P	Pg	16 11 55.9	+1.1
GAG1			S	Sg	16 12 00.0	+2.5
T1245	**Castelsantange**	**0.20 154**	P	Pg	16 11 55.4	+0.6
T1245			S	Sg	16 11 59.1	+1.5
T1245			AML	AML		
	comp=N,274μm,1.2s					
T1245			AML	AML		
	comp=E,319μm,0.4s					
T1245			AML	AML		
	comp=N,274μm,1.2s					
T1245			AML	AML		
	comp=N,274μm,0.8s					
T1245			AML	AML		
	comp=E,319μm,1.6s					
NRCA	**Norcia**	**0.21 170**	P	Pg	16 11 55.4	+0.6
NRCA			S	Sg	16 11 59.0	+1.3
NRCA			AML	AML		
	comp=N,372μm,1.1s					
NRCA			AML	AML		
	comp=E,330μm,0.5s					
NRCA			AML	AML		
	comp=E,358μm,1.3s					
NRCA			AML	AML		
	comp=E,358μm,0.7s					
NRCA			AML	AML		
	comp=N,345μm,0.3s					
MMO1	**Montemonaco**	**0.24 126**	P	Pg	16 11 56.1	+0.8
MMO1			S	Sg	16 12 00.0	+1.4
SNTG	**Esanatoglia**	**0.24 337**	P	Pg	16 11 56.3	+0.9
SNTG			S	Sg	16 12 00.5	+1.8
SNTG			AML	AML		
	comp=E,174μm,0.1s					
SNTG			AML	AML		
	comp=N,204μm,0.1s					
SNTG			AML	AML		
	comp=E,174μm,0.1s					
SNTG			AML	AML		
	comp=N,204μm,0.1s					
T1215	**Vallo di Nera,**	**0.28 212**	P	Pg	16 11 56.7	+0.6
T1212	**Cascia, Frazio**	**0.29 183**	P	Pg	16 11 57.0	+0.7
T1212			S	Sb	16 12 01.6	-1.2
T1212			AML	AML		
	comp=E,220μm,0.5s					
T1212			AML	AML		
	comp=N,230μm,0.3s					
T1212			AML	AML		
	comp=E,220μm,0.5s					
T1212			AML	AML		
	comp=N,230μm,0.8s					
T1212			AML	AML		
	comp=E,220μm,1.5s					
EL6	**Elcito**	**0.29 5**	P	Pb	16 11 57.4	-0.6
EL6			S	Sb	16 12 02.6	-0.5
EL6			AML	AML		
	comp=E,346μm,0.2s					
EL6			AML	AML		
	comp=N,363μm,0.3s					
EL6			AML	AML		
	comp=N,363μm,0.3s					
EL6			AML	AML		
	comp=E,346μm,0.2s					
T1214	**Arquata del Tr**	**0.30 159**	P	Pg	16 11 57.1	+0.6
T1214			S	Sb	16 12 02.7	-0.5
ASSB	**Assisi San Ben**	**0.30 271**	P	Pg	16 11 57.1	+0.6
ASSB			S	Sb	16 12 02.0	-1.2
ASSB			AML	AML		
	comp=N,340μm,0.3s					
ASSB			AML	AML		
	comp=E,200μm,1.5s					
T1241	**Roccafluvione,**	**0.32 124**	P	Pb	16 11 57.9	-0.6
T1241			S	Sg	16 12 02.1	+0.8
T1241			AML	AML		
	comp=E,60μm,1.6s					
T1241			AML	AML		
	comp=N,63μm,0.2s					
T1241			AML	AML		
	comp=E,60μm,1.6s					
T1241			AML	AML		
	comp=N,63μm,0.2s					
T1241			AML	AML		
	comp=E,60μm,0.4s					
FOSV	**Fossato di Vic**	**0.34 319**	P	Pb	16 11 58.4	-0.4
FOSV			S	Sb	16 12 04.1	-0.2
FOSV			AML	AML		
	comp=E,64μm,0.7s					
FOSV			AML	AML		
	comp=N,57μm,0.5s					
FOSV			AML	AML		
	comp=N,57μm,1.5s					
FOSV			AML	AML		
	comp=E,64μm,0.7s					
ATCC	**AVT- Casa Cast**	**0.34 295**	P	Pb	16 11 58.1	-0.7
ATCC			S	Sb	16 12 04.1	-0.4
ATCC			AML	AML		
	comp=E,360μm,0.1s					
ATCC			AML	AML		
	comp=N,214μm,0.3s					
ATCC			AML	AML		
	comp=E,361μm,0.1s					
CING	**Cingoli**	**0.35 16**	P	Pb	16 11 58.3	-0.7
CING			S	Sb	16 12 04.5	-0.2
CING			AML	AML		
	comp=E,145μm,1.4s					
CING			AML	AML		
	comp=N,108μm,0.5s					
CING			AML	AML		
	comp=E,145μm,0.6s					
CING			AML	AML		
	comp=N,108μm,0.5s					
T1218	**Civita (PG)**	**0.37 174**	AML	AML		
	comp=N,119μm,0.6s					
T1218			AML	AML		
	comp=E,82μm,1.2s					
MOMA	**Monte Martano**	**0.43 237**	P	Pg	16 11 59.5	+0.5
MOMA			S	Sb	16 12 06.7	-0.3
MOMA			AML	AML		
	comp=N,81μm,0.3s					
MOMA			AML	AML		
	comp=E,80μm,0.1s					
LNSS	**Leonessa**	**0.43 182**	P	Pg	16 11 59.2	+0.2
LNSS			S	Sb	16 12 06.5	-0.6
LNSS			AML	AML		
	comp=E,94μm,0.4s					
LNSS			AML	AML		
	comp=N,92μm,0.7s					
LNSS			AML	AML		
	comp=N,92μm,0.7s					
T1243	**Rocca Santa Ma**	**0.44 140**	P	Pg	16 11 59.2	0.0
T1243			S	Sb	16 12 07.0	-0.3
SMA1	**SAN MARTINO**	**0.45 154**	P	Pg	16 11 59.9	+0.5
SMA1			S	Sb	16 12 07.0	-0.6
SMA1			AML	AML		
	comp=E,51μm,1.0s					
SMA1			AML	AML		
	comp=N,56μm,1.2s					
SMA1			AML	AML		
	comp=N,56μm,1.2s					
SMA1			AML	AML		
	comp=E,51μm,1.0s					
MURB	**Monte Urbino**	**0.46 300**	P	Pg	16 11 59.9	+0.4
MURB			AML	AML		
	comp=N,98μm,1.3s					
MURB			AML	AML		
	comp=E,149μm,0.3s					
MURB			AML	AML		
	comp=N,98μm,0.7s					
TERO	**Teramo**	**0.57 136**	AML	AML		
	comp=E,37μm,1.4s					
TERO			AML	AML		
	comp=N,34μm,0.5s					
TERO			AML	AML		
	comp=E,37μm,0.6s					
PIEI	**Pieia**	**0.63 322**	S	Sb	16 12 14.1	+1.4

*JMA **02** 16:18:03.9±0.2, 32°.3N±0°.7×141°.1E±0°.9, h29km, MV4.0/23, E OFF HACHIJOJIMA ISLAND*
*IDC **02** 16:18:04.3±1.8, 32°.05N×140°.87E, h60km±15km, mb3.4/12, mbtmp3.7/14, Error ellipse: s-maj=23.2km s-min=13.1km az=72.0*
ISC 02 16:18:03.1±1.3, **32°.07N**±0°.05×**141°.09E**±0°.08, **h52**km±12km, **n32**, σ1§**29**/33, **mb3.7**/12, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.19**	**290**	P		**Pn**		**16 18 24.4**	**+1.1**
JHCJ	**Hachijojimakas**	**1.48**	**313**	*e*P		**Pn**		**16 18 27.8**	**+0.6**
JHCJ				*e*S		**Sn**		**16 18 44.9**	**-0.5**
JHJ2	**Mitsune**	**1.49**	**314**	P		**Pn**		**16 18 27.8**	**+0.4**
JHJ2				*e*S		**Sn**		**16 18 45.0**	**-0.8**
JHJ	**Hachijo jima 2**	**1.52**	**314**	P		**Pn**		**16 18 27.8**	**0.0**
	289nm,0.3s,baz=113,slow=13,SNR=82								
JHJ				S		**Sn**		**16 18 44.3**	**-2.1**
	557nm,0.3s,baz=79,slow=22,SNR=7.5								
JMKN	**Mikurajimanish**	**2.21**	**326**	S		**Sn**		**16 19 03.0**	**-0.4**
JMYK	**Miyake Tsubota**	**2.37**	**327**	P		**Pn**		**16 18 40.4**	**+1.0**
JMYK				S		**Sn**		**16 19 07.8**	**+0.5**
BSO1	**Boso 1**	**2.58**	**358**	*e*P		**Pn**		**16 18 41.8**	**0.0**
BSO1				S		**Sn**		**16 19 11.2**	**-0.5**
BSO2	**Boso 2**	**2.69**	**354**	S		**Sn**		**16 19 15.4**	**+0.7**
JOD2	**Odawara 2**	**3.59**	**333**	*e*P		**Pn**		**16 18 57.2**	**+1.0**
JOD2				*e*S		**Sn**		**16 19 36.3**	**-1.1**
JIE	**Ise**	**4.34**	**303**	*e*P		**Pn**		**16 19 08.2**	**+1.8**
JCJ	**Chichijima**	**5.05**	**169**	P		**Pn**		**16 19 18.6**	**+2.3**
	17nm,0.3s,baz=1.9,slow=21,SNR=13								
JCJ				S		**Sn**		**16 20 12.7**	**-0.6**
	17nm,0.3s,baz=22,slow=23,SNR=2.2								
MJAR	**Matsushiro Arr**	**5.05**	**333**	P		**Pn**		**16 19 18.2**	**+1.9**
	2.2nm,0.4s,baz=128,slow=14,SNR=33								
JWY	**Kouya**	**5.08**	**296**	*e*P		**Pn**		**16 19 19.9**	**+3.2**
ASAJ	**Asahikawa**	**12.08**	**5**	P		**Pn**		**16 20 50.8**	**-1.7**
	2.7nm,0.9s,baz=231,slow=12,SNR=6.1								
ASAJ				S		Sn		16 22 55.4	-10
	2.5nm,1.0s,baz=294,slow=34,SNR=1.1								
H11N2	**WAKE ISLAND Hy**	**26.19**	**112**	T		T		16 52 38.6	
	baz=302								
H11N1	**WAKE ISLAND Hy**	**26.20**	**112**	T		T		16 52 36.2	
	baz=302								
H11N3	**WAKE ISLAND Hy**	**26.21**	**112**	T		T		16 52 42.7	
	baz=302								
H11S3	**WAKE ISLAND Hy**	**26.72**	**114**	T		T		16 52 51.3	
	baz=306								
H11S1	**WAKE ISLAND Hy**	**26.72**	**114**	T		T		16 52 56.0	
	baz=306								
H11S2	**WAKE ISLAND Hy**	**26.74**	**114**	T		T		16 52 51.1	
	baz=306								
SONM	**Songino Array**	**30.59**	**311**	P		**P**		**16 24 12.1**	**0.0**
	0.9nm,0.6s,baz=109,slow=9.0,SNR=3.7								
	0.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**40.20**	**261**	P		**P**		**16 25 33.4**	**-1.3**
	0.4nm,0.6s,baz=46,slow=7.7,SNR=1.8								
	0.4nm,0.6s								
ZALV	**Zalesovo Beam**	**45.18**	**316**	P		**P**		**16 26 12.7**	**-1.8**
	0.4nm,0.4s,baz=94,slow=8.7,SNR=2.7								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**46.67**	**306**	P		**P**		**16 26 26.3**	**-0.2**
	2.2nm,0.4s,baz=86,slow=9.6,SNR=52								
	2.2nm,0.4s								
WRA	**Warramunga Arr**	**52.12**	**188**	P		**P**		**16 27 07.5**	**-0.6**
	0.4nm,0.3s,baz=2.5,slow=7.7,SNR=10								
	0.4nm,0.3s								
ILAR	**Eielson Array**	**53.86**	**30**	P		**P**		**16 27 21.5**	**+1.0**
	0.3nm,0.7s,baz=280,slow=5.4,SNR=2.6								
	0.3nm,0.7s								
ASAR	**Alice Springs**	**55.85**	**188**	P		**P**		**16 27 34.9**	**-0.4**
	0.2nm,0.5s,baz=5.8,slow=7.0,SNR=12								
	0.2nm,0.5s								
INK	**Inuvik**	**58.94**	**26**	P		**P**		**16 27 58.0**	**+1.5**
	1.1nm,0.9s,baz=244,slow=2.9,SNR=3.9								
	1.1nm,0.9s								
FINES	**FINESS Array B**	**73.08**	**333**	P		**P**		**16 29 28.1**	**+0.7**
	1.5nm,0.8s,baz=48,slow=6.2,SNR=5.1								
	1.5nm,0.8s								
AKASG	**Malin Array Be**	**78.07**	**323**	P		**P**		**16 29 56.2**	**+0.1**
	0.3nm,0.4s,baz=52,slow=5.4,SNR=2.1								
	0.3nm,0.4s								
PDAR	**Pinedale Array**	**81.35**	**45**	P		**P**		**16 30 13.6**	**-0.8**
	0.2nm,0.6s,baz=319,slow=2.6,SNR=2.9								
	0.2nm,0.6s								
TXAR	**Lajitas Array**	**93.36**	**52**	P		**P**		**16 31 14.1**	**+1.1**
	0.3nm,0.7s,baz=25,slow=2.4,SNR=2.4								
	0.3nm,0.7s								

HEL 02 16:28:21.7±0.5, **69°.33N**×**30°.64E**, **h0**km, **ML1.0**, **Explosion, Norway-Murmansk border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**1.34**	**290**	*e*S		Sg		16 29 02.9	-1.9
KEV	**Kevo**	**1.34**	**290**	PG		Pg		16 28 45.8	-1.6
	baz=106								
KEV				MSG				16 29 02.4	
	comp=Z,1.0nm,0.2s								
KEV				SB		Sg		16 29 03.4	-1.5
KEV	**Kevo**	**1.34**	**290**	*e*P		Pg		16 28 45.8	-1.6
VRF	**Varrio**	**1.63**	**194**	MSG				16 29 10.7	
	comp=Z,1.1nm,0.2s								
VRF				SN		Sg		16 29 15.1	+1.0
ARA0	**ARCESS Array S**	**1.82**	**279**	*e*P		Pn		16 28 54.4	+0.1
ARA0				*e*S		Sn		16 29 18.1	0.0
ARA0				IAML				16 29 20.7	
	comp=Z,0.9nm,0.2s								
ARA0	**ARCESS Array S**	**1.82**	**279**	PG		Pn		16 28 54.3	0.0
	baz=98								
ARA0				SN		Sn		16 29 18.3	+0.2
KTK1	**Kautokeino**	**2.66**	**267**	PG		Pb		16 29 09.4	-0.8
KTK1				SN		Sn		16 29 36.2	-2.6
HEF	**Hetta**	**2.69**	**253**	MSG				16 29 41.0	
	comp=Z,0.4nm,0.2s								
HEF				SG		Sb		16 29 44.6	+0.4
KIF	**Kilpisjarvi**	**3.53**	**269**	SG		Sb		16 30 09.1	+0.9

*IDC **02** 16:30:05.1±1.4, 53°.33N×35°.27W, h0km, mb3.3/9, mbtmp3.3/9, Error ellipse: s-maj=43.4km s-min=24.5km az=18.0*
ISC 02 16:30:07.3±1.1, **53°.3N**±0°.2×**35°.3W**±0°.2, **h16**km, **n11**, σ0§**86**/11, **mb3.5**/9, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**40.53**	**315**	P		**P**		**16 37 45.2**	**+0.1**
	0.2nm,0.7s,baz=68,slow=6.7,SNR=1.9								
	0.2nm,0.7s								
BRTR	**Keskin Array B**	**47.50**	**77**	P		**P**		**16 38 42.9**	**+1.3**
	0.7nm,0.9s,baz=308,slow=5.3,SNR=2.5								
	0.7nm,0.9s								
PDAR	**Pinedale Array**	**48.62**	**289**	P		**P**		**16 38 50.5**	**+0.2**
	0.1nm,0.3s,baz=119,slow=8.6,SNR=2.5								
	0.1nm,0.3s								
TORD	**Torodi Ar. Bea**	**49.63**	**130**	P		**P**		**16 38 57.8**	**-0.1**
	0.4nm,0.8s,baz=338,slow=7.7,SNR=2.1								
	0.4nm,0.8s								
ILAR	**Eielson Array**	**51.09**	**329**	P		**P**		**16 39 09.0**	**+0.5**
	0.1nm,0.5s,baz=57,slow=6.6,SNR=1.3								
	0.1nm,0.5s								
BVAR	**Borovoye Array**	**57.34**	**44**	P		**P**		**16 39 53.0**	**-1.2**
	0.6nm,0.8s,baz=318,slow=5.8,SNR=2.5								
	0.6nm,0.8s								
KURBB	**Kurchatov Arra**	**62.46**	**41**	P		**P**		**16 40 30.0**	**+0.7**
	0.2nm,0.2s,baz=320,slow=7.4,SNR=2.3								
	0.2nm,0.2s								
MKAR	**Makanchi Array**	**67.02**	**41**	P		**P**		**16 40 59.4**	**+0.2**
	0.5nm,0.8s,baz=316,slow=5.1,SNR=4.1								
	0.5nm,0.8s								
SONM	**Songino Array**	**74.10**	**26**	P		**P**		**16 41 42.4**	**0.0**
	0.4nm,0.9s,baz=324,slow=7.1,SNR=3.0								
	0.4nm,0.9s								
WRA	**Warramunga Arr**	**145.75**	**18**	PKPbc		**PKPbc**		**16 49 44.8**	**-0.6**
	0.7nm,1.0s,baz=349,slow=3.2,SNR=2.5								
ASAR	**Alice Springs**	**149.29**	**20**	PKPbc		**PKiKP**		**16 49 55.0**	**-1.2**
	0.5nm,0.6s,baz=353,slow=2.2,SNR=6.7								

*IDC **02** 16:30:25.5±2.7, 53°.27N×35°.29W, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=73.0km s-min=41.4km az=72.0*
ISC 02 16:30:26.9±2.8, **53°.3N**±0°.3×**35°.3W**±0°.5, **h10**km, **n7**, σ0§**53**/7, **mb3.8**/6, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**47.53**	**77**	P		**P**		**16 39 01.8**	**-0.5**
	1.0nm,0.8s,baz=296,slow=5.8,SNR=4.6								
	1.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**49.61**	**130**	P		**P**		**16 39 18.5**	**+0.2**
	0.6nm,0.8s,baz=317,slow=8.6,SNR=2.6								
	0.6nm,0.8s								
BVAR	**Borovoye Array**	**57.41**	**44**	P		**P**		**16 40 15.9**	**+0.8**
	0.7nm,0.7s,baz=311,slow=7.7,SNR=3.5								
	0.7nm,0.7s								
KURBB	**Kurchatov Arra**	**62.52**	**41**	P		**P**		**16 40 50.2**	**-0.1**
	0.4nm,0.7s,baz=325,slow=6.8,SNR=4.8								
	0.4nm,0.7s								
MKAR	**Makanchi Array**	**67.08**	**41**	P		**P**		**16 41 19.7**	**-0.4**
	0.6nm,0.8s,baz=328,slow=5.7,SNR=5.7								
	0.6nm,0.8s								
SONM	**Songino Array**	**74.17**	**26**	P		**P**		**16 42 03.4**	**0.0**
	0.4nm,0.8s,baz=324,slow=7.1,SNR=3.5								
	0.4nm,0.8s								
ASAR	**Alice Springs**	**149.35**	**20**	PKPbc		**PKPbc**		**16 50 15.6**	**-0.3**
	0.8nm,0.6s,baz=348,slow=2.3,SNR=7.1								

*NEIC **02** 16:41:15.8±0.9, 19°.1S±0°.2×177°.8W±0°.2, h501km±11km, mb4.3/17, Error ellipse: s-maj=27.1km s-min=17.8km az=149.0*
*IDC **02** 16:41:30.6±27.0, 19°.39S×178°.19W, h684km±386km, mb3.1/6, mbtmp4.2/6, Error ellipse: s-maj=132.6km s-min=106.7km az=35.0*
ISC 02 16:41:18.3±0.8, **19°.1S**±0°.1×**177°.9W**±0°.2, **h532**km, **n26**, σ0§**85**/25, **mb4.1**/15, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.51**	**91**	P		P		16 43 04.8	-5.8
FOZ	**Fox Glacier**	**26.43**	**200**	P		**P**		**16 46 10.7**	**-1.7**
LBZ	**Lake Benmore**	**27.08**	**199**	P		**P**		**16 46 16.6**	**-1.6**
WHZ	**Wether Hill Ro**	**29.14**	**201**	P		**P**		**16 46 36.3**	**+0.1**
ARMA	**Armidale**	**29.79**	**242**	P		**P**		**16 46 41.9**	**-0.2**
ARMA				IAmb		IAmb		16 47 21.7	
	comp=Z,26nm,1.4s								
CTAO	**Charters Tower**	**33.77**	**262**	P		**P**		**16 47 16.2**	**+0.1**
CTAO				IAmb		IAmb		16 47 40.0	
	comp=Z,10nm,1.4s								
TOO	**Toolangi**	**36.81**	**232**	P		**P**		**16 47 40.8**	**-0.4**
TOO				IAmb		IAmb		16 48 17.0	
	comp=Z,18nm,1.2s								
STKA	**Stephens Creek**	**38.50**	**243**	P		**P**		**16 47 55.5**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=88,slow=10.0,SNR=9.1								
	comp=Z,1.8nm,0.5s								
STKA	**Stephens Creek**	**38.50**	**243**	P		**P**		**16 47 55.8**	**+0.7**
BBOO	**Buckleboo**	**43.27**	**242**	P		**P**		**16 48 33.1**	**+0.1**
WR0	**Warramunga Arr**	**44.74**	**261**	P		**P**		**16 48 44.2**	**-0.3**
WR0				IAmb		IAmb		16 49 14.6	
	comp=Z,7.7nm,1.2s								
WB0	**Warramunga Arr**	**44.90**	**261**	P		**P**		**16 48 45.2**	**-0.6**
WB0				IAmb		IAmb		16 49 17.3	
	comp=Z,18nm,1.5s								
WB2	**Warramunga Arr**	**44.91**	**261**	P		**P**		**16 48 45.3**	**-0.6**
WB2				IAmb		IAmb		16 49 11.7	
	comp=Z,16nm,1.4s								
WRA	**Warramunga Arr**	**44.93**	**261**	P		**P**		**16 48 45.5**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=98,slow=6.5,SNR=44								
	comp=Z,1.9nm,0.4s								
WRA	**Warramunga Arr**	**44.93**	**261**	P		**P**		**16 48 44.9**	**-1.1**
AS31	**Alice Springs**	**44.96**	**255**	P		**P**		**16 48 46.2**	**-0.1**
AS31				IAmb		IAmb		16 48 47.5	
	comp=Z,2.6nm,0.7s								
ASAR	**Alice Springs**	**44.96**	**255**	P		**P**		**16 48 46.4**	**+0.2**
	comp=Z,6.2nm,0.6s,baz=90,slow=8.5,SNR=137								
	comp=Z,6.2nm,0.6s								
ASAR	**Alice Springs**	**44.96**	**255**	P		**P**		**16 48 46.0**	**-0.3**
KNRA	**Kununurra**	**50.88**	**265**	P		**P**		**16 49 29.3**	**-1.3**
KNRA				IAmb		IAmb		16 49 51.0	
	comp=Z,54nm,1.5s								
QSPA	**South Pole Qui**	**70.92**	**180**	P		**P**		**16 51 43.3**	**+1.6**
PETK	**Petropavlovsk-**	**75.00**	**345**	P		**P**		**16 52 05.4**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=113,slow=6.6,SNR=5.3								
	comp=Z,1.2nm,0.7s								
NVAR	**Mina Array Bea**	**79.96**	**43**	P		**P**		**16 52 32.0**	**-0.5**
NV11	**Mina Array Sit**	**80.06**	**44**	P		**P**		**16 52 32.2**	**-0.7**
SEY	**Seymchan**	**85.08**	**347**	P		**P**		**16 52 58.1**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=66,slow=12,SNR=4.6								
	comp=Z,1.6nm,0.8s								
ILAR	**Eielson Array**	**86.97**	**13**	P		**P**		**16 53 06.5**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=207,slow=4.6,SNR=1.9								
	comp=Z,0.4nm,0.9s								
S22A	**4UR Ranch, Cre**	**87.43**	**49**	P		**P**		**16 53 08.4**	**-1.2**
S22A				IAmb		IAmb		16 53 39.2	
	comp=Z,1.9nm,1.1s								

*IDC **02** 16:42:04.4±0.5, 53°.28N×35°.26W, h0km, mb4.2/34, mbtmp4.2/36, ML3.6/2, MS4.3/86, Error ellipse: s-maj=14.4km s-min=9.3km az=3.0*
*GCMT **02** 16:42:05.7±0.2, 53°.43N±0°.03×35°.29W±0°.02, h12km, MW5.1/108, Moment Tensor Solution. s36,c41; s108,c164; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.28±.14; Mθθ=0.67±.15; Mϕϕ4.96±.11; Mrθ1.53±.53; Mθϕ-0.40±.12; Mϕr1.32±.43; Best double couple: M₀5.09100×10¹⁶ NP1:φs195.00000°, δ56.00000°, λ-66.00000°. NP2:φs337.00000°, δ41.00000°, λ-121.00000°. Principal axes: T 5.1510, Plg8.0000°, Azm268.0000°; N -0.1120, Plg20.0000°, Azm1.0000°; P -5.0310, Plg69.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 16:42:06.7±1.3, 53°.32N±0°.10×35°.3W±0°.1, h10km±4km, mb4.8/168 Error ellipse: s-maj=14.1km s-min=12.4km az=205.0*
ISC 02 16:42:08.6±1.0, **53°.29N**±0°.07×**35°.27W**±0°.05, **h26**km±6km, **n509**, σ1§**02**/461, **mb4.7**/136, **MS4.3**/89, **12C-7D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**9.61**	**329**	Pn		**Pn**		**16 44 23.2**	**-1.7**
IVI	**Ivigtut**	**10.55**	**324**	Pn		**Pn**		**16 44 35.2**	**-2.6**
BORG	**Borgarnes**	**13.50**	**26**	LR		LR		16 48 47.2	
	comp=Z,1μm,21.0s,baz=230,slow=30								
H07N1	**FLORES T-PHASE**	**13.90**	**167**	T		T		16 59 32.2	
	SNR=4.4								
DY2G	**Dye2**	**14.29**	**342**	*i* P		**P**		**16 45 35.5**	**-0.6**
SFJD	**Kangerlussuaq**	**15.65**	**337**	Pn		**P**		**16 45 49.8**	**-1.0**
	0.4nm,0.3s,baz=145,slow=8.8,SNR=13								
SFJD				LR		LR		16 50 36.6	
	comp=Z,1μm,21.1s,baz=152,slow=33								
SFJD	**Kangerlussuaq**	**15.65**	**337**	Pn		**Pn**		**16 45 45.1**	**-1.9**
SFJD	**Kangerlussuaq**	**15.65**	**337**	*i* P		**P**		**16 45 49.6**	**-1.2**
ICESG	**Greenland Ices**	**15.99**	**354**	*i* P		**P**		**16 45 55.7**	**+0.7**
SCHQ	**Schefferville**	**18.51**	**

NUUG Nuugaatsiaq 19.94 343 *i* P **Pn 16 46 41.7 +1.9**
FRB Frobisher Bay 20.03 315 P **P 16 46 38.0 -1.0**
4.8nm,0.9s,baz=112,slow=10,SNR=7.0
FRB LR LR 16 52 47.8
comp=Z,1µm,18.2s,baz=114,slow=32
4.8nm,0.9s
HAL Halifax 20.40 256 P **P 16 46 42.2 -1.0**
LMN Caledonia Moun 20.44 261 P **P 16 46 41.8 -1.9**
BATG Bathurst New B 20.47 265 P **P 16 46 42.7 -1.3**
JMIC Jan Mayen 21.37 24 LR LR 16 53 00.0
comp=Z,1µm,19.6s,baz=247,slow=31
PQI Presque Isle 21.93 266 P **P 16 46 59.1 -0.6**
PQI IAmb IAmb 16 47 14.1
comp=Z,100nm,1.7s
GGN Saint George 22.04 261 P **P 16 46 59.0 -1.9**
GGN IAmb IAmb 16 47 04.8
comp=Z,79nm,1.3s
D62A Allapoint, All 22.35 268 P **P 16 47 02.5 -1.8**
G65A Princeton 22.42 262 P **P 16 47 03.2 -1.8**
F64A Sherman 22.54 264 P **P 16 47 04.3 -1.9**
EMMW East Machias 22.63 261 P **P 16 47 05.0 -2.2**
E62A Clayton Lake 22.86 267 P **P 16 47 08.9 -0.7**
E62A IAmb IAmb 16 47 17.7
comp=Z,61nm,1.4s
F63A Nahmakanta, Br 23.07 265 P **P 16 47 10.6 -1.3**
F63A IAmb IAmb 16 47 18.2
comp=Z,49nm,1.2s
PKME Peaks-Kenny Pk 23.42 264 P **P 16 47 14.4 -0.8**
PKME Peaks-Kenny Pk 23.42 264 P **P 16 47 14.5 -0.8**
baz=58
F62A Pittston Farm, 23.49 266 P **P 16 47 14.8 -1.2**
DOU Dourbes 24.69 81 *dP* **P 16 47 27.3 +0.2**
BMRD Maredsous 24.71 81 *dP* **P 16 47 27.8 +0.5**
BCLA Clavier 24.99 80 *dP* **P 16 47 30.1 +0.3**
ESBB Sonseca Array 25.26 110 P **P 16 47 30.8 -1.5**
ESBB IAmb IAmb 16 47 34.9
comp=Z,57nm,1.7s
ESDC Sonseca Array 25.26 110 P **P 16 47 31.7 -0.6**
comp=Z,9.1nm,0.8s,baz=314,slow=7.9,SNR=21
ESDC LR LR 16 55 38.3
comp=Z,2µm,18.1s,baz=316,slow=32
comp=Z,9.1nm,0.8s
NB2 NORSAR Subarra 25.87 54 P **P 16 47 39.7 +2.0**
comp=Z,5.7nm,1.2s,baz=251,slow=5.9
NOA NORSAR Array B 25.87 54 P **P 16 47 38.0 +0.3**
comp=Z,2.4nm,0.9s,baz=276,slow=9.9,SNR=3.9
comp=Z,2.4nm,0.9s
TRQ Mont Tremblant 26.08 270 P **P 16 47 39.4 -0.3**
TRQ IAmb IAmb 16 48 07.7
comp=Z,48nm,1.8s
NCB Newcomb 27.07 266 P **P 16 47 49.5 +0.8**
NCB IAmb IAmb 16 47 56.5
comp=Z,28nm,1.4s
HFS Hagfors 27.17 56 LR LR 16 57 19.2
comp=Z,990nm,19.1s,baz=270,slow=34
SENIN Lac Senin/Sane 27.98 87 P **P 16 47 57.6 +0.5**
L59A Walton 28.59 263 P **P 16 48 02.6 +0.3**
DAVA Damuels 29.07 83 *epP* **P 16 48 09.4 +2.8**
comp=Z,6.3nm,1.3s
CLL Collm 29.15 74 P **P 16 48 07.1 +0.1**
CLL IAmb IAmb 16 48 10.6
comp=Z,44nm,2.0s
CLL Collm 29.15 74 *eP* **P 16 48 07.0 -0.1**
comp=Z,7.0nm,0.8s
CLL *ex* x 16 48 14.0
CLL *eS* **S 16 52 55.0 -2.3**
CLL Lmax 17 00 00.0
DAVOX Davos/Dischmat 29.32 84 P **P 16 48 09.2 +0.3**
comp=Z,2.0nm,0.7s,baz=335,slow=17,SNR=2.7
DAVOX LR LR 16 59 23.5
comp=Z,835nm,18.9s,baz=287,slow=36
comp=Z,2.0nm,0.7s
RETA Reutte 29.50 82 *epP* pP 16 48 14.0 -3.4
comp=Z,4.1nm,0.6s
SADO Sadowa 29.59 271 LR LR 16 58 59.9
comp=Z,2µm,20.8s,baz=88,slow=34
FETA Feichten 29.70 83 *epP* **P 16 48 14.9 +2.6**
comp=Z,8.6nm,1.9s
MOTA Moosalm 29.77 82 *epP* **P 16 48 15.6 +2.7**
comp=Z,6.7nm,1.2s
BRG Berggiesshubel 29.86 74 *eP* **P 16 48 08.7 -4.8**
BRG Amp 16 48 17.8
comp=Z,3.0nm,0.9s
SQTA Sankt Quirin 29.89 83 *epP* **P 16 48 15.6 +1.7**
comp=Z,7.2nm,1.1s
WATA Walderalm 30.06 82 *epP* **P 16 48 17.1 +1.7**
comp=Z,2.2nm,0.5s
WTTA Wattenberg 30.13 82 *epP* **P 16 48 18.5 +2.4**
comp=Z,8.0nm,1.2s
KHC Kasperske Hory 30.40 78 *eP* **P 16 48 13.5 -4.8**
GEC2 GERESS Array S 30.60 78 P **P 16 48 20.0 -0.1**
GERES GERESS Array B 30.60 78 P **P 16 48 20.2 +0.1**
comp=Z,1.5nm,0.8s,baz=297,slow=8.8,SNR=8.7
comp=Z,1.5nm,0.8s
GERES GERESS Array B 30.60 78 P **P 16 48 20.1 -0.1**
ABTA Abfaltersbach 30.90 83 *epP* **P 16 48 24.8 +2.0**
comp=Z,4.5nm,1.2s
BIOA Bad Ischl, Aus 31.11 80 *epP* **P 16 48 26.5 +2.0**
comp=Z,7.2nm,1.2s
SSPA Standing Stone 31.24 264 P **P 16 48 25.6 -0.1**
baz=52
SDMD Soldier's Deli 31.39 261 P **P 16 48 28.0 +1.0**
ERPA Erie 31.60 268 P **P 16 48 28.8 0.0**
baz=54
ARCES ARCESS Array B 31.60 36 P **P 16 48 28.7 +0.1**
comp=Z,6.2nm,0.9s,baz=300,slow=9.7,SNR=4.1
comp=Z,6.2nm,0.9s
RES Resolute Bay 31.61 334 P **P 16 48 29.0 +0.5**
comp=Z,2.5nm,0.8s,baz=121,slow=5.1,SNR=4.9
RES LR LR 17 00 34.3
comp=Z,335nm,18.1s,baz=74,slow=35
comp=Z,2.5nm,0.8s
RES Resolute Bay 31.61 334 P **P 16 48 28.9 +0.3**
MYKA Terra Mystica 31.63 82 *eP* **P 16 48 29.7 +0.5**
comp=Z,3.2nm,0.5s
E46A Sault Ste Mari 31.84 278 P **P 16 48 31.7 +0.8**
SABO M.te Sabotino 31.94 83 P **P 16 48 32.8 +0.9**
SABO IAmb IAmb 16 49 26.2
comp=Z,35nm,1.7s
KRUC Moravsky 32.08 76 *eP* **P 16 48 35.1 +2.1**
VRAC Vranov 32.08 76 LR LR 17 01 01.4
comp=Z,1µm,18.7s,baz=314,slow=35
VRAC Vranov 32.08 76 *eP* **P 16 48 35.0 +2.0**
OBKA Obir 32.23 82 *eP* **P 16 48 35.2 +0.7**
comp=Z,4.5nm,0.8s
CONA Conrad Observa 32.30 78 *eP* **P 16 48 35.8 +0.7**
comp=Z,2.6nm,1.0s
FCC Fort Churchill 32.37 304 P **P 16 48 35.1 -0.3**
FCC IAmb IAmb 16 48 48.7
comp=Z,19nm,1.5s
M53A WI Miller and 32.41 267 P **P 16 48 36.5 +0.5**
baz=53
MORC Moravsky Berou 32.42 74 *eP* **P 16 48 37.0 +1.0**
SOKA Soboth 32.44 81 *eP* **P 16 48 35.3 -0.9**
comp=Z,7.3nm,1.4s
ARSA Arzberg 32.44 80 *eP* **P 16 48 35.4 -0.8**
comp=Z,2.1nm,0.6s
CBN Corbin Frederi 32.49 260 P **P 16 48 37.8 +1.2**
baz=48
RONA Rosalia, Austr 32.67 79 *eP* **P 16 48 39.1 +0.8**
comp=Z,6.7nm,1.1s
FINES FINESS Array B 32.89 51 P **P 16 48 39.5 -0.5**
comp=Z,3.4nm,0.8s,baz=286,slow=9.3,SNR=6.3
FINES LR LR 17 00 30.1
comp=Z,985nm,20.4s,baz=268,slow=34
comp=Z,3.4nm,0.8s
O53A New Philadelph 33.46 266 P **P 16 48 45.7 +0.5**
baz=51
PABE Paberze 33.66 62 P **P 16 48 46.3 -0.4**
AAM Ann Arbor 33.69 271 P **P 16 48 47.2 +0.1**
baz=54
VYHS Vyhne 33.77 76 *eP* **P 16 48 48.6 +0.8**
LANS Liptovska Anna 33.82 74 *eP* **P 16 48 50.5 +2.2**
D41A Chassel 34.01 281 P **P 16 48 51.0 +1.1**
P52A Corning 34.40 266 P **P 16 48 53.6 +0.3**
baz=51
ACSO Alum Creek Sta 34.53 267 P **P 16 48 55.2 +0.8**
baz=51
MORH Mrgy, Hungar 34.81 79 ⇑P **P 16 48 57.0 +0.2**
N49A Columbus Grove 34.83 269 P **P 16 48 57.2 +0.2**
N49A IAmb IAmb 16 48 58.9
comp=Z,9.0nm,0.7s
EYMN Ely 35.27 285 P **P 16 49 01.4 +0.7**
EYMN Ely 35.27 285 P **P 16 49 01.0 +0.2**
baz=60
NACGM Naroch 35.38 62 *eP* **P 16 49 01.8 +0.2**
comp=Z,11nm,0.9s,baz=292
SGRT San Giovanni R 35.59 88 P **P 16 49 03.4 -0.3**
SGRT IAmb IAmb 16 49 06.0
comp=Z,21nm,1.3s
KEST Kesra 35.64 101 P **P 16 49 03.9 -0.3**
comp=Z,13nm,0.9s,baz=319,slow=1.5,SNR=12
KEST LR LR 17 01 49.2
comp=Z,568nm,19.9s,baz=284,slow=33
comp=Z,13nm,0.9s
KEST Kesra 35.64 101 P **P 16 49 03.8 -0.3**
KEST IAmb IAmb 16 49 07.1
comp=Z,15nm,0.9s
O48B Farmland 35.82 269 P **P 16 49 05.8 +0.2**
baz=52
P49A Miami Univ. Ec 36.01 268 P **P 16 49 06.4 -0.8**
baz=51
FRGS Fruska Gora 36.07 80 ⇓P **P 16 49 08.0 +0.3**
TRPA Tarpa 36.10 74 ⇑P **P 16 49 08.8 +1.0**
MNK Minsk 36.12 62 *i* P **P 16 49 06.4 -1.5**
comp=E,2.0nm,0.8s
MNK *i* P **P 16 49 06.4 -1.5**
comp=N,4.0nm,0.8s
MNK *i* P **P 16 49 06.4 -1.5**
comp=Z,6.0nm,0.8s,baz=295
MNK *i* PP **PnPn 16 50 27.4 -1.9**
MNK *i* PPP PPP 16 50 41.2
MNK *i* S **S 16 54 46.3 +0.7**
MNK *i* SS SnSn 16 56 50.5 -21
MNK *i* SSS SSS 16 57 19.6
MNK *i* LQ LQ 17 00 56.6
MNK *i* LR LR 17 03 48.2
MNK *i* LRM MLR 17 04 22.7
comp=N,499nm,15.2s
MNK *i* LRM MLR 17 04 35.1
comp=Z,319nm,15.7s
MNK *i* LRM MLR 17 04 54.8
comp=E,40nm,15.3s
R50A Paris 36.58 266 P **P 16 49 10.9 -1.2**
R50A IAmb IAmb 16 49 13.8
comp=Z,35nm,1.6s
ULM Lac du Bonnet 36.64 290 P **P 16 49 11.5 -0.9**
comp=Z,6.3nm,0.8s,baz=60,slow=8.5,SNR=11
ULM LR LR 17 02 50.9
comp=Z,838nm,18.5s,baz=77,slow=34
comp=Z,6.3nm,0.8s
ULM Lac du Bonnet 36.64 290 P **P 16 49 10.9 -1.5**
DIVS Divibare 36.77 82 P **P 16 49 14.2 +0.5**
BZS Buzias 36.88 78 ⇑P **P 16 49 15.4 +0.9**
DRGR 36.89 76 ⇑P **P 16 49 15.9 +1.2**
KMSC Kings Mountain 36.90 259 P **P 16 49 15.7 +0.9**
baz=46
SFIN Lafayette 36.91 271 P **P 16 49 14.5 -0.4**
baz=52
SURR Surduc 37.11 78 ⇑P **P 16 49 17.8 +1.4**
MARR Marisel-Cluj 37.19 76 ⇑P **P 16 49 18.6 +1.3**
JFWS Jewell Farm 37.28 277 P **P 16 49 17.8 -0.2**
baz=54
MDVR Moldovita 37.40 79 ⇓P **P 16 49 19.9 +0.9**
P46A Rosedale 37.45 270 P **P 16 49 20.4 +1.0**
P46A IAmb IAmb 16 49 25.0
comp=Z,14nm,0.9s
VAE Valguarnera 37.48 95 LR LR 17 03 08.3
comp=Z,373nm,19.8s,baz=344,slow=34
F36A Milaca 37.55 283 P **P 16 49 20.9 +0.7**
NHSC New Hope 37.66 256 P **P 16 49 21.8 +0.5**
baz=44
GZR Gura Zlata 37.69 78 ⇑P **P 16 49 22.0 +0.5**
T50A Nancy 37.71 265 P **P 16 49 22.4 +0.7**
HERR Herculane 37.76 79 ⇓P **P 16 49 22.0 0.0**
WCI Wyandotte Cave 37.79 268 P **P 16 49 22.6 +0.2**
WCI IAmb IAmb 16 49 25.5
comp=Z,9.3nm,0.7s
WCI Wyandotte Cave 37.79 268 P **P 16 49 22.8 +0.4**
baz=49
BUR08 Bucovina Ar. S 37.88 73 P **P 16 49 23.7 +0.6**
BURAR Bucovina Array 37.91 73 ⇑P **P 16 49 24.7 +1.4**
BURAR Bucovina Array 37.91 73 P **P 16 49 23.7 +0.4**
HDIL Hopedale 38.12 273 P **P 16 49 26.3 +1.2**
HDIL Hopedale 38.12 273 P **P 16 49 26.2 +1.2**
baz=52
L40A Anamosa 38.36 276 P **P 16 49 27.8 +0.7**
L40A IAmb IAmb 16 49 28.6
comp=Z,52nm,1.9s
AKASG Malin Array Be 38.59 67 P **P 16 49 27.9 -1.0**
comp=Z,2.0nm,0.8s,baz=299,slow=7.8,SNR=6.7
AKASG PcP **PcP 16 51 40.4 -0.4**
comp=Z,0.2nm,0.4s,baz=285,slow=3.6,SNR=1.6
AKASG LR LR 17 05 22.5
comp=Z,475nm,18.7s,baz=280,slow=36
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 38.59 67 P **P 16 49 28.7 -0.2**
P43A Skaggs, Pawnee 38.83 272 P **P 16 49 31.1 +0.1**
P43A IAmb IAmb 16 49 33.1
comp=Z,14nm,0.7s
DOPR Dopca 38.90 76 ⇑P **P 16 49 32.7 +1.1**
CLTN Cedars of Leba 39.23 265 P **P 16 49 35.2 +0.8**
KLMR Klimovskoe 39.24 48 *eP* **P 16 49 33.1 -1.1**
KLMR AMP 16 49 51.5
comp=Z,36nm,1.5s
KLMR LQ LQ 17 01 05.4
KLMR LQ LQ 17 01 05.4
KLMR LR LR 17 02 04.9
KLMR AMP 17 03 52.7
comp=Z,982nm,17.6s
MLR Muntele Rosu 39.49 76 LR LR 17 06 28.5
comp=Z,606nm,19.4s,baz=302,slow=37
MLR Muntele Rosu 39.49 76 ⇑P **P 16 49 36.7 +0.1**
VTS Vitosha 39.55 81 ⇑P **P 16 49 38.5 +1.2**
VTS Vitosha 39.55 81 P **P 16 49 37.8 +0.6**
FNA Florina 39.55 85 P **P 16 49 37.7 +0.5**
SCIA State Center 39.64 277 P **P 16 49 38.4 +0.6**
baz=53
S44A Carbondale 39.92 269 P **P 16 49 40.5 +0.4**
PLVB Pleven 39.92 79 ⇓P **P 16 49 39.9 -0.1**
WVT Waverly 40.10 266 P **P 16 49 42.2 +0.5**
WVT Waverly 40.10 266 P **P 16 49 41.6 0.0**
baz=48
N38A Joes South For 40.34 276 P **P 16 49 44.0 +0.4**
OBN Obninsk 40.35 57 LR LR 17 05 29.1
comp=Z,146nm,18.7s,baz=343,slow=35
P40A Paris 40.41 274 P **P 16 49 44.7 +0.5**
A36M Sachs Harbour 40.52 331 P **P 16 49 45.4 +0.7**
A36M Sachs Harbour 40.52 331 P **P 16 49 45.4 +0.7**
baz=68,SNR=7.7
YKA Yellowknife Ar 40.54 315 P **P 16 49 44.0 -1.0**
comp=Z,1.2nm,0.8s,baz=63,slow=9.7,SNR=14
YKA PcP **PcP 16 51 46.8 0.0**
comp=Z,1.8nm,0.7s,baz=68,slow=4.5,SNR=13
YKA LR LR 17 05 05.7
comp=Z,442nm,18.8s,baz=69,slow=34
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 40.54 315 P **P 16 49 45.6 +0.6**
ECSD EROS Data Cent 40.57 282 P **P 16 49 45.9 +0.4**
ECSD EROS Data Cent 40.57 282 P **P 16 49 47.1 +1.6**
baz=54,SNR=8.5
LIT Litokhoron 40.65 85 P **P 16 49 46.0 -0.2**
LIT IAmb IAmb 16 49 48.8
comp=Z,30nm,1.7s
Y49A Blount Mountai 40.80 263 P **P 16 49 47.5 -0.1**
Y49A IAmb IAmb 16 50 23.2
comp=Z,35nm,1.8s
CCM Cathedral Cave 40.88 271 P **P 16 49 48.8 +0.7**
CCM IAmb IAmb 16 49 50.0
comp=Z,10nm,0.7s
CCM Cathedral Cave 40.88 271 P **P 16 49 49.2 +1.1**
baz=49
CFR Carcaliu 40.94 75 ⇑P **P 16 49 49.3 +0.8**
C36M Paulatuk 41.22 327 P **P 16 49 50.6 +0.1**
baz=66
P38A Dawn 41.24 275 P **P 16 49 51.5 +0.4**
P38A IAmb IAmb 16 49 52.4
comp=Z,12nm,0.8s
BBTS Babate 41.29 152 LR LR 17 04 07.7
comp=Z,302nm,19.2s,baz=11,slow=32
R40A Maddies Statio 41.34 272 P **P 16 49 51.7 -0.2**
R40A IAmb IAmb 16 49 53.3
comp=Z,9.2nm,0.7s
N35A Tabor 41.73 278 P **P 16 49 55.7 +0.6**
N35A IAmb IAmb 16 49 56.5
comp=Z,14nm,0.7s
LRAL Lakeview Retre 41.73 262 P **P 16 49 55.8 +0.7**
baz=45
H05N1 Guadeloupe/Mar 42.07 219 T T 17 34 30.3
SNR=3.9
MGMO Mountain Grove 42.08 271 P **P 16 49 58.5 +0.5**
LCAR Lake Charles 42.13 269 P **P 16 49 57.9 -0.5**
LCAR IAmb IAmb 16 49 59.7
comp=Z,9.6nm,0.7s
OXF Oxford 42.14 266 P **P 16 49 58.0 -0.5**
OXF Oxford 42.14 266 P **P 16 49 58.2 -0.3**
baz=46
Z47A Carrollton 42.25 263 P **P 16 50 00.1 +0.7**
Z47A IAmb IAmb 16 50 01.2
comp=Z,18nm,0.8s
S39A Bolivar 42.36 273 P **P 16 50 00.9 +0.7**
SJG San Juan 42.51 226 LR LR 17 05 25.0
comp=Z,188nm,20.7s,baz=60,slow=33
Y45A Yeager Farm, C 42.67 265 P **P 16 50 02.4 -0.4**
KSU1 Kansas State U 43.41 277 P **P 16 50 08.2 -0.5**
KSU1 Kansas State U 43.41 277 P **P 16 50 09.2 +0.5**
baz=50,SNR=5.7
UALR University of 43.72 269 P **P 16 50 11.5 +0.3**
UALR IAmb IAmb 16 50 28.0
comp=Z,36nm,1.7s
X40A Basin Creek Fa 44.21 269 P **P 16 50 14.9 -0.3**
X40A IAmb IAmb 16 50 16.9
comp=Z,13nm,0.7s
LAO LASA Array 44.36 291 P **P 16 50 17.0 +0.7**
baz=54
RLO Rose Lookout 44.39 272 P **P 16 50 15.9 -0.7**
RLO IAmb IAmb 16 50 18.2
comp=Z,18nm,0.7s
EDM Edmonton 44.47 303 P **P 16 50 18.1 +1.0**
EDM IAmb IAmb 16 50 23.1
comp=Z,38nm,1.7s
MIAR Mount Ida 44.62 269 P **P 16 50 19.0 +0.5**
MIAR IAmb IAmb 16 50 39.7
comp=Z,16nm,1.3s
MIAR Mount Ida 44.62 269 P **P 16 50 19.1 +0.7**
baz=46
INK Inuvik 44.73 328 P **P 16 50 18.4 -0.5**
comp=Z,3.2nm,0.9s,baz=46,slow=10,SNR=13
INK PcP **PcP 16 52 00.6 -0.1**
comp=Z,2.3nm,0.9s,baz=328,slow=2.7,SNR=3.6
INK LR LR 17 08 41.2
comp=Z,393nm,18.1s,baz=20,slow=36
comp=Z,3.2nm,0.9s
INK Inuvik 44.73 328 P **P 16 50 18.2 -0.7**
INK IAmb IAmb 16 50 31.7
comp=Z,33nm,1.9s
INK Inuvik 44.73 328 P **P 16 50 18.7 -0.2**
baz=58
T35A Sooner Cattle 44.78 274 P **P 16 50 19.5 -0.3**
T35A IAmb IAmb 16 50 23.4
comp=Z,8.2nm,0.8s
TUL1 Leonard 45.02 273 P **P 16 50 21.9 +0.2**
TUL1 IAmb IAmb 16 50 25.2
comp=Z,10nm,0.8s
TUL1 Leonard 45.02 273 P **P 16 50 22.3 +0.6**
baz=48
KS20 Mayfield South 45.20 275 P **P 16 50 23.1 +0.1**
IDI Anoyia 45.23 88 LR LR 17 10 06.0
comp=Z,429nm,20.0s,baz=342,slow=37
F31M Tsiigehtchic 45.27 328 P **P 16 50 24.1 +0.9**
baz=57,SNR=18
KAN01 Argonia South 45.37 275 P **P 16 50 24.9 +0.5**
CBKS Cedar Bluff 45.46 279 P **P 16 50 25.6 +0.4**
baz=49
DEOK Depew 45.49 273 P **P 16 50 25.5 +0.1**
DEOK IAmb IAmb 16 50 26.6
comp=Z,18nm,0.7s
EGMT Eagleton 45.53 295 P **P 16 50 25.7 +0.1**
baz=54
OK031 S. Brethren Rd 45.62 273 P **P 16 50 25.8 -0.6**
OK031 IAmb IAmb 16 51 15.8
comp=Z,15nm,0.9s
KAN14 Manchester OK 45.62 275 P **P 16 50 25.9 -0.5**
KOTAN Kotaneelee Air 45.67 316 P **P 16 50 27.3 +0.8**
baz=57
OK025 Westminster Rd 46.17 273 P **P 16 50 31.0 +0.3**
G30M tAoh Zraii Nji 46.33 328 P **P 16 50 32.4 +0.7**
baz=54
GCMT Greycliff 46.81 292 P **P 16 50 36.0 +0.1**
EPYK Eagle Plains 46.85 327 P **P 16 50 37.0 +1.2**
baz=54,SNR=9.9
C27K Jago River 46.95 333 P **P 16 50 36.9 +0.5**
baz=51
K22A Casper 46.98 287 P **P 16 50 38.1 +0.8**
baz=51
RLMT Red Lodge 47.00 291 P **P 16 50 38.0 +0.6**
baz=52
C26K Camden Bay 47.09 334 P **P 16 50 37.7 +0.2**
baz=50
WALA Waterton Lakes 47.14 298 P **P 16 50 38.6 +0.2**
WALA IAmb IAmb 16 51 02.1
comp=Z,16nm,1.4s
LOOK Love County 47.16 272 P **P 16 50 39.2 +0.7**
LOOK IAmb IAmb 16 50 53.9
comp=Z,70nm,1.9s
NATX Nacogdoches 47.21 267 P **P 16 50 39.1 +0.1**
baz=45
PHWY Pilot Hill 47.22 285 P **P 16 50 39.8 +0.6**
PHWY IAmb IAmb 16 50 47.1
comp=Z,5.9nm,0.9s
E27K Coleen River 47.26 331 P **P 16 50 38.5 -0.3**
baz=52
BELG Belogornoye 47.35 56 LR LR 17 08 50.5
comp=Z,364nm,21.6s,baz=325,slow=34
HRY Holter Researc 47.44 295 P **P 16 50 41.4 +0.7**
BR131 Keskin Array S 47.49 77 P **P 16 50 41.9 +0.7**
BR131 IAmb IAmb 16 50 45.0
comp=Z,10nm,0.8s
BRTR Keskin Array B 47.49 77 P **P 16 50 41.9 +0.7**
comp=Z,5.7nm,0.7s,baz=309,slow=5.3,SNR=28
BRTR LR LR 17 12 10.7
comp=Z,800nm,18.2s,baz=314,slow=38
comp=Z,5.7nm,0.7s
WMOK Wichita Mounta 47.61 274 P **P 16 50 42.2 +0.2**
baz=46,SNR=5.2
WTLY Watson Lake, Y 47.64 317 P **P 16 50 43.0 +1.0**
baz=54
237A Washetta, Mont 47.73 269 P **P 16 50 43.0 +0.1**
N23A Red Feather La 47.76 285 P **P 16 50 43.8 +0.3**
N23A Red Feather La 47.76 285 P **P 16 50 45.0 +1.6**
baz=50,SNR=9.1
D25K Kavik River 47.87 333 P **P 16 50 44.0 +0.4**
baz=49
I29M Ogilvie Camp, 47.98 327 P **P 16 50 45.3 +0.8**
baz=52,SNR=13
RWWY Rawlins 47.99 287 P **P 16 50 45.6 +0.5**
RWWY IAmb IAmb 16 50 53.3
comp=Z,14nm,1.1s
BOZ Bozeman (W) 48.02 293 P **P 16 50 45.9 +0.7**
BOZ IAmb IAmb 16 52 30.0
comp=Z,7.1nm,1.1s
BOZ Bozeman (W) 48.02 293 P **P 16 50 46.3 +1.0**
baz=52
G27K Doyon Strip 48.14 329 P **P 16 50 46.5 +0.8**
baz=51
FARO Faro, Yukon 48.16 322 P **P 16 50 46.8 +0.9**
baz=53
H17A Grant Village 48.18 291 P **P 16 50 48.6 +2.0**
baz=51
C24K Franklin Bluff 48.21 335 P **P 16 50 47.2 +1.0**
baz=48
ISCO Idaho Springs 48.28 284 P **P 16 50 48.8 +1.3**
baz=49
F26K Sheenjek River 48.31 331 P **P 16 50 48.0 +0.9**
baz=50
LRM Limekiln Ridge 48.33 294 P **P 16 50 47.5 -0.2**
E25K Arctic Village 48.44 332 P **P 16 50 49.0 +0.9**
baz=49
H27K Steamboat Moun 48.47 329 P **P 16 50 49.1 +0.8**
baz=50
BMAR Burnt Mountain 48.61 331 P **P 16 50 50.1 +0.7**
D24K Happy Valley 48.63 334 P **P 16 50 50.3 +0.8**
baz=47
PD31 Pinedale Array 48.64 289 P **P 16 50 49.7 -0.5**
PD31 IAmb IAmb 16 52 03.3
comp=Z,8.5nm,0.8s
PDAR Pinedale Array 48.64 289 P **P 16 50 49.2 -1.0**
comp=Z,2.5nm,0.7s,baz=65,slow=8.0,SNR=11
PDAR LR LR 17 10 17.5
comp=Z,628nm,18.1s,baz=52,slow=35
comp=Z,2.5nm,0.7s
BW06 Boulder Array 48.64 289 P **P 16 50 49.1 -1.0**
BW06 IAmb IAmb 16 52 03.3
comp=Z,9.2nm,0.8s
BW06 Boulder Array 48.64 289 P **P 16 50 50.1 0.0**
baz=50
K29M Barlow Dome 48.66 325 P **P 16 50 51.0 +1.1**
baz=51

LOHW **Long Hollow** 48.69 291 P P 16 50 51.5 +1.0
G26K **Porcupine Rive** 48.69 330 P P 16 50 50.4 +0.5
baz=49
WHTX **Lake Whitney,** 48.72 270 P P 16 50 50.9 +0.3
WHTX **Lake Whitney,** 48.72 270 P P 16 50 51.3 +0.7
baz=45
F25K **Christian Rive** 48.81 331 P P 16 50 51.1 +0.1
baz=48
I27K **Kandik River** 48.90 328 P P 16 50 52.0 +0.4
baz=50
FXWY **Fox Creek** 48.91 291 P P 16 50 52.6 +0.4
DLBC **Dease Lake** 49.16 316 LR LR 17 10 27.8
comp=Z,481nm,18.8s,baz=61,slow=35
DAWY **Dawson** 49.16 326 P P 16 50 54.6 +0.9
baz=50
M30M **Minto, Yukon** 49.20 323 P P 16 50 54.7 +0.7
M30M IAmb IAmb 16 51 08.3
comp=Z,31nm,2.0s
M30M **Minto, Yukon** 49.20 323 P P 16 50 55.4 +1.4
baz=51
AMTX **Amarillo** 49.24 276 P P 16 50 56.4 +1.7
baz=46
D23K **Nanushuk River** 49.24 335 P P 16 50 55.5 +1.4
baz=46,SNR=11
E24K **Your Creek** 49.28 333 P P 16 50 54.9 +0.4
baz=47
EGAK **Eagle** 49.29 327 P P 16 50 55.1 +0.6
EGAK IAmb IAmb 16 51 00.8
comp=Z,28nm,1.8s
EGAK **Eagle** 49.29 327 P P 16 50 55.4 +0.8
baz=50
NEW **Newport** 49.32 299 LR LR 17 10 13.0
comp=Z,703nm,19.9s,baz=53,slow=34
T25A **Trinidad** 49.34 280 P P 16 50 57.0 +1.5
baz=48
L29M **L29M** 49.34 324 P P 16 50 56.0 +1.0
baz=50
F24K **Squaw Lake** 49.50 332 P P 16 50 57.1 +0.9
baz=47
G25K **Bearman Lake** 49.50 331 P P 16 50 57.3 +1.2
baz=48
N31M **Braeburn, Yuko** 49.52 322 P P 16 50 57.6 +1.2
baz=51
SDCO **Great Sand Dun** 49.57 281 P P 16 50 58.0 +0.6
baz=48
O20A **White River Ci** 49.59 286 P P 16 50 58.3 +0.9
baz=49
E23K **Chandalar** 49.60 333 P P 16 50 57.3 +0.3
baz=46
TORD **Torodi Ar. Bea** 49.61 130 P P 16 50 56.7 -0.8
comp=Z,5.5nm,0.7s,baz=333,slow=7.8,SNR=31
comp=Z,5.5nm,0.7s
TORD **Torodi Ar. Bea** 49.61 130 P P 16 50 56.4 -1.2
Q32M **Nakina River** 49.75 318 P P 16 51 00.4 +2.0
baz=51
BCYI **Bear Canyon** 49.81 293 P P 16 50 59.2 +0.2
M29M **Somme Creek** 49.89 324 P P 16 51 01.0 +1.7
baz=50
S34M **Telegraph Cree** 49.94 316 P P 16 51 01.6 +2.1
baz=51
G24K **Hadweenzic Riv** 49.95 331 P P 16 51 00.5 +0.9
baz=46
ARU **Arti** 50.01 46 P P 16 51 00.2 +0.1
comp=Z,4.9nm,0.7s,baz=312,slow=5.9,SNR=9.9
ARU LR LR 17 10 43.9
comp=Z,676nm,19.6s,baz=296,slow=34
comp=Z,4.9nm,0.7s
ARU **Arti** 50.01 46 P P 16 51 00.4 +0.3
ARU IAmb IAmb 16 51 04.3
comp=Z,13nm,1.1s
RDMU **Red Mountain** 50.07 287 P P 16 51 01.0 0.0
RDMU IAmb IAmb 16 51 17.9
comp=Z,13nm,1.4s
K27K **Chicken** 50.09 327 P P 16 51 02.1 +1.5
baz=48
O30N **Mendenhall** 50.10 321 P P 16 51 02.5 +1.7
baz=50
MDP **Montagnes des** 50.11 203 LR LR 17 07 26.5
comp=Z,139nm,20.6s,baz=9.5,slow=30
E22K **Anaktuvuk Pass** 50.13 334 P P 16 51 01.8 +0.9
baz=44
PRP **Porcupine Dome** 50.18 329 P P 16 51 02.1 +0.6
baz=47
KBZ **Khabaz** 50.20 67 P P 16 51 02.3 +0.6
comp=Z,2.0nm,0.8s,baz=235,slow=8.0,SNR=4.2
KBZ LR LR 17 13 38.4
comp=Z,414nm,18.6s,baz=314,slow=38
comp=Z,2.0nm,0.8s
J26L **Joseph Creek** 50.25 328 P P 16 51 02.6 +0.6
baz=48
B08A **Colville Reser** 50.41 301 P P 16 51 03.6 +0.3
B08A IAmb IAmb 16 51 09.6
comp=Z,9.3nm,1.2s
HWUT **Hardware Ranch** 50.53 289 P P 16 51 04.6 +0.1
HWUT IAmb IAmb 16 51 06.5
comp=Z,14nm,0.8s
MSTX **Muleshoe** 50.53 276 P P 16 51 05.7 +1.2
baz=46
HYT **Haines Junctio** 50.59 322 P P 16 51 05.6 +1.0
baz=49
BCAR **Beaver Creek A** 50.63 326 P P 16 51 05.7 +0.9
L27K **Beaver Creek,** 50.65 326 P P 16 51 05.8 +0.8
L27K IAmb IAmb 16 51 11.6
comp=Z,33nm,2.0s
L27K **Beaver Creek,** 50.65 326 P P 16 51 06.6 +1.7
baz=48
G23K **Bananza Creek** 50.66 332 P P 16 51 06.4 +1.4
baz=45
H24K **Noodor Dome** 50.66 331 P P 16 51 05.6 +0.6
baz=46
F22K **John River** 50.68 334 P P 16 51 06.0 +0.9
baz=44
PLID **Pearl Lake** 50.73 295 P P 16 51 06.9 +0.9
SCRK **Sand Creek** 50.74 327 P P 16 51 06.0 +0.3
SCRK IAmb IAmb 16 51 13.2
comp=Z,11nm,1.0s
SCRK **Sand Creek** 50.74 327 P P 16 51 06.2 +0.5
baz=47,SNR=12
TCUT **Toone Canyon** 50.76 289 P P 16 51 06.6 +0.3
TCUT IAmb IAmb 16 51 15.7
comp=Z,20nm,1.4s
NRIK **Noril'sk** 50.79 23 P P 16 51 07.4 +1.6
comp=Z,1.1nm,0.3s,baz=356,slow=5.2,SNR=5.5
NRIK LR LR 17 11 10.4
comp=Z,158nm,21.4s,baz=326,slow=34
comp=Z,1.1nm,0.3s
HLID **Hailey** 50.85 293 P P 16 51 07.4 +0.5
HLID **Hailey** 50.85 293 P P 16 51 07.9 +1.0
baz=49
P30M **Million Dollar** 50.85 321 P P 16 51 07.6 +1.2
baz=49
G22K **Bettles** 50.92 333 P P 16 51 07.1 +0.2
baz=44
POKR **Poker Plat Res** 51.04 330 P P 16 51 09.1 +1.2
POKR IAmb IAmb 16 51 20.4
comp=Z,16nm,1.3s
POKR **Poker Plat Res** 51.04 330 P P 16 51 09.0 +1.2
baz=46
HVU **Hansel Valley** 51.10 290 P P 16 51 08.9 +0.2
HVU IAmb IAmb 16 51 21.5
comp=Z,27nm,1.9s
IL31 **51.11 329** P P 16 51 09.3 +1.0
IL31 IAmb IAmb 16 51 13.4
comp=Z,18nm,1.6s
ILAR **Eielson Array** 51.11 329 P P 16 51 09.3 +1.0
comp=Z,1.8nm,0.7s,baz=43,slow=5.7,SNR=29
ILAR PcP PcP 16 52 24.1 +0.5
comp=Z,0.2nm,0.8s,baz=8.6,slow=3.0,SNR=1.6
ILAR LR LR 17 12 51.6
comp=Z,199nm,18.8s,baz=64,slow=36
comp=Z,1.8nm,0.7s
ILAR **Eielson Array** 51.11 329 P P 16 51 08.9 +0.6
M27K **Edge Creek, AK** 51.14 325 P P 16 51 09.4 +0.6
baz=48
H23K **Yukon River** 51.16 331 P P 16 51 09.1 +0.4
H23K IAmb IAmb 16 51 14.7
comp=Z,28nm,1.8s
H23K **Yukon River** 51.16 331 P P 16 51 09.6 +0.9
baz=45
PV11 **David Mesa, Pa** 51.17 284 P P 16 51 09.9 +0.5
RIDG **Independent Ri** 51.19 327 P P 16 51 09.6 +0.6
baz=46
JCT **Junction City** 51.21 270 P P 16 51 10.0 +0.4
baz=44
F21K **Alatna River** 51.23 334 P P 16 51 10.2 +0.9
baz=43
HDA **Harding Lake** 51.38 329 P P 16 51 11.6 +1.2
HDA IAmb IAmb 16 51 13.9
comp=Z,8.2nm,0.8s
HDA **Harding Lake** 51.38 329 P P 16 51 11.6 +1.2
baz=46
MDM **Murphy Dome** 51.39 330 P P 16 51 11.0 +0.5
MDM IAmb IAmb 16 51 18.2
comp=Z,17nm,1.3s
K24K **Donnelly Dome** 51.44 328 P P 16 51 11.8 +0.9
baz=46
M26K **Nabesna, AK** 51.49 325 P P 16 51 12.5 +1.2
M26K IAmb IAmb 16 51 19.7
comp=Z,13nm,1.4s
M26K **Nabesna, AK** 51.49 325 P P 16 51 12.2 +0.9
baz=47
BAUV **El Baul** 51.52 223 P P 16 51 12.9 +0.9
SRU **San Rafael Swe** 51.58 286 P P 16 51 12.9 +0.4
BMO **Blue Mountains** 51.59 296 P P 16 51 12.2 -0.1
BMO IAmb IAmb 16 52 10.4
comp=Z,22nm,2.0s
I23K **Minto, Yukon-K** 51.59 331 P P 16 51 12.8 +0.9
I23K IAmb IAmb 16 51 26.6
comp=Z,21nm,1.6s
I23K **Minto, Yukon-K** 51.59 331 P P 16 51 12.6 +0.7
baz=44
H22K **Ishtalitna Cre** 51.63 332 P P 16 51 13.2 +0.9
baz=43
WRH **Wood River Hil** 51.69 329 P P 16 51 13.2 +0.6
WRH IAmb IAmb 16 51 19.0
comp=Z,17nm,1.4s
G21K **Allakaket** 51.76 333 P P 16 51 13.1 -0.1
baz=42
BGU **Big Grassy Mou** 51.80 290 P P 16 51 14.2 +0.1
LTY **Liberty** 51.80 300 P P 16 51 13.9 0.0
LTY IAmb IAmb 16 51 23.1
comp=Z,13nm,1.2s
NEA2 **Nenana** 51.90 330 P P 16 51 15.1 +0.8
NEA2 IAmb IAmb 16 51 21.6
comp=Z,12nm,1.2s
NEA2 **Nenana** 51.90 330 P P 16 51 15.4 +1.2
baz=44
NLU **North Lily Min** 51.91 288 P P 16 51 15.6 +0.7
BARN **Barnard Glacie** 51.95 324 P P 16 51 15.2 +0.3
BARN IAmb IAmb 16 51 22.2
comp=Z,14nm,1.3s
ANMO **Albuquerque** 52.04 280 LR LR 17 12 50.7
comp=Z,2µm,18.1s,baz=146,slow=36
ANMO **Albuquerque** 52.04 280 P P 16 51 17.3 +1.4
baz=46
MLY **Manley** 52.08 331 P P 16 51 15.9 +0.2
MLY IAmb IAmb 16 51 29.6
comp=Z,20nm,1.8s
MLY **Manley** 52.08 331 P P 16 51 15.8 +0.2
baz=43
DUG **Dugway, Tooele** 52.17 289 P P 16 51 16.8 +0.1
DUG IAmb IAmb 16 51 20.8
comp=Z,25nm,1.8s
DUG **Dugway, Tooele** 52.17 289 P P 16 51 17.4 +0.6
baz=48
G08A **Pilot Rock** 52.19 297 P P 16 51 16.5 -0.3
H21K **Melozitna Rive** 52.21 332 P P 16 51 16.9 +0.4
H21K IAmb IAmb 16 51 23.7
comp=Z,21nm,1.9s
H21K **Melozitna Rive** 52.21 332 P P 16 51 17.2 +0.7
baz=42
HARP **HAARP** 52.22 326 P P 16 51 17.1 +0.4
baz=46
IMAR **Indian Mountai** 52.23 333 P P 16 51 16.9 +0.2
BBB **Bella Bella** 52.27 309 LR LR 17 12 16.3
comp=Z,368nm,19.4s,baz=40,slow=35
BWN **Browne** 52.33 330 P P 16 51 17.7 +0.3
BWN IAmb IAmb 16 51 21.2
comp=Z,16nm,0.9s
I21K **Tanana** 52.33 332 P P 16 51 17.3 -0.1
baz=43
CRAG **Craig** 52.36 315 P P 16 51 17.7 0.0
baz=49
DHY **Denali Highway** 52.47 328 P P 16 51 19.7 +1.1
DHY IAmb IAmb 16 51 25.9
comp=Z,10nm,1.0s
DHY **Denali Highway** 52.47 328 P P 16 51 18.9 +0.2
baz=44
MCK **McKinley** 52.48 329 P P 16 51 19.3 +0.7
baz=44
833A **Chaparral WMA,** 52.52 268 P P 16 51 19.4 +0.1
833A **Chaparral WMA,** 52.52 268 P P 16 51 19.9 +0.6
baz=43
N25K **Chitina, Valde** 52.59 325 P P 16 51 18.7 -0.8
baz=45
DBIC **Dimbokro** 52.66 141 P P 16 51 19.9 -0.4
comp=Z,6.4nm,0.7s,baz=355,slow=7.1,SNR=12
DBIC LR LR 17 10 59.9
comp=Z,456nm,20.3s,baz=358,slow=33
comp=Z,6.4nm,0.7s
DBIC **Dimbokro** 52.66 141 P P 16 51 20.0 -0.4
DBIC IAmb IAmb 16 51 21.1
comp=Z,22nm,1.5s
SDV **Santo Domingo** 52.66 226 LR LR 17 10 10.4
comp=Z,122nm,21.7s,baz=44,slow=32
GDL2 **Guadalupe Moun** 52.72 276 P P 16 51 20.9 0.0
M24K **Tolsona, Glenn** 52.77 327 P P 16 51 20.4 -0.4
baz=45
BPAW **Bear Paw Mtn.** 52.84 330 P P 16 51 21.2 0.0
BPAW IAmb IAmb 16 51 28.3
comp=Z,16nm,1.3s
BPAW **Bear Paw Mtn.** 52.84 330 P P 16 51 22.1 +0.9
baz=43
RDOG **Red Dog Mine** 52.89 338 P P 16 51 22.2 +0.7
baz=36
WAT6 **Susitna Watana** 52.94 328 P P 16 51 22.4 +0.2
baz=44
WAT1 **Susitna Watana** 53.02 328 P P 16 51 22.4 -0.1
baz=44
MMAI **Mount Meron Ar** 53.09 83 LR LR 17 14 28.2
comp=Z,197nm,21.7s,baz=137,slow=37
TRF **Thorofare Moun** 53.10 329 P P 16 51 23.2 -0.2
TRF **Thorofare Moun** 53.10 329 P P 16 51 23.6 +0.2
baz=43
ELK **Elko** 53.17 291 LR LR 17 13 12.9
comp=Z,668nm,18.3s,baz=58,slow=35
KTH **Kantishna Hill** 53.22 330 P P 16 51 23.3 -0.8
KTH IAmb IAmb 16 51 31.6
comp=Z,12nm,1.0s
SCM **Sheep Creek Mo** 53.34 327 P P 16 51 24.1 -0.9
baz=44
NLWA **Neilton Lookou** 53.36 302 P P 16 51 26.6 +1.3
GNI **Garni** 53.60 70 LR LR 17 14 15.2
comp=Z,535nm,21.7s,baz=319,slow=36
AKTO **Aktyubinsk** 53.64 52 P P 16 51 27.1 -0.2
comp=Z,2.4nm,0.6s,baz=312,slow=4.8,SNR=5.8
AKTO LR LR 17 14 32.8
comp=Z,326nm,18.2s,baz=278,slow=36
comp=Z,2.4nm,0.6s
CAST **Castle Rocks** 53.67 330 P P 16 51 27.3 -0.1
CAST IAmb IAmb 16 51 34.4
comp=Z,9.4nm,1.1s
CAST **Castle Rocks** 53.67 330 P P 16 51 27.2 -0.1
baz=42
MNTX **Cornudas Mount** 53.68 276 P P 16 51 27.5 -0.4
MNTX **Cornudas Mount** 53.68 276 P P 16 51 28.0 +0.1
baz=44
SML **Sawmill** 53.69 327 P P 16 51 26.9 -0.7
baz=43
J20K **Nowinta River** 53.70 332 P P 16 51 27.7 +0.2
baz=41
W18A **Petrified Fore** 53.86 282 P P 16 51 28.0 -1.3
baz=46
CUT **Chulitna** 53.87 328 P P 16 51 26.9 -1.9
baz=42
WVOR **Wild Horse Val** 53.91 295 P P 16 51 30.4 +0.8
KNK **Knik Glacier** 54.02 327 P P 16 51 29.7 -0.2
KNK **Knik Glacier** 54.02 327 P P 16 51 29.4 -0.5
baz=43
GCSA **Galena City Sc** 54.02 333 P P 16 51 29.0 -0.8
baz=39
PPLA **Purkeypile** 54.09 330 P P 16 51 30.4 -0.2
PPLA **Purkeypile** 54.09 330 P P 16 51 29.0 -1.6
baz=41
PMR **Palmer** 54.11 327 P P 16 51 29.9 -0.6
baz=43
K20K **Telida** 54.30 331 P P 16 51 31.4 -0.6
K20K **Telida** 54.30 331 P P 16 51 30.6 -1.4
baz=40
M22K **Willow** 54.31 328 P P 16 51 30.6 -1.3
baz=42
TX31 **Lajitas Ar. Si** 54.35 273 P P 16 51 33.0 +0.1
TX31 IAmb IAmb 16 51 48.3
comp=Z,16nm,1.2s
TX32 **Lajitas Array** 54.35 273 P P 16 51 33.0 +0.1
TXAR **Lajitas Array** 54.35 273 P P 16 51 33.4 +0.6
comp=Z,1.0nm,0.6s,baz=54,slow=8.0,SNR=16
TXAR PcP PcP 16 52 37.6 +1.0
comp=Z,1.0nm,0.8s,baz=84,slow=3.9,SNR=3.8
TXAR LR LR 17 14 21.5
comp=Z,491nm,18.2s,baz=55,slow=36
comp=Z,1.0nm,0.6s
TXAR **Lajitas Array** 54.35 273 P P 16 51 32.9 0.0
PWL **Port Wells** 54.39 326 P P 16 51 33.5 +0.9
baz=43
121A **Cookes Peak, D** 54.52 278 P P 16 51 35.0 +0.9
baz=44
SKT **Skwentna** 54.58 329 P P 16 51 34.4 +0.4
baz=41
RC01 **Rabbit Creek A** 54.68 327 P P 16 51 34.1 -0.6
baz=42
SUA **Susitna One** 54.72 328 P P 16 51 34.7 -0.5
baz=42
TIXI **Tiksi** 54.85 6 LR LR 17 12 05.5
comp=Z,108nm,21.4s,baz=354,slow=33
TIXI **Tiksi** 54.85 6 P P 16 51 35.4 -0.4
TIXI IAmb IAmb 16 51 40.0
comp=Z,15nm,1.2s
L20K **Farewell, AK** 54.92 330 P P 16 51 36.3 -0.2
baz=40
R11A **Troy Canyon, C** 55.00 289 P P 16 51 37.4 -0.2
R11A **Troy Canyon, C** 55.00 289 P P 16 51 38.2 +0.6
baz=46
O22K **Cooper Landing** 55.13 327 P P 16 51 38.4 +0.5
baz=42
M20K **Styx River** 55.15 329 P P 16 51 39.3 +1.1
baz=40
EIL **Elat** 55.20 86 LR LR 17 18 07.0
comp=Z,91nm,21.7s,baz=270,slow=39
SPU **Mount Spurr** 55.35 328 P P 16 51 39.6 0.0
ABKAR **Akbulak array** 55.36 52 P P 16 51 40.2 +0.4
N20K **Mount Spurr** 55.39 328 P P 16 51 39.4 -0.5
baz=40
KVN **Kaiserville** 55.93 291 P P 16 51 44.2 -0.1
TPNV **Topopah Spring** 56.35 288 P P 16 51 48.0 +0.7
baz=45
N19K **Bonanza Creek** 56.39 329 P P 16 51 46.4 -0.7
baz=39
NV11 **Mina Array Sit** 56.39 291 P P 16 51 48.6 +1.0
NV11 IAmb IAmb 16 51 54.1
comp=Z,28nm,2.0s
TUC **Tucson** 56.45 280 P P 16 51 48.6 +0.7
baz=44
RYN **Ryan** 56.46 291 P P 16 51 47.9 -0.2
NVAR **Mina Array Bea** 56.48 291 P P 16 51 48.4 +0.1
comp=Z,0.6nm,0.6s,baz=80,slow=8.6,SNR=6.5
comp=Z,0.6nm,0.6s
NVAR **Mina Array Bea** 56.48 291 P P 16 51 48.2 0.0
YBH **Yreka Blue Hor** 56.60 296 LR LR 17 15 17.5
comp=Z,659nm,18.4s,baz=40,slow=35
LHV **Little Huntoon** 56.72 291 P P 16 51 49.8 +0.2
LHV IAmb IAmb 16 52 48.6
comp=Z,7.2nm,1.1s
LCH **Last Change Ra** 56.95 289 P P 16 51 51.0 -0.5
LCH IAmb IAmb 16 53 51.1
comp=Z,18nm,1.5s
GRAC **Grapevine Rang** 56.95 289 P P 16 51 51.5 +0.1
baz=45
BRVK **Borovoye** 57.28 44 P P 16 51 54.2 +0.8
BRVK IAmb IAmb 16 52 05.2
comp=Z,11nm,1.3s
BVAR **Borovoye Array** 57.35 44 P P 16 51 54.2 +0.3
comp=Z,4.4nm,0.7s,baz=314,slow=6.1,SNR=21
BVAR LR LR 17 14 47.2
comp=Z,594nm,21.7s,baz=305,slow=34
comp=Z,4.4nm,0.7s
O18K **Koktuh Hills** 57.37 329 P P 16 51 53.6 -0.4
baz=38
GMRC **Granite Mounta** 57.54 286 P P 16 51 55.7 0.0
baz=44
Q19K **Cape Douglas,** 57.60 327 P P 16 51 55.1 -0.5
baz=39
MPMC **Manual Prospec** 57.69 288 P P 16 51 57.4 +0.6
baz=45
ROSC **El Rosal** 57.89 228 P P 16 51 59.4 +0.9
comp=Z,37nm,0.7s,baz=116,slow=9.4,SNR=11
ROSC LR LR 17 14 34.7
comp=Z,164nm,21.6s,baz=44,slow=34
214A **Organ Pipe Nat** 57.90 282 P P 16 51 59.1 +0.9
baz=44
KDAK **Kodiak Island** 58.15 326 LR LR 17 16 25.8
comp=Z,266nm,18.6s,baz=61,slow=35
BELC **Belle Mtn. Jos** 58.30 285 P P 16 52 01.8 +0.8
baz=44
JTS **Las Juntas de** 58.38 242 LR LR 17 13 46.4
comp=Z,449nm,21.8s,slow=33
CMIG **Matias Romero** 58.40 256 LR LR 17 18 14.1
comp=Z,227nm,19.6s,baz=41,slow=37
O16K **Kokwok River B** 58.46 330 P P 16 52 01.2 -0.3
baz=36
VES **Vestal, Richgr** 58.75 289 P P 16 52 03.3 -0.6
baz=44
PFO **Pinyon Flats O** 58.84 285 P P 16 52 06.0 +1.2
comp=Z,5.0nm,0.7s,baz=60,slow=7.0,SNR=7.3
PFO LR LR 17 16 55.2
comp=Z,229nm,21.9s,baz=77,slow=36
comp=Z,5.0nm,0.7s
PFO **Pinyon Flats O** 58.84 285 P P 16 52 06.3 +1.5
PFO IAmb IAmb 16 52 26.1
comp=Z,15nm,1.4s
RCBR **Riachuelo** 58.90 181 LR LR 17 11 47.6
comp=Z,96nm,20.8s,baz=136,slow=30
BFSC **Mount Baldy Ra** 59.08 287 P P 16 52 07.0 +0.5
baz=44
CIS **Catalina Islan** 60.12 287 P P 16 52 13.7 +0.2
baz=43
ZALV **Zalesovo Beam** 62.15 35 P P 16 52 26.1 -0.8
comp=Z,1.0nm,0.6s,baz=316,slow=9.0,SNR=5.4
ZALV LR LR 17 19 03.7
comp=Z,142nm,21.4s,baz=311,slow=36
comp=Z,1.0nm,0.6s
LPIG **La Paz** 62.20 274 LR LR 17 19 35.0
comp=Z,520nm,19.9s,baz=34,slow=36
KURBB **Kurchatov Arra** 62.47 41 P P 16 52 28.3 -0.7
comp=Z,2.6nm,0.9s,baz=322,slow=7.3,SNR=19
KURBB LR LR 17 18 24.8
comp=Z,188nm,18.7s,baz=156,slow=35
comp=Z,2.6nm,0.9s
GEYT **Alibeck** 62.52 63 P P 16 52 29.4 -0.2
comp=Z,2.0nm,0.9s,baz=298,slow=7.8,SNR=4.9
GEYT LR LR 17 22 05.0
comp=Z,242nm,18.8s,baz=344,slow=38
comp=Z,2.0nm,0.9s
GEYT **Alibeck** 62.52 63 P P 16 52 30.2 +0.6
GEYT IAmb IAmb 16 52 33.8
comp=Z,5.5nm,1.2s
GYA0B **ALIBECK ARRAY** 62.52 63 P P 16 52 30.0 +0.3
SPIA **Saint Paul Isl** 63.92 335 P P 16 52 38.8 +0.2
baz=28
SAML **Samuel** 66.39 210 P P 16 52 53.7 -1.3
MAKZ **Makanchi** 66.89 42 P P 16 52 58.0 -0.1
MK31 **Makanchi Array** 67.03 41 P P 16 52 58.3 -0.6
MK31 IAmb IAmb 16 54 18.4
comp=Z,3.2nm,0.7s
MKAR **Makanchi Array** 67.03 41 P P 16 52 58.4 -0.6
comp=Z,2.7nm,0.8s,baz=331,slow=5.5,SNR=24
MKAR LR LR 17 21 50.1
comp=Z,248nm,19.6s,baz=307,slow=36
comp=Z,2.7nm,0.8s
MKAR **Makanchi Array** 67.03 41 P P 16 52 58.6 -0.3
AAK **Ala-Archa** 67.05 49 LR LR 17 21 36.0
comp=Z,497nm,19.9s,baz=326,slow=35
MA2 **Magadan** 67.38 357 LR LR 17 21 31.7
comp=Z,157nm,20.9s,baz=8.5,slow=35
BDFB **Brasilia** 69.52 193 LR LR 17 18 28.4
comp=Z,156nm,19.9s,baz=70,slow=31
PTLB **Pontes e Lacer** 71.48 204 P P 16 53 27.9 +1.3
PTLB IAmb IAmb 16 53 29.9
comp=Z,5.0nm,1.1s
SHEM **Shemya Is, Ala** 71.54 342 LR LR 17 26 23.8
comp=Z,56nm,19.9s,baz=282,slow=37
WMQ **Urumqi** 71.62 40 eP P 16 53 31.6 +4.2
WMQ sP pwP 16 53 36.6 -1.2
WMQ pmax pmax
comp=Z,9.0nm,1.3s
WMQ LR LR
comp=N,200nm,16.5s
WMQ LR LR
comp=E,620nm,14.9s
WMQ LR LR
comp=Z,160nm,20.9s
SIV **San Ignacio** 72.49 206 LR LR 17 20 43.0

comp=Z,158nm,21.6s,baz=88,slow=32
PETK Petropavlovsk- 73.42 352 LR LR 17 27 21.7
comp=Z,248nm,19.0s,baz=13,slow=37
ATD Arta Tunnel 73.74 93 LR LR 17 27 27.2
comp=Z,79nm,18.2s,baz=349,slow=37
WSAR Wadi Sarin 73.97 73 LR LR 17 29 35.5
comp=Z,64nm,19.8s,baz=320,slow=38
NNA Nana 74.07 222 LR LR 17 26 30.6
comp=Z,74nm,19.5s,baz=350,slow=36
SONM Songino Array 74.11 26 P **P 16 53 42.0 -0.2**
comp=Z,4.0nm,1.1s,baz=328,slow=5.8,SNR=19
SONM LR LR 17 29 39.5
comp=Z,80nm,18.4s,baz=335,slow=38
comp=Z,4.0nm,1.1s
SONM Songino Array 74.11 26 P **P 16 53 42.0 -0.2**
ULN Ulaanbaatar 74.26 25 P **P 16 53 43.4 +0.3**
ULN IAmb IAmb 16 53 47.7
comp=Z,11nm,1.4s
LPAZ La Paz 74.85 213 P **P 16 53 47.6 +0.3**
LPAZ IAmb IAmb 16 54 03.6
comp=Z,17nm,1.8s
AQDB Aquidauana 75.56 200 P **P 16 53 51.6 +1.1**
AQDB IAmb IAmb 16 53 54.2
comp=Z,5.7nm,1.0s
HEH HeiHe 75.80 11 *eP* **P 16 53 54.6 +2.9**
HEH pmax pmax
comp=Z,5.0nm,1.3s
HEH pmax pmax
comp=Z,120nm,4.6s
PB16 IPOC Station P 77.21 213 P **P 16 54 00.8 +0.2**
PB16 IAmb IAmb 16 54 04.3
comp=Z,12nm,1.1s
KLR Kul'dur 77.26 9 P **P 16 54 00.5 +0.5**
comp=Z,0.7nm,0.7s,baz=353,slow=16,SNR=2.5
KLR LR LR 17 28 21.2
comp=Z,113nm,18.4s,baz=355,slow=36
comp=Z,0.7nm,0.7s
GTA Gaotai 79.84 34 *eP* **P 16 54 14.8 +0.2**
GTA sP PcP 16 54 21.9 -0.3
GTA pmax pmax
comp=Z,2.0nm,1.0s
XLT XiLinHaoTe 80.11 21 *eP* **P 16 54 19.9 +4.0**
XLT pmax pmax
comp=Z,4.0nm,0.9s
XLT pmax pmax
comp=Z,88nm,5.8s
KMBO Kilima Mbogo 80.53 105 LR LR 17 29 42.6
comp=Z,164nm,20.1s,baz=286,slow=36
GOMU GeErMu 80.93 39 P **P 16 54 21.1 +0.3**
GOMU pP PcP 16 54 27.7 +0.4
GOMU PcP **sP 16 54 31.4 +0.1**
GOMU pmax pmax
comp=Z,3.0nm,1.1s
GOMU pmax pmax
comp=Z,90nm,6.1s
GOMU LR LR
comp=N,170nm,17.0s
GOMU LR LR
comp=E,150nm,17.7s
GOMU LR LR
comp=Z,260nm,17.5s
LVC Limon Verde 81.02 211 LR LR 17 26 46.4
comp=Z,70nm,21.3s,baz=356,slow=33
CPUP Villa Florida 81.58 200 P **P 16 54 22.8 -0.8**
comp=Z,2.2nm,0.8s,baz=41,slow=6.3,SNR=6.6
CPUP LR LR 17 26 04.1
comp=Z,88nm,20.7s,baz=16,slow=32
comp=Z,2.2nm,0.8s
BTO Baotou 81.79 26 *eP* **P 16 54 22.0 -2.9**
BTO Baotou 81.79 26 S **S 17 04 33.6 -2.6**
BTO LR LR
comp=N,280nm,5.9s
BTO LR LR
comp=E,530nm,5.3s
HHC Hu-ho-hao-te 81.96 25 *eP* **P 16 54 25.5 -0.3**
HHC pmax pmax
comp=Z,32nm,0.9s
HHC pmax pmax
comp=Z,140nm,4.1s
USRK Ussuriysk Ar. 82.27 9 P **P 16 54 27.4 +0.2**
comp=Z,1.4nm,0.9s,baz=299,slow=3.9,SNR=4.9
USRK LR LR 17 29 38.9
comp=Z,72nm,20.1s,baz=330,slow=35
comp=Z,1.4nm,0.9s
ASAJ Asahikawa 82.95 2 LR LR 17 32 26.4
comp=Z,57nm,18.1s,baz=360,slow=36
LZH Lanzhou 84.18 32 *eP* **P 16 54 41.7 +4.2**
LZH sP sP 16 54 51.7 +3.8
LZH pmax pmax
comp=Z,9.0nm,0.7s
HNS HongShan 86.00 24 *eP* **P 16 54 47.5 +1.2**
XAN Xi'an 87.63 29 P **P 16 54 53.4 -1.0**
XAN pP PcP 16 54 58.2 +1.9
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN LR LR
comp=N,270nm,16.9s
XAN LR LR
comp=E,210nm,13.9s
XAN LR LR
comp=Z,310nm,16.9s
KSRS Korea Array 88.46 13 LR LR 17 37 33.9
comp=Z,49nm,18.0s,baz=330,slow=38
CFA Coronel Fontan 89.27 208 LR LR 17 33 38.2
comp=Z,75nm,19.1s,baz=64,slow=35
MJAR Matsushiro Arr 90.36 5 LR LR 17 34 50.0
comp=Z,50nm,21.1s,baz=354,slow=35
BRDH Bariadhala 91.52 48 LR LR 17 39 03.2
comp=Z,295nm,19.8s,baz=282,slow=37
PZH PanZhiHua 92.21 38 P **P 16 55 16.1 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,4.3s
JNU Nakatsue 93.11 12 LR LR 17 37 43.0
comp=Z,56nm,21.4s,baz=39,slow=36
BOSA Boshof 96.97 130 LR LR 17 38 28.5
comp=Z,172nm,18.7s,baz=340,slow=35
SUR Sutherland 98.21 135 LR LR 17 37 00.7
comp=Z,67nm,19.2s,baz=324,slow=34
CMAR Chiang Mai Arr 98.38 43 LR LR 17 43 12.9
comp=Z,50nm,21.8s,baz=310,slow=37
PLCA Paso Flores 98.48 206 LR LR 17 38 12.3
comp=Z,86nm,20.9s,baz=5.0,slow=34
JOW Kunigami 98.94 15 LR LR 17 41 52.5
comp=Z,61nm,19.6s,baz=318,slow=36
PALK Pallekele 99.22 65 LR LR 17 44 38.5
comp=Z,101nm,19.1s,baz=88,slow=38
JCJ Chichijima 99.92 2 LR LR 17 41 26.6
comp=Z,37nm,21.7s,baz=140,slow=36
TAOE Nuku Hiva Isla 105.94 277 *eLR* LR 17 31 10.6
comp=Z,300nm,26.6s
TBI Tubuai 122.77 274 *eLR* LR 17 38 58.2
comp=Z,988nm,24.2s
TBI *eLR* LR 17 38 58.8
comp=Z,5μm,22.5s
DZM Mont Dzumac 144.70 324 *eLR* LR 17 49 08.6
comp=Z,121nm,23.2s
WRA Warramunga Arr 145.76 18 PKPbc **PKPdf 17 01 44.0 -0.5**
comp=Z,3.4nm,0.6s,baz=349,slow=3.4,SNR=29
ASAR Alice Springs 149.30 20 PKPbc **PKPbc 17 01 53.6 -1.1**
comp=Z,2.3nm,0.5s,baz=351,slow=2.5,SNR=97

*AEIC **02** 16:45:02.9±2.0,54.°65N×0.°07×161.°7W±0.°2, h61km±9km, Error ellipse: s-maj=16.5km s-min=1.2km az=130.0*
NEIC 02 16:44:60.0±2.8, 54.°5N±0.°1×161.°6W±0.°1, h35km±2km, ML3.5/10, ML3.0(AEIC), Error ellipse: s-maj=26.6km s-min=4.4km az=156.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**1.11**	**35**	Pn	Pn	16 45 20.1	+1.2
SDPT				IAML		16 45 34.2	
	comp=E,669nm,2.0s						
SDPT				IAML		16 45 34.9	
	comp=N,835nm,0.5s						
FALS	**False Pass**	**1.14**	**292**		Pn	16 45 19.7	+0.3
AKUT	**Akutan**	**2.47**	**264**	Pn	Pn	16 45 38.1	+0.4
AKUT				IAML		16 46 02.1	
	comp=E,239nm,4.3s						
AKUT				IAML		16 47 12.7	
	comp=N,236nm,4.1s						
CHGN	**Chignik**	**2.59**	**43**	Pn	Pn	16 45 40.3	+0.9
UNV	**Unalaska Valle**	**2.96**	**260**		Pn	16 45 45.7	+1.4
UNV					Sn	16 46 18.4	-0.1
CHIR	**Chirikof Islan**	**3.69**	**66**		Pn	16 45 55.9	+1.5
CHIR	**Chirikof Islan**	**3.69**	**66**	IAML		16 46 40.3	
	comp=E,109nm,4.8s						
CHIR				IAML		16 47 12.6	
	comp=N,122nm,1.9s						
NIKH	**Nikolski High**	**4.56**	**254**	Pn	Pn	16 46 07.4	+1.0
SII	**Sitkinak Islan**	**4.71**	**60**	Pn	Pn	16 46 08.9	+0.5
OHAK	**Old Harbor**	**5.44**	**56**	Pn	Pn	16 46 18.0	-0.4
KDAK	**Kodiak Island**	**6.04**	**53**	Pn	Pn	16 46 25.9	-0.8
P18K	**Big Mountain,**	**6.05**	**32**	Pn	Pn	16 46 27.4	+0.5
Q19K	**Cape Douglas,**	**6.27**	**41**	Pn	Pn	16 46 29.7	-0.1
O18K	**Koktuh Hills**	**6.43**	**30**	Pn	Pn	16 46 32.4	+0.3
P19K	**Oil Pt**	**6.92**	**38**	Pn	Pn	16 46 39.7	+0.9
N19K	**Bonanza Creek**	**7.43**	**28**	Pn	Pn	16 46 46.0	+0.2
CNPM	**China Poot**	**7.60**	**44**	Pn	Pn	16 46 47.5	-0.6
BRLK	**Bradley Lake**	**7.89**	**43**	Pn	Pn	16 46 52.4	+0.3
SPU	**Mount Spurr**	**8.45**	**33**	Pn	Pn	16 47 00.5	+0.8
SEW	**Seward**	**8.67**	**44**	Pn	Pn	16 47 01.7	-1.1
M20K	**Styx River**	**8.68**	**27**	Pn	Pn	16 47 03.6	+0.6
SUA	**Susitna One**	**9.08**	**35**	Pn	Pn	16 47 07.2	-1.2
RC01	**Rabbit Creek A**	**9.18**	**39**	Pn	Pn	16 47 08.8	-0.9
PWL	**Port Wells**	**9.56**	**42**	Pn	Pn	16 47 13.3	-1.7
KNK	**Knik Glacier**	**9.86**	**40**	Pn	Pn	16 47 17.9	-1.1
GHO	**Glory Hole Cre**	**9.92**	**37**	Pn	Pn	16 47 19.1	-0.9
SCM	**Sheep Creek Mo**	**10.54**	**40**	Pn	Pn	16 47 25.9	-2.6
KLU	**Klutina**	**10.89**	**43**	Pn	Pn	16 47 31.2	-1.9
BPAW	**Bear Paw Mtn.**	**11.07**	**25**	Pn	Pn	16 47 33.7	-2.0
DHY	**Denali Highway**	**11.34**	**35**	Pn	Pn	16 47 37.9	-1.5
N25K	**Chitina, Valde**	**11.48**	**45**	Pn	Pn	16 47 39.5	-1.9
GLB	**Gilahina Butte**	**11.73**	**46**	Pn	Pn	16 47 43.2	-1.5
M26K	**Nabesna, AK**	**12.54**	**43**	Pn	Pn	16 47 54.3	-1.4
RIDG	**Independent Ri**	**12.63**	**36**	Pn	Pn	16 47 54.8	-2.2
BCPM	**Bancas Point**	**13.08**	**56**	Pn	Pn	16 48 01.2	-1.9
BCAR	**Beaver Creek A**	**13.37**	**42**	Pn	Pn	16 48 03.8	-3.1
J26L	**Joseph Creek**	**13.55**	**35**	Pn	Pn	16 48 06.9	-2.7

*IDC **02** 16:51:05.8±2.5,36.°26N×70.°69E, h199km±22km, mb3.5/19, mbtmp4.0/25, MS4.2/1, Error ellipse: s-maj=17.5km s-min=12.5km az=13.0*
*NNC **02** 16:51:06.4±5.1,36.°83N×70.°48E, h0km, mb4.7, mpv4.6, Error ellipse: s-maj=40.5km s-min=27.5km az=172.0*
*NEIC **02** 16:51:07.6±1.2,36.°44N±0.°05×70.°7E±0.°1, h206km±6km, mb4.1/29, Error ellipse: s-maj=13.9km s-min=7.6km az=84.0*
ISC 02 16:51:06.1±0.4, 36.°38N±0.°04×70.°83E±0.°05, h200km, n109, σ2°27/127, mb4.0/29, 7C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.35**	**219**	Pn	**Pn**	**16 51 50.0**	**+1.4**
CEP	**Cherat**	**2.70**	**161**	P	**Pn**	**16 51 56.4**	**+3.9**
CEP				S	**Sn**	**16 52 32.0**	**+3.3**
CHCP	**Chirah Chowk**	**3.37**	**143**	P	**Pn**	**16 52 03.3**	**+3.0**
NIL	**Nilore**	**3.37**	**143**	Pn	**Pn**	**16 52 03.3**	**+3.0**
THW	**Thamme Wali**	**3.66**	**168**	P	**Pn**	**16 52 06.0**	**+2.2**
JMU	**Jammu**	**4.96**	**136**	*eP*	**Pn**	**16 52 23.2**	**+3.1**
JMU				*eS*	**Sn**	**16 53 18.4**	**+0.1**
TAS	**Tashkent**	**5.08**	**347**	Pn	**Pn**	**16 52 22.5**	**+1.1**
KSH	**Kashi**	**5.13**	**51**	P	**Pn**	**16 52 20.3**	**-1.9**
KSH				S	Sn	16 53 12.2	-10
KSH				pmax	pmax		
	comp=Z,93nm,0.5s						
THN	**Thein Dam**	**5.64**	**133**	*eP*	**Pn**	**16 52 32.3**	**+3.5**
THN				*eS*	**Sn**	**16 53 35.2**	**+1.2**
THN				IAML		16 53 35.8	
	comp=E,267nm,0.5s						
THN				IAML		16 53 37.1	
	comp=N,217nm,0.7s						
AML	**Almayashu**	**6.15**	**20**	P	**Pn**	**16 52 36.7**	**+1.0**
	SNR=460						
UCH	**Uchtor**	**6.50**	**25**	P	**Pn**	**16 52 41.5**	**+1.3**
	SNR=48						
EKS2	**Erkin-Say**	**6.67**	**19**	P	**Pn**	**16 52 43.2**	**+1.1**
	SNR=28						
KK31	**Karatay Array**	**6.72**	**358**		**Pn**	**16 52 42.9**	**+0.3**
KK31	**Karatay Array**	**6.72**	**358**	⇑P	**Pn**	**16 52 41.9**	**-0.7**
	comp=N,7.7nm,0.3s,baz=175,slow=13,SNR=458						
KK31				S	**Sn**	**16 53 55.2**	**-3.9**
	comp=N,6.2nm,0.3s,baz=184,slow=22,SNR=6.2						
KKAR	**Karatay Array**	**6.72**	**358**		**Pn**	**16 52 42.8**	**+0.2**
BHK	**Bhakra**	**6.79**	**135**	*eS*	**Sn**	**16 54 00.1**	**-0.9**
BHK				IAML		16 54 02.0	
	comp=N,189nm,0.7s						
AAK	**Ala-Archa**	**6.86**	**23**	P	**Pn**	**16 52 45.9**	**+1.4**
	SNR=60						
AAK	**Ala-Archa**	**6.86**	**23**	P	**Pn**	**16 52 45.5**	**+1.0**
	comp=N,24nm,0.5s,baz=200,slow=7.4,SNR=169						
AAK				S	**Sn**	**16 54 00.9**	**-1.7**
	comp=N,26nm,0.7s,baz=119,slow=23,SNR=8.5						
AAK	**Ala-Archa**	**6.86**	**23**	Pn	**Pn**	**16 52 45.4**	**+0.8**
KBK	**Karagaybulak**	**7.03**	**26**	P	**Pn**	**16 52 48.4**	**+1.6**
	SNR=35						
ULHL	**Ulahol**	**7.20**	**34**	P	**Pn**	**16 52 50.6**	**+1.5**
	SNR=10						
CHMS	**Chumysh**	**7.26**	**23**	P	**Pn**	**16 52 51.0**	**+1.2**
	SNR=5.8						
CHMS	**Chumysh**	**7.26**	**23**	⇑P	**Pn**	**16 52 50.4**	**+0.7**
	comp=N,22nm,0.7s						
CHMS				⇓S	**Sn**	**16 54 10.1**	**-2.0**
	comp=N,9.3nm,0.6s						
USP	**Ospenovka**	**7.43**	**21**	P	**Pn**	**16 52 52.4**	**+0.5**
	SNR=28						
SMLA	**Simla**	**7.43**	**133**	*eP*	**Pn**	**16 52 54.5**	**+2.4**
SMLA				*eS*	**Sn**	**16 54 14.6**	**-1.5**
SMLA				IAML		16 54 16.4	
	comp=N,218nm,0.7s						
SMLA				IAML		16 54 18.9	
	comp=E,126nm,0.3s						
TKM2	**Tokmak 2**	**7.49**	**28**	P	**Pn**	**16 52 54.2**	**+1.4**
	SNR=31						
TKM2	**Tokmak 2**	**7.49**	**28**	⇑P	**Pn**	**16 52 54.0**	**+1.2**
	comp=E,57nm,0.8s						
TKM2				⇓S	**Sn**	**16 54 16.4**	**-1.3**
	comp=E,16nm,1.1s						
KHET	**Khetri**	**9.29**	**152**	*eP*	**Pn**	**16 53 16.4**	**+0.2**
KUDL	**Kundal**	**9.51**	**148**	*eP*	**Pn**	**16 53 19.2**	**+0.3**
GEYT	**Alibeck**	**10.27**	**282**	P	**Pn**	**16 53 26.7**	**-2.1**
	comp=E,0.8nm,0.4s,baz=108,slow=14,SNR=2.4						
GEYT				S	**Sn**	**16 55 17.9**	**-5.5**
	comp=E,1.4nm,0.6s,baz=112,slow=16,SNR=2.0						
LGTI	**Lohaghat**	**10.50**	**128**	*eP*	**Pn**	**16 53 31.7**	**-0.2**
JHNI	**Jhansi**	**12.73**	**147**	*eP*	**P**	**16 54 06.7**	**+2.8**
MAKZ	**Makanchi**	**13.33**	**35**	Pn	**Pn**	**16 54 08.4**	**+0.8**
MK31	**Makanchi Array**	**13.46**	**36**	P	**P**	**16 54 12.7**	**+0.8**
MKAR	**Makanchi Array**	**13.46**	**36**	P	**Pn**	**16 54 10.5**	**+1.2**
	comp=E,1.6nm,0.8s,baz=219,slow=11,SNR=11						
MKAR	**Makanchi Array**	**13.46**	**36**	Pn	**Pn**	**16 54 10.6**	**+1.3**
DANN	**Dangsing**	**13.54**	**123**	*eP*	**Pn**	**16 54 11.3**	**+0.6**
	comp=E,8.8nm,0.2s						
DANN				*eS*	S	16 56 34.2	-7.5
BHPL	**Bhopal**	**14.29**	**155**	*eP*	**P**	**16 54 24.3**	**+3.1**
BHPL				*eS*	**S**	**16 56 51.4**	**-7.3**
GKN	**Gorkha**	**14.36**	**122**	*eP*	**Pn**	**16 54 21.8**	**+1.2**
	comp=E,27nm,0.5s						
GKN				*eS*	**S**	**16 56 53.2**	**-7.2**
WMQ	**Urumqi**	**14.87**	**55**	*eP*	**P**	**16 54 28.8**	**+1.2**
DMN	**Daman**	**14.93**	**122**	*eP*	**P**	**16 54 29.4**	**+0.9**
DMN				*eS*	**S**	**16 57 06.4**	**-7.3**
AB31	**Akbulak array**	**15.12**	**332**	⇑P	**P**	**16 54 31.0**	**+0.9**
	comp=E,2.8nm,0.6s,baz=146,slow=12,SNR=51						
AB31				⇑S	**Sn**	**16 57 18.3**	**-0.6**
	comp=E,0.6nm,0.5s						
ABKAR	**Akbulak array**	**15.12**	**332**		**Pn**	**16 54 29.3**	**-0.4**
ABKAR	**Akbulak array**	**15.12**	**332**		Pn	**16 54 29.4**	**-0.2**
ABKAR				IAmb	IAmb	16 54 32.3	
	comp=Z,4.8nm,0.7s						
PKIN	**Phulchoki**	**15.14**	**121**	*eP*	**Pn**	**16 54 31.5**	**+1.1**
PKIN				*eS*	**S**	**16 57 12.0**	**-6.8**
PKI	**Pulchoki**	**15.16**	**121**	*eP*	**Pn**	**16 54 31.6**	**+1.0**
PKI				*eS*	**S**	**16 57 11.8**	**-7.4**
KURBB	**Kurchatov Arra**	**15.28**	**19**	P	**Pn**	**16 54 31.4**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=208,slow=10.0,SNR=7.3						
JIRN	**Jiri**	**15.65**	**119**	*eP*	**Pn**	**16 54 37.8**	**+1.2**
	comp=Z,39nm,0.7s						
JIRN				*eS*	**S**	**16 57 22.4**	**-8.1**
BVAR	**Borovoye Array**	**16.64**	**359**	P	**Pn**	**16 54 48.3**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=157,slow=8.7,SNR=12						
BVAR				S	**S**	**16 57 46.1**	**-4.4**
	comp=Z,0.6nm,0.5s,baz=160,slow=22,SNR=2.1						
BRVK	**Borovoye**	**16.68**	**359**	P	**Pn**	**16 54 48.1**	**-0.3**
AKTO	**Aktyubinsk**	**16.82**	**331**	P	**Pn**	**16 54 49.5**	**-0.6**
	comp=Z,11nm,0.5s,baz=139,slow=8.3,SNR=24						
AKTO				S	**S**	**16 57 49.3**	**-4.6**
	comp=Z,0.7nm,0.5s,baz=204,slow=20,SNR=1.6						
AKTO	**Aktyubinsk**	**16.82**	**331**	⇑P	**Pn**	**16 54 54.8**	**+4.8**
	comp=Z,5.2nm,0.6s						
AKTO				⇑S	**S**	**16 57 55.8**	**+1.8**
	comp=Z,2.6nm,1.1s						
ZAA0	**Zalesovo Array**	**20.08**	**25**	P	**P**	**16 55 24.7**	**+0.6**
ZAA0				IAmb	IAmb	16 55 26.0	
	comp=Z,3.7nm,0.7s						
ZALV	**Zalesovo Beam**	**20.08**	**25**	P	**P**	**16 55 25.2**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=214,slow=11,SNR=16						
	comp=Z,3.8nm,0.6s						
ZALV	**Zalesovo Beam**	**20.08**	**25**	P	**P**	**16 55 24.6**	**+0.5**
ARU	**Arti**	**21.70**	**341**	P	**P**	**16 55 42.0**	**+0.9**
	comp=Z,6.1nm,0.5s,baz=156,slow=6.6,SNR=14						
	comp=Z,6.1nm,0.5s						
ARU	**Arti**	**21.70**	**341**	P	**P**	**16 55 41.3**	**+0.3**
ARU				IAmb	IAmb	16 55 44.3	
	comp=Z,9.6nm,0.9s						
BELG	**Belogornoye**	**22.90**	**322**	P	**P**	**16 55 53.3**	**+1.1**
	comp=Z,11nm,0.6s,baz=162,slow=3.2,SNR=6.0						
	comp=Z,11nm,0.6s						
KIRV	**Kirov**	**26.29**	**334**	P	**P**	**16 56 23.7**	**+0.9**
	comp=Z,9.2nm,0.5s,baz=159,slow=1.2,SNR=6.6						
	comp=Z,9.2nm,0.5s						
LZH	**Lanzhou**	**26.56**	**81**	*eP*	**P**	**16 56 24.0**	**-1.8**
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
PZH	**PanZhiHua**	**28.05**	**102**	P	**P**	**16 56 41.7**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
SONM	**Songino Array**	**28.51**	**55**	P	**P**	**16 56 45.0**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=241,slow=9.0,SNR=2.6						
	comp=Z,0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.52**	**118**	P	**P**	**16 57 02.9**	**+2.1**
	comp=Z,0.5nm,0.9s,baz=306,slow=8.4,SNR=4.2						
	comp=Z,0.5nm,0.9s						
HHC	**Hu-ho-hao-te**	**31.93**	**69**	*eP*	**P**	**16 57 14.4**	**+1.3**
HHC				pmax	pmax		
	comp=Z,28nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,5.5s						
ELL	**Elmali**	**32.70**	**283**	P	**P**	**16 57 20.7**	**+0.9**
AKASG	**Malin Array Be**	**32.91**	**309**	P	**P**	**16 57 21.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=78,slow=7.0,SNR=8.4						
	comp=Z,0.4nm,0.4s						
AKBB	**Malin Array Si**	**32.91**	**309**	P	**P**	**16 57 21.5**	**+0.2**
AKBB				IAmb	IAmb	16 57 40.1	
	comp=Z,9.4nm,1.4s						
NRIK	**Noril'sk**	**34.27**	**10**	P	**P**	**16 57 34.0**	**+1.3**
	comp=Z,4.5nm,0.5s,baz=187,slow=4.9,SNR=12						
	comp=Z,4.5nm,0.5s						
NRIK	**Noril'sk**	**34.27**	**10**	P	**P**	**16 57 32.6**	**-0.2**
NRIK				IAmb	IAmb	16 57 35.5	
	comp=Z,4.6nm,0.7s						
BURAR	**Bucovina Array**	**35.23**	**303**	P	**P**	**16 57 41.9**	**+0.4**
FIA1	**FINESS Array S**	**37.51**	**326**	P	**P**	**16 58 01.2**	**+0.9**
FINES	**FINESS Array B**	**37.51**	**326**	P	**P**	**16 58 00.4**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=120,slow=11,SNR=11						
	comp=Z,1.6nm,0.6s						
FINES	**FINESS Array B**	**37.51**	**326**	P	**P**	**16 58 00.9**	**+0.6**
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**16 58 31.5**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=101,slow=6.3,SNR=7.8						
	comp=Z,3.6nm,0.8s						
GERES	**GERESS Array B**	**42.89**	**305**	P	**P**	**16 58 45.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=89,slow=6.0,SNR=1.8						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**43.08**	**322**	P	**P**	**16 58 45.8**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=83,slow=12,SNR=6.0						
	comp=Z,1.8nm,0.5s						
NC303	**NORSAR Array S**	**44.34**	**323**	P	**P**	**16 58 56.1**	**+0.1**
NB201	**NORSAR Array S**	**44.35**	**323**	P	**P**	**16 58 54.8**	**-1.5**
NB2	**NORSAR Subarra**	**44.39**	**323**	P	**P**	**16 58 56.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**16 58 56.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=104,slow=7.3,SNR=5.2						
	comp=Z,0.8nm,0.5s						
TIXI	**Tiksi**	**45.93**	**22**	P	**P**	**16 59 09.0**	**+0.6**
JHJ	**Hachijo jima 2**	**55.64**	**72**	LR	LR	17 27 22.3	
	comp=Z,188nm,19.4s,baz=348,slow=39						
TORD	**Torodi Ar. Bea**	**65.58**	**269**	P	**P**	**17 01 27.1**	**-1.7**
	comp=Z,1.9nm,0.6s,baz=42,slow=5.9,SNR=13						
	comp=Z,1.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.58**	**269**	P	**P**	**17 01 26.9**	**-1.8**
TORD				IAmb	IAmb	17 01 27.9	
	comp=Z,1.4nm,0.7s						
A36M	**Sachs Harbour**	**71.33**	**5**	P	**P**	**17 02 04.4**	**+1.0**
A36M				IAmb	IAmb	17 02 05.2	
	comp=Z,3.2nm,0.9s						
IMAR	**Indian Mountai**	**72.32**	**18**	P	**P**	**17 02 09.2**	**-0.3**
BMAR	**Burnt Mountain**	**73.09**	**14**	P	**P**	**17 02 13.6**	**-0.4**
J20K	**Nowinta River**	**73.68**	**19**	P	**P**	**17 02 18.3**	**+0.9**
J20K				IAmb	IAmb	17 02 25.2	
	comp=Z,7.9nm,1.5s						
C36M	**Paulatuk**	**74.01**	**5**	P	**P**	**17 02 19.4**	**+0.1**
C36M				IAmb	IAmb	17 02 20.0	
	comp=Z,3.2nm,0.5s						
INK	**Inuvik**	**74.04**	**9**	P	**P**	**17 02 20.2**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=352,slow=9.2,SNR=10.0						
	comp=Z,1.8nm,0.9s						
INK	**Inuvik**	**74.04**	**9**	P	**P**	**17 02 20.5**	**+1.1**
INK				IAmb	IAmb	17 02 23.2	
	comp=Z,6.0nm,1.4s						
K20K	**Telida**	**74.37**	**19**	P	**P**	**17 02 21.5**	**0.0**
K20K				IAmb	IAmb	17 02 56.2	
	comp=Z,4.5nm,1.4s						
CAST	**Castle Rocks**	**74.83**	**19**	P	**P**	**17 02 25.3**	**+1.1**
CAST				IAmb	IAmb	17 02 32.8	
	comp=Z,4.0nm,1.3s						
ILAR	**Eielson Array**	**74.93**	**16**	P	**P**	**17 02 24.4**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=314,slow=4.3,SNR=6.4						
	comp=Z,0.7nm,0.9s						
ILAR	**Eielson Array**	**74.93**	**16**	P	**P**	**17 02 24.8**	**+0.1**
PPLA	**Purkeypile**	**75.24**	**19**	P	**P**	**17 02 25.9**	**-0.8**
MCK	**McKinley**	**75.35**	**17**	P	**P**	**17 02 27.0**	**-0.1**
MCK				IAmb	IAmb	17 03 09.1	
	comp=Z,3.3nm,1.5s						
J26L	**Joseph Creek**	**75.87**	**15**	P	**P**	**17 02 30.6**	**+0.5**
SCRK	**Sand Creek**	**76.24**	**15**	P	**P**	**17 02 32.6**	**+0.3**
PAX	**Paxson**	**76.81**	**16**	P	**P**	**17 02 35.7**	**+0.3**
SML	**Sawmill**	**77.14**	**18**	P	**P**	**17 02 37.6**	**+0.4**
M24K	**Tolsona, Glenn**	**77.40**	**17**	P	**P**	**17 02 39.9**	**+1.2**
L27K	**Beaver Creek,**	**77.50**	**15**	P	**P**	**17 02 40.5**	**+1.2**
BCAR	**Beaver Creek A**	**77.51**	**15**	P	**P**	**17 02 40.5**	**+1.2**
FARO	**Faro, Yukon**	**79.81**	**11**	P	**P**	**17 02 52.7**	**+0.9**
FARO				IAmb	IAmb	17 03 13.8	
	comp=Z,4.2nm,1.4s						
YKA	**Yellowknife Ar**	**81.37**	**3**	P	**P**

comp=E,561nm,0.2s
AC02 Maricunga 1.50 11 ⇑ *i* P Pn 17 21 07.5 -1.4
AC02 *i* S Sn 17 21 29.6 -0.6
AC02 IAML 17 21 31.5
comp=E,1μm,0.2s
CO01 Juntas del Tor 1.75 199 ⇑ *i* P Pn 17 21 11.1 -0.4
CO01 *i* S Sn 17 21 35.4 +0.5
GO04 Tololo Observa 2.20 212 ⇑ *i* P Pn 17 21 16.1 -0.8
GO04 *i* S Sn 17 21 45.1 +0.4
CO05 La Serena 2.24 224 *eP* Pn 17 21 16.5 -0.8
CO05 *i* S Sn 17 21 44.7 -0.6
CO05 IAML 17 21 53.9
comp=N,316nm,0.4s
AC01 Pan de Azucar 2.39 334 *eP* Pn 17 21 18.8 -0.5
AC01 IAML 17 21 54.3
comp=E,141nm,0.2s
CO03 El Pedregal 2.74 203 ⇑ *i* P Pn 17 21 22.8 -0.9
CO03 *i* S Sn 17 21 56.2 -0.6
CO03 IAML 17 21 58.7
comp=E,227nm,0.6s
CO02 Combarbal 3.18 205 ⇑ *i* P Pn 17 21 27.9 -1.6
CO02 *i* S Sn 17 22 05.5 -1.7
PB14 IPOC Station P 3.78 347 *eP* Pn 17 21 36.6 -1.1
VA03 San Esteban 4.53 192 *eP* Pn 17 21 45.6 -1.9
PB10 IPOC Station P 4.89 348 *eP* Pn 17 21 49.9 -2.4
FCH Farellones 5.05 188 *eP* Pn 17 21 53.1 -1.5
CPUP Villa Florida 10.95 82 P Pn 17 23 16.0 +2.0
comp=E,0.3nm,0.3s,baz=260,slow=16,SNR=6.5
comp=E,1.5nm,0.5s
TXAR Lajitas Array 66.01 327 P P 17 31 17.4 +3.0
comp=E,0.1nm,0.3s,baz=146,slow=8.3,SNR=2.2
comp=E,0.1nm,0.3s
ASAR Alice Springs 123.63 206 PKP PKPdf 17 39 21.0 -3.6
comp=E,0.2nm,0.7s,baz=130,slow=1.4,SNR=1.7
ZALV Zalesovo Beam 148.22 29 PKPbc PKiKP 17 40 12.8 -0.8
comp=E,1.0nm,0.5s,baz=306,slow=3.6,SNR=5.8
MKAR Makanchi Array 151.21 43 PKPbc PKiKP 17 40 20.4 +0.3
comp=E,0.7nm,0.5s,baz=287,slow=2.6,SNR=12

WEL ***02*** *17:32:53.6±0.4, 42°S×3°×17°4E±°, h9km±3km, M3.0/13, ML3.3/13, MLv3.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=149.7, confirmed*
NOU ***02*** *17:32:54.1, 41°69S×174°13E, h0km, MLv3.5/7, Cook Strait, New Zealand*
ISC 02 17:32:53.4±0.9, 41°74S±0°03×174°16E±0°02, h18km±5km, n72, σ1§07/83, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**99**	P		**Pg**		**17 32 56.5**	**0.0**
CMWZ				S		**Sg**		**17 32 59.6**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.21**	**277**	P		**Pg**		**17 32 58.2**	**-0.3**
BSWZ				S		**Sg**		**17 33 01.9**	**0.0**
TUWZ	**Tuamarina**	**0.35**	**333**	P		**Pg**		**17 33 00.2**	**-0.5**
TUWZ				S		**Sg**		**17 33 05.3**	**-0.4**
TCW	**Tory Channel**	**0.54**	**10**	P		**Pg**		**17 33 03.3**	**-0.8**
TCW				S		**Sg**		**17 33 10.9**	**-0.5**
SNZO	**South Karori**	**0.60**	**44**	P		**Pb**		**17 33 04.6**	**-0.7**
WEL	**Wellington**	**0.65**	**45**	P		**Pb**		**17 33 06.0**	**-0.2**
WEL				S		**Sg**		**17 33 16.2**	**+1.4**
NNZ	**Nelson**	**0.78**	**312**	P		**Pb**		**17 33 07.9**	**-0.5**
KHZ	**Kahutara**	**0.81**	**214**	P		**Pn**		**17 33 10.2**	**+0.2**
KHZ	**Kahutara**	**0.81**	**214**	P		**Pn**		**17 33 10.4**	**+0.4**
KHZ				S		**Sn**		**17 33 23.0**	**+1.4**
PLWZ	**Palliser**	**0.84**	**79**	P		**Pb**		**17 33 09.9**	**+0.4**
PLWZ				S		**Sn**		**17 33 23.7**	**+1.4**
CAW	**Cannon Point**	**0.93**	**48**	P		**Pb**		**17 33 11.5**	**+0.4**
CAW				S		**Sn**		**17 33 25.4**	**+0.8**
THZ	**Tophouse**	**0.94**	**268**	P		**Pb**		**17 33 11.0**	**-0.1**
DUWZ	**D'Urville Isla**	**0.96**	**349**	P		**Pb**		**17 33 10.6**	**-0.8**
DUWZ				S		**Sb**		**17 33 23.9**	**+0.1**
PAWZ	**Paruwai Farm**	**1.02**	**70**	P		**Pb**		**17 33 12.4**	**-0.1**
KIW	**Kapiti Island**	**1.05**	**33**	P		**Pb**		**17 33 12.5**	**-0.5**
KIW				S		**Sn**		**17 33 27.1**	**-0.3**
MRNZ	**Matariki Terra**	**1.10**	**288**	P		**Pg**		**17 33 14.1**	**-0.6**
TKNZ	**Takaka Hill**	**1.14**	**308**	P		**Pb**		**17 33 14.7**	**0.0**
TKNZ				S		**Sg**		**17 33 30.1**	**-0.4**
MTW	**Mount Morrison**	**1.17**	**60**	P		**Pn**		**17 33 14.3**	**-0.6**
OGWZ	**Otaki Gorge**	**1.20**	**40**	P		**Pn**		**17 33 15.3**	**0.0**
TRWZ	**Traveller**	**1.20**	**74**	P		**Pn**		**17 33 14.7**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.33**	**51**	P		**Pn**		**17 33 16.5**	**-0.6**
TMWZ	**Te Maipa**	**1.45**	**65**	P		**Pn**		**17 33 18.2**	**-0.6**
GVZ	**Greta Valley S**	**1.48**	**214**	P		**Pg**		**17 33 21.7**	**-0.1**
MRZ	**Mangatainoka R**	**1.52**	**45**	P		**Pn**		**17 33 19.4**	**-0.3**
QRZ	**Quartz Range**	**1.53**	**306**	P		**Pb**		**17 33 21.1**	**-0.1**
QRZ	**Quartz Range**	**1.53**	**306**	P		**Pb**		**17 33 21.0**	**-0.3**
TIWZ	**Tintock**	**1.62**	**54**	P		**Pn**		**17 33 20.4**	**-0.7**
LTZ	**Lake Taylor**	**1.74**	**233**	P		**Pn**		**17 33 23.1**	**+0.3**
DSZ	**Denniston Nort**	**1.76**	**269**	P		**Pb**		**17 33 24.5**	**-0.6**
OHWZ	**Ohakea**	**1.77**	**30**	P		**Pb**		**17 33 24.5**	**-0.7**
PRWZ	**Pori Road**	**1.81**	**50**	P		**Pn**		**17 33 23.2**	**-0.6**
AMCZ	**Amberley**	**1.81**	**217**	P		**Pn**		**17 33 23.4**	**-0.4**
POWZ	**Post Office Ro**	**1.82**	**43**	P		**Pn**		**17 33 23.5**	**-0.3**
BFZ	**Birch Farm**	**1.90**	**57**	P		**Pb**		**17 33 28.3**	**+0.8**
BFZ	**Birch Farm**	**1.90**	**57**	P		**Pn**		**17 33 23.3**	**-1.6**
WAZ	**Wanganui**	**2.08**	**18**	P		**Pb**		**17 33 29.3**	**-1.3**
DWHZ	**Dannevirke**	**2.10**	**47**	P		**Pn**		**17 33 26.1**	**-1.3**
TSZ	**Takapari Road**	**2.17**	**40**	P		**Pn**		**17 33 28.0**	**-0.7**
OXZ	**Oxford**	**2.23**	**224**	P		**Pn**		**17 33 28.4**	**-1.0**
INZ	**Inchbonnie**	**2.24**	**243**	P		**Pn**		**17 33 30.8**	**+1.2**
MQZ	**McQueen's Vall**	**2.25**	**209**	P		**Pn**		**17 33 28.2**	**-1.6**
PNHZ	**Pukenui**	**2.40**	**41**	P		**Pn**		**17 33 30.9**	**-0.9**
KHEZ	**Kahui Hut**	**2.45**	**357**	P		**Pb**		**17 33 35.1**	**-1.8**
KHEZ	**Kahui Hut**	**2.45**	**357**	P		**Pb**		**17 33 35.8**	**-1.2**
NEZ	**North Egmont**	**2.47**	**359**	P		**Pb**		**17 33 36.8**	**-0.5**
PKE	**Pukeiti**	**2.55**	**357**	P		**Pn**		**17 33 35.9**	**+2.0**
MHCZ	**Mount Hutt**	**2.62**	**226**	P		**Pn**		**17 33 34.1**	**-0.7**
MOVZ	**Moawhango**	**2.63**	**28**	P		**Pn**		**17 33 34.9**	**-0.1**
WNVZ	**Wahianoa**	**2.65**	**25**	P		**Pn**		**17 33 36.3**	**+0.9**
VRZ	**Vera Road**	**2.66**	**10**	P		**Pn**		**17 33 37.2**	**+1.9**
PXZ	**Pawanui**	**2.67**	**51**	P		**Pn**		**17 33 37.2**	**+1.6**
BHHZ	**Black Hill Sta**	**2.68**	**33**	P		**Pn**		**17 33 35.8**	**+0.1**
KREZ	**Kereru**	**2.69**	**39**	P		**Pn**		**17 33 34.6**	**-1.2**
OTVZ	**Oturere**	**2.82**	**25**	P		**Pn**		**17 33 38.6**	**+0.8**
NNVZ	**North Ngauruho**	**2.84**	**24**	P		**Pn**		**17 33 39.5**	**+1.6**
WTVZ	**West Tongariro**	**2.84**	**23**	P		**Pn**		**17 33 39.5**	**+1.5**
WVZ	**Waitaha Valley**	**2.86**	**241**	P		**Pb**		**17 33 42.3**	**-1.6**
ETVZ	**East Tongariro**	**2.86**	**25**	P		**Pn**		**17 33 39.2**	**+0.9**
KRVZ	**Karewarewa**	**2.88**	**24**	P		**Pn**		**17 33 40.0**	**+1.5**
TMVZ	**Te Maari**	**2.88**	**25**	P		**Pn**		**17 33 39.5**	**+1.0**
NTVZ	**North Tongarir**	**2.88**	**24**	P		**Pn**		**17 33 39.4**	**+0.8**
KWHZ	**Kaweka Forest**	**2.89**	**37**	P		**Pn**		**17 33 37.5**	**-1.1**
RPZ	**Rata Peaks**	**3.02**	**228**	P		**Pn**		**17 33 43.2**	**+2.9**
RITZ	**Rihia Road**	**3.05**	**26**	P		**Pn**		**17 33 43.7**	**+2.9**
ARCZ	**Arundel**	**3.11**	**224**	P		**Pn**		**17 33 41.0**	**-0.5**
BKZ	**Black Stump Fm**	**3.13**	**35**	P		**Pn**		**17 33 43.5**	**+1.6**
BKZ	**Black Stump Fm**	**3.13**	**35**	P		**Pn**		**17 33 40.5**	**-1.4**
HIZ	**Hauiti**	**3.27**	**10**	P		**Pn**		**17 33 45.7**	**+1.9**
HIZ	**Hauiti**	**3.27**	**10**	P		**Pn**		**17 33 45.5**	**+1.7**
MRHZ	**Matea Rd**	**3.38**	**32**	P		**Pn**		**17 33 43.9**	**-1.5**
TMZ	**Timaru**	**3.51**	**220**	P		**Pn**		**17 33 46.8**	**-0.2**
TOZ	**Tahuroa Road**	**4.14**	**15**	P		**Pn**		**17 33 56.0**	**+0.3**

IDC ***02*** *17:36:53.0±0.8, 12°71N×123°47E, h0km, mb3.8/14, mbtmp3.8/14, Error ellipse: s-maj=30.7km s-min=18.2km az=69.0*
MAN ***02*** *17:36:54.9, 12°71N×123°28E, h10km, mb4.8, ML3.7, MS3.6*
NEIC ***02*** *17:36:54.9±2.3, 12°60N±0°09×123°4E±0°1, h10km±4km, mb4.2/9, Error ellipse: s-maj=20.4km s-min=12.2km az=88.0*
ISC 02 17:36:54.0±1.6, 12°64N±0°03×123°33E±0°03, h7km±11km, n41, σ1§20/53, mb4.1/18, 10C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.40**	**134**	⇑ *i* P			**Pn**	**17 37 04.4**	**-1.9**
MMPH				*i* S			**Sb**	**17 37 11.7**	**+1.8**
RCP	**Roxas**	**1.22**	**208**	⇓ *eP*			**Pn**	**17 37 17.1**	**-0.4**
RCP				*eS*			**Sb**	**17 37 32.7**	**-0.7**
PVCP	**Virac**	**1.25**	**40**	⇑ *eP*			**Pn**	**17 37 17.7**	**-0.2**
PVCP				*eS*			**Sb**	**17 37 33.3**	**-0.9**
OTRP	**Odiongan**	**1.31**	**258**	⇑ *eP*			**Pn**	**17 37 17.7**	**-1.0**
OTRP				*eS*			**Sn**	**17 37 34.9**	**-1.6**
CNP	**Catarman**	**1.31**	**96**	⇑ *eP*			**Pg**	**17 37 19.2**	**0.0**
CNP				*eS*			**Sn**	**17 37 39.1**	**+2.5**
GQP	**Guinayangan**	**1.52**	**326**	⇓ *iP*			**Pn**	**17 37 21.1**	**-0.5**
GQP				*i* S			**Sn**	**17 37 40.2**	**-1.5**
JCNP	**Jose Panganiba**	**1.75**	**340**	⇑ *eP*			**Pn**	**17 37 23.5**	**-1.3**
JCNP				*eS*			**Sn**	**17 37 48.7**	**+1.3**
GUIM	**Jordan**	**2.13**	**200**	⇑ *eP*			**Pn**	**17 37 31.8**	**+1.7**
GUIM				*eS*			**Sb**	**17 37 59.5**	**-0.1**
LQP	**Lukban**	**2.27**	**310**	⇑ *eP*			**Pn**	**17 37 32.2**	**-0.1**
LQP				*eS*			**Sn**	**17 38 01.3**	**+0.7**
JAP	**San Jose, Anti**	**2.32**	**216**	⇑ *eP*			**Pn**	**17 37 34.9**	**+2.2**
LLP	**Lapu-Lapu**	**2.39**	**165**	⇑ *iP*			**Pb**	**17 37 35.6**	**-1.9**
LLP				*i* S			**Sb**	**17 38 07.2**	**-0.1**
TGY	**Tagaytay City**	**2.74**	**302**	⇓ *eP*			**Pb**	**17 37 43.5**	**+0.1**
CNOP	**Candoni, Negro**	**2.88**	**194**	⇓ *iP*			**Pn**	**17 37 42.4**	**+2.0**
CNOP				*eS*			**Sg**	**17 38 27.2**	**+0.7**
MSLP	**Maasin**	**2.91**	**149**	⇑ *eP*			**Pn**	**17 37 41.3**	**+0.6**
MSLP				*eS*			**Sb**	**17 38 19.6**	**-2.5**
TBP	**Tagbilaran**	**2.98**	**170**	*eP*			**Pn**	**17 37 43.2**	**+1.4**
CGP	**Cagayan de Oro**	**4.37**	**162**	*eP*			Pn	17 37 50.3	-11
MYLDM	**Lahad Datu**	**8.81**	**213**	Pn			**Pn**	**17 38 59.7**	**-2.3**
YOJ	**Yonaguni jima**	**11.76**	**359**	Pn			**Pn**	**17 39 43.6**	**+1.3**
CRAI	**Chiangrai**	**23.25**	**292**	P			**P**	**17 42 03.7**	**+1.4**
CRAI						IAmb	IAmb	17 42 07.9	
comp=Z,8.3nm,1.4s
CMAR Chiang Mai Arr 24.18 287 P P 17 42 11.8 +0.5
comp=Z,0.3nm,0.7s,baz=98,slow=7.9,SNR=5.2
comp=Z,0.3nm,0.7s
KSRS Korea Array 25.05 9 P P 17 42 18.2 -0.8
comp=Z,0.8nm,0.7s,baz=171,slow=16,SNR=1.9
comp=Z,0.8nm,0.7s
WRA Warramunga Arr 34.14 161 P P 17 43 40.0 +0.1
comp=Z,0.6nm,0.8s,baz=345,slow=9.2,SNR=2.2
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 34.14 161 P P 17 43 40.1 +0.1
ASAR Alice Springs 37.54 164 P P 17 44 09.4 +0.3
comp=Z,0.3nm,0.6s,baz=340,slow=6.8,SNR=10
comp=Z,0.3nm,0.6s
SONM Songino Array 37.83 341 P P 17 44 11.7 +0.2
comp=Z,0.9nm,0.7s,baz=163,slow=9.4,SNR=7.6
comp=Z,0.9nm,0.7s
SONM Songino Array 37.83 341 P P 17 44 11.6 +0.2
MK31 Makanchi Array 48.41 323 P P 17 45 37.0 +0.1
MK31 IAmb IAmb 17 45 38.5
comp=Z,1.7nm,0.8s
MKAR Makanchi Array 48.41 323 P P 17 45 37.5 +0.6
comp=Z,1.8nm,0.7s,baz=123,slow=8.7,SNR=24
MKAR PcP **PcP** 17 47 03.0 -0.3
comp=Z,0.2nm,0.6s,baz=119,slow=4.3,SNR=2.0
comp=Z,1.8nm,0.7s
MAKZ Makanchi 48.60 323 P P 17 45 39.0 +0.6
MAKZ IAmb IAmb 17 45 39.5
comp=Z,1.2nm,0.6s
PETK Petropavlovsk- 48.76 27 P P 17 45 39.0 -0.4
comp=Z,2.6nm,0.9s,baz=161,slow=4.2,SNR=1.5
comp=Z,2.6nm,0.9s
ZALV Zalesovo Beam 51.18 332 P P 17 45 57.6 -0.3
comp=Z,1.7nm,0.7s,baz=118,slow=5.5,SNR=9.0
comp=Z,1.7nm,0.7s
BRVK Borovoye 58.16 325 P P 17 46 48.0 -0.5
BRVK IAmb IAmb 17 46 49.7
comp=Z,2.5nm,0.8s
TIXI Tiksi 59.07 2 P P 17 46 53.6 -0.9
NRIK Noril'sk 61.03 346 P P 17 47 07.5 -0.6
comp=Z,1.4nm,0.5s,baz=119,slow=4.4,SNR=6.0
comp=Z,1.4nm,0.5s
GEYT Alibeck 62.82 306 P P 17 47 21.6 +0.8
comp=Z,1.7nm,0.8s,baz=159,slow=5.9,SNR=4.9
comp=Z,1.7nm,0.8s
GEYT Alibeck 62.82 306 P P 17 47 21.8 +1.0
GEYT IAmb IAmb 17 47 22.8
comp=Z,3.4nm,1.0s
KBZ Khabaz 74.49 312 P P 17 48 35.5 +2.1
comp=Z,2.0nm,1.1s,baz=25,slow=14,SNR=2.3
comp=Z,2.0nm,1.1s
ILAR Eielson Array 78.58 26 P P 17 48 55.2 -1.0
comp=Z,0.5nm,0.7s,baz=259,slow=4.5,SNR=6.0
comp=Z,0.5nm,0.7s
FINES FINESS Array B 82.44 331 P P 17 49 16.1 -0.9
comp=Z,3.2nm,1.0s,baz=93,slow=3.8,SNR=4.4
comp=Z,3.2nm,1.0s
AKASG Malin Array Be 82.91 320 P P 17 49 18.9 -0.8
comp=Z,0.1nm,0.4s,baz=54,slow=4.7,SNR=2.4
comp=Z,0.1nm,0.4s
BUR08 Bucovina Ar. S 86.17 318 P P 17 49 36.4 0.0

MAN ***02*** *17:51:50.4, 5°02N×127°73E, h44km, mb5.1, ML4.0, MS4.1*
IDC ***02*** *17:51:51.0±1.8, 4°55N×127°45E, h93km±16km, mb3.6/7, mbtmp4.0/9, Error ellipse: s-maj=64.1km s-min=10.9km az=61.0*
DJA ***02*** *17:51:51.1±1.2, 5°N±3°×12°8E±°, h30km±13km, M4.4/16, mB5.0/8, mb4.5/16, MLv4.6/13, Mw(mB)4.3/8*
NEIC ***02*** *17:51:52.6±1.5, 4°50N±0°04×127°52E±0°09, h101km±11km, mb4.2/9, Error ellipse: s-maj=13.5km s-min=3.0km az=114.0*
ISC 02 17:51:51.3±0.6, 4°71N±0°05×127°56E±0°08, h104km, n61, σ1§84/73, mb4.0/12, 10C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.27**	**243**	P			**Pn**	**17 52 26.1**	**-1.4**
SGSI				S			**Sn**	**17 52 53.7**	**-1.6**
DDMP	**Don Marcelino,**	**2.31**	**307**	⇑ *eP*			**Pn**	**17 52 22.0**	**-2.0**
DDMP				*eS*			**Sn**	**17 52 53.6**	**-2.5**
MATI	**Mati**	**2.58**	**330**	⇑ *eP*			**Pn**	**17 52 28.8**	**-2.8**
MATI				*eS*			**Sn**	**17 52 55.3**	**-7.1**
GSPH	**General Santos**	**2.94**	**298**	⇓ *eP*			**Pn**	**17 52 33.6**	**-2.9**
GSPH				*i* S			**Sn**	**17 53 07.5**	**-3.9**
DAV	**Davao City (W)**	**3.07**	**320**	P			**Pn**	**17 52 37.6**	**-0.5**
148nm,0.4s,baz=56,slow=18,SNR=4.0
DAV S **Sn** 17 53 15.4 +1.3
187nm,0.3s,baz=239,slow=19,SNR=16
KCP Kidapawan 3.36 313 ⇓ *eP* Pn 17 52 40.7 -1.3
KCP *i* S Sn 17 53 19.4 -1.7
SKMP Bagumbayan, Su 3.50 301 ⇑ *eP* Pn 17 52 44.3 +0.5
SKMP *eS* Sn 17 53 24.6 +0.1
BIPH Bislig 3.65 341 ⇑ *iP* Pn 17 52 43.2 -2.7
BIPH *i* S Sn 17 53 18.5 -10
TNTI Ternate 3.92 183 Pn Pn 17 52 48.1 -1.4
TNTI Ternate 3.92 183 P Pn 17 52 49.2 -0.3
TNTI Ternate 3.92 183 P Pn 17 52 50.2 +0.7
CTBH Cotabato--PC H 4.14 307 ⇑ *iP* Pn 17 52 51.3 -1.2
CGP Cagayan de Oro 4.69 323 ⇑ *eP* Pn 17 53 00.5 +0.6
CGP *eS* Sn 17 53 51.9 -1.2
PAGZ Pagadian 5.20 307 ⇑ *eP* Pn 17 53 06.3 -0.4
GLSP General Luna, 5.24 344 ⇑ *eP* Pn 17 53 04.0 -3.3
GLSP *eS* Sn 17 53 56.7 -10
SCPH Surigao 5.44 338 ⇑ *iP* Pn 17 53 09.0 -1.1
SCPH *i* S Sn 17 54 08.6 -2.9
MSLP Maasin 6.02 334 ⇑ *eP* Pn 17 53 16.0 -1.9
MSLP *eS* Sn 17 54 23.5 -2.0
GTOI Gorontalo 6.09 228 P Pn 17 53 19.0 +0.2
21nm,0.8s,350nm0.1nm
SIJI Sorong 6.66 146 P Pn 17 53 26.2 -0.5
7.7nm,0.3s,baz=321,slow=14,SNR=47
SIJI S **Sn** 17 54 36.1 -5.0
6.9nm,0.2s,baz=308,slow=19,SNR=2.7
SANI Sanana 6.90 193 P Pn 17 53 27.5 -2.3
SANI Sanana 6.90 193 P Pn 17 53 27.8 -2.0
27nm,1.0s,1μm0.2nm
MRSI Marisa 7.02 233 P Pn 17 53 32.1 +0.6
104nm,0.5s,1μm0.4nm
LUWI Luwuk 7.45 220 Pn Pn 17 53 37.2 -0.2
LUWI Luwuk 7.45 220 P Pn 17 53 37.9 +0.5
LUWI Luwuk 7.45 220 P Pn 17 53 38.1 +0.7
95nm,0.8s,2μm0.3nm
TOLI2 Tolitoli 7.66 242 Pn 17 53 37.8 -2.4
TOLI2 Tolitoli 7.66 242 P Pn 17 53 38.9 -1.3
NLAI Namlea 7.91 183 P Pn 17 53 42.4 -1.2
12nm,0.8s,7μm0.1nm
MSAI Masohi 8.12 170 P Pn 17 53 46.1 -0.3
19nm,0.7s,409nm
APSI Ampana 8.13 227 P Pn 17 53 48.2 +1.6
45nm,0.5s,630nm
AAI Ambon 8.36 176 P Pn 17 53 50.4 +0.6
32nm,0.8s
MPSI Mapaga 8.80 241 P Pn 17 53 54.9 -0.9
16nm,0.8s
FAKI Fak Fak 8.91 148 Pn Pn 17 53 55.2 -2.0
FAKI Fak Fak 8.91 148 P Pn 17 53 57.5 +0.3
FAKI Fak Fak 8.91 148 P Pn 17 53 57.3 +0.1
34nm,1.0s
MYLDM Lahad Datu 9.04 273 Pn Pn 17 53 60.0 +0.9
RKPI Ransiki, Papua 9.05 133 P Pn 17 54 00.5 +1.4
47nm,0.9s
BNSI Bone 11.72 220 P Pn 17 54 35.7 +0.4
PLAI Plampang 16.61 216 P Pn 17 55 38.5 +0.4
MTN Manton Dam 17.80 169 P P 17 55 50.2 -1.5
MTN Manton Dam 17.80 169 P P 17 55 51.4 -0.4
KNRA Kununurra 20.29 177 P P 17 56 19.7 +0.8
FITZ Fitzroy Crossi 22.74 185 P P 17 56 45.8 +1.0
WB0 Warramunga Arr 25.23 165 P P 17 57 07.5 -0.2
WB0 IAmb IAmb 17 57 09.5
comp=Z,7.1nm,0.7s
WRA Warramunga Arr 25.39 165 P P 17 57 08.6 -0.6
comp=Z,3.0nm,0.6s,baz=344,slow=10,SNR=34
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 25.39 165 P P 17 57 08.5 -0.6
WB2 Warramunga Arr 25.39 165 P P 17 57 09.4 +0.2
WB2 IAmb IAmb 17 57 16.8
comp=Z,20nm,1.3s
ASAR Alice Springs 28.87 168 P P 17 57 39.9 -0.5
comp=Z,1.2nm,0.5s,baz=355,slow=7.8,SNR=46
ASAR PcP **PcP** 18 00 47.6 +0.2
comp=Z,0.3nm,0.5s,baz=339,slow=2.4,SNR=0.9
comp=Z,1.2nm,0.5s
ASAR Alice Springs 28.87 168 P P 17 57 39.4 -1.0
CMAR Chiang Mai Arr 31.12 298 P P 17 58 01.0 +0.7
comp=Z,0.4nm,0.3s,baz=103,slow=6.6,SNR=4.6
comp=Z,0.4nm,0.3s
FORT Forrest 35.29 179 P P 17 58 35.7 -0.6
STKA Stephens Creek 38.76 161 P P 17 59 05.4 -0.3
comp=Z,1.9nm,0.5s,baz=332,slow=7.8,SNR=9.1
comp=Z,1.9nm,0.5s
STKA Stephens Creek 38.76 161 P P 17 59 05.4 -0.3
SONM Songino Array 46.65 340 P P 18 00 09.7 +0.3
comp=Z,0.4nm,0.6s,baz=157,slow=8.7,SNR=2.2
comp=Z,0.4nm,0.6s
YAK Yakutsk 57.22 1 P P 18 01 29.7 +2.4
YAK IAmb IAmb 18 01 53.5
comp=Z,4.7nm,1.0s
MK31 Makanchi Array 57.24 325 P P 18 01 29.0 +1.1
MK31 IAmb IAmb 18 01 54.8
comp=Z,1.4nm,0.9s
MKAR Makanchi Array 57.24 325 P P 18 01 29.2 +1.3
comp=Z,0.5nm,0.3s,baz=114,slow=7.9,SNR=13
comp=Z,0.5nm,0.3s
MKAR Makanchi Array 57.24 325 P P 18 01 29.4 +1.5
MAKZ Makanchi 57.43 324 P P 18 01 31.1 +1.9
MAKZ IAmb IAmb 18 01 56.2
comp=Z,1.8nm,1.1s
ZALV Zalesovo Beam 60.10 332 P P 18 01 50.8 +3.2
comp=Z,0.4nm,0.4s,baz=114,slow=8.8,SNR=2.2
comp=Z,0.4nm,0.4s
KKAR Karatay Array 63.09 316 P P 18 02 09.7 +1.8

IDC ***02*** *17:57:22.3±0.8, 2°19N×126°57E, h0km, mb3.9/10, mbtmp3.8/11, ML3.3/1, MS2.6/2, Error ellipse: s-maj=34.7km s-min=15.1km az=71.0*
NEIC ***02*** *17:57:26.8±2.4, 2°28N±0°09×126°77E±0°10, h35km±2km, mb4.2/19, Error ellipse: s-maj=19.6km s-min=11.1km az=227.0*
ISC 02 17:57:26.9±0.5, 2°28N±0°07×126°77E±0°09, h35km, n49, σ1§52/49, mb4.0/19, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.61**	**158**	Pn			**Pn**	**17 57 53.1**	**+0.3**
TNTI	**Ternate**	**1.61**	**158**	P			**Pn**	**17 57 54.9**	**+2.1**
SANI	**Sanana**	**4.37**	**190**	P			**Pn**	**17 58 32.3**	**+1.5**
LUWI	**Luwuk**	**5.18**	**231**	Pn			**Pn**	**17 58 42.8**	**+0.8**
SIJI	**Sorong**	**5.47**	**125**	Pn			**Pn**	**17 58 48.5**	**+2.5**
0.9nm,0.3s,baz=133,slow=23,SNR=1.8
SIJI LR LR 18 01 01.0
comp=Z,108nm,18.8s,baz=33,slow=39
2.2nm,0.3s
TOLI2 Tolitoli 6.10 259 Pn **Pn** 17 58 55.9 +1.3
TOLI2 Tolitoli 6.10 259 P **Pn** 17 58 56.3 +1.7
MYLDM Lahad Datu 8.74 290 Pn **Pn** 17 59 33.6 +2.7
MTN Manton Dam 15.63 164 Pn **Pn** 18 01 05.0 +0.3
MTN IAmb IAmb 18 01 18.0
comp=Z,88nm,1.4s
MTN Manton Dam 15.63 164 P **Pn** 18 01 06.4 +1.7
KDU Kakadu 15.90 159 P **Pn** 18 01 09.1 +0.9
KNRA Kununurra 17.95 174 P **P** 18 01 34.2 +0.1
KNRA IAmb IAmb 18 01 45.2
comp=Z,30nm,1.1s
KNRA Kununurra 17.95 174 P **P** 18 01 34.4 +0.3
FITZ Fitzroy Crossi 20.27 183 P **P** 18 02 00.2 +0.7
TPUB Ta-pu 21.73 345 P **P** 18 02 14.3 -1.0
WB0 Warramunga Arr 23.15 161 P **P** 18 02 29.6 -0.7
WB0 IAmb IAmb 18 02 32.9
comp=Z,5.2nm,0.9s
WRA Warramunga Arr 23.30 162 P **P** 18 02 31.1 -0.7
comp=Z,2.4nm,0.5s,baz=337,slow=11,SNR=26
comp=Z,2.4nm,0.5s
WRA Warramunga Arr 23.30 162 P **P** 18 02 30.1 -1.7
WB2 Warramunga Arr 23.30 162 P **P** 18 02 31.1 -0.7
WB2 IAmb IAmb 18 02 35.2
comp=Z,6.3nm,0.8s
WB1 Warramunga Ar. 23.31 162 P **P** 18 02 31.9 -0.1
WR0 Warramunga Arr 23.38 161 P **P** 18 02 32.1 -0.4
WR0 IAmb IAmb 18 02 35.4
comp=Z,4.9nm,0.9s
QIS Mount Isa 25.95 152 P **P** 18 02 58.7 +2.5
AS31 Alice Springs 26.70 165 P **P** 18 03 03.0 0.0
ASAR Alice Springs 26.70 165 P **P** 18 03 03.3 +0.3
comp=Z,0.5nm,0.3s,baz=347,slow=12,SNR=17
ASAR PcP **PcP** 18 06 27.1 +0.8
comp=Z,0.4nm,0.5s,baz=356,slow=2.8,SNR=5.6
comp=Z,0.5nm,0.3s
ASAR Alice Springs 26.70 165 P **P** 18 03 02.3 -0.7
WRKA Warakurna 27.19 177 P **P** 18 03 08.6 +1.2
CMAR Chiang Mai Arr 31.66 302 P **P** 18 03 47.8 +0.6
comp=Z,0.5nm,0.8s,baz=114,slow=7.2,SNR=5.1
comp=Z,0.5nm,0.8s
CHTO Chiang Mai 31.83 303 P **P** 18 03 47.5 -1.1
CHTO IAmb IAmb 18 03 50.8
comp=Z,1.7nm,0.8s
FORT Forrest 32.89 178 P **P** 18 03 55.0 -2.8
FORT Forrest 32.89 178 P **P** 18 03 58.5 +0.7
KSRS Korea Array 35.02 2 LR LR 18 17 58.0
comp=Z,5.6nm,20.1s,baz=35,slow=35
MJAR Matsushiro Arr 35.70 16 P **P** 18 04 22.4 +0.3
comp=Z,1.0n

Error ellipse: s-maj=1.9km s-min=1.5km az=214.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
TVH1	**TV Hill, Hawth**	**0.13**	**58**	Pg	18 01 19.9	-1.0
TVH1				Sg	18 01 22.3	-1.3
LHV	**Little Huntoon**	**0.35**	**113**	Pg	18 01 23.9	0.0
LHV				Sg	18 01 29.1	+0.3
RYN	**Ryan**	**0.39**	**51**	Pg	18 01 24.5	-0.2
RYN				Sg	18 01 30.1	-0.1
LUL	**Lundy Lake**	**0.40**	**213**	Pg	18 01 24.6	-0.3
HCK	**Huntoon Valley**	**0.40**	**141**	Pg	18 01 25.0	+0.1
WAKR	**Walker**	**0.43**	**286**	Pg	18 01 25.4	-0.2
WAKR				Sg	18 01 31.4	-0.1
WAKR	**Walker**	**0.43**	**286**	IAML	18 01 32.3	
	comp=E,980nm,0.4s					
WAKR				IAML	18 01 32.7	
	comp=N,556nm,0.3s					
NV09	**Mina Array Sit**	**0.46**	**84**	Pg	18 01 25.6	-0.4
NV08	**Mina Array Sit**	**0.47**	**88**	Pg	18 01 25.7	-0.4
NV08				Sg	18 01 32.5	0.0
NVAR	**Mina Array Bea**	**0.48**	**85**	Pg Pg	18 01 25.8	-0.6
ANTCA	**Antelope Range**	**0.54**	**150**	Pg	18 01 27.5	-0.1
NV11	**Mina Array Sit**	**0.59**	**85**	Pb	18 01 29.1	+0.1
NV11				Sb	18 01 37.2	-0.1
NV11	**Mina Array Sit**	**0.59**	**85**	IAML	18 01 38.1	
	comp=N,433nm,0.3s					
NV11				IAML	18 01 38.2	
	comp=E,358nm,0.5s					
BONR	**Boundary Peak**	**0.65**	**132**	Pg	18 01 29.4	-0.1
YERR	**Yerington**	**0.65**	**337**	Pg	18 01 29.2	-0.4
YERR				Sb	18 01 38.6	-0.3
YERR	**Yerington**	**0.65**	**337**	IAML	18 01 39.8	
	comp=E,388nm,0.3s					
YERR				IAML	18 01 46.6	
	comp=N,388nm,0.3s					
BENR	**Benton**	**0.72**	**158**	Pg	18 01 30.7	-0.3
MDYM	**Dry Creek**	**0.73**	**186**	Pg	18 01 30.9	-0.3
MDYM				Sb	18 01 41.4	0.0
MCBM	**Casa Benchmark**	**0.74**	**179**	Pg	18 01 31.1	-0.2
MCBM				Sb	18 01 41.7	+0.1
MLAC	**Mammoth, Mammo**	**0.76**	**176**	Sb	18 01 42.1	+0.1
MDPB	**Devils Postpil**	**0.77**	**190**	Pg	18 01 31.1	-0.6
MDPB				Sg	18 01 41.6	-0.3
OMMB	**Old Mammoth Mi**	**0.78**	**185**	Pg	18 01 31.4	-0.6
OMMB				Sg	18 01 42.2	-0.1
ORC	**Owens River**	**0.78**	**165**	Pg	18 01 31.4	-0.5
PNTR	**Pine Nut**	**0.89**	**323**	Pb	18 01 33.5	-0.5
PNTR				Sg	18 01 45.7	0.0
PNTR	**Pine Nut**	**0.89**	**323**	IAML	18 01 50.8	
	comp=E,209nm,0.6s					
PNTR				IAML	18 01 51.5	
	comp=N,230nm,0.8s					
MLNR	**Milner Canyon**	**0.91**	**150**	Pb	18 01 34.3	-0.1
KVN	**Kaiserville**	**0.92**	**43**	Pb	18 01 34.0	-0.5
KVN				Sb	18 01 46.5	0.0
KVN	**Kaiserville**	**0.92**	**43**	IAML	18 01 50.8	
	comp=E,287nm,0.6s					
SCHCA	**Scheelite**	**1.04**	**170**	Pb	18 01 36.4	-0.2
VCNR	**Virginia City**	**1.08**	**328**	Pb	18 01 36.9	-0.3
VCNR				Sg	18 01 51.8	0.0
VCNR	**Virginia City**	**1.08**	**328**	IAML	18 01 55.3	
	comp=N,283nm,0.4s					
EMB	**Emerald Bay**	**1.10**	**303**	Pb	18 01 37.7	0.0
EMB				Sn	18 01 52.9	0.0
EMB	**Emerald Bay**	**1.10**	**303**	IAML	18 01 53.4	
	comp=N,274nm,0.3s					
EMB				IAML	18 01 53.5	
	comp=E,224nm,0.3s					
KCC	**Kaiser Creek**	**1.11**	**197**	Pb	18 01 37.2	-0.5
CMB	**Columbia Colle**	**1.22**	**254**	Pn	18 01 39.2	-0.1
CMB	**Columbia Colle**	**1.22**	**254**	Pn	18 01 39.1	-0.2
DSP	**Deep Springs**	**1.26**	**143**	Pb	18 01 40.4	+0.3
DSP				Sg	18 01 57.4	0.0
MPK	**Martis Peak**	**1.26**	**316**	Pb	18 01 40.5	+0.1
MPK				Sg	18 01 58.5	+0.9
MPK	**Martis Peak**	**1.26**	**316**	IAML	18 02 00.9	
	comp=N,198nm,0.6s					
MPK				IAML	18 02 02.4	
	comp=E,175nm,0.5s					
TPH	**Tonopah**	**1.36**	**103**	Pb	18 01 41.9	-0.2
MZP	**Montezuma Peak**	**1.39**	**119**	Pn	18 01 41.7	-0.1
Q09A	**Carvers**	**1.43**	**71**	Pb	18 01 43.1	0.0
DONR	**Donner Summit**	**1.46**	**312**	Pb	18 01 43.9	+0.1
PEAR	**Peavine Mounta**	**1.47**	**326**	Pb	18 01 43.8	-0.2
LCH	**Last Change Ra**	**1.53**	**139**	Pb	18 01 44.5	-0.4
LOY	**Loyalton**	**1.64**	**321**	Pb	18 01 46.1	-0.7
AFDM	**Forest Hills D**	**1.71**	**290**	Pb	18 01 47.5	-0.4
WVA	**Winnemucca Val**	**1.71**	**336**	Pn	18 01 46.9	+0.7
GRAC	**Grapevine Rang**	**1.85**	**138**	Pn	18 01 48.3	+0.3
GRAC				IAML	18 02 20.1	
	comp=E,65nm,0.5s					
GRAC				IAML	18 02 24.3	
	comp=N,69nm,0.5s					
BEKR	**Beckworth**	**1.86**	**323**	Pn	18 01 49.3	+1.1
SGV	**South Grapevin**	**2.05**	**133**	Pn	18 01 51.6	+0.8
MCA	**Marble Canyon**	**2.17**	**143**	Pn	18 01 53.4	+1.1
ORV	**Oroville**	**2.33**	**301**	Pn Pn	18 01 55.0	+0.5
ORV				IAML	18 02 29.9	
	comp=N,43nm,0.6s					
ORV				IAML	18 02 31.4	
	comp=E,38nm,0.3s					
PLTX	**Planet X, Gerl**	**2.36**	**350**	Pn Pn	18 01 54.9	-0.1
WCT	**Wildcat Mounta**	**2.41**	**131**	Pn	18 01 56.9	+1.1
BMN	**Battle Mountai**	**2.42**	**32**	Pn	18 01 56.0	0.0
BBGB	**Big Mountain B**	**2.48**	**224**	Pn	18 01 56.7	+0.1
TPNV	**Topopah Spring**	**2.55**	**123**	Pb	18 02 03.2	+0.8
TPNV				IAML	18 02 45.4	
	comp=E,44nm,0.5s					
TPNV				IAML	18 02 45.5	
	comp=E,58nm,1.3s					
SAO	**San Andreas Ge**	**2.58**	**232**	Pn Pn	18 01 57.8	-0.3
S11A	**Rachel**	**2.61**	**106**	Pn	18 01 58.5	+0.1
R11A	**Troy Canyon, C**	**2.61**	**90**	Pn	18 01 58.9	+0.3
R11A	**Troy Canyon, C**	**2.61**	**90**	IAML	18 02 41.5	
	comp=E,38nm,0.4s					
PMPB	**Monarch Peak**	**2.64**	**215**	Pn Pn	18 01 58.9	+0.1
GWY	**Greenwater Val**	**2.83**	**140**	Pn	18 02 01.3	-0.3
AMDNV	**Amargosa**	**2.85**	**132**	Pn	18 02 03.0	+1.4
QSM	**Queen of Sheba**	**2.92**	**145**	Pn	18 02 02.9	+0.3
PRH	**Pahroc Range**	**3.21**	**107**	Pn	18 02 07.8	+1.1
GSC	**Goldstone, Bar**	**3.51**	**151**	Pn Pn	18 02 10.7	-0.2
GSC				IAML	18 03 03.4	
	comp=E,11nm,2.8s					
SHPR	**Sheep Range**	**3.53**	**121**	Pn	18 02 11.1	0.0
SPR3	**Spring Creek 3**	**3.63**	**79**	Pn	18 02 12.7	-0.1
ELK	**Elko**	**3.69**	**49**	Pn	18 02 13.8	+0.3
ELK	**Elko**	**3.69**	**49**	IAML	18 03 15.3	
	comp=E,11nm,0.6s					
ELK				IAML	18 03 16.5	
	comp=E,13nm,0.3s					
CCUT	**Cedar City**	**4.46**	**99**	Pn	18 02 22.6	-1.5
KNB	**Kanab**	**5.02**	**104**	Pn Pn	18 02 31.0	-0.7
MATG	**Mataguay Scout**	**5.49**	**160**	Sg	18 04 10.9	-2.2
DPP	**Dos Picos Cty**	**5.61**	**163**	Sb	18 04 00.7	-0.7
SPUT	**South Promonto**	**5.76**	**58**	Pn Pn	18 02 41.5	-0.4
HVU	**Hansel Valley**	**5.80**	**52**	Pn	18 02 40.8	-1.6
COK2	**Cook Ranch 2**	**6.10**	**154**	Sn	18 04 01.8	+5.9
SNR	**Schaffner Ranc**	**6.20**	**152**	Sn	18 03 57.6	-0.5
SNR				LR	18 04 01.2	
DREC	**Desert Rsrch C**	**6.24**	**152**	Sn	18 03 58.7	-0.7

IDC 02 18:07:27.8±2.5,7°55S×120°81E,h0km,mb3.0/2, mbtmp3.2/3,ML3.5/1,Error ellipse: s-maj=295.0km s-min=29.3km az=54.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.99**	**135**	P Pn	18 11 39.6	0.0
	0.2nm,0.3s,baz=309,slow=13,SNR=9.7 0.4nm,0.3s					
ASAR	**Alice Springs**	**20.36**	**143**	P P	18 12 06.2	+0.1
	0.2nm,0.5s,baz=325,slow=8.5,SNR=14 0.2nm,0.5s					
MKAR	**Makanchi Array**	**64.02**	**332**	P P	18 18 03.2	-0.1
	0.3nm,0.9s,baz=143,slow=5.0,SNR=1.9 0.3nm,0.9s					

*IDC **02** 18:12:59.4±0.8,2°24N×126°80E,h0km,mb3.8/9, mbtmp3.7/10,ML2.9/1,MS2.7/3,Error ellipse: s-maj=42.0km s-min=15.2km az=67.0*

*DJA **02** 18:13:03.9±1.4,2°N±3°×12°7E±°,h13km±12km,M4.1/12, mb4.3/6,mB4.8/3,MLv4.0/12,Mw(mB)4.0/3*

*NEIC **02** 18:13:03.7±2.6,2°.5N±0°.1×127°.04E±0°.05,h35km±2km, mb4.2/5,Error ellipse: s-maj=23.6km s-min=4.1km az=200.0*

ISC 02 18:13:06.1±0.7,2°30N±0°.08×126°95E±0°.08,h53km,n32, σ1s51/32,mb3.9/12,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
TNTI	**Ternate**	**1.58**	**165**	**Pn**	**18 13 30.4**	**-1.4**
TNTI	**Ternate**	**1.58**	**165**	P Pn	**18 13 31.4**	**-0.4**
SGSI	**Sangihe**	**1.97**	**314**	P Pn	**18 13 34.2**	**-3.0**
SGSI				S Sn	**18 13 59.2**	**-1.6**
GTOI	**Gorontalo**	**4.27**	**247**	P Pn	**18 14 08.2**	**-0.5**
SANI	**Sanana**	**4.43**	**193**	P Pn	**18 14 09.3**	**-1.6**
DAV	**Davao City (W)**	**4.93**	**344**	LR LR	18 16 02.7	
	comp=Z,73nm,19.2s,baz=357,slow=37					
MRSI	**Marisa**	**5.32**	**250**	P Pn	**18 14 21.9**	**-1.2**
	97nm,0.6s,884nm0.3nm					
LUWI	**Luwuk**	**5.34**	**232**	Pn Pn	**18 14 23.7**	**+0.4**
LUWI	**Luwuk**	**5.34**	**232**	P Pn	**18 14 23.3**	**0.0**
	67nm,0.7s,752nm0.3nm					
SIJI	**Sorong**	**5.34**	**126**	Pn Pn	**18 14 19.7**	**-3.8**
	0.4nm,0.3s,baz=281,slow=23,SNR=1.3					
SIJI				LR LR	18 16 49.7	
	comp=Z,114nm,21.9s,baz=316,slow=42 1.1nm,0.3s					
NLAI	**Namlea**	**5.51**	**178**	P Pn	**18 14 24.6**	**-1.1**
	7.3nm,1.0s,0.1nm					
APSI	**Ampana**	**6.19**	**239**	P Pn	**18 14 35.6**	**+0.6**
	74nm,1.2s,687nm0.2nm					
TOLI2	**Tolitoli**	**6.28**	**259**	Pn Pn	**18 14 32.8**	**-3.4**
MPSI	**Mapaga**	**7.31**	**255**	P Pn	**18 14 50.8**	**+0.4**
	16nm,1.1s,0.1nm					
SPSI	**Sidrap Palu**	**9.50**	**229**	P Pn	**18 15 20.6**	**+0.2**
	10nm,1.1s					
BNSI	**Bone**	**9.54**	**226**	P Pn	**18 15 18.9**	**-2.1**
GUMO	**Guam**	**20.97**	**57**	LR LR	18 25 37.4	
	comp=Z,15nm,18.1s,baz=93,slow=36					
WB0	**Warramunga Arr**	**23.12**	**162**	P P	**18 18 07.2**	**-0.6**
WRA	**Warramunga Arr**	**23.27**	**162**	P P	**18 18 08.4**	**-0.9**
	2.5nm,0.5s,baz=334,slow=11,SNR=20 2.5nm,0.5s					
WRA	**Warramunga Arr**	**23.27**	**162**	P P	**18 18 08.2**	**-1.1**
WB2	**Warramunga Arr**	**23.27**	**162**	P P	**18 18 08.1**	**-1.2**
WB2				IAmb IAmb	18 18 39.0	
	comp=Z,14nm,1.2s					
WR0	**Warramunga Arr**	**23.35**	**162**	P P	**18 18 10.9**	**+0.8**
WR0				IAmb IAmb	18 18 24.4	
	comp=Z,8.4nm,1.1s					
ASAR	**Alice Springs**	**26.69**	**166**	P P	**18 18 40.1**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=347,slow=12,SNR=16					
ASAR				PcP **PcP**	**18 22 03.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=344,slow=2.4,SNR=5.7 comp=Z,0.5nm,0.4s					
ASAR	**Alice Springs**	**26.69**	**166**	P P	**18 18 42.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**31.79**	**302**	P P	**18 19 25.2**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=100,slow=5.6,SNR=5.9 comp=Z,0.7nm,0.9s					
MJAR	**Matsushiro Arr**	**35.62**	**16**	P P	**18 20 00.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=191,slow=8.9,SNR=5.7 comp=Z,0.8nm,0.6s					
STKA	**Stephens Creek**	**36.73**	**159**	P P	**18 20 09.8**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=339,slow=6.9,SNR=4.7 comp=Z,1.4nm,0.6s					
SONM	**Songino Array**	**48.71**	**342**	P P	**18 21 46.9**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=161,slow=8.0,SNR=3.0 comp=Z,0.3nm,0.8s					
MK31	**Makanchi Array**	**58.84**	**326**	P P	**18 22 59.0**	**-0.5**
MK31				IAmb IAmb	18 23 27.0	
	comp=Z,2.0nm,1.5s					
MKAR	**Makanchi Array**	**58.84**	**326**	P P	**18 22 58.8**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=123,slow=7.5,SNR=8.1 comp=Z,0.4nm,0.4s					
ZALV	**Zalesovo Beam**	**61.95**	**333**	P P	**18 23 20.6**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=128,slow=9.3,SNR=1.9 comp=Z,0.4nm,0.4s					
VNDA	**Vanda**	**81.99**	**173**	P P	**18 25 20.2**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=323,slow=7.7,SNR=2.8 comp=Z,2.4nm,1.0s					

*MOS **02** 18:35:20.9±0.9,34°.02N×136°.39E,h374km,mb4.6/25, Error ellipse: s-maj=6.3km s-min=4.2km az=99.2*

*IDC **02** 18:35:21.6±0.4,33°.95N×136°.41E,h372km±4km,mb3.9/42, mbtmp4.7/51,Error ellipse: s-maj=7.4km s-min=6.9km az=127.0*

*BJI **02** 18:35:21.0±0.0,34°.06N×136°.43E,h387km,mb4.7/51, mB4.6/25*

*NIED **02** 18:35:21.2,34°.02N×136°.47E,h385km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=0.88; Mθθ=3.09; Mφφ=-2.21; Mrθ=0.65; Mθφ=-1.13; Mφr=2.12; Fault plane solution: M0=3.71000×10^16 NP1: φs=322.00000°,δ77.00000°,λ-37.00000°. NP2:φs=62.00000°, δ54.00000°,λ-164.00000°.*

*JMA **02** 18:35:21.2±0.2,34°.0N±0°.9×136°.5E±0°.7,h385km±1km, MD5.0/39,MW5.0/39,SE OFF KII PENINSULA*

JMA Felt II J1 at SE OFF KII PENINSULA .

*NEIC **02** 18:35:22.9±1.4,34°.03N±0°.08×136°.42E±0°.09, h377km±6km,mb4.5/231,Error ellipse: s-maj=12.1km s-min=9.5km az=138.0*

ISC 02 18:35:21.7±0.3,34°02N±0°.04×136°46E±0°.03,h372km±3km, h372km:pP-P,n687,σ1s28/667,mb4.5/193,24C-40D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
JKN2	**Miekihoku**	**0.27**	**324**	⇓P **Pn**	**18 36 09.1**	**+1.1**
JKN2				⇓*e*S **S**	**18 36 46.5**	**+1.2**
JMMH	**Miemihama**	**0.41**	**241**	A A	18 36 09.4	
	comp=E,9.0nm,1.9s,comp=E,5.0nm,1.9s					
JIE	**Ise**	**0.42**	**29**	⇓*e*P **Pn**	**18 36 09.5**	**+1.3**
JIE				⇓*e*S **S**	**18 36 47.1**	**+1.4**
JIE	**Ise**	**0.42**	**29**	A A	18 36 09.5	
	comp=E,13nm,2.1s,comp=E,5.0nm,2.0s					
TTO1	**TONANKAI O.B.S**	**0.48**	**146**	P **Pn**	**18 36 09.6**	**+1.6**
TSUJ	**Tsu 2**	**0.69**	**357**	A A	18 36 09.9	
	comp=E,11nm,2.2s,comp=E,7.0nm,1.6s					
JTNC	**Tanabenakahech**	**0.74**	**254**	P **Pn**	**18 36 10.0**	**+1.0**
JTNC				*e*S **S**	**18 36 48.5**	**+1.5**
JTNC	**Tanabenakahech**	**0.74**	**254**	A A	18 36 10.0	
	comp=E,11nm,2.0s,comp=E,10.0nm,1.6s					
JWY	**Kouya**	**0.75**	**286**	P **Pn**	**18 36 10.2**	**+1.2**
JWY				*e*S **S**	**18 36 48.2**	**+1.1**
JWY	**Kouya**	**0.75**	**286**	A A	18 36 10.2	
	comp=E,8.0nm,4.2s,comp=E,5.0nm,2.4s					
JWKM	**Wakayamakushim**	**0.82**	**226**	A A	18 36 10.3	
	comp=E,13nm,1.9s,comp=E,13nm,2.5s					
JAA	**Atsumi**	**0.83**	**43**	A A	18 36 10.3	
	comp=E,12nm,2.3s,comp=E,2.0nm,3.9s					
JHE	**Heguri**	**0.90**	**315**	A A	18 36 10.5	
	comp=E,6.0nm,3.1s,comp=E,3.0nm,1.7s					
JWM	**Minabe**	**0.94**	**260**	A A	18 36 10.7	
	comp=E,7.0nm,2.0s,comp=E,7.0nm,2.5s					
TK02	**Tokai 2**	**1.08**	**94**	P **Pn**	**18 36 11.2**	**+1.4**
JEG	**Eigenji**	**1.11**	**357**	A A	18 36 11.3	
	comp=E,11nm,2.1s,comp=E,8.0nm,3.0s					
JICN	**Ichinomiyachia**	**1.32**	**14**	A A	18 36 12.1	
	comp=E,27nm,2.3s,comp=E,12nm,2.1s					
HMMJ	**Hamamatsu 2**	**1.33**	**51**	A A	18 36 12.2	
	comp=E,9.0nm,3.0s,comp=E,4.0nm,2.7s					
JAWN	**Awajishima-nag**	**1.37**	**290**	A A	18 36 12.5	
	comp=E,3.0nm,2.7s,comp=E,4.0nm,2.0s					
INU	**Inuyama**	**1.40**	**19**	Pn **Pn**	**18 36 12.3**	**+0.8**
INU	**Inuyama**	**1.40**	**19**	P **Pn**	**18 36 13.5**	**+2.0**
JMIK	**Miki**	**1.40**	**304**	A A	18 36 12.6	
	comp=E,5.0nm,2.8s,comp=E,4.0nm,1.4s					
JAO	**Obara**	**1.41**	**28**	A A	18 36 12.6	
	comp=E,18nm,2.1s,comp=E,6.0nm,2.4s					
JKKS	**Kakegawashinom**	**1.46**	**60**	A A	18 36 12.8	
	comp=E,12nm,2.3s,comp=E,9.0nm,2.8s					
JWT	**Wachi**	**1.53**	**326**	P **Pn**	**18 36 13.2**	**+1.0**
JWT				*e*S **S**	**18 36 53.6**	**+0.8**
JWT	**Wachi**	**1.53**	**326**	A A	18 36 13.2	
	comp=E,4.0nm,8.8s,comp=E,2.0nm,2.6s					
JFM	**Mihama**	**1.56**	**345**	A A	18 36 13.4	
	comp=E,8.0nm,1.9s,comp=E,4.0nm,1.7s					
JSG	**Sagara**	**1.57**	**65**	P **Pn**	**18 36 13.5**	**+1.1**
JSG	**Sagara**	**1.57**	**65**	P **Pn**	**18 36 14.1**	**+1.7**
JSG	**Sagara**	**1.57**	**65**	A A	18 36 13.4	
	comp=E,14nm,4.2s,comp=E,6.0nm,4.2s					

JYTA	**Yamagatataniai**	**1.59**	**8**	⇓P	**Pn**	**18 36 13.6 +1.2**
JYTA				⇓*e*S	**S**	**18 36 54.8 +1.4**
JYTA	**Yamagatataniai**	**1.59**	**8**	A	A	18 36 13.6
	comp=E,10.0nm,3.4s,comp=E,6.0nm,3.5s					
JAI	**Aioi**	**1.69**	**263**	P	**Pn**	**18 36 14.0 +0.9**
JAI				*e*S	**S**	**18 36 55.2 +0.8**
JGF	**Kuroka**	**1.74**	**25**	Pn	**Pn**	**18 36 14.0 +0.7**
JGF	**Kuroka**	**1.74**	**25**	P	**Pn**	**18 36 14.6 +1.2**
JGF	**Kuroka**	**1.74**	**25**	A	A	18 36 14.3
	comp=E,10.0nm,2.4s,comp=E,5.0nm,1.8s					
JNY	**Yasuok**	**1.76**	**40**	A	A	18 36 14.5
	comp=E,14nm,2.1s,comp=E,7.0nm,1.3s					
SHZ3	**Shizuoka 3**	**1.78**	**54**	A	A	18 36 14.5
	comp=E,11nm,2.7s,comp=E,11nm,1.6s					
JIZS	**Izushimoda**	**2.12**	**70**	A	A	18 36 16.6
	comp=E,10.0nm,1.8s,comp=E,9.0nm,4.0s					
JMN	**Monobe**	**2.17**	**263**	Pn	**Pn**	**18 36 17.3 +1.1**
JMN	**Monobe**	**2.17**	**263**	P	**Pn**	**18 36 17.6 +1.3**
JMN	**Monobe**	**2.17**	**263**	P	**Pn**	**18 36 17.3 +1.1**
JMN				*e*S	**S**	**18 37 02.0 +1.8**
JMN	**Monobe**	**2.17**	**263**	A	A	18 36 17.3
	comp=E,3.0nm,2.0s,comp=E,4.0nm,2.5s					
JFNN	**Fujinakano**	**2.17**	**57**	P	**Pn**	**18 36 17.5 +1.4**
JFNN				*e*S	**S**	**18 37 02.1 +2.0**
JFNN	**Fujinakano**	**2.17**	**57**	A	A	18 36 17.5
	comp=E,14nm,4.2s,comp=E,9.0nm,4.4s					
JKG	**Kaga**	**2.25**	**357**	P	**Pn**	**18 36 17.7 +1.0**
JKG				*e*S	**S**	**18 37 01.6 +0.5**
JKG	**Kaga**	**2.25**	**357**	A	A	18 36 17.7
	comp=E,13nm,2.2s,comp=E,6.0nm,1.2s					
JYN	**Shimob**	**2.26**	**49**	⇓P	**Pn**	**18 36 17.9 +1.1**
JYN	**Shimob**	**2.26**	**49**	A	A	18 36 17.9
	comp=E,11nm,3.8s,comp=E,8.0nm,7.7s					
JHTM	**Izuhatsuma**	**2.30**	**65**	A	A	18 36 17.9
	comp=E,16nm,4.5s,comp=E,16nm,5.0s					
JNT	**Takato**	**2.31**	**36**	A	A	18 36 18.0
	comp=E,7.0nm,5.7s,comp=E,5.0nm,8.9s					
JOD2	**Odawara 2**	**2.50**	**59**	P	**Pn**	**18 36 19.3 +0.7**
JOD2				*e*S	**S**	**18 37 06.3 +1.9**
JOD2	**Odawara 2**	**2.50**	**59**	A	A	18 36 19.3
	comp=E,10.0nm,1.1s,comp=E,13nm,3.6s					
JIM2	**Oshima 3**	**2.55**	**73**	A	A	18 36 19.8
	comp=E,8.0nm,0.7s,comp=E,12nm,2.8s					
JTT	**Ttatey**	**2.67**	**15**	A	A	18 36 20.8
	comp=E,14nm,3.3s,comp=E,14nm,5.1s					
JNG	**Nsakai**	**2.73**	**29**	A	A	18 36 21.2
	comp=E,7.0nm,3.3s,comp=E,9.0nm,1.4s					
JSGW	**Sagamiharawaka**	**2.76**	**54**	A	A	18 36 21.4
	comp=E,13nm,0.8s,comp=E,7.0nm,1.7s					
JJG	**Jouge**	**2.81**	**284**	A	A	18 36 22.0
	comp=E,3.0nm,3.9s,comp=E,3.0nm,3.7s					
JRY	**Ryogami san**	**2.82**	**44**	⇓*i*P	**Pn**	**18 36 21.9 +0.7**
JRY				⇓S	**S**	**18 37 10.1 +0.8**
JRY	**Ryogami san**	**2.82**	**44**	A	A	18 36 21.9
	comp=E,25nm,1.9s,comp=E,15nm,1.2s					
MAJO	**Matsushiro**	**2.89**	**29**	Pn	**Pn**	**18 36 22.4 +0.6**
MAJO	**Matsushiro**	**2.89**	**29**	P	**Pn**	**18 36 22.7 +0.9**
MAJO	**Matsushiro**	**2.89**	**29**	*d*iP	**Pn**	**18 36 22.7 +0.9**
MAT	**Matsushiro**	**2.89**	**29**	P	**Pn**	**18 36 22.3 +0.5**
MAT				S	**S**	**18 37 10.1 -0.2**
MJAR	**Matsushiro Arr**	**2.89**	**29**	P	**Pn**	**18 36 23.0 +1.2**
	215nm,0.7s,baz=192,slow=11,SNR=722					
MJAR				S	**S**	**18 37 10.3 0.0**
	377nm,0.9s,baz=187,slow=16,SNR=13					
MJB9	**Matsu-Tunnel**	**2.90**	**29**		**Pn**	**18 36 23.3 +1.5**
JYO	**Yokosk**	**2.90**	**65**	A	A	18 36 22.6
	comp=E,14nm,1.9s,comp=E,11nm,0.7s					
JHJ	**Hachijo jima 2**	**2.92**	**107**	P	**Pn**	**18 36 23.1 +1.1**
	2μm,0.8s,baz=223,slow=6.2,SNR=54					
JHJ				S	**S**	**18 37 13.2 +2.5**
	178nm,0.3s,baz=73,slow=23,SNR=1.5					
JHS	**Saijyo**	**2.93**	**290**	Pn	**Pn**	**18 36 23.3 +1.2**
JHS	**Saijyo**	**2.93**	**290**	P	**Pn**	**18 36 23.5 +1.4**
JHS	**Saijyo**	**2.93**	**290**	P	**Pn**	**18 36 23.3 +1.2**
JHS				S	**S**	**18 37 12.8 +1.9**
JHJ2	**Mitsune**	**2.94**	**107**		**Pn**	**18 36 23.1 +0.8**
JHJ2	**Mitsune**	**2.94**	**107**	P	**Pn**	**18 36 23.1 +0.8**
JHJ2	**Mitsune**	**2.94**	**107**	P	**Pn**	**18 36 23.7 +1.5**
JHU	**Hanno**	**2.95**	**51**	A	A	18 36 23.0
	comp=E,12nm,1.3s,comp=E,12nm,2.0s					
TATJ	**Tateyama 2**	**3.00**	**69**	A	A	18 36 23.4
	comp=E,10.0nm,3.0s,comp=E,9.0nm,2.8s					
JGK	**Kuni**	**3.10**	**34**	A	A	18 36 24.3
	comp=E,11nm,1.3s,comp=E,13nm,1.5s					
TOK	**Tokyo**	**3.18**	**58**	A	A	18 36 24.9
	comp=E,45nm,0.4s,comp=E,40nm,0.7s					
JHM	**Kurahashi**	**3.27**	**273**	A	A	18 36 25.9
	comp=E,2.0nm,6.0s,comp=E,3.0nm,1.7s					
JTO	**Tosashimizu**	**3.27**	**250**	P	**Pn**	**18 36 25.8 +0.6**
JTO				S	**S**	**18 37 17.9 +1.6**
JTO	**Tosashimizu**	**3.27**	**250**	A	A	18 36 25.8
	comp=E,1.0nm,3.9s,comp=E,3.0nm,2.8s					
JNA	**Nagahama**	**3.35**	**263**	A	A	18 36 26.6
	comp=E,2.0nm,9.4s,comp=E,3.0nm,2.3s					
JJN

JSU Suzuyama 5.65 245 P **Pn** **18 36 50.4 +1.0**
JYK Kaneyama 5.81 32 A A 18 36 51.5
comp=E,6.0nm,1.6s,comp=E,11nm,2.3s
JOFO Osakifurukawao 5.81 37 A A 18 36 51.6
comp=E,47nm,2.9s,comp=E,40nm,1.9s
JTU Tsushima 5.87 277 P **Pn** **18 36 53.1 +1.3**
JIO Ouri 5.93 40 A A 18 36 52.8
comp=E,9.0nm,0.4s,comp=E,10.0nm,2.0s
JMK Ichinoseki 6.24 37 A A 18 36 56.3
comp=E,7.0nm,2.2s,comp=E,8.0nm,1.9s
JOG3 Oga3 6.25 19 A A 18 36 58.9
comp=E,5.0nm,3.6s,comp=E,7.0nm,1.5s
JKMT Kesennumamotoy 6.26 39 A A 18 36 56.5
comp=E,12nm,0.7s,comp=E,12nm,0.7s
JYW Yuwa 6.28 28 A A 18 36 56.7
comp=E,9.0nm,3.1s,comp=E,13nm,1.8s
JRG Rokugo 6.33 31 A A 18 36 57.3
comp=E,5.0nm,2.4s,comp=E,9.0nm,1.9s
OFUJ Ofunato 6.56 38 A A 18 36 59.9
comp=E,6.0nm,2.1s,comp=E,11nm,0.7s
JOM Ohasama 6.68 34 A A 18 37 01.3
comp=E,8.0nm,1.2s,comp=E,10.0nm,1.7s
JSZI Iwateshizukuis 6.75 31 A A 18 37 02.5
comp=E,13nm,2.4s,comp=E,13nm,2.8s
JAH Hinai 7.00 27 A A 18 37 04.9
comp=E,6.0nm,2.2s,comp=E,8.0nm,1.8s
JHHS Hirosakihyakuz 7.31 24 A A 18 37 08.5
comp=E,7.0nm,6.7s,comp=E,10.0nm,3.2s
JTH Tanohata 7.32 35 A A 18 37 08.5
comp=E,5.0nm,2.7s,comp=E,7.0nm,2.8s
JKEN Kujiedanarisaw 7.46 33 A A 18 37 10.2
comp=E,7.0nm,2.2s,comp=E,9.0nm,1.6s
JANG Nango 7.51 31 A A 18 37 10.8
comp=E,3.0nm,0.7s,comp=E,6.0nm,3.5s
JTM Tenmabayashi 7.68 27 Pn **Pn** **18 37 11.7 -0.7**
JTM Tenmabayashi 7.68 27 P **Pn** **18 37 12.2 -0.1**
KSRS Korea Array 7.74 299 P **P** **18 37 14.3 +0.3**
53nm,0.7s,baz=117,slow=12,SNR=108
KSRS S **S** **18 38 45.2 +1.2**
22nm,1.0s,baz=110,slow=21,SNR=13
KSAR Wonju Array Be 7.76 299 Pn **Pn** **18 37 13.8 +0.4**
KSAR Wonju Array Be 7.76 299 P **Pn** **18 37 13.8 +0.4**
KS19 Wonju Array Si 7.80 299 **Pn** **18 37 14.1 +0.3**
TJN Taejon 7.81 290 Pn **Pn** **18 37 14.3 +0.4**
TJN Taejon 7.81 290 P **P** **18 37 15.7 +0.9**
TJN Taejon 7.81 290 *d* *i*P **P** **18 37 14.9 +0.1**
JAHD Aomorihigashid 8.20 27 A A 18 37 18.7
comp=E,7.0nm,1.1s,comp=E,7.0nm,1.9s
JCJ Chichijima 8.48 143 P **Pn** **18 37 20.2 -1.7**
55nm,0.4s,baz=0.5,slow=18,SNR=67
JCJ S **S** **18 38 53.4 -7.0**
415nm,0.4s,baz=301,slow=23,SNR=24
JCJ Chichijima 8.48 143 P **Pn** **18 37 20.7 -1.2**
INCN Inchon 8.70 296 P **P** **18 37 25.6 0.0**
INCN Inchon 8.70 296 P **P** **18 37 26.7 +1.0**
INCN Inchon 8.70 296 P **P** **18 37 25.7 0.0**
JMZ Minamidaito 2 9.35 210 **P** **18 37 33.3 +0.2**
JMZ Minamidaito 2 9.35 210 P **Pn** **18 37 31.1 -1.0**
ERM Erimo 9.57 32 Pn **Pn** **18 37 33.4 -0.9**
ERM Erimo 9.57 32 P **Pn** **18 37 34.4 0.0**
ERM Erimo 9.57 32 *c* *i*P **Pn** **18 37 33.8 -0.6**
ERM pmax pmax
comp=Z,192nm,0.8s
JEM Erimo 9.57 32 P **Pn** **18 37 34.4 0.0**
JIAM Iburiatsuma 9.60 25 A A 18 37 35.1
comp=Z,6.0nm,1.8s,comp=Z,4.0nm,0.9s
JNBK Urakawa-nobuka 9.62 29 A A 18 37 35.3
comp=Z,6.0nm,0.5s,comp=Z,4.0nm,1.5s
JOW Kunigami 10.06 227 P **Pn** **18 37 38.0 -2.5**
comp=Z,42nm,0.6s,baz=102,slow=22,SNR=18
JOW S **S** **18 39 32.1 -2.1**
comp=Z,8.4nm,0.9s,baz=73,slow=29,SNR=2.1
JOW Kunigami 10.06 227 P **Pn** **18 37 40.2 -0.3**
JOW Kunigami 10.06 227 P **Pn** **18 37 40.5 0.0**
JCH Churui 10.14 30 A A 18 37 41.6
comp=Z,3.0nm,3.1s,comp=Z,3.0nm,2.4s
JOB Onbets 10.58 31 A A 18 37 46.7
comp=Z,5.0nm,4.3s,comp=Z,6.0nm,1.0s
USA0B Ussuriysk Arra 10.74 342 P **Pn** **18 37 47.9 -0.2**
USA0B Ussuriysk Arra 10.74 342 *c* *i*P **P** **18 37 48.2 0.0**
USRK Ussuriysk Ar. 10.74 342 P **Pn** **18 37 48.1 -0.1**
comp=Z,96nm,0.5s,baz=152,slow=9.2,SNR=175
USRK S **S** **18 39 46.1 -2.1**
comp=Z,6.3nm,0.8s,baz=137,slow=17,SNR=1.6
USRK Ussuriysk Ar. 10.74 342 P **Pn** **18 37 47.8 -0.4**
JAR Ashorobuto 10.88 29 A A 18 37 50.2
comp=Z,5.0nm,0.6s,comp=Z,4.0nm,1.7s
TEY Ternei 11.00 1⇑ *e*P **P** **18 37 51.0 -0.1**
TEY pmax pmax
comp=N,200nm,3.0s
TEY pmax pmax
comp=Z,100nm,4.0s
TEY pmax pmax
comp=N,50nm,1.3s
TEY pmax pmax
comp=Z,60nm,1.3s
JAK Akkeshi 11.04 33 A A 18 37 52.0
comp=Z,4.0nm,0.7s,comp=Z,4.0nm,0.8s
ASAJ Asahikawa 11.15 23 P **P** **18 37 52.0 -0.7**
comp=Z,107nm,0.6s,baz=229,slow=10,SNR=98
ASAJ S **S** **18 39 49.3 -7.7**
comp=Z,183nm,0.7s,baz=203,slow=15,SNR=13
JKA Kamikawa-asahi 11.15 23 P **P** **18 37 51.2 -1.5**
JNSB Nemuroshibetsu 11.79 32 A A 18 38 00.9
comp=Z,5.0nm,2.4s,comp=Z,4.0nm,3.5s
NMR Nemuro--Hokkai 11.80 35⇓ *i*P **P** **18 38 00.3 +0.3**
NMR *i* S **S** **18 40 04.8 -6.1**
MDJ Mudanjiang 11.84 335 P **P** **18 37 59.8 -0.6**
MDJ Mudanjiang 11.84 335 P **Pn** **18 38 03.2 +2.1**
MDJ S **S** **18 40 08.7 -3.0**
MDJ pmax pmax
comp=Z,46nm,1.2s
MDJ LR LR
comp=Z,510nm,6.3s
MDJ LR LR
comp=Z,720nm,4.9s
MDJ LR LR
comp=Z,270nm,9.3s
MDJ Mudanjiang 11.84 335 P **Pn** **18 38 03.7 +2.6**
RUSJ Misakicho 12.16 32 *e*P **Pn** **18 38 05.9 +1.1**
RUSJ *e*S **S** **18 40 15.1 -3.2**
YUK Yuzh-Kuril'sk 12.38 33 *c* *i*P **Pn** **18 38 07.6 +0.2**
YUK *i* S **S** **18 40 18.8 -3.9**
YUK pmax pmax
comp=Z,988nm,1.4s
YUK pmax pmax
comp=Z,305nm,0.6s
YUK pmax pmax
comp=E,343nm,0.7s
YUK pmax pmax
comp=N,132nm,0.4s
DL2 Dalian 12.89 296 P **P** **18 38 12.3 +0.2**
DL2 S **S** **18 40 30.6 -2.7**
DL2 pmax pmax
comp=N,92nm,0.9s
DL2 pmax pmax
comp=N,180nm,6.8s
CN2 Changchun 12.98 322 P **P** **18 38 13.0 -0.1**
CN2 S **S** **18 40 30.5 -4.5**
CN2 pmax pmax
comp=N,20nm,1.4s
JMJ Miyako jima 2 13.37 230 P **P** **18 38 17.7 +0.2**
BNX BinXian 13.60 332⇓ P **P** **18 38 19.9 +0.1**
BNX S **S** **18 40 44.0 -3.4**
BNX pmax pmax
comp=N,16nm,0.5s
BNX pmax pmax
comp=N,110nm,4.8s
YSS Yuzh-Sakhalins 13.77 18 P **P** **18 38 22.4 +0.8**
YSS Yuzh-Sakhalins 13.77 18 P **Pn** **18 38 23.6 0.0**
YSS Yuzh-Sakhalins 13.77 18 *de*P **Pn** **18 38 22.9 -0.7**
YSS *e*S **S** **18 40 48.4 -2.3**
YSS pmax pmax
comp=Z,2μm,2.0s
YSS pmax pmax
comp=N,1μm,3.6s
YSS pmax pmax
comp=E,500nm,3.4s
YSS pmax pmax
comp=Z,950nm,0.8s
YSS smax smax
comp=E,400nm,3.3s
YSS smax smax
comp=E,100nm,0.7s
KUR Kuril'sk 14.22 35 *e*P **Pn** **18 38 27.9 -0.8**
KUR *e*S **S** **18 41 05.3 +5.6**
KUR pmax pmax
comp=Z,370nm,0.9s
KUR pmax pmax
comp=N,54nm,0.6s
KUR pmax pmax
comp=E,48nm,0.8s
KUR smax smax
comp=E,323nm,0.4s
KUR smax smax
comp=N,180nm,0.6s
KLR Kul'dur 15.60 348 P **P** **18 38 41.0 -0.5**
comp=N,7.9nm,0.7s,baz=153,slow=10,SNR=30
KLR S **S** **18 41 23.6 -3.5**
comp=N,3.3nm,0.9s,baz=72,slow=17,SNR=1.7
UGL Uglegorsk 15.61 14 *i*P **Pn** **18 38 43.9 -0.8**
UGL pmax pmax
comp=Z,200nm,0.9s
TIA Tai'an 15.98 283 *e*P **P** **18 38 45.3 -0.5**
TIA S **S** **18 41 35.3 +0.3**
TIA pmax pmax
comp=Z,38nm,1.1s
TIA pmax pmax
comp=Z,290nm,2.6s
TIA LR LR
comp=Z,130nm,4.7s
TIA LR LR
comp=Z,180nm,5.9s
NACB Ninganchiao 16.27 237 P **P** **18 38 50.7 +1.6**
GRNR Gornyy 16.74 360⇓ *i*P **P** **18 38 54.8 +1.0**
GRNR *e*S **S** **18 41 44.7 -4.9**
GRNR pmax pmax
comp=E,3.0nm,1.0s
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR smax smax
comp=N,3.0nm,1.0s
GRNR MLR MLR
comp=Z,110nm,13.0s
SSLB Suanglung 16.96 237 P **P** **18 38 56.3 -0.3**
YULB Yu-li 16.98 235 P **P** **18 38 56.9 +0.1**
BJT Baijiatuao 17.26 296 P **P** **18 38 59.1 -0.4**
BJT Baijiatuao 17.26 296 P **P** **18 38 59.2 -0.4**
BJT pmax pmax
comp=Z,49nm,1.1s
TYV Tymovskoe 17.43 13 *e*P **P** **18 39 02.5 +1.3**
TYV *e*S **S** **18 41 57.9 -5.1**
TYV pmax pmax
comp=Z,200nm,2.4s
TYV pmax pmax
comp=Z,24nm,0.9s
TYV smax smax
comp=N,300nm,5.7s
TYV smax smax
comp=E,400nm,5.7s
TPUB Ta-pu 17.50 237 P **P** **18 39 01.0 -1.3**
TWG Pinlang 17.52 234 P **P** **18 39 01.9 -0.6**
HEH HeiHe 17.53 340 *e*P **P** **18 39 01.3 -1.0**
HEH S **S** **18 42 01.1 -4.0**
HEH PcP **PcP** **18 43 22.4 +0.6**
HEH pmax pmax
comp=E,23nm,1.0s
HEH pmax pmax
comp=E,130nm,3.8s
HNS HongShan 17.98 287⇓ P **P** **18 39 05.8 -1.4**
HNS pmax pmax
comp=E,89nm,1.0s
XLT XiLinHaoTe 18.63 308 *e*P **P** **18 39 12.6 -1.5**
XLT pmax pmax
comp=E,17nm,1.2s
XLT pmax pmax
comp=E,120nm,4.7s
WHN Wuhan 19.01 266⇑ P **P** **18 39 18.0 -0.2**
WHN S **S** **18 42 34.3 +1.0**
HIA Hailar 19.63 326 P **P** **18 39 23.2 -1.2**
HIA IAmb IAmb 18 39 27.1
comp=Z,23nm,1.1s
HIA Hailar 19.63 326 P **P** **18 39 23.2 -1.2**
HIA pmax pmax
comp=Z,23nm,1.1s
TIY Taiyuan 19.80 288 P **P** **18 39 27.2 +0.9**
TIY S **S** **18 42 47.7 +1.2**
TIY pmax pmax
comp=Z,280nm,5.8s
TIY LR LR
comp=Z,160nm,6.6s
TIY LR LR
comp=Z,150nm,12.5s
TIY LR LR
comp=Z,140nm,13.2s
LYN LuoYang 19.83 278⇑ *i*P P 18 39 41.3 +15
LYN pmax pmax
comp=Z,10.0nm,0.6s
ZEA Zeya 20.77 344 *e*P **P** **18 39 35.9 +1.1**
ZEA *e*S **S** **18 42 59.9 -1.6**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA pmax pmax
comp=E,100nm,3.6s
ZEA pmax pmax
comp=N,100nm,6.2s
ZEA pmax pmax
comp=Z,100nm,3.9s
ZEA smax smax
comp=E,200nm,11.0s
ZEA smax smax
comp=N,400nm,8.5s
BTO Baotou 21.99 295 *e*P **P** **18 39 47.0 +0.8**
BTO S **S** **18 43 25.2 +3.5**
BTO LR LR
comp=N,520nm,5.5s
BTO LR LR
comp=N,630nm,5.1s
SKR Severo-Kuril's 21.99 35⇓ *e*P **P** **18 39 47.8 +1.9**
XAN Xi'an 22.80 278 P **P** **18 39 52.4 -1.2**
XAN pmax pmax
comp=N,52nm,1.4s
XAN pmax pmax
comp=N,350nm,3.5s
XAN LR LR
comp=N,110nm,11.0s
XAN LR LR
comp=N,150nm,13.7s
XAN LR LR
comp=N,180nm,12.4s
ENH Enshi 23.12 268 P **P** **18 39 55.0 -1.5**
ENH Enshi 23.12 268 P **P** **18 39 56.0 -0.5**
PEA0B Petropavlovsk- 24.35 32 P **P** **18 40 08.1 +0.8**
PEA0B Petropavlovsk- 24.35 32⇓ *e*P **P** **18 40 08.3 +1.1**
PETK Petropavlovsk- 24.35 32 P **P** **18 40 07.7 +0.5**
comp=N,33nm,0.9s,baz=193,slow=5.9,SNR=28
comp=N,33nm,0.9s
PET Petropavlovsk 24.72 33 P **P** **18 40 11.2 +0.7**
PET Petropavlovsk 24.72 33 *e*P **P** **18 40 11.4 +0.9**
PET *e**SP **sP** **18 41 59.7 -1.6**
PET *e*S **S** **18 44 03.5 -0.8**
PET pmax pmax
comp=Z,55nm,1.1s
PET MLR MLR
comp=Z,100nm,18.0s
ULN Ulaanbaatar 25.98 311 P **P** **18 40 23.7 +1.6**
ULN IAmb IAmb 18 40 25.9
comp=Z,30nm,1.1s
ULN Ulaanbaatar 25.98 311 *de*P **P** **18 40 23.3 +1.2**
ULN pmax pmax
comp=Z,35nm,1.3s
ULN Ulaanbaatar 25.98 311 P **P** **18 40 23.8 +1.8**
SONM Songino Array 26.39 311 P **P** **18 40 26.5 +0.9**
comp=Z,21nm,1.0s,baz=122,slow=7.1,SNR=57
comp=Z,21nm,1.0s
SONM Songino Array 26.39 311 P **P** **18 40 26.6 +0.9**
SONM IAmb IAmb 18 40 29.5
comp=Z,21nm,0.9s
SONM Songino Array 26.39 311 P **P** **18 40 26.6 +1.0**
SONM pmax pmax
comp=Z,21nm,0.9s
LZH Lanzhou 26.72 284⇑ P **P** **18 40 29.0 +0.3**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH LR LR
comp=Z,160nm,13.0s
LZH LR LR
comp=Z,140nm,13.5s
MA2 Magadan 27.25 16 P **P** **18 40 33.5 +0.5**
comp=Z,46nm,0.9s,baz=199,slow=7.8,SNR=24
comp=Z,46nm,0.9s
MA2 Magadan 27.25 16 P **P** **18 40 33.6 +0.6**
MA2 Magadan 27.25 16 *ce*P **P** **18 40 33.4 +0.5**
MA2 pmax pmax
comp=Z,170nm,2.5s
YAK Yakutsk 28.36 353 P **P** **18 40 43.1 +0.4**
comp=Z,9.5nm,0.6s,baz=110,slow=0.3,SNR=7.3
YAK S **S** **18 44 58.1 -3.2**
comp=Z,2.6nm,0.6s,baz=243,slow=23,SNR=6.0
comp=Z,9.5nm,0.6s
YAK Yakutsk 28.36 353 P **P** **18 40 42.5 -0.1**
YAK Yakutsk 28.36 353 *de*P **P** **18 40 43.0 +0.4**
YAK pmax pmax
comp=Z,46nm,1.7s
ZAK Zakamensk 29.21 314 *e*P **P** **18 40 50.4 0.0**
ZAK pmax pmax
comp=Z,11nm,1.3s
GTA Gaotai 29.73 291⇓ P **P** **18 40 55.3 +0.1**
GTA ScS ScS 18 50 50.0 -0.3
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,67nm,7.2s
SEY Seymchan 30.62 14 P **P** **18 41 03.3 +0.9**
comp=Z,9.9nm,0.7s,baz=207,slow=9.0,SNR=24
comp=Z,9.9nm,0.7s
SEY Seymchan 30.62 14⇓ *e*P **P** **18 41 03.6 +1.2**
SEY pmax pmax
comp=Z,10.0nm,1.3s
MOY Mondy 31.02 315 *e*P **P** **18 41 07.6 +1.3**
UBPT Khong Chiam 33.59 244 P **P** **18 41 30.2 +1.5**
GOMU GeErMu 33.95 286 P **P** **18 41 31.7 -0.3**
GOMU pmax pmax
comp=Z,30nm,1.1s
TNCH TengChong 34.05 265⇓ P **P** **18 41 32.7 -0.1**
TNCH pP pP 18 42 44.2 +1.5
TNCH pmax pmax
comp=Z,29nm,1.1s
TNCH pmax pmax
comp=Z,170nm,4.1s
CRAI Chiangrai 34.74 256 P **P** **18 41 38.6 +0.1**
SIJI Sorong 35.05 189 P **P** **18 41 40.0 -1.0**
comp=Z,6.2nm,0.8s,baz=355,slow=21,SNR=4.3
comp=Z,6.2nm,0.8s
PHRA Phrae 35.77 254 P **P** **18 41 46.9 -0.2**
TOLI2 Tolitoli 35.88 207 P **P** **18 41 47.9 -0.1**
CHTO Chiang Mai 36.63 255 P **P** **18 41 53.3 -1.0**
CHTO Chiang Mai 36.63 255 P **P** **18 41 53.3 -1.0**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 36.82 255 P **P** **18 41 55.2 -0.7**
comp=Z,2.8nm,0.6s,baz=13,slow=31,SNR=4.6
CMAR PP **PP** **18 43 29.2 -0.2**
comp=Z,0.4nm,0.3s,baz=52,slow=9.3,SNR=4.4
CMAR PcP **PcP** **18 44 09.2 +0.4**
comp=Z,0.8nm,0.9s,baz=256,slow=1.1,SNR=4.9
CMAR ScP **ScP** **18 47 18.4 -1.1**
comp=Z,0.5nm,0.5s,baz=36,slow=2.3,SNR=6.6
comp=Z,2.8nm,0.6s
CMAR Chiang Mai Arr 36.82 255 P **P** **18 41 55.4 -0.5**
CMAR Chiang Mai Arr 36.82 255 P **P** **18 41 55.4 -0.5**
FAKI Fak Fak 36.96 187 P **P** **18 41 56.9 -0.1**
SANI Sanana 37.21 197 P **P** **18 41 58.1 -1.0**
ADK Adak 37.90 47 P **P** **18 42 04.2 -0.2**
TIXI Tiksi 37.91 356 P **P** **18 42 04.0 -0.2**
comp=Z,4.8nm,0.5s,baz=270,slow=24,SNR=27
comp=Z,4.8nm,0.5s
TIXI Tiksi 37.91 356 P **P** **18 42 03.9 -0.2**
TIXI IAmb IAmb 18 42 05.1
comp=Z,18nm,1.1s
TIXI Tiksi 37.91 356⇓ *e*P **P** **18 42 04.4 +0.2**
TIXI pmax pmax
comp=Z,14nm,1.0s
BILL Bilibino 38.09 18 P **P** **18 42 06.2 +0.5**
BILL Bilibino 38.09 18 *d* *i*P **P** **18 42 06.4 +0.7**
BILL *e*S **S** **18 47 32.0 +2.0**
BILL pmax pmax
comp=Z,96nm,1.1s
LSA Lhasa 38.49 276 P **P** **18 42 10.1 -0.1**
LSA Lhasa 38.49 276 P **P** **18 42 10.1 -0.1**
LSA pmax pmax
comp=Z,10.0nm,1.2s
DGZ Jazzator, Alta 39.00 309 *de*P **P** **18 42 14.9 +1.2**
DGZ pmax pmax
comp=Z,43nm,1.1s
SHL Shillong 39.34 270 P **P** **18 42 15.2 -1.7**
SHL Shillong 39.34 270 P **P** **18 42 15.2 -1.7**
SHL pmax pmax
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 41.07 315 P **P** **18 42 30.6 +0.3**
ZALV Zalesovo Beam 41.07 315 P **P** **18 42 30.3 +0.1**
comp=Z,2.0nm,0.3s,baz=101,slow=7.7,SNR=20
ZALV PcP **PcP** **18 44 21.6 -0.1**
comp=Z,2.9nm,0.5s,baz=102,slow=4.2,SNR=7.4
ZALV ScP **ScP** **18 47 33.5 -1.8**
comp=Z,1.9nm,0.7s,baz=131,slow=4.7,SNR=5.2
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 41.07 315 *i* P **P** **18 42 30.7 +0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
MK31 Makanchi Array 42.38 304 P **P** **18 42 40.7 -0.2**
MK31 IAmb IAmb 18 42 42.7
comp=Z,27nm,1.2s
MK31 Makanchi Array 42.38 304 *i* P **P** **18 42 40.8 -0.2**
MKAR Makanchi Array 42.38 304 P **P** **18 42 41.1 +0.2**
comp=Z,13nm,0.7s,baz=86,slow=9.9,SNR=144
MKAR PcP **PcP** **18 44 27.0 +0.7**
comp=Z,0.6nm,0.4s,baz=82,slow=2.7,SNR=3.6
MKAR ScP **ScP** **18 47 39.4 -1.3**
comp=Z,0.9nm,0.5s,baz=74,slow=5.7,SNR=8.3
comp=Z,13nm,0.7s
MKAR Makanchi Array 42.38 304 P **P** **18 42 40.7 -0.2**
MAKZ Makanchi 42.59 304 P **P** **18 42 42.2 -0.5**
MAKZ IAmb IAmb 18 42 44.6
comp=Z,31nm,1.2s
MAKZ Makanchi 42.59 304 P **P** **18 42 43.8 +1.2**
NIKH Nikolski High 42.78 47 P **P** **18 42 44.7 +0.7**
RAMN Ramite 43.20 275 *e*P **P** **18 42 47.8 -0.2**
JIRN Jiri 43.28 276 *e*P **P** **18 42 48.3 -0.4**
comp=Z,56nm,0.5s
PKI Pulchoki 43.96 276 *e*P **P** **18 42 53.4 -0.6**
PKIN Phulchoki 43.96 276 *e*P **P** **18 42 53.5 -0.5**
IPM Ipoh 44.12 236 P **P** **18 42 54.7 -0.4**
GKN Gorkha 44.44 277 *e*P **P** **18 42 56.7 -0.9**
KURK Kurchatov 44.69 310 P **P** **18 42 59.7 +0.7**
KURK 18 44 34.5
KURBB Kurchatov Arra 44.75 310 P **P** **18 42 59.7 +0.2**
comp=Z,21nm,0.9s,baz=91,slow=8.0,SNR=87
KURBB PcP **PcP** **18 44 34.5 +0.2**
comp=Z,0.7nm,0.3s,baz=90,slow=5.6,SNR=4.0
comp=Z,21nm,0.9s
DANN Dangsing 45.03 278 *e*P **P** **18 43 01.9 -0.5**
comp=Z,39nm,0.3s
TARG Taragay, Kyrgy 46.16 298 P **P** **18 43 11.4 +0.4**
TARG Taragay, Kyrgy 46.16 298 P **P** **18 43 11.4 +0.4**
TARG pmax pmax
comp=Z,18nm,1.2s
ANM Nome 46.25 31 P **P** **18 43 12.6 +1.7**
ANM IAmb IAmb 18 43 13.9
comp=Z,20nm,1.1s
ANM Nome 46.25 31 P **P** **18 43 12.6 +1.7**
ANM pmax pmax
comp=Z,20nm,1.1s
MDOK Medeo 46.46 300 P **P** **18 43 12.4 -0.7**
MTN Manton Dam 46.88 187 P **P** **18 43 15.3 -1.0**
KSH Kashi 47.98 295 P **P** **18 43 28.8 +4.2**
KSH pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 48.40 299 P **P** **18 43 28.1 +0.3**
AAK Ala-Archa 48.40 299⇑ *e*P **P** **18 43 28.4 +0.6**
AAK pmax pmax
comp=Z,9.0nm,1.7s
GSI Gunungsitoli 48.78 237 P **P** **18 43 30.5 -0.3**
OTUK Ortayu 48.97 307 P **P** **18 43 30.6 -1.2**
BVA0 Borovoye Array 49.66 314 *i* P **P** **18 43 36.5 -0.4**
BVAR Borovoye Array 49.66 314 P **P** **18 43 36.9 0.0**
comp=Z,4.9nm,0.5s,baz=92,slow=8.9,SNR=40
BVAR PcP **PcP** **18 44 51.6 -0.2**
comp=Z,2.6nm,0.7s,baz=94,slow=5.9,SNR=4.9
BVAR ScP **ScP** **18 48 09.4 -1.6**
comp=Z,2.0nm,0.6s,baz=85,slow=5.3,SNR=5.9
comp=Z,4.9nm,0.5s

BRVK Borovoye 49.72 314 P P 18 43 37.4 +0.1
BRVK IAmb IAmb 18 43 38.9
comp=Z,26nm,1.1s
BRVK Borovoye 49.72 314 *de*P P 18 43 36.6 -0.7
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 49.72 314 P P 18 43 38.1 +0.8
KNRA Kununurra 49.96 190 P P 18 43 39.5 0.0
CHIR Chirikof Islan 50.51 43 P P 18 43 44.0 +0.9
O18K Koktuh Hills 50.54 37 P P 18 43 44.8 +1.5
P18K Big Mountain, 50.54 38 P P 18 43 44.5 +1.2
L19K White Mountain 50.69 34 P P 18 43 45.9 +1.5
A21K Barrow 50.79 22 P P 18 43 46.6 +1.6
N19K Bonanza Creek 50.88 36 P P 18 43 48.0 +2.1
M19K Big River Lodg 50.91 35 P P 18 43 47.6 +1.6
O19K Port Alsworth 50.98 37 P P 18 43 48.2 +1.8
O19K IAmb IAmb 18 43 49.0
comp=Z,23nm,1.0s
J20K Nowinta River 51.05 32 P P 18 43 48.7 +1.7
J20K IAmb IAmb 18 43 49.9
comp=Z,27nm,1.1s
K20K Telida 51.06 33 P P 18 43 49.0 +1.9
KK31 Karatay Array 51.16 301 P P 18 43 47.9 -0.3
KK31 IAmb IAmb 18 43 49.7
comp=Z,22nm,1.4s
KK31 Karatay Array 51.16 301 P P 18 43 47.9 -0.3
KK31 pmax pmax
comp=Z,22nm,1.4s
KKAR Karatay Array 51.16 301 P P 18 43 47.9 -0.3
KKAR IAmb IAmb 18 43 49.7
comp=Z,22nm,1.4s
KKAR Karatay Array 51.16 301 P P 18 43 48.2 0.0
KKAR Karatay Array 51.16 301 P P 18 43 48.2 0.0
IMAR Indian Mountai 51.28 29 P P 18 43 50.0 +1.4
Q19K Cape Douglas, 51.37 39 P P 18 43 50.0 +0.5
M20K Styx River 51.51 35 P P 18 43 52.2 +1.7
P19K Oil Pt 51.55 38 P P 18 43 52.3 +1.6
ILSW Iliamna Southw 51.57 37 P P 18 43 51.6 +0.5
ILSW IAmb IAmb 18 43 53.6
comp=Z,16nm,1.4s
H21K Melozitna Rive 51.65 30 P P 18 43 53.0 +1.6
H21K IAmb IAmb 18 43 54.7
comp=Z,26nm,1.1s
OHAK Old Harbor 51.69 41 P P 18 43 52.5 +0.8
NIL Nilore 51.73 288 P P 18 43 52.9 +0.4
NIL IAmb IAmb 18 43 54.3
comp=Z,40nm,1.4s
NIL Nilore 51.73 288 P P 18 43 52.9 +0.4
NIL pmax pmax
comp=Z,40nm,1.4s
RSO Redoubt South 51.74 37 P P 18 43 53.6 +1.2
PPLA Purkeypile 51.92 33 P P 18 43 55.7 +2.1
PPLA IAmb IAmb 18 43 56.5
comp=Z,44nm,1.4s
CAST Castle Rocks 51.96 33 P P 18 43 55.6 +1.9
CAST IAmb IAmb 18 43 56.5
comp=Z,23nm,1.3s
I21K Tanana 51.99 31 P P 18 43 56.2 +2.3
I21K IAmb IAmb 18 43 57.0
comp=Z,25nm,0.9s
KDAK Kodiak Island 52.02 40 P P 18 43 54.9 +0.8
KDAK IAmb IAmb 18 43 55.6
comp=Z,28nm,0.9s
KDAK Kodiak Island 52.02 40 *d* i P P 18 43 54.9 +0.8
KDAK pmax pmax
comp=Z,39nm,0.9s
SKT Skwentna 52.26 35 P P 18 43 56.9 +1.0
SKT IAmb IAmb 18 43 58.3
comp=Z,21nm,1.3s
GAR Garm 52.35 296 P P 18 43 57.1 0.0
BPAW Bear Paw Mtn. 52.43 32 P P 18 43 58.9 +1.8
KTH Kantishna Hill 52.48 33 P P 18 43 58.9 +1.4
KTH IAmb IAmb 18 44 00.2
comp=Z,20nm,1.1s
MLY Manley 52.52 31 P P 18 43 59.8 +2.1
MLY IAmb IAmb 18 44 00.6
comp=Z,23nm,1.0s
CNPM China Poot 52.57 38 P P 18 43 58.2 0.0
CNPM IAmb IAmb 18 44 01.4
comp=Z,22nm,1.0s
SUA Susitna One 52.66 35 P P 18 43 59.7 +0.8
SUA IAmb IAmb 18 44 01.8
comp=Z,28nm,1.0s
COLD Coldfoot 52.72 28 P P 18 44 00.3 +1.2
BRLK Bradley Lake 52.72 37 P P 18 43 59.1 -0.2
BRLK IAmb IAmb 18 44 01.8
comp=Z,28nm,1.0s
TRF Thorofare Moun 52.77 33 P P 18 44 01.0 +1.3
CUT Chulitna 52.83 34 P P 18 44 00.9 +0.9
FITZ Fitzroy Crossi 52.84 193 P P 18 44 00.9 +0.3
FITZ Fitzroy Crossi 52.84 193 P P 18 44 00.3 -0.3
H23K Yukon River 53.00 30 P P 18 44 03.0 +1.8
BWN Browne 53.10 32 P P 18 44 03.9 +2.0
I23K Minto, Yukon-K 53.10 31 P P 18 44 03.4 +1.5
I23K IAmb IAmb 18 44 04.7
comp=Z,26nm,1.3s
RC01 Rabbit Creek A 53.18 36 P P 18 44 03.3 +0.8
RC01 IAmb IAmb 18 44 04.1
comp=Z,25nm,1.0s
NEA2 Nenana 53.25 31 P P 18 44 04.5 +1.5
CHGR Chuyangaron 53.32 296 P P 18 44 03.9 -0.2
CHGR Chuyangaron 53.32 296 P P 18 44 03.9 -0.2
CHGR pmax pmax
comp=Z,94nm,1.3s
MCK McKinley 53.35 32 P P 18 44 04.9 +1.1
MCK McKinley 53.35 32 P P 18 44 04.9 +1.1
MCK pmax pmax
comp=Z,14nm,1.2s
SEW Seward 53.41 37 P P 18 44 04.9 +0.8
SEW IAmb IAmb 18 44 05.6
comp=Z,26nm,0.9s
RND Reindeer 53.41 33 P P 18 44 05.3 +1.1
RND IAmb IAmb 18 44 05.8
comp=Z,22nm,1.1s
RND Reindeer 53.41 33 P P 18 44 05.3 +1.1
RND pmax pmax
comp=Z,22nm,1.1s
PMR Palmer 53.43 35 P P 18 44 05.3 +1.0
PMR IAmb IAmb 18 44 05.8
comp=Z,26nm,1.0s
PMR Palmer 53.43 35 P P 18 44 05.3 +1.0
PMR pmax pmax
comp=Z,26nm,1.0s
GHO Glory Hole Cre 53.51 35 P P 18 44 05.9 +0.9
GHO IAmb IAmb 18 44 06.9
comp=Z,22nm,0.9s
WB0 Warramunga Arr 53.52 182 P P 18 44 04.7 -0.8
MDM Murphy Dome 53.59 31 P P 18 44 06.9 +1.4
WRH Wood River Hil 53.68 31 P P 18 44 07.4 +1.4
WRH IAmb IAmb 18 44 10.3
comp=Z,20nm,1.1s
H24K Noodor Dome 53.69 30 P P 18 44 08.1 +1.9
H24K IAmb IAmb 18 44 09.2
comp=Z,29nm,1.1s
WRAB Tennant Creek 53.69 182 P P 18 44 05.5 -1.2
WB2 Warramunga Arr 53.70 182 P P 18 44 05.6 -1.1
WRA Warramunga Arr 53.70 182 P P 18 44 05.7 -1.1
comp=Z,4.7nm,0.5s,baz=0.2,slow=7.6,SNR=43
comp=Z,4.7nm,0.5s
WRA Warramunga Arr 53.70 182 P P 18 44 05.1 -1.7
WRA Warramunga Arr 53.70 182 *i* P P 18 44 05.6 -1.1
WRA pmax pmax
comp=Z,3.0nm,0.3s
WR0 Warramunga Arr 53.71 182 P P 18 44 05.7 -1.1
WB1 Warramunga Ar. 53.72 182 P P 18 44 05.7 -1.2
TCOL CIGO, UAF Yank 53.75 31 P P 18 44 06.2 -0.3
TCOL IAmb IAmb 18 44 09.9
comp=Z,16nm,0.8s
COLA College 53.75 31 P P 18 44 05.9 -0.6
COLA IAmb IAmb 18 44 09.9
comp=Z,16nm,0.8s
COLA College 53.75 31 P P 18 44 08.0 +1.5
COLA College 53.75 31 ⇓ *e*P P 18 44 07.7 +1.2
COLA *i* *PP pP 18 45 26.7 +2.8
COLA pmax pmax
comp=Z,19nm,1.1s
KNK Knik Glacier 53.76 35 P P 18 44 07.5 +0.8
KNK IAmb IAmb 18 44 08.7
comp=Z,26nm,0.9s
SML Sawmill 53.78 35 P P 18 44 07.4 +0.5
SML IAmb IAmb 18 44 08.9
comp=Z,29nm,1.0s
CCB Clear Creek Bu 53.79 31 P P 18 44 07.4 +0.6
PWL Port Wells 53.88 36 P P 18 44 08.3 +0.7

POKR Poker Plat Res 53.91 31 P P 18 44 08.9 +1.1
DHY Denali Highway 54.11 33 P P 18 44 09.4 +0.1
IL31 54.17 31 P P 18 44 09.8 +0.2
IL31 IAmb IAmb 18 44 10.8
comp=Z,22nm,1.4s
ILAR Eielson Array 54.17 31 P P 18 44 09.6 0.0
comp=Z,5.9nm,0.9s,baz=259,slow=5.4,SNR=55
comp=Z,5.9nm,0.9s
ILAR Eielson Array 54.17 31 P P 18 44 08.9 -0.7
HDA Harding Lake 54.18 31 P P 18 44 09.8 +0.2
HDA IAmb IAmb 18 44 10.9
comp=Z,29nm,1.1s
SCM Sheep Creek Mo 54.26 35 P P 18 44 10.5 +0.2
SCM IAmb IAmb 18 44 12.5
comp=Z,28nm,1.0s
SCM Sheep Creek Mo 54.26 35 P P 18 44 10.5 +0.2
SCM pmax pmax
comp=Z,28nm,1.0s
QIS Mount Isa 54.36 176 P P 18 44 11.0 -0.4
PRP Porcupine Dome 54.68 30 P P 18 44 12.7 -0.7
PRP IAmb IAmb 18 44 15.6
comp=Z,10nm,0.6s
FYU Fort Yukon 54.71 29 P P 18 44 13.3 0.0
KBL Kabul 54.72 291 P P 18 44 13.8 -0.5
KBL Kabul 54.72 291 P P 18 44 13.8 -0.5
KBL pmax pmax
comp=Z,18nm,1.4s
KBL Kabul 54.72 291 P P 18 44 14.3 +0.1
SNR=6.3
SVE Sverdlovsk 54.76 319 *e*P P 18 44 15.0 +1.1
SVE pmax pmax
comp=Z,26nm,1.2s
BMAR Burnt Mountain 54.89 28 P P 18 44 16.5 +1.8
KLU Klutina 54.96 35 P P 18 44 16.1 +0.7
PAX Paxson 54.98 33 P P 18 44 15.9 +0.4
PAX Paxson 54.98 33 P P 18 44 15.9 +0.4
PAX pmax pmax
comp=Z,6.0nm,1.0s
DIV Divide 55.09 35 P P 18 44 17.2 +1.0
DIV IAmb IAmb 18 44 18.6
comp=Z,34nm,1.2s
RIDG Independent Ri 55.16 32 P P 18 44 16.9 +0.2
SCRK Sand Creek 55.51 32 P P 18 44 19.7 +0.4
SCRK IAmb IAmb 18 44 21.0
comp=Z,24nm,1.0s
DOT Dot Lake 55.52 32 P P 18 44 19.5 +0.2
DOT IAmb IAmb 18 44 20.8
comp=Z,13nm,0.8s
J26L Joseph Creek 55.62 31 P P 18 44 20.6 +0.6
BMRM Bremner River 55.67 35 P P 18 44 21.8 +1.5
MENT Mentasta 55.78 33 P P 18 44 22.3 +1.2
MENT IAmb IAmb 18 44 23.7
comp=Z,22nm,1.0s
L26K Log Cabin Wild 55.93 33 P P 18 44 22.8 +0.7
L26K IAmb IAmb 18 44 24.8
comp=Z,22nm,1.1s
ARU Arti 55.96 319 P P 18 44 22.3 0.0
comp=Z,11nm,0.7s,baz=70,slow=2.3,SNR=28
comp=Z,11nm,0.7s
ARU Arti 55.96 319 P P 18 44 21.8 -0.5
ARU IAmb IAmb 18 44 23.6
comp=Z,24nm,1.0s
ARU Arti 55.96 319 *c* *i* P P 18 44 23.0 +0.7
ARU 18 45 15.7
ARU 18 46 29.3
ARU S S 18 51 42.0 +1.5
ARU pmax pmax
comp=Z,28nm,1.0s
GLB Gilahina Butte 55.97 35 P P 18 44 23.3 +0.9
GLB IAmb IAmb 18 44 25.0
comp=Z,20nm,1.2s
VRDI Verde Repeater 56.18 35 P P 18 44 24.4 +0.3
VRDI IAmb IAmb 18 44 26.4
comp=Z,21nm,1.1s
M26K Nabesna, AK 56.19 34 P P 18 44 24.7 +0.8
M26K IAmb IAmb 18 44 26.6
comp=Z,35nm,1.2s
K27K Chicken 56.34 32 P P 18 44 25.9 +1.0
K27K IAmb IAmb 18 44 27.4
comp=Z,24nm,1.1s
MCARA McCarthy VSAT 56.36 35 P P 18 44 26.2 +1.1
MCARA IAmb IAmb 18 44 27.7
comp=Z,29nm,1.1s
EGAK Eagle 56.61 31 P P 18 44 27.3 +0.6
L27K Beaver Creek, 56.61 33 P P 18 44 28.4 +1.5
L27K IAmb IAmb 18 44 29.6
comp=Z,30nm,1.4s
BCAR Beaver Creek A 56.63 33 P P 18 44 28.5 +1.5
M27K Edge Creek, AK 56.71 34 P P 18 44 28.8 +1.1
M27K IAmb IAmb 18 44 30.2
comp=Z,26nm,1.1s
AB31 Akbulak array 56.80 310 *e*P P 18 44 27.7 -0.6
ABKAR Akbulak array 56.80 310 P P 18 44 27.7 -0.7
ABKAR Akbulak array 56.80 310 P P 18 44 27.2 -1.1
MBWA Marble Bar 57.14 199 P P 18 44 30.6 -0.3
AS31 Alice Springs 57.42 183 P P 18 44 33.6 +0.7
ASAR Alice Springs 57.42 183 P P 18 44 31.9 -0.9
comp=Z,1.4nm,0.5s,baz=358,slow=6.3,SNR=28
comp=Z,1.4nm,0.5s
ASAR Alice Springs 57.42 183 P P 18 44 33.2 +0.3
ASAR Alice Springs 57.42 183 P P 18 44 33.2 +0.3
DAWY Dawson 57.49 31 P P 18 43 38.8 +0.8
I29M Ogilvie Camp, 57.69 30 P P 18 44 35.2 +1.0
I29M IAmb IAmb 18 44 36.8
comp=Z,24nm,1.4s
AKTO Aktyubinsk 57.69 312 P P 18 44 34.2 -0.2
comp=Z,9.0nm,0.7s,baz=74,slow=9.0,SNR=22
comp=Z,9.0nm,0.7s
EPYK Eagle Plains 58.11 28 P P 18 44 38.7 +1.6
BCPM Bancas Point 58.29 36 P P 18 44 39.2 +0.8
BCPM IAmb IAmb 18 44 41.1
comp=Z,18nm,1.1s
PNL Peninsula 58.47 36 P P 18 44 41.2 +1.5
INK Inuvik 58.87 26 P P 18 44 43.0 +0.7
comp=Z,5.8nm,0.6s,baz=288,slow=6.3,SNR=34
comp=Z,5.8nm,0.6s
INK Inuvik 58.87 26 P P 18 44 43.1 +0.9
INK Inuvik 58.87 26 P P 18 44 43.1 +0.9
INK pmax pmax
comp=Z,5.0nm,0.6s
M30M Minto, Yukon 58.97 33 P P 18 44 44.0 +0.9
HYT Haines Junctio 59.09 35 P P 18 44 45.4 +1.4
HYT IAmb IAmb 18 44 47.2
comp=Z,18nm,1.2s
WRKA Warakurna 59.24 189 P P 18 44 44.5 -0.8
N31M Braeburn, Yuko 59.72 34 P P 18 44 49.4 +1.2
N31M IAmb IAmb 18 44 51.2
comp=Z,19nm,1.1s
HRA Herat 60.01 293 P P 18 44 50.7 -0.1
HRA IAmb IAmb 18 44 52.5
comp=Z,19nm,1.4s
M31M Drury Creek, Y 60.15 33 P P 18 44 52.3 +1.2
KIRV Kirov 60.21 323 P P 18 44 51.6 +0.2
comp=Z,15nm,0.5s,baz=58,slow=5.6,SNR=7.5
comp=Z,15nm,0.5s
KIRV Kirov 60.21 323 *de*P P 18 44 51.9 +0.5
WHY Whitehorse 60.38 34 P P 18 44 52.5 -0.2
WHY IAmb IAmb 18 44 55.5
comp=Z,21nm,1.2s
SKAG Skagway 60.52 36 P P 18 44 54.3 +0.8
SKAG IAmb IAmb 18 44 56.5
comp=Z,18nm,1.1s
A36M Sachs Harbour 60.53 21 P P 18 44 54.2 +0.9
FARO Faro, Yukon 60.61 33 P P 18 44 55.6 +1.5
FARO IAmb IAmb 18 44 56.7
comp=Z,17nm,1.0s
OOD Oodnadatta 61.48 181 P P 18 44 59.9 -0.3
P33M Teslin, Yukon 61.49 35 P P 18 45 01.1 +1.0
P33M IAmb IAmb 18 45 03.5
comp=Z,26nm,1.4s
INKA Innaminka 61.56 176 P P 18 45 01.0 +0.3
GEYT Alibeck 61.73 298 P P 18 45 02.0 0.0
comp=Z,3.8nm,0.9s,baz=52,slow=2.4,SNR=6.3
comp=Z,3.8nm,0.9s
GEYT Alibeck 61.73 298 P P 18 45 02.5 +0.5
GYA0B ALIBECK ARRAY 61.73 298 P P 18 45 02.3 +0.3
C36M Paulatuk 61.82 23 P P 18 45 02.8 +0.9
C36M IAmb IAmb 18 45 03.8
comp=Z,16nm,0.8s
BELG Belogornoye 63.23 317 P P 18 45 11.3 -0.1
comp=Z,9.7nm,0.7s,baz=180,slow=7.4,SNR=7.8
comp=Z,9.7nm,0.7s
BELG Belogornoye 63.23 317 *ce*P P 18 45 11.7 +0.3
BELG pmax pmax
comp=Z,4.0nm,1.1s

EUNU Eureka 63.73 8 P P 18 45 14.6 +0.2
EUNU IAmb IAmb 18 45 15.8
comp=Z,5.8nm,0.7s
KLMR Klimovskoe 64.12 327 *e*P P 18 45 15.7 -1.4
KLMR AMP 18 45 18.2
comp=Z,11nm,1.0s
KLMR Klimovskoe 64.12 327 *e*P P 18 45 15.6 -1.5
KLMR pmax pmax
comp=Z,11nm,1.0s
LCRK Leigh Creek 64.14 178 P P 18 45 18.0 +0.5
FORT Forrest 64.94 188 P P 18 45 22.2 -0.4
ARCES ARCESS Array B 65.36 339 P P 18 45 24.6 -0.3
comp=Z,6.7nm,0.9s,baz=47,slow=7.5,SNR=3.0
comp=Z,6.7nm,0.9s
STKA Stephens Creek 65.72 175 P P 18 45 26.2 -1.4
comp=Z,1.3nm,0.6s,baz=347,slow=7.7,SNR=4.9
comp=Z,1.3nm,0.6s
STKA Stephens Creek 65.72 175 P P 18 45 27.0 -0.6
RES Resolute Bay 66.48 13 P P 18 45 32.3 +0.5
RES IAmb IAmb 18 45 33.5
comp=Z,12nm,1.1s
RES Resolute Bay 66.48 13 P P 18 45 32.3 +0.5
RES pmax pmax
comp=Z,12nm,1.1s
JASK Jask - Hormozg 67.07 286 P P 18 45 38.0 +1.6
JLN Jalan Bani Buh 67.58 282 P P 18 45 40.0 +0.3
AKT Akhty 67.59 306 *e*P P 18 45 39.0 -0.5
AKT *e* 18 46 02.8
AKT pmax pmax
comp=Z,10.0nm,0.6s
WSAR Wadi Sarin 67.69 284 P P 18 45 40.3 0.0
WBK Wadi Bani Khal 67.72 283 P P 18 45 41.0 +0.5
BIDO Bidbid 67.97 284 P P 18 45 42.7 +0.7
OBN Obninsk 68.05 322 P P 18 45 41.8 -0.1
comp=Z,2.1nm,0.4s,baz=6.3,slow=21,SNR=3.2
comp=Z,2.1nm,0.4s
SMDO Samad 68.25 284 P P 18 45 44.1 +0.2
BANOM Banah 68.29 287 P P 18 45 44.7 +0.8
SHME Shamm 68.35 287 P P 18 45 44.2 -0.1
YKA Yellowknife Ar 68.40 28 P P 18 45 44.5 +0.6
comp=Z,1.3nm,0.4s,baz=294,slow=5.9,SNR=26
YKA pP pP 18 47 04.5 -1.4
comp=Z,0.8nm,0.8s,baz=297,slow=6.9,SNR=2.9
comp=Z,1.3nm,0.4s
YKA Yellowknife Ar 68.40 28 P P 18 45 44.4 +0.5
JMDO Jabal Madar 68.54 283 P P 18 45 45.4 -0.1
HOQ Hoqain 68.59 285 P P 18 45 48.1 +2.2
SNR=5.8
MASF Masafi 68.66 287 P P 18 45 46.2 0.0
NEEM North Greenlan 68.70 2 *i* P P 18 45 46.1 +0.2
NEEM IAmb IAmb 18 45 47.0
comp=Z,8.0nm,0.6s
UOSS Minazif 68.83 286 P P 18 45 48.1 +0.9
HATD Hatta, Dubai 68.94 286 P P 18 45 48.9 +0.9
SOHO SOHO 68.95 285 P P 18 45 48.0 0.0
ASHO Ashiyiah 69.07 286 P P 18 45 51.0 +2.2
SNR=5.4
BSY Bisya 69.09 284 P P 18 45 48.9 +0.1
MHTO MHTO 69.32 282 P P 18 45 51.0 +0.7
SNR=7.7
ARQ Araqi 69.35 285 P P 18 45 51.0 +0.5
FAQ Al Faqa, Dubai 69.41 286 P P 18 45 51.6 +0.9
FINES FINESS Array B 69.55 331 P P 18 45 51.0 +0.1
comp=Z,11nm,0.9s,baz=42,slow=7.6,SNR=5.7
comp=Z,11nm,0.9s
FINES FINESS Array B 69.55 331 P P 18 45 51.5 +0.6
FINES FINESS Array B 69.55 331 P P 18 45 51.5 +0.6
ALNE Al Ain 69.62 286 P P 18 45 52.1 0.0
ASUD Al Ashush, Dub 69.68 286 P P 18 45 52.9 +0.5
KBZ Khabaz 69.75 310 P P 18 45 53.0 +0.6
comp=Z,13nm,0.9s,baz=131,slow=1.3,SNR=20
comp=Z,13nm,0.9s
KBZ Khabaz 69.75 310 *de*P P 18 45 52.9 +0.5
KBZ pmax pmax
comp=Z,18nm,1.0s
KVAR Kislovodsk Arr 69.77 310 P P 18 45 52.3 -0.5
comp=Z,3.6nm,0.6s,baz=354,slow=9.2,SNR=4.1
comp=Z,3.6nm,0.6s
KIV Kislovodsk 69.78 310 P P 18 45 53.7 +0.9
KIV Kislovodsk 69.78 310 *de*P P 18 45 53.5 +0.7
KIV *e*PP pP 18 47 16.6 +1.8
KIV *e* 18 48 33.7
KIV *i* S S 18 54 32.7 +1.5
KIV *i* 18 55 21.2
KIV *e*SS SS 18 59 05.5 -2.1
KIV pmax pmax
comp=Z,29nm,1.0s
KIV Kislovodsk 69.78 310 P P 18 45 54.3 +1.5
ONI Oni 69.92 308 P P 18 45 55.1 +1.5
ONI IAmb IAmb 18 45 56.8
comp=Z,20nm,1.4s
ONI Oni 69.92 308 P P 18 45 55.1 +1.5
ONI pmax pmax
comp=Z,20nm,1.4s
WAPA Wapiti River 70.20 36 P P 18 45 55.8 +0.7
GNI Garni 70.21 305 P P 18 45 55.4 -0.1
comp=Z,11nm,1.0s,baz=139,slow=6.4,SNR=4.2
comp=Z,11nm,1.0s
AKH Akhalkalaki 70.45 307 P P 18 45 58.2 +1.2
AKH Akhalkalaki 70.45 307 P P 18 45 58.2 +1.2
UMZA Um Al Zommool 70.74 285 P P 18 45 57.8 -1.0
LLLB Lillooet 71.20 41 P P 18 46 01.1 0.0
LLLB IAmb IAmb 18 46 03.3
comp=Z,7.5nm,0.9s
KULLO Kullorsuaq 71.30 4 *i* P P 18 46 01.0 -0.2
KULLO IAmb IAmb 18 46 01.9
comp=Z,3.8nm,0.6s
MZR Muzera 71.95 286 P P 18 46 05.9 -0.1
ANN Anapa 72.64 313 *e*P P 18 46 09.0 -0.6
ANN *e*PP pP 18 47 30.5 -1.9
ANN pmax pmax
comp=Z,141nm,1.2s
MNK Minsk 72.66 325 *i* P P 18 46 08.2 -1.3
comp=E,2.0nm,0.8s
MNK *i* P P 18 46 08.2 -1.3
comp=N,15nm,0.8s
MNK *i* P P 18 46 08.2 -1.3
comp=Z,15nm,0.8s,baz=56
MNK *i* PcP PcP 18 46 23.2 -1.5
MNK *i* pP pP 18 47 30.3 -1.9
MNK *i* sP sP 18 48 09.9 -2.0
MNK *i* PP PP 18 48 55.3 -1.1
MNK *i* PPP PPP 18 50 41.6
MNK *i* S SKiKP 18 55 02.8 -0.6
MNK *i* sS sS 18 57 29.2 -0.1
MNK *i* SS SS 19 00 22.5 +32
MNK *i* SSS SSS 19 04 57.2
MNK Minsk 72.66 325 *i* P P 18 46 08.2 -1.3
MNK *i* 18 46 23.1
MNK *i* *PP pP 18 47 30.3 -1.9
MNK *i* *SP sP 18 48 09.9 -2.0
MNK *i* 18 48 55.3
MNK *i* PPP PPP 18 50 41.6
MNK *i* S SKiKP 18 55 02.7 -0.6
MNK *i* 18 55 39.2
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,15nm,0.8s
GURO Guroymak-BITLI 72.82 305 P P 18 46 12.4 +1.4
GURO IAmb IAmb 18 46 13.3
comp=Z,18nm,1.3s
SLWR Sila 72.84 288 P P 18 46 11.0 -0.1
NACGM Naroch 72.96 325 *eP* P 18 46 12.2 +0.9
comp=Z,15nm,1.0s,baz=55
DMTO DMTO 73.43 280 P P 18 46 14.1 -0.5
DOK Doka 73.63 282 P P 18 46 17.0 +1.2
SNR=5.1
SUMG Summit 73.63 358 *i* P P 18 46 15.7 +0.3
SUMG IAmb IAmb 18 46 17.0
comp=Z,4.7nm,0.6s
B08A Colville Reser 73.80 42 P P 18 46 17.1 +0.8
B08A IAmb IAmb 18 46 18.5
comp=Z,12nm,1.1s
AKASG Malin Array Be 74.14 321 P P 18 46 17.5 -0.6
comp=Z,1.3nm,0.4s,baz=48,slow=6.1,SNR=20
comp=Z,1.3nm,0.4s
AKASG Malin Array Be 74.14 321 P P 18 46 18.2 +0.1
AKASG Malin Array Be 74.14 321 P P 18 46 18.2 +0.1
AKASG pmax pmax
comp=Z,6.0nm,1.2s
AKBB Malin Array Si 74.14 321 P P 18 46 18.1 -0.1

AKBB IAmb IAmb 18 46 19.1
comp=Z,7.5nm,0.8s
AKBB Malin Array Si 74.14 321⇑ *eP* **P 18 46 17.3 -0.8**
RBK Rabkut 74.14 281 P P **18 46 18.5 -0.3**
EDM Edmonton 74.18 36 P P **18 46 19.0 +0.6**
EDM IAmb IAmb 18 46 20.3
comp=Z,11nm,0.9s
EDM Edmonton 74.18 36 P P **18 46 19.0 +0.6**
EDM pmax pmax
comp=Z,11nm,0.9s
WHFO Wadi Hawf 74.28 281 P P **18 46 18.3 -1.3**
MARD Mardin 74.30 305 P P **18 46 19.7 +0.2**
C09A Chrisman Ranch 74.70 42 P P **18 46 22.7 +1.3**
C09A IAmb IAmb 18 46 23.6
comp=Z,11nm,0.8s
ABTO Aybut 74.96 281 P P **18 46 25.0 +1.6**
SNR=6.7
HFS Hagfors 75.10 334 P P **18 46 22.6 -0.8**
comp=Z,2.4nm,0.4s,baz=248,slow=1.6,SNR=14
comp=Z,2.4nm,0.4s
NB2 NORSAR Subarra 75.33 336 P P **18 46 24.9 +0.1**
comp=Z,1.9nm,0.7s,baz=45,slow=5.9
NOA NORSAR Array B 75.33 336 P P **18 46 24.8 0.0**
comp=Z,3.6nm,0.8s,baz=46,slow=5.6,SNR=11
comp=Z,3.6nm,0.8s
PINE Pine Mountain 75.35 47 P P **18 46 27.4 +1.9**
E09A Wood Farm, Sta 75.49 43 P P **18 46 27.2 +1.3**
TOKA Tokat 75.59 309 P P **18 46 27.7 +1.0**
WALA Waterton Lakes 76.35 40 P P **18 46 32.0 +1.1**
WALA IAmb IAmb 18 46 33.0
comp=Z,9.4nm,1.0s
BNN Bunyan 76.79 308 P P **18 46 34.1 +0.6**
GAZ Gaziantep 76.80 306 P P **18 46 34.8 +1.4**
BMO Blue Mountains 76.92 45 P P **18 46 34.7 +0.7**
BMO IAmb IAmb 18 46 36.2
comp=Z,9.2nm,1.1s
BMO Blue Mountains 76.92 45 P P **18 46 34.7 +0.7**
BMO pmax pmax
comp=Z,9.0nm,1.1s
J08A Circle Bar Ran 77.08 46 P P **18 46 36.5 +1.5**
ICESG Greenland Ices 77.16 359 *i* P P **18 46 36.3 +1.1**
ICESG IAmb IAmb 18 46 36.8
comp=Z,5.9nm,0.5s
ORV Oroville 77.33 51 P P **18 46 36.7 +0.4**
ORV IAmb IAmb 18 46 37.9
comp=Z,9.5nm,1.2s
ORV Oroville 77.33 51 P P **18 46 36.7 +0.4**
ORV pmax pmax
comp=Z,10.0nm,1.3s
WVOR Wild Horse Val 77.51 47 P P **18 46 38.1 +0.7**
WVOR Wild Horse Val 77.51 47 P P **18 46 38.1 +0.7**
WVOR pmax pmax
comp=Z,4.0nm,1.1s
PLID Pearl Lake 77.54 44 P P **18 46 38.0 +0.4**
BR131 Keskin Array S 77.74 310 P P **18 46 39.6 +0.8**
BR131 Keskin Array S 77.74 310 *ce* P P **18 46 39.4 +0.7**
BR131 Keskin Array S 77.74 310 P P **18 46 39.8 +1.1**
SNR=7.2
BRTR Keskin Array B 77.74 310 P P **18 46 39.2 +0.5**
comp=Z,12nm,1.0s,baz=104,slow=4.0,SNR=33
comp=Z,12nm,1.0s
BRTR Keskin Array B 77.74 310 P P **18 46 38.9 +0.2**
BRTR Keskin Array B 77.74 310 *i* P P **18 46 39.5 +0.8**
BRTR pmax pmax
comp=Z,12nm,1.0s
BEKR Beckworth 77.89 50 P P **18 46 40.5 +0.9**
BEKR IAmb IAmb 18 46 41.5
comp=Z,7.5nm,0.8s
TESR Tescani 77.98 318 ⇑P P **18 46 40.2 +0.6**
BUR08 Bucovina Ar. S 78.08 320 P P **18 46 40.7 +0.4**
BURAR Bucovina Array 78.08 320 ⇓P P **18 46 41.6 +1.2**
BURAR Bucovina Array 78.08 320 P P **18 46 40.2 -0.2**
BURAR IAmb IAmb 18 46 42.9
comp=Z,5.1nm,0.9s
BURAR Bucovina Array 78.08 320 P P **18 46 41.5 +1.2**
FFC Flin Flon 78.38 30 P P **18 46 42.1 +0.4**
FFC IAmb IAmb 18 46 42.9
comp=Z,6.8nm,0.8s
FFC Flin Flon 78.38 30 P P **18 46 42.1 +0.4**
FFC pmax pmax
comp=Z,7.0nm,0.8s
FCC Fort Churchill 78.45 24 P P **18 46 41.5 -0.4**
FCC IAmb IAmb 18 46 43.4
comp=Z,7.8nm,1.0s
FCC Fort Churchill 78.45 24 P P **18 46 41.5 -0.4**
FCC pmax pmax
comp=Z,8.0nm,1.0s
MFID Camas Ranch 78.62 45 P P **18 46 44.6 +1.2**
MFID IAmb IAmb 18 46 45.8
comp=Z,8.5nm,1.1s
OZUR 78.70 318 ⇓P P **18 46 45.6 +1.9**
HRY Holter Researc 78.89 41 P P **18 46 45.9 +1.1**
CMB Columbia Colle 78.90 52 P P **18 46 45.5 +0.6**
CMB IAmb IAmb 18 46 46.8
comp=Z,4.8nm,0.8s
CMB Columbia Colle 78.90 52 P P **18 46 45.5 +0.6**
CMB pmax pmax
comp=Z,5.0nm,0.8s
MLR Muntele Rosu 78.98 318 ⇑P P **18 46 47.1 +1.8**
MLR Muntele Rosu 78.98 318 P P **18 46 47.1 +1.8**
DOPR Dopca 79.00 318 ⇓P P **18 46 47.3 +2.1**
LRM Limekiln Ridge 79.10 42 P P **18 46 47.3 +1.2**
SFJD Kangerlussuaq 79.16 3 P P **18 46 45.3 -0.3**
comp=Z,2.9nm,0.5s,baz=281,slow=13,SNR=4.3
comp=Z,2.9nm,0.5s
SFJD Kangerlussuaq 79.16 3 *i* P P 18 46 53.1 +7.5
EGMT Eagleton 79.17 39 P P **18 46 46.8 +0.6**
EGMT IAmb IAmb 18 46 48.1
comp=Z,12nm,1.0s
TRPA Tarpa 79.17 321 ⇓P P **18 46 47.1 +1.1**
OJC Ojcow 79.20 324 P P **18 46 46.9 +0.7**
OJC Ojcow 79.20 324 P P **18 46 46.9 +0.7**
OJC pmax pmax
comp=Z,11nm,0.9s
HLID Hailey 79.36 44 P P **18 46 48.8 +1.4**
HLID IAmb IAmb 18 46 50.1
comp=Z,6.3nm,1.0s
BMN Battle Mountai 79.53 48 P P **18 46 49.8 +1.4**
BMN Battle Mountai 79.53 48 P P **18 46 49.8 +1.4**
BMN pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 79.69 41 P P **18 46 49.7 +0.6**
BOZ IAmb IAmb 18 46 51.2
comp=Z,5.7nm,1.0s
BOZ Bozeman (W) 79.69 41 P P **18 46 49.7 +0.6**
BOZ pmax pmax
comp=Z,6.0nm,1.0s
RYN Ryan 79.77 50 P P **18 46 50.0 +0.3**
RYN IAmb IAmb 18 46 52.0
comp=Z,5.2nm,0.9s
ARR Arges 79.79 318 ⇑P P **18 46 51.3 +1.7**
KVN Kaiserville 79.79 50 P P **18 46 50.8 +1.0**
KVN IAmb IAmb 18 46 52.1
comp=Z,9.4nm,1.0s
KVN Kaiserville 79.79 50 P P **18 46 50.8 +1.0**
KVN pmax pmax
comp=Z,9.0nm,1.0s
NVAR Mina Array Bea 80.02 50 P P **18 46 52.3 +1.2**
comp=Z,2.6nm,0.7s,baz=290,slow=5.1,SNR=17
NVAR pP **pP 18 48 16.6 +0.9**
comp=Z,1.5nm,0.9s,baz=305,slow=5.2,SNR=3.6
comp=Z,2.6nm,0.7s
NVAR Mina Array Bea 80.02 50 P P **18 46 52.3 +1.2**
NVAR **pP 18 48 17.2 +1.5**
NV11 Mina Array Sit 80.11 50 P P **18 46 53.4 +1.9**
NV11 IAmb IAmb 18 46 57.0
comp=Z,9.6nm,1.4s
ELK Elko 80.56 47 P P **18 46 54.6 +0.7**
MORC Moravsky Berou 80.58 325 *eP* P **18 46 54.6 +1.0**
GZR Gura Zlata 80.79 319 ⇑P P **18 46 56.0 +1.1**
GZR Gura Zlata 80.79 319 P P **18 46 55.9 +1.1**
VYHS Vyhne 80.81 323 *eP* P **18 46 56.2 +1.4**
DSP Deep Springs 80.85 51 P P **18 46 56.7 +1.5**
SURR Surduc 80.91 320 ⇓P P **18 46 56.5 +1.2**
TPH Tonopah 80.92 50 P P **18 46 56.2 +0.4**
TPH **pP 18 48 20.9 +0.2**
LKWY Lake 81.02 42 P P **18 46 58.5 +2.3**
LKWY IAmb IAmb 18 47 00.3
comp=Z,10nm,1.0s
H17A Grant Village 81.03 42 P P **18 46 58.7 +2.4**
JAVC Velka Javorina 81.14 324 *eP* P **18 46 58.4 +1.8**
LCH Last Change Ra 81.14 51 P P **18 46 57.5 +0.6**
FXWY Fox Creek 81.25 43 P P **18 46 59.2 +1.7**
FXWY IAmb IAmb 18 47 00.3
comp=Z,6.8nm,1.1s
BZS Buzias 81.27 320 ⇑P P **18 46 56.7 -0.6**
BZS Buzias 81.27 320 P P **18 46 56.6 -0.6**
RLMT Red Lodge 81.28 41 P P **18 46 58.1 +0.5**
RLMT IAmb IAmb 18 47 36.1
comp=Z,3.4nm,0.4s
MOOW Moose Ponds 81.34 43 P P **18 46 59.0 +1.0**
VRAC Vranov 81.35 325 P P **18 46 58.1 +0.5**
comp=Z,2.9nm,0.5s,baz=80,slow=3.0,SNR=6.2
comp=Z,2.9nm,0.5s
VRAC Vranov 81.35 325 *eP* P **18 46 58.6 +1.0**
HVU Hansel Valley 81.41 45 P P **18 46 59.7 +1.5**
LOHW Long Hollow 81.51 43 P P **18 47 00.5 +1.7**
REDW Red Top Meadow 81.52 43 P P **18 46 59.9 +1.0**
REDW IAmb IAmb 18 47 01.5
comp=Z,15nm,1.4s
CLL Collm 81.60 328 *i* P P **18 46 59.3 +0.5**
comp=Z,12nm,1.2s
KRUC Moravsky 81.62 325 *eP* P **18 46 59.8 +0.8**
MODS Modra-Piesok 81.66 324 *eP* P **18 47 00.8 +1.6**
MODS pmax pmax
comp=Z,42nm,1.6s
MODS Modra-Piesok 81.66 324 *eP* P **18 47 00.8 +1.6**
MDVR Moldovita 81.76 319 ⇓P P **18 47 01.0 +1.2**
BGU Big Grassy Mou 81.78 46 P P **18 47 00.6 +0.4**
R11A Troy Canyon, C 81.79 49 P P **18 46 59.5 -0.8**
R11A IAmb IAmb 18 47 02.7
comp=Z,15nm,1.4s
R11A pP **pP 18 48 27.6 +2.3**
RDO Rodhopi 81.89 315 P P **18 47 01.4 +0.9**
RDO IAmb IAmb 18 47 03.0
comp=Z,13nm,1.2s
S11A Rachel 82.11 50 P P **18 47 02.4 +0.5**
SPR3 Spring Creek 3 82.18 48 P P **18 47 04.6 +2.1**
SPR3 IAmb IAmb 18 47 05.3
comp=Z,9.0nm,1.2s
TPNV Topopah Spring 82.21 51 P P **18 47 02.8 +0.3**
TPNV IAmb IAmb 18 47 04.6
comp=Z,9.3nm,0.8s
TPNV Topopah Spring 82.21 51 P P **18 47 02.8 +0.3**
TPNV pmax pmax
comp=Z,9.0nm,0.9s
HWUT Hardware Ranch 82.22 45 P P **18 47 04.2 +1.8**
VTS Vitosha 82.30 317 ⇑P P **18 47 05.3 +2.4**
VTS Vitosha 82.30 317 P P **18 47 03.5 +0.7**
VTS IAmb IAmb 18 47 05.1
comp=Z,8.2nm,1.0s
VTS Vitosha 82.30 317 P P **18 47 05.2 +2.4**
DUG Dugway, Tooele 82.36 46 P P **18 47 04.8 +1.6**
DUG Dugway, Tooele 82.36 46 P P **18 47 04.8 +1.6**
DUG pmax pmax
comp=Z,14nm,1.2s
GWY Greenwater Val 82.39 51 P P **18 47 04.1 +0.7**
GWY IAmb IAmb 18 47 05.3
comp=Z,8.2nm,1.0s
QSM Queen of Sheba 82.39 52 P P **18 47 04.1 +0.9**
MORH Mrgy, Hungar 82.44 322 ⇑P P **18 47 03.5 +0.3**
FRGS Fruska Gora 82.53 320 ⇓P P **18 47 05.2 +1.4**
RONA Rosalia, Austr 82.60 324 *eP* P **18 47 04.0 -0.1**
comp=Z,11nm,1.5s
BW06 Boulder Array 82.63 43 P P **18 47 04.7 0.0**
BW06 IAmb IAmb 18 47 06.2
comp=Z,8.1nm,1.0s
PD31 Pinedale Array 82.63 43 P P **18 47 05.3 +0.7**
PD31 IAmb IAmb 18 47 06.2
comp=Z,6.6nm,0.9s
PDAR Pinedale Array 82.63 43 P P **18 47 05.5 +0.8**
comp=Z,3.6nm,0.8s,baz=318,slow=2.0,SNR=25
comp=Z,3.6nm,0.8s
CONA Conrad Observa 82.66 324 *eP* P **18 47 05.2 +0.8**
comp=Z,7.8nm,1.2s
PRN Pahroc Range 82.69 50 P P **18 47 06.9 +2.0**
PRN IAmb IAmb 18 47 08.0
comp=Z,8.1nm,1.0s
GSC Goldstone, Bar 82.83 52 P P **18 47 06.4 +0.8**
GSC IAmb IAmb 18 47 07.5
comp=Z,8.6nm,1.1s
GSC Goldstone, Bar 82.83 52 P P **18 47 06.4 +0.8**
GSC pmax pmax
comp=Z,9.0nm,1.1s
KHC Kasperske Hory 82.89 326 P P **18 47 05.7 +0.1**
KHC IAmb IAmb 18 47 07.2
comp=Z,6.7nm,1.0s
KHC Kasperske Hory 82.89 326 *eP* P **18 47 06.0 +0.4**
KHC Kasperske Hory 82.89 326⇓ *eP* P **18 47 06.5 +0.9**
KHC pmax pmax
comp=Z,10.0nm,1.0s
JLU Jordanelle 82.92 45 P P **18 47 07.5 +1.4**
JLU IAmb IAmb 18 47 08.5
comp=Z,10nm,1.2s
NLU North Lily Min 82.96 46 P P **18 47 07.1 +0.8**
NLU IAmb IAmb 18 47 08.8
comp=Z,8.0nm,1.0s
GERES GERESS Array B 83.04 326 P P **18 47 06.3 -0.1**
comp=Z,1.5nm,0.6s,baz=39,slow=5.1,SNR=14
comp=Z,1.5nm,0.6s
DIVS Divibare 83.14 319 P P **18 47 07.2 +0.3**
DIVS IAmb IAmb 18 47 08.9
comp=Z,7.0nm,1.2s
SHPR Sheep Range 83.17 50 P P **18 47 08.2 +0.9**
MPU Maple Canyon 83.18 46 P P **18 47 08.4 +1.0**
MPU IAmb IAmb 18 47 09.8
comp=Z,11nm,1.0s
CCUT Cedar City 83.67 49 P P **18 47 11.3 +1.3**
SOKA Soboth 83.93 324 *eP* P **18 47 11.0 +0.1**
comp=Z,4.9nm,1.0s
PFO Pinyon Flats O 84.07 53 P P **18 47 12.6 +0.7**
PFO IAmb IAmb 18 47 13.5
comp=Z,10nm,0.9s
PFO Pinyon Flats O 84.07 53⇑ *eP* P **18 47 12.4 +0.5**
PFO pmax pmax
comp=Z,15nm,1.0s
LCMT Little Creek M 84.08 49 P P **18 47 13.5 +1.6**
LCMT IAmb IAmb 18 47 14.3
comp=Z,9.0nm,1.2s
Q16A Castle Valley 84.15 46 P P **18 47 12.4 +0.1**
ULM Lac du Bonnet 84.19 31 P P **18 47 12.0 0.0**
comp=Z,2.1nm,0.5s,baz=277,slow=6.9,SNR=4.8
comp=Z,2.1nm,0.5s
KNB Kanab 84.34 49 P P **18 47 15.1 +1.8**
KNB IAmb IAmb 18 47 15.9
comp=Z,12nm,1.1s
KNB Kanab 84.34 49 P P **18 47 15.1 +1.8**
KNB pmax pmax
comp=Z,12nm,1.1s
LIT Litokhoron 84.35 315 P P **18 47 13.2 +0.1**
LIT Litokhoron 84.35 315 P P **18 47 13.2 +0.1**
LIT pmax pmax
comp=Z,10.0nm,0.9s
EKA Eskdalemuir Ar 84.52 338 P P **18 47 13.0 -0.5**
comp=Z,4.7nm,1.1s,baz=45,slow=5.1,SNR=4.3
comp=Z,4.7nm,1.1s
RWWY Rawlins 84.66 42 P P **18 47 15.7 +0.8**
RWWY IAmb IAmb 18 47 16.6
comp=Z,9.9nm,1.0s
O20A White River Ci 85.10 44 P P **18 47 18.0 +1.0**
WTTA Wattenberg 85.14 326 *eP* P **18 47 14.9 -2.1**
comp=Z,6.9nm,1.7s
PHWY Pilot Hill 85.89 42 P P **18 47 21.6 +0.6**
PHWY IAmb IAmb 18 47 22.8
comp=Z,3.8nm,0.8s
N23A Red Feather La 85.90 42 P P **18 47 20.9 -0.1**
N23A IAmb IAmb 18 47 24.1
comp=Z,8.2nm,1.1s
PV11 David Mesa, Pa 85.93 46 P P **18 47 21.7 +0.7**
DAVOX Davos/Dischmat 86.31 326 P P **18 47 22.8 +0.1**
comp=Z,2.9nm,0.7s,baz=12,slow=3.0,SNR=8.4
comp=Z,2.9nm,0.7s
F33A 5 Mile Ranch, 87.32 34 P P **18 47 27.4 +0.1**
F33A IAmb IAmb 18 47 29.4
comp=Z,7.2nm,0.8s
S22A 4UR Ranch, Cre 87.50 45 P P **18 47 29.5 +0.8**
S22A IAmb IAmb 18 47 31.4
comp=Z,7.0nm,1.2s
ANMO Albuquerque 89.60 47⇓ *eP* P **18 47 39.8 +1.4**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
TX31 Lajitas Ar. Si 95.15 49 P P **18 48 04.0 +0.1**
TX31 IAmb IAmb 18 48 06.0
comp=Z,4.7nm,1.0s
TX32 Lajitas Array 95.15 49 P P **18 48 04.1 +0.2**
TXAR Lajitas Array 95.15 49 P P **18 48 04.8 +0.9**
comp=Z,0.7nm,0.5s,baz=294,slow=3.1,SNR=14
TXAR pP **pP 18 49 32.2 +1.5**
comp=Z,1.0nm,0.9s,baz=307,slow=4.6,SNR=4.7
comp=Z,0.7nm,0.5s
TOA0 Torodi Ar. Sit 116.35 309 **PKiKP 18 53 23.1 +0.9**
TORD Torodi Ar. Bea 116.35 309 **PKiKP 18 53 22.8 +0.6**
CRIN San Cristobal 117.78 49 **PKiKP 18 53 25.3 +0.3**
CDITO Canoas 123.56 49 **PKPdf 18 53 34.3 -1.8**
QSPA South Pole Qui 123.77 180 PKPdf **PKiKP 18 53 35.4 +0.2**
MCPB Macapa, AP 145.58 15 *eP* **PKPab 18 54 18.9 +0.3**
MALB Monte Alegre 146.46 20 *eP* **PKPbc 18 54 20.1 -0.2**
CAM01 Campos-RJ 167.74 352 *eP* **PKPdf 18 54 46.8 +2.6**

JMA 02 18:35:57.1±0.1, 36.7N±0.1×140.7E±0.3, h4km, MV0.2/12, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.12**	**214**	*i* P	Pg	18 35 59.6	+0.2
JHO				*e*S	Sg	18 36 01.3	+0.3
JFFD	**Fukushimafurud**	**0.39**	**350**	*e*S	Sg	18 36 10.3	+0.6

*JMA **02** 18:37:44.5±0.2, 23.8N±0.7×122.9E±0.5, h26km±3km, MV2.6/9, NEAR ISHIGAKIJIMA ISLAND*
*TAP **02** 18:37:45.8, 23.78N×122.87E, h23km±2km, ML2.4, C*
ISC 02 18:37:43.6±1.6, 23.76N±0.06×122.93E±0.02, h16km±11km, n31, σ0.952/56, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.69**	**1**	P	**Pb**	**18 37 57.1**	**-0.2**
JYNG				*e*S	**Sb**	**18 38 05.9**	**-0.7**
YOJ	**Yonaguni jima**	**0.70**	**6**	P	**Pb**	**18 37 57.4**	**-0.2**
YOJ				S	**Sb**	**18 38 06.9**	**-0.1**
HATJ	**Hateruma jima**	**0.86**	**70**	P	**Pb**	**18 38 00.5**	**+0.4**
HATJ				S	**Sb**	**18 38 11.6**	**+0.2**
IRIF	**Iriomote-Funau**	**0.93**	**52**	P	**Pb**	**18 38 01.5**	**+0.1**
IRIF				S	**Sb**	**18 38 13.4**	**-0.2**
JKRS	**Kuro-shima**	**1.10**	**64**	P	**Pb**	**18 38 04.8**	**+0.6**
JKRS				S	**Sn**	**18 38 19.3**	**+0.1**
HWA	**Hwalien** baz=265	**1.23**	**281**	*e*P	**Pb**	**18 38 06.6**	**+0.2**
HWA				S	**Sb**	**18 38 21.3**	**-0.8**
EWUT	**Wuta** baz=305	**1.25**	**303**	P	**Pb**	**18 38 07.3**	**+0.5**
EWUT				*i* S	**Sb**	**18 38 23.6**	**+0.9**
ETL	**Fush Village** baz=289	**1.26**	**289**	*i* P	**Pb**	**18 38 07.4**	**+0.4**
ETL				S	**Sn**	**18 38 22.8**	**-0.3**
JIJ	**Ishigaki jima**	**1.27**	**61**	P	**Pn**	**18 38 06.8**	**+0.2**
JIJ				S	**Sn**	**18 38 22.9**	**-0.4**
ENA	**Nanau** baz=303	**1.27**	**302**	*i* P	**Pb**	**18 38 07.5**	**+0.4**
ENA				*e*S	**Sg**	**18 38 24.8**	**+0.1**
NACB	**Ninganchiao** baz=290	**1.29**	**289**	*e*P	**Pb**	**18 38 07.6**	**+0.1**
TWC	**Suao** baz=313	**1.30**	**311**	*i* P	**Pb**	**18 38 07.8**	**+0.2**
TWC				*e*S	**Sn**	**18 38 23.4**	**-0.7**
EGFH	**Guangfu** baz=266	**1.38**	**267**	*e*P	**Pb**	**18 38 09.4**	**+0.5**
EGFH				*e*S	**Sb**	**18 38 26.2**	**-0.1**
ETLH	**Xiulin Townshi** baz=290	**1.39**	**289**	*i* P	**Pb**	**18 38 09.3**	**0.0**
HGSD	**Ruisui** baz=258	**1.40**	**259**	*e*P	**Pn**	**18 38 08.0**	**-0.5**
HGSD				*e*S	**Sn**	**18 38 25.2**	**-1.5**
NDS	**Dongshan** baz=310	**1.41**	**309**	P	**Pb**	**18 38 09.7**	**+0.2**
NDS				*i* S	**Sb**	**18 38 27.6**	**+0.3**
LATG	**Datong** baz=303	**1.50**	**301**	*e*P	**Pb**	**18 38 11.8**	**+0.8**
TWE	**Neicheng** baz=312	**1.50**	**310**	*e*P	**Pb**	**18 38 11.4**	**+0.4**
TWE				*e*S	**Sn**	**18 38 29.4**	**+0.4**
JISG	**Ishigakijimahi**	**1.51**	**57**	P	**Pn**	**18 38 10.1**	**+0.1**
ENTT	**Nioudou** baz=291	**1.52**	**306**	*i* P	**Pb**	**18 38 12.0**	**+0.6**
ENTT				*i* S	**Sb**	**18 38 31.1**	**+0.5**
NNSB	**Datong** baz=296	**1.56**	**296**	*e*P	**Pb**	**18 38 12.8**	**+0.7**
NNSB				*e*S	**Sb**	**18 38 31.6**	**-0.2**
NNSH	**Datong** baz=297	**1.56**	**296**	*e*P	**Pb**	**18 38 12.5**	**+0.3**
WHF	**Hehuan Shan** baz=270	**1.57**	**285**	P	**Pn**	**18 38 11.4**	**+0.2**
WHF				*i* S	**Sn**	**18 38 31.1**	**-0.2**
FUSB	**Fushanzhiwuyua** baz=311	**1.58**	**310**	P	**Pb**	**18 38 13.4**	**+0.9**
FUSB				*i* S	**Sb**	**18 38 33.3**	**+1.1**
CHGB	**Renai** baz=269	**1.63**	**281**	*i* P	**Pn**	**18 38 12.4**	**+0.6**
VWDT	**VWDT** baz=257	**1.64**	**270**	P	**Pn**	**18 38 11.7**	**0.0**
VWDT				*e*S	**Sn**	**18 38 32.8**	**+0.4**
NWLT	**Wulai** baz=309	**1.65**	**308**	*e*P	**Pb**	**18 38 14.2**	**+0.6**
NWLT				*e*S	**Sg**	**18 38 36.8**	**0.0**
WUSB	**Renai** baz=265	**1.67**	**278**	*i* P	**Pn**	**18 38 13.0**	**+0.7**
WUSB				*e*S	**Sn**	**18 38 33.9**	**+0.3**
YHNB	**Yeheng** baz=304	**1.68**	**303**	*e*P	**Pb**	**18 38 14.1**	**-0.1**
YHNB				S	**Sb**	**18 38 34.7**	**-0.5**
NSK	**Sanguang** baz=304	**1.70**	**303**	*e*P	**Pg**	**18 38 15.9**	**-0.4**
NSK				*i* S	**Sb**	**18 38 35.0**	**-0.7**
NFF	**Wufeng Townshi** baz=299	**1.87**	**298**	*e*P	**Pb**	**18 38 17.8**	**+0.4**
NFF				*i* S	**Sb**	**18 38 39.7**	**-0.8**

*NEIC **02** 18:47:43.7±1.6, 18.8N±0.1×145.5E±0.3, h186km±12km, mb3.8/7, Error ellipse: s-maj=44.8km s-min=16.4km az=97.0*
*IDC **02** 18:47:46.6±7.7, 18.70N×145.18E, h197km±32km, mb2.9/3, mbtmp3.6/4, Error ellipse: s-maj=218.8km s-min=28.6km az=79.0*
ISC 02 18:47:45.1±1.0, 18.77N±0.09×145.5E±0.3, h200km, n13, σ0.993/14, mb3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 64nm,0.8s,baz=315,slow=12,SNR=1.4	**5.18**	**186**	P	**Pn**	**18 49 03.4**	**+1.5**
GUMO	33nm,0.4s,baz=207,slow=17,SNR=1.6			S	**Sn**	**18 50 01.0**	**-1.5**
WB0	**Warramunga Arr**	**39.80**	**196**	P	**P**	**18 54 58.6**	**-0.4**
WB2	**Warramunga Arr**	**39.98**	**196**	P	**P**	**18 55 00.4**	**-0.1**
WB2	comp=Z,10nm,1.4s			IAmb	IAmb	18 55 18.8	
WRA	**Warramunga Arr** comp=Z,0.3nm,0.3s,baz=20,slow=8.3,SNR=6.2 comp=Z,0.3nm,0.3s	**39.99**	**196**	P	**P**	**18 55 00.7**	**+0.1**
WRA	**Warramunga Arr**	**39.99**	**196**	P	**P**	**18 54 59.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**41.49**	**209**	P	**P**	**18 55 12.8**	**0.0**
FITZ	comp=Z,0.7nm,1.4s			IAmb	IAmb	18 55 32.8	
ASAR	**Alice Springs** comp=Z,0.5nm,0.9s,baz=9.2,slow=12,SNR=6.3 comp=Z,0.5nm,0.9s	**43.66**	**195**	P	**P**	**18 55 31.1**	**+0.8**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.5s,baz=92,slow=6.8,SNR=1.8 comp=Z,0.1nm,0.5s	**58.24**	**314**	P	**P**	**18 57 19.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**61.80**	**27**	P	**P**	**18 57 41.4**	**-1.1**
BPAW	comp=Z,2.7nm,1.4s			IAmb	IAmb	18 58 21.4	

J26L	**Joseph Creek**	**65.04**	**27**	P	**P**	**18 58 03.5**	**-0.3**	
J26L				IAmb	IAmb	18 58 13.2		
	comp=Z,3.8nm,1.2s							
BMAR	**Burnt Mountain**	**65.14**	**24**	P	**P**	**18 58 05.3**	**+0.9**	
ABKAR	**Akbulak array**	**73.13**	**317**	P	**P**	**18 58 53.6**	**-0.1**	
ABKAR	**Akbulak array**	**73.13**	**317**	P	**P**	**18 58 52.9**	**-0.8**	
ABKAR				IAmb	IAmb	18 59 35.4		
	comp=Z,1.6nm,1.2s							

IDC ***02*** *18:48:39.4±1.7,36°.84N×140°.69E,h0km,mb3.3/3, mbtmp3.3/4,ML3.1/1,Error ellipse: s-maj=30.9km s-min=25.0km az=77.0*

JMA ***02*** *18:48:41.5±0.0,36°.8N±0°.1×140°.6E±0°.2,h6km,MV3.0/20, NORTHERN IBARAKI PREF*

ISC 02 18:48:40.8±1.1,36°.83N±0°.05×140°.60E±0°.05,h11km±10km, n19,σ0s57/20,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.21**	**186**	P	**Pg**	**18 48 45.5**	**+0.2**
JHO				S	**Sg**	**18 48 48.5**	**+0.2**
JFFD	**Fukushimafurud**	**0.27**	**354**	P	**Pb**	**18 48 47.2**	**-0.4**
JFFD				*e*S	**Sb**	**18 48 51.3**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.32**	**30**	P	**Pb**	**18 48 48.2**	**-0.3**
ONAJ				S	**Sb**	**18 48 53.0**	**-0.7**
JSB	**Shiboa**	**0.56**	**285**	*i* P	**Pb**	**18 48 53.0**	**+0.4**
JFK	**Kawauchi**	**0.58**	**22**	*i* P	**Pb**	**18 48 52.9**	**-0.2**
JFK				S	**Sb**	**18 49 01.4**	**0.0**
JYT	**Yasato**	**0.68**	**209**	*i* P	**Pb**	**18 48 54.0**	**-0.6**
JYT				S	**Sg**	**18 49 03.0**	**+0.2**
JFY	**Yanaizu**	**0.92**	**309**	*i* P	**Pn**	**18 48 59.1**	**-0.5**
JFY				S	**Sb**	**18 49 11.4**	**+0.4**
JAG	**Ashikaga**	**1.00**	**247**	*i* P	**Pb**	**18 48 59.6**	**-0.5**
MJAR	**Matsushiro Arr**	**1.94**	**262**	Pn	**Pb**	**18 49 15.0**	**-1.1**
	1.4nm,0.3s,baz=85,slow=16,SNR=114						
MJAR				Sn	**Sb**	**18 49 40.4**	**+0.1**
	1.4nm,0.3s,baz=77,slow=22,SNR=14						
ASAJ	**Asahikawa**	**7.44**	**11**	Pn	**Pn**	**18 50 29.4**	**+0.2**
	0.3nm,0.3s,baz=233,slow=8.7,SNR=6.6						
	1.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	19 24 22.6	
	baz=312,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	19 24 23.2	
	baz=312,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.63**	**119**	T	T	19 24 24.0	
	baz=312,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	19 25 15.6	
	baz=314,slow=75,SNR=50						
H11S3	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	19 25 13.8	
	baz=314,slow=75,SNR=46						
H11S2	**WAKE ISLAND Hy**	**29.32**	**121**	T	T	19 25 16.1	
	baz=314,slow=75,SNR=34						
MKAR	**Makanchi Array**	**43.68**	**302**	P	**P**	**18 56 45.8**	**+0.3**
	0.1nm,0.7s,baz=69,slow=7.9,SNR=1.3						
	0.1nm,0.7s						
WRA	**Warramunga Arr**	**56.77**	**187**	P	**P**	**18 58 24.8**	**-0.1**
	0.3nm,0.6s,baz=1.7,slow=7.4,SNR=1.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**60.50**	**187**	P	**P**	**18 58 51.6**	**+0.9**
	0.6nm,1.0s,baz=7.7,slow=9.7,SNR=2.1						
	0.6nm,1.0s						

JMA ***02*** *18:59:09.6±0.3,24°.N±2°.×122°.1E±0°.7,h54km±3km, MV2.3/10,TAIWAN REGION*

TAP ***02*** *18:59:10.3,24°.32N×122°.11E,h7km±1km,ML3.0,D*

ISC 02 18:59:10.0±1.1,24°.24N±0°.03×122°.11E±0°.02,h23km±4km, n44,σ0s91/70,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.37**	**303**	*i* P	**Pb**	**18 59 17.9**	**0.0**
	baz=291						
EWUT				S	**Sb**	**18 59 23.4**	**+0.1**
	baz=291						
ENA	**Nanau**	**0.39**	**299**	*i* P	**Pb**	**18 59 18.2**	**0.0**
	baz=287						
ENA				*i* S	**Sb**	**18 59 24.1**	**+0.3**
	baz=287						
TWC	**Suao**	**0.44**	**327**	P	**Pb**	**18 59 18.8**	**-0.3**
	baz=321						
TWC				S	**Sb**	**18 59 24.4**	**-0.8**
	baz=321						
ETL	**Fush Village**	**0.46**	**260**	P	**Pn**	**18 59 20.6**	**-0.5**
	baz=249						
ETL				S	**Sn**	**18 59 28.6**	**0.0**
	baz=249						
NACB	**Ninganchiao**	**0.48**	**262**	P	**Pn**	**18 59 20.8**	**-0.7**
NACB	**Ninganchiao**	**0.48**	**262**	P	**Pn**	**18 59 20.8**	**-0.7**
	baz=252						
NACB				S	**Sn**	**18 59 29.2**	**+0.1**
	baz=252						
TWD	**Chiawan**	**0.50**	**251**	P	**Pn**	**18 59 21.2**	**-0.5**
	baz=242						
TWD				S	**Sn**	**18 59 30.1**	**+0.5**
	baz=242						
NDS	**Dongshan**	**0.53**	**317**	*i* P	**Pb**	**18 59 20.7**	**0.0**
	baz=310						
NDS				S	**Sb**	**18 59 28.0**	**0.0**
	baz=310						
ETLH	**Xiulin Townshi**	**0.58**	**267**	*e*P	**Pn**	**18 59 22.2**	**-0.7**
	baz=258						
ETLH				*i* S	**Sn**	**18 59 31.8**	**+0.1**
	baz=258						
LATG	**Datong**	**0.61**	**299**	P	**Pn**	**18 59 22.4**	**-1.0**
	baz=291						
LATG				S	**Sn**	**18 59 31.9**	**-0.7**
	baz=291						
ILA	**Ilan**	**0.62**	**327**	P	**Pb**	**18 59 22.5**	**+0.3**
	baz=323						
ILA				S	**Sb**	**18 59 31.0**	**+0.6**
	baz=323						
TWE	**Neicheng**	**0.63**	**320**	*i* P	**Pb**	**18 59 22.3**	**0.0**
	baz=315						
TWE				S	**Sb**	**18 59 30.6**	**0.0**
	baz=315						
ETM	**Tongmen**	**0.63**	**244**	*e*P	**Pn**	**18 59 23.0**	**-0.5**
	baz=237						
ETM				*e*S	**Sn**	**18 59 31.5**	**-1.4**
	baz=237						
ENTT	**Nioudou**	**0.64**	**308**	*e*P	**Pb**	**18 59 22.6**	**+0.1**
	baz=302						
NNSB	**Datong**	**0.69**	**286**	*i* P	**Pn**	**18 59 24.3**	**-0.2**
	baz=279						
NNSB				*i* S	**Sn**	**18 59 34.7**	**+0.1**
	baz=279						
NNSH	**Datong**	**0.69**	**286**	P	**Pn**	**18 59 24.2**	**-0.3**
	baz=279						
NNSH				S	**Sn**	**18 59 34.1**	**-0.5**
	baz=279						
FUSB	**Fushanzhiwuyua**	**0.70**	**317**	*i* P	**Pb**	**18 59 23.9**	**+0.2**
	baz=312						
FUSB				*e*S	**Sn**	**18 59 35.3**	**+0.5**
	baz=312						
NNS	**Nan Shan**	**0.70**	**286**	*i* P	**Pn**	**18 59 24.4**	**-0.2**
	baz=279						
NNS				*e*S	**Sn**	**18 59 35.2**	**+0.3**
	baz=279						
TWB1	**Santiao Chiao**	**0.77**	**351**	P	**Pb**	**18 59 25.1**	**+0.4**
	baz=351						
TWB1				S	**Sb**	**18 59 34.6**	**-0.2**
	baz=351						
TIPB	**Shuangxi**	**0.77**	**340**	P	**Pn**	**18 59 24.9**	**-0.6**
	baz=338						
TIPB				S	**Sb**	**18 59 35.1**	**+0.2**
	baz=338						
WHF	**Hehuan Shan**	**0.78**	**263**	P	**Pb**	**18 59 25.8**	**+0.7**
	baz=256						
WHF				*e*S	**Sn**	**18 59 37.2**	**0.0**
	baz=256						
JYNG	**Yonaguni jima**	**0.79**	**75**	P	**Pn**	**18 59 25.3**	**-0.3**
JYNG				S	**Sn**	**18 59 36.7**	**0.0**
YHNB	**Yeheng**	**0.80**	**302**	P	**Pb**	**18 59 25.7**	**+0.5**
YHNB	**Yeheng**	**0.80**	**302**	*i* P	**Pb**	**18 59 25.7**	**+0.5**
	baz=297						
YOJ	**Yonaguni jima**	**0.85**	**75**	P	**Pb**	**18 59 26.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.85**	**75**	P	**Pb**	**18 59 26.6**	**+0.6**
YOJ				*e*S	**Sb**	**18 59 38.6**	**+1.7**
TDCB	**Techi**	**0.87**	**271**	*i* P	**Pb**	**18 59 27.8**	**+1.3**
	baz=265						
SXI1	**Grass Mountain**	**0.88**	**346**	*i* P	**Pn**	**18 59 26.5**	**-0.5**
	baz=344						
CHGB	**Renai**	**0.88**	**258**	*e*P	**Pb**	**18 59 27.1**	**+0.5**
	baz=253						
TWA	**Mucha**	**0.88**	**327**	P	**Pb**	**18 59 27.5**	**+0.9**
	baz=324						
TWA				*e*S	**Sb**	**18 59 41.6**	**+3.7**
	baz=324						
TATO	**Taipei**	**0.93**	**322**	P	**Pb**	**18 59 28.1**	**+0.8**
WUSB	**Renai**	**0.94**	**255**	*e*P	**Pb**	**18 59 28.1**	**+0.3**
	baz=250						
WUSB				*e*S	**Sb**	**18 59 42.1**	**+2.2**
	baz=250						
LIOB	**Emei**	**1.08**	**292**	*i* P	**Pb**	**18 59 31.1**	**+1.1**
	baz=287						
ANP	**Anpu**	**1.08**	**330**	P	**Pb**	**18 59 30.6**	**+0.5**
	baz=328						
NSTT	**Nanjuang**	**1.09**	**291**	*i* P	**Pb**	**18 59 30.9**	**+0.8**
	baz=286						
NCU	**National Centr**	**1.11**	**311**	*e*S	**Sb**	**18 59 48.2**	**+3.6**
	baz=307						
YULB	**Yu-li**	**1.13**	**222**	P	**Pn**	**18 59 29.7**	**-0.7**
SSLB	**Suanglung**	**1.15**	**247**	P	**Pb**	**18 59 31.7**	**+0.4**
IRIF	**Iriomote-Funau**	**1.48**	**86**	P	**Pn**	**18 59 35.3**	**+0.2**
TPUB	**Ta-pu**	**1.65**	**236**	P	**Pb**	**18 59 40.1**	**+0.4**
JKRS	**Kuro-shima**	**1.73**	**90**	P	**Pb**	**18 59 39.8**	**-1.2**
JKRS				S	**Sb**	**19 00 01.9**	**-0.4**
JIJ	**Ishigaki jima**	**1.85**	**86**	P	**Pn**	**18 59 40.9**	**+0.6**
JIJ				*e*S	**Sn**	**19 00 03.1**	**0.0**
JISG	**Ishigakijimahi**	**2.03**	**80**	P	**Pn**	**18 59 43.1**	**+0.4**
JISG				*e*S	**Sn**	**19 00 07.8**	**+0.4**
JTJ	**Tarama**	**2.39**	**80**	*e*S	**Sn**	**19 00 17.4**	**+1.1**

IDC 02 18:59:39.2±2.1,4°.32N×126°.92E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=160.0km s-min=28.3km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.19**	**163**	P	P	19 05 07.3	+0.7
	1.4nm,0.8s,baz=343,slow=10,SNR=8.0						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**28.64**	**167**	P	P	19 05 37.6	-0.1
	0.3nm,0.8s,baz=347,slow=7.6,SNR=2.0						
	0.3nm,0.8s						
STKA	**Stephens Creek**	**38.61**	**160**	P	P	19 07 03.2	-1.0
	2.7nm,0.9s,baz=338,slow=14,SNR=2.3						
	2.7nm,0.9s						
MKAR	**Makanchi Array**	**57.19**	**325**	P	P	19 09 28.1	0.0
	0.2nm,0.7s,baz=115,slow=8.7,SNR=2.3						
	0.2nm,0.7s						

IDC ***02*** *19:12:57.6±3.0,4°.73S×153°.84E,h103km±22km,mb3.8/11, mbtmp4.2/13,MS2.9/1,Error ellipse: s-maj=28.6km s-min=14.1km az=95.0*

NEIC ***02*** *19:12:59±1.1,4°.78S±0°.09×153°.76E±0°.08,h103km±8km, mb4.6/18,Error ellipse: s-maj=15.0km s-min=9.0km az=223.0*

ISC 02 19:12:57.5±0.5,4°.73S±0°.07×153°.84E±0°.07,h100km,n34, σ1s04/37,mb4.3/21,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.85**	**283**	P	**Pn**	**19 13 29.1**	**+0.9**
	302nm,0.4s,baz=274,slow=1.2,SNR=45						
KRVT				S	**Sn**	**19 13 51.7**	**+0.1**
	546nm,0.6s,baz=162,slow=2.0,SNR=4.8						
HNR	**Honiara**	**7.66**	**128**	Pn	**Pn**	**19 14 46.5**	**+0.1**
PMG	**Port Moresby**	**8.10**	**235**	P	**Pn**	**19 14 54.4**	**+2.0**
	118nm,0.5s,baz=57,slow=7.0,SNR=81						
PMG				S	**Sn**	**19 16 22.6**	**+0.3**
	69nm,0.6s,baz=83,slow=20,SNR=2.8						
CTA	**Charters Tower**	**16.96**	**205**	P	**P**	**19 16 50.0**	**+0.9**
	4.7nm,1.1s,baz=17,slow=10,SNR=3.6						
CTA				LR	LR	19 23 05.9	
	comp=Z,40nm,18.2s,baz=360,slow=36						
SIJI	**Sorong**	**22.86**	**279**	P	**P**	**19 17 52.6**	**-0.2**
	6.2nm,0.6s,baz=121,slow=9.9,SNR=6.7						
	6.2nm,0.6s						
WB0	**Warramunga Arr**	**24.13**	**230**	P	**P**	**19 18 04.2**	**-0.1**
WB0				IAmb	IAmb	19 18 05.8	
	comp=Z,13nm,0.7s						
WR0	**Warramunga Arr**	**24.13**	**229**	P	**P**	**19 18 03.8**	**-0.6**
WR0				IAmb	IAmb	19 18 05.9	
	comp=Z,9.2nm,0.7s						
WRAB	**Tennant Creek**	**24.26**	**230**	P	**P**	**19 18 02.1**	**-3.4**
WB2	**Warramunga Arr**	**24.27**	**230**	P	**P**	**19 18 04.7**	**-0.8**
WB2				IAmb	IAmb	19 18 07.2	
	comp=Z,9.4nm,0.7s						
WRA	**Warramunga Arr**	**24.27**	**230**	P	**P**	**19 18 05.5**	**-0.2**
	comp=Z,9.0nm,0.7s,baz=54,slow=9.9,SNR=71						
	comp=Z,9.0nm,0.7s						
FUNA	**Funafuti**	**25.47**	**100**	P	**P**	**19 18 18.2**	**+1.7**
AS31	**Alice Springs**	**26.91**	**224**	P	**P**	**19 18 28.3**	**-1.2**
ASAR	**Alice Springs**	**26.91**	**224**	P	**P**	**19 18 29.1**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=56,slow=8.8,SNR=122						
ASAR				PcP	**PcP**	**19 21 49.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=63,slow=3.1,SNR=2.5						
	comp=Z,3.7nm,0.6s						
STKA	**Stephens Creek**	**29.35**	**202**	P	**P**	**19 18 49.7**	**-1.4**
	comp=Z,2.7nm,0.8s,baz=38,slow=8.8,SNR=4.8						
	comp=Z,2.7nm,0.8s						
STKA	**Stephens Creek**	**29.35**	**202**	P	**P**	**19 18 51.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**30.60**	**242**	P	**P**	**19 19 01.5**	**-0.8**
LUWI	**Luwuk**	**31.24**	**276**	P	**P**	**19 19 07.7**	**-0.2**
LUWI				IAmb	IAmb	19 19 37.1	
	comp=Z,21nm,1.0s						
FORT	**Forrest**	**35.50**	**220**	P	**P**	**19 19 44.2**	**-0.6**
MBWA	**Marble Bar**	**36.91**	**241**	P	**P**	**19 19 55.6**	**-1.3**
MBWA				IAmb	IAmb	19 20 25.1	
	comp=Z,12nm,1.0s						
TAU	**Tasmania Unive**	**38.46**	**188**	P	**P**	**19 20 09.2**	**-0.4**
MORW	**Morawa**	**43.20**	**232**	P	**P**	**19 20 47.3**	**-1.6**
MORW				IAmb	IAmb	19 20 48.6	
	comp=Z,6.8nm,0.7s						
ENH	**Enshi**	**54.87**	**312**	P	**P**	**19 22 18.0**	**+0.1**
ENH				IAmb	IAmb	19 22 19.5	
	comp=Z,5.2nm,0.8s						
PETK	**Petropavlovsk-**	**57.71**	**3**	P	**P**	**19 22 37.2**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=163,slow=6.2,SNR=6.9						
	comp=Z,3.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**58.78**	**295**	P	**P**	**19 22 46.4**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=112,slow=5.4,SNR=6.0						
	comp=Z,0.5nm,0.8s						
ULN	**Ulaanbaatar**	**66.48**	**328**	P	**P**	**19 23 37.3**	**+0.7**
SONM	**Songino Array**	**66.82**	**327**	P	**P**	**19 23 39.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=142,slow=4.5,SNR=6.0						
	comp=Z,0.5nm,0.5s						
LSA	**Lhasa**	**69.05**	**304**	P	**P**	**19 23 54.5**	**+1.0**
LSA				IAmb	IAmb	19 23 56.1	
	comp=Z,2.4nm,0.8s						
VNDA	**Vanda**	**72.87**	**178**	P	**P**	**19 24 14.8**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=350,slow=7.4,SNR=1.5						
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**80.95**	**319**	P	**P**	**19 25 01.2**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=98,slow=7.8,SNR=12						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**81.67**	**326**	P	**P**	**19 25 03.6**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=92,slow=6.0,SNR=5.5						
	comp=Z,0.9nm,0.5s						
ILAR	**Eielson Array**	**81.70**	**22**	P	**P**	**19 25 04.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=242,slow=5.3,SNR=7.1						
	comp=Z,0.6nm,0.7s						
CHGR	**Chuyangaron**	**88.77**	**309**	P	**P**	**19 25 40.8**	**+0.3**
CHGR				IAmb	IAmb	19 26 13.9	
	comp=Z,5.0nm,0.8s						
WAKR	**Walker**	**90.35**	**52**	P	**P**	**19 25 48.3**	**+0.3**
WAKR				IAmb	IAmb	19 25 52.0	
	comp=Z,8.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.26**	**289**	PKPbc	**PKPbc**	**19 32 39.1**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=74,slow=2.3,SNR=7.7						

IDC ***02*** *19:13:27.4±5.1,4°.76S×153°.71E,h106km±37km,mb3.4/4, mbtmp3.7/4,MS3.7/1,Error ellipse: s-maj=54.3km s-min=26.0km az=110.0*

ISC 02 19:13:26.5±1.4,4°.8S±0°.2×153°.8E±0°.1,h100km,n7, σ0s49/7,mb3.5/4,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.82**	**286**	P	**Pn**	**19 13 57.2**	**+0.4**
	657nm,0.5s,baz=177,slow=23,SNR=11						
KRVT				S	**Sn**	**19 14 19.7**	**-0.3**
	1μm,0.7s,baz=119,slow=19,SNR=4.4						
KRVT				LR	LR	19 14 46.6	
	comp=Z,158nm,19.5s,baz=242,slow=45						
HNR	**Honiara**	**7.65**	**127**	LR	LR	19 18 51.3	

	comp=Z,467nm,18.8s,baz=270,slow=42							
WRA	**Warramunga Arr**	**24.19**	**230**	P	**P**	**19 18 34.0**	**+0.2**	
	2.0nm,0.6s,baz=56,slow=11,SNR=6.4							
	2.0nm,0.6s							
ASAR	**Alice Springs**	**26.82**	**224**	P	**P**	**19 18 57.1**	**-0.5**	
	1.1nm,0.7s,baz=57,slow=9.8,SNR=5.1							
	1.1nm,0.7s							
SONM	**Songino Array**	**66.86**	**327**	P	**P**	**19 24 07.5**	**-0.4**	
	0.4nm,0.7s,baz=144,slow=4.4,SNR=2.5							
	0.4nm,0.7s							
ILAR	**Eielson Array**	**81.80**	**22**	P	**P**	**19 25 34.1**	**+0.1**	
	0.6nm,0.9s,baz=259,slow=4.9,SNR=4.1							
	0.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**151.24**	**289**	PKPbc	**PKPbc**	**19 33 09.8**	**+0.4**	
	1.8nm,1.0s,baz=58,slow=2.7,SNR=3.9							

IDC ***02*** *19:20:51.3±2.2,30°.81S×177°.45W,h0km,mb3.7/3, mbtmp3.8/4,ML3.1/1,Error ellipse: s-maj=57.1km s-min=34.0km az=125.0*

ISC 02 19:20:54.5±2.3,30°.8S±0°.2×177°.3W±0°.4,h27km,n6, σ0s67/7,mb3.9/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.73**	**210**	Pn	**Pn**	**19 22 58.5**	**-0.5**
	0.2nm,0.3s,baz=105,slow=14,SNR=1.3						
URZ				Sn	**Sn**	**19 24 37.2**	**+0.6**
	0.8nm,0.3s,baz=261,slow=23,SNR=8.0						
	5.5nm,0.7s						
CTA	**Charters Tower**	**34.46**	**279**	P	**P**	**19 27 40.6**	**+0.5**
	1.6nm,0.5s,baz=108,slow=8.9,SNR=2.3						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**43.69**	**267**	P	**P**	**19 28 56.5**	**-0.8**
	0.2nm,0.6s,baz=102,slow=7.8,SNR=5.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**44.72**	**272**	P	**P**	**19 29 05.4**	**-0.2**
	0.5nm,0.3s,baz=111,slow=8.1,SNR=9.2						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**145.74**	**340**	PKPbc	**PKPab**	**19 40 30.6**	**0.0**
	0.7nm,0.4s,baz=47,slow=4.1,SNR=10						
AKASG	**Malin Array Be**	**152.00**	**323**	PKPbc	**PKiKP**	**19 40 47.5**	**+0.5**
	0.2nm,0.4s,baz=40,slow=3.1,SNR=4.7						

IDC ***02*** *19:23:28.7±4.0,23°.05N×121°.22E,h0km,mb3.3/4, mbtmp3.4/6,ML3.2/2,MS2.9/5,Error ellipse: s-maj=76.5km s-min=32.2km az=154.0*

NIED ***02*** *19:23:28.8,23°.20N×121°.07E,h0km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=0.28; Mθθ0.76; Mϕϕ-0.48; Mrθ1.01; Mθϕ-0.57; Mϕr0.76; Fault plane solution: M₀1.52000×10¹⁵ NP1: ϕs246.00000°,δ84.00000°,λ-125.00000°. NP2: ϕs147.00000°,δ35.00000°,λ-11.00000°.*

JMA ***02*** *19:23:28.8±0.5,23°.N±2°.×12°.1E±°,h0km,MV3.7/12, TAIWAN REGION*

TAP ***02*** *19:23:29.9,23°.25N×120°.98E,h5km,ML4.1,C*

ASIES ***02*** *19:23:29.5,23°.27N×120°.98E,h12km,MW3.7*

ISC 02 19:23:30.4±0.8,23°.24N±0°.01×120°.98E±0°.01,h8km±5km, n185,σ1s11/271,mb3.3/4,MS2.8/3,55C-24D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.07**	**145**	⇓*i* P	**Pg**	**19 23 32.2**	**-0.1**
	baz=144						
ELDTW				*i* S	**Sg**	**19 23 33.5**	**-0.3**
	baz=144						
STYH	**Taoyuan**	**0.20**	**248**	⇑*i* P	**Pg**	**19 23 34.4**	**0.0**
	baz=246						
STYH				*i* S	**Sg**	**19 23 37.0**	**-0.1**
	baz=246						
STYT	**Tauyuan**	**0.22**	**248**	⇑*i* P	**Pg**	**19 23 34.9**	**+0.1**
	baz=233						
STYT				*i* S	**Sg**	**19 23 37.8**	**+0.1**
	baz=233						
EHD	**Haiduan**	**0.23**	**114**	⇓*i* P	**Pg**	**19 23 35.3**	**+0.2**
	baz=105						
EHD				*i* S	**Sg**	**19 23 38.3**	**+0.2**
	baz=105						
ECS	**Chishang**	**0.27**	**123**	⇓*i* P	**Pg**	**19 23 36.2**	**+0.5**
	baz=124						
ECS				S	**Sb**	**19 23 40.6**	**-1.6**
	baz=124						
ALS	**Alishan**	**0.31**	**330**	⇓*i* P	**Pg**	**19 23 36.6**	**0.0**
	baz=331						
ALS				*i* S	**Sg**	**19 23 40.8**	**+0.1**
	baz=331						
TWF1	**Yuli**	**0.32**	**70**	⇑*i* P	**Pg**	**19 23 36.7**	**+0.1**
	baz=72						
TWF1				S	**Sg**	**19 23 40.5**	**-0.3**
	baz=72						
TPUB	**Ta-pu**	**0.32**	**280**	P	**Pg**	**19 23 37.1**	**+0.4**
TPUB	**Ta-pu**	**0.32**	**280**	⇓*i* P	**Pb**	**19 23 37.2**	**-1.2**
	baz=288						
TPUB				*i* S	**Sg**	**19 23 41.9**	**+0.8**
	baz=288						
YULB	**Yu-li**	**0.33**	**63**	P	**Pg**	**19 23 36.9**	**0.0**
YULB	**Yu-li**	**0.33**	**63**	⇑*i* P	**Pg**	**19 23 36.7**	**-0.2**
	baz=65						
YULB				S	**Sg**	**19 23 40.3**	**-1.0**
	baz=65						
WTP	**Ta-pu**	**0.33**	**271**	⇓*i* P	**Pb**	**19 23 37.5**	**-1.1**
	baz=269						
WTP				*i* S	**Sb**	**19 23 42.2**	**-2.0**
	baz=269						
EYUL	**Yuli**	**0.33**	**72**	⇑*i* P	**Pg**	**19 23 37.0**	**+0.1**
	baz=73						
EYUL				*i* S	**Sg**	**19 23 41.1**	**-0.2**
	baz=73						
LONT	**Longtian**	**0.36**	**157**	⇑*i* P	**Pb**	**19 23 38.0**	**-1.2**
	baz=145						
LONT				S	**Sg**	**19 23 42.9**	**+0.6**
	baz=145						
CHN4	**Tsaushan**	**0.37**	**287**	⇓*i* P	**Pb**	**19 23 38.3**	**-0.9**
	baz=286						
CHN4				*e*S	**Sb**	**19 23 44.6**	**-0.5**
	baz=286						
CHKT	**Chengkung**	**0.39**	**112**	⇓*i* P	**Pb**	**19 23 39.1**	**-0.4**
	baz=112						
SLGT	**Liugui**	**0.39**	**231**	⇑*i* P	**Pb**	**19 23 39.2**	**-0.4**
	baz=222						
SLGT				*i* S	**Sb**	**19 23 44.8**	**-1.1**
	baz=222						
WCKO	**Fanlu**	**0.39**	**300**	⇓*i* P	**Pb**	**19 23 38.7**	**-0.

WHYT	**Xinyi Township**	**0.46**	**346**⇑	*i*P	**Pg**	**19 23 39.5**	**+0.1**
	baz=347								
WHYT				S	**Sg**	**19 23 45.7**	**+0.2**
	baz=347								
HGSD	**Ruisui**	**0.48**	**59**⇑	*i*P	**Pg**	**19 23 40.0**	**+0.3**
	baz=60								
HGSD				S	**Sg**	**19 23 46.5**	**+0.4**
	baz=60								
VWDT	**VWDT**	**0.53**	**17**⇑	*i*P	**Pg**	**19 23 39.9**	**-0.8**
	baz=14								
VWDT				S	**Sg**	**19 23 48.1**	**+0.5**
	baz=14								
CHN2	**Minshiung**	**0.54**	**302**⇓	*i*P	**Pb**	**19 23 42.2**	**+0.1**
	baz=302								
CHN2				S	**Sb**	**19 23 50.5**	**+0.4**
	baz=302								
SSLB	**Suanglung**	**0.54**	**358**	P	**Pg**	**19 23 40.0**	**-0.9**
SSLB	**Suanglung**	**0.54**	**358**⇑	*i*P	**Pg**	**19 23 40.0**	**-0.9**
	baz=359								
SSLB				S	**Sg**	**19 23 48.3**	**+0.3**
	baz=359								
CHY	**Chiayi**	**0.57**	**297**⇓	*e*P	**Pb**	**19 23 42.2**	**-0.4**
	baz=296								
CHY				*e*S	**Sb**	**19 23 50.8**	**0.0**
	baz=296								
SCST	**Cishan**	**0.57**	**231**	⇑P	**Pb**	**19 23 42.5**	**-0.1**
	baz=220								
SCST				S	**Sn**	**19 23 52.3**	**-2.1**
	baz=220								
WGK	**Gukeng**	**0.58**	**319**	⇓P	**Pb**	**19 23 42.9**	**+0.1**
	baz=328								
WGK				*e*S	**Sb**	**19 23 51.6**	**+0.3**
	baz=328								
CHN3	**Shinhua**	**0.59**	**254**	*e*P	**Pn**	**19 23 43.8**	**-1.2**
	baz=268								
CHN3				*e*S	**Sn**	**19 23 53.3**	**-1.5**
	baz=268								
SSD	**Sandimen**	**0.59**	**213**⇑	*i*P	**Pb**	**19 23 42.5**	**-0.5**
	baz=211								
EGFH	**Guangfu**	**0.59**	**44**⇑	*i*P	**Pg**	**19 23 41.4**	**-0.5**
	baz=56								
EGFH				S	**Sg**	**19 23 49.0**	**-0.6**
	baz=56								
WDLH	**Douliu**	**0.60**	**318**⇓	*i*P	**Pb**	**19 23 43.3**	**+0.2**
	baz=318								
WDLH				S	**Sn**	**19 23 52.6**	**-2.5**
	baz=318								
TSMG	**Majia**	**0.62**	**210**⇑	*i*P	**Pg**	**19 23 42.0**	**-0.3**
	baz=216								
SHHT	**Tainan City**	**0.62**	**249**	⇑P	**Pn**	**19 23 44.7**	**-0.8**
	baz=248								
WJS	**Zhushan**	**0.62**	**339**	P	**Pb**	**19 23 43.1**	**-0.4**
	baz=347								
WJS				S	**Sb**	**19 23 53.1**	**+0.7**
	baz=347								
SMLT	**Sun Moon Lake**	**0.64**	**354**⇑	*i*P	**Pg**	**19 23 42.4**	**-0.4**
	baz=2.0								
SMLT				*e*S	**Sg**	**19 23 51.4**	**+0.2**
	baz=2.0								
SSHA	**Shanhua**	**0.64**	**261**	*e*P	**Pn**	**19 23 44.5**	**-1.3**
	baz=260								
SSHA				*e*S	**Sn**	**19 23 54.0**	**-2.2**
	baz=260								
ECL	**Taimali**	**0.64**	**182**⇑	*i*P	**Pg**	**19 23 42.5**	**-0.3**
	baz=171								
ECL				*e*S	**Sg**	**19 23 50.8**	**-0.4**
	baz=171								
ICHU	**Yijhu**	**0.65**	**280**⇓	*i*P	**Pn**	**19 23 44.2**	**-1.7**
	baz=280								
ICHU				*e*S	**Sn**	**19 23 54.4**	**-2.0**
	baz=280								
TWM1	**Shoushan**	**0.66**	**231**⇑	*e*P	**Pn**	**19 23 44.3**	**-1.8**
	baz=218								
TYC	**Yuchr**	**0.67**	**351**⇑	*i*P	**Pg**	**19 23 43.0**	**-0.2**
	baz=359								
TYC				*e*S	**Sn**	**19 23 54.6**	**-2.2**
	baz=359								
SGLT	**Jiouru**	**0.68**	**221**⇑	*i*P	**Pn**	**19 23 44.8**	**-1.6**
	baz=210								
WNT	**Mingjian**	**0.69**	**337**⇑	*i*P	**Pn**	**19 23 45.0**	**-1.4**
	baz=339								
WNT				*i* S	**Sn**	**19 23 55.5**	**-1.9**
	baz=339								
TEGC	**Jichi Village**	**0.69**	**48**	*e*P	**Pb**	**19 23 44.5**	**-0.3**
	baz=49								
WTK	**Tuku**	**0.70**	**310**	P	**Pn**	**19 23 44.9**	**-1.7**
	baz=310								
WTK				S	**Sn**	**19 23 55.6**	**-2.0**
	baz=310								
MASBT	**Mashibuluo**	**0.70**	**207**⇑	*i*P	**Pg**	**19 23 43.6**	**-0.3**
	baz=213								
ESL	**Shilin**	**0.71**	**36**⇑	*i*P	**Pg**	**19 23 43.2**	**-0.8**
	baz=46								
CHN8	**Yiju**	**0.71**	**278**	P	**Pn**	**19 23 45.0**	**-1.7**
	baz=278								
CHN8				*e*S	**Sn**	**19 23 55.7**	**-2.2**
	baz=278								
WNT1	**Nantou City**	**0.71**	**338**⇑	*i*P	**Pn**	**19 23 45.6**	**-1.2**
	baz=339								
WNT1				*e*S	**Sn**	**19 23 56.1**	**-1.9**
	baz=339								
TSPT	**Pingtung City**	**0.72**	**218**⇑	*i*P	**Pn**	**19 23 45.4**	**-1.5**
	baz=211								
TAI1	**Yung-k'ang**	**0.72**	**254**	*e*P	**Pn**	**19 23 45.3**	**-1.5**
	baz=268								
SCLT	**Jiali**	**0.72**	**265**	*e*P	**Pn**	**19 23 45.9**	**-1.0**
	baz=264								
LDUT	**Ludao**	**0.73**	**141**⇓	*e*P	**Pb**	**19 23 44.5**	**-0.8**
	baz=122								
LDUT				*e*S	**Sb**	**19 23 55.5**	**+0.1**
	baz=122								
WUSB	**Renai**	**0.76**	**10**⇑	*e*P	**Pg**	**19 23 43.7**	**-1.2**
	baz=20								
TAI	**Tainan**	**0.76**	**251**	*e*P	**Pb**	**19 23 45.5**	**-0.3**
	baz=264								
TAI				*e*S	**Sn**	**19 23 59.5**	**+0.5**
	baz=264								
WPL	**Puli Township**	**0.77**	**359**⇑	*i*P	**Pg**	**19 23 44.3**	**-0.8**
	baz=9.0								
DPDB	**Guoxing**	**0.79**	**357**	⇑P	**Pg**	**19 23 45.0**	**-0.6**
	baz=6.0								
DPDB				*e*S	**Sb**	**19 23 57.7**	**+0.4**
	baz=6.0								
WSF	**Szhu**	**0.80**	**300**⇓	*i*P	**Pn**	**19 23 46.4**	**-1.5**
	baz=300								
WSF				S	**Sn**	**19 23 57.9**	**-2.1**
	baz=300								
WYL	**Yuanlin Townsh**	**0.80**	**333**	*e*P	**Pn**	**19 23 46.8**	**-1.2**
	baz=334								
WYL				S	**Sn**	**19 23 58.9**	**-1.2**
	baz=334								
WCS	**Beigang Elemen**	**0.81**	**356**	⇑P	**Pg**	**19 23 45.4**	**-0.6**
	baz=4.0								
WCS				*e*S	**Sn**	**19 23 58.9**	**-1.5**
	baz=4.0								
TSCK	**Chigu Township**	**0.82**	**263**	*e*P	**Pn**	**19 23 47.5**	**-0.8**
	baz=263								
CHGB	**Renai**	**0.83**	**13**⇑	*i*P	**Pg**	**19 23 45.1**	**-1.3**
	baz=23								
CHGB				*e*S	**Sn**	**19 23 59.4**	**-1.9**
	baz=23								
WWF	**Wufeng**	**0.83**	**342**	⇑P	**Pn**	**19 23 47.6**	**-0.9**
	baz=328								
WWF				S	**Sn**	**19 23 59.6**	**-1.4**
	baz=328								
TEYL	**Yanliau Villag**	**0.84**	**42**	*e*P	**Pg**	**19 23 46.6**	**0.0**
	baz=30								
TEYL				S	**Sn**	**19 24 00.9**	**-0.3**
	baz=30								
WRL	**Guolierlin Hig**	**0.85**	**320**	P	**Pn**	**19 23 47.4**	**-1.4**
	baz=321								
WRL				S	**Sn**	**19 23 60.0**	**-1.5**
	baz=321								
ETM	**Tongmen**	**0.86**	**33**⇑	*e*P	**Pb**	**19 23 45.7**	**-2.0**
	baz=35								
ETM				S	**Sg**	**19 23 58.2**	**+0.1**
	baz=35								
EAST	**Anshuo**	**0.86**	**188**⇑	*i*P	**Pb**	**19 23 46.8**	**-0.9**
	baz=187								
TAW	**Tawu**	**0.89**	**185**⇑	*i*P	**Pg**	**19 23 47.1**	**-0.3**
	baz=184								
WTCT	**Ta-ch'eng**	**0.89**	**314**	*e*P	**Pn**	**19 23 47.9**	**-1.3**
	baz=315								
TAWH	**Dawu Township**	**0.90**	**185**⇑	*i*P	**Pb**	**19 23 47.4**	**-0.9**
	baz=185								
KAU	**Kaohsiung**	**0.91**	**223**	*e*P	**Pn**	**19 23 49.7**	**+0.2**
	baz=239								
WCHH	**Zhanghua**	**0.92**	**335**	*e*P	**Pn**	**19 23 48.8**	**-0.8**
	baz=336								
WCHH				*e*S	**Sn**	**19 24 02.2**	**-0.8**
	baz=336								
SCZT	**Fangliau**	**0.93**	**201**⇑	*i*P	**Pb**	**19 23 47.7**	**-1.0**
	baz=192								
HWA	**Hwalien**	**0.93**	**38**	*e*P	**Pb**	**19 23 48.5**	**-0.3**
	baz=49								
WHF	**Hehuan Shan**	**0.94**	**16**⇑	*e*P	**Pg**	**19 23 47.0**	**-1.5**
	baz=26								
WHF				*e*S	**Sn**	**19 24 02.7**	**-1.4**
	baz=26								
TCU	**Taichung**	**0.94**	**343**	⇑P	**Pn**	**19 23 49.5**	**-0.5**
	baz=328								
TWD	**Chiawan**	**1.01**	**34**⇑	*e*P	**Pb**	**19 23 48.7**	**-1.5**
	baz=36								
TWD				*e*S	**Sb**	**19 24 02.0**	**-1.6**
	baz=36								
TDCB	**Techi**	**1.02**	**9**	*e*P	**Pb**	**19 23 48.2**	**-2.2**
	baz=2.0								
TWT	**Tachien**	**1.02**	**10**	*e*P	**Pb**	**19 23 48.2**	**-2.2**
	baz=2.0								
WHP	**Taichung City**	**1.03**	**359**	⇓P	**Pb**	**19 23 49.7**	**-0.9**
	baz=7.0								
WHP				*e*S	**Sn**	**19 24 05.2**	**-0.7**
	baz=7.0								
SLIU	**Shizi**	**1.03**	**189**⇑	*e*P	**Pg**	**19 23 49.9**	**-0.4**
	baz=181								
TWP	**Hsiaoliuchiu**	**1.06**	**212**	*e*P	**Pn**	**19 23 53.1**	**+1.6**
	baz=212								
ETLH	**Xiulin Townshi**	**1.07**	**26**	*e*P	**Pb**	**19 23 49.2**	**-2.0**
	baz=37								
NACB	**Ninganchiao**	**1.09**	**31**⇑	*i*P	**Pb**	**19 23 49.9**	**-1.6**
	baz=33								
NACB				S	**Sb**	**19 24 04.8**	**-1.0**
	baz=33								
ETL	**Fush Village**	**1.09**	**33**	*e*P	**Pb**	**19 23 50.3**	**-1.2**
	baz=48								
TWQ1	**Liyutan**	**1.11**	**350**⇑	*i*P	**Pg**	**19 23 52.4**	**+0.5**
	baz=353								
TWQ1				S	**Sn**	**19 24 09.3**	**+1.3**
	baz=353								
WDJ	**Dajia District**	**1.14**	**344**	*e*P	**Pg**	**19 23 53.0**	**+0.6**
	baz=335								
WDJ				*e*S	**Sg**	**19 24 09.7**	**+2.5**
	baz=335								
NSY	**Sanyi**	**1.18**	**350**	⇑P	**Pg**	**19 23 53.9**	**+0.8**
	baz=351								
WDGT	**Dungji**	**1.21**	**271**	P	**Pb**	**19 23 53.0**	**-0.6**
	baz=270								
WDGT				S	**Sg**	**19 24 08.9**	**-0.4**
	baz=270								
SMST	**Manzhou Townsh**	**1.22**	**186**	*e*P	**Pg**	**19 23 53.5**	**-0.4**
	baz=173								
NNSB	**Datong**	**1.24**	**17**⇑	*i*P	**Pn**	**19 23 52.1**	**-2.0**
	baz=12								
NNSB				*e*S	**Sg**	**19 24 11.4**	**+1.2**
	baz=12								
NNSH	**Datong**	**1.24**	**17**	*e*P	**Pn**	**19 23 52.3**	**-1.9**
	baz=17								
NNS	**Nan Shan**	**1.25**	**17**	*e*P	**Pn**	**19 23 52.7**	**-1.6**
	baz=12								
NNS				*e*S	**Sg**	**19 24 12.8**	**+2.3**
	baz=12								
HEN	**Hengchun**	**1.25**	**190**	*e*P	**Pg**	**19 23 54.5**	**+0.1**
	baz=177								
NMLH	**Miaoli**	**1.30**	**353**	*e*P	**Pg**	**19 23 55.6**	**+0.3**
	baz=353								
TWK1	**Hengchun**	**1.30**	**187**	P	**Pg**	**19 23 55.0**	**-0.4**
	baz=173								
TWK1				*e*S	**Sg**	**19 24 16.3**	**+4.0**
	baz=173								
TWKBT	**Hengchun**	**1.30**	**187**	P	**Pg**	**19 23 55.2**	**-0.2**
	baz=173								
TWKBT				*e*S	**Sg**	**19 24 16.6**	**+4.2**
	baz=173								
LAY	**Lan-yu**	**1.31**	**156**	*e*P	**Pn**	**19 23 53.2**	**-1.9**
	baz=156								
PHUB	**P'eng-hu**	**1.32**	**282**	*e*P	**Pn**	**19 23 52.8**	**-2.3**
	baz=282								
TSEB	**Hengchuen, Pin**	**1.34**	**183**	*e*P	**Pg**	**19 23 56.0**	**-0.1**
	baz=168								
PNG	**Penghu**	**1.34**	**284**	*e*P	**Pb**	**19 23 54.8**	**-1.1**
	baz=284								
PNG				*e*S	**Sb**	**19 24 12.6**	**-0.6**
	baz=284								
LYUB	**Lan-yu**	**1.36**	**155**	*e*P	**Pn**	**19 23 54.8**	**-0.9**
	baz=155								
ENA	**Nanau**	**1.37**	**31**	*e*P	**Pn**	**19 23 54.6**	**-1.3**
	baz=33								
ENA				*e*S	**Sg**	**19 24 14.4**	**-0.2**
	baz=33								
LATG	**Datong**	**1.38**	**21**⇑	*e*P	**Pn**	**19 23 54.8**	**-1.3**
	baz=34								
LATG				*e*S	**Sg**	**19 24 14.8**	**-0.1**
	baz=34								
NSTT	**Nanjuang**	**1.38**	**1**	P	**Pb**	**19 23 56.1**	**-0.4**
	baz=348								
NSTT				S	**Sg**	**19 24 16.8**	**+2.0**
	baz=348								
NFF	**Wufeng Townshi**	**1.39**	**5**	⇑P	**Pg**	**19 23 56.9**	**-0.1**
	baz=5.0								
LIOB	**Emei**	**1.40**	**2**	*e*P	**Pb**	**19 23 56.5**	**-0.2**
	baz=349								
LIOB				*e*S	**Sg**	**19 24 17.4**	**+2.1**
	baz=349								
EWUT	**Wuta**	**1.40**	**31**	*e*P	**Pn**	**19 23 56.0**	**-0.4**
	baz=43								
VCHM	**Qimei**	**1.42**	**269**	P	**Pb**	**19 23 55.9**	**-1.3**
	baz=268								
VCHM				*e*S	**Sb**	**19 24 14.2**	**-1.2**
	baz=268								
NJN	**Zhunan**	**1.44**	**356**	*e*P	**Pb**	**19 23 57.3**	**-0.2**
	baz=356								
YHNB	**Yeheng**	**1.47**	**14**	P	**Pn**	**19 23 56.5**	**-0.8**
YHNB	**Yeheng**	**1.47**	**14**⇑	*e*P	**Pn**	**19 23 56.3**	**-0.9**
	baz=30								
YHNB				S	**Sg**	**19 24 18.0**	**+0.4**
	baz=30								
NSK	**Sanguang**	**1.47**	**14**⇑	*e*P	**Pn**	**19 23 56.5**	**-0.8**
	baz=29								
NSK				*e*S	**Sg**	**19 24 18.7**	**+1.0**
	baz=29								
NJD	**Zhudong**	**1.49**	**4**	*e*P	**Pg**	**19 23 59.5**	**+0.6**
	baz=348								
ENTT	**Nioudou**	**1.49**	**21**	*e*P	**Pn**	**19 23 57.4**	**-0.2**
	baz=32								
ENTT				*e*S	**Sg**	**19 24 19.4**	**+1.1**
	baz=32								
HSN1	**Hsinchu**	**1.53**	**1**	*e*P	**Pg**	**19 23 59.6**	**-0.1**
NDS	**Dongshan**	**1.54**	**26**	⇓P	**Pb**	**19 23 58.9**	**-0.4**
	baz=42								
NDS				*e*S	**Sg**	**19 24 19.6**	**-0.3**
	baz=42								
SBCB	**Hsinchu**	**1.54**	**0**	*e*P	**Pg**	**19 24 00.1**	**+0.2**
	baz=3.0								
SBCB				*e*S	**Sg**	**19 24 21.5**	**+1.5**
	baz=3.0								
HSN	**Hsinchu**	**1.55**	**360**	*e*P	**Pg**	**19 24 01.2**	**+1.0**
TWC	**Suao**	**1.58**	**30**	⇑P	**Pb**	**19 23 59.2**	**-0.6**
	baz=33								
TWC				*e*S	**Sb**	**19 24 19.9**	**0.0**
	baz=33								
NWLT	**Wulai**	**1.60**	**17**	*e*P	**Pb**	**19 24 00.1**	**-0.2**
	baz=17								
TWE	**Neicheng**	**1.60**	**23**	⇑P	**Pb**	**19 23 59.8**	**-0.4**
	baz=38								
FUSB	**Fushanzhiwuyua**	**1.61**	**20**	*e*P	**Pb**	**19 23 59.8**	**-0.7**
	baz=37								
FUSB				*e*S	**Sg**	**19 24 22.6**	**+0.4**
	baz=37								
ILA	**Ilan**	**1.67**	**25**	*e*P	**Pb**	**19 24 01.4**	**0.0**
	baz=38								
NCUH	**Zhongli**	**1.73**	**6**	*e*P	**Pg**	**19 24 03.1**	**-0.4**
	baz=5.0								
NCU	**National Centr**	**1.73**	**6**	*e*P	**Pb**	**19 24 02.5**	**+0.1**
	baz=5.0								
NHW	**Xinwu Township**	**1.76**	**2**	*e*P	**Pb**	**19 24 01.5**	**-1.4**
	baz=1.0								
NTY	**Taoyuan**	**1.77**	**9**	*e*P	**Pb**	**19 24 02.8**	**-0.3**
	baz=7.0								
NHDH	**Xindian Distri**	**1.78**	**16**	*e*P	**Pg**	**19 24 05.1**	**+0.5**
	baz=15								
TWA	**Mucha**	**1.82**	**18**⇓	*e*P	**Pb**	**19 24 03.5**	**-0.4**
	baz=357								
TAP	**Taipei**	**1.85**	**15**	*e*P	**Pb**	**19 24 04.0**	**-0.5**
	baz=14								
TAP1	**Taipei**	**1.86**	**16**	*e*P	**Pb**	**19 24 04.6**	**0.0**
	baz=14								
TIPB	**Shuangxi**	**1.89**	**24**	*e*P	**Pb**	**19 24 04.4**	**-0.7**
	baz=37								
TWS1	**Kuangyinshan**	**1.89**	**12**	*e*P	**Pb**	**19 24 05.0**	**-0.2**
	baz=10.0								
NTST	**Danshui**	**1.96**	**13**	*e*P	**Pb**	**19 24 05.0**	**-1.4**
	baz=11								
NWF	**Wu-fen Shan**	**1.96**	**22**	*e*P	**Pb**	**19 24 05.5**	**-1.0**
	baz=38								
WFSB	**Wu-fen Shan**	**1.96**	**22**	*e*P	**Pb**	**19 24 05.8**	**-0.6**
	baz=37								
YM01	**YM01**	**1.97**	**16**	*e*P	**Pb**	**19 24 05.7**	**-0.9**
	baz=359								
TWB1	**Santiao Chiao**	**1.99**	**28**	*e*P	**Pb**	**19 24 05.5**	**-1.3**
	baz=39								
ANP	**Anpu**	**2.00**	**14**	*e*P	**Pb**	**19 24 06.3**	**-0.8**
	baz=354								
YM08	**YM08**	**2.02**	**16**	*e*P	**Pb**	**19 24 06.8**	**-0.5**
	baz=359								
SXI1	**Grass Mountain**	**2.02**	**24**	*e*P	**Pb**	**19 24 06.9**	**-0.5**
	baz=41								
SXI1				*e*S	**Sb**	**19 24 33.7**	**+1.0**
	baz=41								
TNOU	**National Taiwa**	**2.03**	**21**	*e*P	**Pb**	**19 24 06.8**	**-0.8**
	baz=36								
TWY	**Chenhua**	**2.10**	**16**	*e*P	**Pb**	**19 24 08.9**	**+0.1**
	baz=14								
JYNG	**Yonagunijimaku**	**2.17**	**56**	P	**Pn**	**19 24 07.4**	**+0.6**
JYNG				S	**Sn**	**19 24 34.5**	**+0.6**
YOJ	**Yonaguni jima**	**2.22**	**57**	P	**Pn**	**19 24 08.0**	**+0.4**
YOJ				*e*S	**Sn**	**19 24 35.7**	**+0.4**
VWUC	**VWUC**	**2.23**	**322**	*e*P	**Pn**	**19 24 07.7**	**0.0**
	baz=321								
PTMZ	**Houxiangcun**	**2.46**	**317**	*e*P	**Pn**	**19 24 11.8**	**+0.9**
	baz=316								
KNM	**Kinmen**	**2.60**	**297**	*e*P	**Pn**	**19 24 13.5**	**+0.6**
	baz=295								
KNMB	**Chin-men Tao**	**2.66**	**298**	*e*P	**Pn**	**19 24 11.9**	**-1.7**
	baz=297								
IRIF	**Iriomote-Funau**	**2.75**	**66**	P	**Pn**	**19 24 14.5**	**-0.3**
IRIF				S	**Sn**	**19 24 47.6**	**-0.6**
JKRS	**Kuro-shima**	**2.95**	**70**	P	**Pn**	**19 24 16.7**	**-0.9**
JKRS				*e*S	**Sn**	**19 24 52.8**	**-0.5**
ZPLA	**Ao Xicun**	**3.04**	**284**	*e*P	**Pn**	**19 24 19.4**	**+0.6**
	baz=283								
MATB	**Ma-tsu**	**3.04**	**342**	*e*P	**Pn**	**19 24 17.6**	**-1.3**
	baz=344								
JIJ	**Ishigaki jima**	**3.11**	**68**	P	**Pn**	**19 24 18.8**	**-0.9**
JIJ				*e*S	**Sn**	**19 24 54.5**	**-2.7**
AXDP	**Jialang**	**3.20**	**302**	*e*P	**Pn**	**19 24 20.4**	**-0.6**
	baz=301								
DSXP	**Dongshan**	**3.29**	**279**	*e*P	**Pn**	**19 24 22.6**	**+0.3**
	baz=278								
JISG	**Ishigakijimahi**	**3.33**	**66**	P	**Pn**	**19 24 21.8**	**-1.0**
JISG				*e*S	**Sn**	**19 25 02.1**	**-0.6**
MHZQ	**Yeshan**	**3.35**	**329**	*e*P	**Pn**	**19 24 23.7**	**+0.6**
	baz=329								
LYJJ	**Jianjiangzhen**	**3.47**	**342**	*e*P	**Pn**	**19 24 24.5**	**-0.3**
	baz=344								
JTJ	**Tarama**	**3.68**	**67**	P	**Pn**	**19 24 27.9**	**+0.2**
JTJ				*e*S	**Sn**	**19 25 11.2**	**-0.1**
XPSS	**Dashiqiu**	**3.74**	**349**	*e*P	**Pn**	**19 24 28.1**	**-0.3**
	baz=353								
JIKM	**Ikemajima**	**4.25**	**66**	*e*P	**Pn**	**19 24 35.9**	**+0.4**
JMJ2	**Miyako jima3**	**4.25**	**69**	P	**Pn**	**19 24 36.1**	**+0.6**
JMJ2				*e*S	**Sn**	**19 25 24.7**	**-0.7**
JOW	**Kunigami**	**7.52**	**60**	Pn	**Pn**	**19 25 18.4**	**-2.0**
	0.8nm,0.3s,baz=127,slow=14,SNR=1.8								
	3.3nm,0.4s								
JNU	**Nakatsue**	**13.15**	**39**	LR	LR	19 32 42.0			
	comp=Z,63nm,18.6s,baz=230,slow=42								
KSRS	**Korea Array**	**15.37**	**21**	Pn	**Pn**	**19 27 07.9**	**+0.2**
	0.2nm,0.3s,baz=198,slow=12,SNR=1.7								
KSRS				LR	LR	19 34 01.4			
	comp=Z,31nm,18.8s,baz=195,slow=41								
	0.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**21.13**	**261**	P	**P**	**19 28 17.5**	**+1.7**
	0.2nm,0.7s,baz=64,slow=8.3,SNR=2.7								
	0.2nm,0.7s								
SONM	**Songino Array**	**27.16**	**338**	P	**P**	**19 29 16.5**	**+2.1**
	0.6nm,0.8s,baz=148,slow=9.1,SNR=5.0								
	0.6nm,0.8s								
KLR	**Kul'dur**	**27.30**	**16**	LR	LR	19 40 16.0			
	comp=Z,26nm,18.3s,baz=172,slow=37								
MKAR	**Makanchi Array**	**38.88**	**317**	P	**P**	**19 30 57.6**	**+1.2**
	0.4nm,0.7s,baz=111,slow=8.7,SNR=4.9								
	0.4nm,0.7s								
YAK	**Yakutsk**	**39.22**	**6**	LR	LR	19 47 08.3			
	comp=Z,11nm,18.1s,baz=165,slow=36								
PETK	**Petropavlovsk-**	**40.75**	**34**	LR	LR	19 47 10.2			
	comp=Z,25nm,21.9s,baz=169,slow=35								
ZALV	**Zalesovo Beam**	**40.93**	**328**	P	**P**	**19 31 15.2**	**+2.0**
	0.9nm,0.7s,baz=113,slow=8.2,SNR=4.5								
	0.9nm,0.7s								
WRA	**Warramunga Arr**	**44.86**	**162**	ScP	**ScP**	**19 37 17.0**	**-3.1**
	3.1nm,0.6s,baz=344,slow=3.7,SNR=6.2								

IDC ***02*** *19:25:52.3±0.6, 7°.88S×123°.21E, h235km±6km, mb4.0/21, mbtmp4.6/25, Error ellipse: s-maj=12.8km s-min=6.8km az=65.0*

DJA ***02*** *19:25:52.5±0.1, 8°.5±2°×12°.3E±°, h233km±2km, M4.5/50, mB5.0/24, mb4.7/50, MLv4.8/18, Mw(mB)4.4/24*

NEIC ***02*** *19:25:52.6±1.9, 7°.86S±0°.07×123°.23E±0°.08, h234km±6km, mb4.6/77, Error ellipse: s-maj=11.6km s-min=9.2km az=53.0*

ISC 02 19:25:52.9±0.3, 7°.95S±0°.04×123°.27E±0°.04, h250km, n290, σ1°59/293, mb4.5/57, 2C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.23**	**236**	Pn	**Pn**	**19 26 26.6**	**-2.8**
MMRI	**Maumere**	**1.23**	**236**	P	**Pn**	**19 26 27.2**	**-2.2**
MMRI	**Maumere**	**1.23**	**236**	P	**Pn**	**19 26 27.1**	**-2.3**
MMRI				S	**S**	**19 26 54.6**	**-3.4**
SOEI	**Soe**	**2.05**	**151**	Pn	**Pn**	**19 26 34.5**	**-1.5**
SOEI	**Soe**	**2.05**	**151**	P	**Pn**	**19 26 35.0**	**-1.1**
SOEI	**Soe**	**2.05**	**151**	P	**Pn**	**19 26 34.9**	**-1.1**
SOEI				S	**S**	**19 27 08.1**	**-1.9**
BATI	**Baumata**	**2.28**	**170**	P	**Pn**	**19 26 37.5**	**-0.6**
	4μm,0.3s,baz=340,slow=1.6,SNR=1849

42nm,0.7s
JAGI Jajag, Banyuwa 9.04 266 Pn **Pn** 19 27 56.3 -3.2
JAGI Jajag, Banyuwa 9.04 266 P **Pn** 19 27 56.9 -2.6
JAGI Jajag, Banyuwa 9.04 266 P **Pn** 19 27 56.9 -2.6
38nm,0.4s,2µm
MTN Manton Dam 9.14 123 P **Pn** 19 28 00.5 -0.1
baz=9.2,SNR=74
MTN S **S** 19 29 39.4 -4.6
baz=9.2
MTN Manton Dam 9.14 123 Pn **Pn** 19 28 00.4 -0.1
MTN Manton Dam 9.14 123 P **Pn** 19 28 00.6 -0.1
TOLI2 Tolitoli 9.33 344 Pn **Pn** 19 28 03.2 0.0
TOLI2 Tolitoli 9.33 344 P **P** 19 28 04.0 -6.0
KNRA Kununurra 9.38 146 P **Pn** 19 28 02.9 -0.8
baz=9.5,SNR=51
KNRA S **S** 19 29 46.4 -3.1
baz=9.5
KNRA Kununurra 9.38 146 Pn **Pn** 19 28 02.9 -0.8
KNRA Kununurra 9.38 146 P **Pn** 19 28 04.0 +0.3
TNTI Ternate 9.57 25 Pn **Pn** 19 28 04.5 -1.7
GMJI Gumukmas 9.73 267 P **Pn** 19 28 05.1 -3.1
23nm,0.4s
KDU Kakadu 10.21 118 P **Pn** 19 28 13.6 -0.6
baz=10,SNR=24
KDU S **S** 19 30 02.4 -6.5
baz=10
KDU Kakadu 10.21 118 P **Pn** 19 28 13.4 -0.7
FAKI Fak Fak 10.24 61 Pn **Pn** 19 28 13.1 -1.4
FAKI Fak Fak 10.24 61 P **Pn** 19 28 13.5 -1.1
FAKI Fak Fak 10.24 61 P **Pn** 19 28 13.8 -0.8
63nm,0.7s
FITZ Fitzroy Crossi 10.35 167 Pn **Pn** 19 28 14.8 -1.1
SIJI Sorong 10.63 49 P **Pn** 19 28 18.8 -0.7
11nm,0.5s,baz=258,slow=12,SNR=14
SIJI S S 19 30 27.7 +9.0
19nm,0.6s,baz=269,slow=21,SNR=2.2
GRJI Gresik 10.75 275 P **Pn** 19 28 21.2 +0.2
60nm,0.6s
MTKI Muara Teweh, K 10.87 309 P **Pn** 19 28 21.6 -0.9
56nm,0.7s,2µm
PWJI Pagerwojo 11.36 269 P **Pn** 19 28 26.9 -1.7
69nm,0.5s
NGJI Ngawi 11.72 272 P **P** 19 28 34.0 -2.5
83nm,0.7s
SGSI Sangihe 11.77 11 P **P** 19 28 32.6 -4.5
215nm,0.4s
UWJI Ujung Watu 12.32 276 P **P** 19 28 41.2 -2.0
39nm,0.7s,2µm
RKPI Ransiki, Papua 12.61 60 P **P** 19 28 46.2 -0.2
59nm,1.0s,1µm
UGM Wanagama 12.63 269 **Pn** 19 28 42.7 -1.7
UGM Wanagama 12.63 269 P **Pn** 19 28 41.9 -2.5
UGM Wanagama 12.63 269 P **Pn** 19 28 43.6 -0.8
183nm,1.4s
SMRI Semarang 12.75 273 **Pn** 19 28 43.6 -2.3
SMRI Semarang 12.75 273 P **P** 19 28 45.2 -2.8
SMRI Semarang 12.75 273 P **P** 19 28 47.6 -0.4
167nm,0.7s
YOGI Yogyakarta 12.86 270 P **P** 19 28 48.5 -0.6
197nm,1.6s
MBWA Marble Bar 13.57 194 Pn **P** 19 28 55.9 -1.2
MBWA Marble Bar 13.57 194 P **P** 19 28 55.9 -1.2
MYLDM Lahad Datu 13.88 340 **P** 19 28 58.5 -2.0
KPJI Karang Pucung 14.23 271 P **P** 19 29 04.0 -0.3
67nm,0.8s
SRPI Serui, Papua 14.26 66 P **P** 19 29 05.5 +0.8
CMJI Cimerak 14.68 270 P **P** 19 29 06.6 -2.8
95nm,1.1s
SBUM Sibu 15.11 313 **Pn** 19 29 13.6 -0.9
SBUM IAmb IAmb 19 29 17.4
comp=Z,25nm,0.8s
BBJI Bungbulang 15.49 271 P **P** 19 29 16.7 -1.6
LEM Lembang 15.56 273 P **Pn** 19 29 19.1 -1.1
comp=Z,52nm,0.7s,baz=33,slow=9.6,SNR=19
LEM Lembang 15.56 273 P **Pn** 19 29 18.9 -1.3
comp=Z,62nm,0.7s
KKM Kota Kinabalu 15.58 333 P **Pn** 19 29 18.6 -1.6
KKM IAmb IAmb 19 29 32.2
comp=Z,33nm,0.9s
KKM Kota Kinabalu 15.58 333 P **Pn** 19 29 20.5 +0.2
WB0 Warramunga Arr 15.95 139 P **Pn** 19 29 23.9 -0.6
CNJI Cibinong 16.01 271 P **P** 19 29 22.6 -1.4
comp=Z,48nm,0.6s,comp=Z,890nm
WRA Warramunga Arr 16.04 139 P **Pn** 19 29 25.9 +0.4
comp=Z,40nm,0.5s,baz=319,slow=12,SNR=172
WRA S **S** 19 32 20.1 +0.2
comp=Z,19nm,1.0s,baz=318,slow=19,SNR=10
WRAB Tennant Creek 16.04 139 P **Pn** 19 29 26.0 +0.4
WB2 Warramunga Arr 16.05 139 P **Pn** 19 29 25.4 -0.3
WB1 Warramunga Ar. 16.05 139 P **Pn** 19 29 26.2 +0.4
WR0 Warramunga Arr 16.18 139 P **Pn** 19 29 27.2 -0.1
CBJI Citeko 16.36 274 P **P** 19 29 25.8 -2.1
comp=Z,80nm,0.6s
SMPI Sarmi 16.47 70 P **Pn** 19 29 28.2 -2.6
comp=Z,51nm,0.7s
GIRL Giralia 17.00 210 P **Pn** 19 29 35.1 -1.7
baz=17,SNR=17
GIRL Giralia 17.00 210 **Pn** 19 29 36.5 -0.3
GIRL Giralia 17.00 210 P **Pn** 19 29 36.9 0.0
CGJI Cibinong 17.49 273 P **P** 19 29 37.8 -2.3
comp=Z,104nm,0.8s,comp=Z,2µm
XMI Christmas Isla 17.53 261 P **P** 19 29 40.3 -0.4
comp=Z,172nm,0.8s
WRKA Warakurna 17.66 165 P **Pn** 19 29 44.2 -0.4
baz=18,SNR=219
WRKA Warakurna 17.66 165 P **Pn** 19 29 44.2 -0.4
PPBI Pangkal Pinang 18.00 288 P **Pn** 19 29 46.0 -2.7
comp=Z,47nm,0.8s,comp=Z,604nm
AS31 Alice Springs 18.66 148 P **Pn** 19 29 55.0 -1.4
ASAR Alice Springs 18.66 148 P **Pn** 19 29 55.2 -1.2
comp=Z,126nm,0.7s,baz=322,slow=7.9,SNR=258
ASAR S **S** 19 33 14.8 +2.7
comp=Z,4.1nm,0.8s,baz=326,slow=20,SNR=4.2
ASAR ScP **ScP** 19 37 21.8 +0.3
comp=Z,5.1nm,0.7s,baz=352,slow=2.2,SNR=5.8
ASAR Alice Springs 18.66 148 P **Pn** 19 29 54.5 -1.9
KASI Kota Agung 18.80 276 P **P** 19 29 51.5 -2.8
comp=Z,38nm,0.4s
MEEK Meekatharra 19.11 193 P **Pn** 19 29 58.8 -2.8
baz=19,SNR=250
MEEK Meekatharra 19.11 193 P **Pn** 19 29 59.1 -2.5
QIS Mount Isa 20.17 130 P Pn 19 30 10.6 -3.5
baz=20,SNR=226
QIS Mount Isa 20.17 130 P Pn 19 30 11.0 -3.1
MNAI Manna 20.51 279 P **P** 19 30 11.6 -1.0
MNAI Manna 20.51 279 P **P** 19 30 12.2 -0.4
TPRI Tanjung Pinang 20.66 294 P **P** 19 30 14.3 +0.1
comp=Z,79nm,1.1s,comp=Z,1µm
MYKOM Kota Tinggi 21.65 296 P **P** 19 30 24.9 +1.0
MORW Morawa 22.09 197 P **P** 19 30 28.8 +1.0
baz=22,SNR=40
MORW Morawa 22.09 197 P **P** 19 30 28.6 +0.9
MORW Morawa 22.09 197 P **P** 19 30 28.8 +1.0
SDSI Sungai Dareh 22.85 287 P **P** 19 30 34.2 -0.7
comp=Z,17nm,0.7s
OOD Oodnadatta 22.97 151 P **P** 19 30 37.6 +1.8
FORT Forrest 23.15 169 P **P** 19 30 39.2 +1.7
baz=23,SNR=37
FORT Forrest 23.15 169 P **P** 19 30 39.0 +1.6
FORT Forrest 23.15 169 P **P** 19 30 39.0 +1.6
KMBL Kambalda 23.34 183 P **P** 19 30 40.4 +1.2
baz=23,SNR=22
KMBL Kambalda 23.34 183 P **P** 19 30 40.5 +1.4
BLDU Ballidu 23.37 194 P **P** 19 30 40.4 +1.0
baz=23,SNR=84
BLDU Ballidu 23.37 194 P **P** 19 30 40.3 +0.8
PMG Port Moresby 23.66 95 P **P** 19 30 43.1 +0.8
comp=Z,8.8nm,0.6s,baz=213,slow=3.3,SNR=9.9
comp=Z,8.8nm,0.6s
PMG Port Moresby 23.66 95 P **P** 19 30 43.0 +0.8
PMG IAmb IAmb 19 30 46.9
comp=Z,9.2nm,0.7s
PMG Port Moresby 23.66 95 P **P** 19 30 43.6 +1.4
PMG Port Moresby 23.66 95 P **P** 19 30 43.7 +1.5
KLBR Kellerberrin 24.08 192 P **P** 19 30 46.9 +1.1
baz=24,SNR=28
KLBR Kellerberrin 24.08 192 P **P** 19 30 47.0 +1.1
MULG Mulgathing 24.41 157 P **P** 19 30 50.9 +2.0
MUN Mundaring 24.80 194 P **P** 19 30 53.5 +1.2
baz=25,SNR=6.7
MUN Mundaring 24.80 194 P **P** 19 30 53.7 +1.3
CTA Charters Tower 25.31 121 P **P** 19 30 59.4 +2.2
comp=Z,2.9nm,0.8s,baz=358,slow=13,SNR=3.0
comp=Z,2.9nm,0.8s
CTAO Charters Tower 25.31 121 P **P** 19 30 58.1 +0.9

NWAO Narrogin (SRO) 25.48 192 P **P** 19 30 59.5 +1.0
comp=Z,9.9nm,0.4s
comp=Z,9.9nm,0.4s
NWAO Narrogin (SRO) 25.48 192 P **P** 19 30 59.6 +1.1
NWAO baz=26,SNR=18 P **P** 19 30 59.6 +1.1
baz=26,SNR=18
NWAO Narrogin (SRO) 25.48 192 P **P** 19 30 59.6 +1.1
NWAO IAmb IAmb 19 31 00.0
comp=Z,13nm,0.6s
NWAO Narrogin (SRO) 25.48 192 P **P** 19 30 59.6 +1.1
NWAO IAmb IAmb 19 31 00.0
comp=Z,10nm,0.6s
NWAO Narrogin (SRO) 25.48 192 P **P** 19 30 59.5 +1.1
INKA Innaminka 25.71 142 P **P** 19 31 03.3 +2.7
KULM Kulim 26.12 300 P **P** 19 31 02.7 -1.7
KULM IAmb IAmb 19 31 36.5
comp=Z,15nm,1.1s
LCRK Leigh Creek 26.40 150 P **P** 19 31 09.0 +2.3
RKGY Rocky Gully 27.16 191 P **P** 19 31 16.2 +2.8
baz=27,SNR=10
QLP Quilpie 27.20 135 P **P** 19 31 17.0 +3.0
baz=27,SNR=4.9
QLP Quilpie 27.20 135 P **P** 19 31 17.2 +3.3
comp=Z,26nm,0.5s
GSI Gunungsitoli 27.22 289 P **P** 19 31 13.1 -1.2
BBOO Buckleboo 27.44 156 P **P** 19 31 17.7 +1.8
baz=28,SNR=108
BBOO Buckleboo 27.44 156 P **P** 19 31 17.9 +1.9
BBOO Buckleboo 27.44 156 P **P** 19 31 17.4 +1.4
UBPT Khong Chiam 29.05 323 P **P** 19 31 30.9 +0.5
UBPT IAmb IAmb 19 31 32.5
comp=Z,39nm,1.5s
UBPT Khong Chiam 29.05 323 P **P** 19 31 31.2 +0.9
HTT Hallett 29.20 152 P **P** 19 31 34.1 +2.5
baz=29,SNR=64
HTT Hallett 29.20 152 P **P** 19 31 34.1 +2.5
STKA Stephens Creek 29.29 147 P **P** 19 31 34.8 +2.5
comp=Z,12nm,0.3s,baz=319,slow=9.6,SNR=130
STKA ScP **ScP** 19 37 50.7 +0.4
comp=Z,6.0nm,0.8s,baz=260,slow=6.8,SNR=4.8
comp=Z,12nm,0.3s
STKA Stephens Creek 29.29 147 P **P** 19 31 35.0 +2.6
baz=29,SNR=75
STKA Stephens Creek 29.29 147 P **P** 19 31 34.8 +2.5
STKA Stephens Creek 29.29 147 P **P** 19 31 34.6 +2.2
LHMI Lhok Sumawe 29.34 296 P **P** 19 31 33.5 +0.5
RMQ Roma 30.43 130 P P 19 31 45.7 +3.3
baz=30,SNR=13
RMQ Roma 30.43 130 P **P** 19 31 44.8 +2.3
TPUB Ta-pu 31.16 355 P **P** 19 31 48.9 +0.1
YULB Yu-li 31.21 356 P **P** 19 31 47.5 -1.7
YULB IAmb IAmb 19 31 52.3
comp=Z,11nm,0.5s
CMSA Cobar Meteorol 31.43 141 P **P** 19 31 54.2 +3.1
baz=32,SNR=83
CMSA Cobar Meteorol 31.43 141 P **P** 19 31 54.2 +3.1
SSLB Suanglung 31.62 356 P **P** 19 31 51.6 -1.3
SSLB IAmb IAmb 19 31 54.6
comp=Z,40nm,1.4s
NACB Ninganchiao 31.97 357 P **P** 19 31 55.1 -0.7
NACB IAmb IAmb 19 32 37.5
comp=Z,26nm,1.1s
YHNB Yeheng 32.47 357 P **P** 19 32 00.1 -0.2
ARPS Mount Arapiles 33.30 152 P **P** 19 32 10.3 +3.0
baz=33,SNR=86
ARPS Mount Arapiles 33.30 152 P **P** 19 32 10.1 +2.8
ARMA Armidale 34.70 134 P P 19 32 23.8 +4.2
baz=35,SNR=4.0
ARMA Armidale 34.70 134 P **P** 19 32 22.5 +2.9
ARMA IAmb IAmb 19 33 01.2
comp=Z,35nm,1.5s
ARMA Armidale 34.70 134 P P 19 32 23.3 +3.7
PHRA Phrae 34.75 319 P **P** 19 32 21.0 +1.1
PHRA IAmb IAmb 19 32 37.1
comp=Z,39nm,1.1s
CM31 Chiang Mai Arr 35.56 318 P **P** 19 32 27.0 +0.2
CMAR Chiang Mai Arr 35.56 318 P **P** 19 32 28.1 +1.2
comp=Z,3.8nm,0.7s,baz=145,slow=7.1,SNR=47
CMAR PcP **PcP** 19 34 52.4 +2.3
comp=Z,3.3nm,0.7s,baz=172,slow=2.6,SNR=20
CMAR ScP **ScP** 19 38 12.8 +0.7
comp=Z,0.6nm,0.6s,baz=157,slow=2.8,SNR=6.3
comp=Z,3.8nm,0.7s
CMAR Chiang Mai Arr 35.56 318 P **P** 19 32 27.8 +1.0
CMAR **PcP** 19 34 52.6 +2.5
TOO Toolangi 35.71 149 P P 19 32 31.9 +4.0
baz=36,SNR=17
TOO Toolangi 35.71 149 P P 19 32 31.5 +3.5
TOO IAmb IAmb 19 32 32.9
comp=Z,25nm,1.2s
TOO Toolangi 35.71 149 P P 19 32 31.6 +3.6
CHTO Chiang Mai 35.81 318 P **P** 19 32 29.1 +0.1
CRAI Chiangrai 35.94 321 P **P** 19 32 30.5 +0.4
CAN Canberra 36.03 143 P **P** 19 32 31.9 +1.2
CAN IAmb IAmb 19 32 35.5
comp=Z,23nm,1.0s
CAN Canberra 36.03 143 P P 19 32 34.5 +3.8
CNB Canberra Magne 36.24 143 P P 19 32 36.1 +3.6
ENH Enshi 40.24 341 P **P** 19 33 05.6 -0.1
ENH IAmb IAmb 19 33 06.9
comp=Z,13nm,0.7s
XAN Xi'an 43.92 343 P **P** 19 33 35.2 -0.1
XAN pP pP 19 34 30.3 +3.0
XAN pmax pmax
comp=Z,26nm,0.8s
JGF Kuroka 45.30 16 P **P** 19 33 46.9 +0.7
KSRS Korea Array 45.37 5 P **P** 19 33 46.8 +0.1
comp=Z,10nm,0.6s,baz=194,slow=7.7,SNR=5.2
comp=Z,1.0nm,0.6s
HNS HongShan 45.81 350 ⇓P **P** 19 33 50.2 +0.1
HNS pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 46.42 17 P **P** 19 33 54.3 -0.6
comp=Z,3.2nm,0.7s,baz=185,slow=8.1,SNR=25
comp=Z,3.2nm,0.7s
MAJO Matsushiro 46.42 17 P **P** 19 33 55.4 +0.5
LZH Lanzhou 47.46 339 ⇓P **P** 19 34 04.4 +1.3
LZH pmax pmax
comp=Z,21nm,1.0s
BJT Baijiatuan 48.17 353 P **P** 19 34 07.5 -0.8
LSA Lhasa 48.53 322 *i* P **P** 19 34 12.9 +1.2
SNR=21
TAPN Taplejung 49.16 317 *eP* **P** 19 34 16.4 +0.1
comp=Z,36nm,0.4s
RAMN Ramite 49.66 316 *eP* **P** 19 34 20.1 0.0
comp=Z,68nm,0.6s
JIRN Jiri 50.39 316 *eP* **P** 19 34 26.1 +0.4
comp=Z,19nm,0.3s
WAKE Wake Island 50.59 57 P **P** 19 34 24.0 -2.8
PKI Pulchoki 50.88 315 *eP* **P** 19 34 29.5 +0.2
comp=Z,26nm,0.3s
PKIN Phulchoki 50.89 315 *eP* **P** 19 34 29.6 +0.3
comp=Z,23nm,0.3s
DMN Daman 51.11 315 *eP* **P** 19 34 31.5 +0.6
JTM Tenmabayashi 51.19 17 P **P** 19 34 31.4 +0.5
JTM IAmb IAmb 19 34 33.5
comp=Z,36nm,1.0s
GKN Gorkha 51.68 315 *eP* **P** 19 34 35.4 +0.4
comp=Z,21nm,0.2s
GTA Gaotai 51.90 337 ⇓P **P** 19 34 37.4 +1.1
GTA pmax pmax
comp=Z,6.0nm,1.0s
USA0B Ussuriysk Arra 52.50 8 P **P** 19 34 40.6 +0.1
USRK Ussuriysk Ar. 52.50 8 P **P** 19 34 41.0 +0.6
comp=Z,3.1nm,0.4s,baz=198,slow=7.0,SNR=47
comp=Z,3.1nm,0.4s
USRK Ussuriysk Ar. 52.50 8 P **P** 19 34 40.6 +0.1
DANN Dangsing 52.51 315 *eP* **P** 19 34 41.3 +0.1
comp=Z,102nm,0.5s
MDJ Mudanjiang 52.63 6 P **P** 19 34 42.0 +0.5
MDJ IAmb IAmb 19 34 43.5
comp=Z,11nm,0.9s
QRZ Quartz Range 54.55 135 P P 19 34 59.3 +3.8
JKA Kamikawa-asahi 54.69 17 P **P** 19 34 57.5 +1.2
JKA IAmb IAmb 19 34 59.0
comp=Z,16nm,1.1s
RPZ Rata Peaks 54.75 139 P **P** 19 34 59.4 +2.6
comp=Z,19nm,0.5s,baz=257,slow=3.7,SNR=14
comp=Z,19nm,0.5s
RPZ Rata Peaks 54.75 139 P **P** 19 34 59.7 +2.8
SNZO South Karori 56.26 135 P **P** 19 35 09.5 +1.9
BKZ Black Stump Fm 56.81 132 P **P** 19 35 14.0 +2.4
HIA Hailar 57.05 357 P **P** 19 35 13.0 0.0
HIA IAmb IAmb 19 35 14.2
comp=Z,8.4nm,0.8s

ULN Ulaanbaatar 57.39 347 P **P** 19 35 15.3 -0.3
SONM Songino Array 57.51 347 P **P** 19 35 16.7 +0.3
comp=Z,1.9nm,0.6s,baz=161,slow=8.9,SNR=26
comp=Z,1.9nm,0.6s
SONM Songino Array 57.51 347 P **P** 19 35 16.4 0.0
HEH HeiHe 58.07 3 *eP* **P** 19 35 20.1 +0.1
HEH pmax pmax
comp=Z,15nm,1.0s
HEH pmax pmax
comp=Z,86nm,4.1s
NIL Nilore 62.93 314 P **P** 19 35 53.9 +0.8
KSH Kashi 64.37 321 P **P** 19 36 04.3 +1.7
KSH pmax pmax
comp=Z,10.0nm,0.6s
TARG Taragay, Kyrgy 64.60 324 P **P** 19 36 05.0 +0.6
TARG IAmb IAmb 19 36 09.3
comp=Z,4.8nm,0.5s
MK31 Makanchi Array 65.54 330 P **P** 19 36 10.1 +0.2
MK31 IAmb IAmb 19 36 13.0
comp=Z,6.8nm,0.6s
MK31 Makanchi Array 65.54 330 ⇑Pg **PKiKP** 19 42 44.6 +2.8
comp=Z,0.2nm,0.3s,baz=147,slow=17,SNR=5.0
MK31 Lg Lg 19 43 27.1
comp=Z,0.4nm,0.3s,baz=143,slow=29,SNR=5.8
MKAR Makanchi Array 65.54 330 P **P** 19 36 10.1 +0.2
comp=Z,11nm,0.5s,baz=135,slow=7.2,SNR=96
MKAR PcP **PcP** 19 36 40.2 +0.8
comp=Z,1.9nm,0.6s,baz=126,slow=6.2,SNR=4.0
comp=Z,11nm,0.5s
MKAR Makanchi Array 65.54 330 P **P** 19 36 09.5 -0.3
MAKZ Makanchi 65.71 330 P **P** 19 36 11.2 +0.4
MAKZ IAmb IAmb 19 36 13.4
comp=Z,4.6nm,0.6s
MAKZ Makanchi 65.71 330 ⇑Pg **PKiKP** 19 42 46.8 +4.8
comp=Z,1.4nm,1.2s
MAKZ ⇓Lg Lg 19 43 30.9
comp=Z,0.6nm,0.6s
KBL Kabul 66.39 313 P **P** 19 36 16.1 +0.4
AAK Ala-Archa 67.11 323 P **P** 19 36 20.4 +0.4
AAK IAmb IAmb 19 36 23.6
comp=Z,6.5nm,0.6s
AAK Ala-Archa 67.11 323 *i* P **P** 19 36 20.6 +0.6
SNR=14
PEA0B Petropavlovsk- 67.48 22 P **P** 19 36 21.9 0.0
PETK Petropavlovsk- 67.48 22 P **P** 19 36 22.7 +0.8
comp=Z,6.7nm,0.8s,baz=221,slow=3.7,SNR=8.6
comp=Z,6.7nm,0.8s
GAR Garm 67.73 318 P **P** 19 36 25.0 +1.0
GAR IAmb IAmb 19 36 27.6
comp=Z,18nm,0.9s
CHGR Chuyangaron 68.33 317 P **P** 19 36 28.3 +0.6
CHGR IAmb IAmb 19 36 29.6
comp=Z,19nm,0.9s
ZAA0 Zalesovo Array 69.65 337 P **P** 19 36 34.3 -0.9
ZAA0 IAmb IAmb 19 36 37.3
comp=Z,5.8nm,0.7s
ZALV Zalesovo Beam 69.65 337 P **P** 19 36 34.9 -0.4
comp=Z,3.7nm,0.3s,baz=131,slow=4.8,SNR=29
comp=Z,3.7nm,0.3s
ZALV Zalesovo Beam 69.65 337 P **P** 19 36 33.4 -1.9
KK31 Karatay Array 69.79 322 P **P** 19 36 35.5 -0.8
KKAR Karatay Array 69.79 322 P **P** 19 36 36.4 0.0
KKAR Karatay Array 69.79 322 P **P** 19 36 35.8 -0.6
YAK Yakutsk 69.94 3 P **P** 19 36 37.5 +0.7
YAK IAmb IAmb 19 36 38.4
comp=Z,13nm,0.6s
MA2 Magadan 70.80 14 P 19 36 44.4 +2.3
MA2 IAmb IAmb 19 37 23.9
comp=Z,13nm,1.1s
HRA Herat 71.36 310 P **P** 19 36 45.8 -0.5
VNDA Vanda 72.39 172 P **P** 19 36 52.9 +1.5
comp=Z,1.6nm,0.5s,baz=322,slow=7.2,SNR=16
comp=Z,1.6nm,0.5s
VNDA Vanda 72.39 172 P **P** 19 36 53.7 +2.4
SOHO SOHO 72.45 298 P **P** 19 36 53.2 +0.6
UOSS Minazif 72.97 299 P **P** 19 36 56.5 +0.8
UOSS IAmb IAmb 19 36 57.6
comp=Z,16nm,1.1s
UOSS Minazif 72.97 299 P **P** 19 36 56.6 +0.8
MDH Madha 73.00 299 P **P** 19 36 55.7 -0.2
HATD Hatta, Dubai 73.00 299 *i* P **P** 19 36 57.1 +1.2
SNR=6.7
ASHO Ashiyah 73.02 299 *i* P **P** 19 36 57.3 +1.2
SNR=8.9
ALNE Al Ain 73.11 298 P **P** 19 36 57.9 +1.4
MSFE Esma-Masafi 73.14 299 P **P** 19 36 58.3 +1.6
FAQ Al Faqa, Dubai 73.45 299 *i* P **P** 19 37 00.0 +1.5
SNR=13
NAZ Nazwa, Dubai 73.46 299 P **P** 19 36 59.7 +1.1
ASUD Al Ashush, Dub 73.64 298 *i* P **P** 19 37 00.4 +0.8
SNR=10
MZR Muzera 74.82 296 *i* P **P** 19 37 07.1 +0.7
SNR=6.4
BRVK Borovoye 75.50 330 P **P** 19 37 10.7 +1.0
GEYT Alibeck 75.81 312 P **P** 19 37 12.8 +1.0
comp=Z,6.0nm,0.7s,baz=160,slow=4.7,SNR=17
comp=Z,6.0nm,0.7s
GEYT Alibeck 75.81 312 P **P** 19 37 13.0 +1.1
GEYT IAmb IAmb 19 37 14.2
comp=Z,6.8nm,0.8s
GYA0B ALIBECK ARRAY 75.81 312 P **P** 19 37 12.6 +0.7
GYA0B IAmb IAmb 19 37 14.2
comp=Z,6.3nm,0.8s
ABKAR Akbulak array 79.19 323 P **P** 19 37 29.6 -0.6
ABKAR Akbulak array 79.19 323 P **P** 19 37 30.0 -0.2
TIXI Tiksi 79.51 2 P **P** 19 37 31.4 0.0
TIXI IAmb IAmb 19 37 33.1
comp=Z,6.2nm,0.8s
ARU Arti 83.06 330 P **P** 19 37 50.6 +0.3
KMBO Kilima Mbogo 85.90 269 P **P** 19 38 05.7 -0.2
comp=Z,1.6nm,0.6s,baz=72,slow=5.6,SNR=5.8
comp=Z,1.6nm,0.6s
KMBO Kilima Mbogo 85.90 269 P **P** 19 38 07.8 +1.9
AKH Akhalkalaki 87.61 312 P **P** 19 38 14.2 +0.8
GURO Guroymak-BITLI 88.11 309 P **P** 19 38 18.0 +2.3
GURO IAmb IAmb 19 38 18.4
comp=Z,7.1nm,0.9s
KBZ Khabaz 88.54 314 P **P** 19 38 17.5 +0.1
comp=Z,2.9nm,0.9s,baz=131,slow=6.7,SNR=5.7
comp=Z,2.9nm,0.9s
MARD Mardin 88.84 308 P **P** 19 38 20.1 +0.9
MARD IAmb IAmb 19 38 21.5
comp=Z,8.8nm,0.6s
BOSA Boshof 93.21 241 P **P** 19 38 40.4 +0.7
comp=Z,4.4nm,1.1s,baz=106,slow=4.9,SNR=5.5
comp=Z,4.4nm,1.1s
BRTR Keskin Array B 94.73 309 P **P** 19 38 46.1 -0.2
comp=Z,1.0nm,0.8s,baz=135,slow=6.3,SNR=7.1
comp=Z,1.0nm,0.8s
MLY Manley 95.45 25 P **P** 19 38 49.7 +0.8
ILAR Eielson Array 97.06 26 P **P** 19 38 54.9 -1.3
comp=Z,0.5nm,0.8s,baz=260,slow=4.4,SNR=5.2
comp=Z,0.5nm,0.8s
AKASG Malin Array Be 98.65 320 P **P** 19 39 03.0 -0.6
comp=Z,0.6nm,0.5s,baz=68,slow=4.7,SNR=6.3
comp=Z,0.6nm,0.5s
ARCES ARCESS Array B 100.11 339 P **Pdif** 19 39 09.3 -0.4
comp=Z,2.9nm,1.0s,baz=72,slow=4.0,SNR=4.3
YKA Yellowknife Ar 111.48 25 PKiKP **PKiKP** 19 43 57.1 0.0
comp=Z,0.9nm,0.8s,baz=314,slow=1.6,SNR=10
NVAR Mina Array Bea 117.09 51 PKP **PKiKP** 19 44 10.7 +1.8
comp=Z,0.4nm,0.5s,baz=243,slow=4.0,SNR=2.7
ELK Elko 118.84 48 PKP **PKiKP** 19 44 13.9 +1.7
comp=Z,0.6nm,0.5s,baz=319,slow=6.8,SNR=5.1
TORD Torodi Ar. Bea 122.43 281 PKP **PKiKP** 19 44 19.5 -0.2
comp=Z,1.1nm,0.5s,baz=44,slow=3.1,SNR=11
ULM Lac du Bonnet 126.76 30 PKP **PKiKP** 19 44 27.2 -0.1
comp=Z,0.5nm,0.3s,baz=211,slow=5.8,SNR=3.5
ANMO Albuquerque 127.18 52 PKP **PKiKP** 19 44 29.9 +1.0
comp=Z,0.9nm,0.7s,baz=88,slow=1.8,SNR=4.3
DBIC Dimbokro 128.56 272 PKP **PKiKP** 19 44 31.0 -0.9
comp=Z,2.0nm,0.9s,baz=92,slow=2.2,SNR=2.1
TXAR Lajitas Array 131.11 58 PKP **PKiKP** 19 44 36.0 -0.8
comp=Z,0.3nm,0.7s,baz=321,slow=2.4,SNR=4.3
SCHQ Schefferville 132.55 8 PKP **PKiKP** 19 44 37.1 -1.7
comp=Z,2.6nm,0.9s,baz=228,slow=16,SNR=1.8
CMIG Matias Romero 141.72 73 PKP **PKiKP** 19 44 56.5 -2.0
comp=Z,0.5nm,0.3s,baz=300,slow=15,SNR=1.7
TKL Tuckaleechee C 142.95 38 PKP **PKPdf** 19 44 55.9 -1.4
comp=Z,3.9nm,0.8s,baz=290,slow=15,SNR=3.0
CPUP Villa Florida 145.92 179 PKPbc **PKPab** 19 45 04.0 -0.7
comp=Z,3.3nm,0.8s,baz=176,slow=1.6,SNR=6.6

*REN **02** 19:32:19.1±1.3,38.°40N±0.°01×118.°93W±0.°02,h8km±4km, ML2.6/19,ML2.5/52(NEIC),Error ellipse: s-maj=1.9km*

s-min=1.7km az=65.0

NEIC 02 19:32:19.4±1.3,38°40N±0°01×118°93W±0°02,h15km±2km, Error ellipse: s-maj=2.4km s-min=1.7km az=122.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVH1	**TV Hill, Hawth**	**0.14**	**66**		Pg	19 32 22.9	-0.6
TVH1					Sg	19 32 25.4	-0.8
LHV	**Little Huntoon**	**0.37**	**114**		Pg	19 32 27.1	+0.2
LHV					Sg	19 32 32.5	+0.6
LHV	**Little Huntoon**	**0.37**	**114**	IAML		19 32 32.7	
	comp=E,1μm,0.4s						
LHV				IAML		19 32 32.7	
	comp=N,1μm,0.4s						
RYN	**Ryan**	**0.39**	**54**		Pg	19 32 27.3	-0.1
RYN					Sg	19 32 32.9	+0.1
RYN	**Ryan**	**0.39**	**54**	IAML		19 32 33.2	
	comp=E,3μm,0.2s						
RYN				IAML		19 32 33.4	
	comp=N,2μm,0.3s						
LUL	**Lundy Lake**	**0.40**	**210**		Pg	19 32 27.6	-0.1
WAKR	**Walker**	**0.41**	**285**		Pg	19 32 27.7	-0.1
WAKR					Sg	19 32 33.8	+0.3
WAKR	**Walker**	**0.41**	**285**	IAML		19 32 34.4	
	comp=E,318nm,0.4s						
WAKR				IAML		19 32 34.5	
	comp=N,246nm,0.2s						
HCK	**Huntoon Valley**	**0.42**	**141**		Pg	19 32 28.2	+0.3
NVAR	**Mina Array Bea**	**0.49**	**87**		Pg	19 32 28.8	-0.5
ANTCA	**Antelope Range**	**0.56**	**149**		Pg	19 32 30.7	+0.1
NV11	**Mina Array Sit**	**0.61**	**87**		Pb	19 32 32.0	+0.1
NV11	**Mina Array Sit**	**0.61**	**87**	IAML		19 32 40.8	
	comp=E,66nm,0.6s						
NV11				IAML		19 32 41.5	
	comp=N,77nm,0.5s						
YERR	**Yerington**	**0.63**	**337**		Pg	19 32 31.6	-0.3
YERR					Sg	19 32 40.5	+0.2
YERR	**Yerington**	**0.63**	**337**	IAML		19 32 41.2	
	comp=N,373nm,0.3s						
YERR				IAML		19 32 41.4	
	comp=E,445nm,0.4s						
BONR	**Boundary Peak**	**0.67**	**132**		Pg	19 32 32.6	+0.1
BENR	**Benton**	**0.74**	**158**		Pg	19 32 33.7	-0.2
MDYM	**Dry Creek**	**0.75**	**185**		Pg	19 32 33.8	-0.3
MDYM					Sb	19 32 44.5	0.0
MCBM	**Casa Benchmark**	**0.76**	**178**		Pg	19 32 34.0	-0.2
MCBM					Sb	19 32 44.8	+0.1
MLAC	**Mammoth, Mammo**	**0.77**	**175**		Pg	19 32 34.5	0.0
MLAC					Sb	19 32 45.3	+0.2
MDPB	**Devils Postpil**	**0.78**	**189**		Pg	19 32 34.1	-0.4
MDPB					Sg	19 32 45.0	+0.2
OMMB	**Old Mammoth Mi**	**0.79**	**184**		Pg	19 32 34.4	-0.5
OMMB					Sb	19 32 45.7	+0.1
ORC	**Owens River**	**0.80**	**164**		Pg	19 32 34.5	-0.4
PNTR	**Pine Nut**	**0.86**	**323**		Pg	19 32 35.8	-0.4
PNTR					Sb	19 32 47.8	+0.1
PNTR	**Pine Nut**	**0.86**	**323**	IAML		19 32 48.1	
	comp=E,183nm,0.6s						
PNTR				IAML		19 32 52.0	
	comp=N,177nm,0.7s						
KVN	**Kaiserville**	**0.92**	**45**		Pb	19 32 36.7	-0.5
KVN					Sb	19 32 49.2	0.0
KVN	**Kaiserville**	**0.92**	**45**	IAML		19 32 49.5	
	comp=E,126nm,0.3s						
KVN				IAML		19 32 52.5	
	comp=N,118nm,0.4s						
MLNR	**Milner Canyon**	**0.93**	**150**		Pb	19 32 37.1	-0.3
VCNR	**Virginia City**	**1.06**	**328**		Pb	19 32 39.3	-0.2
VCNR					Sn	19 32 54.3	-0.2
SCHCA	**Scheelite**	**1.06**	**170**		Pb	19 32 39.3	-0.3
EMB	**Emerald Bay**	**1.08**	**302**		Pb	19 32 40.0	0.0
EMB					Sn	19 32 54.9	-0.3
EMB	**Emerald Bay**	**1.08**	**302**	IAML		19 32 55.3	
	comp=N,184nm,0.5s						
EMB				IAML		19 32 56.4	
	comp=E,130nm,0.5s						
CMB	**Columbia Colle**	**1.21**	**253**		Pn	19 32 41.7	-0.1
CMB	**Columbia Colle**	**1.21**	**253**		Pn	19 32 41.6	-0.2
CMB	**Columbia Colle**	**1.21**	**253**	IAML		19 32 57.7	
	comp=N,112nm,0.1s						
CMB				IAML		19 32 57.8	
	comp=E,128nm,0.1s						
MPK	**Martis Peak**	**1.24**	**316**		Pb	19 32 42.8	+0.1
MPK	**Martis Peak**	**1.24**	**316**	IAML		19 33 02.2	
	comp=E,94nm,0.6s						
MPK				IAML		19 33 03.1	
	comp=N,98nm,0.5s						
DSP	**Deep Springs**	**1.28**	**143**		Pb	19 32 43.5	+0.3
TPH	**Tonopah**	**1.38**	**103**		Pb	19 32 45.2	+0.1
MZP	**Montezuma Peak**	**1.41**	**119**		Pn	19 32 45.0	+0.2
MZP				IAML		19 33 08.7	
	comp=N,52nm,0.7s						
MZP				IAML		19 33 08.7	
	comp=E,51nm,0.5s						
Q09A	**Carvers**	**1.43**	**72**		Pb	19 32 46.0	+0.1
DONR	**Donner Summit**	**1.44**	**312**		Pb	19 32 46.2	0.0
PEAR	**Peavine Mounta**	**1.45**	**327**		Pb	19 32 46.5	+0.2
LCH	**Last Change Ra**	**1.55**	**139**		Pb	19 32 47.3	-0.5
LCH	**Last Change Ra**	**1.55**	**139**	IAML		19 33 10.0	
	comp=E,79nm,0.2s						
LCH				IAML		19 33 11.0	
	comp=N,56nm,0.2s						
LOY	**Loyalton**	**1.62**	**321**		Pb	19 32 49.3	+0.3
AFDM	**Forest Hills D**	**1.69**	**289**		Pb	19 32 50.0	-0.3
WVA	**Winnemucca Val**	**1.69**	**336**		Pb	19 32 50.5	+0.1
BEKR	**Beckworth**	**1.84**	**323**		Pb	19 32 52.5	-0.3
GRAC	**Grapevine Rang**	**1.87**	**138**	Pn	Pn	19 32 50.2	-0.8
GRAC				IAML		19 33 22.2	
	comp=E,71nm,0.3s						
SGV	**South Grapevin**	**2.07**	**133**		Pn	19 32 54.5	+0.8
ORV	**Oroville**	**2.31**	**301**		Pn	19 32 58.2	+1.3
ORV	**Oroville**	**2.31**	**301**	Pn	Pn	19 32 57.5	+0.6
BMN	**Battle Mountai**	**2.42**	**33**		Pn	19 32 58.5	-0.1
WCT	**Wildcat Mounta**	**2.43**	**131**		Pn	19 32 59.1	+0.4
BBGB	**Big Mountain B**	**2.48**	**223**		Pn	19 32 57.7	-1.6
TPNV	**Topopah Spring**	**2.57**	**123**		Pb	19 33 05.6	+0.3
SAO	**San Andreas Ge**	**2.58**	**232**	Pn	Pn	19 33 01.6	+0.9
S11A	**Rachel**	**2.62**	**106**		Pn	19 33 00.2	-1.2
R11A	**Troy Canyon, C**	**2.63**	**90**		Pb	19 33 05.8	-0.5
ISA	**Isabella, Lake**	**2.76**	**172**	Pn	Pn	19 33 02.6	-0.6
ISA				IAML		19 33 47.4	
	comp=N,12nm,0.6s						
ISA				IAML		19 33 49.2	
	comp=E,14nm,0.3s						
GWY	**Greenwater Val**	**2.85**	**140**		Pn	19 33 03.6	-1.0
QSM	**Queen of Sheba**	**2.94**	**145**		Pn	19 33 05.6	0.0
PRN	**Pahroc Range**	**3.22**	**107**		Pb	19 33 17.1	+0.6
SHPR	**Sheep Range**	**3.54**	**121**		Pn	19 33 13.3	-0.8
SPR3	**Spring Creek 3**	**3.65**	**79**		Pb	19 33 26.2	+2.5
ELK	**Elko**	**3.69**	**49**		Pn	19 33 16.4	+0.3
ELK	**Elko**	**3.69**	**49**	IAML		19 34 17.4	
	comp=E,6.2nm,0.3s						
ELK				IAML		19 34 20.3	
	comp=E,5.3nm,0.4s						
WTNK	**Soaring Height**	**3.82**	**124**	Pn	Pn	19 33 16.8	-1.0

*CNRM **02** 19:37:36.3,37°.34N×7°.39W, h16km, ml2.0*
*INMG **02** 19:37:38.8±1.8, 37°.50N×7°.58W, h18km±2km, ML2.2, Error ellipse: s-maj=2.1km s-min=1.7km az=122.0*
*SFS **02** 19:37:38.9, 37°.49N×7°.60W, h19km, ML2.7/10, MLv2.7/10*
*MDD **02** 19:37:38.5±0.3, 37°.53N×7°.58W, h16km±2km, mb_Lg2.7/9, Error ellipse: s-maj=2.6km s-min=1.9km az=2.0*

ISC 02 19:37:37.8±0.8,37°46N±0°02×7°60W±0°02,h24km±4km, n57,σ1§64/108,2C-2D,Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**0.11**	**52**	S	**Sb**		**19 37 45.5 +0.1**
EGRO				P	**Pb**		**19 37 42.8 +0.4**
EGRO	**El Granado**	**0.11**	**52**	Pg	**Pb**		**19 37 42.7 +0.4**
EGRO				Sg	**Sb**		**19 37 45.1 -0.3**
EGRO				*i* Vmb_Lg		19 37 45.9	
PVAQ	**Vaqueiros**	**0.11**	**238**	*i*Pg	**Pb**		**19 37 43.1 +0.7**
PVAQ				*e*Sg	**Sb**		**19 37 46.0 +0.6**
PVAQ				A	A	19 37 46.9	
	277nm,0.1s						
PVAQ	**Vaqueiros**	**0.11**	**238**	P	**Pb**		**19 37 43.0 +0.7**
PVAQ				S	**Sb**		**19 37 46.3 +0.9**
PVAQ	**Vaqueiros**	**0.11**	**238**	S	**Sb**		**19 37 46.0 +0.6**
PVAQ				P	**Pb**		**19 37 43.1 +0.7**
PTAV	**Tavira**	**0.34**	**188**	*e*Pg	**Pb**		**19 37 46.3 +1.0**
PTAV				*e*Sg	**Sb**		**19 37 51.4 +1.0**
PTAV				A	A	19 37 52.4	
	373nm,0.6s						
PCVE	**Castro Verde**	**0.39**	**296**	*e*Pg	**Pb**		**19 37 46.3 +0.2**
PCVE				*e*Sg	**Sb**		**19 37 51.6 -0.2**
PCVE				A	A	19 37 52.2	
	95nm,0.2s						
PCVE	**Castro Verde**	**0.39**	**296**	P	**Pb**		**19 37 46.4 +0.2**
PCVE				S	**Sb**		**19 37 51.5 -0.2**
PFARO	**Faro**	**0.51**	**211**	*e*Sg	**Sn**		**19 37 57.0 -0.5**
PBEJ	**Beja**	**0.60**	**339**	*e*Pg	**Pb**		**19 37 49.5 -0.2**
PBEJ				*e*Sg	**Sb**		**19 37 57.8 +0.1**
PBEJ				A	A	19 37 58.7	
	25nm,0.1s						
PALBU	**Albufeira**	**0.64**	**235**	*e*Sg	**Sn**		**19 38 00.5 -0.2**
EMIN	**Mina Concepcio**	**0.79**	**67**	S	**Sb**		**19 38 02.7 -0.5**
EMIN				P	**Pb**		**19 37 52.5 -0.4**
EMIN	**Mina Concepcio**	**0.79**	**67**	Pg	**Pb**		**19 37 52.5 -0.4**
EMIN				Sg	**Sb**		**19 38 02.5 -0.7**
EMIN				*i* Vmb_Lg		19 38 05.9	
PBAR	**Barrancos**	**0.84**	**32**	*e*P	**Pb**		**19 37 53.7 +0.1**
PBAR				*e*S	**Sb**		**19 38 04.1 -0.3**
PBAR				A	A	19 38 06.0	
	43nm,0.2s						
PBAR	**Barrancos**	**0.84**	**32**	P	**Pb**		**19 37 53.7 +0.1**
MORF	**Marmelete**	**0.86**	**260**	*e*P	**Pn**		**19 37 54.5 +0.1**
MORF				*e*S	**Sn**		**19 38 05.8 -0.4**
MORF				IAML		19 38 07.8	
	comp=N,74nm,0.2s						
MORF	**Marmelete**	**0.86**	**260**	*i*P	**Pn**		**19 37 54.5 +0.1**
MORF				*e*S	**Sb**		**19 38 05.5 +0.4**
MORF				A	A	19 38 08.2	
	comp=N,57nm,0.1s						
PTEO	**Sao Teotonio**	**0.90**	**276**	*e*P	**Pn**		**19 37 55.2 +0.3**
PTEO				*e*S	**Sn**		**19 38 07.0 -0.2**
PTEO				A	A	19 38 08.9	
	comp=N,39nm,0.3s						
PLAGO	**Lagos**	**0.94**	**247**	*e*S	**Sn**		**19 38 09.1 +0.8**
PNCL	**Nicolau / Gran**	**0.98**	**311**	*e*P	**Pn**		**19 37 55.8 -0.3**
PNCL				*e*S	**Sb**		**19 38 07.9 -0.7**
PNCL				A	A	19 38 08.4	
	comp=N,35nm,0.2s						
PNCL	**Nicolau / Gran**	**0.98**	**311**	P	**Pn**		**19 37 55.8 -0.3**
PNCL				S	**Sb**		**19 38 07.9 -0.7**
PFVI	**Vila Bisbo**	**1.04**	**252**	*e*P	**Pb**		**19 37 57.5 +0.5**
PFVI				*e*S	**Sn**		**19 38 10.9 +0.3**
PFVI				A	A	19 38 13.7	
	comp=N,38nm,0.1s						
PFVI	**Vila Bisbo**	**1.04**	**252**	P	**Pb**		**19 37 57.5 +0.5**
PFVI				S	**Sn**		**19 38 13.8 +3.2**
PFVI	**Vila Bisbo**	**1.04**	**252**	P	**Pb**		**19 37 57.4 +0.5**
EVO	**Evora**	**1.12**	**343**	*e*P	**Pn**		**19 37 57.3 -0.6**
EVO				*e*S	**Sn**		**19 38 12.4 -0.2**
EVO				A	A	19 38 15.9	
	comp=N,19nm,0.1s						
EVO	**Evora**	**1.12**	**343**	P	**Pn**		**19 37 57.7 -0.3**
EBAD	**Badajoz**	**1.37**	**19**	P	**Pb**		**19 38 02.4 -0.3**
EBAD				S	**Sn**		**19 38 18.4 -0.4**
EBAD	**Badajoz**	**1.37**	**19**	Pn	**Pn**		**19 38 01.6 +0.1**
EBAD				Sn	**Sn**		**19 38 17.9 -0.9**
EBAD				*i* Vmb_Lg		19 38 20.5	
PESTR	**Estremoz**	**1.40**	**0**	*e*Pn	**Pn**		**19 38 01.0 -0.9**
PESTR				*e*Sg	**Sb**		**19 38 20.1 -0.6**
PESTR				A	A	19 38 21.6	
	comp=N,11nm,0.2s						
PESTR	**Estremoz**	**1.40**	**0**	P	**Pb**		**19 38 03.0 -0.3**
PESTR				S	**Sb**		**19 38 23.6 +2.9**
PESTR	**Estremoz**	**1.40**	**0**	P	**Pb**		**19 38 02.9 -0.3**
PESTR				S	**Sn**		**19 38 19.5 -0.1**
ESPR	**Espera**	**1.51**	**113**	Pg	**Pb**		**19 38 05.7 +0.6**
ESPR				Sn	**Sn**		**19 38 22.3 0.0**
ESPR				*i* Vmb_Lg		19 38 32.8	
PMTG	**Montargil**	**1.68**	**343**	*e*Pn	**Pn**		**19 38 05.2 -0.4**
PMTG				*e*Sg	**Sb**		**19 38 29.4 +0.8**
PMTG				A	A	19 38 33.8	
	comp=N,9.5nm,0.2s						
ECAB	**El Cabril**	**1.83**	**70**	P	**Pn**		**19 38 06.8 -0.9**
ECAB				S	**Sn**		**19 38 31.5 +1.3**
ECAB	**El Cabril**	**1.83**	**70**	Pn	**Pn**		**19 38 06.8 -0.9**
ECAB				Sn	**Sn**		**19 38 29.4 -0.8**
ECAB				*i* Vmb_Lg		19 38 40.8	
PMRV	**Marv??o**	**1.97**	**5**	*e*Pn	**Pn**		**19 38 08.9 -0.8**
PMRV	**Marv??o**	**1.97**	**5**	*e*Pg	**Pb**		**19 38 13.3 +0.4**
PMRV				*e*Sg	**Sb**		**19 38 36.8 -0.2**
PMRV				A	A	19 38 42.0	
	comp=N,13nm,0.5s						
PMAFR	**Mafra**	**2.00**	**319**	*e*Sg	**Sb**		**19 38 40.0 +2.2**
PCBR	**Castelo Branco**	**2.38**	**2**	*e*Pn	**Pn**		**19 38 14.6 -0.6**
PCBR				*e*Sg	**Sb**		**19 38 49.3 +0.6**
PCBR				A	A	19 38 55.3	
	comp=N,4.8nm,0.8s						
EMIJ	**Mijas**	**2.43**	**111**	Sn	**Sn**		**19 38 44.6 -0.4**
EMIJ				Sg	**Sb**		**19 38 53.6 +3.3**
EMIJ				*i* Vmb_Lg		19 38 59.4	
EADA	**Adamuz**	**2.49**	**73**	P	**Pn**		**19 38 16.2 -0.6**
EADA	**Adamuz**	**2.49**	**73**	Pn	**Pn**		**19 38 16.3 -0.6**
EADA				Pg	**Pb**		**19 38 23.2 +1.4**
EADA				Sn	**Sn**		**19 38 45.3 -1.3**
EADA				Sg	**Sb**		**19 38 54.0 +1.9**
EADA				*i* Vmb_Lg		19 39 03.0	
EGOR	**Sierra Gorda,**	**2.80**	**96**	Pg	**Pb**		**19 38 28.3 +1.1**
EGOR				Sn	**Sn**		**19 38 55.0 +0.6**
EGOR				Sg	**Sb**		**19 39 04.7 +3.6**
MTE	**Manteigas**	**2.93**	**1**	*e*Sg	**Sb**		**19 39 08.0 +3.2**
MTE				A	A	19 39 10.7	
	comp=N,9.3nm,0.6s						
PAB	**San Pablo**	**3.29**	**50**	Pn	**Pn**		**19 38 27.2 -0.7**
PAB				Sn	**Sn**		**19 39 04.5 -1.8**
PAB				Sg	**Sb**		**19 39 16.5 +1.4**
PSIM	**Granatula de C**	**3.32**	**65**	Pn	**Pn**		**19 38 27.9 -0.3**
PSIM				Sn	**Sn**		**19 39 04.7 -2.2**
PSIM				Sg	**Sb**		**19 39 18.8 +2.9**
EQUE	**Quentar**	**3.32**	**93**	Pn	**Pn**		**19 38 27.7 -0.7**
EQUE				Sn	**Sn**		**19 39 06.8 -0.3**
EQUE				Sg	**Sb**		**19 39 19.8 +3.8**
ESDC	**Sonseca Array**	**3.60**	**51**	Sg	**Sb**		**19 39 27.2 +3.1**
ESDC				*i* Vmb_Lg		19 39 46.3	
EQES	**Quesada**	**3.61**	**83**	Pn	**Pn**		**19 38 31.3 -0.9**
EQES				Sn	**Sn**		**19 39 12.7 -1.6**
EQES				Sg	**Sb**		**19 39 27.4 +3.1**
EQES				*i* Vmb_Lg		19 39 31.7	
MVO	**Moncorvo**	**3.72**	**7**	*e*Pn	**Pn**		**19 38 33.1 -0.7**
MVO				*e*Sn	**Sn**		**19 39 13.3 -3.6**
MVO				A	A	19 39 40.8	
	comp=N,5.2nm,0.5s						
EJUZ	**Juzbado, Salam**	**3.85**	**20**	Sg	**Sb**		**19 39 34.8 +3.5**
GUD	**Guadarrama**	**4.15**	**39**	Sn	**Sn**		**19 39 24.4 -3.3**
GUD				Sg	**Sb**		**19 39 43.5 +3.5**
ECAL	**Calabor**	**4.52**	**8**	Sg	**Sb**		**19 39 55.5 +5.1**
MD31	**MD31**	**5.14**	**152**	P	**Pn**		**19 38 50.5 -2.9**
MD31				S	**Sn**		**19 39 48.9 -3.1**
MDT	**Midelt**	**5.25**	**151**	P	**Pn**		**19 38 51.1 -3.7**
MDT				S	**Sn**		**19 39 50.6 -4.0**
OUK	**Oukaimeden**	**6.25**	**182**	P	**Pn**		**19 39 07.0 -1.8**
OUK				S	**Sn**		**19 40 17.7 -1.8**
OUZM	**OUZ**	**6.58**	**174**	P	**Pn**		**19 39 10.8 -2.3**
OUZM				S	**Sn**		**19 40 28.8 +1.4**

*IDC **02** 19:44:22.6±1.0, 36°.52N×97°.10W, h0km, mb3.3/1, mbtmp3.4/6, ML2.3/3, MS2.9/4, Error ellipse: s-maj=13.8km s-min=11.8km az=155.0*
*TUL **02** 19:44:23±0.6, 36°.42N±0°.01×96°.92W±0°.02, h3km±7km, ML3.5, mb_Lg3.7/109(NEIC), ML3.7/60(NEIC), Error ellipse: s-maj=2.5km s-min=1.3km az=132.0*
*ANF **02** 19:44:23.5±0.4, 36°.42N×96°.94W, h5km, ML4.3/16, Error ellipse: s-maj=4.0km s-min=3.8km az=97.0*
*NEIC **02** 19:44:23.9±0.8, 36°.41N±0°.02×96°.92W±0°.04, h5km±2km, Error ellipse: s-maj=5.9km s-min=3.1km az=64.0*

ISC 02 19:44:23.0±0.8,36°43N±0°02×96°95W±0°02,h6km±5km, n163,σ0§88/146,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK048	**Pawnee Station**	**0.01**	**174**		**Pg**		**19 44 24.2 +0.1**
OK045	**Pawnee Station**	**0.03**	**38**	Pg	**Pg**		**19 44 24.3 +0.1**
OK045				IAML		19 44 25.3	
	89μm,0.1s						
OK046	**Pawnee Station**	**0.04**	**134**		**Pg**		**19 44 24.2 -0.1**
OK050	**Pawnee Station**	**0.04**	**222**		**Pg**		**19 44 24.5 +0.1**
OK044	**Pawnee Station**	**0.13**	**114**	Pg	**Pg**		**19 44 25.7 -0.1**
OK044				IAML		19 44 27.9	
	43μm,0.7s						
QUOK	**Quay**	**0.32**	**143**	Pg	**Pg**		**19 44 29.3 0.0**
QUOK				IAML		19 44 33.8	
	comp=N,5μm,0.4s						
QUOK				IAML		19 44 35.3	
	comp=E,5μm,0.3s						
OK033	**Mehan**	**0.38**	**179**	Pg	**Pg**		**19 44 29.4 -1.1**
OK033				IAML		19 44 38.0	
	comp=E,11μm,0.8s						
OK033				IAML		19 44 41.0	
	comp=E,4μm,0.7s						
OK053	**SW of W Deep R**	**0.43**	**163**	Pg	**Pg**		**19 44 31.4 +0.1**
OK053				Sg	**Sg**		**19 44 37.2 +0.2**
OK053				IAML		19 44 40.7	
	comp=E,4μm,0.3s						
OK052	**Battle Ridge R**	**0.45**	**165**		**Pg**		**19 44 31.7 +0.1**
OK052				Sg	**Sg**		**19 44 37.6 0.0**
OK052				IAML		19 44 39.8	
	comp=E,4μm,0.3s						
OK034	**N. Norfolk Rd.**	**0.46**	**156**	Pg	**Pg**		**19 44 31.9 +0.1**
OK034				IAML		19 44 39.7	
	comp=E,4μm,0.6s						
OK031	**S. Brethren Rd**	**0.48**	**170**	Pg	**Pg**		**19 44 32.4 +0.1**
OK031				IAML		19 44 40.8	
	comp=E,7μm,0.6s						
OK031				IAML		19 44 45.0	
	comp=E,3μm,0.7s						
OK030	**Cody Creek RV**	**0.52**	**165**		**Pg**		**19 44 33.0 +0.1**
OK030				Sg	**Sg**		**19 44 39.8 +0.2**
OK030				IAML		19 44 43.5	
	comp=E,7μm,0.5s						
OK030				IAML		19 44 45.1	
	comp=E,8μm,0.5s						
T35A	**Sooner Cattle**	**0.60**	**35**	Pg	**Pg**		**19 44 34.5 -0.1**
T35A				Sg	**Sg**		**19 44 42.1 -0.3**
T35B	**Sooner Cattle**	**0.60**	**35**	P	**Pg**		**19 44 34.4 -0.2**
	baz=213,SNR=616						
T35B				S	**Sg**		**19 44 42.4 0.0**
	baz=213						
DEOK	**Depew**	**0.69**	**148**	Pg	**Pg**		**19 44 36.0 -0.2**
DEOK				IAML		19 44 48.6	
	comp=E,2μm,0.6s						
DEOK				IAML		19 44 55.2	
	comp=N,2μm,0.8s						
KAN13	**South Haven SW**	**0.72**	**324**	Pg	**Pg**		**19 44 37.3 +0.3**
KAN13				IAML		19 44 51.5	
	comp=E,5μm,0.3s						
KAN13				IAML		19 44 58.2	
	comp=N,4μm,0.3s						
OK029	**Liberty Lake**	**0.75**	**213**	Pg	**Pg**		**19 44 37.5 +0.1**
OK029				IAML		19 44 55.7	
	comp=N,3μm,0.6s						
OK029				IAML		19 44 57.6	
	comp=N,2μm,0.5s						
OK005	**Luther M Schoo**	**0.80**	**195**	Pg	**Pg**		**19 44 38.4 0.0**
CROK	**Carrier**	**0.84**	**276**	Pg	**Pg**		**19 44 39.5 +0.3**
CROK				IAML		19 44 51.8	
	comp=N,11μm,0.3s						
CROK				IAML		19 44 54.1	
	comp=E,5μm,0.2s						
GC02	**Grant County #**	**0.85**	**300**	Pg	**Pg**		**19 44 39.5 +0.2**
KAN09	**Caldwell North**	**0.89**	**323**	Pg	**Pg**		**19 44 40.2 +0.1**
KAN09				IAML		19 44 59.1	
	comp=N,4μm,0.4s						
KAN09				IAML		19 45 01.2	
	comp=E,4μm,0.3s						
OK025	**Westminster Rd**	**0.90**	**201**	Pg	**Pg**		**19 44 40.1 -0.2**
OK025				IAML		19 44 55.4	
	comp=E,2μm,0.3s						
OK009	**Oakdale Elemen**	**0.93**	**205**		**Pg**		**19 44 41.1 +0.2**
BCOK	**Bluff Creek, N**	**0.94**	**215**	Pg	**Pg**		**19 44 41.0 0.0**
BCOK				IAML		19 45 02.7	
	comp=N,780nm,0.6s						
BCOK				IAML		19 45 08.2	
	comp=E,954nm,0.6s						
KS20	**Mayfield South**	**0.94**	**329**		**Pg**		**19 44 41.1 0.0**
KS20				IAML		19 44 58.6	
	comp=E,2μm,0.4s						
KS20				IAML		19 44 60.0	
	comp=E,2μm,0.5s						
KAN14	**Manchester OK**	**0.97**	**303**		**Pg**		**19 44 41.8 +0.1**
KAN14				IAML		19 44 58.7	
	comp=N,2μm,0.5s						
KAN14				IAML		19 45 05.5	
	comp=E,2μm,0.2s						
KAN01	**Argonia South**	**0.98**	**318**	Pg	**Pg**		**19 44 41.8 0.0**
KAN01				IAML		19 45 01.5	
	comp=N,1μm,0.4s						
KAN01				IAML		19 45 03.7	
	comp=E,1μm,0.5s						
KAN05	**Bluff City Nor**	**1.01**	**313**		**Pg**		**19 44 42.5 +0.1**
KAN05				IAML		19 44 59.1	
	comp=N,2μm,0.2s						
TUL1	**Leonard**	**1.07**	**119**		**Pg**		**19 44 42.6 -0.9**
TUL1	**Leonard**	**1.07**	**119**	P	**Pg**		**19 44 42.7 -0.8**
	baz=299						
TUL1	**Leonard**	**1.07**	**119**	P	**Pg**		**19 44 42.7 -0.8**
	baz=299						
TUL1				S	**Sb**		**19 44 58.0 -0.1**
	baz=299						
OK032	**Salt Plains WL**	**1.08**	**291**		**Pg**		**19 44 43.8 -0.1**
KAN06	**Argonia West S**	**1.10**	**318**		**Pg**		**19 44 44.0 -0.1**
KAN06				IAML		19 45 03.6	
	comp=E,1μm,0.2s						
KAN06				IAML		19 45 04.1	
	comp=N,1μm,0.2s						
KAN08	**Anthony NE Sta**	**1.15**	**314**	Pg	**Pg**		**19 44 45.0 -0.1**
KAN10	**Anthony SW Sta**	**1.16**	**307**	Pg	**Pg**		**19 44 45.1 -0.1**
KAN12	**Harper NE Stat**	**1.21**	**316**		**Pg**		**19 44 46.1 -0.2**
FNO	**Franklin**	**1.23**	**198**		**Pg**		**19 44 45.4 -1.1**
OK035	**E0210 Rd and N**	**1.45**	**282**		**Pn**		**19 44 50.2 +0.4**
OK038	**West end E0370**	**1.45**	**273**		**P

CBKS	**Cedar Bluff**	**3.25**	**318**	Pn	**Pn**	**19 45 15.5**	**+0.8**
CBKS	**Cedar Bluff**	**3.25**	**318**	P	**Pn**	**19 45 15.4**	**+0.8**
	baz=136,SNR=24						
CBKS	**Cedar Bluff**	**3.25**	**318**	P	**Pn**	**19 45 15.4**	**+0.8**
	baz=136						
U40A	**Yellville**	**3.30**	**90**	P	**Pn**	**19 45 15.9**	**+0.5**
	baz=272,SNR=35						
U40A				P	**Pn**	**19 45 15.9**	**+0.5**
	baz=272,SNR=35						
MIAR	**Mount Ida**	**3.33**	**123**	Pn	**Pn**	**19 45 16.0**	**+0.4**
MIAR				IAmb_Lg		19 46 15.2	
	comp=Z,162nm,0.9s						
MIAR	**Mount Ida**	**3.33**	**123**	P	**Pn**	**19 45 16.2**	**+0.5**
	baz=305,SNR=40						
MIAR	**Mount Ida**	**3.33**	**123**	P	**Pn**	**19 45 16.2**	**+0.5**
	baz=305						
MIAR				S	**Sn**	**19 45 58.2**	**+2.6**
	baz=305						
FW06	**Azle**	**3.48**	**188**	Pn	**Pn**	**19 45 18.6**	**+0.8**
FW06				IAmb_Lg		19 46 20.1	
	comp=Z,263nm,0.9s						
FW03	**Perrin-Whitt E**	**3.50**	**196**	IAmb_Lg		19 46 20.7	
	comp=Z,135nm,0.8s						
FW07	**Weatherford**	**3.78**	**191**	IAmb_Lg		19 46 27.3	
	comp=Z,139nm,0.7s						
MGMO	**Mountain Grove**	**3.82**	**78**	Pn	**Pn**	**19 45 23.0**	**+0.5**
MGMO				IAmb_Lg		19 46 28.4	
	comp=Z,189nm,0.7s						
X40A	**Basin Creek Fa**	**3.87**	**119**	Pn	**Pn**	**19 45 23.5**	**+0.3**
X40A				IAmb_Lg		19 46 31.2	
	comp=Z,187nm,0.8s						
X40A	**Basin Creek Fa**	**3.87**	**119**	P	**Pn**	**19 45 23.9**	**+0.7**
	baz=301,SNR=8.1						
X40A				P	**Pn**	**19 45 23.9**	**+0.7**
	baz=301,SNR=8.1						
FCAR	**Ozark Folk Cen**	**3.94**	**96**		**Pb**	**19 45 31.5**	**-1.3**
FCAR				IAmb_Lg		19 46 31.8	
	comp=Z,143nm,0.7s						
WHAR	**Wooly Hollow**	**3.95**	**105**	Pg	**Pb**	**19 45 32.3**	**-0.8**
UALR	**University of**	**4.10**	**112**	Pn	**Pn**	**19 45 25.9**	**-0.4**
UALR				Pg	**Pb**	**19 45 35.4**	**-0.2**
UALR				IAmb_Lg		19 46 37.6	
	comp=Z,180nm,0.8s						
AMTX	**Amarillo**	**4.15**	**250**	Pn	**Pn**	**19 45 27.7**	**+0.6**
AMTX				Pg	**Pb**	**19 45 36.1**	**-0.5**
AMTX	**Amarillo**	**4.15**	**250**	P	**Pn**	**19 45 28.4**	**+1.3**
	baz=67						
AMTX				Sb	**Sg**	**19 46 32.8**	**-3.6**
	baz=67						
R40A	**Maddies Statio**	**4.16**	**62**	Pn	**Pn**	**19 45 37.0**	**-0.1**
R40A				Pg	**Pb**	**19 45 37.2**	**+0.5**
R40A				IAmb_Lg		19 46 34.0	
	comp=Z,133nm,0.9s						
R40A	**Maddies Statio**	**4.16**	**62**	P	**Pn**	**19 45 28.3**	**+1.1**
	baz=244,SNR=8.9						
WLAR	**White Oak Lake**	**4.17**	**130**	Pn	**Pn**	**19 45 27.3**	**+0.1**
P38A	**Dawn**	**4.18**	**39**	Pn	**Pn**	**19 45 27.5**	**+0.1**
P38A				Pg	**Pb**	**19 45 36.1**	**-0.9**
P38A	**Dawn**	**4.18**	**39**	S	**Sn**	**19 46 17.6**	**+1.1**
	baz=221						
N33A	**J Bar K, Exete**	**4.32**	**355**	Pg	**Pb**	**19 45 38.1**	**-1.4**
ABTX	**Abilene, Hawle**	**4.40**	**211**	Pg	**Pb**	**19 45 39.6**	**-1.2**
WHTX	**Lake Whitney,**	**4.45**	**186**	Pn	**Pn**	**19 45 31.2**	**+0.2**
WHTX	**Lake Whitney,**	**4.45**	**186**	S	**Sn**	**19 46 22.1**	**-1.0**
	baz=5.6						
WHTX	**Lake Whitney,**	**4.45**	**186**	Sb	**Sb**	**19 46 39.2**	**+3.8**
	baz=5.6						
237A	**Washetta, Mont**	**4.51**	**168**	S	**Sn**	**19 46 24.1**	**-0.7**
	baz=349						
N35A	**Tabor**	**4.54**	**13**	Pn	**Pn**	**19 45 32.6**	**+0.2**
LCAR	**Lake Charles**	**4.69**	**93**	IAmb_Lg		19 46 55.9	
	comp=Z,124nm,0.7s						
CCM	**Cathedral Cave**	**4.83**	**69**	IAmb_Lg		19 47 05.6	
	comp=Z,144nm,0.7s						
CCAR	**Cane Creek**	**4.92**	**119**	IAmb_Lg		19 47 11.1	
	comp=Z,110nm,0.8s						
P40A	**Paris**	**4.96**	**50**	IAmb_Lg		19 47 08.2	
	comp=Z,149nm,0.8s						
BGNE	**Belgrade**	**5.06**	**350**	Pg	**Pb**	**19 45 50.9**	**-1.1**
BGNE	**Belgrade**	**5.06**	**350**	P	**Pn**	**19 45 40.7**	**+1.1**
	baz=169						
KSCO	**Kaye Shedlock'**	**5.19**	**302**	Pn	**Pn**	**19 45 41.7**	**+0.3**
KSCO				IAmb_Lg		19 47 17.6	
	comp=Z,109nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.19**	**302**	P	**Pn**	**19 45 42.1**	**+0.7**
	baz=118						
N38A	**Joes South For**	**5.24**	**33**	Pn	**Pn**	**19 45 42.4**	**+0.5**
N38A				IAmb_Lg		19 47 20.7	
	comp=Z,128nm,0.8s						
MSTX	**Muleshoe**	**5.36**	**245**	IAmb_Lg		19 47 24.1	
	comp=Z,88nm,0.9s						
435B	**Jarrell**	**5.66**	**186**	IAmb_Lg		19 47 28.4	
	comp=Z,138nm,0.7s						
SLM	**Saint Louis**	**5.77**	**66**	IAmb_Lg		19 47 29.1	
	comp=Z,125nm,0.8s						
143A	**Socs Landing,**	**5.89**	**127**	IAmb_Lg		19 47 38.9	
	comp=Z,76nm,0.8s						
CGM3	**Cape Girardeau**	**5.91**	**79**	IAmb_Lg		19 47 34.2	
	comp=Z,76nm,0.7s						
OGNE	**Ogallala**	**6.01**	**320**	IAmb_Lg		19 47 35.4	
	comp=Z,97nm,0.8s						
OGNE	**Ogallala**	**6.01**	**320**	P	**Pn**	**19 45 53.9**	**+1.2**
	baz=137,SNR=6.7						
OGNE	**Ogallala**	**6.01**	**320**	P	**Pn**	**19 45 53.7**	**+1.0**
	baz=137						
JCT	**Junction City**	**6.39**	**203**	Pn	**Pn**	**19 45 57.9**	**0.0**
JCT				IAmb_Lg		19 47 59.4	
	comp=Z,99nm,0.8s						
N41A	**Harden Midland**	**6.41**	**46**	IAmb_Lg		19 47 43.3	
	comp=Z,127nm,1.0s						
Y45A	**Yeager Farm, C**	**6.58**	**111**	IAmb_Lg		19 48 05.2	
	comp=Z,99nm,0.8s						
CPRX	**Cap Rock**	**6.63**	**241**	Pn	**Pn**	**19 45 59.5**	**-1.7**
P43A	**Skaggs, Pawnee**	**6.68**	**59**	Pn	**Pn**	**19 46 01.5**	**-0.2**
P43A				IAmb_Lg		19 47 58.4	
	comp=Z,101nm,0.7s						
HTMS	**Hat Mesa**	**6.79**	**236**	Pn	**Pn**	**19 46 03.0**	**-0.3**
SDCO	**Great Sand Dun**	**6.96**	**283**	Pn	**Pn**	**19 46 06.5**	**+0.6**
Q24A	**Divide**	**6.98**	**294**	IAmb_Lg		19 48 16.2	
	comp=Z,90nm,0.9s						
K38A	**Parkersburg**	**7.00**	**26**	Pn	**Pn**	**19 46 06.1**	**0.0**
K38A				IAmb_Lg		19 48 11.0	
	comp=Z,117nm,0.8s						
CLNB	**Carlsbad**	**7.08**	**236**	Pn	**Pn**	**19 46 07.3**	**0.0**
BRIGG	**Briggsdale**	**7.12**	**308**	IAmb_Lg		19 48 14.4	
	comp=Z,76nm,1.0s						
L40A	**Anamosa**	**7.17**	**37**	Pn	**Pn**	**19 46 07.3**	**-1.1**
L40A				IAmb_Lg		19 48 10.5	
	comp=Z,73nm,0.7s						
HDIL	**Hopedale**	**7.28**	**53**	Pn	**Pn**	**19 46 10.0**	**+0.1**
HDIL	**Hopedale**	**7.28**	**53**	P	**Pn**	**19 46 09.3**	**-0.7**
	baz=238						
ECSD	**EROS Data Cent**	**7.30**	**2**	Pn	**Pn**	**19 46 10.1**	**-0.1**
ECSD				IAmb_Lg		19 48 15.9	
	comp=Z,94nm,1.1s						
ECSD	**EROS Data Cent**	**7.30**	**2**	P	**Pn**	**19 46 10.2**	**-0.1**
	baz=182,SNR=12						
PLAL	**Pickwick Lake**	**7.36**	**99**	IAmb_Lg		19 48 19.3	
	comp=Z,60nm,0.7s						
WVT	**Waverly**	**7.37**	**90**	IAmb_Lg		19 48 22.9	
	comp=Z,60nm,0.7s						
146A	**Union**	**7.53**	**118**	IAmb_Lg		19 48 40.2	
	comp=Z,75nm,1.0s						
735A	**Kenedy**	**7.58**	**186**	IAmb_Lg		19 48 43.8	
	comp=Z,66nm,0.9s						
ISCO	**Idaho Springs**	**7.62**	**299**	Pn	**Pn**	**19 46 15.6**	**+0.7**
O44A	**Mansfield**	**7.63**	**58**	IAmb_Lg		19 48 30.9	
	comp=Z,85nm,0.7s						
ANMO	**Albuquerque**	**7.88**	**262**	Pn	**Pn**	**19 46 18.0**	**-0.3**
	baz=114,slow=18,SNR=2.5						
ANMO				Pg	**Pb**	**19 46 42.9**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=170,slow=14,SNR=2.9						
ANMO				Lg	Lg	19 48 26.9	
	comp=Z,3.4nm,0.3s,baz=118,slow=10,SNR=6.7						
	comp=Z,0.6nm,0.7s						
L42A	**Oliver, Polo**	**7.93**	**43**	Pn	**Pn**	**19 46 19.2**	**+0.3**
L42A				IAmb_Lg		19 48 36.0	
	comp=Z,52nm,0.8s						
I37A	**Lemond, Waseca**	**8.05**	**19**	IAmb_Lg		19 49 00.8	
	comp=Z,63nm,0.8s						
SUSD	**Miller**	**8.15**	**350**	IAmb_Lg		19 48 57.3	
	comp=Z,55nm,0.7s						
PHWY	**Pilot Hill**	**8.23**	**309**	Pn	**Pn**	**19 46 22.9**	**-0.4**
JFWS	**Jewell Farm**	**8.28**	**36**	Pn	**Pn**	**19 46 22.1**	**-1.6**
JFWS				IAmb_Lg		19 48 47.2	
	comp=Z,57nm,0.8s						
P46A	**Rosedale**	**8.32**	**65**	IAmb_Lg		19 48 49.6	
	comp=Z,83nm,0.8s						
N23A	**Red Feather La**	**8.33**	**305**	IAmb_Lg		19 48 53.0	
	comp=Z,60nm,0.8s						
MNTX	**Cornudas Mount**	**8.44**	**238**	Pn	**Pn**	**19 46 25.6**	**-0.3**
M44A	**Midewin, Midew**	**8.52**	**52**	IAmb_Lg		19 48 51.7	
	comp=Z,74nm,1.1s						
SFIN	**Lafayette**	**8.68**	**60**	IAmb_Lg		19 48 56.9	
	comp=Z,61nm,0.7s						
BLO	**Bloomington**	**8.69**	**69**	Pn	**Pn**	**19 46 28.4**	**-0.9**
HQIL	**Hanson Quary C**	**8.87**	**50**	IAmb_Lg		19 49 04.2	
	comp=Z,60nm,1.0s						
I40A	**Norwalk**	**8.89**	**31**	IAmb_Lg		19 49 05.3	
	comp=Z,44nm,0.9s						
TX31	**Lajitas Ar. Si**	**9.05**	**221**	Pn	**Pn**	**19 46 34.9**	**+0.5**
TXAR	**Lajitas Array**	**9.05**	**221**	Pn	**Pn**	**19 46 33.1**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=43,slow=11,SNR=14						
TXAR				Lg	Lg	19 48 59.7	
	comp=Z,1.0nm,0.3s,baz=38,slow=20,SNR=2.3						
TXAR				LR	LR	19 50 17.2	
	comp=Z,50nm,21.1s,baz=26,slow=39						
TXAR	**Lajitas Array**	**9.05**	**221**	Pn	**Pn**	**19 46 35.0**	**+0.6**
L44A	**Lake County Fo**	**9.05**	**48**	IAmb_Lg		19 49 33.7	
	comp=Z,66nm,1.0s						
TX32	**Lajitas Array**	**9.05**	**221**	Pn	**Pn**	**19 46 35.0**	**+0.6**
K43A	**Burlington**	**9.14**	**44**	IAmb_Lg		19 49 10.9	
	comp=Z,81nm,1.0s						
SPMN	**Marine on St.**	**9.33**	**18**	Pn	**Pn**	**19 46 39.1**	**+1.0**
RSSD	**Black Hills**	**9.40**	**327**	Pn	**Pn**	**19 46 39.4**	**+0.1**
RSSD	**Black Hills**	**9.40**	**327**	P	**Pn**	**19 46 39.9**	**+0.7**
	baz=142						
F33A	**5 Mile Ranch,**	**9.42**	**3**	IAmb_Lg		19 49 26.7	
	comp=Z,45nm,0.9s						
K22A	**Casper**	**9.66**	**313**	Pn	**Pn**	**19 46 42.6**	**-0.2**
TKL	**Tuckaleechee C**	**10.69**	**90**	Pn	**Pn**	**19 46 58.8**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=281,slow=20,SNR=2.3						
TKL				Lg	Lg	19 49 53.5	
	comp=Z,2.7nm,0.3s,baz=1.6,slow=23,SNR=8.4						
	comp=Z,4.8nm,1.0s						
PDAR	**Pinedale Array**	**11.60**	**307**	Pn	**Pn**	**19 47 08.3**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=115,slow=15,SNR=11						
PDAR				Lg	Lg	19 50 18.1	
	comp=Z,0.3nm,0.3s,baz=108,slow=35,SNR=1.9						
PDAR				LR	LR	19 51 27.8	
	comp=Z,42nm,19.7s,baz=148,slow=37						
ULM	**Lac du Bonnet**	**13.84**	**3**	Pn	Pn	19 47 34.6	-5.0
	comp=Z,0.1nm,0.3s,baz=189,slow=10,SNR=1.5						
ULM				Lg	Lg	19 51 26.3	
	comp=Z,0.4nm,0.3s,baz=259,slow=7.6,SNR=3.4						
	comp=Z,0.6nm,0.4s						
SADO	**Sadowa**	**15.86**	**53**	Lg	Lg	19 52 30.8	
	comp=Z,0.2nm,0.3s,baz=352,slow=22,SNR=3.2						
LPIG	**La Paz**	**16.83**	**227**	LR	LR	19 55 05.9	
	comp=Z,43nm,19.0s,baz=56,slow=38						
BBB	**Bella Bella**	**27.03**	**315**	LR	LR	20 01 48.6	
	comp=Z,55nm,18.1s,baz=210,slow=39						
ILAR	**Eielson Array**	**40.83**	**330**	P	**P**	**19 52 04.7**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=96,slow=7.3,SNR=5.9						
	comp=Z,0.4nm,0.9s						

*NEIC **02** 19:44:40.9±2.0, 19°.5S±0°.2×175°.73W±0°.04, h256km±14km, mb4.7/29, Error ellipse: s-maj=24.4km s-min=5.9km az=180.0*
*NOU **02** 19:44:43.5, 19°.41S×175°.78W, h249km, MLv4.5/8, Tonga Islands*
*IDC **02** 19:44:44.9±2.9, 19°.89S×176°.11W, h274km±25km, mb3.8/9, mbtmp4.4/11, Error ellipse: s-maj=23.0km s-min=18.2km az=111.0*

ISC 02 19:44:41.1±0.5, **19°.7S**±0°.1×**175°.75W**±0°.06, **h250**km, **n66,** σ1°.9**57**/67, **mb4.5**/20, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.24**	**296**	P	**Pn**	**19 45 36.5**	**+0.3**
TAVE	**Taveuni**	**4.94**	**306**	P	**Pn**	**19 45 56.7**	**+0.5**
NIUE	**Niue**	**5.53**	**85**	Pn	**Pn**	**19 46 03.0**	**-0.4**
NIUE					**S**	**19 47 08.1**	**-1.1**
NIUE	**Niue**	**5.53**	**85**	P	**Pn**	**19 46 05.7**	**+2.3**
MSVF	**Nonsavu**	**6.19**	**287**	P	**Pn**	**19 46 13.2**	**+1.5**
	17nm,0.6s,baz=118,slow=14,SNR=8.0						
MSVF	**Nonsavu**	**6.19**	**287**		**Pn**	**19 46 11.8**	**+0.1**
AFI	**Afiamalu**	**6.90**	**34**	Pn	**Pn**	**19 46 16.6**	**-4.1**
MARNC	**Mare, Loyalty**	**15.29**	**261**	P	**P**	**19 48 03.0**	**-1.2**
DVP	**Devils Point**	**15.34**	**275**	P	**Pn**	**19 48 07.4**	**+1.9**
LIFNC	**LIFOU**	**16.00**	**263**	P	**P**	**19 48 12.2**	**+0.3**
YATNC	**Mamie plateau,**	**16.39**	**259**	P	**Pn**	**19 48 19.3**	**+1.4**
OUENC	**Ouen Island, N**	**16.47**	**257**	Pn	**P**	**19 48 18.5**	**+1.3**
OUENC				IAmb	IAmb	19 48 19.5	
	comp=Z,27nm,0.9s						
DZM	**Mont Dzumac**	**16.81**	**259**	P	**P**	**19 48 22.1**	**+1.1**
	comp=Z,56nm,0.7s,baz=68,slow=23,SNR=50						
DZM	**Mont Dzumac**	**16.81**	**259**	P	**P**	**19 48 22.0**	**+1.1**
ONTNC	**Ouen Toro**	**16.82**	**258**	P	**P**	**19 48 20.1**	**-0.8**
ONTNC				IAmb	IAmb	19 48 36.1	
	comp=Z,28nm,0.9s						
URZ	**Urewera**	**19.51**	**197**	P	**P**	**19 48 49.1**	**-0.6**
	comp=Z,7.9nm,0.8s,baz=350,slow=3.5,SNR=11						
URZ				S	S	19 52 09.2	-7.2
	comp=Z,8.1nm,0.8s,baz=51,slow=13,SNR=1.8						
RTZ	**Ruatahuna**	**19.88**	**197**	P	**P**	**19 48 54.6**	**+0.8**
RTZ				IAmb	IAmb	19 49 03.1	
	comp=Z,16nm,1.0s						
BKZ	**Black Stump Fm**	**20.53**	**197**	P	**P**	**19 49 01.0**	**+0.3**
BKZ				IAmb	IAmb	19 49 43.9	
	comp=Z,29nm,1.5s						
MRZ	**Mangatainoka R**	**22.18**	**198**	P	**P**	**19 49 17.3**	**+0.8**
MRZ				IAmb	IAmb	19 49 59.3	
	comp=Z,46nm,1.4s						
QRZ	**Quartz Range**	**23.32**	**203**	P	**P**	**19 49 28.7**	**+1.7**
QRZ				IAmb	IAmb	19 49 36.8	
	comp=Z,44nm,1.3s						
TKNZ	**Takaka Hill**	**23.35**	**202**	P	**P**	**19 49 28.0**	**+0.8**
NNZ	**Nelson**	**23.37**	**201**	P	**P**	**19 49 27.3**	**-0.1**
NNZ				IAmb	IAmb	19 49 39.7	
	comp=Z,30nm,1.2s						
TUWZ	**Tuamarina**	**23.37**	**200**	P	**P**	**19 49 28.1**	**+0.7**
THZ	**Tophouse**	**24.02**	**201**	P	**P**	**19 49 35.6**	**+2.2**
THZ				IAmb	IAmb	19 49 45.7	
	comp=Z,51nm,1.5s						
DSZ	**Denniston Nort**	**24.39**	**203**	P	**P**	**19 49 38.2**	**+1.5**
LTZ	**Lake Taylor**	**25.14**	**201**	P	**P**	**19 49 44.1**	**+0.7**
EIDS	**Eidsvold**	**31.10**	**253**	P	**P**	**19 50 35.7**	**-0.7**
EIDS				IAmb	IAmb	19 50 54.2	
	comp=Z,20nm,1.5s						
CTAO	**Charters Tower**	**35.68**	**263**		**P**	**19 51 15.4**	**-0.7**
CTAO				IAmb	IAmb	19 51 16.2	
	comp=Z,26nm,0.6s						
STKA	**Stephens Creek**	**40.04**	**244**	P	**P**	**19 51 50.6**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=89,slow=9.6,SNR=5.5						
	comp=Z,0.7nm,0.4s						
BBOO	**Buckleboo**	**44.79**	**243**	P	**P**	**19 52 29.4**	**-1.0**
BBOO				IAmb	IAmb	19 52 29.8	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**46.62**	**261**	P	**P**	**19 52 42.8**	**-2.0**
AS31	**Alice Springs**	**46.76**	**256**	P	**P**	**19 52 44.6**	**-1.3**
ASAR	**Alice Springs**	**46.76**	**256**	P	**P**	**19 52 44.4**	**-1.5**
	comp=Z,16nm,0.7s,baz=93,slow=8.4,SNR=195						
ASAR				PcP	**PcP**	**19 54 14.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=108,slow=4.1,SNR=2.8						
	comp=Z,16nm,0.7s						
ASAR	**Alice Springs**	**46.76**	**256**	P	**P**	**19 52 45.1**	**-0.8**
WB0	**Warramunga Arr**	**46.79**	**261**	P	**P**	**19 52 44.2**	**-1.9**
WB2	**Warramunga Arr**	**46.80**	**261**	P	**P**	**19 52 44.7**	**-1.5**
WRA	**Warramunga Arr**	**46.81**	**261**	P	**P**	**19 52 44.6**	**-1.7**
	comp=Z,2.9nm,0.4s,baz=95,slow=7.4,SNR=59						
	comp=Z,2.9nm,0.4s						
WRA	**Warramunga Arr**	**46.81**	**261**	P	**P**	**19 52 44.2**	**-2.1**
MTN	**Manton Dam**	**51.28**	**269**	P	**P**	**19 53 19.0**	**-1.1**
MTN				IAmb	IAmb	19 53 52.8	
	comp=Z,64nm,1.4s						
SAUI	**Saumlaki**	**52.52**	**275**	P	**P**	**19 53 25.9**	**-3.3**
KNRA	**Kununurra**	**52.83**	**265**	P	**P**	**19 53 29.9**	**-1.6**
KNRA				IAmb	IAmb	19 53 31.8	
	comp=Z,21nm,0.7s						
FAKI	**Fak Fak**	**53.40**	**281**	P	**P**	**19 53 35.3**	**-0.4**
FAKI				IAmb	IAmb	19 54 04.6	
	comp=Z,30nm,1.0s						
SIJI	**Sorong**	**55.09**	**283**	P	**P**	**19 53 47.7**	**-0.2**
	comp=Z,18nm,0.4s,baz=102,slow=3.8,SNR=24						
	comp=Z,18nm,0.4s						
FITZ	**Fitzroy Crossi**	**55.23**	**261**	P	**P**	**19 53 48.1**	**-0.7**
SOEI	**Soe**	**58.60**	**270**	P	**P**	**19 54 09.6**	**-2.9**
MBWA	**Marble Bar**	**60.09**	**256**	P	**P**	**19 54 20.6**	**-1.9**
MBWA				IAmb	IAmb	19 54 27.6	
	comp=Z,14nm,1.1s						
GIRL	**Giralia**	**64.80**	**254**	P	**P**	**19 54 54.1**	**+0.5**
MJAR	**Matsushiro Arr**	**70.85**	**322**	P	**P**	**19 55 31.2**	**+0.4**
	comp=Z,2.5nm,1.1s,baz=153,slow=9.0,SNR=1.7						
	comp=Z,2.5nm,1.1s						
PETK	**Petropavlovsk-**	**76.06**	**344**	P	**P**	**19 56 02.0**	**+1.2**
	comp=Z,5.8nm,0.9s,baz=122,slow=7.0,SNR=4.0						
	comp=Z,5.8nm,0.9s						
NVAR	**Mina Array Bea**	**79.00**	**42**	P	P	19 56 21.6	+3.9
	comp=Z,0.8nm,0.7s,baz=229,slow=8.2,SNR=3.7						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**87.08**	**12**	P	**P**	**19 57 00.1**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=232,slow=6.1,SNR=5.6						
	comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**91.85**	**289**	P	**P**	**19 57 22.6**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=128,slow=2.8,SNR=9.5						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**128.50**	**351**	PKP	**PKiKP**	**20 03 18.6**	**+0.5**
	comp=Z,5.0nm,1.1s,baz=345,slow=3.8,SNR=5.0						
FINES	**FINESS Array B**	**135.57**	**345**	PKP	**PKiKP**	**20 03 32.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=80,slow=3.2,SNR=5.3						
AKASG	**Malin Array Be**	**143.29**	**333**	PKP	**PKPdf**	**20 03 43.7**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=36,slow=3.8,SNR=12						
BRTR	**Keskin Array B**	**147.82**	**315**	PKPbc	**PKiKP**	**20 03 58.3**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=131,slow=4.8,SNR=13						
GERES	**GERESS Array B**	**149.94**	**347**	PKPbc	**PKiKP**	**20 04 02.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=62,slow=3.2,SNR=9.7						
CONA	**Conrad Observa**	**150.30**	**344**	*e*PKP	**PKiKP**	**20 04 05.4**	**+2.0**
	comp=Z,0.1nm,0.2s						
RONA	**Rosalia, Austr**	**150.40**	**343**	*e*PKP	**PKiKP**	**20 04 05.2**	**+1.6**
	comp=Z,3.0nm,0.6s						
WATA	**Walderalm**	**151.79**	**349**	*e*PKP	**PKiKP**	**20 04 07.9**	**+1.3**
	comp=Z,4.0nm,0.5s						
WTTA	**Wattenberg**	**151.85**	**349**	*e*PKP	**PKiKP**	**20 04 08.7**	**+2.0**
	comp=Z,6.0nm,0.9s						
SQTA	**Sankt Quirin**	**151.96**	**350**	*e*PKP	**PKiKP**	**20 04 08.8**	**+1.9**
	comp=Z,4.1nm,1.0s						
MYKA	**Terra Mystica**	**152.05**	**346**	*e*PKP	**PKiKP**	**20 04 09.0**	**+2.0**
	comp=Z,2.1nm,0.6s						
DAVA	**Damuels**	**152.10**	**352**	*e*PKiKP	**PKiKP**	**20 04 11.2**	**+3.9**
	comp=Z,0.6nm,0.2s						
ABTA	**Abfaltersbach**	**152.18**	**348**	*e*PKP	**PKiKP**	**20 04 08.7**	**+1.4**
	comp=Z,2.7nm,0.5s						
FETA	**Feichten**	**152.23**	**350**	*e*PKP	**PKiKP**	**20 04 09.5**	**+2.0**
	comp=Z,0.7nm,0.4s						

*ISK **02** 19:45:40.4, 38°.66N×45°.89E, h5km, ML2.6/5*
*TEH **02** 19:45:42.6, 38°.63N×45°.65E, h10km±4km, ML2.9*
*DDA **02** 19:45:53.3±0.0, 38°.57N×42°.73E, h7km±2km, ML1.7*

ISC 02 19:45:42.2±1.0, **38°.64N**±0°.04×**45°.73E**±0°.04, **h14**km±9km, **n20,** σ0°.**60**/25, **Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMRD	**Marand**	**0.08**	**342**	Pg	**Pg**	**19 45 45.5**	**+0.2**
ISHB	**Shabestar**	**0.37**	**194**	Pg	**Pg**	**19 45 49.4**	**-0.3**
ITBZ	**Tabriz**	**0.52**	**141**	Pg	**Pg**	**19 45 52.8**	**+0.3**
TVRZ	**Varzaqan**	**0.74**	**100**	Pg	**Pn**	**19 45 58.4**	**-0.1**
IAZR	**Azarshahr**	**0.98**	**168**	Pg	**Pn**	**19 46 02.0**	**+0.2**
IHRS	**Heris**	**1.08**	**107**	Pg	**Pg**	**19 46 04.0**	**+1.0**
MAKU	**Maku**	**1.08**	**311**	Pg	**Pb**	**19 46 02.4**	**-0.5**
OZAP	**Van, Ozalp-Mer**	**1.36**	**271**	P	**Pb**	**19 46 07.5**	**-0.1**
OZAP				S	**Sg**	**19 46 26.3**	**+0.1**
OZAP				*i* AML	AML	19 46 32.0	
	comp=E,20nm,1.0s						
GNI	**Garni**	**1.69**	**333**	Pn	**Pb**	**19 46 12.9**	**-0.3**
GNI				Sn	**Sg**	**19 46 36.5**	**-0.2**
GRMI	**Germi**	**1.70**	**84**	Pg	**Pg**	**19 46 14.1**	**-0.7**
ISRB	**Sarab**	**1.73**	**118**	Pg	**Pg**	**19 46 15.5**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.77**	**320**	Pn	**Pb**	**19 46 14.2**	**-0.3**
TASB				Sn	**Sg**	**19 46 39.2

TWD				eS	Sn	19 50 15.5	-0.7		
	baz=284								
ENA	**Nanau**	**1.23 302**	P		**Pg**	**19 50 01.3**	**+0.6**		
ENA	baz=305			eS	Sn	19 50 16.3	-0.2		
	baz=305								
NACB	**Ninganchiao**	**1.25 288**	eP		**Pg**	**19 50 01.2**	**+0.2**		
NACB	baz=289			eS	Sb	19 50 16.1	-0.3		
	baz=289								
TWC	**Suao**	**1.26 311**	eP		**Pg**	**19 50 01.3**	**+0.1**		
TWC	baz=316			eS	Sn	19 50 16.9	-0.2		
	baz=316								
JIJ	**Ishigaki jima**	**1.28 63**	P		**Pn**	**19 50 00.8**	**+0.2**		
JIJ			S		**Sb**	**19 50 16.6**	**-0.8**		
ESL	**Shilin**	**1.33 272**	eP		**Pg**	**19 50 02.7**	**0.0**		
ESL	baz=269			eS	Sb	19 50 18.9	-0.1		
	baz=269								
EGFH	**Guangfu**	**1.35 265**	eP		**Pb**	**19 50 02.7**	**+0.6**		
EGFH	baz=262			eS	Sn	19 50 18.9	-0.4		
	baz=262								
ETLH	**Xiulin Townshi**	**1.35 288**	eP		**Pg**	**19 50 03.2**	**0.0**		
ETLH	baz=289			eS	Sb	19 50 19.5	-0.2		
	baz=289								
NDS	**Dongshan**	**1.37 308**	eP		**Pg**	**19 50 03.8**	**+0.5**		
NDS	baz=312			eS	Sb	19 50 20.2	+0.3		
	baz=312								
HGSD	**Ruisui**	**1.38 258**	eP		**Pg**	**19 50 03.5**	**+0.1**		
HGSD	baz=254			eS	Sb	19 50 20.1	0.0		
	baz=254								
LATG	**Datong**	**1.45 301**	P		**Pg**	**19 50 05.2**	**+0.3**		
LATG	baz=304			eS	Sn	19 50 21.4	-0.7		
	baz=304								
TWE	**Neicheng**	**1.46 310**	eP		**Pg**	**19 50 05.0**	**0.0**		
TWE	baz=314			eS	Sb	19 50 22.2	-0.2		
	baz=314								
EHY	**Hungye**	**1.47 259**	eP		**Pb**	**19 50 05.0**	**+0.8**		
EHY	baz=255			eS	Sn	19 50 22.0	-0.2		
	baz=255								
TWB1	**Santiao Chiao**	**1.47 326**	eP		**Pg**	**19 50 05.0**	**-0.3**		
TWB1	baz=332			eS	Sb	19 50 23.2	+0.4		
	baz=332								
ENTT	**Nioudou**	**1.48 305**	eP		**Pg**	**19 50 05.5**	**+0.1**		
ENTT	baz=308			eS	Sb	19 50 22.7	-0.5		
	baz=308								
EYUL	**Yuli**	**1.51 254**	eP		**Pn**	**19 50 04.3**	**+0.6**		
EYUL	baz=249			eS	Sn	19 50 23.3	0.0		
	baz=249								
YULB	**Yu-li**	**1.51 255**	eP		**Pn**	**19 50 04.3**	**+0.5**		
YULB	baz=251			eS	Sn	19 50 23.3	-0.2		
	baz=251								
NNSB	**Datong**	**1.52 295**	eP		**Pb**	**19 50 05.6**	**+0.4**		
NNSB	baz=297			eS	Sn	19 50 23.3	-0.5		
	baz=297								
JISG	**Ishigakijimahi**	**1.52 58**	eP		**Pn**	**19 50 04.2**	**+0.3**		
JISG			eS		**Sn**	**19 50 23.1**	**-0.6**		
TIPB	**Shuangxi**	**1.53 321**	eP		**Pg**	**19 50 06.0**	**-0.4**		
TIPB	baz=325			eS	Sb	19 50 24.9	+0.3		
	baz=325								
WHF	**Hehuan Shan**	**1.53 284**	eP		**Pb**	**19 50 05.8**	**+0.3**		
WHF	baz=284			eS	Sn	19 50 23.7	-0.8		
	baz=284								
NNS	**Nan Shan**	**1.53 296**	eP		**Pb**	**19 50 06.0**	**+0.6**		
NNS	baz=297			eS	Sn	19 50 23.8	-0.3		
	baz=297								
FUSB	**Fushanzhiwuyua**	**1.54 309**	P		**Pg**	**19 50 06.9**	**+0.4**		
FUSB	baz=313			eS	Sb	19 50 24.5	-0.3		
	baz=313								
CHGB	**Renai**	**1.59 280**	eP		**Pb**	**19 50 06.4**	**-0.1**		
CHGB	baz=279			eS	Sn	19 50 25.5	-0.3		
	baz=279								
SXI1	**Grass Mountain**	**1.60 325**	eP		**Pb**	**19 50 06.9**	**+0.4**		
SXI1	baz=329			eS	Sb	19 50 26.6	-0.1		
	baz=329								
VWDT	**VWDT**	**1.60 269**	eP		**Pn**	**19 50 05.7**	**+0.7**		
VWDT	baz=267			eS	Sn	19 50 25.5	-0.1		
	baz=267								
NWLT	**Wulai**	**1.61 308**	eP		**Pb**	**19 50 06.8**	**+0.2**		
NWLT	baz=311			eS	Sb	19 50 25.9	-0.9		
	baz=311								
NWF	**Wu-fen Shan**	**1.63 322**	eP		**Pb**	**19 50 07.8**	**+0.7**		
NWF	baz=326			eS	Sb	19 50 27.1	-0.5		
	baz=326								
WUSB	**Renai**	**1.64 278**	eP		**Pb**	**19 50 07.0**	**-0.2**		
WUSB	baz=276			eS	Sn	19 50 26.6	0.0		
	baz=276								
YHNB	**Yeheng**	**1.64 303**	eP		**Pb**	**19 50 07.3**	**+0.1**		
YHNB	baz=305			eS	Sn	19 50 26.2	-0.5		
	baz=305								
NSK	**Sanguang**	**1.66 303**	eP		**Pb**	**19 50 07.5**	**+0.1**		
NSK	baz=305			eS	Sn	19 50 26.9	-0.2		
	baz=305								
EDH	**Donghe**	**1.67 241**	eP		**Pb**	**19 50 08.2**	**+0.6**		
EDH	baz=236			eS	Sn	19 50 27.2	0.0		
	baz=236								
EHD	**Haiduan**	**1.67 248**	eP		**Pb**	**19 50 07.8**	**+0.2**		
EHD	baz=243			eS	Sn	19 50 27.7	+0.4		
	baz=243								
TWA	**Mucha**	**1.68 315**	eP		**Pb**	**19 50 08.0**	**+0.1**		
TWA	baz=319			eS	Sn	19 50 27.6	-0.1		
	baz=319								
LDUT	**Ludao**	**1.71 230**	eP		**Pb**	**19 50 09.1**	**+0.7**		
LDUT	baz=224			eS	Sb	19 50 29.9	+0.1		
	baz=224								
SSLB	**Suanglung**	**1.77 270**	eP		**Pb**	**19 50 09.0**	**-0.4**		
SSLB	baz=268			eS	Sn	19 50 29.5	-0.4		
	baz=268								
YM01	**YM01**	**1.81 319**	eP		**Pb**	**19 50 10.3**	**+0.1**		
YM01	baz=322			eS	Sb	19 50 32.0	-0.7		
	baz=322								
ELDTW	**Lidau**	**1.82 251**	eP		**Pn**	**19 50 09.2**	**+1.0**		
ELDTW	baz=247			eS	Sn	19 50 30.9	-0.3		
	baz=247								
NFF	**Wufeng Townshi**	**1.82 298**	eP		**Pb**	**19 50 10.8**	**+0.5**		
NFF	baz=299			eS	Sn	19 50 30.9	-0.4		
	baz=299								
SMLT	**Sun Moon Lake**	**1.82 273**	eP		**Pb**	**19 50 09.8**	**-0.6**		
SMLT	baz=272			eS	Sn	19 50 30.6	-0.8		
	baz=272								
WCS	**Beigang Elemen**	**1.83 279**	eP		**Pb**	**19 50 09.5**	**-0.9**		
WCS	baz=278			eS	Sn	19 50 31.1	-0.2		
	baz=278								
LONT	**Longtian**	**1.84 242**	eP		**Pb**	**19 50 10.5**	**0.0**		
LONT	baz=237			eS	Sn	19 50 31.9	+0.5		
	baz=237								
WHP	**Taichung City**	**1.84 286**	eP		**Pg**	**19 50 11.9**	**-0.6**		
WHP	baz=286			eS	Sn	19 50 31.1	-0.7		
	baz=286								
JTJ	**Tarama**	**1.86 62**	P		**Pb**	**19 50 10.1**	**-0.8**		
JTJ			eS		**Sb**	**19 50 33.3**	**-0.8**		

TYC	**Yuchr**	**1.87 274**	eP		**Pb**	**19 50 10.2**	**-0.8**		
TYC	baz=273			eS	Sn	19 50 31.7	-0.4		
	baz=273								
WHYT	**Xinyi Township**	**1.87 268**	eP		**Pb**	**19 50 10.8**	**-0.3**		
WHYT	baz=265			eS	Sn	19 50 31.9	-0.4		
	baz=265								
TWS1	**Kuangyinshan**	**1.88 315**	eP		**Pb**	**19 50 11.6**	**+0.4**		
TWS1	baz=318			eS	Sn	19 50 32.7	+0.4		
	baz=318								
TWY	**Chenhua**	**1.89 322**	eP		**Pb**	**19 50 10.9**	**-0.6**		
TWY	baz=325			eS	Sb	19 50 34.1	-0.9		
	baz=325								
LIOB	**Emei**	**1.91 297**	eP		**Pb**	**19 50 11.4**	**-0.4**		
LIOB	baz=298			eS	Sn	19 50 33.5	+0.1		
	baz=298								
NSTT	**Nanjuang**	**1.92 296**	eP		**Pb**	**19 50 11.4**	**-0.5**		
NSTT	baz=297			eS	Sn	19 50 33.5	0.0		
	baz=297								
ALS	**Alishan**	**1.93 262**	eP		**Pb**	**19 50 11.4**	**-0.9**		
	baz=259								
WJS	**Zhushan**	**1.98 272**	eP		**Pb**	**19 50 12.4**	**-0.6**		
	baz=270								
TWQ1	**Liyutan**	**2.02 287**	eP		**Pb**	**19 50 12.8**	**-0.8**		
	baz=286								
WNT	**Mingjian**	**2.02 273**	eP		**Pb**	**19 50 12.4**	**-1.2**		
WNT	baz=271			eS	Sn	19 50 35.8	-0.2		
	baz=271								
STYH	**Taoyuan**	**2.04 253**	eP		**Pn**	**19 50 12.4**	**+1.4**		
	baz=250								
STYH				eS	Sn	19 50 36.7	+0.4		
	baz=250								
CHN5	**Tsauling**	**2.04 265**	eP		**Pb**	**19 50 13.3**	**-0.7**		
	baz=263								
CHN5				eS	Sn	19 50 36.2	-0.2		
	baz=263								
WCKO	**Fanlu**	**2.12 261**	eP		**Pb**	**19 50 14.6**	**-0.9**		
	baz=258								
WCKO				eS	Sn	19 50 38.2	-0.4		
	baz=258								
TPUB	**Ta-pu**	**2.13 257**	eP		**Pb**	**19 50 14.6**	**-0.9**		
	baz=254								
TPUB				eS	Sn	19 50 38.6	-0.1		
	baz=254								
LAY	**Lan-yu**	**2.13 216**	eP		**Pb**	**19 50 15.7**	**+0.1**		
	baz=210								
LAY				eS	Sb	19 50 41.2	-0.7		
	baz=210								
ECL	**Taimali**	**2.14 237**	eP		**Pb**	**19 50 15.1**	**-0.5**		
	baz=232								
ECL				eS	Sn	19 50 39.7	+0.8		
	baz=232								
LYUB	**Lan-yu**	**2.15 214**	eP		**Pb**	**19 50 16.1**	**+0.4**		
	baz=209								
LYUB				eS	Sb	19 50 41.6	-0.6		
	baz=209								
CHN4	**Tsaushan**	**2.15 259**	eP		**Pb**	**19 50 14.9**	**-1.0**		
	baz=256								
CHN4				eS	Sn	19 50 39.4	+0.2		
	baz=256								
WTP	**Ta-pu**	**2.16 256**	eP		**Pb**	**19 50 14.6**	**-1.4**		
	baz=253								
WTP				eS	Sn	19 50 39.8	+0.3		
	baz=253								
SGST	**Jiashian**	**2.23 252**	eP		**Pb**	**19 50 15.9**	**-1.4**		
	baz=249								
SGST				eS	Sn	19 50 41.9	+0.7		
	baz=249								
CHN1	**Nanshi**	**2.25 255**	eP		**Pb**	**19 50 16.9**	**-0.7**		
	baz=252								
CHN1				eS	Sn	19 50 41.5	-0.2		
	baz=252								
TWK	**Hsinying**	**2.27 257**	eP		**Pb**	**19 50 16.4**	**-1.4**		
	baz=254								
TWK				eS	Sn	19 50 42.2	+0.2		
	baz=254								
WRL	**Guolierlin Hig**	**2.30 273**	eP		**Pb**	**19 50 16.8**	**-1.6**		
	baz=272								
WRL				eS	Sn	19 50 43.0	0.0		
	baz=272								
TSMG	**Majia**	**2.33 243**	eP		**Pb**	**19 50 17.8**	**-1.1**		
	baz=239								
TSMG				eS	Sn	19 50 44.6	+1.0		
	baz=239								
TAWH	**Dawu Township**	**2.34 232**	eP		**Pb**	**19 50 18.1**	**-1.0**		
	baz=228								
SCST	**Cishan**	**2.38 248**	eP		**Pb**	**19 50 18.4**	**-1.3**		
	baz=245								
MASBT	**Mashibuluo**	**2.38 241**	eP		**Pb**	**19 50 19.0**	**-0.8**		
MASBT	baz=237			eS	Sn	19 50 45.5	+0.6		
	baz=237								
SLIU	**Shizi**	**2.48 231**	eP		**Pb**	**19 50 19.7**	**-1.8**		
SLIU	baz=227			eS	Sn	19 50 48.6	+1.3		
	baz=227								
SCZT	**Fangliau**	**2.52 237**	eP		**Pb**	**19 50 20.1**	**-2.0**		
	baz=232								
SCZT				eS	Sn	19 50 49.3	+1.0		
	baz=232								
SMST	**Manzhou Townsh**	**2.58 228**	eP		**Pb**	**19 50 21.3**	**-1.9**		
	baz=223								
SMST				eS	Sn	19 50 51.1	+1.3		
	baz=223								

MAN ***02*** *19:56:36.2, 19.˚26N×120.˚02E, h32km, mb4.3, ML3.1, MS2.8*
IDC ***02*** *19:57:12.2±11.0, 13.˚38N×119.˚34E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=398.7km s-min=34.0km az=39.0*

ISC 02 19:56:32.4±2.6, 19.˚0N±0.˚2×119.˚8E±0.˚2, h10km, n6, σ1§14/6, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAMP	**Sagada Mountai**	**2.20**	**151**	eS		**Sb**		**19 57 39.6**	**+0.1**
SAMP	**Sagada Mountai**	**2.20**	**151**	⇑eP		**Pb**		**19 57 12.7**	**+0.4**
SGCP	**Gonzaga**	**2.28**	**109**	⇑eP		**Pn**		**19 57 11.2**	**+1.0**
SGCP				eS		**Sn**		**19 57 37.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**19.74**	**272**	P		Pn		20 01 49.3	+45
	0.2nm,0.6s,baz=109,slow=10,SNR=1.7 0.2nm,0.6s								
WRA	**Warramunga Arr**	**41.26**	**159**	P		**P**		**20 04 16.9**	**-1.1**
	0.8nm,1.0s,baz=336,slow=8.9,SNR=2.7 0.8nm,1.0s								
ASAR	**Alice Springs**	**44.60**	**161**	P		**P**		**20 04 44.9**	**-0.1**
	0.5nm,1.0s,baz=340,slow=7.0,SNR=4.9 0.5nm,1.0s								

ROM 02 19:58:41.9±0.1, 40.˚375N±0.˚006×16.˚319E±0.˚006, h22km, ML1.4/9, 8C-7D, Error ellipse: s-maj=0.7km s-min=0.3km az=335.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRAC	**Craco**	**0.09**	**96**	P		Pb		19 58 46.2	+0.1
CRAC				S		Sb		19 58 49.2	+0.3
CRAC				AML		AML			
	comp=E,522μm,1.1s								
CRAC				AML		AML			
	comp=N,415μm,1.5s								
CRAC				AML		AML			
	comp=N,416μm,1.5s								
CRAC				AML		AML			
	comp=N,416μm,0.5s								
CRAC				AML		AML			
	comp=E,522μm,1.1s								
CRAC				AML		AML			
	comp=N,404μm,0.2s								
PTRP	**Pietrapertosa**	**0.24**	**307**	P		Pb		19 58 48.6	+0.5
MIGL	**Miglionico**	**0.25**	**22**	P		Pb		19 58 48.1	0.0
MIGL				AML		AML			
	comp=N,368μm,0.2s								
MIGL				AML		AML			
	comp=E,590μm,1.0s								
AG11	**Viggiano (PZ)**	**0.28**	**262**	P		Pb		19 58 48.8	+0.2
AG11				S		Sb		19 58 53.9	+0.8
AG11				AML		AML			
	comp=N,125μm,0.5s								
AG11				AML		AML			
	comp=E,87μm,0.1s								
SIRI	**Monte Sirino -**	**0.40**	**241**	P		Pb		19 58 50.3	+0.1
SIRI				S		Sb		19 58 57.0	+1.1
MCEL	**Monticello**	**0.40**	**263**	⇑P		Pb		19 58 49.5	-0.8
MCEL				S		Sb		19 58 56.1	+0.1
MCEL				AML		AML			
	comp=E,83μm,0.1s								
MCEL				AML		AML			
	comp=N,54μm,1.4s								
MCEL				AML		AML			
	comp=N,54μm,0.6s								
MCEL				AML		AML			
	comp=E,76μm,0.1s								
MCEL				AML		AML			
	comp=N,46μm,0.2s								
MATE	**Matera**	**0.40**	**47**	P		Pb		19 58 50.4	+0.1
MATE				S		Sb		19 58 56.6	+0.6
MATE				AML		AML			
	comp=E,25μm,0.6s								
MATE				AML		AML			
	comp=N,31μm,0.4s								
MATE				AML		AML			
	comp=E,25μm,0.6s								
MATE				AML		AML			
	comp=E,25μm,1.4s								
MATE				AML		AML			
	comp=E,23μm,0.3s								
LTRZ	**Laterza**	**0.45**	**59**	P		Pb		19 58 51.0	0.0
LTRZ				S		Sb		19 58 58.1	+0.8
LTRZ				AML		AML			
	comp=N,1067μm,1.5s								
LTRZ				AML		AML			
	comp=E,394μm,1.3s								
LTRZ				AML		AML			
	comp=N,1069μm,1.5s								
LTRZ				AML		AML			
	comp=E,394μm,0.7s								
LTRZ				AML		AML			
	comp=N,1069μm,0.5s								
MTSN	**Montesano sull**	**0.45**	**256**	P		Pb		19 58 51.1	0.0
MTSN				S		Sb		19 58 58.0	+0.6
MTSN				AML		AML			
	comp=E,22μm,0.2s								
MTSN				AML		AML			
	comp=N,29μm,0.2s								
SALB	**San Lorenzo Be**	**0.50**	**178**	P		Pb		19 58 52.1	0.0
SALB				S		Sb		19 58 59.3	+0.4
SALB				AML		AML			
	comp=E,54μm,0.3s								
SALB				AML		AML			
	comp=N,23μm,1.4s								
SALB				AML		AML			
	comp=N,23μm,0.6s								
SALB				AML		AML			
	comp=N,22μm,0.4s								
SLCN	**Sala Consilina**	**0.52**	**272**	P		Pb		19 58 52.7	+0.2
SLCN				S		Sb		19 59 00.1	+0.4
SLCN				AML		AML			
	comp=E,106μm,0.7s								
SLCN				AML		AML			
	comp=N,66μm,0.3s								
SLCN				AML		AML			
	comp=E,102μm,0.7s								
SLCN				AML		AML			
	comp=E,106μm,1.3s								
AMUR	**Altamura**	**0.57**	**22**	P		Pb		19 58 53.4	0.0
AMUR				AML		AML			
	comp=E,37μm,0.3s								
AMUR				AML		AML			
	comp=N,46μm,0.3s								
AMUR				AML		AML			
	comp=E,37μm,1.7s								
AMUR				AML		AML			
	comp=N,46μm,0.3s								
AMUR				AML		AML			
	comp=E,37μm,0.3s								
MGR	**Morigerati**	**0.63**	**248**	P		Pb		19 58 54.2	-0.2
CMPR	**Campora**	**0.78**	**266**	P		Pb		19 58 56.6	-0.2
CDRU	**Civita di Ruta**	**0.78**	**279**	P		Pb		19 58 57.0	+0.1
MELA	**Melanico ??? S**	**1.61**	**326**	P		Pn		19 59 06.7	-2.2
MELA				S		Sn		19 59 28.6	-0.4
STON	**Ston**	**2.70**	**22**	P		Pb		19 59 30.8	+1.3
VIVA	**Pratoni del Vi**	**3.01**	**298**	⇑P		Pb		19 59 40.6	+5.8
RM33	**Pellescritta (**	**3.16**	**313**	⇑P		Pb		19 59 36.6	-0.8
RM33				AML		AML			
	comp=E,548μm,1.5s								
RM33				AML		AML			
	comp=N,367μm,1.6s								
RM33				AML		AML			
	comp=N,355μm,1.1s								
RM33				AML		AML			
	comp=E,404μm,0.5s								
RM33				AML		AML			
	comp=N,367μm,0.4s								
RM33				AML		AML			
	comp=E,548μm,0.5s								
RM33				AML		AML			
	comp=N,355μm,0.9s								
SMA1	**SAN MARTINO**	**3.18**	**316**	P		Pb		19 59 34.6	-3.2
SMA1				AML		AML			
	comp=N,952μm,0.5s								
SMA1				AML		AML			
	comp=E,640μm,0.5s								
T1241	**Roccafluvione,**	**3.29**	**320**	⇓P		Pn		19 59 32.5	+0.3
T1241				AML		AML			
	comp=N,982μm,0.5s								
T1241				AML		AML			
	comp=E,968μm,0.5s								
T1241				AML		AML			
	comp=E,1024μm,0.5s								
T1241				AML		AML			
	comp=N,1045μm,0.7s								
T1241				AML		AML			
	comp=N,982μm,1.5s								
LNSS	**Leonessa**	**3.32**	**313**	⇑P		Pn		19 59 35.5	+2.9
LNSS				AML		AML			
	comp=N,1050μm,0.4s								
LNSS				AML		AML			
	comp=E,1020μm,0.4s								
T1218	**Civita (PG)**	**3.32**	**315**	⇓P		Pn		19 59 34.0	+1.3
T1218				S		Sb		20 00 23.7	+3.5
T1218				AML		AML			
	comp=E,888μm,1.6s								
T1218				AML		AML			
	comp=N,1555μm,0.3s								
T1218				AML		AML			
	comp=E,820μm,1.6s								
T1218				AML		AML			
	comp=N,1575μm,1.0s								
T1214	**Arquata del Tr**	**3.33**	**317**	⇓P		Pn		19 59 32.3	-0.6
T1214				S		Sb		20 00 26.8	+6.3
T1214				AML		AML			
	comp=E,1260μm,0.2s								
T1214				AML		AML			
	comp=N,1175μm,0.3s								
T1214				AML		AML			
	comp=E,1215μm,0.2s								
T1214				AML		AML			
	comp=N,1230μm,0.3s								
MMO1	**Montemonaco**	**3.38**	**319**	S		Sb		20 00 26.0	+4.3
T1245	**Castelsantange**	**3.41**	**318**	S		Sb		20 00 25.2	+2.3
T1245				AML		AML			
	comp=N,6605μm,0.3s								
T1245				AML		AML			
	comp=E,3770μm,0.3s								
T1245				AML		AML			
	comp=E,4105μm,0.3s								
T1245				AML		AML			
	comp=N,6855μm,0.3s								
T1212	**Cascia, Frazio**	**3.42**	**315**	⇓P		Pn		19 59 33.3	-0.6
T1212				S		Sb		20 00 26.4	+3.6
T1212				AML		AML			
	comp=E,1955μm,0.5s								
T1212				AML		AML			
	comp=N,1600μm,0.2s								
T1212				AML		AML			
	comp=E,2050μm,0.5s								
T1212				AML		AML			
	comp=E,2050μm,1.5s								
T1212				AML		AML			
	comp=N,1615μm,0.9s								
T1212				AML		AML			
	comp=E,1955μm,1.5s								
NRCA	**Norcia**	**3.44**	**317**	S		Sb		20 00 25.1	+1.7
NRCA				AML		AML			

comp=N,3240μm,0.8s
NRCA AML AML
comp=E,2845μm,0.6s
NRCA AML AML
comp=E,2930μm,0.6s
NRCA AML AML
comp=N,3165μm,0.7s
MC2 Monte Cornacci 3.45 318 ⇑P Pn 19 59 31.5 -3.1
MC2 S Sb 20 00 24.5 +0.5
ARRO Arrone 3.46 311 S Sb 20 00 31.6 +7.5
ARRO AML AML
comp=N,632μm,0.2s
ARRO AML AML
comp=N,632μm,1.8s
ARRO AML AML
comp=E,866μm,0.2s
T1216 Preci, Frazion 3.53 317 ⇑P Pn 19 59 32.8 -2.6
T1216 S Sb 20 00 23.9 -2.0
T1216 AML AML
comp=N,6735μm,0.2s
T1216 AML AML
comp=E,7260μm,0.6s
T1215 Vallo di Nera, 3.55 314 P Pn 19 59 34.8 -0.9
T1215 S Sb 20 00 26.4 -0.2
T1215 AML AML
comp=E,1120μm,0.5s
T1215 AML AML
comp=N,1295μm,0.7s
T1215 AML AML
comp=N,1285μm,0.7s
T1215 AML AML
comp=E,1144μm,0.5s
CESX Cesi 3.59 310 S Sb 20 00 31.3 +3.6
CESX AML AML
comp=E,936μm,1.4s
CESX AML AML
comp=N,629μm,0.4s
CESX AML AML
comp=E,936μm,0.6s
FDMO Fiordimonte 3.59 319 ⇓P Pn 19 59 33.5 -2.9
FDMO S Sn 20 00 22.1 +3.9
FDMO AML AML
comp=E,21500μm,0.3s
FDMO AML AML
comp=N,30700μm,0.6s
PP3 Marolino 3.62 327 S Sb 20 00 33.1 +4.6
PP3 AML AML
comp=E,641μm,1.2s
PP3 AML AML
comp=E,573μm,0.8s
PP3 AML AML
comp=N,765μm,0.8s
PP3 AML AML
comp=N,1460μm,1.4s
PP3 AML AML
comp=N,765μm,1.2s
PP3 AML AML
comp=E,641μm,0.8s
T1220 Camerino, Fraz 3.65 320 P Pn 19 59 35.1 -2.0
T1220 AML AML
comp=E,19250μm,0.3s
T1220 AML AML
comp=N,26800μm,0.3s
T1220 AML AML
comp=E,19050μm,0.3s
T1220 AML AML
comp=N,26550μm,0.3s
T1219 Muccia, Frazio 3.65 318 ⇓P Pn 19 59 34.4 -2.8
T1219 S Sn 20 00 22.6 +3.1
T1219 AML AML
comp=E,9055μm,0.9s
T1219 AML AML
comp=E,9130μm,0.3s
T1219 AML AML
comp=N,12850μm,0.3s
T1219 AML AML
comp=N,12900μm,0.3s
SEF1 Sefro 3.75 319 S Sn 20 00 24.8 +2.9
SEF1 AML AML
comp=N,4960μm,1.3s
SEF1 AML AML
comp=E,2720μm,0.9s
SEF1 AML AML
comp=N,4960μm,0.7s
CING Cingoli 3.80 323 S Sb 20 00 28.8 -5.0
CING AML AML
comp=E,1780μm,0.2s
CING AML AML
comp=N,898μm,0.6s
EL6 Elcito 3.81 322 S Sn 20 00 27.8 +4.3
EL6 AML AML
comp=E,1985μm,0.2s
EL6 AML AML
comp=N,1775μm,0.8s
ASSB Assisi San Ben 3.82 315 S Sn 20 00 27.1 +3.4
ASSB AML AML
comp=E,4775μm,0.3s
ASSB AML AML
comp=N,2890μm,0.5s
SNTG Esanatoglia 3.83 320 S Sn 20 00 26.7 +2.8
SNTG AML AML
comp=N,858μm,0.7s
SNTG AML AML
comp=E,705μm,0.2s
SNTG AML AML
comp=N,799μm,0.7s
SNTG AML AML
comp=E,686μm,0.2s
ATCC AVT- Casa Cast 3.93 317 S Sn 20 00 28.4 +2.0
MMUR Monte Murano 3.94 322 S Sb 20 00 46.1 +8.1
FOSV Fossato di Vic 3.95 319 S Sn 20 00 27.4 +0.6
FOSV AML AML
comp=E,681μm,1.2s
FOSV AML AML
comp=N,816μm,1.2s
FOSV AML AML
comp=E,681μm,0.8s
FOSV AML AML
comp=N,816μm,0.8s
MURB Monte Urbino 4.04 317 S Sn 20 00 30.4 +1.2
MURB AML AML
comp=E,1305μm,0.4s
MURB AML AML
comp=N,1425μm,1.1s
MURB AML AML
comp=N,1540μm,1.1s
MURB AML AML
comp=E,1325μm,0.3s
COR1 Corinaldo 4.09 324 S Sn 20 00 34.4 +4.2
COR1 AML AML
comp=E,300μm,1.1s
COR1 AML AML
comp=N,460μm,1.0s
COR1 AML AML
comp=E,300μm,0.9s
MPAG Monte Paganucc 4.20 322 S Sn 20 00 34.5 +1.5
MPAG AML AML
comp=E,254μm,1.4s
MPAG AML AML
comp=N,191μm,1.0s
MPAG AML AML
comp=N,191μm,1.0s
MPAG AML AML
comp=E,254μm,0.6s
ATPI Pietralunga - 4.24 318 S Sn 20 00 33.7 -0.4
ATPI AML AML
comp=E,169μm,0.4s
ATPI AML AML
comp=N,158μm,0.4s
ATPI AML AML
comp=N,158μm,1.6s
ATPI AML AML
comp=E,169μm,1.6s
APEC Apecchio 4.31 319 S Sn 20 00 35.2 -0.5
ARCI Arcidosso 4.39 306 P Pn 19 59 48.9 +1.5
CPGN Carpegna, Ital 4.54 320 P Pn 19 59 46.8 -2.6
ZAG Zagreb 5.46 358 ⇓P Pb 20 00 20.8 +4.4
LPDG Lampedusa Capo 5.66 212 ⇑P Pn 20 00 02.0 -2.6
BOSI Bolzano 7.12 331 ⇑P Pb 20 00 48.5 +3.8

ROM 02 20:00:20.4±0.2, 43°.007N±0°.006×13°.057E±0°.010, h5$^{km}_{\pm 1}$, ML2.3/14, 7C-5D, Error ellipse: s-maj=0.8km s-min=0.4km az=229.0, Central Italy

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

FEMA Monte Fema 0.05 187 P Pg 20 00 22.6 +0.8
FEMA AML AML
comp=E,32900μm,1.0s
FEMA AML AML
comp=N,25750μm,1.0s
FEMA AML AML
comp=N,25750μm,1.0s
FEMA AML AML
comp=E,32900μm,1.0s
FEMA AML AML
comp=N,25750μm,1.0s
FEMA AML AML
comp=E,32900μm,1.0s
CESI CESI - Serrava 0.11 269 ⇑P Pg 20 00 23.9 +1.1
CESI AML AML
comp=E,11550μm,0.4s
CESI AML AML
comp=N,11850μm,0.3s
CESI AML AML
comp=E,11550μm,0.4s
CESI AML AML
comp=N,11850μm,0.3s
CESI AML AML
comp=E,11550μm,0.4s
CESI AML AML
comp=N,11850μm,0.3s
T1216 Preci, Frazion 0.12 194 AML AML
comp=E,7260μm,0.7s
T1216 AML AML
comp=N,6735μm,0.2s
T1256 Bolognola (MC) 0.12 90 ⇑P Pg 20 00 24.2 +1.1
T1256 AML AML
comp=E,5170μm,0.7s
T1256 AML AML
comp=N,4440μm,1.3s
T1256 AML AML
comp=E,5435μm,0.7s
T1256 AML AML
comp=N,4045μm,1.4s
T1256 AML AML
comp=E,5170μm,0.7s
T1256 AML AML
comp=N,4045μm,0.6s
T1256 AML AML
comp=N,4440μm,0.7s
T1256 AML AML
comp=E,5435μm,0.7s
T1256 AML AML
comp=E,5435μm,0.7s
T1256 AML AML
comp=E,5170μm,0.7s
T1256 AML AML
comp=N,4045μm,0.6s
T1256 AML AML
comp=N,4440μm,0.7s
GUMA Gualdo di Mace 0.21 75 P Pg 20 00 26.1 +1.5
GUMA AML AML
comp=E,6630μm,0.5s
GUMA AML AML
comp=N,3660μm,0.4s
GUMA AML AML
comp=E,6175μm,0.6s
GUMA AML AML
comp=N,6205μm,0.4s
GUMA AML AML
comp=E,6175μm,0.6s
GUMA AML AML
comp=N,3660μm,0.4s
GUMA AML AML
comp=E,6630μm,0.5s
GUMA AML AML
comp=N,6205μm,0.4s
GUMA AML AML
comp=E,6175μm,0.6s
GUMA AML AML
comp=N,3660μm,0.4s
T1241 Roccafluvione, 0.31 119 P Pb 20 00 27.7 -0.9
T1218 Civita (PG) 0.34 173 P Pb 20 00 28.1 -0.9
T1218 AML AML
comp=E,888μm,1.6s
T1218 AML AML
comp=E,820μm,1.6s
T1218 AML AML
comp=N,1575μm,1.0s
T1218 AML AML
comp=N,1555μm,0.3s
LNSS Leonessa 0.40 182 ⇓P Pg 20 00 29.2 +0.9
MOMA Monte Martano 0.41 241 ⇓P Pb 20 00 29.4 -0.8
MOMA S Sb 20 00 36.7 -0.1
MOMA AML AML
comp=E,614μm,0.4s
MOMA AML AML
comp=N,780μm,0.3s
MOMA AML AML
comp=N,837μm,0.3s
MOMA AML AML
comp=E,696μm,0.4s
MOMA AML AML
comp=N,780μm,0.3s
MOMA AML AML
comp=E,614μm,0.4s
T1243 Rocca Santa Ma 0.42 137 ⇑P Pb 20 00 29.6 -0.8
T1243 S Sb 20 00 36.6 -0.5
SMA1 SAN MARTINO 0.43 151 ⇓P Pg 20 00 29.6 +0.8
SMA1 S Sb 20 00 37.1 -0.3
SMA1 AML AML
comp=E,640μm,0.5s
SMA1 AML AML
comp=N,952μm,0.5s
SMA1 AML AML
comp=N,952μm,0.5s
OFFI Offida 0.47 99 P Pb 20 00 31.6 +0.5
OFFI AML AML
comp=N,1047μm,0.5s
OFFI AML AML
comp=E,795μm,0.7s
OFFI AML AML
comp=E,795μm,1.3s
RM33 Pellescritta (0.51 167 ⇓P Pg 20 00 30.9 +0.6
RM33 S Sb 20 00 39.5 -0.2
RM33 AML AML
comp=E,548μm,1.5s
RM33 AML AML
comp=N,366μm,1.6s
RM33 AML AML
comp=E,548μm,1.5s
RM33 AML AML
comp=N,367μm,1.6s
RM33 AML AML
comp=N,355μm,1.1s
RM33 AML AML
comp=N,355μm,0.9s
RM33 AML AML
comp=N,367μm,0.4s
RM33 AML AML
comp=E,548μm,0.5s
RM33 AML AML
comp=E,404μm,0.5s
TERO Teramo 0.56 134 ⇑P Pg 20 00 31.8 +0.7
TERO S Sb 20 00 40.8 -0.1
TERO AML AML
comp=N,492μm,1.6s
TERO AML AML
comp=N,492μm,0.4s
TERO AML AML
comp=E,408μm,1.4s
T1247 Pizzolo (AQ) 0.59 162 P Pb 20 00 32.7 -0.6
T1247 AML AML
comp=E,408μm,1.2s
T1247 AML AML
comp=N,390μm,0.3s
T1247 AML AML
comp=E,408μm,0.8s
ATVO AVT- Monte Val 0.61 308 ⇑P Pg 20 00 32.7 +0.6
ATVO AML AML
comp=E,242μm,0.3s
ATVO AML AML
comp=N,158μm,1.0s
ATVO AML AML
comp=N,158μm,1.0s
ATVO AML AML
comp=E,242μm,0.3s
ATVO AML AML
comp=N,158μm,1.0s
ATVO AML AML
comp=E,242μm,0.3s
ATVO AVT- Monte Val 0.61 308 P Pg 20 00 32.6 +0.5
ATVO S Sb 20 00 42.7 +0.3
ATVO AML AML
comp=E,242μm,0.3s
ATVO AML AML
comp=N,158μm,1.0s
ATVO AML AML
comp=N,158μm,1.0s
PIEI Pieia 0.65 324 P Pg 20 00 33.6 +0.6
PIEI S Sb 20 00 44.1 +0.3
PIEI AML AML
comp=N,142μm,1.4s
PIEI AML AML
comp=E,198μm,0.2s
PIEI AML AML
comp=N,142μm,0.6s
MPAG Monte Paganucc 0.66 341 P Pg 20 00 33.7 +0.6
MPAG AML AML
comp=E,254μm,1.4s
MPAG AML AML
comp=N,191μm,1.0s
MPAG AML AML
comp=N,191μm,1.0s
MPAG AML AML
comp=E,254μm,0.6s
GIGS Gran Sasso 0.67 146 ⇓P Pg 20 00 34.0 +0.7
GIGS AML AML
comp=N,74μm,1.4s
GIGS AML AML
comp=E,80μm,0.5s
GIGS AML AML
comp=N,74μm,0.6s
MGAB Montegabbione 0.70 263 ⇑P Pb 20 00 34.9 -0.2
MGAB AML AML
comp=E,482μm,0.3s
MGAB AML AML
comp=N,452μm,1.4s
MGAB AML AML
comp=E,538μm,0.4s
MGAB AML AML
comp=N,362μm,1.4s
MGAB AML AML
comp=N,362μm,0.6s
MGAB AML AML
comp=N,452μm,0.6s
MGAB AML AML
comp=E,538μm,0.4s
MGAB AML AML
comp=E,482μm,0.3s
MGAB AML AML
comp=E,482μm,0.3s
MGAB AML AML
comp=N,362μm,0.6s
MGAB AML AML
comp=N,452μm,0.6s
MGAB AML AML
comp=E,538μm,0.4s
FSSB Fossombrone 0.71 344 P Pb 20 00 34.8 -0.6
FSSB AML AML
comp=N,1032μm,0.3s
FSSB AML AML
comp=E,623μm,0.3s
FIAM Fiamignano 0.74 177 P Pg 20 00 34.9 +0.3
FIAM AML AML
comp=E,193μm,0.5s
FIAM AML AML
comp=N,153μm,0.3s
FIAM AML AML
comp=N,153μm,1.7s
SACS San Casciano d 0.86 260 P Pn 20 00 38.5 -0.7
SACS AML AML
comp=E,132μm,1.4s
SACS AML AML
comp=N,150μm,0.5s
SACS AML AML
comp=E,130μm,0.6s
SACS AML AML
comp=N,146μm,0.5s
SACS AML AML
comp=N,150μm,0.5s
SACS AML AML
comp=E,130μm,1.4s
SACS AML AML
comp=N,146μm,0.5s
SACS AML AML
comp=E,132μm,0.6s
SACS AML AML
comp=N,150μm,0.5s
SACS AML AML
comp=N,146μm,0.5s
SACS AML AML
comp=E,130μm,1.4s
SACS AML AML
comp=E,132μm,0.6s
T0110 Collepietro 0.94 145 P Pg 20 00 38.5 0.0
T0110 AML AML
comp=N,305μm,0.4s
T0110 AML AML
comp=E,284μm,0.5s
ARCI Arcidosso 1.17 263 P Pg 20 00 42.9 -0.1
LAV9 Lanuvio 1.35 191 S Sb 20 01 02.7 -1.2
GRAM Graiana 2.63 305 S Sg 20 01 47.5 +2.7
PZUN Potenza 3.13 138 ⇑P Pg 20 01 18.8 -1.6
STON Ston 3.41 91 S Sn 20 01 56.3 +1.3
SIRI Monte Sirino - 3.52 142 S Sb 20 02 04.2 -2.1
MYKA Terra Mystica 3.65 6 *e*Pn Pn 20 01 21.2 +3.7
comp=E,1.3nm,0.4s
OBKA Obir 3.66 16 *e*Pn Pn 20 01 19.1 +1.3
comp=E,0.4nm,0.3s
ABTA Abfaltersbach 3.76 354 *e*Pn Pn 20 01 21.2 +2.0
SOKA Soboth 3.93 20 *e*Pn Pn 20 01 19.1 -2.3
comp=E,0.5nm,0.4s
FETA Feichten 4.34 338 *e*Pn Pb 20 01 32.8 -4.4
comp=E,0.4nm,0.4s
SQTA Sankt Quirin 4.41 343 *e*Pn Pb 20 01 34.8 -3.6
comp=E,0.7nm,0.3s
MOTA Moosalm 4.55 343 *e*Pn Pb 20 01 36.2 -4.7
comp=E,0.3nm,0.3s
PDG Podgorica 4.60 95 P Pn 20 01 33.6 +3.0

IDC 02 20:01:07.2±3.0, 5°.46S×154°.48E, h0^{km}, mb3.1/3, mbtmp3.2/4, ML3.6/1, Error ellipse: s-maj=53.2km s-min=36.6km az=71.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.70**	**295**	Pn	Pn	20 01 50.9	-1.1
	11nm,0.3s,baz=148,slow=7.0,SNR=2.1						
KRVT				Sn	Sn	20 02 26.8	+1.4
	7.5nm,0.3s,baz=171,slow=23,SNR=1.7						
	58nm,0.5s						
WRA	**Warramunga Arr**	**24.32**	**232**	P	P	20 06 26.4	-0.4
	0.4nm,0.6s,baz=61,slow=9.2,SNR=2.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**26.84**	**226**	P	P	20 06 50.4	+0.7
	0.3nm,1.0s,baz=56,slow=9.1,SNR=2.0						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**81.92**	**319**	P	P	20 13 29.0	+0.2
	0.1nm,0.5s,baz=92,slow=6.2,SNR=1.1						
	0.1nm,0.5s						

IDC 02 20:11:08.2±9.0, 10°.29S×160°.63E, h0^{km}, mb3.6/4, mbtmp3.6/5, ML3.5/1, MS3.2/5, Error ellipse: s-maj=260.9km s-min=35.9km az=119.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.94**	**233**	Pn	Pn	20 15 07.3	+0.6
	0.1nm,0.3s,baz=60,slow=15,SNR=2.7						
CTA				LR	LR	20 20 52.1	
	comp=Z,52nm,18.6s,baz=56,slow=34						
	3.0nm,1.0s						
WRA	**Warramunga Arr**	**27.10**	**246**	P	P	20 16 53.6	+0.6
	0.6nm,0.8s,baz=76,slow=9.6,SNR=3.0						
WRA				LR	LR	20 28 20.0	
	comp=Z,66nm,18.1s,baz=4.0,slow=38						
	0.6nm,0.8s						
STKA	**Stephens Creek**	**27.78**	**217**	LR	LR	20 27 01.0	
	comp=Z,69nm,20.1s,baz=23,slow=34						
ASAR	**Alice Springs**	**28.75**	**239**	P	P	20 17 06.9	-0.8

0.3nm,0.8s,baz=62,slow=9.7,SNR=1.8
ASAR LR LR 20 27 54.4
comp=Z,71nm,18.8s,baz=76,slow=35
0.3nm,0.8s
KSRS Korea Array 56.52 329 LR LR 20 45 00.8
comp=Z,5.4nm,18.5s,baz=135,slow=36
SONM Songino Array 75.14 326 P P 20 22 52.9 +0.4
0.5nm,0.6s,baz=142,slow=5.7,SNR=5.4
0.5nm,0.6s
MKAR Makanchi Array 89.56 318 P P 20 24 07.0 -0.7
0.3nm,0.8s,baz=102,slow=6.3,SNR=2.9
0.3nm,0.8s

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*IDC **02** 20:42:01.8±1.1,28˚.42N×66˚.69E,h0km,mb3.5/8, mbtmp3.6/10,ML3.6/2,MS3.0/4,Error ellipse: s-maj=29.0km s-min=21.9km az=132.0*
ISC 02 20:42:03.6±0.8,28˚.47N±0˚.10×66˚.64E±0˚.09,h10km,n35, σ2§55/31,mb3.5/8,MS3.0/3,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGCH	**Negor - Chabah**	**5.81**	**239**	P	Pn	20 43 34.4	+4.5
	SNR=10						
NGCH				S	**Sn**	**20 44 37.8**	**+1.3**
CEP	**Cherat**	**6.99**	**39**	P	**Pn**	**20 43 49.1**	**+2.9**
CEP				S	**Sn**	**20 45 06.0**	**+0.2**
JASK	**Jask - Hormozg**	**8.23**	**254**	P	Pn	20 44 07.6	+4.4
WSAR	**Wadi Sarin**	**8.90**	**236**	Pn	**Pn**	**20 44 13.7**	**+1.4**
	1.3nm,0.3s,baz=92,slow=11,SNR=17						
WSAR				Sn	**Sn**	**20 45 46.8**	**-5.9**
	0.4nm,0.3s,baz=156,slow=10,SNR=2.2						
	3.2nm,0.4s						
WSAR	**Wadi Sarin**	**8.90**	**236**	P	Pn	20 44 16.6	+4.3
WSAR				S	**Sn**	**20 45 49.0**	**-3.6**
WBK	**Wadi Bani Khal**	**9.05**	**232**	P	Pn	20 44 17.9	+3.4
WBK				S	**Sn**	**20 45 53.2**	**-3.3**
JLN	**Jalan Bani Buh**	**9.07**	**228**	P	Pn	20 44 18.1	+3.3
JLN				S	**Sn**	**20 45 55.2**	**-1.8**
BIDO	**Bidbid**	**9.11**	**239**	P	Pn	20 44 20.9	+5.8
SMDO	**Samad**	**9.43**	**237**	P	Pn	20 44 24.0	+4.3
SMDO				S	**Sn**	**20 46 03.5**	**-2.4**
BANOM	**Banah**	**9.55**	**257**	P	Pn	20 44 27.0	+5.7
BANOM				S	**Sn**	**20 46 07.1**	**-1.6**
SHME	**Shamm**	**9.65**	**258**	P	Pn	20 44 28.6	+6.0
SHME				S	**Sn**	**20 46 08.9**	**-2.1**
HOQ	**Hoqain**	**9.70**	**242**	P	**Pn**	**20 44 26.4**	**+3.1**
MDH	**Madha**	**9.76**	**253**	P	**Pn**	**20 44 26.6**	**+2.5**
JMDO	**Jabal Madar**	**9.82**	**234**	P	Pn	20 44 30.8	+5.9
	SNR=15						
JMDO				S	**Sn**	**20 46 13.6**	**-1.7**
MASF	**Masafi**	**9.85**	**254**	P	Pn	20 44 32.6	+7.2
MASF				S	**Sn**	**20 46 16.8**	**+0.7**
UOSS	**Minazif**	**9.97**	**252**	P	Pn	20 44 30.4	+3.4
SOHO	**SOHO**	**10.04**	**247**	P	**Pn**	**20 44 31.1**	**+3.2**
SOHO				S	**Sn**	**20 46 17.7**	**-3.0**
HATD	**Hatta, Dubai**	**10.07**	**251**	P	Pn	20 44 32.8	+4.3
ASHO	**Ashiyiah**	**10.19**	**251**	P	Pn	20 44 35.6	+5.5
	SNR=5.6						
ASHO				S	**Sn**	**20 46 25.3**	**+0.8**
BSY	**Bisya**	**10.25**	**238**	P	Pn	20 44 36.0	+5.1
	SNR=12						
BSY				S	**Sn**	**20 46 25.6**	**-0.3**
ARQ	**Araqi**	**10.44**	**243**	P	Pn	20 44 40.0	+6.5
	SNR=8.9						
FAQ	**Al Faqa, Dubai**	**10.56**	**252**	P	Pn	20 44 40.1	+5.0
FAQ				S	**Sn**	**20 46 32.1**	**-1.3**
MHTO	**MHTO**	**10.84**	**228**	P	Pn	20 44 44.5	+5.5
MHTO				S	**Sn**	**20 46 38.8**	**-1.6**
UMZA	**Um Al Zommool**	**11.84**	**244**	P	Pn	20 44 56.4	+3.9
AAK	**Ala-Archa**	**15.50**	**22**	Pn	**Pn**	**20 45 41.6**	**-0.9**
	0.2nm,0.3s,baz=156,slow=4.2,SNR=4.0						
AAK				Sn	**Sn**	**20 48 27.7**	**-6.6**
	baz=357,slow=15,SNR=2.5						
AAK				LR	LR	20 52 52.9	
	comp=Z,37nm,20.8s,baz=211,slow=42						
	1.2nm,0.7s						
GNI	**Garni**	**21.45**	**309**	LR	LR	20 56 44.1	
	comp=Z,28nm,19.1s,baz=117,slow=41						
MKAR	**Makanchi Array**	**22.02**	**30**	P	**P**	**20 46 57.8**	**-0.4**
	1.1nm,0.6s,baz=209,slow=10.0,SNR=14						
MKAR				LR	LR	20 57 02.5	
	comp=Z,69nm,20.5s,baz=256,slow=41						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**23.89**	**19**	P	**P**	**20 47 17.2**	**0.0**
	0.3nm,0.3s,baz=212,slow=8.0,SNR=4.5						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**24.68**	**5**	P	**P**	**20 47 25.7**	**+1.0**
	1.2nm,0.7s,baz=171,slow=10,SNR=6.5						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**28.72**	**23**	LR	LR	21 00 43.8	
	comp=Z,42nm,19.8s,baz=108,slow=39						
AKASG	**Malin Array Be**	**35.84**	**319**	P	**P**	**20 49 02.2**	**-1.1**
	0.1nm,0.3s,baz=136,slow=8.2,SNR=1.3						
	0.1nm,0.3s						
SONM	**Songino Array**	**36.25**	**47**	P	**P**	**20 49 08.2**	**+1.2**
	0.2nm,0.5s,baz=239,slow=9.9,SNR=2.9						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**61.94**	**270**	P	**P**	**20 52 24.3**	**+0.2**
	0.9nm,0.9s,baz=60,slow=6.4,SNR=3.5						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**81.17**	**118**	P	**P**	**20 54 19.9**	**+0.1**
	0.4nm,0.8s,baz=320,slow=4.4,SNR=1.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**82.96**	**122**	P	**P**	**20 54 27.0**	**-2.2**
	0.7nm,1.0s,baz=313,slow=5.5,SNR=1.8						
	0.7nm,1.0s						

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*JMA **02** 20:43:36.8±0.6,22˚.N±3˚×12˚.3E±˚,h64km,MV3.6/15,FAR S OFF ISHIGAKIJIMA*
*TAP **02** 20:43:37.1,22˚.12N×122˚.66E,h53km±1km,ML3.8,D*
ISC 02 20:43:36.0±1.4,22˚.13N±0˚.06×122˚.78E±0˚.04,h50km,n94, σ1§36/132,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**1.12**	**264**	⇓P	**Pn**	**20 43 55.0**	**-0.3**
	baz=272						
LYUB				S	**Sn**	**20 44 08.2**	**-1.5**
	baz=272						
LAY	**Lan-yu**	**1.15**	**266**	*i* P	**Pn**	**20 43 54.8**	**-0.9**
	baz=274						
LAY				S	**Sn**	**20 44 08.4**	**-1.9**
	baz=274						
LDUT	**Ludao**	**1.33**	**294**	*i* P	**Pn**	**20 43 57.3**	**-0.8**
	baz=297						
EDH	**Donghe**	**1.60**	**302**	*i* P	**Pn**	**20 44 01.6**	**-0.3**
	baz=312						
EDH				S	**Sn**	**20 44 19.1**	**-2.4**
	baz=312						
CHKT	**Chengkung**	**1.62**	**307**	P	**Pn**	**20 44 01.9**	**-0.3**
	baz=317						
CHKT				S	**Sn**	**20 44 18.3**	**-3.7**
	baz=317						
LONT	**Longtian**	**1.71**	**297**	*i* P	**Pn**	**20 44 04.1**	**+0.7**
	baz=299						
LONT				S	**Sn**	**20 44 24.0**	**-0.1**
	baz=299						
TWGBT	**Beinan**	**1.72**	**294**	P	**Pn**	**20 44 03.5**	**+0.1**
TWGBT	**Beinan**	**1.72**	**294**	P	**Pn**	**20 44 03.6**	**+0.1**
	baz=301						
TWGBT				S	**Sn**	**20 44 22.6**	**-1.7**
	baz=301						
TWG	**Pinlang**	**1.72**	**294**	*i* P	**Pn**	**20 44 03.5**	**-0.1**
	baz=301						
TWG				*i* S	**Sn**	**20 44 23.5**	**-0.9**
	baz=301						
ECL	**Taimali**	**1.75**	**286**	⇑*i* P	**Pn**	**20 44 04.2**	**+0.2**
	baz=287						
ECL				*i* S	**Sn**	**20 44 23.3**	**-1.8**
	baz=287						
TAW	**Tawu**	**1.76**	**278**	*i* P	**Pn**	**20 44 04.3**	**+0.2**
	baz=278						
TAW				S	**Sn**	**20 44 23.6**	**-1.7**
	baz=278						
TSEB	**Hengchuen, Pin**	**1.76**	**263**	*e*P	**Pn**	**20 44 06.1**	**+2.0**
	baz=263						
TAWH	**Dawu Township**	**1.77**	**277**	P	**Pn**	**20 44 04.6**	**+0.5**
	baz=278						
TAWH				*e*S	**Sn**	**20 44 26.1**	**+0.7**
	baz=278						
EHD	**Haiduan**	**1.77**	**305**	P	**Pn**	**20 44 04.4**	**+0.2**
	baz=314						
EHD				*e*S	**Sn**	**20 44 23.8**	**-1.9**
	baz=314						
SMST	**Manzhou Townsh**	**1.81**	**267**	P	**Pn**	**20 44 05.4**	**+0.7**
	baz=267						
SMST				S	**Sn**	**20 44 26.5**	**0.0**
	baz=267						
EAST	**Anshuo**	**1.81**	**278**	*i* P	**Pn**	**20 44 05.0**	**+0.2**
	baz=279						
EAST				*i* S	**Sn**	**20 44 24.9**	**-1.7**
	baz=279						
EYUL	**Yuli**	**1.81**	**312**	*e*P	**Pn**	**20 44 05.0**	**+0.2**
	baz=315						
EYUL				*e*S	**Sn**	**20 44 24.6**	**-2.0**
	baz=315						
TWKBT	**Hengchun**	**1.84**	**264**	P	**Pn**	**20 44 06.3**	**+1.2**
	baz=264						
TWKBT				S	**Sn**	**20 44 27.9**	**+0.7**
	baz=264						
SLIU	**Shizi**	**1.84**	**273**	*i* P	**Pn**	**20 44 05.4**	**+0.2**
	baz=264						
SLIU				*e*S	**Sn**	**20 44 26.4**	**-0.9**
	baz=264						
TWK1	**Hengchun**	**1.84**	**265**	*i* P	**Pn**	**20 44 06.2**	**+1.1**
	baz=274						
TWK1				*i* S	**Sn**	**20 44 27.4**	**+0.1**
	baz=274						
HGSD	**Ruisui**	**1.84**	**317**	P	**Pn**	**20 44 04.4**	**-0.8**
	baz=320						
YULB	**Yu-li**	**1.86**	**313**	P	**Pn**	**20 44 05.5**	**+0.1**
YULB	**Yu-li**	**1.86**	**313**	P	**Pn**	**20 44 05.5**	**+0.1**
	baz=315						
YULB				S	**Sn**	**20 44 26.6**	**-1.2**
	baz=315						
EHY	**Hungye**	**1.92**	**316**	P	**Pn**	**20 44 06.8**	**+0.5**
	baz=318						
EHY				*e*S	**Sn**	**20 44 27.0**	**-2.2**
	baz=318						
ELDTW	**Lidau**	**1.94**	**303**	P	**Pn**	**20 44 06.6**	**-0.1**
	baz=311						
ELDTW				S	**Sn**	**20 44 28.7**	**-1.2**
	baz=311						
EGFH	**Guangfu**	**1.98**	**321**	*e*P	**Pn**	**20 44 07.0**	**0.0**
	baz=324						
EGFH				*e*S	**Sn**	**20 44 29.5**	**-1.1**
	baz=324						
SCZT	**Fangliau**	**2.02**	**277**	*i* P	**Pn**	**20 44 08.5**	**+0.9**
	baz=278						
SCZT				*e*S	**Sn**	**20 44 29.9**	**-1.7**
	baz=278						
MASBT	**Mashibuluo**	**2.05**	**284**	P	**Pn**	**20 44 08.7**	**+0.8**
	baz=285						
MASBT				S	**Sn**	**20 44 33.2**	**+0.8**
	baz=285						
TSMG	**Majia**	**2.06**	**287**	P	**Pn**	**20 44 09.8**	**+1.7**
	baz=292						
TSMG				*e*S	**Sn**	**20 44 31.4**	**-1.2**
	baz=292						
ESL	**Shilin**	**2.09**	**324**	P	**Pn**	**20 44 08.7**	**+0.2**
	baz=335						
ESL				*i* S	**Sn**	**20 44 32.2**	**-1.1**
	baz=335						
STYH	**Taoyuan**	**2.12**	**300**	P	**Pn**	**20 44 09.8**	**+0.8**
	baz=307						
HATJ	**Hateruma jima**	**2.14**	**26**	P	**Pn**	**20 44 09.8**	**+0.7**
HATJ				*e*S	**Sn**	**20 44 34.1**	**-0.4**
VWDT	**VWDT**	**2.21**	**317**	P	**Pn**	**20 44 11.0**	**+0.8**
	baz=327						
VWDT				*e*S	**Sn**	**20 44 35.3**	**-1.1**
	baz=327						
TWD	**Chiawan**	**2.23**	**331**	*e*P	**Pn**	**20 44 10.8**	**+0.4**
	baz=334						
SGST	**Jiashian**	**2.24**	**295**	P	**Pn**	**20 44 11.4**	**+0.8**
	baz=298						
SGST				*e*S	**Sn**	**20 44 37.3**	**+0.1**
	baz=298						
SCST	**Cishan**	**2.25**	**290**	*e*P	**Pn**	**20 44 13.0**	**+2.3**
	baz=291						
ALS	**Alishan**	**2.28**	**307**	P	**Pn**	**20 44 13.0**	**+1.5**
	baz=315						
ALS				*e*S	**Sn**	**20 44 37.4**	**-1.1**
	baz=315						
ETL	**Fush Village**	**2.28**	**332**	*e*P	**Pn**	**20 44 12.1**	**+0.9**
	baz=335						
WTP	**Ta-pu**	**2.29**	**299**	P	**Pn**	**20 44 13.3**	**+2.0**
	baz=305						
TPUB	**Ta-pu**	**2.30**	**301**	P	**Pn**	**20 44 13.5**	**+2.0**
TPUB	**Ta-pu**	**2.30**	**301**	P	**Pn**	**20 44 13.3**	**+1.8**
	baz=309						
NACB	**Ninganchiao**	**2.31**	**332**	P	**Pn**	**20 44 11.7**	**+0.1**
NACB	**Ninganchiao**	**2.31**	**332**	*e*P	**Pn**	**20 44 12.1**	**+0.5**
	baz=334						
JYNG	**Yonagunijimaku**	**2.31**	**4**	P	**Pn**	**20 44 12.9**	**+1.3**
JYNG				*e*S	**Sn**	**20 44 39.1**	**+0.2**
YOJ	**Yonaguni jima**	**2.33**	**5**	P	**Pn**	**20 44 13.2**	**+1.4**
YOJ	**Yonaguni jima**	**2.33**	**5**	P	**Pn**	**20 44 12.9**	**+1.1**
YOJ				*e*S	**Sn**	**20 44 39.4**	**+0.1**
CHN1	**Nanshi**	**2.33**	**297**	*e*P	**Pn**	**20 44 13.4**	**+1.6**
	baz=287						
CHN4	**Tsaushan**	**2.36**	**301**	P	**Pn**	**20 44 14.3**	**+2.0**
	baz=309						
SSLB	**Suanglung**	**2.36**	**315**	P	**Pn**	**20 44 13.2**	**+0.9**
SSLB	**Suanglung**	**2.36**	**315**	*e*P	**Pn**	**20 44 13.2**	**+0.9**
	baz=317						
IRIF	**Iriomote-Funau**	**2.36**	**22**	P	**Pn**	**20 44 13.0**	**+0.7**
IRIF				S	**Sn**	**20 44 39.5**	**-0.5**
WHYT	**Xinyi Township**	**2.36**	**312**	*e*P	**Pn**	**20 44 14.2**	**+1.8**
	baz=318						
JKRS	**Kuro-shima**	**2.38**	**28**	P	**Pn**	**20 44 13.5**	**+0.9**
JKRS				S	**Sn**	**20 44 39.7**	**-0.8**
ETLH	**Xiulin Townshi**	**2.39**	**330**	*e*P	**Pn**	**20 44 13.1**	**+0.3**
	baz=341						
WCKO	**Fanlu**	**2.39**	**303**	*e*P	**Pn**	**20 44 14.9**	**+2.2**
	baz=312						
TWK	**Hsinying**	**2.40**	**299**	P	**Pn**	**20 44 15.3**	**+2.4**
	baz=289						
WUSB	**Renai**	**2.40**	**321**	*e*P	**Pn**	**20 44 13.9**	**+0.9**
	baz=323						
CHGB	**Renai**	**2.42**	**323**	*e*P	**Pn**	**20 44 14.3**	**+0.9**
	baz=325						
CHN5	**Tsauling**	**2.43**	**307**	*e*P	**Pn**	**20 44 15.3**	**+2.0**
	baz=315						
WHF	**Hehuan Shan**	**2.44**	**325**	*e*P	**Pn**	**20 44 14.3**	**+0.5**
	baz=328						
SMLT	**Sun Moon Lake**	**2.46**	**316**	*e*P	**Pn**	**20 44 15.1**	**+1.4**
	baz=317						
ENA	**Nanau**	**2.48**	**337**	*e*P	**Pn**	**20 44 14.7**	**+0.8**
	baz=340						
EWUT	**Wuta**	**2.48**	**338**	*e*P	**Pn**	**20 44 13.2**	**-0.7**
	baz=341						
TYC	**Yuchr**	**2.50**	**315**	*e*P	**Pn**	**20 44 15.7**	**+1.5**
	baz=317						
WJS	**Zhushan**	**2.53**	**312**	*e*P	**Pn**	**20 44 16.6**	**+2.0**
	baz=317						
JIJ	**Ishigaki jima**	**2.55**	**29**	P	**Pn**	**20 44 15.0**	**+0.2**
JIJ				S	**Sn**	**20 44 43.0**	**-1.7**
WCS	**Beigang Elemen**	**2.58**	**318**	*e*P	**Pn**	**20 44 17.2**	**+1.9**
	baz=327						
WNT	**Mingjian**	**2.60**	**312**	*e*P	**Pn**	**20 44 18.2**	**+2.6**
	baz=314						
TWC	**Suao**	**2.61**	**341**	*e*P	**Pn**	**20 44 16.5**	**+0.8**
	baz=343						
NNSB	**Datong**	**2.62**	**331**	*e*P	**Pn**	**20 44 17.1**	**+1.1**
	baz=333						
NNS	**Nan Shan**	**2.64**	**331**	*e*P	**Pn**	**20 44 17.7**	**+1.5**
	baz=333						
LATG	**Datong**	**2.66**	**335**	*e*P	**Pn**	**20 44 17.8**	**+1.3**
	baz=344						
NDS	**Dongshan**	**2.68**	**339**	*e*P	**Pn**	**20 44 17.6**	**+1.0**
	baz=333						
WHP	**Taichung City**	**2.72**	**322**	*e*P	**Pn**	**20 44 20.9**	**+3.6**
	baz=331						
ENTT	**Nioudou**	**2.74**	**336**	*e*P	**Pn**	**20 44 18.9**	**+1.4**
	baz=338						
TWE	**Neicheng**	**2.77**	**339**	*e*P	**Pn**	**20 44 19.5**	**+1.5**
	baz=341						
JISG	**Ishigakijimahi**	**2.82**	**30**	P	**Pn**	**20 44 18.7**	**+0.1**
JISG				S	**Sn**	**20 44 50.0**	**-1.3**
FUSB	**Fushanzhiwuyua**	**2.84**	**337**	*e*P	**Pn**	**20 44 20.3**	**+1.5**
	baz=339						
YHNB	**Yeheng**	**2.84**	**333**	P	**Pn**	**20 44 20.1**	**+1.2**
YHNB	**Yeheng**	**2.84**	**333**	*e*P	**Pn**	**20 44 20.3**	**+1.4**
	baz=343						
NSK	**Sanguang**	**2.85**	**333**	*e*P	**Pn**	**20 44 20.2**	**+1.2**
	baz=343						
NFF	**Wufeng Townshi**	**2.92**	**329**	*e*P	**Pn**	**20 44 22.3**	**+2.3**
	baz=337						
TIPB	**Shuangxi**	**2.96**	**343**	*e*P	**Pn**	**20 44 22.8**	**+2.2**
	baz=353						
NSTT	**Nanjuang**	**2.98**	**327**	*e*P	**Pn**	**20 44 23.4**	**+2.7**
	baz=337						
LIOB	**Emei**	**2.98**	**327**	*e*P	**Pn**	**20 44 24.1**	**+3.3**
	baz=337						
TWA	**Mucha**	**3.04**	**339**	*e*P	**Pn**	**20 44 23.6**	**+2.0**
	baz=341						
JTJ	**Tarama**	**3.06**	**35**	P	**Pn**	**20 44 22.2**	**+0.3**
JTJ				S	**Sn**	**20 44 56.1**	**-1.1**
TATO	**Taipei**	**3.07**	**338**	P	**Pn**	**20 44 23.0**	**+1.0**
YM01	**YM01**	**3.20**	**340**	*e*P	**Pn**	**20 44 26.1**	**+2.2**
	baz=342						
ANP	**Anpu**	**3.25**	**339**	*e*P	**Pn**	**20 44 26.0**	**+1.4**
	baz=341						
JIRB	**Irabujima**	**3.47**	**39**	*e*P	**Pn**	**20 44 27.3**	**-0.1**
JIRB				S	**Sn**	**20 45 06.0**	**-1.2**
JMJ2	**Miyako jima3**	**3.50**	**41**	S	**Sn**	**20 45 07.2**	**-0.7**
JOGS	**Gusukube**	**3.56**	**42**	*e*S	**Sn**	**20 45 09.4**	**-0.1**
JIKM	**Ikemajima**	**3.58**	**39**	P	**Pn**	**20 44 28.9**	**-0.1**
JIKM				S	**Sn**	**20 45 09.3**	**-0.8**

JMA 02 20:43:40.8±0.3,24˚N±1˚×12˚3E±˚,h42km,NEAR ISHIGAKIJIMA ISLAND,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.63**	**9**	P	Pn	20 43 53.4	0.0
JYNG				*e*S	Sn	20 44 03.1	+0.7
IRIF	**Iriomote-Funau**	**0.97**	**58**	P	Pn	20 43 57.9	0.0
IRIF				S	Sn	20 44 09.6	-0.8
JKRS	**Kuro-shima**	**1.15**	**69**	P	Pn	20 44 01.3	+0.9
JIJ	**Ishigaki jima**	**1.31**	**66**	*e*P	Pn	20 44 03.5	+0.8
JISG	**Ishigakijimahi**	**1.55**	**60**	P	Pn	20 44 07.1	+1.2

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*JMA **02** 20:45:06.7±0.1,24˚N±1˚×12˚2E±˚,h44km,TAIWAN REGION*
*TAP **02** 20:45:08.6,24˚.41N×121˚.78E,h16km,ML2.6,C*
ISC 02 20:45:08.9±0.9,24˚.43N±0˚.02×121˚.80E±0˚.03,h18km±3km, n51,σ0§55/93,2C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.03**	**320**	P	**Pg**	**20 45 12.1**	**0.0**
	baz=358						
EWUT				S	**Sg**	**20 45 14.3**	**+0.1**
	baz=358						
ENA	**Nanau**	**0.05**	**273**	*i* P	**Pg**	**20 45 12.2**	**0.0**
	baz=302						
ENA				*i* S	**Sg**	**20 45 14.4**	**0.0**
	baz=302						
EHP	**Heping Village**	**0.12**	**204**	P	**Pg**	**20 45 12.7**	**-0.2**
	baz=195						
EHP				S	**Sg**	**20 45 15.5**	**0.0**
	baz=195						
TWC	**Suao**	**0.19**	**14**	*i* P	**Pb**	**20 45 13.9**	**+0.3**
	baz=20						
TWC				*i* S	**Sg**	**20 45 17.1**	**+0.2**
	baz=20						
NDS	**Dongshan**	**0.22**	**340**	P	**Pb**	**20 45 14.5**	**+0.3**
	baz=345						
NDS				S	**Sg**	**20 45 18.7**	**+0.9**
	baz=345						
LATG	**Datong**	**0.27**	**294**	P	**Pb**	**20 45 15.3**	**0.0**
	baz=298						
LATG				S	**Sg**	**20 45 19.6**	**+0.4**
	baz=298						
ENTT	**Nioudou**	**0.30**	**316**	*i* P	**Pb**	**20 45 15.8**	**0.0**
	baz=320						
ENTT				S	**Sg**	**20 45 20.7**	**+0.7**
	baz=320						
ETL	**Fush Village**	**0.31**	**211**	P	**Pg**	**20 45 15.0**	**-0.6**
	baz=209						
ETL				S	**Sg**	**20 45 19.7**	**-0.4**
	baz=209						
NACB	**Ninganchiao**	**0.31**	**216**	P	**Pg**	**20 45 15.0**	**-0.6**
	baz=215						
NACB				S	**Sg**	**20 45 19.6**	**-0.6**
	baz=215						
TWE	**Neicheng**	**0.32**	**338**	⇑*i* P	**Pb**	**20 45 16.1**	**0.0**
	baz=344						
TWE				*i* S	**Sb**	**20 45 21.5**	**+0.5**
	baz=344						
ILA	**Ilan**	**0.34**	**352**	*i* P	**Pb**	**20 45 16.6**	**+0.1**
	baz=356						
ILA				*i* S	**Sb**	**20 45 22.4**	**+0.7**
	baz=356						
ETLH	**Xiulin Townshi**	**0.36**	**233**	P	**Pg**	**20 45 16.0**	**-0.5**
	baz=233						
ETLH				S	**Sg**	**20 45 21.2**	**-0.4**
	baz=233						
NNSB	**Datong**	**0.38**	**271**	P	**Pb**	**20 45 16.8**	**-0.4**
	baz=273						
NNSB				S	**Sb**	**20 45 22.2**	**-0.6**
	baz=273						
FUSB	**Fushanzhiwuyua**	**0.38**	**330**	⇑P	**Pb**	**20 45 17.2**	**-0.1**
	baz=333						
FUSB				S	**Sb**	**20 45 23.0**	**0.0**
	baz=333						
NNS	**Nan Shan**	**0.39**	**272**	*i* P	**Pb**	**20 45 17.1**	**-0.3**
	baz=274						
NNS				*i* S	**Sb**	**20 45 22.3**	**-0.7**
	baz=274						
TWD	**Chiawan**	**0.39**	**208**	*i* P	**Pg**	**20 45 16.5**	**-0.5**
	baz=206						
TWD				*i* S	**Sg**	**20 45 21.8**	**-0.6**
	baz=206						
NWLT	**Wulai**	**0.44**	**323**	*i* P	**Pb**	**20 45 18.2**	**0.0**
	baz=325						
NWLT				S	**Sb**	**20 45 24.5**	**0.0**
	baz=325						
YHNB	**Yeheng**	**0.46**	**303**	P	**Pb**	**20 45 18.5**	**0.0**
	baz=305						
YHNB				S	**Sb**	**20 45 24.8**	**-0.2**
	baz=305						
NSK	**Sanguang**	**0.47**	**302**	*i* P	**Pb**	**20 45 18.6**	**-0.2**
	baz=305						
NSK				*i* S	**Sb**	**20 45 25.2**	**-0.2**
	baz=305						
HWA	**Hwalien**	**0.48**	**202**	*e*P	**Pg**	**20 45 19.0**	**+0.4**
	baz=199						
HWA				*e*S	**Sg**	**20 45 25.6**	**+0.5**
	baz=199						
TIPB	**Shuangxi**	**0.55**	**3**	*i* P	**Pb**	**20 45 20.2**	**+0.2**
	baz=4.0						
TIPB				*i* S	**Sb**	**20 45 27.3**	**-0.1**
	baz=4.0						
WHF	**Hehuan Shan**	**0.56**	**240**	*i* P	**Pg**	**20 45 19.7**	**-0.6**
	baz=240						
WHF				*i* S	**Sg**	**20 45 27.3**	**-0.6**
	baz=240						
TWA	**Mucha**	**0.59**	**341**	P	**Pn**	**20 45 22.3**	**-0.1**
	baz=343						
TWA				S	**Sn**	**20 45 30.3**	**-1.3**
	baz=343						
NHDH	**Xindian Distri**	**0.59**	**335**	P	**Pn**	**20 45 22.1**	**-0.3**
	baz=337						
TWT	**Tachien**	**0.59**	**253**	*e*P	**Pb**	**20 45 21.0**	**+0.2**
	baz=254						
TWT				S	**Sb**	**20 45 30.1**	**+1.2**
	baz=254						
TWB1	**Santiao Chiao**	**0.61**	**17**	P	**Pb**	**20 45 20.9**	**0.0**
	baz=18						
TWB1				*i* S	**Sb**	**20 45 28.8**	**-0.4**
	baz=18						
TDCB	**Techi**	**0.61**	**254**	P	**Pg**	**20 45 21.0**	**0.0**
	baz=254						
TDCB	

YM01	**YM01**	**0.75**	**344**	P	**Pn**	**20 45 24.4**	**-0.2**
	baz=345						
YM01				S	**Sn**	**20 45 35.1**	**-0.4**
	baz=345						
NSTT	**Nanjuang**	**0.75**	**286**	P	**Pn**	**20 45 24.2**	**-0.5**
	baz=287						
NSTT				*i* S	**Sb**	**20 45 33.6**	**+0.2**
	baz=287						
TWS1	**Kuangyinshan**	**0.76**	**333**	P	**Pn**	**20 45 24.9**	**+0.2**
	baz=334						
TWS1				S	**Sn**	**20 45 36.7**	**+1.0**
	baz=334						
WUSB	**Renai**	**0.76**	**235**	P	**Pg**	**20 45 23.4**	**-0.4**
	baz=235						
WUSB				S	**Sb**	**20 45 34.6**	**+0.9**
	baz=235						
WHP	**Taichung City**	**0.79**	**259**	S	**Sb**	**20 45 35.6**	**+1.0**
	baz=260						
ANP	**Anpu**	**0.80**	**342**	P	**Pn**	**20 45 25.1**	**-0.3**
	baz=343						
ANP				S	**Sn**	**20 45 36.9**	**0.0**
	baz=343						
NTST	**Danshui**	**0.80**	**337**	P	**Pn**	**20 45 25.4**	**0.0**
	baz=338						
NTST				S	**Sn**	**20 45 37.9**	**+1.1**
	baz=338						
EGFH	**Guangfu**	**0.82**	**204**	P	**Pg**	**20 45 24.5**	**-0.5**
	baz=203						
EGFH				*e*S	**Sg**	**20 45 35.9**	**-0.1**
	baz=203						
TWY	**Chenhua**	**0.87**	**348**	*e*P	**Pn**	**20 45 26.7**	**+0.5**
	baz=349						
TWY				*e*S	**Sn**	**20 45 39.0**	**+0.6**
	baz=349						
WCS	**Beigang Elemen**	**0.89**	**246**	*e*P	**Pg**	**20 45 25.6**	**-0.6**
	baz=246						
WCS				*e*S	**Sg**	**20 45 37.8**	**-0.1**
	baz=246						
VWDT	**VWDT**	**0.90**	**222**	P	**Pg**	**20 45 26.6**	**+0.2**
	baz=221						
VWDT				*e*S	**Sg**	**20 45 38.6**	**+0.3**
	baz=221						
SMLT	**Sun Moon Lake**	**0.98**	**237**	*e*P	**Pg**	**20 45 27.7**	**-0.3**
	baz=236						
SSLB	**Suanglung**	**1.00**	**231**	*e*P	**Pg**	**20 45 27.8**	**-0.5**
	baz=230						
SSLB				*e*S	**Sg**	**20 45 41.4**	**0.0**
	baz=230						
YOJ	**Yonaguni jima**	**1.11**	**88**	*e*P	**Pb**	**20 45 29.3**	**-0.2**
YULB	**Yu-li**	**1.12**	**204**	*e*P	**Pb**	**20 45 29.4**	**-0.4**
	baz=203						
WHYT	**Xinyi Township**	**1.13**	**230**	*e*P	**Pb**	**20 45 30.8**	**+0.9**
	baz=230						
CHN5	**Tsauling**	**1.31**	**231**	*e*P	**Pn**	**20 45 33.7**	**+1.2**
	baz=231						
IRIF	**Iriomote-Funau**	**1.77**	**93**	P	**Pn**	**20 45 38.8**	**+0.2**

MOS ***02*** *21:02:24.3±1.1,8.˙73S×108.˙84E,h51km,mb5.4/40, MS4.5/5,Error ellipse: s-maj=7.2km s-min=4.5km az=119.8*

DJA ***02*** *21:02:25.5±0.2,9.˙5S±2.˙×10.˙9E±.˙,h57km±3km,M5.0/68, mb5.2/68,mB5.5/46,MLv5.4/30,Mw(mB)5.0/46, MwMwp5.0/26,Mwp5.3/26*

NEIC ***02*** *21:02:25.2±1.8,8.˙75S±0.˙08×108.˙80E±0.˙06,h38km±4km, mb5.2/128,Error ellipse: s-maj=11.5km s-min=9.2km az=191.0*

IDC ***02*** *21:02:26.6±1.6,8.˙79S×108.˙88E,h58km±13km,mb4.6/24, mbtmp4.9/27,MS4.7/68,Error ellipse: s-maj=14.4km s-min=8.4km az=42.0*

GCMT ***02*** *21:02:26.2±0.1,9.˙24S±0.˙01×108.˙74E±0.˙01,h32km, MW5.3/119,Moment Tensor Solution. s115,c191; s119,c203; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.89±.02; $M_{\theta\theta}$-0.99±.01; $M_{\phi\phi}$0.10±.02; $M_{r\theta}$0.82±.02; $M_{\theta\phi}$0.20±.01; $M_{\phi r}$-0.12±.02; Best double couple: M_o1.26600×10^{17} NP1:ϕ_s99.00000°,δ65.00000°, λ89.00000°. NP2:ϕ_s281.00000°,δ25.00000°,λ93.00000°. Principal axes: T 1.1970, Plg70.0000°, Azm6.0000°; N 0.1370, Plg1.0000°, Azm99.0000°; P -1.3340, Plg20.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***02*** *21:02:26.0±0.0,8.˙90S×108.˙80E,h67km,mb5.1/71, mB5.2/51,Ms5.1/69,Ms7 4.9/67*

ISC 02 21:02:26.1±0.3,**8.˙86S**±0.˙03×**108.˙76E**±0.˙03,**h57**km±2km, **h57**km:**pP-P,n815,**σ1§**48**/886,**mb5.2**/160,**MS4.8**/98, **51C-14D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.11**	**344**	P	**Pn**	**21 02 43.9**	**-1.6**
CMJI				S	**Sn**	**21 02 58.2**	**-1.7**
KPJI	**Karang Pucung**	**1.52**	**6**	P	**Pn**	**21 02 52.3**	**+1.2**
KPJI				S		**21 03 14.0**	**+4.2**
BBJI	**Bungbulang**	**1.77**	**322**	P	**Pn**	**21 02 54.1**	**-0.3**
YOGI	**Yogyakarta**	**1.84**	**56**	P	**Pn**	**21 02 53.9**	**-1.4**
YOGI				S	**Sn**	**21 03 17.6**	**+0.1**
UGM	**Wanagama**	**1.98**	**62**	Pn	**Pn**	**21 02 55.7**	**-1.6**
UGM	**Wanagama**	**1.98**	**62**	P	**Pn**	**21 02 56.7**	**-0.6**
UGM	**Wanagama**	**1.98**	**62**	P	**Pn**	**21 02 56.1**	**-1.2**
CNJI	**Cibinong**	**2.23**	**314**	P	**Pn**	**21 02 58.8**	**-1.9**
LEM	**Lembang**	**2.31**	**331**	P	**Pn**	**21 03 03.5**	**+1.5**
	3µm,0.5s,baz=164,slow=9.0,SNR=459						
LEM				S	**Sn**	**21 03 30.6**	**+1.3**
	4µm,0.6s,baz=156,slow=19,SNR=6.4						
LEM				LR	LR	21 04 19.3	
	comp=Z,40µm,19.3s,baz=124,slow=49						
SMRI	**Semarang**	**2.45**	**43**	Pn	**Pn**	**21 03 05.0**	**+1.3**
SMRI	**Semarang**	**2.45**	**43**	P	**Pn**	**21 03 05.9**	**+2.2**
SMRI	**Semarang**	**2.45**	**43**	P	**Pn**	**21 03 05.4**	**+1.7**
SKJI	**Sukabumi**	**2.85**	**310**	S	**Sn**	**21 03 42.6**	**+0.2**
NGJI	**Ngawi**	**3.06**	**61**	P	**Pn**	**21 03 14.7**	**+2.7**
PWJI	**Pagerwojo**	**3.12**	**75**	P	**Pn**	**21 03 11.9**	**-1.0**
PWJI				S	**Sn**	**21 03 48.9**	**-0.1**
UWJI	**Ujung Watu**	**3.25**	**42**	P	**Pn**	**21 03 15.8**	**+1.1**
TNG	**Tangerang**	**3.39**	**322**	P		21 03 23.5	
TNG				P	**Pn**	**21 03 18.0**	**+1.4**
XMI	**Christmas Isla**	**3.42**	**242**	P	Pn	21 03 12.0	-4.9
SBJI	**Serang**	**3.77**	**316**	P	**Pn**	**21 03 22.9**	**+1.2**
SBJI				S	**Sn**	**21 04 06.5**	**+1.7**
CGJI	**Cibinong**	**3.77**	**306**	P	**Pn**	**21 03 20.4**	**-1.3**
GRJI	**Gresik**	**4.16**	**63**	P	**Pn**	**21 03 28.4**	**+1.3**
GRJI				S	**Sn**	**21 04 17.0**	**+2.5**
GMJI	**Gumukmas**	**4.67**	**83**	P	**Pn**	**21 03 35.2**	**+1.1**
GMJI				S	**Sn**	**21 04 24.2**	**-2.8**
BWJI	**Bawean**	**4.89**	**53**	P	**Pn**	**21 03 37.8**	**+0.7**
BLJI	**Banyuglugur**	**4.91**	**77**	P	**Pn**	**21 03 37.8**	**+0.4**
BLSI	**Bandar Lampung**	**4.92**	**315**	P	**Pn**	**21 03 39.2**	**+1.7**
JAGI	**Jajag, Banyuwa**	**5.35**	**86**	Pn	**Pn**	**21 03 43.7**	**+0.3**
JAGI	**Jajag, Banyuwa**	**5.35**	**86**	P	**Pn**	**21 03 45.8**	**+2.4**
JAGI	**Jajag, Banyuwa**	**5.35**	**86**	P	**Pn**	**21 03 44.4**	**+1.0**
	903nm,0.7s,11µm5µm4.2nm						
KASI	**Kota Agung**	**5.37**	**308**	P	**Pn**	**21 03 44.1**	**+0.4**
	266nm,0.5s,3µm6µm2.1nm						
ABJI	**Asem Bagus**	**5.52**	**79**	P	**Pn**	**21 03 46.4**	**+0.6**
	561nm,0.6s,7µm7µm4.3nm						
KLI	**Kotabumi**	**5.54**	**315**	P	**Pn**	**21 03 47.8**	**+1.7**
KLI				pmax	pmax		
	comp=Z,563nm,0.7s						
KLI	**Kotabumi**	**5.54**	**315**	P	**Pn**	**21 03 47.4**	**+1.3**
	comp=Z,562nm,0.7s,comp=Z,5µmcomp=Z,2.1nm						
LWLI	**Liwa**	**6.03**	**309**	P	**Pn**	**21 03 54.5**	**+1.7**
	comp=Z,857nm,0.7s,comp=Z,10µmcomp=Z,6µmcomp=Z,4.6nm						
MDSI	**Maura Dua**	**6.29**	**313**	P	**Pn**	**21 03 57.3**	**+1.0**
	comp=Z,200nm,0.8s,comp=Z,3µmcomp=Z,6µmcomp=Z,0.7nm						
DNP	**Denpasar**	**6.38**	**89**	P	**Pn**	**21 03 59.6**	**+2.0**
DNP				pmax	pmax		
	comp=Z,940nm,0.5s						
DNP	**Denpasar**	**6.38**	**89**	P	**Pn**	**21 03 59.3**	**+1.7**
	comp=Z,1µm,0.5s,comp=Z,9.7nm						
SRBI	**Singaraja**	**6.43**	**84**	P	**Pn**	**21 03 59.4**	**+1.2**
	comp=Z,489nm,0.6s,comp=Z,6µmcomp=Z,4µmcomp=Z,2.2nm						
PBKI	**Pangkalan Bun**	**6.76**	**26**	P	**Pn**	**21 04 04.1**	**+1.3**
	comp=Z,331nm,0.9s,comp=Z,6µmcomp=Z,1.6nm						
PMBI	**Palembang**	**7.10**	**326**	Pn	**Pn**	**21 04 09.7**	**+2.2**
PMBI	**Palembang**	**7.10**	**326**	P	**Pn**	**21 04 10.6**	**+3.2**
	comp=Z,276nm,1.0s,comp=Z,5µmcomp=Z,7µmcomp=Z,1.6nm						
PPBI	**Pangkal Pinang**	**7.14**	**338**	P	**Pn**	**21 04 09.9**	**+1.8**
	comp=Z,131nm,0.7s,comp=Z,2µmcomp=Z,8µmcomp=Z,0.7nm						
MNAI	**Manna**	**7.29**	**307**	Pn	**Pn**	**21 04 09.3**	**-0.8**
MNAI	**Manna**	**7.29**	**307**	P	**Pn**	**21 04 11.0**	**+0.9**
KSI	**Kapahiang**	**8.02**	**310**	P	**Pn**	**21 04 20.5**	**+0.4**
KSI				pmax	pmax		
	comp=Z,419nm,0.6s						
TWSI	**Taliwang, Sumb**	**8.03**	**90**	P	**Pn**	**21 04 19.1**	**-1.1**
	comp=Z,308nm,0.7s,comp=Z,5µmcomp=Z,3µm						
BBKI	**Banjar Baru**	**8.08**	**49**	P	**Pn**	**21 04 23.7**	**+2.8**
	comp=Z,95nm,0.7s,comp=Z,2µm						
MASI	**Maura Aman, Be**	**8.62**	**311**	P	**Pn**	**21 04 27.8**	**-0.5**
	comp=Z,140nm,0.7s,comp=Z,2µmcomp=Z,2µm						
PLAI	**Plampang**	**8.91**	**91**	P	**Pn**	**21 04 32.1**	**-0.2**
PLAI	**Plampang**	**8.91**	**91**	P	**Pn**	**21 04 30.5**	**-1.8**
	comp=Z,514nm,0.7s,comp=Z,4µmcomp=Z,2µm						
DSRI	**Dabo**	**9.31**	**333**	P	**Pn**	**21 04 38.1**	**+0.4**
	comp=Z,48nm,1.0s,comp=Z,1µmcomp=Z,5µm						
MTKI	**Muara Teweh, K**	**9.96**	**38**	P	**Pn**	**21 04 47.9**	**+1.3**
	comp=Z,66nm,0.8s,comp=Z,6µm						
TPRI	**Tanjung Pinang**	**10.59**	**336**	P	**Pn**	**21 04 58.1**	**+2.9**
	comp=Z,79nm,0.9s,comp=Z,1µmcomp=Z,4µm						
SDSI	**Sungai Dareh**	**10.73**	**317**	P	**Pn**	**21 04 54.5**	**-2.7**
	comp=Z,30nm,0.8s,comp=Z,4µm						
PDSI	**Padang**	**11.43**	**313**	P	**Pn**	**21 05 03.2**	**-3.5**
	comp=Z,51nm,0.5s,comp=Z,1µmcomp=Z,3µm						
KAPI	**Kappang**	**11.56**	**71**	P	**Pn**	**21 05 07.9**	**-0.6**
	comp=Z,66nm,1.0s,baz=238,slow=10,SNR=17						
KAPI				S	**Sn**	**21 07 14.1**	**-2.0**
	comp=Z,6.8nm,0.6s,baz=17,slow=23,SNR=0.6						
KAPI				LR	LR	21 10 55.6	
	comp=Z,4µm,19.1s,baz=250,slow=44						
KAPI	**Kappang**	**11.56**	**71**	Pn	**Pn**	**21 05 08.5**	**0.0**
KAPI	**Kappang**	**11.56**	**71**	P	**Pn**	**21 05 08.1**	**-0.4**
KAPI	**Kappang**	**11.56**	**71**	*d* iP	**Pn**	**21 05 09.3**	**+0.8**
KAPI				pmax	pmax		
	comp=Z,115nm,1.2s						
SBUM	**Sibu**	**11.75**	**17**	Pn	**Pn**	**21 05 13.3**	**+2.2**
BKSI	**Bulukumba**	**11.81**	**73**	P	**Pn**	**21 05 11.8**	**-0.1**
	comp=Z,113nm,1.2s,comp=Z,1µmcomp=Z,3µm						
BKNI	**Bangkinang**	**11.93**	**319**	Pn	**Pn**	**21 05 11.7**	**-1.8**
BKNI	**Bangkinang**	**11.93**	**319**	P	**Pn**	**21 05 11.9**	**-1.7**
	comp=Z,94nm,1.0s,comp=Z,3µm						
BSSI	**Bau Bau, Buton**	**11.94**	**78**	P	**Pn**	**21 05 12.6**	**-1.1**
	comp=Z,248nm,0.9s,comp=Z,3µm						
SPSI	**Sidrap Palu**	**11.97**	**67**	P	**Pn**	**21 05 16.0**	**+1.9**
	comp=Z,100nm,1.2s,comp=Z,1µmcomp=Z,5µm						
BNSI	**Bone**	**12.11**	**69**	P	**Pn**	**21 05 18.4**	**+2.4**
	comp=Z,67nm,1.8s,comp=Z,2µmcomp=Z,2µm						
COCO	**West Island**	**12.18**	**253**	Pn	**Pn**	**21 05 16.0**	**-0.9**
COCO	**West Island**	**12.18**	**253**	P	**Pn**	**21 05 16.0**	**-0.9**
MNSI	**Mandailing Nat**	**13.25**	**316**	P	Pn	21 05 26.9	-4.7
	comp=Z,40nm,0.4s,comp=Z,1µm						
MMRI	**Mamere**	**13.33**	**90**	Pn	**Pn**	**21 05 30.1**	**-2.5**
MMRI	**Maumere**	**13.33**	**90**	P	**Pn**	**21 05 31.3**	**-1.3**
MPSI	**Mapaga**	**14.37**	**51**	P	**Pn**	**21 05 47.8**	**+1.2**
	comp=Z,97nm,0.9s,comp=Z,1µm						
GIRL	**Giralia**	**14.68**	**160**	P	Pn	21 05 42.2	-8.4
	baz=15,SNR=32						
GIRL	**Giralia**	**14.68**	**160**	Pn	Pn	21 05 42.7	-8.0
BATI	**Baumata**	**14.76**	**96**	P	**Pn**	**21 05 51.5**	**-0.3**
	comp=Z,44nm,0.4s,baz=298,slow=2.1,SNR=11						
BATI				S	Sn	21 08 22.6	-12
	comp=Z,52nm,0.7s,baz=223,slow=18,SNR=2.3						
BATI	**Baumata**	**14.76**	**96**	P	**Pn**	**21 05 49.7**	**-2.1**
	comp=Z,141nm,0.7s						
GSI	**Gunungsitoli**	**15.04**	**312**	Pn	**Pn**	**21 05 48.7**	**-6.5**
APSI	**Ampana**	**15.07**	**59**	P	**Pn**	**21 05 55.6**	**-0.1**
	comp=Z,319nm,1.3s,comp=Z,4µm						
RPSI	**Rantau Prapat**	**15.09**	**319**	Pn	**Pn**	**21 05 50.2**	**-5.8**
PSI	**Prapat**	**15.17**	**319**	P	**Pn**	**21 05 50.2**	**-7.0**
PSI				pmax	pmax		
	comp=Z,29nm,1.4s						
IPM	**Ipoh**	**15.33**	**330**	Pn	**Pn**	**21 05 57.1**	**-2.0**
IPM	**Ipoh**	**15.33**	**330**	P	**Pn**	**21 05 58.5**	**-0.6**
SOEI	**Soe**	**15.33**	**95**	Pn	**Pn**	**21 05 56.9**	**-2.3**
SOEI				IAmb	IAmb	21 06 06.4	
	comp=Z,90nm,0.8s						
SOEI	**Soe**	**15.33**	**95**	P	**Pn**	**21 05 57.5**	**-1.7**
SOEI	**Soe**	**15.33**	**95**	P	**Pn**	**21 05 57.3**	**-1.9**
	comp=Z,379nm,0.9s,comp=Z,3µm						
TOLI2	**Tolitoli**	**15.54**	**51**	P	**P**	**21 06 03.8**	**-1.4**
TOLI2	**Tolitoli**	**15.54**	**51**	P	**P**	**21 06 04.1**	**-1.0**
LUWI	**Luwuk**	**15.96**	**62**	P	**P**	**21 06 09.5**	**-0.3**
LUWI				IAmb	IAmb	21 06 13.5	
	comp=Z,300nm,1.6s						
LUWI	**Luwuk**	**15.96**	**62**	P	**P**	**21 06 09.1**	**-0.7**
	comp=Z,188nm,1.0s,comp=Z,2µm						
MRSI	**Marisa**	**16.08**	**55**	P	**Pn**	**21 06 08.3**	**-0.3**
	comp=Z,276nm,0.9s,comp=Z,3µmcomp=Z,3µm						
MBWA	**Marble Bar**	**16.17**	**140**	Pn	Pn	21 06 01.9	-7.9
KULM	**Kulim**	**16.21**	**330**		**Pn**	**21 06 06.8**	**-3.5**
KKM	**Kota Kinabalu**	**16.56**	**27**	P	**Pn**	**21 06 14.8**	**0.0**
KKM	**Kota Kinabalu**	**16.56**	**27**	P	**Pn**	**21 06 15.7**	**+0.9**
MYLDM	**Lahad Datu**	**16.99**	**35**	P	**P**	**21 06 22.0**	**+0.8**
GTOI	**Gorontalo**	**17.05**	**57**	P	**Pn**	**21 06 18.0**	**-2.7**
	comp=Z,79nm,0.9s,comp=Z,1µm						
LHMI	**Lhok Sumawe**	**18.29**	**319**	P	**P**	**21 06 30.3**	**-5.2**
SANI	**Sanana**	**18.43**	**69**	P	**Pn**	**21 06 38.0**	**+0.3**
SANI	**Sanana**	**18.43**	**69**	P	**P**	**21 06 35.9**	**-1.1**
	comp=Z,134nm,1.0s,comp=Z,1µm						
FITZ	**Fitzroy Crossi**	**18.80**	**121**	P	**P**	**21 06 41.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.80**	**121**	P	**P**	**21 06 41.4**	**+0.4**
NLAI	**Namlea**	**19.07**	**74**	P	**Pn**	**21 06 46.3**	**+1.0**
	comp=Z,64nm,0.6s						
AAI	**Ambon**	**19.98**	**76**	P	**P**	**21 06 54.2**	**+0.1**
AAI				pmax	pmax		
	comp=Z,564nm,1.4s						
AAI	**Ambon**	**19.98**	**76**	P	**P**	**21 06 52.7**	**-1.4**
	comp=Z,456nm,1.4s,comp=Z,4µm						
MEEK	**Meekatharra**	**20.00**	**153**	P	**P**	**21 06 53.5**	**-0.7**
	baz=20,SNR=32						
MEEK	**Meekatharra**	**20.00**	**153**	P	**P**	**21 06 52.2**	**-2.0**
KNRA	**Kununurra**	**20.68**	**111**	P	**P**	**21 07 00.9**	**-0.6**
	baz=21,SNR=26						
KNRA	**Kununurra**	**20.68**	**111**	P	**P**	**21 07 01.6**	**+0.1**
KNRA				IAmb	IAmb	21 07 18.8	
	comp=Z,233nm,1.4s						
KNRA	**Kununurra**	**20.68**	**111**	P	**P**	**21 07 02.0**	**+0.4**
TNTI	**Ternate**	**20.86**	**64**	P	**P**	**21 07 04.0**	**+0.4**
TNTI	**Ternate**	**20.86**	**64**	P	**P**	**21 07 04.5**	**+0.9**
TNTI	**Ternate**	**20.86**	**64**	P	**P**	**21 07 03.3**	**-0.3**
	comp=Z,159nm,1.0s,comp=Z,2µmcomp=Z,2µm						
MORW	**Morawa**	**21.24**	**162**	P	**P**	**21 07 07.0**	**-0.5**
	baz=21,SNR=12						
MORW	**Morawa**	**21.24**	**162**	P	**P**	**21 07 06.8**	**-0.6**
MORW				IAmb	IAmb	21 07 19.6	
	comp=Z,149nm,1.3s						
MORW	**Morawa**	**21.24**	**162**	P	**P**	**21 07 07.0**	**-0.5**
SKMP	**Bagumbayan, Su**	**21.93**	**46**	*e*P	**P**	**21 07 15.9**	**+0.9**
PAGZ	**Pagadian**	**22.08**	**42**	*e*P	**P**	**21 07 19.1**	**+2.5**
CTBH	**Cotabato--PC H**	**22.21**	**44**	*e*P	**P**	**21 07 20.3**	**+2.3**
MTN	**Manton Dam**	**22.32**	**102**	P	**P**	**21 07 19.6**	**+0.3**
	baz=22,SNR=13						
MTN	**Manton Dam**	**22.32**	**102**	P	**P**	**21 07 18.9**	**-0.4**
MTN				IAmb	IAmb	21 07 36.3	
	comp=Z,73nm,0.5s						
MTN	**Manton Dam**	**22.32**	**102**	P	**P**	**21 07 19.3**	**0.0**
DDMP	**Don Marcelino,**	**22.51**	**49**	*e*P	**P**	**21 07 21.2**	**0.0**
BLDU	**Ballidu**	**22.89**	**162**	P	**P**	**21 07 23.9**	**-1.1**
	baz=23,SNR=5.3						
BLDU	**Ballidu**	**22.89**	**162**	P	**P**	**21 07 26.9**	**+1.8**
DAV	**Davao City (W)**	**23.05**	**47**	P	**P**	**21 07 26.0**	**-0.9**
	comp=Z,118nm,0.4s,baz=353,slow=2.1,SNR=6.8						
DAV				LR	LR	21 16 48.6	
	comp=Z,3µm,21.7s,baz=228,slow=38						
	comp=Z,118nm,0.4s						
CNOP	**Candoni, Negro**	**23.14**	**37**	*e*P	**P**	**21 07 28.2**	**+0.5**
CGP	**Cagayan de Oro**	**23.41**	**43**	*e*P	**P**	**21 07 31.5**	**+1.2**
KDU	**Kakadu**	**23.60**	**101**	P	**P**	**21 07 32.0**	**-0.1**
	baz=24,SNR=16						
KDU	**Kakadu**	**23.60**	**101**	P	**P**	**21 07 31.7**	**-0.4**
GUIM	**Jordan**	**23.75**	**36**	*e*P	**P**	**21 07 33.1**	**-0.3**
SIJI	**Sorong**	**23.77**	**72**	P	**P**	**21 07 31.6**	**-2.1**
	comp=Z,6.9nm,0.4s,baz=258,slow=7.8,SNR=10.0						
	comp=Z,6.9nm,0.4s						
TBP	**Tagbilaran**	**23.78**	**40**	*i*P	**P**	**21 07 34.1**	**+0.4**
MUN	**Mundaring**	**24.02**	**164**	P	**P**	**21 07 35.5**	**-0.3**
	baz=24,SNR=4.4						
FAKI	**Fak Fak**	**24.09**	**77**	P	**P**	**21 07 35.6**	**-0.9**
FAKI				IAmb	IAmb	21 07 50.1	
	comp=Z,65nm,0.8s						
FAKI	**Fak Fak**	**24.09**	**77**	P	**P**	**21 07 36.0**	**-0.6**
FAKI	**Fak Fak**	**24.09**	**77**	P	**P**	**21 07 35.7**	**-0.9**
	comp=Z,83nm,1.2s,comp=Z,2µm						
KLBR	**Kellerberrin**	**24.12**	**161**	P	**P**	**21 07 35.9**	**-0.8**
	baz=24,SNR=4.6						
UBPT	**Khong Chiam**	**24.20**	**352**	P	**P**	**21 07 35.0**	**-2.5**
WRKA	**Warakurna**	**24.60**	**133**	P	**P**	**21 07 41.6**	**+0.3**
	baz=25,SNR=33						
WRKA	**Warakurna**	**24.60**	**133**	P	**P**	**21 07 41.8**	**+0.6**
MSLP	**Maasin**	**24.75**	**41**	*e*P	**P**	**21 07 36.5**	**-6.1**
NWAO	**Narrogin (SRO)**	**25.20**	**163**	P	**P**	**21 07 45.4**	**-1.1**
	comp=Z,27nm,0.9s						
NWAO				S	**S**	**21 12 09.2**	**+1.3**
NWAO				LR	LR	21 16 51.6	
	comp=Z,4µm,21.3s,slow=34						
	comp=Z,27nm,0.9s						
NWAO	**Narrogin (SRO)**	**25.20**	**163**	P	**P**	**21 07 45.3**	**-1.2**
	baz=25,SNR=3.9						
NWAO				P	**P**	**21 07 45.3**	**-1.2**
	baz=25,SNR=3.9						
NWAO	**Narrogin (SRO)**	**25.20**	**163**	P	**P**	**21 07 44.4**	**-2.1**
NWAO				IAmb	IAmb	21 08 00.3	
	comp=Z,63nm,1.2s						
NWAO	**Narrogin (SRO)**	**25.20**	**163**	P	**P**	**21 07 45.4**	**-1.1**
KMBL	**Kambalda**	**25.51**	**153**	P	**P**	**21 07 49.8**	**+0.4**
	baz=26,SNR=6.1						
RKPI	**Ransiki, Papua**	**26.33**	**75**	P	**P**	**21 07 55.7**	**-1.2**
	comp=Z,264nm,0.8s,comp=Z,10µm						
WB0	**Warramunga Arr**	**27.06**	**116**	P	**P**	**21 08 03.9**	**+0.4**
WB0				IAmb	IAmb	21 08 19.1	
	comp=Z,48nm,0.9s						
WRA	**Warramunga Arr**	**27.07**	**117**	P	**P**	**21 08 03.7**	**+0.1**
	comp=Z,15nm,0.8s,baz=289,slow=12,SNR=52						
WRA				S	**S**	**21 12 36.5**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=301,slow=18,SNR=1.7						
WRA				LR	LR	21 19 13.3	
	comp=Z,1µm,20.9s,baz=288,slow=37						
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**27.07**	**117**	P	**P**	**21 08 03.4**	**-0.2**
WRAB	**Tennant Creek**	**27.08**	**117**	P	**P**	**21 08 03.6**	**-0.1**
WRAB				IAmb	IAmb	21 08 16.9	
	comp=Z,44nm,0.9s						
WRAB	**Tennant Creek**	**27.08**	**117**	P	**P**	**21 08 03.9**	**+0.3**
WRAB	**Tennant Creek**	**27.08**	**117**	*d* iP	**P**	**21 08 04.0**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,25nm,1.0s						
WB2	**Warramunga Arr**	**27.08**	**117**	P	**P**	**21 08 03.5**	**-0.2**
WB2				IAmb	IAmb	21 08 16.9	
	comp=Z,42nm,0.9s						
WR0	**Warramunga Arr**	**27.26**	**117**	P	**P**	**21 08 05.1**	**-0.2**
WR0				IAmb	IAmb	21 08 18.9	
	comp=Z,41nm,0.9s						
QIZ	**Qiongzhong**	**27.73**	**2**	P	**P**	**21 08 10.2**	**+0.8**
QIZ				pP	**pP**	**21 08 22.1**	**-0.4**
QIZ				S	**S**	**21 12 52.4**	**+4.4**
QIZ				sS	**sS**	**21 13 11.4**	**+1.0**
QIZ				LR	LR		
	comp=Z,1µm,19.4s						
QIZ				LR	LR		
	comp=Z,1µm,18.7s						
QIZ				LR	LR		
	comp=Z,2µm,14.7s						
AS31	**Alice Springs**	**28.20**	**124**	P	**P**	**21 08 14.1**	**+0.3**
ASAR	**Alice Springs**	**28.20**	**124**	P	**P**	**21 08 13.8**	**0.0**
	comp=Z,4.6nm,0.5s,baz=300,slow=8.6,SNR=23						
ASAR				PcP	**PcP**	**21 11 27.9**	**+1.4**
	comp=Z,4.1nm,0.7s,baz=330,slow=2.7,SNR=5.2						
ASAR				S	**S**	**21 12 56.7**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=348,slow=36,SNR=1.5						
ASAR				LR	LR	21 21 34.1	
	comp=Z,2µm,18.3s,baz=302,slow=41						
	comp=Z,4.6nm,0.5s						
ASAR	**Alice Springs**	**28.20**	**124**	P	**P**	**21 08 14.5**	**+0.8**
ASAR	**Alice Springs**	**28.20**	**124**	P	**P**	**21 08 14.5**	**+0.8**
SRPI	**Serui, Papua**	**28.21**	**77**	P	**P**	**21 08 13.6**	**-0.2**
	comp=Z,71nm,0.7s,comp=Z,2µm						
FORT	**Forrest**	**28.28**	**143**	P	**P**	**21 08 15.1**	**+0.8**
FORT				IAmb	IAmb	21 09 07.9	
	comp=Z,63nm,0.8s						
**FOR

PZH S **S** **21 14 51.3 -2.6**
PZH SS **SnSn** **21 17 22.5 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,8.8s
PZH LR LR
comp=Z,3μm,17.6s
PZH LR LR
comp=Z,2μm,19.6s
PZH LR LR
comp=Z,3μm,19.6s
H08S2 Diego Garcia H 35.90 269 T T 21 47 28.8
baz=93,slow=75,SNR=89
H08S3 Diego Garcia H 35.91 269 T T 21 47 27.1
baz=93,slow=75,SNR=103
YOJ Yonaguni jima 35.92 22 P **P** **21 09 22.5 +1.4**
H08S1 Diego Garcia H 35.92 269 T T 21 47 30.5
baz=93,slow=75,SNR=24
HTT Hallett 37.02 136 P **P** **21 09 30.9 +0.3**
baz=37,SNR=8.5
HTT Hallett 37.02 136 P **P** **21 09 31.1 +0.5**
CNSH ChangSha 37.04 6 ⇑P **P** **21 09 32.1 +1.5**
CNSH S **S** **21 15 15.2 +2.7**
CNSH LR LR
comp=Z,1μm,18.4s
CNSH LR LR
comp=Z,910nm,16.6s
CNSH LR LR
comp=Z,1μm,17.9s
PCHI Peechi 37.57 300 ⇑*e*P **P** **21 09 37.1 +1.8**
CTA Charters Tower 37.89 111 LR LR 21 27 15.7
comp=Z,1μm,19.6s,baz=282,slow=39
CTAO Charters Tower 37.89 111 P **P** **21 09 39.2 +1.1**
CTAO Charters Tower 37.89 111 P **P** **21 09 39.2 +1.1**
CTAO pmax pmax
comp=Z,18nm,0.9s
CTAO Charters Tower 37.89 111 P **P** **21 09 39.3 +1.3**
CTAO pP **pP** **21 09 51.3 -0.2**
PMG Port Moresby 37.91 94 LR LR 21 27 02.1
comp=Z,463nm,19.6s,baz=248,slow=39
PMG Port Moresby 37.91 94 ⇓*e*P **P** **21 09 39.4 +1.2**
PMG pmax pmax
comp=Z,40nm,1.3s
QLP Quilpie 37.93 122 P **P** **21 09 39.8 +1.5**
baz=38,SNR=3.3
QLP Quilpie 37.93 122 P **P** **21 09 40.3 +2.0**
comp=Z,39nm,0.8s
SHL Shillong 37.95 335 P **P** **21 09 37.5 -1.2**
SHL Shillong 37.95 335 P **P** **21 09 37.5 -1.2**
SHL pmax pmax
comp=Z,18nm,0.9s
STKA Stephens Creek 38.11 132 P **P** **21 09 40.4 +0.6**
comp=Z,51nm,0.6s,baz=308,slow=8.3,SNR=130
STKA LR LR 21 26 52.3
comp=Z,2μm,20.0s,baz=299,slow=38
comp=Z,51nm,0.6s
STKA Stephens Creek 38.11 132 P **P** **21 09 40.2 +0.5**
baz=38,SNR=111
STKA Stephens Creek 38.11 132 P **P** **21 09 40.2 +0.5**
STKA Stephens Creek 38.11 132 P **P** **21 09 40.2 +0.5**
ENH Enshi 38.91 1 P **P** **21 09 46.1 -0.3**
ENH Enshi 38.91 1 P **P** **21 09 46.1 -0.3**
WHN Wuhan 39.54 8 P **P** **21 09 53.7 +2.1**
WHN S S 21 15 59.6 +9.4
WHN LR LR
comp=Z,6μm,20.4s
WHN LR LR
comp=Z,2μm,18.7s
HYB Hyderabad 39.66 311 *e*P **P** **21 09 53.1 +0.3**
CD2 Chengdu 39.83 353 P **P** **21 09 55.6 +1.5**
CD2 S **S** **21 15 56.3 +1.7**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,160nm,6.8s
CD2 LR LR
comp=Z,1μm,15.7s
CD2 LR LR
comp=Z,2μm,20.6s
CD2 LR LR
comp=Z,1μm,16.6s
JOW Kunigami 40.22 28 LR LR 21 27 47.3
comp=Z,1μm,20.1s,baz=222,slow=38
JOW Kunigami 40.22 28 P **P** **21 09 56.9 -0.4**
JOW lAmb lAmb 21 09 59.2
comp=Z,27nm,0.7s
JOW Kunigami 40.22 28 P **P** **21 09 58.6 +1.3**
JMZ Minamidaito 2 40.81 32 P **P** **21 10 02.5 +0.3**
JMZ Minamidaito 2 40.81 32 P **P** **21 10 03.1 +0.9**
ARPS Mount Arapiles 40.88 138 P **P** **21 10 04.2 +1.4**
baz=41,SNR=7.0
ARPS Mount Arapiles 40.88 138 P **P** **21 10 03.9 +1.2**
CMSA Cobar Meteorol 41.05 129 P **P** **21 10 05.7 +1.4**
baz=41,SNR=16
CMSA Cobar Meteorol 41.05 129 P **P** **21 10 05.8 +1.6**
TAPN Taplejung 41.37 331 *e*P **P** **21 10 08.0 +0.8**
comp=Z,19nm,0.5s
SSE Sheshan 41.47 16 P **P** **21 10 08.3 +0.7**
SSE S **S** **21 16 19.1 +0.1**
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,81nm,3.5s
RAMN Ramite 41.58 330 *e*P **P** **21 10 10.2 +1.4**
comp=Z,13nm,0.4s
NJ2 Nanjing 41.81 13 *e*P **P** **21 10 12.4 +2.1**
NJ2 pP **pwP** **21 10 28.0 -0.6**
NJ2 sP **sP** **21 10 34.9 +4.9**
NJ2 pmax pmax
comp=Z,34nm,0.6s
NJ2 LR LR
comp=Z,880nm,15.6s
NJ2 LR LR
comp=Z,580nm,18.5s
NJ2 LR LR
comp=Z,1μm,18.9s
LSA Lhasa 41.91 337 P **P** **21 10 11.1 -0.7**
LSA Lhasa 41.91 337 P **P** **21 10 12.4 +0.6**
LSA P **pP** **21 10 17.9 -7.5**
LSA Lhasa 41.91 337 P **P** **21 10 11.1 -0.7**
LSA pmax pmax
comp=Z,21nm,0.7s
LSA Lhasa 41.91 337 P **P** **21 10 12.1 +0.3**
LSA pP **pP** **21 10 25.5 +0.1**
JIRN Jiri 42.37 330 *e*P **P** **21 10 15.8 +0.4**
comp=Z,27nm,0.3s
JBP Jabalpur 42.49 319 *ex* x 21 10 16.5
baz=142,slow=22
JBP *e*P **P** **21 10 16.5 +0.5**
JBP lAmb lAmb 21 10 17.0
comp=Z,39nm,0.6s
JBP *e*S **S** **21 16 32.7 -1.6**
XAN Xi'an 42.66 0 ⇑P **P** **21 10 16.9 -0.4**
XAN pP pP 21 10 32.5 +1.6
XAN S **S** **21 16 35.6 -0.9**
XAN sS sS 21 17 10.6 +11
XAN SS **SS** **21 19 45.2 -3.7**
XAN ScS **ScS** **21 20 09.9 -3.7**
XAN pmax pmax
comp=Z,61nm,0.7s
XAN pmax pmax
comp=Z,290nm,4.6s
XAN LR LR
comp=Z,2μm,14.6s
XAN LR LR
comp=Z,1μm,14.6s
XAN LR LR
comp=Z,2μm,14.3s
XAN Xi'an 42.66 0 P **P** **21 10 16.9 -0.4**
PKI Pulchoki 42.69 329 *e*P **P** **21 10 18.2 +0.2**
comp=Z,11nm,0.5s
PKIN Phulchoki 42.70 329 *e*P **P** **21 10 18.3 +0.3**
comp=Z,8.0nm,0.4s
DMN Daman 42.88 328 *e*P **P** **21 10 20.1 +0.7**
comp=Z,19nm,0.5s
KRVT Keravat (AS076 43.20 87 LR LR 21 30 02.7
comp=Z,320nm,21.8s,baz=44,slow=38
LYN LuoYang 43.31 4 ⇑?P **P** **21 10 21.1 -1.4**
LYN pP pwP 21 10 39.3 -1.5
LYN sP sP 21 10 48.0 +5.7
LYN S **S** **21 16 45.0 -1.0**
LYN pmax pmax
comp=Z,30nm,0.6s
LYN pmax pmax
comp=Z,200nm,3.1s
LYN LR LR
comp=Z,1μm,17.6s
LYN LR LR
comp=Z,1μm,17.8s
LYN LR LR
comp=Z,1μm,17.7s
GKN Gorkha 43.44 328 *e*P **P** **21 10 24.4 +0.6**
comp=Z,21nm,0.3s
TOO Toolangi 43.77 137 P **P** **21 10 28.1 +1.9**
TOO Toolangi 43.77 137 P **P** **21 10 28.1 +1.9**
TOO pmax pmax
comp=Z,33nm,1.5s
DANN Dangsing 44.18 328 *e*P **P** **21 10 30.1 +0.2**
comp=Z,101nm,0.5s
LZH Lanzhou 44.94 354 *e*P **P** **21 10 37.8 +2.1**
LZH pP pP 21 10 51.2 +1.8
LZH sP sP 21 11 03.6 +8.0
LZH PP **PP** **21 12 25.4 +3.7**
LZH sS sS 21 17 39.2 +6.0
LZH pmax pmax
comp=Z,62nm,1.0s
LZH pmax pmax
comp=Z,310nm,4.6s
LZH LR LR
comp=Z,1μm,15.6s
LZH LR LR
comp=Z,1μm,17.1s
LZH LR LR
comp=Z,2μm,18.4s
CAN Canberra 45.18 132 P **P** **21 10 38.9 +1.3**
CAN lAmb lAmb 21 10 40.6
comp=Z,71nm,1.7s
CAN Canberra 45.18 132 P **P** **21 10 38.9 +1.3**
CAN pmax pmax
comp=Z,71nm,1.7s
JSU Suzuyama 45.19 26 P **P** **21 10 37.4 -0.2**
JSU lAmb lAmb 21 10 45.9
comp=Z,30nm,1.2s
JSU Suzuyama 45.19 26 P **P** **21 10 37.7 +0.1**
ARMA Armidale 45.36 124 P **P** **21 10 40.7 +1.6**
TIA Tai'an 45.51 9 ⇑P **P** **21 10 39.0 -1.0**
TIA pmax pmax
comp=Z,30nm,0.6s
HNS HongShan 46.35 7 ⇑P **P** **21 10 46.0 -0.6**
HNS S **S** **21 17 24.2 -5.6**
HNS pmax pmax
comp=Z,18nm,0.8s
HNS pmax pmax
comp=Z,290nm,7.3s
HNS LR LR
comp=Z,1μm,17.5s
HNS LR LR
comp=Z,420nm,15.1s
HNS LR LR
comp=Z,1μm,17.1s
TIY Taiyuan 46.45 4 ⇑P **P** **21 10 48.5 +1.0**
TIY S **S** **21 17 32.2 +0.7**
TIY pmax pmax
comp=Z,45nm,0.6s
TIY LR LR
comp=Z,1μm,17.9s
TIY LR LR
comp=Z,460nm,17.9s
TIY LR LR
comp=Z,1μm,15.1s
GOMU GeErMu 46.70 344 P **P** **21 10 50.8 +1.0**
GOMU S **S** **21 17 40.9 +5.2**
GOMU pmax pmax
comp=Z,6.0nm,0.6s
GOMU pmax pmax
comp=Z,88nm,7.6s
GOMU LR LR
comp=Z,1μm,19.6s
GOMU LR LR
comp=Z,1μm,18.1s
GOMU LR LR
comp=Z,2μm,19.6s
JNU Nakatsue 46.76 26 LR LR 21 32 51.1
comp=Z,436nm,18.9s,baz=186,slow=39
JNU Nakatsue 46.76 26 P **P** **21 10 49.1 -0.8**
JNU lAmb lAmb 21 11 15.5
comp=Z,28nm,1.1s
JNU Nakatsue 46.76 26 P **P** **21 10 49.6 -0.3**
JTU Tsushima 47.37 23 P **P** **21 10 54.0 -0.6**
JTU Tsushima 47.37 23 P **P** **21 10 54.5 -0.1**
JCJ Chichijima 48.24 41 P **P** **21 10 59.1 -2.4**
JCJ Chichijima 48.24 41 P **P** **21 10 59.8 -1.7**
JMN Monobe 48.61 28 P **P** **21 11 04.0 -0.3**
JMN Monobe 48.61 28 P **P** **21 11 05.0 +0.7**
GTA Gaotai 48.73 351 ⇑P **P** **21 11 05.8 +0.6**
GTA pP pP 21 11 20.7 +1.6
GTA PP **PP** **21 13 00.0 +1.1**
GTA S **S** **21 18 04.8 +0.8**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,220nm,6.8s
GTA LR LR
comp=Z,2μm,19.1s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,2μm,20.7s
DL2 Dalian 49.00 13 P **P** **21 11 05.6 -1.5**
DL2 S **S** **21 18 10.1 +2.6**
DL2 SS **SS** **21 21 29.1 -10**
DL2 pmax pmax
comp=Z,28nm,0.6s
DL2 pmax pmax
comp=Z,190nm,4.6s
DL2 LR LR
comp=Z,810nm,18.9s
DL2 LR LR
comp=Z,470nm,20.0s
DL2 LR LR
comp=Z,920nm,21.9s
BJT Baijiatuau 49.11 8 P **P** **21 11 07.8 -0.1**
BJT lAmb lAmb 21 11 09.0
comp=Z,19nm,0.6s
BJT Baijiatuau 49.11 8 P **P** **21 11 07.8 -0.1**
BJT pmax pmax
comp=Z,19nm,0.6s
BJT Baijiatuau 49.11 8 P **P** **21 11 07.8 -0.1**
BJT pP **pP** **21 11 20.6 -1.2**
BJT sP **pwP** **21 11 25.6 -0.8**
BTO Baotou 49.23 1 *e*P **P** **21 11 09.7 +0.7**
BTO S **S** **21 18 13.2 +2.4**
BTO LR LR
comp=Z,4μm,18.8s
BTO LR LR
comp=Z,4μm,16.7s
JHS Saijyo 49.33 27 P **P** **21 11 09.2 -0.5**
JHS Saijyo 49.33 27 P **P** **21 11 09.4 -0.3**
KSAR Wonju Array Be 49.42 20 P **P** **21 11 10.1 -0.2**
KSAR Wonju Array Be 49.42 20 P **P** **21 11 10.1 -0.2**
KSRS Korea Array 49.44 20 P **P** **21 11 10.3 -0.2**
comp=Z,4.0nm,0.6s,baz=200,slow=9.1,SNR=18
comp=Z,4.0nm,0.6s
KS19 Wonju Array Si 49.47 20 P **P** **21 11 10.6 -0.1**
KS19 lAmb lAmb 21 12 05.6
comp=Z,48nm,1.5s
HHC Hu-ho-hao-te 49.52 3 *e*P **P** **21 11 11.3 +0.1**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,270nm,5.1s
HHC LR LR
comp=Z,2μm,16.5s
HHC LR LR
comp=Z,2μm,17.1s
HHC LR LR
comp=Z,2μm,17.8s
HNR Honiara 50.50 95 LR LR 21 34 45.7
comp=Z,3μm,21.3s,baz=274,slow=38
HNR Honiara 50.50 95 P **P** **21 11 18.0 -1.0**
HNR Honiara 50.50 95 P **P** **21 11 18.0 -1.0**
HNR pmax pmax
comp=Z,107nm,1.0s
JHJ Hachijo jima 2 51.13 34 LR LR 21 33 44.5
comp=Z,394nm,20.3s,baz=80,slow=37
INU Inuyama 51.43 30 P **P** **21 11 24.3 -1.3**
JGF Kuroka 51.80 30 P **P** **21 11 27.0 -1.4**
JGF Kuroka 51.80 30 P **P** **21 11 27.4 -1.0**
SNY Shenyang 52.24 14 ⇑P **P** **21 11 29.9 -1.5**
SNY pmax pmax
comp=Z,21nm,1.3s
SNY pmax pmax
comp=Z,190nm,4.1s
SNY LR LR
comp=Z,440nm,17.7s
SNY LR LR
comp=Z,660nm,18.6s
SNY LR LR
comp=Z,960nm,19.6s
XLT XiLinHaoTe 52.93 7 *e*P **P** **21 11 37.4 +0.8**
XLT S **S** **21 19 03.7 +1.9**
XLT sS sS 21 19 34.8 +7.4
XLT pmax pmax
comp=Z,21nm,0.8s
XLT pmax pmax
comp=Z,250nm,5.7s
XLT LR LR
comp=Z,69nm,16.6s
XLT LR LR
comp=Z,600nm,14.9s
XLT LR LR
comp=Z,920nm,16.2s
MAJO Matsushiro 52.96 30 P **P** **21 11 35.3 -1.7**
MAJO lAmb lAmb 21 11 35.7
comp=Z,29nm,1.1s
MAJO Matsushiro 52.96 30 P **P** **21 11 36.0 -1.0**
MAJO Matsushiro 52.96 30 ⇓*e*P **P** **21 11 35.4 -1.7**
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 52.96 30 P **P** **21 11 35.2 -1.7**
MAJO pP **pP** **21 11 48.2 -2.7**
MJAR Matsushiro Arr 52.96 30 P **P** **21 11 35.5 -1.5**
comp=Z,12nm,0.7s,baz=204,slow=7.7,SNR=34
MJAR LR LR 21 35 25.4
comp=Z,674nm,20.4s,baz=196,slow=37
comp=Z,12nm,0.7s
MJB9 Matsu-Tunnel 52.96 30 P **P** **21 11 36.1 -0.9**
MJB9 lAmb lAmb 21 11 36.7
comp=Z,28nm,1.1s
NIL Nilore 54.08 323 P **P** **21 11 42.9 -2.3**
NIL Nilore 54.08 323 P **P** **21 11 42.9 -2.3**
NIL pmax pmax
comp=Z,94nm,1.1s
NIL Nilore 54.08 323 P **P** **21 11 44.6 -0.6**
NIL pP **pP** **21 11 58.0 -1.2**
JSD Sado 54.18 29 P **P** **21 11 43.7 -2.1**
CN2 Changchun 54.56 15 P **P** **21 11 47.6 -0.8**
CN2 S **S** **21 19 19.0 -4.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,800nm,20.0s
JMM Marumori 55.28 31 P **P** **21 11 52.2 -1.6**
JMM Marumori 55.28 31 P **P** **21 11 52.7 -1.1**
WMQ Urumqi 55.81 342 ⇓P **P** **21 11 58.8 +1.2**
WMQ pP pP 21 12 12.1 +0.4
WMQ sP sP 21 12 26.2 +8.5
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,380nm,5.7s
WMQ LR LR
comp=Z,950nm,16.1s
WMQ LR LR
comp=Z,630nm,17.5s
WMQ LR LR
comp=Z,780nm,21.9s
MDJ Mudanjiang 56.46 18 P **P** **21 12 02.8 +0.7**
MDJ Mudanjiang 56.46 18 P **P** **21 12 01.1 -1.0**
MDJ sP **pP** **21 12 18.3 +2.1**
SONM Songino Array 56.48 358 P **P** **21 12 03.0 +0.6**
comp=Z,19nm,0.5s,baz=178,slow=8.8,SNR=283
SONM PcP **PcP** **21 12 58.4 -0.2**
comp=Z,4.3nm,0.6s,baz=179,slow=3.0,SNR=1.5
SONM LR LR 21 39 08.9
comp=Z,1μm,19.7s,baz=178,slow=39
comp=Z,19nm,0.5s
SONM Songino Array 56.48 358 P **P** **21 12 02.7 +0.4**
SONM lAmb lAmb 21 12 04.1
comp=Z,24nm,0.6s
ULN Ulaanbaatar 56.49 359 P **P** **21 12 02.5 +0.1**
ULN lAmb lAmb 21 12 04.1
comp=Z,23nm,0.7s
ULN Ulaanbaatar 56.49 359 *c i*P **P** **21 12 02.6 +0.1**
ULN pmax pmax
comp=Z,17nm,0.9s
ULN Ulaanbaatar 56.49 359 P **P** **21 12 02.6 +0.2**
ULN pP **pP** **21 12 15.1 -1.5**
WUS Wushi 56.74 334 P **P** **21 12 04.7 +0.4**
WUS pP **pP** **21 12 17.6 -0.9**
WUS sP **pwP** **21 12 23.8 +0.6**
DZM Mont Dzumac 56.83 111 LR LR 21 38 28.2
comp=Z,914nm,18.9s,baz=234,slow=38
DZM Mont Dzumac 56.83 111 *e*S **S** **21 19 53.0 -1.9**
comp=Z,188nm,24.9s
DZM *e*SS **SS** **21 23 43.6 -0.3**
comp=Z,476nm,25.4s
DZM *e*LR LR 21 28 46.7
comp=Z,2μm,24.2s
USA0B Ussuriysk Arra 56.85 20 P **P** **21 12 04.0 -0.8**
USA0B lAmb lAmb 21 12 05.8
comp=Z,86nm,1.9s
USA0B Ussuriysk Arra 56.85 20 *c*e P **P** **21 12 04.1 -0.8**
USRK Ussuriysk Ar. 56.85 20 P **P** **21 12 03.5 -1.4**
comp=Z,6.0nm,0.7s,baz=189,slow=5.9,SNR=15
comp=Z,6.0nm,0.7s
USRK Ussuriysk Ar. 56.85 20 P **P** **21 12 04.0 -0.8**
USRK Ussuriysk Ar. 56.85 20 P **P** **21 12 04.0 -0.8**
BNX BinXian 56.87 16 ⇑P **P** **21 12 04.2 -0.8**
BNX pmax pmax
comp=Z,20nm,0.7s
BNX pmax pmax
comp=Z,170nm,5.7s
KSH Kashi 56.93 330 P **P** **21 12 04.8 -0.9**
KSH sP sP 21 12 34.4 +8.5
KSH pmax pmax
comp=Z,29nm,0.7s
KSH LR LR
comp=Z,650nm,17.9s
KSH LR LR
comp=Z,520nm,19.9s
KSH LR LR
comp=Z,920nm,22.0s
KBL Kabul 57.23 321 P **P** **21 12 06.6 -1.5**
KBL lAmb lAmb 21 12 22.5
comp=Z,32nm,1.1s
KBL Kabul 57.23 321 P **P** **21 12 06.6 -1.5**
KBL pmax pmax
comp=Z,32nm,1.1s
YATNC Mamie plateau, 57.24 110 P **P** **21 12 11.3 +3.2**
JTM Tenmabayashi 57.68 29 P **P** **21 12 09.8 -1.0**
JTM Tenmabayashi 57.68 29 P **P** **21 12 10.1 -0.7**
TARG Taragay, Kyrgy 57.80 333 P **P** **21 12 12.5 +0.4**
TARG lAmb lAmb 21 12 30.6
comp=Z,20nm,0.8s
TARG Taragay, Kyrgy 57.80 333 P **P** **21 12 12.5 +0.4**
TARG pmax pmax
comp=Z,20nm,0.8s
SHLS Shalkode 58.24 335 *e*P **P** **21 12 13.7 -1.2**
comp=Z,7.9nm,0.5s,baz=335
SHLS Shalkode 58.24 335 *e*P **P** **21 12 14.1 -0.7**
SHLS pmax pmax
comp=Z,9.0nm,0.5s
UZB Uzynbulak 58.41 335 *e*P **P** **21 12 16.1 0.0**
comp=Z,9.3nm,0.5s,baz=335
UZB Uzynbulak 58.41 335 *e*P **P** **21 12 16.4 +0.3**
UZB pmax pmax
comp=Z,33nm,1.3s
WSAR Wadi Sarin 58.48 304 LR LR 21 36 47.3
comp=Z,1μm,20.0s,baz=131,slow=35
ZHN Zhinishke 58.68 334 *e*P **P** **21 12 17.8 -0.1**
baz=334
KPKS Kokpek 58.81 335 *e*P **P** **21 12 18.8 0.0**
comp=Z,6.3nm,0.5s,baz=335
KPKS Kokpek 58.81 335 *e*P **P** **21 12 18.6 -0.2**
KPKS pmax pmax
comp=Z,50nm,2.4s
ZAK Zakamensk 59.18 356 *e*P **P** **21 12 20.5 -0.7**
ZAK pmax pmax
comp=Z,11nm,1.5s
TNSS Tian-Shan 59.22 333 *e*P **P** **21 12 22.2 +0.2**

baz=333
AAA Alma-Ata 59.37 333 *e*P **P 21 12 22.5 -0.2**
comp=Z,13nm,0.5s,baz=333
ERM Erimo 59.63 29 P **P 21 12 26.3 +2.0**
comp=Z,68nm,1.7s
UCH Uchtor 59.71 331 P **P 21 12 25.6 +0.2**
SNR=8.7
TKM2 Tokmak 2 59.74 332 P **P 21 12 25.7 +0.3**
SNR=78
KBK Karagaybulak 59.84 332 P **P 21 12 26.5 +0.5**
SNR=24
CHKK Chushkaly 59.85 334 *e*P **P 21 12 24.9 -0.9**
baz=334
ZSN Zaisan 59.94 341 *e*P **P 21 12 26.8 +0.4**
comp=Z,7.7nm,0.7s,baz=341
AML Almayashu 60.04 330 P **P 21 12 27.9 +0.2**
SNR=24
AAK Ala-Archa 60.04 331 P **P 21 12 27.4 0.0**
SNR=6.9
AAK Ala-Archa 60.04 331 LR LR 21 41 13.8
comp=Z,586nm,21.3s,baz=155,slow=39
AAK Ala-Archa 60.04 331 P **P 21 12 27.4 0.0**
AAK IAmb IAmb 21 12 42.7
comp=Z,13nm,0.9s
AAK Ala-Archa 60.04 331*ce*P **P 21 12 27.6 +0.2**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 60.04 331 P **P 21 12 27.6 +0.2**
AAK pP **pP 21 12 41.1 -0.5**
AAK sP **pwP 21 12 46.6 +0.3**
KUU Kurty 60.17 333 *e*P **P 21 12 27.5 -0.6**
comp=Z,20nm,0.6s,baz=333
TDK Taldyqorghan 60.19 336 *e*P P 21 12 20.8 -7.3
baz=336
CHMS Chumysh 60.19 332 P **P 21 12 28.1 -0.2**
SNR=5.9
MK31 Makanchi Array 60.22 339 P **P 21 12 28.6 +0.3**
MK31 IAmb IAmb 21 12 29.6
comp=Z,17nm,0.6s
MK31 Makanchi Array 60.22 339 *i* P **P 21 12 28.3 0.0**
MK31 pmax pmax
comp=Z,25nm,0.4s
MKAR Makanchi Array 60.22 339 P **P 21 12 28.3 0.0**
comp=Z,24nm,0.5s,baz=148,slow=7.9,SNR=389
MKAR LR LR 21 41 27.0
comp=Z,766nm,20.9s,baz=149,slow=39
comp=Z,24nm,0.5s
MKAR Makanchi Array 60.22 339 P **P 21 12 28.0 -0.3**
ABPO Ambohimpanom 60.32 253 P **P 21 12 31.3 +1.6**
ABPO IAmb IAmb 21 13 06.2
comp=Z,26nm,1.2s
ABPO Ambohimpanom 60.32 253 P **P 21 12 31.3 +1.6**
ABPO pmax pmax
comp=Z,26nm,1.2s
ABPO Ambohimpanom 60.32 253 P **P 21 12 31.5 +1.8**
ABPO pP **pP 21 12 44.2 +0.1**
ABPO sP **pwP 21 12 49.2 +0.8**
MAKZ Makanchi 60.34 339 P **P 21 12 29.0 -0.2**
MAKZ IAmb IAmb 21 12 29.9
comp=Z,16nm,1.1s
MAKZ Makanchi 60.34 339 P **P 21 12 29.2 0.0**
MAKZ Makanchi 60.34 339 P **P 21 12 29.2 0.0**
MAKZ pP **pP 21 12 42.5 -0.9**
EKS2 Erkin-Say 60.40 331 P **P 21 12 29.9 +0.1**
SNR=34
USP Ospenovka 60.52 332 P **P 21 12 30.7 +0.2**
SNR=8.4
SGDS Sogindy 60.60 332 *e*P **P 21 12 30.6 -0.4**
baz=332
MOY Mondy 60.65 354 *e*P **P 21 12 32.1 +0.8**
MOY pmax pmax
comp=Z,51nm,2.0s
VOI Vohitsoka 60.79 250 P **P 21 12 34.1 +1.2**
VOI IAmb IAmb 21 13 44.5
comp=Z,41nm,1.6s
IRK Irkutsk 60.98 357 *e*P **P 21 12 33.6 +0.3**
IRK pmax pmax
comp=Z,48nm,2.3s
ASAJ Asahikawa 60.98 27 LR LR 21 38 50.2
comp=Z,517nm,21.7s,baz=224,slow=36
ASAJ Asahikawa 60.98 27 P **P 21 12 32.5 -1.0**
ASAJ pmax pmax
comp=Z,13nm,0.8s
JKA Kamikawa-asahi 60.98 27 P **P 21 12 32.5 -1.1**
JKA IAmb IAmb 21 12 34.5
comp=Z,13nm,0.8s
HEH HeiHe 61.07 14 *e*P **P 21 12 33.4 -0.6**
HEH pP **pwP 21 12 51.5 -1.5**
HEH sP **sP 21 13 00.6 +6.3**
HEH S **S 21 20 46.7 -1.9**
HEH pmax pmax
comp=Z,52nm,0.7s
HEH pmax pmax
comp=Z,170nm,4.4s
HEH LR LR
comp=Z,960nm,18.5s
HEH LR LR
comp=Z,480nm,20.0s
HEH LR LR
comp=Z,1μm,20.7s
DGZ Jazzator, Alta 61.22 344*c i*P **P 21 12 36.2 +0.9**
DGZ pmax pmax
comp=Z,34nm,0.7s
UOSS Minazif 61.23 305 P **P 21 12 35.8 +0.2**
UOSS IAmb IAmb 21 13 20.1
comp=Z,14nm,0.8s
UOSS Minazif 61.23 305 P **P 21 12 35.7 +0.1**
UOSS pP **pP 21 12 49.1 -0.9**
KLR Kul'dur 61.26 17 LR LR 21 39 54.2
comp=Z,515nm,20.2s,baz=198,slow=37
KLR Kul'dur 61.26 17*c i*P **P 21 12 34.3 -1.0**
KLR pmax pmax
comp=Z,12nm,0.5s
DRV Dumont d'Urvil 61.52 166 P **P 21 12 36.5 -0.3**
HRA Herat 61.55 317 P **P 21 12 36.9 -1.0**
DZA Taraz 61.77 330 *e*P **P 21 12 37.8 -1.1**
comp=Z,5.3nm,0.7s,baz=330
BTLS Baital 62.09 333 *e*P **P 21 12 40.2 -0.8**
baz=333
BTLS Baital 62.09 333 *e*P **P 21 12 40.3 -0.7**
KK31 Karatay Array 62.34 329 P **P 21 12 41.6 -1.1**
KK31 Karatay Array 62.34 329 P **P 21 12 41.6 -1.1**
KK31 pmax pmax
comp=Z,18nm,1.4s
KKAR Karatay Array 62.34 329 P **P 21 12 41.9 -0.8**
KKAR Karatay Array 62.34 329 P **P 21 12 41.9 -0.8**
MLZ Mavora Lakes 62.38 137 P **P 21 12 44.2 +1.0**
WHZ Wether Hill Ro 62.42 137 P **P 21 12 44.7 +1.4**
WKZ Wanaka 62.85 136 P **P 21 12 48.6 +2.4**
YSS Yuzh-Sakhalins 63.27 25*c i*P **P 21 12 48.3 -0.5**
YSS pmax pmax
comp=Z,126nm,2.5s
YSS Yuzh-Sakhalins 63.27 25 P **P 21 12 48.4 -0.3**
YSS pP **pP 21 13 01.9 -1.3**
RPZ Rata Peaks 63.99 134 LR LR 21 39 21.5
comp=Z,2μm,21.3s,baz=272,slow=35
GRNR Gornyy 64.05 19⇓ *i*P **P 21 12 53.3 -0.6**
GRNR pmax pmax
comp=N,5.0nm,1.3s
GRNR pmax pmax
comp=Z,9.0nm,1.2s
ZEA Zeya 64.30 12 *e*P **P 21 12 55.5 +0.1**
ZEA pmax pmax
comp=Z,100nm,2.9s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=E,300nm,16.0s
KURBB Kurchatov Arra 64.79 339 LR LR 21 44 15.1
comp=E,752nm,18.1s,baz=152,slow=39
ZAA0 Zalesovo Array 65.76 345 P **P 21 13 04.5 -0.4**
ZAA0 IAmb IAmb 21 13 05.3
comp=Z,26nm,0.7s
ZALV Zalesovo Beam 65.76 345 P **P 21 13 04.8 -0.1**
comp=Z,22nm,0.5s,baz=140,slow=4.2,SNR=143
ZALV LR LR 21 44 32.0
comp=Z,692nm,18.6s,baz=161,slow=38
comp=Z,22nm,0.5s
ZALV Zalesovo Beam 65.76 345 P **P 21 13 04.6 -0.3**
MAW Mawson 66.12 198 LR LR 21 36 36.5
comp=Z,607nm,19.9s,baz=35,slow=31
GEYT Alibeck 66.30 318 P **P 21 13 09.4 +0.6**
comp=Z,6.5nm,0.5s,baz=159,slow=5.7,SNR=12
GEYT LR LR 21 45 15.4
comp=Z,419nm,20.6s,baz=136,slow=39
comp=Z,6.5nm,0.5s
GEYT Alibeck 66.30 318 P **P 21 13 09.2 +0.4**
GEYT IAmb IAmb 21 13 23.8
comp=Z,19nm,0.9s
GYA0B ALIBECK ARRAY 66.30 318 P **P 21 13 09.0 +0.2**
GYA0B IAmb IAmb 21 13 38.7
comp=Z,19nm,0.9s
TYV Tymovskoe 66.33 23 *e*P **P 21 13 08.7 +0.1**
TYV *e*S **S 21 21 56.6 +2.7**
TYV pmax pmax
comp=Z,8.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,2.7s
TYV smax smax
comp=N,100nm,5.1s
TYV smax smax
comp=E,200nm,5.1s
BOD Bodaibo 66.58 3 *e*P **P 21 13 09.0 -1.1**
BOD pmax pmax
comp=Z,51nm,1.6s
CCD Concordia, Ant 66.72 176 P **P 21 13 12.3 +1.0**
CCD pP **pP 21 13 25.9 +0.1**
BKZ Black Stump Fm 67.21 129 P **P 21 13 15.9 +1.2**
BKZ IAmb IAmb 21 13 29.9
comp=Z,32nm,0.9s
BFZ Birch Farm 67.23 130 P **P 21 13 16.4 +1.7**
RTZ Rustahuna 67.52 128 P **P 21 13 15.8 -0.9**
URZ Urewera 67.58 128 LR LR 21 43 25.3
comp=Z,2μm,20.2s,baz=14,slow=36
MSVF Nonsavu 67.71 106 LR LR 21 43 40.7
comp=Z,399nm,19.2s,baz=202,slow=37
ATD Arta Tunnel 68.60 286 LR LR 21 39 07.7
comp=Z,171nm,20.9s,baz=82,slow=32
BVAR Borovoye Array 69.75 336 LR LR 21 48 10.6
comp=Z,869nm,19.4s,baz=128,slow=39
BRVK Borovoye 69.82 336 P **P 21 13 30.9 +0.4**
BRVK IAmb IAmb 21 13 32.1
comp=Z,30nm,0.7s
BRVK Borovoye 69.82 336*c i*P **P 21 13 30.7 +0.2**
BRVK pmax pmax
comp=Z,36nm,0.8s
BRVK Borovoye 69.82 336 P **P 21 13 30.9 +0.4**
BRVK pP **pP 21 13 44.9 -0.2**
KIBK Kibwezi 70.59 271 P **P 21 13 36.5 +0.4**
KMBO Kilima Mbogo 71.56 272 P **P 21 13 41.7 -0.5**
comp=Z,3.6nm,0.9s,baz=54,slow=7.1,SNR=6.7
KMBO LR LR 21 40 02.5
comp=Z,844nm,21.1s,baz=96,slow=32
comp=Z,3.6nm,0.9s
KMBO Kilima Mbogo 71.56 272 P **P 21 13 42.1 -0.1**
KMBO Kilima Mbogo 71.56 272 *i* P **P 21 13 42.9 +0.7**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 71.56 272 P **P 21 13 43.9 +1.7**
KMBO pP **pP 21 13 56.9 +0.1**
AB31 Akbulak array 71.89 329 *i* P **P 21 13 46.1 +3.0**
AB31 pmax pmax
comp=Z,59nm,0.6s
ABKAR Akbulak array 71.89 329 P **P 21 13 43.6 +0.4**
YAK Yakutsk 72.53 10 LR LR 21 48 29.1
comp=Z,408nm,18.8s,baz=262,slow=38
YAK Yakutsk 72.53 10 P **P 21 13 45.9 -0.7**
YAK Yakutsk 72.53 10*c i*P **P 21 13 46.1 -0.5**
YAK pmax pmax
comp=Z,59nm,0.6s
LKRN Lenkeran, Azer 73.05 315 P **P 21 13 51.0 +0.8**
AKTO Aktyubinsk 73.60 329 LR LR 21 53 20.6
comp=Z,490nm,18.2s,baz=110,slow=42
AKTO Aktyubinsk 73.60 329 *i* P **P 21 13 52.1 -1.2**
AKTO pmax pmax
comp=Z,16nm,1.1s
VNDA Vanda 73.84 170 P **P 21 13 54.8 +0.6**
comp=Z,2.4nm,0.6s,baz=320,slow=6.4,SNR=13
VNDA LR LR 21 45 03.9
comp=Z,458nm,19.2s,baz=318,slow=35
comp=Z,2.4nm,0.6s
VNDA Vanda 73.84 170 P **P 21 13 54.7 +0.4**
VNDA IAmb IAmb 21 14 07.3
comp=Z,16nm,0.8s
PEA0B Petropavlovsk- 74.38 28 P **P 21 13 57.9 +0.1**
PEA0B Petropavlovsk- 74.38 28 P **P 21 13 57.9 +0.1**
PEA0B pmax pmax
comp=Z,115nm,1.5s
PETK Petropavlovsk- 74.38 28 P **P 21 13 57.1 -0.6**
comp=Z,9.9nm,0.6s,baz=200,slow=2.5,SNR=40
PETK LR LR 21 45 13.3
comp=Z,226nm,21.5s,baz=229,slow=35
comp=Z,9.9nm,0.6s
PET Petropavlovsk 74.77 29 P **P 21 13 59.1 -0.9**
PET IAmb IAmb 21 15 01.1
comp=Z,96nm,1.9s
PET Petropavlovsk 74.77 29 *e*P **P 21 14 00.1 +0.1**
PET *e* 21 16 47.8
PET *e*PPP PPP 21 18 34.1
PET *e*S **S 21 23 39.4 +7.3**
PET pmax pmax
comp=Z,29nm,0.6s
PET pmax pmax
comp=Z,100nm,5.4s
PET MLR MLR
comp=Z,300nm,18.0s
SBA Scott Base 74.91 169 P **P 21 14 01.9 +1.5**
SBA Scott Base 74.91 169 P **P 21 14 02.0 +1.5**
SBA pmax pmax
comp=Z,91nm,1.8s
AKT Akhty 75.00 317 *e*P **P 21 14 02.3 +0.5**
AKT *e* 21 14 15.8
AKT pmax pmax
comp=Z,14nm,1.1s
MNGR Mingechevir, A 75.13 316 P **P 21 14 03.5 +1.2**
SEKA Sheki 75.24 317 P **P 21 14 03.9 +0.8**
NAX Nakhchivan 75.56 314 P **P 21 14 05.9 +0.9**
GANJ Ganja 75.60 316 P **P 21 14 05.9 +0.8**
MAK Makhachkala 75.82 318 *e*P **P 21 14 04.7 -1.5**
MAK *e**PP **pP 21 14 21.3 +0.3**
MAK *e**SP **sP 21 14 29.0 +2.1**
MAK *e*S **S 21 23 41.0 -3.1**
MAK *e**SS **SKSac 21 24 11.3 -0.6**
MAK *e*SSS SSS 21 31 55.7
MAK pmax pmax
comp=Z,79nm,1.2s
ZKTA Zakatala 75.82 317 P **P 21 14 07.9 +1.6**
MA2 Magadan 75.99 21 LR LR 21 48 52.5
comp=Z,298nm,21.1s,baz=236,slow=37
MA2 Magadan 75.99 21 P **P 21 14 07.0 +0.1**
MA2 IAmb IAmb 21 14 08.4
comp=Z,24nm,0.6s
MA2 Magadan 75.99 21*de*P **P 21 14 07.7 +0.8**
MA2 pmax pmax
comp=Z,65nm,2.5s
SVE Sverdlovsk 76.42 335*de*P **P 21 14 10.3 +1.0**
SVE pmax pmax
comp=Z,97nm,1.5s
GNI Garni 76.49 315 LR LR 21 50 49.7
comp=Z,225nm,21.9s,baz=103,slow=38
ARU Arti 77.04 334 LR LR 21 52 31.3
comp=Z,938nm,21.5s,baz=124,slow=39
ARU Arti 77.04 334 P **P 21 14 13.1 +0.2**
ARU Arti 77.04 334*c i*P **P 21 14 13.3 +0.4**
ARU *PP **pP 21 14 27.2 -0.4**
ARU 21 17 06.3
ARU PPP PPP 21 18 53.0
ARU S **S 21 24 00.3 +3.3**
ARU pmax pmax
comp=Z,40nm,1.3s
ARU MLR MLR
comp=Z,852nm,21.0s
GROC Groznyy 77.05 318 *e*P **P 21 14 13.2 0.0**
GROC *e* 21 14 23.3
GROC *e**PP **pwP 21 14 30.8 -1.9**
GROC *e* 21 17 08.1
GROC *e*S **S 21 23 57.4 -0.2**
GROC pmax pmax
comp=Z,35nm,0.7s
GURO Guroymak-BITLI 77.81 313 P **P 21 14 17.9 +0.2**
KARS Kars 77.84 315 P **P 21 14 16.4 -1.5**
KARS Kars 77.84 315 P **P 21 14 16.4 -1.5**
KARS pmax pmax
comp=Z,104nm,0.9s
MBAR Mbarara 78.07 271 LR LR 21 46 50.5
comp=Z,586nm,18.5s,baz=85,slow=34
MBAR Mbarara 78.07 271*de*P **P 21 14 22.4 +2.6**
MBAR pmax pmax
comp=Z,11nm,0.9s
ZEI Tsey 78.14 317 *e*P **P 21 14 20.2 +0.6**
ZEI pmax pmax
comp=Z,11nm,0.8s
MARD Mardin 78.28 311 P **P 21 14 20.9 +0.4**
MARD IAmb IAmb 21 14 42.6
comp=Z,26nm,1.2s
ONI Oni 78.36 317 P **P 21 14 21.5 +0.9**
ONI Oni 78.36 317 P **P 21 14 21.5 +0.9**
ONI pmax pmax
comp=Z,8.0nm,0.9s
NCK Nalchik 78.63 318⇑ *e*P **P 21 14 23.0 +1.0**
NCK pmax pmax
comp=Z,17nm,0.7s
LSZ Lusaka 78.68 256 LR LR 21 43 36.0
comp=Z,1μm,21.7s,baz=108,slow=31
LSZ Lusaka 78.68 256 P **P 21 14 24.0 +1.0**
LSZ Lusaka 78.68 256 P **P 21 14 24.0 +1.0**
LSZ pmax pmax
comp=Z,14nm,0.8s
SEY Seymchan 78.97 19⇑ *e*P **P 21 14 24.0 +0.6**
SEY pmax pmax
comp=Z,78nm,2.5s
KBZ Khabaz 79.19 318 P **P 21 14 26.1 +1.1**
comp=Z,10nm,0.9s,baz=132,slow=4.3,SNR=22
KBZ LR LR 21 56 14.7
comp=Z,143nm,18.7s,baz=112,slow=41
comp=Z,10nm,0.9s
KBZ Khabaz 79.19 318*ce*P **P 21 14 26.0 +1.0**
KBZ pmax pmax
comp=Z,13nm,0.9s
NRIK Noril'sk 79.40 352 P **P 21 14 25.7 +0.1**
comp=Z,14nm,0.5s,baz=113,slow=3.2,SNR=29
NRIK LR LR 21 52 22.0
comp=Z,908nm,21.2s,baz=162,slow=38
comp=Z,14nm,0.5s
NRIK Noril'sk 79.40 352 P **P 21 14 25.2 -0.4**
NRIK IAmb IAmb 21 14 27.1
comp=Z,52nm,1.3s
NRIK Noril'sk 79.40 352*c i*P **P 21 14 25.4 -0.2**
NRIK pmax pmax
comp=Z,17nm,0.9s
KIV Kislovodsk 79.42 318 ⇑P **P 21 14 24.8 -1.6**
KIV Kislovodsk 79.42 318 P **P 21 14 24.8 -1.6**
KIV Kislovodsk 79.42 318*ce*P **P 21 14 27.2 +0.8**
KIV *e*S **S 21 24 29.6 +6.3**
KIV pmax pmax
comp=Z,7.0nm,0.7s
KIV MLR MLR
comp=Z,119nm,22.0s
BELG Belogornoye 80.13 327 LR LR 21 54 49.0
comp=Z,264nm,21.1s,baz=142,slow=39
BELG Belogornoye 80.13 327*ce*P **P 21 14 30.2 +0.3**
BELG pmax pmax
comp=Z,6.0nm,1.1s
BOSA Boshof 80.14 242 P **P 21 14 31.4 +0.6**
comp=Z,7.3nm,1.1s,baz=69,slow=8.7,SNR=3.3
BOSA LR LR 21 43 48.6
comp=Z,1μm,20.6s,baz=106,slow=31
comp=Z,7.3nm,1.1s
LBTB Lobatse 80.15 246 LR LR 21 44 23.3
comp=Z,559nm,20.6s,baz=90,slow=31
GHAJ Ghor Haditha 80.47 304 P **P 21 14 31.6 -0.6**
GHAJ IAmb IAmb 21 14 49.4
comp=Z,43nm,1.1s
EIL Elat 80.53 302 LR LR 21 50 58.4
comp=Z,418nm,18.6s,baz=104,slow=36
MMAI Mount Meron Ar 81.09 305 LR LR 21 51 35.3
comp=Z,548nm,20.2s,baz=342,slow=36
QSPA South Pole Qui 81.14 180 LR LR 21 47 29.3
comp=Z,1μm,19.0s,baz=261,slow=33
QSPA South Pole Qui 81.14 180 P **P 21 14 35.2 -0.2**
QSPA IAmb IAmb 21 14 54.4
comp=Z,23nm,1.1s
SOC Sochi 81.27 317 *e*P **P 21 14 35.5 -0.8**
SOC *e* 21 17 38.0
SOC *e*S **S 21 24 43.5 +1.0**
SOC *e*SSS SSS 21 33 16.0
SOC pmax pmax
comp=Z,17nm,0.6s
TIXI Tiksi 81.44 6 LR LR 21 54 00.2
comp=Z,536nm,20.2s,baz=181,slow=38
TIXI Tiksi 81.44 6 P **P 21 14 35.7 -0.8**
TIXI IAmb IAmb 21 14 50.8
comp=Z,58nm,1.3s
TIXI Tiksi 81.44 6*c i*P **P 21 14 36.0 -0.5**
TIXI pmax pmax
comp=Z,60nm,2.5s
KIRV Kirov 82.32 333 LR LR 21 56 57.7
comp=Z,371nm,19.6s,baz=126,slow=40
KIRV Kirov 82.32 333*c i*P **P 21 14 42.0 +0.6**
SHEM Shemya Is, Ala 82.57 34 LR LR 21 50 26.0
comp=Z,112nm,21.0s,baz=272,slow=35
VRH Novokhopyorsk 82.90 324 *e*P **P 21 14 44.7 +0.1**
VRH pmax pmax
comp=Z,30nm,0.7s
ANN Anapa 83.23 317 *e*P **P 21 14 44.2 -2.3**
ANN *e**PP **pP 21 14 57.9 -3.5**
ANN *e*S **S 21 24 59.0 -3.5**
ANN pmax pmax
comp=Z,109nm,1.1s
SUR Sutherland 83.60 238 LR LR 21 44 27.9
comp=Z,936nm,21.8s,baz=98,slow=30
BR131 Keskin Array S 84.36 311 P **P 21 14 51.9 -0.6**
BR131 IAmb IAmb 21 15 20.8
comp=Z,20nm,0.8s
BR131 Keskin Array S 84.36 311*c i*P **P 21 14 53.0 +0.4**
BRTR Keskin Array B 84.36 311 P **P 21 14 53.2 +0.7**
comp=Z,4.3nm,0.6s,baz=139,slow=6.6,SNR=32
BRTR LR LR 21 54 50.8
comp=Z,446nm,20.6s,baz=128,slow=37
comp=Z,4.3nm,0.6s
BRTR Keskin Array B 84.36 311 P **P 21 14 52.2 -0.4**
VSR Storozhevoye 84.39 324 *e*P **P 21 14 52.2 0.0**
VSR pmax pmax
comp=Z,20nm,0.6s
VORR Voronezh 84.53 324 *e*P **P 21 14 53.8 +0.9**
VORR pmax pmax
comp=Z,58nm,1.6s
ANTO Ankara 85.02 311 P **P 21 14 54.5 -1.3**
ANTO IAmb IAmb 21 15 17.9
comp=Z,17nm,0.9s
ANTO Ankara 85.02 311 P **P 21 14 54.5 -1.3**
ANTO pmax pmax
comp=Z,17nm,1.0s
BR231 Keskin MP Arra 85.03 311 P **P 21 14 56.8 +0.9**
BR231 IAmb IAmb 21 15 11.5
comp=Z,17nm,0.9s
LPSR Galich'ya Gora 85.03 325 *e*P **P 21 14 55.6 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
PRGR Permogore 85.47 335 *e*P **P 21 14 57.0 -0.4**
PRGR *e**PP **pP 21 15 10.2 -2.2**
PRGR pmax pmax
comp=Z,18nm,0.6s
MDUB Mudurnu 86.36 312 P **P 21 15 02.6 +0.1**
BILL Bilibino 86.68 19⇑ *e*P **P 21 15 03.6 +0.3**
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,209nm,18.0s
BORA Eskisehir 86.76 311 P **P 21 15 04.3 -0.1**
BORA IAmb IAmb 21 15 30.7
comp=Z,20nm,1.1s
MOS Moscow 86.87 328 *e*P **P 21 15 04.5 +0.1**
MOS *e* 21 18 27.8
MOS pmax pmax
comp=Z,43nm,1.7s
OBN Obninsk 87.22 327 LR LR 21 59 52.3
comp=Z,187nm,19.9s,baz=116,slow=40
ARG Arkhangelos 87.70 307 P **P 21 15 09.4 +0.5**
ARG Arkhangelos 87.70 307 P **P 21 15 09.5 +0.5**
ARG pmax pmax
comp=Z,83nm,1.2s
KLMR Klimovskoe 87.82 333 *e*P **P 21 15 07.5 -1.4**
KLMR *e*pP **pP 21 15 20.9 -3.1**
KLMR AMP 21 15 24.9
comp=Z,126nm,1.4s
KLMR Klimovskoe 87.82 333 *e*P **P 21 15 07.4 -1.4**
KLMR *e**PP **pP 21 15 20.8 -3.2**
KLMR pmax pmax
comp=Z,126nm,1.4s
MANT Manisa 87.87 309 P **P 21 15 10.9 +0.9**
MANT IAmb IAmb 21 15 25.9
comp=Z,22nm,1.0s

RAR Rarotonga 88.20 111 LR LR 21 52 37.0
comp=Z,211nm,21.5s,baz=297,slow=34
TSUM Tsumeb 88.23 251 P P 21 15 12.3 +0.3
TSUM IAmb IAmb 21 15 35.4
comp=Z,14nm,1.3s
SNAA Sanae 88.28 197 LR LR 21 51 38.1
comp=Z,754nm,18.6s,baz=126,slow=33
SNAA Sanae 88.28 197 P P 21 15 12.1 +1.0
SNAA IAmb IAmb 21 15 39.7
comp=Z,20nm,1.3s
SNAA Sanae 88.28 197⇑ eP P 21 15 12.8 +1.7
SNAA pmax pmax
comp=Z,7.0nm,1.0s
KARP Karpathos 88.33 306 P P 21 15 12.8 +0.8
BALB Balikesir 88.64 310 P P 21 15 13.4 +0.1
PURM Purcari 88.80 317 ⇓P P 21 15 11.6 -2.3
ADZR Andozero 89.50 335 eP P 21 15 12.6 -4.1
ADZR pmax pmax
comp=Z,5.0nm,0.5s
CFR Carcaliu 89.67 316 ⇑P P 21 15 14.8 -3.2
CFR Carcaliu 89.67 316 P P 21 15 14.7 -3.2
APE Apeiranthos 89.92 307 ⇓P P 21 15 15.4 -4.0
APE Apeiranthos 89.92 307 P P 21 15 15.4 -4.0
IDI Anoyia 90.09 306 LR LR 21 58 18.2
comp=Z,175nm,20.4s,baz=84,slow=37
SORM Soroca 90.19 319 ⇑P P 21 15 16.9 -3.5
SORM Soroca 90.19 319 P P 21 15 16.8 -3.5
AKASG Malin Array Be 90.22 321 P P 21 15 20.3 -0.2
comp=Z,1.1nm,0.6s,baz=81,slow=3.8,SNR=14
AKASG PP PP 21 18 53.5 -1.5
comp=Z,1.5nm,0.6s,baz=85,slow=5.9,SNR=8.0
AKASG LR LR 22 02 42.5
comp=Z,117nm,19.0s,baz=77,slow=40
comp=Z,1.1nm,0.6s
AKASG Malin Array Be 90.22 321 P P 21 15 19.2 -1.2
AKASG IAmb IAmb 21 15 36.0
comp=Z,14nm,1.5s
VRI Vrincioaia 90.78 316 ⇑P P 21 15 19.2 -4.1
VRI Vrincioaia 90.78 316 P P 21 15 19.1 -4.1
MLR Muntele Rosu 91.25 316 ⇑P P 21 15 22.5 -3.0
MLR Muntele Rosu 91.25 316 P P 21 15 24.2 -1.3
MLR Muntele Rosu 91.25 316 P P 21 15 24.2 -1.3
MLR pmax pmax
comp=Z,46nm,1.7s
ARR Arges 92.13 315 ⇑P P 21 15 26.8 -2.7
BURAR Bucovina Array 92.14 318 ⇑P P 21 15 27.5 -2.1
BURAR Bucovina Array 92.14 318 P P 21 15 27.5 -2.1
BURAR IAmb IAmb 21 15 50.1
comp=Z,6.9nm,1.0s
BURAR Bucovina Array 92.14 318 P P 21 15 27.5 -2.1
BUR08 Bucovina Ar. S 92.16 318 P P 21 15 28.0 -1.7
VTS Vitosha 92.65 313 ⇑P P 21 15 29.5 -2.6
VTS Vitosha 92.65 313 P P 21 15 30.9 -1.3
VTS IAmb IAmb 21 15 47.4
comp=Z,8.5nm,1.1s
VTS Vitosha 92.65 313 P P 21 15 30.9 -1.3
VTS pmax pmax
comp=Z,8.0nm,1.1s
LIT Litokhoron 92.80 310 P P 21 15 32.5 -0.2
LIT IAmb IAmb 21 15 50.5
comp=Z,20nm,1.1s
LIT Litokhoron 92.80 310 P P 21 15 32.5 -0.2
LIT pmax pmax
comp=Z,19nm,1.1s
SURR Surduc 93.93 316 ⇑P P 21 15 33.8 -4.0
MDVR Moldovita 94.08 315 ⇑P P 21 15 34.2 -4.3
FINES FINESS Array B 94.22 331 P P 21 15 38.9 +0.2
comp=Z,1.4nm,0.7s,baz=159,slow=5.7,SNR=4.9
FINES LR LR 22 02 59.1
comp=Z,307nm,22.0s,baz=93,slow=39
comp=Z,1.4nm,0.7s
FINES FINESS Array B 94.22 331 i P P 21 15 40.2 +1.5
FINES pmax pmax
comp=Z,1.0nm,0.7s
BZS Buzias 94.27 315 ⇓P P 21 15 36.0 -3.3
BZS Buzias 94.27 315 P P 21 15 35.9 -3.3
ARCES ARCESS Array B 95.88 339 P P 21 15 46.3 +0.2
comp=Z,1.8nm,0.6s,baz=95,slow=5.7,SNR=9.7
comp=Z,1.8nm,0.6s
TBI Tubuai 97.19 115 eSS SS 21 33 50.1 -0.9
comp=Z,799nm,29.5s
TBI Tubuai 97.19 115 eLR LR 21 47 28.9
comp=Z,2µm,23.2s
TBI eLR LR 21 47 29.5
comp=Z,12µm,23.0s
VRAC Vranov 98.05 319 LR LR 22 08 33.9
comp=Z,248nm,19.7s,baz=73,slow=40
PPT2 Papeete2 98.32 109 eLR LR 21 48 00.5
comp=Z,514nm,22.5s
PPT Papeete 98.32 109 LR LR 21 57 01.3
comp=Z,340nm,18.4s,baz=189,slow=33
VAE Valguarnera 98.76 307 LR LR 22 10 50.9
comp=Z,74nm,18.3s,baz=150,slow=42
SPITS Spitsbergen Ar 99.10 348 LR LR 22 06 45.4
comp=Z,458nm,21.9s,baz=64,slow=39
GERES GERESS Array B 99.93 318 PP PP 21 20 11.6 +1.1
comp=Z,0.5nm,0.8s,baz=102,slow=9.1,SNR=2.1
GERES LR LR 22 09 43.4
comp=Z,257nm,19.7s,baz=78,slow=40
CLL Collm 100.44 321 ePP PP 21 20 19.0 +4.8
CLL eSS SS 21 34 38.0 +2.5
CLL e(SSSS) 21 42 30.0
CLL LmV 22 11 00.0
comp=Z,300nm,20.4s
TAOE Nuku Hiva Isla 109.15 103 eLR LR 21 53 01.6
comp=Z,392nm,23.5s
YKA Yellowknife Ar 117.97 21 PKP PKiKP 21 21 06.7 +0.6
comp=Z,1.3nm,0.7s,baz=335,slow=1.9,SNR=17
FRB Frobisher Bay 125.17 359 PKP PKiKP 21 21 20.1 -0.1
comp=Z,2.3nm,1.0s,baz=258,slow=3.4,SNR=4.4
NVAR Mina Array Bea 128.56 47 PKP PKPdf 21 21 27.3 -0.1
comp=Z,1.0nm,0.7s,baz=299,slow=2.7,SNR=3.8
ELK Elko 129.76 43 PKP PKPdf 21 21 29.2 -0.5
comp=Z,1.2nm,0.6s,baz=238,slow=1.0,SNR=4.3
PDAR Pinedale Array 132.41 38 PKP PKPdf 21 21 33.8 -0.9
comp=Z,0.4nm,0.6s,baz=341,slow=2.0,SNR=4.6
SCHQ Schefferville 134.01 356 PKP PKPdf 21 21 36.0 -1.0
comp=Z,2.5nm,0.8s,baz=206,slow=17,SNR=1.5
O20A White River Ci 134.69 40 PKPdf 21 21 38.0 -0.9
PLTB Pedras Altas 136.23 202 eP PKiKP 21 21 43.2 -0.4
F36A Milaca 138.45 24 P PKPdf 21 21 45.5 0.0
baz=326
ANMO Albuquerque 138.63 46 PKP PKPdf 21 21 44.2 -2.3
comp=Z,0.9nm,0.8s,baz=211,slow=1.0,SNR=2.3
ANMO Albuquerque 138.63 46 P PKPdf 21 21 45.7 -0.7
baz=301
ECSD EROS Data Cent 138.82 28 PKPdf PKPdf 21 21 44.7 -1.5
ECSD EROS Data Cent 138.82 28 P PKPdf 21 21 46.3 +0.1
baz=320
ECSD EROS Data Cent 138.82 28 P PKPdf 21 21 46.9 +0.6
baz=320
R32A Long Quarter, 141.57 36 P PKPdf 21 21 51.2 -0.3
baz=313
CPUP Villa Florida 142.50 201 PKP PKPdf 21 21 50.9 -2.5
comp=Z,1.3nm,0.7s,baz=143,slow=2.7,SNR=3.2
TX31 Lajitas Ar. Si 143.41 52 PKPdf PKPbc 21 21 52.9 +0.5
TX31 Lajitas Ar. Si 143.41 52 P PKPbc 21 21 53.4 +1.0
baz=298
TX32 Lajitas Array 143.41 52 PKPdf PKPbc 21 21 52.7 +0.4
TXAR Lajitas Array 143.41 52 PKP PKPbc 21 21 53.0 +0.7
comp=Z,1.1nm,0.7s,baz=270,slow=1.8,SNR=17
P38A Dawn 143.45 29 PKPdf PKPbc 21 21 52.1 +0.1
P38A Dawn 143.45 29 P PKPbc 21 21 53.0 +1.0
baz=321,SNR=6.8
SADO Sadowa 143.57 9 PKP PKPbc 21 21 52.5 +0.4
comp=Z,7.2nm,1.1s,baz=290,slow=9.7,SNR=3.6
J47A Sunmer 143.75 17 P PKPdf 21 21 53.9 -1.2
baz=337
J47A P PKPdf 21 21 53.9 -1.2
baz=337
PCMB Pacaembu 143.93 213 eP PKPdf 21 21 56.2 +0.1
WMOK Wichita Mounta 143.94 40 P PKPbc 21 21 54.6 +0.9
baz=309
BMNY Brushton-Moira 144.04 4 P PKPbc 21 21 54.3 +0.8
baz=354
FRNY Flat Rock 144.10 3 P PKPbc 21 21 53.8 +0.1
baz=356
P40A Paris 144.23 28 PKPdf PKPbc 21 21 54.4 +0.1
P40A Paris 144.23 28 P PKPdf 21 21 55.5 -0.6
baz=323,SNR=6.5
LONY Lake Ozonia 144.25 4 PKPdf PKPbc 21 21 54.6 +0.4
LONY Lake Ozonia 144.25 4 P PKPbc 21 21 54.9 +0.6
baz=354
JANB Januaria 144.26 229 eP PKPdf 21 21 57.7 +0.9
L46A Eue Claire 144.41 19 P PKPdf 21 21 55.9 -0.4
baz=334
L46A P PKPdf 21 21 55.9 -0.4
baz=334
FNO Franklin 144.47 38 PKPdf PKPab 21 21 55.0 0.0
HDIL Hopedale 144.58 24 PKPdf PKPab 21 21 55.2 0.0
HDIL Hopedale 144.58 24 P PKPdf 21 21 56.1 -0.5
baz=328,SNR=6.5
HDIL Hopedale 144.58 24 P PKPbc 21 21 55.7 +0.3
baz=328
DEOK Depew 144.62 37 PKPdf PKPbc 21 21 55.9 +0.2
ABTX Abilene, Hawle 144.65 44 P PKPdf 21 21 57.4 +0.4
baz=306
ABTX Abilene, Hawle 144.65 44 P PKPdf 21 21 57.7 +0.6
baz=306
NBCL Cascavel-CE 144.67 250 eP PKPdf 21 21 58.1 +0.6
LBNH Lisbon 144.75 1 PKPdf PKPbc 21 21 56.3 +0.5
LBNH Lisbon 144.75 1 P PKPdf 21 21 57.3 +0.5
baz=359
LBNH Lisbon 144.75 1 P PKPdf 21 21 57.5 +0.7
baz=359
LBNH Lisbon 144.75 1 PKIKP PKPdf 21 21 56.3 -0.5
K50A Casco 144.77 15 P PKPbc 21 21 56.2 +0.3
baz=340
K50A P PKPbc 21 21 56.2 +0.3
baz=340
WCNY West Carthage 144.80 6 P PKPbc 21 21 56.1 +0.1
baz=352
NCB Newcomb 144.92 4 PKPdf PKPab 21 21 56.0 -0.3
NCB Newcomb 144.92 4 P PKPdf 21 21 57.5 +0.4
baz=355,SNR=20
I63A Otisfield 144.94 359 PKPdf PKPdf 21 21 56.9 -0.2
I63A Otisfield 144.94 359 P PKPdf 21 21 57.5 +0.4
baz=1.1,SNR=5.4
I63A P PKPdf 21 21 57.5 +0.4
baz=1.1,SNR=5.4
AAM Ann Arbor 144.94 16 P PKPdf 21 21 57.6 +0.4
baz=338
TUL1 Leonard 144.99 36 P PKPdf 21 21 57.2 -0.3
baz=314
TUL1 Leonard 144.99 36 P PKPdf 21 21 57.8 +0.3
baz=314
MCVT Middlebury Col 145.00 2 P PKPdf 21 21 57.8 +0.5
baz=357,SNR=6.0
S39A Bolivar 145.04 31 P PKPab 21 21 57.2 +0.2
baz=320
L48A N Adams 145.05 17 P PKPdf 21 21 57.4 0.0
baz=337
L48A P PKPdf 21 21 57.4 0.0
baz=337
R40A Maddies Statio 145.11 30 P PKPdf 21 21 58.0 +0.4
baz=322
J54A Appleton 145.11 9 P PKPdf 21 21 57.9 +0.4
baz=347
J54A P PKPdf 21 21 57.9 +0.4
baz=347
I62A Tamworth 145.12 0 P PKPdf 21 21 57.7 +0.3
baz=360
I62A P PKPdf 21 21 57.7 +0.3
baz=360
J55A Hilton 145.25 8 P PKPdf 21 21 57.9 +0.2
baz=349
J55A P PKPdf 21 21 57.9 +0.2
baz=349
O44A Mansfield 145.26 23 P PKPdf 21 21 58.3 +0.5
baz=329
P43A Skaggs, Pawnee 145.26 25 P PKPdf 21 21 58.3 +0.5
baz=327,SNR=7.8
J57A Williamstown 145.33 6 P PKPab 21 21 58.5 +0.6
baz=352,SNR=12
J57A P PKPab 21 21 58.5 +0.6
baz=352,SNR=12
J56A Wolcott 145.36 7 P PKPab 21 21 58.7 +0.7
baz=350
J56A P PKPab 21 21 58.7 +0.7
baz=350
J59A Piesco 145.41 4 P PKPab 21 21 58.3 +0.1
baz=354,SNR=6.7
J59A P PKPab 21 21 58.3 +0.1
baz=354,SNR=6.7
U38A Gravette 145.41 34 PKPbc 21 21 57.1 -1.0
U38A Gravette 145.41 34 P PKPbc 21 21 58.0 -0.2
baz=317
J58A Remsen 145.45 5 P PKPab 21 21 58.5 +0.2
baz=353,SNR=8.0
J58A P PKPab 21 21 58.5 +0.2
baz=353,SNR=8.0
ACCN Adirondack Com 145.54 3 P PKPbc 21 21 58.5 +0.1
baz=356,SNR=5.5
SFIN Lafayette 145.58 22 P PKPab 21 21 59.0 +0.1
baz=332,SNR=6.9
SFIN Lafayette 145.58 22 P PKPab 21 21 59.5 +0.6
baz=332
N47A Urbana 145.62 20 P PKPab 21 21 58.9 -0.1
baz=334,SNR=6.0
N47A P PKPab 21 21 58.9 -0.1
baz=334,SNR=6.0
J61A Chester 145.62 2 P PKPab 21 21 59.4 +0.5
baz=358,SNR=5.7
J61A P PKPab 21 21 59.4 +0.5
baz=358,SNR=5.7
JCT Junction City 145.74 47 P PKPab 21 22 00.5 +0.6
baz=303
JCT Junction City 145.74 47 P PKPab 21 22 01.0 +1.1
baz=303
SLM Saint Louis 145.78 27 P PKPab 21 21 59.5 -0.1
baz=325
CCM Cathedral Cave 145.79 29 P PKPbc 21 21 59.4 +0.1
baz=323
CCM Cathedral Cave 145.79 29 P PKPab 21 21 60.0 +0.2
baz=323
Z35A Perchaven, San 145.81 41 P PKPab 21 22 00.5 +0.6
baz=310
UNH University of 145.90 360 P PKPab 21 22 00.1 +0.2
baz=0.6
K57A Scipio Center 145.94 7 P PKPab 21 22 00.2 0.0
baz=351,SNR=6.9
M50A Fremont 145.94 16 P PKPab 21 22 00.2 +0.1
baz=339
M50A P PKPab 21 22 00.2 +0.1
baz=339
WVNY West Valley, N 145.96 10 P PKPab 21 22 00.3 0.0
baz=347,SNR=6.3
ERPA Erie 145.99 12 P PKPbc 21 22 00.0 +0.2
baz=344
ERPA Erie 145.99 12 P PKPab 21 22 00.3 0.0
baz=344
N49A Columbus Grove 146.06 18 PKPdf PKPdf 21 21 59.4 +0.2
N49A Columbus Grove 146.06 18 P PKPab 21 22 00.7 +0.1
baz=337,SNR=8.2
N49A P PKPab 21 22 00.7 +0.1
baz=337,SNR=8.2
Q44A Meyer Farm, Va 146.09 25 P PKPab 21 22 00.8 0.0
baz=327
X37A Clayton 146.15 37 PKPdf PKPdf 21 21 58.3 -1.2
HCNY Howe Caverns 146.18 4 P PKPab 21 22 01.0 0.0
baz=354,SNR=8.6
P46A Rosedale 146.21 22 P PKPab 21 22 01.3 0.0
baz=331,SNR=5.5
M52A Chesterland 146.24 14 P PKPbc 21 22 00.6 0.0
baz=342
M52A P PKPbc 21 22 00.6 0.0
baz=342
K62A Royalston 146.31 1 P PKPab 21 22 01.4 -0.1
baz=358
K62A P PKPab 21 22 01.4 -0.1
baz=358
O48B Farmland 146.36 19 P PKPab 21 22 01.4 -0.4
baz=335,SNR=9.4
O48B Farmland 146.36 19 P PKPab 21 22 01.5 -0.4
baz=335
L56A Greenwood 146.39 9 P PKPab 21 22 01.7 -0.3
baz=349,SNR=5.3
L56A P PKPab 21 22 01.7 -0.3
baz=349,SNR=5.3
ALLY Alegheny Colle 146.41 12 P PKPbc 21 22 01.1 +0.1
baz=344
HRV Adam Dziewonsk 146.48 0 P PKPbc 21 22 01.0 -0.2
baz=359
M53A WI Miller and 146.49 13 P PKPbc 21 22 01.7 +0.4
baz=343
BDFB Brasilia 146.51 224 PKPbc PKPab 21 22 04.0 +0.9
comp=Z,7.1nm,0.7s,baz=165,slow=5.9,SNR=11
BDFB Brasilia 146.51 224 eP PKiKP 21 22 04.4 -0.7
WHTX Lake Whitney, 146.51 43 P PKPbc 21 22 01.4 -0.2
baz=308
WHTX Lake Whitney, 146.51 43 P PKPab 21 22 03.1 +0.4
baz=308
L61B Northampton 146.52 2 P PKPbc 21 22 01.3 0.0
baz=357
BINY Binghamton 146.53 6 P PKPbc 21 22 01.8 +0.3
baz=352
BINY Binghamton 146.53 6 P PKPab 21 22 02.5 +0.1
baz=352
N51A Ashland 146.57 15 P PKPbc 21 22 01.3 -0.3
baz=340
N51A P PKPbc 21 22 01.3 -0.3
baz=340
OLIL Olney 146.62 24 PKPbc 21 22 01.8 0.0
OLIL Olney 146.62 24 P PKPab 21 22 02.6 -0.3
baz=329,SNR=6.0
L59A Walton 146.63 5 P PKPbc 21 22 02.2 +0.5
baz=353
L59A P PKPbc 21 22 02.2 +0.5
baz=353
O49A Covington 146.69 18 P PKPbc 21 22 02.5 +0.6
baz=336,SNR=7.5
O49A P PKPbc 21 22 02.5 +0.6
baz=336,SNR=7.5
QUA2 Belchertown 146.70 2 P PKPab 21 22 03.0 0.0
baz=358
M55A Ridgway 146.84 10 P PKPbc 21 22 03.0 +0.6
baz=346,SNR=5.2
M55A P PKPbc 21 22 03.0 +0.6
baz=346,SNR=5.2
MURT Porto Murtinho 146.85 204 eP PKPdf 21 22 01.6 +0.6
P48A Milroy 146.99 20 P PKPbc 21 22 02.8 0.0
baz=334
P48A P PKPbc 21 22 02.8 0.0
baz=334
S44A Carbondale 147.00 27 P PKPbc 21 22 03.6 +0.7
baz=326
ACSO Alum Creek Sta 147.05 17 P PKPbc 21 22 03.6 +0.7
baz=338,SNR=7.4
ACSO Alum Creek Sta 147.05 17 P PKPab 21 22 03.8 -0.7
baz=338
L64A Middleborough 147.05 359 P PKPbc 21 22 02.6 -0.2
baz=0.7
L64A P PKPbc 21 22 02.6 -0.2
baz=0.7
N53A Lisbon 147.06 13 P PKPbc 21 22 02.4 -0.6
baz=342
N53A P PKPbc 21 22 02.4 -0.6
baz=342
AQDB Aquidauana 147.09 208 eP PKPbc 21 22 03.0 -0.6
NPNY Mohonk Preserv 147.13 4 P PKPbc 21 22 03.5 +0.4
baz=355
P49A Miami Univ. Ec 147.16 19 P PKPbc 21 22 03.1 -0.2
baz=335
P49A Miami Univ. Ec 147.16 19 P PKPbc 21 22 03.8 +0.5
baz=335
833A Chaparral WMA, 147.18 50 P PKPbc 21 22 04.0 +0.3
baz=301
833A Chaparral WMA, 147.18 50 P PKPab 21 22 05.4 0.0
baz=301
KSPA Keystone Colle 147.19 6 P PKPab 21 22 04.2 -0.8
baz=352,SNR=9.6
PBMO Poplar Bluff 147.20 29 P PKPbc 21 22 03.9 +0.5
baz=323
MIAR Mount Ida 147.23 35 PKPbc PKPbc 21 22 02.8 -0.8
MIAR Mount Ida 147.23 35 P PKPbc 21 22 04.4 +0.8
baz=316
MIAR Mount Ida 147.23 35 P PKPab 21 22 04.8 -0.6
baz=316
MIAR Mount Ida 147.23 35 PKP2 PKPbc 21 22 02.8 -0.8
M57A Sunshine Farm, 147.23 8 P PKPab 21 22 04.5 -0.7
baz=349,SNR=9.0
M57A P PKPab 21 22 04.5 -0.7
baz=349,SNR=9.0
Z38A Mt. Pleasant 147.29 39 P PKPbc 21 22 04.3 +0.4
baz=313
O52A Adamsville 147.47 15 P PKPbc 21 22 04.5 +0.3
baz=340
O52A P PKPbc 21 22 04.5 +0.3
baz=340
BRNY Black Rk. Fore 147.48 4 P PKPbc 21 22 04.6 +0.5
baz=355
O53A New Philadelph 147.50 14 P PKPbc 21 22 05.1 +0.9
baz=342
X40A Basin Creek Fa 147.70 35 PKPbc PKPbc 21 22 04.1 -0.8
P51A Williamsport 147.72 17 P PKPbc 21 22 04.6 -0.2
baz=338
P51A P PKPbc 21 22 04.6 -0.2
baz=338
O54A Avella 147.76 13 P PKPbc 21 22 05.1 +0.2
baz=343
O54A P PKPbc 21 22 05.1 +0.2
baz=343
WCI Wyandotte Cave 147.76 23 PKPbc PKPdf 21 22 02.5 +0.4
WCI Wyandotte Cave 147.76 23 P PKPbc 21 22 05.5 +0.6
baz=331
WCI Wyandotte Cave 147.76 23 P PKPbc 21 22 05.5 +0.6
baz=331
WCI Wyandotte Cave 147.76 23 PKIKP PKPdf 21 22 02.5 +0.4
ODNJ Ogdensburg 147.77 5 PKPbc PKPbc 21 22 05.6 +0.8
ODNJ Ogdensburg 147.77 5 P PKPbc 21 22 05.7 +0.8
baz=354
N58A Sunbury 147.78 8 PKPbc PKPbc 21 22 04.3 -0.6
N58A Sunbury 147.78 8 P PKPbc 21 22 05.7 +0.8
baz=350,SNR=8.3
N58A P PKPbc 21 22 05.7 +0.8
baz=350,SNR=8.3
SSPA Standing Stone 147.81 10 PKPbc PKPbc 21 22 04.9 -0.1
SSPA Standing Stone 147.81 10 P PKPbc 21 22 05.7 +0.7
baz=348,SNR=7.8
SSPA Standing Stone 147.81 10 P PKPbc 21 22 05.8 +0.7
baz=348
T45B Paducah 147.83 27 P PKPbc 21 22 05.9 +0.8
baz=326
P52A Corning 147.84 16 PKPbc PKPbc 21 22 05.2 +0.1
P52A Corning 147.84 16 P PKPbc 21 22 05.5 +0.4
baz=340
PAL Palisades 147.90 4 P PKPbc 21 22 05.7 +0.5
baz=355
PAL Palisades 147.90 4 P PKPbc 21 22 06.1 +0.9
baz=355
Q51A Peebles 148.06 18 PKPbc PKPbc 21 22 05.8 +0.1
Q51A Peebles 148.06 18 P PKPbc 21 22 05.3 -0.5
baz=337
Q51A P PKPbc 21 22 05.3 -0.5
baz=337
PB15 IPOC Station P 148.09 183 PKPdf PKPdf 21 22 01.7 -1.6
WLAR White Oak Lake 148.12 36 PKPbc PKPbc 21 22 05.1 -0.9
R49A Shelbyville 148.12 21 PKPbc PKPbc 21 22 06.1 +0.1
R49A Shelbyville 148.12 21 P PKPbc 21 22 06.3 +0.3
baz=333
R49A P PKPbc 21 22 06.3 +0.3
baz=333
BRNJ Basking Ridge 148.17 5 P PKPbc 21 22 06.5 +0.5
baz=354
P53A Whipple 148.18 15 PKPbc PKPbc 21 22 06.4 +0.4
P53A Whipple 148.18 15 P PKPbc 21 22 06.2 +0.2
baz=341
P53A P PKPbc 21 22 06.2 +0.2
baz=341
MCWV Mont Chateau 148.38 13 P PKPbc 21 22 06.1 -0.5
baz=344
R50A Paris 148.42 20 P PKPbc 21 22 06.7 0.0
baz=335
R50A P PKPbc 21 22 06.7 0.0
baz=335
Q52A Bidwell 148.43 17 P PKPbc 21 22 06.3 -0.4
baz=339
Q52A P PKPbc 21 22 06.3 -0.4
baz=339
PANJ Princeton 148.46 5 P PKiKP 21 22 07.6 -0.7
baz=353
T47A Sharon Grove 148.51 25 PKPdf PKPdf 21 22 02.5 -0.9
T47A PKPbc PKPbc 21 22 07.4 +0.4
T47A Sharon Grove 148.51 25 P PKPbc 21 22 07.5 +0.4
baz=329
PB06 IPOC Station P 148.59 183 PKPbc PKiKP 21 22 08.8 -0.5
LVC Limon Verde 148.64 184 PKPbc PKiKP 21 22 09.1 -0.6
LVC Limon Verde 148.64 184 PKP2 PKiKP 21 22 09.1 -0.6
LVC Limon Verde 148.64 184 eP PKPdf 21 22 04.6 +0.1
MVL Millersville 148.66 8 PKPbc PKPbc 21 22 07.5 +0.3
Q54A Coxs Mills 148.79 15 PKPbc PKPbc 21 22 07.8 +0.2
Q54A Coxs Mills 148.79 15 P PKPbc 21 22 08.3 +0.7
baz=342
Q54A P PKPbc 21 22 08.3 +0.7
baz=342
HKT Hockley 148.86 44 PKPbc PKiKP 21 22 08.8 -0.6
HKT Hockley 148.86 44 P PKiKP 21 22 09.1 -0.3
baz=308
HKT Hockley 148.86 44 PKP2 PKiKP 21 22 08.8 -0.6
P57A Homestead Farm 148.91 10 P PKPbc 21 22 07.9 0.0
baz=347

P57A				P		**PKPbc**	**21 22 07.9**	**0.0**
	baz=347							
ARAG	**Araguaiana, MT**	**148.92**	**218**	*eP*		**PKPdf**	**21 22 05.3**	**+0.7**
WVT	**Waverly**	**148.93**	**27**	P		**PKPbc**	**21 22 08.4**	**+0.4**
	baz=327							
WVT	**Waverly**	**148.93**	**27**	P		**PKiKP**	**21 22 09.0**	**-0.4**
	baz=327							
PB04	**IPOC Station P**	**148.98**	**182**		PKPbc	**PKiKP**	**21 22 09.8**	**-0.4**
R53A	**Hurricane**	**149.11**	**17**	P		**PKiKP**	**21 22 09.1**	**-0.6**
	baz=339							
R53A				P		**PKiKP**	**21 22 09.1**	**-0.6**
	baz=339							
Q56A	**Snyder Ridge,**	**149.11**	**12**	P		**PKPbc**	**21 22 08.7**	**+0.2**
	baz=345							
Q56A				P		**PKPbc**	**21 22 08.7**	**+0.2**
	baz=345							
PP1B	**Ponte de Pedra**	**149.14**	**212**	*eP*		**PKPbc**	**21 22 07.3**	**-1.8**
S51A	**Beattyville**	**149.25**	**19**	P		**PKPbc**	**21 22 08.9**	**+0.1**
	baz=336							
S51A				P		**PKPbc**	**21 22 08.9**	**+0.1**
	baz=336							
PB03	**IPOC Station P**	**149.25**	**183**		PKPbc	**PKiKP**	**21 22 10.2**	**-0.5**
T50A	**Nancy**	**149.37**	**22**	P		**PKPbc**	**21 22 09.7**	**+0.5**
	baz=333							
T50A				P		**PKPbc**	**21 22 09.7**	**+0.5**
	baz=333							
U49A	**Red Boiling Sp**	**149.46**	**23**	P		**PKiKP**	**21 22 10.5**	**0.0**
	baz=331							
PB09	**IPOC Station P**	**149.47**	**184**		PKPbc	**PKPbc**	**21 22 08.8**	**-1.3**
OXF	**Oxford**	**149.50**	**30**	P		**PKiKP**	**21 22 10.6**	**0.0**
	baz=323							
OXF	**Oxford**	**149.50**	**30**	P		**PKiKP**	**21 22 10.1**	**-0.5**
	baz=323							
PB07	**IPOC Station P**	**149.58**	**182**		PKPbc	**PKPbc**	**21 22 09.7**	**-0.6**
R55A	**Marlinton**	**149.63**	**14**	P		**PKiKP**	**21 22 10.9**	**0.0**
	baz=342							
R55A				P		**PKiKP**	**21 22 10.9**	**0.0**
	baz=342							
V48A	**Smith Brothers**	**149.70**	**26**	P		**PKiKP**	**21 22 10.6**	**-0.4**
	baz=328							
S54A	**Dingess, Beckl**	**149.78**	**16**	P		**PKPbc**	**21 22 10.3**	**+0.1**
	baz=340							
S54A				P		**PKPbc**	**21 22 10.3**	**+0.1**
	baz=340							
Y45A	**Yeager Farm, C**	**149.94**	**31**	P		**PKiKP**	**21 22 11.2**	**-0.4**
	baz=322							
TZTN	**Tazewell**	**150.25**	**20**	P		**PKPbc**	**21 22 11.5**	**+0.1**
	baz=335							
TZTN	**Tazewell**	**150.25**	**20**	P		**PKiKP**	**21 22 12.4**	**+0.3**
	baz=335							
S57A	**Dark Hollow, R**	**150.39**	**12**	P		**PKiKP**	**21 22 12.5**	**+0.2**
	baz=344							
S57A				P		**PKiKP**	**21 22 12.5**	**+0.2**
	baz=344							
R58B	**Mineral**	**150.41**	**11**	P		**PKiKP**	**21 22 12.0**	**-0.4**
	baz=347							
R58B				P		**PKiKP**	**21 22 12.0**	**-0.4**
	baz=347							
ROSB	**Rosrio**	**150.55**	**248**	*eP*		**PKPdf**	**21 22 08.2**	**+1.0**
SMTB	**Santa Maria do**	**150.59**	**234**	*eP*		**PKPdf**	**21 22 07.5**	**+0.1**
V51A	**Loudon**	**150.63**	**22**	P		**PKiKP**	**21 22 13.1**	**+0.1**
	baz=333							
X48A	**Hartselle**	**150.68**	**27**	P		**PKPbc**	**21 22 12.5**	**+0.1**
	baz=327							
BBRB	**Robore, Bolivi**	**150.77**	**203**	*eP*		**PKPdf**	**21 22 09.4**	**+1.9**
W50A	**Signal Mountai**	**150.79**	**24**	P		**PKPbc**	**21 22 12.9**	**+0.2**
	baz=331							
U54A	**Nelsons Funny**	**150.83**	**18**	P		**PKPbc**	**21 22 13.0**	**+0.2**
	baz=338							
U54A				P		**PKPbc**	**21 22 13.0**	**+0.2**
	baz=338							
V52A	**Sevierville**	**150.87**	**21**	P		**PKiKP**	**21 22 13.6**	**+0.1**
	baz=334							
TKL	**Tuckaleechee C**	**150.97**	**21**	P		**PKiKP**	**21 22 14.2**	**+0.5**
	baz=334							
T57A	**Hurt**	**151.06**	**13**	P		**PKiKP**	**21 22 13.9**	**+0.1**
	baz=344							
T57A				P		**PKiKP**	**21 22 13.9**	**+0.1**
	baz=344							
Z47A	**Carrollton**	**151.22**	**30**	P		**PKiKP**	**21 22 14.0**	**-0.2**
	baz=324							
V53A	**Saluda**	**151.29**	**20**	P		**PKiKP**	**21 22 14.4**	**0.0**
	baz=336							
V53A				P		**PKiKP**	**21 22 14.4**	**0.0**
	baz=336							
SNDB	**Serra Nova Dou**	**151.34**	**224**	*eP*		**PKPdf**	**21 22 09.1**	**+0.7**
U56A	**King**	**151.40**	**16**	P		**PKPbc**	**21 22 14.0**	**-0.1**
	baz=341							
U56A				P		**PKPbc**	**21 22 14.0**	**-0.1**
	baz=341							
W52A	**Murphy**	**151.42**	**22**	P		**PKPbc**	**21 22 14.0**	**-0.2**
	baz=333							
T59A	**Double "B" Far**	**151.43**	**11**	P		**PKiKP**	**21 22 14.9**	**+0.3**
	baz=347							
T59A				P		**PKiKP**	**21 22 14.9**	**+0.3**
	baz=347							
Y49A	**Blount Mountai**	**151.47**	**27**	P		**PKPbc**	**21 22 14.1**	**-0.2**
	baz=327							
X51A	**Calhoun**	**151.52**	**24**	P		**PKPbc**	**21 22 14.0**	**-0.3**
	baz=331							
X51A				P		**PKPbc**	**21 22 14.0**	**-0.3**
	baz=331							
V55A	**Taylorsville**	**151.63**	**17**	P		**PKPbc**	**21 22 14.7**	**+0.2**
	baz=339							
V55A				P		**PKPbc**	**21 22 14.7**	**+0.2**
	baz=339							
CASEE	**Lake Jocassee**	**151.87**	**21**	P		**PKPbc**	**21 22 15.3**	**+0.1**
	baz=335							
LRAL	**Lakeview Retre**	**151.88**	**29**	P		**PKiKP**	**21 22 15.4**	**-0.1**
	baz=326							
LRAL	**Lakeview Retre**	**151.88**	**29**	P		**PKiKP**	**21 22 16.2**	**+0.7**
	baz=326							
BBSD	**Serra de San D**	**152.07**	**202**	*eP*		**PKPdf**	**21 22 10.0**	**+0.5**
KMSC	**Kings Mountain**	**152.25**	**18**	P		**PKPbc**	**21 22 16.0**	**0.0**
	baz=338							
KMSC	**Kings Mountain**	**152.25**	**18**	P		**PKiKP**	**21 22 16.9**	**+0.6**
	baz=338							
PAULI	**Pauline**	**152.40**	**19**	P		**PKPbc**	**21 22 15.8**	**-0.6**
	baz=337							
Y52A	**Lilburn**	**152.45**	**24**	P		**PKiKP**	**21 22 17.0**	**+0.2**
	baz=332							
Y52A				P		**PKiKP**	**21 22 17.0**	**+0.2**
	baz=332							
Z51A	**Franklin**	**152.47**	**26**	P		**PKiKP**	**21 22 16.9**	**+0.1**
	baz=329							
W57A	**Gilead**	**152.63**	**16**	P		**PKiKP**	**21 22 17.5**	**+0.5**
	baz=341							
W57A				P		**PKiKP**	**21 22 17.5**	**+0.5**
	baz=341							
HODGE	**Hodges**	**152.79**	**20**	P		**PKiKP**	**21 22 17.8**	**+0.3**
	baz=336							
BIRD	**Birdtown, Kers**	**152.97**	**17**	P		**PKiKP**	**21 22 17.7**	**-0.1**
	baz=340							
PTLB	**Pontes e Lacer**	**153.04**	**206**	*eP*		**PKPdf**	**21 22 12.7**	**+1.8**
JSC	**Jenkinsville**	**153.07**	**19**	P		**PKPbc**	**21 22 17.6**	**-0.2**
	baz=338							
250A	**Grady**	**153.09**	**29**	P		**PKiKP**	**21 22 17.9**	**0.0**
	baz=326							
PRPB	**Parauapebas**	**153.94**	**236**	*eP*		**PKPdf**	**21 22 13.2**	**+0.9**
CLDB	**Colider**	**155.09**	**218**	*eP*		**PKPdf**	**21 22 15.5**	**+1.6**
VILB	**Vilhena**	**155.72**	**207**	*eP*		**PKPdf**	**21 22 15.3**	**+0.6**
NPGB	**Novo Progresso**	**157.63**	**226**	*eP*		**PKPdf**	**21 22 17.7**	**+0.4**
MACA	**Manacapuru-AM**	**164.08**	**222**	*eP*		**PKPdf**	**21 22 24.4**	**+0.2**
RUSC	**La Rusia**	**176.53**	**148**		PKPdf	**PKPdf**	**21 22 28.8**	**-2.9**

ISK ***02*** *21:12:49.4, 39°.53N×26°.17E, h7km, ML2.0/16*
ATH ***02*** *21:12:50.9, 39°.54N×26°.06E, h12km±2km, ML2.0/3, Error ellipse: s-maj=2.5km s-min=1.0km az=259.0*
DDA ***02*** *21:12:50.0±0.0, 39°.56N×26°.16E, h4km±1km, ML2.0*
THE ***02*** *21:12:50.4, 39°.55N×26°.09E, h8km±1km, ML1.7/6, Error ellipse: s-maj=2.0km s-min=0.7km az=97.0*

ISC 02 21:12:50.0±0.8, 39°.55N±0°.02×26°.15E±0°.02, h10km±5km, n44, σ0°67/72, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.04**	**195**	P	**Pg**	**21 12 51.9**	**0.0**
KOCA				*i* AML	AML	21 12 53.0	
	comp=Z,1μm,0.4s						
KOCA				*i* AML	AML	21 12 53.0	
	comp=N,2μm,0.2s						
KOCA				*i* AML	AML	21 12 53.0	
	comp=E,924nm,0.3s						
KOCA				S	**Sg**	**21 12 53.1**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.09**	**190**	Pg	**Pg**	**21 12 51.9**	**-0.5**
BOZC	**Bozcaada**	**0.31**	**345**	Pg	**Pg**	**21 12 56.4**	**+0.3**
BOZC				Sg	**Sg**	**21 13 01.1**	**+0.8**
BOZC	**Bozcaada**	**0.31**	**345**	P	**Pg**	**21 12 56.0**	**-0.1**
BOZC				P	**Pb**	**21 12 56.3**	**-1.3**
BOZC				S	**Sg**	**21 13 00.5**	**+0.3**
BOZC				S	**Sb**	**21 13 00.7**	**-2.0**
EZN	**Ezine**	**0.31**	**25**	P	**Pg**	**21 12 56.6**	**+0.4**
EZN				S	**Sg**	**21 13 01.1**	**+0.7**
	195nm,0.1s						
EZN	**Ezine**	**0.31**	**25**	Pg	**Pg**	**21 12 56.3**	**+0.1**
EZN				Sg	**Sg**	**21 13 01.2**	**+0.8**
PRK	**Paraskevi**	**0.31**	**163**	P	**Pb**	**21 12 57.6**	**0.0**
PRK				S	**Sb**	**21 13 02.3**	**-0.4**
	462nm,0.4s						
PRK	**Paraskevi**	**0.31**	**163**	P	**Pb**	**21 12 57.6**	**0.0**
PRK				S	**Sb**	**21 13 02.4**	**-0.4**
PRK				AML	AML	21 13 03.9	
	comp=N,973μm,0.3s						
PRK				AML	AML	21 13 04.0	
	comp=E,877μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.36**	**57**	P	**Pg**	**21 12 57.2**	**+0.1**
BAYC				S	**Sg**	**21 13 02.1**	**+0.1**
SIGR	**SIGRI**	**0.41**	**215**	P	**Pg**	**21 12 57.9**	**0.0**
SIGR				S	**Sg**	**21 13 03.5**	**+0.2**
	comp=E,178nm,0.2s						
SIGR	**SIGRI**	**0.41**	**215**	Pg	**Pg**	**21 12 57.9**	**0.0**
SIGR				Sg	**Sg**	**21 13 03.8**	**+0.5**
SIGR	**SIGRI**	**0.41**	**215**	P	**Pg**	**21 12 57.9**	**0.0**
SIGR				S	**Sg**	**21 13 03.5**	**+0.2**
SIGR				AML	AML	21 13 04.0	
	comp=E,267μm,0.2s						
SIGR				AML	AML	21 13 04.4	
	comp=N,464μm,0.2s						
AYVA	**Ayvalik**	**0.48**	**119**	P	**Pg**	**21 12 58.9**	**-0.4**
AYVA				S	**Sg**	**21 13 05.5**	**-0.1**
GOKA	**anakkale-Gk**	**0.67**	**344**	P	**Pg**	**21 13 02.8**	**-0.2**
GOKA				S	**Sg**	**21 13 12.2**	**+0.4**
GADA	**Gvkgeada**	**0.67**	**343**	Pg	**Pg**	**21 13 03.3**	**+0.3**
BUHA	**Balikesir, Bur**	**0.72**	**93**	P	**Pg**	**21 13 04.1**	**+0.3**
BUHA				S	**Sg**	**21 13 13.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.89**	**16**	Pg	**Pg**	**21 13 07.1**	**0.0**
ZEDA	**zmir-Bergama**	**0.92**	**129**	P	**Pb**	**21 13 08.6**	**+0.6**
ZEDA				S	**Sb**	**21 13 21.8**	**+1.5**
LPK	**Lapseki**	**0.95**	**29**	Pg	**Pg**	**21 13 08.1**	**-0.1**
SMTH	**Samothraki Isl**	**1.04**	**333**	P	**Pg**	**21 13 09.7**	**-0.3**
SMTH				S	**Sg**	**21 13 23.4**	**-0.1**
	comp=N,20nm,0.2s						
SMTH	**Samothraki Isl**	**1.04**	**333**	P	**Pg**	**21 13 09.6**	**-0.4**
SMTH				S	**Sg**	**21 13 23.6**	**+0.1**
PSRA	**Psara**	**1.10**	**205**	P	**Pg**	**21 13 10.9**	**-0.2**
BALY	**Balya**	**1.15**	**80**	P	**Pg**	**21 13 09.6**	**-2.5**
BALY				S	**Sg**	**21 13 26.8**	**-0.2**
ERIK	**Erikli-Kesan**	**1.16**	**14**	Pn	**Pg**	**21 13 11.9**	**-0.3**
CHOS	**Chios island**	**1.16**	**184**	P	**Pg**	**21 13 11.5**	**-0.7**
CHOS				S	**Sg**	**21 13 27.7**	**+0.4**
	comp=N,80nm,0.3s						
CHOS	**Chios island**	**1.16**	**184**	Pn	**Pg**	**21 13 11.7**	**-0.6**
CHOS	**Chios island**	**1.16**	**184**	P	**Pg**	**21 13 11.6**	**-0.6**
CHOS				S	**Sg**	**21 13 27.8**	**+0.5**
CHOS				AML	AML	21 13 31.2	
	comp=E,209μm,0.3s						
CHOS				AML	AML	21 13 31.5	
	comp=N,125μm,0.3s						
ENEZ	**Enez**	**1.19**	**0**	Pn	**Pb**	**21 13 12.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.22**	**97**	P	**Pb**	**21 13 12.6**	**-0.6**
STEP				S	**Sn**	**21 13 31.1**	**+1.4**
URLA	**Izmir**	**1.23**	**164**	Pn	**Pb**	**21 13 12.9**	**-0.4**
URLA	**Izmir**	**1.23**	**164**	P	**Pb**	**21 13 12.6**	**-0.7**
URLA				S	**Sb**	**21 13 29.1**	**-0.2**
URLA				*i* AML	AML	21 13 30.0	
	comp=N,25nm,0.6s						
URLA				*i* AML	AML	21 13 32.0	
	comp=N,22nm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**1.33**	**168**	P	**Pn**	**21 13 15.5**	**+0.9**
ZEYE				S	**Sb**	**21 13 31.1**	**-1.1**
ZEYE				*i* AML	AML	21 13 35.0	
	comp=N,24nm,0.4s						
BALB	**Balikesir**	**1.34**	**85**	Pn	**Pn**	**21 13 14.6**	**-0.1**
KESN	**Edirne-Kesan**	**1.34**	**17**	P	**Pn**	**21 13 15.2**	**+0.1**
KESN				S	**Sn**	**21 13 33.8**	**+0.7**
KESN				*i* AML	AML	21 13 35.0	
	comp=N,22nm,0.2s						
KESN				*i* AML	AML	21 13 37.0	
	comp=N,25nm,0.2s						
ALN	**Alexandroupoli**	**1.35**	**357**	P	**Pn**	**21 13 14.5**	**-0.4**
ALN				S	**Sn**	**21 13 33.5**	**+0.6**
	comp=N,15nm,0.5s						
ALN	**Alexandroupoli**	**1.35**	**357**	Pn	**Pn**	**21 13 15.0**	**+0.1**
ALN	**Alexandroupoli**	**1.35**	**357**	P	**Pn**	**21 13 15.0**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.39**	**34**	Pn	**Pn**	**21 13 15.5**	**+0.1**
THAS	**Thassos island**	**1.53**	**314**	P	**Pn**	**21 13 17.0**	**-0.3**
THAS				S	**Sn**	**21 13 36.7**	**-0.5**
UKOP	**Uzunkopru-Edir**	**1.62**	**13**	Pn	**Pn**	**21 13 19.3**	**+0.7**
RDO	**Rodhopi**	**1.67**	**344**	Pn	**Pn**	**21 13 19.8**	**+0.6**
RDO	**Rodhopi**	**1.67**	**344**	P	**Pn**	**21 13 19.6**	**+0.4**
OUR	**Ouranopolis**	**1.85**	**296**	Pn	**Pn**	**21 13 23.1**	**+1.4**
SMG	**Samos**	**1.91**	**163**	P	**Pn**	**21 13 22.4**	**-0.2**

SKO 02 21:12:50.5, 41°.37N×22°.62E, h0km, ML0.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.06**	**218**	*i* Pg	Pg	21 12 51.4	-0.2
VAY				*i* Sg	Sg	21 12 52.4	-0.1
VAY				*e*Lg	Lg	21 12 52.4	
	comp=E,27nm,0.2s						
KNT	**Kendrikon**	**0.29**	**135**	*i* Pg	Pg	21 12 55.8	-0.3
KNT				*i* Sg	Sg	21 12 59.8	-0.1
GRG	**Griva**	**0.45**	**202**	*i* Pg	Pg	21 12 58.5	-0.5

IDC 02 21:14:01.1±2.6, 2°.36N×127°.05E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=214.2km s-min=29.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.29**	**162**	P	P	21 19 10.3	-0.5
	0.6nm,0.5s,baz=341,slow=11,SNR=3.9 0.6nm,0.5s						
ASAR	**Alice Springs**	**26.72**	**166**	P	P	21 19 43.1	+0.6
	0.3nm,0.6s,baz=344,slow=11,SNR=1.4 0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.86**	**326**	P	P	21 24 01.6	-0.2
	0.2nm,0.6s,baz=112,slow=7.8,SNR=2.5 0.2nm,0.6s						

BJI ***02*** *21:24:15.4±0.0, 41°.08N×142°.47E, h60km, mb4.6/56, mB5.0/25, Ms4.3/14, Ms7 4.2/13*
MOS ***02*** *21:24:19.5±1.0, 41°.19N×142°.01E, h60km, mb5.0/49, Error ellipse: s-maj=6.3km s-min=4.1km az=106.5*
NIED ***02*** *21:24:20.8, 41°.20N×142°.03E, h58km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr4.20; Mθθ-0.36; Mφφ-3.85; Mrθ2.45; Mrφ-1.67; Mθφ5.78; Fault plane solution: M0 7.64000×10^15 NP1:φs23.00000°, δ73.00000°, λ91.00000°. NP2:φs201.00000°, δ17.00000°, λ88.00000°.*
NEIC ***02*** *21:24:20.6±1.8, 41°.21N±0°.06×142°.00E±0°.08, h55km±5km, mb4.8/128, Mwr4.5/12 Error ellipse: s-maj=11.0km s-min=5.2km az=133.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr2.21; Mθθ1.19; Mφφ-3.40; Mrθ3.49; Mrφ0.38; Mθφ4.94; Fault plane solution: M0 6.76000×10^15 NP1:φs145.43000°, δ21.55000°, λ26.93000°. NP2:φs30.15000°, δ80.43000°, λ109.40000°. Principal axes: T 6.9285, Plg51.0000°, Azm322.0000°; N -0.3563, Plg19.0000°, Azm207.0000°; P -6.5723, Plg33.0000°, Azm104.0000°;*
JMA ***02*** *21:24:20.8±0.1, 41°.2N±0°.3×142°.0E±0°.6, h58km±1km, MD4.5/40, MV4.4/40, E OFF AOMORI PREF*
JMA Felt III J1 at E OFF AOMORI PREF .
IDC ***02*** *21:24:21.4±1.3, 41°.17N×142°.00E, h64km±11km, mb4.2/39, mbtmp4.5/49, MS3.5/3, Error ellipse: s-maj=11.1km s-min=8.2km az=122.0*

ISC 02 21:24:20.8±0.4, 41°.17N±0°.03×142°.01E±0°.03, h65km±3km, h65km:pP-P, n558, σ1s39/543, mb4.8/188, 28C-49D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JARK	**Aomorirokkasho**	**0.51**	**251**	⇓*iP*	**Pn**	**21 24 33.1**	**-0.2**
JARK				⇓S	**Sn**	**21 24 41.9**	**-0.5**
JARK	**Aomorirokkasho**	**0.51**	**251**	A	A	21 24 33.1	
	comp=E,98nm,0.9s,comp=E,78nm,0.9s						
JAHD	**Aomorihigashid**	**0.51**	**281**	⇓P	**Pn**	**21 24 33.1**	**-0.2**
JAHD				⇓*e*S	**Sn**	**21 24 42.2**	**-0.2**
JAHD	**Aomorihigashid**	**0.51**	**281**	A	A	21 24 33.1	
	comp=E,94nm,1.0s,comp=E,87nm,1.1s						
JOT	**Ohata**	**0.75**	**286**	⇓*iP*	**Pn**	**21 24 35.8**	**-0.2**
JOT				⇓S	**Sn**	**21 24 46.8**	**-0.3**
JOT	**Ohata**	**0.75**	**286**	A	A	21 24 35.8	
	comp=E,10.0nm,1.4s,comp=E,12nm,1.6s						
JTM	**Tenmabayashi**	**0.81**	**242**		**Pn**	**21 24 36.8**	**+0.1**
JTM				Sn	**Sn**	**21 24 47.9**	**-0.4**
JTM	**Tenmabayashi**	**0.81**	**242**	⇓*iP*	**Pn**	**21 24 36.8**	**+0.1**
JTM				⇓S	**Sn**	**21 24 48.5**	**+0.2**
JTM	**Tenmabayashi**	**0.81**	**242**	A	A	21 24 36.8	
	comp=E,17nm,1.6s,comp=E,28nm,1.8s						
JANG	**Nango**	**0.88**	**205**	*iP*	**Pn**	**21 24 37.3**	**-0.3**
JANG				S	**Sn**	**21 24 49.2**	**-0.8**
JANG	**Nango**	**0.88**	**205**	A	A	21 24 37.3	
	comp=E,23nm,1.0s,comp=E,28nm,0.6s						
JKEN	**Kujiedanarisaw**	**0.99**	**193**	A	A	21 24 39.2	
	comp=E,69nm,0.9s,comp=E,44nm,0.5s						
JKB	**Kayabe**	**1.02**	**315**	⇓*iP*	**Pn**	**21 24 39.0**	**-0.4**
JKB				⇓S	**Sn**	**21 24 52.8**	**-0.3**
JKB	**Kayabe**	**1.02**	**315**	A	A	21 24 39.0	
	comp=E,8.0nm,1.2s,comp=E,9.0nm,2.4s						
ERM	**Erimo**	**1.21**	**45**	Pn	**Pn**	**21 24 41.6**	**-0.1**
ERM				Sn	**Sn**	**21 24 56.4**	**-0.9**
ERM	**Erimo**	**1.21**	**45**	*cP*	**Pn**	**21 24 41.5**	**-0.2**
JEM	**Erimo**	**1.21**	**45**	*iP*	**Pn**	**21 24 41.6**	**-0.1**
JEM				S	**Sn**	**21 24 57.4**	**+0.1**
JEM	**Erimo**	**1.21**	**45**	A	A	21 24 41.6	
	comp=E,11nm,2.6s,comp=E,7.0nm,0.6s						
JSI2	**Shiura 2**	**1.21**	**265**	A	A	21 24 42.2	
	comp=E,13nm,0.8s,comp=E,26nm,1.1s						
JTH	**Tanohata**	**1.24**	**185**	A	A	21 24 42.5	
	comp=E,6.0nm,3.6s,comp=E,5.0nm,0.4s						
JNBK	**Urakawa-nobuka**	**1.24**	**26**	*iP*	**Pn**	**21 24 41.7**	**-0.5**
JNBK				S	**Sn**	**21 24 57.2**	**-0.9**
JNBK	**Urakawa-nobuka**	**1.24**	**26**	A	A	21 24 41.7	
	comp=E,24nm,1.7s,comp=E,21nm,1.7s						
JSR	**Shiriuchi**	**1.25**	**287**	⇓*iP*	**Pn**	**21 24 42.8**	**+0.5**
JSR	**Shiriuchi**	**1.25**	**287**	A	A	21 24 42.8	
	comp=E,11nm,3.4s,comp=E,7.0nm,0.3s						
JSHD	**Hidakashinhida**	**1.28**	**15**	A	A	21 24 42.5	
	comp=E,26nm,3.0s,comp=E,21nm,2.3s						
JKZ	**Kuzumaki**	**1.29**	**204**	A	A	21 24 43.4	
	comp=E,12nm,0.4s,comp=E,12nm,0.5s						
JHHS	**Hirosakihyakuz**	**1.35**	**248**	A	A	21 24 44.2	
	comp=E,21nm,1.3s,comp=E,29nm,1.0s						
JAH	**Hinai**	**1.43**	**227**	⇓P	**Pn**	**21 24 45.3**	**+0.6**
JAH				⇓*e*S	**Sn**	**21 25 03.5**	**+0.8**
JAH	**Hinai**	**1.43**	**227**	A	A	21 24 45.3	
	comp=E,8.0nm,1.9s,comp=E,11nm,3.2s						
JIAM	**Iburiatsuma**	**1.45**	**357**	⇓*iP*	**Pn**	**21 24 45.6**	**+0.6**
JIAM				⇓S	**Sn**	**21 25 05.3**	**+2.2**
JIAM	**Iburiatsuma**	**1.45**	**357**	A	A	21 24 45.6	
	comp=E,29nm,0.9s,comp=E,32nm,0.8s						
JTHR	**Tokachihiroo**	**1.48**	**40**	A	A	21 24 45.2	
	comp=E,9.0nm,1.3s,comp=E,8.0nm,1.5s						
JNB	**Noboribetsu**	**1.48**	**331**	⇓*iP*	**Pn**	**21 24 44.7**	**-0.8**
JNB				⇓S	**Sn**	**21 25 02.5**	**-1.4**
JOMM	**Oshimamatsumae**	**1.55**	**284**	*iP*	**Pn**	**21 24 46.2**	**-0.1**
JOMM	**Oshimamatsumae**	**1.55**	**284**	A	A	21 24 46.2	
	comp=E,4.0nm,1.9s,comp=E,3.0nm,3.8s						
JYM2	**Yakumo 2**	**1.55**	**308**	⇓*iP*	**Pn**	**21 24 46.5**	**+0.3**
JYM2	**Yakumo 2**	**1.55**	**308**	A	A	21 24 46.5	
	comp=E,5.0nm,2.0s,comp=E,5.0nm,1.0s						
MIYJ	**Miyakonagasawa**	**1.60**	**185**	A	A	21 24 47.7	
	comp=E,11nm,2.9s,comp=E,8.0nm,0.5s						
JIW	**Iwasaki**	**1.62**	**250**	A	A	21 24 48.0	
	comp=E,11nm,1.7s,comp=E,16nm,1.1s						
JBT2	**Biratori 2**	**1.63**	**9**	A	A	21 24 47.4	
	comp=E,16nm,1.8s,comp=E,10.0nm,1.6s						
JSZI	**Iwateshizukuis**	**1.64**	**210**	A	A	21 24 48.8	
	comp=E,14nm,1.7s,comp=E,13nm,2.8s						
JNTW	**Noshirotokiwa**	**1.67**	**238**	A	A	21 24 48.6	
	comp=E,21nm,3.8s,comp=E,21nm,2.5s						
JEW	**Eniwo**	**1.72**	**346**	⇓*iP*	**Pn**	**21 24 48.6**	**0.0**
JEW				⇓S	**Sn**	**21 25 11.5**	**+1.9**
JEW	**Eniwo**	**1.72**	**346**	A	A	21 24 48.6	
	comp=E,14nm,1.0s,comp=E,11nm,0.9s						
JCH	**Churui**	**1.76**	**35**	⇓*iP*	**Pn**	**21 24 49.3**	**+0.2**
JCH				⇓S	**Sn**	**21 25 11.0**	**+0.4**
JCH	**Churui**	**1.76**	**35**	A	A	21 24 49.3	
	comp=E,5.0nm,0.8s,comp=E,7.0nm,3.1s						
JOM	**Ohasama**	**1.78**	**198**	*iP*	**Pn**	**21 24 49.7**	**+0.2**
JOM				*e*S	**Sn**	**21 25 10.9**	**-0.2**
JOM	**Ohasama**	**1.78**	**198**	A	A	21 24 49.7	
	comp=E,12nm,0.5s,comp=E,12nm,0.6s						
JFR	**Furan**	**2.04**	**12**	A	A	21 24 53.1	
	comp=E,7.0nm,6.2s,comp=E,4.0nm,2.1s						
JRG	**Rokugo**	**2.06**	**211**	A	A	21

TEY pmax pmax
comp=Z,100nm,1.4s
YSS Yuzh-Sakhalins 5.80 5 Pn **Pn 21 25 42.1 -2.2**
YSS Yuzh-Sakhalins 5.80 5 *e*P **Pn 21 25 45.3 +1.0**
YSS *e*S **Sn 21 26 49.9 +0.5**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS smax smax
comp=N,50nm,0.8s
YSS MLR MLR
comp=Z,400nm,15.0s
KUR Kuril'sk 5.90 45⇓*i*P **Pn 21 25 46.3 +0.8**
KUR *e*S **Sn 21 26 49.8 -1.9**
KUR pmax pmax
comp=N,79nm,0.4s
KUR pmax pmax
comp=E,97nm,0.4s
KUR pmax pmax
comp=Z,182nm,0.4s
KUR smax smax
comp=N,321nm,0.5s
KUR smax smax
comp=E,161nm,0.3s
JGF Kuroka 6.65 215 Pn **Pn 21 25 56.1 +0.1**
INU Inuyama 7.01 216 Pn **Pn 21 26 02.2 +1.4**
USA0B Ussuriysk Arra 7.98 296 Pn **Pn 21 26 14.5 +0.5**
USA0B Ussuriysk Arra 7.98 296*ce*P **Pn 21 26 16.3 +2.3**
USRK Ussuriysk Ar. 7.98 296 P **Pn 21 26 15.0 +1.0**
comp=E,13nm,0.5s,baz=98,slow=14,SNR=28
USRK LR LR 21 29 11.5
comp=E,578nm,21.3s,baz=149,slow=36
USRK Ussuriysk Ar. 7.98 296 Pn **Pn 21 26 14.6 +0.6**
JHJ Hachijo jima 2 8.23 193 P **Pn 21 26 16.2 -1.3**
comp=E,130nm,1.0s,baz=63,slow=18,SNR=1.3
JHJ S **Sn 21 27 42.6 -6.4**
comp=E,98nm,0.6s,baz=260,slow=23,SNR=1.5
JHJ2 Mitsune 8.23 193 Pn **Pn 21 26 16.0 -1.6**
JHS Saijyo 9.33 232 Pn **Pn 21 26 31.3 -1.3**
MDJ Mudanjiang 9.74 295 P Pn 21 26 43.3 +5.2
MDJ S Sn 21 28 35.3 +10
MDJ pmax pmax
comp=E,58nm,1.0s
MDJ pmax pmax
comp=E,220nm,3.5s
MDJ LR LR
comp=E,98nm,10.2s
MDJ LR LR
comp=E,430nm,19.2s
MDJ LR LR
comp=E,720nm,19.7s
JMN Monobe 9.84 224 Pn **Pn 21 26 40.0 +0.4**
GRNR Gornyy 10.35 340⇓*iP* **Pn 21 26 48.8 +2.4**
GRNR pmax pmax
comp=E,5.0nm,0.8s
GRNR pmax pmax
comp=N,8.0nm,0.9s
GRNR pmax pmax
comp=Z,8.0nm,1.1s
GRNR MLR MLR
comp=E,130nm,16.0s
GRNR MLR MLR
comp=Z,180nm,15.0s
KLR Kul'dur 10.82 322 P **Pn 21 26 54.9 +2.1**
comp=Z,5.3nm,0.8s,baz=117,slow=14,SNR=17
KLR Kul'dur 10.82 322*de*P **Pn 21 26 56.2 +3.4**
KLR pmax pmax
comp=Z,15nm,1.3s
KSRS Korea Array 11.53 256 P **Pn 21 27 03.9 +1.4**
comp=Z,4.6nm,1.1s,baz=65,slow=13,SNR=20
KS19 Wonju Array Si 11.55 256 Pn **Pn 21 27 00.7 -2.1**
BNX BinXian 11.55 298 ⇓P **Pn 21 27 05.6 +2.8**
BNX pmax pmax
comp=Z,12nm,1.0s
BNX pmax pmax
comp=Z,150nm,4.7s
KSAR Wonju Array Be 11.56 256 Pn **Pn 21 27 02.5 -0.4**
KSAR Wonju Array Be 11.56 256 P **Pn 21 27 02.5 -0.4**
JNU Nakatsue 11.97 231 P **Pn 21 27 10.2 +1.6**
comp=Z,7.6nm,0.8s,baz=92,slow=14,SNR=5.6
TJN Taejon 12.39 252⇑*eP* **P 21 27 19.4 -4.6**
CN2 Changchun 12.51 288 P **Pn 21 27 18.9 +3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
JSU Suzuyama 13.39 228 Pn **Pn 21 27 28.2 +0.3**
HEH HeiHe 13.63 317 *e*P **Pn 21 27 32.7 +1.7**
HEH pmax pmax
comp=Z,6.0nm,1.2s
HEH pmax pmax
comp=Z,200nm,5.7s
JCJ Chichijima 14.04 179 P **Pn 21 27 36.4 -0.2**
comp=Z,44nm,0.6s,baz=39,slow=14,SNR=6.8
JCJ S Sn 21 29 59.5 -11
comp=Z,41nm,0.6s,baz=232,slow=16,SNR=1.8
PETK Petropavlovsk- 15.97 36 P **Pn 21 28 00.8 -0.5**
comp=Z,5.8nm,1.1s,baz=215,slow=13,SNR=5.4
ZEA Zeya 16.01 327 *e*P **Pn 21 28 00.6 -1.1**
ZEA pmax pmax
comp=Z,20nm,0.9s
HIA Hailar 17.61 305 Pn **Pn 21 28 19.3 -2.3**
HIA Hailar 17.61 305 P **Pn 21 28 19.3 -2.3**
HIA pmax pmax
comp=Z,18nm,1.1s
JOW Kunigami 18.25 223 P **P 21 28 28.4 -0.5**
comp=Z,7.7nm,0.7s,baz=33,slow=14,SNR=2.9
JOW Kunigami 18.25 223 P **Pn 21 28 30.0 +0.5**
MA2 Magadan 19.22 14 P **P 21 28 39.9 +0.5**
MA2 Magadan 19.22 14⇑*eP* **P 21 28 38.3 -1.1**
MA2 pmax pmax
comp=Z,11nm,1.0s
XLT XiLinHaoTe 19.28 287 *e*P **P 21 28 40.5 +0.3**
XLT S **S 21 32 04.5 -11**
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,360nm,5.4s
XLT LR LR
comp=Z,69nm,16.7s
XLT LR LR
comp=Z,620nm,17.4s
XLT LR LR
comp=Z,940nm,16.2s
BJT Baijiatuau 19.64 275 P **P 21 28 42.3 -1.8**
BJT Baijiatuau 19.64 275 P **P 21 28 42.3 -1.8**
BJT pmax pmax
comp=Z,11nm,1.0s
TIA Tai'an 20.02 264 *e*P **P 21 28 47.6 -0.7**
TIA pmax pmax
comp=Z,18nm,0.8s
NJ2 Nanjing 20.65 251 *e*P **P 21 28 54.8 -0.3**
NJ2 pmax pmax
comp=Z,19nm,0.7s
HNS HongShan 21.43 269 ⇓P **P 21 29 01.9 -1.5**
HNS pmax pmax
comp=Z,13nm,1.0s
YAK Yakutsk 22.17 345 P **P 21 29 08.7 -2.4**
comp=Z,14nm,0.6s,baz=148,slow=4.9,SNR=14
YAK Yakutsk 22.17 345 P **P 21 29 08.3 -2.8**
YAK IAmb IAmb 21 29 12.6
comp=Z,28nm,0.7s
YAK Yakutsk 22.17 345 *e*P **P 21 29 08.3 -2.8**
YAK *e**PP **pP 21 29 21.8 -3.0**
YAK *e* 21 29 32.6
YAK *e* 21 33 04.3
YAK *e*S **S 21 33 08.9 -2.2**
YAK *e**SS **sS 21 33 31.9 -2.1**
YAK *e* 21 40 25.3
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=Z,82nm,3.3s
YAK pmax pmax
comp=N,19nm,1.5s
YAK smax smax
comp=N,38nm,1.8s
YAK smax smax
comp=E,35nm,2.1s
SEY Seymchan 22.65 12 P **P 21 29 13.6 -2.6**
comp=E,7.2nm,0.8s,baz=202,slow=8.0,SNR=13
SEY Seymchan 22.65 12⇑*eP* **P 21 29 15.2 -1.1**
SEY pmax pmax
comp=Z,22nm,2.5s
HHC Hu-ho-hao-te 22.92 279 *e*P **P 21 29 17.6 -1.9**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,320nm,5.6s
BTO Baotou 24.12 279 *e*P **P 21 29 30.1 -0.5**
BOD Bodaibo 24.40 323 *e*P **P 21 29 32.5 -0.3**
BOD pmax pmax
comp=Z,14nm,0.9s
WHN Wuhan 24.70 253 P **P 21 29 38.1 +2.3**
ULN Ulaanbaatar 25.65 297 P **P 21 29 43.0 -1.4**
ULN Ulaanbaatar 25.65 297⇓*eP* **P 21 29 44.1 -0.3**
ULN pmax pmax
comp=Z,10.0nm,1.0s
SONM Songino Array 26.09 297 P **P 21 29 47.2 -1.2**
comp=Z,5.6nm,0.8s,baz=87,slow=6.3,SNR=35
SONM PcP **PcP 21 33 14.5 +0.1**
comp=Z,0.5nm,0.8s,baz=87,slow=3.2,SNR=2.2
comp=Z,5.6nm,0.8s
SONM Songino Array 26.09 297 P **P 21 29 48.1 -0.3**
SONM Songino Array 26.09 297 P **P 21 29 48.1 -0.3**
SONM pmax pmax
comp=Z,7.0nm,0.9s
XAN Xi'an 27.05 266 P **P 21 29 56.6 -0.5**
XAN pmax pmax
comp=Z,10.0nm,1.2s
ZAK Zakamensk 28.26 302 *e*P **P 21 30 07.8 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
ENH Enshi 28.40 258 P **P 21 30 08.0 -1.2**
MOY Mondy 29.79 305 *e*P **P 21 30 22.0 +0.6**
MOY pmax pmax
comp=Z,18nm,1.5s
BILL Bilibino 29.94 18 P **P 21 30 22.3 -0.1**
BILL Bilibino 29.94 18⇓*eP* **P 21 30 23.4 +1.0**
BILL *e* 21 31 24.8
BILL pmax pmax
comp=Z,12nm,1.7s
BILL MLR MLR
comp=Z,42nm,15.0s
LZH Lanzhou 30.07 273 *e*P **P 21 30 24.3 +0.2**
LZH sP sP 21 30 48.8 +1.4
LZH pmax pmax
comp=Z,9.0nm,1.1s
H11N2 WAKE ISLAND Hy 30.10 128 T T 22 01 53.2
baz=321,slow=75,SNR=276
H11N1 WAKE ISLAND Hy 30.11 128 T T 22 01 49.3
baz=321,slow=75,SNR=392
H11N3 WAKE ISLAND Hy 30.11 128 T T 22 01 52.1
baz=321,slow=75,SNR=460
H11S1 WAKE ISLAND Hy 30.93 130 T T 22 03 08.9
baz=322,slow=76,SNR=301
H11S3 WAKE ISLAND Hy 30.93 130 T T 22 03 10.6
baz=322,slow=76,SNR=238
H11S2 WAKE ISLAND Hy 30.95 130 T T 22 03 10.0
baz=322,slow=76,SNR=213
TIXI Tiksi 31.25 352 P **P 21 30 32.0 -1.9**
TIXI Tiksi 31.25 352⇓*eP* **P 21 30 32.7 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
GTA Gaotai 32.01 281 *e*P **P 21 30 41.5 +0.4**
GTA pP pP 21 30 51.6 -5.2
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,150nm,7.2s
GTA LR LR
comp=Z,230nm,16.3s
GTA LR LR
comp=Z,300nm,16.3s
GTA LR LR
comp=Z,440nm,17.9s
GOMU GeErMu 36.82 278 P **P 21 31 23.4 +0.5**
GOMU pmax pmax
comp=Z,10.0nm,0.9s
TNA Tin City 37.06 32 P **P 21 31 24.7 +0.6**
TNA IAmb IAmb 21 31 54.8
comp=Z,20nm,1.2s
DGZ Jazzator, Alta 38.48 302*ce*P **P 21 31 38.0 +1.5**
DGZ pmax pmax
comp=Z,12nm,0.9s
WMQ Urumqi 39.53 293 ⇑P **P 21 31 46.6 +1.3**
WMQ pP pP 21 32 01.3 0.0
WMQ sP sP 21 32 08.7 -0.1
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ pmax pmax
comp=Z,180nm,4.9s
WMQ LR LR
comp=Z,340nm,15.5s
WMQ LR LR
comp=Z,300nm,15.5s
ZAA0 Zalesovo Array 39.58 309 P **P 21 31 45.6 +0.2**
ZAA0 IAmb IAmb 21 31 48.4
comp=Z,8.5nm,0.8s
ZALV Zalesovo Beam 39.58 309 P **P 21 31 45.8 +0.3**
comp=Z,8.2nm,0.8s,baz=87,slow=8.0,SNR=33
ZALV PcP **PcP 21 33 52.3 +0.9**
comp=Z,6.1nm,0.8s,baz=93,slow=3.0,SNR=6.7
comp=Z,8.2nm,0.8s
ZALV Zalesovo Beam 39.58 309 P **P 21 31 45.4 0.0**
ZALV Zalesovo Beam 39.58 309 *i* P **P 21 31 46.2 +0.8**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
NRIK Noril'sk 39.75 333 P **P 21 31 46.4 -0.2**
comp=Z,7.7nm,0.8s,baz=101,slow=7.4,SNR=11
comp=Z,7.7nm,0.8s
NRIK Noril'sk 39.75 333 P **P 21 31 45.9 -0.8**
NRIK IAmb IAmb 21 31 48.5
comp=Z,11nm,1.0s
NRIK Noril'sk 39.75 333*de*P **P 21 31 46.9 +0.3**
NRIK pmax pmax
comp=Z,16nm,1.1s
CRAI Chiangrai 40.95 252 P **P 21 31 58.4 +1.2**
PHRA Phrae 42.18 250 P **P 21 32 06.5 -0.7**
MK31 Makanchi Array 42.43 298 P **P 21 32 09.3 +0.2**
MK31 Makanchi Array 42.43 298*d* *i*P **P 21 32 09.8 +0.8**
MKAR Makanchi Array 42.43 298 P **P 21 32 09.7 +0.7**
comp=Z,5.4nm,0.7s,baz=81,slow=10.0,SNR=51
MKAR PcP **PcP 21 34 01.9 +0.9**
comp=Z,1.2nm,0.7s,baz=83,slow=5.0,SNR=2.7
comp=Z,5.4nm,0.7s
MKAR Makanchi Array 42.43 298 P **P 21 32 09.3 +0.2**
MKAR Makanchi Array 42.43 298 *i* P **P 21 32 09.6 +0.6**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 42.45 271 P **P 21 32 10.1 +0.2**
LSA Lhasa 42.45 271 P **P 21 32 10.1 +0.2**
LSA pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 42.45 271 P **P 21 32 11.9 +2.0**
MAKZ Makanchi 42.64 299 P **P 21 32 10.2 -0.5**
MAKZ IAmb IAmb 21 32 13.1
comp=Z,14nm,0.9s
MAKZ Makanchi 42.64 299 P **P 21 32 11.4 +0.7**
J20K Nowinta River 42.67 35 P **P 21 32 11.1 +0.5**
J20K IAmb IAmb 21 32 35.0
comp=Z,11nm,0.9s
CHTO Chiang Mai 42.89 252 P **P 21 32 12.2 -0.8**
CHTO Chiang Mai 42.89 252 P **P 21 32 12.2 -0.8**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
IMAR Indian Mountai 42.89 33 P **P 21 32 13.6 +1.1**
CM31 Chiang Mai Arr 43.12 251 P **P 21 32 14.8 -0.1**
CMAR Chiang Mai Arr 43.12 251 P **P 21 32 16.3 +1.4**
comp=Z,1.9nm,0.8s,baz=44,slow=7.3,SNR=22
CMAR PcP **PcP 21 34 03.6 0.0**
comp=Z,1.1nm,1.0s,baz=32,slow=3.5,SNR=4.4
CMAR LR LR 21 50 05.7
comp=Z,69nm,19.4s,baz=75,slow=36
comp=Z,1.9nm,0.8s
CMAR Chiang Mai Arr 43.12 251 P **P 21 32 13.9 -1.0**
RSO Redoubt South 43.42 41 P **P 21 32 18.3 +1.2**
PPLA Purkeypile 43.55 37 P **P 21 32 18.1 +0.1**
PPLA IAmb IAmb 21 32 50.0
comp=Z,36nm,1.5s
CAST Castle Rocks 43.59 37 P **P 21 32 19.8 +1.7**
KDAK Kodiak Island 43.77 45 P **P 21 32 19.8 +0.1**
comp=Z,3.0nm,0.6s,baz=294,slow=10.0,SNR=1.9
comp=Z,3.0nm,0.6s
KURK Kurchatov 43.84 305 P **P 21 32 21.4 +1.1**
KURK 21 34 05.9
KURBB Kurchatov Arra 43.92 305 P **P 21 32 21.4 +0.4**
comp=Z,12nm,0.8s,baz=78,slow=8.6,SNR=89
KURBB PcP **PcP 21 34 05.9 +0.1**
comp=Z,5.8nm,1.0s,baz=72,slow=3.9,SNR=5.5
comp=Z,12nm,0.8s
BPAW Bear Paw Mtn. 44.05 36 P **P 21 32 22.2 +0.3**
SHL Shillong 44.06 265 P **P 21 32 22.3 -0.3**
SHL IAmb IAmb 21 32 24.3
comp=Z,12nm,1.0s
SHL Shillong 44.06 265 P **P 21 32 22.3 -0.3**
SHL pmax pmax
comp=Z,12nm,1.0s
KTH Kantishna Hill 44.10 36 P **P 21 32 23.2 +0.9**
KTH IAmb IAmb 21 32 48.8
comp=Z,20nm,0.9s
MLY Manley 44.13 34 P **P 21 32 21.8 -0.8**
SUA Susitna One 44.32 39 P **P 21 32 26.0 +1.9**
SUA IAmb IAmb 21 32 46.4
comp=Z,17nm,1.2s
H23K Yukon River 44.62 33 P **P 21 32 27.8 +1.5**
H23K IAmb IAmb 21 32 36.8
comp=Z,11nm,0.8s
BWN Browne 44.72 35 P **P 21 32 28.6 +1.5**
NEA2 Nenana 44.87 35 P **P 21 32 28.6 +0.3**
NEA2 IAmb IAmb 21 32 52.8
comp=Z,13nm,0.6s
MCK McKinley 44.98 36 P **P 21 32 29.8 +0.6**
MCK IAmb IAmb 21 32 53.7
comp=Z,18nm,1.2s
MCK McKinley 44.98 36 P **P 21 32 29.8 +0.6**
MCK pmax pmax
comp=Z,18nm,1.2s
GHO Glory Hole Cre 45.16 39 P **P 21 32 30.9 +0.1**
GHO IAmb IAmb 21 32 50.5
comp=Z,17nm,1.0s
MDM Murphy Dome 45.20 34 P **P 21 32 31.6 +0.6**
MDM IAmb IAmb 21 32 57.5
comp=Z,9.1nm,0.7s
WRH Wood River Hil 45.30 35 P **P 21 32 33.0 +1.3**
H24K Noodor Dome 45.30 33 P **P 21 32 32.7 +0.9**
COLA College 45.37 34 P **P 21 32 34.0 +1.8**
COLA College 45.37 34⇑*eP* **P 21 32 34.1 +1.8**
COLA pmax pmax
comp=Z,6.0nm,1.0s
SML Sawmill 45.43 39 P **P 21 32 31.9 -1.0**
SML Sawmill 45.43 39 P **P 21 32 33.5 +0.6**
SML pmax pmax
comp=Z,25nm,1.0s
POKR Poker Plat Res 45.53 34 P **P 21 32 33.8 +0.3**
POKR IAmb IAmb 21 32 58.2
comp=Z,19nm,0.9s
DHY Denali Highway 45.73 37 P **P 21 32 36.0 +0.6**
DHY IAmb IAmb 21 32 59.8
comp=Z,16nm,1.2s
IL31 45.79 34 P **P 21 32 35.7 +0.2**
IL31 IAmb IAmb 21 32 59.2
comp=Z,12nm,0.9s
ILAR Eielson Array 45.79 34 P **P 21 32 36.4 +0.8**
comp=Z,2.1nm,0.7s,baz=270,slow=6.2,SNR=27
comp=Z,2.1nm,0.7s
ILAR Eielson Array 45.79 34 P **P 21 32 35.3 -0.3**
HDA Harding Lake 45.79 35 P **P 21 32 36.1 +0.4**
HDA IAmb IAmb 21 32 59.2
comp=Z,6.8nm,0.7s
SCM Sheep Creek Mo 45.90 39 P **P 21 32 35.7 -0.9**
SCM IAmb IAmb 21 33 01.3
comp=Z,12nm,0.8s
SCM Sheep Creek Mo 45.90 39 P **P 21 32 35.7 -0.9**
SCM pmax pmax
comp=Z,12nm,0.8s
TAPN Taplejung 46.25 270 *eP* **P 21 32 41.4 +1.4**
comp=Z,76nm,1.0s
PRP Porcupine Dome 46.30 33 P **P 21 32 40.5 +0.8**
FYU Fort Yukon 46.33 32 P **P 21 32 41.3 +1.6**
BMAR Burnt Mountain 46.51 31 P **P 21 32 41.5 +0.2**
KLU Klutina 46.61 39 P **P 21 32 41.8 -0.4**
KLU IAmb IAmb 21 33 04.0
comp=Z,18nm,1.1s
TARG Taragay, Kyrgy 47.09 293 P **P 21 32 46.9 +0.3**
TARG IAmb IAmb 21 32 52.7
comp=Z,8.0nm,0.9s
TARG Taragay, Kyrgy 47.09 293 P **P 21 32 46.9 +0.3**
TARG pmax pmax
comp=Z,8.0nm,0.9s
SCRK Sand Creek 47.13 35 P **P 21 32 46.7 +0.5**
SCRK IAmb IAmb 21 33 09.8
comp=Z,11nm,0.7s
N25K Chitina, Valde 47.22 39 P **P 21 32 47.8 +0.8**
N25K IAmb IAmb 21 33 07.4
comp=Z,8.4nm,1.1s
JIRN Jiri 47.23 272 *eP* **P 21 32 48.7 +0.9**
RAMN Ramite 47.30 271 *eP* **P 21 32 49.0 +0.8**
L26K Log Cabin Wild 47.56 37 P **P 21 32 50.0 +0.5**
L26K IAmb IAmb 21 33 14.5
comp=Z,8.6nm,0.8s
M26K Nabesna, AK 47.83 37 P **P 21 32 52.6 +1.0**
M26K IAmb IAmb 21 33 14.6
comp=Z,15nm,1.2s
PKI Pulchoki 47.87 272 *eP* **P 21 32 53.0 +0.3**
PKIN Phulchoki 47.87 272 *eP* **P 21 32 53.0 +0.3**
comp=Z,29nm,0.7s
K27K Chicken 47.95 35 P **P 21 32 53.2 +0.7**
K27K IAmb IAmb 21 33 17.2
comp=Z,9.3nm,0.7s
MCARA McCarthy VSAT 48.00 39 P **P 21 32 54.1 +1.2**
MCARA IAmb IAmb 21 33 23.1
comp=Z,18nm,1.2s
DMN Daman 48.08 272 *eP* **P 21 32 54.9 +0.7**
BVAR Borovoye Array 48.21 310 P **P 21 32 55.4 +0.8**
comp=Z,6.7nm,0.5s,baz=77,slow=8.5,SNR=56
BVAR PcP **PcP 21 34 21.1 +0.3**
comp=Z,4.3nm,0.7s,baz=90,slow=3.0,SNR=4.5
comp=Z,6.7nm,0.5s
GKN Gorkha 48.22 273 *eP* **P 21 32 56.3 +1.1**
L27K Beaver Creek, 48.23 36 P **P 21 32 56.3 +1.5**
L27K IAmb IAmb 21 33 17.7
comp=Z,7.5nm,0.8s
BCAR Beaver Creek A 48.25 36 P **P 21 32 56.4 +1.5**
BRVK Borovoye 48.26 310 P **P 21 32 55.1 +0.1**
BRVK IAmb IAmb 21 32 56.9
comp=Z,8.3nm,0.8s
BRVK Borovoye 48.26 310*ce*P **P 21 32 55.7 +0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
M27K Edge Creek, AK 48.35 37 P **P 21 32 56.8 +1.1**
M27K IAmb IAmb 21 33 24.0
comp=Z,9.7nm,0.9s
DANN Dangsing 48.70 274 *eP* **P 21 33 00.2 +1.1**
comp=Z,170nm,0.8s
AAK Ala-Archa 49.03 295 P **P 21 32 59.7 -1.6**
AAK IAmb IAmb 21 33 05.7
comp=Z,8.7nm,0.9s
AAK Ala-Archa 49.03 295⇑*eP* **P 21 32 59.8 -1.5**
AAK pmax pmax
comp=Z,7.0nm,0.7s
KSH Kashi 49.24 291 P P 21 33 07.9 +5.0
KSH pmax pmax
comp=Z,6.0nm,0.9s
I29M Ogilvie Camp, 49.30 33 P **P 21 33 03.4 +0.6**
I29M IAmb IAmb 21 33 27.4
comp=Z,15nm,1.1s
EPYK Eagle Plains 49.73 31 P **P 21 33 07.4 +1.2**
INK Inuvik 50.52 29 P **P 21 33 13.2 +1.3**
comp=Z,3.8nm,0.6s,baz=297,slow=6.9,SNR=33
comp=Z,3.8nm,0.6s
INK Inuvik 50.52 29 P **P 21 33 12.6 +0.7**
INK IAmb IAmb 21 33 38.0
comp=Z,6.3nm,0.7s
PMG Port Moresby 50.55 173 LR LR 21 52 00.7
comp=Z,32nm,20.5s,baz=7.5,slow=33
M30M Minto, Yukon 50.60 36 P **P 21 33 13.7 +1.0**
HYT Haines Junctio 50.74 39 P **P 21 33 16.1 +2.1**
N31M Braeburn, Yuko 51.36 37 P **P 21 33 19.0 +0.6**
KK31 Karatay Array 51.54 298 P **P 21 33 20.0 0.0**
KK31 IAmb IAmb 21 33 21.4
comp=Z,8.1nm,0.8s
KK31 Karatay Array 51.54 298 P **P 21 33 20.0 0.0**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 51.54 298 P **P 21 33 19.7 -0.3**
KKAR Karatay Array 51.54 298 P **P 21 33 19.7 -0.3**
WHY Whitehorse 52.02 38 P **P 21 33 24.7 +1.2**
A36M Sachs Harbour 52.26 23 P **P 21 33 25.6 +0.7**
A36M IAmb IAmb 21 33 52.1
comp=Z,9.6nm,0.8s
SVE Sverdlovsk 52.40 317 *eP* **P 21 33 27.8 +1.6**
SVE pmax pmax
comp=Z,15nm,0.9s
GAR Garm 53.43 293 P **P 21 33 33.5 -0.7**
GAR IAmb IAmb 21 33 37.2
comp=Z,9.6nm,0.7s
C36M Paulatuk 53.50 26 P **P 21 33 34.5 +0.5**

C36M IAmb IAmb 21 34 01.9
comp=Z,6.6nm,0.8s
ARU Arti 53.62 317 P **P** **21 33 35.6 +0.4**
comp=Z,3.4nm,0.6s,baz=85,slow=6.1,SNR=11
comp=Z,3.4nm,0.6s
ARU Arti 53.62 317 P **P** **21 33 34.8 -0.3**
ARU IAmb IAmb 21 33 37.0
comp=Z,14nm,1.1s
ARU Arti 53.62 317 *c i*P **P** **21 33 35.7 +0.6**
ARU *PP **pP** **21 33 51.8 +0.1**
ARU 21 34 35.2
ARU 21 35 34.8
ARU S **S** **21 41 05.8 +2.3**
ARU SS **SKiKP** **21 44 40.5 -2.8**
ARU pmax pmax
comp=Z,23nm,1.5s
NIL Nilore 53.85 286 P **P** **21 33 38.3 +1.1**
NIL Nilore 53.85 286 P **P** **21 33 38.3 +1.1**
NIL pmax pmax
comp=Z,24nm,0.9s
CHGR Chuyangaron 54.39 293 P **P** **21 33 40.5 -0.7**
CHGR Chuyangaron 54.39 293 P **P** **21 33 40.5 -0.7**
CHGR pmax pmax
comp=Z,29nm,0.8s
DLBC Dease Lake 55.12 40 P **P** **21 33 46.4 +0.3**
comp=Z,4.0nm,0.4s,baz=203,slow=7.7,SNR=2.5
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 55.69 308 P **P** **21 33 50.6 +0.4**
SDSI Sungai Dareh 55.76 232 P **P** **21 33 52.2 +1.1**
comp=Z,32nm,0.9s
EUNU Eureka 56.03 9 P **P** **21 33 52.4 +0.1**
EUNU IAmb IAmb 21 33 53.6
comp=Z,5.3nm,0.8s
AKTO Aktyubinsk 56.31 310 P **P** **21 33 55.1 +0.4**
comp=Z,7.2nm,0.7s,baz=51,slow=7.2,SNR=19
comp=Z,7.2nm,0.7s
KBL Kabul 56.45 289 P **P** **21 33 56.0 -0.1**
KBL Kabul 56.45 289 P **P** **21 33 56.0 -0.1**
KBL pmax pmax
comp=Z,16nm,1.0s
KBL Kabul 56.45 289 P **P** **21 33 56.5 +0.4**
SNR=9.6
NOR Nord 56.96 356 *i* P **P** **21 33 57.9 -0.9**
NOR IAmb IAmb 21 33 59.6
comp=Z,1.6nm,0.8s
KIRV Kirov 57.26 322 P **P** **21 34 01.0 -0.2**
comp=Z,19nm,0.7s,baz=66,slow=2.0,SNR=10
comp=Z,19nm,0.7s
KIRV Kirov 57.26 322 *de*P **P** **21 34 02.3 +1.1**
PRGR Permogore 57.58 326 *e*P **P** **21 34 03.1 -0.3**
PRGR pmax pmax
comp=Z,65nm,1.4s
KNRA Kununurra 57.88 195 P **P** **21 34 06.7 +0.8**
RES Resolute Bay 58.49 15 P **P** **21 34 09.6 0.0**
RES Resolute Bay 58.49 15 P **P** **21 34 09.6 0.0**
RES pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 60.02 31 P **P** **21 34 21.2 +0.9**
comp=Z,1.1nm,0.7s,baz=304,slow=6.5,SNR=12
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 60.30 339 P **P** **21 34 23.8 +1.6**
comp=Z,3.0nm,0.9s,baz=52,slow=7.3,SNR=4.2
comp=Z,3.0nm,0.9s
KLMR Klimovskoe 60.53 327 *e*P **P** **21 34 22.5 -1.3**
KLMR AMP 21 34 25.4
comp=Z,19nm,1.3s
KLMR *e*PP **PP** **21 36 36.2 -1.2**
KLMR LQ LQ 21 50 27.0
KLMR LQ LQ 21 50 27.0
KLMR LR LR 21 52 17.7
KLMR AMP 21 58 30.7
comp=Z,584nm,14.9s
KLMR Klimovskoe 60.53 327 *e*P **P** **21 34 22.5 -1.3**
KLMR *e* 21 36 36.1
KLMR pmax pmax
comp=Z,19nm,1.3s
WB0 Warramunga Arr 61.04 188 P **P** **21 34 27.4 -0.3**
WB0 IAmb IAmb 21 34 28.4
comp=Z,6.7nm,0.8s
BELG Belogornoye 61.13 316 P **P** **21 34 28.6 +0.6**
comp=Z,26nm,0.8s,baz=151,slow=2.1,SNR=6.5
comp=Z,26nm,0.8s
BELG Belogornoye 61.13 316 *ce*P **P** **21 34 28.8 +0.8**
BELG pmax pmax
comp=Z,4.0nm,0.9s
WR0 Warramunga Arr 61.21 188 P **P** **21 34 28.4 -0.4**
WR0 IAmb IAmb 21 34 54.0
comp=Z,12nm,1.2s
WB2 Warramunga Arr 61.22 188 P **P** **21 34 28.7 -0.3**
WB2 IAmb IAmb 21 34 47.0
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 61.22 188 P **P** **21 34 28.8 -0.1**
comp=Z,2.8nm,0.6s,baz=4.7,slow=6.8,SNR=27
comp=Z,2.8nm,0.6s
WRA Warramunga Arr 61.22 188 P **P** **21 34 28.8 -0.1**
HRA Herat 61.34 292 P **P** **21 34 29.9 -0.2**
HRA IAmb IAmb 21 34 32.0
comp=Z,7.7nm,0.8s
NEEM North Greenlan 61.38 3 *i* P **P** **21 34 29.6 -0.1**
NEEM IAmb IAmb 21 34 31.2
comp=Z,3.5nm,0.9s
GEYT Alibeck 62.29 297 P **P** **21 34 36.8 +0.6**
comp=Z,9.7nm,0.8s,baz=28,slow=4.2,SNR=25
comp=Z,9.7nm,0.8s
GEYT Alibeck 62.29 297 P **P** **21 34 36.3 +0.1**
GYA0B ALIBECK ARRAY 62.29 297 P **P** **21 34 35.6 -0.6**
VRH Novokhopyorsk 64.85 317 *e*P **P** **21 34 52.8 +0.1**
VRH pmax pmax
comp=Z,20nm,0.7s
ASAR Alice Springs 64.94 188 P **P** **21 34 54.3 +0.7**
comp=Z,2.7nm,0.8s,baz=8.8,slow=5.6,SNR=20
comp=Z,2.7nm,0.8s
ASAR Alice Springs 64.94 188 P **P** **21 34 53.5 -0.1**
OBN Obninsk 65.08 322 P **P** **21 34 54.6 +0.5**
comp=Z,2.7nm,0.6s,baz=132,slow=7.6,SNR=5.6
comp=Z,2.7nm,0.6s
FIA1 FINESS Array S 65.38 332 P **P** **21 34 56.3 +0.3**
FINES FINESS Array B 65.38 332 P **P** **21 34 56.4 +0.3**
comp=Z,8.3nm,0.4s,baz=37,slow=8.2,SNR=77
comp=Z,8.3nm,0.4s
FINES FINESS Array B 65.38 332 P **P** **21 34 55.7 -0.3**
LPSR Galich'ya Gora 65.45 319 *e*P **P** **21 34 56.8 +0.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 66.15 318 *e*P **P** **21 35 01.3 +0.2**
VSR pmax pmax
comp=Z,20nm,0.7s
SUMG Summit 66.55 0 *i* P **P** **21 35 03.4 -0.5**
SUMG IAmb IAmb 21 35 05.2
comp=Z,5.4nm,0.8s
AKT Akhty 67.02 306 *e*P **P** **21 35 07.6 +0.6**
AKT *e*PP **pP** **21 35 26.3 +2.2**
AKT *e*SP **PcP** **21 35 34.3 -0.7**
AKT *e* 21 35 35.3
AKT pmax pmax
comp=Z,27nm,0.8s
VSU Vasula 67.14 329 ⇑ *e*P **P** **21 35 07.6 +0.3**
VSU pmax pmax
comp=Z,54nm,0.9s
VSU Vasula 67.14 329 *e*P **P** **21 35 08.1 +0.9**
PINE Pine Mountain 67.35 51 P **P** **21 35 10.2 +1.0**
PINE IAmb IAmb 21 35 36.6
comp=Z,7.7nm,0.9s
SEKA Sheki 67.50 306 P **P** **21 35 10.8 +0.8**
ZKTA Zakatala 67.61 306 P **P** **21 35 11.6 +1.0**
MNGR Mingechevir, A 67.83 305 P **P** **21 35 12.9 +1.0**
LKRN Lenkeran, Azer 67.96 303 P **P** **21 35 13.9 +1.1**
NCK Nalchik 68.32 309 ⇓ *e*P **P** **21 35 16.4 +1.4**
NCK pmax pmax
comp=Z,13nm,1.0s
GANJ Ganja 68.37 305 P **P** **21 35 15.5 +0.1**
ZEI Tsey 68.56 308 *e*P **P** **21 35 16.6 -0.2**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
KVAR Kislovodsk Arr 68.57 310 P **P** **21 35 18.9 +2.2**
comp=Z,12nm,0.9s,baz=282,slow=22,SNR=9.9
comp=Z,12nm,0.9s
KIV Kislovodsk 68.57 310 ⇑ P **P** **21 35 18.1 +1.3**
KIV Kislovodsk 68.57 310 P **P** **21 35 17.4 +0.7**
KIV Kislovodsk 68.57 310 *c i*P **P** **21 35 17.9 +1.2**
KIV *e* 21 35 41.3
KIV *e* 21 37 49.2
KIV *e*S **S** **21 44 13.5 -0.6**
KIV pmax pmax
comp=Z,47nm,1.0s

KIV Kislovodsk 68.57 310 *i* P **P** **21 35 18.7 +2.0**
SNR=19
KBZ Khabaz 68.59 310 P **P** **21 35 18.4 +1.8**
comp=Z,10nm,0.9s,baz=60,slow=6.5,SNR=22
comp=Z,10nm,0.9s
KBZ Khabaz 68.59 310 *ce*P **P** **21 35 18.1 +1.5**
KBZ pmax pmax
comp=Z,13nm,0.9s
ONI Oni 68.94 309 P **P** **21 35 20.7 +1.7**
ONI IAmb IAmb 21 35 21.9
comp=Z,18nm,1.1s
ONI Oni 68.94 309 P **P** **21 35 20.7 +1.7**
ONI pmax pmax
comp=Z,19nm,1.1s
IDID Didziasalis 69.28 326 *e*P **P** **21 35 18.2 -2.5**
MNK Minsk 69.34 325 *i* P **P** **21 35 22.1 +1.0**
comp=E,2.0nm,0.8s
MNK *i* P **P** **21 35 22.1 +1.0**
comp=N,8.0nm,0.8s
MNK *i* P **P** **21 35 22.1 +1.0**
comp=Z,19nm,0.8s,baz=47
MNK *i* pP **pP** **21 35 40.8 +2.4**
MNK *i* sP **sP** **21 35 45.5 +0.1**
MNK *i* PP **PP** **21 37 55.4 +0.9**
MNK *i* PPP PPP 21 39 36.3
MNK *i* S **S** **21 44 23.9 +1.3**
MNK *i* sS **sS** **21 44 52.2 +0.2**
MNK *i* SS SS 21 48 08.9 -41
MNK *i* SSS SSS 21 51 16.4
MNK Minsk 69.34 325 *i* P **P** **21 35 22.1 +1.0**
MNK *i* *PP **pP** **21 35 40.7 +2.4**
MNK *i* 21 35 45.4
MNK *i* *SP **sP** **21 35 45.5 +0.1**
MNK *i* 21 37 55.3
MNK *i* PPP PPP 21 39 36.3
MNK *i* S **S** **21 44 23.9 +1.3**
MNK *i* *SS **sS** **21 44 52.1 +0.2**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.8s
ISAL Salakas 69.35 327 *e*P **P** **21 35 21.1 -0.1**
PLID Pearl Lake 69.40 48 P **P** **21 35 21.5 -0.5**
IIGN Ignalina 69.47 327 *e*P **P** **21 35 20.5 -1.4**
NACGM Naroch 69.54 326 ⇓ *i*P **P** **21 35 23.2 +0.9**
comp=Z,33nm,0.9s,baz=47
GNI Garni 69.63 306 P **P** **21 35 25.1 +1.7**
comp=Z,6.7nm,0.9s,baz=90,slow=6.1,SNR=4.6
comp=Z,6.7nm,0.9s
GNI Garni 69.63 306 P **P** **21 35 24.5 +1.1**
GNI Garni 69.63 306 P **P** **21 35 25.4 +1.9**
NAX Nakhchivan 69.75 305 P **P** **21 35 25.0 +0.9**
BEKR Beckworth 70.03 54 P **P** **21 35 26.2 +0.3**
ICESG Greenland Ices 70.05 1 *i* P **P** **21 35 25.9 +0.2**
ICESG IAmb IAmb 21 35 27.2
comp=Z,6.6nm,0.7s
FCC Fort Churchill 70.11 27 P **P** **21 35 24.5 -1.2**
FCC Fort Churchill 70.11 27 P **P** **21 35 24.5 -1.2**
FCC pmax pmax
comp=Z,11nm,1.5s
PABE Paberze 70.28 328 *e*P **P** **21 35 26.8 -0.1**
BANOM Banah 70.36 288 P **P** **21 35 29.2 +1.2**
SHME Shamm 70.40 288 P **P** **21 35 29.1 +1.0**
WBK Wadi Bani Khal 70.41 283 P **P** **21 35 29.6 +1.3**
BIDO Bidbid 70.48 284 P **P** **21 35 30.7 +2.0**
NC204 NORSAR Array S 70.50 337 P **P** **21 35 28.3 +0.1**
NB2 NORSAR Subarra 70.56 337 P **P** **21 35 28.4 -0.2**
comp=Z,3.2nm,0.6s,baz=37,slow=6.5
NOA NORSAR Array B 70.56 337 P **P** **21 35 29.0 +0.5**
comp=Z,7.5nm,0.8s,baz=37,slow=6.1,SNR=24
comp=Z,7.5nm,0.8s
HRY Holter Researc 70.65 44 P **P** **21 35 30.0 +0.5**
NBO00 NORSAR Array S 70.69 337 P **P** **21 35 29.1 -0.3**
NORES NORESS Array B 70.70 337 P **P** **21 35 34.0 +4.6**
MDH Madha 70.74 287 P **P** **21 35 31.0 +0.8**
MDH Madha 70.74 287 P **P** **21 35 31.2 +1.0**
MASF Masafi 70.80 287 P **P** **21 35 32.1 +1.5**
MSFE Esma-Masafi 70.80 287 P **P** **21 35 31.5 +0.9**
SMDO Samad 70.82 284 P **P** **21 35 32.8 +1.9**
ANN Anapa 71.02 313 *e*P **P** **21 35 28.2 -3.3**
ANN *e*PP **pP** **21 35 48.2 -0.5**
ANN *e*S **S** **21 44 35.1 -7.3**
ANN pmax pmax
comp=Z,111nm,1.1s
UOSS Minazif 71.02 287 P **P** **21 35 31.6 -0.3**
UOSS IAmb IAmb 21 35 33.5
comp=Z,14nm,0.8s
UOSS Minazif 71.02 287 *i* P **P** **21 35 32.8 +0.8**
SNR=6.4
UOSS Minazif 71.02 287 P **P** **21 35 32.8 +0.8**
HOQ Hoqain 71.04 285 P **P** **21 35 33.3 +1.3**
HATD Hatta, Dubai 71.15 287 *i* P **P** **21 35 33.9 +1.2**
SNR=7.7
HATD Hatta, Dubai 71.15 287 P **P** **21 35 34.1 +1.4**
SNR=7.7
JMDO Jabal Madar 71.19 284 P **P** **21 35 34.0 +1.0**
SOHO SOHO 71.27 286 P **P** **21 35 33.8 +0.4**
SOHO SOHO 71.27 286 P **P** **21 35 34.1 +0.7**
ASHO Ashiyiah 71.28 287 *i* P **P** **21 35 34.5 +1.0**
SNR=6.8
ASHO Ashiyiah 71.28 287 P **P** **21 35 34.7 +1.1**
SNR=6.8
AKASG Malin Array Be 71.32 322 P **P** **21 35 33.7 +0.4**
comp=Z,8.7nm,0.7s,baz=44,slow=6.1,SNR=48
comp=Z,8.7nm,0.7s
AKASG Malin Array Be 71.32 322 P **P** **21 35 32.9 -0.4**
AKBB Malin Array Si 71.32 322 P **P** **21 35 33.5 +0.3**
AKBB Malin Array Si 71.32 322 *ce*P **P** **21 35 33.6 +0.3**
BOZ Bozeman (W) 71.48 45 P **P** **21 35 35.8 +1.2**
BOZ IAmb IAmb 21 35 55.5
comp=Z,6.0nm,0.7s
BOZ Bozeman (W) 71.48 45 P **P** **21 35 35.8 +1.2**
BOZ pmax pmax
comp=Z,6.0nm,0.7s
FAQ Al Faqa, Dubai 71.58 287 P **P** **21 35 35.8 +0.5**
FAQ Al Faqa, Dubai 71.58 287 P **P** **21 35 36.2 +0.9**
BSY Bisya 71.63 284 P **P** **21 35 35.9 +0.2**
ASUD Al Ashush, Dub 71.85 287 P **P** **21 35 37.5 +0.7**
ASUD Al Ashush, Dub 71.85 287 P **P** **21 35 38.1 +1.2**
ALNE Al Ain 71.89 286 *i* P **P** **21 35 37.8 +0.7**
SNR=7.5
ALNE Al Ain 71.89 286 P **P** **21 35 38.1 +0.9**
SNR=7.5
KVN Kaiserville 71.91 54 P **P** **21 35 37.5 +0.2**
KVN Kaiserville 71.91 54 P **P** **21 35 37.5 +0.2**
KVN pmax pmax
comp=Z,7.0nm,1.0s
MHTO MHTO 72.14 282 P **P** **21 35 39.8 +1.2**
NVAR Mina Array Bea 72.17 54 P **P** **21 35 40.3 +1.4**
comp=Z,1.3nm,0.7s,baz=304,slow=3.7,SNR=6.4
comp=Z,1.3nm,0.7s
GURO Guroymak-BITLI 72.27 306 P **P** **21 35 40.5 +1.1**
GCMT Greycliff 72.39 44 P **P** **21 35 40.9 +0.8**
DY2G Dye2 72.50 3 *i* P **P** **21 35 39.7 -0.7**
DY2G IAmb IAmb 21 35 41.6
comp=Z,5.8nm,0.8s
ELK Elko 72.56 51 P **P** **21 35 43.0 +1.8**
comp=Z,0.5nm,0.5s,baz=318,slow=5.4,SNR=3.8
comp=Z,0.5nm,0.5s
ELK Elko 72.56 51 P **P** **21 35 43.0 +1.8**
FRB Frobisher Bay 72.65 14 P **P** **21 35 41.0 +0.1**
comp=Z,5.9nm,0.7s,baz=339,slow=6.2,SNR=17
comp=Z,5.9nm,0.7s
MOOW Moose Ponds 73.16 46 P **P** **21 35 45.1 +0.4**
SORM Soroca 73.50 320 ⇓ P **P** **21 35 46.9 +0.6**
SORM Soroca 73.50 320 P **P** **21 35 47.0 +0.7**
MARD Mardin 73.82 305 P **P** **21 35 49.3 +0.7**
MORW Morawa 73.91 204 P **P** **21 35 49.2 +0.4**
MORW IAmb IAmb 21 36 23.9
comp=Z,26nm,1.5s
MZR Muzera 74.18 287 *i* P **P** **21 35 51.1 +0.4**
SNR=11
MZR Muzera 74.18 287 P **P** **21 35 51.0 +0.4**
SNR=11
SHMA Al-Shehemyia 74.21 291 P **P** **21 35 50.8 0.0**
PD31 Pinedale Array 74.46 46 P **P** **21 35 51.8 -0.5**
PDAR Pinedale Array 74.46 46 P **P** **21 35 53.3 +1.0**
comp=Z,1.8nm,0.7s,baz=270,slow=2.1,SNR=20
comp=Z,1.8nm,0.7s
PDAR Pinedale Array 74.46 46 P **P** **21 35 52.0 -0.3**
SLWR Sila 74.80 289 P **P** **21 35 54.5 +0.2**
MPU Maple Canyon 75.12 50 P **P** **21 35 56.2 0.0**

BUR08 Bucovina Ar. S 75.35 321 P **P** **21 35 58.1 +0.9**
BUR08 IAmb IAmb 21 35 59.5
comp=Z,8.6nm,0.9s
BURAR Bucovina Array 75.36 321 ⇓ P **P** **21 35 58.6 +1.3**
BURAR Bucovina Array 75.36 321 P **P** **21 35 58.3 +1.0**
BURAR IAmb IAmb 21 35 59.8
comp=Z,8.1nm,0.9s
BURAR Bucovina Array 75.36 321 P **P** **21 35 58.6 +1.3**
TESR Tescani 75.46 320 ⇓ P **P** **21 35 59.0 +1.3**
CFR Carcaliu 75.67 318 ⇑ P **P** **21 35 59.8 +0.9**
CFR Carcaliu 75.67 318 P **P** **21 35 59.8 +0.9**
TPGR Topolog 75.75 318 ⇓ P **P** **21 36 00.9 +1.5**
BNN Bunyan 75.78 309 P **P** **21 36 01.0 +1.1**
STHS Stebnicka Huta 75.85 325 *e*P **P** **21 36 00.6 +0.7**
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS Stebnicka Huta 75.85 325 *e*P **P** **21 36 00.6 +0.7**
OJC Ojcow 75.87 326 P **P** **21 36 00.2 +0.2**
OJC Ojcow 75.87 326 P **P** **21 36 00.2 +0.2**
OJC pmax pmax
comp=Z,20nm,0.9s
VRI Vrincioaia 75.88 319 ⇑ P **P** **21 36 02.7 +2.5**
VRI Vrincioaia 75.88 319 P **P** **21 36 02.6 +2.5**
RDMU Red Mountain 75.93 48 P **P** **21 36 01.0 +0.2**
RDMU IAmb IAmb 21 36 22.6
comp=Z,11nm,0.9s
UZH Uzhgorod 75.97 324 *e*P P 21 36 06.1 +5.6
UZH *e* 21 36 12.1
OZUR 76.18 320 ⇓ P **P** **21 36 04.2 +2.3**
TRPA Tarpa 76.22 323 ⇓ P **P** **21 36 03.9 +1.9**
NIE Niedzica 76.26 325 P **P** **21 36 04.1 +1.8**
NIE pmax pmax
comp=Z,5.0nm,1.1s
DMTO DMTO 76.39 282 P **P** **21 36 03.7 +0.2**
DOK Doka 76.43 283 P **P** **21 36 04.1 +0.5**
SNR=7.4
DOPR Dopca 76.47 320 ⇑ P **P** **21 36 05.5 +2.0**
BR131 Keskin Array S 76.47 311 P **P** **21 36 03.7 -0.1**
BR131 Keskin Array S 76.47 311 P **P** **21 36 03.7 -0.1**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 76.47 311 P **P** **21 36 04.8 +1.0**
comp=Z,2.7nm,0.8s,baz=61,slow=3.6,SNR=13
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 76.47 311 P **P** **21 36 03.5 -0.2**
CJR Cluj-Napoca 76.78 322 ⇓ P **P** **21 36 07.5 +2.2**
CJR Cluj-Napoca 76.78 322 P **P** **21 36 07.5 +2.2**
LANS Liptovska Anna 76.82 325 *e*P **P** **21 36 07.4 +2.0**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 76.82 325 *e*P **P** **21 36 07.4 +2.0**
KSP Ksiaz 76.83 328 P **P** **21 36 07.0 +1.6**
KSP pmax pmax
comp=Z,14nm,1.2s
ANTO Ankara 76.85 312 P **P** **21 36 05.8 0.0**
ANTO Ankara 76.85 312 P **P** **21 36 05.8 0.0**
ANTO pmax pmax
comp=Z,15nm,0.9s
OKC Ostrava-Krasne 76.85 326 AMS AMS 22 07 00.0
comp=Z,500nm,16.4s
BR231 Keskin MP Arra 76.88 312 P **P** **21 36 07.0 +0.9**
BR231 IAmb IAmb 21 36 08.6
comp=Z,10nm,0.9s
OSTC Ostas 77.09 328 *e*P **P** **21 36 08.6 +1.7**
OSTC AMS AMS 22 07 30.0
comp=Z,400nm,15.9s
WHFO Wadi Hawf 77.14 283 P **P** **21 36 07.6 -0.1**
MORC Moravsky Berou 77.15 327 P **P** **21 36 07.9 +0.6**
MORC IAmb IAmb 21 36 09.8
comp=Z,11nm,0.9s
MORC Moravsky Berou 77.15 327 *e*P **P** **21 36 08.8 +1.5**
MORC Moravsky Berou 77.15 327 P **P** **21 36 07.9 +0.6**
MORC pmax pmax
comp=Z,11nm,0.9s
DPC Dobruska-Polom 77.21 328 *e*P **P** **21 36 09.5 +1.9**
DPC AMS AMS 22 07 40.0
comp=Z,500nm,17.5s
DPC Dobruska-Polom 77.21 328 *e*P **P** **21 36 09.5 +1.9**
DPC MLR MLR
comp=Z,500nm,17.5s
UPC Upice 77.21 328 AMS AMS 22 07 50.0
comp=Z,500nm,18.8s
KRLC Kraliky 77.23 327 *e*P **P** **21 36 09.7 +1.9**
KRLC AMS AMS 22 07 30.0
comp=Z,300nm,20.9s
KRLC Kraliky 77.23 327 *e*P **P** **21 36 09.7 +1.9**
KRLC MLR MLR
comp=Z,300nm,20.9s
ARR Arges 77.26 320 ⇓ P **P** **21 36 10.5 +2.4**
MDUB Mudurnu 77.33 313 P **P** **21 36 08.9 +0.4**
VYHS Vyhne 77.59 325 *e*P **P** **21 36 11.1 +1.4**
VYHS pmax pmax
comp=Z,10.0nm,1.3s
VYHS Vyhne 77.59 325 *e*P **P** **21 36 11.1 +1.4**
CLL Collm 77.74 330 P **P** **21 36 10.8 +0.3**
CLL IAmb IAmb 21 36 11.8
comp=Z,9.1nm,0.9s
CLL Collm 77.74 330 *i* P **P** **21 36 11.2 +0.7**
comp=Z,11nm,0.9s
CLL Collm 77.74 330 P **P** **21 36 10.8 +0.3**
CLL pmax pmax
comp=Z,9.0nm,0.9s
JAVC Velka Javorina 77.81 326 *e*P **P** **21 36 13.0 +2.0**
ABTO Aybut 77.84 282 P **P** **21 36 10.1 -1.6**
SNR=6.3
VRAC Vranov 77.91 327 *e*P **P** **21 36 12.7 +1.2**
VRAC Vranov 77.91 327 P **P** **21 36 13.1 +1.6**
SIRR Siria 78.01 322 ⇓ P **P** **21 36 13.6 +1.5**
GZR Gura Zlata 78.14 321 ⇓ P **P** **21 36 14.2 +1.3**
GOPC GO Pecny, Ondr 78.16 328 AMS AMS 22 08 30.0
comp=Z,400nm,14.6s
SMOL Smolenice 78.17 326 *e*P **P** **21 36 15.0 +2.0**
SMOL pmax pmax
comp=Z,5.0nm,0.9s
SURR Surduc 78.17 322 ⇑ P **P** **21 36 14.8 +1.8**
KRUC Moravsky 78.18 327 *e*P **P** **21 36 14.2 +1.2**
KRUC Moravsky 78.18 327 P **P** **21 36 14.7 +1.7**
PRU Pruhonice 78.20 328 *e*P **P** **21 36 14.7 +1.6**
PRU AMS AMS 22 08 40.0
comp=Z,400nm,18.3s
PRU Pruhonice 78.20 328 *e*P **P** **21 36 14.7 +1.6**
PRU MLR MLR
comp=Z,400nm,18.3s
SRO Srobarova 78.34 325 *e*P **P** **21 36 16.1 +2.3**
SRO pmax pmax
comp=Z,15nm,1.0s
SRO Srobarova 78.34 325 *e*P **P** **21 36 16.1 +2.3**
SRO *e* 22 00 37.3
TREC Trest 78.37 328 AMS AMS 22 08 40.0
comp=Z,500nm,15.9s
BZS Buzias 78.52 322 ⇑ P **P** **21 36 15.7 +0.7**
BZS Buzias 78.52 322 P **P** **21 36 15.6 +0.7**
PLVB Pleven 78.71 319 ⇓ P **P** **21 36 17.4 +1.4**
SUSD Miller 78.75 40 P **P** **21 36 15.7 -0.5**
MDVR Moldovita 79.09 321 ⇑ P **P** **21 36 18.6 +0.5**
CKRC Cesky Krumlov 79.22 328 *e*P **P** **21 36 21.2 +2.5**
CKRC AMS AMS 22 09 50.0
comp=Z,500nm,16.2s
KHC Kasperske Hory 79.26 328 P **P** **21 36 19.1 +0.1**
KHC IAmb IAmb 21 36 21.4
comp=Z,7.9nm,0.8s
KHC Kasperske Hory 79.26 328 *e*P **P** **21 36 20.5 +1.5**
KHC x x 21 36 38.0
KHC AMS AMS 22 09 20.0
comp=Z,400nm,16.4s
KHC Kasperske Hory 79.26 328 *e*P **P** **21 36 20.5 +1.5**
KHC *e* 21 36 38.0
KHC MLR MLR
comp=Z,400nm,16.4s
RONA Rosalia, Austr 79.28 326 *e*P **P** **21 36 20.9 +1.8**
comp=Z,10.0nm,0.8s
CONA Conrad Observa 79.29 326 *i* P **P** **21 36 20.8 +1.6**
comp=Z,7.0nm,0.9s,SNR=5.5
EKA Eskdalemuir Ar 79.39 341 P **P** **21 36 19.9 +0.4**
GERES GERESS Array B 79.44 328 P **P** **21 36 20.9 +0.9**
comp=Z,2.6nm,0.9s,baz=35,slow=4.9,SNR=17
comp=Z,2.6nm,0.9s
GERES GERESS Array B 79.44 328 P **P** **21 36 20.3 +0.3**
GERES GERESS Array B 79.44 328 P **P** **21 36 21.0 +0.9**
GRA1 Grafenberg Arr 79.72 330 P **P** **21 36 22.6 +1.2**
GRA1 IAmb IAmb 21 36 23.9
comp=Z,12nm,0.8s
GRF Grafenberg Arr 79.72 330 P **P** **21 36 22.6 +1.2**
GRF pmax pmax

	comp=Z,12nm,0.8s							
GRFO	**Grafenberg**	**79.72**	**330**	P	**P**	**21 36 23.1**	**+1.7**
GRFO				IAmb	IAmb	21 36 23.8	
	comp=Z,13nm,0.9s							
GRFO	**Grafenberg**	**79.72**	**330**	P	**P**	**21 36 23.1**	**+1.7**
GRFO				pmax	pmax		
	comp=Z,13nm,0.9s							
RDO	**Rodhopi**	**79.88**	**317**	P	**P**	**21 36 23.9**	**+1.6**
RDO				IAmb	IAmb	21 36 25.0	
	comp=Z,16nm,1.0s							
BOVS	**Bovan**	**79.96**	**320**	⇑P	**P**	**21 36 23.6**	**+0.8**
MMAI	**Mount Meron Ar**	**79.96**	**305**	P	**P**	**21 36 23.5**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=325,slow=4.3,SNR=4.5							
	comp=Z,5.3nm,0.7s							
ARSA	**Arzberg**	**79.96**	**326**	*e*P	**P**	**21 36 24.4**	**+1.6**
	comp=Z,2.1nm,0.6s							
VTS	**Vitosha**	**79.97**	**319**	⇓P	**P**	**21 36 25.0**	**+2.0**
VTS	**Vitosha**	**79.97**	**319**	P	**P**	**21 36 24.3**	**+1.2**
VTS				IAmb	IAmb	21 36 25.8	
	comp=Z,12nm,0.9s							
VTS	**Vitosha**	**79.97**	**319**	P	**P**	**21 36 25.0**	**+2.0**
MOA	**Molln**	**80.01**	**327**	*e*P	**P**	**21 36 23.4**	**+0.4**
	comp=Z,1.7nm,0.7s							
BIOA	**Bad Ischl, Aus**	**80.39**	**328**	*e*P	**P**	**21 36 26.8**	**+1.7**
	comp=Z,8.5nm,0.9s							
SOKA	**Soboth**	**80.62**	**326**	P	**P**	**21 36 27.7**	**+1.3**
	comp=Z,11nm,0.8s,SNR=5.8							
OBKA	**Obir**	**80.96**	**326**	P	**P**	**21 36 28.5**	**+0.3**
	comp=Z,6.9nm,0.8s,SNR=5.6							
KBA	**Koelnbreinsper**	**81.00**	**327**	*e*P	**P**	**21 36 29.8**	**+1.2**
	comp=Z,12nm,1.1s							
SCHQ	**Schefferville**	**81.24**	**16**	P	**P**	**21 36 30.1**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=272,slow=9.1,SNR=1.8							
	comp=Z,2.3nm,0.8s							
MYKA	**Terra Mystica**	**81.24**	**327**	*e*P	**P**	**21 36 30.6**	**+0.9**
	comp=Z,8.3nm,1.0s							
BMRD	**Maredsous**	**81.50**	**334**	*d*P	**P**	**21 36 31.7**	**+0.8**
WATA	**Walderalm**	**81.50**	**328**	*e*P	**P**	**21 36 32.2**	**+1.1**
	comp=Z,5.1nm,0.8s							
WTTA	**Wattenberg**	**81.54**	**328**	*e*P	**P**	**21 36 32.8**	**+1.4**
	comp=Z,8.8nm,0.8s							
ANMO	**Albuquerque**	**81.59**	**51**	P	**P**	**21 36 32.5**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=45,slow=10,SNR=4.1							
	comp=Z,1.6nm,0.9s							
ABTA	**Abfaltersbach**	**81.61**	**328**	*e*P	**P**	**21 36 32.1**	**+0.4**
	comp=Z,5.1nm,1.1s							
GIVF	**Givet**	**81.65**	**334**	*e*P	**P**	**21 36 31.8**	**+0.1**
GIVF				pmax	pmax		
	comp=Z,26nm,1.4s							
MOTA	**Moosalm**	**81.68**	**329**	*e*P	**P**	**21 36 33.3**	**+1.2**
	comp=Z,15nm,0.9s							
RETA	**Reutte**	**81.70**	**329**	*i* P	**P**	**21 36 33.5**	**+1.4**
	comp=Z,7.7nm,0.9s,SNR=8.0							
SQTA	**Sankt Quirin**	**81.74**	**329**	*e*P	**P**	**21 36 33.4**	**+1.0**
	comp=Z,7.2nm,0.8s							
PDG	**Podgorica**	**82.04**	**321**	⇑P	**P**	**21 36 34.5**	**+0.6**
FETA	**Feichten**	**82.09**	**329**	*i* P	**P**	**21 36 35.4**	**+1.1**
	comp=Z,8.4nm,0.9s,SNR=7.3							
DAVA	**Damuels**	**82.20**	**329**	*e*P	**P**	**21 36 36.0**	**+1.1**
	comp=Z,18nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**82.61**	**329**	P	**P**	**21 36 38.3**	**+1.2**
FUORN				IAmb	IAmb	21 36 39.3	
	comp=Z,11nm,0.8s							
HAU	**Haudompre**	**82.91**	**332**	*e*P	**P**	**21 36 39.3**	**+0.9**
HAU				pmax	pmax		
	comp=Z,7.0nm,0.9s							
TEOL	**Teolo**	**83.08**	**327**	P	**P**	**21 36 39.4**	**+0.2**
LOR	**Lormes**	**84.42**	**333**	*e*P	**P**	**21 36 46.3**	**+0.2**
LOR				pmax	pmax		
	comp=Z,10.0nm,0.9s							
IDI	**Anoyia**	**84.51**	**313**	P	**P**	**21 36 46.6**	**-0.3**
	comp=Z,16nm,0.8s,baz=35,slow=7.1,SNR=15							
	comp=Z,16nm,0.8s							
LDF	**La Druitiere**	**84.56**	**336**	*e*P	**P**	**21 36 47.9**	**+1.2**
LDF				pmax	pmax		
	comp=Z,58nm,1.8s							
SSF	**Saint Saulge**	**84.72**	**333**	*e*P	**P**	**21 36 47.9**	**+0.3**
SSF				pmax	pmax		
	comp=Z,10.0nm,1.0s							
GDL2	**Guadalupe Moun**	**84.76**	**51**	P	**P**	**21 36 48.6**	**+0.4**
LPL	**La Plagne**	**84.88**	**330**	*e*P	**P**	**21 36 49.4**	**+0.7**
LPL				pmax	pmax		
	comp=Z,14nm,0.9s							
SMF	**Signal de Mont**	**84.96**	**333**	*e*P	**P**	**21 36 50.3**	**+1.5**
SMF				pmax	pmax		
	comp=Z,12nm,1.0s							
AVF	**Avril sur Loir**	**85.00**	**333**	*e*P	**P**	**21 36 49.5**	**+0.5**
AVF				pmax	pmax		
	comp=Z,17nm,0.9s							
MBDF	**Montbardon**	**85.53**	**330**	*e*P	**P**	**21 36 51.8**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.9s							
SGMF	**Saint Gilles**	**85.60**	**337**	*e*P	**P**	**21 36 53.0**	**+1.1**
SGMF				pmax	pmax		
	comp=Z,58nm,1.3s							
ORIF	**Oris-en-Ratie**	**85.71**	**330**	*e*P	**P**	**21 36 54.9**	**+2.2**
ORIF				pmax	pmax		
	comp=Z,7.0nm,0.8s							
TCF	**Toulx Ste Croi**	**85.83**	**333**	*e*P	**P**	**21 36 53.9**	**+0.7**
TCF				pmax	pmax		
	comp=Z,13nm,1.2s							
QUIF	**Quistinic**	**86.08**	**337**	*e*P	**P**	**21 36 55.1**	**+0.8**
QUIF				pmax	pmax		
	comp=Z,90nm,1.6s							
VIVF	**Saint-Julien-l**	**86.20**	**331**	*e*P	**P**	**21 36 56.7**	**+1.7**
VIVF				pmax	pmax		
	comp=Z,14nm,1.2s							
MFF	**Saint Martin d**	**86.33**	**335**	*e*P	**P**	**21 36 56.5**	**+0.9**
MFF				pmax	pmax		
	comp=Z,23nm,1.1s							
RJF	**Les Rejaudoux**	**86.93**	**333**	*e*P	**P**	**21 36 59.4**	**+0.9**
RJF				pmax	pmax		
	comp=Z,3.0nm,0.4s							
CAF	**Calviac**	**87.07**	**333**	*e*P	**P**	**21 37 00.6**	**+1.3**
CAF				pmax	pmax		
	comp=Z,15nm,0.9s							
TXAR	**Lajitas Array**	**87.24**	**53**	P	**P**	**21 37 01.5**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=297,slow=3.5,SNR=11							
	comp=Z,0.9nm,0.8s							
LFF	**La Frestale**	**87.51**	**334**	*e*P	**P**	**21 37 03.5**	**+2.2**
LFF				pmax	pmax		
	comp=Z,12nm,1.0s							
ETSF	**Etsaut**	**89.75**	**333**	*e*P	**P**	**21 37 14.0**	**+1.9**
ETSF				pmax	pmax		
	comp=Z,7.0nm,1.0s							
ESDC	**Sonseca Array**	**93.78**	**334**	P	**P**	**21 37 31.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=5.5,slow=3.8,SNR=5.5							
	comp=Z,0.6nm,0.7s							
SNAA	**Sanae**	**144.83**	**198**	PKPdf	**PKPdf**	**21 43 48.8**	**-0.3**
SNAA	**Sanae**	**144.83**	**198**	PKiKP	**PKPdf**	**21 43 48.8**	**-0.3**
PB11	**IPOC Station P**	**145.65**	**61**	PKPdf	**PKPab**	**21 43 53.2**	**+0.2**
H03N2	**Juan Fernandez**	**146.78**	**90**	T	T	00 27 27.1	
	baz=300							
H03N3	**Juan Fernandez**	**146.79**	**90**	T	T	00 27 27.7	
	baz=300							
H03N1	**Juan Fernandez**	**146.79**	**90**	T	T	00 27 28.6	
	baz=300							
PTLB	**Pontes e Lacer**	**148.49**	**42**		**PKPbc**	**21 43 59.8**	**-0.6**
BDFB	**Brasilia**	**153.12**	**22**	PKPbc	**PKiKP**	**21 44 12.2**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=176,slow=1.7,SNR=4.9							

ROM 02 21:33:57.9±0.1, 42°.931N±0°.001×13°.214E±0°.003, h8km, ML1.4/9, 5C-6D, Error ellipse: s-maj=0.1km s-min=0.0km az=87.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.08**	**194**	⇓P	Pg	21 34 00.3	+0.1
T1245				S	Sg	21 34 01.9	+0.2
T1245				AML	AML		
	comp=E,779μm,0.6s						
T1245				AML	AML		
	comp=N,1200μm,0.3s						
T1256	**Bolognola (MC)**	**0.08**	**7**	⇑P	Pg	21 34 00.3	+0.1
T1256				S	Sg	21 34 02.1	+0.3
T1256				AML	AML		
	comp=E,192μm,1.4s						
T1256				AML	AML		
	comp=N,172μm,0.4s						
NRCA	**Norcia**	**0.12**	**217**	P	Pg	21 34 01.3	+0.5
NRCA				S	Sg	21 34 03.5	+0.8
NRCA				AML	AML		
	comp=N,526μm,0.4s						
NRCA				AML	AML		
	comp=N,492μm,0.4s						
NRCA				AML	AML		
	comp=E,584μm,0.1s						
NRCA				AML	AML		
	comp=E,615μm,0.1s						
FDMO	**Fiordimonte**	**0.14**	**319**	⇑P	Pg	21 34 01.5	+0.5
FDMO				S	Sg	21 34 04.0	+0.9
T1216	**Preci, Frazion**	**0.15**	**254**	P	Pg	21 34 01.7	+0.5
T1216				S	Sg	21 34 04.3	+1.0
GUMA	**Gualdo di Mace**	**0.16**	**34**	P	Pg	21 34 02.3	+0.9
GUMA				AML	AML		
	comp=E,181μm,1.5s						
GUMA				AML	AML		
	comp=E,181μm,0.5s						
GUMA				AML	AML		
	comp=N,160μm,0.2s						
T1214	**Arquata del Tr**	**0.17**	**181**	P	Pg	21 34 02.1	+0.5
T1214				S	Sg	21 34 05.3	+1.2
T1241	**Roccafluvione,**	**0.18**	**115**	P	Pg	21 34 02.2	+0.6
T1241				S	Sg	21 34 05.3	+1.1
T1241				AML	AML		
	comp=E,105μm,0.6s						
T1241				AML	AML		
	comp=N,91μm,0.6s						
T1219	**Muccia, Frazio**	**0.20**	**310**	⇓P	Pg	21 34 02.6	+0.6
T1220	**Camerino, Fraz**	**0.20**	**333**	⇓P	Pg	21 34 02.8	+0.7
T1220				AML	AML		
	comp=E,204μm,0.5s						
T1220				AML	AML		
	comp=N,207μm,0.7s						
T1220				AML	AML		
	comp=E,205μm,0.5s						
T1220				AML	AML		
	comp=N,207μm,0.7s						
T1220				AML	AML		
	comp=E,205μm,1.5s						
T1212	**Cascia, Frazio**	**0.22**	**215**	⇑P	Pg	21 34 03.0	+0.6
T1212				S	Sg	21 34 06.7	+1.3
T1212				AML	AML		
	comp=E,48μm,0.2s						
T1212				AML	AML		
	comp=N,79μm,0.1s						
CESI	**CESI - Serrava**	**0.24**	**288**	⇓P	Pg	21 34 03.5	+0.7
CESI				AML	AML		
	comp=E,41μm,0.3s						
CESI				AML	AML		
	comp=N,97μm,1.0s						
T1218	**Civita (PG)**	**0.27**	**196**	P	Pg	21 34 03.9	+0.6
T1218				S	Sb	21 34 08.8	-1.1
T1215	**Vallo di Nera,**	**0.28**	**243**	⇑P	Pg	21 34 04.2	+0.6
SMA1	**SAN MARTINO**	**0.31**	**163**	⇑P	Pg	21 34 04.5	+0.4
LNSS	**Leonessa**	**0.35**	**201**	⇓P	Pg	21 34 05.5	+0.6
LNSS				AML	AML		
	comp=E,155μm,0.2s						
LNSS				AML	AML		
	comp=N,78μm,0.8s						
LNSS				AML	AML		
	comp=N,78μm,1.2s						
SNTG	**Esanatoglia**	**0.38**	**328**	⇓P	Pb	21 34 06.2	-0.8

*NEIC **02** 21:34:51.5±2.2, 21°.4S±0°.1×179°.6W±0°.1, h606km±10km, mb4.4/25, Error ellipse: s-maj=18.7km s-min=11.2km az=217.0*
*IDC **02** 21:34:52.2±2.0, 21°.55S×179°.64W, h617km±17km, mb3.4/8, mbtmp4.3/10, Error ellipse: s-maj=40.1km s-min=12.5km az=148.0*
ISC 02 21:34:49.7±0.6, 21°.89S±0°.09×179°.44W±0°.10, h600km, n49, σ1§15/50, mb4.3/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.76**	**330**	P	**P**	**21 36 20.7**	**-0.2**
	4.7nm,0.4s,baz=263,slow=23,SNR=2.5						
MSVF				S	**S**	**21 37 34.8**	**-0.4**
	13nm,0.8s,baz=303,slow=21,SNR=6.5						
MSVF	**Nonsavu**	**4.76**	**330**	P	**P**	**21 36 19.9**	**-1.0**
MARNC	**Mare, Loyalty**	**11.66**	**270**	P	**P**	**21 37 25.5**	**+0.4**
DZM	**Mont Dzumac**	**13.10**	**267**	P	**P**	**21 37 39.7**	**0.0**
	13nm,0.6s,baz=265,slow=23,SNR=16						
DZM	**Mont Dzumac**	**13.10**	**267**	P	**P**	**21 37 39.2**	**-0.5**
URZ	**Urewera**	**16.59**	**190**	P	**P**	**21 38 10.0**	**-2.2**
	3.0nm,0.3s,baz=343,slow=3.1,SNR=5.8						
URZ				S	**S**	**21 40 53.3**	**-3.8**
	13nm,1.1s,baz=108,slow=9.9,SNR=1.7						
LTZ	**Lake Taylor**	**21.96**	**196**	P	P	21 39 09.6	+8.8
EIDS	**Eidsvold**	**27.21**	**257**	P	**P**	**21 39 48.8**	**+1.5**
EIDS				IAmb	IAmb	21 39 49.4	
	comp=Z,7.2nm,0.6s						
ARMA	**Armidale**	**27.27**	**246**	P	**P**	**21 39 50.3**	**+2.3**
CTAO	**Charters Tower**	**32.05**	**267**	P	**P**	**21 40 30.1**	**+1.1**
CTAO				IAmb	IAmb	21 40 30.6	
	comp=Z,10nm,0.5s						
TOO	**Toolangi**	**34.00**	**235**	P	**P**	**21 40 46.7**	**+1.4**
TOO				IAmb	IAmb	21 40 58.3	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**35.99**	**246**	P	**P**	**21 41 03.0**	**+1.2**
	comp=Z,4.0nm,0.6s,baz=86,slow=9.8,SNR=13						
	comp=Z,4.0nm,0.6s						
STKA	**Stephens Creek**	**35.99**	**246**	P	**P**	**21 41 02.5**	**+0.7**
BBOO	**Buckleboo**	**40.74**	**245**	P	**P**	**21 41 40.9**	**+0.9**
AS31	**Alice Springs**	**42.91**	**258**	P	**P**	**21 41 56.5**	**-0.8**
WR0	**Warramunga Arr**	**42.91**	**264**	P	**P**	**21 41 57.1**	**-0.2**
WR0				IAmb	IAmb	21 41 59.0	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**42.91**	**258**	P	**P**	**21 41 58.1**	**+0.8**
	comp=Z,8.9nm,0.8s,baz=98,slow=8.0,SNR=87						
ASAR				S	**S**	**21 47 38.8**	**-1.3**
	comp=Z,0.7nm,1.0s,baz=89,slow=14,SNR=4.6						
	comp=Z,8.9nm,0.8s						
ASAR	**Alice Springs**	**42.91**	**258**	P	**P**	**21 41 57.6**	**+0.3**
WB0	**Warramunga Arr**	**43.08**	**264**	P	**P**	**21 41 58.2**	**-0.5**
WB0				IAmb	IAmb	21 41 59.2	
	comp=Z,11nm,1.0s						
WB2	**Warramunga Arr**	**43.09**	**264**	P	**P**	**21 41 57.9**	**-0.7**
WB2				IAmb	IAmb	21 41 59.8	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**21 41 58.9**	**+0.2**
	comp=Z,4.6nm,0.5s,baz=97,slow=7.7,SNR=59						
	comp=Z,4.6nm,0.5s						
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**21 41 58.3**	**-0.5**
MTN	**Manton Dam**	**47.86**	**272**	P	**P**	**21 42 35.0**	**+0.1**
KNRA	**Kununurra**	**49.25**	**268**	P	**P**	**21 42 45.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.53**	**264**	P	**P**	**21 43 03.0**	**+1.3**
MBWA	**Marble Bar**	**56.26**	**259**	P	**P**	**21 43 35.2**	**+0.4**
MBWA				IAmb	IAmb	21 43 36.1	
	comp=Z,6.6nm,0.8s						
QSPA	**South Pole Qui**	**68.19**	**180**	P	**P**	**21 44 53.4**	**+2.2**
QSPA				IAmb	IAmb	21 45 05.0	
	comp=Z,7.5nm,1.5s						
ADK	**Adak**	**73.49**	**2**	P	**P**	**21 45 20.2**	**-1.8**
PETK	**Petropavlovsk-**	**77.27**	**346**	P	**P**	**21 45 42.8**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=160,slow=4.7,SNR=5.6						
	comp=Z,2.1nm,0.7s						
YBH	**Yreka Blue Hor**	**82.20**	**39**	P	**P**	**21 46 10.7**	**+1.5**
YBH				IAmb	IAmb	21 46 18.6	
	comp=Z,9.2nm,1.4s						
BEKR	**Beckworth**	**82.49**	**42**	P	**P**	**21 46 09.9**	**-0.9**
HUMO	**Hull Mountain**	**82.61**	**38**	P	**P**	**21 46 11.7**	**+0.6**
HUMO				IAmb	IAmb	21 46 15.2	
	comp=Z,16nm,1.4s						
NVAR	**Mina Array Bea**	**82.95**	**44**	P	**P**	**21 46 13.7**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=231,slow=9.4,SNR=5.4						
	comp=Z,1.0nm,0.6s						
WCT	**Wildcat Mounta**	**83.13**	**46**	P	**P**	**21 46 15.7**	**+1.8**
ILSW	**Illamna Southw**	**84.36**	**13**	P	**P**	**21 46 18.9**	**-0.5**
ILSW				IAmb	IAmb	21 46 19.7	
	comp=Z,9.0nm,0.9s						
GHO	**Glory Hole Cre**	**86.88**	**14**	P	**P**	**21 46 31.2**	**-0.2**
GHO				IAmb	IAmb	21 46 32.1	
	comp=Z,6.8nm,0.7s						
TRF	**Thorofare Moun**	**88.08**	**13**	P	**P**	**21 46 35.9**	**-1.1**
TRF				IAmb	IAmb	21 46 37.5	
	comp=Z,4.7nm,0.7s						
TXAR	**Lajitas Array**	**88.93**	**58**	P	**P**	**21 46 43.4**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=223,slow=5.6,SNR=10						
	comp=Z,1.4nm,0.9s						
ILAR	**Eielson Array**	**89.96**	**13**	P	**P**	**21 46 45.0**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=216,slow=5.2,SNR=10						
	comp=Z,0.5nm,0.5s						
PDAR	**Pinedale Array**	**90.88**	**44**	P	**P**	**21 46 50.1**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=219,slow=4.3,SNR=4.7						
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**111.17**	**313**	PKiKP	**PKiKP**	**21 52 15.7**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=90,slow=1.4,SNR=1.8						
ARCES	**ARCESS Array B**	**130.02**	**349**	PKP	**PKPdf**	**21 52 51.8**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=33,slow=3.5,SNR=5.0						
FINES	**FINESS Array B**	**136.70**	**342**	PKP	**PKiKP**	**21 53 05.7**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=128,slow=3.1,SNR=5.1						
AKASG	**Malin Array Be**	**143.54**	**329**	PKP	PKPab	21 53 15.2	-0.5
	comp=Z,0.6nm,0.3s,baz=38,slow=4.2,SNR=16						
BRTR	**Keskin Array B**	**146.74**	**310**	PKPbc	**PKPbc**	**21 53 24.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=125,slow=2.8,SNR=3.4						
CLL	**Collm**	**149.07**	**345**	*e*PKPbc	**PKPbc**	**21 53 31.0**	**0.0**
KHC	**Kasperske Hory**	**150.91**	**342**	*e*PKP	**PKiKP**	**21 53 36.0**	**+0.2**
GERES	**GERESS Array B**	**151.13**	**342**	PKPbc	**PKPbc**	**21 53 35.8**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=54,slow=3.4,SNR=7.9						
TORD	**Torodi Ar. Bea**	**171.24**	**187**	PKP	**PKPdf**	**21 53 50.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=185,slow=1.6,SNR=3.0						

*NEIC **02** 21:55:27.5±1.8, 3°.91N±0°.04×128°.94E±0°.07, h10km±1km, mb4.3/18, Error ellipse: s-maj=12.4km s-min=5.0km az=119.0*
*DJA **02** 21:55:29.1±0.7, 4°.1N±5°×12°.9E±°, h10km, M4.4/7, mB5.2/2, mb4.5/6, MLv4.3/7, Mw(mB)4.6/2*
*IDC **02** 21:55:31.8±3.5, 3°.96N×129°.06E, h48km±37km, mb3.6/11, mbtmp3.8/12, ML3.6/1, MS3.2/3, Error ellipse: s-maj=46.4km s-min=15.7km az=73.0*
ISC 02 21:55:30.4±0.6, 3°.81N±0°.07×128°.80E±0°.08, h35km, n51, σ1§09/51, mb4.1/19, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.27**	**268**	P	**Pn**	**21 56 18.0**	**-1.2**
SGSI				S	**Sn**	**21 56 58.1**	**+1.1**
TNTI	**Ternate**	**3.34**	**205**	Pn	**Pn**	**21 56 22.7**	**+2.5**
DAV	**Davao City (W)**	**4.56**	**315**	S	Sn	21 57 37.4	+8.6
	73nm,0.3s,baz=228,slow=22,SNR=1.5						
DAV				LR	LR	21 58 59.3	
	comp=Z,353nm,19.4s,baz=342,slow=45						
DAV	**Davao City (W)**	**4.56**	**315**	Pn	**Pn**	**21 56 36.9**	**-0.1**
SIJI	**Sorong**	**5.26**	**152**	P	**Pn**	**21 56 48.9**	**+2.3**
	2.2nm,0.3s,baz=333,slow=16,SNR=6.6						
SIJI				S	**Sn**	**21 57 45.6**	**-0.5**
	4.3nm,0.5s,baz=300,slow=23,SNR=1.6						
	5.1nm,0.4s						
SANI	**Sanana**	**6.46**	**206**	P	**Pn**	**21 57 02.0**	**-1.2**
	21nm,0.9s,0.1nm						
GTOI	**Gorontalo**	**6.59**	**242**	P	**Pn**	**21 57 04.1**	**-0.8**
	17nm,0.6s,0.1nm						
FAKI	**Fak Fak**	**7.52**	**153**	Pn	**Pn**	**21 57 16.9**	**-0.7**
MRSI	**Marisa**	**7.62**	**244**	P	**Pn**	**21 57 18.9**	**-0.1**
	296nm,0.6s,3μm1.1nm						
LUWI	**Luwuk**	**7.72**	**231**	Pn	**Pn**	**21 57 23.1**	**+2.7**
TOLI2	**Tolitoli**	**8.45**	**252**	Pn	**Pn**	**21 57 28.5**	**-2.0**
APSI	**Ampana**	**8.55**	**237**	P	**Pn**	**21 57 30.6**	**-1.2**
	88nm,1.2s,670nm						
MPSI	**Mapaga**	**9.54**	**249**	P	**Pn**	**21 57 45.4**	**-0.1**
MYLDM	**Lahad Datu**	**10.36**	**278**	Pn	**Pn**	**21 57 58.5**	**+1.8**
KAPI	**Kappang**	**12.59**	**226**	LR	LR	22 03 13.9	
	comp=Z,82nm,19.2s,baz=266,slow=36						
KAPI	**Kappang**	**12.59**	**226**	Pn	**Pn**	**21 58 25.9**	**-1.4**
SBUM	**Sibu**	**16.61**	**266**	Pn	**P**	**21 59 22.4**	**-0.5**
SBUM				IAmb	IAmb	21 59 23.9	
	comp=Z,18nm,1.3s						
MTN	**Manton Dam**	**16.71**	**172**		**P**	**21 59 24.0**	**0.0**
MTN				IAmb	IAmb	21 59 41.3	
	comp=Z,67nm,1.5s						
GUMO	**Guam**	**18.60**	**58**	LR	LR	22 06 45.2	
	comp=Z,50nm,18.6s,baz=134,slow=37						
KNRA	**Kununurra**	**19.36**	**180**	P	**P**	**21 59 53.2**	**0.0**
WB0	**Warramunga Arr**	**24.07**	**167**	P	**P**	**22 00 43.3**	**+0.6**
WB0				IAmb	IAmb	22 00 56.6	
	comp=Z,9.2nm,1.1s						
WRA	**Warramunga Arr**	**24.22**	**167**	P	**P**	**22 00 44.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=345,slow=10,SNR=13						
	comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**24.22**	**167**	P	**P**	**22 00 43.0**	**-1.2**
WB2	**Warramunga Arr**	**24.23**	**167**	P	**P**	**22 00 45.0**	**+0.9**
WB2				IAmb	IAmb	22 01 17.8	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**24.28**	**167**	P	**P**	**22 00 45.0**	**+0.3**
WR0				IAmb	IAmb	22 00 58.9	
	comp=Z,6.4nm,1.1s						
UBPT	**Khong Chiam**	**25.64**	**298**	P	**P**	**22 00 57.6**	**+0.5**
MBWA	**Marble Bar**	**26.36**	**199**	P	**P**	**22 01 03.4**	**-0.1**
MBWA				IAmb	IAmb	22 01 39.4	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**27.76**	**170**	P	**P**	**22 01 16.4**	**+0.3**
ASAR	**Alice Springs**	**27.76**	**170**	P	**P**	**22 01 16.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=349,slow=7.1,SNR=2.4						
ASAR				PcP	**PcP**	**22 04 32.0**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=343,slow=1.9,SNR=2.7						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Ar**	**32.63**	**299**	P	**P**	**22 02 00.1**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=126,slow=9.1,SNR=3.4						
	comp=Z,0.5nm,0.7s						
CHTO	**Chiang Mai**	**32.77**	**299**	P	**P**	**22 02 01.7**	**+1.2**
CHTO				IAmb	IAmb	22 02 41.3	
	comp=Z,10.0nm,1.5s						
KSRS	**Korea Array**	**33.49**	**359**	P	**P**	**22 02 04.6**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=180,slow=10,SNR=1.4						
	comp=Z,0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**33.71**	**14**	P	**P**	**22 02 06.6**	**-1.8**
	comp=Z,1.7nm,1.0s,baz=185,slow=9.7,SN

comp=Z,260nm,0.9s
LANS Liptovska Anna 1.27 165 *e*PG **Pg** **22 00 09.7 -0.2**
LANS *e*SG **Sg** **22 00 25.7 -0.7**
LANS *e*LG Lg 22 00 30.2
NIE Niedzica 1.29 137 *e*Pg **Pg** **22 00 10.7 +0.4**
NIE *e*Sg **Sb** **22 00 28.2 +0.3**
KRLC Kraliky 1.43 259 *e*PG **Pn** **22 00 12.2 -0.6**
KRLC *e*SG **Sg** **22 00 30.3 -1.1**
comp=Z,84nm,0.6s
DPC Dobruska-Polom 1.69 270 *e*PG **Pn** **22 00 17.0 +0.6**
DPC *e*SG **Sb** **22 00 39.3 0.0**
comp=Z,71nm,0.7s
JAVC Velka Javorina 1.73 209 *e*PN **Pn** **22 00 17.3 +0.3**
JAVC Velka Javorina 1.73 209 *e*Pn **Pn** **22 00 17.2 +0.3**
baz=27
KSP Ksiaz 1.76 286 *e*Pb **Pb** **22 00 18.4 -0.3**
KSP *e*Pg **Pg** **22 00 20.6 +1.4**
KSP *e*Sg **Sg** **22 00 43.7 +1.7**
OSTC Ostas 1.76 277 *e*PG **Pb** **22 00 18.4 -0.3**
OSTC *e*SG **Sg** **22 00 42.1 0.0**
comp=Z,47nm,0.7s
STHS Stebnicka Huta 1.76 122 *e*PN **Pb** **22 00 19.4 +0.6**
STHS *e*SN **Sg** **22 00 42.6 +0.4**
STHS *e*LG Lg 22 00 47.8
VRAC Vranov 1.87 236 Pg **Pn** **22 00 18.0 -0.8**
2.9nm,0.3s,baz=62,slow=16,SNR=34
VRAC Lg Lg 22 00 41.1
9.7nm,0.3s,baz=128,slow=15,SNR=12
VRAC Vranov 1.87 236 *e*PN **Pn** **22 00 19.2 +0.4**
VRAC *e*SG **Sn** **22 00 41.6 -1.5**
VRAC Vranov 1.87 236 *e*Pn **Pn** **22 00 19.2 +0.4**
baz=56
VRAC *e*Sg **Sn** **22 00 41.5 -1.5**
42nm,0.5s,baz=56
VYHS Vyhne 1.89 182 *e*PN **Pn** **22 00 18.1 -0.9**
VYHS *e*SN **Sn** **22 00 42.5 -1.0**
KRUC Moravsky 2.12 233 *e*PN **Pn** **22 00 22.5 +0.2**
KRUC *e*SG **Sn** **22 00 49.2 -0.1**
KRUC Moravsky 2.12 233 *e*Pn **Pn** **22 00 22.4 +0.2**
baz=52
KRUC *e*Sg **Sn** **22 00 49.2 -0.1**
46nm,0.9s,baz=52
KECS Kecovo 2.14 152 *e*PN **Pn** **22 00 22.4 -0.2**
KECS *e*SN **Sn** **22 00 47.2 -2.6**
KECS *e*LG Lg 22 01 03.4
MODS Modra-Piesok 2.29 209 *e*PN **Pn** **22 00 24.7 +0.2**
MODS *e*SG **Sb** **22 00 57.3 +0.8**
TREC Trest 2.49 246 *e*PG **Pb** **22 00 32.2 +1.0**
TREC *e*SG **Sb** **22 01 02.9 +0.5**
comp=Z,42nm,0.5s
PSZ Piszkesteto 2.54 166 ⇑P **Pb** **22 00 33.0 +1.0**
GOPC GO Pecny, Ondr 2.72 262 *e*PG **Pb** **22 00 34.7 -0.4**
GOPC *e*SG **Sb** **22 01 09.8 +0.8**
comp=Z,48nm,1.1s
PVCC Panska Ves 2.81 275 *e*PG **Pg** **22 00 39.4 0.0**
PVCC *e*SG **Sg** **22 01 15.6 -0.1**
comp=Z,52nm,0.4s
PRU Pruhonice 2.86 264 *e*PG **Pb** **22 00 37.4 -0.1**
PRU *e*SG **Sg** **22 01 15.9 -1.6**
comp=Z,21nm,0.5s
CONA Conrad Observa 3.18 221 *e*Pn **Pn** **22 00 36.0 -0.9**
0.6nm,0.3s
CONA *e*Sg **Sg** **22 01 28.5 +0.8**
16nm,0.8s
RONA Rosalia, Austr 3.20 214 *e*Pn **Pn** **22 00 36.7 -0.5**
3.9nm,0.4s
RONA *e*Sg **Sg** **22 01 28.7 +0.4**
4.4nm,0.5s
BRG Berggiesshubel 3.23 281 Pg **Pg** **22 00 49.6 +2.1**
BRG Sg **Sg** **22 01 28.8 -0.5**
BRG Amp 22 01 32.8
comp=Z,14nm,0.4s
BRG Amp 22 08 08.0
comp=Z,0.4nm,19.3s
CKRC Cesky Krumlov 3.40 245 *e*PG **Pb** **22 00 48.2 +1.5**
CKRC *e*SG **Sb** **22 01 31.3 +2.8**
comp=Z,49nm,1.1s
KHC Kasperske Hory 3.70 252 *e*PG **Pb** **22 00 50.7 -1.1**
KHC *e*SG **Sg** **22 01 41.8 -2.7**
comp=Z,23nm,0.4s
GERES GERESS Array B 3.74 248 Pn **Pn** **22 00 45.9 +1.2**
comp=Z,0.2nm,0.3s,baz=68,slow=14,SNR=4.7
GERES Pg **Pb** **22 00 54.5 +1.9**
comp=Z,1.0nm,0.3s,baz=65,slow=18,SNR=24
GERES Sn **Sn** **22 01 21.1 -8.4**
comp=Z,1.1nm,0.3s,baz=58,slow=18,SNR=6.7
GERES Lg Lg 22 01 40.4
comp=Z,3.5nm,0.3s,baz=63,slow=24,SNR=9.3
ARSA Arzberg 3.86 217 *e*Pn **Pn** **22 00 46.5 +0.3**
comp=Z,0.1nm,0.1s
ARSA *e*Sg **Sg** **22 01 50.7 +1.0**
comp=Z,4.5nm,0.7s
CLL Collm 3.89 286 *e*Pg **Pg** **22 01 02.0 +2.0**
CLL *e*Sg **Sg** **22 01 51.0 +0.6**
comp=Z,17nm,0.9s
MOA Molln 3.98 232 *e*Pn **Pn** **22 00 48.0 +0.1**
comp=Z,0.3nm,0.2s
MOA *e*Sg **Sb** **22 01 47.5 +2.2**
comp=Z,12nm,0.5s
MORH Mrgy, Hungar 4.17 183 ⇓P **Pn** **22 00 49.8 -0.6**
NKC Novy Kostel 4.17 271 *e*SG **Sg** **22 01 57.8 -1.8**
comp=Z,15nm,0.4s
DRGR 4.37 144 P **Pn** **22 00 53.7 +0.5**
BIOA Bad Ischl, Aus 4.41 235 *e*Pn **Pn** **22 00 54.4 +0.7**
comp=Z,2.4nm,0.4s
BIOA *e*Sg **Sg** **22 02 05.5 -1.7**
comp=Z,16nm,0.6s
MARR Marisel-Cluj 4.62 142 ⇑P **Pn** **22 00 57.4 +0.6**
OBKA Obir 4.86 219 *e*Pn **Pn** **22 01 00.1 +0.2**
comp=Z,0.1nm,0.0s
OBKA *e*Sg **Sg** **22 02 23.1 +1.6**
comp=Z,1.7nm,0.5s
BURAR Bucovina Array 4.96 121 ⇑P **Pn** **22 01 02.8 +1.4**
KBA Koelnbreinsper 4.97 231 *e*Sg **Sg** **22 02 27.6 +2.5**
comp=Z,13nm,0.9s
BZS Buzias 5.09 158 ⇑P **Pn** **22 01 03.2 +0.2**
SURR Surduc 5.09 154 ⇑P **Pn** **22 01 03.4 +0.4**
MYKA Terra Mystica 5.15 225 *e*Sg **Sg** **22 02 33.3 +2.4**
comp=Z,2.0nm,0.4s
GZR Gura Zlata 5.61 151 ⇓P **Pn** **22 01 10.0 -0.2**
ABTA Abfaltersbach 5.61 232 *e*Sg **Sg** **22 02 50.3 +4.7**
comp=Z,6.7nm,0.7s
WATA Walderalm 5.74 241 *e*Sg **Sg** **22 02 49.4 -0.5**
comp=Z,11nm,0.7s
WTTA Wattenberg 5.75 240 *e*Sg **Sg** **22 02 50.9 +0.7**
comp=Z,4.3nm,0.4s
MOTA Moosalm 6.00 243 *e*Sg **Sg** **22 02 59.2 +0.9**
comp=Z,13nm,0.6s
SQTA Sankt Quirin 6.01 241 *e*Sg **Sg** **22 03 01.8 +3.2**
comp=Z,9.5nm,0.7s
RETA Reutte 6.12 245 *e*Sg **Sg** **22 03 04.5 +2.3**
FETA Feichten 6.40 241 *e*Sg **Sg** **22 03 13.3 +2.4**
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 6.55 83 Pg **Pb** **22 01 41.9 +1.5**
baz=269,slow=13
AKASG Sn **Sn** **22 02 37.7 -0.9**
comp=Z,0.5nm,0.3s,baz=263,slow=22,SNR=4.0
AKASG Lg Lg 22 03 10.6
comp=Z,0.8nm,0.3s,baz=268,slow=25,SNR=5.9
NACGM Naroch 6.58 43 *e*P **Pn** **22 01 19.9 -3.5**
comp=Z,9.0nm,1.3s,baz=230
DAVA Damuels 6.74 246 *e*Sg **Sg** **22 03 20.9 -1.1**
comp=Z,5.3nm,0.5s
DAVOX Davos/Dischmat 7.01 243 Pn **Pn** **22 01 30.3 +0.7**
comp=Z,0.2nm,0.3s,baz=42,slow=12,SNR=1.8
DAVOX Sn **Sn** **22 02 45.4 -4.8**
baz=163,slow=19
DAVOX Lg Lg 22 03 27.4
comp=Z,0.4nm,0.3s,baz=222,slow=18,SNR=5.3
comp=Z,1.3nm,0.8s
HFS Hagfors 10.22 345 Pn **Pn** **22 02 13.9 +0.5**
comp=Z,0.2nm,0.3s,baz=185,slow=16,SNR=1.8
comp=Z,3.6nm,1.0s
FINES FINESS Array B 11.78 17 Pn **Pn** **22 02 35.0 +0.4**
comp=Z,0.2nm,0.3s,baz=194,slow=11,SNR=12
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 19.48 7 Pn **P** **22 04 14.1 +0.5**
comp=Z,0.1nm,0.3s,baz=188,slow=13,SNR=1.9
comp=Z,3.3nm,1.0s

NEIC ***02*** *22:07:45.5±1.6,0.01N±0.08×123.19E±0.08,h147km±7km, mb4.2/16, Error ellipse: s-maj=11.7km s-min=10.0km az=224.0*
IDC ***02*** *22:07:46.7±1.8,0.00N×123.20E,h166km±18km, mb3.4/8, mbtmp3.9/10, MS3.0/1, Error ellipse: s-maj=16.3km s-min=12.9km az=63.0*
DJA ***02*** *22:07:47.4±0.3,0°S×2°×12°3E±°,h127km±4km, M4.4/17, mB5.3/3, mb4.4/9, MLv4.4/17, Mw(mB)4.8/3*

ISC 02 22:07:45.8±0.7,0.02S±0.05×123.20E±0.05,h154km±6km, n57,σ1°46/67,mb4.1/15,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.68**	**344**	P	**Pn**	**22 08 10.1**	**+1.4**
GTOI				S	**Sn**	**22 08 28.3**	**+2.1**
LUWI	**Luwuk**	**1.10**	**203**	Pn	**Pn**	**22 08 11.3**	**-0.6**
LUWI				Sn	**Sn**	**22 08 29.9**	**-2.0**
LUWI	**Luwuk**	**1.10**	**203**	P	**Pn**	**22 08 11.6**	**-0.4**
LUWI	**Luwuk**	**1.10**	**203**	P	**Pn**	**22 08 11.5**	**-0.4**
LUWI				S	**Sn**	**22 08 30.3**	**-1.6**
MRSI	**Marisa**	**1.35**	**291**	P	**Pn**	**22 08 13.4**	**-0.8**
MRSI				S	**Sn**	**22 08 33.2**	**-2.8**
APSI	**Ampana**	**1.79**	**240**	P	**Pn**	**22 08 18.6**	**-0.2**
APSI				S	**Sn**	**22 08 41.7**	**-2.4**
TOLI2	**Tolitoli**	**2.67**	**295**	Pn	**Pn**	**22 08 28.4**	**-0.8**
TOLI2				Sn	**Sn**	**22 08 59.1**	**-3.6**
MPSI	**Mapaga**	**3.32**	**276**	P	**Pn**	**22 08 37.7**	**+0.3**
SANI	**Sanana**	**3.44**	**126**	P	**Pn**	**22 08 38.2**	**-0.8**
SANI	**Sanana**	**3.44**	**126**	P	**Pn**	**22 08 38.0**	**-1.0**
SANI				S	**Sn**	**22 09 16.6**	**-3.7**
TNTI	**Ternate**	**4.24**	**79**	Pn	**Pn**	**22 08 48.5**	**-0.8**
TNTI	**Ternate**	**4.24**	**79**	P	**Pn**	**22 08 50.2**	**+0.8**
TNTI	**Ternate**	**4.24**	**79**	P	**Pn**	**22 08 50.1**	**+0.7**
NLAI	**Namlea**	**5.04**	**129**	P	**Pn**	**22 09 01.3**	**+1.4**
	94nm,0.8s,18µm0.9nm						
SPSI	**Sidrap Palu**	**5.21**	**221**	P	**Pn**	**22 09 03.1**	**+1.0**
	32nm,0.9s,681nm0.2nm						
BNSI	**Bone**	**5.34**	**215**	P	**Pn**	**22 09 04.3**	**+0.5**
	20nm,0.6s,0.1nm						
KAPI	**Kappang**	**6.04**	**215**	P	**Pn**	**22 09 14.7**	**+1.5**
	6.1nm,0.4s,baz=98,slow=2.8,SNR=5.9						
KAPI				S	**Sn**	**22 10 22.3**	**+0.8**
	7.4nm,0.4s,baz=193,slow=23,SNR=1.1						
KAPI	**Kappang**	**6.04**	**215**	Pn	**Pn**	**22 09 14.2**	**+1.0**
KAPI	**Kappang**	**6.04**	**215**	P	**Pn**	**22 09 14.6**	**+1.5**
	26nm,0.7s						
BKSI	**Bulukumba**	**6.10**	**210**	P	**Pn**	**22 09 16.8**	**+2.9**
	21nm,1.3s,0.1nm						
AAI	**Ambon**	**6.18**	**126**	P	**Pn**	**22 09 16.6**	**+1.6**
	53nm,0.5s,0.3nm						
MYLDM	**Lahad Datu**	**6.98**	**318**	Pn	**Pn**	**22 09 27.5**	**+1.8**
SIJI	**Sorong**	**8.11**	**96**	P	**Pn**	**22 09 41.8**	**+1.0**
	5.4nm,0.5s,baz=280,slow=13,SNR=4.1						
SIJI				S	**Sn**	**22 11 13.7**	**+2.5**
	17nm,0.4s,baz=174,slow=23,SNR=4.8						
KKM	**Kota Kinabalu**	**9.21**	**311**	Pn	**Pn**	**22 09 60.0**	**+4.5**
KKM	**Kota Kinabalu**	**9.21**	**311**	P	Pn	22 10 00.5	+5.0
	36nm,1.5s						
FAKI	**Fak Fak**	**9.49**	**108**	Pn	**Pn**	**22 09 58.9**	**-0.3**
FAKI	**Fak Fak**	**9.49**	**108**	P	**Pn**	**22 09 59.6**	**+0.4**
	29nm,1.3s						
FAKI	**Fak Fak**	**9.49**	**108**	P	**Pn**	**22 09 58.6**	**-0.6**
MTN	**Manton Dam**	**14.97**	**149**		**P**	**22 11 10.9**	**-0.6**
MTN	**Manton Dam**	**14.97**	**149**	P	**P**	**22 11 11.1**	**-0.5**
	55nm,1.8s						
KNRA	**Kununurra**	**16.50**	**161**		**Pn**	**22 11 30.0**	**+1.5**
KNRA	**Kununurra**	**16.50**	**161**	P	**Pn**	**22 11 29.8**	**+1.3**
	31nm,1.7s						
FITZ	**Fitzroy Crossi**	**18.13**	**173**	P	**P**	**22 11 46.5**	**+0.2**
MBWA	**Marble Bar**	**21.28**	**189**	P	**P**	**22 12 18.9**	**-1.4**
MBWA				IAmb	IAmb	22 12 54.5	
	comp=Z,17nm,1.2s						
WB0	**Warramunga Arr**	**22.48**	**151**	P	**P**	**22 12 31.9**	**-0.7**
WB0				IAmb	IAmb	22 13 01.5	
	comp=Z,8.2nm,1.0s						
WRA	**Warramunga Arr**	**22.61**	**152**	P	**P**	**22 12 33.5**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=329,slow=10,SNR=62						
WRA				PcP	**PcP**	**22 16 21.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=335,slow=2.1,SNR=1.6						
	comp=Z,2.4nm,0.5s						
WRA	**Warramunga Arr**	**22.61**	**152**	P	**P**	**22 12 32.5**	**-1.2**
WB2	**Warramunga Arr**	**22.61**	**152**	P	**P**	**22 12 33.6**	**-0.1**
WB2				IAmb	IAmb	22 13 11.7	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**22.72**	**151**	P	**P**	**22 12 34.5**	**-0.3**
WR0				IAmb	IAmb	22 13 09.0	
	comp=Z,12nm,1.4s						
UBPT	**Khong Chiam**	**23.19**	**312**	P	**P**	**22 12 39.5**	**+0.4**
UBPT				IAmb	IAmb	22 13 20.9	
	comp=Z,18nm,1.3s						
AS31	**Alice Springs**	**25.70**	**157**	P	**P**	**22 13 01.5**	**-0.4**
AS31				IAmb	IAmb	22 13 06.4	
	comp=Z,1.5nm,0.3s						
ASAR	**Alice Springs**	**25.70**	**157**	P	**P**	**22 13 02.1**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=330,slow=7.9,SNR=14						
ASAR				PcP	**PcP**	**22 16 28.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=340,slow=2.2,SNR=10						
	comp=Z,0.7nm,0.4s						
MORW	**Morawa**	**29.68**	**193**	P	**P**	**22 13 36.4**	**-0.8**
MORW				IAmb	IAmb	22 13 59.3	
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**30.08**	**309**	P	**P**	**22 13 42.2**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=143,slow=7.4,SNR=8.5						
	comp=Z,0.7nm,0.7s						
JNU	**Nakatsue**	**33.75**	**12**	LR	LR	22 27 52.1	
	comp=Z,25nm,21.8s,baz=334,slow=36						
STKA	**Stephens Creek**	**36.15**	**153**	P	**P**	**22 14 33.7**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=338,slow=13,SNR=5.7						
	comp=Z,3.1nm,0.6s						
STKA	**Stephens Creek**	**36.15**	**153**	P	**P**	**22 14 33.7**	**+0.3**
MJAR	**Matsushiro Arr**	**38.95**	**19**	P	**P**	**22 14 55.5**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=195,slow=9.2,SNR=2.8						
	comp=Z,1.0nm,0.6s						
CAN	**Canberra**	**42.57**	**148**	P	**P**	**22 15 27.9**	**+1.3**
SONM	**Songino Array**	**49.85**	**345**	P	**P**	**22 16 22.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=154,slow=9.2,SNR=5.6						
SONM				PcP	**PcP**	**22 17 40.1**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=149,slow=4.5,SNR=1.9						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**58.73**	**328**	P	**P**	**22 17 26.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=124,slow=7.9,SNR=5.6						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.73**	**328**	P	**P**	**22 17 26.0**	**-1.5**
MAKZ	**Makanchi**	**58.91**	**328**	P	**P**	**22 17 28.1**	**-0.6**
RTZ	**Ruatahuna**	**62.41**	**135**	P	**P**	**22 17 52.9**	**+0.2**
VNDA	**Vanda**	**80.20**	**172**	P	**P**	**22 19 38.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=306,slow=6.5,SNR=5.1						
	comp=Z,1.3nm,0.8s						
VNDA	**Vanda**	**80.20**	**172**	P	**P**	**22 19 38.5**	**0.0**
VNDA				IAmb	IAmb	22 20 01.8	
	comp=Z,5.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**120.61**	**285**	PKP	**PKPdf**	**22 26 18.7**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=81,slow=1.1,SNR=2.4						

IDC ***02*** *22:33:35.1±1.8,7.44S×128.49E,h147km±23km, mb2.7/1, mbtmp3.6/5, Error ellipse: s-maj=28.7km s-min=14.5km az=125.0*

ISC 02 22:33:34.5±0.9,7.59S±0.08×128.7E±0.1,h150km,n5, σ3°14/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.58**	**242**	P	**Pn**	**22 34 56.3**	**+0.7**
	11nm,0.4s,baz=58,slow=9.5,SNR=1.6						
BATI				S	**Sn**	**22 35 57.7**	**-1.3**
	13nm,0.4s,baz=26,slow=24,SNR=6.9						
SIJI	**Sorong**	**7.16**	**21**	P	**Pn**	**22 35 17.2**	**+0.4**
	2.7nm,0.3s,baz=174,slow=13,SNR=12						
SIJI				S	**Sn**	**22 36 35.4**	**-1.6**
	1.7nm,0.3s,baz=229,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**13.46**	**156**	P	**Pn**	**22 36 41.8**	**+2.1**
	0.2nm,0.3s,baz=332,slow=13,SNR=1.9						
WRA				S	Sn	22 39 00.5	-8.3
	1.7nm,0.4s,baz=330,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**16.76**	**163**	P	**Pn**	**22 37 23.9**	**+3.3**
	1.0nm,0.5s,baz=343,slow=11,SNR=20						
ASAR				S	**S**	**22 40 21.7**	**-5.4**
	0.3nm,0.3s,baz=319,slow=21,SNR=6.1						
MKAR	**Makanchi Array**	**67.99**	**328**	P	**P**	**22 44 16.9**	**-0.5**
	0.1nm,0.5s,baz=125,slow=8.5,SNR=2.0						
	0.1nm,0.5s						

IDC ***02*** *23:16:26.0±2.5,6.23S×154.07E,h0km, mb3.5/5, mbtmp3.5/6, ML3.4/1, MS3.2/1, Error ellipse: s-maj=71.1km s-min=30.4km az=102.0*

ISC 02 23:16:34.5±2.1,6.2S±0.2×153.7E±0.4,h50km,n7,σ0°87/7, mb3.4/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.49**	**318**	Pn	**Pn**	**23 17 12.4**	**-0.1**
	5.9nm,0.3s,baz=336,slow=20,SNR=2.4						
	44nm,0.7s						
WRA	**Warramunga Arr**	**23.27**	**232**	P	**P**	**23 21 38.1**	**+0.1**
	0.6nm,0.9s,baz=57,slow=9.3,SNR=2.1						
WRA				LR	LR	23 31 15.2	
	comp=Z,60nm,19.3s,baz=109,slow=38						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**25.80**	**226**	P	**P**	**23 22 00.7**	**-0.4**
	0.6nm,0.8s,baz=55,slow=9.3,SNR=3.4						
	0.6nm,0.8s						
SONM	**Songino Array**	**67.95**	**328**	P	**P**	**23 27 28.9**	**+0.6**
	0.3nm,0.6s,baz=133,slow=3.9,SNR=3.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**81.94**	**319**	P	**P**	**23 28 49.6**	**+0.6**
	0.2nm,0.5s,baz=86,slow=6.4,SNR=6.1						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**82.78**	**326**	P	**P**	**23 28 51.8**	**-1.4**
	0.6nm,0.4s,baz=101,slow=7.6,SNR=4.0						
	0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**151.56**	**286**	PKPbc	**PKiKP**	**23 36 25.2**	**+0.4**
	0.4nm,0.8s,baz=82,slow=2.2,SNR=2.3						

ROM 02 23:19:30.3±0.2,42.702N±0.009×13.00E±0.01,h7km±1km, ML1.1/27,6C-7D,Error ellipse: s-maj=1.1km s-min=0.6km az=103.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1212	**Cascia, Frazio**	**0.06**	**34**	⇓P	Pg	23 19 32.5	+0.4
T1212				S	Sg	23 19 33.9	+0.5
T1212				AML	AML		
	comp=E,155µm,0.3s						
T1212				AML	AML		
	comp=N,274µm,0.1s						
T1212				AML	AML		
	comp=E,155µm,0.3s						
T1212				AML	AML		
	comp=N,85µm,0.8s						
T1212				AML	AML		
	comp=E,67µm,3.6s						
T1212				AML	AML		
	comp=N,67µm,0.7s						
T1212				AML	AML		
	comp=E,183µm,2.2s						
T1218	**Civita (PG)**	**0.09**	**111**	⇓P	Pg	23 19 32.5	-0.1
T1218				AML	AML		
	comp=E,633µm,0.1s						
T1218				AML	AML		
	comp=N,646µm,0.6s						
T1218				AML	AML		
	comp=E,640µm,0.1s						
T1218				AML	AML		
	comp=N,635µm,0.6s						
T1218				AML	AML		
	comp=E,758µm,1.3s						
T1218				AML	AML		
	comp=N,872µm,0.1s						
T1218				AML	AML		
	comp=E,758µm,0.7s						
T1218				AML	AML		
	comp=E,698µm,0.1s						
T1218				AML	AML		
	comp=N,848µm,0.1s						
LNSS	**Leonessa**	**0.10**	**163**	⇓P	Pg	23 19 32.7	0.0
LNSS				AML	AML		
	comp=E,1745µm,0.3s						
LNSS				AML	AML		
	comp=N,2270µm,0.2s						
LNSS				AML	AML		
	comp=E,10490µm,0.3s						
LNSS				AML	AML		
	comp=N,4475µm,0.2s						
LNSS				AML	AML		
	comp=E,11400µm,0.6s						
LNSS				AML	AML		
	comp=N,9310µm,0.2s						
LNSS				AML	AML		
	comp=E,11400µm,1.4s						
T1215	**Vallo di Nera,**	**0.14**	**316**	⇑P	Pg	23 19 34.0	+0.7
T1215				AML	AML		
	comp=E,69µm,0.9s						
T1215				AML	AML		
	comp=N,56µm,0.1s						
T1215				AML	AML		
	comp=E,184µm,1.0s						
T1215				AML	AML		
	comp=N,130µm,0.3s						
NRCA	**Norcia**	**0.16**	**33**	⇑P	Pg	23 19 34.0	+0.4
NRCA				AML	AML		
	comp=N,585µm,0.3s						
NRCA				AML	AML		
	comp=E,1320µm,0.2s						
NRCA				AML	AML		
	comp=N,630µm,0.9s						
NRCA				AML	AML		
	comp=E,1245µm,0.2s						
NRCA				AML	AML		
	comp=N,610µm,0.5s						
NRCA				AML	AML		
	comp=N,578µm,0.1s						
T1214	**Arquata del Tr**	**0.16**	**70**	P	Pg	23 19 34.0	+0.2
T1214				S	Sg	23 19 36.9	+0.8
T1214				AML	AML		
	comp=N,872µm,1.4s						
T1214				AML	AML		
	comp=N,842µm,0.5s						
T1214				AML	AML		
	comp=E,1325µm,0.2s						
T1214				AML	AML		
	comp=N,828µm,0.5s						
T1214				AML	AML		
	comp=E,1255µm,0.2s						
T1214				AML	AML		
	comp=N,842µm,0.5s						
T1214				AML	AML		
	comp=N,828µm,0.5s						
T1214				AML	AML		
	comp=N,842µm,0.5s						
T1214				AML	AML		
	comp=E,1250µm,0.2s						
T1214				AML	AML		
	comp=E,1325µm,0.3s						
T1214				AML	AML		
	comp=N,53µm,3.8s						
T1214				AML	AML		
	comp=N,143µm,4.2s						
T1214				AML	AML		
	comp=E,54µm,2.5s						
T1214				AML	AML		
	comp=E,118µm,4.7s						
T1216	**Preci, Frazion**	**0.19**	**4**	P	Pg	23 19 34.5	+0.3
T1216				AML	AML		
	comp=E,160µm,1.4s						
T1216				AML	AML		
	comp=N,185µm,1.6s						
T1216				AML	AML		
	comp=E,461µm,0.2s						
T1216				AML	AML		
	comp=N,652µm,0.4s						
T1216				AML	AML		
	comp=N,652µm,0.4s						
T1216				AML	AML		
	comp=E,314µm,0.3s						
T1211	**Morro Reatino**	**0.20**	**212**	⇑P	Pg	23 19 34.9	+0.5
T1211				S	Sg	23 19 38.0	+0.9
T1211				AML	AML		
	comp=E,1405µm,0.5s						
T1211				AML	AML		
	comp=N,2305µm,0.2s						
T1211				AML	AML		
	comp=E,1400µm,0.5s						
T1211				AML	AML		
	comp=N,2375µm,0.2s						
T1211				AML	AML		
	comp=E,1395µm,0.5s						
T1211				AML	AML		
	comp=N,2410µm,0.2s						
T1211				AML	AML		
	comp=N,72µm,2.9s						
T1211				AML	AML		
	comp=N,92µm,2.5s						
T1211				AML	AML		
	comp=E,49µm,2.0s						
T1211				AML	AML		

comp=E,103μm,2.7s
T1245 Castelsantange 0.21 42 S Sg 23 19 38.6 +1.2
T1245 AML AML
comp=E,1300μm,0.6s
T1245 AML AML
comp=N,1340μm,1.3s
T1245 AML AML
comp=E,1275μm,0.5s
T1245 AML AML
comp=E,1300μm,0.6s
T1245 AML AML
comp=N,1310μm,0.4s
T1245 AML AML
comp=E,1300μm,1.4s
T1245 AML AML
comp=N,1340μm,0.7s
T1245 AML AML
comp=E,1275μm,1.5s
ARRO Arrone 0.21 235 S Sg 23 19 42.1 +4.6
ARRO AML AML
comp=N,700μm,0.7s
ARRO AML AML
comp=E,471μm,0.2s
MC2 Monte Cornacci 0.25 34 S Sb 23 19 42.7 +0.6
SMA1 SAN MARTINO 0.26 106 ⇓P Pg 23 19 35.6 +0.1
SMA1 AML AML
comp=N,7860μm,0.4s
SMA1 AML AML
comp=E,13800μm,0.3s
CESI CESI - Serrava 0.31 347 S Sb 23 19 44.8 +1.2
CESI AML AML
comp=E,232μm,0.4s
CESI AML AML
comp=N,402μm,0.5s
CESI AML AML
comp=N,69μm,2.6s
CESI AML AML
comp=E,88μm,3.5s
MMO1 Montemonaco 0.31 51 P Pg 23 19 36.8 +0.3
CESX Cesi 0.32 254 P Pb 23 19 38.1 -0.4
CESX AML AML
comp=E,378μm,0.5s
CESX AML AML
comp=N,350μm,0.4s
CESX AML AML
comp=N,342μm,1.2s
CESX AML AML
comp=N,342μm,0.8s
T1243 Rocca Santa Ma 0.33 91 P Pg 23 19 36.7 -0.2
MOMA Monte Martano 0.33 288 S Sb 23 19 46.0 +1.7
MOMA AML AML
comp=E,448μm,1.2s
MOMA AML AML
comp=N,544μm,1.3s
MOMA AML AML
comp=E,446μm,1.6s
MOMA AML AML
comp=E,448μm,1.2s
MOMA AML AML
comp=N,543μm,1.3s
MOMA AML AML
comp=N,500μm,1.4s
MOMA AML AML
comp=E,446μm,0.4s
MOMA AML AML
comp=N,543μm,0.7s
MOMA AML AML
comp=N,500μm,0.6s
FDMO Fiordimonte 0.34 11 S Sb 23 19 44.4 0.0
FDMO AML AML
comp=N,259μm,1.0s
FDMO AML AML
comp=E,192μm,1.5s
FDMO AML AML
comp=N,258μm,1.0s
FDMO AML AML
comp=N,258μm,1.0s
FDMO AML AML
comp=N,102μm,0.2s
FDMO AML AML
comp=E,61μm,0.2s
T1256 Bolognola (MC) 0.35 29 S Sb 23 19 43.5 -1.2
T1256 AML AML
comp=E,537μm,0.8s
T1256 AML AML
comp=E,536μm,0.8s
T1256 AML AML
comp=N,227μm,0.9s
T1256 AML AML
comp=E,536μm,1.2s
T1219 Muccia, Frazio 0.35 1 P Pn 23 19 40.5 -1.4
T1219 AML AML
comp=E,242μm,0.3s
T1219 AML AML
comp=N,296μm,1.5s
T1219 AML AML
comp=E,238μm,0.3s
T1219 AML AML
comp=N,280μm,1.5s
T1219 AML AML
comp=N,295μm,1.5s
T1219 AML AML
comp=N,278μm,1.5s
T1219 AML AML
comp=E,242μm,0.3s
T1219 AML AML
comp=N,278μm,0.5s
T1219 AML AML
comp=N,295μm,0.5s
T1219 AML AML
comp=E,238μm,0.3s
T1241 Roccafluvione, 0.35 64 ⇓P Pn 23 19 41.0 -0.9
T1241 AML AML
comp=E,498μm,0.5s
T1241 AML AML
comp=N,483μm,1.6s
T1241 AML AML
comp=E,498μm,0.9s
T1241 AML AML
comp=N,493μm,0.8s
T1241 AML AML
comp=N,493μm,1.2s
T1241 AML AML
comp=E,498μm,1.5s
T1241 AML AML
comp=E,498μm,1.1s
T1220 Camerino, Fraz 0.41 9 AML AML
comp=N,853μm,0.5s
T1220 AML AML
comp=E,978μm,0.4s
T1220 AML AML
comp=E,950μm,0.4s
T1220 AML AML
comp=N,844μm,0.5s
ASSB Assisi San Ben 0.42 324 AML AML
comp=N,189μm,0.7s
ASSB AML AML
comp=E,206μm,0.7s
ATCC AVT- Casa Cast 0.55 331 AML AML
comp=E,219μm,1.3s
ATCC AML AML
comp=N,188μm,0.3s
ATCC AML AML
comp=E,219μm,0.7s
SNTG Esanatoglia 0.55 355 S Sg 23 19 48.8 +0.5
VCEL Villa Celiera 0.69 116 ⇓P Pb 23 19 44.8 0.0
VCEL AML AML
comp=E,870μm,0.3s
VCEL AML AML
comp=N,893μm,0.5s
T0110 Collepietro 0.75 129 ⇓P Pb 23 19 45.3 -0.4
T0110 AML AML
comp=E,356μm,0.5s
T0110 AML AML
comp=N,368μm,0.4s
CERT Cerreto 0.75 181 ⇑P Pn 23 19 47.0 -0.5
CERT AML AML
comp=E,201μm,0.4s
CERT AML AML
comp=N,132μm,1.4s
CERT AML AML
comp=N,132μm,0.6s
COR1 Corinaldo 0.93 0 P Pb 23 19 48.6 -0.2
VVLD Villa Vallelon 0.95 151 P Pn 23 19 49.9 -0.3
VVLD AML AML
comp=E,109μm,0.6s
VVLD AML AML
comp=N,105μm,0.5s
VVLD AML AML
comp=E,109μm,1.4s
VVLD AML AML
comp=N,105μm,1.5s
INTR Introdacqua 0.96 136 ⇑P Pg 23 19 48.8 0.0
INTR AML AML
comp=E,118μm,1.6s
INTR AML AML
comp=N,250μm,0.6s
INTR AML AML
comp=N,250μm,1.4s
LPEL Lama dei Pelig 1.09 126 ⇑P Pg 23 19 51.1 -0.2
LPEL AML AML
comp=E,137μm,0.3s
LPEL AML AML
comp=N,115μm,1.2s

IDC 02 23:25:38.0±2.4, 2°.35N×127°.14E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=192.6km s-min=27.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**163**	P	P	23 30 46.9	-0.3
	0.7nm,0.5s,baz=341,slow=11,SNR=4.2						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**26.68**	**166**	P	P	23 31 19.4	+0.4
	0.2nm,0.6s,baz=354,slow=7.8,SNR=1.9						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.92**	**326**	P	P	23 35 39.0	-0.1
	0.2nm,0.5s,baz=118,slow=8.8,SNR=5.0						
	0.2nm,0.5s						

IDC 02 23:47:19.3±4.1, 5°.15S×152°.93E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=145.0km s-min=46.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.31**	**229**	P	P	23 52 30.2	+1.1
	0.2nm,0.5s,baz=52,slow=10,SNR=1.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**80.67**	**319**	P	P	23 59 35.5	+1.2
	0.4nm,0.8s,baz=100,slow=7.0,SNR=4.9						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.53**	**288**	PKPbc	PKPbc	00 07 12.0	-2.2
	0.2nm,0.3s,baz=56,slow=3.4,SNR=5.4						

IDC 03 00:24:28.8±4.9, 6°.44S×149°.19E, h88km±44km, mb3.1/2, mbtmp3.6/4, Error ellipse: s-maj=108.2km s-min=34.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.57**	**214**	P	Pn	00 25 22.5	+0.5
	39nm,0.3s,baz=34,slow=6.1,SNR=12						
PMG				S	Sn	00 26 03.8	+0.6
	98nm,0.6s,baz=12,slow=20,SNR=12						
WRA	**Warramunga Arr**	**19.70**	**226**	P	P	00 28 50.7	-0.6
	0.7nm,0.4s,baz=52,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**22.57**	**219**	P	P	00 29 22.2	+0.2
	0.7nm,0.6s,baz=52,slow=9.2,SNR=8.6						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**85.03**	**23**	P	P	00 36 54.0	-0.2
	0.3nm,0.7s,baz=252,slow=5.3,SNR=4.3						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.31**	**284**	PKPbc	PKPbc	00 44 03.0	-0.3
	1.0nm,1.2s,baz=47,slow=4.2,SNR=2.3						

*NOU **03** 00:34:49.1, 21°.93S×171°.15E, h0km, mb5.2/8, Southeast of Loyalty Islands*
*NEIC **03** 00:34:53.5±1.4, 21°.5S±0°.1×170°.9E±0°.1, h150km±15km, mb4.3/7, Error ellipse: s-maj=17.2km s-min=15.1km az=189.0*
*IDC **03** 00:34:56.0±7.1, 21°.89S×170°.75E, h173km±42km, mb3.3/3, mbtmp3.8/4, Error ellipse: s-maj=107.1km s-min=45.1km az=148.0*
ISC 03 00:34:53.3±1.0, 21°.6S±0°.1×170°.92E±0°.09, h150km, n25, σ1$28/26, mb4.1/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.69**	**271**		**Pn**	**00 35 37.8**	**+1.0**
MARNC				Sn	**Sn**	**00 36 10.3**	**+0.1**
MARNC	**Mare, Loyalty**	**2.69**	**271**	P	**Pn**	**00 35 37.7**	**+1.0**
LIFNC	**LIFOU**	**3.52**	**282**		**Pn**	**00 35 48.1**	**+0.8**
LIFNC					**Sn**	**00 36 28.2**	**-1.1**
LIFNC	**LIFOU**	**3.52**	**282**	P	**Pn**	**00 35 48.4**	**+1.0**
YATNC	**Mamie plateau,**	**3.77**	**262**	P	**Pn**	**00 35 50.3**	**-0.3**
OUENC	**Ouen Island, N**	**3.87**	**257**		**Pn**	**00 35 52.2**	**+0.3**
DZM	**Mont Dzumac**	**4.18**	**262**	P	**Pn**	**00 35 56.9**	**+0.8**
	11nm,0.6s,baz=94,slow=19,SNR=20						
DZM				S	**Sn**	**00 36 44.9**	**0.0**
	31nm,0.5s,baz=176,slow=22,SNR=9.2						
DZM	**Mont Dzumac**	**4.18**	**262**		**Pn**	**00 35 56.1**	**0.0**
ONTNC	**Ouen Toro**	**4.21**	**259**		**Pn**	**00 35 56.3**	**0.0**
RTV	**Rentapao**	**4.43**	**328**	P	Pn	00 36 03.9	+4.6
DVP	**Devils Point**	**4.61**	**326**	P	Pn	00 36 05.4	+3.7
KOUNC	**Koumac, New Ca**	**6.28**	**278**	Pn	**Pn**	**00 36 25.1**	**+1.4**
KOUNC	**Koumac, New Ca**	**6.28**	**278**	P	**Pn**	**00 36 27.2**	**+3.5**
HNR	**Honiara**	**16.03**	**317**		**Pn**	**00 38 29.9**	**-0.7**
MRNZ	**Matariki Terra**	**19.82**	**176**	P	**P**	**00 39 13.6**	**+1.2**
LBZ	**Lake Benmore**	**22.76**	**181**	P	**P**	**00 39 42.5**	**-0.2**
LBZ				IAmb	IAmb	00 40 01.3	
	comp=Z,16nm,1.2s						
DCZ	**Deep Cove**	**24.03**	**187**	P	**P**	**00 39 56.9**	**+2.6**
DCZ				IAmb	IAmb	00 39 57.5	
	comp=Z,16nm,1.0s						
RAR	**Rarotonga**	**27.28**	**95**	P	**P**	**00 40 23.2**	**-0.7**
RAR				IAmb	IAmb	00 40 30.4	
	comp=Z,9.3nm,1.1s						
ASAR	**Alice Springs**	**34.17**	**259**	P	**P**	**00 41 23.4**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=83,slow=9.4,SNR=12						
	comp=Z,0.7nm,0.5s						
WB0	**Warramunga Arr**	**34.17**	**266**	P	**P**	**00 41 23.3**	**-1.3**
WB0				IAmb	IAmb	00 41 33.7	
	comp=Z,4.8nm,1.1s						
WB2	**Warramunga Arr**	**34.18**	**266**	P	**P**	**00 41 23.3**	**-1.3**
WB2				IAmb	IAmb	00 41 26.2	
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**34.19**	**266**	P	**P**	**00 41 23.1**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=103,slow=8.1,SNR=4.5						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**34.19**	**266**	P	**P**	**00 41 23.4**	**-1.3**
SONM	**Songino Array**	**90.02**	**323**	P	**P**	**00 47 35.8**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=101,slow=2.2,SNR=3.7						
	comp=Z,0.5nm,0.9s						
GERES	**GERESS Array B**	**147.28**	**332**	PKPbc	**PKPbc**	**00 54 19.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=20,slow=3.1,SNR=6.5						

*IDC **03** 01:13:10.1±4.9, 17°.75N×119°.26E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=544.1km s-min=27.9km az=60.0*
MAN 03 01:13:30.6, 16°.20N×119°.78E, h8km, mb4.2, ML3.0, MS2.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.17**	**40**	⇓*i* P	Pn	01 14 07.0	-0.1
APYP				*i* S	Sn	01 14 34.1	-0.1
WRA	**Warramunga Arr**	**38.66**	**158**	P	P	01 20 48.6	-6.4
	0.4nm,0.8s,baz=337,slow=9.3,SNR=1.9						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**41.95**	**160**	P	P	01 21 16.4	-5.9
	0.2nm,0.4s,baz=338,slow=6.5,SNR=4.8						
	0.2nm,0.4s						

*NOU **03** 01:21:08.1, 42°.00S×174°.27E, h17km, MLv3.8/8, Cook Strait, New Zealand*
*WEL **03** 01:21:08.9±0.5, 42°.5S±3°×17°.4E±°, h8km±3km, M3.3/13, ML3.6/13, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=154.3, confirmed*
ISC 03 01:21:07.7±1.0, 41°.93S±0°.03×174°.16E±0°.03, h12km±8km, n68, σ1$28/76, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.18**	**14**	P	**Pg**	**01 21 12.6**	**+0.8**
CMWZ					S		
BSWZ	**Blackbirch Sta**	**0.30**	**315**	P	**Pg**	**01 21 12.9**	**-0.9**
BSWZ					S		
TUWZ	**Tuamarina**	**0.52**	**342**	P	**Pg**	**01 21 17.2**	**-0.7**
TUWZ					S		
KHZ	**Kahutara**	**0.67**	**223**	P	**Pb**	**01 21 22.3**	**+1.0**
KHZ	**Kahutara**	**0.67**	**223**	P	**Pb**	**01 21 22.2**	**+0.8**
KHZ					S		
TCW	**Tory Channel**	**0.72**	**7**	P	**Pg**	**01 21 21.2**	**-0.5**
SNZO	**South Karori**	**0.74**	**34**	P	**Pb**	**01 21 22.9**	**+0.4**
WEL	**Wellington**	**0.79**	**36**	P	**Pb**	**01 21 24.0**	**+0.6**
PLWZ	**Palliser**	**0.90**	**67**	P	**Pb**	**01 21 26.3**	**+1.1**
NNZ	**Nelson**	**0.92**	**320**	P	**Pg**	**01 21 24.1**	**-1.3**
NNZ					S		
THZ	**Tophouse**	**0.95**	**280**	P	**Pg**	**01 21 25.3**	**-0.7**
THZ					S		
CAW	**Cannon Point**	**1.07**	**40**	P	**Pb**	**01 21 28.7**	**+0.6**
PAWZ	**Paruwai Farm**	**1.10**	**61**	P	**Pb**	**01 21 28.7**	**+0.1**
DUWZ	**D'Urville Isla**	**1.14**	**351**	P	**Pb**	**01 21 28.0**	**-1.3**
DUWZ					S		
MRNZ	**Matariki Terra**	**1.17**	**296**	P	**Pb**	**01 21 29.2**	**-0.7**
KIW	**Kapiti Island**	**1.21**	**28**	P	**Pn**	**01 21 30.5**	**+0.1**
KIW					S		
TRWZ	**Traveller**	**1.26**	**66**	P	**Pn**	**01 21 31.0**	**-0.1**
TKNZ	**Takaka Hill**	**1.27**	**314**	P	**Pn**	**01 21 30.3**	**-0.9**
MTW	**Mount Morrison**	**1.27**	**53**	P	**Pn**	**01 21 31.0**	**-0.3**
GVZ	**Greta Valley S**	**1.33**	**218**	P	**Pn**	**01 21 32.6**	**+0.5**
OGWZ	**Otaki Gorge**	**1.35**	**35**	P	**Pn**	**01 21 32.4**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.45**	**45**	P	**Pn**	**01 21 33.6**	**-0.1**
TMWZ	**Te Maipa**	**1.54**	**58**	P	**Pn**	**01 21 34.4**	**-0.6**
LTZ	**Lake Taylor**	**1.64**	**238**	P	**Pn**	**01 21 36.6**	**+0.2**
QRZ	**Quartz Range**	**1.65**	**311**	P	**Pn**	**01 21 36.9**	**+0.5**
QRZ	**Quartz Range**	**1.65**	**311**	P	**Pn**	**01 21 36.6**	**+0.2**
MRZ	**Mangatainoka R**	**1.66**	**41**	P	**Pn**	**01 21 36.4**	**-0.2**
AMCZ	**Amberley**	**1.67**	**221**	P	**Pn**	**01 21 36.7**	**-0.1**
TIWZ	**Tintock**	**1.74**	**49**	P	**Pn**	**01 21 37.5**	**-0.2**
DSZ	**Denniston Nort**	**1.77**	**275**	P	**Pn**	**01 21 39.0**	**+0.9**
PRWZ	**Pori Road**	**1.94**	**46**	P	**Pn**	**01 21 40.4**	**0.0**
POWZ	**Post Office Ro**	**1.96**	**39**	P	**Pn**	**01 21 40.9**	**+0.2**
OKCZ	**Okains Bay**	**1.97**	**204**	P	**Pn**	**01 21 40.5**	**-0.4**
BFZ	**Birch Farm**	**2.01**	**52**	P	**Pn**	**01 21 40.9**	**-0.5**
BFZ	**Birch Farm**	**2.01**	**52**	P	**Pn**	**01 21 40.4**	**-1.0**
MQZ	**McQueen's Vall**	**2.09**	**211**	P	**Pn**	**01 21 41.3**	**-1.2**
OXZ	**Oxford**	**2.10**	**227**	P	**Pn**	**01 21 41.9**	**-0.8**
AKCZ	**Akaroa Harbour**	**2.15**	**205**	P	**Pn**	**01 21 43.2**	**-0.2**
INZ	**Inchbonnie**	**2.16**	**247**	P	**Pn**	**01 21 46.0**	**+2.4**
DVHZ	**Dannevirke**	**2.23**	**44**	P	**Pn**	**01 21 43.4**	**-1.0**
WAZ	**Wanganui**	**2.26**	**16**	P	**Pb**	**01 21 49.0**	**+0.6**
TSZ	**Takapari Road**	**2.31**	**37**	P	**Pn**	**01 21 45.0**	**-0.6**
MHCZ	**Mount Hutt**	**2.49**	**229**	P	**Pn**	**01 21 47.4**	**-0.7**
PRHZ	**Porangahau**	**2.50**	**49**	P	**Pn**	**01 21 47.6**	**-0.6**
PNHZ	**Pukenui**	**2.54**	**38**	P	**Pn**	**01 21 48.4**	**-0.4**
WACZ	**Wakanui South**	**2.64**	**219**	P	**Pn**	**01 21 49.2**	**-0.8**
NBEZ	**Newall Road No**	**2.67**	**355**	P	**Pb**	**01 21 56.3**	**+1.0**
WVZ	**Waitaha Valley**	**2.78**	**244**	P	**Pn**	**01 21 55.2**	**+3.2**
WNVZ	**Wahianoa**	**2.82**	**23**	P	**Pb**	**01 21 58.6**	**+0.5**
KRHZ	**Kereru**	**2.83**	**37**	P	**Pn**	**01 21 51.7**	**-1.1**
VRZ	**Vera Road**	**2.84**	**10**	P	**Pn**	**01 21 55.8**	**+3.0**
RPZ	**Rata Peaks**	**2.90**	**231**	P	**Pn**	**01 21 52.9**	**-0.8**
RPZ	**Rata Peaks**	**2.90**	**231**	P	**Pn**	**01 21 53.2**	**-0.4**
ARCZ	**Arundel**	**2.98**	**226**	P	**Pn**	**01 21 54.2**	**-0.5**
OTVZ	**Oturere**	**2.99**	**23**	P	**Pb**	**01 22 00.5**	**-0.5**
ETVZ	**East Tongariro**	**3.03**	**24**	P	**Pb**	**01 22 01.1**	**-0.6**
TMVZ	**Te Maari**	**3.05**	**23**	P	**Pb**	**01 22 01.4**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**3.15**	**243**	P	**Pn**	**01 22 00.7**	**+3.7**
TMZ	**Timaru**	**3.37**	**222**	P	**Pn**	**01 21 59.5**	**-0.6**
HIZ	**Hauiti**	**3.45**	**9**	P	**Pn**	**01 22 02.9**	**+1.7**
HIZ	**Hauiti**	**3.45**	**9**	P	**Pn**	**01 22 04.7**	**+3.4**
MRHZ	**Matea Rd**	**3.54**	**30**	P	**Pn**	**01 22 00.2**	**-2.3**
FOZ	**Fox Glacier**	**3.58**	**242**	P	**Pn**	**01 22 05.4**	**+2.4**
LBZ	**Lake Benmore**	**3.81**	**228**	P	**Pn**	**01 22 05.9**	**-0.2**
ODZ	**Otahua Downs**	**4.03**	**218**	P	**Pn**	**01 22 08.5**	**-0.7**
ODZ	**Otahua Downs**	**4.03**	**218**	P	**Pn**	**01 22 08.0**	**-1.2**
JCZ	**Jackson Bay**	**4.49**	**240**	P	**Pn**	**01 22 17.2**	**+1.7**
JCZ	**Jackson Bay**	**4.49**	**240**	P	**Pn**	**01 22 18.4**	**+2.8**

*JMA **03** 01:33:36.4±0.3, 44°.N±2°×14°.8E±°, h0km, MV3.5/15, SE OFF ETOROFU*
*SKHL **03** 01:33:38.3±0.2, 43°.90N×148°.40E, h28km±3km, mb4.0/2*
ISC 03 01:33:40.0±3.2, 44°.0N±0°.1×148°.4E±0°.2, h47km, n13, σ0$77/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.26**	**344**	*e*P	**Pn**	**01 34 00.7**	**-0.4**
KUR				AMB	AMB	01 34 01.4	
	20nm,0.3s						
KUR				*e*S	**Sn**	**01 34 17.6**	**+0.7**
KUR				A	A	01 34 18.4	
	50nm,0.3s						
KUR				A	A	01 34 18.4	
	60nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.80**	**271**	*i* P	**Pn**	**01 34 07.6**	**-0.9**
YUK				AMB	AMB	01 34 08.3	
	70nm,0.2s						
YUK				*i* S	**Sn**	**01 34 29.5**	**-0.7**
YUK				A	A	01 34 32.2	
	220nm,0.5s						
YUK				A	A	01 34 32.2	
	260nm,0.5s						
NEM2	**Nemuro 2**	**2.01**	**252**	*e*P	**Pn**	**01 34 10.4**	**-0.9**
NEM2				*e*S	**Sn**	**01 34 34.5**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.02**	**252**	*i* P	**Pn**	**01 34 10.6**	**-0.9**
NMR				*i* S	**Sn**	**01 34 35.0**	**-0.5**
JRA	**Rausu**	**2.34**	**269**	*e*P	**Pn**	**01 34 15.5**	**-0.4**
JRA				*e*S	**Sn**	**01 34 44.1**	**+0.7**
JNSB	**Nemuroshibetsu**	**2.44**	**265**	*e*P	**Pn**	**01 34 16.9**	**-0.4**
JKHN	**Kushirohamanak**	**2.51**	**249**	*e*P	**Pn**	**01 34 17.8**	**-0.5**
JNK	**Nakash**	**2.67**	**262**	*e*P	**Pn**	**01 34 19.9**	**-0.5**
AKK	**Akkeshi**	**2.75**	**250**	*e*P	**Pn**	**01 34 21.3**	**-0.2**
JAK	**Akkeshi**	**2.86**	**250**	*e*P	**Pn**	**01 34 22.4**	**-0.5**
JAK				*e*S	**Sn**	**01 34 56.4**	**+0.2**
JAR	**Ashorobuto**	**3.41**	**259**	*e*P	**Pn**	**01 34 31.1**	**+0.5**
JAR				*e*S	**Sn**	**01 35 11.0**	**+1.2**
JOB	**Onbets**	**3.48**	**253**	*e*P	**Pn**	**01 34 31.9**	**+0.3**
JOB				*e*S	**Sn**	**01 35 13.0**	**+1.5**
MYR	**Moyori**	**4.10**	**247**	*e*P	**Pn**	**01 34 40.7**	**+0.7**

*IDC **03** 01:33:45.7±2.3, 37°.19N×141°.76E, h0km, mb3.3/3, mbtmp3.2/4, ML2.1/1, MS3.4/1, Error ellipse: s-maj=44.3km s-min=36.1km az=55.0*
*JMA **03** 01:33:49.1±0.2, 37°.2N±0°.4×14°.2E±°, h35km±1km, MV3.2/35, E OFF FUKUSHIMA PREF*
ISC 03 01:33:48.1±3.3, 37°.21N±0°.06×141°.6E±0°.1, h16km±18km, n21, σ1$01/17, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**286**	*i* P	**Pb**	**01 34 00.4**	**+0.2**
JFK					S	**Sg**	**01 34 08.2**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.65**	**261**	*i* P	**Pb**	**01 34 01.1**	**0.0**
ONAJ					S	**Sg**	**01 34 09.9**	**+0.4**
JMST	**Minamisoumatoc**	**0.77**	**313**	*i* P	**Pb**	**01 34 03.0**	**0.0**
JMST					S	**Sb**	**01 34 12.8**	**-0.5**
JFFD	**Fukushimafurud**	**0.84**	**262**	*i* P	**Pb**	**01 34 03.9**	**-0.4**
JMM	**Marumori**	**0.92**	**316**	*i* P	**Pb**	**01 34 05.4**	**-0.3**
JHO	**Hitachi**	**1.02**	**234**	P	**Pb**	**01 34 06.7**	**-0.7**
JHO				*e*S	**Sb**	**01 34 19.4**	**-1.1**
JIO	**Ouri**	**1.26**	**351**	*i* P	**Pn**	**01 34 10.6**	**-0.5**
JIO					S	**Sb**	**01 34 26.2**	**-1.3**
MJAR	**Matsushiro Arr**	**2.80**	**257**	Pn	**Pn**	**01 34 33.5**	**+1.2**
	0.3nm,0.3s,baz=83,slow=17,SNR=21						
MJAR				Sn	**Sb**	**01 35 09.4**	**-2.5**
	0.3nm,0.3s,baz=94,slow=29,SNR=4.6						
	2.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	02 09 07.0	
	baz=314,slow=75,SNR=127						
H11N1	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	02 09 07.8	
	baz=314,slow=75,SNR=97						
H11N3	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	02 09 08.4	
	baz=314,slow=75,SNR=103						
H11S1	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	02 09 59.9	
	baz=316,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	02 10 01.2	
	baz=316,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	02 10 00.7	
	baz=316,slow=76,SNR=71						
ZALV	**Zalesovo Beam**	**41.91**	**312**	P	**P**	**01 41 38.5**	**+0.9**

0.3nm,0.4s,baz=78,slow=9.0,SNR=2.7
0.3nm,0.4s
NRIK Noril'sk 43.17 335 LR LR 02 00 12.8
comp=Z,46nm,21.2s,baz=121,slow=37
MKAR Makanchi Array 44.15 302 P **P** **01 41 56.7 +0.8**
0.2nm,0.6s,baz=86,slow=8.8,SNR=2.6
0.2nm,0.6s
WRA Warramunga Arr 57.25 188 P **P** **01 43 34.9 0.0**
0.5nm,0.9s,baz=4.1,slow=7.3,SNR=1.7
0.5nm,0.9s
H03N2 Juan Fernandez 146.89 96 T T 04 37 38.7
baz=291,slow=76,SNR=7.4
H03N3 Juan Fernandez 146.91 96 T T 04 37 41.2
baz=291,slow=76,SNR=7.1
H03N1 Juan Fernandez 146.91 96 T T 04 37 39.5
baz=291,slow=76,SNR=9.4

IDC 03 01:50:43.5±2.2,30.68S×177.60W,h0km,mb3.7/2, mbtmp3.8/3,ML2.9/1,MS3.0/1,Error ellipse: s-maj=63.1km s-min=33.8km az=123.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.73**	**209**	Pn	Pn	01 52 51.5	+0.5
	0.1nm,0.3s,baz=0.4,slow=7.1,SNR=1.0						
URZ				Sn	Sn	01 54 30.0	-0.2
	0.9nm,0.3s,baz=298,slow=22,SNR=8.0						
	5.6nm,0.9s						
DZM	**Mont Dzumac**	**16.66**	**297**	LR	LR	01 59 24.3	
	comp=Z,61nm,21.6s,baz=24,slow=31						
ASAR	**Alice Springs**	**43.44**	**267**	P	P	01 58 48.9	+0.4
	0.4nm,0.6s,baz=105,slow=7.6,SNR=4.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.46**	**272**	P	P	01 58 56.1	-0.5
	0.7nm,0.4s,baz=111,slow=8.0,SNR=17						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**145.53**	**340**	PKPbc	PKPdf	02 10 22.3	-0.6
	2.2nm,0.5s,baz=48,slow=4.2,SNR=20						
AKASG	**Malin Array Be**	**151.73**	**323**	PKPbc	PKPbc	02 10 39.2	-0.4
	0.2nm,0.4s,baz=50,slow=2.4,SNR=4.7						

*IDC **03** 02:07:07.0±0.6,53.23N×35.27W,h0km,mb3.9/19, mbtmp3.9/22,ML3.5/3,MS3.7/69,Error ellipse: s-maj=22.9km s-min=11.6km az=14.0*
*GCMT **03** 02:07:08.1±0.4,53.43N±0.07×35.47W±0.06,h14km±1km, MW4.7/76,Moment Tensor Solution. s10,c10; s76,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.32±.14; Mθθ0.32±.09; Mφφ1.00±.09; Mrθ0.11±.32; Mrφ-0.00±.07; Mθφ0.77±.23; Best double couple: M0 1.39500×10^16 NP1:φs358.00000°,δ62.00000°,λ-87.00000°. NP2: φs358.00000°,δ28.00000°,λ-96.00000°. Principal axes: T 1.2330, Plg17.0000°, Azm272.0000°; N 0.3200, Plg3.0000°, Azm3.0000°; P -1.5580, Plg73.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 02:07:09.1±1.6,52.29N±0.25×35.21W±0.08,h10km±2km, mb4.5/16 Error ellipse: s-maj=35.7km s-min=3.6km az=191.0*

ISC 03 02:07:08.5±0.5,53.29N±0.15×35.30W±0.07,h10km,n100, σ0.93/49,mb4.2/25,MS3.8/65,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.57**	**26**	LR	LR	02 13 49.3	
	comp=Z,261nm,21.0s,baz=226,slow=30						
DY2G	**Dye2**	**14.35**	**342**	*i* P	**P**	**02 10 38.6**	**-0.2**
SFJD	**Kangerlussuaq**	**15.71**	**337**	Pn	**Pn**	**02 10 51.1**	**+1.5**
	0.6nm,0.3s,baz=129,slow=14,SNR=3.8						
SFJD				LR	LR	02 15 38.3	
	comp=Z,238nm,20.0s,baz=149,slow=32						
	12nm,1.0s						
SFJD	**Kangerlussuaq**	**15.71**	**337**	Pn	**P**	**02 10 53.7**	**+0.1**
SFJD				IAmb	IAmb	02 10 55.5	
	comp=Z,48nm,1.4s						
SFJD	**Kangerlussuaq**	**15.71**	**337**	*i* P	**P**	**02 10 52.6**	**-0.9**
SCHQ	**Schefferville**	**18.52**	**288**	Pn	**P**	**02 11 22.4**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=96,slow=10,SNR=10						
SCHQ				LR	LR	02 17 41.0	
	comp=Z,197nm,18.3s,baz=92,slow=34						
	comp=Z,2.4nm,0.5s						
SCHQ	**Schefferville**	**18.52**	**288**	P	**P**	**02 11 23.8**	**-1.0**
EKA	**Eskdalemuir Ar**	**18.80**	**71**	Pn	**P**	**02 11 28.0**	**+0.2**
	baz=285,slow=8.0						
EKA				LR	LR	02 17 08.9	
	comp=Z,445nm,18.6s,baz=216,slow=32						
	comp=Z,1.4nm,0.7s						
SUMG	**Summit**	**19.47**	**357**	*i* P	**P**	**02 11 35.4**	**-0.1**
FRB	**Frobisher Bay**	**20.06**	**315**	P	**P**	**02 11 41.4**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=96,slow=14,SNR=2.6						
FRB				LR	LR	02 17 50.0	
	comp=Z,258nm,18.5s,baz=80,slow=32						
	comp=Z,1.3nm,0.6s						
JMIC	**Jan Mayen**	**21.44**	**24**	LR	LR	02 18 02.1	
	comp=Z,286nm,18.7s,baz=250,slow=31						
D62A	**Allapoint, All**	**22.33**	**268**	P	**P**	**02 12 07.3**	**+1.1**
G65A	**Princeton**	**22.40**	**262**	P	**P**	**02 12 05.7**	**-1.1**
G65A				IAmb	IAmb	02 12 13.0	
	comp=Z,17nm,1.1s						
F64A	**Sherman**	**22.52**	**264**	P	**P**	**02 12 07.0**	**-1.1**
F64A				IAmb	IAmb	02 12 25.6	
	comp=Z,25nm,1.4s						
F63A	**Nahmakanta, Br**	**23.05**	**265**	P	**P**	**02 12 14.6**	**+0.8**
F63A				IAmb	IAmb	02 12 19.2	
	comp=Z,23nm,1.5s						
NEEM	**North Greenlan**	**25.00**	**352**	*i* P	**P**	**02 12 31.8**	**-0.5**
ESDC	**Sonseca Array**	**25.25**	**110**	P	**P**	**02 12 34.8**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=315,slow=9.3,SNR=9.6						
ESDC				LR	LR	02 20 31.2	
	comp=Z,293nm,18.7s,baz=304,slow=32						
	comp=Z,1.7nm,0.7s						
NOA	**NORSAR Array B**	**25.92**	**54**	P	**P**	**02 12 40.9**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=274,slow=9.5,SNR=3.4						
NOA				LR	LR	02 21 31.2	
	comp=Z,156nm,18.8s,baz=270,slow=33						
	comp=Z,1.6nm,1.0s						
HFS	**Hagfors**	**27.22**	**56**	LR	LR	02 22 21.1	
	comp=Z,218nm,18.8s,baz=255,slow=34						
CLL	**Collm**	**29.18**	**74**	*e*P	**P**	**02 13 10.0**	**+0.3**
DAVOX	**Davos/Dischmat**	**29.34**	**84**	LR	LR	02 24 25.5	
	comp=Z,160nm,18.7s,baz=258,slow=35						
SADO	**Sadowa**	**29.57**	**271**	LR	LR	02 24 11.7	
	comp=Z,320nm,18.9s,baz=109,slow=35						
GERES	**GERESS Array B**	**30.63**	**78**	P	**P**	**02 13 23.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=292,slow=9.4,SNR=2.7						
GERES				LR	LR	02 25 12.4	
	comp=Z,179nm,18.5s,baz=284,slow=36						
	comp=Z,0.4nm,0.7s						
CTI	**Castel Tesino**	**30.77**	**84**	P	**P**	**02 13 23.3**	**-0.6**
CTI				IAmb	IAmb	02 13 31.3	
	comp=Z,4.3nm,0.9s						
CIMO	**Cimolais**	**31.11**	**83**	P	**P**	**02 13 26.9**	**+0.1**
CIMO				IAmb	IAmb	02 13 44.8	
	comp=Z,13nm,1.4s						
CLUD	**Cludinico**	**31.29**	**83**	P	**P**	**02 13 29.5**	**+1.0**
RES	**Resolute Bay**	**31.66**	**334**	LR	LR	02 25 07.9	
	comp=Z,65nm,19.7s,baz=56,slow=34						
ARCES	**ARCESS Array B**	**31.66**	**36**	LR	LR	02 23 44.0	
	comp=Z,37nm,19.1s,baz=284,slow=32						
CASP	**Castiglione de**	**32.07**	**90**	P	**P**	**02 13 33.6**	**-1.7**
VRAC	**Vranov**	**32.11**	**76**	LR	LR	02 26 03.1	
	comp=Z,277nm,18.4s,baz=308,slow=35						
FINES	**FINESS Array B**	**32.95**	**51**	P	**P**	**02 13 42.0**	**-0.8**
	comp=Z,11nm,1.2s,baz=305,slow=6.7,SNR=3.4						
FINES				LR	LR	02 25 32.4	
	comp=Z,208nm,20.4s,baz=266,slow=34						
	comp=Z,11nm,1.2s						
PABE	**Paberze**	**33.70**	**62**	P	**P**	**02 13 49.9**	**+0.5**
KEST	**Kesra**	**35.65**	**101**	P	**P**	**02 14 07.1**	**+0.6**
	comp=Z,4.6nm,1.0s,baz=281,slow=5.2,SNR=3.9						
KEST				LR	LR	02 26 21.1	
	comp=Z,114nm,19.5s,baz=244,slow=32						
	comp=Z,4.6nm,1.0s						
ULM	**Lac du Bonnet**	**36.65**	**290**	P	**P**	**02 14 14.6**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=34,slow=9.3,SNR=3.3						
ULM				LR	LR	02 27 53.0	
	comp=Z,178nm,18.5s,baz=66,slow=34						
	comp=Z,2.1nm,0.6s						
VAE	**Valguarnera**	**37.49**	**94**	LR	LR	02 28 59.8	
	comp=Z,80nm,18.1s,baz=328,slow=35						
BURAR	**Bucovina Array**	**37.94**	**73**	P	**P**	**02 14 26.9**	**+0.9**
TKL	**Tuckaleechee C**	**37.97**	**262**	LR	LR	02 29 24.3	
	comp=Z,214nm,20.3s,baz=34,slow=35						
AKASG	**Malin Array Be**	**38.63**	**67**	P	**P**	**02 14 31.0**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=294,slow=7.9,SNR=5.8						
AKASG				LR	LR	02 30 15.0	
	comp=Z,107nm,18.3s,baz=266,slow=36						
	comp=Z,0.4nm,0.5s						
KLMR	**Klimovskoe**	**39.30**	**48**	*e*P	**P**	**02 14 35.5**	**-1.6**
KLMR				AMP		02 14 38.7	
	comp=Z,30nm,1.5s						
MLR	**Muntele Rosu**	**39.52**	**76**	LR	LR	02 32 32.4	
	comp=Z,171nm,18.0s,baz=260,slow=39						
S44A	**Carbondale**	**39.90**	**269**	P	**P**	**02 14 43.4**	**+1.0**
S44A				IAmb	IAmb	02 14 48.0	
	comp=Z,10nm,0.8s						
YKA	**Yellowknife Ar**	**40.58**	**315**	P	**P**	**02 14 47.8**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=67,slow=9.4,SNR=7.6						
YKA				PcP	**PcP**	**02 16 49.2**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=70,slow=4.4,SNR=7.7						
YKA				LR	LR	02 29 59.1	
	comp=Z,111nm,18.5s,baz=216,slow=34						
	comp=Z,0.8nm,1.0s						
AGG	**Agios Georgios**	**41.25**	**86**	P	**P**	**02 14 54.6**	**+1.0**
R40A	**Maddies Statio**	**41.33**	**272**	P	**P**	**02 14 54.9**	**+0.7**
LCAR	**Lake Charles**	**42.12**	**269**	P	**P**	**02 15 01.1**	**+0.5**
SJG	**San Juan**	**42.45**	**226**	LR	LR	02 30 16.7	
	comp=Z,41nm,21.7s,baz=18,slow=33						
INK	**Inuvik**	**44.78**	**329**	LR	LR	02 33 42.9	
	comp=Z,91nm,18.1s,baz=65,slow=36						
KIRV	**Kirov**	**44.79**	**48**	LR	LR	02 32 51.1	
	comp=Z,113nm,18.5s,baz=296,slow=34						
IDI	**Anoyia**	**45.24**	**88**	LR	LR	02 34 57.6	
	comp=Z,92nm,20.1s,baz=30,slow=37						
BELG	**Belogornoye**	**47.40**	**56**	LR	LR	02 34 04.1	
	comp=Z,64nm,19.8s,baz=317,slow=34						
BRTR	**Keskin Array B**	**47.52**	**77**	P	**P**	**02 15 43.2**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=302,slow=6.0,SNR=9.9						
BRTR				LR	LR	02 37 12.6	
	comp=Z,162nm,18.1s,baz=312,slow=38						
	comp=Z,1.4nm,0.6s						
PDAR	**Pinedale Array**	**48.65**	**289**	P	**P**	**02 15 52.2**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=60,slow=7.7,SNR=28						
	comp=Z,1.2nm,0.5s						
DLBC	**Dease Lake**	**49.19**	**316**	LR	LR	02 35 09.6	
	comp=Z,88nm,18.5s,baz=31,slow=34						
TORD	**Toro di Ar. Bea**	**49.58**	**130**	P	**P**	**02 15 59.3**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=332,slow=8.0,SNR=9.8						
	comp=Z,1.2nm,0.6s						
MDP	**Montagnes des**	**50.04**	**203**	LR	LR	02 32 46.4	
	comp=Z,31nm,20.3s,baz=35,slow=31						
ARU	**Arti**	**50.06**	**46**	LR	LR	02 35 45.9	
	comp=Z,144nm,19.3s,baz=276,slow=34						
KBZ	**Khabaz**	**50.24**	**67**	LR	LR	02 38 31.1	
	comp=Z,94nm,18.9s,baz=309,slow=38						
ILAR	**Eielson Array**	**51.12**	**329**	P	**P**	**02 16 11.5**	**+0.3**
	comp=Z,1.5nm,1.0s,baz=40,slow=5.3,SNR=16						
	comp=Z,1.5nm,1.0s						
ANMO	**Albuquerque**	**52.04**	**280**	LR	LR	02 37 43.8	
	comp=Z,433nm,18.6s,baz=103,slow=35						
BBB	**Bella Bella**	**52.30**	**309**	LR	LR	02 37 19.6	
	comp=Z,73nm,18.9s,baz=36,slow=35						
SDV	**Santo Domingo**	**52.60**	**226**	LR	LR	02 35 02.3	
	comp=Z,17nm,21.6s,baz=260,slow=32						
DBIC	**Dimbokro**	**52.62**	**141**	P	**P**	**02 16 22.8**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=346,slow=8.3,SNR=4.6						
DBIC				LR	LR	02 36 02.1	
	comp=Z,79nm,20.8s,baz=337,slow=33						
	comp=Z,1.7nm,0.7s						
ELK	**Elko**	**53.18**	**291**	P	**P**	**02 16 28.0**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=184,slow=2.8,SNR=3.3						
ELK				LR	LR	02 38 14.9	
	comp=Z,134nm,18.0s,baz=58,slow=35						
	comp=Z,0.6nm,0.8s						
GNI	**Garni**	**53.64**	**70**	LR	LR	02 39 17.4	
	comp=Z,100nm,21.8s,baz=318,slow=36						
AKTO	**Aktyubinsk**	**53.70**	**52**	LR	LR	02 38 02.4	
	comp=Z,98nm,21.3s,baz=354,slow=35						
TXAR	**Lajitas Array**	**54.34**	**273**	P	**P**	**02 16 35.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=60,slow=3.8,SNR=7.8						
	comp=Z,0.5nm,0.7s						
EIL	**Elat**	**55.23**	**86**	LR	LR	02 43 07.8	
	comp=Z,25nm,20.2s,baz=294,slow=39						
NVAR	**Mina Array Bea**	**56.49**	**291**	P	**P**	**02 16 51.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=59,slow=7.5,SNR=2.0						
	comp=Z,0.3nm,0.5s						
YBH	**Yreka Blue Hor**	**56.62**	**296**	LR	LR	02 40 19.8	
	comp=Z,120nm,18.1s,baz=46,slow=35						
BVAR	**Borovoye Array**	**57.41**	**44**	LR	LR	02 39 49.1	
	comp=Z,135nm,21.0s,baz=307,slow=34						
JTS	**Las Juntas de**	**58.34**	**242**	LR	LR	02 38 48.4	
	comp=Z,96nm,21.7s,slow=33						
CMIG	**Matias Romero**	**58.37**	**256**	LR	LR	02 43 25.5	
	comp=Z,36nm,18.0s,baz=34,slow=37						
RCBR	**Riachuelo**	**58.83**	**181**	LR	LR	02 35 24.4	
	comp=Z,27nm,20.7s,baz=148,slow=29						
PFO	**Pinyon Flats O**	**58.84**	**286**	LR	LR	02 41 34.3	
	comp=Z,65nm,21.2s,baz=78,slow=35						
LPIG	**Laz**	**62.17**	**274**	LR	LR	02 44 37.5	
	comp=Z,118nm,18.8s,baz=356,slow=36						
GEYT	**Alibeck**	**62.56**	**63**	LR	LR	02 47 24.7	
	comp=Z,55nm,18.0s,baz=341,slow=39						
MKAR	**Makanchi Array**	**67.09**	**41**	P	**P**	**02 18 01.6**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=335,slow=5.4,SNR=12						
MKAR				LR	LR	02 46 52.3	
	comp=Z,50nm,19.9s,baz=309,slow=36						
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**67.11**	**49**	LR	LR	02 46 48.2	
	comp=Z,104nm,19.3s,baz=336,slow=36						
KSH	**Kashi**	**70.27**	**50**	P	**P**	**02 18 24.7**	**+2.9**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ATAH	**Atahualpa**	**70.30**	**226**	LR	LR	02 49 47.5	
	comp=Z,13nm,19.2s,baz=8.1,slow=36						
SIV	**San Ignacio**	**72.42**	**206**	LR	LR	02 45 34.0	
	comp=Z,47nm,21.7s,baz=104,slow=32						
PETK	**Petropavlovsk-**	**73.48**	**352**	LR	LR	02 52 24.0	
	comp=Z,52nm,18.9s,baz=65,slow=37						
WSAR	**Wadi Sarin**	**74.00**	**73**	LR	LR	02 54 35.3	
	comp=Z,22nm,18.7s,baz=292,slow=38						
NNA	**Nana**	**74.01**	**222**	LR	LR	02 49 30.7	
	comp=Z,19nm,21.8s,baz=350,slow=34						
SONM	**Songino Array**	**74.18**	**26**	P	**P**	**02 18 45.4**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=326,slow=5.4,SNR=11						
	comp=Z,2.1nm,1.0s						
MBAR	**Mbarara**	**76.36**	**110**	LR	LR	02 52 33.3	
	comp=Z,47nm,18.9s,baz=314,slow=36						
KMBO	**Kilima Mbogo**	**80.52**	**105**	LR	LR	02 55 14.3	
	comp=Z,38nm,19.0s,baz=280,slow=36						
CPUP	**Villa Florida**	**81.51**	**200**	LR	LR	02 53 34.4	
	comp=Z,27nm,18.6s,baz=16,slow=34						
ASAJ	**Asahikawa**	**83.02**	**2**	LR	LR	02 54 29.6	
	comp=Z,22nm,21.8s,baz=10,slow=34						
LSZ	**Lusaka**	**87.14**	**12**	LR	LR	02 59 40.1	
	comp=Z,42nm,18.8s,baz=324,slow=36						
KSRS	**Korea Array**	**88.53**	**13**	LR	LR	03 02 35.5	
	comp=Z,11nm,18.7s,baz=310,slow=38						
CFA	**Coronel Fontan**	**89.21**	**208**	LR	LR	02 59 32.2	
	comp=Z,30nm,18.9s,baz=83,slow=35						
BRDH	**Bariadhala**	**91.57**	**48**	LR	LR	03 02 17.0	
	comp=Z,76nm,19.6s,baz=273,slow=36						
JNU	**Nakatsue**	**93.18**	**12**	LR	LR	03 03 29.1	
	comp=Z,24nm,18.4s,baz=44,slow=36						
LBTB	**Lobatse**	**94.05**	**127**	LR	LR	03 01 45.8	
	comp=Z,24nm,19.4s,baz=290,slow=35						
BOSA	**Boshof**	**96.94**	**130**	LR	LR	03 03 41.1	
	comp=Z,29nm,19.1s,baz=25,slow=35						
SUR	**Sutherland**	**98.17**	**135**	LR	LR	03 02 11.9	
	comp=Z,22nm,18.2s,baz=300,slow=34						
PLCA	**Paso Flores**	**98.41**	**206**	LR	LR	03 02 37.8	
	comp=Z,44nm,19.6s,baz=350,slow=34						
WRA	**Warramunga Arr**	**145.83**	**18**	PKPbc	**PKPdf**	**02 26 47.2**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=344,slow=3.7,SNR=3.0						
ASAR	**Alice Springs**	**149.37**	**20**	PKP	**PKPdf**	**02 26 52.1**	**-1.1**
	comp=Z,1.5nm,1.1s,baz=358,slow=3.5,SNR=3.0						
ASAR				PKPbc	**sPKPdf**	**02 26 56.7**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=352,slow=2.5,SNR=31						

*NEIC **03** 02:18:60.0±1.4,41.75N±0.06×126.5W±0.1,h10km±2km, ML3.2/52,Error ellipse: s-maj=14.3km s-min=10.8km az=264.0*
*IDC **03** 02:19:00.5±2.6,42.37N×126.41W,h0km,mb3.1/4, mbtmp3.1/8,ML3.1/4,MS3.5/14,Error ellipse: s-maj=47.7km s-min=17.6km az=45.0*

ISC 03 02:18:58.3±1.6,41.78N±0.06×126.7W±0.1,h10km,n53, σ1.51/38,mb3.1/4,MS3.5/8,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.88**	**76**	Pn	**Pn**	**02 19 30.1**	**-0.6**
KBO				IAML		02 19 39.2	
	comp=N,205nm,2.4s						
KBO				IAML		02 20 31.6	
	comp=E,162nm,3.0s						
KEBM	**Edson Butte**	**2.06**	**57**	Pn	**Pn**	**02 19 32.3**	**-0.7**
KEBM				IAML		02 19 52.4	
	comp=N,165nm,2.5s						
KEBM				Sn	**Sn**	**02 19 55.4**	**-3.4**
KEBM				IAML		02 20 15.9	
	comp=E,153nm,3.9s						
KRPM	**Rodgers**	**2.09**	**106**	Pn	**Pn**	**02 19 33.3**	**-0.2**
KRPM				IAML		02 20 24.2	
	comp=E,191nm,2.0s						
KRPM				IAML		02 20 44.1	
	comp=N,189nm,1.8s						
JCC	**Jacoby Creek,**	**2.22**	**115**	Pn	**Pn**	**02 19 34.7**	**-0.5**
KMPM	**Mount Pierce**	**2.37**	**124**	Pn	**Pn**	**02 19 36.4**	**-0.9**
KMPM				IAML		02 19 53.0	
	comp=N,95nm,2.4s						
KHMM	**Horse Mountain**	**2.40**	**111**	Pn	**Pn**	**02 19 37.5**	**-0.3**
KMRM	**Mail Ridge**	**2.74**	**124**	Pn	**Pn**	**02 19 42.0**	**-0.4**
KMRM				IAML		02 20 35.6	
	comp=N,75nm,2.5s						
KMRM				IAML		02 20 42.1	
	comp=E,79nm,2.4s						
DBO	**Dodson Butte**	**2.88**	**61**		**Pn**	**02 19 44.6**	**+0.3**
DBO				IAML		02 20 12.6	
	comp=N,55nm,3.2s						
HUMO	**Hull Mountain**	**2.89**	**72**	Pn	**Pn**	**02 19 44.8**	**+0.4**
YBH	**Yreka Blue Hor**	**2.97**	**90**	Pn	**Pn**	**02 19 46.8**	**+1.2**
	comp=N,1.8nm,0.3s,baz=284,slow=12,SNR=46						
YBH				LR	LR	02 20 50.6	
	comp=N,862nm,19.8s,baz=234,slow=39						
	comp=N,23nm,0.8s						
YBH	**Yreka Blue Hor**	**2.97**	**90**	Pn	**Pn**	**02 19 47.0**	**+1.4**
KCPM	**Cahto Peak**	**3.15**	**131**	Pn	**Pn**	**02 19 47.8**	**-0.3**
KCPM				IAML		02 20 32.4	
	comp=N,77nm,3.1s						
KCPM				IAML		02 20 34.9	
	comp=E,74nm,3.8s						
BUCK	**Buck Mountain**	**3.63**	**47**	Pn	**Pn**	**02 19 54.8**	**+0.1**
BUCK				IAML		02 21 16.6	
	comp=N,61nm,4.7s						
COR	**Corvallis**	**3.74**	**40**	Pn	**Pn**	**02 19 57.3**	**+1.2**
HOPS	**Hopland Field**	**3.92**	**134**	Pn	**Pn**	**02 19 58.1**	**-0.4**
HEBO	**Mount Hebo**	**4.04**	**31**	Pn	**Pn**	**02 20 01.0**	**+0.7**
H04A	**Detroit Lake**	**4.39**	**47**	Pn	**Pn**	**02 20 06.0**	**+1.0**
H04A				IAML		02 21 00.9	
	comp=E,18nm,0.4s						
H04A				IAML		02 21 20.6	
	comp=N,22nm,4.7s						
K05A	**Summer Lake**	**4.40**	**76**	Pn	**Pn**	**02 20 06.5**	**+1.2**
K05A				IAML		02 21 02.7	
	comp=N,26nm,4.5s						
K05A				IAML		02 22 31.2	
	comp=E,36nm,4.9s						
ORV	**Oroville**	**4.53**	**118**		**Pn**	**02 20 07.1**	**+0.2**
PINE	**Pine Mountain**	**4.68**	**63**	Pn	**Pn**	**02 20 09.5**	**+0.3**
PINE				IAML		02 20 56.2	
	comp=E,20nm,4.8s						
PINE				IAML		02 22 41.7	
	comp=N,22nm,4.8s						
MOD	**Modoc Plateau**	**4.77**	**86**		**Pn**	**02 20 11.0**	**+0.6**
MOD				IAML		02 22 21.2	
	comp=N,14nm,4.8s						
MOD				IAML		02 22 27.0	
	comp=E,18nm,4.6s						
HOOD	**Mount Hood Mea**	**5.09**	**44**	Pn	**Pn**	**02 20 15.4**	**+0.6**
BEKR	**Beckworth**	**5.16**	**110**	Pn	**Pn**	**02 20 16.3**	**+0.5**
BEKR				IAML		02 23 22.6	
	comp=E,9.2nm,5.0s						
E03A	**Lebam**	**5.27**	**24**	Pn	**Pn**	**02 20 17.5**	**+0.5**
I07A	**Izee**	**5.75**	**64**		**Pn**	**02 20 23.1**	**-0.7**
LON	**Longmire**	**6.08**	**33**		**Pn**	**02 20 29.8**	**+1.5**
D05A	**Enumclaw**	**6.37**	**30**	Pn	**Pn**	**02 20 34.8**	**+2.7**
G08A	**Pilot Rock**	**6.62**	**55**	Pn	**Pn**	**02 20 35.7**	**-0.1**
LTY	**Liberty**	**6.96**	**36**	Pn	**Pn**	**02 20 41.8**	**+1.4**
NVAR	**Mina Array Bea**	**7.24**	**115**	Pn	Pn	02 20 51.6	+7.2
	comp=E,0.1nm,0.3s,baz=291,slow=12,SNR=3.7						
	comp=E,0.6nm,0.6s						
BMO	**Blue Mountains**	**7.50**	**63**		**Pn**	**02 20 49.4**	**+1.6**
B08A	**Colville Reser**	**8.39**	**36**	Pn	**Pn**	**02 21 00.4**	**+0.5**
ELK	**Elko**	**8.68**	**93**	Pn	**Pn**	**02 21 08.2**	**+4.0**
	comp=E,0.1nm,0.3s,baz=295,slow=18,SNR=5.5						
ELK				LR	LR	02 23 36.8	
	comp=E,47nm,19.2s,baz=262,slow=32						
	comp=E,1.3nm,1.0s						
NEW	**Newport**	**9.37**	**43**	LR	LR	02 24 59.3	
	comp=E,436nm,19.4s,baz=232,slow=41						
BBB	**Bella Bella**	**10.46**	**355**	LR	LR	02 24 37.2	
	comp=E,99nm,21.6s,baz=186,slow=34						
PFO	**Pinyon Flats O**	**11.48**	**132**	LR	LR	02 26 17.8	
	comp=E,270nm,18.5s,baz=292,slow=37						
PDAR	**Pinedale Array**	**12.73**	**80**	Pn	**Pn**	**02 22 02.2**	**+2.7**
	baz=266,slow=12,SNR=2.2						
PDAR				LR	LR	02 27 24.1	
	comp=E,277nm,20.2s,baz=288,slow=40						
	comp=E,0.2nm,0.8s						
YKA	**Yellowknife Ar**	**21.96**	**15**	P	**P**	**02 23 50.2**	**-1.7**
	comp=E,0.4nm,0.8s,baz=204,slow=11,SNR=6.7						
	comp=E,

MHCZ				S	**Sb**	**02 29 14.7**	**+0.4**		
WVZ	**Waitaha Valley**	**1.00**	**239**	P	**Pg**	**02 29 01.7**	**+0.7**		
WVZ				S	**Sn**	**02 29 17.2**	**+1.4**		
THZ	**Tophouse**	**1.10**	**43**	P	**Pn**	**02 29 01.5**	**-1.7**		
THZ				S	**Sg**	**02 29 19.4**	**+2.2**		
RACZ	**Rakaia**	**1.17**	**172**	P	**Pn**	**02 29 03.8**	**-0.3**		
RACZ				S	**Sn**	**02 29 19.8**	**-0.3**		
KHZ	**Kahutara**	**1.22**	**83**	P	**Pn**	**02 29 05.2**	**+0.4**		
KHZ	**Kahutara**	**1.22**	**83**	P	**Pn**	**02 29 05.2**	**+0.4**		
MQZ	**McQueen's Vall**	**1.26**	**154**	P	**Pn**	**02 29 04.7**	**-0.8**		
MQZ				S	**Sn**	**02 29 21.8**	**-0.6**		
RPZ	**Rata Peaks**	**1.30**	**208**	P	**Pn**	**02 29 06.2**	**+0.2**		
RPZ	**Rata Peaks**	**1.30**	**208**	P	**Pn**	**02 29 06.4**	**+0.3**		
RPZ				S	**Sb**	**02 29 24.1**	**+1.0**		
MRNZ	**Matariki Terra**	**1.33**	**29**	P	**Pb**	**02 29 06.9**	**+0.1**		
WACZ	**Wakanui South**	**1.38**	**182**	P	**Pn**	**02 29 07.3**	**+0.3**		
GCSZ	**Gaunt Creek Bo**	**1.38**	**237**	P	**Pg**	**02 29 07.9**	**-0.4**		
OKCZ	**Okains Bay**	**1.43**	**144**	P	**Pn**	**02 29 07.6**	**-0.2**		
ARCZ	**Arundel**	**1.48**	**201**	P	**Pn**	**02 29 08.5**	**+0.1**		
AKCZ	**Akaroa Harbour**	**1.50**	**151**	P	**Pn**	**02 29 08.2**	**-0.5**		
BSWZ	**Blackbirch Sta**	**1.70**	**60**	P	**Pn**	**02 29 12.8**	**+1.4**		
TKNZ	**Takaka Hill**	**1.73**	**28**	P	**Pb**	**02 29 12.6**	**-0.9**		
NNZ	**Nelson**	**1.74**	**40**	P	**Pb**	**02 29 13.2**	**-0.6**		
QRZ	**Quartz Range**	**1.80**	**15**	P	**Pb**	**02 29 14.0**	**-0.9**		
QRZ	**Quartz Range**	**1.80**	**15**	P	**Pb**	**02 29 13.4**	**-1.5**		
FOZ	**Fox Glacier**	**1.81**	**237**	P	**Pb**	**02 29 13.9**	**-1.0**		
TUWZ	**Tuamarina**	**1.90**	**54**	P	**Pn**	**02 29 15.8**	**+1.7**		
CMWZ	**Cape Campbell**	**1.90**	**65**	P	**Pb**	**02 29 16.9**	**+0.3**		
TMZ	**Timaru**	**1.93**	**199**	P	**Pn**	**02 29 14.1**	**-0.6**		
LBZ	**Lake Benmore**	**2.21**	**214**	P	**Pn**	**02 29 20.0**	**+1.5**		
TCW	**Tory Channel**	**2.23**	**53**	P	**Pn**	**02 29 20.1**	**+1.3**		
DUWZ	**D'Urville Isla**	**2.32**	**41**	P	**Pn**	**02 29 21.9**	**+1.9**		
SNZO	**South Karori**	**2.44**	**60**	P	**Pn**	**02 29 22.2**	**+0.6**		
ODZ	**Otahua Downs**	**2.64**	**200**	P	**Pn**	**02 29 24.4**	**+0.1**		
ODZ	**Otahua Downs**	**2.64**	**200**	P	**Pn**	**02 29 24.0**	**-0.3**		
JCZ	**Jackson Bay**	**2.73**	**235**	P	**Pn**	**02 29 26.9**	**+1.2**		
JCZ	**Jackson Bay**	**2.73**	**235**	P	**Pn**	**02 29 26.9**	**+1.2**		
CAW	**Cannon Point**	**2.78**	**59**	P	**Pn**	**02 29 26.3**	**0.0**		
KIW	**Kapiti Island**	**2.82**	**54**	P	**Pn**	**02 29 27.8**	**+0.9**		
PAWZ	**Paruwai Farm**	**2.88**	**67**	P	**Pn**	**02 29 28.8**	**+1.1**		
OGWZ	**Otaki Gorge**	**3.01**	**56**	P	**Pn**	**02 29 29.8**	**+0.4**		
MTW	**Mount Morrison**	**3.03**	**64**	P	**Pn**	**02 29 29.0**	**-0.8**		
HOWZ	**Holdsworth Sta**	**3.18**	**60**	P	**Pb**	**02 29 38.7**	**+0.4**		
MRZ	**Mangatainoka R**	**3.35**	**57**	P	**Pn**	**02 29 34.0**	**-0.2**		
NMEZ	**Namu Road**	**3.49**	**26**	P	**Pn**	**02 29 38.4**	**+2.4**		
NBEZ	**Newall Road No**	**3.62**	**25**	P	**Pn**	**02 29 39.9**	**+2.1**		
LREZ	**Lake Rotokare**	**3.63**	**32**	P	**Pb**	**02 29 42.6**	**-3.5**		
WAZ	**Wanganui**	**3.65**	**41**	P	**Pn**	**02 29 41.2**	**+3.0**		
PKE	**Pukeiti**	**3.72**	**26**	P	**Pn**	**02 29 41.5**	**+2.2**		
BFZ	**Birch Farm**	**3.76**	**61**	P	**Pn**	**02 29 39.2**	**-0.6**		
TSZ	**Takapari Road**	**3.95**	**52**	P	**Pn**	**02 29 41.9**	**-0.5**		
ANWZ	**Angora Road**	**4.03**	**60**	P	**Pb**	**02 29 49.8**	**-3.0**		
VRZ	**Vera Road**	**4.07**	**33**	P	**Pn**	**02 29 45.9**	**+2.0**		
WNVZ	**Wahianoa**	**4.28**	**42**	P	**Pn**	**02 29 48.6**	**+1.6**		
MOVZ	**Moawhango**	**4.30**	**44**	P	**Pn**	**02 29 47.4**	**+0.2**		
BHHZ	**Black Hill Sta**	**4.40**	**47**	P	**Pn**	**02 29 49.3**	**+0.7**		
WTVZ	**West Tongariro**	**4.44**	**40**	P	Pn	02 29 53.5	+4.3		
TMVZ	**Te Maari**	**4.50**	**41**	P	**Pn**	**02 29 51.8**	**+1.8**		
HIZ	**Hauiti**	**4.63**	**30**	P	**Pn**	**02 29 52.3**	**+0.5**		
HIZ	**Hauiti**	**4.63**	**30**	P	**Pn**	**02 29 52.6**	**+0.8**		
PYZ	**Puysegur Point**	**5.19**	**224**	P	**Pn**	**02 29 59.3**	**-0.1**		
PYZ	**Puysegur Point**	**5.19**	**224**	P	**Pn**	**02 29 59.3**	**-0.1**		
TOZ	**Tahuroa Road**	**5.56**	**31**	P	**Pn**	**02 30 05.0**	**+0.5**		
MKAZ	**Moumakai**	**6.00**	**26**	P	**Pn**	**02 30 11.8**	**+1.2**		
TWGZ	**Tauwhareparae**	**6.38**	**49**	P	**Pn**	**02 30 15.5**	**-0.3**		

*IDC **03** 03:15:42.8±5.4, 8°.95S×124°.45E, h75km±65km, mb3.4/2, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=61.7km s-min=32.4km az=29.0*

ISC 03 03:15:40.3±0.9, 8°.71S±0°.09×124°.46E±0°.10, h35km, n17, σ1s97/16, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**1.05**	**190**	P		**Pn**	**03 16 02.0**	**+3.3**
BATI	**Baumata**	**1.68**	**208**	P		**Pn**	**03 16 08.6**	**+1.4**
	145nm,0.3s,baz=67,slow=4.2,SNR=38							
BATI				S		**Sn**	**03 16 26.0**	**-1.6**
	325nm,0.3s,baz=90,slow=0.9,SNR=8.5							
MMRI	**Maumere**	**2.20**	**272**	P		**Pn**	**03 16 17.0**	**+2.7**
PLAI	**Plampang**	**6.61**	**268**	P		**Pn**	**03 17 16.2**	**+1.2**
MTN	**Manton Dam**	**7.74**	**123**	P		Pn	03 17 36.1	+5.6
KNRA	**Kununurra**	**8.10**	**149**	P		**Pn**	**03 17 36.6**	**+1.1**
KDU	**Kakadu**	**8.81**	**117**	P		Pn	03 17 51.0	+5.8
WRA	**Warramunga Arr**	**14.70**	**140**	P		**Pn**	**03 19 03.6**	**-2.1**
	0.5nm,0.3s,baz=314,slow=15,SNR=21							
WRA				S		Sn	03 21 36.1	-11
	4.2nm,0.6s,baz=311,slow=22,SNR=13							
	0.6nm,0.3s							
WRKA	**Warakurna**	**16.64**	**168**	P		**Pn**	**03 19 27.7**	**-3.3**
ASAR	**Alice Springs**	**17.41**	**150**	P		**Pn**	**03 19 39.1**	**-1.4**
	0.4nm,0.3s,baz=322,slow=12,SNR=23							
ASAR				S		Sn	03 22 39.9	-13
	3.3nm,0.8s,baz=310,slow=21,SNR=12							
	2.6nm,0.7s							
XMI	**Christmas Isla**	**18.59**	**263**	P		**Pn**	**03 19 54.7**	**-0.4**
QIS	**Mount Isa**	**18.78**	**130**	P		**Pn**	**03 19 59.2**	**+1.8**
MULG	**Mulgathing**	**23.27**	**159**	P		**P**	**03 20 43.9**	**-0.9**
BBOO	**Buckleboo**	**26.28**	**158**	P		**P**	**03 21 11.5**	**-1.0**
CMSA	**Cobar Meteorol**	**30.10**	**142**	P		**P**	**03 21 48.2**	**+1.5**
SONM	**Songino Array**	**58.53**	**346**	P		**P**	**03 25 32.9**	**-0.4**
	0.3nm,0.6s,baz=168,slow=9.1,SNR=3.3							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**66.79**	**330**	P		**P**	**03 26 27.7**	**-0.6**
	0.8nm,0.5s,baz=131,slow=7.6,SNR=11							
	0.8nm,0.5s							

*NEIC **03** 03:19:19.6±1.9, 8°.21S±0°.08×106°.77E±0°.07, h48km±7km, mb4.7/20, Error ellipse: s-maj=12.6km s-min=9.7km az=210.0*

*DJA **03** 03:19:19.3±0.4, 8°.5S±5'×10'7E±', h57km±4km, M4.9/26, mB5.6/6, mb4.8/21, MLv4.7/26, Mw(mB)5.1/6*

*IDC **03** 03:19:23.2±2.4, 7°.93S×106°.97E, h76km±20km, mb4.1/20, mbtmp4.4/20, MS3.6/38, Error ellipse: s-maj=25.7km s-min=12.3km az=58.0*

ISC 03 03:19:19.3±1.3, 8°.19S±0°.08×106°.82E±0°.05, h51km±10km, n119, σ1s124/101, mb4.5/32, MS3.6/37, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNJI	**Cibinong**	**0.93**	**20**	P		**Pn**	**03 19 35.1**	**-1.0**
CNJI				Pg		**Pn**	**03 19 35.1**	**-1.0**
CNJI				S		**Sn**	**03 19 47.6**	**-0.8**
SKJI	**Sukabumi**	**1.20**	**348**	P		**Pn**	**03 19 39.9**	**+0.1**
LEM	**Lembang**	**1.57**	**30**	P		**Pn**	**03 19 45.9**	**+1.0**
	4µm,0.7s,baz=202,slow=12,SNR=108							
LEM				S		**Sn**	**03 20 07.2**	**+3.0**
	2µm,0.4s,baz=352,slow=21,SNR=4.4							
LEM				LR		LR	03 20 36.2	
	comp=Z,4µm,18.7s,baz=250,slow=57							
LEM	**Lembang**	**1.57**	**30**	P		**Pn**	**03 19 45.5**	**+0.6**
CMJI	**Cimerak**	**1.67**	**76**	P		**Pn**	**03 19 44.3**	**-1.8**
CMJI				S		**Sn**	**03 20 04.0**	**-2.3**
CGJI	**Cibinong**	**1.92**	**324**	P		**Pn**	**03 19 50.1**	**+0.5**
CGJI				S		**Sn**	**03 20 13.4**	**+0.8**
TNG	**Tangerang**	**2.01**	**355**	P		**Pn**	**03 19 51.2**	**+0.4**
SBJI	**Serang**	**2.17**	**342**	P		**Pn**	**03 19 54.7**	**+1.8**
SBJI				S		**Sn**	**03 20 20.9**	**+2.3**
KPJI	**Karang Pucung**	**2.26**	**68**	P		**Pn**	**03 19 54.5**	**+0.3**
BLSI	**Bandar Lampung**	**3.21**	**331**	P		**Pn**	**03 20 08.3**	**+1.0**
YOGI	**Yogyakarta**	**3.46**	**84**	P		**Pn**	**03 20 10.0**	**-0.8**
KASI	**Kota Agung**	**3.51**	**319**	P		**Pn**	**03 20 12.6**	**+1.2**
KASI				S		**Sn**	**03 20 51.6**	**-0.1**
UGM	**Wanagama**	**3.68**	**86**			**Pn**	**03 20 13.3**	**-0.5**
UGM	**Wanagama**	**3.68**	**86**	P		**Pn**	**03 20 13.1**	**-0.7**
SMRI	**Semarang**	**3.77**	**73**			**Pn**	**03 20 16.1**	**+1.2**
SMRI	**Semarang**	**3.77**	**73**	P		**Pn**	**03 20 15.7**	**+0.8**
KLI	**Kotabumi**	**3.83**	**329**	P		**Pn**	**03 20 16.6**	**+0.7**
LWLI	**Liwa**	**4.17**	**319**	P		**Pn**	**03 20 21.3**	**+0.7**
MDSI	**Maura Dua**	**4.52**	**324**	P		**Pn**	**03 20 26.1**	**+0.9**
NGJI	**Ngawi**	**4.67**	**80**	P		**Pn**	**03 20 26.6**	**-0.8**
PWJI	**Pagerwojo**	**4.94**	**88**	P		**Pn**	**03 20 30.6**	**-0.4**
PWJI				S		**Sn**	**03 21 27.2**	**+0.3**
MNAI	**Manna**	**5.40**	**315**	Pn		**Pn**	**03 20 37.7**	**+0.3**
MNAI	**Manna**	**5.40**	**315**	P		**Pn**	**03 20 36.8**	**-0.6**
	359nm,1.4s,1.6nm							
PPBI	**Pangkal Pinang**	**6.03**	**354**	P		**Pn**	**03 20 47.7**	**+1.8**
	48nm,1.0s,50µm2.0nm							
GMJI	**Gumukmas**	**6.56**	**91**	P		**Pn**	**03 20 54.4**	**+1.1**
	64nm,0.9s,0.3nm							
BLJI	**Banyuglugur**	**6.73**	**87**	P		**Pn**	**03 20 55.4**	**-0.2**
MASI	**Maura Aman, Be**	**6.77**	**317**	P		**Pn**	**03 20 56.6**	**+0.4**
	45nm,1.0s,0.5nm							
JAGI	**Jajag, Banyuwa**	**7.26**	**93**	Pn		**Pn**	**03 21 05.4**	**+2.5**
JAGI				Sn		**Sn**	**03 22 25.6**	**+1.5**
JAGI	**Jajag, Banyuwa**	**7.26**	**93**	P		**Pn**	**03 21 02.7**	**-0.2**
	67nm,0.8s,2µm0.3nm							
ABJI	**Asem Bagus**	**7.36**	**87**	P		**Pn**	**03 21 03.9**	**-0.3**
	106nm,0.7s,0.3nm							
SRBI	**Singaraja**	**8.31**	**90**	P		**Pn**	**03 21 17.2**	**-0.1**
	76nm,0.7s							
PPSI	**Pulau Pagai**	**8.66**	**308**	P		**Pn**	**03 21 22.4**	**+0.4**
	500nm,1.1s							
TWSI	**Taliwang, Sumb**	**9.97**	**94**	P		**Pn**	**03 21 39.7**	**-0.3**
	34nm,0.9s,862nm							
PLAI	**Plampang**	**10.86**	**94**	P		**Pn**	**03 21 53.0**	**+0.8**
	61nm,0.9s							
GSI	**Gunungsitoli**	**13.18**	**315**			**Pn**	**03 22 20.8**	**-3.2**
KAPI	**Kappang**	**13.23**	**77**	LR		LR	03 28 04.5	
	comp=Z,409nm,20.7s,baz=260,slow=40							
BKSI	**Bulukumba**	**13.52**	**79**	P		**Pn**	**03 22 28.9**	**+0.4**
	25nm,1.1s							
MPSI	**Mapaga**	**15.55**	**58**	P		**Pn**	**03 22 55.2**	**-0.1**
	8.7nm,0.9s							
APSI	**Ampana**	**16.45**	**65**	P		**Pn**	**03 23 06.6**	**-0.2**
	19nm,0.4s							
SOEI	**Soe**	**17.31**	**96**			**P**	**03 23 18.2**	**-0.3**
SOEI					IAmb	IAmb	03 23 40.1	
	comp=Z,48nm,0.9s							
MRSI	**Marisa**	**17.36**	**61**	P		**Pn**	**03 23 17.1**	**-1.1**
	comp=Z,23nm,0.6s							
SANI	**Sanana**	**20.04**	**73**	P		**P**	**03 23 47.2**	**-1.1**
	comp=Z,32nm,1.1s							
NWAO	**Narrogin (SRO)**	**26.44**	**160**	LR		LR	03 34 42.0	
	comp=Z,242nm,20.6s,slow=34							
CMAR	**Chiang Mai Arr**	**27.59**	**344**	P		**P**	**03 25 00.2**	**-1.8**
	comp=Z,2.3nm,0.7s,baz=178,slow=8.7,SNR=14							
CMAR				LR		LR	03 36 07.2	
	comp=Z,65nm,20.8s,baz=160,slow=37							
	comp=Z,2.3nm,0.7s							
WRA	**Warramunga Arr**	**29.09**	**117**	P		**P**	**03 25 16.3**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=288,slow=12,SNR=5.1							
WRA				LR		LR	03 37 42.1	
	comp=Z,105nm,21.9s,baz=220,slow=38							
	comp=Z,2.0nm,0.8s							
ASAR	**Alice Springs**	**30.16**	**124**	P		**P**	**03 25 25.6**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=300,slow=7.1,SNR=4.8							
ASAR				LR		LR	03 37 49.4	
	comp=Z,114nm,21.3s,baz=318,slow=37							
	comp=Z,1.1nm,0.8s							
PALK	**Pallekele**	**30.23**	**300**	LR		LR	03 37 00.8	
	comp=Z,106nm,19.1s,baz=214,slow=35							
TNCH	**TengChong**	**33.99**	**346**	P		P	03 26 05.8	+7.3
TNCH				sP		pP	03 26 12.0	+1.2
TNCH				pmax		pmax		
	comp=Z,65nm,0.4s							
H08S2	**Diego Garcia H**	**33.99**	**268**	T		T	04 01 54.9	
	baz=93,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**34.01**	**268**	T		T	04 01 50.3	
	baz=93,slow=75,SNR=18							
H08S1	**Diego Garcia H**	**34.01**	**268**	T		T	04 01 45.0	
	baz=93,slow=75,SNR=14							
PMG	**Port Moresby**	**39.87**	**95**	LR		LR	03 44 59.1	
	comp=Z,44nm,19.3s,baz=336,slow=39							
CTA	**Charters Tower**	**39.92**	**112**	P		**P**	**03 26 50.7**	**+1.8**
	comp=Z,4.1nm,0.8s,baz=271,slow=10,SNR=6.9							
	comp=Z,4.1nm,0.8s							
STKA	**Stephens Creek**	**39.99**	**131**	P		**P**	**03 26 51.4**	**+2.1**
	comp=Z,2.3nm,0.5s,baz=306,slow=9.1,SNR=11							
STKA				LR		LR	03 45 41.9	
	comp=Z,112nm,18.9s,baz=311,slow=39							
	comp=Z,2.3nm,0.5s							
STKA	**Stephens Creek**	**39.99**	**131**	P		**P**	**03 26 50.7**	**+1.4**
JOW	**Kunigami**	**40.56**	**30**	LR		LR	03 43 47.6	
	comp=Z,54nm,21.5s,baz=77,slow=36							
XAN	**Xi'an**	**42.04**	**3**	P		**P**	**03 27 10.3**	**+4.2**
XAN				pP		pP	03 27 14.6	-4.0
XAN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GTA	**Gaotai**	**47.80**	**353**	*e*P		**P**	**03 27 51.9**	**0.0**
GTA				sP		pP	03 28 00.2	-4.4
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KSRS	**Korea Array**	**49.51**	**22**	P		**P**	**03 28 04.0**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=201,slow=8.7,SNR=9.2							
KSRS				LR		LR	03 51 15.2	
	comp=Z,17nm,18.8s,baz=215,slow=39							
	comp=Z,2.7nm,0.8s							
NIL	**Nilore**	**52.41**	**324**	P		**P**	**03 28 27.2**	**+0.5**
MJAR	**Matsushiro Arr**	**53.37**	**32**	LR		LR	03 52 22.1	
	comp=Z,28nm,20.6s,baz=191,slow=37							
CN2	**Changchun**	**54.44**	**17**	*e*P		**P**	**03 28 39.3**	**-2.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KSH	**Kashi**	**55.41**	**331**	P		**P**	**03 28 48.0**	**-0.7**
KSH				sP		pP	03 28 57.4	-4.3
KSH				pmax		pmax		
	comp=Z,9.0nm,0.7s							
SONM	**Songino Array**	**55.78**	**360**	P		**P**	**03 28 51.1**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=168,slow=7.9,SNR=14							
SONM				PcP		**PcP**	**03 29 50.6**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=184,slow=3.5,SNR=9.2							
SONM				LR		LR	03 55 56.3	
	comp=Z,122nm,18.1s,baz=176,slow=40							
	comp=Z,2.1nm,0.8s							
ULN	**Ulaanbaatar**	**55.81**	**0**	P		**P**	**03 28 50.3**	**-1.1**
WSAR	**Wadi Sarin**	**56.52**	**305**	LR		LR	03 51 15.5	
	comp=Z,76nm,20.2s,baz=130,slow=34							
BNX	**BinXian**	**56.77**	**17**	⇓P		**P**	**03 28 57.2**	**-0.9**
BNX				pmax		pmax		
	comp=Z,16nm,0.9s							
BNX				pmax		pmax		
	comp=Z,43nm,4.2s							
USRK	**Ussuriysk Ar.**	**56.90**	**21**	P		**P**	**03 28 57.8**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=207,slow=7.3,SNR=7.3							
	comp=Z,1.7nm,0.6s							
GAR	**Garm**	**57.90**	**327**	P		**P**	**03 29 05.3**	**-1.1**
CHGR	**Chuyangaron**	**58.29**	**326**	P		**P**	**03 29 07.9**	**-1.3**
AAK	**Ala-Archa**	**58.55**	**332**	P		**P**	**03 29 10.2**	**-0.7**
AAK				IAmb		IAmb	03 29 12.2	
	comp=Z,5.0nm,1.1s							
MK31	**Makanchi Array**	**58.94**	**341**	P		**P**	**03 29 12.5**	**-0.9**
MK31				IAmb		IAmb	03 29 15.7	
	comp=Z,3.6nm,0.8s							
MKAR	**Makanchi Array**	**58.94**	**341**	P		**P**	**03 29 12.2**	**-1.2**
	comp=Z,4.6nm,0.7s,baz=148,slow=7.2,SNR=36							
MKAR				LR		LR	03 58 24.2	
	comp=Z,58nm,18.2s,baz=131,slow=40							
	comp=Z,4.6nm,0.7s							
MKAR	**Makanchi Array**	**58.94**	**341**	P		**P**	**03 29 12.5**	**-0.9**
UOSS	**Minazif**	**59.28**	**305**	P		**P**	**03 29 16.0**	**-0.1**
UOSS				IAmb		IAmb	03 29 34.2	
	comp=Z,11nm,1.1s							
HEH	**HeiHe**	**60.90**	**15**	*e*P		**P**	**03 29 25.6**	**-1.1**
HEH				pmax		pmax		
	comp=Z,5.0nm,0.7s							
HEH				pmax		pmax		
	comp=Z,130nm,3.9s							
KLR	**Kul'dur**	**61.21**	**18**	P		**P**	**03 29 27.2**	**-1.6**
	comp=Z,4.1nm,0.8s,baz=237,slow=6.5,SNR=12							
KLR				LR		LR	03 57 39.2	
	comp=Z,24nm,18.5s,baz=224,slow=38							
	comp=Z,4.1nm,0.8s							
ASAJ	**Asahikawa**	**61.30**	**29**	LR		LR	03 56 16.1	
	comp=Z,21nm,21.5s,baz=148,slow=36							
GEYT	**Alibeck**	**64.53**	**319**	P		**P**	**03 29 52.1**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=151,slow=6.8,SNR=4.6							
GEYT				LR		LR	04 00 43.1	
	comp=Z,24nm,18.6s,baz=127,slow=38							
	comp=Z,1.9nm,0.5s							
ZALV	**Zalesovo Beam**	**64.63**	**346**	P		**P**	**03 29 51.0**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=149,slow=5.6,SNR=8.1							
ZALV				LR		LR	04 00 44.1	
	comp=Z,42nm,18.3s,baz=149,slow=38							
	comp=Z,1.1nm,0.4s							
ZALV	**Zalesovo Beam**	**64.63**	**346**	P		**P**	**03 29 50.8**	**-0.7**
RPZ	**Rata Peaks**	**65.83**	**134**	LR		LR	03 58 15.5	
	comp=Z,159nm,20.2s,baz=272,slow=35							
BVAR	**Borovoye Array**	**68.39**	**337**	LR		LR	04 04 40.9	
	comp=Z,36nm,18.7s,baz=129,slow=40							
BRVK	**Borovoye**	**68.45**	**337**	P		**P**	**03 30 16.1**	**+0.2**
BRVK					IAmb	IAmb	03 30 17.2	
	comp=Z,8.4nm,0.8s							
KMBO	**Kilima Mbogo**	**69.61**	**272**	LR		LR	03 54 40.0	
	comp=Z,48nm,21.7s,baz=95,slow=30							
ABKAR	**Akbulak array**	**70.34**	**329**	P		**P**	**03 30 28.3**	**+0.7**
ABKAR	**Akbulak array**	**70.34**	**329**	P		**P**	**03 30 28.0**	**+0.4**
ABKAR					IAmb	IAmb	03 30 29.8	
	comp=Z,11nm,0.8s							
YAK	**Yakutsk**	**72.23**	**11**	LR		LR	04 06 28.8	
	comp=Z,21nm,18.6s,baz=225,slow=39							
GNI	**Garni**	**74.67**	**315**	LR		LR	04 06 58.8	
	comp=Z,15nm,21.9s,baz=118,slow=38							
PETK	**Petropavlovsk-**	**74.71**	**29**	LR		LR	04 05 37.1	
	comp=Z,7.1nm,20.7s,baz=180,slow=37							
VNDA	**Vanda**	**74.84**	**169**	LR		LR	04 02 20.7	
	comp=Z,32nm,19.1s,baz=283,slow=34							
ARU	**Arti**	**75.61**	**335**	LR		LR	04 07 24.0	
	comp=Z,36nm,20.3s,baz=165,slow=38							
ARU	**Arti**	**75.61**	**335**	P		**P**	**03 30 59.1**	**+0.5**
GURO	**Guroymak-BITLI**	**75.94**	**313**	P		**P**	**03 31 01.9**	**+0.7**
MBAR	**Mbarara**	**76.14**	**271**	LR		LR	03 58 17.8	
	comp=Z,38nm,21.0s,baz=91,slow=31							
KBZ	**Khabaz**	**77.41**	**318**	P		**P**	**03 31 10.7**	**+1.6**
	comp=Z,5.0nm,0.9s,baz=162,slow=3.7,SNR=10							
	comp=Z,5.0nm,0.9s							
NRIK	**Noril'sk**	**78.50**	**353**	P		**P**	**03 31 14.7**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=140,slow=4.3,SNR=8.5							
NRIK				LR		LR	04 08 43.3	
	comp=Z,80nm,19.6s,baz=187,slow=38							
	comp=Z,5.2nm,0.8s							
NRIK	**Noril'sk**	**78.50**	**353**	P		**P**	**03 31 14.3**	**-0.3**
NRIK					IAmb	IAmb	03 31 16.0	
	comp=Z,9.7nm,1.0s							
EIL	**Elat**	**78.55**	**302**	LR		LR	04 06 18.7	
	comp=Z,35nm,18.6s,baz=263,slow=36							
BOSA	**Boshof**	**78.75**	**242**	LR		LR	04 01 43.0	
	comp=Z,33nm,18.6s,baz=138,slow=32							
SEY	**Seymchan**	**78.98**	**19**	P		**P**	**03 31 17.5**	**+0.1**
	comp=Z,1.1nm,0.2s,baz=242,slow=6.6,SNR=3.8							
	comp=Z,1.1nm,0.2s							
MMAI	**Mount Meron Ar**	**79.14**	**306**	LR		LR	04 06 03.6	
	comp=Z,44nm,21.4s,baz=73,slow=35							
TIXI	**Tiksi**	**81.00**	**7**	P		**P**	**03 31 27.4**	**-0.7**
	comp=Z,3.3nm,0.4s,baz=270,slow=23,SNR=9.0							
TIXI				LR		LR	04 11 31.8	
	comp=Z,26nm,18.2s,baz=356,slow=39							
	comp=Z,3.3nm,0.4s							
QSPA	**South Pole Qui**	**81.81**	**180**	P		**P**	**03 31 34.1**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=296,slow=2.0,SNR=8.9							
	comp=Z,1.8nm,0.6s							
QSPA	**South Pole Qui**	**81.81**	**180**	P		**P**	**03 31 33.4**	**+0.6**
QSPA					IAmb	IAmb	03 32 07.4	
	comp=Z,9.5nm,1.5s							
SUR	**Sutherland**	**82.31**	**238**	LR		LR	04 01 03.0	
	comp=Z,74nm,20.4s,baz=116,slow=30							
BR131	**Keskin Array S**	**82.48**	**312**	P		**P**	**03 31 36.3**	**-0.5**
BR131					IAmb	IAmb	03 31 38.7	
	comp=Z,6.4nm,0.9s							
BRTR	**Keskin Array B**	**82.48**	**312**	P		**P**	**03

MRNZ	**Matariki Terra**	**9.33 217**	P		**Pn**	03 33 06.9	**-1.3**
THZ	**Tophouse**	**9.53 215**	P		**Pn**	03 33 09.7	**-1.2**
KHZ	**Kahutara**	**9.77 210**	P		**Pn**	03 33 13.5	**-0.3**
	60nm,1.5s						
KHZ	**Kahutara**	**9.77 210**	P		**Pn**	03 33 13.7	**-0.1**
DSZ	**Denniston Nort**	**10.07 219**	P		**Pn**	03 33 17.4	**-0.2**
GVZ	**Greta Valley S**	**10.44 210**	P		**Pn**	03 33 20.5	**-1.7**
LTZ	**Lake Taylor**	**10.62 213**	P		**Pn**	03 33 23.6	**-0.9**
INZ	**Inchbonnie**	**10.97 216**	P		**Pn**	03 33 28.0	**-0.8**
OXZ	**Oxford**	**11.15 212**	P		**Pn**	03 33 30.0	**-1.2**
MQZ	**McQueen's Vall**	**11.20 209**	P		**Pn**	03 33 30.9	**-0.8**
RACZ	**Rakaia**	**11.43 211**	P		**Pn**	03 33 34.0	**-0.6**
MHCZ	**Mount Hutt**	**11.53 213**	P		**Pn**	03 33 35.6	**-0.3**
RPZ	**Rata Peaks**	**11.91 214**	P		**Pn**	03 33 40.0	**-0.6**
	9.7nm,0.8s,baz=231,slow=3.3,SNR=7.1						
RPZ			S		**S**	03 35 51.2	**-2.1**
	6.1nm,0.5s,baz=116,slow=18,SNR=1.9						
RPZ	**Rata Peaks**	**11.91 214**	P		**Pn**	03 33 40.4	**-0.2**
	29nm,2.0s						
RPZ	**Rata Peaks**	**11.91 214**	P		**Pn**	03 33 40.2	**-0.4**
ARCZ	**Arundel**	**12.03 213**	P		**Pn**	03 33 42.0	**-0.1**
ODZ	**Otahua Downs**	**13.13 211**	P		**Pn**	03 33 56.7	**+1.1**
JCZ	**Jackson Bay**	**13.28 218**	P		**Pn**	03 33 58.7	**+1.1**
	30nm,2.6s						
ASAR	**Alice Springs**	**41.55 272**	P		**P**	03 38 22.1	**+0.3**
	0.3nm,0.3s,baz=107,slow=7.8,SNR=3.0						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**42.89 277**	P		**P**	03 38 32.1	**-0.5**
	0.6nm,0.3s,baz=117,slow=7.8,SNR=17						
	0.6nm,0.3s						
KAPI	**Kappang**	**62.88 283**	P		**P**	03 40 56.2	**-2.1**
	3.8nm,0.4s,baz=152,slow=8.6,SNR=4.1						
	3.8nm,0.4s						
FINES	**FINESS Array B**	**148.06 337**	PKPbc		**PKPbc**	03 50 15.6	**+2.2**
	2.8nm,1.0s,baz=69,slow=4.6,SNR=3.7						

DJA 03 03:34:39.0±0.4, 8°S±4″×107°E±°, h46km±18km, M4.1/16, mb4.5/12, mB5.5/1, MLv4.0/16, Mw(mB)5.0/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.98**	**15**	P	Pn	03 34 55.3	-1.1
SKJI	**Sukabumi**	**1.28**	**346**	P	Pn	03 35 00.3	-0.3
SKJI				S	Sn	03 35 16.6	0.0
LEM	**Lembang**	**1.60**	**28**	P	Pn	03 35 04.9	-0.2
LEM				S	Sn	03 35 24.9	+0.2
CMJI	**Cimerak**	**1.63**	**73**	P	Pn	03 35 04.4	-0.9
CGJI	**Cibinong**	**2.01**	**324**	P	Pn	03 35 10.4	-0.1
TNG	**Tangerang**	**2.09**	**354**	P	Pn	03 35 11.5	0.0
KPJI	**Karang Pucung**	**2.24**	**66**	P	Pn	03 35 14.0	+0.4
JCJI	**Jatiwangi**	**2.24**	**38**	P	Pn	03 35 11.2	-2.4
SBJI	**Serang**	**2.25**	**341**	P	Pn	03 35 13.9	+0.1
UGM	**Wanagama**	**3.63**	**85**	P	Pn	03 35 33.2	+0.4
MDSI	**Maura Dua**	**4.61**	**324**	P	Pn	03 35 46.2	+0.1
PWJI	**Pagerwojo**	**4.89**	**88**	P	Pn	03 35 50.5	+0.5
MNAI	**Manna**	**5.49**	**315**	P	Pn	03 35 58.4	+0.1
	199nm,1.2s,1.3nm						
GMJI	**Gumukmas**	**6.51**	**91**	P	Pn	03 36 12.7	+0.5
	26nm,2.1s,0.2nm						
JAGI	**Jajag, Banyuwa**	**7.21**	**92**	P	Pn	03 36 22.3	+0.4
	30nm,1.5s,0.2nm						
PBKI	**Pangkalan Bun**	**7.30**	**41**	P	Pn	03 36 23.3	+0.2
TWSI	**Taliwang, Sumb**	**9.91**	**93**	P	Pn	03 36 59.6	+0.6
	11nm,1.4s						
BKNI	**Bangkinang**	**10.32**	**325**	P	Pn	03 37 04.5	-0.1
	44nm,0.5s						
PLAI	**Plampang**	**10.80**	**94**	P	Pn	03 37 11.6	+0.5
	25nm,1.0s						
PBSI	**Pulau Batu**	**11.82**	**313**	P	Pn	03 37 25.2	+0.1
	292nm,1.2s						
BKB	**Balikpapan**	**12.17**	**56**	P	Pn	03 37 30.8	+1.0
	90nm,0.5s						

*NEIC **03** 03:40:59.2±1.3, 19°.0S±0°.1×169°.3E±0°.1, h232km±6km, mb4.0/9, Error ellipse: s-maj=23.0km s-min=10.3km az=153.0*
*IDC **03** 03:41:00.5±1.9, 19°.20S×169°.48E, h260km±23km, mb3.6/10, mbtmp4.2/12, Error ellipse: s-maj=40.4km s-min=14.0km az=151.0*
*NOU **03** 03:41:00.4, 19°.11S×169°.39E, h222km, MLv3.9/10, Vanuatu Islands*

ISC 03 03:40:59.6±0.6, 19°.10S±0°.07×169°.37E±0°.09, h246km, n45, σ1§15/47, mb3.9/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.58**	**325**	P	**Pn**	**03 41 37.8**	**-0.4**
DVP	**Devils Point**	**1.77**	**320**	P	**Pn**	**03 41 38.7**	**-1.1**
LIFNC	**LIFOU**	**2.61**	**230**		**Pn**	**03 41 46.8**	**-0.9**
LIFNC	**LIFOU**	**2.61**	**230**	P	**Pn**	**03 41 47.0**	**-0.7**
MARNC	**Mare, Loyalty**	**2.68**	**208**		**Pn**	**03 41 47.0**	**-1.4**
MARNC				S	**S**	**03 42 24.4**	**-2.7**
MARNC	**Mare, Loyalty**	**2.68**	**208**	P	**Pn**	**03 41 47.6**	**-0.9**
YATNC	**Mamie plateau,**	**3.75**	**218**	P	**Pn**	**03 41 59.3**	**-1.0**
DZM	**Mont Dzumac**	**4.03**	**222**	P	**Pn**	**03 42 04.2**	**+0.5**
	6.5nm,0.4s,baz=148,slow=13,SNR=23						
DZM				S	**S**	**03 42 51.7**	**-2.9**
	7.7nm,0.3s,baz=143,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**4.03**	**222**		**Pn**	**03 42 04.4**	**+0.7**
DZM	**Mont Dzumac**	**4.03**	**222**	P	**Pn**	**03 42 03.8**	**+0.1**
OUENC	**Ouen Island, N**	**4.06**	**215**	Pn	**Pn**	**03 42 05.0**	**+1.1**
OUENC	**Ouen Island, N**	**4.06**	**215**	P	**Pn**	**03 42 04.3**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.00**	**252**		**Pn**	**03 42 14.8**	**-0.5**
MSVF	**Nonsavu**	**8.35**	**82**	P	**Pn**	**03 42 58.4**	**+0.9**
	25nm,0.7s,baz=262,slow=12,SNR=10						
EIDS	**Eidsvold**	**18.04**	**246**	P	**P**	**03 44 54.5**	**+1.5**
EIDS				IAmb	IAmb	03 44 58.8	
	comp=Z,3.9nm,0.8s						
CTA	**Charters Tower**	**21.80**	**264**	P	**P**	**03 45 33.5**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=100,slow=9.9,SNR=4.0						
	comp=Z,1.5nm,0.3s						
MRNZ	**Matariki Terra**	**22.42**	**173**	P	**P**	**03 45 38.8**	**+1.2**
LTZ	**Lake Taylor**	**23.74**	**175**	P	**P**	**03 45 50.5**	**+0.8**
STKA	**Stephens Creek**	**28.03**	**238**	P	**P**	**03 46 29.5**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=45,slow=6.6,SNR=7.3						
	comp=Z,2.8nm,0.8s						
STKA	**Stephens Creek**	**28.03**	**238**	P	**P**	**03 46 30.2**	**+1.9**
WR0	**Warramunga Arr**	**32.80**	**263**	P	**P**	**03 47 09.9**	**-0.4**
WR0				IAmb	IAmb	03 47 21.5	
	comp=Z,4.5nm,1.1s						
WB0	**Warramunga Arr**	**32.96**	**263**	P	**P**	**03 47 11.2**	**-0.4**
WB0				IAmb	IAmb	03 47 29.6	
	comp=Z,3.1nm,1.1s						
WB2	**Warramunga Arr**	**32.98**	**263**	P	**P**	**03 47 11.2**	**-0.7**
WB2				IAmb	IAmb	03 47 23.7	
	comp=Z,3.6nm,0.9s						
WRA	**Warramunga Arr**	**32.99**	**263**	P	**P**	**03 47 11.3**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=94,slow=8.4,SNR=13						
	comp=Z,1.3nm,0.6s						
WRA	**Warramunga Arr**	**32.99**	**263**	P	**P**	**03 47 11.3**	**-0.7**
AS31	**Alice Springs**	**33.28**	**256**	P	**P**	**03 47 14.6**	**+0.2**
ASAR	**Alice Springs**	**33.28**	**256**	P	**P**	**03 47 14.6**	**+0.1**
	comp=Z,8.2nm,0.5s,baz=83,slow=8.9,SNR=123						
	comp=Z,8.2nm,0.5s						
ASAR	**Alice Springs**	**33.28**	**256**	P	**P**	**03 47 14.3**	**-0.1**
KNRA	**Kununurra**	**38.84**	**269**	P	**P**	**03 48 01.1**	**-0.3**
ASAJ	**Asahikawa**	**67.51**	**339**	P	**P**	**03 51 30.5**	**+1.3**
	comp=Z,3.4nm,0.6s,baz=328,slow=8.5,SNR=4.9						
	comp=Z,3.4nm,0.6s						
PETK	**Petropavlovsk-**	**72.61**	**353**	P	**P**	**03 51 59.5**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=113,slow=3.4,SNR=6.6						
	comp=Z,2.7nm,0.8s						
KLR	**Kul'dur**	**75.79**	**336**	P	**P**	**03 52 19.3**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=183,slow=7.2,SNR=3.6						
	comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**87.18**	**323**	P	**P**	**03 53 18.7**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=144,slow=5.9,SNR=7.9						
	comp=Z,1.1nm,0.8s						
NVAR	**Mina Array Bea**	**88.61**	**48**	P	**P**	**03 53 24.0**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=235,slow=8.7,SNR=3.5						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**90.06**	**17**	P	**P**	**03 53 29.0**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=237,slow=5.4,SNR=10						
	comp=Z,0.4nm,0.7s						
WTNK	**Soaring Height**	**90.07**	**52**	P	**P**	**03 53 30.0**	**-1.8**
WTNK				IAmb	IAmb	03 53 31.9	
	comp=Z,3.1nm,0.7s						
YKA	**Yellowknife Ar**	**100.49**	**27**	P	**Pdif**	**03 54 19.2**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=261,slow=4.9,SNR=4.0						
ARCES	**ARCESS Array B**	**124.96**	**345**	PKP	**PKPdf**	**03 59 28.7**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=67,slow=2.5,SNR=11						
GERES	**GERESS Array B**	**144.43**	**332**	PKP	**PKPab**	**04 00 05.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=48,slow=2.0,SNR=4.0						
ABTA	**Abfaltersbach**	**146.52**	**331**	*e*PKP	**PKPdf**	**04 00 10.6**	**+0.4**
	comp=Z,1.0nm,0.4s						
WTTA	**Wattenberg**	**146.53**	**332**	*e*PKP	**PKPdf**	**04 00 11.7**	**+1.3**
	comp=Z,0.8nm,0.3s						
MOTA	**Moosalm**	**146.70**	**333**	*e*PKP	**PKPdf**	**04 00 12.0**	**+1.4**
	comp=Z,0.5nm,0.3s						
SQTA	**Sankt Quirin**	**146.75**	**332**	*e*PKP	**PKPdf**	**04 00 12.0**	**+1.4**
	comp=Z,1.3nm,0.3s						
FETA	**Feichten**	**147.11**	**333**	*e*PKP	**PKPbc**	**04 00 13.4**	**-0.5**
	comp=Z,1.4nm,0.5s						
DAVA	**Damuels**	**147.27**	**334**	*e*PKP	**PKPdf**	**04 00 11.2**	**-0.4**
	comp=Z,0.4nm,0.2s						

*IDC **03** 03:42:18.7±1.7, 30°.03S×177°.67W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=74.0km s-min=40.4km az=177.0*
ISC 03 03:42:20.9±1.6, 29°.2S±0°.4×177°.5W±0°.4, h35km, n16, σ3§31/7, mb3.9/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.24**	**255**	P	P	03 49 12.2	0.0
	1.5nm,0.7s,baz=98,slow=11,SNR=4.1						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**43.67**	**265**	P	P	03 50 23.3	+0.7
	0.4nm,0.5s,baz=104,slow=7.4,SNR=6.0						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.54**	**271**	P	**P**	**03 50 30.5**	**+0.9**
	0.8nm,0.4s,baz=111,slow=7.9,SNR=17						
	0.8nm,0.4s						
H03S2	**Juan Fernandez**	**80.76**	**123**	T	T	05 23 45.8	
	baz=238,slow=74,SNR=8.6						
H03S1	**Juan Fernandez**	**80.77**	**124**	T	T	05 23 47.1	
	baz=238,slow=74,SNR=8.6						
H03S3	**Juan Fernandez**	**80.78**	**123**	T	T	05 23 45.9	
	baz=238,slow=74,SNR=9.6						
H03N3	**Juan Fernandez**	**80.94**	**123**	T	T	05 23 55.2	
	baz=244						
H03N2	**Juan Fernandez**	**80.94**	**123**	T	T	05 23 57.6	
	baz=244,slow=74,SNR=3.8						
H03N1	**Juan Fernandez**	**80.96**	**123**	T	T	05 23 59.7	
	baz=244,slow=74,SNR=5.7						
H10N3	**ASCENSION HYDR**	**39.72**	**153**	T	T	06 37 35.0	
	baz=204,slow=75,SNR=8.2						
H10N1	**ASCENSION HYDR**	**39.73**	**153**	T	T	06 37 35.3	
	baz=204,slow=75,SNR=8.0						
H10N2	**ASCENSION HYDR**	**39.74**	**153**	T	T	06 37 36.4	
	baz=204,slow=75,SNR=11						
FINES	**FINESS Array B**	**144.13**	**341**	PKP	**PKiKP**	**04 01 56.6**	**+0.8**
	1.4nm,0.4s,baz=54,slow=3.2,SNR=19						
FINES				pPKP	**sPKPdf**	**04 02 12.0**	**+5.6**
	0.9nm,0.4s,baz=50,slow=3.6,SNR=1.7						
AKASG	**Malin Array Be**	**150.58**	**324**	PKPbc	**PKPab**	**04 02 13.4**	**-2.1**
	0.4nm,0.4s,baz=45,slow=3.0,SNR=7.0						
AKASG				pPKPbc	**sPKPab**	**04 02 29.2**	**-0.3**
	0.6nm,0.6s,baz=49,slow=3.1,SNR=3.4						
BRTR	**Keskin Array B**	**152.40**	**301**	PKPbc	**PKPab**	**04 02 21.4**	**-2.4**
	0.4nm,0.6s,baz=123,slow=3.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**164.06**	**177**	PKPab	**PKPab**	**04 03 13.1**	**-1.2**
	0.5nm,0.9s,baz=181,slow=3.6,SNR=2.1						

*IDC **03** 04:04:00.0±4.3, 4°.70S×153°.81E, h110km±31km, mb3.6/6, mbtmp4.0/6, MS2.9/5, Error ellipse: s-maj=44.8km s-min=20.1km az=102.0*
ISC 03 04:03:58.9±1.2, 4°.7S±0°.1×153°.9E±0°.1, h100km, n11, σ1§10/11, mb3.7/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.93**	**280**	P	**Pn**	**04 04 31.1**	**+0.5**
	159nm,0.3s,baz=216,slow=2.0,SNR=27						
KRVT				S	**Sn**	**04 04 54.5**	**-0.2**
	396nm,0.5s,baz=3.2,slow=23,SNR=5.7						
PMG	**Port Moresby**	**8.21**	**235**	P	**Pn**	**04 05 57.5**	**+2.2**
	63nm,0.4s,baz=41,slow=9.8,SNR=16						
PMG				S	**Sn**	**04 07 25.2**	**-1.3**
	48nm,0.6s,baz=267,slow=21,SNR=3.0						
PMG				LR	LR	04 09 16.8	
	comp=Z,54nm,18.9s,baz=43,slow=39						
CTA	**Charters Tower**	**17.07**	**205**	LR	LR	04 14 33.9	
	comp=Z,35nm,19.1s,baz=26,slow=37						
WRA	**Warramunga Arr**	**24.39**	**230**	P	**P**	**04 09 07.4**	**-0.7**
	6.9nm,0.7s,baz=55,slow=9.9,SNR=77						
WRA				LR	LR	04 19 09.8	
	comp=Z,31nm,19.6s,baz=78,slow=38						
	6.9nm,0.7s						
ASAR	**Alice Springs**	**27.02**	**224**	P	**P**	**04 09 30.9**	**-1.0**
	2.4nm,0.6s,baz=56,slow=8.9,SNR=36						
	2.4nm,0.6s						
STKA	**Stephens Creek**	**29.45**	**202**	P	**P**	**04 09 52.9**	**-0.4**
	1.4nm,0.6s,baz=23,slow=16,SNR=3.6						
STKA				LR	LR	04 21 08.7	
	comp=Z,36nm,21.4s,baz=22,slow=35						
	1.4nm,0.6s						
DAV	**Davao City (W)**	**30.59**	**292**	LR	LR	04 23 10.6	
	comp=Z,22nm,18.2s,baz=7.5,slow=38						
MKAR	**Makanchi Array**	**80.95**	**319**	P	**P**	**04 16 03.1**	**+0.6**
	0.4nm,0.5s,baz=96,slow=8.1,SNR=7.9						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**81.60**	**22**	P	**P**	**04 16 05.9**	**+0.4**
	0.4nm,0.9s,baz=246,slow=5.9,SNR=6.8						
	0.4nm,0.9s						
ZALV	**Zalesovo Beam**	**81.65**	**326**	P	**P**	**04 16 05.6**	**-0.3**
	0.5nm,0.5s,baz=111,slow=8.1,SNR=3.6						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**151.32**	**289**	PKPbc	**PKPbc**	**04 23 41.1**	**-0.8**
	0.9nm,0.4s,baz=85,slow=1.9,SNR=24						

*JMA **03** 04:07:09.0±0.1, 34°.1N±0°.3×139°.4E±0°.3, h14km, MV3.3/38, NEAR MIYAKEJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKEJIMA ISLAND .
ISC 03 04:07:09.1±0.9, 34°.12N±0°.04×139°.39E±0°.05, h16km±7km, n16, σ0§51/25, 8D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMYK	**Miyake Tsubota**	**0.14**	**114**	P	**Pg**	**04 07 12.7**	**-0.3**
JMYK				*e*S	**Sb**	**04 07 16.1**	**-0.3**
JKO	**Kozu shima**	**0.22**	**288**	⇓*i*P	**Pg**	**04 07 13.8**	**-0.3**
JKO				⇓S	**Sg**	**04 07 17.5**	**0.0**
JNIO	**Niijimaoohara**	**0.25**	**338**	*i*P	**Pg**	**04 07 14.8**	**+0.1**
JNIO				*e*S	**Sg**	**04 07 19.1**	**+0.6**
JSKK	**Shikinejimakit**	**0.26**	**326**	⇓*i*P	**Pg**	**04 07 14.7**	**-0.1**
JSKK				⇓*e*S	**Sg**	**04 07 19.1**	**+0.4**
JMKN	**Mikurajimanish**	**0.28**	**143**	⇓*i*P	**Pg**	**04 07 15.2**	**+0.1**
JMKN				⇓*e*S	**Sb**	**04 07 20.0**	**-0.3**
JTHY	**Toshimahigashi**	**0.41**	**348**	*i*P	**Pg**	**04 07 17.9**	**+0.4**
JTHY				S	**Sb**	**04 07 24.5**	**+0.4**
JIM2	**Oshima 3**	**0.60**	**3**	*i*P	**Pg**	**04 07 21.1**	**+0.1**
JIM2				S	**Sb**	**04 07 29.9**	**+0.4**
JIZS	**Izushimoda**	**0.73**	**325**	⇓*i*P	**Pg**	**04 07 22.7**	**-0.7**
JIZS				⇓S	**Sg**	**04 07 32.9**	**-0.2**
KTJ3	**Kamata3**	**0.85**	**342**	P	**Pb**	**04 07 24.7**	**-0.9**
KTJ3				*e*S	**Sg**	**04 07 36.5**	**-0.5**
JHJ2	**Mitsune**	**1.07**	**160**	P	**Pb**	**04 07 28.9**	**-0.3**
JSG	**Sagara**	**1.14**	**299**	P	**Pn**	**04 07 30.5**	**+0.1**
JGF	**Kuroka**	**2.23**	**312**	P	**Pn**	**04 07 46.1**	**+0.6**
INU	**Inuyama**	**2.31**	**303**	P	**Pn**	**04 07 46.5**	**0.0**
MAJO	**Matsushiro**	**2.60**	**339**	P	**Pb**	**04 07 54.8**	**-0.6**
JMN	**Monobe**	**4.60**	**267**	P	**Pn**	**04 08 19.1**	**+1.1**
JHS	**Saijyo**	**5.25**	**281**	P	**Pn**	**04 08 27.7**	**+0.7**

*IDC **03** 04:26:45.0±0.7, 3°.40S×139°.40E, h0km, mb4.3/15, mbtmp4.4/17, ML4.4/2, MS3.5/16, Error ellipse: s-maj=30.7km s-min=14.8km az=77.0*
*NEIC **03** 04:26:52.5±1.4, 3°.57S±0°.08×139°.32E±0°.08, h52km±7km, mb4.8/46, Error ellipse: s-maj=15.2km s-min=7.0km az=225.0*
*DJA **03** 04:26:52.6±0.4, 4°.S±4°×13°.9E±°, h87km±4km, M4.8/23, mb4.7/23, mB5.0/4, MLv5.0/7, Mw(mB)4.3/4, MwMwp5.3/1, Mwp5.5/1*
ISC 03 04:26:54.2±0.4, 3°.56S±0°.04×139°.18E±0°.06, h73km, n131, σ1§73/125, mb4.7/36, 3C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAMI	**Wamena**	**0.57**	**235**	P	**Pn**	**04 27 10.2**	**+2.2**
WAMI				S	**Sn**	**04 27 22.0**	**+3.8**
GENI	**Genyem**	**1.37**	**46**	P	**Pn**	**04 27 15.7**	**-1.9**
GENI	**Genyem**	**1.37**	**46**	P	**Pn**	**04 27 15.2**	**-2.4**
SMPI	**Sarmi**	**1.63**	**343**	P	**Pn**	**04 27 19.4**	**-1.6**
SMPI				S	**Sn**	**04 27 41.6**	**+0.4**
SRPI	**Serui, Papua**	**3.38**	**300**	P	**Pn**	**04 27 47.0**	**+2.3**
RKPI	**Ransiki, Papua**	**5.40**	**292**	P	**Pn**	**04 28 13.9**	**+1.7**
	83nm,0.6s,14μm1.1nm						
FAKI	**Fak Fak**	**6.95**	**275**		**Pn**	**04 28 34.4**	**+0.9**
FAKI	**Fak Fak**	**6.95**	**275**	P	**Pn**	**04 28 34.6**	**+1.1**
FAKI	**Fak Fak**	**6.95**	**275**	P	**Pn**	**04 28 34.9**	**+1.4**
	51nm,0.7s,0.5nm						
SIJI	**Sorong**	**8.35**	**288**	Pn	**Pn**	**04 28 51.6**	**-1.0**
	1.2nm,0.3s,baz=73,slow=7.9,SNR=6.1						
SIJI				Sn	**Sn**	**04 30 24.2**	**-1.2**
	baz=145,slow=24						
SIJI				LR	LR	04 32 56.1	
	comp=Z,119nm,18.5s,baz=126,slow=44						
	5.5nm,0.3s						
SAUI	**Saumlaki**	**8.99**	**240**	P	**Pn**	**04 29 02.3**	**+1.0**
	339nm,1.2s						
BNDI	**Bandanaira**	**9.30**	**264**	P	**Pn**	**04 29 07.5**	**+1.9**
	499nm,1.9s						
PMG	**Port Moresby**	**9.82**	**127**	LR	LR	04 33 14.1	
	comp=Z,178nm,18.2s,baz=332,slow=40						
KDU	**Kakadu**	**11.24**	**216**	P	**Pn**	**04 29 31.6**	**-0.4**
MTN	**Manton Dam**	**12.19**	**220**	Pn	**Pn**	**04 29 43.8**	**-1.2**
MTN	**Manton Dam**	**12.19**	**220**	P	**Pn**	**04 29 44.0**	**-1.0**
KRVT	**Keravat (AS076**	**12.83**	**94**	LR	LR	04 34 09.3	
	comp=Z,204nm,18.8s,baz=222,slow=35						
KNRA	**Kununurra**	**15.82**	**220**		**Pn**	**04 30 31.7**	**-1.0**
KNRA				IAmb	IAmb	04 30 39.5	
	comp=Z,87nm,0.8s						
KNRA	**Kununurra**	**15.82**	**220**	P	**Pn**	**04 30 31.6**	**-1.0**
SOEI	**Soe**	**16.04**	**247**	Pn	**P**	**04 30 35.6**	**-2.1**
SOEI				IAmb	IAmb	04 30 45.0	
	comp=Z,86nm,0.7s						
SOEI	**Soe**	**16.04**	**247**	P	**P**	**04 30 36.9**	**-0.8**
SOEI	**Soe**	**16.04**	**247**	P	**P**	**04 30 36.2**	**-1.5**
	comp=Z,121nm,1.0s						
WB0	**Warramunga Arr**	**16.78**	**196**	Pn	**Pn**	**04 30 42.9**	**-1.7**
WB0				IAmb	IAmb	04 30 53.5	
	comp=Z,60nm,1.4s						
QIS	**Mount Isa**	**16.90**	**179**	P	**P**	**04 30 45.8**	**-1.3**
WRAB	**Tennant Creek**	**16.95**	**196**	P	**P**	**04 30 46.0**	**-1.5**
WRAB				IAmb	IAmb	04 30 52.2	
	comp=Z,50nm,0.5s						
WRAB	**Tennant Creek**	**16.95**	**196**	P	**Pn**	**04 30 45.4**	**-1.3**
WB2	**Warramunga Arr**	**16.95**	**196**	Pn	**P**	**04 30 45.8**	**-1.9**
WB2				IAmb	IAmb	04 30 52.0	
	comp=Z,42nm,0.8s						
WRA	**Warramunga Arr**	**16.96**	**196**	P	**Pn**	**04 30 45.0**	**-1.9**
	comp=Z,2.3nm,0.3s,baz=17,slow=13,SNR=66						
WRA				S	**Sn**	**04 33 44.7**	**-10**
	comp=Z,8.6nm,0.6s,baz=12,slow=22,SNR=4.5						
WRA				LR	LR	04 37 45.4	
	comp=Z,308nm,18.9s,baz=358,slow=38						
	comp=Z,8.5nm,0.4s						
WRA	**Warramunga Arr**	**16.96**	**196**	P	**Pn**	**04 30 43.1**	**-3.8**
DAV	**Davao City (W)**	**17.20**	**308**	LR	LR	04 37 50.1	
	comp=Z,28nm,19.7s,baz=122,slow=38						
MMRI	**Maumere**	**17.58**	**253**	P	**P**	**04 30 54.6**	**-0.1**
	comp=Z,58nm,0.7s						
MRSI	**Marisa**	**17.69**	**283**	P	**P**	**04 30 55.4**	**-0.5**
	comp=Z,46nm,1.3s						
APSI	**Ampana**	**17.72**	**278**	P	**Pn**	**04 30 56.3**	**+0.1**
	comp=Z,76nm,1.2s,comp=Z,763nm						
CTA	**Charters Tower**	**17.82**	**158**	P	**Pn**	**04 31 00.3**	**+2.8**
	comp=Z,17nm,1.0s,baz=339,slow=11,SNR=13						
CTA				LR	LR	04 38 18.5	
	comp=Z,208nm,19.3s,baz=42,slow=39						
CTAO	**Charters Tower**	**17.82**	**158**	P	**P**	**04 30 55.9**	**-1.4**
GUMO	**Guam**	**17.95**	**18**	LR	LR	04 38 16.5	
	comp=Z,48nm,18.4s,baz=168,slow=39						
TOLI2	**Tolitoli**	**18.97**	**284**	P	**Pn**	**04 31 10.5**	**-0.8**
TOLI2	**Tolitoli**	**18.97**	**284**	P	**Pn**	**04 31 12.6**	**+1.3**
BNSI	**Bone**	**19.05**	**267**	P	**Pn**	**04 31 10.4**	**-1.9**
	comp=Z,20nm,1.1s						
SPSI	**Sidrap Palu**	**19.38**	**268**	P	**P**	**04 31 14.0**	**-0.3**
	comp=Z,21nm,1.1s						
FITZ

MKAR Makanchi Array 70.75 322 P **P** **04 38 03.2 +0.5**
comp=Z,4.1nm,1.0s,baz=106,slow=7.6,SNR=20
comp=Z,4.1nm,1.0s
MKAR Makanchi Array 70.75 322 P **P** **04 38 03.0 +0.3**
MAKZ Makanchi 70.94 322 P **P** **04 38 03.5 -0.4**
MAKZ Makanchi 70.94 322 P **P** **04 38 04.3 +0.4**
MAKZ pP **pP** **04 38 18.0 -5.3**
TARG Taragay, Kyrgy 71.52 316 P **P** **04 38 08.1 +0.2**
KSH Kashi 72.01 313 P **P** **04 38 12.9 +2.3**
KSH S **SKiKP** **04 47 38.9 -2.3**
KSH pmax pmax
comp=Z,19nm,1.1s
KSH LR LR
comp=N,140nm,13.1s
KSH LR LR
comp=E,240nm,15.1s
KSH LR LR
comp=Z,200nm,11.7s
NIL Nilore 72.21 307 P **P** **04 38 12.7 +0.9**
NIL IAmb IAmb 04 38 13.6
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 72.90 330 P **P** **04 38 14.6 -0.8**
comp=Z,0.4nm,0.5s,baz=160,slow=9.3,SNR=3.9
comp=Z,0.4nm,0.5s
TKM2 Tokmak 2 73.48 317 P **P** **04 38 19.8 +0.5**
SNR=5.3
UCH Uchtor 73.98 316 P **P** **04 38 24.2 +1.5**
SNR=12
AAK Ala-Archa 74.14 316 P **P** **04 38 24.2 +1.0**
comp=Z,2.8nm,0.9s,baz=109,slow=3.8,SNR=5.7
comp=Z,2.8nm,0.9s
AAK Ala-Archa 74.14 316 P **P** **04 38 23.6 +0.5**
USP Ospenovka 74.36 317 P **P** **04 38 25.6 +1.3**
SNR=11
AML Almayashu 74.53 315 P **P** **04 38 27.6 +1.9**
SNR=22
EKS2 Erkin-Say 74.65 316 P **P** **04 38 27.6 +1.5**
SNR=6.3
KURBB Kurchatov Arra 74.69 325 P **P** **04 38 26.4 +0.4**
comp=Z,1.2nm,0.2s,baz=117,slow=5.7,SNR=7.8
comp=Z,1.2nm,0.2s
VNDA Vanda 74.90 175 P **P** **04 38 28.1 +1.4**
comp=Z,1.6nm,0.7s,baz=338,slow=6.4,SNR=6.9
VNDA LR LR 05 09 50.5
comp=Z,36nm,19.8s,baz=349,slow=34
comp=Z,1.6nm,0.7s
KBL Kabul 75.81 307 P **P** **04 38 33.2 +0.2**
KBL IAmb IAmb 04 38 34.1
comp=Z,6.3nm,0.8s
GAR Garm 76.01 311 P **P** **04 38 34.8 +0.8**
CHGR Chuyangaron 76.78 311 P **P** **04 38 39.0 +0.7**
BVAR Borovoye Array 80.27 325 P **P** **04 38 57.5 +0.4**
comp=Z,3.3nm,0.6s,baz=116,slow=7.7,SNR=26
comp=Z,3.3nm,0.6s
BRVK Borovoye 80.34 325 P **P** **04 38 58.0 +0.6**
NRIK Noril'sk 80.66 344 P **P** **04 39 00.0 +1.2**
NRIK IAmb IAmb 04 39 06.9
comp=Z,10nm,0.8s
J20K Nowinta River 83.24 24 P **P** **04 39 12.9 +0.5**
J20K IAmb IAmb 04 39 13.9
comp=Z,12nm,1.2s
RC01 Rabbit Creek A 84.07 28 P **P** **04 39 16.4 -0.3**
RC01 IAmb IAmb 04 42 07.4
comp=Z,22nm,1.6s
GEYT Alibeck 85.13 308 P **P** **04 39 23.9 +1.2**
comp=Z,7.3nm,0.8s,baz=129,slow=2.1,SNR=16
comp=Z,7.3nm,0.8s
GEYT Alibeck 85.13 308 **P** **04 39 23.5 +0.8**
GYA0B ALIBECK ARRAY 85.13 308 **P** **04 39 23.3 +0.6**
SCM Sheep Creek Mo 85.39 27 P **P** **04 39 23.2 -0.2**
ABKAR Akbulak array 85.67 320 P **P** **04 39 24.5 -0.5**
ABKAR IAmb IAmb 04 39 26.4
comp=Z,5.9nm,0.8s
ABKAR Akbulak array 85.67 320 P **P** **04 39 24.1 -0.9**
DHY Denali Highway 85.72 26 P **P** **04 39 24.7 -0.4**
DHY IAmb IAmb 04 40 28.9
comp=Z,18nm,1.6s
WRH Wood River Hil 85.82 25 P **P** **04 39 24.6 -0.8**
CCB Clear Creek Bu 85.99 24 P **P** **04 39 25.4 -0.8**
CCB IAmb IAmb 04 39 26.3
comp=Z,3.7nm,0.8s
H24K Noodor Dome 86.31 23 P **P** **04 39 28.4 +0.5**
H24K IAmb IAmb 04 41 25.6
comp=Z,15nm,1.9s
QSPA South Pole Qui 86.39 180 P **P** **04 39 29.6 +1.1**
comp=Z,4.5nm,0.7s,baz=312,slow=2.1,SNR=13
comp=Z,4.5nm,0.7s
QSPA South Pole Qui 86.39 180 P **P** **04 39 29.4 +1.0**
QSPA IAmb IAmb 04 39 30.7
comp=Z,16nm,1.5s
IL31 86.40 24 P **P** **04 39 26.9 -1.3**
ILAR Eielson Array 86.40 24 P **P** **04 39 26.9 -1.5**
comp=Z,1.6nm,0.7s,baz=263,slow=4.4,SNR=20
ILAR LR LR 05 14 41.2
comp=Z,24nm,20.3s,baz=18,slow=33
comp=Z,1.6nm,0.7s
BMAR Burnt Mountain 88.00 22 P **P** **04 39 37.0 +0.9**
L27K Beaver Creek, 88.17 27 P **P** **04 39 37.7 +0.8**
L27K IAmb IAmb 04 39 38.7
comp=Z,5.8nm,1.2s
K27K Chicken 88.25 26 P **P** **04 39 38.1 +0.8**
K27K IAmb IAmb 04 39 40.2
comp=Z,5.6nm,1.1s
DAWY Dawson 89.42 26 P **P** **04 39 43.5 +0.7**
HYT Haines Junctio 89.82 29 P **P** **04 39 45.7 +0.9**
HYT IAmb IAmb 04 39 47.7
comp=Z,8.1nm,1.2s
AKH Akhalkalaki 96.61 311 P **P** **04 40 16.5 -0.1**
TORD Torodi Ar. Bea 136.94 285 PKP **PKiKP** **04 46 10.3 -1.2**
comp=Z,1.3nm,0.8s,baz=44,slow=1.8,SNR=6.2
KIC Kosan Boka 143.96 276⇓ *e*PKIKP **PKPdf** **04 46 21.2 -1.3**
comp=Z,3.8nm,0.7s
DBIC Dimbokro 144.06 276 PKP **PKPdf** **04 46 21.7 -0.9**
comp=Z,6.4nm,1.0s,baz=111,slow=4.6,SNR=6.6
TIC Toumodi 144.22 276⇓ *e*PKIKP **PKPdf** **04 46 21.7 -1.2**
comp=Z,18nm,1.0s
LIC Lamto 144.25 276⇓ *e*PKIKP PKPbc 04 46 21.3 0.0
comp=Z,15nm,0.9s
CPUP Villa Florida 146.26 153 PKPbc **PKiKP** **04 46 28.9 -1.5**
comp=Z,3.6nm,1.0s,baz=196,slow=4.7,SNR=5.9

*IDC **03** 04:33:34.7±3.5,5.°02S×153.°71E,h54km±29km, mb3.6/7, mbtmp3.9/7, Error ellipse: s-maj=39.7km s-min=19.2km az=44.0*
ISC 03 04:33:35.0±0.9,**5.°0S**±0.°2×**153.°7E**±0.°1,**h56**km,**n10,** σ1§**08/11, mb3.7/6, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.84**	**292**	P	**Pn**	**04 34 04.3**	**0.0**
	126nm,0.5s,baz=272,slow=8.2,SNR=6.4						
KRVT				S	**Sn**	**04 34 25.7**	**-0.7**
	324nm,0.6s,baz=244,slow=24,SNR=18						
DZM	**Mont Dzumac**	**20.95**	**145**	P	**P**	**04 38 13.4**	**-0.2**
	4.7nm,0.6s,baz=317,slow=19,SNR=6.2						
	4.7nm,0.6s						
WRA	**Warramunga Arr**	**24.01**	**230**	P	**P**	**04 38 46.2**	**+1.4**
	1.7nm,0.9s,baz=49,slow=9.9,SNR=1.4						
	1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**58.80**	**295**	P	**P**	**04 43 27.9**	**-0.3**
	0.8nm,0.3s,baz=101,slow=5.1,SNR=4.1						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**81.09**	**319**	P	**P**	**04 45 45.4**	**+1.0**
	0.5nm,0.8s,baz=116,slow=3.4,SNR=3.4						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**81.84**	**326**	P	**P**	**04 45 48.7**	**+0.6**
	0.7nm,0.5s,baz=153,slow=5.0,SNR=4.0						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**82.01**	**22**	P	**P**	**04 45 49.5**	**+0.7**
	0.5nm,0.8s,baz=243,slow=4.0,SNR=2.7						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**89.97**	**323**	P	**P**	**04 46 28.4**	**+0.1**
	0.8nm,0.7s,baz=87,slow=5.9,SNR=3.6						
	0.8nm,0.7s						
BDFB	**Brasilia**	**150.26**	**134**	PKPbc	**PKPbc**	**04 53 19.5**	**-1.7**
	1.2nm,0.7s,baz=283,slow=1.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**151.25**	**288**	PKPbc	**PKPbc**	**04 53 21.9**	**-1.5**
	1.4nm,0.8s,baz=56,slow=2.0,SNR=9.4						

*BJI **03** 04:38:34.2±0.0,30.°26N×131.°58E,h40km,mb4.3/29, mB4.6/16,Ms4.2/20,Ms7 4.2/19*
*MOS **03** 04:38:37.5±0.9,30.°56N×131.°12E,h40km,mb5.0/33,Error ellipse: s-maj=10.3km s-min=5.1km az=113.4*
*JMA **03** 04:38:38.8±0.1,30.°6N±0.°3×131.°2E±0.°8,h30km,MD4.5/39, MV4.5/39,NEAR TANEGASHIMA ISLAND*
JMA Felt II J1 at NEAR TANEGASHIMA ISLAND .
*NIED **03** 04:38:38.8,30.°57N×131.°23E,h30km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.12; $M_{\theta\theta}$0.78; $M_{\phi\phi}$-1.89; $M_{r\theta}$4.01; $M_{r\phi}$-2.68; $M_{\theta\phi}$4.54; Fault plane solution: $M_0$6.55000×10^{15} NP1:ϕs45.00000°, δ80.00000°, λ101.00000°. NP2:ϕs175.00000°, δ15.00000°, λ41.00000°.*
*NEIC **03** 04:38:38.8±1.4,30.°53N±0.°05×131.°14E±0.°04,h32km±5km, mb4.8/48 Error ellipse: s-maj=9.9km s-min=7.2km az=72.0*
*IDC **03** 04:38:38.8±2.7,30.°58N×131.°06E,h33km±20km,mb4.2/36, mbtmp4.4/42,ML3.9/6,MS3.9/57,Error ellipse: s-maj=14.3km s-min=10.4km az=75.0*
ISC 03 04:38:38.8±0.4,**30.°55N**±0.°03×**131.°19E**±0.°04,**h33**km±2km, **h33**km:**pP-P,n268,**σ1§**34**/256,**mb4.7**/84,**MS4.0**/57, **10C-26D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.21**	**300**	⇓P	**Pn**	**04 38 45.0**	**-0.4**
JTN				⇓S	**Sb**	**04 38 50.3**	**+0.3**
JTN	**Tanegashima 3**	**0.21**	**300**	A	A	04 38 45.0	
	comp=E,131nm,0.7s,comp=E,61nm,0.4s						
JMTN	**Minamitane**	**0.29**	**239**	⇓P	**Pb**	**04 38 46.5**	**+0.1**
JMTN				⇓*e*S	**Sb**	**04 38 52.5**	**+0.9**
JMTN	**Minamitane**	**0.29**	**239**	A	A	04 38 46.5	
	comp=E,128nm,1.0s,comp=E,199nm,0.9s						
JTSR	**Tashiro 2**	**0.66**	**339**	P	**Pn**	**04 38 51.3**	**-0.6**
JTSR				*e*S	**Sb**	**04 38 60.0**	**-1.0**
JTSR	**Tashiro 2**	**0.66**	**339**	A	A	04 38 51.3	
	comp=E,64nm,1.6s,comp=E,41nm,0.8s						
JYAK	**Yakushimahirau**	**0.67**	**243**	⇓P	**Pn**	**04 38 51.8**	**-0.1**
JYAK				⇓S	**Sn**	**04 39 01.2**	**-0.1**
JYAK	**Yakushimahirau**	**0.67**	**243**	A	A	04 38 51.8	
	comp=E,31nm,0.9s,comp=E,41nm,1.0s						
JKC	**Kuchinoerabu**	**0.87**	**265**	⇓P	**Pb**	**04 38 55.2**	**-0.2**
JKC				⇓*e*S	**Sb**	**04 39 07.3**	**+0.6**
JKC	**Kuchinoerabu**	**0.87**	**265**	A	A	04 38 55.2	
	comp=E,26nm,2.0s,comp=E,31nm,1.4s						
JNAR	**Kushima--Naru**	**0.98**	**4**	*i* P	**Pn**	**04 38 56.6**	**+0.4**
JNAR				S	**Sn**	**04 39 08.8**	**-0.1**
JNAR	**Kushima--Naru**	**0.98**	**4**	A	A	04 38 56.6	
	comp=E,29nm,0.9s,comp=E,33nm,0.9s						
JNKG	**Nichinankitago**	**1.12**	**8**	*i* P	**Pn**	**04 38 58.8**	**+0.7**
JNKG				*e*S	**Sb**	**04 39 14.8**	**+0.9**
JNKG	**Nichinankitago**	**1.12**	**8**	A	A	04 38 58.8	
	comp=E,26nm,0.8s,comp=E,21nm,1.6s						
JSU	**Suzuyama**	**1.15**	**327**	Pn	**Pn**	**04 38 58.6**	**0.0**
JSU				Sn	**Sn**	**04 39 13.5**	**+0.4**
JSU	**Suzuyama**	**1.15**	**327**	P	**Pn**	**04 38 58.8**	**+0.2**
JSU	**Suzuyama**	**1.15**	**327**	*i* P	**Pn**	**04 38 58.7**	**+0.1**
JSU	**Suzuyama**	**1.15**	**327**	A	A	04 38 58.7	
	comp=E,10.0nm,1.5s,comp=E,11nm,4.6s						
JNN	**Nakanoshima**	**1.34**	**239**	⇓*i*P	**Pb**	**04 39 02.3**	**-1.1**
JNN				⇓*e*S	**Sb**	**04 39 20.3**	**+0.1**
JNN	**Nakanoshima**	**1.34**	**239**	A	A	04 39 02.3	
	comp=E,24nm,1.0s,comp=E,20nm,1.3s						
JTZ	**Takazaki**	**1.35**	**356**	*i* P	**Pn**	**04 39 01.7**	**+0.3**
JTZ				*e*S	**Sb**	**04 39 20.5**	**0.0**
JTZ	**Takazaki**	**1.35**	**356**	A	A	04 39 01.7	
	comp=E,16nm,2.5s,comp=E,17nm,1.5s						
JTZ	**Takazaki**	**1.35**	**356**	P	**Pn**	**04 39 01.7**	**+0.3**
JZO	**Okuchi**	**1.67**	**342**	A	A	04 39 06.8	
	comp=E,7.0nm,6.5s,comp=E,6.0nm,0.9s						
JTSN	**Tsuno**	**1.71**	**9**	A	A	04 39 07.2	
	comp=E,7.0nm,3.5s,comp=E,4.0nm,1.3s						
JHHC	**Hyugahichiya**	**1.93**	**11**	A	A	04 39 10.2	
	comp=E,7.0nm,2.0s						
JKIT	**Kitakata**	**2.08**	**6**	A	A	04 39 12.6	
	comp=E,5.0nm,2.4s,comp=E,6.0nm,3.1s						
JHD	**Hondo**	**2.11**	**335**	A	A	04 39 13.3	
	comp=E,6.0nm,1.8s,comp=E,5.0nm,3.9s						
JZK	**Kikaishima**	**2.47**	**206**	A	A	04 39 18.8	
	comp=E,16nm,4.0s,comp=E,11nm,2.4s						
JNU	**Nakatsue**	**2.58**	**354**	Pn	**Pn**	**04 39 19.1**	**+0.8**
	35nm,0.3s,baz=217,slow=2.4,SNR=176						
JNU				Sn	**Sn**	**04 39 49.7**	**+1.2**
	55nm,0.3s,baz=40,slow=23,SNR=4.6						
JNU				LR	LR	04 40 33.4	
	comp=Z,1μm,20.7s,baz=198,slow=45						
	199nm,0.6s						
JNU	**Nakatsue**	**2.58**	**354**	Pn	**Pn**	**04 39 18.5**	**+0.2**
JNU	**Nakatsue**	**2.58**	**354**	P	**Pn**	**04 39 19.1**	**+0.8**
JBEP	**Beppuamama**	**2.79**	**4**	A	A	04 39 22.6	
	comp=E,8.0nm,1.3s,comp=E,6.0nm,1.7s						
JMN	**Monobe**	**3.90**	**35**	Pn	**Pn**	**04 39 36.7**	**+0.2**
JMN	**Monobe**	**3.90**	**35**	P	**Pn**	**04 39 36.8**	**+0.3**
JTU	**Tsushima**	**4.25**	**340**	Pn	**Pn**	**04 39 42.2**	**+1.1**
JTU	**Tsushima**	**4.25**	**340**	P	**Pn**	**04 39 42.0**	**+0.9**
JOW	**Kunigami**	**4.50**	**215**	Pn	**Pn**	**04 39 44.5**	**-0.2**
	8.9nm,0.3s,baz=103,slow=21,SNR=16						
JOW				Sn	**Sn**	**04 40 35.6**	**-0.4**
	22nm,0.3s,baz=208,slow=29,SNR=2.3						
	24nm,0.3s						
JOW	**Kunigami**	**4.50**	**215**	P	**Pn**	**04 39 44.6**	**-0.2**
JMZ	**Minamidaito 2**	**4.71**	**180**	Pn	**Pn**	**04 39 47.4**	**-0.1**
JMZ	**Minamidaito 2**	**4.71**	**180**	P	**Pn**	**04 39 47.4**	**-0.1**
JHS	**Saijyo**	**4.72**	**20**	Pn	**Pn**	**04 39 48.2**	**+0.4**
JHS	**Saijyo**	**4.72**	**20**	P	**Pn**	**04 39 48.4**	**+0.7**
TJN	**Taejon**	**6.63**	**332**	Pn	**Pn**	**04 40 14.9**	**+0.9**
TJN	**Taejon**	**6.63**	**332**	P	**Pn**	**04 40 15.8**	**+1.9**
TJN	**Taejon**	**6.63**	**332**	*de*P	**Pn**	**04 40 15.5**	**+1.6**
INU	**Inuyama**	**6.84**	**44**	Pn	**Pn**	**04 40 17.9**	**+1.1**
INU	**Inuyama**	**6.84**	**44**	P	**Pn**	**04 40 18.0**	**+1.1**
JGF	**Kuroka**	**7.22**	**44**	Pn	**Pn**	**04 40 22.1**	**+0.1**
JGF	**Kuroka**	**7.22**	**44**	P	**Pn**	**04 40 22.3**	**+0.3**
KSRS	**Korea Array**	**7.40**	**339**	Pn	**Pn**	**04 40 26.6**	**+2.1**
	1.9nm,0.3s,baz=167,slow=13,SNR=19						
KSRS				LR	LR	04 43 32.4	
	comp=Z,1μm,19.5s,baz=160,slow=40						
KS19	**Wonju Array Si**	**7.46**	**339**		**Pn**	**04 40 25.9**	**+0.6**
JHJ	**Hachijo jima 2**	**7.74**	**68**	Pn	**Pn**	**04 40 30.8**	**+1.6**
	30nm,0.3s,baz=88,slow=19,SNR=7.1						
	65nm,0.3s						
JHJ2	**Mitsune**	**7.77**	**69**	P	**Pn**	**04 40 30.8**	**+1.3**
MAJO	**Matsushiro**	**8.36**	**43**	Pn	**Pn**	**04 40 38.5**	**+0.7**
MAJO	**Matsushiro**	**8.36**	**43**	P	**Pn**	**04 40 38.2**	**+0.5**
MAJO	**Matsushiro**	**8.36**	**43**	*de*P	**Pn**	**04 40 38.1**	**+0.4**
MJAR	**Matsushiro Arr**	**8.37**	**43**	Pn	**Pn**	**04 40 38.4**	**+0.7**
	0.3nm,0.3s,baz=190,slow=12,SNR=24						
	2.1nm,0.3s						
MJB9	**Matsu-Tunnel**	**8.37**	**42**		**Pn**	**04 40 39.3**	**+1.6**
JCJ	**Chichijima**	**10.23**	**107**	LR	LR	04 44 58.9	
	comp=Z,284nm,18.0s,baz=14,slow=37						
NJ2	**Nanjing**	**10.66**	**281**	⇑P	**Pn**	**04 41 11.8**	**+2.6**
NJ2				pP		04 41 16.0	
NJ2				sP		04 41 21.4	
NJ2				S	**Sn**	**04 43 15.2**	**+7.8**
NJ2				pmax	pmax		
	comp=Z,22nm,0.8s						
NJ2				LR	LR		
	comp=N,310nm,11.4s						
NJ2				LR	LR		
	comp=E,720nm,13.7s						
NJ2				LR	LR		
	comp=Z,1μm,13.3s						
TIA	**Tai'an**	**13.04**	**299**	P	**Pn**	**04 41 46.3**	**+4.6**
TIA				pmax	pmax		
	comp=Z,14nm,1.3s						
TIA				pmax	pmax		
	comp=Z,100nm,4.5s						
TIA				LR	LR		
	comp=N,390nm,13.2s						
TIA				LR	LR		
	comp=E,720nm,14.2s						
TIA				LR	LR		
	comp=Z,730nm,12.8s						
USRK	**Ussuriysk Ar.**	**13.64**	**2**	Pn	**Pn**	**04 41 53.5**	**+3.7**
	0.1nm,0.3s,baz=171,slow=10,SNR=3.5						
USRK				LR	LR	04 47 09.4	
	comp=Z,508nm,19.5s,baz=168,slow=38						
HNS	**HongShan**	**15.28**	**301**	⇓P	**P**	**04 42 15.1**	**-1.4**
HNS				S	**Sn**	**04 45 06.2**	**+6.0**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.4s						
HNS				LR	LR		
	comp=N,400nm,14.3s						
HNS				LR	LR		
	comp=E,630nm,16.7s						
HNS				LR	LR		
	comp=Z,640nm,15.7s						
BNX	**BinXian**	**15.45**	**350**	⇓P	**P**	**04 42 19.2**	**+0.8**
BNX				pmax	pmax		
	comp=Z,19nm,0.9s						
BNX				pmax	pmax		
	comp=Z,85nm,5.2s						
BJT	**Baijiatuau**	**15.47**	**312**	Pn	**Pn**	**04 42 14.6**	**+0.2**
BJT	**Baijiatuau**	**15.47**	**312**	P	**Pn**	**04 42 14.6**	**+0.2**
BJT				pmax	pmax		
	comp=Z,15nm,1.3s						
ASAJ	**Asahikawa**	**16.27**	**31**	Pn	**P**	**04 42 27.1**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=227,slow=25,SNR=4.8						
ASAJ				LR	LR	04 48 50.4	
	comp=Z,443nm,20.2s,baz=198,slow=38						
	comp=Z,2.9nm,0.4s						
YSS	**Yuzh-Sakhalins**	**18.66**	**25**	*e*P	**Pn**	**04 42 59.9**	**+5.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**18.66**	**1**	P	**Pn**	**04 42 54.2**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=190,slow=8.2,SNR=27						
KLR				LR	LR	04 50 07.1	
	comp=Z,260nm,19.4s,baz=178,slow=37						
	comp=Z,5.2nm,0.5s						
KLR	**Kul'dur**	**18.66**	**1**	*ce*P	**P**	**04 42 53.7**	**-0.2**
KLR				pmax	pmax		
	comp=Z,13nm,1.3s						
ENH	**Enshi**	**18.73**	**275**	P	**P**	**04 42 52.6**	**-2.1**
XAN	**Xi'an**	**19.14**	**286**	P	**Pn**	**04 43 00.8**	**+0.5**
XAN				pP	sP	04 43 10.6	-1.4
XAN				S	**S**	**04 46 36.0**	**+1.5**
XAN				pmax	pmax		
	comp=Z,12nm,1.3s						
XAN				LR	LR		
	comp=Z,1μm,14.9s						
XAN				LR	LR		
	comp=Z,1μm,14.3s						
XAN				LR	LR		
	comp=Z,1μm,14.1s						
BTO	**Baotou**	**19.89**	**306**	*e*P	**Pn**	**04 43 08.8**	**-0.4**
BTO				S	**S**	**04 46 50.0**	**+0.4**
BTO				LR	LR		
	comp=Z,2μm,14.7s						
BTO				LR	LR		
	comp=Z,2μm,15.7s						
HEH	**HeiHe**	**19.89**	**353**	*e*P	**P**	**04 43 07.2**	**0.0**
HEH				pmax	pmax		
	comp=Z,24nm,0.9s						
HEH				pmax	pmax		
	comp=Z,190nm,5.5s						
HEH				LR	LR		
	comp=Z,220nm,16.3s						
HEH				LR	LR		
	comp=Z,200nm,14.4s						
HEH				LR	LR		
	comp=Z,340nm,15.4s						
HIA	**Hailar**	**20.61**	**338**⇑	*e*P	**P**	**04 43 14.4**	**-0.8**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GUMO	**Guam**	**21.07**	**140**	LR	LR	04 51 21.0	
	comp=Z,110nm,18.4s,baz=348,slow=36						
ZEA	**Zeya**	**23.35**	**354**	*e*P	**P**	**04 43 42.3**	**-1.8**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.7s						
ZEA				MLR	MLR		
	comp=N,200nm,15.0s						
ZEA				MLR	MLR		
	comp=E,100nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
DAV	**Davao City (W)**	**23.94**	**194**	LR	LR	04 54 27.6	
	comp=Z,68nm,19.0s,baz=348,slow=40						
ULN	**Ulaanbaatar**	**25.31**	**320**	P	**P**	**04 44 01.9**	**-0.5**
ULN	**Ulaanbaatar**	**25.31**	**320**	*de*P	**P**	**04 44 02.7**	**+0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**25.66**	**319**	P	**P**	**04 44 04.1**	**-1.5**
	comp=Z,2.2nm,0.5s,baz=140,slow=9.8,SNR=18						
SONM				LR	LR	04 55 19.0	
	comp=Z,459nm,18.3s,baz=140,slow=39						
	comp=Z,2.2nm,0.5s						
GTA	**Gaotai**	**27.08**	**298**	*e*P	**P**	**04 44 19.7**	**+1.2**
GTA				pP	pP	04 44 25.6	-2.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TNCH	**TengChong**	**29.36**	**267**	⇑P	**P**	**04 44 37.3**	**-1.8**
TNCH				pP	pP	04 44 49.5	+1.0
TNCH				sP	sP	04 44 53.2	+0.9
TNCH				pmax	pmax		
	comp=Z,120nm,4.3s						
GOMU	**GeErMu**	**30.78**	**290**	P	**P**	**04 44 54.9**	**+3.2**
GOMU				S	**S**	**04 49 54.8**	**+1.6**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GOMU				LR	LR		
	comp=Z,120nm,13.6s						
GOMU				LR	LR		
	comp=Z,270nm,16.4s						
GOMU				LR	LR		
	comp=Z,390nm,16.2s						
SIJI	**Sorong**	**31.24**	**180**	LR	LR	04 55 59.0	
	comp=Z,156nm,20.5s,baz=282,slow=33						
YAK	**Yakutsk**	**31.51**	**359**	LR	LR	04 57 50.7	
	comp=Z,144nm,19.6s,baz=250,slow=37						
YAK	**Yakutsk**	**31.51**	**359**⇑	*e*P	**P**	**04 44 56.6**	**-0.7**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s						
YAK	**Yakutsk**	**31.51**	**359**	P	**P**	**04 44 55.5**	**-1.8**
YAK				pP	**pP**	**04 45 05.1**	**-1.7**
CMAR	**Chiang Mai Arr**	**31.61**	**255**	PcP	**PcP**	**04 47 52.5**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=98,slow=0.5,SNR=5.3						
CMAR				LR	LR	04 59 19.6	
	comp=Z,142nm,18.8s,baz=65,slow=39						
MA2	**Magadan**	**31.89**	**19**	LR	LR	04 59 02.8	
	comp=Z,125nm,18.5s,baz=212,slow=38						
FAKI	**Fak Fak**	**33.30**	**178**	P	**P**	**04 45 13.9**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**33.94**	**100**	T	T	05 21 19.3	
	baz=296,slow=75,SNR=516						
H11N1	**WAKE ISLAND Hy**	**33.94**	**100**	T	T	05 21 14.5	
	baz=296,slow=75,SNR=332						
H11N3	**WAKE ISLAND Hy**	**33.95**	**100**	T	T	05 21 15.5	
	baz=296,slow=75,SNR=417						
SEY	**Seymchan**	**35.15**	**17**	P	**P**	**04 45 30.1**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=228,slow=6.8,SNR=5.5						
	comp=Z,1.9nm,0.6s						
KAPI	**Kappang**	**37.02**	**199**	LR	LR	04 58 42.2	
	comp=Z,9.7nm,21.3s,baz=38,slow=32						
DGZ	**Jazzator, Alta**	**37.89**	**313**⇑	*e*P	**P**	**04 45 51.5**	**-1.4**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SHEM	**Shemya Is, Ala**	**38.21**	**42**	LR	LR	05 02 37.4	
	comp=Z,30nm,21.2s,baz=270,slow=38						
KRVT	**Keravat (AS076**	**39.98**	**146**	LR	LR	05 00 37.1	
	comp=Z,67nm,20.1s,baz=30,slow=33						
ZALV	**Zalesovo Beam**	**40.56**	**319**	P	**P**	**04 46 13.8**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=95,slow=7.2,SNR=5.8						
ZALV				LR	LR	05 04 21.6	
	comp=Z,290nm,18.9s,baz=92,slow=38						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**40.56**	**319**	P	**P**	**04 46 12.4**	**-2.5**
MK31	**Makanchi Array**	**40.79**	**308**	P	**P**	**04 46 15.8**	**-1.1**
MK31	**Makanchi Array**	**40.79**	**308**⇑	*e*

PMG Port Moresby 42.58 156 LR LR 05 01 26.1
comp=Z,108nm,21.2s,baz=314,slow=32

BILL Bilibino 42.76 19⇓*e*P **P** **04 46 33.1 +0.4**
BILL *PP **sP** **04 46 48.0 +1.8**
BILL 04 48 25.0
BILL S **S** **04 52 56.0 +1.8**
BILL SS SS 04 55 52.0 -13
BILL SSS SSS 04 56 48.0
BILL pmax pmax
comp=Z,7.0nm,1.7s
BILL MLR MLR
comp=Z,73nm,16.0s

KURK Kurchatov 43.64 313 P **P** **04 46 39.5 -0.5**
KURBB Kurchatov Arra 43.69 313 P **P** **04 46 39.5 -0.9**
comp=Z,3.7nm,0.7s,baz=99,slow=9.0,SNR=26
KURBB LR LR 05 06 13.3
comp=Z,270nm,19.7s,baz=179,slow=38
comp=Z,3.7nm,0.7s

TARG Taragay, Kyrgy 43.91 300 P **P** **04 46 41.6 -1.2**
TARG Taragay, Kyrgy 43.91 300 P **P** **04 46 41.6 -1.2**
TARG pmax pmax
comp=Z,6.0nm,0.7s

KSH Kashi 45.48 297 P **P** **04 46 58.9 +3.8**
KSH pmax pmax
comp=Z,5.0nm,1.2s
KSH LR LR
comp=Z,170nm,13.1s
KSH LR LR
comp=Z,220nm,11.7s
KSH LR LR
comp=Z,200nm,11.7s

NRIK Noril'sk 46.02 340 P **P** **04 46 56.8 -1.9**
comp=Z,7.0nm,0.7s,baz=114,slow=9.3,SNR=12
NRIK LR LR 05 08 08.1
comp=Z,272nm,20.6s,baz=147,slow=38
comp=Z,7.0nm,0.7s

NRIK Noril'sk 46.02 340 P **P** **04 46 56.8 -1.9**
NRIK IAmb IAmb 04 46 57.6
comp=Z,7.4nm,0.8s

NRIK Noril'sk 46.02 340*de*P **P** **04 46 56.9 -1.8**
NRIK pmax pmax
comp=Z,8.0nm,0.8s

AAK Ala-Archa 46.30 301 P **P** **04 47 01.4 -0.2**
comp=Z,1.6nm,0.5s,baz=131,slow=5.9,SNR=6.7
AAK LR LR 05 09 33.6
comp=Z,183nm,18.1s,baz=92,slow=40
comp=Z,1.6nm,0.5s

AAK Ala-Archa 46.30 301 P **P** **04 47 00.7 -0.9**
AAK Ala-Archa 46.30 301⇓*e*P **P** **04 47 01.6 0.0**
AAK pmax pmax
comp=Z,4.0nm,1.7s

AAK Ala-Archa 46.30 301 P **P** **04 47 01.4 -0.2**
HNR Honiara 48.40 141 LR LR 05 06 49.3
comp=Z,769nm,19.7s,baz=284,slow=35

NIL Nilore 48.63 290 P **P** **04 47 20.0 +0.4**
NIL pmax pmax
comp=Z,9.0nm,0.8s

BVAR Borovoye Array 48.91 316 P **P** **04 47 20.9 -0.5**
comp=Z,8.8nm,0.5s,baz=92,slow=9.0,SNR=50
BVAR LR LR 05 10 01.7
comp=Z,242nm,18.0s,baz=98,slow=39
comp=Z,8.8nm,0.5s

BRVK Borovoye 48.98 316 P **P** **04 47 20.8 -1.2**
BRVK Borovoye 48.98 316*d i*P **P** **04 47 21.4 -0.5**
BRVK pmax pmax
comp=Z,10.0nm,0.7s

BRVK Borovoye 48.98 316 P **P** **04 47 21.5 -0.4**
BRVK pP **pP** **04 47 30.9 -0.8**
KKAR Karatay Array 49.18 302 P **P** **04 47 22.0 -1.7**
KKAR Karatay Array 49.18 302 P **P** **04 47 22.0 -1.7**
WB0 Warramunga Arr 50.12 176 P **P** **04 47 30.3 -0.7**
WB0 IAmb IAmb 04 47 31.5
comp=Z,8.5nm,0.6s

WRAB Tennant Creek 50.28 176*de*P **P** **04 47 32.3 +0.1**
WRAB pmax pmax
comp=Z,24nm,1.7s

WRAB Tennant Creek 50.28 176 P **P** **04 47 32.0 -0.1**
WRA Warramunga Arr 50.29 176 P **P** **04 47 32.3 +0.1**
comp=Z,6.5nm,0.7s,baz=356,slow=8.1,SNR=70
WRA LR LR 05 07 44.8
comp=Z,53nm,21.0s,baz=57,slow=35
comp=Z,6.5nm,0.7s

WRA Warramunga Arr 50.29 176 P **P** **04 47 30.2 -2.0**
WRA Warramunga Arr 50.29 176 *i* P **P** **04 47 32.2 0.0**
WRA pmax pmax
comp=Z,7.0nm,0.6s

WB2 Warramunga Arr 50.29 176 P **P** **04 47 31.2 -1.0**
WB2 IAmb IAmb 04 47 33.2
comp=Z,10nm,0.8s

WR0 Warramunga Arr 50.32 176 P **P** **04 47 30.1 -2.3**
WR0 **S** **04 54 42.7 -0.4**
CHGR Chuyangaron 50.85 297 P **P** **04 47 35.3 -1.2**
CHGR Chuyangaron 50.85 297 P **P** **04 47 35.3 -1.2**
CHGR pmax pmax
comp=Z,17nm,0.9s

SIMJ Simiganj 50.97 297 P **P** **04 47 37.4 0.0**
SIMJ pP **pP** **04 47 47.2 -0.1**
KBL Kabul 51.82 292 P **P** **04 47 43.4 -0.6**
KBL IAmb IAmb 04 47 46.2
comp=Z,14nm,1.3s

KBL Kabul 51.82 292 P **P** **04 47 43.4 -0.6**
KBL pmax pmax
comp=Z,14nm,1.3s

CTA Charters Tower 52.39 162 LR LR 05 07 01.2
comp=Z,50nm,21.7s,baz=72,slow=32

CTAO Charters Tower 52.39 162 P **P** **04 47 49.2 +1.3**
CTAO pmax pmax
comp=Z,9.0nm,1.5s

CTAO Charters Tower 52.39 162 P **P** **04 47 48.7 +0.8**
CTAO pP **pP** **04 47 58.7 +1.0**
PALK Pallekele 52.55 255 LR LR 05 11 21.3
comp=Z,84nm,21.6s,baz=154,slow=37

AS31 Alice Springs 53.97 177 P **P** **04 47 59.4 -0.2**
ASAR Alice Springs 53.97 177 P **P** **04 47 59.3 -0.2**
comp=Z,3.8nm,0.7s,baz=10.0,slow=13,SNR=75
comp=Z,3.8nm,0.7s

SVE Sverdlovsk 54.53 320*e*P **P** **04 48 02.5 -0.8**
SVE pmax pmax
comp=Z,11nm,0.8s

ABKAR Akbulak array 55.69 311 P **P** **04 48 11.3 -0.5**
ABKAR IAmb IAmb 04 48 21.1
comp=Z,4.9nm,0.6s

ARU Arti 55.70 320 P **P** **04 48 10.7 -1.0**
comp=Z,3.9nm,0.3s,baz=107,slow=2.9,SNR=14
ARU LR LR 05 14 47.9
comp=Z,337nm,18.1s,baz=121,slow=39
comp=Z,3.9nm,0.3s

ARU Arti 55.70 320 P **P** **04 48 09.9 -1.8**
ARU IAmb IAmb 04 48 20.6
comp=Z,11nm,0.7s

ARU Arti 55.70 320*c i*P **P** **04 48 10.3 -1.4**
ARU *PP **sP** **04 48 25.7 +0.3**
ARU 04 49 07.6
ARU S **S** **04 55 52.7 -3.0**
ARU SS **SS** **04 59 37.3 -3.6**
ARU pmax pmax
comp=Z,12nm,0.9s
ARU MLR MLR
comp=Z,293nm,16.0s

ARU Arti 55.70 320 P **P** **04 48 10.9 -0.8**
ARU pP **pP** **04 48 20.1 -1.5**
AKTO Aktyubinsk 56.74 313 P **P** **04 48 18.6 -0.7**
comp=Z,3.9nm,0.7s,baz=70,slow=10,SNR=14
AKTO LR LR 05 14 46.2
comp=Z,475nm,18.1s,baz=32,slow=38
comp=Z,3.9nm,0.7s

NEA2 Nenana 58.49 30 P **P** **04 48 32.0 +0.6**
NEA2 IAmb IAmb 04 48 47.9
comp=Z,18nm,1.6s

MDM Murphy Dome 58.82 29 P **P** **04 48 33.3 -0.4**
ILAR Eielson Array 59.41 30 P **P** **04 48 38.1 +0.4**
comp=Z,0.4nm,0.6s,baz=271,slow=6.1,SNR=6.1
comp=Z,0.4nm,0.6s

GEYT Alibeck 59.46 299 P **P** **04 48 38.6 0.0**
comp=Z,2.8nm,0.7s,baz=20,slow=4.7,SNR=5.0
comp=Z,2.8nm,0.7s

GEYT Alibeck 59.46 299 P **P** **04 48 38.4 -0.2**
KIRV Kirov 60.30 323 P **P** **04 48 43.5 -0.4**
comp=Z,12nm,0.7s,baz=337,slow=3.3,SNR=6.0
KIRV LR LR 05 17 34.1
comp=Z,169nm,19.4s,baz=75,slow=39
comp=Z,12nm,0.7s

KIRV Kirov 60.30 323*de*P **P** **04 48 43.0 -0.9**
DZM Mont Dzumac 62.32 143 P **P** **04 48 58.8 +0.7**
comp=Z,5.1nm,0.7s,baz=330,slow=6.2,SNR=6.6
DZM LR LR 05 13 00.5
comp=Z,28nm,19.4s,baz=122,slow=33
comp=Z,5.1nm,0.7s

BELG Belogornoye 62.69 317 P **P** **04 48 59.1 -0.9**
comp=Z,18nm,0.8s,baz=73,slow=0.7,SNR=4.6
BELG LR LR 05 18 16.2
comp=Z,216nm,18.9s,baz=102,slow=38
comp=Z,18nm,0.8s

BELG Belogornoye 62.69 317*ce*P **P** **04 48 59.2 -0.9**
BELG pmax pmax
comp=Z,4.0nm,0.9s

STKA Stephens Creek 62.86 170 P **P** **04 49 02.2 +0.8**
comp=Z,11nm,0.7s,baz=344,slow=6.8,SNR=28
STKA LR LR 05 17 17.0
comp=Z,44nm,19.0s,baz=26,slow=37
comp=Z,11nm,0.7s

STKA Stephens Creek 62.86 170 P **P** **04 49 01.4 0.0**
STKA Stephens Creek 62.86 170*d i*P **P** **04 49 01.9 +0.5**
EPYK Eagle Plains 63.25 27 P **P** **04 49 03.6 -0.1**
EPYK IAmb IAmb 04 49 10.0
comp=Z,6.4nm,0.8s

INK Inuvik 63.90 24 P **P** **04 49 08.2 +0.3**
comp=Z,3.3nm,0.8s,baz=297,slow=7.3,SNR=18
comp=Z,3.3nm,0.8s

INK Inuvik 63.90 24 P **P** **04 49 08.1 +0.2**
INK IAmb IAmb 04 49 13.3
comp=Z,3.3nm,0.8s

KLMR Klimovskoe 64.62 327*e*P **P** **04 49 10.4 -2.3**
KLMR AMP 04 49 13.7
comp=Z,26nm,2.1s

KLMR Klimovskoe 64.62 327*e*P **P** **04 49 10.3 -2.4**
KLMR pmax pmax
comp=Z,26nm,2.1s

SPITS Spitsbergen Ar 65.15 348 P **P** **04 49 15.9 -0.1**
comp=Z,11nm,0.8s,baz=72,slow=8.8,SNR=5.5
SPITS LR LR 05 19 06.4
comp=Z,72nm,20.8s,baz=12,slow=37
comp=Z,11nm,0.8s

A36M Sachs Harbour 65.31 19 P **P** **04 49 17.2 +0.2**
A36M IAmb IAmb 04 49 18.6
comp=Z,10nm,0.8s

FARO Faro, Yukon 65.90 31 P **P** **04 49 21.8 +0.7**
FARO IAmb IAmb 04 49 27.9
comp=Z,4.5nm,0.8s

VRH Novokhopyorsk 66.54 317*e*P **P** **04 49 23.7 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s

C36M Paulatuk 66.73 22 P **P** **04 49 26.1 -0.1**
P33M Teslin, Yukon 66.84 33 P **P** **04 49 28.5 +1.3**
P33M IAmb IAmb 04 49 40.7
comp=Z,12nm,1.1s

ARCES ARCESS Array B 66.96 338 P **P** **04 49 27.7 0.0**
comp=Z,6.8nm,0.9s,baz=64,slow=8.2,SNR=8.6
ARCES LR LR 05 24 22.9
comp=Z,191nm,18.9s,baz=64,slow=41
comp=Z,6.8nm,0.9s

MOS Moscow 67.25 322*e*P **P** **04 49 28.2 -1.5**
MOS pmax pmax
comp=Z,27nm,0.8s

LPSR Galich'ya Gora 67.67 319*e*P **P** **04 49 31.1 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s

VSR Storozhevoye 68.04 317*e*P **P** **04 49 32.9 -1.9**
VSR pmax pmax
comp=Z,10.0nm,0.8s

OBN Obninsk 68.04 322 P **P** **04 49 33.7 -1.0**
comp=Z,1.0nm,0.4s,baz=69,slow=22,SNR=4.0
comp=Z,1.0nm,0.4s

ZEI Tsey 68.14 308*e*P **P** **04 49 34.0 -1.9**
ZEI pmax pmax
comp=Z,9.0nm,1.0s

KBZ Khabaz 68.47 309 P **P** **04 49 37.9 +0.2**
comp=Z,11nm,0.9s,baz=67,slow=4.7,SNR=22
KBZ LR LR 05 23 09.5
comp=Z,136nm,18.2s,baz=55,slow=39
comp=Z,11nm,0.9s

KBZ Khabaz 68.47 309*d i*P **P** **04 49 37.4 -0.2**
KBZ pmax pmax
comp=Z,12nm,0.9s

ONI Oni 68.52 308 P **P** **04 49 37.8 -0.3**
ONI IAmb IAmb 04 49 39.3
comp=Z,6.3nm,0.9s

ONI Oni 68.52 308 P **P** **04 49 37.8 -0.3**
ONI pmax pmax
comp=Z,6.0nm,0.9s

KIV Kislovodsk 68.53 309 P **P** **04 49 36.8 -1.4**
KIV Kislovodsk 68.53 309*d i*P **P** **04 49 38.2 0.0**
KIV *i* 04 49 46.8
KIV *e**PP **sP** **04 49 52.5 +0.5**
KIV *e* 04 50 01.2
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,84nm,19.0s

KIV Kislovodsk 68.53 309 P **P** **04 49 37.6 -0.5**
KIV pP **pP** **04 49 47.6 -0.7**
GNI Garni 68.55 305 P **P** **04 49 38.8 +0.3**
comp=Z,3.8nm,0.6s,baz=110,slow=11,SNR=4.0
GNI LR LR 05 22 25.7
comp=Z,49nm,20.4s,baz=80,slow=38
comp=Z,3.8nm,0.6s

GNI Garni 68.55 305 P **P** **04 49 38.0 -0.4**
GNI IAmb IAmb 04 50 21.3
comp=Z,8.9nm,0.8s

GNI Garni 68.55 305 P **P** **04 49 38.0 -0.4**
GNI pmax pmax
comp=Z,9.0nm,0.8s

GNI Garni 68.55 305 P **P** **04 49 39.1 +0.7**
GNI pP **pP** **04 49 49.3 +0.7**
AKH Akhalkalaki 68.94 306 P **P** **04 49 40.5 -0.3**
AKH Akhalkalaki 68.94 306 P **P** **04 49 40.6 -0.3**
AKH pmax pmax
comp=Z,19nm,0.8s

FINES FINESS Array B 70.40 331 P **P** **04 49 47.7 -1.6**
comp=Z,2.7nm,0.4s,baz=59,slow=5.2,SNR=40
FINES LR LR 05 24 29.0
comp=Z,126nm,19.7s,baz=31,slow=39
comp=Z,2.7nm,0.4s

FINES FINESS Array B 70.40 331*i* P **P** **04 49 48.2 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.4s

RES Resolute Bay 70.82 12 LR LR 05 23 38.7
comp=Z,50nm,19.6s,baz=1.0,slow=38
RES Resolute Bay 70.82 12 P **P** **04 49 51.6 +0.1**
RES IAmb IAmb 04 49 52.5
comp=Z,5.0nm,0.8s

RES Resolute Bay 70.82 12 P **P** **04 49 51.7 +0.1**
RES pmax pmax
comp=Z,5.0nm,0.8s

GURO Guroymak-BITLI 71.11 304 P **P** **04 49 53.8 -0.4**
GURO IAmb IAmb 04 49 55.3
comp=Z,5.6nm,0.8s

MARD Mardin 72.53 303 P **P** **04 50 01.3 -1.4**
MARD IAmb IAmb 04 50 03.8
comp=Z,11nm,0.7s

YKA Yellowknife Ar 73.52 26 P **P** **04 50 07.6 -0.4**
comp=Z,1.4nm,0.7s,baz=303,slow=5.8,SNR=26
comp=Z,1.4nm,0.7s

YKA Yellowknife Ar 73.52 26*i* P **P** **04 50 08.5 +0.6**
YKA pmax pmax
comp=Z,2.0nm,0.7s

AKASG Malin Array Be 73.95 320 P **P** **04 50 09.2 -1.4**
comp=Z,3.9nm,0.7s,baz=52,slow=6.6,SNR=23
AKASG LR LR 05 25 45.9
comp=Z,120nm,18.1s,baz=61,slow=38
comp=Z,3.9nm,0.7s

AKASG Malin Array Be 73.95 320 P **P** **04 50 09.6 -1.0**
AKASG IAmb IAmb 04 50 20.0
comp=Z,11nm,1.9s

AKASG Malin Array Be 73.95 320*i* P **P** **04 50 09.6 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s

AKBB Malin Array Si 73.95 320 P **P** **04 50 09.3 -1.4**
AKBB IAmb IAmb 04 50 10.3
comp=Z,9.8nm,1.1s

AKBB Malin Array Si 73.95 320*ce*P **P** **04 50 10.0 -0.6**
BNN Bunyan 75.33 307 P **P** **04 50 18.7 -0.4**
HFS Hagfors 76.20 333 P **P** **04 50 22.3 -1.2**
comp=Z,2.1nm,0.7s,baz=68,slow=5.0,SNR=8.5
HFS LR LR 05 28 15.2
comp=Z,74nm,18.6s,baz=68,slow=39
comp=Z,2.1nm,0.7s

BR131 Keskin Array S 76.44 308 P **P** **04 50 24.6 -0.8**
BR131 IAmb IAmb 04 50 29.1
comp=Z,9.7nm,0.9s

BR131 Keskin Array S 76.44 308*de*P **P** **04 50 25.0 -0.4**
BRTR Keskin Array B 76.44 308 P **P** **04 50 24.2 -1.3**
comp=Z,4.7nm,0.8s,baz=89,slow=5.6,SNR=29
comp=Z,4.7nm,0.8s

BRTR Keskin Array B 76.44 308 P **P** **04 50 23.7 -1.7**
BRTR Keskin Array B 76.44 308 *i* P **P** **04 50 25.1 -0.4**
BRTR pmax pmax
comp=Z,5.0nm,0.8s

NB2 NORSAR Subarra 76.59 334 P **P** **04 50 24.5 -1.2**
comp=Z,0.7nm,0.7s,baz=47,slow=5.6
NOA NORSAR Array B 76.59 334 P **P** **04 50 24.1 -1.6**
comp=Z,1.2nm,0.7s,baz=48,slow=5.8,SNR=4.8
NOA LR LR 05 29 53.2
comp=Z,89nm,18.1s,baz=40,slow=40
comp=Z,1.2nm,0.7s

SUMG Summit 76.91 357 *i* P **P** **04 50 26.6 -1.1**
BUR08 Bucovina Ar. S 77.77 318 P **P** **04 50 32.0 -0.7**
MMAI Mount Meron Ar 78.40 301 LR LR 05 29 49.5
comp=Z,46nm,19.2s,baz=144,slow=39
MLR Muntele Rosu 78.47 316 LR LR 05 28 35.6
comp=Z,176nm,19.9s,baz=62,slow=38

OJC Ojcow 79.31 323*e*P **P** **04 50 41.2 +0.2**
OJC Ojcow 79.31 323 P **P** **04 50 40.1 -0.9**
OJC IAmb IAmb 04 50 41.9
comp=Z,9.3nm,0.9s

OJC Ojcow 79.31 323 P **P** **04 50 40.1 -0.9**
OJC pmax pmax
comp=Z,9.0nm,0.9s

NIE Niedzica 79.51 322 P **P** **04 50 42.5 +0.4**
DRGR 79.66 319 P **P** **04 50 42.7 -0.4**
DRGR pmax pmax
comp=Z,16nm,0.9s

EIL Elat 80.36 299 LR LR 05 33 21.7
comp=Z,46nm,18.1s,baz=58,slow=41

PSZ Piszkesteto 80.59 321 P **P** **04 50 47.5 -0.6**
PSZ IAmb IAmb 04 50 52.2
comp=Z,10nm,0.6s

PSZ Piszkesteto 80.59 321 P **P** **04 50 47.5 -0.6**
PSZ pmax pmax
comp=Z,10.0nm,0.6s

MORC Moravsky Berou 80.75 323*e*P **P** **04 50 48.7 -0.2**
VYHS Vyhne 80.83 321*e*P **P** **04 50 50.0 +0.7**
VYHS Vyhne 80.83 321*e*P **P** **04 50 50.0 +0.7**
JAVC Velka Javorina 81.24 322*e*P **P** **04 50 54.3 +2.8**
VRAC Vranov 81.53 323 P **P** **04 50 53.4 +0.5**
comp=Z,2.2nm,0.6s,baz=28,slow=5.0,SNR=4.5
VRAC LR LR 05 30 30.1
comp=Z,158nm,18.6s,baz=60,slow=38
comp=Z,2.2nm,0.6s

VRAC Vranov 81.53 323*e*P **P** **04 50 53.2 +0.2**
KRUC Moravsky 81.78 323*e*P **P** **04 50 54.8 +0.5**
CLL Collm 82.08 326*e*P **P** **04 50 55.0 -0.8**
comp=Z,7.0nm,0.8s

CLL Collm 82.08 326*e*P **P** **04 50 55.0 -0.8**
CLL pmax pmax
comp=Z,7.0nm,0.8s

BORG Borgarnes 82.61 348 LR LR 05 28 28.2
comp=Z,34nm,19.5s,baz=20,slow=36

CONA Conrad Observa 82.76 322*e*P **P** **04 50 58.4 -1.1**
comp=Z,4.1nm,0.8s

DY2G Dye2 83.27 359 *i* P **P** **04 51 01.2 -0.7**
GERES GERESS Array B 83.30 324 P **P** **04 51 02.5 +0.1**
comp=Z,0.6nm,0.5s,baz=62,slow=6.2,SNR=3.6
GERES LR LR 05 31 38.9
comp=Z,131nm,19.5s,baz=32,slow=38
comp=Z,0.6nm,0.5s

RAR Rarotonga 83.91 119 LR LR 05 20 16.9
comp=Z,34nm,21.5s,baz=246,slow=30

SOKA Soboth 83.98 322*e*PcP **P** **04 51 06.4 +0.6**
comp=Z,7.3nm,1.1s

BIOA Bad Ischl, Aus 84.07 323*e*PcP **P** **04 51 07.2 +0.9**
comp=Z,6.0nm,1.3s

KBA Koelnbreinsper 84.62 323*e*PcP **P** **04 51 10.2 +1.0**
comp=Z,4.0nm,0.7s

FRB Frobisher Bay 84.73 9 LR LR 05 29 54.9
comp=Z,119nm,21.6s,baz=15,slow=36

MYKA Terra Mystica 84.75 322*e*PcP **P** **04 51 09.9 +0.2**
comp=Z,5.8nm,0.8s

CLUD Cludinico 85.27 322 P **P** **04 51 11.7 -0.5**
MOTA Moosalm 85.60 324*e*P **P** **04 51 12.1 -2.0**
comp=Z,11nm,1.6s

EKA Eskdalemuir Ar 85.96 336 LR LR 05 34 06.3
comp=Z,88nm,19.2s,baz=18,slow=39

DAVOX Davos/Dischmat 86.60 324 P **P** **04 51 19.3 +0.2**
comp=Z,2.0nm,0.7s,baz=7.4,slow=3.0,SNR=3.9
DAVOX LR LR 05 35 27.0
comp=Z,184nm,19.0s,baz=63,slow=39
comp=Z,2.0nm,0.7s

PDAR Pinedale Array 88.18 40 P **P** **04 51 26.4 -0.4**
comp=Z,0.6nm,0.8s,baz=329,slow=2.6,SNR=5.6
comp=Z,0.6nm,0.8s

ULM Lac du Bonnet 89.40 28 P **P** **04 51 32.4 +0.3**
comp=Z,2.3nm,0.7s,baz=2.8,slow=10,SNR=3.4
comp=Z,2.3nm,0.7s

PPT Papeete 89.88 110 LR LR 05 32 33.5
comp=Z,39nm,18.0s,baz=296,slow=36

VAE Valguarnera 90.16 315 LR LR 05 39 15.2
comp=Z,74nm,18.4s,baz=340,slow=40

SCHQ Schefferville 93.56 10 LR LR 05 35 16.0
comp=Z,71nm,21.3s,baz=178,slow=36

KEST Kesra 94.38 316 LR LR 05 41 44.9
comp=Z,56nm,18.4s,baz=293,slow=40

TORD Torodi Ar. Bea 114.85 304 PKP **PKiKP** **04 57 15.6 -1.1**
comp=Z,0.4nm,0.9s,baz=21,slow=2.2,SNR=2.4

JMA 03 04:38:46.1±0.0,**32.6N**±0.1×**130.6E**±0.2,**h10**km,**MV1.0**/32,
SOUTHERN KUMAMOTO PREF,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**107**	P		Pg 04 38 49.5	0.0
JTA	**Tamana**	**0.38**	**346**	P		Pg 04 38 53.7	+0.1
JZO	**Okuchi**	**0.45**	**185**	P		Pg 04 38 54.9	0.0
JZO				*e*S		Sg 04 39 00.9	-0.1

*SFS **03** 04:43:25.4,35.91N×4.59W,h81km,ML2.9/7,MLv2.9/7*
*CNRM **03** 04:43:25.1,35.85N×4.73W,h85km,ml3.7*
*MDD **03** 04:43:27.0±0.7,35.99N×4.66W,h89km±5km,Mb1.8/8,*
Error ellipse: s-maj=5.7km s-min=2.8km az=161.0
*INMG **03** 04:43:27.9±1.6,36.05N×4.70W,h84km±4km,ML2.0,Error*
ellipse: s-maj=5.9km s-min=3.7km az=152.0

ISC 03 04:43:24.0±1.3,**35.91N**±0.03×**4.62W**±0.03,**h100**km±7km,
n43,σ**1**§**62**/**76,8C-2D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEU	**Ceuta**	**0.61**	**269**	P		**Pn**	**04 43 40.8**	**+0.3**
ECEU	**Ceuta**	**0.61**	**269**	P		**Pn**	**04 43 42.2**	**+1.6**
ECEU				S		**Sn**	**04 43 53.2**	**+0.2**
EMIJ	**Mijas**	**0.66**	**349**	P		**Pn**	**04 43 41.2**	**+0.2**
EMIJ				S		**Sn**	**04 43 52.4**	**-1.5**
EMIJ	**Mijas**	**0.66**	**349**	⇓P		**Pn**	**04 43 41.3**	**+0.2**
EMIJ				S		**Sn**	**04 43 52.1**	**-1.8**
PVLZ	**Peæn de**	**0.78**	**160**	S		**Sn**	**04 43 53.6**	**-2.0**
EMAL	**Malaga-Limoner**	**0.86**	**10**	P		Pn	04 43 34.7	-8.3
EMAL				S		**Sn**	**04 43 56.0**	**-1.2**
EJIF	**Jimena Fronter**	**0.87**	**308**	⇓P		**Pn**	**04 43 45.6**	**+2.6**
EJIF				S		**Sn**	**04 43 58.7**	**+1.4**
CHEFC	**Chefchaouen**	**0.99**	**216**	P		**Pn**	**04 43 45.1**	**+0.7**
CHEFC				S		**Sn**	**04 43 57.2**	**-2.5**
ELGU	**Los Guajares,**	**1.25**	**40**	S		**Sn**	**04 44 03.3**	**-1.6**
ELGU				P		**Pn**	**04 43 47.4**	**+0.2**
ELGU	**Los Guajares,**	**1.25**	**40**	P		**Pn**	**04 43 47.3**	**0.0**
ELGU				S		**Sn**	**04 44 03.0**	**-1.8**
EGOR	**Sierra Gorda,**	**1.27**	**19**	P		**Pn**	**04 43 50.2**	**+2.7**
EGOR				S		**Sn**	**04 44 05.6**	**+0.2**
ESPR	**Espera**	**1.38**	**314**	P		**Pn**	**04 43 50.0**	**+1.2**
ESPR				S		**Sn**	**04 44 07.6**	**+0.1**
EQUE	**Quentar**	**1.60**	**36**	P		**Pn**	**04 43 52.3**	**+0.7**
EQUE				S		**Sn**	**04 44 14.4**	**+1.8**
EADA	**Adamuz**	**2.25**	**1**	P		**Pn**	**04 44 01.4**	**+1.6**
EADA				⇑*i*Vmb_V			04 44 01.7	
	74nm,SNR=23							
EADA				S		**Sn**	**04 44 26.4**	**-0.9**
ECAB	**El Cabril**	**2.25**	**344**	P		**Pn**	**04 44 00.7**	**+0.8**
ECAB				S		**Sn**	**04 44 24.9**	**-2.4**
ECAB	**El Cabril**	**2.25**	**344**	P		**Pn**	**04 44 00.9**	**+1.0**
ECAB				⇑*i*Vmb_V			04 44 01.0	
	15nm,SNR=4.6							
ECAB				S		**Sn**	**04 44 25.8**	**-1.5**
EQES	**Quesada**	**2.26**	**33**	P		**Pn**	**04 44 02.4**	**+2.3**
EQES				S		**Sn**	**04 44 28.1**	**+0.5**
JBK	**JBK**	**2.30**	**132**	P		**Pn**	**04 44 01.7**	**+1.0**
JBK				S		**Sn**	**04 44 28.0**	**-0.7**
EMIN	**Mina Concepcio**	**2.48**	**319**	P		**Pn**	**04 44 03.8**	**+1.0**
EMIN				S		**Sn**	**04 44 30.9**	**-1.6**

EMIN	**Mina Concepcio**	**2.48**	**319**	P		**Pn**	**04 44 03.8**	**+1.0**
EMIN				⇑*i*Vmb_V			04 44 04.6	
	72nm,SNR=14							
EMIN				S		**Sn**	**04 44 31.0**	**-1.6**
EGRO	**El Granado**	**2.81**	**306**	P		**Pn**	**04 44 08.3**	**+1.2**
EGRO				⇑*i*Vmb_V			04 44 08.5	
	38nm,SNR=1.7							
EGRO				S		**Sn**	**04 44 38.6**	**-1.9**
PVAQ	**Vaqueiros**	**2.90**	**302**	*e*P		**Pn**	**04 44 09.4**	**+1.0**
PVAQ				S		**Sn**	**04 44 41.0**	**-1.6**
PVAQ				A		A	04 44 41.4	
	3.9nm,0.2s							
PVAQ	**Vaqueiros**	**2.90**	**302**	P		**Pn**	**04 44 09.0**	**+0.6**
PVAQ				S		**Sn**	**04 44 41.6**	**-1.0**
PBAR	**Barrancos**	**2.98**	**320**	*e*P		**Sn**	**04 44 10.7**	**+1.3**
PBAR				S		**Sn**	**04 44 42.8**	**-1.5**
PBAR				A		A	04 44 43.5	
	2.3nm,0.5s							
PBAR	**Barrancos**	**2.98**	**320**	P		**Pn**	**04 44 10.6**	**+1.3**
PBAR				S		**Sn**	**04 44 42.1**	**-2.2**
PSIM	**Granatula de C**	**2.98**	**13**	P		**Pn**	**04 44 10.9**	**+1.4**
PSIM				S		**Sn**	**04 44 42.5**	**-2.1**
MD31	**MD31**	**3.04**	**182**	P		**Pn**	**04 44 11.6**	**+1.3**
MD31				S		**Sn**	**04 44 44.9**	**-1.1**
MDT	**Midelt**	**3.09**	**180**	P		**Pn**	**04 44 12.3**	**+1.3**
MDT				S		**Sn**	**04 44 46.1**	**-1.2**
PCVE	**Castro Verde**	**3.24**	**303**	S		**Sn**	**04 44 48.6**	**-2.0**
PCVE				A		A	04 44 48.7	
	37nm,0.6s							
PBEJ	**Beja**	**3.35**	**310**	S		**Sn**	**04 44 51.8**	**-1.5**
EBAD	**Badajoz**	**3.42**	**327**	S		**Sn**	**04 44 53.5**	**-1.5**
EBAD				P		**Pn**	**04 44 16.8**	**+1.5**
EBAD	**Badajoz**	**3.42**	**327**	P		**Pn**	**04 44 16.7**	**+1.3**
EBAD				⇑*i*Vmb_V			04 44 16.8	
	33nm,SNR=5.8							
EBAD				S		**Sn**	**04 44 53.0**	**-2.0**
PAB	**San Pablo**	**3.64**	**3**	P		**Pn**	**04 44 19.3**	**+1.0**
PAB				⇑*i*Vmb_V			04 44 20.3	
	8.1nm,SNR=3.4							
PAB				S		**Sn**	**04 44 57.7**	**-2.5**
PTEO	**Sao Teotonio**	**3.68**	**298**	S		**Sn**	**04 45 00.6**	**-0.6**
EVO	**Evora**	**3.77**	**315**	S		**Sn**	**04 45 01.7**	**-1.6**
EVO				A		A	04 45 10.9	
	3.2nm,0.8s							
PESTR	**Estremoz**	**3.78**	**322**	S		**Sn**	**04 45 02.0**	**-1.7**
PESTR	**Estremoz**	**3.78**	**322**	P		**Pn**	**04 44 20.4**	**+0.2**
PESTR				S		**Sn**	**04 45 05.6**	**+1.9**
ESDC	**Sonseca Array**	**3.79**	**8**	⇑*i*Vmb_V			04 44 23.5	
	2.7nm,SNR=1.1							
ESDC				S		**Sn**	**04 45 01.7**	**-2.4**
PNCL	**Nicolau / Gran**	**3.82**	**306**	*e*P		**Pn**	**04 44 22.1**	**+1.4**
PNCL				S		**Sn**	**04 45 02.5**	**-2.2**
PMRV	**Marv??o**	**4.14**	**329**	*e*P		**Pn**	**04 44 26.7**	**+1.6**
PMRV				S		**Sn**	**04 45 10.7**	**-1.8**
PMTG	**Montargil**	**4.26**	**319**	*e*P		**Pn**	**04 44 28.2**	**+1.6**
PMTG				S		**Sn**	**04 45 13.7**	**-1.6**
PSBE	**So Bento**	**4.89**	**319**	*e*P		**Pn**	**04 44 37.9**	**+2.7**
ETOR	**Torete**	**5.30**	**22**	P		**Pn**	**04 44 42.4**	**+1.7**
ETOR				⇑*i*Vmb_V			04 44 43.0	
	16nm,SNR=5.2							
ETOR				S		**Sn**	**04 45 36.8**	**-3.8**

*TEH **03** 04:47:59.1,36˙42N×53˙64E,h8km±21km,ML3.5*
*AZER **03** 04:48:02.0±0.8,36˙71N×53˙67E,h10km,Error ellipse:*
s-maj=10.6km s-min=6.3km az=36.0
ISC 03 04:47:59.7±1.0,**36˙43N**±0˙03×**53˙66E**±0˙04,**h12**km±8km,
n72,σ1§**73**/95,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.15**	**62**	Pg	**Pg**	**04 48 03.0**	**-0.5**
IGLO				Sg	**Sg**	**04 48 06.8**	**+0.6**
ISHM	**Shahmirzad**	**0.69**	**206**	Pg	**Pg**	**04 48 11.8**	**-1.3**
ISHM				Sg	**Sg**	**04 48 22.6**	**+0.3**
IANJ	**Anjilo**	**0.98**	**168**	Pg	**Pg**	**04 48 17.3**	**-1.4**
IANJ				Sg	**Sg**	**04 48 30.8**	**-0.7**
IFIR	**Firoozkooh**	**1.08**	**223**	Pg	**Pg**	**04 48 19.0**	**-1.5**
IPRN	**Peran**	**1.09**	**260**	Pg	**Pg**	**04 48 19.9**	**-0.7**
ILAS	**Lasjerd**	**1.19**	**209**	Pg	**Pn**	**04 48 21.5**	**-0.8**
IDMV	**Damavand**	**1.57**	**238**	Pg	**Pn**	**04 48 28.1**	**+0.4**
DAMV	**Damavand**	**1.59**	**240**	Pg	**Pn**	**04 48 28.8**	**+0.9**
IMND	**Minoodasht**	**1.62**	**59**	Pg	**Pn**	**04 48 28.9**	**+0.8**
IMND				Sg	**Sg**	**04 48 51.4**	**-0.5**
MZPU	**Pul - Mazandar**	**1.69**	**271**	Pg	**Pn**	**04 48 30.3**	**+1.1**
SHRO	**Shahrood**	**1.95**	**102**	Pn	**Pn**	**04 48 34.7**	**+2.1**
TEHA	**Amirabad Tehra**	**1.97**	**250**	Pn	**Pn**	**04 48 34.7**	**+1.8**
TEH	**Tehran**	**1.97**	**250**	Pn	**Pn**	**04 48 34.8**	**+1.8**
KLST	**Kelardasht - M**	**2.10**	**273**	Pn	**Pn**	**04 48 36.4**	**+1.4**
CHTH	**Charan**	**2.12**	**256**	Pn	**Pn**	**04 48 37.4**	**+2.3**
IVRN	**Varamin**	**2.13**	**228**	Pn	**Pn**	**04 48 36.8**	**+1.7**
IHSB	**Hasanabad**	**2.18**	**244**	Pn	**Pn**	**04 48 38.2**	**+2.4**
MRVT	**Maraveh tapeh**	**2.30**	**57**	Pn	**Pn**	**04 48 38.6**	**+1.2**
ISFB	**Sefidab**	**2.38**	**210**	Pn	**Pn**	**04 48 40.0**	**+1.5**
QALM	**Alamut, Qazvin**	**2.43**	**271**	Pn	**Pn**	**04 48 42.1**	**+2.6**
IMHD	**Mahdasht**	**2.54**	**254**	Pn	**Pn**	**04 48 42.7**	**+1.9**
IQOM	**Qom**	**2.64**	**234**	Pn	**Pn**	**04 48 44.4**	**+2.0**
GHVR	**GHOM**	**2.74**	**225**	Pn	**Pn**	**04 48 45.0**	**+2.3**
IGZV	**Ghazvin**	**2.78**	**270**	Pn	**Pn**	**04 48 45.7**	**+1.5**
GIDE	**GILAN DEYLAMAN**	**3.06**	**280**	Pn	**Pn**	**04 48 50.0**	**+2.0**
JIR1	**Jirandeh**	**3.12**	**276**	Pn	**Pn**	**04 48 50.4**	**+1.5**
IRAZ	**Razeghan**	**3.20**	**252**	Pn	**Pn**	**04 48 52.3**	**+2.3**
ANAR	**Anarak**	**3.23**	**179**	Pn	**Pn**	**04 48 51.7**	**+1.3**
TNSJ	**Nastanj**	**3.45**	**135**	Pn	**Pn**	**04 48 55.2**	**+1.9**
ASAO	**Ashtian**	**3.51**	**239**	Pn	**Pn**	**04 48 56.3**	**+2.0**
IKLH	**Kolahrood**	**3.55**	**209**	Pn	**Pn**	**04 48 56.5**	**+1.7**
NASN	**Na'in**	**3.69**	**191**	Pn	**Pn**	**04 48 58.6**	**+1.8**
IZEF	**Zefreh**	**3.69**	**198**	Pn	**Pn**	**04 48 58.2**	**+1.4**
TABS	**Tabas**	**3.97**	**133**	Pn	**Pn**	**04 49 02.8**	**+2.4**
TKDS	**Koohdasht(Taba**	**4.00**	**134**	Pn	**Pn**	**04 49 03.0**	**+2.2**
ZNJK	**Zanjan**	**4.01**	**275**	Pn	**Pn**	**04 49 03.6**	**+2.4**
KHMZ	**Khomeyn**	**4.05**	**230**	Pn	**Pn**	**04 49 04.1**	**+2.4**
YZKH	**Yazd**	**4.10**	**169**	Pn	**Pn**	**04 49 04.4**	**+2.1**
IAKL	**Akhelmad**	**4.11**	**86**	Pn	**Pn**	**04 49 05.2**	**+2.7**
IEMG	**Emamgholi**	**4.12**	**75**	Pn	**Pn**	**04 49 05.9**	**+3.2**
IPAY	**Payeh**	**4.30**	**88**	Pn	**Pn**	**04 49 08.5**	**+3.4**
IPIR	**Pirpir**	**4.38**	**212**	Pn	**Pn**	**04 49 08.2**	**+1.9**
ASTR	**Astara**	**4.42**	**300**	P	**Pn**	**04 49 06.8**	**+0.3**
ASTR				S	**Sn**	**04 49 58.0**	**+0.1**
IKRD	**Kardeh**	**4.72**	**84**	Pn	**Pn**	**04 49 15.0**	**+4.0**
IRAM	**Ramesheh**	**4.73**	**193**	Pn	**Pn**	**04 49 13.5**	**+2.5**
LRK	**Lerik**	**4.77**	**299**	P	**Pn**	**04 49 12.3**	**+0.8**
	SNR=4.9						
LRK				S	**Sn**	**04 50 06.8**	**-0.1**
YRD	**Yardimli**	**4.96**	**302**	P	**Pn**	**04 49 14.7**	**+0.5**
YRD				S	**Sn**	**04 50 12.5**	**+0.9**
GLBA	**Clilabad**	**5.03**	**306**	P	**Pn**	**04 49 15.8**	**+1.0**
	SNR=5.8						
GLBA				S	**Sn**	**04 50 13.6**	**+0.7**
SNGE	**Sanandaj**	**5.31**	**257**	Pn	**Pn**	**04 49 21.4**	**+2.5**
AFRZ	**Afriz**	**5.32**	**123**	Pn	**Pn**	**04 49 21.7**	**+2.6**
JRKH	**Jarkhoshk**	**5.43**	**94**	Pn	**Pn**	**04 49 23.0**	**+2.4**
ITEG	**Tejag**	**5.48**	**129**	Pn	**Pn**	**04 49 23.2**	**+2.0**
ATGJ	**Altiaghaj**	**5.76**	**322**	P	**Pn**	**04 49 26.4**	**+1.3**
ATGJ				S	**Sn**	**04 50 28.7**	**-2.5**
BLQ	**Beylaqan**	**5.83**	**306**	P	**Pn**	**04 49 26.6**	**+0.7**
BLQ				S	**Sn**	**04 50 32.6**	**0.0**
PQL	**Pirkuli**	**5.89**	**319**	P	**Pn**	**04 49 26.6**	**-0.3**
PQL				S	**Sn**	**04 50 33.2**	**-1.2**
SIZA	**Siyzn**	**5.95**	**323**	P	**Pn**	**04 49 27.9**	**+0.3**
SIZA				S	**Sn**	**04 50 35.7**	**0.0**
ZRD	**Zardab**	**6.07**	**311**	S	**Sn**	**04 50 38.8**	**+0.3**
SHRT	**Shahrakht**	**6.11**	**115**	Pn	**Pn**	**04 49 32.8**	**+3.0**
IML	**Ismayilli**	**6.11**	**317**	P	**Pn**	**04 49 29.8**	**-0.1**
IML				S	**Sn**	**04 50 38.5**	**-1.2**
AGDM	**Agdam**	**6.33**	**307**	P	**Pn**	**04 49 33.3**	**+0.5**
BSRN	**Basiran**	**6.35**	**133**	Pn	**Pn**	**04 49 33.4**	**+1.9**
QUBA	**Quba, Azerbaij**	**6.36**	**322**	P	**Pn**	**04 49 33.4**	**+0.2**
QUBA				S	**Sn**	**04 50 44.3**	**-1.5**
XNQ	**Khinaliq**	**6.40**	**319**	P	**Pn**	**04 49 34.7**	**+0.7**
XNQ				S	**Sn**	**04 50 46.4**	**-0.7**
QBL	**Gabala**	**6.41**	**316**	P	**Pn**	**04 49 33.9**	**0.0**
QBL				S	**Sn**	**04 50 45.4**	**-1.5**
ORD	**Ordubad**	**6.57**	**295**	P	**Pn**	**04 49 36.0**	**-0.2**
	SNR=8.9						
ORD				S	**Sn**	**04 50 52.5**	**+1.4**
QSAR	**Qusar**	**6.59**	**322**	P	**Pn**	**04 49 35.4**	**-1.0**
QSAR				S	**Sn**	**04 50 48.4**	**-3.0**
SEKA	**Sheki**	**6.94**	**315**	P	**Pn**	**04 49 40.8**	**-0.4**
SEKA				S	**Sn**	**04 50 57.8**	**-2.4**
SBZ	**Shahbuz**	**7.06**	**297**	P	**Pn**	**04 49 44.0**	**+1.1**
SBZ				S	**Sn**	**04 51 03.4**	**+0.3**
GANJ	**Ganja**	**7.13**	**308**	P	**Pn**	**04 49 43.6**	**-0.1**
GANJ				S	**Sn**	**04 51 02.5**	**-2.1**
GDB	**GEDABAY**	**7.53**	**307**	P	**Pn**	**04 49 50.1**	**+0.7**
GDB				S	**Sn**	**04 51 11.2**	**-3.6**
ZKTA	**Zakatala**	**7.55**	**316**	P	**Pn**	**04 49 50.1**	**+0.5**
ZKTA				S	**Sn**	**04 51 13.6**	**-1.5**
QZX	**Qazax, Azerbai**	**7.96**	**308**	S	**Sn**	**04 51 23.9**	**-1.1**

DRS 03 04:48:55.5±0.0,**42˙02N**×**50˙01E**,**h24**km,**Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**1.25**	**271**	*e*Pg	Pn	04 49 14.0	-3.5
	24nm,0.2s						
DRN				*e*Pg	Pn	04 49 14.0	-3.5
	24nm,0.2s						
DRN				*e*Sg	Sn	04 49 29.1	-4.5
	4.0nm,0.5s						
DRN				*e*Sg	Sn	04 49 29.1	-4.5
	4.0nm,0.5s						
KSMR	**Kasumkent**	**1.47**	**254**	*e*Pg	Pn	04 49 16.4	-4.2
	1.0nm,0.2s						
KSMR				*e*Pg	Pn	04 49 16.4	-4.2
	1.0nm,0.2s						
KSMR				*e*Sg	Sn	04 49 33.2	-5.9
	13nm,0.4s						
KSMR				*e*Sg	Sn	04 49 33.2	-5.9
	13nm,0.4s						
AKT	**Akhty**	**1.79**	**253**	*e*Pg	Pn	04 49 21.5	-3.6
	6.0nm,0.5s						
AKT				*e*Pg	Pn	04 49 21.5	-3.6
	6.0nm,0.5s						
AKT				*e*Sg	Sn	04 49 42.1	-5.0
	17nm,0.2s						
AKT				*e*Sg	Sn	04 49 42.1	-5.0
	17nm,0.2s						
KMKR	**Kumukh**	**2.17**	**274**	*e*Pg	Pn	04 49 27.6	-2.8
	2.0nm,0.4s						
KMKR				*e*Pg	Pn	04 49 27.6	-2.8
	2.0nm,0.4s						
KMKR				*e*Sg	Sn	04 49 53.9	-2.8
	10.0nm,0.5s						
KMKR				*e*Sg	Sn	04 49 53.9	-2.8
	10.0nm,0.5s						
GNBR	**Gunib**	**2.30**	**280**	*e*Pn	Pn	04 49 29.3	-2.6
	4.0nm,0.5s						
GNBR				*e*Pn	Pn	04 49 29.3	-2.6
	4.0nm,0.5s						
GNBR				*e*Sn	Sn	04 49 57.0	-2.5
	8.0nm,0.4s						
GNBR				*e*Sn	Sn	04 49 57.0	-2.5
	8.0nm,0.4s						
ARKR	**Arakani**	**2.31**	**286**	*e*Pn	Pn	04 49 30.5	-1.7
	1.0nm,0.4s						
ARKR				*e*Pn	Pn	04 49 30.5	-1.7
	1.0nm,0.4s						
ARKR				*e*Sn	Sn	04 49 58.7	-1.3
	4.0nm,0.6s						
ARKR				*e*Sn	Sn	04 49 58.7	-1.3
	4.0nm,0.6s						
KRNR	**Karanay**	**2.44**	**290**	*e*Pn	Pn	04 49 31.7	-2.2
	4.0nm,0.5s						
KRNR				*e*Pn	Pn	04 49 31.7	-2.2
	4.0nm,0.5s						
KRNR				*e*Sn	Sn	04 50 01.4	-1.7
	8.0nm,0.3s						
KRNR				*e*Sn	Sn	04 50 01.4	-1.7
	8.0nm,0.3s						
UNCR	**Uncukul**	**2.48**	**287**	*e*Pn	Pn	04 49 32.5	-2.0
	6.0nm,0.4s						
UNCR				*e*Pn	Pn	04 49 32.5	-2.0
	6.0nm,0.4s						
UNCR				*e*Sn	Sn	04 50 02.1	-2.0
	4.0nm,0.6s						
UNCR				*e*Sn	Sn	04 50 02.1	-2.0
	4.0nm,0.6s						
XNZR	**Khunzakh**	**2.51**	**283**	*e*Pn	Pn	04 49 32.4	-2.6
	4.0nm,0.5s						
XNZR				*e*Pn	Pn	04 49 32.4	-2.6
	4.0nm,0.5s						
XNZR				*e*Sn	Sn	04 50 02.2	-2.7
	4.0nm,0.3s						
XNZR				*e*Sn	Sn	04 50 02.2	-2.7
	4.0nm,0.3s						
DBC	**Dubki**	**2.56**	**294**	*e*Pn	Pn	04 49 33.0	-2.6
	4.0nm,0.6s						
DBC				*e*Pn	Pn	04 49 33.0	-2.6
	4.0nm,0.6s						
DBC				*e*Sn	Sn	04 50 03.0	-3.0
	4.0nm,0.3s						
DBC				*e*Sn	Sn	04 50 03.0	-3.0
	4.0nm,0.3s						

*SSNC **03** 05:32:37.7±2.9,17˙77N×70˙89W,h82km±373km,MD3.0, ML2.8*
*OSPL **03** 05:32:38.0±2.3,18˙92N×70˙23W,h118km±15km,ML2.7*
ISC 03 05:32:34.6±1.5,**19˙01N**±0˙2×**70˙22W**±0˙06,**h135**km±12km,
n8,σ1§**74**/15,**Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.64**	**311**	*i* P	**Pn**	**05 32 55.3**	**+0.3**
SC01				*e*S	**Sn**	**05 33 10.0**	**-0.6**
SC01				IAML		05 33 11.3	
	comp=Z,63nm,0.1s						
SDDR	**Presa de Saban**	**1.01**	**269**	*e*P	**Pn**	**05 33 00.0**	**+1.9**
SDDR				*e*S	**Sn**	**05 33 15.4**	**-0.5**
SDDR	**Presa de Saban**	**1.01**	**269**	*i* P	**Pn**	**05 32 59.2**	**+1.1**
SDDR				*e*S	**Sn**	**05 33 15.0**	**-1.0**
SDDR				IAML		05 33 21.2	
	comp=Z,106nm,0.3s						
PCDR	**Punta Cana, DR**	**1.81**	**105**	*i* P	**Pn**	**05 33 06.7**	**+0.2**
PCDR				*e*S	**Sn**	**05 33 29.6**	**-1.3**
PCDR				IAML		05 33 37.7	
	comp=Z,154nm,1.9s						
AGPR	**Aguadilla, PR**	**2.99**	**100**	*i* P	**Pn**	**05 33 24.5**	**+3.2**
AGPR				*e*S	**Sn**	**05 33 55.2**	**-2.1**
AGPR				IAML		05 33 57.1	
	comp=Z,73nm,1.6s						
CRPR	**Cabo Rojo, PR**	**3.11**	**108**	*e*P	**Pn**	**05 33 22.9**	**+0.1**
MASC	**Masc**	**3.96**	**288**	*e*P	**Pn**	**05 33 35.8**	**+1.9**
MASC				*e*S	**Sn**	**05 34 18.9**	**-1.0**
MASC				IAML		05 34 21.4	
	comp=N,9.2nm,0.5s						
MASC				IAML		05 34 23.1	
	comp=E,6.4nm,0.2s						
RCC	**Rio Carpintero**	**5.26**	**282**	*e*P	**Pn**	**05 33 51.2**	**0.0**
RCC				*e*S	**Sn**	**05 34 48.6**	**-2.3**
RCC				IAML		05 34 50.2	
	comp=N,2.2nm,0.5s						
RCC				IAML		05 34 52.2	
	comp=E,2.7nm,0.6s						

*TAP **03** 05:53:14.8,21˙52N×121˙00E,h37km±1km,ML3.7,C*
ISC 03 05:53:16.2±4.0,**21˙6N**±0˙2×**121˙08E**±0˙07,**h27**km±14km,
n20,σ0§**91**/26,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.38**	**334**	P	**Pb**	**05 53 24.4**	**-0.1**
	baz=334						
TSEB				S	**Sn**	**05 53 31.7**	**-0.6**
	baz=334						
TWKBT	**Hengchun**	**0.45**	**327**	P	**Pb**	**05 53 25.0**	**-0.7**
TWKBT				*e*S	**Sb**	**05 53 32.8**	**+0.7**
	baz=338						
TWK1	**Hengchun**	**0.46**	**327**	P	**Pb**	**05 53 25.1**	**-0.7**
	baz=338						
TWK1				*e*S	**Sb**	**05 53 32.8**	**+0.5**
	baz=338						
SMST	**Manzhou Townsh**	**0.51**	**334**	P	**Pb**	**05 53 26.1**	**-0.5**
	baz=343						
SMST				*e*S	**Sb**	**05 53 34.2**	**+0.5**
	baz=343						
HEN	**Hengchun**	**0.54**	**325**	*e*P	**Pb**	**05 53 26.9**	**-0.3**
	baz=337						
HEN				*e*S	**Sb**	**05 53 35.2**	**+0.5**
	baz=337						
LYUB	**Lan-yu**	**0.65**	**47**	P	**Pb**	**05 53 28.7**	**-0.2**
	baz=48						
LYUB				*e*S	**Sn**	**05 53 38.8**	**-0.2**
	baz=48						
LAY	**Lan-yu**	**0.65**	**43**	*e*P	**Pb**	**05 53 29.2**	**+0.2**
	baz=45						
SLIU	**Shizi**	**0.70**	**339**	P	**Pb**	**05 53 29.5**	**-0.4**
	baz=334						
SLIU				*e*S	**Sb**	**05 53 39.5**	**+0.3**
	baz=334						
TAWH	**Dawu Township**	**0.80**	**347**	*e*P	**Pb**	**05 53 30.4**	**-1.1**
	baz=343						
TAW	**Tawu**	**0.81**	**348**	*e*P	**Pb**	**05 53 30.6**	**-1.0**
	baz=7.0						
EAST	**Anshuo**	**0.85**	**346**	*e*P	**Pb**	**05 53 31.3**	**-1.0**
	baz=343						
SCZT	**Fangliau**	**0.91**	**333**	*e*P	**Pb**	**05 53 33.5**	**+0.1**
	baz=327						
MASBT	**Mashibuluo**	**1.13**	**339**	*e*P	**Pb**	**05 53 37.4**	**+0.4**
	baz=343						
LDUT	**Ludao**	**1.17**	**18**	*e*S	**Sn**	**05 53 52.0**	**+0.1**
	baz=31						
TWGBT	**Beinan**	**1.25**	**0**	P	Pb	05 53 46.8	+7.6
TPUB	**Ta-pu**	**1.78**	**347**	P	**Pb**	**05 53 50.8**	**+2.6**
YULB	**Yu-li**	**1.84**	**6**	P	**Pb**	**05 53 50.1**	**+1.0**
SSLB	**Suanglung**	**2.22**	**357**	P	**Pb**	**05 53 54.2**	**-1.5**
NACB	**Ninganchiao**	**2.65**	**10**	P	**Pb**	**05 54 01.8**	**-1.1**
YHNB	**Yeheng**	**3.11**	**5**	P	**Pb**	**05 54 10.3**	**-0.5**

*IDC **03** 06:04:51.5±0.9,3˙19S×139˙44E,h0km,mb4.1/9, mbtmp4.2/11,ML4.1/2,MS3.0/14,Error ellipse: s-maj=38.2km s-min=19.1km az=82.0*
*NEIC **03** 06:04:59.2±2.2,3˙4S±0˙1×139˙4E±0˙1,h57km±8km, mb4.5/27,Error ellipse: s-maj=18.5km s-min=16.7km az=87.0*
*DJA **03** 06:04:59.1±0.2,3˚S±2˚×13˚9E±˚,h78km±2km,M4.5/13, mB5.8/1,mb4.5/13,MLv4.5/4,Mw(mB)5.4/1*
ISC 03 06:05:00.5±0.5,**3˙41S**±0˙05×**139˙16E**±0˙05,**h73**km,**n92,**
σ1§75/94,mb4.4/22,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAMI	**Wamena**	**0.65**	**224**	P	Pn	06 05 20.6	+5.6
GENI	**Genyem**	**1.29**	**51**	P	**Pn**	**06 05 22.8**	**-0.1**
GENI	**Genyem**	**1.29**	**51**	P	**Pn**	**06 05 22.3**	**-0.6**
GENI				S	**Sn**	**06 05 37.7**	**-2.0**
SMPI	**Sarmi**	**1.48**	**342**	P	**Pn**	**06 05 24.7**	**-0.6**
SMPI				S	**Sn**	**06 05 43.5**	**-0.5**
SRPI	**Serui, Papua**	**3.29**	**298**	P	**Pn**	**06 05 45.6**	**-4.1**
SRPI				Pn	Pn	06 05 48.9	-0.8
SRPI				S	**Sn**	**06 06 26.2**	**-1.6**
MMPI	**Merauke**	**5.17**	**166**	Pn	**Pn**	**06 06 16.9**	**+1.6**
RKPI	**Ransiki, Papua**	**5.32**	**291**	P	**Pn**	**06 06 17.8**	**+0.4**
	60nm,0.7s,0.7nm						
FAKI	**Fak Fak**	**6.92**	**274**	Pn	**Pn**	**06 06 41.5**	**+2.3**
FAKI	**Fak Fak**	**6.92**	**274**	P	**Pn**	**06 06 41.7**	**+2.5**
FAKI	**Fak Fak**	**6.92**	**274**	P	**Pn**	**06 06 40.2**	**+1.0**
	17nm,1.2s,0.1nm						
BNDI	**Bandanaira**	**9.30**	**263**	P	**Pn**	**06 07 12.9**	**+1.1**
	578nm,1.2s						
KDU	**Kakadu**	**11.34**	**215**	P	**Pn**	**06 07 40.9**	**+1.2**
MTN	**Manton Dam**	**12.28**	**220**		**Pn**	**06 07 53.3**	**+0.8**
MTN	**Manton Dam**	**12.28**	**220**	P	**Pn**	**06 07 53.1**	**+0.6**
KNRA	**Kununurra**	**15.91**	**219**	P	**P**	**06 08 41.1**	**-1.3**
KNRA	**Kununurra**	**15.91**	**219**	P	**P**	**06 08 41.8**	**-0.6**
SOEI	**Soe**	**16.07**	**246**	P	**P**	**06 08 47.4**	**+3.1**
SOEI	**Soe**	**16.07**	**246**	P	**P**	**06 08 46.0**	**+1.7**
SOEI	**Soe**	**16.07**	**246**	P	**Pn**	**06 08 41.1**	**-1.2**
WB0	**Warramunga Arr**	**16.91**	**196**	P	**P**	**06 08 53.0**	**-0.4**
QIS	**Mount Isa**	**17.05**	**179**	P	**P**	**06 08 56.1**	**+1.1**
WR0	**Warramunga Arr**	**17.05**	**195**	P	**P**	**06 08 54.7**	**-0.3**
WRAB	**Tennant Creek**	**17.08**	**196**	P	**P**	**06 08 55.3**	**0.0**
WB2	**Warramunga Arr**	**17.09**	**196**	P	**P**	**06 08 55.4**	**0.0**
WB2				IAmb	IAmb	06 08 59.8	
	comp=Z,26nm,0.7s						
WRA	**Warramunga Arr**	**17.09**	**196**	P	**P**	**06 08 55.0**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=19,slow=13,SNR=45						
WRA				S	**Sn**	**06 11 57.0**	**-7.4**
	comp=Z,3.9nm,0.9s,baz=8.3,slow=24,SNR=4.2						
WRA				LR	LR	06 16 15.5	
	comp=Z,83nm,19.2s,baz=36,slow=39 comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**17.09**	**196**	P	**Pn**	**06 08 53.4**	**-1.3**
DAV	**Davao City (W)**	**17.09**	**308**	LR	LR	06 16 10.2	
	comp=Z,23nm,18.0s,baz=318,slow=40						
GUMO	**Guam**	**17.82**	**18**	LR	LR	06 16 21.9	
	comp=Z,25nm,18.5s,baz=126,slow=39						
CTA	**Charters Tower**	**17.96**	**158**	P	**P**	**06 09 04.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=338,slow=10,SNR=1.9						
CTA				S	**Sn**	**06 12 24.3**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=240,slow=20,SNR=1.6						
CTA				LR	LR	06 16 08.9	
	comp=Z,82nm,18.1s,baz=355,slow=38 comp=Z,0.8nm,0.4s						
BSSI	**Bau Bau, Buton**	**18.80**	**261**	P	**P**	**06 09 12.3**	**-2.0**
	comp=Z,

comp=Z,4.8nm,19.3s,baz=181,slow=37
SONM Songino Array 58.54 335 P **P** 06 14 49.6 +0.1
comp=Z,0.2nm,0.3s,baz=152,slow=8.4,SNR=2.3
comp=Z,0.2nm,0.3s
MKAR Makanchi Array 70.61 322 P **P** 06 16 08.8 +0.6
comp=Z,1.6nm,0.6s,baz=113,slow=7.9,SNR=26
comp=Z,1.6nm,0.6s
MKAR Makanchi Array 70.61 322 P **P** 06 16 08.6 +0.4
ZALV Zalesovo Beam 72.76 330 P **P** 06 16 20.3 -0.6
comp=Z,0.3nm,0.4s,baz=116,slow=6.7,SNR=2.0
comp=Z,0.3nm,0.4s
VNDA Vanda 75.05 175 P **P** 06 16 36.0 +2.2
VNDA IAmb IAmb 06 16 40.5
comp=Z,8.1nm,1.5s
GAR Garm 75.89 311 P **P** 06 16 40.6 +1.1
OHAK Old Harbor 80.93 31 P **P** 06 17 04.2 -2.5
SVW2 Sparrevohn 81.30 27 P **P** 06 17 08.1 -0.5
SVW2 IAmb IAmb 06 17 10.7
comp=Z,5.2nm,1.0s
L19K White Mountain 82.05 26 P **P** 06 17 13.4 +0.8
L19K IAmb IAmb 06 17 14.5
comp=Z,6.3nm,0.9s
M20K Styx River 82.69 26 P **P** 06 17 15.8 -0.2
CNPM China Poot 82.74 29 P **P** 06 17 15.9 -0.3
J20K Nowinta River 83.12 24 P **P** 06 17 19.3 +1.2
J20K IAmb IAmb 06 17 19.4
comp=Z,7.6nm,1.4s
RC01 Rabbit Creek A 83.95 28 P **P** 06 17 21.6 -0.8
RC01 IAmb IAmb 06 17 29.2
comp=Z,8.7nm,1.1s
IMAR Indian Mountai 83.97 22 P **P** 06 17 22.2 -0.2
MLY Manley 84.80 24 P **P** 06 17 26.8 +0.1
MLY IAmb IAmb 06 17 30.8
comp=Z,5.8nm,1.5s
SML Sawmill 84.81 27 P **P** 06 17 26.5 -0.3
SML IAmb IAmb 06 17 28.3
comp=Z,8.1nm,1.1s
GEYT Alibeck 85.02 308 P **P** 06 17 28.7 +0.3
comp=Z,2.5nm,0.7s,baz=116,slow=3.4,SNR=4.9
comp=Z,2.5nm,0.7s
ABKAR Akbulak array 85.54 320 P **P** 06 17 30.6 0.0
CCB Clear Creek Bu 85.87 24 P **P** 06 17 31.2 -0.6
CCB IAmb IAmb 06 17 32.0
comp=Z,4.7nm,0.8s
IL31 86.28 24 P **P** 06 17 32.8 -1.1
IL31 IAmb IAmb 06 17 33.7
comp=Z,3.5nm,0.8s
ILAR Eielson Array 86.28 24 P **P** 06 17 32.8 -1.2
comp=Z,2.5nm,0.7s,baz=262,slow=4.4,SNR=31
comp=Z,2.5nm,0.7s
ILAR Eielson Array 86.28 24 P **P** 06 17 33.2 -0.8
QSPA South Pole Qui 86.54 180 LR LR 06 56 18.6
comp=Z,40nm,18.5s,baz=221,slow=36
QSPA South Pole Qui 86.54 180 P **P** 06 17 36.0 +0.6
QSPA IAmb IAmb 06 18 09.2
comp=Z,3.1nm,1.1s
BARN Barnard Glacie 87.74 29 P **P** 06 17 40.8 -0.6
BMAR Burnt Mountain 87.88 22 P **P** 06 17 42.7 +1.0
M27K Edge Creek, AK 87.89 27 P **P** 06 17 42.5 +0.5
M27K IAmb IAmb 06 17 43.9
comp=Z,4.8nm,1.0s
BCAR Beaver Creek A 88.07 27 P **P** 06 17 42.6 -0.1
TORD Torodi Ar. Bea 136.88 286 PKP **PKPdf** 06 24 16.2 +0.4
comp=Z,1.0nm,0.6s,baz=65,slow=2.2,SNR=5.9
DBIC Dimbokro 144.02 277 PKP **PKPdf** 06 24 28.4 -0.4
comp=Z,3.5nm,0.6s,baz=106,slow=4.5,SNR=7.1
CPUP Villa Florida 146.40 153 PKPbc **PKiKP** 06 24 35.8 -1.2
comp=Z,2.3nm,0.6s,baz=243,slow=2.7,SNR=8.1

IDC 03 06:23:41.9±18.0, 19°.64S×179°.14W, h650km±260km, mb2.7/3, mbtmp3.9/4, Error ellipse: s-maj=145.8km s-min=31.1km az=10.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
URZ	**Urewera**	**18.84**	**189**	P	P		06 27 23.2	+0.3
	5.6nm,0.3s,baz=341,slow=4.1,SNR=12							
WRA	**Warramunga Arr**	**43.66**	**261**	P	P		06 30 52.4	+0.2
	0.4nm,0.3s,baz=97,slow=7.6,SNR=19							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**43.68**	**256**	P	P		06 30 52.2	-0.1
	0.5nm,0.5s,baz=96,slow=7.3,SNR=14							
	0.5nm,0.5s							
PDAR	**Pinedale Array**	**89.08**	**44**	P	P		06 35 30.3	+0.1
	0.2nm,0.6s,baz=197,slow=2.7,SNR=2.9							
	0.2nm,0.6s							
AKASG	**Malin Array Be**	**141.74**	**331**	PKP	PKPdf		06 41 59.6	-1.5
	1.1nm,0.4s,baz=44,slow=4.3,SNR=9.6							

*WEL **03** 06:29:00.4±1.7, 41°.78S×174°.19E, h17km±1.9km, Mw3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr1.15; Mθθ1.67; Mϕϕ-2.82; Mrθ-0.80; Mθϕ-0.82; Mϕr0.97; Fault plane solution: M0 2.83000×10^14 NP1: ϕs230.00000°, δ56.00000°, λ160.00000°. NP2: ϕs332.00000°, δ73.00000°, λ36.00000°. Principal axes: T 25.3700, Plg37.0000°, Azm197.0000°; N 5.8800, Plg51.0000°, Azm354.0000°; P -31.2500, Plg11.0000°, Azm98.0000°;*

*IDC **03** 06:29:18.2±1.9, 41°.72S×173°.97E, h0km±3.3km, mb3.3/2, mbtmp3.4/4, ML3.2/2 Error ellipse: s-maj=45.1km s-min=27.3km az=133.0*

*NOU **03** 06:29:20.7±2.0, 42°.03S×174°.47E±0°.1, h26km±1.1km, MLv4.1/11, Off E. Coast of S. Island, N.Z.*

*WEL **03** 06:29:21.8±0.5, 42°.53S±3°.3×17°.4E±0°.5, h6km±4km, M3.9/13, ML4.2/13, MLv3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=161.2, confirmed*

ISC 03 06:29:19.6±1.1, 41°.90S±0°.03×174°.25E±0°.03, h15km±8km, n114, σ1s28/130, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.15**	**349**	P	**Pb**		**06 29 24.6**	**+0.5**
CMWZ				S	**Sb**		**06 29 27.6**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.33**	**302**	P	**Pb**		**06 29 27.2**	**0.0**
BSWZ				S	**Sg**		**06 29 30.3**	**-0.8**
TUWZ	**Tuamarina**	**0.52**	**333**	P	**Pb**		**06 29 29.9**	**-0.4**
TUWZ				S	**Sg**		**06 29 36.2**	**-0.6**
SNZO	**South Karori**	**0.68**	**30**	P	**Pb**		**06 29 33.7**	**+0.7**
TCW	**Tory Channel**	**0.68**	**2**	P	**Pb**		**06 29 32.8**	**-0.4**
TCW				S	**Sg**		**06 29 41.4**	**-0.5**
WEL	**Wellington**	**0.72**	**33**	P	**Pn**		**06 29 34.6**	**-0.6**
WEL				S	**Sn**		**06 29 45.6**	**-0.4**
KHZ	**Kahutara**	**0.74**	**225**	P	**Pn**		**06 29 35.8**	**+1.3**
KHZ	**Kahutara**	**0.74**	**225**	P	**Pn**		**06 29 37.2**	**+1.7**
KHZ				S	**Sn**		**06 29 49.5**	**+3.0**
PLWZ	**Palliser**	**0.82**	**67**	P	**Pn**		**06 29 37.1**	**+0.5**
PLWZ				S	**Sn**		**06 29 49.2**	**+0.7**
MSWZ	**Moikau Station**	**0.89**	**58**	P	**Pn**		**06 29 38.2**	**+0.7**
MSWZ				S	**Sn**		**06 29 50.8**	**+0.7**
NNZ	**Nelson**	**0.94**	**316**	P	**Pb**		**06 29 37.5**	**-0.1**
CAW	**Cannon Point**	**1.00**	**38**	P	**Pn**		**06 29 39.5**	**+0.5**
CAW				S	**Sn**		**06 29 53.3**	**+0.5**
THZ	**Tophouse**	**1.01**	**277**	P	**Pn**		**06 29 40.0**	**+0.6**
PAWZ	**Paruwai Farm**	**1.02**	**60**	P	**Pn**		**06 29 39.6**	**+0.3**
DUWZ	**D'Urville Isla**	**1.12**	**347**	P	**Pb**		**06 29 40.3**	**-0.4**
DUWZ				S	**Sb**		**06 29 54.3**	**-0.7**
KIW	**Kapiti Island**	**1.15**	**26**	P	**Pg**		**06 29 41.4**	**-0.2**
KIW				S	**Sn**		**06 29 57.2**	**+0.7**
TRWZ	**Traveller**	**1.19**	**66**	P	**Pn**		**06 29 41.7**	**+0.1**
MTW	**Mount Morrison**	**1.19**	**52**	P	**Pn**		**06 29 41.8**	**+0.1**
MTW				S	**Sg**		**06 30 00.2**	**+2.1**
MRNZ	**Matariki Terra**	**1.23**	**293**	P	**Pg**		**06 29 43.2**	**0.0**
MRNZ				S	**Sg**		**06 30 00.3**	**+1.2**
OGWZ	**Otaki Gorge**	**1.28**	**33**	P	**Pb**		**06 29 43.3**	**0.0**
TKNZ	**Takaka Hill**	**1.30**	**311**	P	**Pg**		**06 29 43.7**	**-0.9**
TKNZ				S	**Sg**		**06 30 00.7**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.38**	**44**	P	**Pn**		**06 29 44.3**	**0.0**
GVZ	**Greta Valley S**	**1.40**	**220**	P	**Pg**		**06 29 46.2**	**-0.4**
TMWZ	**Te Maipa**	**1.46**	**58**	P	**Pn**		**06 29 45.2**	**-0.2**
MRZ	**Mangatainoka R**	**1.59**	**39**	P	**Pn**		**06 29 47.3**	**+0.1**
TIWZ	**Tintock**	**1.66**	**48**	P	**Pn**		**06 29 47.9**	**-0.3**
QRZ	**Quartz Range**	**1.68**	**309**	P	**Pb**		**06 29 50.3**	**+0.1**
QRZ	**Quartz Range**	**1.68**	**309**	P	**Pb**		**06 29 49.9**	**-0.3**
LTZ	**Lake Taylor**	**1.71**	**238**	P	**Pb**		**06 29 50.5**	**-0.4**
AMCZ	**Amberley**	**1.74**	**222**	P	**Pb**		**06 29 50.5**	**-0.8**
CPWZ	**Castlepoint**	**1.77**	**57**	P	**Pg**		**06 29 56.5**	**+3.0**
DSZ	**Denniston Nort**	**1.84**	**274**	P	**Pb**		**06 29 52.7**	**-0.2**
PRWZ	**Pori Road**	**1.86**	**45**	P	**Pn**		**06 29 50.8**	**-0.1**
OHWZ	**Ohakea**	**1.87**	**26**	P	**Pb**		**06 29 52.7**	**-0.6**
POWZ	**Post Office Ro**	**1.89**	**38**	P	**Pn**		**06 29 51.4**	**+0.1**
BFZ	**Birch Farm**	**1.93**	**52**	P	**Pn**		**06 29 51.1**	**-0.8**
BFZ	**Birch Farm**	**1.93**	**52**	P	**Pn**		**06 29 51.1**	**-0.8**
OKCZ	**Okains Bay**	**2.03**	**205**	P	**Pn**		**06 29 54.1**	**+0.9**
DVHZ	**Dannevirke**	**2.15**	**43**	P	**Pn**		**06 29 54.2**	**-0.7**
MQZ	**McQueen's Vall**	**2.16**	**212**	P	**Pn**		**06 29 55.1**	**+0.1**
OXZ	**Oxford**	**2.17**	**228**	P	**Pn**		**06 29 55.5**	**+0.4**
AKCZ	**Akaroa Harbour**	**2.21**	**206**	P	**Pn**		**06 29 56.5**	**+0.8**
WAZ	**Wanganui**	**2.21**	**15**	P	**Pb**		**06 29 59.3**	**+0.1**
INZ	**Inchbonnie**	**2.24**	**247**	P	**Pn**		**06 29 57.6**	**+1.5**
TSZ	**Takapari Road**	**2.25**	**36**	P	**Pn**		**06 29 56.0**	**-0.2**
RACZ	**Rakaia**	**2.40**	**220**	P	**Pn**		**06 29 58.5**	**+0.2**
LREZ	**Lake Rotokare**	**2.44**	**3**	P	**Pb**		**06 30 02.8**	**-0.3**
WPHZ	**Waipukurau**	**2.47**	**43**	P	**Pn**		**06 30 00.9**	**+1.7**
PNHZ	**Pukenui**	**2.47**	**37**	P	**Pn**		**06 29 58.8**	**-0.5**
NMEZ	**Namu Road**	**2.50**	**353**	P	**Pb**		**06 30 04.4**	**+0.3**
MHCZ	**Mount Hutt**	**2.57**	**230**	P	**Pn**		**06 30 00.9**	**+0.2**
KHEZ	**Kahui Hut**	**2.60**	**356**	P	**Pb**		**06 30 04.4**	**-1.6**
KHEZ	**Kahui Hut**	**2.60**	**356**	P	**Pb**		**06 30 05.3**	**-0.7**
NEZ	**North Egmont**	**2.62**	**357**	P	**Pb**		**06 30 05.5**	**-0.8**
NBEZ	**Newall Road No**	**2.64**	**354**	P	**Pb**		**06 30 05.1**	**-1.5**
MTVZ	**Mangateitei**	**2.67**	**21**	P	**Pb**		**06 30 08.7**	**+1.6**
DREZ	**Durham Road**	**2.70**	**359**	P	**Pb**		**06 30 06.3**	**-1.3**
PKE	**Pukeiti**	**2.71**	**356**	P	**Pb**		**06 30 05.8**	**-1.9**
WACZ	**Wakanui South**	**2.71**	**220**	P	**Pn**		**06 30 03.1**	**+0.6**
PKVZ	**Pokaka**	**2.73**	**18**	P	**Pb**		**06 30 08.2**	**+0.1**
MOVZ	**Moawhango**	**2.73**	**25**	P	**Pn**		**06 30 03.9**	**+0.9**
WNVZ	**Wahianoa**	**2.76**	**22**	P	**Pb**		**06 30 08.4**	**-0.3**
KRHZ	**Kereru**	**2.77**	**36**	P	**Pn**		**06 30 02.6**	**-0.7**
BHHZ	**Black Hill Sta**	**2.77**	**30**	P	**Pn**		**06 30 04.8**	**+1.3**
TRVZ	**Turoa**	**2.77**	**21**	P	**Pb**		**06 30 08.9**	**-0.1**
VRZ	**Vera Road**	**2.79**	**8**	P	**Pn**		**06 30 06.0**	**+2.3**
FWVZ	**Far West T-bar**	**2.82**	**21**	P	**Pb**		**06 30 10.3**	**+0.6**
TUVZ	**Tukino**	**2.83**	**23**	P	**Pb**		**06 30 10.8**	**+0.9**
WVZ	**Waitaha Valley**	**2.85**	**244**	P	**Pn**		**06 30 05.7**	**+1.2**
NGZ	**Ngauruhoe**	**2.90**	**21**	P	**Pb**		**06 30 11.5**	**+0.4**
OTVZ	**Oturere**	**2.93**	**22**	P	**Pb**		**06 30 10.4**	**-1.2**
NNVZ	**North Ngauruho**	**2.95**	**21**	P	**Pb**		**06 30 12.2**	**+0.3**
WTVZ	**West Tongariro**	**2.96**	**21**	P	**Pb**		**06 30 11.2**	**-0.9**
TWVZ	**Taurewa**	**2.96**	**18**	P	**Pb**		**06 30 10.5**	**-1.6**
ETVZ	**East Tongariro**	**2.97**	**22**	P	**Pb**		**06 30 09.3**	**-3.0**
RPZ	**Rata Peaks**	**2.97**	**231**	Pn	**Pn**		**06 30 06.8**	**+0.6**
	9.7nm,0.3s,baz=98,slow=2.4,SNR=36							
RPZ				Sn	**Sn**		**06 30 41.3**	**-0.4**
	10nm,0.3s,baz=326,slow=23,SNR=25							
	20nm,0.3s							
RPZ	**Rata Peaks**	**2.97**	**231**	P	**Pn**		**06 30 06.9**	**+0.6**
RPZ	**Rata Peaks**	**2.97**	**231**	P	**Pn**		**06 30 06.8**	**+0.6**
TMVZ	**Te Maari**	**2.99**	**22**	P	**Pb**		**06 30 10.0**	**-2.6**
KRVZ	**Karewarewa**	**2.99**	**21**	P	**Pb**		**06 30 11.2**	**-1.4**
NTVZ	**North Tongarir**	**3.00**	**22**	P	**Pb**		**06 30 12.5**	**-0.2**
ARCZ	**Arundel**	**3.05**	**227**	P	**Pn**		**06 30 07.9**	**+0.6**
KATZ	**Kakaramea**	**3.12**	**21**	P	**Pb**		**06 30 13.2**	**-1.6**
RITZ	**Rihia Road**	**3.16**	**23**	P	**Pb**		**06 30 15.7**	**+0.2**
BKZ	**Black Stump Fm**	**3.22**	**33**	P	**Pn**		**06 30 10.8**	**+1.2**
GCSZ	**Gaunt Creek Bo**	**3.23**	**243**	P	**Pn**		**06 30 11.7**	**+2.1**
RATZ	**Rangitukua**	**3.24**	**21**	P	**Pb**		**06 30 17.9**	**+1.1**
WATZ	**Wairara**	**3.38**	**20**	P	**Pb**		**06 30 19.4**	**+0.2**
HIZ	**Hauiti**	**3.41**	**8**	P	**Pn**		**06 30 14.1**	**+1.9**
HIZ	**Hauiti**	**3.41**	**8**	P	**Pn**		**06 30 14.8**	**+2.7**
TMZ	**Timaru**	**3.44**	**223**	P	**Pn**		**06 30 13.0**	**+0.4**
MRHZ	**Matea Rd**	**3.48**	**29**	P	**Pb**		**06 30 20.9**	**0.0**
FOZ	**Fox Glacier**	**3.66**	**242**	P	**Pn**		**06 30 16.8**	**+1.2**
LBZ	**Lake Benmore**	**3.88**	**229**	P	**Pn**		**06 30 19.3**	**+0.7**
RTZ	**Ruatahuna**	**3.88**	**33**	P	**Pb**		**06 30 25.1**	**-2.7**
ODZ	**Otahua Downs**	**4.10**	**219**	P	**Pn**		**06 30 21.0**	**-0.6**
ODZ	**Otahua Downs**	**4.10**	**219**	P	**Pn**		**06 30 21.8**	**+0.1**
URZ	**Urewera**	**4.24**	**32**	Pn	**Pn**		**06 30 23.9**	**+0.3**
	0.6nm,0.3s,baz=94,slow=16,SNR=2.5							
URZ				Sn	**Sn**		**06 31 10.1**	**-2.7**
	1.9nm,0.3s,baz=210,slow=16,SNR=1.8							
	9.0nm,0.7s							
URZ	**Urewera**	**4.24**	**32**	P	**Pn**		**06 30 23.9**	**+0.3**
URZ	**Urewera**	**4.24**	**32**	P	**Pb**		**06 30 31.3**	**-2.5**
TOZ	**Tahuroa Road**	**4.27**	**13**	P	**Pn**		**06 30 27.4**	**+3.4**
JCZ	**Jackson Bay**	**4.56**	**240**	P	**Pn**		**06 30 28.8**	**+0.7**
JCZ	**Jackson Bay**	**4.56**	**240**	P	**Pn**		**06 30 29.9**	**+1.8**
AWAZ	**Awhitu Peninsu**	**4.83**	**4**	P	**Pn**		**06 30 34.9**	**+3.1**
MKAZ	**Moumakai**	**4.84**	**9**	P	**Pn**		**06 30 33.9**	**+2.1**
EAZ	**Earnscleugh**	**4.90**	**225**	P	**Pn**		**06 30 33.2**	**+0.5**
ETAZ	**East Tamaki Re**	**4.96**	**6**	P	**Pn**		**06 30 37.4**	**+3.9**
RVAZ	**Riverhead Bore**	**5.12**	**3**	P	**Pn**		**06 30 39.5**	**+3.8**
TUZ	**Tuapeka**	**5.25**	**218**	P	**Pn**		**06 30 38.5**	**+1.1**
MLZ	**Mavora Lakes**	**5.64**	**230**	P	**Pn**		**06 30 43.2**	**+0.3**
CTZ	**Chatham Island**	**6.96**	**108**	P	**Pn**		**06 31 01.1**	**+0.2**
ASAR	**Alice Springs**	**38.07**	**286**	P	**P**		**06 36 36.6**	**-1.1**
	0.2nm,0.4s,baz=123,slow=7.0,SNR=8.3							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**40.16**	**291**	P	**P**		**06 36 53.6**	**-1.5**
	0.3nm,0.4s,baz=127,slow=8.6,SNR=7.7							
	0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**150.63**	**195**	PKPbc	**PKiKP**		**06 49 12.2**	**+0.2**
	0.3nm,0.4s,baz=146,slow=3.0,SNR=4.8							

IDC 03 06:35:52.9±5.2, 21°.40S×175°.96W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=160.6km s-min=99.1km az=169.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CTA	**Charters Tower**	**35.30**	**265**	P	P		06 42 50.8	+0.9
	5.8nm,1.2s,baz=93,slow=10,SNR=2.6							
	5.8nm,1.2s							
STKA	**Stephens Creek**	**39.13**	**245**	P	P		06 43 22.4	+0.1
	0.8nm,0.4s,baz=106,slow=10,SNR=3.4							
	0.8nm,0.4s							
ASAR	**Alice Springs**	**46.17**	**257**	P	P		06 44 19.1	-0.6
	0.9nm,0.7s,baz=101,slow=6.8,SNR=10							
ASAR				PcP	PcP		06 45 55.8	0.0
	0.2nm,0.5s,baz=120,slow=4.3,SNR=2.2							
	0.9nm,0.7s							
WRA	**Warramunga Arr**	**46.37**	**262**	P	P		06 44 20.6	-0.6
	0.4nm,0.5s,baz=97,slow=8.1,SNR=6.9							
	0.4nm,0.5s							

*IDC **03** 06:50:43.8±4.1, 5°.14S×154°.09E, h102km±29km, mb3.6/10, mbtmp4.0/12, MS3.2/4, Error ellipse: s-maj=38.1km s-min=15.7km az=95.0*

ISC 03 06:50:43.8±1.0, 5°.25S±0°.1×154°.1E±0°.1, h105km, n16, σ0s87/15, mb3.7/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.27**	**292**	P	**Pn**		**06 51 20.8**	**+0.7**
	144nm,0.4s,baz=202,slow=5.6,SNR=8.9							
KRVT				S	**Sn**		**06 51 46.4**	**-1.5**
	152nm,0.3s,baz=289,slow=22,SNR=8.8							
HNR	**Honiara**	**7.15**	**127**	LR	LR		06 55 15.6	
	comp=Z,752nm,21.1s,baz=308,slow=38							
PMG	**Port Moresby**	**8.10**	**238**	P	**Pn**		**06 52 37.9**	**-0.7**
	13nm,0.2s,baz=138,slow=12,SNR=3.0							
PMG				S	**Sn**		**06 54 09.8**	**+1.3**
	7.4nm,0.2s,baz=278,slow=14,SNR=1.5							
WRA	**Warramunga Arr**	**24.22**	**231**	P	**P**		**06 55 51.4**	**+0.4**
	6.1nm,0.8s,baz=56,slow=10,SNR=43							
	6.1nm,0.8s							
ASAR	**Alice Springs**	**26.79**	**225**	P	**P**		**06 56 14.7**	**+0.4**
	1.9nm,0.8s,baz=57,slow=8.6,SNR=17							
	1.9nm,0.8s							
STKA	**Stephens Creek**	**29.05**	**202**	P	**P**		**06 56 33.6**	**-0.5**
	2.1nm,0.6s,baz=25,slow=14,SNR=4.9							
	2.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**59.24**	**295**	P	**P**		**07 00 35.0**	**+0.3**
	1.0nm,0.3s,baz=112,slow=5.1,SNR=7.3							
	1.0nm,0.3s							
SONM	**Songino Array**	**67.36**	**327**	P	**P**		**07 01 28.3**	**+0.5**
	0.3nm,0.5s,baz=134,slow=4.3,SNR=3.9							
SONM				LR	LR		07 30 18.9	
	comp=Z,7.8nm,19.7s,baz=90,slow=35							
	0.3nm,0.5s							
TIXI	**Tiksi**	**78.45**	**352**	LR	LR		07 35 03.3	
	comp=Z,8.0nm,21.0s,baz=359,slow=34							
MKAR	**Makanchi Array**	**81.48**	**319**	P	**P**		**07 02 50.1**	**+0.5**
	1.0nm,0.8s,baz=97,slow=6.3,SNR=7.0							
	1.0nm,0.8s							
ILAR	**Eielson Array**	**82.01**	**22**	P	**P**		**07 02 52.2**	**+0.3**
	0.4nm,0.8s,baz=251,slow=5.4,SNR=4.3							
	0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**82.20**	**326**	P	**P**		**07 02 52.8**	**-0.3**
	0.6nm,0.5s,baz=108,slow=4.7,SNR=2.6							
	0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**84.92**	**322**	P	**P**		**07 03 06.4**	**-0.7**
	0.3nm,0.4s,baz=86,slow=4.7,SNR=4.4							
	0.3nm,0.4s							
BBB	**Bella Bella**	**86.59**	**37**	LR	LR		07 34 20.3	
	comp=Z,9.7nm,21.0s,baz=208,slow=30							
BVAR	**Borovoye Array**	**90.34**	**323**	P	**P**		**07 03 32.6**	**-0.4**
	0.8nm,0.8s,baz=108,slow=4.7,SNR=3.4							
	0.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**151.69**	**288**	PKPbc	**PKPbc**		**07 10 25.7**	**-1.4**
	0.8nm,0.7s,baz=34,slow=2.6,SNR=4.6							

*IDC **03** 06:55:15.6±0.8, 3°.79N×128°.94E, h0km, mb3.8/9, mbtmp3.8/10, ML3.8/1, MS2.8/3, Error ellipse: s-maj=44.8km s-min=15.1km az=70.0*

ISC 03 06:55:20.8±0.7, 3°.8N±0°.1×129°.0E±0°.2, h35km, n14, σ1s26/14, mb3.8/9, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DAV	**Davao City (W)**	**4.69**	**314**	LR	LR		06 58 31.4	
	comp=Z,143nm,18.3s,baz=296,slow=42							
KCP	**Kidapawan**	**5.01**	**310**	⇓*e*P	**Pn**		**06 56 31.4**	**-2.2**
KCP				*i* S	**Sn**		**06 57 33.3**	**+2.9**
SIJI	**Sorong**	**5.17**	**154**	Pn	**Pn**		**06 56 36.2**	**+0.5**
	3.3nm,0.3s,baz=345,slow=24,SNR=5.1							
SIJI				Sn	**Sn**		**06 57 34.9**	**+0.7**
	2.7nm,0.3s,baz=323,slow=20,SNR=2.0							
	10nm,0.4s							
GUMO	**Guam**	**18.46**	**57**	LR	LR		07 04 53.8	
	comp=Z,49nm,19.9s,baz=131,slow=31							
WRA	**Warramunga Arr**	**24.18**	**168**	P	**P**		**07 00 33.8**	**-0.3**
	2.1nm,0.7s,baz=346,slow=10,SNR=21							
	2.1nm,0.7s							
ASAR	**Alice Springs**	**27.72**	**170**	P	**P**		**07 01 05.4**	**-0.6**
	0.2nm,0.5s,baz=350,slow=7.7,SNR=4.7							
	0.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**32.78**	**299**	P	**P**		**07 01 50.7**	**-0.3**
	0.6nm,0.3s,baz=102,slow=7.5,SNR=1.6							
CMAR				LR	LR		07 16 18.5	
	comp=Z,5.7nm,18.3s,baz=95,slow=39							
	0.6nm,0.3s							
MJAR	**Matsushiro Arr**	**33.68**	**13**	P	**P**		**07 01 58.3**	**-0.2**
	1.3nm,0.8s,baz=191,slow=8.7,SNR=2.5							
	1.3nm,0.8s							
STKA	**Stephens Creek**	**37.46**	**162**	P	**P**		**07 02 31.1**	**+0.1**
	1.2nm,0.4s,baz=357,slow=12,SNR=4.7							
	1.2nm,0.4s							
SONM	**Songino Array**	**47.98**	**340**	P	**P**		**07 03 57.3**	**+1.0**
	0.2nm,0.5s,baz=155,slow=10,SNR=2.3							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**58.79**	**324**	P	**P**		**07 05 15.2**	**-0.4**
	0.4nm,0.3s,baz=112,slow=7.7,SNR=14							
	0.4nm,0.3s							
ZALV	**Zalesovo Beam**	**61.56**	**332**	P	**P**		**07 05 35.2**	**+0.9**
	0.3nm,0.4s,baz=140,slow=9.0,SNR=2.6							
	0.3nm,0.4s							
ILAR	**Eielson Array**	**84.08**	**25**	P	**P**		**07 07 47.6**	**-0.1**
	0.8nm,1.1s,baz=254,slow=6.5,SNR=3.3							
	0.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**125.02**	**289**	PKP	**PKPdf**		**07 14 17.5**	**-0.9**
	0.2nm,0.6s,baz=66,slow=1.5,SNR=1.3							

*IDC **03** 06:56:21.9±0.9, 34°.89N×73°.60E, h0km, mb3.9/14, mbtmp3.9/20, ML3.4/6, MS2.8/2, Error ellipse: s-maj=19.9km s-min=18.5km az=42.0*

*NNC **03** 06:56:34.3±4.6, 35°.27N×73°.41E, h91km±36km, mb3.5, mpv4.1, Error ellipse: s-maj=38.0km s-min=23.6km az=21.0*

ISC 03 06:56:25.5±0.9, 34°.91N±0°.09×73°.47E±0°.09, h21km, n31, σ1s81/34, mb3.8/13, 3C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
AAK	**Ala-Archa**	**7.75**	**6**	Pn	**Pn**		**06 58 20.0**	**+2.7**
	1.1nm,0.3s,baz=247,slow=5.4,SNR=9.4							
AAK				Sn	**Sn**		**06 59 47.9**	**+3.4**
	baz=322,slow=19							
AAK				LR	LR		07 01 37.6	
	comp=Z,47nm,19.2s,baz=162,slow=41	

mbtmp3.7/3,**Error ellipse: s-maj=316.6km s-min=38.7km az=143.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.70**	**260**	P	P	07 12 32.7	-0.1
	0.3nm,0.3s,baz=97,slow=7.5,SNR=6.5 0.3nm,0.3s						
ASAR	**Alice Springs**	**45.78**	**255**	P	P	07 12 33.2	-0.1
	0.9nm,0.5s,baz=86,slow=9.3,SNR=20 0.9nm,0.5s						
ILAR	**Eielson Array**	**86.24**	**12**	P	P	07 16 52.6	-0.1
	0.4nm,0.7s,baz=214,slow=5.0,SNR=4.7 0.4nm,0.7s						

IDC 03 07:17:10.2±2.4,5.07N×92.37E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=113.2km s-min=32.7km az=52.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**23.51**	**238**	T	T	07 48 02.8	
	baz=58,slow=76,SNR=117						
H08S2	**Diego Garcia H**	**23.51**	**238**	T	T	07 48 02.1	
	baz=58,slow=76,SNR=115						
H08S1	**Diego Garcia H**	**23.53**	**238**	T	T	07 47 55.3	
	baz=58,slow=76,SNR=97						
MKAR	**Makanchi Array**	**42.47**	**350**	P	P	07 25 07.3	+0.3
	0.2nm,0.5s,baz=159,slow=8.0,SNR=2.5 0.2nm,0.5s						
KURBB	**Kurchatov Area**	**46.86**	**348**	P	P	07 25 41.9	-0.1
	0.1nm,0.4s,baz=179,slow=6.9,SNR=5.5 0.1nm,0.4s						
WRA	**Warramunga Arr**	**48.16**	**122**	P	P	07 25 52.5	-0.1
	0.3nm,0.7s,baz=306,slow=8.9,SNR=1.6 0.3nm,0.7s						
GERES	**GERESS Array B**	**78.74**	**319**	P	P	07 29 14.5	-0.3
	0.2nm,0.4s,baz=104,slow=6.2,SNR=1.6 0.2nm,0.4s						

*IDC **03** 07:34:18.7±6.3,14.92N×92.25W,h0km,mb3.6/6, mbtmp3.7/8,ML4.1/2,MS2.8/1,Error ellipse: s-maj=147.1km s-min=56.5km az=19.0*
*MEX **03** 07:34:23.8±0.7,14.47N×93.06W,h20km±32km,MD4.4*
*NEIC **03** 07:34:24.2±3.1,14.52N±0.07×92.97W±0.06,h36km±18km, mb4.1/10,Md4.4/76(MEX),Error ellipse: s-maj=9.6km s-min=7.8km az=176.0*
*SNET **03** 07:34:24.5±1.3,14.68N×92.74W,h15km±999km,ML4.4*
*GCG **03** 07:34:31.8±0.4,14.76N×92.34W,h49km±15km,MD4.3*

ISC 03 07:34:20.4±1.4,14.47N±0.05×93.05W±0.04,h15km±10km, n114,σ2§18/169,mb3.8/9,3C,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.88**	**60**		**Pb**	**07 34 38.1**	**+0.8**
THIG					**Sg**	**07 34 49.0**	**0.0**
THIG		**0.88**	**60**	*i* P	**Sg**	**07 34 38.1**	**+0.8**
THIG				eS	**Sg**	**07 34 48.3**	**-0.7**
PATR	**El Naranjo**	**1.02**	**51**	*e*P	**Pg**	**07 34 39.7**	**-0.5**
PATR				eS	**Sg**	**07 34 52.2**	**-1.4**
CHUJ	**Union Juarez**	**1.10**	**56**	*e*P	**Pg**	**07 34 40.9**	**-0.9**
CHUJ				*i* S	**Sg**	**07 34 55.0**	**-1.3**
PAVE	**Pavencul**	**1.11**	**49**	*i* P	**Pg**	**07 34 41.4**	**-0.5**
PAVE				eS	**Sg**	**07 34 54.8**	**-1.7**
PCIG		**1.24**	**352**		**Pn**	**07 34 43.1**	**-0.1**
PCIG					**Sb**	**07 34 57.5**	**-1.9**
PCIG		**1.24**	**352**	*i* P	**Pn**	**07 34 43.1**	**-0.1**
PCIG				eS	**Sb**	**07 34 57.5**	**-1.9**
RTAL	**Retalhuleu**	**1.31**	**87**	Pn	**Pn**	**07 34 43.7**	**-0.5**
SULM	**Suchitepequez,**	**1.45**	**96**	*i* P	**Pb**	**07 34 47.6**	**+0.5**
STG3	**Santiaguito 3,**	**1.45**	**80**	*e*P	**Pn**	**07 34 46.6**	**+0.3**
HUEH	**Huehuetenango**	**1.72**	**60**	Pn	**Pn**	**07 34 51.0**	**+1.0**
CCIG	**Comitan**	**2.01**	**26**	Pn	**Pn**	**07 34 55.6**	**+1.7**
CCIG	**Comitan**	**2.01**	**26**	*e*P	**Pn**	**07 34 55.4**	**+1.4**
CCIG				eS	**Sn**	**07 35 19.4**	**+0.5**
FUG	**Fuego 3**	**2.14**	**90**	*e*P	**Pn**	**07 34 56.5**	**+0.7**
FUG				eS	**Sn**	**07 35 17.6**	**-4.6**
TGIG		**2.30**	**358**		**Pn**	**07 34 59.6**	**+1.8**
TGIG					**Sn**	**07 35 24.4**	**-1.5**
TGIG		**2.30**	**358**	*e*P	**Pn**	**07 34 59.7**	**+1.8**
TGIG				eS	**Sn**	**07 35 26.6**	**+0.7**
PCG	**Pacaya**	**2.37**	**92**	*e*P	**Pn**	**07 35 00.2**	**+1.2**
PCG				eS	**Sn**	**07 35 22.3**	**-5.7**
NILT	**Santiago Nilte**	**2.57**	**324**	*e*P	**Pn**	**07 35 01.9**	**+0.3**
NILT				eS	**Sn**	**07 35 31.8**	**-0.9**
NBG	**Las Nubes**	**2.62**	**87**	*e*P	**Pn**	**07 35 05.1**	**+2.6**
UXUV	**UXUV**	**3.02**	**340**	*e*P	**Pn**	**07 35 10.2**	**+2.4**
UXUV				eS	**Sn**	**07 35 45.8**	**+2.0**
CMIG	**Matias Romero**	**3.15**	**326**	Pn	**Pn**	**07 35 11.0**	**+1.5**
	15nm,0.3s,baz=158,slow=13,SNR=282						
CMIG				Sn	**Sn**	**07 35 46.5**	**-0.4**
	54nm,0.3s,baz=90,slow=17,SNR=9.9 44nm,0.2s						
CMIG	**Matias Romero**	**3.15**	**326**		**Pn**	**07 35 10.5**	**+0.9**
CMIG	**Matias Romero**	**3.15**	**326**	*e*P	**Pn**	**07 35 10.5**	**+0.9**
CMIG				eS	**Sn**	**07 35 45.7**	**-1.2**
NUBE	**Las Nubes**	**3.22**	**100**	*e*P	**Pn**	**07 35 11.3**	**+0.7**
HUIG	**Huatulco**	**3.23**	**294**		**Pn**	**07 35 10.4**	**-0.2**
HUIG					**Sn**	**07 35 44.4**	**-4.3**
HUIG	**Huatulco**	**3.23**	**294**	*e*P	**Pn**	**07 35 10.6**	**0.0**
HUIG				eS	**Sn**	**07 35 43.8**	**-5.0**
CEVE	**Cerro Verde**	**3.38**	**100**	*e*P	**Pn**	**07 35 13.4**	**+0.4**
CEVE				eS	**Sn**	**07 35 52.1**	**-0.9**
CEVE				IAML		07 36 04.1	
	comp=Z,2μm,0.3s						
MTO3	**Montecristo**	**3.57**	**91**	Pn	**Pn**	**07 35 16.1**	**+0.6**
JAYA	**Jayaque - finc**	**3.59**	**103**	*e*P	**Pn**	**07 35 15.7**	**0.0**
JAYA				IAML		07 36 10.2	
	comp=Z,659nm,0.2s						
ESQI	**Esquipulas**	**3.59**	**88**	Pn	**Pn**	**07 35 14.8**	**-0.9**
CEDA	**San Andres**	**3.61**	**100**	*e*P	**Pn**	**07 35 16.9**	**+1.1**
SNET	**Serv Nac Est T**	**3.79**	**101**	Pn	**Pn**	**07 35 18.8**	**+0.5**
PETF	**Flores**	**3.91**	**51**	Pn	**Pn**	**07 35 21.4**	**+1.4**
SJTE	**Alcalda de S**	**4.01**	**102**	*e*P	**Pn**	**07 35 22.3**	**+0.8**
PAVA	**Las Pavas**	**4.06**	**100**	*e*P	**Pn**	**07 35 22.6**	**+0.4**
COEG	**Centro de Oper**	**4.13**	**101**	*e*P	**Pn**	**07 35 24.2**	**+1.1**
COEG				eS	**Sn**	**07 36 10.9**	**-0.3**
COEG				IAML		07 36 27.2	
	comp=Z,328nm,0.6s						
PEIG	**Puerto Escondi**	**4.24**	**292**		**Pn**	**07 35 25.3**	**+0.7**
PEIG					**Sn**	**07 36 09.0**	**-4.8**
PEIG	**Puerto Escondi**	**4.24**	**292**	*e*P	**Pn**	**07 35 25.3**	**+0.7**
PEIG				eS	**Sn**	**07 36 08.4**	**-5.4**
SCLA	**Alcaldia de Sa**	**4.26**	**100**	*e*P	**Pn**	**07 35 25.3**	**+0.5**
OXIG	**Oaxaca**	**4.39**	**307**		**Pn**	**07 35 30.5**	**+3.6**
OXIG					**Sn**	**07 36 17.2**	**-0.6**
VHO	**Vista Hermosa**	**4.39**	**307**	*e*P	**Pn**	**07 35 30.5**	**+3.7**
VHO				eS	**Sn**	**07 36 17.2**	**-0.6**
COEB	**Comit de Eme**	**4.49**	**102**	*e*P	**Pn**	**07 35 28.9**	**+0.7**
PMUV	**Sontecomapan**	**4.51**	**334**	*e*P	**Pn**	**07 35 26.0**	**-2.4**
PMUV				eS	**Sn**	**07 36 17.3**	**-3.4**
SCIG	**Sabancuy**	**4.82**	**22**	*e*P	**Pn**	**07 35 32.7**	**+0.2**
SCIG				eS	**Sn**	**07 36 25.9**	**-2.1**
YOIG	**Yosondua**	**4.94**	**299**		**Pn**	**07 35 35.8**	**+1.4**
YOIG					**Sn**	**07 36 29.3**	**-2.2**
YOIG	**Yosondua**	**4.94**	**299**	*e*P	**Pn**	**07 35 35.8**	**+1.4**
YOIG				eS	**Sn**	**07 36 29.3**	**-2.2**
LCND	**La Caada**	**5.14**	**102**	*e*P	**Pn**	**07 35 38.7**	**+1.7**
PNIG	**Pinotepa**	**5.26**	**292**		**Pn**	**07 35 39.6**	**+1.1**
PNIG					**Sn**	**07 36 33.2**	**-5.7**
PNIG	**Pinotepa**	**5.26**	**292**	*e*P	**Pn**	**07 35 39.6**	**+1.1**
PNIG				eS	**Sn**	**07 36 34.7**	**-4.3**
TOIG	**Toxpalan**	**5.28**	**314**		**Pn**	**07 35 40.5**	**+1.5**
TOIG					**Sn**	**07 36 37.4**	**-2.2**
TOIG	**Toxpalan**	**5.28**	**314**	*e*P	**Pn**	**07 35 40.5**	**+1.5**
TOIG				eS	**Sn**	**07 36 37.4**	**-2.2**
TXIG	**Tlaxiaco**	**5.32**	**302**		**Pn**	**07 35 43.0**	**+3.3**
TXIG					**Sn**	**07 36 42.5**	**+1.6**
TXIG	**Tlaxiaco**	**5.32**	**302**	*e*P	**Pn**	**07 35 43.0**	**+3.3**
TXIG				eS	**Sn**	**07 36 42.5**	**+1.6**
TGUH	**Tegucigalpa,Un**	**5.62**	**93**	Pn	**Pn**	**07 35 43.4**	**-0.2**
HLIG	**Huajuapan de L**	**5.66**	**307**		**Pn**	**07 35 47.9**	**+3.6**
HLIG					**Sn**	**07 36 47.3**	**-1.8**
HLIG	**Huajuapan de L**	**5.66**	**307**	*e*P	**Pn**	**07 35 47.9**	**+3.6**
HLIG				eS	**Sn**	**07 36 47.3**	**-1.8**
TPIG	**Tehuac#an**	**5.71**	**314**		**Pn**	**07 35 45.1**	**+0.3**
TPIG					**Sn**	**07 36 51.9**	**+1.7**
TPIG	**Tehuac#an**	**5.71**	**314**	*e*P	**Pn**	**07 35 45.1**	**+0.3**
TPIG				eS	**Sn**	**07 36 51.9**	**+1.7**
FTIG	**Fresnillo de T**	**5.96**	**306**		**Pn**	**07 35 52.1**	**+3.8**
FTIG					**Sn**	**07 36 57.2**	**+0.7**
FTIG	**Fresnillo de T**	**5.96**	**306**	*e*P	**Pn**	**07 35 52.1**	**+3.8**
FTIG				eS	**Sn**	**07 36 57.2**	**+0.7**
CRIN	**San Cristobal**	**6.09**	**106**		**Pn**	**07 35 51.5**	**+1.4**
TLIG	**Tlapa**	**6.13**	**301**	*e*P	**Pn**	**07 35 51.0**	**+0.3**
TLIG				eS	**Sn**	**07 36 58.7**	**-2.0**
DAIG	**Los Arroyos**	**6.84**	**293**		**Pn**	**07 36 02.8**	**+2.4**
DAIG					**Sn**	**07 37 15.7**	**-2.4**
DAIG	**Los Arroyos**	**6.84**	**293**	*e*P	**Pn**	**07 36 02.8**	**+2.4**
DAIG				eS	**Sn**	**07 37 15.7**	**-2.4**
PPM	**Popocatepetl**	**7.03**	**311**	*e*P	Pn	07 36 09.1	+5.7
PPM				eS	**Sn**	**07 37 20.6**	**-2.8**
PPIG	**Popocatepetl**	**7.03**	**311**		Pn	07 36 09.1	+5.7
PPIG					**Sn**	**07 37 20.6**	**-2.8**
MEIG	**Mezcala**	**7.19**	**299**		**Pn**	**07 36 09.2**	**+4.1**
MEIG					**Sn**	**07 37 25.4**	**-1.2**
MEIG	**Mezcala**	**7.19**	**299**	*e*P	**Pn**	**07 36 09.2**	**+4.1**
MEIG				eS	**Sn**	**07 37 25.4**	**-1.2**
YAIG	**Yautepec**	**7.23**	**308**		**Pn**	**07 36 08.4**	**+2.6**
YAIG					**Sn**	**07 37 27.8**	**-0.1**
YAIG	**Yautepec**	**7.23**	**308**	*e*P	**Pn**	**07 36 08.4**	**+2.6**
YAIG				eS	**Sn**	**07 37 27.8**	**-0.1**
TEIG	**Tepich**	**7.32**	**38**	Pn	**Pn**	**07 36 07.7**	**+0.8**
PLIG	**Platanillo**	**7.32**	**303**		**Pn**	**07 36 10.6**	**+3.6**
PLIG					**Sn**	**07 37 30.6**	**+0.8**
PLIG	**Platanillo**	**7.32**	**303**	*e*P	**Pn**	**07 36 10.6**	**+3.6**
PLIG				eS	**Sn**	**07 37 30.6**	**+0.8**
CAIG	**El Cayaco**	**7.41**	**291**		**Pn**	**07 36 09.6**	**+1.5**
CAIG					**Sn**	**07 37 26.4**	**-5.5**
CAIG	**El Cayaco**	**7.41**	**291**	*e*P	**Pn**	**07 36 09.6**	**+1.5**
CAIG				eS	**Sn**	**07 37 26.4**	**-5.5**
BOAB	**BOACO BROADBAN**	**7.46**	**105**		**Pn**	**07 36 10.0**	**+1.2**
MAVM	**Malinalco, Edo**	**7.62**	**307**		**Sn**	**07 37 36.3**	**-1.1**
MAVM	**Malinalco, Edo**	**7.62**	**307**	*e*P	Pb	07 36 24.2	-8.3
MAVM				eS	**Sn**	**07 37 36.3**	**-1.1**
AOVM	**Tlapan**	**7.67**	**309**	*e*P	**Pn**	**07 36 09.3**	**-2.8**
AOVM				eS	**Sn**	**07 37 37.9**	**-1.1**
TOVM	**TOLUCA**	**7.95**	**308**		**Pn**	**07 36 17.6**	**+1.8**
TOVM					**Sn**	**07 37 39.0**	**-6.7**
ARIG	**Puente Sto Nin**	**7.96**	**299**		**Pn**	**07 36 19.6**	**+3.8**
ARIG					**Sn**	**07 37 46.1**	**+0.5**
ARIG	**Puente Sto Nin**	**7.96**	**299**	*e*P	**Pn**	**07 36 19.6**	**+3.8**
ARIG				eS	**Sn**	**07 37 46.1**	**+0.5**
DHIG	**Demacu**	**8.14**	**316**		Pn	07 36 23.0	+4.7
HZTE	**Horizontes, Gu**	**8.18**	**116**	Pn	**Pn**	**07 36 20.7**	**+2.0**
ORTG	**Ortega, Santa**	**8.46**	**118**	Pn	**Pn**	**07 36 24.4**	**+1.8**
DUNO	**Dulce Nombre,**	**8.58**	**120**	Pn	**Pn**	**07 36 26.3**	**+2.1**
ZIIG	**Zihuatanejo**	**8.67**	**292**		**Pn**	**07 36 25.9**	**+0.4**
ZIIG					**Sn**	**07 38 05.7**	**+2.6**
ZIIG	**Zihuatanejo**	**8.67**	**292**	*e*P	**Pn**	**07 36 25.9**	**+0.4**
ZIIG				eS	**Sn**	**07 38 05.7**	**+2.6**
JTS	**Las Juntas de**	**8.93**	**117**	Pn	**Pn**	**07 36 30.4**	**+1.4**
JACO	**JACO, Garabito**	**9.49**	**119**	Pn	**Pn**	**07 36 38.4**	**+1.7**
RIMA	**Rio Macho**	**10.12**	**116**		**Pn**	**07 36 47.2**	**+1.6**
PEZE	**Perez Zeledon,**	**10.47**	**118**		**Pn**	**07 36 52.2**	**+1.9**
SRBA	**San Rafael, Bu**	**10.82**	**118**		**Pn**	**07 36 56.5**	**+1.5**
SOR	**Soroa**	**12.61**	**47**	Pn	**Pn**	**07 37 19.0**	**-0.4**
TX32	**Lajitas Array**	**17.75**	**328**	P	**P**	**07 38 30.8**	**+2.8**
TXAR	**Lajitas Array**	**17.75**	**328**	P	**P**	**07 38 29.2**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=152,slow=14,SNR=21 comp=Z,5.2nm,1.0s						
TXAR	**Lajitas Array**	**17.75**	**328**		**P**	**07 38 29.4**	**+1.4**
TX31	**Lajitas Ar. Si**	**17.76**	**328**	P	**P**	**07 38 29.6**	**+1.5**
TX31				IAmb	IAmb	07 38 34.2	
	comp=Z,16nm,0.9s						
MIAR	**Mount Ida**	**20.00**	**359**		**P**	**07 38 52.7**	**+0.2**
GDL2	**Guadalupe Moun**	**20.45**	**332**	P	**P**	**07 38 58.8**	**+1.1**
MNTX	**Cornudas Mount**	**20.53**	**329**	P	**P**	**07 38 57.6**	**-0.8**
ANMO	**Albuquerque**	**23.70**	**332**	P	**P**	**07 39 32.3**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=238,slow=11,SNR=13 comp=Z,2.0nm,0.8s						
ANMO	**Albuquerque**	**23.70**	**332**	P	**P**	**07 39 32.9**	**+0.9**
ANMO				IAmb	IAmb	07 39 37.9	
	comp=Z,2.3nm,0.8s						
T25A	**Trinidad**	**24.74**	**338**	P	**P**	**07 39 42.1**	**+0.4**
T25A				IAmb	IAmb	07 39 46.0	
	comp=Z,6.2nm,0.8s						
SJG	**San Juan**	**26.06**	**78**	LR	LR	07 49 47.4	
	comp=Z,24nm,21.2s,baz=188,slow=37						
PDAR	**Pinedale Array**	**31.58**	**336**	P	**P**	**07 40 42.8**	**0.0**
	comp=Z,0.4nm,0.9s,baz=134,slow=9.1,SNR=2.6 comp=Z,0.4nm,0.9s						
REDW	**Red Top Meadow**	**32.59**	**336**	P	**P**	**07 40 51.7**	**0.0**
NVAR	**Mina Array Bea**	**32.67**	**322**	P	**P**	**07 40 54.7**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=128,slow=7.1,SNR=3.6 comp=Z,0.5nm,0.7s						
MOOW	**Moose Ponds**	**32.87**	**336**	P	**P**	**07 40 53.8**	**-0.3**
MOOW				IAmb	IAmb	07 41 06.6	
	comp=Z,3.9nm,1.4s						
MCMT	**McKenzie Canyo**	**34.61**	**335**	P	**P**	**07 41 09.6**	**+0.3**
PLID	**Pearl Lake**	**36.18**	**332**	P	**P**	**07 41 22.6**	**-0.1**
PLID				IAmb	IAmb	07 41 42.7	
	comp=Z,2.8nm,1.2s						
YKA	**Yellowknife Ar**	**50.34**	**347**	P	**P**	**07 43 15.2**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=145,slow=8.0,SNR=13 comp=Z,0.5nm,0.5s						
INK	**Inuvik**	**59.70**	**344**	P	**P**	**07 44 23.2**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=117,slow=3.6,SNR=8.8 comp=Z,0.6nm,0.4s						
ILAR	**Eielson Array**	**62.01**	**337**	P	**P**	**07 44 39.2**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=129,slow=3.6,SNR=5.3 comp=Z,0.5nm,0.7s						

*TIF **03** 07:44:24.3,41.97N×43.22E,h17km±1km*
*NORS **03** 07:44:25.0±0.0,41.97N×43.14E,h1km,MPVA3.7*
*MOS **03** 07:44:25.6±0.0,42.00N×43.12E,h5km,MPVA3.6*
*ISK **03** 07:44:25.6,41.95N×43.28E,h13km,ML2.7/9*
*DDA **03** 07:44:26.3±0.0,41.85N×43.13E,h7km±2km,ML2.7*

ISC 03 07:44:24.5±1.0,41.97N±0.01×43.16E±0.02,h11km±9km, n48,σ0§93/85,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABS	**Abastumani**	**0.33**	**231**	P	**Pb**	**07 44 32.5**	**0.0**
ABS				S	**Sb**	**07 44 38.1**	**+0.3**
ALIG	**Mtskhetisjvari**	**0.39**	**69**	P	**Pg**	**07 44 32.9**	**-0.3**
ALIG				S	**Sg**	**07 44 36.9**	**-0.6**
TKB	**Tkibuli**	**0.40**	**343**	P	**Pb**	**07 44 33.3**	**-0.3**
TKB				S	**Sb**	**07 44 39.2**	**-0.6**
EPOS	**Posof**	**0.56**	**215**	P	**Pb**	**07 44 36.3**	**-0.1**
EPOS				S	**Sb**	**07 44 45.1**	**+0.7**
BRNG	**Burnasheti**	**0.61**	**124**	P	**Pb**	**07 44 36.8**	**-0.4**
BRNG				S	**Sb**	**07 44 45.9**	**0.0**
AKH	**Akhalkalaki**	**0.61**	**155**	P	**Pb**	**07 44 37.0**	**-0.3**
AKH				S	**Sb**	**07 44 45.8**	**0.0**
AKH	**Akhalkalaki**	**0.61**	**155**	Pg	**Pb**	**07 44 36.9**	**-0.3**
AKH				Sg	**Sb**	**07 44 45.3**	**-0.6**
ONI	**Oni**	**0.66**	**19**	P	**Pb**	**07 44 37.4**	**-0.7**
BGD	**Bogdanovka**	**0.78**	**154**	P	**Pb**	**07 44 39.7**	**-0.3**
BGD				S	**Sb**	**07 44 50.6**	**0.0**
TRLG	**Trialeti**	**0.83**	**121**	P	**Pg**	**07 44 40.4**	**0.0**
TRLG				S	**Sb**	**07 44 51.8**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.98**	**18**	*e*Pg	**Pb**	**07 44 43.2**	**-0.4**
DIGR				eSg	**Sn**	**07 44 57.2**	**-1.2**
ZEI	**Tsey**	**0.99**	**34**	*e*Pg	**Pb**	**07 44 43.4**	**-0.3**
ZEI				eSg	**Sn**	**07 44 57.4**	**-1.2**
DMNI	**Dmanisi**	**1.00**	**129**	P	**Pg**	**07 44 43.1**	**-0.7**
DMNI				S	**Sg**	**07 44 56.3**	**-0.6**
KZRT	**Kazreti**	**1.10**	**121**	P	**Pb**	**07 44 44.5**	**-0.9**
KZRT				S	**Sb**	**07 44 58.7**	**-1.0**
GUDG	**Gudauri**	**1.10**	**63**	P	**Pb**	**07 44 45.1**	**-0.5**
GUDG				S	**Sg**	**07 44 59.0**	**-1.0**
LACR	**Lac**	**1.21**	**44**	*e*Pg	**Pb**	**07 44 47.1**	**-0.3**
LACR				eSg	**Sn**	**07 45 04.5**	**+0.7**
PNSH	**Pansheti**	**1.27**	**58**	P	**Pn**	**07 44 47.9**	**-0.4**
PNSH				S	**Sb**	**07 45 04.5**	**-0.5**
DBOC	**Borcka**	**1.28**	**241**	P	**Pg**	**07 44 49.2**	**+0.3**
DBOC				S	**Sg**	**07 45 06.1**	**+0.6**
DAGI	**Agillar**	**1.29**	**227**	P	**Pg**	**07 44 49.5**	**+0.4**
DAGI				S	**Sg**	**07 45 06.8**	**+0.9**
KORR	**Kora**	**1.31**	**31**	*i* Pg	**Pg**	**07 44 50.1**	**+0.5**
KORR				eSg	**Sg**	**07 45 08.6**	**+2.0**
NEY	**Neytrino**	**1.32**	**346**	*e*Pg	**Pg**	**07 44 50.2**	**+0.3**
NEY				*i* Sg	**Sg**	**07 45 07.2**	**+0.1**
KARS	**Kars**	**1.34**	**182**	Pn	**Pg**	**07 44 50.5**	**+0.3**
KARS				Sn	**Sg**	**07 45 07.4**	**-0.1**
LSNR	**Lesken**	**1.40**	**20**	*e*Pg	**Pg**	**07 44 51.6**	**+0.2**
LSNR				eSg	**Sg**	**07 45 11.2**	**+1.5**
DBAD	**Bademkaya**	**1.45**	**230**	P	**Pg**	**07 44 52.2**	**-0.1**
DBAD				S	**Sg**	**07 45 10.4**	**-0.6**
DBAD				*i* AML	AML	07 45 13.0	
	comp=N,268nm,0.5s						
DBAD				*i* AML	AML	07 45 14.0	
	comp=E,114nm,0.4s						
ARNR	**Ardon**	**1.47**	**34**	*e*Pg	**Pg**	**07 44 53.8**	**+1.0**
ARNR				eSg	**Sg**	**07 45 14.4**	**+2.5**
SENK	**Senkaya-Erzuru**	**1.53**	**204**	Pn	**Pg**	**07 44 53.6**	**-0.2**
SENK				Sn	**Sg**	**07 45 14.1**	**+0.5**
STDR	**Stavd-Durt**	**1.56**	**25**	*e*Pg	**Pg**	**07 44 55.5**	**+1.2**
STDR				eSg	**Sg**	**07 45 17.2**	**+2.7**
DIGO	**Kars**	**1.56**	**174**	P	**Pg**	**07 44 53.7**	**-0.6**
DIGO				S	**Sg**	**07 45 14.5**	**-0.1**
DIGO				*i* AML	AML	07 45 16.0	
	comp=E,114nm,0.8s						
DIGO				*i* AML	AML	07 45 19.0	
	comp=N,111nm,0.5s						
DGRG	**David-gareji**	**1.74**	**106**	P	**Pb**	**07 44 56.2**	**-0.2**
DGRG				S	**Sg**	**07 45 20.4**	**0.0**
KBZ	**Khabaz**	**1.77**	**354**	*i* Pg	**Pg**	**07 44 57.5**	**-0.9**
KBZ				eSg	**Sg**	**07 45 20.9**	**-0.5**
SHA1	**Shidzhatmaz**	**1.81**	**348**	*e*Pg	**Pg**	**07 44 59.0**	**-0.2**
SHA1				eSg	**Sg**	**07 45 22.3**	**-0.4**
KBTC	**Kuba-Taba**	**1.86**	**6**	*i* Pg	**Pb**	**07 44 58.6**	**+0.1**
KBTC				eSg	**Sg**	**07 45 22.8**	**-1.4**
CHOM	**Cayeli-Rize**	**2.00**	**245**	Pn	**Pb**	**07 45 00.9**	**+0.1**
KIV0	**Kislovodsk Arr**	**2.02**	**351**	*e*Pg	**Pb**	**07 45 01.1**	**-0.1**
KIV0				eSg	**Sg**	**07 45 27.4**	**-2.0**
KIV	**Kislovodsk**	**2.02**	**350**	*e*Pg	**Pb**	**07 45 01.2**	**0.0**
KIV				eSg	**Sg**	**07 45 27.4**	**-2.0**
PYA1	**Pyatigorsk**	**2.10**	**359**	*e*Pg	**Pb**	**07 45 01.3**	**-1.2**
PYA1				eSg	**Sb**	**07 45 28.7**	**+0.1**
HOMI	**Horasan**	**2.14**	**207**	P	**Pg**	**07 45 06.2**	**+0.7**
EATA	**Eleskirt**	**2.16**	**194**	P	**Pb**	**07 45 03.9**	**+0.2**
KOTA	**Agri, Merkez-K**	**2.16**	**179**	P	**Pg**	**07 45 05.8**	**-0.1**
GNI	**Garni**	**2.17**	**146**	Pn	**Pn**	**07 45 01.6**	**+0.9**
KOPR	**Koprukoy-ERZUR**	**2.20**	**207**	Pn	**Pb**	**07 45 03.6**	**-0.8**
DDFL	**Dedoflistskaro**	**2.28**	**102**	P	**Pb**	**07 45 06.2**	**+0.6**
LGD	**Lagodekhi**	**2.31**	**92**	P	**Pb**	**07 45 04.8**	**-1.3**
LGD				S	**Sb**	**07 45 36.2**	**+1.6**
KRIK	**Erzurum-spir**	**2.34**	**227**	P	**Pg**	**07 45 09.0**	**-0.3**
KRIK				S	**Sg**	**07 45 40.4**	**+0.8**
AGRB	**Hanur-Agry**	**2.39**	**183**	Pn	**Pb**	**07 45 05.8**	**-1.8**
DVE	**Vedeno**	**2.41**	**65**	*e*Pn	**Pb**	**07 45 07.6**	**-0.3**
DVE				eSn	**Sb**	**07 45 38.9**	**+1.2**
BAYT	**Aydıntepe-Bayb**	**2.76**	**236**	Pn	**Pb**	**07 45 11.9**	**-2.1**
AKDM	**Akdamar-Van**	**3.63**	**182**	Pn	**Pn**	**07 45 22.6**	**+1.8**

*NEIC **03** 07:48:50.6±2.1,10.74S±0.09×161.8E±0.1,h43km±10km, mb4.4/8,Error ellipse: s-maj=20.0km s-min=11.9km az=73.0*
*IDC **03** 07:48:51.9±2.7,10.82S×161.73E,h60km±22km,mb3.6/10, mbtmp3.9/12,ML3.9/2,MS3.2/14,Error ellipse: s-maj=25.0km s-min=15.5km az=71.0*

ISC 03 07:48:49.3±0.6,10.84S±0.08×161.9E±0.1,h36km,n34, σ1§40/28,mb3.9/13,MS3.2/11,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.35**	**306**	P	**Pn**	**07 49 26.2**	**+0.8**
	6μm,0.4s,baz=167,slow=6.4,SNR=17						
HNR				S	**Sn**	**07 49 53.7**	**+0.7**
	8μm,0.5s,baz=320,slow=20,SNR=9.6						
HNR	**Honiara**	**2.35**	**306**	Pn	**Pn**	**07 49 25.9**	**+0.5**
KOUNC	**Koumac, New Ca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.07**	**119**	⇑Pg	**Pn**	**07 51 34.7**	**+0.6**
	1.6nm,0.6s						
KURBB				⇑Lg	Lg	07 52 05.2	
	11nm,0.8s						
BVA0	**Borovoye Array**	**3.52**	**295**	⇑Pg	**Pn**	**07 51 54.5**	**+0.5**
	0.8nm,0.5s,baz=125,slow=16,SNR=6.6						
BVA0				⇑Lg	Lg	07 52 40.3	
	7.4nm,1.1s,baz=117,slow=26,SNR=5.4						
BRVK	**Borovoye**	**3.59**	**295**	⇑Pg	**Pn**	**07 51 55.7**	**+0.8**
	2.4nm,0.9s						
BRVK				⇑Lg	Lg	07 52 42.3	
	5.2nm,1.0s						
ZALV	**Zalesovo Beam**	**5.99**	**64**	Pn	**Pn**	**07 52 27.2**	**-0.7**
	0.3nm,0.3s,baz=254,slow=14,SNR=5.4						
	0.8nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.99**	**64**	I	I	08 24 40.0	
	baz=252,slow=313,SNR=1.5						
MAKZ	**Makanchi**	**6.37**	**137**	⇓Lg	Lg	07 54 16.9	
	2.0nm,0.9s						
MK31	**Makanchi Array**	**6.51**	**136**	⇑Pg	**Pb**	**07 52 54.2**	**+2.0**
	0.6nm,0.8s,baz=318,slow=0.6,SNR=3.5						
MK31				⇓Lg	Lg	07 54 23.2	
	0.6nm,0.6s,baz=267,slow=30,SNR=2.9						
MKAR	**Makanchi Array**	**6.51**	**136**	Pn	**Pn**	**07 52 33.5**	**-1.6**
	baz=333,slow=11,SNR=2.5						
MKAR				Sn	**Sn**	**07 53 48.1**	**-2.0**
	baz=318,slow=23,SNR=2.1						
MKAR				Lg	Lg	07 54 24.2	
	0.1nm,0.3s,baz=328,slow=27,SNR=2.2						
	0.1nm,0.6s						

IDC 03 07:52:29.8±1.4, 4°98S×151°01E, h0km, mb3.1/2, mbtmp3.3/3, ML1.6/1, Error ellipse: s-maj=102.0km s-min=16.7km az=142.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.21**	**56**	Pn	Pb	07 52 53.7	0.0
	24nm,0.3s,baz=74,slow=3.3,SNR=12						
KRVT				Sn	Sn	07 53 14.0	+2.7
	36nm,0.3s,baz=222,slow=21,SNR=12						
PMG	**Port Moresby**	**5.83**	**221**	Pn	Pn	07 53 58.3	+0.7
	0.9nm,0.3s,baz=36,slow=19,SNR=1.6						
	3.4nm,0.3s						
WRA	**Warramunga Arr**	**22.01**	**226**	P	P	07 57 27.5	+1.5
	0.6nm,0.9s,baz=54,slow=10,SNR=2.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**24.84**	**220**	P	P	07 57 53.4	-0.8
	0.6nm,0.7s,baz=52,slow=9.4,SNR=4.7						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.66**	**287**	PKPbc	PKPbc	08 12 19.1	-1.1
	0.2nm,0.7s,baz=73,slow=2.4,SNR=1.9						

*IDC **03** 08:05:28.3±2.7, 53°.77N×166°.94W, h60km±21km, mb3.6/17, mbtmp3.8/19, ML3.4/2, MS2.8/6, Error ellipse: s-maj=24.7km s-min=16.7km az=10.0*
*AEIC **03** 08:05:30.0±2.2, 53°.6N±0°.1×166°.7W±0°.1, h70km±8km, Error ellipse: s-maj=16.3km s-min=8.8km az=156.0*
*NEIC **03** 08:05:31.5±2.3, 53°.65N±0°.03×166°.7W±0°.1, h63km±13km, mb3.9/23, ML4.2/6, ML4.0(AEIC), Error ellipse: s-maj=10.4km s-min=4.0km az=102.0*

ISC 03 08:05:30.7±0.7, 53°.69N±0°.09×166°.72W±0°.06, h80km±6km, n120, σ1ş47/117, mb3.8/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.20**	**38**		**Pn**	**08 05 41.6**	**-0.9**
UNV					**Sn**	**08 05 50.3**	**-0.9**
UNV	**Unalaska Valle**	**0.20**	**38**	P	**Pn**	**08 05 41.6**	**-0.9**
	baz=198						
UNV				S	**Sn**	**08 05 50.3**	**-0.9**
	baz=198						
AKUT	**Akutan**	**0.72**	**51**		**Pn**	**08 05 46.0**	**-0.4**
AKUT				IAML		08 06 01.9	
	comp=E,6μm,0.5s						
NIKH	**Nikolski High**	**1.47**	**242**	Pn	**Pn**	**08 05 55.1**	**-0.4**
NIKH	**Nikolski High**	**1.47**	**242**		**Sn**	**08 06 13.4**	**-0.8**
NIKH	**Nikolski High**	**1.47**	**242**	P	**Pn**	**08 05 54.7**	**-0.8**
	baz=65						
NIKH				S	**Sn**	**08 06 14.1**	**-0.1**
	baz=65						
CLES	**Cleveland East**	**2.09**	**247**		**Pn**	**08 06 04.1**	**+0.4**
CLES				IAML		08 06 37.5	
	comp=N,1μm,0.4s						
CLES				IAML		08 06 42.0	
	comp=E,2μm,0.4s						
FALS	**False Pass**	**2.26**	**57**		**Pn**	**08 06 06.9**	**+0.9**
FALS	**False Pass**	**2.26**	**57**	P	**Pn**	**08 06 06.8**	**+0.9**
	baz=237						
S12K	**Black Hills**	**3.38**	**51**	P	**Pn**	**08 06 21.7**	**+0.7**
	baz=233						
SDPT	**Sand Point**	**4.00**	**63**	Pn	**Pn**	**08 06 30.6**	**+1.1**
SDPT				IAML		08 07 28.6	
	comp=N,444nm,0.5s						
SPIA	**Saint Paul Isl**	**4.04**	**332**	Pn	**Pn**	**08 06 31.6**	**+1.7**
SPIA	**Saint Paul Isl**	**4.04**	**332**	P	**Pn**	**08 06 31.7**	**+1.7**
	baz=149						
CHGN	**Chignik**	**5.45**	**58**	Pn	**Pn**	**08 06 50.4**	**+1.1**
ADK	**Adak**	**6.31**	**257**	Pn	**Pn**	**08 07 02.7**	**+1.7**
KIWB	**Kanaga Island**	**6.59**	**258**	Pn	**Pn**	**08 07 07.2**	**+2.4**
SII	**Sitkinak Islan**	**7.74**	**63**	Pn	**Pn**	**08 07 21.5**	**+1.0**
OHAK	**Old Harbor**	**8.41**	**60**	Pn	**Pn**	**08 07 28.6**	**-1.0**
P18K	**Big Mountain,**	**8.54**	**43**		**Pn**	**08 07 33.3**	**+1.9**
O18K	**Koktuh Hills**	**8.83**	**41**		**Pn**	**08 07 37.4**	**+2.0**
Q19K	**Cape Douglas,**	**8.96**	**49**	Pn	**Pn**	**08 07 39.0**	**+1.8**
KDAK	**Kodiak Island**	**8.96**	**57**	P	**Pn**	**08 07 35.1**	**-2.0**
	comp=N,1.1nm,0.3s,baz=206,slow=3.1,SNR=45						
KDAK				S	**Sn**	**08 09 09.7**	**-6.6**
	comp=N,4.0nm,0.5s,baz=323,slow=13,SNR=1.5						
KDAK				LR	LR	08 11 53.4	
	comp=N,50nm,18.0s,baz=246,slow=43						
	comp=N,6.5nm,0.3s						
KDAK	**Kodiak Island**	**8.96**	**57**	Pn	**Pn**	**08 07 36.5**	**-0.7**
O19K	**Port Alsworth**	**9.39**	**41**	Pn	**Pn**	**08 07 44.3**	**+1.4**
P19K	**Oil Pt**	**9.52**	**46**	Pn	**Pn**	**08 07 45.0**	**+0.3**
SVW2	**Sparrevohn**	**9.54**	**34**	Pn	**Pn**	**08 07 46.0**	**+0.9**
N19K	**Bonanza Creek**	**9.73**	**38**		**Pn**	**08 07 49.5**	**+1.8**
ILSW	**Iliamna Southw**	**9.74**	**44**	Pn	**Pn**	**08 07 49.6**	**+1.7**
CNPM	**China Poot**	**10.33**	**49**	Pn	**Pn**	**08 07 54.7**	**-1.1**
M19K	**Big River Lodg**	**10.52**	**34**	Pn	**Pn**	**08 08 00.1**	**+1.7**
L19K	**White Mountain**	**10.58**	**32**		**Pn**	**08 08 01.1**	**+1.9**
BRLK	**Bradley Lake**	**10.60**	**49**	Pn	**Pn**	**08 07 59.5**	**0.0**
TTA	**Tatalina**	**10.83**	**27**	Pn	**Pn**	**08 08 03.9**	**+1.3**
M20K	**Styx River**	**10.94**	**36**	Pn	**Pn**	**08 08 05.8**	**+1.7**
SEW	**Seward**	**11.40**	**49**	Pn	**Pn**	**08 08 10.3**	**0.0**
Q22K	**Cooper Landing**	**11.46**	**47**		**Pn**	**08 08 11.4**	**+0.4**
SUA	**Susitna One**	**11.56**	**41**		**Pn**	**08 08 13.1**	**+0.5**
SKT	**Skwentna**	**11.57**	**38**	Pn	**Pn**	**08 08 14.4**	**+1.8**
K20K	**Telida**	**11.71**	**29**		**Pn**	**08 08 16.6**	**+2.1**
RC01	**Rabbit Creek A**	**11.76**	**44**	Pn	**Pn**	**08 08 14.3**	**-0.9**
TNA	**Tin City**	**11.93**	**358**	Pn	**Pn**	**08 08 19.2**	**+1.8**
PPLA	**Purkeypile**	**11.95**	**34**	Pn	**Pn**	**08 08 19.9**	**+2.0**
PWL	**Port Wells**	**12.24**	**47**	Pn	**Pn**	**08 08 20.9**	**-0.8**
PMR	**Palmer**	**12.27**	**43**	Pn	**Pn**	**08 08 21.5**	**-0.6**
J20K	**Nowinta River**	**12.33**	**27**		**Pn**	**08 08 24.1**	**+1.2**
CAST	**Castle Rocks**	**12.36**	**32**	Pn	**Pn**	**08 08 24.1**	**+0.8**
GHO	**Glory Hole Cre**	**12.45**	**42**	Pn	**Pn**	**08 08 23.8**	**-0.8**
KNK	**Knik Glacier**	**12.46**	**44**	Pn	**Pn**	**08 08 23.9**	**-0.8**
SML	**Sawmill**	**12.71**	**43**	Pn	**Pn**	**08 08 27.5**	**-0.6**
SCM	**Sheep Creek Mo**	**13.13**	**44**		**Pn**	**08 08 33.4**	**-0.4**
BPAW	**Bear Paw Mtn.**	**13.19**	**31**	Pn	**Pn**	**08 08 36.5**	**+2.1**
KLU	**Klutina**	**13.57**	**47**	Pn	**Pn**	**08 08 37.3**	**-2.2**
I21K	**Tanana**	**13.70**	**27**		**P**	**08 08 44.2**	**-2.8**
M24K	**Tolsona, Glenn**	**13.74**	**44**		**Pn**	**08 08 41.9**	**+0.1**
H21K	**Melozitna Rive**	**13.86**	**25**		**Pn**	**08 08 44.8**	**+1.6**
BMRM	**Bremner River**	**13.94**	**50**	Pn	**Pn**	**08 08 43.5**	**-0.8**
N25K	**Chitina, Valde**	**14.19**	**47**		**Pn**	**08 08 47.6**	**-0.1**
I23K	**Minto, Yukon-K**	**14.42**	**30**	Pn	**Pn**	**08 08 50.8**	**+0.3**
VRDI	**Verde Repeater**	**14.56**	**49**		**Pn**	**08 08 52.2**	**-0.3**
CCB	**Clear Creek Bu**	**14.58**	**34**	Pn	**Pn**	**08 08 53.5**	**+1.0**
MDM	**Murphy Dome**	**14.64**	**32**	Pn	**Pn**	**08 08 53.7**	**+0.3**
MCARA	**McCarthy VSAT**	**14.81**	**49**	Pn	**Pn**	**08 08 56.2**	**+0.7**
H23K	**Yukon River**	**14.86**	**28**		**P**	**08 08 59.4**	**-0.5**
ILAR	**Eielson Array**	**14.96**	**34**	P	**Pn**	**08 08 56.0**	**-1.4**
	comp=N,0.1nm,0.3s,baz=227,slow=13,SNR=2.7						
ILAR				LR	LR	08 14 11.5	
	comp=N,36nm,20.7s,baz=278,slow=35						
	comp=N,0.4nm,0.9s						
RIDG	**Independent Ri**	**15.09**	**40**		**P**	**08 09 01.4**	**-1.2**
BARN	**Barnard Glacie**	**15.32**	**51**	Pn	**Pn**	**08 09 02.6**	**+0.3**
BARN				IAmb	IAmb	08 09 11.6	
	comp=Z,5.0nm,0.7s						
H24K	**Noodor Dome**	**15.35**	**30**		**P**	**08 09 04.3**	**-1.1**
M27K	**Edge Creek, AK**	**15.67**	**47**		**Pn**	**08 09 06.5**	**-0.1**
J26L	**Joseph Creek**	**15.97**	**38**		**P**	**08 09 11.6**	**-0.8**
P29M	**Windy Craggy**	**16.91**	**58**	P	**P**	**08 09 24.5**	**+1.8**
P29M				IAmb	IAmb	08 09 29.6	
	comp=Z,5.5nm,0.8s						
EGAK	**Eagle**	**17.01**	**39**		**P**	**08 09 24.8**	**+1.1**
EGAK				IAmb	IAmb	08 09 29.0	
	comp=Z,9.1nm,1.5s						
HYT	**Haines Junctio**	**17.23**	**54**	P	**P**	**08 09 29.5**	**+3.2**
HYT				IAmb	IAmb	08 09 33.8	
	comp=Z,8.2nm,0.9s						
DAWY	**Dawson**	**17.38**	**43**		**P**	**08 09 29.8**	**+1.9**
SKAG	**Skagway**	**18.11**	**59**	P	**Pn**	**08 09 38.3**	**+1.8**
N31M	**Braeburn, Yuko**	**18.18**	**52**		**Pn**	**08 09 40.0**	**+2.6**
N31M				IAmb	IAmb	08 09 57.3	
	comp=Z,8.9nm,0.8s						
BESE	**Bessie Mountai**	**18.31**	**62**	P	**Pn**	**08 09 40.3**	**+1.3**
BESE				IAmb	IAmb	08 10 20.2	
	comp=Z,6.7nm,0.9s						
WHY	**Whitehorse**	**18.47**	**55**	P	**Pn**	**08 09 42.3**	**+1.3**
JIS	**Juneau Island**	**18.55**	**63**	P	**Pn**	**08 09 43.3**	**+1.6**
JIS				IAmb	IAmb	08 09 55.6	
	comp=Z,11nm,1.2s						
M31M	**Drury Creek, Y**	**18.97**	**50**	P	**Pn**	**08 09 47.5**	**+0.7**
M31M				IAmb	IAmb	08 09 50.4	
	comp=Z,4.5nm,0.7s						
EPYK	**Eagle Plains**	**19.39**	**37**	P	**P**	**08 09 49.9**	**+0.1**
EPYK				IAmb	IAmb	08 09 53.4	
	comp=Z,5.3nm,1.1s						
P33M	**Teslin, Yukon**	**19.44**	**57**	P	**Pn**	**08 09 52.6**	**+0.2**
P33M				IAmb	IAmb	08 10 01.7	
	comp=Z,5.4nm,0.7s						
FARO	**Faro, Yukon**	**19.45**	**51**	P	**Pn**	**08 09 51.8**	**-0.7**
FARO				IAmb	IAmb	08 09 58.0	
	comp=Z,5.2nm,0.7s						
DLBC	**Dease Lake**	**20.84**	**62**	P	Pn	08 10 09.8	+1.0
	comp=Z,1.4nm,0.7s,baz=270,slow=10,SNR=5.6						
PETK	**Petropavlovsk-**	**21.09**	**283**	P	**P**	**08 10 10.0**	**+1.7**
	comp=Z,2.0nm,0.9s,baz=92,slow=8.9,SNR=1.9						
INK	**Inuvik**	**21.36**	**34**	P	**P**	**08 10 09.8**	**-1.1**
	comp=Z,2.7nm,0.5s,baz=234,slow=8.7,SNR=24						
INK				ScP	**ScP**	**08 17 42.2**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=270,slow=2.0,SNR=1.7						
INK				LR	LR	08 19 52.0	
	comp=Z,19nm,19.4s,baz=245,slow=40						
	comp=Z,2.7nm,0.5s						
INK	**Inuvik**	**21.36**	**34**	P	**P**	**08 10 12.1**	**+1.2**
C36M	**Paulatuk**	**24.93**	**35**	P	**P**	**08 10 47.9**	**+2.0**
C36M				IAmb	IAmb	08 10 50.3	
	comp=Z,3.4nm,0.9s						
A36M	**Sachs Harbour**	**25.49**	**29**	P	**P**	**08 10 53.8**	**+2.9**
A36M				IAmb	IAmb	08 10 56.9	
	comp=Z,4.2nm,0.8s						
YKA	**Yellowknife Ar**	**28.17**	**51**	P	**P**	**08 11 15.6**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=274,slow=8.3,SNR=8.7						
YKA				PcP	**PcP**	**08 14 27.0**	**+0.3**
	comp=Z,0.4nm,1.0s,baz=281,slow=2.4,SNR=3.6						
YKA				ScP	**ScP**	**08 18 00.9**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=286,slow=3.7,SNR=5.8						
	comp=Z,0.6nm,0.5s						
TIXI	**Tiksi**	**32.45**	**328**	LR	LR	08 24 35.0	
	comp=Z,15nm,20.7s,baz=24,slow=36						
RES	**Resolute Bay**	**34.48**	**26**	LR	LR	08 29 26.7	
	comp=Z,25nm,19.6s,baz=17,slow=42						
MCMT	**McKenzie Canyo**	**35.48**	**82**	P	**P**	**08 12 21.5**	**+2.1**
NVAR	**Mina Array Bea**	**36.13**	**95**	P	**P**	**08 12 25.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=317,slow=6.4,SNR=2.2						
	comp=Z,0.4nm,0.6s						
PDAR	**Pindale Array**	**38.61**	**83**	P	**P**	**08 12 46.7**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=320,slow=2.7,SNR=4.0						
	comp=Z,0.7nm,0.8s						
FCC	**Fort Churchill**	**38.87**	**52**	P	**P**	**08 12 49.2**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**39.49**	**221**	T	T	08 55 14.6	
	baz=25,slow=76,SNR=312						
H11N3	**WAKE ISLAND Hy**	**39.50**	**221**	T	T	08 55 15.1	
	baz=25,slow=76,SNR=250						
H11N1	**WAKE ISLAND Hy**	**39.51**	**221**	T	T	08 55 15.9	
	baz=25,slow=76,SNR=162						
H11S1	**WAKE ISLAND Hy**	**40.68**	**221**	T	T	08 56 36.2	
	baz=24,slow=76,SNR=158						
H11S2	**WAKE ISLAND Hy**	**40.69**	**221**	T	T	08 56 37.4	
	baz=24,slow=76,SNR=138						
H11S3	**WAKE ISLAND Hy**	**40.69**	**221**	T	T	08 56 35.8	
	baz=24,slow=76,SNR=38						
O20A	**White River Ci**	**41.01**	**85**	P	**P**	**08 13 08.0**	**+2.1**
SUMG	**Summit**	**49.04**	**18**	*i* P	**P**	**08 14 08.7**	**-0.6**
TXAR	**Lajitas Array**	**51.16**	**92**	P	**P**	**08 14 25.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=303,slow=5.4,SNR=34						
TXAR				PcP	**PcP**	**08 15 40.5**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=298,slow=1.9,SNR=1.7						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**51.99**	**301**	P	**P**	**08 14 29.8**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=45,slow=8.4,SNR=2.1						
SONM				PcP	**PcP**	**08 15 42.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=44,slow=2.2,SNR=3.8						
	comp=Z,0.2nm,0.5s						
DY2G	**Dye2**	**52.03**	**26**	*i* P	**P**	**08 14 31.2**	**-0.5**
ZALV	**Zalesovo Beam**	**57.52**	**318**	P	**P**	**08 15 09.7**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=54,slow=7.3,SNR=2.1						
ZALV				LR	LR	08 40 13.2	
	comp=Z,8.6nm,18.1s,baz=62,slow=36						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**64.04**	**314**	P	**P**	**08 15 54.5**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=52,slow=7.5,SNR=2.7						
	comp=Z,0.2nm,0.7s						
FINES	**FINESS Array B**	**64.77**	**353**	P	**P**	**08 15 59.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=359,slow=7.1,SNR=4.6						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**66.53**	**360**	P	**P**	**08 16 10.2**	**-1.2**
	comp=Z,3.5nm,1.0s,baz=20,slow=4.6,SNR=5.6						
	comp=Z,3.5nm,1.0s						
EKA	**Eskdalemuir Ar**	**70.50**	**10**	P	**P**	**08 16 34.7**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=344,slow=4.7,SNR=2.4						
	comp=Z,2.6nm,0.9s						
AKASG	**Malin Array Be**	**75.13**	**350**	P	**P**	**08 17 02.3**	**-1.3**
	comp=Z,0.2nm,0.2s,baz=16,slow=5.7,SNR=2.0						
	comp=Z,0.2nm,0.2s						
KVAR	**Kislovodsk Arr**	**79.52**	**339**	P	**P**	**08 17 26.0**	**-2.4**
	comp=Z,3.2nm,0.4s,baz=14,slow=8.3,SNR=2.4						
	comp=Z,3.2nm,0.4s						
BRTR	**Keskin Array B**	**85.32**	**344**	P	**P**	**08 17 59.6**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=0.0,slow=4.3,SNR=2.5						
	comp=Z,0.9nm,0.8s						
ESDC	**Sonseca Array**	**85.83**	**13**	P	**P**	**08 18 02.5**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=327,slow=3.2,SNR=1.8						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**89.08**	**234**	P	**P**	**08 18 16.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=33,slow=5.7,SNR=6.1						
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**92.47**	**232**	P	**P**	**08 18 32.0**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=32,slow=6.3,SNR=4.4						
	comp=Z,0.4nm,0.8s						
H03N2	**Juan Fernandez**	**114.94**	**113**	T	T	10 29 11.1	
	baz=321,slow=77,SNR=68						
H03N1	**Juan Fernandez**	**114.95**	**113**	T	T	10 29 17.7	
	baz=321,slow=77,SNR=88						
H03N3	**Juan Fernandez**	**114.96**	**113**	T	T	10 29 17.8	
	baz=321,slow=77,SNR=95						

IDC 03 08:30:05.3±8.0, 6°41S×149°95E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=243.6km s-min=38.9km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.27**	**227**	P	P	08 34 42.1	-0.5
	0.8nm,0.7s,baz=49,slow=10,SNR=4.8						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**23.08**	**220**	P	P	08 35 12.8	+0.1
	0.8nm,0.8s,baz=58,slow=10,SNR=7.9						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**79.69**	**320**	P	P	08 42 15.3	+0.3
	0.2nm,0.7s,baz=111,slow=6.3,SNR=2.2						
	0.2nm,0.7s						

*IDC **03** 08:35:22.9±0.6, 3°.55N×128°.52E, h0km, mb4.2/18, mbtmp4.2/19, ML4.2/1, MS3.4/11, Error ellipse: s-maj=31.3km s-min=13.1km az=75.0*
*DJA **03** 08:35:24.0±1.7, 4°N±6°×12°9E±°, h18km±13km, M4.5/21, mB5.1/6, mb4.7/21, MLv4.6/13, Mw(mB)4.4/6*
*NEIC **03** 08:35:24.1±1.6, 3°.74N±0°.08×128°.92E±0°.09, h10km±1km, mb4.4/12, Error ellipse: s-maj=20.0km s-min=6.3km az=50.0*

ISC 03 08:35:27.8±0.5, 3°.54N±0°.05×128°.78E±0°.08, h35km, n63, σ1ş12/61, mb4.2/25, MS3.0/7, 1C-1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.09**	**207**		**Pn**	**08 36 17.2**	**+3.1**
TNTI	**Ternate**	**3.09**	**207**	P	**Pn**	**08 36 13.9**	**-0.2**
SGSI	**Sangihe**	**3.25**	**273**	P	**Pn**	**08 36 15.4**	**-0.9**
DAV	**Davao City (W)**	**4.74**	**318**	Sn	**Sn**	**08 37 30.2**	**-0.3**
	49nm,0.3s,baz=88,slow=10,SNR=1.6						
DAV				LR	LR	08 38 49.4	
	comp=Z,794nm,18.6s,baz=144,slow=45						
SWI	**Sorong**	**5.03**	**150**	P	**Pn**	**08 36 38.8**	**-2.0**
	36nm,0.7s,0.2nm						
KCP	**Kidapawan**	**5.04**	**313**	⇓*i* P	**Pn**	**08 36 39.9**	**-1.0**
KCP				*i* S	**Sn**	**08 37 41.6**	**+3.7**
SIJI	**Sorong**	**5.04**	**150**	Pn	**Pn**	**08 36 41.5**	**+0.5**
	7.9nm,0.3s,baz=333,slow=17,SNR=9.5						
SIJI				Sn	**Sn**	**08 37 38.8**	**+0.8**
	6.4nm,0.3s,baz=341,slow=23,SNR=13						
SIJI				LR	LR	08 38 11.1	
	comp=Z,121nm,20.9s,baz=51,slow=32						
	16nm,0.3s						
CTBH	**Cotabato--PC H**	**5.81**	**309**	⇑*i* P	**Pn**	**08 36 52.3**	**+0.8**
SANI	**Sanana**	**6.21**	**207**	P	**Pn**	**08 36 56.2**	**-0.9**
	59nm,0.8s,0.2nm						
GTOI	**Gorontalo**	**6.45**	**244**	P	**Pn**	**08 37 01.1**	**+0.8**
	30nm,0.7s,390nm0.1nm						
AAI	**Ambon**	**7.21**	**185**	P	**Pn**	**08 37 09.6**	**-1.1**
	141nm,0.9s,0.5nm						
FAKI	**Fak Fak**	**7.29**	**152**	Pn	**Pn**	**08 37 12.7**	**+0.8**
FAKI	**Fak Fak**	**7.29**	**152**	P	**Pn**	**08 37 09.8**	**-2.1**
	19nm,0.9s,0.2nm						
MRSI	**Marisa**	**7.48**	**246**	P	**Pn**	**08 37 14.1**	**-0.4**
	249nm,0.5s,3μm1.0nm						
LUWI	**Luwuk**	**7.54**	**233**	Pn	**Pn**	**08 37 16.3**	**+1.1**
LUWI	**Luwuk**	**7.54**	**233**	P	**Pn**	**08 37 15.0**	**-0.2**
	46nm,0.8s,3μm0.5nm						
TOLI2	**Tolitoli**	**8.35**	**253**		**Pn**	**08 37 27.1**	**+0.8**
APSI	**Ampana**	**8.39**	**238**	P	**Pn**	**08 37 27.0**	**+0.1**
	84nm,0.7s,1μm						
MPSI	**Mapaga**	**9.43**	**250**	P	**Pn**	**08 37 40.9**	**-0.3**
	20nm,0.7s						
BNSI	**Bone**	**11.72**	**228**	P	**Pn**	**08 38 12.5**	**-0.1**
	11nm,0.9s						
BKSI	**Bulukumba**	**12.34**	**225**	P	**Pn**	**08 38 21.3**	**+0.2**
	23nm,1.8s						
BATI	**Baumata**	**14.58**	**200**	LR	LR	08 45 06.0	
	comp=Z,210nm,19.9s,baz=236,slow=40						
SBUM	**Sibu**	**16.57**	**267**	P	**P**	**08 39 20.4**	**+0.6**
SBUM				IAmb	IAmb	08 39 21.8	
	comp=Z,26nm,1.2s						
GUMO	**Guam**	**18.77**	**57**	LR	LR	08 45 30.7	
	comp=Z,88nm,21.8s,baz=105,slow=32						
KNRA	**Kununurra**	**19.09**	**180**	P	**Pn**	**08 39 48.9**	**+0.3**
GMJI	**Gumukmas**	**19.28**	**232**	P	**P**	**08 39 49.0**	**-0.7**
	comp=Z,44nm,1.7s						
GRJI	**Gresik**	**19.30**	**237**	P	**P**	**08 39 50.0**	**+0.1**
	comp=Z,78nm,0.9s						
TBJI	**Tambak Boyo**	**19.79**	**239**	P	**P**	**08 39 54.7**	**-0.5**
	comp=Z,158nm,1.2s						
UGM	**Wanagama**	**21.48**	**238**	P	**P**	**08 40 12.6**	**-0.9**
	comp=Z,123nm,1.7s						
FITZ	**Fitzroy Crossi**	**21.73**	**188**	P	**P**	**08 40 17.4**	**+1.3**
KPJI	**Karang Pucung**	**22.56**	**241**	P	**P**	**08 40 25.1**	**-0.1**
	comp=Z,27nm,1.0s						
JOW	**Kunigami**	**23.16**	**359**	LR	LR	08 47 45.7	
	comp=Z,51nm,19.4s,baz=333,slow=32						
WB0	**Warramunga Arr**	**23.81**	**167**	P	**P**	**08 40 37.5**	**-0.1**
WB0				IAmb	IAmb	08 40 60.0	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**23.97**	**167**	P	**P**	**08 40 40.6**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=348,slow=10,SNR=13						
	comp=Z,2.0nm,0.7s

*NEIC **03** 08:41:20.5±1.6, 10.62S±0.09×161.4E±0.1, h10km±1km, mb4.6/26, Error ellipse: s-maj=21.1km s-min=11.7km az=56.0*

ISC 03 08:41:19.6±0.5, 10.66S±0.06×161.44E±0.08, h10km, n77, σ1s05/67, mb4.5/34, MS3.6/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.91**	**310**	Pn	**Pn**	**08 41 49.6**	**-2.6**
	161nm,0.3s,baz=216,slow=11,SNR=4.7						
HNR				Sn	**Sb**	08 42 18.7	+0.2
	3µm,0.3s,baz=172,slow=7.5,SNR=7.2						
HNR	**Honiara**	**1.91**	**310**		**Pn**	**08 41 52.8**	**+0.5**
HNR	**Honiara**	**1.91**	**310**	P	**Pb**	**08 41 54.9**	**+0.4**
DVP	**Devils Point**	**9.60**	**138**	P	**Pn**	**08 43 36.6**	**-1.3**
KOUNC	**Koumac, New Ca**	**10.21**	**165**	Pn	**Pn**	**08 43 49.8**	**+3.5**
KOUNC	**Koumac, New Ca**	**10.21**	**165**	P	**Pn**	**08 43 46.7**	**+0.4**
LIFNC	**LIFOU**	**11.50**	**152**	Pn	**Pn**	**08 44 01.2**	**-2.8**
LIFNC	**LIFOU**	**11.50**	**152**	P	**Pn**	**08 44 02.4**	**-1.6**
DZM	**Mont Dzumac**	**12.32**	**158**	Pn	**Pn**	**08 44 14.6**	**-0.7**
	0.9nm,0.3s,baz=340,slow=16,SNR=36						
DZM				Sn	Sn	08 46 25.2	-7.6
	0.3nm,0.3s,baz=129,slow=23,SNR=1.2						
DZM				LR	LR	08 48 19.9	
	comp=Z,234nm,18.2s,baz=25,slow=34 3.0nm,0.4s						
DZM	**Mont Dzumac**	**12.32**	**158**	*e*LR	LR	08 47 17.1	
	comp=Z,200nm,22.0s						
DZM	**Mont Dzumac**	**12.32**	**158**	Pn	**Pn**	**08 44 16.6**	**+1.3**
DZM	**Mont Dzumac**	**12.32**	**158**	P	**Pn**	**08 44 16.0**	**+0.7**
MARNC	**Mare, Loyalty**	**12.48**	**150**	Pn	**Pn**	**08 44 16.5**	**-0.9**
MARNC	**Mare, Loyalty**	**12.48**	**150**	P	**Pn**	**08 44 16.7**	**-0.7**
YATNC	**Mamie plateau,**	**12.48**	**156**	P	**Pn**	**08 44 18.3**	**+0.9**
CTA	**Charters Tower**	**17.37**	**236**	Pn	**Pn**	**08 45 22.2**	**-0.1**
	1.2nm,0.3s,baz=62,slow=12,SNR=32						
CTA				LR	LR	08 51 51.0	
	comp=Z,172nm,18.5s,baz=65,slow=36 10.0nm,0.6s						
CTAO	**Charters Tower**	**17.37**	**236**	P	**Pn**	**08 45 22.9**	**+0.6**
MSVF	**Nonsavu**	**17.57**	**115**	LR	LR	08 51 55.8	
	comp=Z,163nm,18.3s,baz=14,slow=36						
EIDS	**Eidsvold**	**17.62**	**212**	P	**Pn**	**08 45 25.6**	**+0.2**
WB0	**Warramunga Arr**	**27.59**	**248**	P	**P**	**08 47 07.3**	**0.0**
WB0				IAmb	IAmb	08 47 19.5	
	comp=Z,7.7nm,0.8s						
WB2	**Warramunga Arr**	**27.67**	**247**	P	**P**	**08 47 08.7**	**+0.7**
WB2				IAmb	IAmb	08 47 20.4	
	comp=Z,8.9nm,1.0s						
WRA	**Warramunga Arr**	**27.68**	**247**	P	**P**	**08 47 07.4**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=75,slow=9.8,SNR=16						
WRA				LR	LR	08 58 01.8	
	comp=Z,266nm,18.3s,baz=54,slow=36 comp=Z,2.8nm,0.6s						
STKA	**Stephens Creek**	**27.97**	**218**	P	**P**	**08 47 10.8**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=57,slow=15,SNR=4.1 comp=Z,1.7nm,0.7s						
STKA	**Stephens Creek**	**27.97**	**218**	P	**P**	**08 47 11.5**	**+1.0**
GUMO	**Guam**	**29.17**	**325**	LR	LR	08 58 14.3	
	comp=Z,125nm,20.7s,baz=119,slow=35						
ASAR	**Alice Springs**	**29.24**	**240**	P	**P**	**08 47 20.9**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=63,slow=9.8,SNR=10						
ASAR				LR	LR	08 58 54.9	
	comp=Z,161nm,18.5s,baz=83,slow=36 comp=Z,1.0nm,0.6s						
TOO	**Toolangi**	**30.39**	**206**	P	**P**	**08 47 33.1**	**+1.0**
TOO				IAmb	IAmb	08 47 43.7	
	comp=Z,10nm,1.1s						
URZ	**Urewera**	**30.86**	**156**	LR	LR	08 58 57.2	
	comp=Z,76nm,19.1s,baz=48,slow=34						
BKZ	**Black Stump Fm**	**31.40**	**157**	P	**P**	**08 47 41.3**	**+0.4**
SIJI	**Sorong**	**31.52**	**286**	LR	LR	09 00 26.7	
	comp=Z,95nm,21.9s,baz=128,slow=36						
BBOO	**Buckleboo**	**32.11**	**223**	P	**P**	**08 47 46.9**	**-0.3**
BBOO				IAmb	IAmb	08 47 52.6	
	comp=Z,19nm,1.4s						
KNRA	**Kununurra**	**32.18**	**258**	P	**P**	**08 47 48.0**	**0.0**
FITZ	**Fitzroy Crossi**	**35.41**	**254**	P	**P**	**08 48 15.4**	**-0.7**
FORT	**Forrest**	**36.87**	**232**		**P**	**08 48 28.1**	**-0.3**
RAR	**Rarotonga**	**38.65**	**111**	LR	LR	09 01 23.0	
	comp=Z,79nm,19.4s,baz=1.5,slow=31						
MBWA	**Marble Bar**	**41.33**	**250**	P	**P**	**08 49 05.2**	**-0.8**
MBWA				IAmb	IAmb	08 49 31.5	
	comp=Z,12nm,1.1s						
TOLI2	**Tolitoli**	**42.09**	**284**	P	**P**	**08 49 11.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**46.21**	**234**	LR	LR	09 09 01.4	
	comp=Z,79nm,18.2s,slow=36						
NWAO	**Narrogin (SRO)**	**46.21**	**234**	P	**P**	**08 49 45.0**	**0.0**
JAGI	**Jajag, Banyuwa**	**46.65**	**268**	P	**P**	**08 49 47.9**	**-0.9**
PPT	**Papeete**	**47.90**	**104**	LR	LR	09 06 47.6	
	comp=Z,61nm,18.9s,baz=279,slow=32						
PPT2	**Papeete2**	**47.90**	**104**	*e*S	S	08 57 11.7	+15
	comp=Z,66nm,38.2s						
PPT2				*e*LR	LR	09 03 54.4	
	comp=Z,94nm,22.0s						
TBI	**Tubuai**	**48.40**	**112**	*e*LR	LR	09 04 08.4	
	comp=Z,240nm,28.8s						
MJAR	**Matsushiro Arr**	**51.79**	**336**	P	**P**	**08 50 26.7**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=164,slow=8.4,SNR=5.8 comp=Z,1.4nm,0.7s						
JKA	**Kamikawa-asahi**	**57.14**	**344**	P	**P**	**08 51 07.5**	**+1.1**
ASAJ	**Asahikawa**	**57.14**	**344**	P	**P**	**08 51 06.7**	**+0.3**
	comp=Z,7.3nm,0.9s,baz=160,slow=12,SNR=4.5 comp=Z,7.3nm,0.9s						
KSRS	**Korea Array**	**57.25**	**329**	P	**P**	**08 51 08.2**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=142,slow=6.2,SNR=2.4 comp=Z,0.8nm,0.5s						
USRK	**Ussuriysk Ar.**	**60.79**	**336**	P	**P**	**08 51 32.5**	**+0.7**
	comp=Z,5.7nm,0.8s,baz=151,slow=6.7,SNR=7.4 comp=Z,5.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**60.79**	**336**	P	**P**	**08 51 32.2**	**+0.4**
PETK	**Petropavlovsk-**	**63.59**	**357**	P	**P**	**08 51 51.1**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=146,slow=6.2,SNR=2.7 comp=Z,2.5nm,0.8s						
KIWB	**Kanaga Island**	**64.95**	**14**	P	**P**	**08 52 00.7**	**+1.4**
KLR	**Kul'dur**	**65.10**	**339**	P	**P**	**08 52 00.7**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=159,slow=14,SNR=6.1 comp=Z,1.2nm,0.6s						
VNDA	**Vanda**	**66.85**	**180**	P	**P**	**08 52 11.1**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=355,slow=8.0,SNR=3.6 comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**66.85**	**180**	P	**P**	**08 52 11.1**	**-0.2**
VNDA				IAmb	IAmb	08 52 49.0	
	comp=Z,5.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**68.09**	**295**	P	**P**	**08 52 20.6**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=127,slow=4.5,SNR=7.5 comp=Z,1.6nm,0.3s						
SONM	**Songino Array**	**75.90**	**325**	P	**P**	**08 53 07.2**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=142,slow=5.5,SNR=23 comp=Z,3.4nm,0.7s						
SVW2	**Sparrevohn**	**79.12**	**20**	P	**P**	**08 53 25.9**	**+1.8**
SVW2				IAmb	IAmb	08 53 26.6	
	comp=Z,9.7nm,0.8s						
QSPA	**South Pole Qui**	**79.34**	**180**	P	**P**	**08 53 25.2**	**-0.3**
QSPA				IAmb	IAmb	08 53 25.9	
	comp=Z,5.4nm,0.9s						
M19K	**Big River Lodg**	**80.10**	**20**	P	**P**	**08 53 31.5**	**+2.1**
M19K				IAmb	IAmb	08 53 32.2	
	comp=Z,12nm,1.2s						
L19K	**White Mountain**	**80.15**	**19**	P	**P**	**08 53 30.7**	**+1.0**
L19K				IAmb	IAmb	08 53 31.7	
	comp=Z,6.8nm,0.9s						
CAST	**Castle Rocks**	**81.93**	**19**	P	**P**	**08 53 39.2**	**0.0**
I21K	**Tanana**	**83.19**	**18**	P	**P**	**08 53 46.3**	**+0.6**
I21K				IAmb	IAmb	08 53 54.2	
	comp=Z,9.3nm,1.5s						
IMAR	**Indian Mountai**	**83.24**	**17**	P	**P**	**08 53 46.1**	**+0.2**
MAW	**Mawson**	**83.47**	**202**	P	**P**	**08 53 47.0**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=88,slow=9.7,SNR=5.0 comp=Z,3.3nm,0.7s						
VRDI	**Verde Repeater**	**83.62**	**24**	P	**P**	**08 53 48.5**	**+0.3**
VRDI				IAmb	IAmb	08 53 49.0	
	comp=Z,8.3nm,1.2s						
M26K	**Nabesna, AK**	**84.48**	**23**	P	**P**	**08 53 52.3**	**-0.2**
M26K				IAmb	IAmb	08 54 19.8	
	comp=Z,5.1nm,1.1s						
ILAR	**Eielson Array**	**84.54**	**20**	P	**P**	**08 53 52.0**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=240,slow=5.0,SNR=12 comp=Z,0.6nm,0.6s						
BCAR	**Beaver Creek A**	**85.32**	**22**	P	**P**	**08 53 58.2**	**+1.6**
BMAR	**Burnt Mountain**	**86.93**	**18**	P	**P**	**08 54 05.5**	**+1.0**
M30M	**Minto, Yukon**	**87.00**	**24**	P	**P**	**08 54 05.6**	**+0.7**
M30M				IAmb	IAmb	08 54 11.4	
	comp=Z,5.5nm,1.4s						
NVAR	**Mina Array Bea**	**89.03**	**51**	P	**P**	**08 54 16.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=232,slow=5.6,SNR=7.0 comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**90.36**	**318**	P	**P**	**08 54 20.3**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=91,slow=6.9,SNR=14 comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**90.79**	**325**	P	**P**	**08 54 21.4**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=105,slow=5.1,SNR=1.9 comp=Z,0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**93.69**	**321**	P	**P**	**08 54 34.9**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=109,slow=4.0,SNR=7.0 comp=Z,0.5nm,0.6s						
NRIK	**Noril'sk**	**94.30**	**340**	P	P	08 54 33.6	-5.2
	comp=Z,2.3nm,0.6s,baz=117,slow=2.3,SNR=6.2						
PDAR	**Pinedale Array**	**96.42**	**48**	P	**P**	**08 54 50.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=277,slow=7.2,SNR=4.4 comp=Z,0.3nm,0.7s						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**08 54 48.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=259,slow=4.2,SNR=10 comp=Z,0.4nm,0.6s						

*IDC **03** 08:45:31.2±7.7, 7.34S×128.64E, h129km±81km, mb3.6/4, mbtmp3.9/7, Error ellipse: s-maj=72.0km s-min=27.0km az=34.0*

ISC 03 08:45:31.7±1.1, 7.67S±0.10×128.8E±0.1, h150km, n7, σ2s65/10, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.66**	**243**	P	**Pn**	**08 46 55.0**	**+1.2**
	34nm,0.4s,baz=63,slow=7.6,SNR=9.5						
BATI				S	**Sn**	08 47 57.0	-1.1
	21nm,0.4s,baz=277,slow=23,SNR=1.5						
WRA	**Warramunga Arr**	**13.33**	**157**	P	**P**	**08 48 38.9**	**-0.6**
	0.5nm,0.5s,baz=341,slow=13,SNR=5.6						
WRA				S	**Sn**	08 51 00.6	-2.3
	2.4nm,0.4s,baz=336,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**16.64**	**163**	P	**Pn**	**08 49 22.1**	**+5.7**
	0.7nm,0.5s,baz=340,slow=10,SNR=6.6						
ASAR				S	**S**	**08 52 19.0**	**-2.5**
	0.9nm,0.6s,baz=347,slow=25,SNR=3.2						
CMAR	**Chiang Mai Arr**	**39.26**	**312**	P	**P**	**08 52 44.8**	**-1.1**
	0.9nm,0.3s,baz=134,slow=6.5,SNR=1.0 0.9nm,0.3s						
MKAR	**Makanchi Array**	**68.14**	**328**	P	**P**	**08 56 15.5**	**-0.1**
	1.0nm,0.6s,baz=121,slow=7.8,SNR=6.9 1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**71.66**	**334**	P	**P**	**08 56 35.9**	**-0.9**
	0.7nm,0.4s,baz=120,slow=5.7,SNR=1.5 0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**72.46**	**329**	P	**P**	**08 56 41.5**	**-0.1**
	0.6nm,0.5s,baz=124,slow=5.0,SNR=5.9 0.6nm,0.5s						

*KRNET **03** 08:58:20.9±0.1, 39.24N×73.97E, mb3.7*
*SOME **03** 08:58:20.8, 39.32N×73.97E, h15km*
*NNC **03** 08:58:27.4±1.1, 39.55N×73.97E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=8.7km s-min=5.2km az=171.0*

ISC 03 08:58:21.2±1.8, 39.1N±0.1×73.89E±0.04, h8km±12km, n52, σ1s28/72, 26C-18D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.68**	**285**	↓*e*P	**Pb**	**08 58 52.8**	**+0.3**
	baz=79						
DRK				↓*e*S	**Sg**	**08 59 16.1**	**+1.1**
	baz=79						
OHH	**Osh**	**1.69**	**330**	↑*e*P	**Pn**	**08 58 50.7**	**-0.4**
	baz=25						
OHH				↑*e*S	**Sn**	**08 59 12.1**	**-0.8**
	baz=25						
BTK	**Batken**	**2.57**	**294**	↑*e*P	**Pb**	**08 59 05.7**	**-1.9**
	baz=90						
BTK				↑*e*S	**Sb**	**08 59 38.8**	**-0.7**
	baz=90						
ARLS	**Aral**	**2.81**	**7**	↑*i*P	**Pn**	**08 59 06.7**	**+0.1**
	baz=6.0						
ARLS				↑*i*S	**Sn**	**08 59 39.9**	**-0.8**
	baz=6.0						
NRN	**Naryn**	**2.86**	**34**	↑*e*P	**Pn**	**08 59 07.2**	**-0.2**
	baz=34						
NRN				↑*e*S	**Sn**	**08 59 41.2**	**-1.0**
	baz=34						
AML	**Almayashu**	**3.06**	**357**	P	**Pn**	**08 59 11.8**	**+1.5**
	SNR=13						
AML	**Almayashu**	**3.06**	**357**	↓*e*P	**Pn**	**08 59 10.5**	**+0.2**
	baz=56						
AML				↓*e*S	**Sn**	**08 59 47.1**	**-0.2**
	baz=56						
UCH	**Uchtor**	**3.19**	**8**	P	**Pn**	**08 59 13.9**	**+1.8**
	SNR=26						
UCH	**Uchtor**	**3.19**	**8**	↓*e*P	**Pn**	**08 59 12.3**	**+0.2**
	baz=8.0						
UCH				↓*e*S	**Sn**	**08 59 49.7**	**-0.9**
	baz=8.0						
TRKS	**Terek-Say**	**3.24**	**320**	↓*e*P	**Pn**	**08 59 13.2**	**+0.8**
	baz=17						
TRKS				↓*e*S	**Sn**	**08 59 51.1**	**-0.2**
	baz=17						
EKS2	**Erkin-Say**	**3.59**	**359**	P	**Pn**	**08 59 20.1**	**+2.8**
	SNR=8.8						
EKS2	**Erkin-Say**	**3.59**	**359**	↑*e*P	**Pn**	**08 59 17.7**	**+0.4**
	baz=58						
EKS2				↑*e*S	**Sn**	**08 59 59.4**	**-0.6**
	baz=58						
AAK	**Ala-Archa**	**3.59**	**7**	P	**Pn**	**08 59 20.1**	**+2.8**
	SNR=15						
AAK	**Ala-Archa**	**3.59**	**7**	↓*e*P	**Pn**	**08 59 17.8**	**+0.4**
	baz=6.0						
AAK				↓*e*S	**Sn**	**08 59 59.2**	**-0.9**
	baz=6.0						
ULHL	**Ulahol**	**3.64**	**29**	↓*e*P	**Pn**	**08 59 18.5**	**+0.4**
	baz=29						
ULHL				↓*e*S	**Sn**	**09 00 00.4**	**-1.0**
	baz=29						
KBK	**Karagaybulak**	**3.67**	**12**	P	**Pn**	**08 59 21.4**	**+2.9**
	SNR=14						
KBK	**Karagaybulak**	**3.67**	**12**	↑*e*P	**Pn**	**08 59 18.8**	**+0.3**
	baz=12						
KBK				↑*e*S	**Sn**	**09 00 01.2**	**-0.9**
	baz=12						
MRKS	**Merke**	**3.71**	**352**	Pg	**Pb**	**08 59 26.6**	**-0.4**
	15nm,0.4s						
MRKS				Lg	Lg	09 00 11.5	
	38nm,0.6s						
MRKS	**Merke**	**3.71**	**352**	*e*Pg	**Pb**	**08 59 25.2**	**-1.8**
	15nm,0.4s						
MRKS				*e*Lg	Lg	09 00 11.5	
	38nm,0.6s						
BOOM	**Boomskoye usch**	**3.75**	**24**	↓*e*P	**Pn**	**08 59 19.9**	**+0.3**
	baz=24						
BOOM				↓*e*S	**Sn**	**09 00 03.1**	**-1.0**
	baz=24						
KDJ	**Kajisay**	**3.95**	**38**	↑*e*P	**Pn**	**08 59 22.8**	**+0.5**
	baz=39						
KDJ				↑*e*S	**Sn**	**09 00 08.0**	**-1.0**
	baz=39						
CHMS	**Chumysh**	**3.98**	**9**	P	**Pn**	**08 59 25.0**	**+2.5**
	SNR=5.7						
CHMS	**Chumysh**	**3.98**	**9**	↓Pn	**Pn**	**08 59 24.0**	**+1.5**
	5.5nm,0.6s						
CHMS				↑Pg	**Pb**	**08 59 32.0**	**+0.4**
	10nm,0.8s						
CHMS				↑Lg	Lg	09 00 18.4	
	30nm,0.7s						
TKM2	**Tokmak 2**	**4.06**	**18**	↓Pn	**Pn**	**08 59 26.2**	**+2.4**
	3.1nm,0.5s						
TKM2				↑Pg	**Pb**	**08 59 33.7**	**+0.7**
	11nm,0.6s						
TKM2				↑Lg	Lg	09 00 22.6	
	35nm,0.9s						
TKM2	**Tokmak 2**	**4.06**	**18**	↓*e*P	**Pn**	**08 59 24.2**	**+0.4**
	baz=18						
TKM2				↓*e*S	**Sn**	**09 00 10.4**	**-1.2**
	baz=18						
IUG	**luzhnay**	**4.25**	**318**	*e*Pg	**Pb**	**08 59 36.5**	**+0.2**
	41nm,0.7s						
IUG				*e*Lg	Lg	09 00 31.7	
	45nm,0.8s						
KST	**Kastek**	**4.27**	**21**	Pg	**Pb**	**08 59 36.5**	**-0.1**
	6.1nm,0.6s						
KST				Lg	Lg	09 00 28.9	
	43nm,0.7s						
KST	**Kastek**	**4.27**	**21**	*e*Pg	**Pb**	**08 59 34.6**	**-2.0**
	6.1nm,0.6s						
KST				*e*Lg	Lg	09 00 27.9	
	43nm,0.7s						
SGDS	**Sogindy**	**4.42**	**7**	Pg	**Pb**	**08 59 37.9**	**-1.1**
	4.8nm,0.5s						
SGDS				Lg	Lg	09 00 31.1	
	17nm,1.2s						
MTBS	**Maitube**	**4.49**	**24**	Pg	**Pb**	**08 59 41.2**	**+1.0**
	9.9nm,0.5s						
MTBS				Lg	Lg	09 00 36.3	
	23nm,0.9s						
MTBS	**Maitube**	**4.49**	**24**	*e*Pg	**Pb**	**08 59 38.9**	**-1.3**
	9.9nm,0.5s						
MTBS				*e*Lg	Lg	09 00 35.1	
	23nm,0.9s						
TNSS	**Tian-Shan**	**4.59**	**29**	Pg	**Pb**	**08 59 41.8**	**-0.3**
	25nm,0.8s						
TNSS				Lg	Lg	09 00 37.8	
	17nm,0.9s						
TNSS	**Tian-Shan**	**4.59**	**29**	*e*Pg	**Pb**	**08 59 41.1**	**-1.0**
	25nm,0.8s						
TNSS				*e*Lg	Lg	09 00 39.5	
	17nm,0.9s						
MDOK	**Medeo**	**4.73**	**29**	⇑Pg	**Pb**	**08 59 43.7**	**-0.8**
	12nm,0.6s						
MDOK				Pg	Pg	08 59 44.3	-7.5
	12nm,0.5s						
MDOK				Lg	Lg	09 00 42.2	
	19nm,0.9s						
MDOK				⇑Lg	Lg	09 00 44.6	
	40nm,0.8s						
MDOK	**Medeo**	**4.73**	**29**	*e*Pg	**Pb**	**08 59 43.9**	**-0.6**
	12nm,0.5s						
MDOK				*e*Lg	Lg	09 00 43.9	
	19nm,0.9s						
KK31	**Karatay Array**	**4.77**	**329**	Pn	**Pn**	**08 59 35.2**	**+1.8**
	2.2nm,0.5s,baz=130,slow=12,SNR=28						
KK31				⇑Pg	**Pb**	**08 59 46.5**	**+1.4**
	6.0nm,0.7s,baz=137,slow=14,SNR=7.2						
KK31				⇑Sn	**Sn**	**09 00 29.4**	**+0.5**
	4.5nm,0.5s,baz=180,slow=24,SNR=4.4						
KK31				⇑Lg	Lg	09 00 46.4	
	19nm,0.8s,baz=174,slow=33,SNR=4.3						
KRBS	**Karabastau**	**4.81**	**16**	Pg	**Pb**	**08 59 46.4**	**+0.6**
	3.1nm,0.4s						
KRBS				Lg	Lg	09 00 46.2	
	17nm,1.0s						
KRBS	**Karabastau**	**4.81**	**16**	*e*Pg	**Pb**	**08 59 45.3**	**-0.5**
	3.1nm,0.4s						
KRBS				*e*Lg	Lg	09 00 46.2	
	17nm,1.0s						
KUU	**Kurty**	**5.16**	**20**	Pg	**Pb**	**08 59 53.2**	**+1.5**
	3.6nm,0.5s						
KUU				Lg	Lg	09 00 57.3	
	11nm,0.9s						
KUU	**Kurty**	**5.16**	**20**	*e*Pg	**Pb**	**08 59 51.8**	**+0.2**
	3.6nm,0.5s						
KUU				*e*Lg	Lg	09 00 57.3	
	11nm,0.9s						
CHKK	**Chushkaly**	**5.32**	**25**	Pg	**Pb**	**08 59 56.2**	**+1.9**
	7.7nm,0.6s						
CHKK				Lg	Lg	09 01 02.0	
	18nm,0.8s						
CHKK	**Chushkaly**	**5.32**	**25**	*e*Pg	**Pb**	**08 59 54.8**	**+0.5**
	7.7nm,0.6s						
CHKK				*e*Lg	Lg	09 01 02.0	
	18nm,0.8s						
UZB	**Uzynbulak**	**5.62**	**42**	Pg	**Pb**	**09 00 02.6**	**+3.0**
	7.2nm,0.4s						
UZB				Lg	Lg	09 01 12.9	
	15nm,1.4s						
UZB	**Uzynbulak**	**5.62**	**42**	*e*Pg	**Pb**	**09 00 01.0**	**+1.4**
	7.2nm,0.4s						
UZB				*e*Lg	Lg	09 01 12.9	
	15nm,1.4s						
KPKS	**Kokpek**	**5.69**	**38**	Pg	**Pb**	**09 00 02.5**	**+1.8**
	6.8nm,0.5s						
KPKS				Lg	Lg	09 01 12.7	
	25nm,0.8s						
KPKS	**Kokpek**	**5.69**	**38**	*e*Pg	**Pb**	**09 00 01.3**	**+0.7**
	6.8nm,0.5s						
KPKS				*e*Lg	Lg	09 01 12.7	
	25nm,0.8s						
SHLS	**Shalkode**	**5.86**	**44**	Pg	**Pg**	**09 00 13.1**	**-0.3**
	6.1nm,0.6s						
SHLS				Lg	Lg	09 01 30.9	
	17nm,0.8s						
SHLS	**Shalkode**	**5.86**	**44**	*e*Pg	**Pg**	**09 00 11.3**	**-2.1**
	7.3nm,0.5s						
SHLS				*e*Lg	Lg	09 01 30.9	
	17nm,0.8s						
BTLS	**Baital**	**5.97**	**1**	Pg	**Pb**	**09 00 07.2**	**+1.7**
	1.2nm,1.0s						
BTLS				Lg	Lg	09 01 21.0	
	7.0nm,1.0s						
BTLS	**Baital**	**5.97**	**1**	*e*Pg	**Pb**	**09 00 05.4**	**-0.1**
	1.2nm,1.0s						
BTLS				*e*Lg	Lg	09 01 21.0	
	7.0nm,1.0s						
AB31	**Akbulak array**	**14.26**	**320**	⇑Pn	**Pn**	**09 01 44.1**	**+0.8**
	1.1nm,0.8s,baz=127,slow=13,SNR=10						
AB31				⇑Sn	**Sn**	**09 04 22.0**	**+0.4**
	2.3nm,1.1s,baz=133,slow=23,SNR=5.2						
AKTO	**Aktyubinsk**	**15.97**	**321**	⇑Pn	**P**	**09 02 08.5**	**-1.2**
	3.0nm,1.1s						

DDA 03 09:01:15.6±0.0, 38.48N×29.16E, h7km±2km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USAK	**Uak-Merkez**	**0.26**	**335**	P	Pg	09 01 20.8	0.0
USAK				*i* AML	AML	09 01 24.0	
	comp=E,71nm,1.3s						
USAK				S	Sg	09 01 24.8	+0.5
USAK				*i* AML	AML	09 01 25.0	
	comp=N,21nm,1.1s						
PASA	**Karahalli, USA**	**0.29**	**117**	P	Pg	09 01 21.7	+0.4
PASA				S	Sg	09 01 26.1	+1.0
MANT	**Manisa**	**0.47**	**272**	P	Pg	09 01 25.0	+0.2
MANT				S	Sb	09 01 32.5	-1.2
MANT				*i* AML	AML	09 01 35.0	
	comp=E,7.1nm,0.4s						
GDZ	**Gediz**	**0.66**	**22**	P	Pg	09 01 28.2	-0.1
GDZ				S	Sb	09 01 38.3	-0.7
TAVA	**DENIZLI_Tavas**	**1.03**	**191**	P	Pg	09 01 31.9	-3.5
TAVA				S	Sg	09 01 40.8	-7.8
TAVA				*i* AML	AML	09 01 41.0

ELZG			*i* AML	AML	09 07 34.0		
	comp=E,10nm,0.3s						
AKCD	**Akcadag**	**0.59 256**	P	Pb	09 07 31.5	-0.1	
AKCD			S	Sg	09 07 38.6	+0.6	
AKCD			*i* AML	AML	09 07 39.0		
	comp=E,25nm,0.2s						
AKCD			*i* AML	AML	09 07 40.0		
	comp=N,24nm,0.4s						
KEMA	**Kemaliye**	**0.83 351**	P	Pn	09 07 36.6	-0.5	
KEMA			S	Sg	09 07 46.0	+0.4	
KEMA			*i* AML	AML	09 07 47.0		
	comp=E,5.3nm,0.5s						
KEMA			*i* AML	AML	09 07 49.0		
	comp=N,5.0nm,0.5s						
CUKAN	**kangal_SIVAS**	**1.27 314**	P	Pn	09 07 39.5	-3.6	
CUKAN			S	Sg	09 07 49.7	-10	

IDC ***03*** *09:08:57.2±0.3,24˚.03N×92˚.02E, h0km, mb5.0/45, mbtmp5.0/47, ML4.8/2, MS5.0/77, Error ellipse: s-maj=9.8km s-min=8.4km az=51.0*

BJI ***03*** *09:08:59.3±0.0,24˚.29N×92˚.06E, h18km, mb5.2/75, mB5.4/56, ML5.6/1, Ms5.5/88, Ms7 5.2/83*

MOS ***03*** *09:09:00.1±0.9,23˚.98N×92˚.02E, h36km, mb5.5/112, MS5.1/38, Error ellipse: s-maj=5.6km s-min=2.9km az=123.6*

NEIC ***03*** *09:09:02.1±1.8,24˚.02N±0˚.06×92˚.02E±0˚.07, h32km±1km, mb5.5/226, Ms_20 5.3/231, Mwb5.5/15, Mww5.7/19, Error ellipse: s-maj=11.5km s-min=9.1km az=222.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.11; Mθθ-1.46; Mϕϕ1.57; Mrθ0.01; Mrϕ2.12; Mθr-0.03; Fault plane solution: M₀2.60000×10¹⁷ NP1: ϕs162.24000°, δ89.97000°, λ179.27000°. NP2: ϕs252.24000°, δ89.27000°, λ0.03000°. Principal axes: T 2.6589, Plg1.0000°, Azm117.0000°; N -0.1124, Plg90.0000°, Azm-20.0000°; P -2.5466, Plg0.0000°, Azm207.0000°;*

GCMT ***03*** *09:09:03.1±0.1,23˚.98N±0˚.01×92˚.03E±0˚.01, h24km, MW5.6/150, Moment Tensor Solution. s117,c194; s150,c305; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.08±.04; Mθθ-2.42±.04; Mϕϕ2.50±.04; Mrθ-0.17±.06; Mθϕ1.96±.03; Mϕr0.14±.06; Best double couple: M₀3.15300×10¹⁷ NP1:ϕs154.00000°, δ88.00000°, λ-176.00000°. NP2:ϕs64.00000°, δ86.00000°, λ-2.00000°. Principal axes: T 3.1870, Plg1.0000°, Azm289.0000°; N -0.0700, Plg86.0000°, Azm180.0000°; P -3.1190, Plg4.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NDI ***03*** *09:09:03.1±4.2,24˚.14N×91˚.88E, h33km±16km, mb5.4, mb5.5(NEIC)*

BGR ***03*** *09:09:06.2,24˚.15N×91˚.12E, h33km, mb5.5, Ms5.1*

NEIC ***03*** *09:09:08, 23˚.90N×91˚.89E, h36km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10¹⁷Nm; Mrr0.19; Mθθ-3.74; Mϕϕ3.54; Mrθ-0.85; Mθϕ1.64; Mϕr-0.30; Fault plane solution: M₀4.09000×10¹⁷ NP1:ϕs56.99000°, δ88.14000°, λ-12.27000°. NP2:ϕs147.39000°, δ77.74000°, λ-178.10000°. Principal axes: T 3.9542, Plg7.0000°, Azm103.0000°; N 0.2686, Plg78.0000°, Azm228.0000°; P -4.2229, Plg10.0000°, Azm12.0000°;*

ISC 03 09:09:02.3±0.2, 24˚.10N±0˚.02×91˚.99E±0˚.02, h35km, h35km:pP-P,n1513,cr142/1540, mb5.4/376, MS5.2/249, 72C-40D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGT	**Agartala**	**0.71**	**252**	*e*Pg	**Pb**	**09 09 17.0**	**+0.6**
AGT				*i* Sg	**Sn**	**09 09 29.9**	**+4.3**
BRDH	**Bariadhala**	**1.45**	**193**	Pn	**Pn**	**09 09 25.8**	**-0.3**
	12μm,0.3s,baz=87,slow=6.6,SNR=1100						
BRDH				Sn	**Sb**	**09 09 45.5**	**-1.4**
	30μm,0.3s,baz=270,slow=22,SNR=32						
BRDH				LR	LR	09 10 06.1	
	comp=Z,116μm,18.8s,baz=270,slow=50						
SHL	**Shillong**	**1.46**	**356**		**Pn**	**09 09 26.5**	**+0.1**
SHL	**Shillong**	**1.46**	**356**	*e*Pg	**Pn**	**09 09 27.6**	**+1.2**
SHL				*e*S	**Sb**	**09 09 47.1**	**-0.4**
SHL	**Shillong**	**1.46**	**356**	P	**Pn**	**09 09 26.5**	**+0.1**
SHL	**Shillong**	**1.46**	**356**	P	**Pn**	**09 09 27.6**	**+1.2**
	SNR=9300						
SAIH	**SAIHA**	**1.85**	**150**	*e*Pg	**Pn**	**09 09 31.8**	**+0.1**
SAIH				*i* Sg	**Sn**	**09 09 55.2**	**+1.3**
IMP	**Imphal**	**1.93**	**67**	*e*Pg	**Pb**	**09 09 35.3**	**-1.5**
IMP				*ex*	x	09 09 58.7	
ITAN	**ITANAGAR**	**3.41**	**27**	*e*Pg	**Pn**	**09 09 55.2**	**+2.1**
ITAN				*i* Sg	**Sn**	**09 10 33.1**	**+0.8**
SLGI	**Shiliguri**	**4.14**	**309**	*e*P	**Pn**	**09 10 05.6**	**+2.6**
DIBR	**DIBRUGARH**	**4.26**	**38**	*e*Pg	**Pn**	**09 10 05.7**	**+0.9**
DIBR				*i* Sg	**Sn**	**09 10 51.4**	**-1.9**
MND	**Mandalay**	**4.33**	**118**	Pn	**Pn**	**09 10 04.4**	**-1.2**
MND	**Mandalay**	**4.33**	**118**	P	**Pn**	**09 10 05.2**	**-0.5**
LKP	**Lekhapani**	**4.74**	**46**	*e*Pg	**Pn**	**09 10 12.9**	**+1.6**
LKP				*i* Sg	**Sn**	**09 11 03.8**	**-1.2**
ODAN	**Odare**	**4.98**	**304**	*e*Pn	**Pn**	**09 10 16.3**	**+1.4**
TAPN	**Taplejung**	**5.04**	**311**	*e*Pn	**Pn**	**09 10 17.3**	**+1.6**
BOK	**Bokaro**	**5.59**	**268**	*e*P	**Pn**	**09 10 23.6**	**+0.6**
BOK				*ex*	x	09 11 11.3	
LSA	**Lhasa**	**5.63**	**353**	Pn	**Pn**	**09 10 24.9**	**+0.9**
LSA	**Lhasa**	**5.63**	**353**	P	Pn	09 10 29.7	+5.8
LSA				S	**Sn**	**09 11 29.0**	**+1.4**
LSA				LR	LR		
	comp=N,19μm,2.8s						
LSA				LR	LR		
	comp=E,96μm,8.5s						
LSA	**Lhasa**	**5.63**	**353**	P	**Pn**	**09 10 24.9**	**+0.9**
LSA	**Lhasa**	**5.63**	**353**	P	**Pn**	**09 10 25.2**	**+1.3**
LSA				P	**Pn**	**09 10 25.2**	**+1.3**
RAMN	**Ramite**	**5.63**	**301**	*e*Pn	**Pn**	**09 10 24.5**	**+0.6**
TNCH	**TengChong**	**6.02**	**80**	⇑Pn	**Pn**	**09 10 29.3**	**+0.2**
TNCH				Sn	**Sn**	**09 11 39.3**	**+2.4**
TNCH				LR	LR		
	comp=E,57μm,7.8s						
TNCH				LR	LR		
	comp=E,39μm,5.2s						
TNCH				LR	LR		
	comp=E,28μm,11.3s						
JIRN	**Jiri**	**6.31**	**305**	*e*Pn	**Pn**	**09 10 34.2**	**+0.9**
JIRN				*e*Sn	**Sn**	**09 11 43.9**	**-0.5**
	comp=E,6μm,0.7s						
PKI	**Pulchoki**	**6.86**	**302**	*e*Pn	**Pn**	**09 10 41.4**	**+0.6**
PKIN	**Phulchoki**	**6.87**	**302**	*e*Pn	**Pn**	**09 10 42.0**	**+1.1**
PKIN				*e*Sn	**Sn**	**09 11 55.4**	**-2.7**
KKN	**Kakani**	**7.07**	**303**	*e*Pn	**Pn**	**09 10 44.1**	**+0.6**
KKN				*e*Sn	**Sn**	**09 12 00.8**	**-2.0**
	comp=E,505nm,0.5s						
DMN	**Daman**	**7.12**	**301**	*e*Pn	**Pn**	**09 10 44.6**	**+0.4**
GKN	**Gorkha**	**7.67**	**302**	*e*Pn	**Pn**	**09 10 52.4**	**+0.7**
GKN				*e*Sn	**Sn**	**09 12 14.5**	**-3.0**
	comp=E,2μm,0.6s						
JHSG	**JHARSUGUGA**	**7.92**	**255**	*e*P	**Pn**	**09 10 55.0**	**0.0**
VLK	**Valmikinagar**	**7.99**	**295**	*e*P	**Pn**	**09 10 56.3**	**+0.3**
VAR	**Varanasi**	**8.25**	**280**	*e*P	**Pn**	**09 10 58.8**	**-0.7**
CHTO	**Chiang Mai**	**8.34**	**128**	Pn	**Pn**	**09 10 58.9**	**-2.0**
CHTO	**Chiang Mai**	**8.34**	**128**	P	**Pn**	**09 10 58.9**	**-2.0**
KOLN	**Koldanda**	**8.39**	**298**	*e*Pn	**Pn**	**09 11 01.4**	**-0.2**
KOLN				*e*Sn	**Sn**	**09 12 31.8**	**-3.4**
	comp=E,423nm,0.6s						
DANN	**Dangsing**	**8.51**	**302**	*e*Pn	**Pn**	**09 11 02.8**	**-0.6**
DANN				*e*Sn	**Sn**	**09 12 34.6**	**-3.9**
	comp=E,3μm,0.7s						
CM31	**Chiang Mai Arr**	**8.57**	**130**		**Pn**	**09 11 02.9**	**-1.1**
CM31	**Chiang Mai Arr**	**8.57**	**130**	P	**Pn**	**09 11 02.3**	**-1.7**
	SNR=100						
CMAR	**Chiang Mai Arr**	**8.57**	**130**	Pn	**Pn**	**09 11 03.2**	**-0.9**
	comp=E,3.7nm,0.3s,baz=311,slow=14,SNR=368						
CMAR				Sn	**Sn**	**09 12 40.8**	**+1.1**
	baz=64,slow=27						
CMAR				LR	LR	09 15 15.9	
	comp=E,10μm,20.2s,baz=310,slow=44						
	comp=E,113nm,0.9s						
CMAR	**Chiang Mai Arr**	**8.57**	**130**		**Pn**	**09 11 02.5**	**-1.6**
CMAR	**Chiang Mai Arr**	**8.57**	**130**	*i* P	**Pn**	**09 11 02.4**	**-1.6**
CMAR				pmax	pmax		
	comp=Z,114nm,0.9s						
CRAI	**Chiangrai**	**8.67**	**115**	Pn	**Pn**	**09 11 03.8**	**-1.6**
PZH	**PanZhiHua**	**9.14**	**73**	⇑P	**Pn**	**09 11 13.6**	**+1.7**
PZH				pP		09 11 20.6	
PZH				S	**Sn**	**09 12 57.0**	**+3.3**
PZH				sS		09 13 05.0	
PZH				pmax	pmax		
	comp=Z,40nm,1.8s						
PZH				pmax	pmax		
	comp=Z,740nm,4.2s						
PZH				LR	LR		
	comp=Z,52μm,17.7s						
PZH				LR	LR		
	comp=Z,30μm,18.8s						
PZH				LR	LR		
	comp=Z,27μm,18.2s						
RAGD	**RAYAGADA**	**9.29**	**240**	*e*P	**Pn**	**09 11 13.6**	**-0.2**
PHRA	**Phrae**	**9.49**	**124**	Pn	**Pn**	**09 11 14.9**	**-1.6**
VIS	**Vishakhapatnam**	**10.28**	**234**	*e*P	**Pn**	**09 11 27.9**	**+0.4**
DGPR	**DIGLIPUR**	**10.90**	**175**	*ex*	**Pn**	**09 11 33.4**	**-2.5**
JBP	**Jabalpur**	**11.05**	**268**	*e*P	**Pn**	**09 11 36.1**	**-1.8**
JBP				*e*S	**Sn**	**09 13 35.3**	**-4.9**
LGTI	**Lohaghat**	**11.76**	**299**	*e*P	**Pn**	**09 11 47.2**	**-0.5**
LGTI				IAmb	IAmb	09 11 49.9	
	comp=Z,1μm,0.5s						
LGTI				*i* x	x	09 11 58.8	
NONG	**Nongkai**	**12.02**	**118**	P	**Pn**	**09 11 50.7**	**-0.5**
	comp=Z,549nm,1.2s						
JHNI	**Jhansi**	**12.29**	**279**	*e*P	**Pn**	**09 11 50.4**	**-4.5**
GOMU	**GeErMu**	**12.30**	**11**	P	**Pn**	**09 11 53.7**	**-1.6**
GOMU				S	**Sn**	**09 14 06.6**	**-4.8**
GOMU				pmax	pmax		
	comp=Z,280nm,0.9s						
GOMU				LR	LR		
	comp=Z,9μm,18.0s						
GOMU				LR	LR		
	comp=Z,7μm,13.7s						
GOMU				LR	LR		
	comp=Z,7μm,16.3s						
PBA	**Port Blair**	**12.40**	**177**	Pn	**Pn**	**09 11 55.0**	**-1.4**
CD2	**Chengdu**	**12.45**	**54**	P	**Pn**	**09 11 56.3**	**-0.8**
CD2				S	**Sn**	**09 14 12.0**	**-2.6**
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				LR	LR		
	comp=Z,17μm,9.0s						
CD2				LR	LR		
	comp=Z,18μm,9.2s						
CD2				LR	LR		
	comp=Z,21μm,12.2s						
VJD	**Vijayawada**	**13.04**	**237**	*e*P	**Pn**	**09 12 04.2**	**-0.9**
NAYO	**Nakonayok**	**13.12**	**136**	P	**Pn**	**09 12 06.3**	**0.0**
	comp=Z,953nm,0.9s						
BHPL	**Bhopal**	**13.38**	**269**	*e*P	**Pn**	**09 12 06.9**	**-2.8**
BHPL				IAmb	IAmb	09 12 12.3	
	comp=Z,409nm,0.6s						
BHPL				*i* pP	**P**	**09 12 17.9**	**-1.0**
GYA	**Guiyang**	**13.48**	**77**	P	**Pn**	**09 12 12.5**	**+1.2**
GYA				pP	P	09 12 20.5	+0.4
GYA				S	**Sn**	**09 14 39.6**	**-0.4**
GYA				pmax	pmax		
	comp=Z,22nm,1.4s						
GYA				pmax	pmax		
	comp=Z,500nm,4.0s						
GYA				LR	LR		
	comp=Z,7μm,12.2s						
GYA				LR	LR		
	comp=Z,11μm,12.3s						
GYA				LR	LR		
	comp=Z,14μm,18.2s						
DDI	**Dehra Dun**	**13.86**	**300**	*ex*	Pn	09 12 11.8	-4.5
DDI				IAmb	IAmb	09 12 26.2	
	comp=Z,2μm,1.1s						
NDI	**New Delhi**	**14.00**	**292**	*ex*	x	09 12 13.7	
NDI				*e*P	**Pn**	**09 12 16.0**	**-2.3**
NDI				*e*S	**Sn**	**09 14 47.0**	**-5.5**
SONA	**Sohna**	**14.01**	**290**	*e*P	**Pn**	**09 12 14.8**	**-3.5**
HYB	**Hyderabad**	**14.21**	**245**	*e*P	**Pn**	**09 12 17.6**	**-3.6**
HYB				*e*		09 14 42.0	
HYB				IVMsBB		09 17 36.5	
	comp=Z,9μm,4.4s						
HYB	**Hyderabad**	**14.21**	**245**	*e*P	**Pn**	**09 12 18.0**	**-3.2**
HYB				IAmb	IAmb	09 12 23.1	
	comp=Z,77nm,0.5s						
AKL	**Akola**	**14.26**	**259**	*e*P	**Pn**	**09 12 19.0**	**-2.8**
AKL				IAmb	IAmb	09 12 23.2	
	comp=Z,159nm,0.9s						
KUDL	**Kundal**	**14.49**	**289**	*e*P	Pn	09 12 20.1	-4.8
SMLA	**Simla**	**14.88**	**301**	*e*P	Pn	09 12 25.4	-4.7
SMLA				IAmb	IAmb	09 12 29.5	
	comp=Z,780nm,1.3s						
UBPT	**Khong Chiam**	**15.42**	**122**	Pn	**Pn**	**09 12 34.9**	**-2.5**
UBPT				IAmb	IAmb	09 12 41.8	
	comp=Z,252nm,0.9s						
UBPT	**Khong Chiam**	**15.42**	**122**	P	**Pn**	**09 12 35.9**	**-1.5**
BHK	**Bhakra**	**15.58**	**301**	*e*P	**Pn**	**09 12 36.1**	**-3.3**
LZH	**Lanzhou**	**15.73**	**38**	⇓P	**Pn**	**09 12 39.4**	**-2.0**
LZH				pP	P	09 12 45.1	0.0
LZH				sS	S	09 15 45.5	-3.2
LZH				pmax	pmax		
	comp=Z,920nm,1.2s						
LZH				pmax	pmax		
	comp=Z,3μm,4.4s						
LZH				LR	LR		
	comp=Z,21μm,15.6s						
LZH				LR	LR		
	comp=Z,21μm,17.5s						
LZH				LR	LR		
	comp=Z,12μm,18.4s						
AJM	**Ajmer**	**15.87**	**282**	*e*P	**Pn**	**09 12 39.3**	**-3.9**
SURA	**Surathani**	**16.55**	**153**	P	**P**	**09 12 53.2**	**-0.8**
GTA	**Gaotai**	**16.64**	**22**	⇓P	**Pn**	**09 12 49.4**	**-3.6**
GTA				pP	P	09 12 55.5	+0.4
GTA				sP	pP	09 13 01.9	-2.2
GTA				S	**Sn**	**09 15 52.3**	**-4.4**
GTA				sS	S	09 16 07.5	+0.3
GTA				pmax	pmax		
	comp=Z,59nm,1.8s						
GTA				pmax	pmax		
	comp=Z,1μm,7.6s						
GTA				LR	LR		
	comp=Z,4μm,11.5s						
GTA				LR	LR		
	comp=Z,9μm,14.7s						
GTA				LR	LR		
	comp=Z,6μm,11.9s						
ENH	**Enshi**	**16.73**	**65**	Pn	**Pn**	**09 12 53.0**	**-1.1**
ENH	**Enshi**	**16.73**	**65**	P	**P**	**09 12 56.9**	**+0.8**
SRIT	**Nakonsritamara**	**17.05**	**153**	Pn	**Pn**	**09 12 56.6**	**-1.6**
SRIT	**Nakonsritamara**	**17.05**	**153**	P	**P**	**09 13 00.5**	**+0.9**
JMU	**Jammu**	**17.30**	**304**	*e*P	**Pn**	**09 12 59.7**	**-1.3**
QIZ	**Qiongzhong**	**17.35**	**103**		**Pn**	**09 13 00.8**	**-1.0**
QIZ	**Qiongzhong**	**17.35**	**103**	P	**Pn**	**09 13 01.2**	**-0.7**
QIZ				S	**Sn**	**09 16 12.5**	**-1.5**
QIZ				pmax	pmax		
	comp=Z,400nm,1.4s						
QIZ				LR	LR		
	comp=Z,6μm,10.9s						
QIZ				LR	LR		
	comp=Z,4μm,9.8s						
QIZ				LR	LR		
	comp=Z,8μm,11.3s						
QIZ	**Qiongzhong**	**17.35**	**103**	P	**P**	**09 13 03.7**	**+0.7**
POO	**Poona**	**17.78**	**255**	*e*P	**Pn**	**09 13 04.9**	**-2.3**
XAN	**Xi'an**	**17.79**	**52**	⇑P	**Pn**	**09 13 04.2**	**-3.0**
XAN				pP	pP	09 13 14.6	-2.2
XAN				S	**Sn**	**09 16 19.0**	**-5.5**
XAN				SS	**SnSn**	**09 16 41.7**	**+3.5**
XAN				pmax	pmax		
	comp=Z,710nm,1.3s						
XAN				pmax	pmax		
	comp=Z,2μm,3.5s						
XAN				LR	LR		
	comp=Z,16μm,17.7s						
XAN				LR	LR		
	comp=Z,9μm,15.7s						
XAN				LR	LR		
	comp=Z,13μm,13.3s						
SALM	**Salem**	**18.02**	**229**	*e*P	**Pn**	**09 13 09.2**	**-0.9**
SALM				IAmb	IAmb	09 13 15.4	
	comp=Z,87nm,1.4s						
CHCP	**Chirah Chowk**	**18.94**	**304**	P	**P**	**09 13 18.4**	**-2.0**
NIL	**Nilore**	**18.94**	**304**	P	**P**	**09 13 17.8**	**-2.7**
NIL	**Nilore**	**18.94**	**304**	P	**P**	**09 13 17.8**	**-2.7**
NIL				pmax	pmax		
	comp=Z,973nm,1.1s						
GOA	**Goa**	**19.10**	**247**	*ex*	**P**	**09 13 24.6**	**+2.4**
GOA				IAmb	IAmb	09 13 32.6	
	comp=Z,87nm,0.9s						
CNSH	**ChangSha**	**19.23**	**73**	⇑P	**P**	**09 13 21.1**	**-2.5**
CNSH				S	**Sn**	**09 16 51.4**	**-8.0**
CNSH				pmax	pmax		
	comp=Z,110nm,0.7s						
CNSH				LR	LR		
	comp=Z,18μm,19.4s						
CNSH				LR	LR		
	comp=Z,7μm,18.6s						
CNSH				LR	LR		
	comp=Z,9μm,19.0s						
LHMI	**Lhok Sumawe**	**19.36**	**165**	P	**P**	**09 13 21.3**	**-3.7**
LHMI				IAmb	IAmb	09 13 31.3	
	comp=Z,219nm,1.0s						
LHMI	**Lhok Sumawe**	**19.36**	**165**	P	**P**	**09 13 22.9**	**-2.2**
	comp=Z,328nm,1.0s,comp=Z,7μmcomp=Z,6μm						
THW	**Thamme Wali**	**19.77**	**301**	P	**P**	**09 13 27.9**	**-1.6**
PALK	**Pallekele**	**19.93**	**215**	P	**P**	**09 13 31.8**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=131,slow=11,SNR=17						
PALK				S	S	09 16 55.8	-18
	comp=Z,109nm,1.0s,baz=239,slow=8.5,SNR=9.3						
PALK				LR	LR	09 24 25.2	
	comp=Z,5μm,18.8s,baz=145,slow=47						
	comp=Z,43nm,1.0s						
PALK	**Pallekele**	**19.93**	**215**	P	**P**	**09 13 29.9**	**-1.5**
PALK				IAmb	IAmb	09 13 33.4	
	comp=Z,315nm,1.8s						
PALK	**Pallekele**	**19.93**	**215**	*i* P	**P**	**09 13 31.0**	**-0.3**
PALK				pmax	pmax		
	comp=Z,93nm,1.1s						
PALK	**Pallekele**	**19.93**	**215**	P	**P**	**09 13 32.0**	**+0.6**
PALK				P	**P**	**09 13 32.0**	**+0.6**
WMQ	**Urumqi**	**19.98**	**351**	*e*P	**P**	**09 13 32.8**	**+1.0**
WMQ				S	**S**	**09 17 12.7**	**-2.0**
WMQ				pmax	pmax		
	comp=Z,130nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,1μm,5.5s						
WMQ				LR	LR		
	comp=Z,6μm,15.1s						
WMQ				LR	LR		
	comp=Z,11μm,15.1s						
WMQ				LR	LR		
	comp=Z,2μm,17.1s						
CEP	**Cherat**	**20.03**	**303**	P	**P**	**09 13 30.8**	**-1.7**
PCHI	**Peechi**	**20.10**	**231**	⇓*e*P	**P**	**09 13 33.5**	**+0.3**
PCHI				*e*S	**S**	**09 17 19.0**	**+1.8**
MLSI	**Meulaboh, Aceh**	**20.17**	**167**	P	**P**	**09 13 31.7**	**-2.2**
	comp=Z,113nm,1.0s						
HKPS	**Hong Kong Po S**	**20.44**	**91**	P	**P**	**09 13 35.8**	**-1.1**
HKPS				IAmb	IAmb	09 13 37.7	
	comp=Z,178nm,1.0s						
HKPS	**Hong Kong Po S**	**20.44**	**91**	P	**P**	**09 13 37.3**	**+0.4**
	comp=Z,191nm,1.2s						
BHUJ	**Bhuj**	**20.47**	**272**	*ex*	**P**	**09 13 39.9**	**+2.8**
BHUJ				IAmb	IAmb	09 13 44.9	
	comp=Z,263nm,1.0s						
KULM	**Kulim**	**20.48**	**155**	P	**P**	**09 13 34.8**	**-2.4**
KULM	**Kulim**	**20.48**	**155**	P	**P**	**09 13 38.0**	**+0.8**
KSH	**Kashi**	**20.48**	**322**	P	**P**	**09 13 37.5**	**+0.2**
KSH				pP	pP	09 13 47.4	+1.0
KSH				sP	sP	09 13 51.9	+1.0
KSH				S	**S**	**09 17 20.8**	**-3.9**
KSH				pmax	pmax		
	comp=Z,91nm,1.1s						
KSH				LR	LR		
	comp=Z,14μm,19.2s						
KSH				LR	LR		
	comp=Z,17μm,16.5s						
KSH				LR	LR		
	comp=Z,8μm,17.9s						
TRD	**Trivandrum**	**21.14**	**225**	*ex*	**P**	**09 13 44.8**	**+0.3**
TRD				IAmb	IAmb	09 13 48.2	
	comp=Z,404nm,2.2s						
TARG	**Taragay, Kyrgy**	**21.18**	**329**	P	**P**	**09 13 46.1**	**+1.0**
TARG				IAmb	IAmb	09 14 04.7	
	comp=Z,166nm,0.7s						
TARG	**Taragay, Kyrgy**	**21.18**	**329**	P	**P**	**09 13 46.1**	**+1.0**
TARG				pmax	pmax		
	comp=Z,166nm,0.7s						
KCSI	**Kotacane, Aceh**	**21.21**	**164**	P	**P**	**09 13 43.3**	**-1.8**
	comp=Z,299nm,1.5s,comp=Z,4μm						
IPM	**Ipoh**	**21.36**	**155**	P	**P**	**09 13 45.4**	**-1.4**
IPM				IAmb	IAmb	09 13 48.8	
	comp=Z,272nm,1.2s						
IPM	**Ipoh**	**21.36**	**155**	P	**P**	**09 13 45.4**	**-1.4**
	comp=Z,195nm,1.1s						
IPM	**Ipoh**	**21.36**	**155**	P	**P**	**09 13 46.0**	**-0.8**
TSI	**Tuntungan**	**21.44**	**162**	P	**P**	**09 13 45.7**	**-1.9**
	comp=Z,890nm,1.0s,comp=Z,10μm						
SHLS	**Shalkode**	**21.63**	**335**	⇑*i*P	**P**	**09 13 48.8**	**-0.8**
	comp=Z,43nm,0.7s,baz=335						
SHLS				*e*S	**S**	**09 17 45.6**	**-1.9**
	baz=335						
SHLS	**Shalkode**	**21.63**	**335**	*e*P	**P**	**09 13 49.1**	**-0.6**
SHLS				pmax	pmax		
	comp=Z,81nm,1.2s						
UZB	**Uzynbulak**	**21.80**	**334**	*e*P	**P**	**09 13 52.2**	**+0.7**
	baz=334						
UZB				*e*S	**S**	**09 17 52.9**	**+2.1**
	baz=334						
UZB	**Uzynbulak**	**21.80**	**334**	*e*P	**P**	**09 13 52.3**	**+0.8**
SNSI	**Sinabang, Aceh**	**21.97**	**168**	P	**P**	**09 13 50.4**	**-2.9**
	comp=Z,121nm,0.9s						
ZHN	**Zhinishke**	**22.06**	**333**	*e*P	**P**	**09 13 53.5**	**-0.7**
	baz=333						
TIY	**Taiyuan**	**22.11**	**47**	P	**P**	**09 13 53.9**	**-0.9**
TIY				sP	**sP**	**09 14 08.6**	**+0.1**
TIY				PP	**PnPn**	**09 14 24.4**	**+6.9**
TIY				S	**S**	**09 17 52.6**	**-4.1**
TIY				pmax	pmax		
	comp=Z,76nm,0.9s						
TIY				LR	LR		
	comp=Z,3μm,15.8s						
TIY				LR	LR		
	comp=Z,6μm,14.8s						
TIY				LR	LR		
	comp=Z,6μm,21.3s						
KPKS	**Kokpek**	**22.20**	**334**	*e*P	**P**	**09 13 56.2**	**+0.5**
	comp=Z,50nm,1.0s,baz=334						
KPKS				*e*S	**S**	**09 18 00.3**	**+2.1**
	baz=334						
KPKS	**Kokpek**	**22.20**	**334**	*e*P	**P**	**09 13 56.5**	**+0.8**
KPKS				pmax	pmax		
	comp=Z,69nm,1.2s						
PSI	**Prapat**	**22.21**	**161**	P	**P**	**09 13 55.3**	**-0.7**
PSI	**Prapat**	**22.21**	**161**	P	**P**	**09 13 54.8**	**-1.2**
PSI				pmax	pmax		
	comp=Z,110nm,1.0s						
PSI				MLR	MLR		
	comp=Z,5μm,22.0s						
RPSI	**Rantau Prapat**	**22.31**	**161**	P	**P**	**09 13 54.8**	**-2.1**
ULHL	**Ulahol**	**22.32**	**328**	P	**P**	**09 13 58.6**	**+1.4**
	SNR=8.8						
BTO	**Baotou**	**22.35**	**38**	P	**P**	**09 13 56.9**	**-0.5**
BTO				S	**S**	**09 18 02.2**	**+1.1**
BTO				LR	LR		
	comp=Z,20μm,11.2s						
BTO				LR	LR		
	comp=Z,22μm,13.7s						
JRMM	**Jerantut**	**22.50**	**152**	P	**P**	**09 14 00.0**	**+1.0**
KBL	**Kabul**	**22.50**	**303**	P	**P**	**09 13 59.5**	**+0.3**
KBL	**Kabul**	**22.50**	**303**	P	**P**	**09 13 59

comp=Z,204nm,1.1s
GSI Gunungsitoli 23.30 166 P P 09 14 08.7 +1.5
GSI Gunungsitoli 23.30 166 P P 09 14 04.3 -2.9
comp=Z,167nm,1.2s
HHC Hu-ho-hao-te 23.40 40⇓ *i*P P 09 14 08.2 0.0
HHC S S 09 18 19.7 +0.7
HHC pmax pmax
comp=Z,110nm,1.5s
HHC pmax pmax
comp=Z,890nm,5.0s
HHC LR LR
comp=Z,13µm,16.3s
HHC LR LR
comp=Z,8µm,16.1s
HHC LR LR
comp=Z,20µm,15.8s
AAK Ala-Archa 23.48 326 P P 09 14 10.9 +1.9
SNR=47
AAK Ala-Archa 23.48 326 P P 09 14 10.9 +1.9
comp=Z,56nm,1.0s,baz=159,slow=6.6,SNR=77
AAK S S 09 18 23.9 +3.5
comp=Z,4.9nm,0.7s,baz=255,slow=20,SNR=1.2
AAK LR LR 09 24 52.6
comp=Z,3µm,18.0s,baz=135,slow=41
comp=Z,56nm,1.0s
AAK Ala-Archa 23.48 326 P P 09 14 10.3 +1.3
AAK Ala-Archa 23.48 326 *ce*P P 09 14 10.3 +1.3
AAK pmax pmax
comp=Z,133nm,1.3s
AAK Ala-Archa 23.48 326 *i* P P 09 14 09.2 +0.2
SNR=58
AAK Ala-Archa 23.48 326 P P 09 14 10.1 +1.1
AAK P P 09 14 10.1 +1.1
HNS HongShan 23.52 50 ⇓P P 09 14 08.9 -0.4
HNS sP sP 09 14 21.8 -1.4
HNS S S 09 18 21.2 +0.4
HNS pmax pmax
comp=Z,38nm,1.1s
HNS pmax pmax
comp=Z,700nm,4.9s
HNS LR LR
comp=Z,8µm,20.3s
HNS LR LR
comp=Z,6µm,20.7s
HNS LR LR
comp=Z,6µm,20.3s
AML Almayashu 23.54 324 P P 09 14 10.9 +1.1
SNR=44
KUU Kurty 23.55 331 *e*P P 09 14 10.1 +0.6
comp=Z,70nm,1.5s,baz=331
KUU *e*S S 09 18 22.8 +1.6
baz=331
CHMS Chumysh 23.61 327 P P 09 14 10.8 +0.7
SNR=25
GAR Garm 23.62 314 P P 09 14 10.0 -0.3
EKS2 Erkin-Say 23.87 325 P P 09 14 14.6 +1.9
SNR=22
USP Ospenovka 23.94 327 P P 09 14 14.2 +1.0
SNR=40
MK31 Makanchi Array 23.95 343 P P 09 14 13.5 +0.3
MK31 IAmb IAmb 09 14 15.9
comp=Z,123nm,1.1s
MK31 Makanchi Array 23.95 343 *e*P P 09 14 13.2 0.0
MKAR Makanchi Array 23.95 343 P P 09 14 13.6 +0.4
comp=Z,61nm,0.7s,baz=149,slow=9.6,SNR=241
MKAR LR LR 09 24 09.9
comp=Z,3µm,21.8s,baz=168,slow=38
comp=Z,61nm,0.7s
MKAR Makanchi Array 23.95 343 P P 09 14 13.2 0.0
ZSN Zaisan 23.98 348 *e*P P 09 14 14.0 +0.4
comp=Z,75nm,1.3s,baz=348
ZSN *e*S S 09 18 30.5 +2.4
baz=348
SGDS Sogindy 24.01 328 *e*P P 09 14 14.4 +0.5
baz=328
SGDS *e*S S 09 18 30.5 +1.8
baz=328
MAKZ Makanchi 24.04 343 P P 09 14 14.3 +0.2
MAKZ IAmb IAmb 09 14 35.9
comp=Z,203nm,1.2s
MAKZ Makanchi 24.04 343 P P 09 14 15.9 +1.8
KNMB Chin-men Tao 24.06 84 P P 09 14 12.6 -1.9
QZH Quanzhou 24.21 82⇑ *i*P P 09 14 15.3 -0.5
QZH pP pP 09 14 25.0 -0.7
QZH S S 09 18 32.8 +0.8
QZH pmax pmax
comp=Z,83nm,1.3s
QZH pmax pmax
comp=Z,680nm,5.2s
QZH LR LR
comp=Z,5µm,10.2s
QZH LR LR
comp=Z,5µm,12.1s
QZH LR LR
comp=Z,6µm,12.4s
CHGR Chuyangaron 24.21 312 P P 09 14 15.8 0.0
CHGR Chuyangaron 24.21 312 P P 09 14 15.9 0.0
CHGR pmax pmax
comp=Z,400nm,0.8s
MNSI Mandailing Nat 24.31 161 P P 09 14 15.0 -1.7
comp=Z,97nm,0.4s,comp=Z,4µm
PBSI Pulau Batu 24.77 165 P P 09 14 19.7 -1.3
comp=Z,346nm,1.6s
TIA Tai'an 24.78 55 ⇓P P 09 14 21.0 0.0
TIA S S 09 18 39.1 -2.0
TIA pmax pmax
comp=Z,33nm,0.7s
TIA LR LR
comp=Z,4µm,13.0s
TIA LR LR
comp=Z,5µm,15.3s
TIA LR LR
comp=Z,11µm,14.9s
NJ2 Nanjing 24.95 65⇑ P P 09 14 23.0 +0.6
NJ2 pP pP 09 14 31.0 -1.4
NJ2 sP sP 09 14 35.8 -0.8
NJ2 PP PnPn 09 15 00.5 +4.3
NJ2 PcP PcP 09 18 02.9 +5.6
NJ2 S S 09 18 46.5 +2.7
NJ2 sS pS 09 18 53.1 -1.3
NJ2 SS SnSn 09 19 37.5 +3.9
NJ2 pmax pmax
comp=Z,59nm,0.7s
NJ2 pmax pmax
comp=Z,610nm,3.6s
NJ2 LR LR
comp=Z,5µm,8.1s
NJ2 LR LR
comp=Z,3µm,8.1s
NJ2 LR LR
comp=Z,9µm,14.7s
HMDM Hanimaadhoo 24.95 229 P P 09 14 22.3 -0.3
HMDM IAmb IAmb 09 14 41.6
comp=Z,160nm,1.2s
HMDM Hanimaadhoo 24.95 229 P P 09 14 24.8 +2.2
MYKOM Kota Tinggi 24.97 151 P P 09 14 22.0 -0.8
MYKOM IAmb IAmb 09 14 27.2
comp=Z,208nm,1.1s
MYKOM Kota Tinggi 24.97 151 P P 09 14 23.0 +0.2
DZA Taraz 25.34 323 *e*P P 09 14 26.8 +0.8
comp=Z,34nm,0.7s,baz=323
BTLS Baital 25.48 329 *e*P P 09 14 28.3 +1.2
comp=Z,51nm,1.2s,baz=330
BTLS *e*S S 09 18 54.9 +2.9
baz=330
BTLS Baital 25.48 329 *e*P P 09 14 28.5 +1.3
BTLS pmax pmax
comp=Z,51nm,1.2s
TAS Tashkent 25.56 318 P P 09 14 29.4 +1.4
TAS Tashkent 25.56 318 P P 09 14 29.4 +1.4
TAS pmax pmax
comp=Z,279nm,0.8s
DGZ Jazzator, Alta 25.80 353⇓ *i*P P 09 14 31.0 +0.8
DGZ pmax pmax
comp=Z,359nm,1.3s
BJT Baijiatuau 25.80 46 P P 09 14 30.5 +0.4
BJT Baijiatuau 25.80 46 P P 09 14 30.5 +0.4
BJT pmax pmax
comp=Z,46nm,0.9s
KK31 Karatay Array 25.93 322 P P 09 14 31.7 +0.4
KK31 Karatay Array 25.93 322 *i* P P 09 14 31.1 -0.2
KKAR Karatay Array 25.93 322 P P 09 14 31.7 +0.4
KKAR Karatay Array 25.93 322 P P 09 14 31.7 +0.4
KKAR pmax pmax
comp=Z,49nm,0.8s
TPRI Tanjung Pinang 26.05 150 P P 09 14 30.7 -1.9
comp=Z,154nm,1.4s
PDSI Padang 26.19 160 P P 09 14 32.6 -1.2
comp=Z,93nm,0.9s
TPUB Ta-pu 26.22 86 P P 09 14 32.7 -1.5
TPUB Ta-pu 26.22 86 P P 09 14 36.9 +2.8
RGRI Rengat 26.30 156 P P 09 14 33.4 -1.4
comp=Z,12µm,0.8s
SONM Songino Array 26.31 22 P P 09 14 35.8 +1.0
comp=Z,77nm,1.0s,baz=205,slow=9.7,SNR=96
comp=Z,77nm,1.0s
SONM Songino Array 26.31 22 P P 09 14 35.5 +0.7
SONM IAmb IAmb 09 14 39.0
comp=Z,111nm,1.0s
SSLB Suanglung 26.46 85 P P 09 14 35.4 -0.9
SSLB Suanglung 26.46 85 P P 09 14 39.7 +3.4
SDSI Sungai Dareh 26.52 158 P P 09 14 35.0 -1.8
comp=Z,38nm,1.8s,comp=Z,10µm
ULN Ulaanbaatar 26.57 23 P P 09 14 37.9 +0.8
ULN IAmb IAmb 09 14 56.3
comp=Z,173nm,0.9s
ULN Ulaanbaatar 26.57 23*ce*P P 09 14 38.0 +0.8
ULN pmax pmax
comp=Z,170nm,1.0s
ULN Ulaanbaatar 26.57 23 P P 09 14 37.5 +0.4
ULN P P 09 14 37.5 +0.4
TWG Pinlang 26.69 87 P P 09 14 39.9 +1.6
TWGBT Beinan 26.70 87 P P 09 14 40.7 +2.3
SSE Sheshan 26.75 68 P P 09 14 39.3 +0.5
SSE S S 09 19 07.2 -5.1
SSE pmax pmax
comp=Z,20nm,0.8s
SSE pmax pmax
comp=Z,240nm,6.7s
SSE LR LR
comp=Z,4µm,20.8s
SSE LR LR
comp=Z,2µm,21.0s
YHNB Yeheng 26.75 83 P P 09 14 40.3 +1.3
YHNB IAmb IAmb 09 14 56.3
comp=Z,282nm,1.4s
YHNB IAMs_20 IAMs_20 09 26 50.7
comp=Z,8µm,20.0s
YHNB Yeheng 26.75 83 P P 09 14 43.3 +4.3
YULB Yu-li 26.82 85 P P 09 14 39.5 0.0
YULB Yu-li 26.82 85 P P 09 14 41.0 +1.5
NACB Ninganchiao 27.00 84 P P 09 14 40.9 -0.2
NACB Ninganchiao 27.00 84 P P 09 14 42.7 +1.6
DSRI Dabo 27.32 152 P P 09 14 42.6 -1.4
comp=Z,82nm,1.5s,comp=Z,8µm
ZAK Zakamensk 27.67 16 *e*P P 09 14 47.2 +0.2
ZAK pmax pmax
comp=Z,60nm,1.2s
HRA Herat 27.82 298 P P 09 14 48.9 +0.3
XLT XiLinHaoTe 27.92 39 *e*P P 09 14 50.1 +0.9
XLT pP pP 09 15 00.5 +1.3
XLT S S 09 19 31.9 +1.2
XLT sS sS 09 19 46.8 -0.4
XLT pmax pmax
comp=Z,27nm,1.4s
XLT pmax pmax
comp=Z,350nm,3.8s
XLT LR LR
comp=Z,880nm,18.5s
XLT LR LR
comp=Z,8µm,17.7s
XLT LR LR
comp=Z,7µm,14.1s
YOJ Yonaguni jima 28.25 83 P P 09 14 52.3 0.0
YOJ Yonaguni jima 28.25 83 P P 09 14 52.3 0.0
YOJ pmax pmax
comp=Z,438nm,1.6s
MOY Mondy 28.38 12 *e*P P 09 14 54.6 +1.3
MOY pmax pmax
comp=Z,62nm,1.8s
KURBB Kurchatov Arra 28.46 342 P P 09 14 54.5 +0.6
comp=Z,27nm,1.0s,baz=157,slow=8.7,SNR=111
KURBB LR LR 09 26 51.5
comp=Z,3µm,18.3s,baz=142,slow=38
comp=Z,27nm,1.0s
KURBB Kurchatov Arra 28.46 342 P P 09 14 53.6 -0.3
KURK Kurchatov 28.52 342 P P 09 14 54.5 +0.1
KSM Kuching 28.64 139 P P 09 14 56.1 +0.2
KSM Kuching 28.64 139 P P 09 14 55.8 0.0
KSM Kuching 28.64 139 P P 09 14 56.0 +0.2
OTUK Ortayu 28.68 332 P P 09 14 56.8 +0.8
SBUM Sibu 29.08 135 P P 09 14 59.4 -0.3
SBUM Sibu 29.08 135 P P 09 15 00.0 +0.3
DL2 Dalian 29.11 52 *e*P P 09 14 58.2 -1.6
DL2 S S 09 19 48.2 -1.2
DL2 pmax pmax
comp=Z,72nm,1.2s
DL2 pmax pmax
comp=Z,380nm,7.3s
DL2 LR LR
comp=Z,7µm,18.5s
DL2 LR LR
comp=Z,6µm,18.9s
DL2 LR LR
comp=Z,5µm,18.2s
KKM Kota Kinabalu 29.39 124 P P 09 15 03.5 +0.9
KKM IAmb IAmb 09 15 14.3
comp=Z,213nm,1.6s
KKM IAMs_20 IAMs_20 09 28 02.4
comp=Z,6µm,19.0s
KKM Kota Kinabalu 29.39 124 P P 09 15 04.4 +1.8
PPBI Pangkal Pinang 29.51 150 P P 09 15 02.1 -1.4
IRK Irkutsk 29.63 15 *e*P P 09 15 05.7 +1.5
IRK pmax pmax
comp=Z,176nm,1.8s
BRZS Berezniki 29.90 335 *e*P P 09 15 18.5 +12
JLN Jalan Bani Buh 29.99 273 P P 09 15 09.3 +1.5
SNR=11
JLN P P 09 15 09.3 +1.5
SNR=11
ZAA0 Zalesovo Array 30.29 352 P P 09 15 10.7 +0.6
ZAA0 IAmb IAmb 09 15 12.5
comp=Z,107nm,1.0s
ZALV Zalesovo Beam 30.29 352 P P 09 15 10.7 +0.6
comp=Z,98nm,0.9s,baz=169,slow=8.3,SNR=260
ZALV S S 09 20 07.5 -0.1
comp=Z,3.7nm,1.0s,baz=114,slow=24,SNR=2.0
ZALV LR LR 09 27 34.9
comp=Z,2µm,19.9s,baz=172,slow=37
comp=Z,98nm,0.9s
ZALV Zalesovo Beam 30.29 352 P P 09 15 10.5 +0.5
WBK Wadi Bani Khal 30.31 274 P P 09 15 11.6 +0.9
SNR=8.0
WBK P P 09 15 11.6 +0.9
SNR=8.0
SPMM Sapulut 30.45 125 P P 09 15 13.0 +1.1
WSAR Wadi Sarin 30.53 275 LR LR 09 28 39.7
comp=Z,3µm,20.2s,baz=111,slow=39
MDSI Maura Dua 30.80 156 P P 09 15 13.2 -1.7
comp=Z,20nm,1.4s
BIDO Bidbid 30.94 276 P P 09 15 17.4 +1.2
SNR=11
BIDO P P 09 15 17.4 +1.2
SNR=11
SMDO Samad 31.08 275 P P 09 15 18.8 +1.2
SNR=17
SMDO P P 09 15 18.8 +1.2
SNR=17
JMDO Jabal Madar 31.14 274 P P 09 15 19.2 +1.2
JMDO P P 09 15 19.2 +1.2
MHTO MHTO 31.53 271 P P 09 15 22.5 +1.2
SNR=21
MHTO P P 09 15 22.5 +1.2
SNR=21
MHTO P P 09 15 22.5 +1.2
SNR=21
SUJ Sinuiju 31.61 52 P P 09 15 21.9 +0.1
SUJ S S 09 20 26.2 -2.2
SUJ AmB
comp=Z,230nm,1.8s
SUJ AMS AMS
comp=Z,1µm,7.2s
SNY Shenyang 31.62 48 ⇓P P 09 15 21.8 -0.1
SNY S S 09 20 27.6 -1.0
SNY pmax pmax
comp=Z,36nm,1.0s
SNY pmax pmax
comp=Z,220nm,4.8s
SNY LR LR
comp=Z,2µm,22.6s
SNY LR LR
comp=Z,3µm,20.6s
SNY LR LR
comp=Z,5µm,19.6s
HOQ Hoqain 31.68 276 P P 09 15 23.6 +0.9
SNR=14
MYLDM Lahad Datu 31.69 122 P P 09 15 21.4 -1.4
MYLDM IAMs_20 IAMs_20 09 28 30.4
comp=Z,6µm,22.0s
HJU Haeju 31.87 56 P P 09 15 23.8 -0.4
HJU S S 09 20 30.1 -2.6
HJU AmB
comp=Z,294nm,1.6s
HJU AMS AMS
comp=Z,3µm,8.6s
BSY Bisya 31.91 275 P P 09 15 25.8 +1.1
SNR=13
BSY P P 09 15 25.8 +1.1
SNR=13
GEYT Alibeck 31.95 304 P P 09 15 26.4 +1.5
comp=Z,21nm,0.9s,baz=130,slow=8.0,SNR=31
GEYT LR LR 09 30 30.5
comp=Z,3µm,20.0s,baz=144,slow=40
comp=Z,21nm,0.9s
GEYT Alibeck 31.95 304 P P 09 15 25.6 +0.6
GEYT IAmb IAmb 09 16 33.1
comp=Z,88nm,1.3s
GYA0 ALIBECK ARRAY 31.95 304 P P 09 15 26.0 +1.1
GYA0B ALIBECK ARRAY 31.95 304 P P 09 15 25.4 +0.5
GYA0B IAmb IAmb 09 16 33.0
comp=Z,91nm,1.4s
DQM DQM 32.16 269 P P 09 15 28.4 +1.4
SNR=14
DQM P P 09 15 28.4 +1.4
SNR=14
SOHO SOHO 32.31 277 P P 09 15 28.1 -0.1
BANOM Banah 32.33 281 P P 09 15 28.2 -0.3
BANOM Banah 32.33 281 P P 09 15 28.9 +0.4
MDH Madha 32.39 280 *i* P P 09 15 28.1 -0.8
SNR=8.0
MDH Madha 32.39 280 P P 09 15 28.3 -0.6
MDH P P 09 15 28.3 -0.6
INCN Inchon 32.42 58 P P 09 15 28.4 -0.7
INCN Inchon 32.42 58 IAMs_20 IAMs_20 09 30 06.5
comp=Z,5µm,19.0s
INCN Inchon 32.42 58 P P 09 15 28.4 -0.7
INCN pmax pmax
comp=Z,20nm,0.8s
INCN MLR MLR
comp=Z,5µm,19.0s
ARQ Araqi 32.43 276 P P 09 15 30.7 +1.4
SNR=8.4
ARQ P P 09 15 30.7 +1.4
SNR=8.4
MASF Masafi 32.51 280 P P 09 15 31.1 +1.1
MASF P P 09 15 31.1 +1.1
MSFE Esma-Masafi 32.51 280 P P 09 15 31.1 +1.0
UOSS Minazif 32.51 279 P P 09 15 29.2 -0.8
UOSS Minazif 32.51 279 *i* P P 09 15 29.1 -0.9
SNR=9.2
UOSS Minazif 32.51 279 P P 09 15 29.5 -0.5
UOSS P P 09 15 29.5 -0.5
UOSS Minazif 32.51 279 P P 09 15 29.4 -0.6
UOSS sP sP 09 15 43.3 -0.9
HATD Hatta, Dubai 32.59 279 *i* P P 09 15 30.8 +0.1
SNR=16
HATD Hatta, Dubai 32.59 279 P P 09 15 30.9 +0.2
SNR=9.0
HATD P P 09 15 30.9 +0.2
SNR=9.0
ASHO Ashiyiah 32.67 279 *i* P P 09 15 31.9 +0.5
SNR=26
ASHO Ashiyiah 32.67 279 P P 09 15 32.4 +1.0
SNR=16
ASHO P P 09 15 32.4 +1.0
SNR=16
TJN Taejon 32.74 60 P P 09 15 30.7 -1.2
TJN Taejon 32.74 60 P P 09 15 32.4 +0.6
comp=Z,156nm,1.3s
TJN Taejon 32.74 60*ce*P P 09 15 30.7 -1.2
JOW Kunigami 32.80 77 P P 09 15 32.4 -0.1
comp=Z,31nm,0.5s,baz=155,slow=12,SNR=16
JOW LR LR 09 30 40.8
comp=Z,6µm,18.3s,baz=272,slow=40
comp=Z,31nm,0.5s
JOW Kunigami 32.80 77 P P 09 15 30.7 -1.8
JOW IAmb IAmb 09 15 50.3
comp=Z,47nm,0.6s
ALNE Al Ain 33.03 277 *i* P P 09 15 35.7 +1.2
SNR=6.5
ALNE Al Ain 33.03 277 P P 09 15 35.7 +1.2
SNR=9.0
ALNE P P 09 15 35.7 +1.2
SNR=9.0
FAQ Al Faqa, Dubai 33.09 279 P P 09 15 35.8 +0.8
FAQ Al Faqa, Dubai 33.09 279 P P 09 15 36.1 +1.0
FAQ P P 09 15 36.1 +1.0
BVA0 Borovoye Array 33.19 336 *i* P P 09 15 36.1 +0.5
HIA Hailar 33.22 34 P P 09 15 37.2 +1.2
HIA Hailar 33.22 34 IAMs_20 IAMs_20 09 30 58.8
comp=Z,7µm,21.0s
HIA Hailar 33.22 34 P P 09 15 37.4 +1.5
comp=Z,36nm,0.8s
HIA Hailar 33.22 34 P P 09 15 37.2 +1.2
HIA pmax pmax
comp=Z,37nm,1.0s
HIA MLR MLR
comp=Z,7µm,21.0s
HIA Hailar 33.22 34 P P 09 15 37.0 +1.0
HIA pP pP 09 15 47.4 +1.4
HIA sP sP 09 15 52.2 +2.0
BRVK Borovoye 33.26 336 P P 09 15 37.4 +1.2
BRVK IAmb IAmb 09 16 01.5
comp=Z,64nm,1.3s
BRVK Borovoye 33.26 336*ce*P P 09 15 37.2 +1.0
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK Borovoye 33.26 336 P P 09 15 37.4 +1.2
BRVK Borovoye 33.26 336 P P 09 15 37.1 +1.0
BRVK pP sP 09 15 48.1 -2.3
ASUD Al Ashush, Dub 33.34 279 *i* P P 09 15 38.0 +0.7
SNR=8.8
ASUD Al Ashush, Dub 33.34 279 P P 09 15 38.3 +1.1
KS19 Wonju Array Si 33.38 58 P P 09 15 34.9 -2.5
KSAR Wonju Array Be 33.38 58 P P 09 15 36.0 -1.4
KSAR Wonju Array Be 33.38 58 P P 09 15 36.0 -1.4
MTKI Muara Teweh, K 33.38 135 P P 09 15 36.5 -1.1
comp=Z,106nm,0.9s
KSRS Korea Array 33.41 58 P P 09 15 36.4 -1.3
comp=Z,3.0nm,0.6s,baz=245,slow=8.4,SNR=11
KSRS LR LR 09 30 48.4
comp=Z,4µm,19.1s,baz=250,slow=39
comp=Z,3.0nm,0.6s
CN2 Changchun 33.69 46 *e*P P 09 15 40.0 0.0
CN2 sP sP 09 15 53.6 -0.7
CN2 S S 09 20 59.2 -1.6
CN2 sS sS 09 21 15.1 -2.3
CN2 SS SnSn 09 23 04.5 -1.8
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,170nm,3.0s
CN2 LR LR
comp=Z,3µm,13.0s
CN2 LR LR
comp=Z,2µm,13.0s
CN2 LR LR
comp=Z,3µm,15.0s
UMZA Um Al Zommool 33.77 275 P P 09 15 41.8 +0.8
UMZA P P 09 15 41.8 +0.8
UMZA P P 09 15 41.8 +0.8
MZWR Madinat Zayed 34.76 277 P P 09 15 50.1 +0.5
MZWR P P 09 15 50.1 +0.5
DMTO DMTO 35.11 267 P P 09 15 54.1 +1.5
SNR=18
DMTO P P 09 15 54.1 +1.5
SNR=18
JNU Nakatsue 35.14 66 P P 09 15 52.4 -0.4
comp=Z,15nm,0.8s,baz=318,slow=4.5,SNR=7.4
JNU LR LR 09 31 59.2
comp=Z,3µm,20.3s,baz=262,slow=39
comp=Z,15nm,0.8s
JNU Nakatsue 35.14 66 P P 09 15 51.3 -1.5
JNU IAmb IAmb 09 16 40.4
comp=Z,63nm,1.0s
JNU Nakatsue 35.14 66 P P 09 15 57.7 +4.9
MZR Muzera 35.25 276 *i* P P 09 15 53.4 -0.4
SNR=7.9

MZR **Muzera** 35.25 276 P **P** 09 15 53.8 0.0
SNR=7.8
MZR P **P** 09 15 53.8 0.0
SNR=7.8
BBKI Banjar Baru 35.29 138 P **P** 09 15 53.3 -0.9
comp=Z,292nm,0.9s
KPJI Karang Pucung 35.35 150 P **P** 09 15 53.1 -1.5
comp=Z,106nm,1.2s
AB31 Akbulak array 35.48 323 *i* P **P** 09 15 56.4 +0.9
ABKAR **Akbulak array** 35.48 323 P **P** 09 15 56.8 +1.3
ABKAR IAmb IAmb 09 15 57.6
comp=Z,53nm,0.6s
JMZ Minamidaito 2 35.52 79 P **P** 09 15 54.6 -1.5
DOK Doka 35.60 269 P **P** 09 15 57.7 +0.8
SNR=18
DOK P **P** 09 15 57.7 +0.8
SNR=18
GHWR Ruwais 35.64 278 P **P** 09 15 57.3 +0.1
GHWR P **P** 09 15 57.3 +0.1
BNX BinXian 35.77 44 ⇓P **P** 09 15 58.4 +0.5
BNX pP **pP** 09 16 07.9 -0.1
BNX sP **sP** 09 16 11.3 -0.9
BNX PP **PP** 09 17 19.6 +0.1
BNX S **S** 09 21 33.0 +0.2
BNX pmax pmax
comp=Z,93nm,1.1s
BNX pmax pmax
comp=Z,360nm,3.9s
BNX LR LR
comp=Z,4μm,16.7s
BNX LR LR
comp=Z,3μm,17.6s
BNX LR LR
comp=Z,3μm,12.6s
SMRI Semarang 35.82 148 P **P** 09 15 54.4 -4.3
SMRI Semarang 35.82 148 P **P** 09 15 58.1 -0.6
comp=Z,285nm,1.8s,comp=Z,6μm
RBK Rabkut 35.85 267 P **P** 09 16 00.5 +1.5
SNR=33
RBK P **P** 09 16 00.5 +1.5
SNR=33
TOLI2 Tolitoli 36.05 125 P **P** 09 15 58.6 -2.0
TOLI2 IAmb IAmb 09 16 18.0
comp=Z,100nm,1.1s
TOLI2 Tolitoli 36.05 125 P **P** 09 16 01.2 +0.5
WHFO Wadi Hawf 36.12 268 P **P** 09 16 01.9 +0.5
SNR=27
ABTO Aybut 36.72 267 P **P** 09 16 07.2 +0.7
SNR=25
ABTO P **P** 09 16 07.2 +0.7
SNR=25
MDJ Mudanjiang 36.75 47 P **P** 09 16 05.4 -0.9
MDJ Mudanjiang 36.75 47 P **P** 09 16 06.8 +0.5
MDJ S **S** 09 21 53.3 +5.5
MDJ pmax pmax
comp=Z,24nm,1.8s
MDJ pmax pmax
comp=Z,200nm,6.2s
MDJ Mudanjiang 36.75 47 P **P** 09 16 07.0 +0.7
comp=Z,36nm,1.1s
SHMA Al-Shehemyia 37.12 282 P **P** 09 16 09.2 -0.5
JHS Saijyo 37.16 63 P **P** 09 16 11.6 +1.5
JHS IAmb IAmb 09 16 27.2
comp=Z,203nm,2.0s
AKTO Aktyubinsk 37.17 324 LR LR 09 33 24.2
comp=Z,4μm,19.4s,baz=140,slow=39
AKTO Aktyubinsk 37.17 324 P **P** 09 16 10.4 +0.5
BOD Bodaibo 37.21 19 *eP* **P** 09 16 10.8 +0.7
BOD pmax pmax
comp=Z,68nm,1.6s
PWJI Pagerwojo 37.33 146 P **P** 09 16 10.3 -1.2
comp=Z,80nm,0.8s
JMN Monobe 37.69 66 P **P** 09 16 16.6 +2.0
JMN Monobe 37.69 66 P **P** 09 16 16.6 +2.0
HEH HeiHe 37.87 37 *eP* **P** 09 16 16.6 +0.8
HEH pP **pP** 09 16 26.6 +0.7
HEH PP **PP** 09 17 43.5 +0.9
HEH S **S** 09 22 05.4 +0.6
HEH pmax pmax
comp=Z,100nm,0.9s
HEH pmax pmax
comp=Z,330nm,4.9s
HEH LR LR
comp=Z,9μm,17.3s
HEH LR LR
comp=Z,7μm,17.5s
HEH LR LR
comp=Z,6μm,17.0s
USA0B Ussuriysk Arra 38.22 48 P **P** 09 16 18.7 -0.1
USA0B Ussuriysk Arra 38.22 48 *i* P **P** 09 16 18.4 -0.4
USRK Ussuriysk Ar. 38.22 48 P **P** 09 16 19.0 +0.2
comp=Z,13nm,0.9s,baz=257,slow=7.3,SNR=23
USRK LR LR 09 33 48.8
comp=Z,2μm,18.5s,baz=240,slow=39
comp=Z,13nm,0.9s
USRK Ussuriysk Ar. 38.22 48 P **P** 09 16 18.7 -0.2
JAGI Jajag, Banyuwa 38.94 144 P **P** 09 16 22.5 -2.6
JAGI IAmb IAmb 09 16 43.5
comp=Z,77nm,1.0s
LUWI Luwuk 38.95 126 P **P** 09 16 22.2 -3.1
LUWI Luwuk 38.95 126 P **P** 09 16 26.8 +1.5
LUWI Luwuk 38.95 126 P **P** 09 16 23.7 -1.6
KAPI Kappang 39.62 133 P **P** 09 16 30.3 -0.4
comp=Z,9.4nm,0.4s,baz=304,slow=9.6,SNR=5.4
comp=Z,9.4nm,0.4s
KAPI Kappang 39.62 133 P **P** 09 16 32.1 +1.3
comp=Z,48nm,1.4s
ZEA Zeya 39.65 33 *eP* **P** 09 16 31.2 +0.5
ZEA *e* 09 18 10.0
ZEA *eS* **S** 09 22 35.0 +3.5
ZEA pmax pmax
comp=E,100nm,2.5s
ZEA pmax pmax
comp=N,100nm,2.4s
ZEA pmax pmax
comp=Z,200nm,2.5s
ZEA pmax pmax
comp=E,40nm,0.8s
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,60nm,1.0s
ZEA smax smax
comp=N,200nm,7.5s
ZEA MLR MLR
comp=E,2μm,15.0s
ZEA MLR MLR
comp=N,2μm,13.0s
SVE Sverdlovsk 39.81 333*ceP* **P** 09 16 33.8 +1.9
SVE *eS* **S** 09 22 34.4 +0.7
SVE *e* 09 25 32.2
SVE pmax pmax
comp=Z,104nm,0.9s
SVE MLR MLR
comp=Z,2μm,16.0s
KLR Kul'dur 39.90 41 P **P** 09 16 33.1 +0.2
comp=Z,14nm,0.9s,baz=270,slow=9.3,SNR=36
KLR LR LR 09 34 54.3
comp=Z,3μm,19.4s,baz=238,slow=39
comp=Z,14nm,0.9s
KLR Kul'dur 39.90 41*ceP* **P** 09 16 33.0 +0.2
KLR pmax pmax
comp=Z,24nm,1.0s
INU Inuyama 40.37 63 P **P** 09 16 35.3 -1.6
INU IAmb IAmb 09 16 56.0
comp=Z,101nm,1.3s
INU IAMs_20 IAMs_20 09 35 22.2
comp=Z,3μm,19.0s
INU Inuyama 40.37 63 P **P** 09 16 37.6 +0.7
INU Inuyama 40.37 63 P **P** 09 16 36.3 -0.6
ARU Artí 40.42 332 LR LR 09 36 24.7
comp=Z,2μm,19.4s,baz=126,slow=41
ARU Arti 40.42 332 P **P** 09 16 37.3 +0.3
ARU Arti 40.42 332*c* *i*P **P** 09 16 37.9 +1.0
ARU 09 18 07.8
ARU PPP PPP 09 18 38.1
ARU S **S** 09 22 46.4 +3.5
ARU SS **SS** 09 25 44.2 +1.6
ARU SSS SSS 09 26 14.8
ARU pmax pmax
comp=Z,33nm,1.1s
ARU Arti 40.42 332 P **P** 09 16 38.0 +1.0
ARU pP **sP** 09 16 48.9 -2.5
AKT Akhty 40.56 306 *eP* **P** 09 16 39.8 +1.3
AKT *e* 09 18 15.3
AKT *e* 09 18 41.3
AKT *eS* **S** 09 22 48.1 +2.4
AKT pmax pmax
comp=Z,134nm,0.8s
JGF Kuroka 40.66 63 P **P** 09 16 37.4 -2.0
JGF Kuroka 40.66 63 P **P** 09 16 41.4 +2.0
MAK Makhachkala 41.03 308*c* *i*P **P** 09 16 42.9 +0.7
MAK *e* 09 18 18.4
MAK *eS* **S** 09 22 53.8 +1.4
MAK *eSS* **SS** 09 25 57.8 +2.6
MAK pmax pmax
comp=Z,72nm,0.9s
MAK MLR MLR
comp=Z,3μm,15.0s
TNTI Ternate 41.37 119 P **P** 09 16 42.8 -2.5
TNTI IAmb IAmb 09 16 56.4
comp=Z,138nm,1.2s
MJB9 Matsu-Tunnel 41.41 62 P **P** 09 16 46.2 +0.6
MAJO Matsushiro 41.41 62 P **P** 09 16 45.1 -0.5
MAJO Matsushiro 41.41 62 IAMs_20 IAMs_20 09 35 27.6
comp=Z,3μm,20.0s
MAJO Matsushiro 41.41 62 P **P** 09 16 47.4 +1.9
comp=Z,37nm,1.7s
MAJO Matsushiro 41.41 62 *i* P **P** 09 16 44.3 -1.2
MAJO pmax pmax
comp=Z,15nm,1.0s
MAJO Matsushiro 41.41 62 P **P** 09 16 44.8 -0.7
MAJO pP **pP** 09 16 56.4 +0.6
MJAR Matsushiro Arr 41.42 62 P **P** 09 16 45.5 0.0
comp=Z,12nm,1.0s,baz=274,slow=8.5,SNR=16
MJAR LR LR 09 35 39.9
comp=Z,3μm,19.4s,baz=266,slow=39
comp=Z,12nm,1.0s
JSD Sado 41.59 59 P **P** 09 16 46.4 -0.5
JSD IAmb IAmb 09 17 14.4
comp=Z,79nm,1.0s
TEY Ternei 41.62 49 *eP* **P** 09 16 45.6 -1.4
TEY *e* 09 22 55.9
TEY MLR MLR
comp=Z,200nm,13.0s
GROC Groznyy 42.31 308 *eP* **P** 09 16 53.3 +0.6
GROC *e* 09 18 29.5
GROC *e* 09 18 46.9
GROC *eS* **S** 09 23 12.9 +1.6
GROC pmax pmax
comp=Z,365nm,0.8s
GNI Garni 42.58 304 LR LR 09 39 24.6
comp=Z,847nm,18.1s,baz=92,slow=43
GNI Garni 42.58 304 P **P** 09 16 57.0 +1.8
GNI Garni 42.58 304 *eP* **P** 09 16 56.4 +1.2
GNI Garni 42.58 304 P **P** 09 16 57.0 +1.8
GNI pmax pmax
comp=Z,53nm,1.0s
GNI Garni 42.58 304 P **P** 09 16 57.0 +1.8
GNI Garni 42.58 304 P **P** 09 16 57.1 +1.8
GNI P **P** 09 16 57.1 +1.8
GNI Garni 42.58 304 P **P** 09 16 57.1 +1.8
JHJ Hachijo jima 2 42.61 67 LR LR 09 36 46.8
comp=Z,1μm,18.0s,baz=306,slow=39
TASB TASBURUN-IGDIR 42.95 303 *eP* **P** 09 16 59.7 +1.7
CUKT Cukurca 43.19 299 *eP* **P** 09 17 00.9 +0.8
GRNR Gornyy 43.28 40 ⇑*i*P **P** 09 17 00.4 -0.1
GRNR *eS* **S** 09 23 27.8 +2.4
GRNR pmax pmax
comp=E,4.0nm,0.9s
GRNR pmax pmax
comp=N,8.0nm,1.0s
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR smax smax
comp=E,2.0nm,0.9s
GRNR MLR MLR
comp=E,2μm,16.0s
GRNR MLR MLR
comp=N,1μm,12.0s
GRNR MLR MLR
comp=Z,3μm,15.0s
VANB Van 43.46 301 *eP* **P** 09 17 03.3 +1.0
JMM Marumori 43.57 60 P **P** 09 17 05.4 +2.4
ZEI Tsey 43.60 307 *eP* **P** 09 17 02.6 -0.8
ZEI pmax pmax
comp=Z,121nm,0.7s
AKH Akhalkalaki 43.69 305 P **P** 09 17 06.5 +2.3
AKH Akhalkalaki 43.69 305 *eP* **P** 09 17 06.5 +2.3
AKH Akhalkalaki 43.69 305 P **P** 09 17 06.5 +2.3
AKH pmax pmax
comp=Z,520nm,0.9s
GEVA Gevas 43.70 301 P **P** 09 17 06.1 +1.8
AKDM Akdamar-Van 43.76 301 *eP* **P** 09 17 06.4 +1.6
BELG Belogornoye 43.84 322 LR LR 09 37 50.2
comp=Z,3μm,19.3s,baz=106,slow=40
BELG Belogornoye 43.84 322 *i* P **P** 09 17 04.7 -0.2
BELG pmax pmax
comp=Z,9.0nm,1.0s
AGRB Hanur-Agry 43.86 303 *eP* **P** 09 17 07.3 +1.8
ONI Oni 43.89 307 P **P** 09 17 07.7 +2.1
ONI IAmb IAmb 09 17 12.1
comp=Z,49nm,0.7s
ONI Oni 43.89 307 P **P** 09 17 07.7 +2.1
ONI pmax pmax
comp=Z,49nm,0.7s
KARS Kars 43.90 304 P **P** 09 17 08.2 +2.3
KARS Kars 43.90 304 *eP* **P** 09 17 08.1 +2.3
KARS Kars 43.90 304 P **P** 09 17 08.2 +2.3
KARS pmax pmax
comp=Z,388nm,0.7s
NCK Nalchik 43.94 308 ⇓*i*P **P** 09 17 06.5 +0.6
NCK pmax pmax
comp=Z,87nm,0.8s
SENK Senkaya-Erzuru 44.45 304 *eP* **P** 09 17 12.2 +1.9
KBZ Khabaz 44.48 309 P **P** 09 17 10.8 +0.6
comp=Z,21nm,0.8s,baz=119,slow=6.6,SNR=38
KBZ LR LR 09 41 28.2
comp=Z,2μm,18.8s,baz=98,slow=44
comp=Z,21nm,0.8s
KBZ Khabaz 44.48 309*ceP* **P** 09 17 10.7 +0.6
KBZ pmax pmax
comp=Z,26nm,0.9s
GURO Guroymak-BITLI 44.52 301 P **P** 09 17 12.5 +1.7
GURO IAmb IAmb 09 17 13.7
comp=Z,61nm,0.8s
GURO Guroymak-BITLI 44.52 301 *eP* **P** 09 17 12.6 +1.8
NEY Neytrino 44.52 308 *i* P **P** 09 17 12.3 +1.5
NEY pmax pmax
comp=Z,23nm,0.8s
SHA1 Shidzhatmaz 44.65 309 *i* P **P** 09 17 12.9 +1.0
KIV Kislovodsk 44.67 309 P **P** 09 17 12.0 +0.2
KIV IAmb IAmb 09 17 14.7
comp=Z,54nm,0.8s
KIV Kislovodsk 44.67 309 *eP* **P** 09 17 12.7 +0.9
KIV Kislovodsk 44.67 309*c* *i*P **P** 09 17 12.6 +0.8
KIV *i* *PP **pP** 09 17 22.7 +0.6
KIV *i* *SP **sP** 09 17 26.9 +0.6
KIV *e*PPP PPP 09 19 41.4
KIV *eS* **S** 09 23 46.5 +0.5
KIV *i* SSS SSS 09 27 50.4
KIV pmax pmax
comp=Z,59nm,0.8s
KIV Kislovodsk 44.67 309 *i* P **P** 09 17 13.0 +1.1
SNR=16
KIV Kislovodsk 44.67 309 P **P** 09 17 12.7 +0.9
KIV P **P** 09 17 12.7 +0.9
KIV P **P** 09 17 12.7 +0.9
KIV Kislovodsk 44.67 309 P **P** 09 17 12.8 +1.0
KOPR Koprukoy-ERZUR 44.77 303 *eP* **P** 09 17 14.5 +1.7
VRTB Varto-Mus 45.01 302 *eP* **P** 09 17 16.8 +2.1
JCJ Chichijima 45.13 75 LR LR 09 37 26.8
comp=Z,2μm,19.6s,baz=252,slow=38
SVAN Silvan-Diyarba 45.15 300 *eP* **P** 09 17 17.1 +1.4
NRIK Noril'sk 45.33 358 P **P** 09 17 17.5 +0.9
comp=Z,71nm,0.9s,baz=144,slow=6.1,SNR=114
NRIK LR LR 09 38 20.8
comp=Z,4μm,19.1s,baz=181,slow=39
comp=Z,71nm,0.9s
NRIK Noril'sk 45.33 358 P **P** 09 17 17.4 +0.8
NRIK IAmb IAmb 09 17 18.7
comp=Z,88nm,1.0s
NRIK Noril'sk 45.33 358*ceP* **P** 09 17 17.2 +0.6
NRIK pmax pmax
comp=Z,108nm,1.0s
MARD Mardin 45.45 299 P **P** 09 17 19.3 +1.1
MARD IAmb IAmb 09 17 56.6
comp=Z,59nm,0.7s
SIJI Sorong 45.48 117 P **P** 09 17 17.5 -1.0
comp=Z,19nm,0.7s,baz=341,slow=12,SNR=7.2
comp=Z,19nm,0.7s
BNGB Bingl 45.60 302 *eP* **P** 09 17 20.6 +1.2
ASAJ Asahikawa 45.62 51 P **P** 09 17 19.4 +0.1
comp=Z,8.6nm,0.8s,baz=266,slow=8.5,SNR=7.1
ASAJ LR LR 09 38 37.1
comp=Z,1μm,18.6s,baz=264,slow=39
comp=Z,8.6nm,0.8s
JKA Kamikawa-asahi 45.62 51 P **P** 09 17 18.6 -0.6
MSEY Mahe Island 45.63 236 P **P** 09 17 18.8 -1.0
MSEY IAmb IAmb 09 18 13.9
comp=Z,65nm,1.5s
MSEY Mahe Island 45.63 236 P **P** 09 17 18.8 -1.0
MSEY pmax pmax
comp=Z,65nm,1.5s
MSEY MLR MLR
comp=Z,2μm,19.0s
YAK Yakutsk 45.65 24 P **P** 09 17 19.4 +0.1
comp=Z,7.3nm,0.4s,baz=21,slow=5.6,SNR=14
YAK LR LR 09 38 32.8
comp=Z,4μm,19.0s,baz=242,slow=39
comp=Z,7.3nm,0.4s
YAK Yakutsk 45.65 24 P **P** 09 17 19.4 +0.1
YAK IAmb IAmb 09 17 37.7
comp=Z,53nm,0.8s
YAK IAMs_20 IAMs_20 09 38 20.6
comp=Z,4μm,18.0s
YAK Yakutsk 45.65 24*d* *i*P **P** 09 17 19.5 +0.3
YAK *e**PP **pP** 09 17 29.3 -0.2
YAK *e* 09 19 06.9
YAK *eS* **S** 09 23 59.2 -0.2
YAK *e**SS **sS** 09 24 16.8 +0.4
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=Z,68nm,2.0s
YAK pmax pmax
comp=N,51nm,2.3s
YAK pmax pmax
comp=E,31nm,1.5s
YAK smax smax
comp=E,253nm,2.9s
YAK smax smax
comp=N,53nm,2.0s
YAK MLR MLR
comp=Z,3μm,15.0s
YAK MLR MLR
comp=N,2μm,15.0s
YAK MLR MLR
comp=E,2μm,15.0s
YAK Yakutsk 45.65 24 P **P** 09 17 19.3 +0.1
CHOM Cayeli-Rize 45.70 305 *eP* **P** 09 17 21.5 +1.5
KIRV Kirov 45.70 330 LR LR 09 37 07.3
comp=E,2μm,21.4s,baz=123,slow=37
KIRV Kirov 45.70 330*ceP* **P** 09 17 21.2 +1.6
MAZI Mazidag 45.72 299 *eP* **P** 09 17 21.2 +0.9
ERM Erimo 45.75 54 P **P** 09 17 18.6 -1.7
ERM IAmb IAmb 09 17 58.0
comp=Z,108nm,1.2s
ERM Erimo 45.75 54 P **P** 09 17 18.6 -1.7
ERM pmax pmax
comp=Z,108nm,1.3s
ERM MLR MLR
comp=Z,2μm,18.0s
DYBB Diyarbakir 45.98 300 *eP* **P** 09 17 23.7 +1.4
BATI Baumata 46.05 134 P **P** 09 17 20.4 -2.5
comp=Z,93nm,0.5s,baz=257,slow=2.2,SNR=8.7
comp=Z,93nm,0.5s
SOEI Soe 46.11 133 P **P** 09 17 23.7 +0.1
YSS Yuzh-Sakhalins 46.23 47 P **P** 09 17 23.8 -0.2
YSS IAmb IAmb 09 17 45.0
comp=Z,92nm,1.1s
YSS IAMs_20 IAMs_20 09 38 19.7
comp=Z,3μm,21.0s
YSS Yuzh-Sakhalins 46.23 47 P **P** 09 17 24.9 +0.9
comp=Z,80nm,1.1s
YSS Yuzh-Sakhalins 46.23 47κ *i*P **P** 09 17 24.5 +0.5
YSS *e**PP **pP** 09 17 34.9 +0.6
YSS *eS* **S** 09 24 07.6 -0.6
YSS *eSS* **ScS** 09 27 24.0 +7.3
YSS pmax pmax
comp=Z,300nm,3.3s
YSS pmax pmax
comp=Z,50nm,0.9s
YSS smax smax
comp=N,700nm,9.5s
YSS smax smax
comp=E,400nm,4.7s
YSS MLR MLR
comp=Z,3μm,14.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=E,1μm,13.0s
YSS Yuzh-Sakhalins 46.23 47 P **P** 09 17 24.3 +0.3
YSS pP **pP** 09 17 35.1 +0.8
YSS sP **sP** 09 17 40.5 +2.0
UGL Uglegorsk 46.25 44 *eP* **P** 09 17 21.4 -2.7
UGL pmax pmax
comp=Z,100nm,0.9s
UGL MLR MLR
comp=E,2μm,12.0s
UGL MLR MLR
comp=N,2μm,14.0s
UGL MLR MLR
comp=Z,3μm,14.0s
KTUT Trabzon 46.44 304 *eP* **P** 09 17 26.9 +1.1
NKL Nikolayevsk 46.57 39 *eP* P 09 17 15.3 -11
NKL *eS* **S** 09 24 10.4 -2.5
NKL pmax pmax
comp=N,65nm,0.8s
NKL pmax pmax
comp=E,159nm,0.9s
NKL pmax pmax
comp=Z,136nm,0.9s
NKL smax smax
comp=E,73nm,4.6s
NKL smax smax
comp=N,135nm,5.6s
NKL MLR MLR
comp=E,5μm,15.0s
NKL MLR MLR
comp=N,7μm,16.0s
NKL MLR MLR
comp=Z,15μm,21.0s
PTK Pertek 46.60 301 *eP* **P** 09 17 28.3 +1.0
SOC Sochi 46.74 308 *eP* **P** 09 17 26.5 -1.6
SOC *e* 09 19 03.0
SOC *eS* **S** 09 24 10.9 -4.7
SOC *eSS* **SS** 09 27 32.5 -10
SOC *eSSS* SSS 09 28 43.4
SOC pmax pmax
comp=Z,59nm,0.7s
SOC MLR MLR
comp=Z,1μm,20.0s
VRH Novokhopyorsk 46.91 319 *eP* **P** 09 17 29.1 -0.2
VRH *eS* **S** 09 24 14.5 -3.3
VRH pmax pmax
comp=Z,110nm,0.7s
VRH smax smax
comp=N,560nm,4.0s
URFA Urfa 47.01 299 *eP* **P** 09 17 34.2 +3.8
TYV Tymovskoe 47.06 42 *eP* **P** 09 17 32.0 +1.5
TYV *eS* **S** 09 24 23.9 +3.9
TYV pmax pmax
comp=Z,21nm,1.5s
TYV pmax pmax
comp=Z,200nm,2.8s
TYV smax smax
comp=N,300nm,6.5s
ESPY Espiye-Giresun 47.22 304 *eP* **P** 09 17 32.9 +1.0
ARPR Arapgir-MALATY 47.43 302 *eP* **P** 09 17 35.2 +1.4
FAKI Fak Fak 47.47 119 P **P** 09 17 32.7 -1.4
FAKI Fak Fak 47.47 119 P **P** 09 17 34.4 +0.3
DARE Darende-Malaty 48.08 301 *eP* **P** 09 17 39.9 +1.1
ATD Arta Tunnel 48.20 264 P **P** 09 17 38.8 -1.1
ATD IAmb IAmb 09 17 42.6
comp=Z,42nm,1.0s
ATD Arta Tunnel 48.20 264 P **P** 09 17 41.2 +1.4
RSDY Resadiye-TOKAT 48.26 303 *eP* **P** 09 17 41.1 +1.1
GAZ Gaziantep 48.30 299 P **P** 09 17 40.4 +0.1
GAZ IAmb IAmb 09 17 42.4

comp=Z,61nm,1.0s
GAZ Gaziantep 48.30 299 *e*P **P** **09 17 41.4 +1.0**
VSR Storozhevoye 48.47 318 *e*P **P** **09 17 40.4 -1.0**
VSR *e*S **S** **09 24 37.5 -2.5**
VSR pmax pmax
comp=Z,30nm,0.6s
VSR smax smax
comp=N,860nm,5.1s
VSR MLR MLR
comp=Z,2µm,26.0s
SVSK Karacayir 48.49 303 *e*P **P** **09 17 42.9 +1.2**
KMRS Kahramanmaras 48.54 300 *e*P **P** **09 17 42.9 +0.7**
VORR Voronezh 48.55 319 *e*P **P** **09 17 42.6 +0.6**
VORR S **S** **09 24 41.0 -0.1**
VORR pmax pmax
comp=Z,34nm,1.1s
VORR MLR MLR
comp=Z,3µm,18.0s
TOKT Tokat 48.85 303 *e*P **P** **09 17 45.6 +1.0**
PRGR Permogore 48.86 333 *e*P **P** **09 17 44.1 -0.1**
PRGR *e* 09 19 07.2
PRGR *e*S **S** **09 24 45.0 -0.1**
PRGR pmax pmax
comp=Z,47nm,1.0s
TOKA Tokat 48.90 303 P **P** **09 17 45.4 +0.5**
TOKA IAmb IAmb 09 17 47.3
comp=Z,58nm,1.1s
LPSR Galich'ya Gora 48.95 320 *e*P **P** **09 17 44.8 -0.2**
LPSR *e*S **S** **09 24 43.5 -3.1**
LPSR pmax pmax
comp=Z,80nm,0.7s
LPSR smax smax
comp=N,280nm,2.0s
LPSR MLR MLR
comp=Z,810nm,14.0s
KVT Kavak 49.26 304 *e*P **P** **09 17 48.7 +1.0**
BNN Bunyan 49.37 301 P **P** **09 17 49.1 +0.4**
BNN Bunyan 49.37 301 *e*P **P** **09 17 49.3 +0.6**
KOZT Kozan 49.39 299 *e*P **P** **09 17 49.4 +0.7**
CEYT Ceyhan 49.47 299 *e*P **P** **09 17 50.5 +1.2**
YOZ Yozgat 49.78 302 *e*P **P** **09 17 52.5 +0.7**
MMAI Mount Meron Ar 49.98 294 LR LR 09 41 21.6
comp=Z,1µm,18.8s,baz=322,slow=39
KARA Karaisali 50.01 299 *e*P **P** **09 17 54.0 +0.5**
GHAJ Ghor Haditha 50.02 291 IAMs_20 IAMs_20 09 42 15.0
comp=Z,2µm,20.0s
CMRD Camardi-Nigde 50.05 300 *e*P **P** **09 17 54.8 +0.9**
KOZK Kozakli-Nevseh 50.13 302 *e*P **P** **09 17 55.1 +0.7**
CORM Corum 50.31 303 *e*P **P** **09 17 56.4 +0.6**
MOS Moscow 50.51 323 *e*P **P** **09 17 56.2 -0.6**
MOS *e* 09 18 11.7
MOS *e* 09 19 52.9
MOS *e*S **S** **09 25 05.6 -2.7**
MOS *e* 09 25 24.7
MOS *e* 09 27 45.3
MOS pmax pmax
comp=Z,68nm,1.0s
MOS MLR MLR
comp=Z,1µm,16.0s
EIL Elat 50.75 289 LR LR 09 43 22.0
comp=Z,1µm,18.6s,baz=88,slow=41
EIL Elat 50.75 289 *e*P **P** **09 17 59.1 0.0**
BZK Bozkurt 50.82 305 ⇓P **P** **09 17 58.5 -0.9**
BZK Bozkurt 50.82 305 P **P** **09 17 57.6 -1.8**
BZK Bozkurt 50.82 305 *e*P **P** **09 17 58.5 -0.9**
GUMO Guam 50.87 92 LR LR 09 39 54.9
comp=Z,772nm,20.0s,baz=292,slow=36
SIM Simferopol' 50.88 309*c i*P **P** **09 18 01.5 +1.7**
SIM *e* 09 19 59.2
SIM *e*S **S** **09 25 16.0 +2.2**
SIM pmax pmax
comp=Z,95nm,1.1s
SIM pmax pmax
comp=Z,114nm,7.4s
SIM MLR MLR
comp=Z,1µm,23.0s
OBN Obninsk 50.92 322 LR LR 09 41 58.6
comp=Z,387nm,18.2s,baz=98,slow=39
YAYX Yaylak 50.95 301 *e*P **P** **09 18 01.0 +0.4**
YESY Yesilyurt 51.04 300 *e*P **P** **09 18 01.7 +0.4**
BR131 Keskin Array S 51.08 302 P **P** **09 18 00.4 -1.2**
BR131 Keskin Array S 51.08 302 *i*P **P** **09 18 01.4 -0.2**
BR131 Keskin Array S 51.08 302 P **P** **09 18 01.3 -0.3**
BR131 P **P** **09 18 01.3 -0.3**
BRTR Keskin Array B 51.08 302 P **P** **09 18 01.4 -0.2**
comp=Z,6.9nm,0.7s,baz=121,slow=10,SNR=42
BRTR LR LR 09 46 15.4
comp=Z,1µm,18.0s,baz=108,slow=44
comp=Z,6.9nm,0.7s
CANT Cankiri 51.09 304 *e*P **P** **09 18 02.4 +0.8**
KLMR Klimovskoe 51.20 330 *e*P **P** **09 18 01.8 -0.2**
KLMR *e*P **P** **09 18 01.8 -0.2**
KLMR *e*P **P** **09 18 01.8 -0.2**
KLMR AMP 09 18 20.6
comp=Z,107nm,1.4s
KLMR S **S** **09 25 15.9 -1.9**
KLMR S **S** **09 25 15.9 -1.9**
KLMR ⇓SS SKiKP 09 29 17.6 -12
KLMR ⇓SS SKiKP 09 29 17.6 -12
KLMR LQ LQ 09 35 04.1
KLMR LQ LQ 09 35 04.1
KLMR LR LR 09 39 08.7
KLMR AMP 09 40 19.7
comp=Z,1µm,14.2s
KLMR Klimovskoe 51.20 330 *e*P **P** **09 18 01.7 -0.2**
KLMR S **S** **09 25 15.9 -1.9**
KLMR pmax pmax
comp=Z,107nm,1.4s
KLMR MLR MLR
comp=Z,1µm,14.0s
SULT Sultanhani-AKS 51.20 300 *e*P **P** **09 18 03.5 +1.0**
AFSR Afar-Bala (An 51.52 302 *e*P **P** **09 18 04.9 0.0**
CSS Mathiatis 51.53 296 P **P** **09 18 04.0 -0.9**
CSS Mathiatis 51.53 296 *e*P **P** **09 18 04.9 -0.1**
ANTO Ankara 51.72 303 P **P** **09 18 05.8 -0.6**
ANTO IAmb IAmb 09 18 07.8
comp=Z,49nm,0.7s
ANTO Ankara 51.72 303 *e*P **P** **09 18 06.8 +0.4**
ANTO Ankara 51.72 303 P **P** **09 18 06.9 +0.5**
ANTO Ankara 51.72 303 P **P** **09 18 06.3 -0.1**
ANTO P **P** **09 18 06.3 -0.1**
ANTO P **P** **09 18 06.3 -0.1**
ANTO Ankara 51.72 303 P **P** **09 18 06.6 +0.3**
LOD Lodumlu 51.75 303 *e*P **P** **09 18 06.4 -0.1**
LEF Lefka 51.88 297 *e*P **P** **09 18 07.9 +0.4**
TIXI Tiksi 51.92 14 P **P** **09 18 07.3 0.0**
comp=Z,29nm,0.9s,baz=270,slow=20,SNR=29
TIXI LR LR 09 42 31.0
comp=Z,2µm,20.1s,baz=182,slow=39
comp=Z,29nm,0.9s
TIXI Tiksi 51.92 14 P **P** **09 18 06.7 -0.5**
TIXI IAmb IAmb 09 18 08.3
comp=Z,41nm,0.9s
TIXI Tiksi 51.92 14*c e*P **P** **09 18 06.9 -0.3**
TIXI pmax pmax
comp=Z,59nm,1.1s
TIXI Tiksi 51.92 14 P **P** **09 18 07.2 0.0**
TIXI pP **sP** **09 18 19.2 -2.6**
MBWA Marble Bar 52.47 147 P **P** **09 18 10.1 -1.8**
MBWA IAmb IAmb 09 18 26.1
comp=Z,44nm,1.1s
MBWA Marble Bar 52.47 147 P **P** **09 18 13.3 +1.4**
MBWA Marble Bar 52.47 147 P **P** **09 18 10.9 -0.9**
SVRH Sivrihisar-ESK 52.72 302 *e*P **P** **09 18 13.5 -0.3**
ADZR Andozero 52.89 333 *e*P **P** **09 18 15.3 +0.8**
ADZR *e*S **S** **09 25 40.2 -0.7**
ADZR pmax pmax
comp=Z,40nm,0.6s
MDUB Mudurnu 52.93 303 P **P** **09 18 15.1 -0.3**
MDUB Mudurnu 52.93 303 *e*P **P** **09 18 15.4 0.0**
CIFT Cifteler, Eski 53.08 302 *e*P **P** **09 18 16.2 -0.2**
SUTC Sutluce-Ispart 53.23 300 *e*P **P** **09 18 17.5 -0.1**
FITZ Fitzroy Crossi 53.26 139 P **P** **09 18 17.4 -0.4**
KNRA Kununurra 53.41 134 P **P** **09 18 17.0 -1.9**
KNRA IAmb IAmb 09 18 29.6
comp=Z,69nm,0.9s
SHUT Suhut-Afyon 53.52 301 *e*P **P** **09 18 19.7 0.0**
BORA Eskisehir 53.52 303 P **P** **09 18 19.4 -0.4**
BORA IAmb IAmb 09 18 20.6
comp=Z,49nm,0.8s
BORA Eskisehir 53.52 303 *e*P **P** **09 18 19.3 -0.4**
ISP Isparta 53.59 300 P **P** **09 18 19.8 -0.4**
ISP IAmb IAmb 09 18 20.6
comp=Z,46nm,0.8s
ISP Isparta 53.59 300 *e*P **P** **09 18 19.6 -0.6**
ISP Isparta 53.59 300 P **P** **09 18 19.8 -0.4**
ISP pmax pmax
comp=Z,46nm,0.8s
ISP MLR MLR
comp=Z,700nm,22.0s
KORT Korkueli 53.78 299 *e*P **P** **09 18 21.2 -0.5**
MA2 Magadan 53.80 33 P **P** **09 18 21.6 +0.3**
comp=Z,8.4nm,0.6s,baz=224,slow=5.2,SNR=7.4
MA2 LR LR 09 43 47.5
comp=Z,1µm,19.3s,baz=254,slow=39
comp=Z,8.4nm,0.6s
MA2 Magadan 53.80 33 P **P** **09 18 21.5 +0.3**
MA2 IAmb IAmb 09 18 41.3
comp=Z,40nm,0.9s
MA2 Magadan 53.80 33 P **P** **09 18 23.8 +2.5**
MA2 Magadan 53.80 33*c e*P **P** **09 18 21.2 0.0**
MA2 pmax pmax
comp=Z,41nm,1.7s
MA2 Magadan 53.80 33 P **P** **09 18 21.3 0.0**
MA2 sP **sP** **09 18 37.4 +1.5**
GENI Genyem 53.81 113 P **P** **09 18 22.6 +0.6**
comp=Z,170nm,1.2s
KDU Kakadu 53.86 128 P **P** **09 18 21.0 -1.3**
CAVI Cavuskoy 53.98 303 *e*P **P** **09 18 23.0 +0.1**
HRT Hereke 54.09 304 *e*P **P** **09 18 23.9 +0.2**
ELL Elmali 54.16 299 P **P** **09 18 24.4 0.0**
ELL Elmali 54.16 299 *e*P **P** **09 18 24.4 0.0**
ELL Elmali 54.16 299 P **P** **09 18 24.4 0.0**
TVSB Tavsanli 54.31 302 *e*P **P** **09 18 25.7 +0.2**
GEDZ Gediz 54.38 302 *e*P **P** **09 18 26.1 +0.2**
AKAS Kas 54.45 298 P **P** **09 18 25.9 -0.6**
AKAS IAmb IAmb 09 19 00.8
comp=Z,39nm,0.8s
AKAS Kas 54.45 298 *e*P **P** 09 18 37.8 +11
AKASG Malin Array Be 54.60 316 P **P** **09 18 26.8 -0.5**
comp=Z,14nm,0.7s,baz=77,slow=6.4,SNR=141
AKASG LR LR 09 47 15.2
comp=Z,2µm,18.2s,baz=82,slow=42
comp=Z,14nm,0.7s
AKASG Malin Array Be 54.60 316 P **P** **09 18 26.6 -0.7**
AKASG IAmb IAmb 09 18 27.8
comp=Z,34nm,0.7s
AKASG Malin Array Be 54.60 316 *i*P **P** **09 18 26.7 -0.5**
AKASG pmax pmax
comp=Z,20nm,0.6s
AKBB Malin Array Si 54.60 316 P **P** **09 18 26.9 -0.3**
AKBB IAmb IAmb 09 18 27.8
comp=Z,44nm,0.8s
AKBB Malin Array Si 54.60 316*c e*P **P** **09 18 27.0 -0.2**
KIS Kishinev 54.67 312 PM 09 18 28.5
comp=Z,50nm,0.3s
KIS Kishinev 54.67 312 *e*P **P** 09 18 38.0 +10
KIS *e*L L 09 41 32.0
KIS LQM 09 43 17.0
comp=Z,1µm,17.5s
KIS LRM MLR 09 47 04.0
comp=Z,500nm,16.5s
KIS Kishinev 54.67 312 *e*P **P** **09 18 28.0 +0.2**
KIS *e* 09 18 48.0
KIS *e* 09 26 27.0
KIS pmax pmax
comp=Z,50nm,0.3s
KIS MLR MLR
comp=Z,500nm,16.5s
MILM Milestii Mici 54.67 311⇑*i*P **P** **09 18 28.0 +0.2**
comp=Z,40nm,0.7s
MILM *e*L L 09 40 03.0
MILM LQM 09 43 12.0
comp=Z,2µm,16.0s
MILM LRM MLR 09 49 58.0
comp=Z,800nm,15.5s
MILM Milestii Mici 54.67 311 ⇑P **P** **09 18 28.4 +0.6**
MILM Milestii Mici 54.67 311 P **P** **09 18 28.4 +0.6**
BGKT Bogazkoy 54.75 304 *e*P **P** **09 18 28.9 +0.4**
FETY Fethiye 54.83 299 *e*P **P** **09 18 29.1 -0.1**
TPGR Topolog 54.92 309 ⇑P **P** **09 18 30.2 +0.6**
TIRR Tirgusor 54.92 308 ⇑P **P** **09 18 29.7 0.0**
TIRR Tirgusor 54.92 308 ⇑P **P** **09 18 29.7 0.0**
TIRR Tirgusor 54.92 308 P **P** **09 18 29.6 0.0**
TIRR Tirgusor 54.92 308 P **P** **09 18 29.6 0.0**
KULA Kula-Manisa 55.00 301 *e*P **P** **09 18 29.9 -0.5**
SORM Soroca 55.02 313 ⇓P **P** **09 18 30.3 -0.1**
SORM Soroca 55.02 313 P **P** **09 18 30.2 -0.1**
MANT Manisa 55.08 301 P **P** **09 18 30.7 -0.5**
KCTX Karacabey (Bur 55.11 303 *e*P **P** **09 18 32.3 +1.1**
CFR Carcaliu 55.12 309 ⇑P **P** **09 18 31.3 +0.2**
CFR Carcaliu 55.12 309 P **P** **09 18 31.2 +0.2**
DALY Dalyan (Mula) 55.15 299 *e*P **P** **09 18 30.7 -0.8**
VLDR Vladesti 55.16 310 ⇑P **P** **09 18 31.9 +0.6**
HARR Harsova 55.27 309 ⇑P **P** **09 18 32.5 +0.4**
HARR Harsova 55.27 309 P **P** **09 18 32.5 +0.4**
PUL Pulkovo 55.27 327*c e*P **P** **09 18 34.3 +2.4**
PUL pmax pmax
comp=Z,35nm,0.4s
ICOR Ion Corvin 55.37 308 ⇑P **P** **09 18 33.8 +0.9**
SEY Seymchan 55.42 29 P **P** **09 18 33.4 +0.5**
comp=Z,27nm,1.0s,baz=273,slow=5.7,SNR=27
comp=Z,27nm,1.0s
SEY Seymchan 55.42 29⇑*e*P **P** **09 18 33.4 +0.5**
SEY pmax pmax
comp=Z,49nm,1.2s
BALB Balikesir 55.52 303 P **P** **09 18 34.4 +0.3**
BALB IAmb IAmb 09 18 35.3
comp=Z,68nm,0.9s
BALB Balikesir 55.52 303 *e*P **P** **09 18 34.2 +0.1**
GHRR 55.63 310 ⇑P **P** **09 18 35.7 +1.0**
AYDB Zeytinkoy-Aydi 55.65 301 *e*P P 09 18 26.5 -8.7
MNK Minsk 55.76 321 *i* P **P** **09 18 36.1 +0.6**
comp=E,11nm,1.1s
MNK *i* P **P** **09 18 36.1 +0.6**
comp=N,43nm,1.0s
MNK *i* P **P** **09 18 36.1 +0.6**
comp=Z,104nm,1.1s,baz=96
MNK *i* PP PP 09 20 25.6 -14
MNK *i* PPP PPP 09 22 11.2
MNK *i* S **S** **09 26 22.0 +2.1**
MNK *i* SS **SS** **09 30 02.4 -2.9**
MNK *i* SSS SSS 09 31 49.2
MNK *i* LQ LQ 09 38 36.1
MNK *i* LR LR 09 42 51.2
MNK *i* LRM MLR 09 44 29.9
comp=N,1µm,21.6s
MNK *i* LRM MLR 09 44 46.0
comp=E,213nm,16.9s
MNK *i* LRM MLR 09 45 01.5
comp=Z,2µm,19.2s
MNK Minsk 55.76 321 *i* P **P** **09 18 36.1 +0.6**
MNK *i* S **S** **09 26 22.0 +2.1**
MNK *i* SS **SS** **09 30 02.4 -2.9**
MNK pmax pmax
comp=Z,104nm,1.1s
MNK pmax pmax
comp=E,11nm,1.1s
MNK pmax pmax
comp=N,43nm,1.0s
MNK MLR MLR
comp=N,1µm,22.0s
MNK MLR MLR
comp=E,213nm,17.0s
MNK MLR MLR
comp=Z,2µm,19.0s
LVZ Lovozero 55.77 337*c e*P **P** **09 18 36.1 +0.6**
LVZ pmax pmax
comp=Z,83nm,1.7s
LVZ Lovozero 55.77 337 P **P** **09 18 36.1 +0.6**
LVZ pP **pP** **09 18 46.5 +0.6**
APA Apatity 56.10 337 ⇓*i*P **P** **09 18 37.3 -0.4**
APA pmax pmax
comp=Z,18nm,0.7s
VRI Vrincioaia 56.10 310 ⇑P **P** **09 18 38.5 +0.4**
VRI Vrincioaia 56.10 310 *e*P **P** **09 18 39.3 +1.1**
VRI Vrincioaia 56.10 310 P **P** **09 18 39.3 +1.1**
BISRR Bisoca 56.12 310 ⇑P **P** **09 18 39.4 +1.0**
TESR Tescani 56.15 311 ⇓P **P** **09 18 39.1 +0.6**
PLOR Plostina 56.16 310 ⇑P **P** **09 18 39.9 +1.3**
PLOR Plostina 56.16 310 P **P** **09 18 39.9 +1.3**
GCAM G?zelcaml? 56.19 300 *e*P **P** **09 18 39.3 +0.4**
EDRB Edirne 56.23 305 *e*P **P** **09 18 39.2 0.0**
BLCB Balcova 56.27 301 *e*P **P** **09 18 39.7 +0.2**
LPK Lapseki 56.32 304 *e*P **P** **09 18 39.9 +0.1**
UKOP Uzunkopru-Edir 56.36 304 *e*P **P** **09 18 40.8 +0.7**
NEHR Nehoiu 56.41 310 ⇑P **P** **09 18 41.3 +0.9**
NACGM Naroch 56.44 321⇑*i*P **P** **09 18 41.1 +0.7**
comp=Z,162nm,0.9s,baz=95
COVR Voineasa-Covas 56.47 310 ⇑P **P** **09 18 41.6 +0.8**
KARP Karpathos 56.50 298 P **P** **09 18 39.7 -1.5**
KARP Karpathos 56.50 298 *e*P **P** **09 18 40.9 -0.3**
IDID Didziasalis 56.50 321 *e*P **P** **09 18 37.8 -3.0**
PETK Petropavlovsk- 56.59 41 P **P** **09 18 42.7 +1.1**
comp=Z,7.2nm,1.0s,baz=256,slow=6.0,SNR=4.9
PETK LR LR 09 45 11.7
comp=Z,2µm,20.4s,baz=254,slow=38
comp=Z,7.2nm,1.0s
MEEK Meekatharra 56.62 151 P **P** **09 18 42.2 +0.2**
URLA Izmir 56.63 301 *e*P **P** **09 18 42.3 +0.2**
MLR Muntele Rosu 56.66 310 LR LR 09 49 18.7
comp=Z,2µm,18.2s,baz=50,slow=43
MLR Muntele Rosu 56.66 310 ⇑P **P** **09 18 43.5 +1.2**
MLR Muntele Rosu 56.66 310 P **P** **09 18 42.7 +0.4**
MLR Muntele Rosu 56.66 310 P **P** **09 18 43.5 +1.2**
SGRR Singureni 56.68 308 ⇑P **P** **09 18 42.7 +0.4**
OZUR 56.76 310 ⇑P **P** **09 18 43.5 +0.6**
IIGN Ignalina 56.80 322 *e*P **P** **09 18 40.9 -2.0**
ALN Alexandroupoli 56.82 304 P **P** **09 18 44.1 +0.8**
ALN Alexandroupoli 56.82 304 *e*P **P** **09 18 43.8 +0.4**
ALN Alexandroupoli 56.82 304 P **P** **09 18 44.1 +0.8**
VSU Vasula 56.87 325 *i* P **P** **09 18 43.2 -0.2**
VSU pmax pmax
comp=Z,61nm,0.7s
VSU Vasula 56.87 325 *e*P **P** **09 18 44.0 +0.7**
ISAL Salakas 56.88 322 *e*P **P** **09 18 43.2 -0.2**
DOPR Dopca 57.04 310 ⇑P **P** **09 18 45.6 +0.8**
BURAR Bucovina Array 57.12 312 ⇑P **P** **09 18 46.0 +0.5**
BURAR Bucovina Array 57.12 312 P **P** **09 18 45.9 +0.3**
BURAR Bucovina Array 57.12 312 P **P** **09 18 46.1 +0.6**
BUR08 Bucovina Ar. S 57.13 312 P **P** **09 18 46.0 +0.4**
PET Petropavlovsk 57.16 41 IAMs_20 IAMs_20 09 45 16.8
comp=Z,2µm,19.0s
PET Petropavlovsk 57.16 41 *e*P **P** **09 18 43.0 -2.5**
PET *e* 09 22 16.6
PET *e*S **S** **09 26 39.8 +1.4**
PET pmax pmax
comp=Z,100nm,11.2s
PET pmax pmax
comp=Z,26nm,1.1s
PET MLR MLR
comp=Z,2µm,18.0s
RDO Rodhopi 57.19 305 P **P** **09 18 45.7 -0.3**
RDO IAmb IAmb 09 18 47.6
comp=Z,68nm,1.2s
RDO Rodhopi 57.19 305 P **P** **09 18 46.1 +0.2**
RDO Rodhopi 57.19 305 *e*P **P** **09 18 46.2 +0.3**
KDZ Kurdzhali 57.24 305 *e*P **P** **09 18 46.9 +0.6**
KDZ Kurdzhali 57.24 305 *e*P **P** **09 18 46.3 0.0**
MSF Maaselka 57.26 334 P **P** **09 18 47.5 +1.5**
MSF pmax pmax
comp=Z,56nm,2.9s
VOIR 57.29 310 ⇑P **P** **09 18 46.7 0.0**
VOIR 57.29 310 P **P** **09 18 47.1 +0.4**
ARR Arges 57.59 310 ⇓P **P** **09 18 49.5 +0.7**
APE Apeiranthos 57.61 300 ⇓P **P** **09 18 48.5 -0.5**
APE Apeiranthos 57.61 300 P **P** **09 18 48.5 -0.5**
FIA1 FINESS Array S 57.63 329 P **P** **09 18 49.5 +0.8**
FIA1 IAmb IAmb 09 19 09.3
comp=Z,83nm,1.6s
FINES FINESS Array B 57.63 329 P **P** **09 18 49.3 +0.6**
comp=Z,11nm,0.6s,baz=102,slow=7.2,SNR=49
FINES LR LR 09 44 34.7
comp=Z,2µm,20.2s,baz=101,slow=37
comp=Z,11nm,0.6s
FINES FINESS Array B 57.63 329 P **P** **09 18 49.0 +0.3**
FINES FINESS Array B 57.63 329 *i* P **P** **09 18 49.2 +0.5**
FINES pmax pmax
comp=Z,11nm,0.6s
MORW Morawa 57.70 155 P **P** **09 18 48.6 -0.9**
MORW Morawa 57.70 155 P **P** **09 18 49.9 +0.3**
ARCR ARCALIA 57.72 312 ⇑P **P** **09 18 50.6 +1.0**
PLD Plovdiv 57.73 306 *e*P **P** **09 18 50.4 +0.6**
SANT Santorini 57.76 299 ⇑P **P** **09 18 49.3 -0.9**
SANT Santorini 57.76 299 P **P** **09 18 49.2 -0.9**
RZN Rozhen 57.76 305 *e*P **P** **09 18 49.7 -0.5**
LVV L'vov 57.89 315 *e*P **P** **09 18 50.9 +0.1**
LVV *e*S **S** **09 26 49.6 +1.4**
LVV *i* SS **SS** **09 30 33.5 -5.5**
LVV pmax pmax
comp=Z,130nm,1.5s
PABE Paberze 58.09 322 P **P** **09 18 52.8 +0.8**
PABE IAMs_20 IAMs_20 09 48 43.1
comp=Z,2µm,18.0s
PABE Paberze 58.09 322 *e*P **P** **09 18 52.3 +0.3**
PGB Panagyurishte 58.10 306 *e*P **P** **09 18 51.0 -1.4**
CJR Cluj-Napoca 58.25 311 ⇑P **P** **09 18 54.5 +1.1**
CJR Cluj-Napoca 58.25 311 P **P** **09 18 54.4 +1.1**
LODK Lodwar 58.27 259 P **P** **09 18 52.4 -1.6**
LODK Lodwar 58.27 259 P **P** **09 18 54.7 +0.7**
SNR=7.4
CBBR Cluj-Babes-Bol 58.28 311 ⇑P **P** **09 18 53.7 +0.2**
MEF Metsahovi 58.28 327 *e*P **P** **09 18 54.1 +0.8**
BMR Baia Mare 58.28 312 P **P** **09 18 54.7 +1.2**
BMR pmax pmax
comp=Z,51nm,1.4s
VADS Vadso 58.31 339 *e*P **P** **09 18 54.9 +1.5**
MPEP Malo Peshtene 58.35 307 *e*P **P** **09 18 55.1 +1.0**
MTSE Matsula 58.42 325 *e*P **P** **09 18 55.6 +1.4**
NVR Nevrokopi 58.43 305 P **P** **09 18 55.4 +0.7**
OUR Ouranopolis 58.44 304 P **P** **09 18 55.0 +0.3**
OUR Ouranopolis 58.44 304 *e*P **P** **09 18 55.0 +0.3**
KYMI Kymi, Euboea I 58.54 302 P **P** **09 18 55.3 -0.2**
MARR Marisel-Cluj 58.58 311 ⇓P **P** **09 18 57.0 +1.2**
SGF Sodankyl 58.60 336 P **P** **09 18 56.7 +1.3**
SGF pmax pmax
comp=Z,51nm,0.7s
SRS Serrai 58.65 305 P **P** **09 18 56.3 0.0**
SRS pmax pmax
comp=Z,17nm,1.8s
KMBO Kilima Mbogo 58.70 253 P **P** **09 18 55.5 -1.7**
comp=Z,4.3nm,0.8s,baz=44,slow=12,SNR=7.0
KMBO LR LR 09 44 07.7
comp=Z,468nm,20.9s,baz=88,slow=36
comp=Z,4.3nm,0.8s
KMBO Kilima Mbogo 58.70 253 P **P** **09 18 57.3 +0.1**
KMBO Kilima Mbogo 58.70 253 *e*P **P** **09 18 56.8 -0.4**
KMBO IAmb IAmb 09 19 33.9
comp=Z,14nm,0.8s
KMBO Kilima Mbogo 58.70 253 *i* P **P** **09 18 55.1 -2.1**
PAIG Paliouri 58.71 303 P **P** **09 18 56.9 +0.2**
DEV Deva 58.77 310 ⇑P **P** **09 18 58.3 +1.3**
DEV Deva 58.77 310 P **P** **09 18 58.2 +1.3**
VTS Vitosha 58.78 306 ⇑P **P** **09 18 57.0 -0.2**
VTS Vitosha 58.78 306 P **P** **09 18 57.0 -0.2**
VTS Vitosha 58.78 306 *e*P **P** **09 18 57.7 +0.4**
DRGR 58.85 311 P **P** **09 18 57.1 -0.5**
DRGR pmax pmax
comp=Z,80nm,1.1s
VLY Voula,Athens 58.88 301 P **P** **09 18 56.9 -1.0**
TRPA Tarpa 58.91 313 ⇑P **P** **09 18 58.6 +0.7**
KKB Krupnik 58.96 306 *e*P **P** **09 18 56.9 -1.5**
KEV Kevo 58.99 338 IAMs_20 IAMs_20 09 46 00.5
comp=Z,2µm,21.0s
KEV Kevo 58.99 338 P **P** **09 18 59.3 +1.3**
UZH Uzhgorod 59.06 313⇑*i*P **P** **09 18 59.8 +0.9**
UZH *e* 09 19 10.5
UZH *i* 09 19 12.2
UZH *e* 09 21 17.5
UZH *i* 09 22 42.7
UZH *e*S **S** **09 27 02.7 -0.6**
UZH *i* 09 27 21.1
UZH *i* 09 27 28.8
UZH *e* 09 31 02.8
UZH MLR MLR
comp=N,600nm,15.0s
UZH MLR MLR
comp=E,300nm,15.0s
UZH MLR MLR
comp=Z,200nm,15.0s
IMMV Iera Moni Meta 59.08 298 P **P** **09 18 59.5 +0.3**
IMMV Iera Moni Meta 59.08 298 *e*P **P** **09 18 59.6 +0.3**
HORT Hortiatis 59.08 304 P **P** **09 18 59.0 -0.4**
HORT Hortiatis 59.08 304 *e*P **P** **09 18 58.9 -0.4**
KNT Kendrikon 59.17 305 P **P** **09 18 59.5 -0.3**
KNT Kendrikon 59.17 305 *e*P **P** **09 18 59.6 -0.3**
KNT Kendrikon 59.17 305 P **P** **09 18 59.8 0.0**
KNT pmax pmax
comp=Z,39nm,1.1s
THE Thessaloniki 59.18 304 P **P** **09 18 59.4 -0.4**

THE pmax pmax
comp=Z,47nm,1.1s
HERR Herculane 59.18 309 ⇓P **P 09 19 00.1 +0.2**
VILL Villia 59.22 301 P **P 09 18 58.8 -1.4**
SURR Surduc 59.32 310 ⇑P **P 09 19 01.5 +0.7**
BLDU Ballidu 59.34 155 P **P 09 19 00.8 -0.2**
KNDR Palaiochora Ch 59.35 298 P **P 09 19 01.1 0.0**
VAY Valandovo 59.40 305 *i* P **P 09 19 01.4 0.0**
ARA0 ARCESS Array S 59.45 338 *eP* **P 09 19 01.9 +0.7**
ARCES ARCESS Array B 59.45 338 P **P 09 19 02.4 +1.1**
comp=Z,11nm,0.7s,baz=84,slow=5.2,SNR=25
ARCES LR LR 09 46 09.4
comp=Z,2μm,20.0s,baz=105,slow=38
comp=Z,11nm,0.7s
GRG Griva 59.57 305 P **P 09 19 02.0 -0.7**
GRG Griva 59.57 305 *eP* **P 09 19 01.9 -0.7**
GRG Griva 59.57 305 P **P 09 19 02.4 -0.2**
GRG pmax pmax
comp=Z,74nm,0.9s
LIT Litokhoron 59.60 304 P **P 09 19 02.0 -0.8**
LIT Litokhoron 59.60 304 P **P 09 19 02.1 -0.8**
LIT Litokhoron 59.60 304 P **P 09 19 02.0 -0.8**
SIRR Siria 59.61 311 ⇑P **P 09 19 02.7 -0.1**
RAF Rauma 59.65 328 *eP* **P 09 19 03.1 +0.3**
BZS Buzias 59.69 310 ⇓P **P 09 19 04.1 +0.7**
BZS Buzias 59.69 310 P **P 09 19 04.0 +0.7**
MDVR Moldovita 59.69 309 ⇑P **P 09 19 04.1 +0.7**
STHS Stebnicka Huta 59.71 314 *eP* **P 09 19 03.1 -0.4**
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 59.71 314 *eP* **P 09 19 03.1 -0.4**
VLI Veliai 59.72 300 P **P 09 19 01.7 -2.0**
TYRN Tyrnavos 59.85 303 P **P 09 19 03.7 -0.8**
AGG Agios Georgios 59.86 302 P **P 09 19 03.1 -1.6**
AGG Agios Georgios 59.86 302 *eP* **P 09 19 03.7 -1.0**
AGG Agios Georgios 59.86 302 P **P 09 19 03.9 -0.8**
AGG pmax pmax
comp=Z,16nm,1.0s
BEL Belsk 59.92 317 *eP* **P 09 19 05.2 +0.4**
BEL *eL* L 09 47 29.0
comp=Z,2μm,21.0s
BEL Belsk 59.92 317 P **P 09 19 05.8 +1.0**
BEL pmax pmax
comp=Z,167nm,1.0s
MAKR Makrakomi, Fth 60.02 302 P **P 09 19 04.6 -1.1**
WB0 Warramunga Arr 60.07 133 P **P 09 19 05.6 -0.6**
KZN Kozani 60.12 304 P **P 09 19 07.0 +0.5**
KTK1 Kautokeino 60.12 337 *eP* **P 09 19 06.6 +0.7**
KTK1 IAmb IAmb 09 19 07.7
comp=Z,21nm,0.6s
KLV Kalavryta, Ach 60.14 301 P **P 09 19 04.4 -2.2**
WRA Warramunga Arr 60.15 133 P **P 09 19 06.3 -0.5**
comp=Z,23nm,0.6s,baz=323,slow=7.4,SNR=126
WRA LR LR 09 47 37.6
comp=Z,437nm,21.7s,baz=306,slow=39
comp=Z,23nm,0.6s
WRA Warramunga Arr 60.15 133 P **P 09 19 06.2 -0.6**
WRAB Tennant Creek 60.15 133 P **P 09 19 05.2 -1.5**
WRAB Tennant Creek 60.15 133 P **P 09 19 06.6 -0.2**
WRAB Tennant Creek 60.15 133 *ceP* **P 09 19 07.0 +0.2**
WRAB pmax pmax
comp=Z,132nm,1.7s
WRAB Tennant Creek 60.15 133 P **P 09 19 06.5 -0.3**
WRAB pP **pP 09 19 17.8 +0.4**
WB2 Warramunga Arr 60.16 133 P **P 09 19 06.2 -0.6**
SKO Skopje 60.17 306 *i* P **P 09 19 06.4 -0.3**
WRKA Warakurna 60.19 142 P **P 09 19 07.4 +0.4**
WR0 Warramunga Arr 60.30 133 P **P 09 19 07.7 -0.1**
HAMF Hammerfest 60.30 339 *eP* **P 09 19 08.6 +1.6**
HAMF IAmb IAmb 09 19 09.2
comp=Z,69nm,0.7s
NIE Niedzica 60.33 314 *eP* **P 09 19 08.7 +1.0**
NIE Niedzica 60.33 314 P **P 09 19 09.0 +1.3**
NIE pmax pmax
comp=Z,20nm,0.9s
FNA Florina 60.36 304 P **P 09 19 07.1 -0.9**
FNA Florina 60.36 304 P **P 09 19 06.6 -1.5**
FNA Florina 60.36 304 *eP* **P 09 19 07.2 -0.9**
FNA Florina 60.36 304 P **P 09 19 07.1 -0.9**
MUN Mundaring 60.38 156 P **P 09 19 07.6 -0.5**
ITM Ithomi 60.45 300 P **P 09 19 07.4 -1.3**
ITM IAmb IAmb 09 19 46.6
comp=Z,44nm,0.9s
OJC Ojcow 60.61 315 *eP* **P 09 19 09.6 +0.1**
OJC *eL* L 09 44 40.3
comp=Z,2μm,24.8s
OJC Ojcow 60.61 315 P **P 09 19 09.4 -0.1**
OJC Ojcow 60.61 315 P **P 09 19 09.4 -0.1**
OJC pmax pmax
comp=Z,14nm,0.6s
KLBR Kellerberrin 60.62 155 P **P 09 19 09.2 -0.5**
PYL PYLOS 60.64 300 P **P 09 19 08.4 -1.6**
PSZ Piszkesteto 60.70 313 P **P 09 19 09.6 -0.7**
PSZ Piszkesteto 60.70 313 P **P 09 19 09.6 -0.7**
PSZ pmax pmax
comp=Z,25nm,1.1s
PSZ MLR MLR
comp=Z,1μm,19.0s
OHR Ohrid 60.75 305 *i* P **P 09 19 11.7 +0.9**
OPO Ambohidratompo 60.89 230 LR LR 09 45 27.9
comp=Z,886nm,18.5s,baz=186,slow=36
LANS Liptovska Anna 60.89 314 *eP* **P 09 19 13.0 +1.5**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 60.89 314 *eP* **P 09 19 13.0 +1.5**
DIVS Divibare 60.98 308 P **P 09 19 12.5 +0.2**
FRGS Fruska Gora 61.00 310 ⇓P **P 09 19 13.1 +0.8**
ABPO Ambohimpanom 61.16 230 P **P 09 19 11.6 -2.3**
ABPO Ambohimpanom 61.16 230 IAMs_20 IAMs_20 09 42 36.1
comp=Z,2μm,21.0s
ABPO Ambohimpanom 61.16 230 P **P 09 19 11.6 -2.3**
ABPO pmax pmax
comp=Z,28nm,1.4s
ABPO Ambohimpanom 61.16 230 P **P 09 19 14.1 +0.3**
ABPO pP **sP 09 19 25.9 -2.6**
ABPO sP **pP 09 19 31.0 +6.5**
JETT Jettan, Norway 61.21 338 *eP* **P 09 19 15.2 +1.9**
JETT IAmb IAmb 09 19 17.4
comp=Z,42nm,0.8s
LTHK Lithakia 61.22 301 P **P 09 19 12.5 -1.4**
VYHS Vyhne 61.36 313 *eP* **P 09 19 14.9 +0.2**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 61.36 313 *eP* **P 09 19 14.9 +0.2**
TIR Tirane 61.42 305 ⇑P **P 09 19 14.4 -0.8**
TIR Tirane 61.42 305 P **P 09 19 14.4 -0.8**
NWAO Narrogin (SRO) 61.61 156 LR LR 09 45 46.7
comp=Z,1μm,21.8s,slow=36
NWAO Narrogin (SRO) 61.61 156 IAmb IAmb 09 19 26.7
comp=Z,26nm,0.8s
OKC Ostrava-Krasne 61.70 315 *eP* **P 09 19 17.5 +0.6**
OKC *ex* x 09 19 35.6
OKC AMS AMS 09 49 10.0
comp=Z,1μm,17.5s
OKC Ostrava-Krasne 61.70 315 *eP* **P 09 19 17.5 +0.6**
OKC *e* 09 19 35.6
OKC MLR MLR
comp=Z,1μm,17.5s
MORH Mrgy, Hungar 61.70 311 ⇑P **P 09 19 17.4 +0.4**
PDG Podgorica 61.72 307 P **P 09 19 16.9 -0.3**
PDG IAmb IAmb 09 19 17.8
comp=Z,40nm,1.0s
TRO Tromso 61.73 338 *eP* **P 09 19 17.9 +1.1**
SRO Srobarova 61.77 313 *eP* **P 09 19 18.1 +0.7**
SRO pmax pmax
comp=Z,46nm,1.4s
SRO Srobarova 61.77 313 *eP* **P 09 19 18.1 +0.7**
MAUC Maruska 61.95 315 *eP* **P 09 19 19.5 +0.9**
MAUC AMS AMS 09 49 40.0
comp=Z,2μm,11.2s
BILL Bilibino 62.01 24 P **P 09 19 19.5 +0.8**
BILL IAmb IAmb 09 19 38.2
comp=Z,73nm,1.1s
BILL IAMs_20 IAMs_20 09 48 43.8
comp=Z,2μm,20.0s
BILL Bilibino 62.01 24*c* *i*P **P 09 19 19.5 +0.8**
BILL *i* *PP **pP 09 19 30.0 +0.7**
BILL *i* *SP **sP 09 19 34.0 +0.6**
BILL *i* 09 19 58.4
BILL *i* 09 21 36.0
BILL PPP PPP 09 23 16.0
BILL *i* S **S 09 27 42.9 +2.4**
BILL *i* PS **PnS 09 27 52.2 -6.2**

BILL pmax pmax
comp=Z,121nm,1.7s
BILL MLR MLR
comp=Z,2μm,18.0s
BILL Bilibino 62.01 24 P **P 09 19 19.6 +0.9**
BILL pP **pP 09 19 30.4 +1.1**
JAVC Velka Javorina 62.09 314 *eP* **P 09 19 20.9 +1.2**
MORC Moravsky Berou 62.09 315 IAmb IAmb 09 19 55.7
comp=Z,56nm,1.5s
MORC Moravsky Berou 62.09 315 *eP* **P 09 19 20.2 +0.5**
MORC Moravsky Berou 62.09 315 P **P 09 19 20.8 +1.1**
MORC pmax pmax
comp=Z,21nm,1.1s
SMOL Smolenice 62.29 314 *eP* **P 09 19 21.2 +0.3**
MODS Modra-Piesok 62.40 313 *eP* **P 09 19 21.7 0.0**
MODS pmax pmax
comp=Z,26nm,1.0s
MODS Modra-Piesok 62.40 313 *eP* **P 09 19 21.7 0.0**
AS31 Alice Springs 62.52 136 P **P 09 19 22.6 -0.2**
ASAR Alice Springs 62.52 136 P **P 09 19 22.6 -0.1**
comp=Z,28nm,0.6s,baz=320,slow=6.7,SNR=185
ASAR LR LR 09 49 06.8
comp=Z,365nm,20.3s,baz=311,slow=39
comp=Z,28nm,0.6s
KRLC Kraliky 62.56 315 *eP* **P 09 19 22.9 +0.2**
KRLC *epP* **sP 09 19 36.3 -1.2**
KRLC AMS AMS 09 49 30.0
comp=Z,2μm,19.0s
KRLC Kraliky 62.56 315 *eP* **P 09 19 22.9 +0.2**
KRLC *e* 09 19 36.3
KRLC MLR MLR
comp=Z,2μm,19.0s
SCTE Santa Cesarea 62.66 304 P **P 09 19 23.1 -0.4**
BLEU Blekinge 62.69 322 *i* P **P 09 19 22.5 -0.9**
VRAC Vranov 62.75 315 LR LR 09 50 28.5
comp=Z,1μm,18.7s,baz=72,slow=40
VRAC Vranov 62.75 315 *eP* **P 09 19 24.7 +0.7**
VRAC Vranov 62.75 315 P **P 09 19 25.1 +1.1**
VRAC pmax pmax
comp=Z,42nm,1.0s
KSP Ksiaz 62.80 316 *eP* **P 09 19 24.9 +0.6**
KSP *eL* L 09 45 42.5
comp=Z,2μm,29.2s
KSP Ksiaz 62.80 316 P **P 09 19 25.1 +0.8**
KSP pmax pmax
comp=Z,35nm,1.8s
DPC Dobruska-Polom 62.82 316 *eP* **P 09 19 25.4 +0.9**
DPC *eS* **S 09 27 45.0 -6.5**
DPC AMS AMS 09 49 20.0
comp=Z,2μm,19.8s
DPC Dobruska-Polom 62.82 316 *eP* **P 09 19 25.4 +0.9**
DPC *eS* **S 09 27 45.0 -6.5**
DPC MLR MLR
comp=Z,2μm,19.8s
OSTC Ostas 62.87 316 *eP* **P 09 19 25.6 +0.8**
OSTC *ex* x 09 19 34.2
OSTC *eS* **S 09 27 57.3 +5.3**
OSTC AMS AMS 09 49 20.0
comp=Z,2μm,17.7s
FAUS Fauske 62.89 335 *eP* **P 09 19 25.3 +0.8**
FAUS IAmb IAmb 09 19 25.9
comp=Z,37nm,1.0s
KRUC Moravsky 62.91 314 *eP* **P 09 19 25.5 +0.4**
STEI Steigen 62.93 336 *eP* **P 09 19 25.8 +1.0**
SOP Sopron 62.96 313 P **P 09 19 25.8 +0.4**
SOP pmax pmax
comp=Z,30nm,1.0s
UPC Upice 63.01 316 *eP* **P 09 19 25.9 +0.2**
UPC AMS AMS 09 49 30.0
comp=Z,2μm,18.2s
UPC Upice 63.01 316 *eP* **P 09 19 25.9 +0.2**
UPC MLR MLR
comp=Z,2μm,18.2s
RONA Rosalia, Austr 63.13 313 *eP* **P 09 19 26.9 +0.3**
comp=Z,19nm,1.2s
MOR8 Moi Rana 63.19 334 *eP* **P 09 19 26.5 -0.1**
MOR8 IAmb IAmb 09 19 38.1
comp=Z,47nm,1.0s
BSD Bornholm Skovb 63.27 321 *i* P **P 09 19 25.8 -1.5**
BSD IAmb IAmb 09 19 26.9
comp=Z,13nm,0.7s
PMG Port Moresby 63.31 115 P **P 09 19 28.6 +0.4**
comp=Z,12nm,0.6s,baz=321,slow=8.9,SNR=5.1
PMG LR LR 09 50 10.4
comp=Z,212nm,20.4s,baz=284,slow=39
comp=Z,12nm,0.6s
PMG Port Moresby 63.31 115 P **P 09 19 27.2 -1.0**
PMG IAmb IAmb 09 20 37.6
comp=Z,34nm,1.0s
PMG Port Moresby 63.31 115*ce*P **P 09 19 29.0 +0.8**
PMG pmax pmax
comp=Z,37nm,1.7s
PMG Port Moresby 63.31 115 P **P 09 19 28.4 +0.3**
CONA Conrad Observa 63.39 313 *i* P **P 09 19 28.5 +0.1**
comp=Z,15nm,0.9s,SNR=8.1
VOI Vohitsoka 63.42 227 P **P 09 19 29.1 +0.2**
VOI IAmb IAmb 09 19 43.7
comp=Z,30nm,0.9s
VOI IAMs_20 IAMs_20 09 45 09.7
comp=Z,1μm,19.0s
VOI Vohitsoka 63.42 227 P **P 09 19 30.6 +1.7**
VOI Vohitsoka 63.42 227 P **P 09 19 28.9 0.0**
TREC Trest 63.48 315 AMS AMS 09 50 30.0
comp=Z,1μm,18.2s
LOF Lofoten 63.57 336 *eP* **P 09 19 29.2 +0.1**
LOF IAmb IAmb 09 19 32.1
comp=Z,68nm,1.2s
SPA0 Spitsbergen Ar 63.63 347 *eP* **P 09 19 30.5 +1.1**
SPA0 IAmb IAmb 09 19 31.8
comp=Z,106nm,1.2s
SPITS Spitsbergen Ar 63.63 347 LR LR 09 53 42.5
comp=Z,2μm,18.6s,baz=95,slow=42
ARSA Arzberg 63.71 312 *eP* **P 09 19 30.7 +0.3**
comp=Z,14nm,1.0s
KONS Konsvik 63.72 334 *eP* **P 09 19 31.0 +0.9**
DEL Delary 63.76 323 *i* P **P 09 19 31.1 +0.6**
STOK Stokkvaagen 63.76 334 *eP* **P 09 19 30.6 +0.3**
GROS Grobnik 63.83 312 *i* P **P 09 19 31.4 +0.1**
GOPC GO Pecny, Ondr 63.85 315 *eP* **P 09 19 31.7 +0.4**
GOPC AMS AMS 09 50 10.0
comp=Z,2μm,17.9s
GOPC GO Pecny, Ondr 63.85 315 *eP* **P 09 19 31.7 +0.4**
GOPC MLR MLR
comp=Z,2μm,17.9s
PVCC Panska Ves 63.92 316 *eP* **P 09 19 32.2 +0.5**
PVCC AMS AMS 09 50 00.0
comp=Z,2μm,15.7s
PVCC Panska Ves 63.92 316 *eP* **P 09 19 32.2 +0.5**
PVCC MLR MLR
comp=Z,2μm,15.7s
PRU Pruhonice 64.00 315 *eP* **P 09 19 33.2 +0.9**
PRU *epP* **pP 09 19 43.1 +0.2**
PRU *eS* S 09 27 52.7 -13
PRU AMS AMS 09 50 20.0
comp=Z,2μm,19.6s
PRU Pruhonice 64.00 315 *eP* **P 09 19 33.2 +0.9**
PRU *e* 09 19 43.1
PRU MLR MLR
comp=Z,2μm,19.6s
LUNU Lund 64.06 322 *i* P **P 09 19 31.9 -0.6**
TIP Timpagrande 64.11 303 ⇑P **P 09 19 32.6 -0.6**
TIP Timpagrande 64.11 303 P **P 09 19 33.1 -0.2**
TIP IAmb IAmb 09 19 53.1
comp=Z,75nm,1.6s
SOKA Soboth 64.12 312 *eP* **P 09 19 33.4 +0.2**
comp=Z,8.3nm,0.6s
QIS Mount Isa 64.18 130 P **P 09 19 33.2 -0.6**
RUE Ruedersdorf 64.19 318 *eP* **P 09 19 34.4 +1.0**
RUE Ruedersdorf 64.19 318 *eP* **P 09 19 34.1 +0.7**
comp=Z,42nm,0.7s,baz=82,slow=6.4
MBAR Mbarara 64.20 257 LR LR 09 48 09.5
comp=Z,413nm,19.9s,baz=61,slow=37
MBAR Mbarara 64.20 257 P **P 09 19 33.2 -1.1**
MBAR Mbarara 64.20 257*ce*P **P 09 19 34.9 +0.6**
MBAR pmax pmax
comp=Z,24nm,1.7s
MBAR Mbarara 64.20 257 P **P 09 19 34.5 +0.2**
PDKS Podkum 64.23 311 *i* P **P 09 19 33.9 0.0**
RGN Rugen 64.24 321 IAMs_20 IAMs_20 09 48 50.6
comp=Z,2μm,20.0s
NSS Namsos 64.24 332 *eP* **P 09 19 34.8 +1.3**
BJUU Bjuv 64.26 322 *i* P **P 09 19 33.8 0.0**
BORU Boraas 64.26 324 *i* P **P 09 19 33.0 -0.7**
BRG Berggiesshubel 64.27 317⇑*i*P **P 09 19 34.7 +0.7**
BRG Amp 09 19 36.0
comp=Z,23nm,0.9s
BRG Berggiesshubel 64.27 317 Amp 09 19 49.1
comp=Z,20nm,1.1s
BRG Berggiesshubel 64.27 317 Amp 09 46 38.0
comp=N,2.8nm,20.2s
BRG Berggiesshubel 64.27 317⇑*i*P **P 09 19 34.7 +0.7**
BRG 09 19 44.9
BRG 09 19 50.8
BRG pmax pmax
comp=Z,23nm,0.9s
BRG Berggiesshubel 64.27 317 P P 09 19 44.9 +11
BRG Berggiesshubel 64.27 317 P P 09 19 50.8 +17
BRG Berggiesshubel 64.27 317 Amp 09 19 55.3
comp=Z,38nm,1.2s
BRG Berggiesshubel 64.27 317 Amp 09 46 24.0
comp=Z,2.6nm,31.0s
BRG Berggiesshubel 64.27 317 Amp 09 46 31.0
comp=E,2.3nm,32.0s
BRG Berggiesshubel 64.27 317 *eP* **P 09 19 34.7 +0.7**
comp=E,38nm,1.2s,baz=82,slow=6.4
CKRC Cesky Krumlov 64.30 314 *eP* **P 09 19 36.1 +1.8**
CKRC *ex* x 09 19 45.4
FABU Falkenberg 64.34 323 *i* P **P 09 19 34.0 -0.3**
MOA Molln 64.47 313 *i* P **P 09 19 35.4 0.0**
comp=E,19nm,0.7s,SNR=5.2
OBKA Obir 64.47 312 *eP* **P 09 19 35.9 +0.3**
comp=E,17nm,1.0s
KBS Kingsbay 64.60 348 IAMs_20 IAMs_20 09 52 48.6
comp=Z,1μm,20.0s
COP Copenhagen 64.63 322 *i* P **P 09 19 33.9 -2.3**
NC602 NORSAR Array S 64.65 328 *eP* **P 09 19 36.9 +0.6**
NC602 IAmb IAmb 09 19 38.4
comp=Z,47nm,1.1s
NORES NORESS Array B 64.65 328 P **P 09 19 35.6 -0.7**
NORES pmax pmax
comp=Z,2.0nm,0.3s
GEC2 GERESS Array S 64.70 314 IAmb IAmb 09 20 00.6
comp=Z,40nm,1.1s
GEC2 GERESS Array S 64.70 314 *eP* **P 09 19 37.5 +0.5**
comp=Z,28nm,0.9s,baz=82,slow=6.4
GERES GERESS Array B 64.70 314 P **P 09 19 37.5 +0.5**
comp=Z,18nm,0.8s,baz=87,slow=5.5,SNR=43
GERES LR LR 09 51 37.6
comp=Z,1μm,18.1s,baz=72,slow=40
comp=Z,18nm,0.8s
KHC Kasperske Hory 64.74 315 *eP* **P 09 19 37.4 +0.3**
KHC *epP* **sP 09 19 51.6 -0.3**
KHC *eS* **S 09 28 17.2 +1.9**
KHC AMS AMS 09 47 20.0
comp=Z,1μm,19.4s
KHC Kasperske Hory 64.74 315 *eP* **P 09 19 37.4 +0.3**
KHC *e* 09 19 51.6
KHC *eS* **S 09 28 17.2 +1.9**
KHC MLR MLR
comp=Z,1μm,19.4s
ONAU Onsala 64.74 324 *i* P **P 09 19 36.0 -0.9**
NB2 NORSAR Subarra 64.78 328 P **P 09 19 34.0 -3.2**
NB2 pmax pmax
comp=Z,8.0nm,1.1s
NB2 NORSAR Subarra 64.78 328 P **P 09 19 36.9 -0.3**
comp=Z,16nm,0.7s,baz=85,slow=6.5
NB2 NORSAR Subarra 64.78 328 P **P 09 19 36.9 -0.3**
slow=6.5
NOA NORSAR Array B 64.78 328 P **P 09 19 37.2 0.0**
comp=Z,22nm,0.8s,baz=86,slow=6.5,SNR=57
NOA LR LR 09 49 59.8
comp=Z,2μm,20.2s,baz=90,slow=38
comp=Z,22nm,0.8s
LLD Lille Linde 64.79 322 *i* P **P 09 19 34.0 -3.3**
LLD IAmb IAmb 09 19 35.3
comp=Z,42nm,0.9s
CLL Collm 64.81 317 IAMs_20 IAMs_20 09 50 45.7
comp=Z,2μm,20.0s
CLL Collm 64.81 317 *i* P **P 09 19 37.5 0.0**
comp=Z,21nm,1.1s
CLL *epP* **pP 09 19 47.0 -1.1**
CLL *eS*P **sP 09 19 54.0 +1.8**
CLL *i* PcP **PcP 09 20 13.0 +2.3**
comp=Z,26nm,1.1s
CLL *ePP* **PP 09 22 01.0 +1.0**
CLL *eS* **S 09 28 18.0 +2.1**
CLL *eSS* **SS 09 32 30.0 +2.9**
CLL *eSSS* SSS 09 35 30.0
CLL *eSSSS* 09 36 24.0
CLL LmV 09 50 00.0
comp=Z,2μm,21.4s
CLL Collm 64.81 317 *i* P **P 09 19 37.5 0.0**
CLL *e**PP **pP 09 19 47.0 -1.1**
CLL *i* 09 20 13.0
CLL *eS* **S 09 28 18.0 +2.1**
CLL pmax pmax
comp=Z,21nm,1.1s
CLL MLR MLR
comp=Z,2μm,21.4s
CLL Collm 64.81 317 *eP* **P 09 19 37.6 +0.2**
comp=Z,32nm,1.2s,baz=82,slow=6.4
KRVT Keravat (AS076 64.86 107 LR LR 09 46 10.0
comp=Z,383nm,21.7s,baz=61,slow=34
BIOA Bad Ischl, Aus 64.91 313 *eP* **P 09 19 38.3 0.0**
comp=Z,12nm,1.1s
CEL Celeste 64.96 302 P **P 09 19 39.1 +0.3**
NAO01 NORSAR Array S 64.96 328 P **P 09 19 38.1 -0.2**
NAO01 IAmb IAmb 09 20 02.7
comp=Z,46nm,1.1s
STRU Stroemstad 64.97 326 *i* P **P 09 19 38.1 -0.2**
NC204 NORSAR Array S 64.98 328 P **P 09 19 38.2 -0.4**
NC204 IAmb IAmb 09 20 01.5
comp=Z,29nm,0.8s
NBO00 NORSAR Array S 65.00 328 P **P 09 19 38.4 -0.2**
NBO00 IAmb IAmb 09 20 29.4
comp=Z,73nm,1.4s
CADS Cadrg 65.08 311 *i* P **P 09 19 39.2 -0.1**
MYKA Terra Mystica 65.08 312 *eP* **P 09 19 40.1 +0.7**
comp=Z,4.1nm,0.7s
OSL Oslo 65.12 327 *e* **P 09 19 40.4 +1.0**
KBA Koelnbreinsper 65.20 312 *eP* **P 09 19 40.0 -0.4**
comp=Z,12nm,1.1s
TANN Tannenbergstha 65.27 316 *eP* **P 09 19 41.2 +0.6**
comp=Z,20nm,1.1s,baz=82,slow=6.4
NKC Novy Kostel 65.31 316 *eP* **P 09 19 41.5 +0.7**
NKC AMS AMS 09 50 50.0
comp=Z,2μm,17.4s
NKC Novy Kostel 65.31 316 *eP* **P 09 19 41.5 +0.7**
NKC MLR MLR
comp=Z,2μm,17.4s
WERN Wernitzgruen 65.34 316 *eP* **P 09 19 41.5 +0.4**
comp=Z,21nm,1.1s,baz=82,slow=6.4
GUNZ Gunzen 65.36 316 *eP* **P 09 19 41.9 +0.7**
comp=Z,28nm,0.9s,baz=82,slow=6.4
WERD Werda 65.36 316 *eP* **P 09 19 41.9 +0.7**
comp=Z,25nm,1.0s,baz=82,slow=6.4
PLN Plauen 65.45 316 *eP* **P 09 19 42.4 +0.6**
comp=Z,28nm,1.3s,baz=82,slow=6.4
ROTZ Rotzenmuhle 65.53 315 *eP* **P 09 19 43.3 +1.1**
comp=Z,9.4nm,1.0s,baz=82,slow=6.4
MANZ Manzenberg 65.56 316 *eP* **P 09 19 43.4 +0.9**
comp=Z,18nm,1.7s,baz=82,slow=6.4
NEUB Neuenburg 65.58 317 *eP* **P 09 19 43.3 +0.8**
comp=Z,34nm,0.9s,baz=82,slow=6.4
KONO Kongsberg 65.72 326 *eP* **P 09 19 43.7 +0.5**
DOMB Dombas 65.72 329 *eP* **P 09 19 43.7 +0.5**
DOMB IAmb IAmb 09 19 45.7
comp=Z,46nm,1.1s
FLTG Flechtingen 65.75 318 *eP* **P 09 19 43.7 +0.2**
comp=Z,39nm,1.1s,baz=82,slow=6.4
MOX Moxa 65.77 316 *eP* **P 09 19 44.4 +0.6**
comp=Z,20nm,1.0s,baz=82,slow=6.4
MOX *eL* L 09 51 18.6
comp=Z,1μm,21.1s
STAL STALIGIAL 65.77 312 IAmb IAmb 09 19 44.5
comp=Z,44nm,1.0s
ABTA Abfaltersbach 65.82 312 *eP* **P 09 19 43.4 -0.9**
comp=Z,15nm,1.0s
CIMO Cimolais 65.95 312 IAmb IAmb 09 19 45.8
comp=Z,30nm,1.0s
BSEG Bad Segeberg 66.06 320 *eP* **P 09 19 46.8 +1.3**
comp=Z,49nm,0.9s,baz=82,slow=6.4
FDMO Fiordimonte 66.10 308 IAmb IAmb 09 19 47.5
comp=Z,44nm,1.0s
NRCA Norcia 66.12 308 IAmb IAmb 09 20 34.1
comp=Z,37nm,1.0s
GRA1 Grafenberg Arr 66.17 316 IAmb IAmb 09 20 30.0
comp=Z,57nm,1.2s
GRA1 IAMs_20 IAMs_20 09 51 55.8
comp=Z,2μm,20.0s
GRF Grafenberg Arr 66.17 316 *eP* **P 09 19 47.4 +1.0**

comp=Z,306nm,2.5s,baz=82,slow=6.4
GRF eL L 09 50 38.6

GRFO Grafenberg 66.17 316 P **P** **09 19 47.9 +1.5**
GRFO IAmb IAmb 09 20 29.9
comp=Z,58nm,1.2s
GRFO IAMs_20 IAMs_20 09 51 55.9
comp=Z,2µm,19.0s
GRFO Grafenberg 66.17 316 P **P** **09 19 47.9 +1.5**
GRFO pmax pmax
comp=Z,58nm,1.2s
GRFO MLR MLR
comp=Z,2µm,19.0s
SKAR Skarslia 66.24 328 *e*P **P** **09 19 47.6 +0.9**
SKAR IAmb IAmb 09 19 49.8
comp=Z,30nm,1.0s
VAE Valguarnera 66.27 302 LR LR 09 53 44.3
comp=Z,439nm,19.1s,baz=14,slow=40
WTTA Wattenberg 66.32 313 *e*P **P** **09 19 47.1 -0.4**
comp=Z,27nm,1.1s
MUD Monsted U'grnd 66.35 323 *i* P **P** **09 19 47.8 +0.5**
MUD IAmb IAmb 09 19 48.6
comp=Z,18nm,0.6s
WATA Walderalm 66.35 313 *e*P **P** **09 19 46.7 -1.0**
comp=Z,8.7nm,0.6s
CLZ Clausthal 66.35 318 *e*P **P** **09 19 48.4 +0.9**
comp=Z,41nm,0.8s,baz=82,slow=6.4
RAFF Raffo Rosso 66.37 302 P **P** **09 19 48.9 +1.0**
NRDL Niedersach Rie 66.41 319 *e*P **P** **09 19 49.0 +1.3**
comp=Z,125nm,1.4s,baz=82,slow=6.4
MURB Monte Urbino 66.46 308 P **P** **09 19 49.9 +1.5**
SHEM Shemya Is, Ala 66.51 41 P **P** **09 19 49.8 +1.4**
comp=Z,28nm,0.8s,baz=310,slow=7.3,SNR=2.1
SHEM LR LR 09 51 05.3
comp=Z,465nm,19.1s,baz=278,slow=38
comp=Z,28nm,0.8s
SMY Shemya 66.51 41 P **P** **09 19 47.4 -1.0**
SMY Shemya 66.51 41 P **P** **09 19 47.4 -1.0**
SMY pmax pmax
comp=Z,373nm,1.5s
CTI Castel Tesino 66.53 312 P **P** **09 19 49.0 +0.1**
CTI IAmb IAmb 09 20 06.9
comp=Z,27nm,0.9s
CTI Castel Tesino 66.53 312 P **P** **09 19 49.0 +0.1**
CTI pmax pmax
comp=Z,27nm,0.9s
OOD Oodnadatta 66.61 138 P **P** **09 19 49.7 +0.4**
SQTA Sankt Quirin 66.61 313 *e*P **P** **09 19 48.9 -0.5**
comp=Z,11nm,0.5s
GTTG Gottingen 66.65 318 *e*P **P** **09 19 50.2 +0.9**
comp=Z,48nm,1.2s,baz=82,slow=6.4
TEOL Teolo 66.65 311 P **P** **09 19 49.2 -0.3**
MOTA Moosalm 66.66 313 *i* P **P** **09 19 49.1 -0.7**
comp=Z,23nm,0.9s,SNR=6.7
AKN Aaknes 66.67 329 *e*P **P** **09 19 52.0 +2.7**
RETA Reutte 66.86 313 *i* P **P** **09 19 50.5 -0.4**
comp=Z,16nm,0.8s,SNR=5.9
FETA Feichten 66.97 313 *e*P **P** **09 19 51.4 -0.4**
comp=Z,16nm,1.0s
SNART Snartemo 67.12 325 *i* P **P** **09 19 52.1 -0.1**
SNART Snartemo 67.12 325 *e*P **P** **09 19 53.4 +1.2**
HYA Hoyanger 67.20 328 *e* **P** **09 19 53.3 +0.7**
UBR Ueberruh 67.26 314 *e*P **P** **09 19 53.2 -0.2**
comp=Z,20nm,0.8s,baz=82,slow=6.4
OSSC Osservatorio P 67.32 309 P **P** **09 19 55.0 +1.2**
OSSC IAmb IAmb 09 20 27.3
comp=Z,58nm,1.2s
BLS5 Blasjo 67.33 326 *e* **P** **09 19 54.8 +1.2**
FUORN Ofenpass-Fuorn 67.37 312 P **P** **09 19 54.4 +0.1**
SALO Salr 67.39 311 P **P** **09 19 54.8 +0.5**
MULG Mulgathing 67.47 141 P **P** **09 19 54.6 -0.2**
DAVA Damuels 67.49 313 *i* P **P** **09 19 54.8 -0.2**
comp=Z,27nm,0.9s,SNR=5.1
DAVOX Davos/Dischmat 67.59 313 LR LR 09 53 52.8
comp=Z,1µm,18.4s,baz=62,slow=40
STU Stuttgart 67.65 315 P **P** **09 19 56.4 +0.6**
STU IAmb IAmb 09 19 57.4
comp=Z,26nm,0.7s
STU Stuttgart 67.65 315 P **P** **09 19 56.4 +0.6**
STU pmax pmax
comp=Z,26nm,0.7s
STU MLR MLR
comp=Z,1µm,21.0s
STU Stuttgart 67.65 315 *e*P **P** **09 19 56.3 +0.6**
comp=Z,67nm,0.8s,baz=82,slow=6.4
TNS Taunus Mts 67.84 316 *e*P **P** **09 19 57.7 +0.6**
comp=Z,27nm,0.8s,baz=82,slow=6.4
IBBN Ibbenburen 67.86 319 *e*P **P** **09 19 57.9 +0.9**
comp=Z,32nm,0.9s,baz=82,slow=6.4
TUE Stuetta 68.02 312 IAMs_20 IAMs_20 09 50 52.7
comp=Z,2µm,22.0s
BFO Black Forest 68.30 314 P **P** **09 19 59.7 -0.2**
BUG Bochum--Univer 68.33 318 *e*P **P** **09 20 00.7 +0.8**
comp=Z,39nm,1.1s,baz=82,slow=6.4
TV1H Townsville Har 68.63 124 P **P** **09 20 03.5 +1.3**
comp=Z,23nm,1.2s
AHRW Bad Neuenahr-A 68.63 317 *e*P **P** **09 20 03.0 +1.1**
comp=Z,27nm,1.0s,baz=82,slow=6.4
CTA Charters Tower 68.72 125 P **P** **09 20 02.7 -0.1**
comp=Z,18nm,1.0s,baz=317,slow=7.4,SNR=15
comp=Z,18nm,1.0s
CTA Charters Tower 68.72 125 P **P** **09 20 02.5 -0.3**
CTAO Charters Tower 68.72 125 P **P** **09 20 02.8 -0.1**
CTAO IAmb IAmb 09 20 14.4
comp=Z,63nm,1.3s
CTAO Charters Tower 68.72 125 P **P** **09 20 02.6 -0.3**
CTAO Charters Tower 68.72 125 P **P** **09 20 02.8 -0.1**
CTAO pmax pmax
comp=Z,63nm,1.3s
CTAO Charters Tower 68.72 125 P **P** **09 20 02.8 -0.1**
CTAO pP **pP** **09 20 13.3 -0.3**
CDF Champ du Feu 68.97 315 *e*P **P** **09 20 03.6 -0.5**
CDF pmax pmax
comp=Z,18nm,0.9s
NOR Nord 68.98 351 *i* P **P** **09 20 02.4 -1.2**
NOR IAmb IAmb 09 20 03.9
comp=Z,4.4nm,0.6s
ECH Echery 69.09 315 P **P** **09 20 04.8 0.0**
ECH Echery 69.09 315 P **P** **09 20 04.8 0.0**
ECH pmax pmax
comp=Z,15nm,0.9s
ECH Echery 69.09 315 P **P** **09 20 04.7 -0.1**
PGF Pioggiola 69.14 308 *e*P **P** **09 20 04.7 -0.7**
PGF pmax pmax
comp=Z,29nm,0.9s
BTNL Ternell 69.21 317 *d*P **P** **09 20 05.9 +0.4**
MEM Membach 69.28 317 *d*P **P** **09 20 06.4 +0.5**
comp=Z,23nm,0.8s
HINF Hinteralfeld 69.38 314 *e*P **P** **09 20 06.3 -0.3**
HINF pmax pmax
comp=Z,25nm,1.4s
WLF Walferdange 69.41 316 P **P** **09 20 07.8 +1.1**
WLF IAMs_20 IAMs_20 09 52 25.3
comp=Z,1µm,20.0s
WLF Walferdange 69.41 316 P **P** **09 20 07.8 +1.1**
WLF pmax pmax
comp=Z,94nm,1.1s
WLF MLR MLR
comp=Z,1µm,20.0s
WLF Walferdange 69.41 316 *d*P **P** **09 20 08.2 +1.5**
WLF Walferdange 69.41 316 *e*P **P** **09 20 07.9 +1.2**
comp=Z,61nm,1.0s,baz=82,slow=6.4
SENIN Lac Senin/Sane 69.42 313 P **P** **09 20 07.4 +0.2**
BSTI Sart Tilman 69.56 317 *d*P **P** **09 20 08.7 +1.1**
HAU Haudompre 69.66 314 *e*P **P** **09 20 07.8 -0.6**
HAU pmax pmax
comp=Z,21nm,0.8s
INKA Innaminka 69.76 135 P **P** **09 20 09.1 0.0**
BCLA Clavier 69.76 317 *d*P **P** **09 20 10.1 +1.2**
BCLA *d*pP **pP** **09 20 18.7 -0.9**
BCLA *d*sP **sP** **09 20 22.6 -1.1**
BCLA *d*PcP **PcP** **09 20 30.5 -0.9**
RCHB Rochefort 69.87 317 *d*P **P** **09 20 10.3 +0.7**
RCHB *d*PcP **PcP** **09 20 30.5 -1.4**
BGES Gesves 69.91 317 *d*P **P** **09 20 10.1 +0.3**
LPL La Plagne 70.01 312 *e*P **P** **09 20 10.6 -0.2**
LPL pmax pmax
comp=Z,29nm,0.8s
LCRK Leigh Creek 70.05 138 P **P** **09 20 10.8 0.0**
BMRD Maredsous 70.12 317 *d*P **P** **09 20 11.5 +0.4**
comp=Z,15nm,0.9s
GIVF Givet 70.14 317 *e*P **P** **09 20 11.2 0.0**
GIVF pmax pmax
comp=Z,18nm,0.8s
BNI Bardonecchia 70.16 311 P **P** **09 20 11.8 +0.2**
BNI pmax pmax
comp=Z,23nm,1.0s
CABF La Chapelle 70.17 313 *e*P **P** **09 20 11.3 -0.3**
CABF pmax pmax
comp=Z,35nm,1.4s
MBDF Montbardon 70.18 311 *e*P **P** **09 20 11.2 -0.6**
MBDF pmax pmax
comp=Z,16nm,0.7s
DOU Dourbes 70.28 317 *d*P **P** **09 20 12.9 +0.8**
DOU *d*PcP **PcP** **09 20 33.0 -0.6**
BBOO Buckleboo 70.49 142 P **P** **09 20 14.9 +1.4**
BAIF Baives 70.53 317 *e*P **P** **09 20 13.6 0.0**
BAIF pmax pmax
comp=Z,21nm,0.9s
KEST Kesra 70.65 301 P **P** **09 20 15.4 +0.7**
comp=Z,55nm,0.9s,baz=316,slow=2.2,SNR=37
comp=Z,55nm,0.9s
KEST Kesra 70.65 301 P **P** **09 20 15.3 +0.6**
SNR=7.8
KEST P **P** **09 20 15.3 +0.6**
SNR=7.8
LMR La Mourre 70.72 310 *e*P **P** **09 20 15.5 +0.6**
LMR pmax pmax
comp=Z,37nm,1.0s
ORIF Oris-en-Rattie 70.74 311 *e*P **P** **09 20 16.0 +0.9**
ORIF pmax pmax
comp=Z,10.0nm,0.8s
JMIC Jan Mayen 70.79 340 LR LR 09 56 45.0
comp=Z,752nm,18.6s,baz=64,slow=40
QLP Quilpie 71.32 132 P **P** **09 20 19.4 +0.8**
GAMB Gambell 71.39 28 IAMs_20 IAMs_20 09 50 09.8
comp=Z,1µm,19.0s
LOR Lormes 71.48 314 *e*P **P** **09 20 18.7 -0.8**
LOR pmax pmax
comp=Z,15nm,0.8s
SSB Saint Sauveur 71.56 312 P **P** **09 20 20.0 0.0**
SSB Saint Sauveur 71.56 312 P **P** **09 20 20.0 0.0**
SSB pmax pmax
comp=Z,19nm,0.7s
SSB Saint Sauveur 71.56 312 P **P** **09 20 20.1 0.0**
VIVF Saint-Julien-l 71.59 312 *e*P **P** **09 20 19.7 -0.5**
VIVF pmax pmax
comp=Z,21nm,0.9s
SSF Saint Saulge 71.77 314 *e*P **P** **09 20 20.7 -0.5**
SSF pmax pmax
comp=Z,49nm,0.8s
AVF Avril sur Loir 71.94 314 *e*P **P** **09 20 21.6 -0.6**
AVF pmax pmax
comp=Z,22nm,0.8s
CLF Chambon-Foret 72.31 315 IAmb IAmb 09 20 25.8
comp=Z,49nm,0.7s
BGF Bois d'Agland 72.34 314 *e*P **P** **09 20 24.1 -0.5**
BGF pmax pmax
comp=Z,26nm,1.0s
HTT Hallett 72.59 140 P **P** **09 20 27.4 +1.2**
DBG Daneborg 72.74 345 *i* P **P** **09 20 26.6 +0.1**
DBG IAmb IAmb 09 20 28.9
comp=Z,3.2nm,1.0s
TCF Toulx Ste Croi 72.84 313 *e*P **P** **09 20 27.6 0.0**
TCF pmax pmax
comp=Z,51nm,0.8s
STKA Stephens Creek 73.12 137 P **P** **09 20 29.2 -0.1**
comp=Z,8.2nm,0.8s,baz=288,slow=6.0,SNR=7.6
STKA LR LR 09 56 25.9
comp=Z,1µm,20.9s,baz=300,slow=39
comp=Z,8.2nm,0.8s
STKA Stephens Creek 73.12 137 P **P** **09 20 28.6 -0.7**
STKA Stephens Creek 73.12 137 P **P** **09 20 29.6 +0.3**
CAF Calviac 73.34 312 *e*P **P** **09 20 30.6 0.0**
CAF pmax pmax
comp=Z,23nm,0.8s
EKA Eskdalemuir Ar 73.36 324 LR LR 09 58 33.0
comp=Z,1µm,18.5s,baz=73,slow=40
EKA Eskdalemuir Ar 73.36 324 *e*P **P** **09 20 30.8 +0.3**
LSZ Lusaka 73.56 245 LR LR 09 52 20.1
comp=Z,788nm,18.8s,baz=66,slow=35
SET Setif 73.58 303 P **P** **09 20 33.0 +0.8**
RJF Les Rejaudoux 73.60 313 *e*P **P** **09 20 32.4 +0.3**
RJF pmax pmax
comp=Z,36nm,0.8s
LDF La Druitiere 73.66 316 *e*P **P** **09 20 31.9 -0.5**
LDF pmax pmax
comp=Z,37nm,0.8s
MTLF Montolieu 73.72 311 *e*P **P** **09 20 32.6 -0.2**
MTLF pmax pmax
comp=Z,32nm,0.8s
ANM Nome 73.75 26 P **P** **09 20 32.1 -0.5**
baz=292
FLN La Foliniere 73.84 317 *e*P **P** **09 20 35.2 +1.8**
FLN pmax pmax
comp=Z,11nm,0.8s
RK1H Rockhampton Ha 73.84 125 P **P** **09 20 35.6 +1.9**
comp=Z,34nm,1.2s
A21K Barrow 73.92 18 IAMs_20 IAMs_20 09 57 21.6
comp=Z,2µm,18.0s
A21K Barrow 73.92 18 P **P** **09 20 34.5 +1.1**
baz=298,SNR=7.7
SPIA Saint Paul Isl 74.14 34 P **P** **09 20 34.3 -0.7**
baz=290
GRR Gorron 74.19 316 *e*P **P** **09 20 35.0 -0.5**
GRR pmax pmax
comp=Z,22nm,0.9s
HNR Honiara 74.20 108 LR LR 09 52 11.9
comp=Z,4µm,21.2s,baz=270,slow=35
LFF La Frestale 74.23 312 *e*P **P** **09 20 35.9 +0.1**
LFF pmax pmax
comp=Z,31nm,0.6s
MFF Saint Martin d 74.30 314 *e*P **P** **09 20 35.7 -0.4**
MFF pmax pmax
comp=Z,17nm,0.7s
RMQ Roma 74.41 129 P **P** **09 20 38.8 +1.8**
SCO Scoresbysund 75.06 341 *i* P **P** **09 20 41.0 +0.9**
SCO IAmb IAmb 09 20 41.8
comp=Z,3.8nm,0.8s
EPF Esparros 75.12 311 *e*P **P** **09 20 39.9 -1.2**
EPF pmax pmax
comp=Z,7.0nm,1.0s
SGMF Saint Gilles 75.31 316 *e*P **P** **09 20 42.9 +1.0**
SGMF pmax pmax
comp=Z,25nm,0.8s
EIDS Eidsvold 75.43 127 P **P** **09 20 43.9 +1.0**
MOPA Mopani 75.48 236 *i* P **P** **09 20 43.2 -0.1**
MOPA Mopani 75.48 236 *e*P **P** **09 20 44.3 +1.0**
MOPA IAmb IAmb 09 20 55.5
comp=Z,21nm,1.2s
CMSA Cobar Meteorol 75.49 135 P **P** **09 20 43.7 +0.6**
AULRC Lightning Ridg 75.68 132 P **P** **09 20 46.9 +2.7**
ROSF Rostrenen 75.73 317 *e*P **P** **09 20 44.2 -0.2**
ROSF pmax pmax
comp=Z,36nm,0.7s
ETSF Etsaut 75.79 311 *e*P **P** **09 20 44.9 0.0**
ETSF pmax pmax
comp=Z,14nm,0.6s
QUIF Quistinic 75.81 316 *e*P **P** **09 20 44.3 -0.5**
QUIF pmax pmax
comp=Z,45nm,1.3s
EUNU Eureka 76.05 360 P **P** **09 20 47.0 +1.3**
EUNU IAmb IAmb 09 21 12.8
comp=Z,52nm,1.1s
SJPF Ste Jean 76.17 311 *e*P **P** **09 20 47.3 +0.3**
SJPF pmax pmax
comp=Z,23nm,1.2s
NEEM North Greenlan 76.32 352 *i* P **P** **09 20 47.8 +0.1**
NEEM IAmb IAmb 09 20 53.4
comp=Z,18nm,0.7s
CNG Changalane 76.48 233 *e*P **P** **09 20 49.9 +1.0**
CNG IAmb IAmb 09 21 12.1
comp=Z,55nm,2.0s
D23K Nanushuk River 76.87 19 P **P** **09 20 52.0 +1.6**
baz=304
F21K Alatna River 76.92 21 P **P** **09 20 51.9 +1.1**
baz=301
GCSA Galena City Sc 76.97 24 P **P** **09 20 52.2 +1.1**
baz=299
C24K Franklin Bluff 77.02 18 P **P** **09 20 52.3 +1.1**
baz=305,SNR=14
F22K John River 77.20 21 P **P** **09 20 53.8 +1.4**
baz=302
G21K Allakaket 77.28 22 P **P** **09 20 53.9 +1.1**
baz=302
D24K Happy Valley 77.31 19 P **P** **09 20 54.2 +1.2**
baz=305,SNR=23
UNV Unalaska Valle 77.35 37 P **P** **09 20 54.9 +1.5**
baz=293
IMAR Indian Mountai 77.48 22 P **P** **09 20 54.8 +0.9**
E23K Chandalar 77.70 20 P **P** **09 20 56.7 +1.4**
baz=305
G22K Bettles 77.74 21 P **P** **09 20 56.1 +0.8**
baz=303
BORG Borgarnes 77.78 336 LR LR 09 56 02.4
comp=Z,754nm,20.1s,baz=57,slow=36
D25K Kavik River 77.92 18 P **P** **09 20 56.9 +0.5**
baz=307
CART Cartagena 77.95 306 P **P** **09 20 56.5 -0.5**
CART IAmb IAmb 09 20 58.5
comp=Z,60nm,0.8s
C26K Camden Bay 77.95 17 P **P** **09 20 58.4 +2.0**
baz=308
SUMG Summit 77.96 346 *i* P **P** **09 20 56.2 -0.8**
SUMG IAmb IAmb 09 20 58.1
comp=Z,11nm,0.9s
H21K Melozitna Rive 77.98 23 P **P** **09 20 58.1 +1.3**
H21K Melozitna Rive 77.98 23 P **P** **09 20 58.3 +1.5**
baz=302
COLD Coldfoot 77.99 21 P **P** **09 20 58.0 +1.2**
baz=304
E24K Your Creek 78.04 20 P **P** **09 20 58.7 +1.6**
baz=306
TTA Tatalina 78.20 26 P **P** **09 20 59.5 +1.4**
baz=300
N16K Nishlik Lake 78.25 29 P **P** **09 20 59.3 +0.9**
baz=298
J20K Nowinta River 78.28 24 P **P** **09 20 59.0 +0.5**
J20K IAmb IAmb 09 21 15.5
comp=Z,99nm,1.8s
J20K Nowinta River 78.28 24 P **P** **09 20 59.9 +1.5**
baz=301
G23K Bananza Creek 78.34 21 P **P** **09 20 59.9 +1.1**
baz=304
H22K Ishtalitna Cre 78.35 22 P **P** **09 20 59.8 +1.0**
baz=304
LEPH Lephalale, Lim 78.41 237 *e*P **P** **09 21 00.0 +0.2**
LEPH IAmb IAmb 09 21 19.7
comp=Z,26nm,0.9s
C27K Jago River 78.46 17 P **P** **09 21 00.9 +1.6**
baz=310
I21K Tanana 78.53 23 P **P** **09 21 00.7 +0.9**
I21K IAmb IAmb 09 21 14.9
comp=Z,62nm,0.9s
I21K Tanana 78.53 23 P **P** **09 21 01.3 +1.5**
baz=303
F24K Squaw Lake 78.55 20 P **P** **09 21 01.5 +1.6**
baz=306
FALS False Pass 78.57 35 P **P** **09 21 00.6 +0.5**
baz=296
K20K Telida 78.74 25 P **P** **09 21 01.7 +0.7**
K20K IAmb IAmb 09 21 16.1
comp=Z,40nm,1.1s
K20K Telida 78.74 25 P **P** **09 21 02.7 +1.7**
baz=302
E25K Arctic Village 78.89 19 P **P** **09 21 03.1 +1.4**
baz=308,SNR=16
TULEG Thule 78.90 355 IAMs_20 IAMs_20 09 58 16.2
comp=Z,895nm,20.0s
TULEG Thule 78.90 355 *i* P **P** **09 21 01.3 -0.3**
TULEG IAmb IAmb 09 21 01.9
comp=Z,9.6nm,0.7s
O16K Kokwok River B 78.97 29 P **P** **09 21 03.3 +1.0**
baz=299
NWCL Newcastle 78.98 233 *e*P **P** **09 21 04.4 +1.4**
NWCL IAmb IAmb 09 21 23.7
comp=Z,217nm,2.4s
H23K Yukon River 79.01 22 P **P** **09 21 02.4 -0.1**
H23K IAmb IAmb 09 21 15.9
comp=Z,39nm,0.9s
H23K Yukon River 79.01 22 P **P** **09 21 04.5 +2.0**
baz=305
L19K White Mountain 79.05 26 P **P** **09 21 03.8 +1.1**
L19K IAMs_20 IAMs_20 09 59 51.1
comp=Z,2µm,20.0s
L19K White Mountain 79.05 26 P **P** **09 21 04.4 +1.7**
baz=301
MLY Manley 79.05 23 P **P** **09 21 03.6 +0.8**
MLY IAmb IAmb 09 21 17.5
comp=Z,67nm,0.9s
MLY Manley 79.05 23 P **P** **09 21 04.2 +1.5**
baz=304,SNR=40
CHUM Lake Minchumin 79.12 24 P **P** **09 21 04.7 +1.7**
baz=303,SNR=13
G24K Hadweenzic Riv 79.17 20 P **P** **09 21 04.9 +1.6**
baz=307
F25K Christian River 79.19 19 P **P** **09 21 04.8 +1.3**
baz=308
L20K Farewell, AK 79.28 26 P **P** **09 21 05.4 +1.4**
baz=302
P16K Nushagak River 79.29 30 P **P** **09 21 04.4 +0.4**
baz=299
SVW2 Sparrevohn 79.31 27 P **P** **09 21 04.6 +0.4**
SVW2 IAmb IAmb 09 21 33.4
comp=Z,87nm,1.6s
TOO Toolangi 79.32 139 P **P** **09 21 04.5 0.0**
TOO Toolangi 79.32 139 P **P** **09 21 06.2 +1.7**
TOO Toolangi 79.32 139 P **P** **09 21 04.5 0.0**
TOO pmax pmax
comp=Z,36nm,1.2s
O17K Koliganek Bris 79.33 29 P **P** **09 21 05.8 +1.5**
baz=300
ESDC Sonseca Array 79.33 309 P **P** **09 21 05.1 +0.3**
comp=Z,6.6nm,0.8s,baz=55,slow=5.3,SNR=26
ESDC LR LR 10 02 49.4
comp=Z,401nm,18.3s,baz=48,slow=41
comp=Z,6.6nm,0.8s
M19K Big River Lodg 79.38 26 IAMs_20 IAMs_20 09 59 30.0
comp=Z,2µm,22.0s
M19K Big River Lodg 79.38 26 P **P** **09 21 05.8 +1.3**
baz=302
CAST Castle Rocks 79.46 24 P **P** **09 21 05.9 +1.0**
CAST IAmb IAmb 09 21 18.1
comp=Z,45nm,0.8s
CAST IAMs_20 IAMs_20 10 00 10.2
comp=Z,2µm,19.0s
CAST Castle Rocks 79.46 24 P **P** **09 21 06.2 +1.3**
baz=303,SNR=25
I23K Minto, Yukon-K 79.47 22 P **P** **09 21 05.8 +0.9**
baz=305,SNR=16
BPAW Bear Paw Mtn. 79.49 23 IAmb IAmb 09 21 19.6
comp=Z,55nm,0.9s
BPAW Bear Paw Mtn. 79.49 23 P **P** **09 21 06.3 +1.2**
baz=304
H24K Noodor Dome 79.56 21 P **P** **09 21 06.9 +1.4**
baz=306
KULLO Kullorsuaq 79.56 352 *i* P **P** **09 21 05.2 -0.1**
KULLO IAmb IAmb 09 21 05.8
comp=Z,13nm,0.8s
G25K Bearman Lake 79.57 20 P **P** **09 21 07.3 +1.9**
baz=308
F26K Sheenjek River 79.58 19 P **P** **09 21 07.1 +1.6**
baz=310
HRAO HartRAO 79.59 236 *e*P **P** **09 21 06.2 -0.2**
HRAO IAmb IAmb 09 21 26.6
comp=Z,31nm,1.0s
BMAR Burnt Mountain 79.62 19 P **P** **09 21 06.7 +0.9**
PPLA Purkeypile 79.71 25 P **P** **09 21 07.0 +0.6**
PPLA Purkeypile 79.71 25 P **P** **09 21 07.7 +1.2**
baz=303
KTH Kantishna Hill 79.82 24 P **P** **09 21 07.6 +0.7**
KTH IAmb IAmb 09 21 22.4
comp=Z,117nm,1.8s
SDPT Sand Point 79.86 34 P **P** **09 21 08.8 +1.6**
baz=298
NEA2 Nenana 79.89 23 P **P** **09 21 07.9 +0.6**
baz=306,SNR=21
M20K Styx River 79.89 26 P **P** **09 21 07.3 -0.1**
M20K IAMs_20 IAMs_20 09 59 46.5
comp=Z,2µm,21.0s
M20K Styx River 79.89 26 P **P** **09 21 08.8 +1.4**
baz=303,SNR=5.3
P17K Kvichak River 79.91 29 P **P** **09 21 09.6 +2.2**
baz=300
N19K Bonanza Creek 79.91 27 P **P** **09 21 08.9 +1.4**
baz=302
FYU Fort Yukon 79.96 20 IAMs_20 IAMs_20 09 59 10.4
comp=Z,921nm,19.0s
E27K Coleen River 79.99 18 P **P** **09 21 09.1 +1.3**
baz=312
CAN Canberra 80.03 136 IAMs_20 IAMs_20 10 00 13.8
comp=Z,2µm,22.0s
Q16K King Salmon 80.07 30 P **P** **09 21 09.0 +0.7**
baz=300
O18K Koktuh Hills 80.11 28 P **P** **09 21 09.9 +1.3**
baz=301
TRF Thorofare Moun 80.11 24 IAMs_20 IAMs_20 10 00 00.4

comp=Z,2µm,19.0s
TRF Thorofare Moun 80.11 24 P P 09 21 09.5 +0.9
baz=305
POKR Poker Plat Res 80.14 22 P P 09 21 09.4 +0.9
baz=307,SNR=14
TCOL CIGO, UAF Yank 80.14 22 P P 09 21 09.3 +0.8
baz=307,SNR=6.3
COLA College 80.14 22 P P 09 21 09.3 +0.8
baz=307
COLA College 80.14 22 P P 09 21 10.7 +2.2
COLA College 80.14 22 P P 09 21 09.6 +1.1
G26K Porcupine Rive 80.16 19 P P 09 21 10.4 +1.7
baz=310
KSR Koster 80.17 236 *e*P P 09 21 16.2 +6.7
KSR IAmb IAmb 09 21 44.2
comp=Z,217nm,2.8s
O19K Port Alsworth 80.31 28 IAmb IAmb 09 21 25.4
comp=Z,35nm,0.9s
O19K Port Alsworth 80.31 28 P P 09 21 10.3 +0.7
baz=302
P18K Big Mountain, 80.34 29 P P 09 21 10.3 +0.5
baz=301
PRYS Parys 80.40 235 *e*P P 09 21 10.8 0.0
PRYS IAmb IAmb 09 21 33.7
comp=Z,219nm,2.5s
CHGN Chignik 80.43 32 P P 09 21 11.0 +0.8
baz=299
MCK McKinley 80.44 23 P P 09 21 09.2 -1.1
MCK IAmb IAmb 09 21 25.0
comp=Z,58nm,0.9s
MCK McKinley 80.44 23 P P 09 21 11.0 +0.7
baz=306
MCK McKinley 80.44 23 P P 09 21 09.2 -1.1
MCK pmax pmax
comp=Z,58nm,0.9s
MCK MLR MLR
comp=Z,2µm,19.0s
PBRG Braganca 80.45 311 *e*P P 09 21 10.2 -0.5
PBRG *e*pP **pP** 09 21 21.8 +0.1
SKT Skwentna 80.47 25 P P 09 21 10.8 +0.4
SKT IAmb IAmb 09 21 22.6
comp=Z,43nm,0.9s
SKT IAMs_20 IAMs_20 10 00 06.0
comp=Z,2µm,21.0s
SKT Skwentna 80.47 25 P P 09 21 10.9 +0.4
baz=304,SNR=18
PRP Porcupine Dome 80.53 21 IAmb IAmb 09 21 25.6
comp=Z,72nm,1.2s
PRP IAMs_20 IAMs_20 10 01 18.3
comp=Z,2µm,21.0s
PRP Porcupine Dome 80.53 21 P P 09 21 12.0 +1.1
baz=309
ILAR Eielson Array 80.54 22 P P 09 21 11.1 +0.3
comp=Z,9.5nm,0.8s,baz=294,slow=4.7,SNR=12
ILAR LR LR 10 00 54.6
comp=Z,1µm,18.1s,baz=283,slow=39
comp=Z,9.5nm,0.8s
N20K Mount Spurr 80.64 26 P P 09 21 12.1 +0.7
baz=304
SPCR Spurr Chakacha 80.64 26 P P 09 21 12.0 +0.6
baz=304
RND Reindeer 80.67 23 IAMs_20 IAMs_20 09 55 13.9
comp=Z,851nm,20.0s
LBTB Lobatse 80.72 237 LR LR 09 54 49.4
comp=Z,521nm,20.1s,baz=58,slow=34
LBTB Lobatse 80.72 237 IAmb IAmb 09 21 25.4
comp=Z,44nm,1.1s
LBTB Lobatse 80.72 237 *i*P P 09 21 13.1 +0.6
LBTB Lobatse 80.72 237⇓ *i*P P 09 21 13.0 +0.6
LBTB IAmb IAmb 09 21 26.2
comp=Z,61nm,1.3s
CUT Chulitna 80.72 25 IAMs_20 IAMs_20 10 00 25.5
comp=Z,2µm,20.0s
CUT Chulitna 80.72 25 P P 09 21 11.8 +0.1
baz=305
R17K Ugashik Creek 80.72 30 P P 09 21 10.6 -1.2
baz=301
ICESG Greenland Ices 80.73 344 *i*P P 09 21 11.9 -0.2
ICESG IAmb IAmb 09 21 13.3
comp=Z,25nm,0.8s
HDA Harding Lake 80.74 22 P P 09 21 12.1 +0.3
baz=308,SNR=7.4
A36M Sachs Harbour 80.82 11 P P 09 21 12.9 +0.9
baz=326
Q18K Katmai Hardscr 80.83 29 P P 09 21 12.0 -0.5
baz=302
SNKL Senekal, Frees 80.84 234 *e*P P 09 21 14.2 +1.1
SNKL IAmb IAmb 09 21 22.3
comp=Z,345nm,2.5s
G27K Doyon Strip 80.89 19 P P 09 21 13.9 +1.3
baz=312,SNR=6.6
MVO Moncorvo 80.90 311 *e*P P 09 21 13.9 +0.7
MVO *e*pP **pP** 09 21 24.3 +0.2
UPNV Upernavik 81.00 351 *i*P P 09 21 11.9 -1.1
UPNV IAmb IAmb 09 21 13.7
comp=Z,9.2nm,0.6s
P19K Oil Pt 81.06 28 P P 09 21 12.7 -1.0
baz=303
SUA Susitna One 81.08 26 P P 09 21 15.1 +1.3
baz=305,SNR=13
WAT1 Susitna Watana 81.12 24 P P 09 21 13.9 0.0
baz=306
M22K Willow 81.15 25 IAMs_20 IAMs_20 10 01 13.0
comp=Z,1µm,20.0s
M22K Willow 81.15 25 P P 09 21 14.1 +0.1
baz=305,SNR=8.6
Q19K Cape Douglas, 81.28 29 P P 09 21 15.2 +0.4
baz=303
CAPN Captain Cook N 81.31 26 P P 09 21 15.0 +0.2
baz=304
H27K Steamboat Moun 81.32 19 P P 09 21 15.7 +0.8
baz=312
PVRL Vila Real 81.33 311 *e*P P 09 21 16.1 +0.6
PVRL *e*pP **pP** 09 21 26.3 -0.1
POLO Lamas de Olo 81.34 311 *e*P P 09 21 16.5 +0.9
POLO *e*pP **pP** 09 21 26.6 +0.1
RES Resolute Bay 81.35 2 LR LR 10 00 36.5
comp=Z,965nm,18.9s,baz=7.0,slow=38
PCAB Cabril 81.36 312 *e*P P 09 21 16.0 +0.4
PCAB *e*pP **pP** 09 21 26.9 +0.4
DHY Denali Highway 81.40 23 IAMs_20 IAMs_20 10 00 32.4
comp=Z,1µm,20.0s
DHY Denali Highway 81.40 23 P P 09 21 15.8 +0.3
baz=307
PGAV Gavieira, Arco 81.42 312 *e*P P 09 21 16.9 +0.9
PGAV *e*pP **pP** 09 21 26.9 0.0
K24K Donnelly Dome 81.52 22 P P 09 21 16.2 +0.2
baz=309,SNR=35
WAT6 Susitna Watana 81.57 24 P P 09 21 16.0 -0.4
baz=307,SNR=15
MTE Manteigas 81.57 310 *e*P P 09 21 17.0 +0.2
comp=Z,92nm,1.7s
MTE *e*pP **pP** 09 21 28.1 +0.4
PMR Palmer 81.63 25 P P 09 21 16.7 +0.2
baz=306,SNR=8.0
PVIS Viseu 81.69 311 *e*P P 09 21 18.2 +0.8
PVIS *e*pP **pP** 09 21 28.6 +0.3
RC01 Rabbit Creek A 81.69 26 IAmb IAmb 09 21 29.1
comp=Z,47nm,0.8s
RC01 IAMs_20 IAMs_20 10 00 56.1
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 81.69 26 P P 09 21 17.1 +0.2
baz=306,SNR=8.0
I27K Kandik River 81.71 20 P P 09 21 18.4 +1.3
baz=312
PCBR Castelo Branco 81.76 310 *e*P P 09 21 18.3 +0.6
comp=Z,53nm,2.0s
PCBR *e*pP **pP** 09 21 28.6 0.0
SML Sawmill 81.81 25 IAMs_20 IAMs_20 10 01 01.3
comp=Z,1µm,18.0s
SML Sawmill 81.81 25 P P 09 21 18.7 +1.1
baz=307,SNR=10
J26L Joseph Creek 81.82 21 P P 09 21 18.4 +0.7
baz=310
PMRV Marv??o 81.87 309 *e*P P 09 21 17.8 -0.5
PMRV *e*pP **pP** 09 21 29.1 -0.1
RIDG Independent Ri 81.88 22 P P 09 21 18.3 +0.4
baz=309,SNR=15
BRLK Bradley Lake 81.99 27 P P 09 21 17.6 -0.9
BRLK IAmb IAmb 09 21 30.1
comp=Z,30nm,0.8s
BRLK IAMs_20 IAMs_20 10 00 24.1
comp=Z,1µm,19.0s
KNK Knik Glacier 82.00 25 P P 09 21 18.0 -0.6
KNK IAmb IAmb 09 21 31.3
comp=Z,34nm,0.8s
KNK IAMs_20 IAMs_20 10 01 08.3
comp=Z,1µm,20.0s
KNK Knik Glacier 82.00 25 P P 09 21 19.9 +1.3
baz=307,SNR=8.4
INK Inuvik 82.02 16 P P 09 21 19.1 +0.7
comp=Z,11nm,1.0s,baz=324,slow=6.3,SNR=33
INK LR LR 10 03 41.6
comp=Z,650nm,18.5s,baz=307,slow=40
comp=Z,11nm,1.0s
INK Inuvik 82.02 16 P P 09 21 17.6 -0.9
INK IAmb IAmb 09 22 04.0
comp=Z,41nm,1.1s
INK Inuvik 82.02 16 P P 09 21 19.0 +0.6
baz=319
SCRK Sand Creek 82.02 22 P P 09 21 17.8 -0.9
SCRK IAmb IAmb 09 21 43.1
comp=Z,72nm,1.1s
SCRK IAMs_20 IAMs_20 10 01 48.7
comp=Z,1µm,18.0s
SCRK Sand Creek 82.02 22 P P 09 21 19.6 +0.9
baz=310,SNR=46
M23K Glacier View 82.05 24 P P 09 21 19.8 +0.9
baz=307,SNR=14
O22K Cooper Landing 82.05 26 IAMs_20 IAMs_20 09 56 36.7
comp=Z,1µm,21.0s
O22K Cooper Landing 82.05 26 P P 09 21 19.8 +1.0
baz=306
BRSE Bradley Lake S 82.06 27 P P 09 21 18.8 -0.1
baz=305
SWZ Schweizer 82.06 236 *e*P P 09 21 19.2 -0.3
SWZ IAmb IAmb 09 22 00.8
comp=Z,496nm,3.1s
PBAR Barrancos 82.13 308 *e*P P 09 21 20.5 +0.8
comp=Z,89nm,1.4s
PBAR *e*pP **pP** 09 21 31.1 +0.5
PAX Paxson 82.15 23 P P 09 21 19.5 +0.1
PAX IAmb IAmb 09 21 34.5
comp=Z,34nm,1.0s
PAX Paxson 82.15 23 P P 09 21 19.9 +0.4
baz=309,SNR=11
PAX Paxson 82.15 23 P P 09 21 19.5 +0.1
PAX pmax pmax
comp=Z,34nm,1.0s
SCM Sheep Creek Mo 82.17 24 P P 09 21 20.4 +0.9
baz=308,SNR=6.6
G30M tAoh Zraii Nji 82.31 17 P P 09 21 20.3 +0.2
baz=317
OHAK Old Harbor 82.37 30 IAmb IAmb 09 21 57.8
comp=Z,67nm,1.3s
OHAK Old Harbor 82.37 30 P P 09 21 20.8 +0.3
baz=303
KDAK Kodiak Island 82.38 29 P P 09 21 21.3 +0.8
comp=Z,3.9nm,0.5s,baz=297,slow=7.5,SNR=8.3
KDAK LR LR 10 03 37.6
comp=Z,977nm,18.6s,baz=316,slow=40
comp=Z,3.9nm,0.5s
KDAK Kodiak Island 82.38 29 P P 09 21 21.7 +1.2
baz=304
PWL Port Wells 82.38 25 P P 09 21 20.9 +0.4
baz=307,SNR=11
SEW Seward 82.38 26 IAmb IAmb 09 21 48.8
comp=Z,71nm,1.4s
SEW Seward 82.38 26 P P 09 21 20.4 -0.1
baz=306
EGAK Eagle 82.41 20 IAMs_20 IAMs_20 10 02 20.1
comp=Z,1µm,19.0s
EGAK Eagle 82.41 20 P P 09 21 21.5 +0.9
baz=312,SNR=9.6
M24K Tolsona, Glenn 82.44 24 P P 09 21 22.4 +1.5
baz=308,SNR=9.1
MDT Midelt 82.50 302 LR LR 10 05 38.4
comp=Z,432nm,19.3s,baz=74,slow=41
PMTG Montargil 82.60 309 *e*pP pP 09 21 33.3 +0.2
EPYK Eagle Plains 82.62 18 IAMs_20 IAMs_20 10 02 14.4
comp=Z,1µm,21.0s
EPYK Eagle Plains 82.62 18 P P 09 21 21.9 +0.2
baz=316
F31M Tsiigehtchic 82.62 16 P P 09 21 22.4 +0.8
baz=319
K27K Chicken 82.62 21 IAMs_20 IAMs_20 10 02 28.7
comp=Z,2µm,19.0s
K27K Chicken 82.62 21 P P 09 21 23.0 +1.3
baz=312
HARP HAARP 82.62 23 P P 09 21 22.8 +1.0
baz=309,SNR=12
EVO Evora 82.68 309 *e*P P 09 21 23.8 +1.3
EVO *e*pP **pP** 09 21 33.6 +0.1
L26K Log Cabin Wild 82.86 22 P P 09 21 24.3 +1.3
baz=311,SNR=13
BOSA Boshof 82.88 234 P P 09 21 23.7 -0.1
comp=Z,13nm,1.0s,baz=72,slow=3.2,SNR=13
BOSA LR LR 09 57 18.2
comp=Z,971nm,19.8s,baz=70,slow=35
comp=Z,13nm,1.0s
BOSA Boshof 82.88 234 P P 09 21 21.8 -2.0
BOSA IAmb IAmb 09 22 22.6
comp=Z,33nm,1.1s
BOSA Boshof 82.88 234 *i*P P 09 21 24.2 +0.4
BOSA Boshof 82.88 234 *e*P P 09 21 23.6 -0.1
BOSA IAML 09 21 44.4
comp=Z,6.4nm,0.6s
I29M Ogilvie Camp, 82.88 19 P P 09 21 23.6 +0.6
baz=315
KLU Klutina 82.91 24 IAMs_20 IAMs_20 10 02 36.4
comp=Z,1µm,18.0s
KLU Klutina 82.91 24 P P 09 21 24.8 +1.4
baz=309
PNCL Nicolau / Gran 83.22 309 *e*P P 09 21 25.3 0.0
C36M Paulatuk 83.25 12 IAmb IAmb 09 22 11.1
comp=Z,83nm,1.4s
C36M Paulatuk 83.25 12 P P 09 21 24.7 -0.1
baz=327
N25K Chitina, Valde 83.33 24 IAMs_20 IAMs_20 10 01 42.8
comp=Z,1µm,18.0s
N25K Chitina, Valde 83.33 24 P P 09 21 26.7 +1.1
baz=310,SNR=14
L27K Beaver Creek, 83.35 22 IAMs_20 IAMs_20 10 02 39.8
comp=Z,1µm,18.0s
L27K Beaver Creek, 83.35 22 P P 09 21 27.0 +1.4
baz=312
BCAR Beaver Creek A 83.36 22 P P 09 21 25.0 -0.6
M26K Nabesna, AK 83.39 23 P P 09 21 27.5 +1.7
baz=311
DAWY Dawson 83.46 20 P P 09 21 26.4 +0.3
DAWY Dawson 83.46 20 P P 09 21 26.8 +0.7
baz=314,SNR=12
J29M Klondike Camp 83.55 20 IAMs_20 IAMs_20 10 04 01.3
comp=Z,1µm,19.0s
J29M Klondike Camp 83.55 20 P P 09 21 27.6 +0.9
baz=315,SNR=5.6
EYAK Cordova Ski Ar 83.57 25 P P 09 21 27.8 +1.1
EYAK IAmb IAmb 09 21 41.6
comp=Z,48nm,1.0s
EYAK Cordova Ski Ar 83.57 25 P P 09 21 28.2 +1.6
baz=309
EYAK Cordova Ski Ar 83.57 25 P P 09 21 29.5 +2.8
GLB Gilahina Butte 83.73 24 IAmb IAmb 09 22 01.4
comp=Z,38nm,1.2s
GLB IAMs_20 IAMs_20 10 02 03.9
comp=Z,1µm,19.0s
BMRM Bremner River 83.74 24 P P 09 21 28.9 +1.2
baz=310
HVD Gariep Dam 83.77 233 *e*P P 09 21 32.8 +4.4
HVD IAmb IAmb 09 22 01.2
comp=Z,396nm,2.6s
M27K Edge Creek, AK 83.81 22 P P 09 21 29.7 +1.6
baz=312
VRDI Verde Repeater 84.00 24 IAMs_20 IAMs_20 10 02 14.1
comp=Z,1µm,20.0s
Q23K Middleton Isla 84.04 26 P P 09 21 30.9 +1.8
baz=309
MCARA McCarthy VSAT 84.05 23 IAMs_20 IAMs_20 10 02 15.5
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 84.05 23 P P 09 21 31.0 +1.9
baz=311
BVCY Beaver Creek 84.12 22 P P 09 21 30.9 +1.4
baz=313
K29M Barlow Dome 84.20 20 P P 09 21 31.0 +0.9
baz=316
TSUM Tsumeb 84.29 246 IAMs_20 IAMs_20 10 01 30.2
comp=Z,917nm,19.0s
DY2G Dye2 84.36 344 *i*P P 09 21 31.0 +0.1
DY2G IAmb IAmb 09 21 32.9
comp=Z,5.6nm,0.7s
L29M L29M 84.54 21 P P 09 21 32.5 +0.9
baz=315
YUK3 Moose Creek 84.69 22 P P 09 21 34.0 +1.4
baz=313
BARN Barnard Glacie 84.76 23 IAMs_20 IAMs_20 10 02 41.2
comp=Z,865nm,21.0s
MAYO Mayo, Yukon 84.88 19 P P 09 21 33.8 +0.5
baz=317
M29M Somme Creek 84.90 21 P P 09 21 34.8 +1.3
baz=315
SFJD Kangerlussuaq 84.95 346 LR LR 10 03 57.2
comp=Z,1µm,20.5s,baz=34,slow=39
SFJD Kangerlussuaq 84.95 346 P P 09 21 33.1 -0.4
SFJD IAmb IAmb 09 21 55.4
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 84.95 346 *i*P P 09 21 31.9 -1.7
SFJD IAmb IAmb 09 21 38.9
comp=Z,7.5nm,0.7s
SFJD Kangerlussuaq 84.95 346 P P 09 21 33.1 -0.4
SFJD pmax pmax
comp=Z,28nm,1.0s
TORD Torodi Ar. Bea 85.00 282 P P 09 21 35.4 +0.6
comp=Z,12nm,0.9s,baz=62,slow=4.2,SNR=53
comp=Z,12nm,0.9s
YUK8 Steele Glacier 85.28 22 P P 09 21 36.7 +1.0
baz=314,SNR=6.7
M30M Minto, Yukon 85.35 20 P P 09 21 36.4 +0.7
M30M IAmb IAmb 09 22 06.1
comp=Z,51nm,1.9s
M30M IAMs_20 IAMs_20 10 05 27.5
comp=Z,811nm,20.0s
M30M Minto, Yukon 85.35 20 P P 09 21 36.5 +0.8
baz=316
O28M Mount Upton 85.48 23 P P 09 21 38.2 +1.5
baz=314
YUK4 Talbot Arm 85.62 22 P P 09 21 38.3 +1.0
baz=315,SNR=9.5
DZM Mont Dzumac 85.67 116 *e*SS SS 09 37 43.6 -2.0
comp=Z,376nm,38.9s
DZM Mont Dzumac 85.67 116 *e*LR LR 09 48 40.5
comp=Z,790nm,25.1s
BFON Badsfontein, M 85.71 233 *e*P P 09 21 40.5 +2.4
BFON IAmb IAmb 09 22 25.6
comp=Z,403nm,2.4s
UPI Upington 85.77 237 *e*P P 09 21 37.9 -0.4
UPI IAmb IAmb 09 21 54.7
comp=Z,58nm,1.6s
PINM Pinnacle 85.93 23 P P 09 21 39.7 +1.0
baz=314
YUK6 Outpost Mounta 86.00 22 P P 09 21 40.2 +0.9
baz=315,SNR=6.0
KEIM Keimoes 86.15 236 *e*P P 09 21 40.9 +0.7
KEIM IAmb IAmb 09 22 24.7
comp=Z,202nm,2.4s
BCPM Bancas Point 86.25 23 IAMs_20 IAMs_20 10 04 39.6
comp=Z,1µm,20.0s
WIN Windhoek 86.26 243 *e*P P 09 21 41.0 -0.1
WIN IAmb IAmb 09 22 10.6
comp=Z,13nm,1.2s
BRAK Brakfontein 86.28 233 *e*P P 09 21 53.5 +13
BRAK IAmb IAmb 09 22 01.7
comp=Z,48nm,1.3s
HYT Haines Junctio 86.38 22 IAmb IAmb 09 21 55.7
comp=Z,21nm,1.0s
HYT Haines Junctio 86.38 22 P P 09 21 42.0 +1.1
baz=316,SNR=12
M31M Drury Creek, Y 86.38 20 IAMs_20 IAMs_20 10 04 33.0
comp=Z,1µm,21.0s
M31M Drury Creek, Y 86.38 20 P P 09 21 41.6 +0.8
baz=318,SNR=12
O29M Mount Kennedy 86.38 23 P P 09 21 41.9 +0.9
baz=315
N31M Braeburn, Yuko 86.47 21 IAmb IAmb 09 22 25.4
comp=Z,33nm,0.9s
N31M IAMs_20 IAMs_20 10 05 00.5
comp=Z,1µm,20.0s
N31M Braeburn, Yuko 86.47 21 P P 09 21 42.5 +1.2
baz=317,SNR=13
PNL Peninsula 86.54 23 P P 09 21 43.1 +1.5
baz=314
PNL Peninsula 86.54 23 P P 09 21 44.7 +3.1
FARO Faro, Yukon 86.68 19 P P 09 21 42.6 +0.3
baz=319
ARMS Ukamas 86.77 237 *e*P P 09 21 43.6 +0.3
ARMS IAmb IAmb 09 21 57.8
comp=Z,16nm,1.0s
O30N Mendenhall 86.90 21 P P 09 21 44.7 +1.3
baz=317,SNR=15
P30M Million Dollar 87.08 22 P P 09 21 45.9 +1.6
baz=316
P29M Windy Craggy 87.16 23 P P 09 21 45.8 +1.2
baz=316
WHY Whitehorse 87.38 21 P P 09 21 46.7 +0.8
baz=318,SNR=6.6
PLBC Pleasant Camp 87.77 22 P P 09 21 48.6 +1.1
baz=317
SUR Sutherland 88.11 233 LR LR 09 57 48.9
comp=Z,1µm,21.8s,baz=58,slow=33
SKAG Skagway 88.12 22 P P 09 21 48.6 -0.6
SKAG IAmb IAmb 09 22 12.9
comp=Z,25nm,0.8s
SKAG Skagway 88.12 22 P P 09 21 50.4 +1.2
baz=318,SNR=8.5
NRS Narsarsuaq 88.34 341 P P 09 21 49.9 -0.3
NRS Narsarsuaq 88.34 341 P P 09 21 49.9 -0.3
NRS pmax pmax
comp=Z,41nm,0.7s
P33M Teslin, Yukon 88.39 21 P P 09 21 51.3 +0.7
baz=320,SNR=7.7
P32M Atlin 88.57 21 P P 09 21 52.4 +1.0
baz=319,SNR=8.7
WRGLY Wrigley 88.57 15 P P 09 21 52.5 +1.3
baz=328
BESE Bessie Mountai 88.94 22 P P 09 21 52.7 -0.6
BESE IAmb IAmb 09 22 17.6
comp=Z,43nm,1.4s
R32K Eaglecrest 89.29 23 P P 09 21 56.1 +1.4
baz=318
JIS Juneau Island 89.34 22 P P 09 21 58.1 +3.2
Q32M Nakina River 89.53 21 P P 09 21 57.0 +0.9
baz=320
R33M Jennings River 89.62 20 P P 09 21 58.1 +1.7
baz=322
WTLY Watson Lake, Y 89.72 19 P P 09 21 57.5 +0.8
baz=323
DLBC Dease Lake 90.67 21 LR LR 10 09 25.3
comp=Z,867nm,18.2s,baz=304,slow=40
DLBC Dease Lake 90.67 21 P P 09 22 03.1 +1.8
baz=322
S34M Telegraph Cree 90.73 21 P P 09 22 03.1 +1.7
baz=321
FRB Frobisher Bay 91.12 351 LR LR 10 07 26.8
comp=Z,1µm,21.6s,baz=22,slow=38
YKA Yellowknife Ar 91.13 12 P P 09 22 03.2 0.0
comp=Z,1.9nm,0.9s,baz=121,slow=6.6,SNR=3.6
YKA PKKPbc **PKKPdf** 09 39 22.8 +0.1
comp=Z,0.1nm,0.6s,baz=152,slow=2.7,SNR=2.2
YKA LR LR 10 06 09.7
comp=Z,703nm,21.7s,baz=354,slow=38
comp=Z,1.9nm,0.9s
CASY Casey 91.19 173 IAMs_20 IAMs_20 09 59 02.0
comp=Z,860nm,20.0s
DBIC Dimbokro 93.52 279 P P 09 22 15.8 +0.6
comp=Z,16nm,0.8s,baz=70,slow=5.7,SNR=22
DBIC LR LR 10 07 59.4
comp=Z,590nm,18.4s,baz=72,slow=38
comp=Z,16nm,0.8s
DBIC Dimbokro 93.52 279 IAmb IAmb 09 22 16.5
comp=Z,16nm,0.8s
DBIC Dimbokro 93.52 279 *e*P P 09 22 15.0 -0.2
DBIC IAmb IAmb 09 22 16.1
comp=Z,16nm,0.8s
KIC Kosan Boka 93.54 279⇑ *e*PKP2 P 09 22 15.7 +0.4
comp=Z,9.4nm,0.7s
MSVF Nonsavu 93.62 108 LR LR 10 05 28.0
comp=Z,181nm,18.7s,baz=357,slow=36
TIC Toumodi 93.67 279⇑ *e*PKP2 P 09 22 16.2 +0.2
comp=Z,26nm,0.8s
LIC Lamto 93.86 279⇑ *e*PKP2 P 09 22 16.8 0.0
comp=Z,35nm,0.9s
MAW Mawson 93.96 191 LR LR 09 59 42.2
comp=Z,592nm,20.9s,baz=16,slow=32
BBB Bella Bella 96.34 24 LR LR 10 09 25.9
comp=Z,514nm,19.9s,baz=328,slow=38
RPZ Rata Peaks 98.86 134 LR LR 10 11 44.0
comp=Z,567nm,19.8s,baz=289,slow=38
SCHQ Schefferville 99.31 348 LR LR 10 12 00.4
comp=Z,798nm,21.4s,baz=27,slow=38
NEW Newport 103.38 20 IAMs_20 IAMs_20 10 13 14.5
comp=Z,875nm,20.0s
MSO Missoula 105.61 18 P PKiKP 09 27 21.5 -0.6
baz=336
DGMT Dagmar 106.32 11 IAMs_20 IAMs_20 10 19 44.1

comp=Z,968nm,19.0s
BMO Blue Mountains 106.35 21 IAMs_20 IAMs_20 10 17 11.1
comp=Z,676nm,20.0s
PLID Pearl Lake 106.56 20 IAMs_20 IAMs_20 10 09 20.8
comp=Z,610nm,20.0s
BOZ Bozeman (W) 107.38 17 IAMs_20 IAMs_20 10 17 55.3
comp=Z,879nm,21.0s
AGMN Agassiz Nation 107.59 5 IAMs_20 IAMs_20 10 17 09.7
comp=Z,839nm,19.0s
LAO LASA Array 107.64 13 IAMs_20 IAMs_20 10 15 05.1
comp=Z,804nm,20.0s
HLID Hailey 108.43 20 IAMs_20 IAMs_20 10 19 22.2
comp=Z,923nm,20.0s
RLMT Red Lodge 108.43 16 IAMs_20 IAMs_20 10 20 43.1
comp=Z,787nm,20.0s
MOOW Moose Ponds 109.33 17 IAMs_20 IAMs_20 10 20 57.9
comp=Z,693nm,20.0s
LOHW Long Hollow 109.50 17 IAMs_20 IAMs_20 10 21 13.2
comp=Z,791nm,19.0s
REDW Red Top Meadow 109.66 17 IAMs_20 IAMs_20 10 21 08.6
comp=Z,923nm,18.0s
AHID Auburn Hatcher 110.14 18 IAMs_20 IAMs_20 10 21 25.4
comp=Z,654nm,20.0s
LONY Lake Ozonia 110.52 350 IAMs_20 IAMs_20 10 18 19.5
comp=Z,895nm,21.0s
RSSD Black Hills 110.54 12 IAMs_20 IAMs_20 10 20 00.8
comp=Z,602nm,20.0s
PDAR Pinedale Array 110.56 17 PKKPbc PKKPbc 09 38 31.3 -0.5
comp=Z,0.3nm,0.8s,baz=133,slow=5.2,SNR=2.7
ELK Elko 110.69 22 IAMs_20 IAMs_20 10 19 52.2
comp=Z,1μm,21.0s
HWUT Hardware Ranch 111.08 19 IAMs_20 IAMs_20 10 18 38.2
comp=Z,721nm,19.0s
FFD Franklin Falls 111.10 347 IAMs_20 IAMs_20 10 20 28.8
comp=Z,869nm,19.0s
DUG Dugway, Tooele 111.99 20 IAMs_20 IAMs_20 10 18 02.3
comp=Z,587nm,22.0s
ECSD EROS Data Cent 112.04 7 IAMs_20 IAMs_20 10 17 49.4
comp=Z,1μm,22.0s
PHWY Pilot Hill 112.95 14 IAMs_20 IAMs_20 10 21 11.5
comp=Z,884nm,20.0s
TPNV Topopah Spring 113.70 24 IAMs_20 IAMs_20 10 15 35.8
comp=Z,553nm,19.0s
ERPA Erie 113.70 353 IAMs_20 IAMs_20 10 22 30.4
comp=Z,760nm,21.0s
BRIGG Briggsdale 113.88 14 IAMs_20 IAMs_20 10 23 53.3
comp=Z,806nm,18.0s
PAL Palisades 113.91 348 IAMs_20 IAMs_20 10 19 15.2
comp=Z,865nm,21.0s
OGNE Ogallala 113.99 12 IAMs_20 IAMs_20 10 20 14.0
comp=Z,762nm,20.0s
L44A Lake County Fo 114.06 360 IAMs_20 IAMs_20 10 16 26.7
comp=Z,891nm,21.0s
HQIL Hanson Quary C 114.43 360 IAMs_20 IAMs_20 10 22 54.7
comp=Z,616nm,20.0s
SMCO Snowmass 114.60 16 IAMs_20 IAMs_20 10 22 34.3
comp=Z,984nm,21.0s
SSPA Standing Stone 114.91 352 IAMs_20 IAMs_20 10 17 35.5
comp=Z,911nm,22.0s
ACSO Alum Creek Sta 115.83 356 IAMs_20 IAMs_20 10 21 53.7
comp=Z,752nm,19.0s
SDCO Great Sand Dun 116.32 15 IAMs_20 IAMs_20 10 24 38.9
comp=Z,834nm,19.0s
P52A Corning 116.36 355 IAMs_20 IAMs_20 10 20 33.8
comp=Z,1μm,22.0s
CBKS Cedar Bluff 116.46 10 IAMs_20 IAMs_20 10 19 17.4
comp=Z,952nm,22.0s
P49A Miami Univ. Ec 116.62 357 IAMs_20 IAMs_20 10 21 56.7
comp=Z,729nm,20.0s
CBN Corbin Frederi 117.22 351 IAMs_20 IAMs_20 10 20 43.8
comp=Z,733nm,19.0s
CCM Cathedral Cave 118.10 3 IAMs_20 IAMs_20 10 22 57.7
comp=Z,976nm,21.0s
BLA Blacksburg 118.60 353 IAMs_20 IAMs_20 10 23 33.1
comp=Z,832nm,22.0s
OK032 Salt Plains WL 118.66 9 IAMs_20 IAMs_20 10 28 25.7
comp=Z,719nm,19.0s
OK035 E0210 Rd and N 118.68 10 IAMs_20 IAMs_20 10 24 06.2
comp=Z,736nm,20.0s
ANMO Albuquerque 118.72 17 IAMs_20 IAMs_20 10 26 13.6
comp=Z,635nm,20.0s
TZTN Tazewell 119.54 356 IAMs_20 IAMs_20 10 22 33.8
comp=Z,663nm,19.0s
AMTX Amarillo 119.92 13 IAMs_20 IAMs_20 10 27 40.1
comp=Z,772nm,20.0s
WVT Waverly 120.10 360 IAMs_20 IAMs_20 10 26 44.6
comp=Z,727nm,20.0s
PLAL Pickwick Lake 121.24 0 IAMs_20 IAMs_20 10 29 20.9
comp=Z,698nm,19.0s
EPT El Paso 121.69 19 IAMs_20 IAMs_20 10 25 47.0
comp=Z,784nm,20.0s
OXF Oxford 121.69 1 IAMs_20 IAMs_20 10 29 41.9
comp=Z,837nm,21.0s
MNTX Cornudas Mount 122.08 17 PKPdf **PKiKP 09 27 54.4 +0.5**
MNTX IAMs_20 IAMs_20 10 27 48.4
comp=Z,603nm,19.0s
PPT2 Papeete2 122.48 96 eLR LR 10 05 45.2
comp=Z,480nm,29.5s
PPT2 eLR LR 10 05 45.4
comp=Z,715nm,26.8s
TBI Tubuai 124.16 103 eLR LR 10 06 32.4
comp=Z,2μm,26.2s
TBI eLR LR 10 06 32.5
comp=Z,6μm,25.2s
JCT Junction City 124.56 12 PKPdf **PKPdf 09 27 57.0 -1.6**
JCT IAMs_20 IAMs_20 10 25 59.0
comp=Z,900nm,21.0s
JCT Junction City 124.56 12 PKIKP **PKPdf 09 27 57.0 -1.6**
TX32 Lajitas Array 124.78 17 PKPdf **PKPdf 09 27 58.9 -0.2**
TXAR Lajitas Array 124.78 17 PKP **PKPdf 09 27 59.4 +0.3**
comp=Z,0.7nm,0.8s,baz=17,slow=0.7,SNR=6.8
TAOE Nuku Hiva Isla 128.05 82 eLR LR 10 08 21.3
comp=Z,566nm,26.0s
SABA Saba 132.00 327 IAMs_20 IAMs_20 10 25 10.6
comp=Z,518nm,20.0s
TEIG Tepich 135.94 0 IAMs_20 IAMs_20 10 31 07.2
comp=Z,572nm,20.0s
SMTB Santa Maria do 138.56 284 eP **PKPdf 09 28 24.9 -0.4**
BDFB Brasilia 141.56 275 PKP **PKPdf 09 28 31.4 +0.7**
comp=Z,1.4nm,0.5s,baz=35,slow=14,SNR=1.8
TGUH Tegucigalpa,Un 142.07 359 IAMs_20 IAMs_20 10 36 47.4
comp=Z,545nm,22.0s
SNET Serv Nac Est T 142.43 2 IAMs_20 IAMs_20 10 35 23.8
comp=Z,634nm,22.0s
BOAV Boa Vista 142.48 311 eP **PKiKP 09 28 43.0 +7.5**
SPB Sao Paulo 142.97 262 IAMs_20 IAMs_20 10 34 26.2
comp=Z,583nm,20.0s
SDV Santo Domingo 143.08 331 PKPdf PKPbc 09 28 30.4 -0.1
SJCC San Jacinto, C 143.96 338 eP PKPbc 09 28 33.4 +0.5
NPGB Novo Progresso 144.41 293 eP PKPbc 09 28 35.0 +0.7
ITRB Iturama 144.86 270 eP PKPbc 09 28 36.0 +0.4
FRTB Fartura 144.87 263 eP PKPbc 09 28 36.0 +0.5
TER01 Tubaro-SC 144.97 254 eP **PKPdf 09 28 36.8 +0.4**
ARAG Araguaiana, MT 145.03 277 eP **PKPdf 09 28 37.6 +0.8**
PAMC Pamplona, Colo 145.36 333 eP PKPbc 09 28 27.5 -10
DVLD Doverlandia 145.66 276 eP **PKPab 09 28 39.4 +0.9**
JTS Las Juntas de 145.69 355 IAMs_20 IAMs_20 10 38 02.4
comp=Z,528nm,21.0s
BRRC Barranca, Sant 145.99 334 eP **PKPbc 09 28 39.4 +0.1**
ZARC Zaragoza, Cauc 146.08 336 eP **PKPbc 09 28 39.8 +0.3**
UREC San Jos de Ur 146.08 337 eP **PKPbc 09 28 39.6 0.0**
APAC Apartado, Choc 146.29 339 eP **PKPbc 09 28 40.4 +0.3**
MACA Manacapuru-AM 146.40 304 PKPbc **PKPbc 09 28 40.7 +0.2**
MACA Manacapuru-AM 146.40 304 eP **PKPdf 09 28 39.6 +0.4**
PEZE Perez Zeledon, 146.45 352 PKPbc **PKPdf 09 28 40.0 +0.6**
CNLB Canela 146.50 253 eP **PKPbc 09 28 40.4 -0.1**
CLDB Colider 146.68 288 eP **PKPdf 09 28 39.6 -0.1**
PTBC PUERTO BERRIO 146.80 335 eP **PKPbc 09 28 41.8 +0.1**
RUSC La Rusia 146.82 332 PKPbc **PKPbc 09 28 42.0 -0.3**
RUSC La Rusia 146.82 332 eP **PKPbc 09 28 42.2 -0.1**
BRU2 Volcan 146.90 350 PKPbc **PKPdf 09 28 41.4 +1.2**
BRU2 Volcan 146.90 350 eP **PKPbc 09 28 42.0 -0.1**
DBBC Dabeiba 147.00 338 eP **PKPbc 09 28 43.0 +0.7**
PTAC Punta Ardita, 147.38 341 eP **PKPdf 09 28 42.0 +1.1**
TRCB Terra Rica 147.57 265 eP **PKPdf 09 28 41.4 +0.4**
ITAB Concordia 147.58 257 eP **PKPdf 09 28 41.6 +0.8**
PDRB Porto dos Gac 147.82 287 eP **PKPbc 09 28 43.8 -0.7**
PTGC Puerto Gaitan, 147.90 329 eP **PKPbc 09 28 44.6 -0.2**
CBOC Ciudad Bolivar 148.00 337 eP **PKPab 09 28 48.1 +0.3**
RPRD Ribas do Rio P 148.10 270 eP **PKPbc 09 28 44.2 -0.9**
NBRS Nobres 148.11 282 eP **PKPbc 09 28 45.0 -0.2**
CHIC Chingaza 148.23 332 eP **PKPbc 09 28 45.5 -0.6**
ROSC El Rosal 148.29 333 PKPbc **PKiKP 09 28 47.9 0.0**
comp=Z,46nm,0.8s,baz=75,slow=4.5,SNR=18
ROSC El Rosal 148.29 333 eP **PKiKP 09 28 47.5 -0.4**
GUY2C **Guyana, Caldas 148.35 335** eP **PKPbc 09 28 45.6 -0.9**

PP1B Ponte de Pedra 148.42 275 eP **PKPdf 09 28 43.6 +1.2**
SALV Santo Antonio 148.61 279 eP **PKPdf 09 28 43.0 +0.2**
SGCB Sẽo Gabriel d 148.66 316 eP **PKPdf 09 28 44.6 +1.6**
VILC Villavicencio, 148.68 332 eP **PKPbc 09 28 47.4 +0.4**
CPSB Cacapava Do Su 148.71 251 eP **PKPdf 09 28 44.2 +1.6**
PLTB Pedras Altas 148.75 248 eP **PKPdf 09 28 43.6 +1.0**
RVDE Rio Verde (Bra 148.88 273 eP **PKPdf 09 28 44.6 +1.4**
PLMC San Jos del P 148.99 337 eP **PKPbc 09 28 48.0 +0.4**
ANIL Santa Ana 149.04 335 eP **PKPdf 09 28 45.2 +1.2**
ORTC Ortega, Tolima 149.51 334 eP **PKPbc 09 28 48.8 -0.1**
TEFE Tefe 149.54 309 eP **PKPdf 09 28 45.1 +0.8**
GUVC San Jose del G 149.58 328 eP **PKPdf 09 28 45.6 +1.1**
PTET Porto Estrela 149.75 281 eP **PKPdf 09 28 43.6 -0.9**
POCN Pocone 149.80 278 eP **PKPdf 09 28 45.6 +1.0**
YOTC Yotoco, Valle 149.86 336 eP **PKPbc 09 28 49.4 -0.5**
AQDB Aquidauana 149.92 270 **PKPbc 09 28 49.1 -0.5**
RODS Rosario do Sul 150.23 251 eP **PKPdf 09 28 47.4 +2.4**
ANTJ Antonio Joao (150.51 268 eP **PKPdf 09 28 45.4 -0.3**
BDQN Bodoquena, MS 150.88 271 eP **PKPdf 09 28 46.2 0.0**
AZCA Azaras, Argent 151.01 255 eP **PKPdf 09 28 48.2 +1.9**
CCRS Cacerres, MT, 151.07 278 eP **PKPdf 09 28 47.2 +0.7**
VILB Vilhena 151.45 288 eP **PKPdf 09 28 48.2 +0.9**
ITQB Itaqui 151.51 252 **PKPbc 09 28 53.2 +0.1**
ITQB Itaqui 151.51 252 eP **PKPdf 09 28 47.9 +1.0**
PTLB Pontes e Lacer 151.54 282 **PKPbc 09 28 52.5 -1.1**
PTLB PKPab **sPKPdf 09 29 00.2 -2.4**
PTLB Pontes e Lacer 151.54 282 eP **PKPdf 09 28 46.7 -0.6**
FLOC Florencia 151.79 333 eP **PKPbc 09 28 54.8 +0.5**
MURT Porto Murtinho 151.91 269 eP **PKPdf 09 28 48.5 +0.8**
VBST Vila Bela da S 151.97 285 eP **PKPdf 09 28 48.8 +0.7**
CPUP Villa Florida 152.18 259 PKPbc **PKPbc 09 28 54.4 -0.3**
comp=Z,7.5nm,0.9s,baz=80,slow=2.9,SNR=12
CPUP Villa Florida 152.18 259 PKPdf **PKPdf 09 28 45.1 -2.9**
CPUP **PKPbc 09 28 54.6 -0.1**
GCUF Volcan Galeras 152.78 336 eP **PKiKP 09 29 01.1 +3.8**
MECA Mercedes 152.89 252 eP **PKPdf 09 28 49.8 +0.8**
CMBC Cumbal 153.22 337 eP **PKPab 09 29 05.0 -4.6**
BBSD Serra de San D 153.48 280 eP **PKPdf 09 28 52.5 +2.2**
BONI La Bonita 153.56 336 eP **PKiKP 09 29 02.5 +3.9**
TBTG Tabatinga, AM 153.61 316 eP **PKPab 09 29 08.3 -2.5**
TBTG Tabatinga, AM 153.61 316 eP **PKPdf 09 28 52.1 +1.6**
TRQA Tornquist 153.83 232 eP **PKPdf 09 28 50.5 +0.3**
CUSE Cuicocha Este 154.01 338 eP **PKiKP 09 29 02.5 +2.8**
PAC1 Pacto, Paraso 154.18 338 eP **PKPdf 09 28 44.7 -6.8**
ETMB Extrema 154.83 301 eP **PKPdf 09 28 53.9 +1.7**
PIAT Ana Tenorio 155.17 336 eP PKPdf 09 29 01.1 +7.9
COHC Cochancay 156.89 337 eP **PKPab 09 29 27.3 +2.6**
PLCA Paso Flores 157.88 217 PKPab **PKPab 09 29 26.8 -1.7**
comp=Z,3.7nm,1.0s,baz=225,slow=2.9,SNR=3.2
PLCA Paso Flores 157.88 217 eP **PKPdf 09 28 55.7 +0.1**
CZSB Cruzeiro do Su 158.09 315 eP **PKPdf 09 28 56.6 +0.1**
LPAZ La Paz 159.80 289 eP PKPdf 09 29 12.6 +13
PB11 IPOC Station P 162.43 281 PKPdf **PKPdf 09 28 58.9 -2.4**
PB11 PKPab **PKPab 09 29 45.8 -3.3**

*IDC **03** 09:11:21.3±1.0,3.41N×127.96E,h0km,mb4.1/7, mbtmp4.1/8,ML3.6/1,Error ellipse: s-maj=103.4km s-min=15.7km az=63.0*
*DJA **03** 09:11:22.1±0.4,4.1N±4.1×12.9E±.1,h10km,M4.6/15,mB5.1/4, mb4.6/15,MLv4.7/13,Mw(mB)4.5/4*
ISC 03 09:11:25.7±0.9,3.75N±0.10×128.7E±0.1,h35km,n22, σ1°28/24,mb4.2/7,1D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.21**	**269**	P	**Pn**	**09 12 12.7**	**-0.9**
KCP	**Kidapawan**	**4.87**	**312**	*ieP*	**Pn**	**09 12 34.1**	**-2.5**
KCP				*i* S	**Sn**	**09 13 33.3**	**+1.6**
SWI	**Sorong**	**5.23**	**151**	P	**Pn**	**09 12 41.6**	**+0.1**
	31nm,0.8s,0.1nm						
SIJI	**Sorong**	**5.24**	**151**	Pn	**Pn**	**09 12 41.0**	**-0.6**
	1.9nm,0.3s,baz=1.0,slow=9.1,SNR=4.6						
SIJI				Sn	**Sn**	**09 13 38.9**	**-1.9**
	1.7nm,0.3s,baz=202,slow=22,SNR=1.8						
	9.5nm,0.4s						
SANI	**Sanana**	**6.38**	**206**	P	**Pn**	**09 12 56.8**	**-0.5**
	30nm,0.9s,0.1nm						
GTOI	**Gorontalo**	**6.51**	**242**	P	**Pn**	**09 12 59.3**	**+0.3**
	14nm,0.9s,208nm0.1nm						
MSAI	**Masohi**	**7.05**	**178**	P	**Pn**	**09 13 06.2**	**-0.3**
AAI	**Ambon**	**7.41**	**184**	P	**Pn**	**09 13 11.2**	**-0.2**
	138nm,0.9s,0.6nm						
FAKI	**Fak Fak**	**7.50**	**152**	P	**Pn**	**09 13 12.3**	**-0.3**
	30nm,0.9s,0.1nm						
MRSI	**Marisa**	**7.53**	**245**	P	**Pn**	**09 13 13.6**	**+0.5**
	184nm,0.6s,2μm0.7nm						
LUWI	**Luwuk**	**7.63**	**232**	P	**Pn**	**09 13 14.5**	**0.0**
	45nm,0.6s,10μm0.5nm						
APSI	**Ampana**	**8.46**	**237**	P	**Pn**	**09 13 25.9**	**0.0**
	56nm,1.0s						
MPSI	**Mapaga**	**9.46**	**249**	P	**Pn**	**09 13 38.7**	**-0.9**
	17nm,0.7s						
SPSI	**Sidrap Palu**	**11.79**	**230**	P	**Pn**	**09 14 11.7**	**+0.2**
	16nm,0.9s						
WRA	**Warramunga Arr**	**24.18**	**167**	P	**P**	**09 16 38.5**	**-0.5**
	3.6nm,0.7s,baz=346,slow=10,SNR=24						
	3.6nm,0.7s						
ASAR	**Alice Springs**	**27.71**	**170**	P	**P**	**09 17 10.3**	**-0.7**
	0.4nm,0.7s,baz=352,slow=7.0,SNR=8.1						
	0.4nm,0.7s						
CTA	**Charters Tower**	**29.28**	**145**	P	**P**	**09 17 29.0**	**+4.1**
	1.9nm,0.8s,baz=333,slow=13,SNR=2.1						
	1.9nm,0.8s						
STKA	**Stephens Creek**	**37.48**	**162**	P	**P**	**09 18 35.4**	**-0.7**
	2.7nm,0.6s,baz=333,slow=8.7,SNR=8.1						
	2.7nm,0.6s						
MKAR	**Makanchi Array**	**58.70**	**324**	P	**P**	**09 21 20.3**	**+0.4**
	1.4nm,0.4s,baz=116,slow=7.9,SNR=11						
	1.4nm,0.4s						
ZALV	**Zalesovo Beam**	**61.49**	**332**	P	**P**	**09 21 38.6**	**-0.3**
	1.4nm,0.7s,baz=148,slow=8.5,SNR=2.0						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**62.81**	**327**	P	**P**	**09 21 47.5**	**-0.3**
	1.8nm,0.5s,baz=128,slow=6.0,SNR=9.4						
	1.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**124.82**	**289**	PKP	**PKPdf**	**09 30 22.2**	**-0.8**
	0.6nm,0.7s,baz=101,slow=2.6,SNR=1.7						

*IDC **03** 09:12:53.8±1.6,3.51N×128.49E,h0km,mb3.9/4, mbtmp3.9/5,ML3.5/1,Error ellipse: s-maj=128.1km s-min=21.5km az=65.0*
ISC 03 09:12:59.6±1.6,3.5N±0.5×128.7E±0.8,h45km,n5,σ0°71/6, mb3.9/4,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.06**	**150**	Pn	**Pn**	**09 14 13.1**	**+0.1**
	1.9nm,0.3s,baz=156,slow=23,SNR=1.6						
SIJI				Sn	**Sn**	**09 15 10.0**	**-0.2**
	2.1nm,0.3s,baz=349,slow=23,SNR=6.2						
	8.4nm,0.4s						
WRA	**Warramunga Arr**	**23.97**	**167**	P	**P**	**09 18 11.0**	**+0.9**
	1.3nm,0.8s,baz=347,slow=10,SNR=1.9						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**27.50**	**170**	P	**P**	**09 18 41.3**	**-0.8**
	0.4nm,0.8s,baz=353,slow=14,SNR=1.3						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**58.86**	**324**	P	**P**	**09 22 54.1**	**+0.2**
	2.3nm,0.8s,baz=115,slow=6.8,SNR=6.5						
	2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**62.99**	**327**	P	**P**	**09 23 21.5**	**-0.3**
	1.8nm,0.7s,baz=128,slow=6.1,SNR=4.1						
	1.8nm,0.7s						

ATH 03 09:16:54.2,40.45N×21.83E,h15km±5km,Error ellipse: s-maj=5.9km s-min=1.8km az=254.0,Suspected Mining explosion.,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.15**	**199**	P	Pg	09 16 57.9	-0.3
FNA	**Florina**	**0.48**	**314**	P	Pg	09 17 03.1	-0.7
PENT	**Pentalofos**	**0.59**	**245**	P	Pb	09 17 06.1	-0.2
KPRO	**Kipourio**	**0.61**	**216**	P	Pg	09 17 05.8	-0.4
THL	**Klokotos Trika**	**0.90**	**171**	P	Pb	09 17 10.2	-1.2
HORT	**Hortiatis**	**0.98**	**81**	P	Pb	09 17 12.7	-0.2
KNT	**Kendrikon**	**1.08**	**48**	P	Pb	09 17 13.8	-0.7

ROM 03 09:17:46.4±0.6,42.88N±0.03×13.21E±0.04,h14km±3km, ML1.8/9,Error ellipse: s-maj=3.9km s-min=1.4km az=325.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.03**	**214**	P	Pg	09 17 49.6	+0.4
T1245				S	Sg	09 17 51.2	+0.2
T1245				AML	AML		
	comp=E,310μm,1.4s						
T1245				AML	AML		
	comp=N,288μm,0.1s						
T1245				AML	AML		
	comp=E,310μm,0.6s						
MC2	**Monte Cornacci**	**0.04**	**335**	P	Pg	09 17 48.8	-0.5
MC2				S	Sg	09 17 50.7	-0.5
NRCA	**Norcia**	**0.09**	**236**	P	Pg	09 17 50.1	+0.6
NRCA				S	Sg	09 17 52.1	+0.6
NRCA				AML	AML		
	comp=E,550μm,0.1s						
NRCA				AML	AML		
	comp=N,704μm,0.2s						
MMO1	**Montemonaco**	**0.09**	**78**	P	Pg	09 17 49.8	+0.3
MMO1				S	Sg	09 17 51.6	0.0
T1214	**Arquata del Tr**	**0.12**	**181**	P	Pb	09 17 50.4	-0.2
T1256	**Bolognola (MC)**	**0.13**	**5**	P	Pb	09 17 51.0	+0.3
T1216	**Preci, Frazion**	**0.14**	**274**	P	Pg	09 17 50.0	0.0
T1212	**Cascia, Frazio**	**0.18**	**223**	P	Pg	09 17 50.4	-0.3
T1212				S	Sg	09 17 54.1	+0.5

IDC 03 09:19:29.7±2.0,7.37S×128.27E,h166km±25km,mb3.0/1, mbtmp4.0/5,Error ellipse: s-maj=34.0km s-min=18.4km az=106.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.35**	**238**	P	Pn	09 20 48.5	+0.4
	27nm,0.7s,baz=72,slow=6.4,SNR=1.6						
BATI				S	Sn	09 21 45.0	-4.5
	41nm,0.5s,baz=118,slow=14,SNR=6.8						
SIJI	**Sorong**	**7.12**	**25**	P	Pn	09 21 11.8	+0.4
	5.8nm,0.3s,baz=183,slow=18,SNR=2.3						
SIJI				S	Sn	09 22 31.4	-0.1
	8.9nm,0.8s,baz=161,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**13.82**	**155**	P	Pn	09 22 37.0	-1.8
	1.4nm,0.4s,baz=322,slow=13,SNR=9.5						
WRA				S	Sn	09 24 57.6	-15
	1.5nm,0.6s,baz=333,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**17.09**	**162**	P	Pn	09 23 19.3	+0.4
	2.9nm,0.5s,baz=338,slow=11,SNR=4.9						
ASAR				S	S	09 26 20.4	-7.2
	0.8nm,0.6s,baz=320,slow=18,SNR=3.6						
MKAR	**Makanchi Array**	**67.60**	**328**	P	P	09 30 08.4	-0.1
	0.2nm,0.5s,baz=121,slow=7.6,SNR=5.6						
	0.2nm,0.5s						

*IDC **03** 09:37:07.9±0.8,3.73N×128.63E,h0km,mb3.9/9, mbtmp3.9/10,ML3.6/1,MS4.1/1,Error ellipse: s-maj=58.3km s-min=14.8km az=64.0*
*NEIC **03** 09:37:09.4±1.9,3.62N±0.09×128.78E±0.10,h10km±2km, mb4.0/12,Error ellipse: s-maj=16.5km s-min=15.6km az=306.0*
ISC 03 09:37:13.8±0.7,3.57N±0.09×128.6E±0.1,h45km,n29, σ1°29/29,mb4.0/13,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.04**	**204**	Pn	**Pn**	**09 37 57.6**	**-1.8**
SIJI	**Sorong**	**5.15**	**149**	Pn	**Pn**	**09 38 29.8**	**+1.4**
	2.2nm,0.3s,baz=129,slow=24,SNR=2.0						
SIJI				Sn	**Sn**	**09 39 27.1**	**+0.5**
	1.6nm,0.3s,baz=243,slow=23,SNR=2.6						
	5.5nm,0.3s						
FAKI	**Fak Fak**	**7.40**	**151**	Pn	**Pn**	**09 38 56.1**	**-3.2**
TOLI2	**Tolitoli**	**8.19**	**253**	Pn	**Pn**	**09 39 10.6**	**+0.5**
KNRA	**Kununurra**	**19.12**	**180**	P	**P**	**09 41 31.9**	**-1.3**
KNRA				IAmb	IAmb	09 41 35.4	
	comp=Z,39nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.73**	**188**	P	**P**	**09 42 00.6**	**-0.8**
PMG	**Port Moresby**	**22.54**	**125**	P	**P**	**09 42 09.7**	**-0.5**
	comp=Z,10nm,0.5s,baz=284,slow=11,SNR=5.4						
	comp=Z,10nm,0.5s						
PMG	**Port Moresby**	**22.54**	**125**	P	**P**	**09 42 09.6**	**-0.6**
WB0	**Warramunga Arr**	**23.88**	**166**	P	**P**	**09 42 22.8**	**-0.6**
WB0				IAmb	IAmb	09 42 50.0	
	comp=Z,5.3nm,1.1s						
WRAB	**Tennant Creek**	**24.03**	**167**	P	**P**	**09 42 23.3**	**-1.4**
WRAB				IAmb	IAmb	09 42 48.9	
	comp=Z,7.9nm,1.2s						
WRA	**Warramunga Arr**	**24.04**	**167**	P	**P**	**09 42 26.5**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=347,slow=10,SNR=14						
	comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**24.04**	**167**	P	**P**	**09 42 24.3**	**-0.5**
WB2	**Warramunga Arr**	**24.04**	**167**	P	**P**	**09 42 22.1**	**-2.7**
WB2				IAmb	IAmb	09 42 25.9	
	comp=Z,5.1nm,1.0s						
AS31	**Alice Springs**	**27.56**	**169**	P	**P**	**09 42 56.5**	**-0.2**
ASAR	**Alice Springs**	**27.56**	**169**	P	**P**	**09 42 58.3**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=358,slow=8.0,SNR=9.0						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**27.56**	**169**	P	**P**	**09 42 56.4**	**-0.3**
BBOO	**Buckleboo**	**36.87**	**170**	P	**P**	**09 44 18.9**	**+0.9**
STKA	**Stephens Creek**	**37.35**	**162**	P	**P**	**09 44 23.4**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=338,slow=7.6,SNR=7.8						
	comp=Z,1.3nm,0.4s						
STKA	**Stephens Creek**	**37.35**	**162**	P	**P**	**09 44 23.9**	**+1.8**
STKA				IAmb	IAmb	09 44 42.6	
	comp=Z,1.3nm,1.1s						
SONM	**Songino Array**	**48.07**	**340**	P	**P**	**09 45 49.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=152,slow=6.5,SNR=2.3						
	comp=Z,0.3nm,0.6s						
MA2	**Magadan**	**58.42**	**13**	LR	LR	10 11 17.8	
	comp=Z,173nm,20.6s,baz=281,slow=35						
MA2	**Magadan**	**58.42**	**13**	P	**P**	**09 47 03.5**	**-1.2**
MK31	**Makanchi Array**	**58.76**	**324**	P	**P**	**09 47 07.5**	**+0.1**
MK31				IAmb	IAmb	09 47 30.9	
	comp=Z,0.9nm,1.1s						
MKAR	**Makanchi Array**	**58.76**	**324**	P	**P**	**09 47 07.4**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=121,slow=8.3,SNR=8.2						
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**58.76**	**324**	P	**P**	**09 47 07.6**	**+0.2**
KURBB	**Kurchatov Arra**	**62.89**	**327**	P	**P**	**09 47 34.6**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=127,slow=6.2,SNR=13						
	comp=Z,1.4nm,0.5s						
BVAR	**Borovoye Array**	**68.48**	**326**	P	**P**	**09 48 11.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=141,slow=5.4,SNR=4.3						
	comp=Z,1.0nm,0.7s						
MAW	**Mawson**	**84.26**	**201**	P	**P**	**09 49 41.2**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=76,slow=8.3,SNR=1.7						
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**124.75**	**289**	PKP	**PKiKP**	**09 56 10.2**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=77,slow=1.9,SNR=2.1

0.6nm,0.5s,baz=110,slow=8.1,SNR=3.9
0.6nm,0.5s

KURBB	Kurchatov Arra	63.02	327	P		P	09 48 52.0	+0.7
	2.2nm,0.8s,baz=125,slow=6.1,SNR=12							
	2.2nm,0.8s							
BVAR	Borovoye Array	68.61	327	P		P	09 49 27.9	+0.6
	2.4nm,0.6s,baz=119,slow=8.6,SNR=7.4							
	2.4nm,0.8s							
TORD	Torodi Ar. Bea	124.71	288	PKP		PKiKP	09 57 27.1	+2.0
	0.5nm,0.7s,baz=41,slow=1.0,SNR=2.5							

NEIC 03 10:11:57.0±1.1, 35.16N±0.02×111.89W±0.03, h5km±2km, ML2.5/53, Error ellipse: s-maj=4.9km s-min=3.0km az=115.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUAZ	**Wupatki**	**0.56**	**50**		Pg	10 12 07.5	-0.2
WUAZ				Sg	Sg	10 12 15.4	+0.4
WUAZ				IAML		10 12 16.5	
	457nm,0.5s						
U15A	**North Rim**	**1.31**	**346**	Pn	Pg	10 12 20.7	-1.4
U15A				Sg	Sn	10 12 41.5	+1.2
U15A				IAML		10 12 41.9	
	comp=E,115nm,0.4s						
Y14A	**Wickenburg**	**1.52**	**217**	Pn	Pn	10 12 24.8	-0.2
Y14A				Sn	Sb	10 12 45.5	0.0
Y14A				IAML		10 12 50.6	
	comp=N,63nm,0.7s						
W13A	**Hualapai Mount**	**1.64**	**269**	Pn	Pn	10 12 26.3	-0.4
X18A	**Snowflake**	**1.72**	**111**	Pn	Pb	10 12 28.9	-0.2
X18A				IAML		10 12 55.7	
	comp=N,64nm,0.6s						
W18A	**Petrified Fore**	**1.77**	**91**		Pb	10 12 29.5	-0.6
KNB	**Kanab**	**2.00**	**338**	Pn	Pn	10 12 32.7	+1.0
KNB				IAML		10 13 00.2	
	comp=N,46nm,0.4s						
KNB				IAML		10 13 00.4	
	comp=E,59nm,0.2s						
LCMT	**Little Creek M**	**2.15**	**330**		Pn	10 12 34.0	+0.3
LCMT				IAML		10 13 03.6	
	comp=N,25nm,0.2s						
LCMT				IAML		10 13 05.1	
	comp=E,50nm,0.2s						
PKCU	**Pink Cliffs**	**2.31**	**352**	Pn	Pn	10 12 35.9	-0.1
V12A	**Nelson**	**2.48**	**284**		Pn	10 12 37.2	-1.0
BLYC	**Blythe**	**2.59**	**238**	Pn	Pn	10 12 39.7	+0.1
BLYC				IAML		10 13 20.6	
	comp=N,14nm,0.7s						
BLYC				IAML		10 13 24.4	
	comp=E,12nm,0.8s						
SZCU	**Shurtz Canyon**	**2.62**	**339**		Pn	10 12 40.3	+0.1
CCUT	**Cedar City**	**2.67**	**334**	Pn	Pn	10 12 40.4	-0.5
CCUT				IAML		10 13 20.4	
	comp=N,26nm,0.7s						
CCUT				IAML		10 13 20.6	
	comp=E,34nm,1.0s						
WTNK	**Soaring Height**	**2.74**	**293**		Pn	10 12 40.8	-0.9
WTNK				IAML		10 12 59.4	
	comp=E,11nm,0.0s						
WTNK				IAML		10 13 19.8	
	comp=N,18nm,0.0s						
113A	**Mohawk Valley,**	**2.85**	**214**	Pn	Pn	10 12 42.7	-0.5
MTPU	**Mount Pierson**	**2.89**	**355**		Pn	10 12 42.8	-1.2
MTPU				IAML		10 13 27.2	
	comp=N,14nm,0.5s						
MTPU				IAML		10 13 29.3	
	comp=E,14nm,0.4s						
SHPR	**Sheep Range**	**2.98**	**298**	Pn	Pn	10 12 44.9	-0.2
TUC	**Tucson**	**2.99**	**162**		Pn	10 12 45.4	+0.2
GLA	**Glamis**	**3.22**	**230**	Pn	Pn	10 12 48.9	+0.7
GLA				IAML		10 13 44.7	
	comp=N,11nm,0.7s						
GLA				IAML		10 14 00.9	
	comp=E,24nm,0.7s						
214A	**Organ Pipe Nat**	**3.28**	**194**	Pn	Pn	10 12 49.1	-0.1
214A				IAML		10 14 06.6	
	comp=N,6.9nm,4.3s						
MVU	**Marysvale**	**3.35**	**356**		Pn	10 12 50.6	+0.3
MSU	**Marysvale**	**3.36**	**356**	Pn	Pn	10 12 50.2	-0.1
PRN	**Pahroc Range**	**3.40**	**312**	Pn	Pn	10 12 49.1	-1.8
MVCO	**Mesa Verde**	**3.42**	**52**		Pn	10 12 50.9	-0.4
TCRU	**Three Creeks R**	**3.47**	**353**		Pn	10 12 52.2	+0.2
DUN6	**Lazy B Ranch**	**3.49**	**137**	Pn	Pn	10 12 51.8	-0.3
Q16A	**Castle Valley**	**3.80**	**9**		Pn	10 12 57.2	+0.8
PV13	**Radium Mtn., P**	**3.88**	**39**	Pn	Pn	10 12 59.0	+1.4
GUVIX	**Guadalupe Vict**	**3.89**	**224**		Pn	10 12 58.9	+1.4
PV10	**Paradox Valley**	**3.94**	**35**	Pn	Pn	10 13 01.5	+3.0
PV11	**David Mesa, Pa**	**3.96**	**37**		Pn	10 13 02.0	+3.3
PV23	**Carpenter Ridg**	**4.02**	**34**		Pn	10 13 00.7	+1.2
GWY	**Greenwater Val**	**4.02**	**286**	Pn	Pn	10 13 01.4	+1.9
SRU	**San Rafael Swe**	**4.09**	**15**		Pn	10 13 02.7	+2.2
TMUT	**Trail Mountain**	**4.17**	**7**	Pn	Pn	10 13 01.6	+0.1
PV07	**Paradox Valley**	**4.18**	**38**	Pn	Pn	10 13 03.0	+1.3
PV15	**Paradox Valley**	**4.20**	**40**	Pn	Pn	10 13 02.8	+0.9
SPR3	**Spring Creek 3**	**4.30**	**334**	Pn	Pn	10 13 05.7	+2.3
121A	**Cookes Peak, D**	**4.30**	**126**	Pn	Pn	10 13 04.2	+0.9
121A				IAML		10 14 17.4	
	comp=N,10nm,0.9s						
R11A	**Troy Canyon, C**	**4.35**	**318**	Pn	Pn	10 13 05.5	+1.5
R11A				IAML		10 15 21.1	
	comp=E,4.7nm,4.6s						
R11A				IAML		10 15 42.9	
	comp=N,3.5nm,5.0s						
319A	**Douglas**	**4.36**	**149**	Pn	Pn	10 13 04.7	+0.6
P17A	**Butcher Ranch,**	**4.41**	**12**	Pn	Pn	10 13 06.8	+2.1
CRNM	**Carthage**	**4.42**	**104**	Pn	Pn	10 13 05.8	+0.9
ANMO	**Albuquerque**	**4.46**	**91**	Pn	Pn	10 13 07.4	+1.8
ANMO				IAML		10 13 53.2	
	comp=N,5.5nm,4.0s						
ANMO				IAML		10 14 14.7	
	comp=N,4.9nm,4.4s						
P18A	**Preston Nutter**	**4.65**	**16**		Pn	10 13 11.0	+2.8

*IDC **03** 10:20:44.2±1.5, 1.60N×127.01E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=141.6km s-min=20.6km az=69.0*
*DJA **03** 10:20:57.2±0.5, 2.7N±5.3×126.7E±0.7, h123km±10km, M4.2/16, mb4.3/7, mB5.3/2, MLv4.2/16, Mw(mB)4.7/2*

ISC 03 10:20:56.8±1.0, 1.54N±0.08×126.95E±0.09, h103km, n15, σ1§60/15, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.86**	**151**	P	Pn	**10 21 19.0**	**+3.0**
SGSI	**Sangihe**	**2.57**	**326**	P	Pn	**10 21 38.1**	**+1.2**
SANI	**Sanana**	**3.69**	**195**	P	Pn	**10 21 52.1**	**+0.2**
GTOI	**Gorontalo**	**4.04**	**257**	P	Pn	**10 21 59.5**	**+2.9**
NLAI	**Namlea**	**4.74**	**178**	P	Pn	**10 22 07.4**	**+1.3**
LUWI	**Luwuk**	**4.90**	**239**	P	Pn	**10 22 09.2**	**+1.0**
MRSI	**Marisa**	**5.12**	**258**	P	Pn	**10 22 12.0**	**+0.8**
	19nm,0.5s,0.1nm						
AAI	**Ambon**	**5.33**	**167**	P	Pn	**10 22 14.9**	**+0.8**
	80nm,0.8s,0.4nm						
APSI	**Ampana**	**5.83**	**245**	P	Pn	**10 22 21.8**	**+0.9**
	21nm,0.6s,0.1nm						
FAKI	**Fak Fak**	**6.90**	**130**	P	Pn	**10 22 36.0**	**+0.7**
	30nm,1.7s,0.2nm						
RKPI	**Ransiki, Papua**	**7.83**	**113**	P	Pn	**10 22 48.4**	**+0.4**
WRA	**Warramunga Arr**	**22.54**	**162**	P	P	**10 25 46.8**	**-1.6**
	1.4nm,0.3s,baz=340,slow=11,SNR=31						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**25.95**	**165**	P	P	**10 26 18.9**	**-0.9**
	0.4nm,0.3s,baz=344,slow=9.2,SNR=16						
	0.4nm,0.3s						
SONM	**Songino Array**	**49.44**	**342**	P	P	**10 29 34.8**	**-1.7**
	0.3nm,0.4s,baz=140,slow=7.8,SNR=1.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.48**	**326**	P	P	**10 30 49.5**	**+0.4**
	1.6nm,0.6s,baz=119,slow=8.1,SNR=31						
	1.6nm,0.6s						

*IDC **03** 10:32:15.5±0.7, 31.64N×141.89E, h0km, mb3.8/13, mbtmp3.8/18, ML3.3/5, MS3.1/3, Error ellipse: s-maj=20.0km s-min=14.8km az=75.0*
*JMA **03** 10:32:17.4±0.4, 32.7N±1.7×14.2E±0.2, h89km, MV3.3/10, NEAR TORISHIMA IS*
*NEIC **03** 10:32:17.9±1.4, 31.71N±0.07×141.8E±0.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=16.4km s-min=11.0km az=70.0*

ISC 03 10:32:20.7±0.5, 31.67N±0.05×141.87E±0.09, h35km, n67, σ1§35/67, mb4.2/22, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.26**	**310**	Pn	Pn	**10 32 55.3**	**-0.2**
JHJ2	**Mitsune**	**2.26**	**310**	*e*P	Pn	**10 32 54.2**	**-1.3**
JHJ	**Hachijo jima 2**	**2.28**	**310**	Pn	Pn	**10 32 54.0**	**-1.9**
	13nm,0.3s,baz=126,slow=15,SNR=1.6						
JHJ				Sn	Sn	**10 33 23.9**	**+1.1**
	20nm,0.3s,baz=35,slow=18,SNR=2.0						
	61nm,0.4s						
BSO1	**Boso 1**	**3.07**	**346**	P	Pn	**10 33 04.9**	**-1.3**
BSO1				eS	Sn	**10 33 42.5**	**+1.1**
JOD2	**Odawara 2**	**4.27**	**328**	*e*P	Pn	**10 33 21.9**	**-1.4**
JFNN	**Fujinakano**	**4.41**	**324**	eS	Sn	**10 34 13.4**	**-1.9**
CBIJ	**Chichi jima**	**4.57**	**177**	eS	Sn	**10 34 17.7**	**-1.4**
JCJ	**Chichijima**	**4.57**	**177**	Pn	Pn	**10 33 24.6**	**-2.7**
	4.4nm,0.3s,baz=359,slow=14,SNR=1.6						
JCJ				Sn	Sn	**10 34 20.3**	**+1.1**
	7.9nm,0.3s,baz=6.9,slow=20,SNR=1.6						
	53nm,0.8s						
JCJ	**Chichijima**	**4.57**	**177**	Pn	Pn	**10 33 27.7**	**+0.3**
JRY	**Ryogami san**	**4.99**	**331**	P	Pn	**10 33 32.6**	**-0.5**
JRY				eS	Sn	**10 34 29.4**	**-0.3**
JAG	**Ashikaga**	**5.15**	**338**	P	Pn	**10 33 34.0**	**-1.4**
JGF	**Kuroka**	**5.44**	**317**	Pn	Pn	**10 33 37.9**	**-1.4**
MJAR	**Matsushiro Arr**	**5.73**	**329**	Pn	Pn	**10 33 41.9**	**-1.4**
	0.2nm,0.3s,baz=127,slow=11,SNR=6.8						
MJAR				LR	LR	10 35 58.8	
	comp=Z,142nm,18.5s,baz=285,slow=39						
	0.9nm,0.3s						
MAJO	**Matsushiro**	**5.73**	**329**	Pn	Pn	**10 33 42.2**	**-1.1**
MJB9	**Matsu-Tunnel**	**5.74**	**329**	Pn	Pn	**10 33 42.8**	**-0.6**
JMM	**Marumori**	**6.25**	**352**	Pn	Pn	**10 33 47.9**	**-2.5**
JSD	**Sado**	**7.01**	**336**	Pn	Pn	**10 33 59.1**	**-1.7**
JHS	**Saijyo**	**8.04**	**297**	Pn	Pn	**10 34 12.3**	**-2.7**
JTM	**Tenmabayashi**	**9.12**	**356**	Pn	Pn	**10 34 27.8**	**-2.0**
JNU	**Nakatsue**	**9.41**	**282**	LR	LR	10 38 09.3	
	comp=Z,118nm,18.4s,baz=338,slow=38						
ERM	**Erimo**	**10.38**	**5**	Pn	Pn	**10 34 44.5**	**-2.4**
JKA	**Kamikawa-asahi**	**12.44**	**2**	Pn	Pn	**10 35 11.6**	**-3.5**
ASAJ	**Asahikawa**	**12.44**	**2**	Pn	Pn	**10 35 11.1**	**-4.0**
	0.4nm,0.3s,baz=229,slow=12,SNR=6.3						
ASAJ				Sn	Sn	10 37 19.1	-13
	0.1nm,0.3s,baz=360,slow=25,SNR=2.2						
KSRS	**Korea Array**	**12.86**	**300**	Pn	Pn	**10 35 19.7**	**-1.2**
	0.2nm,0.3s,baz=114,slow=13,SNR=1.7						
KSRS				LR	LR	10 40 26.0	
	comp=Z,98nm,18.2s,baz=110,slow=38						
	0.7nm,0.5s						
KLR	**Kul'dur**	**19.13**	**339**	P	P	**10 36 38.8**	**-1.9**
	0.1nm,0.3s,baz=164,slow=10,SNR=1.8						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**25.42**	**112**	T	T	11 04 17.8	
	baz=304						
H11N1	**WAKE ISLAND Hy**	**25.43**	**112**	T	T	11 04 18.9	
	baz=304						
H11N3	**WAKE ISLAND Hy**	**25.44**	**112**	T	T	11 04 20.3	
	baz=304						
SONM	**Songino Array**	**31.36**	**311**	P	P	**10 38 39.6**	**+1.5**
	1.1nm,0.8s,baz=114,slow=9.6,SNR=6.3						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**45.93**	**316**	P	P	**10 40 41.0**	**+1.1**
	0.4nm,0.4s,baz=92,slow=4.3,SNR=2.5						
	0.4nm,0.4s						
MK31	**Makanchi Array**	**47.45**	**306**	P	P	**10 40 51.7**	**-0.2**
MKAR	**Makanchi Array**	**47.45**	**306**	P	P	**10 40 51.9**	**0.0**
	0.6nm,0.6s,baz=86,slow=8.8,SNR=7.6						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**47.45**	**306**	P	P	**10 40 52.0**	**+0.1**
N19K	**Bonanza Creek**	**50.14**	**35**	P	P	**10 41 13.0**	**+0.6**
K20K	**Telida**	**50.61**	**32**	P	P	**10 41 15.6**	**-0.3**
K20K				IAmb	IAmb	10 41 29.6	
	comp=Z,8.2nm,1.4s						
IMAR	**Indian Mountai**	**51.12**	**28**	P	P	**10 41 20.4**	**+0.7**
PPLA	**Purkeypile**	**51.41**	**32**	P	P	**10 41 23.7**	**+1.7**
WB0	**Warramunga Arr**	**51.65**	**189**	P	P	**10 41 24.1**	**+0.1**
WB0				IAmb	IAmb	10 41 26.3	
	comp=Z,6.1nm,0.9s						
SKT	**Skwentna**	**51.65**	**34**	P	P	**10 41 24.5**	**+0.9**
SKT				IAmb	IAmb	10 41 51.9	
	comp=Z,5.5nm,1.3s						
WRAB	**Tennant Creek**	**51.81**	**189**	P	P	**10 41 25.2**	**-0.1**
WRAB				IAmb	IAmb	10 41 26.0	
	comp=Z,8.4nm,1.0s						
WB2	**Warramunga Arr**	**51.82**	**189**	P	P	**10 41 25.7**	**+0.3**
WB2				IAmb	IAmb	10 41 26.0	
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**51.83**	**189**	P	P	**10 41 24.9**	**-0.5**
	comp=Z,4.5nm,0.9s,baz=6.6,slow=7.8,SNR=24						
	comp=Z,4.5nm,0.9s						
WRA	**Warramunga Arr**	**51.83**	**189**	P	P	**10 41 25.2**	**-0.2**
SUA	**Susitna One**	**51.99**	**34**	P	P	**10 41 26.5**	**+0.1**
SUA				IAmb	IAmb	10 41 26.7	
	comp=Z,12nm,1.4s						
KNK	**Knik Glacier**	**53.09**	**34**	P	P	**10 41 34.6**	**+0.3**
SML	**Sawmill**	**53.16**	**34**	P	P	**10 41 35.2**	**+0.3**
SML				IAmb	IAmb	10 41 46.4	
	comp=Z,7.2nm,1.2s						
ILAR	**Eielson Array**	**53.87**	**30**	P	P	**10 41 39.3**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=262,slow=5.1,SNR=5.1						
	comp=Z,0.8nm,1.0s						
ASAR	**Alice Springs**	**55.55**	**189**	P	P	**10 41 52.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=13,slow=7.3,SNR=9.5						
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**55.55**	**189**	P	P	**10 41 53.1**	**+0.4**
L27K	**Beaver Creek,**	**56.14**	**32**	P	P	**10 41 55.9**	**-0.6**
BCAR	**Beaver Creek A**	**56.16**	**32**	P	P	**10 41 58.1**	**+1.4**
KK31	**Karatay Array**	**56.27**	**303**	P	P	**10 41 57.3**	**-0.4**
KKAR	**Karatay Array**	**56.27**	**303**	P	P	**10 41 58.2**	**+0.5**
INK	**Inuvik**	**59.01**	**26**	P	P	**10 42 16.5**	**0.0**
	comp=Z,1.1nm,0.9s,baz=288,slow=12,SNR=2.6						
	comp=Z,1.1nm,0.9s						
ABKAR	**Akbulak array**	**61.76**	**313**	P	P	**10 42 36.4**	**+0.8**
GEYT	**Alibeck**	**66.85**	**301**	P	P	**10 43 09.3**	**+0.1**
GEYT				IAmb	IAmb	10 43 11.2	
	comp=Z,5.8nm,1.4s						
GYA0B	**ALIBECK ARRAY**	**66.85**	**301**	P	P	**10 43 09.1**	**-0.1**
GYA0B				IAmb	IAmb	10 43 30.6	
	comp=Z,2.8nm,0.6s						
RES	**Resolute Bay**	**67.70**	**14**	P	P	**10 43 14.3**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=262,slow=2.5,SNR=4.4						
	comp=Z,1.5nm,0.8s						
YKA	**Yellowknife Ar**	**68.27**	**29**	P	P	**10 43 18.0**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=292,slow=5.6,SNR=6.9						
	comp=Z,0.7nm,0.8s						
LRM	**Limekiln Ridge**	**77.74**	**44**	P	P	**10 44 16.1**	**+1.7**
NVAR	**Mina Array Bea**	**77.93**	**52**	P	P	**10 44 16.1**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=293,slow=6.6,SNR=6.1						
	comp=Z,0.7nm,0.7s						
NOA	**NORSAR Array B**	**79.28**	**338**	P	P	**10 44 21.5**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=60,slow=6.7,SNR=1.2						
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**81.17**	**45**	P	P	**10 44 33.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=273,slow=2.7,SNR=5.6						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**81.17**	**45**	P	P	**10 44 34.0**	**+1.0**
RDMU	**Red Mountain**	**82.43**	**47**	P	P	**10 44 41.5**	**+1.7**
CLL	**Collm**	**85.94**	**331**	*i* P	P	**10 44 57.9**	**+0.9**
TXAR	**Lajitas Array**	**93.07**	**53**	P	P	**10 45 32.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=303,slow=2.8,SNR=17						
	comp=Z,0.9nm,0.7s						

NOU 03 10:32:24.8, 33.65S×177.17W, h62km, MLv4.7/7, South of Kermadec Islands, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.37**	**222**	P	Pn	10 33 42.4	+0.1
URZ	**Urewera**	**6.53**	**224**	P	Pn	10 33 57.6	-0.6
KUZ	**Kuaotunu**	**6.59**	**240**	P	Pn	10 33 58.3	-0.7
BKZ	**Black Stump Fm**	**7.51**	**221**	P	Pn	10 34 10.2	-1.4
OUZ	**Omahuta**	**7.79**	**256**	P	Pn	10 34 14.9	-0.5
HIZ	**Hauiti**	**8.07**	**231**	P	Pn	10 34 19.2	-0.1
BFZ	**Birch Farm**	**8.77**	**215**	P	Pn	10 34 28.3	-0.5

DJA 03 10:46:07.6±0.3, 1.5S±3.3×126.7E±0.7, h72km±13km, M3.7/13, mb3.9/2, MLv3.6/13, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.32**	**217**	P	Pn	10 46 30.5	+0.1
SANI				S	Sn	10 46 47.9	+0.5
TNTI	**Ternate**	**1.84**	**19**	P	Pn	10 46 37.4	+0.3
NLAI	**Namlea**	**2.27**	**172**	P	Pn	10 46 43.0	+0.1
AAI	**Ambon**	**3.04**	**152**	P	Pn	10 46 53.2	-0.2
MSAI	**Masohi**	**3.18**	**138**	P	Pn	10 46 55.4	0.0
LUWI	**Luwuk**	**4.01**	**269**	P	Pn	10 47 06.7	+0.1
BNDI	**Bandanaira**	**4.70**	**138**	P	Pn	10 47 16.1	0.0
SGSI	**Sangihe**	**4.80**	**345**	P	Pn	10 47 17.6	+0.1
APSI	**Ampana**	**5.13**	**271**	P	Pn	10 47 22.0	+0.1
BBSI	**Bau Bau**	**6.14**	**223**	P	Pn	10 47 35.6	-0.2

*BJI **03** 10:49:32.9±0.0, 8.14S×148.45E, h48km, mb5.1/61, mB5.2/33, Ms4.4/7, Ms7 4.2/7*
*MOS **03** 10:49:34.9±0.8, 8.24S×148.01E, h55km, mb5.2/37, Error ellipse: s-maj=9.3km s-min=5.7km az=89.4*
*DJA **03** 10:49:35.8±0.4, 8.3S±3.3×14.8E±0.7, h61km±5km, M4.8/28, mB5.1/6, mb4.8/28, MLv5.1/2, Mw(mB)4.5/6*
*NEIC **03** 10:49:36.3±1.9, 8.25S±0.06×148.00E±0.07, h50km±4km, mb5.1/160, Error ellipse: s-maj=10.6km s-min=7.8km az=118.0*
*IDC **03** 10:49:37.5±1.0, 8.26S×148.12E, h63km±9km, mb4.5/25, mbtmp4.8/30, MS3.9/33, Error ellipse: s-maj=13.2km s-min=7.9km az=124.0*
*GCMT **03** 10:49:39.3±0.4, 8.35S±0.03×148.04E±0.03, h76km±3km, MW5.0/47, Moment Tensor Solution. s39,c51; s47,c55; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.45±.20; Mθθ-2.10±.19; Mφφ-0.34±.21; Mrθ-0.18±.21; Mθφ-2.55±.13; Mφr0.68±.18; Best double couple: Mo3.35800×10¹⁶ NP1:φs259.00000°, δ53.00000°, λ56.00000°. NP2: φs259.00000°, δ49.00000°, λ126.00000°. Principal axes: T 2.7860, Plg63.0000°, Azm239.0000°; N 1.1460, Plg26.0000°, Azm53.0000°; P -3.9300, Plg2.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 10:49:36.5±0.5, 8.28S±0.04×148.03E±0.04, h58km±4km, h58km:pP-P, n570, σ1§17/544, mb5.1/140, MS4.0/35, 20C-5D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.41**	**217**	P	Pn	**10 50 01.0**	**+1.1**
	4μm,0.4s,baz=34,slow=7.7,SNR=1045						
PMG				S	Sn	**10 50 20.8**	**+3.2**
	18μm,0.6s,baz=94,slow=23,SNR=47						
PMG	**Port Moresby**	**1.41**	**217**	Pn	Pn	**10 50 00.6**	**+0.6**
PMG	**Port Moresby**	**1.41**	**217**	P	Pn	**10 50 01.4**	**+1.4**
PMG	**Port Moresby**	**1.41**	**217**	*ce*P	Pn	**10 50 01.1**	**+1.1**
PMG				pmax	pmax		
	comp=Z,5μm,0.7s						
KRVT	**Keravat (AS076**	**5.60**	**45**	P	Pn	**10 50 56.8**	**-0.5**
	comp=Z,270nm,0.5s,baz=158,slow=19,SNR=31						
KRVT				S	Sn	**10 52 00.4**	**+0.1**
	comp=Z,333nm,0.7s,baz=132,slow=22,SNR=7.3						
MANU	**Manus Island**	**6.23**	**354**		Pn	**10 51 05.8**	**-0.2**
GENI	**Genyem**	**9.65**	**305**	P	Pn	**10 51 51.9**	**-0.9**
	comp=Z,88nm,0.9s						
TV1H	**Townsville Har**	**10.98**	**186**	P	Pn	**10 52 12.5**	**+1.5**
SMPI	**Sarmi**	**11.19**	**303**	P	Pn	**10 52 13.2**	**-0.6**
	comp=Z,84nm,1.5s						
HNR	**Honiara**	**11.83**	**96**	P	Pn	**10 52 21.7**	**-0.9**
	comp=Z,119nm,0.3s,baz=277,slow=14,SNR=6.0						
HNR				LR	LR	10 56 45.6	
	comp=Z,4μm,20.6s,baz=270,slow=36						
HNR	**Honiara**	**11.83**	**96**	Pn	Pn	**10 52 22.7**	**+0.1**
HNR	**Honiara**	**11.83**	**96**	P	Pn	**10 52 22.7**	**+0.1**
CTA	**Charters Tower**	**11.87**	**188**	P	Pn	**10 52 24.6**	**+1.5**
	comp=Z,14nm,0.6s,baz=4.1,slow=12,SNR=32						
CTA				LR	LR	10 56 38.3	
	comp=Z,905nm,20.5s,baz=7.0,slow=35						
CTAO	**Charters Tower**	**11.87**	**188**	Pn	Pn	**10 52 22.6**	**-0.5**
CTAO	**Charters Tower**	**11.87**	**188**	P	Pn	**10 52 24.6**	**+1.5**
CTAO	**Charters Tower**	**11.87**	**188**	P	Pn	**10 52 22.6**	**-0.5**
QIS	**Mount Isa**	**14.68**	**213**	P	Pn	**10 53 02.3**	**+1.3**
	baz=15,SNR=28						
RKPI	**Ransiki, Papua**	**15.35**	**295**	P	Pn	**10 53 08.8**	**-0.9**
	comp=Z,41nm,1.1s,comp=Z,2μm						
KDU	**Kakadu**	**15.91**	**253**	P	Pn	**10 53 18.1**	**+1.2**
	baz=16,SNR=29						
KDU	**Kakadu**	**15.91**	**253**	P	Pn	**10 53 18.5**	**+1.6**
FAKI	**Fak Fak**	**16.58**	**288**	Pn	Pn	**10 53 23.9**	**-1.4**
FAKI	**Fak Fak**	**16.58**	**288**	P	P	**10 53 34.1**	**+7.1**
FAKI	**Fak Fak**	**16.58**	**288**	P	Pn	**10 53 24.6**	**-0.7**
	comp=Z,54nm,1.1s						
MTN	**Manton Dam**	**17.22**	**253**	P	Pn	**10 53 33.5**	**+0.2**
	baz=17,SNR=7.9						
MTN	**Manton Dam**	**17.22**	**253**	Pn	Pn	**10 53 31.2**	**-2.0**
EIDS	**Eidsvold**	**17.24**	**171**	P	Pn	**10 53 34.2**	**+0.7**
	baz=17,SNR=3.8						
EIDS	**Eidsvold**	**17.24**	**171**		Pn	**10 53 33.4**	**-0.1**
EIDS	**Eidsvold**	**17.24**	**171**	P	P	**10 53 38.4**	**+4.1**
WB0	**Warramunga Arr**	**17.46**	**228**		Pn	**10 53 36.5**	**+0.2**
WR0	**Warramunga Arr**	**17.48**	**227**		Pn	**10 53 35.9**	**-0.5**
WRAB	**Tennant Creek**	**17.60**	**227**		Pn	**10 53 36.2**	**-1.7**
WRAB	**Tennant Creek**	**17.60**	**227**	P	Pn	**10 53 38.0**	**+0.1**
WRAB	**Tennant Creek**	**17.60**	**227**	*ce*P	Pn	**10 53 37.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,38nm,1.0s						
WB2	**Warramunga Arr**	**17.60**	**227**	Pn	Pn	**10 53 35.1**	**-2.9**
WRA	**Warramunga Arr**	**17.61**	**227**	P	Pn	**10 53 38.1**	**0.0**
	comp=Z,22nm,0.8s,baz=52,slow=11,SNR=62						
WRA				S	Sn	**10 56 44.2**	**-9.4**
	comp=Z,14nm,0.8s,baz=50,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**17.61**	**227**	Pn	Pn	**10 53

FITZ Fitzroy Crossi 23.86 244 P **P** **10 54 44.6 -0.2**
LCRK Leigh Creek 23.89 201 P **P** **10 54 47.4 +2.4**
STKA Stephens Creek 24.23 193 P **P** **10 54 48.5 +0.5**
comp=Z,1.9nm,0.4s,baz=27,slow=7.0,SNR=5.2
STKA LR LR 11 04 50.1
comp=Z,494nm,18.3s,baz=6.7,slow=38
comp=Z,1.9nm,0.4s
STKA Stephens Creek 24.23 193 P **P** **10 54 49.0 +1.0**
baz=24,SNR=4.3
STKA Stephens Creek 24.23 193 P **P** **10 54 47.4 -0.7**
STKA Stephens Creek 24.23 193 P **P** **10 54 52.7 +4.7**
STKA Stephens Creek 24.23 193 *i* P **P** **10 54 48.3 +0.3**
WRKA Warakurna 25.14 226 P **P** **10 54 56.3 -0.2**
baz=25,SNR=108
MULG Mulgathing 25.50 209 P **P** **10 55 02.0 +2.4**
LUWI Luwuk 26.17 285 P **P** **10 55 05.7 -0.1**
LUWI IAmb IAmb 10 55 07.8
comp=Z,68nm,0.9s
LUWI Luwuk 26.17 285 P **P** **10 55 05.8 0.0**
comp=Z,95nm,0.9s,comp=Z,2µm
BBOO Buckleboo 26.81 203 P **P** **10 55 12.4 +1.0**
CAN Canberra 26.93 178 P **P** **10 55 13.9 +1.4**
CAN Canberra 26.93 178 P **P** **10 55 13.9 +1.4**
CAN pmax pmax
comp=Z,26nm,1.0s
DAV Davao City (W) 27.08 304 LR LR 11 08 04.8
comp=Z,90nm,18.1s,baz=292,slow=41
BASI Baing, Sumba 27.16 264 P **P** **10 55 14.7 -0.1**
comp=Z,177nm,1.5s
APSI Ampana 27.28 284 P **P** **10 55 15.1 -0.7**
comp=Z,50nm,0.9s
TOLI2 Tolitoli 28.72 288 P **P** **10 55 27.9 -0.8**
TOO Toolangi 29.25 184 P **P** **10 55 33.2 0.0**
TOO IAmb IAmb 10 55 59.3
comp=Z,65nm,1.9s
TOO Toolangi 29.25 184 P **P** **10 55 33.2 0.0**
TOO pmax pmax
comp=Z,65nm,2.0s
MPSI Mapaga 29.32 286 P **P** **10 55 33.3 -0.7**
comp=Z,11nm,1.1s
MBWA Marble Bar 30.15 242 P **P** **10 55 41.3 0.0**
MSVF Nonsavu 30.68 111 LR LR 11 06 45.3
comp=Z,442nm,19.2s,baz=0.4,slow=34
MEEK Meekatharra 33.34 233 P **P** **10 56 09.7 +0.4**
baz=34,SNR=17
KMBL Kambalda 33.48 223 P **P** **10 56 10.7 +0.2**
baz=34,SNR=5.2
JAGI Jajag, Banyuwa 33.51 267 P **P** **10 56 09.6 -1.3**
MOO Moorlands 34.03 181 P **P** **10 56 14.2 -0.8**
baz=34,SNR=3.3
KKM Kota Kinabalu 34.77 293 P **P** **10 56 21.0 -0.9**
KKM IAmb IAmb 10 56 22.2
comp=Z,26nm,0.9s
OUZ Omahuta 35.60 143 P **P** **10 56 27.6 -1.0**
MORW Morawa 36.49 231 P **P** **10 56 37.1 +0.7**
baz=37,SNR=3.6
MORW Morawa 36.49 231 P **P** **10 56 35.6 -0.8**
MORW IAmb IAmb 10 56 37.5
comp=Z,22nm,1.1s
KLBR Kellerberrin 36.49 226 P **P** **10 56 36.7 +0.3**
baz=37,SNR=7.2
SBUM Sibu 37.27 285 P **P** **10 56 41.1 -2.1**
NWAO Narrogin (SRO) 37.59 225 LR LR 11 12 06.4
comp=Z,296nm,20.7s,slow=36
MUN Mundaring 37.81 227 P **P** **10 56 48.6 +1.0**
baz=38,SNR=4.6
KSM Kuching 38.84 283 P **P** **10 56 54.0 -2.4**
JOW Kunigami 39.82 332 LR LR 11 10 54.9
comp=Z,142nm,20.2s,baz=166,slow=32
LEM Lembang 40.08 269 P **P** **10 57 06.1 -0.8**
LEM pmax pmax
comp=Z,40nm,0.8s
RPZ Rata Peaks 40.62 154 LR LR 11 11 43.5
comp=Z,272nm,21.3s,baz=322,slow=33
TPUB Ta-pu 41.27 320 P **P** **10 57 15.6 -0.9**
SSLB Suanglung 41.42 321 P **P** **10 57 16.5 -1.2**
YHNB Yeheng 41.81 322 P **P** **10 57 20.5 -0.4**
JNU Nakatsue 44.29 339 P **P** **10 57 40.0 -0.7**
JNU IAmb IAmb 10 57 42.4
comp=Z,33nm,0.8s
INU Inuyama 44.62 347 P **P** **10 57 42.7 -0.6**
JGF Kuroka 44.79 348 P **P** **10 57 44.2 -0.5**
JGF IAmb IAmb 10 57 45.6
comp=Z,18nm,0.8s
MYKOM Kota Tinggi 45.17 281 P **P** **10 57 45.7 -2.4**
MYKOM IAmb IAmb 10 57 50.0
comp=Z,36nm,1.0s
MJAR Matsushiro Arr 45.53 349 P **P** **10 57 50.7 +0.1**
comp=Z,25nm,0.8s,baz=174,slow=8.5,SNR=21
comp=Z,25nm,0.8s
MAJO Matsushiro 45.53 349 P **P** **10 57 50.5 0.0**
MAJO Matsushiro 45.53 349 *i* P **P** **10 57 50.6 0.0**
MAJO pmax pmax
comp=Z,47nm,0.8s
MAJO Matsushiro 45.53 349 P **P** **10 57 50.5 0.0**
MAJO pP pP 10 58 01.7 -3.8
MAJO sP sP 10 58 06.3 -5.9
MJB9 Matsu-Tunnel 45.53 349 P **P** **10 57 51.6 +1.1**
QIZ Qiongzhong 46.41 306 P **P** **10 57 59.0 +1.3**
QIZ pP pP 10 58 10.0 -2.8
QIZ sP sP 10 58 16.0 -3.4
JSD Sado 46.97 349 P **P** **10 58 02.3 +0.5**
IPM Ipoh 48.56 283 P **P** **10 58 14.8 +0.2**
NJ2 Nanjing 48.83 327 *e*P **P** **10 58 17.1 +0.8**
NJ2 pmax pmax
comp=Z,14nm,0.6s
KULM Kulim 49.14 284 P **P** **10 58 19.3 +0.3**
KSRS Korea Array 49.23 339 P **P** **10 58 19.9 +0.6**
comp=Z,7.2nm,0.7s,baz=151,slow=8.2,SNR=24
comp=Z,7.2nm,0.7s
KSAR Wonju Array Be 49.23 339 P **P** **10 58 19.9 +0.6**
KSAR Wonju Array Be 49.23 339 P **P** **10 58 19.9 +0.6**
JTM Tenmabayashi 49.24 353 P **P** **10 58 18.9 -0.4**
KS19 Wonju Array Si 49.30 339 P **P** **10 58 19.2 -0.5**
RPSI Rantau Prapat 50.17 280 P **P** **10 58 25.7 -1.1**
PSI Prapat 50.19 281 P **P** **10 58 25.7 -1.5**
PSI pmax pmax
comp=Z,37nm,1.1s
WHN Wuhan 50.34 322 ⇑P P 10 58 40.6 +13
GSI Gunungsitoli 51.19 278 P **P** **10 58 34.4 -0.2**
RAR Rarotonga 51.87 110 LR LR 11 17 26.3
comp=Z,94nm,21.9s,baz=268,slow=32
ASAJ Asahikawa 52.38 355 P **P** **10 58 43.9 +1.1**
ASAJ pmax pmax
comp=Z,32nm,1.1s
JKA Kamikawa-asahi 52.38 355 P **P** **10 58 43.9 +1.1**
JKA IAmb IAmb 10 59 02.9
comp=Z,32nm,1.1s
LHMI Lhok Sumawe 52.68 283 P **P** **10 58 43.9 -1.7**
GYA Guiyang 52.95 312 ⇓*i*P **P** **10 58 49.5 +1.9**
GYA pmax pmax
comp=Z,23nm,1.0s
ENH Enshi 53.28 318 P **P** **10 58 48.4 -1.4**
PHRA Phrae 54.14 300 P **P** **10 58 54.7 -1.6**
USRK Ussuriysk Ar. 54.21 346 P **P** **10 58 57.2 +0.9**
comp=Z,4.9nm,0.7s,baz=178,slow=10.0,SNR=9.3
comp=Z,4.9nm,0.7s
USRK Ussuriysk Ar. 54.21 346 P **P** **10 58 54.6 -1.7**
USA0B Ussuriysk Arra 54.22 346 P **P** **10 58 55.4 -0.9**
USA0B IAmb IAmb 10 59 15.2
comp=Z,17nm,0.8s
USA0B Ussuriysk Arra 54.22 346 *i* P **P** **10 58 56.7 +0.4**
LYN LuoYang 54.28 324 *e*P **P** **10 58 57.0 0.0**
LYN pmax pmax
comp=Z,20nm,0.7s
HNS HongShan 55.10 328 ⇑P **P** **10 59 03.2 +0.4**
HNS pmax pmax
comp=Z,15nm,0.9s
YSS Yuzh-Sakhalins 55.19 356 P **P** **10 59 02.7 -0.6**
YSS IAmb IAmb 10 59 22.7
comp=Z,22nm,0.9s
YSS Yuzh-Sakhalins 55.19 356 *e*P **P** **10 59 04.1 +0.9**
YSS *e* 10 59 15.5
YSS *e*S **S** **11 06 41.4 -0.8**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 55.19 356 P **P** **10 59 03.8 +0.5**
YSS pP pP 10 59 15.5 -3.1
KMI Kunming 55.20 308 P **P** **10 59 06.0 +2.0**
KMI pP **pP** **10 59 17.1 -2.4**
MDJ Mudanjiang 55.22 344 P P 10 58 56.7 -6.9
MDJ pmax pmax
comp=Z,10.0nm,1.9s
MDJ pmax pmax
comp=Z,110nm,4.2s

MDJ Mudanjiang 55.22 344 P **P** **10 59 04.3 +0.7**
MDJ pP pP 10 59 15.3 -3.7
MDJ sP sP 10 59 21.0 -4.5
CMAR Chiang Mai Arr 55.23 299 P **P** **10 59 05.9 +1.7**
comp=Z,16nm,0.8s,baz=124,slow=5.5,SNR=72
CMAR LR LR 11 24 17.9
comp=Z,19nm,19.3s,baz=115,slow=38
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 55.23 299 P **P** **10 59 05.1 +0.9**
CHTO Chiang Mai 55.38 300 P **P** **10 59 05.1 -0.1**
CHTO IAmb IAmb 10 59 07.6
comp=Z,16nm,0.8s
CHTO Chiang Mai 55.38 300 P **P** **10 59 05.1 -0.1**
CHTO pmax pmax
comp=Z,16nm,0.8s
CN2 Changchun 55.74 340 *e*P **P** **10 59 08.0 +0.7**
CN2 sP pP 10 59 26.0 +3.3
XAN Xi'an 56.08 321 P **P** **10 59 10.2 +0.1**
XAN pP pP 10 59 21.4 -4.1
XAN sP sP 10 59 27.7 -4.3
BJT Baijiatuau 56.36 331 P **P** **10 59 11.0 -0.9**
BJT Baijiatuau 56.36 331 P **P** **10 59 11.0 -0.9**
BJT pmax pmax
comp=Z,10.0nm,1.2s
PZH PanZhiHua 56.68 309 P **P** **10 59 16.7 +2.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.3s
BNX BinXian 56.87 343 ⇓P **P** **10 59 16.1 +0.8**
BNX pmax pmax
comp=Z,17nm,0.7s
BNX pmax pmax
comp=Z,100nm,4.2s
CD2 Chengdu 57.59 315 P **P** **10 59 21.7 +0.9**
CD2 pmax pmax
comp=Z,40nm,0.6s
TNCH TengChong 58.48 306 P **P** **10 59 28.5 +1.2**
TNCH pP pP 10 59 39.8 -3.0
TNCH sP sP 10 59 45.2 -4.2
TNCH S **S** **11 07 26.9 0.0**
TNCH sS pS 11 07 49.5 +4.0
TNCH pmax pmax
comp=Z,22nm,0.9s
TNCH pmax pmax
comp=Z,130nm,5.4s
TNCH LR LR
comp=Z,130nm,5.6s
TNCH LR LR
comp=Z,140nm,5.4s
TNCH LR LR
comp=Z,72nm,5.3s
DRV Dumont d'Urvil 58.56 184 P **P** **10 59 27.3 +0.4**
DRV pP **pP** **10 59 39.4 -3.0**
KLR Kul'dur 59.02 348 *ce*P **P** **10 59 30.9 +0.6**
KLR pmax pmax
comp=Z,16nm,1.9s
TYV Tymovskoe 59.08 356 *e*P **P** **10 59 31.4 +0.7**
TYV *e*S **S** **11 07 35.4 +2.0**
TYV pmax pmax
comp=Z,9.0nm,0.8s
TYV pmax pmax
comp=Z,100nm,3.0s
TYV smax smax
comp=N,200nm,6.6s
HHC Hu-ho-hao-te 59.30 328 *e*P **P** **10 59 33.7 +1.1**
HHC pmax pmax
comp=N,20nm,0.8s
HHC pmax pmax
comp=N,170nm,4.7s
KEKH Kekaha 59.40 59 P **P** **10 59 33.7 +0.3**
BTO Baotou 59.94 327 *e*P P 10 59 44.4 +7.4
BTO S S 11 07 58.6 +14
BTO LR LR
comp=N,330nm,6.1s
BTO LR LR
comp=E,450nm,5.1s
LZH Lanzhou 60.59 320 ⇑P **P** **10 59 43.0 +1.4**
LZH pP pP 10 59 59.8 +2.6
LZH pmax pmax
comp=E,61nm,1.2s
HEH HeiHe 60.99 345 *e*P **P** **10 59 43.9 +0.1**
HEH pmax pmax
comp=E,9.0nm,0.7s
HEH pmax pmax
comp=E,250nm,4.9s
PPT2 Papeete2 61.29 105 *e*LR LR 11 17 59.9
comp=E,190nm,23.5s
PPT2 *e*LR LR 11 18 00.5
comp=E,218nm,23.2s
PPT Papeete 61.29 105 LR LR 11 21 20.8
comp=E,97nm,21.4s,baz=278,slow=31
TBI Tubuai 61.56 112 *e*LR LR 11 18 06.7
comp=E,2µm,29.8s
TBI *e*LR LR 11 18 07.0
comp=E,5µm,29.2s
PEA0B Petropavlovsk- 61.70 7 *ce*P **P** **10 59 48.9 +0.4**
PETK Petropavlovsk- 61.70 7 P **P** **10 59 48.8 +0.2**
comp=E,19nm,0.9s,baz=146,slow=6.4,SNR=21
PETK LR LR 11 23 26.6
comp=E,63nm,21.9s,baz=183,slow=33
comp=E,19nm,0.9s
PET Petropavlovsk 61.73 7 P **P** **10 59 48.3 -0.4**
PET Petropavlovsk 61.73 7 *e*P **P** **10 59 49.4 +0.7**
PET pmax pmax
comp=Z,24nm,1.0s
PET MLR MLR
comp=Z,100nm,14.0s
PET Petropavlovsk 61.73 7 P **P** **10 59 49.4 +0.7**
PET pP pP 11 00 00.5 -3.8
HIA Hailar 62.43 340 P **P** **10 59 54.0 +0.4**
HIA IAmb IAmb 10 59 55.0
comp=Z,13nm,0.9s
HIA Hailar 62.43 340 P **P** **10 59 54.0 +0.4**
HIA pmax pmax
comp=Z,13nm,0.9s
HIA Hailar 62.43 340 P **P** **10 59 54.2 +0.6**
HIA pP pP 11 00 05.5 -3.7
HIA sP sP 11 00 12.1 -3.7
BRDH Bariadhala 63.18 300 LR LR 11 29 38.0
comp=Z,38nm,18.7s,baz=91,slow=38
CASY Casey 63.35 196 P **P** **10 59 59.3 -0.1**
ZEA Zeya 64.24 346 *e*P **P** **11 00 06.5 +1.1**
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.8s
SHEM Shemya Is, Ala 64.72 17 LR LR 11 24 23.1
comp=Z,71nm,18.9s,baz=127,slow=32
GTA Gaotai 65.14 320 *e*P **P** **11 00 12.6 +0.9**
GTA pP pP 11 00 23.8 -3.7
GTA sP sP 11 00 31.6 -2.4
GTA pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 66.42 307 P **P** **11 00 20.9 +0.3**
LSA IAmb IAmb 11 00 23.3
comp=Z,23nm,0.8s
LSA Lhasa 66.42 307 P **P** **11 00 20.9 +0.3**
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa 66.42 307 P **P** **11 00 22.3 +1.7**
LSA pP **pP** **11 00 34.0 -2.4**
ULN Ulaanbaatar 66.59 331 P **P** **11 00 20.3 -0.6**
ULN IAmb IAmb 11 00 23.1
comp=Z,31nm,1.8s
ULN Ulaanbaatar 66.59 331 *ce*P **P** **11 00 21.6 +0.7**
ULN pmax pmax
comp=Z,14nm,1.7s
ULN Ulaanbaatar 66.59 331 P **P** **11 00 21.9 +1.0**
ULN pP pP 11 00 33.1 -3.6
GOMU GeErMu 66.72 315 P **P** **11 00 23.5 +1.2**
GOMU pP pP 11 00 38.7 +0.6
GOMU sP sP 11 00 43.6 -0.9
GOMU pmax pmax
comp=Z,13nm,1.0s
GOMU pmax pmax
comp=Z,130nm,5.1s
SONM Songino Array 66.88 331 P **P** **11 00 23.7 +1.0**
comp=Z,5.1nm,1.0s,baz=149,slow=6.2,SNR=22
SONM LR LR 11 30 41.3
comp=Z,88nm,19.5s,baz=164,slow=37
comp=Z,5.1nm,1.0s
SONM Songino Array 66.88 331 P **P** **11 00 23.0 +0.2**
KIWB Kanaga Island 66.94 23 P **P** **11 00 23.3 +0.5**
MA2 Magadan 67.67 2 P **P** **11 00 27.9 +0.6**
comp=Z,19nm,0.8s,baz=154,slow=6.6,SNR=15
comp=Z,19nm,0.8s
MA2 Magadan 67.67 2 *ce*P **P** **11 00 27.4 +0.1**
MA2 Magadan 67.67 2 *ce*P **P** **11 00 28.3 +1.0**
MA2 pmax pmax
comp=Z,23nm,0.8s
MA2 Magadan 67.67 2 P **P** **11 00 27.9 +0.6**
MA2 pP pP 11 00 39.5 -3.6
MA2 sP PcP 11 00 45.0 -8.8
CCD Concordia, Ant 68.24 187 P **P** **11 00 31.7 +0.4**
TAPN Taplejung 68.25 304 *e*P **P** **11 00 33.0 +1.0**
comp=Z,31nm,0.7s
ODAN Odare 68.33 303 *e*P **P** **11 00 33.5 +1.0**
PALK Pallekele 68.87 281 LR LR 11 33 03.3
comp=Z,20nm,21.8s,baz=214,slow=38
PALK Pallekele 68.87 281 P **P** **11 00 36.5 +0.6**
PALK pP pP 11 00 48.1 -3.7
RAMN Ramite 69.02 303 *e*P **P** **11 00 37.5 +0.7**
comp=Z,18nm,0.5s
VNDA Vanda 69.59 177 P **P** **11 00 39.7 +0.6**
comp=Z,11nm,0.9s,baz=324,slow=6.3,SNR=20
VNDA LR LR 11 27 40.3
comp=Z,104nm,20.2s,baz=46,slow=33
comp=Z,11nm,0.9s
VNDA Vanda 69.59 177 P **P** **11 00 39.0 -0.1**
VNDA IAmb IAmb 11 00 40.9
comp=Z,20nm,1.1s
VNDA Vanda 69.59 177 P **P** **11 00 39.5 +0.4**
VNDA pP **pP** **11 00 51.9 -3.1**
JIRN Jiri 69.62 303 *e*P **P** **11 00 41.4 +0.8**
comp=Z,26nm,0.6s
ZAK Zakamensk 70.12 331 *e*P **P** **11 00 42.3 -0.6**
ZAK pmax pmax
comp=Z,11nm,1.1s
PKI Pulchoki 70.23 303 *e*P **P** **11 00 44.6 +0.3**
DMN Daman 70.50 303 *e*P **P** **11 00 46.7 +0.8**
GKN Gorkha 71.03 303 *e*P **P** **11 00 49.0 0.0**
comp=Z,58nm,0.7s
SEY Seymchan 71.08 2 P **P** **11 00 49.1 +0.8**
comp=Z,4.2nm,0.7s,baz=174,slow=6.8,SNR=10
comp=Z,4.2nm,0.7s
SEY Seymchan 71.08 2 *ce*P **P** **11 00 48.8 +0.5**
SEY pmax pmax
comp=Z,28nm,2.5s
BOD Bodaibo 71.45 342 *e*P **P** **11 00 49.8 -0.8**
BOD pmax pmax
comp=Z,19nm,0.9s
YAK Yakutsk 71.53 351 LR LR 11 31 54.9
comp=Z,31nm,19.5s,baz=97,slow=36
YAK Yakutsk 71.53 351 P **P** **11 00 51.4 +0.3**
YAK IAmb IAmb 11 00 51.9
comp=Z,22nm,0.9s
YAK Yakutsk 71.53 351 *e*P **P** **11 00 51.3 +0.3**
YAK *e**PP **PcP** **11 01 07.7 -2.4**
YAK *e* 11 03 33.6
YAK *e*S **S** **11 10 06.0 +0.7**
YAK *e**SS **sS** **11 10 35.1 +3.8**
YAK *e* 11 10 50.6
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,56nm,2.3s
YAK pmax pmax
comp=N,28nm,2.6s
YAK pmax pmax
comp=E,50nm,2.8s
YAK smax smax
comp=E,26nm,2.0s
YAK Yakutsk 71.53 351 P **P** **11 00 51.3 +0.3**
DANN Dangsing 71.87 303 *e*P **P** **11 00 54.3 +0.1**
comp=E,53nm,0.9s
MOY Mondy 72.05 331 *e*P **P** **11 00 55.5 +0.9**
MOY pmax pmax
comp=Z,21nm,1.6s
HYB Hyderabad 73.22 291 *e*P **P** **11 01 02.2 +0.1**
HYB IVmBBB 11 01 02.9
comp=Z,98nm,0.6s
HYB *e* 11 01 14.2
PCHI Peechi 73.75 283 ⇑*e*P **P** **11 01 05.7 +0.4**
WMQ Urumqi 75.18 319 *e*P **P** **11 01 14.1 +1.1**
WMQ PcP **PcP** **11 01 26.2 -0.1**
WMQ pmax pmax
comp=Z,55nm,1.1s
WMQ pmax pmax
comp=Z,200nm,4.9s
BILL Bilibino 77.23 7 P **P** **11 01 25.1 +1.1**
BILL Bilibino 77.23 7 *de*P **P** **11 01 24.7 +0.7**
BILL *i* 11 01 35.8
BILL *i**PP **pP** **11 01 40.8 +0.6**
BILL *i**SP sP 11 01 45.0 -1.6
BILL 11 04 14.0
BILL *e*PPP PPP 11 06 04.0
BILL S **S** **11 11 09.0 +0.1**
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,41nm,20.0s
CHGN Chignik 77.94 27 P **P** **11 01 27.7 -0.4**
baz=234
GAMB Gambell 78.03 17 P **P** **11 01 28.2 -0.3**
baz=221
DGZ Jazzator, Alta 78.07 325 ⇑*i*P **P** **11 01 29.7 +0.4**
DGZ pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 79.89 320 P **P** **11 01 39.9 +0.7**
MK31 IAmb IAmb 11 01 40.9
comp=Z,18nm,0.9s
MK31 Makanchi Array 79.89 320 ⇑*i*P **P** **11 01 39.9 +0.7**
MKAR Makanchi Array 79.89 320 P **P** **11 01 39.8 +0.6**
comp=Z,18nm,0.8s,baz=108,slow=6.2,SNR=162
comp=Z,18nm,0.8s
MKAR Makanchi Array 79.89 320 P **P** **11 01 39.5 +0.3**
MAKZ Makanchi 80.10 320 P **P** **11 01 40.8 +0.5**
MAKZ IAmb IAmb 11 01 41.9
comp=Z,28nm,0.9s
MAKZ Makanchi 80.10 320 P **P** **11 01 40.8 +0.5**
MAKZ pmax pmax
comp=Z,28nm,0.9s
Q17K Contact Creek 80.18 26 P **P** **11 01 39.7 -0.9**
baz=236
N16K Nishlik Lake 80.25 24 P **P** **11 01 41.1 +0.3**
baz=234
P17K Kvichak River 80.47 25 P **P** **11 01 42.4 +0.4**
baz=236
O17K Koliganek Bris 80.52 25 P **P** **11 01 42.9 +0.7**
baz=235
ANM Nome 80.52 19 P **P** **11 01 43.2 +1.1**
ANM Nome 80.52 19 P **P** **11 01 42.4 +0.2**
baz=227
ANM Nome 80.52 19 P **P** **11 01 43.2 +1.1**
ANM pmax pmax
comp=Z,12nm,0.9s
MAW Mawson 80.55 203 P **P** **11 01 43.0 +0.7**
comp=Z,5.5nm,0.9s,baz=76,slow=3.9,SNR=5.2
MAW LR LR 11 34 48.0
comp=Z,132nm,22.0s,baz=158,slow=34
comp=Z,5.5nm,0.9s
MAW Mawson 80.55 203 P **P** **11 01 42.6 +0.2**
MAW Mawson 80.55 203 P **P** **11 01 43.0 +0.7**
TIXI Tiksi 80.77 354 LR LR 11 35 10.0
comp=Z,53nm,21.8s,baz=20,slow=34
TIXI Tiksi 80.77 354 P **P** **11 01 43.4 +0.1**
TIXI Tiksi 80.77 354 *ce*P **P** **11 01 42.4 -0.9**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
Q18K Katmai Hardscr 80.78 26 P **P** **11 01 43.5 -0.4**
baz=237
TARG Taragay, Kyrgy 81.04 315 P **P** **11 01 47.0 +1.0**
TARG IAmb IAmb 11 01 59.6
comp=Z,19nm,0.9s
TARG Taragay, Kyrgy 81.04 315 P **P** **11 01 47.0 +1.0**
TARG pmax pmax
comp=Z,19nm,0.9s
P18K Big Mountain, 81.09 26 P **P** **11 01 45.0 -0.4**
baz=237
O18K Koktuh Hills 81.35 25 P **P** **11 01 46.7 0.0**
baz=237
KDAK Kodiak Island 81.42 28 P **P** **11 01 46.2 -0.8**
comp=Z,4.1nm,0.9s,baz=174,slow=10,SNR=1.4
KDAK LR LR 11 35 48.3
comp=Z,70nm,19.5s,baz=236,slow=34
comp=Z,4.1nm,0.9s
ZAA0 Zalesovo Array 81.47 328 P **P** **11 01 46.6 -0.8**
ZALV Zalesovo Beam 81.47 328 P **P** **11 01 46.7 -0.8**

comp=Z,8.0nm,0.8s,baz=112,slow=5.0,SNR=34
ZALV LR LR 11 39 05.0
comp=Z,31nm,19.7s,baz=70,slow=36
comp=Z,8.0nm,0.8s
Q19K Cape Douglas, 81.53 27 P **P** **11 01 47.8 +0.1**
baz=238
KSH Kashi 81.65 312 P **P** **11 01 51.4 +2.5**
KSH pP PcP 11 02 02.9 +8.3
KSH pmax pmax
comp=Z,16nm,1.0s
QSPA South Pole Qui 81.70 180 LR LR 11 36 07.8
comp=Z,109nm,18.9s,baz=54,slow=34
QSPA South Pole Qui 81.70 180 P **P** **11 01 48.7 0.0**
QSPA IAmb IAmb 11 02 01.9
comp=Z,26nm,0.8s
SVW2 Sparrevohn 81.89 24 P **P** **11 01 50.2 +0.7**
SVW2 IAmb IAmb 11 01 52.6
comp=Z,18nm,1.0s
NIL Nilore 82.08 306 P **P** **11 01 51.6 +0.5**
NIL Nilore 82.08 306 P **P** **11 01 51.6 +0.5**
NIL pmax pmax
comp=Z,57nm,0.8s
P19K Oil Pt 82.09 26 P **P** **11 01 50.6 0.0**
P19K Oil Pt 82.09 26 P **P** **11 01 50.1 -0.5**
baz=239
N19K Bonanza Creek 82.18 25 P **P** **11 01 51.0 -0.1**
baz=237
TTA Tatalina 82.75 22 P **P** **11 01 54.6 +0.6**
TTA Tatalina 82.75 22 P **P** **11 01 54.1 +0.1**
baz=236
TTA Tatalina 82.75 22 P **P** **11 01 54.6 +0.6**
TTA pmax pmax
comp=Z,14nm,1.4s
L19K White Mountain 82.78 23 P **P** **11 01 55.1 +1.0**
L19K IAmb IAmb 11 01 56.0
comp=Z,20nm,0.9s
L19K White Mountain 82.78 23 P **P** **11 01 55.0 +0.9**
baz=237
M19K Big River Lodg 82.81 24 P **P** **11 01 55.2 +0.9**
M19K IAmb IAmb 11 01 56.3
comp=Z,17nm,1.1s
M19K Big River Lodg 82.81 24 P **P** **11 01 55.5 +1.2**
baz=237
CNPM China Poot 82.90 27 P **P** **11 01 55.3 +0.4**
TKM2 Tokmak 2 82.97 315 P **P** **11 01 56.5 +0.6**
SNR=17
BRLK Bradley Lake 83.18 26 P **P** **11 01 56.6 +0.3**
BRLK IAmb IAmb 11 01 58.0
comp=Z,20nm,1.0s
M20K Styx River 83.30 24 P **P** **11 01 57.8 +0.8**
M20K IAmb IAmb 11 02 16.8
comp=Z,16nm,0.8s
M20K Styx River 83.30 24 P **P** **11 01 57.9 +1.0**
baz=238
L20K Farewell, AK 83.32 23 P **P** **11 01 57.4 +0.4**
baz=238
N20K Mount Spurr 83.33 25 P **P** **11 01 56.8 -0.3**
baz=239
SPCR Spurr Chakacha 83.33 25 P **P** **11 01 57.2 +0.1**
baz=239
KBK Karagaybulak 83.35 315 P **P** **11 01 58.5 +0.8**
SNR=12
SPU Mount Spurr 83.38 25 P **P** **11 01 56.7 -0.6**
GCSA Galena City Sc 83.47 21 P **P** **11 01 58.0 +0.5**
baz=235,SNR=6.6
UCH Uchtor 83.52 314 P **P** **11 02 00.1 +1.1**
SNR=28
CAPN Captain Cook N 83.55 26 P **P** **11 01 58.9 +0.8**
baz=240
CHMS Chumysh 83.59 315 P **P** **11 01 59.3 +0.5**
SNR=18
AAK Ala-Archa 83.66 315 P **P** **11 02 00.1 +0.7**
SNR=16
AAK Ala-Archa 83.66 315 P **P** **11 01 58.7 -0.6**
AAK IAmb IAmb 11 02 01.1
comp=Z,21nm,0.9s
AAK Ala-Archa 83.66 315 *ce*P **P** **11 02 00.0 +0.7**
AAK pmax pmax
comp=Z,26nm,1.0s
K20K Telida 83.72 23 P **P** **11 01 59.9 +0.9**
K20K IAmb IAmb 11 02 00.8
comp=Z,15nm,0.9s
K20K Telida 83.72 23 P **P** **11 01 59.3 +0.3**
baz=238,SNR=8.5
USP Ospenovka 83.84 315 P **P** **11 02 00.6 +0.5**
SNR=33
SEW Seward 83.97 27 P **P** **11 02 00.7 +0.4**
baz=242
SKT Skwentna 84.00 24 P **P** **11 02 00.2 -0.2**
baz=240
SUA Susitna One 84.07 25 P **P** **11 02 00.5 -0.4**
SUA IAmb IAmb 11 04 43.5
comp=Z,50nm,1.9s
SUA Susitna One 84.07 25 P **P** **11 02 00.4 -0.6**
baz=241
AML Almayashu 84.08 314 P **P** **11 02 02.5 +0.7**
SNR=35
J20K Nowinta River 84.13 22 P **P** **11 02 01.9 +0.9**
J20K IAmb IAmb 11 02 03.0
comp=Z,16nm,1.1s
J20K Nowinta River 84.13 22 P **P** **11 02 00.9 -0.1**
baz=237
EKS2 Erkin-Say 84.17 314 P **P** **11 02 02.9 +1.0**
SNR=28
RC01 Rabbit Creek A 84.32 26 P **P** **11 02 00.8 -1.2**
RC01 IAmb IAmb 11 02 17.9
comp=Z,11nm,0.9s
RC01 Rabbit Creek A 84.32 26 P **P** **11 02 02.0 0.0**
baz=242,SNR=6.7
M22K Willow 84.47 25 P **P** **11 02 03.0 +0.2**
M22K IAmb IAmb 11 02 22.0
comp=Z,26nm,1.1s
M22K Willow 84.47 25 P **P** **11 02 02.3 -0.5**
baz=241
CAST Castle Rocks 84.51 23 P **P** **11 02 02.6 -0.4**
CAST IAmb IAmb 11 02 03.7
comp=Z,19nm,1.0s
CAST Castle Rocks 84.51 23 P **P** **11 02 03.1 +0.1**
baz=239,SNR=12
CHUM Lake Minchumin 84.66 23 P **P** **11 02 03.8 +0.1**
baz=239,SNR=13
PMR Palmer 84.81 25 P **P** **11 02 04.2 -0.3**
PMR IAmb IAmb 11 02 20.1
comp=Z,11nm,0.9s
PMR Palmer 84.81 25 P **P** **11 02 04.3 -0.2**
baz=242,SNR=5.7
PMR Palmer 84.81 25 P **P** **11 02 04.2 -0.2**
PMR pmax pmax
comp=Z,11nm,0.9s
PWL Port Wells 84.81 26 P **P** **11 02 04.8 +0.2**
PWL IAmb IAmb 11 02 21.1
comp=Z,21nm,0.8s
PWL Port Wells 84.81 26 P **P** **11 02 04.8 +0.2**
baz=243,SNR=5.4
KNK Knik Glacier 85.01 26 P **P** **11 02 05.4 -0.1**
baz=243
KTH Kantishna Hill 85.03 23 P **P** **11 02 05.2 -0.4**
KTH IAmb IAmb 11 02 21.1
comp=Z,18nm,1.1s
Q23K Middleton Isla 85.07 28 P **P** **11 02 05.8 0.0**
baz=245
TRF Thorofare Moun 85.23 23 IAmb IAmb 11 02 19.7
comp=Z,9.0nm,1.0s
TRF Thorofare Moun 85.23 23 P **P** **11 02 06.8 +0.1**
baz=241
SML Sawmill 85.25 25 P **P** **11 02 07.3 +0.5**
baz=243
BPAW Bear Paw Mtn. 85.28 23 P **P** **11 02 06.8 0.0**
baz=240
H21K Melozitna Rive 85.41 21 P **P** **11 02 07.9 +0.4**
H21K Melozitna Rive 85.41 21 P **P** **11 02 08.1 +0.6**
baz=238
I21K Tanana 85.45 22 IAmb IAmb 11 02 22.2
comp=Z,8.4nm,0.9s
I21K Tanana 85.45 22 P **P** **11 02 07.7 +0.1**
baz=239
M23K Glacier View 85.50 25 P **P** **11 02 08.0 +0.1**
baz=243
G21K Allakaket 85.62 20 P **P** **11 02 08.2 -0.2**
baz=238
WAT1 Susitna Watana 85.63 24 P **P** **11 02 08.2 -0.4**
baz=243
SCM Sheep Creek Mo 85.69 25 P **P** **11 02 08.7 -0.2**
baz=244,SNR=5.0
GAR Garm 85.73 310 P **P** **11 02 09.6 -0.2**
RND Reindeer 85.77 24 P **P** **11 02 08.8 -0.6**
RND IAmb IAmb 11 02 09.8
comp=Z,11nm,1.0s
RND Reindeer 85.77 24 P **P** **11 02 08.8 -0.6**
RND pmax pmax
comp=Z,11nm,1.0s
MLY Manley 85.83 22 P **P** **11 02 09.7 +0.1**
MLY IAmb IAmb 11 02 10.7
comp=Z,12nm,1.1s
MLY Manley 85.83 22 P **P** **11 02 09.9 +0.3**
baz=240,SNR=6.8
WAT6 Susitna Watana 85.85 25 P **P** **11 02 10.1 +0.2**
baz=243
MCK McKinley 85.89 23 P **P** **11 02 09.3 -0.6**
baz=242,SNR=13
F21K Alatna River 86.00 19 P **P** **11 02 10.2 -0.2**
baz=238
H22K Ishtalitna Cre 86.03 21 P **P** **11 02 10.9 +0.4**
baz=240
DIV Divide 86.06 26 IAmb IAmb 11 02 12.3
comp=Z,21nm,1.1s
KLU Klutina 86.14 26 P **P** **11 02 11.5 +0.3**
KLU IAmb IAmb 11 02 29.5
comp=Z,16nm,1.0s
KLU Klutina 86.14 26 P **P** **11 02 11.3 +0.1**
baz=245
DHY Denali Highway 86.22 24 P **P** **11 02 11.5 -0.2**
DHY IAmb IAmb 11 02 32.4
comp=Z,9.9nm,0.8s
DHY Denali Highway 86.22 24 P **P** **11 02 11.5 -0.2**
baz=244,SNR=8.6
NEA2 Nenana 86.25 23 P **P** **11 02 10.6 -1.0**
NEA2 Nenana 86.25 23 P **P** **11 02 12.0 +0.4**
baz=242,SNR=5.6
M24K Tolsona, Glenn 86.30 25 P **P** **11 02 12.1 +0.1**
baz=245
I23K Minto, Yukon-K 86.40 22 P **P** **11 02 12.7 +0.4**
baz=242
BMRM Bremner River 86.51 27 IAmb IAmb 11 02 41.0
comp=Z,15nm,1.0s
BMRM Bremner River 86.51 27 P **P** **11 02 13.0 0.0**
baz=246
G22K Bettles 86.51 20 P **P** **11 02 13.2 +0.4**
baz=240
CHGR Chuyangaron 86.53 310 P **P** **11 02 13.3 -0.4**
CHGR pmax pmax
comp=Z,57nm,1.0s
WRH Wood River Hil 86.57 23 P **P** **11 02 12.1 -1.0**
WRH IAmb IAmb 11 02 28.8
comp=Z,6.8nm,0.8s
F22K John River 86.58 19 P **P** **11 02 13.5 +0.3**
baz=239
KK31 Karatay Array 86.60 314 P **P** **11 02 13.7 -0.1**
KK31 IAmb IAmb 11 02 27.1
comp=Z,19nm,1.1s
KK31 Karatay Array 86.60 314 P **P** **11 02 13.7 -0.1**
KK31 pmax pmax
comp=Z,19nm,1.1s
KKAR Karatay Array 86.60 314 P **P** **11 02 13.7 -0.1**
KKAR IAmb IAmb 11 02 27.1
comp=Z,19nm,1.1s
KKAR Karatay Array 86.60 314 P **P** **11 02 13.7 -0.1**
KKAR pmax pmax
comp=Z,19nm,1.1s
H23K Yukon River 86.66 21 P **P** **11 02 13.5 -0.1**
H23K IAmb IAmb 11 02 38.9
comp=Z,10nm,1.2s
H23K Yukon River 86.66 21 P **P** **11 02 13.6 0.0**
baz=242,SNR=5.2
CCB Clear Creek Bu 86.76 23 P **P** **11 02 13.0 -1.0**
CCB IAmb IAmb 11 02 29.1
comp=Z,9.9nm,1.1s
N25K Chitina, Valde 86.77 26 P **P** **11 02 14.4 0.0**
baz=246
TCOL CIGO, UAF Yank 86.84 23 P **P** **11 02 14.0 -0.5**
COLA College 86.84 23 P **P** **11 02 13.9 -0.5**
COLA College 86.84 23 *i*P **P** **11 02 13.6 -0.8**
COLA pmax pmax
comp=Z,9.0nm,1.0s
HARP HAARP 86.85 25 P **P** **11 02 15.2 +0.6**
baz=246
G23K Bananza Creek 86.91 21 P **P** **11 02 15.2 +0.3**
baz=241
PAX Paxson 86.96 25 P **P** **11 02 15.5 +0.3**
baz=245
HDA Harding Lake 86.98 23 P **P** **11 02 14.2 -1.0**
HDA IAmb IAmb 11 04 14.8
comp=Z,18nm,1.0s
HDA Harding Lake 86.98 23 P **P** **11 02 15.9 +0.7**
baz=244
GLB Gilahina Butte 87.05 27 IAmb IAmb 11 02 17.2
comp=Z,9.7nm,1.0s
COLD Coldfoot 87.11 20 P **P** **11 02 16.0 +0.3**
baz=241
VRDI Verde Repeater 87.12 27 P **P** **11 02 16.4 +0.2**
VRDI IAmb IAmb 11 02 17.8
comp=Z,13nm,1.1s
87.17 23 IAmb IAmb 11 02 34.1
IL31 comp=Z,8.9nm,1.0s
ILAR Eielson Array 87.17 23 P **P** **11 02 14.7 -1.4**
comp=Z,4.8nm,0.9s,baz=257,slow=4.8,SNR=35
ILAR LR LR 11 34 02.3
comp=Z,74nm,21.4s,baz=136,slow=31
comp=Z,4.8nm,0.9s
K24K Donnelly Dome 87.18 24 P **P** **11 02 16.2 0.0**
baz=245
H24K Noodor Dome 87.27 22 P **P** **11 02 16.8 +0.2**
baz=243
A21K Barrow 87.37 15 P **P** **11 02 17.3 +0.4**
baz=235
MCARA McCarthy VSAT 87.38 27 P **P** **11 02 17.4 +0.2**
baz=248
RIDG Independent Ri 87.53 24 IAmb IAmb 11 02 29.4
comp=Z,14nm,1.1s
RIDG Independent Ri 87.53 24 P **P** **11 02 18.0 +0.1**
baz=246,SNR=7.2
MENT Mentasta 87.68 25 P **P** **11 02 19.0 +0.4**
MENT IAmb IAmb 11 02 20.1
comp=Z,8.5nm,0.9s
E23K Chandalar 87.70 19 P **P** **11 02 19.0 +0.3**
baz=241
NRIK Noril'sk 87.74 342 P **P** **11 02 18.2 -0.5**
comp=Z,6.1nm,0.8s,baz=124,slow=4.6,SNR=12
comp=Z,6.1nm,0.8s
NRIK Noril'sk 87.74 342 P **P** **11 02 17.9 -0.8**
NRIK IAmb IAmb 11 02 19.1
comp=Z,7.4nm,0.9s
M26K Nabesna, AK 87.78 26 IAmb IAmb 11 04 03.3
comp=Z,26nm,1.9s
M26K Nabesna, AK 87.78 26 P **P** **11 02 20.0 +0.8**
baz=248
G24K Hadweenzic Riv 87.81 21 P **P** **11 02 19.8 +0.7**
baz=243
D23K Nanushuk River 87.81 18 P **P** **11 02 20.1 +1.1**
baz=240
DOT Dot Lake 87.82 24 IAmb IAmb 11 02 20.5
comp=Z,14nm,1.0s
BARN Barnard Glacie 87.87 27 IAmb IAmb 11 02 21.3
comp=Z,10nm,0.8s
L26K Log Cabin Wild 87.87 25 P **P** **11 02 20.3 +0.8**
baz=247
SCRK Sand Creek 87.98 24 P **P** **11 02 19.7 -0.4**
SCRK Sand Creek 87.98 24 P **P** **11 02 20.1 0.0**
baz=247
F24K Squaw Lake 88.03 20 P **P** **11 02 20.7 +0.5**
baz=243
E24K Your Creek 88.09 20 P **P** **11 02 21.1 +0.6**
baz=242
PINM Pinnacle 88.18 28 P **P** **11 02 21.8 +0.7**
baz=250
M27K Edge Creek, AK 88.24 26 IAmb IAmb 11 02 23.6
comp=Z,17nm,0.9s
M27K Edge Creek, AK 88.24 26 P **P** **11 02 21.7 +0.2**
baz=249,SNR=12
G25K Bearman Lake 88.33 21 P **P** **11 02 22.3 +0.8**
baz=245
J26L Joseph Creek 88.35 24 P **P** **11 02 22.2 +0.4**
baz=247
O28M Mount Upton 88.44 28 P **P** **11 02 23.4 +0.8**
baz=250
PNL Peninsula 88.44 29 P **P** **11 02 22.8 +0.5**
baz=251
D24K Happy Valley 88.48 19 P **P** **11 02 23.1 +0.8**
baz=242
L27K Beaver Creek, 88.52 25 IAmb IAmb 11 02 24.6
comp=Z,7.9nm,1.0s
L27K Beaver Creek, 88.52 25 P **P** **11 02 23.1 +0.5**
baz=249
BCAR Beaver Creek A 88.54 25 P **P** **11 02 22.9 +0.2**
YUK3 Moose Creek 88.66 27 P **P** **11 02 24.0 +0.5**
baz=250,SNR=6.0
BVCY Beaver Creek 88.71 26 P **P** **11 02 23.9 +0.4**
baz=250
K27K Chicken 88.78 24 P **P** **11 02 24.6 +0.8**
K27K IAmb IAmb 11 02 26.1
comp=Z,17nm,1.1s
K27K Chicken 88.78 24 P **P** **11 02 24.4 +0.7**
baz=248
C24K Franklin Bluff 88.79 18 P **P** **11 02 24.5 +0.9**
baz=242
YUK8 Steele Glacier 88.81 27 P **P** **11 02 24.8 +0.5**
baz=250,SNR=5.5
F25K Christian Rive 88.84 21 P **P** **11 02 25.1 +1.0**
baz=245
O29M Mount Kennedy 89.04 29 P **P** **11 02 26.3 +1.1**
baz=252
E25K Arctic Village 89.09 20 P **P** **11 02 26.0 +0.8**
baz=245
BMAR Burnt Mountain 89.14 21 P **P** **11 02 26.3 +0.8**
P29M Windy Craggy 89.23 29 IAmb IAmb 11 02 28.3
comp=Z,8.0nm,0.9s
P29M Windy Craggy 89.23 29 P **P** **11 02 27.1 +1.1**
baz=252
G26K Porcupine Rive 89.24 21 P **P** **11 02 26.6 +0.8**
baz=247
BRVK Borovoye 89.27 324 P **P** **11 02 25.5 -0.8**
BRVK IAmb IAmb 11 02 38.1
comp=Z,9.5nm,1.3s
BRVK Borovoye 89.27 324 *ce*P **P** **11 02 25.2 -1.1**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
YUK4 Talbot Arm 89.34 28 P **P** **11 02 27.6 +0.9**
baz=252,SNR=6.2
D25K Kavik River 89.34 19 P **P** **11 02 26.5 +0.1**
baz=244
YUK6 Outpost Mounta 89.34 28 P **P** **11 02 27.2 +0.4**
baz=252
F26K Sheenjek River 89.40 21 P **P** **11 02 27.5 +0.8**
baz=246
EGAK Eagle 89.42 24 P **P** **11 02 27.4 +0.7**
EGAK IAmb IAmb 11 02 52.0
comp=Z,7.5nm,1.0s
EGAK Eagle 89.42 24 P **P** **11 02 27.3 +0.6**
baz=249
S31K Pelican 89.49 31 P **P** **11 02 27.8 +0.7**
baz=254
I27K Kandik River 89.54 23 P **P** **11 02 28.0 +0.6**
baz=249
HYT Haines Junctio 89.70 28 P **P** **11 02 29.3 +1.0**
baz=252,SNR=14
SIT Sitka 89.71 32 P **P** **11 02 29.2 +1.0**
baz=254
P30M Million Dollar 89.75 29 P **P** **11 02 29.4 +0.9**
baz=253
M29M Somme Creek 89.77 26 P **P** **11 02 29.4 +0.8**
baz=252
H27K Steamboat Moun 89.80 22 P **P** **11 02 29.3 +0.8**
baz=249,SNR=12
PLBC Pleasant Camp 89.85 30 P **P** **11 02 29.0 +0.2**
baz=253
R31K City Hall, Gus 89.86 31 P **P** **11 02 29.8 +0.9**
baz=254
DAWY Dawson 89.89 25 P **P** **11 02 29.1 +0.1**
DAWY IAmb IAmb 11 02 31.1
comp=Z,18nm,1.4s
DAWY Dawson 89.89 25 P **P** **11 02 30.0 +0.9**
baz=251,SNR=8.0
G27K Doyon Strip 89.96 22 P **P** **11 02 30.4 +1.1**
baz=249
C26K Camden Bay 90.06 19 P **P** **11 02 30.6 +1.0**
baz=246
L29M L29M 90.12 26 P **P** **11 02 31.4 +1.2**
baz=252
C27K Jago River 90.32 19 P **P** **11 02 32.3 +1.4**
baz=247
O30N Mendenhall 90.35 28 P **P** **11 02 31.8 +0.5**
baz=254,SNR=5.7
SKAG Skagway 90.36 30 P **P** **11 02 31.9 +0.7**
baz=254
E27K Coleen River 90.48 21 P **P** **11 02 32.4 +0.7**
baz=249
CRAG Craig 90.49 34 P **P** **11 02 32.5 +0.6**
baz=256
M30M Minto, Yukon 90.55 27 P **P** **11 02 32.8 +0.6**
baz=253
K29M Barlow Dome 90.61 25 P **P** **11 02 33.4 +0.9**
baz=252
I29M Ogilvie Camp, 90.75 24 P **P** **11 02 33.5 +0.6**
I29M IAmb IAmb 11 02 34.4
comp=Z,5.6nm,1.1s
I29M Ogilvie Camp, 90.75 24 P **P** **11 02 33.6 +0.6**
baz=252,SNR=5.1
WHY Whitehorse 90.89 29 P **P** **11 02 34.5 +0.6**
baz=255
HRA Herat 91.16 304 P **P** **11 02 35.6 -0.3**
P32M Atlin 91.18 30 P **P** **11 02 36.0 +0.9**
baz=256
V35K Ketchikan 91.30 34 P **P** **11 02 36.5 +0.9**
baz=257
M31M Drury Creek, Y 91.52 27 P **P** **11 02 37.1 +0.5**
baz=255
EPYK Eagle Plains 91.68 23 P **P** **11 02 37.3 0.0**
EPYK IAmb IAmb 11 02 38.6
comp=Z,15nm,1.2s
EPYK Eagle Plains 91.68 23 P **P** **11 02 38.0 +0.7**
baz=253
P33M Teslin, Yukon 91.77 29 P **P** **11 02 38.4 +0.5**
baz=256
FARO Faro, Yukon 92.00 27 P **P** **11 02 39.2 +0.4**
baz=256
G30M tAoh Zraii Nji 92.05 22 P **P** **11 02 39.5 +0.6**
baz=254
S34M Telegraph Cree 92.11 32 P **P** **11 02 41.1 +1.7**
baz=258
ELIB Princess Elisa 92.27 195 *d*P **P** **11 02 38.7 -1.5**
comp=Z,10nm,1.0s
ELIB *dx* x 11 02 52.2
R33M Jennings River 92.50 30 P **P** **11 02 42.5 +1.2**
baz=258
BBB Bella Bella 92.72 38 LR LR 11 37 00.0
comp=Z,110nm,20.8s,baz=251,slow=31
DLBC Dease Lake 92.79 31 P **P** **11 02 43.4 +0.7**
comp=Z,2.0nm,0.9s,baz=285,slow=3.9,SNR=3.8
DLBC LR LR 11 39 13.6
comp=Z,92nm,19.5s,baz=218,slow=32
comp=Z,2.0nm,0.9s
DLBC Dease Lake 92.79 31 P **P** **11 02 43.8 +1.2**
baz=259
F31M Tsiigehtchic 93.10 22 P **P** **11 02 44.1 +0.4**
baz=256
INK Inuvik 93.39 21 P **P** **11 02 44.3 -0.7**
comp=Z,1.4nm,1.0s,baz=214,slow=8.6,SNR=4.4
INK LR LR 11 37 47.0
comp=Z,35nm,21.7s,baz=203,slow=31
comp=Z,1.4nm,1.0s
INK Inuvik 93.39 21 P **P** **11 02 45.6 +0.5**
baz=256
BELA Belgrano 2 93.97 179 P **P** **11 02 49.4 +1.6**
BELA IAmb IAmb 11 03 01.9
comp=Z,10nm,1.1s
HUMO Hull Mountain 94.81 48 P **P** **11 02 52.1 -0.1**
YBH Yreka Blue Hor 94.89 49 P **P** **11 02 53.8 +1.1**
comp=Z,6.7nm,1.0s,baz=176,slow=1.7,SNR=6.3
YBH LR LR 11 37 47.6
comp=Z,103nm,21.9s,baz=256,slow=30
comp=Z,6.7nm,1.0s
GEYT Alibeck 94.96 307 P **P** **11 02 52.9 -0.1**
comp=Z,6.7nm,0.8s,baz=177,slow=3.0,SNR=9.7
comp=Z,6.7nm,0.8s
GEYT Alibeck 94.96 307 P **P** **11 02 52.5 -0.6**
GEYT IAmb IAmb 11 03 05.3
comp=Z,9.0nm,1.0s
GYA0B ALIBECK ARRAY 94.96 307 P **P** **11 02 53.1 0.0**
GYA0B IAmb IAmb 11 03 05.2
comp=Z,7.6nm,0.9s
ABKAR Akbulak array 94.96 319 P **P** **11 02 51.3 -1.4**
ABKAR IAmb IAmb 11 02 52.2
comp=Z,10nm,0.8s
PKM Mcpherson Peak 96.43 56 P **P** **11 03 00.3 +0.3**
baz=264
SBC Santa Barbara 96.47 56 P **P** **11 03 00.1 +0.2**
baz=264
WRGLY Wrigley 96.66 27 P **P** **11 03 00.8 +0.7**
baz=265
A36M Sachs Harbour 96.80 18 P **P** **11 02 59.6 -0.9**
A36M Sachs Harbour 96.80 18 P **P** **11 03 01.5 +1.0**
baz=264

VES	Vestal, Richgr	97.11	55	P	P	11 03 03.5	+0.6
	baz=265						
MDPB	Devils Postpil	97.27	53	P	P	11 03 03.0	-0.8
MDPB				IAmb	IAmb	11 03 07.7	
	comp=Z,6.3nm,1.1s						
RPN	Rapa Nui	97.36	119	LR	LR	11 37 44.4	
	comp=Z,27nm,21.9s,baz=38,slow=30						
ISA	Isabella, Lake	97.59	55	P	Pdif	11 03 06.0	+0.8
	baz=265						
TIN	Tinemaha, Big	97.90	54	P	P	11 03 07.1	+0.6
	baz=266						
SNAA	Sanae	97.92	189	LR	LR	11 46 17.4	
	comp=Z,163nm,21.4s,baz=179,slow=35						
SNAA	Sanae	97.92	189	*ce*P	Pdif	11 03 06.6	+0.7
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
EDW2	Edwards Air Fo	97.92	56	P	Pdif	11 03 07.6	+1.0
	baz=265						
NVAR	Mina Array Bea	97.95	52	P	Pdif	11 03 08.1	+1.2
	comp=Z,2.0nm,0.9s,baz=267,slow=6.6,SNR=11						
	comp=Z,2.0nm,0.9s						
NVAR	Mina Array Bea	97.95	52	P	P	11 03 07.5	+0.6
DSP	Deep Springs	98.13	53	P	P	11 03 06.6	-0.7
DSP				IAmb	IAmb	11 03 09.5	
	comp=Z,8.8nm,1.4s						
BFSC	Mount Baldy Ra	98.15	57	P	P	11 03 08.2	+0.5
	baz=266						
KVN	Kaiserville	98.15	52	P	P	11 03 05.8	-1.9
KVN				IAmb	IAmb	11 03 22.1	
	comp=Z,5.2nm,1.3s						
KVN	Kaiserville	98.15	52	P	P	11 03 05.8	-1.9
KVN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MPMC	Manual Prospec	98.42	55	P	P	11 03 09.3	+0.3
	baz=266						
E09A	Wood Farm, Sta	98.57	44	P	Pdif	11 03 10.1	+0.9
E09A				IAmb	IAmb	11 03 10.8	
	comp=Z,6.7nm,0.9s						
TPH	Tonopah	98.77	53	P	Pdif	11 03 11.8	+1.3
TPH	Tonopah	98.77	53	P	Pdif	11 03 11.8	+1.3
TPH				pmax	pmax		
	comp=Z,28nm,1.3s						
BMO	Blue Mountains	99.08	46	P	Pdif	11 03 11.5	-0.1
BMO	Blue Mountains	99.08	46	P	Pdif	11 03 11.5	-0.1
BMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PFO	Pinyon Flats O	99.10	57	LR	LR	11 43 53.9	
	comp=Z,67nm,18.7s,baz=258,slow=33						
WCT	Wildcat Mounta	99.17	54	P	Pdif	11 03 13.3	+1.2
F10A	Beach Ranch, E	99.18	45	P	Pdif	11 03 12.3	+0.3
F10A				IAmb	IAmb	11 03 13.8	
	comp=Z,4.9nm,0.8s						
NEW	Newport	99.34	42	P	Pdif	11 03 13.2	+0.6
	comp=Z,4.4nm,0.9s,baz=301,slow=1.7,SNR=7.3						
NEW				LR	LR	11 43 39.6	
	comp=Z,69nm,18.6s,baz=250,slow=33						
	comp=Z,4.4nm,0.9s						
NEW	Newport	99.34	42	P	Pdif	11 03 12.7	+0.1
NEW				IAmb	IAmb	11 03 14.1	
	comp=Z,5.8nm,1.0s						
BELC	Belle Mtn. Jos	99.51	57	P	Pdif	11 03 14.3	+0.5
	baz=266						
GMRC	Granite Mounta	99.83	56	P	Pdif	11 03 16.3	+1.1
	baz=267						
BC3	Big Chuckawall	99.94	57	P	Pdif	11 03 16.7	+1.0
	baz=267						
PLID	Pearl Lake	100.01	46	Pdif	Pdif	11 03 16.2	+0.3
R11A	Troy Canyon, C	100.07	53	P	Pdif	11 03 16.8	+0.5
	baz=267						
IRM	Iron Mountain	100.22	57	P	Pdif	11 03 17.6	+0.7
	baz=267						
YKA	Yellowknife Ar	100.69	28	P	Pdif	11 03 18.4	+0.1
	comp=Z,0.9nm,1.0s,baz=277,slow=3.6,SNR=6.3						
HLID	Hailey	101.12	47	P	Pdif	11 03 20.9	+0.1
	baz=269						
BOZ	Bozeman (W)	103.09	45	P	Pdif	11 03 29.7	+0.2
	baz=272						
BW06	Boulder Array	104.68	48	P	Pdif	11 03 36.2	-0.6
	baz=272						
PDAR	Pinedale Array	104.68	48	Pdiff	Pdif	11 03 36.8	0.0
	comp=Z,1.0nm,0.9s,baz=251,slow=4.5,SNR=7.0						
SDCO	Great Sand Dun	108.03	53	P	PKiKP	11 07 58.6	-0.1
	baz=274						
MNTX	Cornudas Mount	108.40	59	P	PKiKP	11 07 59.0	-0.1
	baz=272						
ARCES	ARCESS Array B	108.73	342	PKiKP	PKiKP	11 07 58.6	0.0
	comp=Z,4.5nm,0.7s,baz=26,slow=4.4,SNR=16						
TXAR	Lajitas Array	109.34	61	PKiKP	PKiKP	11 08 02.9	+0.6
	comp=Z,0.5nm,0.9s,baz=228,slow=1.1,SNR=4.6						
JCT	Junction City	113.24	60	P	PKiKP	11 08 07.8	-0.5
	baz=274						
NACGM	Naroch	114.41	327	*e*PKP	PKPdf	11 08 10.3	+0.5
	comp=Z,6.0nm,0.4s,baz=68						
KSU1	Kansas State U	114.81	51	P	PKPdf	11 08 11.3	+0.2
	baz=280						
NOA	NORSAR Array B	118.44	338	PKP	PKPdf	11 08 15.9	-1.5
	comp=Z,1.5nm,0.9s,baz=58,slow=1.9,SNR=3.5						
NOA	NORSAR Array B	118.44	338	PKiKP	PKPdf	11 08 16.0	-1.5
JFWS	Jewell Farm	118.64	45	P	PKPdf	11 08 18.2	-0.1
	baz=286						
CCM	Cathedral Cave	119.14	51	P	PKPdf	11 08 19.3	-0.1
	baz=283						
P49A	Miami Univ. Ec	123.64	48	P	PKPdf	11 08 27.5	-0.5
	baz=289						
BRAL	Brewton	124.01	58	P	PKPdf	11 08 28.3	-0.7
	baz=282						
GERES	GERESS Array B	124.35	325	PKP	PKPdf	11 08 29.1	-0.2
	comp=Z,2.2nm,0.9s,baz=357,slow=2.7,SNR=4.5						
KBA	Koelnbreinsper	125.46	323	*e*PKP	PKPdf	11 08 30.9	-0.7
	comp=Z,7.4nm,1.0s						
P52A	Corning	125.48	47	P	PKPdf	11 08 31.6	0.0
	baz=291						
MYKA	Terra Mystica	125.50	323	*e*PKP	PKPdf	11 08 31.1	-0.4
	comp=Z,11nm,1.5s						
M53A	WI Miller and	125.83	44	P	PKPdf	11 08 32.1	-0.1
	baz=294						
O53A	New Philadelph	125.92	46	P	PKPdf	11 08 32.2	-0.2
	baz=292						
WTTA	Wattenberg	126.36	324	*e*PKiKP	PKPdf	11 08 33.2	0.0
	comp=Z,10nm,1.0s						
MOTA	Moosalm	126.62	325	*e*PKP	PKPdf	11 08 33.3	-0.4
	comp=Z,8.1nm,1.1s						
SQTA	Sankt Quirin	126.63	324	*e*PKP	PKPdf	11 08 33.5	-0.2
	comp=Z,6.5nm,0.9s						
MCWV	Mont Chateau	127.11	46	P	PKPdf	11 08 34.6	-0.1
	baz=293						
DAVA	Damuels	127.35	325	*e*PKiKP	PKPdf	11 08 35.0	-0.1
	comp=Z,8.1nm,1.1s						
KMSC	Kings Mountain	127.60	52	P	PKPdf	11 08 35.7	0.0
	baz=289						
BLA	Blacksburg	127.61	49	P	PKPdf	11 08 35.5	-0.3
	baz=291						
DAVOX	Davos/Dischmat	127.63	325	PKP	PKPdf	11 08 35.6	-0.1
	comp=Z,3.4nm,0.6s,baz=225,slow=3.0,SNR=6.8						
EKA	Eskdalemuir Ar	127.80	340	PKP	PKPdf	11 08 35.1	-0.4
	comp=Z,0.8nm,0.5s,baz=18,slow=2.8,SNR=4.1						
BINY	Binghamton	128.65	41	P	PKPdf	11 08 37.1	-0.5
	baz=298						
CPUP	Villa Florida	137.69	145	PKP	PKPdf	11 08 55.4	+0.4
	comp=Z,2.0nm,0.6s,baz=358,slow=1.5,SNR=4.7						
SDV	Santo Domingo	141.78	86	PKhKP	PKPpre	11 08 58.0	
	comp=Z,11nm,0.9s,baz=264,slow=3.4,SNR=6.4						
SDV	Santo Domingo	141.78	86		PKPdf	11 08 60.0	-3.0
AQDB	Aquidauana	143.10	141	PKPdf	PKPdf	11 09 04.0	-0.9
PTLB	Pontes e Lacer	144.22	131	PKPdf	PKPab	11 09 05.2	+0.4
BAUV	El Baul	144.34	86	PKPdf	PKPab	11 09 04.9	-0.5
SPB	Sao Paulo	144.90	155	PKPbc	PKPab	11 09 07.1	-0.1
VILB	Vilhena	144.91	127	PKPbc	PKPab	11 09 07.5	+0.1
OBIP	Obispado Ponce	144.96	70	PKPbc	PKPbc	11 09 06.4	-1.2
CELP	Cerrillos	144.98	70		PKPbc	11 09 07.1	-0.5
SJG	San Juan	145.38	70	PKPbc	PKPdf	11 09 08.0	-0.9
	comp=Z,42nm,0.8s,baz=352,slow=2.3,SNR=9.3						
SJG	San Juan	145.38	70		PKPdf	11 09 07.7	-1.2
SJG	San Juan	145.38	70	PKIKP	PKPdf	11 09 07.7	-1.2
GCPR	Guaynabo City	145.40	70	PKPdf	PKPdf	11 09 08.5	-0.5
HUMP	Col San Antoni	145.65	70		PKPdf	11 09 08.8	-0.6
CUPR	Culebra, Puert	146.14	69	PKPbc	PKPdf	11 09 11.2	+1.0
TORD	Torodi Ar. Bea	146.59	281	PKPbc	PKPbc	11 09 12.9	+0.2
	comp=Z,27nm,0.9s,baz=71,slow=2.1,SNR=79						
TORD	Torodi Ar. Bea	146.59	281	PKPbc	PKPbc	11 09 12.7	0.0
CDVI	St. Croix	146.74	70	PKPbc	PKPbc	11 09 12.9	-0.1
BDFB	Brasilia	151.41	146	PKP	PKPdf	11 09 19.1	+0.1
	comp=Z,1.8nm,0.4s,baz=219,slow=4.8,SNR=4.0						
BDFB				PKPbc	PKPbc	11 09 25.0	-0.1
	comp=Z,24nm,0.9s,baz=176,slow=1.8,SNR=22						
KIC	Kosan Boka	152.93	268↑	*e*PKIKP	PKPbc	11 09 28.5	0.0
	comp=Z,11nm,0.7s						
DBIC	Dimbokro	153.07	268	PKPbc	PKPbc	11 09 29.0	+0.2
	comp=Z,24nm,0.9s,baz=106,slow=2.9,SNR=24						
DBIC				PKPab	PKPab	11 09 40.7	+0.3
	comp=Z,21nm,0.7s,baz=105,slow=5.4,SNR=5.0						
DBIC	Dimbokro	153.07	268	PKPdf	PKPdf	11 09 21.2	-0.2
DBIC					PKPbc	11 09 28.9	+0.1
DBIC				PKPab	PKPab	11 09 40.7	+0.3
LIC	Lamto	153.20	267↑	*e*P	PKPbc	11 09 28.9	-0.2
	comp=Z,89nm,0.9s						
TIC	Toumodi	153.23	268↑	*e*PKIKP	PKPbc	11 09 29.1	-0.1
	comp=Z,62nm,0.9s						

NNC 03 10:53:25.7±3.1, 37.45N×71.47E, h156km±57km, mb2.7, mpv3.5, 1C-3D, Error ellipse: s-maj=39.7km s-min=13.9km az=35.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	5.70	353	P	Pn	10 54 48.5	+0.2
	3.6nm,0.4s,baz=175,slow=12,SNR=76						
KK31				⇓S	Sn	10 55 53.5	+0.5
	0.7nm,0.3s,baz=176,slow=25,SNR=6.1						
CHMS	Chumysh	6.08	23	⇑P	Pn	10 54 53.5	0.0
	1.6nm,0.4s						
TKM2	Tokmak 2	6.31	29	⇓P	Pn	10 54 56.5	-0.2
	2.1nm,0.5s						
AB31	Akbulak array	14.46	328	⇓P	Pn	10 56 42.8	0.0
	0.2nm,0.3s,baz=137,slow=13,SNR=26						

INET 03 11:06:01.9±0.7, 10.89N×87.18W, h5km±10km, MW3.5
IDC 03 11:06:03.9±1.8, 11.79N×86.44W, h0km, mb3.3/3, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=104.2km s-min=20.0km az=48.0
UCR 03 11:06:06.9±1.6, 11.10N×86.79W, h0km±18km, MW3.8
ISC 03 11:06:03.2±1.0, 11.09N±0.06×87.03W±0.08, h10km, n37, σ1º49/42, mb3.2/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TISN	Laguna Tiscapa	1.28	35	*e*P	Pn	11 06 28.2	+0.9
MGAN	Managua	1.30	36	*e*P	Pn	11 06 28.3	+0.8
MOMN	Momotombo	1.40	20	*e*P	Pn	11 06 29.6	+0.9
MOMN				*e*S	Sn	11 06 49.2	+1.9
CNGN	Cerro Negro	1.44	13	*e*P	Pn	11 06 30.5	+1.1
CONN	Concepcion	1.46	71	*e*P	Pn	11 06 30.2	+0.6
GBS3	Finca Las Img	1.58	101	*e*P	Pn	11 06 31.9	+0.6
CRIN	San Cristobal	1.60	359	*e*P	Pn	11 06 32.6	+0.9
LAPC	Finca la Perla	1.60	101	*e*P	Pn	11 06 32.6	+1.0
LAPC				*e*S	Sn	11 06 50.5	-1.9
GB1A	Borinquen Arri	1.63	99	*e*P	Pn	11 06 33.0	+1.0
GPS3	Bodega del ICE	1.67	101	*e*P	Pg	11 06 36.0	+0.8
VORI	VORI	1.68	99	*e*P	Pn	11 06 34.0	+1.3
GPS2	Hotel Rincn d	1.68	101	*e*P	Pn	11 06 33.3	+0.6
GP14	Hacienda Santa	1.69	101	*e*P	Pn	11 06 33.2	+0.4
SAAN	San Antonio	1.79	120	*e*P	Pn	11 06 34.0	-0.1
MESS	Mesas	1.84	101	*e*P	Pb	11 06 36.4	-0.5
CLARA	Aguas Claras	1.85	99	*e*P	Pb	11 06 36.8	-0.3
HORNC	Hornillas	1.86	101	*e*P	Pb	11 06 38.4	+1.1
CUI	Cuipilapa	1.88	103	*e*P	Pn	11 06 36.7	+1.2
BOAB	BOACO BROADBAN	1.90	45	*e*P	Pn	11 06 36.1	+0.4
VMAR	Armenia, Volca	1.90	98	*e*P	Pn	11 06 37.0	+1.2
CANAL	Canalete	1.96	97	*e*P	Pn	11 06 37.7	+1.2
ACON	Acoyapa	2.02	64	*e*P	Pn	11 06 37.6	+0.3
MATN	Matagalpa	2.12	31	*e*P	Pn	11 06 38.6	-0.2
JTS	Las Juntas de	2.19	111	Pn	Pn	11 06 40.5	+0.8
	3.3nm,0.3s						
JTS				Sn	Sn	11 07 06.7	-0.2
ACOS	Acosta	3.10	114	*e*P	Pb	11 06 55.3	-3.2
ACOS				*e*S	Sn	11 07 30.9	+1.3
CVIMO	Finca Echandi	3.22	109	*e*P	Pb	11 06 58.6	-2.0
ABE2	San Pablo	3.24	115	*e*P	Pn	11 06 56.9	+2.6
ABE2				*e*S	Sn	11 07 34.7	+1.7
VICA	Volcano Irazu	3.32	109	*e*P	Pb	11 06 59.6	-2.9
ICR3	Volcano Irazu	3.33	109	*e*P	Pb	11 07 00.3	-2.4
RIMA	Rio Macho	3.38	113	*e*P	Pn	11 06 58.2	+1.9
CDDM	Cerro de Muert	3.57	115	*e*P	Pn	11 07 00.9	+2.0
BUS1	Rivas	3.57	115	*e*P	Pn	11 07 01.0	+1.9
SRBA	San Rafael, Bu	4.06	117	*e*P	Pn	11 07 07.3	+1.8
CMIG	Matias Romero	9.67	309	Pn	Pn	11 08 23.8	+1.3
	0.1nm,0.3s,baz=123,slow=11,SNR=3.5						
	1.1nm,0.6s						
TXAR	Lajitas Array	23.89	322	P	P	11 11 18.6	+1.4
	0.8nm,0.8s,baz=140,slow=10.0,SNR=10.0						
	0.8nm,0.8s						
PDAR	Pinedale Array	37.16	332	P	P	11 13 12.8	-1.8
	0.3nm,0.7s,baz=125,slow=11,SNR=2.8						
	0.3nm,0.7s						
YKA	Yellowknife Ar	55.02	345	P	P	11 15 33.6	-1.1
	0.2nm,0.7s,baz=134,slow=7.9,SNR=6.2						
	0.2nm,0.7s						

IDC 03 11:20:19.3±2.2, 17.18S×178.96W, h552km±19km, mb2.8/6, mbtmp3.7/7, Error ellipse: s-maj=99.9km s-min=21.3km az=149.0
ISC 03 11:20:19.1±1.4, 17.2S±0.6×179.0W±0.4, h550km, n7, σ0º90/8, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.90	259	P	P	11 21 33.9	+0.4
	15nm,0.7s,baz=136,slow=12,SNR=7.0						
STKA	Stephens Creek	38.52	240	P	P	11 26 54.7	-0.1
	1.7nm,0.9s,baz=53,slow=10,SNR=4.2						
	1.7nm,0.9s						
WRA	Warramunga Arr	44.24	259	P	P	11 27 39.9	-0.3
	0.5nm,0.5s,baz=95,slow=7.5,SNR=4.8						
	0.5nm,0.5s						
ASAR	Alice Springs	44.48	254	P	P	11 27 42.4	+0.3
	3.5nm,0.5s,baz=89,slow=7.9,SNR=78						
ASAR				PcP	PcP	11 29 13.1	-0.5
	0.2nm,0.7s,baz=96,slow=4.8,SNR=2.3						
	3.5nm,0.5s						
ILAR	Eielson Array	85.30	13	P	P	11 31 58.2	+0.5
	0.2nm,0.7s,baz=210,slow=6.1,SNR=1.3						
	0.2nm,0.7s						
TXAR	Lajitas Array	86.06	58	P	P	11 32 03.3	+1.0
	0.1nm,0.6s,baz=219,slow=7.0,SNR=2.3						
	0.1nm,0.6s						
PDAR	Pinedale Array	87.19	44	P	P	11 32 06.0	-1.5
	0.4nm,0.9s,baz=211,slow=3.2,SNR=2.2						
	0.4nm,0.9s						

GUC 03 11:29:54.8±0.6, 25.13S×70.58W, h27km±11km, ML3.5
IDC 03 11:29:54.6±3.8, 25.17S×70.86W, h39km±30km, mb3.6/3, mbtmp3.7/6, ML3.4/3, MS3.0/5, Error ellipse: s-maj=42.1km s-min=24.6km az=91.0
ISC 03 11:29:49.3±3.4, 25.02S±0.03×70.96W±0.09, h8km±21km, n31, σ1º56/33, mb3.9/3, 3C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB14	IPOC Station P	0.64	53	⇓*i*P	Pn	11 30 04.8	-0.1
PB14				*i* S	Sb	11 30 12.8	+0.8
PB14				IAML		11 30 13.7	
	comp=E,4µm,0.6s						
AC01	Pan de Azucar	1.18	164	⇓*i*P	Pn	11 30 12.8	+0.8
AC01				*i* S	Sb	11 30 27.1	-0.1
PB10	IPOC Station P	1.54	14	⇓*i*P	Pn	11 30 17.8	+0.7
PB10				*i* S	Sn	11 30 36.3	-0.9
PB10				IAML		11 30 48.9	
	comp=N,368nm,0.6s						
PB15	IPOC Station P	2.26	37	⇑*i*P	Pb	11 30 28.8	-1.6
AC06	Mina Casimiro	2.40	167	*e*P	Pn	11 30 30.6	+1.8
AC06				IAML		11 31 13.4	
	comp=E,452nm,0.5s						
AC02	Maricunga	2.45	138	*e*P	Pb	11 30 32.7	-1.2
AC02				*i* S	Sn	11 31 01.2	+0.7
PB06	IPOC Station P	2.63	29	*e*P	Pn	11 30 33.4	+1.2
PB06				IAML		11 31 22.2	
	comp=E,311nm,0.6s						
GO03	Copiap	2.65	166	⇑*i*P	Pn	11 30 34.0	+1.6
GO03				IAML		11 31 05.7	
	comp=E,364nm,0.4s						
PB04	IPOC Station P	2.77	16	⇓*i*P	Pn	11 30 34.5	+0.4
PB04				IAML		11 31 25.7	
	comp=N,316nm,0.5s						
LVC	Limon Verde	3.04	39	Pn	Pn	11 30 40.2	+2.2
	comp=N,4.0nm,0.3s,baz=226,slow=11,SNR=31						
LVC				Sn	Sn	11 31 14.8	0.0
	comp=N,13nm,0.3s,baz=67,slow=8.9,SNR=4.0						
LVC				LR	LR	11 32 08.3	
	comp=N,166nm,21.4s,baz=195,slow=43						
	comp=N,14nm,0.5s						
LVC	Limon Verde	3.04	39↑	*e*P	Pn	11 30 39.9	+1.8
PB03	IPOC Station P	3.15	21	*e*P	Pn	11 30 40.0	+0.6
PB03				*i* S	Sn	11 31 15.1	-2.3
PB03				IAML		11 31 35.1	
	comp=E,130nm,0.5s						
AC04	Llanos de Chal	3.18	182	*e*P	Pn	11 30 39.3	-0.3
PB07	IPOC Station P	3.42	17	⇓*i*P	Pn	11 30 43.5	+0.5
PB02	IPOC Station P	3.81	15	*e*P	Pn	11 30 48.6	+0.3
PB02				*i* S	Sn	11 31 29.7	-3.7
PATCX	Punta Patache	4.24	10	*e*P	Pn	11 30 53.9	-0.3
CFA	Coronel Fontan	6.99	161	Pn	Pn	11 31 33.0	+1.0
	comp=E,0.5nm,0.3s,baz=337,slow=12,SNR=7.0						
CFA				Sn	Sn	11 32 47.4	-4.3
	comp=E,0.4nm,0.3s,baz=331,slow=21,SNR=1.4						
CFA				LR	LR	11 34 22.4	
	comp=E,76nm,19.4s,baz=282,slow=39						
	comp=E,1.1nm,0.3s						
H03N1	Juan Fernandez	10.89	218	T	T	11 44 17.9	
	baz=44,slow=72,SNR=162						
H03N2	Juan Fernandez	10.90	218	T	T	11 44 16.8	
	baz=44,slow=72,SNR=142						
H03N3	Juan Fernandez	10.91	218	T	T	11 44 13.7	
	baz=44,slow=72,SNR=131						
CPUP	Villa Florida	12.37	99	LR	LR	11 38 00.9	
	comp=E,63nm,18.3s,baz=306,slow=40						
SIV	San Ignacio	12.89	48	Pn	Pn	11 32 57.1	+4.2
	baz=204,slow=18,SNR=2.3						
SIV				LR	LR	11 38 45.3	
	comp=E,60nm,18.8s,baz=100,slow=41						
	comp=E,0.7nm,0.3s						
TXAR	Lajitas Array	62.51	328	P	P	11 40 15.8	+2.2
	comp=E,0.2nm,0.8s,baz=142,slow=9.0,SNR=2.4						
	comp=E,0.2nm,0.8s						
TORD	Torodi Ar. Bea	80.30	71	P	P	11 42 01.4	+0.1
	comp=E,2.3nm,0.8s,baz=265,slow=5.5,SNR=11						
	comp=E,2.3nm,0.8s						
LSZ	Lusaka	91.67	108	LR	LR	12 20 08.9	
	comp=E,28nm,21.4s,baz=100,slow=33						
YKA	Yellowknife Ar	93.88	341	P	P	11 43 07.6	+0.9
	comp=E,0.4nm,0.7s,baz=132,slow=4.5,SNR=8.8						
	comp=E,0.4nm,0.7s						
ASAR	Alice Springs	125.94	208	PKP	PKPdf	11 48 53.1	+0.5
	comp=E,0.4nm,0.5s,baz=132,slow=1.6,SNR=9.4						
WRA	Warramunga Arr	128.98	211	PKP	PKPdf	11 48 57.1	-1.4
	comp=E,0.6nm,0.8s,baz=132,slow=1.4,SNR=5.1						
KURBB	Kurchatov Arra	145.29	35	PKPbc	PKPdf	11 49 27.8	+0.4
	comp=E,1.0nm,0.8s,baz=306,slow=3.6,SNR=9.2						
ZALV	Zalesovo Beam	145.92	26	PKPbc	PKPbc	11 49 29.2	+0.2
	comp=E,1.7nm,0.6s,baz=307,slow=3.6,SNR=9.0						
MKAR	Makanchi Array	149.56	38	PKPbc	PKPbc	11 49 40.1	+0.9
	comp=E,1.5nm,0.7s,baz=306,slow=2.6,SNR=17						

IDC 03 11:41:10.6±0.8, 37.40N×115.04E, h0km, mb3.6/10, mbtmp3.6/12, ML3.2/2, MS2.5/3, Error ellipse: s-maj=23.2km s-min=19.5km az=88.0
ISC 03 11:41:12.1±0.8, 37.4N±0.1×115.07E±0.09, h10km, n14, σ0º96/13, mb3.6/10, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	Korea Array	10.22	86	Pn	Pn	11 43 39.7	+0.9
	0.4nm,0.3s,baz=271,slow=13,SNR=3.4						
KSRS				Sn	Sn	11 45 32.1	-1.4
	0.6nm,0.3s,baz=270,slow=24,SNR=5.5						
KSRS				LR	LR	11 47 25.0	
	comp=Z,21nm,20.4s,baz=285,slow=37						
	0.9nm,0.3s						
SONM	Songino Array	12.21	331	Pn	Pn	11 44 05.8	-0.4
	0.1nm,0.3s,baz=153,slow=12,SNR=3.2						
SONM				Lg	Lg	11 47 35.4	
	0.3nm,0.3s,baz=145,slow=28,SNR=3.9						
	0.3nm,0.6s						
JNU	Nakatsue	13.61	104	LR	LR	11 49 20.0	
	comp=Z,41nm,19.1s,baz=32,slow=36						
USRK	Ussuriysk Ar.	14.48	57	LR	LR	11 49 54.3	
	comp=Z,13nm,18.9s,baz=64,slow=36						
CMAR	Chiang Mai Arr	23.59	221	P	P	11 46 22.2	-0.9
	0.6nm,0.6s,baz=37,slow=9.1,SNR=4.1						
	0.6nm,0.6s						
MKAR	Makanchi Array	25.91	302	P	P	11 46 44.8	+0.5
	0.5nm,0.6s,baz=101,slow=11,SNR=6.7						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	29.09	309	P	P	11 47 13.2	+0.6
	0.7nm,0.7s,baz=106,slow=9.3,SNR=5.3						
	0.7nm,0.7s						
WRA	Warramunga Arr	59.87	159	P	P	11 51 18.6	+0.6
	0.4nm,0.6s,baz=322,slow=3.1,SNR=2.2						
	0.4nm,0.9s						
ILAR	Eielson Array	60.08	29	P	P	11 51 19.4	+0.4
	0.4nm,0.6s,baz=285,slow=5.3,SNR=8.4						
	0.4nm,0.6s						
INK	Inuvik	63.03	23	P	P	11 51 39.0	+0.2
	0.6nm,0.6s,baz=332,slow=8.9,SNR=5.3						
	0.6nm,

JIKH	**Ishinomakikobu**	**0.88**	**244**	⇓*i*	P	**Pn**	**11 54 03.3**	**-0.2**
JIKH				⇓S		**Sb**	**11 54 12.9**	**-1.3**
JIKH	**Ishinomakikobu**	**0.88**	**244**		A	A	11 54 03.3	
	comp=E,8.0nm,0.2s,comp=E,13nm,0.3s							
JIO	**Ouri**	**0.91**	**254**	⇓*i*	P	**Pn**	**11 54 03.5**	**-0.4**
JIO				⇓S		**Sb**	**11 54 13.2**	**-1.8**
JMK	**Ichinoseki**	**1.00**	**285**	⇓*i*	P	**Pn**	**11 54 05.2**	**0.0**
JMK				⇓S		**Sb**	**11 54 15.9**	**-1.8**
JMK	**Ichinoseki**	**1.00**	**285**		A	A	11 54 05.2	
	comp=E,4.0nm,0.3s,comp=E,4.0nm,0.3s							
JOM	**Ohasama**	**1.19**	**310**	⇓*i*	P	**Pg**	**11 54 08.6**	**-0.4**
JOM				⇓S		**Sb**	**11 54 22.4**	**-0.8**
JOM	**Ohasama**	**1.19**	**310**		A	A	11 54 08.6	
	comp=E,13nm,0.3s,comp=E,9.0nm,0.3s							
JOFO	**Osakifurukawao**	**1.22**	**266**		A	A	11 54 08.2	
	comp=E,8.0nm,1.5s,comp=E,7.0nm,0.3s							
JTH	**Tanohata**	**1.32**	**339**	*i*	P	**Pg**	**11 54 10.8**	**-0.5**
JOU	**Okura**	**1.45**	**257**	*i*	P	**Pb**	**11 54 11.7**	**-0.8**
JOU					S	**Sn**	**11 54 28.2**	**-1.9**
JOU	**Okura**	**1.45**	**257**		A	A	11 54 11.7	
	comp=E,3.0nm,0.5s,comp=E,6.0nm,0.3s							
JMM	**Marumori**	**1.56**	**238**	*i*	P	**Pn**	**11 54 12.8**	**-0.1**
JRG	**Rokugo**	**1.58**	**296**		P	**Pb**	**11 54 14.2**	**-0.5**
JYK	**Kaneyama**	**1.66**	**278**		P	**Pb**	**11 54 14.8**	**-1.2**
MJAR	**Matsushiro Arr**	**4.01**	**239**		P	**Pn**	**11 54 48.0**	**+1.4**
	0.4nm,0.3s,baz=36,slow=14,SNR=31							
MJAR					S	**Sn**	**11 55 37.5**	**+4.3**
	2.3nm,0.5s,baz=13,slow=15,SNR=1.2							
MJAR					LR	LR	11 56 37.7	
	comp=Z,57nm,21.8s,baz=71,slow=41 1.4nm,0.3s							
ASAJ	**Asahikawa**	**5.41**	**1**		P	**Pn**	**11 55 08.4**	**+2.7**
	1.0nm,0.3s,baz=212,slow=14,SNR=16							
ASAJ					S	**Sn**	**11 56 04.4**	**-3.1**
	5.1nm,0.5s,baz=241,slow=14,SNR=4.0 2.5nm,0.3s							
JHJ	**Hachijo jima 2**	**5.99**	**202**		P	**Pn**	**11 55 14.6**	**+0.9**
	3.8nm,0.3s,baz=70,slow=17,SNR=1.5							
JHJ					S	**Sn**	**11 56 18.1**	**-3.7**
	209nm,1.0s,baz=65,slow=23,SNR=1.5 140nm,0.8s							
USRK	**Ussuriysk Ar.**	**9.59**	**308**		P	**Pn**	**11 56 06.4**	**+3.4**
	0.2nm,0.3s,baz=124,slow=13,SNR=9.6 7.7nm,0.8s							
JNU	**Nakatsue**	**10.92**	**243**		P	**Pn**	**11 56 25.4**	**+4.0**
	0.2nm,0.3s,baz=75,slow=12,SNR=1.7 3.1nm,0.7s							
KSRS	**Korea Array**	**11.53**	**268**		P	Pn	11 56 34.1	+4.4
	1.0nm,0.7s,baz=80,slow=14,SNR=1.9							
KSRS					LR	LR	12 00 48.6	
	comp=Z,47nm,18.3s,baz=85,slow=36							
KLR	**Kul'dur**	**13.03**	**327**		LR	LR	12 01 45.1	
	comp=Z,72nm,18.1s,baz=58,slow=36							
SONM	**Songino Array**	**27.59**	**301**		P	**P**	**11 59 32.1**	**-0.1**
	0.2nm,0.4s,baz=92,slow=9.8,SNR=2.2 0.2nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.35**	**125**		T	T	12 29 57.7	
	baz=317,slow=75,SNR=370							
H11N1	**WAKE ISLAND Hy**	**28.36**	**125**		T	T	12 30 14.0	
	baz=317,slow=75,SNR=232							
H11N3	**WAKE ISLAND Hy**	**28.37**	**125**		T	T	12 30 01.3	
	baz=317,slow=75,SNR=257							
H11S1	**WAKE ISLAND Hy**	**29.13**	**127**		T	T	12 31 20.7	
	baz=319,slow=76,SNR=51							
H11S3	**WAKE ISLAND Hy**	**29.13**	**127**		T	T	12 31 20.8	
	baz=319,slow=76,SNR=54							
H11S2	**WAKE ISLAND Hy**	**29.15**	**127**		T	T	12 31 22.0	
	baz=319,slow=76,SNR=57							
ZALV	**Zalesovo Beam**	**41.43**	**311**		P	**P**	**12 01 31.1**	**-0.1**
	1.0nm,0.4s,baz=84,slow=8.1,SNR=5.8 1.0nm,0.4s							
MKAR	**Makanchi Array**	**43.96**	**301**		P	**P**	**12 01 51.8**	**-0.1**
	0.4nm,0.6s,baz=84,slow=9.2,SNR=5.4 0.4nm,0.6s							
WRA	**Warramunga Arr**	**58.84**	**189**		P	**P**	**12 03 43.3**	**-0.2**
	0.4nm,0.5s,baz=6.6,slow=7.4,SNR=2.7 0.4nm,0.5s							
ASAR	**Alice Springs**	**62.56**	**189**		P	**P**	**12 04 08.3**	**-0.5**
	0.3nm,0.7s,baz=10,slow=6.2,SNR=1.4 0.3nm,0.7s							
TXAR	**Lajitas Array**	**88.45**	**53**		P	**P**	**12 06 38.5**	**+0.9**
	0.1nm,0.6s,baz=318,slow=1.7,SNR=1.7 0.1nm,0.6s							

*IDC **03** 12:00:32.7±0.8,55°.27S×30°.15W,h0km,mb4.0/5, mbtmp4.1/5, MS3.5/4, Error ellipse: s-maj=39.2km s-min=22.5km az=95.0*

*NEIC **03** 12:00:33.7±2.8,55°.4S±0°.2×30°.6W±0°.1,h10km±1km, mb4.7/14, Error ellipse: s-maj=27.6km s-min=6.2km az=196.0*

ISC 03 12:00:33.6±0.6,55°.3S±0°.1×30°.5W±0°.1,h10km,n34, σ1§23/26,mb4.5/10,MS3.5/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.62**	**284**	Pn	**Pn**	**12 01 29.4**	**-0.2**
SNAA	**Sanae**	**20.18**	**155**	P	**P**	**12 05 06.3**	**-1.6**
	1.6nm,0.7s,baz=236,slow=15,SNR=2.1 1.6nm,0.7s						
SNAA	**Sanae**	**20.18**	**155**	P	**P**	**12 05 05.7**	**-2.2**
MG02	**Cerro Sombrero**	**22.67**	**260**	P	**P**	**12 05 35.5**	**+0.8**
BELA	**Belgrano 2**	**22.69**	**182**	P	**P**	**12 05 32.5**	**-2.3**
MG04	**Isla Riesco**	**23.96**	**259**	P	**P**	**12 05 47.0**	**-0.7**
MG05	**Puerto Natales**	**24.96**	**261**	P	**P**	**12 05 56.1**	**-0.7**
MG05				IAmb	IAmb	12 06 20.7	
	comp=Z,54nm,1.4s						
GO09	**Cerro Castillo**	**25.04**	**262**	P	**P**	**12 05 56.8**	**-0.8**
GO09				IAmb	IAmb	12 05 58.4	
	comp=Z,36nm,1.4s						
PLCA	**Paso Flores**	**30.02**	**282**	LR	LR	12 18 54.9	
	comp=Z,59nm,19.4s,baz=177,slow=36						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**12 07 27.2**	**+2.1**
	comp=Z,4.6nm,0.8s,baz=204,slow=1.6,SNR=32						
QSPA				LR	LR	12 21 35.5	
	comp=Z,78nm,18.5s,baz=203,slow=36 comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**12 07 27.2**	**+2.1**
QSPA				IAmb	IAmb	12 07 31.7	
	comp=Z,14nm,1.4s						
CPUP	**Villa Florida**	**34.95**	**315**	P	**P**	**12 07 24.4**	**-1.1**
CPUP				IAmb	IAmb	12 07 38.1	
	comp=Z,4.1nm,0.8s						
MT09	**Talagante**	**35.30**	**291**	P	**P**	**12 07 28.2**	**-0.5**
MT09				IAmb	IAmb	12 08 00.5	
	comp=Z,12nm,1.1s						
MT01	**Popeta**	**35.37**	**290**	P	**P**	**12 07 27.3**	**-1.8**
MT01				IAmb	IAmb	12 08 04.5	
	comp=Z,17nm,1.2s						
VNDA	**Vanda**	**47.19**	**184**	P	**P**	**12 09 07.1**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=204,slow=2.6,SNR=3.7 comp=Z,1.8nm,0.8s						
LPAZ	**La Paz**	**48.44**	**308**	P	**P**	**12 09 17.6**	**+0.9**
LPAZ				IAmb	IAmb	12 09 44.4	
	comp=Z,5.7nm,1.1s						
H10N1	**ASCENSION HYDR**	**49.05**	**21**	T	T	13 02 20.2	
	baz=191,slow=75,SNR=6.9						
H10N3	**ASCENSION HYDR**	**49.05**	**21**	T	T	13 02 17.6	
	baz=191,slow=75,SNR=10						
H10N2	**ASCENSION HYDR**	**49.07**	**21**	T	T	13 02 18.3	
	baz=191,slow=75,SNR=8.9						
LBTB	**Lobatse**	**50.64**	**77**	P	**P**	**12 09 32.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=178,slow=3.5,SNR=2.1 comp=Z,1.1nm,0.6s						
LBTB	**Lobatse**	**50.64**	**77**	P	**P**	**12 09 32.9**	**0.0**
LBTB				IAmb	IAmb	12 10 07.8	
	comp=Z,20nm,1.4s						
SAML	**Samuel**	**52.98**	**318**	P	**P**	**12 09 50.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.41**	**33**	P	**P**	**12 12 06.0**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=200,slow=6.5,SNR=20 comp=Z,2.8nm,0.7s						
KMBO	**Kilima Mbogo**	**76.57**	**72**	LR	LR	12 42 36.5	
	comp=Z,37nm,19.9s,baz=90,slow=33						
RPZ	**Rata Peaks**	**79.64**	**196**	LR	LR	12 45 16.3	
	comp=Z,20nm,18.4s,baz=34,slow=34						
TEIG	**Tepich**	**89.76**	**307**	P	**P**	**12 13 33.3**	**+1.4**
YKA	**Yellowknife Ar**	**134.39**	**320**	PKP	**PKPdf**	**12 19 50.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=123,slow=2.5,SNR=15						
BVAR	**Borovoye Array**	**135.00**	**59**	PKP	**PKPdf**	**12 19 53.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=207,slow=2.9,SNR=1.5						
ZALV	**Zalesovo Beam**	**143.75**	**65**	PKP	PKPbc	12 20 05.3	+0.1
	comp=Z,0.4nm,0.4s,baz=224,slow=4.0,SNR=2.9						
INK	**Inuvik**	**144.06**	**322**	PKP	PKPbc	12 20 06.1	+0.4
	comp=Z,1.1nm,0.6s,baz=68,slow=2.5,SNR=9.9						
ILAR	**Eielson Array**	**148.24**	**313**	PKPbc	**PKPbc**	**12 20 18.7**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=120,slow=1.6,SNR=66						
KDAK	**Kodiak Island**	**148.82**	**299**	PKPbc	**PKPbc**	**12 20 20.6**	**+0.7**
	comp=Z,6.0nm,0.5s,baz=286,slow=0.5,SNR=20						
SONM	**Songino Array**	**152.57**	**88**	PKPbc	**PKiKP**	**12 20 29.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=224,slow=4.0,SNR=6.4						
MJAR	**Matsushiro Arr**	**159.68**	**153**	PKPab	**PKPab**	**12 21 10.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=191,slow=6.4,SNR=4.1						

*VAO **03** 12:04:14.9±1.9,24°.98S×71°.16W,h10km,mb4.3*

*SJA **03** 12:04:15.3±1.0,24°.28S×71°.33W,h15km,ML4.1,MW4.2*

*IDC **03** 12:04:18.7±0.8,24°.42S×70°.92W,h0km,mb4.3/4, mbtmp4.0/9,ML3.8/5,MS2.9/1, Error ellipse: s-maj=28.1km s-min=21.8km az=99.0*

*NEIC **03** 12:04:19.5±2.6,24°.41S±0°.04×71°.11W±0°.06,h44km±8km, mb4.2/11,ML4.1(GUC), Error ellipse: s-maj=8.6km s-min=5.0km az=104.0*

*GUC **03** 12:04:19.1±0.7,24°.33S×71°.16W,h41km±4km,ML4.1*

ISC 03 12:04:19.5±1.3,24°.36S±0°.02×71°.08W±0°.06,h24km±10km, n137,σ1§88/179,mb4.5/7,3C-2D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.67**	**114**		**Pb**	**12 04 33.0**	**+0.2**
PB14				Sn	**Sb**	**12 04 41.3**	**-0.5**
PB14	**IPOC Station P**	**0.67**	**114**	⇓*i*	**Pb**	**12 04 32.9**	**+0.2**
PB14				*i* S	**Sb**	**12 04 41.5**	**-0.3**
PB14	**IPOC Station P**	**0.67**	**114**	*e*P	**Pb**	**12 04 33.0**	**+0.2**
PB14	**IPOC Station P**	**0.67**	**114**	*e*P	**Pb**	**12 04 33.0**	**+0.2**
PB10	**IPOC Station P**	**0.97**	**30**		**Pb**	**12 04 37.3**	**-0.3**
PB10				Sn	**Sb**	**12 04 50.0**	**0.0**
PB10	**IPOC Station P**	**0.97**	**30**	⇓*i*	**Pb**	**12 04 37.4**	**-0.3**
PB10				*i* S	**Sb**	**12 04 49.9**	**0.0**
PB10	**IPOC Station P**	**0.97**	**30**	*e*P	**Pb**	**12 04 37.4**	**-0.3**
PB10				*e*S	**Sn**	**12 04 50.7**	**+0.1**
PB10				IAML		12 04 54.2	
	comp=Z,3μm,0.4s						
PB10	**IPOC Station P**	**0.97**	**30**	*e*P	**Pb**	**12 04 37.4**	**-0.3**
PB10				*e*S	**Sn**	**12 04 50.7**	**+0.1**
PB10				IAML		12 04 54.2	
	comp=Z,3μm,0.4s						
AC01	**Pan de Azucar**	**1.83**	**166**	Pn	**Pn**	**12 04 50.5**	**+0.8**
AC01	**Pan de Azucar**	**1.83**	**166**	⇑*i*P	**Pn**	**12 04 50.4**	**+0.8**
AC01				*e*S	**Sn**	**12 05 13.0**	**+0.9**
AC01	**Pan de Azucar**	**1.83**	**166**	*e*P	**Pn**	**12 04 50.4**	**+0.8**
AC01				*e*S	**Sb**	**12 05 15.8**	**+0.9**
AC01	**Pan de Azucar**	**1.83**	**166**	*e*P	**Pn**	**12 04 50.4**	**+0.8**
AC01				*e*S	**Sb**	**12 05 15.8**	**+0.9**
PB15	**IPOC Station P**	**1.87**	**52**		**Pn**	**12 04 51.4**	**+1.2**
PB15	**IPOC Station P**	**1.87**	**52**	*e*P	**Pn**	**12 04 51.4**	**+1.2**
PB15				*e*S	**Sn**	**12 05 15.1**	**+2.0**
PB15	**IPOC Station P**	**1.87**	**52**	*e*P	**Pn**	**12 04 51.0**	**+0.8**
PB15				*e*S	**Sn**	**12 05 12.6**	**-0.5**
PB15				IAML		12 05 20.5	
	comp=Z,4μm,0.2s						
PB15	**IPOC Station P**	**1.87**	**52**	*e*P	**Pn**	**12 04 51.0**	**+0.8**
PB15				*e*S	**Sn**	**12 05 12.6**	**-0.5**
PB15				IAML		12 05 20.5	
	comp=Z,4μm,0.2s						
PB06	**IPOC Station P**	**2.15**	**40**		**Pn**	**12 04 54.0**	**0.0**
PB06	**IPOC Station P**	**2.15**	**40**	*e*P	**Pn**	**12 04 54.9**	**+0.8**
PB06				*e*S	**Sn**	**12 05 20.0**	**-0.1**
PB06				IAML		12 05 30.1	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**2.15**	**40**	*e*P	**Pn**	**12 04 55.0**	**+0.9**
PB06				*e*S	**Sb**	**12 05 23.1**	**-1.0**
PB06				IAML		12 05 36.2	
	comp=Z,1μm,0.8s						
PB06	**IPOC Station P**	**2.15**	**40**	*e*P	**Pn**	**12 04 55.0**	**+0.9**
PB06				*e*S	**Sb**	**12 05 23.1**	**-1.0**
PB06				IAML		12 05 36.2	
	comp=Z,1μm,0.8s						
PB04	**IPOC Station P**	**2.19**	**23**		**Pn**	**12 04 54.5**	**-0.2**
PB04	**IPOC Station P**	**2.19**	**23**	*e*P	**Pn**	**12 04 54.4**	**-0.2**
PB04				*i* S	**Sn**	**12 05 19.6**	**-1.5**
PB04				IAML		12 05 35.8	
	comp=N,1μm,0.4s						
PB04	**IPOC Station P**	**2.19**	**23**	*e*P	**Pn**	**12 04 54.0**	**-0.6**
PB04				*e*S	**Sn**	**12 05 19.8**	**-1.2**
PB04				IAML		12 05 36.2	
	comp=Z,934nm,0.9s						
PB04	**IPOC Station P**	**2.19**	**23**	*e*P	**Pn**	**12 04 54.0**	**-0.6**
PB04				*e*S	**Sn**	**12 05 19.8**	**-1.2**
PB04				IAML		12 05 36.2	
	comp=Z,934nm,0.9s						
PB03	**IPOC Station P**	**2.60**	**28**		**Pn**	**12 04 59.7**	**-0.6**
PB03	**IPOC Station P**	**2.60**	**28**	*e*P	**Pn**	**12 05 00.5**	**+0.2**
PB03				*e*S	**Sn**	**12 05 30.3**	**-1.0**
PB03				IAML		12 05 44.6	
	comp=E,809nm,0.5s						
PB03	**IPOC Station P**	**2.60**	**28**	*e*P	**Pn**	**12 05 01.0**	**+0.7**
PB03				*e*S	**Sn**	**12 05 29.5**	**-1.8**
PB03				IAML		12 05 46.6	
	comp=Z,643nm,0.4s						
PB03	**IPOC Station P**	**2.60**	**28**	*e*P	**Pn**	**12 05 01.0**	**+0.7**
PB03				*e*S	**Sn**	**12 05 29.5**	**-1.8**
PB03				IAML		12 05 46.6	
	comp=Z,643nm,0.4s						
LVC	**Limon Verde**	**2.65**	**49**	Pn	**Pn**	**12 05 03.9**	**+2.9**
	comp=Z,58nm,0.3s,baz=198,slow=6.5,SNR=147						
LVC				Sn	**Sn**	**12 05 35.1**	**+2.5**
	comp=Z,67nm,0.3s,baz=309,slow=16,SNR=4.8 comp=Z,225nm,0.4s						
LVC	**Limon Verde**	**2.65**	**49**		**Pn**	**12 05 01.8**	**+0.7**
LVC	**Limon Verde**	**2.65**	**49**	*e*P	**Pn**	**12 05 03.8**	**+2.7**
PB07	**IPOC Station P**	**2.84**	**23**		**Pn**	**12 05 03.7**	**+0.2**
PB07	**IPOC Station P**	**2.84**	**23**	⇑*i*P	**Pn**	**12 05 03.8**	**+0.2**
PB07				*i* S	**Sn**	**12 05 34.8**	**-2.4**
PB07				IAML		12 05 56.9	
	comp=N,824nm,0.5s						
PB07	**IPOC Station P**	**2.84**	**23**	*e*P	**Pn**	**12 05 04.0**	**+0.4**
PB07				*e*S	**Sn**	**12 05 35.7**	**-1.4**
PB07				IAML		12 05 55.8	
	comp=Z,865nm,0.7s						
PB07	**IPOC Station P**	**2.84**	**23**	*e*P	**Pn**	**12 05 04.0**	**+0.4**
PB07				*e*S	**Sn**	**12 05 35.7**	**-1.4**
PB07				IAML		12 05 55.8	
	comp=Z,865nm,0.7s						
AF01	**San Pedro de A**	**3.01**	**63**	*e*P	**Pb**	**12 05 11.1**	**-1.4**
AC02	**Maricunga**	**3.03**	**145**	Pn	**Pn**	**12 05 10.2**	**+3.7**
AC02	**Maricunga**	**3.03**	**145**	⇑*i*P	**Pn**	**12 05 10.2**	**+3.7**
AC02				*e*S	**Sn**	**12 05 45.4**	**+3.1**
AC02				IAML		12 05 59.6	
	comp=E,607nm,0.3s						
AC02	**Maricunga**	**3.03**	**145**	*e*P	**Pn**	**12 05 10.0**	**+3.5**
AC02				*e*S	**Sb**	**12 05 48.4**	**-1.4**
AC02				IAML		12 05 56.6	
	comp=Z,423nm,0.8s						
AC02	**Maricunga**	**3.03**	**145**	*e*P	**Pn**	**12 05 10.0**	**+3.5**
AC02				*e*S	**Sb**	**12 05 48.4**	**-1.4**
AC02				IAML		12 05 56.6	
	comp=Z,423nm,0.8s						
AC06	**Mina Casimiro**	**3.06**	**168**		**Pn**	**12 05 08.3**	**+1.9**
AC06	**Mina Casimiro**	**3.06**	**168**	*e*P	**Pn**	**12 05 07.9**	**+1.5**
AC06				*e*S	**Sn**	**12 05 44.0**	**+1.7**
AC06				IAML		12 06 02.4	
	comp=E,328nm,0.3s						
PB09	**IPOC Station P**	**3.06**	**34**		**Pn**	**12 05 08.0**	**+1.4**
PB09	**IPOC Station P**	**3.06**	**34**	*e*P	**Pn**	**12 05 08.0**	**+1.4**
PB09				*e*S	**Sn**	**12 05 43.8**	**+1.2**
PB09				IAML		12 05 57.6	
	comp=Z,631nm,0.7s						
PB09	**IPOC Station P**	**3.06**	**34**	*e*P	**Pn**	**12 05 08.0**	**+1.4**
PB09				*e*S	**Sn**	**12 05 43.8**	**+1.2**
PB09				IAML		12 05 57.6	
	comp=Z,631nm,0.7s						
PB02	**IPOC Station P**	**3.21**	**20**		**Pn**	**12 05 08.8**	**+0.1**
PB02	**IPOC Station P**	**3.21**	**20**	*e*P	**Pn**	**12 05 08.7**	**+0.1**
PB02				*i* S	**Sn**	**12 05 44.2**	**-2.1**
PB02	**IPOC Station P**	**3.21**	**20**	*e*P	**Pn**	**12 05 09.0**	**+0.3**
PB02				*e*S	**Sn**	**12 05 45.5**	**-0.8**
PB02				IAML		12 06 09.7	
	comp=Z,558nm,0.6s						
PB02	**IPOC Station P**	**3.21**	**20**	*e*P	**Pn**	**12 05 09.0**	**+0.3**
PB02				*e*S	**Sn**	**12 05 45.5**	**-0.8**
PB02				IAML		12 06 09.7	
	comp=Z,558nm,0.6s						
GO03	**Copiap**	**3.31**	**167**		**Pn**	**12 05 10.9**	**+1.0**
GO03	**Copiap**	**3.31**	**167**	*e*P	**Pn**	**12 05 11.5**	**+1.6**
GO03				*i* S	**Sn**	**12 05 50.4**	**+1.8**
GO03	**Copiap**	**3.31**	**167**	*e*P	**Pn**	**12 05 11.5**	**+1.6**
GO03				*e*S	**Sn**	**12 05 52.7**	**+4.1**
GO03	**Copiap**	**3.31**	**167**	*e*P	**Pn**	**12 05 11.5**	**+1.6**
GO03				*e*S	**Sn**	**12 05 52.7**	**+4.1**
PB01	**IPOC Station P**	**3.61**	**24**		**Pn**	**12 05 14.7**	**+0.5**
PB01	**IPOC Station P**	**3.61**	**24**	*e*P	**Pn**	**12 05 15.0**	**+0.9**
PB01				*e*S	**Sb**	**12 06 06.1**	**-0.1**
PB01				IAML		12 06 20.1	
	comp=Z,190nm,0.5s						
PB01	**IPOC Station P**	**3.61**	**24**	*e*P	**Pn**	**12 05 15.0**	**+0.9**
PB01				*e*S	**Sb**	**12 06 06.1**	**-0.1**
PB01				IAML		12 06 20.1	
	comp=Z,190nm,0.5s						
PATCX	**Punta Patache**	**3.62**	**14**		**Pn**	**12 05 13.8**	**-0.5**
PATCX	**Punta Patache**	**3.62**	**14**	*e*P	**Pn**	**12 05 14.1**	**-0.2**
PATCX				*e*S	Sb	12 06 16.1	+10
PATCX				IAML		12 06 21.8	
	comp=Z,158nm,0.7s						
PATCX	**Punta Patache**	**3.62**	**14**	*e*P	**Pn**	**12 05 14.1**	**-0.2**
PATCX				*e*S	Sb	12 06 16.1	+10
PATCX				IAML		12 06 21.8	
	comp=Z,158nm,0.7s						
AC04	**Llanos de Chal**	**3.83**	**180**		**Pn**	**12 05 16.3**	**-0.8**
TA01	**Diego Aracena**	**3.87**	**13**	Pn	**Pn**	**12 05 17.1**	**-0.4**
TA01	**Diego Aracena**	**3.87**	**13**	*e*P	**Pn**	**12 05 17.1**	**-0.4**
TA01				*e*S	**Sb**	**12 06 18.1**	**+4.8**
TA01				IAML		12 06 23.2	
	comp=Z,158nm,0.9s						
TA01	**Diego Aracena**	**3.87**	**13**	*e*P	**Pn**	**12 05 17.1**	**-0.4**
TA01				*e*S	**Sb**	**12 06 18.1**	**+4.8**
TA01				IAML		12 06 23.2	
	comp=Z,158nm,0.9s						
TA02	**Huaiquique**	**4.16**	**12**		**Pn**	**12 05 22.5**	**+0.9**
AC05	**El Transito**	**4.52**	**171**	Pn	**Pn**	**12 05 24.0**	**-2.6**
AC05	**El Transito**	**4.52**	**171**	*e*P	**Pn**	**12 05 28.0**	**+1.4**
AC05	**El Transito**	**4.52**	**171**	*e*P	**Pn**	**12 05 28.0**	**+1.4**
PB08	**IPOC Station P**	**4.56**	**23**	Pn	**Pn**	**12 05 26.1**	**-1.4**
PB08	**IPOC Station P**	**4.56**	**23**	*e*P	**Pn**	**12 05 28.0**	**+0.6**
PB08				*e*S	**Sn**	**12 06 20.7**	**+0.8**
PB08				IAML		12 06 47.7	
	comp=Z,438nm,1.0s						
PB08	**IPOC Station P**	**4.56**	**23**	*e*P	**Pn**	**12 05 28.0**	**+0.6**
PB08				*e*S	**Sn**	**12 06 20.7**	**+0.8**
PB08				IAML		12 06 47.7	
	comp=Z,438nm,1.0s						
LCO	**Las Campanas**	**4.65**	**176**	Pn	**Pn**	**12 05 25.4**	**-3.1**
PB11	**IPOC Station P**	**4.76**	**16**	Pn	**Pn**	**12 05 29.8**	**-0.2**
PB11	**IPOC Station P**	**4.76**	**16**	*e*P	**Pn**	**12 05 30.0**	**0.0**
PB11				*e*S	**Sn**	**12 06 27.6**	**+3.1**
PB11				IAML		12 07 11.4	
	comp=Z,172nm,0.8s						
PB11	**IPOC Station P**	**4.76**	**16**	*e*P	**Pn**	**12 05 30.0**	**0.0**
PB11				*e*S	**Sn**	**12 06 27.6**	**+3.1**
PB11				IAML		12 07 11.4	
	comp=Z,172nm,0.8s						
PSGCX	**Pisagua**	**4.82**	**11**		**Pn**	**12 05 30.3**	**-0.5**
PSGCX	**Pisagua**	**4.82**	**11**	*e*P	**Pn**	**12 05 30.0**	**-0.7**
PSGCX				IAML		12 07 04.2	
	comp=Z,71nm,0.8s						
PSGCX	**Pisagua**	**4.82**	**11**	*e*P	**Pn**	**12 05 30.0**	**-0.7**
PSGCX				IAML		12 07 04.2	
	comp=Z,71nm,0.8s						
GO01	**Chusmiza**	**4.98**	**21**		**Pn**	**12 05 34.2**	**+0.9**
GO01	**Chusmiza**	**4.98**	**21**	*e*P	**Pn**	**12 05 34.0**	**+0.7**
GO01				*e*S	**Sn**	**12 06 31.6**	**+1.1**
GO01	**Chusmiza**	**4.98**	**21**	*e*P	**Pn**	**12 05 34.0**	**+0.7**
GO01				*e*S	**Sn**	**12 06 31.6**	**+1.1**
MNMC	**Minye Minye**	**5.38**	**15**		**Pn**	**12 05 39.0**	**+0.4**
MNMCX	**Minye Minye**	**5.38**	**15**	*e*P	**Pn**	**12 05 39.0**	**+0.4**
MNMCX				*e*S	**Sb**	**12 06 59.1**	**+1.8**
MNMCX				IAML		12 07 14.6	
	comp=Z,132nm,0.9s						
MNMCX	**Minye Minye**	**5.38**	**15**	*e*P	**Pn**	**12 05 39.0**	**+0.4**
MNMCX				*e*S	**Sb**	**12 06 59.1**	**+1.8**
MNMCX				IAML		12 07 14.6	
	comp=Z,132nm,0.9s						
CO05	**La Serena**	**5.54**	**181**	Pn	**Pn**	**12 05 40.9**	**+0.4**
CO01	**Juntas del Tor**	**5.67**	**171**	Pn	**Pn**	**12 05 42.3**	**-0.1**
PB12	**IPOC Station P**	**5.76**	**7**	Pn	**Pn**	**12 05 42.1**	**-1.6**
GO04	**Tololo Observa**	**5.80**	**178**	Pn	**Pn**	**12 05 41.5**	**-2.8**

H11N3	**WAKE ISLAND Hy**	**26.37 277**	T	T	14 43 01.9		
	baz=108,slow=74						
H11N2	**WAKE ISLAND Hy**	**26.39 277**	T	T	14 43 02.5		
	baz=108,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.39 277**	T	T	14 42 59.8		
	baz=108						
ASAR	**Alice Springs**	**126.46 209**	PKP	**PKiKP**	**12 23 24.1 +2.4**		
	comp=Z,0.8nm,1.0s,baz=118,slow=1.5,SNR=6.3						
WRA	**Warramunga Arr**	**129.49 212**	PKP	**PKiKP**	**12 23 30.2 +2.4**		
	comp=Z,0.6nm,0.8s,baz=144,slow=1.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**144.81 34**	PKP	**PKiKP**	**12 23 56.7 -1.3**		
	comp=Z,1.5nm,0.5s,baz=303,slow=3.6,SNR=8.4						
ZALV	**Zalesovo Beam**	**145.38 25**	PKPbc	**PKiKP**	**12 23 57.9 -1.2**		
	comp=Z,5.4nm,0.6s,baz=322,slow=4.0,SNR=21						
MKAR	**Makanchi Array**	**149.11 37**	PKPbc	**PKPab**	**12 24 08.8 -1.3**		
	comp=Z,2.1nm,0.7s,baz=330,slow=2.7,SNR=15						

NOU 03 12:05:37.7, 16°.33S × 167°.53E, h0 km, MLv4.0/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.52**	**156**	P	Pn	12 06 05.3	-0.9
RTV	**Rentapao**	**1.69**	**150**	P	Pn	12 06 08.0	-0.5
MARNC	**Mare, Loyalty**	**5.14**	**175**	P	Pn	12 06 55.4	-0.6
KOUNC	**Koumac, New Ca**	**5.21**	**216**	P	Pn	12 06 56.2	-0.7
YATNC	**Mamie plateau,**	**5.73**	**186**	P	Pn	12 07 02.8	-1.3
DZM	**Mont Dzumac**	**5.80**	**190**	P	Pn	12 07 04.5	-0.7
ONTNC	**Ouen Toro**	**6.03**	**190**	P	Pn	12 07 07.9	-0.3
OUENC	**Ouen Island, N**	**6.09**	**186**	P	Pn	12 07 09.4	+0.4

*ISU **03** 12:10:41.0, 39°.62N × 68°.74E, h1 km*
ISC 03 12:10:42.2 ±1.6, 39°.32N ±0°.10 × 68°.88E ±0°.08, h10 km, n5, σ1 °74/9, 1C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BXML	**Bakhmal**	**0.75**	**300**	P	**Pg**	**12 10 56.2**	**-0.5**
BXML				S	**Sg**	**12 11 07.7**	**+1.1**
AGL	**Agalyk**	**1.56**	**278**	P	**Pn**	**12 11 10.6**	**+0.5**
AGL				S	**Sn**	**12 11 31.1**	**+0.7**
ZRB	**Zarabog**	**2.37**	**240**	P	**Pn**	**12 11 21.3**	**+0.2**
ZRB				S	**Sn**	**12 11 51.2**	**+1.0**
KK31	**Karatay Array**	**3.98**	**18**	Pn	**Pb**	**12 11 49.4**	**-3.1**
	0.1nm,0.2s,baz=33,slow=17,SNR=5.2						
KK31				Pg	**Pg**	**12 12 00.7**	**+2.3**
	0.2nm,0.2s,baz=204,slow=15,SNR=6.8						
KK31				Lg	Lg	12 12 55.2	
	0.5nm,0.3s,baz=207,slow=29,SNR=5.3						
AB31	**Akbulak array**	**11.81**	**330**	Pn	**Pn**	**12 13 30.7**	**+0.1**
	0.1nm,0.3s,baz=167,slow=13,SNR=7.3						

*BJI **03** 12:13:40.7±0.0, 38°.61N × 142°.67E, h32 km, mb4.5/21, mB4.8/10*
*NEIC **03** 12:13:43.2±1.7, 38°.61N±0°.06 × 142°.52E±0°.10, h35km±2km, mb4.4/18, Error ellipse: s-maj=13.5km s-min=8.8km az=112.0*
*NIED **03** 12:13:44.5, 38°.70N × 142°.25E, h39 km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10 15 Nm; Mrr=0.20; Mθθ=0.16; Mφφ=0.04; Mrθ=1.13; Mθφ=0.01; Mφr=1.25; Fault plane solution: M0 1.70000×10 15 NP1: φs=222.00000°, δ=87.00000°, λ=-92.00000°. NP2: φs=80.00000°, δ=3.00000°, λ=-52.00000°.*
*JMA **03** 12:13:44.5±0.1, 38°.7N±0°.3 × 142°.3E±0°.7, h39km±1km, MD4.2/40, MV4.7/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*IDC **03** 12:13:45.3±1.9, 38°.66N × 142°.17E, h45km±19km, mb3.6/17, mbtmp3.9/24, ML3.4/7, MS3.3/22, Error ellipse: s-maj=18.0km s-min=13.4km az=106.0*
ISC 03 12:13:42.2±0.5, 38°.64N±0°.04 × 142°.42E±0°.05, h24 km, n135, σ1 °54/102, mb4.1/29, MS3.4/19, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.73**	**307**	⇓P	**Pb**	**12 13 56.5**	**+0.2**
OFUJ				⇓S	**Sb**	**12 14 04.8**	**-1.1**
OFUJ	**Ofunato**	**0.73**	**307**	A	A	12 13 56.5	
	comp=E,17nm,0.5s,comp=E,20nm,0.3s						
JKMT	**Kesennumamotoy**	**0.76**	**283**	⇓P	**Pb**	**12 13 56.8**	**+0.1**
JKMT				⇓S	**Sb**	**12 14 05.1**	**-1.5**
JKMT	**Kesennumamotoy**	**0.76**	**283**	A	A	12 13 56.8	
	comp=E,20nm,0.2s,comp=E,7.0nm,0.2s						
JIKH	**Ishinomakibobu**	**0.81**	**247**	⇓*i*P	**Pn**	**12 13 58.2**	**0.0**
JIKH				⇓*i*S	**Sb**	**12 14 07.7**	**-0.5**
JIKH	**Ishinomakibobu**	**0.81**	**247**	A	A	12 13 58.2	
	comp=E,13nm,0.4s,comp=E,31nm,0.2s						
JIO	**Ouri**	**0.86**	**258**	⇓*i*P	**Pb**	**12 13 58.4**	**+0.1**
JIO				⇓S	**Sb**	**12 14 08.1**	**-1.3**
JIO	**Ouri**	**0.86**	**258**	A	A	12 13 58.4	
	comp=E,7.0nm,1.0s,comp=E,6.0nm,1.2s						
JMK	**Ichinoseki**	**0.99**	**289**	⇓*i*P	**Pn**	**12 14 00.1**	**-0.3**
JMK				⇓S	**Sb**	**12 14 11.2**	**-1.9**
JMK	**Ichinoseki**	**0.99**	**289**	A	A	12 14 00.1	
	comp=E,15nm,0.5s,comp=E,21nm,0.2s						
MIYJ	**Miyakonagasawa**	**1.05**	**334**	A	A	12 14 01.4	
	comp=E,7.0nm,0.6s,comp=E,9.0nm,0.7s						
JOFO	**Osakifurukawao**	**1.18**	**269**	A	A	12 14 03.1	
	comp=E,23nm,0.5s,comp=E,22nm,0.3s						
JOM	**Ohasama**	**1.21**	**314**	⇓*i*P	**Pn**	**12 14 03.6**	**0.0**
JOM				⇓S	**Sn**	**12 14 17.2**	**-2.0**
JOM	**Ohasama**	**1.21**	**314**	A	A	12 14 03.6	
	comp=E,35nm,0.3s,comp=E,32nm,0.3s						
JTH	**Tanohata**	**1.37**	**342**	*i*P	**Pn**	**12 14 05.8**	**0.0**
JTH				S	**Sn**	**12 14 21.6**	**-1.6**
JTH	**Tanohata**	**1.37**	**342**	A	A	12 14 05.8	
	comp=E,5.0nm,1.0s,comp=E,4.0nm,1.0s						
JOU	**Okura**	**1.40**	**259**	*i*P	**Pn**	**12 14 06.6**	**+0.4**
JOU				S	**Sn**	**12 14 23.2**	**-0.8**
JOU	**Okura**	**1.40**	**259**	A	A	12 14 06.6	
	comp=E,11nm,0.3s,comp=E,18nm,0.2s						
JMM	**Marumori**	**1.49**	**239**		**Pn**	**12 14 07.8**	**+0.3**
JMM	**Marumori**	**1.49**	**239**	P	**Pn**	**12 14 08.0**	**+0.5**
JMM	**Marumori**	**1.49**	**239**	*i*P	**Pn**	**12 14 07.7**	**+0.3**
JMM				S	**Sn**	**12 14 25.6**	**-0.5**
JMST	**Minamisoumatoc**	**1.51**	**233**	A	A	12 14 09.0	
	comp=E,3.0nm,1.1s,comp=E,3.0nm,6.3s						
JRG	**Rokugo**	**1.58**	**299**	*i*P	**Pn**	**12 14 08.9**	**+0.2**
JRG				S	**Sn**	**12 14 27.1**	**-1.4**
JRG	**Rokugo**	**1.58**	**299**	A	A	12 14 08.9	
	comp=E,7.0nm,0.3s,comp=E,6.0nm,1.1s						
JSZI	**Iwateshizukuis**	**1.58**	**315**	A	A	12 14 09.4	
	comp=E,7.0nm,1.3s,comp=E,9.0nm,1.3s						
JKZ	**Kuzumaki**	**1.59**	**328**	A	A	12 14 09.3	
	comp=E,10.0nm,0.2s,comp=E,9.0nm,0.2s						
JYK	**Kaneyama**	**1.63**	**280**	*i*P	**Pn**	**12 14 09.5**	**+0.1**
JKEN	**Kujiedanarisaw**	**1.66**	**341**	A	A	12 14 10.6	
	comp=E,9.0nm,0.3s,comp=E,9.0nm,0.3s						
JANG	**Nango**	**1.87**	**338**	A	A	12 14 13.6	
	comp=E,4.0nm,0.6s,comp=E,4.0nm,1.4s						
JYAR	**Yonezawaarcadi**	**1.93**	**249**	A	A	12 14 14.5	
	comp=E,8.0nm,1.3s,comp=E,8.0nm,1.2s						
JYW	**Yuwa**	**1.94**	**298**	A	A	12 14 14.0	
	comp=E,12nm,1.3s,comp=E,7.0nm,1.5s						
JYA	**Atsumi**	**2.12**	**270**	A	A	12 14 16.8	
	comp=E,4.0nm,0.7s,comp=E,3.0nm,0.9s						
JTM	**Tenmabayashi**	**2.38**	**335**	Pn	**Pn**	**12 14 20.6**	**+0.9**
JTM	**Tenmabayashi**	**2.38**	**335**	P	**Pn**	**12 14 21.8**	**+2.1**
JNTW	**Noshirotokiwa**	**2.39**	**314**	A	A	12 14 20.5	
	comp=E,8.0nm,2.5s,comp=E,9.0nm,4.4s						
JHHS	**Hirosakihyakuz**	**2.56**	**322**	A	A	12 14 23.2	
	comp=E,7.0nm,1.0s,comp=E,8.0nm,6.1s						
JIW	**Iwasaki**	**2.70**	**317**	A	A	12 14 25.0	
	comp=E,2.0nm,1.2s,comp=E,3.0nm,1.3s						
JAHD	**Aomorihigashid**	**2.75**	**343**	A	A	12 14 26.3	
	comp=E,5.0nm,8.2s,comp=E,6.0nm,3.1s						
JSI2	**Shiura 2**	**2.87**	**328**	A	A	12 14 27.7	
	comp=E,5.0nm,1.9s,comp=E,3.0nm,0.8s						
JOG3	**Oga3**	**2.89**	**297**	A	A	12 14 20.5	
	comp=E,5.0nm,2.3s,comp=E,4.0nm,1.9s						
JSD	**Sado**	**3.32**	**261**	Pn	**Pn**	**12 14 33.8**	**+1.2**
JSD	**Sado**	**3.32**	**261**	P	**Pn**	**12 14 33.5**	**+0.9**
ERM	**Erimo**	**3.42**	**9**		**Pn**	**12 14 35.3**	**+1.3**
ERM	**Erimo**	**3.42**	**9**	P	**Pn**	**12 14 35.9**	**+2.0**
JEM	**Erimo**	**3.42**	**9**	P	**Pn**	**12 14 36.0**	**+2.0**
JNBK	**Urakawa-nobuka**	**3.65**	**4**	A	A	12 14 39.7	
	comp=E,2.0nm,4.3s,comp=E,3.0nm,4.4s						
MJAR	**Matsushiro Arr**	**3.94**	**239**	P	**Pn**	**12 14 42.6**	**+1.4**
	1.3nm,0.3s,baz=38,slow=12,SNR=54						
MJAR				S	**Sn**	**12 15 28.3**	**+1.6**
	12nm,0.7s,baz=187,slow=6.3,SNR=4.3						
MJAR				LR	LR	12 16 28.7	
	comp=Z,136nm,20.1s,baz=144,slow=43 12nm,0.5s						
MAJO	**Matsushiro**	**3.94**	**239**	Pn	**Pn**	**12 14 43.8**	**+2.6**
MAJO	**Matsushiro**	**3.94**	**239**	P	**Pn**	**12 14 44.0**	**+2.8**
MJB9	**Matsu-Tunnel**	**3.94**	**239**		**Pn**	**12 14 44.3**	**+3.1**
JGF	**Kuroka**	**5.05**	**235**		**Pn**	**12 15 00.1**	**+3.7**
JGF	**Kuroka**	**5.05**	**235**	P	**Pn**	**12 15 00.2**	**+3.7**
	61nm,0.7s						
JSG	**Sagara**	**5.22**	**222**	Pn	**Pn**	**12 15 00.7**	**+2.0**
INU	**Inuyama**	**5.43**	**234**		**Pn**	**12 15 02.3**	**+0.8**
INU	**Inuyama**	**5.43**	**234**	P	**Pn**	**12 15 04.9**	**+3.3**
JKA	**Kamikawa-asahi**	**5.47**	**1**		**Pn**	**12 15 03.6**	**+1.4**
ASAJ	**Asahikawa**	**5.48**	**1**	P	**Pn**	**12 15 03.0**	**+0.8**
	2.1nm,0.3s,baz=218,slow=10,SNR=35						
ASAJ				S	**Sn**	**12 16 03.1**	**-1.2**
	9.9nm,0.4s,baz=252,slow=24,SNR=1.4 6.2nm,0.3s						
JHJ2	**Mitsune**	**5.90**	**202**	Pn	**Pn**	**12 15 07.9**	**-0.2**
JHJ	**Hachijo jima 2**	**5.91**	**202**	P	**Pn**	**12 15 08.4**	**+0.3**
	8.7nm,0.3s,baz=54,slow=20,SNR=1.6						
JHJ				S	**Sn**	**12 16 10.6**	**-4.5**
	147nm,0.8s,baz=238,slow=21,SNR=1.5 172nm,0.9s						
JHS	**Saijyo**	**8.29**	**247**	Pn	**Pn**	**12 15 41.8**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.31**	**2**	Pn	**Pn**	**12 15 41.8**	**+0.6**
JMN	**Monobe**	**8.46**	**237**	Pn	**Pn**	**12 15 45.2**	**+1.9**
JMN	**Monobe**	**8.46**	**237**	P	**Pn**	**12 15 46.6**	**+3.3**
USA0B	**Ussuriysk Arra**	**9.60**	**309**	Pn	**Pn**	**12 16 00.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.60**	**309**	P	**Pn**	**12 15 59.3**	**+0.5**
	0.3nm,0.3s,baz=120,slow=14,SNR=4.7						
USRK				LR	LR	12 19 31.0	
	comp=Z,209nm,19.4s,baz=121,slow=37 2.4nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.60**	**309**	Pn	**Pn**	**12 16 00.4**	**+1.6**
JNU	**Nakatsue**	**10.86**	**243**	P	**Pn**	**12 16 15.6**	**-0.5**
	0.3nm,0.3s,baz=308,slow=15,SNR=1.9 5.6nm,1.1s						
KSRS	**Korea Array**	**11.49**	**269**	P	**Pn**	**12 16 25.0**	**+0.3**
	0.2nm,0.3s,baz=85,slow=14,SNR=2.7						
KSRS				LR	LR	12 20 36.9	
	comp=Z,89nm,18.3s,baz=75,slow=36 0.7nm,0.5s						
KS19	**Wonju Array Si**	**11.53**	**269**	Pn	**Pn**	**12 16 24.6**	**-0.6**
KLR	**Kul'dur**	**13.07**	**328**	P	**Pn**	**12 16 45.0**	**-1.2**
	0.1nm,0.3s,baz=120,slow=14,SNR=3.7						
KLR				LR	LR	12 21 43.9	
	comp=Z,147nm,19.2s,baz=154,slow=37 0.9nm,0.8s						
NJ2	**Nanjing**	**20.29**	**258**	*e*P	**P**	**12 18 16.7**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
XLT	**XiLinHaoTe**	**20.44**	**293**	*e*P	**P**	**12 18 18.6**	**+0.8**
XLT				pmax	pmax		
	comp=Z,15nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,5.1s						
MA2	**Magadan**	**21.62**	**12**	LR	LR	12 26 38.6	
	comp=Z,26nm,21.2s,baz=202,slow=36						
HHC	**Hu-ho-hao-te**	**23.77**	**285**	*e*P	**P**	**12 18 55.8**	**+2.9**
HHC				pmax	pmax		
	comp=Z,160nm,5.1s						
YAK	**Yakutsk**	**24.70**	**346**	LR	LR	12 29 11.1	
	comp=Z,62nm,18.1s,baz=280,slow=38						
GUMO	**Guam**	**25.04**	**174**	LR	LR	12 28 19.7	
	comp=Z,20nm,21.9s,baz=60,slow=35						
SEY	**Seymchan**	**25.07**	**11**	P	**P**	**12 19 05.9**	**+1.5**
	1.3nm,0.7s,baz=191,slow=22,SNR=2.7 1.3nm,0.7s						
SONM	**Songino Array**	**27.59**	**301**	P	**P**	**12 19 26.4**	**-1.2**
	2.3nm,1.2s,baz=92,slow=8.5,SNR=6.4						
SONM				LR	LR	12 30 41.0	
	comp=Z,50nm,21.9s,baz=51,slow=37 2.3nm,1.2s						
SONM	**Songino Array**	**27.59**	**301**		**P**	**12 19 26.7**	**-0.9**
ENH	**Enshi**	**28.29**	**263**	P	**P**	**12 19 33.5**	**-0.3**
ENH				IAmb	IAmb	12 19 39.4	
	comp=Z,15nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.34**	**125**	T	T	12 50 01.3	
	baz=317,slow=75,SNR=1229						
H11N1	**WAKE ISLAND Hy**	**28.35**	**125**	T	T	12 50 04.3	
	baz=317,slow=75,SNR=1058						
H11N3	**WAKE ISLAND Hy**	**28.36**	**125**	T	T	12 50 04.9	
	baz=317,slow=75,SNR=1047						
H11S1	**WAKE ISLAND Hy**	**29.12**	**127**	T	T	12 50 53.3	
	baz=318,slow=76,SNR=396						
H11S3	**WAKE ISLAND Hy**	**29.12**	**127**	T	T	12 51 08.8	
	baz=318,slow=76,SNR=455						
H11S2	**WAKE ISLAND Hy**	**29.14**	**127**	T	T	12 51 06.8	
	baz=318,slow=76,SNR=393						
TIXI	**Tiksi**	**33.80**	**352**	LR	LR	12 35 23.5	
	comp=Z,39nm,19.5s,baz=358,slow=38						
PZH	**PanZhiHua**	**36.08**	**263**	P	**P**	**12 20 44.6**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
WMQ	**Urumqi**	**40.85**	**295**	*e*P	**P**	**12 21 24.0**	**+2.0**
WMQ				pP	sP	12 21 32.6	+0.7
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
ZAA0	**Zalesovo Array**	**41.44**	**311**	P	**P**	**12 21 25.8**	**-0.8**
ZAA0				IAmb	IAmb	12 21 27.6	
	comp=Z,2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**41.44**	**311**	P	**P**	**12 21 25.9**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=89,slow=8.6,SNR=13						
ZALV				LR	LR	12 39 11.9	
	comp=Z,56nm,18.4s,baz=80,slow=37 comp=Z,2.2nm,0.4s						
ZALV	**Zalesovo Beam**	**41.44**	**311**	P	**P**	**12 21 25.3**	**-1.3**
FAKI	**Fak Fak**	**42.41**	**195**	P	**P**	**12 21 33.3**	**-1.6**
MK31	**Makanchi Array**	**43.96**	**301**	P	**P**	**12 21 47.1**	**-0.1**
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**12 21 46.6**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=83,slow=9.3,SNR=4.2						
MKAR				LR	LR	12 40 48.9	
	comp=Z,26nm,18.4s,baz=77,slow=37 comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**12 21 47.0**	**-0.3**
MAKZ	**Makanchi**	**44.17**	**301**	P	**P**	**12 21 48.9**	**0.0**
MAKZ				IAmb	IAmb	12 21 54.9	
	comp=Z,3.8nm,1.2s						
KDAK	**Kodiak Island**	**45.38**	**43**	P	**P**	**12 21 59.4**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=303,slow=12,SNR=1.3 comp=Z,3.6nm,1.0s						
KURBB	**Kurchatov Arra**	**45.66**	**307**	P	**P**	**12 22 00.1**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=82,slow=8.3,SNR=30 comp=Z,3.0nm,0.5s						
SCM	**Sheep Creek Mo**	**47.71**	**37**	P	**P**	**12 22 14.6**	**-2.1**
SCM				IAmb	IAmb	12 22 31.0	
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**47.72**	**33**	P	**P**	**12 22 17.8**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=270,slow=6.0,SNR=7.6 comp=Z,0.5nm,0.6s						
M24K	**Tolsona, Glenn**	**48.23**	**37**	P	**P**	**12 22 18.5**	**-2.2**
BMAR	**Burnt Mountain**	**48.55**	**30**	P	**P**	**12 22 21.4**	**-1.7**
BVAR	**Borovoye Array**	**50.09**	**311**	LR	LR	12 44 40.1	
	comp=Z,40nm,19.3s,baz=127,slow=37						
BRVK	**Borovoye**	**50.15**	**312**	P	**P**	**12 22 35.6**	**+0.2**
BRVK				IAmb	IAmb	12 23 00.6	
	comp=Z,2.2nm,1.0s						
AAK	**Ala-Archa**	**50.44**	**298**	P	**P**	**12 22 38.2**	**+0.2**
AAK				IAmb	IAmb	12 23 01.7	
	comp=Z,1.9nm,0.9s						
HNR	**Honiara**	**50.54**	**157**	LR	LR	12 42 23.4	
	comp=Z,516nm,20.7s,baz=202,slow=34						
INK	**Inuvik**	**52.60**	**28**	P	**P**	**12 22 54.8**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=318,slow=6.3,SNR=5.7 comp=Z,0.6nm,0.6s						
M31M	**Drury Creek, Y**	**53.65**	**35**	P	**P**	**12 22 59.6**	**-1.7**
M31M				IAmb	IAmb	12 23 00.1	
	comp=Z,3.1nm,0.3s						
A36M	**Sachs Harbour**	**54.48**	**22**	P	**P**	**12 23 07.0**	**-0.2**
A36M				IAmb	IAmb	12 23 13.4	
	comp=Z,4.8nm,1.1s						
ARU	**Arti**	**55.69**	**318**	LR	LR	12 49 28.0	
	comp=Z,76nm,18.8s,baz=73,slow=39						
ABKAR	**Akbulak array**	**57.52**	**310**	P	**P**	**12 23 28.7**	**-0.6**
ABKAR				IAmb	IAmb	12 23 41.6	
	comp=Z,1.4nm,0.6s						
AKTO	**Aktyubinsk**	**58.20**	**312**	LR	LR	12 49 56.6	
	comp=Z,35nm,19.8s,baz=216,slow=37						
WB0	**Warramunga Arr**	**58.58**	**189**	P	**P**	**12 23 35.7**	**-1.3**
WR0	**Warramunga Arr**	**58.75**	**189**	P	**P**	**12 23 36.8**	**-1.4**
WR0				IAmb	IAmb	12 23 58.0	
	comp=Z,13nm,1.3s						
WB2	**Warramunga Arr**	**58.76**	**189**	P	**P**	**12 23 35.7**	**-2.5**
WRA	**Warramunga Arr**	**58.76**	**189**	P	**P**	**12 23 38.2**	**0.0**
	comp=Z,1.6nm,0.6s,baz=6.3,slow=7.2,SNR=18 comp=Z,1.6nm,0.6s						
WRA	**Warramunga Arr**	**58.76**	**189**	P	**P**	**12 23 36.9**	**-1.4**
YKA	**Yellowknife Ar**	**62.02**	**31**	P	**P**	**12 24 01.3**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=299,slow=6.4,SNR=2.4 comp=Z,0.1nm,0.5s						
ASAR	**Alice Springs**	**62.49**	**189**	P	**P**	**12 24 04.0**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=9.5,slow=5.2,SNR=12 comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**62.49**	**189**	P	**P**	**12 24 02.2**	**-1.4**
ARCES	**ARCESS Array B**	**62.78**	**339**	P	**P**	**12 24 05.1**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=36,slow=6.7,SNR=1.7 comp=Z,3.2nm,0.9s						
BELG	**Belogornoye**	**63.17**	**317**	LR	LR	12 52 55.4	
	comp=Z,31nm,18.2s,baz=32,slow=37						
FINES	**FINESS Array B**	**67.77**	**332**	P	**P**	**12 24 37.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=38,slow=9.3,SNR=1.9						
FINES				LR	LR	12 55 18.8	
	comp=Z,36nm,20.8s,baz=9.0,slow=37 comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**67.77**	**332**	P	**P**	**12 24 38.3**	**+0.8**
STKA	**Stephens Creek**	**70.16**	**181**	LR	LR	13 01 07.8	
	comp=Z,18nm,18.7s,baz=203,slow=40						
HFS	**Hagfors**	**72.85**	**336**	LR	LR	12 58 59.0	
	comp=Z,31nm,21.2s,baz=58,slow=37						
NOA	**NORSAR Array B**	**73.01**	**337**	LR	LR	12 59 49.9	
	comp=Z,24nm,21.6s,baz=295,slow=38						
NVAR	**Mina Array Bea**	**73.40**	**54**	P	**P**	**12 25 14.3**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=316,slow=3.8,SNR=2.8 comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**73.51**	**322**	P	**P**	**12 25 10.8**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=48,slow=6.1,SNR=2.3						
AKASG				LR	LR	12 58 56.2	
	comp=Z,17nm,18.1s,baz=48,slow=37 comp=Z,0.2nm,0.4s						
PD31	**Pinedale Array**	**75.98**	**46**	P	**P**	**12 25 25.8**	**-1.7**
PDAR	**Pinedale Array**	**75.98**	**46**	P	**P**	**12 25 28.6**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=283,slow=2.2,SNR=8.3 comp=Z,0.5nm,0.6s						
MLR	**Muntele Rosu**	**78.67**	**320**	LR	LR	13 02 10.0	
	comp=Z,42nm,19.8s,baz=284,slow=37						
PPT	**Papeete**	**84.65**	**117**	LR	LR	12 59 48.4	
	comp=Z,25nm,20.4s,baz=265,slow=33						
TXAR	**Lajitas Array**	**88.52**	**53**	P	**P**	**12 26 34.4**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=291,slow=2.7,SNR=6.4 comp=Z,0.4nm,0.7s						

JMA 03 12:13:49.6±0.1, 36°.7N±0°.1 × 140°.6E±0°.2, h9 km, MV0.2/17, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.10**	**189**	*e*P	Pg	12 13 51.9	-0.1
JHO				*e*S	Sg	12 13 53.6	-0.2
JFFD	**Fukushimafurud**	**0.39**	**357**	*e*S	Sg	12 14 02.3	0.0
JFK	**Kawauchi**	**0.70**	**19**	S	Sg	12 14 11.8	-0.4

*NIED **03** 12:23:35.5, 38°.70N × 142°.25E, h34 km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10 14 Nm; Mrr=1.57; Mθθ=1.02; Mφφ=0.55; Mrθ=1.75; Mθφ=0.69; Mφr=2.62; Fault plane solution: M0 3.50000×10 14 NP1: φs=216.00000°, δ=77.00000°, λ=-97.00000°. NP2: φs=67.00000°, δ=15.00000°, λ=-60.00000°.*
*JMA **03** 12:23:35.5±0.1, 38°.7N±0°.3 × 142°.3E±0°.7, h34km±1km, MV3.7/40, E OFF MIYAGI PREF*
*IDC **03** 12:23:36.8±2.7, 38°.84N × 141°.92E, h57km±25km, mb3.1/6, mbtmp3.3/8, ML2.6/2, MS2.2/1, Error ellipse: s-maj=33.3km s-min=12.0km az=116.0*
ISC 03 12:23:33.6±1.7, 38°.70N±0°.05 × 142°.29E±0°.07, h29 km±12km, n25, σ1 °01/29, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.62**	**309**	P	**Pn**	**12 23 47.4**	**+1.0**
OFUJ				S	**Sn**	**12 23 55.5**	**+0.2**
JKMT	**Kesennumamotoy**	**0.65**	**280**	P	**Pn**	**12 23 47.6**	**+0.8**
JKMT				S	**Sn**	**12 23 56.0**	**-0.1**
JIKH	**Ishinomakibobu**	**0.75**	**240**	*i*P	**Pn**	**12 23 49.0**	**+0.8**
JIKH				S	**Sn**	**12 23 58.6**	**0.0**
JIO	**Ouri**	**0.78**	**252**	P	**Pn**	**12 23 49.3**	**+0.7**
JIO				S

DSZ	**Denniston Nort**	**22.22 201**	P	**P**	**12 35 54.1**	**+1.4**
EIDS	**Eidsvold**	**28.71 256**	P	**P**	**12 36 50.5**	**+0.1**
EIDS			IAmb	IAmb	12 37 22.3	
	comp=Z,26nm,1.4s					
ARMA	**Armidale**	**28.81 245**	P	**P**	**12 36 52.5**	**+1.2**
ARMA			IAmb	IAmb	12 37 24.1	
	comp=Z,30nm,1.4s					
CTAO	**Charters Tower**	**33.48 265**	P	**P**	**12 37 31.6**	**+0.1**
CTAO			IAmb	IAmb	12 37 32.3	
	comp=Z,9.1nm,0.6s					
TOO	**Toolangi**	**35.52 235**	P	**P**	**12 37 50.0**	**+1.5**
TOO			IAmb	IAmb	12 38 06.5	
	comp=Z,20nm,1.5s					
PMG	**Port Moresby**	**35.56 284**	P	**P**	**12 37 48.4**	**-0.6**
	comp=Z,8.9nm,0.5s,baz=101,slow=10.0,SNR=3.6					
	comp=Z,8.9nm,0.5s					
STKA	**Stephens Creek**	**37.53 245**	P	**P**	**12 38 05.2**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=74,slow=9.1,SNR=5.3					
	comp=Z,2.7nm,0.7s					
STKA	**Stephens Creek**	**37.53 245**	P	**P**	**12 38 05.8**	**+0.7**
AS31	**Alice Springs**	**44.41 257**	P	**P**	**12 39 00.2**	**0.0**
AS31			IAmb	IAmb	12 39 01.2	
	comp=Z,2.6nm,0.4s					
ASAR	**Alice Springs**	**44.41 257**	P	**P**	**12 38 59.9**	**-0.3**
	comp=Z,3.7nm,0.5s,baz=90,slow=8.5,SNR=217					
ASAR			PcP	**PcP**	**12 40 34.1**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=109,slow=4.4,SNR=3.1					
	comp=Z,3.7nm,0.5s					
WB0	**Warramunga Arr**	**44.54 263**	P	**P**	**12 39 00.6**	**-0.6**
WB0			IAmb	IAmb	12 39 00.9	
	comp=Z,7.3nm,0.9s					
WB2	**Warramunga Arr**	**44.55 263**	P	**P**	**12 39 00.6**	**-0.7**
WB2			IAmb	IAmb	12 39 01.3	
	comp=Z,6.4nm,0.9s					
WRAB	**Tennant Creek**	**44.55 263**	P	**P**	**12 39 00.6**	**-0.7**
WRAB			IAmb	IAmb	12 39 31.9	
	comp=Z,18nm,1.5s					
WRA	**Warramunga Arr**	**44.56 263**	P	**P**	**12 39 00.3**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=97,slow=7.6,SNR=69					
	comp=Z,1.5nm,0.3s					
WRA	**Warramunga Arr**	**44.56 263**	P	**P**	**12 39 00.8**	**-0.5**
KNRA	**Kununurra**	**50.67 267**	P	**P**	**12 39 47.5**	**+0.3**
SIJI	**Sorong**	**53.47 285**	P	**P**	**12 40 07.9**	**+0.3**
	comp=Z,17nm,0.5s,baz=42,slow=8.2,SNR=9.7					
	comp=Z,17nm,0.5s					
QSPA	**South Pole Qui**	**68.86 180**	P	**P**	**12 41 49.5**	**+1.5**
MJAR	**Matsushiro Ar**	**70.81 324**	P	**P**	**12 42 00.5**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=162,slow=5.7,SNR=9.3					
	comp=Z,0.9nm,0.5s					
JNU	**Nakatsue**	**72.83 317**	P	**P**	**12 42 12.5**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=140,slow=19,SNR=1.4					
	comp=Z,3.6nm,0.9s					
ASAJ	**Asahikawa**	**74.38 332**	P	**P**	**12 42 22.3**	**+1.9**
	comp=Z,1.8nm,0.5s,baz=212,slow=8.6,SNR=5.5					
	comp=Z,1.8nm,0.5s					
PETK	**Petropavlovsk-**	**76.97 345**	P	**P**	**12 42 34.5**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=137,slow=8.1,SNR=6.8					
	comp=Z,1.8nm,0.7s					
KSRS	**Korea Array**	**77.46 319**	P	**P**	**12 42 38.9**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=124,slow=6.4,SNR=2.5					
	comp=Z,0.7nm,0.5s					
NVAR	**Mina Array Bea**	**81.51 43**	P	**P**	**12 42 59.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=238,slow=8.4,SNR=3.3					
	comp=Z,0.4nm,0.5s					
TXAR	**Lajitas Array**	**87.40 57**	P	**P**	**12 43 30.1**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=246,slow=6.8,SNR=2.8					
	comp=Z,0.2nm,0.7s					
ILAR	**Eielson Array**	**89.00 13**	P	**P**	**12 43 35.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=216,slow=5.7,SNR=7.6					
	comp=Z,0.4nm,0.6s					
ARCES	**ARCESS Array B**	**129.63 350**	PKP	**PKPdf**	**12 49 45.5**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=60,slow=3.0,SNR=5.9					
AKASG	**Malin Array Be**	**143.66 331**	PKP	PKPab	12 50 10.3	0.0
	comp=Z,1.2nm,0.5s,baz=35,slow=4.5,SNR=9.8					
BRTR	**Keskin Array B**	**147.35 312**	PKPbc	**PKPbc**	**12 50 22.2**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=64,slow=3.4,SNR=2.6					
CLL	**Collm**	**148.77 347**	*i* PKPbc	**PKPbc**	**12 50 25.3**	**+0.5**
	comp=Z,7.0nm,0.9s					
GERES	**GERESS Array B**	**150.90 344**	PKPbc	**PKPbc**	**12 50 30.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=346,slow=2.0,SNR=2.5					

IDC ***03*** *12:37:24.3±1.5, 15.°06N×145.°61E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=53.8km s-min=19.6km az=95.0*

NEIC ***03*** *12:37:30.4±1.8, 14.°79N±0.°06×144.°64E±0.°09, h18km±1km, mb3.9/7, ML3.5/6, Error ellipse: s-maj=15.0km s-min=5.2km az=120.0*

ISC 03 12:37:28.6±1.3, 14.°9N±0.°1×145.°5E±0.°3, h35km, n17, σ1§81/19, mb3.7/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.39**	**205**	P	**Pn**	**12 37 52.6**	**+1.1**
	63nm,0.3s,baz=302,slow=6.5,SNR=117						
GUMO				Sn	**Sn**	**12 38 07.0**	**-1.7**
	baz=37,slow=20						
GUMO	**Guam**	**1.39**	**205**	Pn	**Pn**	**12 37 52.6**	**+1.1**
GUMO				Sn	**Sn**	**12 38 06.9**	**-1.7**
GUMO				IAML		12 38 08.7	
	2um,0.4s						
WRAB	**Tennant Creek**	**36.26**	**198**	P	**P**	**12 44 29.7**	**+1.0**
WRAB				IAmb	IAmb	12 44 43.0	
	comp=Z,10.0nm,1.4s						
WB2	**Warramunga Arr**	**36.27**	**198**	P	**P**	**12 44 28.7**	**-0.2**
WRA	**Warramunga Arr**	**36.27**	**198**	P	**P**	**12 44 32.1**	**+3.3**
	comp=Z,0.7nm,0.8s,baz=13,slow=8.6,SNR=5.2						
	comp=Z,0.7nm,0.8s						
WRA	**Warramunga Arr**	**36.27**	**198**	P	**P**	**12 44 28.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**38.14**	**211**	P	**P**	**12 44 41.7**	**-3.0**
FITZ				IAmb	IAmb	12 45 08.0	
	comp=Z,0.6nm,1.2s						
AS31	**Alice Springs**	**39.92**	**197**	P	**P**	**12 44 59.8**	**+0.1**
AS31				IAmb	IAmb	12 45 08.2	
	comp=Z,2.3nm,1.4s						
ASAR	**Alice Springs**	**39.92**	**197**	P	**P**	**12 45 02.9**	**+3.3**
	comp=Z,0.3nm,0.5s,baz=22,slow=8.5,SNR=7.8						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**39.92**	**197**	P	**P**	**12 45 01.6**	**+2.0**
SONM	**Songino Array**	**46.05**	**324**	P	**P**	**12 45 51.0**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=116,slow=6.6,SNR=4.1						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**60.99**	**315**	P	**P**	**12 47 38.4**	**-0.2**
MK31				IAmb	IAmb	12 48 10.9	
	comp=Z,1.2nm,1.2s						
MKAR	**Makanchi Array**	**60.99**	**315**	P	**P**	**12 47 38.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=92,slow=8.7,SNR=12						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**60.99**	**315**	P	**P**	**12 47 38.8**	**+0.1**
MAKZ	**Makanchi**	**61.21**	**315**	P	**P**	**12 47 40.2**	**+0.2**
MAKZ				IAmb	IAmb	12 48 03.3	
	comp=Z,2.8nm,1.4s						
ILAR	**Eielson Array**	**67.18**	**25**	P	**P**	**12 48 17.4**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=255,slow=5.4,SNR=2.2						
	comp=Z,0.2nm,0.4s						
ABKAR	**Akbulak array**	**76.00**	**318**	P	**P**	**12 49 10.6**	**-1.7**

VAO ***03*** *12:43:42.6±0.2, 3.°33S×43.°94W, h0km, mbR4.6*

IDC ***03*** *12:43:43.0±0.7, 3.°25S×43.°84W, h0km, mb4.0/11, mbtmp4.1/13, ML4.6/3, MS3.4/35, Error ellipse: s-maj=19.2km s-min=16.9km az=27.0*

NEIC ***03*** *12:43:45.7±2.5, 3.°35S±0.°09×43.°97W±0.°09, h10km±1km, mb4.5/38, Error ellipse: s-maj=16.0km s-min=14.2km az=220.0*

ISC 03 12:43:44.1±0.4, 3.°33S±0.°04×43.°96W±0.°05, h10km, n119, σ1§64/98, mb4.5/28, MS3.4/33, Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSB	**Rosrio**	**0.46**	**339**	*e*P	**Pg**	**12 43 53.0**	**-0.1**
ROSB				*e*S	**Sg**	**12 43 58.0**	**-1.3**
TMAB	**Tom-Au,PA,Br**	**4.24**	**283**	*e*P	**Pn**	**12 44 51.1**	**+2.3**
TMAB				*e*S	**Sn**	**12 45 38.2**	**-0.2**
NBCL	**Cascavel-CE**	**5.72**	**99**	*e*P	**Pn**	**12 45 08.6**	**-0.6**
NBCL				*e*S	**Sn**	**12 46 14.1**	**-0.9**
PRPB	**Parauapebas**	**6.48**	**244**	*e*P	**Pn**	**12 45 21.1**	**+1.4**
PRPB				*e*S	**Sn**	**12 46 33.8**	**0.0**
SMTB	**Santa Maria do**	**6.58**	**213**	*e*P	**Pn**	**12 45 24.4**	**+3.4**
SMTB				*e*S	**Sn**	**12 46 37.5**	**+1.4**
RCBR	**Riachuelo**	**8.40**	**107**	Pn	**Pn**	**12 45 45.1**	**-1.0**
	1.5nm,0.3s,baz=66,slow=9.7,SNR=11						
RCBR				Sn	**Sn**	**12 47 17.0**	**-4.2**
	9.2nm,0.3s,baz=153,slow=11,SNR=4.0						
RCBR				Lg	Lg	12 48 00.6	
	44nm,0.3s,baz=355,slow=20,SNR=9.7						
	5.8nm,0.4s						
RCBR	**Riachuelo**	**8.40**	**107**			**Pn**	**12 45 46.4**	**+0.3**
RCBR	**Riachuelo**	**8.40**	**107**	*e*P		**Pn**	**12 45 46.0**	**-0.1**
MCPB	**Macapa, AP**	**8.62**	**290**	*e*P		**Pn**	**12 45 49.2**	**+0.2**
SDBA	**SAO DESIDERIO**	**9.07**	**186**	*e*P		**Pn**	**12 45 56.7**	**+1.5**
MALB	**Monte Alegre**	**10.40**	**278**	*e*P		**Pn**	**12 46 12.8**	**-0.7**
SNDB	**Serra Nova Dou**	**11.25**	**220**	*e*P		**Pn**	**12 46 27.5**	**+2.4**
ITTB	**Itaituba**	**11.80**	**265**	*e*P		**Pn**	**12 46 31.8**	**-0.7**
NPGB	**Novo Progresso**	**11.94**	**252**	*e*P		**Pn**	**12 46 34.0**	**-0.5**
MDP	**Montagnes des**	**12.06**	**314**	Pn		**Pn**	**12 46 35.0**	**-1.1**
	1.3nm,0.3s,baz=107,slow=10,SNR=3.1							
MDP				Sn		**Sn**	**12 48 44.7**	**-6.2**
	1.5nm,0.3s,baz=236,slow=17,SNR=1.7							
MDP				Lg		Lg	12 50 07.2	
	1.3nm,0.3s,baz=58,slow=23,SNR=1.5							
MDP				LR		LR	12 51 29.7	
	comp=Z,291nm,18.4s,baz=108,slow=39							
	31nm,1.1s							
BDFB	**Brasilia**	**12.87**	**198**	Pn		**Pn**	**12 46 47.6**	**+0.2**
	5.4nm,0.3s,baz=20,slow=13,SNR=87							
BDFB				Sn		**Sn**	**12 49 05.3**	**-5.5**
	4.1nm,0.3s,baz=8.4,slow=14,SNR=2.0							
BDFB				Lg		Lg	12 50 33.5	
	8.8nm,0.3s,baz=160,slow=23,SNR=1.7							
BDFB				LR		LR	12 52 11.2	
	comp=Z,352nm,19.9s,baz=331,slow=39							
BDFB	**Brasilia**	**12.87**	**198**	Pn		**Pn**	**12 46 47.8**	**+0.5**
CLDB	**Colider**	**13.93**	**237**	*e*P		**Pn**	**12 47 00.8**	**-0.9**
ARAG	**Araguaiana, MT**	**14.53**	**212**	*e*P		**Pn**	**12 47 10.6**	**+0.7**
DIAM	**Diamantina, MG**	**14.88**	**179**	*e*P		**Pn**	**12 47 12.6**	**-2.2**
PDRB	**Porto dos Gac**	**15.09**	**236**	*e*P		**Pn**	**12 47 15.6**	**-2.0**
IPMB	**Ipameri, GO**	**15.15**	**196**	*e*P		**Pn**	**12 47 16.5**	**-1.8**
SJMB	**Sao Joao De Ma**	**15.52**	**170**	*e*P		**Pn**	**12 47 20.3**	**-2.9**
MACA	**Manacapuru-AM**	**16.70**	**270**	Pn		**Pn**	**12 47 36.4**	**-2.1**
MACA				IAmb		IAmb	12 48 00.7	
	comp=Z,35nm,0.6s							
MACA	**Manacapuru-AM**	**16.70**	**270**	*e*P		**Pn**	**12 47 36.0**	**-2.4**
SALV	**Santo Antonio**	**17.01**	**222**	*e*P		**Pn**	**12 47 42.0**	**-0.3**
ITRB	**Iturama**	**17.43**	**201**	*e*P		**P**	**12 47 48.3**	**-0.5**
BOAV	**Boa Vista**	**17.51**	**289**			**Pn**	**12 47 46.9**	**-1.6**
BOAV				IAmb		IAmb	12 47 55.3	
	comp=Z,12nm,0.9s							
BOAV	**Boa Vista**	**17.51**	**289**	*e*P		**Pn**	**12 47 46.4**	**-2.2**
PP1B	**Ponte de Pedra**	**17.77**	**216**	*e*P		**Pn**	**12 47 51.5**	**-0.3**
VILB	**Vilhena**	**18.69**	**238**	P		**P**	**12 48 00.5**	**-2.3**
VILB				IAmb		IAmb	12 48 26.9	
	comp=Z,31nm,1.2s							
VILB	**Vilhena**	**18.69**	**238**	*e*P		**P**	**12 48 03.0**	**+0.3**
PTLB	**Pontes e Lacer**	**19.20**	**230**	P		**P**	**12 48 07.9**	**-0.3**
PTLB				IAmb		IAmb	12 48 38.7	
	comp=Z,7.1nm,0.5s							
PTLB	**Pontes e Lacer**	**19.20**	**230**	*e*P		**P**	**12 48 08.6**	**+0.4**
RCLB	**Rio Claro- Sao**	**19.29**	**190**	*e*P		**P**	**12 48 09.1**	**-0.2**
PCMB	**Pacaembu**	**19.50**	**201**	*e*P		**P**	**12 48 12.0**	**+0.3**
VAO	**Valinhos**	**19.77**	**188**	*e*P		**P**	**12 48 13.7**	**-0.9**
SAML	**Samuel**	**19.91**	**253**			**P**	**12 48 15.5**	**-0.6**
AQDB	**Aquidauana**	**20.53**	**213**	P		Pn	12 48 24.9	0.0
AQDB	**Aquidauana**	**20.53**	**213**	*e*P		**P**	**12 48 23.1**	**+0.3**
SIV	**San Ignacio**	**21.02**	**232**	P		**P**	**12 48 30.6**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=57,slow=9.5,SNR=3.1							
SIV				S		**S**	**12 52 20.7**	**-1.8**
	comp=Z,5.2nm,0.7s,baz=350,slow=13,SNR=3.1							
SIV				Lg		Lg	12 54 47.3	
	comp=Z,0.1nm,0.3s,baz=152,slow=23,SNR=1.6							
SIV				LR		LR	12 57 19.3	
	comp=Z,68nm,18.8s,baz=84,slow=39							
	comp=Z,0.8nm,0.5s							
TRCB	**T Rica**	**21.10**	**203**	P		**P**	**12 48 31.8**	**+2.8**
TRCB	**Terra Rica**	**21.10**	**203**	*e*P		**P**	**12 48 29.0**	**+0.1**
PTGB	**Pitanga**	**22.65**	**199**	*e*P		**P**	**12 48 45.4**	**-0.3**
ETMB	**Extrema**	**23.02**	**253**	P		**P**	**12 48 50.6**	**+1.1**
ETMB				IAmb		IAmb	12 49 03.8	
	comp=Z,8.4nm,1.2s							
SGCB	**S.o Gabriel d**	**23.28**	**277**	*e*P		**P**	**12 48 52.3**	**0.0**
PCRV	**Puerto La Cruz**	**24.58**	**303**	LR		LR	12 58 56.5	
	comp=Z,210nm,20.6s,slow=37							
ITAB	**Concordia**	**25.02**	**197**	P		**P**	**12 49 09.8**	**+1.4**
ITAB				IAmb		IAmb	12 49 24.6	
	comp=Z,18nm,1.3s							
CPUP	**Villa Florida**	**26.22**	**208**	P		**P**	**12 49 20.9**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=33,slow=7.1,SNR=5.5							
CPUP				LR		LR	13 00 50.0	
	comp=Z,65nm,18.5s,baz=38,slow=39							
	comp=Z,1.7nm,0.7s							
CPUP	**Villa Florida**	**26.22**	**208**	P		**P**	**12 49 21.1**	**+1.8**
CPUP				IAmb		IAmb	12 49 45.4	
	comp=Z,7.3nm,1.1s							
BAUV	**El Baul**	**26.93**	**297**	P		**P**	**12 49 27.1**	**+1.3**
BAUV				IAmb		IAmb	12 49 53.0	
	comp=Z,12nm,0.9s							
LPAZ	**La Paz**	**27.03**	**240**	P		**P**	**12 49 27.5**	**0.0**
ITQB	**Itaqui**	**28.82**	**203**	P		**P**	**12 49 43.0**	**+0.4**
SDV	**Santo Domingo**	**29.23**	**295**	LR		LR	13 02 57.8	
	comp=Z,72nm,18.6s,baz=88,slow=39							
RUSC	**La Rusia**	**30.50**	**287**	P		**P**	**12 49 57.6**	**-0.6**
RUSC				IAmb		IAmb	12 50 05.7	
	comp=Z,14nm,1.4s							
SJG	**San Juan**	**30.54**	**315**	LR		LR	13 06 10.3	
	comp=Z,12nm,18.6s,baz=198,slow=44							
LVC	**Limon Verde**	**30.86**	**229**	LR		LR	13 03 44.3	
	comp=Z,65nm,18.4s,baz=40,slow=39							
CFA	**Coronel Fontan**	**36.24**	**216**	LR		LR	13 08 20.5	
	comp=Z,61nm,20.0s,baz=106,slow=41							
BO04	**La Punta**	**39.33**	**216**	P		**P**	**12 51 15.9**	**+2.1**
MT01	**Popeta**	**39.63**	**217**	P		**P**	**12 51 18.5**	**+2.4**
MT01				IAmb		IAmb	12 51 24.3	
	comp=Z,12nm,1.1s							
DBIC	**Dimbokro**	**40.28**	**76**	P		**P**	**12 51 20.9**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=243,slow=9.0,SNR=1.7							
	comp=Z,1.6nm,0.7s							
JTS	**Las Juntas de**	**43.01**	**289**	LR		LR	13 10 38.5	
	comp=Z,78nm,21.6s,slow=38							
PLCA	**Paso Flores**	**44.28**	**209**	LR		LR	13 13 31.8	
	comp=Z,42nm,20.1s,baz=30,slow=40							
PLCA	**Paso Flores**	**44.28**	**209**	P		**P**	**12 51 56.6**	**+2.5**
PLCA				IAmb		IAmb	12 51 58.8	
	comp=Z,11nm,1.3s							
TORD	**Torodi Ar. Bea**	**48.18**	**69**	P		**P**	**12 52 24.6**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=248,slow=7.6,SNR=11							
	comp=Z,1.3nm,0.4s							
T60A	**Surry**	**50.50**	**326**	P		**P**	**12 52 44.6**	**+2.1**
MDT	**Midelt**	**51.76**	**43**	LR		LR	13 11 04.9	
	comp=Z,36nm,19.7s,baz=246,slow=32							
TKL	**Tuckaleechee C**	**53.77**	**320**	LR		LR	13 13 27.9	
	comp=Z,13nm,21.2s,baz=116,slow=33							
CMIG	**Matias Romero**	**54.20**	**294**	LR		LR	13 18 39.2	
	comp=Z,35nm,19.2s,baz=86,slow=39							
WVT	**Waverly**	**56.72**	**318**	P		**P**	**12 53 29.2**	**+1.0**
WVT				IAmb		IAmb	12 53 30.1	
	comp=Z,4.3nm,0.8s							
SADO	**Sadowa**	**57.27**	**331**	LR		LR	13 17 40.4	
	comp=Z,16nm,19.1s,baz=285,slow=36							
CCM	**Cathedral Cave**	**60.06**	**318**	P		**P**	**12 53 52.5**	**+1.0**
R40A	**Maddies Statio**	**60.87**	**318**	P		**P**	**12 53 56.5**	**-0.5**
E46A	**Sault Ste Mari**	**60.97**	**329**	P		**P**	**12 53 58.1**	**+0.5**
SCHQ	**Schefferville**	**60.98**	**345**	LR		LR	13 17 32.3	
	comp=Z,51nm,20.0s,baz=181,slow=33							
SCHQ	**Schefferville**	**60.98**	**345**	P		**P**	**12 53 58.8**	**+1.3**
TXAR	**Lajitas Array**	**65.70**	**304**	P		**P**	**12 54 30.9**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=130,slow=6.7,SNR=25							
	comp=Z,3.1nm,0.9s							
TXAR	**Lajitas Array**	**65.70**	**304**	P		**P**	**12 54 31.2**	**+1.8**
TX31	**Lajitas Ar. Si**	**65.70**	**304**	P		**P**	**12 54 30.8**	**+1.4**
TX32	**Lajitas Array**	**65.70**	**304**	P		**P**	**12 54 30.8**	**+1.4**
TX32				IAmb		IAmb	12 54 32.5	
	comp=Z,3.6nm,0.9s							
SUR	**Sutherland**	**66.99**	**124**	LR		LR	13 19 25.7	
	comp=Z,34nm,18.3s,baz=178,slow=32							
MNTX	**Cornudas Mount**	**67.86**	**306**	P		**P**	**12 54 44.2**	**+1.2**
MNTX				IAmb		IAmb	12 54 45.4	
	comp=Z,2.9nm,1.0s							
DAVOX	**Davos/Dischmat**	**68.72**	**37**	LR		LR	13 20 48.5	
	comp=Z,46nm,19.8s,baz=259,slow=32							
ULM	**Lac du Bonnet**	**69.45**	**327**	P		**P**	**12 54 51.2**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=112,slow=6.3,SNR=5.9							
ULM				LR		LR	13 25 29.9	
	comp=Z,18nm,19.0s,baz=350,slow=36							
	comp=Z,2.7nm,0.8s							
LBTB	**Lobatse**	**70.08**	**115**	LR		LR	13 21 44.7	
	comp=Z,20nm,20.1s,baz=228,slow=33							
BOSA	**Boshof**	**70.18**	**119**	P		**P**	**12 54 58.0**	**+0.3**
	comp=Z,6.5nm,1.2s,baz=185,slow=10.0,SNR=2.2							
BOSA				LR		LR	13 22 27.1	
	comp=Z,31nm,19.0s,baz=205,slow=33							
	comp=Z,6.5nm,1.2s							
Q24A	**Divide**	**70.19**	**313**	P		**P**	**12 54 56.4**	**-1.4**
Q24A				IAmb		IAmb	12 55 21.4	
	comp=Z,6.3nm,1.1s							
SFJD	**Kangerlussuaq**	**70.33**	**357**	LR		LR	13 20 15.4	
	comp=Z,49nm,18.2s,baz=172,slow=31							
319A	**Douglas**	**70.94**	**305**	P		**P**	**12 55 04.0**	**+1.8**
319A				IAmb		IAmb	12 55 05.8	
	comp=Z,4.9nm,1.1s							
GERES	**GERESS Array B**	**71.97**	**36**	LR		LR	13 21 06.0	
	comp=Z,21nm,19.8s,baz=302,slow=31							
LAO	**LASA Array**	**73.86**	**321**	P		**P**	**12 55 21.7**	**+2.4**
LAO				IAmb		IAmb	12 55 22.3	
	comp=Z,8.3nm,1.1s							
VRAC	**Vranov**	**73.88**	**36**	LR		LR	13 22 38.3	
	comp=Z,19nm,19.3s,baz=326,slow=32							
RDMU	**Red Mountain**	**73.94**	**314**	P		**P**	**12 55 20.6**	**+0.5**
RDMU				IAmb		IAmb	12 55 22.8	
	comp=Z,2.6nm,0.9s							
P18A	**Preston Nutter**	**74.13**	**313**	P		**P**	**12 55 21.6**	**+0.2**
P18A				IAmb		IAmb	12 55 24.6	
	comp=Z,4.5nm,1.0s							
LIT	**Litokhoron**	**74.40**	**47**	P		**P**	**12 55 23.9**	**+1.4**
LIT				IAmb		IAmb	12 55 45.0	
	comp=Z,5.2nm,1.1s							
PDAR	**Pinedale Array**	**74.65**	**316**	P		**P**	**12 55 25.8**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=123,slow=8.8,SNR=6.0							
	comp=Z,0.8nm,0.8s							
PDAR	**Pinedale Array**	**74.65**	**316**	P		**P**	**12 55 24.4**	**+0.2**
BW06	**Boulder Array**	**74.66**	**316**	P		**P**	**12 55 24.6**	**+0.3**
IDI	**Anoyia**	**74.84**	**52**	LR		LR	13 29 35.6	
	comp=Z,29nm,18.1s,baz=324,slow=37							
W13A	**Hualapai Mount**	**75.65**	**307**	P		**P**	**12 55 29.8**	**-0.3**
LOHW	**Long Hollow**	**75.66**	**317**	P		**P**	**12 55 31.0**	**+1.1**
HVU	**Hansel Valley**	**76.61**	**314**	P		**P**	**12 55 36.5**	**+1.1**
HVU				IAmb		IAmb	12 55 37.8	
	comp=Z,2.6nm,1.0s							
NOA	**NORSAR Array B**	**76.88**	**24**	LR		LR	13 25 32.0	
	comp=Z,15nm,18.9s,baz=250,slow=33							
PFO	**Pinyon Flats O**	**77.37**	**305**	LR		LR	13 33 40.2	
	comp=Z,10.0nm,18.0s,baz=1.0,slow=39							
GWY	**Greenwater Val**	**78.11**	**308**	P		**P**	**12 55 44.9**	**+1.0**
GWY				IAmb		IAmb	12 55 51.3	
	comp=Z,7.6nm,1.3s							
MLR	**Muntele Rosu**	**78.45**	**42**	LR		LR	13 28 02.0	
	comp=Z,25nm,20.2s,baz=57,slow=34							
NVAR	**Mina Array Bea**	**79.87**	**310**	P		**P**	**12 55 54.9**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=122,slow=4.2,SNR=7.5							
	comp=Z,1.4nm,0.9s							
NVAR	**Mina Array Bea**	**79.87**	**310**	P		**P**	**12 55 53.6**	**0.0**
BMO	**Blue Mountains**	**80.62**	**316**	P		**P**	**12 55 58.0**	**+0.7**
BMO				IAmb		IAmb	12 56 00.4	
	comp=Z,3.3nm,1.1s							
AKASG	**Malin Array Be**	**82.00**	**38**	P		**P**	**12 56 04.6**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=261,slow=4.2,SNR=3.3							
	comp=Z,0.4nm,0.4s							
EIL	**Elat**	**82.03**	**60**	LR		LR	13 33 38.8	
	comp=Z,17nm,18.2s,baz=240,slow=37							
BRTR	**Keskin Array B**	**82.61**	**49**	LR		LR	13 33 48.4	
	comp=Z,14nm,18.6s,baz=262,slow=36							
YKA	**Yellowknife Ar**	**84.12**	**334**	P		**P**	**12 56 15.2**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=108,slow=6.0,SNR=4.9							
	comp=Z,0.4nm,0.7s							
ARCES	**ARCESS Array B**	**86.03**	**19**	LR		LR	13 32 12.8	
	comp=Z,11

TIPB	**Shuangxi** baz=349	**0.49**	**347**⇑	*i*P	**Pb**	**13 08 50.5**	**-0.4**
TIPB				*e*S	**Sb**	**13 08 58.0**	**-0.1**
ETLH	**Xiulin Townshi** baz=236	**0.51**	**237**⇓	*i*P	**Pb**	**13 08 50.0**	**-1.1**
ETLH				*e*S	**Sb**	**13 08 57.2**	**-1.4**
TWB1	**Santiao Chiao** baz=7.0	**0.52**	**4**	P	**Pb**	**13 08 50.9**	**-0.3**
TWB1				*e*S	**Sb**	**13 08 58.3**	**-0.4**
NNSB	**Datong** baz=264	**0.52**	**263**⇓	*i*P	**Pb**	**13 08 50.4**	**-1.0**
NNSB				*e*S	**Sg**	**13 08 56.9**	**-0.4**
NNSH	**Datong** baz=264	**0.52**	**263**⇓	*i*P	**Pb**	**13 08 50.4**	**-1.0**
NNSH				*e*S	**Sg**	**13 08 57.0**	**-0.4**
TWD	**Chiawan** baz=216	**0.52**	**218**⇓	*i*P	**Pg**	**13 08 50.2**	**-0.1**
TWD				S	**Sg**	**13 08 57.3**	**0.0**
NNS	**Nan Shan** baz=265	**0.53**	**265**⇓	*e*P	**Pb**	**13 08 50.4**	**-1.0**
NNS				*e*S	**Sg**	**13 08 57.0**	**-0.6**
YHNB	**Yeheng** baz=290	**0.55**	**289**⇑	*i*P	**Pb**	**13 08 51.5**	**-0.4**
YHNB				*e*S	**Sg**	**13 08 58.0**	**-0.4**
NSK	**Sanguang** baz=290	**0.57**	**289**	⇑P	**Pb**	**13 08 51.7**	**-0.5**
NSK				*e*S	**Sb**	**13 08 58.7**	**-1.5**
TWA	**Mucha** baz=328	**0.59**	**326**	*e*P	**Pb**	**13 08 52.6**	**+0.1**
TWA				*e*S	**Sb**	**13 09 00.5**	**-0.4**
HWA	**Hwalien** baz=209	**0.60**	**212**	*e*P	**Pb**	**13 08 52.9**	**+0.2**
NWF	**Wu-fen Shan** baz=347	**0.60**	**345**	*e*P	**Pn**	**13 08 53.2**	**-1.4**
NWF				*e*S	**Sb**	**13 09 01.0**	**-0.2**
WFSB	**Wu-fen Shan** baz=347	**0.60**	**345**	P	**Pn**	**13 08 53.2**	**-1.3**
WFSB				*e*S	**Sb**	**13 09 01.0**	**-0.1**
SXI1	**Grass Mountain** baz=356	**0.61**	**354**	P	**Pb**	**13 08 52.9**	**0.0**
SXI1				*e*S	**Sb**	**13 09 01.2**	**-0.2**
NHDH	**Xindian Distri** baz=323	**0.61**	**321**	P	**Pb**	**13 08 53.0**	**+0.2**
NHDH				*e*S	**Sb**	**13 09 00.8**	**-0.6**
ETM	**Tongmen** baz=218	**0.67**	**219**⇑	*i*P	**Pb**	**13 08 52.9**	**-0.9**
ETM				*e*S	**Sg**	**13 09 01.5**	**-0.5**
TNOU	**National Taiwa** baz=348	**0.68**	**346**	*e*P	**Pn**	**13 08 54.5**	**-1.1**
TNOU				*e*S	**Sb**	**13 09 03.5**	**+0.2**
TEYL	**Yanliau Villag** baz=207	**0.70**	**207**	*e*P	**Pn**	**13 08 55.1**	**-0.8**
TEYL				*e*S	**Sn**	**13 09 07.0**	**+0.4**
WHF	**Hehuan Shan** baz=240	**0.71**	**241**⇓	*i*P	**Pb**	**13 08 54.0**	**-0.8**
WHF				*e*S	**Sb**	**13 09 04.2**	**-0.6**
YM01	**YM01** baz=334	**0.74**	**332**⇑	*e*P	**Pn**	**13 08 55.8**	**-0.8**
YM01				*e*S	**Sn**	**13 09 07.6**	**-0.1**
TWT	**Tachien** baz=252	**0.74**	**252**	*e*P	**Pb**	**13 08 55.0**	**-0.2**
TWT				*e*S	**Sb**	**13 09 04.6**	**-0.8**
TDCB	**Techi** baz=252	**0.76**	**252**	*e*P	**Pb**	**13 08 55.4**	**-0.1**
TDCB				*e*S	**Sg**	**13 09 03.7**	**-1.2**
YM08	**YM08** baz=336	**0.77**	**335**	*e*P	**Pn**	**13 08 56.0**	**-0.9**
YM08				*e*S	**Sn**	**13 09 08.6**	**+0.2**
NFF	**Wufeng Townshi** baz=281	**0.77**	**281**	P	**Pn**	**13 08 55.8**	**-1.2**
NFF				*e*S	**Sb**	**13 09 05.1**	**-0.9**
TWS1	**Kuangyinshan** baz=323	**0.78**	**322**	P	**Pn**	**13 08 56.9**	**-0.1**
TWS1				*e*S	**Sn**	**13 09 07.3**	**-1.3**
ANP	**Anpu** baz=333	**0.80**	**331**	*e*P	**Pn**	**13 08 56.7**	**-0.6**
NTST	**Danshui** baz=327	**0.81**	**326**	*e*P	**Pn**	**13 08 57.6**	**+0.2**
NTST				*e*S	**Sn**	**13 09 11.4**	**+2.0**
ESL	**Shilin** baz=214	**0.82**	**215**	*e*P	**Pg**	**13 08 55.6**	**-0.5**
ESL				*e*S	**Sg**	**13 09 06.1**	**-0.7**
NJD	**Zhudong** baz=288	**0.82**	**288**	*e*P	**Pn**	**13 08 58.8**	**+1.2**
CHGB	**Renai** baz=238	**0.83**	**239**	⇓P	**Pb**	**13 08 56.2**	**-0.5**
CHGB				*e*S	**Sb**	**13 09 07.1**	**-0.7**
NCUH	**Zhongli** baz=306	**0.84**	**305**	*e*P	**Pn**	**13 08 58.5**	**+0.6**
NCUH				*e*S	**Sn**	**13 09 11.5**	**+1.3**
TWY	**Chenhua** baz=340	**0.84**	**338**	*e*P	**Pn**	**13 08 57.9**	**0.0**
TWY				*e*S	**Sn**	**13 09 10.4**	**+0.1**
LIOB	**Emei** baz=281	**0.86**	**281**	⇓P	**Pn**	**13 08 57.9**	**-0.3**
LIOB				*e*S	**Sb**	**13 09 08.6**	**-0.1**
NSTT	**Nanjuang** baz=280	**0.87**	**279**	*e*P	**Pn**	**13 08 58.0**	**-0.4**
NSTT				*e*S	**Sb**	**13 09 08.4**	**-0.5**
OWD	**Renai** baz=232	**0.88**	**233**	⇓P	**Pb**	**13 08 57.0**	**-0.6**
OWD				*e*S	**Sb**	**13 09 08.6**	**-0.8**
HSN1	**Hsinchu** baz=290	**0.89**	**289**	*e*P	**Pn**	**13 09 00.1**	**+1.5**
HSN1				*e*S	**Sn**	**13 09 14.3**	**+2.8**
WUSB	**Renai** baz=236	**0.91**	**237**	⇓P	**Pb**	**13 08 57.7**	**-0.2**
WUSB				*e*S	**Sb**	**13 09 09.5**	**-0.6**
JYNG	**Yonagunijimaku**	**0.91**	**92**	P	**Pb**	**13 08 58.2**	**+0.3**
JYNG				S	**Sb**	**13 09 10.2**	**+0.2**
SBCB	**Hsinchu** baz=290	**0.93**	**289**	*e*P	**Pn**	**13 09 00.3**	**+1.2**
SBCB				*e*S	**Sn**	**13 09 14.6**	**+2.3**
WHP	**Taichung City** baz=257	**0.94**	**257**	*e*P	**Pn**	**13 08 58.8**	**-0.5**
WHP				*e*S	**Sb**	**13 09 10.3**	**-0.6**
HSN	**Hsinchu** baz=292	**0.94**	**289**	*e*P	**Pn**	**13 08 60.0**	**+0.7**
HSN				*e*S	**Sn**	**13 09 12.4**	**-0.3**
EGFH	**Guangfu** baz=209	**0.95**	**210**	*e*P	**Pb**	**13 08 58.4**	**-0.1**
EGFH				*e*S	**Sn**	**13 09 11.7**	**-1.0**
NHW	**Xinwu Township** baz=303	**0.97**	**302**	*e*P	**Pn**	**13 09 00.9**	**+1.2**
NHW				*e*S	**Sn**	**13 09 14.1**	**+0.8**
YOJ	**Yonaguni jima**	**0.97**	**91**	*e*P	**Pg**	**13 08 58.8**	**-0.1**
YOJ				*e*S	**Sg**	**13 09 11.4**	**-0.1**
WPL	**Puli Township** baz=242	**1.02**	**243**	*e*P	**Pn**	**13 09 00.2**	**-0.2**
WPL				*e*S	**Sn**	**13 09 13.6**	**-1.1**
DPDB	**Guoxing** baz=244	**1.04**	**244**⇓	*e*P	**Pn**	**13 09 00.5**	**-0.1**
DPDB				*e*S	**Sb**	**13 09 13.6**	**-0.2**
VWDT	**VWDT** baz=225	**1.04**	**225**⇓	*e*P	**Pn**	**13 09 00.3**	**-0.3**
VWDT				*e*S	**Sn**	**13 09 13.9**	**-1.1**
WCS	**Beigang Elemen** baz=245	**1.04**	**246**⇓	*e*P	**Pn**	**13 09 00.5**	**-0.1**
WCS				*e*S	**Sn**	**13 09 14.4**	**-0.6**
NMLH	**Miaoli** baz=273	**1.06**	**273**	*e*P	**Pn**	**13 09 02.4**	**+1.6**
TWQ1	**Liyutan** baz=263	**1.08**	**263**	*e*P	**Pn**	**13 09 02.6**	**+1.4**
TWQ1				*e*S	**Sn**	**13 09 16.5**	**+0.4**
NSY	**Sanyi** baz=266	**1.08**	**266**	*e*P	**Pn**	**13 09 03.1**	**+1.8**
NSY				*e*S	**Sn**	**13 09 17.5**	**+1.3**
HGSD	**Ruisui** baz=205	**1.10**	**206**	*e*P	**Pn**	**13 09 02.4**	**+0.9**
HGSD				*e*S	**Sn**	**13 09 21.7**	**+5.1**
SMLT	**Sun Moon Lake** baz=237	**1.13**	**238**	*e*P	**Pn**	**13 09 02.2**	**+0.2**
SMLT				*e*S	**Sn**	**13 09 18.3**	**+0.8**
EHY	**Hungye** baz=209	**1.13**	**210**	*e*P	**Pn**	**13 09 02.0**	**0.0**
EHY				*e*S	**Sn**	**13 09 17.5**	**+0.1**
PCYT	**Pengchaiyu** baz=7.0	**1.14**	**6**	*e*P	**Pg**	**13 09 03.2**	**+1.1**
SSLB	**Suanglung** baz=232	**1.15**	**233**⇓	*e*P	**Pn**	**13 09 01.8**	**-0.3**
SSLB				*e*S	**Sb**	**13 09 16.0**	**-0.9**
TYC	**Yuchr** baz=239	**1.16**	**240**	*e*P	**Pg**	**13 09 02.3**	**-0.2**
TYC				*e*S	**Sn**	**13 09 17.5**	**-0.4**
TCU	**Taichung** baz=253	**1.21**	**254**	*e*P	**Pg**	**13 09 05.1**	**+1.6**
YULB	**Yu-li** baz=208	**1.24**	**209**	*e*P	**Pg**	**13 09 03.5**	**-0.6**
YULB				*e*S	**Sb**	**13 09 19.3**	**-0.4**
EYUL	**Yuli** baz=206	**1.27**	**207**	*e*P	**Pg**	**13 09 05.3**	**+0.6**
WHYT	**Xinyi Township** baz=231	**1.27**	**232**	*e*P	**Pg**	**13 09 04.3**	**-0.4**
WHYT				*e*S	**Sg**	**13 09 23.0**	**+1.6**
TWF1	**Yuli** baz=207	**1.28**	**208**	*e*P	**Pg**	**13 09 04.7**	**-0.1**
TWF1				*e*S	**Sb**	**13 09 20.0**	**-0.7**
WJS	**Zhushan** baz=239	**1.30**	**239**	*e*P	**Pg**	**13 09 06.0**	**+0.9**
WNT	**Mingjian** baz=242	**1.31**	**242**	*e*P	**Pg**	**13 09 06.5**	**+1.2**
ALS	**Alishan** baz=226	**1.43**	**227**	*e*P	**Pg**	**13 09 07.6**	**-0.1**
ALS				*e*S	**Sg**	**13 09 27.5**	**+1.2**
CHN5	**Tsauling** baz=232	**1.46**	**233**	*e*P	**Pg**	**13 09 09.2**	**+0.9**
CHN5				*e*S	**Sg**	**13 09 29.3**	**+2.0**
EHD	**Haiduan** baz=206	**1.50**	**207**	*e*P	**Pb**	**13 09 07.9**	**0.0**
EHD				*e*S	**Sg**	**13 09 28.8**	**+0.4**
ELDTW	**Lidau** baz=213	**1.55**	**214**	*e*P	**Pb**	**13 09 08.6**	**-0.4**
ELDTW				*e*S	**Sg**	**13 09 29.9**	**-0.2**
WCKO	**Fanlu** baz=229	**1.61**	**230**	*e*P	**Pg**	**13 09 11.8**	**+0.6**
WCKO				*e*S	**Sg**	**13 09 34.7**	**+2.5**
IRIF	**Iriomote-Funau**	**1.63**	**95**	P	**Pn**	**13 09 08.3**	**-0.4**
IRIF				*e*S	**Sn**	**13 09 28.9**	**-0.7**
CHN4	**Tsaushan** baz=227	**1.68**	**228**	*e*P	**Pg**	**13 09 12.8**	**+0.3**
CHN4				*e*S	**Sg**	**13 09 36.5**	**+2.2**
TPUB	**Ta-pu** baz=225	**1.69**	**226**	*e*P	**Pg**	**13 09 12.6**	**-0.1**
TPUB				*e*S	**Sg**	**13 09 36.0**	**+1.4**
STYH	**Taoyuan** baz=219	**1.70**	**220**	*e*P	**Pg**	**13 09 12.2**	**-0.5**
WTP	**Ta-pu** baz=224	**1.74**	**225**	*e*P	**Pg**	**13 09 13.7**	**+0.1**
WTP				*e*S	**Sg**	**13 09 39.2**	**+3.0**
TWK	**Hsinying** baz=227	**1.81**	**228**	*e*P	**Pg**	**13 09 14.3**	**-0.6**
TWK				*e*S	**Sg**	**13 09 39.6**	**+1.2**
CHN1	**Nanshi** baz=225	**1.84**	**225**	*e*P	**Pg**	**13 09 14.9**	**-0.6**
CHN1				*e*S	**Sg**	**13 09 40.7**	**+1.3**
SGST	**Jiashian** baz=221	**1.88**	**222**	*e*P	**Pb**	**13 09 14.6**	**+0.2**
SGST				*e*S	**Sg**	**13 09 41.3**	**+0.7**
JKRS	**Kuro-shima**	**1.90**	**97**	*e*P	**Pn**	**13 09 12.5**	**+0.1**
JKRS				S	**Sn**	**13 09 35.8**	**-0.4**
JIJ	**Ishigaki jima**	**2.00**	**93**	P	**Pn**	**13 09 13.7**	**-0.2**
JIJ				S	**Sn**	**13 09 37.9**	**-1.0**
JISG	**Ishigakijimahi**	**2.15**	**87**	P	**Pn**	**13 09 15.8**	**-0.1**
JISG				*e*S	**Sn**	**13 09 42.1**	**-0.5**
JTJ	**Tarama**	**2.51**	**86**	P	**Pn**	**13 09 21.4**	**+0.6**
JTJ				*e*S	**Sn**	**13 09 51.8**	**+0.4**

*UPP **03** 13:20:05.9±0.1, 67.06N×22.07E, h0km, ML2.5, Suspected explosion*
*HEL **03** 13:20:06.6±0.1, 67.06N×22.01E, h0km, ML1.0, Explosion*
ISC 03 13:20:05.7±0.8, **67.06N**±0.02×**22.05E**±0.03, **h0**km, **n21, σ0s61/34, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.40**	**357**	P		**Pg**	**13 20 13.6**	**+0.3**
MASU				S		**Sg**	**13 20 19.4**	**+0.8**
PAJU	**Pajala**	**0.42**	**94**	P		**Pg**	**13 20 13.9**	**+0.2**
PAJU				S		**Sg**	**13 20 19.8**	**+0.7**
PAJU	**Pajala**	**0.42**	**94**	*e*P		**Pg**	**13 20 13.8**	**+0.2**
PAJU				*e*S		**Sg**	**13 20 19.7**	**+0.5**
ERTU	**Ertsjaerv**	**0.51**	**173**	P		**Pg**	**13 20 15.5**	**+0.2**
ERTU	**Ertsjaerv**	**0.51**	**173**	*e*P		**Pg**	**13 20 15.5**	**+0.2**
ERTU				*e*S		**Sg**	**13 20 22.2**	**+0.3**
DUNU	**Dundret**	**0.58**	**277**	P		**Pg**	**13 20 17.2**	**+0.4**
DUNU				S		**Sg**	**13 20 25.4**	**+1.1**
HARU	**Harads**	**0.99**	**206**	P		**Pg**	**13 20 24.3**	**-0.4**
LANU	**Lannavaara**	**1.00**	**359**	P		**Pg**	**13 20 24.4**	**-0.3**
LANU	**Lannavaara**	**1.00**	**359**	*e*P		**Pg**	**13 20 24.3**	**-0.4**
LANU				*e*SB		**Sb**	**13 20 38.3**	**-1.1**
RATU	**Laukkuluspa**	**1.22**	**310**	P		**Pg**	**13 20 29.1**	**+0.1**
KALU	**Kalix**	**1.31**	**156**	P		**Pg**	**13 20 30.0**	**-0.8**
KALU	**Kalix**	**1.31**	**156**	*e*PB		**Pg**	**13 20 30.5**	**-0.2**
KALU				*e*SN		**Sn**	**13 20 49.4**	**+0.1**
TOF	**Tornio**	**1.34**	**136**	*e*PB		**Pg**	**13 20 31.2**	**-0.1**
TOF				MSG			13 20 47.6	
	comp=Z,1.1nm,0.2s							
TOF				*e*SB		**Sb**	**13 20 49.1**	**-0.2**
SALU	**Saltoluokta**	**1.42**	**285**	P		**Pn**	**13 20 32.4**	**-0.2**
NIKU	**Nikkaluokta**	**1.42**	**306**	P		**Pg**	**13 20 32.6**	**-0.1**
HEF	**Hetta**	**1.49**	**24**	*e*P		**Pn**	**13 20 33.3**	**-0.4**
HEF				MSG			13 20 51.4	
	comp=Z,0.9nm,0.2s							
HEF				*e*SB		**Sg**	**13 20 53.0**	**-0.4**
RNF	**Rovaniemi**	**1.63**	**104**	*e*PG		**Pb**	**13 20 36.3**	**-0.3**
RNF				*e*SN		**Sg**	**13 20 58.1**	**+0.1**
SGF	**Sodankyl**	**1.79**	**75**	*e*PG		**Pb**	**13 20 39.2**	**0.0**
SGF				*e*SN		**Sg**	**13 21 03.5**	**+0.6**
KIF	**Kilpisjarvi**	**2.01**	**347**	*e*PG		**Pb**	**13 20 43.0**	**0.0**
KIF				MSG			13 21 07.2	
	comp=Z,0.8nm,0.2s							
KIF				*e*SG		**Sg**	**13 21 09.9**	**-0.3**
KTK1	**Kautokeino**	**2.02**	**12**	*e*PG		**Pb**	**13 20 42.9**	**-0.2**
KTK1				*e*SG		**Sg**	**13 21 09.9**	**-0.4**
KEV	**Kevo**	**3.27**	**32**	*e*SG		**Sb**	**13 21 47.0**	**+2.2**

*MOS **03** 13:41:51.0±1.2, 19.98S×70.72W, h46km, mb5.1/33, Error ellipse: s-maj=14.7km s-min=5.8km az=107.1*
*IDC **03** 13:41:52.5±1.2, 19.78S×70.25W, h47km±10km, mb4.3/21, mbtmp4.6/25, ML4.2/4, MS4.1/45, Error ellipse: s-maj=16.4km s-min=8.8km az=67.0*
*BJI **03** 13:41:52.0±0.0, 20.00S×70.50W, h45km, mB5.3/4, Ms5.3/2, Ms7 5.0/1*
*NEIC **03** 13:41:52.4±1.8, 19.91S±0.03×70.41W±0.05, h43km±4km, mb5.2/248, Mwr5.1/62, Mww5.2, Mwr5.1(GUC), Error ellipse: s-maj=7.0km s-min=4.5km az=104.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr1.62; Mθθ-4.74; Mφφ3.11; Mrθ1.49; Mθφ-1.64; Mφr-2.61; Fault plane solution: M0 5.39000×10^16^ NP1: φs219.84000°, δ57.82000°, λ21.33000°. NP2: φs118.10000°, δ72.07000°, λ145.97000°. Principal axes: T 5.5537, Plg36.0000°, Azm75.0000°; N -0.3359, Plg52.0000°, Azm274.0000°; P -5.2179, Plg9.0000°, Azm172.0000°;*
*GUC **03** 13:41:53.2±0.7, 19.91S×70.45W, h56km±3km, ML5.2*
*GCMT **03** 13:41:55.4±0.2, 19.91S±0.01×70.67W±0.01, h48km±1km, MW5.2/108, Moment Tensor Solution. s61,c74; s108,c156; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.41±.20; Mθθ-5.39±.12; Mφφ3.98±.18; Mrθ1.89±.10; Mθφ-2.71±.14; Mφr-3.22±.14; Best double couple: M0 6.65400×10^16^ NP1:φs116.00000°, δ74.00000°, λ149.00000°. NP2:φs215.00000°, δ61.00000°, λ19.00000°. Principal axes: T 7.0400, Plg33.0000°, Azm72.0000°; N -0.7720, Plg56.0000°, Azm271.0000°; P -6.2680, Plg9.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 13:41:55, 19.89S×70.55W, h40km, Moment Tension Solution. Duration: 9s8 Moment tensor: Scale 10^16^Nm; Mrr3.26; Mθθ-5.25; Mφφ 1.99; Mrθ1.75; Mθφ-2.83; Mφr-3.61; Fault plane solution: M0 6.72000×10^16^ NP1: φs217.00000°, δ56.00000°, λ34.00000°. NP2: φs106.00000°, δ62.00000°, λ141.00000°. Principal axes: T 7.1074, Plg46.0000°, Azm69.0000°; N -0.8517, Plg44.0000°, Azm256.0000°; P -6.2557, Plg4.0000°, Azm163.0000°;*

ISC 03 13:41:52.4±0.4, **19.93S**±0.02×**70.43W**±0.04, **h51**km±3km, **h51**km:**pP-P, n808,** σ1s**19**/840, **mb5.2**/141, **MS4.2**/45, **17C-15D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.44**	**41**	*e*P		**Pn**	**13 42 03.5**	**+0.4**
PSGC				*i* S		**Sn**	**13 42 11.6**	**+0.8**
PSGC				IAML			13 42 12.8	
	comp=N,163μm,0.2s							
PSGCX	**Pisagua**	**0.44**	**41**			**Pn**	**13 42 03.1**	**-0.1**
TA02	**Huaiquique**	**0.44**	**140**			**Pn**	**13 42 03.4**	**+0.4**
TA02	**Huaiquique**	**0.44**	**140**⇓	*e*P		**Pn**	**13 42 03.7**	**+0.6**
TA02				*e*S		**Sn**	**13 42 11.8**	**+1.1**
TA02				IAML			13 42 13.4	
	comp=N,242μm,0.2s							
HMBC	**Humberstone**	**0.62**	**124**⇓	*i*P		**Pn**	**13 42 06.0**	**+0.7**
HMBC				*i* S		**Sn**	**13 42 15.8**	**+1.2**
TA01	**Diego Aracena**	**0.68**	**160**			**Pn**	**13 42 06.2**	**+0.4**
TA01				^	Sn	**Sn**	**13 42 14.8**	**-0.9**
TA01	**Diego Aracena**	**0.68**	**160**⇑	*e*P		**Pn**	**13 42 06.3**	**+0.4**
TA01				*e*S		**Sn**	**13 42 16.5**	**+0.8**
TA01				IAML			13 42 17.5	
	comp=E,133μm,0.6s							
PB11	**IPOC Station P**	**0.75**	**77**			**Pn**	**13 42 07.3**	**+0.3**
PB11				^	Sn	**Sn**	**13 42 15.6**	**-1.9**
PB11	**IPOC Station P**	**0.75**	**77**⇑	*i*P		**Pn**	**13 42 07.9**	**+0.9**
PB11				*e*S		**Sn**	**13 42 18.8**	**+1.2**
PB11				IAML			13 42 20.4	
	comp=E,152μm,0.2s							
PATCX	**Punta Patache**	**0.92**	**164**			**Pn**	**13 42 09.4**	**+0.2**
PATCX	**Punta Patache**	**0.92**	**164**	*e*P		**Pn**	**13 42 09.7**	**+0.4**
PATCX				*e*S		**Sn**	**13 42 21.9**	**+0.3**
MNMC	**Minye Minye**	**1.12**	**45**			**Pn**	**13 42 12.2**	**+0.2**
MNMC	**Minye Minye**	**1.12**	**45**⇑	*i*P		**Pn**	**13 42 12.9**	**+0.9**
MNMC				*e*S		**Sn**	**13 42 27.5**	**+1.0**
GO01	**Chusmiza**	**1.19**	**78**			**Pn**	**13 42 14.4**	**+1.2**
GO01	**Chusmiza**	**1.19**	**78**⇑	*i*P		**Pn**	**13 42 14.5**	**+1.2**
GO01				*i* S		**Sn**	**13 42 31.1**	**+2.4**
PB08	**IPOC Station P**	**1.22**	**100**			**Pn**	**13 42 14.5**	**+1.0**
PB08	**IPOC Station P**	**1.22**	**100**⇑	*i*P		**Pn**	**13 42 14.7**	**+1.2**
PB08				*e*S		**Sn**	**13 42 30.9**	**+1.8**
PB12	**IPOC Station P**	**1.31**	**4**			**Pn**	**13 42 14.2**	**-0.3**
PB12	**IPOC Station P**	**1.31**	**4**⇓	*i*P		**Pn**	**13 42 14.6**	**0.0**
PB12				*i* S		**Sn**	**13 42 30.9**	**-0.1**
PB01	**IPOC Station P**	**1.42**	**142**			**Pn**	**13 42 16.5**	**+0.6**
PB01	**IPOC Station P**	**1.42**	**142**⇓	*i*P		**Pn**	**13 42 16.8**	**+0.8**
PB01				*i* S		**Sn**	**13 42 34.6**	**+1.1**
PB01				IAML			13 42 37.5	
	comp=N,46μm,0.2s							
PB02	**IPOC Station P**	**1.47**	**160**			**Pn**	**13 42 17.2**	**+0.5**
PB02	**IPOC Station P**	**1.47**	**160**⇓	*i*P		**Pn**	**13 42 17.4**	**+0.7**
PB02				*e*S		**Sn**	**13 42 35.5**	**+0.6**
PB02				IAML			13 42 40.7	
	comp=E,53μm,0.4s							
AP01	**Chacalluta**	**1.55**	**3**			**Pn**	**13 42 17.7**	**+0.1**
AP01	**Chacalluta**	**1.55**	**3**⇓	*i*P		**Pn**	**13 42 18.0**	**+0.3**
AP01				*e*S		**Sn**	**13 42 37.2**	**+0.5**
AP01				IAML			13 42 41.8	
	comp=N,53μm,0.3s							
PB16	**IPOC Station P**	**1.81**	**29**			**Pn**	**13 42 22.4**	**+0.6**
PB16	**IPOC Station P**	**1.81**	**29**⇓	*i*P		**Pn**	**13 42 22.6**	**+0.8**
PB16				*i* S		**Sn**	**13 42 45.1**	**+1.3**
PB07	**IPOC Station P**	**1.86**	**164**			**Pn**	**13 42 22.6**	**+0.5**
PB07	**IPOC Station P**	**1.86**	**164**⇓	*i*P		**Pn**	**13 42 22.8**	**+0.7**
PB07				*e*S		**Sn**	**13 42 44.9**	**+0.4**
PB07				IAML			13 42 57.0	
	comp=E,30μm,0.7s							
PB09	**IPOC Station P**	**2.17**	**149**			**Pn**	**13 42 27.6**	**+1.4**
PB09	**IPOC Station P**	**2.17**	**149**⇓	*i*P		**Pn**	**13 42 27.9**	**+1.7**
PB09				*e*S		**Sn**	**13 42 52.3**	**+0.3**
PB03	**IPOC Station P**	**2.20**	**163**			**Pn**	**13 42 27.2**	**+0.4**
PB03	**IPOC Station P**	**2.20**	**163**⇓	*i*P		**Pn**	**13 42 27.4**	**+0.6**
PB03				*i* S		**Sn**	**13 42 52.0**	**-0.8**
PB04	**IPOC Station P**	**2.41**	**174**			**Pn**	**13 42 28.9**	**-0.6**
PB04	**IPOC Station P**	**2.41**	**174**⇓	*i*P		**Pn**	**13 42 29.3**	**-0.3**
PB04				*e*S		**Sn**	**13 42 56.4**	**-1.5**
PB04				IAML			13 43 15.5	
	comp=N,13μm,0.4s							
PB06	**IPOC Station P**	**2.88**	**164**			**Pn**	**13 42 35.9**	**-0.1**
LVC	**Limon Verde**	**3.02**	**152**	P		**Pn**	**13 42 39.9**	**+1.8**
	comp=N,1μm,0.3s,baz=340,slow=9.5,SNR=4535							
LVC				S		**Sn**	**13 43 15.0**	**+1.7**
	comp=N,2μm,0.3s,baz=75,slow=18,SNR=8.2							
LVC				LR		LR	13 44 01.7	
	comp=N,5μm,20.7s,baz=310,slow=42							
LVC	**Limon Verde**	**3.02**	**152**	Pn		**Pn**	**13 42 39.6**	**+1.5**
LVC	**Limon Verde**	**3.02**	**152**	P		**Pn**	**13 42 39.6**	**+1.5**
PB15	**IPOC Station P**	**3.38**	**165**			**Pn**	**13 42 42.5**	**-0.4**
PB10	**IPOC Station P**	**3.57**	**182**	Pn		**Pn**	**13 42 43.9**	**-1.5**
AF01	**San Pedro de A**	**3.67**	**146**	Pn		**Pn**	**13 42 49.5**	**+2.5**
AF01	**San Pedro de A**	**3.67**	**146**⇓	*e*P		**Pn**	**13 42 49.4**	**+2.5**
LPAZ	**La Paz**	**4.23**	**31**			**Pn**	**13 42 56.9**	**+1.9**
LPAZ	**La Paz**	**4.23**	**31**	P		**Pn**	**13 42 56.9**	**+1.9**
PB14	**IPOC Station P**	**4.67**	**180**	Pn		**Pn**	**13 42 59.0**	**-1.8**
AC01	**Pan de Azucar**	**6.19**	**181**	Pn		**Pn**	**13 43 18.6**	**-2.7**
AC02	**Maricunga**	**6.98**	**170**	Pn		**Pn**	**13 43 32.1**	**-0.4**
AC06	**Mina Casimiro**	**7.39**	**179**			**Pn**	**13 43 35.0**	**-2.9**
GO03	**Copiap**	**7.63**	**179**			**Pn**	**13 43 38.0**	**-3.1**
AC04	**Llanos de Chal**	**8.26**	**184**	Pn		**Pn**	13 43 45.0	-4.7
AC05	**El Transito**	**8.87**	**179**	Pn		**Pn**	**13 43 54.8**	**-3.3**
LCO	**Las Campanas**	**9.04**	**182**	Pn		**Pn**	13 43 56.6	-4.1
LCO	**Las Campanas**	**9.04**	**182**	P		**Pn**	**13 43 56.8**	**-3.9**
SIV	**San Ignacio**	**9.73**	**68**	P		**Pn**	**13 44 07.5**	**-2.4**
	comp=N,2.1nm,0.3s,baz=267,slow=8.4,SNR=236							
SIV				LR		LR	13 48 24.7	
	comp=N,2μm,19.6s,baz=272,slow=41							
	comp=N,40nm,0.4s							
CO05	**La Serena**	**9.97**	**184**			Pn	13 44 08.6	-4.5

CO01 Juntas del Tor 10.01 178 Pn Pn 13 44 09.5 -4.4
NNA Nana 10.02 321 P **Pn** **13 44 13.4 -0.4**
comp=N,2.7nm,0.3s,baz=183,slow=14,SNR=3.3
NNA S **Sn** **13 45 59.0 -5.9**
comp=N,42nm,0.5s,baz=172,slow=3.9,SNR=3.9
NNA LR LR 13 48 14.8
comp=N,904nm,21.6s,baz=162,slow=38
comp=N,13nm,0.3s
NNA Nana 10.02 321 Pn **13 44 10.8 -3.0**
NNA Nana 10.02 321 *ce*P **Pn** **13 44 12.3 -1.5**
NNA pmax pmax
comp=Z,89nm,1.7s
GO04 Tololo Observa 10.21 182 Pn Pn 13 44 12.3 -4.1
ETMB Extrema 10.85 23 Pn **13 44 22.7 -2.4**
CO03 El Pedregal 10.87 181 Pn 13 44 20.2 -5.2
CO02 Combarbal 11.24 183 Pn 13 44 25.1 -5.4
PTLB Pontes e Lacer 11.65 69 Pn **13 44 34.8 -1.3**
ZON Zonda 11.68 173 Pn **13 44 35.0 -1.4**
ZON Zonda 11.68 173 P **Pn** **13 44 35.3 -1.1**
CFA Coronel Fontan 11.79 171 P Pn 13 44 34.0 -4.0
comp=Z,20nm,0.3s,baz=348,slow=12,SNR=66
CFA S **Sn** **13 46 40.9 -7.3**
comp=Z,10nm,0.5s,baz=300,slow=20,SNR=1.6
CFA LR LR 13 49 47.6
comp=Z,1µm,18.3s,baz=337,slow=40
VILB Vilhena 12.01 56 Pn **13 44 39.6 -1.5**
CZSB Cruzeiro do Su 12.33 349 Pn **13 44 43.0 -2.3**
VA06 Catapilco 12.60 183 Pn 13 44 43.5 -5.5
VA03 San Esteban 12.78 180 Pn 13 44 46.2 -5.4
SAML Samuel 12.97 34 Pn **13 44 51.0 -3.1**
SAML Samuel 12.97 34 P **Pn** **13 44 51.0 -3.1**
ROC1 El Roble 13.01 182 Pn 13 44 49.2 -5.6
MT02 Curacav 13.29 183 Pn 13 44 51.8 -6.6
MT05 Renca 13.41 181 Pn Pn 13 44 54.3 -5.8
MT03 Universidad Ad 13.51 180 Pn 13 44 55.5 -6.0
CPUP Villa Florida 13.63 120 P **Pn** **13 45 01.0 -2.1**
comp=Z,0.2nm,0.3s,baz=24,slow=3.6,SNR=1.7
CPUP LR LR 13 51 04.8
comp=Z,1µm,21.3s,baz=300,slow=41
comp=Z,3.1nm,0.9s
CPUP Villa Florida 13.63 120 Pn 13 44 57.3 -5.8
CPUP Villa Florida 13.63 120 P Pn 13 44 57.3 -5.8
VA05 Santo Domingo 13.71 184 Pn 13 44 57.6 -6.5
MT09 Talagante 13.80 182 Pn Pn 13 44 58.6 -6.9
LMEL Las Melosas 13.87 179 Pn 13 45 00.2 -6.2
MT01 Popeta 13.90 183 Pn Pn 13 44 59.8 -6.9
BO04 La Punta 14.01 181 Pn 13 45 02.3 -5.9
BO01 Tunca 14.42 182 Pn Pn 13 45 07.3 -6.3
BO02 Sierra Bellavi 14.81 181 Pn 13 45 14.3 -4.6
ATAH Atahualpa 14.88 328 P **Pn** **13 45 19.6 -0.6**
comp=Z,0.5nm,0.3s,baz=171,slow=15,SNR=7.6
ATAH S **Sn** **13 48 05.2 +1.1**
comp=Z,5.4nm,0.9s,baz=100,slow=18,SNR=1.6
comp=Z,7.4nm,0.8s
GO05 Huala 15.08 185 Pn Pn 13 45 15.8 -6.6
H03N1 Juan Fernandez 15.43 208 P **Pn** **13 45 25.1 -1.5**
baz=109,slow=14,SNR=118
H03N1 T T 14 01 07.0
baz=31
H03N2 Juan Fernandez 15.44 208 P **Pn** **13 45 25.5 -1.2**
baz=109,slow=14,SNR=118
H03N2 T T 14 01 07.5
baz=31,slow=74
H03N3 Juan Fernandez 15.45 208 P **Pn** **13 45 24.6 -2.3**
baz=109,slow=14,SNR=35
H03N3 T T 14 01 05.2
baz=31,slow=74
VA04 Juan Fernndez 15.57 207 Pn **13 45 27.1 -1.5**
VA04 IAmb IAmb 13 45 33.5
comp=Z,199nm,0.7s
H03S3 Juan Fernandez 15.76 207 P **Pn** **13 45 29.7 -1.2**
baz=128,slow=76,SNR=75
H03S1 Juan Fernandez 15.78 207 P **Pn** **13 45 29.1 -1.9**
baz=128,slow=76,SNR=52
H03S2 Juan Fernandez 15.78 207 P **Pn** **13 45 29.6 -1.4**
baz=128,slow=76,SNR=82
ML02 Panimavida 15.80 183 Pn **Pn** **13 45 31.3 -0.2**
ITQB Itaqui 15.84 130 Pn **Pn** **13 45 31.9 -0.1**
TRCB Terra Rica 16.82 103 Pn **13 45 43.3 -1.3**
TRCB IAmb IAmb 13 45 49.7
comp=Z,118nm,0.6s
BI05 Punta Hualpn 16.93 188 Pn **13 45 44.5 -1.3**
BI05 IAmb IAmb 13 45 50.1
comp=Z,106nm,0.7s
MCRA Macar, Loja 18.04 328 P **P** **13 45 59.1 -0.5**
ITAB Concordia 18.27 117 P **P** **13 46 00.3 -1.7**
ARNL Arenillas 18.80 329 P **P** **13 46 07.8 0.0**
ARNL IAmb IAmb 13 46 11.8
comp=Z,101nm,0.9s
PLTB Pedras Altas 19.16 131 P **P** **13 46 11.4 -0.3**
MACA Manacapuru-AM 19.19 31 P **P** **13 46 10.4 -1.8**
MACA IAmb IAmb 13 46 12.0
comp=Z,318nm,0.4s
COHC Cochancay 19.38 332 P **Pn** **13 46 15.9 +0.2**
TRQA Tornquist 19.50 160 P **P** **13 46 15.6 +0.2**
TRQA Tornquist 19.50 160 P **P** **13 46 15.6 +0.2**
TRQA pmax pmax
comp=Z,667nm,2.0s
GO06 Curarrehue 19.61 182 P **P** **13 46 17.1 +0.4**
GO06 IAmb IAmb 13 46 21.9
comp=Z,100nm,0.7s
LR03 Panguipulli 19.71 184 P **P** **13 46 17.9 +0.3**
LR03 IAmb IAmb 13 46 21.8
comp=Z,75nm,0.8s
SLOR San Lorenzo - 20.65 337 P **P** **13 46 27.4 -1.1**
SLOR IAmb IAmb 13 46 44.9
comp=Z,73nm,0.8s
PLCA Paso Flores 20.74 180 P **P** **13 46 30.3 +1.4**
comp=Z,46nm,0.6s,baz=3.1,slow=12,SNR=46
comp=Z,46nm,0.6s
PLCA Paso Flores 20.74 180 P **P** **13 46 29.8 +0.9**
PLCA IAmb IAmb 13 46 31.5
comp=Z,159nm,1.2s
PLCA Paso Flores 20.74 180 P **P** **13 46 29.8 +0.9**
PLCA pmax pmax
comp=Z,159nm,1.2s
LL04 Puerto Octay 20.98 184 P **P** **13 46 31.8 +0.4**
LL04 IAmb IAmb 13 46 36.8
comp=Z,153nm,1.0s
LL03 Petrohue 21.21 184 P **P** **13 46 33.2 -0.7**
BONI La Bonita 21.42 340 *eP* **P** **13 46 40.5 +4.0**
LL05 Los Muermos 21.56 186 P **P** **13 46 37.1 -0.5**
SPB Sao Paulo 21.66 104 P **P** **13 46 37.5 -1.4**
SPB IAmb IAmb 13 46 42.5
comp=Z,206nm,1.8s
TULM Tulcn-Chalpat 21.75 340 P **P** **13 46 41.1 +0.7**
TULM IAmb IAmb 13 46 48.4
comp=Z,211nm,1.3s
TULM Tulcn-Chalpat 21.75 340 *eP* **P** **13 46 46.4 +6.1**
BDFB Brasilia 21.76 82 P **P** **13 46 38.0 -2.1**
comp=Z,27nm,0.4s,baz=260,slow=7.8,SNR=38
BDFB LR LR 13 56 09.6
comp=Z,1µm,22.0s,baz=286,slow=40
comp=Z,27nm,0.4s
BDFB Brasilia 21.76 82 P **P** **13 46 37.4 -2.7**
BDFB IAmb IAmb 13 46 45.8
comp=Z,263nm,1.4s
BDFB Brasilia 21.76 82 P **P** **13 46 37.4 -2.7**
BDFB pmax pmax
comp=Z,263nm,1.4s
FLOC Florencia 21.98 346 *eP* **P** **13 46 43.1 +0.7**
GCUF Volcan Galeras 22.09 341 *eP* **P** **13 46 47.5 +3.5**
MACC Macarena, Meta 22.19 351 *eP* **P** **13 46 44.8 +0.2**
LL06 Loncomilla 22.38 186 P **P** **13 46 46.5 +0.1**
LL06 IAmb IAmb 13 46 55.2
comp=Z,261nm,1.4s
GARC Garzon, Huila 22.53 347 *eP* **P** **13 46 49.0 +0.5**
GO07 Milladeo Hill, 23.28 186 P **P** **13 46 55.9 +0.3**
ORTC Ortega, Tolima 24.16 348 *eP* **P** **13 47 04.9 +0.8**
BOAV Boa Vista 24.22 25 P **P** **13 47 04.5 -0.1**
BOAV IAmb IAmb 13 47 05.7
comp=Z,83nm,0.9s
BOAV Boa Vista 24.22 25 *eP* **P** **13 47 04.1 -0.5**
YOTC Yotoco, Valle 24.46 346 *eP* **P** **13 47 07.8 +0.9**
AY01 Puyuhuapi 24.49 184 P **P** **13 47 07.1 +0.3**
AY01 IAmb IAmb 13 47 07.7
comp=Z,33nm,0.7s
CHIC Chingaza 24.62 352 *eP* **P** **13 47 09.4 +0.7**
ROSC El Rosal 24.91 351 P **P** **13 47 11.3 0.0**
comp=Z,24nm,0.7s,baz=94,slow=22,SNR=5.5
ROSC LR LR 13 58 00.4
comp=Z,1µm,21.7s,baz=204,slow=39
comp=Z,24nm,0.7s
ROSC El Rosal 24.91 351 P **P** **13 47 11.3 0.0**
ROSC IAmb IAmb 13 47 31.8
comp=Z,86nm,1.4s
ROSC El Rosal 24.91 351 P **P** **13 47 11.3 0.0**
ROSC pmax pmax
comp=Z,86nm,1.4s
PLMC San Jos del P 25.34 346 *eP* **P** **13 47 16.1 +1.3**
GUY2C Guyana, Caldas 25.46 349 *eP* **P** **13 47 17.7 +1.3**
COYC Coyhaique 25.61 183 P **P** **13 47 17.1 +0.1**
COYC IAmb IAmb 13 47 34.2
comp=Z,41nm,0.9s
RUSC La Rusia 25.79 354 P **P** **13 47 19.4 0.0**
RUSC IAmb IAmb 13 47 35.8
comp=Z,146nm,1.2s
RUSC La Rusia 25.79 354 *eP* **P** **13 47 20.1 +0.7**
CBOC Ciudad Bolivar 26.21 347 *eP* **P** **13 47 24.1 +1.2**
PTBC PUERTO BERRIO, 26.60 351 *eP* **P** **13 47 24.4 -1.8**
PAMC Pamplona, Colo 27.19 355 *eP* **P** **13 47 31.9 -0.1**
ZARC Zaragoza, Cauc 27.59 350 *eP* **P** **13 47 34.5 -0.6**
PTAC Punta Ardita, 27.87 344 *eP* **P** **13 47 43.6 +6.1**
SDV Santo Domingo 28.63 360 P **P** **13 47 43.3 -1.2**
comp=Z,12nm,0.8s,baz=209,slow=3.5,SNR=11
SDV LR LR 14 00 24.0
comp=Z,930nm,19.9s,baz=186,slow=39
comp=Z,12nm,0.8s
SDV Santo Domingo 28.63 360 P **P** **13 47 43.1 -1.5**
BAUV El Baul 28.79 5 P **P** **13 47 44.9 -0.8**
SJCC San Jacinto, C 30.00 351 *eP* **P** **13 47 55.6 -1.0**
MDP Montagnes des 30.41 37 LR LR 14 00 59.9
comp=Z,1µm,20.2s,baz=218,slow=38
MPGF Montagnes des 30.41 37 P **P** **13 47 59.7 -0.4**
PCRV Puerto La Cruz 30.45 11 LR LR 14 01 18.3
comp=Z,2µm,19.6s,slow=38
TOSP Speyside 32.52 18 P **P** **13 48 18.4 -0.3**
EFI East Falkland 33.13 166 P **P** **13 48 19.9 -3.8**
EFI pmax pmax
comp=Z,119nm,1.5s
SVB Belmont 34.21 16 P **P** **13 48 32.5 -0.8**
MPOM Morne Pois Mar 35.43 16 P **P** **13 48 42.1 -1.8**
BIM Bigot 35.45 16 P **P** **13 48 42.9 -1.1**
RPN Rapa Nui 36.27 251 LR LR 13 59 49.4
comp=Z,590nm,18.2s,baz=65,slow=30
RCBR Riachuelo 36.36 72 LR LR 14 04 46.3
comp=Z,800nm,19.2s,baz=18,slow=38
RCBR Riachuelo 36.36 72 P **P** **13 48 51.7 -0.3**
RCBR Riachuelo 36.36 72 P **P** **13 48 51.7 -0.3**
RCBR pmax pmax
comp=Z,195nm,1.3s
RCBR Riachuelo 36.36 72 P **P** **13 48 51.6 -0.3**
MLPR Magueyes Islan 37.81 5 P **P** **13 49 02.7 -1.4**
CRPR Cabo Rojo, PR 37.84 5 P **P** **13 49 02.9 -1.4**
CELP Cerrillos 37.96 6 P **P** **13 49 03.7 -1.6**
SJG San Juan 38.04 7 LR LR 14 06 52.3
comp=Z,214nm,19.1s,baz=214,slow=40
SJG San Juan 38.04 7 P **P** **13 49 03.9 -2.1**
SJG San Juan 38.04 7 P **P** **13 49 03.9 -2.1**
SJG pmax pmax
comp=Z,64nm,1.0s
SJG San Juan 38.04 7 P **P** **13 49 04.3 -1.7**
SJG pP **pP** **13 49 17.5 -1.7**
PRSN Puerto Rico Se 38.05 5 P **P** **13 49 04.4 -1.6**
HUMP Col San Antoni 38.10 7 P **P** **13 49 06.6 0.0**
HUMP IAmb IAmb 13 49 23.7
comp=Z,71nm,1.4s
AOPR Arecibo Observ 38.21 6 P **P** **13 49 05.7 -1.8**
AOPR IAmb IAmb 13 49 06.8
comp=Z,32nm,0.6s
CBYP Canovanas 38.23 7 P **P** **13 49 05.6 -2.1**
GCPR Guaynabo City 38.24 7 P **P** **13 49 05.2 -2.5**
GCPR IAmb IAmb 13 49 06.4
comp=Z,43nm,0.7s
PCDR Punta Cana, DR 38.26 3 P **P** **13 49 07.5 -0.4**
ANWB Willy Bob 38.32 13 P **P** **13 49 05.2 -3.2**
CUPR Culebra, Puert 38.33 8 P **P** **13 49 06.0 -2.5**
CUPR IAmb IAmb 13 49 07.2
comp=Z,30nm,0.7s
SMRT St. Maarten 38.43 11 P **P** **13 49 06.3 -3.1**
TEIG Tepich 43.57 335 P **P** **13 49 52.4 +0.8**
TEIG Tepich 43.57 335 P **P** **13 49 52.4 +0.8**
TEIG pP **pP** **13 50 05.9 +1.1**
CMIG Matias Romero 43.94 325 P **P** **13 49 54.0 -0.6**
comp=Z,1.2nm,0.6s,baz=183,slow=9.1,SNR=3.8
CMIG LR LR 14 07 33.7
comp=Z,67nm,19.9s,baz=148,slow=35
comp=Z,1.2nm,0.6s
SOR Soroa 44.20 343 P **P** **13 49 57.1 +0.5**
SOR IAmb IAmb 13 50 22.5
comp=Z,123nm,1.9s
SOR Soroa 44.20 343 P **P** **13 49 57.1 +0.5**
SOR pmax pmax
comp=Z,123nm,1.9s
PMSA Palmer Station 45.02 176 LR LR 14 08 26.5
comp=Z,251nm,20.4s,baz=330,slow=35
SMAI San Martin Ant 48.24 178 P **P** **13 50 29.4 +1.6**
SMAI IAmb IAmb 13 51 09.7
comp=Z,71nm,1.5s
656A Willston 50.38 346 P **P** **13 50 45.3 +0.7**
BBSR BB Station 52.29 6 P **P** **13 50 58.0 -0.8**
TIGA Tifton 52.61 346 P **P** **13 51 01.2 0.0**
baz=164
NHSC New Hope 53.55 350 P **P** **13 51 08.9 +0.8**
baz=169
NHSC New Hope 53.55 350 P **P** **13 51 08.1 0.0**
baz=169
154A Montrose 53.63 347 P **P** **13 51 09.1 +0.4**
baz=165
250A Grady 53.80 343 P **P** **13 51 09.2 -0.8**
baz=162
HAW Hawthorne Fire 54.05 348 P **P** **13 51 12.1 +0.3**
baz=167
152A Waverly Hall 54.06 345 P **P** **13 51 10.8 -1.1**
baz=163
Y60A Bolivia 54.14 352 P **P** **13 51 12.4 0.0**
baz=171
Y60A P **P** **13 51 12.4 0.0**
baz=171
Z51A Franklin 54.79 345 P **P** **13 51 17.0 -0.2**
baz=163
X58A Rowland 54.84 351 P **P** **13 51 17.5 +0.1**
X58A Rowland 54.84 351 P **P** **13 51 17.8 +0.3**
baz=170
X58A P **P** **13 51 17.8 +0.3**
baz=170
JSC Jenkinsville 54.89 349 P **P** **13 51 17.5 -0.3**
JSC IAmb IAmb 13 51 19.4
comp=Z,45nm,1.6s
JSC Jenkinsville 54.89 349 P **P** **13 51 18.3 +0.4**
baz=168
JSC Jenkinsville 54.89 349 P **P** **13 51 17.5 -0.3**
JSC pmax pmax
comp=Z,45nm,1.6s
LRAL Lakeview Retre 54.99 343 P **P** **13 51 18.0 -0.7**
baz=161
LRAL Lakeview Retre 54.99 343 P **P** **13 51 18.0 -0.7**
baz=161
HODGE Hodges 55.02 348 P **P** **13 51 18.9 +0.1**
baz=166
BIRD Birdtown, Kers 55.10 350 P **P** **13 51 19.6 +0.2**
BIRD Birdtown, Kers 55.10 350 P **P** **13 51 20.0 +0.6**
baz=168
146A Union 55.22 341 P **P** **13 51 21.3 +1.0**
baz=159
HKT Hockley 55.30 333 P **P** **13 51 21.4 +0.6**
HKT Hockley 55.30 333 P **P** **13 51 21.8 +0.9**
baz=151
HKT Hockley 55.30 333 P **P** **13 51 21.4 +0.6**
HKT pmax pmax
comp=Z,8.0nm,1.0s
HKT Hockley 55.30 333 P **P** **13 51 21.5 +0.7**
HKT pP **pP** **13 51 36.5 +2.0**
PAULI Pauline 55.51 349 P **P** **13 51 22.4 +0.1**
baz=167
W57A Gilead 55.53 350 P **P** **13 51 23.1 +0.7**
baz=169
W57A P **P** **13 51 23.1 +0.7**
baz=169
833A Chaparral WMA, 55.54 329 P **P** **13 51 23.7 +1.0**
baz=147
833A Chaparral WMA, 55.54 329 P **P** **13 51 22.9 +0.2**
baz=147
Y49A Blount Mountai 55.62 344 P **P** **13 51 22.1 -1.0**
Y49A IAmb IAmb 13 51 39.2
comp=Z,41nm,1.5s
KMSC Kings Mountain 55.74 349 P **P** **13 51 24.6 +0.6**
baz=168
KMSC Kings Mountain 55.74 349 P **P** **13 51 24.3 +0.3**
baz=168
CASEE Lake Jocassee 55.90 348 P **P** **13 51 25.0 -0.1**
baz=166
V58A Windy Hill, Pi 56.03 351 P **P** **13 51 26.3 +0.3**
baz=170
V58A P **P** **13 51 26.3 +0.3**
baz=170
X48A Hartselle 56.34 344 P **P** **13 51 27.4 -0.9**
X48A IAmb IAmb 13 51 45.4
comp=Z,33nm,1.4s
X48A Hartselle 56.34 344 P **P** **13 51 28.0 -0.3**
baz=161
NATX Nacogdoches 56.40 335 P **P** **13 51 29.2 +0.4**
baz=152
U59A Littleton 56.41 353 P **P** **13 51 28.9 +0.2**
baz=172
U59A P **P** **13 51 28.9 +0.2**
baz=172
V55A Taylorsville 56.41 349 P **P** **13 51 29.4 +0.6**
baz=168
V55A P **P** **13 51 29.4 +0.6**
baz=168
Y45A Yeager Farm, C 56.51 341 P **P** **13 51 28.8 -0.7**
baz=158
V53A Saluda 56.53 348 P **P** **13 51 28.9 -0.8**
V53A IAmb IAmb 13 52 34.5
comp=Z,31nm,1.6s
V53A Saluda 56.53 348 P **P** **13 51 29.2 -0.5**
baz=166
V53A P **P** **13 51 29.2 -0.5**
baz=166
W50A Signal Mountai 56.62 345 P **P** **13 51 29.5 -0.8**
W50A IAmb IAmb 13 51 30.3
comp=Z,13nm,0.7s
W50A Signal Mountai 56.62 345 P **P** **13 51 30.1 -0.2**
baz=163
CPCT Cooper Cave 56.67 346 P **P** **13 51 29.6 -1.0**
CPCT IAmb IAmb 13 51 55.7
comp=Z,30nm,1.5s
TKL Tuckaleechee C 56.71 347 LR LR 14 18 27.6
comp=Z,128nm,19.0s,baz=170,slow=39
TKL Tuckaleechee C 56.71 347 P **P** **13 51 30.4 -0.5**
TKL IAmb IAmb 13 51 47.9
comp=Z,49nm,1.6s
TKL Tuckaleechee C 56.71 347 P **P** **13 51 30.5 -0.5**
baz=165
TKL Tuckaleechee C 56.71 347 P **P** **13 51 30.4 -0.5**
TKL pmax pmax
comp=Z,49nm,1.6s
U56A King 56.76 350 P **P** **13 51 32.2 +1.0**
baz=169
U56A P **P** **13 51 32.2 +1.0**
baz=169
SWET Sewanee 56.78 345 P **P** **13 51 30.4 -1.1**
SWET IAmb IAmb 13 51 31.1
comp=Z,13nm,0.5s
V52A Sevierville 56.85 347 P **P** **13 51 31.1 -0.8**
V52A IAmb IAmb 13 51 48.5
comp=Z,66nm,1.6s
V52A Sevierville 56.85 347 P **P** **13 51 31.6 -0.3**
baz=165
V51A Loudon 56.98 347 P **P** **13 51 32.5 -0.3**
baz=164
T59A Double "B" Far 56.99 353 P **P** **13 51 32.9 +0.1**
T59A IAmb IAmb 13 51 34.2
comp=Z,39nm,1.0s
T59A Double "B" Far 56.99 353 P **P** **13 51 33.2 +0.4**
baz=172,SNR=6.3
T59A P **P** **13 51 33.2 +0.4**
baz=172,SNR=6.3
OXF Oxford 57.07 341 P **P** **13 51 32.7 -0.7**
baz=159
OXF Oxford 57.07 341 P **P** **13 51 33.0 -0.5**
baz=159
T60A Surry 57.07 354 P **P** **13 51 34.3 +0.9**
baz=173
T60A P **P** **13 51 34.3 +0.9**
baz=173
237A Washetta, Mont 57.08 334 P **P** **13 51 34.9 +1.4**
baz=151
PLAL Pickwick Lake 57.12 343 P **P** **13 51 32.5 -1.4**
U54A Nelsons Funny 57.17 349 P **P** **13 51 35.1 +0.9**
baz=167
U54A P **P** **13 51 35.1 +0.9**
baz=167
T57A Hurt 57.23 352 P **P** **13 51 34.9 +0.3**
T57A IAmb IAmb 13 51 56.3
comp=Z,69nm,1.6s
T57A Hurt 57.23 352 P **P** **13 51 34.9 +0.3**
baz=170
T57A P **P** **13 51 34.9 +0.3**
baz=170
TZTN Tazewell 57.52 347 P **P** **13 51 36.7 +0.1**
baz=165
TZTN Tazewell 57.52 347 P **P** **13 51 36.5 -0.2**
baz=165
JCT Junction City 57.53 330 P **P** **13 51 37.0 +0.1**
baz=147
JCT Junction City 57.53 330 P **P** **13 51 36.5 -0.3**
baz=147
WLAR White Oak Lake 57.54 338 P **P** **13 51 37.6 +0.9**
BLA Blacksburg 57.61 351 P **P** **13 51 38.1 +0.8**
baz=169
BLA Blacksburg 57.61 351 P **P** **13 51 37.3 +0.1**
baz=169
SACV Santiago Islan 57.64 57 P **P** **13 51 36.7 -1.2**
SACV IAmb IAmb 13 51 39.3
comp=Z,31nm,0.9s
CLTN Cedars of Leba 57.71 345 P **P** **13 51 37.0 -0.9**
CLTN IAmb IAmb 13 51 38.2
comp=Z,15nm,0.9s
WHTX Lake Whitney, 57.76 333 P **P** **13 51 37.5 -0.9**
WHTX IAmb IAmb 13 51 39.7
comp=Z,17nm,0.9s
WHTX Lake Whitney, 57.76 333 P **P** **13 51 38.5 +0.1**
baz=150
WHTX Lake Whitney, 57.76 333 P **P** **13 51 38.0 -0.4**
baz=150
Z38A Mt. Pleasant 57.85 336 P **P** **13 51 39.9 +0.9**
baz=153
S57A Dark Hollow, R 57.94 352 P **P** **13 51 39.7 +0.2**
baz=171
S57A P **P** **13 51 39.7 +0.2**
baz=171
U49A Red Boiling Sp 57.98 345 P **P** **13 51 38.7 -1.1**
U49A IAmb IAmb 13 51 39.5
comp=Z,11nm,0.7s
U49A Red Boiling Sp 57.98 345 P **P** **13 51 39.0 -0.8**
baz=163
R58B Mineral 58.01 353 P **P** **13 51 40.2 +0.3**
R58B Mineral 58.01 353 P **P** **13 51 40.0 +0.1**
baz=172
R58B P **P** **13 51 40.0 +0.1**
baz=172
WVT Waverly 58.14 343 P **P** **13 51 39.5 -1.4**
WVT IAmb IAmb 13 51 40.5
comp=Z,17nm,0.7s
WVT Waverly 58.14 343 P **P** **13 51 39.6 -1.3**
baz=161,SNR=12
WVT Waverly 58.14 343 P **P** **13 51 39.8 -1.1**
baz=161
WVT Waverly 58.14 343 P **P** **13 51 39.5 -1.4**
WVT pmax pmax
comp=Z,17nm,0.7s
WVT Waverly 58.14 343 P **P** **13 51 39.6 -1.3**
WVT pP **pP** **13 51 54.3 -0.3**
T50A Nancy 58.25 346 P **P** **13 51 40.9 -0.8**
T50A Nancy 58.25 346 P **P** **13 51 41.1 -0.6**
baz=164
T50A P **P** **13 51 41.1 -0.6**
baz=164
S54A Dingess, Beckl 58.33 350 P **P** **13 51 41.9 -0.4**
baz=168
S54A P **P** **13 51 41.9 -0.4**
baz=168
MIAR Mount Ida 58.48 338 P **P** **13 51 43.0 -0.3**
MIAR IAmb IAmb 13 51 44.3
comp=Z,29nm,1.3s
MIAR Mount Ida 58.48 338 P **P** **13 51 43.4 +0.1**
baz=154
MIAR Mount Ida 58.48 338 P **P** **13 51 43.5 +0.1**
baz=154
MIAR Mount Ida 58.48 338 P **P** **13 51 43.0 -0.3**
MIAR pmax pmax
comp=Z,29nm,1.3s
TX31 Lajitas Ar. Si 58.53 326 P **P** **13 51 44.0 0.0**
TX31 IAmb IAmb 13 52 01.0
comp=Z,42nm,1.6s

TX31 Lajitas Ar. Si 58.53 326 P P 13 51 43.9 -0.1
baz=143
TX32 Lajitas Array 58.53 326 P P 13 51 43.8 -0.2
TXAR Lajitas Array 58.53 326 P P 13 51 44.1 +0.2
comp=Z,1.7nm,1.0s,baz=145,slow=9.2,SNR=13
TXAR LR LR 14 15 05.3
comp=Z,43nm,19.8s,baz=126,slow=34
comp=Z,1.7nm,1.0s
TXAR Lajitas Array 58.53 326 P P 13 51 43.9 -0.1
TXAR Lajitas Array 58.53 326 P P 13 51 43.9 -0.1
T47A Sharon Grove 58.76 344 P P 13 51 44.5 -0.7
T47A IAmb IAmb 13 51 45.4
comp=Z,22nm,0.9s
T47A Sharon Grove 58.76 344 P P 13 51 44.5 -0.7
baz=162,SNR=5.7
LCAR Lake Charles 59.05 340 P P 13 51 46.2 -1.1
X37A Clayton 59.18 336 P P 13 51 46.9 -1.4
X37A IAmb IAmb 13 51 49.7
comp=Z,22nm,0.8s
X37A Clayton 59.18 336 P P 13 51 48.6 +0.4
baz=153,SNR=9.7
T45A Paducah 59.19 343 P P 13 51 47.1 -1.2
FCAR Ozark Folk Cen 59.20 340 P P 13 51 47.1 -1.2
FCAR IAmb IAmb 13 52 45.9
comp=Z,30nm,1.8s
Q56A Snyder Ridge, 59.23 352 P P 13 51 49.3 +0.8
Q56A IAmb IAmb 13 51 50.5
comp=Z,20nm,0.8s
Q56A Snyder Ridge, 59.23 352 P P 13 51 49.6 +1.1
baz=170
Q56A P P 13 51 49.6 +1.1
baz=170
ABTX Abilene, Hawle 59.26 331 P P 13 51 48.6 -0.2
ABTX IAmb IAmb 13 51 50.0
comp=Z,24nm,0.8s
ABTX Abilene, Hawle 59.26 331 P P 13 51 49.5 +0.6
baz=148,SNR=6.1
ABTX Abilene, Hawle 59.26 331 P P 13 51 49.5 +0.6
baz=148,SNR=6.1
LOOK Love County 59.37 334 P 13 51 49.8 +0.2
LOOK IAmb IAmb 13 51 50.9
comp=Z,23nm,0.9s
P57A Homestead Farm 59.52 353 P P 13 51 51.5 +1.0
baz=172
P57A P P 13 51 51.5 +1.0
baz=172
GEDE Greenville 59.63 355 P P 13 51 51.8 +0.6
baz=174
WCI Wyandotte Cave 59.74 346 P P 13 51 50.8 -1.2
WCI IAmb IAmb 13 51 52.1
comp=Z,48nm,1.6s
WCI Wyandotte Cave 59.74 346 P P 13 51 51.1 -0.9
baz=163
WCI Wyandotte Cave 59.74 346 P P 13 51 50.8 -1.2
WCI pmax pmax
comp=Z,47nm,1.7s
WUPA West Chester U 59.74 355 P P 13 51 52.0 0.0
WUPA IAmb IAmb 13 52 04.7
comp=Z,29nm,1.5s
U40A Yellville 59.86 339 P P 13 51 52.8 -0.1
baz=156,SNR=5.6
U40A P P 13 51 52.8 -0.1
baz=156,SNR=5.6
MVL Millersville 59.87 355 P P 13 51 53.3 +0.4
MVL IAmb IAmb 13 51 54.5
comp=Z,19nm,1.0s
MCWV Mont Chateau 59.92 352 P P 13 51 53.7 +0.4
baz=170
S44A Carbondale 59.99 343 P P 13 51 52.8 -0.9
S44A IAmb IAmb 13 51 54.0
comp=Z,22nm,0.7s
S44A Carbondale 59.99 343 P P 13 51 53.2 -0.6
baz=160,SNR=7.2
P52A Corning 60.25 350 P P 13 51 54.5 -1.0
P52A IAmb IAmb 13 52 44.9
comp=Z,70nm,1.9s
P52A Corning 60.25 350 P P 13 51 54.5 -1.0
baz=167
MGMO Mountain Grove 60.40 340 P P 13 51 55.7 -0.9
MGMO IAmb IAmb 13 51 57.1
comp=Z,29nm,1.4s
TUL1 Leonard 60.51 336 P P 13 51 57.9 +0.6
baz=152
TUL1 Leonard 60.51 336 P P 13 51 57.3 0.0
baz=152
O54A Avella 60.52 351 P P 13 51 57.3 0.0
baz=169
O54A P P 13 51 57.3 0.0
baz=169
FOR Fordham 60.56 357 P P 13 51 57.7 +0.1
baz=176
SSPA Standing Stone 60.65 353 P P 13 51 58.5 +0.3
SSPA Standing Stone 60.65 353 P P 13 51 58.5 +0.3
baz=172
SSPA Standing Stone 60.65 353 P P 13 51 58.4 +0.3
baz=172
SSPA Standing Stone 60.65 353 P P 13 51 58.5 +0.3
SSPA pP pP 13 52 12.5 +0.5
O52A Adamsville 60.67 350 P P 13 51 57.5 -0.8
baz=168
O52A P P 13 51 57.5 -0.8
baz=168
WMOK Wichita Mounta 60.68 333 P P 13 51 58.2 -0.4
baz=149
O53A New Philadelph 60.70 351 P P 13 51 58.4 -0.1
baz=168
PAL Palisades 60.71 357 P P 13 51 58.2 -0.4
baz=176
N58A Sunbury 60.74 355 P P 13 51 58.8 +0.1
N58A Sunbury 60.74 355 P P 13 51 58.9 +0.1
baz=173
N58A P P 13 51 58.9 +0.1
baz=173
CCM Cathedral Cave 60.91 341 P P 13 51 59.0 -1.0
CCM IAmb IAmb 13 52 00.2
comp=Z,19nm,1.2s
CCM Cathedral Cave 60.91 341 P P 13 51 58.8 -1.2
baz=158
CCM Cathedral Cave 60.91 341 P P 13 51 59.4 -0.5
baz=158
CCM Cathedral Cave 60.91 341 P P 13 51 59.0 -1.0
CCM pmax pmax
comp=Z,19nm,1.2s
CCM Cathedral Cave 60.91 341 P P 13 51 58.6 -1.3
CCM pP pP 13 52 13.4 -0.4
OK052 Battle Ridge R 60.97 336 P P 13 52 00.3 -0.2
OK052 IAmb IAmb 13 52 01.1
comp=Z,25nm,1.0s
OK053 SW of W Deep R 60.98 336 P P 13 51 59.9 -0.7
OK053 IAmb IAmb 13 52 01.2
comp=Z,25nm,1.0s
ACSO Alum Creek Sta 60.98 349 P P 13 51 59.7 -0.8
ACSO IAmb IAmb 13 52 00.8
comp=Z,31nm,1.2s
ACSO Alum Creek Sta 60.98 349 P P 13 51 59.3 -1.2
baz=166
ACSO Alum Creek Sta 60.98 349 P P 13 52 00.3 -0.2
baz=166
HTMS Hat Mesa 61.03 328 P P 13 52 01.5 +0.4
Q44A Meyer Farm, Va 61.06 343 P P 13 51 59.4 -1.6
Q44A IAmb IAmb 13 52 00.7
comp=Z,17nm,0.8s
Q44A Meyer Farm, Va 61.06 343 P P 13 52 00.1 -0.9
baz=160
QUOK Quay 61.09 336 P 13 52 00.8 -0.5
QUOK IAmb IAmb 13 52 19.1
comp=Z,82nm,1.7s
GDL2 Guadalupe Moun 61.18 327 P P 13 52 02.5 +0.4
N53A Lisbon 61.19 351 P P 13 52 00.7 -1.2
baz=169
N53A P P 13 52 00.7 -1.2
baz=169
S39A Bolivar 61.23 339 P P 13 52 01.5 -0.7
S39A IAmb IAmb 13 52 19.5
comp=Z,11nm,0.8s
S39A Bolivar 61.23 339 P P 13 52 01.8 -0.4
baz=155
M57A Sunshine Farm, 61.27 354 P P 13 52 02.9 +0.5
M57A Sunshine Farm, 61.27 354 P P 13 52 03.0 +0.6
baz=173
M57A P P 13 52 03.0 +0.6
baz=173
P46A Rosedale 61.28 345 P P 13 52 01.7 -0.7
baz=162
MNTX Cornudas Mount 61.30 326 P P 13 52 02.0 -0.8
MNTX Cornudas Mount 61.30 326 P P 13 52 02.7 -0.2
baz=142,SNR=9.4
MNTX Cornudas Mount 61.30 326 P P 13 52 02.0 -0.8
baz=142,SNR=9.4
OK046 Pawnee Station 61.36 336 P 13 52 02.6 -0.5
OK046 IAmb IAmb 13 52 21.7
comp=Z,58nm,1.6s
KSPA Keystone Colle 61.37 355 P P 13 52 03.3 +0.3
KSPA Keystone Colle 61.37 355 P P 13 52 03.4 +0.3
baz=174
OK048 Pawnee Station 61.39 336 P P 13 52 03.1 -0.2
OK048 IAmb IAmb 13 54 07.2
comp=Z,27nm,0.8s
CSTR Hydro, Custer 61.42 334 P P 13 52 03.0 -0.6
CSTR IAmb IAmb 13 52 05.1
comp=Z,10nm,1.7s
O48B Farmland 61.43 347 P P 13 52 02.3 -1.2
baz=164
O48B Farmland 61.43 347 P P 13 52 02.8 -0.6
baz=164
R40A Maddies Statio 61.44 341 P P 13 52 02.6 -1.0
R40A IAmb IAmb 13 52 03.8
comp=Z,41nm,1.6s
R40A Maddies Statio 61.44 341 P P 13 51 58.9 -4.7
baz=157
R40A P P 13 52 03.0 -0.6
baz=157,SNR=5.5
M55A Ridgway 61.57 353 P P 13 52 04.6 +0.2
M55A Ridgway 61.57 353 P P 13 52 04.7 +0.2
baz=171,SNR=5.4
M55A P P 13 52 04.7 +0.2
baz=171,SNR=5.4
T35A Sooner Cattle 61.67 336 P P 13 52 05.5 +0.4
T35A IAmb IAmb 13 52 23.0
comp=Z,47nm,1.6s
T35B Sooner Cattle 61.67 336 P P 13 52 05.8 +0.6
baz=152
M53A WI Miller and 61.79 351 P P 13 52 06.1 +0.2
baz=169
MSTX Muleshoe 61.83 330 P P 13 52 06.5 +0.1
MSTX IAmb IAmb 13 52 07.8
comp=Z,24nm,1.0s
MSTX Muleshoe 61.83 330 P P 13 52 06.8 +0.3
baz=145,SNR=8.7
MSTX Muleshoe 61.83 330 P P 13 52 06.8 +0.3
baz=145,SNR=8.7
N49A Columbus Grove 61.87 348 P P 13 52 05.5 -1.0
N49A IAmb IAmb 13 52 06.7
comp=Z,27nm,0.8s
N49A Columbus Grove 61.87 348 P P 13 52 05.5 -1.0
baz=165,SNR=8.4
N49A P P 13 52 05.5 -1.0
baz=165,SNR=8.4
P43A Skaggs, Pawnee 61.89 343 P P 13 52 05.1 -1.5
P43A IAmb IAmb 13 52 06.4
comp=Z,26nm,0.8s
P43A Skaggs, Pawnee 61.89 343 P P 13 52 05.7 -0.9
baz=160,SNR=5.1
ALLY Alegheny Colle 61.92 352 P P 13 52 06.7 -0.1
baz=170
L59A Walton 61.95 356 P P 13 52 07.3 +0.3
L59A Walton 61.95 356 P P 13 52 07.1 +0.1
baz=175
L59A P P 13 52 07.1 +0.1
baz=175
SFIN Lafayette 61.97 346 P P 13 52 05.5 -1.6
SFIN IAmb IAmb 13 52 06.3
comp=Z,20nm,0.7s
SFIN Lafayette 61.97 346 P P 13 52 05.9 -1.2
baz=162,SNR=5.1
SFIN Lafayette 61.97 346 P P 13 52 05.9 -1.2
baz=162,SNR=5.1
BINY Binghamton 62.03 355 P P 13 52 07.8 +0.3
baz=174
BINY Binghamton 62.03 355 P P 13 52 07.9 +0.3
baz=174
AMTX Amarillo 62.07 331 P P 13 52 07.7 -0.4
baz=147
AMTX Amarillo 62.07 331 P P 13 52 07.6 -0.5
baz=147
L61B Northampton 62.10 358 P P 13 52 07.8 -0.2
L61B Northampton 62.10 358 P P 13 52 08.4 +0.4
baz=178
L56A Greenwood 62.10 354 P P 13 52 08.1 +0.1
L56A Greenwood 62.10 354 P P 13 52 08.4 +0.4
baz=172
L56A P P 13 52 08.4 +0.4
baz=172
HRV Adam Dziewonsk 62.13 359 P P 13 52 08.8 +0.7
baz=179
HRV Adam Dziewonsk 62.13 359 P P 13 52 08.7 +0.5
baz=179
HRV Adam Dziewonsk 62.13 359 P P 13 52 08.4 +0.3
HRV pP pP 13 52 23.2 +1.2
N47A Urbana 62.14 347 P P 13 52 07.5 -0.7
N47A IAmb IAmb 13 52 07.8
comp=Z,68nm,1.8s
N47A Urbana 62.14 347 P P 13 52 07.9 -0.3
baz=164
N47A P P 13 52 07.9 -0.3
baz=164
K62A Royalston 62.30 358 P P 13 52 09.8 +0.5
baz=178
K62A P P 13 52 09.8 +0.5
baz=178
ERPA Erie 62.36 352 P P 13 52 10.3 +0.6
baz=170
ERPA Erie 62.36 352 P P 13 52 10.1 +0.4
baz=170
TRY Troy 62.42 357 P P 13 52 10.6 +0.6
HCNY Howe Caverns 62.42 357 P P 13 52 09.9 -0.2
baz=176
WVNY West Valley, N 62.48 353 P P 13 52 10.9 +0.4
WVNY IAmb IAmb 13 52 12.0
comp=Z,33nm,0.9s
WVNY West Valley, N 62.48 353 P P 13 52 11.1 +0.6
baz=171,SNR=6.6
P40A Paris 62.51 341 P P 13 52 09.8 -0.9
P40A IAmb IAmb 13 52 11.0
comp=Z,13nm,0.8s
P40A Paris 62.51 341 P P 13 52 10.2 -0.5
baz=157,SNR=6.4
K57A Scipio Center 62.60 355 P P 13 52 11.2 -0.1
K57A IAmb IAmb 13 52 26.4
comp=Z,39nm,1.2s
K57A Scipio Center 62.60 355 P P 13 52 11.6 +0.3
baz=174
HDIL Hopedale 62.68 344 P P 13 52 10.5 -1.4
HDIL IAmb IAmb 13 52 11.4
comp=Z,18nm,0.6s
HDIL Hopedale 62.68 344 P P 13 52 11.2 -0.7
baz=160
HDIL Hopedale 62.68 344 P P 13 52 10.9 -1.0
baz=160
MMNY Mt. Morris Dam 62.73 354 P P 13 52 12.2 +0.1
MMNY IAmb IAmb 13 52 12.8
comp=Z,20nm,0.6s
L48A N Adams 62.91 348 P P 13 52 11.7 -1.6
L48A IAmb IAmb 13 52 29.0
comp=Z,28nm,1.1s
L48A N Adams 62.91 348 P P 13 52 12.5 -0.8
baz=165
L48A P P 13 52 12.5 -0.8
baz=165
P38A Dawn 63.05 340 P P 13 52 13.8 -0.6
P38A IAmb IAmb 13 52 15.4
comp=Z,11nm,0.7s
P38A Dawn 63.05 340 P P 13 52 14.2 -0.2
baz=156,SNR=5.1
ACCN Adirondack Com 63.07 357 P P 13 52 14.5 +0.2
baz=177
J56A Wolcott 63.17 355 P P 13 52 14.8 -0.2
J56A IAmb IAmb 13 53 12.7
comp=Z,19nm,0.9s
BBTS Babate 63.17 61 LR LR 14 17 35.1
comp=Z,485nm,21.1s,baz=240,slow=34
J59A Piesco 63.19 357 P P 13 52 15.4 +0.2
J59A IAmb IAmb 13 52 33.9
comp=Z,50nm,1.3s
J59A Piesco 63.19 357 P P 13 52 16.1 +0.8
baz=176
J59A P P 13 52 16.1 +0.8
baz=176
121A Cookes Peak, D 63.23 325 P P 13 52 17.4 +1.4
baz=140
121A Cookes Peak, D 63.23 325 P P 13 52 16.8 +0.9
baz=140
J57A Williamstown 63.23 355 P P 13 52 15.5 0.0
J57A IAmb IAmb 13 52 16.1
comp=Z,15nm,0.7s
J57A Williamstown 63.23 355 P P 13 52 15.4 0.0
baz=174
J57A P P 13 52 15.4 0.0
baz=174
J55A Hilton 63.25 354 P P 13 52 15.2 -0.3
J55A IAmb IAmb 13 52 16.5
comp=Z,39nm,1.1s
J55A Hilton 63.25 354 P P 13 52 15.2 -0.3
baz=172
J55A P P 13 52 15.2 -0.3
baz=172
N41A Harden Midland 63.25 343 P P 13 52 14.2 -1.4
N41A IAmb IAmb 13 52 15.4
comp=Z,15nm,0.8s
N41A Harden Midland 63.25 343 P P 13 52 14.4 -1.3
baz=158
MCVT Middlebury Col 63.61 358 P P 13 52 19.0 +1.0
baz=177
KSU1 Kansas State U 63.63 337 P P 13 52 18.3 +0.1
baz=152
I63A Otisfield 63.66 360 P P 13 52 19.3 +1.0
I63A IAmb IAmb 13 52 35.9
comp=Z,63nm,1.5s
NCB Newcomb 63.68 357 P P 13 52 18.8 +0.3
NCB IAmb IAmb 13 52 34.8
comp=Z,49nm,1.6s
NCB Newcomb 63.68 357 P P 13 52 18.8 +0.3
baz=176
WCNY West Carthage 63.77 356 P P 13 52 19.4 +0.3
baz=175
LBNH Lisbon 63.87 359 P P 13 52 20.1 +0.4
LBNH Lisbon 63.87 359 P P 13 52 20.0 +0.4
baz=178
LBNH Lisbon 63.87 359 P P 13 52 20.1 +0.4
baz=178
LBNH Lisbon 63.87 359 P P 13 52 20.1 +0.4
LBNH pmax pmax
comp=Z,113nm,1.9s
VT1 Waterbury 63.98 358 P P 13 52 20.8 +0.4
baz=178
SBM South Baldy 64.03 326 P P 13 52 20.9 -0.6
H62A Milan 64.19 359 P P 13 52 22.6 +0.8
H62A Milan 64.19 359 P P 13 52 22.5 +0.7
baz=179
H62A P P 13 52 22.5 +0.7
baz=179
SNAA Sanae 64.22 161 LR LR 14 21 35.5
comp=Z,84nm,18.2s,baz=357,slow=37
SNAA Sanae 64.22 161 P P 13 52 22.6 +0.8
SNAA IAmb IAmb 13 52 46.8
comp=Z,17nm,1.1s
SNAA Sanae 64.22 161 *i* P P 13 52 23.3 +1.5
SNAA pmax pmax
comp=Z,5.0nm,0.7s
LONY Lake Ozonia 64.35 357 P P 13 52 24.2 +1.4
baz=176
EMMW East Michias 64.38 2 P P 13 52 23.2 +0.3
ANMO Albuquerque 64.41 328 P P 13 52 24.3 +0.7
comp=Z,2.0nm,0.8s,baz=246,slow=8.1,SNR=10
comp=Z,2.0nm,0.8s
ANMO Albuquerque 64.41 328 P P 13 52 24.4 +0.7
baz=142,SNR=6.1
ANMO Albuquerque 64.41 328 P P 13 52 24.3 +0.7
baz=142
ANMO Albuquerque 64.41 328 *ce* P P 13 52 24.9 +1.2
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ANMO Albuquerque 64.41 328 P P 13 52 24.5 +0.8
ANMO pP pP 13 52 38.2 +0.7
DELO Deloro Mine 64.47 354 P P 13 52 23.7 +0.1
DELO IAmb IAmb 13 52 25.5
comp=Z,33nm,1.4s
K43A Burlington 64.47 345 P P 13 52 22.5 -1.1
K43A Burlington 64.47 345 P P 13 52 22.6 -1.1
baz=161
FRNY Flat Rock 64.51 358 P P 13 52 24.3 +0.5
FRNY Flat Rock 64.51 358 P P 13 52 24.4 +0.5
baz=177
BMNY Brushton-Moira 64.56 357 P P 13 52 24.9 +0.7
baz=176
L40A Anamosa 64.61 343 P P 13 52 23.8 -0.8
L40A IAmb IAmb 13 52 39.7
comp=Z,11nm,0.8s
L40A Anamosa 64.61 343 P P 13 52 23.6 -0.9
baz=158
GGN Saint George 64.81 3 P P 13 52 26.2 +0.4
G62A West of Eustis 64.83 360 P P 13 52 26.6 +0.7
G62A West of Eustis 64.83 360 P P 13 52 26.8 +0.9
baz=180
G62A P P 13 52 26.8 +0.9
baz=180
G65A Princeton 64.87 2 P P 13 52 26.6 +0.5
G65A IAmb IAmb 13 52 43.4
comp=Z,61nm,1.6s
G65A Princeton 64.87 2 P P 13 52 26.7 +0.6
baz=183
G65A P P 13 52 26.7 +0.6
baz=183
SADO Sadowa 64.87 353 LR LR 14 22 55.6
comp=Z,103nm,20.4s,baz=142,slow=38
SADO Sadowa 64.87 353 P P 13 52 25.9 -0.3
PKME Peaks-Kenny Pk 64.89 1 P P 13 52 26.7 +0.5
PKME IAmb IAmb 13 52 27.4
comp=Z,21nm,0.8s
PKME Peaks-Kenny Pk 64.89 1 P P 13 52 27.0 +0.8
baz=181
PKME Peaks-Kenny Pk 64.89 1 P P 13 52 26.7 +0.5
baz=181
SCIA State Center 65.04 341 P P 13 52 27.9 +0.5
baz=156
JFWS Jewell Farm 65.14 344 P P 13 52 27.1 -0.8
JFWS IAmb IAmb 13 52 43.2
comp=Z,14nm,0.6s
JFWS Jewell Farm 65.14 344 P P 13 52 28.2 +0.2
baz=160
JFWS Jewell Farm 65.14 344 P P 13 52 27.9 -0.1
baz=160
JFWS Jewell Farm 65.14 344 P P 13 52 27.2 -0.8
JFWS pmax pmax
comp=Z,14nm,0.6s
MNTQ Montreal, Queb 65.18 358 P P 13 52 28.4 +0.2
MNTQ IAmb IAmb 13 52 29.7
comp=Z,30nm,0.8s
T25A Trinidad 65.18 331 P P 13 52 28.7 +0.1
T25A Trinidad 65.18 331 P P 13 52 29.6 +0.9
baz=145,SNR=6.3
F63A Nahmakanta, Br 65.33 1 P P 13 52 29.4 +0.3
F63A IAmb IAmb 13 54 30.5
comp=Z,30nm,1.4s
F64A Sherman 65.50 2 P P 13 52 30.6 +0.4
F64A Sherman 65.50 2 P P 13 52 30.8 +0.6
baz=182
F64A P P 13 52 30.8 +0.6
baz=182
F62A Pittston Farm, 65.51 0 P P 13 52 30.3 0.0
baz=180
F62A P P 13 52 30.3 0.0
baz=180
214A Organ Pipe Nat 65.65 321 P P 13 52 33.2 +1.6
baz=136
LMN Caledonia Moun 65.67 4 P P 13 52 31.2 -0.1
LMN IAmb IAmb 13 52 31.8
comp=Z,14nm,0.8s
KSCO Kaye Shedlock' 65.93 333 P P 13 52 33.2 -0.1
KSCO IAmb IAmb 13 52 35.1
comp=Z,26nm,1.1s
KSCO Kaye Shedlock' 65.93 333 P P 13 52 34.3 +0.9
baz=147
TRQ Mont Tremblant 65.94 357 P P 13 52 32.9 -0.3
E63A Oxbow 66.06 2 P P 13 52 34.4 +0.6
baz=182
E63A P P 13 52 34.4 +0.6
baz=182
SDCO Great Sand Dun 66.18 330 P P 13 52 35.6 +0.4
SDCO IAmb IAmb 13 52 37.2
comp=Z,14nm,1.0s
SDCO Great Sand Dun 66.18 330 P P 13 52 36.5 +1.4
baz=144,SNR=25
SDCO Great Sand Dun 66.18 330 P P 13 52 36.5 +1.4
baz=144,SNR=25
BGNE Belgrade 66.22 338 P P 13 52 35.9 +0.9
baz=152
E62A Clayton Lake 66.24 1 P P 13 52 35.8 +0.8
E62A IAmb IAmb 13 53 03.8
comp=Z,74nm,1.8s

E62A Clayton Lake 66.24 1 P **P** 13 52 35.5 +0.6
baz=181
E62A P **P** 13 52 35.5 +0.6
baz=181
PQI Presque Isle 66.32 2 P **P** 13 52 35.8 +0.3
D62A Allapoint, All 66.71 1 P **P** 13 52 38.3 +0.3
D62A IAmb IAmb 13 52 39.0
comp=Z,17nm,0.7s
D62A Allapoint, All 66.71 1 P **P** 13 52 38.5 +0.6
baz=181
D62A P **P** 13 52 38.5 +0.6
baz=181
S22A 4UR Ranch, Cre 66.81 329 P **P** 13 52 40.5 +1.3
baz=143,SNR=5.8
Q24A Divide 67.00 331 P **P** 13 52 40.9 +0.4
Q24A Divide 67.00 331 P **P** 13 52 41.6 +1.2
baz=144,SNR=7.3
BATG Bathurst New B 67.01 3 P **P** 13 52 40.1 +0.2
I37B Waseca 67.02 342 P **P** 13 52 39.7 -0.4
baz=157
MVCO Mesa Verde 67.21 328 P **P** 13 52 42.8 +1.1
baz=141
OGNE Ogallala 67.31 335 P **P** 13 52 42.3 +0.3
OGNE IAmb IAmb 13 52 49.9
comp=Z,24nm,1.2s
G40A Rib Lake 67.34 345 P **P** 13 52 41.5 -0.5
G40A IAmb IAmb 13 53 04.3
comp=Z,49nm,1.9s
WUAZ Wupatki 67.43 325 P **P** 13 52 45.2 +2.1
baz=138,SNR=6.9
GLA Glamis 67.63 321 P **P** 13 52 45.2 +1.1
baz=135
ECSD EROS Data Cent 67.75 340 P **P** 13 52 44.0 -0.7
ECSD EROS Data Cent 67.75 340 P **P** 13 52 44.6 -0.1
baz=153
ECSD EROS Data Cent 67.75 340 P **P** 13 52 45.2 +0.5
baz=153
ISCO Idaho Springs 67.89 331 P **P** 13 52 46.2 +0.2
ISCO Idaho Springs 67.89 331 P **P** 13 52 47.0 +1.0
baz=144,SNR=7.8
ISCO Idaho Springs 67.89 331 P **P** 13 52 46.6 +0.6
baz=144,SNR=7.8
ISCO Idaho Springs 67.89 331 P **P** 13 52 46.2 +0.2
ISCO pmax pmax
comp=Z,7.0nm,1.0s
BRIGG Briggsdale 67.96 333 P **P** 13 52 46.2 0.0
SPMN Marine on St. 67.97 343 P **P** 13 52 45.8 -0.2
baz=157
SPMN Marine on St. 67.97 343 P **P** 13 52 46.2 +0.2
baz=157
SMCO Snowmass 68.02 330 P **P** 13 52 47.4 +0.4
TAOE Nuku Hiva Isla 68.03 268 *e*T T 15 06 40.5
comp=Z,48nm,0.2s
PV15 Paradox Valley 68.08 329 P **P** 13 52 48.1 +0.9
PV15 IAmb IAmb 13 52 49.7
comp=Z,18nm,1.0s
PV13 Radium Mtn., P 68.11 328 P **P** 13 52 47.7 +0.3
IKP In-Ko-Pah, Jac 68.12 319 P **P** 13 52 48.9 +1.5
baz=134
SWSC Sam W. Stewart 68.14 320 P **P** 13 52 48.8 +1.5
baz=134
BC3 Big Chuckawall 68.42 321 P **P** 13 52 50.5 +1.2
baz=134
MONP2 Monument Peak 68.48 319 P **P** 13 52 50.9 +1.2
baz=133
IRM Iron Mountain 68.59 321 P **P** 13 52 52.3 +2.1
baz=135,SNR=5.1
F36A Milaca 68.75 343 P **P** 13 52 49.9 -1.0
F36A Milaca 68.75 343 P **P** 13 52 50.0 -0.9
baz=157
N23A Red Feather La 68.92 332 P **P** 13 52 52.8 +0.4
N23A Red Feather La 68.92 332 P **P** 13 52 53.7 +1.3
baz=144,SNR=5.6
BELC Belle Mtn. Jos 68.99 321 P **P** 13 52 54.1 +1.3
baz=134
TPFO Pinon Flats 68.99 320 P **P** 13 52 54.3 +1.5
baz=134
PFO Pinyon Flats O 69.00 320 P **P** 13 52 53.1 +0.3
comp=Z,1.5nm,0.6s,baz=77,slow=4.6,SNR=4.2
PFO LR LR 14 20 12.4
comp=Z,58nm,19.9s,baz=140,slow=33
comp=Z,1.5nm,0.6s
PFO Pinyon Flats O 69.00 320 P **P** 13 52 54.6 +1.7
baz=134
PFO Pinyon Flats O 69.00 320 *i* P **P** 13 52 53.7 +0.8
PFO pmax pmax
comp=Z,10.0nm,1.4s
PFO Pinyon Flats O 69.00 320 P **P** 13 52 55.0 +2.1
PFO pP **pP** 13 53 09.7 +2.9
PFO sP **PcP** 13 53 17.0 +0.3
PHWY Pilot Hill 69.04 332 P **P** 13 52 53.4 +0.2
KNB Kanab 69.33 325 P **P** 13 52 56.1 +1.2
KNB IAmb IAmb 13 53 16.2
comp=Z,46nm,1.4s
KNB Kanab 69.33 325 P **P** 13 52 56.1 +1.2
KNB pmax pmax
comp=Z,46nm,1.4s
GMRC Granite Mounta 69.33 321 P **P** 13 52 56.8 +1.9
baz=135,SNR=6.3
O20A White River Ci 69.37 330 P **P** 13 52 56.6 +1.5
baz=142,SNR=5.2
V12A Nelson 69.53 323 P **P** 13 52 56.8 +0.8
LCMT Little Creek M 69.55 325 P **P** 13 52 57.7 +1.5
DBIC Dimbokro 69.67 75 P **P** 13 52 56.0 -1.2
comp=Z,26nm,0.7s,baz=248,slow=5.9,SNR=53
DBIC LR LR 14 22 05.3
comp=Z,287nm,20.7s,baz=262,slow=35
comp=Z,26nm,0.7s
DBIC Dimbokro 69.67 75 P **P** 13 52 56.1 -1.2
DBIC IAmb IAmb 13 52 57.4
comp=Z,68nm,1.4s
DBIC Dimbokro 69.67 75 P **P** 13 52 56.1 -1.2
DBIC pmax pmax
comp=Z,68nm,1.4s
DBIC Dimbokro 69.67 75 P **P** 13 52 56.2 -1.1
SRU San Rafael Swe 69.69 328 P **P** 13 52 57.9 +0.8
SRU San Rafael Swe 69.69 328 P **P** 13 52 57.9 +0.8
SRU pmax pmax
comp=Z,10.0nm,0.8s
HEC Hector,Ludlow 69.76 321 P **P** 13 52 59.0 +1.5
baz=134
DRLN Deer Lake 69.83 9 P **P** 13 52 57.2 -0.3
P18A Preston Nutter 69.95 328 P **P** 13 52 59.8 +1.0
CIS Catalina Islan 70.06 319 P **P** 13 53 01.5 +2.3
baz=132
P17A Butcher Ranch, 70.08 328 P **P** 13 52 59.7 +0.2
P17A IAmb IAmb 13 53 01.7
comp=Z,17nm,1.0s
MSU Marysvale 70.09 326 P **P** 13 53 00.8 +1.2
MSU Marysvale 70.09 326 P **P** 13 53 00.8 +1.2
MVU Marysvale 70.10 326 P **P** 13 53 01.0 +1.3
RWWY Rawlins 70.13 332 P **P** 13 53 00.1 +0.3
RWWY IAmb IAmb 13 53 02.7
comp=Z,24nm,1.6s
BFSC Mount Baldy Ra 70.15 320 P **P** 13 53 01.6 +1.6
baz=133
EYMN Ely 70.16 345 P **P** 13 52 59.8 +0.3
EYMN IAmb IAmb 13 53 33.6
comp=Z,24nm,1.1s
EYMN Ely 70.16 345 P **P** 13 53 00.9 +1.3
baz=159
QSPA South Pole Qui 70.25 180 P **P** 13 53 01.9 +1.7
QSPA IAmb IAmb 13 53 27.8
comp=Z,42nm,1.7s
QSPA South Pole Qui 70.25 180 P **P** 13 53 02.0 +1.9
QSPA pP **pP** 13 53 17.4 +3.3
SHPR Sheep Range 70.25 323 P **P** 13 53 02.0 +1.4
TCRU Three Creeks R 70.30 326 P **P** 13 53 02.2 +1.3
RDMU Red Mountain 70.34 329 P **P** 13 53 01.6 +0.5
GSC Goldstone, Bar 70.37 321 P **P** 13 53 02.9 +1.7
baz=134
DECC Green Verdugo 70.57 319 P **P** 13 53 04.3 +1.8
baz=132
K22A Casper 70.60 333 P **P** 13 53 03.5 +0.9
baz=144
K22A Casper 70.60 333 P **P** 13 53 03.5 +0.9
baz=144
RSSD Black Hills 70.78 335 P **P** 13 53 04.8 +1.1
baz=147
RSSD Black Hills 70.78 335 P **P** 13 53 04.6 +0.9
baz=147
RSSD Black Hills 70.78 335 P **P** 13 53 04.6 +0.9
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 70.78 335 P **P** 13 53 04.5 +0.8
RSSD pP **pP** 13 53 19.7 +2.0

EDW2 Edwards Air Fo 70.79 320 P **P** 13 53 05.4 +1.6
baz=133
GWY Greenwater Val 70.90 322 P **P** 13 53 05.5 +0.9
MPU Maple Canyon 70.94 328 P **P** 13 53 05.4 +0.7
TPNV Topopah Spring 71.19 323 P **P** 13 53 07.1 +0.8
TPNV Topopah Spring 71.19 323 P **P** 13 53 08.1 +1.8
baz=135
TPNV Topopah Spring 71.19 323 P **P** 13 53 07.1 +0.8
TPNV pmax pmax
comp=Z,10.0nm,1.0s
FURC Furnace Creek, 71.20 322 P **P** 13 53 08.2 +2.0
baz=134
JLU Jordanelle 71.29 328 P **P** 13 53 07.5 +0.6
MPMC Manual Prospec 71.29 321 P **P** 13 53 08.3 +1.4
baz=133
ARVC Arvin 71.46 320 P **P** 13 53 09.8 +2.0
baz=132
SPR3 Spring Creek 3 71.59 325 P **P** 13 53 09.9 +1.1
SPR3 IAmb IAmb 13 53 26.6
comp=Z,8.9nm,1.1s
ISA Isabella, Lake 71.61 320 P **P** 13 53 10.0 +1.3
ISA IAmb IAmb 13 53 27.2
comp=Z,31nm,1.6s
ISA Isabella, Lake 71.61 320 P **P** 13 53 10.3 +1.6
baz=133
ISA Isabella, Lake 71.61 320 P **P** 13 53 10.0 +1.3
ISA pmax pmax
comp=Z,31nm,1.6s
AGMN Agassiz Nation 71.63 342 P **P** 13 53 08.3 -0.2
baz=155
DUG Dugway, Tooele 71.67 327 P **P** 13 53 10.2 +1.1
DUG Dugway, Tooele 71.67 327 P **P** 13 53 11.0 +1.9
baz=138,SNR=9.1
DUG Dugway, Tooele 71.67 327 P **P** 13 53 10.2 +1.1
DUG pmax pmax
comp=Z,14nm,1.2s
R11A Troy Canyon, C 71.80 324 P **P** 13 53 11.5 +1.6
R11A Troy Canyon, C 71.80 324 P **P** 13 53 11.8 +1.8
baz=136
CWC Cottonwood Cre 71.90 321 P **P** 13 53 12.0 +1.4
baz=133
PKM Mcpherson Peak 71.91 319 P **P** 13 53 12.2 +1.5
baz=131
BW06 Boulder Array 72.05 331 P **P** 13 53 11.2 -0.2
BW06 Boulder Array 72.05 331 P **P** 13 53 12.3 +0.9
baz=142
PDAR Pinedale Array 72.05 331 P **P** 13 53 11.5 +0.1
comp=Z,0.7nm,0.6s,baz=140,slow=5.7,SNR=11
PDAR LR LR 14 27 06.4
comp=Z,74nm,21.6s,baz=131,slow=38
comp=Z,0.7nm,0.6s
PDAR Pinedale Array 72.05 331 P **P** 13 53 11.3 -0.1
VES Vestal, Richgr 72.09 320 P **P** 13 53 13.5 +1.9
baz=132
HWUT Hardware Ranch 72.11 329 P **P** 13 53 12.0 +0.3
BGU Big Grassy Mou 72.32 327 P **P** 13 53 13.7 +0.7
MDND Maddock 72.37 340 P **P** 13 53 12.9 0.0
MDND IAmb IAmb 13 53 14.3
comp=Z,44nm,1.0s
MDND Maddock 72.37 340 P **P** 13 53 13.3 +0.4
baz=151
MDND Maddock 72.37 340 P **P** 13 53 14.0 +1.1
baz=151
ELIB Princess Elisa 72.39 161 *d*P **P** 13 53 14.4 +1.4
ELIB *d*PcP **PcP** 13 53 31.6 +1.0
TIN Tinemaha, Big 72.41 322 P **P** 13 53 14.9 +1.4
baz=133
TPH Tonopah 72.53 323 P **P** 13 53 15.5 +1.2
TPH IAmb IAmb 13 55 36.4
comp=Z,37nm,0.7s
TPH Tonopah 72.53 323 P **P** 13 53 15.5 +1.2
TPH pmax pmax
comp=Z,37nm,0.7s
TBI Tubuai 72.66 251 *e*S **S** 14 02 40.3 +3.3
comp=Z,284nm,29.0s
TBI Tubuai 72.66 251 *e*LR LR 14 15 31.7
comp=Z,7μm,26.5s
TBI *e*LR LR 14 15 31.8
comp=Z,2μm,28.2s
AHID Auburn Hatcher 72.77 330 P **P** 13 53 16.0 +0.4
MEH Mehetia 72.83 257 *e*T T 15 13 38.3
comp=Z,4.8nm,0.2s
HVU Hansel Valley 72.83 328 P **P** 13 53 16.4 +0.4
HVU Hansel Valley 72.83 328 P **P** 13 53 16.4 +0.4
HVU pmax pmax
comp=Z,8.0nm,1.0s
ECR Eagle Creek 73.11 330 P **P** 13 53 18.5 +0.8
LOHW Long Hollow 73.19 331 P **P** 13 53 18.5 +0.4
ELK Elko 73.33 326 P **P** 13 53 19.6 +0.5
comp=Z,2.8nm,1.0s,baz=179,slow=4.2,SNR=9.5
comp=Z,2.8nm,1.0s
ELK Elko 73.33 326 P **P** 13 53 19.9 +0.8
ELK Elko 73.33 326 P **P** 13 53 19.9 +0.8
ELK pmax pmax
comp=Z,6.0nm,1.2s
MOOW Moose Ponds 73.36 331 P **P** 13 53 19.7 +0.5
NVAR Mina Array Bea 73.39 323 P **P** 13 53 19.8 +0.3
comp=Z,2.2nm,0.8s,baz=154,slow=6.1,SNR=6.1
comp=Z,2.2nm,0.8s
NVAR Mina Array Bea 73.39 323 P **P** 13 53 20.2 +0.8
ULM Lac du Bonnet 73.40 343 P **P** 13 53 18.2 -0.7
comp=Z,4.3nm,0.7s,baz=163,slow=3.6,SNR=9.8
ULM LR LR 14 28 34.1
comp=Z,124nm,20.4s,baz=56,slow=38
comp=Z,4.3nm,0.7s
ULM Lac du Bonnet 73.40 343 P **P** 13 53 17.9 -1.0
ULM IAmb IAmb 13 54 11.0
comp=Z,28nm,1.6s
ULM Lac du Bonnet 73.40 343 P **P** 13 53 17.9 -1.0
ULM pmax pmax
comp=Z,28nm,1.7s
KVN Kaiserville 73.70 323 P **P** 13 53 21.9 +0.7
KVN Kaiserville 73.70 323 P **P** 13 53 21.9 +0.7
KVN pmax pmax
comp=Z,23nm,0.3s
LAO LASA Array 73.77 335 P **P** 13 53 21.8 +0.6
LAO LASA Array 73.77 335 P **P** 13 53 21.9 +0.6
baz=145
LAO LASA Array 73.77 335 P **P** 13 53 22.4 +1.1
baz=145
RLMT Red Lodge 73.77 332 P **P** 13 53 22.1 +0.6
RLMT Red Lodge 73.77 332 P **P** 13 53 22.6 +1.0
baz=142,SNR=6.6
H17A Grant Village 73.78 331 P **P** 13 53 23.1 +1.4
baz=141
LKWY Lake 73.83 331 P **P** 13 53 23.6 +1.6
LKWY Lake 73.83 331 P **P** 13 53 23.6 +1.6
LKWY pmax pmax
comp=Z,9.0nm,1.0s
YMR Madison River 74.17 331 P **P** 13 53 24.6 +0.8
PPT2 Papeete2 74.29 257 *e*P **P** 13 53 27.5 +2.5
comp=Z,35nm,26.8s
PPT2 *e*S **S** 14 02 57.9 +2.2
comp=Z,99nm,28.2s
PPT2 Papeete2 74.29 257 *e*LR LR 14 16 16.8
comp=Z,432nm,25.5s
PPT2 *e*LR LR 14 16 16.9
comp=Z,328nm,28.0s
PPT Papeete 74.30 257 LR LR 14 18 08.8
comp=Z,70nm,21.4s,baz=122,slow=29
GCMT Greycliff 74.47 333 P **P** 13 53 25.9 +0.4
DGMT Dagmar 74.48 337 P **P** 13 53 25.9 +0.6
DGMT Dagmar 74.48 337 P **P** 13 53 26.4 +1.1
baz=147
DGMT Dagmar 74.48 337 P **P** 13 53 26.4 +1.1
baz=147
SCHQ Schefferville 74.52 2 P **P** 13 53 24.7 -0.7
comp=Z,8.2nm,0.8s,baz=197,slow=4.7,SNR=10
SCHQ LR LR 14 26 20.4
comp=Z,105nm,21.8s,baz=218,slow=36
comp=Z,8.2nm,0.8s
SCHQ Schefferville 74.52 2 P **P** 13 53 25.1 -0.3
SCHQ IAmb IAmb 13 53 44.1
comp=Z,31nm,1.4s
HLID Hailey 74.96 328 P **P** 13 53 29.6 +1.2
HLID Hailey 74.96 328 P **P** 13 53 30.2 +1.7
baz=138,SNR=14
BCYI Bear Canyon 75.03 330 P **P** 13 53 29.9 +1.0
MCMT McKenzie Canyo 75.16 330 P **P** 13 53 30.7 +1.1
BOZ Bozeman (W) 75.18 331 P **P** 13 53 30.4 +0.7
BOZ Bozeman (W) 75.18 331 P **P** 13 53 30.7 +1.1
baz=140,SNR=9.4
BOZ Bozeman (W) 75.18 331 P **P** 13 53 30.4 +0.7
BOZ pmax pmax
comp=Z,9.0nm,1.2s
AFDM Forest Hills D 75.28 322 P **P** 13 53 30.4 +0.2

AFDM IAmb IAmb 13 55 40.2
comp=Z,12nm,0.7s
BEKR Beckworth 75.53 323 P **P** 13 53 33.0 +1.2
MFID Camas Ranch 75.56 328 P **P** 13 53 33.0 +1.2
LRM Limekiln Ridge 75.73 331 P **P** 13 53 33.2 +0.3
ORV Oroville 75.99 322 P **P** 13 53 35.5 +1.3
ORV IAmb IAmb 13 53 53.3
comp=Z,19nm,1.2s
ORV Oroville 75.99 322 P **P** 13 53 35.5 +1.3
ORV pmax pmax
comp=Z,19nm,1.2s
HRY Holter Researc 76.13 332 P **P** 13 53 35.8 +0.8
EGMT Eagleton 76.27 334 P **P** 13 53 36.0 +0.3
EGMT IAmb IAmb 13 53 37.3
comp=Z,22nm,1.2s
EGMT Eagleton 76.27 334 P **P** 13 53 36.6 +1.0
baz=142,SNR=5.3
PLID Pearl Lake 76.86 329 P **P** 13 53 39.9 +0.7
MOD Modoc Plateau 76.87 324 P **P** 13 53 40.1 +0.8
MOD IAmb IAmb 13 54 01.3
comp=Z,42nm,2.0s
J08A Circle Bar Ran 76.88 326 P **P** 13 53 40.1 +0.8
MSO Missoula 77.16 331 P **P** 13 53 42.3 +1.5
baz=138
BMO Blue Mountains 77.33 328 P **P** 13 53 42.0 +0.2
BMO Blue Mountains 77.33 328 P **P** 13 53 42.0 +0.2
BMO pmax pmax
comp=Z,12nm,1.3s
VNDA Vanda 78.14 190 P **P** 13 53 47.9 +2.1
comp=Z,0.6nm,0.5s,baz=271,slow=16,SNR=2.1
comp=Z,0.6nm,0.5s
TORD Torodi Ar. Bea 78.19 71 P **P** 13 53 46.3 -0.8
comp=Z,39nm,0.5s,baz=250,slow=5.6,SNR=550
TORD Torodi Ar. Bea 78.19 71 P **P** 13 53 46.0 -1.1
WALA Waterton Lakes 78.82 333 P **P** 13 53 50.5 +0.6
HAWA Hanford 79.53 328 P **P** 13 53 54.6 +0.9
HAWA IAmb IAmb 13 54 20.0
comp=Z,35nm,1.9s
NEW Newport 79.68 330 P **P** 13 53 54.6 0.0
comp=Z,0.8nm,0.5s,baz=123,slow=12,SNR=1.8
NEW LR LR 14 31 33.5
comp=Z,45nm,18.6s,baz=127,slow=37
comp=Z,0.8nm,0.5s
SUR Sutherland 80.60 121 LR LR 14 28 30.4
comp=Z,60nm,21.8s,baz=199,slow=35
SUR Sutherland 80.60 121 P **P** 13 54 01.8 +1.5
LTY Liberty 80.69 328 P **P** 13 54 01.0 +0.9
FCC Fort Churchill 80.80 348 P **P** 13 54 00.2 0.0
FCC Fort Churchill 80.80 348 P **P** 13 54 00.2 0.0
FCC pmax pmax
comp=Z,8.0nm,1.1s
MDT Midelt 81.85 51 LR LR 14 29 45.1
comp=Z,131nm,19.8s,baz=260,slow=35
PNCL Nicolau / Gran 81.88 45 *e*P **P** 13 54 07.4 +0.9
PCVE Castro Verde 81.94 45 *e*P **P** 13 54 07.8 +1.0
PVAQ Vaqueiros 82.04 46 *e*P **P** 13 54 04.9 -2.4
PBEJ Beja 82.27 45 *e*P **P** 13 54 09.1 +0.5
RAR Rarotonga 82.42 250 LR LR 14 22 06.4
comp=Z,104nm,20.9s,baz=100,slow=29
IVI Ivigtut 82.81 11 P **P** 13 54 11.1 +0.4
PBAR Barrancos 82.90 45 *e*P **P** 13 54 12.3 +0.5
FRB Frobisher Bay 83.41 1 LR LR 14 31 31.9
comp=Z,177nm,21.7s,baz=182,slow=36
MTE Manteigas 83.76 43 *e*P **P** 13 54 16.6 +0.3
MTE Manteigas 83.76 43 P **P** 13 54 16.5 +0.3
MTE IAmb IAmb 13 54 17.3
comp=Z,56nm,1.3s
PVRL Vila Real 84.12 42 *e*P **P** 13 54 18.4 +0.3
PGAV Gavieira, Arco 84.15 42 *e*P **P** 13 54 16.2 -2.1
SOE Somerset East 84.29 123 P **P** 13 54 20.0 +0.6
MVO Moncorvo 84.50 43 *e*P **P** 13 54 20.6 +0.6
PBRG Braganca 85.02 42 *e*P **P** 13 54 22.9 +0.3
PAB San Pablo 85.41 45 P **P** 13 54 25.1 +0.4
PAB IAmb IAmb 13 54 25.4
comp=Z,16nm,1.1s
PAB San Pablo 85.41 45 P **P** 13 54 25.1 +0.4
PAB pmax pmax
comp=Z,16nm,1.1s
BOSA Boshof 85.44 119 P **P** 13 54 25.9 +0.6
comp=Z,12nm,1.1s,baz=263,slow=4.4,SNR=12
BOSA LR LR 14 29 27.7
comp=Z,90nm,19.5s,baz=213,slow=33
comp=Z,12nm,1.1s
BOSA Boshof 85.44 119 P **P** 13 54 25.7 +0.4
BOSA Boshof 85.44 119 P **P** 13 54 25.7 +0.4
BOSA pmax pmax
comp=Z,76nm,2.0s
ESDC Sonseca Array 85.73 45 P **P** 13 54 26.3 +0.1
comp=Z,8.2nm,1.1s,baz=242,slow=4.4,SNR=14
ESDC LR LR 14 29 22.2
comp=Z,138nm,21.2s,baz=240,slow=33
comp=Z,8.2nm,1.1s
ESDC Sonseca Array 85.73 45 P **P** 13 54 26.3 +0.1
ESDC IAmb IAmb 13 54 27.8
comp=Z,13nm,1.2s
MAW Mawson 86.23 164 P **P** 13 54 28.9 +0.7
comp=Z,3.0nm,0.6s,baz=78,slow=8.5,SNR=4.8
comp=Z,3.0nm,0.6s
LBTB Lobatse 86.97 115 LR LR 14 30 44.1
comp=Z,140nm,19.4s,baz=193,slow=34
LBTB Lobatse 86.97 115 P **P** 13 54 33.5 +0.6
LBTB Lobatse 86.97 115 P **P** 13 54 33.5 +0.6
LBTB pmax pmax
comp=Z,69nm,2.0s
BBB Bella Bella 87.55 329 LR LR 14 36 16.2
comp=Z,33nm,18.5s,baz=145,slow=37
SFJD Kangerlussuaq 87.92 8 LR LR 14 32 59.6
comp=Z,73nm,21.8s,baz=192,slow=35
YKA Yellowknife Ar 89.24 341 P **P** 13 54 42.4 0.0
comp=Z,11nm,0.9s,baz=132,slow=5.0,SNR=92
YKA LR LR 14 37 49.6
comp=Z,179nm,20.6s,baz=156,slow=38
comp=Z,11nm,0.9s
YKA Yellowknife Ar 89.24 341 P **P** 13 54 42.1 -0.3
YKA Yellowknife Ar 89.24 341 P **P** 13 54 42.1 -0.3
DLBC Dease Lake 92.16 333 P **P** 13 54 56.6 +0.3
comp=Z,3.4nm,0.9s,baz=124,slow=3.2,SNR=7.8
DLBC LR LR 14 40 50.3
comp=Z,61nm,19.6s,baz=98,slow=38
comp=Z,3.4nm,0.9s
DLBC Dease Lake 92.16 333 P **P** 13 54 57.5 +1.2
baz=126
S34M Telegraph Cree 92.34 332 P **P** 13 54 57.9 +0.9
baz=125
BORG Borgarnes 92.40 19 LR LR 14 35 09.6
comp=Z,31nm,19.3s,baz=225,slow=35
KEST Kesra 93.50 53 LR LR 14 37 48.7
comp=Z,211nm,20.1s,baz=208,slow=36
EKA Eskdalemuir Ar 94.03 32 LR LR 14 34 45.9
comp=Z,72nm,20.4s,baz=184,slow=34
KIP Kipapa 94.94 291 *i* P **P** 13 55 09.5 -0.3
KIP pmax pmax
comp=Z,32nm,1.3s
RPZ Rata Peaks 95.30 220 LR LR 14 29 06.1
comp=Z,141nm,18.1s,baz=206,slow=30
FARO Faro, Yukon 95.67 335 P **P** 13 55 12.4 +0.1
baz=123
RES Resolute Bay 95.69 354 LR LR 14 41 36.0
comp=Z,63nm,19.4s,baz=148,slow=38
P29M Windy Craggy 96.17 332 P **P** 13 55 15.1 +0.5
baz=119
DAVOX Davos/Dischmat 97.89 43 LR LR 14 35 12.3
comp=Z,98nm,19.8s,baz=258,slow=33
VAE Valguarnera 97.93 53 LR LR 14 40 46.9
comp=Z,95nm,19.2s,baz=312,slow=36
L29M L29M 98.02 335 P Pdif 13 55 23.0 +0.1
baz=118
INK Inuvik 98.99 340 P **P** 13 55 26.7 -0.3
baz=122
GERES GERESS Array B 101.00 42 P **Pdif** 13 55 36.0 -0.6
comp=Z,0.7nm,0.7s,baz=286,slow=4.0,SNR=2.7
DZM Mont Dzumac 110.51 236 *e*LR LR 14 33 04.5
comp=Z,527nm,25.0s
BRTR Keskin Array B 113.08 54 *c i*PKIKP **PKiKP** 14 00 24.7 +0.2
BRTR pmax pmax
comp=Z,2.0nm,1.0s
KLMR Klimovskoe 116.91 31 *e*PKPdf **PKPdf** 14 00 30.8 -0.2
KLMR AMP 14 00 34.2
comp=Z,21nm,1.6s
KLMR Klimovskoe 116.91 31 *e*PKIKP **PKPdf** 14 00 30.8 -0.2
KLMR pmax pmax
comp=Z,21nm,1.6s
STKA Stephens Creek 120.04 211 PKP **PKiKP** 14 00 38.4 +0.3
comp=Z,1.2nm,0.7s,baz=121,slow=6.9,SNR=3.0
KIV Kislovodsk 120.08 50 *i*PKIKP **PKPdf** 14 00 37.4 -0.3
KIV 14 00 50.0

KIV					*e*PS	**PS**	**14 11 43.8**	**-10**		
KIV					*e*SS	SS	14 18 33.4	+6.8		
KIV					pmax	pmax				
	comp=Z,3.0nm,0.6s									
KIV					MLR	MLR				
	comp=Z,30nm,16.0s									
KBZ	**Khabaz**	**120.23**	**50**		PKP	**PKPdf**	**14 00 37.9**	**0.0**		
	comp=Z,5.1nm,1.0s,baz=212,slow=2.7,SNR=12									
KBZ	**Khabaz**	**120.23**	**50**	*e*	PKIKP	**PKiKP**	**14 00 38.6**	**+0.6**		
BILL	**Bilibino**	**120.55**	**339**	⇑	PKIKP	**PKPdf**	**14 00 37.1**	**-0.7**		
BILL							14 00 55.0			
BILL							14 02 09.0			
BILL					PS	**SP**	**14 11 46.0**	**-3.7**		
BILL					pmax	pmax				
	comp=Z,11nm,1.7s									
BILL					MLR	MLR				
	comp=Z,77nm,20.0s									
H11S2	**WAKE ISLAND Hyl**	**26.25**	**279**		T	T	16 20 18.1			
	baz=102,slow=75,SNR=1460									
H11S1	**WAKE ISLAND Hyl**	**26.26**	**279**		T	T	16 20 15.8			
	baz=102,slow=75,SNR=1753									
H11S3	**WAKE ISLAND Hyl**	**26.27**	**279**		T	T	16 20 08.8			
	baz=102,slow=75,SNR=1616									
H11N3	**WAKE ISLAND Hyl**	**26.30**	**280**		T	T	16 20 24.9			
	baz=102,slow=75,SNR=683									
H11N2	**WAKE ISLAND Hyl**	**26.31**	**280**		T	T	16 20 24.6			
	baz=102,slow=75,SNR=527									
H11N1	**WAKE ISLAND Hyl**	**26.31**	**280**		T	T	16 20 16.5			
	baz=102,slow=75,SNR=520									
CTA	**Charters Tower**	**126.40**	**224**		PKP	**PKiKP**	**14 00 51.1**	**+0.2**		
	comp=Z,2.9nm,0.8s,baz=102,slow=5.2,SNR=6.2									
TIXI	**Tiksi**	**127.06**	**352**		PKPdf	**PKPdf**	**14 00 49.7**	**-0.4**		
TIXI	**Tiksi**	**127.06**	**352**	*c*	PKIKP	**PKPdf**	**14 00 49.8**	**-0.4**		
TIXI					pmax	pmax				
	comp=Z,2.0nm,0.7s									
ARU	**Arti**	**127.63**	**33**		PKPdf	**PKiKP**	**14 00 52.1**	**-0.1**		
ARU	**Arti**	**127.63**	**33**	*i*	PKIKP	**PKiKP**	**14 00 52.8**	**+0.5**		
ARU							14 02 54.4			
ARU							14 08 00.9			
SEY	**Seymchan**	**128.10**	**337**	*c*	PKIKP	**PKiKP**	**14 00 53.1**	**+0.1**		
SEY					pmax	pmax				
	comp=Z,27nm,2.5s									
NRIK	**Noril'sk**	**128.78**	**10**		PKP	**PKPdf**	**14 00 53.3**	**-0.2**		
	comp=Z,1.8nm,0.6s,baz=32,slow=2.1,SNR=4.1									
NRIK	**Noril'sk**	**128.78**	**10**	*c*	PKIKP	**PKiKP**	**14 00 55.0**	**+0.8**		
PETK	**Petropavlovsk-**	**130.46**	**324**		PKP	**PKiKP**	**14 00 58.6**	**+0.5**		
	comp=Z,2.0nm,0.8s,baz=106,slow=3.2,SNR=5.2									
ASAR	**Alice Springs**	**130.60**	**210**		PKP	**PKPdf**	**14 00 58.5**	**0.0**		
	comp=Z,2.3nm,0.8s,baz=128,slow=1.7,SNR=27									
ASAR					SKPbc	**SKPbc**	**14 04 17.8**	**-0.4**		
	comp=Z,0.8nm,0.9s,baz=134,slow=4.0,SNR=4.2									
ABKAR	**Akbulak array**	**130.94**	**41**		PKPdf	**PKiKP**	**14 00 58.8**	**-0.3**		
GEYT	**Alibeck**	**132.15**	**57**		PKP	**PKPdf**	**14 01 00.6**	**-0.3**		
	comp=Z,0.9nm,0.3s,baz=298,slow=4.6,SNR=4.6									
WRA	**Warramunga Arr**	**133.53**	**213**		PKP	**PKPdf**	**14 01 04.7**	**+0.6**		
	comp=Z,2.3nm,0.6s,baz=149,slow=1.9,SNR=29									
WRA					SKPbc	**SKPbc**	**14 04 28.8**	**+0.3**		
	comp=Z,2.2nm,1.1s,baz=125,slow=3.9,SNR=5.0									
WRA	**Warramunga Arr**	**133.53**	**213**			**PKPdf**	**14 01 04.1**	**0.0**		
WRA	**Warramunga Arr**	**133.53**	**213**		PKIKP	**PKPdf**	**14 01 04.1**	**0.0**		
BRVK	**Borovoye**	**135.21**	**33**		PKPdf	**PKPdf**	**14 01 07.0**	**+0.9**		
BRVK	**Borovoye**	**135.21**	**33**	*c*	PKIKP	**PKiKP**	**14 01 07.7**	**+0.1**		
BRVK					pmax	pmax				
	comp=Z,7.0nm,1.7s									
YAK	**Yakutsk**	**135.67**	**347**	*c*	PKIKP	**PKiKP**	**14 01 07.9**	**-0.4**		
YAK					pmax	pmax				
	comp=Z,7.0nm,1.0s									
ZAA0	**Zalesovo Array**	**141.11**	**23**		PKPdf	**PKPdf**	**14 01 17.6**	**+0.6**		
ZALV	**Zalesovo Beam**	**141.11**	**23**		PKhKP	PKPpre	14 01 10.5			
	comp=Z,2.2nm,0.5s,baz=307,slow=4.1,SNR=9.8									
ZALV	**Zalesovo Beam**	**141.11**	**23**		PKPdf	**PKPdf**	**14 01 17.6**	**+0.6**		
ZALV	**Zalesovo Beam**	**141.11**	**23**		PKIKP	**PKPdf**	**14 01 17.6**	**+0.6**		
AAK	**Ala-Archa**	**142.83**	**45**			**PKPdf**	**14 01 18.2**	**-2.4**		
AAK	**Ala-Archa**	**142.83**	**45**		PKIKP	**PKPdf**	**14 01 18.2**	**-2.4**		
MAKZ	**Makanchi**	**144.99**	**34**			**PKPab**	**14 01 23.7**	**+0.3**		
MAKZ	**Makanchi**	**144.99**	**34**		PKIKP	**PKPab**	**14 01 23.7**	**+0.3**		
NIL	**Nilore**	**145.01**	**59**			**PKPbc**	**14 01 23.9**	**-0.1**		
NIL	**Nilore**	**145.01**	**59**		PKP2	**PKPbc**	**14 01 23.9**	**-0.1**		
MK31	**Makanchi Array**	**145.16**	**33**		PKPdf	**PKPdf**	**14 01 24.4**	**0.0**		
MK31	**Makanchi Array**	**145.16**	**33**		PKIKP	**PKPdf**	**14 01 24.4**	**0.0**		
MKAR	**Makanchi Array**	**145.16**	**33**		PKP	**PKPab**	**14 01 24.4**	**+0.3**		
	comp=Z,37nm,0.7s,baz=325,slow=4.1,SNR=231									
KSH	**Kashi**	**145.18**	**49**		PKPbc	**PKPdf**	**14 01 25.6**	**+0.8**		
KLR	**Kul'dur**	**145.79**	**334**	*c*	PKP2	**PKPab**	**14 01 26.4**	**+0.1**		
KLR					pmax	pmax				
	comp=Z,37nm,1.7s									
HEH	**HeiHe**	**146.59**	**339**		*e*PKPbc	**PKPdf**	**14 01 27.1**	**+0.5**		
MOY	**Mondy**	**147.62**	**10**		*e*PKP2	**PKPbc**	**14 01 32.0**	**+0.8**		
MOY					pmax	pmax				
	comp=Z,44nm,1.9s									
ZAK	**Zakamensk**	**149.21**	**8**		*e*PKHKP	PKPpre	14 01 32.2			
ZAK					pmax	pmax				
	comp=Z,15nm,1.4s									
USA0B	**Ussuriysk Arra**	**149.43**	**327**			**PKiKP**	**14 01 36.8**	**-0.2**		
USA0B	**Ussuriysk Arra**	**149.43**	**327**		PKP2	**PKiKP**	**14 01 36.8**	**-0.2**		
USRK	**Ussuriysk Ar.**	**149.43**	**327**		PKPbc	**PKPbc**	**14 01 36.5**	**+0.5**		
	comp=Z,21nm,0.9s,baz=15,slow=0.9,SNR=20									
USRK	**Ussuriysk Ar.**	**149.43**	**327**			**PKiKP**	**14 01 36.7**	**-0.4**		
USRK	**Ussuriysk Ar.**	**149.43**	**327**		PKP2	**PKiKP**	**14 01 36.7**	**-0.4**		
HIA	**Hailar**	**149.61**	**347**			**PKPbc**	**14 01 36.4**	**+0.1**		
HIA	**Hailar**	**149.61**	**347**		PKP2	**PKPbc**	**14 01 36.4**	**+0.1**		
WMQ	**Urumqi**	**149.97**	**33**	*e*	PKPbc	**PKPdf**	**14 01 33.7**	**+1.2**		
MJAR	**Matsushiro Arr**	**149.98**	**310**		PKPbc	**PKiKP**	**14 01 38.3**	**-0.2**		
	comp=Z,11nm,0.6s,baz=99,slow=1.7,SNR=50									
MAJO	**Matsushiro**	**149.98**	**310**			**PKPbc**	**14 01 37.8**	**+0.2**		
MAJO	**Matsushiro**	**149.98**	**310**		PKP2	**PKPbc**	**14 01 37.8**	**+0.2**		
SIJI	**Sorong**	**150.34**	**228**		PKP	**PKPdf**	**14 01 34.6**	**+0.7**		
	comp=Z,3.3nm,0.5s,baz=270,slow=22,SNR=1.5									
SIJI					PKPbc	**PKiKP**	**14 01 40.4**	**+0.4**		
	comp=Z,17nm,0.7s,baz=100,slow=5.4,SNR=9.0									
BNX	**BinXian**	**150.35**	**334**	⇑	P	**PKPbc**	**14 01 38.0**	**-0.2**		
BNX					pmax	pmax				
	comp=Z,27nm,0.9s									
BNX					pmax	pmax				
	comp=Z,140nm,4.8s									
HYB	**Hyderabad**	**150.53**	**90**		*e*PKPbc	**PKPbc**	**14 01 39.0**	**-0.5**		
SONM	**Songino Array**	**152.04**	**5**		PKP	**PKPdf**	**14 01 36.9**	**+1.3**		
	comp=Z,1.3nm,0.7s,baz=336,slow=1.1,SNR=12									
SONM					PKPbc	**PKiKP**	**14 01 43.0**	**+0.4**		
	comp=Z,12nm,0.8s,baz=314,slow=1.3,SNR=78									
SONM	**Songino Array**	**152.04**	**5**		PKPdf	**PKPdf**	**14 01 36.4**	**+0.8**		
SONM						**PKiKP**	**14 01 42.8**	**+0.2**		
SONM					PKPab	**pPKPdf**	**14 01 52.3**	**+1.7**		
SONM	**Songino Array**	**152.04**	**5**		PKIKP	**PKiKP**	**14 01 42.8**	**+0.2**		
SONM							14 01 52.3			
KAPI	**Kappang**	**153.27**	**203**		PKPab	**PKPab**	**14 01 58.7**	**+1.1**		
	comp=Z,4.3nm,0.5s,baz=191,slow=19,SNR=1.3									
KSRS	**Korea Array**	**156.32**	**321**		PKP	**PKPdf**	**14 01 41.9**	**+0.2**		
	comp=Z,1.5nm,0.7s,baz=15,slow=1.4,SNR=6.7									
KSRS					PKPab	**PKPab**	**14 02 09.6**	**-0.4**		
	comp=Z,1.4nm,0.7s,baz=41,slow=3.9,SNR=2.7									
JNU	**Nakatsue**	**156.90**	**309**		PKPab	**PKPab**	**14 02 13.1**	**+0.2**		
	comp=Z,1.9nm,0.5s,baz=352,slow=23,SNR=4.0									
GTA	**Gaotai**	**158.84**	**21**	*e*	PKP	**PKPdf**	**14 01 46.2**	**+1.1**		
GTA					PKPab	**PKPab**	**14 02 21.3**	**+0.3**		
HHC	**Hu-ho-hao-te**	**159.08**	**356**	*e*	PKP	**PKPdf**	**14 01 45.0**	**-0.2**		
GOMU	**GeErMu**	**159.25**	**36**		PKP	**PKPdf**	**14 01 47.6**	**+1.7**		
GOMU					PKPab	**PKPab**	**14 02 24.8**	**+1.6**		
NJ2	**Nanjing**	**165.33**	**327**	*e*	PKP	**PKPdf**	**14 01 52.5**	**+0.9**		
XAN	**Xi'an**	**165.93**	**2**		PKP	**PKPdf**	**14 01 53.4**	**+1.2**		
CD2	**Chengdu**	**167.87**	**24**		PKP	**PKPdf**	**14 01 53.0**	**-0.7**		
TNCH	**TengChong**	**168.59**	**62**		PKP	**PKPdf**	**14 01 51.8**	**-2.7**		
TNCH					PKPab	**PKPab**	**14 03 06.1**	**+1.6**		
TNCH					PP	**PP**	**14 06 53.8**	**0.0**		
TNCH					AMB	AMB				
	comp=Z,150nm,4.4s									
CMAR	**Chiang Mai Arr**	**169.85**	**97**		PKP	**PKPdf**	**14 01 55.5**	**+0.2**		
	comp=Z,1.3nm,0.7s,baz=269,slow=1.6,SNR=8.4									
CMAR					PKPab	**PKPab**	**14 03 09.5**	**-0.5**		
	comp=Z,0.9nm,0.5s,baz=257,slow=6.5,SNR=9.1									
PZH	**PanZhiHua**	**170.28**	**46**		PKP	**PKPdf**	**14 01 54.4**	**-1.0**		

*NEIC **03** 14:04:22.1±2.0,8.°11S±0.°08×106.°81E±0.°08,h35km±2km, mb4.7/30,Error ellipse: s-maj=14.6km s-min=11.8km az=217.0*
*DJA **03** 14:04:22.1±0.6,8.°3S±3.°×10.°7E±.°,h14km±4km,M4.6/25, mb4.8/11,mB5.1/1,MLv4.5/25,MW(mB)4.4/1*
*IDC **03** 14:04:28.0±2.3,8.°02S×106.°94E,h91km±17km, mb3.9/21, mbtmp4.2/21,MS3.5/9,Error ellipse: s-maj=27.9km s-min=12.2km az=56.0*
ISC 03 14:04:23.1±1.1,8.°23S±0.°05×106.°85E±0.°04,h50km±9km, n114,σ1§42/114,mb4.5/42,MS3.6/8,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.96**	**17**	P	**Pn**		**14 04 39.4**	**-0.9**
CNJI				Pg	**Pn**		14 04 39.3	-1.0
CNJI				Sg	**Sn**		14 04 51.7	-1.2
BBJI	**Bungbulang**	**1.10**	**46**	P	**Pn**		**14 04 41.4**	**-0.9**
SKJI	**Sukabumi**	**1.25**	**346**	P	**Pn**		**14 04 44.2**	**-0.1**
SKJI				S	**Sn**		**14 05 00.9**	**+0.8**
LEM	**Lembang**	**1.59**	**29**	P	**Pn**		**14 04 50.2**	**+1.1**
	1µm,0.4s,baz=300,slow=4.4,SNR=106							
LEM				S	**Sn**		**14 05 11.5**	**+3.0**
	1µm,0.4s,baz=334,slow=22,SNR=4.6							
LEM				LR	LR		14 05 40.6	
	comp=Z,1µm,18.4s,baz=244,slow=53							
LEM	**Lembang**	**1.59**	**29**	P	**Pn**		**14 04 49.9**	**+0.9**
LEM				S	**Sn**		**14 05 11.1**	**+2.6**
CMJI	**Cimerak**	**1.64**	**74**	P	**Pn**		**14 04 48.6**	**-1.0**
CMJI				S	**Sn**		**14 05 08.4**	**-1.2**
CGJI	**Cibinong**	**1.98**	**324**	P	**Pn**		**14 04 55.0**	**+0.8**
CGJI				S	**Sn**		**14 05 19.0**	**+1.2**
SBJI	**Serang**	**2.22**	**341**	P	**Pn**		**14 04 59.0**	**+1.5**
JCJI	**Jatiwangi**	**2.23**	**39**	P	**Pn**		**14 04 56.9**	**-0.7**
JCJI				S	**Sn**		**14 05 19.3**	**-4.7**
KPJI	**Karang Pucung**	**2.25**	**67**	P	**Pn**		**14 04 58.5**	**+0.7**
XMI	**Christmas Isla**	**2.48**	**207**	P	**Pn**		**14 04 58.8**	**-2.3**
BLSI	**Bandar Lampung**	**3.26**	**331**	P	**Pn**		**14 05 12.1**	**+0.3**
YOGI	**Yogyakarta**	**3.43**	**83**	P	**Pn**		**14 05 14.3**	**+0.1**
KASI	**Kota Agung**	**3.57**	**319**	P	**Pn**		**14 05 15.7**	**-0.3**
UGM	**Wanagama**	**3.65**	**85**	Pn	**Pn**		**14 05 16.3**	**-0.8**
UGM	**Wanagama**	**3.65**	**85**	P	**Pn**		**14 05 17.6**	**+0.5**
UGM	**Wanagama**	**3.65**	**85**	P	**Pn**		**14 05 17.3**	**+0.2**
SMRI	**Semarang**	**3.75**	**72**		**Pn**		**14 05 19.6**	**+1.1**
SMRI	**Semarang**	**3.75**	**72**	P	**Pn**		**14 05 20.2**	**+1.7**
KLI	**Kotabumi**	**3.89**	**329**	P	**Pn**		**14 05 21.6**	**+1.2**
LWLI	**Liwa**	**4.23**	**319**	P	**Pn**		**14 05 25.8**	**+0.6**
MDSI	**Maura Dua**	**4.57**	**324**	P	**Pn**		**14 05 30.4**	**+0.6**
NGJI	**Ngawi**	**4.65**	**80**	P	**Pn**		**14 05 32.0**	**+1.2**
PWJI	**Pagerwojo**	**4.91**	**88**	P	**Pn**		**14 05 35.6**	**+1.2**
MNAI	**Manna**	**5.46**	**315**	Pn	**Pn**		**14 05 39.7**	**-2.3**
MNAI	**Manna**	**5.46**	**315**	P	**Pn**		**14 05 41.1**	**-0.9**
MNAI	**Manna**	**5.46**	**315**	P	**Pn**		**14 05 41.3**	**-0.7**
	631nm,1.5s,2.4nm							
GRJI	**Gresik**	**5.73**	**77**	P	**Pn**		**14 05 44.8**	**-0.9**
	51nm,1.3s,0.3nm							
KSI	**Kapahiang**	**6.22**	**317**	P	**Pn**		**14 05 53.3**	**+0.9**
	96nm,0.5s,0.6nm							
GMJI	**Gumukmas**	**6.52**	**91**	P	**Pn**		**14 05 57.8**	**+1.2**
	48nm,0.9s,0.3nm							
MASI	**Maura Aman, Be**	**6.83**	**318**	P	**Pn**		**14 06 01.8**	**+1.0**
	39nm,1.3s,0.2nm							
JAGI	**Jajag, Banyuwa**	**7.23**	**92**	Pn	**Pn**		**14 06 07.2**	**+0.9**
JAGI	**Jajag, Banyuwa**	**7.23**	**92**	P	**Pn**		**14 06 07.9**	**+1.7**
JAGI	**Jajag, Banyuwa**	**7.23**	**92**	P	**Pn**		**14 06 07.8**	**+1.6**
	31nm,0.4s,0.3nm							
PPSI	**Pulau Pagai**	**8.71**	**308**	P	**Pn**		**14 06 26.7**	**+0.1**
	297nm,1.1s							
TWSI	**Taliwang, Sumb**	**9.93**	**94**	P	**Pn**		**14 06 44.8**	**+1.5**
PLAI	**Plampang**	**10.82**	**94**	P	**Pn**		**14 06 57.0**	**+1.5**
KAPI	**Kappang**	**13.21**	**77**	LR	LR		14 13 18.9	
	comp=Z,143nm,19.2s,baz=253,slow=41							
GSI	**Gunungsitoli**	**13.24**	**315**	P	**Pn**		**14 07 26.2**	**-2.4**
FITZ	**Fitzroy Crossi**	**20.73**	**120**	P	**P**		**14 09 00.4**	**+0.8**
DAV	**Davao City (W)**	**24.08**	**51**	LR	LR		14 22 04.1	
	comp=Z,48nm,18.3s,baz=340,slow=44							
MTN	**Manton Dam**	**24.30**	**103**	P	**P**		**14 09 35.1**	**-1.1**
FAKI	**Fak Fak**	**25.81**	**80**	P	**P**		**14 09 49.4**	**-0.5**
FAKI				IAmb	IAmb		14 09 58.9	
	comp=Z,49nm,1.1s							
PHRA	**Phrae**	**27.35**	**346**	P	**P**		**14 10 02.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**27.65**	**344**	P	**P**		**14 10 03.9**	**-2.4**
	comp=Z,1.1nm,0.7s,baz=180,slow=8.8,SNR=12							
CMAR				LR	LR		14 21 42.2	
	comp=Z,27nm,18.7s,baz=160,slow=38							
	comp=Z,1.1nm,0.7s							
WB0	**Warramunga Arr**	**29.02**	**116**	P	**P**		**14 10 20.1**	**+1.4**
WRA	**Warramunga Arr**	**29.04**	**117**	P	**P**		**14 10 18.9**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=283,slow=12,SNR=13							
	comp=Z,0.8nm,0.5s							
WRAB	**Tennant Creek**	**29.04**	**117**	P	**P**		**14 10 20.0**	**+1.2**
WRAB				IAmb	IAmb		14 11 03.7	
	comp=Z,23nm,1.5s							
WB2	**Warramunga Arr**	**29.05**	**117**	P	**P**		**14 10 20.3**	**+1.5**
WB2				IAmb	IAmb		14 10 47.9	
	comp=Z,24nm,1.5s							
AS31	**Alice Springs**	**30.11**	**124**	P	**P**		**14 10 29.4**	**+1.1**
ASAR	**Alice Springs**	**30.11**	**124**	P	**P**		**14 10 29.5**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=296,slow=8.3,SNR=38							
	comp=Z,0.7nm,0.4s							
ASAR	**Alice Springs**	**30.11**	**124**	P	**P**		**14 10 29.8**	**+1.5**
PALK	**Pallekele**	**30.28**	**300**	LR	LR		14 21 54.7	
	comp=Z,39nm,19.0s,baz=208,slow=35							
H08S2	**Diego Garcia H**	**34.03**	**269**	T	T		14 46 37.1	
	baz=92,slow=75,SNR=24							
H08S3	**Diego Garcia H**	**34.04**	**269**	T	T		14 46 41.9	
	baz=92,slow=75,SNR=22							
TNCH	**TengChong**	**34.04**	**346**	P	**P**		**14 11 05.4**	**+2.6**
TNCH				sP	sP		14 11 26.1	+5.5
TNCH				pmax	pmax			
	comp=Z,8.0nm,0.4s							
TNCH				pmax	pmax			
	comp=Z,76nm,6.8s							
H08S1	**Diego Carcia H**	**34.05**	**269**	T	T		14 46 38.2	
	baz=92,slow=75,SNR=16							
PZH	**PanZhiHua**	**34.88**	**352**	P	**P**		**14 11 11.3**	**+1.3**
PZH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,100nm,4.4s							
STKA	**Stephens Creek**	**39.94**	**131**	P	**P**		**14 11 54.4**	**+1.7**
	comp=Z,1.9nm,0.5s,baz=292,slow=7.9,SNR=6.9							
	comp=Z,1.9nm,0.5s							
STKA	**Stephens Creek**	**39.94**	**131**	P	**P**		**14 11 54.5**	**+1.7**
NJ2	**Nanjing**	**41.67**	**15**	*e*P	**P**		**14 12 06.9**	**+0.1**
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
JSU	**Suzuyama**	**45.51**	**29**	P	**P**		**14 12 36.9**	**-0.9**
JSU				IAmb	IAmb		14 12 37.6	
	comp=Z,22nm,1.3s							
TOO	**Toolangi**	**45.52**	**136**	P	**P**		**14 12 39.9**	**+2.0**
TOO				IAmb	IAmb		14 13 14.9	
	comp=Z,27nm,1.5s							
JTU	**Tsushima**	**47.58**	**25**	P	**P**		**14 12 52.4**	**-1.6**
GTA	**Gaotai**	**47.85**	**353**	*e*P	**P**		**14 12 57.2**	**+1.1**
GTA				pP	pP		14 13 07.8	-0.9
GTA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**49.03**	**5**	*e*P	**P**		**14 13 08.8**	**+3.6**
HHC				pmax	pmax			
	comp=Z,22nm,0.9s							
HHC				pmax	pmax			
	comp=Z,260nm,5.4s							
KSRS	**Korea Array**	**49.54**	**22**	P	**P**		**14 13 06.9**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=196,slow=8.3,SNR=5.1							
	comp=Z,1.7nm,0.8s							
JHS	**Saijyo**	**49.65**	**28**	P	**P**		**14 13 08.9**	**-0.9**
NIL	**Nilore**	**52.47**	**324**	P	**P**		**14 13 30.4**	**-0.7**
NIL				IAmb	IAmb		14 13 31.5	
	comp=Z,6.5nm,0.7s							
MAJO	**Matsushiro**	**53.39**	**31**	P	**P**		**14 13 35.3**	**-2.5**
MAJO				IAmb	IAmb		14 13 54.5	
	comp=Z,12nm,1.2s							
MJB9	**Matsu-Tunnel**	**53.39**	**31**	P	**P**		**14 13 36.1**	**-1.7**
MJB9				IAmb	IAmb		14 13 55.5	
	comp=Z,12nm,1.2s							
WMQ	**Urumqi**	**54.65**	**343**	*e*P	**P**		**14 13 48.7**	**+1.8**
KSH	**Kashi**	**55.46**	**331**	P	**P**		**14 13 52.2**	**-0.7**
KSH				pmax	pmax			
	comp=Z,7.0nm,0.6s							
KBL	**Kabul**	**55.58**	**322**	P	**P**		**14 13 53.0**	**-1.0**
KBL				IAmb	IAmb		14 13 56.5	
	comp=Z,2.9nm,0.8s							
SONM	**Songino Array**	**55.82**	**360**	P	**P**		**14 13 54.7**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=167,slow=8.5,SNR=9.1							
SONM				PcP	**PcP**		**14 14 54.7**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=185,slow=4.4,SNR=8.7							
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**55.82**	**360**	P	**P**		**14 13 54.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**56.93**	**21**	P	**P**		**14 14 01.8**	**-1.3**
CHGR	**Chuyangaron**	**58.35**	**326**	P	**P**		**14 14 11.8**	**-1.6**
CHGR				IAmb	IAmb		14 14 13.5	
	comp=Z,9.3nm,1.0s							
AAK	**Ala-Archa**	**58.60**	**332**	P	**P**		**14 14 13.9**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=152,slow=5.5,SNR=4.2							
	comp=Z,0.9nm,0.7s							
MK31	**Makanchi Array**	**58.99**	**341**	P	**P**		**14 14 15.8**	**-1.9**
MKAR	**Makanchi Array**	**58.99**	**341**	P	**P**		**14 14 16.1**	**-1.6**
	comp=Z,2.1nm,0.5s,baz=150,slow=7.9,SNR=23							
	comp=Z,2.1nm,0.5s							
MKAR	**Makanchi Array**	**58.99**	**341**	P	**P**		**14 14 15.5**	**-2.1**
KKAR	**Karatay Array**	**60.85**	**330**	P	**P**		**14 14 29.3**	**-1.1**
KLR	**Kul'dur**	**61.24**	**18**	P	**P**		**14 14 31.0**	**-1.9**
	comp=Z,1.8nm,0.5s,baz=206,slow=4.9,SNR=9.9							
	comp=Z,1.8nm,0.5s							
KURBB	**Kurchatov Arra**	**63.55**	**340**	P	**P**		**14 14 47.5**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=158,slow=5.7,SNR=24							
KURBB				PcP	**PcP**		**14 15 25.6**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=146,slow=4.2,SNR=4.2							
	comp=Z,2.9nm,0.8s							
GEYT	**Alibeck**	**64.59**	**319**	P	**P**		**14 14 55.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=174,slow=4.8,SNR=4.1							
	comp=Z,1.4nm,0.5s							
GEYT	**Alibeck**	**64.59**	**319**	P	**P**		**14 14 53.8**	**-1.7**
GYA0B	**ALIBECK ARRAY**	**64.59**	**319**	P	**P**		**14 14 54.0**	**-1.4**
GYA0B				IAmb	IAmb		14 15 08.6	
	comp=Z,2.7nm,0.8s							
ZALV	**Zalesovo Beam**	**64.68**	**346**	P	**P**		**14 14 53.7**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=149,slow=6.4,SNR=4.3							
	comp=Z,0.7nm,0.3s							
TCW	**Tory Channel**	**67.66**	**131**	P	**P**		**14 15 15.3**	**+0.2**
BVAR	**Borovoye Array**	**68.44**	**337**	P	**P**		**14 15 19.6**	**-0.1**
	comp=Z,10nm,0.5s,baz=143,slow=8.9,SNR=87							
	comp=Z,10nm,0.5s							
BRVK	**Borovoye**	**68.51**	**337**	P	**P**		**14 15 19.9**	**-0.2**
BRVK				IAmb	IAmb		14 15 21.1	
	comp=Z,6.5nm,0.6s							
KMBO	**Kilima Mbogo**	**69.65**	**272**	LR	LR		14 43 02.3	
	comp=Z,99nm,18.9s,baz=77,slow=33							
ABKAR	**Akbulak array**	**70.39**	**329**	P	**P**		**14 15 31.9**	**+0.1**
ABKAR				IAmb	IAmb		14 15 33.9	
	comp=Z,6.4nm,0.9s							
ABKAR	**Akbulak array**	**70.39**	**329**	P	**P**		**14 15 31.9**	**0.0**
GNI	**Garni**	**74.72**	**315**	LR	LR		14 54 54.3	
	comp=Z,22nm,18.1s

1.2nm,0.3s,baz=180,slow=20,SNR=4.4
STKA LR LR 14 18 44.4
comp=Z,20nm,20.1s,baz=37,slow=43
4.2nm,0.6s
STKA Stephens Creek 7.95 284 P **Pn 14 15 05.1 +0.4**
baz=8.0,SNR=5.0
MOO Moorlands 8.70 197 P **Pn 14 15 16.1 +1.3**
TAU Tasmania Unive 9.11 196 P **Pn 14 15 21.8 +1.3**
QLP Quilpie 9.38 322 P **Pn 14 15 24.9 +0.6**
HTT Hallett 9.80 271 P **Pn 14 15 30.0 -0.1**
INKA Innaminka 10.65 304 P **Pn 14 15 42.6 +0.9**
LCRK Leigh Creek 11.17 286 P **Pn 14 15 49.5 +0.7**
BBOO Buckleboo 12.27 272 P **Pn 14 16 04.2 +0.3**
8.9nm,1.1s
ASAR Alice Springs 18.00 301 P **P 14 17 19.2 -0.9**
0.1nm,0.3s,baz=128,slow=11,SNR=15
0.5nm,0.5s
WRA Warramunga Arr 20.27 310 P Pn 14 17 45.2 -1.6
1.2nm,1.0s,baz=132,slow=9.9,SNR=9.2
1.2nm,1.0s
CMAR Chiang Mai Arr 71.85 308 P **P 14 24 34.3 +1.6**
0.4nm,0.3s,baz=137,slow=5.8,SNR=3.1
0.4nm,0.3s

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*DSN **03** 14:14:04.2±1.5,27°.69N×54°.25E,h10km,ML3.2/4,Error ellipse: s-maj=28.9km s-min=10.5km az=29.0*
*TEH **03** 14:14:14.0,26°.99N×54°.72E,h12km±18km,ML3.4*
*IDC **03** 14:14:19.0±3.9,26°.86N×54°.64E,h76km±48km,mb3.3/8, mbtmp3.6/9,ML2.9/1,MS3.3/7,Error ellipse: s-maj=28.9km s-min=25.2km az=177.0*
ISC 03 14:14:14.9±0.7,27°.02N±0°.05×54°.67E±0°.04,h18km,n53, σ1°76/53,mb3.5/8,MS3.5/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.70**	**338**	Pg		**Pb**	**14 14 28.4**	**-0.2**
LMD1	**Lamerd**	**1.38**	**284**	Pg		**Pb**	**14 14 41.3**	**+1.1**
LMD1				Sg		**Sg**	**14 15 01.8**	**+2.2**
BNDS	**Bandar-Abbas**	**1.39**	**74**	Pg		**Pn**	**14 14 40.7**	**+1.1**
GENO	**Geno**	**1.39**	**74**	Pg		**Pn**	**14 14 40.6**	**+1.0**
GENO				Sg		**Sb**	**14 15 00.0**	**+2.1**
SHME	**Shamm**	**1.63**	**126**	Pg		**Pn**	**14 14 43.2**	**+0.5**
JHRM	**Jahrom**	**1.77**	**327**	Pn		**Pb**	**14 14 48.4**	**+1.5**
BANOM	**Banah**	**1.82**	**126**	P		**Pn**	**14 14 45.8**	**+0.4**
BANOM				S		**Sg**	**14 15 17.5**	**+3.9**
BANOM	**Banah**	**1.82**	**126**	Pg		**Pn**	**14 14 46.2**	**+0.8**
ESRB	**Sir Abu**	**1.83**	**192**	Pn		**Pn**	**14 14 47.0**	**+1.5**
QIR1	**Qir**	**2.05**	**316**	Pn		**Pb**	**14 14 51.7**	**+0.1**
MSFE	**Esma-Masafi**	**2.12**	**141**	Pn		**Pn**	**14 14 50.6**	**+1.0**
NAZ	**Nazwa, Dubai**	**2.21**	**156**	Pn		**Pn**	**14 14 50.8**	**+0.1**
MDH	**Madha**	**2.25**	**139**	Pn		**Pn**	**14 14 52.6**	**+1.3**
FAQ	**Al Faqa, Dubai**	**2.41**	**160**	Pn		**Pn**	**14 14 55.8**	**+2.3**
ASUD	**Al Ashush, Dub**	**2.46**	**166**	Pn		**Pn**	**14 14 54.6**	**+0.5**
UOSS	**Minazif**	**2.48**	**146**	P		**Pn**	**14 14 55.4**	**+1.0**
UOSS	**Minazif**	**2.48**	**146**	Pn		**Pn**	**14 14 55.8**	**+1.3**
HATD	**Hatta, Dubai**	**2.55**	**149**	P		**Pn**	**14 14 57.1**	**+1.7**
HATD	**Hatta, Dubai**	**2.55**	**149**	Pn		**Pn**	**14 14 56.8**	**+1.4**
ASHO	**Ashiyiah**	**2.64**	**151**	P		**Pn**	**14 14 56.8**	**+0.1**
ASHO	**Ashiyiah**	**2.64**	**151**	Pn		**Pn**	**14 14 58.1**	**+1.5**
JRN	**Qarnain Island**	**2.64**	**219**	Pn		**Pn**	**14 14 58.9**	**+2.4**
ALNE	**Al Ain**	**3.11**	**161**	Pn		**Pn**	**14 15 04.2**	**+1.2**
DSBU	**Dashti - Bushe**	**3.31**	**295**	Pn		**Pn**	**14 15 09.0**	**+3.2**
SOHO	**SOHO**	**3.33**	**149**	Pn		**Pn**	**14 15 07.4**	**+1.3**
GHWR	**Ruwais**	**3.45**	**208**	Pn		**Pn**	**14 15 09.5**	**+1.8**
KRBR	**Kerman**	**3.48**	**3**	Pn		**Pn**	**14 15 10.9**	**+2.4**
AHBU	**AHRAM**	**3.51**	**302**	Pn		**Pn**	**14 15 09.0**	**+0.5**
KHGB	**Koh Gabri**	**3.70**	**25**	Pn		**Pn**	**14 15 12.4**	**+1.0**
CHMN	**Cheshme madani**	**3.79**	**41**	Pn		**Pn**	**14 15 14.6**	**+1.8**
MZR	**Muzera**	**4.14**	**195**	Pn		**Pn**	**14 15 18.9**	**+1.6**
UMZA	**Um Al Zommool**	**4.31**	**174**	Pn		**Pn**	**14 15 20.7**	**+1.1**
IMEH	**Mehriz**	**4.36**	**359**	Pn		**Pn**	**14 15 22.6**	**+2.1**
IRAM	**Rameshеh**	**5.17**	**338**	Pn		**Pn**	**14 15 34.2**	**+2.5**
WSAR	**Wadi Sarin**	**5.20**	**136**	P		**Pn**	**14 15 34.5**	**+2.7**
0.4nm,0.3s,baz=324,slow=12,SNR=8.3
WSAR S **Sn 14 16 30.5 -0.9**
2.1nm,0.6s,baz=331,slow=19,SNR=1.2
WSAR LR LR 14 18 16.5
comp=Z,30nm,18.3s,baz=4.5,slow=46
1.6nm,0.5s
YZKH Yazd 5.35 359 Pn **Pn 14 15 35.9 +1.9**
CHBR Chabahar 5.40 104 Pn **Pn 14 15 36.1 +1.5**
NASN Na'in 5.98 345 Pn **Pn 14 15 45.1 +2.3**
SRVN Saravan 6.89 85 Pn **Pn 14 15 56.5 +1.3**
TABS Tabas 6.94 17 Pn **Pn 14 15 58.2 +2.4**
ASAO Ashtian 8.50 333 Pn **Pn 14 16 19.4 +2.0**
BRTR Keskin Array B 21.60 311 P **P 14 19 03.6 -0.3**
1.2nm,0.7s,baz=134,slow=10,SNR=7.2
1.2nm,0.7s
AKTO Aktyubinsk 23.52 5 P **P 14 19 22.1 -1.7**
1.8nm,0.9s,baz=199,slow=6.6,SNR=2.7
AKTO LR LR 14 29 37.2
comp=Z,137nm,18.6s,baz=195,slow=39
1.8nm,0.9s
BELG Belogornoye 25.89 350 P **P 14 19 43.7 -1.9**
3.6nm,0.7s,baz=177,slow=18,SNR=1.7
BELG LR LR 14 34 00.5
comp=Z,38nm,19.1s,baz=139,slow=45
3.6nm,0.7s
BVAR Borovoye Array 28.50 20 P **P 14 20 09.9 +0.9**
0.8nm,0.8s,baz=207,slow=1.6,SNR=3.2
0.8nm,0.8s
ARU Arti 29.52 4 LR LR 14 35 01.1
comp=Z,17nm,18.6s,baz=124,slow=42
KURBB Kurchatov Arra 29.77 31 P **P 14 20 19.7 -0.6**
0.1nm,0.4s,baz=225,slow=7.8,SNR=2.5
0.1nm,0.4s
ZALV Zalesovo Beam 34.87 31 P **P 14 21 04.3 -0.6**
1.0nm,0.6s,baz=238,slow=8.5,SNR=5.2
1.0nm,0.6s
MBAR Mbarara 35.84 224 LR LR 14 38 19.4
comp=Z,112nm,20.1s,baz=22,slow=40
VRAC Vranov 36.75 318 LR LR 14 38 05.3
comp=Z,91nm,18.8s,baz=252,slow=39
FINES FINESS Array B 39.41 339 LR LR 14 41 56.3
comp=Z,114nm,20.7s,baz=222,slow=42
TORD Torodi Ar. Bea 51.29 265 P **P 14 23 15.6 -2.6**
0.6nm,0.9s,baz=56,slow=7.7,SNR=3.4
0.6nm,0.9s
YKA Yellowknife Ar 90.39 355 P **P 14 27 11.7 -3.2**
0.1nm,0.7s,baz=2.6,slow=4.8,SNR=3.6
0.1nm,0.7s

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*IDC **03** 14:15:38.5±3.2,55°.29S×149°.96E,h0km,mb3.9/5, mbtmp3.9/5,MS3.8/15,Error ellipse: s-maj=268.5km s-min=20.3km az=77.0*
ISC 03 14:15:40.0±3.1,55°.3S±0°.4×15°.0E±°,h10km,n33,σ0°63/9, mb3.9/5,MS3.9/15,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**22.70**	**173**	P		**P**	**14 20 40.5**	**-0.8**
2.3nm,1.1s,baz=38,slow=7.8,SNR=2.1
2.3nm,1.1s
STKA Stephens Creek 24.16 343 P **P 14 20 56.9 +0.7**
6.3nm,0.8s,baz=149,slow=10,SNR=3.1
6.3nm,0.8s
H01W1 Cape Leeuwin H 31.91 295 T T 14 54 19.2
baz=142,slow=76,SNR=224
NWAO Narrogin (SRO) 31.91 301 LR LR 14 31 37.0
comp=Z,241nm,19.2s,slow=30
H01W2 Cape Leeuwin H 31.91 295 T T 14 54 21.2
baz=142,slow=76,SNR=247
H01W3 Cape Leeuwin H 31.93 295 T T 14 54 20.4
baz=142,slow=76,SNR=198
ASAR Alice Springs 33.76 333 P **P 14 22 21.2 -0.5**
1.3nm,0.8s,baz=161,slow=9.5,SNR=8.1
1.3nm,0.8s
QSPA South Pole Qui 34.78 180 P **P 14 22 30.9 +0.5**
0.6nm,0.7s,baz=315,slow=18,SNR=2.1
0.6nm,0.7s
CTA Charters Tower 35.29 354 LR LR 14 36 07.8
comp=Z,277nm,18.1s,baz=175,slow=35
DZM Mont Dzumac 35.46 27 LR LR 14 35 34.8
comp=Z,212nm,19.8s,baz=212,slow=34
WRA Warramunga Arr 37.22 335 P **P 14 22 51.0 -0.5**
3.3nm,0.7s,baz=165,slow=7.5,SNR=24
3.3nm,0.7s
MAW Mawson 39.68 217 LR LR 14 37 47.8
comp=Z,228nm,18.0s,baz=176,slow=33
MSVF Nonsavu 43.25 41 LR LR 14 39 23.7
comp=Z,83nm,19.0s,baz=72,slow=33
PMG Port Moresby 45.85 356 LR LR 14 42 17.0
comp=Z,168nm,18.6s,baz=140,slow=35

RAR Rarotonga 50.57 69 LR LR 14 45 05.6
comp=Z,37nm,18.0s,baz=268,slow=35
PPT Papeete 59.08 76 LR LR 14 46 29.7
comp=Z,49nm,20.6s,baz=204,slow=31
GUMO Guam 68.78 355 LR LR 14 54 19.1
comp=Z,35nm,21.9s,baz=124,slow=34
H08S2 Diego Garcia H 76.55 276 T T 15 49 50.8
baz=145,slow=76,SNR=24
H08S1 Diego Carcia H 76.56 276 T T 15 49 34.9
baz=145,slow=76,SNR=24
H08S3 Diego Garcia H 76.57 276 T T 15 49 50.1
baz=145,slow=76,SNR=32
PLCA Paso Flores 78.31 150 LR LR 14 55 53.9
comp=Z,29nm,21.3s,baz=180,slow=31
H03S2 Juan Fernandez 81.88 141 T T 15 59 41.1
baz=202,slow=74,SNR=27
H03S1 Juan Fernandez 81.88 141 T T 15 59 44.1
baz=202,slow=74,SNR=36
H03S3 Juan Fernandez 81.89 141 T T 15 59 38.6
baz=202,slow=74,SNR=26
SUR Sutherland 82.36 222 LR LR 14 58 59.1
comp=Z,66nm,20.1s,baz=167,slow=32
BOSA Boshof 83.92 227 LR LR 14 58 57.9
comp=Z,25nm,20.8s,baz=197,slow=31
PALK Pallekele 84.33 291 LR LR 14 59 03.5
comp=Z,42nm,21.6s,baz=323,slow=31
LBTB Lobatse 86.94 229 LR LR 15 01 03.2
comp=Z,39nm,18.5s,baz=184,slow=31
LSZ Lusaka 94.27 235 LR LR 15 05 38.0
comp=Z,51nm,18.4s,baz=92,slow=32
TORD Torodi Ar. Bea 131.17 223 PKP **PKiKP 14 34 53.5 +0.4**
0.6nm,1.0s,baz=186,slow=2.8,SNR=2.4
FINES FINESS Array B 150.72 305 PKPbc **PKPbc 14 35 30.6 -0.3**
0.9nm,0.5s,baz=85,slow=4.0,SNR=9.2
ARCES ARCESS Array B 151.83 322 PKPbc **PKPbc 14 35 32.9 -0.4**
4.8nm,0.9s,baz=73,slow=4.2,SNR=4.8
GERES GERESS Array B 152.65 275 PKPbc **PKiKP 14 35 36.5 +0.4**
1.6nm,0.8s,baz=174,slow=1.3,SNR=7.1

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*IDC **03** 14:19:37.7±0.7,39°.12N×72°.51E,h0km,mb3.9/16, mbtmp4.0/24,ML3.6/8,MS3.5/2,Error ellipse: s-maj=13.4km s-min=11.5km az=145.0*
*MOS **03** 14:19:38.6±1.7,39°.20N×72°.34E,h46km,mb4.3/14,Error ellipse: s-maj=6.8km s-min=4.0km az=81.3*
*NNC **03** 14:19:40.3±1.2,39°.17N×72°.32E,h0km,mb4.5,mpv4.3, Error ellipse: s-maj=11.1km s-min=7.4km az=166.0*
*KRNET **03** 14:19:42.7±0.1,39°.42N×72°.25E,h14km,mb4.4*
*SOME **03** 14:19:42.2,39°.55N×72°.28E,h10km*
*BJI **03** 14:19:42.4±0.0,39°.36N×72°.32E,h46km,mb4.1/13, mB4.5/5,ML3.9/4,Ms3.8/2,Ms7 3.6/2*
*NEIC **03** 14:19:45.1±2.0,39°.27N±0°.04×72°.35E±0°.06,h42km±6km, mb4.5/47,Error ellipse: s-maj=8.5km s-min=4.0km az=47.0*
ISC 03 14:19:40.7±1.1,39°.17N±0°.03×72°.35E±0°.02,h16km±6km, n231,σ2°07/282,mb4.4/49,37C-43D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.51**	**307**	⇑*i*P		**Pg**	**14 19 49.4**	**-1.6**
baz=80
DRK ⇑*i*S **Sg 14 19 54.6 -3.3**
baz=80
OHH Osh 1.40 14 ⇓*i*P **Pn 14 20 04.4 -1.2**
baz=20
OHH ⇓*i*S **Sb 14 20 20.6 -3.5**
baz=20
OHH Osh 1.40 14 ⇓*i*PG **Pn 14 20 04.4 -1.2**
OHH *i* S **Sb 14 20 20.6 -3.5**
BTK Batken 1.47 308 ⇑*i*P **Pn 14 20 06.3 -0.3**
baz=0.0
BTK ⇑*i*S **Sn 14 20 23.8 -1.7**
baz=0.0
BTK Batken 1.47 308 ⇓*i*PG **Pn 14 20 05.9 -0.7**
BTK *i* S **Sn 14 20 23.4 -2.1**
GAR Garm 1.57 264 **Pb 14 20 10.1 +0.6**
GAR Garm 1.57 264 ⇑*i*P **Pg 14 20 11.0 0.0**
baz=55
GAR ⇑*i*S **Sg 14 20 32.5 +1.0**
baz=55
GAR Garm 1.57 264 *i* PN **Pg 14 20 11.0 0.0**
GAR *i* S **Sg 14 20 32.5 +1.0**
TRKS Terek-Say 2.52 339 ⇑*i*P **Pn 14 20 21.5 +0.3**
baz=38
TRKS ⇑*i*S **Sn 14 20 50.0 -1.8**
baz=38
TRKS Terek-Say 2.52 339 *i* PN **Pn 14 20 21.5 +0.3**
TRKS *i* S **Sn 14 20 50.3 -1.5**
CHGR Chuyangaron 2.53 259 **Pb 14 20 25.3 -0.4**
CHGR Chuyangaron 2.53 259 ⇓*i*P **Pb 14 20 25.9 +0.2**
baz=53
CHGR ⇓*i*S **Sb 14 20 57.6 +1.0**
baz=53
CHGR Chuyangaron 2.53 259 ⇓*i*PN **Pb 14 20 25.9 +0.2**
CHGR *i* S **Sb 14 20 58.4 +1.8**
ARK Arkit 2.64 354 ⇓*i*P **Pn 14 20 24.0 +1.3**
baz=55
ARK ⇓*i*S **Sn 14 20 54.5 0.0**
baz=55
KSH Kashi 2.85 82 P **Pn 14 20 24.8 -0.8**
KSH pP Pb 14 20 27.0 -4.2
KSH S **Sn 14 20 59.0 -0.6**
KSH smax smax
comp=N,820nm,0.7s
KSH smax smax
comp=E,700nm,0.7s
AML Almayashu 3.13 19 P **Pn 14 20 32.5 +2.7**
SNR=304
AML Almayashu 3.13 19 ⇓*e*P **Pn 14 20 31.3 +1.5**
baz=22
AML ⇓*i*S **Sn 14 21 07.2 +0.1**
baz=22
AML Almayashu 3.13 19 ⇓*e*PN **Pn 14 20 32.2 +2.4**
AML *i* S **Sn 14 21 08.6 +1.5**
TAS Tashkent 3.17 314 Pn **Pn 14 20 32.0 +2.2**
TAS Tashkent 3.17 314 ⇓*e*P **Pn 14 20 31.7 +1.8**
baz=11
TAS ⇓*i*S **Sn 14 21 07.8 +0.5**
baz=11
TAS Tashkent 3.17 314 PN **Pn 14 20 32.0 +2.2**
IUG Iuzhnay 3.45 330 *e*Pg **Pb 14 20 39.7 -1.8**
213nm,0.7s
IUG *e*Lg Lg 14 21 20.8
811nm,0.6s
UCH Uchtor 3.48 28 P **Pn 14 20 37.3 +2.7**
SNR=65
UCH Uchtor 3.48 28 ⇓*i*P **Pn 14 20 37.2 +2.7**
baz=31
UCH ⇓*i*S **Sn 14 21 15.9 +0.3**
baz=31
UCH Uchtor 3.48 28 ⇓*i*PN **Pn 14 20 37.2 +2.7**
UCH *i* S **Sn 14 21 17.8 +2.2**
MRKS Merke 3.63 10 *e*Pg **Pb 14 20 41.8 -2.8**
188nm,0.4s
MRKS *e*Lg Lg 14 21 24.2
389nm,0.6s
EKS2 Erkin-Say 3.66 17 P **Pn 14 20 39.8 +3.1**
SNR=54
EKS2 Erkin-Say 3.66 17 ⇓*i*P **Pn 14 20 39.4 +2.7**
baz=19
EKS2 ⇓*e*S **Sn 14 21 19.5 -0.1**
baz=19
EKS2 Erkin-Say 3.66 17 ⇓*i*PN **Pn 14 20 39.4 +2.7**
EKS2 *e*S **Sn 14 21 20.8 +1.2**
DZA Taraz 3.79 349 *e*Pg **Pb 14 20 48.6 +1.3**
224nm,0.3s
DZA *e*Lg Lg 14 21 35.9
349nm,0.3s
AAK Ala-Archa 3.83 25 P **Pn 14 20 42.6 +3.5**
SNR=50
AAK Ala-Archa 3.83 25 Pn **Pn 14 20 41.7 +2.6**
14nm,0.3s,baz=217,slow=5.1,SNR=154
AAK Sn **Sn 14 21 27.9 +3.9**
20nm,0.3s,baz=143,slow=20,SNR=12
26nm,0.3s
AAK Ala-Archa 3.83 25 ⇑*i*P **Pn 14 20 41.9 +2.8**
baz=27
AAK ⇑*i*S **Sn 14 21 24.2 +0.2**
baz=27
AAK Ala-Archa 3.83 25 *i* PN **Pn 14 20 42.0 +2.8**
KBK Karagaybulak 4.01 29 P **Pn 14 20 45.2 +3.6**
SNR=40
KBK Karagaybulak 4.01 29 ⇑*i*P **Pn 14 20 44.6 +3.0**
baz=31
KBK ⇑*e*S **Sn 14 21 28.7 +0.4**
baz=31
FRU1 Bishkek 4.03 25 ⇑*i*P **Pn 14 20 44.7 +2.9**
baz=27
FRU1 ⇑*i*S **Sn 14 21 29.1 +0.4**
baz=27
FRU1 Bishkek 4.03 25 *i* PN **Pb 14 20 47.4 -3.9**
FRU1 *i* S **Sn 14 21 30.4 +1.7**
KK31 Karatay Array 4.16 341 **Pn 14 20 45.9 +2.3**
KK31 Karatay Array 4.16 341 ⇓Pn **Pn 14 20 46.1 +2.5**
20nm,0.2s,baz=146,slow=11,SNR=1001
KK31 ⇓Sn **Sn 14 21 36.5 +4.6**
92nm,0.5s,baz=150,slow=22,SNR=7.9
KK31 Karatay Array 4.16 341 PN **Pn 14 20 45.9 +2.3**
KKAR Karatay Array 4.16 341 Pn **Pn 14 20 45.7 +2.1**
KKAR Karatay Array 4.16 341 Pn **Pn 14 20 45.8 +2.2**
KKAR Karatay Array 4.16 341 ⇑*i*P **Pn 14 20 45.2 +1.6**
baz=41
KKAR ⇑*i*S **Sn 14 21 31.1 -0.8**
baz=41
KKAR Karatay Array 4.16 341 PN **Pn 14 20 45.8 +2.2**
CHMS Chumysh 4.24 25 P **Pn 14 20 48.0 +3.4**
SNR=48
CHMS Chumysh 4.24 25 ⇑Pn **Pn 14 20 46.5 +1.9**
17nm,0.3s
CHMS ⇑Pg **Pb 14 20 57.6 +2.7**
58nm,0.7s
CHMS ⇑Sn **Sn 14 21 37.1 +3.3**
92nm,0.7s
CHMS Chumysh 4.24 25 ⇑*i*P **Pn 14 20 47.4 +2.8**
baz=27
CHMS ⇑*i*S **Sn 14 21 34.0 +0.2**
baz=27
CHMS Chumysh 4.24 25 *i* PN **Pn 14 20 47.4 +2.8**
CHMS *i* S **Sn 14 21 34.8 +1.0**
ULHL Ulahol 4.28 43 P **Pn 14 20 48.0 +2.7**
SNR=27
ULHL Ulahol 4.28 43 ⇑*i*P **Pn 14 20 48.2 +2.9**
baz=46
ULHL ⇑*i*S **Sn 14 21 36.4 +1.4**
baz=46
ULHL Ulahol 4.28 43 *i* PN **Pn 14 20 48.2 +2.9**
ULHL *i* S **Sn 14 21 37.4 +2.4**
USP Ospenovka 4.41 21 P **Pn 14 20 50.1 +3.2**
SNR=23
USP Ospenovka 4.41 21 ⇑*e*P **Pn 14 20 49.5 +2.5**
baz=23
USP ⇑*i*S **Sn 14 21 37.8 -0.2**
baz=23
USP Ospenovka 4.41 21 *e*PN **Pn 14 20 49.5 +2.5**
USP *i* S **Sn 14 21 38.6 +0.6**
TKM2 Tokmak 2 4.49 32 P **Pn 14 20 51.2 +3.0**
SNR=20
TKM2 Tokmak 2 4.49 32 ⇑Pn **Pn 14 20 50.2 +2.0**
6.9nm,0.3s
TKM2 ⇓Pg **Pb 14 21 02.5 +3.3**
29nm,0.5s
TKM2 ⇓Lg Lg 14 22 01.4
108nm,0.7s
TKM2 Tokmak 2 4.49 32 ⇓*i*P **Pn 14 20 50.9 +2.7**
baz=35
TKM2 ⇓*i*S **Sn 14 21 40.5 +0.3**
baz=35
TKM2 Tokmak 2 4.49 32 ⇓*i*PN **Pn 14 20 50.9 +2.7**
TKM2 *i* S **Sn 14 21 42.3 +2.1**
SGDS Sogindy 4.61 21 *e*PN **Pb 14 21 01.0 -0.3**
KST Kastek 4.74 34 *e*Pg **Pb 14 21 04.9 +1.4**
14nm,0.4s
KST *e*Lg Lg 14 22 04.3
140nm,0.7s
DGS Degeres 4.83 31 *e*Pg **Pb 14 21 06.8 +1.9**
31nm,0.4s
DGS *e*Lg Lg 14 22 08.2
42nm,0.7s
TARG Taragay, Kyrgy 4.90 57 **Pn 14 20 55.6 +1.6**
TARG Taragay, Kyrgy 4.90 57 PN **Pn 14 20 55.6 +1.6**
KRBS Karabastau 5.17 28 *e*Pg **Pb 14 21 12.8 +2.0**
10nm,0.4s
KRBS *e*Lg Lg 14 22 17.7
52nm,0.9s
KBL Kabul 5.32 211 Pn **Pn 14 21 03.8 +4.1**
KBL Kabul 5.32 211 PN **Pn 14 21 03.8 +4.1**
KNDC Almaty 5.34 39 ⇓Pn **Pn 14 21 01.3 +1.4**
9.9nm,0.3s
KNDC ⇑Pg **Pb 14 21 17.6 +3.9**
79nm,0.7s
KNDC ⇓Lg Lg 14 22 33.0
328nm,0.8s
KNDC Almaty 5.34 39 PN **Pn 14 21 01.3 +1.4**
KNDC PG **Pb 14 21 17.6 +3.9**
MDOK Medeo 5.35 40 ⇓Pn **Pn 14 21 02.9 +2.9**
16nm,0.7s
MDOK ⇓Pg **Pb 14 21 17.6 +3.8**
44nm,0.6s
MDOK ⇑Lg Lg 14 22 24.6
88nm,0.6s
MDOK Medeo 5.35 40 *e*Pg **Pb 14 21 16.3 +2.5**
16nm,0.9s
MDOK *e*Lg Lg 14 22 23.6
84nm,0.5s
MDOK Medeo 5.35 40 PN **Pn 14 21 02.8 +2.9**
MDOK PG **Pb 14 21 17.6 +3.8**
CEP Cherat 5.35 184 P Pn 14 21 08.1 +8.1
CEP S **Sb 14 22 12.0 -5.9**
CHCP Chirah Chowk 5.55 172 P Pn 14 21 09.5 +6.8
NIL Nilore 5.56 172 Pn **Pn 14 21 07.5 +4.7**
NIL Nilore 5.56 172 PN **Pn 14 21 07.5 +4.7**
KUU Kurty 5.59 31 *e*Pg **Pb 14 21 19.9 +1.9**
6.3nm,0.5s
KUU *e*Lg Lg 14 22 29.3
34nm,0.7s
CHKK Chushkaly 5.84 35 *e*Pg **Pb 14 21 25.1 +2.9**
8.2nm,0.4s
CHKK *e*Lg Lg 14 22 39.1
77nm,0.8s
BTLS Baital 6.00 12 *e*Pg **Pb 14 21 24.0 -0.9**
5.9nm,0.3s
BTLS *e*Lg Lg 14 22 37.1
26nm,1.2s
THW Thamme Wali 6.38 184 P Pn 14 21 20.3 +6.2
JMU Jammu 6.77 161 *e*P **Pn 14 21 18.8 -0.5**
JMU *e*S **Sn 14 22 38.6 +2.5**
SMLA Simla 8.95 152 *e*P **Pn 14 21 46.3 -3.0**
SMLA *e*S **Sn 14 23 32.5 +2.9**
SMLA IAML 14 23 38.8
comp=N,47nm,0.3s
SMLA IAML 14 23 38.8
comp=E,53nm,0.6s
OTUK Ortayu 9.07 0 ⇑Pn **Pn 14 21 51.6 +0.6**
comp=E,4.8nm,0.6s
OTUK ⇑Pg 14 22 24.1
comp=E,5.1nm,0.6s
OTUK ⇑Lg Lg 14 24 25.4
comp=E,61nm,1.1s
OTUK Ortayu 9.07 0 P **Pn 14 21 51.5 +0.6**
HRA Herat 9.39 243 Pn **Pn 14 21 58.3 +2.7**
MAKZ Makanchi 10.39 40 Pn **Pn 14 22 10.8 +1.7**
MAKZ Makanchi 10.39 40 ⇓Pn **Pn 14 22 11.2 +2.1**
comp=E,5.4nm,0.7s
MAKZ ⇓Lg Lg 14 25 10.2
comp=E,12nm,1.1s
MAKZ Makanchi 10.39 40 P **Pn 14 22 10.8 +1.7**
MK31 Makanchi Array 10.54 41 Pn **Pn 14 22 13.3 +2.2**
MK31 Makanchi Array 10.54 41 Pn **Pn 14 22 13.3 +2.2**
comp=E,3.0nm,0.6s,baz=219,slow=14,SNR=40
MK31 ⇓Lg Lg 14 25 16.5
comp=E,2.8nm,0.6s,baz=222,slow=30,SNR=3.7
MK31 Makanchi Array 10.54 41 *i* P **Pn 14 22 13.1 +2.0**
MKAR Makanchi Array 10.54 41 Pn **Pn 14 22 10.5 -0.6**
comp=E,0.3nm,0.3s,baz=219,slow=13,SNR=26
MKAR Lg Lg 14 25 10.7
comp=E,0.2nm,0.3s,baz=252,slow=28,SNR=3.7
comp=E,1.7nm,0.6s
MKAR Makanchi Array 10.54 41 **Pn 14 22 13.2 +2.1**
MKAR Makanchi Array 10.54 41 P **Pn 14 22 13.2 +2.1**
GEYT Alibeck 11.20 268 Pn **Pn 14 22 21.0 +0.8**
comp=E,1.3nm,0.3s,baz=95,slow=9.5,SNR=12
GEYT Sn **Sn 14 24 21.9 -3.2**
comp=E,0.5nm,0.3s,baz=86,slow=20,SNR=1.6
GEYT LR LR 14 27 35.2
comp=E,143nm,18.8s,baz=114,slow=42
comp=E,2.2nm,0.3s
GYA0 ALIBECK ARRAY 11.20 268 P **Pn 14 22 23.2 +3.0**
GYA0B ALIBECK ARRAY 11.20 268 Pn **Pn 14 22 20.9 +0.8**
GYA0B ALIBECK ARRAY 11.20 268 ⇑Pn **Pn 14 22 23.2 +3.1**
GYA0B ⇓Sn **Sn 14 24 27.5 +2.4**
KUDL Kundal 11.53 161 *e*P **Pn 14 22 24.4 -0.2**

KUDL eS Sn 14 24 28.2 -4.9
KURBB **Kurchatov Arra** 12.26 19 Pn Pn 14 22 33.2 -1.3
comp=E,0.3nm,0.3s,baz=212,slow=12,SNR=30
KURBB Lg Lg 14 26 00.1
comp=E,0.1nm,0.3s,baz=283,slow=35,SNR=3.8
comp=E,0.8nm,0.4s
KURBB **Kurchatov Arra** 12.26 19 ⇑Pn Pn 14 22 33.6 -0.9
comp=E,2.6nm,0.4s
KURBB ⇓Lg Lg 14 26 09.3
comp=E,39nm,1.0s
KURBB **Kurchatov Arra** 12.26 19 P Pn 14 22 33.6 -0.9
KURK **Kurchatov** 12.37 19 P Pn 14 22 33.2 -2.8
AB31 **Akbulak array** 13.42 323 Pn Pn 14 22 49.2 -1.1
comp=E,9.1nm,0.5s,baz=130,slow=12,SNR=472
AB31 ⇓Sn Sn 14 25 17.6 -1.5
comp=E,9.2nm,0.7s,baz=131,slow=25,SNR=5.9
AB31 **Akbulak array** 13.42 323 P Pn 14 22 49.2 -1.1
ABKAR **Akbulak array** 13.42 323 Pn Pn 14 22 49.0 -1.3
BVA0 **Borovoye Array** 13.92 355 Pn Pn 14 22 55.8 -1.4
comp=E,0.2nm,0.4s,baz=161,slow=12,SNR=29
BVA0 ⇓Lg Lg 14 27 02.6
BVA0 **Borovoye Array** 13.92 355 P Pn 14 22 57.5 +0.3
BVAR **Borovoye Array** 13.92 355 Pn Pn 14 22 55.6 -1.6
comp=E,0.2nm,0.3s,baz=157,slow=12,SNR=27
BVAR Lg Lg 14 26 53.1
baz=153,slow=23
comp=E,2.9nm,0.5s
BRVK **Borovoye** 13.96 355 Pn Pn 14 22 56.2 -1.5
BRVK **Borovoye** 13.96 355 ⇓Pn Pn 14 22 56.1 -1.6
comp=E,5.6nm,1.1s
BRVK ⇓Lg Lg 14 27 05.7
comp=E,10.0nm,0.9s
BRVK **Borovoye** 13.96 355 *i* P Pn 14 22 56.1 -1.6
BRVK pmax pmax
comp=Z,10.0nm,1.7s
DANN **Dangsing** 14.37 135 *eP* Pn 14 23 00.5 -3.2
comp=Z,16nm,0.4s
KOLN **Koldanda** 14.74 137 *eP* Pn 14 23 05.5 -3.2
DGZ **Jazzator, Alta** 15.04 41 *i* P Pn 14 23 13.0 +0.4
DGZ pmax pmax
comp=Z,6.0nm,0.8s
GKN **Gorkha** 15.12 134 *eP* Pn 14 23 10.5 -3.3
comp=Z,8.5nm,0.3s
AKTO **Aktyubinsk** 15.13 323 Pn Pn 14 23 12.1 -1.6
comp=Z,1.4nm,0.3s,baz=117,slow=11,SNR=24
AKTO Sn Sn 14 25 48.9 -12
comp=Z,0.3nm,0.3s,baz=229,slow=23,SNR=1.8
comp=Z,6.9nm,0.5s
AKTO **Aktyubinsk** 15.13 323 ⇑Pn Pn 14 23 12.7 -1.0
comp=Z,14nm,1.1s
AKTO ⇓Sn Sn 14 25 59.3 -1.7
comp=Z,2.6nm,0.6s
DMN **Daman** 15.69 133 *eP* Pn 14 23 17.9 -3.5
comp=Z,7.4nm,0.4s
PKIN **Phulchoki** 15.88 133 *eP* Pn 14 23 20.3 -3.5
comp=Z,4.3nm,0.4s
PKI **Pulchoki** 15.89 133 *eP* Pn 14 23 20.5 -3.5
JIRN **Jiri** 16.28 131 *eP* Pn 14 23 24.7 -4.3
comp=Z,4.4nm,0.3s
RAMN **Ramite** 17.05 131 *eP* Pn 14 23 34.1 -4.6
comp=Z,8.1nm,0.6s
ZAA0 **Zalesovo Array** 17.05 26 Pn Pn 14 23 37.0 -1.3
ZAA0 **Zalesovo Array** 17.05 26 ⇑Pn P 14 23 40.6 +0.5
comp=Z,0.8nm,0.7s
ZALV **Zalesovo Beam** 17.05 26 P Pn 14 23 36.0 -2.3
comp=Z,0.5nm,0.3s,baz=215,slow=11,SNR=18
comp=Z,3.6nm,0.7s
ZALV **Zalesovo Beam** 17.05 26 Pn Pn 14 23 36.8 -1.5
ZALV **Zalesovo Beam** 17.05 26 P Pn 14 23 36.8 -1.5
GOMU **GeErMu** 18.04 92 P Pn 14 23 51.6 +0.6
GOMU sP sP 14 24 08.0 +8.5
GOMU pmax pmax
comp=Z,3.0nm,0.9s
ARU **Arti** 19.52 337 P Pn 14 24 07.8 -0.7
baz=148,slow=9.3,SNR=10
comp=Z,3.4nm,0.5s
ARU **Arti** 19.52 337 Pn Pn 14 24 08.8 +0.3
ARU **Arti** 19.52 337 *d iP* Pn 14 24 09.2 +0.8
ARU S S 14 27 52.5 +5.5
ARU pmax pmax
comp=Z,11nm,1.2s
GNI **Garni** 21.23 281 P P 14 24 27.0 +1.0
comp=Z,4.1nm,0.5s,baz=37,slow=4.6,SNR=2.3
comp=Z,4.1nm,0.5s
GNI **Garni** 21.23 281 P P 14 24 27.2 +1.1
GNI IAmb IAmb 14 24 37.7
comp=Z,19nm,0.8s
GNI **Garni** 21.23 281 P P 14 24 27.2 +1.1
GNI pmax pmax
comp=Z,19nm,0.9s
BELG **Belogornoye** 21.58 316 P P 14 24 30.0 +0.5
comp=Z,12nm,0.7s,baz=108,slow=19,SNR=7.3
comp=Z,12nm,0.7s
BELG **Belogornoye** 21.58 316 *i* P P 14 24 29.9 +0.5
BELG pmax pmax
comp=Z,5.0nm,0.7s
ZEI **Tsey** 21.72 289 *eP* P 14 24 36.4 +5.1
ZEI pmax pmax
comp=Z,5.0nm,0.7s
ONI **Oni** 22.05 288 P P 14 24 35.5 +0.8
ONI IAmb IAmb 14 24 42.2
comp=Z,13nm,1.0s
ONI **Oni** 22.05 288 P P 14 24 35.5 +0.8
ONI pmax pmax
comp=Z,13nm,1.0s
KBZ **Khabaz** 22.46 291 P P 14 24 39.1 +0.1
comp=Z,1.4nm,0.8s,baz=117,slow=11,SNR=1.6
comp=Z,1.4nm,0.8s
KBZ **Khabaz** 22.46 291 *i* P P 14 24 38.8 -0.2
KBZ pmax pmax
comp=Z,10.0nm,1.9s
KIV **Kislovodsk** 22.62 292 ⇓*eP* P 14 24 42.9 +2.0
KIV 14 25 06.0
KIV PPP PPP 14 25 15.0
KIV *eS* S 14 28 48.4 +0.3
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,26nm,13.0s
ZAK **Zakamensk** 24.49 53 *eP* P 14 24 59.3 +0.2
ZAK pmax pmax
comp=Z,5.0nm,0.9s
SONM **Songino Array** 26.01 59 P P 14 25 11.7 -1.3
comp=Z,1.8nm,0.6s,baz=261,slow=8.8,SNR=13
comp=Z,1.8nm,0.6s
SONM **Songino Array** 26.01 59 P P 14 25 13.2 +0.3
SONM **Songino Array** 26.01 59 P P 14 25 13.2 +0.3
SONM pmax pmax
comp=Z,3.0nm,1.1s
TNCH **TengChong** 26.17 115 P P 14 25 14.1 -0.6
TNCH PP PnPn 14 25 56.3 +3.0
TNCH S S 14 29 37.1 -9.0
TNCH pmax pmax
comp=Z,9.0nm,0.9s
TNCH pmax pmax
comp=Z,100nm,5.7s
TNCH LR LR
comp=Z,120nm,7.7s
TNCH LR LR
comp=Z,100nm,7.8s
TNCH LR LR
comp=Z,100nm,5.3s
ULN **Ulaanbaatar** 26.45 59 P P 14 25 17.0 0.0
ULN **Ulaanbaatar** 26.45 59 *i* P P 14 25 17.6 +0.6
ULN pmax pmax
comp=Z,4.0nm,0.9s
BRTR **Keskin Array B** 29.73 284 P P 14 25 46.4 0.0
comp=Z,0.3nm,0.5s,baz=86,slow=5.8,SNR=2.4
comp=Z,0.3nm,0.5s
CRAI **Chiangrai** 30.63 120 P P 14 25 53.2 -1.1
CMAR **Chiang Mai Arr** 30.95 124 P P 14 25 56.0 -1.1
comp=Z,0.4nm,0.3s,baz=319,slow=9.5,SNR=2.0
comp=Z,0.4nm,0.3s
CMAR **Chiang Mai Arr** 30.95 124 P P 14 25 56.0 -1.1
PHRA **Phrae** 31.75 122 P P 14 26 03.5 -0.7
AKASG **Malin Array Be** 32.18 305 P P 14 26 07.3 -0.3
comp=Z,0.2nm,0.2s,baz=76,slow=7.1,SNR=1.7
comp=Z,0.2nm,0.2s
AKBB **Malin Array Si** 32.18 305 *i* P P 14 26 10.2 +2.6
NACGM **Naroch** 34.11 313 *eP* P 14 26 23.8 -0.6
comp=Z,14nm,1.3s,baz=98
MLR **Muntele Rosu** 34.48 296 LR LR 14 44 42.0
comp=Z,106nm,19.6s,baz=262,slow=43
BURAR **Bucovina Array** 34.80 300 P P 14 26 30.0 -0.6
BURAR **Bucovina Array** 34.80 300 P P 14 26 30.0 -0.6
FINES **FINESS Array B** 35.91 324 P P 14 26 40.3 +0.5
comp=Z,0.7nm,0.3s,baz=116,slow=8.4,SNR=12
comp=Z,0.7nm,0.3s
FINES **FINESS Array B** 35.91 324 P P 14 26 40.4 +0.6
FINES **FINESS Array B** 35.91 324 *i* P P 14 26 41.0 +1.2
FINES pmax pmax
comp=Z,1.0nm,0.3s
ARCES **ARCESS Array B** 39.11 336 P P 14 27 09.0 +2.2
comp=Z,4.3nm,0.8s,baz=106,slow=7.8,SNR=9.8
comp=Z,4.3nm,0.8s
ARCES **ARCESS Array B** 39.11 336 P P 14 27 08.0 +1.2
ARCES **ARCESS Array B** 39.11 336 P P 14 27 09.0 +2.2
ITM **Ithomi** 39.26 283 P P 14 27 09.1 +0.5
ITM IAmb IAmb 14 27 18.7
comp=Z,11nm,1.0s
ZEA **Zeya** 39.52 50 *i* P P 14 27 12.8 +2.4
HEH **HeiHe** 39.83 55 *eP* P 14 27 12.8 -0.2
HEH pmax pmax
comp=Z,8.0nm,0.8s
KLR **Kul'dur** 42.75 56 *ceP* P 14 27 36.3 -0.8
KLR pmax pmax
comp=Z,5.0nm,1.6s
NC303 **NORSAR Array S** 42.85 322 P P 14 27 38.5 +0.8
NB201 **NORSAR Array S** 42.88 321 P P 14 27 39.0 +0.9
NB201 IAmb IAmb 14 27 44.5
comp=Z,35nm,1.5s
TIXI **Tiksi** 42.91 23 P P 14 27 37.8 -0.2
TIXI **Tiksi** 42.91 23 *ceP* P 14 27 36.7 -1.3
TIXI pmax pmax
comp=Z,4.0nm,1.0s
NB2 **NORSAR Subarra** 42.92 321 P P 14 27 38.9 +0.5
comp=Z,1.2nm,0.6s,baz=92,slow=8.6
NOA **NORSAR Array B** 42.92 321 P P 14 27 37.9 -0.5
comp=Z,1.0nm,0.8s,baz=101,slow=7.3,SNR=2.2
comp=Z,1.0nm,0.8s
NC204 **NORSAR Array S** 43.15 322 P P 14 27 40.5 +0.3
FUORN **Ofenpass-Fuorn** 45.03 301 P P 14 27 55.3 -0.4
FUORN IAmb IAmb 14 28 15.9
comp=Z,8.3nm,1.4s
JMN **Monobe** 48.98 76 P P 14 28 27.5 +1.0
KAPI **Kappang** 62.01 124 P P 14 30 00.3 0.0
KAPI **Kappang** 62.01 124 P P 14 30 00.3 0.0
KAPI pmax pmax
comp=Z,34nm,1.3s
TORD **Torodi Ar. Bea** 66.84 268 P P 14 30 32.5 +0.5
comp=Z,0.6nm,0.4s,baz=46,slow=5.1,SNR=6.4
comp=Z,0.6nm,0.4s
TORD **Torodi Ar. Bea** 66.84 268 P P 14 30 32.8 +0.8
IMAR **Indian Mountai** 69.31 18 P P 14 30 46.8 0.0
BMAR **Burnt Mountain** 70.10 14 P P 14 30 53.0 +1.3
I21K **Tanana** 70.40 18 P P 14 30 54.3 +0.8
I21K IAmb IAmb 14 31 09.5
comp=Z,4.1nm,1.4s
J20K **Nowinta River** 70.67 20 P P 14 30 55.9 +0.7
J20K IAmb IAmb 14 30 59.7
comp=Z,3.8nm,1.2s
I23K **Minto, Yukon-K** 71.04 17 P P 14 30 58.2 +0.8
I23K IAmb IAmb 14 31 13.0
comp=Z,5.5nm,1.5s
INK **Inuvik** 71.10 10 P P 14 30 57.8 +0.1
comp=Z,1.9nm,0.9s,baz=341,slow=8.3,SNR=10
comp=Z,1.9nm,0.9s
INK **Inuvik** 71.10 10 P P 14 30 58.3 +0.6
INK IAmb IAmb 14 31 06.6
comp=Z,5.0nm,1.4s
INK **Inuvik** 71.10 10 P P 14 30 58.3 +0.6
INK pmax pmax
comp=Z,5.0nm,1.4s
C36M **Paulatuk** 71.12 6 P P 14 30 56.8 -0.9
C36M IAmb IAmb 14 30 56.9
comp=Z,7.1nm,0.9s
K20K **Telida** 71.35 20 P P 14 31 00.0 +0.7
K20K IAmb IAmb 14 31 31.8
comp=Z,3.8nm,1.2s
MDM **Murphy Dome** 71.46 17 P P 14 31 00.5 +0.5
BPAW **Bear Paw Mtn.** 71.53 19 P P 14 30 59.4 -1.0
BPAW IAmb IAmb 14 31 17.6
comp=Z,5.0nm,1.3s
CAST **Castle Rocks** 71.82 19 P P 14 31 02.7 +0.6
ILAR **Eielson Array** 71.92 17 P P 14 31 01.8 -1.0
comp=Z,0.5nm,0.7s,baz=317,slow=6.3,SNR=8.2
ILAR PP PP 14 33 40.8 -1.1
comp=Z,0.1nm,0.6s,baz=337,slow=6.9,SNR=4.1
comp=Z,0.5nm,0.7s
KTH **Kantishna Hill** 72.00 19 P P 14 31 03.6 +0.3
KTH IAmb IAmb 14 31 04.5
comp=Z,4.4nm,1.0s
PPLA **Purkeypile** 72.22 20 P P 14 31 04.9 +0.2
PPLA IAmb IAmb 14 31 38.6
comp=Z,14nm,1.5s
TRF **Thorofare Moun** 72.25 19 P P 14 31 04.6 -0.3
TRF IAmb IAmb 14 31 23.3
comp=Z,8.0nm,1.3s
MCK **McKinley** 72.34 18 P P 14 31 04.8 -0.5
MCK **McKinley** 72.34 18 P P 14 31 04.8 -0.5
MCK pmax pmax
comp=Z,3.0nm,1.4s
CUT **Chulitna** 73.13 19 P P 14 31 09.5 -0.4
SKT **Skwentna** 73.15 20 P P 14 31 09.6 -0.5
SKT IAmb IAmb 14 31 17.4
comp=Z,5.1nm,1.1s
RIDG **Independent Ri** 73.27 16 P P 14 31 10.1 -0.8
RIDG IAmb IAmb 14 31 33.1
comp=Z,10nm,1.5s
DHY **Denali Highway** 73.27 18 P P 14 31 10.3 -0.6
DHY IAmb IAmb 14 31 51.9
comp=Z,6.4nm,1.5s
SUA **Susitna One** 73.79 20 P P 14 31 13.9 -0.2
SUA IAmb IAmb 14 31 52.0
comp=Z,6.1nm,1.2s
SML **Sawmill** 74.12 19 P P 14 31 16.0 +0.1
SML IAmb IAmb 14 31 22.9
comp=Z,10nm,1.1s
SML **Sawmill** 74.12 19 P P 14 31 15.0 -0.9
SML pmax pmax
comp=Z,10.0nm,1.1s
SCM **Sheep Creek Mo** 74.35 18 P P 14 31 17.3 +0.1
SCM IAmb IAmb 14 31 58.0
comp=Z,19nm,1.5s
SCM **Sheep Creek Mo** 74.35 18 P P 14 31 17.3 +0.1
SCM pmax pmax
comp=Z,19nm,1.5s
M24K **Tolsona, Glenn** 74.39 18 P P 14 31 18.2 +0.7
UNV **Unalaska Valle** 74.43 32 P P 14 31 17.1 -0.6
BCAR **Beaver Creek A** 74.52 15 P P 14 31 19.0 +0.9
HYT **Haines Junctio** 77.41 14 P P 14 31 35.7 +0.9
HYT IAmb IAmb 14 32 09.7
comp=Z,8.0nm,1.5s
YKU2 **Yakutat** 78.17 16 P P 14 31 38.1 -0.7
YKA **Yellowknife Ar** 78.53 3 P P 14 31 40.2 -0.6
comp=Z,1.4nm,0.8s,baz=349,slow=5.6,SNR=22
comp=Z,1.4nm,0.8s
YKA **Yellowknife Ar** 78.53 3 P P 14 31 40.5 -0.3
YKA **Yellowknife Ar** 78.53 3 P P 14 31 40.5 -0.3
WRA **Warramunga Arr** 82.54 123 P P 14 32 02.2 -0.6
comp=Z,1.3nm,0.7s,baz=322,slow=5.3,SNR=14
comp=Z,1.3nm,0.7s
WRA **Warramunga Arr** 82.54 123 P P 14 32 02.5 -0.4
WRA **Warramunga Arr** 82.54 123 P P 14 32 02.5 -0.4
WRAB **Tennant Creek** 82.54 123 P P 14 32 02.3 -0.6
WRAB IAmb IAmb 14 32 05.2
comp=Z,9.1nm,1.3s
WRAB **Tennant Creek** 82.54 123 P P 14 32 02.3 -0.6
WRAB pmax pmax
comp=Z,9.0nm,1.3s
WB2 **Warramunga Arr** 82.54 123 P P 14 32 02.5 -0.4
WR0 **Warramunga Arr** 82.68 123 P P 14 32 02.7 -0.9
WR0 IAmb IAmb 14 32 10.0
comp=Z,14nm,1.3s
ASAR **Alice Springs** 84.94 126 P P 14 32 13.3 -1.8
comp=Z,0.7nm,0.7s,baz=319,slow=4.5,SNR=9.3
comp=Z,0.7nm,0.7s
ASAR **Alice Springs** 84.94 126 P P 14 32 15.2 0.0
ASAR **Alice Springs** 84.94 126 P P 14 32 15.2 0.0
BDFB **Brasilia** 123.15 277 PKP PKiKP 14 38 38.2 +0.8
comp=Z,1.7nm,0.4s,baz=18,slow=12,SNR=3.3

*MOS **03** 14:36:46.6±0.0, 42.°52N×46.°50E, h42km, MPVA3.4*
*DRS **03** 14:36:47.3±0.0, 42.°46N×46.°22E, h19km*
*NORS **03** 14:36:47.2±0.0, 42.°42N×46.°26E, h25km, MPVA3.5*
ISC 03 14:36:47.7±1.3, 42.°57N±0.°03×46.°47E±0.°03, h8km±11km, n18, σ1°974/36, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNCR	**Uncukul**	**0.28**	**59**	*i* Pg	**Pn**	**14 36 56.7**	**-1.5**
UNCR				*e*Sg	**Sb**	**14 37 04.1**	**+4.3**
ARKR	**Arakani**	**0.39**	**85**	*e*Pg	**Pb**	**14 36 58.0**	**+1.2**
ARKR				*e*Sg	**Sb**	**14 37 05.6**	**+2.6**
KRNR	**Karanay**	**0.41**	**51**	*i* Pg	**Pb**	**14 36 57.8**	**+0.5**
KRNR				*e*Sg	**Sb**	**14 37 05.8**	**+2.1**
DVE	**Vedeno**	**0.46**	**327**	*e*Pg	**Pn**	**14 36 59.6**	**-1.1**
DVE				*e*Sg	**Sb**	**14 37 08.7**	**+3.6**
DLMR	**Dylym**	**0.51**	**13**	*e*Pg	**Pb**	**14 36 59.1**	**+0.2**
DLMR				*e*Sg	**Sn**	**14 37 08.6**	**-1.7**
DBC	**Dubki**	**0.52**	**30**	*i* Pg	**Pb**	**14 36 58.9**	**-0.2**
DBC				*e*Sg	**Sb**	**14 37 08.0**	**+1.2**
BUJR	**Buynaksk**	**0.53**	**62**	*e*Pg	**Pb**	**14 36 59.3**	**0.0**
BUJR				*e*Sg	**Sb**	**14 37 09.1**	**+1.9**
KMKR	**Kumukh**	**0.64**	**133**	*i* Pg	**Pg**	**14 36 59.8**	**-0.4**
KMKR				*e*Sg	**Sb**	**14 37 10.7**	**+0.3**
LGD	**Lagodekhi**	**0.76**	**193**	P	**Pn**	**14 37 03.9**	**-0.8**
LGD				S	**Sn**	**14 37 16.8**	**+0.6**
GROC	**Groznyy**	**0.80**	**322**	*e*Pg	**Pn**	**14 37 05.5**	**+0.2**
GROC				*e*Sg	**Sn**	**14 37 17.3**	**-0.1**
URKR	**Urkarakh**	**0.95**	**115**	*e*Pg	**Pg**	**14 37 04.9**	**-1.1**
URKR				*e*Sg	**Sg**	**14 37 18.6**	**+0.2**
DDFL	**Dedoflistskaro**	**1.16**	**193**	P	**Pn**	**14 37 09.9**	**-0.3**
DDFL				S	**Sn**	**14 37 29.9**	**+3.7**
PNSH	**Pansheti**	**1.37**	**273**	P	**Pn**	**14 37 12.4**	**-0.9**
PNSH				S	**Sn**	**14 37 31.3**	**-0.4**
DGRG	**David-gareji**	**1.39**	**217**	P	**Pg**	**14 37 14.7**	**+0.3**
DGRG				S	**Sg**	**14 37 32.8**	**+0.5**
AKT	**Akhty**	**1.44**	**139**	*e*Pg	**Pn**	**14 37 12.1**	**-2.1**
AKT				*e*Sg	**Sn**	**14 37 31.3**	**-2.0**
KSMR	**Kasumkent**	**1.57**	**128**	*e*Pg	**Pn**	**14 37 14.1**	**-1.8**
KSMR				*e*Sg	**Sn**	**14 37 35.3**	**-1.1**
LACR	**Lac**	**1.62**	**280**	*e*Pg	**Pn**	**14 37 15.3**	**-1.4**
LACR				*e*Sg	**Sb**	**14 37 37.0**	**-1.6**
DIGR	**Digorskoe uzhe**	**2.15**	**280**	*e*Pg	**Pn**	**14 37 23.1**	**-1.0**
DIGR				*e*Sg	**Sn**	**14 37 48.7**	**-2.3**

*DJA **03** 14:54:29.3±0.6, 3.°N±6.°×12.°8E±.°, h122km±7km, M4.2/11, mb4.1/7, mB4.8/2, MLv4.2/11, Mw(mB)4.1/2*
*NEIC **03** 14:54:29.9±1.4, 3.°0N±0.°1×128.°13E±0.°09, h125km±11km, mb4.2/11, Error ellipse: s-maj=16.9km s-min=11.3km az=207.0*
*IDC **03** 14:54:30.8±2.8, 3.°03N×128.°41E, h138km±32km, mb3.3/9, mbtmp3.8/10, MS2.9/1, Error ellipse: s-maj=61.5km s-min=15.1km az=67.0*
ISC 03 14:54:27.3±0.6, 3.°07N±0.°07×128.°22E±0.°09, h100km, n34, σ1°931/35, mb3.9/15, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.44**	**200**	Pn	**Pn**	**14 55 07.5**	**+1.8**
TNTI	**Ternate**	**2.44**	**200**	P	**Pn**	**14 55 07.5**	**+1.8**
SGSI	**Sangihe**	**2.75**	**283**	P	**Pn**	**14 55 11.2**	**+1.5**
SIJI	**Sorong**	**4.96**	**142**	P	**Pn**	**14 55 42.5**	**+2.9**
	14nm,0.3s,baz=298,slow=22,SNR=24						
SIJI				S	**Sn**	**14 56 36.3**	**+0.5**
	17nm,0.5s,baz=217,slow=20,SNR=15						
SANI	**Sanana**	**5.55**	**204**	P	**Pn**	**14 55 47.3**	**-0.3**
	15nm,1.0s,0.1nm						
GTOI	**Gorontalo**	**5.74**	**245**	P	**Pn**	**14 55 51.3**	**+1.2**
	17nm,0.7s,0.1nm						
MRSI	**Marisa**	**6.78**	**248**	P	**Pn**	**14 56 06.3**	**+2.0**
	71nm,1.0s,844nm0.2nm						
LUWI	**Luwuk**	**6.81**	**233**	Pn	**Pn**	**14 56 04.3**	**-0.3**
LUWI	**Luwuk**	**6.81**	**233**	P	**Pn**	**14 56 04.4**	**-0.2**
	36nm,0.7s,1μm0.4nm						
FAKI	**Fak Fak**	**7.19**	**146**	Pn	**Pn**	**14 56 12.6**	**+2.7**
FAKI	**Fak Fak**	**7.19**	**146**	P	**Pn**	**14 56 12.3**	**+2.5**
	27nm,1.0s,0.2nm						
APSI	**Ampana**	**7.67**	**239**	P	**Pn**	**14 56 16.6**	**+0.3**
TOLI2	**Tolitoli**	**7.68**	**255**		**Pn**	**14 56 16.7**	**+0.2**
UGM	**Wanagama**	**20.75**	**238**	P	**P**	**14 58 59.0**	**-1.3**
TPUB	**Ta-pu**	**21.41**	**341**	P	**P**	**14 59 06.8**	**-0.4**
TPUB				IAmb	IAmb	14 59 30.8	
	comp=Z,80nm,1.5s						
WB0	**Warramunga Arr**	**23.50**	**165**	P	**P**	**14 59 27.5**	**-0.9**
WB0				IAmb	IAmb	15 00 05.2	
	comp=Z,6.6nm,1.1s						
WRAB	**Tennant Creek**	**23.64**	**165**	P	**P**	**14 59 28.6**	**-1.1**
WRAB				IAmb	IAmb	14 59 34.2	
	comp=Z,7.8nm,1.3s						
WRA	**Warramunga Arr**	**23.65**	**166**	P	**P**	**14 59 28.8**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=348,slow=10,SNR=12						
	comp=Z,1.0nm,0.8s						
WR0	**Warramunga Arr**	**23.72**	**165**	P	**P**	**14 59 29.2**	**-1.1**
WR0				IAmb	IAmb	14 59 58.6	
	comp=Z,10nm,1.2s						
ASAR	**Alice Springs**	**27.15**	**169**	P	**P**	**15 00 00.3**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=354,slow=8.0,SNR=7.6						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.48**	**300**	P	**P**	**15 00 50.0**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=131,slow=6.6,SNR=6.3						
CMAR				LR	LR	15 15 43.9	
	comp=Z,22nm,21.6s,baz=305,slow=39						
	comp=Z,0.5nm,0.4s						
STKA	**Stephens Creek**	**37.01**	**161**	P	**P**	**15 01 26.9**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=327,slow=7.6,SNR=3.4						
	comp=Z,0.8nm,0.3s						
STKA	**Stephens Creek**	**37.01**	**161**	P	**P**	**15 01 26.6**	**-0.8**
ARMA	**Armidale**	**40.12**	**148**	P	**P**	**15 01 52.1**	**-1.4**
SONM	**Songino Array**	**48.40**	**340**	P	**P**	**15 03 00.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=152,slow=7.6,SNR=5.1						
	comp=Z,0.6nm,0.6s						
PEA0B	**Petropavlovsk-**	**55.49**	**21**	P	**P**	**15 03 50.2**	**-1.6**
MK31	**Makanchi Array**	**58.94**	**325**	P	**P**	**15 04 16.9**	**+0.8**
MKAR	**Makanchi Array**	**58.94**	**325**	P	**P**	**15 04 17.1**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=118,slow=8.2,SNR=19						
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**58.94**	**325**	P	**P**	**15 04 16.9**	**+0.7**
MAKZ	**Makanchi**	**59.13**	**325**	P	**P**	**15 04 18.1**	**+0.7**
MAKZ				IAmb	IAmb	15 04 19.0	
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**61.84**	**333**	P	**P**	**15 04 35.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=101,slow=6.6,SNR=1.6						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.09**	**327**	P	**P**	**15 04 44.1**	**0.0**
	comp=Z,1.4nm,0.6s,baz=127,slow=6.2,SNR=25						
	comp=Z,1.4nm,0.6s						
TIXI	**Tiksi**	**68.48**	**0**	P	**P**	**15 05 18.5**	**+0.2**
TIXI				IAmb	IAmb	15 05 18.8	
	comp=Z,1.8nm,0.5s						
BVAR	**Borovoye Array**	**68.68**	**327**	P	**P**	**15 05 19.2**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=95,slow=6.6,SNR=4.8						
	comp=Z,1.1nm,0.8s						

*NEIC **03** 15:02:10.0±1.4, 21.°48S±0.°10×172.°46E±0.°08, h14km±5km, mb4.8/13, Error ellipse: s-maj=17.4km s-min=3.2km az=142.0*
*NOU **03** 15:02:36.6, 21.°72S×170.°56E, h83km, MLv4.8/14, Southeast of Loyalty Islands*
*IDC **03** 15:02:39.3±6.5, 21.°57S×170.°21E, h131km±38km, mb3.6/8, mbtmp4.0/9, Error ellipse: s-maj=68.3km s-min=33.1km az=127.0*
ISC 03 15:02:09.0±0.7, 21.°46S±0.°09×172.°44E±0.°08, h10km, n42, σ1°901/37, mb4.3/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**4.11**	**269**		**Pn**	**15 03 12.2**	**+0.4**
MARNC	**Mare, Loyalty**	**4.11**	**269**	P	**Pn**	**15 03 12.8**	**+0.9**
LIFNC	**LIFOU**	**4.90**	**277**		**Pn**	**15 03 23.9**	**+1.1**
LIFNC	**LIFOU**	**4.90**	**277**	P	**Pn**	**15 03 24.1**	**+1.3**
YATNC	**Mamie plateau,**	**5.19**	**262**	P	**Pn**	**15 03 26.5**	**-0.4**
RTV	**Rentapao**	**5.25**	**313**	P	**Pb**	**15 03 42.0**	**+1.0**
OUENC	**Ouen Island, N**	**5.29**	**259**		**Pn**	**15 03 28.4**	**+0.3**
OUENC	**Ouen Island, N**	**5.29**	**259**	P	**Pn**	**15 03 28.9**	**+0.8**
DVP	**Devils Point**	**5.46**	**312**	P	**Pb**	**15 03 42.3**	**-2.3**
DZM	**Mont Dzumac**	**5.61**	**263**	P	**Pn**	**15 03 32.5**	**-0.1**
	13nm,0.3s,baz=91,slow=18,SNR=68						
DZM				S	Sn	15 04 15.3	-22
	152nm,0.3s,baz=84,slow=20,SNR=8.2						
DZM	**Mont Dzumac**	**5.61**	**263**		**Pn**	**15 03 32.8**	**+0.2**
DZM	**Mont Dzumac**	**5.61**	**263**	P	**Pn**	**15 03 33.3**	**+0.7**
ONTNC	**Ouen Toro**	**5.62**	**260**		**Pn**	**15 03 32.8**	**0.0**
ONTNC	**Ouen Toro**	**5.62**	**260**	P	**Pn**	**15 03 34.7**	**+1.9**
MSVF	**Nonsavu**	**6.46**	**56**	Pn	**Pn**	**15 03 44.5**	**+0.2**
KOUNC	**Koumac, New Ca**	**7.67**	**275**		**Pn**	**15 04 02.1**	**+1.2**
KOUNC	**Koumac, New Ca**	**7.67**	**275**	P	**Pn**	**15 04 03.1**	**+2.2**
NFK	**Norfolk Island**	**8.58**	**207**	P	Pn	15 04 24.8	+11
BFZ	**Birch Farm**	**19.44**	**171**	P	**P**	**15 06 35.0**	**-0.6**
BFZ				IAmb	IAmb	15 06 39.7	

	comp=Z,169nm,2.0s						
TKNZ	**Takaka Hill**	**19.52**	**179**	P	**P**	**15 06 36.9**	**+0.3**
CTA	**Charters Tower**	**24.52**	**268**	P	**P**	**15 07 28.4**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=105,slow=12,SNR=2.1						
	comp=Z,1.3nm,0.4s						
CTAO	**Charters Tower**	**24.52**	**268**	P	**P**	**15 07 29.1**	**+0.2**
CTAO				IAmb	IAmb	15 07 41.0	
	comp=Z,36nm,1.9s						
PMG	**Port Moresby**	**27.11**	**292**	P	**P**	**15 07 53.5**	**+1.2**
	comp=Z,8.6nm,0.8s,baz=146,slow=7.8,SNR=3.5						
	comp=Z,8.6nm,0.8s						
WR0	**Warramunga Arr**	**35.43**	**265**	P	**P**	**15 09 04.6**	**-1.1**
AS31	**Alice Springs**	**35.58**	**259**	P	**P**	**15 09 06.5**	**-0.5**
ASAR	**Alice Springs**	**35.59**	**259**	P	**P**	**15 09 06.5**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=78,slow=8.5,SNR=34						
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**35.59**	**259**	P	**P**	**15 09 06.0**	**-1.0**
WB0	**Warramunga Arr**	**35.60**	**266**	P	**P**	**15 09 06.5**	**-0.6**
WB0				IAmb	IAmb	15 10 01.4	
	comp=Z,27nm,1.6s						
WRAB	**Tennant Creek**	**35.61**	**265**	P	**P**	**15 09 06.0**	**-1.2**
WRAB				IAmb	IAmb	15 09 58.1	
	comp=Z,30nm,1.8s						
WRA	**Warramunga Arr**	**35.62**	**265**	P	**P**	**15 09 06.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=98,slow=8.2,SNR=12						
	comp=Z,0.8nm,0.6s						
MTN	**Manton Dam**	**40.29**	**275**	P	**P**	**15 09 47.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**44.04**	**266**	P	**P**	**15 10 18.7**	**+1.3**
MBWA	**Marble Bar**	**48.91**	**260**	P	**P**	**15 10 55.9**	**+0.3**
UWE	**Uwekahuna**	**51.45**	**40**	P	**P**	**15 11 14.6**	**-0.3**
VNDA	**Vanda**	**56.35**	**183**	P	**P**	**15 11 50.6**	**+0.8**
VNDA				IAmb	IAmb	15 12 35.6	
	comp=Z,14nm,1.5s						
CASY	**Casey**	**59.33**	**205**	P	**P**	**15 12 10.5**	**-0.4**
JOW	**Kunigami**	**64.29**	**316**	P	**P**	**15 12 43.2**	**-1.6**
MJAR	**Matsushiro Arr**	**66.13**	**330**	P	P	15 13 06.7	+10
	comp=Z,0.5nm,0.4s,baz=155,slow=5.1,SNR=6.7						
	comp=Z,0.5nm,0.4s						
JNU	**Nakatsue**	**67.22**	**323**	P	P	15 13 12.2	+8.4
	comp=Z,6.2nm,0.9s,baz=120,slow=1.5,SNR=4.6						
	comp=Z,6.2nm,0.9s						
SDPT	**Sand Point**	**79.91**	**15**	P	**P**	**15 14 18.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**82.14**	**293**	P	P	15 14 36.1	+5.6
	comp=Z,0.3nm,0.5s,baz=137,slow=5.0,SNR=3.0						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**90.80**	**322**	P	P	15 15 23.4	+11
	comp=Z,0.3nm,0.7s,baz=130,slow=5.8,SNR=2.2						
	comp=Z,0.3nm,0.7s						

*IDC **03** 15:30:17.7±0.8, 30°.58S×118°.74E, h0km, mb3.9/4, mbtmp4.1/7, ML4.7/3, MS3.3/1, Error ellipse: s-maj=28.2km s-min=19.0km az=113.0*
*AUST **03** 15:30:18.1±2.2, 30°.62S×118°.48E, h3km±18km, Error ellipse: s-maj=11.3km s-min=7.6km az=154.0*
*NOU **03** 15:30:19.3, 30°.59S×118°.51E, h0km, mb4.6/22, Western Australia*
*CUPWA **03** 15:30:20.6±1.8, 30°.64S×118°.43E, h2km±16km, ML4.2, Region: WESTERN AUSTRALIA*
*NEIC **03** 15:30:20.1±1.6, 30°.60S±0°.07×118°.47E±0°.08, h15km±5km, Error ellipse: s-maj=11.2km s-min=9.2km az=129.0*

ISC 03 15:30:18.2±1.5, **30°.62S**±0°.04×**118°.48E**±0°.03, **h4**km±10km, **n102**, σ**1§95**/116, **mb4.2**/7, **Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.16**	**213**	P	**Pg**	**15 30 40.4**	**+0.1**
	baz=1.2,SNR=917						
KLBR				S	**Sg**	**15 30 55.1**	**-0.3**
	baz=1.2						
KLBR	**Kellerberrin**	**1.16**	**213**	P	**Pg**	**15 30 40.8**	**+0.5**
KLBR	**Kellerberrin**	**1.16**	**213**	P	**Pg**	**15 30 40.4**	**+0.1**
KLBR				S	**Sg**	**15 30 55.0**	**-0.3**
BLDU	**Ballidu**	**1.53**	**270**	P	**Pn**	**15 30 46.8**	**+0.5**
	baz=1.5,SNR=1000						
BLDU				S	**Sn**	**15 31 05.6**	**-1.0**
	baz=1.5						
BLDU	**Ballidu**	**1.53**	**270**	P	**Pb**	**15 30 47.2**	**+0.1**
BLDU	**Ballidu**	**1.53**	**270**	P	**Pn**	**15 30 46.8**	**+0.5**
BLDU	**Ballidu**	**1.53**	**270**	S	**Sn**	**15 31 05.6**	**-1.0**
MECK	**Meckering**	**1.62**	**231**	P	**Pn**	**15 30 48.4**	**+0.9**
MECK				S	**Sn**	**15 31 08.9**	**0.0**
AUKUL	**Kulin High Sch**	**2.07**	**188**	P	**Pb**	**15 30 55.8**	**-0.5**
PING	**Pingelly**	**2.27**	**214**	P	**Pn**	**15 30 57.8**	**+1.3**
PING				S	**Sb**	**15 31 29.0**	**+0.8**
MUN	**Mundaring**	**2.37**	**235**	P	**Pn**	**15 30 58.3**	**+0.4**
	baz=2.4,SNR=91						
MUN				S	**Sn**	**15 31 25.2**	**-2.3**
	baz=2.4						
MUN	**Mundaring**	**2.37**	**235**	P	**Pn**	**15 30 58.9**	**+1.0**
MUN	**Mundaring**	**2.37**	**235**	P	**Pn**	**15 30 58.3**	**+0.4**
MUN	**Mundaring**	**2.37**	**235**	S	**Sn**	**15 31 25.2**	**-2.3**
NWAO	**Narrogin (SRO)** 49nm,0.3s	**2.54**	**204**	Pn	**Pn**	**15 31 00.5**	**+0.4**
NWAO				Pg	**Pb**	**15 31 06.1**	**+1.8**
NWAO				Sn	**Sn**	**15 31 29.4**	**-2.0**
NWAO				Lg	Lg	15 31 48.4	
NWAO	**Narrogin (SRO)**	**2.54**	**204**	P	**Pn**	**15 31 00.6**	**+0.4**
	baz=2.5,SNR=147						
NWAO				P	**Pn**	**15 31 00.6**	**+0.4**
	baz=2.5,SNR=147						
NWAO	**Narrogin (SRO)**	**2.54**	**204**	Pn	**Pn**	**15 31 00.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**2.54**	**204**	P	**Pn**	**15 31 00.6**	**+0.4**
AUKAL	**John Paul Coll**	**2.58**	**94**	P	**Pn**	**15 31 02.9**	**+2.1**
	baz=2.6						
AUKAL				S	**Sb**	**15 31 39.0**	**+1.7**
	baz=2.6						
MORW	**Morawa**	**2.62**	**305**	P	**Pn**	**15 31 01.8**	**+0.4**
	baz=2.6,SNR=18						
MORW				S	**Sn**	**15 31 32.8**	**-0.9**
	baz=2.6						
MORW	**Morawa**	**2.62**	**305**	Pn	**Pn**	**15 31 01.5**	**+0.2**
MORW	**Morawa**	**2.62**	**305**	P	**Pn**	**15 31 02.1**	**+0.7**
MORW	**Morawa**	**2.62**	**305**	P	**Pn**	**15 31 01.8**	**+0.4**
MORW				S	**Sn**	**15 31 32.8**	**-0.9**
MTKN	**Mount Kenneth**	**2.67**	**240**	P	**Pb**	**15 31 04.6**	**-1.9**
KMBL	**Kambalda**	**3.01**	**105**	P	**Pn**	**15 31 08.4**	**+1.7**
	baz=3.0,SNR=44						
KMBL				S	**Sn**	**15 31 44.1**	**+0.8**
	baz=3.0						
KMBL	**Kambalda**	**3.01**	**105**	P	**Pn**	**15 31 08.4**	**+1.7**
KMBL	**Kambalda**	**3.01**	**105**	P	**Pn**	**15 31 08.4**	**+1.7**
GNOW	**Gnowangerup**	**3.28**	**189**	P	**Pn**	**15 31 12.4**	**+2.0**
MEEK	**Meekatharra**	**3.97**	**2**	P	**Pn**	**15 31 21.7**	**+1.8**
	baz=4.0,SNR=141						
MEEK	**Meekatharra**	**3.97**	**2**	P	**Pn**	**15 31 21.6**	**+1.8**
MEEK	**Meekatharra**	**3.97**	**2**	P	**Pn**	**15 31 21.7**	**+1.8**
AUBUS	**Georgiana Moll**	**4.02**	**220**	P	**Pn**	**15 31 21.8**	**+1.4**
	baz=4.0						
RKGY	**Rocky Gully**	**4.18**	**197**	P	**Pn**	**15 31 23.2**	**+0.5**
	baz=4.2,SNR=26						
RKGY				S	**Sn**	**15 32 10.3**	**-1.6**
	baz=4.2						
RKGY	**Rocky Gully**	**4.18**	**197**	P	**Pn**	**15 31 24.6**	**+1.9**
RKGY	**Rocky Gully**	**4.18**	**197**	P	**Pn**	**15 31 23.2**	**+0.5**
AUALB	**St Joseph's Co**	**4.40**	**186**	P	**Pn**	**15 31 26.4**	**+0.7**
	baz=4.4						
AUALB				S	**Sn**	**15 32 18.9**	**+1.5**
	baz=4.4						
FORT	**Forrest**	**8.25**	**94**	P	**Pn**	**15 32 18.9**	**+0.3**
	baz=8.3,SNR=35						
FORT				S	**Sn**	**15 33 48.4**	**-3.8**
	baz=8.3						
FORT	**Forrest**	**8.25**	**94**	Pn	**Pn**	**15 32 19.0**	**+0.4**
FORT	**Forrest**	**8.25**	**94**	P	**Pn**	**15 32 18.8**	**+0.2**
GIRL	**Giralia**	**8.80**	**333**	P	**Pn**	**15 32 26.9**	**+0.6**
	baz=8.8						
GIRL	**Giralia**	**8.80**	**333**	Pn	**Pn**	**15 32 27.9**	**+1.6**
GIRL	**Giralia**	**8.80**	**333**	P	**Pn**	**15 32 28.4**	**+2.1**
MBWA	**Marble Bar**	**9.49**	**7**	Pn	**Pn**	**15 32 34.7**	**-0.9**
MBWA	**Marble Bar**	**9.49**	**7**	P	**Pn**	**15 32 34.7**	**-0.9**
WRKA	**Warakurna**	**10.31**	**60**	P	**Pn**	**15 32 47.1**	**+0.2**
	baz=10,SNR=42						
WRKA				S	**Sn**	**15 34 36.1**	**-6.9**
	baz=10						
WRKA	**Warakurna**	**10.31**	**60**	P	**Pn**	**15 32 47.0**	**0.0**
MULG	**Mulgathing**	**13.44**	**93**	P	**Pn**	**15 33 28.1**	**-1.6**
	baz=13,SNR=26						
MULG	**Mulgathing**	**13.44**	**93**	P	**Pn**	**15 33 28.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**14.06**	**29**	Pn	**Pn**	**15 33 36.7**	**-1.5**
BBOO	**Buckleboo**	**15.12**	**103**	P	**Pn**	**15 33 50.3**	**-2.3**
	baz=15,SNR=7.0						
BBOO	**Buckleboo**	**15.12**	**103**	Pn	**Pn**	**15 33 48.5**	**-4.0**
BBOO				IAmb	IAmb	15 34 01.1	
	comp=Z,26nm,1.1s						
OOD	**Oodnadatta**	**15.29**	**84**	P	**Pn**	**15 33 51.1**	**-3.7**
	baz=15,SNR=39						
ASAR	**Alice Springs**	**15.37**	**67**	Pn	**Pn**	**15 33 51.2**	**-4.7**
	comp=Z,2.3nm,0.3s,baz=236,slow=11,SNR=153						
ASAR				Sn	Sn	15 36 31.0	-16
	comp=Z,0.9nm,0.3s,baz=244,slow=13,SNR=4.1						
ASAR				Lg	Lg	15 38 15.2	
	comp=Z,0.7nm,0.3s,baz=224,slow=26,SNR=3.2						
	comp=Z,4.7nm,0.4s						
ASAR	**Alice Springs**	**15.37**	**67**	Pn	**Pn**	**15 33 51.7**	**-4.2**
AS31	**Alice Springs**	**15.37**	**67**	Pn	**Pn**	**15 33 51.4**	**-4.6**
LCRK	**Leigh Creek**	**17.00**	**94**	P	**Pn**	**15 34 14.0**	**-2.9**
	baz=17,SNR=9.2						
GHSS	**Government Hou**	**17.45**	**110**	P	**Pn**	**15 34 22.9**	**+0.4**
HTT	**Hallett**	**17.56**	**105**	P	**Pn**	**15 34 23.8**	**-0.1**
	baz=18,SNR=4.6						
HTT	**Hallett**	**17.56**	**105**	P	**Pn**	**15 34 23.8**	**-0.1**
KNRA	**Kununurra**	**17.60**	**35**	P	**Pn**	**15 34 23.8**	**-0.7**
	baz=18						
KNRA	**Kununurra**	**17.60**	**35**	Pn	**Pn**	**15 34 23.5**	**-0.9**
KNRA				IAmb	IAmb	15 34 56.6	
	comp=Z,90nm,1.4s						
KNRA	**Kununurra**	**17.60**	**35**	P	**Pn**	**15 34 24.2**	**-0.3**
WRA	**Warramunga Arr**	**17.83**	**57**	P	**Pn**	**15 34 22.8**	**-4.4**
	comp=Z,3.3nm,0.3s,baz=232,slow=13,SNR=175						
WRA				S	Sn	15 37 28.5	-18
	comp=Z,12nm,0.8s,baz=224,slow=23,SNR=9.6						
WRA				Lg	Lg	15 39 33.4	
	baz=212,slow=7.6						
WRA				LR	LR	15 41 30.5	
	comp=Z,89nm,20.0s,baz=202,slow=38						
WRA	**Warramunga Arr**	**17.83**	**57**	P	**Pn**	**15 34 23.0**	**-4.3**
WB2	**Warramunga Arr**	**17.84**	**57**	P	**Pn**	**15 34 23.2**	**-4.1**
	baz=18						
WB2	**Warramunga Arr**	**17.84**	**57**	P	**Pn**	**15 34 23.1**	**-4.3**
WB2				IAmb	IAmb	15 34 24.7	
	comp=Z,34nm,0.6s						
WRAB	**Tennant Creek**	**17.84**	**57**	P	**Pn**	**15 34 23.4**	**-4.1**
WRAB				IAmb	IAmb	15 34 24.9	
	comp=Z,30nm,0.6s						
WR0	**Warramunga Arr**	**17.96**	**58**	P	**Pn**	**15 34 24.9**	**-4.1**
WR0				IAmb	IAmb	15 34 26.9	
	comp=Z,18nm,0.5s						
WB0	**Warramunga Arr**	**17.98**	**57**		**Pn**	**15 34 25.2**	**-4.0**
WB0				IAmb	IAmb	15 34 26.7	
	comp=Z,18nm,0.7s						
INKA	**Innaminka**	**19.64**	**87**	P	**Pn**	**15 34 48.8**	**-0.4**
	baz=20,SNR=23						
INKA	**Innaminka**	**19.64**	**87**	P	**P**	**15 34 48.3**	**+0.4**
STKA	**Stephens Creek**	**19.80**	**100**	P	**P**	**15 34 48.0**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=280,slow=13,SNR=25						
STKA				S	S	15 38 16.7	-16
	comp=Z,1.1nm,0.4s,baz=208,slow=15,SNR=1.4						
STKA				Lg	Lg	15 40 32.0	
	baz=351,slow=21						
	comp=Z,7.7nm,0.6s						
STKA	**Stephens Creek**	**19.80**	**100**	P	**Pn**	**15 34 51.3**	**+0.2**
	baz=20,SNR=8.8						
STKA	**Stephens Creek**	**19.80**	**100**		**P**	**15 34 49.2**	**-0.4**
STKA	**Stephens Creek**	**19.80**	**100**	P	**Pn**	**15 34 51.3**	**+0.2**
ARPS	**Mount Arapiles**	**20.36**	**114**	P	Pn	15 34 57.0	-0.6
	baz=20,SNR=6.8						
ARPS	**Mount Arapiles**	**20.36**	**114**	P	**P**	**15 34 56.2**	**+0.6**
MTN	**Manton Dam**	**21.20**	**36**	P	**P**	**15 35 06.6**	**+1.7**
	baz=21,SNR=4.1						
MTN	**Manton Dam**	**21.20**	**36**	P	**P**	**15 35 04.8**	**-0.1**
MTN	**Manton Dam**	**21.20**	**36**	P	**P**	**15 35 06.3**	**+1.4**
QIS	**Mount Isa**	**21.49**	**67**	P	**P**	**15 35 09.5**	**+1.4**
	baz=22,SNR=13						
QIS	**Mount Isa**	**21.49**	**67**	P	**P**	**15 35 07.9**	**-0.1**
TWSI	**Taliwang, Sumb**	**21.82**	**356**	P	**P**	**15 35 12.9**	**+1.4**
	comp=Z,16nm,0.8s						
QLP	**Quilpie**	**22.95**	**86**	P	**P**	**15 35 25.0**	**+1.4**
	baz=23,SNR=5.9						
CMSA	**Cobar Meteorol**	**23.30**	**99**	P	**P**	**15 35 28.1**	**+0.9**
RMQ	**Roma**	**26.87**	**89**	P	**P**	**15 36 02.3**	**+2.2**
	baz=27,SNR=7.8						
CTA	**Charters Tower**	**27.13**	**74**	P	**P**	**15 36 04.1**	**+1.6**
	comp=Z,11nm,0.9s,baz=250,slow=9.2,SNR=9.6						
CTAO	**Charters Tower**	**27.13**	**74**	P	**P**	**15 35 59.4**	**-3.1**
CTAO				IAmb	IAmb	15 36 08.2	
	comp=Z,12nm,0.9s						
ARMA	**Armidale**	**28.50**	**98**	P	**P**	**15 36 14.7**	**-0.1**
EIDS	**Eidsvold**	**29.19**	**88**	P	**P**	**15 36 21.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**52.29**	**336**	P	**P**	**15 39 32.2**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=143,slow=6.3,SNR=1.7						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**59.49**	**180**	P	**P**	**15 40 22.9**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=298,slow=0.8,SNR=11						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**59.49**	**180**	P	**P**	**15 40 23.0**	**+0.7**
QSPA				IAmb	IAmb	15 40 42.2	
	comp=Z,4.2nm,1.4s						
SONM	**Songino Array**	**78.85**	**352**	P	**P**	**15 42 24.8**	**+2.5**
	comp=Z,1.5nm,0.7s,baz=168,slow=6.2,SNR=12						
MKAR	**Makanchi Array**	**83.70**	**336**	P	**P**	**15 42 47.3**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=136,slow=7.6,SNR=4.2						
	comp=Z,0.3nm,0.7s						
GEYT	**Alibek**	**88.46**	**317**	P	**P**	**15 43 11.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=41,slow=13,SNR=2.4						
	comp=Z,0.7nm,0.5s						
FINES	**FINESS Array B**	**117.50**	**327**	PKP	**PKiKP**	**15 49 05.6**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=122,slow=9.3,SNR=1.4						
ILAR	**Eielson Array**	**119.19**	**29**	PKP	**PKiKP**	**15 49 07.8**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=294,slow=2.9,SNR=1.9						
NOA	**NORSAR Array B**	**124.56**	**326**	PKP	**PKiKP**	**15 49 19.8**	**+1.4**
	comp=Z,1.0nm,1.0s,baz=164,slow=14,SNR=1.6						
YKA	**Yellowknife Ar**	**133.57**	**31**	PKP	**PKPdf**	**15 49 35.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=294,slow=2.1,SNR=4.8						
PDAR	**Pinedale Array**	**140.11**	**59**	PKhKP	PKPpre	15 49 41.8	
	comp=Z,0.2nm,0.5s,baz=239,slow=0.5,SNR=4.3						
TXAR	**Lajitas Array**	**143.62**	**81**	PKP	PKPbc	15 49 52.8	+0.6
	comp=Z,0.3nm,0.6s,baz=210,slow=7.2,SNR=4.0						

*NOU **03** 15:31:28.6, 42°.81S×172°.86E, h14km, MLv4.0/10, South Island, New Zealand*
*WEL **03** 15:31:29.0±0.3, 43°.5±3°.3×17°.3E±°, h8km±4km, M3.4/18, ML3.6/18, MLv3.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=126.9, confirmed*

ISC 03 15:31:27.8±1.3, **42°.73S**±0°.03×**172°.81E**±0°.03, **h3**km±12km, **n75**, σ**1§18**/84, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.29**	**145**	P	**Pb**	**15 31 36.9**	**+1.1**
GVZ				S	**Sb**	**15 31 42.9**	**+1.9**
LTZ	**Lake Taylor**	**0.40**	**262**	P	**Pg**	**15 31 36.1**	**+0.6**
LTZ				S	**Sg**	**15 31 41.5**	**+0.8**
AMCZ	**Amberley**	**0.46**	**194**	P	**Pb**	**15 31 39.9**	**+1.2**
AMCZ				S	**Sb**	**15 31 47.5**	**+1.5**
KHZ	**Kahutara**	**0.62**	**60**	P	**Pb**	**15 31 41.6**	**+0.3**
KHZ	**Kahutara**	**0.62**	**60**	P	**Pb**	**15 31 41.6**	**+0.3**
KHZ				S	**Sb**	**15 31 51.2**	**+0.7**
OXZ	**Oxford**	**0.82**	**223**	P	**Pn**	**15 31 45.6**	**-0.8**
OXZ				S	**Sn**	**15 31 57.6**	**-1.4**
THZ	**Tophouse**	**0.97**	**4**	P	**Pg**	**15 31 45.7**	**-0.6**
THZ				S	**Sg**	**15 31 56.8**	**-2.1**
MQZ	**McQueen's Vall**	**0.98**	**187**	P	**Pn**	**15 31 48.0**	**-0.6**
MQZ				S	**Sn**	**15 32 02.6**	**-0.4**
INZ	**Inchbonnie**	**1.01**	**270**	P	**Pg**	**15 31 46.9**	**-0.2**
OKCZ	**Okains Bay**	**1.01**	**170**	P	**Pn**	**15 31 49.1**	**+0.1**
RACZ	**Rakaia**	**1.11**	**206**	P	**Pb**	**15 31 49.6**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.15**	**176**	P	**Pn**	**15 31 50.7**	**-0.1**
MHCZ	**Mount Hutt**	**1.21**	**228**	P	**Pb**	**15 31 50.8**	**-0.7**
MHCZ				S	**Sn**	**15 32 08.8**	**0.0**
DSZ	**Denniston Nort**	**1.23**	**322**	P	**Pn**	**15 31 50.6**	**-1.4**
DSZ				S	**Sb**	**15 32 07.6**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.29**	**38**	P	**Pn**	**15 31 53.1**	**+0.4**
MRNZ	**Matariki Terra**	**1.33**	**358**	P	**Pn**	**15 31 52.4**	**-0.9**
WACZ	**Wakanui South**	**1.41**	**210**	P	**Pn**	**15 31 53.5**	**-0.8**
CMWZ	**Cape Campbell**	**1.43**	**47**	P	**Pn**	**15 31 55.8**	**+0.6**
TUWZ	**Tuamarina**	**1.55**	**33**	P	**Pn**	**15 31 56.5**	**+0.2**
WVZ	**Waitaha Valley**	**1.56**	**257**	P	**Pn**	**15 31 56.6**	**+0.1**
NNZ	**Nelson**	**1.57**	**16**	P	**Pn**	**15 31 56.5**	**-0.1**
RPZ	**Rata Peaks**	**1.62**	**232**	P	**Pn**	**15 31 56.3**	**-1.0**
RPZ	**Rata Peaks**	**1.62**	**232**	P	**Pn**	**15 31 56.5**	**-0.8**
TKNZ	**Takaka Hill**	**1.70**	**4**	P	**Pn**	**15 31 58.3**	**-0.1**
ARCZ	**Arundel**	**1.70**	**224**	P	**Pn**	**15 31 57.6**	**-0.9**
TCW	**Tory Channel**	**1.87**	**36**	P	**Pn**	**15 32 00.6**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**1.91**	**251**	P	**Pn**	**15 32 01.8**	**+0.5**
QRZ	**Quartz Range**	**1.91**	**354**	P	**Pn**	**15 32 01.8**	**+0.5**
QRZ	**Quartz Range**	**1.91**	**354**	P	**Pn**	**15 32 01.4**	**+0.1**
SNZO	**South Karori**	**2.00**	**46**	P	**Pn**	**15 32 02.2**	**-0.3**
WEL	**Wellington**	**2.05**	**46**	P	**Pn**	**15 32 02.9**	**-0.4**
DUWZ	**D'Urville Isla**	**2.10**	**24**	P	**Pn**	**15 32 04.8**	**+0.9**
TMZ	**Timaru**	**2.11**	**218**	P	**Pn**	**15 32 03.2**	**-0.9**
PLWZ	**Palliser**	**2.16**	**58**	P	**Pn**	**15 32 03.6**	**-1.1**
FOZ	**Fox Glacier**	**2.33**	**249**	P	**Pn**	**15 32 07.4**	**+0.3**
CAW	**Cannon Point**	**2.34**	**47**	P	**Pn**	**15 32 06.5**	**-0.7**
PAWZ	**Paruwai Farm**	**2.37**	**56**	P	**Pn**	**15 32 06.4**	**-1.2**
KIW	**Kapiti Island**	**2.44**	**41**	P	**Pn**	**15 32 08.4**	**-0.2**
LBZ	**Lake Benmore**	**2.53**	**228**	P	**Pn**	**15 32 09.1**	**-0.7**
MTW	**Mount Morrison**	**2.55**	**53**	P	**Pn**	**15 32 08.8**	**-1.3**
OGWZ	**Otaki Gorge**	**2.60**	**44**	P	**Pn**	**15 32 10.1**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.73**	**49**	P	**Pn**	**15 32 11.2**	**-1.3**
ODZ	**Otahua Downs**	**2.79**	**213**	P	**Pn**	**15 32 12.4**	**-1.0**
ODZ	**Otahua Downs**	**2.79**	**213**	P	**Pn**	**15 32 12.4**	**-1.0**
TMWZ	**Te Maipa**	**2.81**	**56**	P	**Pn**	**15 32 12.2**	**-1.5**
MRZ	**Mangatainoka R**	**2.93**	**46**	P	**Pn**	**15 32 14.1**	**-1.2**
JCZ	**Jackson Bay**	**3.23**	**244**	P	**Pn**	**15 32 19.4**	**-0.1**
WAZ	**Wanganui**	**3.39**	**30**	P	**Pn**	**15 32 24.4**	**+2.7**
LREZ	**Lake Rotokare**	**3.48**	**21**	P	**Pn**	**15 32 26.0**	**+3.2**
DVHZ	**Dannevirke**	**3.50**	**47**	P	**Pn**	**15 32 21.0**	**-2.1**
NBEZ	**Newall Road No**	**3.55**	**13**	P	**Pn**	**15 32 26.1**	**+2.3**
KHEZ	**Kahui Hut**	**3.55**	**15**	P	**Pn**	**15 32 24.4**	**+0.5**
KHEZ	**Kahui Hut**	**3.55**	**15**	P	**Pn**	**15 32 26.6**	**+2.6**
EAZ	**Earnscleugh**	**3.56**	**224**	P	**Pn**	**15 32 22.7**	**-1.3**
TSZ	**Takapari Road**	**3.57**	**43**	P	**Pn**	**15 32 22.7**	**-1.4**
PKE	**Pukeiti**	**3.64**	**15**	P	**Pn**	**15 32 27.7**	**+2.6**
PNHZ	**Pukenui**	**3.80**	**43**	P	**Pn**	**15 32 25.5**	**-1.8**
VRZ	**Vera Road**	**3.89**	**23**	P	**Pn**	**15 32 30.1**	**+1.6**
TUZ	**Tuapeka**	**3.95**	**214**	P	**Pn**	**15 32 28.3**	**-1.0**
MOVZ	**Moawhango**	**4.00**	**35**	P	**Pn**	**15 32 32.1**	**+2.0**
WNVZ	**Wahianoa**	**4.00**	**33**	P	**Pn**	**15 32 30.9**	**+0.7**
BHHZ	**Black Hill Sta**	**4.06**	**38**	P	**Pn**	**15 32 30.3**	**-0.7**
KRHZ	**Kereru**	**4.09**	**42**	P	**Pn**	**15 32 29.4**	**-1.9**
ETVZ	**East Tongariro**	**4.21**	**32**	P	**Pn**	**15 32 35.3**	**+2.3**
TMVZ	**Te Maari**	**4.22**	**32**	P	**Pn**	**15 32 33.2**	**0.0**
HIZ	**Hauiti**	**4.49**	**21**	P	**Pn**	**15 32 37.0**	**+0.2**
HIZ	**Hauiti**	**4.49**	**21**	P	**Pn**	**15 32 37.4**	**+0.7**
BKZ	**Black Stump Fm**	**4.52**	**39**	P	**Pn**	**15 32 37.1**	**-0.2**
SYZ	**Scrubby Hill**	**4.62**	**213**	P	**Pn**	**15 32 37.2**	**-1.3**
SYZ	**Scrubby Hill**	**4.62**	**213**	P	**Pn**	**15 32 37.7**	**-0.8**
TLZ	**Tolley Road**	**4.86**	**26**	P	**Pn**	**15 32 43.0**	**+1.1**
TOZ	**Tahuroa Road**	**5.40**	**23**	P	**Pn**	**15 32 49.4**	**+0.2**
URZ	**Urewera**	**5.54**	**38**	P	**Pn**	**15 32 51.4**	**+0.2**
MKAZ	**Moumakai**	**5.90**	**19**	P	**Pn**	**15 32 56.7**	**+0.6**
WIAZ	**Waiheke Island**	**6.19**	**18**	P	**Pn**	**15 33 00.8**	**+0.7**

*NEIC **03** 15:41:45.8±2.6, 20°.1S±0°.1×178°.3W±0°.1, h600km±1km, mb4.6/145, Error ellipse: s-maj=17.1km s-min=16.1km az=178.0*
*NOU **03** 15:41:46.7, 20°.09S×178°.18W, h621km, mb4.9/41, Fiji Islands Region*
*IDC **03** 15:41:47.7±1.0, 20°.11S×178°.38W, h622km±10km, mb3.8/22, mbtmp4.8/24, Error ellipse: s-maj=11.5km s-min=9.4km az=151.0*

ISC 03 15:41:45.7±0.3, **20°.15S**±0°.06×**178°.31W**±0°.06, **h602**km, **n328**, σ**0§90**/336, **mb4.6**/104, **22C-17D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.96**	**346**	P	**P**	**15 43 03.4**	**+3.2**
TAVE	**Taveuni**	**3.74**	**336**	P	**P**	**15 43 12.5**	**+2.8**
MSVF	**Nonsavu**	**4.20**	**304**	P	**P**	**15 43 15.7**	**+2.8**
	17nm,0.3s,baz=161,slow=23,SNR=19						
MSVF				S	**S**	**15 44 27.8**	**+3.9**
	22nm,0.8s,baz=240,slow

comp=Z,7.0nm,0.5s
AS31 PcP PcP 15 50 34.1 -0.7
ASAR Alice Springs 44.32 256 P P 15 49 03.6 -0.5
comp=Z,17nm,0.5s,baz=87,slow=8.6,SNR=380
ASAR PcP PcP 15 50 35.0 +0.3
comp=Z,3.1nm,0.9s,baz=96,slow=3.4,SNR=6.5
ASAR S S 15 54 54.0 -1.8
comp=Z,16nm,0.8s,baz=93,slow=16,SNR=26
comp=Z,17nm,0.5s
ASAR Alice Springs 44.32 256 P P 15 49 03.4 -0.6
ASAR PcP PcP 15 50 34.4 -0.3
WB0 Warramunga Arr 44.34 262 P P 15 49 03.9 -0.3
WB2 Warramunga Arr 44.35 262 P P 15 49 03.9 -0.4
WB2 IAmb IAmb 15 49 04.6
comp=Z,20nm,0.6s
WB1 Warramunga Ar. 44.35 262 P P 15 49 04.1 -0.2
WRAB Tennant Creek 44.35 262 P P 15 49 03.8 -0.5
WRAB IAmb IAmb 15 49 04.5
comp=Z,16nm,0.6s
WRAB Tennant Creek 44.35 262 P P 15 49 04.1 -0.2
WRA Warramunga Arr 44.36 262 P P 15 49 03.6 -0.8
comp=Z,16nm,0.5s,baz=97,slow=8.1,SNR=327
comp=Z,16nm,0.5s
MTN Manton Dam 48.87 270 P P 15 49 37.7 -0.6
FORT Forrest 49.17 246 P P 15 49 39.7 -0.5
FORT IAmb IAmb 15 50 24.4
comp=Z,18nm,0.9s
WRKA Warakurna 49.28 254 P P 15 49 41.3 0.0
GUMO Guam 49.36 310 P P 15 49 41.4 -0.4
KNRA Kununurra 50.39 266 P P 15 49 49.1 -0.3
FAKI Fak Fak 51.14 283 P P 15 49 54.5 -0.3
FAKI IAmb IAmb 15 50 35.6
comp=Z,54nm,1.3s
FITZ Fitzroy Crossi 52.79 262 P P 15 50 06.6 0.0
SIJI Sorong 52.87 285 P P 15 50 07.4 +0.2
comp=Z,80nm,0.7s,baz=93,slow=5.1,SNR=44
comp=Z,80nm,0.7s
MBWA Marble Bar 57.65 257 P P 15 50 39.8 -0.5
VNDA Vanda 58.23 185 P P 15 50 44.1 +0.9
comp=Z,5.1nm,1.0s,baz=351,slow=6.9,SNR=20
comp=Z,5.1nm,1.0s
VNDA Vanda 58.23 185 P P 15 50 42.4 -0.8
MORW Morawa 59.70 247 P P 15 50 53.6 -0.2
LUWI Luwuk 60.59 281 P P 15 50 59.7 -0.2
LUWI IAmb IAmb 15 51 01.4
comp=Z,46nm,0.8s
LUWI Luwuk 60.59 281 P P 15 51 00.9 +1.0
GIRL Giralia 62.37 254 P P 15 51 11.6 +0.3
TOLI2 Tolitoli 63.25 282 P P 15 51 16.9 -0.3
TOLI2 IAmb IAmb 15 51 17.9
comp=Z,20nm,0.9s
TOLI2 Tolitoli 63.25 282 P P 15 51 17.2 +0.1
CASY Casey 64.16 205 P P 15 51 22.0 +0.1
CASY IAmb IAmb 15 51 23.5
comp=Z,20nm,1.1s
JMM Marumori 69.34 326 P P 15 51 54.0 -0.2
JMM IAmb IAmb 15 51 55.2
comp=Z,26nm,0.9s
JGF Kuroka 69.56 323 P P 15 51 55.5 -0.1
JGF IAmb IAmb 15 52 17.0
comp=Z,21nm,1.4s
UGM Wanagama 69.68 269 P P 15 51 56.8 0.0
MJAR Matsushiro Arr 69.76 324 P P 15 51 56.2 -0.5
comp=Z,7.5nm,0.7s,baz=154,slow=5.8,SNR=33
comp=Z,7.5nm,0.7s
MAJO Matsushiro 69.76 324 P P 15 51 56.5 -0.3
MAJO IAmb IAmb 15 51 57.3
comp=Z,14nm,0.8s
MAJO Matsushiro 69.76 324 P P 15 51 57.1 +0.4
MJB9 Matsu-Tunnel 69.76 324 P P 15 51 57.1 +0.4
MJB9 IAmb IAmb 15 51 58.3
comp=Z,14nm,0.8s
QSPA South Pole Qui 69.92 180 P P 15 51 58.5 +1.1
comp=Z,20nm,0.9s,baz=357,slow=0.3,SNR=64
comp=Z,20nm,0.9s
QSPA South Pole Qui 69.92 180 P P 15 51 58.3 +0.9
QSPA IAmb IAmb 15 51 59.6
comp=Z,17nm,0.8s
JHS Saijyo 71.65 320 P P 15 52 08.3 +0.4
JHS IAmb IAmb 15 52 09.4
comp=Z,26nm,0.9s
KIWB Kanaga Island 71.70 1 P P 15 52 07.4 -0.3
ADK Adak 71.73 1 P P 15 52 07.0 -0.8
JNU Nakatsue 71.82 317 P P 15 52 09.3 +0.4
LEM Lembang 72.76 269 P P 15 52 14.3 -0.5
comp=Z,40nm,0.7s,baz=100,slow=5.2,SNR=8.4
comp=Z,40nm,0.7s
YULB Yu-li 73.07 303 P 15 52 15.6 -0.6
YULB IAmb IAmb 15 52 19.9
comp=Z,15nm,1.0s
KSM Kuching 73.08 278 P P 15 52 17.1 +0.6
KSM IAmb IAmb 15 52 18.0
comp=Z,19nm,0.7s
KSM Kuching 73.08 278 P P 15 52 17.2 +0.7
NACB Ninganchiao 73.24 304 P P 15 52 16.6 -0.6
JKA Kamikawa-asahi 73.28 332 P P 15 52 18.0 +1.0
JKA IAmb IAmb 15 52 19.6
comp=Z,26nm,0.9s
SSLB Suanglung 73.54 304 P P 15 52 17.4 -1.5
SSLB IAmb IAmb 15 52 18.5
comp=Z,17nm,0.8s
TPUB Ta-pu 73.54 303 P P 15 52 17.5 -1.4
TPUB Ta-pu 73.54 303 P P 15 52 17.8 -1.2
YSS Yuzh-Sakhalins 75.45 334 P P 15 52 29.5 +0.5
YSS IAmb IAmb 15 52 31.0
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 75.45 334 P P 15 52 28.9 -0.1
PEA0B Petropavlovsk- 75.86 345 P P 15 52 30.9 -0.3
PEA0B IAmb IAmb 15 52 32.1
comp=Z,42nm,1.4s
PETK Petropavlovsk- 75.86 345 P P 15 52 30.6 -0.6
comp=Z,8.7nm,0.8s,baz=130,slow=6.4,SNR=40
comp=Z,8.7nm,0.8s
KSRS Korea Array 76.43 319 P P 15 52 34.8 +0.1
comp=Z,3.4nm,0.8s,baz=148,slow=7.9,SNR=11
comp=Z,3.4nm,0.8s
KSAR Wonju Array Be 76.45 319 P P 15 52 34.7 0.0
CHIR Chirikof Islan 78.08 13 P P 15 52 42.9 -0.2
USA0B Ussuriysk Arra 78.51 326 P P 15 52 46.4 +0.7
USA0B IAmb IAmb 15 52 47.8
comp=Z,20nm,1.0s
USRK Ussuriysk Ar. 78.51 326 P P 15 52 46.2 +0.5
comp=Z,11nm,0.8s,baz=127,slow=3.6,SNR=15
comp=Z,11nm,0.8s
SMAI San Martin Ant 79.04 159 P P 15 52 49.4 +1.2
SMAI IAmb IAmb 15 52 54.1
comp=Z,38nm,1.4s
NJ2 Nanjing 79.43 310 *e*P P 15 52 51.7 +0.8
NJ2 pmax pmax
comp=Z,5.0nm,0.7s
OHAK Old Harbor 79.88 14 P P 15 52 52.6 +0.1
OHAK IAmb IAmb 15 52 57.0
comp=Z,32nm,1.4s
BELA Belgrano 2 79.94 173 P P 15 52 52.6 -0.2
MDJ Mudanjiang 80.07 325 P P 15 52 54.5 +0.6
DSP Deep Springs 80.59 45 P P 15 52 58.1 +1.3
HUMO Hull Mountain 80.60 38 P P 15 52 58.2 +1.5
LCH Last Change Ra 80.73 45 P P 15 52 58.6 +0.9
NVAR Mina Array Bea 80.97 44 P P 15 53 00.1 +1.1
comp=Z,1.9nm,0.8s,baz=224,slow=8.3,SNR=12
comp=Z,1.9nm,0.8s
KVN Kaiserville 81.45 43 P P 15 53 02.4 +1.0
TPH Tonopah 81.48 44 P P 15 53 02.7 +1.1
TPH IAmb IAmb 15 53 03.8
comp=Z,41nm,1.2s
P18K Big Mountain, 81.48 12 P P 15 53 00.3 -0.6
P18K IAmb IAmb 15 53 01.3
comp=Z,16nm,1.1s
PMSA Palmer Station 81.72 157 P P 15 53 04.4 +2.3
MOD Modoc Plateau 81.73 40 P P 15 53 03.5 +0.8
MAW Mawson 81.80 200 P P 15 53 01.3 -1.2
comp=Z,1.5nm,0.6s,baz=45,slow=2.9,SNR=2.3
comp=Z,1.5nm,0.6s
MAW Mawson 81.80 200 P P 15 53 03.0 +0.5
CN2 Changchun 81.85 323 *e*P P 15 53 02.0 -1.1
CN2 pmax pmax
comp=Z,20nm,1.2s
K05A Summer Lake 81.87 39 P P 15 53 04.7 +1.2
K05A IAmb IAmb 15 53 06.2
comp=Z,15nm,1.1s
O18K Koktuh Hills 81.92 12 P P 15 53 02.9 -0.1
O18K IAmb IAmb 15 53 03.9
comp=Z,25nm,1.0s
BNX BinXian 81.97 325 ⇓P P 15 53 03.4 -0.2
BNX pmax pmax
comp=Z,12nm,0.9s
BNX pmax pmax
comp=Z,81nm,3.9s
P19K Oil Pt 82.12 13 P P 15 53 03.9 -0.2
O19K Port Alsworth 82.40 12 P P 15 53 04.8 -0.6
CNPM China Poot 82.43 14 P P 15 53 05.6 0.0
CNPM IAmb IAmb 15 53 44.8
comp=Z,30nm,1.4s
ILSW Illiamna Southw 82.44 12 P P 15 53 05.2 -0.6
ILSW IAmb IAmb 15 53 06.1
comp=Z,33nm,1.1s
PINE Pine Mountain 82.49 38 P P 15 53 06.7 +0.2
BRLK Bradley Lake 82.72 14 P P 15 53 06.9 -0.2
BRLK IAmb IAmb 15 53 34.8
comp=Z,24nm,1.4s
UBPT Khong Chiam 82.75 289 P P 15 53 08.7 +0.5
UBPT IAmb IAmb 15 53 28.0
comp=Z,21nm,1.4s
IPM Ipoh 82.80 277 P P 15 53 09.1 +0.5
IPM IAmb IAmb 15 53 10.0
comp=Z,21nm,0.8s
N19K Bonanza Creek 82.94 12 P P 15 53 07.4 -0.9
SVW2 Sparrevohn 83.01 11 P P 15 53 08.0 -0.5
KULM Kulim 83.44 278 P P 15 53 12.2 +0.4
KULM IAmb IAmb 15 53 13.3
comp=Z,9.9nm,0.8s
I07A Izee 83.49 38 P P 15 53 12.3 +0.9
SPU Mount Spurr 83.76 12 P P 15 53 11.2 -1.1
M19K Big River Lodg 83.97 11 P P 15 53 12.2 -1.1
L19K White Mountain 84.15 11 P P 15 53 14.2 0.0
L19K IAmb IAmb 15 53 15.3
comp=Z,12nm,1.1s
M20K Styx River 84.19 12 P P 15 53 14.0 -0.4
SUA Susitna One 84.28 13 P P 15 53 14.6 -0.4
SUA IAmb IAmb 15 53 15.8
comp=Z,9.3nm,0.8s
SKT Skwentna 84.59 12 P P 15 53 15.1 -1.2
TTA Tatalina 84.65 10 P P 15 53 16.6 0.0
KNK Knik Glacier 84.74 14 P P 15 53 16.7 -0.3
KNK IAmb IAmb 15 53 17.8
comp=Z,14nm,1.1s
PMR Palmer 84.75 14 P P 15 53 16.7 -0.2
HEH HeiHe 84.86 328 *e*P P 15 53 17.8 0.0
HEH pmax pmax
comp=Z,9.0nm,1.1s
GHO Glory Hole Cre 84.95 14 P P 15 53 17.4 -0.7
GHO IAmb IAmb 15 53 18.9
comp=Z,21nm,1.0s
CUT Chulitna 85.23 13 P P 15 53 18.7 -0.6
CUT IAmb IAmb 15 53 19.8
comp=Z,25nm,1.0s
BMRM Bremner River 85.28 16 P P 15 53 19.9 +0.2
BMRM IAmb IAmb 15 53 20.6
comp=Z,11nm,1.1s
PPLA Purkeypile 85.30 12 P P 15 53 18.6 -1.2
PPLA IAmb IAmb 15 53 48.2
comp=Z,15nm,1.4s
LYN LuoYang 85.31 309 ⇓P P 15 53 21.3 +0.9
LYN LuoYang 85.31 309 pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 85.36 14 P P 15 53 19.9 -0.2
SCM IAmb IAmb 15 53 21.0
comp=Z,19nm,1.0s
K20K Telida 85.38 11 P P 15 53 19.6 -0.4
ENH Enshi 85.60 304 P P 15 53 22.0 +0.1
ENH Enshi 85.60 304 P P 15 53 22.7 +0.8
comp=Z,31nm,1.4s
CAST Castle Rocks 85.79 11 P P 15 53 20.6 -1.5
CAST IAmb IAmb 15 53 21.1
comp=Z,12nm,1.2s
N25K Chitina, Valde 85.82 15 P P 15 53 22.2 -0.1
N25K IAmb IAmb 15 53 22.8
comp=Z,14nm,1.3s
M24K Tolsona, Glenn 85.87 15 P P 15 53 22.7 +0.2
GLB Gilahina Butte 85.88 16 P P 15 53 22.4 -0.2
GLB IAmb IAmb 15 53 23.6
comp=Z,14nm,1.4s
J20K Nowinta River 86.12 10 P P 15 53 23.2 -0.3
PLID Pearl Lake 86.12 39 P P 15 53 24.4 +0.1
BARN Barnard Glacie 86.13 17 P P 15 53 24.1 +0.2
BARN IAmb IAmb 15 53 25.2
comp=Z,14nm,1.2s
KTH Kantishna Hill 86.14 12 P P 15 53 22.3 -1.4
TRF Thorofare Moun 86.17 12 P P 15 53 23.2 -0.8
TRF IAmb IAmb 15 53 24.5
comp=Z,7.5nm,0.8s
RND Reindeer 86.42 13 P P 15 53 24.7 -0.3
RND IAmb IAmb 15 53 25.7
comp=Z,13nm,1.1s
DHY Denali Highway 86.44 14 P P 15 53 24.8 -0.5
MCK McKinley 86.69 13 P P 15 53 25.5 -0.8
MCK IAmb IAmb 15 53 26.8
comp=Z,9.7nm,1.0s
M26K Nabesna, AK 86.90 16 P P 15 53 27.5 +0.1
M26K IAmb IAmb 15 53 28.6
comp=Z,9.9nm,1.1s
ELIB Princess Elisa 86.96 187 *d*P P 15 53 27.9 +0.2
comp=Z,12nm,0.7s
TXAR Lajitas Array 87.11 57 P P 15 53 28.9 +0.6
comp=Z,2.1nm,0.8s,baz=224,slow=5.2,SNR=18
comp=Z,2.1nm,0.8s
TXAR Lajitas Array 87.11 57 P P 15 53 29.5 +0.3
M27K Edge Creek, AK 87.15 16 P P 15 53 29.0 +0.4
M27K IAmb IAmb 15 53 30.2
comp=Z,14nm,1.1s
I21K Tanana 87.42 11 P P 15 53 29.1 -0.5
I21K IAmb IAmb 15 53 30.3
comp=Z,12nm,1.1s
NEA2 Nenana 87.44 12 P P 15 53 28.6 -1.1
MLY Manley 87.51 11 P P 15 53 28.8 -1.3
MLY IAmb IAmb 15 53 30.4
comp=Z,11nm,1.2s
WRH Wood River Hil 87.52 13 P P 15 53 29.2 -0.9
WRH IAmb IAmb 15 53 30.4
comp=Z,17nm,1.1s
RIDG Independent Ri 87.59 14 P P 15 53 30.1 -0.4
XAN Xi'an 87.69 307 pP pP 15 55 42.9 +2.9
XAN Xi'an 87.69 307 pmax pmax
comp=Z,26nm,0.8s
XAN Xi'an 87.69 307 P P 15 53 32.8 +1.1
DOT Dot Lake 87.70 15 P P 15 53 30.7 -0.3
HDA Harding Lake 87.71 13 P P 15 53 30.1 -0.9
HDA IAmb IAmb 15 53 32.0
comp=Z,5.6nm,0.6s
H21K Melozitna Rive 87.72 10 P P 15 53 30.4 -0.6
CCB Clear Creek Bu 87.74 13 P P 15 53 30.4 -0.7
CCB IAmb IAmb 15 53 31.2
comp=Z,23nm,1.2s
L27K Beaver Creek, 87.75 16 P P 15 53 31.2 0.0
BCAR Beaver Creek A 87.77 16 P P 15 53 31.3 -0.1
IMAR Indian Mountai 87.86 10 P P 15 53 31.2 -0.5
I23K Minto, Yukon-K 87.87 12 P P 15 53 30.5 -1.2
I23K IAmb IAmb 15 53 31.7
comp=Z,10nm,1.4s
TCOL CIGO, UAF Yank 87.93 13 P P 15 53 31.1 -0.9
TCOL IAmb IAmb 15 53 32.1
comp=Z,21nm,1.2s
MDM Murphy Dome 87.93 12 P P 15 53 30.8 -1.2
MDM IAmb IAmb 15 53 32.1
comp=Z,11nm,1.0s
COLA College 87.93 13 P P 15 53 31.4 -0.6
COLA IAmb IAmb 15 53 32.1
comp=Z,21nm,1.2s
COLA College 87.93 13 P P 15 53 31.4 -0.6
comp=Z,15nm,1.0s
SCRK Sand Creek 88.00 14 P P 15 53 31.8 -0.7
IL31 88.04 13 P P 15 53 31.3 -1.1
ILAR Eielson Array 88.04 13 P P 15 53 31.6 -0.9
comp=Z,5.5nm,1.0s,baz=214,slow=5.2,SNR=64
comp=Z,5.5nm,1.0s
ILAR Eielson Array 88.04 13 P P 15 53 31.4 -1.1
POKR Poker Plat Res 88.23 13 P P 15 53 32.3 -1.1
POKR IAmb IAmb 15 53 33.4
comp=Z,9.9nm,1.1s
K27K Chicken 88.50 15 P P 15 53 35.0 +0.4
K27K IAmb IAmb 15 53 36.3
comp=Z,9.7nm,1.1s
J26L Joseph Creek 88.54 14 P P 15 53 35.1 +0.2
J26L IAmb IAmb 15 53 36.5
comp=Z,12nm,1.1s
M30M Minto, Yukon 88.73 18 P P 15 53 35.9 +0.1
M30M IAmb IAmb 15 53 37.1
comp=Z,8.7nm,1.0s
HHC Hu-ho-hao-te 88.90 314 *e*P P 15 53 37.9 +0.6
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,270nm,5.4s
BW06 Boulder Array 88.91 43 P P 15 53 36.7 -0.7
PDAR Pinedale Array 88.91 43 P P 15 53 37.5 +0.2
comp=Z,1.1nm,0.5s,baz=199,slow=3.6,SNR=16
comp=Z,1.1nm,0.5s
BOZ Bozeman (W) 89.01 40 P P 15 53 38.3 +0.6
CRAI Chiangrai 89.11 292 P P 15 53 39.2 +0.7
DAWY Dawson 89.20 16 P P 15 53 37.9 -0.1
DAWY IAmb IAmb 15 53 39.2
comp=Z,5.2nm,0.8s
EGAK Eagle 89.34 15 P P 15 53 38.0 -0.6
EGAK IAmb IAmb 15 53 39.7
comp=Z,10nm,1.1s
CM31 Chiang Mai Arr 89.72 290 P P 15 53 42.0 +0.5
CMAR Chiang Mai Arr 89.72 290 P P 15 53 42.5 +1.1
comp=Z,7.3nm,0.9s,baz=117,slow=2.9,SNR=48
comp=Z,7.3nm,0.9s
CMAR Chiang Mai Arr 89.72 290 P P 15 53 42.2 +0.7
CHTO Chiang Mai 89.85 290 P P 15 53 42.4 +0.4
CHTO IAmb IAmb 15 53 44.0
comp=Z,11nm,0.8s
PZH PanZhiHua 90.29 298 P P 15 53 45.6 +1.6
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.2s
LZH Lanzhou 92.33 308 *e*P P 15 53 54.1 +0.8
LZH pP PcP 15 53 57.6 +4.0
LZH pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 95.30 319 P P 15 54 06.1 -0.4
comp=Z,0.5nm,0.8s,baz=135,slow=4.1,SNR=3.6
SONM PP PP 15 58 04.8 -2.9
comp=Z,0.7nm,0.9s,baz=130,slow=7.1,SNR=3.6
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 96.32 25 P P 15 54 10.2 -0.2
comp=Z,0.4nm,0.8s,baz=244,slow=4.6,SNR=4.4
comp=Z,0.4nm,0.8s
ARCES ARCESS Array B 128.53 350 PKP PKPdf 15 59 44.1 -0.4
comp=Z,3.5nm,0.9s,baz=80,slow=1.9,SNR=12
FINES FINESS Array B 135.36 344 PKP PKPdf 15 59 57.6 0.0
comp=Z,1.2nm,0.5s,baz=59,slow=3.9,SNR=6.0
AKASG Malin Array Be 142.57 331 PKhKP PKPpre 16 00 07.0
comp=Z,9.4nm,0.7s,baz=39,slow=4.5,SNR=71
AKASG SKPbc **SKPbc 16 02 51.9 -1.0**
comp=Z,0.2nm,0.2s,baz=24,slow=2.8,SNR=5.2
AKASG Malin Array Be 142.57 331 PKPpre 16 00 06.6
LODK Lodwar 143.21 248 PKPdf PKPbc 16 00 12.2 +0.3
SORM Soroca 144.76 329 ⇑P **PKPdf 16 00 14.9 0.0**
GAZ Gaziantep 144.77 306 PKPdf **PKPdf 16 00 15.2 -0.2**
BNN Bunyan 145.19 310 **PKPbc 16 00 17.4 +0.1**
VASR Vaslui 146.05 327 ⇑P **PKPbc 16 00 19.4 +0.2**
ASF Jabal al Asfar 146.36 298 PKPbc **PKPbc 16 00 20.1 -0.6**
comp=Z,8.8nm,0.9s,baz=163,slow=3.0,SNR=7.2
BR131 Keskin Array S 146.39 313 **PKPbc 16 00 19.8 -0.8**
BRTR Keskin Array B 146.39 313 PKPbc **PKPbc 16 00 19.9 -0.8**
comp=Z,4.5nm,0.8s,baz=141,slow=4.5,SNR=20
BRTR Keskin Array B 146.39 313 **PKPbc 16 00 19.6 -1.0**
SCTR Scanteiesti 146.59 326 ⇑P **PKPbc 16 00 21.2 +0.4**
BUR08 Bucovina Ar. S 146.60 331 **PKPbc 16 00 21.0 +0.1**
BURAR Bucovina Array 146.62 331 ⇑P **PKPbc 16 00 21.5 +0.6**
BURAR Bucovina Array 146.62 331 **PKPbc 16 00 21.2 +0.3**
GHRR 146.64 327 ⇑P **PKiKP 16 00 21.8 -1.1**
CFR Carcaliu 146.83 325 ⇑P **PKPbc 16 00 20.9 -0.5**
STHS Stebnicka Huta 146.88 336 *e*PKP **PKPbc 16 00 21.6 +0.1**
TPGR Topolog 146.88 324 ⇑P **PKPbc 16 00 21.7 +0.1**
ANTO Ankara 146.91 313 **PKPbc 16 00 21.7 -0.3**
VRI Vrincioaia 147.12 327 ⇑P **PKPbc 16 00 21.9 -0.3**
HARR Harsova 147.26 324 ⇓P **PKPbc 16 00 23.0 +0.5**
KSP Ksiaz 147.27 343 *e*PKPbc **PKPbc 16 00 22.6 +0.2**
MMAI Mount Meron Ar 147.39 300 PKPbc **PKPbc 16 00 23.4 0.0**
comp=Z,4.1nm,0.4s,baz=76,slow=3.5,SNR=12
COVR Voineasa-Covas 147.40 327 ⇑P **PKPbc 16 00 22.4 -0.6**
TRPA Tarpa 147.40 334 ⇓P **PKPbc 16 00 22.6 -0.1**
MANR Mangalia 147.44 323 ⇑P **PKiKP 16 00 24.2 -0.4**
OSTC Ostas 147.55 343⇑ *e*PKP **PKPbc 16 00 23.2 0.0**
UPC Upice 147.65 343⇑ *e*PKP **PKPbc 16 00 23.3 -0.1**
CLL Collm 147.66 347 **PKPbc 16 00 22.7 -0.6**
CLL Collm 147.66 347 *i* PKPbc **PKPbc 16 00 23.0 -0.4**
comp=Z,21nm,0.7s
CLL *i* PKPab **PKPab 16 00 27.1 -0.7**
comp=Z,14nm,1.0s
CLL *ex* x 16 00 35.0
CLL *ex* x 16 02 50.0
MDUB Mudurnu 147.69 315 **PKPbc 16 00 23.4 -0.6**
DPC Dobruska-Polom 147.71 342⇑ *e*PKP **PKPbc 16 00 23.8 +0.2**
DOPR Dopca 147.72 328 ⇓P **PKPbc 16 00 24.2 +0.4**
LANS Liptovska Anna 147.75 338 *e*PKP **PKiKP 16 00 24.6 -0.5**
BRG Berggiesshubel 147.85 345 *e*PKP **PKPbc 16 00 24.0 +0.1**
BRG Amp 16 00 25.0
comp=Z,11nm,0.8s
MORC Moravsky Berou 147.85 341 **PKPbc 16 00 23.9 -0.1**
MORC Moravsky Berou 147.85 341 *e*PKP **PKPbc 16 00 24.2 +0.2**
VOIR 148.26 328 ⇓P **PKiKP 16 00 26.2 -0.2**
MARR Marisel-Cluj 148.27 331 ⇓P **PKPbc 16 00 25.5 +0.3**
EIL Elat 148.47 294 PKPbc **PKPbc 16 00 25.8 -0.4**
comp=Z,8.0nm,0.9s,baz=7.2,slow=6.0,SNR=4.2
BORA Eskisehir 148.48 315 **PKPbc 16 00 25.0 -1.0**
PRU Pruhonice 148.52 344⇑ *e*PKP **PKPbc 16 00 25.3 -0.3**
ARR Arges 148.52 328 ⇓P **PKiKP 16 00 27.1 +0.2**
GOPC GO Pecny, Ondr 148.52 344⇑ *e*PKP **PKPbc 16 00 25.4 -0.2**
VYHS Vyhne 148.53 338 *e*PKP **PKPbc 16 00 25.9 +0.2**
VYHS *e* 16 00 32.0
VRAC Vranov 148.56 341 *e*PKP **PKPbc 16 00 25.7 0.0**
JAVC Velka Javorina 148.61 340 *e*PKP **PKiKP 16 00 26.9 0.0**
NKC Novy Kostel 148.79 347 *e*PKPAB **PKPab 16 00 32.0 -0.6**
KRUC Moravsky 148.84 341 *e*PKP **PKPbc 16 00 26.1 -0.3**
MODS Modra-Piesok 149.16 340 *e*PKP **PKiKP 16 00 28.0 0.0**
SIRR Siria 149.23 332 ⇓P **PKPbc 16 00 27.5 +0.1**
GZR Gura Zlata 149.39 330 ⇑P **PKPbc 16 00 27.4 -0.5**
MEM Membach 149.41 355 *d*PKP **PKiKP 16 00 28.4 -0.1**
SURR Surduc 149.42 331 ⇑P **PKiKP 16 00 28.3 -0.3**
BTNL Ternell 149.43 354 *d*PKP **PKPbc 16 00 27.3 -0.5**
KHC Kasperske Hory 149.55 345 **PKPbc 16 00 27.5 -0.6**
KHC Kasperske Hory 149.55 345 *e*PKPDF **PKPdf 16 00 22.7 -0.1**
KHC ⇑ *e*PKP **PKPbc 16 00 27.4 -0.8**
KHC *e*PKPAB **PKPab 16 00 35.9 +0.1**
CKRC Cesky Krumlov 149.65 343⇑ *e*PKP **PKiKP 16 00 28.6 -0.4**
CKRC *ex* x 16 00 37.2
BZS Buzias 149.75 332 ⇑P **PKPbc 16 00 28.4 -0.3**
GEC2 GERESS Array S 149.79 344 **PKPbc 16 00 28.4 -0.3**
GERES GERESS Array B 149.79 344 PKPbc **PKPbc 16 00 28.7 -0.1**
comp=Z,5.0nm,0.9s,baz=52,slow=2.2,SNR=15
GERES PKPab **PKPab 16 00 36.7 -0.1**
comp=Z,0.5nm,0.4s,baz=54,slow=3.4,SNR=3.5
GERES GERESS Array B 149.79 344 **PKPbc 16 00 28.1 -0.7**
BMRD Maredsous 149.81 356 *d*PKP **PKPbc 16 00 28.5 -0.2**
HERR Herculane 149.95 330 ⇑P **PKPbc 16 00 28.8 -0.3**
CONA Conrad Observa 150.00 341 *i* PKP **PKPbc 16 00 29.4 0.0**
comp=Z,1.5nm,0.3s
DOU Dourbes 150.03 356 *d*PKP **PKPbc 16 00 29.1 -0.1**
RONA Rosalia, Austr 150.07 340 *i* PKP **PKPbc 16 00 29.3 -0.2**
comp=Z,6.3nm,0.5s
WLF Walferdange 150.34 354 *d*PKP **PKiKP 16 00 30.5 +0.2**
MDVR Moldovita 150.35 330 ⇓P **PKPbc 16 00 30.2 0.0**
MANT Manisa 150.46 314 **PKPbc 16 00 30.4 -0.5**
MORH Mrgy, Hungar 150.51 336 ⇑P **PKPbc 16 00 29.1 -1.3**
MOA Molln 150.55 343 *i* PKP **PKPbc 16 00 30.0 -0.4**
comp=Z,1.9nm,0.4s
AKAS Kas 150.78 309 **PKPbc 16 00 30.7 -0.9**
RDO Rodhopi 150.86 321 **PKPbc 16 00 30.6 -0.7**
FRGS Fruska Gora 150.90 333 ⇓P **PKiKP 16 00 32.0 +0.2**
VTS Vitosha 151.17 326 **PKPbc 16 00 31.6 -0.7**
SOKA Soboth 151.38 341 *e*PKP **PKPbc 16 00 30.8 -1.7**
comp=Z,1.3nm,0.4s
KBA Koelnbreinsper 151.51 343 *i* PKP **PKPbc 16 00 32.7 -0.1**
comp=Z,2.4nm,0.4s
OBKA Obir 151.68 341 *e*PKP **PKPbc 16 00 31.8 -1.4**
comp=Z,0.9nm,0.4s
WATA Walderalm 151.71 346 *i* PKP **PKPbc 16 00 32.5 -0.8**
comp=Z,2.6nm,0.3s
WTTA Wattenberg 151.77 346 *i* PKP **PKPbc 16 00 32.8 -0.7**
comp=Z,2.8nm,0.3s
MOTA Moosalm 151.81 346 *i* PKP **PKPbc 16 00 33.4 -0.1**
comp=Z,2.1nm,0.5s
MYKA Terra Mystica 151.83 342 *i* PKP **PKPbc 16 00 33.0 -0.5**
comp=Z,16nm,1.6s
SQTA Sankt Quirin 151.90 346 *i* PKP **PKPbc 16 00 33.0 -0.7**
comp=Z,1.0nm,0.3s
ABTA Abfaltersbach 152.03 344 *i* PKP **PKPbc 16 00 32.8 -1.1**
comp=Z,2.9nm,0.5s

DAVA	**Damuels**	**152.12**	**348**	*i* PKP		**PKiKP**	**16 00 34.7**	**+0.3**	
	comp=Z,0.3nm,0.1s								
FETA	**Feichten**	**152.20**	**347**	*i* PKP		**PKPbc**	**16 00 33.8**	**-0.6**	
	comp=Z,0.8nm,0.4s								
LIT	**Litokhoron**	**153.31**	**323**			**PKPab**	**16 00 51.4**	**-0.6**	
ESDC	**Sonseca Array**	**159.94**	**13**	PKPab		**PKPab**	**16 01 20.1**	**-0.6**	
	comp=Z,0.8nm,0.7s,baz=353,slow=3.7,SNR=4.4								
TORD	**Torodi Ar. Bea**	**173.04**	**180**	PKP		**PKPdf**	**16 00 45.4**	**-2.2**	
	comp=Z,0.2nm,0.4s,baz=123,slow=8.6,SNR=4.0								
TORD				PKPab		**PKPab**	**16 02 17.7**	**-1.2**	
	comp=Z,0.2nm,0.4s,baz=252,slow=2.7,SNR=2.8								

MAN 03 15:47:31.1, 10°03'N×126°34'E, h3km, mb4.6, ML3.5, MS3.4, 3C-6D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**0.88**	**254**	*e*P		Pg	15 47 47.5	-0.4
SCPH				*e*S		Sb	15 48 00.7	-0.3
MSLP	**Maasin**	**1.46**	**274**↑	*e*P		Pn	15 47 57.2	-1.2
MSLP				*e*S		Sb	15 48 17.7	-0.3
BIPH	**Bislig**	**1.83**	**179**↓	*e*P		Pn	15 47 59.1	-4.4
BIPH				*e*S		Sn	15 48 21.0	-6.2
CGP	**Cagayan de Oro**	**2.26**	**226**↓	*e*P		Pn	15 48 08.3	-1.0
CGP				*e*S		Sn	15 48 38.7	+1.0
LLP	**Lapu-Lapu**	**2.36**	**277**↓	*i*P		Pn	15 48 11.6	+0.9
LLP				*i* S		Sb	15 48 42.9	-0.9
TBP	**Tagbilaran**	**2.47**	**262**	*e*P		Pn	15 48 13.2	+1.0
TBP				*i* S		Sn	15 48 42.5	-0.4
KCP	**Kidapawan**	**3.25**	**203**↓	*e*P		Pn	15 48 22.5	-0.5
KCP				*i* S		Sn	15 49 01.0	-1.2
DCPH	**Dipolog City**	**3.28**	**244**↑	*e*P		Pn	15 48 23.9	+0.5
CTBH	**Cotabato--PC H**	**3.48**	**217**↑	*i*P		Pn	15 48 26.6	+0.5
CNOP	**Candoni, Negro**	**3.65**	**267**↓	*e*P		Pn	15 48 30.0	+1.5
RCP	**Roxas**	**3.85**	**294**↓	*e*P		Pn	15 48 33.3	+2.1

*DJA **03** 15:49:07.2±1.2, 8°S±16°×12°8E±2°6, h164km±66km, M4.7/6, mb4.6/2, mB5.0/1, MLv4.7/6, Mw(mB)4.4/1*
*NEIC **03** 15:49:09.5±1.5, 7°55S±0°07×128°02E±0°07, h151km±6km, mb4.5/28, Error ellipse: s-maj=9.8km s-min=9.7km az=172.0*
*IDC **03** 15:49:09.7±1.5, 7°50S×127°90E, h154km±13km, mb3.8/15, mbtmp4.3/17, MS3.1/3, Error ellipse: s-maj=14.1km s-min=9.6km az=95.0*
ISC 03 15:49:09.2±0.4, 7°53S±0°05×127°99E±0°05, h150km, n94, σ1§27/96, mb4.2/24, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**3.31**	**98**	Pn		**Pn**	**15 50 01.1**	**+0.6**
SAUI	**Saumlaki**	**3.31**	**98**	P		**Pn**	**15 50 00.4**	**-0.1**
AAI	**Ambon**	**3.83**	**3**	P		**Pn**	**15 50 08.4**	**+1.2**
SOEI	**Soe**	**4.29**	**239**	Pn		**Pn**	**15 50 13.6**	**+0.1**
SOEI	**Soe**	**4.29**	**239**	P		**Pn**	**15 50 13.9**	**+0.4**
SOEI	**Soe**	**4.29**	**239**	P		**Pn**	**15 50 13.7**	**+0.2**
NLAI	**Namlea**	**4.36**	**348**	P		**Pn**	**15 50 17.6**	**+3.4**
BATI	**Baumata**	**5.04**	**238**	P		**Pn**	**15 50 23.4**	**+0.3**
	967nm,0.5s,baz=110,slow=3.5,SNR=248							
BATI				S		**Sn**	**15 51 20.6**	**-0.3**
	309nm,0.4s,baz=63,slow=7.1,SNR=11							
MMRI	**Maumere**	**5.80**	**259**	Pn		**Pn**	**15 50 32.8**	**-0.5**
MTN	**Manton Dam**	**6.12**	**150**	Pn		**Pn**	**15 50 36.5**	**-1.0**
MTN	**Manton Dam**	**6.12**	**150**	P		**Pn**	**15 50 37.2**	**-0.3**
FAKI	**Fak Fak**	**6.24**	**43**	Pn		**Pn**	**15 50 38.2**	**-1.0**
FAKI	**Fak Fak**	**6.24**	**43**	P		**Pn**	**15 50 38.7**	**-0.5**
KDU	**Kakadu**	**6.76**	**140**	P		**Pn**	**15 50 45.4**	**-0.7**
SIJI	**Sorong**	**7.38**	**26**	P		**Pn**	**15 50 54.6**	**+0.2**
	44nm,0.4s,baz=196,slow=19,SNR=45							
SIJI				S		**Sn**	**15 52 18.3**	**+1.4**
	12nm,0.4s,baz=217,slow=23,SNR=3.2							
SIJI				LR		LR	15 53 49.9	
	comp=Z,69nm,21.0s,baz=170,slow=38							
KNRA	**Kununurra**	**8.13**	**175**	Pn		**Pn**	**15 51 02.8**	**-1.6**
KNRA	**Kununurra**	**8.13**	**175**	P		**Pn**	**15 51 02.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**10.75**	**192**	Pn		**Pn**	**15 51 35.3**	**-3.8**
WB0	**Warramunga Arr**	**13.66**	**154**	Pn		**Pn**	**15 52 13.6**	**-3.3**
JAGI	**Jajag, Banyuwa**	**13.74**	**265**	Pn		**Pn**	**15 52 17.6**	**-0.4**
JAGI	**Jajag, Banyuwa**	**13.74**	**265**	P		**Pn**	**15 52 19.3**	**+1.4**
WRAB	**Tennant Creek**	**13.78**	**154**			**Pn**	**15 52 15.3**	**-3.2**
WRA	**Warramunga Arr**	**13.79**	**154**	P		**Pn**	**15 52 14.9**	**-3.6**
	16nm,0.5s,baz=321,slow=15,SNR=60							
WRA				S		Sn	15 54 38.1	-13
	39nm,0.7s,baz=327,slow=23,SNR=9.3							
WRA				LR		LR	15 58 24.2	
	comp=Z,42nm,18.5s,baz=18,slow=40							
WB2	**Warramunga Arr**	**13.79**	**154**	Pn		**Pn**	**15 52 15.2**	**-3.3**
MBWA	**Marble Bar**	**15.72**	**210**	Pn		**Pn**	**15 52 41.5**	**-1.1**
MBWA				IAmb		IAmb	15 52 43.4	
	comp=Z,35nm,1.4s							
AS31	**Alice Springs**	**17.02**	**161**			**P**	**15 52 57.2**	**-0.6**
AS31				IAmb		IAmb	15 53 04.4	
	comp=Z,8.9nm,0.4s							
ASAR	**Alice Springs**	**17.02**	**161**	P		**P**	**15 52 57.2**	**-0.6**
	comp=Z,11nm,0.6s,baz=338,slow=9.2,SNR=50							
ASAR				S		S	15 55 53.8	-14
	comp=Z,3.6nm,0.6s,baz=338,slow=16,SNR=2.6							
ASAR	**Alice Springs**	**17.02**	**161**			**P**	**15 52 57.5**	**-0.3**
QIS	**Mount Isa**	**17.15**	**140**	P		**Pn**	**15 53 01.1**	**+1.1**
WRKA	**Warakurna**	**17.41**	**179**	P		**Pn**	**15 53 04.1**	**+1.0**
SBUM	**Sibu**	**18.60**	**302**			**P**	**15 53 16.8**	**+1.6**
SBUM				IAmb		IAmb	15 53 18.6	
	comp=Z,14nm,0.7s							
PMG	**Port Moresby**	**19.05**	**97**	P		**Pn**	**15 53 25.2**	**+2.8**
	comp=Z,9.4nm,0.5s,baz=264,slow=4.7,SNR=5.0							
KSM	**Kuching**	**19.78**	**296**	P		**P**	**15 53 28.0**	**+0.1**
KSM				IAmb		IAmb	15 53 36.8	
	comp=Z,23nm,0.7s							
KSM	**Kuching**	**19.78**	**296**	P		**Pn**	**15 53 32.2**	**+1.2**
GIRL	**Giralia**	**20.03**	**220**	P		**P**	**15 53 30.8**	**+0.3**
BBJI	**Bungbulang**	**20.17**	**269**	P		**P**	**15 53 34.2**	**+2.0**
	comp=Z,28nm,0.7s							
OOD	**Oodnadatta**	**21.43**	**161**	P		**P**	**15 53 46.0**	**+0.5**
CTA	**Charters Tower**	**21.65**	**127**	P		**P**	**15 53 49.1**	**+1.1**
	comp=Z,2.2nm,0.5s,baz=304,slow=11,SNR=11							
	comp=Z,2.2nm,0.5s							
CTAO	**Charters Tower**	**21.65**	**127**	P		**P**	**15 53 46.2**	**-1.8**
FORT	**Forrest**	**23.13**	**180**	P		**P**	**15 54 00.7**	**-1.5**
FORT	**Forrest**	**23.13**	**180**	P		**P**	**15 54 03.1**	**+1.0**
MULG	**Mulgathing**	**23.34**	**167**	P		**P**	**15 54 05.3**	**+1.2**
INKA	**Innaminka**	**23.45**	**151**	P		**P**	**15 54 06.8**	**+1.7**
LCRK	**Leigh Creek**	**24.73**	**159**	P		**P**	**15 54 18.1**	**+1.4**
BBOO	**Buckleboo**	**26.25**	**165**	P		**P**	**15 54 31.3**	**+0.9**
BBOO				IAmb		IAmb	15 54 33.4	
	comp=Z,29nm,1.3s							
RK1H	**Rockhampton Ha**	**26.74**	**129**	P		**P**	**15 54 36.1**	**+1.1**
NWAO	**Narrogin (SRO)**	**27.17**	**200**	P		**P**	**15 54 38.9**	**+0.2**
STKA	**Stephens Creek**	**27.34**	**154**	P		**P**	**15 54 41.0**	**+0.8**
	comp=Z,5.8nm,0.6s,baz=325,slow=9.2,SNR=9.4							
	comp=Z,5.8nm,0.6s							
STKA	**Stephens Creek**	**27.34**	**154**	P		**P**	**15 54 40.8**	**+0.6**
HTT	**Hallett**	**27.69**	**160**	P		**P**	**15 54 45.0**	**+1.7**
CMSA	**Cobar Meteorol**	**29.04**	**148**	P		**P**	**15 54 56.7**	**+1.4**
IPM	**Ipoh**	**29.43**	**293**	P		**P**	**15 54 59.3**	**+0.3**
IPM				IAmb		IAmb	15 55 36.5	
	comp=Z,31nm,1.4s							
KULM	**Kulim**	**30.11**	**294**	P		**P**	**15 55 04.3**	**-0.6**
RPSI	**Rantau Prapat**	**30.73**	**288**	P		**P**	**15 55 09.7**	**-0.8**
RPSI				IAmb		IAmb	15 55 10.9	
	comp=Z,14nm,0.8s							
TPUB	**Ta-pu**	**31.48**	**347**	P		**P**	**15 55 15.3**	**-1.5**
ARPS	**Mount Arapiles**	**31.72**	**159**	P		**P**	**15 55 20.7**	**+1.8**
UBPT	**Khong Chiam**	**31.81**	**315**	P		**P**	**15 55 20.3**	**+0.4**
UBPT				IAmb		IAmb	15 55 24.3	
	comp=Z,19nm,1.5s							
NACB	**Ninganchiao**	**32.12**	**349**	P		**P**	**15 55 22.2**	**-0.2**
CAN	**Canberra**	**33.71**	**148**	P		**P**	**15 55 37.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**38.58**	**312**	P		**P**	**15 56 17.2**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=139,slow=6.6,SNR=14							
	comp=Z,1.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**38.58**	**312**	P		**P**	**15 56 17.9**	**+0.1**
CHTO	**Chiang Mai**	**38.80**	**313**	P		**P**	**15 56 20.0**	**+0.3**
KSRS	**Korea Array**	**44.75**	**360**	P		**P**	**15 57 08.0**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=179,slow=9.1,SNR=16							
	comp=Z,3.0nm,0.7s							
KS19	**Wonju Array Si**	**44.80**	**360**	P		**P**	**15 57 06.5**	**-1.5**
KS19				IAmb		IAmb	15 57 38.5	
	comp=Z,23nm,1.4s							
MJAR	**Matsushiro Arr**	**44.88**	**12**	P		**P**	**15 57 08.2**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=186,slow=4.8,SNR=4.0							
	comp=Z,1.3nm,0.9s							
USA0B	**Ussuriysk Arra**	**51.62**	**4**	P		**P**	**15 57 60.0**	**-0.2**
USA0B				IAmb		IAmb	15 58 35.2	
	comp=Z,5.1nm,0.9s							
USRK	**Ussuriysk Ar.**	**51.62**	**4**	P		**P**	**15 57 59.9**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=179,slow=6.0,SNR=6.7							
	comp=Z,3.1nm,0.6s							
AMCZ	**Amberley**	**52.79**	**140**	P		**P**	**15 58 08.1**	**-1.0**
ULN	**Ulaanbaatar**	**58.18**	**344**	P		**P**	**15 58 47.8**	**+0.2**
ULN				IAmb		IAmb	15 58 48.8	
	comp=Z,4.5nm,1.2s							
SONM	**Songino Array**	**58.34**	**343**	P		**P**	**15 58 49.6**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=169,slow=7.9,SNR=5.4							
	comp=Z,0.7nm,0.5s							
SONM	**Songino Array**	**58.34**	**343**	P		**P**	**15 58 48.9**	**+0.3**
PETK	**Petropavlovsk-**	**65.46**	**19**	P		**P**	**15 59 35.5**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=208,slow=2.7,SNR=6.8							
	comp=Z,2.3nm,0.9s							
MK31	**Makanchi Array**	**67.60**	**328**	P		**P**	**15 59 49.7**	**0.0**
MKAR	**Makanchi Array**	**67.60**	**328**	P		**P**	**15 59 48.8**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=118,slow=8.1,SNR=12							
	comp=Z,1.9nm,0.5s							
MKAR	**Makanchi Array**	**67.60**	**328**	P		**P**	**15 59 49.4**	**-0.3**
MAKZ	**Makanchi**	**67.77**	**328**	P		**P**	**15 59 50.4**	**-0.3**
YAK	**Yakutsk**	**69.37**	**1**	P		**P**	**16 00 00.1**	**-0.1**
ZALV	**Zalesovo Beam**	**71.19**	**335**	P		**P**	**16 00 10.9**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=144,slow=5.1,SNR=1.7							
	comp=Z,2.0nm,0.5s							
SHEM	**Shemya Is, Ala**	**71.66**	**27**	LR		LR	16 27 38.5	
	comp=Z,40nm,20.8s,baz=312,slow=32							
KURBB	**Kurchatov Arra**	**71.94**	**329**	P		**P**	**16 00 15.2**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=131,slow=5.1,SNR=9.6							
	comp=Z,3.6nm,0.9s							
VNDA	**Vanda**	**72.17**	**173**	P		**P**	**16 00 17.3**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=322,slow=11,SNR=1.7							
	comp=Z,0.5nm,0.4s							
VNDA	**Vanda**	**72.17**	**173**	P		**P**	**16 00 17.3**	**+0.2**
VNDA				IAmb		IAmb	16 00 55.9	
	comp=Z,8.9nm,1.4s							
MAW	**Mawson**	**73.73**	**201**	P		**P**	**16 00 25.8**	**-0.6**
	comp=Z,3.3nm,0.4s,baz=60,slow=5.1,SNR=9.9							
	comp=Z,3.3nm,0.4s							
MAW	**Mawson**	**73.73**	**201**	P		**P**	**16 00 27.2**	**+0.8**
BVAR	**Borovoye Array**	**77.46**	**328**	P		**P**	**16 00 47.2**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=131,slow=9.7,SNR=2.1							
	comp=Z,1.6nm,0.7s							
TIXI	**Tiksi**	**79.02**	**0**	P		**P**	**16 00 54.8**	**-1.2**
TIXI				IAmb		IAmb	16 00 56.1	
	comp=Z,4.2nm,0.5s							
QSPA	**South Pole Qui**	**82.45**	**180**	P		**P**	**16 01 14.7**	**+0.1**
QSPA				IAmb		IAmb	16 01 15.5	
	comp=Z,4.0nm,0.8s							
SNAA	**Sanae**	**94.68**	**194**	P		**P**	**16 02 13.5**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=46,slow=5.9,SNR=4.0							
	comp=Z,2.4nm,0.9s							
PDAR	**Pinedale Array**	**118.68**	**45**	PKP		**PKPdf**	**16 07 39.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=207,slow=1.7,SNR=4.8							
PDAR				PKKPbc		**PKKPab**	**16 17 59.5**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=106,slow=5.3,SNR=5.3							
TXAR	**Lajitas Array**	**126.91**	**59**	PKP		**PKPdf**	**16 07 55.5**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=360,slow=9.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**126.95**	**281**	PKP		**PKPdf**	**16 07 55.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=106,slow=2.1,SNR=5.2							
LVC	**Limon Verde**	**145.78**	**151**	PKPbc		**PKPab**	**16 08 32.6**	**+0.1**
	comp=Z,15nm,1.3s,baz=207,slow=2.3,SNR=4.4							
CPUP	**Florida**	**145.95**	**171**	PKPbc		**PKPbc**	**16 08 32.0**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=228,slow=1.7,SNR=7.2							
SIV	**San Ignacio**	**154.96**	**159**	PKPab		**PKPab**	**16 09 10.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=174,slow=7.5,SNR=4.3							

*IDC **03** 15:54:27.9±0.8, 36°54N×69°51E, h0km, mb4.0/17, mbtmp4.1/23, ML4.0/6, MS3.2/19, Error ellipse: s-maj=14.5km s-min=12.9km az=159.0*
*MOS **03** 15:54:30.7±1.2, 36°78N×69°45E, h22km, mb4.4/19, Error ellipse: s-maj=8.1km s-min=4.6km az=89.8*
*NEIC **03** 15:54:31.0±1.4, 36°69N±0°05×69°48E±0°06, h10km±1km, mb4.4/52, Error ellipse: s-maj=9.3km s-min=8.6km az=154.0*
*NNC **03** 15:54:34.3±1.7, 36°77N×69°24E, h65km±21km, mb4.2, mpv4.7, Error ellipse: s-maj=17.7km s-min=8.2km az=159.0*
*BJI **03** 15:54:34.9±0.0, 36°99N×69°67E, h20km, mb4.3/14, mB4.6/4, ML3.9/3, Ms4.0/3*
ISC 03 15:54:34.9±0.4, 36°73N±0°04×69°43E±0°04, h48km, n208, σ2§34/215, mb4.3/52, MS3.1/12, 13C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHGR	**Chuyangaron**	**1.94**	**354**			**Pn**	**15 55 05.9**	**+0.4**
CHGR	**Chuyangaron**	**1.94**	**354**	PN		**Pn**	**15 55 05.9**	**+0.4**
KBL	**Kabul**	**2.20**	**188**			**Pn**	**15 55 09.7**	**+0.5**
KBL	**Kabul**	**2.20**	**188**	PN		**Pn**	**15 55 09.7**	**+0.5**
GAR	**Garm**	**2.38**	**17**			**Pn**	**15 55 12.0**	**+0.5**
CEP	**Cherat**	**3.54**	**144**	P		**Pn**	**15 55 30.4**	**+3.0**
CEP				S		**Sn**	**15 56 16.0**	**+8.0**
THW	**Thamme Wali**	**4.36**	**153**	P		**Pn**	**15 55 39.4**	**+0.8**
NIL	**Nilore**	**4.38**	**133**	Pn		**Pn**	**15 55 38.2**	**-0.7**
NIL	**Nilore**	**4.38**	**133**	PN		**Pn**	**15 55 38.3**	**-0.7**
CHCP	**Chirah Chowk**	**4.38**	**133**	P		**Pn**	**15 55 40.4**	**+1.4**
TAS	**Tashkent**	**4.59**	**359**	Pn		**Pn**	**15 55 42.0**	**+0.1**
TAS	**Tashkent**	**4.59**	**359**	PN		**Pn**	**15 55 42.0**	**+0.1**
KSH	**Kashi**	**5.86**	**60**	Pn		**Pn**	**15 55 56.0**	**-3.4**
KSH				Sn		**Sn**	**15 56 59.5**	**-5.8**
KSH				smax		smax		
	comp=N,140nm,0.7s							
KSH				smax		smax		
	comp=E,150nm,1.0s							
JMU	**Jammu**	**6.02**	**130**	*e*P		**Pn**	**15 56 01.7**	**+0.3**
JMU				*e*S		**Sn**	**15 57 10.4**	**+1.4**
HRA	**Herat**	**6.30**	**250**	Pn		**Pn**	**15 56 04.2**	**-1.2**
AML	**Almayashu**	**6.33**	**30**	P		**Pn**	**15 56 06.7**	**+0.8**
	SNR=103							
KK31	**Karatay Array**	**6.42**	**7**			**Pn**	**15 56 07.1**	**+0.1**
KK31	**Karatay Array**	**6.42**	**7**	↓P		**Pn**	**15 56 07.4**	**+0.4**
	21nm,0.3s,baz=197,slow=15,SNR=601							
KK31				↑S		**Sn**	**15 57 18.6**	**-0.3**
	7.3nm,0.3s,baz=201,slow=24,SNR=3.5							
KK31	**Karatay Array**	**6.42**	**7**	PN		**Pn**	**15 56 07.1**	**+0.1**
KKAR	**Karatay Array**	**6.42**	**7**	Pn		**Pn**	**15 56 07.0**	**+0.1**
KKAR	**Karatay Array**	**6.42**	**7**	PN		**Pn**	**15 56 07.0**	**+0.1**
UCH	**Uchtor**	**6.76**	**34**	P		**Pn**	**15 56 12.7**	**+0.8**
	SNR=43							
EKS2	**Erkin-Say**	**6.81**	**28**	P		**Pn**	**15 56 13.7**	**+1.4**
	SNR=14							
AAK	**Ala-Archa**	**7.08**	**32**	P		**Pn**	**15 56 17.0**	**+0.9**
	SNR=61							
AAK	**Ala-Archa**	**7.08**	**32**	Pn		**Pn**	**15 56 16.9**	**+0.9**
	14nm,0.3s,baz=212,slow=7.2,SNR=164							
AAK				Sn		**Sn**	**15 57 36.1**	**+0.9**
	3.3nm,0.3s,baz=163,slow=20,SNR=5.5							
AAK				Lg		Lg	15 58 13.3	
	baz=313,slow=19							
AAK				LR		LR	15 59 28.4	
	comp=Z,182nm,18.7s,baz=222,slow=42							
	27nm,0.3s							
AAK	**Ala-Archa**	**7.08**	**32**	Pn		**Pn**	**15 56 16.2**	**+0.2**
AAK	**Ala-Archa**	**7.08**	**32**	*d*iPN		**Pn**	**15 56 16.7**	**+0.7**
KBK	**Karagaybulak**	**7.29**	**34**	P		**Pn**	**15 56 20.0**	**+1.0**
	SNR=29							
CHMS	**Chumysh**	**7.48**	**32**	P		**Pn**	**15 56 22.1**	**+0.6**
	SNR=64							
CHMS	**Chumysh**	**7.48**	**32**	↑P		**Pn**	**15 56 21.6**	**+0.2**
	52nm,0.6s							
CHMS				↑S		**Sn**	**15 57 45.1**	**+0.2**
	46nm,0.8s							
CHMS	**Chumysh**	**7.48**	**32**	P		**Pn**	**15 56 21.6**	**+0.2**
CHMS				S		**Sn**	**15 57 45.1**	**+0.2**
USP	**Ospenovka**	**7.60**	**29**	P		**Pn**	**15 56 23.3**	**+0.2**
	SNR=40							
ULHL	**Ulahol**	**7.62**	**42**	P		**Pn**	**15 56 23.9**	**+0.3**
	SNR=26							
TKM2	**Tokmak 2**	**7.80**	**36**	P		**Pn**	**15 56 26.4**	**+0.4**
	SNR=23							
TKM2	**Tokmak 2**	**7.80**	**36**	↑P		**Pn**	**15 56 26.1**	**+0.2**
	16nm,0.6s							
TKM2	**Tokmak 2**	**7.80**	**36**	P		**Pn**	**15 56 26.1**	**+0.2**
BHK	**Bhakra**	**7.85**	**130**	*e*P		**Pn**	**15 56 22.6**	**-3.9**
BHK				*e*S		**Sn**	**15 57 55.7**	**+1.7**
TARG	**Taragay, Kyrgy**	**8.20**	**50**	Pn		**Pn**	**15 56 30.6**	**-1.0**
TARG	**Taragay, Kyrgy**	**8.20**	**50**	P		**Pn**	**15 56 30.6**	**-1.0**
SMLA	**Simla**	**8.51**	**129**	*e*P		**Pn**	**15 56 34.6**	**-0.9**
SMLA				*e*S		**Sn**	**15 58 08.0**	**-2.2**
SMLA				IAML			15 58 21.1	
	comp=N,60nm,0.3s							
SMLA				IAML			15 58 21.8	
	comp=E,68nm,0.6s							
MDOK	**Medeo**	**8.69**	**40**	↑P		**Pn**	**15 56 38.5**	**+0.4**
	comp=E,18nm,0.6s							
MDOK	**Medeo**	**8.69**	**40**	P		**Pn**	**15 56 38.5**	**+0.4**
GEYT	**Alibeck**	**9.09**	**281**	Pn		**Pn**	**15 56 40.6**	**-2.9**
	comp=E,3.7nm,0.3s,baz=106,slow=9.3,SNR=20							
GEYT				Sn		**Sn**	**15 58 21.1**	**-3.3**
	comp=E,4.5nm,0.3s,baz=120,slow=17,SNR=11							
GEYT				LR		LR	16 01 32.2	
	comp=E,191nm,19.2s,baz=120,slow=46							
	comp=E,7.2nm,0.3s							
GEYT	**Alibeck**	**9.09**	**281**	Pn		**Pn**	**15 56 40.2**	**-3.3**
GYA0	**ALIBECK ARRAY**	**9.09**	**281**	P		**Pn**	**15 56 39.9**	**-3.6**
GYA0				S		**Sn**	**15 58 20.7**	**-3.8**
GYA0B	**ALIBECK ARRAY**	**9.09**	**281**	Pn		**Pn**	**15 56 40.1**	**-3.4**
GYA0B	**ALIBECK ARRAY**	**9.09**	**281**	↑P		**Pn**	**15 56 39.9**	**-3.6**
GYA0B				↑S		**Sn**	**15 58 20.7**	**-3.7**
NDI	**New Delhi**	**10.36**	**139**	*e*P		**Pn**	**15 56 59.0**	**-1.8**
NDI				*e*S		**Sn**	**15 58 53.0**	**-2.5**
KUDL	**Kundal**	**10.43**	**143**	*e*P		**Pn**	**15 56 59.8**	**-2.0**
KUDL				*e*S		**Sn**	**15 58 50.5**	**-6.7**
LGTI	**Lohaghat**	**11.61**	**126**	*e*P		**Pn**	**15 57 13.6**	**-4.3**
LGTI				*ex*		x	15 59 16.3	
LGTI				IAML			15 59 21.9	
	comp=E,21nm,0.8s							
LGTI				IAML			15 59 29.4	
	comp=N,27nm,0.8s							
OTUK	**Ortayu**	**11.71**	**10**	↓P		**Pn**	**15 57 17.6**	**-1.7**
	comp=N,6.7nm,0.8s							
OTUK	**Ortayu**	**11.71**	**10**	P		**Pn**	**15 57 16.6**	**-2.6**
MAKZ	**Makanchi**	**13.74**	**39**	Pn		**Pn**	**15 57 43.9**	**-3.1**
MAKZ	**Makanchi**	**13.74**	**39**	↓P		**Pn**	**15 57 44.4**	**-2.5**
	comp=N,7.2nm,1.2s							
MAKZ	**Makanchi**	**13.74**	**39**	↑P		**Pn**	**15 57 45.4**	**-1.5**
MK31	**Makanchi Array**	**13.89**	**40**	Pn		**Pn**	**15 57 46.6**	**-2.4**
MK31	**Makanchi Array**	**13.89**	**40**	P		**Pn**	**15 57 47.1**	**-1.9**
	comp=N,0.4nm,0.5s,baz=217,slow=13,SNR=22							
MK31	**Makanchi Array**	**13.89**	**40**	*i* P		**Pn**	**15 57 46.0**	**-3.0**
MKAR	**Makanchi Array**	**13.89**	**40**	Pn		**Pn**	**15 57 47.0**	**-2.0**
	comp=N,0.2nm,0.3s,baz=228,slow=13,SNR=11							
MKAR				Lg		Lg	16 01 55.0	
	baz=266,slow=30,SNR=2.9							
MKAR				LR		LR	16 03 58.5	
	comp=N,31nm,18.4s,baz=129,slow=41							
	comp=N,2.2nm,0.9s							
MKAR	**Makanchi Array**	**13.89**	**40**			**Pn**	**15 57 47.8**	**-1.2**
MKAR	**Makanchi Array**	**13.89**	**40**	*i* P		**Pn**	**15 57 47.9**	**-1.1**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AB31	**Akbulak array**	**14.30**	**334**	↓P		**Pn**	**15 57 50.7**	**-3.8**
	comp=Z,7.6nm,0.6s,baz=153,slow=12,SNR=177							
AB31				↓S		**Sn**	**16 00 25.8**	**-5.8**
	comp=Z,0.4nm,0.2s,baz=168,slow=34,SNR=5.5				

BELG					pmax	pmax			
	comp=Z,4.0nm,0.9s								
VRH	**Novokhopyorsk**	**24.45**	**315**	*eP*	**P**	**15 59 50.2**	**+1.2**
VRH					pmax	pmax			
	comp=Z,10.0nm,1.2s								
VSR	**Storozhevoye**	**25.93**	**314**	*eP*	**P**	**16 00 02.7**	**+0.3**
VSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
LPSR	**Galich'ya Gora**	**26.61**	**316**	*eP*	**P**	**16 00 09.0**	**+0.4**
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
MOY	**Mondy**	**26.85**	**46**	*eP*	**P**	**16 00 16.6**	**+5.7**
MOY					pmax	pmax			
	comp=Z,16nm,1.2s								
TNCH	**TengChong**	**27.45**	**107**	P	**P**	**16 00 20.8**	**+4.2**
TNCH				PP	**PnPn**	**16 01 08.6**	**+5.7**
TNCH					pmax	pmax			
	comp=Z,160nm,5.2s								
SIM	**Simferopol'**	**27.78**	**298**	*i* P	**P**	**16 00 13.0**	**-6.1**
ZAK	**Zakamensk**	**27.80**	**50**	*eP*	**P**	**16 00 24.8**	**+5.4**
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.1s								
MMAI	**Mount Meron Ar**	**28.07**	**273**	LR	LR	16 14 47.4			
	comp=Z,48nm,18.7s,baz=158,slow=43								
SONM	**Songino Array**	**29.25**	**56**	P	**P**	**16 00 33.6**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=256,slow=8.2,SNR=2.3								
	comp=Z,0.4nm,0.4s								
SONM	**Songino Array**	**29.25**	**56**	P	**P**	**16 00 33.8**	**+1.4**
SONM	**Songino Array**	**29.25**	**56**	P	**P**	**16 00 33.8**	**+1.4**
SONM					pmax	pmax			
	comp=Z,2.0nm,1.2s								
EIL	**Elat**	**29.58**	**266**	LR	LR	16 15 16.7			
	comp=Z,50nm,18.4s,baz=54,slow=42								
ULN	**Ulaanbaatar**	**29.70**	**56**	*i* P	**P**	**16 00 33.2**	**-3.1**
ULN					pmax	pmax			
	comp=Z,4.0nm,2.0s								
PALK	**Pallekele**	**31.07**	**158**	LR	LR	16 12 26.0			
	comp=Z,57nm,19.0s,baz=105,slow=35								
ELL	**Elmali**	**31.52**	**282**	P	**P**	**16 00 54.5**	**+2.0**
ELL	**Elmali**	**31.52**	**282**	P	**P**	**16 00 54.5**	**+2.0**
ELL					pmax	pmax			
	comp=Z,37nm,1.1s								
CMAR	**Chiang Mai Arr**	**31.68**	**117**	P	**P**	**16 00 53.8**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=292,slow=8.2,SNR=7.4								
CMAR				LR	LR	16 17 27.4			
	comp=Z,24nm,19.7s,baz=315,slow=44								
	comp=Z,0.6nm,0.8s								
AKASG	**Malin Array Be**	**31.82**	**309**	P	**P**	**16 00 55.4**	**+0.6**
	comp=Z,3.6nm,0.5s,baz=81,slow=6.8,SNR=30								
	comp=Z,3.6nm,0.5s								
AKASG	**Malin Array Be**	**31.82**	**309**	P	**P**	**16 00 56.0**	**+1.2**
AKASG	**Malin Array Be**	**31.82**	**309**	P	**P**	**16 00 56.0**	**+1.2**
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.8s								
AKBB	**Malin Array Si**	**31.82**	**309**	P	**P**	**16 00 56.0**	**+1.2**
AKBB	**Malin Array Si**	**31.82**	**309**	P	**P**	**16 00 56.0**	**+1.2**
AKBB					pmax	pmax			
	comp=Z,8.0nm,0.6s								
BURAR	**Bucovina Array**	**34.10**	**303**	P	**P**	**16 01 14.8**	**-0.1**
NACGM	**Naroch**	**34.17**	**316**	*eP*	**P**	**16 01 16.4**	**+1.1**
	comp=Z,9.0nm,0.8s,baz=105								
PABE	**Paberze**	**35.88**	**316**	P	**P**	**16 01 31.6**	**+1.6**
FIA1	**FINESS Array S**	**36.59**	**326**	P	**P**	**16 01 37.4**	**+1.4**
FIA1				IAmb	IAmb	16 01 39.2			
	comp=Z,9.6nm,0.9s								
FINES	**FINESS Array B**	**36.59**	**326**	P	**P**	**16 01 36.9**	**+0.9**
	comp=Z,2.4nm,0.4s,baz=122,slow=10,SNR=28								
	comp=Z,2.4nm,0.4s								
FINES	**FINESS Array B**	**36.59**	**326**	P	**P**	**16 01 37.3**	**+1.3**
FINES	**FINESS Array B**	**36.59**	**326**	P	**P**	**16 01 37.3**	**+1.3**
VRAC	**Vranov**	**39.84**	**306**	LR	LR	16 19 54.2			
	comp=Z,35nm,21.8s,baz=356,slow=38								
KEV	**Kevo**	**40.13**	**339**	P	**P**	**16 02 07.1**	**+1.5**
KEV	**Kevo**	**40.13**	**339**	P	**P**	**16 02 07.1**	**+1.5**
KEV					pmax	pmax			
	comp=Z,82nm,1.5s								
ARCES	**ARCESS Array B**	**40.46**	**338**	P	**P**	**16 02 09.5**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=103,slow=8.8,SNR=13								
	comp=Z,2.9nm,0.7s								
ARCES	**ARCESS Array B**	**40.46**	**338**	P	**P**	**16 02 09.9**	**+1.5**
ARCES	**ARCESS Array B**	**40.46**	**338**	P	**P**	**16 02 09.9**	**+1.5**
ARCES					pmax	pmax			
	comp=Z,51nm,1.5s								
HEH	**HeiHe**	**43.12**	**53**	*eP*	**P**	**16 02 32.3**	**+2.0**
HEH					pmax	pmax			
	comp=Z,8.0nm,0.8s								
NC602	**NORSAR Array S**	**43.25**	**323**	P	**P**	**16 02 32.1**	**+0.9**
NC303	**NORSAR Array S**	**43.39**	**323**	P	**P**	**16 02 33.6**	**+1.2**
NB201	**NORSAR Array S**	**43.40**	**323**	P	**P**	**16 02 33.5**	**+1.0**
NB2	**NORSAR Subarra**	**43.44**	**323**	P	**P**	**16 02 33.7**	**+0.9**
	comp=Z,8.3nm,0.8s,baz=97,slow=8.6								
NOA	**NORSAR Array B**	**43.44**	**323**	P	**P**	**16 02 33.9**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=97,slow=8.1,SNR=12								
NOA				LR	LR	16 21 44.6			
	comp=Z,23nm,20.5s,baz=290,slow=38								
	comp=Z,2.9nm,0.6s								
NBO00	**NORSAR Array S**	**43.65**	**323**	P	**P**	**16 02 34.5**	**0.0**
GSI	**Gunungsitoli**	**43.80**	**137**	P	**P**	**16 02 36.4**	**+0.2**
YAK	**Yakutsk**	**44.52**	**36**	LR	LR	16 22 59.2			
	comp=Z,26nm,20.2s,baz=281,slow=38								
KSRS	**Korea Array**	**46.00**	**71**	LR	LR	16 24 56.2			
	comp=Z,25nm,18.1s,baz=190,slow=40								
TIXI	**Tiksi**	**46.04**	**22**	LR	LR	16 24 49.1			
	comp=Z,17nm,21.4s,baz=179,slow=39								
TIXI	**Tiksi**	**46.04**	**22**	P	**P**	**16 02 53.8**	**+0.5**
TIXI				IAmb	IAmb	16 03 01.4			
	comp=Z,3.7nm,0.8s								
TIXI	**Tiksi**	**46.04**	**22**	*i* P	**P**	**16 02 51.4**	**-1.9**
MBAR	**Mbarara**	**51.62**	**233**	LR	LR	16 28 04.2			
	comp=Z,47nm,18.6s,baz=184,slow=39								
ESDC	**Sonseca Array**	**56.23**	**297**	P	**P**	**16 04 11.6**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=52,slow=7.8,SNR=6.2								
	comp=Z,0.8nm,0.5s								
PETK	**Petropavlovsk-**	**60.68**	**44**	LR	LR	16 34 59.3			
	comp=Z,22nm,19.0s,baz=345,slow=40								
VOI	**Vohitsoka**	**62.11**	**204**	P	**P**	**16 04 53.2**	**+2.2**
TORD	**Torodi Ar. Bea**	**64.46**	**268**	P	**P**	**16 05 06.3**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=43,slow=6.4,SNR=6.3								
	comp=Z,1.1nm,0.6s								
TORD	**Torodi Ar. Bea**	**64.46**	**268**	P	**P**	**16 05 06.5**	**-0.2**
IMAR	**Indian Mountai**	**72.34**	**17**	P	**P**	**16 05 56.0**	**+0.9**
H21K	**Melozitna Rive**	**72.83**	**17**	P	**P**	**16 05 59.6**	**+1.5**
H21K				IAmb	IAmb	16 06 08.4			
	comp=Z,3.6nm,1.3s								
BMAR	**Burnt Mountain**	**73.01**	**13**	P	**P**	**16 06 01.3**	**+2.0**
I21K	**Tanana**	**73.42**	**17**	P	**P**	**16 06 03.0**	**+1.5**
I21K				IAmb	IAmb	16 06 04.6			
	comp=Z,5.9nm,1.4s								
H23K	**Yukon River**	**73.42**	**16**	P	**P**	**16 06 02.9**	**+1.3**
J20K	**Nowinta River**	**73.72**	**18**	P	**P**	**16 06 05.0**	**+1.7**
J20K				IAmb	IAmb	16 06 19.8			
	comp=Z,6.9nm,1.5s								
INK	**Inuvik**	**73.88**	**9**	P	**P**	**16 06 05.5**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=351,slow=7.7,SNR=5.6								
	comp=Z,1.3nm,0.9s								
INK	**Inuvik**	**73.88**	**9**	P	**P**	**16 06 05.8**	**+1.6**
INK				IAmb	IAmb	16 06 29.8			
	comp=Z,3.5nm,1.2s								
INK	**Inuvik**	**73.88**	**9**	P	**P**	**16 06 05.8**	**+1.6**
INK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
I23K	**Minto, Yukon-K**	**74.04**	**16**	P	**P**	**16 06 06.0**	**+0.8**
I23K				IAmb	IAmb	16 06 48.2			
	comp=Z,4.6nm,1.3s								
K20K	**Telida**	**74.41**	**19**	P	**P**	**16 06 08.9**	**+1.4**
K20K				IAmb	IAmb	16 06 09.2			
	comp=Z,7.2nm,1.5s								
MDM	**Murphy Dome**	**74.45**	**16**	P	**P**	**16 06 08.9**	**+1.2**
MDM				IAmb	IAmb	16 06 37.5			
	comp=Z,5.2nm,1.5s								
CAST	**Castle Rocks**	**74.87**	**18**	P	**P**	**16 06 11.4**	**+1.4**
ILAR	**Eielson Array**	**74.90**	**15**	P	**P**	**16 06 10.8**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=358,slow=3.4,SNR=7.4								
	comp=Z,0.5nm,0.9s								
ILAR	**Eielson Array**	**74.90**	**15**	P	**P**	**16 06 10.7**	**+0.5**
WRH	**Wood River Hil**	**74.90**	**16**	P	**P**	**16 06 11.1**	**+0.9**
WRH				IAmb	IAmb	16 06 19.6			
	comp=Z,7.1nm,1.4s								
PPLA	**Purkeypile**	**75.28**	**18**	P	**P**	**16 06 13.7**	**+1.1**
PPLA				IAmb	IAmb	16 06 36.3			
	comp=Z,11nm,1.5s								
MCK	**McKinley**	**75.35**	**17**	P	**P**	**16 06 14.1**	**+1.2**
MCK				IAmb	IAmb	16 06 18.5			
	comp=Z,5.1nm,1.4s								
MCK	**McKinley**	**75.35**	**17**	P	**P**	**16 06 14.1**	**+1.2**
MCK				pmax	pmax				
	comp=Z,5.0nm,1.4s								
J26L	**Joseph Creek**	**75.82**	**14**	P	**P**	**16 06 16.8**	**+1.2**
J26L				IAmb	IAmb	16 06 24.7			
	comp=Z,3.2nm,1.1s								
SCRK	**Sand Creek**	**76.20**	**14**	P	**P**	**16 06 19.2**	**+1.3**
SCRK				IAmb	IAmb	16 06 27.2			
	comp=Z,4.6nm,1.3s								
SKT	**Skwentna**	**76.21**	**19**	P	**P**	**16 06 18.4**	**+0.6**
SKT				IAmb	IAmb	16 06 46.1			
	comp=Z,6.7nm,1.2s								
RIDG	**Independent Ri**	**76.24**	**15**	P	**P**	**16 06 18.5**	**+0.5**
RIDG				IAmb	IAmb	16 06 19.4			
	comp=Z,5.1nm,1.3s								
DHY	**Denali Highway**	**76.28**	**16**	P	**P**	**16 06 19.1**	**+0.7**
DHY				IAmb	IAmb	16 06 32.9			
	comp=Z,3.6nm,1.0s								
K27K	**Chicken**	**76.53**	**14**	P	**P**	**16 06 21.5**	**+1.9**
K27K				IAmb	IAmb	16 06 43.0			
	comp=Z,6.0nm,1.5s								
PAX	**Paxson**	**76.79**	**16**	P	**P**	**16 06 22.2**	**+1.1**
PAX				IAmb	IAmb	16 07 03.4			
	comp=Z,5.1nm,1.4s								
PAX	**Paxson**	**76.79**	**16**	P	**P**	**16 06 22.2**	**+1.1**
PAX				pmax	pmax				
	comp=Z,5.0nm,1.4s								
SML	**Sawmill**	**77.16**	**17**	P	**P**	**16 06 24.3**	**+1.1**
SCM	**Sheep Creek Mo**	**77.37**	**17**	P	**P**	**16 06 25.1**	**+0.7**
SCM	**Sheep Creek Mo**	**77.37**	**17**	P	**P**	**16 06 25.1**	**+0.7**
SCM				pmax	pmax				
	comp=Z,13nm,1.3s								
M24K	**Tolsona, Glenn**	**77.39**	**16**	P	**P**	**16 06 26.7**	**+2.2**
BCAR	**Beaver Creek A**	**77.46**	**14**	P	**P**	**16 06 26.6**	**+1.8**
M27K	**Edge Creek, AK**	**78.08**	**14**	P	**P**	**16 06 30.2**	**+1.8**
M27K				IAmb	IAmb	16 06 38.0			
	comp=Z,4.2nm,1.1s								
FARO	**Faro, Yukon**	**79.68**	**11**	P	**P**	**16 06 38.7**	**+1.6**
PCA	**Pinnacle**	**80.47**	**15**	P	**P**	**16 06 43.0**	**+1.5**
PCA				IAmb	IAmb	16 06 44.0			
	comp=Z,7.3nm,0.7s								
WHY	**Whitehorse**	**80.93**	**12**	P	**P**	**16 06 45.0**	**+1.1**
YKA	**Yellowknife Ar**	**81.07**	**2**	P	**P**	**16 06 46.0**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=350,slow=5.6,SNR=37								
	comp=Z,1.4nm,0.6s								
P33M	**Teslin, Yukon**	**81.69**	**11**	P	**P**	**16 06 49.2**	**+1.3**
P33M				IAmb	IAmb	16 06 59.1			
	comp=Z,2.6nm,0.8s								
WRA	**Warramunga Arr**	**83.19**	**121**	P	**P**	**16 06 54.1**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=322,slow=4.9,SNR=5.7								
	comp=Z,0.4nm,0.6s								
WRA	**Warramunga Arr**	**83.19**	**121**	P	**P**	**16 06 57.4**	**+1.2**
WRA	**Warramunga Arr**	**83.19**	**121**	P	**P**	**16 06 57.4**	**+1.2**
FCC	**Fort Churchill**	**83.88**	**351**	P	**P**	**16 07 00.8**	**+1.7**
FCC				IAmb	IAmb	16 07 17.8			
	comp=Z,3.9nm,1.2s								
FCC	**Fort Churchill**	**83.88**	**351**	P	**P**	**16 07 00.8**	**+1.7**
FCC				pmax	pmax				
	comp=Z,4.0nm,1.3s								
ASAR	**Alice Springs**	**85.42**	**124**	P	**P**	**16 07 05.8**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=314,slow=4.4,SNR=14								
	comp=Z,0.5nm,0.6s								
ASAR	**Alice Springs**	**85.42**	**124**	P	**P**	**16 07 06.7**	**-0.8**
ASAR	**Alice Springs**	**85.42**	**124**	P	**P**	**16 07 06.7**	**-0.8**

*IDC **03** 16:04:38.1±11.0, 62.˚25S×163.˚92E, h0km, mb3.8/2, mbtmp3.7/3, ML3.5/1, MS3.8/15, Error ellipse: s-maj=440.7km s-min=40.0km az=77.0*
*NEIC **03** 16:04:39.3±0.7, 62.˚3S±0.˚1×164.˚1E±0.˚6, h10km±2km, mb4.1/6, Error ellipse: s-maj=49.3km s-min=22.4km az=82.0*

ISC 03 16:04:39.0±1.2, 62.˚2S±0.˚1×164.˚0E±0.˚3, h10km, n40, σ0s72/11, mb3.9/4, MS3.8/15, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.38**	**182**	Pn	**Pn**	**16 08 15.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=2.0,slow=12,SNR=7.9						
VNDA				LR	LR	16 13 19.0	
	comp=Z,502nm,18.5s,baz=0.5,slow=34						
	0.9nm,0.6s						
VNDA	**Vanda**	**15.38**	**182**	Pn	**Pn**	**16 08 15.6**	**0.0**
VNDA				IAmb	IAmb	16 08 36.1	
	comp=Z,8.1nm,1.1s						
RPZ	**Rata Peaks**	**19.02**	**16**	LR	LR	16 15 17.8	
	comp=Z,280nm,20.4s,baz=198,slow=34						
MQZ	**McQueen's Vall**	**19.25**	**19**	P	**P**	**16 09 03.4**	**+0.1**
MQZ				IAmb	IAmb	16 09 10.0	
	comp=Z,47nm,1.2s						
URZ	**Urewera**	**25.33**	**25**	LR	LR	16 19 44.0	
	comp=Z,259nm,19.6s,baz=277,slow=36						
QSPA	**South Pole Qui**	**27.86**	**180**	LR	LR	16 20 12.8	
	comp=Z,197nm,18.1s,baz=34,slow=34						
QSPA	**South Pole Qui**	**27.86**	**180**	P	**P**	**16 10 28.1**	**-0.3**
QSPA				IAmb	IAmb	16 11 09.6	
	comp=Z,7.2nm,1.4s						
STKA	**Stephens Creek**	**33.61**	**324**	LR	LR	16 23 23.9	
	comp=Z,207nm,18.4s,baz=201,slow=34						
STKA	**Stephens Creek**	**33.61**	**324**	P	**P**	**16 11 18.1**	**-1.2**
STKA				IAmb	IAmb	16 11 47.4	
	comp=Z,1.6nm,1.3s						
MAW	**Mawson**	**38.59**	**217**	LR	LR	16 26 34.1	
	comp=Z,124nm,18.3s,baz=128,slow=34						
DZM	**Mont Dzumac**	**40.17**	**4**	LR	LR	16 25 47.5	
	comp=Z,64nm,19.1s,baz=108,slow=32						
DZM	**Mont Dzumac**	**40.17**	**4**	*e*LR	LR	16 23 31.2	
	comp=Z,74nm,24.8s						
H01W1	**Cape Leeuwin H**	**41.27**	**288**	T	T	16 57 08.6	
	baz=146,slow=76,SNR=57						
H01W2	**Cape Leeuwin H**	**41.27**	**288**	T	T	16 57 12.2	
	baz=146,slow=76,SNR=76						
H01W3	**Cape Leeuwin H**	**41.28**	**288**	T	T	16 57 13.4	
	baz=146,slow=76,SNR=58						
NWAO	**Narrogin (SRO)**	**41.58**	**293**	LR	LR	16 25 35.6	
	comp=Z,73nm,20.6s,slow=30						
ASAR	**Alice Springs**	**43.59**	**318**	P	**P**	**16 12 43.9**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=161,slow=7.8,SNR=20						
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**43.59**	**318**	P	**P**	**16 12 44.1**	**+1.0**
AS31	**Alice Springs**	**43.59**	**318**	P	**P**	**16 12 44.0**	**+0.9**
CTA	**Charters Tower**	**43.86**	**336**	LR	LR	16 28 40.9	
	comp=Z,102nm,19.2s,baz=145,slow=33						
CTAO	**Charters Tower**	**43.86**	**336**	P	**P**	**16 12 45.5**	**+0.2**
MSVF	**Nonsavu**	**45.54**	**19**	LR	LR	16 30 45.0	
	comp=Z,139nm,18.1s,baz=15,slow=34						
WRA	**Warramunga Arr**	**46.95**	**320**	P	**P**	**16 13 10.0**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=160,slow=7.1,SNR=3.5						
WRA				LR	LR	16 31 05.6	
	comp=Z,76nm,20.2s,baz=196,slow=34						
	comp=Z,0.8nm,0.9s						
TBI	**Tubuai**	**49.91**	**61**	*e*LR	LR	16 27 05.7	
	comp=Z,187nm,23.8s						
TBI				*e*LR	LR	16 27 06.3	
	comp=Z,2μm,24.8s						
TBI	**Tubuai**	**49.91**	**61**	*e*T	T	17 06 20.3	
	comp=Z,40nm,0.3s						
HNR	**Honiara**	**52.79**	**355**	LR	LR	16 33 14.7	
	comp=Z,747nm,18.4s,baz=211,slow=32						
PMG	**Port Moresby**	**54.14**	**339**	LR	LR	16 34 51.3	
	comp=Z,85nm,18.7s,baz=108,slow=34						
PAE	**Paea**	**54.97**	**58**	*e*T	T	17 12 37.9	
	comp=Z,3.1nm,0.3s						
PPT2	**Papeete2**	**55.04**	**58**	*e*LR	LR	16 29 31.2	
	comp=Z,121nm,31.0s						
PPT2				*e*LR	LR	16 29 31.3	
	comp=Z,63nm,29.0s						
PPT2	**Papeete2**	**55.04**	**58**	*e*T	T	17 12 39.4	
	comp=Z,5.2nm,0.3s						
VAH	**Vaihoa**	**57.94**	**58**	*e*T	T	17 16 22.0	
	comp=Z,80nm,0.3s						
SIJI	**Sorong**	**65.96**	**324**	LR	LR	16 44 26.9	
	comp=Z,38nm,19.0s,baz=293,slow=36						
H03S2	**Juan Fernandez**	**71.82**	**129**	T	T	17 34 41.5	
	baz=204,slow=74,SNR=66						
H03S1	**Juan Fernandez**	**71.82**	**129**	T	T	17 34 42.8	
	baz=204,slow=74,SNR=63						
H03S3	**Juan Fernandez**	**71.83**	**129**	T	T	17 34 42.3	
	baz=204,slow=74,SNR=83						
H08S2	**Diego Garcia H**	**83.97**	**265**	T	T	17 50 54.8	
	baz=151,slow=76,SNR=5.4						
H08S1	**Diego Garcia H**	**83.98**	**265**	T	T	17 50 51.6	
	baz=151,slow=76,SNR=4.7						
H08S3	**Diego Garcia H**	**84.00**	**265**	T	T	17 50 53.0	
	baz=151,slow=76,SNR=4.4						
JNU	**Nakatsue**	**98.70**	**332**	LR	LR	17 00 25.1	
	comp=Z,29nm,18.2s,baz=218,slow=34						
AKASG	**Malin Array Be**	**153.06**	**266**	PKPab	**PKPab**	**16 24 47.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=107,slow=2.6,SNR=4.2						

*AUST **03** 16:32:20.3±0.8, 30.˚67S×118.˚44E, h10km, Error ellipse: s-maj=12.8km s-min=8.0km az=149.0*
*NOU **03** 16:32:20.4, 30.˚60S×118.˚45E, h0km, MLv4.1/9, Western Australia*
*CUPWA **03** 16:32:22.0±3.9, 30.˚64S×118.˚39E, h1km±31km, ML3.2, Region: WESTERN AUSTRALIA*
*IDC **03** 16:32:31.1±9.8, 30.˚09S×119.˚79E, h0km, mbtmp3.9/3, ML3.8/3, Error ellipse: s-maj=121.3km s-min=64.2km az=109.0*

ISC 03 16:32:20.0±0.9, 30.˚62S±0.˚05×118.˚43E±0.˚05, h13km, n36, σ1s78/41, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.12**	**211**	P	**Pn**	**16 32 41.7**	**+0.2**
	baz=1.1,SNR=368						
KLBR				S	**Sb**	**16 32 55.8**	**-0.1**
	baz=1.1						
KLBR	**Kellerberrin**	**1.12**	**211**	P	**Pn**	**16 32 41.7**	**+0.2**
KLBR	**Kellerberrin**	**1.12**	**211**	P	**Pn**	**16 32 41.7**	**+0.2**
KLBR	**Kellerberrin**	**1.12**	**211**	S	**Sb**	**16 32 55.8**	**-0.1**
BLDU	**Ballidu**	**1.48**	**270**	P	**Pn**	**16 32 47.8**	**+1.4**
	baz=1.5,SNR=146						
BLDU				S	**Sn**	**16 33 06.8**	**+1.2**
	baz=1.5						
BLDU	**Ballidu**	**1.48**	**270**	P	**Pn**	**16 32 47.9**	**+1.5**
BLDU	**Ballidu**	**1.48**	**270**	P	**Pn**	**16 32 47.8**	**+1.4**
BLDU				S	**Sn**	**16 33 06.8**	**+1.2**
MUN	**Mundaring**	**2.33**	**234**	P	**Pn**	**16 32 59.5**	**+1.3**
	baz=2.3,SNR=19						
MUN				S	**Sn**	**16 33 26.2**	**-0.4**
	baz=2.3						
MUN	**Mundaring**	**2.33**	**234**	P	**Pn**	**16 32 59.7**	**+1.6**
MUN	**Mundaring**	**2.33**	**234**	P	**Pn**	**16 32 59.5**	**+1.3**
MUN	**Mundaring**	**2.33**	**234**	S	**Sn**	**16 33 26.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**2.51**	**204**	P	**Pn**	**16 33 02.0**	**+1.4**
	baz=2.5,SNR=23						
NWAO				P	**Pn**	**16 33 02.0**	**+1.4**
	baz=2.5,SNR=23						
NWAO	**Narrogin (SRO)**	**2.51**	**204**	P	**Pn**	**16 33 03.4**	**+2.8**
NWAO	**Narrogin (SRO)**	**2.51**	**204**	P	**Pn**	**16 33 02.0**	**+1.4**
MORW	**Morawa**	**2.59**	**306**	P	**Pn**	**16 33 02.8**	**+1.1**
	baz=2.6,SNR=4.8						
MORW	**Morawa**	**2.59**	**306**	P	**Pn**	**16 33 03.0**	**+1.4**
MORW	**Morawa**	**2.59**	**306**	P	**Pn**	**16 33 02.8**	**+1.1**
MTKN	**Mount Kenneth**	**2.62**	**239**	P	**Pn**	**16 33 05.0**	**+2.9**
KMBL	**Kambalda**	**3.06**	**105**	P	**Pn**	**16 33 09.6**	**+1.5**
	baz=3.0,SNR=15						
KMBL	**Kambalda**	**3.06**	**105**	P	**Pn**	**16 33 09.6**	**+1.5**
KMBL	**Kambalda**	**3.06**	**105**	P	**Pn**	**16 33 09.6**	**+1.5**
MEEK	**Meekatharra**	**3.97**	**2**	P	**Pn**	**16 33 22.6**	**+1.9**
	baz=4.0,SNR=26						
MEEK	**Meekatharra**	**3.97**	**2**	P	**Pn**	**16 33 22.4**	**+1.7**
MEEK	**Meekatharra**	**3.97**	**2**	P	**Pn**	**16 33 22.6**	**+1.9**
RKGY	**Rocky Gully**	**4.16**	**197**	P	**Pn**	**16 33 24.5**	**+1.2**
	baz=4.1						
RKGY	**Rocky Gully**	**4.16**	**197**	P	**Pn**	**16 33 25.2**	**+2.0**
RKGY	**Rocky Gully**	**4.16**	**197**	P	**Pn**	**16 33 24.5**	**+1.2**
FORT	**Forrest**	**8.30**	**94**	P	**Pn**	**16 34 20.2**	**+0.1**
	baz=8.3,SNR=8.7						
WRKA	**Warakurna**	**10.35**	**60**	P	**Pn**	**16 34 48.7**	**+0.4**
	baz=10,SNR=7.1						
MULG	**Mulgathing**	**13.49**	**93**	P	**Pn**	**16 35 29.2**	**-2.0**
	baz=14,SNR=4.1						
OOD	**Oodnadatta**	**15.34**	**84**	P	**Pn**	**16 35 52.2**	**-4.0**
	baz=15,SNR=5.9						
ASAR	**Alice Springs**	**15.41**	**67**	Pn	**Pn**	**16 35 53.8**	**-3.5**
	0.3nm,0.3s,baz=236,slow=11,SNR=20						
ASAR				Sn	Sn	16 38 32.6	-15
	0.1nm,0.3s,baz=246,slow=22,SNR=6.3						
	0.8nm,0.5s						
LCRK	**Leigh Creek**	**17.05**	**94**	P	**Pn**	**16 36 18.2**	**-0.1**
	baz=17,SNR=5.4						
WRA	**Warramunga Arr**	**17.87**	**57**	Pn	**Pn**	**16 36 24.1**	**-4.4**
	0.4nm,0.3s,baz=232,slow=13,SNR=28						
WRA				Sn	Sn	16 39 31.8	-16
	0.1nm,0.3s,baz=224,slow=23,SNR=5.1						
	2.8nm,0.6s						
STKA	**Stephens Creek**	**19.84**	**100**	P	**P**	**16 36 51.9**	**+1.1**
	0.2nm,0.3s,baz=289,slow=

comp=Z,22nm,1.4s
MBWA Marble Bar 41.52 319 P **P** **16 44 30.6 -0.8**
MBWA lAmb lAmb 16 44 59.9
comp=Z,18nm,1.1s
PMG Port Moresby 47.82 359 LR LR 17 03 39.2
comp=Z,137nm,18.8s,baz=176,slow=34
HNR Honiara 48.74 16 LR LR 17 01 01.1
comp=Z,864nm,21.5s,baz=221,slow=30
SNAA Sanae 49.62 192 LR LR 17 06 19.4
comp=Z,150nm,18.2s,baz=179,slow=36
SNAA Sanae 49.62 192 P **P** **16 45 36.6 +1.5**
SNAA lAmb lAmb 16 45 48.6
comp=Z,7.9nm,1.2s
TBI Tubuai 56.07 80 *e*LR LR 17 02 28.7
comp=Z,201nm,25.0s
KAPI Kappang 56.61 326 LR LR 17 09 15.7
comp=Z,68nm,20.4s,baz=165,slow=34
LEM Lembang 59.23 312 LR LR 17 09 45.0
comp=Z,54nm,20.8s,baz=165,slow=33
PPT2 Papeete2 60.73 76 *e*LR LR 17 04 41.0
comp=Z,55nm,22.8s
PPT Papeete 60.75 76 LR LR 17 06 50.6
comp=Z,36nm,21.0s,baz=208,slow=30
KSM Kuching 65.83 318 P **P** **16 47 31.2 +1.6**
SBUM Sibu 66.06 321 P **P** **16 47 32.8 +1.7**
GUMO Guam 70.71 357 LR LR 17 17 43.0
comp=Z,42nm,19.4s,baz=120,slow=35
H08S2 Diego Garcia H 75.59 278 T T 18 11 29.1
baz=147,slow=76,SNR=48
H08S1 Diego Carcia H 75.60 278 T T 18 11 21.5
baz=147,slow=76,SNR=56
H08S3 Diego Garcia H 75.61 278 T T 18 11 29.5
baz=147,slow=76,SNR=64
PLCA Paso Flores 77.15 151 LR LR 17 16 02.8
comp=Z,53nm,19.4s,baz=180,slow=31
SUR Sutherland 80.05 223 LR LR 17 19 10.3
comp=Z,34nm,21.2s,baz=173,slow=32
BOSA Boshof 81.66 229 LR LR 17 18 22.7
comp=Z,41nm,20.6s,baz=187,slow=30
PALK Pallekele 83.97 293 LR LR 17 22 19.6
comp=Z,19nm,18.3s,baz=255,slow=32
LBTB Lobatse 84.70 231 LR LR 17 23 08.3
comp=Z,47nm,18.4s,baz=180,slow=33
CMAR Chiang Mai Arr 85.68 314 LR LR 17 24 37.1
comp=Z,33nm,21.9s,baz=155,slow=34
BRDH Bariadhala 92.41 310 LR LR 17 32 10.1
comp=Z,28nm,19.3s,baz=178,slow=36
CPUP Villa Florida 94.04 158 LR LR 17 28 03.4
comp=Z,24nm,19.9s,baz=216,slow=33
FINES FINESS Array B 150.84 303 PKPbc **PKPbc** **16 56 34.5 -0.8**
comp=Z,3.1nm,0.8s,baz=112,slow=1.5,SNR=3.8

IDC ***03*** *16:44:06.7±3.0, 42.08S×173.79E, h39km±28km, mb3.7/3, mbtmp3.8/5, ML3.2/2, Error ellipse: s-maj=36.7km s-min=22.0km az=123.0*
WEL ***03*** *16:44:06.2±0.4, 42°S±3°×17°4E±°, h7km±4km, M3.7/12, ML3.9/12, MLv3.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=122.8, confirmed*
NOU ***03*** *16:44:06.8, 42°18S×173°76E, h20km, MLv4.0/10, South Island, New Zealand*
ISC 03 16:44:06.1±0.9, **42°05S**±0°02×**173°71E**±0°03, **h29**km±7km, **n114**, σ1°**80**/125, **mb3.5/3, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**20**	P	**Pb**	**16 44 13.3**	**-1.0**
BSWZ				S	**Sb**	**16 44 19.2**	**-0.7**
KHZ	**Kahutara**	**0.38**	**199**	P	**Pb**	**16 44 14.7**	**0.0**
KHZ	**Kahutara**	**0.38**	**199**	P	**Pb**	**16 44 14.8**	**+0.2**
KHZ				S	**Sb**	**16 44 20.9**	**+0.4**
CMWZ	**Cape Campbell**	**0.49**	**51**	P	**Pn**	**16 44 17.1**	**0.0**
CMWZ				S	**Sn**	**16 44 25.7**	**+1.1**
TUWZ	**Tuamarina**	**0.65**	**16**	P	**Pb**	**16 44 18.7**	**-0.3**
TUWZ				S	**Sb**	**16 44 27.5**	**-0.1**
THZ	**Tophouse**	**0.67**	**296**	P	**Pb**	**16 44 18.0**	**-1.3**
THZ				S	**Sb**	**16 44 26.0**	**-2.2**
NNZ	**Nelson**	**0.87**	**344**	P	**Pb**	**16 44 21.6**	**-1.1**
TCW	**Tory Channel**	**0.94**	**27**	P	**Pn**	**16 44 23.6**	**+0.1**
TCW				S	**Sn**	**16 44 38.0**	**+2.0**
MRNZ	**Matariki Terra**	**0.97**	**312**	P	**Pb**	**16 44 23.5**	**-0.2**
MRNZ				S	**Sb**	**16 44 36.7**	**0.0**
GVZ	**Greta Valley S**	**1.04**	**208**	P	**Pb**	**16 44 26.2**	**+0.7**
SNZO	**South Karori**	**1.05**	**45**	P	**Pb**	**16 44 26.6**	**+0.9**
WEL	**Wellington**	**1.11**	**46**	P	**Pb**	**16 44 27.2**	**+0.6**
TKNZ	**Takaka Hill**	**1.16**	**331**	P	**Pn**	**16 44 26.9**	**+0.4**
PLWZ	**Palliser**	**1.25**	**68**	P	**Pn**	**16 44 28.6**	**+0.9**
DUWZ	**D'Urville Isla**	**1.26**	**7**	P	**Pn**	**16 44 28.9**	**+1.0**
LTZ	**Lake Taylor**	**1.29**	**235**	P	**Pb**	**16 44 29.3**	**-0.5**
LTZ				S	**Sb**	**16 44 47.0**	**+1.1**
AMCZ	**Amberley**	**1.36**	**214**	P	**Pb**	**16 44 30.3**	**-0.8**
CAW	**Cannon Point**	**1.39**	**48**	P	**Pb**	**16 44 30.9**	**-0.6**
DSZ	**Denniston Nort**	**1.45**	**282**	P	**Pb**	**16 44 32.3**	**-0.3**
PAWZ	**Paruwai Farm**	**1.45**	**63**	P	**Pn**	**16 44 31.2**	**+0.7**
KIW	**Kapiti Island**	**1.50**	**38**	P	**Pb**	**16 44 32.7**	**-0.5**
QRZ	**Quartz Range**	**1.51**	**324**	P	**Pb**	**16 44 33.0**	**-0.5**
QRZ	**Quartz Range**	**1.51**	**324**	P	**Pn**	**16 44 32.6**	**+1.4**
QRZ				S	**Sb**	**16 44 52.0**	**-0.3**
MTW	**Mount Morrison**	**1.62**	**57**	P	**Pn**	**16 44 33.5**	**+0.6**
TRWZ	**Traveller**	**1.62**	**67**	P	**Pn**	**16 44 33.3**	**+0.6**
OGWZ	**Otaki Gorge**	**1.66**	**42**	P	**Pn**	**16 44 34.5**	**+1.4**
OKCZ	**Okains Bay**	**1.73**	**196**	P	**Pn**	**16 44 34.9**	**+0.6**
OXZ	**Oxford**	**1.77**	**224**	P	**Pn**	**16 44 35.1**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.78**	**50**	P	**Pn**	**16 44 35.6**	**+0.7**
INZ	**Inchbonnie**	**1.81**	**247**	P	**Pn**	**16 44 37.0**	**+1.8**
MQZ	**McQueen's Vall**	**1.82**	**205**	P	**Pn**	**16 44 35.3**	**-0.1**
TMWZ	**Te Maipa**	**1.89**	**61**	P	**Pn**	**16 44 36.8**	**+0.3**
AKCZ	**Akaroa Harbour**	**1.91**	**198**	P	**Pn**	**16 44 37.3**	**+0.6**
MRZ	**Mangatainoka R**	**1.98**	**46**	P	**Pn**	**16 44 38.5**	**+0.8**
RACZ	**Rakaia**	**2.03**	**214**	P	**Pn**	**16 44 38.3**	**0.0**
MHCZ	**Mount Hutt**	**2.16**	**226**	P	**Pn**	**16 44 40.4**	**+0.2**
OHWZ	**Ohakea**	**2.21**	**34**	P	**Pb**	**16 44 45.8**	**+0.4**
PRWZ	**Pori Road**	**2.27**	**49**	P	**Pn**	**16 44 43.0**	**+1.3**
POWZ	**Post Office Ro**	**2.27**	**44**	P	**Pn**	**16 44 43.6**	**+1.9**
WACZ	**Wakanui South**	**2.33**	**215**	P	**Pn**	**16 44 42.6**	**+0.1**
BFZ	**Birch Farm**	**2.35**	**55**	P	**Pb**	**16 44 46.1**	**-1.7**
WVZ	**Waitaha Valley**	**2.44**	**244**	P	**Pb**	**16 44 46.0**	**+2.3**
WAZ	**Wangarui**	**2.49**	**23**	P	**Pb**	**16 44 48.4**	**-1.8**
DVHZ	**Dannevirke**	**2.55**	**47**	P	**Pn**	**16 44 47.8**	**+2.3**
RPZ	**Rata Peaks**	**2.56**	**229**	Pn	**Pn**	**16 44 45.9**	**+0.3**
	6.2nm,0.3s,baz=57,slow=3.9,SNR=26						
RPZ				Sn	**Sn**	**16 45 15.9**	**0.0**
	13nm,0.3s,baz=15,slow=20,SNR=32						
	36nm,0.3s						
RPZ	**Rata Peaks**	**2.56**	**229**	P	**Pn**	**16 44 46.4**	**+0.7**
RPZ	**Rata Peaks**	**2.56**	**229**	P	**Pn**	**16 44 46.2**	**+0.6**
TSZ	**Takapari Road**	**2.62**	**41**	P	**Pn**	**16 44 47.1**	**+0.5**
ANWZ	**Angora Road**	**2.62**	**54**	P	**Pn**	**16 44 54.3**	**+1.8**
NMEZ	**Namu Road**	**2.64**	**3**	P	**Pb**	**16 44 50.9**	**-1.9**
LREZ	**Lake Rotokare**	**2.65**	**12**	P	**Pb**	**16 44 52.1**	**-0.7**
ARCZ	**Arundel**	**2.65**	**224**	P	**Pn**	**16 44 47.1**	**+0.2**
KHEZ	**Kahui Hut**	**2.77**	**5**	P	**Pb**	**16 44 53.2**	**-1.7**
KHEZ	**Kahui Hut**	**2.77**	**5**	P	**Pb**	**16 44 53.3**	**-1.7**
NBEZ	**Newall Road No**	**2.79**	**3**	P	**Pb**	**16 44 53.6**	**-1.6**
GCSZ	**Gaunt Creek Bo**	**2.79**	**242**	P	**Pn**	**16 44 51.5**	**+2.6**
NEZ	**North Egmont**	**2.80**	**6**	P	**Pb**	**16 44 55.7**	**+0.3**
PNHZ	**Pukenui**	**2.85**	**42**	P	**Pn**	**16 44 50.2**	**+0.5**
PKE	**Pukeiti**	**2.87**	**4**	P	**Pb**	**16 44 54.1**	**-2.5**
DREZ	**Durham Road**	**2.89**	**8**	P	**Pb**	**16 44 55.3**	**-1.6**
MTVZ	**Mangateitei**	**2.98**	**27**	P	**Pb**	**16 44 59.2**	**+0.6**
MHEZ	**Mangahewa**	**3.01**	**9**	P	**Pb**	**16 44 57.3**	**-1.8**
PKVZ	**Pokaka**	**3.03**	**25**	P	**Pb**	**16 44 57.3**	**-2.1**
VRZ	**Vera Road**	**3.04**	**16**	P	**Pb**	**16 44 56.4**	**-3.1**
TMZ	**Timaru**	**3.05**	**219**	P	**Pn**	**16 44 52.6**	**+0.1**
MOVZ	**Moawhango**	**3.07**	**31**	P	**Pb**	**16 44 57.1**	**-2.9**
WNVZ	**Wahianoa**	**3.08**	**28**	P	**Pb**	**16 44 57.6**	**-2.7**
TRVZ	**Turoa**	**3.09**	**28**	P	**Pb**	**16 44 59.6**	**-0.8**
DRZ	**Dome Shelter**	**3.12**	**28**	P	**Pb**	**16 45 02.1**	**+1.2**
WHVZ	**Whangaehu Hut**	**3.12**	**28**	P	**Pb**	**16 45 01.9**	**+1.0**
BHHZ	**Black Hill Sta**	**3.12**	**36**	P	**Pb**	**16 44 56.4**	**+2.9**
FWVZ	**Far West T-bar**	**3.13**	**27**	P	**Pb**	**16 45 00.8**	**-0.4**
KRHZ	**Kereru**	**3.14**	**41**	P	**Pn**	**16 44 53.9**	**+0.2**
TUVZ	**Tukino**	**3.15**	**29**	P	**Pb**	**16 44 59.9**	**-1.6**
NGZ	**Ngauruhoe**	**3.22**	**27**	P	**Pb**	**16 45 00.1**	**-2.5**
SNVZ	**South Ngauruho**	**3.22**	**28**	P	**Pb**	**16 45 01.4**	**-1.3**
FOZ	**Fox Glacier**	**3.22**	**241**	P	**Pn**	**16 44 56.5**	**+1.8**
OTVZ	**Oturere**	**3.25**	**28**	P	**Pb**	**16 45 00.3**	**-2.9**
TWVZ	**Taurewa**	**3.26**	**24**	P	**Pb**	**16 45 02.1**	**-1.2**
NNVZ	**North Ngauruho**	**3.26**	**27**	P	**Pn**	**16 44 59.4**	**+4.0**
WTVZ	**West Tongariro**	**3.27**	**27**	P	**Pb**	**16 45 01.4**	**-2.0**
ETVZ	**East Tongariro**	**3.29**	**28**	P	**Pb**	**16 45 00.5**	**-3.4**
KRVZ	**Karewarewa**	**3.30**	**27**	P	**Pb**	**16 45 02.7**	**-1.4**
TMVZ	**Te Maari**	**3.31**	**28**	P	**Pb**	**16 45 02.2**	**-1.9**
NTVZ	**North Tongarir**	**3.31**	**28**	P	**Pb**	**16 45 04.9**	**+0.7**
LBZ	**Lake Benmore**	**3.47**	**227**	P	**Pn**	**16 44 58.8**	**+0.6**
RITZ	**Rihia Road**	**3.48**	**29**	P	**Pb**	**16 45 06.5**	**-0.6**
BKZ	**Black Stump Fm**	**3.58**	**37**	P	**Pn**	**16 45 03.3**	**+3.6**
BKZ	**Black Stump Fm**	**3.58**	**37**	P	**Pn**	**16 45 03.6**	**+3.9**
HIZ	**Hauiti**	**3.65**	**14**	P	**Pn**	**16 45 04.9**	**+4.3**
HIZ	**Hauiti**	**3.65**	**14**	P	**Pn**	**16 45 04.1**	**+3.6**
WATZ	**Wairara**	**3.68**	**26**	P	**Pb**	**16 45 10.2**	**-0.3**
ODZ	**Otahua Downs**	**3.73**	**216**	P	**Pn**	**16 45 01.6**	**-0.1**
ODZ	**Otahua Downs**	**3.73**	**216**	P	**Pn**	**16 45 01.3**	**-0.3**
MRHZ	**Matea Rd**	**3.82**	**34**	P	**Pn**	**16 45 05.9**	**+2.9**
TLZ	**Tolley Road**	**3.98**	**21**	P	**Pb**	**16 45 12.6**	**-2.9**
RAHZ	**Arahi**	**4.06**	**41**	P	**Pb**	**16 45 12.7**	**-4.2**
JCZ	**Jackson Bay**	**4.13**	**239**	P	**Pn**	**16 45 09.2**	**+1.9**
JCZ	**Jackson Bay**	**4.13**	**239**	P	**Pn**	**16 45 09.5**	**+2.2**
MUGZ	**Murupara**	**4.27**	**34**	P	**Pn**	**16 45 10.5**	**+1.3**
TOZ	**Tahuroa Road**	**4.53**	**18**	P	**Pn**	**16 45 17.5**	**+4.7**
URZ	**Urewera**	**4.60**	**36**	Pn	**Pn**	**16 45 13.8**	**+0.1**
	0.7nm,0.3s,baz=252,slow=19,SNR=1.1						
URZ				Sn	**Sn**	**16 46 05.2**	**-1.0**
	1.6nm,0.3s,baz=202,slow=16,SNR=1.1						
	4.0nm,0.6s						
URZ	**Urewera**	**4.60**	**36**	P	**Pn**	**16 45 14.8**	**+1.1**
URZ	**Urewera**	**4.60**	**36**	P	**Pn**	**16 45 13.8**	**+0.1**
TUZ	**Tuapeka**	**4.88**	**216**	P	**Pn**	**16 45 17.8**	**+0.3**
AWAZ	**Awhitu Peninsu**	**5.04**	**9**	P	**Pn**	**16 45 23.1**	**+3.4**
MKAZ	**Moumakai**	**5.07**	**13**	P	**Pn**	**16 45 24.2**	**+4.1**
ETAZ	**East Tamaki Re**	**5.18**	**11**	P	**Pn**	**16 45 25.1**	**+3.4**
RVAZ	**Riverhead Bore**	**5.32**	**8**	P	**Pn**	**16 45 27.6**	**+4.0**
WCZ	**Waipu Caves**	**6.13**	**5**	P	**Pn**	**16 45 38.1**	**+3.4**
ASAR	**Alice Springs**	**37.72**	**286**	P	**P**	**16 51 18.9**	**-0.4**
	0.5nm,0.9s,baz=124,slow=7.0,SNR=5.2						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**39.83**	**291**	P	**P**	**16 51 37.2**	**+0.2**
	0.8nm,0.8s,baz=127,slow=8.6,SNR=6.6						
	0.8nm,0.8s						
MAW	**Mawson**	**59.01**	**205**	P	**P**	**16 54 02.0**	**-0.6**
	3.1nm,0.3s,baz=77,slow=14,SNR=19						
	3.1nm,0.3s						
BRTR	**Keskin Array B**	**149.91**	**279**	PKPbc	**PKPbc**	**17 03 51.7**	**-1.6**
	0.4nm,0.6s,baz=90,slow=2.9,SNR=3.5						

DNK ***03*** *16:57:46.5±1.6, 51°69N×16°27E, h10km, ML3.0*
VIE ***03*** *16:57:46.3, 51°55N×15°87E, h0km, mb2.7/5, ml2.9/7 94 km NW of Wroclaw Suspected Mining induced.*
IPEC ***03*** *16:57:46.0±0.3, 51°62N×16°07E, h1km, ML2.7/5, Error ellipse: s-maj=2.1km s-min=1.2km az=35.0*
BGR ***03*** *16:57:47.3±0.4, 51°57N×15°98E, h1km, ML3.0/14, Error ellipse: s-maj=4.4km s-min=2.2km az=18.0*
PRU ***03*** *16:57:47.8±0.0, 51°55N×15°98E, h0km*
ISC 03 16:57:45.3±0.8, **51°67N**±0°03×**15°98E**±0°02, **h0**km, **n53**, σ0**96**/107, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.85**	**167**	*e*Pg	**Pg**	**16 58 01.4**	**-0.2**
KSP				*e*Sg	**Sg**	**16 58 11.7**	**-1.0**
KSP	**Ksiaz**	**0.85**	**167**	*e*Pg	**Pg**	**16 58 01.5**	**-0.2**
KSP				*e*Sg	**Sg**	**16 58 12.0**	**-0.7**
OSTC	**Ostas**	**1.13**	**172**	*e*PG	**Pg**	**16 58 06.7**	**-0.2**
OSTC				*e*SG	**Sg**	**16 58 20.4**	**-1.1**
	comp=Z,53nm,0.3s						
UPC	**Upice**	**1.17**	**179**	*e*PG	**Pg**	**16 58 07.2**	**-0.5**
UPC				*e*SG	**Sg**	**16 58 21.8**	**-1.0**
	comp=Z,119nm,0.3s						
DPC	**Dobruska-Polom**	**1.34**	**171**	*e*PG	**Pg**	**16 58 10.2**	**-0.8**
DPC				*e*SG	**Sg**	**16 58 27.2**	**-1.2**
	comp=Z,64nm,0.6s						
DPC	**Dobruska-Polom**	**1.34**	**171**	*e*Pg	**Pg**	**16 58 10.2**	**-0.8**
DPC				*e*Sg	**Sg**	**16 58 27.3**	**-1.2**
PVCC	**Panska Ves**	**1.45**	**218**	*e*PG	**Pn**	**16 58 12.7**	**-0.1**
PVCC				*e*SG	**Sg**	**16 58 31.0**	**-0.9**
	comp=Z,198nm,0.2s						
BRG	**Berggiesshubel**	**1.51**	**239**	Pg	**Pg**	**16 58 14.4**	**+0.2**
BRG				Sg	**Sn**	**16 58 34.2**	**+0.2**
BRG				Amp		16 58 36.1	
	comp=Z,105nm,0.5s						
BRG	**Berggiesshubel**	**1.51**	**239**	*e*Pg	**Pb**	**16 58 14.2**	**0.0**
BRG				*e*Sn	**Sg**	**16 58 32.7**	**-1.2**
BRG				*e*Sg	**Sn**	**16 58 34.6**	**+0.6**
KRLC	**Kraliky**	**1.68**	**162**	*e*PG	**Pn**	**16 58 15.2**	**-0.8**
KRLC				*e*SG	**Sn**	**16 58 37.5**	**-0.7**
	comp=Z,73nm,0.4s						
CLL	**Collm**	**1.90**	**260**	*i* Pn	**Pn**	**16 58 18.7**	**-0.3**
CLL				*i* Pg	**Pg**	**16 58 21.6**	**-0.1**
CLL				*i* x	x	16 58 25.6	
CLL				*ex*	x	16 58 37.0	
CLL				*e*Sg	**Sg**	**16 58 46.0**	**-0.3**
	comp=Z,31nm,0.5s						
CLL	**Collm**	**1.90**	**260**	*e*Pn	**Pn**	**16 58 18.8**	**-0.1**
CLL				*e*Sn	**Sn**	**16 58 41.9**	**-1.6**
GOPC	**GO Pecny, Ondr**	**1.92**	**204**	*e*PG	**Pb**	**16 58 20.6**	**-0.6**
GOPC				*e*SG	**Sn**	**16 58 44.6**	**+0.5**
	comp=Z,41nm,0.5s						
PRU	**Pruhonice**	**1.92**	**209**	*e*PG	**Pn**	**16 58 19.6**	**+0.4**
PRU				*e*SG	**Sn**	**16 58 45.0**	**+0.9**
	comp=Z,43nm,0.5s						
MORC	**Moravsky Berou**	**2.14**	**152**	*e*PN	**Pn**	**16 58 21.7**	**-0.7**
MORC				*e*SG	**Sn**	**16 58 50.8**	**+1.1**
MORC	**Moravsky Berou**	**2.14**	**152**	*e*Pn	**Pn**	**16 58 21.7**	**-0.7**
MORC				*e*Sg	**Sb**	**16 58 52.6**	**+0.5**
MORC	**Moravsky Berou**	**2.14**	**152**	*e*Pn	**Pn**	**16 58 21.7**	**-0.7**
	baz=334						
MORC				*e*Sg	**Sn**	**16 58 50.7**	**+1.1**
	comp=Z,38nm,0.5s,baz=334						
OKC	**Ostrava-Krasne**	**2.29**	**142**	*e*PG	**Pb**	**16 58 28.1**	**+0.5**
OKC				*e*SG	**Sb**	**16 58 56.8**	**+0.3**
	comp=Z,39nm,0.5s						
OKC	**Ostrava-Krasne**	**2.29**	**142**	*e*Pn	**Pn**	**16 58 24.1**	**-0.3**
OKC				*e*Sg	**Sb**	**16 58 57.2**	**+0.8**
VRAC	**Vranov**	**2.40**	**170**	*e*PN	**Pn**	**16 58 25.8**	**-0.1**
VRAC				*e*SG	**Sb**	**16 58 59.2**	**-0.3**
VRAC	**Vranov**	**2.40**	**170**	*e*Pn	**Pn**	**16 58 25.7**	**-0.1**
	baz=352						
VRAC				*e*Sg	**Sb**	**16 58 59.2**	**-0.3**
	comp=Z,36nm,0.6s,baz=352						
TANN	**Tannenbergstha**	**2.56**	**242**	*e*Pn	**Pn**	**16 58 28.2**	**+0.2**
TANN				*e*Sg	**Sg**	**16 59 07.1**	**-0.2**
MAUC	**Maruska**	**2.59**	**152**	*e*PG	**Pb**	**16 58 33.3**	**+0.6**
MAUC				*e*SG	**Sb**	**16 59 06.2**	**+1.1**
	comp=Z,59nm,0.8s						
WERD	**Werda**	**2.62**	**244**	*e*Pn	**Pn**	**16 58 29.0**	**0.0**
WERD				*e*Sg	**Sg**	**16 59 08.9**	**-0.7**
KRUC	**Moravsky**	**2.63**	**174**	*e*PN	**Pn**	**16 58 28.8**	**-0.2**
KRUC				*e*SG	**Sb**	**16 59 06.4**	**+0.3**
KRUC	**Moravsky**	**2.63**	**174**	*e*Pn	**Pn**	**16 58 28.7**	**-0.2**
	baz=355						
KRUC				*e*Sg	**Sb**	**16 59 06.4**	**+0.3**
	comp=Z,28nm,0.6s,baz=355						
NKC	**Novy Kostel**	**2.66**	**239**	*e*PN	**Pn**	**16 58 30.0**	**+0.5**
NKC				*e*SG	**Sg**	**16 59 10.5**	**-0.2**
	comp=Z,56nm,0.6s						
OJC	**Ojcow**	**2.82**	**120**	*e*Pg	**Pg**	**16 58 38.7**	**-0.6**
OJC				*e*Sg	**Sg**	**16 59 15.4**	**-0.4**
OJC	**Ojcow**	**2.82**	**120**	*e*Sg	**Sg**	**16 59 15.4**	**-0.4**
MOX	**Moxa**	**2.94**	**251**	*e*Pn	**Pn**	**16 58 33.2**	**-0.1**
MOX				*e*Pg	**Pg**	**16 58 41.7**	**+0.1**
MOX				*e*Sg	**Sg**	**16 59 19.1**	**-0.5**
KHC	**Kasperske Hory**	**2.97**	**212**	*e*PN	**Pn**	**16 58 33.8**	**0.0**
KHC				*e*PG	**Pb**	**16 58 39.3**	**+0.1**
KHC				*e*SN	**Sn**	**16 59 09.1**	**-1.1**
KHC				*e*SG	**Sb**	**16 59 18.3**	**+2.2**
	comp=Z,16nm,0.6s						
MANZ	**Manzenberg**	**2.98**	**237**	*e*Pn	**Pn**	**16 58 34.0**	**+0.1**
MANZ				*e*Sg	**Sg**	**16 59 20.7**	**-0.4**
CKRC	**Cesky Krumlov**	**3.05**	**201**	*e*PN	**Pn**	**16 58 36.0**	**+1.2**
CKRC				*e*PG	**Pb**	**16 58 40.6**	**+0.1**
CKRC				*e*SG	**Sb**	**16 59 20.5**	**+2.2**
ROTZ	**Rotzenmuhle**	**3.07**	**233**	*e*Pn	**Pn**	**16 58 35.2**	**+0.2**
ROTZ				*e*Sg	**Sg**	**16 59 22.7**	**-1.0**
GEC2	**GERESS Array S**	**3.19**	**208**	*e*Pn	**Pn**	**16 58 36.6**	**-0.2**
GEC2				*e*Sg	**Sb**	**16 59 24.0**	**+1.7**
LANS	**Liptovska Anna**	**3.37**	**137**	*e*PN	**Pn**	**16 58 40.5**	**+1.3**
LANS				*e*PG	**Pg**	**16 58 51.1**	**+1.2**
LANS				*e*SG	**Sg**	**16 59 33.4**	**-0.1**
MODS	**Modra-Piesok**	**3.41**	**165**	*e*SG	**Sg**	**16 59 32.1**	**-2.6**
CLZ	**Clausthal**	**3.49**	**275**	*e*Pn	**Pn**	**16 58 42.4**	**+1.5**
CLZ				*e*Sg	**Sg**	**16 59 38.3**	**+0.9**
BSD	**Bornholm Skovb**	**3.51**	**350**	*i* P	**Pn**	**16 58 41.1**	**+0.1**
BSD				*i* S	**Sn**	**16 59 22.4**	**-0.8**
BSD				IAML		16 59 35.1	
	comp=Z,21nm,0.9s						
ZST	**Bratislava**	**3.56**	**168**	*e*SG	**Sg**	**16 59 38.2**	**-1.3**
GRF	**Grafenberg Arr**	**3.62**	**239**	*e*Sg	**Sg**	**16 59 41.5**	**0.0**
VYHS	**Vyhne**	**3.67**	**149**	*e*PN	**Pn**	**16 58 42.5**	**-0.9**
VYHS				*e*PG	**Pg**	**16 58 55.8**	**+0.1**
VYHS				*e*SG	**Sg**	**16 59 42.7**	**-0.6**
CONA	**Conrad Observa**	**3.75**	**181**	*i* Pn	**Pn**	**16 58 43.6**	**-0.9**
	comp=Z,0.5nm,0.2s						
CONA				Sg	**Sg**	**16 59 46.1**	**+0.3**
	comp=Z,16nm,0.5s						
RONA	**Rosalia, Austr**	**3.98**	**177**	*e*Pn	**Pn**	**16 58 47.1**	**-0.5**
	comp=Z,0.4nm,0.2s						
RONA				Sg	**Sg**	**16 59 51.7**	**-1.5**
	comp=Z,7.5nm,0.3s						
MOA	**Molln**	**3.99**	**197**	Sg	**Sg**	**16 59 52.5**	**-0.9**
	comp=Z,13nm,0.5s						
STHS	**Stebnicka Huta**	**4.04**	**122**	*e*PN	**Pn**	**16 58 48.9**	**+0.4**
STHS				*e*PG	**Pg**	**16 59 03.4**	**+0.6**
STHS				*e*SG	**Sg**	**16 59 58.0**	**+2.8**
LUNU	**Lund**	**4.24**	**340**	*i* S	**Sn**	**16 59 40.9**	**-0.5**
BIOA	**Bad Ischl, Aus**	**4.27**	**202**	*e*Pn	**Pn**	**16 58 50.6**	**-0.9**
	comp=Z,0.5nm,0.1s						
BIOA				Sg	**Sg**	**17 00 03.2**	**+0.9**
	comp=Z,8.8nm,0.4s						
ARSA	**Arzberg**	**4.44**	**184**	*e*Pn	**Pn**	**16 58 53.7**	**-0.2**
	comp=Z,0.7nm,0.2s						
ARSA				*e*Sg	**Sg**	**17 00 06.3**	**-1.5**
	comp=Z,4.3nm,0.5s						
BLEU	**Blekinge**	**4.64**	**359**	*i* P	**Pn**	**16 58 58.3**	**+1.6**
BLEU				*i* S	**Sn**	**16 59 47.6**	**-3.6**
BJUU	**Bjuv**	**4.75**	**340**	*i* S	**Sn**	**16 59 51.8**	**-1.9**
KBA	**Koelnbreinsper**	**4.91**	**202**	*e*Pn	**Pn**	**16 59 00.6**	**0.0**
	comp=Z,0.5nm,0.2s						
KBA				Sg	**Sg**	**17 00 22.4**	**-0.6**
	comp=Z,9.5nm,0.6s						
DEL	**Delary**	**4.96**	**346**	*i* P	**Pn**	**16 59 01.1**	**+0.1**

NOU ***03*** *17:07:13.8, 15°03S×178°72W, h428km, mb4.6/43, Fiji Islands Region*
NEIC ***03*** *17:07:13.7±2.1, 15°08S±0°10×178°79W±0°09, h407km±6km, mb4.6/213, Error ellipse: s-maj=15.1km s-min=11.7km az=143.0*
IDC ***03*** *17:07:16.2±1.6, 15°11S×178°94W, h437km±17km, mb3.8/18, mbtmp4.6/21, Error ellipse: s-maj=12.9km s-min=11.5km az=142.0*
ISC 03 17:07:12.5±0.3, **15°06S**±0°06×**178°82W**±0°05, **h401**km, **n507**, σ0**92**/462, **mb4.5**/129, **8C-12D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**1.01**	**42**	P	**P**	**17 08 06.7**	**+2.8**
LKBA	**Tubou, Lakemba**	**3.15**	**180**	P	**P**	**17 08 20.0**	**+3.1**
MSVF	**Nonsavu**	**4.01**	**228**	P	**P**	17 08 29.0	+4.4
	98nm,0.5s,baz=198,slow=21,SNR=60						
MSVF				S	S	17 09 31.6	+8.2
	141nm,1.1s,baz=30,slow=22,SNR=9.4						
MSVF	**Nonsavu**	**4.01**	**228**	Pn	**P**	**17 08 28.6**	**+4.0**
MSVF	**Nonsavu**	**4.01**	**228**	P	P	17 08 28.8	+4.2
FUNA	**Funafuti**	**6.78**	**343**		**P**	**17 08 54.6**	**+0.2**
AFI	**Afiamalu**	**6.92**	**81**	Pn	**P**	**17 08 55.0**	**-1.0**
NIUE

WRKA **Warakurna** 50.39 250 P P 17 15 31.2 0.0
KNRA **Kununurra** 50.44 262 P P 17 15 31.6 0.0
FORT **Forrest** 50.91 242 P P 17 15 34.2 -0.7
FORT PcP PcP 17 16 44.2 -0.7
FORT **Forrest** 50.91 242 P P 17 15 34.2 -0.7
FITZ **Fitzroy Crossi** 53.15 259 P P 17 15 52.0 +0.6
SOEI **Soe** 55.71 268 P P 17 16 10.0 +0.3
SOEI **Soe** 55.71 268 P P 17 16 10.1 +0.3
MEEK **Meekatharra** 59.10 248 P P 17 16 32.0 -0.9
NWAO **Narrogin (SRO)** 60.23 241 P P 17 16 39.3 -1.0
MORW **Morawa** 61.29 245 P P 17 16 46.4 -1.1
MORW IAmb IAmb 17 17 26.9
comp=Z,21nm,1.4s
TOLI2 **Tolitoli** 61.82 280 P P 17 16 50.8 -0.4
SBA **Scott Base** 63.22 183 P P 17 17 00.6 +1.4
VNDA **Vanda** 63.23 185 P P 17 16 59.5 +0.3
comp=Z,0.7nm,0.6s,baz=346,slow=7.4,SNR=1.8
comp=Z,0.7nm,0.6s
VNDA **Vanda** 63.23 185 P P 17 16 59.6 +0.4
GIRL **Giralia** 63.36 252 P P 17 17 01.2 +0.1
MYLDM **Lahad Datu** 65.26 283 P P 17 17 14.5 +1.1
MYLDM IAmb IAmb 17 17 28.6
comp=Z,16nm,1.1s
JGF **Kuroka** 65.27 322 P P 17 17 13.0 -0.1
MJAR **Matsushiro Arr** 65.41 323 P P 17 17 13.7 -0.1
comp=Z,3.0nm,0.7s,baz=154,slow=6.6,SNR=17
comp=Z,3.0nm,0.7s
MAJO **Matsushiro** 65.41 323 P P 17 17 13.6 -0.2
MAJO IAmb IAmb 17 17 18.2
comp=Z,12nm,1.1s
MJB9 **Matsu-Tunnel** 65.41 323 P P 17 17 14.5 +0.6
MJB9 IAmb IAmb 17 17 19.2
comp=Z,11nm,1.1s
KIWB **Kanaga Island** 66.65 1 P P 17 17 22.1 +0.8
ADK **Adak** 66.69 1 P P 17 17 21.9 +0.4
JKA **Kamikawa-asahi** 68.60 331 P P 17 17 35.1 +1.5
ASAJ **Asahikawa** 68.60 331 P P 17 17 34.9 +1.3
comp=Z,9.1nm,0.9s,baz=279,slow=4.1,SNR=5.5
comp=Z,9.1nm,0.9s
UGM **Wanagama** 69.37 267 P P 17 17 37.7 -1.2
UNV **Unalaska Valle** 69.44 8 P P 17 17 37.4 -0.9
SBUM **Sibu** 70.39 278 P P 17 17 44.7 -0.3
TPUB **Ta-pu** 70.42 302 P P 17 17 44.4 -0.6
PEA0B **Petropavlovsk-** 70.84 345 P P 17 17 47.3 +0.5
PETK **Petropavlovsk-** 70.84 345 P P 17 17 46.9 0.0
comp=Z,8.7nm,0.8s,baz=134,slow=8.5,SNR=17
comp=Z,8.7nm,0.8s
KSRS **Korea Array** 72.33 318 P P 17 17 57.2 +1.3
comp=Z,1.9nm,0.8s,baz=137,slow=5.2,SNR=6.0
comp=Z,1.9nm,0.8s
SCZ2 **Santa Cruz Isl** 74.49 48 P P 17 18 08.2 -0.3
baz=239
PMPB **Monarch Peak** 74.82 45 P P 17 18 12.0 +1.6
SMMC **Simmler** 74.91 46 P P 17 18 11.6 +0.7
baz=239
QSPA **South Pole Qui** 74.98 180 P P 17 18 11.1 +0.2
comp=Z,13nm,0.7s,baz=349,slow=0.7,SNR=106
comp=Z,13nm,0.7s
QSPA **South Pole Qui** 74.98 180 P P 17 18 11.1 +0.2
QSPA IAmb IAmb 17 18 12.1
comp=Z,16nm,0.8s
OHAK **Old Harbor** 75.08 14 P P 17 18 11.0 -0.3
OHAK IAmb IAmb 17 18 12.3
comp=Z,9.6nm,0.7s
OHAK **Old Harbor** 75.08 14 P P 17 18 11.1 -0.1
baz=206
KMRM **Mail Ridge** 75.11 41 P P 17 18 13.7 +1.8
Q17K **Contact Creek** 75.46 12 P P 17 18 13.5 -0.1
baz=203
KHMM **Horse Mountain** 75.47 40 P P 17 18 15.4 +1.3
KDAK **Kodiak Island** 75.75 14 P P 17 18 15.2 +0.2
KDAK IAmb IAmb 17 18 16.0
comp=Z,12nm,0.7s
KDAK **Kodiak Island** 75.75 14 P P 17 18 15.0 0.0
baz=206
VES **Vestal, Richgr** 75.81 46 P P 17 18 15.9 0.0
baz=239
NJ2 **Nanjing** 75.84 309 *e*P P 17 18 17.0 +0.9
NJ2 pmax pmax
comp=Z,5.0nm,0.8s
Q18K **Katmai Hardscr** 76.00 13 P P 17 18 16.1 -0.4
baz=204
BAR **Barrett** 76.00 50 P P 17 18 16.0 -1.1
BFSC **Mount Baldy Ra** 76.03 48 P P 17 18 17.4 0.0
baz=241
CMB **Columbia Colle** 76.06 44 P P 17 18 18.0 +0.7
CMB IAmb IAmb 17 18 19.1
comp=Z,9.3nm,0.8s
EDW2 **Edwards Air Fo** 76.11 48 P P 17 18 18.5 +0.9
baz=240,SNR=6.5
ORV **Oroville** 76.14 42 P P 17 18 18.1 +0.4
ORV IAmb IAmb 17 18 19.5
comp=Z,7.8nm,0.9s
ISA **Isabella, Lake** 76.15 47 P P 17 18 18.8 +0.8
ISA IAmb IAmb 17 18 20.1
comp=Z,14nm,1.3s
ISA **Isabella, Lake** 76.15 47 P P 17 18 18.7 +0.8
baz=240
AFDM **Forest Hills D** 76.16 43 P P 17 18 18.1 +0.2
AFDM IAmb IAmb 17 18 19.6
comp=Z,7.5nm,0.9s
P17K **Kvichak River** 76.21 12 P P 17 18 16.8 -0.8
baz=202
O16K **Kokwok River B** 76.27 11 P P 17 18 18.4 +0.5
baz=201
MONP2 **Monument Peak** 76.29 50 P P 17 18 19.7 +0.8
baz=242,SNR=6.0
IKP **In-Ko-Pah, Jac** 76.41 50 P P 17 18 20.7 +1.2
baz=242,SNR=5.0
Q19K **Cape Douglas,** 76.55 13 P P 17 18 20.1 +0.5
YUH **Yuha Desert** 76.55 51 P P 17 18 20.9 +0.9
YBH **Yreka Blue Hor** 76.59 40 P P 17 18 21.0 +0.8
YBH IAmb IAmb 17 18 22.2
comp=Z,6.7nm,0.7s
PFO **Pinyon Flats O** 76.60 49 P P 17 18 20.0 -0.6
PFO **Pinyon Flats O** 76.60 49 P P 17 18 21.4 +0.9
baz=242
TPFO **Pinon Flats** 76.60 49 P P 17 18 21.1 +0.5
baz=242
O17K **Koliganek Bris** 76.62 11 P P 17 18 19.7 -0.1
baz=202
P18K **Big Mountain,** 76.64 12 P P 17 18 19.6 -0.4
P18K **Big Mountain,** 76.64 12 P P 17 18 19.7 -0.4
baz=203,SNR=6.1
PMD **Palm Desert** 76.68 49 P P 17 18 21.3 +0.5
PMD IAmb IAmb 17 18 22.8
comp=Z,4.7nm,1.1s
MDPB **Devils Postpil** 76.73 45 P P 17 18 22.5 +1.1
MDPB IAmb IAmb 17 18 23.3
comp=Z,8.5nm,0.8s
CWC **Cottonwood Cre** 76.82 46 P P 17 18 22.1 +0.4
baz=240
WAKR **Walker** 76.94 44 P P 17 18 23.6 +1.2
WAKR IAmb IAmb 17 18 24.7
comp=Z,9.8nm,0.9s
MPMC **Manual Prospec** 77.04 47 P P 17 18 23.6 +0.6
baz=240,SNR=7.2
O18K **Koktuh Hills** 77.06 12 P P 17 18 22.4 0.0
O18K IAmb IAmb 17 18 23.3
comp=Z,12nm,0.7s
O18K **Koktuh Hills** 77.06 12 P P 17 18 22.4 0.0
baz=203
BELC **Belle Mtn. Jos** 77.12 49 P P 17 18 24.1 +0.6
baz=242
PNTR **Pine Nut** 77.14 43 P P 17 18 24.6 +1.0
PNTR IAmb IAmb 17 18 25.6
comp=Z,14nm,0.9s
GSC **Goldstone, Bar** 77.16 48 P P 17 18 24.2 +0.7
GSC **Goldstone, Bar** 77.16 48 P P 17 18 24.8 +1.3
baz=241,SNR=5.5
HEC **Hector,Ludlow** 77.27 48 P P 17 18 25.1 +1.0
baz=241,SNR=7.8
YERR **Yerington** 77.32 44 P P 17 18 24.9 +0.4
YERR IAmb IAmb 17 18 26.3
comp=Z,15nm,1.0s
DSP **Deep Springs** 77.36 45 P P 17 18 25.4 +1.0
DSP IAmb IAmb 17 18 26.9
comp=Z,9.4nm,0.8s
BC3 **Big Chuckawall** 77.36 50 P P 17 18 25.8 +1.1
baz=242
QSM **Queen of Sheba** 77.44 47 P P 17 18 25.8 +0.9
LHV **Little Huntoon** 77.44 44 P P 17 18 26.0 +1.1
LHV IAmb IAmb 17 18 27.4
comp=Z,11nm,0.9s
LCH **Last Change Ra** 77.52 46 P P 17 18 26.0 +0.5
SLBS **Sierra La Lagu** 77.53 61 P P 17 18 26.7 +0.9
SLBS IAmb IAmb 17 18 32.3
comp=Z,26nm,1.4s
GLA **Glamis** 77.55 51 P P 17 18 26.7 +1.0
GLA IAmb IAmb 17 18 28.2
comp=Z,12nm,1.2s
O19K **Port Alsworth** 77.56 12 P P 17 18 24.8 -0.2
O19K **Port Alsworth** 77.56 12 P P 17 18 24.9 0.0
baz=204,SNR=12
GRAC **Grapevine Rang** 77.59 46 P P 17 18 27.0 +1.2
GRAC **Grapevine Rang** 77.59 46 P P 17 18 26.9 +1.1
baz=240,SNR=7.7
ILSW **Iliamna Southw** 77.61 13 P P 17 18 24.9 -0.6
ILSW IAmb IAmb 17 18 26.1
comp=Z,20nm,0.8s
RYN **Ryan** 77.62 44 P P 17 18 26.7 +0.6
RYN IAmb IAmb 17 18 28.0
comp=Z,9.7nm,1.0s
CNPM **China Poot** 77.63 14 P P 17 18 24.7 -0.8
NVAR **Mina Array Bea** 77.67 44 P P 17 18 27.7 +1.3
comp=Z,6.0nm,0.8s,baz=228,slow=9.4,SNR=32
comp=Z,6.0nm,0.8s
NVAR **Mina Array Bea** 77.67 44 P P 17 18 26.5 +0.1
GWY **Greenwater Val** 77.69 47 P P 17 18 27.1 +0.6
GMRC **Granite Mounta** 77.74 49 P P 17 18 27.1 +0.3
baz=242
NV11 **Mina Array Sit** 77.77 44 P P 17 18 28.0 +1.1
NV11 IAmb IAmb 17 18 29.9
comp=Z,13nm,1.1s
IRM **Iron Mountain** 77.82 49 P P 17 18 28.1 +1.0
baz=242,SNR=6.1
TUQ **Turquoise Moun** 77.86 48 P P 17 18 28.1 +0.7
baz=242
PIX **Pinacate** 77.92 53 P P 17 18 28.4 +0.8
PIX IAmb IAmb 17 18 29.6
comp=Z,8.8nm,1.0s
BRLK **Bradley Lake** 77.92 14 P P 17 18 27.0 0.0
BRLK IAmb IAmb 17 18 28.1
comp=Z,13nm,0.9s
MZP **Montezuma Peak** 77.93 45 P P 17 18 26.0 -1.9
BRSE **Bradley Lake S** 77.94 14 P P 17 18 27.3 +0.2
baz=208
WCT **Wildcat Mounta** 78.01 47 P P 17 18 28.1 0.0
WCT IAmb IAmb 17 18 30.1
comp=Z,7.8nm,1.0s
N19K **Bonanza Creek** 78.09 12 P P 17 18 28.1 +0.1
baz=204
BLYC **Blythe** 78.09 50 P P 17 18 29.1 +0.6
KVN **Kaiserville** 78.12 44 P P 17 18 29.3 +0.5
KVN IAmb IAmb 17 18 30.6
comp=Z,8.5nm,0.9s
RSO **Redoubt South** 78.13 13 P P 17 18 27.5 -0.8
MOD **Modoc Plateau** 78.18 41 P P 17 18 29.1 0.0
113A **Mohawk Valley,** 78.22 51 P P 17 18 29.9 +0.7
TPH **Tonopah** 78.22 45 P P 17 18 30.1 +0.7
K05A **Summer Lake** 78.26 40 P P 17 18 30.1 +0.6
K05A IAmb IAmb 17 18 31.8
comp=Z,16nm,1.0s
TPNV **Topopah Spring** 78.35 47 P P 17 18 30.3 +0.2
TPNV IAmb IAmb 17 18 32.1
comp=Z,10nm,0.8s
TPNV **Topopah Spring** 78.35 47 P P 17 18 31.2 +1.1
baz=241,SNR=8.8
SEW **Seward** 78.56 15 P P 17 18 32.7 +2.3
baz=209
214A **Organ Pipe Nat** 78.59 52 P P 17 18 32.0 +0.7
214A IAmb IAmb 17 18 33.9
comp=Z,8.6nm,1.1s
214A **Organ Pipe Nat** 78.59 52 P P 17 18 32.3 +1.0
baz=244
CAPN **Captain Cook N** 78.76 13 P P 17 18 34.0 +2.5
baz=207
V12A **Nelson** 78.77 48 P P 17 18 32.8 +0.5
HSIG 78.81 56 P P 17 18 32.5 -0.1
HSIG IAmb IAmb 17 18 34.5
comp=Z,8.3nm,0.9s
PINE **Pine Mountain** 78.82 39 P P 17 18 33.4 +0.9
PINE IAmb IAmb 17 18 34.7
comp=Z,12nm,0.8s
SHPR **Sheep Range** 78.91 47 P P 17 18 33.8 +0.7
N20K **Mount Spurr** 78.91 13 P P 17 18 32.1 -0.4
baz=206
SPU **Mount Spurr** 78.93 13 P P 17 18 31.8 -0.7
S11A **Rachel** 79.03 46 P P 17 18 34.4 +0.6
S11A IAmb IAmb 17 18 35.6
comp=Z,8.2nm,0.9s
M19K **Big River Lodg** 79.11 12 P P 17 18 33.6 +0.2
baz=204
W13A **Hualapai Mount** 79.18 49 P P 17 18 35.1 +0.4
L19K **White Mountain** 79.28 11 P P 17 18 36.2 +1.9
baz=204
RC01 **Rabbit Creek A** 79.36 14 P P 17 18 36.4 +1.6
baz=208
BMN **Battle Mountai** 79.40 43 P P 17 18 36.8 +1.2
BMN IAmb IAmb 17 18 37.5
comp=Z,10nm,0.9s
PRN **Pahroc Range** 79.41 47 P P 17 18 36.6 +0.8
PRN IAmb IAmb 17 18 38.1
comp=Z,8.7nm,0.9s
SUA **Susitna One** 79.47 13 P P 17 18 34.8 -0.6
SUA IAmb IAmb 17 18 36.0
comp=Z,9.6nm,0.7s
SUA **Susitna One** 79.47 13 P P 17 18 34.9 -0.6
baz=208,SNR=8.3
R11A **Troy Canyon, C** 79.48 46 P P 17 18 36.6 +0.5
baz=241
PWL **Port Wells** 79.50 15 P P 17 18 35.2 -0.3
PWL IAmb IAmb 17 18 36.2
comp=Z,11nm,0.8s
PWL **Port Wells** 79.50 15 P P 17 18 35.0 -0.5
baz=210
WVOR **Wild Horse Val** 79.51 41 P P 17 18 36.7 +0.5
WVOR IAmb IAmb 17 18 38.1
comp=Z,12nm,1.1s
L20K **Farewell, AK** 79.73 11 P P 17 18 36.4 -0.3
baz=204
SKT **Skwentna** 79.76 13 P P 17 18 36.0 -0.9
SKT **Skwentna** 79.76 13 P P 17 18 36.6 -0.2
baz=207
TTA **Tatalina** 79.76 10 P P 17 18 37.6 +0.7
TTA IAmb IAmb 17 18 38.7
comp=Z,16nm,1.0s
TTA **Tatalina** 79.76 10 P P 17 18 37.4 +0.4
baz=202,SNR=8.5
I07A **Izee** 79.85 39 P P 17 18 38.8 +1.0
I07A IAmb IAmb 17 18 39.8
comp=Z,8.6nm,0.8s
M22K **Willow** 79.86 13 P P 17 18 36.6 -0.8
M22K **Willow** 79.86 13 P P 17 18 36.7 -0.6
baz=208
EYAK **Cordova Ski Ar** 79.89 16 P P 17 18 38.1 +0.6
baz=212
PMR **Palmer** 79.95 14 P P 17 18 37.9 +0.1
baz=209
KNK **Knik Glacier** 79.95 14 P P 17 18 37.1 -0.7
KNK IAmb IAmb 17 18 46.6
comp=Z,18nm,1.3s
KNK **Knik Glacier** 79.95 14 P P 17 18 38.0 +0.1
baz=210
LON **Longmire** 79.97 36 P P 17 18 37.5 -0.9
BBB **Bella Bella** 80.03 29 P P 17 18 37.7 -0.7
ANM **Nome** 80.05 6 P P 17 18 38.6 +0.3
ANM IAmb IAmb 17 18 40.1
comp=Z,7.1nm,0.8s
ANM **Nome** 80.05 6 P P 17 18 39.0 +0.7
baz=193
J08A **Circle Bar Ran** 80.10 40 P P 17 18 39.6 +0.4
J08A IAmb IAmb 17 18 41.1
comp=Z,12nm,1.0s
GHO **Glory Hole Cre** 80.15 14 P P 17 18 38.1 -0.9
GHO IAmb IAmb 17 18 39.9
comp=Z,8.9nm,0.7s
TUC **Tucson** 80.29 53 P P 17 18 41.2 +0.8
TUC IAmb IAmb 17 18 43.2
comp=Z,14nm,1.4s
TUC **Tucson** 80.29 53 P P 17 18 41.4 +1.0
baz=245
HEH **HeiHe** 80.30 328 *e*P P 17 18 40.0 +0.1
HEH pmax pmax
comp=Z,4.0nm,0.7s
GRNB **Grenville Isla** 80.30 27 P P 17 18 40.6 +0.7
GRNB IAmb IAmb 17 18 43.8
comp=Z,23nm,1.3s
SML **Sawmill** 80.32 14 P P 17 18 39.0 -0.9
SML IAmb IAmb 17 18 49.6
comp=Z,12nm,1.2s
DIV **Divide** 80.37 16 P P 17 18 40.0 -0.2
DIV IAmb IAmb 17 18 41.0
comp=Z,8.0nm,0.7s
PPLA **Purkeypile** 80.44 12 P P 17 18 41.2 +0.5
baz=206
M23K **Glacier View** 80.45 14 P P 17 18 40.8 +0.3
baz=210
K20K **Telida** 80.50 11 P P 17 18 40.8 0.0
baz=204
BMRM **Bremner River** 80.55 16 P P 17 18 40.6 -0.5
baz=213
U33K **Whale Pass** 80.56 24 P P 17 18 41.9 +0.7
baz=224
SCM **Sheep Creek Mo** 80.58 15 P P 17 18 40.7 -0.6
SCM **Sheep Creek Mo** 80.58 15 P P 17 18 41.4 +0.1
baz=211
KLU **Klutina** 80.64 15 P P 17 18 41.1 -0.5
baz=212
SPR3 **Spring Creek 3** 80.66 45 P P 17 18 41.8 -0.8
SPR3 IAmb IAmb 17 18 44.1
comp=Z,17nm,1.5s
TNA **Tin City** 80.80 5 P P 17 18 42.8 +0.6
baz=191
G08A **Pilot Rock** 80.82 38 IAmb IAmb 17 18 44.7
comp=Z,11nm,1.1s
ELK **Elko** 80.87 44 P P 17 18 43.1 -0.4
U15A **North Rim** 80.93 49 IAmb IAmb 17 18 46.5
comp=Z,11nm,0.9s
CAST **Castle Rocks** 80.94 12 IAmb IAmb 17 18 43.9
comp=Z,7.6nm,0.7s
CAST **Castle Rocks** 80.94 12 P P 17 18 41.8 -1.3
baz=206,SNR=12
PNL **Peninsula** 81.01 19 P P 17 18 43.4 -0.1
baz=218
HAWA **Hanford** 81.08 37 P P 17 18 44.1 0.0
HAWA IAmb IAmb 17 18 45.9
comp=Z,9.5nm,0.8s
N25K **Chitina, Valde** 81.08 16 IAmb IAmb 17 18 44.9
comp=Z,9.5nm,0.8s
N25K **Chitina, Valde** 81.08 16 P P 17 18 43.8 -0.1
baz=213,SNR=5.7
M24K **Tolsona, Glenn** 81.10 15 P P 17 18 44.8 +0.8
baz=212
WAT6 **Susitna Watana** 81.13 14 P P 17 18 44.5 +0.2
baz=210
GLB **Gilahina Butte** 81.16 16 P P 17 18 44.1 -0.1
GLB IAmb IAmb 17 18 45.1
comp=Z,8.5nm,0.8s
WAT1 **Susitna Watana** 81.16 14 P P 17 18 43.8 -0.4
baz=210
WUAZ **Wupatki** 81.20 50 IAmb IAmb 17 18 47.7
comp=Z,7.7nm,0.9s
WUAZ **Wupatki** 81.20 50 P P 17 18 46.3 +1.1
baz=244
J20K **Nowinta River** 81.24 11 P P 17 18 44.4 -0.2
baz=204
CHUM **Lake Minchumin** 81.31 12 P P 17 18 44.8 -0.1
baz=206,SNR=5.1
MCARA **McCarthy VSAT** 81.32 17 P P 17 18 44.3 -0.8
baz=215
TRF **Thorofare Moun** 81.33 13 IAmb IAmb 17 18 45.5
comp=Z,8.1nm,0.8s
TRF **Thorofare Moun** 81.33 13 P P 17 18 44.5 -0.8
baz=208
E08A **Dider Farm, El** 81.41 37 IAmb IAmb 17 18 47.5
comp=Z,11nm,1.1s
BARN **Barnard Glacie** 81.44 17 IAmb IAmb 17 18 47.1
comp=Z,13nm,0.9s
P29M **Windy Craggy** 81.51 20 P P 17 18 46.7 +0.6
baz=220
R32K **Eaglecrest** 81.60 22 P P 17 18 47.5 +0.9
baz=223
HARP **HAARP** 81.61 15 P P 17 18 47.2 +0.7
baz=213
O28M **Mount Upton** 81.64 18 P P 17 18 47.5 +0.4
baz=218
DHY **Denali Highway** 81.65 14 P P 17 18 46.8 -0.1
baz=211
DUN6 **Lazy B Ranch** 81.70 53 P P 17 18 47.8 0.0
DUN6 IAmb IAmb 17 18 50.6
comp=Z,47nm,1.1s
MTPU **Mount Pierson** 81.72 47 IAmb IAmb 17 18 51.0
comp=Z,10nm,0.8s
O29M **Mount Kennedy** 81.77 19 P P 17 18 47.4 -0.1
baz=219
BPAW **Bear Paw Mtn.** 81.77 12 P P 17 18 46.7 -0.6
baz=207
MFID **Camas Ranch** 81.79 41 IAmb IAmb 17 18 49.8
comp=Z,9.9nm,1.1s
PLBC **Pleasant Camp** 81.83 20 P P 17 18 47.8 0.0
baz=221
MCK **McKinley** 81.87 13 IAmb IAmb 17 18 48.6
comp=Z,13nm,0.9s
MCK **McKinley** 81.87 13 P P 17 18 47.4 -0.4
baz=209,SNR=9.0
PAX **Paxson** 82.01 15 P P 17 18 48.7 0.0
baz=212
P30M **Million Dollar** 82.14 20 P P 17 18 50.0 +0.6
baz=220
M26K **Nabesna, AK** 82.17 16 IAmb IAmb 17 18 50.6
comp=Z,12nm,0.9s
M26K **Nabesna, AK** 82.17 16 P P 17 18 50.3 +0.8
baz=215,SNR=10
YUK8 **Steele Glacier** 82.17 18 P P 17 18 49.9 +0.1
baz=218,SNR=6.6
SKAG **Skagway** 82.19 21 P P 17 18 50.7 +1.2
baz=222
F10A **Beach Ranch, E** 82.22 38 P P 17 18 49.7 -0.4
F10A IAmb IAmb 17 18 51.3
comp=Z,9.6nm,0.8s
DUG **Dugway, Tooele** 82.25 45 P P 17 18 51.1 +0.6
baz=243,SNR=5.7
W18A **Petrified Fore** 82.25 51 IAmb IAmb 17 18 53.0
comp=Z,22nm,1.5s
W18A **Petrified Fore** 82.25 51 P P 17 18 51.8 +1.1
baz=246
T35M **Bob Quinn** 82.31 24 P P 17 18 51.1 +0.9
baz=227
YUK3 **Moose Creek** 82.36 17 P P 17 18 51.0 +0.4
baz=217,SNR=9.1
MENT **Mentasta** 82.42 15 IAmb IAmb 17 18 52.1
comp=Z,10nm,1.2s
M27K **Edge Creek, AK** 82.43 16 P P 17 18 52.0 +1.0
baz=216
HYT **Haines Junctio** 82.51 19 P P 17 18 52.2 +0.9
baz=220
PLID **Pearl Lake** 82.51 39 P P 17 18 51.2 -0.6
I21K **Tanana** 82.54 11 P P 17 18 51.5 +0.2
baz=206
YUK4 **Talbot Arm** 82.56 18 P P 17 18 52.5 +0.9
baz=219
L26K **Log Cabin Wild** 82.59 15 IAmb IAmb 17 18 52.8
comp=Z,9.7nm,1.1s
L26K **Log Cabin Wild** 82.59 15 P P 17 18 52.1 +0.5
baz=214
NEA2 **Nenana** 82.60 12 P P 17 18 50.9 -0.6
baz=209
S34M **Telegraph Cree** 82.60 23 P P 17 18 52.5 +0.8
baz=226,SNR=6.1
K24K **Donnelly Dome** 82.64 14 P P 17 18 51.9 +0.1
baz=212,SNR=8.9
MLY **Manley** 82.65 12 IAmb IAmb 17 18 52.1
comp=Z,10nm,1.0s
MLY **Manley** 82.65 12 P P 17 18 51.0 -0.8
baz=207,SNR=13
WRH **Wood River Hil** 82.70 13 P P 17 18 51.3 -0.8
WRH IAmb IAmb 17 18 53.3
comp=Z,17nm,1.0s
121A **Cookes Peak, D** 82.70 54 IAmb IAmb 17 18 55.6
comp=Z,15nm,1.4s
121A **Cookes Peak, D** 82.70 54 P P 17 18 54.4 +1.3
baz=247
BVCY **Beaver Creek** 82.76 17 P P 17 18 52.8 +0.4
baz=217,SNR=11
HLID **Hailey** 82.76 41 IAmb IAmb 17 18 55.2
comp=Z,8.3nm,0.8s
HLID **Hailey** 82.76 41 P P 17 18 53.6 +0.5
baz=241,SNR=15
RIDG **Independent Ri** 82.81 15 IAmb IAmb 17 18 53.7
comp=Z,12nm,1.0s
RIDG **Independent Ri** 82.81 15 P P 17 18 52.4 -0.3
baz=213,SNR=6.4
H21K **Melozitna Rive** 82.83 11 P P 17 18 53.2 +0.5
baz=205
P32M **Atlin** 82.84 21 P P 17 18 53.2 +0.2
baz=224
HDA **Harding Lake** 82.89 13 IAmb IAmb 17 18 53.7
comp=Z,12nm,0.7s
HDA **Harding Lake** 82.89 13 P P 17 18 52.8 -0.3

baz=211,SNR=17
Q32M Nakina River 82.91 22 P P 17 18 53.9 +0.4
baz=225
O30N Mendenhall 82.92 20 P P 17 18 54.2 +0.8
baz=221,SNR=7.3
DOT Dot Lake 82.93 15 IAmb IAmb 17 18 54.2
comp=Z,12nm,0.8s
IMAR Indian Mountai 82.96 10 P P 17 18 53.1 -0.3
HVU Hansel Valley 83.00 44 P P 17 18 54.0 -0.3
HVU IAmb IAmb 17 18 56.2
comp=Z,11nm,0.8s
L27K Beaver Creek, 83.02 16 P P 17 18 54.2 +0.5
baz=216
I23K Minto, Yukon-K 83.03 12 IAmb IAmb 17 18 54.8
comp=Z,10.0nm,1.2s
I23K Minto, Yukon-K 83.03 12 P P 17 18 53.5 -0.1
baz=209
MDM Murphy Dome 83.09 13 IAmb IAmb 17 18 54.5
comp=Z,18nm,1.0s
TCOL CIGO, UAF Yank 83.10 13 P P 17 18 53.4 -0.6
baz=210
COLA College 83.10 13 P P 17 18 53.6 -0.4
COLA College 83.10 13 P P 17 18 53.3 -0.7
baz=210
CTU Camp Tracy 83.20 45 IAmb IAmb 17 18 57.1
comp=Z,9.5nm,0.9s
IL31 83.22 13 IAmb IAmb 17 18 55.2
comp=Z,13nm,0.8s
ILAR Eielson Array 83.22 13 P P 17 18 54.0 -0.6
comp=Z,7.0nm,0.8s,baz=244,slow=6.5,SNR=95
comp=Z,7.0nm,0.8s
ILAR Eielson Array 83.22 13 P P 17 18 53.9 -0.8
SCRK Sand Creek 83.22 15 IAmb IAmb 17 18 56.0
comp=Z,8.9nm,0.8s
SCRK Sand Creek 83.22 15 P P 17 18 55.1 +0.2
baz=214,SNR=13
WHY Whitehorse 83.23 20 P P 17 18 55.4 +0.4
baz=222,SNR=5.5
H22K Ishtalitna Cre 83.30 11 P P 17 18 55.3 +0.2
baz=207
SRU San Rafael Swe 83.36 47 IAmb IAmb 17 18 58.0
comp=Z,13nm,0.9s
JLU Jordanelle 83.36 45 IAmb IAmb 17 18 58.1
comp=Z,9.2nm,0.9s
DLBC Dease Lake 83.39 23 P P 17 18 55.8 0.0
DLBC IAmb IAmb 17 18 58.3
comp=Z,10nm,1.2s
DLBC Dease Lake 83.39 23 P P 17 18 56.5 +0.7
baz=227
POKR Poker Plat Res 83.40 13 P P 17 18 54.8 -0.8
baz=210,SNR=9.0
M29M Somme Creek 83.47 18 P P 17 18 56.7 +0.6
baz=219
G21K Allakaket 83.49 10 P P 17 18 56.2 +0.2
baz=204
BILL Bilibino 83.58 354 P P 17 18 56.1 -0.3
BILL IAmb IAmb 17 18 57.2
comp=Z,18nm,1.5s
H23K Yukon River 83.59 12 P P 17 18 56.5 0.0
baz=208
P33M Teslin, Yukon 83.61 21 P P 17 18 56.7 -0.2
baz=224
R33M Jennings River 83.69 22 P P 17 18 58.0 +0.6
baz=226
K27K Chicken 83.74 15 P P 17 18 58.1 +0.7
baz=216
J26L Joseph Creek 83.76 15 P P 17 18 57.8 +0.3
baz=214
H24K Noodor Dome 83.93 12 P P 17 18 57.4 -0.9
baz=210
M30M Minto, Yukon 84.07 18 P P 17 18 59.3 +0.3
baz=220
L29M L29M 84.08 17 P P 17 18 59.2 +0.1
baz=219
F21K Alatna River 84.14 10 P P 17 18 59.4 +0.1
baz=204
PRP Porcupine Dome 84.16 13 P P 17 19 00.4 +0.8
baz=212
G22K Bettles 84.20 10 P P 17 18 59.8 +0.3
baz=206
XAN Xi'an 84.23 307 *e*P P 17 19 02.1 +1.6
XAN pP pwP 17 20 41.3 +7.1
XAN pmax pmax
comp=Z,5.0nm,0.8s
G23K Bananza Creek 84.28 11 P P 17 19 00.2 +0.2
baz=208
MNTX Cornudas Mount 84.28 55 P P 17 19 01.2 +0.4
baz=248
DAWY Dawson 84.48 16 P P 17 19 01.1 +0.1
DAWY IAmb IAmb 17 19 02.3
comp=Z,9.2nm,1.0s
DAWY Dawson 84.48 16 P P 17 19 01.2 +0.2
baz=218,SNR=7.0
M31M Drury Creek, Y 84.53 19 P P 17 19 01.5 +0.1
baz=223
EGAK Eagle 84.58 15 IAmb IAmb 17 19 02.6
comp=Z,9.5nm,0.8s
EGAK Eagle 84.58 15 P P 17 19 01.8 +0.3
baz=216,SNR=8.1
F22K John River 84.61 10 P P 17 19 02.3 +0.7
baz=206
MSO Missoula 84.61 39 P P 17 19 01.8 -0.5
baz=241
ANMO Albuquerque 84.65 52 P P 17 19 03.0 +0.2
ANMO Albuquerque 84.65 52 P P 17 19 03.1 +0.3
baz=248
COLD Coldfoot 84.70 11 P P 17 19 02.5 +0.5
baz=208
TX32 Lajitas Array 84.82 58 IAmb IAmb 17 19 06.3
comp=Z,8.3nm,0.9s
TXAR Lajitas Array 84.82 58 P P 17 19 05.5 +1.8
comp=Z,5.5nm,0.8s,baz=223,slow=5.8,SNR=47
comp=Z,5.5nm,0.8s
K29M Barlow Dome 84.83 17 P P 17 19 03.3 +0.4
baz=220
FARO Faro, Yukon 84.89 20 P P 17 19 03.1 0.0
baz=224
HHC Hu-ho-hao-te 85.01 314 *e*P P 17 19 06.4 +2.1
HHC pmax pmax
comp=Z,38nm,0.9s
HHC pmax pmax
comp=Z,190nm,4.9s
BELA Belgrano 2 85.02 173 P P 17 19 02.9 -0.7
G25K Bearman Lake 85.10 12 P P 17 19 05.4 +1.5
baz=212
J29M Klondike Camp 85.10 16 IAmb IAmb 17 19 05.8
comp=Z,9.7nm,0.9s
J29M Klondike Camp 85.10 16 P P 17 19 05.1 +0.9
baz=219
MAYO Mayo, Yukon 85.11 18 P P 17 19 05.4 +1.3
baz=221
I27K Kandik River 85.14 15 P P 17 19 05.4 +1.1
baz=216
MOOW Moose Ponds 85.21 42 P P 17 19 04.8 -0.6
F24K Squaw Lake 85.39 11 P P 17 19 05.8 +0.4
baz=210
S22A 4UR Ranch, Cre 85.45 49 P P 17 19 07.4 +0.6
baz=247
BOZ Bozeman (W) 85.47 40 IAmb IAmb 17 19 08.4
comp=Z,15nm,1.4s
BOZ Bozeman (W) 85.47 40 P P 17 19 06.5 0.0
baz=243,SNR=7.4
YMR Madison River 85.47 42 IAmb IAmb 17 19 09.2
comp=Z,12nm,0.8s
E23K Chandalar 85.55 11 P P 17 19 06.6 +0.3
baz=208
BW06 Boulder Array 85.57 44 IAmb IAmb 17 19 07.9
comp=Z,5.6nm,0.8s
BW06 Boulder Array 85.57 44 P P 17 19 07.2 +0.1
baz=245
PD31 Pinedale Array 85.57 44 P P 17 19 07.4 +0.2
PD31 IAmb IAmb 17 19 08.0
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 85.57 44 P P 17 19 07.4 +0.2
comp=Z,4.7nm,0.7s,baz=214,slow=3.0,SNR=46
comp=Z,4.7nm,0.7s
H17A Grant Village 85.60 42 IAmb IAmb 17 19 10.4
comp=Z,10.0nm,0.8s
H17A Grant Village 85.60 42 P P 17 19 09.1 +1.8
baz=244,SNR=12
H27K Steamboat Moun 85.67 14 P P 17 19 07.3 +0.4
baz=216
G26K Porcupine Rive 85.75 13 P P 17 19 07.7 +0.5
baz=214
E24K Your Creek 85.77 11 P P 17 19 08.0 +0.7
baz=209
LKWY Lake 85.79 42 IAmb IAmb 17 19 11.4
comp=Z,11nm,0.9s

F25K Christian Rive 85.90 12 P P 17 19 08.0 +0.1
baz=212
G27K Doyon Strip 86.11 14 P P 17 19 09.0 0.0
baz=216
D23K Nanushuk River 86.17 10 P P 17 19 09.7 +0.5
baz=207
F26K Sheenjek River 86.30 13 P P 17 19 10.5 +0.6
baz=213
E25K Arctic Village 86.36 12 P P 17 19 10.0 -0.2
baz=212
MAW Mawson 86.39 200 P P 17 19 10.7 +0.3
comp=Z,6.7nm,0.6s,baz=139,slow=6.2,SNR=13
comp=Z,6.7nm,0.6s
SDCO Great Sand Dun 86.42 50 P P 17 19 10.7 -0.7
baz=248
D24K Happy Valley 86.65 10 P P 17 19 11.8 +0.4
baz=209
RWWY Rawlins 86.72 45 IAmb IAmb 17 19 14.2
comp=Z,7.4nm,1.0s
RLMT Red Lodge 86.76 42 P P 17 19 12.7 -0.1
RLMT Red Lodge 86.76 42 P P 17 19 13.9 +1.1
baz=245,SNR=5.9
EPYK Eagle Plains 86.98 16 P P 17 19 13.0 -0.1
baz=220
ISCO Idaho Springs 87.11 48 P P 17 19 14.6 -0.1
baz=248
Q24A Divide 87.13 49 P P 17 19 15.5 +0.6
baz=248
MSTX Muleshoe 87.14 54 P P 17 19 14.6 -0.1
baz=250
C24K Franklin Bluff 87.17 10 P P 17 19 14.1 +0.3
baz=209
D25K Kavik River 87.24 11 P P 17 19 13.9 -0.4
baz=211
E27K Coleen River 87.25 13 P P 17 19 14.5 +0.1
baz=216
N23A Red Feather La 87.29 46 P P 17 19 15.7 +0.2
baz=248
PZH PanZhiHua 87.47 298 P P 17 19 17.6 +1.1
PZH pmax pmax
comp=Z,8.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.5s
CMAR Chiang Mai Arr 87.56 290 P P 17 19 18.1 +1.3
comp=Z,0.7nm,0.4s,baz=82,slow=2.8,SNR=7.9
comp=Z,0.7nm,0.4s
K22A Casper 87.57 45 P P 17 19 16.0 -0.6
baz=247
G30M tAoh Zraii Nji 87.58 15 P P 17 19 15.8 -0.2
baz=221
C27K Jago River 88.00 12 P P 17 19 17.6 -0.2
baz=214
C26K Camden Bay 88.02 11 P P 17 19 18.5 +0.7
baz=213
AMTX Amarillo 88.30 53 P P 17 19 19.5 -0.7
baz=250
F31M Tsiigehtchic 88.57 16 P P 17 19 20.6 +0.1
baz=223
LZH Lanzhou 88.84 308 *e*P P 17 19 23.8 +1.1
LZH pP PcP 17 19 26.4 +2.5
LZH pmax pmax
comp=Z,10.0nm,0.8s
INK Inuvik 89.26 15 P P 17 19 24.6 +0.9
baz=223
LAO LASA Array 89.34 41 IAmb IAmb 17 19 26.5
comp=Z,7.5nm,0.9s
LAO LASA Array 89.34 41 P P 17 19 25.7 +1.1
baz=247
RSSD Black Hills 89.80 44 P P 17 19 26.7 -0.4
RSSD IAmb IAmb 17 19 28.8
comp=Z,13nm,1.3s
RSSD Black Hills 89.80 44 P P 17 19 27.1 +0.1
baz=249
WMOK Wilita Mounta 90.51 54 P P 17 19 30.2 -0.2
baz=252
ULN Ulaanbaatar 90.74 320 P P 17 19 31.1 -0.2
SONM Songino Array 91.14 319 P P 17 19 33.3 +0.2
comp=Z,0.7nm,0.7s,baz=134,slow=4.5,SNR=8.9
comp=Z,0.7nm,0.7s
DGMT Dagmar 91.28 40 P P 17 19 33.9 +0.3
baz=249
ELIB Princess Elisa 91.92 187 *d*P P 17 19 35.5 -0.9
comp=Z,5.4nm,0.8s
YKA Yellowknife Ar 91.92 25 P P 17 19 35.8 -0.3
comp=Z,0.5nm,0.7s,baz=248,slow=4.3,SNR=6.1
comp=Z,0.5nm,0.7s
SNAA Sanae 93.44 179 P P 17 19 41.7 -1.5
comp=Z,4.4nm,0.8s,baz=221,slow=7.2,SNR=8.7
comp=Z,4.4nm,0.8s
A36M Sachs Harbour 93.84 15 P P 17 19 45.0 +0.3
baz=231
ECSD EROS Data Cent 94.76 46 P P 17 19 49.4 -0.2
baz=254
BO02 Sierra Bellavi 95.71 128 P P 17 19 53.3 -1.0
VA03 San Esteban 96.67 126 P P 17 19 56.2 -2.5
MKAR Makanchi Array 106.87 315 PKiKP PKiKP 17 24 50.2 -1.0
comp=Z,0.4nm,0.8s,baz=56,slow=3.1,SNR=4.0
BDFB Brasilia 122.62 120 PKP PKPdf 17 25 21.5 -0.8
comp=Z,1.2nm,0.5s,baz=205,slow=8.6,SNR=3.2
ARCES ARCESS Array B 123.46 350 PKP PKPdf 17 25 21.2 -1.0
comp=Z,3.0nm,0.6s,baz=327,slow=0.8,SNR=15
GEYT Alibeck 125.09 306 PKP PKPdf 17 25 26.1 -0.2
comp=Z,2.6nm,0.8s,baz=35,slow=5.3,SNR=6.3
GEYT Alibeck 125.09 306 PKPdf PKPdf 17 25 25.8 -0.5
KLMR Klimovskoe 126.59 338 PKPdf PKPdf 17 25 26.3 -2.1
KLMR AMP 17 25 28.5
comp=Z,13nm,1.1s
FINES FINESS Array B 130.35 345 PKP PKPdf 17 25 34.7 -0.8
comp=Z,2.0nm,0.8s,baz=40,slow=3.2,SNR=8.5
BOSA Boshof 130.73 208 PKP PKiKP 17 25 39.1 +0.6
comp=Z,4.4nm,1.0s,baz=133,slow=4.5,SNR=3.1
NOA NORSAR Array B 133.52 353 PKP PKPdf 17 25 41.5 -0.1
comp=Z,1.8nm,0.9s,baz=14,slow=3.9,SNR=3.1
AKASG Malin Array Be 137.86 334 PKhKP PKPpre 17 25 42.4
AKASG PKP PKPdf 17 25 50.8 +0.8
comp=Z,0.4nm,0.5s,baz=41,slow=4.2,SNR=4.8
comp=Z,0.6nm,0.4s,baz=36,slow=3.2,SNR=9.1
TPGR Topolog 142.41 328 ⇓P PKPdf 17 25 55.7 -2.7
BRTR Keskin Array B 142.47 317 PKhKP PKPpre 17 25 55.3
comp=Z,2.9nm,0.9s,baz=80,slow=1.5,SNR=13
CLL Collm 142.61 348 *i* (PKPdf) PKPdf 17 25 54.8 -3.7
comp=Z,6.0nm,0.8s
DPC Dobruska-Polom 142.72 344 *e*PKP PKPdf 17 25 56.2 -2.6
DOPR Dopca 143.09 332 ⇑P PKPdf 17 25 58.3 -1.3
MLR Muntele Rosu 143.19 331 ⇓P PKPdf 17 25 58.6 -1.3
PRU Pruhonice 143.51 345 *e*PKP PKPbc 17 25 58.4 +0.2
VRAC Vranov 143.59 343 *e*PKP PKPbc 17 25 58.7 +0.2
MDUB Mudurnu 143.62 320 PKPdf PKPbc 17 25 59.5 +0.5
VYHS Vyhne 143.63 340 *e*PKP PKPbc 17 25 59.1 +0.4
VOIR 143.65 331 ⇑P PKPdf 17 26 00.1 -0.6
JAVC Velka Javorina 143.68 342 *e*PKP PKPdf 17 26 00.2 -0.3
KRUC Moravsky 143.87 343 *e*PKP PKPbc 17 25 59.5 +0.1
MODS Modra-Piesok 144.23 342 *e*PKP PKPdf 17 26 01.6 +0.2
BTNL Ternell 144.34 355 *d*PKP PKPab 17 26 01.0 -0.1
BSTI Sart Tilman 144.39 355 *d*PKP PKPbc 17 26 01.0 0.0
LODK Lodwar 144.40 254 PKPdf PKPbc 17 26 01.8 -0.5
ZST Bratislava 144.44 342 *e*PKP PKPdf 17 26 02.4 +0.6
SIRR Siria 144.47 335 ⇓P PKPdf 17 26 02.2 +0.2
KHC Kasperske Hory 144.53 346 *e*PKP PKPab 17 26 01.8 0.0
BCLA Clavier 144.58 355 *d*PKP PKPbc 17 26 01.5 -0.1
CKRC Cesky Krumlov 144.65 345 *e*PKP PKPab 17 26 02.7 +0.5
SURR Surduc 144.69 334 ⇑P PKPdf 17 26 02.3 0.0
GZR Gura Zlata 144.70 333 ⇑P PKPdf 17 26 02.3 -0.1
BMRD Maredsous 144.73 356 *d*PKP PKPdf 17 26 02.2 0.0
GEC2 GERESS Array S 144.77 346 PKPdf PKPdf 17 26 02.1 -0.4
GERES GERESS Array B 144.77 346 PKP PKPdf 17 26 02.1 -0.4
comp=Z,5.8nm,0.7s,baz=24,slow=3.6,SNR=28
RCHB Rochefort 144.84 355 *d*PKP PKPdf 17 26 02.0 -0.4
DOU Dourbes 144.95 356 *d*PKP PKPbc 17 26 02.7 -0.1
BZS Buzias 145.01 335 ⇑P PKPdf 17 26 02.8 0.0
CONA Conrad Observa 145.05 343 *e*PKP PKPab 17 26 03.7 -0.1
comp=Z,4.0nm,0.7s
RONA Rosalia, Austr 145.12 342 *e*PKP PKPab 17 26 04.2 +0.1
comp=Z,12nm,1.1s,SNR=5.1
WLF Walferdange 145.25 354 *d*PKP PKPab 17 26 04.2 -0.3
HERR Herculane 145.26 333 ⇑P PKPbc 17 26 03.9 0.0
MOA Molln 145.56 344 *e*PKP PKPbc 17 26 04.8 0.0
comp=Z,7.8nm,0.6s,SNR=10
MORH Mrgy, Hungar 145.66 338 ⇑P PKPdf 17 26 04.4 +0.5
ARSA Arzberg 145.76 343 *e*PKP PKPbc 17 26 05.2 -0.2
comp=Z,8.6nm,1.2s
BIOA Bad Ischl, Aus 145.86 345 *e*PKP PKPbc 17 26 05.8 +0.1
comp=Z,5.7nm,0.6s,SNR=4.1
FRGS Fruska Gora 146.12 336 ⇓P PKPab 17 26 07.5 -0.5
BFO Black Forest 146.30 351 PKPdf PKPbc 17 26 06.0 -0.9
SOKA Soboth 146.42 343 *e*PKP PKPbc 17 26 07.1 -0.3

comp=Z,9.4nm,0.8s,SNR=8.7
KBA Koelnbreinsper 146.51 345 *e*PKP PKPbc 17 26 07.8 0.0
comp=Z,8.5nm,0.6s,SNR=7.8
ELL Elmali 146.54 316 PKPbc 17 26 07.7 -0.4
WATA Walderalm 146.68 347 *e*PKP PKPbc 17 26 07.8 -0.3
comp=Z,16nm,1.2s
RETA Reutte 146.70 348 *e*PKP PKPbc 17 26 08.3 +0.1
comp=Z,12nm,1.1s,SNR=4.8
WTTA Wattenberg 146.73 347 *i* PKP PKPbc 17 26 08.1 -0.2
comp=Z,12nm,0.7s
MOTA Moosalm 146.77 348 *i* PKP PKPbc 17 26 08.4 0.0
comp=Z,18nm,1.0s,SNR=7.4
MYKA Terra Mystica 146.84 344 *e*PKP PKPbc 17 26 07.8 -0.7
comp=Z,10nm,0.8s
SQTA Sankt Quirin 146.87 347 *i* PKP PKPbc 17 26 08.6 0.0
comp=Z,11nm,0.7s,SNR=6.9
ABTA Abfaltersbach 147.02 346 *e*PKP PKPbc 17 26 08.5 -0.5
comp=Z,11nm,0.8s,SNR=7.0
DAVA Damuels 147.06 349 *e*PKP PKPbc 17 26 09.2 0.0
comp=Z,8.0nm,0.8s,SNR=4.9
FETA Feichten 147.16 348 *i* PKP PKPbc 17 26 09.7 +0.2
comp=Z,13nm,1.0s
CIMO Cimolais 147.45 345 PKPbc 17 26 09.1 -1.0
FUORN Ofenpass-Fuorn 147.63 348 PKPbc 17 26 10.8 -0.1
FNA Florina 148.93 329 PKPbc 17 26 13.4 -0.7
SANT Santorini 149.68 319 ⇑P PKPbc 17 26 14.9 -1.2
BNI Bardonecchia 149.75 352 PKiKP 17 26 16.4 -0.4
TORD Torodi Ar. Bea 178.03 195 PKP PKPdf 17 26 34.6 -2.0
comp=Z,2.7nm,0.9s,baz=270,slow=0.3,SNR=12
TORD PKPab 17 28 25.1
comp=Z,0.5nm,0.6s,baz=184,slow=3.7,SNR=2.4

*IDC **03** 17:23:11.6±6.7,34°.31N×73°.65E,h0km,mb3.7/3,*
mbtmp3.6/4,ML2.8/1, Error ellipse: s-maj=173.1km
s-min=35.2km az=134.0
*NNC **03** 17:23:20.9±13.0,34°.86N×72°.85E,h2km±257km,mb3.9,*
mpv3.9,Error ellipse: s-maj=253.9km s-min=74.4km
az=168.0
ISC 03 17:23:17.2±1.8,**34°.5N**±0°.2×**73°.3E**±0°.2,**h22**km,**n9,**
σ1§38/10,mb3.7/3,3C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**8.52**	**7**	⇑P	**Pn**	**17 25 21.3**	**+2.1**
	1.0nm,0.5s						
TKM2	**Tokmak 2**	**8.55**	**11**	⇑P	**Pn**	**17 25 21.6**	**+1.7**
	1.3nm,0.5s						
KK31	**Karatay Array**	**8.83**	**346**	P	**Pn**	**17 25 25.0**	**+1.6**
	15nm,0.5s,baz=156,slow=11,SNR=328						
KK31				⇓S	**Sn**	**17 27 01.0**	**-1.2**
	0.5nm,0.3s,baz=242,slow=51,SNR=6.1						
MK31	**Makanchi Array**	**13.99**	**26**	P	**P**	**17 26 41.8**	**0.0**
	0.3nm,0.4s,baz=204,slow=10,SNR=7.5						
MKAR	**Makanchi Array**	**13.99**	**26**	Pn	**Pn**	**17 26 33.6**	**-0.5**
	baz=202,slow=15,SNR=2.7						
	0.2nm,0.6s						
AB31	**Akbulak array**	**17.72**	**330**	⇑P	**Pn**	**17 27 22.1**	**-0.3**
	0.7nm,0.6s,baz=137,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**21.03**	**19**	P	**P**	**17 27 58.0**	**-1.3**
	1.2nm,0.4s,baz=213,slow=11,SNR=6.5						
	1.2nm,0.4s						
ARCES	**ARCESS Array B**	**43.67**	**338**	P	**P**	**17 31 20.4**	**+0.5**
	2.6nm,0.9s,baz=116,slow=9.2,SNR=1.3						
	2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**67.61**	**271**	P	**P**	**17 34 12.2**	**-0.3**
	0.2nm,0.4s,baz=41,slow=9.5,SNR=2.3						
	0.2nm,0.4s						

*HLW **03** 17:44:47.5,30°.29N×31°.93E,h0km±1km,Ml3.1*
*GII **03** 17:44:48.4±0.0,30°.66N×32°.07E,h1km,MD2.6/3,Mm2.7/2*
ISC 03 17:44:44.8±1.5,**30°.45N**±0°.05×**31°.98E**±0°.03,**h5**km±14km,
n30,σ1§42/39,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOT	**Kottamia**	**0.54**	**194**	P	**Pg**	**17 44 55.6**	**+0.4**
	baz=195						
HLW	**Helwan**	**0.81**	**223**	P	**Pg**	**17 45 00.9**	**+0.6**
	baz=231						
HLW				S	**Sg**	**17 45 10.4**	**-0.4**
	baz=231						
GLL	**Jalalah**	**0.90**	**195**	P	**Pg**	**17 45 02.0**	**-0.1**
	baz=196						
HSAF	**As Saff**	**0.91**	**204**	P	**Pg**	**17 45 02.1**	**-0.1**
	baz=207						
SUZ	**Suez**	**0.96**	**129**	P	**Pn**	**17 45 05.2**	**+0.2**
	baz=119						
HMYD	**Mayadein**	**1.21**	**238**	P	**Pg**	**17 45 09.1**	**+1.1**
	baz=244						
ZAF	**Zafarana**	**1.27**	**157**	P	**Pg**	**17 45 09.4**	**+0.3**
	baz=151						
ZNM	**Zenema**	**1.33**	**144**	P	**Pg**	**17 45 11.3**	**+1.1**
	baz=137						
ZNM				S	**Sg**	**17 45 28.6**	**+1.1**
	baz=137						
HNAT	**Natroun**	**1.44**	**236**	P	**Pg**	**17 45 12.7**	**+0.4**
	baz=241						
HNAT				S	**Sb**	**17 45 31.0**	**+0.4**
	baz=241						
NBNS	**Bani Suef**	**1.92**	**198**	P	**Pn**	**17 45 18.9**	**+0.8**
	baz=199						
RYAN	**Fayoum**	**2.01**	**228**	P	**Pb**	**17 45 20.4**	**-1.5**
	baz=231						
HRDS	**Abu Rudays**	**2.08**	**146**	P	**Pb**	**17 45 21.4**	**-1.6**
	baz=142						
KZIT	**Kziot**	**2.13**	**77**	Pn	**Pb**	**17 45 23.6**	**-0.3**
KZIT				Sn	**Sb**	**17 45 48.9**	**-1.8**
GRB	**Gharib**	**2.29**	**162**	P	**Pn**	**17 45 24.0**	**+0.8**
	baz=159						
KRMI	**Paran Flat**	**2.40**	**97**	Pn	**Pb**	**17 45 27.6**	**-0.9**
KRMI				Sn	**Sb**	**17 45 58.9**	**+0.5**
HKAT	**Jabal Katrina**	**2.61**	**137**	P	**Pn**	**17 45 28.7**	**+1.0**
	baz=133						
PRNI	**Paran**	**2.62**	**91**	Pn	**Pb**	**17 45 31.0**	**-1.2**
PRNI				Sn	**Sb**	**17 46 03.4**	**-1.3**
MBRI	**Mt Berech**	**2.63**	**104**	Pn	**Pb**	**17 45 31.8**	**-0.6**
MBRI				Sn	**Sb**	**17 46 04.1**	**-0.9**
HRFI	**Mount Harif**	**2.68**	**98**	Pn	**Pb**	**17 45 32.4**	**-0.9**
HRFI				Sn	**Sb**	**17 46 05.9**	**-0.6**
EIL	**Elat**	**2.69**	**106**	Pn	**Pb**	**17 45 32.4**	**-1.1**
NUB	**Nuweibaa**	**2.72**	**121**	P	**Pb**	**17 45 31.8**	**-2.1**
	baz=118						
ZFRI	**Zfri**	**2.77**	**87**	Pn	**Pb**	**17 45 32.9**	**-1.8**
YTIR	**Yattir**	**2.85**	**71**	Pn	**Pb**	**17 45 33.7**	**-2.4**
TAMRE	**El Minia**	**2.91**	**199**	P	**Pn**	**17 45 32.6**	**+0.8**
	baz=200						
MSBI	**Mazada**	**3.03**	**73**	Pn	**Pb**	**17 45 35.3**	**-3.9**
ASUT		**3.07**	**187**	P	**Pn**	**17 45 34.5**	**+0.5**
	baz=187						
HHRG	**Al Ghardaqah**	**3.51**	**156**	P	**Pn**	**17 45 43.1**	**+3.1**
	baz=155						
HMDT	**Nahal Hemdat**	**3.53**	**59**	Pn	**Pn**	**17 45 42.6**	**+2.4**
HMDT				Sn	**Sn**	**17 46 22.9**	**+0.6**
MMA0B	**Mount Meron ar**	**3.88**	**48**	Pn	**Pn**	**17 45 46.9**	**+1.8**
HFRF	**Wahat Farafira**	**4.60**	**225**	P	**Pn**	**17 45 55.4**	**+0.4**
	baz=227						

*AUST **03** 17:45:04.8±1.0,30°.66S×118°.37E,h10km,Error ellipse:*
s-maj=11.4km s-min=9.2km az=138.0
*CUPWA **03** 17:45:05.7±7.8,30°.65S×118°.41E,h2km±52km,Region:*
WESTERN AUSTRALIA
ISC 03 17:45:03.9±1.5,**30°.62S**±0°.04×**118°.46E**±0°.05,**h13**km±11km,
n22,σ1§77/35,1D,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.14**	**212**	⇓P	**Pg**	**17 45 25.5**	**-0.4**
	baz=1.1						
KLBR				S	**Sg**	**17 45 39.5**	**-1.3**
	baz=1.1						
KLBR	**Kellerberrin**	**1.14**	**212**	P	**Pg**	**17 45 25.5**	**-0.4**
KLBR				S	**Sg**	**17 45 39.5**	**-1.3**
BLDU	**Ballidu**	**1.51**	**270**	P	**Pn**	**17 45 31.7**	**+1.1**
	baz=1.4						
BLDU				S	**Sb**	**17 45 50.7**	**0.0**
	baz=1.4						
BLDU	**Ballidu**	**1.51**	**270**	P	**Pn**	**17 45 31.7**	**+1.1**
BLDU				S	**Sb**	**17 45 50.7**	**0.0**
MECK	**Meckering**	**1.60**	**231**	P	**Pn**	**17 45 33.6**	**+1.7**
MECK				S	**Sn**	**17 45 51.3**	**-1.1**
AUKUL	**Kulin High Sch**	**2.06**	**187**	P	**Pn**	**17 45 40.6**	**+2.4**
AUKUL				S	**Sn**	**17 46 05.6**	**+1.8**

PING	**Pingelly**	**2.26**	**213**	SG	**Sb**	**17 46 13.6**	**+1.2**
PING	**Pingelly**	**2.26**	**213**	P	**Pb**	**17 45 44.6**	**+0.1**
MUN	**Mundaring**	**2.35**	**234**	P	**Pn**	**17 45 43.2**	**+1.0**
	baz=2.3						
MUN				S	**Sn**	**17 46 10.1**	**-0.9**
	baz=2.3						
MUN	**Mundaring**	**2.35**	**234**	P	**Pn**	**17 45 43.2**	**+1.0**
MUN	**Mundaring**	**2.35**	**234**	S	**Sn**	**17 46 10.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**2.53**	**204**	P	**Pn**	**17 45 46.7**	**+2.1**
	baz=2.5						
NWAO				P	**Pn**	**17 45 46.7**	**+2.1**
	baz=2.5						
NWAO	**Narrogin (SRO)**	**2.53**	**204**	P	**Pn**	**17 45 46.7**	**+2.1**
MORW	**Morawa**	**2.61**	**306**	P	**Pn**	**17 45 47.0**	**+1.3**
	baz=2.6						
MORW				S	**Sn**	**17 46 17.4**	**+0.2**
	baz=2.6						
MORW	**Morawa**	**2.61**	**306**	P	**Pn**	**17 45 47.0**	**+1.3**
MORW	**Morawa**	**2.61**	**306**	S	**Sn**	**17 46 17.4**	**+0.2**
KMBL	**Kambalda**	**3.04**	**105**	P	**Pn**	**17 45 53.7**	**+2.1**
	baz=3.1						
KMBL	**Kambalda**	**3.04**	**105**	P	**Pn**	**17 45 53.7**	**+2.1**
MEEK	**Meekatharra**	**3.97**	**2**	P	**Pn**	**17 46 07.2**	**+2.7**
	baz=4.0						
MEEK				S	**Sn**	**17 46 50.6**	**-0.3**
	baz=4.0						
MEEK	**Meekatharra**	**3.97**	**2**	P	**Pn**	**17 46 07.2**	**+2.7**
MEEK				S	**Sn**	**17 46 50.6**	**-0.3**
FORT	**Forrest**	**8.27**	**94**	P	**Pn**	**17 47 05.2**	**+1.7**
	baz=8.3						
FORT				S	**Sn**	**17 48 33.3**	**-3.5**
	baz=8.3						
WRKA	**Warakurna**	**10.33**	**60**	P	**Pn**	**17 47 32.9**	**+1.1**
	baz=10						
WRKA				S	**Sn**	**17 49 23.5**	**-4.0**
	baz=10						

*IDC **03** 18:00:11.3±1.8, 31°.01S×119°.09E, h0km, mb3.4/1, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=73.0km s-min=17.0km az=130.0*

*AUST **03** 18:00:13.7±0.9, 30°.63S×118°.40E, h10km, Error ellipse: s-maj=10.9km s-min=9.2km az=143.0*

*NOU **03** 18:00:13.0, 30°.65S×118°.43E, h0km, MLv3.5/8, Western Australia*

ISC 03 18:00:13.3±0.9, **30°.63S**±0°.05×**118°.46E**±0°.06, **h13**km, **n23**, σ1**s74**/28, **Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.13**	**212**	P	**Pb**	**18 00 34.6**	**-0.1**
	baz=1.1,SNR=180						
KLBR				S	**Sb**	**18 00 48.7**	**-0.8**
	baz=1.1						
KLBR	**Kellerberrin**	**1.13**	**212**	P	**Pb**	**18 00 34.5**	**-0.3**
BLDU	**Ballidu**	**1.51**	**270**	P	**Pn**	**18 00 40.7**	**+0.7**
	baz=1.5,SNR=87						
BLDU				S	**Sn**	**18 00 59.7**	**+0.2**
	baz=1.5						
BLDU	**Ballidu**	**1.51**	**270**	P	**Pn**	**18 00 40.7**	**+0.7**
MUN	**Mundaring**	**2.35**	**234**	P	**Pn**	**18 00 52.4**	**+0.7**
	baz=2.3,SNR=9.9						
MUN				S	**Sn**	**18 01 22.1**	**+1.7**
	baz=2.3						
MUN	**Mundaring**	**2.35**	**234**	P	**Pn**	**18 00 51.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**2.52**	**204**	Pn	**Pn**	**18 00 53.9**	**0.0**
	3.3nm,0.3s						
NWAO				Lg	Lg	18 01 29.2	
NWAO	**Narrogin (SRO)**	**2.52**	**204**	P	**Pn**	**18 00 54.6**	**+0.7**
	baz=2.5,SNR=22						
NWAO				P	**Pn**	**18 00 54.6**	**+0.7**
	baz=2.5,SNR=22						
NWAO	**Narrogin (SRO)**	**2.52**	**204**	P	**Pn**	**18 00 54.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**2.52**	**204**	P	**Pn**	**18 00 54.1**	**+0.2**
MORW	**Morawa**	**2.61**	**306**	P	**Pn**	**18 00 55.8**	**+0.5**
	baz=2.6,SNR=3.6						
MORW				S	**Sn**	**18 01 26.5**	**-0.4**
	baz=2.6						
MORW	**Morawa**	**2.61**	**306**	P	**Pn**	**18 00 55.8**	**+0.5**
KMBL	**Kambalda**	**3.03**	**105**	P	**Pn**	**18 01 02.7**	**+1.7**
	baz=3.1,SNR=5.6						
KMBL	**Kambalda**	**3.03**	**105**	P	**Pn**	**18 01 02.7**	**+1.7**
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**18 01 15.9**	**+1.8**
	baz=4.0,SNR=12						
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**18 01 15.4**	**+1.3**
RKGY	**Rocky Gully**	**4.16**	**197**	P	**Pn**	**18 01 18.5**	**+1.9**
	baz=4.2						
FORT	**Forrest**	**8.27**	**93**	P	**Pn**	**18 02 13.2**	**+0.2**
	baz=8.3						
WRKA	**Warakurna**	**10.33**	**60**	P	**Pn**	**18 02 41.9**	**+0.6**
	baz=10						
OOD	**Oodnadatta**	**15.31**	**84**	P	**Pn**	**18 03 45.9**	**-3.3**
	baz=15						
ASAR	**Alice Springs**	**15.39**	**67**	Pn	**Pn**	**18 03 46.3**	**-4.0**
	0.2nm,0.3s,baz=237,slow=11,SNR=11						
ASAR				Sn	Sn	18 06 25.0	-16
	baz=246,slow=21,SNR=1.3						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**17.85**	**57**	P	**Pn**	**18 04 17.1**	**-4.5**
	0.2nm,0.3s,baz=232,slow=13,SNR=12						
	0.9nm,0.5s						
SONM	**Songino Array**	**78.85**	**352**	P	**P**	**18 12 18.7**	**+2.7**
	0.2nm,0.4s,baz=170,slow=3.3,SNR=1.6						
	0.2nm,0.4s						

*NEIC **03** 18:16:51.3±1.8, 19°.1S±0°.1×177°.4W±0°.1, h565km±8km, mb4.6/115, Error ellipse: s-maj=16.0km s-min=12.7km az=138.0*

*NOU **03** 18:16:52.7, 19°.02S×177°.42W, h583km, mb4.5/43, Fiji Islands Region*

*IDC **03** 18:16:52.9±1.6, 19°.24S×177°.45W, h579km±18km, mb3.5/15, mbtmp4.5/19, Error ellipse: s-maj=16.2km s-min=13.2km az=139.0*

ISC 03 18:16:51.9±0.4, **19°.05S**±0°.07×**177°.46W**±0°.06, **h570**km, **n222**, σ1**s30**/229, **mb4.5**/68, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**1.52**	**302**	P	**P**	**18 18 04.3**	**+2.6**
TAVE	**Taveuni**	**3.29**	**315**	P	**P**	**18 18 13.5**	**+3.0**
MSVF	**Nonsavu**	**4.46**	**286**	P	**P**	**18 18 21.5**	**+2.7**
	77nm,0.6s,baz=131,slow=8.8,SNR=50						
MSVF	**Nonsavu**	**4.46**	**286**	P	**P**	**18 18 21.3**	**+2.5**
MSVF	**Nonsavu**	**4.46**	**286**	P	**P**	**18 18 21.6**	**+2.8**
FUTU	**Fugatoga**	**4.76**	**352**	P	**P**	**18 18 23.4**	**+2.3**
NIUE	**Niue**	**7.12**	**91**	P	**P**	**18 18 43.0**	**+1.1**
NIUE	**Niue**	**7.12**	**91**	P	**P**	**18 18 42.8**	**+0.9**
AFI	**Afiamalu**	**7.47**	**48**	P	**P**	**18 18 45.0**	**-0.3**
AFI					**S**	**18 20 16.8**	**-1.3**
FUNA	**Funafuti**	**10.95**	**342**	P	**P**	**18 19 21.6**	**+1.7**
DVP	**Devils Point**	**13.69**	**273**	P	**P**	**18 19 48.4**	**+0.4**
MARNC	**Mare, Loyalty**	**13.83**	**257**	P	**P**	**18 19 48.7**	**-0.6**
MARNC	**Mare, Loyalty**	**13.83**	**257**	P	**P**	**18 19 49.3**	**-0.1**
LIFNC	**LIFOU**	**14.49**	**261**	P	**P**	**18 19 53.2**	**-2.8**
LIFNC	**LIFOU**	**14.49**	**261**	P	**P**	**18 19 55.3**	**-0.7**
YATNC	**Mamie plateau,**	**14.96**	**256**	P	**P**	**18 20 00.8**	**+0.2**
OUENC	**Ouen Island, N**	**15.06**	**254**	P	**P**	**18 20 01.3**	**-0.3**
OUENC				IAmb	IAmb	18 20 29.5	
	comp=Z,12nm,0.8s						
OUENC	**Ouen Island, N**	**15.06**	**254**	P	**P**	**18 20 01.9**	**+0.3**
DZM	**Mont Dzumac**	**15.37**	**256**	P	**P**	**18 20 05.6**	**+0.9**
	comp=Z,8.8nm,0.6s,baz=81,slow=16,SNR=15						
DZM	**Mont Dzumac**	**15.37**	**256**	P	**P**	**18 20 04.3**	**-0.5**
DZM				IAmb	IAmb	18 20 07.8	
	comp=Z,11nm,0.6s						
ONTNC	**Ouen Toro**	**15.40**	**255**		**P**	**18 20 04.2**	**-0.7**
ONTNC				IAmb	IAmb	18 20 07.6	
	comp=Z,22nm,1.1s						
RAR	**Rarotonga**	**16.75**	**100**	P	**P**	**18 20 18.3**	**+0.8**
	comp=Z,25nm,0.9s,baz=246,slow=6.2,SNR=7.3						
RAR	**Rarotonga**	**16.75**	**100**	P	**P**	**18 20 17.9**	**+0.4**
RAR	**Rarotonga**	**16.75**	**100**	P	**P**	**18 20 18.6**	**+1.1**
KOUNC	**Koumac, New Ca**	**17.24**	**262**	P	**P**	**18 20 23.9**	**+1.9**
KOUNC				IAmb	IAmb	18 20 26.3	
	comp=Z,27nm,0.7s						
KOUNC	**Koumac, New Ca**	**17.24**	**262**	P	**P**	**18 20 24.5**	**+2.5**
OUZ	**Omahuta**	**17.95**	**204**	P	**P**	**18 20 30.4**	**+2.2**
KUZ	**Kuaotunu**	**18.62**	**197**	P	**P**	**18 20 35.6**	**+1.3**
KUZ	**Kuaotunu**	**18.62**	**197**	P	**P**	**18 20 35.5**	**+1.1**
MXZ	**Matakaoa Point**	**18.81**	**190**	P	**P**	**18 20 35.1**	**-1.0**
WIAZ	**Waiheke Island**	**18.84**	**199**	P	**P**	**18 20 37.9**	**+1.6**
ETAZ	**East Tamaki Re**	**19.05**	**199**	P	**P**	**18 20 40.0**	**+1.8**
HAZ	**Te Kaha**	**19.10**	**192**	P	**P**	**18 20 38.2**	**-0.4**
MKAZ	**Moumakai**	**19.12**	**198**	P	**P**	**18 20 40.3**	**+1.5**
WTAZ	**Waiatarua**	**19.14**	**200**	P	**P**	**18 20 40.8**	**+1.7**
PKGZ	**Pakihiroa**	**19.17**	**191**	P	**P**	**18 20 39.5**	**+0.1**
AWAZ	**Awhitu Peninsu**	**19.24**	**199**	P	**P**	**18 20 41.4**	**+1.5**
PUZ	**Puketiti**	**19.32**	**190**	P	**P**	**18 20 41.2**	**+0.5**
RUGZ	**Raukumara Rang**	**19.32**	**192**	P	**P**	**18 20 40.5**	**-0.4**
TWGZ	**Tauwhareparae**	**19.47**	**191**	P	**P**	**18 20 43.5**	**+1.4**
URZ	**Urewera**	**19.72**	**193**	P	**P**	**18 20 41.3**	**-3.0**
	comp=Z,22nm,0.3s,baz=0.6,slow=2.6,SNR=42						
URZ	**Urewera**	**19.72**	**193**	P	**P**	**18 20 43.4**	**-0.9**
URZ	**Urewera**	**19.72**	**193**	P	**P**	**18 20 42.2**	**-2.1**
RTZ	**Ruatahuna**	**20.09**	**193**	P	**P**	**18 20 46.2**	**-1.5**
RTZ				IAmb	IAmb	18 21 05.3	
	comp=Z,32nm,1.5s						
MRHZ	**Matea Rd**	**20.42**	**194**	P	**P**	**18 20 45.5**	**-5.2**
HIZ	**Hauiti**	**20.51**	**197**	P	**P**	**18 20 50.0**	**-1.5**
BKZ	**Black Stump Fm**	**20.72**	**193**	P	**P**	**18 20 50.9**	**-2.5**
BKZ				IAmb	IAmb	18 21 30.5	
	comp=Z,41nm,1.5s						
BKZ	**Black Stump Fm**	**20.72**	**193**	P	**P**	**18 20 51.8**	**-1.6**
BFZ	**Birch Farm**	**22.23**	**193**	P	**P**	**18 21 03.5**	**-3.3**
MRZ	**Mangatainoka R**	**22.35**	**194**	P	**P**	**18 21 06.0**	**-2.0**
MRZ				IAmb	IAmb	18 21 19.1	
	comp=Z,45nm,1.4s						
SNZO	**South Karori**	**23.18**	**195**	P	**P**	**18 21 13.4**	**-1.8**
SNZO	**South Karori**	**23.18**	**195**	P	**P**	**18 21 15.9**	**+0.7**
TCW	**Tory Channel**	**23.19**	**196**	P	**P**	**18 21 14.6**	**-0.9**
PLWZ	**Palliser**	**23.29**	**194**	P	**P**	**18 21 14.6**	**-1.8**
QRZ	**Quartz Range**	**23.34**	**199**	P	**P**	**18 21 15.6**	**-1.1**
QRZ	**Quartz Range**	**23.34**	**199**	P	**P**	**18 21 16.6**	**-0.1**
TKNZ	**Takaka Hill**	**23.40**	**198**	P	**P**	**18 21 16.0**	**-1.2**
NNZ	**Nelson**	**23.44**	**198**	P	**P**	**18 21 16.6**	**-1.0**
TUWZ	**Tuamarina**	**23.48**	**196**	P	**P**	**18 21 15.6**	**-2.4**
CMWZ	**Cape Campbell**	**23.71**	**196**	P	**P**	**18 21 19.0**	**-1.1**
BSWZ	**Blackbirch Sta**	**23.77**	**196**	P	**P**	**18 21 20.1**	**-0.4**
MRNZ	**Matariki Terra**	**23.79**	**198**	P	**P**	**18 21 18.9**	**-1.8**
THZ	**Tophouse**	**24.08**	**198**	P	**P**	**18 21 22.0**	**-1.4**
THZ				IAmb	IAmb	18 21 27.8	
	comp=Z,30nm,1.1s						
DSZ	**Denniston Nort**	**24.40**	**200**	P	**P**	**18 21 24.6**	**-1.6**
KHZ	**Kahutara**	**24.51**	**196**	P	**P**	**18 21 25.3**	**-1.8**
GVZ	**Greta Valley S**	**25.16**	**197**	P	**P**	**18 21 31.3**	**-1.6**
LTZ	**Lake Taylor**	**25.20**	**198**	P	**P**	**18 21 31.2**	**-2.0**
LTZ				IAmb	IAmb	18 21 46.7	
	comp=Z,20nm,0.9s						
INZ	**Inchbonnie**	**25.40**	**199**	P	**P**	**18 21 32.8**	**-2.1**
AMCZ	**Amberley**	**25.46**	**197**	P	**P**	**18 21 33.7**	**-1.7**
OXZ	**Oxford**	**25.77**	**198**	P	**P**	**18 21 36.4**	**-1.8**
MQZ	**McQueen's Vall**	**25.95**	**197**	P	**P**	**18 21 38.0**	**-1.8**
RPZ	**Rata Peaks**	**26.42**	**199**	P	**P**	**18 21 42.8**	**-1.1**
	comp=Z,12nm,0.8s,baz=17,slow=11,SNR=1.9						
	comp=Z,12nm,0.8s						
RPZ	**Rata Peaks**	**26.42**	**199**	P	**P**	**18 21 43.1**	**-0.8**
RPZ	**Rata Peaks**	**26.42**	**199**	P	**P**	**18 21 44.9**	**+1.0**
FOZ	**Fox Glacier**	**26.66**	**201**	P	**P**	**18 21 45.0**	**-1.0**
LBZ	**Lake Benmore**	**27.30**	**200**	P	**P**	**18 21 50.1**	**-1.5**
ODZ	**Otahua Downs**	**27.75**	**198**	P	**P**	**18 21 54.8**	**-0.8**
ODZ				IAmb	IAmb	18 22 28.5	
	comp=Z,52nm,1.4s						
WKZ	**Wanaka**	**28.07**	**201**	P	**P**	**18 21 57.2**	**-1.1**
XMAS	**Kiritimati**	**28.75**	**45**	P	**P**	**18 22 01.9**	**-2.7**
MLZ	**Mavora Lakes**	**28.85**	**201**	P	**P**	**18 22 04.8**	**-0.4**
DCZ	**Deep Cove**	**29.27**	**202**	P	**P**	**18 22 08.7**	**0.0**
EIDS	**Eidsvold**	**29.75**	**252**	P	**P**	**18 22 13.8**	**+0.6**
EIDS				IAmb	IAmb	18 22 24.8	
	comp=Z,26nm,1.4s						
ARMA	**Armidale**	**30.18**	**242**	P	**P**	**18 22 16.7**	**-0.3**
ARMA				IAmb	IAmb	18 22 26.4	
	comp=Z,32nm,1.4s						
CTAO	**Charters Tower**	**34.16**	**262**	P	**P**	**18 22 50.8**	**0.0**
CTAO				IAmb	IAmb	18 22 52.4	
	comp=Z,14nm,0.8s						
CTAO	**Charters Tower**	**34.16**	**262**	P	**P**	**18 22 51.3**	**+0.5**
PMG	**Port Moresby**	**35.55**	**281**	P	**P**	**18 23 01.2**	**-1.0**
PMG				IAmb	IAmb	18 23 04.8	
	comp=Z,22nm,0.8s						
MTSU	**Mount Surprise**	**36.19**	**265**	P	**P**	**18 23 08.0**	**+0.4**
TOO	**Toolangi**	**37.17**	**232**	P	**P**	**18 23 15.5**	**+0.1**
TOO				IAmb	IAmb	18 23 17.1	
	comp=Z,11nm,0.8s						
TAU	**Tasmania Unive**	**38.02**	**223**	P	**P**	**18 23 20.9**	**-1.2**
TAU				IAmb	IAmb	18 23 58.5	
	comp=Z,29nm,1.2s						
STKA	**Stephens Creek**	**38.89**	**243**	P	**P**	**18 23 30.1**	**+0.7**
	comp=Z,8.4nm,0.8s,baz=36,slow=5.6,SNR=15						
	comp=Z,8.4nm,0.8s						
STKA	**Stephens Creek**	**38.89**	**243**	P	**P**	**18 23 29.1**	**-0.2**
INKA	**Innaminka**	**39.17**	**249**	P	**P**	**18 23 33.1**	**+1.4**
OIS	**Mount Isa**	**40.34**	**260**	P	**P**	**18 23 41.4**	**+0.2**
OOD	**Oodnadatta**	**43.65**	**249**	P	**P**	**18 24 08.2**	**+1.2**
BBOO	**Buckleboo**	**43.66**	**242**	P	**P**	**18 24 07.3**	**+0.2**
BBOO				IAmb	IAmb	18 24 08.3	
	comp=Z,13nm,0.7s						
KHU	**Kahuku**	**43.68**	**31**	P	**P**	**18 24 07.2**	**-0.4**
AIN	**Ainahou**	**43.86**	**31**	P	**P**	**18 24 05.9**	**-3.0**
MWH	**Moku'aweowe**	**43.89**	**30**	P	**P**	**18 24 04.9**	**-4.7**
MULG	**Mulgathing**	**45.16**	**246**	P	**P**	**18 24 18.6**	**0.0**
WB0	**Warramunga Arr**	**45.29**	**261**	P	**P**	**18 24 19.4**	**-0.4**
WB0				IAmb	IAmb	18 24 20.8	
	comp=Z,9.1nm,0.5s						
WB2	**Warramunga Arr**	**45.31**	**261**	P	**P**	**18 24 19.5**	**-0.4**
WB2				IAmb	IAmb	18 24 21.0	
	comp=Z,24nm,1.4s						
WB2				PcP	**PcP**	**18 25 46.5**	**-1.0**
WRAB	**Tennant Creek**	**45.31**	**261**	P	**P**	**18 24 19.7**	**-0.3**
WRA	**Warramunga Arr**	**45.32**	**261**	P	**P**	**18 24 19.8**	**-0.3**
	comp=Z,5.6nm,0.4s,baz=97,slow=8.3,SNR=159						
WRA				PcP	**PcP**	**18 25 47.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=92,slow=3.7,SNR=3.0						
WRA				S	**S**	**18 30 18.8**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=96,slow=13,SNR=4.5						
	comp=Z,5.6nm,0.4s						
WRA	**Warramunga Arr**	**45.32**	**261**		**P**	**18 24 19.2**	**-0.8**
WRA				PcP	**PcP**	**18 25 45.6**	**-1.9**
AS31	**Alice Springs**	**45.36**	**255**	P	**P**	**18 24 20.0**	**-0.3**
AS31					**S**	**18 30 18.8**	**-1.6**
ASAR	**Alice Springs**	**45.36**	**255**	P	**P**	**18 24 20.6**	**+0.2**
	comp=Z,12nm,0.7s,baz=87,slow=8.8,SNR=144						
ASAR				S	**S**	**18 30 18.4**	**-2.0**
	comp=Z,1.8nm,0.6s,baz=91,slow=15,SNR=20						
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**45.36**	**255**	P	**P**	**18 24 19.2**	**-1.1**
ASAR				PcP	**PcP**	**18 25 46.2**	**-1.4**
MTN	**Manton Dam**	**49.67**	**269**	P	**P**	**18 24 52.3**	**-0.3**
MTN	**Manton Dam**	**49.67**	**269**	P	**P**	**18 24 52.7**	**+0.1**
FORT	**Forrest**	**50.34**	**245**	P	**P**	**18 24 57.4**	**+0.1**
FORT				IAmb	IAmb	18 24 58.1	
	comp=Z,21nm,0.8s						
FORT	**Forrest**	**50.34**	**245**	P	**P**	**18 24 57.4**	**+0.1**
WRKA	**Warakurna**	**50.36**	**253**	P	**P**	**18 24 57.6**	**0.0**
KNRA	**Kununurra**	**51.28**	**265**	P	**P**	**18 25 04.2**	**0.0**
KNRA				IAmb	IAmb	18 25 30.2	
	comp=Z,86nm,1.5s						
KNRA	**Kununurra**	**51.28**	**265**	P	**P**	**18 25 04.5**	**+0.3**
FAKI	**Fak Fak**	**51.69**	**282**	P	**P**	**18 25 07.2**	**-0.1**
FAKI				IAmb	IAmb	18 25 25.4	
	comp=Z,29nm,1.2s						
SIJI	**Sorong**	**53.38**	**284**	P	**P**	**18 25 20.0**	**+0.7**
	comp=Z,21nm,0.6s,baz=115,slow=5.4,SNR=18						
	comp=Z,21nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.74**	**261**	P	**P**	**18 25 22.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**53.74**	**261**	P	**P**	**18 25 22.4**	**+0.6**
SOEI	**Soe**	**56.98**	**271**	P	**P**	**18 25 43.4**	**-1.1**
SOEI				IAmb	IAmb	18 25 47.2	
	comp=Z,28nm,0.9s						
MBWA	**Marble Bar**	**58.68**	**256**	P	**P**	**18 25 55.4**	**-0.3**
MBWA	**Marble Bar**	**58.68**	**256**	P	**P**	**18 25 55.7**	**0.0**
MEEK	**Meekatharra**	**58.88**	**250**	P	**P**	**18 25 56.6**	**-0.5**
VNDA	**Vanda**	**59.39**	**185**	P	**P**	**18 26 00.3**	**+0.7**
NWAO	**Narrogin (SRO)**	**59.48**	**243**	P	**P**	**18 26 00.2**	**-0.7**
JCJ	**Chichijima**	**60.29**	**318**	P	**P**	**18 26 05.5**	**-0.7**
MUN	**Mundaring**	**60.42**	**244**	P	**P**	**18 26 07.6**	**+0.4**
MORW	**Morawa**	**60.86**	**247**	P	**P**	**18 26 10.0**	**-0.1**
MORW				IAmb	IAmb	18 26 31.6	
	comp=Z,19nm,1.3s						
GIRL	**Giralia**	**63.44**	**254**	P	**P**	**18 26 28.1**	**+1.2**
TOLI2	**Tolitoli**	**63.82**	**281**	P	**P**	**18 26 30.1**	**+0.7**
CASY	**Casey**	**65.49**	**205**	P	**P**	**18 26 39.1**	**+0.1**
CASY				IAmb	IAmb	18 26 50.2	
	comp=Z,13nm,1.1s						
JAGI	**Jajag, Banyuwa**	**66.91**	**269**	P	**P**	**18 26 49.1**	**+0.2**
JAGI				IAmb	IAmb	18 27 09.4	
	comp=Z,36nm,1.3s						
MAJO	**Matsushiro**	**69.36**	**323**	P	**P**	**18 27 01.2**	**-1.9**
MAJO				IAmb	IAmb	18 27 01.9	
	comp=Z,9.9nm,0.5s						
MAJO	**Matsushiro**	**69.36**	**323**	P	**P**	**18 27 01.2**	**-1.9**
MJB9	**Matsu-Tunnel**	**69.36**	**323**	P	**P**	**18 27 02.0**	**-1.2**
MJB9				IAmb	IAmb	18 27 02.9	
	comp=Z,9.6nm,0.5s						
UGM	**Wanagama**	**70.51**	**268**	P	**P**	**18 27 10.1**	**-0.4**
ADK	**Adak**	**70.63**	**1**	P	**P**	**18 27 09.8**	**-0.5**
ADK				IAmb	IAmb	18 27 50.3	
	comp=Z,34nm,1.3s						
ADK	**Adak**	**70.63**	**1**	P	**P**	**18 27 10.4**	**+0.1**
QSPA	**South Pole Qui**	**71.01**	**180**	P	**P**	**18 27 13.1**	**+0.5**
JKA	**Kamikawa-asahi**	**72.70**	**331**	P	**P**	**18 27 24.5**	**+2.0**
JKA				IAmb	IAmb	18 27 49.2	
	comp=Z,30nm,1.5s						
ASAJ	**Asahikawa**	**72.71**	**331**	P	**P**	**18 27 24.4**	**+1.9**
	comp=Z,4.8nm,0.8s,baz=22,slow=5.4,SNR=5.2						
	comp=Z,4.8nm,0.8s						
UNV	**Unalaska Valle**	**73.20**	**7**	P	**P**	**18 27 25.0**	**-0.1**
UNV				IAmb	IAmb	18 27 28.2	
	comp=Z,52nm,1.3s						
NACB	**Ninganchiao**	**73.30**	**304**	P	**P**	**18 27 25.8**	**-0.5**
NACB				IAmb	IAmb	18 28 08.8	
	comp=Z,28nm,1.1s						
TPUB	**Ta-pu**	**73.63**	**302**	P	**P**	**18 27 27.2**	**-1.1**
TPUB				IAmb	IAmb	18 28 00.4	
	comp=Z,40nm,1.3s						
PEA0B	**Petropavlovsk-**	**75.01**	**345**	P	**P**	**18 27 34.9**	**-0.5**
PEA0B				IAmb	IAmb	18 28 12.7	
	comp=Z,35nm,1.5s						
PETK	**Petropavlovsk-**	**75.01**	**345**	P	**P**	**18 27 35.8**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=139,slow=8.9,SNR=24						
	comp=Z,2.5nm,0.6s						
CHIR	**Chirikof Islan**	**76.84**	**12**	P	**P**	**18 27 45.3**	**-0.1**
KMRM	**Mail Ridge**	**77.32**	**39**	P	**P**	**18 27 49.8**	**+1.3**
KMRM				IAmb	IAmb	18 27 53.8	
	comp=Z,55nm,1.4s						
SII	**Sitkinak Islan**	**77.82**	**13**	P	**P**	**18 27 49.2**	**-1.5**
SII				IAmb	IAmb	18 28 12.5	
	comp=Z,41nm,1.2s						
OHAK	**Old Harbor**	**78.63**	**13**	P	**P**	**18 27 55.7**	**+0.8**
OHAK				IAmb	IAmb	18 28 15.5	
	comp=Z,13nm,1.1s						
YBH	**Yreka Blue Hor**	**78.84**	**39**	P	**P**	**18 27 58.6**	**+2.0**
WAKR	**Walker**	**78.94**	**43**	P	**P**	**18 27 59.4**	**+2.0**
HUMO	**Hull Mountain**	**79.24**	**38**	P	**P**	**18 28 00.8**	**+2.2**
HUMO				IAmb	IAmb	18 28 08.3	
	comp=Z,20nm,1.5s						
DSP	**Deep Springs**	**79.25**	**44**	P	**P**	**18 28 01.0**	**+2.3**
KDAK	**Kodiak Island**	**79.30**	**13**	P	**P**	**18 27 59.2**	**+0.8**
KDAK				IAmb	IAmb	18 28 34.4	
	comp=Z,24nm,1.2s						
NVAR	**Mina Array Bea**	**79.63**	**43**	P	**P**	**18 28 02.7**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=219,slow=8.2,SNR=7.2						
	comp=Z,0.9nm,0.6s						
KVN	**Kaiserville**	**80.11**	**43**	P	**P**	**18 28 05.0**	**+1.5**
P18K	**Big Mountain,**	**80.25**	**11**	P	**P**	**18 28 03.5**	**0.0**
P18K				IAmb	IAmb	18 28 36.8	
	comp=Z,18nm,1.4s						
O18K	**Koktuh Hills**	**80.69**	**11**	P	**P**	**18 28 06.1**	**+0.4**
O18K				IAmb	IAmb	18 28 08.3	
	comp=Z,22nm,1.4s						
PINE	**Pine Mountain**	**81.13**	**38**	P	**P**	**18 28 10.9**	**+2.2**
O19K	**Port Alsworth**	**81.17**	**11**	P	**P**	**18 28 08.3**	**+0.1**
O19K				IAmb	IAmb	18 28 09.1	
	comp=Z,12nm,0.6s						
ILSW	**Iliamna Southw**	**81.20**	**12**	P	**P**	**18 28 08.8**	**+0.2**
ILSW				IAmb	IAmb	18 28 09.3	
	comp=Z,8.3nm,0.8s						
I07A	**Izee**	**82.14**	**38**	P	**P**	**18 28 14.9**	**+1.2**
M19K	**Big River Lodg**	**82.75**	**11**	P	**P**	**18 28 16.4**	**+0.2**
ELK	**Elko**	**82.88**	**43**	P	**P**	**18 28 18.6

KHC	**Kasperske Hory**	**148.70**	**346**	*e*PKP		**PKiKP**	**18 35 36.1**	**-0.4**
CKRC	**Cesky Krumlov**	**148.81**	**345**	*e*PKP		**PKiKP**	**18 35 37.4**	**+0.7**
GERES	**GERESS Array B**	**148.94**	**346**	PKPbc		**PKPbc**	**18 35 36.2**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=39,slow=2.6,SNR=7.6							
CONA	**Conrad Observa**	**149.22**	**342**	*i* PKP		**PKiKP**	**18 35 37.3**	**-0.3**
	comp=Z,2.4nm,0.5s							
RONA	**Rosalia, Austr**	**149.30**	**342**	*i* PKP		**PKiKP**	**18 35 37.6**	**-0.1**
	comp=Z,3.9nm,0.5s,SNR=6.0							
SOKA	**Soboth**	**150.59**	**342**	*i* PKP		**PKPbc**	**18 35 39.7**	**-0.3**
	comp=Z,1.9nm,0.7s							
KBA	**Koelnbreinsper**	**150.68**	**345**	*e*PKP		**PKPbc**	**18 35 40.3**	**-0.1**
	comp=Z,3.4nm,0.5s							
WATA	**Walderalm**	**150.83**	**347**	*i* PKP		**PKPbc**	**18 35 40.6**	**-0.1**
	comp=Z,4.2nm,0.5s,SNR=5.7							
RETA	**Reutte**	**150.85**	**349**	*i* PKP		**PKiKP**	**18 35 40.9**	**-0.1**
	comp=Z,0.5nm,0.3s							
OBKA	**Obir**	**150.88**	**343**	*e*PKP		**PKPbc**	**18 35 40.4**	**-0.4**
WTTA	**Wattenberg**	**150.89**	**347**	*e*PKP		**PKiKP**	**18 35 41.1**	**-0.1**
	comp=Z,5.7nm,0.3s,SNR=10							
MOTA	**Moosalm**	**150.92**	**348**	*i* PKP		**PKPbc**	**18 35 40.8**	**0.0**
	comp=Z,1.1nm,0.3s							
MYKA	**Terra Mystica**	**151.02**	**344**	*e*PKP		**PKPbc**	**18 35 40.5**	**-0.5**
	comp=Z,2.4nm,0.4s							
SQTA	**Sankt Quirin**	**151.02**	**348**	*i* PKP		**PKPbc**	**18 35 41.2**	**+0.1**
	comp=Z,3.7nm,0.5s							
ABTA	**Abfaltersbach**	**151.19**	**346**	*e*PKP		**PKPbc**	**18 35 41.0**	**-0.4**
	comp=Z,8.0nm,0.5s,SNR=10							
FETA	**Feichten**	**151.30**	**348**	*i* PKP		**PKiKP**	**18 35 42.0**	**-0.1**
	comp=Z,2.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**174.08**	**172**	PKPab		**PKPab**	**18 37 33.9**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=183,slow=7.2,SNR=2.0							

*MOS **03** 18:24:06.7±0.0, 42.°50N×43.°40E, h14km, MPVA3.2*
*NORS **03** 18:24:06.1±0.0, 42.°50N×43.°42E, h2km, MPVA3.3*
*TIF **03** 18:24:06.6, 42.°55N×43.°55E, h13km±1km*

ISC 03 18:24:06.9±0.9, **42.°51N**±0.°02×**43.°47E**±0.°03, **h12**km±6km, **n25**, σ1°**27**/47, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.09**	**353**	P	**Pg**	**18 24 09.8**	**+0.2**
ONI				S	**Sg**	**18 24 12.0**	**+0.3**
TKB	**Tkibuli**	**0.38**	**246**	P	**Pn**	**18 24 16.5**	**-1.8**
DIGR	**Digorskoe uzhe**	**0.40**	**12**	*i* Pg	**Pg**	**18 24 14.6**	**-0.4**
DIGR				*e*Sg	**Sg**	**18 24 20.3**	**-0.1**
ALIG	**Mtskhetisjvari**	**0.42**	**161**	P	**Pb**	**18 24 16.2**	**-0.2**
ALIG				S	**Sb**	**18 24 22.8**	**+0.1**
LACR	**Lac**	**0.69**	**62**	*e*Pg	**Pg**	**18 24 19.7**	**-0.7**
LACR				*e*Sg	**Sg**	**18 24 28.6**	**-0.8**
KORR	**Kora**	**0.73**	**37**	*e*Pg	**Pg**	**18 24 21.1**	**0.0**
KORR				*e*Sg	**Sb**	**18 24 32.1**	**+0.5**
GUDG	**Gudauri**	**0.75**	**93**	P	**Pg**	**18 24 20.4**	**-1.0**
LSNR	**Lesken**	**0.82**	**19**	*e*Pg	**Pg**	**18 24 22.7**	**+0.1**
LSNR				*e*Sg	**Sb**	**18 24 34.7**	**+0.6**
PNSH	**Pansheti**	**0.86**	**81**	P	**Pg**	**18 24 22.7**	**-0.8**
PNSH				S	**Sg**	**18 24 33.1**	**-1.7**
ABS	**Abastumani**	**0.89**	**213**	P	**Pn**	**18 24 25.2**	**-0.2**
ABS				S	**Sn**	**18 24 38.7**	**+0.3**
NEY	**Neytrino**	**0.92**	**324**	*e*Pg	**Pb**	**18 24 24.6**	**-0.3**
NEY				*e*Sg	**Sb**	**18 24 37.3**	**+0.1**
NCK	**Nalchik**	**0.99**	**5**	*e*Pg	**Pn**	**18 24 26.4**	**-0.3**
NCK				*e*Sg	**Sn**	**18 24 41.2**	**+0.6**
TRLG	**Trialeti**	**1.07**	**154**	P	**Pn**	**18 24 28.1**	**+0.2**
TRLG				S	**Sn**	**18 24 43.6**	**+0.7**
AKH	**Akhalkalaki**	**1.09**	**179**	P	**Pn**	**18 24 28.7**	**+0.5**
AKH				S	**Sn**	**18 24 44.7**	**+1.3**
BTKR	**Batakoyurt**	**1.17**	**42**	*e*Pg	**Pg**	**18 24 31.0**	**+1.6**
BTKR				*e*Sg	**Sg**	**18 24 48.7**	**+4.0**
BGD	**Bogdanovka**	**1.24**	**175**	P	**Pg**	**18 24 31.3**	**+0.5**
BGD				S	**Sg**	**18 24 49.0**	**+2.0**
BTNK	**Botanikuri**	**1.29**	**129**	P	Pn	18 24 25.5	-5.2
BTNK				S	**Sb**	**18 24 43.0**	**-4.6**
KBZ	**Khabaz**	**1.29**	**341**	*e*Pg	**Pg**	**18 24 31.1**	**-0.6**
KBZ				*e*Sg	**Sg**	**18 24 47.9**	**-0.6**
DMNI	**Dmanisi**	**1.29**	**155**	P	**Pb**	**18 24 31.1**	**-0.2**
DMNI				S	**Sg**	**18 24 49.1**	**+0.5**
KBTC	**Kuba-Taba**	**1.31**	**358**	*e*Pg	**Pg**	**18 24 32.4**	**+0.3**
KBTC				*e*Sg	**Sg**	**18 24 51.1**	**+2.0**
SHA1	**Shidzhatmaz**	**1.37**	**335**	*e*Pg	**Pb**	**18 24 32.0**	**-0.5**
SHA1				*e*Sg	**Sg**	**18 24 50.5**	**-0.4**
KIV0	**Kislovodsk Arr**	**1.56**	**339**	*e*Pg	**Pb**	**18 24 35.0**	**-0.7**
KIV0				*e*Sg	**Sb**	**18 24 55.3**	**-0.1**
KIV	**Kislovodsk**	**1.56**	**339**	*e*Pg	**Pb**	**18 24 35.0**	**-0.7**
KIV				*e*Sg	**Sb**	**18 24 55.2**	**-0.2**
DGRG	**David-gareji**	**1.77**	**126**	P	**Pg**	**18 24 40.2**	**-0.6**
DGRG				S	**Sg**	**18 25 04.4**	**+0.6**
DDFL	**Dedoflistskaro**	**2.24**	**117**	P	**Pg**	**18 24 50.5**	**+0.6**
DDFL				S	**Sg**	**18 25 21.1**	**+2.1**

IDC 03 18:28:14.2±2.5, **6.°33S×130.°82E, h261**km±41km, **mb2.4**/1, **mbtmp3.3**/4, **Error ellipse: s-maj=94.2km s-min=17.5km az=79.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.44**	**5**	P	Pn	18 29 36.7	+0.9
	1.9nm,0.7s,baz=205,slow=19,SNR=13						
SIJI				S	S	18 30 40.3	-0.7
	2.0nm,0.3s,baz=259,slow=23,SNR=7.6						
WRA	**Warramunga Arr**	**13.96**	**166**	P	Pn	18 31 21.4	-0.2
	0.3nm,0.3s,baz=345,slow=12,SNR=12						
ASAR	**Alice Springs**	**17.50**	**171**	P	P	18 32 00.2	-0.6
	0.6nm,0.5s,baz=347,slow=10,SNR=18						
MKAR	**Makanchi Array**	**68.11**	**326**	P	P	18 38 46.9	+0.7
	0.1nm,0.3s,baz=117,slow=8.6,SNR=1.7						
	0.1nm,0.3s						

NNC 03 18:29:00.3±14.0, **36.°73N×70.°51E, h176**km±249km, **mb2.6, mpv3.6,2D, Error ellipse: s-maj=203.6km s-min=80.1km az=39.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.37**	**0**	P	Pn	18 30 31.9	0.0
	0.7nm,0.2s,baz=176,slow=9.2,SNR=79						
KK31				⇓S	Sn	18 31 44.7	+0.5
	1.1nm,0.3s						
TKM2	**Tokmak 2**	**7.32**	**31**	⇓P	Pn	18 30 44.7	0.0
	3.8nm,0.5s						
AB31	**Akbulak array**	**14.69**	**332**	P	Pn	18 32 19.6	0.0
	0.4nm,0.6s,baz=157,slow=11,SNR=8.1						

*IDC **03** 18:29:52.5±2.6, 49.°59N×152.°89E, h250km±28km, mb2.7/5, mbtmp3.2/7, Error ellipse: s-maj=129.7km s-min=19.1km az=128.0*
*KRSC **03** 18:29:54.6±1.9, 49.°22N×154.°36E, h288km±13km, Ml3.6*

ISC 03 18:29:54.3±1.2, **49.°5N**±0.°3×**153.°9E**±0.°3, **h300**km, **n17**, σ2°**18**/17, **mb2.9**/5, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.88**	**49**	*e*P	**Pn**	**18 30 39.3**	**-0.7**
SKR				*e*S	**S**	**18 31 15.0**	**-1.4**
KDTR	**Khodutka, Kamc**	**3.54**	**47**	*e*P	**Pn**	**18 30 55.6**	**+0.1**
KDTR				*e*S	**S**	**18 31 42.1**	**-2.2**
APC	**Apacha**	**4.02**	**30**	*e*P	**Pn**	**18 31 00.6**	**+0.1**
RUS	**Russkaya**	**4.16**	**43**	*e*P	**Pn**	**18 31 03.0**	**+0.9**
RUS				*e*S	**S**	**18 31 55.0**	**-1.5**
PETK	**Petropavlovsk-**	**4.35**	**32**	P	**Pn**	**18 31 03.7**	**-0.6**
	1.0nm,0.6s,baz=209,slow=8.1,SNR=8.6						
KOK	**Koryaka**	**4.84**	**36**	*e*P	**Pn**	**18 31 13.2**	**+3.3**
UGLR	**Uglovaya**	**4.85**	**38**	*e*P	**Pn**	**18 31 12.5**	**+2.4**
AVH	**Avacha**	**4.86**	**37**	*e*P	**Pn**	**18 31 12.9**	**+2.7**
KRX	**Arik**	**4.89**	**36**	*e*P	**Pn**	**18 31 13.1**	**+2.5**
SDLR	**Sedlovina**	**4.92**	**38**	*e*P	**Pn**	**18 31 12.8**	**+1.9**
SPN	**Mys Shipunski**	**5.29**	**44**	*e*P	**Pn**	**18 31 15.9**	**+0.9**
SPN				*e*S	**S**	**18 32 17.8**	**-2.1**
MJAR	**Matsushiro Arr**	**17.23**	**227**	P	**P**	**18 33 32.7**	**-3.1**
	0.5nm,0.6s,baz=24,slow=12,SNR=4.7						
ILAR	**Eielson Array**	**34.12**	**41**	P	P	18 36 15.9	+5.0
	0.1nm,0.4s,baz=263,slow=5.4,SNR=5.9						
	0.1nm,0.4s						
YKA	**Yellowknife Ar**	**48.44**	**38**	P	P	18 38 11.7	+5.2
	0.2nm,0.7s,baz=296,slow=7.0,SNR=4.4						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**62.74**	**55**	P	P	18 39 54.5	+6.4
	0.3nm,0.6s,baz=333,slow=1.1,SNR=5.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**74.96**	**199**	P	**P**	**18 41 05.5**	**+2.7**
	0.3nm,0.9s,baz=8.0,slow=5.5,SNR=4.9						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**75.72**	**62**	P	P	18 41 13.6	+6.3
	0.1nm,0.4s,baz=280,slow=4.7,SNR=2.2						
	0.1nm,0.4s						

*IDC **03** 18:36:51.1±8.2, 22.°49S×177.°42W, h345km±56km, mb3.6/6, mbtmp4.3/7, Error ellipse: s-maj=104.5km s-min=23.8km az=141.0*
*NEIC **03** 18:36:55.6±1.8, 22.°3S±0.°1×177.°6W±0.°1, h381km±10km, mb4.3/26, Error ellipse: s-maj=20.6km s-min=13.7km az=167.0*

ISC 03 18:36:53.5±0.6, **22.°4S**±0.°1×**177.°67W**±0.°07, **h350**km, **n38**, σ1°**36**/38, **mb4.2**/15, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.13**	**318**	P	**Pn**	**18 38 26.7**	**+0.8**
	4.0nm,0.3s,baz=134,slow=17,SNR=4.7						
MSVF	**Nonsavu**	**6.13**	**318**	Pn	**Pn**	**18 38 26.1**	**+0.1**
NIUE	**Niue**	**7.96**	**67**	Pn	**Pn**	**18 38 51.4**	**+4.1**
NIUE				Sn	**S**	**18 40 20.7**	**+0.7**
MARNC	**Mare, Loyalty**	**13.30**	**271**	P	**P**	**18 39 52.1**	**+2.6**
RAR	**Rarotonga**	**16.67**	**89**	P	**P**	**18 40 23.6**	**-2.7**
RAR				IAmb	IAmb	18 40 56.8	
	comp=Z,7.0nm,1.2s						
THZ	**Tophouse**	**20.88**	**200**	P	**P**	**18 41 10.3**	**+0.9**
THZ				IAmb	IAmb	18 41 16.8	
	comp=Z,25nm,1.0s						
INZ	**Inchbonnie**	**22.22**	**202**	P	**P**	**18 41 22.3**	**+0.7**
ARMA	**Armidale**	**28.57**	**247**	P	**P**	**18 42 19.6**	**+1.0**
ARMA				IAmb	IAmb	18 42 47.8	
	comp=Z,36nm,1.5s						
CTA	**Charters Tower**	**33.65**	**267**	P	**P**	**18 43 03.0**	**+0.2**
	comp=Z,8.2nm,0.5s,baz=93,slow=9.6,SNR=36						
	comp=Z,8.2nm,0.5s						
CTAO	**Charters Tower**	**33.65**	**267**	P	**P**	**18 43 02.8**	**0.0**
CTAO				IAmb	IAmb	18 43 03.5	
	comp=Z,10.0nm,0.6s						
TOO	**Toolangi**	**35.07**	**236**	P	**P**	**18 43 15.4**	**+0.8**
TOO				IAmb	IAmb	18 43 53.0	
	comp=Z,17nm,1.3s						
PMG	**Port Moresby**	**36.09**	**285**	P	**P**	**18 43 22.7**	**-0.8**
	comp=Z,7.9nm,0.6s,baz=101,slow=7.5,SNR=4.2						
	comp=Z,7.9nm,0.6s						
PMG	**Port Moresby**	**36.09**	**285**	P	**P**	**18 43 22.8**	**-0.8**
PMG				IAmb	IAmb	18 43 24.0	
	comp=Z,9.5nm,0.8s						
STKA	**Stephens Creek**	**37.28**	**246**	P	**P**	**18 43 32.6**	**-0.7**
BBOO	**Buckleboo**	**42.01**	**245**	P	**P**	**18 44 11.8**	**-0.1**
BBOO				IAmb	IAmb	18 44 12.9	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**44.41**	**259**	P	**P**	**18 44 30.8**	**-0.3**
ASAR	**Alice Springs**	**44.41**	**259**	P	**P**	**18 44 30.8**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=93,slow=8.7,SNR=88						
ASAR				PcP	**PcP**	**18 46 07.7**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=100,slow=3.8,SNR=2.0						
	comp=Z,2.0nm,0.3s						
WB0	**Warramunga Arr**	**44.66**	**264**	P	**P**	**18 44 31.9**	**-1.1**
WB2	**Warramunga Arr**	**44.66**	**264**	P	**P**	**18 44 32.0**	**-1.0**
WB2				IAmb	IAmb	18 44 32.7	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**44.66**	**264**	P	**P**	**18 44 31.6**	**-1.4**
WRA	**Warramunga Arr**	**44.67**	**264**	P	**P**	**18 44 32.0**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=96,slow=8.1,SNR=62						
	comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**44.67**	**264**	P	P	18 44 31.0	-2.1
FORT	**Forrest**	**48.85**	**248**	P	**P**	**18 45 04.5**	**-0.5**
FORT				IAmb	IAmb	18 45 08.2	
	comp=Z,19nm,0.9s						
MTN	**Manton Dam**	**49.51**	**272**	P	**P**	**18 45 08.5**	**-1.6**
KNRA	**Kununurra**	**50.86**	**268**	P	**P**	**18 45 19.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.10**	**264**	P	**P**	**18 45 36.7**	**+0.2**
MBWA	**Marble Bar**	**57.76**	**258**	P	**P**	**18 46 08.2**	**-1.1**
MBWA				IAmb	IAmb	18 46 13.4	
	comp=Z,9.1nm,0.9s						
NWAO	**Narrogin (SRO)**	**57.81**	**244**	P	**P**	**18 46 08.7**	**-0.9**
NWAO				IAmb	IAmb	18 46 52.3	
	comp=Z,21nm,1.4s						
NWAO	**Narrogin (SRO)**	**57.81**	**244**	P	**P**	**18 46 08.8**	**-0.8**
NWAO				IAmb	IAmb	18 46 52.3	
	comp=Z,16nm,1.4s						
GIRL	**Giralia**	**62.36**	**255**	P	**P**	**18 46 41.7**	**+1.4**
CASY	**Casey**	**62.40**	**206**	P	**P**	**18 46 39.6**	**-0.2**
CASY				IAmb	IAmb	18 47 01.0	
	comp=Z,19nm,1.4s						
TOLI2	**Tolitoli**	**64.30**	**283**	P	**P**	**18 46 53.5**	**+0.5**
TOLI2				IAmb	IAmb	18 47 09.7	
	comp=Z,8.1nm,1.2s						
UNV	**Unalaska Valle**	**76.52**	**7**	P	**P**	**18 48 04.7**	**-0.6**
HOPS	**Hopland Field**	**79.60**	**40**	P	**P**	**18 48 19.6**	**-3.0**
ILAR	**Eielson Array**	**90.08**	**13**	P	**P**	**18 49 11.9**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=214,slow=5.2,SNR=9.8						
	comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.03**	**289**	P	**P**	**18 49 19.6**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=171,slow=2.8,SNR=5.0						
	comp=Z,0.5nm,0.9s						
AKASG	**Malin Array Be**	**144.80**	**330**	PKPbc	PKPbc	18 55 46.5	-2.2
	comp=Z,0.5nm,0.3s,baz=42,slow=4.2,SNR=7.4						
BRTR	**Keskin Array B**	**148.31**	**310**	PKPbc	**PKPdf**	**18 55 56.6**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=141,slow=4.1,SNR=3.8						

*NEIC **03** 18:38:24.3±1.6, 28.°13S±0.°08×175.°4W±0.°1, h10km±1km, mb4.9/32, Error ellipse: s-maj=22.6km s-min=10.6km az=111.0*
*IDC **03** 18:38:30.0±1.0, 27.°25S×176.°64W, h0km, mb4.1/10, mbtmp4.0/10, MS3.6/11, Error ellipse: s-maj=35.2km s-min=24.9km az=141.0*

ISC 03 18:38:25.0±0.5, **28.°05S**±0.°07×**175.°57W**±0.°08, **h10**km, **n68**, σ1°**85**/56, **mb4.5**/20, **MS3.8**/11, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**11.83**	**329**	LR	LR	18 44 44.8	
	comp=Z,474nm,20.1s,baz=84,slow=35						
URZ	**Urewera**	**11.88**	**209**	Pn	**Pn**	**18 41 18.3**	**+3.9**
	1.0nm,0.3s,baz=59,slow=21,SNR=1.3						
URZ				Sn	**Sn**	**18 43 32.4**	**+5.3**
	3.6nm,0.3s,baz=138,slow=20,SNR=12						
BFZ	**Birch Farm**	**14.29**	**206**	Pn	**Pn**	**18 41 48.7**	**+1.3**
AFI	**Afiamalu**	**14.51**	**15**	Pn	**Pn**	**18 41 50.0**	**-0.5**
MRZ	**Mangatainoka R**	**14.54**	**208**	Pn	**Pn**	**18 41 49.5**	**-1.3**
PLWZ	**Palliser**	**15.44**	**207**		**Pn**	**18 42 01.2**	**-1.7**
TCW	**Tory Channel**	**15.55**	**210**	Pn	**Pn**	**18 42 03.2**	**-1.0**
TUWZ	**Tuamarina**	**15.87**	**210**	Pn	**Pn**	**18 42 06.5**	**-1.9**
RAR	**Rarotonga**	**15.88**	**68**	Pn	**P**	**18 42 12.0**	**-0.4**
	1.9nm,0.3s,baz=243,slow=7.5,SNR=7.3						
RAR				LR	LR	18 46 37.1	
	comp=Z,185nm,20.9s,baz=274,slow=30						
RAR	**Rarotonga**	**15.88**	**68**	P	**Pn**	**18 42 08.2**	**-0.5**
NNZ	**Nelson**	**15.96**	**212**	Pn	**Pn**	**18 42 09.5**	**-0.1**
BSWZ	**Blackbirch Sta**	**16.13**	**210**	Pn	**Pn**	**18 42 10.1**	**-1.8**
THZ	**Tophouse**	**16.61**	**212**	Pn	**Pn**	**18 42 16.5**	**-1.4**
THZ				IAmb	IAmb	18 42 19.9	
	comp=Z,59nm,1.2s						
KHZ	**Kahutara**	**16.85**	**209**	Pn	**Pn**	**18 42 19.1**	**-1.8**
OUENC	**Ouen Island, N**	**16.87**	**285**	P	**Pn**	**18 42 20.7**	**-0.6**
DZM	**Mont Dzumac**	**17.34**	**286**	Pn	**Pn**	**18 42 28.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=95,slow=16,SNR=4.1						
DZM				LR	LR	18 47 25.7	
	comp=Z,423nm,20.2s,baz=142,slow=33						
DZM	**Mont Dzumac**	**17.34**	**286**	*e*P	**P**	**18 42 30.2**	**+1.5**
	comp=Z,106nm,29.8s						
DZM				*e*LR	LR	18 46 18.3	
	comp=Z,660nm,23.9s						
DZM	**Mont Dzumac**	**17.34**	**286**	P	**Pn**	**18 42 27.3**	**-0.1**
GVZ	**Greta Valley S**	**17.51**	**209**		**Pn**	**18 42 28.6**	**-0.7**
GVZ				IAmb	IAmb	18 42 36.0	
	comp=Z,361nm,1.9s						
INZ	**Inchbonnie**	**18.04**	**212**		**Pn**	**18 42 32.3**	**-3.4**
INZ				IAmb	IAmb	18 42 42.7	
	comp=Z,78nm,1.8s						
OXZ	**Oxford**	**18.23**	**210**	P	**Pn**	**18 42 37.3**	**-0.8**
OXZ				IAmb	IAmb	18 42 41.5	
	comp=Z,165nm,1.9s						
MQZ	**McQueen's Vall**	**18.28**	**208**	P	**P**	**18 42 37.9**	**-0.8**
MQZ				IAmb	IAmb	18 42 41.5	
	comp=Z,108nm,1.6s						
KOUNC	**Koumac, New Ca**	**19.81**	**288**	P	**P**	**18 42 53.7**	**-2.0**
ODZ	**Otahua Downs**	**20.21**	**209**	P	**P**	**18 42 57.3**	**-2.6**
ODZ				IAmb	IAmb	18 42 57.6	
	comp=Z,153nm,2.0s						
TBI	**Tubuai**	**23.97**	**85**	*e*LR	LR	18 49 41.7	
	comp=Z,3μm,26.0s						
TBI				*e*LR	LR	18 49 42.6	
	comp=Z,1μm,29.0s						
PPT2	**Papeete2**	**26.07**	**72**	*e*S	**S**	**18 48 32.7**	**+2.4**
	comp=Z,45nm,25.2s						
PPT2				*e*LR	LR	18 50 28.4	
	comp=Z,162nm,27.5s						
PPT2				*e*LR	LR	18 50 29.0	
	comp=Z,258nm,27.2s						
PPT	**Papeete**	**26.08**	**72**	LR	LR	18 52 05.8	
	comp=Z,52nm,19.2s,baz=200,slow=30						
HNR	**Honiara**	**29.57**	**304**	LR	LR	18 54 37.5	
	comp=Z,2μm,18.0s,baz=168,slow=34						
EIDS	**Eidsvold**	**29.86**	**267**	P	**P**	**18 44 32.7**	**-0.1**
MCQ	**Macquarie Isla**	**32.29**	**208**	P	**P**	**18 44 52.6**	**-1.2**
TOO	**Toolangi**	**33.88**	**244**	P	**P**	**18 45 07.8**	**-0.1**
TOO				IAmb	IAmb	18 45 56.3	
	comp=Z,30nm,1.6s						
CTA	**Charters Tower**	**35.63**	**274**	LR	LR	18 58 03.7	
	comp=Z,214nm,19.5s,baz=88,slow=34						
CTAO	**Charters Tower**	**35.63**	**274**	P	**P**	**18 45 22.4**	**-0.9**
CTAO				IAmb	IAmb	18 45 40.2	
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**37.13**	**253**	P	**P**	**18 45 36.8**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=120,slow=16,SNR=3.9						
STKA				LR	LR	18 59 21.5	
	comp=Z,156nm,19.0s,baz=31,slow=34						
	comp=Z,2.1nm,0.8s						
JOHN	**Johnston Islan**	**44.90**	**8**	P	**P**	**18 46 38.8**	**-1.1**
AS31	**Alice Springs**	**45.42**	**264**	P	**P**	**18 46 44.1**	**-0.2**
ASAR	**Alice Springs**	**45.42**	**264**	P	**P**	**18 46 43.6**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=93,slow=7.4,SNR=11						
ASAR				LR	LR	19 03 43.8	
	comp=Z,121nm,21.8s,baz=102,slow=34						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**45.42**	**264**	P	**P**	**18 46 43.1**	**-1.1**
WR0	**Warramunga Arr**	**46.02**	**269**	P	**P**	**18 46 47.8**	**-1.2**
WR0				IAmb	IAmb	18 47 17.6	
	comp=Z,34nm,1.8s						
WRAB	**Tennant Creek**	**46.20**	**269**	P	**P**	**18 46 48.6**	**-1.8**
WRAB				IAmb	IAmb	18 47 54.5	
	comp=Z,41nm,1.8s						
WRA	**Warramunga Arr**	**46.21**	**269**	P	**P**	**18 46 48.9**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=105,slow=7.5,SNR=12						
	comp=Z,1.6nm,0.6s						
WB0	**Warramunga Arr**	**46.22**	**269**	P	**P**	**18 46 49.1**	**-1.5**
VNDA	**Vanda**	**50.65**	**186**	P	**P**	**18 47 19.4**	**-4.5**
VNDA				IAmb	IAmb	18 49 02.8	
	comp=Z,17nm,1.8s						
KNRA	**Kununurra**	**52.72**	**271**	P	**P**	**18 47 39.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**54.55**	**267**	P	**P**	**18 47 53.1**	**-0.5**
FITZ				IAmb	IAmb	18 49 30.0	
	comp=Z,10nm,1.9s						
QSPA	**South Pole Qui**	**62.05**	**180**	P	**P**	**18 48 46.0**	**+0.5**
QSPA				IAmb	IAmb	18 49 13.7	
	comp=Z,12nm,1.3s						
BELA	**Belgrano 2**	**71.81**	**172**	P	**P**	**18 49 47.2**	**-0.1**
BELA				IAmb	IAmb	18 51 04.3	
	comp=Z,22nm,2.0s						
MAW	**Mawson**	**75.24**	**200**	P	P	18 50 17.4	+10
	comp=Z,1.0nm,0.4s,baz=127,slow=12,SNR=1.9						
	comp=Z,1.0nm,0.4s						
JOW	**Kunigami**	**76.71**	**310**	P	**P**	**18 50 16.2**	**-0.4**
JGF	**Kuroka**	**77.32**	**322**	P	**P**	**18 50 19.2**	**-0.7**
MJAR	**Matsushiro Arr**	**77.58**	**323**	P	**P**	**18 50 20.4**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=154,slow=6.3,SNR=9.0						
	comp=Z,3.5nm,0.8s						
TWG	**Pinlang**	**79.32**	**303**	P	**P**	**18 50 29.8**	**-1.4**
TWG				IAmb	IAmb	18 52 50.5	
	comp=Z,33nm,1.2s						
ADK	**Adak**	**79.59**	**359**	P	**P**	**18 50 33.9**	**+2.0**
JKA	**Kamikawa-asahi**	**81.38**	**331**	P	**P**	**18 50 42.0**	**+0.3**
JKA				IAmb	IAmb	18 51 35.5	
	comp=Z,33nm,1.4s						
UNV	**Unalaska Valle**	**81.93**	**5**	P	**P**	**18 50 43.6**	**-0.7**
PLCA	**Paso Flores**	**82.53**	**132**	LR	LR	19 19 24.8	
	comp=Z,20nm,21.4s,baz=167,slow=29			

BO03 Pichilemu 0.47 138 ⇓iP Pb 18 43 58.3 +0.5
BO03 eS **Sb 18 44 04.7 -0.1**
VA05 Santo Domingo 0.78 52 Pn 18 44 04.2 -0.1
VA05 **Sn 18 44 17.4 +1.6**
VA05 Santo Domingo 0.78 52 ⇓iP Pn 18 44 04.3 +0.1
VA05 i S **Sn 18 44 16.8 +0.9**
VA05 IAML 18 44 18.0
comp=N,7μm,0.4s
GO05 Huala 0.93 159 Pb 18 44 05.5 -0.1
GO05 Sg **Sb 18 44 18.1 +0.1**
GO05 Huala 0.93 159 ⇓iP Pb 18 44 05.5 -0.1
GO05 i S **Sb 18 44 17.8 -0.2**
GO05 IAML 18 44 20.7
comp=E,12μm,0.3s
MT01 Popeta 0.95 73 Pn 18 44 06.4 -0.2
MT01 Sg **Sn 18 44 19.9 -0.3**
MT01 Popeta 0.95 73 ⇓iP Pn 18 44 06.5 -0.1
MT01 eS **Sn 18 44 19.7 -0.5**
BO01 Tunca 1.07 104 Pn 18 44 07.7 -0.6
BO01 Sn **Sn 18 44 22.6 -0.6**
BO01 Tunca 1.07 104 ⇓iP Pn 18 44 07.8 -0.6
BO01 eS **Sn 18 44 22.8 -0.4**
MT09 Talagante 1.18 72 Pg 18 44 10.2 +0.1
MT09 Sn **Sg 18 44 27.1 +1.6**
MT09 Talagante 1.18 72 ⇑iP Pg 18 44 10.3 +0.1
MT09 eS **Sg 18 44 26.8 +1.3**
VA01 Torpederas 1.26 28 Pn Pn 18 44 09.7 -1.1
MT02 Curacav 1.33 49 Pb 18 44 12.2 -0.2
MT02 Curacav 1.33 49 ⇑iP Pb 18 44 12.3 -0.1
BO02 Sierra Bellavi 1.45 117 Pb 18 44 14.0 -0.3
BO02 Sierra Bellavi 1.45 117 eP Pb 18 44 14.0 -0.3
BO02 eS **Sg 18 44 34.0 +0.2**
BO02 IAML 18 44 38.0
comp=N,7μm,0.4s
BO04 La Punta 1.45 84 Pb 18 44 14.2 -0.2
BO04 La Punta 1.45 84 ⇓iP Pb 18 44 14.3 0.0
BO04 eS **Sg 18 44 33.5 -0.4**
MT05 Renca 1.53 61 Pb 18 44 15.4 -0.4
MT05 Renca 1.53 61 ⇑eP Pb 18 44 15.6 -0.2
ROC1 El Roble 1.61 44 Pn 18 44 16.2 +0.3
ROCH El Roble 1.61 44 ⇑iP Pb 18 44 16.7 -0.6
MT03 Universidad Ad 1.66 68 Pb 18 44 17.1 -0.8
MT03 Universidad Ad 1.66 68 ⇑iP Pb 18 44 17.5 -0.5
PEL Peldehue 1.70 155 ⇑iP Pb 18 44 18.4 -0.3
ML02 Panimavida 1.79 155 Pn Pn 18 44 18.7 +0.5
ML02 Panimavida 1.79 155 ⇑eP Pn 18 44 18.8 +0.5
LMEL Las Melosas 1.80 81 Pb 18 44 19.9 -0.6
VA06 Catapilco 1.80 29 Pn 18 44 18.6 +0.2
FCH Farellones 1.89 65 ⇑iP Pb 18 44 20.9 -1.2
FCH eS **Sg 18 44 47.0 -1.2**
FCH IAML 18 44 56.5
comp=E,1μm,0.6s
VA03 San Esteban 2.03 48 Pn 18 44 22.9 +1.2
CO02 Combarbal 3.14 22 Pn 18 44 37.5 +0.6
CO03 El Pedregal 3.58 23 Pn Pn 18 44 43.9 +1.0
ZON Zonda 4.03 51 Pn 18 44 52.0 +2.9
GO04 Tololo Observa 4.17 19 Pn Pn 18 44 51.4 +0.2
CFA Coronel Fontan 4.28 55 LR LR 18 46 04.5
comp=E,264nm,18.2s,baz=238,slow=34
CO05 La Serena 4.31 13 Pn 18 44 52.5 -0.4
CO01 Juntas del Tor 4.57 25 Pn 18 44 57.6 +1.0
LCO Las Campanas 5.30 16 Pn Pn 18 45 05.3 -1.5
VA04 Juan Fernndez 5.42 273 Pn Pn 18 45 06.0 -2.0
H03S1 Juan Fernandez 5.46 271 Pn Pn 18 45 07.9 -0.6
baz=54,slow=16
H03S1 Sn Sn 18 46 01.9 -9.2
H03S1 T T 18 50 35.2
baz=93,slow=74,SNR=718
H03S3 Juan Fernandez 5.46 271 Pn Pn 18 45 07.7 -0.7
baz=54,slow=16
H03S3 Sn Sn 18 46 02.1 -9.1
H03S3 T T 18 51 10.4
baz=93,SNR=598
H03S2 Juan Fernandez 5.48 271 Pn Pn 18 45 07.7 -0.9
baz=54,slow=16
H03S2 Sn Sn 18 46 02.0 -10
H03S2 T T 18 50 35.8
baz=93,slow=74,SNR=823
GO06 Curarrehue 5.48 173 Pn Pn 18 45 08.9 -0.1
LR03 Panguipulli 5.48 180 Pn Pn 18 45 08.8 -0.2
H03N1 Juan Fernandez 5.51 275 Pn Pn 18 45 09.2 0.0
H03N1 Sn Sn 18 46 03.3 -9.2
H03N1 T T 18 51 18.6
baz=102,slow=71,SNR=21
H03N3 Juan Fernandez 5.52 275 Pn Pn 18 45 09.1 -0.2
H03N3 Sn Sn 18 46 05.2 -7.5
baz=104,slow=74
H03N3 T T 18 51 24.3
baz=102,slow=71,SNR=13
H03N2 Juan Fernandez 5.53 275 Pn Pn 18 45 09.3 -0.1
H03N2 Sn Sn 18 46 05.7 -7.2
baz=43,slow=74
H03N2 T T 18 51 19.2
baz=102,slow=71,SNR=12
AC05 El Transito 5.58 19 Pn Pn 18 45 10.7 +0.3
LR04 Corral 5.79 188 Pn Pn 18 45 12.0 -1.2
AC04 Llanos de Chal 6.02 11 Pn Pn 18 45 16.2 -0.1
PLCA Paso Flores 6.73 168 Pn Pn 18 45 27.2 +1.0
comp=E,0.2nm,0.3s,baz=322,slow=10,SNR=5.0
PLCA Lg Lg 18 47 13.7
comp=E,0.1nm,0.3s,baz=271,slow=21,SNR=1.8
PLCA LR LR 18 48 14.4
comp=E,569nm,18.2s,baz=348,slow=39
comp=E,2.4nm,0.6s
PLCA Paso Flores 6.73 168 Pn Pn 18 45 26.9 +0.7
PLCA Paso Flores 6.73 168 eP Pn 18 45 29.1 +2.8
LL04 Puerto Octay 6.76 180 Pn 18 45 25.0 -1.5
GO03 Copiap 6.77 16 Pn 18 45 25.8 -1.0
AC06 Mina Casimiro 6.97 15 Pn Pn 18 45 29.4 -0.1
AC02 Maricunga 7.79 22 Pn Pn 18 45 41.1 0.0
AC01 Pan de Azucar 8.11 11 Pn Pn 18 45 43.4 -1.6
GO07 Milladeo Hill, 9.02 186 Pn Pn 18 45 57.5 0.0
TRQA Tornquist 9.25 118 Pn Pn 18 45 59.2 -1.6
LVC Limon Verde 11.88 16 LR LR 18 51 15.8
comp=E,454nm,18.6s,baz=194,slow=38
PB07 IPOC Station P 12.56 11 Pn Pn 18 46 44.8 -1.3
PB09 IPOC Station P 12.60 13 Pn Pn 18 46 46.7 0.0
PB01 IPOC Station P 13.29 12 Pn Pn 18 46 56.3 +0.2
CPUP Villa Florida 15.12 63 Pn Pn 18 47 17.9 -3.0
comp=E,0.2nm,0.3s,baz=95,slow=9.5,SNR=2.9
comp=E,1.5nm,0.7s
PB16 IPOC Station P 15.94 10 P Pn 18 47 33.8 +1.5
PB16 IAmb IAmb 18 47 50.8
comp=Z,14nm,1.3s
LPAZ La Paz 18.18 13 P Pn 18 48 00.1 -0.3
LPAZ La Paz 18.18 13 eP P 18 48 02.5 +1.8
FRBT Francisco Belt 18.55 69 eP Pn 18 48 03.9 -0.5
MCR1 Marechal Candi 18.63 64 eP P 18 48 04.4 -0.7
AMBA Amambai (Brazi 18.87 58 eP Pn 18 48 08.1 -0.2
BBRB Robore, Bolivi 19.36 38 eP P 18 48 12.6 -0.5
BBSD Serra de San D 19.89 35 eP P 18 48 19.2 +0.3
PTGB Pitanga 19.98 67 eP P 18 48 19.9 0.0
AQDB Aquidauana 20.06 52 eP Pn 18 48 21.7 -0.7
TRCB Terra Rica 20.65 62 P P 18 48 26.7 -0.4
TRCB Terra Rica 20.65 62 eP P 18 48 27.4 +0.3
SIV San Ignacio 20.73 32 LR LR 18 57 54.7
comp=Z,417nm,19.6s,baz=234,slow=41
PTLB Pontes e Lacer 22.10 36 P P 18 48 42.3 -0.3
PTLB IAmb IAmb 18 48 45.7
comp=Z,6.8nm,1.0s
PTLB Pontes e Lacer 22.10 36 eP P 18 48 43.7 +1.1
PCMB Pacaembu 22.38 62 eP P 18 48 44.9 -0.8
FRTB Fartura 22.64 68 eP P 18 48 48.0 -0.5
PP1B Ponte de Pedra 22.71 48 eP P 18 48 48.5 -0.7
SALV Santo Antonio 23.55 44 eP P 18 48 56.4 -1.5
SPB Sao Paulo 24.16 71 P P 18 49 03.8 +0.1
SPB IAmb IAmb 18 49 15.2
comp=Z,17nm,1.2s
ITRB Iturama 24.24 59 eP P 18 49 03.5 -0.9
ETMB Extrema 24.86 14 P P 18 49 10.3 +0.3
ETMB IAmb IAmb 18 49 14.0
comp=Z,7.0nm,0.9s
ETMB Extrema 24.86 14 eP P 18 49 11.7 +1.7
CLDB Colider 27.67 37 eP P 18 49 37.7 +2.3
BDFB Brasilia 28.62 56 P P 18 49 42.1 -1.9
comp=Z,2.2nm,0.5s,baz=243,slow=7.4,SNR=4.7
comp=Z,2.2nm,0.5s
PMSA Palmer Station 31.08 173 LR LR 19 02 03.6
comp=Z,151nm,19.7s,baz=340,slow=35
MACA Manacapuru-AM 32.68 22 eP P 18 50 21.5 +1.7
ROSC El Rosal 38.81 357 LR LR 19 08 16.9
comp=Z,86nm,18.3s,baz=266,slow=38
MDP Montagnes des 43.24 29 LR LR 19 11 40.4
comp=Z,201nm,19.5s,baz=100,slow=39
RCBR Riachuelo 43.93 58 LR LR 19 11 16.0
comp=Z,210nm,19.3s,baz=348,slow=38
SNAA Sanae 51.55 158 LR LR 19 14 39.7
comp=Z,64nm,18.2s,baz=356,slow=36
SNAA Sanae 51.55 158 P P 18 52 53.4 +0.3
SNAA IAmb IAmb 18 53 36.1
comp=Z,6.8nm,1.2s
BBTS Babate 71.91 57 LR LR 19 24 52.9
comp=Z,110nm,21.5s,baz=226,slow=34
MAW Mawson 73.12 164 LR LR 19 27 26.4
comp=Z,123nm,18.5s,baz=212,slow=36
TORD Torodi Ar. Bea 84.50 70 P P 18 56 19.5 -1.2
comp=Z,1.0nm,0.9s,baz=240,slow=4.1,SNR=5.2
comp=Z,1.0nm,0.9s
MSVF Nonsavu 95.52 244 LR LR 19 31 43.9
comp=Z,183nm,20.9s,baz=170,slow=30
KURBB Kurchatov Arra 153.15 43 PKPbc PKiKP 19 03 45.2 +0.3
comp=Z,0.2nm,0.3s,baz=290,slow=3.0,SNR=1.4
ZALV Zalesovo Beam 154.48 32 PKPbc PKiKP 19 03 47.6 +0.1
comp=Z,1.6nm,0.7s,baz=288,slow=1.6,SNR=4.2
MKAR Makanchi Array 157.05 49 PKPab PKPab 19 04 13.2 -0.1
comp=Z,0.4nm,0.7s,baz=298,slow=3.1,SNR=2.3

MOS ***03*** *18:49:51.9±0.9,23°.29N×94°.60E, h94km, mb4.9/50, Error ellipse: s-maj=6.1km s-min=3.3km az=127.4*
IDC ***03*** *18:49:53.8±0.5,23°.26N×94°.62E, h96km±3km, mb4.6/53, mbtmp4.9/54, MS3.8/38, Error ellipse: s-maj=9.3km s-min=7.1km az=25.0*
NEIC ***03*** *18:49:53.6±1.9,23°.32N±0°.04×94°.50E±0°.05, h89km±4km, mb5.1/170, Error ellipse: s-maj=7.1km s-min=5.3km az=47.0*
BJI ***03*** *18:49:53.2±0.0,23°.43N×94°.47E, h94km, mb5.0/63, mB4.9/37*
GCMT ***03*** *18:49:55.6±0.2,23°.29N±0°.02×94°.56E±0°.02, h97km±2km, MW5.0/95,Moment Tensor Solution. s23,c27; s95,c150; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.11±.11; Mθθ=2.86±.10; Mφφ2.97±.10; Mrθ=-1.18±.07; Mθφ=0.81±.10; Mφr=1.37±.07; Best double couple: M=3.52500×10^16 NP1:φs=37.00000°,δ88.00000°,λ=-31.00000°. NP2: φs=128.00000°,δ59.00000°,λ=-178.00000°. Principal axes: T 3.5100, Plg20.0000°, Azm87.0000°; N 0.0320, Plg59.0000°, Azm213.0000°; P -3.5390, Plg23.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NDI ***03*** *18:49:56.4±3.8,23°.42N×94°.22E, h100km±17km, mb5.0, ML5.1, mb5.1(NEIC)*
DMN ***03*** *18:50:22.8±0.6,24°.49N×92°.29E, h10km, Ml5.1/3, Error ellipse: s-maj=105.7km s-min=11.2km az=26.0*

ISC 03 18:49:53.8±0.2, 23°.29N±0°.03×94°.50E±0°.03, h97km±1km, h97km:pP-P, n872, σ1§43/976, mb5.0/248, 58C-22D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SAIH	**SAIHA**	**1.60**	**241**	*e*Pg		**Pn**	**18 50 20.2**	**-1.1**
SAIH				*i* Sg		**Sn**	**18 50 42.8**	**+0.6**
MND	**Mandalay**	**1.96**	**130**	Pn		**Pn**	**18 50 24.3**	**-1.5**
MND				Sn		**Sn**	**18 50 46.7**	**-3.4**
MND	**Mandalay**	**1.96**	**130**	P		**Pn**	**18 50 24.8**	**-0.9**
BRDH	**Bariadhala**	**2.70**	**258**	P		**Pn**	**18 50 34.1**	**-1.3**
	3μm,0.6s,baz=87,slow=8.8,SNR=113							
BRDH				S		**Sn**	**18 51 06.4**	**-1.1**
	4μm,0.4s,baz=286,slow=21,SNR=29							
MOKO	**MOKOCHONG**	**3.02**	**0**	*e*P		**Pn**	**18 50 42.1**	**+2.3**
SHL	**Shillong**	**3.29**	**314**			**Pn**	**18 50 42.0**	**-1.5**
SHL				Sn		**Sn**	**18 51 15.8**	**-6.1**
SHL	**Shillong**	**3.29**	**314**	*e*P		**Pn**	**18 50 42.4**	**-1.2**
SHL				*e*S		**Sn**	**18 51 16.6**	**-5.3**
SHL				IAML			18 51 17.9	
	comp=N,9μm,0.2s							
SHL				IAML			18 51 20.9	
	comp=E,14μm,0.4s							
SHL	**Shillong**	**3.29**	**314**	P		**Pn**	**18 50 42.0**	**-1.5**
SHL							18 51 15.8	
SHL	**Shillong**	**3.29**	**314**	P		**Pn**	**18 50 42.8**	**-0.8**
	SNR=392							
TEZP	**TEZPUR**	**3.65**	**335**	*e*P		**Pn**	**18 50 46.9**	**-1.4**
TEZP				*e*S		**Sn**	**18 51 26.2**	**-4.2**
ITAN	**ITANAGAR**	**3.90**	**350**	*e*P		**Pn**	**18 50 51.0**	**-0.6**
TNCH	**TengChong**	**4.06**	**64**	P		**Pn**	**18 50 54.7**	**+0.8**
TNCH				S		**Sn**	**18 51 42.8**	**+2.2**
TNCH				smax	smax			
	comp=E,1μm,1.9s							
TNCH				smax	smax			
	comp=E,870nm,1.3s							
DIBR	**DIBRUGARH**	**4.18**	**5**	*e*P		**Pn**	**18 50 57.5**	**+2.2**
ZIRO	**ZIRO**	**4.26**	**352**	*e*P		**Pn**	**18 50 55.9**	**-0.7**
CHTO	**Chiang Mai**	**6.09**	**136**	Pn		**Pn**	**18 51 20.0**	**-1.3**
CHTO	**Chiang Mai**	**6.09**	**136**	P		**Pn**	**18 51 20.0**	**-1.3**
CRAI	**Chiangrai**	**6.25**	**118**	Pn		**Pn**	**18 51 22.8**	**-0.8**
CM31	**Chiang Mai Arr**	**6.36**	**138**			**Pn**	**18 51 23.4**	**-1.6**
CM31	**Chiang Mai Arr**	**6.36**	**138**	P		**Pn**	**18 51 24.5**	**-0.4**
	SNR=39							
CMAR	**Chiang Mai Arr**	**6.36**	**138**	P		**Pn**	**18 51 23.6**	**-1.3**
	comp=E,47nm,0.5s,baz=311,slow=13,SNR=265							
CMAR				ScP		**ScP**	**19 01 37.0**	**-0.3**
	comp=E,3.1nm,0.9s,baz=287,slow=1.8,SNR=18							
CMAR	**Chiang Mai Arr**	**6.36**	**138**	Pn		**Pn**	**18 51 23.2**	**-1.8**
SLGI	**Shiliguri**	**6.48**	**303**	*e*P		**Pn**	**18 51 25.4**	**-1.1**
GTK	**Tadong**	**6.67**	**308**	*e*P		**Pn**	**18 51 28.6**	**-0.8**
LSA	**Lhasa**	**7.05**	**336**	Pn		**Pn**	**18 51 34.9**	**+0.1**
LSA	**Lhasa**	**7.05**	**336**	P		**Pn**	**18 51 35.1**	**+0.3**
LSA	**Lhasa**	**7.05**	**336**	P		**Pn**	**18 51 34.9**	**+0.1**
PHRA	**Phrae**	**7.17**	**131**	Pn		**Pn**	**18 51 35.3**	**-0.7**
PZH	**PanZhiHua**	**7.31**	**63**	⇑P		**Pn**	**18 51 41.6**	**+3.5**
PZH				S		**Sn**	**18 53 08.0**	**+8.4**
PZH				pmax	pmax			
	comp=E,210nm,1.4s							
PZH				pmax	pmax			
	comp=E,340nm,4.7s							
PZH				LR	LR			
	comp=E,2μm,14.3s							
PZH				LR	LR			
	comp=E,2μm,15.1s							
PZH				LR	LR			
	comp=E,2μm,14.8s							
ODAN	**Odare**	**7.36**	**300**	*e*Pn		**Pn**	**18 51 36.5**	**-2.3**
RAMN	**Ramite**	**8.03**	**299**	*e*Pn		**Pn**	**18 51 45.7**	**-2.3**
RAMN				*e*Sn		Sn	18 52 46.6	-31
	comp=E,413nm,0.5s							
JIRN	**Jiri**	**8.68**	**302**	*e*Pn		**Pn**	**18 51 54.2**	**-2.6**
PKI	**Pulchoki**	**9.25**	**299**	*e*Pn		**Pn**	**18 52 01.7**	**-3.0**
PKIN	**Phulchoki**	**9.27**	**299**	*e*Pn		**Pn**	**18 52 01.8**	**-3.0**
PKIN				*e*Sn		Sn	18 53 16.1	-31
	comp=E,358nm,0.4s							
KKN	**Kakani**	**9.45**	**300**	*e*Pn		**Pn**	**18 52 04.8**	**-2.5**
KKN	**Kakani**	**9.45**	**300**	*e*Pn		**Pn**	**18 52 05.1**	**-2.2**
DMN	**Daman**	**9.51**	**299**	*e*Pn		**Pn**	**18 52 05.7**	**-2.4**
DMN				*e*Sn		Sn	18 53 22.6	-31
	comp=E,298nm,0.5s							
NONG	**Nongkai**	**9.62**	**121**	P		**Pn**	**18 52 11.3**	**+1.9**
JHSG	**JHARSUGUGA**	**10.03**	**263**	*e*P		**Pn**	**18 52 13.3**	**-1.6**
GKN	**Gorkha**	**10.06**	**300**	*e*Pn		**Pn**	**18 52 12.4**	**-3.0**
VLK	**Valmikinagar**	**10.42**	**295**	*e*P		**Pn**	**18 52 17.8**	**-2.4**
DANN	**Dangsing**	**10.90**	**300**	*e*Pn		**Pn**	**18 52 22.8**	**-4.3**
CD2	**Chengdu**	**11.21**	**45**	P		**Pn**	**18 52 29.8**	**-1.1**
CD2				S		**Sn**	**18 54 33.5**	**-0.7**
CD2				LR	LR			
	comp=E,1μm,8.4s							
CD2				LR	LR			
	comp=E,880nm,8.2s							
CD2				LR	LR			
	comp=E,840nm,6.8s							
GYA	**Guiyang**	**11.49**	**72**	⇓*i*P		**Pn**	**18 52 35.1**	**+0.3**
GYA				sP			18 53 06.2	
GYA				S		**Sn**	**18 54 41.5**	**+0.3**
GYA				pmax	pmax			
	comp=E,18nm,1.0s							
GYA				pmax	pmax			
	comp=E,430nm,3.6s							
GYA				LR	LR			
	comp=E,1μm,6.5s							
GYA				LR	LR			
	comp=E,640nm,7.2s							
GYA				LR	LR			
	comp=E,610nm,8.8s							
GOMU	**GeErMu**	**12.87**	**1**	P		**Pn**	**18 52 50.4**	**-3.0**
GOMU				S		**Sn**	**18 55 08.4**	**-6.6**
GOMU				pmax	pmax			
	comp=E,63nm,0.7s							
UBPT	**Khong Chiam**	**13.06**	**126**			**Pn**	**18 52 55.4**	**-0.3**
UBPT	**Khong Chiam**	**13.06**	**126**	P		**Pn**	**18 52 55.7**	**0.0**
JBP	**Jabalpur**	**13.35**	**272**	⇓*e*P		**Pn**	**18 52 58.7**	**-0.7**
JBP				*ex*		x	18 55 17.9	
LGTI	**Lohaghat**	**14.16**	**299**	*e*P		**Pn**	**18 53 06.6**	**-3.3**
LGTI				IAmb		IAmb	18 53 09.0	
	comp=E,45nm,0.5s							
QIZ	**Qiongzhong**	**14.93**	**104**	P		**P**	**18 53 22.8**	**-0.3**
QIZ	**Qiongzhong**	**14.93**	**104**	P		**P**	**18 53 24.9**	**+1.9**
QIZ				pP		Pn	18 53 38.1	+18
QIZ				S		**Sn**	**18 56 09.6**	**+5.0**
QIZ				pmax	pmax			
	comp=E,79nm,1.2s							
QIZ				LR	LR			
	comp=E,350nm,8.8s							
QIZ				LR	LR			
	comp=E,430nm,7.8s							
QIZ				LR	LR			
	comp=E,610nm,9.6s							
ENH	**Enshi**	**15.08**	**59**	Pn		**Pn**	**18 53 21.6**	**-0.1**
ENH	**Enshi**	**15.08**	**59**	P		**P**	**18 53 23.4**	**-1.3**
HYB	**Hyderabad**	**16.05**	**252**	*e*P		**Pn**	**18 53 32.3**	**-1.7**
HYB				*e*			18 56 16.0	
AKL	**Akola**	**16.42**	**264**	*e*P		**Pn**	**18 53 37.1**	**-1.4**
AKL				IAmb		IAmb	18 53 39.2	
	comp=E,28nm,0.5s							
NDI	**New Delhi**	**16.43**	**293**	*e*P		**Pn**	**18 53 38.3**	**-0.3**
NDI				*e*P		**P**	**18 53 40.0**	**+0.3**
NDI				*i* x		x	18 53 41.1	
NDI				*ex*		x	18 56 22.0	
SONA	**Sohna**	**16.44**	**291**	*e*P		**Pn**	**18 53 37.8**	**-0.9**
XAN	**Xi'an**	**16.56**	**47**	P		**Pn**	**18 53 38.7**	**-1.5**
XAN				pP		pP	18 53 58.2	-1.1
XAN				S		**Sn**	**18 56 38.9**	**-5.0**
XAN				pmax	pmax			
	comp=Z,62nm,0.9s							
XAN				pmax	pmax			
	comp=Z,170nm,3.5s							
XAN				LR	LR			
	comp=Z,710nm,10.1s							
XAN				LR	LR			
	comp=E,320nm,6.6s							
XAN				LR	LR			
	comp=E,420nm,20.6s							
GTA	**Gaotai**	**16.69**	**14**	⇑P		**Pn**	**18 53 39.8**	**-2.1**
GTA				pP		pP	18 53 57.9	-2.9
GTA				sP		sP	18 54 07.5	-5.6
GTA				S		**Sn**	**18 56 49.3**	**+2.2**
GTA				sS		sS	18 57 07.2	-15
GTA				ScP		**ScP**	**19 01 51.7**	**+0.1**
GTA				ScS		**ScS**	**19 05 30.6**	**-0.5**
GTA				pmax	pmax			
	comp=Z,210nm,6.4s							
GTA				LR	LR			
	comp=Z,230nm,8.0s							
GTA				LR	LR			
	comp=Z,260nm,11.1s							
GTA				LR	LR			
	comp=Z,210nm,8.8s							
KUDL	**Kundal**	**16.93**	**290**	*e*P		**Pn**	**18 53 42.8**	**-1.9**
BHK	**Bhakra**	**17.97**	**301**	*e*P		**P**	**18 53 56.8**	**+0.1**
BHK				IAmb		IAmb	18 54 00.0	
	comp=Z,152nm,0.8s							
LHMI	**Lhok Sumawe**	**18.11**	**172**	P		**P**	**18 53 56.7**	**-1.6**
HKPS	**Hong Kong Po S**	**18.14**	**89**			**Pn**	**18 53 59.8**	**+0.3**
AJM	**Ajmer**	**18.29**	**284**	*e*P		**P**	**18 53 57.2**	**-3.0**
AJM				IAmb		IAmb	18 54 02.4	
	comp=Z,43nm,0.6s							
KULM	**Kulim**	**18.85**	**161**	P		**Pn**	**18 54 07.5**	**-0.5**
KULM	**Kulim**	**18.85**	**161**	P		**Pn**	**18 54 08.0**	**0.0**
MLSI	**Meulaboh, Aceh**	**19.00**	**174**	P		**P**	**18 54 06.6**	**-1.4**
	comp=Z,101nm,0.7s							
WHN	**Wuhan**	**19.11**	**64**	⇑P		**Pn**	**18 54 11.0**	**+0.1**
WHN				S		**S**	**18 57 37.4**	**-3.2**
WHN				pmax	pmax			
	comp=Z,160nm,1.0s							
WHN				LR	LR			
	comp=Z,1μm,6.7s							
WHN				LR	LR			
	comp=Z,640nm,5.3s							
WHN				LR	LR			
	comp=Z,1μm,25.2s							
LYN	**LuoYang**	**19.29**	**50**	⇑P		**Pn**	**18 54 12.4**	**-0.6**
LYN				sP		sP	18 54 45.8	+4.0
LYN				S		**S**	**18 57 34.2**	**-10**
LYN				ScP		**ScP**	**19 01 56.6**	**-0.5**
LYN				ScS		**ScS**	**19 05 37.6**	**-1.3**
LYN				pmax	pmax			
	comp=Z,20nm,0.5s							
LYN				pmax	pmax			
	comp=Z,200nm,4.5s							
JMU	**Jammu**	**19.66**	**303**	*e*P		**Pn**	**18 54 18.0**	**+0.7**
IPM	**Ipoh**	**19.73**	**160**	P		**P**	**18 54 14.9**	**-1.1**
IPM	**Ipoh**	**19.73**	**160**	P		**P**	**18 54 15.6**	**-0.4**
IPM	**Ipoh**	**19.73**	**160**	P		**P**	**18 54 16.0**	**0.0**
KCSI	**Kotacane, Aceh**	**19.91**	**170**	P		**P**	**18 54 17.1**	**-0.7**
	comp=Z,62nm,0.7s							
TSI	**Tuntungan**	**20.06**	**168**	P		Pn	18 54 21.5	-0.6
	comp=Z,173nm,0.6s							
PALK	**Pallekele**	**20.72**	**222**	P		**P**	**18 54 27.7**	**+1.1**
	comp=Z,10nm,0.8s,baz=150,slow=11,SNR=3.2							
PALK				S		**S**	**18 58 05.0**	**-7.9**
	comp=Z,16nm,0.5s,baz=44,slow=19,SNR=8.7							
	comp=Z,10nm,0.8s							
PALK	**Pallekele**	**20.72**	**222**	P		**P**	**18 54 26.9**	**+0.2**
PALK	**Pallekele**	**20.72**	**222**	P		**P**	**18 54 28.0**	**+1.3**
KOD	**Kodaikanal**	**20.81**	**234**	*e*P		**P**	**18 54 29.3**	**+1.4**
PSI	**Prapat**	**20.81**	**167**	P		**P**	**18 54 28.3**	**+0.6**
RPSI	**Rantau Prapat**	**20.92**	**168**	P		**P**	**18 54 28.3**	**-0.4**
TIY	**Taiyuan**	**21.05**	**43**	P		**P**	**18 54 34.0**	**+3.9**
TIY				S		**S**	**18 58 16.4**	**-2.7**
TIY				pmax	pmax			
	comp=Z,50nm,0.5s							
TIY				LR	LR			
	comp=Z,240nm,10.3s							
TIY				LR	LR			
	comp=Z,310nm,5.5s							
TIY				LR	LR			
	comp=Z,170nm,11.0s							
WMQ	**Urumqi**	**21.23**	**346**	⇑P		**P**	**18 54 33.6**	**+1.7**
WMQ				pP		pP	18 54 53.0	+2.1
WMQ				sP		sP	18 55 03.6	+0.5
WMQ				S		**S**	**18 58 20.4**	**-2.1**
WMQ				pmax	pmax			
	comp=Z,140nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,530nm,3.7s							
WMQ				LR	LR			
	comp=Z,270nm,18.7s							
CHCP	**Chirah Chowk**	**21.30**	**304**	P		**P**	**18 54 32.4**	**-0.3**
NIL	**Nilore**	**21.30**	**304**	P		**P**	**18 54 32.6**	**-0.1**
NIL	**Nilore**	**21.30**	**304**	P		**P**	**18 54 32.6**	**-0.1**
NIL	**Nilore**	**21.30**	**304**	P		**P**	**18 54 33.7**	**+0.9**
PCHI	**Peechi**	**21.47**	**237**	*e*P		**P**	**18 54 35.2**	**+0.5**
PCHI				*ex*		x	18 58 22.1	
BTO	**Baotou**	**21.66**	**34**	*e*P		**P**	**18 54 35.0**	**-1.5**
BTO				S		**S**	**18 58 29.1**	**-1.8**
BTO				LR	LR			
	comp=Z,950nm,7.1s							
BTO				LR	LR			
	comp=Z,630nm,7.5s							
KNMB	**Chin-men Tao**	**21.88**	**82**	P		**P**	**18 54 39.4**	**+0.5**
GSI	**Gunungsitoli**	**22.06**	**172**	P		**P**	**18 54 40.1**	**-0.8**
GSI	**Gunungsitoli**	**22.06**	**172**	P		**P**	**18 54 40.2**	**-0.7**
THW	**Thamme Wali**	**22.16**	**300**	P		**P**	**18 54 41.5**	**-0.4**
HNS	**HongShan**	**22.34**	**46**	⇓P		**P**	**18 54 43.5**	**-0.2**
HNS				pmax	pmax			
	comp=Z,35nm,0.7s							
CEP	**Cherat**

TARG Taragay, Kyrgy 23.08 327 P **P** **18 54 52.4 +0.8**
MYKOM Kota Tinggi 23.22 156 P **P** **18 54 53.5 +0.9**
NJ2 Nanjing 23.23 63 *eP* **P** **18 54 52.3 -0.3**
NJ2 pP **pP** **18 55 13.2 +0.9**
NJ2 sP **sP** **18 55 21.1 -3.3**
NJ2 PP **PnPn** **18 55 28.9 +5.1**
NJ2 S **S** **18 58 59.2 +2.1**
NJ2 SS **SnSn** **18 59 47.5 +5.6**
NJ2 pmax pmax
comp=Z,24nm,0.5s
NJ2 LR LR
comp=Z,380nm,8.5s
NJ2 LR LR
comp=Z,370nm,11.4s
NJ2 LR LR
comp=Z,370nm,14.2s
SHLS Shalkode 23.40 331⇓ *eP* **P** **18 54 52.8 -1.4**
baz=332
SHLS *eS* **S** **18 58 58.8 -1.1**
baz=332
TIA Tai'an 23.42 52 P **P** **18 54 53.6 -0.7**
TIA pmax pmax
comp=Z,28nm,0.8s
TIA pmax pmax
comp=Z,130nm,3.7s
TIA LR LR
comp=Z,300nm,6.6s
TIA LR LR
comp=Z,370nm,7.0s
TIA LR LR
comp=Z,200nm,5.7s
UZB Uzynbulak 23.59 331 *eP* **P** **18 54 56.8 +0.9**
comp=Z,70nm,1.7s,baz=331
BKNI Bangkinang 23.70 164 P **P** **18 54 56.8 -0.1**
KPKS Kokpek 23.99 331 *eP* **P** **18 55 00.7 +1.2**
comp=Z,30nm,0.5s,baz=331
TPUB Ta-pu 23.99 85 P **P** **18 55 00.5 +0.9**
TPUB Ta-pu 23.99 85 P **P** **18 55 02.2 +2.6**
SSLB Suanglung 24.25 84 P **P** **18 55 03.6 +1.6**
ULHL Ulahol 24.26 326 P **P** **18 55 04.2 +2.1**
SNR=16
TWG Pinlang 24.45 86 P **P** **18 55 04.1 +0.4**
TNSS Tian-Shan 24.48 328 *eP* **P** **18 55 06.3 +2.1**
baz=328
MDOK Medeo 24.52 328 P **P** **18 55 06.3 +1.9**
YHNB Yeheng 24.59 81 P **P** **18 55 06.5 +1.5**
YHNB Yeheng 24.59 81 P **P** **18 55 07.0 +2.0**
YULB Yu-li 24.60 84 P **P** **18 55 05.6 +0.5**
KNDC Almaty 24.60 328 P **P** **18 55 07.6 +2.6**
AAA Alma-Ata 24.62 328 *eP* **P** **18 55 06.8 +1.7**
baz=328
NACB Ninganchiao 24.81 82 P **P** **18 55 08.1 +1.1**
NACB Ninganchiao 24.81 82 P **P** **18 55 09.1 +2.1**
KBL Kabul 24.87 302 P **P** **18 55 08.8 +1.1**
KBL Kabul 24.87 302 P **P** **18 55 08.8 +1.1**
KBL Kabul 24.87 302 P **P** **18 55 09.4 +1.6**
SNR=38
CHKK Chushkaly 25.07 329 *eP* **P** **18 55 10.2 +1.0**
baz=329
TKM2 Tokmak 2 25.07 326 P **P** **18 55 11.3 +1.9**
SNR=132
TKM2 Tokmak 2 25.07 326 P **P** **18 55 10.9 +1.4**
UCH Uchtor 25.17 323 P **P** **18 55 12.2 +1.6**
SNR=48
KBK Karagaybulak 25.23 325 P **P** **18 55 12.8 +2.0**
SNR=88
ZSN Zaisan 25.31 345 *eP* **P** **18 55 12.9 +1.5**
comp=Z,42nm,1.0s,baz=344
KUU Kurty 25.41 328 *eP* **P** **18 55 13.1 +0.9**
comp=Z,48nm,1.1s,baz=328
MK31 Makanchi Array 25.43 340 P **P** **18 55 13.6 +1.2**
MK31 Makanchi Array 25.43 340 *eP* **P** **18 55 13.7 +1.2**
MKAR Makanchi Array 25.43 340 P **P** **18 55 13.9 +1.5**
comp=Z,188nm,0.6s,baz=148,slow=9.5,SNR=1896
MKAR ScP **ScP** **19 02 12.3 -0.4**
comp=Z,3.7nm,0.9s,baz=145,slow=4.4,SNR=8.7
MKAR ScS **ScS** **19 06 00.7 -0.9**
comp=Z,1.3nm,1.0s,baz=146,slow=8.8,SNR=4.0
MKAR Makanchi Array 25.43 340 P **P** **18 55 13.7 +1.3**
AAK Ala-Archa 25.46 324 P **P** **18 55 15.2 +2.3**
SNR=65
AAK Ala-Archa 25.46 324 P **P** **18 55 15.1 +2.1**
comp=Z,53nm,0.6s,baz=141,slow=7.1,SNR=192
AAK ScP **ScP** **19 02 13.4 +0.4**
comp=Z,3.7nm,0.8s,baz=241,slow=3.4,SNR=5.1
AAK LR LR 19 07 36.1
comp=Z,88nm,18.4s,baz=123,slow=42
comp=Z,53nm,0.6s
AAK Ala-Archa 25.46 324 P **P** **18 55 14.8 +1.9**
AAK Ala-Archa 25.46 324*ceP* **P** **18 55 15.0 +2.1**
AAK pmax pmax
comp=Z,96nm,1.0s
AAK Ala-Archa 25.46 324 P **P** **18 55 15.3 +2.3**
MAKZ Makanchi 25.54 340 P **P** **18 55 14.5 +1.1**
MAKZ IAmb IAmb 18 55 16.0
comp=Z,114nm,1.0s
MAKZ Makanchi 25.54 340 P **P** **18 55 15.0 +1.6**
AML Almayashu 25.56 322 P **P** **18 55 16.1 +2.0**
SNR=53
CHMS Chumysh 25.57 325 P **P** **18 55 15.8 +2.1**
SNR=28
CHMS Chumysh 25.57 325 P **P** **18 55 14.9 +1.1**
EKS2 Erkin-Say 25.87 323 P **P** **18 55 18.7 +2.2**
SNR=54
USP Ospenovka 25.89 325 P **P** **18 55 18.9 +2.2**
SNR=32
SGDS Sogindy 25.95 326 *eP* **P** **18 55 18.1 +0.9**
baz=325
YOJ Yonaguni jima 26.08 82 P **P** **18 55 18.5 0.0**
YOJ IAmb IAmb 18 55 41.1
comp=Z,90nm,1.2s
YOJ Yonaguni jima 26.08 82 P **P** **18 55 18.5 0.0**
YOJ pmax pmax
comp=Z,90nm,1.2s
SONM Songino Array 26.27 18 P **P** **18 55 20.7 +0.5**
comp=Z,4.2nm,0.5s,baz=200,slow=8.8,SNR=38
SONM ScP **ScP** **19 02 15.1 -0.2**
comp=Z,3.5nm,0.7s,baz=200,slow=4.1,SNR=17
SONM LR LR 19 06 25.6
comp=Z,126nm,20.1s,baz=208,slow=38
comp=Z,4.2nm,0.5s
SONM Songino Array 26.27 18 P **P** **18 55 19.9 -0.3**
CHGR Chuyangaron 26.46 311 P **P** **18 55 22.4 +0.4**
CHGR IAmb IAmb 18 55 55.3
comp=Z,57nm,0.7s
CHGR Chuyangaron 26.46 311 P **P** **18 55 22.4 +0.4**
CHGR pmax pmax
comp=Z,57nm,0.7s
ULN Ulaanbaatar 26.49 19 P **P** **18 55 22.7 +0.6**
ULN Ulaanbaatar 26.49 19*ceP* **P** **18 55 23.0 +0.8**
ULN pmax pmax
comp=Z,16nm,1.7s
ULN Ulaanbaatar 26.49 19 P **P** **18 55 23.9 +1.7**
KSM Kuching 26.56 142 P **P** **18 55 22.1 -0.8**
KSM Kuching 26.56 142 P **P** **18 55 22.9 0.0**
DGZ Jazzator, Alta 26.94 350 *iP* **P** **18 55 27.5 +1.4**
DGZ pmax pmax
comp=Z,63nm,1.3s
XLT XiLinHaoTe 27.16 36 *eP* **P** **18 55 30.2 +2.1**
XLT pP pP 18 55 53.5 +3.6
XLT sP sP 18 56 02.8 +1.6
XLT S **S** **19 00 01.5 +1.8**
XLT ScP **ScP** **19 02 17.7 -0.2**
XLT pmax pmax
comp=Z,7.0nm,0.6s
XLT pmax pmax
comp=Z,120nm,4.6s
XLT LR LR
comp=Z,260nm,11.0s
XLT LR LR
comp=Z,130nm,13.5s
BTLS Baital 27.37 327 *eP* **P** **18 55 30.6 +0.8**
baz=327
DZA Taraz 27.39 321 *eP* **P** **18 55 31.0 +0.9**
baz=321
ZAK Zakamensk 27.90 12 *eP* **P** **18 55 34.1 -0.5**
ZAK pmax pmax
comp=Z,13nm,1.4s
KK31 Karatay Array 28.00 321 P **P** **18 55 35.9 +0.4**
KK31 Karatay Array 28.00 321 *eP* **P** **18 55 36.2 +0.7**
KKAR Karatay Array 28.00 321 P **P** **18 55 36.2 +0.7**
KKAR Karatay Array 28.00 321 P **P** **18 55 36.1 +0.7**
KKAR Karatay Array 28.00 321 P **P** **18 55 36.2 +0.7**
KKAR pmax pmax
comp=Z,11nm,0.9s

MOY Mondy 28.77 8 *eP* **P** **18 55 45.4 +3.0**
MDSI Maura Dua 29.18 160 P **P** **18 55 47.7 +1.5**
comp=Z,19nm,1.7s
MYLDM Lahad Datu 29.33 124 P **P** **18 55 48.8 +1.3**
MYLDM IAmb IAmb 18 56 13.4
comp=Z,38nm,1.2s
KURBB Kurchatov Arra 29.98 339 P **P** **18 55 53.9 +0.9**
comp=Z,38nm,0.5s,baz=152,slow=8.3,SNR=251
KURBB PcP **PcP** **18 58 53.3 +0.3**
comp=Z,4.1nm,0.6s,baz=172,slow=2.2,SNR=5.1
KURBB S **S** **19 00 43.9 +0.2**
comp=Z,1.4nm,0.9s,baz=149,slow=17,SNR=4.0
KURBB ScP **ScP** **19 02 26.6 +0.2**
comp=Z,13nm,0.8s,baz=159,slow=2.8,SNR=40
comp=Z,38nm,0.5s
KURBB Kurchatov Arra 29.98 339 P **P** **18 55 53.5 +0.5**
KURK Kurchatov 30.04 340 P **P** **18 55 54.1 +0.7**
KURK IAmb IAmb 18 55 55.7
comp=Z,57nm,0.8s
KURK Kurchatov 30.04 340 P **P** **18 55 54.1 +0.7**
KURK pmax pmax
comp=Z,57nm,0.8s
HRA Herat 30.22 299 P **P** **18 55 56.8 +1.2**
OTUK Ortayu 30.50 330 P **P** **18 55 58.6 +1.0**
JOW Kunigami 30.75 76 P **P** **18 56 00.0 0.0**
comp=Z,18nm,0.4s,baz=262,slow=5.4,SNR=25
comp=Z,18nm,0.4s
JOW Kunigami 30.75 76 P **P** **18 55 58.8 -1.2**
JOW IAmb IAmb 18 56 09.4
comp=Z,125nm,1.8s
JOW Kunigami 30.75 76 P **P** **18 56 00.1 0.0**
TJN Taejon 31.19 58 P **P** **18 56 02.3 -1.5**
TJN Taejon 31.19 58 P **P** **18 56 02.3 -1.5**
ZAA0 Zalesovo Array 31.47 349 P **P** **18 56 06.5 +0.4**
ZAA0 IAmb IAmb 18 56 08.9
comp=Z,73nm,1.3s
ZALV Zalesovo Beam 31.47 349 P **P** **18 56 06.9 +0.9**
comp=Z,21nm,0.4s,baz=173,slow=7.9,SNR=139
ZALV PP **PnPn** **18 57 09.2 -3.7**
comp=Z,1.5nm,0.4s,baz=180,slow=9.9,SNR=3.9
ZALV PcP **PcP** **18 58 57.0 +0.1**
comp=Z,2.5nm,0.4s,baz=162,slow=3.2,SNR=4.1
ZALV S **S** **19 01 08.8 +1.9**
comp=Z,2.5nm,0.7s,baz=170,slow=9.0,SNR=3.8
ZALV ScP **ScP** **19 02 31.3 0.0**
comp=Z,1.8nm,0.6s,baz=188,slow=3.0,SNR=3.8
ZALV ScS **ScS** **19 06 24.2 -4.8**
comp=Z,3.2nm,0.9s,baz=165,slow=6.2,SNR=7.4
ZALV LR LR 19 10 41.2
comp=Z,132nm,19.7s,baz=136,slow=40
comp=Z,21nm,0.4s
ZALV Zalesovo Beam 31.47 349 P **P** **18 56 06.8 +0.7**
ZALV Zalesovo Beam 31.47 349 *i*P **P** **18 56 06.9 +0.9**
ZALV pmax pmax
comp=Z,22nm,0.4s
KSAR Wonju Array Be 31.89 56 P **P** **18 56 09.2 -0.7**
KSAR Wonju Array Be 31.89 56 P **P** **18 56 09.2 -0.7**
KS19 Wonju Array Si 31.89 56 P **P** **18 56 09.7 -0.3**
KS19 IAmb IAmb 18 57 22.5
comp=Z,47nm,1.6s
KSRS Korea Array 31.92 56 P **P** **18 56 08.9 -1.3**
comp=Z,2.2nm,0.5s,baz=253,slow=8.7,SNR=14
KSRS ScP **ScP** **19 02 31.9 -1.2**
comp=Z,3.7nm,0.9s,baz=258,slow=3.3,SNR=10
KSRS LR LR 19 11 52.3
comp=Z,77nm,18.1s,baz=255,slow=41
comp=Z,2.2nm,0.5s
JLN Jalan Bani Buh 32.34 275 P **P** **18 56 15.9 +1.9**
SNR=7.7
JTU Tsushima 32.39 62 P **P** **18 56 14.2 -0.1**
JTU Tsushima 32.39 62 P **P** **18 56 15.8 +1.5**
LEM Lembang 32.56 155 LR LR 19 13 03.1
comp=Z,82nm,18.9s,baz=310,slow=43
WBK Wadi Bani Khal 32.67 276 P **P** **18 56 19.0 +2.0**
JSU Suzuyama 32.84 68 P **P** **18 56 15.8 -2.5**
JSU IAmb IAmb 18 56 49.5
comp=Z,65nm,1.9s
WSAR Wadi Sarin 32.90 277 LR LR 19 11 58.6
comp=Z,195nm,19.4s,baz=105,slow=40
WSAR Wadi Sarin 32.90 277 P **P** **18 56 20.7 +1.8**
BBKI Banjar Baru 33.18 141 P **P** **18 56 24.7 +3.3**
comp=Z,43nm,0.7s
BIDO Bidbid 33.32 278 P **P** **18 56 24.3 +1.6**
JNU Nakatsue 33.38 65 P **P** **18 56 23.4 +0.3**
comp=Z,4.9nm,0.4s,baz=253,slow=5.0,SNR=21
JNU LR LR 19 11 09.7
comp=Z,158nm,20.0s,baz=234,slow=38
comp=Z,4.9nm,0.4s
JNU Nakatsue 33.38 65 P **P** **18 56 22.6 -0.5**
JNU IAmb IAmb 18 57 36.3
comp=Z,41nm,1.6s
JNU Nakatsue 33.38 65 P **P** **18 56 23.2 +0.1**
SMDO Samad 33.45 277 P **P** **18 56 25.7 +1.8**
SNR=5.7
JMDO Jabal Madar 33.50 276 P **P** **18 56 25.9 +1.7**
KPJI Karang Pucung 33.55 153 P **P** **18 56 24.7 +0.1**
comp=Z,60nm,0.5s
TOLI2 Tolitoli 33.71 127 P **P** **18 56 26.6 +0.5**
TOLI2 Tolitoli 33.71 127 P **P** **18 56 27.0 +0.9**
MHTO MHTO 33.86 273 P **P** **18 56 29.0 +1.7**
HOQ Hoqain 34.06 278 P **P** **18 56 31.6 +2.6**
BSY Bisya 34.27 277 P **P** **18 56 32.8 +1.9**
GEYT Alibeck 34.31 304 P **P** **18 56 33.2 +2.2**
comp=Z,11nm,0.8s,baz=126,slow=7.5,SNR=31
GEYT ScP **ScP** **19 02 41.9 +0.3**
comp=Z,5.3nm,1.0s,baz=270,slow=1.3,SNR=6.9
GEYT LR LR 19 13 33.6
comp=Z,145nm,19.0s,baz=146,slow=41
comp=Z,11nm,0.8s
GEYT Alibeck 34.31 304 P **P** **18 56 31.6 +0.6**
GEYT IAmb IAmb 18 56 34.5
comp=Z,22nm,1.1s
GYA0 ALIBECK ARRAY 34.31 304 P **P** **18 56 31.9 +0.9**
GYA0B ALIBECK ARRAY 34.31 304 P **P** **18 56 31.6 +0.6**
GYA0B IAmb IAmb 18 56 34.5
comp=Z,18nm,1.0s
DQM DQM 34.46 272 P **P** **18 56 34.5 +1.9**
SOHO SOHO 34.70 279 P **P** **18 56 36.1 +1.6**
UGM Wanagama 34.75 151 P **P** **18 56 33.7 -1.3**
BANOM Banah 34.75 282 P **P** **18 56 35.6 +0.6**
BNX BinXian 34.79 42 ⇓*P* **P** **18 56 34.8 -0.2**
BNX pmax pmax
comp=Z,7.0nm,0.5s
BNX pmax pmax
comp=Z,130nm,4.5s
ARQ Araqi 34.81 278 P **P** **18 56 37.2 +1.7**
SHME Shamm 34.88 283 P **P** **18 56 39.8 +3.7**
BVA0 Borovoye Array 34.89 334 *i*P **P** **18 56 36.2 +0.4**
BVAR Borovoye Array 34.89 334 ScP **ScP** **19 02 43.2 -0.1**
comp=Z,3.4nm,0.7s,baz=150,slow=4.6,SNR=7.6
BVAR LR LR 19 12 19.3
comp=Z,241nm,21.5s,baz=142,slow=38
UOSS Minazif 34.91 281 P **P** **18 56 35.2 -1.2**
UOSS Minazif 34.91 281 P **P** **18 56 36.6 +0.2**
BRVK Borovoye 34.95 334 P **P** **18 56 36.4 0.0**
BRVK IAmb IAmb 18 56 39.9
comp=Z,23nm,0.8s
BRVK Borovoye 34.95 334*ceP* **P** **18 56 36.9 +0.6**
BRVK pmax pmax
comp=Z,34nm,1.3s
BRVK Borovoye 34.95 334 P **P** **18 56 37.3 +0.9**
BRVK Borovoye 34.95 334 P **P** **18 56 37.1 +0.7**
BRVK ScP **ScP** **19 02 44.5 +1.0**
HATD Hatta, Dubai 34.99 280 P **P** **18 56 39.1 +2.0**
MRSI Marisa 34.99 127 P **P** **18 56 39.3 +2.2**
comp=Z,21nm,0.8s
ASHO Ashiyiah 35.07 280 P **P** **18 56 39.4 +1.6**
ALNE Al Ain 35.42 279 P **P** **18 56 42.5 +1.8**
PWJI Pagerwojo 35.43 149 P **P** **18 56 40.8 0.0**
comp=Z,19nm,0.5s
JHS Saijyo 35.49 62 P **P** **18 56 42.0 +0.8**
JHS Saijyo 35.49 62 P **P** **18 56 42.3 +1.1**
FAQ Al Faqa, Dubai 35.49 280 P **P** **18 56 42.4 +1.1**
APSI Ampana 35.72 129 P **P** **18 56 46.3 +2.9**
comp=Z,18nm,0.5s
ASUD Al Ashush, Dub 35.74 280 P **P** **18 56 44.6 +1.2**
JMN Monobe 35.95 64 P **P** **18 56 45.2 0.0**
JMN IAmb IAmb 18 57 58.9
comp=Z,56nm,1.2s
JMN Monobe 35.95 64 P **P** **18 56 46.2 +1.0**
UMZA Um Al Zommool 36.14 277 P **P** **18 56 47.9 +1.1**
LUWI Luwuk 36.63 127 P **P** **18 56 51.1 0.0**
LUWI Luwuk 36.63 127 P **P** **18 56 52.3 +1.2**
LUWI Luwuk 36.63 127 P **P** **18 56 54.7 +3.6**
comp=Z,52nm,1.3s,comp=Z,695nm

USRK Ussuriysk Ar. 37.07 47 P **P** **18 56 54.8 +0.3**
comp=Z,1.9nm,0.4s,baz=258,slow=5.6,SNR=12
USRK ScP **ScP** **19 02 49.6 -1.9**
comp=Z,3.5nm,0.9s,baz=242,slow=4.1,SNR=4.3
USRK LR LR 19 12 33.1
comp=Z,74nm,18.3s,baz=2.9,slow=37
comp=Z,1.9nm,0.4s
USRK Ussuriysk Ar. 37.07 47 P **P** **18 56 54.0 -0.6**
MZWR Madinat Zayed 37.16 279 P **P** **18 56 56.2 +0.7**
HEH HeiHe 37.16 35 *eP* **P** **18 56 56.7 +1.5**
HEH pmax pmax
comp=Z,18nm,0.4s
BOD Bodaibo 37.26 17 *eP* **P** **18 56 57.2 +1.3**
BOD pmax pmax
comp=Z,11nm,1.6s
DMTO DMTO 37.38 269 P **P** **18 56 59.4 +2.0**
AB31 Akbulak array 37.52 322 *eP* **P** **18 56 59.3 +1.1**
ABKAR Akbulak array 37.52 322 P **P** **18 56 59.2 +0.9**
ABKAR Akbulak array 37.52 322 P **P** **18 56 59.6 +1.4**
ABKAR IAmb IAmb 18 57 00.8
comp=Z,43nm,1.1s
MZR Muzera 37.63 278 P **P** **18 57 00.3 +0.8**
DOK Doka 37.90 271 P **P** **18 57 03.3 +1.4**
SNR=8.1
JRN Qarnain Island 37.95 281 P **P** **18 57 02.5 +0.4**
GHWR Ruwais 38.04 280 P **P** **18 57 03.7 +0.7**
RBK Rabkut 38.12 269 P **P** **18 57 05.5 +1.8**
SNR=7.5
WHFO Wadi Hawf 38.40 270 P **P** **18 57 07.2 +1.0**
SNR=6.4
INU Inuyama 38.70 62 P **P** **18 57 07.9 -0.4**
INU IAmb IAmb 18 57 10.7
comp=Z,19nm,0.9s
INU Inuyama 38.70 62 P **P** **18 57 08.7 +0.3**
INU Inuyama 38.70 62 P **P** **18 57 08.3 -0.1**
INU pP **pP** **18 57 28.8 -2.0**
INU sP **sP** **18 57 39.4 -2.6**
INU ScP **ScP** **19 02 55.8 -2.0**
TNTI Ternate 38.97 120 P **P** **18 57 09.9 -0.9**
TNTI IAmb IAmb 18 58 03.3
comp=Z,26nm,1.0s
ABTO Aybut 38.99 269 P **P** **18 57 12.4 +1.3**
SNR=5.6
JGF Kuroka 39.00 62 P **P** **18 57 11.0 0.0**
JGF IAmb IAmb 18 58 28.2
comp=Z,87nm,2.0s
JGF Kuroka 39.00 62 P **P** **18 57 11.5 +0.5**
KLR Kul'dur 39.04 39 P **P** **18 57 11.2 +0.2**
comp=Z,1.1nm,0.5s,baz=268,slow=8.8,SNR=4.6
KLR ScP **ScP** **19 02 57.1 -1.7**
comp=Z,8.9nm,1.1s,baz=271,slow=4.8,SNR=12
KLR LR LR 19 15 31.9
comp=Z,62nm,19.5s,baz=232,slow=40
comp=Z,1.1nm,0.5s
KLR Kul'dur 39.04 39*ceP* **P** **18 57 09.9 -1.1**
KLR pmax pmax
comp=Z,13nm,3.0s
SLWR Sila 39.10 280 P **P** **18 57 12.9 +1.1**
ZEA Zeya 39.14 31 *i*P **P** **18 57 13.3 +1.6**
AKTO Aktyubinsk 39.19 323 P **P** **18 57 13.5 +1.3**
comp=Z,8.4nm,0.3s,baz=122,slow=6.8,SNR=29
AKTO LR LR 19 14 09.9
comp=Z,147nm,22.0s,baz=72,slow=37
comp=Z,8.4nm,0.3s
PLAI Plampang 39.21 142 P **P** **18 57 13.9 +1.1**
MJB9 Matsu-Tunnel 39.79 60 P **P** **18 57 17.7 +0.2**
MJB9 IAmb IAmb 18 57 20.4
comp=Z,19nm,0.9s
SMRA Abu-Samra 39.80 281 P **P** **18 57 18.9 +1.3**
MAJO Matsushiro 39.80 60 P **P** **18 57 16.6 -0.9**
MAJO IAmb IAmb 18 57 19.4
comp=Z,21nm,0.9s
MAJO Matsushiro 39.80 60 *i*P **P** **18 57 16.8 -0.7**
MAJO pmax pmax
comp=Z,22nm,0.9s
MAJO Matsushiro 39.80 60 P **P** **18 57 17.0 -0.5**
MAJO pP **pP** **18 57 37.5 -2.6**
MAJO sP **sP** **18 57 48.1 -3.1**
MAJO ScP **ScP** **19 03 00.6 -1.5**
MJAR Matsushiro Arr 39.80 60 P **P** **18 57 17.0 -0.5**
comp=Z,10nm,0.8s,baz=279,slow=8.2,SNR=33
MJAR pP **pP** **18 57 38.4 -1.7**
comp=Z,2.8nm,0.8s,baz=48,slow=4.3,SNR=2.9
MJAR PcP **PcP** **18 59 22.8 +0.8**
comp=Z,0.6nm,0.7s,baz=278,slow=0.8,SNR=4.0
MJAR ScP **ScP** **19 03 01.1 -1.0**
comp=Z,8.8nm,0.9s,baz=263,slow=3.2,SNR=16
comp=Z,10nm,0.8s
SAKB Bahrain 39.91 283 P **P** **18 57 18.8 +0.3**
JSD Sado 40.04 58 P **P** **18 57 19.7 +0.2**
SVE Sverdlovsk 41.57 333*ceP* **P** **18 57 33.2 +1.5**
SVE *eS* **S** **19 03 42.2 +1.8**
LKRN Lenkeran, Azer 41.66 303 P **P** **18 57 34.9 +2.2**
MMRI Maumere 41.75 136 P **P** **18 57 33.8 0.0**
JMM Marumori 42.00 59 P **P** **18 57 36.4 +0.8**
JMM Marumori 42.00 59 P **P** **18 57 36.9 +1.3**
ARU Arti 42.23 331 P **P** **18 57 37.9 +0.7**
comp=Z,50nm,0.4s,baz=118,slow=4.8,SNR=139
ARU PP **PP** **18 59 18.7 +2.1**
comp=Z,7.5nm,0.7s,baz=72,slow=6.0,SNR=3.9
ARU LR LR 19 16 57.1
comp=Z,139nm,19.9s,baz=125,slow=38
comp=Z,50nm,0.4s
ARU Arti 42.23 331 P **P** **18 57 37.6 +0.5**
ARU Arti 42.23 331*d iP* **P** **18 57 37.8 +0.7**
ARU *PP **pP** **18 58 01.9 +2.1**
ARU 18 59 15.3
ARU 18 59 31.3
ARU S **S** **19 03 53.0 +2.9**
ARU pmax pmax
comp=Z,42nm,0.6s
ARU Arti 42.23 331 P **P** **18 57 37.8 +0.7**
GRNR Gornyy 42.43 39⇑ *iP* **P** **18 57 37.6 -1.3**
GRNR pmax pmax
comp=Z,2.0nm,0.8s
GRNR MLR MLR
comp=Z,80nm,15.0s
JTM Tenmabayashi 42.63 55 P **P** **18 57 41.1 +0.5**
JTM IAmb IAmb 18 58 54.1
comp=Z,45nm,1.2s
AKT Akhty 42.89 306 *eP* **P** **18 57 44.3 +1.4**
AKT *e*PP **pP** **18 58 09.3 +3.4**
AKT *e*SP **sP** **18 58 19.3 +2.3**
AKT *e* 18 59 26.0
AKT pmax pmax
comp=Z,44nm,1.3s
JCJ Chichijima 43.12 75 P **P** **18 57 41.9 -2.9**
SEKA Sheki 43.24 306 P **P** **18 57 47.9 +2.3**
MNGR Mingechevir, A 43.25 305 P **P** **18 57 47.7 +2.1**
ZKTA Zakatala 43.74 306 P **P** **18 57 51.9 +2.3**
SOEI Soe 43.90 135 P **P** **18 57 49.8 -1.4**
SOEI Soe 43.90 135 P **P** **18 57 50.9 -0.3**
NAX Nakhchivan 44.26 303 P **P** **18 57 56.5 +2.7**
ASAJ Asahikawa 44.36 50 P **P** **18 57 54.0 -0.4**
comp=Z,3.8nm,0.5s,baz=202,slow=3.5,SNR=12
comp=Z,3.8nm,0.5s
JKA Kamikawa-asahi 44.36 50 P **P** **18 57 52.5 -1.9**
JKA IAmb IAmb 18 58 51.1
comp=Z,28nm,1.4s
ERM Erimo 44.38 53 P **P** **18 57 53.4 -1.2**
ERM IAmb IAmb 18 58 54.5
comp=Z,50nm,1.2s
ERM Erimo 44.38 53 P **P** **18 57 54.2 -0.4**
ERM Erimo 44.38 53 P **P** **18 57 53.4 -1.2**
ERM pmax pmax
comp=Z,51nm,1.3s
JEM Erimo 44.38 53 P **P** **18 57 53.3 -1.3**
JEM IAmb IAmb 18 58 54.5
comp=Z,30nm,1.3s
JEM Erimo 44.38 53 P **P** **18 57 56.5 +1.9**
GROC Groznyy 44.61 309 *eP* **P** **18 57 57.6 +1.2**
GROC *e*PP **pP** **18 58 18.2 -1.2**
GROC *e*SP **sP** **18 58 29.8 -0.7**
GROC *e* 18 59 37.5
GROC pmax pmax
comp=Z,94nm,0.9s
GNI Garni 44.94 304 P **P** **18 57 59.5 +0.1**
GNI Garni 44.94 304 P **P** **18 57 59.5 +0.1**
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 44.94 304 P **P** **18 57 59.5 +0.1**
GNI Garni 44.94 304 P **P** **18 57 59.3 0.0**
FAKI Fak Fak 45.08 120 P **P** **18 58 00.1 -0.4**
FAKI IAmb IAmb 18 58 06.6

comp=Z,26nm,0.6s
FAKI Fak Fak 45.08 120 P P 18 58 00.5 0.0
YSS Yuzh-Sakhalins 45.11 46 P P 18 58 00.2 -0.1
YSS IAmb IAmb 18 58 13.8
comp=Z,78nm,1.7s
YSS Yuzh-Sakhalins 45.11 46 *ce* **P P 18 57 59.3 -1.0**
YSS pmax pmax
comp=Z,21nm,1.3s
YAK Yakutsk 45.49 22 P P 18 58 04.5 +1.4
comp=Z,2.6nm,0.4s,baz=41,slow=0.8,SNR=4.2
YAK LR LR 19 18 59.3
comp=Z,74nm,21.5s,baz=256,slow=38
comp=Z,2.6nm,0.4s
YAK Yakutsk 45.49 22 *ce* **P P 18 58 04.6 +1.4**
YAK pmax pmax
comp=Z,4.0nm,0.6s
BELG Belogornoye 45.90 321 P P 18 58 07.2 +0.8
comp=Z,41nm,0.7s,baz=326,slow=2.4,SNR=32
BELG LR LR 19 17 47.1
comp=Z,161nm,19.8s,baz=152,slow=36
comp=Z,41nm,0.7s
BELG Belogornoye 45.90 321 *i* **P P 18 58 06.3 -0.2**
BELG pmax pmax
comp=Z,10.0nm,0.8s
ZEI Tsey 45.91 308 *eP* **P 18 58 07.1 +0.1**
ZEI pmax pmax
comp=Z,60nm,1.0s
AKH Akhalkalaki 46.03 306 P P 18 58 07.1 -0.8
AKH Akhalkalaki 46.03 306 P P 18 58 07.1 -0.8
AKH pmax pmax
comp=Z,101nm,0.9s
GEVA Gevas 46.08 301 P P 18 58 07.3 -1.1
GEVA IAmb IAmb 18 58 12.0
comp=Z,13nm,0.8s
ONI Oni 46.21 307 P P 18 58 09.7 +0.5
ONI IAmb IAmb 18 58 16.1
comp=Z,14nm,0.6s
ONI Oni 46.21 307 P P 18 58 09.7 +0.5
ONI pmax pmax
comp=Z,14nm,0.6s
NCK Nalchik 46.24 309 *i* **P P 18 58 10.4 +1.0**
NCK pmax pmax
comp=Z,41nm,0.7s
NRIK Noril'sk 46.25 357 P P 18 58 09.7 +0.6
comp=Z,20nm,0.6s,baz=154,slow=6.0,SNR=44
NRIK ScP **ScP 19 03 28.0 +0.5**
comp=Z,6.3nm,0.9s,baz=157,slow=4.8,SNR=6.2
NRIK LR LR 19 20 34.5
comp=Z,43nm,18.7s,baz=166,slow=40
comp=Z,20nm,0.6s
NRIK Noril'sk 46.25 357 P P 18 58 09.2 +0.2
NRIK IAmb IAmb 18 58 10.9
comp=Z,24nm,0.8s
NRIK Noril'sk 46.25 357 *ce* **P P 18 58 09.5 +0.5**
NRIK pmax pmax
comp=Z,27nm,0.8s
KARS Kars 46.26 305 P P 18 58 09.9 +0.2
KARS Kars 46.26 305 P P 18 58 09.9 +0.2
KARS pmax pmax
comp=Z,120nm,0.7s
KBZ Khabaz 46.78 309 P P 18 58 14.8 +1.3
comp=Z,6.9nm,0.5s,baz=141,slow=2.7,SNR=40
KBZ LR LR 19 21 18.1
comp=Z,96nm,19.3s,baz=72,slow=40
comp=Z,6.9nm,0.5s
KBZ Khabaz 46.78 309 *ce* **P P 18 58 14.6 +1.1**
KBZ pmax pmax
comp=Z,12nm,1.0s
NEY Neytrino 46.83 308 *i* **P P 18 58 15.9 +1.7**
NEY pmax pmax
comp=Z,11nm,0.6s
GURO Guroymak-BITLI 46.90 302 P P 18 58 15.1 +0.3
GURO IAmb IAmb 18 58 18.1
comp=Z,15nm,0.9s
SHA1 Shidzhatmaz 46.95 309 *d i* **P P 18 58 16.7 +1.5**
KVAR Kislovodsk Arr 46.96 309 P P 18 58 17.3 +2.2
comp=Z,10nm,0.6s,baz=89,slow=22,SNR=9.9
comp=Z,10nm,0.6s
KIV Kislovodsk 46.96 309 ⇑**P P 18 58 16.6 +1.5**
KIV Kislovodsk 46.96 309 P P 18 58 15.9 +0.8
KIV IAmb IAmb 18 58 18.4
comp=Z,43nm,0.8s
KIV Kislovodsk 46.96 309 *d i* **P P 18 58 16.6 +1.5**
KIV *e**PP **pP 18 58 39.8 +1.5**
KIV *e**SP **sP 18 58 51.6 +2.3**
KIV *e* 18 59 45.7
KIV *i* S **S 19 04 58.3 -0.9**
KIV *e*SS **SS 19 08 22.0 -5.0**
KIV pmax pmax
comp=Z,56nm,1.0s
KIV MLR MLR
comp=Z,81nm,18.0s
KIV Kislovodsk 46.96 309 P P 18 58 16.2 +1.2
KIV Kislovodsk 46.96 309 P P 18 58 16.7 +1.6
KIRV Kirov 47.55 330 P P 18 58 20.2 +1.0
comp=Z,56nm,0.6s,baz=82,slow=0.8,SNR=24
comp=Z,56nm,0.6s
KIRV Kirov 47.55 330 *ce* **P P 18 58 19.7 +0.5**
SAUI Saumlaki 47.55 126 P P 18 58 18.9 -0.9
MARD Mardin 47.85 300 P P 18 58 23.5 +1.4
MARD IAmb IAmb 18 58 25.8
comp=Z,24nm,0.6s
VRH Novokhopyorsk 49.04 318 *eP* **P 18 58 30.7 -0.1**
VRH pmax pmax
comp=Z,50nm,0.8s
SOC Sochi 49.05 308 *eP* **P 18 58 32.2 +1.2**
SOC *e* 19 00 24.5
SOC *e*PPP PPP 19 01 17.2
SOC *e*S **S 19 05 32.7 +4.2**
SOC *e*SS **SS 19 08 54.9 -5.6**
SOC *e*SSS SSS 19 10 30.0
SOC pmax pmax
comp=Z,86nm,0.7s
SOC MLR MLR
comp=Z,79nm,14.0s
GIRL Giralia 49.53 156 P P 18 58 36.5 +1.6
GIRL Giralia 49.53 156 P P 18 58 36.3 +1.5
MBWA Marble Bar 50.56 149 P P 18 58 43.5 +0.8
MBWA IAmb IAmb 18 59 35.5
comp=Z,28nm,1.3s
MBWA Marble Bar 50.56 149 P P 18 58 43.7 +1.0
MBWA Marble Bar 50.56 149 P P 18 58 43.5 +0.8
VSR Storozhevoye 50.61 318 *eP* **P 18 58 42.1 -0.6**
VSR pmax pmax
comp=Z,40nm,1.5s
PRGR Permogore 50.64 332 *eP* **P 18 58 43.0 +0.3**
PRGR *e**SP **sP 18 59 16.2 -0.8**
PRGR *e*S **S 19 05 49.5 -0.5**
PRGR pmax pmax
comp=Z,72nm,0.6s
VORR Voronezh 50.68 319 *eP* **P 18 58 44.2 +1.0**
VORR pmax pmax
comp=Z,30nm,1.3s
GAZ Gaziantep 50.69 300 P P 18 58 45.1 +1.4
GAZ IAmb IAmb 18 58 46.4
comp=Z,28nm,0.8s
MTN Manton Dam 50.74 131 P P 18 58 43.4 -0.7
MTN Manton Dam 50.74 131 P P 18 58 43.8 -0.4
LPSR Galich'ya Gora 51.05 320 *eP* **P 18 58 45.9 -0.1**
LPSR pmax pmax
comp=Z,40nm,0.6s
FITZ Fitzroy Crossi 51.16 141 P P 18 58 47.4 +0.2
FITZ Fitzroy Crossi 51.16 141 P P 18 58 47.5 +0.2
KNRA Kununurra 51.21 136 P P 18 58 46.9 -0.8
KNRA Kununurra 51.21 136 P P 18 58 47.9 +0.3
TOKA Tokat 51.26 304 P P 18 58 48.5 +0.6
TOKA IAmb IAmb 18 58 50.8
comp=Z,18nm,0.5s
KDU Kakadu 51.57 130 P P 18 58 49.7 -0.6
BNN Bunyan 51.75 302 P P 18 58 50.1 -1.5
TIXI Tiksi 52.17 13 P P 18 58 52.9 -1.2
comp=Z,12nm,0.4s,baz=90,slow=8.4,SNR=64
comp=Z,12nm,0.4s
TIXI Tiksi 52.17 13 P P 18 58 52.7 -1.4
TIXI IAmb IAmb 18 58 57.6
comp=Z,15nm,0.5s
TIXI Tiksi 52.17 13 ⇑ *eP* **P 18 58 52.9 -1.2**
TIXI pmax pmax
comp=Z,8.0nm,0.4s
TIXI Tiksi 52.17 13 P P 18 58 52.9 -1.2
GHAJ Ghor Haditha 52.45 292 P P 18 58 55.7 -1.0
GHAJ IAmb IAmb 18 58 59.5
comp=Z,22nm,0.8s
ROCAM Rodrigues Isla 52.47 218 P P 18 58 56.6 -0.2
MOS Moscow 52.52 323 *eP* **P 18 58 55.6 -1.3**
MOS *eS **S 19 06 11.9 -4.2**
MOS pmax pmax
comp=Z,58nm,1.1s
OBN Obninsk 52.97 322 P P 18 59 00.6 +0.4
comp=Z,5.1nm,0.4s,baz=111,slow=1.5,SNR=6.3
comp=Z,5.1nm,0.4s
KLMR Klimovskoe 53.05 330 *eP* **P 18 58 59.5 -1.2**
KLMR AMP 18 59 02.2
comp=Z,29nm,0.5s
KLMR Klimovskoe 53.05 330 *eP* **P 18 58 59.5 -1.2**
KLMR pmax pmax
comp=Z,29nm,0.5s
BZK Bozkurt 53.16 306 P P 18 59 00.6 -1.1
SIM Simferopol' 53.17 310 *c i* **P P 18 59 04.1 +2.3**
SIM *e*SSS SSS 19 12 04.0
SIM pmax pmax
comp=Z,51nm,0.9s
EIL Elat 53.19 290 LR LR 19 26 16.4
comp=Z,56nm,21.0s,baz=57,slow=41
MA2 Magadan 53.25 32 P P 18 59 01.2 -1.0
comp=Z,3.4nm,0.4s,baz=295,slow=9.9,SNR=8.0
MA2 ScP **ScP 19 03 56.1 -1.6**
comp=Z,1.3nm,0.4s,baz=202,slow=4.3,SNR=4.6
comp=Z,3.4nm,0.4s
MA2 Magadan 53.25 32 P P 18 59 02.5 +0.3
MA2 IAmb IAmb 18 59 30.8
comp=Z,9.6nm,0.8s
MA2 Magadan 53.25 32 P P 18 59 02.5 +0.3
MA2 pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 53.25 32 P P 18 59 03.8 +1.5
MA2 pP **pP 18 59 26.5 +0.7**
MA2 ScP **ScP 19 03 56.3 -1.3**
BR131 Keskin Array S 53.45 303 P P 18 59 04.6 +0.5
BR131 IAmb IAmb 18 59 05.9
comp=Z,21nm,0.6s
BR131 Keskin Array S 53.45 303 *c i* **P P 18 59 04.8 +0.7**
BR131 Keskin Array S 53.45 303 P P 18 59 04.9 +0.7
BRTR Keskin Array B 53.45 303 P P 18 59 04.9 +0.7
comp=Z,9.3nm,0.5s,baz=135,slow=12,SNR=92
BRTR LR LR 19 27 55.9
comp=Z,68nm,18.3s,baz=108,slow=43
comp=Z,9.3nm,0.5s
BRTR Keskin Array B 53.45 303 P P 18 59 04.4 +0.2
CSS Mathiatis 53.95 297 P P 18 59 08.1 +0.3
CSS IAmb IAmb 18 59 10.1
comp=Z,56nm,1.4s
ANTO Ankara 54.09 303 P P 18 59 09.8 +1.0
ANTO Ankara 54.09 303 P P 18 59 09.8 +1.0
ANTO pmax pmax
comp=Z,43nm,0.7s
ANTO Ankara 54.09 303 P P 18 59 10.2 +1.4
BR231 Keskin MP Arra 54.11 303 P P 18 59 09.2 +0.3
ADZR Andozero 54.65 333 *eP* **P 18 59 12.4 +0.2**
MEEK Meekatharra 54.84 153 P P 18 59 14.7 +0.5
SEY Seymchan 55.02 28 P P 18 59 15.2 +0.2
comp=Z,1.1nm,0.5s,baz=194,slow=0.8,SNR=8.2
SEY ScP **ScP 19 04 04.1 -1.2**
comp=Z,1.6nm,0.9s,baz=291,slow=6.9,SNR=3.8
comp=Z,1.1nm,0.5s
MDUB Mudurnu 55.29 304 P P 18 59 18.1 +0.7
PEA0B Petropavlovsk- 55.70 41 P P 18 59 18.4 -1.6
PEA0B IAmb IAmb 19 00 50.0
comp=Z,48nm,1.5s
PEA0B Petropavlovsk- 55.70 41 P P 18 59 18.4 -1.6
PEA0B pmax pmax
comp=Z,48nm,1.5s
PETK Petropavlovsk- 55.70 41 P P 18 59 18.5 -1.5
comp=Z,2.7nm,0.9s,baz=236,slow=1.6,SNR=7.2
PETK LR LR 19 24 54.8
comp=Z,42nm,20.1s,baz=228,slow=38
comp=Z,2.7nm,0.9s
BORA Eskisehir 55.89 303 P P 18 59 21.9 +0.1
BORA IAmb IAmb 18 59 23.3
comp=Z,28nm,1.0s
MORW Morawa 56.04 157 P P 18 59 22.0 -0.7
MORW IAmb IAmb 19 00 51.5
comp=Z,74nm,1.9s
MORW Morawa 56.04 157 P P 18 59 23.2 +0.5
PURM Purcari 56.19 311 ⇑**P P 18 59 24.5 +0.8**
PET Petropavlovsk 56.26 41 *ce* **P P 18 59 21.8 -2.2**
PET pmax pmax
comp=Z,17nm,1.7s
ELL Elmali 56.56 300 P P 18 59 27.5 +0.9
ELL Elmali 56.56 300 P P 18 59 27.5 +0.9
AKASG Malin Array Be 56.77 316 P P 18 59 27.3 -0.4
comp=Z,6.0nm,0.4s,baz=75,slow=6.2,SNR=61
AKASG pP **pP 18 59 50.5 -1.0**
comp=Z,5.7nm,0.5s,baz=74,slow=6.2,SNR=2.6
AKASG LR LR 19 26 46.2
comp=Z,201nm,18.5s,baz=64,slow=39
comp=Z,6.0nm,0.4s
AKASG Malin Array Be 56.77 316 P P 18 59 27.2 -0.4
AKASG IAmb IAmb 18 59 28.4
comp=Z,30nm,0.9s
AKBB Malin Array Si 56.77 316 P P 18 59 27.1 -0.6
AKBB Malin Array Si 56.77 316 *ce* **P P 18 59 26.9 -0.8**
AKBB pmax pmax
comp=Z,44nm,0.9s
AK05 Malin Array Si 56.78 316 P P 18 59 27.6 -0.2
AK05 IAmb IAmb 18 59 28.6
comp=Z,26nm,0.8s
AKAS Kas 56.85 299 P P 18 59 27.9 -0.8
AKAS IAmb IAmb 18 59 42.2
comp=Z,18nm,0.8s
JURR Jurilovca 56.89 309 ⇑**P P 18 59 29.5 +0.9**
MILM Milestii Mici 56.92 312 ⇑**P P 18 59 29.6 +0.8**
MILM Milestii Mici 56.92 312 P P 18 59 29.6 +0.8
TLCR 56.92 310 ⇑**P P 18 59 29.3 +0.4**
TLCR 56.92 310 P P 18 59 29.2 +0.4
TPGR Topolog 57.21 309 ⇑**P P 18 59 31.5 +0.5**
TIRR Tirgusor 57.23 309 P P 18 59 31.4 +0.4
TIRR IAmb IAmb 18 59 32.7
comp=Z,32nm,0.9s
TIRR Tirgusor 57.23 309 P P 18 59 31.4 +0.4
TIRR pmax pmax
comp=Z,32nm,0.9s
SORM Soroca 57.25 313 ⇓**P P 18 59 31.1 0.0**
SORM Soroca 57.25 313 P P 18 59 31.1 0.0
LVZ Lovozero 57.41 337 P P 18 59 32.0 0.0
LVZ Lovozero 57.41 337 *ce* **P P 18 59 32.8 +0.9**
LVZ pmax pmax
comp=Z,192nm,2.5s
LVZ Lovozero 57.41 337 P P 18 59 32.2 +0.3
CFR Carcaliu 57.41 310 ⇑**P P 18 59 32.9 +0.6**
CFR Carcaliu 57.41 310 P P 18 59 32.8 +0.6
VLDR Vladesti 57.43 311 ⇑**P P 18 59 33.6 +1.2**
MANT Manisa 57.46 302 P P 18 59 32.8 -0.3
MANT IAmb IAmb 18 59 34.5
comp=Z,25nm,1.5s
SCTR Scanteiesti 57.50 310 ⇓**P P 18 59 34.6 +1.7**
HARR Harsova 57.56 309 ⇑**P P 18 59 34.0 +0.6**
HARR Harsova 57.56 309 P P 18 59 34.0 +0.6
VASR Vaslui 57.62 311 ⇓**P P 18 59 34.4 +0.6**
IZVR Izvoarele 57.66 310 ⇑**P P 18 59 34.9 +0.9**
BLDU Ballidu 57.68 157 P P 18 59 34.4 +0.1
TUDR 57.73 310 ⇑**P P 18 59 36.4 +1.9**
BIR Birlad 57.74 311 ⇑**P P 18 59 36.2 +1.6**
BIR Birlad 57.74 311 P P 18 59 36.2 +1.6
MNK Minsk 57.84 321 *i* **P P 18 59 36.2 +1.0**
MNK *i* P **P 18 59 36.2 +1.0**
MNK *i* P **P 18 59 36.2 +1.0**
comp=Z,40nm,0.9s,baz=96
MNK *i* pP **pP 19 00 00.7 +1.6**
MNK *i* PP **PP 19 01 46.6 +2.5**
MNK *i* PPP PPP 19 03 02.4
MNK *i* S **S 19 07 30.2 +3.1**
MNK *i* sS **sS 19 08 15.8 +7.7**
MNK *i* SS SS 19 11 29.9 +11
MNK *i* SSS SSS 19 13 59.8
MNK Minsk 57.84 321 *i* **P P 18 59 36.1 +1.0**
MNK *i* *PP **pP 19 00 00.7 +1.6**
MNK *i* 19 01 46.6
MNK *i* S **S 19 07 30.2 +3.1**
MNK pmax pmax
comp=Z,40nm,0.9s
WB0 Warramunga Arr 57.85 134 P P 18 59 35.7 0.0
BALB Balikesir 57.89 303 P P 18 59 36.1 +0.4
BALB IAmb IAmb 18 59 37.5
comp=Z,22nm,0.7s
GHRR 57.90 311 ⇑**P P 18 59 37.1 +1.4**
WRA Warramunga Arr 57.94 135 P P 18 59 36.4 +0.1
comp=Z,12nm,0.5s,baz=324,slow=7.4,SNR=302
WRA pP **pP 18 59 59.0 -1.2**
comp=Z,15nm,0.7s,baz=323,slow=7.5,SNR=6.8
WRA ScP **ScP 19 04 15.7 -3.1**
comp=Z,1.0nm,0.5s,baz=326,slow=4.6,SNR=5.0
comp=Z,12nm,0.5s
WRA Warramunga Arr 57.94 135 P P 18 59 35.8 -0.5
WRAB Tennant Creek 57.94 135 P P 18 59 36.5 +0.3
WRAB IAmb IAmb 18 59 37.6
comp=Z,18nm,0.6s
WRAB Tennant Creek 57.94 135 P P 18 59 36.6 +0.3
WRAB Tennant Creek 57.94 135 *ce* **P P 18 59 36.3 +0.1**
WRAB pmax pmax
comp=Z,42nm,2.5s
WRAB Tennant Creek 57.94 135 P P 18 59 36.4 +0.1
WRAB pP **pP 18 59 58.5 -1.8**
WRAB sP **sP 19 00 09.1 -1.9**
WB2 Warramunga Arr 57.94 135 P P 18 59 36.2 -0.1
WB2 IAmb IAmb 18 59 37.3
comp=Z,18nm,0.7s
ARG Arkhangelos 58.04 299 P P 18 59 38.9 +2.0
ARG Arkhangelos 58.04 299 P P 18 59 38.9 +2.0
ARG pmax pmax
comp=Z,81nm,1.3s
WR0 Warramunga Arr 58.08 135 P P 18 59 37.4 +0.2
WR0 IAmb IAmb 18 59 38.5
comp=Z,17nm,0.6s
ODBI Odobesti 58.15 310 ⇓**P P 18 59 39.5 +2.0**
WRKA Warakurna 58.15 144 P P 18 59 38.4 +0.7
VRI Vrincioaia 58.38 311 ⇓**P P 18 59 41.1 +1.9**
VRI Vrincioaia 58.38 311 P P 18 59 41.0 +1.9
BISRR Bisoca 58.40 310 ⇑**P P 18 59 41.3 +2.0**
TESR Tescani 58.41 311 ⇑**P P 18 59 39.9 +0.6**
PLOR Plostina 58.43 311 ⇑**P P 18 59 41.2 +1.6**
PLOR Plostina 58.43 311 P P 18 59 41.1 +1.6
NACGM Naroch 58.51 321 *eP* **P 18 59 40.7 +0.9**
comp=Z,46nm,0.8s,baz=94
ISR Istrita 58.53 310 ⇓**P P 18 59 42.3 +2.1**
ISR Istrita 58.53 310 P P 18 59 42.3 +2.1
IDID Didziasalis 58.56 322 *eP* **P 18 59 37.2 -3.0**
COVR Voineasa-Covas 58.74 311 ⇑**P P 18 59 42.8 +1.1**
MUN Mundaring 58.75 158 P P 18 59 41.8 +0.1
VSU Vasula 58.84 325 *eP* **P 18 59 42.1 +0.1**
IIGN Ignalina 58.86 322 *eP* **P 18 59 40.3 -1.9**
KARP Karpathos 58.90 299 P P 18 59 43.4 +0.4
ISAL Salakas 58.93 322 *eP* **P 18 59 43.0 +0.3**
MLR Muntele Rosu 58.94 310 P P 18 59 44.7 +1.6
comp=Z,65nm,0.8s,baz=258,slow=1.4,SNR=64
MLR LR LR 19 30 16.3
comp=Z,233nm,18.8s,baz=68,slow=41
MLR Muntele Rosu 58.94 310 ⇑**P P 18 59 45.1 +2.0**
MLR Muntele Rosu 58.94 310 P P 18 59 43.8 +0.6
MLR Muntele Rosu 58.94 310 P P 18 59 45.1 +2.0
OZUR 59.03 311 ⇑**P P 18 59 44.6 +1.0**
ALN Alexandroupoli 59.18 305 P P 18 59 45.0 +0.3
ALN Alexandroupoli 59.18 305 P P 18 59 45.0 +0.3
ALN pmax pmax
comp=Z,25nm,0.8s
DOPR Dopca 59.31 311 ⇑**P P 18 59 46.5 +1.0**
BURAR Bucovina Array 59.36 313 ⇑**P P 18 59 46.8 +0.8**
BURAR Bucovina Array 59.36 313 P P 18 59 46.2 +0.2
BURAR IAmb IAmb 18 59 47.4
comp=Z,6.8nm,0.7s
BURAR Bucovina Array 59.36 313 P P 18 59 46.8 +0.8
BUR08 Bucovina Ar. S 59.37 313 P P 18 59 46.0 -0.1
FIA1 FINESS Array S 59.52 329 P P 18 59 46.7 +0.1
FIA0 FINESS Array S 59.52 329 P P 18 59 45.8 -0.8
FIA0 FINESS Array S 59.52 329 P P 18 59 45.8 -0.8
FINES FINESS Array B 59.52 329 P P 18 59 47.0 +0.3
comp=Z,18nm,0.5s,baz=103,slow=6.7,SNR=52
FINES pP **pP 19 00 11.0 +0.3**
comp=Z,5.2nm,0.5s,baz=134,slow=14,SNR=2.6
FINES LR LR 19 26 57.5
comp=Z,173nm,19.2s,baz=32,slow=37
comp=Z,18nm,0.5s
FINES FINESS Array B 59.52 329 P P 18 59 47.0 +0.3
FINES *PP **pP 19 00 11.0 +0.3**
RDO Rodhopi 59.54 305 P P 18 59 47.7 +0.6
RDO IAmb IAmb 18 59 48.9
comp=Z,27nm,1.2s
VOIR 59.57 310 ⇑**P P 18 59 47.7 +0.3**
VOIR 59.57 310 P P 18 59 47.7 +0.3
MTUR Matau 59.58 310 ⇑**P P 18 59 48.9 +1.4**
MTUR Matau 59.58 310 P P 18 59 48.9 +1.4
HUMR Humele 59.68 309 ⇑**P P 18 59 48.9 +0.9**
VADS Vadso 59.89 339 *eP* **P 18 59 49.7 +0.7**
VADS IAmb IAmb 18 59 50.9
comp=Z,28nm,0.5s
NWAO Narrogin (SRO) 59.97 158 P P 18 59 49.7 -0.4
NWAO IAmb IAmb 19 00 33.4
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 59.97 158 P P 18 59 49.5 -0.5
NWAO IAmb IAmb 19 00 33.4
comp=Z,20nm,1.2s
NWAO Narrogin (SRO) 59.97 158 P P 18 59 49.9 -0.1
NWAO Narrogin (SRO) 59.97 158 P P 18 59 50.0 -0.1
NWAO Narrogin (SRO) 59.97 158 P P 18 59 49.6 -0.5
NWAO pmax pmax
comp=Z,19nm,1.2s
NWAO Narrogin (SRO) 59.97 158 P P 18 59 49.6 -0.5
NWAO Narrogin (SRO) 59.97 158 P P 18 59 49.5 -0.5
NWAO pP **pP 19 00 12.0 -2.1**
ARCR ARCALIA 59.97 312 ⇑**P P 18 59 51.8 +1.8**
LVV L'vov 60.09 315 *eP* **P 18 59 51.2 +0.4**
PABE Paberze 60.15 322 P P 18 59 51.4 +0.3
PABE Paberze 60.15 322 *eP* **P 18 59 52.2 +1.1**
SANT Santorini 60.16 300 P P 18 59 51.3 -0.2
VSVD Vaisvydziai 60.19 322 *eP* **P 18 59 52.2 +0.8**
MEF Metsahovi 60.21 327 *eP* **P 18 59 51.9 +0.5**
KMBL Kambalda 60.35 153 P P 18 59 52.8 +0.1
AS31 Alice Springs 60.37 138 P P 18 59 53.1 0.0
AS31 IAmb IAmb 18 59 55.0
comp=Z,5.6nm,0.5s
ASAR Alice Springs 60.37 138 P P 18 59 53.4 +0.4
comp=Z,13nm,0.4s,baz=320,slow=6.8,SNR=345
ASAR pP **pP 19 00 16.1 -1.0**
comp=Z,9.1nm,0.5s,baz=318,slow=6.9,SNR=5.2
comp=Z,13nm,0.4s
ASAR Alice Springs 60.37 138 P P 18 59 52.7 -0.3
ASAR Alice Springs 60.37 138 P P 18 59 52.7 -0.3
LODK Lodwar 60.38 260 P P 18 59 53.5 +0.1
LODK IAmb IAmb 18 59 55.9
comp=Z,8.5nm,0.8s
LODK Lodwar 60.38 260 P P 18 59 55.0 +1.5
MTSE Matsula 60.39 325 *eP* **P 18 59 53.2 +0.6**
LOT Lotru 60.47 310 ⇑**P P 18 59 54.1 +0.5**
CJR Cluj-Napoca 60.51 312 ⇑**P P 18 59 55.3 +1.6**
CJR Cluj-Napoca 60.51 312 P P 18 59 55.3 +1.6
KEV Kevo 60.59 338 P P 18 59 54.6 +0.8
KEV Kevo 60.59 338 P P 18 59 54.6 +0.8
KEV Kevo 60.59 338 P P 18 59 54.5 +0.7
KMBO Kilima Mbogo 60.68 255 P P 18 59 54.8 -0.9
comp=Z,6.1nm,0.7s,baz=51,slow=12,SNR=17
KMBO LR LR 19 28 06.6
comp=Z,55nm,18.6s,baz=88,slow=38
comp=Z,6.1nm,0.7s
KMBO Kilima Mbogo 60.68 255 P P 18 59 55.3 -0.3
KMBO Kilima Mbogo 60.68 255 P P 18 59 56.8 +1.2
KMBO Kilima Mbogo 60.68 255 P P 18 59 56.4 +0.8
IDI Anoyia 60.78 299 P P 18 59 56.0 +0.2
comp=Z,12nm,0.5s,baz=31,slow=12,SNR=22
comp=Z,12nm,0.5s
MARR Marisel-Cluj 60.84 312 ⇑**P P 18 59 57.1 +1.0**
PMG Port Moresby 60.89 116 P P 18 59 56.3 -0.4
PMG IAmb IAmb 19 00 32.5
comp=Z,15nm,0.8s
PMG Port Moresby 60.89 116 P P 18 59 57.6 +0.9
PMG Port Moresby 60.89 116 P P 18 59 56.3 -0.4
PMG pmax pmax
comp=Z,15nm,0.9s
PMG Port Moresby 60.89 116 P P 18 59 57.2 +0.5
PMG pP **pP 19 00 19.5 -1.4**
ARA0 ARCESS Array S 61.05 338 *eP* **P 18 59 57.8 +0.8**
ARA0 IAmb IAmb 18 59 58.8
comp=Z,20nm,0.6s
ARCES ARCESS Array B 61.05 338 P P 18 59 58.0 +0.9
comp=Z,12nm,0.4s,baz=94,slow=7.9,SNR=123
ARCES LR LR 19 29 20.8
comp=Z,228nm,18.9s,baz=116,slow=39
comp=Z,12nm,0.4s
ARCES ARCESS Array B 61.05 338 P P 18 59 57.8 +0.8
ARCES ARCESS Array B 61.05 338 P P 18 59 58.0 +0.9
VTS Vitosha 61.10 307 ⇑**P P 18 59 59.3 +1.3**
VTS Vitosha 61.10 307 P P 18 59 57.4 -0.6
VTS IAmb IAmb 18 59 59.9

comp=Z,16nm,1.0s
VTS Vitosha 61.10 307 P **P** **18 59 59.3 +1.3**
TRPA Tarpa 61.14 313 ⇓P **P** **18 59 58.9 +1.0**
GZR Gura Zlata 61.17 310 ⇑P **P** **18 59 59.3 +1.0**
UZH Uzhgorod 61.27 314 ⇓⇓P **P** **18 59 59.8 +1.0**
HERR Herculane 61.47 310 ⇑P **P** **19 00 00.6 +0.4**
RAF Rauma 61.56 328 *eP* **P** **18 59 59.3 -1.2**
SURR Surduc 61.60 311 ⇑P **P** **19 00 02.2 +1.1**
KTK1 Kautokeino 61.76 337 *eP* **P** **19 00 02.3 +0.6**
KTK1 IAmb IAmb 19 00 03.0
comp=Z,43nm,0.5s
BILL Bilibino 61.81 24 P **P** **19 00 00.3 -1.8**
BILL Bilibino 61.81 24⇓ *eP* **P** **19 00 01.0 -1.1**
BILL *i* *PP **pP** **19 00 27.5 +1.2**
BILL *SP **sP** **19 00 36.0 -1.0**
BILL *e* 19 00 43.0
BILL S **S** **19 08 19.0 +1.4**
BILL *SS **pS** **19 08 46.0 +0.7**
BILL SSS SSS 19 15 09.0
BILL pmax pmax
comp=Z,13nm,2.1s
HAMF Hammerfest 61.87 339 *eP* **P** **19 00 03.5 +1.0**
HAMF IAmb IAmb 19 00 04.3
comp=Z,75nm,0.4s
SIRR Siria 61.88 311 ⇓P **P** **19 00 04.4 +1.4**
QIS Mount Isa 61.91 131 P **P** **19 00 04.3 +0.8**
STHS Stebnicka Huta 61.92 315 *eP* **P** **19 00 03.0 -0.2**
STHS pmax pmax
comp=Z,5.0nm,0.6s
STHS Stebnicka Huta 61.92 315 *eP* **P** **19 00 03.0 -0.2**
LIT Litokhoron 61.96 304 P **P** **19 00 03.7 0.0**
LIT IAmb IAmb 19 00 04.4
comp=Z,21nm,0.9s
LIT Litokhoron 61.96 304 P **P** **19 00 03.7 0.0**
LIT pmax pmax
comp=Z,21nm,0.9s
BZS Buzias 61.97 311 ⇑P **P** **19 00 03.8 +0.2**
BZS Buzias 61.97 311 P **P** **19 00 03.7 +0.2**
MDVR Moldovita 61.98 310 ⇑P **P** **19 00 04.8 +1.1**
BEL Belsk 62.07 318 *eP* **P** **19 00 04.6 +0.5**
ABPO Ambohimpanom 62.42 232 P **P** **19 00 06.7 -0.4**
ABPO IAmb IAmb 19 00 34.7
comp=Z,28nm,1.2s
ABPO Ambohimpanom 62.42 232 P **P** **19 00 06.7 -0.4**
ABPO pmax pmax
comp=Z,28nm,1.2s
ABPO Ambohimpanom 62.42 232 P **P** **19 00 07.5 +0.4**
ABPO pP **pP** **19 00 32.3 +1.0**
NIE Niedzica 62.53 315 *eP* **P** **19 00 08.8 +1.4**
FORT Forrest 62.66 148 P **P** **19 00 08.7 +0.4**
FORT IAmb IAmb 19 01 35.8
comp=Z,26nm,1.1s
FORT Forrest 62.66 148 P **P** **19 00 09.2 +0.9**
FNA Florina 62.71 305 P **P** **19 00 07.9 -0.8**
FNA Florina 62.71 305 P **P** **19 00 07.9 -0.8**
FNA pmax pmax
comp=Z,6.0nm,0.6s
OJC Ojcow 62.80 316 P **P** **19 00 09.0 0.0**
OJC Ojcow 62.80 316 P **P** **19 00 09.0 0.0**
OJC pmax pmax
comp=Z,11nm,1.0s
JETT Jettan, Norway 62.83 338 *eP* **P** **19 00 09.6 +0.7**
JETT IAmb IAmb 19 00 10.6
comp=Z,49nm,0.5s
ITM Ithomi 62.84 301 P **P** **19 00 08.7 -0.9**
ITM IAmb IAmb 19 00 24.6
comp=Z,58nm,1.5s
LANS Liptovska Anna 63.10 315 *eP* **P** **19 00 13.3 +2.2**
LANS Liptovska Anna 63.10 315 *eP* **P** **19 00 13.3 +2.2**
DIVS Divibare 63.28 309 P **P** **19 00 12.4 0.0**
DIVS IAmb IAmb 19 00 14.1
comp=Z,20nm,1.1s
TRO Tromso 63.35 338 *eP* **P** **19 00 12.8 +0.5**
TRO IAmb IAmb 19 00 13.5
comp=Z,47nm,0.6s
VYHS Vyhne 63.58 314 *eP* **P** **19 00 14.9 +0.7**
VYHS pmax pmax
comp=Z,13nm,1.5s
VYHS Vyhne 63.58 314 *eP* **P** **19 00 14.9 +0.7**
OKC Ostrava-Krasne 63.89 316 *eP* **P** **19 00 17.0 +0.8**
OKC Ostrava-Krasne 63.89 316 *eP* **P** **19 00 17.0 +0.8**
MORC Moravsky Berou 64.29 315 P **P** **19 00 18.7 -0.2**
MORC Moravsky Berou 64.29 315 *eP* **P** **19 00 19.9 +1.0**
MORC Moravsky Berou 64.29 315 P **P** **19 00 18.7 -0.2**
MORC pmax pmax
comp=Z,11nm,1.0s
JAVC Velka Javorina 64.30 314 *eP* **P** **19 00 20.7 +1.7**
OOD Oodnadatta 64.49 140 P **P** **19 00 21.0 +0.6**
FAUS Fauske 64.59 335 *eP* **P** **19 00 20.7 +0.2**
FAUS IAmb IAmb 19 00 21.4
comp=Z,15nm,0.4s
VOI Vohitsoka 64.61 229 P **P** **19 00 21.3 -0.1**
STEI Steigen 64.61 336 *eP* **P** **19 00 20.9 +0.3**
MODS Modra-Piesok 64.62 314 *eP* **P** **19 00 22.6 +1.5**
MODS Modra-Piesok 64.62 314 *eP* **P** **19 00 22.6 +1.5**
MOR8 Moi Rana 64.93 334 *eP* **P** **19 00 22.2 -0.6**
MOR8 IAmb IAmb 19 00 23.1
comp=Z,36nm,0.7s
SPA0 Spitsbergen Ar 64.93 347 *eP* **P** **19 00 23.3 +0.8**
SPITS Spitsbergen Ar 64.93 347 P **P** **19 00 22.9 +0.3**
comp=Z,6.1nm,0.5s,baz=99,slow=10,SNR=17
comp=Z,6.1nm,0.5s
VRAC Vranov 64.95 315 P **P** **19 00 24.7 +1.5**
comp=Z,15nm,0.8s,baz=82,slow=7.8,SNR=16
VRAC pP **pP** **19 00 46.5 -1.1**
comp=Z,6.4nm,0.7s,baz=96,slow=7.5,SNR=3.0
VRAC LR LR 19 30 21.3
comp=Z,116nm,18.2s,baz=72,slow=37
comp=Z,15nm,0.8s
VRAC Vranov 64.95 315 *eP* **P** **19 00 24.5 +1.3**
HSPB Hornsund (broa 64.99 346 *eP* **P** **19 00 23.8 +0.8**
HSPB IAmb IAmb 19 00 24.7
comp=Z,17nm,0.6s
DPC Dobruska-Polom 65.00 316 *eP* **P** **19 00 24.2 +0.7**
DPC Dobruska-Polom 65.00 316 *eP* **P** **19 00 24.2 +0.7**
OSTC Ostas 65.05 316 *eP* **P** **19 00 24.5 +0.7**
KRUC Moravsky 65.11 315 *eP* **P** **19 00 24.8 +0.6**
LOF Lofoten 65.25 336 *eP* **P** **19 00 24.5 -0.2**
LOF IAmb IAmb 19 00 25.3
comp=Z,66nm,0.5s
RONA Rosalia, Austr 65.36 313 *i* P **P** **19 00 26.3 +0.4**
comp=Z,2.8nm,0.5s,SNR=4.8
MULG Mulgathing 65.42 143 P **P** **19 00 26.5 +0.1**
KONS Konsvik 65.45 334 *eP* **P** **19 00 26.2 +0.1**
HFS Hagfors 65.55 327 P **P** **19 00 27.0 +0.2**
comp=Z,48nm,0.5s,baz=104,slow=6.3,SNR=130
comp=Z,48nm,0.5s
HFS Hagfors 65.55 327 P **P** **19 00 27.0 +0.2**
CONA Conrad Observa 65.62 314 *eP* **P** **19 00 28.4 +0.8**
comp=Z,12nm,1.2s,SNR=4.9
KBS Kingsbay 65.87 348 *e* **P** **19 00 28.7 +0.1**
ARSA Arzberg 65.95 313 *eP* **P** **19 00 30.1 +0.4**
comp=Z,5.1nm,0.7s
NSS Namsos 66.03 332 *eP* **P** **19 00 30.1 +0.3**
PRU Pruhonice 66.19 316 *eP* **P** **19 00 32.0 +0.9**
PRU Pruhonice 66.19 316 *eP* **P** **19 00 32.0 +0.9**
MBAR Mbarara 66.27 258 LR LR 19 32 10.9
comp=Z,89nm,18.1s,baz=68,slow=38
MBAR Mbarara 66.27 258 P **P** **19 00 30.8 -1.6**
MBAR Mbarara 66.27 258*c* *iP* **P** **19 00 32.7 +0.3**
MBAR pmax pmax
comp=Z,10.0nm,0.8s
MBAR Mbarara 66.27 258 P **P** **19 00 33.9 +1.5**
MBAR Mbarara 66.27 258 P **P** **19 00 33.6 +1.2**
MBAR pP **pP** **19 00 58.2 +1.3**
PERS Pernice 66.32 312 *i* P **P** **19 00 32.5 +0.5**
SOKA Soboth 66.37 312 *eP* **P** **19 00 32.8 +0.3**
comp=Z,3.9nm,0.5s,SNR=6.4
CTAO Charters Tower 66.38 126 P **P** **19 00 33.3 +0.6**
CTAO pP **pP** **19 00 57.2 0.0**
NC405 NORSAR Array S 66.44 328 P **P** **19 00 31.4 -1.1**
BRG Berggiesshubel 66.44 317 *i* P **P** **19 00 33.5 +0.8**
BRG Amp 19 00 34.4
comp=Z,14nm,0.7s
BRG Berggiesshubel 66.44 317 *i* P **P** **19 00 33.4 +0.8**
BRG 19 00 59.2
BRG pmax pmax
comp=Z,14nm,0.7s
BRG pmax pmax
comp=Z,16nm,1.2s
PDKS Podkum 66.49 312 *i* P **P** **19 00 34.1 +0.9**
CKRC Cesky Krumlov 66.51 315 *eP* **P** **19 00 35.2 +2.0**
NC602 NORSAR Array S 66.56 328 *eP* **P** **19 00 33.6 +0.4**
NC602 IAmb IAmb 19 00 34.1
comp=Z,32nm,0.6s
NORES NORESS Array B 66.56 328 P **P** **19 00 33.4 +0.1**
NORES pmax pmax
comp=Z,1.0nm,0.5s
NC303 NORSAR Array S 66.59 328 P **P** **19 00 33.4 -0.1**
NB2 NORSAR Subarra 66.69 328 P **P** **19 00 33.3 -0.8**
comp=Z,12nm,0.6s,baz=84,slow=6.5
NB2 NORSAR Subarra 66.69 328 P **P** **19 00 33.3 -0.8**
slow=6.5
NOA NORSAR Array B 66.69 328 P **P** **19 00 33.8 -0.3**
comp=Z,12nm,0.5s,baz=85,slow=6.3,SNR=46
NOA pP **pP** **19 00 59.8 +1.1**
comp=Z,1.8nm,0.6s,baz=90,slow=6.0,SNR=2.5
comp=Z,12nm,0.5s
MOA Molln 66.69 314 *eP* **P** **19 00 34.7 +0.3**
comp=Z,8.8nm,0.5s,SNR=12
OBKA Obir 66.72 312 *eP* **P** **19 00 35.6 +0.9**
comp=Z,14nm,1.2s
NC204 NORSAR Array S 66.88 329 P **P** **19 00 34.8 -0.5**
GBAS Gorenja Brezov 66.90 312 *i* P **P** **19 00 36.4 +0.6**
GEC2 GERESS Array S 66.90 315 P **P** **19 00 35.5 -0.3**
GERES GERESS Array B 66.90 315 P **P** **19 00 36.4 +0.6**
comp=Z,8.1nm,0.6s,baz=70,slow=6.7,SNR=25
GERES PKPPKP P'P'df 19 29 16.4 +11
comp=Z,0.5nm,0.7s,baz=244,slow=3.8,SNR=1.7
GERES LR LR 19 36 23.3
comp=Z,121nm,18.8s,baz=4.5,slow=42
comp=Z,8.1nm,0.6s
GERES GERESS Array B 66.90 315 P **P** **19 00 35.3 -0.5**
KHC Kasperske Hory 66.94 315 *eP* **P** **19 00 36.0 +0.1**
KHC Kasperske Hory 66.94 315 *eP* **P** **19 00 36.0 +0.1**
CLL Collm 66.96 318 *eP* **P** **19 00 37.0 +1.0**
CLL Collm 66.96 318 *eP* **P** **19 00 37.0 +1.0**
OSL Oslo 67.05 327 *eP* **P** **19 00 37.1 +0.8**
OSL IAmb IAmb 19 00 37.7
comp=Z,68nm,0.5s
BIOA Bad Ischl, Aus 67.14 314 *eP* **P** **19 00 37.6 +0.3**
comp=Z,4.0nm,0.5s
MYKA Terra Mystica 67.32 312 *eP* **P** **19 00 38.8 +0.4**
comp=Z,3.0nm,0.7s
KBA Koelnbreinsper 67.44 313 *eP* **P** **19 00 39.3 0.0**
comp=Z,6.5nm,0.5s,SNR=7.5
INKA Innaminka 67.57 136 P **P** **19 00 41.2 +1.1**
DOMB Dombas 67.59 329 *eP* **P** **19 00 40.3 +0.5**
LCRK Leigh Creek 67.94 140 P **P** **19 00 42.9 +0.6**
ABTA Abfaltersbach 68.06 313 *i* P **P** **19 00 42.9 -0.2**
comp=Z,3.0nm,0.6s
CIMO Cimolais 68.20 312 P **P** **19 00 43.5 -0.4**
CIMO IAmb IAmb 19 00 44.6
comp=Z,26nm,1.4s
HOMB Homborsund 68.42 325 *eP* **P** **19 00 46.2 +1.2**
NRCA Norcia 68.43 309 P **P** **19 00 44.9 -0.6**
BBOO Buckleboo 68.45 143 P **P** **19 00 44.5 -1.0**
BBOO IAmb IAmb 19 01 09.2
comp=Z,20nm,0.8s
BBOO Buckleboo 68.45 143 P **P** **19 00 45.6 +0.1**
WTTA Wattenberg 68.55 313 *eP* **P** **19 00 45.6 -0.7**
comp=Z,5.9nm,0.5s,SNR=7.5
WATA Walderalm 68.58 314 *eP* **P** **19 00 46.2 -0.2**
comp=Z,2.8nm,0.6s
SQTA Sankt Quirin 68.84 313 *i* P **P** **19 00 47.7 -0.4**
comp=Z,7.6nm,0.4s,SNR=10
MOTA Moosalm 68.89 314 *eP* **P** **19 00 48.3 -0.1**
comp=Z,5.3nm,0.6s
SNART Snartemo 69.09 326 *eP* **P** **19 00 49.9 +0.8**
RETA Reutte 69.09 314 *i* P **P** **19 00 49.6 +0.1**
comp=Z,1.5nm,0.2s
ODD1 Odda 69.09 327 *eP* **P** **19 00 50.0 +0.7**
FETA Feichten 69.21 313 *eP* **P** **19 00 49.9 -0.4**
comp=Z,2.9nm,0.5s,SNR=8.1
BLS5 Blasjo 69.27 327 *eP* **P** **19 00 50.9 +0.5**
WHYH Whyalla 69.46 142 P **P** **19 00 52.3 +0.6**
FUORN Ofenpass-Fuorn 69.60 313 P **P** **19 00 52.2 -0.7**
DAVA Damuels 69.72 314 *eP* **P** **19 00 53.2 -0.2**
comp=Z,4.1nm,0.5s
PTPS Port Pirie 69.80 142 P **P** **19 00 54.8 +1.0**
DAVOX Davos/Dischmat 69.83 313 P **P** **19 00 54.1 -0.1**
comp=Z,7.4nm,0.5s,baz=82,slow=2.3,SNR=22
DAVOX LR LR 19 34 42.0
comp=Z,198nm,18.2s,baz=82,slow=38
comp=Z,7.4nm,0.5s
BFO Black Forest 70.50 315 P **P** **19 00 58.2 +0.2**
HTT Hallett 70.52 142 P **P** **19 00 58.8 +0.5**
STKA Stephens Creek 70.98 139 P **P** **19 01 01.1 0.0**
comp=Z,4.8nm,0.4s,baz=312,slow=3.4,SNR=20
STKA pP **pP** **19 01 24.1 -1.6**
comp=Z,4.7nm,0.5s,baz=322,slow=18,SNR=4.4
comp=Z,4.8nm,0.4s
STKA Stephens Creek 70.98 139 P **P** **19 01 00.8 -0.3**
STKA Stephens Creek 70.98 139 P **P** **19 01 01.3 +0.2**
CDF Champ du Feu 71.16 315 *eP* **P** **19 01 02.1 -0.1**
CDF pmax pmax
comp=Z,9.0nm,0.7s
ECH Echery 71.29 315 P **P** **19 01 03.0 +0.1**
ECH sP **sP** **19 01 39.0 +0.7**
BTNL Ternell 71.36 318 *dP* **P** **19 01 03.4 +0.2**
PGF Pioggiola 71.44 309 *eP* **P** **19 01 04.0 0.0**
PGF pmax pmax
comp=Z,58nm,1.5s
WLF Walferdange 71.57 317 P **P** **19 01 04.3 -0.2**
WLF IAmb IAmb 19 01 06.9
comp=Z,28nm,0.9s
WLF Walferdange 71.57 317 P **P** **19 01 04.3 -0.2**
WLF pmax pmax
comp=Z,28nm,0.9s
WLF Walferdange 71.57 317 *dP* **P** **19 01 06.0 +1.5**
HINF Hinteralfeld 71.58 315 *eP* **P** **19 01 04.7 0.0**
HINF pmax pmax
comp=Z,8.0nm,1.2s
HAU Haudompre 71.86 315 *eP* **P** **19 01 06.3 0.0**
HAU pmax pmax
comp=Z,10.0nm,0.9s
RMQ Roma 72.12 130 P **P** **19 01 09.9 +1.8**
LPL La Plagne 72.25 312 *eP* **P** **19 01 09.3 +0.4**
LPL pmax pmax
comp=Z,12nm,0.5s
BMRD Maredsous 72.28 318 *dP* **P** **19 01 09.0 +0.3**
CABF La Chapelle 72.40 314 *eP* **P** **19 01 09.8 +0.2**
CABF pmax pmax
comp=Z,6.0nm,0.6s
BNI Bardonecchia 72.42 312 P **P** **19 01 09.1 -0.7**
BNI IAmb IAmb 19 01 11.1
comp=Z,35nm,1.6s
BNI Bardonecchia 72.42 312 P **P** **19 01 09.1 -0.7**
BNI pmax pmax
comp=Z,35nm,1.6s
DOU Dourbes 72.44 318 *dP* **P** **19 01 09.5 -0.1**
MBDF Montbardon 72.44 312 *eP* **P** **19 01 09.8 -0.2**
MBDF pmax pmax
comp=Z,10.0nm,0.7s
BAIF Baives 72.69 318 *eP* **P** **19 01 11.5 +0.4**
BAIF pmax pmax
comp=Z,44nm,1.5s
ORIF Oris-en-Rattie 73.00 312 *eP* **P** **19 01 13.6 +0.4**
ORIF pmax pmax
comp=Z,4.0nm,0.6s
KEST Kesra 73.03 302 P **P** **19 01 14.6 +1.0**
comp=Z,14nm,0.8s,baz=6.2,slow=1.7,SNR=28
comp=Z,14nm,0.8s
KEST Kesra 73.03 302 P **P** **19 01 14.5 +1.0**
EIDS Eidsvold 73.11 128 P **P** **19 01 14.8 +0.9**
CMSA Cobar Meteorol 73.30 136 P **P** **19 01 15.7 +0.8**
LOR Lormes 73.69 315 *eP* **P** **19 01 16.8 -0.3**
LOR pmax pmax
comp=Z,72nm,2.6s
VIVF Saint-Julien-l 73.84 312 *eP* **P** **19 01 18.1 0.0**
VIVF pmax pmax
comp=Z,6.0nm,0.7s
SMF Signal de Mont 73.88 314 *eP* **P** **19 01 18.1 -0.1**
SMF pmax pmax
comp=Z,7.0nm,0.5s
SSF Saint Saulge 73.98 315 *eP* **P** **19 01 18.8 0.0**
SSF pmax pmax
comp=Z,10.0nm,0.8s
AVF Avril sur Loir 74.16 314 *eP* **P** **19 01 19.7 -0.1**
AVF pmax pmax
comp=Z,12nm,0.9s
BGF Bois d'Agland 74.56 314 *eP* **P** **19 01 22.2 0.0**
BGF pmax pmax
comp=Z,4.0nm,0.6s
ARPS Mount Arapiles 74.58 142 P **P** **19 01 22.9 +0.7**
TCF Toulx Ste Croi 75.06 314 *eP* **P** **19 01 25.5 +0.4**
TCF pmax pmax
comp=Z,9.0nm,0.7s
EKA Eskdalemuir Ar 75.37 324 LR LR 19 37 49.0
comp=Z,204nm,19.8s,baz=24,slow=38
EKA Eskdalemuir Ar 75.37 324 P **P** **19 01 26.8 +0.2**
CAF Calviac 75.58 313 *eP* **P** **19 01 28.6 +0.5**
CAF pmax pmax
comp=Z,4.0nm,0.7s
LDF La Druitiere 75.83 317 *eP* **P** **19 01 29.4 0.0**
LDF pmax pmax
comp=Z,17nm,1.1s
RJF Les Rejaudoux 75.83 313 *eP* **P** **19 01 30.2 +0.7**
RJF pmax pmax
comp=Z,9.0nm,0.7s
MTLF Montolieu 75.98 311 *eP* **P** **19 01 30.6 +0.2**
MTLF pmax pmax
comp=Z,43nm,1.5s
GRR Gorron 76.36 317 *eP* **P** **19 01 32.5 +0.1**
GRR pmax pmax
comp=Z,7.0nm,0.6s
LFF La Frestale 76.47 313 *eP* **P** **19 01 33.7 +0.6**
LFF pmax pmax
comp=Z,9.0nm,0.6s
MFF Saint Martin d 76.50 315 *eP* **P** **19 01 33.4 +0.2**
MFF pmax pmax
comp=Z,10.0nm,1.0s
F21K Alatna River 76.83 22 P **P** **19 01 34.6 -0.2**
baz=299
EUNU Eureka 76.86 0 P **P** **19 01 35.4 +0.7**
D23K Nanushuk River 76.86 20 P **P** **19 01 35.3 +0.5**
baz=301
F22K John River 77.13 21 P **P** **19 01 36.4 0.0**
baz=300
G21K Allakaket 77.16 22 P **P** **19 01 37.0 +0.4**
baz=299
TOO Toolangi 77.22 141 P **P** **19 01 38.6 +1.3**
SGMF Saint Gilles 77.47 317 *eP* **P** **19 01 39.0 +0.4**
SGMF pmax pmax
comp=Z,9.0nm,0.6s
E23K Chandalar 77.67 20 P **P** **19 01 39.3 -0.3**
baz=302
H21K Melozitna Rive 77.83 23 P **P** **19 01 40.5 +0.1**
baz=300
CAN Canberra 77.86 137 P **P** **19 01 41.7 +0.8**
ROSF Rostrenen 77.89 317 *eP* **P** **19 01 41.3 +0.4**
ROSF pmax pmax
comp=Z,13nm,0.6s
D25K Kavik River 77.96 18 P **P** **19 01 41.3 +0.3**
baz=305
QUIF Quistinic 77.97 317 *eP* **P** **19 01 41.6 +0.2**
QUIF pmax pmax
comp=Z,67nm,1.9s
E24K Your Creek 78.02 20 P **P** **19 01 41.7 +0.3**
baz=303
C26K Camden Bay 78.03 18 P **P** **19 01 42.4 +1.0**
baz=306
ETSF Etsaut 78.05 312 *eP* **P** **19 01 42.6 +0.5**
ETSF pmax pmax
comp=Z,5.0nm,0.5s
CNB Canberra Magne 78.08 137 P **P** **19 01 42.7 +0.5**
NTLH Newcastle Hard 78.09 134 P **P** **19 01 43.3 +1.1**
comp=Z,75nm,1.0s
SJPF Ste Jean 78.43 312 *eP* **P** **19 01 45.3 +1.2**
SJPF pmax pmax
comp=Z,33nm,1.6s
C27K Jago River 78.54 18 P **P** **19 01 44.8 +0.6**
baz=307
H23K Yukon River 78.90 22 P **P** **19 01 46.6 +0.3**
baz=303
MLY Manley 78.90 23 P **P** **19 01 45.4 -0.9**
G24K Hadweenzic Riv 79.11 21 P **P** **19 01 47.7 +0.3**
baz=304
F25K Christian Rive 79.19 20 P **P** **19 01 48.5 +0.7**
baz=306
CAST Castle Rocks 79.24 25 P **P** **19 01 47.4 -0.7**
CAST Castle Rocks 79.24 25 P **P** **19 01 48.6 +0.5**
baz=301
BPAW Bear Paw Mtn. 79.30 24 P **P** **19 01 47.9 -0.5**
BPAW Bear Paw Mtn. 79.30 24 P **P** **19 01 49.2 +0.7**
baz=302
I23K Minto, Yukon-K 79.33 23 P **P** **19 01 48.2 -0.4**
I23K Minto, Yukon-K 79.33 23 P **P** **19 01 49.6 +1.0**
baz=303
PPLA Purkeypile 79.47 25 P **P** **19 01 48.4 -1.1**
PPLA IAmb IAmb 19 02 12.0
comp=Z,54nm,2.0s
N19K Bonanza Creek 79.57 28 IAmb IAmb 19 03 00.6
comp=Z,40nm,2.0s
F26K Sheenjek River 79.59 19 P **P** **19 01 50.4 +0.5**
baz=307
M20K Styx River 79.61 26 P **P** **19 01 49.8 -0.4**
M20K IAmb IAmb 19 02 39.4
comp=Z,30nm,1.6s
M20K Styx River 79.61 26 P **P** **19 01 51.4 +1.1**
baz=300
O18K Koktuh Hills 79.72 29 IAmb IAmb 19 02 41.3
comp=Z,77nm,1.9s
NEA2 Nenana 79.74 23 P **P** **19 01 50.2 -0.6**
NEA2 Nenana 79.74 23 P **P** **19 01 51.3 +0.5**
baz=303
POKR Poker Plat Res 80.03 22 P **P** **19 01 53.2 +0.8**
baz=305
G26K Porcupine Rive 80.15 20 P **P** **19 01 53.8 +0.9**
baz=308
SKT Skwentna 80.20 26 P **P** **19 01 51.2 -2.2**
SKT IAmb IAmb 19 02 24.4
comp=Z,47nm,1.9s
MCK McKinley 80.27 24 P **P** **19 01 52.5 -1.2**
MCK McKinley 80.27 24 P **P** **19 01 52.5 -1.2**
MCK pmax pmax
comp=Z,28nm,1.8s
SPU Mount Spurr 80.41 27 P **P** **19 01 54.3 -0.2**
ILAR Eielson Array 80.42 22 P **P** **19 01 52.9 -1.5**
comp=Z,1.9nm,0.5s,baz=280,slow=4.9,SNR=24
ILAR pP **pP** **19 02 20.4 +0.8**
comp=Z,1.2nm,0.6s,baz=296,slow=4.6,SNR=3.3
ILAR LR LR 19 40 54.7
comp=Z,58nm,18.0s,baz=298,slow=38
comp=Z,1.9nm,0.5s
SUA Susitna One 80.80 26 P **P** **19 01 55.5 -1.1**
SUA IAmb IAmb 19 03 24.0
comp=Z,34nm,1.6s
G27K Doyon Strip 80.90 19 P **P** **19 01 57.7 +0.7**
baz=309
A36M Sachs Harbour 81.16 12 IAmb IAmb 19 02 30.9
comp=Z,25nm,0.7s
A36M Sachs Harbour 81.16 12 P **P** **19 01 58.7 +0.5**
baz=324
DHY Denali Highway 81.22 24 P **P** **19 01 58.1 -0.8**
H27K Steamboat Moun 81.31 20 P **P** **19 01 59.6 +0.3**
baz=310
K24K Donnelly Dome 81.38 23 P **P** **19 01 59.4 -0.2**
baz=306
ESDC Sonseca Array 81.63 310 P **P** **19 02 01.3 -0.1**
comp=Z,1.4nm,0.5s,baz=49,slow=4.1,SNR=17
comp=Z,1.4nm,0.5s
BRLK Bradley Lake 81.65 28 P **P** **19 01 59.1 -2.0**
BRLK IAmb IAmb 19 02 49.0
comp=Z,75nm,1.8s
I27K Kandik River 81.68 20 P **P** **19 02 02.0 +0.8**
baz=310
J26L Joseph Creek 81.73 22 P **P** **19 02 01.4 -0.1**
baz=308
RIDG Independent Ri 81.75 23 P **P** **19 02 00.7 -0.9**
RIDG Independent Ri 81.75 23 P **P** **19 02 01.6 0.0**
baz=307
SCRK Sand Creek 81.91 22 P **P** **19 02 01.4 -1.1**
SCRK IAmb IAmb 19 02 55.8
comp=Z,30nm,1.8s
SCRK Sand Creek 81.91 22 P **P** **19 02 02.9 +0.4**
baz=308
KDAK Kodiak Island 81.94 30 P **P** **19 02 01.2 -1.4**
comp=Z,5.1nm,0.5s,baz=21,slow=2.7,SNR=13
KDAK LR LR 19 40 03.3
comp=Z,91nm,18.9s,baz=239,slow=37
comp=Z,5.1nm,0.5s
RES Resolute Bay 82.07 3 P **P** **19 02 02.4 -0.6**
comp=Z,3.7nm,0.5s,baz=3.0,slow=3.5,SNR=13
RES LR LR 19 41 46.1
comp=Z,34nm,19.5s,baz=16,slow=38
comp=Z,3.7nm,0.5s
INK Inuvik 82.17 16 P **P** **19 02 02.2 -1.4**
comp=Z,3.6nm,0.5s,baz=340,slow=5.9,SNR=37
comp=Z,3.6nm,0.5s
INK Inuvik 82.17 16 P **P** **19 02 04.3 +0.7**
baz=316
LBTB Lobatse 82.24 239 LR LR 19 36 22.6
comp=Z,51nm,20.6s,baz=92,slow=34
LBTB Lobatse 82.24 239 P **P** **19 02 04.1 -0.7**

LBTB					IAmb	IAmb	19 02 33.2		
	comp=Z,21nm,0.8s								
LBTB	**Lobatse**	**82.24**	**239**		P	**P**	**19 02 04.1**	**-0.7**	
LBTB					pmax	pmax			
	comp=Z,21nm,0.9s								
G30M	**tAoh Zraii Nji**	**82.38**	**18**		P	**P**	**19 02 04.4**	**-0.5**	
	baz=314								
MENT	**Mentasta**	**82.64**	**23**		P	**P**	**19 02 06.2**	**0.0**	
EPYK	**Eagle Plains**	**82.67**	**18**		P	**P**	**19 02 06.5**	**+0.2**	
	baz=314								
KLU	**Klutina**	**82.69**	**25**		P	**P**	**19 02 06.5**	**-0.1**	
KLU					IAmb	IAmb	19 03 08.5		
	comp=Z,30nm,1.4s								
KLU	**Klutina**	**82.69**	**25**		P	**P**	**19 02 06.7**	**+0.1**	
	baz=306								
L26K	**Log Cabin Wild**	**82.72**	**23**		P	**P**	**19 02 07.0**	**+0.3**	
	baz=308								
N25K	**Chitina, Valde**	**83.13**	**24**		IAmb	IAmb	19 02 48.9		
	comp=Z,33nm,1.7s								
N25K	**Chitina, Valde**	**83.13**	**24**		P	**P**	**19 02 09.8**	**+0.9**	
	baz=307								
DAWY	**Dawson**	**83.41**	**21**		P	**P**	**19 02 11.1**	**+0.9**	
	baz=312								
BMRM	**Bremner River**	**83.52**	**25**		P	**P**	**19 02 10.6**	**-0.2**	
BMRM					IAmb	IAmb	19 02 48.6		
	comp=Z,18nm,0.8s								
C36M	**Paulatuk**	**83.54**	**13**		IAmb	IAmb	19 02 11.3		
	comp=Z,21nm,0.5s								
C36M	**Paulatuk**	**83.54**	**13**		P	**P**	**19 02 10.2**	**-0.4**	
	baz=325								
PMRV	**Marv??o**	**84.15**	**310**	*e*P		**P**	**19 02 15.4**	**+1.0**	
K29M	**Barlow Dome**	**84.17**	**21**	P		**P**	**19 02 14.8**	**+0.7**	
	baz=313								
BOSA	**Boshof**	**84.31**	**236**		P	**P**	**19 02 15.7**	**+0.3**	
	comp=Z,15nm,0.6s,baz=61,slow=3.2,SNR=39								
BOSA					LR	LR	19 40 59.8		
	comp=Z,45nm,18.9s,baz=155,slow=36								
	comp=Z,15nm,0.6s								
BOSA	**Boshof**	**84.31**	**236**		P	**P**	**19 02 14.9**	**-0.5**	
BOSA					IAmb	IAmb	19 02 43.2		
	comp=Z,21nm,0.8s								
PBAR	**Barrancos**	**84.43**	**309**	*e*P		**P**	**19 02 16.9**	**+1.1**	
BARN	**Barnard Glacie**	**84.58**	**24**	P		**P**	**19 02 16.9**	**+0.5**	
BARN					IAmb	IAmb	19 02 41.4		
	comp=Z,10nm,0.4s								
M29M	**Somme Creek**	**84.81**	**22**	P		**P**	**19 02 19.2**	**+1.8**	
	baz=313								
MDT	**Midelt**	**84.86**	**303**	P		**P**	**19 02 19.9**	**+1.6**	
	comp=Z,1.9nm,0.6s,baz=85,slow=4.8,SNR=7.2								
	comp=Z,1.9nm,0.6s								
EVO	**Evora**	**84.97**	**310**	*e*P		**P**	**19 02 19.8**	**+1.3**	
PNCL	**Nicolau / Gran**	**85.52**	**310**	*e*P		**P**	**19 02 22.7**	**+1.4**	
PFVI	**Vila Bisbo**	**86.16**	**309**	*e*P		**P**	**19 02 25.9**	**+1.4**	
SFJD	**Kangerlussuaq**	**86.27**	**347**	P		**P**	**19 02 24.6**	**+0.3**	
	comp=Z,6.0nm,0.5s,baz=115,slow=2.4,SNR=12								
SFJD					LR	LR	19 47 28.2		
	comp=Z,30nm,18.5s,baz=40,slow=40								
	comp=Z,6.0nm,0.5s								
TORD	**Torodi Ar. Bea**	**87.42**	**283**	P		**P**	**19 02 31.8**	**+0.9**	
	comp=Z,6.3nm,0.7s,baz=65,slow=4.2,SNR=42								
TORD					pP	**pP**	**19 02 56.8**	**+0.2**	
	comp=Z,1.8nm,0.7s,baz=68,slow=4.8,SNR=2.7								
TORD					PP	**PP**	**19 05 54.0**	**-2.6**	
	comp=Z,2.0nm,1.0s,baz=72,slow=7.8,SNR=4.3								
	comp=Z,6.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**87.42**	**283**	P		**P**	**19 02 31.7**	**+0.7**	
SUR	**Sutherland**	**89.48**	**234**	LR		LR	19 42 53.1		
	comp=Z,58nm,18.9s,baz=58,slow=36								
YKA	**Yellowknife Ar**	**91.42**	**13**	P		**P**	**19 02 47.5**	**-1.3**	
	comp=Z,0.3nm,0.4s,baz=342,slow=4.6,SNR=7.6								
YKA					PKKPbc	**PKKPbc**	**19 20 08.6**	**-2.2**	
	comp=Z,0.2nm,0.7s,baz=180,slow=2.0,SNR=4.0								
	comp=Z,0.3nm,0.4s								
FRB	**Frobisher Bay**	**92.24**	**353**	LR		LR	19 47 30.4		
	comp=Z,51nm,20.1s,baz=226,slow=38								
DBIC	**Dimbokro**	**95.92**	**280**	P		**P**	**19 03 11.2**	**+0.8**	
	comp=Z,2.5nm,0.5s,baz=81,slow=5.3,SNR=9.6								
	comp=Z,2.5nm,0.5s								
PDAR	**Pinedale Array**	**110.63**	**19**	PKiKP		**PKiKP**	**19 08 15.0**	**-0.6**	
	comp=Z,0.3nm,0.4s,baz=13,slow=1.2,SNR=2.6								
KAN08	**Anthony NE Sta**	**118.67**	**11**			**PKPdf**	**19 08 28.8**	**-2.1**	
OK032	**Salt Plains WL**	**119.04**	**12**			**PKPdf**	**19 08 30.3**	**-1.3**	
JCT	**Junction City**	**124.80**	**15**			**PKPdf**	**19 08 42.5**	**-0.4**	
JCT	**Junction City**	**124.80**	**15**	PKIKP		**PKPdf**	**19 08 42.5**	**-0.4**	
TX32	**Lajitas Array**	**124.84**	**19**	PKPdf		**PKPdf**	**19 08 43.1**	**0.0**	
TXAR	**Lajitas Array**	**124.84**	**19**	PKP		**PKiKP**	**19 08 43.6**	**+0.2**	
	comp=Z,1.0nm,0.5s,baz=131,slow=0.2,SNR=22								
PMSA	**Palmer Station**	**136.22**	**193**	*e*P		**PKiKP**	**19 09 05.4**	**+0.5**	
GUA01	**Guaratinga, BA**	**136.66**	**270**	*e*P		**PKiKP**	**19 09 07.3**	**0.0**	
PRPB	**Parauapebas**	**141.68**	**291**	*e*P		**PKiKP**	**19 09 17.3**	**-0.4**	
PARB	**Paraibuna**	**143.46**	**262**	*e*P		**PKPdf**	**19 09 17.3**	**-0.4**	
BDFB	**Brasilia**	**143.93**	**275**	PKP		**PKPdf**	**19 09 17.8**	**-1.0**	
	comp=Z,6.8nm,0.9s,baz=73,slow=7.4,SNR=10								
BDFB	**Brasilia**	**143.93**	**275**	*e*P		**PKPdf**	**19 09 20.0**	**+1.1**	
VAO	**Valinhos**	**144.63**	**263**	*e*P		**PKPdf**	**19 09 20.2**	**+0.4**	
IPMB	**Ipameri, GO**	**144.77**	**272**	*e*P		PKPbc	19 09 19.4	0.0	
SDV	**Santo Domingo**	**144.87**	**334**	*e*P		**PKPab**	**19 09 19.1**	**-0.8**	
RCLB	**Rio Claro- Sao**	**145.06**	**264**	*e*P		**PKPab**	**19 09 20.2**	**0.0**	
PET01	**Itanhaem-SP**	**145.08**	**261**	*e*P		**PKPab**	**19 09 20.2**	**0.0**	
SPB	**Sao Paulo**	**145.14**	**262**	*e*P		**PKPdf**	**19 09 21.4**	**+0.9**	
SJC	**San Jacinto, C**	**145.52**	**292**	*e*P		**PKPab**	**19 09 22.4**	**+0.4**	
ITTB	**Itaituba**	**145.65**	**299**	*e*P		**PKPab**	**19 09 23.5**	**+0.8**	
NPGB	**Novo Progresso**	**146.84**	**294**	*e*P		**PKPdf**	**19 09 24.3**	**+0.5**	
HDC	**Heredia**	**146.89**	**357**	*e*P		**PKPdf**	**19 09 24.6**	**+0.6**	
FRTB	**Fartura**	**147.05**	**263**	*e*P		**PKPbc**	**19 09 25.5**	**-0.6**	
PAMC	**Pamplona, Colo**	**147.08**	**336**	*e*P		**PKPbc**	**19 09 26.2**	**-0.7**	
ITRB	**Iturama**	**147.16**	**269**	*e*P		**PKPdf**	**19 09 24.3**	**+0.2**	
ARAG	**Araguaiana, MT**	**147.42**	**277**	*e*P		**PKPdf**	**19 09 25.2**	**+0.6**	
UREC	**San Jos de Ur**	**147.65**	**341**	*e*P		**PKPbc**	**19 09 27.5**	**-0.5**	
ZARC	**Zaragoza, Cauc**	**147.68**	**340**	*e*P		**PKPbc**	**19 09 28.2**	**+0.1**	
APAC	**Apartado, Choc**	**147.80**	**343**	*e*P		**PKiKP**	**19 09 30.1**	**-0.2**	
PCMB	**Pacaembu**	**148.35**	**266**	*e*P		**PKPdf**	**19 09 27.2**	**+1.2**	
PTBC	**PUERTO BERRIO**	**148.45**	**339**	*e*P		**PKPbc**	**19 09 29.8**	**-0.3**	
DBBC	**Dabeiba**	**148.54**	**342**	*e*P		**PKiKP**	**19 09 32.3**	**+0.4**	
RUSC	**La Rusia**	**148.56**	**336**			**PKPdf**	**19 09 28.3**	**+1.0**	
RUSC	**La Rusia**	**148.56**	**336**	*e*P		**PKPbc**	**19 09 30.8**	**-0.1**	
MACA	**Manacapuru-AM**	**148.74**	**306**			**PKPbc**	**19 09 29.4**	**-1.4**	
MACA	**Manacapuru-AM**	**148.74**	**306**	*e*P		**PKPdf**	**19 09 27.5**	**+0.6**	
CLDB	**Colider**	**149.11**	**289**	*e*P		**PKPdf**	**19 09 27.8**	**+0.3**	
CBOC	**Ciudad Bolivar**	**149.58**	**341**	*e*P		**PKiKP**	**19 09 33.9**	**-0.3**	
PTGC	**Puerto Gaitan,**	**149.72**	**333**	*e*P		**PKPbc**	**19 09 33.5**	**+0.2**	
TRCB	**Terra Rica**	**149.78**	**264**	*e*P		**PKPdf**	**19 09 29.6**	**+1.2**	
CHIC	**Chingaza**	**149.97**	**336**	*e*P		**PKPbc**	**19 09 34.4**	**0.0**	
GUY2C	**Guyana, Caldas**	**149.98**	**339**	*e*P		**PKPbc**	**19 09 34.6**	**+0.1**	
ROSC	**El Rosal**	**149.99**	**337**	PKPbc		**PKiKP**	**19 09 35.9**	**+0.6**	
	comp=Z,37nm,0.6s,baz=121,slow=8.5,SNR=12								
ROSC	**El Rosal**	**149.99**	**337**	*e*P		**PKiKP**	**19 09 36.9**	**+1.7**	
PDRB	**Porto dos Gac**	**150.26**	**288**	*e*P		**PKPdf**	**19 09 29.3**	**0.0**	
PLTB	**Pedras Altas**	**150.56**	**246**	*e*P		**PKPdf**	**19 09 30.2**	**+0.8**	
CPSB	**Cacapava Do Su**	**150.60**	**249**	*e*P		**PKPdf**	**19 09 31.0**	**+1.6**	
PP1B	**Ponte de Pedra**	**150.79**	**275**	*e*P		**PKPdf**	**19 09 29.9**	**-0.2**	
SGCB	**SZo Gabriel d**	**150.80**	**319**	*e*P		**PKPdf**	**19 09 31.6**	**+1.4**	
SALV	**Santo Antonio**	**151.01**	**279**	*e*P		**PKPdf**	**19 09 31.3**	**+0.9**	
ORTC	**Ortega, Tolima**	**151.17**	**336**	*e*P		**PKPbc**	**19 09 36.9**	**+0.2**	
YOTC	**Yotoco, Valle**	**151.46**	**341**	*e*P		**PKPbc**	**19 09 36.4**	**-1.2**	
AMBA	**Amambai (Brazi**	**151.96**	**265**	*e*P		**PKPdf**	**19 09 31.6**	**-0.1**	
RODS	**Rosario do Sul**	**152.11**	**249**	*e*P		**PKPdf**	**19 09 31.9**	**+0.2**	
AQDB	**Aquidauana**	**152.22**	**270**			**PKPbc**	**19 09 38.5**	**-0.4**	
AQDB	**Aquidauana**	**152.22**	**270**	*e*P		**PKPdf**	**19 09 33.6**	**+1.5**	
CPUP	**Villa Florida**	**154.27**	**257**	PKP		**PKPdf**	**19 09 35.9**	**+1.0**	
	comp=Z,3.9nm,0.8s,baz=80,slow=5.2,SNR=7.1								
CPUP					PKPbc	**PKPbc**	**19 09 42.8**	**-0.5**	
	comp=Z,4.7nm,0.6s,baz=120,slow=2.0,SNR=12								

IDC ***03*** *18:52:20.2s 1.3, 54°.35N × 1°.84E, h0km, mb3.8/4, mbtmp3.7/10, ML3.9/6, Error ellipse: s-maj=24.8km s-min=21.2km az=97.0*

DNK ***03*** *18:52:23.8s 2.3, 54°.77N × 2°.11E, h0km ± 65km, ML3.6, Probable volcanic*

UCC ***03*** *18:52:24.9s 0.6, 54°.35N × 1°.82E, h10km, ML3.9*

BER ***03*** *18:52:24.3s 1.8, 54°.49N × 1°.98E, h15km, ML3.0, ML3.8(BGS), Confirmed Earthquake*

BGS ***03*** *18:52:24.8s 0.6, 54°.44N × 1°.96E, h19km ± 11km, ML3.8*

BGR ***03*** *18:52:25.1s 0.4, 54°.45N × 2°.02E, h10km, ML4.2/18, Error ellipse: s-maj=5.6km s-min=4.4km az=175.0*

PRU ***03*** *18:52:25.4s 0.0, 55°.01N × 2°.95E, h0km*

LDG ***03*** *18:52:25.7s 0.1, 54°.43N × 1°.87E, h30km, Md4.0/3, Ml4.3/42, Error ellipse: s-maj=2.2km s-min=1.9km az=76.0*

NAO ***03*** *18:52:27.2s 3.8, 55°.10N × 1°.61E, ML2.9*

UPP ***03*** *18:52:30.2s 2.7, 54°.79N × 2°.81E, h0km, ML2.8*

BNS ***03*** *18:52:32.7s 0.5, 53°.83N × 2°.41E, h10km, ML3.4*

ISC 03 18:52:18.8s 0.5, 54°.44N ± 0°.03 × 2°.12E ± 0°.03, h10km, n348, σ3s 20/407, mb3.8/4, 19D, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GDLE	**Glaisdale, N Y**	**1.72**	**271**	*e*P		**Pg**	**18 52 51.5**	**-0.2**
GDLE					IAML		18 53 21.7	
	comp=E,2μm,0.4s							
GDLE					IAML		18 53 21.7	
	comp=N,3μm,0.3s							
GDLE	**Glaisdale, N Y**	**1.72**	**271**	*e*P		**Pg**	**18 52 51.5**	**-0.2**
GDLE					IAML		18 53 21.7	
	comp=E,2μm,0.4s							
GDLE					IAML		18 53 21.7	
	comp=N,3μm,0.3s							
GDLE	**Glaisdale, N Y**	**1.72**	**271**	*e*P		**Pg**	**18 52 51.5**	**-0.2**
GDLE				*e*S		**Sn**	**18 53 10.7**	**0.0**
GDLE	**Glaisdale, N Y**	**1.72**	**271**	*e*P		**Pg**	**18 52 51.5**	**-0.2**
GDLE				*e*S		**Sn**	**18 53 10.7**	**0.0**
LMK	**Market Rasen**	**1.75**	**237**	*e*P		**Pg**	**18 52 52.0**	**-0.4**
LMK					IAML		18 53 23.1	
	comp=E,1μm,0.3s							
LMK					IAML		18 53 30.1	
	comp=N,968nm,0.3s							
LMK	**Market Rasen**	**1.75**	**237**	*e*P		**Pg**	**18 52 52.0**	**-0.4**
LMK					IAML		18 53 23.1	
	comp=E,1μm,0.3s							
LMK					IAML		18 53 30.1	
	comp=N,968nm,0.3s							
LMK	**Market Rasen**	**1.75**	**237**	*e*P		**Pg**	**18 52 52.0**	**-0.4**
LMK					IAML		18 53 23.1	
	comp=E,1μm,0.3s							
WACR	**West Acre**	**1.94**	**208**	*e*P		**Pb**	**18 52 54.7**	**+0.5**
WACR				*e*S		**Sn**	**18 53 16.4**	**+0.3**
WACR					IAML		18 53 17.9	
	comp=N,897nm,0.2s							
WACR					IAML		18 53 23.5	
	comp=E,440nm,0.2s							
WACR	**West Acre**	**1.94**	**208**	*e*P		**Pb**	**18 52 54.7**	**+0.5**
WACR				*e*S		**Sn**	**18 53 16.4**	**+0.3**
WACR					IAML		18 53 17.9	
	comp=N,897nm,0.2s							
WACR					IAML		18 53 23.5	
	comp=E,440nm,0.2s							
WACR	**West Acre**	**1.94**	**208**	*e*P		**Pb**	**18 52 54.7**	**+0.5**
WACR				*e*S		**Sn**	**18 53 16.4**	**+0.3**
WACR					IAML		18 53 17.9	
	comp=N,897nm,0.2s							
WACR					IAML		18 53 23.8	
	comp=E,798nm,0.2s							
EDMD	**Edmundbyers**	**2.41**	**281**	*e*P		**Pb**	**18 53 00.6**	**-1.6**
EDMD					IAML		18 53 28.7	
	comp=N,670nm,0.2s							
EDMD					IAML		18 53 28.8	
	comp=E,798nm,0.2s							
EDMD	**Edmundbyers**	**2.41**	**281**	*e*P		**Pb**	**18 53 00.6**	**-1.6**
EDMD					IAML		18 53 28.7	
	comp=N,670nm,0.2s							
EDMD					IAML		18 53 28.8	
	comp=E,798nm,0.2s							
EDMD	**Edmundbyers**	**2.41**	**281**	*e*P		**Pb**	**18 53 01.0**	**-1.2**
EDMD				*e*S		**Sn**	**18 53 24.8**	**-2.9**
EDMD	**Edmundbyers**	**2.41**	**281**	*e*P		**Pb**	**18 53 01.0**	**-1.2**
EDMD				*e*S		**Sn**	**18 53 24.8**	**-2.9**
ELMS	**Elmsett, Ipswi**	**2.45**	**197**	*e*P		**Pb**	**18 53 02.0**	**-0.9**
ELMS					IAML		18 53 46.1	
	comp=N,682nm,0.3s							
ELMS					IAML		18 53 51.5	
	comp=E,971nm,0.5s							
ELMS	**Elmsett, Ipswi**	**2.45**	**197**	*e*P		**Pb**	**18 53 02.0**	**-0.9**
ELMS					IAML		18 53 46.1	
	comp=N,682nm,0.3s							
ELMS					IAML		18 53 51.5	
	comp=E,971nm,0.5s							
EKA	**Eskdalemuir Ar**	**3.18**	**288**	Pn		**Pn**	**18 53 11.2**	**+2.4**
EKA				Sn		**Sn**	**18 53 44.0**	**-2.7**
EKA	**Eskdalemuir Ar**	**3.18**	**288**	Pn		**Pn**	**18 53 10.9**	**+2.1**
	baz=107,slow=14							
EKA				Sn		**Sn**	**18 53 43.7**	**-3.0**
	baz=110,slow=26							
	comp=E,6.4nm,0.3s							
EKA	**Eskdalemuir Ar**	**3.18**	**288**	Pn		**Pn**	**18 53 11.2**	**+2.4**
EKA				Sn		**Sn**	**18 53 44.0**	**-2.7**
EKA	**Eskdalemuir Ar**	**3.18**	**288**	Pn		**Pn**	**18 53 11.2**	**+2.4**
EKA				Sn		**Sn**	**18 53 44.0**	**-2.7**
ESK	**Eskdalemuir**	**3.20**	**288**	*e*P		**Pn**	**18 53 11.4**	**+2.3**
ESK	**Eskdalemuir**	**3.20**	**288**	*e*P		**Pn**	**18 53 11.4**	**+2.3**
ESK	**Eskdalemuir**	**3.20**	**288**	*e*P		**Pn**	**18 53 11.4**	**+2.3**
ESK	**Eskdalemuir**	**3.20**	**288**	*e*P		**Pn**	**18 53 11.4**	**+2.3**
BZEV	**Zevekote**	**3.34**	**172**	*d*S		**Sn**	**18 53 51.9**	**+1.1**
EDI	**Edinburgh**	**3.38**	**298**	Pn		**Pn**	**18 53 14.9**	**+3.2**
EDI				Sn		**Sn**	**18 53 49.3**	**-2.5**
EDI	**Edinburgh**	**3.38**	**298**	*e*P		**Pn**	**18 53 14.7**	**+3.1**
EDI				*e*S		**Sn**	**18 53 50.1**	**-1.7**
EDI	**Edinburgh**	**3.38**	**298**	*e*P		**Pn**	**18 53 14.7**	**+3.1**
EDI				*e*S		**Sn**	**18 53 50.1**	**-1.7**
HLG	**Helgoland**	**3.39**	**92**	*e*Sn		**Sn**	**18 53 53.8**	**+2.0**
HLG	**Helgoland**	**3.39**	**92**	*e*Sn		**Sn**	**18 53 53.8**	**+2.0**
FOEL	**Foel Wylfa**	**3.53**	**246**	*e*P		**Pn**	**18 53 15.8**	**+2.2**
FOEL					IAML		18 54 27.2	
	comp=N,236nm,0.5s							
FOEL					IAML		18 54 28.4	
	comp=E,228nm,0.9s							
FOEL	**Foel Wylfa**	**3.53**	**246**	*e*P		**Pn**	**18 53 15.8**	**+2.2**
FOEL					IAML		18 54 27.2	
	comp=N,236nm,0.5s							
FOEL					IAML		18 54 28.4	
	comp=E,228nm,0.9s							
FOEL	**Foel Wylfa**	**3.53**	**246**	*e*P		**Pn**	**18 53 15.8**	**+2.2**
FOEL					IAML		18 54 27.2	
	comp=N,236nm,0.5s							
FOEL	**Foel Wylfa**	**3.53**	**246**	*e*P		**Pn**	**18 53 15.8**	**+2.2**
FOEL					IAML		18 54 27.2	
	comp=N,236nm,0.5s							
DRUM	**Mains of Drumt**	**3.60**	**315**	*e*P		**Pn**	**18 53 17.9**	**+3.3**
DRUM				*e*S		**Sn**	**18 53 55.0**	**-2.0**
DRUM	**Mains of Drumt**	**3.60**	**315**	*e*P		**Pn**	**18 53 17.9**	**+3.3**
DRUM				*e*S		**Sn**	**18 53 55.0**	**-2.0**
EDU	**Dundee**	**3.60**	**308**	*e*P		**Pn**	**18 53 17.4**	**+2.8**
EDU	**Dundee**	**3.60**	**308**	*e*P		**Pn**	**18 53 17.4**	**+2.8**
EDU	**Dundee**	**3.60**	**308**	*e*P		**Pn**	**18 53 17.4**	**+2.8**
OPLO	**Oploo**	**3.62**	**141**	*e*Pn		**Pb**	**18 53 20.2**	**-2.7**
OPLO	**Oploo**	**3.62**	**141**	*e*Pn		**Pb**	**18 53 20.2**	**-2.7**
BMOL	**Mol**	**3.70**	**150**	*d*P		**Pb**	**18 53 20.6**	**-3.6**
BMOL				*d*S		**Sn**	**18 54 00.2**	**+0.6**
STRD	**Stroud**	**3.71**	**226**	*e*P		**Pn**	**18 53 18.6**	**+2.4**
STRD					IAML		18 54 37.0	
	comp=N,253nm,0.5s							
STRD					IAML		18 54 39.5	
	comp=E,304nm,0.7s							
STRD	**Stroud**	**3.71**	**226**	*e*P		**Pn**	**18 53 18.6**	**+2.4**
STRD					IAML		18 54 37.0	
	comp=N,253nm,0.5s							
STRD					IAML		18 54 39.5	
	comp=E,304nm,0.7s							
STRD	**Stroud**	**3.71**	**226**	*e*P		**Pn**	**18 53 18.6**	**+2.4**
STRD					IAML		18 54 37.0	
	comp=N,253nm,0.5s							
NEWG	**New Galloway**	**3.74**	**283**	*e*P		**Pn**	**18 53 18.8**	**+2.3**
NEWG	**New Galloway**	**3.74**	**283**	*e*P		**Pn**	**18 53 18.8**	**+2.3**
NEWG	**New Galloway**	**3.74**	**283**	*e*P		**Pn**	**18 53 18.8**	**+2.3**
WTSB	**Winterswijk**	**3.75**	**130**	*e*Pn		**Pb**	**18 53 21.6**	**-3.4**
WTSB				*e*Sn		**Sn**	**18 54 02.0**	**+1.3**
WTSB	**Winterswijk**	**3.75**	**130**	*e*Pn		**Pb**	**18 53 21.6**	**-3.4**
WTSB				*e*Sn		**Sn**	**18 54 02.0**	**+1.3**
SWN1	**Swindon**	**3.77**	**221**	*e*P		**Pn**	**18 53 19.9**	**+2.9**
SWN1					IAML		18 54 40.1	
	comp=N,182nm,0.8s							
SWN1					IAML		18 54 45.6	
	comp=E,214nm,0.7s							
SWN1	**Swindon**	**3.77**	**221**	*e*P		**Pn**	**18 53 19.9**	**+2.9**
SWN1					IAML		18 54 40.1	
	comp=N,182nm,0.8s							
SWN1					IAML		18 54 45.6	
	comp=E,214nm,0.7s							
SWN1	**Swindon**	**3.77**	**221**	*e*P		**Pn**	**18 53 19.9**	**+2.9**
SWN1					IAML		18 54 40.1	
	comp=N,182nm,0.8s							
SWN1	**Swindon**	**3.77**	**221**	*e*P		**Pn**	**18 53 19.9**	**+2.9**
SWN1					IAML		18 54 40.1	
	comp=N,182nm,0.8s							
LLW	**Llanuwchllyn**	**3.79**	**247**	*e*P		**Pn**	**18 53 19.4**	**+2.1**
LLW	**Llanuwchllyn**	**3.79**	**247**	*e*P		**Pn**	**18 53 19.4**	**+2.1**
LLW	**Llanuwchllyn**	**3.79**	**247**	*e*P		**Pn**	**18 53 19.4**	**+2.1**
UCC	**Uccle**	**3.90**	**159**	*d*P		**Pn**	**18 53 23.0**	**+4.4**
IOMK	**Kirk Michael**	**3.92**	**270**	*e*P		**Pn**	**18 53 20.8**	**+1.8**
IOMK	**Kirk Michael**	**3.92**	**270**	*e*P		**Pn**	**18 53 20.8**	**+1.8**
IOMK	**Kirk Michael**	**3.92**	**270**	*e*P		**Pn**	**18 53 20.8**	**+1.8**
MCH1	**Michaelchurch**	**3.93**	**234**	*e*P		**Pn**	**18 53 21.4**	**+2.3**
MCH1					IAML		18 54 04.5	
	comp=E,232nm,0.2s							
MCH1					IAML		18 54 04.9	
	comp=N,281nm,0.2s							
MCH1	**Michaelchurch**	**3.93**	**234**	*e*P		**Pn**	**18 53 21.4**	**+2.3**
MCH1					IAML		18 54 04.5	
	comp=E,232nm,0.2s							
MCH1					IAML		18 54 04.9	
	comp=N,281nm,0.2s							
MCH1	**Michaelchurch**	**3.93**	**234**	*e*P		**Pn**	**18 53 21.4**	**+2.3**
MCH1					IAML		18 54 04.5	
	comp=E,232nm,0.2s							
MCH1	**Michaelchurch**	**3.93**	**234**	*e*P		**Pn**	**18 53 21.4**	**+2.3**
MCH1					IAML		18 54 04.5	
	comp=E,232nm,0.2s							
BSKQ	**Steenkerk**	**3.98**	**162**	*d*P		**Pn**	**18 53 23.7**	**+3.8**
IBBN	**Ibbenburen**	**4.00**	**120**	*e*Pn		**Pb**	**18 53 25.6**	**-3.6**
IBBN				*e*Sn		**Sn**	**18 54 08.2**	**+1.4**
IBBN	**Ibbenburen**	**4.00**	**120**	*e*Pn		**Pb**	**18 53 25.6**	**-3.6**
IBBN				*e*Sn		**Sn**	**18 54 08.2**	**+1.4**
IBBE	**Ibbenbueren Ea**	**4.02**	**120**	*e*Pn		**Pb**	**18 53 25.8**	**-3.8**
IBBE				*e*Sn		**Sn**	**18 54 08.9**	**+1.4**
IBBE	**Ibbenbueren Ea**	**4.02**	**120**	*e*Pn		**Pb**	**18 53 25.8**	**-3.8**
IBBE				*e*Sn		**Sn**	**18 54 08.9**	**+1.4**
WPS	**Cemaes, Angles**	**4.05**	**258**	*e*P		**Pn**	**18 53 23.2**	**+2.4**
WPS					IAML		18 54 09.6	
	comp=E,38nm,0.2s							
WPS					IAML		18 54 10.7	
	comp=N,50nm,0.3s							
WPS	**Cemaes, Angles**	**4.05**	**258**	*e*P		**Pn**	**18 53 23.2**	**+2.4**
WPS					IAML		18 54 09.6	
	comp=E,38nm,0.2s							
WPS					IAML		18 54 10.7	
	comp=N,50nm,0.3s							
WPS	**Cemaes, Angles**	**4.05**	**258**	*e*P		**Pn**	**18 53 23.2**	**+2.4**
WPS					IAML		18 54 09.6	
	comp=E,38nm,0.2s							
BRQR	**Ronquire**	**4.05**	**161**	*d*P		**Pn**	**18 53 24.3**	**+3.5**
BAVN	**Auguste-Victor**	**4.05**	**130**	*e*Pn		**Pb**	**18 53 26.2**	**-4.0**
BAVN	**Auguste-Victor**	**4.05**	**130**	*e*Pn		**Pb**	**18 53 26.2**	**-4.0**
RODG	**Roetgen-Dahlhe**	**4.12**	**142**	*e*Pn		**Pn**	**18 53 26.5**	**+4.8**
BBOU	**Bougnies**	**4.21**	**164**	*d*P		**Pn**	**18 53 27.1**	**+4.1**
BEBN	**Eben Emael**	**4.25**	**148**	*d*P		**Pn**	**18 53 27.8**	**+4.3**
BEBN				*d*S		**Sn**	**18 54 13.5**	**+0.

comp=E,57nm,0.2s
KPL Plockton 5.25 307 *e*P **Pn 18 53 39.9 +2.7**
KPL IAML 18 54 36.7
comp=N,45nm,0.2s
KPL IAML 18 54 38.0
comp=E,57nm,0.2s
KPL Plockton 5.25 307 *e*P **Pn 18 53 39.9 +2.7**
KPL *e*S **Sn 18 54 34.1 -3.6**
KPL IAML 18 54 36.7
comp=N,45nm,0.2s
KPL Plockton 5.25 307 *e*P **Pn 18 53 39.9 +2.7**
KPL *e*S **Sn 18 54 34.1 -3.6**
KPL IAML 18 54 36.7
comp=N,45nm,0.2s
BIGH Upper Bighouse 5.26 323 *e*P **Pn 18 53 40.0 +2.7**
BIGH *e*S **Sn 18 54 32.7 -5.2**
BIGH Upper Bighouse 5.26 323 *e*P **Pn 18 53 40.0 +2.7**
BIGH *e*S **Sn 18 54 32.7 -5.2**
KOE Koeppel 5.29 137 *e*Pn Pn 18 53 43.0 +5.2
BGG Burgeitz 5.31 141 *e*Pn **Pn 18 53 42.8 +4.7**
WLF Walferdange 5.39 151 *e*Pn **Pn 18 53 42.9 +3.7**
WLF *e*Sn **Sn 18 54 40.6 -0.7**
WLF Walferdange 5.39 151 *e*P **Pn 18 53 43.2 +4.0**
WLF Walferdange 5.39 151 *e*Pn **Pn 18 53 42.9 +3.7**
WLF *e*Sn **Sn 18 54 40.6 -0.7**
LINV Loch Inver, As 5.51 315 *e*P **Pn 18 53 43.1 +2.3**
LINV IAML 18 54 43.0
comp=E,24nm,0.2s
LINV IAML 18 54 45.3
comp=N,30nm,0.2s
LINV Loch Inver, As 5.51 315 *e*P **Pn 18 53 43.1 +2.3**
LINV IAML 18 54 43.0
comp=E,24nm,0.2s
LINV IAML 18 54 45.3
comp=N,30nm,0.2s
LINV Loch Inver, As 5.51 315 *e*P **Pn 18 53 43.1 +2.3**
LINV IAML 18 54 43.0
comp=E,24nm,0.2s
NAST IGS Nastaetten 5.52 138 *e*Pn Pn 18 53 46.5 +5.5
BLS5 Blasjo 5.53 24 *e*P **Pn 18 53 43.7 +2.6**
BLS5 *e*S **Sn 18 54 42.0 -2.7**
BLS5 IAML 18 54 47.6
comp=E,17nm,0.2s
BLS5 Blasjo 5.53 24 *e*P **Pn 18 53 43.7 +2.6**
BLS5 *e*S **Sn 18 54 42.0 -2.7**
BLS5 IAML 18 54 47.6
comp=Z,17nm,0.2s
GTTG Gottingen 5.55 118 *e*Pn Pn 18 53 46.8 +5.3
GTTG *e*Sn **Sn 18 54 45.3 0.0**
GTTG Gottingen 5.55 118 *e*Pn Pn 18 53 46.8 +5.3
GTTG *e*Sn **Sn 18 54 45.3 0.0**
CLZ Clausthal 5.61 114 *e*Pn Pn 18 53 47.6 +5.4
CLZ Clausthal 5.61 114 *e*Pn Pn 18 53 47.6 +5.4
ASSE Asse, Remlinge 5.63 111 *e*Pn Pn 18 53 47.6 +5.2
ASSE Asse, Remlinge 5.63 111 *e*Pn Pn 18 53 47.6 +5.2
TNS Taunus Mts 5.74 135 *e*Pn Pn 18 53 49.3 +5.3
TNS Taunus Mts 5.74 135 *e*Pn Pn 18 53 49.3 +5.3
FLTG Flechtingen 5.85 107 *e*Sn **Sn 18 54 51.3 -1.3**
FLTG Flechtingen 5.85 107 *e*Sn **Sn 18 54 51.3 -1.3**
LLD Lille Linde 5.89 77 *i*P Pn 18 53 51.8 +5.7
FLN La Foliniere 5.91 197 *e*Pn **Pn 18 53 47.7 +1.3**
baz=15
FLN *e*Sn **Sn 18 54 49.3 -4.9**
comp=Z,120nm,0.3s,baz=9.1
LRW Lerwick 5.98 344 Pn **Pn 18 53 49.5 +2.2**
LRW Sn **Sn 18 54 49.4 -6.4**
LRW Lerwick 5.98 344 *e*P **Pn 18 53 49.5 +2.2**
LRW *e*S **Sn 18 54 51.1 -4.6**
LRW Lerwick 5.98 344 *e*P **Pn 18 53 49.5 +2.2**
LRW *e*S **Sn 18 54 51.1 -4.6**
ODD1 Odda 6.01 22 Pn **Pn 18 53 50.6 +3.0**
ODD1 Odda 6.01 22 *e*P **Pn 18 53 50.5 +2.9**
ODD1 *e*S **Sn 18 54 53.5 -3.0**
ODD1 IAML 18 54 57.9
comp=Z,18nm,0.3s
ODD1 Odda 6.01 22 *e*P **Pn 18 53 50.5 +2.9**
ODD1 *e*S **Sn 18 54 53.5 -3.0**
ODD1 IAML 18 54 57.9
comp=Z,18nm,0.3s
VITZ Vitzeroda 6.01 123 *e*Sn **Sn 18 54 56.7 0.0**
VITZ Vitzeroda 6.01 123 *e*Sn **Sn 18 54 56.7 0.0**
LDF La Druitiere 6.02 194 *e*Pn **Pn 18 53 49.1 +1.2**
LDF *e*Sn **Sn 18 54 51.9 -4.9**
comp=Z,100nm,0.2s
COP Copenhagen 6.05 74 *i*P Pn 18 53 54.8 +6.5
COP *i*S **Sn 18 54 57.5 -0.1**
COP IAML 18 55 03.5
comp=Z,58nm,0.3s
SAVF Savonnieres en 6.13 161 *e*Pn **Pn 18 53 52.5 +3.2**
baz=339
SAVF *e*Sn **Sn 18 54 56.9 -2.5**
comp=Z,16nm,0.2s
POSS Possen 6.14 117 *e*Pn **Pn 18 53 54.2 +4.7**
POSS *e*Sn **Sn 18 54 59.4 -0.4**
POSS Possen 6.14 117 *e*Pn **Pn 18 53 54.2 +4.7**
POSS *e*Sn **Sn 18 54 59.4 -0.4**
BER Bergen 6.21 15 Pn **Pn 18 53 52.4 +2.0**
BER Sn **Sn 18 54 55.8 -5.4**
BER Bergen 6.21 15 *e*P **Pn 18 53 52.5 +2.2**
BER *e*S **Sn 18 54 56.6 -4.6**
BER IAML 18 55 03.7
comp=Z,24nm,0.3s
BER Bergen 6.21 15 *e*P **Pn 18 53 52.5 +2.2**
BER *e*S **Sn 18 54 56.6 -4.6**
BER IAML 18 55 03.7
comp=Z,24nm,0.3s
MEZF Maizieres J`vi 6.22 162 *e*Pn **Pn 18 53 53.6 +3.0**
baz=339
MEZF *e*Sn **Sn 18 54 58.9 -2.9**
comp=Z,34nm,0.3s,baz=341
LEWI Lewis, Hebride 6.23 310 *e*P **Pn 18 53 52.6 +2.0**
LEWI IAML 18 54 58.0
comp=N,35nm,0.2s
LEWI IAML 18 54 60.0
comp=E,33nm,0.7s
LEWI Lewis, Hebride 6.23 310 *e*P **Pn 18 53 52.6 +2.0**
LEWI IAML 18 54 58.0
comp=N,35nm,0.2s
LEWI Lewis, Hebride 6.23 310 *e*P **Pn 18 53 52.6 +2.0**
LEWI IAML 18 54 58.0
comp=N,35nm,0.2s
ONAU Onsala 6.25 58 P **Pn 18 53 54.8 +3.9**
ONAU S **Sn 18 55 00.4 -2.0**
ONAU Onsala 6.25 58 *i*P **Pn 18 53 54.3 +3.3**
ONAU P **Pn 18 53 54.8 +3.9**
ONAU S **Sn 18 55 00.4 -2.0**
ONAU *i*S **Sn 18 55 01.8 -0.6**
HROE Hohe Rhon--Fla 6.28 125 *e*Pn Pn 18 53 56.6 +5.2
HROE *e*Sn **Sn 18 55 02.5 -0.5**
HROE Hohe Rhon--Fla 6.28 125 *e*Pn Pn 18 53 56.6 +5.2
HROE *e*Sn **Sn 18 55 02.5 -0.5**
ASK Askoy 6.28 14 *e*P **Pn 18 53 53.3 +1.9**
ASK *e*S **Sn 18 54 58.5 -4.5**
ASK IAML 18 55 05.6
comp=Z,25nm,0.4s
ASK Askoy 6.28 14 *e*P **Pn 18 53 53.3 +1.9**
ASK *e*S **Sn 18 54 58.5 -4.5**
ASK IAML 18 55 05.6
comp=Z,25nm,0.4s
PAGF Fort de Pagny 6.31 158 *e*Pn **Pn 18 53 55.2 +3.4**
baz=336
PAGF *e*Sn **Sn 18 55 01.6 -2.3**
comp=Z,15nm,0.1s,baz=328
GRR Gorron 6.34 198 *e*Pn **Pn 18 53 53.0 +0.7**
GRR *e*Sn **Sn 18 54 58.9 -5.8**
comp=Z,77nm,0.2s
WIMM Wimmelburg 6.38 113 *e*Pn Pn 18 53 58.5 +5.8
WIMM Wimmelburg 6.38 113 *e*Pn Pn 18 53 58.5 +5.8
MILB Miltenberg 6.39 133 *e*Pn Pn 18 53 58.8 +5.9
MILB *e*Sn **Sn 18 55 07.1 +1.3**
MILB Miltenberg 6.39 133 *e*Pn Pn 18 53 58.8 +5.9
MILB *e*Sn **Sn 18 55 07.1 +1.3**
TJOU Tjoern 6.40 52 P **Pn 18 53 56.7 +3.7**
TJOU S **Sn 18 55 03.8 -2.3**
TJOU Tjoern 6.40 52 *i*P **Pn 18 53 56.2 +3.2**
TJOU P **Pn 18 53 56.7 +3.7**
TJOU S **Sn 18 55 03.8 -2.3**
BJUU Bjuv 6.44 71 P **Pn 18 53 57.7 +4.1**
BJUU S **Sn 18 55 04.9 -2.2**
BJUU Bjuv 6.44 71 P **Pn 18 53 57.7 +4.1**
BJUU *i*P Pn 18 53 59.7 +6.1
BJUU S **Sn 18 55 04.9 -2.2**
BJUU *i*S **Sn 18 55 05.8 -1.3**
SFTF Sexfontaines 6.51 163 *e*Pn **Pn 18 53 57.3 +2.7**
baz=340
SFTF *e*Sn **Sn 18 55 05.5 -3.3**
comp=Z,39nm,0.1s
FABU Falkenberg 6.51 63 P **Pn 18 53 58.9 +4.3**
FABU S **Sn 18 55 06.8 -2.1**
FABU Falkenberg 6.51 63 *i*P **Pn 18 53 58.2 +3.7**
FABU P **Pn 18 53 58.9 +4.3**
FABU S **Sn 18 55 06.8 -2.1**
FABU *i*S **Sn 18 55 08.4 -0.5**
CRUX Bergwerk Schwa 6.54 122 *e*Pn Pn 18 53 59.9 +4.9
CRUX Bergwerk Schwa 6.54 122 *e*Pn Pn 18 53 59.9 +4.9
LUNU Lund 6.62 75 P **Pn 18 54 00.2 +4.1**
LUNU S **Sn 18 55 09.8 -1.7**
LUNU Lund 6.62 75 *i*P **Pn 18 53 59.0 +3.0**
LUNU P **Pn 18 54 00.2 +4.1**
LUNU S **Sn 18 55 09.8 -1.7**
KONO Kongsberg 6.62 35 *e*P **Pn 18 53 59.3 +3.2**
KONO *e*S **Sn 18 55 07.9 -3.6**
KONO Kongsberg 6.62 35 *e*P **Pn 18 53 59.3 +3.2**
KONO *e*S **Sn 18 55 07.9 -3.6**
MUHB Muldenstein 6.76 110 *e*Sn **Sn 18 55 14.0 -1.0**
MUHB Muldenstein 6.76 110 *e*Sn **Sn 18 55 14.0 -1.0**
BORU Boraas 6.77 57 P **Pn 18 54 01.8 +3.7**
BORU Boraas 6.77 57 P **Pn 18 54 01.8 +3.7**
STRU Stroemstad 6.78 44 P **Pn 18 54 01.6 +3.4**
STRU S **Sn 18 55 11.6 -3.8**
STRU Stroemstad 6.78 44 *i*P **Pn 18 54 01.2 +3.0**
STRU P **Pn 18 54 01.6 +3.4**
STRU S **Sn 18 55 11.6 -3.8**
STRU *i*S **Sn 18 55 12.0 -3.4**
CDF Champ du Feu 6.84 150 *e*Pn **Pn 18 54 02.5 +3.3**
CDF *e*Sn **Sn 18 55 15.1 -2.1**
comp=Z,13nm,0.4s
VANU Vaenersborg 6.84 50 P **Pn 18 54 02.4 +3.3**
VANU Vaenersborg 6.84 50 P **Pn 18 54 02.4 +3.3**
SGMF Saint Gilles 6.85 207 *e*Pn **Pn 18 54 00.0 +0.7**
SGMF *e*Sn **Sn 18 55 10.6 -6.7**
comp=Z,49nm,0.2s
HWTS Hohenwarte Tal 6.88 120 *e*Pn Pn 18 54 05.7 +5.9
HWTS *e*Sn **Sn 18 55 18.9 +0.8**
HWTS Hohenwarte Tal 6.88 120 *e*Pn Pn 18 54 05.7 +5.9
HWTS *e*Sn **Sn 18 55 18.9 +0.8**
MOX Moxa 6.93 119 *e*Pn Pn 18 54 06.2 +5.9
MOX Moxa 6.93 119 *e*Pn Pn 18 54 06.2 +5.9
HAU Haudompre 6.97 156 *e*Pn **Pn 18 54 04.0 +3.1**
HAU *e*Sn **Sn 18 55 17.0 -3.2**
comp=Z,13nm,0.2s
ROSF Rostrenen 6.98 211 *e*Pn **Pn 18 54 01.9 +0.8**
ROSF *e*Sn **Sn 18 55 14.3 -6.1**
comp=Z,72nm,0.3s
DEL Delary 6.99 68 P **Pn 18 54 05.5 +4.4**
DEL Delary 6.99 68 P **Pn 18 54 05.5 +4.4**
DEL *i*P Pn 18 54 06.2 +5.1
DEL *i*S **Sn 18 55 20.0 -0.4**
GNOU Gnosjoe 7.14 62 P **Pn 18 54 07.6 +4.4**
GNOU Gnosjoe 7.14 62 P **Pn 18 54 07.6 +4.4**
HYF Humbligny 7.19 177 *e*Pn **Pn 18 54 06.9 +3.0**
HYF *e*Sn **Sn 18 55 20.5 -5.1**
MODW Modelwitz 7.20 115 *e*Pn Pn 18 54 09.2 +5.2
MODW Modelwitz 7.20 115 *e*Pn Pn 18 54 09.2 +5.2
LOR Lormes 7.27 171 *e*Pn **Pn 18 54 07.3 +2.3**
baz=349
LOR *e*Sn **Sn 18 55 22.3 -5.2**
comp=Z,28nm,0.2s,baz=349
HINF Hinteralfeld 7.27 154 *e*Pn **Pn 18 54 08.3 +3.2**
HINF *e*Sn **Sn 18 55 24.6 -3.0**
comp=Z,7.4nm,0.2s
CLL Collm 7.29 111 *i*Pn Pb 18 54 17.3 -8.1
comp=Z,19nm,0.5s
CLL *e*x x 18 54 26.0
CLL *e*Sn **Sn 18 55 30.0 +1.9**
CLL *e*x x 18 55 38.0
PLN Plauen 7.30 119 *e*Pn Pn 18 54 10.4 +5.0
PLN Plauen 7.30 119 *e*Pn Pn 18 54 10.4 +5.0
SCHF Schoenfels 7.31 117 *e*Pn Pn 18 54 10.9 +5.3
SCHF Schoenfels 7.31 117 *e*Pn Pn 18 54 10.9 +5.3
QUIF Quistinic 7.33 209 *e*Pn **Pn 18 54 06.3 +0.5**
QUIF *e*Sn **Sn 18 55 22.1 -6.8**
comp=Z,41nm,0.2s
TRIB Obertriebel 7.37 120 *e*Pn Pn 18 54 11.5 +5.1
TRIB Obertriebel 7.37 120 *e*Pn Pn 18 54 11.5 +5.1
WERD Werda 7.40 119 *e*Pn Pn 18 54 11.9 +5.1
WERD Werda 7.40 119 *e*Pn Pn 18 54 11.9 +5.1
BSD Bornholm Skovb 7.43 80 *i*P **Pn 18 54 11.1 +3.9**
BSD *i*S **Sn 18 55 30.2 -1.2**
BSD IAML 18 55 33.3
comp=Z,22nm,0.4s
BSD Bornholm Skovb 7.43 80 *e*Sn **Sn 18 55 29.7 -1.7**
BSD Bornholm Skovb 7.43 80 *e*Sn **Sn 18 55 29.7 -1.7**
SSF Saint Saulge 7.44 173 *e*Pn **Pn 18 54 09.3 +1.9**
SSF *e*Sn **Sn 18 55 27.2 -4.6**
comp=Z,26nm,0.3s
FKPU Falk 7.45 55 P **Pn 18 54 11.6 +4.2**
FKPU Falk 7.45 55 P **Pn 18 54 11.6 +4.2**
GUNZ Gunzen 7.46 119 *e*Pn Pn 18 54 12.9 +5.2
GUNZ Gunzen 7.46 119 *e*Pn Pn 18 54 12.9 +5.2
WERN Wernitzgruen 7.53 119 *e*Pn Pn 18 54 13.7 +5.1
WERN Wernitzgruen 7.53 119 *e*Pn Pn 18 54 13.7 +5.1
ROHR Rohrbach 7.53 120 *e*Pn Pn 18 54 13.9 +5.2
ROHR Rohrbach 7.53 120 *e*Pn Pn 18 54 13.9 +5.2
FINU Finntorp 7.54 45 P **Pn 18 54 12.2 +3.6**
FINU Finntorp 7.54 45 P **Pn 18 54 12.2 +3.6**
NASU Vaermlandsnaes 7.57 49 P **Pn 18 54 11.9 +2.9**
NASU Vaermlandsnaes 7.57 49 P **Pn 18 54 11.9 +2.9**
NKC Novy Kostel 7.60 119 *e*PN Pn 18 54 16.4 +6.9
AVF Avril sur Loir 7.70 174 *e*Pn **Pn 18 54 12.6 +1.7**
AVF *e*Sn **Sn 18 55 32.9 -5.2**
comp=Z,13nm,0.2s
ROTZ Rotzenmuhle 7.77 123 *e*Pn Pn 18 54 18.1 +6.2
ROTZ Rotzenmuhle 7.77 123 *e*Pn Pn 18 54 18.1 +6.2
VAL Valentia 7.84 256 *e*Pn **Pn 18 54 15.0 +2.2**
VAL Valentia 7.84 256 *e*Pn **Pn 18 54 15.0 +2.2**
SMF Signal de Mont 7.88 171 *e*Pn **Pn 18 54 15.0 +1.6**
SMF *e*Sn **Sn 18 55 36.6 -6.0**
comp=Z,25nm,0.3s
BGF Bois d'Agland 7.91 176 *e*Pn **Pn 18 54 15.6 +1.8**
BGF *e*Sn **Sn 18 55 36.6 -6.6**
comp=Z,88nm,0.3s
MFF Saint Martin d 7.98 191 *e*Pn **Pn 18 54 15.3 +0.5**
MFF *e*Sn **Sn 18 55 38.0 -7.0**
comp=Z,106nm,0.5s
BLEU Blekinge 8.02 71 *i*P **Pn 18 54 19.0 +3.8**
BRG Berggiesshubel 8.03 112 *i*P **Pn 18 54 20.1 +4.8**
BRG Amp 18 54 21.6
comp=Z,4.3nm,0.3s
BRG Berggiesshubel 8.03 112 P Pb 18 54 29.9 -8.0
BRG Amp 18 54 31.1
comp=Z,5.1nm,0.5s
BRG S **Sn 18 55 45.2 -0.9**
BRG Amp 18 55 51.0
comp=Z,3.2nm,0.6s
BRG Berggiesshubel 8.03 112 *e*Pn **Pn 18 54 19.8 +4.5**
BRG *e*Sn **Sn 18 55 43.6 -2.5**
BRG Berggiesshubel 8.03 112 *e*Pn **Pn 18 54 19.8 +4.5**
BRG *e*Sn **Sn 18 55 43.6 -2.5**
NRA0 NORESS Array S 8.08 35 Pn **Pn 18 54 18.9 +2.8**
baz=221,slow=12
NRA0 Sn **Sn 18 55 42.9 -4.5**
baz=219,slow=22
TCF Toulx Ste Croi 8.16 180 *e*Pn **Pn 18 54 18.9 +1.6**
TCF *e*Sn **Sn 18 55 43.4 -6.2**
comp=Z,41nm,0.3s
AKN Aaknes 8.17 16 Pn **Pn 18 54 20.4 +3.0**
AKN Sn **Sn 18 55 44.4 -5.2**
NB2 NORSAR Subarra 8.20 33 Pn **Pn 18 54 20.3 +2.5**
baz=222,slow=14
NOA NORSAR Array B 8.20 33 Pn **Pn 18 54 20.1 +2.3**
comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=12
NOA Sn **Sn 18 55 46.8 -3.7**
comp=Z,0.1nm,0.3s,baz=107,slow=15,SNR=2.0
comp=Z,0.5nm,0.3s
CABF La Chapelle 8.24 161 *e*Pn **Pn 18 54 21.3 +2.9**
CABF *e*Sn **Sn 18 55 44.9 -6.5**
comp=Z,18nm,0.2s
HFS Hagfors 8.47 43 Pn **Pn 18 54 24.7 +3.3**
baz=241,slow=16
HFS Sn **Sn 18 55 51.7 -5.2**
baz=237,slow=28
HFS Hagfors 8.47 43 Pn **Pn 18 54 24.7 +3.3**
comp=Z,0.8nm,0.3s,baz=231,slow=14,SNR=38
HFS Sn **Sn 18 55 53.6 -3.3**
comp=Z,1.9nm,0.3s,baz=232,slow=26,SNR=6.9
DAVA Damuels 8.68 142 *e*Pn Pn 18 54 30.2 +5.7
comp=Z,1.9nm,0.1s,SNR=13
PRU Pruhonice 8.83 115 *e*PN Pn 18 54 32.7 +6.3
RETA Reutte 8.84 138 *i*Pn Pn 18 54 33.6 +7.0
comp=Z,2.9nm,0.2s
KHC Kasperske Hory 8.87 122 *e*PN Pn 18 54 34.1 +7.2
KHC *e*SN **Sn 18 56 10.3 +3.4**
GOPC GO Pecny, Ondr 9.00 115 *e*PN Pn 18 54 34.8 +6.0
MOTA Moosalm 9.09 138 *i*Pn Pn 18 54 36.2 +6.1
comp=Z,2.8nm,0.2s,SNR=7.4
DAVOX Davos/Dischmat 9.11 144 Pn Pn 18 54 36.1 +5.6
comp=Z,1.5nm,0.3s,baz=349,slow=17,SNR=21
DAVOX Sn **Sn 18 56 10.2 -2.9**
comp=Z,0.5nm,0.3s,baz=165,slow=20,SNR=1.7
GEC2 GERESS Array S 9.12 123 *e*Pn Pn 18 54 37.6 +7.1
GEC2 GERESS Array S 9.12 123 *e*Pn Pn 18 54 37.6 +7.1
GERES GERESS Array B 9.12 123 Pn Pn 18 54 35.5 +5.1
comp=Z,1.2nm,0.3s,baz=307,slow=13,SNR=21
GERES Sn **Sn 18 56 14.2 +1.1**
comp=Z,0.5nm,0.3s,baz=314,slow=32,SNR=1.9
comp=Z,3.4nm,0.5s
RJF Les Rejaudoux 9.16 183 *e*Pn **Pn 18 54 31.5 +0.6**
RJF *e*Sn **Sn 18 56 06.9 -7.0**
comp=Z,36nm,0.4s
FETA Feichten 9.21 140 *e*Pn Pn 18 54 38.8 +7.0
comp=Z,1.5nm,0.2s,SNR=10.0
SQTA Sankt Quirin 9.23 138 *e*Pn Pn 18 54 37.7 +5.7
comp=Z,2.7nm,0.2s,SNR=11
WATA Walderalm 9.28 136 *e*Pn Pn 18 54 38.7 +5.9
comp=Z,1.8nm,0.3s,SNR=6.1
UPC Upice 9.35 109 *e*PN Pn 18 54 38.4 +4.9
UPC *e*SN **Sn 18 56 17.6 -0.9**
WTTA Wattenberg 9.37 136 *e*Pn Pn 18 54 40.2 +6.3
comp=Z,1.5nm,0.2s
LPL La Plagne 9.41 160 *e*Pn **Pn 18 54 37.8 +3.2**
LPL *e*Sn **Sn 18 56 16.4 -4.1**
comp=Z,4.6nm,0.2s
CKRC Cesky Krumlov 9.44 122 *e*PN Pn 18 54 42.1 +7.4
CAF Calviac 9.53 180 *e*Pn **Pn 18 54 36.5 +0.5**
CAF *e*Sn **Sn 18 56 14.8 -8.2**
comp=Z,24nm,0.2s
LFF La Frestale 9.55 186 *e*Pn **Pn 18 54 37.0 +0.7**
LFF *e*Sn **Sn 18 56 15.9 -7.8**
comp=Z,39nm,0.3s
DPC Dobruska-Polom 9.60 109 *e*PN Pn 18 54 42.4 +5.5
DPC *e*SN **Sn 18 56 22.8 -1.9**
VIVF Saint-Julien-l 9.74 169 *e*Pn **Pn 18 54 40.8 +1.9**
VIVF *e*Sn **Sn 18 56 20.7 -7.5**
comp=Z,22nm,0.2s
ORIF Oris-en-Rattie 9.84 164 *e*Pn **Pn 18 54 43.1 +2.8**
ORIF *e*Sn **Sn 18 56 24.4 -6.4**
comp=Z,9.1nm,0.2s
BIOA Bad Ischl, Aus 9.90 128 *e*Pn Pn 18 54 47.9 +6.8
comp=Z,3.3nm,0.2s,SNR=11
MOA Molln 10.08 126 *i*Pn Pn 18 54 51.4 +7.9
comp=Z,0.5nm,0.1s
ABTA Abfaltersbach 10.14 135 *e*Pn Pn 18 54 50.7 +6.3
comp=Z,0.2nm,0.2s,SNR=5.4
MBDF Montbardon 10.18 161 *e*Pn **Pn 18 54 49.2 +4.2**
MBDF *e*Sn **Sn 18 56 34.8 -4.4**
comp=Z,3.9nm,0.3s
KBA Koelnbreinsper 10.23 132 *e*Pn Pn 18 54 54.0 +8.2
comp=Z,3.4nm,0.2s,SNR=7.9
VRAC Vranov 10.31 114 *e*PN Pn 18 54 52.3 +5.6
KRUC Moravsky 10.35 116 *e*PN Pn 18 54 53.0 +5.8
LASF Ste Croix 10.44 173 *e*Pn **Pn 18 54 50.8 +2.4**
LASF *e*Sn **Sn 18 56 39.1 -6.3**
comp=Z,4.6nm,0.2s
MORC Moravsky Berou 10.57 110 *e*PN Pn 18 54 56.2 +6.0
MYKA Terra Mystica 10.71 132 *i*Pn **Pn 18 54 51.7 -0.5**
comp=Z,1.8nm,0.4s
SMRF Simiane la Rot 10.71 166 *e*Pn **Pn 18 54 54.7 +2.4**
SMRF *e*Sn **Sn 18 56 47.3 -4.9**
comp=Z,2.6nm,0.3s
CONA Conrad Observa 10.80 122 *i*Pn Pn 18 55 01.6 +8.1
comp=Z,1.5nm,0.6s
ARSA Arzberg 11.11 125 *e*Pn Pn 18 55 05.5 +7.9
comp=Z,1.6nm,0.5s
MTLF Montolieu 11.11 180 *e*Pn **Pn 18 54 58.8 +1.2**
MTLF *e*Sn **Sn 18 56 54.0 -7.9**
comp=Z,7.6nm,0.4s
SBF Sospel 11.14 160 *e*Pn **Pn 18 55 01.3 +3.2**
SBF *e*Sn **Sn 18 56 57.8 -4.9**
comp=Z,6.9nm,0.2s
OBKA Obir 11.20 130 *i*Pn Pn 18 55 07.2 +8.3
comp=Z,0.5nm,0.2s
SOKA Soboth 11.29 128 *i*Pn Pn 18 55 06.9 +6.7
comp=Z,0.8nm,0.4s
EPF Esparros 11.48 187 *e*Pn **Pn 18 55 03.1 +0.4**
EPF *e*Sn Sn 18 57 00.0 -11
comp=Z,9.5nm,0.2s
LMR La Mourre 11.48 164 *e*Pn **Pn 18 55 05.8 +3.1**
LMR *e*Sn **Sn 18 57 05.8 -5.1**
comp=Z,1.9nm,0.2s
SJPF Ste Jean 11.55 192 *e*Pn **Pn 18 55 03.4 -0.2**
SJPF *e*Sn Sn 18 57 01.5 -11
comp=Z,7.0nm,0.2s
ETSF Etsaut 11.69 190 *e*Pn **Pn 18 55 04.7 -0.9**
ETSF *e*Sn Sn 18 57 04.9 -11
comp=Z,7.7nm,0.2s
PGF Pioggiola 12.74 156 *e*Pn **Pn 18 55 22.6 +2.6**
FIA0 FINESS Array S 14.46 51 Pn **Pn 18 55 46.2 +2.9**
baz=248,slow=14
FIA0 Sn **Sn 18 58 17.1 -6.4**
baz=239,slow=18
FINES FINESS Array B 14.46 51 Pn **Pn 18 55 44.7 +1.5**
comp=Z,0.5nm,0.3s,baz=253,slow=12,SNR=17
FINES Sn **Sn 18 58 16.2 -7.2**
comp=Z,0.4nm,0.3s,baz=258,slow=19,SNR=1.7
ESDC Sonseca Array 15.33 198 Pn **Pn 18 55 54.0 -1.2**
comp=Z,0.2nm,0.3s,baz=23,slow=13,SNR=2.9
ESDC Sn Sn 18 58 30.4 -15
comp=Z,0.3nm,0.3s,baz=18,slow=23,SNR=5.0
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 16.85 92 P **P 18 56 17.4 +0.8**
comp=Z,0.8nm,0.3s,baz=297,slow=11,SNR=5.8
comp=Z,0.8nm,0.5s
ARA0 ARCESS Array S 18.49 26 P **Pn 18 56 37.5 +2.7**
baz=219,slow=12
ARCES ARCESS Array B 18.49 26 P **Pn 18 56 38.0 +3.3**
comp=Z,0.1nm,0.3s,baz=228,slow=11,SNR=5.6
comp=Z,3.0nm,0.8s
IDI Anoyia 24.85 131 P **P 18 57 44.5 +3.2**
comp=Z,5.7nm,0.7s,baz=345,slow=11,SNR=5.5
comp=Z,5.7nm,0.7s
TORD Torodi Ar. Bea 41.20 181 P **P 19 00 05.5 +1.9**
comp=Z,0.8nm,0.7s,baz=356,slow=8.6,SNR=4.7
comp=Z,0.8nm,0.7s
ZALV Zalesovo Beam 45.69 55 P **P 19 00 43.6 +4.2**
comp=Z,0.8nm,0.5s,baz=331,slow=5.6,SNR=1.4
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 48.83 64 P **P 19 01 07.9 +3.9**
comp=Z,0.2nm,0.3s,baz=317,slow=7.1,SNR=1.1
comp=Z,0.2nm,0.3s

TAP 03 18:54:30.7, 23.99N×120.97E, h18km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WPL	**Puli Township** baz=346	**0.03**	**344**	P	Pg		18 54 34.2	+0.3
WPL				S	Sg		18 54 36.2	+0.3
DPDB	**Guoxing** baz=322	**0.06**	**323**	P	Pg		18 54 34.4	+0.3
WCS	**Beigang Elemen** baz=325	**0.09**	**325**	*e*P	Pg		18 54 34.5	+0.3
WCS				*e*S	Sg		18 54 37.3	+0.7
SMLT	**Sun Moon Lake** baz=204	**0.12**	**210**	P	Pg		18 54 35.1	+0.4
SMLT				*e*S	Sg		18 54 38.9	+1.6
TYC	**Yuchr** baz=225	**0.13**	**230**	P	Pg		18 54 35.0	+0.4
TYC				*e*S	Sg		18 54 38.6	+1.3
WUSB	**Renai** baz=89	**0.14**	**88**	P	Pg		18 54 35.2	+0.3
WUSB				S	Sg		18 54 38.4	+0.6
	baz=89							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OWD	**Renai**	**0.20**	**99**	P	Pb	18 54 35.9	+0.1
	baz=100						
OWD				*e*S	Sb	18 54 39.6	+0.4
	baz=100						
SSLB	**Suanglung**	**0.20**	**183**	P	Pg	18 54 35.7	+0.1
	baz=176						
SSLB				S	Sb	18 54 39.1	-0.1
	baz=176						
CHGB	**Renai**	**0.20**	**69**	P	Pb	18 54 36.1	+0.1
	baz=71						
CHGB				S	Sb	18 54 39.9	+0.3
	baz=71						
WNT	**Mingjian**	**0.28**	**247**	*e*P	Pb	18 54 37.8	+0.6
	baz=246						
WNT				*e*S	Sb	18 54 43.0	+1.4
	baz=246						
VWDT	**VWDT**	**0.28**	**145**	*e*P	Pb	18 54 37.4	+0.1
	baz=145						
VWDT				*e*S	Sb	18 54 41.8	+0.1
	baz=145						
WHYT	**Xinyi Township**	**0.31**	**199**	P	Pb	18 54 37.8	+0.1
	baz=194						
WHYT				S	Sb	18 54 43.4	+0.9
	baz=194						
WHF	**Hehuan Shan**	**0.32**	**60**	*e*P	Pb	18 54 38.3	+0.1
	baz=70						
WHF				*e*S	Sb	18 54 43.5	+0.4
	baz=70						
CHN5	**Tsauling**	**0.47**	**214**	*e*S	Sb	18 54 47.9	+0.7
	baz=213						
ALS	**Alishan**	**0.50**	**197**	*e*S	Sb	18 54 48.9	+0.7
	baz=195						

TAP 03 18:54:37.0, 23°.23N × 120°.97E, h5km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.06**	**130**	P	Pg	18 54 39.1	+0.6
	baz=127						
ELDTW				S	Sg	18 54 40.3	+0.7
	baz=127						
STYH	**Taoyuan**	**0.18**	**252**	*e*P	Pg	18 54 41.4	+0.7
	baz=252						
STYH				*e*S	Sg	18 54 44.0	+0.9
	baz=252						
EHD	**Haiduan**	**0.23**	**110**	*e*P	Pg	18 54 42.0	+0.4
	baz=109						
EHD				*e*S	Sg	18 54 45.9	+1.1
	baz=109						
EYUL	**Yuli**	**0.35**	**70**	*e*S	Sg	18 54 48.7	+0.4
	baz=70						

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*UPP **03** 19:06:27.9±0.1, 67°.06N×20°.99E, h0km, ML2.2, Suspected explosion*
*BER **03** 19:06:27.7±1.3, 66°.78N×21°.13E, h0km, ML1.9, ML2.8(NAO), Suspected explosion*
*IDC **03** 19:06:28.2±0.9, 67°.11N×21°.46E, h0km, mbtmp3.1/4, ML2.1/4, Error ellipse: s-maj=16.7km s-min=7.0km az=110.0*
*NAO **03** 19:06:29.4±0.8, 67°.02N×21°.28E, ML2.8*
ISC 03 19:06:27.9±0.7**, 67°.04N**±0°.03×**20°.97E**±0°.03**, h0km, n27, σ0s.94**/41**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.17**	**297**	P	**Pg**	**19 06 31.5**	**+0.3**
DUNU				S	**Sg**	**19 06 34.0**	**+0.6**
ERTU	**Ertsjaerv**	**0.69**	**135**	P	**Pg**	**19 06 41.0**	**0.0**
PAJU	**Pajala**	**0.84**	**90**	P	**Pg**	**19 06 43.6**	**-0.4**
HARU	**Harads**	**0.88**	**180**	P	**Pg**	**19 06 44.5**	**-0.2**
RATU	**Laukkuluspa**	**0.95**	**327**	P	**Pg**	**19 06 45.4**	**-0.6**
SALU	**Saltoluokta**	**1.02**	**291**	P	**Pg**	**19 06 46.8**	**-0.5**
LANU	**Lannavaara**	**1.08**	**21**	P	**Pg**	**19 06 47.8**	**-0.8**
NIKU	**Nikkaluokta**	**1.11**	**319**	P	**Pg**	**19 06 48.5**	**-0.7**
KALU	**Kalix**	**1.53**	**140**	P	**Pn**	**19 06 56.2**	**-0.1**
SJUU	**Sjulsmark**	**1.56**	**170**	P	**Pg**	**19 06 57.7**	**-0.1**
HEF	**Hetta**	**1.71**	**36**	Pn	**Pg**	**19 07 00.4**	**-0.2**
HEF				Sn	**Sn**	**19 07 21.2**	**-0.3**
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pn**	**19 06 59.0**	**+0.1**
HEF				*e*S	**Sb**	**19 07 22.1**	**-0.2**
KIF	**Kilpisjarvi**	**1.97**	**358**	Pn	**Pb**	**19 07 04.5**	**-0.1**
KIF				Sn	**Sg**	**19 07 31.8**	**+0.6**
KIF	**Kilpisjarvi**	**1.97**	**358**	*e*P	**Pb**	**19 07 04.1**	**-0.4**
KIF				*e*S	**Sg**	**19 07 31.5**	**+0.4**
KTK1	**Kautokeino**	**2.15**	**22**	*e*P	**Pb**	**19 07 06.9**	**-0.8**
KTK1				*e*S	**Sb**	**19 07 35.0**	**+0.1**
KTK1				IAML		19 07 39.0	
	comp=Z,15nm,0.2s						
JETT	**Jettan, Norway**	**2.53**	**356**	Pn	**Pb**	**19 07 13.9**	**-0.2**
JETT				Sn	**Sb**	**19 07 46.5**	**+0.6**
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**19 07 15.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=210,slow=12,SNR=45						
ARCES				Lg	Lg	19 07 57.1	
	comp=Z,0.8nm,0.3s,baz=211,slow=16,SNR=12						
	comp=Z,1.2nm,0.2s						
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**19 07 17.3**	**+0.4**
	baz=208,slow=14						
ARA0				Sn	**Sn**	**19 07 56.2**	**+2.5**
	baz=212,slow=22						
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**19 07 17.3**	**+0.4**
	slow=14						
ARA0				IAML		19 08 03.1	
	comp=Z,7.3nm,0.2s						
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**19 07 40.7**	**+0.9**
	baz=259,slow=14						
APA0				Sn	**Sn**	**19 08 34.8**	**0.0**
	baz=273,slow=28						
FIA0	**FINESS Array S**	**6.04**	**156**	Pn	**Pn**	**19 07 59.7**	**+1.3**
	baz=355,slow=16						
FIA0				Sn	**Sn**	**19 09 07.5**	**-0.6**
	baz=344,slow=28						
FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**19 07 59.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=20						
FINES				Sn	**Sn**	**19 09 07.3**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=345,slow=22,SNR=7.4						
FINES				Lg	Lg	19 09 36.9	
	comp=Z,0.2nm,0.3s,baz=347,slow=23,SNR=1.6						
	comp=Z,1.3nm,0.6s						
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**19 08 18.9**	**+2.1**
	baz=30,slow=16						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**19 08 17.3**	**+0.5**
	baz=36,slow=12,SNR=1.7						
	comp=Z,1.0nm,1.0s						
NRA0	**NORESS Array S**	**7.57**	**218**	Pn	**Pn**	**19 08 20.5**	**+1.2**
	baz=26,slow=12						
NRA0				Sn	**Sn**	**19 09 44.9**	**-0.7**
	baz=42,slow=28						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**19 08 20.5**	**+0.1**
	baz=24,slow=12						
HFS				Sn	**Sn**	**19 09 45.0**	**-2.7**
	baz=24,slow=28						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**19 08 20.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=12						
HFS				Sn	**Sn**	**19 09 46.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=32,slow=27,SNR=1.3						
	comp=Z,2.9nm,0.9s						

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*NORS **03** 19:16:48.6±0.0, 42°.50N×46°.16E, h12km, MPVA3.0*
*DRS **03** 19:16:49.5±0.0, 42°.50N×46°.08E, h18km*
ISC 03 19:16:49.7±1.0**, 42°.56N**±0°.04×**46°.05E**±0°.05**, h10km, n9, σ2s.16**/17**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.40**	**8**	*e*Pg	**Pb**	**19 16 58.4**	**-0.6**
DVE				*e*Sg	**Sg**	**19 17 04.7**	**+1.7**
GROC	**Groznyy**	**0.67**	**344**	*i* Pg	**Pb**	**19 17 04.0**	**+0.5**
GROC				*e*Sg	**Sn**	**19 17 15.4**	**-0.4**
LGD	**Lagodekhi**	**0.73**	**169**	P	**Pn**	**19 17 03.5**	**-2.7**
LGD				S	**Sn**	**19 17 13.6**	**-3.8**
PNSH	**Pansheti**	**1.06**	**275**	P	**Pn**	**19 17 10.4**	**-0.5**
PNSH				S	**Sn**	**19 17 25.4**	**-0.4**
DDFL	**Dedoflistskaro**	**1.11**	**177**	P	**Pn**	**19 17 11.9**	**+0.5**
DDFL				S	**Sn**	**19 17 32.4**	**+5.6**
DGRG	**David-gareji**	**1.22**	**205**	P	**Pg**	**19 17 13.9**	**+0.9**
DGRG				S	Sn	19 17 36.2	+6.9
LACR	**Lac**	**1.32**	**282**	*e*Pg	**Pg**	**19 17 15.1**	**+0.1**
LACR				*e*Sg	**Sg**	**19 17 33.8**	**+1.5**
ALIG	**Mtskhetisjvari**	**1.84**	**257**	P	**Pg**	**19 17 23.5**	**-1.5**
ALIG				S	**Sg**	**19 17 49.5**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.85**	**281**	*i* Pg	**Pb**	**19 17 22.7**	**-1.1**
DIGR				*e*Sg	**Sb**	**19 17 47.9**	**+0.8**

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*BJI **03** 19:27:55.4±0.0, 23°.33S×179°.56E, h540km, mb4.4/18, mB5.0/8*
*NOU **03** 19:27:58.9, 23°.18S×179°.51E, h580km, mb4.9/36, South of Fiji Islands*
*NEIC **03** 19:27:59.2±1.9, 23°.25S±0°.06×179°.23E±0°.10, h551km±5km, mb5.0/90, Error ellipse: s-maj=13.2km s-min=7.5km az=72.0*
*IDC **03** 19:27:59.4±0.5, 23°.25S×179°.21E, h558km±4km, mb3.9/27, mbtmp4.7/29, Error ellipse: s-maj=10.0km s-min=9.3km az=97.0*
ISC 03 19:27:58.7±0.3**, 23°.25S**±0°.04×**179°.27E**±0°.05**, h558km**±3km**, h558km:pP-P, n407, σ1s.43**/481**, mb4.8**/93**, 42C-20D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.31**	**20**	P	**P**	**19 29 32.4**	**+0.7**
MSVF	**Nonsavu**	**5.61**	**348**	P	**P**	**19 29 33.8**	**-0.7**
	54nm,0.5s,baz=148,slow=13,SNR=32						
MSVF				S	**S**	**19 30 50.4**	**-2.1**
	25nm,0.8s,baz=333,slow=23,SNR=0.8						
MSVF	**Nonsavu**	**5.61**	**348**	P	**P**	**19 29 34.2**	**-0.3**
TAVE	**Taveuni**	**6.56**	**7**	P	**P**	**19 29 44.0**	**+1.0**
FUTU	**Fugatoga**	**9.23**	**16**	P	**P**	**19 30 09.5**	**+0.4**
MARNC	**Mare, Loyalty**	**10.55**	**277**	P	**P**	**19 30 22.7**	**+0.3**
NIUE	**Niue**	**10.90**	**70**	P	**P**	**19 30 25.3**	**-0.8**
NIUE	**Niue**	**10.90**	**70**	P	**P**	**19 30 25.9**	**-0.2**
LIFNC	**LIFOU**	**11.42**	**280**	P	**P**	**19 30 30.7**	**-0.7**
OUENC	**Ouen Island, N**	**11.49**	**272**	P	**P**	**19 30 31.9**	**-0.2**
NFK	**Norfolk Island**	**11.69**	**238**	P	**P**	**19 30 36.4**	**+2.4**
DZM	**Mont Dzumac**	**11.90**	**273**	P	**P**	**19 30 35.1**	**-1.3**
	6.8nm,1.0s,baz=82,slow=11,SNR=2.8						
DZM	**Mont Dzumac**	**11.90**	**273**	P	**P**	**19 30 37.1**	**+0.7**
AFI	**Afiamalu**	**12.58**	**44**	P	**P**	**19 30 39.8**	**-3.7**
OUZ	**Omahuta**	**12.91**	**201**	P	**P**	**19 30 48.5**	**+2.0**
OUZ	**Omahuta**	**12.91**	**201**	P	**P**	**19 30 48.9**	**+2.4**
KUZ	**Kuaotunu**	**13.79**	**192**	P	**P**	**19 30 56.2**	**+0.7**
KOUNC	**Koumac, New Ca**	**14.16**	**278**	P	**P**	**19 31 01.6**	**+1.9**
MXZ	**Matakaoa Point**	**14.29**	**183**	P	**P**	**19 30 59.3**	**-1.3**
MXZ	**Matakaoa Point**	**14.29**	**183**	P	**P**	**19 30 59.5**	**-1.1**
MXZ	**Matakaoa Point**	**14.29**	**183**	P	**P**	**19 30 58.9**	**-1.7**
MXZ				S	**S**	**19 33 27.8**	**-2.5**
WIZ	**White Island**	**14.34**	**187**	P	**P**	**19 31 02.3**	**+1.1**
HAZ	**Te Kaha**	**14.51**	**185**	P	**P**	**19 31 01.0**	**-1.9**
HAZ				S	**S**	**19 33 29.7**	**-4.8**
WMGZ	**Waiomatatini S**	**14.54**	**183**	P	**P**	**19 31 01.7**	**-1.4**
WMGZ				S	**S**	**19 33 30.7**	**-4.3**
PKGZ	**Pakihiroa**	**14.62**	**184**	P	**P**	**19 31 02.5**	**-1.6**
PKGZ				S	**S**	**19 33 31.3**	**-5.4**
FUNA	**Funafuti**	**14.64**	**360**	P	**P**	**19 31 02.2**	**-2.4**
TGRZ	**Tauranga**	**14.66**	**189**	P	**P**	**19 31 05.8**	**+1.4**
RUGZ	**Raukumara Rang**	**14.73**	**185**	P	**P**	**19 31 03.1**	**-2.2**
RUGZ				S	**S**	**19 33 37.0**	**-1.8**
OPRZ	**Ohinepanea**	**14.73**	**188**	P	**P**	**19 31 06.5**	**+1.4**
PUZ	**Puketiti**	**14.80**	**183**	P	**P**	**19 31 03.8**	**-2.0**
PUZ				S	**S**	**19 33 36.3**	**-3.4**
KMRZ	**Kaimai**	**14.82**	**190**	P	**P**	**19 31 08.4**	**+2.3**
TWGZ	**Tauwhareparae**	**14.92**	**184**	P	**P**	**19 31 05.5**	**-1.6**
TWGZ				S	**S**	**19 33 38.4**	**-3.6**
EDRZ	**Edgecumbe**	**14.96**	**188**	P	**P**	**19 31 08.5**	**+0.9**
OMRZ	**Omania**	**15.01**	**189**	P	**P**	**19 31 08.8**	**+0.8**
URZ	**Urewera**	**15.07**	**187**	P	**P**	**19 31 05.1**	**-3.4**
	287nm,0.7s,baz=114,slow=2.1,SNR=59						
URZ				S	**S**	**19 33 37.5**	**-7.0**
	86nm,0.6s,baz=305,slow=23,SNR=12						
URZ	**Urewera**	**15.07**	**187**	P	**P**	**19 31 05.1**	**-3.4**
URZ				S	**S**	**19 33 39.0**	**-5.6**
MWZ	**Matawai**	**15.11**	**185**	P	**P**	**19 31 06.8**	**-2.2**
MWZ				S	**S**	**19 33 42.2**	**-3.1**
TKGZ	**Te Karaka**	**15.19**	**184**	P	**P**	**19 31 08.1**	**-1.6**
CNGZ	**Carnagh Statio**	**15.21**	**183**	P	**P**	**19 31 09.0**	**-0.9**
RAGZ	**Rawiri**	**15.28**	**186**	P	**P**	**19 31 09.5**	**-1.3**
MUGZ	**Murupara**	**15.33**	**187**	P	**P**	**19 31 09.0**	**-2.2**
MUGZ				S	**S**	**19 33 43.6**	**-5.4**
PRRZ	**Plateau Road**	**15.39**	**189**	P	**P**	**19 31 10.9**	**-0.9**
RTZ	**Ruatahuna**	**15.44**	**187**	P	**P**	**19 31 09.2**	**-3.2**
RIGZ	**Rimuhau**	**15.46**	**184**	P	**P**	**19 31 10.5**	**-2.0**
RIGZ				S	**S**	**19 33 46.5**	**-4.8**
KUTZ	**Kaahu Road**	**15.47**	**190**	P	**P**	**19 31 14.3**	**+1.7**
SNGZ	**Shannon Statio**	**15.57**	**186**	P	**P**	**19 31 10.9**	**-2.7**
HIZ	**Hauiti**	**15.67**	**193**	P	**P**	**19 31 15.3**	**+0.7**
HIZ	**Hauiti**	**15.67**	**193**	P	**P**	**19 31 15.7**	**+1.1**
BKZ	**Black Stump Fm**	**16.04**	**188**	P	**P**	**19 31 14.1**	**-4.1**
BFZ	**Birch Farm**	**17.56**	**188**	P	**P**	**19 31 29.1**	**-2.9**
BFZ	**Birch Farm**	**17.56**	**188**	P	**P**	**19 31 30.5**	**-1.5**
MRZ	**Mangatainoka R**	**17.63**	**189**	P	**P**	**19 31 29.9**	**-2.8**
TCW	**Tory Channel**	**18.39**	**192**	P	**P**	**19 31 39.0**	**-0.6**
SNZO	**South Karori**	**18.41**	**191**	P	**P**	**19 31 38.4**	**-1.3**
SNZO	**South Karori**	**18.41**	**191**	P	**P**	**19 31 39.5**	**-0.2**
QRZ	**Quartz Range**	**18.42**	**196**	P	**P**	**19 31 40.9**	**+1.1**
QRZ	**Quartz Range**	**18.42**	**196**	P	**P**	**19 31 41.6**	**+1.8**
BHW	**Baring Head**	**18.48**	**190**	P	**P**	**19 31 39.1**	**-1.2**
TKNZ	**Takaka Hill**	**18.50**	**195**	P	**P**	**19 31 40.4**	**-0.3**
PLWZ	**Palliser**	**18.57**	**189**	P	**P**	**19 31 39.5**	**-1.8**
NNZ	**Nelson**	**18.58**	**194**	P	**P**	**19 31 40.8**	**-0.5**
TUWZ	**Tuamarina**	**18.67**	**193**	P	**P**	**19 31 41.4**	**-0.7**
MRNZ	**Matariki Terra**	**18.90**	**195**	P	**P**	**19 31 44.2**	**0.0**
BSWZ	**Blackbirch Sta**	**18.95**	**193**	P	**P**	**19 31 44.5**	**-0.2**
THZ	**Tophouse**	**19.21**	**195**	P	**P**	**19 31 46.4**	**-0.7**
DSZ	**Denniston Nort**	**19.47**	**197**	P	**P**	**19 31 48.8**	**-0.7**
KHZ	**Kahutara**	**19.70**	**193**	P	**P**	**19 31 50.0**	**-1.4**
LTZ	**Lake Taylor**	**20.32**	**195**	P	**P**	**19 31 56.0**	**-1.2**
GVZ	**Greta Valley S**	**20.33**	**193**	P	**P**	**19 31 55.6**	**-1.5**
INZ	**Inchbonnie**	**20.48**	**197**	P	**P**	**19 31 57.8**	**-0.7**
OXZ	**Oxford**	**20.89**	**195**	P	**P**	**19 32 01.0**	**-1.3**
RPZ	**Rata Peaks**	**21.50**	**196**	P	**P**	**19 32 06.8**	**-1.0**
	13nm,0.5s,baz=27,slow=4.1,SNR=15						
RPZ				S	**S**	**19 35 22.5**	**-6.3**
	15nm,0.9s,baz=32,slow=18,SNR=2.0						
	13nm,0.5s						
RPZ	**Rata Peaks**	**21.50**	**196**	P	**P**	**19 32 06.5**	**-1.3**
RPZ	**Rata Peaks**	**21.50**	**196**	P	**P**	**19 32 08.5**	**+0.7**
WKZ	**Wanaka**	**23.10**	**199**	P	**P**	**19 32 21.6**	**-0.4**
WHZ	**Wether Hill Ro**	**24.38**	**199**	P	**P**	**19 32 33.3**	**-0.1**
TARA	**Tarawa**	**25.23**	**345**	P	**P**	**19 32 41.2**	**0.0**
ARMA	**Armidale**	**25.63**	**248**	P	**P**	**19 32 46.3**	**+1.5**
EIDS	**Eidsvold**	**25.75**	**260**	P	**P**	**19 32 46.5**	**+0.7**
CNB	**Canberra Magne**	**28.61**	**238**	P	**P**	**19 33 12.4**	**+1.7**
CAN	**Canberra**	**28.89**	**239**	P	**P**	**19 33 14.1**	**+0.9**
CAN	**Canberra**	**28.89**	**239**	P	**P**	**19 33 14.8**	**+1.6**
CTA	**Charters Tower**	**30.80**	**269**	P	**P**	**19 33 30.1**	**+0.3**
	42nm,0.4s,baz=95,slow=9.9,SNR=160						
CTA				PcP	**PcP**	**19 36 10.2**	**+0.7**
	6.7nm,0.6s,baz=81,slow=1.8,SNR=3.9						
	42nm,0.4s						
CTAO	**Charters Tower**	**30.80**	**269**	P	**P**	**19 33 30.1**	**+0.3**
CTAO				IAmb	IAmb	19 33 31.3	
	comp=Z,44nm,0.5s						
CTAO	**Charters Tower**	**30.80**	**269**	P	**P**	**19 33 30.6**	**+0.8**
CTAO	**Charters Tower**	**30.80**	**269**	⇓P	**P**	**19 33 30.6**	**+0.8**
CMSA	**Cobar Meteorol**	**30.84**	**247**	P	**P**	**19 33 30.7**	**+0.8**
QLP	**Quilpie**	**31.88**	**257**	P	**P**	**19 33 39.7**	**+0.8**
TOO	**Toolangi**	**32.24**	**236**	P	**P**	**19 33 43.1**	**+1.2**
TOO				IAmb	IAmb	19 33 44.7	
	comp=Z,12nm,0.7s						
TOO	**Toolangi**	**32.24**	**236**	P	**P**	**19 33 43.0**	**+1.2**
TAU	**Tasmania Unive**	**32.89**	**226**	P	**P**	**19 33 47.0**	**-0.2**
TAU				IAmb	IAmb	19 34 03.1	
	comp=Z,70nm,1.5s						
MTSU	**Mount Surprise**	**33.04**	**272**	P	**P**	**19 33 49.5**	**+0.7**
BRAT	**Ballarat**	**33.43**	**237**	P	**P**	**19 33 53.7**	**+1.9**
PMG	**Port Moresby**	**33.65**	**289**	P	**P**	**19 33 53.8**	**-0.1**
	comp=Z,52nm,0.8s,baz=103,slow=5.6,SNR=28						
	comp=Z,52nm,0.8s						
PMG	**Port Moresby**	**33.65**	**289**	P	**P**	**19 33 53.9**	**-0.1**
PMG				IAmb	IAmb	19 33 55.1	
	comp=Z,46nm,0.7s						
PMG	**Port Moresby**	**33.65**	**289**	P	**P**	**19 33 54.3**	**+0.3**
PMG	**Port Moresby**	**33.65**	**289**	P	**P**	**19 33 54.4**	**+0.4**
PMG	**Port Moresby**	**33.65**	**289**	P	**P**	**19 33 54.2**	**+0.3**
XMAS	**Kiritimati**	**33.87**	**45**	P	**P**	**19 33 55.6**	**-0.1**
XMAS	**Kiritimati**	**33.87**	**45**	P	**P**	**19 33 56.1**	**+0.3**
STKA	**Stephens Creek**	**34.34**	**247**	P	**P**	**19 34 00.1**	**+0.5**
	comp=Z,5.1nm,0.4s,baz=92,slow=11,SNR=32						
STKA				PcP	**PcP**	**19 36 20.1**	**+0.7**
	comp=Z,5.0nm,0.4s,baz=99,slow=5.1,SNR=7.3						
	comp=Z,5.1nm,0.4s						
STKA	**Stephens Creek**	**34.34**	**247**	P	**P**	**19 34 00.3**	**+0.7**
STKA	**Stephens Creek**	**34.34**	**247**	P	**P**	**19 34 00.6**	**+1.0**
COEN	**Coen**	**35.35**	**279**	P	**P**	**19 34 08.7**	**+0.5**
COEN				IAmb	IAmb	19 34 09.9	
	comp=Z,28nm,1.4s						
COEN	**Coen**	**35.35**	**279**	P	**P**	**19 34 09.0**	**+0.8**
BBOO	**Buckleboo**	**39.08**	**246**	P	**P**	**19 34 38.4**	**-0.1**
BBOO				IAmb	IAmb	19 34 58.4	
	comp=Z,58nm,1.8s						
OOD	**Oodnadatta**	**39.43**	**254**	P	**P**	**19 34 42.5**	**+1.1**
MULG	**Mulgathing**	**40.76**	**250**	P	**P**	**19 34 51.8**	**-0.1**
AS31	**Alice Springs**	**41.48**	**260**	P	**P**	**19 34 57.4**	**-0.4**
ASAR	**Alice Springs**	**41.48**	**260**	P	**P**	**19 34 57.9**	**+0.1**
	comp=Z,13nm,0.5s,baz=94,slow=7.0,SNR=175						
ASAR				PcP	**PcP**	**19 36 42.3**	**+0.1**
	comp=Z,6.3nm,0.8s,baz=100,slow=4.0,SNR=15						
ASAR				ScP	**ScP**	**19 39 40.7**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=119,slow=4.2,SNR=8.0						
ASAR				S	**S**	**19 40 30.9**	**-2.6**
	comp=Z,1.2nm,0.6s,baz=97,slow=15,SNR=6.8						
ASAR				PKiKP	**PKiKP**	**19 43 46.2**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=88,slow=1.3,SNR=5.5						
	comp=Z,13nm,0.5s						
ASAR	**Alice Springs**	**41.48**	**260**	P	**P**	**19 34 57.3**	**-0.5**
ASAR				PcP	**PcP**	**19 36 42.1**	**-0.1**
WR0	**Warramunga Arr**	**41.59**	**266**	P	**P**	**19 34 57.9**	**-0.8**
WR0				IAmb	IAmb	19 35 16.7	
	comp=Z,67nm,1.9s						
WB2	**Warramunga Arr**	**41.77**	**266**	P	**P**	**19 34 59.5**	**-0.5**
WB2				IAmb	IAmb	19 34 60.0	
	comp=Z,24nm,0.7s						
WB0	**Warramunga Arr**	**41.77**	**266**	P	**P**	**19 34 59.4**	**-0.7**
WB0				IAmb	IAmb	19 35 00.3	
	comp=Z,32nm,0.7s						
WB1	**Warramunga Ar.**	**41.77**	**266**	P	**P**	**19 34 59.6**	**-0.5**
WRAB	**Tennant Creek**	**41.77**	**266**	P	**P**	**19 34 59.5**	**-0.6**
WRAB				IAmb	IAmb	19 34 59.9	
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**41.77**	**266**	P	**P**	**19 34 59.6**	**-0.5**
WRAB	**Tennant Creek**	**41.77**	**266**	P	**P**	**19 34 59.5**	**-0.6**
WRA	**Warramunga Arr**	**41.78**	**266**	P	**P**	**19 34 59.6**	**-0.6**
	comp=Z,18nm,0.6s,baz=96,slow=8.2,SNR=604						
WRA				PcP	**PcP**	**19 36 43.6**	**+0.4**
	comp=Z,5.6nm,0.9s,baz=101,slow=2.9,SNR=7.5						
WRA				ScP	**ScP**	**19 39 42.2**	**+1.5**
	comp=Z,3.2nm,1.0s,baz=92,slow=4.6,SNR=6.2						
WRA				S	**S**	**19 40 32.5**	**-5.4**
	comp=Z,2.8nm,0.9s,baz=101,slow=13,SNR=7.1						
WRA				PKiKP	**PKiKP**	**19 43 46.4**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=96,slow=0.4,SNR=5.8						
	comp=Z,18nm,0.6s						
WRA	**Warramunga Arr**	**41.78**	**266**	P	**P**	**19 34 58.7**	**-1.4**
FORT	**Forrest**	**45.91**	**249**	P	**P**	**19 35 31.4**	**-0.5**
FORT				IAmb	IAmb	19 35 32.2	
	comp=Z,56nm,0.6s						
FORT				PcP	**PcP**	**19 36 57.6**	**+0.3**
FORT	**Forrest**	**45.91**	**249**	P	**P**	**19 35 31.6**	**-0.3**
WRKA	**Warakurna**	**46.32**	**257**	P	**P**	**19 35 35.1**	**-0.1**
MTN	**Manton Dam**	**46.73**	**274**	P	**P**	**19 35 37.5**	**-0.8**
MTN				IAmb	IAmb	19 36 55.9	
	comp=Z,138nm,1.6s						
KNRA	**Kununurra**	**48.02**	**270**	P	**P**	**19 35 47.9**	**0.0**
KHU	**Kahuku**	**48.84**	**32**	P	**P**	**19 35 54.4**	**+0.2**
KHLU	**Kahalu`u**	**49.00**	**32**	P	**P**	**19 35 56.0**	**+0.7**
KHLU				IAmb	IAmb	19 35 59.5	
	comp=Z,125nm,1.2s						
AIN	**Ainahou**	**49.02**	**32**	P	**P**	**19 35 56.0**	**+0.5**
MWH	**Moku'aweowe**	**49.05**	**32**	P	**P**	**19 35 56.4**	**+0.3**
MLOA	**Mauna Loa Obse**	**49.11**	**32**	P	**P**	**19 35 57.2**	**+0.8**
HUH	**Hualalai**	**49.11**	**32**	P	**P**	**19 35 57.5**	**+1.3**
PUH	**Pauahi**	**49.15**	**33**	P	**P**	**19 35 57.7**	**+1.4**
MLH	**Mauna Loa**	**49.16**	**32**	P	**P**	**19 35 57.1**	**+0.5**
HMH	**Humu'ula Sheep**	**49.21**	**32**	P	**P**	**19 35 57.5**	**+0.5**
HPAH	**Hawaii Prepara**	**49.47**	**32**	P	**P**	**19 35 58.3**	**-0.4**
MHA	**Mahukona**	**49.51**	**31**	P	**P**	**19 35 59.0**	**+0.2**
HON	**Honolulu**	**49.53**	**28**	P	**P**	**19 35 59.2**	**+0.2**
HON				IAmb	IAmb	19 36 01.0	
	comp=Z,126nm,1.0s						
KIP	**Kipapa**	**49.62**	**28**	P	**P**	**19 36 00.7**	**+1.1**
GUMO	**Guam**	**49.74**	**314**	P	**P**	**19 36 00.1**	**-0.5**
FAKI	**Fak Fak**	**49.75**	**287**	P	**P**	**19 35 60.0**	**-0.9**
FAKI				IAmb	IAmb	19 36 08.4	
	comp=Z,72nm,1.5s						
HLK	**Haleakala**	**49.83**	**31**	P	**P**	**19 36 02.1**	**+0.6**
DRV	**Dumont d'Urvil**	**49.93**	**199**	P	**P**	**19 36 01.5**	**+0.3**
DRV				pP	**pP**	**19 37 45.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**50.21**	**265**	P	**P**	**19 36 04.3**	**+0.2**
SIJI	**Sorong**	**51.59**	**289**	P	**P**	**19 36 13.8**	**-0.5**
	comp=Z,23nm,0.8s,baz=175,slow=22,SNR=6.6						
	comp=Z,23nm,0.8s						
MSAI	**Masohi**	**52.50**	**284**	P	**P**	**19 36 20.5**	**-0.2**
	comp=Z,5.2nm,0.5s,comp=Z,464nm						
SOEI	**Soe**	**54.12**	**275**	P	**P**	**19 36 33.5**	**+1.1**
SOEI				IAmb	IAmb	19 36 44.0	
	comp=Z,59nm,1.0s						
SOEI	**Soe**	**54.12**	**275**	P	**P**	**19 36 32.5**	**+0.2**
	comp=Z,67nm,1.0s						
BATI	**Baumata**	**54.51**	**274**	P	**P**	**19 36 36.3**	**+1.3**
	comp=Z,30nm,0.5s,baz=119,slow=10,SNR=4.2						
	comp=Z,30nm,0.5s						
MBWA	**Marble Bar**	**54.82**	**260**	P	**P**	**19 36 35.9**	**-1.1**
MBWA				IAmb	IAmb	19 36 36.9	
	comp=Z,19nm,0.6s						
MBWA	**Marble Bar**	**54.82**	**260**	⇓P	**P**	**19 36 36.5**	**-0.6**
NWAO	**Narrogin (SRO)**	**54.89**	**245**	P	**P**	**19 36 37.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**54.89**	**245**	P	**P**	**19 36 37.2**	**-0.1**
NWAO				IAmb	IAmb	19 38 07.8	
	comp=Z,33nm,1.5s						
NWAO	**Narrogin (SRO)**	**54.89**	**245**	P	**P**	**19 36 37.2**	**-0.1**
VNDA	**Vanda**	**54.97**	**185**	P	**P**	**19 36 38.1**	**+1.0**
	comp=Z,4.7nm,0.7s,baz=20,slow=7.9,SNR=21						
VNDA				PcP	**PcP**	**19 37 31.4**	**+1.1**
	comp=Z,5.4nm,1.0s,baz=332,slow=3.9,SNR=7.3						
	comp=Z,4.7nm,0.7s						
VNDA	**Vanda**	**54.97**	**185**	P	**P**	**19 36 37.7**	**+0.6**
VNDA				PcP	**PcP**	**19 37 31.4**	**+1.1**
VNDA	**Vanda**	**54.97**	**185**	P	**P**	**19 36 38.4**	**+1.3**
VNDA				PcP	**PcP**	**19 37 31.0**	**+0.7**
SBA	**Scott Base**	**54.98**	**183**	P	**P**	**19 36 39.8**	**+2.6**
SBA				IAmb	IAmb	19 36 40.6	
	comp=Z,73nm,1.2s						
SBA				PcP	**PcP**	**19 37 32.1**	**+1.8**
SBA	**Scott Base**	**54.98**	**183**	P	**P**	**19 36 40.1**	**+2.9**
SANI	**Sanana**	**55.70**	**284**	P	**P**	**19 36 42.6**	**-0.6**
	comp=Z,16nm,0.9s						
TNTI	**Ternate**	**55.79**	**288**	P	**P**	**19 36 43.8**	**0.0**
TNTI				IAmb	IAmb	19 36 44.4	
	comp=Z,31nm,0.9s						
TNTI	**Ternate**	**55.79**	**288**	P	**P**	**19 36 43.2**	**-0.7**
	comp=Z,38nm,1.2s						
MMRI	**Maumere**	**56.39**	**275**	P	**P**	**19 36 46.9**	**-1.1**
MMRI				IAmb	IAmb	19 36 49.3	
	comp=Z,111nm,1.2s						
MORW	**Morawa**	**56.47**	**250**	P	**P**	**19 36 48.1**	**-0.2**
LUWI	**Luwuk**	**59.02**	**283**	P	**P**	**19 37 05.7**	**-0.2**
LUWI				IAmb	IAmb	19 38 48.0	
	comp=Z,33nm,1.0s						
CCD	**Concordia, Ant**	**59.18**	**194**	P	**P**	**19 37 07.0**	**+0.6**
CCD				PcP	**PcP**	**19 37 48.0**	**+0.4**
CCD				pP	**pP**	**19 38 54.3**	**+0.1**
CCD				pwP	**pwP**	**19 39 01.4**	**+1.7**
CCD				ScP	**ScP**	**19 40 54.6**	**-0.2**
GIRL	**Giralia**	**59.41**	**257**	P	**P**	**19 37 09.1**	**+0.7**
BKSI	**Bulukumba**	**59.61**	**278**	P	**P**	**19 37 08.9**	**-0.9**
	comp=Z,26nm,0.7s						
BNSI	**Bone**	**60.00**	**279**	P	**P**	**19 37 11.8**	**-0.5**
	comp=Z,13nm,0.8s						
APSI	**Ampana**	**60.09**	**283**	P	**P**	**19 37 12.0**	**-0.9**
	comp=Z,32nm,1.1s						
CASY	**Casey**	**60.40**	**206**	P	**P**	**19 37 14.2**	**+0.1**
CASY				IAmb	IAmb	19 37 15.1	
	comp=Z,30nm,0.8s						
CASY				PcP	**PcP**	**19 37 52.5**	**+0.4**
CASY	**Casey**	**60.40**	**206**	P	**P**	**19 37 14.2**	**+0.1**
CASY				PcP	**PcP**	**19 37 52.6**	**+0.5**
PLAI	**Plampang**	**60.41**	**273**	P	**P**	**19 37 14.9**	**-0.2**
	comp=Z,63nm,0.7s						
MRSI	**Marisa**	**60.44**	**285**	P	**P**	**19 37 14.3**	**-1.0**
	comp=Z,12nm,0.4s						
SPSI	**Sidrap Palu**	**60.48**	**279**	P	**P**	**19 37 13.7**	**-1.8**
	comp=Z,18nm,1.7s						
TWSI	**Taliwang, Sumb**	**61.27**	**273**	P	**P**	**19 37 20.2**	**-0.5**
	comp=Z,22nm,1.1s						
TOLI2	**Tolitoli**	**61.76**	**285**	P	**P**	**19 37 22.9**	**-1.0**
TOLI2				PcP	**PcP**	**19 37 58.0**	**-0.7**
MPSI	**Mapaga**	**62.20**	**283**	P	**P**	**19 37 26.1**	**-0.7**
	comp=Z,30nm,0.8s						
SRBI	**Singaraja**	**63.04**	**273**	P	**P**	**19 37 31.1**	**-1.1**

comp=Z,28nm,0.9s
JAGI Jajag, Banyuwa 63.88 272 P **P** 19 37 37.2 -0.4
JAGI IAmb IAmb 19 38 06.4
comp=Z,33nm,1.1s
JAGI Jajag, Banyuwa 63.88 272 P **P** 19 37 36.8 -0.8
comp=Z,25nm,1.1s
BKB Balikpapan 64.21 280 P **P** 19 37 40.4 +0.7
BKB Balikpapan 64.21 280 P **P** 19 37 39.1 -0.6
GMJI Gumukmas 64.60 272 P **P** 19 37 41.0 -1.1
comp=Z,19nm,1.0s
BLJI Banyuglugur 64.66 272 P **P** 19 37 41.9 -0.6
comp=Z,21nm,0.6s
MYLDM Lahad Datu 65.66 287 P **P** 19 37 50.5 +1.8
MYLDM IAmb IAmb 19 38 27.6
comp=Z,29nm,1.3s
PWJI Pagerwojo 66.20 271 P **P** 19 37 51.5 -0.6
comp=Z,28nm,0.8s
QSPA South Pole Qui 66.83 180 P **P** 19 37 56.9 +1.6
QSPA IAmb IAmb 19 37 57.8
comp=Z,66nm,0.9s
QSPA South Pole Qui 66.83 180 ⇓P **P** 19 37 56.9 +1.6
UGM Wanagama 67.42 271 P **P** 19 37 59.1 -0.6
KPJI Karang Pucung 69.10 271 P **P** 19 38 09.1 -0.7
comp=Z,40nm,0.8s
JOW Kunigami 70.06 312 P **P** 19 38 15.8 +0.5
comp=Z,14nm,0.7s,baz=104,slow=4.2,SNR=3.6
comp=Z,14nm,0.7s
JOW Kunigami 70.06 312 P **P** 19 38 15.1 -0.2
JOW IAmb IAmb 19 39 17.2
comp=Z,127nm,1.7s
LEM Lembang 70.49 271 P **P** 19 38 18.6 +0.3
comp=Z,40nm,0.6s,baz=360,slow=9.7,SNR=9.7
comp=Z,40nm,0.6s
LEM Lembang 70.49 271 P **P** 19 38 18.3 0.0
MJAR Matsushiro Arr 70.98 326 P **P** 19 38 20.3 -0.2
comp=Z,2.6nm,0.8s,baz=159,slow=5.9,SNR=6.4
comp=Z,2.6nm,0.8s
KSM Kuching 71.33 280 P **P** 19 38 22.1 -0.9
KSM IAmb IAmb 19 38 23.9
comp=Z,19nm,0.8s
CGJI Cibinong 72.34 270 P **P** 19 38 28.0 -0.9
comp=Z,31nm,0.5s
TPUB Ta-pu 73.40 305 P **P** 19 38 33.4 -1.4
TPUB IAmb IAmb 19 38 41.0
comp=Z,72nm,1.4s
SSLB Suanglung 73.43 306 P **P** 19 38 33.6 -1.4
SSLB IAmb IAmb 19 40 03.2
comp=Z,88nm,1.8s
PPBI Pangkal Pinang 73.65 275 P **P** 19 38 36.0 -0.4
comp=Z,27nm,1.3s
MDSI Maura Dua 74.55 272 P **P** 19 38 39.6 -1.9
comp=Z,23nm,1.3s
KIWB Kanaga Island 74.84 2 P **P** 19 38 43.4 +1.1
ADK Adak 74.89 3 **P** 19 38 42.6 +0.1
ADK IAmb IAmb 19 41 31.6
comp=Z,145nm,1.7s
ASAJ Asahikawa 74.99 334 P **P** 19 38 45.3 +2.1
comp=Z,5.2nm,1.0s,baz=225,slow=8.6,SNR=2.4
comp=Z,5.2nm,1.0s
NIKH Nikolski High 76.60 7 P **P** 19 38 51.9 -0.1
SMAI San Martin Ant 76.95 159 P **P** 19 38 54.7 +1.0
SMAI IAmb IAmb 19 38 56.6
comp=Z,92nm,1.0s
BELA Belgrano 2 77.16 173 P **P** 19 38 55.3 +0.6
BELA IAmb IAmb 19 38 56.0
comp=Z,60nm,0.7s
KSRS Korea Array 77.32 320 P **P** 19 38 57.3 +1.1
comp=Z,1.5nm,0.7s,baz=120,slow=4.8,SNR=6.8
comp=Z,1.5nm,0.7s
UNV Unalaska Valle 77.76 9 P **P** 19 38 57.8 -0.3
UNV IAmb IAmb 19 39 02.8
comp=Z,292nm,2.0s
MAW Mawson 78.12 201 P **P** 19 39 01.1 +1.0
comp=Z,29nm,0.6s,baz=130,slow=5.3,SNR=48
comp=Z,29nm,0.6s
MAW Mawson 78.12 201 P **P** 19 39 00.4 +0.4
PEA0B Petropavlovsk- 78.32 347 P **P** 19 39 01.3 +0.1
PEA0B IAmb IAmb 19 41 25.4
comp=Z,58nm,1.6s
PETK Petropavlovsk- 78.32 347 P **P** 19 39 01.8 +0.6
comp=Z,4.4nm,0.7s,baz=118,slow=7.3,SNR=15
comp=Z,4.4nm,0.7s
NJ2 Nanjing 79.73 311 *e*P **P** 19 39 11.2 +2.0
NJ2 pmax pmax
comp=Z,11nm,1.0s
PMSA Palmer Station 79.77 157 P **P** 19 39 09.8 +1.0
comp=Z,36nm,0.6s,baz=239,slow=3.0,SNR=10
comp=Z,36nm,0.6s
PMSA Palmer Station 79.77 157 P **P** 19 39 10.2 +1.4
PMSA IAmb IAmb 19 39 11.2
comp=Z,39nm,0.8s
USRK Ussuriysk Ar. 79.86 328 P **P** 19 39 10.1 +0.5
comp=Z,2.4nm,0.8s,baz=107,slow=9.2,SNR=2.5
comp=Z,2.4nm,0.8s
IPM Ipoh 81.00 279 P **P** 19 39 15.8 -0.4
IPM IAmb IAmb 19 39 17.1
comp=Z,15nm,0.7s
CHIR Chirikof Islan 81.61 14 P **P** 19 39 19.0 +0.7
KULM Kulim 81.67 279 P **P** 19 39 19.5 -0.2
KULM IAmb IAmb 19 41 44.8
comp=Z,57nm,1.7s
RPSI Rantau Prapat 82.19 276 P **P** 19 39 21.5 -0.8
MG05 Puerto Natales 82.64 143 P **P** 19 39 24.7 +0.8
MG05 IAmb IAmb 19 39 26.4
comp=Z,43nm,0.8s
SLBS Sierra La Lagu 83.07 61 P **P** 19 39 28.8 +2.2
SLBS IAmb IAmb 19 41 45.2
comp=Z,78nm,2.0s
ELIB Princess Elisa 83.62 187 *d*P **P** 19 39 28.6 0.0
comp=Z,21nm,0.6s
KLR Kul'dur 83.64 331 P **P** 19 39 29.8 +1.1
comp=Z,1.1nm,0.6s,baz=143,slow=6.0,SNR=4.4
comp=Z,1.1nm,0.6s
MG02 Cerro Sombrero 83.86 145 P **P** 19 39 31.1 +1.2
KDAK Kodiak Island 84.09 15 P **P** 19 39 32.5 +1.8
comp=Z,1.8nm,0.6s,baz=194,slow=11,SNR=1.3
comp=Z,1.8nm,0.6s
PAF Port-aux-Franc 84.22 218 P **P** 19 39 33.0 +1.2
BEKR Beckworth 84.30 42 P **P** 19 39 34.4 +1.9
PIX Pinacate 84.33 52 P **P** 19 39 34.5 +2.0
NVAR Mina Array Bea 84.76 44 P **P** 19 39 36.1 +1.3
comp=Z,0.5nm,0.6s,baz=223,slow=8.6,SNR=4.7
comp=Z,0.5nm,0.6s
SNAA Sanae 85.32 179 P **P** 19 39 36.5 -0.3
SNAA IAmb IAmb 19 39 36.9
comp=Z,12nm,0.5s
O18K Koktuh Hills 85.41 13 P **P** 19 39 37.5 +0.4
O18K IAmb IAmb 19 40 22.2
comp=Z,70nm,1.8s
HNS HongShan 85.57 314 ⇑P **P** 19 39 40.2 +1.8
HNS pmax pmax
comp=Z,7.0nm,0.5s
COYC Coyhaique 85.83 138 P **P** 19 39 41.0 +1.4
319A Douglas 87.31 54 P **P** 19 39 48.7 +1.7
U15A North Rim 87.68 49 P **P** 19 39 50.2 +1.4
XAN Xi'an 87.81 309 P **P** 19 39 50.8 +1.6
XAN pP pP 19 41 48.1 -1.3
XAN pmax pmax
comp=Z,8.0nm,0.9s
MTPU Mount Pierson 88.59 47 P **P** 19 39 55.3 +2.2
CMAR Chiang Mai Arr 88.67 291 P **P** 19 39 54.8 +1.4
comp=Z,3.2nm,0.9s,baz=130,slow=3.1,SNR=20
CMAR pP **pP** 19 41 54.0 +0.2
comp=Z,2.8nm,1.1s,baz=131,slow=4.7,SNR=3.3
CMAR PKKPbc **PKKPbc** 19 57 31.6 +1.3
comp=Z,1.1nm,0.4s,baz=292,slow=4.4,SNR=10
comp=Z,3.2nm,0.9s
CMAR Chiang Mai Arr 88.67 291 pP 19 41 52.7 -1.2
CHTO Chiang Mai 88.82 291 P **P** 19 39 54.8 +0.7
CHTO IAmb IAmb 19 39 56.5
comp=Z,14nm,1.3s
GO06 Curarrehue 89.16 133 P **P** 19 39 56.9 +1.3
GO06 IAmb IAmb 19 39 59.5
comp=Z,27nm,1.4s
PLCA Paso Flores 89.20 134 P **P** 19 39 57.2 +1.5
comp=Z,5.2nm,0.8s,baz=242,slow=4.7,SNR=10
comp=Z,5.2nm,0.8s
CAST Castle Rocks 89.28 12 P **P** 19 39 54.4 -0.9
HHC Hu-ho-hao-te 89.49 315 *e*P **P** 19 39 58.2 +1.3
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,210nm,5.4s
PZH PanZhiHua 89.78 299 P **P** 19 39 58.3 -0.3
PZH pmax pmax
comp=Z,6.0nm,0.9s
PZH pmax pmax

comp=Z,100nm,4.1s
TMUT Trail Mountain 89.89 47 P **P** 19 39 60.0 +1.0
TMUT IAmb IAmb 19 40 02.4
comp=Z,17nm,1.4s
HVU Hansel Valley 90.14 44 P **P** 19 40 01.1 +1.2
SRU San Rafael Swe 90.25 47 P **P** 19 40 01.4 +0.8
MNTX Cornudas Mount 90.40 56 P **P** 19 40 02.1 +0.9
TX32 Lajitas Array 90.66 58 P **P** 19 40 03.0 +0.5
TXAR Lajitas Array 90.66 58 P **P** 19 40 04.2 +1.6
comp=Z,1.9nm,0.8s,baz=212,slow=6.8,SNR=16
TXAR pP **pP** 19 42 06.4 +1.8
comp=Z,0.6nm,0.8s,baz=211,slow=7.1,SNR=3.4
TXAR PKKPbc **PKKPbc** 19 57 26.5 +0.6
comp=Z,0.4nm,0.5s,baz=123,slow=3.2,SNR=6.5
comp=Z,1.9nm,0.8s
CCB Clear Creek Bu 91.26 14 pwP 19 42 09.7 -0.3
ILAR Eielson Array 91.56 14 P **P** 19 40 05.0 -0.8
comp=Z,0.3nm,0.6s,baz=204,slow=4.8,SNR=4.8
ILAR pP **pwP** 19 42 09.9 -1.6
comp=Z,2.3nm,0.9s,baz=227,slow=6.4,SNR=10
ILAR PP **PP** 19 43 50.2 -4.2
comp=Z,1.8nm,1.1s,baz=225,slow=6.5,SNR=5.2
comp=Z,0.3nm,0.6s
MT01 Popeta 92.15 128 P **P** 19 40 10.2 +0.9
MT01 IAmb IAmb 19 40 11.1
comp=Z,18nm,0.7s
LZH Lanzhou 92.45 308 *e*P **P** 19 40 12.0 +1.3
LZH pmax pmax
comp=Z,10.0nm,1.1s
PDAR Pinedale Array 92.70 44 P **P** 19 40 12.0 +0.2
comp=Z,0.4nm,0.6s,baz=199,slow=3.1,SNR=5.3
PDAR pP **pwP** 19 42 15.6 -0.4
comp=Z,0.3nm,0.6s,baz=218,slow=5.7,SNR=2.5
PDAR PP **PP** 19 44 00.7 -3.3
comp=Z,0.3nm,0.8s,baz=238,slow=5.2,SNR=3.4
comp=Z,0.4nm,0.6s
SONM Songino Array 96.17 320 P **P** 19 40 27.3 -0.1
comp=Z,1.1nm,1.2s,baz=132,slow=2.1,SNR=2.9
SONM pP **pP** 19 42 30.7 +2.1
comp=Z,0.7nm,0.9s,baz=108,slow=3.8,SNR=3.9
SONM PKKPbc **PKKPbc** 19 57 11.9 -0.5
comp=Z,7.6nm,1.4s,baz=272,slow=2.8,SNR=8.2
comp=Z,1.1nm,1.2s
SONM Songino Array 96.17 320 P **P** 19 40 30.1 +2.8
INK Inuvik 97.59 16 PP **PP** 19 44 36.6 -3.7
comp=Z,0.5nm,0.4s,baz=239,slow=3.9,SNR=3.5
YKA Yellowknife Ar 100.07 26 PKKPbc PKKPbc 19 56 59.5 -2.5
comp=Z,0.6nm,0.5s,baz=41,slow=2.2,SNR=13
ZALV Zalesovo Beam 111.03 321 PKiKP **PKiKP** 19 45 27.3 -1.4
comp=Z,0.7nm,0.3s,baz=90,slow=2.9,SNR=4.3
MKAR Makanchi Array 111.22 313 PKiKP **PKiKP** 19 45 28.4 -1.0
comp=Z,0.6nm,0.4s,baz=136,slow=0.7,SNR=11
MKAR PKKPbc **PKKPbc** 19 56 27.6 -0.1
comp=Z,0.9nm,0.6s,baz=282,slow=3.9,SNR=7.9
MKAR PKKPab **PKKPab** 19 56 38.6 +1.0
comp=Z,1.7nm,0.6s,baz=275,slow=5.5,SNR=15
KURBB Kurchatov Arra 114.31 317 PKP PKPdf 19 45 34.1 -0.9
comp=Z,2.5nm,0.8s,baz=98,slow=1.9,SNR=19
AAK Ala-Archa 115.97 307 PKP **PKPdf** 19 45 37.9 -0.8
comp=Z,1.3nm,0.5s,baz=172,slow=7.1,SNR=6.3
OPO Ambohidratompo117.41 232 PKP **PKPdf** 19 45 41.9 -0.4
comp=Z,3.6nm,0.6s,baz=39,slow=3.4,SNR=4.8
KK31 Karatay Array 118.94 308 **PKPdf** 19 45 43.7 -0.6
KKAR Karatay Array 118.94 308 PKPdf **PKPdf** 19 45 44.0 -0.3
KBL Kabul 118.95 298 PKPdf **PKiKP** 19 45 45.1 +0.2
BVAR Borovoye Array 119.51 319 PKP **PKPdf** 19 45 44.2 -0.8
comp=Z,5.0nm,0.4s,baz=121,slow=2.1,SNR=44
BDFB Brasilia 119.73 125 PKP **PKPdf** 19 45 45.6 -1.1
comp=Z,2.1nm,0.5s,baz=298,slow=4.2,SNR=6.4
SCHQ Schefferville 122.40 39 PKP **PKPdf** 19 45 49.7 -0.8
comp=Z,3.4nm,0.8s,baz=264,slow=4.1,SNR=5.5
SCHQ PKKPbc **PKKPab** 19 55 47.9 -0.3
comp=Z,1.5nm,0.5s,baz=150,slow=2.8,SNR=5.6
BOSA Boshof 122.67 207 PKP **PKiKP** 19 45 52.3 -0.1
comp=Z,6.6nm,0.8s,baz=136,slow=1.8,SNR=14
SPITS Spitsbergen Ar 124.43 356 PKP **PKPdf** 19 45 52.8 -1.0
comp=Z,10nm,0.7s,baz=46,slow=4.2,SNR=5.6
SPITS PKKPbc **PKKPbc** 19 55 40.4 -1.2
comp=Z,21nm,1.0s,baz=160,slow=4.6,SNR=12
HRA Herat 124.49 297 PKPdf **PKPdf** 19 45 55.4 -0.1
LBTB Lobatse 125.65 210 PKP **PKPdf** 19 45 57.9 0.0
comp=Z,3.7nm,0.8s,baz=176,slow=6.6,SNR=2.8
ARU Arti 125.97 324 PKP **PKPdf** 19 45 57.1 -0.2
comp=Z,7.7nm,0.4s,baz=92,slow=3.4,SNR=26
ARU PKKPbc **PKKPbc** 19 55 34.8 -0.3
comp=Z,2.3nm,0.5s,baz=267,slow=6.5,SNR=6.1
AKTO Aktyubinsk 127.37 317 PKP **PKPdf** 19 46 00.1 -0.1
comp=Z,3.4nm,0.6s,baz=96,slow=1.3,SNR=11
GEYT Alibeck 128.06 301 PKP **PKiKP** 19 46 02.4 -0.3
comp=Z,4.7nm,0.6s,baz=229,slow=3.3,SNR=13
GEYT Alibeck 128.06 301 PKPdf **PKPdf** 19 46 02.2 +0.2
KIRV Kirov 130.02 328 PKP **PKiKP** 19 46 05.5 -0.3
comp=Z,8.2nm,0.5s,baz=179,slow=1.2,SNR=6.0
KIRV SKPbc **SKPab** 19 48 36.2 +0.1
comp=Z,19nm,0.6s,baz=241,slow=2.2,SNR=8.4
ARCES ARCESS Array B 131.12 348 PKP **PKPdf** 19 46 05.8 -1.0
comp=Z,10nm,0.9s,baz=38,slow=1.2,SNR=19
ARCES SKPbc **SKPab** 19 48 41.0 +0.5
comp=Z,8.9nm,0.8s,baz=15,slow=5.0,SNR=7.2
LSZ Lusaka 132.39 219 PKP **PKPdf** 19 46 11.1 +0.2
comp=Z,5.7nm,0.7s,baz=129,slow=1.5,SNR=16
BELG Belogornoye 133.21 321 PKP **PKPdf** 19 46 10.9 -0.2
comp=Z,15nm,0.6s,baz=174,slow=1.1,SNR=5.2
BELG SKPbc **SKPbc** 19 48 48.0 +0.7
comp=Z,29nm,0.8s,baz=52,slow=0.8,SNR=6.9
KMBO Kilima Mbogo 135.81 242 PKP **PKPdf** 19 46 17.1 -0.5
comp=Z,2.8nm,0.8s,baz=60,slow=6.5,SNR=6.7
FINES FINESS Array B 137.62 341 PKhKP PKPpre 19 46 11.8
comp=Z,2.3nm,0.8s,baz=97,slow=3.4,SNR=6.0
FINES PKP **PKPdf** 19 46 19.4 +0.4
comp=Z,3.2nm,0.6s,baz=61,slow=3.5,SNR=12
FINES SKPbc **SKPbc** 19 49 01.0 +0.4
comp=Z,9.8nm,0.8s,baz=93,slow=4.0,SNR=13
LODK Lodwar 139.92 246 PKPpre 19 46 17.3
MBAR Mbarara 141.29 237 PKhKP PKPpre 19 46 23.3
comp=Z,3.3nm,0.2s,baz=117,slow=6.9,SNR=8.4
MBAR Mbarara 141.29 237 **PKPdf** 19 46 23.1 -4.3
NB2 NORSAR Subarra141.34 351 PKP **PKPdf** 19 46 21.0 -4.9
comp=Z,0.8nm,0.5s,baz=16,slow=3.2
NB2 SKPa 19 49 11.4
comp=Z,0.9nm,0.6s,baz=12,slow=2.5
NOA NORSAR Array B141.34 351 PKhKP PKPpre 19 46 21.0
comp=Z,3.1nm,0.8s,baz=16,slow=4.7,SNR=5.9
NOA SKPbc **SKPbc** 19 49 11.3 +0.7
comp=Z,3.3nm,0.9s,baz=14,slow=4.1,SNR=5.3
HFS Hagfors 141.78 348 PKhKP PKPpre 19 46 22.2
comp=Z,3.0nm,0.4s,baz=50,slow=2.3,SNR=25
AKASG Malin Array Be 144.06 327 PKP PKPbc 19 46 30.0 -0.4
comp=Z,8.3nm,0.5s,baz=40,slow=3.9,SNR=56
AKASG SKPbc **SKiKP** 19 49 18.4 +0.2
comp=Z,4.3nm,0.8s,baz=51,slow=2.5,SNR=14
AKBB Malin Array Si 144.06 327 PKPbc 19 46 29.1 -1.4
BNN Bunyan 145.28 305 PKPdf **PKPdf** 19 46 33.6 +0.1
ASF Jabal al Asfar 145.66 293 PKPbc **PKPab** 19 46 36.8 -0.8
comp=Z,11nm,0.8s,baz=112,slow=3.7,SNR=14
SORM Soroca 146.09 324 ⇓P **PKPbc** 19 46 36.6 +0.1
PURM Purcari 146.15 321 ⇓P **PKPbc** 19 46 37.3 +0.6
MILM Milestii Mici 146.54 322 ⇓P **PKPbc** 19 46 38.8 +1.0
BR131 Keskin Array S 146.65 308 **PKPdf** 19 46 35.7 -0.2
BR131 PKPbc **PKPbc** 19 46 38.4 -0.2
BRTR Keskin Array B 146.65 308 PKPbc **PKPbc** 19 46 38.1 -0.5
comp=Z,4.6nm,0.7s,baz=146,slow=3.7,SNR=25
MMAI Mount Meron Ar 146.82 295 PKPbc **PKiKP** 19 46 40.2 -0.9
comp=Z,23nm,0.6s,baz=75,slow=6.3,SNR=90
BEL Belsk 147.01 335 *e*PKPbc **PKPbc** 19 46 39.6 +0.7
ANTO Ankara 147.22 308 **PKPbc** 19 46 39.9 0.0
VASR Vaslui 147.28 323 ⇑P **PKPbc** 19 46 40.3 +0.6
TLCR 147.50 320 ⇑P **PKPbc** 19 46 41.0 +0.6
EIL Elat 147.51 289 PKPbc **PKPbc** 19 46 41.5 +0.5
comp=Z,10nm,0.7s,baz=28,slow=3.3,SNR=7.2
VLDR Vladesti 147.57 321 ⇑P **PKiKP** 19 46 41.3 -0.8
JURR Jurilovca 147.68 319 ⇑P **PKPbc** 19 46 41.1 +0.2
JAWL J.Aulia 147.69 262 *i* P **PKiKP** 19 46 43.4 +0.2
SCTR Scanteiesti 147.71 321 ⇓P **PKiKP** 19 46 41.8 -0.6
GHRR 147.83 322 ⇑P **PKiKP** 19 46 42.7 +0.1
CFR Carcaliu 147.91 320 ⇑P **PKPbc** 19 46 42.1 +0.7
EKA Eskdalemuir Ar 147.91 3 PKPbc **PKPbc** 19 46 40.6 -0.5
comp=Z,2.8nm,0.4s,baz=345,slow=2.6,SNR=26
TPGR Topolog 147.91 319 ⇑P **PKPbc** 19 46 41.2 -0.2
IZVR Izvoarele 147.92 321 ⇓P **PKiKP** 19 46 42.4 -0.3
TESR Tescani 147.99 323 ⇑P **PKPbc** 19 46 41.2 -0.4
BUR08 Bucovina Ar. S 148.05 326 **PKPbc** 19 46 42.2 +0.4
BURAR Bucovina Array 148.06 326 ⇑P **PKiKP** 19 46 43.3 +0.1
CSS Mathiatis 148.18 299 **PKPbc** 19 46 42.1 -0.4
HARR Harsova 148.29 319 ⇓P **PKPbc** 19 46 43.0 +0.6
TLBR Topalu 148.30 319 ⇑P **PKiKP** 19 46 43.3 -0.3

BISRR Bisoca 148.52 322 ⇓P **PKiKP** 19 46 44.3 +0.2
COVR Voineasa-Covas 148.63 323 ⇑P **PKPbc** 19 46 41.9 -1.4
STHS Stebnicka Huta 148.68 332 *e*PKP **PKPbc** 19 46 43.4 +0.1
ICOR Ion Corvin 148.68 319 ⇑P **PKiKP** 19 46 44.4 0.0
OZUR 148.71 323 ⇑P **PKiKP** 19 46 44.4 -0.1
ARCR ARCALIA 148.85 326 ⇑P **PKiKP** 19 46 44.8 +0.1
MLR Muntele Rosu 148.99 322 PKPbc **PKPbc** 19 46 43.7 -0.6
comp=Z,4.0nm,0.4s,baz=298,slow=3.9,SNR=8.8
MLR pKPbc **pPKPab** 19 48 54.5 +0.5
comp=Z,6.9nm,1.1s,baz=20,slow=5.4,SNR=4.2
MLR Muntele Rosu 148.99 322 ⇑P **PKPbc** 19 46 44.5 +0.2
DOPR Dopca 149.01 323 ⇑P **PKiKP** 19 46 45.3 +0.3
TRPA Tarpa 149.03 329 ⇑P **PKiKP** 19 46 44.2 +0.1
MRWI Hamdab 149.06 268 *i* P **PKiKP** 19 46 46.8 +0.8
NIE Niedzica 149.08 333 *e*PKPbc **PKiKP** 19 46 45.4 +0.2
KSP Ksiaz 149.44 339 *e*PKPbc **PKiKP** 19 46 45.9 +0.1
CBBR Cluj-Babes-Bol 149.47 326 ⇓P **PKiKP** 19 46 46.3 +0.3
CJR Cluj-Napoca 149.48 326 ⇑P **PKiKP** 19 46 46.0 0.0
VOIR 149.53 323 ⇑P **PKPbc** 19 46 45.0 -0.5
OKC Ostrava-Krasne 149.61 336⇑ *e*PKP **PKiKP** 19 46 45.9 -0.3
LANS Liptovska Anna 149.63 333 *e*PKP **PKiKP** 19 46 47.2 +0.9
OSTC Ostas 149.71 338⇑ *e*PKP **PKiKP** 19 46 46.9 +0.5
MARR Marisel-Cluj 149.75 326 ⇑P **PKiKP** 19 46 46.6 -0.1
ARR Arges 149.80 323 ⇓P **PKiKP** 19 46 48.2 +1.4
UPC Upice 149.82 339⇑ *e*PKP **PKiKP** 19 46 46.6 0.0
DPC Dobruska-Polom 149.85 338⇑ *e*PKP **PKiKP** 19 46 47.0 +0.3
DRGR 149.88 327 ⇑P **PKPbc** 19 46 46.4 +0.1
MORC Moravsky Berou 149.89 336 *e*PKP **PKiKP** 19 46 47.1 +0.3
KRLC Kraliky 149.92 337⇑ *e*PKP **PKiKP** 19 46 47.0 +0.1
CLL Collm 150.04 343 **PKiKP** 19 46 46.9 -0.1
CLL Collm 150.04 343⇓ *i*PKPbc **PKiKP** 19 46 46.9 -0.1
comp=Z,43nm,0.9s
MAUC Maruska 150.12 335⇑ *e*PKP **PKiKP** 19 46 47.6 +0.3
BRG Berggiesshubel 150.16 341⇓ *i*PKP **PKiKP** 19 46 47.5 +0.2
BRG Amp 19 46 48.0
comp=Z,25nm,0.6s
LOT Lotru 150.22 324 ⇑P **PKPbc** 19 46 47.0 -0.2
PVCC Panska Ves 150.27 340⇑ *e*PKP **PKiKP** 19 46 47.5 0.0
HLFA HLFA 150.31 274 *i* P **PKiKP** 19 46 48.7 +0.2
DEV Deva 150.40 325 ⇓P **PKiKP** 19 46 47.9 0.0
VYHS Vyhne 150.41 333 *e*PKP **PKiKP** 19 46 48.1 +0.2
VYHS *e* 19 49 01.9
JAVC Velka Javorina 150.59 335 *e*PKP **PKiKP** 19 46 49.5 +1.2
VRAC Vranov 150.63 337 *e*PKP **PKPbc** 19 46 47.5 -0.3
comp=Z,4.0nm,0.5s,baz=184,slow=2.3,SNR=7.5
VRAC PKPab **PKPab** 19 46 58.2 +0.9
comp=Z,1.7nm,0.5s,baz=30,slow=0.9,SNR=4.1
VRAC pPKPbc **pPKPab** 19 48 59.1 -1.2
comp=Z,4.3nm,1.0s,baz=339,slow=5.3,SNR=3.0
VRAC Vranov 150.63 337 *e*PKP **PKiKP** 19 46 48.4 +0.1
GOPC GO Pecny, Ondr 150.74 339⇑ *e*PKP **PKiKP** 19 46 48.4 -0.1
PRU Pruhonice 150.75 340⇑ *e*PKP **PKiKP** 19 46 48.4 -0.1
SIRR Siria 150.77 327 ⇑P **PKiKP** 19 46 48.7 0.0
AKAS Kas 150.78 303 PKPdf **PKPdf** 19 46 41.3 -1.3
AKAS **PKPbc** 19 46 48.3 -0.5
MANT Manisa 150.78 308 PKPdf **PKPdf** 19 46 41.4 -1.2
MANT **PKPbc** 19 46 48.3 -0.5
GZR Gura Zlata 150.79 325 ⇓P **PKPbc** 19 46 48.3 -0.1
SURR Surduc 150.89 326 ⇑P **PKPbc** 19 46 48.7 +0.1
KRUC Moravsky 150.90 337 *e*PKP **PKiKP** 19 46 49.1 +0.2
PLVB Pleven 151.00 320 ⇑P **PKiKP** 19 46 49.3 +0.1
TREC Trest 151.03 338⇑ *e*PKP **PKiKP** 19 46 49.3 +0.1
MODS Modra-Piesok 151.13 335 *e*PKP **PKiKP** 19 46 50.3 +0.9
MODS *e* 19 48 53.4
NKC Novy Kostel 151.16 342⇑ *e*PKP **PKPbc** 19 46 49.1 0.0
BZS Buzias 151.24 326 ⇓P **PKPbc** 19 46 49.5 +0.1
HERR Herculane 151.32 324 ⇓P **PKiKP** 19 46 49.7 -0.1
MDVR Moldovita 151.76 325 ⇑P **PKPbc** 19 46 50.5 -0.2
KHC Kasperske Hory 151.81 340 **PKPbc** 19 46 50.1 -0.5
KHC Kasperske Hory 151.81 340⇑ *e*PKP **PKiKP** 19 46 51.1 +0.3
CKRC Cesky Krumlov 151.84 339⇑ *e*PKP **PKiKP** 19 46 51.8 +1.0
GEC2 GERESS Array S 152.02 339 **PKPbc** 19 46 50.4 -0.7
GERES GERESS Array B 152.02 339 PKPbc **PKiKP** 19 46 51.3 0.0
comp=Z,3.6nm,0.7s,baz=82,slow=2.1,SNR=8.4
GERES pPKPbc **pPKPbc** 19 49 00.2 +0.7
comp=Z,0.9nm,0.7s,baz=42,slow=2.9,SNR=2.9
CONA Conrad Observa 152.04 336 *e*PKP **PKiKP** 19 46 51.8 +0.4
comp=Z,6.6nm,0.7s
CONA *ep*PKP **pPKPbc** 19 48 58.7 -0.7
comp=Z,6.4nm,1.3s
RONA Rosalia, Austr 152.06 335 *i* PKP **PKiKP** 19 46 51.6 +0.2
comp=Z,7.8nm,0.5s
RONA *ep*PKP **pPKPab** 19 49 07.0 +0.8
comp=Z,12nm,1.6s
MORH Mrgy, Hungar 152.25 330 ⇑P **PKiKP** 19 46 51.9 +0.2
VTS Vitosha 152.27 320 ⇑P **PKiKP** 19 46 52.5 +0.4
VTS Vitosha 152.27 320 **PKPbc** 19 46 50.8 -1.2
VTS PKPab **PKPab** 19 47 06.1 +1.4
FRGS Fruska Gora 152.47 328 ⇓P **PKiKP** 19 46 53.3 +1.0
MOA Molln 152.69 338 *e*PKP **PKPbc** 19 46 52.6 0.0
comp=Z,4.1nm,1.1s
ARSA Arzberg 152.73 335 *e*PKP **PKPbc** 19 46 52.4 -0.3
comp=Z,4.0nm,1.0s
ARSA *ep*PKP **pPKPab** 19 49 06.4 -2.6
comp=Z,2.4nm,0.8s
SOKA Soboth 153.40 335 *e*PKP **PKPbc** 19 46 53.4 -0.8
comp=Z,1.8nm,0.6s
SOKA *ep*PKiKP **pPKiKP** 19 49 04.9 +2.0
comp=Z,8.1nm,1.3s
KBA Koelnbreinsper 153.67 338 *e*PKP **PKiKP** 19 46 55.4 +0.5
comp=Z,1.5nm,0.3s
KBA *ep*PKP **pPKPbc** 19 49 02.8 -0.6
comp=Z,8.0nm,1.6s
OBKA Obir 153.72 336 *e*PKP **PKPbc** 19 46 54.0 -0.9
comp=Z,14nm,1.6s
MYKA Terra Mystica 153.95 337 *i* PKP **PKPbc** 19 46 54.6 -0.8
comp=Z,1.4nm,0.3s
MYKA *ep*PKP **pPKPdf** 19 48 54.5 -2.0
WATA Walderalm 154.02 341 *i* PKP **PKPbc** 19 46 55.5 0.0
comp=Z,2.9nm,0.5s
WATA *ep*PKP **pPKPdf** 19 48 57.2 +0.6
comp=Z,6.6nm,1.3s
WTTA Wattenberg 154.07 341 *i* PKP **PKiKP** 19 46 55.7 0.0
comp=Z,3.5nm,0.4s
WTTA *ep*PKiKP **pPKiKP** 19 49 05.5 +1.1
comp=Z,6.9nm,1.3s
MOTA Moosalm 154.15 341 *i* PKP **PKPbc** 19 46 55.4 -0.4
comp=Z,1.5nm,0.5s
MOTA *ep*PKP **pPKPab** 19 49 10.8 -4.3
comp=Z,5.9nm,1.0s
SQTA Sankt Quirin 154.23 341 *i* PKP **PKiKP** 19 46 55.9 0.0
comp=Z,2.2nm,0.5s
SQTA *ep*PKP **pPKPab** 19 49 11.2 -4.2
comp=Z,4.0nm,0.7s
ABTA Abfaltersbach 154.24 339 *e*PKP **PKiKP** 19 46 55.3 -0.7
comp=Z,3.0nm,0.5s
ABTA *ep*PKiKP **pPKiKP** 19 49 07.3 +2.7
comp=Z,9.0nm,1.1s
FETA Feichten 154.56 342 *e*PKP **PKPdf** 19 46 47.5 -0.3
comp=Z,1.4nm,0.7s
FETA *ep*PKP **pPKPab** 19 49 12.0 -4.8
comp=Z,7.1nm,1.2s
IDI Anoyia 154.71 304 PKPbc **PKiKP** 19 46 56.9 -0.4
comp=Z,9.9nm,0.9s,baz=112,slow=5.4,SNR=1.7
DAVOX Davos/Dischmat 155.01 343 PKP **PKPdf** 19 46 47.4 -1.0
comp=Z,2.4nm,0.8s,baz=39,slow=22,SNR=4.4
DAVOX PKPbc PKPab 19 46 58.0 -18
comp=Z,1.7nm,0.6s,baz=114,slow=17,SNR=5.5
DBIC Dimbokro 163.04 166 PKP **PKPdf** 19 46 57.9 -0.4
comp=Z,6.6nm,0.6s,baz=142,slow=4.3,SNR=16
DBIC PKPab **PKPab** 19 47 52.6 +0.9
comp=Z,8.5nm,0.8s,baz=208,slow=3.6,SNR=13
DBIC Dimbokro 163.04 166 PKPdf **PKPdf** 19 46 57.9 -0.4
DBIC **PKPab** 19 47 52.2 +0.5
ESDC Sonseca Array 163.40 9 PKP **PKPdf** 19 46 58.6 +0.6
comp=Z,0.4nm,1.0s,baz=352,slow=3.1,SNR=2.3
TORD Torodi Ar. Bea 169.69 193 PKP **PKPdf** 19 47 02.8 -0.6
comp=Z,6.5nm,1.0s,baz=13,slow=0.6,SNR=17
TORD PKPab **PKPab** 19 48 21.3 +0.3
comp=Z,12nm,0.8s,baz=166,slow=4.7,SNR=34
TORD PP **PP** 19 52 09.8 -0.8
comp=Z,2.1nm,0.9s,baz=153,slow=6.0,SNR=5.9
TORD Torodi Ar. Bea 169.69 193 **PKPdf** 19 47 02.0 -1.3
TORD **PKPab** 19 48 20.4 -0.6
MDT Midelt 169.88 19 PKP **PKPdf** 19 47 04.7 +1.6
comp=Z,4.8nm,0.8s,baz=296,slow=3.9,SNR=11

*IDC **03** 19:32:23.4±0.7,27°.95N×93°.88

az=57.0
*NDI **03** 19:32:27.3±3.1, 27°.93N×93°.79E, h10km, ML4.1, mb4.4(NEIC)*
ISC 03 19:32:25.3±0.4, **27°.97N**±0°.04×**93°.85E**±0°.04, **h10**km, **n100, σ1s27**/110, **mb4.3**/43, **Northeastern India**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZIRO	**ZIRO**	**0.44**	**180**	*e*P	g	**Pg**	**19 32 34.6**	**+0.6**
ZIRO				*i* Sg		**Sg**	**19 32 41.6**	**+1.8**
ZIRO				IAML			19 32 42.0	
	comp=E,37μm,0.7s							
ZIRO				IAML			19 32 44.1	
	comp=N,53μm,0.7s							
ITAN	**ITANAGAR**	**0.83**	**188**	*e*P		**Pg**	**19 32 42.5**	**+1.2**
DIBR	**DIBRUGARH**	**1.07**	**118**	*e*P		**Pb**	**19 32 46.4**	**+0.6**
TEZP	**TEZPUR**	**1.64**	**215**	*e*Pg		**Pb**	**19 32 56.0**	**+0.4**
TEZP				*i* Sg		**Sg**	**19 33 18.4**	**+0.4**
TEZP				IAML			19 33 19.7	
	comp=E,6μm,0.2s							
TEZP				IAML			19 33 20.9	
	comp=N,7μm,0.1s							
MOKO	**MOKOCHONG**	**1.75**	**160**	*e*P		**Pn**	**19 32 56.9**	**+1.1**
MOKO				*i* x		x	19 32 58.7	
MOKO				*e*S		**Sg**	**19 33 22.3**	**+0.8**
LSA	**Lhasa**	**2.93**	**307**			**Pn**	**19 33 16.5**	**+4.2**
SHL	**Shillong**	**2.97**	**217**			**Pn**	**19 33 12.6**	**-0.1**
SHL	**Shillong**	**2.97**	**217**	*e*P		**Pn**	**19 33 13.1**	**+0.5**
SHL				*i* x		x	19 33 21.1	
SHL				*e*S		**Sn**	**19 33 49.0**	**+0.5**
SHL				IAML			19 33 49.8	
	comp=E,255nm,0.2s							
SHL				IAML			19 33 49.9	
	comp=N,298nm,0.2s							
SILR	**SILCHAR**	**3.31**	**197**	*e*x		x	19 33 28.7	
GTK	**Tadong**	**4.70**	**263**	*e*P		**Pn**	**19 33 40.1**	**+3.7**
TAPN	**Taplejung**	**5.48**	**265**	*e*Pg		**Pn**	**19 33 48.7**	**+1.4**
TAPN				*e*Sg		**Sn**	**19 34 51.2**	**+0.7**
	comp=N,52nm,0.2s							
SAIH	**SAIHA**	**5.51**	**188**	*e*P		**Pn**	**19 33 50.3**	**+2.7**
SAIH				*e*x		x	19 34 54.6	
RAMN	**Ramite**	**6.52**	**263**	*e*Pg		**Pn**	**19 34 03.2**	**+1.7**
RAMN				*e*Sg		**Sn**	**19 35 15.4**	**-0.7**
	comp=N,51nm,0.2s							
JIRN	**Jiri**	**6.79**	**269**	*e*Pg		**Pn**	**19 34 06.8**	**+1.4**
JIRN				*e*Sg		**Sn**	**19 35 21.9**	**-1.0**
	comp=N,128nm,0.3s							
PKI	**Pulchoki**	**7.49**	**269**	*e*Pg		**Pn**	**19 34 15.7**	**+0.8**
PKI				*e*Sg		**Sn**	**19 35 38.7**	**-1.4**
	comp=N,41nm,0.3s							
PKIN	**Phulchoki**	**7.50**	**269**	*e*Pg		**Pn**	**19 34 15.7**	**+0.7**
PKIN				*e*Sg		**Sn**	**19 35 38.8**	**-1.4**
	comp=N,37nm,0.2s							
KKN	**Kakani**	**7.58**	**271**	*e*Pg		**Pn**	**19 34 17.1**	**+0.9**
KKN				*e*Sg		**Sn**	**19 35 40.1**	**-2.2**
	comp=N,23nm,0.2s							
DMN	**Daman**	**7.75**	**269**	*e*Pg		**Pn**	**19 34 20.1**	**+1.6**
DMN				*e*Sg		**Sn**	**19 35 44.5**	**-2.0**
	comp=N,19nm,0.3s							
GKN	**Gorkha**	**8.14**	**272**	*e*Pg		**Pn**	**19 34 25.1**	**+1.3**
GKN				*e*Sg		**Sn**	**19 35 53.3**	**-2.7**
	comp=N,48nm,0.2s							
DANN	**Dangsing**	**8.91**	**275**	*e*Pg		**Pn**	**19 34 34.7**	**+0.3**
DANN				*e*Sg		**Sn**	**19 36 11.7**	**-3.4**
	comp=N,13nm,0.2s							
CRAI	**Chiangrai**	**9.74**	**141**	Pn		**Pn**	**19 34 48.2**	**+2.7**
CHTO	**Chiang Mai**	**10.24**	**152**			**Pn**	**19 34 52.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**10.56**	**153**	Pn		**Pn**	**19 34 57.0**	**+0.2**
	comp=N,3.0nm,0.9s,baz=328,slow=13,SNR=24							
CMAR				LR		LR	19 39 40.6	
	comp=N,85nm,20.2s,baz=345,slow=42							
LGTI	**Lohaghat**	**12.03**	**280**	*e*P		**Pn**	**19 35 18.8**	**+1.9**
UBPT	**Khong Chiam**	**16.60**	**137**	P		**Pn**	**19 36 20.7**	**+2.5**
UBPT				IAmb		IAmb	19 36 22.0	
	comp=Z,8.5nm,0.6s							
MK31	**Makanchi Array**	**20.87**	**337**	P		**P**	**19 37 07.3**	**-0.2**
MKAR	**Makanchi Array**	**20.87**	**337**	P		**P**	**19 37 07.4**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=144,slow=13,SNR=28							
	comp=Z,1.7nm,0.5s							
MKAR	**Makanchi Array**	**20.87**	**337**	P		**P**	**19 37 07.3**	**-0.2**
MAKZ	**Makanchi**	**20.99**	**337**	P		**P**	**19 37 08.7**	**-0.1**
AAK	**Ala-Archa**	**21.46**	**318**	P		**P**	**19 37 15.7**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=140,slow=11,SNR=8.1							
	comp=Z,1.4nm,0.5s							
AAK	**Ala-Archa**	**21.46**	**318**	P		**P**	**19 37 13.1**	**-0.9**
SONM	**Songino Array**	**22.11**	**23**	P		**P**	**19 37 20.3**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=211,slow=11,SNR=9.8							
SONM				LR		LR	19 46 50.9	
	comp=Z,99nm,18.4s,baz=232,slow=39							
	comp=Z,0.9nm,0.7s							
SONM	**Songino Array**	**22.11**	**23**	P		**P**	**19 37 21.4**	**+0.5**
KBL	**Kabul**	**22.16**	**293**	P		**P**	**19 37 21.7**	**0.0**
KBL				IAmb		IAmb	19 37 22.9	
	comp=Z,7.7nm,0.7s							
ULN	**Ulaanbaatar**	**22.37**	**24**	P		**P**	**19 37 23.3**	**-0.4**
CHGR	**Chuyangaron**	**23.16**	**304**	P		**P**	**19 37 31.7**	**-0.3**
CHGR				IAmb		IAmb	19 38 06.0	
	comp=Z,5.2nm,0.8s							
KULM	**Kulim**	**23.46**	**163**	P		**P**	**19 37 33.7**	**-1.5**
KULM				IAmb		IAmb	19 37 42.6	
	comp=Z,37nm,1.5s							
KK31	**Karatay Array**	**24.15**	**315**	P		**P**	**19 37 41.7**	**+0.1**
KKAR	**Karatay Array**	**24.15**	**315**	P		**P**	**19 37 41.4**	**-0.1**
KKAR	**Karatay Array**	**24.15**	**315**	P		**P**	**19 37 41.6**	**0.0**
KKAR				IAmb		IAmb	19 38 00.8	
	comp=Z,1.4nm,0.9s							
TPUB	**Ta-pu**	**24.57**	**95**	P		**P**	**19 37 42.5**	**-3.1**
TPUB				IAmb		IAmb	19 38 15.4	
	comp=Z,24nm,1.2s							
KURBB	**Kurchatov Arra**	**25.44**	**337**	P		**P**	**19 37 53.0**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=146,slow=10,SNR=17							
	comp=Z,1.4nm,0.7s							
KURK	**Kurchatov**	**25.49**	**337**	P		**P**	**19 37 52.7**	**-0.8**
ZALV	**Zalesovo Beam**	**26.79**	**348**	P		**P**	**19 38 05.3**	**0.0**
	comp=Z,1.0nm,0.6s,baz=163,slow=11,SNR=5.2							
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**30.47**	**332**	P		**P**	**19 38 38.2**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=135,slow=10,SNR=14							
	comp=Z,1.2nm,0.4s							
GEYT	**Alibeck**	**31.42**	**298**	P		**P**	**19 38 47.8**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=167,slow=6.8,SNR=3.7							
	comp=Z,1.1nm,0.4s							
JMZ	**Minamidaito 2**	**33.32**	**85**	P		**P**	**19 39 04.4**	**+1.0**
ABKAR	**Akbulak array**	**33.55**	**319**	P		**P**	**19 39 04.7**	**-0.5**
ABKAR	**Akbulak array**	**33.55**	**319**	P		**P**	**19 39 05.5**	**+0.4**
ABKAR				IAmb		IAmb	19 39 15.3	
	comp=Z,0.7nm,0.7s							
JKA	**Kamikawa-asahi**	**41.95**	**54**	P		**P**	**19 40 16.3**	**0.0**
JKA				IAmb		IAmb	19 40 46.1	
	comp=Z,15nm,1.3s							
ERM	**Erimo**	**42.20**	**57**	P		**P**	**19 40 16.7**	**-1.6**
ERM				IAmb		IAmb	19 40 24.3	
	comp=Z,42nm,1.2s							
TIXI	**Tiksi**	**47.78**	**14**	P		**P**	**19 41 01.6**	**-0.7**
TIXI				IAmb		IAmb	19 41 08.2	
	comp=Z,2.4nm,1.1s							
GUMO	**Guam**	**49.46**	**96**	P		**P**	**19 41 14.8**	**-1.3**
BRTR	**Keskin Array B**	**50.51**	**300**	P		**P**	**19 41 23.0**	**-0.9**
	comp=Z,0.8nm,1.0s,baz=94,slow=7.5,SNR=2.3							
	comp=Z,0.8nm,1.0s							
AKASG	**Malin Array Be**	**53.05**	**314**	P		**P**	**19 41 40.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=72,slow=6.0,SNR=5.0							
	comp=Z,0.1nm,0.3s							
ELL	**Elmali**	**53.84**	**297**	P		**P**	**19 41 47.5**	**-1.2**
FINES	**FINESS Array B**	**55.25**	**327**	P		**P**	**19 41 58.9**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=79,slow=7.2,SNR=1.8							
	comp=Z,1.4nm,0.8s							
FINES	**FINESS Array B**	**55.25**	**327**	P		**P**	**19 41 58.7**	**+0.3**
MLR	**Muntele Rosu**	**55.55**	**308**	P		**P**	**19 42 01.3**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=359,slow=11,SNR=2.2							
	comp=Z,1.2nm,0.5s							
BURAR	**Bucovina Array**	**55.83**	**310**	P		**P**	**19 42 02.2**	**-0.7**
BURAR				IAmb		IAmb	19 42 06.1	
	comp=Z,2.6nm,1.5s							
KEV	**Kevo**	**56.05**	**337**	P		**P**	**19 42 04.6**	**+0.6**
ARCES	**ARCESS Array B**	**56.53**	**337**	P		**P**	**19 42 07.9**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=72,slow=5.2,SNR=3.9							
	comp=Z,1.7nm,0.6s							
HFS	**Hagfors**	**61.34**	**326**	P		**P**	**19 42 40.4**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=99,slow=9.5,SNR=1.1							
	comp=Z,1.6nm,0.7s							
WB0	**Warramunga Arr**	**61.57**	**136**	P		**P**	**19 42 42.7**	**-0.3**
WRAB	**Tennant Creek**	**61.66**	**136**	P		**P**	**19 42 43.4**	**-0.3**
WRA	**Warramunga Arr**	**61.66**	**136**	P		**P**	**19 42 43.1**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=322,slow=7.5,SNR=15							
	comp=Z,1.5nm,0.7s							
WB2	**Warramunga Arr**	**61.67**	**136**	P		**P**	**19 42 43.4**	**-0.4**
WB2				IAmb		IAmb	19 42 47.6	
	comp=Z,12nm,1.3s							
NOA	**NORSAR Array B**	**62.43**	**327**	P		**P**	**19 42 47.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=85,slow=10,SNR=2.3							
	comp=Z,0.8nm,0.8s							
GERES	**GERESS Array B**	**63.24**	**313**	P		**P**	**19 42 53.2**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=54,slow=9.9,SNR=4.4							
	comp=Z,1.2nm,0.7s							
AS31	**Alice Springs**	**64.25**	**139**	P		**P**	**19 43 00.6**	**-0.2**
AS31				IAmb		IAmb	19 43 34.4	
	comp=Z,1.8nm,1.4s							
ASAR	**Alice Springs**	**64.25**	**139**	P		**P**	**19 43 00.3**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=325,slow=6.9,SNR=16							
	comp=Z,1.3nm,0.7s							
NWAO	**Narrogin (SRO)**	**64.51**	**158**	P		**P**	**19 43 01.0**	**-1.3**
FUORN	**Ofenpass-Fuorn**	**66.04**	**311**	P		**P**	**19 43 11.6**	**-0.9**
DAVOX	**Davos/Dischmat**	**66.25**	**312**	P		**P**	**19 43 12.9**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=90,slow=9.1,SNR=2.3							
	comp=Z,1.1nm,0.5s							
SENIN	**Lac Senin/Sane**	**68.07**	**312**	P		**P**	**19 43 25.1**	**-0.3**
KEST	**Kesra**	**70.11**	**301**	P		**P**	**19 43 38.0**	**-0.2**
ESK	**Eskdalemuir**	**71.29**	**323**	P		**P**	**19 43 49.1**	**+4.3**
UNV	**Unalaska Valle**	**73.26**	**38**			pP	19 44 04.0	+3.6
COLD	**Coldfoot**	**73.80**	**21**	P		**P**	**19 44 00.0**	**+0.5**
COLD				IAmb		IAmb	19 44 28.4	
	comp=Z,3.3nm,1.3s							
STKA	**Stephens Creek**	**74.88**	**139**	P		**P**	**19 44 06.2**	**-0.2**
CAST	**Castle Rocks**	**75.26**	**25**	P		**P**	**19 44 08.9**	**+0.8**
CAST				IAmb		IAmb	19 44 32.1	
	comp=Z,2.2nm,1.1s							
BMAR	**Burnt Mountain**	**75.43**	**20**	P		**P**	**19 44 10.4**	**+1.3**
PPLA	**Purkeypile**	**75.51**	**26**	P		**P**	**19 44 10.2**	**+0.4**
PPLA				IAmb		IAmb	19 44 23.3	
	comp=Z,11nm,1.4s							
M20K	**Styx River**	**75.70**	**27**	P		**P**	**19 44 11.6**	**+0.8**
M20K				IAmb		IAmb	19 44 41.3	
	comp=Z,4.0nm,1.3s							
O18K	**Koktuh Hills**	**75.92**	**29**	P		**P**	**19 44 13.0**	**+1.0**
O18K				IAmb		IAmb	19 44 14.9	
	comp=Z,11nm,1.4s							
SKT	**Skwentna**	**76.28**	**26**	P		**P**	**19 44 13.8**	**-0.2**
SKT				IAmb		IAmb	19 44 53.3	
	comp=Z,6.9nm,1.4s							
A36M	**Sachs Harbour**	**76.71**	**12**	P		**P**	**19 44 16.4**	**+0.2**
A36M				IAmb		IAmb	19 44 17.8	
	comp=Z,2.2nm,0.8s							
SUA	**Susitna One**	**76.88**	**26**	P		**P**	**19 44 17.4**	**-0.1**
SUA				IAmb		IAmb	19 44 50.2	
	comp=Z,10nm,1.4s							
SML	**Sawmill**	**77.61**	**25**	P		**P**	**19 44 22.0**	**+0.4**
SML				IAmb		IAmb	19 44 53.1	
	comp=Z,8.3nm,1.2s							
J26L	**Joseph Creek**	**77.62**	**22**	P		**P**	**19 44 22.2**	**+0.6**
J26L				IAmb		IAmb	19 44 56.4	
	comp=Z,3.6nm,1.4s							
RIDG	**Independent Ri**	**77.68**	**23**	P		**P**	**19 44 21.9**	**0.0**
RIDG				IAmb		IAmb	19 44 36.3	
	comp=Z,8.2nm,1.5s							
BRLK	**Bradley Lake**	**77.80**	**28**	P		**P**	**19 44 21.9**	**-0.7**
BRLK				IAmb		IAmb	19 44 40.2	
	comp=Z,17nm,1.3s							
SCRK	**Sand Creek**	**77.82**	**22**	P		**P**	**19 44 22.4**	**-0.4**
KDAK	**Kodiak Island**	**78.20**	**30**	P		**P**	**19 44 24.4**	**-0.4**
ESDC	**Sonseca Array**	**78.23**	**309**	LR		LR	20 22 47.1	
	comp=Z,49nm,18.8s,baz=314,slow=39							
KLU	**Klutina**	**78.71**	**25**	P		**P**	**19 44 28.2**	**+0.4**
KLU				IAmb		IAmb	19 44 40.3	
	comp=Z,11nm,1.5s							
L27K	**Beaver Creek,**	**79.15**	**23**	P		**P**	**19 44 31.1**	**+1.0**
L27K				IAmb		IAmb	19 44 32.0	
	comp=Z,1.4nm,0.8s							
BCAR	**Beaver Creek A**	**79.16**	**23**	P		**P**	**19 44 31.5**	**+1.3**
WHY	**Whitehorse**	**83.18**	**22**	P		**P**	**19 44 52.1**	**+0.4**
WHY				IAmb		IAmb	19 44 53.4	
	comp=Z,2.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**85.81**	**283**	P		**P**	**19 45 05.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=71,slow=3.5,SNR=4.5							
	comp=Z,0.9nm,0.6s							

*IDC **03** 19:38:55.5±1.4, 3°.93N×126°.15E, h0km, mb3.6/5, mbtmp3.6/5, MS4.0/2, Error ellipse: s-maj=174.6km s-min=21.0km az=65.0*
*NEIC **03** 19:39:05.4±0.7, 3°.86N±0°.07×125°.81E±0°.10, h74km±13km, mb4.5/10, Error ellipse: s-maj=13.9km s-min=10.0km az=85.0*
*MAN **03** 19:39:08.4, 4°.10N×126°.32E, h9km, mb4.4, ML3.2, MS2.9*
ISC 03 19:39:07.8±0.6, **3°.79N**±0°.05×**125°.77E**±0°.09, **h107**km, **n23, σ1s77**/25, **mb4.1**/10, **1C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSPH	**General Santos**	**2.42**	**340**	↓*i*P		**Pn**	**19 39 45.4**	**-0.8**
GSPH				*i* S		**Sn**	**19 40 15.6**	**-0.1**
DAV	**Davao City (W)**	**3.26**	**357**	Pn		**Pn**	**19 39 52.7**	**-4.5**
TNTI	**Ternate**	**3.40**	**152**	Pn		**Pn**	**19 39 56.5**	**-2.5**
CTBH	**Cotabato--PC H**	**3.73**	**336**	↑*e*P		Pn	19 40 07.4	+4.0
TOLI2	**Tolitoli**	**5.64**	**242**	Pn		**Pn**	**19 40 27.6**	**-1.7**
TOLI2				Sn		**Sn**	**19 41 30.9**	**-2.0**
MYLDM	**Lahad Datu**	**7.37**	**281**	Pn		**Pn**	**19 40 50.6**	**-2.1**
FAKI	**Fak Fak**	**9.30**	**136**	Pn		**Pn**	**19 41 17.2**	**-1.7**
TPUB	**Ta-pu**	**20.02**	**346**	P		**P**	**19 43 30.4**	**-1.8**
TPUB				IAmb		IAmb	19 43 37.1	
	comp=Z,69nm,1.5s							
FITZ	**Fitzroy Crossi**	**21.75**	**180**	P		**P**	**19 43 51.9**	**+1.1**
WRAB	**Tennant Creek**	**25.04**	**161**	P		**P**	**19 44 22.3**	**+0.1**
WRAB				IAmb		IAmb	19 44 31.2	
	comp=Z,21nm,1.4s							
WRA	**Warramunga Arr**	**25.05**	**161**	P		**P**	**19 44 21.5**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=340,slow=10,SNR=7.9							
WRA				PcP		**PcP**	**19 47 56.1**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=342,slow=2.3,SNR=1.8							
	comp=Z,2.9nm,1.0s							
WB2	**Warramunga Arr**	**25.05**	**161**	P		**P**	**19 44 21.0**	**-1.2**
WB2				IAmb		IAmb	19 44 31.2	
	comp=Z,19nm,1.4s							
WR0	**Warramunga Arr**	**25.13**	**160**	P		**P**	**19 44 23.0**	**+0.1**
WR0				IAmb		IAmb	19 44 36.5	
	comp=Z,12nm,1.4s							
ASAR	**Alice Springs**	**28.42**	**164**	P		**P**	**19 44 52.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=344,slow=7.8,SNR=5.1							
ASAR				PcP		**PcP**	**19 48 03.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=344,slow=2.6,SNR=6.3							
	comp=Z,0.4nm,0.6s							
HNR	**Honiara**	**36.51**	**111**	LR		LR	20 00 23.4	
	comp=Z,335nm,18.4s,baz=217,slow=36							
BJT	**Baijiatuan**	**37.09**	**348**	P		**P**	**19 46 07.3**	**-0.5**
NWAO	**Narrogin (SRO)**	**37.40**	**192**	P		**P**	**19 46 11.2**	**+0.8**
BBOO	**Buckleboo**	**37.69**	**166**	P		**P**	**19 46 13.3**	**+0.5**
BBOO				IAmb		IAmb	19 46 48.1	
	comp=Z,8.6nm,1.1s							
STKA	**Stephens Creek**	**38.54**	**158**	P		**P**	**19 46 20.5**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=311,slow=11,SNR=3.9							
	comp=Z,2.2nm,0.8s							
MDJ	**Mudanjiang**	**40.80**	**4**	P		**P**	**19 46 40.4**	**+1.9**
MDJ				IAmb		IAmb	19 46 44.8	
	comp=Z,15nm,1.5s							
MKAR	**Makanchi Array**	**56.96**	**326**	P		**P**	**19 48 43.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=120,slow=8.5,SNR=1.9							
MKAR				PcP		**PcP**	**19 49 37.9**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=142,slow=3.4,SNR=2.1							
	comp=Z,0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**61.17**	**328**	P		**P**	**19 49 13.7**	**+2.7**
	comp=Z,0.2nm,0.6s,baz=119,slow=7.6,SNR=2.2							
	comp=Z,0.2nm,0.6s							
BELG	**Belogornoye**	**79.77**	**322**	LR		LR	20 28 28.3	
	comp=Z,45nm,18.8s,baz=84,slow=37							

*IDC **03** 19:48:50.8±10.0, 42°.33N×142°.54E, h0km, mb3.6/3, mbtmp3.5/4, ML1.9/1, Error ellipse: s-maj=203.8km s-min=43.6km az=91.0*
*JMA **03** 19:48:56.9±0.2, 42°.0N±0°.7×142°.6E±0°.7, h61km±1km, MV3.2/40, S OFF URAKAWA*
ISC 03 19:48:56.1±1.3, **42°.01N**±0°.04×**142°.52E**±0°.04, **h30**km±11km, **n27, σ1s92**/31, **mb3.7**/3, **10D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNBK	**Urakawa-nobuka**	**0.33**	**32**	*e*P		**Pn**	**19 49 06.9**	**+2.1**
JNBK				*e*S		**Sn**	**19 49 14.6**	**+4.1**
JSHD	**Hidakashinhida**	**0.41**	**355**	*e*P		**Pn**	**19 49 08.1**	**+2.2**
JSHD				*e*S		**Sn**	**19 49 17.0**	**+4.5**
JEM	**Erimo**	**0.48**	**89**	*e*P		**Pn**	**19 49 08.4**	**+1.6**
JEM				*e*S		**Sn**	**19 49 16.9**	**+2.7**
JTHR	**Tokachihiroo**	**0.65**	**64**	*e*P		**Pn**	**19 49 10.2**	**+0.9**
JIAM	**Iburiatsuma**	**0.76**	**325**	↓*e*P		**Pn**	**19 49 12.9**	**+2.2**
JBT2	**Biratori 2**	**0.78**	**352**	*e*P		**Pn**	**19 49 12.1**	**+1.0**
JBT2				*e*S		**Sn**	**19 49 23.5**	**+1.8**
JCH	**Churui**	**0.87**	**46**	*i* P		**Pn**	**19 49 12.8**	**+0.5**
JKB	**Kayabe**	**1.11**	**264**	↓*i*P		**Pb**	**19 49 17.0**	**+0.2**
JKB				↓*e*S		**Sn**	**19 49 31.9**	**+2.0**
JEW	**Eniwo**	**1.15**	**317**	↓*i*P		**Pb**	**19 49 17.5**	**+0.1**
JEW				↓*e*S		**Sn**	**19 49 33.0**	**+2.2**
JFR	**Furan**	**1.16**	**3**	*e*P		**Pn**	**19 49 16.8**	**+0.5**
JNB	**Noboribetsu**	**1.19**	**293**	↓*i*P		**Pb**	**19 49 17.4**	**-0.7**
JNB				↓*e*S		**Sb**	**19 49 33.4**	**+0.2**
JOT	**Ohata**	**1.27**	**241**	↓*i*P		**Pb**	**19 49 19.1**	**-0.2**
JOT				↓*e*S		**Sb**	**19 49 35.6**	**+0.3**
JOB	**Onbets**	**1.32**	**47**	*e*P		**Pb**	**19 49 19.7**	**-0.7**
JISS	**Ishikarishitsu**	**1.51**	**328**	P		**Pb**	**19 49 22.3**	**-1.2**
JISS				S		**Sb**	**19 49 41.7**	**-0.4**
JAB	**Ashibetsu**	**1.51**	**352**	P		**Pn**	**19 49 22.1**	**+1.0**
JAR	**Ashorobuto**	**1.59**	**35**	*i* P		**Pn**	**19 49 22.5**	**+0.3**
JAR				S		**Sn**	**19 49 41.9**	**+0.3**
JYM2	**Yakumo 2**	**1.60**	**275**	↓*i*P		**Pb**	**19 49 23.6**	**-1.4**
MJAR	**Matsushiro Arr**	**6.40**	**213**	Pn		**Pn**	**19 50 30.1**	**+1.8**
	baz=26,slow=13,SNR=2.4							
	0.9nm,0.6s							
SONM	**Songino Array**	**26.07**	**295**	P		**P**	**19 54 25.0**	**-1.9**
	0.2nm,0.4s,baz=76,slow=8.4,SNR=3.9							
	0.2nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**30.32**	**130**	T		T	20 26 27.4	
	baz=323,slow=75,SNR=21							
H11N1	**WAKE ISLAND Hy**	**30.33**	**130**	T		T	20 26 27.3	
	baz=323,slow=75,SNR=21							
H11N3	**WAKE ISLAND Hy**	**30.34**	**130**	T		T	20 26 31.3	
	baz=323,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**31.18**	**131**	T		T	20 27 44.1	
	baz=325,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**31.18**	**131**	T		T	20 27 32.2	
	baz=325,slow=76,SNR=21							
H11S2	**WAKE ISLAND Hy**	**31.20**	**131**	T		T	20 27 38.6	
	baz=325,slow=76,SNR=8.2							
ZALV	**Zalesovo Beam**	**39.36**	**308**	P		**P**	**19 56 20.1**	**-2.4**
	0.6nm,0.4s,baz=88,slow=9.8,SNR=3.7							
	0.6nm,0.4s							
BVAR	**Borovoye Array**	**47.97**	**309**	P		**P**	**19 57 29.2**	**-2.5**
	0.6nm,0.5s,baz=70,slow=9.7,SNR=4.4							
	0.6nm,0.5s							

IDC 03 20:03:29.8±7.9, **4°.41S×142°.49E, h184**km±87km, **mb2.9**/3, **mbtmp3.7**/5, **Error ellipse: s-maj=68.8km s-min=26.9km az=136.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**6.79**	**137**	P		Pn	20 05 08.3	+1.1
	5.2nm,0.4s,baz=304,slow=3.6,SNR=3.2							
PMG				S		Sn	20 06 23.6	-0.6
	2.1nm,0.4s,baz=307,slow=20,SNR=1.4							
WRA	**Warramunga Arr**	**17.36**	**207**	P		P	20 07 19.1	-0.7
	2.0nm,0.5s,baz=28,slow=13,SNR=22							
ASAR	**Alice Springs**	**20.86**	**203**	P		P	20 07 57.8	+0.3
	1.0nm,0.7s,baz=30,slow=12,SNR=14							
	1.0nm,0.7s							
MKAR	**Makanchi Array**	**73.44**	**322**	P		P	20 14 42.0	+0.1
	0.2nm,0.7s,baz=102,slow=5.6,SNR=2.1							
	0.2nm,0.7s							
ILAR	**Eielson Array**	**85.83**	**24**	P		P

CO01 eS Sg **20 17 30.7 -0.4**
CO01 IAML 20 17 34.8
comp=N,4μm,0.3s
CO01 Juntas del Tor 1.74 77 *i* P **Pg 20 17 09.0 +0.4**
CO01 eS **Sg 20 17 31.8 +0.7**
CO01 IAML 20 17 35.6
comp=Z,3μm,0.5s
CO01 Juntas del Tor 1.74 77 *i* P **Pg 20 17 09.0 +0.4**
CO01 eS **Sg 20 17 31.8 +0.7**
CO01 IAML 20 17 35.6
comp=Z,3μm,0.5s
LCO Las Campanas 1.80 41 Pb 20 17 09.4 +0.2
LCO Las Campanas 1.80 41 *e*P **Pb 20 17 09.4 +0.2**
LCO eS **Sg 20 17 33.0 -0.2**
LCO IAML 20 17 43.7
comp=Z,4μm,0.5s
LCO Las Campanas 1.80 41 *e*P **Pb 20 17 09.4 +0.2**
LCO eS **Sg 20 17 33.0 -0.2**
LCO IAML 20 17 43.7
comp=Z,4μm,0.5s
AC05 El Transito 2.18 45 Pb 20 17 15.2 -0.4
AC05 El Transito 2.18 45⇑ *i*P **Pb 20 17 15.3 -0.4**
AC05 eS **Sb 20 17 41.7 -1.5**
AC05 IAML 20 17 47.8
comp=E,2μm,0.3s
AC05 El Transito 2.18 45 *i* P **Pb 20 17 15.0 -0.6**
AC05 IAML 20 17 53.0
comp=Z,3μm,0.8s
AC05 El Transito 2.18 45 *i* P **Pb 20 17 15.0 -0.6**
AC05 IAML 20 17 53.0
comp=Z,3μm,0.8s
AROD Rodeo 2.23 85 *i* P **Pg 20 17 18.0 -0.1**
AROD eS **Sg 20 17 46.2 -0.9**
AROD Rodeo 2.23 85 *i* P **Pg 20 17 18.0 -0.1**
AROD eS **Sg 20 17 46.2 -0.9**
VA06 Catapilco 2.26 164 Pn 20 17 14.2 +0.6
VA06 Catapilco 2.26 164 *e*P **Pn 20 17 15.0 +1.4**
VA06 eS **Sn 20 17 41.4 -0.7**
VA06 IAML 20 17 53.4
comp=N,4μm,0.5s
AC04 Llanos de Chal 2.34 21 Pn 20 17 15.2 +0.5
AC04 Llanos de Chal 2.34 21⇑ *e*P **Pn 20 17 15.6 +0.9**
AC04 eS **Sn 20 17 44.4 +0.4**
AC04 IAML 20 18 01.4
comp=E,928nm,0.6s
AC04 Llanos de Chal 2.34 21 *i* P **Pn 20 17 16.0 +1.3**
AC04 IAML 20 18 02.8
comp=Z,1μm,1.4s
AC04 Llanos de Chal 2.34 21 *i* P **Pn 20 17 16.0 +1.3**
AC04 IAML 20 18 02.8
comp=Z,1μm,1.4s
ACDV Cuesta del Vie 2.54 86 *i* P **Pg 20 17 24.0 +0.1**
ACDV IAML 20 18 02.0
comp=Z,1μm,0.7s
ACDV Cuesta del Vie 2.54 86 *i* P **Pg 20 17 24.0 +0.1**
ACDV IAML 20 18 02.0
comp=Z,1μm,0.7s
ACCO Cerro Coronel 2.58 95 *i* P **Pb 20 17 23.0 +0.6**
ACCO Cerro Coronel 2.58 95 *i* P **Pb 20 17 23.0 +0.6**
VA01 Torpederas 2.65 173 Pn **Pn 20 17 18.1 -0.9**
VA01 Torpederas 2.65 173 *i* P **Pb 20 17 22.0 -1.4**
VA01 IAML 20 18 04.3
comp=Z,453nm,0.5s
VA01 Torpederas 2.65 173 *i* P **Pb 20 17 22.0 -1.4**
VA01 IAML 20 18 04.3
comp=Z,453nm,0.5s
VA03 San Esteban 2.69 152 Pn 20 17 21.2 +1.6
VA03 San Esteban 2.69 152 *e*P **Pn 20 17 22.2 +2.5**
VA03 eS **Sn 20 17 54.0 +1.2**
VA03 IAML 20 18 03.0
comp=E,3μm,0.5s
VA03 San Esteban 2.69 152 *i* P **Pn 20 17 22.0 +2.3**
VA03 IAML 20 18 08.0
comp=Z,1μm,0.4s
VA03 San Esteban 2.69 152 *i* P **Pn 20 17 22.0 +2.3**
VA03 IAML 20 18 08.0
comp=Z,1μm,0.4s
ROCH El Roble 2.72 161 *e*P **Pn 20 17 21.9 +1.6**
ROCH eS **Sn 20 17 54.2 +0.4**
ROCH IAML 20 18 12.0
comp=E,3μm,0.5s
ROC1 El Roble 2.72 162 Pn 20 17 21.6 +1.3
ROC1 El Roble 2.72 162 *i* P **Pn 20 17 22.0 +1.7**
ROC1 El Roble 2.72 162 *i* P **Pn 20 17 22.0 +1.7**
RTLS Leoncito 2.74 122 *i* P **Pb 20 17 25.7 +0.5**
RTLS IAML 20 18 07.2
comp=Z,3μm,0.5s
RTLS Leoncito 2.74 122 *i* P **Pb 20 17 25.7 +0.5**
RTLS IAML 20 18 07.2
comp=Z,3μm,0.5s
MT02 Curacav 2.96 165 Pn 20 17 24.5 +1.1
MT02 Curacav 2.96 165 *e*P **Pn 20 17 25.4 +2.0**
MT02 Curacav 2.96 165 *i* P **Pn 20 17 25.0 +1.6**
MT02 IAML 20 18 15.0
comp=Z,699nm,0.4s
MT02 Curacav 2.96 165 *i* P **Pn 20 17 25.0 +1.6**
MT02 IAML 20 18 15.0
comp=Z,699nm,0.4s
PEL Peldehue 2.98 158 *e*P **Pn 20 17 26.0 +2.4**
PEL eS **Sn 20 18 02.2 +2.2**
PEL IAML 20 18 13.2
comp=E,1μm,0.3s
ZON Zonda 3.11 113 Pn **Pb 20 17 29.8 -1.5**
ZON Zonda 3.11 113 *i* P **Pb 20 17 30.0 -1.4**
ZON IAML 20 18 25.5
comp=Z,661nm,0.6s
ZON Zonda 3.11 113 *i* P **Pb 20 17 30.0 -1.4**
ZON IAML 20 18 25.5
comp=Z,661nm,0.6s
MT05 Renca 3.19 160 Pn 20 17 28.2 +1.6
MT05 Renca 3.19 160 *i* P **Pn 20 17 28.9 +2.3**
MT05 IAML 20 18 23.5
comp=Z,772nm,0.5s
MT05 Renca 3.19 160 *i* P **Pn 20 17 28.9 +2.3**
MT05 IAML 20 18 23.5
comp=Z,772nm,0.5s
GO03 Copiap 3.20 30 Pn 20 17 26.9 +0.1
GO03 Copiap 3.20 30 *i* P **Pn 20 17 29.0 +2.3**
GO03 Copiap 3.20 30 *i* P **Pn 20 17 29.0 +2.3**
RTLL Cerro Villicun 3.21 108 *i* P **Pb 20 17 31.0 -2.0**
RTLL Cerro Villicun 3.21 108 *i* P **Pb 20 17 31.0 -2.0**
VA05 Santo Domingo 3.28 174 Pn 20 17 28.8 +1.1
VA05 Santo Domingo 3.28 174 *e*P **Pn 20 17 28.4 +0.7**
MT03 Universidad Ad 3.36 158 Pn 20 17 31.5 +2.6
MT03 Universidad Ad 3.36 158 *e*P **Pn 20 17 30.7 +1.8**
MT03 Universidad Ad 3.36 158 *i* P **Pn 20 17 32.0 +3.1**
MT03 IAML 20 18 28.3
comp=Z,910nm,0.8s
MT03 Universidad Ad 3.36 158 *i* P **Pn 20 17 32.0 +3.1**
MT03 IAML 20 18 28.3
comp=Z,910nm,0.8s
AC06 Mina Casimiro 3.36 27 Pn 20 17 30.1 +1.2
MT09 Talagante 3.49 165 Pn 20 17 32.9 +2.1
MT09 Talagante 3.49 165 *e*P **Pn 20 17 33.0 +2.1**
MT01 Popeta 3.53 169 Pn 20 17 32.4 +1.3
MT01 Popeta 3.53 169 *e*P **Pn 20 17 32.5 +1.3**
MT01 Popeta 3.53 169 *i* P **Pn 20 17 32.5 +1.3**
MT01 IAML 20 18 37.9
comp=Z,415nm,0.6s
MT01 Popeta 3.53 169 *i* P **Pn 20 17 32.5 +1.3**
MT01 IAML 20 18 37.9
comp=Z,415nm,0.6s
LMEL Las Melosas 3.78 156 Pn 20 17 37.5 +2.7
BO04 La Punta 3.79 162 Pn 20 17 36.5 +1.8
BO01 Tunca 4.07 169 Pn 20 17 39.8 +1.2
BO01 Tunca 4.07 169 *i* P **Pn 20 17 40.0 +1.4**
BO01 IAML 20 18 53.6
comp=Z,242nm,0.5s
BO01 Tunca 4.07 169 *i* P **Pn 20 17 40.0 +1.4**
BO01 IAML 20 18 53.6
comp=Z,242nm,0.5s
AC02 Maricunga 4.37 37 Pn 20 17 41.4 -1.8
AC01 Pan de Azucar 4.41 17 Pn 20 17 42.5 -0.8
AC01 Pan de Azucar 4.41 17 *i* P **Pn 20 17 43.0 -0.3**
AC01 IAML 20 19 01.8
comp=Z,254nm,0.7s
AC01 Pan de Azucar 4.41 17 *i* P **Pn 20 17 43.0 -0.3**
AC01 IAML 20 19 01.8
comp=Z,254nm,0.7s
BO02 Sierra Bellavi 4.52 167 Pn 20 17 46.8 +1.9
BO02 Sierra Bellavi 4.52 167 *i* P **Pn 20 17 47.0 +2.2**
BO02 IAML 20 19 06.5
comp=Z,363nm,0.5s
BO02 Sierra Bellavi 4.52 167 *i* P **Pn 20 17 47.0 +2.2**
BO02 IAML 20 19 06.5
comp=Z,363nm,0.5s
GO05 Huala 4.61 179 Pn 20 17 46.3 +0.3
GO05 Huala 4.61 179 *i* P **Pn 20 17 47.0 +1.0**
GO05 Huala 4.61 179 *i* P **Pn 20 17 47.0 +1.0**
ML02 Panimavida 5.38 175 Pn 20 17 56.3 -0.4
PB14 IPOC Station P 5.92 15 Pn **Pn 20 18 02.5 -1.9**
H03N1 Juan Fernandez 6.58 241 T T
baz=70,slow=72,SNR=3772
20 20 25 16.6
H03N2 Juan Fernandez 6.60 241 T T
baz=70,slow=72,SNR=2443
20 20 25 17.1
H03N3 Juan Fernandez 6.60 241 T T
baz=70,slow=72,SNR=2406
20 20 25 15.8
VA04 Juan Fernndez 6.61 239 Pn **Pn 20 18 12.9 -0.7**
H03S3 Juan Fernandez 6.76 238 T T
baz=65
20 20 25 29.9
H03S1 Juan Fernandez 6.76 238 T T
baz=65
20 20 25 27.1
H03S2 Juan Fernandez 6.78 238 T T
baz=65
20 20 25 27.6
PB10 IPOC Station P 6.98 11 Pn **Pn 20 18 14.6 -3.9**
LVC Limon Verde 8.24 21 *e*P Pb **20 18 52.3 -6.7**
PB03 IPOC Station P 8.56 14 Pn **Pn 20 18 37.7 -2.7**
GO06 Curarrehue 9.19 177 Pn **Pn 20 18 45.9 -3.0**
PLCA Paso Flores 10.39 174 Pn **Pn 20 19 05.8 +0.4**
comp=Z,0.5nm,0.3s,baz=342,slow=13,SNR=11
comp=Z,1.5nm,0.3s
PB08 IPOC Station P 10.53 15 Pn **Pn 20 19 05.5 -2.3**
TRQA Tornquist 11.30 135 Pn **Pn 20 19 18.6 +0.8**
ITQB Itaqui 13.38 91 Pn **Pn 20 19 42.4 -3.9**
CPUP Villa Florida 13.57 76 Pn **Pn 20 19 49.4 +0.5**
comp=Z,0.2nm,0.3s,baz=18,slow=11,SNR=1.9
CPUP Lg Lg 20 23 31.8
comp=Z,0.3nm,0.3s,baz=301,slow=18,SNR=2.9
CPUP LR LR 20 25 24.0
comp=Z,193nm,19.1s,baz=244,slow=39
comp=Z,0.8nm,0.6s
CPUP Villa Florida 13.57 76 *e*P P 20 20 03.1 +4.9
LPAZ La Paz 14.49 15 Pn **Pn 20 20 01.0 -1.0**
PLTB Pedras Altas 15.86 100 P **Pn 20 20 17.3 -2.4**
PLTB IAmb IAmb 20 20 55.8
comp=Z,28nm,1.2s
PLTB Pedras Altas 15.86 100 *e*P P 20 20 33.8 +10
ITAB Concordia 17.73 85 P **Pn 20 20 39.7 -3.6**
ITAB IAmb IAmb 20 20 52.8
comp=Z,25nm,1.2s
AQDB Aquidauana 17.74 60 *e*P **P 20 20 49.8 +5.4**
PTLB Pontes e Lacer 19.01 41 P **P 20 20 55.6 -2.8**
PTLB IAmb IAmb 20 21 25.1
comp=Z,3.2nm,0.9s
VILB Vilhena 20.52 35 P **P 20 21 12.2 -2.8**
VILB IAmb IAmb 20 21 21.7
comp=Z,25nm,1.2s
VILB Vilhena 20.52 35 *e*P Pn 20 21 19.2 +2.1
ETMB Extrema 21.18 16 P **P 20 21 17.8 -4.3**
ETMB IAmb IAmb 20 21 28.9
comp=Z,7.1nm,1.0s
ETMB Extrema 21.18 16 *e*P **P 20 21 26.7 +4.7**
FRTB Fartura 21.23 76 *e*P **P 20 21 28.1 +5.4**
ITRB Iturama 22.30 67 *e*P **P 20 21 39.0 +4.9**
CZSB Cruzeiro do Su 22.55 358 *e*P **P 20 21 41.9 +5.0**
SAML Samuel 22.88 23 P **P 20 21 36.0 -4.3**
PDRB Porto dos Gac 23.47 41 *e*P **P 20 21 48.7 +2.3**
TBTG Tabatinga, AM 26.14 5 *e*P **P 20 22 13.5 +2.6**
BDFB Brasilia 26.46 62 P **P 20 22 14.4 +0.4**
comp=Z,2.1nm,0.5s,baz=240,slow=8.1,SNR=3.2
BDFB LR LR 20 33 24.5
comp=Z,105nm,19.9s,baz=42,slow=38
comp=Z,2.1nm,0.5s
BOAV Boa Vista 34.41 21 P **P 20 23 19.6 -4.5**
BOAV IAmb IAmb 20 23 34.3
comp=Z,12nm,1.5s
RUSC La Rusia 36.09 358 P **P 20 23 36.3 -2.9**
MDP Montagnes des 39.88 31 LR LR 20 42 32.0
comp=Z,59nm,20.8s,baz=218,slow=39
RCBR Riachuelo 41.84 62 LR LR 20 44 15.3
comp=Z,51nm,18.1s,baz=330,slow=40
BELA Belgrano 2 50.43 170 P **P 20 25 35.0 +1.2**
BELA IAmb IAmb 20 26 16.0
comp=Z,5.5nm,1.5s
TXAR Lajitas Array 66.60 330 P **P 20 27 30.1 +2.8**
comp=Z,0.6nm,0.8s,baz=156,slow=6.9,SNR=4.7
comp=Z,0.6nm,0.8s
DBIC Dimbokro 74.05 72 P **P 20 28 13.3 +0.1**
comp=Z,1.9nm,0.8s,baz=246,slow=7.9,SNR=2.0
comp=Z,1.9nm,0.8s
TORD Torodi Ar. Bea 83.00 70 P **P 20 29 03.5 +1.0**
comp=Z,1.6nm,0.9s,baz=240,slow=5.8,SNR=8.0
comp=Z,1.6nm,0.9s
H11S2 WAKE ISLAND Hyl 25.74 272 T T 22 54 19.2
baz=115,slow=75,SNR=29
H11S1 WAKE ISLAND Hyl 25.75 272 T T 22 54 19.9
baz=115,slow=75,SNR=38
H11S3 WAKE ISLAND Hyl 25.76 272 T T 22 54 20.9
baz=115,slow=75,SNR=37
ZALV Zalesovo Beam 151.12 29 PKPbc **PKiKP 20 36 31.4 +1.3**
comp=Z,5.5nm,0.7s,baz=300,slow=3.7,SNR=22
KSH Kashi 152.37 62 PKPbc **PKiKP 20 36 35.0 +1.6**
KSH sPKP 20 36 44.6
MKAR Makanchi Array 154.27 43 PKP **PKPdf 20 36 29.4 +0.7**
comp=Z,0.4nm,1.0s,baz=299,slow=3.0,SNR=3.6
MKAR PKPbc **sPKPbc 20 36 38.1 +1.9**
comp=Z,0.8nm,0.9s,baz=278,slow=2.5,SNR=5.0

*IDC **03** 20:18:23.6±0.9, 7°.10S×125°.55E, h487km±16km, mb3.0/7, mbtmp3.9/12, Error ellipse: s-maj=27.8km s-min=15.5km az=66.0*
*NEIC **03** 20:18:24.4±1.2, 7°.1S±0°.1×125°.6E±0°.1, h480km±12km, mb4.3/8, Error ellipse: s-maj=21.5km s-min=16.2km az=67.0*
ISC 03 20:18:24.5±0.6, 7°.19S±0°.07×125°.47E±0°.09, h511km, n43, σ1s38/46, mb3.6/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.81**	**205**	P	**P**	**P**	**20 19 33.7**	**-1.5**
SOEI				S	**S**	**S**	**20 20 28.9**	**-3.9**
SOEI	**Soe**	**2.81**	**205**	P	**P**	**P**	**20 19 34.5**	**-0.7**
BATI	**Baumata**	**3.48**	**211**	P	**P**	**P**	**20 19 39.3**	**-0.4**
	93nm,0.3s,baz=96,slow=9.3,SNR=41							
BATI				S	**S**	**S**	**20 20 38.2**	**-2.8**
	199nm,0.6s,baz=223,slow=12,SNR=12							
MMRI	**Maumere**	**3.50**	**246**	P	**P**	**P**	**20 19 39.7**	**-0.1**
MMRI				S	**S**	**S**	**20 20 38.6**	**-2.6**
KAPI	**Kappang**	**6.08**	**291**	P	**P**	**P**	**20 20 02.0**	**0.0**
	17nm,0.8s,baz=144,slow=4.8,SNR=6.4							
KAPI	**Kappang**	**6.08**	**291**	P	**P**		**20 20 03.3**	**+1.2**
LUWI	**Luwuk**	**6.67**	**336**	P	**P**		**20 20 08.0**	**+0.1**
LUWI	**Luwuk**	**6.67**	**336**	P	**P**		**20 20 08.0**	**+0.1**
PLAI	**Plampang**	**7.79**	**257**	P	**P**		**20 20 19.0**	**0.0**
MTN	**Manton Dam**	**7.92**	**136**		**P**		**20 20 19.7**	**-0.6**
MTN	**Manton Dam**	**7.92**	**136**	P	**P**		**20 20 19.6**	**-0.6**
FAKI	**Fak Fak**	**7.98**	**58**		**P**		**20 20 19.0**	**-2.0**
FAKI	**Fak Fak**	**7.98**	**58**	P	**P**		**20 20 19.2**	**-1.8**
SIJI	**Sorong**	**8.54**	**43**	P	**P**		**20 20 24.4**	**-2.4**
	4.9nm,0.5s,baz=216,slow=19,SNR=4.1							
KDU	**Kakadu**	**8.80**	**129**	P	**P**		**20 20 28.1**	**-1.3**
TOLI2	**Tolitoli**	**9.48**	**330**	P	**P**		**20 20 35.6**	**-1.0**
TOLI2	**Tolitoli**	**9.48**	**330**	P	**P**		**20 20 35.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.84**	**179**	P	**P**		**20 20 51.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**10.84**	**179**	P	**P**		**20 20 51.3**	**+0.5**
WB0	**Warramunga Arr**	**15.21**	**146**	P	**P**		**20 21 35.8**	**-0.9**
WB0					IAmb	IAmb	20 21 42.5	
	comp=Z,14nm,1.3s							
WRAB	**Tennant Creek**	**15.32**	**147**	P	**P**		**20 21 37.2**	**-0.7**
WRA	**Warramunga Arr**	**15.32**	**147**	P	**P**		**20 21 37.0**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=324,slow=11,SNR=31							
WR0	**Warramunga Arr**	**15.45**	**146**	P	**P**		**20 21 38.4**	**-0.8**
WR0					IAmb	IAmb	20 21 40.9	
	comp=Z,6.6nm,0.9s							
WRKA	**Warakurna**	**17.95**	**172**	P	**P**		**20 22 05.3**	**+1.4**
AS31	**Alice Springs**	**18.27**	**155**	P	**P**		**20 22 08.0**	**+1.1**
ASAR	**Alice Springs**	**18.27**	**155**	P	**P**		**20 22 08.0**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=330,slow=8.7,SNR=58							
COEN	**Coen**	**18.65**	**113**	P	**P**		**20 22 10.6**	**+0.2**
COEN					IAmb	IAmb	20 22 11.6	
	comp=Z,5.2nm,0.7s							
QIS	**Mount Isa**	**19.08**	**136**	P	**P**		**20 22 14.7**	**+0.5**
OOD	**Oodnadatta**	**22.66**	**156**	P	**P**		**20 22 48.1**	**+1.6**
MULG	**Mulgathing**	**24.34**	**162**	P	**P**		**20 23 03.0**	**+1.5**
BBOO	**Buckleboo**	**27.32**	**160**	P	**P**		**20 23 29.1**	**+1.3**
BBOO					IAmb	IAmb	20 24 09.0	
	comp=Z,14nm,1.3s							
STKA	**Stephens Creek**	**28.80**	**151**	P	**P**		**20 23 41.8**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=333,slow=12,SNR=3.6							
	comp=Z,1.1nm,0.5s							
STKA	**Stephens Creek**	**28.80**	**151**	P	**P**		**20 23 42.0**	**+1.3**
CAN	**Canberra**	**35.36**	**146**	P	**P**		**20 24 38.9**	**+2.1**
MJAR	**Matsushiro Arr**	**45.12**	**15**	P	**P**		**20 25 54.1**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=186,slow=8.4,SNR=5.0							
	comp=Z,0.9nm,0.7s							
JTM	**Tenmabayashi**	**49.86**	**15**	P	**P**		**20 26 30.9**	**+0.6**
SONM	**Songino Array**	**57.32**	**345**	P	**P**		**20 27 24.2**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=156,slow=7.9,SNR=1.9							
	comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**66.00**	**329**	P	**P**		**20 28 21.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=117,slow=6.9,SNR=6.2							
	comp=Z,0.3nm,0.6s							
MKAR	**Makanchi Array**	**66.00**	**329**	P	**P**		**20 28 21.2**	**+1.3**
PETK	**Petropavlovsk-**	**66.00**	**21**	P	**P**		**20 28 20.1**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=228,slow=5.4,SNR=5.1							
	comp=Z,2.2nm,1.0s							
ZALV	**Zalesovo Beam**	**69.84**	**336**	P	**P**		**20 28 42.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.3,SNR=2.6							
	comp=Z,0.6nm,0.4s							
SEY	**Seymchan**	**72.89**	**13**	P	**P**		**20 29 02.4**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=220,slow=16,SNR=2.9							
	comp=Z,1.2nm,0.5s							
P49A	**Miami Univ. Ec**	**137.92**	**35**			**PKiKP**	**20 36 52.8**	**-0.4**

*NNC **03** 20:18:47.2±2.1, 41°.67N×83°.62E, h5km±6km, mb3.7, mpv3.4, Error ellipse: s-maj=14.5km s-min=8.9km az=142.0*
*SOME **03** 20:18:51.4, 41°.68N×83°.27E, h0km*
ISC 03 20:18:50.2±3.9, 41°.8N±0°.2×83°.4E±0°.2, h10km, n23, σ2s69/28, 5C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.84**	**308**	Pg	**Pg**	**Pg**	**20 19 42.9**	**-1.8**
	7.9nm,0.4s							
KTMS				Lg	Lg	Lg	20 20 23.6	
	59nm,0.5s							
KTMS	**Ketmen**	**2.84**	**308**	*e*Pg	**Pg**	**Pg**	**20 19 45.2**	**+0.5**
	7.9nm,0.4s							
KTMS				*e*Lg	Lg	Lg	20 20 23.6	
	59nm,0.5s							
SHLS	**Shalkode**	**3.26**	**297**	Pg	**Pb**	**Pb**	**20 19 45.5**	**-2.7**
	12nm,0.3s							
SHLS				Lg	Lg	Lg	20 20 28.2	
	77nm,0.3s							
SHLS	**Shalkode**	**3.26**	**297**	*e*Pg	**Pb**	**Pb**	**20 19 47.6**	**-0.6**
	12nm,0.3s							
SHLS				*e*Lg	Lg	Lg	20 20 28.2	
	77nm,0.3s							
UZB	**Uzynbulak**	**3.56**	**295**	Pg	**Pb**	**Pb**	**20 19 54.6**	**+1.3**
	6.1nm,0.4s							
UZB				Lg	Lg	Lg	20 20 44.3	
	14nm,0.7s							
UZB	**Uzynbulak**	**3.56**	**295**	*e*Pg	**Pg**	**Pg**	**20 19 56.0**	**-2.4**
	5.7nm,0.5s							
UZB				*e*Lg	Lg	Lg	20 20 41.9	
	14nm,0.7s							
KPKS	**Kokpek**	**3.91**	**298**	Pg	**Pg**	**Pb**	**20 20 02.1**	**-3.0**
	6.8nm,0.5s							
KPKS				Lg	Lg	Lg	20 20 56.5	
	35nm,0.4s							
KPKS	**Kokpek**	**3.91**	**298**	*e*Pg	**Pg**	**Pb**	**20 20 04.3**	**-0.8**
	6.8nm,0.5s							
KPKS				*e*Lg	Lg	Lg	20 20 56.5	
	35nm,0.4s							
TDK	**Taldyqorghan**	**4.90**	**313**	Pg	**Pb**	**Pb**	**20 20 17.0**	**+0.8**
	10nm,0.4s							
TDK				Lg	Lg	Lg	20 21 22.4	
	66nm,0.8s							
TDK	**Taldyqorghan**	**4.90**	**313**	*e*Pg	**Pg**	**Pg**	**20 20 19.9**	**-4.2**
	11nm,0.5s							
TDK				*e*Lg	Lg	Lg	20 21 22.4	
	66nm,0.8s							
MDOK	**Medeo**	**4.94**	**289**	Pn	**Pn**	**Pn**	**20 20 04.1**	**-0.5**
	4.2nm,0.8s							
MDOK				⇑Pg	**Pg**	**Pg**	**20 20 20.7**	**-4.0**
	7.6nm,0.8s							
MDOK				Pg	Pb	Pb	20 20 24.0	+7.2
	6.0nm,0.8s							
MDOK				Sn	**Sn**	**Sn**	**20 21 05.0**	**+3.2**
	7.8nm,0.6s							
MDOK				⇑Lg	Lg	Lg	20 21 30.2	
	18nm,0.8s							
MDOK				Lg	Lg	Lg	20 21 34.0	
	14nm,0.7s							
MDOK	**Medeo**	**4.94**	**289**	*e*Pg	**Pb**	**Pb**	**20 20 18.1**	**+1.2**
	2.3nm,0.5s							
MDOK				*e*Lg	Lg	Lg	20 21 19.5	
	4.3nm,0.9s							
TNSS	**Tian-Shan**	**4.98**	**287**	Pg	**Pb**	**Pb**	**20 20 20.8**	**+3.2**
	3.1nm,0.7s							
TNSS				Lg	Lg	Lg	20 21 28.8	
	5.7nm,0.8s							
TNSS	**Tian-Shan**	**4.98**	**287**	*e*Pg	**Pg**	**Pg**	**20 20 23.3**	**-2.2**
	2.3nm,0.6s							
TNSS				*e*Lg	Lg	Lg	20 21 28.8	
	5.7nm,0.8s							
MK31	**Makanchi Array**	**5.11**	**351**	⇑Pn	**Pn**	**Pn**	**20 20 05.8**	**-1.1**
	0.1nm,0.2s,baz=187,slow=12,SNR=9.4							
MK31				⇑Pg	**Pb**	**Pb**	**20 20 22.5**	**+2.8**
	0.2nm,0.2s,baz=243,slow=39,SNR=2.6							
MK31				⇓Sn	**Sn**	**Sn**	**20 21 06.9**	**+0.9**
	2.2nm,0.5s,baz=136,slow=22,SNR=4.2							
MK31				Lg	Lg	Lg	20 21 33.7	
	4.9nm,0.5s,baz=169,slow=28,SNR=4.4							
MAKZ	**Makanchi**	**5.17**	**349**	⇓Sn	**Sn**	**Sn**	**20 21 09.2**	**+1.9**
	2.0nm,0.4s							
MAKZ				⇓Lg	Lg	Lg	20 21 35.4	
	13nm,0.8s							
CHKK	**Chushkaly**	**5.19**	**296**	Pg	**Pb**	**Pb**	**20 20 22.2**	**+1.1**
	0.9nm,0.1s							
CHKK				Lg	Lg	Lg	20 21 32.1	
	5.7nm,0.3s							
CHKK	**Chushkaly**	**5.19**	**296**	*e*Pg	**Pb**	**Pb**	**20 20 25.1**	**+4.0**
	1.6nm,0.3s							
CHKK				*e*Lg	Lg	Lg	20 21 32.1	
	5.7nm,0.3s							
MTBS	**Maitube**	**5.37**	**287**	Pg	**Pb**	**Pb**	**20 20 27.6**	**+3.5**
	2.5nm,0.8s							
MTBS				Lg	Lg	Lg	20 21 40.1	
	7.1nm,0.6s							
MTBS	**Maitube**	**5.37**	**287**	*e*Pg	**Pg**	**Pg**	**20 20 29.8**	**-3.2**
	2.2nm,0.4s							
MTBS				*e*Lg	Lg	Lg	20 21 40.1	
	7.1nm,0.6s							
TKM2	**Tokmak 2**	**5.93**	**284**	⇓Pn	**Pn**	**Pn**	**20 20 16.0**	**-2.3**
	0.6nm,0.3s							
TKM2				⇓Pg	**Pb**	**Pb**	**20 20 38.0**	**+4.2**
	3.0nm,0.7s							
TKM2				⇑Sn	**Sn**	**Sn**	**20 21 29.6**	**+3.2**
	5.3nm,0.8s							
TKM2				⇓Lg	Lg	Lg	20 22 00.9	
	14nm,1.1s							
KRBS	**Karabastau**	**6.04**	**291**	Pg	**Pb**	**Pb**	**20 20 37.9**	**+2.3**
	0.9nm,0.5s							
KRBS				Lg	Lg	Lg	20 21 58.5	
	2.0nm,0.3s							
KRBS	**Karabastau**	**6.04**	**291**	*e*Pg	Pg	Pg	20 20 40.5	-5.4
	0.8nm,0.8s							
KRBS				*e*Lg	Lg	Lg	20 21 58.5	
	2.0nm,0.3s							

*IDC **03** 20:21:50.2±1.4, 3°.52N×128°.25E, h0km, mb3.6/6, mbtmp3.6/6, MS2.6/2, Error ellipse: s-maj=92.3km s-min=18.8km az=65.0*
ISC 03 20:22:00.5±1.2, 3°.4N±0°.3×128°.1E±0°.5, h84km, n8, σ0s63/7, mb3.5/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.42**	**325**	LR	LR	LR	20 24 13.5	
	comp=Z,53nm,21.5s,baz=356,slow=32							
GUMO	**Guam**	**19.37**	**58**	LR	LR	LR	20 33 16.1	
	comp=Z,22nm,19.2s,baz=342,slow=36							
WRA	**Warramunga Arr**	**24.01**	**166**	P		**P**	**20 27 07.7**	**0.0**
	0.8nm,0.5s,baz=344,slow=10,SNR=7.8							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**27.51**	**168**	P		**P**	**20 27 39.5**	**+0.1**
	0.2nm,0.6s,baz=353,slow=7.2,SNR=4.7							
ASAR				PcP		**PcP**	**20 30 56.9**	**+1.1**
	0.2nm,0.5s,baz=341,slow=2.3,SNR=1.3							
	0.2nm,0.6s							

CMAR	**Chiang Mai Arr**	**32.23**	**300**	P		**P**	**20 28 21.2**	**0.0**
	0.3nm,0.3s,baz=122,slow=7.7,SNR=1.7							
	0.3nm,0.3s							
STKA	**Stephens Creek**	**37.37**	**161**	P		**P**	**20 29 04.7**	**-0.5**
	1.6nm,0.7s,baz=345,slow=12,SNR=2.2							
	1.6nm,0.7s							
SONM	**Songino Array**	**48.04**	**340**	P		**P**	**20 30 31.4**	**-0.1**
	0.4nm,0.7s,baz=150,slow=7.0,SNR=4.0							
	0.4nm,0.7s							
MKAR	**Makanchi Array**	**58.60**	**325**	P		**P**	**20 31 48.5**	**-0.2**
	0.8nm,0.4s,baz=117,slow=8.1,SNR=23							
	0.8nm,0.4s							

*IDC **03** 20:25:56.7±0.7,6.79N×72.96W,h157km±9km,mb3.6/5, mbtmp4.1/8,MS3.7/2,Error ellipse: s-maj=27.8km s-min=7.4km az=132.0*
*RSNC **03** 20:25:58.1±1.4,6.82N×73.13W,h151km±5km,ML3.7, Mw3.9*
ISC 03 20:25:57.0±0.7,6°86N±0'.03×73°08W±0'.04,h155km±5km, n43,σ1§54/72,mb4.0/5,6C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**202**	⇑*iP*	**Pn**	**20 26 18.5**	**+0.2**
BARC				*eS*	**Sn**	**20 26 33.9**	**-0.7**
BARC				*i*		20 26 36.2	
	comp=Z,997nm,0.5s						
PAMC	**Pamplona, Colo**	**0.61**	**38**	⇑*iP*	**Pn**	**20 26 21.2**	**+1.2**
PAMC				*eS*	**Sn**	**20 26 38.3**	**+0.7**
PAMC				*i*		20 26 40.7	
	comp=Z,667nm,0.5s						
BRRC	**Barranca, Sant**	**0.68**	**292**	⇑*iP*	**Pn**	**20 26 20.2**	**+0.4**
BRRC				*eS*	**Sn**	**20 26 37.0**	**-0.2**
BRRC				*i*		20 26 37.8	
	comp=Z,1μm,0.1s						
RUSC	**La Rusia**	**0.96**	**180**	⇑*iP*	**Pn**	**20 26 22.4**	**0.0**
RUSC				*eS*	**Sn**	**20 26 41.1**	**-0.8**
RUSC				*i*		20 26 43.6	
	comp=Z,686nm,0.3s						
TAMC	**Tame, Arauca**	**1.34**	**108**	⇓*iP*	**Pn**	**20 26 26.9**	**+1.6**
TAMC				*eS*	**Sn**	**20 26 48.6**	**+1.5**
TAMC				*i*		20 26 49.1	
	comp=Z,581nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.41**	**257**	⇑*iP*	**Pn**	**20 26 25.0**	**-1.0**
PTBC				*eS*	**Sn**	**20 26 46.6**	**-1.6**
PTBC				*i*		20 26 48.7	
	comp=Z,1μm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	*eP*	**Pn**	**20 26 30.7**	**-0.3**
ZARC				*eS*	**Sn**	**20 26 56.7**	**-0.4**
ZARC				*i*		20 27 02.8	
	comp=Z,1μm,0.4s						
CHIC	**Chingaza**	**2.31**	**196**	*eP*	**Pn**	**20 26 36.6**	**+0.2**
CHIC				*eS*	**Sn**	**20 27 06.4**	**-0.4**
CHIC				*i*		20 27 11.0	
	comp=Z,188nm,0.3s						
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**20 26 38.5**	**+1.6**
	comp=Z,300nm,0.3s,baz=304,slow=22,SNR=118						
ROSC				S	**Sn**	**20 27 07.9**	**+0.1**
	comp=Z,134nm,0.3s,baz=84,slow=15,SNR=7.4						
ROSC	**El Rosal**	**2.35**	**212**	*eP*	**Pn**	**20 26 38.2**	**+1.3**
ROSC				*eS*	**Sn**	**20 27 09.5**	**+1.7**
ROSC				*i*		20 27 14.3	
	comp=Z,436nm,0.3s						
UREC	**San Jos de Ur**	**2.59**	**290**	*eP*	**Pn**	**20 26 38.5**	**-1.0**
UREC				*eS*	**Sn**	**20 27 10.5**	**-1.8**
UREC				*i*		20 27 22.5	
	comp=Z,480nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.71**	**350**	*eP*	**Pn**	**20 26 43.9**	**+2.9**
LL1C				*eS*	**Sn**	**20 27 18.8**	**+3.9**
GUY2C	**Guyana, Caldas**	**2.79**	**235**	*eP*	**Pn**	**20 26 43.0**	**+0.6**
GUY2C				*eS*	**Sn**	**20 27 19.0**	**+1.5**
GUY2C				IAML		20 27 26.8	
	comp=Z,496nm,0.7s						
PTGC	**Puerto Gaitan,**	**2.80**	**160**	⇑*iP*	**Pn**	**20 26 41.9**	**-0.1**
PTGC				*eS*	**Sn**	**20 27 15.2**	**-1.8**
PTGC				*i*		20 27 17.5	
	comp=Z,227nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.08**	**252**	*eP*	**Pn**	**20 26 46.4**	**+0.7**
CBOC				*eS*	**Sn**	**20 27 23.4**	**-0.1**
CBOC				*i*		20 27 32.6	
	comp=Z,100nm,0.5s						
DBBC	**Dabeiba**	**3.12**	**273**	*eP*	**Pn**	**20 26 46.1**	**+0.1**
DBBC				*eS*	**Sn**	**20 27 22.7**	**-1.4**
DBBC				*i*		20 27 27.6	
	comp=Z,138nm,0.2s						
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**20 26 47.8**	**+1.2**
	comp=Z,35nm,0.3s,baz=187,slow=1.2,SNR=49						
SDV				S	**Sn**	**20 27 23.6**	**-1.5**
	comp=Z,73nm,0.4s,baz=88,slow=20,SNR=21						
ARGC	**Ariguani, Magd**	**3.20**	**339**	*eP*	**Pn**	**20 26 48.6**	**+1.5**
ARGC				*eS*	**Sn**	**20 27 27.1**	**+1.2**
ARGC				*i*		20 27 34.4	
	comp=Z,97nm,0.6s						
APAC	**Apartado, Choc**	**3.63**	**287**	⇓*iP*	**Pn**	**20 26 52.5**	**0.0**
APAC				*eS*	**Sn**	**20 27 34.7**	**-1.0**
APAC				*i*		20 27 41.8	
	comp=Z,88nm,0.4s						
ORTC	**Ortega, Tolima**	**3.64**	**217**	*eP*	**Pn**	**20 26 53.0**	**+0.2**
ORTC				*eS*	**Sn**	**20 27 36.7**	**+0.7**
ORTC				*i*		20 27 41.1	
	comp=Z,182nm,0.4s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*eP*	**Pn**	**20 26 52.2**	**-1.0**
SJCC				*eS*	**Sn**	**20 27 33.6**	**-3.1**
SJCC				*i*		20 27 37.1	
	comp=Z,132nm,0.3s						
PLMC	**San Jos del P**	**3.73**	**239**	*eP*	**Pn**	**20 26 54.3**	**+0.4**
PLMC				*eS*	**Sn**	**20 27 36.4**	**-1.9**
PLMC				*i*		20 27 43.0	
	comp=Z,125nm,0.5s						
LCBC	**Los crdobas,**	**3.82**	**302**	*eP*	**Pn**	**20 26 54.4**	**-0.6**
LCBC				*eS*	**Sn**	**20 27 42.4**	**+2.3**
LCBC				*i*		20 27 50.1	
	comp=Z,89nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	*eP*	**Pn**	**20 26 58.9**	**-0.4**
CRJC				*eS*	**Sn**	**20 27 48.6**	**+0.7**
CRJC				*i*		20 27 59.0	
	comp=Z,98nm,0.2s						
YOTC	**Yotoco, Valle**	**4.33**	**229**	*eP*	**Pn**	**20 27 01.6**	**-0.1**
YOTC				*eS*	**Sn**	**20 27 55.4**	**+3.2**
SMRC	**Santa Marta, M**	**4.43**	**345**	*eP*	**Pn**	**20 27 03.9**	**+0.9**
SMRC				*eS*	**Sn**	**20 27 51.3**	**-3.1**
PTAC	**Punta Ardita,**	**4.71**	**274**	*eP*	**Pn**	**20 27 05.6**	**-1.0**
PTAC				*i*		20 27 53.8	
	comp=Z,30nm,0.4s						
MACC	**Macarena, Meta**	**4.74**	**189**	*eP*	**Pn**	**20 27 05.9**	**-1.3**
MACC				*eS*	**Sn**	**20 27 57.7**	**-4.2**
MACC				*i*		20 28 10.9	
	comp=Z,48nm,0.5s						
URIC	**Uribia, Colomb**	**4.93**	**12**	*eP*	**Pn**	**20 27 09.2**	**-0.4**
URIC				*eS*	**Sn**	**20 28 02.5**	**-3.8**
GARC	**Garzon, Huila**	**5.23**	**208**	*eP*	**Pn**	**20 27 13.0**	**-0.7**
GARC				*eS*	**Sn**	**20 28 10.0**	**-3.6**
GARC				*i*		20 28 15.8	
	comp=Z,77nm,0.2s						
FLOC	**Florencia**	**5.83**	**206**	*eP*	**Pn**	**20 27 21.7**	**+0.1**
FLOC				*eS*	**Sn**	**20 28 27.5**	**-0.3**
PCRV	**Puerto La Cruz**	**8.97**	**68**	P	**Pn**	**20 28 04.3**	**+0.9**
	comp=Z,15nm,0.9s,baz=224,slow=11,SNR=6.3						
PCRV				S	**Sn**	**20 29 41.7**	**-1.5**
	comp=Z,5.1nm,0.5s,baz=3.1,slow=21,SNR=1.2						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**20 34 14.1**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=167,slow=6.2,SNR=5.2						
	comp=Z,1.9nm,0.4s						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**20 34 21.9**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=120,slow=8.4,SNR=2.9						
	comp=Z,0.2nm,0.5s						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**20 34 21.7**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=218,slow=12,SNR=5.7						
	comp=Z,2.4nm,0.6s						
RPN	**Rapa Nui**	**48.72**	**225**	LR	LR	20 51 17.8	
	comp=Z,87nm,20.5s,baz=49,slow=31						
BBTS	**Babate**	**55.97**	**77**	LR	LR	20 58 36.0	
	comp=Z,57nm,18.4s,baz=23,slow=35						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**20 36 08.8**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=133,slow=6.5						
	comp=Z,1.4nm,0.6s						
INK	**Inuvik**	**73.01**	**340**	P	**P**	**20 37 09.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=106,slow=4.3,SNR=6.1						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**122.27**	**20**	PKP	**PKPdf**	**20 44 33.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=325,slow=2.3,SNR=2.4						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	**PKPbc**	**20 45 26.9**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=116,slow=3.7,SNR=12						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**20 45 30.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=106,slow=2.9,SNR=26						
CMAR	**Chiang Mai Arr**	**153.64**	**17**	PKPbc	**PKPbc**	**20 45 37.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=316,slow=3.2,SNR=6.1						

*IDC **03** 20:31:37.9±2.9,51°.69N×171°.06E,h0km,mb3.4/6, mbtmp3.5/8,ML3.2/2,MS2.9/2,Error ellipse: s-maj=85.2km s-min=19.9km az=172.0*
*NEIC **03** 20:31:42.2±1.3,51°.7N±0°.3×171°.24E±0°.09,h18km±9km, mb4.1/31,Error ellipse: s-maj=38.8km s-min=4.8km az=170.0*
*KRSC **03** 20:31:44.7±1.6,51°.90N×170°.10E,h27km±77km,Ml4.0*
ISC 03 20:31:42.9±1.1,51°.8N±0°.1×170°.82E±0°.05,h35km,n71, σ1§99/76,mb4.0/22,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**2.23**	**63**	Pn	**Pn**	**20 32 13.9**	**-3.4**
	12nm,0.3s,baz=226,slow=4.2,SNR=5.4						
SHEM				Sn	**Sn**	**20 32 38.6**	**-5.0**
	85nm,0.3s,baz=276,slow=19,SNR=29						
	27nm,0.3s						
SMY	**Shemya**	**2.23**	**63**	Pn	**Pn**	**20 32 13.5**	**-3.8**
SMY				Sn	**Sn**	**20 32 39.2**	**-4.4**
BKI	**Bering**	**4.50**	**322**	*eP*	**Pn**	**20 32 49.6**	**+1.1**
BKI				*eS*	**Sn**	**20 33 39.3**	**-0.2**
MKZ	**Mys Kozlova**	**6.14**	**301**	*eP*	**Pn**	**20 33 10.7**	**-0.3**
MKZ				*eS*	**Sn**	**20 34 16.1**	**-3.8**
KBTR	**Krutoberegovo**	**6.48**	**316**	*eP*	**Pn**	**20 33 16.3**	**+0.6**
SPN	**Mys Shipunski**	**6.74**	**286**	*eP*	**Pn**	**20 33 20.0**	**+0.7**
SPN				*eS*	**Sn**	**20 34 30.9**	**-3.7**
SMKR	**Semkarok**	**7.30**	**315**	*eP*	**Pn**	**20 33 28.5**	**+1.5**
SMKR				*eS*	**Sn**	**20 34 46.4**	**-2.3**
KMNR	**Kamenistaya**	**7.44**	**307**	*eP*	**Pn**	**20 33 31.7**	**+2.8**
SDLR	**Sedlovina**	**7.44**	**286**	*eP*	**Pn**	**20 33 30.1**	**+1.1**
UGLR	**Uglovaya**	**7.47**	**286**	*eP*	**Pn**	**20 33 30.8**	**+1.5**
DALK	**Dalny**	**7.49**	**284**	*eP*	**Pn**	**20 33 30.3**	**+0.7**
DALK				*eS*	**Sn**	**20 34 49.1**	**-4.1**
KRER	**Koryakskii**	**7.53**	**287**	*eP*	**Pn**	**20 33 32.1**	**+1.9**
KRER				*eS*	**Sn**	**20 34 51.0**	**-3.3**
AVH	**Avacha**	**7.53**	**286**	*eP*	**Pn**	**20 33 31.8**	**+1.7**
PET	**Petropavlovsk**	**7.55**	**284**	Pn	**Pn**	**20 33 32.1**	**+1.7**
KOK	**Koryaka**	**7.59**	**286**	*eP*	**Pn**	**20 33 32.3**	**+1.3**
KRX	**Arik**	**7.59**	**287**	*eP*	**Pn**	**20 33 32.3**	**+1.3**
KRX				*eS*	**Sn**	**20 34 50.4**	**-5.4**
RUS	**Russkaya**	**7.61**	**280**	*eP*	**Pn**	**20 33 31.8**	**+0.6**
RUS				*eS*	**Sn**	**20 34 51.7**	**-4.5**
KRMR	**Karymshinskiy**	**7.86**	**283**	*eP*	**Pn**	**20 33 35.8**	**+1.2**
KRMR				*eS*	**Sn**	**20 34 59.1**	**-3.1**
GRL	**Gorelyy**	**7.88**	**281**	*eP*	**Pn**	**20 33 36.6**	**+1.5**
KDTR	**Khodutka, Kamc**	**7.91**	**275**	*eP*	**Pn**	**20 33 35.5**	**+0.3**
KDTR				*eS*	**Sn**	**20 34 59.7**	**-3.7**
PEA0B	**Petropavlovsk-**	**8.13**	**285**		**Pn**	**20 33 40.4**	**+2.0**
PETK	**Petropavlovsk-**	**8.13**	**285**	Pn	**Pn**	**20 33 39.8**	**+1.4**
	0.8nm,0.3s,baz=102,slow=18,SNR=16						
PETK				Sn	**Sn**	**20 35 07.0**	**-2.0**
	0.4nm,0.3s,baz=108,slow=19,SNR=1.2						
	7.3nm,0.6s						
APC	**Apacha**	**8.45**	**283**	*eP*	**Pn**	**20 33 45.2**	**+2.5**
N19K	**Bonanza Creek**	**21.04**	**51**	P	**P**	**20 36 23.9**	**+0.4**
N19K				IAmb	IAmb	20 36 33.9	
	comp=Z,12nm,1.4s						
L19K	**White Mountain**	**21.14**	**47**	P	**P**	**20 36 25.4**	**+0.9**
L19K				IAmb	IAmb	20 36 33.7	
	comp=Z,12nm,1.4s						
OHAK	**Old Harbor**	**21.36**	**61**	P	**P**	**20 36 24.9**	**-2.0**
KDAK	**Kodiak Island**	**21.74**	**60**	LR	LR	20 44 25.9	
	comp=Z,19nm,21.0s,baz=21,slow=36						
K20K	**Telida**	**21.79**	**44**	P	**P**	**20 36 31.5**	**0.0**
M20K	**Styx River**	**21.87**	**48**	P	**P**	**20 36 32.6**	**+0.3**
J20K	**Nowinta River**	**22.00**	**42**	P	**P**	**20 36 33.3**	**-0.3**
J20K				IAmb	IAmb	20 36 42.2	
	comp=Z,9.1nm,1.3s						
SKT	**Skwentna**	**22.63**	**49**	P	**P**	**20 36 41.4**	**+0.9**
BRLK	**Bradley Lake**	**22.69**	**54**	P	**P**	**20 36 40.3**	**-0.8**
IMAR	**Indian Mountai**	**22.77**	**38**	P	**P**	**20 36 42.6**	**+0.8**
H21K	**Melozitna Rive**	**23.01**	**39**	P	**P**	**20 36 45.7**	**+1.3**
I21K	**Tanana**	**23.19**	**40**	P	**P**	**20 36 46.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**23.31**	**43**	P	**P**	**20 36 47.1**	**-0.3**
RC01	**Rabbit Creek A**	**23.37**	**51**	P	**P**	**20 36 48.1**	**+0.2**
RC01				IAmb	IAmb	20 36 56.4	
	comp=Z,12nm,1.4s						
TRF	**Thorofare Moun**	**23.47**	**45**	P	**P**	**20 36 49.3**	**+0.2**
TRF				IAmb	IAmb	20 36 57.2	
	comp=Z,7.6nm,1.4s						
KNK	**Knik Glacier**	**24.02**	**50**	P	**P**	**20 36 53.8**	**-0.3**
SML	**Sawmill**	**24.11**	**49**	P	**P**	**20 36 54.9**	**-0.1**
SML				IAmb	IAmb	20 37 37.3	
	comp=Z,8.9nm,1.3s						
SCM	**Sheep Creek Mo**	**24.59**	**50**	P	**P**	**20 36 59.5**	**0.0**
WRH	**Wood River Hil**	**24.62**	**43**	P	**P**	**20 36 59.8**	**+0.2**
WRH				IAmb	IAmb	20 37 10.2	
	comp=Z,2.5nm,0.7s						
MDM	**Murphy Dome**	**24.67**	**42**	P	**P**	**20 36 59.7**	**-0.3**
MDM				IAmb	IAmb	20 37 10.6	
	comp=Z,4.5nm,1.1s						
DHY	**Denali Highway**	**24.70**	**47**	P	**P**	**20 37 00.5**	**0.0**
CCB	**Clear Creek Bu**	**24.78**	**43**	P	**P**	**20 37 01.5**	**+0.5**
CCB				IAmb	IAmb	20 37 14.9	
	comp=Z,4.9nm,1.4s						
ILAR	**Eielson Array**	**25.19**	**43**	P	**P**	**20 37 03.2**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=251,slow=7.8,SNR=11						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**25.19**	**43**		**P**	**20 37 05.4**	**+0.7**
KLU	**Klutina**	**25.23**	**50**	P	**P**	**20 37 05.2**	**-0.1**
N25K	**Chitina, Valde**	**25.87**	**50**	P	**P**	**20 37 11.8**	**+0.7**
N25K				IAmb	IAmb	20 37 33.2	
	comp=Z,6.0nm,1.3s						
RIDG	**Independent Ri**	**25.92**	**45**	P	**P**	**20 37 10.5**	**-0.9**
RIDG				IAmb	IAmb	20 37 11.1	
	comp=Z,8.9nm,1.4s						
GLB	**Gilahina Butte**	**26.25**	**51**	P	**P**	**20 37 14.1**	**-0.3**
SCRK	**Sand Creek**	**26.32**	**45**	P	**P**	**20 37 15.8**	**+0.7**
SCRK				IAmb	IAmb	20 37 18.9	
	comp=Z,2.0nm,0.7s						
J26L	**Joseph Creek**	**26.56**	**44**	P	**P**	**20 37 16.4**	**-0.9**
J26L				IAmb	IAmb	20 37 45.0	
	comp=Z,5.7nm,1.5s						
BMAR	**Burnt Mountain**	**26.68**	**37**	P	**P**	**20 37 19.5**	**+1.3**
K27K	**Chicken**	**27.16**	**45**	P	**P**	**20 37 22.2**	**-0.4**
K27K				IAmb	IAmb	20 37 35.9	
	comp=Z,5.5nm,1.4s						
EGAK	**Eagle**	**27.62**	**43**	P	**P**	**20 37 27.2**	**+0.6**
EGAK				IAmb	IAmb	20 37 34.4	
	comp=Z,6.9nm,1.4s						
HYT	**Haines Junctio**	**29.33**	**52**	P	**P**	**20 37 42.5**	**+0.4**
HYT				IAmb	IAmb	20 38 16.7	
	comp=Z,5.2nm,1.4s						
INK	**Inuvik**	**30.94**	**37**	P	**P**	**20 37 56.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=268,slow=8.0,SNR=4.0						
	comp=Z,0.3nm,0.3s						
INK	**Inuvik**	**30.94**	**37**	P	**P**	**20 37 56.7**	**+0.7**
INK				IAmb	IAmb	20 38 13.7	
	comp=Z,3.4nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**32.12**	**187**	T	T	21 11 45.2	
	baz=4.9,slow=76,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**32.13**	**187**	T	T	21 11 49.4	
	baz=4.9,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**32.14**	**187**	T	T	21 11 50.3	
	baz=4.9,slow=76,SNR=11						
JCJ	**Chichijima**	**32.74**	**232**	LR	LR	20 49 55.5	
	comp=Z,37nm,20.3s,baz=78,slow=34						
H11S1	**WAKE ISLAND Hy**	**33.35**	**187**	T	T	21 13 21.4	
	baz=4.9,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**33.36**	**187**	T	T	21 13 22.9	
	baz=4.9,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**33.37**	**187**	T	T	21 13 22.6	
	baz=4.9,slow=76,SNR=12						
YKA	**Yellowknife Ar**	**39.59**	**45**	P	**P**	**20 39 10.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=288,slow=8.1,SNR=4.7						
	comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	**40.56**	**291**	P	**P**	**20 39 20.3**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=55,slow=8.3,SNR=2.7						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**54.53**	**303**	P	**P**	**20 41 07.8**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=56,slow=5.9,SNR=5.7						
	comp=Z,0.1nm,0.4s						
KEV	**Kevo**	**55.95**	**346**	P	**P**	**20 41 20.2**	**+3.3**
TXAR	**Lajitas Array**	**64.89**	**74**	P	**P**	**20 42 18.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=338,slow=6.8,SNR=1.3						
	comp=Z,0.1nm,0.4s						

*KOLA **03** 20:43:16.0,76°.98N×19°.34E,h0km,ML3.5,Error ellipse: s-maj=6.6km s-min=3.4km az=130.0,Storfjorden zone*
*NAO **03** 20:43:19.4±1.8,76°.97N×18°.43E,h4km±14km,ML3.5*
*IEPN **03** 20:43:22.0,76°.96N×18°.41E,h10km*
*BER **03** 20:43:22.2±2.1,76°.92N±18°.05E,h15km±11km,ML3.0, ML3.5(NAO),Confirmed Earthquake*
*IDC **03** 20:43:24.5±4.4,76°.68N±21°.03E,h0km,mb3.5/1, mbtmp3.6/3,ML2.8/2,Error ellipse: s-maj=82.8km s-min=24.4km az=101.0*
ISC 03 20:43:20.0±1.1,76°.85N±0°.04×18°.41E±0°.04,h27km±11km, n42,σ2§12/72,1C-2D,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**0.67**	**284**	Pg	**Pb**	**20 43 32.6**	**-0.4**
HSPB				Lg		20 43 40.7	
HSPB	**Hornsund (broa**	**0.67**	**284**	⇓*iP*	**Pb**	**20 43 32.6**	**-0.4**
HSPB				*i* S	**Sb**	**20 43 40.6**	**-1.3**
HSPB	**Hornsund (broa**	**0.67**	**284**	⇓*iP*	**Pb**	**20 43 32.6**	**-0.4**
HSPB				*eS*	**Sb**	**20 43 40.7**	**-1.3**
HSPB				IAML		20 43 46.7	
	comp=Z,474nm,0.2s						
HSPB	**Hornsund (broa**	**0.67**	**284**	P	**Pb**	**20 43 32.0**	**-1.0**
HSPB				S	**Sn**	**20 43 44.1**	**+0.9**
SPA0	**Spitsbergen Ar**	**1.40**	**343**	Pn	**Pn**	**20 43 43.9**	**+0.1**
	baz=154,slow=22						
SPA0				Lg	Lg	20 44 00.1	
	baz=153,slow=37						
SPA0	**Spitsbergen Ar**	**1.40**	**343**	⇑*iP*	**Pn**	**20 43 43.5**	**-0.2**
SPA0				*i* S	**Sn**	**20 44 00.2**	**-1.1**
SPA0	**Spitsbergen Ar**	**1.40**	**343**	*eP*	**Pn**	**20 43 43.7**	**0.0**
SPA0				*eS*	**Sn**	**20 44 00.2**	**-1.1**
SPA0				IAML		20 44 03.9	
	comp=Z,556nm,0.3s						
SPITS	**Spitsbergen Ar**	**1.40**	**343**	P	**Pn**	**20 43 43.1**	**-0.6**
SPITS				S	**Sn**	**20 43 59.5**	**-1.9**
BRBA	**Barentsburg A**	**1.52**	**325**	Pn	**Pn**	**20 43 45.9**	**+0.6**
BRBA				Lg	Lg	20 44 04.8	
BRBA	**Barentsburg A**	**1.52**	**325**	*eP*	**Pn**	**20 43 45.9**	**+0.6**
BRBA				*eSg*	**Sn**	**20 44 04.7**	**+0.6**
BRBA				IAML		20 44 06.8	
	comp=Z,2μm,0.4s						
BRBB	**Barentsburg B**	**1.55**	**326**	Pn	**Pn**	**20 43 46.3**	**+0.6**
BRBB				Lg	Lg	20 44 05.2	
BRBB	**Barentsburg B**	**1.55**	**326**	*eP*	**Pn**	**20 43 46.3**	**+0.6**
BRBB				*eS*	**Sn**	**20 44 04.6**	**-0.2**
BRBB	**Barentsburg B**	**1.55**	**326**	P	**Pn**	**20 43 46.0**	**+0.4**
BRBB				S	**Sn**	**20 44 04.3**	**-0.5**
HOPEN	**Hopen**	**1.57**	**100**	*eP*	**Pb**	**20 43 48.5**	**+0.3**
HOPEN				*eS*	**Sb**	**20 44 09.3**	**+1.7**
HOPEN				IAML		20 44 14.6	
	comp=Z,1μm,0.4s						
KBS	**Kingsbay**	**2.49**	**330**	Pn	**Pn**	**20 43 58.3**	**-0.3**
KBS				Pg	**Pb**	**20 44 03.8**	**0.0**
KBS				Lg	Lg	20 44 32.9	
KBS	**Kingsbay**	**2.49**	**330**	Pn	**Pn**	**20 43 58.3**	**-0.3**
KBS				Pg	**Pb**	**20 44 03.8**	**0.0**
KBS				Sg	**Sb**	**20 44 32.9**	**-1.0**
KBS	**Kingsbay**	**2.49**	**330**	P	**Pn**	**20 43 58.0**	**-0.6**
KBS				S	**Sn**	**20 44 30.1**	**+2.1**
HAMF	**Hammerfest**	**6.42**	**164**	Pn	**Pn**	**20 44 55.7**	**+3.2**
HAMF				Sn	**Sn**	**20 46 02.0**	**-2.7**
HAMF	**Hammerfest**	**6.42**	**164**	Pn	**Pn**	**20 44 55.7**	**+3.2**
HAMF				*eS*	**Sn**	**20 46 01.9**	**-2.7**
HAMF				IAML		20 46 10.8	
	comp=Z,15nm,0.4s						
ZFI	**Zemlya Franca-**	**6.83**	**41**	*eP*	**Pn**	**20 44 59.0**	**+0.8**
ZFI				*eS*	**Sn**	**20 46 10.7**	**-4.1**
	comp=Z,31nm,0.5s						
OMEGA	**Omega**	**6.84**	**42**	*eP*	**Pn**	**20 44 59.0**	**+0.8**
OMEGA				*eS*	**Sn**	**20 46 11.0**	**-3.9**
	comp=Z,25nm,2.0s						
TRO	**Tromso**	**7.26**	**179**	*e*	Pb	20 45 16.1	-8.9
TRO				*eS*	**Sn**	**20 46 22.0**	**-3.5**
JETT	**Jettan, Norway**	**7.36**	**175**	Pn	**Pn**	**20 45 06.7**	**+1.2**
JETT				Sn	**Sn**	**20 46 28.4**	**+0.4**
JETT	**Jettan, Norway**	**7.36**	**175**	Pn	**Pn**	**20 45 06.7**	**+1.2**
JETT				Sn	**Sn**	**20 46 28.4**	**+0.4**
JETT				IAML		20 46 34.3	
	comp=Z

MORW				S		Sn	20 45 50.8	-0.7	
	baz=2.6								
MORW	**Morawa**	**2.62**	**306**	P		**Pn**	**20 45 20.3**	**+0.5**	
MORW				S		**Sn**	**20 45 50.8**	**-0.7**	
KMBL	**Kambalda**	**3.02**	**105**	P		**Pn**	**20 45 27.1**	**+1.8**	
	baz=3.1								
KMBL				S		**Sn**	**20 46 02.6**	**+1.2**	
	baz=3.1								
KMBL	**Kambalda**	**3.02**	**105**	P		**Pn**	**20 45 27.1**	**+1.8**	
KMBL				S		**Sn**	**20 46 02.6**	**+1.2**	
MEEK	**Meekatharra**	**3.98**	**2**	P		**Pn**	**20 45 40.6**	**+2.0**	
	baz=4.0								
MEEK				S		**Sn**	**20 46 24.2**	**-1.0**	
	baz=4.0								
MEEK	**Meekatharra**	**3.98**	**2**	P		**Pn**	**20 45 40.6**	**+2.0**	
MEEK				S		**Sn**	**20 46 24.2**	**-1.0**	
RKGY	**Rocky Gully**	**4.16**	**197**	P		**Pn**	**20 45 41.3**	**+0.3**	
	baz=4.1								
RKGY				S		**Sn**	**20 46 30.6**	**+1.2**	
	baz=4.1								
RKGY	**Rocky Gully**	**4.16**	**197**	P		**Pn**	**20 45 41.3**	**+0.3**	
FORT	**Forrest**	**8.26**	**93**	P		**Pn**	**20 46 38.8**	**+1.5**	
	baz=8.3								
FORT				S		**Sn**	**20 48 06.3**	**-4.1**	
	baz=8.3								
WRKA	**Warakurna**	**10.33**	**60**	P		**Pn**	**20 47 05.9**	**+0.3**	
	baz=10								

*ASIES **03** 20:56:55.9,23°.26N×120°.99E,h11km,MW3.5*
*TAP **03** 20:56:56.6,23°.26N×120°.97E,h4km,ML3.9,B*
ISC 03 20:56:56.7±0.9,23°.27N±0°.01×120°.97E±0°.01,h7km±6km,
n144,σ1§06/266,43C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.09**	**149**	⇓	*i*	P	**Pg**	**20 56 59.0**	**+0.1**
	baz=143								
ELDTW					*i*	S	**Sg**	**20 57 00.2**	**-0.2**
	baz=143								
STYH	**Taoyuan**	**0.20**	**242**	⇑	*i*	P	**Pg**	**20 57 01.1**	**+0.4**
	baz=246								
STYH					*i*	S	**Sg**	**20 57 03.7**	**+0.3**
	baz=246								
STYT	**Tauyuan**	**0.22**	**242**	⇑	*i*	P	**Pg**	**20 57 01.6**	**+0.5**
	baz=243								
STYT					*i*	S	**Sg**	**20 57 04.5**	**+0.5**
	baz=243								
EHD	**Haiduan**	**0.25**	**118**	⇓	*i*	P	**Pg**	**20 57 01.9**	**+0.3**
	baz=116								
EHD					*i*	S	**Sg**	**20 57 05.5**	**+0.5**
	baz=116								
ALS	**Alishan**	**0.29**	**329**	⇓	*i*	P	**Pb**	**20 57 03.2**	**-1.1**
	baz=330								
ALS						S	**Sg**	**20 57 07.6**	**+1.3**
	baz=330								
ECS	**Chishang**	**0.29**	**126**	⇓	*i*	P	**Pb**	**20 57 03.0**	**-1.1**
	baz=125								
ECS						S	**Sb**	**20 57 07.6**	**-1.5**
	baz=125								
TPUB	**Ta-pu**	**0.31**	**277**			P	**Pb**	**20 57 03.8**	**-0.8**
TPUB	**Ta-pu**	**0.31**	**277**	⇓	*i*	P	**Pb**	**20 57 04.0**	**-0.6**
	baz=278								
TPUB						S	**Sb**	**20 57 08.8**	**-1.1**
	baz=278								
TWF1	**Yuli**	**0.32**	**74**	⇑	*i*	P	**Pg**	**20 57 03.4**	**+0.5**
	baz=73								
TWF1					*i*	S	**Sg**	**20 57 07.3**	**+0.3**
	baz=73								
WTP	**Ta-pu**	**0.33**	**267**	⇓	*i*	P	**Pb**	**20 57 04.2**	**-0.7**
	baz=268								
WTP						S	**Sb**	**20 57 09.1**	**-1.1**
	baz=268								
YULB	**Yu-li**	**0.33**	**67**			P	**Pg**	**20 57 03.3**	**+0.2**
YULB	**Yu-li**	**0.33**	**67**	⇑	*i*	P	**Pg**	**20 57 03.4**	**+0.2**
	baz=66								
YULB						S	**Sg**	**20 57 07.3**	**-0.2**
	baz=66								
EYUL	**Yuli**	**0.33**	**76**	⇑	*i*	P	**Pg**	**20 57 03.7**	**+0.4**
	baz=74								
EYUL					*i*	S	**Sg**	**20 57 07.8**	**+0.1**
	baz=74								
CHN4	**Tsaushan**	**0.35**	**284**	⇓	*i*	P	**Pb**	**20 57 05.0**	**-0.3**
	baz=285								
CHN4					*e*	S	**Sb**	**20 57 10.8**	**-0.3**
	baz=285								
WCKO	**Fanlu**	**0.38**	**298**	⇓	*i*	P	**Pb**	**20 57 05.3**	**-0.3**
	baz=299								
WCKO					*e*	S	**Sb**	**20 57 11.4**	**-0.3**
	baz=299								
LONT	**Longtian**	**0.39**	**157**	⇑	*i*	P	**Pb**	**20 57 04.7**	**-1.2**
	baz=157								
LONT						S	**Sg**	**20 57 09.4**	**+0.1**
	baz=157								
SGST	**Jiashian**	**0.40**	**243**	⇑	*e*	P	**Pg**	**20 57 04.6**	**+0.2**
	baz=243								
SGST					*e*	S	**Sb**	**20 57 10.5**	**-1.9**
	baz=243								
SLGT	**Liugui**	**0.40**	**228**	⇑	*i*	P	**Pb**	**20 57 06.0**	**0.0**
	baz=229								
SLGT						S	**Sb**	**20 57 11.6**	**-0.8**
	baz=229								
CHKT	**Chengkung**	**0.40**	**114**	⇓	*i*	P	**Pb**	**20 57 05.8**	**-0.3**
	baz=113								
CHKT					*e*	S	**Sb**	**20 57 13.3**	**+0.9**
	baz=113								
EHY	**Hungye**	**0.41**	**54**	⇑	*i*	P	**Pg**	**20 57 04.9**	**+0.3**
	baz=53								
EHY						S	**Sg**	**20 57 09.8**	**-0.1**
	baz=53								
CHN1	**Nanshi**	**0.41**	**259**	⇑	*i*	P	**Pb**	**20 57 06.2**	**0.0**
	baz=260								
CHN1					*e*	S	**Sb**	**20 57 12.6**	**-0.1**
	baz=260								
CHN5	**Tsauling**	**0.42**	**321**	⇓	*i*	P	**Pb**	**20 57 06.2**	**-0.4**
	baz=322								
CHN5						S	**Sb**	**20 57 12.5**	**-0.7**
	baz=322								
EDH	**Donghe**	**0.42**	**133**	⇓	*i*	P	**Pb**	**20 57 05.9**	**-0.6**
	baz=132								
EDH						S	**Sb**	**20 57 12.2**	**-0.9**
	baz=132								
SNST	**Tainan City**	**0.43**	**264**	⇓	*e*	P	**Pn**	**20 57 08.9**	**-0.4**
	baz=265								
SNST					*e*	S	**Sb**	**20 57 15.9**	**+2.6**
	baz=265								
TWK	**Hsinying**	**0.44**	**270**	⇓	*i*	P	**Pb**	**20 57 06.6**	**-0.2**
	baz=271								
TWK					*e*	S	**Sb**	**20 57 13.5**	**-0.1**
	baz=271								
WHYT	**Xinyi Township**	**0.44**	**346**	⇑	*i*	P	**Pb**	**20 57 06.0**	**-0.8**
	baz=346								
WHYT					*e*	S	**Sb**	**20 57 12.5**	**-1.1**
	baz=346								
ECBN	**Changbin**	**0.45**	**83**		*e*	P	**Pb**	**20 57 07.2**	**+0.3**
	baz=82								
ECBN					*e*	S	**Sb**	**20 57 14.9**	**+1.1**
	baz=82								
TWG	**Pinlang**	**0.45**	**168**	⇑	*i*	P	**Pb**	**20 57 05.9**	**-1.1**
	baz=167								
TWG					*i*	S	**Sg**	**20 57 11.6**	**+0.3**
	baz=167								
TWGBT	**Beinan**	**0.46**	**167**			P	**Pb**	**20 57 05.8**	**-1.2**
TWGBT	**Beinan**	**0.46**	**167**	⇑	*i*	P	**Pb**	**20 57 05.8**	**-1.2**
	baz=167								
TWGBT						S	**Sg**	**20 57 11.7**	**+0.1**
	baz=167								
HGSD	**Ruisui**	**0.48**	**62**	⇑	*i*	P	**Pb**	**20 57 06.8**	**-0.6**
	baz=61								
HGSD					*e*	S	**Sb**	**20 57 14.8**	**+0.2**
	baz=61								
VWDT	**VWDT**	**0.51**	**18**	⇑	*i*	P	**Pg**	**20 57 06.5**	**0.0**
	baz=18								
VWDT					*e*	S	**Sn**	**20 57 17.2**	**-2.2**
	baz=18								
SSLB	**Suanglung**	**0.52**	**359**			P	**Pg**	**20 57 06.7**	**-0.1**
SSLB	**Suanglung**	**0.52**	**359**	⇑	*i*	P	**Pg**	**20 57 06.6**	**-0.2**
	baz=359								
SSLB					*e*	S	**Sb**	**20 57 15.8**	**-0.2**
	baz=359								
CHN2	**Minshiung**	**0.53**	**301**	⇓	*e*	P	**Pn**	**20 57 09.0**	**-1.6**
	baz=301								
CHN2					*e*	S	**Sn**	**20 57 17.8**	**-1.9**
	baz=301								
TTN	**Taitung**	**0.54**	**162**	⇑	*e*	P	**Pn**	**20 57 09.2**	**-1.5**
	baz=161								
TTN					*e*	S	**Sn**	**20 57 17.6**	**-2.3**
	baz=161								
CHY	**Chiayi**	**0.55**	**295**			P	**Pb**	**20 57 09.0**	**+0.4**
	baz=296								
CHY					*e*	S	**Sn**	**20 57 18.0**	**-2.3**
	baz=296								
WGK	**Gukeng**	**0.56**	**318**	⇓		P	**Pn**	**20 57 09.6**	**-1.5**
	baz=319								
WGK					*e*	S	**Sn**	**20 57 18.8**	**-1.8**
	baz=319								
SCST	**Cishan**	**0.58**	**229**	⇑		P	**Pb**	**20 57 09.2**	**+0.1**
	baz=230								
SCST					*e*	S	**Sn**	**20 57 20.0**	**-0.9**
	baz=230								
WDLH	**Douliu**	**0.58**	**317**	⇓		P	**Pn**	**20 57 09.9**	**-1.4**
	baz=317								
WDLH					*e*	S	**Sn**	**20 57 19.1**	**-1.9**
	baz=317								
EGFH	**Guangfu**	**0.58**	**46**	⇑	*i*	P	**Pg**	**20 57 07.9**	**0.0**
	baz=46								
EGFH					*e*	S	**Sg**	**20 57 15.6**	**0.0**
	baz=46								
CHN3	**Shinhua**	**0.58**	**251**		*e*	P	**Pn**	**20 57 10.7**	**-0.6**
	baz=252								
CHN3					*e*	S	**Sn**	**20 57 21.3**	**+0.1**
	baz=252								
WJS	**Zhushan**	**0.60**	**338**			P	**Pb**	**20 57 09.8**	**+0.4**
	baz=339								
WJS					*e*	S	**Sn**	**20 57 20.2**	**-1.3**
	baz=339								
SSD	**Sandimen**	**0.60**	**211**	⇑	*e*	P	**Pb**	**20 57 09.3**	**-0.2**
	baz=211								
SHHT	**Tainan City**	**0.62**	**247**		*e*	P	**Pn**	**20 57 11.4**	**-0.4**
	baz=248								
SHHT					*e*	S	**Sn**	**20 57 22.6**	**+0.6**
	baz=248								
SMLT	**Sun Moon Lake**	**0.62**	**354**	⇑		P	**Pg**	**20 57 08.9**	**+0.3**
	baz=355								
SMLT					*e*	S	**Sb**	**20 57 19.9**	**+1.1**
	baz=355								
TSMG	**Majia**	**0.63**	**208**	⇑	*i*	P	**Pg**	**20 57 08.7**	**-0.1**
	baz=209								
TSMG					*e*	S	**Sg**	**20 57 16.4**	**-0.7**
	baz=209								
SSHA	**Shanhua**	**0.64**	**259**		*e*	P	**Pn**	**20 57 11.7**	**-0.4**
	baz=259								
SSHA					*e*	S	**Sn**	**20 57 22.9**	**+0.5**
	baz=259								
ICHU	**Yijhu**	**0.64**	**279**	⇓	*e*	P	**Pn**	**20 57 10.9**	**-1.2**
	baz=279								
ICHU					*e*	S	**Sn**	**20 57 21.9**	**-0.6**
	baz=279								
TYC	**Yuchr**	**0.64**	**351**	⇑		P	**Pb**	**20 57 09.4**	**-0.8**
	baz=352								
TYC					*e*	S	**Sn**	**20 57 21.6**	**-1.0**
	baz=352								
WNT	**Mingjian**	**0.66**	**337**	⇑	*e*	P	**Pn**	**20 57 11.6**	**-0.8**
	baz=338								
WNT					*e*	S	**Sn**	**20 57 22.2**	**-0.9**
	baz=338								
ECL	**Taimali**	**0.67**	**181**	⇑	*i*	P	**Pg**	**20 57 09.2**	**-0.2**
	baz=181								
ECL					*e*	S	**Sg**	**20 57 17.9**	**-0.3**
	baz=181								
TWM1	**Shoushan**	**0.67**	**229**		*e*	P	**Pn**	**20 57 11.6**	**-0.9**
	baz=229								
TWM1					*e*	S	**Sn**	**20 57 25.0**	**+1.7**
	baz=229								
WTK	**Tuku**	**0.68**	**309**		*e*	P	**Pn**	**20 57 11.5**	**-1.1**
	baz=309								
WTK					*e*	S	**Sn**	**20 57 21.9**	**-1.5**
	baz=309								
TEGC	**Jichi Village**	**0.69**	**50**		*e*	P	**Pb**	**20 57 11.1**	**+0.1**
	baz=50								
WNT1	**Nantou City**	**0.69**	**338**		*e*	P	**Pn**	**20 57 12.4**	**-0.4**
	baz=338								
WNT1					*e*	S	**Sn**	**20 57 23.3**	**-0.5**
	baz=338								
ESL	**Shilin**	**0.69**	**38**	⇑		P	**Pg**	**20 57 09.9**	**-0.2**
	baz=38								
ESL					*e*	S	**Sb**	**20 57 20.2**	**-0.7**
	baz=38								
SGLT	**Jiouru**	**0.69**	**219**		*e*	P	**Pn**	**20 57 11.6**	**-1.3**
	baz=219								
SGLT					*e*	S	**Sn**	**20 57 25.1**	**+1.2**
	baz=219								
CHN8	**Yiju**	**0.70**	**277**		*e*	P	**Pn**	**20 57 11.9**	**-1.1**
	baz=278								
CHN8					*e*	S	**Sn**	**20 57 23.4**	**-0.6**
	baz=278								
OWD	**Renai**	**0.71**	**16**	⇑		P	**Pg**	**20 57 09.8**	**-0.7**
	baz=15								
OWD					*e*	S	**Sb**	**20 57 22.3**	**+0.8**
	baz=15								
TAI1	**Yung-k'ang**	**0.72**	**252**		*e*	P	**Pn**	**20 57 13.8**	**+0.7**
	baz=252								
TAI1					*e*	S	**Sn**	**20 57 26.4**	**+2.0**
	baz=252								
SCLT	**Jiali**	**0.72**	**263**		*e*	P	**Pn**	**20 57 12.3**	**-0.8**
	baz=263								
SCLT					*e*	S	**Sn**	**20 57 25.0**	**+0.6**
	baz=263								
MASBT	**Mashibuluo**	**0.72**	**205**	⇑		P	**Pg**	**20 57 10.3**	**-0.2**
	baz=206								
MASBT					*e*	S	**Sb**	**20 57 21.5**	**-0.1**
	baz=206								
TSPT	**Pingtung City**	**0.73**	**217**		*e*	P	**Pb**	**20 57 11.0**	**-0.6**
	baz=217								
TSPT					*e*	S	**Sn**	**20 57 25.8**	**+1.1**
	baz=217								
WUSB	**Renai**	**0.74**	**11**	⇑		P	**Pg**	**20 57 10.4**	**-0.5**
	baz=11								
WUSB					*e*	S	**Sn**	**20 57 25.1**	**-0.1**
	baz=11								
WPL	**Puli Township**	**0.74**	**359**		*e*	P	**Pg**	**20 57 11.0**	**0.0**
	baz=359								
WPL					*e*	S	**Sn**	**20 57 24.2**	**-0.9**
	baz=359								
LDUT	**Ludao**	**0.75**	**142**			P	**Pb**	**20 57 11.1**	**-0.9**
	baz=141								
LDUT					*e*	S	**Sb**	**20 57 22.4**	**0.0**
	baz=141								
TAI	**Tainan**	**0.76**	**249**		*e*	P	**Pn**	**20 57 14.2**	**+0.4**
	baz=250								
TAI					*e*	S	**Sn**	**20 57 26.9**	**+1.4**
	baz=250								
DPDB	**Guoxing**	**0.77**	**357**	⇑	*e*	P	**Pb**	**20 57 11.6**	**-0.8**
	baz=357								
DPDB					*e*	S	**Sn**	**20 57 25.1**	**-0.7**
	baz=357								
WSF	**Szhu**	**0.78**	**299**		*e*	P	**Pn**	**20 57 13.0**	**-1.0**
	baz=299								
WSF					*e*	S	**Sn**	**20 57 25.4**	**-0.5**
	baz=299								
WYL	**Yuanlin Townsh**	**0.78**	**333**		*e*	P	**Pn**	**20 57 13.5**	**-0.5**
	baz=333								
WYL					*e*	S	**Sn**	**20 57 25.7**	**-0.3**
	baz=333								
WCS	**Beigang Elemen**	**0.79**	**356**	⇑	*e*	P	**Pb**	**20 57 12.1**	**-0.7**
	baz=356								
WCS					*e*	S	**Sn**	**20 57 25.9**	**-0.4**
	baz=356								
WWF	**Wufeng**	**0.81**	**342**	⇑	*e*	P	**Pn**	**20 57 14.3**	**-0.2**
	baz=342								
WWF					*e*	S	**Sn**	**20 57 27.1**	**+0.3**
	baz=342								
CHGB	**Renai**	**0.81**	**13**	⇑	*e*	P	**Pg**	**20 57 11.8**	**-0.6**
	baz=13								
CHGB					*e*	S	**Sn**	**20 57 26.3**	**-0.8**
	baz=13								
TSCK	**Chigu Township**	**0.82**	**262**		*e*	P	**Pn**	**20 57 14.2**	**-0.4**
	baz=262								
TSCK					*e*	S	**Sn**	**20 57 26.9**	**0.0**
	baz=262								
WRL	**Guolierlin Hig**	**0.83**	**320**		*e*	P	**Pn**	**20 57 13.9**	**-0.9**
	baz=320								
WRL					*e*	S	**Sn**	**20 57 26.2**	**-1.2**
	baz=320								
TEYL	**Yanliau Villag**	**0.83**	**44**		*e*	P	**Pn**	**20 57 14.0**	**-0.8**
	baz=42								
TEYL					*e*	S	**Sn**	**20 57 27.6**	**+0.3**
	baz=42								
ETM	**Tongmen**	**0.85**	**35**		*e*	P	**Pg**	**20 57 12.6**	**-0.4**
	baz=34								
ETM					*e*	S	**Sb**	**20 57 24.6**	**-0.7**
	baz=34								
WTCT	**Ta-ch'eng**	**0.87**	**314**		*e*	P	**Pn**	**20 57 14.3**	**-1.0**
	baz=314								
WTCT					*e*	S	**Sn**	**20 57 27.7**	**-0.5**
	baz=314								
EAST	**Anshuo**	**0.88**	**187**	⇑	*e*	P	**Pb**	**20 57 13.6**	**-0.7**
	baz=187								
EAST					*e*	S	**Sn**	**20 57 27.1**	**-1.5**
	baz=187								
WCHH	**Zhanghua**	**0.89**	**335**		*e*	P	**Pn**	**20 57 15.3**	**-0.3**
	baz=335								
WCHH					*e*	S	**Sn**	**20 57 28.8**	**0.0**
	baz=335								
TAW	**Tawu**	**0.91**	**184**	⇑	*e*	P	**Pb**	**20 57 13.9**	**-0.7**
	baz=184								
TCU	**Taichung**	**0.92**	**343**		*e*	P	**Pn**	**20 57 16.0**	**0.0**
	baz=344								
TCU					*e*	S	**Sn**	**20 57 29.8**	**+0.4**
	baz=344								
WHF	**Hehuan Shan**	**0.92**	**17**	⇑		P	**Pg**	**20 57 13.6**	**-0.7**
	baz=17								
WHF					*e*	S	**Sn**	**20 57 30.2**	**+0.2**
	baz=17								
HWA	**Hwalien**	**0.92**	**39**		*e*	P	**Pb**	**20 57 14.7**	**-0.2**
	baz=40								
HWA					*e*	S	**Sn**	**20 57 29.3**	**-0.1**
	baz=40								
TAWH	**Dawu Township**	**0.92**	**185**	⇑	*e*	P	**Pb**	**20 57 14.2**	**-0.8**
	baz=185								
TAWH					*e*	S	**Sb**	**20 57 26.8**	**-0.6**
	baz=185								
SCZT	**Fangliau**	**0.94**	**200**		*e*	P	**Pg**	**20 57 14.5**	**-0.3**
	baz=200								
SCZT					*e*	S	**Sn**	**20 57 30.0**	**-0.1**
	baz=200								
TWD	**Chiawan**	**0.99**	**35**		*e*	P	**Pb**	**20 57 15.8**	**-0.4**
	baz=35								
TWD					*e*	S	**Sb**	**20 57 29.4**	**-0.2**
	baz=35								
TDCB	**Techi**	**1.00**	**10**		*e*	P	**Pb**	**20 57 16.1**	**-0.3**
	baz=10.0								
TDCB					*e*	S	**Sn**	**20 57 32.9**	**+1.3**
	baz=10.0								
TWT	**Tachien**	**1.00**	**11**		*e*	P	**Pg**	**20 57 15.0**	**-1.0**
	baz=10.0								
TWT					*e*	S	**Sn**	**20 57 32.6**	**+0.9**
	baz=10.0								
WHP	**Taichung City**	**1.01**	**359**		*e*	P	**Pn**	**20 57 16.6**	**-0.8**
	baz=359								
WHP					*e*	S	**Sn**	**20 57 33.4**	**+1.6**
	baz=359								
ETLH	**Xiulin Townshi**	**1.05**	**27**		*e*	P	**Pg**	**20 57 15.9**	**-1.0**
	baz=26								
ETLH					*e*	S	**Sn**	**20 57 32.4**	**-0.4**
	baz=26								
SLIU	**Shizi**	**1.05**	**188**	⇑	*e*	P	**Pb**	**20 57 16.6**	**-0.6**
	baz=189								
SLIU					*e*	S	**Sn**	**20 57 35.3**	**+2.5**
	baz=189								
TWP	**Hsiaoliuchiu**	**1.07**	**212**		*e*	P	**Pn**	**20 57 19.8**	**+1.8**
	baz=211								
TWP					*e*	S	**Sn**	**20 57 38.3**	**+5.2**
	baz=211								
NACB	**Ninganchiao**	**1.07**	**32**			P	**Pg**	**20 57 17.0**	**-0.3**
NACB	**Ninganchiao**	**1.07**	**32**	⇑	*e*	P	**Pg**	**20 57 16.9**	**-0.4**
	baz=32								
NACB					*e*	S	**Sb**	**20 57 31.5**	**-0.2**
	baz=32								
ETL	**Fush Village**	**1.07**	**34**		*e*	P	**Pg**	**20 57 17.0**	**-0.4**
	baz=34								
ETL					*e*	S	**Sn**	**20 57 32.2**	**-1.1**
	baz=34								
TWQ1	**Liyutan**	**1.09**	**351**	⇑	*e*	P	**Pn**	**20 57 19.1**	**+0.7**
	baz=351								
TWQ1					*e*	S	**Sn**	**20 57 35.2**	**+1.4**
	baz=351								
WDJ	**Dajia District**	**1.12**	**345**		*e*	P	**Pn**	**20 57 19.8**	**+1.1**
	baz=345								
WDJ					*e*	S	**Sn**	**20 57 36.6**	**+2.2**
	baz=345								
NSY	**Sanyi**	**1.16**	**351**	⇑	*e*	P	**Pn**	**20 57 20.6**	**+1.3**
	baz=351								
NSY					*e*	S	**Sn**	**20 57 38.0**	**+2.6**
	baz=351								
WDGT	**Dungji**	**1.20**	**270**	⇑	*e*	P	**Pg**	**20 57 19.7**	**-0.1**
	baz=270								
WDGT					*e*	S	**Sn**	**20 57 36.1**	**-0.3**
	baz=270								
NNSB	**Datong**	**1.22**	**18**		*e*	P	**Pb**	**20 57 18.8**	**-1.3**
	baz=18								
NNSB					*e*	S	**Sn**	**20 57 37.9**	**+0.8**
	baz=18								
NNSH	**Datong**	**1.22**	**18**		*e*	P	**Pb**	**20 57 18.8**	**-1.3**
	baz=18								
NNSH					*e*	S	**Sn**	**20 57 36.9**	**-0.2**
	baz=18								
NNS	**Nan Shan**	**1.23**	**18**		*e*	P	**Pb**	**20 57 19.2**	**-1.1**
	baz=18								
NNS					*e*	S	**Sn**	**20 57 39.3**	**+2.0**
	baz=18								
SMST	**Manzhou Townsh**	**1.24**	**186**	⇑	*e*	P	**Pg**	**20 57 20.4**	**-0.2**
	baz=186								
SMST					*e*	S	**Sn**	**20 57 40.5**	**+3.1**
	baz=186								
HEN	**Hengchun**	**1.27**	**190**		*e*	P	**Pg**	**20 57 21.6**	**+0.5**
	baz=189								
HEN					*e*	S	**Sn**	**20 57 41.2**	**+3.1**
	baz=189								
NMLH	**Miaoli**	**1.28**	**353**		*e*	P	**Pg**	**20 57 22.3**	**+1.1**
	baz=353								
NMLH					*e*	S	**Sn**	**20 57 40.8**	**+2.5**
	baz=353								
PHUB	**P'eng-hu**	**1.31**	**281**		*e*	P	**Pb**	**20 57 21.0**	**-0.5**
	baz=281								
PHUB					*e*	S	**Sn**	**20 57 38.5**	**-0.4**
	baz=281								
TWK1	**Hengchun**	**1.32**	**187**		*e*	P	**Pg**	**20 57 22.1**	**0.0**
	baz=186								
TWK1					*e*	S	**Sn**	**20 57 42.6**	**+3.2**
	baz=186								
TWKBT	**Hengchun**	**1.33**	**186**		*e*	P	**Pg**	**20 57 21.9**	**-0.2**
	baz=186								
TWKBT					*e*	S	**Sg**	**20 57 41.0**	**+1.6**
	baz=186								
PNG	**Penghu**	**1.33**	**283**		*e*	P	**Pg**	**20 57 21.7**	**-0.6**
	baz=283								
PNG					*e*	S	**Sg**	**20 57 39.4**	**-0.1**
	baz=283								
LAY	**Lan-yu**	**1.33**	**156**		*e*	P	**Pn**	**20 57 20.2**	**-1.5**
	baz=156								
ENA	**Nanau**	**1.36**	**31**		*e*	P	**Pb**	**20 57 22.0**	**-0.4**
	baz=31								
ENA					*e*	S	**Sg**	**20 57 41.7**	**+1.3**
	baz=31								
NSTT	**Nanjuang**	**1.36**	**1**		*e*	P	**Pg**	**20 57 22.9**	**+0.1**
	baz=2.0								
NSTT					*e*	S	**Sg**	**20 57 43.8**	**+3.3**
	baz=2.0								
TSEB	**Hengchuen, Pin**	**1.36**	**183**		*e*	P	**Pn**	**20 57 21.3**	**-0.7**
	baz=184								
TSEB					*e*	S	**Sg**	**20 57 42.6**	**+2.2**
	baz=184								
LATG	**Datong**	**1.36**	**22**		*e*	P	**Pn**	**20 57 21.4**	**-0.8**
	baz=22								
LATG					*e*	S	**Sg**	**20 57 42.0

ENTT	**Nioudou**	**1.48**	**22**	*e*P	**Pb**	**20 57 24.1**	**-0.3**
	baz=22						
ENTT				*e*S	**Sg**	**20 57 46.0**	**+1.8**
	baz=22						
HSN1	**Hsinchu**	**1.51**	**2**	*e*P	**Pg**	**20 57 25.9**	**+0.3**
	baz=2.0						
SBCB	**Hsinchu**	**1.52**	**1**	*e*P	**Pg**	**20 57 26.9**	**+1.1**
	baz=1.0						
NDS	**Dongshan**	**1.52**	**27**	*e*P	**Pg**	**20 57 25.7**	**-0.3**
	baz=26						
NDS				*e*S	**Sg**	**20 57 46.4**	**+0.6**
	baz=26						
TWC	**Suao**	**1.56**	**31**	*e*P	**Pg**	**20 57 26.0**	**-0.7**
	baz=31						
TWC				*e*S	**Sg**	**20 57 47.8**	**+0.8**
	baz=31						
TWE	**Neicheng**	**1.58**	**24**	*e*P	**Pg**	**20 57 26.6**	**-0.5**
	baz=24						
TWE				*e*S	**Sg**	**20 57 48.4**	**+0.8**
	baz=24						
FUSB	**Fushanzhiwuyua**	**1.59**	**21**	*e*P	**Pb**	**20 57 26.2**	**-0.3**
	baz=21						
FUSB				*e*S	**Sg**	**20 57 48.4**	**+0.5**
	baz=21						
ILA	**Ilan**	**1.66**	**25**	*e*P	**Pn**	**20 57 24.9**	**-1.2**
	baz=26						
NCUH	**Zhongli**	**1.71**	**7**	*e*P	**Pg**	**20 57 28.6**	**-0.8**
	baz=7.0						
NHDH	**Xindian Distri**	**1.77**	**17**	*e*P	**Pg**	**20 57 30.6**	**0.0**
	baz=17						
NHDH				*e*S	**Sg**	**20 57 55.0**	**+1.6**
	baz=17						
TWA	**Mucha**	**1.80**	**18**	*e*P	**Pg**	**20 57 30.4**	**-0.8**
	baz=18						
TWA				*e*S	**Sg**	**20 57 54.2**	**-0.3**
	baz=18						
TAP	**Taipei**	**1.83**	**15**	*e*P	**Pg**	**20 57 31.4**	**-0.4**
	baz=16						
TIPB	**Shuangxi**	**1.87**	**25**	*e*P	**Pb**	**20 57 31.5**	**+0.3**
	baz=25						
TIPB				*e*S	**Sg**	**20 57 58.1**	**+1.2**
	baz=25						
TWS1	**Kuangyinshan**	**1.87**	**13**	*e*P	**Pb**	**20 57 31.3**	**+0.1**
	baz=13						
TWS1				*e*S	**Sg**	**20 57 56.9**	**0.0**
	baz=13						
NWF	**Wu-fen Shan**	**1.95**	**22**	*e*P	**Pb**	**20 57 32.4**	**-0.1**
	baz=22						
WFSB	**Wu-fen Shan**	**1.95**	**22**	*e*P	**Pg**	**20 57 34.4**	**+0.4**
	baz=22						
YM01	**YM01**	**1.95**	**16**	*e*P	**Pb**	**20 57 32.2**	**-0.4**
	baz=16						
SXI1	**Grass Mountain**	**2.00**	**24**	*e*P	**Pb**	**20 57 33.2**	**-0.2**
	baz=24						
VWUC	**VWUC**	**2.21**	**321**	*e*P	**Pn**	**20 57 34.7**	**+1.0**
	baz=321						
YOJ	**Yonaguni jima**	**2.22**	**57**	P	**Pn**	**20 57 33.6**	**-0.2**

*NOU **03** 20:57:18.8, 30.˚63S×118.˚44E, h0km, MLv3.5/10, Western Australia*
*AUST **03** 20:57:19.5±0.8, 30.˚66S×118.˚38E, h10km, Error ellipse: s-maj=10.5km s-min=8.2km az=150.0*
ISC 03 20:57:19.1±1.0, 30.˚64S±0.˚05×118.˚43E±0.˚06, h13km, n22, σ1§34/27, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.11**	**211**	P	**Pb**	**20 57 40.3**	**+0.2**
	baz=1.1,SNR=62						
KLBR				S	**Sb**	**20 57 54.2**	**-0.3**
	baz=1.1,SNR=12						
KLBR	**Kellerberrin**	**1.11**	**211**	P	**Pb**	**20 57 40.4**	**+0.2**
BLDU	**Ballidu**	**1.48**	**271**	P	**Pn**	**20 57 46.6**	**+1.0**
	baz=1.4,SNR=79						
BLDU				S	**Sb**	**20 58 05.5**	**+0.2**
	baz=1.4,SNR=17						
BLDU	**Ballidu**	**1.48**	**271**	P	**Pn**	**20 57 46.5**	**+1.0**
MUN	**Mundaring**	**2.32**	**234**	P	**Pn**	**20 57 58.2**	**+1.2**
	baz=2.3,SNR=8.2						
MUN				S	**Sn**	**20 58 25.3**	**-0.1**
	baz=2.3						
MUN	**Mundaring**	**2.32**	**234**	P	**Pn**	**20 57 58.2**	**+1.2**
NWAO	**Narrogin (SRO)**	**2.49**	**204**	P	**Pn**	**20 58 00.6**	**+1.2**
	baz=2.5,SNR=19						
NWAO				P	**Pn**	**20 58 00.6**	**+1.2**
	baz=2.5,SNR=19						
NWAO	**Narrogin (SRO)**	**2.49**	**204**	P	**Pn**	**20 58 00.4**	**+1.0**
NWAO	**Narrogin (SRO)**	**2.49**	**204**	P	**Pn**	**20 58 00.6**	**+1.2**
MORW	**Morawa**	**2.60**	**307**	P	**Pn**	**20 58 01.8**	**+0.9**
	baz=2.6						
MORW				S	**Sn**	**20 58 32.8**	**+0.5**
	baz=2.6						
MORW	**Morawa**	**2.60**	**307**	P	**Pn**	**20 58 01.7**	**+0.9**
AUKAL	**John Paul Coll**	**2.63**	**93**	P	**Pn**	**20 58 03.1**	**+1.8**
	baz=2.7						
KMBL	**Kambalda**	**3.05**	**105**	P	**Pn**	**20 58 08.5**	**+1.4**
	baz=3.1,SNR=11						
KMBL	**Kambalda**	**3.05**	**105**	P	**Pn**	**20 58 08.1**	**+1.0**
MEEK	**Meekatharra**	**3.99**	**2**	P	**Pn**	**20 58 21.6**	**+1.5**
	baz=4.0						
MEEK	**Meekatharra**	**3.99**	**2**	P	**Pn**	**20 58 21.3**	**+1.2**
FORT	**Forrest**	**8.29**	**93**	P	**Pn**	**20 59 19.2**	**+0.1**
	baz=8.3						
FORT	**Forrest**	**8.29**	**93**	P	**Pn**	**20 59 20.6**	**+1.5**
WRKA	**Warakurna**	**10.36**	**60**	P	**Pn**	**20 59 47.9**	**+0.4**
	baz=10						
WRKA	**Warakurna**	**10.36**	**60**	P	**Pn**	**20 59 47.9**	**+0.4**
MULG	**Mulgathing**	**13.49**	**92**	P	**Pn**	**21 00 28.0**	**-2.3**
	baz=14						
OOD	**Oodnadatta**	**15.34**	**84**	P	**Pn**	**21 00 51.7**	**-3.6**
	baz=15						

IDC 03 21:01:06.1±3.0, 32.˚57S×179.˚17E, h0km, mb3.4/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=66.6km s-min=35.1km az=91.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.92**	**196**	Pn	Pn	21 02 34.8	-0.3
	1.7nm,0.3s,baz=163,slow=1.2,SNR=10.0						
URZ				Sn	Sn	21 03 45.0	+1.3
	baz=95,slow=17						
	6.6nm,0.5s						
ASAR	**Alice Springs**	**40.65**	**271**	P	P	21 08 48.0	-0.2
	0.4nm,0.7s,baz=104,slow=7.7,SNR=2.5						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**41.84**	**276**	P	P	21 08 57.9	-0.1
	0.2nm,0.4s,baz=115,slow=7.6,SNR=5.2						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**146.27**	**337**	PKPbc	PKPdf	21 20 47.1	+0.4
	3.0nm,1.1s,baz=29,slow=3.2,SNR=3.7						

*IDC **03** 21:19:05.7±0.4, 43.˚38S×74.˚21W, h0km, mb5.2/26, mbtmp5.2/28, ML4.7/2, MS5.3/11, Error ellipse: s-maj=16.7km s-min=10.9km az=88.0*
*MOS **03** 21:19:06.4±0.9, 43.˚26S×74.˚39W, h10km, mb5.3/14, Error ellipse: s-maj=14.5km s-min=7.6km az=86.9*
*NEIC **03** 21:19:07.5±1.9, 43.˚35S±0.˚04×74.˚50W±0.˚06, h10km±1km, mb5.4/167, Ms_20 5.1/31, Mwr5.3/30, Mww5.5/19, Mwr5.5(GUC), Error ellipse: s-maj=6.6km s-min=4.3km az=128.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.47; Mθθ0.07; Mϕϕ-0.54; Mrθ0.22; Mθϕ0.10; Mϕr-1.15; Fault plane solution: M0 1.28000×10¹⁷ NP1:φs352.71000°, δ11.84000°, λ93.39000°. NP2: φs169.24000°, δ78.18000°, λ89.29000°. Principal axes: T 1.2379, Plg57.0000°, Azm78.0000°; N 0.0887, Plg1.0000°, Azm169.0000°; P -1.3266, Plg33.0000°, Azm260.0000°;*
*VAO **03** 21:19:07.4±0.4, 43.˚38S×74.˚16W, h10km, mb5.3*
*GUC **03** 21:19:08.5±0.6, 43.˚41S×74.˚56W, h38km±2km, ML5.7*
*GCMT **03** 21:19:11.5±0.2, 43.˚33S±0.˚01×74.˚63W±0.˚02, h24km, MW5.4/83, Moment Tensor Solution. s83,c136; s64,c100; Duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr1.13±.04; Mθθ0.08±.03; Mϕϕ-1.21±.03; Mrθ0.11±.04; Mθϕ0.63±.03; Mϕr-1.26±.07; Best double couple: M0 1.82200×10¹⁷ NP1:φs172.00000°, δ68.00000°, λ103.00000°. NP2:φs320.00000°, δ26.00000°, λ61.00000°. Principal axes: T 1.6950, Plg65.0000°, Azm104.0000°; N 0.2550, Plg12.0000°, Azm347.0000°; P -1.9490, Plg22.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 21:19:17.2, 43.˚33S×74.˚43W, h14km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.72; Mθθ0.29; Mϕϕ-1.00; Mrθ0.88; Mθϕ0.15; Mϕr-1.92; Fault plane solution: M0 2.30000×10¹⁷ NP1: φs155.99000°, δ79.58000°, λ80.55000°. NP2:φs18.63000°, δ14.03000°, λ131.78000°. Principal axes: T 2.2014, Plg54.0000°, Azm54.0000°; N 0.1912, Plg9.0000°, Azm158.0000°; P -2.3926, Plg34.0000°, Azm254.0000°;*
ISC 03 21:19:08.3±1.3, 43.˚33S±0.˚04×74.˚36W±0.˚04, h18km±7km, n824, σ1§08/878, mb5.4/130, MS5.1/25, 33C-5D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO07	**Milladeo Hill,**	**0.56**	**67**		**Pn**	**21 19 21.6**	**+0.2**
GO07				Sg	**Sn**	**21 19 30.6**	**+0.4**
GO07	**Milladeo Hill,**	**0.56**	**67**	⇓*i* P	**Pn**	**21 19 21.9**	**+0.5**
GO07				*i* S	**Sn**	**21 19 32.4**	**+2.2**
GO07				IAML		21 19 33.5	
	comp=E,545μm,0.7s						
LL07	**Hotel Espejo d**	**0.82**	**53**		**Pn**	**21 19 26.7**	**+1.7**
LL07				Sn	**Sn**	**21 19 39.6**	**+2.9**
LL07	**Hotel Espejo d**	**0.82**	**53**	⇓*i* P	**Pn**	**21 19 26.3**	**+1.3**
LL07				*i* S	**Sn**	**21 19 40.2**	**+3.5**
LL07				IAML		21 19 42.9	
	comp=N,903μm,0.6s						
LL06	**Loncomilla**	**1.24**	**26**	Pn	**Pg**	**21 19 32.4**	**+0.1**
LL06	**Loncomilla**	**1.24**	**26**	⇑*i* P	**Pg**	**21 19 32.4**	**+0.1**
LL06				*e*S	**Sg**	**21 19 50.3**	**+1.8**
LL06				IAML		21 20 01.5	
	comp=N,167μm,0.4s						
AY01	**Puyuhuapi**	**1.65**	**132**		**Pn**	**21 19 37.0**	**+0.6**
AY01	**Puyuhuapi**	**1.65**	**132**	⇑*i* P	**Pn**	**21 19 37.0**	**+0.6**
AY01				*i* S	**Sb**	**21 19 58.9**	**+0.2**
AY01				IAML		21 20 05.4	
	comp=E,100μm,0.5s						
LL01	**San Ignacio de**	**1.72**	**57**		**Pb**	**21 19 39.2**	**-0.2**
LL01	**San Ignacio de**	**1.72**	**57**	⇑*i* P	**Pb**	**21 19 39.3**	**-0.2**
LL01				*i* S	**Sg**	**21 20 02.9**	**-1.0**
LL05	**Los Muermos**	**2.04**	**19**		**Pn**	**21 19 42.9**	**+1.2**
LL05	**Los Muermos**	**2.04**	**19**	⇑*i* P	**Pn**	**21 19 43.0**	**+1.2**
LL05				*i* S	**Sg**	**21 20 12.6**	**-1.3**
LL03	**Petrohue**	**2.63**	**34**		**Pn**	**21 19 51.4**	**+1.5**
LL03	**Petrohue**	**2.63**	**34**	⇑*i* P	**Pn**	**21 19 51.5**	**+1.5**
LL03				*e*S	**Sn**	**21 20 24.8**	**+3.4**
LL03				IAML		21 20 38.2	
	comp=E,33μm,0.6s						
COYC	**Coyhaique**	**2.77**	**145**	Pn	**Pn**	**21 19 52.8**	**+0.9**
LL04	**Puerto Octay**	**2.82**	**32**	Pn	**Pn**	**21 19 54.1**	**+1.5**
LL04	**Puerto Octay**	**2.82**	**32**	⇑*i* P	**Pn**	**21 19 54.2**	**+1.5**
LL04				*e*S	**Sn**	**21 20 27.6**	**+1.4**
LL04				IAML		21 20 39.9	
	comp=N,13μm,0.7s						
LR04	**Corral**	**3.52**	**12**	Pn	**Pn**	**21 20 03.4**	**+1.3**
PLCA	**Paso Flores**	**3.85**	**49**	Pn	**Pn**	**21 20 09.1**	**+2.3**
	comp=N,23nm,0.3s,baz=228,slow=12,SNR=528						
PLCA				Lg	Lg	21 21 10.8	
	comp=N,124nm,0.3s,baz=249,slow=18,SNR=2.1						
PLCA	**Paso Flores**	**3.85**	**49**		**Pn**	**21 20 09.3**	**+2.5**
PLCA	**Paso Flores**	**3.85**	**49**	P	**Pn**	**21 20 09.3**	**+2.5**
LR03	**Panguipulli**	**4.00**	**23**		**Pn**	**21 20 09.9**	**+1.2**
GO06	**Curarrehue**	**4.33**	**31**	Pn	**Pn**	**21 20 15.1**	**+1.6**
GO06	**Curarrehue**	**4.33**	**31**	⇑*i* P	**Pn**	**21 20 16.2**	**+2.8**
GO06				*i* S	**Sn**	**21 21 09.0**	**+5.5**
ML02	**Panimavida**	**7.89**	**18**		**Pn**	**21 21 02.5**	**+0.2**
GO09	**Cerro Castillo**	**8.06**	**171**	Pn	**Pn**	**21 21 04.4**	**-0.1**
MG05	**Puerto Natales**	**8.44**	**172**	Pn	**Pn**	**21 21 10.0**	**+0.3**
GO05	**Huala**	**8.52**	**14**		**Pn**	**21 21 10.6**	**-0.3**
BO02	**Sierra Bellavi**	**8.97**	**19**		**Pn**	**21 21 16.9**	**-0.2**
BO01	**Tunca**	**9.29**	**17**	Pn	**Pn**	**21 21 20.0**	**-1.3**
MT01	**Popeta**	**9.76**	**15**		**Pn**	**21 21 26.6**	**-1.3**
BO04	**La Punta**	**9.78**	**19**		**Pn**	**21 21 27.0**	**-1.1**
MT09	**Talagante**	**9.90**	**17**		**Pn**	**21 21 28.3**	**-1.6**
LMEL	**Las Melosas**	**10.01**	**20**		**Pn**	**21 21 30.9**	**-0.6**
H03S1	**Juan Fernandez**	**10.12**	**338**	Pn	**Pn**	**21 21 33.8**	**+1.3**
	baz=140,slow=7.4						
H03S1				T	T	21 31 46.3	
	baz=161,slow=74,SNR=1066						
H03S2	**Juan Fernandez**	**10.13**	**338**	Pn	**Pn**	**21 21 33.7**	**+1.1**
	baz=140,slow=7.4						
H03S2				T	T	21 31 45.4	
	baz=161,slow=74,SNR=818						
H03S3	**Juan Fernandez**	**10.13**	**338**	Pn	**Pn**	**21 21 33.9**	**+1.2**
	baz=140,slow=7.4						
H03S3				T	T	21 31 46.5	
	baz=161,slow=74,SNR=539						
MT03	**Universidad Ad**	**10.28**	**18**		**Pn**	**21 21 34.0**	**-1.0**
VA04	**Juan Fernndez**	**10.29**	**339**	Pn	**Pn**	**21 21 34.9**	**-0.2**
MT05	**Renca**	**10.32**	**17**	Pn	**Pn**	**21 21 33.8**	**-1.8**
MT02	**Curacav**	**10.37**	**15**		**Pn**	**21 21 34.4**	**-1.8**
H03N3	**Juan Fernandez**	**10.49**	**339**	Pn	**Pn**	**21 21 39.0**	**+1.4**
	baz=202,slow=78						
H03N1	**Juan Fernandez**	**10.50**	**339**	Pn	**Pn**	**21 21 38.5**	**+0.8**
	baz=202,slow=78						
H03N2	**Juan Fernandez**	**10.51**	**339**	Pn	**Pn**	**21 21 39.0**	**+1.2**
	baz=202,slow=78						
TRQA	**Tornquist**	**10.77**	**65**	Pn	**Pn**	**21 21 43.9**	**+2.2**
TRQA	**Tornquist**	**10.77**	**65**	P	**Pn**	**21 21 43.9**	**+2.2**
VA03	**San Esteban**	**10.97**	**17**		**Pn**	**21 21 42.5**	**-2.0**
USHA	**Ushuaia**	**12.14**	**163**	Pn	**Pn**	**21 21 58.4**	**-1.9**
	comp=N,3.8nm,0.3s,baz=14,slow=0.1,SNR=2.6						
USHA				Lg	Lg	21 25 35.9	
	comp=N,1.2nm,0.3s,baz=289,slow=7.3,SNR=1.8						
USHA				LR	LR	21 27 25.6	
	comp=N,13μm,18.6s,baz=352,slow=41						
	comp=N,17nm,0.6s						
CO02	**Combarbal**	**12.40**	**14**		**Pn**	**21 22 02.7**	**-1.4**
ZON	**Zonda**	**12.60**	**23**	Pn	**Pn**	**21 22 04.5**	**-2.2**
ZON	**Zonda**	**12.60**	**23**	P	**Pn**	**21 22 04.5**	**-2.2**
CFA	**Coronel Fontan**	**12.67**	**25**	Pn	**Pn**	**21 22 05.1**	**-2.7**
	comp=N,5.3nm,0.3s,baz=220,slow=9.6,SNR=53						
CFA				Sn	**Sn**	**21 24 21.1**	**-7.3**
	comp=N,2.8nm,0.3s,baz=246,slow=17,SNR=1.9						
CFA				Lg	Lg	21 25 49.6	
	baz=322,slow=23						
CFA				LR	LR	21 27 31.5	
	comp=N,20μm,18.5s,baz=200,slow=40						
	comp=N,17nm,0.5s						
CO03	**El Pedregal**	**12.81**	**14**	Pn	**Pn**	**21 22 07.3**	**-2.4**
GO04	**Tololo Observa**	**13.44**	**13**		**Pn**	**21 22 15.8**	**-2.6**
CO05	**La Serena**	**13.62**	**12**		**Pn**	**21 22 19.9**	**-0.7**
CO01	**Juntas del Tor**	**13.76**	**16**		**Pn**	**21 22 20.5**	**-2.3**
EFI	**East Falkland**	**13.80**	**133**		**Pn**	**21 22 24.6**	**+1.7**
EFI	**East Falkland**	**13.80**	**133**	*ce*P	**Pn**	**21 22 26.7**	**+3.8**
EFI				pmax	pmax		
	comp=Z,104nm,1.3s						
LCO	**Las Campanas**	**14.59**	**13**		**Pn**	**21 22 32.8**	**-1.4**
LCO	**Las Campanas**	**14.59**	**13**	P	**Pn**	**21 22 32.8**	**-1.4**
LPA	**La Plata**	**15.26**	**62**	*c* P	**Pn**	**21 22 42.1**	**-0.7**
LPA				PPP	PPP	21 23 44.1	
LPA				S	**Sn**	**21 25 35.1**	**+3.8**
LPA				SSS	SSS	21 26 58.9	
GO03	**Copiap**	**16.06**	**13**		**Pn**	**21 22 52.7**	**-0.6**
GO03				IAmb	IAmb	21 22 59.0	
	comp=Z,328nm,1.2s						
AC06	**Mina Casimiro**	**16.27**	**13**		**Pn**	**21 22 55.9**	**-0.1**
AC06				IAmb	IAmb	21 23 01.4	
	comp=Z,349nm,1.2s						
AC02	**Maricunga**	**17.00**	**16**		**Pn**	**21 23 04.9**	**-0.8**
AC02				IAmb	IAmb	21 23 11.9	
	comp=Z,387nm,1.0s						
AC01	**Pan de Azucar**	**17.42**	**11**		**Pn**	**21 23 10.4**	**-0.1**
ITQB	**Itaqui**	**19.67**	**52**	P	**P**	**21 23 32.9**	**-3.5**
ITQB				IAmb	IAmb	21 23 42.9	
	comp=Z,151nm,0.9s						
PB10	**IPOC Station P**	**20.02**	**10**	P	**P**	**21 23 40.3**	**+0.2**
PB10				IAmb	IAmb	21 23 42.6	
	comp=Z,289nm,1.2s						
RODS	**Rosario do Sul**	**20.02**	**56**	*e*P	**P**	**21 23 37.4**	**-2.8**
PLTB	**Pedras Altas**	**20.05**	**62**	P	**P**	**21 23 36.9**	**-3.6**
PLTB	**Pedras Altas**	**20.05**	**62**	*e*P	**P**	**21 23 37.6**	**-2.9**
TICA	**Tres Isletas**	**20.38**	**38**	*e*P	**P**	**21 23 45.4**	**+1.3**
PB06	**IPOC Station P**	**20.95**	**12**	P	**P**	**21 23 50.4**	**-0.1**
PB06				IAmb	IAmb	21 23 52.4	
	comp=Z,295nm,1.1s						
AF01	**San Pedro de A**	**20.96**	**16**	P	**P**	**21 23 51.5**	**+0.8**
CPSB	**Cacapava Do Su**	**21.06**	**59**	*e*P	**P**	**21 23 48.9**	**-2.6**
LVC	**Limon Verde**	**21.16**	**14**	P	**P**	**21 23 54.0**	**+1.1**
	comp=Z,135nm,1.0s,baz=194,slow=9.5,SNR=69						
LVC				LR	LR	21 33 17.4	
	comp=Z,6μm,19.1s,baz=188,slow=40						
LVC	**Limon Verde**	**21.16**	**14**	P	**P**	**21 23 53.1**	**+0.2**
LVC				IAmb	IAmb	21 23 55.5	
	comp=Z,308nm,1.3s						
LVC	**Limon Verde**	**21.16**	**14**	IAMs_20	IAMs_20	21 32 39.2	
	comp=Z,7μm,18.0s						
LVC	**Limon Verde**	**21.16**	**14**	*e*P	**P**	**21 23 54.5**	**+1.6**
AZCA	**Azaras, Argent**	**21.25**	**50**	*e*P	**P**	**21 23 52.1**	**-1.3**
PB09	**IPOC Station P**	**21.90**	**13**	P	**P**	**21 24 00.9**	**+0.3**
PB09				IAmb	IAmb	21 24 15.3	
	comp=Z,169nm,1.1s						
CPUP	**Villa Florida**	**21.91**	**45**	P	**P**	**21 24 00.8**	**+0.2**
	comp=Z,156nm,0.6s,baz=224,slow=9.2,SNR=146						
CPUP				S	**S**	**21 28 02.2**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=354,slow=9.8,SNR=1.2						
CPUP				Lg	Lg	21 30 45.5	
	comp=Z,0.1nm,0.3s,baz=116,slow=18,SNR=0.6						
CPUP				LR	LR	21 33 33.0	
	comp=Z,14μm,18.6s,baz=216,slow=40						
	comp=Z,156nm,0.6s						
CPUP	**Villa Florida**	**21.91**	**45**	P	**P**	**21 23 58.8**	**-1.8**
CPUP				IAmb	IAmb	21 24 03.1	
	comp=Z,188nm,0.7s						
PMSA	**Palmer Station**	**22.26**	**168**	P	**P**	**21 24 05.9**	**+1.9**
	comp=Z,7.1nm,0.8s,baz=333,slow=6.8,SNR=1.4						
PMSA				LR	LR	21 32 01.9	
	comp=Z,8μm,18.2s,baz=333,slow=35						
PMSA	**Palmer Station**	**22.26**	**168**	IAMs_20	IAMs_20	21 31 49.9	
	comp=Z,7μm,18.0s						
PMSA	**Palmer Station**	**22.26**	**168**	*e*P	**P**	**21 24 03.8**	**-0.2**
ALGR	**Alto Alegre (B**	**22.45**	**57**	*e*P	**P**	**21 24 06.2**	**-0.3**
PB01	**IPOC Station P**	**22.60**	**12**	P	**P**	**21 24 07.3**	**-0.8**
PB01				IAmb	IAmb	21 24 31.6	
	comp=Z,197nm,1.5s						
PATCX	**Punta Patache**	**22.72**	**10**	P	**P**	**21 24 09.4**	**0.0**
PATCX				IAmb	IAmb	21 24 30.6	
	comp=Z,113nm,0.9s						
CRSM	**Crissiumal (Br**	**22.80**	**53**	*e*P	**P**	**21 24 10.4**	**+0.2**
TA01	**Diego Aracena**	**22.97**	**10**	P	**P**	**21 24 11.1**	**-0.8**
TA02	**Huaiquique**	**23.27**	**10**	P	**P**	**21 24 14.4**	**-0.5**
TA02				IAmb	IAmb	21 24 18.2	
	comp=Z,114nm,1.1s						
CNLB	**Canela**	**23.45**	**61**	*e*P	**P**	**21 24 17.4**	**+0.6**
PB08	**IPOC Station P**	**23.53**	**12**	P	**P**	**21 24 17.7**	**-0.3**
PSGCX	**Pisagua**	**23.93**	**10**	P	**P**	**21 24 20.8**	**-0.7**
PSGCX				IAmb	IAmb	21 24 23.9	
	comp=Z,136nm,1.1s						
GO01	**Chusmiza**	**23.99**	**12**	P	**P**	**21 24 22.2**	**-0.3**
GO01				IAmb	IAmb	21 24 45.2	
	comp=Z,91nm,1.1s						
ITAB	**Concordia**	**24.12**	**56**	P	**P**	**21 24 22.0**	**-1.2**
ITAB	**Concordia**	**24.12**	**56**	*e*P	**P**	**21 24 23.0**	**-0.2**
MNMC	**Minye Minye**	**24.46**	**11**	P	**P**	**21 24 26.4**	**-0.2**
MNMC				IAmb	IAmb	21 24 29.6	
	comp=Z,164nm,1.0s						
FRBT	**Francisco Belt**	**24.52**	**52**	*e*P	**P**	**21 24 26.5**	**-0.4**
PB12	**IPOC Station P**	**24.88**	**9**	P	**P**	**21 24 29.8**	**-0.4**
MCR1	**Marechal Candi**	**25.16**	**48**	*e*P	**P**	**21 24 32.3**	**-0.3**
PB16	**IPOC Station P**	**25.26**	**11**	P	**P**	**21 24 35.1**	**+1.0**
AMBA	**Amambai (Brazi**	**25.91**	**44**	*e*P	**P**	**21 24 39.1**	**-0.3**
PB18	**Visviri**	**25.99**	**11**	P	**P**	**21 24 41.7**	**+0.9**
PTGB	**Pitanga**	**26.06**	**52**	*e*P	**P**	**21 24 39.6**	**-1.3**
HOPE	**Hope Point**	**26.92**	**127**	IAMs_20	IAMs_20	21 36 53.3	
	comp=Z,4μm,19.0s						
TRCB	**Terra Rica**	**27.26**	**48**	P	**P**	**21 24 49.6**	**-2.1**
TRCB	**Terra Rica**	**27.26**	**48**	*e*P	**P**	**21 24 50.3**	**-1.3**
LPAZ	**La Paz**	**27.48**	**13**	P	**P**	**21 24 54.3**	**+0.1**
LPAZ				IAmb	IAmb	21 25 00.9	
	comp=Z,77nm,1.2s						
LPAZ	**La Paz**	**27.48**	**13**	P	**P**	**21 24 54.3**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,77nm,1.3s						
LPAZ	**La Paz**	**27.48**	**13**	*e*P	**P**	**21 24 54.8**	**+0.5**
AQDB	**Aquidauana**	**27.63**	**40**	P	**P**	**21 24 53.8**	**-1.1**
AQDB				IAmb	IAmb	21 24 57.1	
	comp=Z,61nm,0.7s						
AQDB	**Aquidauana**	**27.63**	**40**	*e*P	**P**	**21 24 53.6**	**-1.3**
BBRB	**Robore, Bolivi**	**27.84**	**31**	*e*P	**P**	**21 24 56.6**	**-0.2**
BBSD	**Serra de San D**	**28.56**	**28**	*e*P	**P**	**21 25 02.7**	**-0.5**
FRTB	**Fartura**	**28.57**	**54**	*e*P	**P**	**21 25 02.0**	**-1.4**
PCMB	**Pacaembu**	**28.97**	**49**	*e*P	**P**	**21 25 04.8**	**-2.0**
PET01	**Itanhaem-SP**	**29.25**	**58**	*e*P	**P**	**21 25 08.6**	**-0.8**
SIV	**San Ignacio**	**29.52**	**27**	P	**P**	**21 25 11.6**	**-0.1**
	comp=Z,40nm,0.8s,baz=202,slow=8.0,SNR=159						
SIV				LR	LR	21 39 43.2	
	comp=Z,5μm,19.0s,baz=220,slow=42						
	comp=Z,40nm,0.8s						
SPB	**Sao Paulo**	**29.66**	**57**	P	**P**	**21 25 12.3**	**-0.7**
SPB	**Sao Paulo**	**29.66**	**57**	*e*P	**P**	**21 25 13.0**	**0.0**
VAO	**Valinhos**	**30.39**	**57**	*e*P	**P**	**21 25 18.8**	**-0.7**
RCLB	**Rio Claro- Sao**	**30.48**	**55**	*e*P	**P**	**21 25 19.5**	**-0.8**
PP1B	**Ponte de Pedra**	**30

NPGB Novo Progresso 39.82 30 *e*P P **21 26 40.6 0.0**
SDBA SAO DESIDERIO 39.94 48 *e*P P **21 26 41.1 -0.7**
TEFE Tefe 40.59 15 *e*P P **21 26 46.2 -0.7**
COHC Cochancay 40.92 353 P P **21 26 50.0 +0.3**
SMTB Santa María do 41.55 42 *e*P P **21 26 54.6 -0.3**
MACA Manacapuru-AM 41.81 21 P P **21 26 56.4 -0.6**
MACA IAmb IAmb 21 27 07.4
comp=Z,74nm,0.6s
MACA Manacapuru-AM 41.81 21 *e*P P **21 26 55.8 -1.2**
CHSH Refugio Sur-Vo 41.85 353 P P **21 26 59.1 +1.1**
CHSH IAmb IAmb 21 27 01.5
comp=Z,152nm,1.0s
PORT Chimborazo Vol 41.87 353 P P **21 26 58.8 +0.6**
ITTB Itaituba 42.17 28 *e*P P **21 27 00.0 +0.1**
SLOR San Lorenzo - 42.58 354 P P **21 27 04.6 +0.8**
PRPB Parauapebas 42.87 37 *e*P P **21 27 05.2 -0.5**
SGCB S£o Gabriel d 43.52 11 *e*P P **21 27 10.1 -0.8**
SNAA Sanae 43.80 154 P P **21 27 12.7 +0.1**
comp=Z,37nm,1.0s,baz=273,slow=5.8,SNR=31
SNAA LR LR 21 43 47.4
comp=Z,931nm,19.1s,baz=278,slow=34
comp=Z,37nm,1.0s
SNAA Sanae 43.80 154 P P **21 27 12.4 -0.3**
SNAA IAmb IAmb 21 27 20.1
comp=Z,72nm,1.2s
SNAA Sanae 43.80 154⇑ *i*P P **21 27 12.6 -0.1**
SNAA Sanae 43.80 154 *ce*P P **21 27 12.8 +0.1**
SNAA pmax pmax
comp=Z,60nm,1.3s
TULM Tulcn-Chalpat 43.96 355 P P **21 27 16.1 +1.1**
GCUF Volcan Galeras 44.44 356 *e*P P **21 27 21.3 +2.4**
PAYG Puerto Ayora 44.80 337 P P **21 27 21.4 +0.2**
PAYG IAmb IAmb 21 27 34.5
comp=Z,48nm,1.1s
PAYG Puerto Ayora 44.80 337 IAMs_20 IAMs_20 21 41 50.5
comp=Z,2µm,19.0s
MALB Monte Alegre 45.02 29 *e*P P **21 27 22.9 0.0**
MACC Macarena, Meta 45.27 1 *e*P P **21 27 25.9 +0.9**
GR1C Gorgona, Isla 46.25 355 *e*P P **21 27 32.6 -0.1**
QSPA South Pole Qui 46.91 180 P P **21 27 38.3 +0.7**
comp=Z,8.8nm,0.8s,baz=143,slow=4.1,SNR=26
comp=Z,8.8nm,0.8s
QSPA South Pole Qui 46.91 180 P P **21 27 38.0 +0.5**
TMAB Tom-Au,PA,Br 47.01 37 *e*P P **21 27 39.3 +0.7**
ORTC Ortega, Tolima 47.03 359 *e*P P **21 27 40.2 +1.4**
YOTC Yotoco, Valle 47.13 357 *e*P P **21 27 38.8 -0.9**
BOAV Boa Vista 47.20 19 P P **21 27 39.8 -0.3**
BOAV IAmb IAmb 21 27 41.3
comp=Z,175nm,1.5s
BOAV Boa Vista 47.20 19 *e*P P **21 27 40.0 -0.1**
MCPB Macapa, AP 47.21 31 *e*P P **21 27 38.4 -1.8**
CHIC Chingaza 47.74 1 *e*P P **21 27 45.5 +0.7**
ROSC El Rosal 47.95 0 P P **21 27 48.2 +1.8**
comp=Z,51nm,0.7s,baz=159,slow=5.0,SNR=25
comp=Z,51nm,0.7s
ROSC El Rosal 47.95 0 P P **21 27 47.3 +1.0**
ROSC El Rosal 47.95 0 *e*P P **21 27 49.2 +2.8**
PLMC San Jos del P 48.05 357 *e*P P **21 27 44.9 -1.9**
GUY2C Guyana, Caldas 48.34 359 *e*P P **21 27 49.3 -0.1**
ROSB Rosario 48.40 42 *e*P P **21 27 49.6 +0.1**
NVL N'lazarevskaya 48.61 154 *e*P P **21 27 51.5 +1.1**
NVL *e*S S **21 34 52.1 +1.1**
NVL pmax pmax
comp=Z,34nm,1.0s
NVL MLR MLR
comp=Z,1µm,16.0s
CBOC Ciudad Bolivar 48.99 358 *e*P P **21 27 55.2 +1.1**
RUSC La Rusia 49.01 2 P P **21 27 54.7 +0.1**
RUSC La Rusia 49.01 2 *e*P P **21 27 55.5 +0.9**
PTBC PUERTO BERRIO, 49.64 360 *e*P P **21 27 57.9 -1.0**
DBBC Dabeiba 50.14 358 *e*P P **21 28 02.8 0.0**
NBCL Cascavel-CE 50.34 50 *e*P P **21 28 05.0 +0.7**
RCBR Riachuelo 50.40 53 P P **21 28 05.3 +0.5**
comp=Z,46nm,1.0s,baz=354,slow=8.4,SNR=20
RCBR LR LR 21 50 24.0
comp=Z,7µm,19.3s,baz=356,slow=37
comp=Z,46nm,1.0s
RCBR Riachuelo 50.40 53 P P **21 28 04.7 -0.1**
RCBR IAmb IAmb 21 28 06.2
comp=Z,46nm,0.8s
RCBR Riachuelo 50.40 53 *e*P P **21 28 04.8 -0.1**
ZARC Zaragoza, Cauc 50.59 359 *e*P P **21 28 05.6 -0.4**
APAC Apartado, Choc 51.03 357 *e*P P **21 28 12.0 +2.7**
ELIB Princess Elisa 51.74 157 *d*P P **21 28 14.5 +0.2**
comp=Z,44nm,0.9s
MDP Montagnes des 52.06 28 P P **21 28 17.5 +0.3**
comp=Z,54nm,0.7s,baz=199,slow=6.9,SNR=31
MDP LR LR 21 51 26.9
comp=Z,2µm,21.8s,baz=197,slow=37
comp=Z,54nm,0.7s
SDV Santo Domingo 52.08 5 P P **21 28 17.3 -0.2**
comp=Z,29nm,0.9s,baz=184,slow=7.2,SNR=22
comp=Z,29nm,0.9s
SDV Santo Domingo 52.08 5 P P **21 28 16.4 -1.0**
SDV Santo Domingo 52.08 5 IAMs_20 IAMs_20 21 52 12.2
comp=Z,2µm,18.0s
SDV Santo Domingo 52.08 5 *e*P P **21 28 17.1 -0.3**
BAUV El Baul 52.34 8 P P **21 28 18.7 -0.5**
SRBA San Rafael, Bu 52.95 349 P P **21 28 23.6 -0.2**
RIMA Rio Macho 53.55 348 P P **21 28 28.8 +0.4**
RIMA IAmb IAmb 21 28 31.0
comp=Z,37nm,1.1s
JACO JACO, Garabito 53.57 347 P P **21 28 29.2 +0.9**
SBA Scott Base 53.59 193 IAMs_20 IAMs_20 21 50 38.9
comp=Z,791nm,18.0s
PCRV Puerto La Cruz 53.98 12 P P **21 28 32.3 +1.0**
comp=Z,84nm,0.9s,baz=182,slow=4.6,SNR=18
comp=Z,84nm,0.9s
DUNO Dulce Nombre, 54.12 346 P P **21 28 33.4 +1.1**
DUNO IAmb IAmb 21 28 34.8
comp=Z,55nm,1.2s
JTS Las Juntas de 54.23 347 P P **21 28 34.7 +1.5**
comp=Z,16nm,0.8s
comp=Z,16nm,0.8s
JTS Las Juntas de 54.23 347 P P **21 28 33.3 +0.2**
JTS IAmb IAmb 21 28 36.0
comp=Z,44nm,1.1s
ORTG Ortega, Santa 54.39 347 P P **21 28 35.5 +1.2**
ORTG IAmb IAmb 21 28 37.0
comp=Z,62nm,1.3s
VNDA Vanda 54.61 193 P P **21 28 36.4 +1.2**
comp=Z,3.2nm,0.8s,baz=129,slow=8.7,SNR=4.1
VNDA Vanda 54.61 193 P P **21 28 36.8 +1.6**
VNDA IAmb IAmb 21 28 54.2
comp=Z,46nm,1.5s
VNDA Vanda 54.61 193 P P **21 28 36.8 +1.6**
VNDA pmax pmax
comp=Z,46nm,1.5s
TOSP Speyside 55.81 16 P P **21 28 45.5 +1.0**
TOSP IAmb IAmb 21 28 46.1
comp=Z,54nm,0.9s
ACON Acoyapa 55.91 347 P P **21 28 44.8 -0.5**
ACON IAmb IAmb 21 28 46.5
comp=Z,50nm,1.3s
ESPN Las Esperanzas 56.00 348 P P **21 28 45.7 -0.1**
ESPN IAmb IAmb 21 28 47.2
comp=Z,37nm,0.9s
GRGR Grenville 56.41 15 IAMs_20 IAMs_20 21 56 28.6
comp=Z,2µm,20.0s
BOAB BOACO BROADBAN 56.47 347 P P **21 28 48.8 -0.4**
BOAB IAMs_20 IAMs_20 21 56 54.4
comp=Z,2µm,19.0s
MATN Matagalpa 56.98 347 P P **21 28 51.7 -1.2**
TGUH Tegucigalpa,Un 58.32 345 P P **21 29 02.6 +0.2**
SNET Serv Nac Est T 58.35 343 IAMs_20 IAMs_20 21 51 15.1
comp=Z,1µm,19.0s
BIM Bigot 58.84 15 IAMs_20 IAMs_20 21 55 53.2
comp=Z,1µm,19.0s
FDF Fort de France 59.04 15 IAMs_20 IAMs_20 21 58 18.4
comp=Z,2µm,20.0s
MTO3 Montecristo 59.07 343 P P **21 29 08.1 +0.4**
ESQI Esquipulas 59.22 343 P P **21 29 09.5 +0.9**
HUEH Huehuetenango 60.44 341 P P **21 29 17.6 +0.5**
OBIP Obispado Ponce 61.49 8 P P **21 29 23.0 -0.9**
CELP Cerrillos 61.52 8 P P **21 29 23.2 -0.9**
CCIG Comitan 61.52 341 P P **21 29 24.0 -0.5**
CCIG IAmb IAmb 21 29 26.4
comp=Z,52nm,1.3s
SJG San Juan 61.60 9 P P **21 29 23.3 -1.4**
comp=Z,6.3nm,0.3s,baz=196,slow=1.9,SNR=4.5
comp=Z,6.3nm,0.3s
SJG San Juan 61.60 9 IAMs_20 IAMs_20 21 59 46.9
comp=Z,2µm,19.0s
PETF Flores 61.62 343 P P **21 29 25.0 +0.2**
HUMP Col San Antoni 61.67 9 P P **21 29 24.0 -1.1**

SDDR Presa de Saban 62.07 3 IAMs_20 IAMs_20 21 59 03.9
comp=Z,1µm,20.0s
GTBY Guantanamo Bay 62.95 359 P P **21 29 33.5 -0.1**
CMIG Matias Romero 63.01 338 P P **21 29 34.4 +0.3**
comp=Z,13nm,0.8s,baz=184,slow=4.2,SNR=18
comp=Z,13nm,0.8s
TEIG Tepich 64.53 346 P P **21 29 44.2 +0.1**
TLIG Tlapa 64.54 334 P P **21 29 45.6 +1.2**
MAW Mawson 64.77 163 P P **21 29 45.1 0.0**
comp=Z,7.9nm,1.2s,baz=230,slow=20,SNR=3.7
comp=Z,7.9nm,1.2s
MAW Mawson 64.77 163 P P **21 29 45.6 +0.5**
MAW Mawson 64.77 163 P P **21 29 45.6 +0.5**
MAW pmax pmax
comp=Z,9.0nm,1.4s
SOR Soroa 66.28 351 P P **21 29 55.3 -0.1**
SOR Soroa 66.28 351 P P **21 29 55.3 -0.1**
SOR pmax pmax
comp=Z,110nm,1.4s
UNM Universidad Na 66.39 334 IAMs_20 IAMs_20 21 52 36.7
comp=Z,1µm,21.0s
PPT Papeete 67.49 267 P P **21 30 05.2 +1.7**
comp=Z,12nm,0.6s,baz=99,slow=14,SNR=1.6
comp=Z,12nm,0.6s
H06E1 SOCORRO T-PHAS 70.34 323 T T 22 47 00.1
CER Ceres 70.41 118 *e*P P **21 30 21.9 +0.5**
CER IAmb IAmb 21 30 23.8
comp=Z,20nm,1.0s
CASY Casey 70.66 182 P P **21 30 22.9 +0.6**
CASY IAmb IAmb 21 30 39.7
comp=Z,32nm,1.2s
ZAIG Zacatecas 70.71 332 P P **21 30 23.9 +0.4**
ZAIG IAmb IAmb 21 30 26.9
comp=Z,30nm,1.2s
SUR Sutherland 72.02 118 P P **21 30 31.6 +0.2**
MERW Merweville 72.28 118⇑ *i*P P **21 30 32.9 0.0**
MERW IAmb IAmb 21 30 33.3
comp=Z,49nm,0.8s
FRAZ Fraserburg 72.69 118⇑ *i*P P **21 30 35.9 +0.5**
FRAZ IAmb IAmb 21 30 36.1
comp=Z,46nm,0.8s
GRAN Grantham 72.94 118 *e*P P **21 30 36.3 -0.5**
GRAN IAmb IAmb 21 30 37.3
comp=Z,19nm,0.8s
ROOI Rooidraai Farm 73.70 119⇑ *i*P P **21 30 40.9 -0.4**
ROOI IAmb IAmb 21 30 41.3
comp=Z,37nm,0.8s
BRAK Brakfontein 73.75 118⇑ *i*P P **21 30 41.3 -0.2**
BRAK IAmb IAmb 21 30 41.9
comp=Z,46nm,0.8s
AUGR Augrabies 74.16 114 *e*P P **21 30 44.1 +0.2**
BFON Badsfontein, M 74.24 119 *e*P P **21 30 43.5 -1.0**
BFON IAmb IAmb 21 30 44.8
comp=Z,42nm,0.9s
SLBS Sierra La Lagu 74.28 326 P P **21 30 45.9 +1.3**
SACV Santiago Islan 74.30 51 P P **21 30 45.0 +0.3**
SACV IAmb IAmb 21 30 45.5
comp=Z,32nm,0.8s
KEIM Keimoes 74.50 115⇑ *i*P P **21 30 46.0 0.0**
KEIM IAmb IAmb 21 30 46.4
comp=Z,23nm,0.8s
SOE Somerset East 74.83 121 P P **21 30 47.6 -0.2**
SOE IAmb IAmb 21 30 48.4
comp=Z,48nm,0.9s
SOE Somerset East 74.83 121 *e*P P **21 30 46.8 -1.0**
SOE IAmb IAmb 21 30 48.1
comp=Z,44nm,0.9s
UPI Upington 74.92 115 *e*P P **21 30 48.2 -0.2**
UPI IAmb IAmb 21 30 48.7
comp=Z,28nm,0.9s
833A Chaparral WMA, 74.92 337 P P **21 30 47.9 -0.1**
833A IAmb IAmb 21 30 49.8
comp=Z,29nm,0.9s
833A Chaparral WMA, 74.92 337 P P **21 30 49.5 +1.5**
baz=162
833A Chaparral WMA, 74.92 337 P P **21 30 48.7 +0.6**
baz=162
GRHM Grahamstown, E 74.96 122 P P **21 30 47.8 -0.7**
GRHM IAmb IAmb 21 30 49.7
comp=Z,49nm,1.0s
735A Kenedy 74.99 339 P P **21 30 50.2 +1.8**
baz=163
BRAL Brewton 75.05 349 P P **21 30 50.4 +1.8**
baz=171
BRAL Brewton 75.05 349 P P **21 30 49.7 +1.0**
baz=171
HKT Hockley 75.54 341 P P **21 30 51.4 -0.1**
HKT Hockley 75.54 341 P P **21 30 51.4 -0.1**
HKT pmax pmax
comp=Z,17nm,1.3s
HPIG 75.61 331 P P **21 30 53.2 +0.9**
HPIG IAmb IAmb 21 30 55.0
comp=Z,30nm,0.9s
250A Grady 75.74 350 P P **21 30 54.1 +1.5**
baz=171
BBSR BB Station 75.86 8 P P **21 30 54.6 +1.4**
baz=187
BKZ Black Stump Fm 75.87 229 P P **21 30 54.9 +1.2**
BKZ IAmb IAmb 21 31 06.2
comp=Z,42nm,1.2s
RTZ Ruatahuna 75.99 230 P P **21 30 55.0 +0.6**
RTZ IAmb IAmb 21 31 04.0
comp=Z,86nm,1.5s
342A Flagon Creek P 76.15 344 P P **21 30 56.2 +1.2**
342B Flagon Creek P 76.15 344 P P **21 30 56.7 +1.8**
baz=167
HVD Gariep Dam 76.19 119 *e*P P **21 30 55.5 -0.3**
HVD IAmb IAmb 21 30 56.5
comp=Z,64nm,1.0s
NHSC New Hope 76.26 355 P P **21 30 56.4 +0.9**
baz=176
435B Jarrell 76.77 340 P P **21 30 59.4 +0.9**
435B IAmb IAmb 21 31 00.8
comp=Z,52nm,1.1s
435B Jarrell 76.77 340 P P **21 31 00.1 +1.6**
baz=163
435B Jarrell 76.77 340 P P **21 30 59.4 +0.9**
baz=163
LRAL Lakeview Retre 76.88 349 P P **21 30 59.5 +0.5**
LRAL Lakeview Retre 76.88 349 P P **21 30 59.9 +0.8**
baz=171,SNR=5.8
LRAL Lakeview Retre 76.88 349 P P **21 31 00.0 +1.0**
baz=171
Z51A Franklin 76.92 351 P P **21 31 00.4 +1.0**
baz=172
NATX Nacogdoches 77.01 342 P P **21 31 00.6 +0.7**
NATX IAmb IAmb 21 31 01.4
comp=Z,35nm,0.8s
NATX Nacogdoches 77.01 342 P P **21 31 01.1 +1.3**
baz=165
NATX Nacogdoches 77.01 342 P P **21 31 00.6 +0.7**
baz=165
JCT Junction City 77.07 338 P P **21 31 00.4 +0.1**
JCT IAmb IAmb 21 31 02.3
comp=Z,46nm,0.9s
JCT Junction City 77.07 338 P P **21 31 01.4 +1.1**
baz=162
JCT Junction City 77.07 338 P P **21 31 01.4 +1.1**
baz=161,SNR=12
JCT Junction City 77.07 338 P P **21 31 00.4 +0.1**
JCT pmax pmax
comp=Z,46nm,0.9s
TXAR Lajitas Array 77.15 334 P P **21 31 02.1 +1.2**
comp=Z,17nm,1.0s,baz=152,slow=7.4,SNR=91
comp=Z,17nm,1.0s
TXAR Lajitas Array 77.15 334 P P **21 31 01.4 +0.6**
TX31 Lajitas Ar. Si 77.16 334 P P **21 31 02.2 +1.4**
baz=159
TX32 Lajitas Array 77.16 334 P P **21 31 01.7 +0.8**
Z47A Carrollton 77.19 348 P P **21 31 01.0 +0.2**
Z47A IAmb IAmb 21 31 02.1
comp=Z,37nm,0.8s
Z47A Carrollton 77.19 348 P P **21 31 01.8 +1.0**
baz=170
143A Socs Landing, 77.26 345 P P **21 31 02.4 +1.2**
baz=168
Y52A Lilburn 77.34 352 P P **21 31 02.4 +0.7**
baz=173,SNR=6.0
Y52A P P **21 31 02.4 +0.7**
baz=173,SNR=6.0
BOSA Boshof 77.37 117 P P **21 31 01.9 -0.5**
comp=Z,41nm,0.9s,baz=220,slow=5.2,SNR=39
comp=Z,41nm,0.9s
BOSA Boshof 77.37 117 P P **21 31 01.6 -0.8**
BOSA IAmb IAmb 21 31 03.0
comp=Z,54nm,0.9s

BOSA Boshof 77.37 117 *i* P P 21 30 58.0 -4.4
BOSA Boshof 77.37 117⇑ *i*P P **21 31 01.8 -0.6**
BOSA IAmb IAmb 21 31 02.7
comp=Z,57nm,1.0s
JSC Jenkinsville 77.50 354 P P **21 31 02.9 +0.4**
baz=175
HODGE Hodges 77.53 353 P P **21 31 03.1 +0.4**
baz=174
Y49A Blount Mountai 77.61 350 P P **21 31 03.7 +0.5**
baz=171
X58A Rowland 77.65 356 P P **21 31 04.4 +1.0**
baz=176
X58A P P **21 31 04.4 +1.0**
baz=176
MBO M'Bour 77.76 57 P P **21 31 05.1 +0.7**
BIRD Birdtown, Kers 77.81 355 P P **21 31 04.5 +0.3**
baz=176
WHTX Lake Whitney, 77.89 340 P P **21 31 05.0 +0.3**
WHTX IAmb IAmb 21 31 06.4
comp=Z,46nm,0.9s
WHTX Lake Whitney, 77.89 340 P P **21 31 05.7 +0.9**
baz=163
WHTX Lake Whitney, 77.89 340 P P **21 31 05.2 +0.4**
baz=163
Y45A Yeager Farm, C 78.07 347 P P **21 31 06.8 +1.1**
baz=169
PAULI Pauline 78.08 354 P P **21 31 05.3 -0.4**
PAULI IAmb IAmb 21 31 06.7
comp=Z,33nm,0.9s
PAULI Pauline 78.08 354 P P **21 31 06.1 +0.3**
baz=175,SNR=6.6
X51A Calhoun 78.12 351 P P **21 31 06.5 +0.6**
baz=172
X51A P P **21 31 06.5 +0.6**
baz=172
FPAL Fort Paine 78.18 351 P P **21 31 06.4 0.0**
BBTS Babate 78.23 57 P P **21 31 06.6 -0.4**
comp=Z,100nm,1.2s,baz=240,slow=2.4,SNR=9.1
comp=Z,100nm,1.2s
X48A Hartselle 78.28 349 P P **21 31 07.4 +0.6**
baz=171,SNR=9.1
W57A Gilead 78.28 355 P P **21 31 07.0 +0.2**
baz=176
W57A P P **21 31 07.0 +0.2**
baz=176
CASEE Lake Jocassee 78.34 353 P P **21 31 07.7 +0.5**
baz=174
KMSC Kings Mountain 78.36 354 P P **21 31 07.4 0.0**
baz=175
KMSC Kings Mountain 78.36 354 P P **21 31 07.6 +0.3**
baz=175
SWZ Schweizer 78.39 116 *e*P P **21 31 07.2 -1.0**
SWZ IAmb IAmb 21 31 08.3
comp=Z,44nm,1.4s
WLAR White Oak Lake 78.55 344 P P **21 31 09.0 +0.6**
WLAR IAmb IAmb 21 31 10.5
comp=Z,78nm,1.3s
OXF Oxford 78.68 347 P P **21 31 10.1 +1.0**
baz=169
W50A Signal Mountai 78.80 351 P P **21 31 10.4 +0.6**
baz=172
V58A Windy Hill, Pi 78.87 356 P P **21 31 10.5 +0.5**
baz=177
V58A P P **21 31 10.5 +0.5**
baz=177
SWET Sewanee 78.89 350 P P **21 31 09.9 -0.4**
PLAL Pickwick Lake 78.94 349 P P **21 31 10.1 -0.4**
V53A Saluda 79.00 353 P P **21 31 11.0 +0.1**
baz=174
V53A P P **21 31 11.0 +0.1**
baz=174
ABTX Abilene, Hawle 79.05 338 P P **21 31 11.5 +0.3**
ABTX IAmb IAmb 21 31 12.9
comp=Z,33nm,1.1s
ABTX Abilene, Hawle 79.05 338 P P **21 31 11.9 +0.7**
baz=162
ABTX Abilene, Hawle 79.05 338 P P **21 31 11.9 +0.7**
baz=162,SNR=6.7
V55A Taylorsville 79.06 354 P P **21 31 11.4 +0.3**
baz=175
V55A P P **21 31 11.4 +0.3**
baz=175
Z35A Perchaven, San 79.12 341 P P **21 31 12.6 +1.1**
baz=163
SNKL Senekal, Frees 79.22 119⇑ *i*P P **21 31 12.2 -0.6**
SNKL IAmb IAmb 21 31 12.6
comp=Z,39nm,0.7s
W45A Hickory Valley 79.28 348 P P **21 31 12.7 +0.3**
baz=169
U59A Littleton 79.37 357 P P **21 31 13.1 +0.3**
baz=178
U59A P P **21 31 13.1 +0.3**
baz=178
HSIG 79.45 328 P P **21 31 13.6 +0.2**
MIAR Mount Ida 79.47 344 P P **21 31 13.6 +0.2**
baz=166
MIAR Mount Ida 79.47 344 P P **21 31 13.4 0.0**
baz=166
LIC Lamto 79.49 71⇓ *e*P P **21 31 13.7 -0.4**
comp=Z,86nm,0.8s
U56A King 79.49 355 P P **21 31 14.0 +0.5**
baz=176
U56A P P **21 31 14.0 +0.5**
baz=176
V48A Smith Brothers 79.51 350 P P **21 31 13.7 +0.1**
baz=171,SNR=6.2
U54A Nelsons Funny 79.77 354 P P **21 31 15.3 +0.2**
baz=175
U54A P P **21 31 15.3 +0.2**
baz=175
KIC Kosan Boka 79.79 71⇑ *e*P P **21 31 15.8 +0.1**
comp=Z,15nm,0.6s
CLTN Cedars of Leba 79.80 350 P P **21 31 14.9 -0.2**
TIC Toumodi 79.80 71⇓ *e*P P **21 31 15.5 -0.3**
comp=Z,53nm,0.7s
PRYS Parys 79.89 117⇑ *i*P P **21 31 15.4 -1.0**
PRYS IAmb IAmb 21 31 16.1
comp=Z,24nm,1.2s
X37A Clayton 79.89 343 P P **21 31 16.9 +1.3**
baz=165
MNTX Cornudas Mount 79.89 334 P P **21 31 15.5 -0.3**
MNTX Cornudas Mount 79.89 334 P P **21 31 15.9 +0.1**
baz=158,SNR=20
MNTX Cornudas Mount 79.89 334 P P **21 31 15.9 +0.1**
baz=158
DBIC Dimbokro 79.93 71 P P **21 31 16.0 -0.4**
comp=Z,24nm,0.7s,baz=219,slow=5.2,SNR=44
comp=Z,24nm,0.7s
DBIC Dimbokro 79.93 71 P P **21 31 16.5 0.0**
DBIC Dimbokro 79.93 71⇑ *i*P P **21 31 16.5 0.0**
DBIC IAmb IAmb 21 31 17.6
comp=Z,165nm,1.6s
DBIC Dimbokro 79.93 71 P P **21 31 16.5 0.0**
DBIC pmax pmax
comp=Z,185nm,1.7s
WHAR Wooly Hollow 79.94 345 P P **21 31 15.7 -0.2**
WHAR IAmb IAmb 21 31 17.5
comp=Z,62nm,1.5s
T59A Double "B" Far 79.98 357 P P **21 31 16.5 +0.4**
baz=178
T59A P P **21 31 16.5 +0.4**
baz=178
WVT Waverly 80.03 349 P P **21 31 16.3 -0.1**
baz=170,SNR=9.9
WVT Waverly 80.03 349 P P **21 31 17.0 +0.6**
baz=170
LBTB Lobatse 80.03 115 P P **21 31 16.3 -0.8**
LBTB Lobatse 80.03 115 *i* P P **21 31 16.4 -0.8**
LBTB Lobatse 80.03 115⇑ *i*P P **21 31 16.6 -0.5**
LBTB IAmb IAmb 21 31 17.5
comp=Z,88nm,1.0s
LBTB Lobatse 80.03 115 P P **21 31 16.3 -0.8**
LBTB pmax pmax
comp=Z,82nm,1.0s
HTMS Hat Mesa 80.06 335 P P **21 31 17.3 +0.5**
T57A Hurt 80.08 356 P P **21 31 17.1 +0.4**
baz=176
T57A P P **21 31 17.1 +0.4**
baz=176
T60A Surry 80.12 358 P P **21 31 17.7 +0.8**
baz=178
T60A P P **21 31 17.7 +0.8**
baz=178
LNXT Lenox 80.25 348 P P **21 31 17.4 -0.2**
KSR Koster 80.32 116 *e*P P **21 31 18.0 -0.7**
KSR IAmb IAmb 21 31 29.8
comp=Z,235nm,2.0s

KIDD KIDD Seismic O 80.33 333 P P 21 31 19.7 +1.4
baz=157
X34A Smith Ranch, M 80.47 341 P P 21 31 18.8 0.0
X34A IAmb IAmb 21 31 20.7
comp=Z,49nm,1.0s
LCAR Lake Charles 80.50 346 P P 21 31 19.0 +0.1
baz=168,SNR=11
WMOK Wichita Mounta 80.83 340 P P 21 31 20.5 -0.3
WMOK IAmb IAmb 21 31 22.4
comp=Z,40nm,1.2s
WMOK Wichita Mounta 80.83 340 P P 21 31 21.2 +0.4
baz=162,SNR=21
WMOK Wichita Mounta 80.83 340 P P 21 31 21.2 +0.4
baz=162,SNR=21
WMOK Wichita Mounta 80.83 340 P P 21 31 20.5 -0.3
WMOK pmax pmax
comp=Z,41nm,1.3s
319A Douglas 80.94 330 P P 21 31 22.8 +1.2
319A IAmb IAmb 21 31 24.8
comp=Z,68nm,1.1s
R58B Mineral 80.98 357 P P 21 31 23.1 +1.7
baz=178
R58B P P 21 31 23.1 +1.7
baz=178
S51A Beattyville 81.03 353 P P 21 31 22.3 +0.6
baz=173
S51A P P 21 31 22.3 +0.6
baz=173
PBMO Poplar Bluff 81.06 347 P P 21 31 22.1 +0.2
baz=168
U40A Yellville 81.08 345 P P 21 31 22.4 +0.3
baz=167,SNR=8.6
U40A P P 21 31 22.4 +0.3
baz=167,SNR=8.6
MSTX Muleshoe 81.19 336 P P 21 31 23.1 +0.2
MSTX IAmb IAmb 21 31 24.7
comp=Z,43nm,0.9s
MSTX Muleshoe 81.19 336 P P 21 31 24.1 +1.2
baz=160,SNR=9.3
MSTX Muleshoe 81.19 336 P P 21 31 23.6 +0.7
baz=160
CBN Corbin Frederi 81.20 358 P P 21 31 23.0 +0.3
baz=178
HHAR Hobbs 81.22 344 P P 21 31 22.6 -0.2
TUL1 Leonard 81.25 343 P P 21 31 22.8 -0.1
TUL1 IAmb IAmb 21 31 24.4
comp=Z,68nm,1.1s
TUL1 Leonard 81.25 343 P P 21 31 23.4 +0.5
baz=165,SNR=8.9
TUL1 Leonard 81.25 343 P P 21 31 23.3 +0.3
baz=164
R55A Marlinton 81.40 355 P P 21 31 24.7 +0.9
baz=176
R55A P P 21 31 24.7 +0.9
baz=176
121A Cookes Peak, D 81.46 332 P P 21 31 26.6 +2.2
baz=156,SNR=8.7
121A Cookes Peak, D 81.46 332 P P 21 31 25.9 +1.5
baz=156,SNR=8.7
U38A Gravette 81.46 344 P P 21 31 24.4 +0.3
baz=166
R53A Hurricane 81.58 354 P P 21 31 24.7 +0.1
baz=175
R53A P P 21 31 24.7 +0.1
baz=175
R50A Paris 81.74 352 P P 21 31 25.3 -0.1
baz=173
R50A P P 21 31 25.3 -0.1
baz=173
AMTX Amarillo 81.74 338 P P 21 31 26.9 +1.2
baz=160,SNR=13
AMTX Amarillo 81.74 338 P P 21 31 26.5 +0.8
baz=160
MGMO Mountain Grove 81.75 346 P P 21 31 25.7 +0.1
MGMO IAmb IAmb 21 31 27.2
comp=Z,64nm,1.6s
DUN6 Lazy B Ranch 81.94 331 P P 21 31 28.1 +1.2
DUN6 IAmb IAmb 21 31 29.4
comp=Z,54nm,1.1s
Q52A Bidwell 82.23 354 P P 21 31 28.5 +0.5
baz=174
Q52A P P 21 31 28.5 +0.5
baz=174
LEPH Lephalale, Lim 82.28 115⇑ iP P 21 31 28.2 -0.8
LEPH IAmb IAmb 21 31 28.7
comp=Z,32nm,0.8s
TUC Tucson 82.33 330 P P 21 31 29.8 +0.9
TUC Tucson 82.33 330 P P 21 31 30.2 +1.3
baz=154
TUC Tucson 82.33 330 P P 21 31 29.8 +0.9
TUC pmax pmax
comp=Z,12nm,1.1s
T35B Sooner Cattle 82.38 342 P P 21 31 29.9 +1.0
baz=164,SNR=9.6
Q51A Peebles 82.38 353 P P 21 31 29.3 +0.4
baz=174
Q51A P P 21 31 29.3 +0.4
baz=174
SDMD Soldier's Deli 82.39 358 P P 21 31 30.1 +1.3
baz=178
CCM Cathedral Cave 82.45 347 P P 21 31 29.1 0.0
CCM Cathedral Cave 82.45 347 P P 21 31 29.7 +0.5
baz=168,SNR=17
CCM Cathedral Cave 82.45 347 P P 21 31 29.7 +0.5
baz=168
CCM Cathedral Cave 82.45 347 P P 21 31 29.2 0.0
CCM pmax pmax
comp=Z,145nm,1.6s
U32A Winter Ranch, 82.45 340 P P 21 31 30.7 +1.4
baz=162
S39A Bolivar 82.47 345 P P 21 31 29.6 +0.3
baz=166,SNR=11
Y22A Socorro 82.47 333 P P 21 31 31.5 +1.8
baz=157,SNR=13
P57A Homestead Farm 82.50 357 P P 21 31 29.8 +0.4
baz=177
P57A P P 21 31 29.8 +0.4
baz=177
SBM South Baldy 82.58 333 P P 21 31 30.7 +0.2
P53A Whipple 82.68 355 P P 21 31 30.9 +0.5
baz=175
P53A P P 21 31 30.9 +0.5
baz=175
PIX Pinacate 82.69 327 P P 21 31 31.7 +1.1
GEDE Greenville 82.77 359 P P 21 31 31.7 +0.9
baz=179
214A Organ Pipe Nat 82.78 328 P P 21 31 32.1 +0.9
214A IAmb IAmb 21 31 33.9
comp=Z,18nm,0.8s
214A Organ Pipe Nat 82.78 328 P P 21 31 33.4 +2.2
baz=153,SNR=9.7
P51A Williamsport 82.81 353 P P 21 31 31.1 +0.1
baz=174
P51A P P 21 31 31.1 +0.1
baz=174
R40A Maddies Statio 82.85 346 P P 21 31 31.5 +0.2
baz=167,SNR=6.8
P52A Corning 82.88 354 P P 21 31 31.4 0.0
baz=174,SNR=7.8
WUPA West Chester U 82.89 359 P P 21 31 32.0 +0.5
WUPA IAmb IAmb 21 31 33.6
comp=Z,30nm,1.1s
P49A Miami Univ. Ec 83.02 352 P P 21 31 31.6 -0.5
baz=172
ANMO Albuquerque 83.23 334 P P 21 31 34.1 +0.6
ANMO IAmb IAmb 21 31 36.5
comp=Z,52nm,1.1s
ANMO Albuquerque 83.23 334 P P 21 31 35.3 +1.7
baz=157,SNR=47
ANMO Albuquerque 83.23 334 P P 21 31 35.2 +1.6
baz=157
ANMO Albuquerque 83.23 334 P P 21 31 34.2 +0.6
ANMO pmax pmax
comp=Z,52nm,1.2s
CNG Changalane 83.42 120 eP P 21 31 33.8 -1.0
CNG IAmb IAmb 21 31 35.4
comp=Z,18nm,1.1s
O53A New Philadelph 83.43 355 P P 21 31 34.3 +0.1
O53A New Philadelph 83.43 355 P P 21 31 34.5 +0.3
baz=175,SNR=5.0
ACSO Alum Creek Sta 83.55 353 P P 21 31 34.4 -0.5
ACSO IAmb IAmb 21 31 54.1
comp=Z,27nm,1.0s
ACSO Alum Creek Sta 83.55 353 P P 21 31 35.1 +0.3
baz=174
SSPA Standing Stone 83.65 357 P P 21 31 35.4 +0.1
baz=178

O48B Farmland 83.78 352 P P 21 31 37.3 +1.3
baz=172
PAL Palisades 83.96 0 P P 21 31 39.6 +2.7
baz=180
P40A Paris 84.02 346 P P 21 31 37.8 +0.5
baz=167,SNR=16
X18A Snowflake 84.03 331 P P 21 31 38.4 +0.7
ODNJ Ogdensburg 84.03 360 P P 21 31 38.3 +1.0
baz=180
ESJX Sierra Juarez 84.09 325 P P 21 31 39.0 +1.0
R32A Long Quarter, 84.32 341 P P 21 31 40.3 +1.4
baz=163,SNR=5.2
M57A Sunshine Farm, 84.32 358 P P 21 31 39.4 +0.6
baz=178
M57A P P 21 31 39.4 +0.6
baz=178
N49A Columbus Grove 84.34 353 P P 21 31 38.4 -0.4
baz=173
N49A P P 21 31 38.4 -0.4
baz=173
BRNY Black Rk. Fore 84.36 0 P P 21 31 40.8 +1.8
baz=180
P38A Dawn 84.38 345 P P 21 31 39.4 +0.3
baz=166,SNR=7.6
W18A Petrified Fore 84.48 332 P P 21 31 40.7 +0.7
W18A IAmb IAmb 21 31 43.0
comp=Z,44nm,1.2s
W18A Petrified Fore 84.48 332 P P 21 31 41.6 +1.6
baz=155
KSU1 Kansas State U 84.49 343 P P 21 31 40.1 +0.4
KSU1 IAmb IAmb 21 31 41.3
comp=Z,32nm,1.1s
KSU1 Kansas State U 84.49 343 P P 21 31 41.5 +1.8
baz=164
GLA Glamis 84.55 327 P P 21 31 41.7 +1.5
baz=152
M53A WI Miller and 84.58 355 P P 21 31 42.2 +2.2
baz=176
HDIL Hopedale 84.59 349 P P 21 31 40.0 -0.1
HDIL Hopedale 84.59 349 P P 21 31 40.2 +0.1
baz=169
T25A Trinidad 84.63 336 P P 21 31 41.1 +0.4
T25A IAmb IAmb 21 31 43.6
comp=Z,57nm,1.2s
T25A Trinidad 84.63 336 P P 21 31 42.0 +1.3
baz=159,SNR=29
IKP In-Ko-Pah, Jac 84.72 326 P P 21 31 42.5 +1.4
baz=151
MUSN Musina, Limpop 84.73 116 i P P 21 31 42.8 +1.1
MUSN Musina, Limpop 84.73 116⇑ iP P 21 31 41.8 +0.2
MUSN IAmb IAmb 21 31 42.2
comp=Z,47nm,0.8s
SWSC Sam W. Stewart 84.84 326 P P 21 31 43.1 +1.4
baz=151
MOPA Mopani 84.87 118 i P P 21 31 38.2 -4.1
MOPA Mopani 84.87 118⇑ iP P 21 31 42.2 -0.1
MOPA IAmb IAmb 21 31 42.6
comp=Z,29nm,1.0s
CBKS Cedar Bluff 84.94 340 P P 21 31 43.0 +1.0
CBKS Cedar Bluff 84.94 340 P P 21 31 43.5 +1.5
baz=162
CBKS Cedar Bluff 84.94 340 P P 21 31 43.0 +1.0
baz=162
CBKS Cedar Bluff 84.94 340 P P 21 31 43.0 +1.0
CBKS pmax pmax
comp=Z,66nm,1.2s
BLYC Blythe 85.04 327 P P 21 31 43.9 +1.3
BLYC IAmb IAmb 21 31 46.0
comp=Z,28nm,1.1s
MONP2 Monument Peak 85.05 326 P P 21 31 43.9 +0.9
baz=151
L56A Greenwood 85.14 358 P P 21 31 43.4 +0.5
baz=178
L56A P P 21 31 43.4 +0.5
baz=178
L59A Walton 85.14 359 P P 21 31 44.0 +1.0
baz=180
L59A P P 21 31 44.0 +1.0
baz=180
BINY Binghamton 85.16 359 P P 21 31 43.7 +0.7
baz=179
BINY Binghamton 85.16 359 P P 21 31 44.1 +1.1
baz=179
ERPA Erie 85.22 356 P P 21 31 43.7 +0.4
ERPA IAmb IAmb 21 31 44.7
comp=Z,71nm,1.4s
ERPA Erie 85.22 356 P P 21 31 43.7 +0.4
baz=176
ERPA Erie 85.22 356 P P 21 31 43.7 +0.4
baz=176
BC3 Big Chuckawall 85.33 327 P P 21 31 45.9 +1.8
baz=151
WUAZ Wupatki 85.42 330 P P 21 31 45.2 +0.5
WUAZ IAmb IAmb 21 31 48.0
comp=Z,37nm,1.3s
WUAZ Wupatki 85.42 330 P P 21 31 46.7 +2.0
baz=154
WVNY West Valley, N 85.44 357 P P 21 31 44.6 +0.2
WVNY West Valley, N 85.44 357 P P 21 31 45.2 +0.8
baz=177
N38A Joes South For 85.46 346 P P 21 31 44.9 +0.4
baz=166
HRV Adam Dziewonsk 85.49 2 P P 21 31 47.1 +2.5
baz=182
SDCO Great Sand Dun 85.51 336 P P 21 31 45.6 +0.3
SDCO Great Sand Dun 85.51 336 P P 21 31 46.4 +1.1
baz=158
SDCO Great Sand Dun 85.51 336 P P 21 31 46.4 +1.1
baz=158,SNR=21
IRM Iron Mountain 85.64 327 P P 21 31 47.0 +1.4
baz=152,SNR=7.7
TPFO Pinon Flats 85.69 326 P P 21 31 47.9 +1.9
baz=151
PFO Pinyon Flats O 85.69 326 P P 21 31 47.3 +1.2
PFO Pinyon Flats O 85.69 326 P P 21 31 47.8 +1.8
baz=151,SNR=5.7
PFO Pinyon Flats O 85.69 326 i P P 21 31 47.6 +1.6
PFO pmax pmax
comp=Z,15nm,1.0s
BELC Belle Mtn. Jos 85.85 326 P P 21 31 48.5 +1.6
baz=151,SNR=7.6
KSCO Kaye Shedlock' 85.87 338 P P 21 31 49.0 +2.2
baz=160
S22A 4UR Ranch, Cre 85.92 335 P P 21 31 48.8 +1.5
baz=157
MVCO Mesa Verde 85.96 333 P P 21 31 48.9 +1.5
baz=156
MURC Murrieta 85.99 325 P P 21 31 49.8 +2.4
baz=150
K50A Casco 86.04 354 P P 21 31 47.1 -0.2
baz=174
K50A P P 21 31 47.1 -0.2
baz=174
L42A Oliver, Polo 86.06 349 P P 21 31 47.4 0.0
baz=169
J56A Wolcott 86.25 358 P P 21 31 48.5 +0.2
baz=178
J56A P P 21 31 48.5 +0.2
baz=178
CIS Catalina Islan 86.33 324 P P 21 31 50.7 +1.6
baz=150
ACCN Adirondack Com 86.33 1 P P 21 31 50.0 +1.2
baz=181
L40A Anamosa 86.35 348 P P 21 31 49.1 +0.2
baz=168
J57A Williamstown 86.37 359 P P 21 31 50.0 +1.1
baz=179
J57A P P 21 31 50.0 +1.1
baz=179
GMRC Granite Mounta 86.39 327 P P 21 31 51.1 +1.6
baz=151,SNR=6.8
Q24A Divide 86.53 336 P P 21 31 51.9 +1.6
baz=158,SNR=6.3
SCIA State Center 86.54 346 P P 21 31 51.3 +1.5
baz=166
HEC Hector,Ludlow 86.70 327 P P 21 31 52.7 +1.7
baz=151
BFSC Mount Baldy Ra 86.73 325 P P 21 31 52.8 +1.6
baz=150,SNR=5.6
PV13 Radium Mtn., P 86.93 333 P P 21 31 53.1 +1.0
PV13 IAmb IAmb 21 31 56.3
comp=Z,34nm,1.1s
WCNY West Carthage 86.94 359 P P 21 31 52.4 +0.7
baz=179
BGNE Belgrade 87.04 342 P P 21 31 53.0 +0.6
BGNE Belgrade 87.04 342 P P 21 31 53.1 +0.8
baz=163

BGNE Belgrade 87.04 342 P P 21 31 53.3 +0.9
baz=163
JFWS Jewell Farm 87.04 348 P P 21 31 52.5 +0.3
JFWS IAmb IAmb 21 31 53.8
comp=Z,27nm,0.9s
JFWS Jewell Farm 87.04 348 P P 21 31 52.4 +0.1
baz=169
JFWS Jewell Farm 87.04 348 P P 21 31 52.8 +0.5
baz=169
JFWS Jewell Farm 87.04 348 P P 21 31 52.5 +0.3
JFWS pmax pmax
comp=Z,27nm,0.9s
TUQ Turquoise Moun 87.07 327 P P 21 31 54.7 +1.9
baz=151
LBNH Lisbon 87.22 2 P P 21 31 54.5 +1.4
baz=182
SMCO Snowmass 87.28 335 P P 21 31 55.2 +1.2
SMCO IAmb IAmb 21 31 58.8
comp=Z,28nm,1.1s
KNB Kanab 87.28 330 P P 21 31 54.7 +0.9
KNB IAmb IAmb 21 31 58.6
comp=Z,20nm,1.1s
KNB Kanab 87.28 330 P P 21 31 54.7 +0.9
KNB pmax pmax
comp=Z,20nm,1.1s
GSC Goldstone, Bar 87.30 326 P P 21 31 55.4 +1.6
baz=151,SNR=6.7
SCZ2 Santa Cruz Isl 87.36 324 P P 21 31 55.0 +0.9
baz=149
EDW2 Edwards Air Fo 87.42 325 P P 21 31 55.7 +1.2
baz=150,SNR=7.9
ISCO Idaho Springs 87.44 336 P P 21 31 55.7 +1.0
ISCO Idaho Springs 87.44 336 P P 21 31 55.4 +0.7
baz=158
ISCO Idaho Springs 87.44 336 P P 21 31 55.8 +1.1
baz=158,SNR=7.3
ISCO Idaho Springs 87.44 336 P P 21 31 55.7 +1.0
ISCO pmax pmax
comp=Z,21nm,1.5s
LONY Lake Ozonia 87.57 360 P P 21 31 55.6 +0.8
baz=180
SHPR Sheep Range 87.71 328 P P 21 31 56.8 +1.0
FRNY Flat Rock 87.79 1 P P 21 31 56.2 +0.4
baz=181
BMNY Brushton-Moira 87.79 360 P P 21 31 56.2 +0.4
baz=180
I42A Draeger Farm, 87.81 350 P P 21 31 56.1 +0.1
baz=170
PKM Mcpherson Peak 88.20 324 P P 21 31 59.2 +0.9
baz=149
MPMC Manual Prospec 88.23 326 P P 21 32 00.4 +2.0
baz=150,SNR=7.4
GLMI Grayling 88.25 353 P P 21 32 00.7 +2.7
baz=173
ISA Isabella, Lake 88.30 325 P P 21 32 01.1 +2.5
baz=150,SNR=10
K31A O'Neill 88.33 342 P P 21 31 59.3 +0.8
baz=163
FURC Furnace Creek, 88.34 327 P P 21 32 00.9 +2.3
baz=151
G65A Princeton 88.36 5 P P 21 32 00.6 +2.1
baz=185
G65A P P 21 32 00.6 +2.1
baz=185
MVU Marysvale 88.39 331 P P 21 32 00.2 +1.1
TPNV Topopah Spring 88.52 328 P P 21 31 59.9 +0.2
TPNV IAmb IAmb 21 32 10.9
comp=Z,38nm,1.6s
TPNV Topopah Spring 88.52 328 P P 21 32 01.9 +2.2
baz=151,SNR=8.1
TPNV Topopah Spring 88.52 328 P P 21 31 59.9 +0.2
TPNV pmax pmax
comp=Z,38nm,1.6s
O20A White River Ci 88.55 335 P P 21 31 59.8 0.0
O20A IAmb IAmb 21 32 02.2
comp=Z,29nm,1.1s
O20A White River Ci 88.55 335 P P 21 32 00.6 +0.8
baz=156
N23A Red Feather La 88.55 337 P P 21 32 00.2 +0.3
N23A IAmb IAmb 21 32 03.9
comp=Z,22nm,1.1s
N23A Red Feather La 88.55 337 P P 21 32 01.2 +1.3
baz=158,SNR=7.2
G45A Suttons Bay 88.56 352 P P 21 32 00.2 +0.8
baz=172
G45A P P 21 32 00.2 +0.8
baz=172
I37B Waseca 88.61 346 P P 21 32 00.6 +0.8
baz=166
SMMC Simmler 88.64 324 P P 21 32 02.0 +1.8
baz=149
VES Vestal, Richgr 88.70 325 P P 21 31 01.9 +1.5
baz=149,SNR=7.1
F63A Nahmakanta, Br 88.78 4 P P 21 32 01.0 +0.5
baz=184
F63A P P 21 32 01.0 +0.5
baz=184
CWC Cottonwood Cre 88.80 326 P P 21 32 02.9 +1.9
baz=150
F62A Pittston Farm, 88.93 3 P P 21 32 02.2 +1.0
baz=183
F62A P P 21 32 02.2 +1.0
baz=183
ECSD EROS Data Cent 88.94 344 P P 21 32 01.1 -0.2
ECSD EROS Data Cent 88.94 344 P P 21 32 01.6 +0.3
baz=164
GRAC Grapevine Rang 89.00 327 P P 21 32 03.9 +2.1
baz=150,SNR=6.0
TORD Torodi Ar. Bea 89.04 71 P P 21 32 01.9 -0.6
comp=Z,12nm,0.9s,baz=235,slow=4.2,SNR=54
comp=Z,12nm,0.9s
TORD Torodi Ar. Bea 89.04 71 P P 21 32 01.5 -1.0
G40A Rib Lake 89.34 349 P P 21 32 04.0 +0.8
baz=169
R11A Troy Canyon, C 89.48 329 P P 21 32 06.0 +1.7
baz=151,SNR=10
F42A Maple Grove Fa 89.55 350 P P 21 32 05.0 +0.9
baz=170
RWWY Rawlins 89.65 336 P P 21 32 05.5 +0.5
RWWY IAmb IAmb 21 32 06.5
comp=Z,20nm,0.8s
SPMN Marine on St. 89.69 347 P P 21 32 05.5 +0.7
baz=167
E46A Sault Ste Mari 89.75 353 P P 21 32 05.4 +0.4
baz=173
E43A Lone Tree Farm 90.03 351 P P 21 32 06.9 +0.6
baz=171
DUG Dugway, Tooele 90.11 332 P P 21 32 08.0 +0.9
DUG Dugway, Tooele 90.11 332 P P 21 32 08.3 +1.3
baz=153
DUG Dugway, Tooele 90.11 332 P P 21 32 08.0 +0.9
DUG pmax pmax
comp=Z,14nm,1.5s
SUSD Miller 90.11 343 P P 21 32 07.3 +0.5
baz=162
D62A Allapoint, All 90.15 4 P P 21 32 07.5 +0.7
baz=184
D62A P P 21 32 07.5 +0.7
baz=184
K22A Casper 90.34 337 P P 21 32 09.1 +1.0
baz=157
K22A Casper 90.34 337 P P 21 32 09.0 +0.9
baz=157,SNR=11
NVAR Mina Array Bea 90.61 327 P P 21 32 10.9 +1.4
comp=Z,4.5nm,1.0s,baz=152,slow=5.5,SNR=16
comp=Z,4.5nm,1.0s
RSSD Black Hills 91.02 339 P P 21 32 10.9 -0.4
RSSD Black Hills 91.02 339 P P 21 32 12.4 +1.2
baz=159
RSSD Black Hills 91.02 339 P P 21 32 12.0 +0.7
baz=159
RSSD Black Hills 91.02 339 P P 21 32 10.9 -0.4
RSSD pmax pmax
comp=Z,67nm,1.5s
BW06 Boulder Array 91.35 335 P P 21 32 13.0 +0.1
BW06 IAmb IAmb 21 32 14.6
comp=Z,28nm,1.7s
BW06 Boulder Array 91.35 335 P P 21 32 13.2 +0.3
baz=155,SNR=9.0
PD31 Pinedale Array 91.35 335 P P 21 32 13.0 +0.1
PDAR Pinedale Array 91.35 335 P P 21 32 13.1 +0.1
comp=Z,2.4nm,0.7s,baz=137,slow=6.9,SNR=23
comp=Z,2.4nm,0.7s
PDAR Pinedale Array 91.35 335 P P 21 32 12.6 -0.3
ELK Elko 91.45 330 P P 21 32 14.0 +0.6
ELK Elko 91.45 330 P P 21 32 14.0 +0.6
ELK pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,12nm,1.5s						
RLMT	**Red Lodge**	**93.40**	**336**	P	**P**	**21 32 22.1**	**-0.2**
RLMT				IAmb	IAmb	21 35 52.1	
	comp=Z,16nm,1.0s						
RLMT	**Red Lodge**	**93.40**	**336**	P	**P**	**21 32 22.9**	**+0.6**
	baz=155,SNR=9.1						
YMR	**Madison River**	**93.50**	**335**	P	**P**	**21 32 23.3**	**+0.5**
YMR				IAmb	IAmb	21 32 30.9	
	comp=Z,21nm,1.3s						
HLID	**Hailey**	**93.64**	**332**	P	**P**	**21 32 24.9**	**+1.5**
	baz=152,SNR=5.7						
LAO	**LASA Array**	**93.98**	**339**	P	**P**	**21 32 25.4**	**+0.7**
	baz=158						
LAO	**LASA Array**	**93.98**	**339**	P	**P**	**21 32 26.0**	**+1.3**
	baz=157						
MCMT	**McKenzie Canyo**	**94.24**	**334**	P	**P**	**21 32 27.1**	**+0.9**
BOZ	**Bozeman (W)**	**94.54**	**335**	P	**P**	**21 32 28.6**	**+1.1**
	baz=154						
ULM	**Lac du Bonnet**	**95.08**	**346**	P	**P**	**21 32 28.6**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=171,slow=7.4,SNR=3.5						
	comp=Z,0.9nm,0.3s						
ULM	**Lac du Bonnet**	**95.08**	**346**	*i* P	**P**	**21 32 27.9**	**-1.6**
ESDC	**Sonseca Array**	**104.23**	**49**	Pdiff	**Pdif**	**21 33 11.3**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=246,slow=5.3,SNR=1.9						
ESDC				PP	**PP**	**21 37 29.3**	**-0.5**
	comp=Z,2.4nm,1.2s,baz=259,slow=5.8,SNR=4.4						
ASAR	**Alice Springs**	**108.44**	**207**	PKKPbc	PKKPbc	21 48 45.5	+0.8
	comp=Z,0.3nm,0.6s,baz=344,slow=2.9,SNR=5.2						
ASAR				PKKP		21 48 57.3	
	comp=Z,1.3nm,0.8s,baz=338,slow=3.5,SNR=7.9						
YKA	**Yellowknife Ar**	**110.31**	**341**	PKiKP	**PKiKP**	**21 37 37.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=158,slow=1.8,SNR=4.7						
YKA				PP	**PP**	**21 38 14.0**	**+0.2**
	comp=Z,2.7nm,1.1s,baz=140,slow=7.5,SNR=9.3						
M29M	**Somme Creek**	**117.20**	**332**	P	**PKPdf**	**21 37 51.8**	**+0.3**
	baz=133						
YUK3	**Moose Creek**	**117.45**	**331**	P	**PKPdf**	**21 37 52.4**	**+0.3**
	baz=131						
L29M	**L29M**	**117.54**	**333**	P	**PKiKP**	**21 37 52.9**	**+0.9**
	baz=133						
M27K	**Edge Creek, AK**	**118.34**	**331**	P	**PKiKP**	**21 37 54.5**	**+0.8**
	baz=130						
BMRM	**Bremner River**	**118.46**	**329**	P	**PKiKP**	**21 37 55.1**	**+1.2**
	baz=129						
M26K	**Nabesna, AK**	**118.77**	**330**	P	**PKiKP**	**21 37 55.2**	**+0.8**
	baz=129						
L27K	**Beaver Creek,**	**118.78**	**331**	P	**PKPdf**	**21 37 54.8**	**+0.4**
	baz=130						
KLU	**Klutina**	**119.29**	**329**	P	**PKPdf**	**21 37 55.9**	**+0.4**
	baz=128						
K27K	**Chicken**	**119.48**	**332**	P	**PKiKP**	**21 37 56.7**	**+1.0**
	baz=129						
GERES	**GERESS Array B**	**119.81**	**50**	PKP	**PKPdf**	**21 37 56.0**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=160,slow=3.1,SNR=4.0						
PWL	**Port Wells**	**119.85**	**327**	P	**PKPdf**	**21 37 56.8**	**+0.3**
	baz=126						
DOT	**Dot Lake**	**119.93**	**331**		**PKPdf**	**21 37 56.8**	**+0.2**
SCRK	**Sand Creek**	**120.11**	**331**	P	**PKPdf**	**21 37 57.3**	**+0.3**
	baz=128						
M23K	**Glacier View**	**120.16**	**328**	P	**PKPdf**	**21 37 57.5**	**+0.5**
	baz=126						
Q20K	**Shuyak Island**	**120.23**	**324**	P	**PKPdf**	**21 37 57.7**	**+0.4**
	baz=124						
RIDG	**Independent Ri**	**120.26**	**331**	P	**PKPdf**	**21 37 57.7**	**+0.5**
	baz=127						
I27K	**Kandik River**	**120.32**	**334**	P	**PKPdf**	**21 37 57.7**	**+0.4**
	baz=129						
WAT6	**Susitna Watana**	**120.63**	**329**	P	**PKPdf**	**21 37 58.6**	**+0.4**
	baz=126						
H27K	**Steamboat Moun**	**120.69**	**334**	P	**PKPdf**	**21 37 58.4**	**+0.4**
	baz=129						
M22K	**Willow**	**121.07**	**327**	P	**PKiKP**	**21 37 59.4**	**+0.6**
	baz=124						
O20K	**Slope Mountain**	**121.15**	**325**	P	**PKPdf**	**21 37 59.2**	**+0.1**
	baz=124						
SUA	**Susitna One**	**121.15**	**327**	P	**PKiKP**	**21 37 59.6**	**+0.4**
	baz=124						
HDA	**Harding Lake**	**121.41**	**331**	P	**PKiKP**	**21 37 59.9**	**+0.4**
	baz=126						
R17K	**Ugashik Creek**	**121.47**	**321**	P	**PKiKP**	**21 38 00.2**	**+0.4**
	baz=122						
CUT	**Chulitna**	**121.49**	**328**	P	**PKPdf**	**21 37 59.3**	**-0.2**
	baz=124						
Q17K	**Contact Creek**	**121.58**	**322**	P	**PKPdf**	**21 37 59.7**	**-0.2**
	baz=122						
IL31		**121.59**	**331**		**PKPdf**	**21 37 59.2**	**-0.5**
ILAR	**Eielson Array**	**121.59**	**331**	PKP	**PKPdf**	**21 37 59.2**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=160,slow=1.8,SNR=30						
ILAR				PP	**PP**	**21 39 30.8**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=136,slow=4.0,SNR=4.2						
SKT	**Skwentna**	**121.75**	**327**		**PKPdf**	**21 37 59.6**	**-0.5**
SKT	**Skwentna**	**121.75**	**327**	P	**PKPdf**	**21 38 00.2**	**+0.1**
	baz=123						
CCB	**Clear Creek Bu**	**121.85**	**331**		**PKPdf**	**21 38 00.0**	**-0.1**
WRH	**Wood River Hil**	**121.85**	**331**		**PKPdf**	**21 38 00.2**	**0.0**
P18K	**Big Mountain,**	**121.89**	**323**	P	**PKPdf**	**21 37 60.0**	**-0.5**
	baz=122						
E27K	**Coleen River**	**121.92**	**336**	P	**PKPdf**	**21 38 00.2**	**-0.1**
	baz=128						
O19K	**Port Alsworth**	**121.92**	**325**	P	**PKPdf**	**21 38 00.5**	**+0.1**
	baz=122						
TRF	**Thorofare Moun**	**122.08**	**329**	PKPdf	**PKPdf**	**21 38 00.5**	**-0.4**
TRF	**Thorofare Moun**	**122.08**	**329**	P	**PKPdf**	**21 38 01.0**	**+0.1**
	baz=124						
O18K	**Koktuh Hills**	**122.12**	**324**	P	**PKPdf**	**21 38 00.8**	**-0.1**
	baz=122						
NEA2	**Nenana**	**122.27**	**331**	P	**PKPdf**	**21 38 01.2**	**+0.2**
	baz=124						
P17K	**Kvichak River**	**122.31**	**323**	P	**PKPdf**	**21 38 01.3**	**+0.1**
	baz=121						
N19K	**Bonanza Creek**	**122.32**	**325**	P	**PKPdf**	**21 38 01.2**	**-0.2**
	baz=122						
M20K	**Styx River**	**122.33**	**327**	P	**PKPdf**	**21 38 01.3**	**0.0**
	baz=122						
G25K	**Bearman Lake**	**122.48**	**333**	P	**PKiKP**	**21 38 02.2**	**+0.7**
	baz=125						
PPLA	**Purkeypile**	**122.50**	**328**	P	**PKPdf**	**21 38 01.8**	**+0.1**
	baz=122						
VYHS	**Vyhne**	**122.52**	**52**	*e*PKIKP	**PKPdf**	**21 38 02.1**	**+0.1**
VYHS	**Vyhne**	**122.52**	**52**	*e*PKP	**PKPdf**	**21 38 02.1**	**+0.1**
H24K	**Noodor Dome**	**122.54**	**332**	P	**PKPdf**	**21 38 01.8**	**+0.3**
	baz=124						
BPAW	**Bear Paw Mtn.**	**122.70**	**329**	P	**PKPdf**	**21 38 01.9**	**0.0**
	baz=123						
CAST	**Castle Rocks**	**122.74**	**328**	PKPdf	**PKPdf**	**21 38 01.1**	**-0.8**
CAST	**Castle Rocks**	**122.74**	**328**	P	**PKPdf**	**21 38 01.9**	**-0.1**
	baz=122						
F25K	**Christian Rive**	**122.80**	**334**	P	**PKPdf**	**21 38 02.6**	**+0.5**
	baz=125						
M19K	**Big River Lodg**	**122.85**	**326**	P	**PKiKP**	**21 38 02.9**	**+0.5**
	baz=121						
G24K	**Hadweenzic Riv**	**122.89**	**333**	P	**PKPdf**	**21 38 02.5**	**+0.3**
	baz=124						
O17K	**Koliganek Bris**	**122.90**	**323**	P	**PKPdf**	**21 38 02.4**	**+0.1**
	baz=121						
CHUM	**Lake Minchumin**	**123.08**	**329**	P	**PKPdf**	**21 38 02.8**	**+0.3**
	baz=122						
E25K	**Arctic Village**	**123.08**	**335**	P	**PKPdf**	**21 38 02.9**	**+0.3**
	baz=125						
O16K	**Kokwok River B**	**123.24**	**323**	P	**PKPdf**	**21 38 03.5**	**+0.5**
	baz=120						
C27K	**Jago River**	**123.39**	**337**	P	**PKiKP**	**21 38 03.8**	**+0.5**
	baz=125						
K20K	**Telida**	**123.47**	**328**	P	**PKPdf**	**21 38 03.5**	**+0.1**
	baz=121						
F24K	**Squaw Lake**	**123.48**	**334**	P	**PKiKP**	**21 38 04.1**	**+0.5**
	baz=123						
I21K	**Tanana**	**123.63**	**330**	P	**PKPdf**	**21 38 04.0**	**+0.4**
	baz=121						
G23K	**Bananza Creek**	**123.75**	**332**	P	**PKiKP**	**21 38 04.5**	**+0.4**
	baz=122						
H22K	**Ishtalitna Cre**	**123.79**	**331**	P	**PKiKP**	**21 38 04.5**	**+0.4**
	baz=121						
C26K	**Camden Bay**	**123.90**	**337**	P	**PKiKP**	**21 38 04.6**	**+0.4**
	baz=124						
J20K	**Nowinta River**	**123.92**	**329**	P	**PKiKP**	**21 38 04.8**	**+0.3**
	baz=120						
E24K	**Your Creek**	**123.97**	**334**	P	**PKPdf**	**21 38 04.4**	**+0.1**
	baz=122						
N16K	**Nishlik Lake**	**123.97**	**324**	P	**PKPdf**	**21 38 04.7**	**+0.2**
	baz=119						
D25K	**Kavik River**	**124.00**	**336**	P	**PKPdf**	**21 38 04.4**	**+0.1**
	baz=123						
TTA	**Tatalina**	**124.03**	**327**	P	**PKPdf**	**21 38 05.1**	**+0.6**
	baz=120						
H11N3	**WAKE ISLAND Hy**	**124.04**	**266**	T	T	23 53 56.8	
	baz=130,slow=76,SNR=71						
H11N1	**WAKE ISLAND Hy**	**124.05**	**265**	T	T	23 53 53.0	
	baz=130,slow=76,SNR=135						
H11N2	**WAKE ISLAND Hy**	**124.06**	**266**	T	T	23 53 53.6	
	baz=130,slow=76,SNR=109						
COLD	**Coldfoot**	**124.08**	**333**	P	**PKPdf**	**21 38 05.0**	**+0.6**
	baz=121						
H21K	**Melozitna Rive**	**124.17**	**331**	P	**PKiKP**	**21 38 05.3**	**+0.3**
	baz=120						
E23K	**Chandalar**	**124.32**	**334**	P	**PKPdf**	**21 38 05.2**	**+0.2**
	baz=121						
G22K	**Bettles**	**124.36**	**332**	P	**PKiKP**	**21 38 05.6**	**+0.4**
	baz=121						
UNV	**Unalaska Valle**	**124.54**	**314**	P	**PKPdf**	**21 38 05.6**	**-0.1**
	baz=118						
D24K	**Happy Valley**	**124.65**	**335**	P	**PKiKP**	**21 38 06.4**	**+0.6**
	baz=121						
IMAR	**Indian Mountai**	**124.67**	**331**		**PKPdf**	**21 38 06.1**	**+0.5**
NB2	**NORSAR Subarra**	**124.75**	**36**	PKPdf	**PKPdf**	**21 38 05.6**	**-0.3**
	comp=Z,3.5nm,1.0s,baz=248,slow=1.9						
NOA	**NORSAR Array B**	**124.75**	**36**	PKP	**PKPdf**	**21 38 05.3**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=246,slow=2.3,SNR=6.5						
G21K	**Allakaket**	**124.85**	**331**	P	**PKPdf**	**21 38 06.0**	**+0.1**
	baz=119						
F22K	**John River**	**124.88**	**333**	P	**PKiKP**	**21 38 06.6**	**+0.3**
	baz=120						
C24K	**Franklin Bluff**	**124.90**	**336**	P	**PKPdf**	**21 38 06.1**	**+0.2**
	baz=121						
E22K	**Anaktuvuk Pass**	**125.07**	**333**	P	**PKiKP**	**21 38 07.2**	**+0.5**
	baz=120						
D23K	**Nanushuk River**	**125.12**	**335**	P	**PKiKP**	**21 38 07.5**	**+0.8**
	baz=120						
F21K	**Alatna River**	**125.18**	**332**	P	**PKiKP**	**21 38 07.5**	**+0.6**
	baz=119						
MLR	**Muntele Rosu**	**125.30**	**58**	PKP	**PKPdf**	**21 38 06.9**	**-0.7**
	comp=Z,4.9nm,0.9s,baz=219,slow=6.5,SNR=5.8						
MMAI	**Mount Meron Ar**	**125.32**	**76**	PKP	**PKPdf**	**21 38 07.5**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=290,slow=8.6,SNR=1.8						
HFS	**Hagfors**	**125.42**	**38**	PKP	**PKPdf**	**21 38 06.3**	**-0.9**
	comp=Z,7.5nm,0.9s,baz=220,slow=3.8,SNR=3.6						
BR131	**Keskin Array S**	**127.53**	**68**		**PKPdf**	**21 38 11.6**	**-0.5**
BR131	**Keskin Array S**	**127.53**	**68**	PKIKP	**PKPdf**	**21 38 11.6**	**-0.5**
BRTR	**Keskin Array B**	**127.53**	**68**	PKP	**PKPdf**	**21 38 11.9**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=203,slow=3.0,SNR=16						
BRTR	**Keskin Array B**	**127.53**	**68**	PKIKP	**PKPdf**	**21 38 12.0**	**-0.1**
ANM	**Nome**	**128.48**	**327**	P	**PKPdf**	**21 38 13.4**	**+0.5**
	baz=111						
AKASG	**Malin Array Be**	**129.55**	**53**	PKP	**PKPdf**	**21 38 14.4**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=257,slow=2.7,SNR=9.8						
AKASG				PP	**PP**	**21 40 24.3**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=245,slow=8.3,SNR=7.0						
AKASG	**Malin Array Be**	**129.55**	**53**		**PKPdf**	**21 38 13.8**	**-1.5**
AKBB	**Malin Array Si**	**129.55**	**53***c*	*i*PKIKP	**PKiKP**	**21 38 16.7**	**+0.6**
NACGM	**Naroch**	**129.77**	**47**	*e*PKP	**PKPdf**	**21 38 16.1**	**+0.5**
	comp=Z,15nm,1.1s,baz=248						
FINES	**FINESS Array B**	**131.55**	**39**	PKP	**PKPdf**	**21 38 17.7**	**-1.0**
	comp=Z,3.7nm,0.9s,baz=243,slow=0.6,SNR=3.5						
FINES	**FINESS Array B**	**131.55**	**39***c*	*i*PKIKP	**PKiKP**	**21 38 21.1**	**+1.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**133.16**	**28**	PKP	**PKPdf**	**21 38 20.7**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=261,slow=2.3,SNR=6.1						
SOC	**Sochi**	**133.32**	**66**	*i* PKIKP	**PKiKP**	**21 38 24.1**	**+0.2**
SOC				*e*		21 40 47.9	
SOC				*e*PPP	PPP	21 43 49.0	
SOC				*e*PS	**PS**	**21 51 08.5**	**-0.1**
SOC				*e*SS	SS	21 58 37.8	+3.3
SOC				*e*SSS	SSS	22 03 36.8	
KIV	**Kislovodsk**	**135.45**	**66**⇑	*e*PKIKP	**PKPdf**	**21 38 27.0**	**+0.2**
KIV				*i*		21 38 29.0	
KIV				*e*		21 38 32.7	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KIV				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KIV				MLR	MLR		
	comp=Z,5μm,25.0s						
KBZ	**Khabaz**	**135.50**	**67**	PKP	**PKPdf**	**21 38 26.5**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=280,slow=12,SNR=3.2						
VSR	**Storozhevoye**	**135.63**	**56**	*e*PKIKP	**PKPdf**	**21 38 26.7**	**-0.1**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPSR	**Galich'ya Gora**	**135.88**	**54**	*e*PKIKP	**PKPdf**	**21 38 26.3**	**-0.9**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MOS	**Moscow**	**135.93**	**49**	*e*PKIKP	**PKPdf**	**21 38 27.3**	**+0.1**
VRH	**Novokhopyorsk**	**137.17**	**56**	*e*PKHKP	PKPpre	21 38 19.9	
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ADZR	**Andozero**	**137.53**	**37**	*e*PKIKP	**PKPdf**	**21 38 30.5**	**+0.6**
ADZR				pmax	pmax		
	comp=Z,19nm,0.9s						
KLMR	**Klimovskoe**	**137.81**	**42**	*e*PKPdf	**PKPdf**	**21 38 29.0**	**-1.5**
KLMR				AMP		21 38 37.3	
	comp=Z,55nm,2.3s						
KLMR	**Klimovskoe**	**137.81**	**42**	*e*PKIKP	**PKPdf**	**21 38 29.0**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,55nm,2.3s						
AKT	**Akhty**	**137.94**	**72**	*e*PKIKP	**PKPdf**	**21 38 32.2**	**+0.6**
AKT				*e*		21 41 25.5	
AKT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAK	**Makhachkala**	**138.34**	**70**	*i* PKIKP	**PKPdf**	**21 38 31.7**	**-0.4**
MAK				pmax	pmax		
	comp=Z,89nm,1.7s						
BILL	**Bilibino**	**140.19**	**329**		**PKPdf**	**21 38 35.3**	**+0.6**
BILL	**Bilibino**	**140.19**	**329**⇑	*e*PKIKP	**PKPdf**	**21 38 35.0**	**+0.3**
BILL				*i*		21 38 37.2	
BILL						21 41 39.0	
BILL				PPP	PPP	21 44 48.0	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s						
BILL				pmax	pmax		
	comp=Z,8.0nm,1.5s						
BILL				MLR	MLR		
	comp=Z,10μm,19.0s						
PRGR	**Permogore**	**140.80**	**41**	*e*PKIKP	**PKPdf**	**21 38 31.2**	**-4.7**
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KIRV	**Kirov**	**142.65**	**46**	PKhKP	PKPpre	21 38 33.5	
	comp=Z,6.1nm,0.6s,baz=235,slow=3.5,SNR=3.8						
GEYT	**Alibeck**	**143.92**	**82**	PKP	PKPab	21 38 39.8	+0.2
	comp=Z,6.3nm,0.9s,baz=248,slow=6.1,SNR=16						
GYA0B	**ALIBECK ARRAY**	**143.92**	**82**		PKPab	21 38 39.7	+0.1
PET	**Petropavlovsk**	**144.11**	**305**	*i* PKIKP	**PKPab**	**21 38 40.3**	**+0.6**
PET				*e*		21 42 05.8	
PET				pmax	pmax		
	comp=Z,29nm,0.9s						
PETK	**Petropavlovsk-**	**144.69**	**305**	PKP	**PKPab**	**21 38 41.8**	**-0.1**
	comp=Z,16nm,0.7s,baz=93,slow=8.6,SNR=34						
HYB	**Hyderabad**	**145.45**	**130**	*e*PKPdf	**PKPbc**	**21 38 45.3**	**-0.3**
AKTO	**Aktyubinsk**	**147.16**	**61**	PKPbc	**PKPbc**	**21 38 49.5**	**-0.2**
	comp=Z,10nm,0.7s,baz=272,slow=3.1,SNR=22						
ARU	**Arti**	**147.63**	**49**	PKPbc	**PKPbc**	**21 38 50.4**	**-0.4**
	comp=Z,12nm,0.5s,baz=268,slow=2.6,SNR=21						
ARU	**Arti**	**147.63**	**49**	PKPdf	**PKPdf**	**21 38 48.6**	**+0.6**
ARU	**Arti**	**147.63**	**49**	*i* PKP2	**PKPdf**	**21 38 49.8**	**+1.8**
ABKAR	**Akbulak array**	**148.27**	**63**	PKPdf	**PKPdf**	**21 38 49.1**	**-0.2**
MA2	**Magadan**	**148.28**	**317***c*	*i*PKP2	**PKPbc**	**21 38 53.0**	**+0.6**
MA2				pmax	pmax		
	comp=Z,26nm,1.7s						
SVE	**Sverdlovsk**	**148.74**	**49**	*e*PKP2	**PKPbc**	**21 38 54.2**	**+0.5**
SVE				pmax	pmax		
	comp=Z,47nm,1.6s						
TIXI	**Tiksi**	**149.43**	**346**	PKPdf	**PKPdf**	**21 38 49.9**	**-0.6**
TIXI	**Tiksi**	**149.43**	**346**	PKIKP	**PKPdf**	**21 38 49.9**	**-0.6**
KBL	**Kabul**	**150.41**	**95**		**PKPdf**	**21 38 53.0**	**-0.5**
KBL	**Kabul**	**150.41**	**95**	PKIKP	**PKPdf**	**21 38 53.0**	**-0.5**
UBPT	**Khong Chiam**	**152.04**	**180**		**PKPbc**	**21 39 02.3**	**-0.4**
NRIK	**Noril'sk**	**152.31**	**14**	PKPbc	**PKPbc**	**21 39 01.9**	**+0.1**
	comp=Z,9.3nm,0.9s,baz=307,slow=15,SNR=13						
NRIK	**Noril'sk**	**152.31**	**14***c*	*i*PKIKP	**PKPbc**	**21 39 02.0**	**+0.2**
NIL	**Nilore**	**153.01**	**100**		**PKPbc**	**21 39 03.9**	**-0.7**
NIL	**Nilore**	**153.01**	**100**	PKIKP	**PKPbc**	**21 39 03.9**	**-0.7**
MJAR	**Matsushiro Arr**	**154.23**	**266**	PKPab	**PKPab**	**21 39 20.4**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=148,slow=4.3,SNR=8.2						
KK31	**Karatay Array**	**154.51**	**78**		**PKPab**	**21 39 21.2**	**-0.9**
KK31	**Karatay Array**	**154.51**	**78**	PKP2	**PKPab**	**21 39 21.2**	**-0.9**
KKAR	**Karatay Array**	**154.51**	**78**	PKPab	**PKPab**	**21 39 21.3**	**-0.8**
KKAR	**Karatay Array**	**154.51**	**78**	PKP2	**PKPab**	**21 39 21.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**154.56**	**165**	PKP	**PKPdf**	**21 38 59.5**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=232,slow=2.9,SNR=11						
CMAR				PKPbc	**PKPbc**	**21 39 07.6**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=219,slow=4.1,SNR=16						
CMAR	**Chiang Mai Arr**	**154.56**	**165**		**PKPdf**	**21 38 58.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**154.56**	**165***c*	*i*PKIKP	**PKPbc**	**21 39 08.3**	**0.0**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**154.74**	**55**	PKPdf	**PKPdf**	**21 38 58.5**	**-0.5**
BRVK	**Borovoye**	**154.74**	**55**	PKIKP	**PKPdf**	**21 38 58.5**	**-0.5**
BVAR	**Borovoye Array**	**154.81**	**55**	PKP	**PKPdf**	**21 38 59.6**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=276,slow=1.3,SNR=18						
BVAR				PKPbc	**PKPbc**	**21 39 08.0**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=276,slow=4.2,SNR=8.0						
BVAR				PP	**PP**	**21 42 59.0**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=222,slow=1.9,SNR=2.7						
YAK	**Yakutsk**	**156.52**	**331**	*e*PKIKP	**PKPdf**	**21 38 56.7**	**-4.3**
YAK				pmax	pmax		
	comp=Z,12nm,1.3s						
AAK	**Ala-Archa**	**157.27**	**81**	PKP	**PKPdf**	**21 39 02.9**	**0.0**
	comp=Z,1.6nm,0.8s,baz=244,slow=5.8,SNR=6.7						
AAK				PKPab	**PKPab**	**21 39 34.3**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=261,slow=8.7,SNR=7.9						
AAK				PP	**PP**	**21 43 14.7**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=227,slow=6.3,SNR=3.6						
AAK	**Ala-Archa**	**157.27**	**81**	PKPdf	**PKPdf**	**21 39 02.7**	**-0.2**
MND	**Mandalay**	**157.31**	**157**	PKPdf	**PKPdf**	**21 39 02.4**	**-1.0**
BTLS	**Baital**	**157.35**	**75**	*e*PKP	**PKPdf**	**21 39 02.1**	**-0.6**
	baz=74						
KSH	**Kashi**	**157.49**	**90**	PKP	**PKPdf**	**21 39 03.7**	**+0.5**
SGDS	**Sogindy**	**157.53**	**79**	*e*PKP	**PKPdf**	**21 39 03.5**	**+0.4**
	baz=79						
KUU	**Kurty**	**158.82**	**78**	*e*PKP	**PKPdf**	**21 39 03.5**	**-1.1**
	baz=78						
KUU				*e*PP	**PP**	**21 43 22.1**	**+0.1**
	baz=78						
SHL	**Shillong**	**159.01**	**143**	PKPdf	**PKPdf**	**21 39 04.3**	**-1.3**
SHL	**Shillong**	**159.01**	**143**	PKIKP	**PKPdf**	**21 39 04.3**	**-1.3**
CHKK	**Chushkaly**	**159.28**	**79**	*e*PKP	**PKPdf**	**21 39 04.1**	**-1.1**
	baz=78						
TARG	**Taragay, Kyrgy**	**159.46**	**85**		**PKPab**	**21 39 43.4**	**-0.6**
TARG	**Taragay, Kyrgy**	**159.46**	**85**	PKP2	**PKPab**	**21 39 43.4**	**-0.6**
KURBB	**Kurchatov Arra**	**160.20**	**59**	PKP	**PKPdf**	**21 39 05.7**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=286,slow=1.2,SNR=26						
KURBB				PKPab	**PKPab**	**21 39 46.3**	**-0.1**
	comp=Z,5.6nm,0.9s,baz=284,slow=4.0,SNR=16						
KURBB				PP	**PP**	**21 43 28.1**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=281,slow=5.7,SNR=10						
KURK	**Kurchatov**	**160.23**	**59**		**PKPdf**	**21 39 05.2**	**-0.7**
KURK	**Kurchatov**	**160.23**	**59**	PKIKP	**PKPdf**	**21 39 05.7**	**-0.2**
KURK						21 39 46.3	
TDK	**Taldyqorghan**	**160.43**	**76**	*e*PKP	**PKPdf**	**21 39 05.5**	**-0.9**
	baz=75						
TDK				*e*PP	**PP**	**21 43 30.0**	**-0.6**
	baz=75						
KPKS	**Kokpek**	**160.44**	**80**	*e*PKP	**PKPdf**	**21 39 05.2**	**-1.3**
	baz=80						
TNCH	**TengChong**	**160.83**	**160**	PKP	**PKPdf**	**21 39 06.8**	**-0.9**
TNCH				pPKP	sPKPdf	21 39 14.0	-1.7
TNCH				PKPab	**PKPab**	**21 39 48.3**	**-1.6**
SHLS	**Shalkode**	**160.95**	**82**	*e*PKP	**PKPdf**	**21 39 07.1**	**-0.1**
	baz=81						
LSA	**Lhasa**	**162.13**	**135**	PKPdf	**PKPdf**	**21 39 09.3**	**0.0**
LSA					**PKPab**	**21 39 55.3**	**-0.6**
LSA	**Lhasa**	**162.13**	**135**	PKP	**PKPdf**	**21 39 09.5**	**+0.2**
LSA	**Lhasa**	**162.13**	**135**	PKIKP	**PKPdf**	**21 39 09.3**	**0.0**
LSA						21 39 55.3	
ZALV	**Zalesovo Beam**	**162.69**	**45**	PKP	**PKPdf**	**21 39 07.3**	**-1.0**
	comp=Z,8.8nm,1.0s,baz=270,slow=1.5,SNR=27						
ZALV				PKPab	**PKPab**	**21 39 57.2**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=293,slow=3.4,SNR=4.9						
PZH	**PanZhiHua**	**162.91**	**168**	PKP	**PKPdf**	**21 39 11.0**	**+1.3**
MAKZ	**Makanchi**	**162.95**	**70**		**PKPdf**	**21 39 08.0**	**-0.9**
MAKZ	**Makanchi**	**162.95**	**70**	PKIKP	**PKPdf**	**21 39 08.0**	**-0.9**
MK31	**Makanchi Array**	**163.16**	**70**		**PKPdf**	**21 39 08.4**	**-0.7**
MK31				PKPab	**PKPab**	**21 39 58.5**	**-1.0**
MK31	**Makanchi Array**	**163.16**	**70**	PKP2	**PKPab**	**21 39 58.5**	**-1.0**
MK31						22 39 08.4	
MKAR	**Makanchi Array**	**163.16**	**70**	PKP	**PKPdf**	**21 39 08.9**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=276,slow=0.5,SNR=11						
MKAR				PKPab	**PKPab**	**21 39 59.4**	**-0.1**
	comp=Z,9.7nm,0.8s,baz=272,slow=4.1,SNR=28						
MKAR				PP	**PP**	**21 43 44.3**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=286,slow=3.9,SNR=8.8						
MKAR	**Makanchi Array**	**163.16**	**70**		**PKPdf**	**21 39 08.4**	**-0.8**
MKAR				PKPab	**PKPab**	**21 39 59.1**	**-0.5**
NJ2	**Nanjing**	**164.65**	**227**	*e*PKP	**PKPdf**	**21 39 10.8**	**-0.1**
WMQ	**Urumqi**	**166.98**	**82**	*e*PKP	**PKPdf**	**21 39 12.4**	**-0.2**
WMQ				PKPab	**PKPab**	**21 40 17.2**	**+0.7**
WMQ				PP	**PP**	**21 44 06.3**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,530nm,6.5s						
CD2	**Chengdu**	**167.51**	**173**	PKP	**PKPdf**	**21 39 12.6**	**-0.7**
GOMU	**GeErMu**	**169.04**	**127**	PKP	**PKPdf**	**21 39 14.8**	**+0.2**
GOMU				PKPab	**PKPab**	**21 40 26.1**	**0.0**
GOMU				AMB	AMB		
	comp=Z,190nm,7.2s						
XAN	**Xi'an**	**170.37**	**197**	PKP	**PKPdf**	**21 39 14.7**	**-0.3**
XAN				sPKP		21 39 28.3	
HNS	**HongShan**	**170.89**	**232**	*e*PKP	**PKPdf**	**21 39 15.1**	**0.0**
MOY	**Mondy**	**171.09**	**19**	*e*PKIKP	**PKPdf**	**21 39 13.7**	**-1.2**
MOY				pmax	pmax		
	comp=Z,34nm,2.7s						
TIY	**Taiyuan**	**172.37**	**225**	PKP	**PKPdf**	**21 39 16.5**	**+0.5**
TIY				AMB	AMB		
	comp=Z,220nm,4.7s						
LZH	**Lanzhou**	**172.63**	**169**	PKP	**PKPdf**	**21 39 17.0**	**+0.8**
LZH				pPKP	sPKPdf	21 39 24.7	+0.4
ZAK	**Zakamensk**	**172.77**	**12**	*e*PKIKP	**PKPdf**	**21 39 13.9**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA	**Gaotai**	**174.12**	**130**	PKP	**PKPdf**	**21 39 16.6**	**-0.1**
GTA				PKPab	**PKPab**	**21 40 47.6**	**-0.7**
GTA				PP	**PP**	**21 44 37.8**	**-2.7**
HHC	**Hu-ho-hao-te**	**174.94**	**243**	*e*PKP	**PKPdf**	**21 39 13.6**	**-3.2**
ULN	**Ulaanbaatar**	**175.36**	**348**		**PKPdf**	**21 39 15.6**	**-1.2**
ULN					**PKPab**	**21 40 54.5**	**+1.1**
ULN	**Ulaanbaatar**	**175.36**	**348**	PKIKP	**PKPdf**	**21 39 15.6**	**-1.2**
SONM	**Songino Array**	**175.47**	**354**	PKP	**PKPdf**	**21 39 15.5**	**-1.3**
	comp=Z,1.6nm,1.1s,baz=17,slow=1.5,SNR=7.9						
SONM				PKPab	**PKPab**	**21 40 54.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=347,slow=3.3,SNR=5.7						
SONM				PP	**PP**	**21 44 46.8**	**+0.7**
	comp=Z,1.6nm,1.1s,baz=0.0,slow=2.0,SNR=5.3						

*UCR **03** 21:36:11.5±1.8, 9.°47N×84.°30W, h42km±4km, MW3.7*
*INET **03** 21:36:11.4±1.2, 9.°48N×84.°26W, h32km±23km, ML3.6*
*UPA **03** 21:36:11.4±0.9, 9.°47N×84.°31W, h24km±9km, MW3.7*
ISC 03 21:36:11.9±1.1, **9.°48N**±0.°03×**84.°31W**±0.°02, **h34**km±2km,
n103, σ**0.s70**/120, **1C-3D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVQ2	**Quepos**	**0.15**	**108**	*e*P	**Pb**	**21 36 18.4**	**+0.3**
SVQ2				*e*S	**Sb**	**21 36 24.1**	**+1.8**
LLNJ	**Naranjito**	**0.20**	**91**	*e*P	**Pn**	**21 36 19.0**	**+1.4**
LLNJ				*e*S	**Sb**	**21 36 25.2**	**+2.0**
RAZU	**San Marcos de**	**0.33**	**57**	*e*P	**Pb**	**21 36 20.0**	**-0.3**
RAZU				*e*S	**Sb**	**21 36 26.7**	**+0.6**
ABE2	**San Pablo**	**0.34**	**48**	*e*P	**Pb**	**21 36 20.0**	**-0.4**
BITO	**Garabito Jaco**	**0.34**	**294**	*e*P	**Pb**	**21 36 20.2**	**0.0**
ACOS	**Acosta**	**0.35**	**24**	*e*P	**Pb**	**21 36 20.0**	**-0.5**
JACO	**JACO, Garabito**	**0.39**	**298**	*e*P	**Pb**	**21 36 20.7**	**-0.2**
JACO				*e*S	**Sn**	**21 36 28.0**	**+0.7**
JACO				IAML		21 36 28.5	
	comp=N,4μm,0.2s						
JACO	**JACO, Garabito**	**0.39**	**298**	*e*P	**Pb**	**21 36 20.8**	**-0.2**
TRB2	**Turrubares**	**0.45**	**342**	*e*P	**Pb**	**21 36 21.4**	**-0.5**
SANTA	**Santa Ana**	**0.47**	**15**	*e*P	**Pb**	**21 36 21.4**	**-0.7**
AMPA	**Desamparados**	**0.48**	**30**	*e*P	**Pb**	**21 36 22.5**	**+0.2**
EDDO	**Dominical**	**0.49**	**117**	*e*P	**Pb**	**21 36 22.0**	**-0.4**
LUJA	**Lujan**	**0.50**	**28**	*e*P	**Pb**	**21 36 22.9**	**+0.2**
CENT	**San Jose**	**0.50**	**27**	*e*P	**Pb**	**21 36 22.8**	**+0.1**
BELE	**Belen**	**0.51**	**13**	*e*P	**Pb**	**21 36 22.8**	**+0.1**
MEXI	**Barrio Mexico**	**0.51**	**25**	*e*P	**Pb**	**21 36 23.2**	**+0.4**
SJS	**Escuela Geolog**	**0.52**	**29**	*e*P	**Pb**	**21 36 23.2**	**+0.2**
SJS3	**Mercedes San J**	**0.52**	**29**	*e*P	**Pb**	**21 36 22.4**	**-0.6**
RIMA	**Rio Macho**	**0.52**	**57**	*e*P	**Pb**	**21 36 21.9**	**-1.1**
RIMA	**Rio Macho**	**0.52**	**57**	*e*P	**Pb**	**21 36 22.0**	**-1.1**
TRIO	**Tres Rios**	**0.53**	**36**	*e*P	**Pb**	**21 36 23.0**	**0.0**
OCM	**Ochomogo**	**0.54**	**40**	*e*P	**Pb**	**21 36 22.1**	**-1.2**
CDM	**Cerro de Muert**	**0.54**	**82**	*e*P	**Pb**	**21 36 22.9**	**-0.7**
CDM				*e*S	**Sb**	**21 36 31.6**	**+0.1**
CDM				IAML		21 36 32.3	
	comp=N,3μm,0.2s						
CDM	**Cerro de Muert**	**0.54**	**82**	*e*P	**Pb**	**21 36 22.9**	**-0.7**
DOMI	**Santo Domingo**	**0.55**	**23**	*i* P	**Pb**	**21 36 23.7**	**+0.3**
HDC	**Heredia**	**0.55**	**20**⇑	*i*P	**Pb**	**21 36 22.8**	**-0.7**
HDC				*i* S	**Sb**	**21 36 30.9**	**-0.5**

HDC	**Heredia**	**0.55**	**20**	*e*P		**Pb**	**21 36 22.6**	**-0.9**
HDC3	**Heredia 3**	**0.56**	**20**	*e*P		**Pb**	**21 36 22.6**	**-0.9**
HDC3				*e*S		**Sb**	**21 36 31.6**	**0.0**
HDC3	**Heredia 3**	**0.56**	**20**	*e*P		**Pb**	**21 36 22.7**	**-0.8**
BUS1	**Rivas**	**0.56**	**82**	*e*P		**Pb**	**21 36 23.0**	**-0.8**
TCS1	**Tacares**	**0.56**	**1**	*e*P		**Pb**	**21 36 23.8**	**+0.2**
CORON	**Coronado**	**0.58**	**31**	*e*P		**Pb**	**21 36 24.2**	**+0.3**
GREC	**Grecia**	**0.59**	**360**	*e*P		**Pn**	**21 36 24.2**	**+0.2**
SARCI	**Sarchi**	**0.61**	**357**	*e*P		**Pn**	**21 36 24.6**	**+0.4**
NARAN	**Naranjo de Ala**	**0.62**	**354**	*e*P		**Pn**	**21 36 24.6**	**+0.3**
ARZA	**Esparza**	**0.62**	**325**	*e*P		**Pn**	**21 36 24.7**	**+0.4**
RAMO	**San Ramon**	**0.62**	**346**	*e*P		**Pn**	**21 36 24.6**	**+0.1**
PEZE	**Perez Zeledon,**	**0.63**	**99**	*e*P		**Pn**	**21 36 24.1**	**-0.4**
PEZE	**Perez Zeledon,**	**0.63**	**99**	*e*P		**Pn**	**21 36 24.1**	**-0.4**
VIRE	**VIRE**	**0.63**	**40**	*e*P		**Pn**	**21 36 24.0**	**-0.8**
CVIMO	**Finca Echandi**	**0.65**	**34**	*e*P		**Pn**	**21 36 24.2**	**-0.7**
PCAYA	**Pacayas**	**0.66**	**48**	*e*P		**Pn**	**21 36 25.4**	**+0.4**
HAYA	**Volcan Irazu**	**0.68**	**43**	*e*P		**Pn**	**21 36 24.6**	**-0.8**
LAFE	**Finca La Fe, P**	**0.68**	**299**	*e*P		**Pn**	**21 36 24.5**	**-0.6**
LAFE				*e*S		**Sb**	**21 36 35.4**	**+0.8**
LAFE				IAML			21 36 36.7	
	comp=E,1μm,0.1s							
LAFE	**Finca La Fe, P**	**0.68**	**299**	*e*P		**Pn**	**21 36 24.6**	**-0.4**
VICA	**Volcano Irazu**	**0.68**	**42**	*e*P		**Pn**	**21 36 24.7**	**-0.8**
ICR3	**Volcano Irazu**	**0.68**	**43**	*e*P		**Pn**	**21 36 25.2**	**-0.3**
RAFA	**San Farael, Vo**	**0.68**	**46**	*e*P		**Pn**	**21 36 25.7**	**+0.2**
VINA	**Juan Vinas**	**0.69**	**53**	*e*P		**Pn**	**21 36 24.7**	**-0.8**
VPTE	**Poasito**	**0.70**	**9**	*e*P		**Pn**	**21 36 24.9**	**-0.7**
VPS6	**Volcano Poas**	**0.71**	**6**	*e*P		**Pn**	**21 36 25.9**	**0.0**
CRPO	**Crater poas**	**0.72**	**6**	*e*P		**Pn**	**21 36 24.9**	**-1.0**
POA5	**Crater Von Fra**	**0.73**	**6**	*e*P		**Pn**	**21 36 24.9**	**-1.1**
VTLA	**Turrialba Volc**	**0.74**	**45**	*e*P		**Pn**	**21 36 25.6**	**-0.7**
CVTV	**Tajo**	**0.76**	**46**	*e*P		**Pn**	**21 36 25.8**	**-0.7**
VTCG	**Tajo**	**0.76**	**45**	*e*P		**Pn**	**21 36 25.5**	**-1.1**
VERB	**Verbena**	**0.76**	**52**	*e*P		**Pn**	**21 36 25.5**	**-0.9**
VTCV	**VTCV, Calle Va**	**0.76**	**49**	*e*P		**Pn**	**21 36 25.7**	**-0.7**
CBL1	**Cabuya**	**0.78**	**278**	*e*P		**Pn**	**21 36 25.4**	**-1.1**
CPMI	**Catarata Coope**	**0.80**	**355**	*e*P		**Pn**	**21 36 26.2**	**-0.8**
VTLO	**VTLO**	**0.80**	**46**	*e*P		**Pn**	**21 36 26.5**	**-0.6**
RVSTA	**Santa Teresita**	**0.82**	**53**	*e*P		**Pn**	**21 36 26.4**	**-0.7**
RIFO	**Rio Frio, Sara**	**0.92**	**24**	*e*P		**Pn**	**21 36 27.7**	**-0.7**
MRVA	**Moravia de Chi**	**0.92**	**68**	*e*P		**Pn**	**21 36 27.6**	**-1.0**
SOCE	**Pocosol**	**0.95**	**341**	*e*P		**Pn**	**21 36 28.6**	**-0.4**
LCOCO	**El Coco**	**0.95**	**51**	*e*P		**Pn**	**21 36 28.6**	**-0.3**
ITAL	**Pital**	**0.97**	**2**	*e*P		**Pn**	**21 36 29.6**	**+0.5**
SRBA	**San Rafael, Bu**	**0.97**	**105**	*e*P		**Pn**	**21 36 29.0**	**-0.2**
SARA	**Sarapiqu**	**1.01**	**16**	*e*P		**Pn**	**21 36 30.1**	**+0.4**
JUNT	**Juntas**	**1.02**	**321**	*e*P		**Pn**	**21 36 29.1**	**-0.8**
JTS	**Las Juntas de**	**1.03**	**322**	⇓*i*P		**Pn**	**21 36 29.4**	**-0.5**
JTS				*i* S		**Sn**	**21 36 43.2**	**-0.1**
JTS	**Las Juntas de**	**1.03**	**322**	*e*P		**Pn**	**21 36 29.4**	**-0.5**
JTS	**Las Juntas de**	**1.03**	**322**	*e*P		**Pn**	**21 36 29.5**	**-0.5**
VACR	**Volcan Arenal**	**1.05**	**340**	*e*P		**Pn**	**21 36 30.3**	**-0.1**
NYURE	**Nandayure**	**1.06**	**299**	*e*P		**Pn**	**21 36 30.6**	**+0.2**
EDBA	**Buenos Aires**	**1.07**	**107**	*e*P		**Pn**	**21 36 29.9**	**-0.6**
BATAN	**Batan**	**1.11**	**56**	⇓*i*P		**Pn**	**21 36 31.0**	**0.0**
BATAN				*i* S		**Sn**	**21 36 45.1**	**-0.1**
BATAN	**Batan**	**1.11**	**56**	*e*P		**Pn**	**21 36 31.1**	**0.0**
TABAC	**Tabacon**	**1.11**	**336**	*e*P		**Pn**	**21 36 31.6**	**+0.4**
COVE	**Coope Vega, Sa**	**1.24**	**356**	*e*P		**Pn**	**21 36 32.4**	**-0.4**
NICO	**Nicoya**	**1.30**	**300**	*e*P		**Pn**	**21 36 34.0**	**+0.4**
DUNO	**Dulce Nombre,**	**1.31**	**297**	*e*P		**Pn**	**21 36 32.6**	**-1.2**
DUNO				*e*S		**Sn**	**21 36 49.9**	**-0.4**
DUNO				IAML			21 36 51.0	
	comp=N,2μm,0.3s							
DUNO	**Dulce Nombre,**	**1.31**	**297**	*e*P		**Pn**	**21 36 32.8**	**-1.1**
JUD3	**Juan Diaz 3**	**1.39**	**300**	*e*P		**Pn**	**21 36 34.0**	**-1.0**
ORTG	**Ortega, Santa**	**1.43**	**308**	*e*P		**Pn**	**21 36 34.8**	**-0.8**
CUI	**Cuipilapa**	**1.44**	**324**	*e*P		**Pn**	**21 36 35.7**	**0.0**
CUI				*e*S		**Sn**	**21 36 54.0**	**+0.4**
COLC	**Colonia**	**1.47**	**323**	*e*P		**Pn**	**21 36 36.1**	**0.0**
COLC				*e*S		**Sn**	**21 36 54.8**	**+0.6**
VERA	**Finca Concepci**	**1.47**	**338**	*e*P		**Pn**	**21 36 36.2**	**+0.1**
GUAB	**Guayabo de Bag**	**1.52**	**323**	*e*P		**Pb**	**21 36 38.7**	**-0.9**
HATIL	**Hatillo**	**1.59**	**301**	*e*P		**Pn**	**21 36 36.7**	**-1.0**
GPS2	**Hotel Rincn d**	**1.63**	**321**	*e*P		**Pn**	**21 36 38.3**	**0.0**
GPS3	**Bodega del ICE**	**1.64**	**321**	*e*P		**Pn**	**21 36 38.3**	**-0.2**
VRLE	**La Escondida,**	**1.67**	**321**	*e*P		**Pn**	**21 36 38.5**	**-0.4**
VORI	**VORI**	**1.68**	**323**	*e*P		**Pn**	**21 36 40.8**	**+1.7**
GB1A	**Borinquen Arri**	**1.71**	**321**	*e*P		**Pn**	**21 36 39.2**	**-0.3**
GB1A				*e*S		**Sn**	**21 37 00.9**	**+0.7**
BRU2	**Volcan**	**1.74**	**113**	*e*P		**Pn**	**21 36 40.4**	**+0.2**
BRU2				*e*S		**Sn**	**21 37 01.6**	**+0.7**
HZTE	**Horizontes, Gu**	**1.77**	**314**	*e*P		**Pn**	**21 36 40.4**	**+0.3**
HZTE	**Horizontes, Gu**	**1.77**	**314**	*e*P		**Pn**	**21 36 40.4**	**+0.3**
BC3P	**Paso Ancho**	**1.80**	**111**	⇓*i*P		**Pn**	**21 36 41.1**	**+0.3**
BC3P				*e*S		**Sn**	**21 37 03.0**	**+0.5**
CNI2	**El Empalme, Bo**	**1.81**	**92**	*e*P		**Pb**	**21 36 43.8**	**-0.6**
DVD	**David**	**2.11**	**119**	*e*P		**Pn**	**21 36 45.4**	**+0.6**
GUAL3	**Gualaca, Chiri**	**2.20**	**115**	*e*P		**Pb**	**21 36 50.0**	**-1.0**
CHIR3	**Chiriqui UPA,**	**2.23**	**119**	*e*P		**Pn**	**21 36 45.9**	**-0.6**
CHIR3				*e*S		**Sb**	**21 37 17.3**	**-1.6**

*CNRM **03** 21:43:00.6, 37.46N×2.13W, h0km, ml2.5*
*INMG **03** 21:43:03.3±1.5, 37.32N×1.96W, h16km±2km, ML2.7, Error ellipse: s-maj=2.5km s-min=1.9km az=123.0*
*MDD **03** 21:43:03.5±0.3, 37.32N×2.01W, h12km, mb_Lg2.9/27, Error ellipse: s-maj=2.6km s-min=1.4km az=144.0*
*SFS **03** 21:43:03.6, 37.35N×2.01W, h5km, ML3.8/18, MLv3.4/18*
ISC 03 21:43:02.9±0.9**, 37.34N**±0.02×**1.98W**±0.02**, h17**km±7km**, n79, σ2.8**01**/160, 1C-2D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOR	**Lorca, Murcia**	**0.35**	**32**	Pg	**Pg**	**21 43 10.2**	**-0.1**
ELOR				Sg	**Sg**	**21 43 14.8**	**-0.4**
ELOR				*i* Vmb_Lg		21 43 16.7	
TLOR	**Lorca, Murcia**	**0.39**	**36**	P	**Pg**	**21 43 11.0**	**+0.1**
TLOR				S	**Sb**	**21 43 16.7**	**-0.5**
TLOR	**Lorca, Murcia**	**0.39**	**36**	Pg	**Pg**	**21 43 10.9**	**-0.1**
TLOR				Sg	**Sg**	**21 43 16.6**	**+0.2**
ENIJ	**Nijar**	**0.41**	**207**	P	**Pg**	**21 43 11.0**	**-0.2**
ENIJ				S	**Sg**	**21 43 16.0**	**-0.9**
ENIJ	**Nijar**	**0.41**	**207**	⇓Pg	**Pg**	**21 43 11.0**	**-0.2**
ENIJ				Sg	**Sg**	**21 43 15.8**	**-1.1**
ENIJ				*i* Vmb_Lg		21 43 17.9	
EZAR	**Zarzadilla de**	**0.58**	**23**	Pg	**Pg**	**21 43 11.9**	**-0.5**
EZAR				Sg	**Sg**	**21 43 21.7**	**-0.5**
EZAR				*i* Vmb_Lg		21 43 25.0	
EMUR	**La Murta**	**0.77**	**49**	P	**Pg**	**21 43 17.8**	**-0.2**
EMUR				S	**Sn**	**21 43 29.9**	**-0.4**
EMUR	**La Murta**	**0.77**	**49**	Pg	**Pg**	**21 43 17.8**	**-0.2**
EMUR				Sg	**Sb**	**21 43 28.7**	**+0.5**
EMUR				*i* Vmb_Lg		21 43 32.6	
CART	**Cartagena**	**0.82**	**72**	P	**Pg**	**21 43 18.1**	**-0.7**
CART				S	**Sb**	**21 43 29.7**	**+0.3**
CART	**Cartagena**	**0.82**	**72**	P	**Pb**	**21 43 19.0**	**+0.3**
CART				S	**Sb**	**21 43 30.1**	**+0.8**
EQES	**Quesada**	**0.98**	**298**	Pg	**Pg**	**21 43 21.0**	**-1.0**
EQES				Sg	**Sg**	**21 43 35.3**	**+0.3**
EQES				*i* Vmb_Lg		21 43 38.8	
EQUE	**Quentar**	**1.17**	**264**	⇓Pg	**Pn**	**21 43 23.3**	**-1.4**
EQUE				Sg	**Sb**	**21 43 40.4**	**+0.6**
EQUE				*i* Vmb_Lg		21 43 49.4	
ETOB	**Tobarra**	**1.35**	**14**	S	**Sn**	**21 43 45.8**	**+1.2**
ETOB				P	**Pn**	**21 43 27.9**	**+0.9**
ETOB	**Tobarra**	**1.35**	**14**	Pg	**Pn**	**21 43 27.8**	**+0.8**
ETOB				Sg	**Sg**	**21 43 46.1**	**-0.4**
ETOB				*i* Vmb_Lg		21 43 49.1	
ELGU	**Los Guajares,**	**1.40**	**251**	P	**Pn**	**21 43 27.6**	**-0.2**
ELGU	**Los Guajares,**	**1.40**	**251**	Pg	**Pn**	**21 43 27.3**	**-0.4**
ELGU				Sg	**Sn**	**21 43 45.0**	**-0.8**
ELGU				*i* Vmb_Lg		21 43 53.2	
EALB	**Alboran**	**1.63**	**212**	P	**Pb**	**21 43 33.2**	**+0.6**
EALB	**Alboran**	**1.63**	**212**	Sg	**Sb**	**21 43 53.9**	**+1.0**
EALB				*i* Vmb_Lg		21 44 02.7	
EGOR	**Sierra Gorda,**	**1.72**	**263**	P	**Pn**	**21 43 33.3**	**+1.2**
EGOR				S	**Sg**	**21 44 00.0**	**+1.8**
EGOR	**Sierra Gorda,**	**1.72**	**263**	Sg	**Sn**	**21 43 55.6**	**+1.8**
EGOR				*i* Vmb_Lg		21 44 02.5	
AFON	**Font Roja**	**1.74**	**40**	Pn	**Pn**	**21 43 33.2**	**+0.6**
AFON				Sn	**Sb**	**21 43 56.2**	**0.0**
AFON				*i* Vmb_Lg		21 44 12.5	
PSIM	**Granatula de C**	**2.04**	**317**	⇑Pn	**Pn**	**21 43 36.3**	**-0.2**
PSIM				Pg	**Pb**	**21 43 39.1**	**-0.4**
PSIM				Sn	**Sn**	**21 43 59.3**	**-2.3**
PSIM				Sg	**Sb**	**21 44 04.7**	**+0.1**
EADA	**Adamuz**	**2.22**	**293**	P	**Pn**	**21 43 38.6**	**-0.4**
EADA				S	**Sn**	**21 44 05.8**	**-0.3**
EADA	**Adamuz**	**2.22**	**293**	Pn	**Pn**	**21 43 38.7**	**-0.4**
EADA				Sn	**Sn**	**21 44 05.0**	**-1.1**
EADA				Sg	**Sb**	**21 44 10.9**	**+1.0**
EADA				*i* Vmb_Lg		21 44 15.9	
EMIJ	**Mijas**	**2.37**	**252**	P	**Pn**	**21 43 42.7**	**+1.7**
EMIJ	**Mijas**	**2.37**	**252**	Pn	**Pn**	**21 43 40.5**	**-0.5**
EMIJ				Sn	**Sn**	**21 44 09.0**	**-0.7**
EMIJ				*i* Vmb_Lg		21 44 29.2	
ECHE	**Chera**	**2.38**	**19**	Pn	**Pn**	**21 43 41.3**	**0.0**
ECHE				Pg	**Pb**	**21 43 44.9**	**-0.5**
ECHE				Sn	**Sn**	**21 44 11.8**	**+1.6**
ECHE				Sg	**Sb**	**21 44 16.9**	**+2.3**
ECHE				*i* Vmb_Lg		21 44 22.3	
TAF	**Taforalt**	**2.54**	**188**	P	**Pn**	**21 43 44.1**	**+0.6**
ESDC	**Sonseca Array**	**2.81**	**327**	Pn	**Pn**	**21 43 46.6**	**-0.4**
ESDC				Pg	**Pb**	**21 43 53.0**	**+0.4**
ESDC				Sn	**Sn**	**21 44 20.7**	**+0.1**
ESDC				Sg	**Sb**	**21 44 29.0**	**+2.3**
ESDC				*i* Vmb_Lg		21 44 34.1	
ECAB	**El Cabril**	**2.83**	**286**	P	**Pn**	**21 43 47.4**	**+0.1**
ECAB				S	**Sn**	**21 44 20.6**	**-0.4**
ECAB	**El Cabril**	**2.83**	**286**	Pn	**Pn**	**21 43 47.2**	**-0.2**
ECAB				Sn	**Sn**	**21 44 20.3**	**-0.8**
ECAB				*i* Vmb_Lg		21 44 21.9	
ECAB				Sg	**Sb**	**21 44 28.9**	**+1.6**
PAB	**San Pablo**	**2.88**	**321**	Pn	**Pn**	**21 43 47.6**	**-0.6**
PAB				Pg	**Pb**	**21 43 54.2**	**+0.2**
PAB				Sn	**Sn**	**21 44 20.3**	**-2.2**
PAB				Sg	**Sb**	**21 44 31.2**	**+2.2**
PAB				*i* Vmb_Lg		21 44 36.6	
JBK	**JBK**	**3.04**	**189**	P	**Pn**	**21 43 50.5**	**+0.1**
EIBI	**Ibiza**	**3.11**	**56**	P	**Pn**	**21 43 52.3**	**+1.0**
EIBI				S	**Sn**	**21 44 26.0**	**-2.0**
EIBI	**Ibiza**	**3.11**	**56**	Pn	**Pn**	**21 43 51.6**	**+0.4**
EIBI				Sn	**Sn**	**21 44 26.1**	**-2.0**
EIBI				*i* Vmb_Lg		21 44 29.4	
UCM	**Universidad Co**	**3.13**	**342**	P	**Pn**	**21 43 53.3**	**+1.8**
SMIR	**Smir Dam**	**3.20**	**240**	P	**Pn**	**21 43 52.5**	**0.0**
ECOL	**Islas Columbre**	**3.30**	**38**	Pn	**Pn**	**21 43 54.0**	**+0.2**
ECOL				Sn	**Sn**	**21 44 32.6**	**0.0**
ETOR	**Torete**	**3.48**	**359**	Pn	**Pn**	**21 43 56.9**	**+0.6**
ETOR				Pg	**Pb**	**21 44 05.7**	**+1.6**
ETOR				Sn	**Sn**	**21 44 37.2**	**0.0**
ETOR				Sg	**Sg**	**21 44 51.5**	**-3.1**
ETOR				*i* Vmb_Lg		21 44 58.3	
GUD	**Guadarrama**	**3.71**	**333**	Pn	**Pn**	**21 43 59.9**	**+0.4**
GUD				Pg	**Pb**	**21 44 09.4**	**+1.3**
GUD				Sn	**Sn**	**21 44 40.6**	**-2.4**
GUD				Sg	**Sb**	**21 44 57.0**	**+4.2**
GUD				*i* Vmb_Lg		21 45 02.8	
EMIN	**Mina Concepcio**	**3.75**	**278**	P	**Pn**	**21 43 59.6**	**-0.4**
EMIN				S	**Sn**	**21 44 41.4**	**-2.5**
EMIN	**Mina Concepcio**	**3.75**	**278**	Pn	**Pn**	**21 43 60.0**	**-0.1**
EMIN				Sn	**Sn**	**21 44 41.3**	**-2.6**
EMIN				*i* Vmb_Lg		21 44 44.8	
EMIN				Sg	**Sb**	**21 44 57.8**	**+3.8**
PBAR	**Barrancos**	**4.10**	**283**	*e*Pn	**Pn**	**21 44 04.5**	**-0.3**
PBAR				*e*Sn	**Sn**	**21 44 50.2**	**-2.2**
PBAR				A	A	21 45 13.2	
	9.4nm,0.6s						
PBAR	**Barrancos**	**4.10**	**283**	P	**Pn**	**21 44 04.7**	**0.0**
PBAR				S	**Sn**	**21 44 50.1**	**-2.2**
EPLA	**Plasencia**	**4.21**	**312**	Pn	**Pn**	**21 44 05.7**	**-0.7**
EPLA				Sn	**Sn**	**21 44 53.9**	**-1.2**
EPLA				Sg	**Sg**	**21 45 13.9**	**-4.1**
EPLA				*i* Vmb_Lg		21 45 14.3	
EBAD	**Badajoz**	**4.22**	**291**	P	**Pn**	**21 44 06.4**	**0.0**
EBAD	**Badajoz**	**4.22**	**291**	Pn	**Pn**	**21 44 05.9**	**-0.5**
EBAD				Sn	**Sn**	**21 44 54.5**	**-0.8**
EBAD				*i* Vmb_Lg		21 44 55.2	
EBAD				Sg	**Sb**	**21 45 13.2**	**+5.8**
EGRO	**El Granado**	**4.39**	**274**	P	**Pn**	**21 44 08.5**	**-0.2**
EGRO				S	**Sn**	**21 44 56.6**	**-2.8**
EGRO	**El Granado**	**4.39**	**274**	Pn	**Pn**	**21 44 08.3**	**-0.4**
EGRO				Sn	**Sn**	**21 44 56.3**	**-3.1**
EGRO				*i* Vmb_Lg		21 45 01.4	
EGRO				Sg	**Sb**	**21 45 16.8**	**+4.7**
ETOS	**Mallorca**	**4.47**	**56**	Pn	**Pn**	**21 44 11.3**	**+1.3**
ETOS				Sn	**Sn**	**21 45 00.3**	**-1.3**
PVAQ	**Vaqueiros**	**4.57**	**273**	*e*Pn	**Pn**	**21 44 10.7**	**-0.5**
PVAQ				*e*Sn	**Sn**	**21 45 01.4**	**-2.6**
PVAQ				A	A	21 45 03.3	
	5.3nm,0.4s						
PVAQ	**Vaqueiros**	**4.57**	**273**	P	**Pn**	**21 44 10.8**	**-0.5**
PVAQ				S	**Sn**	**21 44 58.5**	**-5.5**
PVAQ	**Vaqueiros**	**4.57**	**273**	P	**Pn**	**21 44 10.8**	**-0.5**
PESTR	**Estremoz**	**4.68**	**291**	*e*Pn	**Pn**	**21 44 12.6**	**-0.3**
PESTR				*e*Sn	**Sn**	**21 45 04.7**	**-2.1**
PESTR				*e*Sg	**Sb**	**21 45 27.8**	**+7.1**
PESTR				A	A	21 45 38.6	
	6.9nm,0.4s						
PESTR	**Estremoz**	**4.68**	**291**	P	**Pn**	**21 44 12.5**	**-0.3**
PESTR	**Estremoz**	**4.68**	**291**	P	**Pn**	**21 44 12.8**	**0.0**
PBEJ	**Beja**	**4.72**	**280**	*e*Pn	**Pn**	**21 44 13.7**	**+0.4**
PBEJ				*e*Sn	**Sn**	**21 45 06.1**	**-1.6**
PBEJ				A	A	21 45 35.8	
	4.1nm,0.5s						
PMRV	**Marv??o**	**4.74**	**298**	*e*Pn	**Pn**	**21 44 13.2**	**-0.4**
PMRV				*e*Sn	**Sn**	**21 45 05.8**	**-2.4**
PMRV				*e*Sg	**Sb**	**21 45 29.6**	**+7.3**
PMRV				A	A	21 45 34.5	
	12nm,0.7s						
PCVE	**Castro Verde**	**4.83**	**275**	*e*Pn	**Pn**	**21 44 14.9**	**+0.1**
PCVE				*e*Sn	**Sn**	**21 45 08.8**	**-1.6**
PCVE				A	A	21 45 42.4	
	5.2nm,0.7s						
PCVE	**Castro Verde**	**4.83**	**275**	P	**Pn**	**21 44 15.2**	**+0.4**
EVO	**Evora**	**4.92**	**286**	*e*Pn	**Pn**	**21 44 10.4**	**+0.4**
EVO				*e*Sn	**Sn**	**21 45 10.6**	**-2.0**
EVO				A	A	21 45 52.6	
	5.7nm,0.5s						
PCBR	**Castelo Branco**	**4.98**	**302**	*e*Pn	**Pn**	**21 44 16.7**	**-0.2**
PCBR				*e*Sn	**Sn**	**21 45 11.4**	**-2.7**
PCBR				A	A	21 45 50.3	
	5.9nm,0.4s						
MDT	**Midelt**	**5.00**	**206**	P	**Pn**	**21 44 19.4**	**+2.1**
MD31	**MD31**	**5.01**	**208**	P	**Pn**	**21 44 19.7**	**+2.3**
PMTG	**Montargil**	**5.21**	**291**	*e*Pn	**Pn**	**21 44 20.1**	**0.0**
PMTG				*e*Sn	**Sn**	**21 45 17.2**	**-2.7**
PMTG				*e*Sg	**Sg**	**21 45 44.6**	**-5.7**
PMTG				A	A	21 45 51.8	
	9.7nm,0.5s						
PNCL	**Nicolau / Gran**	**5.25**	**280**	*e*Pn	**Pn**	**21 44 20.7**	**+0.1**
PNCL				*e*Sn	**Sn**	**21 45 18.8**	**-1.9**
PNCL				A	A	21 45 22.9	
	2.7nm,0.7s						
PNCL	**Nicolau / Gran**	**5.25**	**280**	P	**Pn**	**21 44 20.9**	**+0.3**
MTE	**Manteigas**	**5.31**	**307**	*e*Sg	**Sb**	**21 45 47.2**	**+8.4**
MTE				A	A	21 45 59.7	
	9.6nm,0.6s						
MORF	**Marmelete**	**5.32**	**272**	*e*P	**Pn**	**21 44 21.0**	**-0.6**
MORF				*e*S	**Sn**	**21 45 17.6**	**-4.9**
MORF				IAML		21 45 23.5	
	comp=N,13nm,0.2s						
MORF	**Marmelete**	**5.32**	**272**	*e*Pn	**Pn**	**21 44 21.6**	**0.0**
MORF				*e*Sn	**Sn**	**21 45 20.6**	**-2.0**
MORF				A	A	21 45 23.2	
	comp=N,5.5nm,0.2s						
PTEO	**Sao Teotonio**	**5.37**	**274**	*e*Pn	**Pn**	**21 44 23.1**	**+0.8**
PTEO				*e*Sn	**Sn**	**21 45 22.1**	**-1.7**
PFVI	**Vila Bisbo**	**5.47**	**270**	*e*Pn	**Pn**	**21 44 24.1**	**+0.5**
PFVI				*e*Sn	**Sn**	**21 45 23.8**	**-2.3**
MVO	**Moncorvo**	**5.47**	**316**	*e*Pn	**Pn**	**21 44 23.7**	**0.0**
MVO				*e*Sn	**Sn**	**21 45 23.4**	**-3.0**
MVO				A	A	21 46 05.3	
	comp=N,7.6nm,0.6s						
PVIS	**Viseu**	**5.71**	**308**	*e*Pn	**Pn**	**21 44 26.9**	**-0.1**
PCAS	**Casmilo, Conde**	**5.78**	**300**	*e*Pn	**Pn**	**21 44 28.7**	**+0.9**
PCAS				*e*Sn	**Sn**	**21 45 30.8**	**-2.9**
PCAS				A	A	21 46 10.9	
	comp=N,12nm,0.5s						
PSBE	**So Bento**	**5.78**	**294**	*e*Pn	**Pn**	**21 44 28.4**	**+0.5**
PSBE				*e*Sn	**Sn**	**21 45 31.5**	**-2.3**
PSBE				A	A	21 46 13.9	
	comp=N,14nm,0.5s						
PMAFR	**Mafra**	**5.98**	**288**	*e*Pn	**Pn**	**21 44 31.1**	**+0.5**
PMAFR				*e*Sn	**Sn**	**21 45 35.7**	**-3.0**
PMAFR				A	A	21 46 06.9	
	comp=N,17nm,0.6s						
POLO	**Lamas de Olo**	**6.04**	**314**	*e*Pn	**Pn**	**21 44 31.3**	**-0.3**
POLO				*e*Sn	**Sn**	**21 45 36.8**	**-3.7**
POLO				A	A	21 46 19.6	
	comp=N,1.9nm,0.6s						
PGAV	**Gavieira, Arco**	**6.70**	**316**	*e*Pn	**Pn**	**21 44 40.4**	**-0.2**
PGAV				*e*Sn	**Sn**	**21 45 53.5**	**-3.1**
PGAV				A	A	21 46 39.5	
	comp=N,3.2nm,0.5s						

*IDC **03** 21:52:28.0±0.3, 19.44S×175.95E, h0km, mb5.8/39, mbtmp5.9/42, ML6.4/2, MS6.4/57, Error ellipse: s-maj=10.6km s-min=10.1km az=90.0*
*MOS **03** 21:52:28.0±0.7, 19.41S×175.92E, h10km, mb6.4/42, MS6.5/70, Error ellipse: s-maj=6.9km s-min=6.4km az=59.8*
*NEIC **03** 21:52:30.7±1.8, 19.37S±0.07×176.05E±0.07, h12km±1km, mb6.6/299, Ms_20 6.6/324, Mwb6.8/74, Mww6.9, Error ellipse: s-maj=13.3km s-min=9.3km az=148.0, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=1.19; $M_{\theta\theta}$=0.35; $M_{\phi\phi}$1.55; $M_{r\theta}$0.08; $M_{r\phi}$1.05; $M_{\theta\phi}$=0.06; Fault plane solution: $M_0$1.76000×10^{19} NP1: ϕ_s217.53000°, δ46.21000°, λ-70.54000°. NP2:ϕ_s10.48000°, δ47.11000°, λ-109.17000°. Principal axes: T 2.0133, Plg0.0000°, Azm114.0000°; N -0.7940, Plg14.0000°, Azm24.0000°; P -1.2193, Plg76.0000°, Azm206.0000°;*
*BJI **03** 21:52:30.5±0.0, 19.30S×175.95E, h20km, mb6.1/71, mB7.0/82, Ms7.0/93, Ms7 6.8/89*
*NOU **03** 21:52:36.1, 19.31S×175.93E, h52km, ML7.0/102, South of Fiji Islands*
*GCMT **03** 21:52:37.7±0.0, 19.28S×176.00E, h17km, MW6.9/166, Moment Tensor Solution. s166,c462; s166,c884; Duration: 7?1 Moment tensor: Scale 10^{19}Nm; M_{rr}-3.02±.01; $M_{\theta\theta}$0.39±.01; $M_{\phi\phi}$2.62±.01; $M_{r\theta}$-0.22±.03; $M_{\theta\phi}$1.32±.01; $M_{r\phi}$0.00±.02; Best double couple: M_o3.13500×10^{19} NP1:ϕ_s29.00000°, δ46.00000°, λ-84.00000°. NP2:ϕ_s201.00000°, δ44.00000°, λ-96.00000°. Principal axes: T 3.2350, Plg1.0000°, Azm115.0000°; N -0.2060, Plg4.0000°, Azm205.0000°; P -3.0360, Plg86.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*
*NEIC **03** 21:52:41, 18.93S×176.06E, h16km, Moment Tensor Solution. Duration: 20s0 Moment tensor: Scale 10^{19}Nm; M_{rr}-3.03; $M_{\theta\theta}$0.32; $M_{\phi\phi}$2.71; $M_{r\theta}$-0.68; $M_{\theta\phi}$1.33; $M_{r\phi}$-0.05; Fault plane solution: M_o3.25000×10^{19} NP1: ϕ_s192.00000°, δ43.00000°, λ-107.00000°. NP2: ϕ_s35.00000°, δ49.00000°, λ-74.00000°. Principal axes: T 3.3184, Plg3.0000°, Azm114.0000°; N -0.1486, Plg12.0000°, Azm205.0000°; P -3.1697, Plg78.0000°, Azm11.0000°;*

**ISC 03 21:52:30

NEZ North Egmont 19.81 184 P Pn 21 57 14.9 +13
KHEZ Kahui Hut 19.84 184 P **Pn** **21 57 06.6 +4.2**
KHEZ Kahui Hut 19.84 184 P Pn 21 57 15.0 +13
MOVZ Moawhango 19.88 180 P **Pn** **21 57 06.0 +3.1**
KWHZ Kaweka Forest 19.90 179 P **Pn** **21 57 05.5 +2.3**
KWHZ S S 22 00 12.4 -33
MCHZ McNeill Hill 19.93 178 P **Pn** **21 57 05.4 +2.0**
BHHZ Black Hill Sta 19.96 180 P **Pn** **21 57 05.9 +2.0**
NMEZ Namu Road 19.96 185 P Pn 21 57 17.7 +14
LREZ Lake Rotokare 19.98 184 P Pn 21 57 18.7 +15
KRHZ Kereru 20.12 179 P Pn 21 57 08.5 +2.9
WAZ Wanganui 20.24 182 P Pn 21 57 13.1 +6.0
KAHZ Kahuranaki 20.28 178 P Pn 21 57 08.3 +0.7
PNHZ Pukenui 20.39 179 P Pn 21 57 09.9 +1.0
PXZ Pawanui 20.52 178 P Pn 21 57 12.0 +1.7
TSZ Takapari Road 20.53 180 P Pn 21 57 11.3 +0.8
WPHZ Waipukurau 20.54 179 P Pn 21 57 13.7 +3.1
PRHZ Porangahau 20.75 179 P Pn 21 57 15.8 +2.8
POWZ Post Office Ro 20.86 180 P Pn 21 57 17.2 +2.9
TARA Tarawa 20.90 351 P **P** **21 57 11.4 -1.0**
PRWZ Pori Road 21.02 180 P **P** **21 57 18.0 +4.3**
MRZ Mangatainoka R 21.13 181 P **P** **21 57 16.7 +2.0**
BFZ Birch Farm 21.15 179 P **P** **21 57 15.8 +0.8**
BFZ IAmb IAmb 21 57 23.0
comp=Z,6µm,2.4s
BFZ Birch Farm 21.15 179 P **P** **21 57 16.6 +1.6**
BFZ Birch Farm 21.15 179 P **P** **21 57 17.6 +2.6**
OGWZ Otaki Gorge 21.30 182 P **P** **21 57 19.6 +3.1**
KIW Kapiti Island 21.35 182 P **P** **21 57 22.0 +4.8**
HOWZ Holdsworth Sta 21.37 181 P **P** **21 57 19.7 +2.3**
QRZ Quartz Range 21.50 187 P **P** **21 57 20.1 +1.5**
QRZ Quartz Range 21.50 187 P **P** **21 57 23.8 +5.1**
TMWZ Te Maipa 21.58 180 P **P** **21 57 23.2 +3.7**
CAW Cannon Point 21.59 182 P **P** **21 57 24.5 +4.8**
MTW Mount Morrison 21.63 181 P **P** **21 57 25.0 +4.9**
TKNZ Takaka Hill 21.65 186 P **P** **21 57 22.2 +1.8**
TCW Tory Channel 21.73 183 P **P** **21 57 22.5 +1.3**
WEL Wellington 21.78 182 P **P** **21 57 26.7 +5.0**
SNZO South Karori 21.80 183 P **P** **21 57 24.0 +2.0**
SNZO South Karori 21.80 183 P **P** **21 57 26.7 +4.7**
PAWZ Paruwai Farm 21.86 181 P **P** **21 57 26.2 +3.6**
TRWZ Traveller 21.87 181 P **P** **21 57 26.7 +4.0**
TUWZ Tuamarina 21.96 184 P **P** **21 57 24.9 +1.2**
PLWZ Palliser 22.05 181 P **P** **21 57 26.1 +1.4**
PLWZ Palliser 22.05 181 P **P** **21 57 27.9 +3.2**
RAR Rarotonga 22.82 99 P **P** **21 57 33.7 +0.6**
comp=Z,108nm,1.0s,baz=256,slow=5.1,SNR=33
RAR LR LR 22 04 36.4
comp=Z,147µm,20.9s,baz=250,slow=32
comp=Z,108nm,1.0s
RAR Rarotonga 22.82 99 P **P** **21 57 32.8 -0.3**
RAR IAmb IAmb 21 57 45.3
comp=Z,7µm,2.0s
RAR Rarotonga 22.82 99 P **P** **21 57 36.6 +3.5**
RAR Rarotonga 22.82 99 ⇑P **P** **21 57 34.0 +0.9**
RAR Rarotonga 22.82 99 P **P** **21 57 32.8 -0.3**
RAR pmax pmax
comp=Z,7µm,2.1s
KHZ Kahutara 22.98 185 P **P** **21 57 35.9 +1.5**
KHZ IAmb IAmb 21 57 44.3
comp=Z,3µm,1.8s
KHZ Kahutara 22.98 185 ⇓P **P** **21 57 35.5 +1.1**
LTZ Lake Taylor 23.46 187 P **P** **21 57 41.3 +1.9**
LTZ IAmb IAmb 21 57 59.4
comp=Z,7µm,2.5s
GVZ Greta Valley S 23.56 185 P **P** **21 57 41.6 +1.2**
EIDS Eidsvold 23.71 251 P **P** **21 57 42.3 +0.3**
EIDS IAmb IAmb 21 57 45.5
comp=Z,2µm,1.4s
EIDS Eidsvold 23.71 251 P **P** **21 57 43.1 +1.0**
EIDS Eidsvold 23.71 251 ⇓P **P** **21 57 42.6 +0.6**
RK1H Rockhampton Ha 24.01 256 P **P** **21 57 45.9 +1.0**
RPZ Rata Peaks 24.53 189 P **P** **21 57 50.6 +1.1**
comp=Z,85nm,0.7s,baz=26,slow=7.0,SNR=16
RPZ LR LR 22 06 51.8
comp=Z,72µm,19.6s,baz=56,slow=35
comp=Z,85nm,0.7s
RPZ Rata Peaks 24.53 189 P **P** **21 57 53.0 +3.5**
ARMA Armidale 24.55 239 P **P** **21 57 51.6 +1.6**
baz=25,SNR=50
ARMA Armidale 24.55 239 P **P** **21 57 50.6 +0.6**
ARMA IAmb IAmb 21 57 54.6
comp=Z,5µm,2.8s
ARMA Armidale 24.55 239 P **P** **21 57 51.9 +1.9**
comp=Z,475nm,2.4s
ARMA Armidale 24.55 239 ⇑P **P** **21 57 50.9 +0.9**
JCZ Jackson Bay 25.26 192 P **P** **21 58 00.0 +3.8**
ODZ Otahua Downs 25.89 189 P **P** **21 58 03.3 +1.6**
ODZ Otahua Downs 25.89 189 ⇓P **P** **21 58 03.8 +2.0**
WKZ Wanaka 25.95 191 P **P** **21 58 04.0 +1.7**
RMQ Roma 25.96 249 P **P** **21 58 04.3 +1.6**
baz=26,SNR=32
RMQ Roma 25.96 249 P **P** **21 58 04.8 +2.1**
comp=Z,662nm,1.5s
MGCD Mangrove Creek 26.05 233 P **P** **21 58 05.8 +2.4**
baz=26,SNR=25
WHZ Wether Hill Ro 27.18 192 P **P** **21 58 15.0 +1.6**
TV1H Townsville Har 27.50 266 P **P** **21 58 19.7 +3.2**
RABL Rabaul 27.73 300 P **P** **21 58 18.1 -0.6**
RABL IAmb IAmb 21 58 26.0
comp=Z,1µm,1.6s
KRVT Keravat (AS076 27.77 300 P **P** **21 58 18.6 -0.5**
comp=Z,547nm,1.1s,baz=98,slow=1.7,SNR=33
KRVT LR LR 22 09 27.0
comp=Z,27µm,19.1s,baz=271,slow=37
comp=Z,547nm,1.1s
CTA Charters Tower 27.94 264 P **P** **21 58 20.9 +0.3**
comp=Z,280nm,1.2s,baz=84,slow=10,SNR=43
CTA LR LR 22 08 05.5
comp=Z,77µm,21.5s,baz=76,slow=34
comp=Z,280nm,1.2s
CTAO Charters Tower 27.94 264 P **P** **21 58 20.4 -0.1**
CTAO IAmb IAmb 21 58 23.8
comp=Z,775nm,1.5s
CTAO Charters Tower 27.94 264 IAMs_20 IAMs_20 22 07 30.9
comp=Z,127µm,22.0s
CTAO Charters Tower 27.94 264 P **P** **21 58 21.4 +0.9**
CTAO Charters Tower 27.94 264 ⇑P **P** **21 58 20.7 +0.1**
CTAO Charters Tower 27.94 264 P **P** **21 58 20.4 -0.1**
CTAO pmax pmax
comp=Z,775nm,1.5s
CTAO MLR MLR
comp=Z,127µm,22.0s
CNB Canberra Magne 28.28 231 P **P** **21 58 25.5 +2.0**
CAN Canberra 28.55 231 P **P** **21 58 26.6 +0.7**
CAN Canberra 28.55 231 ⇑P **P** **21 58 27.2 +1.4**
CAN Canberra 28.55 231 P **P** **21 58 26.6 +0.7**
CAN pmax pmax
comp=Z,836nm,1.7s
MILA Mila 29.25 228 P **P** **21 58 33.5 +1.5**
baz=29,SNR=17
MILA Mila 29.25 228 P **P** **21 58 34.1 +2.0**
MILA Mila 29.25 228 ⇑P **P** **21 58 33.6 +1.5**
PMG Port Moresby 29.57 286 P **P** **21 58 35.6 +0.5**
comp=Z,413nm,1.2s,baz=98,slow=5.5,SNR=154
PMG LR LR 22 08 44.1
comp=Z,106µm,19.4s,baz=109,slow=33
comp=Z,413nm,1.2s
PMG Port Moresby 29.57 286 P **P** **21 58 34.2 -0.9**
PMG IAmb IAmb 21 58 37.9
comp=Z,1µm,1.4s
PMG Port Moresby 29.57 286 *d* P **P** **21 58 35.5 +0.5**
PMG pmax pmax
comp=Z,1µm,1.7s
CMSA Cobar Meteorol 29.74 240 P **P** **21 58 37.2 +0.8**
baz=30,SNR=100
CMSA Cobar Meteorol 29.74 240 P **P** **21 58 37.2 +0.8**
comp=Z,229nm,0.9s
QLP Quilpie 29.98 250 P **P** **21 58 39.3 +0.7**
baz=30,SNR=35
QLP Quilpie 29.98 250 ⇓P **P** **21 58 38.9 +0.2**
PATS Pohnpei 31.38 325 P **P** **21 58 50.5 -0.5**
baz=31,SNR=4.4
PATS Pohnpei 31.38 325 P **P** **21 58 50.5 -0.5**
COEN Coen 31.83 275 P **P** **21 58 54.7 -0.3**
COEN Coen 31.83 275 P **P** **21 58 55.1 0.0**
TOO Toolangi 32.08 229 P **P** **21 58 58.5 +1.4**
baz=32,SNR=127
TOO Toolangi 32.08 229 P **P** **21 58 58.0 +1.0**
TOO IAmb IAmb 21 59 02.1
comp=Z,1µm,1.3s
TOO Toolangi 32.08 229 P **P** **21 58 58.7 +1.7**
TOO Toolangi 32.08 229 ⇓P **P** **21 58 58.5 +1.4**
TOO Toolangi 32.08 229 P **P** **21 58 58.0 +1.0**
TOO pmax pmax
comp=Z,1µm,1.3s
TBI Tubuai 32.39 103 *e* P **P** **21 59 03.1 +3.3**
comp=Z,318nm,1.3s
TBI *e* S **S** **22 04 13.5 -0.6**
comp=Z,652µm,27.5s
TBI *e* LQ LQ 22 06 07.8
comp=Z,267µm,15.8s
TBI *e* LR LR 22 07 29.6
comp=Z,2997µm,32.0s
TBI *e* LR LR 22 07 30.0
comp=Z,6433µm,28.0s
PAE Paea 32.69 93 *e* P **P** **21 59 04.4 +1.8**
comp=Z,77nm,1.4s
PPT2 Papeete2 32.71 92 *e* P **P** **21 59 04.8 +2.0**
comp=Z,243nm,1.3s
PPT2 *e* S **S** **22 04 18.4 -0.9**
comp=Z,154µm,26.5s
PPT2 *e* LQ LQ 22 06 15.5
comp=Z,226µm,16.2s
PPT2 *e* LR LR 22 07 37.8
comp=Z,471µm,30.2s
PPT2 *e* LR LR 22 07 37.9
comp=Z,795µm,30.2s
PPT Papeete 32.71 92 P **P** **21 59 04.0 +1.2**
comp=Z,127nm,1.2s,baz=246,slow=3.8,SNR=18
PPT LR LR 22 08 59.1
comp=Z,131µm,20.4s,baz=249,slow=30
comp=Z,127nm,1.2s
PPT Papeete 32.71 92 P **P** **21 59 04.0 +1.2**
PPTF Pamatai, Papee 32.72 92 P **P** **21 59 02.9 0.0**
PPTF IAMs_20 IAMs_20 22 08 38.3
comp=Z,121µm,20.0s
PPTF Pamatai, Papee 32.72 92 ⇑P **P** **21 59 05.2 +2.3**
MANU Manus Island 32.89 298 P **P** **21 59 03.1 -1.1**
MANU IAmb IAmb 21 59 11.2
comp=Z,1µm,1.5s
MANU Manus Island 32.89 298 ⇓P **P** **21 59 04.8 +0.5**
TIAR Tiarei 32.93 92 *e* P **P** **21 59 06.6 +1.9**
comp=Z,27nm,1.1s
STKA Stephens Creek 33.20 241 P **P** **21 59 07.8 +0.9**
comp=Z,427nm,1.2s,baz=74,slow=8.8,SNR=126
STKA PKiKP **PKiKP** **22 09 14.8 -0.8**
comp=Z,3.4nm,0.7s,baz=52,slow=17,SNR=3.3
STKA P3KPbc 22 30 27.1
comp=Z,3.6nm,1.0s,baz=257,slow=10.0,SNR=4.5
comp=Z,427nm,1.2s
STKA Stephens Creek 33.20 241 P **P** **21 59 08.0 +1.0**
baz=33,SNR=179
STKA Stephens Creek 33.20 241 P **P** **21 59 07.3 +0.4**
STKA Stephens Creek 33.20 241 P **P** **21 59 07.7 +0.8**
comp=Z,113nm,1.4s
STKA Stephens Creek 33.20 241 P **P** **21 59 07.3 +0.4**
STKA pmax pmax
comp=Z,245nm,1.5s
INKA Innaminka 33.21 249 P **P** **21 59 07.7 +0.7**
MOO Moorlands 33.39 220 P **P** **21 59 10.4 +2.0**
baz=34,SNR=11
MOO Moorlands 33.39 220 P **P** **21 59 10.3 +1.9**
TAU Tasmania Unive 33.58 220 P **P** **21 59 11.2 +1.2**
TAU IAmb IAmb 21 59 14.1
comp=Z,762nm,1.6s
TAU Tasmania Unive 33.58 220 P **P** **21 59 11.5 +1.5**
TAU Tasmania Unive 33.58 220 ⇓P **P** **21 59 11.0 +1.0**
TAU Tasmania Unive 33.58 220 P **P** **21 59 11.2 +1.2**
TAU pmax pmax
comp=Z,762nm,1.6s
TAU MLR MLR
comp=Z,29µm,19.0s
XMAS Kiritimati 33.76 54 ⇑S **S** **22 04 42.8 +7.3**
QIS Mount Isa 34.13 262 P **P** **21 59 15.2 0.0**
baz=34,SNR=46
QIS Mount Isa 34.13 262 P **P** **21 59 16.1 +1.0**
ARPS Mount Arapiles 34.45 233 P **P** **21 59 19.0 +1.4**
baz=35,SNR=15
ARPS Mount Arapiles 34.45 233 P **P** **21 59 19.0 +1.4**
VAH Vaihoa 34.97 89 *e* P **P** **21 59 22.3 -0.1**
comp=Z,160nm,1.1s
HTT Hallett 35.76 240 P **P** **21 59 30.0 +0.9**
baz=36,SNR=113
HTT Hallett 35.76 240 P **P** **21 59 29.9 +0.9**
comp=Z,594nm,1.4s
HTT Hallett 35.76 240 ⇓P **P** **21 59 29.8 +0.7**
LCRK Leigh Creek 35.77 245 P **P** **21 59 29.9 +0.8**
OOD Oodnadatta 37.68 250 P **P** **21 59 46.5 +1.1**
BBOO Buckleboo 37.98 241 P **P** **21 59 48.5 +0.5**
baz=38,SNR=33
BBOO Buckleboo 37.98 241 P **P** **21 59 48.3 +0.4**
BBOO IAmb IAmb 21 59 51.2
comp=Z,1µm,1.5s
BBOO Buckleboo 37.98 241 P **P** **21 59 48.5 +0.5**
JOHN Johnston Islan 38.70 23 P **P** **21 59 52.4 -1.5**
JOHN IAmb IAmb 22 00 00.0
comp=Z,2µm,1.8s
GENI Genyem 38.78 291 P **P** **21 59 54.7 -0.2**
comp=Z,908nm,2.1s,comp=Z,45µmcomp=Z,136µm
GENI pP **pwP** **22 00 06.4 +4.9**
comp=Z,908nm,2.1s,comp=Z,45µmcomp=Z,136µm
H11S2 WAKE ISLAND Hy 38.79 346 T T 22 40 49.3
baz=166,slow=76,SNR=3391
H11S3 WAKE ISLAND Hy 38.80 346 T T 22 40 49.8
baz=166,slow=76,SNR=3484
H11S1 WAKE ISLAND Hy 38.81 346 T T 22 40 48.7
baz=166,slow=76,SNR=4037
WR0 Warramunga Arr 38.92 262 P **P** **21 59 54.6 -1.5**
WRAB Tennant Creek 39.10 262 P **P** **21 59 56.3 -1.2**
WRAB Tennant Creek 39.10 262 P **P** **21 59 56.1 -1.4**
WRAB Tennant Creek 39.10 262 ⇓P **P** **21 59 55.9 -1.6**
WRAB Tennant Creek 39.10 262 *d* P **P** **21 59 55.6 -1.9**
WRAB pmax pmax
comp=Z,555nm,1.7s
WRAB MLR MLR
comp=Z,28µm,15.0s
WRA Warramunga Arr 39.11 262 P **P** **21 59 56.2 -1.4**
comp=Z,176nm,1.2s,baz=95,slow=8.7,SNR=156
WRA PcP **PcP** **22 02 06.9 -0.5**
comp=Z,39nm,1.0s,baz=90,slow=3.3,SNR=4.9
WRA PKiKP **PKiKP** **22 09 19.2 -1.3**
comp=Z,2.1nm,0.9s,baz=78,slow=0.9,SNR=5.2
WRA LR LR 22 15 39.9
comp=Z,32µm,18.1s,baz=92,slow=36
comp=Z,176nm,1.2s
WRA Warramunga Arr 39.11 262 P **P** **21 59 56.0 -1.6**
WRA Warramunga Arr 39.11 262 P **P** **21 59 56.0 -1.6**
WRA pmax pmax
comp=Z,60nm,1.6s
AS31 Alice Springs 39.23 256 P **P** **21 59 58.2 -0.4**
ASAR Alice Springs 39.23 256 P **P** **21 59 58.1 -0.5**
comp=Z,401nm,1.0s,baz=88,slow=9.0,SNR=736
ASAR PcP **PcP** **22 02 07.1 -0.7**
comp=Z,50nm,0.9s,baz=104,slow=2.7,SNR=5.6
ASAR PKiKP **PKiKP** **22 09 19.6 -0.9**
comp=Z,1.8nm,0.9s,baz=111,slow=1.3,SNR=4.1
ASAR LR LR 22 14 32.2
comp=Z,60µm,21.7s,baz=95,slow=34
ASAR P3KPbc 22 30 01.2
comp=Z,0.6nm,0.8s,baz=283,slow=3.6,SNR=4.9
comp=Z,401nm,1.0s
ASAR Alice Springs 39.23 256 P **P** **21 59 57.8 -0.8**
ASAR Alice Springs 39.23 256 P **P** **21 59 57.8 -0.8**
MULG Mulgathing 39.31 246 P **P** **21 59 59.6 +0.4**
WAKE Wake Island 39.57 346 P **P** **21 59 59.9 -1.4**
WAKE Wake Island 39.57 346 ⇓P **P** **22 00 01.2 0.0**
SMPI Sarmi 40.35 291 P **P** **22 00 08.0 +0.1**
comp=Z,391nm,1.8s,comp=Z,34µmcomp=Z,129µm
KDU Kakadu 42.23 272 P **P** **22 00 23.1 -0.2**
baz=42,SNR=22
KDU Kakadu 42.23 272 P **P** **22 00 23.2 -0.2**
comp=Z,517nm,2.1s
KDU Kakadu 42.23 272 ⇑P **P** **22 00 22.8 -0.7**
SRPI Serui, Papua 42.59 289 P **P** **22 00 26.8 +0.4**
comp=Z,250nm,1.4s,comp=Z,20µmcomp=Z,76µm
MTN Manton Dam 43.45 272 P **P** **22 00 32.9 -0.4**
baz=43,SNR=42
MTN Manton Dam 43.45 272 P **P** **22 00 32.7 -0.6**
MTN Manton Dam 43.45 272 P **P** **22 00 32.8 -0.6**
MTN Manton Dam 43.45 272 ⇓P **P** **22 00 32.5 -0.9**
TAOE Nuku Hiva Isla 43.73 82 *e* P **P** **22 00 36.8 +1.1**
comp=Z,811nm,1.3s
TAOE *e* S **S** **22 07 05.0 -1.2**
comp=Z,105µm,27.5s
TAOE *e* LR LR 22 12 44.0
comp=Z,224µm,30.9s
TAOE Nuku Hiva Isla 43.73 82 P **P** **22 00 34.5 -1.2**
TAOE Nuku Hiva Isla 43.73 82 ⇓P **P** **22 00 38.9 +3.1**
WRKA Warakurna 44.28 254 P **P** **22 00 39.9 -0.1**
baz=44,SNR=217
WRKA Warakurna 44.28 254 ⇑P **P** **22 00 39.9 -0.1**
FORT Forrest 44.51 246 P **P** **22 00 41.9 +0.3**
baz=45,SNR=93
FORT Forrest 44.51 246 P **P** **22 00 41.5 -0.2**
FORT IAmb IAmb 22 00 45.0
comp=Z,1µm,1.1s
FORT Forrest 44.51 246 P **P** **22 00 42.1 +0.4**
FORT Forrest 44.51 246 ⇓P **P** **22 00 41.5 -0.2**
RKPI Ransiki, Papua 44.59 288 P **P** **22 00 42.7 +0.2**
comp=Z,748nm,2.7s,comp=Z,34µmcomp=Z,108µm
SAUI Saumlaki 44.72 278 P **P** **22 00 43.9 +0.3**
SAUI Saumlaki 44.72 278 P **P** **22 00 45.1 +1.5**
comp=Z,2µm,2.6s,comp=Z,64µmcomp=Z,152µm
GUMO Guam 44.89 315 P **P** **22 00 45.2 +0.4**
comp=Z,187nm,0.9s,baz=137,slow=4.3,SNR=4.7
GUMO LR LR 22 17 31.1
comp=Z,83µm,21.5s,baz=128,slow=34
comp=Z,187nm,0.9s
KNRA Kununurra 45.04 267 P **P** **22 00 45.7 -0.3**
baz=45,SNR=18
KNRA Kununurra 45.04 267 P **P** **22 00 45.8 -0.3**
KNRA IAmb IAmb 22 00 48.1
comp=Z,989nm,1.6s
KNRA Kununurra 45.04 267 P **P** **22 00 46.6 +0.5**
RKT Rikitea 45.70 104 *e* P **P** **22 00 53.8 +2.5**
comp=Z,307nm,1.4s
RKT *e* S **S** **22 07 34.1 -0.4**
comp=Z,10000µm,28.0s
RKT *e* SS **SS** **22 10 59.1 +0.4**
comp=Z,10000µm,29.5s
RKT *e* LR LR 22 13 39.4
comp=Z,10000µm,31.8s
FAKI Fak Fak 45.73 286 P **P** **22 00 50.0 -1.5**
FAKI IAmb IAmb 22 00 56.4
comp=Z,3µm,2.1s
FAKI Fak Fak 45.73 286 P **P** **22 00 50.6 -1.0**
FAKI Fak Fak 45.73 286 P **P** **22 00 50.8 -0.8**
comp=Z,406nm,1.6s,comp=Z,28µmcomp=Z,100µm
BNDI Bandanaira 47.25 282 P **P** **22 01 02.8 -0.7**
comp=Z,2µm,1.5s,comp=Z,56µmcomp=Z,92µm
SIJI Sorong 47.49 287 LR LR 22 20 59.8
comp=Z,37µm,19.1s,baz=110,slow=36
SWI Sorong 47.49 287 P **P** **22 01 04.6 -0.8**
comp=Z,545nm,1.6s,comp=Z,28µmcomp=Z,101µm
KHU Kahuku 47.51 38 P **P** **22 01 03.4 -2.2**
KHU Kahuku 47.51 38 P **P** **22 01 03.4 -2.2**
KHU pmax pmax
comp=Z,2µm,1.5s
FITZ Fitzroy Crossi 47.52 263 P **P** **22 01 05.8 +0.3**
FITZ Fitzroy Crossi 47.52 263 ⇓P **P** **22 01 06.0 +0.4**
KEKH Kekaha 47.57 31 P **P** **22 01 04.0 -1.7**
MWH Moku'aweowe 47.71 37 P **P** **22 01 06.2 -1.4**
MWH IAmb IAmb 22 01 13.7
comp=Z,1µm,1.3s
MIDW Midway 47.83 8 P **P** **22 01 06.4 -1.3**
MIDW IAmb IAmb 22 01 13.1
comp=Z,987nm,1.8s
MLH Mauna Loa 47.84 38 P **P** **22 01 06.9 -1.3**
MLH IAmb IAmb 22 01 17.4
comp=Z,1µm,1.3s
KIP Kipapa 47.96 33 P **P** **22 01 08.1 -0.7**
KIP IAmb IAmb 22 01 16.5
comp=Z,933nm,1.6s
KIP Kipapa 47.96 33 *i* P **P** **22 01 08.7 -0.1**
POHA Pohakuloa 47.96 37 ⇓P **P** **22 01 10.6 +1.5**
HPAH Hawaii Prepara 48.09 37 P **P** **22 01 09.4 -0.5**
OPA Opana 48.18 33 P **P** **22 01 09.5 -1.0**
OPA IAmb IAmb 22 01 16.9
comp=Z,1µm,1.4s
OPA Opana 48.18 33 P **P** **22 01 09.5 -1.0**
OPA pmax pmax
comp=Z,1µm,1.4s
HLK Haleakala 48.36 36 P **P** **22 01 11.5 -0.7**
MSAI Masohi 48.60 283 P **P** **22 01 12.9 -1.1**
comp=Z,21nm,0.9s,comp=Z,413nm
AAI Ambon 49.14 282 P **P** **22 01 18.3 +0.2**
comp=Z,672nm,1.4s,comp=Z,24µmcomp=Z,85µm
KMBL Kambalda 49.82 245 P **P** **22 01 22.8 -0.3**
baz=50,SNR=83
KMBL Kambalda 49.82 245 P **P** **22 01 23.4 +0.2**
PTCN Pitcairn Islan 49.98 107 P **P** **22 01 24.0 -0.4**
PTCN IAmb IAmb 22 01 39.4
comp=Z,651nm,1.4s
PTCN Pitcairn Islan 49.98 107 IAMs_20 IAMs_20 22 16 31.9
comp=Z,58µm,20.0s
NLAI Namlea 50.32 282 P **P** **22 01 27.1 0.0**
comp=Z,248nm,1.7s
SOEI Soe 50.77 273 P **P** **22 01 31.4 +0.8**
SOEI Soe 50.77 273 P **P** **22 01 32.1 +1.4**
SOEI Soe 50.77 273 P **P** **22 01 32.0 +1.4**
comp=Z,1µm,1.2s,comp=Z,34µmcomp=Z,98µm
BATI Baumata 51.21 272 LR LR 22 24 43.5
comp=Z,2.1µm,18.2s,baz=130,slow=38
TNTI Ternate 51.71 287 P **P** **22 01 37.7 +0.2**
TNTI Ternate 51.71 287 P **P** **22 01 37.7 +0.2**
comp=Z,228nm,2.2s,comp=Z,20µmcomp=Z,54µm
SANI Sanana 51.80 283 P **P** **22 01 38.7 +0.4**
SANI Sanana 51.80 283 P **P** **22 01 37.7 -0.6**
MBWA Marble Bar 52.52 258 P **P** **22 01 43.0 -0.5**
MBWA IAmb IAmb 22 01 46.8
comp=Z,1µm,1.2s
MBWA Marble Bar 52.52 258 P **P** **22 01 43.6 +0.1**
MBWA Marble Bar 52.52 258 ⇓P **P** **22 01 43.2 -0.3**
MBWA Marble Bar 52.52 258 P **P** **22 01 43.9 +0.3**
MEEK Meekatharra 52.88 251 P **P** **22 01 45.6 -0.6**
baz=53,SNR=44
MEEK Meekatharra 52.88 251 P **P** **22 01 46.2 0.0**
MMRI Maumere 53.02 274 P **P** **22 01 46.8 -0.5**
MMRI Maumere 53.02 274 P **P** **22 01 49.0 +1.7**
comp=Z,1µm,1.8s
MMRI Maumere 53.02 274 P **P** **22 01 47.1 -0.2**
comp=Z,1µm,1.7s,comp=Z,36µmcomp=Z,95µm
KLBR Kellerberrin 53.35 245 P **P** **22 01 49.3 -0.2**
baz=53,SNR=19
KLBR Kellerberrin 53.35 245 P **P** **22 01 49.1 -0.4**
NWAO Narrogin (SRO) 53.76 243 P **P** **22 01 52.4 -0.1**
comp=Z,419nm,1.1s
NWAO LR LR 22 24 03.9
comp=Z,50µm,20.7s,slow=35
comp=Z,419nm,1.1s
NWAO Narrogin (SRO) 53.76 243 P **P** **22 01 52.5 0.0**
baz=54,SNR=22
NWAO P **P** **22 01 52.5 0.0**
baz=54,SNR=22
NWAO Narrogin (SRO) 53.76 243 P **P** **22 01 52.1 -0.4**
NWAO IAmb IAmb 22 01 55.7
comp=Z,611nm,1.1s
NWAO Narrogin (SRO) 53.76 243 IAMs_20 IAMs_20 22 24 02.3
comp=Z,59µm,21.0s
NWAO Narrogin (SRO) 53.76 243 P **P** **22 01 52.7 +0.2**
NWAO Narrogin (SRO) 53.76 243 P **P** **22 01 52.8 +0.2**
RKGY Rocky Gully 53.96 241 P **P** **22 01 54.7 +0.7**
baz=54,SNR=24
BASI Baing, Sumba 54.12 271 P **P** **22 01 57.2 +1.8**
comp=Z,3µm,1.5s,comp=Z,42µmcomp=Z,79µm
BLDU Ballidu 54.28 246 P **P** **22 01 55.6 -0.8**
baz=54,SNR=24
BLDU Ballidu 54.28 246 P **P** **22 01 55.4 -1.0**
MUN Mundaring 54.65 244 P **P** **22 01 59.8 +0.8**
baz=55,SNR=51
MUN Mundaring 54.65 244 P **P** **22 02 00.3 +1.3**
MUN Mundaring 54.65 244 P **P** **22 01 59.1 +0.1**
MORW Morawa 54.96 248 P **P** **22 02 00.8 -0.4**
baz=55,SNR=73
MORW Morawa 54.96 248 P **P** **22 02 00.9 -0.4**
MORW IAmb IAmb 22 02 03.7
comp=Z,1µm,1.6s
MORW Morawa 54.96 248 P **P** **22 02 01.1 -0.2**
MORW Morawa 54.96 248 ⇓P **P** **22 02 00.7 -0.6**
LUWI Luwuk 55.16 283 P **P** **22 02 02.7 -0.2**
LUWI IAmb IAmb 22 02 08.8
comp=Z,1µm,1.5s
LUWI Luwuk 55.16 283 P **P** **22 02 03.2 +0.3**
comp=Z,454nm,1.2s,comp=Z,34µmcomp=Z,92µm
BSSI Bau Bau, Buton 55.45 276 P **P** **22 02 05.6 +0.6**
comp=Z,381nm,2.2s,comp=Z,27µmcomp=Z,89µm
BKSI Bulukumba 56.07 277 P **P** **22 02 09.5 0.0**
comp=Z,291nm,2.1s,comp=Z,19µmcomp=Z,79µm
DAV Davao City (W) 56.17 293 LR LR 22 24 06.3
comp=Z,13µm,21.3s,baz=120,slow=34
DAV Davao City (W) 56.17 293 P **P** **22 02 10.2 +0.1**
DAV IAmb IAmb 22 03 29.9
comp=Z,1µm,1.6s
APSI Ampana 56.24 282 P **P** **22 02 10.8 +0.1**

comp=Z,579nm,1.5s,comp=Z,26µmcomp=Z,88µm
BNSI Bone 56.40 278 P **P 22 02 11.6 -0.2**
comp=Z,328nm,2.2s,comp=Z,16µmcomp=Z,48µm
MRSI Marisa 56.52 284 P **P 22 02 11.1 -1.6**
comp=Z,169nm,1.2s,comp=Z,16µmcomp=Z,70µm
KAPI Kappang 56.52 277 P **P 22 02 12.6 -0.1**
KAPI IAmb IAmb 22 02 15.3
comp=Z,1µm,1.7s
KAPI Kappang 56.52 277*d i* P **P 22 02 11.4 -1.3**
KAPI pmax pmax
comp=Z,297nm,1.3s
KAPI Kappang 56.52 277 P **P 22 02 12.9 +0.2**
JCJ Chichijima 56.69 324 P **P 22 02 14.7 +1.1**
comp=Z,152nm,1.0s,baz=123,slow=1.8,SNR=4.2
JCJ LR LR 22 22 04.0
comp=Z,22µm,21.3s,baz=144,slow=31
comp=Z,152nm,1.0s
JCJ Chichijima 56.69 324 P **P 22 02 11.6 -2.0**
JCJ IAmb IAmb 22 02 28.5
comp=Z,582nm,1.3s
SPSI Sidrap Palu 56.86 278 P **P 22 02 13.7 -1.4**
comp=Z,178nm,1.1s,comp=Z,16µmcomp=Z,66µm
PLAI Plampang 57.16 272 P **P 22 02 17.4 +0.1**
PLAI Plampang 57.16 272 P **P 22 02 17.9 +0.6**
comp=Z,922nm,1.1s,comp=Z,28µmcomp=Z,86µm
GIRL Giralia 57.33 255 P **P 22 02 19.6 +1.3**
baz=57,SNR=10
GIRL Giralia 57.33 255 P **P 22 02 18.9 +0.6**
GIRL Giralia 57.33 255 P **P 22 02 19.7 +1.3**
GIRL Giralia 57.33 255 ⇑P **P 22 02 19.2 +0.9**
TOLI2 Tolitoli 57.83 284 P **P 22 02 20.4 -1.5**
TOLI2 IAmb IAmb 22 02 23.4
comp=Z,792nm,1.6s
TWSI Taliwang, Sumb 58.03 272 P **P 22 02 22.9 -0.5**
comp=Z,1µm,1.3s,comp=Z,30µmcomp=Z,80µm
MPSI Mapaga 58.34 283 P **P 22 02 24.6 -0.9**
comp=Z,257nm,1.5s,comp=Z,15µmcomp=Z,66µm
VNDA Vanda 58.51 184 P **P 22 02 26.0 +0.2**
comp=Z,8.7nm,0.8s,baz=356,slow=7.7,SNR=21
VNDA LR LR 22 24 36.2
comp=Z,15µm,18.1s,baz=24,slow=33
VNDA Vanda 58.51 184 P **P 22 02 26.3 +0.5**
SBA Scott Base 58.60 182 P **P 22 02 27.7 +1.3**
SBA IAmb IAmb 22 02 35.2
comp=Z,711nm,1.5s
SBA Scott Base 58.60 182 P **P 22 02 27.7 +1.3**
SBA pmax pmax
comp=Z,711nm,1.5s
DNP Denpasar 59.63 271 P **P 22 02 34.7 +0.2**
comp=Z,2µm,0.9s,comp=Z,43µmcomp=Z,88µm
SRBI Singaraja 59.80 272 P **P 22 02 35.8 +0.1**
comp=Z,661nm,1.8s,comp=Z,28µmcomp=Z,79µm
BKB Balikpapan 60.51 280 P **P 22 02 41.0 +0.4**
BKB IAmb IAmb 22 02 48.0
comp=Z,1µm,2.1s
BKB Balikpapan 60.51 280 P **P 22 02 41.0 +0.4**
comp=Z,225nm,1.6s,comp=Z,29µmcomp=Z,117µm
JAGI Jajag, Banyuwa 60.69 271 P **P 22 02 40.6 -1.2**
JAGI IAmb IAmb 22 02 43.8
comp=Z,1µm,1.6s
JAGI Jajag, Banyuwa 60.69 271 P **P 22 02 40.9 -0.9**
comp=Z,412nm,1.4s,comp=Z,20µmcomp=Z,69µm
ABJI Asem Bagus 60.82 272 P **P 22 02 42.1 -0.5**
comp=Z,720nm,1.5s,comp=Z,27µmcomp=Z,83µm
GMJI Gumukmas 61.42 271 P **P 22 02 45.5 -1.2**
comp=Z,389nm,0.7s,comp=Z,15µmcomp=Z,66µm
BLJI Banyuglugur 61.43 272 P **P 22 02 46.3 -0.5**
comp=Z,480nm,1.6s,comp=Z,20µmcomp=Z,71µm
MYLDM Lahad Datu 61.58 287 P **P 22 02 48.0 +0.1**
MYLDM Lahad Datu 61.58 287 ⇓P **P 22 02 48.7 +0.9**
BBKI Banjar Baru 61.65 277 P **P 22 02 48.3 0.0**
comp=Z,696nm,1.7s,comp=Z,29µmcomp=Z,71µm
MTKI Muara Teweh, K 62.48 279 P **P 22 02 53.6 -0.3**
comp=Z,186nm,2.7s,comp=Z,16µmcomp=Z,64µm
CASY Casey 62.51 205 P **P 22 02 52.5 -0.7**
CASY IAmb IAmb 22 02 55.5
comp=Z,476nm,1.4s
CASY Casey 62.51 205 ⇓P **P 22 02 52.6 -0.6**
JHJ Hachijo jima 2 62.67 326 LR LR 22 25 40.3
comp=Z,29µm,21.8s,baz=152,slow=32
GRJI Gresik 62.74 272 P **P 22 02 56.5 +0.9**
comp=Z,419nm,2.2s,comp=Z,17µmcomp=Z,41µm
PWJI Pagerwojo 63.04 271 P **P 22 02 56.8 -0.8**
comp=Z,222nm,1.8s,comp=Z,17µmcomp=Z,70µm
SPMM Sapulut 63.23 286 P **P 22 02 59.0 +0.1**
TBJI Tambak Boyo 63.37 272 P **P 22 03 00.6 +0.8**
comp=Z,980nm,1.5s,comp=Z,33µmcomp=Z,66µm
NGJI Ngawi 63.56 271 P **P 22 03 03.1 +2.0**
comp=Z,533nm,2.1s,comp=Z,38µmcomp=Z,107µm
KKM Kota Kinabalu 64.01 287 P **P 22 03 03.1 -1.0**
KKM Kota Kinabalu 64.01 287 P **P 22 03 04.9 +0.8**
comp=Z,447nm,1.5s
UGM Wanagama 64.28 270 P **P 22 03 05.4 -0.4**
UGM IAmb IAmb 22 03 10.6
comp=Z,506nm,1.0s
UGM Wanagama 64.28 270 P **P 22 03 07.3 +1.4**
UGM Wanagama 64.28 270 P **P 22 03 05.6 -0.3**
comp=Z,562nm,1.0s,comp=Z,18µmcomp=Z,76µm
UWJI Ujung Watu 64.34 272 P **P 22 03 06.0 -0.2**
comp=Z,512nm,1.8s,comp=Z,17µm
SMRI Semarang 64.62 271 P **P 22 03 08.2 +0.1**
SMRI Semarang 64.62 271 P **P 22 03 08.9 +0.8**
comp=Z,412nm,1.2s,comp=Z,29µmcomp=Z,92µm
JOD2 Odawara 2 64.70 327 P **P 22 03 07.7 -0.4**
JSG Sagara 64.71 326 P **P 22 03 08.2 +0.1**
JSG Sagara 64.71 326 P **P 22 03 09.5 +1.4**
JSG Sagara 64.71 326 ⇓P **P 22 03 08.9 +0.8**
PBKI Pangkalan Bun 64.88 276 P **P 22 03 10.3 +0.6**
comp=Z,426nm,1.0s,comp=Z,16µm
JYT Yasato 64.90 329 P **P 22 03 10.2 +0.9**
JOW Kunigami 65.23 313 LR LR 22 29 12.3
comp=Z,27µm,20.8s,baz=134,slow=34
JOW Kunigami 65.23 313 P **P 22 03 11.4 -0.3**
JOW IAmb IAmb 22 03 13.9
comp=Z,675nm,1.4s
JOW Kunigami 65.23 313 P **P 22 03 12.7 +1.0**
JOW Kunigami 65.23 313 P **P 22 03 12.6 +0.9**
JOW Kunigami 65.23 313 ⇓P **P 22 03 12.1 +0.4**
JIE Ise 65.29 325 P **P 22 03 12.6 +0.7**
JAM Amami Oshima 65.36 315 P **P 22 03 13.5 +1.0**
JRY Ryogami san 65.38 327 P **P 22 03 12.5 0.0**
INU Inuyama 65.84 326 P **P 22 03 14.7 -0.8**
INU Inuyama 65.84 326 P **P 22 03 16.4 +0.9**
INU Inuyama 65.84 326 ⇓P **P 22 03 15.4 -0.1**
JGF Kuroka 65.85 326 P **P 22 03 15.2 -0.4**
JGF Kuroka 65.85 326 P **P 22 03 15.3 -0.3**
JGF Kuroka 65.85 326 P **P 22 03 15.7 +0.1**
JGF Kuroka 65.85 326 ⇓P **P 22 03 15.3 -0.3**
JMM Marumori 65.91 330 P **P 22 03 15.4 -0.5**
JMM IAmb IAmb 22 03 17.5
comp=Z,485nm,1.4s
JMM Marumori 65.91 330 P **P 22 03 16.5 +0.6**
JMM Marumori 65.91 330 ⇓P **P 22 03 15.7 -0.2**
KPJI Karang Pucung 65.96 271 P **P 22 03 16.5 -0.2**
comp=Z,429nm,1.5s,comp=Z,23µmcomp=Z,85µm
MJAR Matsushiro Arr 66.14 327 P **P 22 03 16.8 -0.6**
comp=Z,253nm,1.0s,baz=158,slow=6.1,SNR=172
comp=Z,253nm,1.0s
MAJO Matsushiro 66.14 327 P **P 22 03 16.8 -0.6**
MAJO Matsushiro 66.14 327 P **P 22 03 17.7 +0.3**
MAJO Matsushiro 66.14 327 ⇓P **P 22 03 17.0 -0.4**
MAJO Matsushiro 66.14 327*d i* P **P 22 03 16.4 -1.0**
MAJO pmax pmax
comp=Z,547nm,1.2s
MAT Matsushiro 66.14 327 P **P 22 03 17.0 -0.4**
MJB9 Matsu-Tunnel 66.14 327 P **P 22 03 17.5 +0.1**
SBUM Sibu 66.22 282 P **P 22 03 18.2 -0.2**
SBUM Sibu 66.22 282 ⇓P **P 22 03 18.4 -0.1**
SBUM Sibu 66.22 282 P **P 22 03 19.0 +0.6**
CMJI Cimerak 66.28 270 P **P 22 03 17.9 -0.9**
comp=Z,407nm,1.2s,comp=Z,17µmcomp=Z,57µm
JGN Niukaw 66.35 327 P **P 22 03 18.8 0.0**
JMN Monobe 66.38 322 P **P 22 03 19.4 +0.4**
JMN Monobe 66.38 322 P **P 22 03 19.8 +0.8**
JMN Monobe 66.38 322 P **P 22 03 20.5 +1.4**
JMN Monobe 66.38 322 ⇓P **P 22 03 19.6 +0.5**
JWT Wachi 66.66 325 P **P 22 03 21.2 +0.4**
JCJI Jatiwangi 66.84 271 P **P 22 03 21.7 -0.7**
comp=Z,1µm,1.6s,comp=Z,27µmcomp=Z,63µm
JSU Suzuyama 66.88 319 P **P 22 03 21.8 -0.4**
JSU IAmb IAmb 22 03 24.0
comp=Z,580nm,1.3s
JSU Suzuyama 66.88 319 P **P 22 03 23.4 +1.2**
JSU Suzuyama 66.88 319 ⇓P **P 22 03 22.0 -0.2**
JOM Ohasama 66.98 331 P **P 22 03 22.3 -0.4**

JYA Atsumi 67.00 330 P **P 22 03 23.5 +0.6**
JAD Aida 67.09 324 P **P 22 03 24.0 +0.5**
BBJI Bungbulang 67.13 270 P **P 22 03 25.1 +0.8**
JSD Sado 67.27 328 P **P 22 03 24.4 -0.1**
JSD IAmb IAmb 22 03 27.1
comp=Z,335nm,1.0s
JSD Sado 67.27 328 P **P 22 03 26.5 +1.9**
JSD Sado 67.27 328 ⇑P **P 22 03 24.6 +0.1**
LEM Lembang 67.36 271 LR LR 22 32 52.4
comp=Z,19µm,20.3s,baz=106,slow=36
LEM Lembang 67.36 271 P **P 22 03 26.5 +0.6**
comp=Z,646nm,1.2s,comp=Z,24µm
YOJ Yonaguni jima 67.56 308 P **P 22 03 26.0 -0.6**
YOJ IAmb IAmb 22 03 28.6
comp=Z,773nm,1.3s
YOJ Yonaguni jima 67.56 308 ⇓P **P 22 03 26.4 -0.2**
YOJ Yonaguni jima 67.56 308 P **P 22 03 26.0 -0.6**
YOJ pmax pmax
comp=Z,773nm,1.3s
KSM Kuching 67.63 280 P **P 22 03 26.7 -0.7**
KSM Kuching 67.63 280 P **P 22 03 27.6 +0.2**
KSM Kuching 67.63 280 ⇓P **P 22 03 26.8 -0.6**
CNJI Cibinong 67.67 270 P **P 22 03 27.1 -0.5**
comp=Z,201nm,1.6s,comp=Z,8µmcomp=Z,24µm
JNU Nakatsue 67.72 320 P **P 22 03 27.9 +0.3**
comp=Z,178nm,1.0s,baz=112,slow=4.4,SNR=46
JNU LR LR 22 29 09.7
comp=Z,17µm,21.7s,baz=116,slow=32
comp=Z,178nm,1.0s
JNU Nakatsue 67.72 320 P **P 22 03 26.9 -0.7**
JNU IAmb IAmb 22 03 34.4
comp=Z,871nm,1.5s
JNU Nakatsue 67.72 320 P **P 22 03 27.9 +0.3**
JNU Nakatsue 67.72 320 P **P 22 03 27.4 -0.2**
JNU Nakatsue 67.72 320 ⇑P **P 22 03 26.6 -0.9**
JHS Saijyo 67.73 323 P **P 22 03 26.9 -0.7**
JHS Saijyo 67.73 323 P **P 22 03 28.4 +0.8**
comp=Z,622nm,2.1s
JHS Saijyo 67.73 323 P **P 22 03 28.4 +0.8**
JHS Saijyo 67.73 323 ⇓P **P 22 03 27.4 -0.1**
TWG Pinlang 68.09 306 P **P 22 03 28.6 -1.5**
TWG IAMs_20 IAMs_20 22 29 08.3
comp=Z,36µm,20.0s
XMI Christmas Isla 68.09 266 ⇑P **P 22 03 30.8 +0.4**
JTM Tenmabayashi 68.15 332 P **P 22 03 29.4 -0.7**
JTM IAmb IAmb 22 03 32.6
comp=Z,2µm,2.3s
JTM Tenmabayashi 68.15 332 P **P 22 03 30.5 +0.5**
JTM Tenmabayashi 68.15 332 P **P 22 03 30.3 +0.3**
JTM Tenmabayashi 68.15 332 ⇓P **P 22 03 29.5 -0.5**
RPN Rapa Nui 68.17 112 LR LR 22 29 04.0
comp=Z,18µm,18.5s,baz=254,slow=32
RPN Rapa Nui 68.17 112 ⇓P **P 22 03 33.0 +2.4**
CBJI Citeko 68.21 271 P **P 22 03 30.1 -0.9**
comp=Z,1µm,1.2s,comp=Z,22µmcomp=Z,62µm
YULB Yu-li 68.24 306 P **P 22 03 29.6 -1.4**
YULB IAMs_20 IAMs_20 22 29 42.3
comp=Z,44µm,20.0s
YULB Yu-li 68.24 306 P **P 22 03 31.5 +0.5**
ERM Erimo 68.27 334 P **P 22 03 30.2 -0.6**
ERM Erimo 68.27 334 P **P 22 03 32.6 +1.9**
ERM Erimo 68.27 334*d i* P **P 22 03 29.8 -0.9**
ERM pmax pmax
comp=Z,139nm,1.3s
SKJI Sukabumi 68.30 270 P **P 22 03 30.6 -1.0**
comp=Z,435nm,1.0s,comp=Z,3µm
NACB Ninganchiao 68.45 307 P **P 22 03 31.2 -1.1**
NACB IAmb IAmb 22 03 33.9
comp=Z,938nm,1.4s
NACB IAMs_20 IAMs_20 22 27 38.9
comp=Z,47µm,22.0s
NACB Ninganchiao 68.45 307 P **P 22 03 32.1 -0.2**
TNG Tangerang 68.48 271 P **P 22 03 30.9 -1.8**
comp=Z,1µm,1.3s,comp=Z,22µm
TNG P **P** 22 03 32.4 -0.3
JOT Ohata 68.64 332 P **P 22 03 34.4 +1.4**
TPUB Ta-pu 68.70 306 P **P 22 03 32.3 -1.6**
TPUB IAmb IAmb 22 03 45.1
comp=Z,303nm,0.9s
TPUB IAMs_20 IAMs_20 22 27 39.5
comp=Z,41µm,20.0s
TPUB Ta-pu 68.70 306 P **P 22 03 32.6 -1.3**
SSLB Suanglung 68.72 306 P **P 22 03 32.3 -1.7**
SSLB Suanglung 68.72 306 P **P 22 03 34.6 +0.6**
JFU Fukue jima 2 68.72 318 P **P 22 03 34.5 +0.7**
YHNB Yeheng 68.89 307 P **P 22 03 35.1 -0.1**
YUK Yuzh-Kuril'sk 68.94 337 *e*P **P 22 03 35.2 +0.4**
YUK *e* 22 03 59.7
YUK *e* 22 06 07.0
YUK *e*PPP PPP 22 07 46.3
YUK *e*S **S 22 12 39.5 +0.4**
YUK *e* 22 13 35.6
YUK *e*SS **SS 22 17 05.6 +0.5**
YUK pmax pmax
comp=Z,2µm,5.1s
YUK pmax pmax
comp=Z,298nm,1.4s
YUK pmax pmax
comp=E,200nm,1.5s
YUK pmax pmax
comp=N,233nm,1.6s
SBJI Serang 68.98 271 P **P 22 03 35.6 -0.3**
comp=N,985nm,1.8s,comp=N,19µm
TATO Taipei 68.98 308 P **P 22 03 34.5 -1.1**
TATO IAmb IAmb 22 03 37.3
comp=Z,762nm,1.4s
TATO Taipei 68.98 308 P **P 22 03 35.5 -0.1**
CGJI Cibinong 69.24 270 P **P 22 03 37.2 -0.3**
comp=Z,642nm,1.5s,comp=Z,17µmcomp=Z,47µm
KUR Kuril'sk 69.28 339 *e*P **P 22 03 36.7 -0.2**
KUR *e* 22 03 58.4
KUR 22 06 08.7
KUR *e*PPP PPP 22 07 50.1
KUR *e*S **S 22 12 43.1 +0.1**
KUR *e*SS **SS 22 17 14.8 +4.4**
KUR pmax pmax
comp=Z,660nm,1.4s
KUR pmax pmax
comp=N,126nm,1.1s
KUR pmax pmax
comp=E,126nm,1.2s
KUR pmax pmax
comp=Z,30µm,13.3s
JTU Tsushima 69.58 320 P **P 22 03 38.2 -0.8**
JTU Tsushima 69.58 320 P **P 22 03 39.2 +0.1**
JEW Eniwo 69.66 334 P **P 22 03 39.3 -0.1**
JMP Maruseppu 69.86 336 P **P 22 03 41.4 +0.8**
BLSI Bandar Lampung 70.05 271 P **P 22 03 41.4 -1.1**
comp=Z,408nm,1.4s,comp=Z,12µmcomp=Z,42µm
JSH Shimam 70.10 333 P **P 22 03 42.4 +0.3**
JKA Kamikawa-asahi 70.25 335 P **P 22 03 43.0 +0.1**
JKA Kamikawa-asahi 70.25 335 ⇓sP **P 22 03 43.8 +0.8**
ASAJ Asahikawa 70.25 335 P **P 22 03 43.6 +0.6**
comp=Z,111nm,1.1s,baz=160,slow=6.1,SNR=52
ASAJ LR LR 22 29 03.3
comp=Z,84µm,21.6s,baz=158,slow=31
comp=Z,111nm,1.1s
ASAJ Asahikawa 70.25 335 P **P 22 03 43.9 +0.9**
ASAJ Asahikawa 70.25 335 P **P 22 03 43.0 0.0**
ASAJ pmax pmax
comp=Z,2µm,2.1s
PPBI Pangkal Pinang 70.26 275 P **P 22 03 44.1 +0.3**
comp=Z,392nm,1.7s,comp=Z,17µmcomp=Z,65µm
KLI Kotabumi 70.58 272 P **P 22 03 45.4 -0.3**
comp=Z,272nm,0.8s,comp=Z,13µmcomp=Z,45µm
AMKA Amchitka 70.59 2 P **P 22 03 43.7 -1.2**
QSPA South Pole Qui 70.60 180 P **P 22 03 45.3 +0.2**
comp=Z,107nm,0.8s,baz=30,slow=2.0,SNR=171
comp=Z,107nm,0.8s
QSPA South Pole Qui 70.60 180 P **P 22 03 44.9 -0.2**
QSPA IAmb IAmb 22 03 52.6
comp=Z,491nm,1.2s
KASI Kota Agung 70.71 271 P **P 22 03 44.9 -1.6**
comp=Z,465nm,1.1s,comp=Z,17µmcomp=Z,48µm
KNMB Chin-men Tao 71.05 306 P **P 22 03 47.7 -0.6**
KNMB IAmb IAmb 22 03 55.2
comp=Z,1µm,2.2s
KNMB IAMs_20 IAMs_20 22 28 58.8
comp=Z,28µm,21.0s
QZH Quanzhou 71.15 306 ⇓*i* P **P 22 03 49.6 +0.7**
QZH S **S 22 13 07.5 +1.7**
QZH pmax pmax
comp=Z,230nm,2.1s
QZH pmax pmax
comp=Z,15µm,6.6s
QZH LR LR
comp=Z,15µm,19.4s
QZH LR LR
comp=Z,22µm,20.2s
QZH LR LR
comp=Z,26µm,19.7s
KIWB Kanaga Island 71.26 5 P **P 22 03 48.7 -0.3**
LWLI Liwa 71.28 271 P **P 22 03 49.5 -0.6**
comp=Z,879nm,1.4s,comp=Z,18µmcomp=Z,50µm
PMBI Palembang 71.29 274 P **P 22 03 50.5 +0.4**
PMBI Palembang 71.29 274 P **P 22 03 50.9 +0.9**
comp=Z,846nm,1.5s,comp=Z,22µmcomp=Z,57µm
ADK Adak 71.33 5 P **P 22 03 48.2 -1.2**
ADK Adak 71.33 5 IAMs_20 IAMs_20 22 26 41.8
comp=Z,32µm,22.0s
ADK Adak 71.33 5 P **P 22 03 48.9 -0.5**
ADK Adak 71.33 5 ⇓P **P 22 03 48.5 -0.8**
ADK Adak 71.33 5 P **P 22 03 48.2 -1.2**
ADK pmax pmax
comp=Z,306nm,1.1s
ADK MLR MLR
comp=Z,32µm,22.0s
MDSI Maura Dua 71.34 272 P **P 22 03 49.4 -0.9**
comp=Z,313nm,1.4s,comp=Z,13µmcomp=Z,48µm
GSTR Great Sitkin T 71.59 5 P **P 22 03 50.9 -0.1**
SHEM Shemya Is, Ala 71.90 359 P **P 22 03 51.7 -1.1**
comp=Z,194nm,1.0s,baz=8.6,slow=2.2,SNR=4.3
SHEM LR LR 22 28 27.3
comp=Z,37µm,22.0s,baz=188,slow=30
comp=Z,194nm,1.0s
SKR Severo-Kuril's 71.99 347 *e*P **P 22 03 48.6 -4.8**
SKR *e*PPP PPP 22 08 14.8
SKR *e*S **S 22 13 10.6 -3.9**
SKR *e*SS **SS 22 17 50.4 -1.5**
SKR pmax pmax
comp=Z,159nm,1.4s
SKR pmax pmax
comp=Z,8µm,9.5s
SKR smax smax
comp=N,9µm,18.9s
SKR smax smax
comp=E,16µm,16.7s
SKR MLR MLR
comp=Z,17µm,16.0s
TJN Taejon 72.05 320 P **P 22 03 54.2 +0.1**
TJN Taejon 72.05 320*d i* P **P 22 03 53.8 -0.3**
DSRI Dabo 72.30 276 P **P 22 03 56.9 +0.8**
comp=Z,509nm,1.6s,comp=Z,16µmcomp=Z,59µm
KSRS Korea Array 72.44 322 P **P 22 03 56.8 +0.4**
comp=Z,48nm,1.1s,baz=141,slow=5.8,SNR=73
KSRS LR LR 22 28 50.3
comp=Z,15µm,21.6s,baz=125,slow=30
comp=Z,48nm,1.1s
KSAR Wonju Array Be 72.46 322 P **P 22 03 56.3 -0.2**
KSAR Wonju Array Be 72.46 322 P **P 22 03 56.3 -0.2**
KS19 Wonju Array Si 72.51 322 P **P 22 03 56.3 -0.5**
KS19 IAmb IAmb 22 04 04.1
comp=Z,1µm,2.0s
MNAI Manna 72.53 272 P **P 22 03 56.5 -1.0**
MNAI Manna 72.53 272 P **P 22 03 57.5 0.0**
comp=Z,1µm,1.6s,comp=Z,22µmcomp=Z,48µm
YSS Yuzh-Sakhalins 72.57 337 P **P 22 03 57.1 +0.2**
YSS IAmb IAmb 22 04 00.4
comp=Z,485nm,1.1s
YSS Yuzh-Sakhalins 72.57 337 ⇓P **P 22 03 57.8 +0.9**
YSS Yuzh-Sakhalins 72.57 337κ *i* P **P 22 03 57.8 +0.9**
YSS *e* 22 06 37.0
YSS *e*PPP PPP 22 08 25.6
YSS *i* S **S 22 13 21.5 +0.3**
YSS pmax pmax
comp=Z,350nm,1.0s
YSS pmax pmax
comp=Z,21µm,6.9s
YSS smax smax
comp=E,8µm,11.0s
YSS MLR MLR
comp=Z,17µm,16.0s
SSE Sheshan 72.74 313 P **P 22 03 59.2 +0.9**
SSE S **S 22 13 28.0 +4.2**
SSE pmax pmax
comp=Z,8µm,8.9s
SSE LR LR
comp=Z,4µm,19.8s
SSE LR LR
comp=Z,6µm,19.2s
JMBI JAMBI 72.78 274 P **P 22 04 00.9 +1.9**
comp=Z,610nm,1.5s,comp=Z,16µm
TPRI Tanjung Pinang 72.83 277 P **P 22 03 59.7 +0.4**
comp=Z,397nm,1.6s,comp=Z,16µmcomp=Z,59µm
CLES Cleveland East 73.02 9 P **P 22 03 59.5 0.0**
CLES IAmb IAmb 22 04 09.9
comp=Z,2µm,1.6s
KSI Kapahiang 73.11 272 P **P 22 04 00.6 -0.4**
INCN Inchon 73.23 321 P **P 22 04 00.9 -0.2**
INCN Inchon 73.23 321 P **P 22 04 00.9 -0.2**
INCN MLR MLR
comp=Z,24µm,22.0s
HKC Hong Kong Obse 73.25 302 ⇑P **P 22 04 03.0 +1.5**
HKPS Hong Kong Po S 73.26 302 P **P 22 04 01.7 +0.1**
HKPS IAmb IAmb 22 04 04.6
comp=Z,587nm,1.4s
NIKH Nikolski High 73.32 10 P **P 22 04 00.3 -1.0**
NIKH Nikolski High 73.32 10 P **P 22 03 59.3 -2.0**
baz=195
NIKH Nikolski High 73.32 10 P **P 22 04 00.7 -0.6**
TEY Ternei 73.51 332 ⇓*i* P **P 22 04 03.9 +1.4**
TEY pmax pmax
comp=Z,60nm,1.8s
TEY pmax pmax
comp=E,30nm,1.5s
TEY pmax pmax
comp=Z,1µm,9.5s
MASI Maura Aman, Be 73.61 272 P **P 22 04 03.3 -0.6**
comp=Z,354nm,1.5s,comp=Z,9µmcomp=Z,17µm
MCO Taipa Grande 73.65 301 P **P 22 04 04.0 +0.1**
PET Petropavlovsk 73.72 349 P **P 22 04 02.5 -1.1**
PET IAmb IAmb 22 04 05.9
comp=Z,1µm,2.2s
PET Petropavlovsk 73.72 349κ *i* P **P 22 04 03.0 -0.6**
PET *e* 22 04 18.1
PET *e* 22 06 43.8
PET *e*S **S 22 13 35.2 +1.1**
PET *e*PS PnS 22 14 22.3 +15
PET pmax pmax
comp=Z,23µm,12.4s
PET pmax pmax
comp=Z,18µm,12.9s
PET smax smax
comp=E,20µm,21.7s
MYKOM Kota Tinggi 73.77 278 P **P 22 04 04.7 -0.1**
MYKOM IAmb IAmb 22 04 07.2
comp=Z,768nm,1.8s
MYKOM IAMs_20 IAMs_20 22 28 45.3
comp=Z,30µm,22.0s
PETK Petropavlovsk- 73.98 349 P **P 22 04 04.5 -0.6**
comp=Z,86nm,0.9s,baz=112,slow=6.7,SNR=74
PETK PKiKP **PKiKP 22 10 00.6 +0.4**
comp=Z,2.2nm,0.8s,baz=203,slow=7.0,SNR=2.5
PETK LR LR 22 31 17.5
comp=Z,21µm,21.2s,baz=161,slow=32
comp=Z,86nm,0.9s
HJU Haeju 74.14 321 P **P 22 04 06.2 -0.1**
HJU S **SKiKP 22 13 36.4 +2.0**
HJU AmB
comp=Z,23µm,5.0s
HJU AMS AMS
comp=Z,41µm,23.3s
HHU Hamhung 74.35 323 P **P 22 04 07.1 -0.4**
HHU AMS AMS
comp=Z,53µm,29.8s
UNV Unalaska Valle 74.55 11 P **P 22 04 07.0 -1.4**
UNV Unalaska Valle 74.55 11 P **P 22 04 07.0 -1.4**
baz=197,SNR=5.7
UGL Uglegorsk 74.60 338 *e*P **P 22 04 09.2 +0.4**
UGL *e*S **S 22 13 50.2 +6.1**
UGL *e*SS **SS 22 18 29.0 -2.8**
UGL pmax pmax
comp=Z,200nm,1.3s
UGL pmax pmax
comp=Z,22µm,10.0s
UGL smax smax
comp=E,19µm,12.0s
UGL MLR MLR
comp=E,14µm,16.0s
PYAG Pyongyang 74.78 322 P **P 22 04 10.1 0.0**
PYAG S **S 22 13 45.2 -1.4**

PYAG AmB
comp=Z,22µm,5.4s
PYAG AMS AMS
comp=Z,72µm,36.4s
NJ2 Nanjing 74.91 312 ⇓P **P** **22 04 11.1 +0.1**
NJ2 pP **sP** **22 04 16.0 +1.0**
NJ2 PcP **PcP** **22 04 24.4 -0.5**
NJ2 PP **PP** **22 06 55.5 -3.4**
NJ2 S **S** **22 13 52.5 +4.2**
NJ2 sS **sS** **22 13 56.0 +2.7**
NJ2 SS **SS** **22 18 35.4 -1.8**
NJ2 pmax pmax
comp=Z,220nm,1.2s
NJ2 pmax pmax
comp=Z,27µm,9.9s
NJ2 LR LR
comp=Z,18µm,19.0s
NJ2 LR LR
comp=Z,33µm,19.9s
NJ2 LR LR
comp=Z,68µm,24.6s
AKUT Akutan 74.96 11 P **P** **22 04 10.2 -0.6**
AKUT IAmb IAmb 22 04 35.4
comp=Z,1µm,1.9s
USA0B Ussuriysk Arra 75.03 329 P **P** **22 04 11.2 -0.2**
USA0B IAmb IAmb 22 04 27.9
comp=Z,1µm,1.9s
USA0B Ussuriysk Arra 75.03 329*d i*P **P** **22 04 11.2 -0.2**
USRK Ussuriysk Ar. 75.03 329 P **P** **22 04 11.7 +0.3**
comp=Z,80nm,1.0s,baz=122,slow=4.4,SNR=78
USRK LR LR 22 32 00.1
comp=Z,23µm,21.8s,baz=127,slow=32
comp=Z,80nm,1.0s
USRK Ussuriysk Ar. 75.03 329 P **P** **22 04 11.1 -0.3**
USRK Ussuriysk Ar. 75.03 329 P **P** **22 04 11.1 -0.3**
SDSI Sungai Dareh 75.10 274 P **P** **22 04 11.3 -1.3**
comp=Z,173nm,2.0s,comp=Z,11µmcomp=Z,56µm
QIZ Qiongzhong 75.28 297 P **P** **22 04 14.0 +0.5**
QIZ IAmb IAmb 22 04 20.8
comp=Z,2µm,2.7s
QIZ Qiongzhong 75.28 297 ⇓*i*P **P** **22 04 13.9 +0.5**
QIZ PP **PP** **22 07 03.0 +0.7**
QIZ S **S** **22 13 56.0 +3.1**
QIZ SS **SS** **22 18 46.2 +3.0**
QIZ pmax pmax
comp=Z,99nm,1.9s
QIZ pmax pmax
comp=Z,17µm,10.2s
QIZ LR LR
comp=Z,21µm,25.7s
QIZ LR LR
comp=Z,23µm,29.0s
QIZ LR LR
comp=Z,70µm,33.3s
PPSI Pulau Pagai 75.83 272 P **P** **22 04 14.2 -2.6**
comp=Z,700nm,1.6s,comp=Z,19µmcomp=Z,59µm
BKNI Bangkinang 75.89 275 P **P** **22 04 17.0 -0.1**
BKNI Bangkinang 75.89 275 P **P** **22 04 16.7 -0.4**
comp=Z,887nm,1.5s,comp=Z,22µmcomp=Z,68µm
COCO West Island 75.90 262 P **P** **22 04 17.5 +0.4**
COCO IAMs_20 IAMs_20 22 35 18.6
comp=Z,35µm,22.0s
COCO West Island 75.90 262 P **P** **22 04 17.5 +0.4**
COCO pmax pmax
comp=Z,2µm,1.8s
COCO MLR MLR
comp=Z,35µm,22.0s
TYV Tymovskoe 75.90 339 *e*P **P** **22 04 16.9 +0.6**
TYV *e*S **S** **22 14 03.0 +4.5**
TYV pmax pmax
comp=Z,242nm,1.4s
TYV pmax pmax
comp=Z,19µm,7.6s
TYV smax smax
comp=N,10µm,9.5s
PDSI Padang 76.02 274 P **P** **22 04 15.9 -2.0**
comp=N,101nm,1.5s,comp=N,9µmcomp=N,42µm
FALS False Pass 76.09 12 P **P** **22 04 15.1 -2.1**
baz=200
SUJ Sinuiju 76.20 322 P **P** **22 04 18.3 +0.1**
SUJ S **S** **22 14 02.5 +0.1**
SUJ AmB
comp=Z,27µm,5.4s
SUJ AMS AMS
comp=Z,68µm,24.9s
MDJ Mudanjiang 76.51 328 P **P** **22 04 19.9 0.0**
MDJ Mudanjiang 76.51 328 P **P** **22 04 21.4 +1.5**
MDJ pP pwP 22 04 27.2 +0.5
MDJ S **S** **22 14 12.5 +6.9**
MDJ sS SKSac 22 14 23.0 -8.3
MDJ pmax pmax
comp=Z,29µm,9.0s
MDJ LR LR
comp=Z,25µm,19.6s
MDJ LR LR
comp=Z,32µm,18.1s
MDJ LR LR
comp=Z,27µm,21.4s
CNSH ChangSha 77.16 306 ⇓P **P** **22 04 24.7 +0.8**
CNSH S **S** **22 14 15.6 +2.3**
CNSH pmax pmax
comp=Z,17µm,9.1s
CNSH LR LR
comp=Z,15µm,26.1s
CNSH LR LR
comp=Z,24µm,26.7s
CNSH LR LR
comp=Z,53µm,25.4s
S12K Black Hills 77.16 13 P **P** **22 04 21.0 -2.3**
baz=201,SNR=6.5
DL2 Dalian 77.16 319 P **P** **22 04 24.9 +1.2**
DL2 S **S** **22 14 18.7 +5.8**
DL2 pmax pmax
comp=Z,220nm,2.3s
DL2 pmax pmax
comp=Z,20µm,10.8s
DL2 LR LR
comp=Z,17µm,21.4s
DL2 LR LR
comp=Z,10µm,21.2s
DL2 LR LR
comp=Z,34µm,28.7s
SDPT Sand Point 77.17 14 P **P** **22 04 21.9 -1.4**
SDPT Sand Point 77.17 14 P **P** **22 04 22.0 -1.4**
baz=203,SNR=7.5
SPIA Saint Paul Isl 77.21 8 P **P** **22 04 22.7 -0.9**
SPIA Saint Paul Isl 77.21 8 P **P** **22 04 23.0 -0.5**
baz=193
WHN Wuhan 77.31 309 ⇓P **P** **22 04 24.4 -0.3**
WHN S **S** **22 14 11.2 -3.6**
WHN pmax pmax
comp=Z,2µm,1.8s
WHN LR LR
comp=Z,109µm,22.9s
WHN LR LR
comp=Z,146µm,20.5s
WHN LR LR
comp=Z,383µm,25.0s
IPM Ipoh 77.35 279 P **P** **22 04 24.3 -1.1**
IPM IAmb IAmb 22 04 27.4
comp=Z,1µm,1.7s
IPM Ipoh 77.35 279 P **P** **22 04 24.9 -0.5**
MNSI Mandailing Nat 77.42 275 P **P** **22 04 25.0 -0.8**
comp=Z,231nm,1.8s,comp=Z,11µmcomp=Z,44µm
UBPT Khong Chiam 77.44 291 P **P** **22 04 24.8 -1.0**
UBPT Khong Chiam 77.44 291 ⇑P **P** **22 04 25.2 -0.6**
UBPT ⇓P **pP** **22 04 26.0 -2.7**
GULI GuiLin 77.74 302 ⇓P P 22 04 39.3 +12
GULI S **S** **22 14 26.2 +6.4**
GULI pmax pmax
comp=Z,260nm,1.2s
GULI LR LR
comp=N,39µm,20.0s
GULI LR LR
comp=E,60µm,20.0s
GULI LR LR
comp=Z,66µm,37.4s
SNY Shenyang 77.85 323 ⇓P **P** **22 04 26.8 -0.7**
SNY S **S** **22 14 27.2 +7.0**
SNY pmax pmax
comp=Z,170nm,1.9s
SNY pmax pmax
comp=Z,24µm,11.2s
SNY LR LR
comp=Z,16µm,24.0s
SNY LR LR
comp=Z,9µm,24.0s
SNY LR LR
comp=Z,38µm,22.5s
KULM Kulim 77.99 280 P **P** **22 04 28.1 -0.9**
KULM IAmb IAmb 22 04 31.1
comp=Z,1µm,1.7s
GRNR Gornyy 78.09 336 ⇓*i*P **P** **22 04 28.8 +0.1**
GRNR *e*S **S** **22 14 27.6 +5.0**
GRNR pmax pmax
comp=N,50nm,1.3s
GRNR pmax pmax
comp=E,50nm,1.3s
GRNR pmax pmax
comp=Z,2µm,1.3s
GRNR smax smax
comp=N,2.0nm,0.8s
CN2 Changchun 78.11 325 *e*P **P** **22 04 28.3 -0.6**
CN2 PP **PP** **22 07 26.6 +0.9**
CN2 S **S** **22 14 20.9 -2.0**
CN2 SS **SS** **22 19 25.8 +0.6**
CN2 pmax pmax
comp=N,370nm,1.2s
CN2 pmax pmax
comp=N,19µm,8.0s
CN2 LR LR
comp=N,15µm,22.0s
CN2 LR LR
comp=N,27µm,22.0s
CN2 LR LR
comp=N,44µm,23.0s
PBSI Pulau Batu 78.36 274 P **P** **22 04 30.6 -0.4**
comp=N,589nm,2.2s,comp=N,67µm
BNX BinXian 78.40 328 ⇓P **P** **22 04 30.0 -0.5**
BNX PP **PP** **22 07 27.9 -0.2**
BNX S **S** **22 14 26.0 0.0**
BNX pmax pmax
comp=N,150nm,1.2s
BNX pmax pmax
comp=N,20µm,8.5s
BNX LR LR
comp=N,9µm,15.2s
BNX LR LR
comp=N,15µm,21.3s
BNX LR LR
comp=N,25µm,23.5s
TIA Tai'an 78.45 315 ⇓P **P** **22 04 30.9 -0.1**
TIA S **S** **22 14 31.8 +4.8**
TIA pmax pmax
comp=N,180nm,1.0s
TIA pmax pmax
comp=N,24µm,9.3s
TIA LR LR
comp=N,18µm,24.0s
TIA LR LR
comp=N,28µm,29.9s
TIA LR LR
comp=N,50µm,36.3s
NKL Nikolayevsk 78.49 339 *e*P **P** **22 04 30.5 -0.2**
NKL *e*S **S** **22 14 28.6 +2.1**
NKL pmax pmax
comp=N,241nm,1.4s
NKL pmax pmax
comp=E,140nm,1.4s
NKL pmax pmax
comp=Z,950nm,1.4s
NKL smax smax
comp=N,4µm,6.1s
NKL smax smax
comp=E,3µm,6.1s
NKL MLR MLR
comp=E,33µm,14.0s
NKL MLR MLR
comp=N,80µm,18.0s
NKL MLR MLR
comp=Z,108µm,17.0s
CHGN Chignik 78.51 14 P **P** **22 04 29.5 -1.3**
CHGN IAmb IAmb 22 04 40.0
comp=Z,2µm,2.2s
CHGN Chignik 78.51 14 P **P** **22 04 29.5 -1.3**
baz=204
RPSI Rantau Prapat 78.69 277 P **P** **22 04 31.2 -1.6**
RPSI IAmb IAmb 22 04 34.0
comp=Z,680nm,1.5s
PSI Prapat 78.73 277 P **P** **22 04 32.2 -1.0**
PSI Prapat 78.73 277 P **P** **22 04 31.2 -2.0**
PSI pmax pmax
comp=Z,680nm,1.5s
CHIR Chirikof Islan 78.76 16 P **P** **22 04 31.6 -0.6**
CHIR IAmb IAmb 22 04 38.1
comp=Z,2µm,2.0s
CHIR Chirikof Islan 78.76 16 P **P** **22 04 31.6 -0.6**
baz=207
KLR Kul'dur 78.85 332 P **P** **22 04 33.6 +0.7**
comp=Z,80nm,0.9s,baz=121,slow=3.5,SNR=118
KLR LR LR 22 35 36.8
comp=Z,20µm,19.4s,baz=146,slow=33
comp=Z,80nm,0.9s
KLR Kul'dur 78.85 332*d i*P **P** **22 04 33.5 +0.6**
KLR pmax pmax
comp=Z,594nm,2.5s
KLR MLR MLR
comp=Z,18µm,18.0s
TSI Tuntungan 79.31 278 P **P** **22 04 35.6 -0.6**
comp=Z,371nm,1.2s,comp=Z,12µmcomp=Z,55µm
GSI Gunungsitoli 79.48 275 P **P** **22 04 36.8 -0.4**
GSI IAMs_20 IAMs_20 22 39 41.5
comp=Z,33µm,22.0s
GSI Gunungsitoli 79.48 275 P **P** **22 04 38.2 +1.0**
GSI Gunungsitoli 79.48 275 P **P** **22 04 37.5 +0.3**
comp=Z,569nm,1.6s,comp=Z,20µmcomp=Z,72µm
SII Sitkinak Islan 79.79 16 P **P** **22 04 37.3 -0.5**
SII Sitkinak Islan 79.79 16 P **P** **22 04 37.7 -0.1**
baz=208
SII Sitkinak Islan 79.79 16 P **P** **22 04 38.5 +0.6**
R16K Pilot Point 79.85 14 P **P** **22 04 37.5 -0.6**
baz=205
KCSI Kotacane, Aceh 80.06 277 P **P** **22 04 37.5 -2.8**
comp=Z,126nm,1.5s,comp=Z,11µm
SRIT Nakonsritamara 80.15 283 P **P** **22 04 40.7 -0.1**
SRIT IAmb IAmb 22 04 44.1
comp=Z,2µm,1.7s
R17K Ugashik Creek 80.20 15 P **P** **22 04 39.6 -0.4**
baz=206
MAW Mawson 80.55 201 P **P** **22 04 41.8 -0.1**
comp=Z,110nm,1.0s,baz=109,slow=7.0,SNR=49
MAW LR LR 22 37 40.8
comp=Z,7µm,18.5s,baz=122,slow=34
comp=Z,110nm,1.0s
MAW Mawson 80.55 201 P **P** **22 04 42.2 +0.2**
baz=81,SNR=63
OHAK Old Harbor 80.61 16 P **P** **22 04 41.2 -1.0**
OHAK IAmb IAmb 22 04 48.5
comp=Z,2µm,1.9s
OHAK Old Harbor 80.61 16 P **P** **22 04 41.8 -0.4**
baz=209
HNS HongShan 80.72 315 ⇓P **P** **22 04 43.6 +0.3**
HNS S **S** **22 14 54.4 +3.5**
HNS pmax pmax
comp=Z,180nm,1.8s
HNS pmax pmax
comp=Z,26µm,10.6s
HNS LR LR
comp=Z,10µm,20.7s
HNS LR LR
comp=Z,24µm,24.7s
HNS LR LR
comp=Z,101µm,24.5s
LYN LuoYang 80.75 312 ⇓*i*P **P** **22 04 44.1 +0.6**
LYN PP **PP** **22 07 50.2 +2.3**
LYN S **S** **22 14 52.4 +1.0**
LYN SS **SS** **22 20 02.3 -2.9**
LYN pmax pmax
comp=Z,270nm,1.7s
LYN pmax pmax
comp=Z,22µm,11.4s
LYN LR LR
comp=Z,25µm,28.4s
LYN LR LR
comp=Z,28µm,26.9s
LYN LR LR
comp=Z,76µm,39.2s
ENH Enshi 80.80 307 P **P** **22 04 43.1 -0.9**
ENH IAMs_20 IAMs_20 22 36 20.9
comp=Z,32µm,22.0s
SNCC San Nicolas Is 80.83 50 P **P** **22 04 44.8 +0.8**
baz=240,SNR=6.1
Q17K Contact Creek 80.88 15 P **P** **22 04 43.0 -0.8**
baz=207,SNR=54
SNSI Sinabang, Aceh 81.03 276 P **P** **22 04 43.8 -1.7**
comp=Z,514nm,1.1s,comp=Z,14µmcomp=Z,40µm
P16K Nushagak River 81.09 13 P **P** **22 04 44.0 -0.7**
baz=205,SNR=22
SCZ2 Santa Cruz Isl 81.13 49 P **P** **22 04 46.1 +0.5**
baz=239,SNR=26
BJT Baijiatuan 81.22 318 P **P** **22 04 45.3 -0.6**
BJT Baijiatuan 81.22 318 P **P** **22 04 45.3 -0.6**
BJT pmax pmax
comp=Z,314nm,1.3s
BJT MLR MLR
comp=Z,19µm,21.0s
BJI Beijing 81.23 318 S S 22 14 42.6 -14
GYA Guiyang 81.23 302 ⇓*i*P **P** **22 04 47.1 +0.6**
GYA PP **PP** **22 07 52.7 +0.5**
GYA S **S** **22 14 58.1 +1.0**
GYA pmax pmax
comp=Z,150nm,1.8s
GYA pmax pmax
comp=Z,19µm,9.4s
GYA LR LR
comp=Z,21µm,21.9s
GYA LR LR
comp=Z,16µm,19.4s
GYA LR LR
comp=Z,28µm,22.2s
BELA Belgrano 2 81.26 174 P **P** **22 04 44.5 -1.1**
KDAK Kodiak Island 81.29 16 P **P** **22 04 45.7 0.0**
comp=Z,134nm,1.0s,baz=214,slow=1.8,SNR=35
KDAK LR LR 22 34 53.2
comp=Z,27µm,19.8s,baz=233,slow=31
comp=Z,134nm,1.0s
KDAK Kodiak Island 81.29 16 P **P** **22 04 45.2 -0.6**
KDAK IAmb IAmb 22 04 52.2
comp=Z,2µm,2.1s
KDAK Kodiak Island 81.29 16 IAMs_20 IAMs_20 22 34 41.9
comp=Z,30µm,20.0s
KDAK Kodiak Island 81.29 16 P **P** **22 04 45.8 0.0**
baz=210
KDAK Kodiak Island 81.29 16*d i*P **P** **22 04 45.3 -0.5**
KDAK pmax pmax
comp=Z,971nm,1.9s
KDAK MLR MLR
comp=Z,17µm,18.0s
SAO San Andreas Ge 81.30 46 P **P** **22 04 45.7 -0.7**
SAO IAmb IAmb 22 04 53.6
comp=Z,603nm,1.4s
SAO IAMs_20 IAMs_20 22 35 08.8
comp=Z,28µm,19.0s
SAO San Andreas Ge 81.30 46 P **P** **22 04 45.7 -0.7**
SAO pmax pmax
comp=Z,603nm,1.4s
SAO MLR MLR
comp=Z,28µm,19.0s
SBC Santa Barbara 81.30 49 P **P** **22 04 47.7 +1.3**
baz=239
MA2 Magadan 81.40 347 P **P** **22 04 45.4 -1.0**
comp=Z,64nm,0.9s,baz=153,slow=5.9,SNR=33
MA2 LR LR 22 40 49.9
comp=Z,23µm,18.1s,baz=162,slow=36
comp=Z,64nm,0.9s
MA2 Magadan 81.40 347 P **P** **22 04 45.4 -1.0**
MA2 IAmb IAmb 22 04 48.0
comp=Z,1µm,2.3s
MA2 IAMs_20 IAMs_20 22 42 45.1
comp=Z,31µm,19.0s
MA2 Magadan 81.40 347*d i*P **P** **22 04 45.2 -1.2**
MA2 pmax pmax
comp=Z,534nm,2.5s
MA2 MLR MLR
comp=Z,32µm,18.0s
LHMI Lhok Sumawe 81.42 279 P **P** **22 04 47.0 -0.6**
LHMI Lhok Sumawe 81.42 279 P **P** **22 04 46.9 -0.6**
comp=Z,699nm,1.6s,comp=Z,22µmcomp=Z,67µm
HOPS Hopland Field 81.42 44 P **P** **22 04 46.9 -0.1**
HOPS IAmb IAmb 22 04 54.2
comp=Z,1µm,1.6s
Q18K Katmai Hardscr 81.43 15 P **P** **22 04 46.2 -0.6**
baz=208,SNR=64
PMPB Monarch Peak 81.45 47 P **P** **22 04 47.8 +0.5**
PMPB IAmb IAmb 22 04 58.8
comp=Z,2µm,1.6s
PKM Mcpherson Peak 81.45 48 P **P** **22 04 48.5 +1.0**
baz=239,SNR=54
HEH HeiHe 81.54 331 *e*P **P** **22 04 46.8 -0.5**
HEH pP **sP** **22 04 52.1 +0.7**
HEH PP **PP** **22 07 53.9 -0.2**
HEH S **S** **22 14 59.5 +0.6**
HEH sS **SKSac** **22 15 07.7 +1.0**
HEH pmax pmax
comp=Z,230nm,1.8s
HEH pmax pmax
comp=Z,30µm,8.1s
HEH LR LR
comp=Z,25µm,20.6s
HEH LR LR
comp=Z,22µm,22.2s
HEH LR LR
comp=Z,55µm,24.7s
SMMC Simmler 81.54 48 P **P** **22 04 49.1 +1.3**
baz=239,SNR=27
SMAI San Martin Ant 81.55 160 P **P** **22 04 47.6 +0.3**
SMAI IAmb IAmb 22 04 54.5
comp=Z,534nm,1.3s
O16K Kokwok River B 81.58 13 P **P** **22 04 46.4 -1.0**
baz=205
P17K Kvichak River 81.58 14 P **P** **22 04 47.0 -0.4**
baz=206
MLSI Meulaboh, Aceh 81.59 278 P **P** **22 04 47.8 -0.7**
comp=Z,411nm,1.3s,comp=Z,6µm
KMRM Mail Ridge 81.69 42 P **P** **22 04 48.8 +0.3**
CIS Catalina Islan 81.71 50 P **P** **22 04 49.0 +0.3**
baz=240,SNR=38
BCW Bitter Crk WRg 81.76 49 P **P** **22 04 49.3 +0.3**
BCW IAmb IAmb 22 04 56.5
comp=Z,653nm,1.3s
JCC Jacoby Creek, 81.82 42 P **P** **22 04 48.0 -1.0**
JCC IAmb IAmb 22 04 56.5
comp=Z,888nm,1.6s
JCC IAMs_20 IAMs_20 22 31 52.1
comp=Z,23µm,21.0s
FMP Fort Macarthur 81.95 50 P **P** **22 04 50.6 +0.7**
baz=240
O17K Koliganek Bris 81.96 13 P **P** **22 04 48.6 -0.7**
baz=206,SNR=30
Q19K Cape Douglas, 82.01 15 IAMs_20 IAMs_20 22 35 00.1
comp=Z,27µm,20.0s
Q19K Cape Douglas, 82.01 15 P **P** **22 04 49.2 -0.5**
baz=209,SNR=28
P18K Big Mountain, 82.04 14 P **P** **22 04 48.6 -1.3**
P18K Big Mountain, 82.04 14 P **P** **22 04 49.0 -0.9**
baz=207,SNR=79
Q20K Shuyak Island 82.06 16 P **P** **22 04 50.3 +0.5**
baz=210,SNR=9.8
OSI Osito Audit: C 82.09 49 P **P** **22 04 51.7 +1.0**
baz=240,SNR=9.2
DECC Green Verdugo 82.19 50 P **P** **22 04 51.2 0.0**
baz=240
N16K Nishlik Lake 82.25 12 P **P** **22 04 51.4 +0.6**
baz=204,SNR=74
PASC Pasadena Art C 82.25 50 P **P** **22 04 50.9 -0.6**
PASC Pasadena Art C 82.25 50 IAMs_20 IAMs_20 22 34 38.4
comp=Z,20µm,20.0s
CCX Cicese 82.26 52 P **P** **22 04 51.9 +0.3**
ARVC Arvin 82.27 49 P **P** **22 04 52.6 +1.0**
baz=240,SNR=27
109C Camp Elliot, M 82.42 51 IAMs_20 IAMs_20 22 36 19.8
comp=Z,24µm,19.0s
109C Camp Elliot, M 82.42 51 P **P** **22 04 53.1 +0.7**
baz=241,SNR=6.3
TIY Taiyuan 82.42 314 ⇓P **P** **22 04 52.8 +0.4**
TIY S **S** **22 15 10.6 +1.9**
TIY SS **SS** **22 20 29.9 -0.2**
TIY pmax pmax
comp=Z,230nm,2.5s
TIY pmax pmax
comp=Z,22µm,8.8s
TIY LR LR
comp=Z,20µm,21.3s
TIY LR LR
comp=Z,16µm,19.9s
TIY LR LR
comp=Z,34µm,20.6s
VES Vestal, Richgr 82.45 48 P **P** **22 04 52.8 +0.3**
baz=240,SNR=71
O18K Koktuh Hills 82.46 14 P **P** **22 04 51.2 -0.8**

O18K	Koktuh Hills	82.46	14	P	P	22 04 51.7	-0.2	
	baz=207,SNR=55							
VOG	Valley Oaks Go	82.49	47	P	P	22 04 52.8	+0.1	
	baz=239							
BAR	Barrett	82.64	52	P	P	22 04 53.3	-0.3	
BAR				IAmb	IAmb	22 05 04.6		
	comp=Z,731nm,1.9s							
BFSC	Mount Baldy Ra	82.67	50	P	P	22 04 54.3	+0.4	
	baz=241,SNR=59							
CMB	Columbia Colle	82.68	46	IAMs_20	IAMs_20	22 34 57.5		
	comp=Z,30µm,20.0s							
MURC	Murrieta	82.69	51	P	P	22 04 54.8	+0.9	
	baz=241,SNR=41							
EDW2	Edwards Air Fo	82.74	49	P	P	22 04 54.8	+0.7	
	baz=240,SNR=182							
ORV	Oroville	82.75	44	P	P	22 04 53.2	-0.8	
ORV				IAmb	IAmb	22 05 00.8		
	comp=Z,631nm,1.4s							
ORV				IAMs_20	IAMs_20	22 35 39.2		
	comp=Z,25µm,20.0s							
ORV	Oroville	82.75	44	P	P	22 04 53.2	-0.8	
ORV				pmax	pmax			
	comp=Z,631nm,1.5s							
ORV				MLR	MLR			
	comp=Z,25µm,20.0s							
P19K	Oil Pt	82.75	15	P	P	22 04 53.1	-0.4	
P19K				IAMs_20	IAMs_20	22 33 22.6		
	comp=Z,25µm,21.0s							
P19K	Oil Pt	82.75	15	P	P	22 04 53.1	-0.4	
	baz=209,SNR=44							
ISA	Isabella, Lake	82.79	48	P	P	22 04 55.3	+0.9	
	baz=240,SNR=123							
MONP2	Monument Peak	82.92	52	P	P	22 04 56.3	+1.0	
	baz=242,SNR=148							
O19K	Port Alsworth	82.97	14	P	P	22 04 53.8	-0.8	
O19K	Port Alsworth	82.97	14	P	P	22 04 54.0	-0.6	
	baz=208,SNR=184							
XAN	Xi'an	83.04	310	P	P	22 04 55.5	-0.2	
XAN				pmax	pmax			
	comp=Z,300nm,1.7s							
XAN				pmax	pmax			
	comp=Z,29µm,8.2s							
XAN				LR	LR			
	comp=Z,36µm,22.9s							
XAN				LR	LR			
	comp=Z,46µm,23.9s							
XAN				LR	LR			
	comp=Z,107µm,23.9s							
IKP	In-Ko-Pah, Jac	83.04	52	P	P	22 04 56.9	+1.1	
	baz=242,SNR=109							
CNPM	China Poot	83.15	16	P	P	22 04 55.0	-0.6	
CNPM				IAMs_20	IAMs_20	22 35 36.1		
	comp=Z,33µm,20.0s							
YBH	Yreka Blue Hor	83.16	41	LR	LR	22 33 50.6		
	comp=Z,19µm,21.8s,baz=247,slow=30							
HOM	Homer	83.16	16	P	P	22 04 55.7	+0.1	
	baz=210,SNR=14							
BBRC	Big Bear Solar	83.21	50	P	P	22 04 57.7	+0.9	
	baz=241							
PFO	Pinyon Flats O	83.24	51	P	P	22 04 57.4	+0.5	
	comp=Z,44nm,1.1s,baz=244,slow=4.3,SNR=33							
PFO				LR	LR	22 35 35.4		
	comp=Z,21µm,18.9s,baz=246,slow=31							
	comp=Z,44nm,1.1s							
PFO	Pinyon Flats O	83.24	51	P	P	22 04 56.5	-0.4	
PFO				IAmb	IAmb	22 05 04.0		
	comp=Z,2µm,2.6s							
PFO	Pinyon Flats O	83.24	51	IAMs_20	IAMs_20	22 36 53.5		
	comp=Z,26µm,19.0s							
PFO	Pinyon Flats O	83.24	51	P	P	22 04 57.3	+0.5	
	baz=241,SNR=60							
PFO	Pinyon Flats O	83.24	51	*d* iP	P	22 04 56.2	-0.6	
PFO				pmax	pmax			
	comp=Z,460nm,1.7s							
PFO				MLR	MLR			
	comp=Z,35µm,16.0s							
SFX	San Felipe	83.24	54	P	P	22 04 57.1	+0.4	
TPFO	Pinon Flats	83.24	51	P	P	22 04 57.4	+0.6	
	baz=241,SNR=62							
LRMC	Laurel Mtn Rad	83.26	49	P	P	22 04 57.7	+0.8	
	baz=240,SNR=42							
O20K	Slope Mountain	83.28	15	P	P	22 04 55.9	-0.5	
	baz=210,SNR=59							
PHRA	Phrae	83.32	292	P	P	22 04 57.1	-0.3	
MDPB	Devils Postpil	83.36	46	P	P	22 04 57.5	0.0	
MDPB				IAmb	IAmb	22 05 04.6		
	comp=Z,955nm,1.5s							
SWSC	Sam W. Stewart	83.41	52	P	P	22 04 58.7	+1.1	
	baz=242,SNR=72							
BRLK	Bradley Lake	83.45	16	IAMs_20	IAMs_20	22 35 54.5		
	comp=Z,31µm,20.0s							
CWC	Cottonwood Cre	83.45	48	P	P	22 04 58.8	+0.9	
	baz=240							
RRX	Edison Barstow	83.45	50	P	P	22 04 58.3	+0.6	
	baz=241							
BRSE	Bradley Lake S	83.47	16	P	P	22 04 57.1	-0.1	
	baz=211,SNR=54							
N19K	Bonanza Creek	83.48	14	P	P	22 04 56.4	-1.0	
	baz=208,SNR=62							
XLT	XiLinHaoTe	83.48	321	*e*P	P	22 04 57.4	-0.4	
XLT				pP	pwP	22 05 03.4	-1.2	
XLT				sP	PcP	22 05 05.9	+3.8	
XLT				PP	PP	22 08 12.0	+1.7	
XLT				S	S	22 15 15.9	-3.4	
XLT				SS	SS	22 20 47.6	+1.9	
XLT				pmax	pmax			
	comp=Z,220nm,2.3s							
XLT				pmax	pmax			
	comp=Z,20µm,9.1s							
XLT				LR	LR			
	comp=Z,22µm,21.9s							
XLT				LR	LR			
	comp=Z,37µm,23.1s							
GAMB	Gambell	83.52	5	P	P	22 04 57.8	+0.5	
	baz=192							
MLAC	Mammoth, Mammo	83.53	47	P	P	22 04 59.3	+1.0	
	baz=240							
WAKR	Walker	83.56	46	P	P	22 04 58.9	+0.4	
DBO	Dodson Butte	83.60	40	P	P	22 04 58.7	+0.3	
DBO				IAmb	IAmb	22 05 05.6		
	comp=Z,531nm,1.6s							
TIN	Tinemaha, Big	83.66	47	P	P	22 04 59.9	+1.0	
	baz=240,SNR=28							
MPMC	Manual Prospec	83.68	48	P	P	22 04 59.9	+0.8	
	baz=240,SNR=172							
BELC	Belle Mtn. Jos	83.76	51	P	P	22 05 00.3	+0.8	
	baz=242,SNR=195							
GSC	Goldstone, Bar	83.80	49	P	P	22 05 00.1	+0.5	
	baz=241,SNR=166							
VCNR	Virginia City	83.83	45	P	P	22 05 00.2	+0.4	
VCNR				IAmb	IAmb	22 05 07.0		
	comp=Z,616nm,1.3s							
LPIG	La Paz	83.86	62	P	P	22 05 01.5	+1.5	
	comp=Z,28nm,0.5s,baz=207,slow=3.4,SNR=1.9							
LPIG				LR	LR	22 36 09.9		
	comp=Z,19µm,18.2s,baz=250,slow=31							
	comp=Z,28nm,0.5s							
CRAI	Chiangrai	83.87	294	P	P	22 05 00.0	-0.2	
HEC	Hector,Ludlow	83.91	50	P	P	22 05 00.8	+0.6	
	baz=241,SNR=194							
SLBS	Sierra La Lagu	83.99	62	P	P	22 05 01.1	+0.2	
SLBS				IAmb	IAmb	22 05 09.2		
	comp=Z,1µm,1.4s							
SLBS	Sierra La Lagu	83.99	62	IAMs_20	IAMs_20	22 33 37.1		
	comp=Z,22µm,20.0s							
BC3	Big Chuckawall	84.00	51	P	P	22 05 01.6	+0.9	
	baz=242,SNR=128							
ZEA	Zeya	84.06	333	*e*P	P	22 05 00.6	+0.3	
ZEA				*e*S	S	22 15 28.3	+3.9	
ZEA				*e*		22 20 55.3		
ZEA				pmax	pmax			
	comp=E,3µm,8.7s							
ZEA				pmax	pmax			
	comp=N,4µm,6.8s							
ZEA				pmax	pmax			
	comp=Z,13µm,9.3s							
ZEA				pmax	pmax			
	comp=N,60nm,2.0s							
ZEA				pmax	pmax			
	comp=Z,100nm,1.8s							
ZEA				smax	smax			
	comp=E,8µm,9.2s							
ZEA				smax	smax			
	comp=N,19µm,15.3s							
SEW	Seward	84.12	17	P	P	22 05 00.0	-0.4	
	baz=212,SNR=26							
GLA	Glamis	84.18	52	P	P	22 05 01.1	-0.4	
GLA				IAmb	IAmb	22 05 09.2		
	comp=Z,653nm,1.4s							
GLA	Glamis	84.18	52	P	P	22 05 02.6	+1.0	
	baz=242,SNR=90							
GLA	Glamis	84.18	52	P	P	22 05 01.1	-0.4	
GLA				pmax	pmax			
	comp=Z,653nm,1.4s							
SEY	Seymchan	84.19	349	P	P	22 05 00.6	-0.3	
	comp=Z,133nm,0.7s,baz=150,slow=5.4,SNR=180							
SEY				LR	LR	22 36 19.0		
	comp=Z,20µm,21.8s,baz=154,slow=31							
	comp=Z,133nm,0.7s							
SEY	Seymchan	84.19	349	*d* iP	P	22 05 00.4	-0.4	
SEY				pmax	pmax			
	comp=Z,938nm,2.5s							
GRAC	Grapevine Rang	84.23	48	P	P	22 05 02.9	+1.2	
	baz=240,SNR=38							
CAPN	Captain Cook N	84.24	16	P	P	22 05 01.5	+0.4	
CAPN	Captain Cook N	84.24	16	P	P	22 05 01.9	+0.9	
	baz=211,SNR=17							
NVAR	Mina Array Bea	84.29	46	P	P	22 05 03.0	+0.7	
	comp=Z,64nm,0.9s,baz=227,slow=5.8,SNR=116							
NVAR				PKPPKP	P'P'df	22 31 19.6	+1.2	
	comp=Z,3.8nm,1.1s,baz=148,slow=0.9,SNR=10.0							
NVAR				LR	LR	22 35 15.4		
	comp=Z,21µm,20.5s,baz=258,slow=30							
	comp=Z,64nm,0.9s							
NVAR	Mina Array Bea	84.29	46	P	P	22 05 02.4	+0.2	
FURC	Furnace Creek,	84.32	48	P	P	22 05 03.0	+0.9	
	baz=241,SNR=43							
N20K	Mount Spurr	84.35	15	P	P	22 05 00.4	-1.4	
	baz=210,SNR=94							
SPCR	Spurr Chakacha	84.35	15	P	P	22 05 00.7	-1.1	
	baz=210,SNR=42							
BUCK	Buck Mountain	84.36	39	P	P	22 05 03.0	+0.8	
O22K	Cooper Landing	84.36	16	IAMs_20	IAMs_20	22 36 23.3		
	comp=Z,19µm,20.0s							
O22K	Cooper Landing	84.36	16	P	P	22 05 01.5	-0.2	
	baz=212,SNR=30							
GMRC	Granite Mounta	84.38	50	P	P	22 05 03.2	+0.6	
	baz=242,SNR=180							
COR	Corvallis	84.39	39	P	P	22 05 02.8	+0.6	
COR	Corvallis	84.39	39	IAMs_20	IAMs_20	22 33 52.8		
	comp=Z,22µm,22.0s							
COR	Corvallis	84.39	39	P	P	22 05 02.8	+0.6	
COR				pmax	pmax			
	comp=Z,1µm,1.7s							
COR				MLR	MLR			
	comp=Z,22µm,22.0s							
NV11	Mina Array Sit	84.39	46	P	P	22 05 03.1	+0.5	
CM31	Chiang Mai Arr	84.43	292	P	P	22 05 03.2	+0.1	
CM31	Chiang Mai Arr	84.43	292	P	P	22 05 03.6	+0.5	
	SNR=70							
CMAR	Chiang Mai Arr	84.43	292	P	P	22 05 03.5	+0.4	
	comp=Z,55nm,0.9s,baz=121,slow=3.4,SNR=211							
CMAR				PKiKP	PKiKP	22 10 17.6	+0.3	
	comp=Z,2.2nm,0.7s,baz=199,slow=1.2,SNR=5.3							
CMAR				PKPPKP	P'P'df	22 31 20.0	-0.5	
	comp=Z,0.8nm,0.6s,baz=278,slow=3.2,SNR=6.0							
CMAR				LR	LR	22 40 44.0		
	comp=Z,10µm,22.0s,baz=110,slow=34							
	comp=Z,55nm,0.9s							
CMAR	Chiang Mai Arr	84.43	292	P	P	22 05 03.2	+0.1	
CMAR	Chiang Mai Arr	84.43	292	P	P	22 05 03.2	+0.1	
PMSA	Palmer Station	84.43	158	P	P	22 05 02.6	+0.4	
	comp=Z,48nm,0.8s,baz=217,slow=2.4,SNR=13							
PMSA				LR	LR	22 37 44.4		
	comp=Z,7µm,18.6s,baz=243,slow=32							
	comp=Z,48nm,0.8s							
PMSA	Palmer Station	84.43	158	P	P	22 05 02.8	+0.5	
PMSA				IAmb	IAmb	22 05 08.9		
	comp=Z,401nm,1.4s							
PMSA	Palmer Station	84.43	158	*e*P	P	22 05 03.3	+1.1	
Q23K	Middleton Isla	84.44	18	P	P	22 05 01.9	-0.2	
	baz=215							
IRM	Iron Mountain	84.46	51	P	P	22 05 03.9	+1.0	
	baz=242,SNR=203							
M19K	Big River Lodg	84.46	14	P	P	22 05 02.1	-0.1	
	baz=208							
SHOC	Shoshone, Teco	84.46	49	P	P	22 05 03.5	+0.6	
	baz=241,SNR=18							
HEBO	Mount Hebo	84.48	38	P	P	22 05 02.7	-0.1	
TUQ	Turquoise Moun	84.49	50	P	P	22 05 04.1	+0.9	
	baz=242,SNR=29							
PIX	Pinacate	84.54	54	P	P	22 05 03.6	+0.3	
CHTO	Chiang Mai	84.56	292	P	P	22 05 03.0	-0.7	
CHTO	Chiang Mai	84.56	292	P	P	22 05 03.0	-0.7	
CHTO				MLR	MLR			
	comp=Z,13µm,21.0s							
P23K	Montague Islan	84.60	18	P	P	22 05 02.2	-0.8	
	baz=214							
L19K	White Mountain	84.61	13	P	P	22 05 02.9	-0.1	
L19K	White Mountain	84.61	13	P	P	22 05 03.4	+0.4	
	baz=207							
HHC	Hu-ho-hao-te	84.63	317	⇓*i*P	P	22 05 04.0	+0.3	
HHC				S	S	22 15 34.1	+3.1	
HHC				SS	SS	22 21 05.8	+3.0	
HHC				pmax	pmax			
	comp=Z,330nm,1.4s							
HHC				pmax	pmax			
	comp=Z,42µm,8.7s							
HHC				LR	LR			
	comp=Z,37µm,23.1s							
HHC				LR	LR			
	comp=Z,51µm,23.7s							
HHC				LR	LR			
	comp=Z,131µm,22.2s							
HHC	Hu-ho-hao-te	84.63	317	pmax	pmax			
	comp=Z,3µm,7.3s							
HHC	Hu-ho-hao-te	84.63	317	pmax	pmax			
	comp=Z,12nm,0.7s							
HIA	Hailar	84.63	327	P	P	22 05 03.0	-0.4	
HIA				IAmb	IAmb	22 05 10.3		
	comp=Z,1µm,2.5s							
HIA	Hailar	84.63	327	IAMs_20	IAMs_20	22 40 12.1		
	comp=Z,21µm,19.0s							
HIA	Hailar	84.63	327	P	P	22 05 03.0	-0.4	
HIA				pmax	pmax			
	comp=Z,1µm,2.5s							
HIA				MLR	MLR			
	comp=Z,21µm,19.0s							
M20K	Styx River	84.73	14	P	P	22 05 02.5	-1.2	
	baz=209							
MOD	Modoc Plateau	84.77	42	P	P	22 05 04.5	+0.1	
MOD				IAMs_20	IAMs_20	22 33 50.5		
	comp=Z,23µm,22.0s							
FIS	Fire Island	84.80	16	P	P	22 05 04.0	0.0	
FIS				IAmb	IAmb	22 05 09.4		
	comp=Z,787nm,1.2s							
FIS				IAMs_20	IAMs_20	22 36 59.7		
	comp=Z,29µm,20.0s							
113A	Mohawk Valley,	84.85	53	P	P	22 05 05.3	+0.4	
113A				IAmb	IAmb	22 05 12.3		
	comp=Z,888nm,1.7s							
TPH	Tonopah	84.86	47	P	P	22 05 04.9	-0.2	
TPH	Tonopah	84.86	47	P	P	22 05 04.9	-0.2	
TPH				pmax	pmax			
	comp=Z,4µm,1.5s							
RC01	Rabbit Creek A	84.88	16	P	P	22 05 03.7	-0.6	
	baz=212,SNR=100							
HG4B	Hotspring	84.92	29	P	P	22 05 05.3	+0.6	
DIB	Dawson Inlet,	84.94	28	P	P	22 05 05.1	+0.3	
DIB				IAmb	IAmb	22 05 14.4		
	comp=Z,613nm,1.5s							
SUA	Susitna One	84.94	15	IAMs_20	IAMs_20	22 37 06.4		
	comp=Z,27µm,20.0s							
SUA	Susitna One	84.94	15	P	P	22 05 04.2	-0.6	
	baz=211,SNR=86							
TPNV	Topopah Spring	84.98	48	P	P	22 05 05.7	0.0	
TPNV	Topopah Spring	84.98	48	P	P	22 05 06.6	+0.9	
	baz=241							
TPNV	Topopah Spring	84.98	48	P	P	22 05 05.7	0.0	
TPNV				pmax	pmax			
	comp=Z,3µm,2.2s							
TPNV				MLR	MLR			
	comp=Z,18µm,20.0s							
ANM	Nome	84.99	8	P	P	22 05 04.7	-0.1	
ANM				IAmb	IAmb	22 05 15.8		
	comp=Z,1µm,2.0s							
ANM	Nome	84.99	8	P	P	22 05 05.3	+0.5	
	baz=198							
ANM	Nome	84.99	8	P	P	22 05 04.7	-0.1	
ANM				pmax	pmax			
	comp=Z,1µm,2.0s							
TTA	Tatalina	85.03	12	P	P	22 05 04.8	-0.4	
TTA				IAmb	IAmb	22 05 11.6		
	comp=Z,2µm,2.6s							
TTA	Tatalina	85.03	12	P	P	22 05 04.8	-0.4	
	baz=206,SNR=60							
TTA	Tatalina	85.03	12	P	P	22 05 02.6	+1.0	
TTA				pmax	pmax			
	comp=Z,2µm,2.6s							
PWL	Port Wells	85.06	17	P	P	22 05 04.4	-0.9	
PWL	Port Wells	85.06	17	P	P	22 05 04.6	-0.7	
	baz=214,SNR=62							
L20K	Farewell, AK	85.09	14	P	P	22 05 05.3	-0.1	
	baz=208							
MOBC	Moresby Island	85.13	28	P	P	22 05 06.4	+0.6	
MOBC				IAmb	IAmb	22 05 12.6		
	comp=Z,785nm,1.7s							
NEE2	Needles Airpor	85.13	51	P	P	22 05 07.1	+0.9	
	baz=242							
SKT	Skwentna	85.19	15	P	P	22 05 04.3	-1.6	
	baz=210,SNR=48							
214A	Organ Pipe Nat	85.21	54	P	P	22 05 07.8	+1.1	
	baz=244							
PAF	Port-aux-Franc	85.23	219	P	P	22 05 07.0	+0.4	
PAF				IAmb	IAmb	22 05 09.9		
	comp=Z,786nm,1.6s							
PAF	Port-aux-Franc	85.23	219	P	P	22 05 07.0	+0.4	
PAF				pmax	pmax			
	comp=Z,786nm,1.6s							
PAF				MLR	MLR			
	comp=Z,13µm,19.0s							
PZH	PanZhiHua	85.23	300	⇓P	P	22 05 06.4	-0.7	
PZH				PP	PP	22 08 27.3	+2.3	
PZH				S	S	22 15 37.7	+0.1	
PZH				sS	sS	22 15 44.3	+1.7	
PZH				SS	SS	22 21 07.4	-4.9	
PZH				pmax	pmax			
	comp=Z,300nm,1.5s							
PZH				pmax	pmax			
	comp=Z,15µm,9.8s							
PZH				LR	LR			
	comp=Z,40µm,23.7s							
PZH				LR	LR			
	comp=Z,82µm,23.0s							
PZH				LR	LR			
	comp=Z,42µm,21.8s							
PZH	PanZhiHua	85.23	300	pmax	pmax			
	comp=Z,9.0nm,4.1s							
PZH	PanZhiHua	85.23	300	pmax	pmax			
	comp=Z,7.0nm,0.8s							
Q09A	Carvers	85.26	46	P	P	22 05 06.9	-0.1	
Q09A				IAmb	IAmb	22 05 13.3		
	comp=Z,871nm,1.4s							
E03A	Lebam	85.34	37	P	P	22 05 07.1	+0.1	
M22K	Willow	85.34	15	P	P	22 05 05.8	-0.8	
	baz=212,SNR=76							
HSIG		85.39	57	P	P	22 05 07.6	-0.1	
HSIG				IAmb	IAmb	22 05 15.1		
	comp=Z,689nm,1.5s							
PMR	Palmer	85.46	16	P	P	22 05 07.3	+0.1	
	baz=213,SNR=42							
CD2	Chengdu	85.49	305	P	P	22 05 08.3	+0.1	
CD2				sP	pwP	22 05 16.0	+1.0	
CD2				PP	PP	22 08 24.0	-2.9	
CD2				S	S	22 15 43.3	+3.5	
CD2				SS	SS	22 21 19.0	+3.2	
CD2				pmax	pmax			
	comp=Z,270nm,0.9s							
CD2				pmax	pmax			
	comp=Z,20µm,6.8s							
CD2				LR	LR			
	comp=Z,33µm,29.4s							
CD2				LR	LR			
	comp=Z,37µm,29.4s							
CD2				LR	LR			
	comp=Z,38µm,31.8s							
KNK	Knik Glacier	85.49	16	P	P	22 05 06.4	-1.0	
KNK	Knik Glacier	85.49	16	P	P	22 05 07.1	-0.4	
	baz=213,SNR=62							
BTO	Baotou	85.51	316	*e*P	P	22 05 08.3	+0.1	
BTO				S	S	22 15 43.4	+3.7	
BTO				LR	LR			
BTO				LR	LR			
	comp=Z,57µm,21.6s							
	comp=Z,108µm,23.5s							
EYAK	Cordova Ski Ar	85.52	18	P	P	22 05 07.9	+0.4	
	baz=216							
TNA	Tin City	85.64	7	P	P	22 05 08.4	+0.4	
	baz=195							
NLWA	Neilton Lookou	85.65	36	P	P	22 05 08.2	-0.4	
GHO	Glory Hole Cre	85.67	16	IAMs_20	IAMs_20	22 37 06.6		
	comp=Z,24µm,20.0s							
OZB	Mount Ozzard	85.68	34	P	P	22 05 08.9	+0.2	
OZB				IAmb	IAmb	22 05 15.5		
	comp=Z,2µm,2.5s							
K20K	Telida	85.82	13	P	P	22 05 08.8	-0.3	
	baz=208							
PPLA	Purkeypile	85.83	14	P	P	22 05 07.9	-1.4	
	baz=210,SNR=14							
SML	Sawmill	85.85	16	P	P	22 05 09.1	-0.2	
SML				IAmb	IAmb	22 05 15.1		
	comp=Z,1µm,1.7s							
SML	Sawmill	85.85	16	P	P	22 05 08.9	-0.4	
	baz=213,SNR=59							
CUT	Chulitna	85.86	15	IAMs_20	IAMs_20	22 35 02.9		
	comp=Z,27µm,22.0s							
CUT	Chulitna	85.86	15	P	P	22 05 08.2	-1.0	
	baz=212,SNR=21							
M23K	Glacier View	86.00	16	P	P	22 05 09.1	-0.8	
	baz=214,SNR=46							
BMN	Battle Mountai	86.02	45	P	P	22 05 10.8	+0.1	
BMN				IAmb	IAmb	22 05 17.8		
	comp=Z,899nm,1.4s							
BMN	Battle Mountai	86.02	45	P	P	22 05 10.8	+0.1	
BMN				pmax	pmax			
	comp=Z,899nm,1.4s							
WVOR	Wild Horse Val	86.10	42	P	P	22 05 11.0	-0.1	
WVOR				IAmb	IAmb	22 05 18.3		
	comp=Z,863nm,1.6s							
WVOR				IAMs_20	IAMs_20	22 41 54.1		
	comp=Z,28µm,18.0s							
WVOR	Wild Horse Val	86.10	42	P	P	22 05 11.0	-0.1	
WVOR				pmax	pmax			
	comp=Z,863nm,1.6s							
WVOR				MLR	MLR			
	comp=Z,28µm,18.0s							
R11A	Troy Canyon, C	86.12	47	P	P	22 05 11.7	+0.3	
	baz=242,SNR=112							
SCM	Sheep Creek Mo	86.14	17	P	P	22 05 09.9	-0.8	
SCM	Sheep Creek Mo	86.14	17	P	P	22 05 09.9	-0.8	
	baz=214,SNR=68							
SCM	Sheep Creek Mo	86.14	17	P	P	22 05 09.9	-0.8	
SCM				pmax	pmax			
	comp=Z,3µm,2.2s							
CRAG	Craig	86.19	26	P	P	22 05 11.8	+0.8	
	baz=227							
BMRM	Bremner River	86.20	18	P	P	22 05 10.6	-0.4	
BMRM				IAmb	IAmb	22 05 26.4		
	comp=Z,799nm,1.4s							
BMRM	Bremner River	86.20	18	P	P	22 05 10.5	-0.4	
	baz=217							
KLU	Klutina	86.24	17	P	P	22 05 10.6	-0.7	
KLU				IAmb	IAmb	22 05 21.2		
	comp=Z,1µm,1.9s							
KLU	Klutina	86.24	17	P	P	22 05 10.5	-0.7	
	baz=216							
BBB	Bella Bella	86.31	31	LR	LR	22 35 25.1		
	comp=Z,19µm,21.0s,baz=242,slow=30							
BBB	Bella Bella	86.31	31	P	P	22 05 11.9	+0.3	
CAST	Castle Rocks	86.31	14	IAMs_20	IAMs_20	22 40 46.7		
	comp=Z,21µm,20.0s							
CAST	Castle Rocks	86.31	14	P	P	22 05 09.6	-1.8	
	baz=210							
CLRS	Cowichan Lake	86.33	35	P	P	22 05 11.7	-0.1	
CLRS				IAmb	IAmb	22 05 22.8		
	comp=Z,1µm,2.2s							
SIT	Sitka	86.40	24	P	P	22 05 12.1	+0.1	
SIT				IAmb	IAmb	22 05 22.7		
	comp=Z,610nm,1.8s							
SIT	Sitka	86.40	24	P	P	22 05 12.4	+0.4	
	baz=225							
SIT	Sitka	86.40	24	P	P	22 05

baz=208
PGC Sidney 86.60 35 P **P** **22 05 13.8 +0.6**
U33K Whale Pass 86.63 26 P **P** **22 05 13.9 +0.7**
baz=227
WAT1 Susitna Watana 86.65 15 P **P** **22 05 12.2 -1.0**
baz=213
WAT6 Susitna Watana 86.65 16 P **P** **22 05 12.5 -0.8**
baz=214,SNR=152
CHUM Lake Minchumin 86.66 13 P **P** **22 05 11.5 -1.6**
baz=210,SNR=40
RUBB Prince Rupert 86.67 28 P **P** **22 05 13.8 +0.4**
RUBB IAmb IAmb 22 05 24.6
comp=Z,523nm,1.7s
M24K Tolsona, Glenn 86.67 17 P **P** **22 05 13.2 -0.1**
baz=215,SNR=42
S31K Pelican 86.70 23 P **P** **22 05 14.0 +0.6**
baz=224
N25K Chitina, Valde 86.71 18 P **P** **22 05 13.2 -0.4**
baz=217,SNR=82
V35K Ketchikan 86.73 27 P **P** **22 05 14.2 +0.6**
baz=228
VRDI Verde Repeater 86.74 18 P **P** **22 05 12.8 -1.0**
TRF Thorofare Moun 86.75 14 IAMs_20 IAMs_20 22 35 54.3
comp=Z,24µm,22.0s
TRF Thorofare Moun 86.75 14 P **P** **22 05 12.5 -1.4**
baz=212,SNR=48
GLB Gilahina Butte 86.81 18 P **P** **22 05 12.9 -1.1**
PNL Peninsula 86.83 21 P **P** **22 05 13.8 -0.3**
baz=222
PINM Pinnacle 86.87 20 P **P** **22 05 14.1 -0.2**
baz=221,SNR=9.0
TUC Tucson 86.91 54 P **P** **22 05 15.2 0.0**
TUC IAmb IAmb 22 05 27.1
comp=Z,832nm,1.8s
TUC Tucson 86.91 54 P **P** **22 05 16.5 +1.2**
baz=245
TUC Tucson 86.91 54 P **P** **22 05 15.2 0.0**
TUC pmax pmax
comp=Z,832nm,1.8s
ELIB Princess Elisa 86.94 188 *d*P **P** **22 05 13.7 -1.1**
comp=Z,174nm,0.8s
MCARA McCarthy VSAT 86.99 18 P **P** **22 05 14.0 -0.8**
MCARA IAmb IAmb 22 05 20.7
comp=Z,794nm,1.6s
MCARA McCarthy VSAT 86.99 18 P **P** **22 05 14.4 -0.4**
baz=218,SNR=69
RND Reindeer 87.06 15 P **P** **22 05 14.2 -1.0**
RND Reindeer 87.06 15 P **P** **22 05 14.2 -1.0**
RND pmax pmax
comp=Z,190nm,1.2s
F07A Phinny Hill Vi 87.10 39 P **P** **22 05 15.3 -0.4**
F07A IAmb IAmb 22 05 26.7
comp=Z,1µm,1.9s
LCMT Little Creek M 87.14 49 P **P** **22 05 15.9 -0.5**
LCMT IAmb IAmb 22 05 23.7
comp=Z,485nm,1.7s
BPAW Bear Paw Mtn. 87.15 14 P **P** **22 05 14.2 -1.3**
BPAW IAmb IAmb 22 41 10.8
comp=Z,19µm,20.0s
BPAW Bear Paw Mtn. 87.15 14 P **P** **22 05 13.8 -1.8**
baz=211
DHY Denali Highway 87.15 16 IAMs_20 IAMs_20 22 38 03.0
comp=Z,22µm,20.0s
DHY Denali Highway 87.15 16 P **P** **22 05 14.7 -1.0**
baz=214,SNR=94
WRAK Wrangell Islan 87.16 26 IAMs_20 IAMs_20 22 46 43.8
comp=Z,18µm,18.0s
WRAK Wrangell Islan 87.16 26 P **P** **22 05 16.4 +0.7**
baz=228,SNR=24
BARN Barnard Glacie 87.16 19 IAMs_20 IAMs_20 22 39 50.0
comp=Z,20µm,19.0s
T33K Petersburg 87.17 25 P **P** **22 05 16.1 +0.4**
baz=227
HARP HAARP 87.19 17 P **P** **22 05 15.4 -0.4**
baz=216,SNR=39
R31K City Hall, Gus 87.21 23 P **P** **22 05 16.0 +0.1**
baz=225
CCUT Cedar City 87.30 49 P **P** **22 05 17.5 +0.2**
CCUT IAmb IAmb 22 05 29.0
comp=Z,845nm,1.9s
TNCH TengChong 87.31 298 ⇓P **P** **22 05 16.9 -0.6**
TNCH pP pwP 22 05 23.1 -1.2
TNCH sP sP 22 05 26.8 +5.3
TNCH PP **PP** **22 08 48.7 +6.7**
TNCH SKS **SKSac** **22 15 40.1 -5.4**
TNCH S **SKKSac** **22 15 55.6 +1.0**
TNCH sS ScS 22 16 11.1 +5.8
TNCH SS **SS** **22 21 44.1 +1.1**
TNCH pmax pmax
comp=Z,12µm,9.3s
TNCH LR LR
comp=Z,8µm,36.5s
TNCH LR LR
comp=Z,8µm,33.3s
TNCH LR LR
comp=Z,52µm,37.2s
MCK McKinley 87.31 15 P **P** **22 05 14.9 -1.5**
baz=213,SNR=54
P29M Windy Craggy 87.37 22 P **P** **22 05 16.3 -0.4**
P29M IAMs_20 IAMs_20 22 41 29.6
comp=Z,19µm,19.0s
P29M Windy Craggy 87.37 22 P **P** **22 05 17.1 +0.4**
baz=223
O28M Mount Upton 87.40 20 P **P** **22 05 16.7 -0.5**
baz=221,SNR=51
MG04 Isla Riesco 87.44 146 P **P** **22 05 18.5 +1.1**
ELK Elko 87.49 45 LR LR 22 38 50.4
comp=Z,32µm,19.1s,baz=249,slow=32
ELK Elko 87.49 45 P **P** **22 05 17.9 -0.1**
ELK IAmb IAmb 22 05 29.1
comp=Z,964nm,1.9s
ELK Elko 87.49 45 P **P** **22 05 17.9 -0.1**
ELK pmax pmax
comp=Z,964nm,1.9s
ELK MLR MLR
comp=Z,31µm,20.0s
MG05 Puerto Natales 87.51 145 P **P** **22 05 18.4 +0.6**
BILL Bilibino 87.53 356 P **P** **22 05 16.4 -0.9**
BILL IAmb IAmb 22 05 19.5
comp=Z,834nm,2.0s
BILL Bilibino 87.53 356 *c* *i*P **P** **22 05 16.7 -0.6**
BILL *i* 22 05 18.3
BILL *i* *PP **pP** **22 05 20.3 0.0**
BILL *e* 22 08 43.5
BILL *i* S **SKSac** **22 15 43.8 -0.7**
BILL *i* 22 15 59.3
BILL *i* PS **PnS** **22 17 00.4 +0.8**
BILL *i* SS **SS** **22 21 50.2 +6.0**
BILL *i* SSS SSS 22 25 22.9
BILL pmax pmax
comp=Z,467nm,2.5s
BILL pmax pmax
comp=Z,9µm,6.7s
BILL MLR MLR
comp=Z,6µm,17.0s
PBA Port Blair 87.55 283 P **P** **22 05 18.6 0.0**
PBA Port Blair 87.55 283 *e*P **P** **22 05 17.6 -0.9**
BWN Browne 87.56 14 IAMs_20 IAMs_20 22 39 23.8
comp=Z,23µm,20.0s
R32K Eaglecrest 87.57 24 P **P** **22 05 18.2 +0.5**
baz=226,SNR=31
PAX Paxson 87.57 17 P **P** **22 05 16.6 -1.1**
baz=216,SNR=74
GO10 Punta Arenas 87.57 146 P **P** **22 05 19.6 +1.5**
GO10 IAmb IAmb 22 05 26.0
comp=Z,540nm,1.5s
O29M Mount Kennedy 87.58 21 P **P** **22 05 17.6 -0.2**
baz=222
HAWA Hanford 87.59 39 P **P** **22 05 17.9 -0.2**
JIS Juneau Island 87.62 24 P **P** **22 05 18.1 +0.3**
JIS IAmb IAmb 22 05 25.7
comp=Z,550nm,1.6s
LZH Lanzhou 87.67 310 ⇓P **P** **22 05 19.9 +1.0**
LZH sP pwP 22 05 26.2 +0.4
LZH PP **PP** **22 08 41.8 -2.8**
LZH S **S** **22 15 55.4 -5.7**
LZH sS ScS 22 16 11.8 +4.0
LZH SS **SS** **22 21 48.6 +0.7**
LZH pmax pmax
comp=Z,500nm,1.4s
LZH pmax pmax
comp=Z,18µm,5.5s
LZH LR LR
comp=Z,30µm,18.3s
LZH LR LR
comp=Z,56µm,18.7s
LZH LR LR
comp=Z,99µm,20.2s
LZH Lanzhou 87.67 310 pmax pmax
comp=Z,34nm,0.9s
PLBC Pleasant Camp 87.72 22 P **P** **22 05 18.3 0.0**
baz=224,SNR=67
GO09 Cerro Castillo 87.80 144 P **P** **22 05 19.8 +0.6**
GO09 IAmb IAmb 22 05 34.8
comp=Z,889nm,1.9s
M26K Nabesna, AK 87.80 18 P **P** **22 05 17.8 -1.0**
M26K IAmb IAmb 22 05 24.6
comp=Z,467nm,1.4s
M26K Nabesna, AK 87.80 18 P **P** **22 05 18.5 -0.3**
baz=218
WUAZ Wupatki 87.84 51 P **P** **22 05 20.1 +0.3**
WUAZ IAmb IAmb 22 05 26.4
comp=Z,366nm,1.4s
WUAZ Wupatki 87.84 51 P **P** **22 05 20.6 +0.9**
baz=244
I21K Tanana 87.86 13 P **P** **22 05 17.9 -1.0**
baz=210
YUK8 Steele Glacier 87.92 20 P **P** **22 05 19.3 -0.3**
baz=221,SNR=79
P30M Million Dollar 88.00 22 P **P** **22 05 19.6 -0.1**
baz=224
MLY Manley 88.00 13 P **P** **22 05 18.6 -1.1**
baz=211,SNR=44
NEA2 Nenana 88.01 14 IAMs_20 IAMs_20 22 36 31.6
comp=Z,22µm,22.0s
NEA2 Nenana 88.01 14 P **P** **22 05 17.6 -2.0**
baz=213,SNR=34
USHA Ushuaia 88.05 149 LR LR 22 35 11.2
comp=Z,20µm,19.4s,baz=235,slow=29
YUK3 Moose Creek 88.08 19 P **P** **22 05 19.9 -0.4**
baz=220,SNR=107
M27K Edge Creek, AK 88.10 18 P **P** **22 05 20.0 -0.3**
baz=219,SNR=109
SKAG Skagway 88.10 23 P **P** **22 05 21.0 +0.9**
baz=225,SNR=67
H21K Melozitna Rive 88.11 12 P **P** **22 05 19.9 -0.2**
baz=209
YUK6 Outpost Mounta 88.12 20 P **P** **22 05 21.0 +0.5**
baz=222,SNR=32
WRH Wood River Hil 88.14 15 P **P** **22 05 18.7 -1.5**
WRH IAmb IAmb 22 05 28.3
comp=Z,391nm,1.6s
WRH IAMs_20 IAMs_20 22 39 19.0
comp=Z,26µm,20.0s
BMO Blue Mountains 88.15 41 P **P** **22 05 20.7 -0.2**
BMO IAmb IAmb 22 05 27.7
comp=Z,966nm,1.9s
BMO IAMs_20 IAMs_20 22 36 53.6
comp=Z,21µm,21.0s
BMO Blue Mountains 88.15 41 P **P** **22 05 20.7 -0.2**
BMO pmax pmax
comp=Z,966nm,1.9s
BMO MLR MLR
comp=Z,21µm,21.0s
K24K Donnelly Dome 88.16 16 P **P** **22 05 19.8 -0.7**
baz=216,SNR=58
L26K Log Cabin Wild 88.20 17 P **P** **22 05 20.1 -0.5**
baz=218,SNR=31
IMAR Indian Mountai 88.21 12 P **P** **22 05 19.7 -0.9**
HYT Haines Junctio 88.32 21 P **P** **22 05 21.0 -0.3**
HYT IAmb IAmb 22 05 27.8
comp=Z,911nm,2.1s
HYT Haines Junctio 88.32 21 P **P** **22 05 21.2 -0.2**
baz=223,SNR=44
YUK4 Talbot Arm 88.33 20 P **P** **22 05 21.7 +0.2**
baz=222,SNR=41
CCB Clear Creek Bu 88.35 15 IAMs_20 IAMs_20 22 38 35.6
comp=Z,25µm,20.0s
RIDG Independent Ri 88.36 16 IAMs_20 IAMs_20 22 44 03.8
comp=Z,20µm,19.0s
RIDG Independent Ri 88.36 16 P **P** **22 05 20.4 -1.0**
baz=216,SNR=64
HDA Harding Lake 88.36 15 IAMs_20 IAMs_20 22 38 53.0
comp=Z,22µm,20.0s
HDA Harding Lake 88.36 15 P **P** **22 05 20.0 -1.3**
baz=215,SNR=100
MFID Camas Ranch 88.38 43 P **P** **22 05 21.8 -0.3**
MFID IAmb IAmb 22 05 29.1
comp=Z,773nm,1.6s
MFID IAMs_20 IAMs_20 22 36 29.1
comp=Z,26µm,22.0s
MG01 Puerto William 88.39 149 P **P** **22 05 22.2 +0.4**
MG01 IAmb IAmb 22 05 28.9
comp=Z,514nm,1.6s
T35M Bob Quinn 88.40 26 P **P** **22 05 22.4 +0.7**
baz=230,SNR=63
I23K Minto, Yukon-K 88.41 14 P **P** **22 05 20.1 -1.4**
baz=212,SNR=21
BVCY Beaver Creek 88.44 19 P **P** **22 05 21.6 -0.2**
baz=220
MDM Murphy Dome 88.51 14 IAMs_20 IAMs_20 22 36 45.9
comp=Z,25µm,22.0s
TCOL CIGO, UAF Yank 88.53 15 IAMs_20 IAMs_20 22 38 52.3
comp=Z,25µm,20.0s
TCOL CIGO, UAF Yank 88.53 15 P **P** **22 05 20.6 -1.5**
baz=214,SNR=6.8
COLA College 88.53 15 P **P** **22 05 20.2 -1.8**
COLA College 88.53 15 IAMs_20 IAMs_20 22 38 42.3
comp=Z,23µm,20.0s
COLA College 88.53 15 P **P** **22 05 20.7 -1.4**
baz=214
COLA College 88.53 15 *d* *i*P **P** **22 05 20.4 -1.7**
COLA pmax pmax
comp=Z,358nm,2.1s
COLA MLR MLR
comp=Z,10µm,18.0s
MVU Marysvale 88.54 48 P **P** **22 05 23.2 +0.1**
H22K Ishtalitna Cre 88.61 13 P **P** **22 05 21.7 -0.8**
baz=210
S34M Telegraph Cree 88.64 25 P **P** **22 05 23.4 +0.6**
baz=229,SNR=123
L27K Beaver Creek, 88.66 18 P **P** **22 05 22.4 -0.4**
baz=219
BCAR Beaver Creek A 88.67 18 P **P** **22 05 22.0 -0.9**
IL31 88.68 15 P **P** **22 05 21.1 -1.7**
ILAR Eielson Array 88.68 15 P **P** **22 05 21.3 -1.5**
comp=Z,50nm,0.8s,baz=236,slow=4.9,SNR=120
ILAR PKPPKP **P'P'df** **22 31 11.8 +4.3**
comp=Z,1.7nm,1.2s,baz=310,slow=2.1,SNR=6.7
ILAR LR LR 22 39 06.0
comp=Z,21µm,20.1s,baz=216,slow=32
comp=Z,50nm,0.8s
ILAR Eielson Array 88.68 15 P **P** **22 05 20.7 -2.1**
G21K Allakaket 88.72 12 P **P** **22 05 22.2 -0.8**
baz=209,SNR=52
O30N Mendenhall 88.76 21 P **P** **22 05 23.5 +0.1**
baz=224,SNR=67
SCRK Sand Creek 88.78 16 P **P** **22 05 22.5 -0.9**
SCRK IAmb IAmb 22 05 30.5
comp=Z,600nm,1.8s
SCRK Sand Creek 88.78 16 P **P** **22 05 23.6 +0.1**
baz=217,SNR=72
P32M Atlin 88.78 23 P **P** **22 05 23.9 +0.4**
baz=226,SNR=82
HPIG 88.83 61 P **P** **22 05 24.9 +0.2**
HPIG IAmb IAmb 22 05 32.3
comp=Z,391nm,1.5s
POKR Poker Plat Res 88.83 15 IAMs_20 IAMs_20 22 39 01.4
comp=Z,27µm,20.0s
POKR Poker Plat Res 88.83 15 P **P** **22 05 21.7 -1.8**
baz=214,SNR=24
DUG Dugway, Tooele 88.88 47 P **P** **22 05 24.6 +0.1**
DUG IAmb IAmb 22 05 35.7
comp=Z,669nm,1.9s
DUG Dugway, Tooele 88.88 47 P **P** **22 05 25.2 +0.7**
baz=243
DUG Dugway, Tooele 88.88 47 P **P** **22 05 24.6 +0.1**
DUG pmax pmax
comp=Z,669nm,1.9s
DUG MLR MLR
comp=Z,17µm,20.0s
W18A Petrified Fore 88.88 52 P **P** **22 05 25.8 +1.0**
baz=245
Q32M Nakina River 88.90 24 P **P** **22 05 24.9 +0.7**
baz=228
H23K Yukon River 88.94 13 IAMs_20 IAMs_20 22 38 51.3
comp=Z,24µm,22.0s
H23K Yukon River 88.94 13 P **P** **22 05 22.9 -1.2**
baz=212
PLID Pearl Lake 89.08 41 IAMs_20 IAMs_20 22 39 50.4
comp=Z,18µm,19.0s
SNAA Sanae 89.10 180 P **P** **22 05 23.8 -1.2**
comp=Z,45nm,1.1s,baz=176,slow=6.6,SNR=19
SNAA LR LR 22 41 29.1
comp=Z,9µm,22.0s,baz=190,slow=33
comp=Z,45nm,1.1s
SNAA Sanae 89.10 180 P **P** **22 05 23.6 -1.4**
SNAA IAmb IAmb 22 05 31.1
comp=Z,418nm,1.7s
SNAA Sanae 89.10 180 *d* *i*P **P** **22 05 23.4 -1.6**
SNAA pmax pmax
comp=Z,245nm,2.5s
SNAA MLR MLR
comp=Z,10µm,16.0s
WHY Whitehorse 89.11 22 P **P** **22 05 24.3 -0.7**
WHY IAmb IAmb 22 05 32.6
comp=Z,736nm,1.9s
WHY Whitehorse 89.11 22 P **P** **22 05 24.7 -0.3**
baz=226,SNR=65
YAK Yakutsk 89.11 340 P **P** **22 05 24.3 -0.5**
comp=Z,120nm,0.8s,baz=105,slow=1.6,SNR=97
YAK LR LR 22 39 37.4
comp=Z,16µm,21.8s,baz=138,slow=32
comp=Z,120nm,0.8s
YAK Yakutsk 89.11 340 P **P** **22 05 24.2 -0.7**
YAK IAmb IAmb 22 05 31.1
comp=Z,428nm,0.9s
YAK IAMs_20 IAMs_20 22 38 32.3
comp=Z,20µm,21.0s
YAK Yakutsk 89.11 340 *d* *i*P **P** **22 05 24.4 -0.5**
YAK *e**PP **sP** **22 05 29.8 +0.9**
YAK *e*S **SKSac** **22 15 52.9 -1.3**
YAK *e* 22 16 16.6
YAK *e*SS **SS** **22 22 02.9 -4.5**
YAK pmax pmax
comp=Z,403nm,1.1s
YAK pmax pmax
comp=N,67nm,1.2s
YAK pmax pmax
comp=E,74nm,1.3s
YAK smax smax
comp=N,1µm,4.3s
YAK smax smax
comp=E,1µm,5.3s
M29M Somme Creek 89.20 19 P **P** **22 05 25.5 +0.1**
baz=222
NLU North Lily Min 89.28 47 P **P** **22 05 26.4 -0.1**
NLU IAmb IAmb 22 05 33.8
comp=Z,832nm,2.0s
J26L Joseph Creek 89.31 16 P **P** **22 05 25.7 -0.2**
baz=218
121A Cookes Peak, D 89.31 55 P **P** **22 05 26.2 -0.6**
121A Cookes Peak, D 89.31 55 P **P** **22 05 26.6 -0.2**
baz=246,SNR=62
121A Cookes Peak, D 89.31 55 P **P** **22 05 26.4 -0.4**
baz=246
H24K Noodor Dome 89.33 14 IAMs_20 IAMs_20 22 39 30.5
comp=Z,19µm,20.0s
H24K Noodor Dome 89.33 14 P **P** **22 05 24.1 -1.8**
baz=214
NVL N'lazarevskaya 89.33 185 ⇑*i*P **P** **22 05 25.5 -0.5**
NVL *e* 22 08 53.2
NVL *e*PPP PPP 22 10 54.8
NVL *e*S **SKSac** **22 15 52.0 -3.7**
NVL pmax pmax
comp=Z,123nm,0.9s
K27K Chicken 89.34 17 IAMs_20 IAMs_20 22 39 37.8
comp=Z,20µm,20.0s
K27K Chicken 89.34 17 P **P** **22 05 26.1 +0.1**
baz=219
F21K Alatna River 89.35 11 P **P** **22 05 25.3 -0.7**
baz=209
HLID Hailey 89.35 43 P **P** **22 05 27.0 +0.2**
HLID IAMs_20 IAMs_20 22 36 60.0
comp=Z,26µm,22.0s
HLID Hailey 89.35 43 P **P** **22 05 27.7 +1.0**
baz=242
DLBC Dease Lake 89.43 25 LR LR 22 40 42.3
comp=Z,15µm,18.6s,baz=260,slow=32
DLBC Dease Lake 89.43 25 P **P** **22 05 26.6 +0.1**
DLBC Dease Lake 89.43 25 P **P** **22 05 27.1 +0.5**
baz=230,SNR=131
DLBC S **S** **22 16 22.8 +6.3**
baz=230
CIT Chita 89.44 327 *e*P **P** **22 05 28.1 +1.3**
CIT pmax pmax
comp=Z,1µm,3.0s
G22K Bettles 89.47 12 P **P** **22 05 26.0 -0.4**
baz=210
G22K S **S** **22 16 21.7 +5.3**
baz=210
P33M Teslin, Yukon 89.54 23 P **P** **22 05 27.2 +0.1**
baz=227,SNR=53
P33M S **S** **22 16 21.7 +4.2**
baz=227
G23K Bananza Creek 89.59 13 P **P** **22 05 27.1 -0.1**
baz=212
PRP Porcupine Dome 89.62 15 P **P** **22 05 26.5 -0.9**
PRP IAMs_20 IAMs_20 22 39 23.2
comp=Z,28µm,20.0s
PRP Porcupine Dome 89.62 15 P **P** **22 05 26.2 -1.2**
baz=216,SNR=15
R33M Jennings River 89.69 24 P **P** **22 05 28.2 +0.4**
baz=229
R33M S **S** **22 16 23.5 +4.5**
baz=229
L29M L29M 89.80 19 P **P** **22 05 28.3 +0.1**
baz=223
M30M Minto, Yukon 89.83 20 IAMs_20 IAMs_20 22 42 09.7
comp=Z,23µm,19.0s
M30M Minto, Yukon 89.83 20 P **P** **22 05 27.9 -0.5**
baz=224
M30M S **S** **22 16 23.6 +3.6**
baz=224
F22K John River 89.85 12 P **P** **22 05 27.9 -0.4**
baz=210
F22K S **S** **22 16 26.6 +6.6**
baz=210
ZAIG Zacatecas 89.91 66 P **P** **22 05 30.4 +0.5**
NEW Newport 89.96 38 LR LR 22 41 11.8
comp=Z,14µm,19.4s,baz=238,slow=32
NEW Newport 89.96 38 P **P** **22 05 28.6 -0.7**
NEW IAmb IAmb 22 05 39.7
comp=Z,970nm,2.1s
NEW Newport 89.96 38 IAMs_20 IAMs_20 22 40 40.6
comp=Z,18µm,20.0s
NEW Newport 89.96 38 P **P** **22 05 29.0 -0.3**
baz=240
NEW S **S** **22 16 24.5 +2.7**
baz=240
NEW Newport 89.96 38 P **P** **22 05 28.6 -0.7**
NEW pmax pmax
comp=Z,970nm,2.2s
NEW MLR MLR
comp=Z,18µm,20.0s
COLD Coldfoot 90.00 13 P **P** **22 05 28.9 0.0**
baz=212,SNR=21
COLD S **S** **22 16 26.0 +4.7**
baz=212
KIDD KIDD Seismic O 90.01 56 P **P** **22 05 31.0 +1.0**
baz=247,SNR=8.4
MOIG Morelia 90.02 69 P **P** **22 05 29.7 -0.8**
MOIG IAmb IAmb 22 05 37.9
comp=Z,1µm,2.0s
DAWY Dawson 90.13 18 P **P** **22 05 29.0 -0.7**
baz=222,SNR=102
G24K Hadweenzic Riv 90.14 14 P **P** **22 05 28.6 -1.0**
baz=214
EGAK Eagle 90.17 17 P **P** **22 05 28.9 -0.9**
EGAK IAmb IAmb 22 05 39.5
comp=Z,835nm,1.9s
EGAK IAMs_20 IAMs_20 22 40 12.8
comp=Z,20µm,20.0s
EGAK Eagle 90.17 17 P **P** **22 05 29.0 -0.8**
baz=220,SNR=140
EGAK S **S** **22 16 30.3 +7.4**
baz=220
BCYI Bear Canyon 90.34 43 P **P** **22 05 31.8 +0.4**
HWUT Hardware Ranch 90.35 46 P **P** **22 05 31.3 -0.1**
HWUT IAmb IAmb 22 05 42.2
comp=Z,931nm,2.0s
HWUT IAMs_20 IAMs_20 22 40 20.4
comp=Z,26µm,19.0s
M31M Drury Creek, Y 90.35 21 IAMs_20 IAMs_20 22 39 18.2
comp=Z,24µm,20.0s
M31M Drury Creek, Y 90.35 21 P **P** **22 05 29.9 -0.8**
baz=226,SNR=64
LKP Lekhapani 90.40 299 ⇓*i*P **P** **22 05 30.3 -1.5**
LKP IAmb IAmb 22 05 33.0
comp=Z,344nm,1.6s

E22K Anaktuvuk Pass 90.46 12 P P 22 05 30.6 -0.5
baz=210
E22K S S 22 16 28.8 +3.1
baz=210
Y22A Socorro 90.50 54 P P 22 05 32.9 +0.6
baz=247,SNR=9.1
G25K Bearman Lake 90.50 14 P P 22 05 30.1 -1.2
baz=215
K29M Barlow Dome 90.52 19 P P 22 05 31.4 -0.2
baz=223
K29M S S 22 16 33.2 +6.7
baz=223
FYU Fort Yukon 90.54 15 IAMs_20 IAMs_20 22 40 04.6
comp=Z,23µm,20.0s
Y22D iRIS PASSCAL I 90.58 54 P P 22 05 33.0 +0.3
baz=247
Y22D S S 22 16 40.3 +12
baz=247
Y22F Passcal Instru 90.58 54 P P 22 05 33.4 +0.8
baz=247
Y22F S S 22 16 40.3 +12
baz=247
MVCO Mesa Verde 90.66 51 P P 22 05 33.2 +0.1
MVCO IAmb IAmb 22 06 12.2
comp=Z,403nm,1.6s
MVCO Mesa Verde 90.66 51 P P 22 05 33.5 +0.4
baz=246
MVCO S S 22 16 37.4 +8.2
baz=246
I27K Kandik River 90.69 16 P P 22 05 32.0 -0.3
baz=220
I27K S S 22 16 33.2 +5.3
baz=220
COYC Coyhaique 90.70 139 P P 22 05 33.7 +0.8
COYC Coyhaique 90.70 139 IAMs_20 IAMs_20 22 35 35.3
comp=Z,26µm,22.0s
FARO Faro, Yukon 90.73 21 P P 22 05 32.5 0.0
baz=227,SNR=23
F24K Squaw Lake 90.73 13 P P 22 05 32.6 +0.1
baz=214
F24K S S 22 16 34.0 +5.9
baz=214
PV10 Paradox Valley 90.74 49 P P 22 05 33.0 -0.4
J29M Klondike Camp 90.77 18 P P 22 05 32.1 -0.6
J29M IAmb IAmb 22 05 40.0
comp=Z,768nm,1.9s
J29M Klondike Camp 90.77 18 P P 22 05 32.3 -0.4
baz=222,SNR=17
J29M S S 22 16 34.5 +5.9
baz=222
E23K Chandalar 90.83 12 P P 22 05 32.2 -0.7
baz=212
E23K S S 22 16 35.1 +6.0
baz=212
MAYO Mayo, Yukon 90.85 19 P P 22 05 32.6 -0.4
MAYO IAmb IAmb 22 05 51.8
comp=Z,328nm,0.9s
MAYO Mayo, Yukon 90.85 19 P P 22 05 33.0 0.0
baz=225,SNR=12
MAYO S S 22 16 32.0 +2.7
baz=225
MNTX Cornudas Mount 90.86 57 P P 22 05 33.7 -0.1
MNTX IAmb IAmb 22 05 41.2
comp=Z,342nm,1.4s
MNTX IAMs_20 IAMs_20 22 39 42.8
comp=Z,20µm,20.0s
MNTX Cornudas Mount 90.86 57 P P 22 05 34.2 +0.4
baz=248
MNTX Cornudas Mount 90.86 57 P P 22 05 34.5 +0.6
baz=248,SNR=155
MNTX S S 22 16 40.5 +10
baz=248
ULN Ulaanbaatar 90.92 321 P P 22 05 33.0 -0.9
ULN Ulaanbaatar 90.92 321 *d iP* P 22 05 33.5 -0.4
ULN pmax pmax
comp=Z,283nm,1.3s
ULN MLR MLR
comp=Z,18µm,20.0s
ULN Ulaanbaatar 90.92 321 P P 22 05 34.5 +0.5
WTLY Watson Lake, Y 90.99 24 P P 22 05 34.0 +0.2
baz=231,SNR=11
WTLY S S 22 16 37.6 +6.8
baz=231
E24K Your Creek 91.07 13 P P 22 05 33.4 -0.6
baz=213,SNR=18
E24K S S 22 16 36.2 +5.0
baz=213
SAIH SAIHA 91.09 293 ⇓ *iP* P 22 05 34.3 -1.0
MOKO MOKOCHONG 91.14 297 ⇓ *iP* P 22 05 34.5 -1.0
AHID Auburn Hatcher 91.16 45 P P 22 05 35.3 +0.1
AHID IAmb IAmb 22 05 42.4
comp=Z,950nm,1.9s
AHID IAMs_20 IAMs_20 22 40 26.9
comp=Z,19µm,20.0s
MSO Missoula 91.17 40 IAMs_20 IAMs_20 22 38 24.2
comp=Z,20µm,22.0s
MSO Missoula 91.17 40 P P 22 05 34.6 -0.4
baz=242,SNR=38
MSO S S 22 16 36.4 +3.2
baz=242
H27K Steamboat Moun 91.20 16 P P 22 05 34.1 -0.5
baz=220
G26K Porcupine Rive 91.20 15 P P 22 05 34.4 -0.2
baz=218
H03S2 Juan Fernandez 91.22 127 T T 23 46 57.2
baz=244,slow=75,SNR=2.5
H03S1 Juan Fernandez 91.23 127 T T 23 46 56.1
baz=244,slow=75,SNR=2.7
H03S3 Juan Fernandez 91.24 127 T T 23 46 51.8
baz=244,slow=75,SNR=3.1
ANMO Albuquerque 91.28 53 LR LR 22 40 28.8
comp=Z,18µm,18.9s,baz=333,slow=32
ANMO Albuquerque 91.28 53 P P 22 05 35.8 -0.1
ANMO IAmb IAmb 22 05 42.9
comp=Z,342nm,1.4s
ANMO Albuquerque 91.28 53 P P 22 05 36.3 +0.4
baz=247,SNR=164
ANMO Albuquerque 91.28 53 P P 22 05 36.4 +0.4
baz=247
ANMO S S 22 16 42.9 +8.0
baz=247
ANMO Albuquerque 91.28 53 P P 22 05 35.8 -0.1
ANMO pmax pmax
comp=Z,342nm,1.4s
F25K Christian Rive 91.28 14 P P 22 05 35.0 0.0
baz=216
SONM Songino Array 91.30 321 P P 22 05 35.5 -0.1
comp=Z,38nm,1.1s,baz=136,slow=3.0,SNR=129
SONM PKiKP **PKiKP** 22 10 28.0 0.0
comp=Z,2.6nm,0.8s,baz=161,slow=1.3,SNR=2.7
SONM PKKPbc **PKKPbc** 22 22 59.0 -0.3
comp=Z,1.9nm,0.9s,baz=258,slow=3.2,SNR=6.1
SONM PKPPKP **P'P'df** 22 31 07.4 +2.7
comp=Z,1.5nm,1.2s,baz=234,slow=2.8,SNR=6.0
SONM LR LR 22 40 42.1
comp=Z,17µm,21.5s,baz=116,slow=32
comp=Z,38nm,1.1s
SONM Songino Array 91.30 321 P P 22 05 35.0 -0.6
SONM Songino Array 91.30 321 P P 22 05 35.0 -0.6
SONM pmax pmax
comp=Z,336nm,1.6s
TX31 Lajitas Ar. Si 91.36 59 P P 22 05 36.9 +0.5
TX31 Lajitas Ar. Si 91.36 59 P P 22 05 37.2 +0.9
baz=248
TXAR Lajitas Array 91.36 59 P P 22 05 37.5 +1.2
comp=Z,29nm,0.9s,baz=234,slow=4.3,SNR=79
TXAR PKKPbc **PKKPbc** 22 22 58.4 +0.1
comp=Z,3.2nm,0.8s,baz=96,slow=3.7,SNR=14
TXAR PKPPKP **P'P'df** 22 31 07.8 +1.0
comp=Z,2.0nm,1.1s,baz=90,slow=3.8,SNR=5.6
TXAR LR LR 22 39 40.2
comp=Z,20µm,19.5s,baz=238,slow=31
comp=Z,29nm,0.9s
TXAR Lajitas Array 91.36 59 P P 22 05 36.9 +0.6
TXAR Lajitas Array 91.36 59 P P 22 05 36.9 +0.6
H03N2 Juan Fernandez 91.38 126 T T 23 47 00.0
baz=243
H03N3 Juan Fernandez 91.38 126 T T 23 47 01.0
baz=243
BMAR Burnt Mountain 91.39 14 P P 22 05 35.0 -0.5
D23K Nanushuk River 91.39 11 P P 22 05 35.1 -0.4
baz=211
D23K S S 22 16 41.7 +7.7
baz=211
H03N1 Juan Fernandez 91.39 126 T T 23 47 07.8
baz=243
I29M Ogilvie Camp, 91.41 17 P P 22 05 34.5 -1.1
baz=222,SNR=89
I29M S S 22 16 39.6 +5.3
baz=222
G27K Doyon Strip 91.61 15 P P 22 05 35.8 -0.7
baz=219
G27K S S 22 16 45.0 +8.8
baz=219
F26K Sheenjek River 91.71 14 P P 22 05 37.1 +0.1
baz=217
F26K S S 22 16 46.1 +9.1
baz=217
MMPY Sheldon Lake, 91.71 22 P P 22 05 37.2 +0.1
baz=229,SNR=98
E25K Arctic Village 91.73 13 P P 22 05 36.7 -0.3
baz=216
E25K S S 22 16 45.1 +8.0
baz=216
MOOW Moose Ponds 91.82 44 IAMs_20 IAMs_20 22 43 18.2
comp=Z,15µm,18.0s
LOHW Long Hollow 91.85 44 IAMs_20 IAMs_20 22 43 02.1
comp=Z,17µm,18.0s
D24K Happy Valley 91.91 12 P P 22 05 37.3 -0.5
baz=213
GTA Gaotai 91.96 311 ⇓ P P 22 05 38.8 -0.1
GTA pP sP 22 05 42.9 -0.1
GTA S S 22 16 41.1 +0.3
GTA SS SS 22 22 49.9 0.0
GTA pmax pmax
comp=Z,99nm,2.0s
GTA pmax pmax
comp=Z,11µm,10.0s
GTA LR LR
comp=Z,21µm,21.1s
GTA LR LR
comp=Z,24µm,21.5s
GTA LR LR
comp=Z,59µm,24.7s
O20A White River Ci 92.02 48 P P 22 05 40.2 +0.9
baz=246,SNR=60
O20A S S 22 16 47.2 +5.8
baz=246
BOZ Bozeman (W) 92.05 42 P P 22 05 39.0 -0.2
BOZ IAmb IAmb 22 05 46.2
comp=Z,494nm,1.8s
BOZ Bozeman (W) 92.05 42 P P 22 05 39.7 +0.5
baz=244,SNR=108
BOZ S S 22 16 45.5 +4.3
baz=244
BOZ Bozeman (W) 92.05 42 P P 22 05 39.0 -0.2
BOZ pmax pmax
comp=Z,494nm,1.8s
BOZ MLR MLR
comp=Z,27µm,18.0s
SILR SILCHAR 92.05 295 ⇓ *iP* P 22 05 39.6 +0.2
YMR Madison River 92.07 43 P P 22 05 39.7 +0.3
YMR IAmb IAmb 22 05 51.1
comp=Z,668nm,1.8s
S22A 4UR Ranch, Cre 92.09 51 P P 22 05 40.6 +0.9
baz=247,SNR=204
S22A S S 22 16 49.1 +6.9
baz=247
ZIRO ZIRO 92.13 298 *eP* P 22 05 39.2 -0.8
BW06 Boulder Array 92.19 45 IAMs_20 IAMs_20 22 40 52.2
comp=Z,21µm,20.0s
BW06 Boulder Array 92.19 45 P P 22 05 39.9 -0.1
baz=245,SNR=112
BW06 S S 22 16 47.6 +4.7
baz=245
PD31 Pinedale Array 92.19 45 P P 22 05 39.7 -0.4
PDAR Pinedale Array 92.19 45 P P 22 05 39.8 -0.2
comp=Z,14nm,1.0s,baz=238,slow=2.8,SNR=51
PDAR PP **PP** 22 09 19.8 -0.8
comp=Z,17nm,1.2s,baz=262,slow=3.0,SNR=8.2
PDAR PKKPbc **PKKPbc** 22 22 56.9 -0.1
comp=Z,0.5nm,0.3s,baz=85,slow=4.9,SNR=5.0
PDAR PKPPKP **P'P'df** 22 31 05.0 +1.1
comp=Z,1.7nm,1.1s,baz=112,slow=1.6,SNR=8.0
PDAR LR LR 22 41 51.9
comp=Z,18µm,18.9s,baz=262,slow=32
comp=Z,14nm,1.0s
PDAR Pinedale Array 92.19 45 P P 22 05 39.6 -0.4
H17A Grant Village 92.20 43 P P 22 05 41.9 +1.8
baz=245,SNR=67
H17A S S 22 16 52.2 +9.2
baz=245
WALA Waterton Lakes 92.21 38 P P 22 05 39.2 -0.7
WALA IAmb IAmb 22 05 50.7
comp=Z,588nm,2.0s
BRDH Bariadhala 92.32 293 LR LR 22 46 25.0
comp=Z,8µm,20.7s,baz=144,slow=35
LKWY Lake 92.39 43 P P 22 05 40.2 -0.7
LKWY Lake 92.39 43 P P 22 05 40.2 -0.7
LKWY pmax pmax
comp=Z,142nm,1.3s
HRY Holter Researc 92.41 41 P P 22 05 40.0 -0.8
C24K Franklin Bluff 92.41 12 P P 22 05 40.2 +0.1
baz=213
BOD Bodaibo 92.42 332 *eP* P 22 05 39.5 -0.9
BOD pmax pmax
comp=Z,213nm,1.6s
A21K Barrow 92.50 9 P P 22 05 40.1 -0.4
A21K IAmb IAmb 22 05 49.2
comp=Z,376nm,1.9s
A21K Barrow 92.50 9 P P 22 05 40.1 -0.4
baz=206
HTMS Hat Mesa 92.53 57 P P 22 05 40.9 -0.8
D25K Kavik River 92.54 13 P P 22 05 39.8 -0.9
baz=215
SMCO Snowmass 92.54 49 IAMs_20 IAMs_20 22 40 55.6
comp=Z,17µm,20.0s
EPYK Eagle Plains 92.59 17 IAMs_20 IAMs_20 22 41 38.5
comp=Z,20µm,21.0s
EPYK Eagle Plains 92.59 17 P P 22 05 40.6 -0.5
baz=224
TEZP TEZPUR 92.69 297 ⇓ *iP* P 22 05 40.6 -1.7
E27K Coleen River 92.69 15 P P 22 05 41.3 -0.2
baz=220
KOTAN Kotaneelee Air 92.89 26 P P 22 05 43.0 +0.4
baz=235,SNR=20
KOTAN S S 22 16 52.8 +5.0
baz=235
SDCO Great Sand Dun 93.06 51 P P 22 05 43.6 -0.6
SDCO IAMs_20 IAMs_20 22 41 57.5
comp=Z,20µm,19.0s
SDCO Great Sand Dun 93.06 51 P P 22 05 44.7 +0.4
baz=248,SNR=100
SDCO Great Sand Dun 93.06 51 P P 22 05 44.7 +0.4
baz=248,SNR=100
SDCO S S 22 16 58.0 +7.1
baz=248
SHL Shillong 93.10 296 P P 22 05 43.0 -1.5
SHL Shillong 93.10 296 ⇓ *iP* P 22 05 42.8 -1.7
SHL Shillong 93.10 296 P P 22 05 43.0 -1.5
SHL pmax pmax
comp=Z,152nm,1.3s
SHL Shillong 93.10 296 P P 22 05 44.0 -0.6
SNR=39
G30M tAoh Zraii Nji 93.17 17 P P 22 05 42.8 -0.9
baz=224
C26K Camden Bay 93.32 13 P P 22 05 44.7 +0.4
baz=216
PAYG Puerto Ayora 93.33 92 IAMs_20 IAMs_20 22 37 07.9
comp=Z,19µm,19.0s
C27K Jago River 93.34 13 P P 22 05 44.1 -0.3
baz=218
C27K S S 22 16 55.0 +3.5
baz=218
RWWY Rawlins 93.35 47 IAMs_20 IAMs_20 22 41 38.0
comp=Z,21µm,20.0s
RLMT Red Lodge 93.36 43 IAMs_20 IAMs_20 22 41 15.9
comp=Z,24µm,20.0s
RLMT Red Lodge 93.36 43 P P 22 05 46.0 +0.6
baz=246,SNR=53
RLMT S S 22 16 57.8 +4.7
baz=246
GCMT Greycliff 93.37 42 P P 22 05 45.5 +0.2
T25A Trinidad 93.64 52 P P 22 05 46.6 -0.2
T25A IAmb IAmb 22 05 57.6
comp=Z,340nm,1.8s
T25A Trinidad 93.64 52 P P 22 05 47.4 +0.6
baz=248,SNR=24
MSTX Muleshoe 93.74 55 P P 22 05 47.1 -0.1
MSTX IAmb IAmb 22 05 53.8
comp=Z,607nm,1.4s
MSTX Muleshoe 93.74 55 P P 22 05 47.2 -0.1
baz=249
MSTX Muleshoe 93.74 55 P P 22 05 47.1 -0.1
baz=249,SNR=29
MSTX S S 22 17 01.3 +4.5
baz=249
ISCO Idaho Springs 93.75 49 P P 22 05 47.2 -0.2
ISCO IAmb IAmb 22 05 54.6
comp=Z,355nm,1.9s
ISCO IAMs_20 IAMs_20 22 49 21.6
comp=Z,16µm,18.0s
ISCO Idaho Springs 93.75 49 P P 22 05 48.1 +0.7
baz=248,SNR=48
ISCO Idaho Springs 93.75 49 P P 22 05 48.2 +0.8
baz=248,SNR=48
ISCO S S 22 17 04.1 +7.1
baz=248
ISCO Idaho Springs 93.75 49 P P 22 05 47.2 -0.2
ISCO pmax pmax
comp=Z,355nm,1.9s
ISCO MLR MLR
comp=Z,16µm,18.0s
Q24A Divide 93.77 50 P P 22 05 47.8 +0.3
baz=248,SNR=51
N23A Red Feather La 93.93 48 P P 22 05 48.5 +0.4
baz=248,SNR=26
N23A S S 22 17 05.4 +7.0
baz=248
GO06 Curarrehue 94.00 134 P P 22 05 48.7 +0.3
PLCA Paso Flores 94.05 136 P P 22 05 48.8 +0.1
comp=Z,11nm,1.1s,baz=247,slow=1.2,SNR=6.8
PLCA PKKPbc **PKKPbc** 22 22 50.6 -0.6
comp=Z,5.0nm,1.0s,baz=157,slow=3.9,SNR=5.1
PLCA LR LR 22 38 03.3
comp=Z,24µm,21.9s,baz=251,slow=29
comp=Z,11nm,1.1s
PLCA Paso Flores 94.05 136 P P 22 05 49.4 +0.7
PLCA Paso Flores 94.05 136 *eP* P 22 05 50.8 +2.1
F31M Tsiigehtchic 94.19 17 P P 22 05 48.2 0.0
baz=227
F31M S S 22 17 02.2 +3.4
baz=227
K22A Casper 94.20 46 P P 22 05 49.1 -0.1
baz=247,SNR=29
K22A Casper 94.20 46 P P 22 05 49.5 +0.3
baz=247,SNR=29
K22A S S 22 17 07.2 +6.8
baz=247
EGMT Eagleton 94.24 40 P P 22 05 49.1 -0.1
EGMT Eagleton 94.24 40 P P 22 05 49.8 +0.6
baz=246
EGMT S S 22 17 03.5 +3.1
baz=246
ZAK Zakamensk 94.27 322 *eP* P 22 05 48.5 -0.8
ZAK pmax pmax
comp=Z,60nm,1.7s
EDM Edmonton 94.42 35 P P 22 05 49.6 -0.2
EDM Edmonton 94.42 35 P P 22 05 49.6 -0.2
EDM pmax pmax
comp=Z,273nm,1.5s
PHWY Pilot Hill 94.42 48 IAMs_20 IAMs_20 22 39 54.3
comp=Z,22µm,22.0s
GOMU GeErMu 94.42 307 P P 22 05 50.8 +0.1
GOMU pP pwP 22 05 56.2 -1.3
GOMU PP **PP** 22 09 38.1 -0.3
GOMU S S 22 17 05.3 +2.1
GOMU pmax pmax
comp=Z,60nm,2.1s
GOMU pmax pmax
comp=Z,8µm,9.7s
GOMU LR LR
comp=Z,10µm,23.9s
GOMU LR LR
comp=Z,38µm,24.5s
GOMU LR LR
comp=Z,65µm,24.3s
833A Chaparral WMA, 94.52 62 P P 22 05 50.5 -0.2
833A IAmb IAmb 22 06 00.6
comp=Z,1µm,2.8s
833A Chaparral WMA, 94.52 62 P P 22 05 51.2 +0.4
baz=250
833A Chaparral WMA, 94.52 62 P P 22 05 51.7 +0.9
baz=250
833A S S 22 17 13.4 +10
baz=250
IRK Irkutsk 94.52 324 *eP* P 22 05 50.2 0.0
IRK pmax pmax
comp=Z,256nm,2.7s
CMIG Matias Romero 94.79 74 LR LR 22 38 42.1
comp=Z,43µm,21.4s,baz=258,slow=29
INK Inuvik 94.84 17 P P 22 05 50.3 -1.0
comp=Z,43nm,1.1s,baz=219,slow=5.3,SNR=56
INK PKKPbc **PKKPbc** 22 22 50.7 +0.1
comp=Z,1.1nm,0.8s,baz=47,slow=1.8,SNR=3.6
INK LR LR 22 41 21.3
comp=Z,13µm,21.5s,baz=232,slow=31
comp=Z,43nm,1.1s
INK Inuvik 94.84 17 P P 22 05 49.9 -1.4
INK IAmb IAmb 22 05 56.5
comp=Z,680nm,1.9s
INK Inuvik 94.84 17 P P 22 05 50.4 -0.9
baz=227
INK Inuvik 94.84 17 P P 22 05 49.9 -1.4
INK pmax pmax
comp=Z,680nm,1.9s
WRGLY Wrigley 94.90 23 P P 22 05 52.6 +0.9
baz=236,SNR=23
WRGLY S S 22 17 06.8 +1.6
baz=236
JCT Junction City 94.90 60 P P 22 05 52.4 -0.2
JCT Junction City 94.90 60 P P 22 05 52.2 -0.4
baz=250
JCT Junction City 94.90 60 P P 22 05 52.6 +0.1
baz=250
JCT S S 22 17 15.0 +8.1
baz=250
JCT Junction City 94.90 60 P P 22 05 52.4 -0.2
JCT pmax pmax
comp=Z,314nm,2.0s
JCT MLR MLR
comp=Z,14µm,19.0s
AMTX Amarillo 94.91 55 IAMs_20 IAMs_20 22 39 28.6
comp=Z,24µm,22.0s
AMTX Amarillo 94.91 55 P P 22 05 52.6 0.0
baz=250
AMTX Amarillo 94.91 55 P P 22 05 52.8 +0.3
baz=250
AMTX S S 22 17 12.0 +5.2
baz=250
EFI East Falkland 94.94 150 IAMs_20 IAMs_20 22 39 02.9
comp=Z,26µm,21.0s
LSA Lhasa 95.10 300 P P 22 05 53.3 -0.7
LSA Lhasa 95.10 300 P P 22 05 53.9 -0.1
LSA pP **sP** 22 05 59.4 +1.3
LSA S S 22 17 09.2 -0.3
LSA pmax pmax
comp=Z,7µm,11.4s
LSA LR LR
comp=Z,9µm,31.3s
LSA LR LR
comp=Z,13µm,25.6s
LSA LR LR
comp=Z,70µm,49.8s
LSA Lhasa 95.10 300 P P 22 05 53.3 -0.7
LSA pmax pmax
comp=Z,74nm,1.3s
LSA MLR MLR
comp=Z,15µm,21.0s
LSA Lhasa 95.10 300 *i* P P 22 05 53.6 -0.4
SNR=24
KVTX Kingsville 95.52 63 P P 22 05 55.4 0.0
baz=251
KSCO Kaye Shedlock' 95.62 51 P P 22 05 55.2 -0.6
baz=250,SNR=7.0
KSCO Kaye Shedlock' 95.62 51 P P 22 05 56.4 +0.7
baz=250,SNR=7.0
KSCO S S 22 17 19.4 +6.4
baz=250
ABTX Abilene, Hawle 95.74 58 P P 22 05 56.3 0.0
baz=251
ABTX Abilene, Hawle 95.74 58 P P 22 05 56.6 +0.2
baz=251
ABTX S S 22 17 18.8 +4.8
baz=251
LAO LASA Array 95.92 43 P P 22 05 57.4 +0.5
baz=248,SNR=32
LAO LASA Array 95.92 43 P P 22 05 57.3 +0.5
baz=248,SNR=32
LAO S S 22 17 21.0 +5.9
baz=248

735A	**Kenedy**	96.01	62	P	**P**	22 05 58.6	+1.0		
	baz=251								
MOY	**Mondy**	96.12	323	*e*P	**P**	22 05 57.6	-0.1		
MOY				pmax	pmax				
	comp=Z,328nm,3.1s								
TIXI	**Tiksi**	96.35	347	LR	LR	22 43 48.4			
	comp=Z,34µm,21.8s,baz=90,slow=32								
TIXI	**Tiksi**	96.35	347	P	**P**	22 05 56.5	-1.6		
TIXI	**Tiksi**	96.35	347	*d* iP	**P**	22 05 57.1	-1.0		
TIXI				pmax	pmax				
	comp=Z,77nm,1.5s								
TIXI				MLR	MLR				
	comp=Z,13µm,19.0s								
SLGI	**Shiliguri**	96.41	296	*e*P	**P**	22 05 58.1	-1.3		
RSSD	**Black Hills**	96.42	46	P	**P**	22 05 58.8	-0.6		
RSSD				IAmb	IAmb	22 06 09.5			
	comp=Z,284nm,1.7s								
RSSD	**Black Hills**	96.42	46	IAMs_20	IAMs_20	22 44 08.0			
	comp=Z,21µm,20.0s								
RSSD	**Black Hills**	96.42	46	P	**P**	22 05 59.0	-0.5		
	baz=249,SNR=37								
RSSD	**Black Hills**	96.42	46	P	**P**	22 05 59.4	0.0		
	baz=249								
RSSD				S	**S**	22 17 24.3	+4.5		
	baz=249								
RSSD	**Black Hills**	96.42	46	P	**P**	22 05 58.8	-0.6		
RSSD				pmax	pmax				
	comp=Z,284nm,1.7s								
RSSD				MLR	MLR				
	comp=Z,21µm,20.0s								
OGNE	**Ogallala**	96.71	49	IAMs_20	IAMs_20	22 49 49.1			
	comp=Z,14µm,18.0s								
OGNE	**Ogallala**	96.71	49	P	**P**	22 05 59.4	-1.2		
	baz=250,SNR=5.9								
OGNE	**Ogallala**	96.71	49	P	**P**	22 05 59.8	-0.8		
	baz=250,SNR=5.9								
435B	**Jarrell**	96.81	60	IAMs_20	IAMs_20	22 44 11.3			
	comp=Z,17µm,19.0s								
435B	**Jarrell**	96.81	60	P	**P**	22 06 01.9	+0.8		
	baz=252								
435B				S	S	22 17 32.5	+9.2		
	baz=252								
WMOK	**Wichita Mounta**	97.11	56	IAMs_20	IAMs_20	22 40 23.9			
	comp=Z,19µm,22.0s								
WMOK	**Wichita Mounta**	97.11	56	P	**P**	22 06 02.4	-0.1		
	baz=251								
WMOK	**Wichita Mounta**	97.11	56	P	Pdif	22 06 02.7	+0.1		
	baz=251								
WHTX	**Lake Whitney,**	97.29	59	P	Pdif	22 06 03.4	-0.1		
	baz=252								
WHTX	**Lake Whitney,**	97.29	59	P	Pdif	22 06 03.7	+0.2		
	baz=252								
PALK	**Pallekele**	97.31	275	LR	LR	22 52 04.0			
	comp=Z,6µm,19.0s,baz=218,slow=37								
PALK	**Pallekele**	97.31	275	P	**P**	22 06 02.9	-1.0		
PALK				IAmb	IAmb	22 06 06.6			
	comp=Z,320nm,2.0s								
PALK	**Pallekele**	97.31	275	P	**P**	22 06 02.9	-1.0		
PALK				pmax	pmax				
	comp=Z,320nm,2.1s								
PALK				MLR	MLR				
	comp=Z,12µm,19.0s								
PALK	**Pallekele**	97.31	275	P	Pdif	22 06 04.7	+0.7		
U32A	**Winter Ranch,**	97.46	54	P	**P**	22 06 03.9	-0.1		
	baz=251								
CBKS	**Cedar Bluff**	97.68	52	P	**P**	22 06 04.4	-0.6		
CBKS				IAmb	IAmb	22 06 11.6			
	comp=Z,268nm,1.6s								
CBKS				IAMs_20	IAMs_20	22 44 33.8			
	comp=Z,17µm,20.0s								
CBKS	**Cedar Bluff**	97.68	52	P	Pdif	22 06 05.4	+0.3		
	baz=251								
CBKS	**Cedar Bluff**	97.68	52	P	Pdif	22 06 06.3	+1.2		
	baz=251								
CBKS				S	**S**	22 17 37.5	+7.0		
	baz=251								
CBKS	**Cedar Bluff**	97.68	52	P	**P**	22 06 04.4	-0.6		
CBKS				pmax	pmax				
	comp=Z,268nm,1.7s								
CBKS				MLR	MLR				
	comp=Z,17µm,20.0s								
OK038	**West end E0370**	97.69	54	IAMs_20	IAMs_20	22 41 20.2			
	comp=Z,20µm,20.0s								
BOK	**Bokaro**	97.69	292	⇓*i*P	**P**	22 06 03.6	-1.8		
OK035	**E0210 Rd and N**	97.79	54	IAMs_20	IAMs_20	22 41 34.7			
	comp=Z,21µm,22.0s								
DGMT	**Dagmar**	97.85	41	P	Pdif	22 06 05.6	+0.1		
DGMT				IAmb	IAmb	22 06 16.2			
	comp=Z,300nm,1.7s								
DGMT	**Dagmar**	97.85	41	IAMs_20	IAMs_20	22 47 46.5			
	comp=Z,16µm,18.0s								
DGMT	**Dagmar**	97.85	41	P	**P**	22 06 05.3	-0.2		
	baz=250,SNR=7.3								
DGMT	**Dagmar**	97.85	41	P	Pdif	22 06 05.6	0.0		
	baz=250								
DGMT				S	**S**	22 17 38.3	+6.8		
	baz=250								
HKT	**Hockley**	97.99	61	IAMs_20	IAMs_20	22 41 23.6			
	comp=Z,19µm,21.0s								
HKT	**Hockley**	97.99	61	P	**P**	22 06 05.9	-0.5		
	baz=252								
YKA	**Yellowknife Ar**	98.02	26	P	**P**	22 06 05.2	-0.6		
	comp=Z,22nm,1.0s,baz=249,slow=4.6,SNR=89								
YKA				PP	**PP**	22 09 59.0	-6.1		
	comp=Z,7.1nm,1.2s,baz=244,slow=7.1,SNR=4.2								
YKA				PKKPbc	**PKKPbc**	22 22 38.5	-3.1		
	comp=Z,0.7nm,0.7s,baz=43,slow=2.2,SNR=7.1								
YKA				PKPPKP	**P'P'df**	22 30 52.5	+1.6		
	comp=Z,0.2nm,0.7s,baz=53,slow=2.6,SNR=3.7								
YKA				LR	LR	22 46 38.6			
	comp=Z,20µm,18.7s,baz=284,slow=33								
	comp=Z,22nm,1.0s								
VIS	**Vishakhapatnam**	98.13	286	*e*P	**P**	22 06 05.7	-1.7		
C36M	**Paulatuk**	98.17	18	IAMs_20	IAMs_20	22 48 26.2			
	comp=Z,14µm,19.0s								
C36M	**Paulatuk**	98.17	18	P	**P**	22 06 05.2	-1.2		
	baz=236								
OK032	**Salt Plains WL**	98.20	54	IAMs_20	IAMs_20	22 41 46.6			
	comp=Z,26µm,22.0s								
R32A	**Long Quarter,**	98.32	52	P	**P**	22 06 07.8	-0.1		
	baz=252								
OK029	**Liberty Lake**	98.47	55	IAMs_20	IAMs_20	22 41 42.9			
	comp=Z,23µm,22.0s								
OK025	**Westminster Rd**	98.49	55	IAMs_20	IAMs_20	22 41 41.6			
	comp=Z,21µm,22.0s								
237A	**Washetta, Mont**	98.63	59	P	Pdif	22 06 09.8	+0.4		
	baz=252								
JHSG	**JHARSUGUGA**	98.94	290	⇓*i*P	**P**	22 06 10.2	-0.8		
OK033	**Mehan**	98.94	55	IAMs_20	IAMs_20	22 44 44.4			
	comp=Z,21µm,20.0s								
OK031	**S. Brethren Rd**	98.99	55	IAMs_20	IAMs_20	22 44 35.8			
	comp=Z,20µm,20.0s								
OK050	**Pawnee Station**	99.01	55	IAMs_20	IAMs_20	22 42 01.3			
	comp=Z,25µm,22.0s								
OK030	**Cody Creek RV**	99.03	55	IAMs_20	IAMs_20	22 44 45.7			
	comp=Z,20µm,19.0s								
OK048	**Pawnee Station**	99.05	55	IAMs_20	IAMs_20	22 42 01.2			
	comp=Z,25µm,22.0s								
OK046	**Pawnee Station**	99.07	55	IAMs_20	IAMs_20	22 42 02.8			
	comp=Z,24µm,22.0s								
A36M	**Sachs Harbour**	99.36	16	Pdiff	**Pdif**	22 06 11.1	-0.6		
	baz=235								
E28A	**Huff**	99.46	44	P	**Pdif**	22 06 13.5	+0.7		
	baz=252								
NATX	**Nacogdoches**	99.49	60	IAMs_20	IAMs_20	22 45 22.3			
	comp=Z,17µm,20.0s								
NATX	**Nacogdoches**	99.49	60	P	**Pdif**	22 06 12.4	-0.8		
	baz=253								
NATX	**Nacogdoches**	99.49	60	Pdiff	**Pdif**	22 06 13.2	0.0		
	baz=253								
T35B	**Sooner Cattle**	99.53	54	P	**Pdif**	22 06 13.6	+0.3		
	baz=253								
MDRS	**Chennai**	99.55	281	*e*P	**Pdif**	22 06 11.2	-2.6		
K31A	**O'Neill**	99.57	48	P	**Pdif**	22 06 13.6	+0.3		
	baz=252								
BGNE	**Belgrade**	99.64	50	P	**Pdif**	22 06 13.4	-0.3		
	baz=253								
BGNE	**Belgrade**	99.64	50	Pdiff	**Pdif**	22 06 13.9	+0.2		
	baz=253								
LCO	**Las Campanas**	99.66	125	IAMs_20	IAMs_20	22 39 52.6			
	comp=Z,23µm,20.0s								
Z38A	**Mt. Pleasant**	99.66	58	P	**Pdif**	22 06 14.9	+0.9		
	baz=253								
X37A	**Clayton**	99.74	57	P	**Pdif**	22 06 13.3	-1.0		
	baz=253								
TUL1	**Leonard**	99.79	55	IAMs_20	IAMs_20	22 44 50.0			
	comp=Z,16µm,20.0s								
TUL1	**Leonard**	99.79	55	P	**Pdif**	22 06 15.1	+0.6		
	baz=253								
TUL1	**Leonard**	99.79	55	Pdiff	**Pdif**	22 06 14.8	+0.4		
	baz=253								
N33B	**J Bar K, Exete**	99.95	50	P	**Pdif**	22 06 13.4	-1.7		
	baz=253								
SUSD	**Miller**	99.98	46	P	**Pdif**	22 06 14.9	-0.2		
	baz=253								
SUSD	**Miller**	99.98	46	Pdiff	**Pdif**	22 06 15.4	+0.3		
	baz=253								
KSU1	**Kansas State U**	100.09	52	IAMs_20	IAMs_20	22 45 19.5			
	comp=Z,20µm,20.0s								
KSU1	**Kansas State U**	100.09	52	P	**Pdif**	22 06 16.6	+0.9		
	baz=253								
KSU1	**Kansas State U**	100.09	52	Pdiff	**Pdif**	22 06 16.2	+0.5		
	baz=253								
DGAR	**Diego Garcia**	100.14	258	IAMs_20	IAMs_20	22 46 05.1			
	comp=Z,21µm,21.0s								
VJD	**Vijayawada**	100.21	284	⇓*i*P	**Pdif**	22 06 14.6	-2.0		
441A	**DeRidder**	100.41	61	P	**Pdif**	22 06 18.5	+1.2		
	baz=254								
VLK	**Valmikinagar**	100.47	295	⇓*i*P	**Pdif**	22 06 16.0	-1.6		
MDND	**Maddock**	100.56	43	P	**Pdif**	22 06 17.6	+0.1		
	baz=253								
MDND	**Maddock**	100.56	43	Pdiff	**Pdif**	22 06 17.4	-0.2		
	baz=253								
VAR	**Varanasi**	100.63	293	*e*P	**Pdif**	22 06 18.0	-0.5		
TGUH	**Tegucigalpa,Un**	100.83	79	IAMs_20	IAMs_20	22 41 00.1			
	comp=Z,25µm,21.0s								
SALM	**Salem**	101.02	279	*e*P	**Pdif**	22 06 19.7	-0.6		
U38A	**Gravette**	101.03	55	P	**Pdif**	22 06 20.1	+0.1		
	baz=254								
L34A	**Svendsen Farm,**	101.07	49	P	**Pdif**	22 06 20.5	+0.5		
	baz=254								
MIAR	**Mount Ida**	101.15	57	IAMs_20	IAMs_20	22 45 04.0			
	comp=Z,16µm,21.0s								
MIAR	**Mount Ida**	101.15	57	P	**Pdif**	22 06 18.8	-1.8		
	baz=254								
MIAR	**Mount Ida**	101.15	57	Pdiff	**Pdif**	22 06 21.5	+1.0		
	baz=254								
FFC	**Flin Flon**	101.20	36	IAMs_20	IAMs_20	22 44 58.7			
	comp=Z,16µm,20.0s								
TRD	**Trivandrum**	101.22	275	⇓*i*P	**Pdif**	22 06 20.1	-1.2		
KOD	**Kodaikanal**	101.27	277	⇓*i*P	**Pdif**	22 06 20.0	-1.9		
342B	**Flagon Creek P**	101.29	61	P	**Pdif**	22 06 22.2	+1.0		
	baz=254								
N35A	**Tabor**	101.30	51	P	**Pdif**	22 06 21.4	+0.4		
	baz=254								
ECSD	**EROS Data Cent**	101.39	48	IAMs_20	IAMs_20	22 46 59.6			
	comp=Z,15µm,20.0s								
ECSD	**EROS Data Cent**	101.39	48	P	**Pdif**	22 06 22.8	+1.4		
	baz=254								
ECSD	**EROS Data Cent**	101.39	48	Pdiff	**Pdif**	22 06 20.9	-0.5		
	baz=254								
JTS	**Las Juntas de**	101.86	83	IAMs_20	IAMs_20	22 42 56.0			
	comp=Z,17µm,19.0s								
WMQ	**Urumqi**	101.99	312	*e*P	**PKiKP**	22 10 41.8	-5.0		
WMQ	**Urumqi**	101.99	312	P	**Pdif**	22 06 23.3	-0.8		
WMQ				PP	**PP**	22 10 35.2	-0.6		
WMQ				S	**Sdif**	22 18 05.0	-1.5		
WMQ				sS	sS	22 18 15.8	+4.0		
WMQ				SS	**SS**	22 25 09.3	-1.9		
WMQ				pmax	pmax				
	comp=Z,25nm,1.9s								
WMQ				pmax	pmax				
	comp=Z,4µm,10.1s								
WMQ				LR	LR				
	comp=Z,9µm,22.7s								
WMQ				LR	LR				
	comp=Z,24µm,22.7s								
WMQ				LR	LR				
	comp=Z,45µm,22.7s								
D32B	**Dogwood Acres,**	102.04	44	P	**Pdif**	22 06 24.1	0.0		
	baz=254								
F33A	**5 Mile Ranch,**	102.18	46	P	**Pdif**	22 06 26.2	+1.4		
	baz=255								
S39A	**Bolivar**	102.19	54	P	**Pdif**	22 06 26.2	+1.1		
	baz=255								
KAAM	**Kaadhehdhoo**	102.38	266	IAMs_20	IAMs_20	22 45 22.4			
	comp=Z,17µm,21.0s								
HYB	**Hyderabad**	102.39	284	*e*Pdif	**Pdif**	22 06 24.6	-1.9		
HYB				*e*Pdif	**pPdif**	22 06 26.9	-2.5		
HYB				*e*PP	**PP**	22 10 37.9	-1.4		
HYB				IVMs_BB	IVMs_BB	22 44 16.9			
	comp=Z,4µm,50.7s								
HYB	**Hyderabad**	102.39	284	*e*P	**Pdif**	22 06 23.8	-2.6		
143A	**Socs Landing,**	102.40	60	P	**Pdif**	22 06 27.4	+1.2		
	baz=255								
545B	**Wilberts Farm,**	102.46	62	P	**Pdif**	22 06 28.5	+2.1		
	baz=255								
P38A	**Dawn**	102.53	52	P	**Pdif**	22 06 27.9	+1.4		
	baz=255								
HDC	**Heredia**	102.56	84	IAMs_20	IAMs_20	22 43 11.2			
	comp=Z,20µm,20.0s								
344A	**Westbrook Farm**	102.63	61	P	**Pdif**	22 06 28.6	+1.4		
	baz=255								
VBMS	**Vicksburg**	103.00	60	P	**Pdif**	22 06 28.3	-0.5		
	baz=255								
VBMS	**Vicksburg**	103.00	60	Pdiff	**Pdif**	22 06 30.3	+1.5		
	baz=255								
N38A	**Joes South For**	103.04	51	P	**Pdif**	22 06 29.1	+0.3		
	baz=256								
AGMN	**Agassiz Nation**	103.09	43	P	**Pdif**	22 06 29.8	+0.9		
	baz=256								
AGMN	**Agassiz Nation**	103.09	43	Pdiff	**Pdif**	22 06 28.3	-0.5		
	baz=256								
R40A	**Maddies Statio**	103.14	54	P	**Pdif**	22 06 29.5	+0.2		
	baz=256								
SCIA	**State Center**	103.33	50	IAMs_20	IAMs_20	22 46 34.1			
	comp=Z,21µm,21.0s								
SCIA	**State Center**	103.33	50	P	**Pdif**	22 06 31.4	+1.3		
	baz=256								
SCIA	**State Center**	103.33	50	Pdiff	**Pdif**	22 06 30.7	+0.7		
	baz=256								
ULM	**Lac du Bonnet**	103.57	41	Pdiff	**Pdif**	22 06 30.3	-0.6		
	comp=Z,1.0nm,0.3s,baz=281,slow=6.6,SNR=2.8								
ULM				PP	**PP**	22 10 46.9	-0.5		
	comp=Z,2.9nm,1.0s,baz=273,slow=11,SNR=5.5								
P40A	**Paris**	103.61	53	P	**Pdif**	22 06 31.3	-0.1		
	baz=256								
346A	**Big Creek Wild**	103.66	61	P	**Pdif**	22 06 34.6	+2.9		
	baz=255								
I37B	**Waseca**	103.71	48	P	**Pdif**	22 06 31.7	+0.1		
	baz=256								
K38A	**Parkersburg**	103.83	49	P	**Pdif**	22 06 33.0	+0.7		
	baz=256								
CCM	**Cathedral Cave**	103.87	54	P	**Pdif**	22 06 32.2	-0.4		
	baz=256								
CCM	**Cathedral Cave**	103.87	54	Pdiff	**Pdif**	22 06 32.6	+0.1		
	baz=256								
F36A	**Milaca**	104.06	46	P	**Pdif**	22 06 34.4	+1.2		
	baz=257								
LGTI	**Lohaghat**	104.11	297	⇓*i*P	**Pdif**	22 06 31.7	-2.1		
LGTI				IAmb	IAmb	22 06 34.1			
	comp=Z,52nm,1.5s								
PBMO	**Poplar Bluff**	104.20	56	P	**Pdif**	22 06 33.5	-0.5		
	baz=256								
Y45A	**Yeager Farm, C**	104.20	59	P	**Pdif**	22 06 35.8	+1.7		
	baz=256								
146A	**Union**	104.30	60	P	**Pdif**	22 06 34.1	-0.5		
	baz=256								
SPMN	**Marine on St.**	104.41	47	P	**Pdif**	22 06 35.9	+1.2		
	baz=257								
SPMN	**Marine on St.**	104.41	47	Pdiff	**Pdif**	22 06 34.9	+0.2		
	baz=257								
OXF	**Oxford**	104.47	58	P	**Pdif**	22 06 36.9	+1.6		
	baz=256								
OXF	**Oxford**	104.47	58	Pdiff	**Pdif**	22 06 35.0	-0.3		
	baz=256								
MNGI	**Mangalore**	104.55	279	*e*P	**Pdif**	22 06 33.2	-2.8		
JHNI	**Jhansi**	104.58	292	⇓*i*P	**Pdif**	22 06 32.7	-3.2		
AKL	**Akola**	104.69	287	⇓*i*P	**Pdif**	22 06 34.5	-2.1		
AKL				IAmb	IAmb	22 06 37.3			
	comp=Z,42nm,1.6s								
SLM	**Saint Louis**	104.78	54	P	**Pdif**	22 06 36.8	+0.3		
	baz=257								
N41A	**Harden Midland**	104.78	52	P	**Pdif**	22 06 36.1	-0.4		
	baz=257								
W45A	**Hickory Valley**	104.80	58	P	**Pdif**	22 06 35.9	-0.8		
	baz=256								
ZSN	**Zaisan**	104.80	315	*e*Pdif	**Pdif**	22 06 35.8	-0.7		
	baz=315								
ZSN				*e*PP	**PP**	22 10 55.8	-0.9		
	baz=315								
L40A	**Anamosa**	104.81	50	P	**Pdif**	22 06 36.4	-0.3		
	baz=257								
MNCY	**Minicoy**	104.84	274	*ex*	x	22 06 35.7			
BHPL	**Bhopal**	104.99	290	⇓*i*P	**Pdif**	22 06 34.9	-3.0		
BHPL				IAmb	IAmb	22 06 46.1			
	comp=Z,4.6nm,0.7s								
Z47A	**Carrollton**	105.24	60	P	**Pdif**	22 06 36.8	-1.9		
	baz=257								
S44A	**Carbondale**	105.32	55	P	**Pdif**	22 06 38.8	-0.2		
	baz=257								
P43A	**Skaggs, Pawnee**	105.54	53	P	**Pdif**	22 06 41.2	+1.2		
	baz=258								
E38A	**The Farm, Brul**	105.56	46	P	**Pdif**	22 06 39.6	-0.2		
	baz=258								
LPA	**La Plata**	105.57	136	*c* iPDIFF	**Pdif**	22 06 40.7	+0.4		
LPA				PKIKP	**PKiKP**	22 10 55.5	+1.9		
LPA				SKIKS		22 18 04.8			
LPA				PS	**PS**	22 20 14.3	-3.9		
LPA				SS	SS	22 25 56.2	-2.9		
BRAL	**Brewton**	105.61	62	P	**Pdif**	22 06 41.8	+1.3		
	baz=256								
BRAL	**Brewton**	105.61	62	Pdiff	**Pdif**	22 06 39.5	-1.0		
	baz=256								
I40A	**Norwalk**	105.64	49	P	**Pdif**	22 06 41.2	+0.9		
	baz=258								
PLAL	**Pickwick Lake**	105.64	58	IAMs_20	IAMs_20	22 50 12.0			
	comp=Z,19µm,19.0s								
T45B	**Paducah**	105.64	56	P	**Pdif**	22 06 40.7	+0.3		
	baz=257								
JFWS	**Jewell Farm**	105.70	50	P	**Pdif**	22 06 41.2	+0.6		
	baz=258								
JFWS	**Jewell Farm**	105.70	50	Pdiff	**Pdif**	22 06 41.0	+0.4		
	baz=258								
Q44A	**Meyer Farm, Va**	105.77	54	P	**Pdif**	22 06 41.4	+0.5		
	baz=258								
EYMN	**Ely**	105.87	44	IAMs_20	IAMs_20	22 54 28.2			
	comp=Z,16µm,18.0s								
EYMN	**Ely**	105.87	44	P	**Pdif**	22 06 41.8	+0.6		
	baz=258								
EYMN	**Ely**	105.87	44	Pdiff	**Pdif**	22 06 41.3	+0.1		
	baz=258								
HDIL	**Hopedale**	105.91	52	IAMs_20	IAMs_20	22 50 12.4			
	comp=Z,20µm,19.0s								
HDIL	**Hopedale**	105.91	52	P	**Pdif**	22 06 43.2	+1.6		
	baz=258								
HDIL	**Hopedale**	105.91	52	Pdiff	**Pdif**	22 06 41.7	+0.2		
	baz=258								
L42A	**Oliver, Polo**	105.93	51	P	**Pdif**	22 06 40.9	-0.7		
	baz=258								
LRAL	**Lakeview Retre**	106.08	60	IAMs_20	IAMs_20	22 51 14.8			
	comp=Z,15µm,19.0s								
LRAL	**Lakeview Retre**	106.08	60	P	**Pdif**	22 06 41.2	-1.3		
	baz=257								
LRAL	**Lakeview Retre**	106.08	60	Pdiff	**Pdif**	22 06 43.4	+0.9		
	baz=257								
WVT	**Waverly**	106.09	57	IAMs_20	IAMs_20	22 46 15.7			
	comp=Z,21µm,21.0s								
WVT	**Waverly**	106.09	57	P	**Pdif**	22 06 41.3	-1.1		
	baz=258								
WVT	**Waverly**	106.09	57	Pdiff	**Pdif**	22 06 42.7	+0.3		
	baz=258								
ZALV	**Zalesovo Beam**	106.15	322	Pdiff	**Pdif**	22 06 42.4	+0.1		
	comp=Z,1.2nm,0.8s,baz=101,slow=6.2,SNR=8.7								
ZALV				PKiKP	**PKiKP**	22 10 52.8	-1.2		
	comp=Z,5.0nm,0.7s,baz=209,slow=2.7,SNR=13								
ZALV				PKKP	**PKKPdf**	22 22 29.9	+0.4		
	comp=Z,0.6nm,0.5s,baz=319,slow=4.3,SNR=3.5								
DDI	**Dehra Dun**	106.17	297	*e*P	**Pdif**	22 06 40.9	-2.1		
GOA	**Goa**	106.20	281	*e*P	**Pdif**	22 06 41.9	-1.5		
GOA				IAmb	IAmb	22 06 52.7			
	comp=Z,10nm,0.9s								
G40A	**Rib Lake**	106.21	47	P	**Pdif**	22 06 44.1	+1.3		
	baz=259								
X48A	**Hartselle**	106.35	59	P	**Pdif**	22 06 45.1	+1.4		
	baz=257								
MKAR	**Makanchi Array**	106.38	314	Pdiff	**Pdif**	22 06 43.4	-0.2		
	comp=Z,2.3nm,0.8s,baz=94,slow=5.2,SNR=16								
MKAR				PKiKP	**PKiKP**	22 10 53.8	-1.0		
	comp=Z,4.6nm,0.9s,baz=94,slow=1.7,SNR=7.6								
MKAR				PKKPbc	**PKKPbc**	22 22 15.1	-1.4		
	comp=Z,2.2nm,0.8s,baz=297,slow=3.9,SNR=8.5								
OLIL	**Olney**	106.43	54	P	**Pdif**	22 06 44.0	+0.1		
	baz=258								
O44A	**Mansfield**	106.44	53	P	**Pdif**	22 06 45.6	+1.7		
	baz=258								
250A	**Grady**	106.44	61	P	**Pdif**	22 06 45.9	+1.7		
	baz=257								
NDI	**New Delhi**	106.50	295	*e*P	**Pdif**	22 06 41.1	-3.4		
451A	**Vernon**	106.57	63	P	**Pdif**	22 06 44.1	-0.6		
	baz=257								
MAKZ	**Makanchi**	106.60	314	IAMs_20	IAMs_20	22 51 05.7			
	comp=Z,14µm,22.0s								
Y49A	**Blount Mountai**	106.74	59	P	**Pdif**	22 06 46.6	+1.2		
	baz=258								
V48A	**Smith Brothers**	106.81	57	P	**Pdif**	22 06 45.6	-0.1		
	baz=258								
T47A	**Sharon Grove**	106.84	56	P	**Pdif**	22 06 45.9	+0.1		
	baz=258			

baz=310
ZHN *e*PKiKP **PKiKP** 22 10 58.3 -0.5
baz=310
ZHN *e*PP **PP** 22 11 23.1 -0.6
baz=310
TIGA Tifton 108.56 62 P **Pdif** 22 06 55.2 +1.6
baz=258
R49A Shelbyville 108.60 55 P **Pdif** 22 06 54.8 +1.2
baz=260
R49A P **Pdif** 22 06 54.8 +1.2
baz=260
P48A Milroy 108.61 54 P **Pdif** 22 06 51.4 -2.2
baz=260
P48A P **Pdif** 22 06 51.4 -2.2
baz=260
E43A Lone Tree Farm 108.61 46 P **Pdif** 22 06 54.5 +1.1
baz=261
T50A Nancy 108.63 56 P **Pdif** 22 06 54.7 +1.0
baz=259
T50A P **Pdif** 22 06 54.7 +1.0
baz=259
Y52A Lilburn 108.65 60 P **Pdif** 22 06 54.5 +0.6
baz=259
Y52A P **Pdif** 22 06 54.5 +0.6
baz=259
N47A Urbana 108.65 52 P **Pdif** 22 06 52.9 -0.8
baz=260
N47A P **Pdif** 22 06 52.9 -0.8
baz=260
TDK Taldyqorghan 108.74 312 *e*Pdif **Pdif** 22 06 53.1 -1.0
baz=312
TDK *e*PP **PP** 22 11 25.4 -0.4
baz=312
TDK LR LR 22 47 33.7
comp=Z,21µm,22.4s,baz=312
I45A Fountain 108.78 49 P **Pdif** 22 06 56.3 +2.1
baz=261
I45A P **Pdif** 22 06 56.3 +2.1
baz=261
V51A Loudon 108.79 58 P **Pdif** 22 06 53.6 -0.8
baz=259
O48B Farmland 108.95 53 P **Pdif** 22 06 57.1 +2.0
baz=260
O48B Farmland 108.95 53 Pdiff **Pdif** 22 06 56.2 +1.1
baz=260
W52A Murphy 109.00 59 P **Pdif** 22 06 56.3 +0.9
baz=259
656A Willston 109.03 65 P **Pdif** 22 06 56.6 +1.0
baz=258
P49A Miami Univ. Ec 109.16 54 P **Pdif** 22 06 57.5 +1.5
baz=260
P49A Miami Univ. Ec 109.16 54 Pdiff **Pdif** 22 06 55.9 -0.1
baz=260
154A Montrose 109.19 61 P **Pdif** 22 06 54.9 -1.4
baz=259
TKL Tuckaleechee C 109.22 58 P **Pdif** 22 06 57.8 +1.3
baz=260
R50A Paris 109.25 55 P **Pdif** 22 06 56.6 +0.1
baz=260
R50A P **Pdif** 22 06 56.6 +0.1
baz=260
JMU Jammu 109.31 299 *e*P **Pdif** 22 06 56.9 +0.1
G45A Suttons Bay 109.34 48 P **Pdif** 22 06 59.2 +2.5
baz=262
G45A P **Pdif** 22 06 59.2 +2.5
baz=262
V52A Sevierville 109.40 58 P **Pdif** 22 06 55.9 -1.3
baz=260
MDOK Medeo 109.43 310 *e*Pdif **Pdif** 22 06 57.6 +0.3
baz=310
MDOK *e*PP **PP** 22 11 30.4 -0.5
baz=310
MDOK LR LR 22 48 47.9
comp=Z,8µm,25.8s,baz=310
KURBB Kurchatov Arra 109.45 318 PKKPbc PKKPbc 22 22 04.6 -2.2
comp=Z,2.6nm,0.7s,baz=277,slow=3.7,SNR=15
AAA Alma-Ata 109.53 310 *e*PKiKP **PKiKP** 22 10 59.9 -0.9
baz=310
AAA *e*PP **PP** 22 11 31.0 -0.5
baz=310
AAA LR LR 22 50 30.9
comp=Z,13µm,22.1s,baz=310
TZTN Tazewell 109.56 57 P **Pdif** 22 06 59.6 +1.7
baz=260
TZTN Tazewell 109.56 57 Pdiff **Pdif** 22 06 58.0 +0.1
baz=260
O49A Covington 109.56 53 P **Pdif** 22 07 00.1 +2.3
baz=261
O49A P **Pdif** 22 07 00.1 +2.3
baz=261
CHKK Chushkaly 109.57 311 *e*Pdif **Pdif** 22 06 56.8 -1.0
baz=311
CHKK *e*PKiKP **PKiKP** 22 10 59.4 -1.4
baz=311
255A Hazlehurst 109.59 62 P **Pdif** 22 06 59.4 +1.3
baz=259
J47A Sunmer 109.67 50 P **Pdif** 22 06 58.1 -0.1
baz=262
J47A P **Pdif** 22 06 58.1 -0.1
baz=262
DWPF Disney Wildern 109.71 66 P **Pdif** 22 06 59.9 +1.2
baz=258
DWPF Disney Wildern 109.71 66 Pdiff **Pdif** 22 06 59.0 +0.2
baz=258
S51A Beattyville 109.71 56 P **Pdif** 22 06 58.9 +0.4
baz=260
S51A P **Pdif** 22 06 58.9 +0.4
baz=260
456A Hilliard 109.73 63 P **Pdif** 22 07 00.5 +1.8
baz=259
L48A N Adams 109.76 51 P **Pdif** 22 06 57.8 -0.9
baz=261
L48A P **Pdif** 22 06 57.8 -0.9
baz=261
N49A Columbus Grove 109.79 53 P **Pdif** 22 06 59.2 +0.4
baz=261
N49A P **Pdif** 22 06 59.2 +0.4
baz=261
V53A Saluda 110.00 58 P **Pdif** 22 07 01.8 +1.9
baz=260
V53A P **Pdif** 22 07 01.8 +1.9
baz=260
GLMI Grayling 110.04 48 IAMs_20 IAMs_20 22 51 45.5
comp=Z,19µm,20.0s
GLMI Grayling 110.04 48 P **Pdif** 22 07 00.0 +0.2
baz=262
GLMI Grayling 110.04 48 Pdiff **Pdif** 22 07 00.9 +1.1
baz=262
KUU Kurty 110.04 311 *e*Pdif **Pdif** 22 06 59.5 -0.4
baz=311
KUU *e*PKiKP **PKiKP** 22 11 02.2 +0.5
baz=311
KUU *e*PP **PP** 22 11 35.4 +0.2
baz=311
Q51A Peebles 110.13 55 P **Pdif** 22 07 01.0 +0.7
baz=261
Q51A P **Pdif** 22 07 01.0 +0.7
baz=261
AAM Ann Arbor 110.39 51 IAMs_20 IAMs_20 22 55 58.9
comp=Z,17µm,18.0s
AAM Ann Arbor 110.39 51 P **Pdif** 22 07 03.4 +2.0
baz=262
AAM Ann Arbor 110.39 51 Pdiff **Pdif** 22 07 01.9 +0.6
baz=262
060A Indiantown 110.42 68 P **Pdif** 22 07 04.9 +3.0
baz=258
P51A Williamsport 110.42 54 P **Pdif** 22 07 02.2 +0.6
baz=261
P51A P **Pdif** 22 07 02.2 +0.6
baz=261
E46A Sault Ste Mari 110.46 47 P **Pdif** 22 07 02.5 +0.9
baz=263
ACSO Alum Creek Sta 110.59 53 P **Pdif** 22 07 01.3 -1.1
baz=262
ACSO Alum Creek Sta 110.59 53 Pdiff **Pdif** 22 07 00.6 -1.8
baz=262
M50A Fremont 110.71 52 P **Pdif** 22 07 04.6 +1.7
baz=262
M50A P **Pdif** 22 07 04.6 +1.7
baz=262
257A Skidaway Islan 110.81 62 P **Pdif** 22 07 05.9 +2.4
baz=260
U54A Nelsons Funny 110.93 57 P **Pdif** 22 07 03.9 -0.2
baz=261
U54A P **Pdif** 22 07 03.9 -0.2
baz=261
Q52A Bidwell 110.95 55 P **Pdif** 22 07 04.2 +0.2
baz=262
Q52A P **Pdif** 22 07 04.2 +0.2
baz=262
KMSC Kings Mountain 111.10 59 P **Pdif** 22 07 06.6 +1.9
baz=261
KMSC Kings Mountain 111.10 59 Pdiff **Pdif** 22 07 04.6 -0.1
baz=261
R53A Hurricane 111.10 56 P **Pdif** 22 07 06.3 +1.6
baz=262
R53A P **Pdif** 22 07 06.3 +1.6
baz=262
CPUP Villa Florida 111.11 130 PKiKP **PKiKP** 22 11 05.0 +0.7
comp=Z,1.4nm,0.7s,baz=141,slow=2.9,SNR=3.0
CPUP PKKPbc **PKKPbc** 22 22 00.2 -0.5
comp=Z,3.5nm,1.0s,baz=216,slow=7.9,SNR=3.3
N51A Ashland 111.15 53 P **Pdif** 22 07 06.1 +1.3
baz=262
N51A P **Pdif** 22 07 06.1 +1.3
baz=262
P52A Corning 111.15 54 IAMs_20 IAMs_20 22 51 54.5
comp=Z,19µm,20.0s
P52A Corning 111.15 54 Pdiff **Pdif** 22 07 04.1 -0.8
baz=262
I49A Point Hope 111.20 49 P **Pdif** 22 07 04.4 -0.6
baz=263
I49A P **Pdif** 22 07 04.4 -0.6
baz=263
K50A Casco 111.20 51 P **Pdif** 22 07 03.3 -1.7
baz=263
K50A P **Pdif** 22 07 03.3 -1.7
baz=263
AAK Ala-Archa 111.21 309 PKKPbc PKKPbc 22 22 00.2 -0.8
comp=Z,4.4nm,0.8s,baz=171,slow=0.7,SNR=8.6
AAK Ala-Archa 111.21 309 *i* PKiKP **PKiKP** 22 11 02.2 -1.9
AAK Ala-Archa 111.21 309 P **PKiKP** 22 11 03.8 -0.3
SGDS Sogindy 111.22 310 *e*PKiKP **PKiKP** 22 11 02.1 -1.8
baz=310
V55A Taylorsville 111.31 58 P **Pdif** 22 07 07.4 +1.7
baz=261
V55A P **Pdif** 22 07 07.4 +1.7
baz=261
Y57A Sumter 111.68 60 P **Pdif** 22 07 07.3 -0.1
baz=261
Y57A P **Pdif** 22 07 07.3 -0.1
baz=261
NHSC New Hope 111.71 61 IAMs_20 IAMs_20 22 54 45.9
comp=Z,19µm,19.0s
NHSC New Hope 111.71 61 P **Pdif** 22 07 08.2 +0.7
baz=260
BTLS Baital 111.81 312 *e*Pdif **Pdif** 22 07 04.9 -2.8
baz=312
BTLS *e*PKiKP **PKiKP** 22 11 03.2 -1.7
baz=312
BTLS *e*PP **PP** 22 11 46.1 -1.8
baz=312
BHUJ Bhuj 111.94 288 *ex* x 22 07 08.4
O53A New Philadelph 111.94 54 Pdiff **Pdif** 22 07 08.3 -0.1
baz=263
M52A Chesterland 111.99 52 P **Pdif** 22 07 07.7 -0.8
baz=263
M52A P **Pdif** 22 07 07.7 -0.8
baz=263
U56A King 112.05 58 P **Pdif** 22 07 07.0 -2.0
baz=262
U56A P **Pdif** 22 07 07.0 -2.0
baz=262
Q54A Coxs Mills 112.06 55 P **Pdif** 22 07 09.3 +0.4
baz=262
Q54A P **Pdif** 22 07 09.3 +0.4
baz=262
BLA Blacksburg 112.14 57 P **Pdif** 22 07 10.9 +1.5
baz=262
BLA Blacksburg 112.14 57 Pdiff **Pdif** 22 07 08.0 -1.4
baz=262
W57A Mead 112.19 59 P **Pdif** 22 07 09.9 +0.3
baz=261
W57A P **Pdif** 22 07 09.9 +0.3
baz=261
M53A WI Miller and 112.48 52 IAMs_20 IAMs_20 22 57 37.5
comp=Z,16µm,18.0s
M53A WI Miller and 112.48 52 Pdiff **Pdif** 22 07 09.0 -1.8
baz=264
R55A Marlinton 112.52 56 P **Pdif** 22 07 10.6 -0.5
baz=262
R55A P **Pdif** 22 07 10.6 -0.5
baz=262
O54A Avella 112.56 54 P **Pdif** 22 07 10.9 -0.3
baz=263
O54A P **Pdif** 22 07 10.9 -0.3
baz=263
X58A Rowland 112.63 60 P **Pdif** 22 07 12.4 +0.8
baz=261
X58A P **Pdif** 22 07 12.4 +0.8
baz=261
MCWV Mont Chateau 112.91 54 IAMs_20 IAMs_20 22 53 27.9
comp=Z,18µm,20.0s
MCWV Mont Chateau 112.91 54 Pdiff **Pdif** 22 07 13.2 +0.5
baz=263
T57A Hurt 113.04 57 P **Pdif** 22 07 16.0 +2.7
baz=262
T57A P **Pdif** 22 07 16.0 +2.7
baz=262
ERPA Erie 113.07 52 IAMs_20 IAMs_20 22 50 42.9
comp=Z,20µm,22.0s
ERPA Erie 113.07 52 P **Pdif** 22 07 14.5 +1.2
baz=264
ERPA Erie 113.07 52 Pdiff **Pdif** 22 07 11.8 -1.6
baz=264
Q56A Snyder Ridge, 113.34 55 P **Pdif** 22 07 16.3 +1.6
baz=263
Q56A P **Pdif** 22 07 16.3 +1.6
baz=263
S57A Dark Hollow, R 113.37 56 P **Pdif** 22 07 15.4 +0.6
baz=263
S57A P **Pdif** 22 07 15.4 +0.6
baz=263
DZA Taraz 113.56 309 *e*PKiKP **PKiKP** 22 11 06.9 -1.5
baz=309
GTBY Guantanamo Bay 113.60 76 IAMs_20 IAMs_20 22 52 36.2
comp=Z,15µm,21.0s
M55A Ridgway 113.92 52 P **Pdif** 22 07 19.8 +2.6
baz=265
M55A P **Pdif** 22 07 19.8 +2.6
baz=265
WVNY West Valley, N 114.12 51 P **Pdif** 22 07 18.0 0.0
baz=265
U59A Littleton 114.12 58 P **Pdif** 22 07 19.5 +1.3
baz=263
U59A P **Pdif** 22 07 19.5 +1.3
baz=263
R58B Mineral 114.24 56 P **Pdif** 22 07 19.2 +0.6
baz=264
R58B P **Pdif** 22 07 19.2 +0.6
baz=264
P57A Homestead Farm 114.30 55 P **Pdif** 22 07 20.8 +1.9
baz=264
P57A P **Pdif** 22 07 20.8 +1.9
baz=264
T59A Double "B" Far 114.39 57 P **Pdif** 22 07 20.0 +0.7
baz=263
T59A P **Pdif** 22 07 20.0 +0.7
baz=263
KBL Kabul 114.42 300 P PKPdf 22 11 10.4 -0.1
SNR=10.0
SSPA Standing Stone 114.50 53 P **Pdif** 22 07 22.1 +2.4
baz=265
SSPA Standing Stone 114.50 53 Pdiff **Pdif** 22 07 18.2 -1.5
baz=265
TULEG Thule 114.59 13 IAMs_20 IAMs_20 23 03 50.8
comp=Z,14µm,20.0s
CBN Corbin Frederi 114.66 56 P **Pdif** 22 07 21.4 +0.9
baz=264
CBN Corbin Frederi 114.66 56 Pdiff **Pdif** 22 07 20.2 -0.3
baz=264
BRVK Borovoye 114.70 320 *c* i PKIKP PKPdf 22 11 09.1 -1.1
BRVK pmax pmax
comp=Z,37nm,1.0s
BRVK MLR MLR
comp=Z,12µm,19.0s
BRVK Borovoye 114.70 320 P PKPdf 22 11 09.4 -0.8
J55A Hilton 114.76 51 P **Pdif** 22 07 22.6 +1.8
baz=266
J55A P **Pdif** 22 07 22.6 +1.8
baz=266
L56A Greenwood 114.87 52 P **Pdif** 22 07 22.2 +0.8
baz=266
L56A P **Pdif** 22 07 22.2 +0.8
baz=266
SDV Santo Domingo 114.92 89 IAMs_20 IAMs_20 22 49 48.0
comp=Z,15µm,21.0s
V61A Roper 115.03 59 P **Pdif** 22 07 24.5 +2.3
baz=263
V61A P **Pdif** 22 07 24.5 +2.3
baz=263
T60A Surry 115.06 57 P **Pdif** 22 07 24.3 +2.1
baz=264
T60A P **Pdif** 22 07 24.3 +2.1
baz=264
J56A Wolcott 115.46 51 P **Pdif** 22 07 26.3 +2.4
baz=267
J56A P **Pdif** 22 07 26.3 +2.4
baz=267
VOI Vohitsoka 115.50 233 **PKiKP** 22 11 11.5 -1.4
VOI IAMs_20 IAMs_20 22 51 22.0
comp=Z,12µm,22.0s
VOI Vohitsoka 115.50 233 PKP **PKPdf** 22 11 14.6 +1.7
VOI Vohitsoka 115.50 233 P **PKiKP** 22 11 12.6 -0.3
PTLB Pontes e Lacer 115.66 119 **PKPdf** 22 11 11.3 -1.8
GEDE Greenville 116.15 55 P **Pdif** 22 07 29.2 +2.1
baz=266
J58A Remsen 116.61 51 P **Pdif** 22 07 31.5 +2.5
baz=268
J58A P **Pdif** 22 07 31.5 +2.5
baz=268
TRCB Terra Rica 116.64 129 **PKPdf** 22 11 13.6 -1.4
MSEY Mahe Island 116.75 254 IAMs_20 IAMs_20 22 53 22.4
comp=Z,20µm,22.0s
ABPO Ambohimpanom 116.82 236 PKPdf **PKPdf** 22 11 14.3 -1.3
ABPO Ambohimpanom 116.82 236 IAMs_20 IAMs_20 22 53 44.4
comp=Z,14µm,20.0s
ABPO Ambohimpanom 116.82 236 PKIKP **PKPdf** 22 11 14.3 -1.3
ABPO MLR MLR
comp=Z,14µm,20.0s
BRNJ Basking Ridge 117.02 54 P **Pdif** 22 07 30.4 -0.5
baz=267
LONY Lake Ozonia 117.15 49 Pdiff **Pdif** 22 07 31.4 0.0
baz=269
BAUV El Baul 117.38 90 **PKPdf** 22 11 14.5 -2.0
PAL Palisades 117.54 53 IAMs_20 IAMs_20 23 00 34.4
comp=Z,16µm,18.0s
PAL Palisades 117.54 53 Pdiff **Pdif** 22 07 33.5 +0.3
baz=268
FOR Fordham 117.55 53 P **Pdif** 22 07 34.4 +1.2
baz=268
NEEM North Greenlan 117.64 10 *i* P **PKPdf** 22 11 14.7 -0.9
KULLO Kullorsuaq 118.06 14 *i* P **PKPdf** 22 11 14.9 -1.1
L61B Northampton 118.50 52 Pdiff **Pdif** 22 07 38.8 +1.3
baz=269
FRB Frobisher Bay 118.51 27 PKP **PKPdf** 22 11 16.8 -0.4
comp=Z,5.3nm,0.8s,baz=277,slow=1.8,SNR=5.8
QUA2 Belchertown 118.74 52 IAMs_20 IAMs_20 22 54 17.1
comp=Z,19µm,22.0s
HNH Hanover 118.80 50 IAMs_20 IAMs_20 22 57 06.4
comp=Z,16µm,20.0s
LBNH Lisbon 119.06 50 Pdiff **Pdif** 22 07 37.4 -2.5
baz=271
UPNV Upernavik 119.26 16 *i* P **PKPdf** 22 11 17.6 -0.9
BCX Boston College 119.62 52 IAMs_20 IAMs_20 22 57 00.3
comp=Z,17µm,20.0s
SVE Sverdlovsk 119.90 325 *i* PKIKP **PKPdf** 22 11 19.4 -0.7
SVE pmax pmax
comp=Z,81nm,1.2s
NGCH Negor - Chabah 119.96 289 P **PKiKP** 22 11 21.2 0.0
HRA Herat 120.00 299 **PKPdf** 22 11 19.5 -1.8
KBS Kingsbay 120.02 356 IAMs_20 IAMs_20 22 59 23.9
comp=Z,12µm,22.0s
KBS Kingsbay 120.02 356 *e*Pdif **Pdif** 22 07 43.1 -0.4
KBS IVmB_BB 22 07 43.9
comp=Z,2µm,3.2s
KBS *ep*PKPdf **sPKPdf** 22 11 25.8 +1.9
KBS *e*PP **PP** 22 12 45.4 +1.1
KBS *e*PS **PS** 22 22 37.6 +3.5
KBS *e*SS SS 22 29 12.4 +2.7
KBS *e* 22 40 25.3
KBS IVMs_BB IVMs_BB 22 50 51.3
comp=Z,5µm,35.1s
SPA0 Spitsbergen Ar 120.42 355 *e*Pdif **Pdif** 22 07 48.1 +2.8
SPA0 IVmB_BB 22 07 53.7
comp=Z,2µm,3.2s
SPA0 *e*PP **PP** 22 12 48.7 +1.6
SPA0 *e*PS **PS** 22 22 39.2 +1.3
SPA0 IVMs_BB IVMs_BB 23 00 30.2
comp=Z,6µm,23.4s
SPITS Spitsbergen Ar 120.42 355 PKIKP **PKPdf** 22 11 19.9 -0.7
SPB2 Spitsbergen Ar 120.43 355 **PKPdf** 22 11 19.7 -0.9
NUUG Nuugaatsiaq 120.70 16 *i* P **PKPdf** 22 11 20.7 -0.5
PKME Peaks-Kenny Pk 120.90 48 IAMs_20 IAMs_20 23 02 23.8
comp=Z,14µm,19.0s
PKME Peaks-Kenny Pk 120.90 48 Pdiff **Pdif** 22 07 49.1 +1.0
baz=273
AOPR Arecibo Observ 120.97 80 *e* **PKiKP** 22 11 24.6 +1.2
JLN Jalan Bani Buh 121.00 285 P **PKPdf** 22 11 22.1 -1.1
SNR=21
HOPEN Hopen 121.03 352 *e*Pdif **Pdif** 22 07 50.1 +2.1
HOPEN *e*PKPdf **PKiKP** 22 11 22.6 +0.7
HOPEN *e*PP **PP** 22 12 51.9 +0.7
HOPEN *e*SP SP 22 22 41.6 +1.2
HOPEN *e*SS **SS** 22 29 23.2 +0.5
HOPEN IVMs_BB IVMs_BB 22 52 33.1
comp=Z,3µm,12.7s
ARU Arti 121.10 325 PKKPbc PKKPbc 22 21 24.4 -2.1
comp=Z,2.9nm,0.7s,baz=19,slow=5.7,SNR=4.3
ARU Arti 121.10 325 PKPdf **PKPdf** 22 11 20.8 -1.6
ARU Arti 121.10 325 *c* i PKIKP **PKPdf** 22 11 20.9 -1.5
ARU pmax pmax
comp=Z,120nm,1.0s
SCHQ Schefferville 121.32 37 PKP **PKPdf** 22 11 22.6 -0.3
comp=Z,4.6nm,1.0s,baz=270,slow=1.0,SNR=4.4
SCHQ PKKPbc **PKKPbc** 22 21 26.0 +0.4
comp=Z,4.6nm,1.0s,baz=42,slow=6.4,SNR=4.0
ABKAR Akbulak array 121.42 316 PKPdf **PKPdf** 22 11 21.8 -1.4
ABKAR Akbulak array 121.42 316 PKPdf **PKPdf** 22 11 21.5 -1.8
WBK Wadi Bani Khal 121.48 285 P **PKiKP** 22 11 24.9 +0.5
SNR=13
SJG San Juan 121.48 80 **PKPdf** 22 11 22.1 -2.2
SJG San Juan 121.48 80 *e* **PKiKP** 22 11 27.2 +2.8
SJG San Juan 121.48 80 PKIKP **PKPdf** 22 11 22.1 -2.2
SJG MLR MLR
comp=Z,7µm,20.0s
HUMP Col San Antoni 121.77 80 **PKPdf** 22 11 23.8 -1.0
WSAR Wadi Sarin 121.89 286 PKKPbc PKKPbc 22 21 21.3 -1.3
comp=Z,6.1nm,1.0s,baz=270,slow=6.0,SNR=5.9
WSAR Wadi Sarin 121.89 286 P **PKPdf** 22 11 24.4 -0.5
SNR=24
MHTO MHTO 122.12 283 P **PKPdf** 22 11 24.5 -0.9
SNR=31
JMDO Jabal Madar 122.23 285 P **PKPdf** 22 11 24.4 -1.2
SNR=16
DQM DQM 122.32 282 P **PKPdf** 22 11 25.8 -0.1
SNR=10.0
SMDO Samad 122.39 285 P **PKPdf** 22 11 25.3 -0.8
SNR=26
BIDO Bidbid 122.39 286 P **PKPdf** 22 11 25.7 -0.2
SNR=26
AKTO Aktyubinsk 122.50 318 PKKPbc PKKPbc 22 21 19.7 -1.3
comp=Z,3.1nm,0.9s,baz=269,slow=3.0,SNR=5.3
ILULI Ilulissat 122.61 18 IAMs_20 IAMs_20 23 06 34.5
comp=Z,15µm,19.0s
ILULI Ilulissat 122.61 18 *i* P **PKPdf** 22 11 23.8 -1.1
CDVI St. Croix 122.69 81 *e* **PKiKP** 22 11 31.1 +4.4
JASK Jask - Hormozg 122.95 289 P **PKiKP** 22 11 27.2 +0.1
BATG Bathurst New B 122.96 46 PKPdf **PKPdf** 22 11 25.0 -1.3
BSY Bisya 123.11 285 P **PKPdf** 22 11 26.1 -1.2
SNR=20
HOQ Hoqain 123.14 286 P **PKPdf** 22 11 26.6 -0.8
SNR=26
SUR Sutherland 123.22 205 PKP **PKPdf** 22 11 27.4 -0.2
comp=Z,30nm,1.1s,baz=139,slow=7.9,SNR=4.3
SUR Sutherland 123.22 205 IAMs_20 IAMs_20 23 02 49.6
comp=Z,11µm,19.0s
SUMG Summit 123.39 12 *i* P **PKPdf** 22 11 25.7 -1.2
GEYT Alibeck 123.44 303 PKP **PKPdf** 22 11 27.2 -0.4
comp=Z,40nm,0.9s,baz=256,slow=2.4,SNR=64
GEYT PP **PP** 22 13 07.9 -1.1
comp=Z,1.8nm,0.3s,baz=134,slow=4.3,SNR=3.7
GEYT Alibeck 123.44 303 PKPdf **PKPdf** 22 11 26.4 -1.2
GYA0B ALIBECK ARRAY 123.44 303 **PKPdf** 22 11 26.3 -1.3
ARQ Araqi 123.82 286 P **PKPdf** 22 11 27.8 -0.9
SNR=18
SOHO SOHO 123.92 286 *i* P **PKPdf** 22 11 26.7 -2.1
SNR=62
SOHO SOHO 123.92 286 P **PKPdf** 22 11 27.7 -1.1
LMN Caledonia Moun 123.99 47 **PKPdf** 22 11 26.4 -1.9
SFJD Kangerlussuaq 124.02 20 IAMs_20 IAMs_20 23 05 40.0
comp=Z,12µm,19.0s

SABA	**Saba**	**124.09**	**82**	*e*		**PKiKP**	**22 11 35.2**	**+5.6**
TRN	**Trinidad (W)**	**124.13**	**90**	*e*		**PKPdf**	**22 11 27.9**	**-1.6**
MDH	**Madha**	**124.29**	**288**	*i* P		**PKPdf**	**22 11 27.3**	**-2.2**
	SNR=10							
MDH	**Madha**	**124.29**	**288**	P		**PKPdf**	**22 11 29.2**	**-0.3**
	SNR=6.2							
DMTO	**DMTO**	**124.29**	**279**	P		**PKPdf**	**22 11 29.2**	**-0.5**
	SNR=40							
GRGR	**Grenville**	**124.30**	**88**	*e*		**PKiKP**	**22 11 30.2**	**+0.1**
SEUS	**St. Eustatius**	**124.31**	**82**	*e*P		**Pdif**	**22 07 49.3**	**-15**
SEUS	**St. Eustatius**	**124.31**	**82**	*e*		**PKiKP**	**22 11 34.3**	**+4.3**
UOSS	**Minazif**	**124.33**	**287**	PKPdf		**PKPdf**	**22 11 26.1**	**-3.5**
UOSS	**Minazif**	**124.33**	**287**	*i* P		**PKPdf**	**22 11 27.3**	**-2.3**
	SNR=11							
UOSS	**Minazif**	**124.33**	**287**	P		**PKPdf**	**22 11 28.2**	**-1.4**
SMRT	**St. Maarten**	**124.33**	**81**	*e*P		**Pdif**	**22 07 54.7**	**-9.2**
SMRT	**St. Maarten**	**124.33**	**81**	*e*		**PKiKP**	**22 11 32.8**	**+2.7**
BANOM	**Banah**	**124.36**	**289**	P		**PKPdf**	**22 11 27.3**	**-2.3**
BANOM	**Banah**	**124.36**	**289**	P		**PKPdf**	**22 11 29.7**	**0.0**
HATD	**Hatta, Dubai**	**124.38**	**287**	*i* P		**PKPdf**	**22 11 27.7**	**-2.0**
	SNR=25							
HATD	**Hatta, Dubai**	**124.38**	**287**	P		**PKPdf**	**22 11 28.0**	**-1.7**
	SNR=13							
MSFE	**Esma-Masafi**	**124.42**	**288**	*i* P		**PKPdf**	**22 11 28.1**	**-1.7**
	SNR=13							
MASF	**Masafi**	**124.42**	**288**	P		**PKPdf**	**22 11 28.9**	**-0.9**
	SNR=8.4							
DBG	**Daneborg**	**124.42**	**5**	*i* P		**PKPdf**	**22 11 26.9**	**-1.4**
ASHO	**Ashiyiah**	**124.43**	**287**	*i* P		**PKPdf**	**22 11 27.9**	**-1.9**
	SNR=20							
ASHO	**Ashiyiah**	**124.43**	**287**	P		**PKPdf**	**22 11 28.3**	**-1.5**
	SNR=12							
BDFB	**Brasilia**	**124.44**	**126**	PKP		**PKPdf**	**22 11 28.5**	**-1.8**
	comp=Z,10nm,0.8s,baz=206,slow=4.2,SNR=18							
BDFB					PKKPbc	**PKKPbc**	**22 21 13.3**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=118,slow=8.6,SNR=3.1							
BDFB	**Brasilia**	**124.44**	**126**	*e*P		**PKiKP**	**22 11 31.3**	**+0.8**
BOSA	**Boshof**	**124.45**	**211**	PKP		**PKPdf**	**22 11 28.8**	**-1.2**
	comp=Z,16nm,1.0s,baz=163,slow=3.6,SNR=8.7							
BOSA	**Boshof**	**124.45**	**211**	PKPdf		**PKPdf**	**22 11 28.0**	**-2.0**
BOSA	**Boshof**	**124.45**	**211**	PKiKP		**PKPdf**	**22 11 28.0**	**-2.0**
SHME	**Shamm**	**124.52**	**289**	P		**PKPdf**	**22 11 29.3**	**-0.6**
GCMP	**Grenada, Carri**	**124.61**	**88**	*e*		**PKiKP**	**22 11 34.0**	**+3.3**
ALNE	**Al Ain**	**124.62**	**286**	*i* P		**PKPdf**	**22 11 28.7**	**-1.5**
	SNR=28							
ALNE	**Al Ain**	**124.62**	**286**	P		**PKPdf**	**22 11 29.1**	**-1.1**
	SNR=27							
NAZ	**Nazwa, Dubai**	**124.82**	**287**	*i* P		**PKPdf**	**22 11 29.0**	**-1.5**
	SNR=11							
NAZ	**Nazwa, Dubai**	**124.82**	**287**	P		**PKPdf**	**22 11 29.4**	**-1.1**
	SNR=11							
FAQ	**Al Faqa, Dubai**	**124.85**	**287**	*i* P		**PKPdf**	**22 11 28.9**	**-1.7**
	SNR=8.8							
FAQ	**Al Faqa, Dubai**	**124.85**	**287**	P		**PKPdf**	**22 11 29.7**	**-0.9**
	SNR=6.4							
MBFL	**Flemmings, Mon**	**124.87**	**83**	*e*		**PKiKP**	**22 11 31.9**	**+0.7**
MLYT	**Lee's Yard**	**124.88**	**83**	*e*		**PKPdf**	**22 11 27.6**	**-3.3**
UMQ	**Umm Al-Quwin**	**124.89**	**288**	P		**PKiKP**	**22 11 31.3**	**+0.4**
RBK	**Rabkut**	**124.94**	**278**	P		**PKPdf**	**22 11 31.0**	**0.0**
	SNR=50							
SVB	**Belmont**	**124.97**	**87**	*e*		**PKiKP**	**22 11 35.1**	**+3.7**
UMZA	**Um Al Zommool**	**124.97**	**285**	P		**PKPdf**	**22 11 29.7**	**-1.1**
ASUD	**Al Ashush, Dub**	**125.08**	**287**	*i* P		**PKPdf**	**22 11 29.6**	**-1.4**
	SNR=12							
ASUD	**Al Ashush, Dub**	**125.08**	**287**	P		**PKPdf**	**22 11 30.1**	**-0.9**
	SNR=5.4							
TOSP	**Speyside**	**125.13**	**90**	*e*		**PKiKP**	**22 11 35.4**	**+3.7**
NUUK	**Nuuk**	**125.16**	**23**	*i* P		**PKPdf**	**22 11 27.6**	**-2.3**
KIRV	**Kirov**	**125.19**	**329**	*c i* PKIKP		**PKPdf**	**22 11 28.8**	**-1.3**
DOK	**Doka**	**125.23**	**279**	P		**PKPdf**	**22 11 31.0**	**-0.5**
	SNR=39							
CBE	**Ff, Capester**	**125.29**	**84**	IAMs_20	IAMs_20		22 58 54.8	
	comp=Z,13μm,22.0s							
CBE	**Ff, Capester**	**125.29**	**84**	*e*		**PKiKP**	**22 11 36.6**	**+4.6**
ANBD	**Bethesda, Anti**	**125.35**	**83**	*e*		**PKiKP**	**22 11 34.0**	**+2.0**
MCLT	**Moule a Chique**	**125.37**	**87**	*e*		**PKiKP**	**22 11 34.6**	**+2.5**
AJN	**Ajban**	**125.38**	**287**	*i* P		**PKPdf**	**22 11 29.6**	**-1.9**
	SNR=5.4							
AJN	**Ajban**	**125.38**	**287**	P		**PKPdf**	**22 11 30.4**	**-1.2**
SLBI	**Saint Lucia, B**	**125.42**	**86**	*e*		**PKiKP**	**22 11 35.3**	**+3.1**
FDF	**Fort de France**	**125.42**	**85**	*e*		**PKiKP**	**22 11 36.1**	**+3.8**
WHFO	**Wadi Hawf**	**125.43**	**279**	P		**PKPdf**	**22 11 30.9**	**-1.0**
	SNR=40							
BIM	**Bigot**	**125.44**	**86**	*e*		**PKiKP**	**22 11 36.1**	**+3.7**
ANWB	**Willy Bob**	**125.46**	**82**	IAMs_20	IAMs_20		22 56 57.1	
	comp=Z,11μm,22.0s							
ANWB	**Willy Bob**	**125.46**	**82**	*e*		**PKiKP**	**22 11 36.9**	**+4.6**
ABD	**La Joyeuse, An**	**125.49**	**83**	IAMs_20	IAMs_20		22 55 10.1	
	comp=Z,13μm,22.0s							
ABD	**La Joyeuse, An**	**125.49**	**83**	*e*		**PKiKP**	**22 11 34.5**	**+2.2**
VADS	**Vadso**	**125.50**	**347**	*e*Pdif		**Pdif**	**22 08 07.2**	**-0.7**
VADS				*ep*PKPdf		**sPKPdf**	**22 11 35.7**	**+1.2**
VADS				*e*PP		**PP**	**22 13 23.3**	**+1.9**
VADS				*e*PS		PS	22 23 25.5	+2.6
VADS				*e*SS		SS	22 30 18.7	-0.7
VADS				IVMs_BB	IVMs_BB		22 52 57.5	
	comp=Z,7μm,24.8s							
MAGL	**Barre de l'ile**	**125.57**	**84**	IAMs_20	IAMs_20		22 57 51.2	
	comp=Z,12μm,22.0s							
MAGL	**Barre de l'ile**	**125.57**	**84**	*e*		**PKiKP**	**22 11 34.9**	**+2.4**
MPOM	**Morne Pois Mar**	**125.62**	**86**	*e*		**PKPdf**	**22 11 25.7**	**-6.5**
PRGR	**Permogore**	**125.63**	**333**	*e*PKiKP		**PKPdf**	**22 11 30.1**	**-0.8**
PRGR				pmax	pmax			
	comp=Z,82nm,1.1s							
ILAM	**Ilet Lapin Mar**	**125.69**	**85**	*e*		**PKiKP**	**22 11 36.1**	**+3.3**
DY2G	**Dye2**	**125.72**	**19**	*i* P		**PKPdf**	**22 11 30.3**	**-1.0**
ABTO	**Aybut**	**125.76**	**278**	P		**PKPdf**	**22 11 31.7**	**-0.9**
	SNR=39							
ICESG	**Greenland Ices**	**125.77**	**15**	*i* P		**PKPdf**	**22 11 29.1**	**-2.4**
LVZ	**Lovozero**	**125.82**	**343**	*i* PKIKP		**PKPdf**	**22 11 30.3**	**-0.9**
LVZ				MLR	MLR			
	comp=Z,14μm,20.0s							
HAMF	**Hammerfest**	**126.21**	**349**	*e*Pdif		**Pdif**	**22 08 11.1**	**0.0**
HAMF				IVmBBB			22 08 15.4	
	comp=Z,2μm,3.0s							
HAMF				*ep*PKPdf		**sPKPdf**	**22 11 35.7**	**-0.2**
HAMF				*e*PP		**PP**	**22 13 27.3**	**+1.2**
HAMF				*e*SS		SS	22 30 27.2	-1.1
HAMF				IVMs_BB	IVMs_BB		22 53 56.6	
	comp=Z,8μm,36.3s							
MZWR	**Madinat Zayed**	**126.28**	**286**	P		**PKPdf**	**22 11 32.8**	**-0.5**
KEV	**Kevo**	**126.29**	**347**			**PKPdf**	**22 11 31.8**	**-0.2**
KEV	**Kevo**	**126.29**	**347**	PKiKP		**PKPdf**	**22 11 31.8**	**-0.2**
KEV				MLR	MLR			
	comp=Z,28μm,22.0s							
GBN	**Guysborough**	**126.34**	**47**	PKPdf		**PKPdf**	**22 11 31.9**	**-0.9**
APA	**Apatity**	**126.39**	**343**	*i* PKIKP		**PKPdf**	**22 11 29.8**	**-2.4**
APA				*i*			22 23 22.0	
APA				*i* PPS	PPS		22 25 01.0	
APA				pmax	pmax			
	comp=Z,34nm,0.9s							
BBGH	**Gun Hill**	**126.53**	**88**	*e*		**PKiKP**	**22 11 34.7**	**+0.2**
MZR	**Muzera**	**126.55**	**285**	*i* P		**PKPdf**	**22 11 33.1**	**-0.8**
	SNR=39							
MZR	**Muzera**	**126.55**	**285**	P		**PKPdf**	**22 11 33.6**	**-0.3**
	SNR=22							
BBSP	**Saint Philip**	**126.62**	**88**	*e*		**PKiKP**	**22 11 36.9**	**+2.2**
ARA0	**ARCESS Array S**	**126.78**	**347**	*e*Pdif		**Pdif**	**22 08 14.1**	**+0.4**
ARA0				*e*PKPdf		**PKPdf**	**22 11 33.0**	**0.0**
ARA0				*e*PP		**PP**	**22 13 30.9**	**+1.0**
ARA0				*e*PS	PS		22 23 36.7	+2.5
ARA0				*e*SS	SS		22 30 34.8	-0.7
ARA0				IVMs_BB	IVMs_BB		23 02 29.9	
	comp=Z,9μm,23.1s							
ARCES	**ARCESS Array B**	**126.78**	**347**	PKP		**PKPdf**	**22 11 32.6**	**-0.4**
	comp=Z,35nm,0.8s,baz=14,slow=1.1,SNR=23							
ARCES	**ARCESS Array B**	**126.78**	**347**			**PKPdf**	**22 11 32.3**	**-0.7**
ARCES	**ARCESS Array B**	**126.78**	**347**	PKIKP		**PKPdf**	**22 11 32.3**	**-0.7**
LBTB	**Lobatse**	**127.21**	**214**	PKP		**PKPdf**	**22 11 35.1**	**-0.2**
	comp=Z,14nm,0.9s,baz=161,slow=2.2,SNR=8.5							
LBTB	**Lobatse**	**127.21**	**214**	PKPdf		**PKPdf**	**22 11 34.0**	**-1.4**
LBTB	**Lobatse**	**127.21**	**214**	PKIKP		**PKPdf**	**22 11 34.0**	**-1.4**
GHWR	**Ruwais**	**127.22**	**286**	P		**PKPdf**	**22 11 34.7**	**-0.5**
ADZR	**Andozero**	**127.25**	**338**	*e*PKIKP		**PKPdf**	**22 11 30.7**	**-3.2**
ADZR				*e*			22 13 33.7	
ADZR				pmax	pmax			
	comp=Z,46nm,1.4s							
JRN	**Qarnain Island**	**127.35**	**287**	P		**PKPdf**	**22 11 34.9**	**-0.5**
	SNR=5.2							
KTK1	**Kautokeino**	**127.67**	**348**	*ep*PKPdf		**pPKPdf**	**22 11 39.0**	**+1.3**
KTK1				*e*PP		**PP**	**22 13 31.8**	**-3.9**
KTK1				*e*SS	SS		22 30 49.4	+2.9
KTK1				IVMs_BB	IVMs_BB		22 56 06.4	
	comp=Z,8μm,28.2s							
JETT	**Jettan, Norway**	**127.72**	**349**	*e*PKPdf		**PKiKP**	**22 11 37.9**	**+2.5**
JETT				*e*PP		**PP**	**22 13 37.0**	**+0.8**
JETT				*e*SS	SS		22 30 53.8	+6.6
JETT				IVMs_BB	IVMs_BB		22 54 55.7	
	comp=Z,8μm,36.5s							
SCO	**Scoresbysund**	**127.86**	**8**	PKPdf		**PKPdf**	**22 11 34.0**	**-0.9**
SCO	**Scoresbysund**	**127.86**	**8**	*i* P		**PKPdf**	**22 11 34.8**	**-0.1**
SCO	**Scoresbysund**	**127.86**	**8**	PKIKP		**PKPdf**	**22 11 34.0**	**-0.9**
TRO	**Tromso**	**127.91**	**350**	*ep*PKPdf		**pPKPdf**	**22 11 41.7**	**+3.6**
TRO				*e*PP		**PP**	**22 13 38.9**	**+1.7**
TRO				*e*SS	SS		22 30 50.9	+1.6
TRO				IVMs_BB	IVMs_BB		22 55 44.1	
	comp=Z,6μm,27.3s							
SLWR	**Sila**	**128.31**	**286**	P		**PKPdf**	**22 11 37.2**	**0.0**
BELG	**Belogornoye**	**128.34**	**322**	*i* PKIKP		**PKPdf**	**22 11 35.2**	**-1.2**
JMIC	**Jan Mayen**	**128.40**	**2**	*ep*PKPdf		**pPKPdf**	**22 11 41.5**	**+2.5**
JMIC				*e*PP		**PP**	**22 13 43.6**	**+3.2**
JMIC				IVMs_BB	IVMs_BB		22 54 52.4	
	comp=Z,8μm,4.2s							
KLMR	**Klimovskoe**	**128.57**	**334**	*e*PKPdf		**PKPdf**	**22 11 33.5**	**-3.1**
KLMR				AMP			22 11 37.7	
	comp=Z,173nm,1.3s							
KLMR				*e*PP		**PP**	**22 13 39.3**	**-2.7**
KLMR				*e*SKKPbc	SKKPbc		22 24 44.0	-7.6
KLMR				SS		**SS**	**22 31 07.6**	**+9.4**
KLMR				SS		**SS**	**22 31 07.6**	**+9.4**
KLMR				LQ	LQ		22 46 26.6	
KLMR				LQ	LQ		22 46 26.6	
KLMR				LR	LR		22 49 42.3	
KLMR				AMP			23 03 46.1	
	comp=Z,34μm,21.9s							
KLMR	**Klimovskoe**	**128.57**	**334**	*e*PKIKP		**PKPdf**	**22 11 33.4**	**-3.1**
KLMR				*e*			22 13 39.3	
KLMR				pmax	pmax			
	comp=Z,173nm,1.3s							
ANGG	**Ammassalik, Gr**	**128.87**	**17**	IAMs_20	IAMs_20		23 08 13.1	
	comp=Z,14μm,20.0s							
SHMA	**Al-Shehemyia**	**129.13**	**288**	P		**PKPdf**	**22 11 38.5**	**-0.3**
SMRA	**Abu-Samra**	**129.16**	**286**	P		**PKPdf**	**22 11 38.8**	**0.0**
STEI	**Steigen**	**130.03**	**351**	*e*PKPdf		**PKiKP**	**22 11 42.2**	**+2.3**
STEI				*e*PP		**PP**	**22 13 52.3**	**+1.1**
STEI				*e*SS	SS		22 31 20.1	+4.5
STEI				IVMs_BB	IVMs_BB		22 54 57.9	
	comp=Z,6μm,57.6s							
LOF	**Lofoten**	**130.09**	**351**	*ep*PKPdf		**pPKPdf**	**22 11 43.7**	**+1.4**
LOF				*e*PP		**PP**	**22 13 52.5**	**+1.0**
LOF				*e*SS	SS		22 31 19.1	+2.8
LOF				IVMs_BB	IVMs_BB		22 56 21.0	
	comp=Z,4μm,18.4s							
FAUS	**Fauske**	**130.53**	**350**	*ep*PKPdf		**pPKPdf**	**22 11 44.5**	**+1.4**
FAUS				*e*PP		**PP**	**22 13 51.8**	**-2.5**
FAUS				*e*SS	SS		22 31 24.5	+2.8
FAUS				IVMs_BB	IVMs_BB		22 58 18.2	
	comp=Z,8μm,35.8s							
MAK	**Makhachkala**	**130.96**	**310**	*e*P		**Pdif**	**22 08 27.5**	**-5.4**
MAK				*i*			22 11 39.0	
MAK				*e*			22 13 56.8	
MAK				*e*			22 18 40.7	
MAK				pmax	pmax			
	comp=Z,326nm,1.4s							
AKT	**Akhty**	**131.09**	**308**	*e*PKIKP		**PKPdf**	**22 11 41.4**	**-0.7**
AKT				*e*			22 14 00.5	
AKT				pmax	pmax			
	comp=Z,129nm,1.3s							
TMAB	**Tom-Au,PA,Br**	**131.61**	**112**	*e*P		**PKiKP**	**22 11 45.2**	**+0.4**
KONS	**Konsvik**	**131.68**	**351**	*e*PKPdf		**PKiKP**	**22 11 43.7**	**+0.4**
MOR8	**Moi Rana**	**131.77**	**350**	*ep*PKPdf		**pPKPdf**	**22 11 46.3**	**+0.7**
MOR8				IVMs_BB	IVMs_BB		22 55 42.8	
	comp=Z,8μm,39.8s							
VRH	**Novokhopyorsk**	**132.18**	**323**	*i* PKIKP		**PKPdf**	**22 11 43.2**	**-0.5**
VRH				*e*			22 14 02.6	
VRH				pmax	pmax			
	comp=Z,100nm,0.8s							
MOS	**Moscow**	**132.20**	**329**	*e*P		**Pdif**	**22 08 32.5**	**-5.6**
MOS				*i*			22 11 42.1	
MOS				*e*			22 14 00.9	
MOS				*e*			22 18 51.6	
MOS				*e*PS		**PS**	**22 24 12.4**	**-9.4**
MOS				*e*PPS	PPS		22 25 58.8	
MOS				*e*SS	SS		22 31 45.7	+2.7
MOS				*e*SSS	SSS		22 36 44.1	
MOS				pmax	pmax			
	comp=Z,264nm,2.0s							
MOS					MLR	MLR		
	comp=N,10μm,21.0s							
MOS					MLR	MLR		
	comp=E,12μm,21.0s							
MOS					MLR	MLR		
	comp=Z,19μm,21.0s							
PUL	**Pulkovo**	**132.82**	**337**	*i* PKIKP		**PKPdf**	**22 11 43.8**	**-0.8**
PUL					MLR	MLR		
	comp=Z,19μm,21.0s							
FIA1	**FINESS Array S**	**133.04**	**341**			**PKPdf**	**22 11 43.9**	**-1.1**
FINES	**FINESS Array B**	**133.05**	**341**	PKhKP	PKPpre		22 11 35.9	
	comp=Z,3.9nm,0.8s,baz=56,slow=4.8,SNR=5.3							
FINES					PKP	**PKPdf**	**22 11 43.4**	**-1.7**
	comp=Z,22nm,0.8s,baz=64,slow=4.4,SNR=18							
FINES	**FINESS Array B**	**133.05**	**341**	PKPdf		**PKPdf**	**22 11 43.8**	**-1.2**
FINES	**FINESS Array B**	**133.05**	**341**	P		**PKPdf**	**22 11 43.8**	**-1.2**
LPSR	**Galich'ya Gora**	**133.12**	**325**	*i* PKIKP		**PKPdf**	**22 11 44.5**	**-0.9**
LPSR				*e*			22 14 12.1	
LPSR				pmax	pmax			
	comp=Z,70nm,1.0s							
LSZ	**Lusaka**	**133.12**	**225**	PKP		**PKPdf**	**22 11 45.6**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=182,slow=4.2,SNR=4.8							
LSZ					PP	**PP**	**22 14 11.5**	**-0.7**
	comp=Z,11nm,1.2s,baz=148,slow=6.8,SNR=5.4							
KIBK	**Kibwezi**	**133.33**	**247**			**PKPdf**	**22 11 45.3**	**-1.9**
KIBK	**Kibwezi**	**133.33**	**247**	P		**PKPdf**	**22 11 47.7**	**+0.5**
	SNR=12							
VORR	**Voronezh**	**133.40**	**324**	*e*PKIKP		**PKPdf**	**22 11 45.6**	**-0.4**
VORR				pmax	pmax			
	comp=Z,380nm,1.6s							
VORR	**Voronezh**	**133.40**	**324**	*e*P		**PKPdf**	**22 11 46.1**	**+0.1**
VORR	**Voronezh**	**133.40**	**324**	pmax	pmax			
	comp=Z,579nm,2.0s							
VORR	**Voronezh**	**133.40**	**324**	MLR	MLR			
	comp=Z,14μm,18.0s							
GNI	**Garni**	**133.57**	**307**	PKPdf		**PKPdf**	**22 11 47.1**	**+0.1**
GNI	**Garni**	**133.57**	**307**	PKIKP		**PKPdf**	**22 11 47.1**	**+0.1**
GNI	**Garni**	**133.57**	**307**	P		**PKPdf**	**22 11 46.0**	**-0.9**
GNI	**Garni**	**133.57**	**307**	P		**PKiKP**	**22 11 47.7**	**-0.5**
ZEI	**Tsey**	**133.58**	**311**	*i* PKIKP		**PKPdf**	**22 11 46.2**	**-0.7**
ZEI				pmax	pmax			
	comp=Z,30nm,1.0s							
NCK	**Nalchik**	**133.61**	**312**	*i* PKIKP		**PKPdf**	**22 11 45.3**	**-1.4**
VSR	**Storozhevoye**	**133.63**	**323**	*i* PKIKP		**PKPdf**	**22 11 45.4**	**-1.0**
VSR				*e*			22 14 12.1	
VSR				pmax	pmax			
	comp=Z,140nm,1.1s							
NSS	**Namsos**	**133.69**	**351**	*e*PKPdf		**PKiKP**	**22 11 47.8**	**+0.3**
NSS				*e*PP		**PP**	**22 14 17.0**	**+2.3**
NSS				*e*SKPdf		**SKPdf**	**22 15 21.2**	**-0.1**
NSS				*e*SS		**SS**	**22 32 04.0**	**+3.8**
NSS				IVMs_BB	IVMs_BB		22 58 29.9	
	comp=Z,9μm,19.9s							
KBZ	**Khabaz**	**134.04**	**313**	PKhKP	PKPpre		22 11 40.0	
	comp=Z,2.5nm,0.9s,baz=143,slow=2.7,SNR=5.2							
KBZ					PKP	**PKPdf**	**22 11 47.2**	**-0.2**
	comp=Z,14nm,0.9s,baz=75,slow=3.8,SNR=16							
KBZ					PP	**PP**	**22 14 16.8**	**-1.2**
	comp=Z,7.4nm,1.0s,baz=75,slow=6.6,SNR=4.3							
KBZ	**Khabaz**	**134.04**	**313**	*d i* PKIKP		**PKPdf**	**22 11 46.5**	**-0.9**
KIV	**Kislovodsk**	**134.12**	**313**	⇑P		**PKPdf**	**22 11 48.3**	**+0.5**
KIV	**Kislovodsk**	**134.12**	**313**	PKPdf		**PKPdf**	**22 11 47.2**	**-0.6**
KIV	**Kislovodsk**	**134.12**	**313**	*de*P		**Pdif**	**22 08 45.8**	**-1.2**
KIV				*i*			22 11 45.7	
KIV				*i*			22 11 52.6	
KIV				*i*			22 14 15.3	
KIV				*e*PPP	PPP		22 17 08.6	
KIV				*i* PPS	PPS		22 26 23.3	
KIV				*i* SS	SS		22 32 11.9	+4.4
KIV				*i* SSS	SSS		22 37 03.8	
KIV				pmax	pmax			
	comp=Z,182nm,16.5s							
KIV				pmax	pmax			
	comp=Z,98nm,1.6s							
KIV				pmax	pmax			
	comp=Z,3μm,7.6s							
KIV	**Kislovodsk**	**134.12**	**313**	⇑P		**PKPdf**	**22 11 48.3**	**+0.5**
KIV	**Kislovodsk**	**134.12**	**313**	*i* P		**PKPdf**	**22 11 46.3**	**-1.5**
	SNR=12							
KIV	**Kislovodsk**	**134.12**	**313**	P		**PKPdf**	**22 11 48.0**	**+0.3**
SHA1	**Shidzhatmaz**	**134.20**	**313**	*d i* PKIKP		**PKPdf**	**22 11 45.7**	**-2.4**
ATD	**Arta Tunnel**	**134.24**	**267**	*e*P		**PKiKP**	**22 11 50.0**	**-0.1**
ATD				*e*S	SKPbc		22 15 02.5	-16
NEY	**Neytrino**	**134.29**	**312**	*i* PKIKP		**PKPdf**	**22 11 46.3**	**-1.9**
MEF	**Metsahovi**	**134.52**	**341**	*e*P		**PKPdf**	**22 11 47.4**	**-0.4**
KMBO	**Kilima Mbogo**	**134.61**	**248**	PKhKP	PKPpre		22 11 38.9	
	comp=Z,1.8nm,0.8s,baz=59,slow=7.3,SNR=4.1							
KMBO				PKP		**PKPdf**	**22 11 48.9**	**-0.9**
	comp=Z,22nm,1.1s,baz=135,slow=2.9,SNR=12							
KMBO				PP		**PP**	**22 14 18.4**	**-4.2**
	comp=Z,19nm,1.3s,baz=112,slow=4.9,SNR=5.6							
KMBO	**Kilima Mbogo**	**134.61**	**248**	*i* P		**PKPdf**	**22 11 49.6**	**-0.2**
	SNR=13							
KMBO	**Kilima Mbogo**	**134.61**	**248**	*e*P		**PKPdf**	**22 11 50.0**	**+0.2**
KMBO				*e*S		**SKPab**	**22 15 23.9**	**+0.8**
KMBO	**Kilima Mbogo**	**134.61**	**248**	P		**PKiKP**	**22 11 51.0**	**-0.2**
VSU	**Vasula**	**135.06**	**338**	*e*P		PKPdf	22 11 41.0	-7.8
TBLU	**Trondheim**	**135.16**	**351**	*e*PKPdf		**PKPdf**	**22 11 48.9**	**0.0**
TBLU				*e*PP		**PP**	**22 14 21.1**	**-2.9**
TBLU				*e*			22 37 18.6	
TBLU				IVMs_BB	IVMs_BB		22 57 04.4	
	comp=Z,9μm,32.0s							
SOC	**Sochi**	**136.28**	**313**	*i* PKIKP		**PKPdf**	**22 11 50.7**	**-1.0**
SOC				*e*			22 14 29.4	
SOC				*e*			22 18 54.6	
SOC				*e*SSS	SSS		22 37 32.1	
SOC				pmax	pmax			
	comp=Z,24nm,0.6s							
SOC				MLR	MLR			
	comp=Z,11μm,21.0s							
DOMB	**Dombas**	**136.48**	**351**	*e*PKPdf		**PKiKP**	**22 11 52.6**	**-0.6**
DOMB				*e*PP		**PP**	**22 14 34.5**	**+2.0**
DOMB				*e*SKPdf		**SKiKP**	**22 15 28.0**	**-1.3**
DOMB				*e*SS	SS		22 32 46.1	+12
DOMB				*e*			22 37 41.4	
DOMB				IVMs_BB	IVMs_BB		23 00 32.4	
	comp=Z,7μm,8.6s							
ANKE	**Ethiopia-Afar**	**136.61**	**263**	*e*P		**PKPdf**	**22 11 50.3**	**-3.3**
DILA	**Dilla**	**136.89**	**258**	*e*P		PKPdf	22 11 44.4	-10
NB2	**NORSAR Subarra**	**137.08**	**349**	PKPdf		PKPdf	22 11 43.0	-10
	comp=Z,38nm,1.2s,baz=31,slow=1.9							
NB2				SKPa			22 15 00.2	
	comp=Z,3.2nm,0.7s,baz=35,slow=2.6							
NOA	**NORSAR Array B**	**137.08**	**349**	PKhKP	PKPpre		22 11 42.9	
	comp=Z,4.8nm,0.9s,baz=31,slow=2.7,SNR=7.1							
NOA				PKP		**PKPdf**	**22 11 53.2**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=300,slow=12,SNR=6.9							
DESE	**Dese**	**137.15**	**265**	*e*P		**PKPdf**	**22 11 49.5**	**-5.0**
MARD	**Mardin**	**137.18**	**304**	PKPdf		**PKPdf**	**22 11 53.0**	**-0.7**
NC602	**NORSAR Array S**	**137.31**	**349**	*e*PKPdf		**PKPdf**	**22 11 51.2**	**-1.9**
NC602				IVmB_BB			22 12 02.2	
	comp=Z,6μm,5.8s							
NC602				*e*PP		**PP**	**22 14 38.5**	**+1.0**
NC

MBAR	**Mbarara**	**140.48 244**		IAMs_20	IAMs_20	23 05 54.0		
	comp=Z,14µm,22.0s							
MBAR	**Mbarara**	**140.48 244**	*eP*		PKPdf	22 11 52.4	-8.1	
SORM	**Soroca**	**141.22 325**	⇑P		**PKPdf**	**22 11 59.7**	**-0.8**	
SORM	**Soroca**	**141.22 325**	⇑PKIKP		**PKPdf**	**22 11 59.7**	**-0.8**	
KSLA	**Kassala**	**141.23 271**	*i* P		**PKPdf**	**22 11 55.8**	**-5.7**	
KSLA	**Kassala**	**141.23 271**	*i* P		**PKPdf**	**22 11 55.2**	**-6.4**	
PURM	**Purcari**	**141.28 322**	⇑P		**PKPdf**	**22 12 01.2**	**+0.5**	
BSD	**Bornholm Skovb**	**141.61 343**	*i* P		**PKPdf**	**22 11 54.3**	**-6.7**	
KIS	**Kishinev**	**141.62 323**	⇑*i*PKP		**PKPdf**	**22 11 55.3**	**-6.0**	
	comp=Z,3µm,6.5s							
KIS	**Kishinev**	**141.62 323**	*e*PP		PP	22 15 00.0	-4.8	
KIS	**Kishinev**	**141.62 323**	*e*PKS			22 15 33.0		
KIS			*e*L		L	23 02 09.0		
KIS			LRM		MLR	23 13 14.0		
	comp=Z,5µm,23.0s							
KIS	**Kishinev**	**141.62 323**	*c i*PKHKP		PKPpre	22 11 55.0		
KIS			*e*			22 15 00.0		
KIS			*e*			22 27 30.0		
KIS			pmax		pmax			
	comp=Z,2µm,6.3s							
MILM	**Milestii Mici**	**141.67 323**	⇑*i*PKP		**PKPdf**	**22 11 56.8**	**-4.6**	
	comp=Z,7µm,7.2s							
MILM	**Milestii Mici**	**141.67 323**	*e*PP		PP	22 14 56.0	-9.1	
MILM	**Milestii Mici**	**141.67 323**	*e*PKS			22 15 31.0		
MILM			*e*L		L	23 02 04.0		
MILM			LRM		MLR	23 13 21.0		
	comp=Z,16µm,23.5s							
MILM	**Milestii Mici**	**141.67 323**	⇑P		**PKPdf**	**22 12 01.7**	**+0.3**	
MILM	**Milestii Mici**	**141.67 323**	*c i*PKIKP		**PKPdf**	**22 11 56.8**	**-4.6**	
MILM			pmax		pmax			
	comp=Z,6µm,7.2s							
COP	**Copenhagen**	**141.75 345**	*i* P		PKPdf	22 11 53.3	-7.9	
MUD	**Monsted U'grnd**	**141.76 348**	*i* P		**PKPdf**	**22 11 55.3**	**-5.9**	
BR131	**Keskin Array S**	**141.88 310**			**PKPdf**	**22 12 00.1**	**-2.1**	
BR131	**Keskin Array S**	**141.88 310**	PKIKP		**PKPdf**	**22 12 00.1**	**-2.1**	
BR131	**Keskin Array S**	**141.88 310**	P		**PKPdf**	**22 11 56.7**	**-5.5**	
	SNR=27							
BRTR	**Keskin Array B**	**141.88 310**	PKhKP		PKPpre	22 11 57.4		
	comp=Z,21nm,1.1s,baz=130,slow=1.9,SNR=27							
BRTR	**Keskin Array B**	**141.88 310**	PKPdf		**PKPdf**	**22 12 00.6**	**-1.6**	
BRTR	**Keskin Array B**	**141.88 310**	PKIKP		**PKPdf**	**22 12 00.6**	**-1.6**	
BEL	**Belsk**	**142.28 335**	*e*PKPdf		**PKPdf**	**22 11 56.7**	**-5.7**	
BEL			*e*L		L	23 13 26.0		
	comp=Z,37µm,24.8s							
LVV	**L'vov**	**142.33 330**	*e*PKIKP		**PKPdf**	**22 11 58.6**	**-3.9**	
LVV			*e*			22 15 06.1		
LVV			*e*			22 19 12.4		
ANTO	**Ankara**	**142.43 311**			**PKPdf**	**22 12 02.7**	**-0.4**	
ANTO	**Ankara**	**142.43 311**	PKIKP		**PKPdf**	**22 12 02.7**	**-0.4**	
GKP	**Gorka Klasztor**	**142.45 339**	*e*PKPdf		**PKPdf**	**22 11 57.0**	**-5.6**	
GKP			*e*L		L	23 08 21.9		
	comp=Z,30µm,27.6s							
BR231	**Keskin MP Arra**	**142.46 311**			**PKPdf**	**22 12 02.6**	**-0.6**	
GHAJ	**Ghor Haditha**	**142.51 296**			**PKPdf**	**22 12 02.4**	**-0.9**	
TLCR		**142.62 321**	⇑P		**PKPdf**	**22 12 01.9**	**-1.3**	
TLCR		**142.62 321**	⇑PKIKP		**PKPdf**	**22 12 01.9**	**-1.3**	
VLDR	**Vladesti**	**142.69 322**	⇑P		**PKPdf**	**22 12 00.8**	**-2.4**	
JURR	**Jurilovca**	**142.81 320**	⇑P		**PKPdf**	**22 12 00.6**	**-2.9**	
SCTR	**Scanteiesti**	**142.84 322**	⇑P		**PKPdf**	**22 12 04.7**	**+1.1**	
TATR	**Tatarca**	**142.85 322**	⇑P		**PKPdf**	**22 12 01.2**	**-2.4**	
GHRR		**142.96 323**	⇑P		**PKPdf**	**22 12 02.3**	**-1.5**	
SLCR	**Slobozia Conac**	**143.01 322**	⇑P		PKPbc	22 12 02.1	+1.5	
CFR	**Carcaliu**	**143.03 321**	⇑P		**PKPdf**	**22 12 03.1**	**-0.8**	
CFR	**Carcaliu**	**143.03 321**	⇑PKIKP		**PKPdf**	**22 12 03.1**	**-0.8**	
TPGR	**Topolog**	**143.04 321**	⇑P		PKPbc	22 12 01.9	+1.2	
IZVR	**Izvoarele**	**143.04 322**	⇑P		PKPbc	22 12 02.1	+1.5	
TUDR		**143.07 322**	⇑P		**PKiKP**	**22 12 06.6**	**-0.5**	
TESR	**Tescani**	**143.12 324**	⇑P		PKPbc	22 12 01.9	+1.1	
BUR08	**Bucovina Ar. S**	**143.20 327**	PKPdf		PKPbc	22 12 01.9	+0.7	
BURAR	**Bucovina Array**	**143.21 326**	⇑P		**PKiKP**	**22 12 07.4**	**-0.2**	
BURAR	**Bucovina Array**	**143.21 326**	⇑PKIKP		**PKiKP**	**22 12 07.4**	**-0.2**	
TIRR	**Tirgusor**	**143.25 320**	⇑P		PKPbc	22 12 02.2	+0.9	
TIRR	**Tirgusor**	**143.25 320**	⇑P		PKPbc	22 12 02.2	+0.9	
TIRR	**Tirgusor**	**143.25 320**	PKPdf		PKPbc	22 12 02.4	+1.1	
TIRR	**Tirgusor**	**143.25 320**	⇑PKIKP		PKPbc	22 12 02.2	+0.9	
MDUB	**Mudurnu**	**143.32 313**	PKPdf		PKPbc	22 12 02.3	+0.6	
MFTR	**Murfatlar**	**143.40 320**	⇑P		**PKPdf**	**22 12 04.0**	**-0.5**	
HARR	**Harsova**	**143.42 321**	⇑P		PKPbc	22 12 02.8	+1.1	
HARR	**Harsova**	**143.42 321**	⇑PKIKP		PKPbc	22 12 02.8	+1.1	
TLBR	**Topalu**	**143.43 320**	⇑P		**PKPdf**	**22 12 03.7**	**-0.9**	
VRI	**Vrincioaia**	**143.46 323**	⇑P		PKPbc	22 12 03.0	+1.1	
VRI	**Vrincioaia**	**143.46 323**	⇑PKIKP		PKPbc	22 12 03.0	+1.1	
MANR	**Mangalia**	**143.48 319**	⇑P		PKPbc	22 12 03.2	+1.3	
PLOR	**Plostina**	**143.51 323**	⇑P		PKPbc	22 12 03.2	+1.2	
PLOR	**Plostina**	**143.51 323**	⇑PKIKP		PKPbc	22 12 03.2	+1.2	
CSS	**Mathiatis**	**143.59 303**	PKPdf		PKPbc	22 12 02.7	+0.1	
CSS			IAMs_20		IAMs_20	23 18 25.6		
	comp=Z,9µm,21.0s							
BISRR	**Bisoca**	**143.65 323**	⇑P		PKPbc	22 12 03.8	+1.3	
COVR	**Voineasa-Covas**	**143.76 323**	⇑P		**PKPdf**	**22 12 04.8**	**-0.4**	
ICOR	**Ion Corvin**	**143.81 320**	⇑P		**PKPdf**	**22 12 04.4**	**-0.9**	
AMRR	**Amara**	**143.82 321**	⇑P		**PKPdf**	**22 12 04.5**	**-0.8**	
AMRR	**Amara**	**143.82 321**	⇑PKIKP		**PKPdf**	**22 12 04.5**	**-0.8**	
OZUR		**143.84 324**	⇑P		**PKPdf**	**22 12 04.8**	**-0.6**	
PGOR	**Pogoanele**	**143.86 322**	⇑P		**PKPdf**	**22 12 04.5**	**-0.8**	
STHS	**Stebnicka Huta**	**143.90 332**	*e*PKIKP		PKPbc	22 12 03.0	0.0	
STHS	**Stebnicka Huta**	**143.90 332**	*e*PKP		PKPbc	22 12 03.0	0.0	
OJC	**Ojcow**	**143.92 334**	*e*PKPdf		PKPab	22 12 02.0	-0.5	
OJC			*e*PP		**PP**	**22 15 17.9**	**-0.4**	
OJC			*e*L		L	23 15 05.8		
	comp=Z,36µm,24.3s							
OJC	**Ojcow**	**143.92 334**	PKPdf		PKPbc	22 12 03.5	+0.4	
OJC	**Ojcow**	**143.92 334**	PKIKP		PKPbc	22 12 03.5	+0.4	
NEHR	**Nehoiu**	**143.96 323**	⇑P		**PKPdf**	**22 12 04.6**	**-0.9**	
UZH	**Uzhgorod**	**143.98 330**	⇓*i*PKIKP		PKPab	22 12 03.0	+0.3	
UZH			*i*			22 12 05.9		
UZH			*i*			22 12 10.6		
UZH			*i*			22 15 20.2		
UZH			*e*			22 19 09.8		
ISR	**Istrita**	**143.99 322**	⇑P		PKPbc	22 12 04.1	+0.6	
ISR	**Istrita**	**143.99 322**	⇑PKIKP		PKPbc	22 12 04.1	+0.6	
ARCR	**ARCALIA**	**144.00 326**	⇑P		**PKPdf**	**22 12 04.5**	**-1.0**	
BMR	**Baia Mare**	**144.05 328**	⇑P		**PKPdf**	**22 12 04.9**	**-0.7**	
BMR	**Baia Mare**	**144.05 328**	⇑PKIKP		**PKPdf**	**22 12 04.9**	**-0.7**	
BORA	**Eskisehir**	**144.08 312**	PKPdf		**PKPab**	**22 12 03.1**	**-0.5**	
MLR	**Muntele Rosu**	**144.12 323**	⇑P		**PKPdf**	**22 12 05.1**	**-0.9**	
MLR	**Muntele Rosu**	**144.12 323**	PKPdf		**PKPab**	**22 12 03.2**	**-0.4**	
MLR	**Muntele Rosu**	**144.12 323**	PKIKP		**PKPab**	**22 12 03.2**	**-0.4**	
DOPR	**Dopca**	**144.14 324**	⇑P		PKPbc	22 12 04.5	+0.6	
RASA	**Rasa**	**144.15 321**	⇑P		**PKPdf**	**22 12 05.3**	**-0.6**	
ESK	**Eskdalemuir**	**144.20 359**	PKPdf		**PKPab**	**22 12 03.3**	**0.0**	
ESK			IAMs_20		IAMs_20	23 24 48.8		
	comp=Z,11µm,19.0s							
ESK	**Eskdalemuir**	**144.20 359**	PKIKP		**PKPab**	**22 12 03.3**	**0.0**	
ESK			MLR		MLR			
	comp=Z,11µm,19.0s							
LEHL	**Lehliu**	**144.20 321**	⇑P		PKPbc	22 12 04.8	+0.7	
TRPA	**Targa**	**144.21 329**	⇑P		PKPbc	22 12 04.1	+0.1	
RUE	**Ruedersdorf**	**144.23 341**	*e*P		**PKPab**	**22 12 02.9**	**-0.6**	
TGMR	**Targu Mures**	**144.26 326**	⇑P		**PKPdf**	**22 12 05.5**	**-0.6**	
NIE	**Niedzica**	**144.31 333**	*e*PKPdf		**PKPab**	**22 12 02.7**	**-1.4**	
NIE			*e*PP		**PP**	**22 15 21.4**	**+0.7**	
NIE			*e*L		L	23 11 53.9		
	comp=Z,19µm,24.7s							
SECR		**144.32 322**	⇑P		PKPbc	22 12 05.0	+0.5	
PLAR	**PLOIESTI**	**144.41 322**	⇑P		**PKPdf**	**22 12 05.9**	**-0.4**	
SULR		**144.41 322**	⇑P		PKPbc	22 12 05.1	+0.3	
PRD	**Provadia**	**144.54 319**	P		PKPbc	22 12 05.5	+0.3	
MDB	**Medias**	**144.58 325**	⇑P		**PKPdf**	**22 12 06.3**	**-0.3**	
MDB	**Medias**	**144.58 325**	⇑PKIKP		**PKPdf**	**22 12 06.3**	**-0.3**	
CBBR	**Cluj-Babes-Bol**	**144.62 327**	⇑P		PKPbc	22 12 05.9	+0.5	
CJR	**Cluj-Napoca**	**144.63 327**	⇑P		**PKPdf**	**22 12 06.3**	**-0.4**	
CJR	**Cluj-Napoca**	**144.63 327**	⇑PKIKP		**PKPdf**	**22 12 06.3**	**-0.4**	
GAL1	**Galloway**	**144.65 1**	*e*P		**PKPab**	**22 12 01.6**	**-3.4**	
VOIR		**144.66 324**	⇑P		PKPbc	22 12 05.9	+0.3	
VOIR		**144.66 324**	⇑PKIKP		PKPbc	22 12 05.9	+0.3	
MESR	**Meseseni**	**144.68 328**	⇑P		**PKPdf**	**22 12 07.4**	**+0.7**	
SHEL	**Horse Pasture**	**144.76 177**			**PKPab**	**22 12 06.6**	**0.0**	
SHEL	**Horse Pasture**	**144.76 177**	PKIKP		**PKPab**	**22 12 06.6**	**0.0**	
SHEL			MLR		MLR			
	comp=Z,7µm,22.0s							
MTUR	**Matau**	**144.78 323**	⇑P		PKPbc	22 12 06.5	+0.5	
MTUR	**Matau**	**144.78 323**	⇑PKIKP		**PKPdf**	**22 12 06.6**	**-0.5**	
KSP	**Ksiaz**	**144.79 338**	*e*PKPdf		**PKPab**	**22 12 04.4**	**-1.2**	
KSP			*e*L		L	23 03 56.6		
	comp=Z,31µm,34.6s							
ISP	**Isparta**	**144.84 309**	PKPdf		**PKPab**	**22 12 05.0**	**-1.4**	
ISP	**Isparta**	**144.84 309**	PKIKP		**PKPab**	**22 12 05.0**	**-1.4**	
ISP			MLR		MLR			
	comp=Z,7µm,20.0s							
SGRR	**Singureni**	**144.84 321**	⇑P		**PKPab**	**22 12 05.9**	**-0.2**	
LANS	**Liptovska Anna**	**144.87 333**	*e*PKIKP		**PKPdf**	**22 12 07.0**	**-0.1**	
LANS	**Liptovska Anna**	**144.87 333**	*e*PKP		**PKPdf**	**22 12 07.0**	**-0.1**	
OKC	**Ostrava-Krasne**	**144.89 335**	*e*PKP		**PKPab**	**22 12 05.8**	**-0.3**	
OKC			*e*SS		SS	22 34 15.9	+3.4	
OKC			AMS		AMS	23 11 10.0		
	comp=Z,26µm,23.1s							
OKC	**Ostrava-Krasne**	**144.89 335**	*e*PKIKP		**PKPab**	**22 12 05.8**	**-0.3**	
OKC			*e*SS		SS	22 34 15.9	+3.4	
OKC			MLR		MLR			
	comp=Z,26µm,23.1s							
RAZG	**Razgrad**	**144.89 320**	⇑P		PKPbc	22 12 06.7	+0.3	
MARR	**Marisel-Cluj**	**144.90 327**	⇑P		PKPbc	22 12 06.8	+0.3	
JAWL	**J.Aulia**	**144.91 269**	*i* P		**PKPab**	**22 12 06.6**	**-0.6**	
JAWL	**J.Aulia**	**144.91 269**	*i* P		**PKPab**	**22 12 07.0**	**-0.2**	
KECS	**Kecovo**	**144.92 331**	*e*PKIKP		**PKPdf**	**22 12 07.0**	**-0.1**	
KECS	**Kecovo**	**144.92 331**	*e*PKP		**PKPdf**	**22 12 07.0**	**-0.1**	
KESW	**Keswick, Cumbr**	**144.93 359**	*e*P		**PKPab**	**22 12 00.8**	**-5.2**	
ARR	**Arges**	**144.93 324**	⇑P		**PKPdf**	**22 12 07.4**	**+0.1**	
GDLE	**Glaisdale, N Y**	**145.01 357**	*e*P		**PKPab**	**22 12 02.7**	**-3.6**	
DRGR		**145.04 327**	⇑P		**PKPab**	**22 12 07.1**	**+0.3**	
DRGR		**145.04 327**	⇑PKIKP		**PKPab**	**22 12 07.1**	**+0.3**	
OSTC	**Ostas**	**145.05 337**	*e*PKP		**PKPbc**	**22 12 06.3**	**-0.4**	
OSTC			*e*SS		SS	22 34 17.5	+3.2	
OSTC			AMS		AMS	23 03 20.0		
	comp=Z,33µm,30.1s							
STFAR	**Stefanesti-Arg**	**145.05 323**	⇑P		**PKPdf**	**22 12 07.7**	**+0.3**	
UPC	**Upice**	**145.17 337**	*e*PKP		**PKPbc**	**22 12 06.9**	**-0.1**	
UPC			*e*SS		SS	22 34 23.5	+7.9	
UPC			AMS		AMS	23 03 10.0		
	comp=Z,54µm,47.0s							
UPC	**Upice**	**145.17 337**	*e*PKIKP		**PKPbc**	**22 12 06.9**	**-0.1**	
MORC	**Moravsky Berou**	**145.18 335**			**PKPbc**	**22 12 06.4**	**-0.8**	
MORC	**Moravsky Berou**	**145.18 335**	*e*PKP		**PKPbc**	**22 12 06.7**	**-0.4**	
MORC	**Moravsky Berou**	**145.18 335**	PKIKP		**PKPbc**	**22 12 06.4**	**-0.8**	
DPC	**Dobruska-Polom**	**145.18 337**	*e*PKP		**PKPbc**	**22 12 06.8**	**-0.3**	
DPC			*e*SS		SS	22 34 20.3	+4.4	
DPC			AMS		AMS	23 03 20.0		
	comp=Z,35µm,36.6s							
DPC	**Dobruska-Polom**	**145.18 337**	*e*PKIKP		**PKPbc**	**22 12 06.8**	**-0.3**	
DPC			*e*SS		SS	22 34 20.3	+4.4	
KRLC	**Kraliky**	**145.23 336**	*e*PKP		**PKPbc**	**22 12 07.1**	**-0.2**	
KRLC			*e*SS		SS	22 34 33.5	+17	
KRLC			AMS		AMS	23 14 30.0		
	comp=Z,27µm,23.3s							
KRLC	**Kraliky**	**145.23 336**	*e*PKIKP		**PKPbc**	**22 12 07.1**	**-0.2**	
KRLC			MLR		MLR			
	comp=Z,27µm,23.3s							
HUMR	**Humele**	**145.24 322**	⇑P		**PKPbc**	**22 12 07.1**	**-0.4**	
IOMK	**Kirk Michael**	**145.26 1**	*e*P		**PKPbc**	**22 12 03.6**	**-3.5**	
COPA	**Copaceanca**	**145.34 322**	⇑P		**PKPbc**	**22 12 07.7**	**-0.1**	
LOT	**Lotru**	**145.35 325**	⇑P		**PKPbc**	**22 12 06.9**	**-1.0**	
MAUC	**Maruska**	**145.39 335**	*e*PKP		**PKPab**	**22 12 08.3**	**+0.3**	
SZH	**Strazhica**	**145.41 320**	P		**PKPbc**	**22 12 07.5**	**-0.5**	
JMB	**Yambol**	**145.44 318**	P		**PKPbc**	**22 12 07.9**	**-0.2**	
CLL	**Collm**	**145.49 341**			**PKPdf**	**22 12 06.9**	**-1.1**	
CLL	**Collm**	**145.49 341**	*e*PKPbc		**PKPdf**	**22 12 08.0**	**0.0**	
	comp=Z,1µm,1.4s							
CLL			*e*PKPlp			22 12 10.0		
	comp=Z,26µm,14.9s							
CLL			*i* PKiKP		sPKPab	22 12 13.6	+1.3	
	comp=Z,1µm,1.2s							
CLL			*i* pPKiKP		**pPKiKP**	**22 12 15.8**	**+0.8**	
	comp=Z,1µm,1.1s							
CLL			*e*PP		**PP**	**22 15 24.0**	**-3.5**	
CLL			*e*PPP		PPP	22 18 42.0		
CLL			*ex*		x	22 21 36.0		
CLL			*e*SKKSac		SKKSac	22 22 30.0	+10	
CLL			*ex*		x	22 24 28.0		
CLL			*e*PSKS			22 25 41.0		
CLL			*e*PPPrev			22 26 37.0		
CLL			*ex*		x	22 29 29.0		
CLL			*e*SS		SS	22 34 34.0	+15	
CLL			*e*SKSSKSac			22 35 37.0		
CLL			*ex*		x	22 37 24.0		
CLL			*e*SSS		SSS	22 39 36.0		
CLL			*e*SSSS			22 43 36.0		
CLL			R2			23 22 00.0		
CLL			R2			23 33 00.0		
CLL	**Collm**	**145.49 341**	PKIKP		**PKPdf**	**22 12 06.9**	**-1.1**	
HPK	**Haverah Park**	**145.51 357**	*e*P		**PKPdf**	**22 12 04.0**	**-3.9**	
ZIMR		**145.53 321**	⇑P		**PKPab**	**22 12 08.6**	**0.0**	
ZIMR		**145.53 321**	⇑PKIKP		**PKPab**	**22 12 08.6**	**0.0**	
DEV	**Deva**	**145.54 326**	⇑P		**PKPdf**	**22 12 07.9**	**-0.3**	
DEV	**Deva**	**145.54 326**	⇑PKIKP		**PKPdf**	**22 12 07.9**	**-0.3**	
BRG	**Berggiesshubel**	**145.57 340**	⇓*i*PKP		**PKPdf**	**22 12 08.0**	**-0.1**	
BRG			Amp			22 12 10.9		
	comp=Z,960nm,1.3s							
BRG	**Berggiesshubel**	**145.57 340**	P		**PKiKP**	**22 12 14.9**	**+2.8**	
BRG			Amp			22 12 20.1		
	comp=Z,2µm,1.3s							
BRG	**Berggiesshubel**	**145.57 340**	⇓*i*PKIKP		**PKPdf**	**22 12 08.0**	**-0.1**	
BRG						22 12 14.9		
BRG			pmax		pmax			
	comp=Z,960nm,1.3s							
PSZ	**Piszkesteto**	**145.60 331**	⇑P		**PKPab**	**22 12 08.9**	**0.0**	
PSZ	**Piszkesteto**	**145.60 331**	⇑PKIKP		**PKPab**	**22 12 08.9**	**0.0**	
VYHS	**Vyhne**	**145.64 333**	*e*PKIKP		**PKPdf**	**22 12 08.0**	**-0.4**	
VYHS	**Vyhne**	**145.64 333**	*e*PKP		**PKPdf**	**22 12 08.0**	**-0.4**	
VYHS			*e*SS		SS	22 34 33.0	+12	
PVCC	**Panska Ves**	**145.66 339**	*e*PKP		**PKPab**	**22 12 09.1**	**+0.2**	
PVCC			AMS		AMS	23 09 40.0		
	comp=Z,22µm,24.3s							
PVCC	**Panska Ves**	**145.66 339**	*e*PKIKP		**PKPab**	**22 12 09.1**	**+0.2**	
PVCC			MLR		MLR			
	comp=Z,22µm,24.3s							
EDRB	**Edirne**	**145.66 317**	P		**PKPdf**	**22 12 06.3**	**-2.3**	
ELL	**Elmali**	**145.68 307**			**PKPdf**	**22 12 07.6**	**-1.3**	
ELL	**Elmali**	**145.68 307**	PKIKP		**PKPdf**	**22 12 07.6**	**-1.3**	
PVL	**Pavlikeni**	**145.80 320**	P		**PKPbc**	**22 12 09.4**	**+0.2**	
JAVC	**Velka Javorina**	**145.85 334**	*e*PKP		**PKPab**	**22 12 10.1**	**+0.4**	
BSZH	**Besenyszg**	**145.88 330**	⇑P		**PKPab**	**22 12 11.2**	**+1.5**	
MRWI	**Hamdab**	**145.88 275**	*i* P		**PKPdf**	**22 12 08.5**	**-1.1**	
MRWI	**Hamdab**	**145.88 275**	*i* P		**PKPbc**	**22 12 10.0**	**-0.2**	
VLAD	**Vladila**	**145.89 322**	⇑P		**PKPdf**	**22 12 08.7**	**-0.2**	
SIRR	**Siria**	**145.93 328**	⇓P		**PKPdf**	**22 12 09.0**	**+0.1**	
GZR	**Gura Zlata**	**145.93 325**	⇑P		**PKPdf**	**22 12 08.0**	**-1.0**	
GZR	**Gura Zlata**	**145.93 325**	⇑PKIKP		**PKPdf**	**22 12 08.0**	**-1.0**	
VRAC	**Vranov**	**145.93 336**	*e*PKP		**PKPdf**	**22 12 09.0**	**+0.2**	
LMK	**Market Rasen**	**145.95 356**	*e*P		**PKPdf**	**22 12 05.9**	**-2.8**	
BALB	**Balikesir**	**145.98 313**	PKPdf		**PKPdf**	**22 12 08.5**	**-0.7**	
MANT	**Manisa**	**146.00 311**			**PKPdf**	**22 12 08.2**	**-1.4**	
SURR	**Surduc**	**146.03 326**	⇓P		**PKPdf**	**22 12 08.5**	**-0.6**	
LBWR	**Ladybower, Pea**	**146.07 358**	*e*P		**PKPdf**	**22 12 07.0**	**-1.9**	
GOPC	**GO Pecny, Ondr**	**146.10 338**	*e*PKP		**PKPdf**	**22 12 09.3**	**+0.2**	
GOPC			*e*SS		SS	22 34 23.1	-3.1	
GOPC			AMS		AMS	23 03 30.0		
	comp=Z,39µm,43.7s							
GOPC	**GO Pecny, Ondr**	**146.10 338**	*e*PKP2		**PKPdf**	**22 12 09.3**	**+0.2**	
GOPC			*e*SS		SS	22 34 23.1	-3.1	
PRU	**Pruhonice**	**146.12 338**	*e*PKP		**PKPbc**	**22 12 09.6**	**-0.4**	
PRU			*e*SS		SS	22 34 29.1	+2.7	
PRU			AMS		AMS	23 09 50.0		
	comp=Z,23µm,24.4s							
PRU	**Pruhonice**	**146.12 338**	*e*PKP2		**PKPbc**	**22 12 09.6**	**-0.4**	
PRU			*e*SS		SS	22 34 29.1	+2.7	
PRU			MLR		MLR			
	comp=Z,23µm,24.4s							
WPS	**Cemaes, Angles**	**146.12 0**	*e*P		**PKPdf**	**22 12 02.0**	**-6.9**	
PLVB	**Pleven**	**146.12 321**	⇑P		**PKPdf**	**22 12 09.0**	**-0.3**	
KSL	**Kastellorizon**	**146.14 306**	P		**PKPdf**	**22 12 08.0**	**-1.6**	
SRE	**Strehaia**	**146.16 324**	⇑P		**PKPab**	**22 12 11.8**	**+0.8**	
SRE	**Strehaia**	**146.16 324**	⇑PKP2		**PKPab**	**22 12 11.8**	**+0.8**	
KRUC	**Moravsky**	**146.20 336**	*e*PKP		**PKPdf**	**22 12 08.9**	**-0.4**	
SMOL	**Smolenice**	**146.22 334**	*e*PKP2		**PKPab**	**22 12 11.1**	**0.0**	
DSB	**Dublin**	**146.23 3**	PKPdf		**PKPdf**	**22 12 09.0**	**-0.2**	
DSB			IAMs_20		IAMs_20	23 20 31.2		
	comp=Z,12µm,20.0s							
DIM	**Dimitrovgrad**	**146.32 318**	P		**PKPdf**	**22 12 09.7**	**0.0**	
AMBH	**Ambrzfalva**	**146.34 328**	⇑P		**PKPdf**	**22 12 08.7**	**-0.9**	
TREC	**Trest**	**146.36 337**	*e*PKP		**PKPab**	**22 12 11.3**	**-0.3**	
TREC			*e*SS		SS	22 34 42.7	+13	
TREC			AMS		AMS	23 04 10.0		
	comp=Z,34µm,35.3s							
TREC	**Trest**	**146.36 337**	*e*PKP2		**PKPab**	**22 12 11.3**	**-0.3**	
SRO	**Srobarova**	**146.39 332**	*e*PKP2		**PKPbc**	**22 12 10.4**	**-0.5**	
SRO	**Srobarova**	**146.39 332**	*e*PKP		**PKPbc**	**22 12 10.4**	**-0.5**	
BZS	**Buzias**	**146.39 327**	⇑P		**PKPdf**	**22 12 09.1**	**-0.6**	
BZS	**Buzias**	**146.39 327**	⇑PKP2		**PKPdf**	**22 12 09.1**	**-0.6**	
MODS	**Modra-Piesok**	**146.40 334**	*e*PKP2		**PKPbc**	**22 12 10.6**	**-0.3**	
MODS	**Modra-Piesok**	**146.40 334**	*e*PKP		**PKPbc**	**22 12 10.6**	**-0.3**	
MODS			*e*SS		SS	22 34 43.7	+14	
STNC	**Stoke**	**146.40 358**	*e*P		**PKPdf**	**22 12 06.6**	**-2.9**	
RMGR	**Halanga-Turnu**	**146.44 324**	⇑P		**PKPbc**	**22 12 11.2**	**+0.1**	
HERR	**Herculane**	**146.45 325**	⇑P		**PKPdf**	**22 12 09.1**	**-0.7**	
BAIL	**Bailesti**	**146.48 323**	⇑P		**PKPdf**	**22 12 09.9**	**0.0**	
TIM	**Timisoara**	**146.51 327**	⇑P		**PKPab**	**22 12 12.9**	**+0.7**	
TIM	**Timisoara**	**146.51 327**	⇑PKP2		**PKPab**	**22 12 12.9**	**+0.7**	
DJES	**Djerdap**	**146.53 325**	⇑P		**PKPdf**	**22 12 09.5**	**-0.5**	
DJES	**Djerdap**	**146.53 325**	PKPdf		**PKPdf**	**22 12 09.6**	**-0.4**	
ALN	**Alexandroupoli**	**146.60 316**	PKPdf		**PKPdf**	**22 12 09.3**	**-0.9**	
ALN	**Alexandroupoli**	**146.60 316**	P		**PKPdf**	**22 12 08.8**	**-1.4**	
ALN	**Alexandroupoli**	**146.60 316**	PKIKP		**PKPdf**	**22 12 09.3**	**-0.9**	
WACR	**West Acre**	**146.60 355**	*e*P		**PKPdf**	**22 12 07.2**	**-2.6**	
NKC	**Novy Kostel**	**146.60 341**	*e*PKP		**PKPdf**	**22 12 10.7**	**+0.7**	
NKC			*e*SS		SS	22 34 24.3	-7.5	
NKC

A051A	Mrakovica	149.15	330	ǁ	*i*P		PKPdf	22 12 13.2	-1.2
CRES	Cresnjev	149.17	333	ǁ	*i*P		PKPdf	22 12 13.2	-1.1
SAP3	Santorini-Thir	149.18	309		P		PKPdf	22 12 12.2	-2.4
H07N1	FLORES T-PHASE	149.20	43		*e*PKP		PKPdf	22 12 13.3	-1.3
BLY	Banja Luka	149.21	330	ǁ	*i*P		PKPdf	22 12 13.6	-0.8
MYKA	Terra Mystica	149.26	336		*e*PKP		PKPdf	22 12 14.1	-0.4
	comp=Z,238nm,1.8s,SNR=19								
NEO	Neokhori	149.28	316		P		PKPdf	22 12 12.4	-2.3
H07S1	FLORES T-PHASE	149.31	44		*e*PKP		PKPdf	22 12 13.5	-1.3
LIT	Litokhoron	149.31	318				PKPdf	22 12 13.5	-1.3
LIT	Litokhoron	149.31	318		P		PKPdf	22 12 12.4	-2.4
LIT	Litokhoron	149.31	318		PKHKP		PKPdf	22 12 13.5	-1.3
KTI	Kastanea	149.38	319		P		PKPdf	22 12 13.7	-1.3
LJU	Ljubljana	149.38	334		*i* PKPdf		PKPdf	22 12 13.8	-0.9
LJU					*i* PKPbc		PKPbc	22 12 19.3	+0.3
LJU					*i*			22 12 28.8	
LJU					*e*			22 30 13.9	
LJU					*e*SS		SS	22 35 15.9	+13
LJU					*e*			22 40 41.9	
LJU					*e*			22 41 06.7	
WATA	Walderalm	149.41	339		*e*PKP		PKPdf	22 12 14.3	-0.5
	comp=Z,192nm,1.2s,SNR=58								
DION	Dionisos Attik	149.43	313		P		PKPdf	22 12 13.3	-1.7
PRED	Cave del Predi	149.44	336				PKPdf	22 12 14.5	-0.3
WTTA	Wattenberg	149.45	339		*e*PKP		PKPdf	22 12 14.0	-1.0
	comp=Z,250nm,1.1s,SNR=71								
FRMA	Ierapetra Chan	149.47	307		P		PKPdf	22 12 14.3	-0.8
PTL	Penteli	149.49	313		P		PKPdf	22 12 13.1	-2.0
BFO	Black Forest	149.51	344		PKPdf		PKPdf	22 12 13.6	-1.2
BFO					IAMs_20		IAMs_20	23 15 25.6	
	comp=Z,13µm,22.0s								
BFO	Black Forest	149.51	344		PKHKP		PKPpre	22 12 13.6	
BFO					MLR		MLR		
	comp=Z,12µm,22.0s								
MGRS	Mrkonjic Grad	149.51	329		*e*P		PKPbc	22 12 19.3	-0.1
BOJS	Bojanci	149.51	333	ǁ	*i*P		PKPdf	22 12 13.8	-1.0
RETA	Reutte	149.55	340		*e*PKP		PKPdf	22 12 14.8	-0.2
	comp=Z,136nm,1.2s,SNR=43								
MOTA	Moosalm	149.56	339		*e*PKP		PKPdf	22 12 14.3	-0.8
	comp=Z,219nm,1.1s,SNR=71								
ABTA	Abfaltersbach	149.59	337		*e*PKP		PKPdf	22 12 14.0	-1.1
	comp=Z,62nm,1.2s,SNR=51								
ATHU	Athens Univers	149.59	313		P		PKPdf	22 12 12.8	-2.4
FNA	Florina	149.61	320		PKPdf		PKPdf	22 12 13.6	-1.6
FNA	Florina	149.61	320		P		PKPdf	22 12 12.8	-2.4
FNA	Florina	149.61	320		PKHKP		PKPpre	22 12 13.6	
ATH	Athens Observa	149.63	313		P		PKPdf	22 12 12.0	-3.3
SQTA	Sankt Quirin	149.63	339		*e*PKP		PKPdf	22 12 14.5	-0.6
	comp=Z,187nm,1.0s,SNR=74								
VLY	Voula,Athens	149.63	313		P		PKPdf	22 12 12.2	-3.1
KZN	Kozani	149.65	319		P		PKPdf	22 12 12.9	-2.4
CEY	Cerknica	149.67	334	ǁ	*i*P		PKPdf	22 12 14.1	-1.1
CLUD	Cludinico	149.69	336		PKPdf		PKPdf	22 12 13.5	-1.6
TYRN	Tyrnavos	149.70	317		P		PKPdf	22 12 12.6	-2.7
A050A	Klekovaca	149.72	330	ǁ	*i*P		PKPdf	22 12 14.0	-1.3
SRKY	Kupres RS	149.72	329		*e*P		PKPbc	22 12 18.9	-1.2
MHLO	Agia Marina, M	149.75	311		P		PKPdf	22 12 13.3	-2.2
OHR	Ohrid	149.76	321		*i*P		PKPdf	22 12 15.5	0.0
PDG	Podgorica	149.79	324	⇑	P		PKPdf	22 12 15.5	+0.1
PDG	Podgorica	149.79	324		PKPdf		PKPdf	22 12 14.6	-0.7
SABO	M.te Sabotino	149.81	335		PKPdf		PKPdf	22 12 14.4	-1.0
HRKL	Herakleio	149.83	308		P		PKPdf	22 12 13.5	-2.2
ECH	Echery	149.91	345				PKPdf	22 12 14.7	-0.7
ECH	Echery	149.91	345		PKHKP		PKPpre	22 12 14.7	
ECH					MLR		MLR		
	comp=Z,20µm,22.0s								
THL	Klokotos Trika	149.92	317		P		PKPdf	22 12 12.8	-2.9
FETA	Feichten	149.97	340		*e*PKP		PKPdf	22 12 15.1	-0.7
	comp=Z,238nm,1.1s,SNR=56								
DRME	Dracevica, Mon	150.00	324		*e*P		PKPdf	22 12 15.3	-0.4
SKDS	Skadanscina	150.00	334	ǁ	*i*P		PKPdf	22 12 14.1	-1.6
DAVA	Damuels	150.00	341		*e*PKP		PKPdf	22 12 15.9	+0.1
	comp=Z,195nm,1.2s,SNR=40								
AGG	Agios Georgios	150.01	316		P		PKPdf	22 12 14.8	-1.1
NEST	Nestorio	150.03	320		P		PKPdf	22 12 13.3	-2.7
TREB	Trebinje	150.09	326		*e*P		PKPbc	22 12 18.4	-2.5
PENT	Pentalofos	150.10	319		P		PKPdf	22 12 14.5	-1.6
KPRO	Kipourio	150.11	319		P		PKPdf	22 12 14.8	-1.3
TIR	Tirane	150.16	322	⇑	P		PKPbc	22 12 20.2	-0.9
TIR	Tirane	150.16	322	⇑	PKIKP		PKPbc	22 12 20.5	-0.9
SIVA	Sivas	150.17	307		P		PKPdf	22 12 15.6	-0.6
TMBK	Timbaki Herakl	150.18	307		P		PKPdf	22 12 15.8	-0.4
HCY	Herceg Novi	150.19	325		*e*P		PKPdf	22 12 16.7	+0.7
PRNS	Prines Rethymn	150.25	308		P		PKPdf	22 12 15.6	-0.7
JVM	Valle D.L. Mar	150.28	358		*e*P		PKPdf	22 12 15.6	-0.3
JSA	Saint Aubin	150.30	358		*e*P		PKPdf	22 12 14.2	-1.7
STON	Ston	150.32	327	ǁ	*i*P		PKPdf	22 12 14.8	-1.4
EVR	Evrytania	150.41	316		P		PKPdf	22 12 16.6	0.0
FUORN	Ofenpass-Fuorn	150.47	340		PKPdf		PKPdf	22 12 15.4	-1.3
CTI	Castel Tesino	150.49	338				PKPdf	22 12 15.6	-1.0
CTI	Castel Tesino	150.49	338		PKIKP		PKPdf	22 12 15.6	-1.0
ALIK	Aliki, Aigiali	150.57	315		P		PKPbc	22 12 21.7	-0.4
IMMV	Iera Moni Meta	150.60	309		P		PKPdf	22 12 15.0	-1.9
JAN	Janina	150.60	319		P		PKPdf	22 12 15.8	-1.0
EFP	Efpalio	150.62	316		P		PKPdf	22 12 14.8	-2.0
KLV	Kalavryta, Ach	150.66	315		P		PKPdf	22 12 14.7	-2.3
PVO	Paravola	150.76	316		P		PKPdf	22 12 14.3	-2.7
UPR	University Cam	150.77	315		P		PKiKP	22 12 25.4	+2.1
GVDS	Gavdos	150.78	307		P		PKPdf	22 12 16.0	-1.2
GVD	Gavdhos	150.78	307		P		PKPdf	22 12 15.6	-1.6
VLI	Veliai	150.78	312		P		PKPdf	22 12 14.7	-2.4
TUE	Stuetta	150.90	341				PKPdf	22 12 15.9	-1.4
KNDR	Palaiochora Ch	150.91	308		P		PKPdf	22 12 15.8	-1.5
ANKY	Antikythira Is	150.92	310		P		PKPdf	22 12 16.2	-1.2
IGT	Igoumenitsa	151.00	319		P		PKPdf	22 12 15.6	-1.8
DRO	Drossia	151.00	315		P		PKPdf	22 12 16.4	-1.1
TEOL	Teolo	151.07	337				PKPdf	22 12 15.9	-1.4
RLS	Riolos of Patr	151.11	315		P		PKPdf	22 12 16.6	-1.0
KEK	Kerkira	151.22	320		PKPdf		PKPdf	22 12 17.4	-0.3
KEK	Kerkira	151.22	320		P		PKPdf	22 12 16.4	-1.3
KLMT	Kalamata	151.22	313		P		PKPdf	22 12 16.4	-1.4
LKD2	Lefkada island	151.23	317		P		PKPdf	22 12 14.5	-3.3
NYDR	Nydri-Lefkada	151.24	317		P		PKPbc	22 12 23.0	-0.7
ITM	Ithomi	151.26	313		P		PKPdf	22 12 15.4	-2.5
SALO	Salr	151.26	338		PKPdf		PKPdf	22 12 15.9	-1.7
EVGI	Lefkada island	151.32	317		P		PKPdf	22 12 16.2	-1.7
FSK	Fiskardo	151.48	317		P		PKPdf	22 12 16.2	-1.9
PYL	PYLOS	151.53	313		P		PKPdf	22 12 16.0	-2.3
SRBC	Serra Branca	151.53	42		*e*PKP		PKPdf	22 12 16.7	-1.5
PGRA	Graciosa	151.57	42		*e*PKP		PKPdf	22 12 14.4	-3.9
PCAN	Candelaria	151.58	43		*e*PKP		PKPdf	22 12 14.6	-3.7
SENIN	Lac Senin/Sane	151.59	343		PKPdf		PKPdf	22 12 17.2	-1.2
PICO	Pico	151.60	43		*e*PKP		PKPdf	22 12 19.3	+0.9
VLS	Valsamata	151.62	316		P		PKPdf	22 12 16.7	-1.7
PSDA	Pessada-Kefalo	151.66	316		P		PKPdf	22 12 16.2	-2.2
LTHK	Lithakia	151.71	315		P		PKPdf	22 12 15.8	-2.7
PPNO	Prainha do Nor	151.72	43		*e*PKP		PKPdf	22 12 18.8	+0.2
DMLN	Damoulianata-K	151.72	317		P		PKPbc	22 12 23.7	-1.2
KEF3	Kipouria, Keph	151.76	317		P		PKPdf	22 12 17.3	-1.3
PSBA	Serra de Santa	152.14	41		*e*PKP		PKPdf	22 12 17.8	-1.4
PAGU	Agualva, Azore	152.23	41		*e*PKP		PKPdf	22 12 22.3	+3.0
MATE	Matera	152.41	324	⇑	P		PKPdf	22 12 19.7	+0.2
MURB	Monte Urbino	152.46	333				PKPdf	22 12 18.9	-1.0
NRCA	Norcia	152.56	332				PKPdf	22 12 18.9	-0.8
BNI	Bardonecchia	152.97	343		PKPdf		PKPdf	22 12 19.3	-1.0
BNI	Bardonecchia	152.97	343		PKIKP		PKPdf	22 12 19.3	-1.0
BNI					MLR		MLR		
	comp=Z,23µm,20.0s								
CESX	Cesi	152.98	332				PKPdf	22 12 18.8	-1.5
PAOL	Paolisi	153.26	328		PKPdf		PKPdf	22 12 19.7	-1.1
TIP	Timpagrande	153.37	322	⇑	P		PKPdf	22 12 21.6	+0.6
CMLA	Cha da Macela	153.88	41		*e*PKP		PKPbc	22 12 25.9	-3.7
BART	Pico Bartolome	154.09	41		*e*PKP		PKPbc	22 12 26.5	-3.7
PSMA	Santa Maria	154.60	42		*e*PKP		PKPdf	22 12 25.0	+2.3
PSMN	Pico do Norte,	154.63	42		*e*PKP		PKPdf	22 12 22.0	-0.8
PGAV	Gavieira, Arco	157.28	8		*e*PKPdf		PKPdf	22 12 26.6	+0.3
PGAV	Gavieira, Arco	157.28	8		*e*PKPab		PKPab	22 12 57.4	+0.3
PGAV	Gavieira, Arco	157.28	8		*e*PP		PP	22 16 37.6	+2.7
PGAV	Gavieira, Arco	157.28	8		*e*SS		SS	22 36 44.3	+15
PGAV	Gavieira, Arco	157.28	8		*e*LR		LR	23 06 30.0	
	comp=Z,13µm,22.0s								
PCAB	Cabril	157.56	8		*e*PKPdf		PKPdf	22 12 26.6	+0.1
PBRG	Braganca	157.61	5		*e*PKPdf		PKPdf	22 12 28.7	+2.1
PBRG	Braganca	157.61	5		*e*PKPab		PKPab	22 12 58.5	0.0
POLO	Lamas de Olo	157.93	8		*e*PKPdf		PKPdf	22 12 28.0	+0.9
POLO	Lamas de Olo	157.93	8		*e*PKPab		PKPab	22 13 00.8	+0.9
PVRL	Vila Real	158.03	7		*e*PKPdf		PKPdf	22 12 31.1	+4.0
PVRL	Vila Real	158.03	7		*e*PKPab		PKPab	22 13 05.6	+5.3
MVO	Moncorvo	158.22	6		*e*PKPdf		PKPdf	22 12 28.4	+1.0
MVO	Moncorvo	158.22	6		*e*PKPab		PKPab	22 13 01.9	+0.7
MVO	Moncorvo	158.22	6		*e*PP		PP	22 16 42.6	+2.6
MVO	Moncorvo	158.22	6		*e*SS		SS	22 36 54.3	+15
MVO	Moncorvo	158.22	6		*e*LR		LR	23 07 05.9	
	comp=Z,20µm,20.0s								
PVIS	Viseu	158.56	8		*e*PKPdf		PKPdf	22 12 28.8	+1.0
MTE	Manteigas	158.92	7		*e*PKPdf		PKPdf	22 12 28.9	+0.6
MTE	Manteigas	158.92	7		*e*PP		PP	22 16 46.1	+2.3
MTE	Manteigas	158.92	7		*e*SS		SS	22 37 08.4	+22
MTE	Manteigas	158.92	7		*e*LR		LR	23 07 05.6	
	comp=Z,13µm,20.0s								
COI	Coimbra	158.98	9		*e*PKPdf		PKPdf	22 12 32.0	+3.8
PCAS	Casmilo, Conde	159.12	10		*e*PKPdf		PKPdf	22 12 30.9	+2.5
PCAS	Casmilo, Conde	159.12	10		*e*PKPab		PKPab	22 13 05.7	+0.7
PCBR	Castelo Branco	159.47	8		*e*PKPdf		PKPdf	22 12 29.6	+0.8
PCBR	Castelo Branco	159.47	8		*e*PKPab		PKPab	22 13 06.2	-0.3
PSBE	So Bento	159.60	11		*e*PKPdf		PKPdf	22 12 29.4	+0.4
PSBE	So Bento	159.60	11		*e*PKPab		PKPab	22 13 08.1	+0.9
ESBB	Sonseca Array	159.85	360		PKPdf		PKPdf	22 12 29.2	-0.2
ESBB					PKPab		PKPab	22 13 08.4	+0.1
ESDC	Sonseca Array	159.85	360		PKP		PKPdf	22 12 28.6	-0.7
	comp=Z,8.1nm,1.0s,baz=5.2,slow=2.5,SNR=26								
ESDC					PKPab		PKPab	22 13 08.1	-0.2
	comp=Z,11nm,0.8s,baz=345,slow=2.5,SNR=12								
ESDC					PP		PP	22 16 48.5	-0.4
	comp=Z,11nm,1.3s,baz=11,slow=5.6,SNR=4.1								
ESDC	Sonseca Array	159.85	360				PKPdf	22 12 28.6	-0.8
ESDC					PKPab		PKPab	22 13 08.8	+0.5
PMRV	Marv??o	159.89	8		*e*PKPdf		PKPdf	22 12 29.6	+0.2
PMRV	Marv??o	159.89	8		*e*PKPab		PKPab	22 13 08.7	+0.3
PMRV	Marv??o	159.89	8		*e*PP		PP	22 16 51.3	+2.2
PMRV	Marv??o	159.89	8		*e*LR		LR	23 07 08.4	
	comp=Z,16µm,20.0s								
KEST	Kesra	159.95	327		PKP		PKPdf	22 12 29.0	-0.7
	comp=Z,18nm,1.1s,baz=50,slow=1.4,SNR=6.1								
KEST					PKPab		PKPab	22 13 09.1	+0.2
	comp=Z,48nm,1.1s,baz=15,slow=3.3,SNR=8.0								
PAB	San Pablo	159.98	1		PKPdf		PKPdf	22 12 28.9	-0.7
PAB	San Pablo	159.98	1		P		PKPdf	22 12 30.5	+1.0
PAB	San Pablo	159.98	1		PKIKP		PKPdf	22 12 28.9	-0.7
PAB					MLR		MLR		
	comp=Z,19µm,21.0s								
PMAFR	Mafra	160.05	12		*e*PKPdf		PKPdf	22 12 29.7	+0.2
PMAFR	Mafra	160.05	12		*e*PKPab		PKPab	22 13 09.8	+0.7
PMTG	Montargil	160.13	10		*e*PKPdf		PKPdf	22 12 29.1	-0.5
PMTG	Montargil	160.13	10		*e*PKPab		PKPab	22 13 09.8	+0.4
LIS	Lisbon	160.31	12		*e*PKPdf		PKPdf	22 12 29.2	-0.6
LIS					*e*PP		PP	22 16 52.0	+0.7
LIS	Lisbon	160.31	12		*e*PKPdf		PKPdf	22 12 32.0	+2.2
LIS	Lisbon	160.31	12		*e*PKPab		PKPab	22 13 11.4	+1.2
PESTR	Estremoz	160.42	8		*e*PKPdf		PKPdf	22 12 30.6	+0.6
PESTR	Estremoz	160.42	8		*e*PKPab		PKPab	22 13 10.7	0.0
PESTR	Estremoz	160.42	8		PKPdf		PKPdf	22 12 28.6	-1.4
EVO	Evora	160.69	9		*e*PKPdf		PKPdf	22 12 30.9	+0.7
EVO	Evora	160.69	9		*e*PKPab		PKPab	22 13 10.7	-1.2
SACV	Santiago Islan	160.79	100				PKPdf	22 12 29.4	-1.6
PNCL	Nicolau / Gran	161.01	11		*e*PKPdf		PKPdf	22 12 31.4	+0.8
PNCL	Nicolau / Gran	161.01	11		*e*PKPab		PKPab	22 13 13.9	+0.6
PBAR	Barrancos	161.17	7		*e*PKPdf		PKPdf	22 12 31.5	+0.7
PBAR	Barrancos	161.17	7		*e*PKPab		PKPab	22 13 15.2	+1.2
PBEJ	Beja	161.20	9		*e*PKPdf		PKPdf	22 12 32.5	+1.7
PBEJ	Beja	161.20	9		*e*PKPab		PKPab	22 13 14.7	+0.6
SET	Setif	161.37	335		P		PKPdf	22 12 31.0	-0.2
PTEO	Sao Teotonio	161.52	12		*e*PKPdf		PKPdf	22 12 32.5	+1.4
PTEO	Sao Teotonio	161.52	12		*e*PKPab		PKPab	22 13 15.2	-0.3
PCVE	Castro Verde	161.56	10		*e*PKPdf		PKPdf	22 12 32.4	+1.2
PCVE	Castro Verde	161.56	10		*e*PKPab		PKPab	22 13 16.7	+1.0
MORF	Marmelete	161.77	12		*e*PKPdf		PKPdf	22 12 30.8	-0.7
MORF					*e*PP		PP	22 16 59.8	+0.6
MORF	Marmelete	161.77	12		*e*PKPdf		PKPdf	22 12 31.0	-0.5
MORF	Marmelete	161.77	12		*e*PKPab		PKPab	22 13 17.5	+0.8
PVAQ	Vaqueiros	161.84	9		*e*PKPdf		PKPdf	22 12 31.0	-0.5
PVAQ	Vaqueiros	161.84	9		*e*PKPab		PKPab	22 13 17.4	+0.5
PVAQ	Vaqueiros	161.84	9		*e*PP		PP	22 17 02.5	+3.0
PVAQ	Vaqueiros	161.84	9		*e*SS		SS	22 37 37.3	+20
PVAQ	Vaqueiros	161.84	9		*e*LR		LR	23 08 43.3	
	comp=Z,18µm,20.0s								
PFVI	Vila Bisbo	161.90	12		*e*PKPdf		PKPdf	22 12 32.5	+0.9
PFVI	Vila Bisbo	161.90	12		*e*PKPab		PKPab	22 13 17.5	+0.3
PMOZ	Porto Moniz, M	162.24	39		*e*PKPdf		PKPdf	22 12 33.1	+0.9
PMOZ	Porto Moniz, M	162.24	39		*e*PKPab		PKPab	22 13 20.1	+1.0
PMOZ	Porto Moniz, M	162.24	39		*e*PP		PP	22 17 03.4	+0.8
PMOZ	Porto Moniz, M	162.24	39		*e*LR		LR	23 10 05.2	
	comp=Z,6µm,20.0s								
PMAR	Madeira	162.47	39		*e*PKPdf		PKPdf	22 12 34.9	+2.4
PMAR	Madeira	162.47	39		*e*PKPab		PKPab	22 13 21.6	+1.4
PMPST	Porto Santo, M	162.55	37		*e*PKPdf		PKPdf	22 12 34.4	+2.0
PMPST	Porto Santo, M	162.55	37		*e*PKPab		PKPab	22 13 19.2	-1.1
PMPS	Porto Santo	162.56	37		*e*PKPdf		PKPdf	22 12 35.6	+3.3
ODJA	Bouhanifia	163.82	348		P		PKPdf	22 12 35.0	+1.4
TAF	Taforalt	164.64	355		P		PKPdf	22 12 36.0	+1.6
JBK	JBK	165.13	355		P		PKPdf	22 12 36.0	+1.1
ZHG	ZHG	165.88	9		P		PKPdf	22 12 37.0	+1.5
SRHM	Skhour des Reh	166.59	14		P		PKPdf	22 12 38.0	+2.0
MDT	Midelt	166.69	2		P		PKPdf	22 12 37.8	+1.7
FIGM	Figuig	167.13	349		P		PKPdf	22 12 38.0	+1.5
DBIC	Dimbokro	167.26	176		PKP		PKPdf	22 12 36.0	-0.9
	comp=Z,33nm,1.1s,baz=160,slow=0.5,SNR=23								
DBIC					PKPab		PKPab	22 13 41.0	-0.3
	comp=Z,28nm,1.0s,baz=181,slow=5.7,SNR=6.1								
DBIC					PP		PP	22 17 30.5	+2.7
	comp=Z,16nm,1.1s,baz=199,slow=3.4,SNR=3.2								
DBIC	Dimbokro	167.26	176				PKPdf	22 12 35.3	-1.6
DBIC					PKPab		PKPab	22 13 40.8	-0.4
DBIC	Dimbokro	167.26	176		PKIKP		PKPdf	22 12 35.3	-1.6
DBIC								22 13 40.8	
GOLM	Goulmima	167.78	4		P		PKPdf	22 12 39.0	+2.0
OUK	Oukaimeden	167.81	16		P		PKPdf	22 12 39.0	+1.7
ARF	Arif	168.08	1		P		PKPdf	22 12 39.0	+1.8
OUZM	OUZ	168.34	12		P		PKPdf	22 12 39.1	+1.7
TZRR	Tazzarine	168.64	7		P		PKPdf	22 12 40.0	+2.4
ZGR	Zagora	169.29	7		P		PKPdf	22 12 40.0	+2.0
TORD	Torodi Ar. Bea	171.65	222		PKP		PKPdf	22 12 38.1	-1.5
	comp=Z,41nm,1.1s,baz=84,slow=1.2,SNR=108								
TORD					PKPab		PKPab	22 14 00.7	-0.2
	comp=Z,5.6nm,0.7s,baz=87,slow=1.7,SNR=4.4								
TORD					PP		PP	22 17 53.5	+2.5
	comp=Z,16nm,1.3s,baz=138,slow=1.9,SNR=4.7								
TORD	Torodi Ar. Bea	171.65	222				PKPdf	22 12 37.5	-2.1
TORD					PKPab		PKPab	22 14 00.5	-0.3

*IDC **03** 21:55:35.0±0.4, 19.°46S×175.°88E, h0km, mb5.3/34, mbtmp5.2/37, ML4.3/2, Error ellipse: s-maj=13.9km s-min=11.8km az=117.0*

*MOS **03** 21:55:35.6±0.8, 19.°38S×175.°82E, h13km, mb5.9/15, MS6.6/9, Error ellipse: s-maj=11.5km s-min=8.4km az=59.1*

*NEIC **03** 21:55:37.5±1.9, 19.°40S±0.°09×175.°95E±0.°08, h10km±1km, mb5.7/107, Error ellipse: s-maj=16.3km s-min=10.3km az=145.0*

*BJI **03** 21:55:38.4±0.0, 18.°88S×175.°64E, h10km, mb5.4/28*

ISC 03 21:55:36.9±0.2, 19.°37S±0.°06×175.°86E±0.°05, h10km, n549, σ1℗07/540, mb5.6/102, 44C-23D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.64	52	Pn	Pn	21 56 18.7	-0.9
	373nm,0.5s,baz=289,slow=22						
MSVF				Sn	Sn	21 56 47.3	-4.5
	baz=94,slow=23						
MSVF	Nonsavu	2.64	52	Pn	Pn	21 56 18.9	-0.7
MSVF	Nonsavu	2.64	52	P	Pn	21 56 18.9	-0.7
MARNC	Mare, Loyalty	7.63	253	Pn	Pn	21 57 30.9	+2.7
LIFNC	LIFOU	8.22	259	Pn	Pn	21 57 37.8	+1.6
OUENC	Ouen Island, N	8.96	249	Pn	Pn	21 57 48.7	+2.3
DZM	Mont Dzumac	9.21	251	Pn	Pn	21 57 49.1	-0.9
	1.4nm,0.3s,baz=86,slow=17,SNR=8.8						
	69nm,1.1s						
DZM	Mont Dzumac	9.21	251	Pn	Pn	21 57 51.4	+1.5
ONTNC	Ouen Toro	9.27	250	Pn	Pn	21 57 52.3	+1.7
KOUNC	Koumac, New Ca	10.95	262	Pn	Pn	21 58 16.7	+3.1
NIUE	Niue	13.43	91	P	Pn	21 58 50.6	+3.0
	baz=13						
OUZ	Omahuta	15.91	187	Pn	Pn	21 59 21.1	+0.2
URZ	Urewera	18.85	177	P	P	21 59 56.9	-0.1
	1.9nm,0.3s,baz=98,slow=20,SNR=2.7						
	131nm,0.8s						
BKZ	Black Stump Fm	19.73	179	P	P	22 00 07.8	+1.0
MRZ	Mangatainoka R	21.22	181	P	P	22 00 22.8	-0.1
RAR	Rarotonga	22.93	99	P	P	22 00 41.4	+0.2
	36nm,0.9s,baz=236,slow=3.6,SNR=2.9						
	36nm,0.9s						

LTZ	Lake Taylor	23.53	187		P		P	22 00 48.5	+1.3
EIDS	Eidsvold	23.66	251		P		P	22 00 49.3	+0.6
	baz=24,SNR=4.1								
EIDS	Eidsvold	23.66	251		P		P	22 00 48.6	-0.1
EIDS					IAmb		IAmb	22 01 01.0	
	comp=Z,425nm,1.7s								
ARMA	Armidale	24.52	239		P		P	22 00 57.0	+0.2
	baz=25,SNR=5.4								
ARMA	Armidale	24.52	239		P		P	22 00 57.7	+0.9
RPZ	Rata Peaks	24.60	188		P		P	22 00 57.3	0.0
	comp=Z,19nm,0.6s,baz=12,slow=16,SNR=3.2								
	comp=Z,19nm,0.6s								
RMQ	Roma	25.91	249		P		P	22 01 10.8	+1.5
	baz=26,SNR=11								
CTA	Charters Tower	27.86	264		P		P	22 01 27.9	+0.9
	comp=Z,92nm,1.2s,baz=86,slow=11,SNR=6.4								
	comp=Z,92nm,1.2s								
CTAO	Charters Tower	27.86	264		P		P	22 01 27.5	+0.6
CTAO					IAmb		IAmb	22 01 45.1	
	comp=Z,346nm,1.8s								
CTAO	Charters Tower	27.86	264		P		P	22 01 27.5	+0.6

SBUM Sibu 66.12 282 P P 22 06 25.4 +0.5
JMN Monobe 66.26 322 P P 22 06 25.4 +0.1
JMN IAmb IAmb 22 06 37.6
comp=Z,84nm,1.2s
JSU Suzuyama 66.75 319 P P 22 06 28.8 +0.2
JSU IAmb IAmb 22 06 30.4
comp=Z,67nm,0.9s
YOJ Yonaguni jima 67.43 308 P P 22 06 33.0 0.0
YOJ Yonaguni jima 67.43 308 P P 22 06 33.0 0.0
YOJ pmax pmax
comp=Z,240nm,1.5s
KSM Kuching 67.53 280 P P 22 06 34.1 +0.2
JNU Nakatsue 67.60 320 P P 22 06 34.3 +0.3
comp=Z,49nm,0.9s,baz=89,slow=4.0,SNR=6.9
comp=Z,49nm,0.9s
JHS Saijyo 67.61 323 P P 22 06 34.6 +0.7
JHS IAmb IAmb 22 06 36.0
comp=Z,83nm,1.1s
JTM Tenmabayashi 68.03 332 P P 22 06 36.2 -0.2
JTM IAmb IAmb 22 06 39.1
comp=Z,48nm,0.9s
NACB Ninganchiao 68.33 307 P P 22 06 38.3 -0.4
TPUB Ta-pu 68.57 306 P P 22 06 39.4 -0.8
SSLB Suanglung 68.59 306 P P 22 06 39.2 -1.2
SSLB IAmb IAmb 22 06 40.4
comp=Z,58nm,1.0s
JKA Kamikawa-asahi 70.13 335 P P 22 06 50.4 +1.0
ASAJ Asahikawa 70.13 335 P P 22 06 50.8 +1.4
comp=Z,20nm,0.8s,baz=160,slow=2.0,SNR=9.7
comp=Z,20nm,0.8s
ASAJ Asahikawa 70.13 335 P P 22 06 50.4 +1.0
ASAJ pmax pmax
comp=Z,160nm,1.7s
QSPA South Pole Qui 70.69 180 P P 22 06 52.2 -0.6
comp=Z,43nm,1.1s,baz=49,slow=7.1,SNR=4.8
comp=Z,43nm,1.1s
QSPA South Pole Qui 70.69 180 P P 22 06 52.2 -0.6
QSPA IAmb IAmb 22 06 56.7
comp=Z,112nm,1.3s
KIWB Kanaga Island 71.18 5 P P 22 06 55.5 -0.2
ADK Adak 71.25 5 P P 22 06 56.1 +0.2
ADK IAmb IAmb 22 06 59.4
comp=Z,65nm,1.0s
ADK Adak 71.25 5 P P 22 06 56.2 +0.2
ADK pmax pmax
comp=Z,65nm,1.0s
KSRS Korea Array 72.32 322 P P 22 07 03.9 +1.1
comp=Z,9.0nm,0.9s,baz=143,slow=6.4,SNR=5.6
comp=Z,9.0nm,0.9s
MNAI Manna 72.44 272 P P 22 07 03.9 -0.2
YSS Yuzh-Sakhalins 72.45 337 P P 22 07 04.3 +1.0
YSS IAmb IAmb 22 07 06.8
comp=Z,105nm,1.1s
YSS Yuzh-Sakhalins 72.45 337 *i* P P 22 07 03.5 +0.2
YSS pmax pmax
comp=Z,103nm,1.1s
NIKH Nikolski High 73.25 10 P P 22 07 08.4 +0.4
baz=195
PET Petropavlovsk 73.62 349 *e*P P 22 07 11.1 +1.0
PET pmax pmax
comp=Z,24nm,0.8s
PEA0B Petropavlovsk- 73.88 349 P P 22 07 11.5 -0.2
PEA0B IAmb IAmb 22 07 24.0
comp=Z,156nm,1.4s
PEA0B Petropavlovsk- 73.88 349 P P 22 07 11.5 -0.2
PEA0B pmax pmax
comp=Z,156nm,1.5s
PETK Petropavlovsk- 73.88 349 P P 22 07 12.5 +0.8
comp=Z,33nm,0.9s,baz=159,slow=8.9,SNR=10
comp=Z,33nm,0.9s
NJ2 Nanjing 74.79 312 *e*P P 22 07 20.6 +3.2
NJ2 pmax pmax
comp=Z,41nm,1.3s
USRK Ussuriysk Ar. 74.90 329 P P 22 07 19.3 +1.4
comp=Z,18nm,0.9s,baz=158,slow=4.7,SNR=7.9
comp=Z,18nm,0.9s
USA0B Ussuriysk Arra 74.91 329 *i* P P 22 07 19.1 +1.2
S12K Black Hills 77.09 13 P P 22 07 30.4 +0.3
baz=201
SPIA Saint Paul Isl 77.14 8 P P 22 07 31.4 +1.1
baz=193
IPM Ipoh 77.25 279 P P 22 07 31.6 -0.3
IPM IAmb IAmb 22 07 33.1
comp=Z,71nm,0.9s
UBPT Khong Chiam 77.32 291 P P 22 07 32.3 +0.1
UBPT IAmb IAmb 22 07 39.0
comp=Z,76nm,1.6s
KULM Kulim 77.89 280 P P 22 07 34.9 -0.6
CN2 Changchun 77.98 325 *e*P P 22 07 35.7 +0.4
CN2 S S 22 17 23.2 -5.7
BNX BinXian 78.28 328 ⇓P P 22 07 37.7 +0.8
BNX pmax pmax
comp=Z,45nm,0.8s
CHGN Chignik 78.44 14 P P 22 07 37.5 0.0
baz=205
KLR Kul'dur 78.73 332 P P 22 07 40.9 +1.5
comp=Z,19nm,0.8s,baz=145,slow=1.3,SNR=8.3
comp=Z,19nm,0.8s
KLR Kul'dur 78.73 332 *i* P P 22 07 40.1 +0.7
KLR pmax pmax
comp=Z,62nm,2.0s
GSI Gunungsitoli 79.39 275 P P 22 07 43.7 -0.1
SII Sitkinak Islan 79.73 16 P P 22 07 45.0 +0.4
SII IAmb IAmb 22 07 46.9
comp=Z,84nm,0.9s
SII Sitkinak Islan 79.73 16 P P 22 07 45.8 +1.1
baz=209
R17K Ugashik Creek 80.14 15 P P 22 07 47.4 +0.6
baz=206
OHAK Old Harbor 80.55 16 P P 22 07 50.2 +1.2
baz=209
HNS HongShan 80.60 315 *e*P P 22 07 50.2 +0.4
MAW Mawson 80.60 201 P P 22 07 48.7 -0.7
comp=Z,33nm,0.8s,baz=118,slow=7.1,SNR=19
comp=Z,33nm,0.8s
MAW Mawson 80.60 201 P P 22 07 48.8 -0.6
baz=80,SNR=21
MAW Mawson 80.60 201 P P 22 07 48.9 -0.4
MAW Mawson 80.60 201 P P 22 07 48.9 -0.4
MAW pmax pmax
comp=Z,18nm,1.2s
LYN LuoYang 80.63 312 *e*P P 22 07 57.0 +7.0
ENH Enshi 80.68 307 P P 22 07 50.6 +0.2
ENH IAmb IAmb 22 07 58.8
comp=Z,97nm,1.2s
Q17K Contact Creek 80.81 15 P P 22 07 50.7 +0.1
baz=207
BJT Baijiatuau 81.10 318 P P 22 07 53.1 +0.7
BJT Baijiatuau 81.10 318 P P 22 07 53.1 +0.7
BJT pmax pmax
comp=Z,46nm,1.1s
KDAK Kodiak Island 81.23 16 P P 22 07 53.2 +0.6
comp=Z,37nm,0.8s,baz=196,slow=2.1,SNR=9.6
comp=Z,37nm,0.8s
KDAK Kodiak Island 81.23 16 P P 22 07 53.1 +0.6
KDAK IAmb IAmb 22 07 55.0
comp=Z,55nm,1.0s
KDAK Kodiak Island 81.23 16 P P 22 07 53.5 +0.8
baz=210
KDAK Kodiak Island 81.23 16 *i* P P 22 07 53.0 +0.4
KDAK pmax pmax
comp=Z,82nm,1.0s
MA2 Magadan 81.30 347 P P 22 07 52.8 -0.2
comp=Z,17nm,0.8s,baz=162,slow=8.2,SNR=5.8
comp=Z,17nm,0.8s
MA2 Magadan 81.30 347 *i* P P 22 07 51.0 -2.0
MA2 pmax pmax
comp=Z,64nm,1.6s
BELA Belgrano 2 81.36 174 P P 22 07 51.9 -1.4
BELA IAmb IAmb 22 07 52.3
comp=Z,111nm,1.7s
Q18K Katmai Hardscr 81.37 15 P P 22 07 54.1 +0.6
baz=208
O16K Kokwok River B 81.52 13 P P 22 07 53.8 -0.3
baz=205
P17K Kvichak River 81.52 14 P P 22 07 54.4 +0.2
baz=206
SMAI San Martin Ant 81.67 160 P P 22 07 55.7 +0.7
SMAI IAmb IAmb 22 08 00.1
comp=Z,76nm,1.1s
BCW Bitter Crk WRg 81.77 49 P P 22 07 57.3 +1.0
Q19K Cape Douglas, 81.95 15 P P 22 07 57.3 +0.7
baz=209
P18K Big Mountain, 81.98 14 P P 22 07 56.6 -0.1
P18K IAmb IAmb 22 07 58.3
comp=Z,49nm,0.8s

P18K Big Mountain, 81.98 14 P P 22 07 57.1 +0.5
baz=207
Q20K Shuyak Island 82.00 16 P P 22 07 57.8 +1.1
baz=210
N16K Nishlik Lake 82.18 12 P P 22 07 59.8 +2.1
baz=204
ARVC Arvin 82.28 49 P P 22 08 00.9 +2.1
baz=240
O18K Koktuh Hills 82.39 14 P P 22 07 59.4 +0.6
baz=207
CMB Columbia Colle 82.68 46 P P 22 08 01.0 +0.1
CMB Columbia Colle 82.68 46 P P 22 08 01.0 +0.1
CMB pmax pmax
comp=Z,28nm,0.9s
P19K Oil Pt 82.69 15 P P 22 08 00.6 +0.2
P19K Oil Pt 82.69 15 P P 22 08 01.0 +0.6
baz=209
ORV Oroville 82.75 44 P 22 08 01.5 +0.4
ORV Oroville 82.75 44 P P 22 08 01.5 +0.4
ORV pmax pmax
comp=Z,47nm,1.4s
EDW2 Edwards Air Fo 82.75 49 P P 22 08 03.0 +1.7
baz=240
AFDM Forest Hills D 82.77 45 P P 22 08 01.8 +0.5
ISA Isabella, Lake 82.80 48 P P 22 08 03.0 +1.4
baz=240
O19K Port Alsworth 82.90 14 P P 22 08 01.9 +0.5
baz=208
XAN Xi'an 82.91 310 P P 22 08 02.1 -0.1
XAN pP sP 22 08 07.0 +1.7
XAN pmax pmax
comp=Z,46nm,1.3s
MONP2 Monument Peak 82.94 52 P P 22 08 04.2 +1.7
baz=242
ILSW Iliamna Southw 83.00 15 P P 22 08 02.2 +0.1
ILSW IAmb IAmb 22 08 03.4
comp=Z,116nm,0.9s
IKP In-Ko-Pah, Jac 83.06 52 P P 22 08 04.9 +1.9
baz=242
CNPM China Poot 83.09 16 P P 22 08 02.7 +0.3
CNPM IAmb IAmb 22 08 09.9
comp=Z,47nm,1.0s
HOM Homer 83.10 16 P P 22 08 03.9 +1.5
baz=211
YBH Yreka Blue Hor 83.15 41 P 22 08 03.8 +0.5
YBH Yreka Blue Hor 83.15 41 P P 22 08 03.8 +0.5
YBH pmax pmax
comp=Z,37nm,1.3s
PHRA Phrae 83.20 292 P P 22 08 04.4 +0.4
O20K Slope Mountain 83.22 15 P P 22 08 03.6 +0.5
baz=210
PFO Pinyon Flats O 83.25 51 P P 22 08 04.5 +0.4
comp=Z,3.9nm,0.7s,baz=256,slow=3.4,SNR=3.1
comp=Z,3.9nm,0.7s
BRLK Bradley Lake 83.39 16 P 22 08 03.8 -0.1
BRLK IAmb IAmb 22 08 05.6
comp=Z,64nm,0.8s
BRSE Bradley Lake S 83.41 16 P P 22 08 04.9 +0.9
baz=212
N19K Bonanza Creek 83.41 14 P P 22 08 04.1 -0.1
baz=208
CWC Cottonwood Cre 83.46 48 P P 22 08 06.6 +1.5
baz=240
RSO Redoubt South 83.52 15 P P 22 08 04.5 -0.3
TIN Tinemaha, Big 83.66 47 P P 22 08 08.2 +2.2
baz=240
MPMC Manual Prospec 83.69 48 P P 22 08 07.8 +1.5
baz=241
CRAI Chiangrai 83.75 294 P P 22 08 06.5 -0.3
CRAI IAmb IAmb 22 08 29.2
comp=Z,102nm,1.6s
GSC Goldstone, Bar 83.81 49 P P 22 08 08.1 +1.3
baz=241
HEC Hector,Ludlow 83.92 50 P P 22 08 09.3 +1.9
baz=241
DSP Deep Springs 84.00 47 P P 22 08 08.0 +0.5
DSP IAmb IAmb 22 08 17.5
comp=Z,59nm,1.3s
SEW Seward 84.06 17 P P 22 08 07.7 +0.4
SEW IAmb IAmb 22 08 31.0
comp=Z,96nm,1.4s
SEY Seymchan 84.09 349 P P 22 08 07.8 +0.3
comp=Z,41nm,0.8s,baz=136,slow=6.2,SNR=21
comp=Z,41nm,0.8s
SEY Seymchan 84.09 349 *i* P P 22 08 06.8 -0.6
SEY pmax pmax
comp=Z,42nm,0.7s
GRAC Grapevine Rang 84.23 48 P P 22 08 11.3 +2.4
baz=241
N20K Mount Spurr 84.29 15 P P 22 08 08.0 -0.6
baz=210
SPCR Spurr Chakacha 84.29 15 P P 22 08 08.2 -0.4
baz=210
NVAR Mina Array Bea 84.30 46 P P 22 08 10.1 +0.7
comp=Z,12nm,0.8s,baz=226,slow=8.5,SNR=8.8
comp=Z,12nm,0.8s
NVAR Mina Array Bea 84.30 46 P P 22 08 09.7 +0.4
CM31 Chiang Mai Arr 84.31 292 P P 22 08 09.8 +0.2
CM31 IAmb IAmb 22 08 19.8
comp=Z,42nm,1.1s
CMAR Chiang Mai Arr 84.31 292 P P 22 08 10.3 +0.7
comp=Z,22nm,0.9s,baz=131,slow=4.0,SNR=10
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 84.31 292 P P 22 08 10.1 +0.5
CMAR Chiang Mai Arr 84.31 292 P P 22 08 10.1 +0.5
GMRC Granite Mounta 84.39 50 P P 22 08 11.4 +1.6
baz=242
M19K Big River Lodg 84.40 14 P P 22 08 09.7 +0.7
baz=208
CHTO Chiang Mai 84.45 292 P P 22 08 10.2 -0.1
CHTO IAmb IAmb 22 08 12.2
comp=Z,104nm,1.6s
CHTO Chiang Mai 84.45 292 P P 22 08 10.2 -0.1
CHTO pmax pmax
comp=Z,104nm,1.6s
HHC Hu-ho-hao-te 84.50 317 *e*P P 22 08 14.2 +4.0
HHC pmax pmax
comp=Z,68nm,0.9s
HIA Hailar 84.51 327 *i* P P 22 08 09.9 -0.1
L19K White Mountain 84.54 13 P P 22 08 10.1 +0.3
L19K IAmb IAmb 22 08 13.8
comp=Z,39nm,0.9s
L19K White Mountain 84.54 13 P P 22 08 11.1 +1.3
baz=208
PMSA Palmer Station 84.54 158 P P 22 08 09.9 -0.1
PMSA IAmb IAmb 22 08 13.9
comp=Z,41nm,1.0s
RC01 Rabbit Creek A 84.82 16 P P 22 08 11.4 +0.3
RC01 IAmb IAmb 22 08 12.1
comp=Z,50nm,1.0s
RC01 Rabbit Creek A 84.82 16 P P 22 08 11.5 +0.3
baz=212
SUA Susitna One 84.88 15 P P 22 08 11.9 +0.3
baz=211
ANM Nome 84.92 8 P P 22 08 13.1 +1.5
baz=198
TPNV Topopah Spring 84.99 48 P P 22 08 13.8 +1.0
TPNV Topopah Spring 84.99 48 P P 22 08 14.5 +1.7
baz=241
TPNV Topopah Spring 84.99 48 P P 22 08 13.9 +1.0
TPNV pmax pmax
comp=Z,113nm,1.5s
PWL Port Wells 85.00 17 P P 22 08 12.3 +0.1
baz=214
L20K Farewell, AK 85.02 14 P P 22 08 12.4 +0.2
baz=208
PZH PanZhiHua 85.11 300 P P 22 08 16.3 +2.6
PZH pmax pmax
comp=Z,10.0nm,1.2s
PINE Pine Mountain 85.36 40 P P 22 08 15.7 +1.1
PINE IAmb IAmb 22 08 17.3
comp=Z,33nm,0.8s
KNK Knik Glacier 85.43 16 P P 22 08 14.9 +0.7
baz=214
EYAK Cordova Ski Ar 85.47 18 P P 22 08 14.7 +0.3
baz=216
TNA Tin City 85.57 7 P P 22 08 16.2 +1.4
baz=195
DIV Divide 85.93 18 P P 22 08 16.8 0.0
DIV IAmb IAmb 22 08 18.4
comp=Z,60nm,0.8s
BMN Battle Mountai 86.02 45 P P 22 08 18.1 +0.2
BMN IAmb IAmb 22 08 44.8
comp=Z,57nm,1.4s
BMN Battle Mountai 86.02 45 P P 22 08 18.1 +0.2
BMN pmax pmax
comp=Z,57nm,1.4s

SCM Sheep Creek Mo 86.08 17 P P 22 08 18.2 +0.7
baz=214
R11A Troy Canyon, C 86.12 47 P P 22 08 18.9 +0.4
R11A IAmb IAmb 22 08 36.3
comp=Z,96nm,1.8s
BMRM Bremner River 86.14 18 P P 22 08 17.8 0.0
BMRM IAmb IAmb 22 08 19.1
comp=Z,32nm,0.8s
BMRM Bremner River 86.14 18 P P 22 08 18.2 +0.3
baz=217
CAST Castle Rocks 86.25 14 P P 22 08 17.3 -1.0
baz=210
BBB Bella Bella 86.28 31 P P 22 08 18.9 +0.3
WAT1 Susitna Watana 86.59 16 P P 22 08 19.7 -0.3
baz=213
U33K Whale Pass 86.59 26 P P 22 08 21.4 +1.3
baz=227
N25K Chitina, Valde 86.65 18 P P 22 08 21.2 +0.8
baz=217
S31K Pelican 86.66 23 P P 22 08 21.5 +1.1
baz=224
TRF Thorofare Moun 86.69 15 P P 22 08 20.5 -0.1
baz=212
VRDI Verde Repeater 86.69 18 P P 22 08 20.8 +0.1
V35K Ketchikan 86.69 27 P P 22 08 22.4 +1.8
baz=229
PCA Pinnacle 86.81 20 P P 22 08 20.9 -0.3
PCA IAmb IAmb 22 08 22.9
comp=Z,29nm,0.8s
PINM Pinnacle 86.81 20 P P 22 08 21.6 +0.4
baz=221
RND Reindeer 87.00 15 P P 22 08 22.1 0.0
RND Reindeer 87.00 15 P P 22 08 22.1 0.0
RND pmax pmax
comp=Z,18nm,0.8s
ELIB Princess Elisa 87.01 188 *d*P P 22 08 20.8 -1.5
comp=Z,43nm,0.7s
BPAW Bear Paw Mtn. 87.08 14 P P 22 08 21.6 -0.8
baz=211
WRAK Wrangell Islan 87.11 26 P P 22 08 24.0 +1.4
baz=228
TNCH TengChong 87.19 298 P P 22 08 21.6 -2.4
TNCH PP PP 22 11 48.7 +0.6
P29M Windy Craggy 87.32 22 P P 22 08 24.7 +1.1
baz=223
O28M Mount Upton 87.35 20 P P 22 08 24.5 +0.5
baz=221
G08A Pilot Rock 87.35 40 P P 22 08 24.8 +0.6
G08A IAmb IAmb 22 08 27.0
comp=Z,41nm,1.0s
BILL Bilibino 87.44 356 P P 22 08 24.0 +0.1
BILL IAmb IAmb 22 08 49.2
comp=Z,96nm,1.8s
BILL Bilibino 87.44 356 *i* P P 22 08 24.7 +0.7
BILL pmax pmax
comp=Z,66nm,1.8s
ELK Elko 87.49 45 P P 22 08 25.8 +0.6
comp=Z,7.3nm,0.8s,baz=273,slow=8.4,SNR=6.5
comp=Z,7.3nm,0.8s
ELK Elko 87.49 45 P P 22 08 25.6 +0.4
ELK IAmb IAmb 22 08 52.6
comp=Z,68nm,1.7s
ELK Elko 87.49 45 P P 22 08 25.6 +0.4
ELK pmax pmax
comp=Z,69nm,1.7s
LZH Lanzhou 87.55 310 *e*P P 22 08 24.9 -0.6
LZH sP pwP 22 08 34.3 +2.4
LZH pmax pmax
comp=Z,150nm,1.3s
BESE Bessie Mountai 87.61 23 P P 22 08 25.7 +0.6
BESE IAmb IAmb 22 08 27.8
comp=Z,28nm,0.8s
PLBC Pleasant Camp 87.68 22 P P 22 08 26.2 +0.9
baz=224
M26K Nabesna, AK 87.75 18 P P 22 08 27.3 +1.6
baz=218
I21K Tanana 87.80 13 P P 22 08 26.2 +0.5
baz=210
YUK8 Steele Glacier 87.87 20 P P 22 08 27.2 +0.7
baz=221
NEA2 Nenana 87.94 14 P P 22 08 26.0 -0.5
baz=213
P30M Million Dollar 87.95 22 P P 22 08 28.2 +1.5
baz=224
YUK3 Moose Creek 88.02 19 P P 22 08 28.0 +0.8
baz=221
K24K Donnelly Dome 88.11 16 P P 22 08 27.6 +0.3
baz=216
IMAR Indian Mountai 88.14 12 P P 22 08 27.5 +0.1
RIDG Independent Ri 88.30 16 P P 22 08 27.8 -0.5
RIDG IAmb IAmb 22 08 30.0
comp=Z,31nm,0.8s
RIDG Independent Ri 88.30 16 P P 22 08 28.6 +0.3
baz=217
HDA Harding Lake 88.30 15 P P 22 08 29.1 +0.9
baz=215
BVCY Beaver Creek 88.39 19 P P 22 08 29.8 +1.1
baz=220
TCOL CIGGO, UAF Yank 88.47 15 P P 22 08 28.6 -0.3
baz=214
COLA College 88.47 15 *i* P P 22 08 27.6 -1.3
COLA pmax pmax
comp=Z,33nm,0.9s
BCAR Beaver Creek A 88.62 18 P P 22 08 29.5 -0.2
IL31 88.62 15 P P 22 08 29.0 -0.6
IL31 IAmb IAmb 22 08 29.8
comp=Z,27nm,0.8s
ILAR Eielson Array 88.62 15 P P 22 08 28.4 -1.3
comp=Z,19nm,0.8s,baz=234,slow=4.9,SNR=24
comp=Z,19nm,0.8s
SCRK Sand Creek 88.72 17 P P 22 08 30.5 +0.2
baz=218
P32M Atlin 88.73 23 P P 22 08 31.7 +1.3
baz=227
POKR Poker Plat Res 88.77 15 P P 22 08 29.4 -1.0
baz=214
YAK Yakutsk 89.00 340 P P 22 08 31.6 +0.1
comp=Z,46nm,0.8s,baz=166,slow=1.5,SNR=13
comp=Z,46nm,0.8s
YAK Yakutsk 89.00 340 P P 22 08 31.8 +0.3
YAK Yakutsk 89.00 340 *i* P P 22 08 31.5 +0.1
YAK pmax pmax
comp=Z,93nm,0.8s
M29M Somme Creek 89.15 19 P P 22 08 33.0 +0.6
baz=222
SNAA Sanae 89.19 180 P P 22 08 31.0 -1.6
comp=Z,22nm,1.1s,baz=183,slow=5.7,SNR=4.5
comp=Z,22nm,1.1s
SNAA Sanae 89.19 180 P P 22 08 33.0 +0.4
SNAA Sanae 89.19 180 P P 22 08 33.0 +0.4
SNAA pmax pmax
comp=Z,30nm,1.2s
J26L Joseph Creek 89.25 16 P P 22 08 33.6 +0.8
baz=218
K27K Chicken 89.28 17 P P 22 08 34.4 +1.6
baz=219
121A Cookes Peak, D 89.33 55 P P 22 08 36.7 +2.7
baz=246
DLBC Dease Lake 89.39 25 P P 22 08 34.9 +1.4
baz=230
NVL N'lazarevskaya 89.41 185 *e*P P 22 08 32.7 -0.8
NVL *e*S S 22 18 59.1 -24
NVL pmax pmax
comp=Z,33nm,0.8s
NVL MLR MLR
comp=Z,5μm,17.0s
R33M Jennings River 89.64 24 P P 22 08 36.3 +1.6
baz=229
L29M L29M 89.74 19 P P 22 08 35.9 +0.8
baz=223
M30M Minto, Yukon 89.78 20 P P 22 08 35.7 +0.5
baz=224
DAWY Dawson 90.08 18 P P 22 08 37.3 +0.7
baz=222
EGAK Eagle 90.11 17 P P 22 08 37.3 +0.6
baz=220
K29M Barlow Dome 90.47 19 P P 22 08 39.1 +0.6
baz=223
F24K Squaw Lake 90.66 13 P P 22 08 40.0 +0.8
baz=214
J29M Klondike Camp 90.71 18 P P 22 08 40.1 +0.6
baz=223
E23K Chandalar 90.76 12 P P 22 08 40.5 +0.8
baz=212
MAYO Mayo, Yukon 90.80 19 P P 22 08 41.0 +1.1
baz=225
ULN Ulaanbaatar 90.80 321 *i* P P 22 08 38.7 -1.8

ULN					pmax	pmax				
	comp=Z,60nm,2.0s									
MNTX	**Cornudas Mount**	**90.89**	**57**	P		**P**		**22 08 42.7**	**+1.6**
	baz=248									
G26K	**Porcupine Rive**	**91.14**	**15**	P		**P**		**22 08 42.4**	**+1.0**
	baz=218									
H27K	**Steamboat Moun**	**91.14**	**16**	P		**P**		**22 08 42.0**	**+0.5**
	baz=220									
SONM	**Songino Array**	**91.18**	**321**	P		**P**		**22 08 42.1**	**-0.1**
	comp=Z,8.8nm,1.0s,baz=109,slow=5.2,SNR=4.3									
	comp=Z,8.8nm,1.0s									
ANMO	**Albuquerque**	**91.30**	**53**	P		**P**		**22 08 43.1**	**0.0**
	comp=Z,8.2nm,1.0s,baz=316,slow=5.6,SNR=5.2									
	comp=Z,8.2nm,1.0s									
ANMO	**Albuquerque**	**91.30**	**53**	P		**P**		**22 08 43.3**	**+0.1**
ANMO				IAmb		IAmb		22 09 18.2		
	comp=Z,52nm,1.6s									
ANMO	**Albuquerque**	**91.30**	**53**	P		**P**		**22 08 44.8**	**+1.6**
	baz=247									
ANMO	**Albuquerque**	**91.30**	**53**	P		**P**		**22 08 45.1**	**+2.0**
	baz=247									
ANMO	**Albuquerque**	**91.30**	**53**	P		**P**		**22 08 43.3**	**+0.1**
ANMO				pmax		pmax				
	comp=Z,52nm,1.6s									
D23K	**Nanushuk River**	**91.33**	**11**	P		**P**		**22 08 43.2**	**+0.9**
	baz=211									
TX31	**Lajitas Ar. Si**	**91.39**	**59**	P		**P**		**22 08 45.4**	**+1.8**
	baz=248									
TXAR	**Lajitas Array**	**91.39**	**59**	P		**P**		**22 08 44.7**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=226,slow=4.8,SNR=5.8									
TXAR					PKKPbc	**PKKPbc**		**22 26 05.5**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=92,slow=3.4,SNR=5.6									
	comp=Z,7.1nm,0.8s									
MMPY	**Sheldon Lake,**	**91.66**	**22**	P		**P**		**22 08 45.0**	**+1.0**
	baz=229									
GTA	**Gaotai**	**91.84**	**311**	*e*P		**P**		**22 08 46.2**	**+0.7**
GTA				pP		sP		22 08 50.3	+1.6
GTA				sP		pwP		22 08 53.3	+1.4
GTA				pmax		pmax				
	comp=Z,18nm,0.8s									
S22A	**4UR Ranch, Cre**	**92.10**	**51**	P		**P**		**22 08 49.0**	**+2.1**
	baz=247									
PDAR	**Pinedale Array**	**92.19**	**45**	P		**P**		**22 08 47.4**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=240,slow=1.8,SNR=5.0									
	comp=Z,2.6nm,0.7s									
C24K	**Franklin Bluff**	**92.34**	**12**	P		**P**		**22 08 47.3**	**+0.4**
	baz=213									
D25K	**Kavik River**	**92.47**	**13**	P		**P**		**22 08 48.3**	**+0.7**
	baz=215									
G30M	**tAoh Zraii Nji**	**93.12**	**17**	P		**P**		**22 08 50.5**	**-0.1**
	baz=224									
ISCO	**Idaho Springs**	**93.76**	**49**	P		**P**		**22 08 56.3**	**+1.8**
	baz=248									
MSTX	**Muleshoe**	**93.76**	**55**	P		**P**		**22 08 56.2**	**+1.8**
	baz=249									
Q24A	**Divide**	**93.78**	**50**	P		**P**		**22 08 56.8**	**+2.1**
	baz=248									
PLCA	**Paso Flores**	**94.17**	**136**	PKKPbc		PKKPbc		22 25 57.6	-0.4
	comp=Z,3.2nm,0.9s,baz=305,slow=1.5,SNR=3.1									
K22A	**Casper**	**94.20**	**46**	P		**P**		**22 08 58.1**	**+1.8**
	baz=248									
833A	**Chaparral WMA,**	**94.56**	**62**	P		**P**		**22 09 00.4**	**+2.3**
	baz=250									
INK	**Inuvik**	**94.78**	**17**	P		**P**		**22 08 57.1**	**-1.0**
	comp=Z,12nm,1.0s,baz=193,slow=3.4,SNR=4.5									
	comp=Z,12nm,1.0s									
AMTX	**Amarillo**	**94.93**	**55**	P		**P**		**22 09 01.9**	**+2.1**
	baz=250									
KSCO	**Kaye Shedlock'**	**95.63**	**51**	P		**P**		**22 09 04.6**	**+1.6**
	baz=250									
LAO	**LASA Array**	**95.92**	**43**	P		**P**		**22 09 05.6**	**+1.6**
	baz=248									
TIXI	**Tiksi**	**96.25**	**347**	*i* P		**P**		**22 09 03.6**	**-1.2**
TIXI				pmax		pmax				
	comp=Z,45nm,2.7s									
RSSD	**Black Hills**	**96.43**	**46**	P		**P**		**22 09 07.6**	**+1.0**
	baz=249									
OGNE	**Ogallala**	**96.72**	**49**	P		**P**		**22 09 10.0**	**+2.2**
	baz=250									
DGMT	**Dagmar**	**97.84**	**41**	P		**P**		**22 09 12.6**	**0.0**
	baz=250									
YKA	**Yellowknife Ar**	**97.98**	**26**	P		**P**		**22 09 12.8**	**0.0**
	comp=Z,4.1nm,0.8s,baz=249,slow=4.6,SNR=11									
	comp=Z,4.1nm,0.8s									
C36M	**Paulatuk**	**98.12**	**18**	P		**P**		**22 09 13.1**	**-0.1**
	baz=236									
R32A	**Long Quarter,**	**98.34**	**52**	P		Pdif		22 09 17.2	+2.1
	baz=252									
A36M	**Sachs Harbour**	**99.30**	**16**	P		**Pdif**		**22 09 18.6**	**+0.1**
A36M	**Sachs Harbour**	**99.30**	**16**	P		**Pdif**		**22 09 19.8**	**+1.2**
	baz=235									
T35B	**Sooner Cattle**	**99.55**	**54**	P		**Pdif**		**22 09 22.1**	**+1.6**
	baz=253									
MDND	**Maddock**	**100.56**	**43**	P		**Pdif**		**22 09 27.4**	**+2.7**
	baz=253									
ECSD	**EROS Data Cent**	**101.40**	**48**	P		**Pdif**		**22 09 30.6**	**+2.1**
	baz=254									
WMQ	**Urumqi**	**101.87**	**312**	*e*P		**Pdif**		**22 09 33.3**	**+2.6**
AGMN	**Agassiz Nation**	**103.09**	**43**	P		**Pdif**		**22 09 36.1**	**+0.1**
	baz=256									
R40A	**Maddies Statio**	**103.17**	**54**	P		**Pdif**		**22 09 38.9**	**+2.3**
	baz=256									
P40A	**Paris**	**103.63**	**53**	P		**Pdif**		**22 09 41.4**	**+2.8**
	baz=256									
CCM	**Cathedral Cave**	**103.89**	**54**	P		**Pdif**		**22 09 41.0**	**+1.2**
	baz=256									
L40A	**Anamosa**	**104.83**	**50**	P		**Pdif**		**22 09 46.5**	**+2.7**
	baz=257									
ZALV	**Zalesovo Beam**	**106.03**	**322**	PKiKP		**PKiKP**		**22 13 59.2**	**-1.7**
	comp=Z,2.8nm,0.7s,baz=149,slow=2.0,SNR=3.8									
MKAR	**Makanchi Array**	**106.26**	**314**	Pdiff		**Pdif**		**22 09 50.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=88,slow=4.7,SNR=5.8									
MKAR				PKiKP		**PKiKP**		**22 14 00.4**	**-1.2**
	comp=Z,2.9nm,1.0s,baz=114,slow=1.6,SNR=6.5									
MKAR					PKKPbc	**PKKPbc**		**22 25 22.0**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=290,slow=4.3,SNR=3.1									
RES	**Resolute Bay**	**108.33**	**16**	PKiKP		**PKiKP**		**22 14 04.0**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=284,slow=6.7,SNR=4.7									
RES				PKKP		**PKKPab**		**22 25 28.1**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=206,slow=17,SNR=3.8									
KURBB	**Kurchatov Arra**	**109.32**	**318**	PKKPbc		PKKPbc		22 25 12.1	-2.3
	comp=Z,1.4nm,0.7s,baz=272,slow=2.7,SNR=8.6									
AAK	**Ala-Archa**	**111.09**	**309**	PKiKP		**PKiKP**		**22 14 10.1**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=170,slow=11,SNR=2.6									
AAK					PKKPbc	**PKKPbc**		**22 25 07.1**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=250,slow=5.6,SNR=3.6									
BRVK	**Borovoye**	**114.58**	**320**	*i* PKIKP		PKPdf		22 14 13.8	-3.3
FRB	**Frobisher Bay**	**118.47**	**27**	PKP		**PKPdf**		**22 14 22.5**	**-1.8**
	comp=Z,4.1nm,0.8s,baz=262,slow=15,SNR=2.5									
SVE	**Sverdlovsk**	**119.78**	**325**	*e*PKIKP		**PKPdf**		**22 14 25.8**	**-1.2**
SPITS	**Spitsbergen Ar**	**120.33**	**355**	PKP		**PKPdf**		**22 14 26.4**	**-1.2**
	comp=Z,19nm,0.7s,baz=37,slow=3.6,SNR=4.1									
ARU	**Arti**	**120.98**	**325**	*i* PKIKP		**PKPdf**		**22 14 28.4**	**-0.9**
ARU								22 15 56.8		
ARU								22 21 40.3		
ARU				SS		SS		22 32 43.7	+13
SCHQ	**Schefferville**	**121.30**	**37**	PKP		**PKPdf**		**22 14 29.4**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=250,slow=6.3,SNR=2.4									
SCHQ					PKKPbc	**PKKPab**		**22 24 30.6**	**-0.5**
	comp=Z,4.3nm,1.0s,baz=67,slow=4.3,SNR=3.6									
WSAR	**Wadi Sarin**	**121.78**	**286**	PKKPbc		PKKPbc		22 24 29.7	-0.5
	comp=Z,4.1nm,1.1s,baz=300,slow=3.9,SNR=4.3									
HUMP	**Col San Antoni**	**121.84**	**80**			**PKPdf**		**22 14 30.8**	**-1.3**
GEYT	**Alibeck**	**123.32**	**303**	PKP		**PKPdf**		**22 14 33.0**	**-1.5**
	comp=Z,17nm,0.8s,baz=46,slow=6.2,SNR=11									
BOSA	**Boshof**	**124.48**	**212**	PKP		**PKPdf**		**22 14 36.7**	**-0.5**
	comp=Z,10nm,1.1s,baz=191,slow=5.2,SNR=2.5									
BDFB	**Brasilia**	**124.56**	**126**	PKP		**PKPdf**		**22 14 36.8**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=214,slow=6.5,SNR=4.8									
PRGR	**Permogore**	**125.51**	**333**	*e*PKIKP		**PKPdf**		**22 14 36.4**	**-1.4**
PRGR				pmax		pmax				
	comp=Z,30nm,0.8s									
APA	**Apatity**	**126.28**	**343**	*i* PKIKP		**PKPdf**		**22 14 36.1**	**-3.1**
APA				pmax		pmax				
	comp=Z,16nm,0.9s									
ARCES	**ARCESS Array B**	**126.67**	**347**	PKP		**PKPdf**		**22 14 39.1**	**-0.8**
	comp=Z,22nm,0.8s,baz=48,slow=1.3,SNR=14									
BELG	**Belogornoye**	**128.22**	**322**	*i* PKIKP		**PKPdf**		**22 14 42.7**	**-0.6**
MAK	**Makhachkala**	**130.84**	**310**	*i* PKIKP		**PKPdf**		**22 14 44.3**	**-4.3**
MAK				pmax		pmax				
	comp=Z,126nm,1.3s									
FINES	**FINESS Array B**	**132.94**	**341**	PKP		**PKPdf**		**22 14 52.6**	**+0.6**
	comp=Z,14nm,0.8s,baz=20,slow=4.6,SNR=9.7									
LSZ	**Lusaka**	**133.12**	**225**	PKP		**PKPdf**		**22 14 54.1**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=116,slow=1.2,SNR=6.3									
KBZ	**Khabaz**	**133.91**	**313**	PKP		**PKPdf**		**22 14 55.7**	**+1.3**
	comp=Z,10.0nm,0.9s,baz=82,slow=4.3,SNR=4.3									
NOA	**NORSAR Array B**	**136.98**	**349**	PKP		**PKPdf**		**22 15 00.8**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=28,slow=2.0,SNR=8.6									
NACGM	**Naroch**	**137.47**	**334**	*e*PKP		**PKPdf**		**22 15 01.4**	**+0.8**
	comp=Z,45nm,0.8s,baz=46									
AKASG	**Malin Array Be**	**139.10**	**328**	PKP		**PKPdf**		**22 15 03.4**	**-0.4**
	comp=Z,13nm,0.8s,baz=57,slow=2.1,SNR=10.0									
SORM	**Soroca**	**141.10**	**325**	⇑P		**PKiKP**		**22 15 09.8**	**-0.4**
SORM	**Soroca**	**141.10**	**325**	⇑PKIKP		**PKiKP**		**22 15 09.8**	**-0.4**
PURM	**Purcari**	**141.15**	**322**	⇓P		**PKPdf**		**22 15 06.6**	**-1.1**
MILM	**Milestii Mici**	**141.55**	**323**	⇓P		**PKPdf**		**22 15 08.5**	**+0.2**
MILM	**Milestii Mici**	**141.55**	**323**	⇓PKIKP		**PKPdf**		**22 15 08.5**	**+0.2**
BRTR	**Keskin Array B**	**141.75**	**310**	PKhKP		PKPpre		22 15 05.3		
	comp=Z,17nm,1.1s,baz=72,slow=4.7,SNR=5.3									
BRTR	**Keskin Array B**	**141.75**	**310**	PKPdf		**PKPdf**		**22 15 09.1**	**-0.1**
BRTR	**Keskin Array B**	**141.75**	**310**	PKIKP		**PKPdf**		**22 15 09.1**	**-0.1**
BR231	**Keskin MP Arra**	**142.33**	**311**			**PKPdf**		**22 15 09.4**	**-0.7**
GHRR		**142.83**	**323**	⇑P		**PKPdf**		**22 15 08.7**	**-2.0**
TPGR	**Topolog**	**142.91**	**321**	⇑P		**PKPdf**		**22 15 07.7**	**-3.2**
BURAR	**Bucovina Array**	**143.08**	**326**	⇓P		**PKPdf**		**22 15 12.9**	**+1.7**
BURAR	**Bucovina Array**	**143.08**	**326**	PKPdf		**PKPdf**		**22 15 11.3**	**+0.1**
BURAR	**Bucovina Array**	**143.08**	**326**	⇓PKIKP		**PKPdf**		**22 15 12.9**	**+1.7**
EIL	**Elat**	**143.14**	**294**	PKhKP		PKPpre		22 15 07.0		
	comp=Z,8.0nm,0.7s,baz=59,slow=5.9,SNR=2.4									
MDUB	**Mudurnu**	**143.20**	**313**	PKPdf		PKPbc		22 15 10.2	+1.6
ODBI	**Odabesti**	**143.21**	**323**	⇑P		PKPbc		22 15 09.9	+1.6
HARR	**Harsova**	**143.29**	**321**	⇑P		PKPbc		22 15 09.7	+1.2
HARR	**Harsova**	**143.29**	**321**	⇑PKIKP		PKPbc		22 15 09.7	+1.2
TLBR	**Topalu**	**143.30**	**320**	⇑P		PKPbc		22 15 09.7	+1.1
UZH	**Uzhgorod**	**143.86**	**330**	*e*PKIKP		PKPbc		22 15 11.2	+1.2
ARCR	**ARCALIA**	**143.87**	**326**	⇑P		PKPbc		22 15 11.8	+1.6
BORA	**Eskisehir**	**143.96**	**312**			PKPbc		22 15 11.6	+0.8
DOPR	**Dopca**	**144.02**	**324**	⇑P		PKPbc		22 15 11.6	+0.9
RASA	**Rasa**	**144.02**	**321**	⇑P		PKPbc		22 15 11.6	+0.9
LEHL	**Lehliu**	**144.08**	**321**	⇑P		**PKPab**		**22 15 11.2**	**+0.8**
SECR		**144.19**	**322**	⇑P		**PKPab**		**22 15 11.3**	**+0.4**
SULR		**144.29**	**322**	⇑P		**PKPab**		**22 15 12.0**	**+0.8**
MDB	**Medias**	**144.46**	**325**	⇑P		PKPbc		22 15 13.3	+1.3
MDB	**Medias**	**144.46**	**325**	⇑PKIKP		PKPbc		22 15 13.3	+1.3
CJR	**Cluj-Napoca**	**144.51**	**327**	⇑P		**PKPab**		**22 15 12.9**	**+0.9**
CJR	**Cluj-Napoca**	**144.51**	**327**	⇑PKIKP		**PKPab**		**22 15 12.9**	**+0.9**
VOIR		**144.53**	**324**	⇑P		**PKPab**		**22 15 14.0**	**+0.2**
VOIR		**144.53**	**324**	⇑PKIKP		**PKPdf**		**22 15 14.0**	**+0.2**
ISP	**Isparta**	**144.71**	**309**			**PKPab**		**22 15 13.0**	**-0.1**
ISP	**Isparta**	**144.71**	**309**	PKIKP		**PKPab**		**22 15 13.0**	**-0.1**
SGRR	**Singureni**	**144.72**	**321**	⇑P		**PKPab**		**22 15 13.4**	**+0.6**
LANS	**Liptovska Anna**	**144.75**	**333**	*e*PKIKP		PKPbc		22 15 14.0	+1.1
LANS	**Liptovska Anna**	**144.75**	**333**	*e*PKP		PKPbc		22 15 14.0	+1.1
RAZG	**Razgrad**	**144.77**	**320**	⇓P		**PKPab**		**22 15 13.7**	**+0.7**
OKC	**Ostrava-Krasne**	**144.78**	**335**	*e*PKP		**PKPab**		**22 15 12.7**	**-0.1**
OKC	**Ostrava-Krasne**	**144.78**	**335**	*e*PKIKP		**PKPab**		**22 15 12.7**	**-0.1**
MARR	**Marisel-Cluj**	**144.78**	**327**	⇑P		**PKPab**		**22 15 13.5**	**+0.5**
KECS	**Kecovo**	**144.80**	**331**	*e*PKIKP		**PKPab**		**22 15 13.8**	**+0.8**
KECS	**Kecovo**	**144.80**	**331**	*e*PKP		**PKPab**		**22 15 13.8**	**+0.8**
ARR	**Arges**	**144.81**	**324**	⇑P		**PKPab**		**22 15 14.0**	**+0.9**
SHEL	**Horse Pasture**	**144.85**	**177**			**PKPab**		**22 15 13.5**	**-0.6**
SHEL	**Horse Pasture**	**144.85**	**177**	PKIKP		**PKPab**		**22 15 13.5**	**-0.6**
DRGR		**144.91**	**327**	⇑P		**PKPab**		**22 15 13.9**	**+0.4**
DRGR		**144.91**	**327**	⇑PKIKP		**PKPab**		**22 15 13.9**	**+0.4**
OSTC	**Ostas**	**144.94**	**337**	*e*PKP		**PKPab**		**22 15 13.8**	**+0.4**
UPC	**Upice**	**145.05**	**337**	*e*PKP		**PKPbc**		**22 15 14.1**	**+0.3**
UPC	**Upice**	**145.05**	**337**	*e*PKIKP		**PKPbc**		**22 15 14.1**	**+0.3**
MORC	**Moravsky Berou**	**145.06**	**335**			**PKPbc**		**22 15 13.6**	**-0.3**
MORC	**Moravsky Berou**	**145.06**	**335**	*e*PKP		**PKPbc**		**22 15 14.2**	**+0.3**
MORC	**Moravsky Berou**	**145.06**	**335**	PKIKP		**PKPbc**		**22 15 13.6**	**-0.3**
DPC	**Dobruska-Polom**	**145.07**	**337**	*e*PKP		**PKPbc**		**22 15 14.4**	**+0.5**
DPC	**Dobruska-Polom**	**145.07**	**337**	*e*PKIKP		**PKPbc**		**22 15 14.4**	**+0.5**
HUMR	**Humele**	**145.12**	**323**	⇑P		**PKPbc**		**22 15 14.5**	**+0.3**
KRLC	**Kraliky**	**145.12**	**336**	*e*PKP		**PKPbc**		**22 15 14.5**	**+0.4**
KRLC	**Kraliky**	**145.12**	**336**	*e*PKIKP		**PKPbc**		**22 15 14.5**	**+0.4**
COPA	**Copaceanca**	**145.21**	**322**	⇑P		**PKPbc**		**22 15 15.1**	**+0.6**
MAUC	**Maruska**	**145.27**	**335**	*e*PKP		**PKPbc**		**22 15 14.8**	**+0.2**
CLL	**Collm**	**145.38**	**341**			**PKPbc**		**22 15 14.7**	**-0.1**
CLL	**Collm**	**145.38**	**341**	*i* PKPbc		**PKPbc**		**22 15 14.9**	**+0.1**
	comp=Z,167nm,1.1s									
CLL				*e*PKiKP		sPKPab		22 15 19.0	+0.9
	comp=Z,128nm,1.1s									
CLL	**Collm**	**145.38**	**341**	*i* PKIKP		**PKPbc**		**22 15 14.9**	**+0.1**
CLL				*e*				22 15 19.0		
CLL				pmax		pmax				
	comp=Z,167nm,1.1s									
BRG	**Berggiesshubel**	**145.46**	**340**	⇑ *i* PKP		**PKPdf**		**22 15 15.6**	**+0.4**
BRG				Amp				22 15 17.5		
	comp=Z,119nm,1.0s									
BRG	**Berggiesshubel**	**145.46**	**340**	P		**PKiKP**		**22 15 19.7**	**+0.6**
BRG				Amp				22 15 20.7		
	comp=Z,118nm,1.4s									
BRG	**Berggiesshubel**	**145.46**	**340**	P		**PKiKP**		**22 15 23.9**	**+4.8**
BRG				Amp				22 15 24.8		
	comp=Z,81nm,1.1s									
BRG	**Berggiesshubel**	**145.46**	**340**	⇑ *i* PKIKP		**PKPdf**		**22 15 15.5**	**+0.4**
BRG								22 15 19.7		
BRG								22 15 23.8		
BRG				pmax		pmax				
	comp=Z,119nm,1.0s									
PSZ	**Piszkesteto**	**145.48**	**331**	⇑P		**PKPdf**		**22 15 15.6**	**+0.3**
PSZ	**Piszkesteto**	**145.48**	**331**	⇑PKIKP		**PKPdf**		**22 15 15.6**	**+0.3**
VYHS	**Vyhne**	**145.53**	**333**	*e*PKIKP		**PKPdf**		**22 15 15.7**	**+0.4**
VYHS	**Vyhne**	**145.53**	**333**	*e*PKP		**PKPdf**		**22 15 15.7**	**+0.4**
PVCC	**Panska Ves**	**145.54**	**339**	*e*PKP		**PKPdf**		**22 15 15.8**	**+0.5**
PVCC	**Panska Ves**	**145.54**	**339**	*e*PKIKP		**PKPdf**		**22 15 15.8**	**+0.5**
ELL	**Elmali**	**145.56**	**307**			**PKPdf**		**22 15 15.1**	**-0.8**
ELL	**Elmali**	**145.56**	**307**	PKIKP		**PKPdf**		**22 15 15.1**	**-0.8**
SIRR	**Siria**	**145.80**	**328**	⇑P		**PKPbc**		**22 15 17.0**	**+0.6**
VRAC	**Vranov**	**145.81**	**336**	*e*PKP		**PKPdf**		**22 15 16.3**	**+0.5**
SURR	**Surduc**	**145.91**	**326**	⇓P		**PKPdf**		**22 15 16.0**	**0.0**
PLVB	**Pleven**	**146.00**	**321**	⇑P		**PKPdf**		**22 15 17.3**	**+1.1**
PRU	**Pruhonice**	**146.01**	**338**	*e*PKP		**PKPdf**		**22 15 16.4**	**+0.3**
PRU	**Pruhonice**	**146.01**	**338**	*e*PKP2		**PKPdf**		**22 15 16.4**	**+0.3**
KRUC	**Moravsky**	**146.09**	**336**	*e*PKP		**PKPab**		**22 15 18.6**	**+0.9**
SMOL	**Smolenice**	**146.11**	**334**	*e*PKP2		**PKPab**		**22 15 18.6**	**+0.8**
BZS	**Buzias**	**146.27**	**327**	⇑P		**PKPdf**		**22 15 16.0**	**-0.7**
BZS	**Buzias**	**146.27**	**327**	⇑PKP2		**PKPdf**		**22 15 16.0**	**-0.7**
SRO	**Srobarova**	**146.27**	**332**	*e*PKP2		**PKPbc**		**22 15 18.4**	**+0.7**
SRO	**Srobarova**	**146.27**	**332**	*e*PKP		**PKPbc**		**22 15 18.4**	**+0.7**
MODS	**Modra-Piesok**	**146.28**	**334**	*e*PKP2		**PKPdf**		**22 15 17.4**	**+0.8**
MODS	**Modra-Piesok**	**146.28**	**334**	*e*PKP		**PKPdf**		**22 15 17.4**	**+0.8**
MODS				*e*				22 31 43.7		
HERR	**Herculane**	**146.33**	**325**	⇓P		**PKPdf**		**22 15 17.2**	**+0.4**
ZST	**Bratislava**	**146.49**	**334**	*e*PKP2		**PKPbc**		**22 15 19.3**	**+1.0**
ZST	**Bratislava**	**146.49**	**334**	*e*PKP		**PKPbc**		**22 15 19.3**	**+1.0**
NKC	**Novy Kostel**	**146.49**	**341**	*e*PKP		**PKPab**		**22 15 20.7**	**+1.5**
NKC	**Novy Kostel**	**146.49**	**341**	*e*PKP2		**PKPab**		**22 15 20.7**	**+1.5**
BANR	**Banloc**	**146.68**	**327**	⇑P		**PKPbc**		**22 15 19.6**	**+0.7**
CKRC	**Cesky Krumlov**	**147.07**	**337**	*e*PKP		**PKPbc**		**22 15 19.9**	**-0.1**
ARG	**Arkhangelos**	**147.09**	**307**			**PKPdf**		**22 15 18.2**	**-0.1**
ARG	**Arkhangelos**	**147.09**	**307**	PKP2		**PKPdf**		**22 15 18.2**	**-0.1**
CONA	**Conrad Observa**	**147.21**	**335**	*e*PKP		**PKPbc**		**22 15 20.9**	**+0.4**
	comp=Z,37nm,0.9s									
RONA	**Rosalia, Austr**	**147.22**	**334**	*e*PKP		**PKPbc**		**22 15 21.0**	**+0.5**
	comp=Z,76nm,1.1s,SNR=6.0									
GERES	**GERESS Array B**	**147.27**	**338**	PKPbc		**PKPdf**		**22 15 18.5**	**+0.1**
	comp=Z,16nm,0.8s,baz=35,slow=3.6,SNR=6.4									
VTS	**Vitosha**	**147.28**	**321**	⇑P		**PKPbc**		**22 15 21.2**	**+0.2**
VTS	**Vitosha**	**147.28**	**321**	⇑PKP2		**PKPbc**		**22 15 21.2**	**+0.2**
MORH	**Mrgy, Hungar**	**147.32**	**330**	⇑P		**PKPdf**		**22 15 18.3**	**0.0**
FRGS	**Fruska Gora**	**147.51**	**328**	⇑P		**PKPbc**		**22 15 21.7**	**+0.4**
BEBN	**Eben Emael**	**147.69**	**348**	*d*PKP		**PKPab**		**22 15 24.7**	**+0.9**
BTNL	**Ternell**	**147.80**	**348**	*d*PKPdf		**PKPdf**		**22 15 19.1**	**0.0**
MEM	**Membach**	**147.81**	**348**	*d*PKP		**PKPdf**		**22 15 19.4**	**+0.3**
MOA	**Molln**	**147.90**	**336**	*e*PKP		**PKPdf**		**22 15 21.4**	**+2.1**
	comp=Z,38nm,1.2s									
BSTI	**Sart Tilman**	**147.92**	**348**	*d*PKP		**PKPbc**		**22 15 22.0**	**-0.2**
BHOU	**Houvegnez**	**148.05**	**348**	*d*PKP		**PKPbc**		**22 15 22.8**	**+0.1**
KARP	**Karpathos**	**148.07**	**307**			**PKPdf**		**22 15 21.6**	**+1.6**
BCLA	**Clavier**	**148.12**	**349**	*d*PKPdf		**PKPdf**		**22 15 20.6**	**+1.0**
DIVS	**Divisare**	**148.15**	**326**	PKPdf		**PKPdf**		**22 15 20.1**	**+0.2**
BGES	**Gesves**	**148.20**	**349**	*d*PKPdf		**PKPdf**		**22 15 21.2**	**+1.5**
BIOA	**Bad Ischl, Aus**	**148.26**	**337**	PKP		**PKPbc**		**22 15 23.3**	**0.0**
	comp=Z,10nm,0.7s									
RCHB	**Rochefort**	**148.39**	**348**	*d*PKPdf		**PKPdf**		**22 15 21.4**	**+1.4**
SOKA	**Soboth**	**148.55**	**334**	*ep*PKP		pPKPdf		22 15 23.5	+0.5
	comp=Z,39nm,1.2s									
DOU	**Dourbes**	**148.56**	**349**	*d*PKPdf		**PKPbc**		**22 15 23.9**	**-0.1**
APE	**Apeiranthos**	**148.65**	**310**	⇑P		**PKPdf**		**22 15 22.1**	**+1.2**
APE	**Apeiranthos**	**148.65**	**310**	⇑PKIKP		**PKPdf**		**22 15 22.1**	**+1.2**
WLF	**Walferdange**	**148.67**	**347**			**PKPbc**		**22 15 24.1**	**-0.1**
WLF	**Walferdange**	**148.67**	**347**	PKP2		**PKPbc**		**22 15 24.1**	**-0.1**
WLF	**Walferdange**	**148.67**	**347**	*d*PKP		**PKPbc**		**22 15 24.8**	**+0.6**
KBA	**Koelnbreinsper**	**148.88**	**337**	*ep*PKP		pPKPdf		22 15 24.6	+1.0
	comp=Z,47nm,0.9s									
OBKA	**Obir**	**148.88**	**335**	*e*PKiKP		**PKiKP**		**22 15 27.7**	**+1.3**
	comp=Z,26nm,0.9s									
SANT	**Santorini**	**149.00**	**309**	⇓P		**PKPbc**		**22 15 24.4**	**-1.1**
**SAN

HARR	**Harsova**	**2.16**	**44**	⇓P		**Pn**	**22 03 09.8**	**+1.3**
VIZE	**Kirklareli, Vi**	**2.17**	**136**	P		**Pn**	**22 03 08.8**	**+0.1**
VIZE				S		**Sb**	**22 03 38.4**	**-0.6**
VIZE				*i* AML	AML		22 03 51.0	
	comp=N,302nm,0.5s							
VIZE				*i* AML	AML		22 03 57.0	
	comp=E,181nm,0.9s							
MMB	**Musomiste**	**2.21**	**225**	*i* P		**Pn**	**22 03 10.6**	**+1.4**
EFOR	**EFORIE**	**2.24**	**65**	⇑P		**Pn**	**22 03 11.1**	**+1.6**
EFOR				⇑S		**Sb**	**22 03 40.5**	**-0.1**
ALN	**Alexandroupoli**	**2.27**	**176**	P		**Pn**	**22 03 10.3**	**+0.4**
ALN	**Alexandroupoli**	**2.27**	**176**	P		**Pn**	**22 03 10.6**	**+0.6**
ALN				S		**Sn**	**22 03 40.0**	**+1.9**
	705nm,0.9s							
ALN	**Alexandroupoli**	**2.27**	**176**	Pn		**Pn**	**22 03 10.2**	**+0.2**
TIRR	**Tirgusor**	**2.28**	**54**	⇑P		**Pn**	**22 03 11.4**	**+1.3**
TIRR				⇑S		**Sb**	**22 03 41.9**	**0.0**
TIRR	**Tirgusor**	**2.28**	**54**	Pn		**Pn**	**22 03 10.6**	**+0.5**
TIRR	**Tirgusor**	**2.28**	**54**	Pn		**Pn**	**22 03 10.8**	**+0.7**
TSCT	**Constanta Port**	**2.29**	**63**	⇓P		**Pn**	**22 03 11.6**	**+1.4**
TSCT				⇑S		**Sb**	**22 03 42.4**	**+0.3**
NVR	**Nevrokopi**	**2.32**	**220**	P		**Pn**	**22 03 12.6**	**+1.8**
NVR				S		**Sb**	**22 03 42.2**	**-1.1**
	638nm,0.7s							
MLR	**Muntele Rosu**	**2.33**	**2**	⇑P		**Pb**	**22 03 13.1**	**-1.4**
MLR	**Muntele Rosu**	**2.33**	**2**	Pn		**Pn**	**22 03 11.8**	**+0.8**
MLR	**Muntele Rosu**	**2.33**	**2**	Pn		**Pn**	**22 03 12.0**	**+1.0**
ZAPS	**Zavoj**	**2.34**	**274**	*e*Pn		**Pn**	**22 03 11.8**	**+0.8**
ZAPS				*e*Sn		**Sn**	**22 03 40.6**	**+0.7**
VOIR		**2.34**	**347**	⇑P		**Pn**	**22 03 12.2**	**+1.0**
KAVA	**Kavala**	**2.37**	**205**	P		**Pn**	**22 03 12.2**	**+0.8**
KAVA				S		**Sb**	**22 03 43.5**	**-1.1**
	680nm,0.9s							
PUNG	**Punghina**	**2.38**	**299**	⇑P		**Pn**	**22 03 10.3**	**-1.2**
KKB	**Krupnik**	**2.41**	**238**	*i* P		**Pn**	**22 03 12.6**	**+0.7**
SRE	**Strehaia**	**2.42**	**309**	⇑P		**Pn**	**22 03 11.4**	**-0.7**
KESN	**Edirne-Kesan**	**2.42**	**164**	P		**Pn**	**22 03 12.1**	**-0.3**
KESN				S		**Sn**	**22 03 42.5**	**+0.1**
KESN				*i* AML	AML		22 03 54.0	
	comp=E,528nm,1.2s							
KESN				*i* AML	AML		22 03 56.0	
	comp=N,484nm,0.6s							
ENEZ	**Enez**	**2.44**	**174**	P		**Pn**	**22 03 12.9**	**+0.6**
ENEZ				S		**Sn**	**22 03 44.1**	**+1.8**
	1μm,0.6s							
ENEZ	**Enez**	**2.44**	**174**	Pn		**Pn**	**22 03 12.7**	**+0.4**
CRLT	**Corlu**	**2.48**	**144**	Pn		**Pn**	**22 03 13.9**	**+1.0**
CAVK	**Edirne/Enez-Ca**	**2.48**	**174**	P		**Pn**	**22 03 13.8**	**+0.9**
CAVK				S		**Sn**	**22 03 45.4**	**+2.0**
CAVK				*i* AML	AML		22 04 01.0	
	comp=E,542nm,1.0s							
CAVK				*i* AML	AML		22 04 07.0	
	comp=N,550nm,0.8s							
CTYL	**Yalikoy Yolu**	**2.48**	**132**	Pn		**Pn**	**22 03 13.7**	**+0.7**
TPGR	**Topolog**	**2.52**	**47**	⇑P		**Pb**	**22 03 16.0**	**-1.8**
TPGR				⇑S		**Sb**	**22 03 48.4**	**-0.7**
ERIK	**Erikli-Kesan**	**2.54**	**168**	Pn		**Pn**	**22 03 14.1**	**+0.4**
BOSS	**Bosilegrad**	**2.55**	**256**	*e*Pn		**Pn**	**22 03 14.5**	**+0.6**
BOSS				*e*Sn		**Sb**	**22 03 47.9**	**-1.8**
CFR	**Carcaliu**	**2.61**	**39**	⇑P		**Pn**	**22 03 15.6**	**+0.9**
CFR				⇑S		**Sb**	**22 03 50.8**	**-0.8**
SLVT	**Silivri**	**2.62**	**137**	Pn		**Pn**	**22 03 15.3**	**+0.5**
SRS	**Serrai**	**2.63**	**220**	P		**Pn**	**22 03 15.6**	**+0.6**
SRS	**Serrai**	**2.63**	**220**	*e*Pn		**Pn**	**22 03 15.3**	**+0.3**
SRS				*e*Sn		**Sb**	**22 03 49.9**	**-2.2**
RKY	**Sarkoy-Tekirda**	**2.67**	**157**	Pn		**Pn**	**22 03 16.1**	**+0.5**
THAS	**Thassos island**	**2.68**	**198**	P		**Pn**	**22 03 16.1**	**+1.4**
THAS				S		**Sn**	**22 03 50.4**	**+2.0**
	428nm,0.8s							
ZAGS	**Zajecar**	**2.69**	**285**	*e*Pn		**Pn**	**22 03 14.3**	**-1.6**
SMTH	**Samothraki Isl**	**2.70**	**185**	P		**Pn**	**22 03 16.2**	**+0.3**
COVR	**Voineasa-Covas**	**2.70**	**6**	⇑P		**Pn**	**22 03 17.6**	**+1.7**
LOT	**Lotru**	**2.72**	**328**	⇑P		**Pn**	**22 03 15.9**	**-0.4**
LOT	**Lotru**	**2.72**	**328**	Pn		**Pn**	**22 03 15.9**	**-0.4**
JURR	**Jurilovca**	**2.73**	**53**	⇑P		**Pn**	**22 03 17.0**	**+0.7**
ODBI	**Odobesti**	**2.75**	**18**	⇓P		**Pb**	**22 03 19.4**	**-2.2**
PLOR	**Plostina**	**2.75**	**12**	⇓P		**Pn**	**22 03 18.4**	**+1.7**
TUDR		**2.77**	**28**	⇑P		**Pn**	**22 03 18.8**	**+1.9**
CTKS	**Kestanelik-??a**	**2.77**	**133**	Pn		**Pn**	**22 03 16.9**	**0.0**
VRI	**Vrincioaia**	**2.78**	**13**	⇑P		**Pn**	**22 03 18.0**	**+1.0**
VRI	**Vrincioaia**	**2.78**	**13**	Pn		**Pn**	**22 03 18.4**	**+1.3**
ELBA	**Catalca**	**2.79**	**135**	P		**Pn**	**22 03 17.4**	**+0.1**
ELBA				*i* AML	AML		22 04 08.0	
	comp=N,167nm,1.0s							
ELBA				*i* AML	AML		22 04 09.0	
	comp=E,151nm,0.7s							
GELI	**Tayfur-Gelibol**	**2.80**	**170**	Pn		**Pn**	**22 03 17.7**	**+0.4**
DJES	**Djerdap**	**2.82**	**303**	Pn		**Pn**	**22 03 15.4**	**-2.2**
DJES	**Djerdap**	**2.82**	**303**	*e*Pn		**Pn**	**22 03 16.0**	**-1.6**
DOPR	**Dopca**	**2.82**	**354**	⇑P		**Pn**	**22 03 18.2**	**+0.5**
PRVS	**Prvonek**	**2.83**	**258**	*e*Pn		**Pn**	**22 03 18.5**	**+0.7**
PRVS				*e*Sn		**Sn**	**22 03 52.7**	**+0.5**
LPK	**Lapseki**	**2.87**	**166**	Pn		**Pn**	**22 03 19.1**	**+0.8**
OZUR		**2.94**	**359**	⇑P		**Pn**	**22 03 19.9**	**+0.7**
BGKT	**Bogazkoy**	**2.95**	**131**	Pn		**Pn**	**22 03 20.4**	**+1.0**
KNT	**Kendrikon**	**2.95**	**228**	P		**Pn**	**22 03 20.8**	**+1.4**
KNT				S		**Sn**	**22 03 58.2**	**+3.1**
	198nm,0.6s							
KNT	**Kendrikon**	**2.95**	**228**	Pn		**Pn**	**22 03 19.7**	**+0.3**
TLCR		**2.95**	**46**	⇓P		**Pn**	**22 03 20.2**	**+0.8**
SCTR	**Scanteiesti**	**2.96**	**31**	⇑P		**Pn**	**22 03 20.6**	**+1.2**
BARS	**Barje**	**2.96**	**265**	*e*Pn		**Pn**	**22 03 20.5**	**+0.9**
BARS				*e*Sn		**Sn**	**22 03 56.2**	**+0.9**
GADA	**Gvkgeada**	**2.97**	**179**	Pn		**Pn**	**22 03 19.9**	**+0.3**
SOH	**Sokhos**	**2.98**	**219**	P		**Pn**	**22 03 20.6**	**+0.8**
SOH				S		**Sn**	**22 03 58.2**	**+2.5**
	648nm,0.8s							
HERR	**Herculane**	**3.00**	**306**	⇓P		**Pn**	**22 03 18.5**	**-1.6**
VAY	**Valandovo**	**3.04**	**234**	*e*Pn		**Pn**	**22 03 21.5**	**+0.9**
VAY				*e*Sn		**Sn**	**22 03 59.4**	**+2.3**
VAY	**Valandovo**	**3.04**	**234**	*i* Pn		**Pn**	**22 03 21.4**	**+0.9**
VAY				*i* Sn		**Sg**	**22 04 10.1**	**+0.5**
BOVS	**Bovan**	**3.04**	**280**	⇑P		**Pn**	**22 03 20.9**	**+0.3**
BOVS	**Bovan**	**3.04**	**280**	*e*Pn		**Pn**	**22 03 20.3**	**-0.3**
BOVS				*e*Sn		**Sn**	**22 03 56.5**	**-0.7**
GZR	**Gura Zlata**	**3.13**	**317**	⇓P		**Pn**	**22 03 21.0**	**-0.8**
OUR	**Ouranopolis**	**3.14**	**207**	P		**Pn**	**22 03 21.7**	**-0.3**
OUR	**Ouranopolis**	**3.14**	**207**	Pn		**Pn**	**22 03 21.9**	**-0.1**
MDB	**Medias**	**3.15**	**341**	⇑P		**Pn**	**22 03 23.9**	**+1.7**
KNL	**Balıkesir**	**3.16**	**156**	P		**Pn**	**22 03 23.4**	**+1.3**
KNL				S		**Sn**	**22 04 00.5**	**+0.4**
KNL				*i* AML	AML		22 04 02.0	
	comp=E,145nm,0.6s							
KNL				*i* AML	AML		22 04 32.0	
	comp=N,146nm,1.3s							
EDC	**Edincik**	**3.20**	**151**	Pn		**Pn**	**22 03 23.8**	**+1.0**
KUBS	**Kucevo**	**3.26**	**294**	*e*Pn		**Pn**	**22 03 21.5**	**-2.1**
HORT	**Hortiatis**	**3.27**	**219**	P		**Pn**	**22 03 23.9**	**0.0**
HORT	**Hortiatis**	**3.27**	**219**	Pn		**Pn**	**22 03 23.8**	**-0.1**
BOZC	**Bozcaada**	**3.32**	**177**	Pn		**Pn**	**22 03 24.9**	**+0.4**
EZN	**Ezine**	**3.35**	**173**	Pn		**Pn**	**22 03 25.6**	**+0.7**
GRG	**Griva**	**3.37**	**230**	Pn		**Pn**	**22 03 25.5**	**+0.3**
MDVR	**Moldovita**	**3.38**	**300**	⇑P		**Pn**	**22 03 24.3**	**-1.1**
TESR	**Tescani**	**3.40**	**10**	⇑P		**Pn**	**22 03 26.8**	**+1.2**
GONE	**Gonen-Balikesi**	**3.41**	**155**	Pn		**Pn**	**22 03 26.8**	**+1.1**
DEV	**Deva**	**3.43**	**323**	⇑P		**Pn**	**22 03 26.1**	**+0.1**
SELS	**Selova**	**3.44**	**273**	*e*Pn		**Pn**	**22 03 26.4**	**+0.2**
SELS				*e*Sn		**Sn**	**22 04 06.8**	**-0.4**
SKO	**Skopje**	**3.45**	**251**	*i* Pn		**Pg**	**22 03 38.5**	**+0.2**
SKO				*i* Sn		**Sg**	**22 04 22.8**	**-0.2**
KCX	**Karacabey (Bur**	**3.46**	**146**	Pn		**Pn**	**22 03 27.3**	**+0.9**
SVIS	**Svilajnac**	**3.52**	**290**	*e*Pn		**Pn**	**22 03 27.1**	**-0.1**
SURR	**Surduc**	**3.71**	**316**	⇓P		**Pn**	**22 03 29.2**	**-0.6**
VASR	**Vaslui**	**3.75**	**21**	⇓P		**Pn**	**22 03 31.3**	**+0.9**
GRUS	**Gruza**	**3.79**	**283**	*e*Pn		**Pn**	**22 03 30.9**	**0.0**
BALB	**Balikesir**	**3.84**	**156**	Pn		**Pn**	**22 03 31.4**	**-0.2**
BALB	**Balikesir**	**3.84**	**156**	Pn		**Pn**	**22 03 32.7**	**+1.1**
CJR	**Cluj-Napoca**	**3.89**	**337**	⇑P		**Pn**	**22 03 32.6**	**+0.3**
BZS	**Buzias**	**3.89**	**311**	⇑P		**Pn**	**22 03 31.3**	**-1.0**
BZS	**Buzias**	**3.89**	**311**	Pn		**Pn**	**22 03 30.7**	**-1.6**
LIT	**Litokhoron**	**3.95**	**220**	Pn		**Pn**	**22 03 32.3**	**-0.8**
CBBR	**Cluj-Babes-Bol**	**3.95**	**337**	⇑P		**Pn**	**22 03 33.8**	**+0.6**
MARR	**Marisel-Cluj**	**4.01**	**332**	⇑P		**Pn**	**22 03 33.8**	**-0.2**
ARCR	**ARCALIA**	**4.06**	**346**	⇑P		**Pn**	**22 03 34.8**	**+0.2**
TRUS	**Trudelj**	**4.07**	**287**	*e*Pn		**Pn**	**22 03 34.5**	**-0.3**
FNA	**Florina**	**4.08**	**236**	Pn		**Pn**	**22 03 35.6**	**+0.6**
FNA	**Florina**	**4.08**	**236**	Pn		**Pn**	**22 03 35.2**	**+0.2**
IVAS	**Ivanjica**	**4.16**	**278**	*e*Pn		**Pn**	**22 03 35.6**	**-0.4**
IVAS				*e*Sn		**Sn**	**22 04 22.2**	**-2.7**
IAS	**Iasi**	**4.21**	**16**	Pn		**Pn**	**22 03 38.8**	**+2.1**
DRGR		**4.25**	**330**	⇑P		**Pn**	**22 03 36.9**	**-0.4**
DRGR		**4.25**	**330**	Pn		**Pn**	**22 03 38.7**	**+1.4**
OHR	**Ohrid**	**4.26**	**243**	*i* Pn		**Pn**	**22 03 40.1**	**+2.6**
OHR				*i* Sn		**Sg**	**22 04 51.4**	**+2.4**
SJES	**Sjenica**	**4.28**	**273**	*e*Pn		**Pn**	**22 03 37.7**	**-0.1**
SIRR	**Siria**	**4.30**	**318**	⇑P		**Pn**	**22 03 37.0**	**-0.9**
DIVS	**Divibare**	**4.34**	**284**	Pn		**Pn**	**22 03 37.8**	**-0.7**
DIVS	**Divibare**	**4.34**	**284**	*e*Pn		**Pn**	**22 03 38.2**	**-0.3**
PVY	**Plav**	**4.35**	**265**	⇓*i*Pn		**Pn**	**22 03 39.3**	**+0.6**
PVY				*i* Sn		**Sn**	**22 04 29.8**	**+0.1**
IVA	**Berane**	**4.36**	**268**	⇑*i*Pn		**Pn**	**22 03 39.4**	**+0.6**
IVA				*i* Sn		**Sn**	**22 04 30.2**	**+0.3**
BURAR	**Bucovina Array**	**4.47**	**355**	⇑P		**Pn**	**22 03 41.6**	**+1.1**
BURAR	**Bucovina Array**	**4.47**	**355**	Pn		**Pn**	**22 03 40.9**	**+0.4**
BUR08	**Bucovina Ar. S**	**4.50**	**355**	Pn		**Pn**	**22 03 41.7**	**+0.8**
KOME	**Kolasin**	**4.64**	**268**	⇓*i*Pn		**Pn**	**22 03 43.3**	**+0.6**
KOME				*i* Sn		**Sn**	**22 04 37.4**	**+0.6**
PLE	**Pljevlja**	**4.71**	**274**	⇓*i*Pn		**Pn**	**22 03 44.3**	**+0.7**
PLE				*i* Sn		**Sn**	**22 04 38.9**	**+0.4**
BBLS	**Lazići**	**4.72**	**281**	*e*Pn		**Pn**	**22 03 43.9**	**+0.1**
FRGS	**Fruska Gora**	**4.77**	**297**	⇓P		**Pn**	**22 03 44.5**	**+0.1**
FRGS	**Fruska Gora**	**4.77**	**297**	*e*Pn		**Pn**	**22 03 43.9**	**-0.5**
BORA	**Eskisehir**	**4.78**	**132**	Pn		**Pn**	**22 03 44.5**	**-0.1**
BMR	**Baia Mare**	**4.80**	**341**	⇑P		**Pn**	**22 03 45.8**	**+1.0**
MDUB	**Mudurnu**	**4.83**	**122**	Pn		**Pn**	**22 03 47.0**	**+1.7**
PDG	**Podgorica**	**4.89**	**264**	⇓*i*Pn		**Pn**	**22 03 46.7**	**+0.7**
PDG				*i* Sn		**Sn**	**22 04 43.0**	**+0.2**
DRME	**Dracevica, Mon**	**4.99**	**261**	⇑*i*Pn		**Pn**	**22 03 48.4**	**+1.0**
DRME				*i* Sn		**Sn**	**22 04 45.7**	**+0.3**
NKME	**Niksic**	**5.06**	**268**	⇓*i*Pn		**Pn**	**22 03 49.1**	**+0.7**
NKME				*i* Sn		**Sn**	**22 04 47.0**	**-0.1**
MANT	**Manisa**	**5.11**	**155**	Pn		**Pn**	**22 03 49.7**	**+0.5**
CEME	**Cevo**	**5.12**	**265**	⇑*i*Pn		**Pn**	**22 03 49.9**	**+0.7**
CEME				*i* Sn		**Sn**	**22 04 48.7**	**+0.2**
SEV	**Sevastopol'**	**5.84**	**74**	⇓*e*P		**Pn**	**22 03 58.2**	**-0.8**
SEV				Pm			22 03 59.2	
	comp=Z,6.0nm,0.3s							
SEV				*e*S		**Sn**	**22 05 03.8**	**-2.3**
SEV				Sm			22 05 06.6	
	comp=N,5.0nm,0.3s							
SEV				Sm			22 05 06.6	
	comp=E,10.0nm,0.4s							
BZK	**Bozkurt**	**6.16**	**98**	Pn		**Pn**	**22 04 01.6**	**-1.8**
YAL	**Yalta**	**6.17**	**75**	*e*P		**Pn**	**22 04 01.4**	**-2.2**
YAL				Pm			22 04 03.2	
	comp=Z,2.0nm,0.3s							
YAL				*e*S		**Sn**	**22 05 12.4**	**-1.9**
YAL				Sm			22 05 14.0	
	comp=N,7.0nm,0.5s							
YAL				Sm			22 05 14.0	
	comp=E,3.0nm,0.3s							
BR131	**Keskin Array S**	**6.80**	**118**	Pn		**Pn**	**22 04 11.0**	**-1.4**
BRTR	**Keskin Array B**	**6.80**	**118**	Pn		**Pn**	**22 04 10.3**	**-2.1**
SUDU	**Sudak**	**6.84**	**72**	*e*P		**Pn**	**22 04 12.1**	**-0.6**
SUDU				Pm			22 04 15.3	
	comp=Z,4.0nm,0.3s							
SUDU				*e*S		**Sn**	**22 05 29.7**	**-1.0**
SUDU				Sm			22 05 35.6	
	comp=N,7.0nm,0.3s							
SUDU				Sm			22 05 35.6	
	comp=E,11nm,0.6s							
VYHS	**Vyhne**	**7.23**	**320**	*e*PN		**Pn**	**22 04 16.5**	**-1.6**
VYHS				*e*			22 31 42.2	
VYHS				*e*			22 53 14.8	
INTR	**Introdacqua**	**8.87**	**267**	Pn		**Pn**	**22 04 41.9**	**+1.1**
STAL	**STALIGIAL**	**9.84**	**293**	Pn		**Pn**	**22 04 54.2**	**+0.3**
CIMO	**Cimolais**	**10.03**	**293**	Pn		**Pn**	**22 04 55.2**	**-1.4**
FUORN	**Ofenpass-Fuorn**	**11.57**	**293**	Pn		**Pn**	**22 05 17.6**	**-0.3**
GNI	**Garni**	**14.46**	**96**	Pn		**Pn**	**22 05 57.2**	**0.0**
FINES	**FINESS Array B**	**18.31**	**0**	P		**Pn**	**22 06 45.9**	**-0.5**
FIA1	**FINESS Array S**	**18.32**	**0**	P		**Pn**	**22 06 46.0**	**-0.4**
FIA1						IAmb	IAmb	22 06 56.9
	comp=Z,21nm,1.2s							

JMA 03 22:03:02.7±0.0, 32°4N±0.1×130°7E±0.1, h8km, MV1.5/32,
SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.20**	**35**	*i* P	Pg	22 03 06.7	+0.1
JIU3				*e*S	Sg	22 03 09.7	+0.3
JZO	**Okuchi**	**0.26**	**195**	P	Pg	22 03 07.8	0.0
JZO				*e*S	Sg	22 03 11.5	+0.3
JTA	**Tamana**	**0.59**	**348**	P	Pg	22 03 14.2	+0.2
JTA				*e*S	Sg	22 03 21.8	+0.1
JTZ	**Takazaki**	**0.60**	**144**	P	Pg	22 03 14.5	+0.3
JTSN	**Tsuno**	**0.71**	**101**	P	Pg	22 03 16.5	+0.1
JTSN				*e*S	Sg	22 03 25.6	-0.1

*IDC **03** 22:04:50.8±0.8, 18°.79S×176°.05E, h0km, mb4.2/11, mbtmp4.2/13, ML4.6/2, Error ellipse: s-maj=36.4km s-min=17.6km az=148.0*
*NEIC **03** 22:04:51.2±1.6, 18°.9S±0°.1×176°.28E±0°.08, h10km±1km, mb4.6/17, Error ellipse: s-maj=22.7km s-min=11.2km az=157.0*

ISC 03 22:04:51.5±0.5, 18°.9S±0°.1×176°.19E±0°.09, h10km, n43, σ1s17/42, mb4.4/19, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.12**	**57**	Pn	**Pn**	**22 05 26.3**	**-0.7**
	14nm,0.3s,baz=66,slow=16,SNR=4.7						
MSVF				Sn	**Sn**	**22 05 51.7**	**-1.8**
	62nm,0.3s,baz=282,slow=23,SNR=8.9						
	72nm,0.5s						
MSVF	**Nonsavu**	**2.12**	**57**	Pn	**Pn**	**22 05 25.6**	**-1.5**
OUENC	**Ouen Island, N**	**9.42**	**247**	Pn	**Pn**	**22 07 07.3**	**-0.1**
DZM	**Mont Dzumac**	**9.66**	**249**	Pn	**Pn**	**22 07 12.4**	**+1.5**
URZ	**Urewera**	**19.30**	**178**	P	**Pn**	**22 09 19.3**	**+1.6**
	0.8nm,0.3s,baz=74,slow=4.4,SNR=5.0						
	12nm,0.7s						
EIDS	**Eidsvold**	**24.11**	**250**	P	**P**	**22 10 07.1**	**-0.5**
EIDS				IAmb	IAmb	22 10 20.2	
	comp=Z,9.8nm,1.1s						
STKA	**Stephens Creek**	**33.67**	**241**	P	**P**	**22 11 32.9**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=92,slow=12,SNR=6.2						
	comp=Z,4.7nm,0.9s						
STKA	**Stephens Creek**	**33.67**	**241**	P	**P**	**22 11 33.4**	**+0.6**
H11S2	**WAKE ISLAND Hy**	**38.31**	**345**	T	T	22 52 59.9	
	baz=166,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**38.32**	**345**	T	T	22 52 58.3	
	baz=166,slow=76,SNR=37						
H11S1	**WAKE ISLAND Hy**	**38.33**	**345**	T	T	22 53 01.3	
	baz=166,slow=76,SNR=39						
BBOO	**Buckleboo**	**38.44**	**241**	P	**P**	**22 12 13.3**	**-0.4**
BBOO				IAmb	IAmb	22 12 30.2	
	comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**39.38**	**262**	P	**P**	**22 12 19.3**	**-2.4**
WB0				IAmb	IAmb	22 12 31.8	
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**39.41**	**261**	P	**P**	**22 12 21.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=97,slow=8.6,SNR=6.8						
	comp=Z,1.2nm,0.6s						
AS31	**Alice Springs**	**39.58**	**256**	P	**P**	**22 12 22.2**	**-1.1**
ASAR	**Alice Springs**	**39.58**	**256**	P	**P**	**22 12 23.0**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=86,slow=9.0,SNR=11						
ASAR				PcP	**PcP**	**22 14 30.4**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=101,slow=2.9,SNR=4.6						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**39.58**	**256**	P	**P**	**22 12 22.5**	**-0.9**
FORT	**Forrest**	**44.94**	**245**	P	**P**	**22 13 06.9**	**-0.1**
KNRA	**Kununurra**	**45.30**	**266**	P	**P**	**22 13 09.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**47.81**	**262**	P	**P**	**22 13 26.9**	**-2.7**
MBWA	**Marble Bar**	**52.86**	**257**	P	**P**	**22 14 07.0**	**-0.8**
MBWA				IAmb	IAmb	22 14 09.0	
	comp=Z,18nm,1.1s						
NWAO	**Narrogin (SRO)**	**54.21**	**243**	P	**P**	**22 14 16.0**	**-1.6**
VNDA	**Vanda**	**59.08**	**184**	P	**P**	**22 14 51.1**	**-0.4**
QSPA	**South Pole Qui**	**71.15**	**180**	P	**P**	**22 16 09.2**	**-1.1**
QSPA				IAmb	IAmb	22 16 14.0	
	comp=Z,8.7nm,1.1s						
SEY	**Seymchan**	**83.69**	**349**	P	**P**	**22 17 21.1**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=124,slow=3.9,SNR=3.8						
	comp=Z,2.2nm,0.9s						
NVAR	**Mina Array Bea**	**83.75**	**46**	P	**P**	**22 17 23.0**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=224,slow=7.6,SNR=3.7						
	comp=Z,0.7nm,0.7s						
L19K	**White Mountain**	**84.02**	**13**	P	**P**	**22 17 23.0**	**+1.2**
SUA	**Susitna One**	**84.35**	**15**	P	**P**	**22 17 23.8**	**+0.1**
SUA				IAmb	IAmb	22 17 25.6	
	comp=Z,3.2nm,0.7s						
CM31	**Chiang Mai Arr**	**84.43**	**292**	P	**P**	**22 17 24.9**	**0.0**
CM31				IAmb	IAmb	22 17 27.1	
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Mar**	**84.43**	**292**	P	**P**	**22 17 26.1**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=133,slow=3.9,SNR=5.9						
	comp=Z,1.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**84.43**	**292**	P	**P**	**22 17 24.7**	**-0.3**
CAST	**Castle Rocks**	**85.72**	**14**	P	**P**	**22 17 30.4**	**+0.1**
CAST				IAmb	IAmb	22 17 32.0	
	comp=Z,9.6nm,1.4s						
N25K	**Chitina, Valde**	**86.11**	**18**	P	**P**	**22 17 32.5**	**0.0**
N25K				IAmb	IAmb	22 18 03.3	
	comp=Z,4.7nm,1.4s						
ILAR	**Eielson Array**	**88.09**	**15**	P	**P**	**22 17 42.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=244,slow=6.3,SNR=6.7						
	comp=Z,0.9nm,0.8s						
DLBC	**Dease Lake**	**88.84**	**25**	P	**P**	**22 17 46.4**	**+0.8**
	comp=Z,2.1nm,1.0s,baz=208,slow=7.4,SNR=3.5						
	comp=Z,2.1nm,1.0s						
TXAR	**Lajitas Array**	**90.89**	**59**	P	**P**	**22 17 57.4**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=224,slow=5.5,SNR=8.6						
	comp=Z,1.1nm,0.8s						
SONM	**Songino Array**	**91.01**	**321**	P	**P**	**22 17 55.4**	**-0.8**
	comp=Z,0.9nm,1.0s,baz=128,slow=3.6,SNR=2.9						
	comp=Z,0.9nm,1.0s						
YKA	**Yellowknife Ar**	**97.42**	**26**	P	Pdif	22 18 26.0	+0.9
	comp=Z,0.5nm,0.7s,baz=252,slow=4.1,SNR=5.3						
	comp=Z,0.5nm,0.7s						
MORC	**Moravsky Berou**	**144.77**	**336**	*e*PKP	**PKPdf**	**22 24 29.3**	**+0.6**
CLL	**Collm**	**145.04**	**342**	⇓*i*PKPbc	**PKPdf**	**22 24 29.7**	**+0.6**
	comp=Z,15nm,0.8s						
CLL				*i* PKiKP	**PKiKP**	**22 24 35.4**	**+2.5**
JAVC	**Velka Javorina**	**145.45**	**335**	*e*PKP	**PKiKP**	**22 24 32.6**	**-1.3**
VRAC	**Vranov**	**145.51**	**336**	*e*PKP	**PKPab**	**22 24 31.3**	**+1.0**
KRUC	**Moravsky**	**145.79**	**336**	*e*PKP	**PKPab**	**22 24 32.0**	**+0.7**

IDC 03 22:08:11.9±1.8, 18°.98S×176°.09E, h0km, mb3.8/3, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=78.9km s-min=24.7km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

	comp=E,170μm,0.2s							
T1218					AML	AML		
	comp=N,327μm,0.2s							
T1243	**Rocca Santa Ma**	**0.13**	**96**	⇑P		Pg	22 09 33.0	+0.5
T1243				S		Sg	22 09 35.4	+0.5
T1245	**Castelsantange**	**0.16**	**338**	P		Pg	22 09 33.7	+0.7
T1245				S		Sg	22 09 36.4	+0.8
T1245				AML		AML		
	comp=E,142μm,0.8s							
T1245				AML		AML		
	comp=N,192μm,0.3s							
NRCA	**Norcia**	**0.17**	**317**	P		Pg	22 09 33.7	+0.6
NRCA				S		Sg	22 09 36.5	+0.7
NRCA				AML		AML		
	comp=E,247μm,1.0s							
NRCA				AML		AML		
	comp=E,247μm,1.0s							
NRCA				AML		AML		
	comp=N,164μm,0.7s							
T1212	**Cascia, Frazio**	**0.17**	**284**	⇓P		Pg	22 09 33.8	+0.6
T1212				S		Sg	22 09 36.6	+0.8
T1241	**Roccafluvione,**	**0.19**	**39**	P		Pg	22 09 34.0	+0.6
T1241				S		Sg	22 09 37.1	+0.9
MMO1	**Montemonaco**	**0.19**	**12**	P		Pg	22 09 34.1	+0.6
MMO1				S		Sg	22 09 37.6	+1.1
LNSS	**Leonessa**	**0.20**	**238**	⇑P		Pg	22 09 34.2	+0.6
LNSS				S		Sg	22 09 37.6	+1.0
LNSS				AML		AML		
	comp=N,81μm,1.2s							
LNSS				AML		AML		
	comp=E,110μm,0.9s							
LNSS				AML		AML		
	comp=E,110μm,1.1s							
RM33	**Pellescritta (**	**0.20**	**192**	⇑P		Pg	22 09 34.3	+0.5
RM33				S		Sg	22 09 37.7	+1.0
MC2	**Monte Cornacci**	**0.21**	**344**	P		Pg	22 09 34.5	+0.6
MC2				S		Sg	22 09 38.2	+1.2
T1256	**Bolognola (MC)**	**0.30**	**354**	P		Pg	22 09 35.9	+0.5
T1256				S		Sb	22 09 40.8	-1.1
T1215	**Vallo di Nera,**	**0.31**	**287**	⇑P		Pb	22 09 36.3	-0.6
FDMO	**Fiordimonte**	**0.35**	**338**	⇑P		Pg	22 09 36.8	+0.4
FDMO				AML		AML		
	comp=E,48μm,1.5s							
FDMO				AML		AML		
	comp=N,56μm,1.5s							
FDMO				AML		AML		
	comp=N,56μm,0.5s							
FDMO				AML		AML		
	comp=E,48μm,0.5s							
T1211	**Morro Reatino**	**0.35**	**240**	P		Pg	22 09 36.7	+0.3
T1211				S		Sb	22 09 42.3	-1.0
T1211				AML		AML		
	comp=E,107μm,1.6s							
T1211				AML		AML		
	comp=N,144μm,1.0s							
T1219	**Muccia, Frazio**	**0.40**	**331**	⇓P		Pg	22 09 37.6	+0.4
T1220	**Camerino, Fraz**	**0.42**	**342**	P		Pg	22 09 38.1	+0.5

*THE **03** 22:09:34.1,35˚.89N×26˚.47E,h0km±1km,ML2.5/4,Error ellipse: s-maj=2.1km s-min=1.0km az=336.0*
*ATH **03** 22:09:35.3,34˚.91N×27˚.06E,h6km±7km,ML2.6/3,Error ellipse: s-maj=10.3km s-min=1.7km az=323.0*

ISC 03 22:09:30.9±2.7,34.7N±0.1×27.19E±0.08,h26km±15km,n9, σ1s35/17,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.85**	**359**	P		P	**Pn**	**22 09 46.9**	**-0.2**
KARP				S		S	**Sn**	**22 09 58.2**	**-0.5**
	730nm,0.7s								
KARP	**Karpathos**	**0.85**	**359**	P		P	**Pn**	**22 09 47.2**	**0.0**
KARP				S		S	**Sb**	**22 09 56.3**	**-1.7**
KARP				AML		AML		22 10 04.6	
	comp=N,1492μm,0.5s								
KARP				AML		AML		22 10 04.8	
	comp=E,1234μm,0.4s								
ZKR	**Zakros**	**0.90**	**298**	P		P	**Pn**	**22 09 49.6**	**+1.8**
ZKR				S		S	**Sn**	**22 10 02.0**	**+2.0**
	comp=E,598nm,0.5s								
ZKR	**Zakros**	**0.90**	**298**	P		P	**Pn**	**22 09 49.6**	**+1.8**
ZKR				S		S	**Sb**	**22 09 59.4**	**0.0**
ZKR				AML		AML		22 10 07.0	
	comp=N,484μm,0.4s								
ZKR				AML		AML		22 10 12.2	
	comp=E,1652μm,0.6s								
FRMA	**Ierapetra Chan**	**1.24**	**285**	P		P	**Pb**	**22 09 53.5**	**-0.1**
FRMA				S		S	**Sn**	**22 10 08.6**	**+0.3**
	comp=E,135nm,0.5s								
FRMA	**Ierapetra Chan**	**1.24**	**285**	P		P	**Pb**	**22 09 53.7**	**+0.2**
FRMA				S		S	**Sn**	**22 10 07.0**	**-1.2**
FRMA				AML		AML		22 10 15.1	
	comp=N,665μm,0.5s								
FRMA				AML		AML		22 10 19.0	
	comp=E,524μm,0.3s								
ARG	**Arkhangelos**	**1.70**	**27**	P		P	**Pn**	**22 09 58.5**	**-0.3**
ARG				S		S	**Sn**	**22 10 19.3**	**-0.3**
	comp=E,152nm,0.9s								
ARG	**Arkhangelos**	**1.70**	**27**	P		P	**Pb**	**22 10 02.8**	**+1.4**
TMBK	**Timbaki Herakl**	**2.03**	**281**	P		P	**Pn**	**22 10 02.2**	**-1.1**
TMBK				S		S	**Sn**	**22 10 25.5**	**-2.2**

*NOU **03** 22:11:06.6,41˚.79S×174˚.37E,h23km,MLv4.5/11,Cook Strait, New Zealand*
*WEL **03** 22:11:07.0±0.3,42˚.5±3˚×17˚.4E±˚,h20km±2km,M3.8/21, ML4.1/22,MLv3.8/21,Error ellipse: s-maj=0.0km s-min=0.0km az=157.7,confirmed*

ISC 03 22:11:07.4±0.9,41.70S±0.03×174.24E±0.03,h31km±6km, n106,σ1s32/121,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**199**	P		P	**Pb**	**22 11 12.9**	**+0.2**
CMWZ				S		S	**Sb**	**22 11 17.8**	**+1.5**
BSWZ	**Blackbirch Sta**	**0.27**	**266**	P		P	**Pb**	**22 11 14.2**	**-0.4**
BSWZ				S		S	**Sb**	**22 11 19.1**	**-0.3**
TUWZ	**Tuamarina**	**0.35**	**320**	P		P	**Pb**	**22 11 14.2**	**-1.4**
TUWZ				S		S	**Sb**	**22 11 19.4**	**-1.7**
TCW	**Tory Channel**	**0.49**	**3**	P		P	**Pb**	**22 11 16.3**	**-1.3**
TCW				S		S	**Sb**	**22 11 22.6**	**-2.0**
SNZO	**South Karori**	**0.52**	**42**	P		P	**Pb**	**22 11 17.9**	**-0.3**
WEL	**Wellington**	**0.57**	**44**	P		P	**Pb**	**22 11 18.9**	**-0.1**
PLWZ	**Palliser**	**0.77**	**81**	P		P	**Pn**	**22 11 22.6**	**+0.4**
PLWZ				S		S	**Sn**	**22 11 34.3**	**+1.5**
NNZ	**Nelson**	**0.80**	**306**	P		P	**Pb**	**22 11 21.8**	**-1.1**
NNZ				S		S	**Sb**	**22 11 32.1**	**-1.3**
MSWZ	**Moikau Station**	**0.81**	**70**	P		P	**Pn**	**22 11 23.1**	**+0.4**
MSWZ				S		S	**Sn**	**22 11 35.0**	**+1.4**
CAW	**Cannon Point**	**0.86**	**47**	P		P	**Pn**	**22 11 23.7**	**+0.4**
CAW				S		S	**Sn**	**22 11 36.0**	**+1.2**
KHZ	**Kahutara**	**0.89**	**216**	P		P	**Pb**	**22 11 24.5**	**+0.3**
KHZ	**Kahutara**	**0.89**	**216**	P		P	**Pb**	**22 11 24.5**	**+0.3**
KHZ				S		S	**Sn**	**22 11 37.1**	**+1.6**
DUWZ	**D'Urville Isla**	**0.93**	**345**	P		P	**Pb**	**22 11 23.4**	**-1.5**
DUWZ				S		S	**Sb**	**22 11 35.0**	**-1.9**
PAWZ	**Paruwai Farm**	**0.95**	**71**	P		P	**Pb**	**22 11 24.6**	**-0.7**
PAWZ				S		S	**Sn**	**22 11 38.2**	**+1.1**
KIW	**Kapiti Island**	**0.98**	**31**	P		P	**Pb**	**22 11 24.7**	**-1.1**
KIW				S		S	**Sn**	**22 11 38.4**	**+0.7**
THZ	**Tophouse**	**1.00**	**266**	P		P	**Pb**	**22 11 25.3**	**0.0**
THZ				S		S	**Sb**	**22 11 39.3**	**+0.3**
MTW	**Mount Morrison**	**1.09**	**61**	P		P	**Pn**	**22 11 26.4**	**-0.1**
OGWZ	**Otaki Gorge**	**1.13**	**39**	P		P	**Pn**	**22 11 27.3**	**+0.3**
OGWZ				S		S	**Sn**	**22 11 43.0**	**+1.6**
TRWZ	**Traveller**	**1.13**	**75**	P		P	**Pn**	**22 11 26.9**	**-0.1**
MRNZ	**Matariki Terra**	**1.15**	**285**	P		P	**Pn**	**22 11 27.7**	**+0.4**
MRNZ				S		S	**Sn**	**22 11 43.0**	**+1.0**
TKNZ	**Takaka Hill**	**1.17**	**304**	P		P	**Pn**	**22 11 27.5**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.25**	**51**	P		P	**Pn**	**22 11 28.5**	**-0.2**
TMWZ	**Te Maipa**	**1.38**	**65**	P		P	**Pn**	**22 11 30.0**	**-0.5**
MRZ	**Mangatainoka R**	**1.45**	**45**	P		P	**Pn**	**22 11 31.4**	**0.0**
TIWZ	**Tintock**	**1.55**	**54**	P		P	**Pn**	**22 11 32.4**	**-0.4**
GVZ	**Greta Valley S**	**1.55**	**215**	P		P	**Pn**	**22 11 33.2**	**+0.4**
QRZ	**Quartz Range**	**1.56**	**304**	P		P	**Pn**	**22 11 33.9**	**+1.0**
QRZ	**Quartz Range**	**1.56**	**304**	P		P	**Pn**	**22 11 33.7**	**+0.8**
CPWZ	**Castlepoint**	**1.68**	**63**	P		P	**Pb**	**22 11 40.6**	**+3.1**
OHWZ	**Ohakea**	**1.70**	**29**	P		P	**Pb**	**22 11 37.7**	**-0.3**
PRWZ	**Pori Road**	**1.74**	**49**	P		P	**Pn**	**22 11 35.0**	**-0.4**
POWZ	**Post Office Ro**	**1.74**	**42**	P		P	**Pn**	**22 11 35.4**	**-0.1**
LTZ	**Lake Taylor**	**1.82**	**233**	P		P	**Pn**	**22 11 36.9**	**+0.4**
DSZ	**Denniston Nort**	**1.82**	**268**	P		P	**Pn**	**22 11 37.5**	**+0.9**
BFZ	**Birch Farm**	**1.82**	**57**	P		P	**Pn**	**22 11 35.9**	**-0.7**
BFZ	**Birch Farm**	**1.82**	**57**	P		P	**Pn**	**22 11 35.6**	**-1.0**
AMCZ	**Amberley**	**1.89**	**218**	P		P	**Pn**	**22 11 37.4**	**0.0**
DVHZ	**Dannevirke**	**2.02**	**47**	P		P	**Pn**	**22 11 37.7**	**-1.6**
DVHZ				P		P	Pb	22 11 38.5	-5.0
WAZ	**Wanganui**	**2.02**	**17**	P		P	**Pn**	**22 11 41.3**	**+2.0**
TSZ	**Takapari Road**	**2.10**	**39**	P		P	**Pn**	**22 11 39.9**	**-0.4**
OKCZ	**Okains Bay**	**2.20**	**203**	P		P	**Pn**	**22 11 41.4**	**-0.4**
LREZ	**Lake Rotokare**	**2.24**	**3**	P		P	**Pb**	**22 11 45.9**	**-1.2**
NMEZ	**Namu Road**	**2.30**	**353**	P		P	**Pb**	**22 11 46.8**	**-1.4**
OXZ	**Oxford**	**2.30**	**224**	P		P	**Pn**	**22 11 42.2**	**-0.9**
PRHZ	**Porangahau**	**2.31**	**53**	P		P	**Pn**	**22 11 42.3**	**-1.0**
INZ	**Inchbonnie**	**2.31**	**243**	P		P	**Pn**	**22 11 43.8**	**+0.4**
MQZ	**McQueen's Vall**	**2.32**	**210**	P		P	**Pn**	**22 11 42.1**	**-1.3**
PNHZ	**Pukenui**	**2.32**	**41**	P		P	**Pn**	**22 11 42.7**	**-0.8**
WPHZ	**Waipukurau**	**2.33**	**46**	P		P	**Pn**	**22 11 42.7**	**-0.9**
AKCZ	**Akaroa Harbour**	**2.38**	**204**	P		P	**Pn**	**22 11 43.6**	**-0.6**
KHEZ	**Kahui Hut**	**2.41**	**356**	P		P	**Pn**	**22 11 47.2**	**+2.5**
KHEZ	**Kahui Hut**	**2.41**	**356**	P		P	**Pn**	**22 11 47.4**	**+2.7**
NEZ	**North Egmont**	**2.43**	**357**	P		P	**Pb**	**22 11 48.5**	**-1.9**
NBEZ	**Newall Road No**	**2.44**	**353**	P		P	**Pn**	**22 11 47.5**	**+2.4**
MTVZ	**Mangateitei**	**2.49**	**23**	P		P	**Pb**	**22 11 51.3**	**-0.2**
PKE	**Pukeiti**	**2.51**	**356**	P		P	**Pn**	**22 11 49.3**	**+3.3**
PKVZ	**Pokaka**	**2.55**	**20**	P		P	**Pn**	**22 11 48.2**	**+1.5**
RACZ	**Rakaia**	**2.55**	**217**	P		P	**Pn**	**22 11 46.0**	**-0.5**
MOVZ	**Moawhango**	**2.56**	**27**	P		P	**Pn**	**22 11 47.0**	**+0.2**
WNVZ	**Wahianoa**	**2.58**	**24**	P		P	**Pn**	**22 11 48.6**	**+1.4**
PXZ	**Pawanui**	**2.59**	**51**	P		P	**Pn**	**22 11 45.5**	**-1.6**
TRVZ	**Turoa**	**2.60**	**23**	P		P	**Pn**	**22 11 50.3**	**+2.9**
VRZ	**Vera Road**	**2.60**	**9**	P		P	**Pn**	**22 11 49.2**	**+1.9**
BHHZ	**Black Hill Sta**	**2.61**	**33**	P		P	**Pb**	**22 11 52.0**	**-1.4**
KRHZ	**Kereru**	**2.62**	**39**	P		P	**Pn**	**22 11 46.6**	**-0.9**
DRZ	**Dome Shelter**	**2.62**	**23**	P		P	**Pb**	**22 11 53.9**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.62**	**24**	P		P	**Pb**	**22 11 52.9**	**-0.9**
FWVZ	**Far West T-bar**	**2.64**	**23**	P		P	**Pb**	**22 11 53.1**	**-0.9**
TUVZ	**Tukino**	**2.66**	**24**	P		P	**Pn**	**22 11 49.5**	**+1.3**
MHCZ	**Mount Hutt**	**2.69**	**226**	P		P	**Pn**	**22 11 47.8**	**-0.7**
NGZ	**Ngauruhoe**	**2.73**	**23**	P		P	**Pb**	**22 11 54.1**	**-1.4**
SNVZ	**South Ngauruho**	**2.73**	**24**	P		P	**Pb**	**22 11 54.0**	**-1.5**
OTVZ	**Oturere**	**2.76**	**24**	P		P	**Pb**	**22 11 54.4**	**-1.6**
KAHZ	**Kahuranaki**	**2.76**	**47**	P		P	**Pn**	**22 11 47.9**	**-1.6**
NNVZ	**North Ngauruho**	**2.77**	**23**	P		P	**Pb**	**22 11 54.5**	**-1.8**
WTVZ	**West Tongariro**	**2.78**	**22**	P		P	**Pb**	**22 11 56.1**	**-0.3**
TWVZ	**Taurewa**	**2.78**	**20**	P		P	**Pn**	**22 11 50.7**	**+0.9**
ETVZ	**East Tongariro**	**2.79**	**24**	P		P	**Pn**	**22 11 53.1**	**+3.0**
TMVZ	**Te Maari**	**2.81**	**24**	P		P	**Pn**	**22 11 51.4**	**+1.1**
KRVZ	**Karewarewa**	**2.81**	**23**	P		P	**Pb**	**22 11 56.5**	**-0.4**
KWHZ	**Kaweka Forest**	**2.82**	**37**	P		P	**Pb**	**22 11 56.3**	**-0.7**
NTVZ	**North Tongariro**	**2.82**	**23**	P		P	**Pb**	**22 11 56.3**	**-0.8**
WACZ	**Wakanui South**	**2.85**	**217**	P		P	**Pn**	**22 11 49.9**	**-0.8**
WVZ	**Waitahu Valley**	**2.94**	**241**	P		P	**Pn**	**22 11 51.9**	**+0.1**
RITZ	**Rihia Road**	**2.99**	**25**	P		P	**Pb**	**22 11 58.8**	**-1.1**
BKZ	**Black Stump Fm**	**3.06**	**35**	P		P	**Pn**	**22 11 53.1**	**-0.5**
BKZ	**Black Stump Fm**	**3.06**	**35**	P		P	**Pn**	**22 11 52.3**	**-1.3**
RPZ	**Rata Peaks**	**3.09**	**228**	P		P	**Pn**	**22 11 53.8**	**-0.2**
RPZ	**Rata Peaks**	**3.09**	**228**	P		P	**Pn**	**22 11 53.3**	**-0.7**
ARCZ	**Arundel**	**3.18**	**224**	P		P	**Pn**	**22 11 54.7**	**-0.5**
HIZ	**Hauiti**	**3.22**	**9**	P		P	**Pn**	**22 11 57.4**	**+1.7**
HIZ	**Hauiti**	**3.22**	**9**	P		P	**Pn**	**22 11 57.4**	**+1.7**
GCSZ	**Gaunt Creek Bo**	**3.31**	**239**	P		P	**Pn**	**22 11 58.0**	**+1.0**
TMZ	**Timaru**	**3.58**	**220**	P		P	**Pn**	**22 12 00.2**	**-0.5**
FOZ	**Fox Glacier**	**3.74**	**239**	P		P	**Pn**	**22 12 02.9**	**-0.1**
TOZ	**Tahuroa Road**	**4.08**	**14**	P		P	**Pn**	**22 12 11.4**	**+3.8**
ODZ	**Otahua Downs**	**4.25**	**217**	P		P	**Pn**	**22 12 08.6**	**-1.3**
ODZ	**Otahua Downs**	**4.25**	**217**	P		P	**Pn**	**22 12 08.6**	**-1.3**
AWAZ	**Awhitu Peninsu**	**4.64**	**4**	P		P	**Pn**	**22 12 17.9**	**+2.6**
MKAZ	**Moumakai**	**4.64**	**9**	P		P	**Pn**	**22 12 19.9**	**+1.6**
JCZ	**Jackson Bay**	**4.66**	**238**	P		P	**Pn**	**22 12 15.8**	**+0.2**
JCZ	**Jackson Bay**	**4.66**	**238**	P		P	**Pn**	**22 12 15.2**	**-0.4**
WIAZ	**Waiheke Island**	**4.95**	**8**	P		P	**Pn**	**22 12 22.6**	**+3.1**
TUZ	**Tuapeka**	**5.40**	**217**	P		P	**Pn**	**22 12 25.5**	**-0.3**
CTZ	**Chatham Island**	**7.04**	**110**	P		P	**Pn**	**22 12 46.9**	**-1.3**
CTZ	**Chatham Island**	**7.04**	**110**	P		P	**Pn**	**22 12 47.5**	**-0.6**

*NEIC **03** 22:12:02.9±1.6,19˚.2S±0˚.1×176˚.33E±0˚.07,h10km±1km, mb4.8/14,Error ellipse: s-maj=25.9km s-min=6.9km az=158.0*
*IDC **03** 22:12:02.8±0.9,18˚.85S×175˚.88E,h0km,mb4.1/11, mbtmp4.1/14,ML4.7/2,Error ellipse: s-maj=35.3km s-min=17.4km az=151.0*

ISC 03 22:12:03.3±0.5,19.1S±0.1×176.20E±0.09,h10km,n65, σ2s20/61,mb4.4/18,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.22**	**53**	Pn		Pn	**Pb**	**22 12 43.3**	**-0.2**
	11nm,0.3s,baz=232,slow=10.0,SNR=3.4								
MSVF				Sn		Sn	**Sn**	**22 13 05.7**	**-2.1**
	34nm,0.3s,baz=291,slow=21,SNR=5.6								
	29nm,0.5s								
MSVF	**Nonsavu**	**2.22**	**53**				**Pn**	**22 12 38.0**	**-2.2**
OUENC	**Ouen Island, N**	**9.36**	**248**	Pn		Pn	**Pn**	**22 14 18.4**	**+0.2**
DZM	**Mont Dzumac**	**9.61**	**250**	Pn		Pn	**Pn**	**22 14 20.5**	**-1.2**
	13nm,1.1s,baz=314,slow=21,SNR=6.5								
DZM	**Mont Dzumac**	**9.61**	**250**	Pn		Pn	**Pn**	**22 14 22.1**	**+0.4**
URZ	**Urewera**	**19.11**	**178**	P		Pn	**Pn**	**22 16 30.7**	**+3.6**
	1.3nm,0.3s,baz=295,slow=12,SNR=1.8								
	13nm,0.6s								
LTZ	**Lake Taylor**	**23.85**	**187**	P		P	**Pn**	**22 17 16.5**	**-0.2**
LTZ				IAmb		IAmb		22 17 25.3	
	comp=Z,24nm,0.8s								
EIDS	**Eidsvold**	**24.05**	**250**	P		P	**Pn**	**22 17 17.6**	**-1.2**
EIDS				IAmb		IAmb		22 17 26.1	
	comp=Z,40nm,1.4s								
CTA	**Charters Tower**	**28.21**	**263**	P		P	**Pn**	**22 17 56.8**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=90,slow=6.1,SNR=1.7								
	comp=Z,2.9nm,0.8s								
STKA	**Stephens Creek**	**33.58**	**241**	P		P	**Pn**	**22 18 43.4**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=115,slow=15,SNR=3.4								
	comp=Z,1.7nm,0.7s								
STKA	**Stephens Creek**	**33.58**	**241**	P		P	**Pn**	**22 18 43.3**	**-0.5**
BBOO	**Buckleboo**	**38.36**	**241**	P		P	**Pn**	**22 19 24.4**	**-0.3**
BBOO				IAmb		IAmb		22 19 53.9	
	comp=Z,24nm,1.4s								
WB0	**Warramunga Arr**	**39.36**	**262**	P		P	**Pn**	**22 19 31.5**	**-1.7**
WRA	**Warramunga Arr**	**39.39**	**262**	P		P	**Pn**	**22 19 31.3**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=95,slow=9.0,SNR=3.1								
	comp=Z,0.8nm,0.7s								
AS31	**Alice Springs**	**39.54**	**256**	P		P	**Pn**	**22 19 33.8**	**-1.0**
ASAR	**Alice Springs**	**39.54**	**256**	P		P	**Pn**	**22 19 33.6**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=83,slow=8.7,SNR=10								
ASAR				PcP		PcP	**PcP**	**22 21 41.3**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=87,slow=2.9,SNR=3.3								
	comp=Z,2.8nm,0.8s								
FORT	**Forrest**	**44.87**	**245**	P		P	**Pn**	**22 20 17.6**	**-0.5**
FORT				IAmb		IAmb		22 20 35.9	
	comp=Z,16nm,0.8s								
MBWA	**Marble Bar**	**52.82**	**258**	P		P	**Pn**	**22 21 18.6**	**-0.8**
MBWA				IAmb		IAmb		22 21 26.8	
	comp=Z,17nm,0.9s								
VNDA	**Vanda**	**58.89**	**184**	P		P	**Pn**	**22 21 59.4**	**-2.5**
VNDA				IAmb		IAmb		22 22 28.4	
	comp=Z,8.9nm,1.4s								
MJAR	**Matsushiro Arr**	**65.96**	**327**	P		P	**Pn**	**22 22 49.4**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=158,slow=6.3,SNR=3.6								
	comp=Z,1.2nm,0.7s								
QSPA	**South Pole Qui**	**70.96**	**180**	P		P	**Pn**	**22 23 19.8**	**-1.1**
O18K	**Koktuh Hills**	**82.05**	**14**	P		P	**Pn**	**22 24 23.7**	**+0.3**
O18K				IAmb		IAmb		22 24 43.4	
	comp=Z,12nm,1.2s								
NVAR	**Mina Array Bea**	**83.87**	**46**	P		P	**Pn**	**22 24 35.6**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=226,slow=7.4,SNR=3.3								
	comp=Z,0.8nm,0.7s								
NVAR	**Mina Array Bea**	**83.87**	**46**	P		P	**Pn**	**22 24 33.6**	**0.0**
L19K	**White Mountain**	**84.20**	**13**	P		P	**Pn**	**22 24 36.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**84.51**	**292**	P		P	**Pn**	**22 24 36.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=140,slow=3.4,SNR=2.0								
	comp=Z,0.7nm,0.3s								
SUA	**Susitna One**	**84.53**	**15**	P		P	**Pn**	**22 24 37.0**	**+0.7**
IL31		**88.27**	**15**	P		P	**Pn**	**22 24 54.0**	**-0.4**
IL31				IAmb		IAmb		22 24 58.5	
	comp=Z,6.7nm,1.4s								
ILAR	**Eielson Array**	**88.27**	**15**	P		P	**Pn**	**22 24 53.6**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=230,slow=4.9,SNR=8.1								
	comp=Z,0.9nm,0.8s								
ILAR	**Eielson Array**	**88.27**	**15**	P		P	**Pn**	**22 24 52.9**	**-1.5**
TXAR	**Lajitas Array**	**90.97**	**59**	P		P	**Pn**	**22 25 10.3**	**+2.2**
	comp=Z,1.9nm,0.9s,baz=228,slow=4.9,SNR=6.6								
	comp=Z,1.9nm,0.9s								
SONM	**Songino Array**	**91.17**	**321**	P		P	**Pn**	**22 25 08.2**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=132,slow=4.1,SNR=3.0								
	comp=Z,0.9nm,1.0s								
YKA	**Yellowknife Ar**	**97.59**	**26**	P		Pdif		22 25 37.8	+0.2
	comp=Z,0.3nm,0.7s,baz=239,slow=4.8,SNR=1.9								
	comp=Z,0.3nm,0.7s								
OSTC	**Ostas**	**144.81**	**338**	*e*PKP		**PKPdf**		**22 31 40.1**	**-0.3**
UPC	**Upice**	**144.92**	**338**	*e*PKP		**PKPdf**		**22 31 40.6**	**0.0**
DPC	**Dobruska-Polom**	**144.94**	**337**	*e*PKP		**PKPbc**		**22 31 39.6**	**-0.3**
MORC	**Moravsky Berou**	**144.95**	**336**	*e*PKP		**PKPdf**		**22 31 40.4**	**-0.3**
MAUC	**Maruska**	**145.16**	**335**	*e*PKP		**PKPdf**		**22 31 41.5**	**+0.4**
CLL	**Collm**	**145.22**	**341**	*i* PKPbc		**PKPdf**		**22 31 41.2**	**+0.1**
	comp=Z,18nm,0.9s								
CLL				*i* x		x		22 31 49.9	
	comp=Z,18nm,0.9s								
CLL				*e*x		x		22 31 58.0	
BRG	**Berggiesshubel**	**145.31**	**340**	Amp				22 31 42.6	
	comp=Z,18nm,1.1s								
BRG	**Berggiesshubel**	**145.31**	**340**	Amp				22 31 53.1	
	comp=Z,16nm,1.2s								
BRG	**Berggiesshubel**	**145.31**	**340**	*e*P		**PKPab**		**22 31 41.8**	**+0.7**
BRG	**Berggiesshubel**	**145.31**	**340**	P		**PKiKP**		**22 31 50.7**	**+5.5**
VRAC	**Vranov**	**145.69**	**336**	*e*PKP		**PKPab**		**22 31 42.8**	**+0.2**
KRUC	**Moravsky**	**145.97**	**336**	*e*PKP		**PKPab**		**22 31 43.7**	**+0.1**
TREC	**Trest**	**146.12**	**337**	*e*PKP		PKPdf		22 31 34.0	-8.7
KHC	**Kasperske Hory**	**146.93**	**339**	*e*PKP		**PKPbc**		**22 31 46.1**	**+0.1**
CKRC	**Cesky Krumlov**	**146.94**	**338**	*e*PKP		**PKPab**		**22 31 47.3**	**-0.1**
CONA	**Conrad Observa**	**147.09**	**335**	*e*PKP		**PKPbc**		**22 31 46.9**	**+0.3**
	comp=Z,8.4nm,1.4s								
RONA	**Rosalia, Austr**	**147.10**	**335**	*e*PKP		**PKPbc**		**22 31 46.6**	**0.0**
	comp=Z,8.1nm,1.3s								
MOA	**Molln**	**147.77**	**337**	*e*PKP		**PKPbc**		**22 31 48.5**	**+0.1**
	comp=Z,13nm,1.6s								
ARSA	**Arzberg**	**147.78**	**335**	*e*PKP		**PKPab**		**22 31 55.6**	**+4.8**
	comp=Z,8.3nm,0.8s								
BIOA	**Bad Ischl, Aus**	**148.13**	**337**	*e*PKP		**PKPbc**		**22 31 49.1**	**-0.3**
	comp=Z,0.6nm,0.5s								
SOKA	**Soboth**	**148.44**	**335**	*e*PKiKP		**PKPab**		**22 31 59.8**	**+6.2**
	comp=Z,11nm,1.5s								
KBA	**Koelnbreinsper**	**148.76**	**337**	*e*PKiKP		**PKPab**		**22 31 59.9**	**+5.0**
	comp=Z,7.8nm,1.0s								
OBKA	**Obir**	**148.77**	**335**	*e*PKiKP		**PKPab**		**22 31 59.5**	**+4.7**
	comp=Z,9.5nm,1.3s								
MYKA	**Terra Mystica**	**149.02**	**336**	*e*PKP		**PKPab**		**22 31 59.1**	**+3.3

0.2nm,0.4s
ILAR Eielson Array 88.09 15 P P 22 42 19.1 +0.3
0.4nm,0.7s,baz=234,slow=5.2,SNR=5.3
0.4nm,0.7s

IDC 03 22:30:18.4±3.3, 18°55S×175°47E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=195.0km s-min=29.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.79**	**261**	P	P	22 37 45.1	-0.1
	0.4nm,0.8s,baz=95,slow=8.3,SNR=1.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**39.01**	**255**	P	P	22 37 47.0	-0.1
	1.5nm,0.7s,baz=85,slow=8.8,SNR=7.3						
	1.5nm,0.7s						
NVAR	**Mina Array Bea**	**83.99**	**46**	P	P	22 42 51.2	+0.1
	1.0nm,0.8s,baz=218,slow=9.2,SNR=5.2						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**87.92**	**15**	P	P	22 43 09.5	-0.2
	0.6nm,0.9s,baz=235,slow=6.4,SNR=3.2						
	0.6nm,0.9s						

IDC 03 22:32:47.6±1.5, 18°.78S×175°.68E, h0km, mb3.9/7, mbtmp3.8/7, Error ellipse: s-maj=103.5km s-min=23.4km az=151.0
NEIC 03 22:32:48.4±1.0, 19°.3S±0°.2×176°.1E±0°.1, h10km±1km, mb4.4/8, Error ellipse: s-maj=29.7km s-min=12.6km az=146.0
ISC 03 22:32:48.1±0.6, 19°.3S±0°.1×176°.1E±0°.1, h10km, n21, σ0s89/20, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.44**	**52**	Pn	**Pn**	**22 33 27.2**	**-0.9**
DZM	**Mont Dzumac**	**9.41**	**251**	Pn	**Pn**	**22 35 04.5**	**+0.5**
BKZ	**Black Stump Fm**	**19.84**	**179**	P	**Pn**	**22 37 20.4**	**-0.3**
BKZ					IAmb	IAmb	22 37 21.9
	comp=Z,26nm,1.3s						
PLWZ	**Palliser**	**22.24**	**182**	P	**P**	**22 37 46.0**	**+0.9**
STKA	**Stephens Creek**	**33.37**	**241**	P	**P**	**22 39 27.2**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=358,slow=6.8,SNR=3.2						
	comp=Z,0.6nm,0.4s						
STKA	**Stephens Creek**	**33.37**	**241**	P	**P**	**22 39 26.4**	**-0.4**
WB0	**Warramunga Arr**	**39.19**	**262**	P	**P**	**22 40 16.6**	**-0.1**
WB0					IAmb	IAmb	22 40 41.4
	comp=Z,7.6nm,1.2s						
WRA	**Warramunga Arr**	**39.22**	**262**	P	**P**	**22 40 15.6**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=96,slow=8.9,SNR=2.2						
	comp=Z,0.4nm,0.8s						
AS31	**Alice Springs**	**39.36**	**256**	P	**P**	**22 40 18.0**	**-0.1**
ASAR	**Alice Springs**	**39.36**	**256**	P	**P**	**22 40 17.5**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=84,slow=8.7,SNR=12						
	comp=Z,2.7nm,0.8s						
ASAR	**Alice Springs**	**39.36**	**256**	P	**P**	**22 40 18.1**	**0.0**
QSPA	**South Pole Qui**	**70.79**	**180**	P	**P**	**22 44 04.7**	**0.0**
QSPA					IAmb	IAmb	22 44 10.3
	comp=Z,6.4nm,1.1s						
BELA	**Belgrano 2**	**81.44**	**174**	P	**P**	**22 45 04.3**	**-0.7**
BELA					IAmb	IAmb	22 45 06.5
	comp=Z,5.0nm,1.3s						
L19K	**White Mountain**	**84.40**	**13**	P	**P**	**22 45 21.1**	**+0.7**
SUA	**Susitna One**	**84.73**	**15**	P	**P**	**22 45 22.7**	**+0.5**
ELIB	**Princess Elisa**	**87.14**	**188**	P	**P**	**22 45 33.7**	**-0.5**
ILAR	**Eielson Array**	**88.47**	**15**	P	**P**	**22 45 38.8**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=231,slow=6.3,SNR=7.3						
	comp=Z,0.8nm,0.8s						
TXAR	**Lajitas Array**	**91.18**	**59**	P	**P**	**22 45 55.9**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=197,slow=5.6,SNR=5.6						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**91.99**	**45**	P	**P**	**22 45 58.2**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=310,slow=2.1,SNR=2.8						
	comp=Z,0.2nm,0.7s						
YKA	**Yellowknife Ar**	**97.80**	**26**	P	Pdif	22 46 24.4	+1.0
	comp=Z,0.2nm,0.7s,baz=247,slow=4.6,SNR=2.1						
	comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**171.85**	**223**	PKP	**PKPdf**	**22 52 57.1**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=207,slow=1.6,SNR=2.8						

IDC 03 22:33:33.6±0.7, 19°.42S×175°.97E, h0km, mb4.3/17, mbtmp4.3/20, ML4.0/3, Error ellipse: s-maj=25.6km s-min=15.2km az=145.0
NEIC 03 22:33:35.5±2.2, 19°.4S±0°.1×176°.0E±0°.1, h10km±1km, mb4.7/19, Error ellipse: s-maj=24.8km s-min=11.6km az=146.0
ISC 03 22:33:35.0±0.4, 19°.44S±0°.09×176°.00E±0°.09, h10km, n59, σ0s95/56, mb4.5/29, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.58**	**49**	Pn	**Pn**	**22 34 14.7**	**-2.2**
	5.1nm,0.3s,baz=255,slow=22,SNR=2.4						
MSVF				Sn	**Sn**	**22 34 48.6**	**+0.2**
	230nm,0.3s,baz=162,slow=22,SNR=6.0						
	123nm,1.0s						
MSVF	**Nonsavu**	**2.58**	**49**	Pn	**Pn**	22 34 15.8	-1.0
OUENC	**Ouen Island, N**	**9.06**	**249**	Pn	**Pn**	**22 35 45.1**	**-0.9**
DZM	**Mont Dzumac**	**9.32**	**252**	Pn	**Pn**	**22 35 49.6**	**0.0**
	0.3nm,0.3s,baz=79,slow=14,SNR=6.9						
	37nm,1.2s						
DZM	**Mont Dzumac**	**9.32**	**252**	Pn	**Pn**	**22 35 50.6**	**+1.0**
URZ	**Urewera**	**18.78**	**177**	P	**P**	**22 37 54.3**	**-0.1**
	0.2nm,0.3s,baz=63,slow=21,SNR=1.3						
	19nm,0.6s						
LTZ	**Lake Taylor**	**23.48**	**187**	P	**P**	**22 38 46.0**	**+1.1**
LTZ					IAmb	IAmb	22 38 51.7
	comp=Z,19nm,1.0s						
PMG	**Port Moresby**	**29.62**	**286**	P	**P**	**22 39 41.0**	**+0.3**
	comp=Z,5.0nm,0.3s,baz=52,slow=8.0,SNR=3.1						
	comp=Z,5.0nm,0.3s						
STKA	**Stephens Creek**	**33.26**	**241**	P	**P**	**22 40 11.8**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=74,slow=1.5,SNR=5.8						
	comp=Z,3.5nm,0.8s						
STKA	**Stephens Creek**	**33.26**	**241**	P	**P**	**22 40 14.4**	**+1.8**
H11S2	**WAKE ISLAND Hy**	**38.78**	**346**	T	T	23 21 59.5	
	baz=166,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**38.79**	**346**	T	T	23 21 57.6	
	baz=166,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**38.80**	**346**	T	T	23 22 03.3	
	baz=166,slow=76,SNR=30						
WB0	**Warramunga Arr**	**39.13**	**262**	P	**P**	**22 41 02.1**	**-0.9**
WB2	**Warramunga Arr**	**39.15**	**262**	P	**P**	**22 41 02.1**	**-1.1**
WRA	**Warramunga Arr**	**39.16**	**262**	P	**P**	**22 41 02.5**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=90,slow=9.7,SNR=5.5						
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**39.28**	**256**	P	**P**	**22 41 04.2**	**0.0**
	comp=Z,8.8nm,0.8s,baz=84,slow=8.8,SNR=12						
	comp=Z,8.8nm,0.8s						
ASAR	**Alice Springs**	**39.28**	**256**	P	**P**	**22 41 03.4**	**-0.9**
MBWA	**Marble Bar**	**52.57**	**258**	P	**P**	**22 42 48.5**	**-0.7**
MBWA					IAmb	IAmb	22 42 53.5
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**58.54**	**184**	P	**P**	**22 43 31.6**	**+0.5**
VNDA					IAmb	IAmb	22 43 34.4
	comp=Z,5.9nm,1.2s						
CASY	**Casey**	**62.55**	**205**	P	**P**	**22 43 58.0**	**-0.7**
MJAR	**Matsushiro Arr**	**66.14**	**327**	P	**P**	**22 44 23.3**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=155,slow=7.0,SNR=5.8						
	comp=Z,3.7nm,0.9s						
QSPA	**South Pole Qui**	**70.62**	**180**	P	**P**	**22 44 50.6**	**+0.1**
QSPA					IAmb	IAmb	22 44 51.7
	comp=Z,8.4nm,1.1s						
KSRS	**Korea Array**	**72.46**	**322**	P	**P**	**22 45 01.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=141,slow=6.2,SNR=1.5						
	comp=Z,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**73.97**	**349**	P	**P**	**22 45 09.4**	**-0.9**
	comp=Z,3.8nm,0.9s,baz=190,slow=7.5,SNR=4.6						
	comp=Z,3.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**75.03**	**329**	P	**P**	**22 45 17.0**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=158,slow=4.2,SNR=2.1						
	comp=Z,0.8nm,0.4s						
KLR	**Kul'dur**	**78.86**	**332**	P	**P**	**22 45 38.3**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=209,slow=5.9,SNR=4.1						
	comp=Z,1.4nm,0.8s						
MAW	**Mawson**	**80.59**	**201**	P	**P**	**22 45 47.6**	**+0.2**
	comp=Z,6.3nm,0.9s,baz=73,slow=8.0,SNR=4.5						
	comp=Z,6.3nm,0.9s						
BJI	**Beijing**	**81.25**	**318**	P	P	22 45 45.4	-5.9
BJI				pP	pP	22 45 48.8	-4.8
BJI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BEKR	**Beckworth**	**83.61**	**44**	P	**P**	**22 46 04.0**	**+0.1**
BEKR					IAmb	IAmb	22 46 06.4
	comp=Z,4.7nm,0.9s						
DSP	**Deep Springs**	**83.94**	**47**	P	**P**	**22 46 06.7**	**+1.3**
DSP					IAmb	IAmb	22 46 09.0
	comp=Z,5.1nm,1.1s						
NVAR	**Mina Array Bea**	**84.24**	**46**	P	**P**	**22 46 09.1**	**+1.8**
	comp=Z,2.6nm,0.8s,baz=224,slow=8.9,SNR=9.5						
	comp=Z,2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**84.47**	**292**	P	**P**	**22 46 09.6**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=132,slow=4.2,SNR=5.1						
	comp=Z,0.7nm,0.3s						
L19K	**White Mountain**	**84.58**	**13**	P	**P**	**22 46 08.9**	**+0.8**
SUA	**Susitna One**	**84.91**	**15**	P	**P**	**22 46 10.2**	**+0.3**
I07A	**Izee**	**86.36**	**41**	P	**P**	**22 46 19.2**	**+1.6**
I07A					IAmb	IAmb	22 46 19.5
	comp=Z,6.3nm,1.2s						
ELIB	**Princess Elisa**	**86.96**	**188**	P	**P**	**22 46 19.2**	**-1.0**
CCB	**Clear Creek Bu**	**88.32**	**15**	P	**P**	**22 46 25.4**	**-1.0**
CCB					IAmb	IAmb	22 46 26.3
	comp=Z,2.3nm,0.8s						
MDM	**Murphy Dome**	**88.48**	**14**	P	**P**	**22 46 26.5**	**-0.7**
MDM					IAmb	IAmb	22 46 27.1
	comp=Z,3.6nm,0.9s						
IL31		**88.64**	**15**	P	**P**	**22 46 27.6**	**-0.3**
IL31					IAmb	IAmb	22 46 30.2
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**88.64**	**15**	P	**P**	**22 46 27.3**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=230,slow=5.1,SNR=15						
	comp=Z,1.7nm,0.8s						
SPUT	**South Promonto**	**89.57**	**46**	P	**P**	**22 46 34.4**	**+1.3**
SPUT					IAmb	IAmb	22 46 35.6
	comp=Z,3.2nm,1.0s						
DAWY	**Dawson**	**90.10**	**18**	P	**P**	**22 46 35.0**	**+0.2**
TXAR	**Lajitas Array**	**91.31**	**59**	P	**P**	**22 46 42.9**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=223,slow=5.9,SNR=8.7						
	comp=Z,1.2nm,0.8s						
TXAR	**Lajitas Array**	**91.31**	**59**	P	**P**	**22 46 43.0**	**+1.7**
SONM	**Songino Array**	**91.31**	**321**	P	**P**	**22 46 42.3**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=132,slow=2.2,SNR=3.6						
	comp=Z,0.2nm,0.5s						
BMAR	**Burnt Mountain**	**91.36**	**14**	P	**P**	**22 46 41.9**	**+1.2**
PDAR	**Pinedale Array**	**92.14**	**45**	P	**P**	**22 46 45.5**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=282,slow=4.5,SNR=2.7						
	comp=Z,0.3nm,0.7s						
YKA	**Yellowknife Ar**	**97.98**	**26**	P	**P**	**22 47 10.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=250,slow=4.9,SNR=4.3						
	comp=Z,0.3nm,0.6s						
A36M	**Sachs Harbour**	**99.33**	**16**		**Pdif**	**22 47 17.5**	**+0.8**
ABKAR	**Akbulak array**	**121.44**	**316**	PKPdf	**PKPdf**	**22 52 28.1**	**-0.5**
GEYT	**Alibeck**	**123.47**	**303**	PKP	**PKPdf**	**22 52 32.2**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=228,slow=1.7,SNR=1.2						
AKASG	**Malin Array Be**	**139.23**	**328**	PKP	**PKPdf**	**22 53 01.8**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=56,slow=2.3,SNR=4.2						
BRTR	**Keskin Array B**	**141.90**	**310**	PKP	**PKPdf**	**22 53 06.0**	**-1.5**
	comp=Z,2.4nm,1.1s,baz=8.8,slow=8.9,SNR=4.6						
MORC	**Moravsky Berou**	**145.18**	**335**	PKPbc	**PKPbc**	**22 53 12.2**	**-0.2**
RDO	**Rodhopi**	**146.82**	**317**	PKPdf	**PKPdf**	**22 53 14.7**	**-1.1**
GERES	**GERESS Array B**	**147.38**	**338**	PKPbc	**PKPbc**	**22 53 18.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=46,slow=5.8,SNR=2.2						
VTS	**Vitosha**	**147.41**	**321**	PKPbc	**PKPbc**	**22 53 19.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**171.70**	**222**	PKP	**PKPdf**	**22 53 44.2**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=10,slow=1.0,SNR=3.6						

IDC 03 22:33:45.7±0.6, 19°.15S×176°.10E, h0km, mb4.6/14, mbtmp4.5/15, ML5.6/1, Error ellipse: s-maj=29.0km s-min=15.9km az=146.0
NEIC 03 22:33:46.1±2.1, 18°.99S±0°.10×176°.42E±0°.07, h10km±1km, mb4.9/44, Error ellipse: s-maj=18.5km s-min=7.9km az=151.0
ISC 03 22:33:46.2±0.4, 19°.03S±0°.08×176°.29E±0°.07, h10km, n153, σ1s29/153, mb4.9/42, 14C-13D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.11**	**53**	Pn	**Pb**	**22 34 23.1**	**-1.5**
	64nm,0.3s,baz=186,slow=16,SNR=11						
	251nm,0.6s						
MSVF	**Nonsavu**	**2.11**	**53**	Pn	**Pn**	**22 34 19.2**	**-2.5**
OUENC	**Ouen Island, N**	**9.46**	**248**	Pn	**Pn**	**22 36 03.9**	**+1.3**
DZM	**Mont Dzumac**	**9.71**	**250**	Pn	**Pn**	**22 36 07.2**	**+1.2**
KOUNC	**Koumac, New Ca**	**11.40**	**260**	Pn	**Pn**	**22 36 30.4**	**+1.2**
OUZ	**Omahuta**	**16.30**	**188**	Pn	**Pn**	**22 37 35.5**	**+0.3**
HNR	**Honiara**	**18.48**	**299**	P	**P**	**22 38 01.4**	**-1.0**
HNR					IAmb	IAmb	22 38 21.2
	comp=Z,60nm,0.8s						
EIDS	**Eidsvold**	**24.15**	**250**	P	**P**	**22 39 02.1**	**-0.5**
EIDS					IAmb	IAmb	22 39 17.5
	comp=Z,46nm,1.4s						
ARMA	**Armidale**	**25.05**	**238**	P	**P**	**22 39 10.6**	**-0.3**
ARMA					IAmb	IAmb	22 39 12.6
	comp=Z,24nm,1.1s						
LBZ	**Lake Benmore**	**25.79**	**190**	P	**P**	**22 39 17.1**	**-0.2**
LBZ					IAmb	IAmb	22 39 24.8
	comp=Z,40nm,1.1s						
COEN	**Coen**	**32.12**	**274**	P	**P**	**22 40 14.0**	**0.0**
TOO	**Toolangi**	**32.60**	**229**	P	**P**	**22 40 17.6**	**-0.4**
TOO					IAmb	IAmb	22 40 19.8
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**33.69**	**241**	P	**P**	**22 40 27.4**	**-0.2**
	comp=Z,11nm,0.7s,baz=92,slow=12,SNR=7.1						
STKA					PcP	**PcP**	**22 43 07.0**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=117,slow=2.3,SNR=4.2						
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**33.69**	**241**	P	**P**	**22 40 27.9**	**+0.3**
BBOO	**Buckleboo**	**38.46**	**241**	P	**P**	**22 41 08.4**	**-0.1**
BBOO					IAmb	IAmb	22 41 13.1
	comp=Z,20nm,0.9s						
WR0	**Warramunga Arr**	**39.30**	**262**	P	**P**	**22 41 14.4**	**-1.1**
WRA	**Warramunga Arr**	**39.48**	**262**	P	**P**	**22 41 16.0**	**-1.2**
	comp=Z,3.7nm,0.7s,baz=96,slow=8.5,SNR=20						
WRA					PcP	**PcP**	**22 43 25.1**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=88,slow=3.1,SNR=4.0						
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**39.48**	**262**	P	**P**	**22 41 15.6**	**-1.6**
AS31	**Alice Springs**	**39.64**	**256**	P	**P**	**22 41 17.5**	**-1.0**
ASAR	**Alice Springs**	**39.64**	**256**	P	**P**	**22 41 17.8**	**-0.7**
	comp=Z,14nm,0.9s,baz=86,slow=8.3,SNR=9.3						
ASAR					PcP	**PcP**	**22 43 25.4**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=95,slow=3.1,SNR=6.3						
	comp=Z,14nm,0.9s						
ASAR	**Alice Springs**	**39.64**	**256**	P	**P**	**22 41 17.5**	**-1.0**
MTN	**Manton Dam**	**43.76**	**271**	P	**P**	**22 41 51.5**	**-0.7**
FORT	**Forrest**	**44.98**	**245**	P	**P**	**22 42 01.1**	**-0.7**
KNRA	**Kununurra**	**45.38**	**267**	P	**P**	**22 42 04.0**	**-1.2**
SIJI	**Sorong**	**47.67**	**287**	P	**P**	**22 42 22.9**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=92,slow=10,SNR=2.3						
	comp=Z,8.4nm,0.8s						
MBWA	**Marble Bar**	**52.92**	**257**	P	**P**	**22 43 02.6**	**-0.4**
MBWA					IAmb	IAmb	22 43 03.8
	comp=Z,21nm,0.8s						
NWAO	**Narrogin (SRO)**	**54.23**	**243**	P	**P**	**22 43 11.8**	**-0.7**
NWAO					IAmb	IAmb	22 43 13.3
	comp=Z,17nm,0.8s						
MORW	**Morawa**	**55.41**	**247**	P	**P**	**22 43 19.0**	**-2.0**
MORW					IAmb	IAmb	22 43 30.5
	comp=Z,15nm,1.1s						
GIRL	**Giralia**	**57.75**	**255**	P	**P**	**22 43 37.9**	**+0.1**
TOLI2	**Tolitoli**	**58.04**	**284**	P	**P**	**22 43 38.9**	**-1.0**
TOLI2					IAmb	IAmb	22 43 40.4
	comp=Z,8.0nm,0.8s						
VNDA	**Vanda**	**58.96**	**184**	P	**P**	**22 43 45.4**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=16,slow=5.0,SNR=5.0						
	comp=Z,1.9nm,0.7s						
VNDA	**Vanda**	**58.96**	**184**	P	**P**	**22 43 45.5**	**+0.2**
SBA	**Scott Base**	**59.04**	**182**	P	**P**	**22 43 47.1**	**+1.2**
CASY	**Casey**	**63.02**	**204**	P	**P**	**22 44 12.7**	**-0.4**
CASY					IAmb	IAmb	22 44 13.2
	comp=Z,11nm,0.8s						
UGM	**Wanagama**	**64.60**	**270**	P	**P**	**22 44 23.3**	**-1.1**
KSM	**Kuching**	**67.87**	**280**	P	**P**	**22 44 44.5**	**-0.8**
KSM					IAmb	IAmb	22 44 50.2
	comp=Z,10.0nm,0.8s						
TPUB	**Ta-pu**	**68.71**	**305**	P	**P**	**22 44 49.1**	**-1.3**
QSPA	**South Pole Qui**	**71.02**	**180**	P	**P**	**22 45 03.9**	**-0.3**
KSAR	**Wonju Array Be**	**72.33**	**321**	P	**P**	**22 45 12.6**	**+0.4**
CN2	**Changchun**	**77.94**	**325**	*e*P	**P**	**22 45 45.2**	**+0.8**
CN2					pmax	pmax	
	comp=Z,10.0nm,1.1s						
KLR	**Kul'dur**	**78.63**	**332**	P	**P**	**22 45 50.3**	**+2.2**
	comp=Z,3.0nm,0.8s,baz=290,slow=5.2,SNR=7.9						
	comp=Z,3.0nm,0.8s						
HNS	**HongShan**	**80.65**	**315**	⇓P	**P**	**22 46 01.3**	**+2.0**
HNS					pmax	pmax	
	comp=Z,10.0nm,0.8s						
LYN	**LuoYang**	**80.71**	**311**	*e*P	**P**	**22 46 01.2**	**+1.4**
LYN					pmax	pmax	
	comp=Z,10.0nm,0.5s						
KDAK	**Kodiak Island**	**80.79**	**16**	P	**P**	**22 45 59.2**	**-0.4**
KDAK					IAmb	IAmb	22 46 37.7
	comp=Z,25nm,1.4s						
ENH	**Enshi**	**80.81**	**306**	P	**P**	**22 46 00.7**	**+0.3**
XAN	**Xi'an**	**83.01**	**309**	P	**P**	**22 46 13.5**	**+1.5**
XAN				pP	pwP	22 46 18.4	-0.1
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
YERR	**Yerington**	**83.42**	**45**	P	**P**	**22 46 12.7**	**-1.4**
YERR					IAmb	IAmb	22 46 23.4
	comp=Z,10nm,1.0s						
PHRA	**Phrae**	**83.45**	**292**	P	**P**	**22 46 15.0**	**+0.5**
LHV	**Little Huntoon**	**83.54**	**46**	P	**P**	**22 46 13.8**	**-0.7**
LHV					IAmb	IAmb	22 46 18.9
	comp=Z,11nm,1.0s						
NVAR	**Mina Array Bea**	**83.77**	**46**	P	**P**	**22 46 19.4**	**+3.4**
	comp=Z,5.1nm,0.9s,baz=227,slow=8.5,SNR=11						
	comp=Z,5.1nm,0.9s						
O22K	**Cooper Landing**	**83.87**	**16**	P	**P**	**22 46 17.0**	**+1.3**
HHC	**Hu-ho-hao-te**	**84.54**	**316**	*e*P	**P**	**22 46 21.0**	**+1.3**
HHC					pmax	pmax	
	comp=Z,16nm,0.6s						
CMAR	**Chiang Mai Arr**	**84.57**	**292**	P	**P**	**22 46 21.1**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=124,slow=3.8,SNR=13						
	comp=Z,3.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**84.57**	**292**	P	**P**	**22 46 20.2**	**0.0**
PZH	**PanZhiHua**	**85.30**	**300**	P	**P**	**22 46 25.1**	**+1.2**
PZH					pmax	pmax	
	comp=Z,8.0nm,0.7s						
PZH					pmax	pmax	
	comp=Z,100nm,4.2s						
N25K	**Chitina, Valde**	**86.21**	**18**	P	**P**	**22 46 29.1**	**+1.5**
N25K					IAmb	IAmb	22 46 30.4
	comp=Z,8.6nm,0.7s						
GLB	**Gilahina Butte**	**86.31**	**18**	P	**P**	**22 46 28.4**	**+0.4**
GLB					IAmb	IAmb	22 46 30.7
	comp=Z,6.4nm,0.7s						
SPR3	**Spring Creek 3**	**86.76**	**47**	P	**P**	**22 46 31.4**	**+0.3**
SPR3					IAmb	IAmb	22 46 34.3
	comp=Z,6.2nm,1.1s						
BILL	**Bilibino**	**87.13**	**356**	P	**P**	**22 46 31.2**	**-0.6**
ELIB	**Princess Elisa**	**87.40**	**188**	*d*P	**P**	**22 46 32.7**	**-0.8**
	comp=Z,7.8nm,1.0s						
BMO	**Blue Mountains**	**87.62**	**41**	P	**P**	**22 46 35.5**	**+0.7**
LZH	**Lanzhou**	**87.65**	**309**	*e*P	**P**	**22 46 38.1**	**+2.8**
LZH				pP	pwP	22 46 41.2	-0.6
LZH				sP	sP	22 46 45.3	+6.9
LZH				pmax	pmax		
	comp=Z,29nm,0.9s						
ILAR	**Eielson Array**	**88.19**	**15**	P	**P**	**22 46 37.5**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=228,slow=4.7,SNR=18						
	comp=Z,3.4nm,0.7s						
B08A	**Colville Reser**	**88.21**	**37**	P	**P**	**22 46 38.5**	**+1.0**
B08A					IAmb	IAmb	22 46 45.0
	comp=Z,5.2nm,0.8s						
SNAA	**Sanae**	**89.53**	**180**	P	**P**	**22 46 44.1**	**+0.7**
SNAA					IAmb	IAmb	22 46 45.5
	comp=Z,9.5nm,1.2s						
HWUT	**Hardware Ranch**	**89.82**	**46**	P	**P**	**22 46 46.9**	**+1.4**
HWUT					IAmb	IAmb	22 46 48.8
	comp=Z,5.6nm,0.8s						
MCMT	**McKenzie Canyo**	**90.40**	**42**	P	**P**	**22 46 48.0**	**-0.2**
ANMO	**Albuquerque**	**90.77**	**53**	P	**P**	**22 46 49.5**	**-0.5**
ANMO					IAmb	IAmb	22 46 57.9
	comp=Z,4.8nm,0.9s						
ULN	**Ulaanbaatar**	**90.79**	**321**	P	**P**	**22 46 50.3**	**+0.5**
ULN					IAmb	IAmb	22 46 51.6
	comp=Z,3.7nm,0.8s						
TXAR	**Lajitas Array**	**90.87**	**59**	P	**P**	**22 46 54.3**	**+3.8**
	comp=Z,4.5nm,0.7s,baz=221,slow=5.4,SNR=32						
	comp=Z,4.5nm,0.7s						
SONM	**Songino Array**	**91.17**	**321**	P	**P**	**22 46 52.9**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=133,slow=3.4,SNR=12						
	comp=Z,1.7nm,0.7s						
PD31	**Pinedale Array**	**91.67**	**45**	P	**P**	**22 46 54.5**	**+0.5**
PDAR	**Pinedale Array**	**91.67**	**45**	P	**P**	**22 46 56.4**	**+2.3**
	comp=Z,0.7nm,0.6s,baz=63,slow=0.7,SNR=3.8						
	comp=Z,0.7nm,0.6s						
TIXI	**Tiksi**	**96.01**	**346**	P	**P**	**22 47 13.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=270,slow=23,SNR=4.3						
	comp=Z,0.7nm,0.6s						
YKA	**Yellowknife Ar**

MOA	**Molln**	**147.75**	**337**	*e*PKiKP	**PKiKP**	**22**	**53**	**33.0 -0.2**
	comp=Z,13nm,1.0s							
ARSA	**Arzberg**	**147.76**	**335**	pPKP	**PKPab**	**22**	**53**	**33.8 +0.2**
	comp=Z,5.1nm,0.9s							
BIOA	**Bad Ischl, Aus**	**148.11**	**338**	*e*PKP	**PKPdf**	**22**	**53**	**26.4 -2.6**
	comp=Z,6.4nm,1.3s							
SOKA	**Soboth**	**148.42**	**335**	*ep*PKiKP	**PKPab**	**22**	**53**	**37.8 +1.5**
	comp=Z,11nm,1.1s							
VAY	**Valandovo**	**148.44**	**320**	*i* P	**PKPbc**	**22**	**53**	**33.1 -0.1**
SKO	**Skopje**	**148.71**	**322**	*i* P	**PKiKP**	**22**	**53**	**34.9 -0.5**
KBA	**Koelnbreinsper**	**148.73**	**337**	*e*PKP	**PKPbc**	**22**	**53**	**33.3 -0.7**
	comp=Z,6.5nm,0.7s							
OBKA	**Obir**	**148.75**	**335**	*ep*PKiKP	**PKPab**	**22**	**53**	**39.1 +1.4**
	comp=Z,14nm,1.4s							
MYKA	**Terra Mystica**	**149.00**	**336**	pPKP	**PKPdf**	**22**	**53**	**31.7 +1.2**
	comp=Z,6.2nm,0.6s							
WATA	**Walderalm**	**149.13**	**340**	*e*PKP	**PKPab**	**22**	**53**	**38.5 -0.7**
	comp=Z,15nm,1.3s							
WTTA	**Wattenberg**	**149.17**	**339**	*i* PKiKP	**PKiKP**	**22**	**53**	**36.1 -0.3**
	comp=Z,13nm,0.9s							
RETA	**Reutte**	**149.26**	**341**	PKP	**PKPbc**	**22**	**53**	**34.2 -1.0**
	comp=Z,14nm,1.1s							
MOTA	**Moosalm**	**149.27**	**340**	*e*PKiKP	**PKiKP**	**22**	**53**	**36.0 -0.6**
	comp=Z,9.7nm,1.1s							
ABTA	**Abfaltersbach**	**149.31**	**338**	*ep*PKP	pPKPdf	22	53	33.2 -0.2
	comp=Z,27nm,1.9s							
SQTA	**Sankt Quirin**	**149.35**	**340**	*e*PKiKP	**PKiKP**	**22**	**53**	**36.3 -0.4**
	comp=Z,8.0nm,0.8s							
OHR	**Ohrid**	**149.63**	**322**	*i* P	**PKPbc**	**22**	**53**	**36.1 -0.2**
FETA	**Feichten**	**149.68**	**340**	*e*PKiKP	**PKiKP**	**22**	**53**	**37.2 -0.2**
	comp=Z,9.6nm,0.9s							
DAVA	**Damuels**	**149.71**	**342**	*ep*PKP	**PKPdf**	**22**	**53**	**32.7 +0.9**
	comp=Z,8.1nm,1.2s							
ESDC	**Sonseca Array**	**159.43**	**1**	PKPab	**PKPab**	**22**	**54**	**24.1 +1.2**
	comp=Z,0.7nm,0.9s,baz=327,slow=3.8,SNR=4.1							
DBIC	**Dimbokro**	**167.66**	**175**	PKP	**PKPdf**	**22**	**53**	**53.9 +0.2**
	comp=Z,2.7nm,0.7s,baz=137,slow=6.1,SNR=4.5							
TORD	**Torodi Ar. Bea**	**172.18**	**222**	PKP	**PKPdf**	**22**	**53**	**56.1 -0.2**
	comp=Z,2.1nm,0.9s,baz=335,slow=0.8,SNR=7.8							
TORD				PKPab	**PKPab**	**22**	**55**	**19.3 -0.3**
	comp=Z,0.9nm,0.8s,baz=110,slow=4.9,SNR=3.5							

FUNV ***03*** *22:36:55.4, 8.˚70N×71.˚24W, h5km, MW2.7*
ISC 03 22:36:53.7±1.5, 8.˚77N±0.˚04×71.˚20W±0.˚05, h3km±14km, n12, σ1§67/18, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.59**	**145**	*i*P		**Pb**	**22 37 06.3**	**-0.4**
SOCV				*e*S		**Sb**	**22 37 14.4**	**-1.1**
CAPV	**Capacho**	**1.43**	**231**	*e*P		**Pg**	**22 37 21.1**	**+0.1**
CAPV				*e*S		**Sb**	**22 37 38.6**	**-1.1**
CURV	**Curarigua**	**1.73**	**45**	*e*P		**Pg**	**22 37 27.2**	**+0.2**
CURV				*e*S		**Sg**	**22 37 51.1**	**+1.6**
PAMC	**Pamplona, Colo**	**2.06**	**226**	*e*P		**Pn**	**22 37 29.6**	**0.0**
DABV	**Dabajuro**	**2.21**	**15**	*e*P		**Pn**	**22 37 32.4**	**+1.2**
DABV				*e*S		**Sb**	**22 38 00.9**	**-1.1**
SIQV	**Siquisique**	**2.31**	**36**	*e*P		**Pb**	**22 37 34.4**	**-1.8**
MAPV	**Macapo**	**2.90**	**69**	*e*P		**Pn**	**22 37 42.3**	**+1.5**
MAPV				*e*S		**Sn**	**22 38 16.8**	**+0.5**
BAUV	**El Baul**	**3.12**	**87**	*e*P		**Pn**	**22 37 45.2**	**+1.3**
BAUV				*e*S		**Sn**	**22 38 22.1**	**+0.4**
RUSC	**La Rusia**	**3.42**	**213**	*e*P		**Pn**	**22 37 51.1**	**+2.8**
BENV	**Beln**	**3.74**	**71**	*e*P		**Pn**	**22 37 54.3**	**+1.8**
CACV	**CAICARA DEL OR**	**4.76**	**104**	*e*P		**Pb**	**22 38 14.6**	**-3.3**
CHIC	**Chingaza**	**4.82**	**212**	*e*P		**Pn**	**22 38 09.0**	**+1.3**

MOS ***03*** *22:40:10.2±0.7, 19.˚24S×175.˚99E, h11km, mb5.8/29, Error ellipse: s-maj=7.8km s-min=7.8km az=85.9*
IDC ***03*** *22:40:10.2±0.3, 19.˚26S×176.˚09E, h0km, mb5.4/38, mbtmp5.4/41, ML5.9/2, MS5.4/37, Error ellipse: s-maj=11.1km s-min=10.8km az=90.0*
BJI ***03*** *22:40:12.1±0.0, 18.˚73S×175.˚99E, h10km, mb5.5/59, mB6.4/18, Ms6.0/18, Ms7 5.8/19*
NEIC ***03*** *22:40:12.6±2.0, 19.˚12S±0.˚08×176.˚19E±0.˚07, h10km±1km, mb5.7/228, Mww6.0/18, Error ellipse: s-maj=13.9km s-min=9.6km az=148.0*
BGR ***03*** *22:40:12.1, 20.˚38S×177.˚11E, h33km, Ms6.5*
GCMT ***03*** *22:40:16.6±0.2, 19.˚13S±0.˚02×176.˚08E±0.˚01, h14km, MW6.0/129, Moment Tensor Solution. s53,c74; s129,c310; Duration: 2§5 Moment tensor: Scale 10¹⁸ Nm; Mrr=1.38±.05; Mθθ=0.29±.03; Mϕϕ=1.10±.03; Mrθ=-0.04±.07; Mrϕ=0.50±.02; Mθϕ=0.13±.06; Best double couple: M₀1.36500×10¹⁸ NP1:ϕs202.00000°, δ47.00000°, λ-95.00000°. NP2:ϕs29.00000°, δ43.00000°, λ-85.00000°. Principal axes: T 1.3400, Plg2.0000°, Azm295.0000°; N 0.0560, Plg3.0000°, Azm205.0000°; P -1.3890, Plg86.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NOU ***03*** *22:40:18.6, 19.˚22S×176.˚01E, h53km, mb5.5/133, South of Fiji Islands*
NEIC ***03*** *22:40:20.5, 19.˚22S×176.˚19E, h12km, Moment Tensor Solution. Duration: 4§9 Moment tensor: Scale 10¹⁸Nm; Mrr=1.00; Mθθ=0.21; Mϕϕ=0.79; Mrθ=-0.06; Mrϕ=0.32; Mθϕ=0.45; Fault plane solution: M₀1.06000×10¹⁸ NP1: ϕs192.29000°, δ56.95000°, λ-102.62000°. NP2: ϕs34.60000°, δ35.12000°, λ-71.45000°. Principal axes: T 1.0080, Plg11.0000°, Azm291.0000°; N 0.1106, Plg11.0000°, Azm199.0000°; P -1.1185, Plg75.0000°, Azm67.0000°;*
ISC 03 22:40:14.5±0.2, 19.˚20S±0.˚04×176.˚12E±0.˚04, h30km, n1254, σ1§23/1258, mb5.7/229, MS5.5/48, 10C-28D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.35**	**52**	Pn		**Pn**	**22 40 48.7**	**-2.3**
	252nm,0.3s,baz=223,slow=18,SNR=84							
MSVF				Sn		**Sn**	**22 41 16.4**	**-2.5**
	431nm,0.3s,baz=255,slow=21,SNR=10.0							
MSVF				LR		LR	22 41 46.1	
	comp=Z,75μm,20.5s,baz=189,slow=40							
	340nm,0.4s							
MSVF	**Nonsavu**	**2.35**	**52**	Pn		**Pn**	**22 40 48.3**	**-2.7**
MSVF	**Nonsavu**	**2.35**	**52**	*i* P		**Pn**	**22 40 47.8**	**-3.3**
LKBA	**Tubou, Lakemba**	**4.90**	**79**	P		**Pn**	**22 41 29.8**	**+3.7**
RTV	**Rentapao**	**7.43**	**280**	P		**Pn**	**22 42 04.1**	**+3.2**
DVP	**Devils Point**	**7.67**	**280**	P		**Pn**	**22 42 06.8**	**+2.6**
MARNC	**Mare, Loyalty**	**7.92**	**252**			**Pn**	**22 42 08.8**	**+1.3**
MARNC	**Mare, Loyalty**	**7.92**	**252**	P		**Pn**	**22 42 09.9**	**+2.3**
LIFNC	**LIFOU**	**8.49**	**258**	Pn		**Pn**	**22 42 15.8**	**+0.3**
LIFNC	**LIFOU**	**8.49**	**258**	P		**Pn**	**22 42 16.0**	**+0.5**
YATNC	**Mamie plateau,**	**9.09**	**250**	P		**Pn**	**22 42 24.8**	**+1.1**
OUENC	**Ouen Island, N**	**9.25**	**248**	Pn		**Pn**	**22 42 26.6**	**+0.8**
OUENC	**Ouen Island, N**	**9.25**	**248**	P		**Pn**	**22 42 27.6**	**+1.8**
DZM	**Mont Dzumac**	**9.50**	**251**	Pn		**Pn**	**22 42 31.3**	**+2.0**
	2.5nm,0.3s,baz=76,slow=13,SNR=102							
DZM	**Mont Dzumac**	**9.50**	**251**	*e*Pn		**Pn**	**22 42 27.9**	**-1.4**
	3μm,1.8s							
DZM				*e*LR		LR	22 44 38.9	
	comp=Z,77μm,26.4s							
DZM	**Mont Dzumac**	**9.50**	**251**	Pn		**Pn**	**22 42 30.4**	**+1.1**
DZM	**Mont Dzumac**	**9.50**	**251**	P		**Pn**	**22 42 30.9**	**+1.6**
ONTNC	**Ouen Toro**	**9.55**	**249**	Pn		**Pn**	**22 42 30.7**	**+0.7**
ONTNC	**Ouen Toro**	**9.55**	**249**	P		**Pn**	**22 42 32.1**	**+2.1**
FUNA	**Funafuti**	**11.03**	**16**	Pn		**Pn**	**22 42 48.2**	**-2.0**
KOUNC	**Koumac, New Ca**	**11.21**	**261**	Pn		**Pn**	**22 42 53.6**	**+0.8**
KOUNC	**Koumac, New Ca**	**11.21**	**261**	P		**Pn**	**22 42 54.6**	**+1.8**
NFK	**Norfolk Island**	**12.31**	**216**	P		**Pn**	**22 43 10.7**	**+2.9**
	baz=12							
NFK	**Norfolk Island**	**12.31**	**216**	P		**Pn**	**22 43 11.0**	**+3.2**
AFI	**Afiamalu**	**12.74**	**67**	Pn		**Pn**	**22 43 12.3**	**-1.5**
AFI	**Afiamalu**	**12.74**	**67**	P		**Pn**	**22 43 12.3**	**-1.5**
NIUE	**Niue**	**13.19**	**92**	P		**Pn**	**22 43 22.5**	**+2.7**
	baz=13							
OUZ	**Omahuta**	**16.11**	**187**	Pn		**P**	**22 44 00.3**	**-1.5**
KUZ	**Kuaotunu**	**17.48**	**181**	P		**P**	**22 44 18.3**	**+1.3**
MXZ	**Matakaoa Point**	**18.39**	**174**	P		**Pn**	**22 44 27.0**	**-0.2**
HNR	**Honiara**	**18.42**	**300**	P		**Pn**	**22 44 28.6**	**+0.9**
	2μm,0.8s,baz=190,slow=4.9,SNR=12							
HNR				LR		LR	22 50 27.6	
	comp=Z,158μm,19.3s,baz=154,slow=34							
HNR	**Honiara**	**18.42**	**300**	P		**P**	**22 44 26.4**	**-1.1**
HNR				IAmb		IAmb	22 44 36.6	
	comp=Z,677nm,1.2s							
HNR	**Honiara**	**18.42**	**300**	P		**Pn**	**22 44 28.6**	**+0.9**
HNR	**Honiara**	**18.42**	**300**	P		**P**	**22 44 26.4**	**-1.1**
HNR				pmax		pmax		
	comp=Z,677nm,1.3s							
URZ	**Urewera**	**19.01**	**178**	P		**Pn**	**22 44 34.4**	**-0.2**
	comp=Z,10nm,0.3s,baz=105,slow=3.2,SNR=40							
URZ				LR		LR	22 50 37.2	
	comp=Z,5μm,18.3s,baz=102,slow=33							
	comp=Z,122nm,0.8s							
RTZ	**Ruatahuna**	**19.36**	**178**	P		**Pn**	**22 44 38.9**	**0.0**
LHI	**Lord Howe Isla**	**19.66**	**228**	P		**Pn**	**22 44 42.2**	**-0.4**
LHI	**Lord Howe Isla**	**19.66**	**228**	P		**Pn**	**22 44 42.4**	**-0.2**
BKZ	**Black Stump Fm**	**19.90**	**179**	P		**Pn**	**22 44 45.5**	**+0.2**
MRZ	**Mangatainoka R**	**21.39**	**181**	P		**P**	**22 44 59.6**	**-0.1**
BFZ	**Birch Farm**	**21.41**	**180**	P		**P**	**22 45 00.5**	**+0.7**
SNZO	**South Karori**	**22.07**	**183**	P		**P**	**22 45 07.7**	**+0.8**
SNZO				IAmb		IAmb	22 45 14.6	
	comp=Z,415nm,1.1s							
SNZO	**South Karori**	**22.07**	**183**	P		**P**	**22 45 09.3**	**+2.4**
PLWZ	**Palliser**	**22.31**	**182**	P		**P**	**22 45 09.2**	**-0.3**
GC1S	**Gold Coast 1 S**	**22.51**	**242**	P		**P**	**22 45 14.3**	**+2.5**
AUBSH	**Beerwah State**	**22.62**	**246**	P		**P**	**22 45 12.9**	**0.0**
AUWSH	**Wavell State H**	**22.68**	**245**	P		**P**	**22 45 15.8**	**+2.2**
RAR	**Rarotonga**	**22.71**	**99**	P		**P**	**22 45 15.4**	**+1.5**
	comp=Z,2.8nm,0.3s,baz=111,slow=9.3,SNR=3.8							
RAR				LR		LR	22 52 13.5	
	comp=Z,10μm,21.8s,baz=246,slow=32							
RAR	**Rarotonga**	**22.71**	**99**	P		**P**	**22 45 13.0**	**-1.0**
RAR				IAmb		IAmb	22 45 25.7	
	comp=Z,396nm,1.9s							
RAR	**Rarotonga**	**22.71**	**99**	P		**P**	**22 45 17.1**	**+3.1**
RAR	**Rarotonga**	**22.71**	**99**	P		**P**	**22 45 13.0**	**-1.0**
RAR				pmax		pmax		
	comp=Z,396nm,2.0s							
GD1S	**Gladstone Soft**	**23.65**	**254**	P		**P**	**22 45 24.7**	**+1.3**
	comp=Z,167nm,0.9s							
EIDS	**Eidsvold**	**23.94**	**251**	P		**P**	**22 45 26.2**	**0.0**
	baz=24,SNR=11							
EIDS	**Eidsvold**	**23.94**	**251**	P		**P**	**22 45 25.9**	**-0.3**
EIDS	**Eidsvold**	**23.94**	**251**	P		**P**	**22 45 26.5**	**+0.3**
RK1H	**Rockhampton Ha**	**24.22**	**256**	P		**P**	**22 45 29.6**	**+0.9**
	comp=Z,55nm,0.9s							
RPZ	**Rata Peaks**	**24.81**	**189**	P		**P**	**22 45 34.4**	**+0.5**
	comp=Z,79nm,0.8s,baz=151,slow=3.9,SNR=11							
	comp=Z,79nm,0.8s							
ARMA	**Armidale**	**24.82**	**239**	P		**P**	**22 45 35.5**	**+1.3**
	baz=25,SNR=11							
ARMA	**Armidale**	**24.82**	**239**	P		**P**	**22 45 34.7**	**+0.5**
ARMA	**Armidale**	**24.82**	**239**	P		**P**	**22 45 36.0**	**+1.7**
JCZ	**Jackson Bay**	**25.55**	**192**	P		**P**	**22 45 43.3**	**+2.6**
AUPHS	**Peel High Scho**	**25.66**	**238**	P		**P**	**22 45 43.8**	**+2.0**
RMQ	**Roma**	**26.20**	**249**	P		**P**	**22 45 47.2**	**+0.5**
	baz=26,SNR=42							
RMQ	**Roma**	**26.20**	**249**	P		**P**	**22 45 47.8**	**+1.1**
MGCD	**Mangrove Creek**	**26.33**	**233**	P		**P**	**22 45 48.2**	**+0.4**
	baz=26,SNR=4.1							
MGCD	**Mangrove Creek**	**26.33**	**233**	P		**P**	**22 45 49.5**	**+1.7**
AULRC	**Lightning Ridg**	**27.52**	**243**	P		**P**	**22 45 59.2**	**+0.6**
	comp=Z,142nm,1.1s							
KRVT	**Keravat (AS076**	**27.78**	**299**	P		**P**	**22 46 02.3**	**+1.3**
	comp=Z,73nm,0.6s,baz=341,slow=4.3,SNR=8.3							
KRVT				LR		LR	22 57 23.3	
	comp=Z,6μm,18.7s,baz=258,slow=37							
	comp=Z,73nm,0.6s							
AUDCS	**Dubbo College**	**27.86**	**237**	P		**P**	**22 46 02.8**	**+1.2**
CTA	**Charters Tower**	**28.12**	**263**	P		**P**	**22 46 04.5**	**+0.5**
	comp=Z,5.8nm,0.6s,baz=92,slow=11,SNR=12							
CTA				LR		LR	22 55 48.2	
	comp=Z,14μm,21.9s,baz=87,slow=33							
	comp=Z,5.8nm,0.6s							
CTAO	**Charters Tower**	**28.12**	**263**	P		**P**	**22 46 04.1**	**+0.1**
CTAO	**Charters Tower**	**28.12**	**263**	P		**P**	**22 46 05.3**	**+1.2**
CTAO	**Charters Tower**	**28.12**	**263**	P		**P**	**22 46 04.1**	**+0.1**
CTAO				pmax		pmax		
	comp=Z,163nm,1.9s							
CNB	**Canberra Magne**	**28.56**	**230**	P		**P**	**22 46 09.4**	**+1.5**
AUSMG	**Snowy Mountain**	**29.62**	**229**	P		**P**	**22 46 15.3**	**-1.9**
PMG	**Port Moresby**	**29.66**	**285**	P		**P**	**22 46 17.7**	**0.0**
	comp=Z,13nm,0.2s,baz=75,slow=8.8,SNR=10							
PMG				LR		LR	22 57 04.1	
	comp=Z,14μm,18.2s,baz=112,slow=34							
	comp=Z,13nm,0.2s							
PMG	**Port Moresby**	**29.66**	**285**	P		**P**	**22 46 17.1**	**-0.6**
PMG				IAmb		IAmb	22 46 38.2	
	comp=Z,192nm,1.6s							
PMG	**Port Moresby**	**29.66**	**285**	P		**P**	**22 46 18.7**	**+1.0**
PMG	**Port Moresby**	**29.66**	**285**	P		**P**	**22 46 18.5**	**+0.8**
PMG	**Port Moresby**	**29.66**	**285**	*i* P		**P**	**22 46 16.5**	**-1.2**
PMG				pmax		pmax		
	comp=Z,123nm,1.8s							
CMSA	**Cobar Meteorol**	**30.00**	**240**	P		**P**	**22 46 21.2**	**+0.6**
	baz=30,SNR=4.9							
CMSA	**Cobar Meteorol**	**30.00**	**240**	P		**P**	**22 46 21.3**	**+0.7**
MTSU	**Mount Surprise**	**30.12**	**267**	P		**P**	**22 46 22.7**	**+0.8**
	comp=Z,26nm,0.9s							
QLP	**Quilpie**	**30.22**	**250**	P		**P**	**22 46 22.8**	**+0.3**
	baz=30,SNR=17							
QLP	**Quilpie**	**30.22**	**250**	P		**P**	**22 46 23.8**	**+1.2**
COEN	**Coen**	**31.97**	**274**	P		**P**	**22 46 37.5**	**-0.6**
COEN	**Coen**	**31.97**	**274**	P		**P**	**22 46 38.5**	**+0.4**
TBI	**Tubuai**	**32.29**	**103**	*e*S		**S**	**22 51 54.9**	**+2.1**
	comp=Z,27μm,27.0s							
TBI				*e*LR		LR	22 55 07.9	
	comp=Z,175μm,31.2s							
TBI				*e*LR		LR	22 55 07.9	
	comp=Z,401μm,27.8s							
TOO	**Toolangi**	**32.36**	**229**	P		**P**	**22 46 42.8**	**+1.4**
	baz=32,SNR=7.8							
TOO	**Toolangi**	**32.36**	**229**	P		**P**	**22 46 41.5**	**+0.1**
TOO				IAmb		IAmb	22 46 43.8	
	comp=Z,126nm,1.1s							
TOO	**Toolangi**	**32.36**	**229**	P		**P**	**22 46 42.6**	**+1.2**
TOO	**Toolangi**	**32.36**	**229**	P		**P**	**22 46 41.5**	**+0.1**
TOO				pmax		pmax		
	comp=Z,126nm,1.2s							
PAE	**Paea**	**32.55**	**93**	*e*P		**P**	**22 46 43.5**	**+0.3**
	comp=Z,19nm,1.2s							
PPT2	**Papeete2**	**32.56**	**93**	*e*P		**P**	**22 46 44.3**	**+0.9**
	comp=Z,70nm,1.3s							
PPT2				*e*LR		LR	22 55 15.3	
	comp=Z,43μm,29.0s							
PPT2				*e*LR		LR	22 55 15.7	
	comp=Z,27μm,31.5s							
PPT	**Papeete**	**32.57**	**93**	P		**P**	**22 46 44.2**	**+0.8**
	comp=Z,29nm,0.8s,baz=224,slow=9.0,SNR=5.2							
PPT				LR		LR	22 58 41.9	
	comp=Z,3μm,18.3s,baz=280,slow=34							
	comp=Z,29nm,0.8s							
PPTF	**Pamatai, Papee**	**32.57**	**93**	P		**P**	**22 46 42.3**	**-1.2**
PPTF				IAmb		IAmb	22 47 20.8	
	comp=Z,100nm,1.2s							
PPTF	**Pamatai, Papee**	**32.57**	**93**	P		**P**	**22 46 46.4**	**+2.9**
	comp=Z,99nm,1.2s							
TIAR	**Tiarei**	**32.79**	**93**	*e*P		**P**	**22 46 46.8**	**+1.5**
	comp=Z,13nm,1.3s							
TVO	**Taravao**	**32.84**	**93**	*e*P		**P**	**22 46 48.7**	**+2.9**
	comp=Z,20nm,1.2s							
MANU	**Manus Island**	**32.90**	**298**	P		**P**	**22 46 45.4**	**-0.9**
MANU	**Manus Island**	**32.90**	**298**	P		**P**	**22 46 47.8**	**+1.5**
	comp=Z,77nm,1.6s							
INKA	**Innaminka**	**33.45**	**249**	P		**P**	**22 46 52.2**	**+1.3**
STKA	**Stephens Creek**	**33.46**	**241**	P		**P**	**22 46 50.8**	**-0.2**
	comp=Z,61nm,0.9s,baz=77,slow=9.4,SNR=63							
STKA				PcP		**PcP**	**22 49 32.2**	**+0.4**
	comp=Z,19nm,0.8s,baz=35,slow=4.8,SNR=6.7							
STKA				LR		LR	22 59 32.0	
	comp=Z,5μm,18.4s,baz=51,slow=35							
	comp=Z,61nm,0.9s							
STKA	**Stephens Creek**	**33.46**	**241**	P		**P**	**22 46 51.5**	**+0.5**
	baz=34,SNR=43							
STKA	**Stephens Creek**	**33.46**	**241**	P		**P**	**22 46 51.0**	**0.0**
STKA	**Stephens Creek**	**33.46**	**241**	P		**P**	**22 46 51.9**	**+0.9**
STKA	**Stephens Creek**	**33.46**	**241**	*i* P		**P**	**22 46 50.6**	**-0.4**
BRAT	**Ballarat**	**33.48**	**230**	P		**P**	**22 46 53.1**	**+2.0**
MOO	**Moorlands**	**33.69**	**220**	P		**P**	**22 46 54.3**	**+1.4**
	baz=34,SNR=5.6							
MOO	**Moorlands**	**33.69**	**220**	P		**P**	**22 46 52.1**	**-0.7**
TAU	**Tasmania Unive**	**33.88**	**219**	P		**P**	**22 46 55.0**	**+0.5**
TAU				IAmb		IAmb	22 47 10.1	
	comp=Z,213nm,1.9s							
TAU	**Tasmania Unive**	**33.88**	**219**	P		**P**	**22 46 55.0**	**+0.5**
TAU				pmax		pmax		
	comp=Z,213nm,1.9s							
QIS	**Mount Isa**	**34.32**	**261**	P		**P**	**22 46 58.2**	**-0.4**
ARPS	**Mount Arapiles**	**34.72**	**233**	P		**P**	**22 47 02.9**	**+1.0**
	baz=35,SNR=14							
ARPS	**Mount Arapiles**	**34.72**	**233**	P		**P**	**22 47 01.3**	**-0.6**
VAH	**Vaihoa**	**34.81**	**89**	*e*P		**P**	**22 47 03.3**	**+0.4**
	comp=Z,65nm,1.1s							
LCRK	**Leigh Creek**	**36.02**	**244**	P		**P**	**22 47 13.7**	**+0.6**
HTT	**Hallett**	**36.02**	**239**	P		**P**	**22 47 13.8**	**+0.6**
	baz=36,SNR=8.8							
HTT	**Hallett**	**36.02**	**239**	P		**P**	**22 47 15.4**	**+2.2**
WHYH	**Whyalla**	**37.03**	**240**	P		**P**	**22 47 22.5**	**+0.8**
	comp=Z,85nm,1.0s							
OOD	**Oodnadatta**	**37.91**	**249**	P		**P**	**22 47 30.6**	**+1.3**
BBOO	**Buckleboo**	**38.24**	**241**	P		**P**	**22 47 32.6**	**+0.6**
	baz=38,SNR=12							
BBOO	**Buckleboo**	**38.24**	**241**	P		**P**	**22 47 31.7**	**-0.3**
BBOO				IAmb		IAmb	22 47 41.0	
	comp=Z,176nm,1.2s							
BBOO	**Buckleboo**	**38.24**	**241**	P		**P**	**22 47 32.4**	**+0.4**
H11S2	**WAKE ISLAND Hy**	**38.58**	**346**	T		T	23 28 22.2	
	baz=166,slow=76,SNR=225							
H11S3	**WAKE ISLAND Hy**	**38.59**	**346**	T		T	23 28 28.0	
	baz=166,slow=76,SNR=206							
H11S1	**WAKE ISLAND Hy**	**38.60**	**346**	T		T	23 28 28.2	
	baz=166,slow=76,SNR=203							
GENI	**Genyem**	**38.83**	**291**	P		**P**	**22 47 36.8**	**-0.3**
	comp=Z,61nm,0.9s							
WR0	**Warramunga Arr**	**39.11**	**262**	P		**P**	**22 47 37.6**	**-1.9**
WB0	**Warramunga Arr**	**39.27**	**262**	P		**P**	**22 47 39.3**	**-1.5**
WRAB	**Tennant Creek**	**39.29**	**262**	P		**P**	**22 47 40.6**	**-0.3**
WRAB	**Tennant Creek**	**39.29**	**262**	*ce*P		**P**	**22 47 38.8**	**-2.1**
WRAB				pmax		pmax		
	comp=Z,33nm,1.7s							
WB1	**Warramunga Ar.**	**39.29**	**262**	P		**P**	**22 47 39.9**	**-1.1**
WRA	**Warramunga Arr**	**39.30**	**262**	P		**P**	**22 47 39.5**	**-1.5**
	comp=Z,11nm,0.8s,baz=96,slow=8.3,SNR=43							
WRA				PcP		**PcP**	**22 49 49.7**	**+0.2**
	comp=Z,11nm,0.9s,baz=92,slow=3.7,SNR=6.9							
WRA				PKiKP		**PKiKP**	**22 57 00.8**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=135,slow=0.4,SNR=5.8							
	comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**39.30**	**262**	P		**P**	**22 47 39.0**	**-2.0**
WRA	**Warramunga Arr**	**39.30**	**262**	P		**P**	**22 47 39.0**	**-2.0**
WRA				pmax		pmax		
	comp=Z,3.0nm,1.4s							
AS31	**Alice Springs**	**39.44**	**256**	P		**P**	**22 47 41.3**	**-0.9**
ASAR	**Alice Springs**	**39.44**	**256**	P		**P**	**22 47 41.5**	**-0.8**
	comp=Z,76nm,0.8s,baz=83,slow=8.8,SNR=268							
ASAR				PcP		**PcP**	**22 49 49.9**	**-0.1**
	comp=Z,27nm,0.9s,baz=95,slow=3.4,SNR=14							
ASAR				PKiKP		**PKiKP**	**22 57 01.3**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=133,slow=1.4,SNR=5.0							
ASAR				LR		LR	23 02 51.2	
	comp=Z,8μm,21.9s,baz=94,slow=34							
	comp=Z,76nm,0.8s							
ASAR	**Alice Springs**	**39.44**	**256**	P		**P**	**22 47 41.3**	**-0.9**
MULG	**Mulgathing**	**39.56**	**245**	P		**P**	**22 47 43.6**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**39.72**	**346**	T		T	23 29 48.9	
	baz=165,slow=76,SNR=33							
H11N3	**WAKE ISLAND Hy**	**39.72**	**346**	T		T	23 29 58.2	
	baz=165,slow=76,SNR=67							
H11N2	**WAKE ISLAND Hy**	**39.73**	**346**	T		T	23 29 55.1	
	baz=165,slow=76,SNR=23							
KDU	**Kakadu**	**42.38**	**272**	P		**P**	**22 48 05.9**	**-0.5**
	baz=42,SNR=6.6							
KDU	**Kakadu**	**42.38**	**272**	P		**P**	**22 48 06.3**	**-0.1**
TAOE	**Nuku Hiva

comp=Z,95nm,1.2s
GTOI Gorontalo 55.69 284 P **P** **22 49 49.0 +0.5**
comp=Z,33nm,0.8s
APSI Ampana 56.34 282 P **P** **22 49 53.2 +0.1**
comp=Z,112nm,1.1s
BNSI Bone 56.52 278 P **P** **22 49 54.5 +0.1**
comp=Z,34nm,1.2s
JCJ Chichijima 56.57 323 LR LR 23 12 54.4
comp=Z,2μm,18.5s,baz=184,slow=35
MRSI Marisa 56.60 284 P **P** **22 49 53.5 -1.5**
comp=Z,36nm,0.9s
KAPI Kappang 56.64 277 P **P** **22 49 55.4 +0.1**
comp=Z,20nm,0.9s,baz=206,slow=3.6,SNR=4.6
comp=Z,20nm,0.9s
KAPI Kappang 56.64 277 P **P** **22 49 54.9 -0.4**
KAPI IAmb IAmb 22 50 10.2
comp=Z,120nm,1.6s
KAPI Kappang 56.64 277 P **P** **22 49 56.4 +1.1**
comp=Z,46nm,1.4s
KAPI Kappang 56.64 277 P **P** **22 49 54.9 -0.4**
KAPI pmax pmax
comp=Z,120nm,1.6s
PLAI Plampang 57.31 272 P **P** **22 50 00.8 +0.7**
PLAI Plampang 57.31 272 P **P** **22 49 59.4 -0.7**
comp=Z,154nm,1.2s,comp=Z,3μm
GIRL Giralia 57.55 255 P **P** **22 50 01.0 -0.7**
baz=58,SNR=5.7
GIRL Giralia 57.55 255 P **P** **22 50 02.0 +0.4**
GIRL Giralia 57.55 255 P **P** **22 50 02.5 +0.9**
TOLI2 Tolitoli 57.92 284 P **P** **22 50 02.5 -1.8**
TOLI2 Tolitoli 57.92 284 P **P** **22 50 06.3 +2.0**
TWSI Taliwang, Sumb 58.18 272 P **P** **22 50 06.1 -0.1**
comp=Z,176nm,1.2s,comp=Z,4μm
MPSI Mapaga 58.43 283 P **P** **22 50 07.3 -0.6**
comp=Z,43nm,1.2s
VNDA Vanda 58.78 184 P **P** **22 50 09.3 0.0**
comp=Z,8.2nm,0.8s,baz=18,slow=7.4,SNR=21
VNDA LR LR 23 09 30.5
comp=Z,3μm,20.8s,baz=350,slow=30
comp=Z,8.2nm,0.8s
VNDA Vanda 58.78 184 P **P** **22 50 08.9 -0.4**
SBA Scott Base 58.87 182 P **P** **22 50 11.0 +1.1**
SBA IAmb IAmb 22 50 12.6
comp=Z,115nm,1.0s
SBA Scott Base 58.87 182 P **P** **22 50 11.0 +1.1**
SBA pmax pmax
comp=Z,115nm,1.0s
SRBI Singaraja 59.95 272 P **P** **22 50 18.0 -0.4**
comp=Z,94nm,1.5s
JAGI Jajag, Banyuwa 60.84 271 P **P** **22 50 24.1 -0.5**
JAGI IAmb IAmb 22 50 25.3
comp=Z,98nm,1.1s
JAGI Jajag, Banyuwa 60.84 271 P **P** **22 50 24.9 +0.4**
comp=Z,89nm,0.9s
JAGI Jajag, Banyuwa 60.84 271 P **P** **22 50 24.4 -0.1**
comp=Z,89nm,1.0s
ABJI Asem Bagus 60.96 272 P **P** **22 50 25.4 0.0**
comp=Z,109nm,1.1s
GMJI Gumukmas 61.57 271 P **P** **22 50 28.5 -0.9**
comp=Z,51nm,1.0s
BLJI Banyuglugur 61.58 271 P **P** **22 50 28.6 -0.9**
comp=Z,92nm,1.2s,comp=Z,6μm
MYLDM Lahad Datu 61.66 287 P **P** **22 50 30.0 0.0**
MYLDM IAmb IAmb 22 50 56.8
comp=Z,53nm,1.0s
BBKI Banjar Baru 61.77 277 P **P** **22 50 31.1 +0.2**
comp=Z,113nm,1.6s,comp=Z,9μm
JHJ Hachijo jima 2 62.54 326 LR LR 23 11 45.0
comp=Z,2μm,21.7s,baz=128,slow=30
CASY Casey 62.80 204 P **P** **22 50 36.3 -0.5**
PWJI Pagerwojo 63.19 271 P **P** **22 50 39.8 -0.5**
comp=Z,69nm,1.0s
KKM Kota Kinabalu 64.08 287 P **P** **22 50 45.8 -0.5**
KKM IAmb IAmb 22 50 48.6
comp=Z,62nm,1.0s
KKM Kota Kinabalu 64.08 287 P **P** **22 50 46.9 +0.6**
UGM Wanagama 64.44 270 P **P** **22 50 48.1 -0.4**
SMRI Semarang 64.77 271 P **P** **22 50 50.2 -0.6**
SMRI Semarang 64.77 271 P **P** **22 50 51.4 +0.6**
PBKI Pangkalan Bun 65.01 276 P **P** **22 50 52.5 +0.2**
comp=Z,71nm,0.8s
JOW Kunigami 65.17 313 P **P** **22 50 53.5 +0.5**
comp=Z,30nm,0.8s,baz=117,slow=8.5,SNR=5.5
comp=Z,30nm,0.8s
JOW Kunigami 65.17 313 P **P** **22 50 52.8 -0.2**
JOW IAmb IAmb 22 51 05.7
comp=Z,94nm,1.2s
JOW Kunigami 65.17 313 P **P** **22 50 54.3 +1.3**
INU Inuyama 65.72 326 P **P** **22 50 56.1 -0.2**
INU IAmb IAmb 22 51 02.5
comp=Z,50nm,1.2s
INU Inuyama 65.72 326 P **P** **22 50 58.4 +2.0**
JGF Kuroka 65.73 326 P **P** **22 50 56.3 -0.2**
JGF IAmb IAmb 22 51 26.7
comp=Z,72nm,1.3s
JGF Kuroka 65.73 326 P **P** **22 50 58.1 +1.6**
MJAR Matsushiro Arr 66.00 327 P **P** **22 50 58.4 +0.2**
comp=Z,39nm,1.0s,baz=158,slow=6.1,SNR=47
MJAR LR LR 23 16 12.9
comp=Z,2μm,18.8s,baz=142,slow=33
comp=Z,39nm,1.0s
MAJO Matsushiro 66.01 327 P **P** **22 50 58.2 0.0**
MAJO IAmb IAmb 22 51 00.1
comp=Z,59nm,1.0s
MAJO Matsushiro 66.01 327 P **P** **22 50 59.0 +0.8**
MAJO Matsushiro 66.01 327 *i* P **P** **22 50 58.8 +0.6**
MAJO pmax pmax
comp=Z,52nm,1.0s
MJB9 Matsu-Tunnel 66.01 327 P **P** **22 50 59.2 +0.9**
MJB9 IAmb IAmb 22 51 01.1
comp=Z,61nm,1.0s
KPJI Karang Pucung 66.11 270 P **P** **22 50 59.7 +0.3**
comp=Z,104nm,1.0s
SBUM Sibu 66.33 282 P **P** **22 51 00.2 -0.5**
JSU Suzuyama 66.79 318 P **P** **22 51 03.2 -0.2**
JSU IAmb IAmb 22 51 04.8
comp=Z,59nm,1.0s
JSU Suzuyama 66.79 318 P **P** **22 51 04.6 +1.2**
comp=Z,86nm,1.7s
BBJI Bungbulang 67.28 270 P **P** **22 51 07.9 +0.9**
comp=Z,78nm,1.4s
LEM Lembang 67.51 270 P **P** **22 51 08.7 +0.2**
comp=Z,138nm,0.9s,baz=79,slow=4.4,SNR=19
LEM LR LR 23 20 36.3
comp=Z,2μm,20.7s,baz=98,slow=36
comp=Z,138nm,0.9s
YOJ Yonaguni jima 67.52 308 P **P** **22 51 08.1 0.0**
YOJ Yonaguni jima 67.52 308 P **P** **22 51 08.1 0.0**
YOJ pmax pmax
comp=Z,146nm,1.0s
JHS Saijyo 67.62 323 P **P** **22 51 10.1 +1.5**
JNU Nakatsue 67.63 320 P **P** **22 51 09.1 +0.5**
comp=Z,32nm,1.0s,baz=115,slow=6.5,SNR=8.9
JNU LR LR 23 16 37.4
comp=Z,2μm,21.7s,baz=131,slow=32
comp=Z,32nm,1.0s
JNU Nakatsue 67.63 320 P **P** **22 51 08.7 +0.1**
JNU IAmb IAmb 22 51 09.9
comp=Z,60nm,1.1s
JNU Nakatsue 67.63 320 P **P** **22 51 09.7 +1.0**
comp=Z,74nm,1.7s
KSM Kuching 67.74 280 P **P** **22 51 09.5 -0.3**
KSM IAmb IAmb 22 51 10.9
comp=Z,75nm,0.8s
KSM Kuching 67.74 280 P **P** **22 51 10.3 +0.5**
TWGBT Beinan 68.06 305 P **P** **22 51 12.6 +1.0**
RPN Rapa Nui 68.12 112 LR LR 23 16 11.1
comp=Z,3μm,19.4s,baz=280,slow=32
YULB Yu-li 68.21 306 P **P** **22 51 11.2 -1.3**
YULB IAmb IAmb 22 51 17.7
comp=Z,62nm,1.2s
YULB Yu-li 68.21 306 P **P** **22 51 13.9 +1.4**
comp=Z,46nm,1.9s
NACB Ninganchiao 68.42 307 P **P** **22 51 13.0 -0.8**
NACB Ninganchiao 68.42 307 P **P** **22 51 14.2 +0.4**
TPUB Ta-pu 68.67 306 P **P** **22 51 14.2 -1.2**
TPUB Ta-pu 68.67 306 P **P** **22 51 15.3 -0.1**
SSLB Suanglung 68.69 306 P **P** **22 51 14.0 -1.5**
SSLB IAmb IAmb 22 51 15.9
comp=Z,73nm,1.0s
SSLB Suanglung 68.69 306 P **P** **22 51 15.5 0.0**
YHNB Yeheng 68.86 307 P **P** **22 51 16.1 -0.5**
YHNB Yeheng 68.86 307 P **P** **22 51 17.3 +0.7**
comp=Z,122nm,1.3s
SBJI Serang 69.13 271 P **P** **22 51 18.1 -0.4**
comp=Z,174nm,1.0s

JKA Kamikawa-asahi 70.08 335 P **P** **22 51 24.2 +0.6**
JKA IAmb IAmb 22 51 26.4
comp=Z,88nm,1.5s
ASAJ Asahikawa 70.08 335 P **P** **22 51 24.9 +1.3**
comp=Z,16nm,1.1s,baz=239,slow=9.3,SNR=6.8
ASAJ LR LR 23 16 41.3
comp=Z,8μm,22.0s,baz=158,slow=31
comp=Z,16nm,1.1s
ASAJ Asahikawa 70.08 335 P **P** **22 51 24.2 +0.6**
ASAJ pmax pmax
comp=Z,88nm,1.5s
PPBI Pangkal Pinang 70.39 275 P **P** **22 51 26.5 +0.2**
comp=Z,73nm,1.1s
QSPA South Pole Qui 70.85 180 P **P** **22 51 28.5 +0.2**
comp=Z,152nm,0.9s,baz=28,slow=2.4,SNR=211
comp=Z,152nm,0.9s
QSPA South Pole Qui 70.85 180 P **P** **22 51 28.5 +0.2**
KASI Kota Agung 70.86 271 P **P** **22 51 27.9 -1.2**
comp=Z,166nm,1.1s
ADK Adak 71.06 5 P **P** **22 51 29.5 +0.1**
ADK IAmb IAmb 22 51 31.1
comp=Z,78nm,1.2s
ADK Adak 71.06 5 P **P** **22 51 31.6 +2.2**
comp=Z,60nm,1.4s
ADK Adak 71.06 5 P **P** **22 51 29.5 +0.1**
ADK pmax pmax
comp=Z,78nm,1.2s
PMBI Palembang 71.43 273 P **P** **22 51 32.7 +0.2**
LWLI Liwa 71.43 271 P **P** **22 51 31.6 -1.1**
comp=Z,171nm,0.9s
MDSI Maura Dua 71.49 272 P **P** **22 51 31.6 -1.3**
comp=Z,48nm,1.0s,comp=Z,2μm
SHEM Shemya Is, Ala 71.65 359 LR LR 23 15 55.0
comp=Z,2μm,22.0s,baz=156,slow=30
TJN Taejon 71.95 320 P **P** **22 51 35.8 +0.6**
TJN Taejon 71.95 320 P **P** **22 51 36.5 +1.3**
TJN Taejon 71.95 320 *i* P **P** **22 51 33.9 -1.3**
KSRS Korea Array 72.34 321 P **P** **22 51 38.6 +1.2**
comp=Z,15nm,1.0s,baz=140,slow=6.2,SNR=34
KSRS LR LR 23 21 58.6
comp=Z,980nm,18.8s,baz=290,slow=35
comp=Z,15nm,1.0s
KSAR Wonju Array Be 72.36 321 P **P** **22 51 38.0 +0.5**
KSAR Wonju Array Be 72.36 321 P **P** **22 51 38.0 +0.5**
YSS Yuzh-Sakhalins 72.39 337 P **P** **22 51 38.4 +0.9**
YSS Yuzh-Sakhalins 72.39 337 P **P** **22 51 39.2 +1.7**
YSS Yuzh-Sakhalins 72.39 337 *e*P **P** **22 51 39.2 +1.7**
YSS pmax pmax
comp=Z,50nm,0.9s
KS19 Wonju Array Si 72.41 322 P **P** **22 51 38.4 +0.5**
DSRI Dabo 72.42 276 P **P** **22 51 38.7 +0.2**
comp=Z,91nm,1.1s
NIKH Nikolski High 73.05 9 P **P** **22 51 41.5 +0.2**
baz=195
INCN Inchon 73.12 321 P **P** **22 51 42.5 +0.3**
INCN IAmb IAmb 22 51 45.1
comp=Z,197nm,1.8s
INCN Inchon 73.12 321 P **P** **22 51 43.5 +1.3**
INCN Inchon 73.12 321 P **P** **22 51 42.5 +0.3**
INCN pmax pmax
comp=Z,197nm,1.8s
HKPS Hong Kong Po S 73.26 301 P **P** **22 51 44.2 +0.9**
PET Petropavlovsk 73.50 349 P **P** **22 51 44.3 +0.4**
PET Petropavlovsk 73.50 349 *e*P **P** **22 51 44.2 +0.3**
PET pmax pmax
comp=Z,34nm,1.4s
PEA0B Petropavlovsk- 73.76 349 P **P** **22 51 45.3 -0.2**
PEA0B IAmb IAmb 22 51 48.0
comp=Z,90nm,1.2s
PEA0B Petropavlovsk- 73.76 349 P **P** **22 51 45.3 -0.2**
PEA0B pmax pmax
comp=Z,90nm,1.2s
PETK Petropavlovsk- 73.76 349 P **P** **22 51 46.4 +0.9**
comp=Z,24nm,1.0s,baz=130,slow=8.0,SNR=22
PETK LR LR 23 17 42.6
comp=Z,2μm,21.1s,baz=176,slow=30
comp=Z,24nm,1.0s
MYKOM Kota Tinggi 73.89 278 P **P** **22 51 46.9 -0.2**
UNV Unalaska Valle 74.27 11 P **P** **22 51 48.6 +0.1**
baz=197
NJ2 Nanjing 74.85 312 ⇓P **P** **22 51 53.2 +0.9**
NJ2 pP **pP** **22 51 56.3 -4.5**
NJ2 PcP **PcP** **22 52 07.4 +1.2**
NJ2 pmax pmax
comp=Z,35nm,0.6s
USA0B Ussuriysk Arra 74.89 329 P **P** **22 51 52.6 +0.3**
USA0B Ussuriysk Arra 74.89 329 P **P** **22 51 52.6 +0.3**
USA0B pmax pmax
comp=Z,65nm,1.5s
USRK Ussuriysk Ar. 74.89 329 P **P** **22 51 54.0 +1.7**
comp=Z,11nm,1.0s,baz=147,slow=3.9,SNR=16
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 74.89 329 P **P** **22 51 53.0 +0.7**
USRK Ussuriysk Ar. 74.89 329 P **P** **22 51 53.0 +0.7**
SDSI Sungai Dareh 75.24 274 P **P** **22 51 53.6 -1.4**
comp=Z,34nm,1.6s
TYV Tymovskoe 75.72 339 *e*P **P** **22 51 58.3 +1.4**
TYV *e*S **S** **23 01 43.4 +7.1**
TYV pmax pmax
comp=Z,2μm,4.1s
TYV smax smax
comp=E,1μm,6.0s
BKNI Bangkinang 76.02 275 P **P** **22 51 59.8 +0.3**
BKNI Bangkinang 76.02 275 P **P** **22 52 00.2 +0.7**
BKNI Bangkinang 76.02 275 P **P** **22 52 00.6 +1.1**
comp=E,102nm,1.3s
MDJ Mudanjiang 76.38 328 P **P** **22 51 01.3 +0.5**
MDJ Mudanjiang 76.38 328 P **P** **22 51 01.9 +1.1**
MDJ pmax pmax
comp=E,42nm,1.4s
MDJ pmax pmax
comp=E,340nm,6.3s
MDJ Mudanjiang 76.38 328 P **P** **22 52 02.6 +1.8**
comp=E,49nm,1.4s
S12K Black Hills 76.87 12 P **P** **22 52 03.6 +0.2**
baz=201
SDPT Sand Point 76.88 13 P **P** **22 52 03.3 0.0**
baz=203
SPIA Saint Paul Isl 76.94 8 P **P** **22 52 03.5 -0.2**
baz=193
DL2 Dalian 77.07 319 P **P** **22 52 06.0 +1.2**
DL2 pmax pmax
comp=E,51nm,1.3s
WHN Wuhan 77.27 309 ⇓P **P** **22 52 06.6 +0.5**
WHN S **S** **23 01 54.7 +0.5**
WHN LR LR
comp=E,8μm,16.3s
WHN LR LR
comp=E,12μm,16.5s
WHN LR LR
comp=E,24μm,23.9s
IPM Ipoh 77.47 279 P **P** **22 52 07.1 -0.6**
IPM IAmb IAmb 22 52 08.7
comp=Z,109nm,1.0s
IPM Ipoh 77.47 279 P **P** **22 52 07.8 +0.1**
UBPT Khong Chiam 77.49 291 P **P** **22 52 06.8 -0.9**
CN2 Changchun 77.98 325 *e*P **P** **22 52 10.0 +0.2**
CN2 S **S** **23 01 58.7 -2.7**
CN2 pmax pmax
comp=Z,100nm,1.2s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,3μm,20.0s
CN2 LR LR
comp=Z,6μm,22.0s
KULM Kulim 78.10 280 P **P** **22 52 10.6 -0.6**
CHGN Chignik 78.22 14 P **P** **22 52 12.1 +1.3**
baz=204
BNX BinXian 78.27 327 ⇓P **P** **22 52 11.8 +0.4**
BNX pmax pmax
comp=Z,34nm,1.0s
TIA Tai'an 78.38 315 P **P** **22 52 13.2 +1.0**
TIA pmax pmax
comp=Z,52nm,1.0s
CHIR Chirikof Islan 78.47 16 P **P** **22 52 13.7 +1.4**
baz=207
KLR Kul'dur 78.70 332 P **P** **22 52 15.4 +1.7**
comp=Z,12nm,0.8s,baz=122,slow=4.5,SNR=32
KLR LR LR 23 24 12.9
comp=Z,1μm,18.9s,baz=196,slow=34
comp=Z,12nm,0.8s
KLR Kul'dur 78.70 332 *ce*P **P** **22 52 14.8 +1.1**
KLR pmax pmax
comp=Z,54nm,1.7s
RPSI Rantau Prapat 78.81 277 P **P** **22 52 13.8 -1.4**

PSI Prapat 78.85 277 P **P** **22 52 14.5 -1.0**
PSI Prapat 78.85 277 P **P** **22 52 13.8 -1.7**
PSI pmax pmax
comp=Z,61nm,1.1s
SII Sitkinak Islan 79.50 16 P **P** **22 52 17.8 -0.1**
SII IAmb IAmb 22 52 19.6
comp=Z,71nm,1.0s
SII Sitkinak Islan 79.50 16 P **P** **22 52 18.8 +0.9**
baz=208
SII Sitkinak Islan 79.50 16 P **P** **22 52 20.1 +2.2**
comp=Z,82nm,1.0s
GSI Gunungsitoli 79.61 275 P **P** **22 52 18.9 -0.6**
GSI IAmb IAmb 22 52 20.4
comp=Z,64nm,0.9s
R17K Ugashik Creek 79.91 15 P **P** **22 52 21.2 +1.1**
baz=206
SRIT Nakonsritamara 80.25 283 P **P** **22 52 24.6 +1.7**
comp=Z,94nm,0.5s
OHAK Old Harbor 80.32 16 P **P** **22 52 22.8 +0.5**
OHAK IAmb IAmb 22 52 24.9
comp=Z,128nm,1.4s
OHAK Old Harbor 80.32 16 P **P** **22 52 23.6 +1.3**
baz=209
SURA Surathani 80.43 283 P **P** **22 52 24.5 +0.6**
Q17K Contact Creek 80.59 15 P **P** **22 52 24.4 +0.6**
baz=207,SNR=12
NONG Nongkai 80.65 293 P **P** **22 52 25.8 +0.9**
HNS HongShan 80.65 315 ⇓P **P** **22 52 25.9 +1.4**
HNS pmax pmax
comp=Z,49nm,1.3s
LYN LuoYang 80.70 311 ⇓ *i* P **P** **22 52 26.2 +1.3**
LYN pmax pmax
comp=Z,50nm,1.3s
LYN pmax pmax
comp=Z,2μm,10.3s
LYN LR LR
comp=Z,2μm,19.1s
LYN LR LR
comp=Z,2μm,26.0s
LYN LR LR
comp=Z,5μm,24.0s
ENH Enshi 80.78 306 P **P** **22 52 25.6 +0.2**
ENH Enshi 80.78 306 P **P** **22 52 26.1 +0.7**
P16K Nushagak River 80.81 13 P **P** **22 52 25.8 +0.9**
baz=205,SNR=9.0
SCZ2 Santa Cruz Isl 80.84 49 P **P** **22 52 28.0 +2.3**
baz=239,SNR=6.8
MAW Mawson 80.85 201 P **P** **22 52 25.4 +0.3**
comp=Z,63nm,1.0s,baz=116,slow=5.9,SNR=34
comp=Z,63nm,1.0s
MAW Mawson 80.85 201 P **P** **22 52 25.4 +0.3**
baz=81,SNR=22
MAW Mawson 80.85 201 P **P** **22 52 25.1 0.0**
MAW Mawson 80.85 201 P **P** **22 52 25.1 0.0**
MAW pmax pmax
comp=Z,22nm,1.1s
KDAK Kodiak Island 81.00 16 P **P** **22 52 27.0 +1.1**
comp=Z,50nm,1.1s,baz=223,slow=1.8,SNR=11
KDAK LR LR 23 20 30.5
comp=Z,2μm,21.0s,baz=344,slow=30
comp=Z,50nm,1.1s
KDAK Kodiak Island 81.00 16 P **P** **22 52 26.6 +0.7**
KDAK IAmb IAmb 22 52 28.6
comp=Z,98nm,1.3s
KDAK Kodiak Island 81.00 16 P **P** **22 52 27.2 +1.3**
baz=210
KDAK Kodiak Island 81.00 16 *i* P **P** **22 52 25.3 -0.6**
KDAK pmax pmax
comp=Z,125nm,1.4s
SAO San Andreas Ge 81.01 46 P **P** **22 52 27.1 +0.6**
SAO IAmb IAmb 22 52 30.1
comp=Z,98nm,1.2s
SAO San Andreas Ge 81.01 46 P **P** **22 52 27.1 +0.6**
SAO pmax pmax
comp=Z,98nm,1.2s
HOPS Hopland Field 81.12 44 P **P** **22 52 28.0 +0.9**
HOPS IAmb IAmb 22 52 41.5
comp=Z,154nm,1.5s
BJT Baijiatuau 81.14 318 P **P** **22 52 27.6 +0.5**
BJT Baijiatuau 81.14 318 P **P** **22 52 27.6 +0.5**
BJT pmax pmax
comp=Z,43nm,1.0s
Q18K Katmai Hardscr 81.14 15 P **P** **22 52 27.5 +0.7**
baz=207,SNR=20
PMPB Monarch Peak 81.16 47 P **P** **22 52 27.5 +0.1**
PMPB IAmb IAmb 22 52 31.4
comp=Z,186nm,1.4s
PKM Mcpherson Peak 81.17 48 P **P** **22 52 29.6 +2.0**
baz=239,SNR=15
MA2 Magadan 81.19 347 P **P** **22 52 27.3 +0.4**
comp=Z,12nm,0.8s,baz=139,slow=6.8,SNR=9.1
MA2 LR LR 23 23 23.5
comp=Z,3μm,21.4s,baz=176,slow=32
comp=Z,12nm,0.8s
MA2 Magadan 81.19 347 P **P** **22 52 26.7 -0.2**
MA2 Magadan 81.19 347 P **P** **22 52 27.7 +0.8**
MA2 Magadan 81.19 347 *ce*P **P** **22 52 26.3 -0.6**
MA2 pmax pmax
comp=Z,46nm,1.7s
GYA Guiyang 81.23 302 ⇓ *i* P **P** **22 52 28.4 +0.3**
GYA pmax pmax
comp=Z,36nm,1.0s
SMMC Simmler 81.26 48 P **P** **22 52 29.9 +2.0**
baz=239,SNR=9.4
O16K Kokwok River B 81.30 13 P **P** **22 52 28.1 +0.7**
baz=204,SNR=9.0
P17K Kvichak River 81.30 14 P **P** **22 52 27.8 +0.3**
baz=206
HEH HeiHe 81.39 331 *e*P **P** **22 52 28.8 +0.6**
HEH pmax pmax
comp=Z,44nm,1.5s
CIS Catalina Islan 81.43 50 P **P** **22 52 30.5 +1.7**
baz=240,SNR=7.3
BCW Bitter Crk WRg 81.48 49 P **P** **22 52 30.4 +1.2**
BCW IAmb IAmb 22 52 33.0
comp=Z,88nm,1.1s
BELA Belgrano 2 81.50 174 P **P** **22 52 27.4 -1.1**
O17K Koliganek Bris 81.67 13 P **P** **22 52 29.7 +0.3**
baz=205
Q19K Cape Douglas, 81.72 15 P **P** **22 52 30.5 +0.7**
Q19K Cape Douglas, 81.72 15 P **P** **22 52 30.6 +0.8**
baz=209,SNR=8.0
SMAI San Martin Ant 81.74 160 P **P** **22 52 30.5 +0.6**
P18K Big Mountain, 81.75 14 P **P** **22 52 30.3 +0.3**
P18K IAmb IAmb 22 52 34.2
comp=Z,72nm,1.1s
P18K Big Mountain, 81.75 14 P **P** **22 52 30.5 +0.6**
baz=207,SNR=20
Q20K Shuyak Island 81.77 16 P **P** **22 52 31.0 +1.0**
baz=210
DECC Green Verdugo 81.91 50 P **P** **22 52 32.8 +1.5**
baz=240
N16K Nishlik Lake 81.96 12 P **P** **22 52 33.3 +2.3**
baz=204
PASC Pasadena Art C 81.97 50 P **P** **22 52 32.1 +0.4**
PASC IAmb IAmb 22 52 34.0
comp=Z,66nm,1.2s
ARVC Arvin 81.98 49 P **P** **22 52 33.2 +1.5**
baz=240,SNR=5.6
109C Camp Elliot, M 82.14 51 P **P** **22 52 33.7 +1.2**
baz=241
VES Vestal, Richgr 82.16 48 P **P** **22 52 34.3 +1.7**
baz=240,SNR=16
O18K Koktuh Hills 82.17 14 P **P** **22 52 32.2 +0.1**
O18K Koktuh Hills 82.17 14 P **P** **22 52 33.5 +1.4**
baz=207,SNR=17
TIY Taiyuan 82.35 314 ⇓P **P** **22 52 35.0 +1.3**
TIY pmax pmax
comp=Z,64nm,0.9s
BAR Barrett 82.36 52 P **P** **22 52 33.5 -0.2**
BFSC Mount Baldy Ra 82.38 50 P **P** **22 52 35.0 +1.0**
baz=241,SNR=22
MURC Murrieta 82.41 51 P **P** **22 52 35.2 +1.2**
baz=241,SNR=9.4
ORV Oroville 82.45 44 P **P** **22 52 34.7 +0.6**
ORV IAmb IAmb 22 52 37.4
comp=Z,82nm,1.2s
ORV Oroville 82.45 44 P **P** **22 52 34.7 +0.6**
ORV pmax pmax
comp=Z,82nm,1.3s
EDW2 Edwards Air Fo 82.46 49 P **P** **22 52 36.3 +2.0**
baz=240,SNR=47
P19K Oil Pt 82.46 15 P **P** **22 52 34.0 +0.3**
P19K Oil Pt 82.46 15 P **P** **22 52 34.6 +1.0**
baz=209
ISA Isabella, Lake 82.50 48 P **P** **22 52 35.9 +1.4**

ISA IAmb IAmb 22 52 38.1
comp=Z,107nm,1.2s
ISA Isabella, Lake 82.50 48 P **P 22 52 36.8 +2.3**
baz=240,SNR=35
ISA Isabella, Lake 82.50 48 P **P 22 52 35.9 +1.4**
ISA pmax pmax
comp=Z,107nm,1.2s
MONP2 Monument Peak 82.64 52 P **P 22 52 37.6 +2.1**
baz=242,SNR=54
O19K Port Alsworth 82.68 14 P **P 22 52 34.9 +0.2**
O19K Port Alsworth 82.68 14 P **P 22 52 35.1 +0.4**
baz=208,SNR=8.6
IKP In-Ko-Pah, Jac 82.76 52 P **P 22 52 38.2 +2.3**
baz=242,SNR=27
YBH Yreka Blue Hor 82.86 41 LR LR 23 23 31.0
comp=Z,1µm,19.1s,baz=344,slow=31
YBH Yreka Blue Hor 82.86 41 P **P 22 52 37.2 +1.0**
YBH IAmb IAmb 22 52 40.1
comp=Z,91nm,1.3s
YBH Yreka Blue Hor 82.86 41 P **P 22 52 37.3 +1.0**
YBH pmax pmax
comp=Z,91nm,1.3s
HOM Homer 82.87 16 P **P 22 52 36.8 +1.1**
baz=210,SNR=6.0
YUH Yuha Desert 82.90 52 P **P 22 52 38.0 +1.5**
YUH IAmb IAmb 22 52 40.2
comp=Z,54nm,1.2s
PFO Pinyon Flats O 82.96 51 LR LR 23 21 08.4
comp=Z,2µm,20.4s,baz=317,slow=30
PFO Pinyon Flats O 82.96 51 P **P 22 52 37.8 +0.8**
PFO Pinyon Flats O 82.96 51 P **P 22 52 38.9 +2.0**
baz=241,SNR=15
PFO Pinyon Flats O 82.96 51 P **P 22 52 37.8 +0.8**
PFO pmax pmax
comp=Z,42nm,1.3s
TPFO Pinon Flats 82.96 51 P **P 22 52 38.9 +1.9**
baz=241,SNR=16
LRMC Laurel Mtn Rad 82.97 49 P **P 22 52 39.1 +2.0**
baz=240,SNR=5.3
O20K Slope Mountain 82.99 15 P **P 22 52 37.4 +0.9**
baz=210,SNR=18
XAN Xi'an 82.99 310 ||P **P 22 52 38.0 +0.9**
XAN pP PcP 22 52 42.6 +0.9
XAN pmax pmax
comp=Z,62nm,1.1s
MDPB Devils Postpil 83.07 46 P **P 22 52 39.1 +1.4**
SWSC Sam W. Stewart 83.13 52 P **P 22 52 39.6 +1.9**
baz=242,SNR=20
BRLK Bradley Lake 83.16 16 P **P 22 52 37.9 +0.6**
CWC Cottonwood Cre 83.17 48 P **P 22 52 40.1 +2.0**
baz=240
RRX Edison Barstow 83.17 50 P **P 22 52 40.0 +2.0**
baz=241
BRSE Bradley Lake S 83.18 16 P **P 22 52 38.6 +1.2**
baz=211,SNR=19
N19K Bonanza Creek 83.19 14 P **P 22 52 37.7 +0.2**
baz=208
MLAC Mammoth, Mammo 83.24 46 P **P 22 52 40.7 +2.2**
baz=240,SNR=6.4
GAMB Gambell 83.25 5 P **P 22 52 39.1 +1.5**
baz=192
PHRA Phrae 83.36 292 P **P 22 52 39.6 +0.4**
SRIG Santa Rosalia 83.36 58 P **P 22 52 40.4 +1.3**
SRIG IAmb IAmb 22 52 43.0
comp=Z,105nm,1.2s
BEKR Beckworth 83.37 44 P **P 22 52 40.1 +1.1**
BEKR IAmb IAmb 22 52 42.5
comp=Z,122nm,1.3s
TIN Tinemaha, Big 83.37 47 P **P 22 52 41.0 +2.0**
baz=240,SNR=10.0
MPMC Manual Prospec 83.39 48 P **P 22 52 41.3 +2.1**
baz=241,SNR=53
BELC Belle Mtn. Jos 83.48 51 P **P 22 52 41.9 +2.2**
baz=242,SNR=44
GSC Goldstone, Bar 83.51 49 P **P 22 52 41.8 +2.0**
baz=241,SNR=26
VCNR Virginia City 83.54 45 P **P 22 52 41.0 +1.0**
VCNR IAmb IAmb 22 52 43.6
comp=Z,88nm,1.2s
LPIG La Paz 83.60 62 LR LR 23 23 17.3
comp=Z,3µm,18.6s,baz=286,slow=31
HEC Hector,Ludlow 83.63 50 P **P 22 52 42.3 +1.9**
baz=241,SNR=46
BC3 Big Chuckawall 83.72 51 P **P 22 52 43.2 +2.3**
baz=242,SNR=26
SLBS Sierra La Lagu 83.74 62 P **P 22 52 42.9 +1.7**
SEW Seward 83.83 17 P **P 22 52 41.2 +0.6**
SEW IAmb IAmb 22 52 42.6
comp=Z,76nm,1.1s
SEW Seward 83.83 17 P **P 22 52 41.4 +0.8**
baz=212,SNR=8.0
ZEA Zeya 83.90 333 *i*P **P 22 52 42.2 +1.1**
GLA Glamis 83.90 52 P **P 22 52 44.6 +2.8**
baz=242,SNR=15
CRAI Chiangrai 83.91 294 P **P 22 52 42.5 +0.5**
GRAC Grapevine Rang 83.94 48 P **P 22 52 44.4 +2.6**
baz=240,SNR=19
CAPN Captain Cook N 83.95 15 P **P 22 52 42.8 +1.6**
CAPN Captain Cook N 83.95 15 P **P 22 52 43.2 +1.9**
baz=211,SNR=8.4
SEY Seymchan 83.97 349 P **P 22 52 42.0 +0.7**
comp=Z,35nm,0.9s,baz=150,slow=5.6,SNR=86
comp=Z,35nm,0.9s
SEY Seymchan 83.97 349*ce*P **P 22 52 41.7 +0.4**
SEY pmax pmax
comp=Z,119nm,1.7s
NVAR Mina Array Bea 84.00 46 P **P 22 52 44.4 +2.0**
comp=Z,60nm,1.1s,baz=228,slow=7.6,SNR=141
comp=Z,60nm,1.1s
NVAR Mina Array Bea 84.00 46 P **P 22 52 44.0 +1.6**
FURC Furnace Creek, 84.03 48 P **P 22 52 44.1 +1.8**
baz=241,SNR=7.0
N20K Mount Spurr 84.06 15 P **P 22 52 42.0 +0.1**
baz=210,SNR=31
SPCR Spurr Chakacha 84.06 15 P **P 22 52 42.1 +0.1**
baz=210,SNR=14
O22K Cooper Landing 84.08 16 P **P 22 52 42.4 +0.5**
O22K Cooper Landing 84.08 16 P **P 22 52 42.9 +1.0**
baz=212,SNR=4
GMRC Granite Mounta 84.09 50 P **P 22 52 44.8 +2.0**
baz=242,SNR=45
NV11 Mina Array Sit 84.10 46 P **P 22 52 44.6 +1.8**
Q23K Middleton Isla 84.14 18 P **P 22 52 43.4 +1.2**
baz=215
IRM Iron Mountain 84.18 51 P **P 22 52 45.6 +2.5**
baz=242,SNR=39
M19K Big River Lodg 84.18 14 P **P 22 52 43.4 +1.0**
baz=208,SNR=16
SHOC Shoshone, Teco 84.18 49 P **P 22 52 44.9 +1.8**
baz=241
TUQ Turquoise Moun 84.21 50 P **P 22 52 45.7 +2.3**
baz=242,SNR=9.2
PIX Pinacate 84.26 54 P **P 22 52 45.2 +1.7**
PIX IAmb IAmb 22 52 47.0
comp=Z,49nm,1.2s
P23K Montague Islan 84.31 17 P **P 22 52 43.7 +0.6**
baz=214
L19K White Mountain 84.32 13 P **P 22 52 44.2 +1.0**
baz=207
M20K Styx River 84.44 14 P **P 22 52 44.8 +0.9**
baz=209
MOD Modoc Plateau 84.47 42 P **P 22 52 46.3 +1.7**
CM31 Chiang Mai Arr 84.48 292 P **P 22 52 45.8 +0.9**
CM31 IAmb IAmb 22 52 47.3
comp=Z,42nm,0.9s
CM31 Chiang Mai Arr 84.48 292 P **P 22 52 46.8 +1.9**
SNR=13
CMAR Chiang Mai Arr 84.48 292 P **P 22 52 45.9 +1.0**
comp=Z,26nm,0.9s,baz=129,slow=3.8,SNR=104
CMAR LR LR 23 26 40.5
comp=Z,825nm,21.9s,baz=80,slow=33
comp=Z,26nm,0.9s
CMAR Chiang Mai Arr 84.48 292 P **P 22 52 45.3 +0.4**
CMAR Chiang Mai Arr 84.48 292 P **P 22 52 45.3 +0.4**
HIA Hailar 84.50 327 P **P 22 52 45.1 +0.7**
HIA Hailar 84.50 327 P **P 22 52 45.7 +1.3**
comp=Z,25nm,1.8s
HIA Hailar 84.50 327 P **P 22 52 45.1 +0.7**
HIA pmax pmax
comp=Z,33nm,1.2s
K05A Summer Lake 84.53 41 P **P 22 52 46.1 +1.2**
HHC Hu-ho-hao-te 84.55 317 *e*P **P 22 52 46.0 +1.1**
HHC pmax pmax
comp=Z,91nm,1.0s
HHC pmax pmax
comp=Z,6µm,5.5s
TPH Tonopah 84.57 47 P **P 22 52 46.7 +1.5**
TPH Tonopah 84.57 47 P **P 22 52 46.7 +1.5**
TPH pmax pmax
comp=Z,529nm,1.2s
113A Mohawk Valley, 84.57 53 P **P 22 52 46.6 +1.6**
113A IAmb IAmb 22 52 48.9
comp=Z,68nm,1.2s
RC01 Rabbit Creek A 84.59 16 P **P 22 52 45.2 +0.7**
baz=212,SNR=33
CHTO Chiang Mai 84.61 292 P **P 22 52 45.6 0.0**
CHTO Chiang Mai 84.61 292 P **P 22 52 45.6 0.0**
CHTO pmax pmax
comp=Z,2.0nm,1.1s
PMSA Palmer Station 84.61 158 P **P 22 52 44.1 -0.6**
comp=Z,51nm,1.0s,baz=243,slow=3.6,SNR=7.6
comp=Z,51nm,1.0s
PMSA Palmer Station 84.61 158 P **P 22 52 45.0 +0.2**
PMSA Palmer Station 84.61 158 *e*P **P 22 52 45.8 +1.0**
SUA Susitna One 84.65 15 P **P 22 52 45.5 +0.5**
baz=211,SNR=22
TPNV Topopah Spring 84.70 48 P **P 22 52 46.8 +0.9**
TPNV Topopah Spring 84.70 48 P **P 22 52 48.0 +2.1**
baz=241,SNR=72
TPNV Topopah Spring 84.70 48 P **P 22 52 46.8 +0.9**
TPNV pmax pmax
comp=Z,116nm,1.2s
ANM Nome 84.72 8 P **P 22 52 45.8 +0.8**
ANM Nome 84.72 8 P **P 22 52 46.7 +1.7**
baz=197,SNR=11
ANM Nome 84.72 8 P **P 22 52 45.8 +0.8**
ANM pmax pmax
comp=Z,43nm,1.2s
TTA Tatalina 84.75 12 P **P 22 52 46.8 +1.4**
TTA IAmb IAmb 22 52 48.1
comp=Z,56nm,1.2s
TTA Tatalina 84.75 12 P **P 22 52 46.4 +1.0**
baz=206,SNR=22
TTA Tatalina 84.75 12 P **P 22 52 46.8 +1.4**
TTA pmax pmax
comp=Z,56nm,1.2s
PWL Port Wells 84.77 17 P **P 22 52 45.9 +0.5**
PWL Port Wells 84.77 17 P **P 22 52 46.1 +0.7**
baz=213,SNR=24
L20K Farewell, AK 84.80 13 P **P 22 52 46.5 +0.9**
baz=208
NEE2 Needles Airpor 84.84 51 P **P 22 52 48.6 +2.2**
baz=242,SNR=7.0
SKT Skwentna 84.90 15 P **P 22 52 45.4 -0.7**
SKT Skwentna 84.90 15 P **P 22 52 45.9 -0.2**
baz=210,SNR=6.2
214A Organ Pipe Nat 84.93 54 P **P 22 52 48.7 +1.7**
baz=244,SNR=46
M22K Willow 85.06 15 P **P 22 52 46.9 +0.1**
M22K Willow 85.06 15 P **P 22 52 47.3 +0.5**
baz=212,SNR=10
PINE Pine Mountain 85.08 40 P **P 22 52 49.3 +1.7**
HSIG 85.12 57 P **P 22 52 49.1 +1.2**
HSIG IAmb IAmb 22 52 51.6
comp=Z,94nm,1.3s
PMR Palmer 85.17 16 P **P 22 52 47.5 +0.1**
PMR Palmer 85.17 16 P **P 22 52 47.9 +0.5**
baz=213,SNR=25
PMR Palmer 85.17 16 P **P 22 52 47.5 +0.1**
PMR pmax pmax
comp=Z,133nm,1.3s
KNK Knik Glacier 85.20 16 P **P 22 52 47.9 +0.3**
KNK IAmb IAmb 22 52 49.7
comp=Z,112nm,1.4s
KNK Knik Glacier 85.20 16 P **P 22 52 48.5 +0.9**
baz=213,SNR=15
EYAK Cordova Ski Ar 85.23 18 P **P 22 52 48.4 +0.7**
baz=216
EYAK Cordova Ski Ar 85.23 18 P **P 22 52 49.0 +1.3**
PZH PanZhiHua 85.24 300 P **P 22 52 48.8 0.0**
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,200nm,5.1s
TNA Tin City 85.37 7 P **P 22 52 49.4 +1.2**
baz=195
CD2 Chengdu 85.47 305 P **P 22 52 51.0 +1.3**
CD2 pmax pmax
comp=Z,50nm,0.6s
K20K Telida 85.54 13 P **P 22 52 50.2 +1.0**
baz=208
PPLA Purkeypile 85.55 14 P **P 22 52 49.3 -0.2**
baz=210
SML Sawmill 85.56 16 P **P 22 52 50.0 +0.5**
SML IAmb IAmb 22 52 51.6
comp=Z,132nm,1.6s
SML Sawmill 85.56 16 P **P 22 52 49.8 +0.4**
baz=213,SNR=13
CUT Chulitna 85.58 15 P **P 22 52 49.7 +0.3**
baz=212,SNR=7.5
DIV Divide 85.70 17 P **P 22 52 50.1 0.0**
DIV IAmb IAmb 22 52 52.1
comp=Z,80nm,1.1s
M23K Glacier View 85.71 16 P **P 22 52 50.5 +0.4**
baz=214,SNR=9.9
WVOR Wild Horse Val 85.81 42 P **P 22 52 52.1 +0.9**
WVOR IAmb IAmb 22 52 54.8
comp=Z,92nm,1.2s
WVOR Wild Horse Val 85.81 42 P **P 22 52 52.1 +0.9**
WVOR pmax pmax
comp=Z,92nm,1.2s
R11A Troy Canyon, C 85.83 47 P **P 22 52 53.1 +1.6**
baz=242,SNR=23
SCM Sheep Creek Mo 85.85 16 P **P 22 52 51.0 +0.1**
SCM IAmb IAmb 22 52 52.9
comp=Z,76nm,1.0s
SCM Sheep Creek Mo 85.85 16 P **P 22 52 51.5 +0.6**
baz=214,SNR=17
SCM Sheep Creek Mo 85.85 16 P **P 22 52 51.0 +0.1**
SCM pmax pmax
comp=Z,76nm,1.0s
CRAG Craig 85.89 26 P **P 22 52 52.6 +1.5**
baz=227
BMRM Bremner River 85.90 18 P **P 22 52 51.5 +0.4**
BMRM Bremner River 85.90 18 P **P 22 52 51.7 +0.6**
baz=217
KLU Klutina 85.95 17 P **P 22 52 51.8 +0.4**
KLU IAmb IAmb 22 52 52.8
comp=Z,51nm,1.2s
KLU Klutina 85.95 17 P **P 22 52 51.9 +0.4**
baz=216
CAST Castle Rocks 86.02 14 P **P 22 52 51.0 -0.7**
baz=210,SNR=30
CLRS Cowichan Lake 86.03 35 P **P 22 52 52.9 +0.9**
CLRS IAmb IAmb 22 52 54.5
comp=Z,56nm,1.2s
SIT Sitka 86.11 24 P **P 22 52 53.4 +1.2**
baz=225
GRNB Grenville Isla 86.19 29 P **P 22 52 53.9 +1.2**
GRNB IAmb IAmb 22 52 55.4
comp=Z,71nm,1.2s
GCSA Galena City Sc 86.22 11 P **P 22 52 54.1 +1.6**
baz=205
J20K Nowinta River 86.25 13 P **P 22 52 53.9 +1.2**
baz=208
U33K Whale Pass 86.33 26 P **P 22 52 55.0 +1.7**
baz=227,SNR=11
WAT6 Susitna Watana 86.36 16 P **P 22 52 53.8 +0.3**
baz=214,SNR=23
WAT1 Susitna Watana 86.36 15 P **P 22 52 53.7 +0.3**
baz=213
CHUM Lake Minchumin 86.38 13 P **P 22 52 54.5 +1.2**
baz=210,SNR=13
M24K Tolsona, Glenn 86.38 17 P **P 22 52 54.2 +0.7**
baz=215,SNR=14
S31K Pelican 86.40 23 P **P 22 52 55.0 +1.5**
baz=224,SNR=12
N25K Chitina, Valde 86.42 18 P **P 22 52 54.0 +0.3**
N25K IAmb IAmb 22 52 55.9
comp=Z,98nm,1.2s
N25K Chitina, Valde 86.42 18 P **P 22 52 54.5 +0.7**
baz=217,SNR=29
V35K Ketchikan 86.43 27 P **P 22 52 55.3 +1.6**
baz=228,SNR=8.6
VRDI Verde Repeater 86.45 18 P **P 22 52 54.3 +0.3**
VRDI IAmb IAmb 22 52 56.1
comp=Z,102nm,1.3s
TRF Thorofare Moun 86.46 14 P **P 22 52 54.1 +0.1**
baz=212,SNR=13
GLB Gilahina Butte 86.52 18 P **P 22 52 54.8 +0.7**
GLB IAmb IAmb 22 52 55.5
comp=Z,62nm,1.1s
PNL Peninsula 86.53 21 P **P 22 52 54.7 +0.5**
baz=222
PNL Peninsula 86.53 21 P **P 22 52 55.7 +1.4**
comp=Z,44nm,1.0s
PINM Pinnacle 86.57 20 P **P 22 52 55.4 +0.9**
baz=221,SNR=8.4
TUC Tucson 86.63 54 P **P 22 52 56.6 +1.1**
TUC IAmb IAmb 22 52 59.6
comp=Z,62nm,1.2s
TUC Tucson 86.63 54 P **P 22 52 57.3 +1.9**
baz=245
TUC Tucson 86.63 54 P **P 22 52 56.6 +1.1**
MCARA McCarthy VSAT 86.70 18 P **P 22 52 55.9 +0.9**
baz=218,SNR=22
WRAK Wrangell Islan 86.86 26 P **P 22 52 56.7 +0.8**
WRAK IAmb IAmb 22 52 58.3
comp=Z,58nm,1.1s
WRAK Wrangell Islan 86.86 26 P **P 22 52 57.8 +2.0**
baz=228,SNR=7.3
BPAW Bear Paw Mtn. 86.86 14 P **P 22 52 56.7 +0.9**
baz=211
DHY Denali Highway 86.86 16 P **P 22 52 56.3 +0.3**
baz=214,SNR=14
HARP HAARP 86.90 17 P **P 22 52 56.7 +0.7**
baz=216
MCK McKinley 87.03 15 P **P 22 52 57.1 +0.5**
baz=213,SNR=11
P29M Windy Craggy 87.07 22 P **P 22 52 58.2 +1.3**
baz=223
O28M Mount Upton 87.11 20 P **P 22 52 58.3 +0.9**
baz=221
ELK Elko 87.20 45 LR LR 23 24 10.2
comp=Z,2µm,19.6s,baz=342,slow=30
ELK Elko 87.20 45 P **P 22 52 59.5 +1.3**
ELK IAmb IAmb 22 53 01.6
comp=Z,60nm,1.2s
ELK Elko 87.20 45 P **P 22 52 59.5 +1.3**
ELK pmax pmax
comp=Z,60nm,1.2s
ELIB Princess Elisa 87.21 188 *d*P **P 22 52 55.7 -2.1**
comp=Z,66nm,1.1s
R32K Eaglecrest 87.27 24 P **P 22 52 58.8 +0.9**
baz=226
PAX Paxson 87.28 17 P **P 22 52 58.3 +0.4**
baz=216,SNR=11
O29M Mount Kennedy 87.28 21 P **P 22 52 59.1 +1.1**
baz=222
BILL Bilibino 87.29 356 P **P 22 52 57.9 +0.2**
BILL IAmb IAmb 22 52 59.9
comp=Z,79nm,1.6s
BILL Bilibino 87.29 356*c i*P **P 22 52 58.2 +0.5**
BILL *e* 22 53 00.0
BILL *i* 22 53 04.2
BILL SS SS 23 09 18.0 -2.7
BILL pmax pmax
comp=Z,54nm,1.7s
BILL MLR MLR
comp=Z,1µm,19.0s
HAWA Hanford 87.30 39 P **P 22 52 59.8 +1.5**
JIS Juneau Island 87.32 24 P **P 22 53 00.0 +2.0**
TNCH TengChong 87.33 298 ||P **P 22 52 59.6 +0.4**
TNCH pP PcP 22 53 03.5 +2.3
TNCH sP pP 22 53 05.7 -2.1
TNCH sS sS 23 03 45.1 -6.9
TNCH LR LR
comp=Z,900nm,17.3s
TNCH LR LR
comp=Z,1µm,15.4s
TNCH LR LR
comp=Z,2µm,39.7s
PLBC Pleasant Camp 87.43 22 P **P 22 52 59.5 +1.0**
baz=224,SNR=16
M26K Nabesna, AK 87.51 18 P **P 22 52 59.7 +0.7**
baz=218
WUAZ Wupatki 87.56 51 P **P 22 53 01.1 +1.1**
WUAZ IAmb IAmb 22 53 03.8
comp=Z,56nm,1.2s
WUAZ Wupatki 87.56 51 P **P 22 53 02.1 +2.1**
baz=244,SNR=18
I21K Tanana 87.58 13 P **P 22 52 59.4 +0.3**
I21K Tanana 87.58 13 P **P 22 52 59.5 +0.4**
baz=210
YUK8 Steele Glacier 87.63 20 P **P 22 53 00.2 +0.3**
baz=221,SNR=27
LZH Lanzhou 87.63 309 *e*P **P 22 53 02.1 +1.8**
LZH sP pP 22 53 08.5 -0.3
LZH pmax pmax
comp=Z,130nm,1.3s
MG05 Puerto Natales 87.63 145 P **P 22 53 01.0 +1.0**
MG05 IAmb IAmb 22 53 05.4
comp=Z,64nm,1.1s
P30M Million Dollar 87.70 21 P **P 22 53 01.3 +1.3**
baz=224
MLY Manley 87.72 13 P **P 22 52 59.5 -0.4**
baz=211,SNR=10.0
NEA2 Nenana 87.72 14 P **P 22 53 00.1 +0.2**
baz=213
YUK3 Moose Creek 87.78 19 P **P 22 53 01.4 +0.8**
baz=220,SNR=36
SKAG Skagway 87.80 23 P **P 22 53 01.4 +1.2**
SKAG IAmb IAmb 22 53 03.8
comp=Z,99nm,1.6s
SKAG Skagway 87.80 23 P **P 22 53 01.5 +1.2**
baz=225,SNR=13
M27K Edge Creek, AK 87.80 18 P **P 22 53 01.9 +1.3**
baz=219
H21K Melozitna Rive 87.83 12 P **P 22 53 00.8 +0.4**
baz=209
YUK6 Outpost Mounta 87.83 20 P **P 22 53 01.6 +0.9**
baz=222,SNR=7.5
WRH Wood River Hil 87.85 15 P **P 22 53 00.2 -0.2**
WRH IAmb IAmb 22 53 02.4
comp=Z,45nm,1.2s
K24K Donnelly Dome 87.88 16 P **P 22 53 01.2 +0.6**
baz=216,SNR=15
L26K Log Cabin Wild 87.91 17 P **P 22 53 01.4 +0.5**
baz=218,SNR=13
IMAR Indian Mountai 87.92 12 P **P 22 53 00.9 0.0**
HYT Haines Junctio 88.03 21 P **P 22 53 02.1 +0.5**
HYT IAmb IAmb 22 53 03.3
comp=Z,48nm,1.4s
HYT Haines Junctio 88.03 21 P **P 22 53 02.5 +0.9**
baz=223,SNR=12
YUK4 Talbot Arm 88.03 20 P **P 22 53 03.5 +1.8**
baz=222,SNR=10
CCB Clear Creek Bu 88.06 15 P **P 22 53 00.8 -0.6**
CCB IAmb IAmb 22 53 03.1
comp=Z,42nm,1.2s
RIDG Independent Ri 88.07 16 P **P 22 53 02.1 +0.4**
baz=216,SNR=12
MTPU Mount Pierson 88.07 49 P **P 22 53 03.9 +1.3**
MTPU IAmb IAmb 22 53 06.3
comp=Z,54nm,1.2s
HDA Harding Lake 88.08 15 P **P 22 53 01.5 -0.1**
baz=214,SNR=18
MFID Camas Ranch 88.08 43 P **P 22 53 03.5 +1.2**
T35M Bob Quinn 88.10 26 P **P 22 53 03.3 +1.4**
baz=230,SNR=7.9
I23K Minto, Yukon-K 88.12 14 P **P 22 53 02.7 +0.9**
baz=212
BVCY Beaver Creek 88.15 19 P **P 22 53 03.0 +1.0**
baz=220,SNR=9.6
USHA Ushuaia 88.18 148 LR LR 23 23 02.5
comp=Z,3µm,21.9s,baz=218,slow=29
TCOL CIGO, UAF Yank 88.24 15 P **P 22 53 02.0 -0.3**
baz=214
COLA College 88.24 15 P **P 22 53 01.9 -0.4**
COLA IAmb IAmb 22 53 04.0
comp=Z,79nm,1.3s
COLA College 88.24 15 P **P 22 53 02.3 0.0**
baz=214
COLA College 88.24 15 P **P 22 53 02.6 +0.3**
COLA College 88.24 15 *i*P **P 22 53 01.9 -0.4**
COLA pmax pmax
comp=Z,57nm,1.2s
MVU Marysvale 88.25 48 P **P 22 53 04.8 +1.5**
MND Mandalay 88.26 294 P **P 22 53 04.0 +0.6**
H22K Ishtalitna Cre 88.32 13 P **P 22 53 03.6 +0.9**
baz=210
S34M Telegraph Cree 88.35 25 P **P 22 53 04.6 +1.6**
baz=229,SNR=33
L27K Beaver Creek, 88.37 18 P **P 22 53 03.6 +0.5**
baz=219,SNR=16
BCAR Beaver Creek A 88.38 18 P **P 22 53 03.1 0.0**
IL31 88.39 15 P **P 22 53 02.4 -0.6**
IL31 IAmb IAmb 22 53 04.8
comp=Z,37nm,1.2s

ILAR **Eielson Array** 88.39 15 P P 22 53 02.5 -0.6
comp=Z,18nm,0.9s,baz=236,slow=5.6,SNR=83
ILAR LR LR 23 26 03.8
comp=Z,2µm,21.9s,baz=246,slow=31
comp=Z,18nm,0.9s
ILAR Eielson Array 88.39 15 P P 22 53 02.2 -0.8
G21K Allakaket 88.44 12 P P 22 53 04.4 +1.2
baz=208
O30N Mendenhall 88.47 21 P P 22 53 04.7 +1.1
baz=224,SNR=13
P32M Atlin 88.48 23 P P 22 53 05.3 +1.6
baz=226,SNR=16
SCRK Sand Creek 88.49 16 P P 22 53 04.2 +0.5
baz=217,SNR=11
POKR Poker Plat Res 88.55 15 P P 22 53 03.1 -0.7
POKR Poker Plat Res 88.55 15 P P 22 53 03.6 -0.1
baz=214,SNR=9.2
HPIG 88.57 61 P P 22 53 05.9 +0.9
HPIG IAmb IAmb 22 53 08.9
comp=Z,56nm,1.1s
DUG Dugway, Tooele 88.59 46 P P 22 53 05.3 +0.6
DUG IAmb IAmb 22 53 07.4
comp=Z,42nm,1.2s
DUG Dugway, Tooele 88.59 46 P P 22 53 06.5 +1.7
baz=243,SNR=28
DUG Dugway, Tooele 88.59 46 P P 22 53 05.4 +0.6
DUG pmax pmax
comp=Z,42nm,1.3s
Q32M Nakina River 88.60 24 P P 22 53 06.5 +2.1
baz=228
W18A Petrified Fore 88.60 52 P P 22 53 07.1 +2.1
baz=245
H23K Yukon River 88.66 13 P P 22 53 04.5 +0.1
baz=212
WHY Whitehorse 88.81 22 P P 22 53 06.1 +0.9
WHY IAmb IAmb 22 53 07.2
comp=Z,48nm,1.4s
WHY Whitehorse 88.81 22 P P 22 53 06.3 +1.1
baz=225,SNR=16
M29M Somme Creek 88.91 19 P P 22 53 06.3 +0.6
baz=222
YAK Yakutsk 88.93 340 P P 22 53 06.4 +0.8
comp=Z,27nm,0.8s,baz=92,slow=0.9,SNR=36
YAK LR LR 23 27 25.2
comp=Z,2µm,21.3s,baz=36,slow=32
comp=Z,27nm,0.8s
YAK Yakutsk 88.93 340 P P 22 53 05.7 +0.1
YAK Yakutsk 88.93 340 eP P 22 53 06.0 +0.4
YAK pmax pmax
comp=Z,82nm,0.9s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,11nm,0.9s
J26L Joseph Creek 89.02 16 P P 22 53 06.6 +0.5
J26L IAmb IAmb 22 53 07.8
comp=Z,38nm,1.1s
J26L Joseph Creek 89.02 16 P P 22 53 07.6 +1.4
baz=218
121A Cookes Peak, D 89.04 55 P P 22 53 09.3 +2.2
baz=246
121A Cookes Peak, D 89.04 55 P P 22 53 09.8 +2.7
baz=246,SNR=15
H24K Noodor Dome 89.04 14 P P 22 53 07.0 +0.8
baz=214
K27K Chicken 89.05 17 P P 22 53 07.7 +1.5
baz=219
HLID Hailey 89.06 43 P P 22 53 07.5 +0.6
HLID IAmb IAmb 22 53 09.9
comp=Z,42nm,1.2s
HLID Hailey 89.06 43 P P 22 53 09.1 +2.2
baz=242,SNR=40
F21K Alatna River 89.07 11 P P 22 53 06.6 +0.4
baz=208
DLBC Dease Lake 89.13 25 P P 22 53 07.7 +0.9
DLBC IAmb IAmb 22 53 10.0
comp=Z,101nm,1.3s
DLBC Dease Lake 89.13 25 P P 22 53 08.9 +2.1
baz=230,SNR=32
G22K Bettles 89.19 12 P P 22 53 07.7 +0.9
baz=210
P33M Teslin, Yukon 89.24 23 P P 22 53 07.8 +0.5
P33M Teslin, Yukon 89.24 23 P P 22 53 08.5 +1.3
baz=227,SNR=12
G23K Bananza Creek 89.31 13 P P 22 53 07.5 +0.1
baz=212
CIT Chita 89.31 327 eP P 22 53 08.5 +0.8
CIT *e* 22 53 13.5
CIT pmax pmax
comp=Z,267nm,1.6s
PRP Porcupine Dome 89.33 15 P P 22 53 07.6 -0.1
PRP Porcupine Dome 89.33 15 P P 22 53 08.3 +0.7
baz=216
SNAA Sanae 89.36 180 P P 22 53 06.5 -1.4
SNAA IAmb IAmb 22 53 08.1
comp=Z,39nm,1.1s
SNAA Sanae 89.36 180 *ce*P P 22 53 06.6 -1.2
SNAA pmax pmax
comp=Z,38nm,1.0s
R33M Jennings River 89.39 24 P P 22 53 09.8 +1.7
baz=229,SNR=53
L29M L29M 89.50 19 P P 22 53 09.2 +0.8
baz=222,SNR=35
M30M Minto, Yukon 89.53 20 P P 22 53 09.4 +0.9
baz=224
F22K John River 89.57 12 P P 22 53 09.9 +1.4
baz=210
NVL N'lazarevskaya 89.60 185 ⇓*i*P P 22 53 08.1 -0.7
NVL pmax pmax
comp=Z,86nm,0.9s
NVL MLR MLR
comp=Z,2µm,16.0s
NEW Newport 89.66 38 P P 22 53 09.9 +0.4
NEW IAmb IAmb 22 53 12.1
comp=Z,46nm,1.1s
NEW Newport 89.66 38 P P 22 53 11.3 +1.8
baz=240
NEW Newport 89.66 38 P P 22 53 09.9 +0.4
NEW pmax pmax
comp=Z,47nm,1.2s
COLD Coldfoot 89.72 12 P P 22 53 10.1 +0.9
baz=212,SNR=10
KIDD KIDD Seismic O 89.74 56 P P 22 53 12.8 +2.5
baz=247
MOIG Morelia 89.78 69 P P 22 53 11.9 +1.0
MOIG IAmb IAmb 22 53 23.7
comp=Z,54nm,1.0s
DAWY Dawson 89.84 18 P P 22 53 10.3 +0.4
DAWY IAmb IAmb 22 53 11.9
comp=Z,41nm,1.1s
DAWY Dawson 89.84 18 P P 22 53 10.7 +0.8
baz=221,SNR=41
EGAK Eagle 89.88 17 P P 22 53 10.4 +0.4
EGAK IAmb IAmb 22 53 12.0
comp=Z,76nm,1.1s
EGAK Eagle 89.88 17 P P 22 53 10.7 +0.6
baz=220,SNR=62
BCYI Bear Canyon 90.05 43 P P 22 53 12.4 +0.8
M31M Drury Creek, Y 90.06 21 P P 22 53 11.4 +0.4
baz=226,SNR=14
HWUT Hardware Ranch 90.06 46 P P 22 53 12.9 +1.2
HWUT IAmb IAmb 22 53 14.7
comp=Z,52nm,1.1s
E22K Anaktuvuk Pass 90.18 11 P P 22 53 12.3 +0.8
baz=210
G25K Bearman Lake 90.22 14 P P 22 53 12.7 +1.1
baz=215
Y22A Socorro 90.22 54 P P 22 53 14.1 +1.5
baz=247
K29M Barlow Dome 90.23 19 P P 22 53 12.8 +0.9
baz=223,SNR=30
Y22D IRIS PASSCAL I 90.31 54 P P 22 53 15.0 +2.0
baz=247
Y22D IRIS PASSCAL I 90.31 54 P P 22 53 15.0 +2.0
baz=247
Y22F Passcal Instru 90.31 54 P P 22 53 14.5 +1.5
baz=247
MVCO Mesa Verde 90.37 51 P P 22 53 14.3 +1.0
MVCO IAmb IAmb 22 53 26.7
comp=Z,54nm,1.3s
MVCO Mesa Verde 90.37 51 P P 22 53 15.4 +2.1
baz=246,SNR=11
I27K Kandik River 90.40 16 P P 22 53 13.7 +1.2
baz=219
FARO Faro, Yukon 90.43 21 P P 22 53 12.8 +0.1
FARO Faro, Yukon 90.43 21 P P 22 53 12.7 0.0
baz=227,SNR=7.0

F24K Squaw Lake 90.44 13 P P 22 53 13.7 +1.1
baz=214
J29M Klondike Camp 90.47 18 P P 22 53 14.2 +1.3
baz=222,SNR=14
E23K Chandalar 90.54 12 P P 22 53 14.3 +1.1
baz=212
MAYO Mayo, Yukon 90.55 19 P P 22 53 14.2 +1.0
MAYO Mayo, Yukon 90.55 19 P P 22 53 15.4 +2.2
baz=224,SNR=5.5
MNTX Cornudas Mount 90.59 57 P P 22 53 15.5 +1.3
MNTX IAmb IAmb 22 53 17.8
comp=Z,76nm,1.2s
MNTX Cornudas Mount 90.59 57 P P 22 53 16.3 +2.2
baz=248
MNTX Cornudas Mount 90.59 57 P P 22 53 16.4 +2.2
baz=248,SNR=71
MCMT McKenzie Canyo 90.64 42 P P 22 53 15.9 +1.5
WTLY Watson Lake, Y 90.69 24 P P 22 53 15.3 +1.3
baz=231,SNR=6.6
E24K Your Creek 90.78 13 P P 22 53 15.3 +1.0
baz=213
COYC Coyhaique 90.79 139 P P 22 53 15.9 +1.0
COYC IAmb IAmb 22 53 17.5
comp=Z,77nm,1.5s
ULN Ulaanbaatar 90.82 321 P P 22 53 15.4 +0.4
ULN IAmb IAmb 22 53 17.1
comp=Z,36nm,1.0s
ULN Ulaanbaatar 90.82 321 *ce*P P 22 53 15.4 +0.4
ULN pmax pmax
comp=Z,46nm,1.1s
ULN Ulaanbaatar 90.82 321 P P 22 53 15.9 +0.9
MSO Missoula 90.87 40 P P 22 53 15.9 +0.7
MSO Missoula 90.87 40 P P 22 53 16.2 +0.9
baz=242,SNR=7.2
AHID Auburn Hatcher 90.87 45 P P 22 53 16.4 +0.9
AHID IAmb IAmb 22 53 33.9
comp=Z,43nm,1.1s
H27K Steamboat Moun 90.91 16 P P 22 53 15.7 +0.8
baz=220,SNR=24
G26K Porcupine Rive 90.91 15 P P 22 53 15.6 +0.9
baz=217
F25K Christian Rive 91.00 14 P P 22 53 15.6 +0.3
baz=216
ANMO Albuquerque 91.00 53 P P 22 53 17.3 +1.1
ANMO IAmb IAmb 22 53 19.5
comp=Z,54nm,1.1s
ANMO Albuquerque 91.00 53 P P 22 53 18.3 +2.0
baz=247
ANMO Albuquerque 91.00 53 P P 22 53 17.8 +1.6
baz=247
ANMO Albuquerque 91.00 53 P P 22 53 17.3 +1.1
ANMO pmax pmax
comp=Z,54nm,1.1s
TX31 Lajitas Ar. Si 91.10 59 P P 22 53 18.1 +1.4
TX31 Lajitas Ar. Si 91.10 59 P P 22 53 19.2 +2.5
baz=249
TXAR Lajitas Array 91.10 59 P P 22 53 19.2 +2.5
comp=Z,37nm,0.9s,baz=231,slow=4.7,SNR=189
TXAR PKKPbc **PKKPbc** 23 10 40.6 +0.1
comp=Z,2.9nm,0.8s,baz=90,slow=3.8,SNR=24
comp=Z,37nm,0.9s
TXAR Lajitas Array 91.10 59 P P 22 53 18.2 +1.5
TXAR Lajitas Array 91.10 59 P P 22 53 18.2 +1.5
BMAR Burnt Mountain 91.11 14 P P 22 53 16.5 +0.7
D23K Nanushuk River 91.11 11 P P 22 53 17.1 +1.4
baz=211
I29M Ogilvie Camp, 91.12 17 P P 22 53 16.1 +0.3
baz=222,SNR=27
SAIH SAIHA 91.13 293 eP P 22 53 16.3 -0.8
MOKO MOKOCHONG 91.16 297 eP P 22 53 16.8 -0.3
MOKO IAmb IAmb 22 53 20.2
comp=Z,37nm,1.0s
SONM Songino Array 91.20 321 P P 22 53 17.2 +0.4
comp=Z,20nm,1.0s,baz=135,slow=4.4,SNR=80
SONM PKiKP **PKiKP** 22 58 09.5 +0.2
comp=Z,0.6nm,0.8s,baz=133,slow=3.1,SNR=3.7
SONM PKKPbc **PKKPbc** 23 10 40.4 -0.8
comp=Z,0.7nm,0.9s,baz=246,slow=3.1,SNR=4.6
comp=Z,20nm,1.0s
SONM Songino Array 91.20 321 P P 22 53 16.5 -0.3
SONM IAmb IAmb 22 53 18.7
comp=Z,40nm,1.2s
SONM Songino Array 91.20 321 P P 22 53 16.5 -0.3
SONM pmax pmax
comp=Z,40nm,1.2s
G27K Doyon Strip 91.32 15 P P 22 53 17.8 +1.0
baz=219
F26K Sheenjek River 91.42 14 P P 22 53 17.3 +0.1
baz=217,SNR=7.9
E25K Arctic Village 91.44 13 P P 22 53 18.2 +0.9
baz=216,SNR=8.9
MOOW Moose Ponds 91.53 44 P P 22 53 19.4 +0.9
D24K Happy Valley 91.63 12 P P 22 53 18.2 +0.2
baz=213
O20A White River Ci 91.73 48 P P 22 53 20.9 +1.4
baz=246,SNR=26
BOZ Bozeman (W) 91.75 42 P P 22 53 20.1 +0.7
BOZ IAmb IAmb 22 53 22.8
comp=Z,43nm,1.4s
BOZ Bozeman (W) 91.75 42 P P 22 53 20.9 +1.5
baz=244,SNR=22
BOZ Bozeman (W) 91.75 42 P P 22 53 20.1 +0.7
BOZ pmax pmax
comp=Z,43nm,1.4s
S22A 4UR Ranch, Cre 91.80 51 P P 22 53 22.4 +2.3
baz=247,SNR=103
BW06 Boulder Array 91.90 45 P P 22 53 21.0 +0.7
BW06 IAmb IAmb 22 53 23.1
comp=Z,51nm,1.4s
BW06 Boulder Array 91.90 45 P P 22 53 21.4 +1.2
baz=246,SNR=28
PDAR Pinedale Array 91.90 45 P P 22 53 21.4 +1.1
comp=Z,11nm,1.0s,baz=222,slow=2.0,SNR=58
PDAR PP **PP** 22 57 00.4 +0.3
comp=Z,1.8nm,0.9s,baz=249,slow=4.1,SNR=6.8
PDAR PKKPbc **PKKPbc** 23 10 37.9 -1.3
comp=Z,0.7nm,0.8s,baz=72,slow=2.8,SNR=5.5
comp=Z,11nm,1.0s
PDAR Pinedale Array 91.90 45 P P 22 53 20.8 +0.5
H17A Grant Village 91.91 43 P P 22 53 23.4 +3.1
baz=245,SNR=21
WALA Waterton Lakes 91.91 38 P P 22 53 20.7 +0.6
GTA Gaotai 91.91 311 ⇓P P 22 53 21.2 +0.9
GTA pP pP 22 53 25.7 -3.1
GTA sP sP 22 53 28.4 -3.4
GTA pmax pmax
comp=Z,27nm,1.0s
WAPA Wapiti River 92.04 31 P P 22 53 21.6 +1.2
LKWY Lake 92.10 43 P P 22 53 23.4 +2.3
LKWY IAmb IAmb 22 53 25.6
comp=Z,32nm,1.2s
LKWY Lake 92.10 43 P P 22 53 23.5 +2.3
LKWY pmax pmax
comp=Z,32nm,1.2s
C24K Franklin Bluff 92.13 12 P P 22 53 21.4 +1.0
baz=213
ZIRO ZIRO 92.14 298 eP P 22 53 22.1 +0.4
ZIRO IAmb IAmb 22 53 23.6
comp=Z,26nm,0.8s
D25K Kavik River 92.25 12 P P 22 53 21.6 +0.5
baz=215
BOD Bodaibo 92.27 332 eP P 22 53 20.5 -0.8
BOD pmax pmax
comp=Z,42nm,1.6s
EPYK Eagle Plains 92.30 17 P P 22 53 21.4 +0.1
EPYK IAmb IAmb 22 53 23.2
comp=Z,75nm,1.2s
EPYK Eagle Plains 92.30 17 P P 22 53 21.8 +0.5
baz=224,SNR=14
E27K Coleen River 92.41 15 P P 22 53 23.2 +1.5
baz=219
KOTAN Kotaneelee Air 92.60 26 P P 22 53 24.0 +1.2
baz=235
TEZP TEZPUR 92.71 297 eP P 22 53 24.1 0.0
TEZP IAmb IAmb 22 53 25.3
comp=Z,25nm,0.8s
SDCO Great Sand Dun 92.78 51 P P 22 53 25.7 +1.2
SDCO IAmb IAmb 22 53 27.7
comp=Z,41nm,1.1s
SDCO Great Sand Dun 92.78 51 P P 22 53 26.1 +1.6
baz=248
SDCO Great Sand Dun 92.78 51 P P 22 53 26.3 +1.8
baz=248,SNR=36
LL04 Puerto Octay 92.81 135 P P 22 53 24.9 +0.5
LL04 IAmb IAmb 22 53 26.9
comp=Z,36nm,1.1s

G30M tAoh Zraii Nji 92.88 17 P P 22 53 24.4 +0.4
baz=224,SNR=35
C26K Camden Bay 93.04 13 P P 22 53 25.7 +1.1
baz=216
C27K Jago River 93.06 13 P P 22 53 25.5 +0.8
baz=218
RLMT Red Lodge 93.06 43 P P 22 53 26.6 +1.0
RLMT IAmb IAmb 22 53 30.1
comp=Z,38nm,1.2s
RLMT Red Lodge 93.06 43 P P 22 53 26.8 +1.2
baz=246,SNR=21
SHL Shillong 93.13 296 P P 22 53 25.4 -0.9
SHL Shillong 93.13 296 P P 22 53 25.4 -0.9
SHL pmax pmax
comp=Z,22nm,0.9s
T25A Trinidad 93.36 52 P P 22 53 27.9 +0.8
T25A Trinidad 93.36 52 P P 22 53 28.6 +1.4
baz=248,SNR=9.4
ISCO Idaho Springs 93.47 49 P P 22 53 28.6 +0.9
ISCO Idaho Springs 93.47 49 P P 22 53 29.4 +1.7
baz=248
ISCO Idaho Springs 93.47 49 P P 22 53 29.8 +2.1
baz=248,SNR=10
ISCO Idaho Springs 93.47 49 P P 22 53 28.6 +0.9
ISCO pmax pmax
comp=Z,28nm,1.4s
MSTX Muleshoe 93.47 55 P P 22 53 28.5 +0.9
MSTX Muleshoe 93.47 55 P P 22 53 29.2 +1.6
baz=249
MSTX Muleshoe 93.47 55 P P 22 53 29.1 +1.5
baz=249
Q24A Divide 93.49 50 P P 22 53 29.7 +1.9
baz=248,SNR=15
N23A Red Feather La 93.64 48 P P 22 53 29.9 +1.5
baz=248,SNR=10
F31M Tsiigehtchic 93.90 17 P P 22 53 28.9 +0.4
baz=227,SNR=29
K22A Casper 93.91 46 P P 22 53 30.3 +0.8
baz=248
K22A Casper 93.91 46 P P 22 53 30.9 +1.4
baz=248,SNR=7.7
PLCA Paso Flores 94.12 136 P P 22 53 31.3 +0.8
comp=Z,6.0nm,1.0s,baz=241,slow=5.5,SNR=4.3
PLCA LR LR 23 26 03.6
comp=Z,4µm,21.7s,baz=274,slow=29
comp=Z,6.0nm,1.0s
PLCA Paso Flores 94.12 136 *e*P P 22 53 32.4 +1.8
ZAK Zakamensk 94.16 322 *e*P P 22 53 29.8 -0.6
ZAK pmax pmax
comp=Z,14nm,1.3s
833A Chaparral WMA, 94.26 62 P P 22 53 32.0 +0.8
baz=250
833A Chaparral WMA, 94.26 62 P P 22 53 32.4 +1.2
baz=250
GOMU GeErMu 94.40 307 P P 22 53 32.8 +0.7
GOMU pP pP 22 53 37.2 -3.4
GOMU pmax pmax
comp=Z,12nm,1.9s
INK Inuvik 94.55 17 P P 22 53 31.5 0.0
comp=Z,27nm,1.1s,baz=213,slow=5.1,SNR=36
comp=Z,27nm,1.1s
INK Inuvik 94.55 17 P P 22 53 31.4 0.0
INK IAmb IAmb 22 53 33.0
comp=Z,58nm,1.3s
INK Inuvik 94.55 17 P P 22 53 31.5 0.0
baz=227,SNR=40
WRGLY Wrigley 94.60 23 P P 22 53 33.7 +1.8
baz=236
AMTX Amarillo 94.63 55 P P 22 53 33.7 +0.8
AMTX Amarillo 94.63 55 P P 22 53 34.4 +1.5
baz=250
AMTX Amarillo 94.63 55 P P 22 53 34.0 +1.1
baz=250
JCT Junction City 94.64 59 P P 22 53 33.1 +0.2
JCT Junction City 94.64 59 P P 22 53 33.5 +0.6
baz=250
JCT Junction City 94.64 59 P P 22 53 34.4 +1.4
baz=250
JCT Junction City 94.64 59 P P 22 53 33.1 +0.2
JCT pmax pmax
comp=Z,24nm,1.4s
HILA High Level 94.81 29 P P 22 53 33.2 +0.2
LSA Lhasa 95.11 300 P P 22 53 35.0 -0.6
LSA Lhasa 95.11 300 P P 22 53 35.0 -0.6
LSA pmax pmax
comp=Z,16nm,1.3s
LSA Lhasa 95.11 300 P P 22 53 34.2 -1.4
KSCO Kaye Shedlock' 95.34 51 P P 22 53 37.7 +1.6
baz=250
KSCO Kaye Shedlock' 95.34 51 P P 22 53 37.2 +1.1
baz=250
ABTX Abilene, Hawle 95.47 58 P P 22 53 37.2 +0.5
ABTX IAmb IAmb 22 53 39.6
comp=Z,69nm,1.6s
ABTX Abilene, Hawle 95.47 58 P P 22 53 37.3 +0.5
baz=251
ABTX Abilene, Hawle 95.47 58 P P 22 53 37.9 +1.2
baz=251
LAO LASA Array 95.63 43 P P 22 53 37.8 +0.7
LAO IAmb IAmb 22 53 40.7
comp=Z,57nm,1.2s
LAO LASA Array 95.63 43 P P 22 53 39.2 +2.1
baz=248
LAO LASA Array 95.63 43 P P 22 53 39.6 +2.5
baz=248,SNR=8.7
RSSD Black Hills 96.13 45 P P 22 53 40.0 +0.3
RSSD IAmb IAmb 22 53 42.0
comp=Z,29nm,1.1s
RSSD Black Hills 96.13 45 P P 22 53 40.5 +0.8
baz=249
RSSD Black Hills 96.13 45 P P 22 53 41.5 +1.9
baz=249
RSSD Black Hills 96.13 45 P P 22 53 40.0 +0.3
RSSD pmax pmax
comp=Z,29nm,1.1s
TIXI Tiksi 96.14 346 P P 22 53 38.9 +0.2
comp=Z,7.4nm,1.0s,baz=270,slow=22,SNR=21
TIXI LR LR 23 31 47.5
comp=Z,2µm,22.0s,baz=1.0,slow=32
comp=Z,7.4nm,1.0s
TIXI Tiksi 96.14 346 P P 22 53 37.9 -0.8
TIXI Tiksi 96.14 346 *ce*P P 22 53 36.9 -1.8
WMOK Wichita Mounta 96.83 56 P P 22 53 43.6 +0.8
WMOK Wichita Mounta 96.83 56 P P 22 53 43.8 +1.0
baz=251
WMOK Wichita Mounta 96.83 56 P P 22 53 44.1 +1.2
baz=251
WMOK Wichita Mounta 96.83 56 P P 22 53 43.6 +0.8
WMOK pmax pmax
comp=Z,11nm,1.1s
U32A Winter Ranch, 97.18 54 Pdif 22 53 45.3 +0.8
U32A Winter Ranch, 97.18 54 P Pdif 22 53 45.8 +1.4
baz=252
CBKS Cedar Bluff 97.40 52 P Pdif 22 53 45.9 +0.5
CBKS IAmb IAmb 22 53 48.2
comp=Z,28nm,1.1s
CBKS Cedar Bluff 97.40 52 P Pdif 22 53 46.8 +1.4
baz=251
CBKS Cedar Bluff 97.40 52 P Pdif 22 53 46.9 +1.5
baz=251
CBKS Cedar Bluff 97.40 52 P Pdif 22 53 45.9 +0.5
CBKS pmax pmax
comp=Z,28nm,1.1s
DGMT Dagmar 97.55 41 P Pdif 22 53 46.2 +0.4
baz=250
YKA Yellowknife Ar 97.72 26 P Pdif 22 53 46.7 +0.5
comp=Z,10nm,1.1s,baz=250,slow=4.7,SNR=54
YKA PP **PP** 22 57 43.6 -0.9
comp=Z,1.6nm,1.1s,baz=246,slow=7.8,SNR=5.2
YKA PKKPbc **PKKPbc** 23 10 21.9 -2.2
comp=Z,0.6nm,0.8s,baz=47,slow=2.2,SNR=6.1
comp=Z,10nm,1.1s
C36M Paulatuk 97.88 18 P Pdif 22 53 46.5 -0.2
C36M Paulatuk 97.88 18 P Pdif 22 53 47.1 +0.4
baz=236
R32A Long Quarter, 98.04 52 P Pdif 22 53 49.5 +1.2
baz=252
A36M Sachs Harbour 99.07 16 P Pdif 22 53 52.9 +1.0
baz=235
T35B Sooner Cattle 99.25 54 P Pdif 22 53 55.1 +1.5
baz=253
BGNE Belgrade 99.35 49 P Pdif 22 53 55.4 +1.3
baz=253
TUL1 Leonard 99.52 55 P Pdif 22 53 57.7 +2.8
baz=253
TUL1 Leonard 99.52 55 P Pdif 22 53 56.3 +1.4
baz=253

WMQ **Urumqi** 101.93 312 *e*P **Pdif** 22 54 06.5 +1.0
WMQ P pP pPdif 22 54 10.0 -3.9
WMQ pmax pmax
comp=Z,16nm,1.5s
WMQ LR LR
comp=Z,3µm,22.3s
WMQ LR LR
comp=Z,3µm,20.5s
WMQ LR LR
comp=Z,4µm,24.1s
ZALV Zalesovo Beam 106.04 322 Pdiff **Pdif** 22 54 23.6 +0.2
comp=Z,0.8nm,0.6s,baz=120,slow=10,SNR=6.2
ZALV PKiKP **PKiKP** 22 58 34.6 -0.7
comp=Z,1.9nm,0.8s,baz=188,slow=1.0,SNR=8.4
ZALV PKKPbc **PKKPbc** 23 09 58.7 -0.6
comp=Z,0.6nm,0.5s,baz=289,slow=4.5,SNR=3.8
MKAR Makanchi Array 106.31 314 Pdiff **Pdif** 22 54 25.7 +0.9
comp=Z,3.1nm,0.9s,baz=104,slow=5.1,SNR=14
MKAR PKiKP **PKiKP** 22 58 35.6 -0.6
comp=Z,1.6nm,0.9s,baz=94,slow=3.6,SNR=6.4
MKAR PKKPbc **PKKPbc** 23 09 57.4 -0.9
comp=Z,1.5nm,0.9s,baz=262,slow=2.5,SNR=8.7
MAKZ Makanchi 106.53 314 ⇑P **Pdif** 22 54 26.6 +0.8
NRIK Noril'sk 107.29 338 Pdiff **Pdif** 22 54 29.4 +0.8
comp=Z,2.2nm,0.9s,baz=115,slow=5.5,SNR=5.3
NRIK PKiKP **PKiKP** 22 58 37.5 +0.3
comp=Z,0.6nm,0.3s,baz=124,slow=3.6,SNR=2.4
AAK Ala-Archa 111.17 309 *i* PKiKP **PKiKP** 22 58 43.6 -1.9
AAK Ala-Archa 111.17 309 PKiKP **PKiKP** 22 58 45.2 -0.4
BRVK Borovoye 114.60 320 *i* PKiKP **PKiKP** 22 58 50.8 -0.7
SVE Sverdlovsk 119.78 325 *e*PKiKP **PKiKP** 22 59 01.4 0.0
SVE pmax pmax
comp=Z,29nm,1.4s
SPB Sao Paulo 119.89 133 *e*P **PKiKP** 22 59 04.2 +1.4
ARU Arti 120.98 325 PKPdf **PKiKP** 22 59 03.5 -0.3
ARU Arti 120.98 325 *i* PKiKP **PKiKP** 22 59 03.0 -0.8
ARU 23 00 33.2
ARU 23 06 14.8
ARU SP SP 23 10 19.9 -0.9
ARU SS **SS** 23 17 09.6 +6.4
JLN Jalan Bani Buh 121.08 285 P **PKiKP** 22 59 05.0 0.0
PARB Paraibuna 121.29 134 *e*P **PKiKP** 22 59 06.0 +0.4
ABKAR Akbulak array 121.34 316 PKPdf **PKiKP** 22 59 04.0 -0.7
ABKAR Akbulak array 121.34 316 PKPdf **PKiKP** 22 59 03.9 -0.7
ARAG Araguaiana, MT 121.46 123 *e*P **PKiKP** 22 59 07.4 +1.4
HUMP Col San Antoni 121.57 80 **PKiKP** 22 59 05.4 -0.6
WSAR Wadi Sarin 121.97 286 P **PKiKP** 22 59 06.7 -0.1
MHTO MHTO 122.21 283 P **PKPdf** 22 59 06.3 -0.8
SNR=8.2
JMDO Jabal Madar 122.31 285 P **PKiKP** 22 59 06.7 -0.8
BIDO Bidbid 122.47 286 P **PKiKP** 22 59 07.2 -0.6
SMDO Samad 122.47 286 P **PKiKP** 22 59 07.7 -0.2
SNR=7.1
NPGB Novo Progresso 122.98 112 *e*P **PKiKP** 22 59 09.6 +0.5
SUMG Summit 123.11 12 *i* P **PKiKP** 22 59 07.3 -0.8
BSY Bisya 123.20 285 P **PKPdf** 22 59 08.1 -0.9
SNR=5.2
HOQ Hoqain 123.22 286 P **PKPdf** 22 59 08.1 -0.9
GEYT Alibeck 123.43 303 PKP **PKiKP** 22 59 09.3 0.0
comp=Z,13nm,0.9s,baz=256,slow=2.4,SNR=29
GEYT Alibeck 123.43 303 PKPdf **PKiKP** 22 59 08.7 -0.6
GYA0B ALIBECK ARRAY 123.43 303 **PKiKP** 22 59 08.6 -0.7
SOHO SOHO 124.00 287 *i* PKPdf **PKPdf** 22 59 09.6 -0.9
SNR=16
SOHO SOHO 124.00 287 P **PKPdf** 22 59 09.8 -0.7
UOSS Minazif 124.40 288 PKPdf **PKPdf** 22 59 09.9 -1.3
UOSS Minazif 124.40 288 P **PKPdf** 22 59 10.4 -0.8
DMTO DMTO 124.41 279 P **PKPdf** 22 59 10.3 -1.1
BANOM Banah 124.42 289 P **PKPdf** 22 59 08.3 -3.0
HATD Hatta, Dubai 124.45 287 *i* PKPdf **PKPdf** 22 59 10.5 -0.8
SNR=6.8
HATD Hatta, Dubai 124.45 287 P **PKPdf** 22 59 10.7 -0.7
BDFB Brasilia 124.47 126 PKP **PKiKP** 22 59 11.9 -0.2
comp=Z,6.9nm,0.8s,baz=203,slow=4.1,SNR=13
BDFB Brasilia 124.47 126 PKPdf **PKPdf** 22 59 11.2 -0.6
BDFB Brasilia 124.47 126 PKiKP **PKPdf** 22 59 11.2 -0.6
BDFB Brasilia 124.47 126 *e*P **PKiKP** 22 59 12.1 0.0
MSFE Esma-Masafi 124.49 288 PKiKP **PKiKP** 22 59 11.1 -0.7
MASF Masafi 124.49 288 P **PKiKP** 22 59 11.2 -0.5
ASHO Ashiyiah 124.50 287 *i* PKPdf **PKPdf** 22 59 10.5 -1.0
SNR=6.6
ASHO Ashiyiah 124.50 287 P **PKPdf** 22 59 10.7 -0.8
SHME Shamm 124.58 289 P **PKiKP** 22 59 11.0 -0.8
ALNE Al Ain 124.70 286 *i* PKPdf **PKPdf** 22 59 10.9 -0.9
SNR=11
ALNE Al Ain 124.70 286 P **PKiKP** 22 59 11.4 -0.7
SNR=5.2
BOSA Boshof 124.75 211 PKP **PKiKP** 22 59 12.1 -0.3
comp=Z,8.9nm,1.0s,baz=52,slow=4.9,SNR=6.1
NAZ Nazwa, Dubai 124.89 287 PKPdf **PKiKP** 22 59 11.8 -0.7
NAZ Nazwa, Dubai 124.89 287 P **PKiKP** 22 59 11.9 -0.6
FAQ Al Faqa, Dubai 124.93 287 P **PKiKP** 22 59 11.8 -0.7
KIRV Kirov 125.05 329 PKiKP **PKPdf** 22 59 10.6 -0.8
UMZA Um Al Zommool 125.06 285 P **PKiKP** 22 59 12.0 -0.8
RBK Rabkut 125.06 278 P **PKiKP** 22 59 13.0 -0.1
SNR=10
ASUD Al Ashush, Dub 125.15 287 PKiKP **PKiKP** 22 59 12.8 -0.3
ASUD Al Ashush, Dub 125.15 287 P **PKiKP** 22 59 13.0 0.0
DOK Doka 125.34 280 P **PKiKP** 22 59 12.8 -0.8
SNR=11
AJN Ajban 125.45 287 P **PKiKP** 22 59 13.1 -0.5
PRGR Permogore 125.47 334 *e*PKiKP **PKPdf** 22 59 11.2 -0.9
PRGR pmax pmax
comp=Z,21nm,0.9s
WHFO Wadi Hawf 125.55 279 P **PKPdf** 22 59 12.9 -0.8
SNR=7.7
ABTO Aybut 125.88 278 P **PKiKP** 22 59 13.8 -0.9
SNR=7.4
APA Apatity 126.19 343 ⇓ *i* PKiKP **PKPdf** 22 59 11.8 -1.6
APA pmax pmax
comp=Z,13nm,1.0s
MZWR Madinat Zayed 126.36 286 P **PKiKP** 22 59 15.2 -0.2
ARCES ARCESS Array B 126.56 348 PKP **PKiKP** 22 59 14.2 -0.3
comp=Z,18nm,0.9s,baz=342,slow=0.4,SNR=12
MZR Muzera 126.63 285 *i* PKiKP **PKiKP** 22 59 15.6 -0.4
SNR=10
MZR Muzera 126.63 285 P **PKiKP** 22 59 16.1 0.0
SJMB Sao Joao De Ma 127.47 134 *e*P **PKiKP** 22 59 18.5 +0.7
BELG Belogornoye 128.23 322 *i* PKiKP **PKPdf** 22 59 15.3 -2.4
KLMR Klimovskoe 128.41 335 *e*PKPdf **PKPdf** 22 59 15.2 -2.6
KLMR AMP 22 59 18.7
comp=Z,54nm,1.3s
KLMR LR LR 23 47 22.4
KLMR AMP 23 51 43.7
comp=Z,6µm,21.4s
KLMR Klimovskoe 128.41 335 *e*PKiKP **PKPdf** 22 59 15.1 -2.7
KLMR pmax pmax
comp=Z,54nm,1.3s
MAK Makhachkala 130.91 311 *i* PKiKP **PKPdf** 22 59 19.1 -4.0
MAK *e* 23 01 36.3
MAK pmax pmax
comp=Z,107nm,1.4s
AKT Akhty 131.05 309 *e*PKiKP **PKiKP** 22 59 23.8 -0.7
AKT *e* 23 01 43.6
AKT pmax pmax
comp=Z,32nm,1.2s
MOS Moscow 132.06 330 *e*PKiKP **PKPdf** 22 59 23.6 -1.2
MOS pmax pmax
comp=Z,62nm,1.6s
MOS MLR MLR
comp=Z,4µm,20.0s
VRH Novokhopyorsk 132.07 323 *e*PKiKP **PKPdf** 22 59 24.4 -0.6
VRH pmax pmax
comp=Z,30nm,0.8s
PUL Pulkovo 132.65 337 *i* PKiKP **PKPdf** 22 59 24.7 -1.1
FINES FINESS Array B 132.85 341 PKP **PKPdf** 22 59 25.9 -0.3
comp=Z,8.2nm,0.8s,baz=126,slow=9.7,SNR=8.8
LPSR Galich'ya Gora 133.00 325 *e*PKiKP **PKiKP** 22 59 27.1 -0.8
LPSR pmax pmax
comp=Z,20nm,1.2s
VORR Voronezh 133.28 324 *e*PKiKP **PKiKP** 22 59 27.7 -0.8
VORR pmax pmax
comp=Z,73nm,1.7s
VSR Storozhevoye 133.51 324 *e*PKiKP **PKPdf** 22 59 26.6 -1.1
VSR pmax pmax
comp=Z,30nm,1.0s
ZEI Tsey 133.53 311 *i* PKiKP **PKiKP** 22 59 28.3 -1.3
ZEI pmax pmax
comp=Z,11nm,1.0s
GNI Garni 133.53 307 PKPdf **PKiKP** 22 59 29.0 -0.6
GNI Garni 133.53 307 PKiKP **PKiKP** 22 59 29.0 -0.6
GNI Garni 133.53 307 PKPdf **PKPdf** 22 59 27.2 -1.2
GNI Garni 133.53 307 P **PKiKP** 22 59 29.8 +0.1
NCK Nalchik 133.56 312 *i* PKiKP **PKPdf** 22 59 27.4 -0.7

KIBK Kibwezi 133.57 247 P **PKiKP** 22 59 30.8 +0.4
ONI Oni 133.90 311 **PKiKP** 22 59 29.1 -1.1
ONI Oni 133.90 311 PKiKP **PKiKP** 22 59 29.1 -1.1
KBZ Khabaz 133.98 313 PKP **PKiKP** 22 59 29.3 -0.8
comp=Z,5.1nm,0.9s,baz=191,slow=1.7,SNR=9.0
KBZ Khabaz 133.98 313 *i* PKiKP **PKPdf** 22 59 25.8 -3.0
KIV Kislovodsk 134.06 313 ⇓ *e*PKiKP **PKiKP** 22 59 30.0 -0.5
KIV *e* 23 01 59.9
KIV *e* 23 06 41.0
KIV SS SS 23 19 51.0 +4.3
KIV pmax pmax
comp=Z,21nm,1.4s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 134.06 313 P **PKiKP** 22 59 29.8 -0.7
AKH Akhalkalaki 134.17 309 **PKiKP** 22 59 29.8 -1.1
AKH Akhalkalaki 134.17 309 PKiKP **PKiKP** 22 59 29.8 -1.1
NEY Neytrino 134.24 312 *i* PKiKP **PKPdf** 22 59 28.4 -1.2
KMBO Kilima Mbogo 134.85 248 PKP **PKPdf** 22 59 31.3 -0.4
comp=Z,12nm,0.9s,baz=50,slow=3.6,SNR=23
KMBO Kilima Mbogo 134.85 248 PKPdf **PKPdf** 22 59 31.7 -0.1
KMBO Kilima Mbogo 134.85 248 PKiKP **PKiKP** 22 59 33.5 +0.3
KMBO Kilima Mbogo 134.85 248 P **PKiKP** 22 59 33.7 +0.5
GURO Guroymak-BITLI 135.93 306 PKPdf **PKiKP** 22 59 33.1 -1.4
NB2 NORSAR Subarra 136.86 349 PKPdf **PKiKP** 22 59 34.2 -1.4
comp=Z,6.9nm,1.1s,baz=27,slow=1.8
NB2 NORSAR Subarra 136.86 349 PKPdf **PKiKP** 22 59 34.2 -1.4
baz=27,slow=1.8
NOA NORSAR Array B 136.86 349 PKP **PKiKP** 22 59 34.3 -1.4
comp=Z,6.5nm,1.0s,baz=26,slow=2.0,SNR=6.7
IDID Didziasalis 137.15 335 *e*P **PKPdf** 22 59 30.8 -3.6
MARD Mardin 137.16 304 PKPdf **PKPdf** 22 59 35.1 -0.1
MNK Minsk 137.24 333 *i* PKP **PKiKP** 22 59 35.1 -1.4
comp=E,5.0nm,1.4s
MNK *i* PKP **PKiKP** 22 59 35.1 -1.4
comp=N,53nm,1.0s
MNK *i* PKP **PKiKP** 22 59 35.1 -1.4
comp=Z,23nm,0.8s,baz=47
MNK *i* PP **PP** 23 02 16.1 -3.1
MNK *i* PPP PPP 23 05 18.5
MNK *i* SKKS 23 16 22.8
MNK *i* SS **SS** 23 20 32.9 +10
MNK *i* SSS SSS 23 25 37.0
MNK Minsk 137.24 333 *i* PKiKP **PKiKP** 22 59 35.0 -1.4
MNK *i* 23 02 16.0
MNK *i* PPP PPP 23 05 18.5
MNK *i* SS SS 23 20 32.9 +10
MNK *i* SSS SSS 23 25 36.9
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=E,5.0nm,1.4s
MNK pmax pmax
comp=N,53nm,1.0s
IIGN Ignalina 137.33 335 *e*P **PKPdf** 22 59 32.3 -2.5
NACGM Naroch 137.42 334 ⇑ *i* PKP **PKiKP** 22 59 35.8 -1.1
comp=Z,58nm,1.1s,baz=46
PABE Paberze 138.09 337 *e*P **PKiKP** 22 59 36.5 -1.7
LODK Lodwar 138.59 253 **PKPdf** 22 59 38.1 -0.4
LODK Lodwar 138.59 253 P **PKiKP** 22 59 39.4 -1.2
AKASG Malin Array Be 139.09 328 PKhKP PKPpre 22 59 27.6
comp=Z,2.6nm,0.8s,baz=51,slow=3.2,SNR=11
AKASG PP **PP** 23 02 29.2 -1.6
comp=Z,0.1nm,0.3s,baz=48,slow=3.8,SNR=1.2
AKASG Malin Array Be 139.09 328 **PKPdf** 22 59 37.9 -0.2
AKASG Malin Array Be 139.09 328 PKiKP **PKPdf** 22 59 37.9 -0.2
GAZ Gaziantep 139.96 305 PKPdf **PKPdf** 22 59 40.4 +0.1
MBAR Mbarara 140.74 244 **PKPdf** 22 59 42.4 -0.1
MBAR Mbarara 140.74 244 PKiKP **PKPdf** 22 59 42.4 -0.1
BR131 Keskin Array S 141.83 311 **PKPdf** 22 59 42.2 -1.4
BR131 Keskin Array S 141.83 311 PKiKP **PKPdf** 22 59 42.2 -1.4
BR131 Keskin Array S 141.83 311 P **PKPdf** 22 59 42.5 -1.1
SNR=5.2
BRTR Keskin Array B 141.83 311 PKhKP PKPpre 22 59 39.3
comp=Z,10nm,1.2s,baz=66,slow=1.5,SNR=18
BRTR PP **PP** 23 02 46.5 -2.0
comp=Z,3.0nm,1.1s,baz=101,slow=6.5,SNR=4.3
BRTR Keskin Array B 141.83 311 PKPdf **PKPdf** 22 59 42.5 -1.1
BRTR Keskin Array B 141.83 311 PKiKP **PKPdf** 22 59 42.5 -1.1
LVV L'vov 142.19 330 *e*PKiKP **PKPdf** 22 59 42.3 -1.5
ANTO Ankara 142.38 311 **PKPdf** 22 59 44.6 +0.1
ANTO Ankara 142.38 311 PKiKP **PKPdf** 22 59 44.7 +0.1
BR231 Keskin MP Arra 142.40 311 **PKPdf** 22 59 44.7 +0.1
MDUB Mudurnu 143.26 313 PKPdf PKPbc 22 59 43.5 +0.4
CSS Mathiatis 143.58 303 PKPdf PKPbc 22 59 44.1 -0.1
BSEG Bad Segeberg 143.65 346 *e*PKPbc **PKPdf** 22 59 44.1 -2.0
baz=24,slow=2.9
STHS Stebnicka Huta 143.74 332 *e*PKiKP **PKPdf** 22 59 45.1 -1.5
STHS Stebnicka Huta 143.74 332 *e*PKP **PKPdf** 22 59 45.1 -1.5
OJC Ojcow 143.76 334 PKPbc 22 59 44.0 -0.1
OJC Ojcow 143.76 334 PKiKP PKPbc 22 59 44.0 -0.1
UZH Uzhgorod 143.83 330 *e*PKHKP PKPpre 22 59 42.5
UZH *i* 22 59 48.0
UZH *e* 22 59 53.4
MLR Muntele Rosu 144.01 323 PKPdf **PKPdf** 22 59 45.7 -1.6
MLR Muntele Rosu 144.01 323 PKiKP **PKPdf** 22 59 45.7 -1.6
BORA Eskisehir 144.03 312 PKPdf PKPbc 22 59 45.1 -0.3
RUE Ruedersdorf 144.04 342 *e*P **PKPdf** 22 59 45.5 -1.4
RUE Ruedersdorf 144.04 342 *e*PKPbc **PKPdf** 22 59 45.7 -1.2
baz=24,slow=2.9
NIE Niedzica 144.16 333 *e*PKPdf **PKPdf** 22 59 46.4 -1.0
PRD Provadia 144.45 319 P **PKPdf** 22 59 48.5 +0.6
KSP Ksiaz 144.61 338 *e*PKPdf **PKPdf** 22 59 47.8 -0.2
LANS Liptovska Anna 144.71 333 *e*PKiKP **PKPdf** 22 59 48.9 +0.6
LANS Liptovska Anna 144.71 333 *e*PKP **PKPdf** 22 59 48.9 +0.6
OKC Ostrava-Krasne 144.72 335 *e*PKP **PKPdf** 22 59 47.5 -0.7
OKC Ostrava-Krasne 144.72 335 *e*PKiKP **PKPdf** 22 59 47.5 -0.7
KECS Kecovo 144.77 332 *e*PKiKP **PKPdf** 22 59 48.8 +0.4
KECS Kecovo 144.77 332 *e*PKP **PKPdf** 22 59 48.8 +0.4
ISP Isparta 144.80 309 PKPdf **PKPab** 22 59 47.0 -0.9
ISP Isparta 144.80 309 PKiKP **PKPab** 22 59 47.0 -0.9
OSTC Ostas 144.88 338 *e*PKP **PKPdf** 22 59 48.4 -0.1
FLTG Flechtingen 144.89 344 *e*PKPbc **PKPdf** 22 59 48.3 -0.1
baz=24,slow=2.9
RETH Rethem/Aller, 144.97 346 *e*PKPbc **PKPdf** 22 59 48.6 +0.1
baz=24,slow=2.9
UPC Upice 144.99 338 *e*PKP **PKPdf** 22 59 48.6 -0.1
UPC Upice 144.99 338 *e*PKiKP **PKPdf** 22 59 48.6 -0.1
DPC Dobruska-Polom 145.01 337 *e*PKP **PKPdf** 22 59 49.2 +0.4
DPC Dobruska-Polom 145.01 337 *e*PKiKP **PKPdf** 22 59 49.2 +0.4
MORC Moravsky Berou 145.01 336 PKPdf **PKPdf** 22 59 48.5 -0.3
MORC Moravsky Berou 145.01 336 *e*PKP **PKPdf** 22 59 48.8 0.0
MORC Moravsky Berou 145.01 336 PKiKP **PKPdf** 22 59 48.5 -0.3
NRDL Niedersach Rie 145.02 345 *e*PKPbc **PKPdf** 22 59 48.9 +0.3
baz=24,slow=2.9
KRLC Kraliky 145.06 337 *e*PKP **PKPdf** 22 59 49.3 +0.4
KRLC Kraliky 145.06 337 *e*PKiKP **PKPdf** 22 59 49.3 +0.4
ASSE Asse, Remlinge 145.22 344 *e*PKPbc **PKPdf** 22 59 49.5 +0.6
baz=24,slow=2.9
MAUC Maruska 145.22 335 *e*PKP **PKPdf** 22 59 49.8 +0.6
CLL Collm 145.30 341 **PKPdf** 22 59 48.9 -0.2
CLL Collm 145.30 341 ⇓ *i* PKPbc **PKPdf** 22 59 49.8 +0.6
comp=Z,397nm,0.9s
CLL *i* PKiKP **PKiKP** 22 59 53.0 -0.1
CLL Collm 145.30 341 PKiKP **PKPdf** 22 59 48.9 -0.2
CLL Collm 145.30 341 *e*PKPbc **PKPdf** 22 59 49.8 +0.6
baz=24,slow=2.9
SZH Strazhica 145.31 320 P **PKPdf** 22 59 50.6 +1.1
JMB Yambol 145.35 319 P **PKPdf** 22 59 50.3 +0.8
BRG Berggiesshubel 145.38 340 ⇓ *i* PKP **PKPab** 22 59 50.4 +0.9
BRG Amp 22 59 52.2
comp=Z,345nm,1.1s
BRG Berggiesshubel 145.38 340 Amp 23 00 00.8
comp=Z,198nm,1.2s
BRG Berggiesshubel 145.38 340 Amp 23 00 05.5
comp=Z,113nm,1.0s
BRG Berggiesshubel 145.38 340 ⇓ *i* PKiKP **PKPab** 22 59 50.3 +0.9
BRG Berggiesshubel 145.38 340 P **PKiKP** 22 59 57.8 +4.6
BRG Berggiesshubel 145.38 340 P PKiKP 23 00 04.6 +11
BRG Berggiesshubel 145.38 340 *e*PKPbc **PKPab** 22 59 50.3 +0.9
baz=24,slow=2.9
PVCC Panska Ves 145.47 339 *e*PKP **PKPab** 22 59 50.4 +0.7
PVCC Panska Ves 145.47 339 *e*PKiKP **PKPab** 22 59 50.4 +0.7
VYHS Vyhne 145.49 333 *e*PKiKP **PKPab** 22 59 50.0 +0.1
VYHS Vyhne 145.49 333 *e*PKP **PKPab** 22 59 50.0 +0.1
CLZ Clausthal 145.56 344 *e*PKPbc **PKPab** 22 59 51.0 +0.9
baz=24,slow=2.9
EDRB Edirne 145.58 318 P **PKPab** 22 59 50.3 -0.1
ELL Elmali 145.65 308 **PKPbc** 22 59 49.9 -0.8
ELL Elmali 145.65 308 PKiKP **PKPbc** 22 59 49.9 -0.8
JAVC Velka Javorina 145.69 335 *e*PKP **PKiKP** 22 59 51.9 -2.2
PVL Pavlikeni 145.70 321 P **PKiKP** 22 59 52.2 -1.9
IBBN Ibbenburen 145.73 347 *e*PKPbc **PKPab** 22 59 51.2 +0.6
baz=24,slow=2.9
NEUB Neuenburg 145.75 342 *e*PKPbc **PKPab** 22 59 51.3 +0.5
baz=24,slow=2.9
VRAC Vranov 145.75 336 *e*PKP **PKPab** 22 59 50.5 -0.4
BALB Balikesir 145.91 314 PKPdf **PKPbc** 22 59 50.2 -1.0
GOPC GO Pecny, Ondr 145.92 338 *e*PKP **PKPab** 22 59 50.9 -0.6
GOPC GO Pecny, Ondr 145.92 338 *e*PKP2 **PKPab** 22 59 50.9 -0.6
GTTG Gottingen 145.93 345 *e*PKPbc **PKPab** 22 59 52.1 +0.7
baz=24,slow=2.9
PRU Pruhonice 145.94 339 *e*PKP **PKPab** 22 59 50.5 -1.0
PRU Pruhonice 145.94 339 *e*PKP2 **PKPab** 22 59 50.5 -1.0
MANT Manisa 145.95 311 **PKPdf** 22 59 50.1 -0.9
KRUC Moravsky 146.03 336 *e*PKP **PKPab** 22 59 51.6 -0.3
SMOL Smolenice 146.06 334 *e*PKP2 **PKiKP** 22 59 53.1 -1.7
KSL Kastellorizon 146.11 307 P **PKPbc** 22 59 51.1 -0.9
TREC Trest 146.18 337 *e*PKP **PKPab** 22 59 52.2 -0.3
TREC Trest 146.18 337 *e*PKP2 **PKPab** 22 59 52.2 -0.3
DIM Dimitrovgrad 146.23 319 P **PKPab** 22 59 53.2 +0.3
MODS Modra-Piesok 146.23 334 *e*PKP2 **PKPab** 22 59 53.0 +0.3
MODS Modra-Piesok 146.23 334 *e*PKP **PKPab** 22 59 53.0 +0.3
SRO Srobarova 146.23 333 *e*PKP2 **PKiKP** 22 59 53.6 -1.5
SRO Srobarova 146.23 333 *e*PKP **PKiKP** 22 59 53.6 -1.5
TANN Tannenbergstha 146.25 341 *e*PKPbc **PKPab** 22 59 52.9 +0.2
baz=24,slow=2.9
WERD Werda 146.27 341 *e*PKPbc **PKPab** 22 59 53.0 +0.2
baz=24,slow=2.9
PLN Plauen 146.28 341 *e*PKPbc **PKPab** 22 59 53.0 +0.2
baz=24,slow=2.9
MOX Moxa 146.30 342 *e*PKPbc **PKPab** 22 59 52.9 0.0
baz=24,slow=2.9
MOX *e*L L 23 28 11.5
comp=Z,10µm,20.9s
GUNZ Gunzen 146.33 341 *e*PKPbc **PKPab** 22 59 53.3 +0.3
baz=24,slow=2.9
WERN Wernitzgruen 146.39 341 *e*PKPbc **PKPab** 22 59 53.5 +0.2
baz=24,slow=2.9
NKC Novy Kostel 146.41 341 *e*PKP **PKPab** 22 59 52.6 -0.7
NKC Novy Kostel 146.41 341 *e*PKP2 **PKPab** 22 59 52.6 -0.7
DJES Djerdap 146.41 325 PKPdf **PKPdf** 22 59 50.9 -0.4
ZST Bratislava 146.44 334 *e*PKP2 **PKiKP** 22 59 54.0 -1.5
ZST Bratislava 146.44 334 *e*PKP **PKiKP** 22 59 54.0 -1.5
ALN Alexandroupoli 146.52 317 PKPdf **PKPdf** 22 59 51.2 -0.4
ALN Alexandroupoli 146.52 317 P **PKPdf** 22 59 48.3 -3.3
ALN Alexandroupoli 146.52 317 PKP2 **PKPdf** 22 59 51.2 -0.4
KDZ Kurdzhali 146.52 318 P **PKPab** 22 59 53.9 -0.1
ENEZ Enez 146.53 316 P **PKiKP** 22 59 54.9 -1.1
MPEP Malo Peshtene 146.55 322 P **PKPab** 22 59 53.2 -0.9
KASTN Kahler Asten 146.62 346 *e*PKPbc **PKPab** 22 59 53.7 -0.4
baz=24,slow=2.9
BUG Bochum--Univer 146.65 347 *e*PKPbc **PKPab** 22 59 53.5 -0.7
baz=24,slow=2.9
YER Yerkesik 146.71 309 P **PKPab** 22 59 53.9 -1.1
PLD Plovdiv 146.71 320 P **PKPab** 22 59 54.2 -0.5
RDO Rodhopi 146.72 317 **PKPdf** 22 59 51.5 -0.4
RDO Rodhopi 146.72 317 P **PKPdf** 22 59 49.2 -2.7
MANZ Manzenberg 146.73 341 *e*PKPbc **PKPab** 22 59 54.1 -0.5
baz=24,slow=2.9
PGB Panagyurishte 146.78 321 P **PKPab** 22 59 54.5 -0.6
ROTZ Rotzenmuhle 146.90 341 *e*PKPbc **PKPab** 22 59 54.8 -0.4
baz=24,slow=2.9
RZN Rozhen 146.94 319 P **PKPab** 22 59 54.5 -1.4
KHC Kasperske Hory 147.00 339 PKPdf **PKPbc** 22 59 52.5 -1.7
KHC Kasperske Hory 147.00 339 *e*PKP **PKPbc** 22 59 52.5 -1.7
KHC *ep*PKP **pPKPdf** 22 59 59.3 -1.8
KHC Kasperske Hory 147.00 339 *e*PKP2 **PKPbc** 22 59 52.5 -1.7
CKRC Cesky Krumlov 147.01 338 *e*PKP **PKPbc** 22 59 53.6 -0.6
SMTH Samothraki Isl 147.08 316 P **PKPbc** 22 59 53.6 -1.1
CONA Conrad Observa 147.16 335 *ep*PKP **PKPab** 22 59 55.7 -0.7
comp=Z,92nm,1.0s,SNR=30
RONA Rosalia, Austr 147.17 335 *ep*PKP **PKPab** 22 59 55.7 -0.7
comp=Z,78nm,1.0s,SNR=28
ARG Arkhangelos 147.18 308 **PKPdf** 22 59 52.0 -0.9
ARG Arkhangelos 147.18 308 P **PKPbc** 22 59 53.6 -1.5
ARG Arkhangelos 147.18 308 PKiKP **PKPdf** 22 59 52.0 -0.9
GEC2 GERESS Array S 147.20 338 **PKPdf** 22 59 51.9 -0.7
GEC2 GERESS Array S 147.20 338 *e*PKPbc **PKPab** 22 59 55.5 -1.0
baz=24,slow=2.9
GERES GERESS Array B 147.20 338 PKP **PKPdf** 22 59 52.8 +0.2
comp=Z,24nm,0.8s,baz=20,slow=3.1,SNR=37
GERES PKPbc **PKPab** 22 59 55.2 -1.3
comp=Z,24nm,0.8s,baz=324,slow=1.8,SNR=43
GERES GERESS Array B 147.20 338 **PKPdf** 22 59 52.1 -0.5
GRA1 Grafenberg Arr 147.26 342 **PKPab** 22 59 55.8 -0.8
GRF Grafenberg Arr 147.26 342 PKP2 **PKPab** 22 59 55.8 -0.8
GRF Grafenberg Arr 147.26 342 *e*PKPbc **PKPab** 22 59 56.0 -0.7
baz=24,slow=2.9
GRF *e*L L 23 25 02.9
comp=Z,7µm,21.3s
VTS Vitosha 147.29 321 PKPdf **PKPdf** 22 59 52.4 -0.6
VTS Vitosha 147.29 321 PKiKP **PKPdf** 22 59 52.4 -0.6
VTS Vitosha 147.29 321 P **PKPab** 22 59 55.8 -1.4
DAT Datca 147.38 309 P **PKPbc** 22 59 54.3 -1.5
BODT Bodrum 147.44 310 P **PKPbc** 22 59 55.3 -0.5
KAVA Kavala 147.45 318 P **PKPdf** 22 59 49.0 -4.1
SIGR SIGRI 147.50 314 P **PKPbc** 22 59 55.3 -0.5
SMG Samos 147.51 311 P **PKPbc** 22 59 55.5 -0.5
TNS Taunus Mts 147.52 345 *e*PKPbc **PKPab** 22 59 56.5 -1.2
baz=24,slow=2.9
THAS Thassos island 147.53 317 P **PKPbc** 22 59 53.9 -2.0
AHRW Bad Neuenahr-A 147.54 347 *e*PKPbc **PKPab** 22 59 56.3 -1.4
baz=24,slow=2.9
BEBN Eben Emael 147.57 349 *d*PKP **PKPab** 22 59 56.2 -1.5
MMB Musomiste 147.60 320 P **PKPdf** 22 59 53.4 0.0
NVR Nevrokopi 147.66 319 P **PKPbc** 22 59 56.0 -0.3
BTNL Ternell 147.69 348 *d*PKP **PKPbc** 22 59 56.2 +0.2
MEM Membach 147.69 348 *d*PKP **PKiKP** 22 59 56.5 -1.5
CHOS Chios island 147.75 313 P **PKPbc** 22 59 55.5 -1.2
BSTI Sart Tilman 147.80 349 *d*PKP **PKiKP** 22 59 56.9 -1.4
KKB Krupnik 147.84 320 P **PKPbc** 22 59 54.7 -2.0
MOA Molln 147.84 337 *ep*PKP **PKiKP** 22 59 57.0 -1.5
comp=Z,103nm,1.1s,SNR=19
ARSA Arzberg 147.84 335 *e*PKP **PKPbc** 22 59 56.4 -0.2
comp=Z,45nm,1.6s,SNR=16
KOKK Kokkinochori, 147.87 318 P **PKPbc** 22 59 56.2 -0.6
BHOU Houvegnez 147.94 348 *d*PKP **PKiKP** 22 59 57.6 -1.0
SRS Serrai 147.96 319 P **PKPbc** 22 59 56.0 -1.1
BCLA Clavier 148.00 349 *d*PKP **PKPbc** 22 59 56.6 -0.2
BGES Gesves 148.08 349 *d*PKP **PKiKP** 22 59 57.4 -1.5
DIVS Divibare 148.14 326 PKPdf **PKPdf** 22 59 53.7 -0.6
OUR Ouranopolis 148.15 317 P **PKPbc** 22 59 56.0 -1.5
KARP Karpathos 148.16 307 PKPdf **PKPbc** 22 59 55.4 -2.4
KARP Karpathos 148.16 307 P **PKiKP** 22 59 58.9 -0.6
BIOA Bad Ischl, Aus 148.20 337 *ep*PKP pPKPdf 23 00 01.9 -1.1
comp=Z,70nm,1.2s,SNR=15
BMRD Maredsous 148.21 349 *d*PKP **PKPbc** 22 59 57.4 0.0
RCHB Rochefort 148.27 349 *d*PKP **PKPbc** 22 59 57.0 -0.6
KNT Kendrikon 148.36 320 P **PKPbc** 22 59 57.4 -0.7
DOU Dourbes 148.44 350 *d*PKP **PKiKP** 22 59 58.7 -0.9
VAY Valandovo 148.47 320 *i* P **PKPbc** 22 59 57.8 -0.6
SOKA Soboth 148.50 335 *e*PKP **PKiKP** 22 59 58.5 -1.5
comp=Z,86nm,1.9s,SNR=9.1
WLF Walferdange 148.56 347 **PKiKP** 22 59 58.5 -1.4
WLF Walferdange 148.56 347 PKP2 **PKiKP** 22 59 58.5 -1.4
WLF Walferdange 148.56 347 *d*PKP **PKiKP** 22 59 59.3 -0.6
WLF Walferdange 148.56 347 *e*PKPbc **PKiKP

BFO	**Black Forest**	**149.30**	**344**	PKIKP	**PKPdf**	**22**	**59**	**55.5 -0.5**
BFO	**Black Forest**	**149.30**	**344**		**PKiKP**	**23**	**00**	**00.8 -0.7**
BFO	**Black Forest**	**149.30**	**344**	*e*PKPbc	**PKiKP**	**23**	**00**	**00.6 -0.9**
	baz=24,slow=2.9							
RETA	**Reutte**	**149.36**	**340**	*e*PKP	**PKiKP**	**23**	**00**	**00.9 -0.8**
	comp=Z,110nm,1.3s,SNR=13							
DION	**Dionisos Attik**	**149.37**	**314**	P	**PKPbc**	**22**	**59**	**59.4 -1.4**
MOTA	**Moosalm**	**149.38**	**340**	*e*PKP	**PKiKP**	**23**	**00**	**01.0 -0.9**
	comp=Z,71nm,1.0s,SNR=13							
UBR	**Ueberruh**	**149.39**	**341**	*e*PKPbc	**PKiKP**	**23**	**00**	**00.6 -1.2**
	baz=24,slow=2.9							
ABTA	**Abfaltersbach**	**149.41**	**338**	*e*PKP	**PKPbc**	**23**	**00**	**00.2 -0.5**
	comp=Z,70nm,1.0s,SNR=11							
PTL	**Penteli**	**149.43**	**314**	P	**PKPbc**	**22**	**59**	**59.8 -1.2**
SQTA	**Sankt Quirin**	**149.45**	**340**	*e*PKP	**PKiKP**	**23**	**00**	**01.2 -0.7**
	comp=Z,63nm,0.9s,SNR=17							
FNA	**Florina**	**149.51**	**320**	PKPdf	**PKPdf**	**22**	**59**	**55.6 -1.0**
FNA				PKPbc	**PKiKP**	**23**	**00**	**00.9 -1.3**
FNA	**Florina**	**149.51**	**320**	P	**PKPbc**	**22**	**59**	**59.6 -1.5**
FNA	**Florina**	**149.51**	**320**	PKHKP	PKPpre	22	59	55.6
FNA	**Florina**	**149.51**	**320**		**PKiKP**	**23**	**00**	**00.9 -1.3**
CLUD	**Cludinico**	**149.52**	**337**	PKPdf	**PKPdf**	**22**	**59**	**55.3 -1.1**
CLUD				PKPbc	**PKPbc**	**23**	**00**	**00.5 -0.5**
ATHU	**Athens Univers**	**149.52**	**314**	P	**PKPbc**	**22**	**59**	**58.7 -2.5**
KZN	**Kozani**	**149.56**	**319**	P	**PKPbc**	**22**	**59**	**59.6 -1.7**
ATH	**Athens Observa**	**149.56**	**314**	P	**PKPbc**	**22**	**59**	**59.2 -2.0**
VLY	**Voula,Athens**	**149.57**	**313**	P	**PKPdf**	**22**	**59**	**58.1 +1.4**
SABO	**M.te Sabotino**	**149.64**	**336**	PKPdf	**PKPdf**	**22**	**59**	**55.6 -1.0**
PDG	**Podgorica**	**149.67**	**325**		**PKiKP**	**23**	**00**	**01.2 -1.2**
ECH	**Echery**	**149.70**	**345**		**PKiKP**	**23**	**00**	**01.3 -1.0**
ECH	**Echery**	**149.70**	**345**	PKP2	**PKiKP**	**23**	**00**	**01.3 -1.0**
STAL	**STALIGIAL**	**149.75**	**337**		**PKPdf**	**22**	**59**	**56.5 -0.3**
FETA	**Feichten**	**149.78**	**340**	*e*PKP	**PKiKP**	**23**	**00**	**02.0 -0.7**
	comp=Z,70nm,1.0s,SNR=12							
CIMO	**Cimolais**	**149.81**	**337**		**PKPdf**	**22**	**59**	**56.1 -0.7**
DAVA	**Damuels**	**149.81**	**341**	*e*PKP	**PKiKP**	**23**	**00**	**02.2 -0.6**
	comp=Z,65nm,1.1s,SNR=11							
THL	**Klokotos Trika**	**149.83**	**318**	P	**PKPbc**	**22**	**59**	**59.2 -2.6**
FUORN	**Ofenpass-Fuorn**	**150.29**	**340**	PKPdf	**PKPdf**	**22**	**59**	**57.1 -0.8**
CTI	**Castel Tesino**	**150.31**	**338**		**PKPdf**	**22**	**59**	**57.1 -0.7**
CTI	**Castel Tesino**	**150.31**	**338**	PKIKP	**PKPdf**	**22**	**59**	**57.1 -0.7**
IMMV	**Iera Moni Meta**	**150.56**	**309**	P	**PKPbc**	**23**	**00**	**03.2 -0.5**
KLV	**Kalavryta, Ach**	**150.59**	**315**	P	**PKPbc**	**23**	**00**	**02.8 -1.0**
TUE	**Stuetta**	**150.71**	**341**		**PKiKP**	**23**	**00**	**03.8 -0.9**
VLI	**Veliai**	**150.73**	**312**	P	**PKPbc**	**23**	**00**	**01.3 -2.8**
CLF	**Chambon-Foret**	**150.82**	**352**		**PKPdf**	**22**	**59**	**57.9 -0.4**
CLF				PKPbc	**PKiKP**	**23**	**00**	**04.4 -0.2**
ANKY	**Antikythira Is**	**150.87**	**310**	P	**PKiKP**	**23**	**00**	**04.0 -1.1**
TEOL	**Teolo**	**150.90**	**337**		**PKPdf**	**22**	**59**	**58.3 -0.3**
TEOL				PKPbc	**PKiKP**	**23**	**00**	**04.5 -0.3**
IGT	**Igoumenitsa**	**150.91**	**319**	P	**PKiKP**	**23**	**00**	**04.0 -1.0**
SALO	**Salr**	**151.08**	**339**		**PKiKP**	**23**	**00**	**04.3 -1.0**
KEK	**Kerkira**	**151.12**	**320**	P	**PKiKP**	**23**	**00**	**04.7 -0.8**
LKD2	**Lefkada island**	**151.14**	**318**	P	**PKPbc**	**23**	**00**	**03.6 -1.4**
ITM	**Ithomi**	**151.19**	**314**		**PKPbc**	**23**	**00**	**04.3 -0.9**
ITM	**Ithomi**	**151.19**	**314**	P	**PKPbc**	**23**	**00**	**03.8 -1.4**
EVGI	**Lefkada island**	**151.24**	**317**	P	**PKPbc**	**23**	**00**	**03.2 -2.0**
SENIN	**Lac Senin/Sane**	**151.39**	**344**	PKPdf	**PKPdf**	**22**	**59**	**59.0 -0.5**
SENIN				PKPbc	**PKiKP**	**23**	**00**	**06.2 +0.1**
FSK	**Fiskardo**	**151.39**	**317**	P	**PKPbc**	**23**	**00**	**04.0 -1.6**
VLS	**Valsamata**	**151.54**	**317**	P	**PKiKP**	**23**	**00**	**05.5 -0.9**
KEF4	**Livadi, Kephal**	**151.60**	**317**	P	**PKiKP**	**23**	**00**	**05.9 -0.6**
KEF3	**Kipouria, Keph**	**151.68**	**317**	P	**PKiKP**	**23**	**00**	**05.7 -1.0**
SCTE	**Santa Cesarea**	**151.69**	**322**		**PKiKP**	**23**	**00**	**06.1 -0.5**
PRMA	**PARMA**	**151.90**	**338**		**PKiKP**	**23**	**00**	**06.7 -0.2**
SGRT	**San Giovanni R**	**152.00**	**328**		**PKiKP**	**23**	**00**	**06.9 -0.5**
MURB	**Monte Urbino**	**152.32**	**334**		**PKPbc**	**23**	**00**	**06.9 -0.7**
ESDC	**Sonseca Array**	**159.60**	**0**	PKP	**PKPdf**	**23**	**00**	**10.8 +0.3**
	comp=Z,3.8nm,1.1s,baz=16,slow=2.3,SNR=10							
ESDC				PKPab	**PKPab**	**23**	**00**	**48.4 -0.4**
	comp=Z,6.0nm,1.0s,baz=358,slow=3.8,SNR=10							
ESDC	**Sonseca Array**	**159.60**	**0**		**PKPdf**	**23**	**00**	**10.6 0.0**
KEST	**Kesra**	**159.81**	**327**	PKPab	**PKPab**	**23**	**00**	**50.4 +0.5**
	comp=Z,13nm,0.9s,baz=305,slow=7.2,SNR=6.7							
TAF	**Taforalt**	**164.40**	**356**	P	**PKPdf**	**23**	**00**	**18.0 +2.3**
JBK	**JBK**	**164.88**	**356**	P	**PKPdf**	**23**	**00**	**18.1 +1.8**
MDT	**Midelt**	**166.43**	**3**	P	**PKPdf**	**23**	**00**	**19.0 +1.6**
FIGM	**Figuig**	**166.91**	**350**	P	**PKPdf**	**23**	**00**	**19.0 +1.2**
DBIC	**Dimbokro**	**167.51**	**176**	PKP	**PKPdf**	**23**	**00**	**18.3 -0.3**
	comp=Z,15nm,0.9s,baz=125,slow=1.4,SNR=16							
DBIC				PKPab	**PKPab**	**23**	**01**	**23.9 0.0**
	comp=Z,15nm,0.9s,baz=180,slow=4.5,SNR=8.5							
DBIC				PP	**PP**	**23**	**05**	**09.6 -1.1**
	comp=Z,5.3nm,1.0s,baz=133,slow=4.7,SNR=3.8							
GOLM	**Goulmima**	**167.51**	**4**	P	**PKPdf**	**23**	**00**	**20.1 +1.8**
OUK	**Oukaimeden**	**167.52**	**16**	P	**PKPdf**	**23**	**00**	**21.0 +2.4**
OUZM	**OUZ**	**168.06**	**12**	P	**PKPdf**	**23**	**00**	**21.0 +2.3**
TZRR	**Tazzarine**	**168.37**	**7**	P	**PKPdf**	**23**	**00**	**21.0 +2.1**
ZGR	**Zagora**	**169.02**	**8**	P	**PKPdf**	**23**	**00**	**21.0 +1.6**
TORD	**Torodi Ar. Bea**	**171.94**	**222**	PKP	**PKPdf**	**23**	**00**	**20.6 -0.6**
	comp=Z,18nm,0.9s,baz=330,slow=1.4,SNR=64							
TORD				PKPab	**PKPab**	**23**	**01**	**43.1 -0.6**
	comp=Z,5.1nm,0.8s,baz=114,slow=5.6,SNR=7.8							
TORD				PP	**PP**	**23**	**05**	**32.8 -1.3**
	comp=Z,3.1nm,1.0s,baz=122,slow=2.9,SNR=4.3							
TORD	**Torodi Ar. Bea**	**171.94**	**222**		**PKPdf**	**23**	**00**	**20.8 -0.4**
TORD				PKPab	**PKPab**	**23**	**01**	**43.7 0.0**

*IDC **03** 22:43:08.8±1.4, 18°.71S×175°.98E, h0km, mb4.5/13, mbtmp4.5/15, ML5.1/1, Error ellipse: s-maj=52.7km s-min=19.6km az=160.0*
*NEIC **03** 22:43:10.1±2.6, 18°.99S±0°.05×176°.43E±0°.06, h10km±1km, mb5.0/15, Error ellipse: s-maj=10.4km s-min=8.6km az=242.0*

ISC 03 22:43:09.7±0.6, **18°.9S**±0°.1×**176°.30E**±0°.09, **h10**km, **n80**, σ1**8**11/64, **mb4.9**/20, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.01**	**56**	Pn	**Pb**	**22 43 45.5**	**-0.9**
	29nm,0.3s,baz=248,slow=10,SNR=1.9						
MSVF				Sn	**Sb**	**22 44 11.3**	**-0.3**
	122nm,0.3s,baz=132,slow=23,SNR=4.6						
	335nm,0.7s						
MSVF	**Nonsavu**	**2.01**	**56**	Pn	**Pn**	**22 43 43.0**	**-0.8**
MSVF				Sn	**Sn**	**22 44 08.8**	**-0.2**
DZM	**Mont Dzumac**	**9.77**	**249**	Pn	**Pn**	**22 45 29.2**	**-1.3**
	30nm,1.1s,baz=80,slow=15,SNR=3.2						
DZM	**Mont Dzumac**	**9.77**	**249**	Pn	**Pn**	**22 45 31.5**	**+1.0**
ONTNC	**Ouen Toro**	**9.83**	**248**	Pn	**Pn**	**22 45 30.7**	**-0.5**
KOUNC	**Koumac, New Ca**	**11.44**	**260**	Pn	**Pn**	**22 45 53.6**	**+0.5**
LTZ	**Lake Taylor**	**24.09**	**187**	P	**P**	**22 48 25.2**	**-0.2**
LTZ				IAmb	IAmb	22 48 30.9	
	comp=Z,59nm,1.3s						
STKA	**Stephens Creek**	**33.77**	**241**	P	**P**	**22 49 53.8**	**+1.9**
H11S2	**WAKE ISLAND Hy**	**38.30**	**345**	T	T	23 31 21.6	
	baz=166,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**38.30**	**345**	T	T	23 31 20.7	
	baz=166,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**38.31**	**345**	T	T	23 31 24.4	
	baz=166,slow=76,SNR=21						
WB2	**Warramunga Arr**	**39.50**	**261**	P	**P**	**22 50 40.4**	**-0.5**
WRA	**Warramunga Arr**	**39.52**	**261**	P	**P**	**22 50 38.0**	**-3.0**
	comp=Z,1.8nm,0.8s,baz=93,slow=7.9,SNR=1.0						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**39.69**	**255**	P	**P**	**22 50 40.1**	**-2.3**
	comp=Z,5.2nm,0.8s,baz=87,slow=8.4,SNR=0.7						
	comp=Z,5.2nm,0.8s						
ASAR	**Alice Springs**	**39.69**	**255**	P	**P**	**22 50 40.5**	**-2.0**
FORT	**Forrest**	**45.05**	**245**	P	**P**	**22 51 27.7**	**+1.8**
FORT				IAmb	IAmb	22 51 36.2	
	comp=Z,26nm,0.9s						
MJAR	**Matsushiro Arr**	**65.81**	**327**	P	**P**	**22 53 54.3**	**-1.0**
	comp=Z,8.1nm,1.0s,baz=152,slow=6.7,SNR=5.4						
	comp=Z,8.1nm,1.0s						
QSPA	**South Pole Qui**	**71.19**	**180**	P	**P**	**22 54 26.8**	**-1.9**
QSPA				IAmb	IAmb	22 55 07.9	
	comp=Z,16nm,0.9s						
KLR	**Kul'dur**	**78.48**	**332**	P	**P**	**22 55 09.5**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=91,slow=5.2,SNR=4.4						
	comp=Z,2.1nm,0.8s						
P18K	**Big Mountain,**	**81.38**	**14**	P	**P**	**22 55 25.9**	**-0.5**
P18K				IAmb	IAmb	22 55 28.4	
	comp=Z,12nm,1.0s						
O18K	**Koktuh Hills**	**81.80**	**14**	P	**P**	**22 55 29.4**	**+0.8**
RSO	**Redoubt South**	**82.92**	**15**	P	**P**	**22 55 35.3**	**+0.7**
NVAR	**Mina Array Bea**	**83.65**	**46**	P	**P**	**22 55 39.7**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=224,slow=6.3,SNR=6.7						
	comp=Z,1.8nm,0.7s						
SEY	**Seymchan**	**83.67**	**349**	P	**P**	**22 55 39.1**	**+0.9**
	comp=Z,5.6nm,0.7s,baz=165,slow=5.5,SNR=5.8						
	comp=Z,5.6nm,0.7s						

L19K	**White Mountain**	**83.96**	**13**	P	**P**	**22**	**55**	**41.0 +1.3**
CMAR	**Chiang Mai Arr**	**84.51**	**291**	P	**P**	**22**	**55**	**43.9 +0.4**
	comp=Z,5.3nm,1.0s,baz=116,slow=3.9,SNR=5.9							
	comp=Z,5.3nm,1.0s							
CMAR	**Chiang Mai Arr**	**84.51**	**291**	P	**P**	**22**	**55**	**43.6 +0.1**
K20K	**Telida**	**85.17**	**13**	P	**P**	**22**	**55**	**46.5 +0.8**
SCM	**Sheep Creek Mo**	**85.47**	**16**	P	**P**	**22**	**55**	**48.6 +1.2**
SCM				IAmb	IAmb	22	55	49.6
	comp=Z,13nm,0.9s							
CAST	**Castle Rocks**	**85.66**	**14**	P	**P**	**22**	**55**	**48.3 +0.1**
CAST				IAmb	IAmb	22	55	49.6
	comp=Z,12nm,1.2s							
CCB	**Clear Creek Bu**	**87.69**	**15**	P	**P**	**22**	**55**	**58.2 +0.1**
CCB				IAmb	IAmb	22	55	59.3
	comp=Z,5.6nm,0.9s							
IL31		**88.02**	**15**	P	**P**	**22**	**55**	**59.5 -0.1**
IL31				IAmb	IAmb	22	56	00.6
	comp=Z,5.8nm,0.9s							
ILAR	**Eielson Array**	**88.02**	**15**	P	**P**	**22**	**55**	**59.5 -0.2**
	comp=Z,3.3nm,0.8s,baz=232,slow=5.3,SNR=9.2							
	comp=Z,3.3nm,0.8s							
YAK	**Yakutsk**	**88.67**	**340**	P	**P**	**22**	**56**	**00.9 -1.9**
	comp=Z,4.6nm,0.7s,baz=346,slow=2.6,SNR=4.1							
	comp=Z,4.6nm,0.7s							
TCUT	**Toone Canyon**	**89.60**	**46**	P	**P**	**22**	**56**	**09.2 +1.2**
BMAR	**Burnt Mountain**	**90.74**	**14**	P	**P**	**22**	**56**	**13.3 +0.8**
TXAR	**Lajitas Array**	**90.78**	**59**	P	**P**	**22**	**56**	**16.4 +2.8**
	comp=Z,3.3nm,0.9s,baz=226,slow=5.1,SNR=6.0							
	comp=Z,3.3nm,0.9s							
SONM	**Songino Array**	**91.04**	**321**	P	**P**	**22**	**56**	**14.1 -0.4**
	comp=Z,3.2nm,1.1s,baz=133,slow=4.7,SNR=4.8							
	comp=Z,3.2nm,1.1s							
SONM	**Songino Array**	**91.04**	**321**	P	**P**	**22**	**56**	**14.3 -0.1**
SONM				IAmb	IAmb	22	56	15.8
	comp=Z,4.6nm,1.1s							
PDAR	**Pinedale Array**	**91.54**	**45**	P	**P**	**22**	**56**	**18.4 +1.4**
	comp=Z,0.3nm,0.4s,baz=270,slow=2.3,SNR=4.2							
	comp=Z,0.3nm,0.4s							
YKA	**Yellowknife Ar**	**97.34**	**26**	P	Pdif	22	56	43.6 +0.8
	comp=Z,1.1nm,0.8s,baz=253,slow=4.6,SNR=4.8							
	comp=Z,1.1nm,0.8s							
LANS	**Liptovska Anna**	**144.49**	**334**	*e*	PKPbc	23	02	46.0 +1.1
OKC	**Ostrava-Krasne**	**144.49**	**335**	*ex*	x	23	02	45.2
UPC	**Upice**	**144.74**	**338**	*ex*	x	23	02	46.3
DPC	**Dobruska-Polom**	**144.76**	**338**	*ex*	x	23	02	46.4
MORC	**Moravsky Berou**	**144.77**	**336**	*e*PKP	**PKPab**	**23**	**02**	**46.6 +0.9**
KRLC	**Kraliky**	**144.82**	**337**	*ex*	x	23	02	46.8
MAUC	**Maruska**	**144.99**	**335**	*ex*	x	23	02	47.2
CLL	**Collm**	**145.03**	**342**	*i x*	x	22	59	57.1
BRG	**Berggiesshubel**	**145.12**	**340**	*i* P	**PKPbc**	**23**	**02**	**47.6 +0.7**
BRG				Amp		23	02	48.8
	comp=Z,48nm,1.1s							
BRG				Amp		23	14	25.0
	comp=E,15nm,27.9s							
BRG				Amp		23	14	33.0
	comp=N,14nm,20.8s							
BRG				Amp		23	14	40.0
	comp=Z,25nm,23.9s							
BRG	**Berggiesshubel**	**145.12**	**340**	pmax	pmax			
	comp=Z,345nm,1.1s							
BRG	**Berggiesshubel**	**145.12**	**340**	pmax	pmax			
	comp=Z,113nm,1.0s							
BRG	**Berggiesshubel**	**145.12**	**340**	pmax	pmax			
	comp=Z,48nm,1.2s							
PVCC	**Panska Ves**	**145.22**	**339**	*ex*	x	23	02	48.2
PSZ	**Piszkesteto**	**145.24**	**332**	PKPbc	**PKPbc**	**23**	**02**	**47.3 -0.2**
VYHS	**Vyhne**	**145.26**	**333**	*e*	**PKPbc**	**23**	**02**	**48.3 +0.9**
JAVC	**Velka Javorina**	**145.46**	**335**	*e*PKP	**PKPab**	**23**	**02**	**49.9 +1.6**
VRAC	**Vranov**	**145.51**	**336**	*e*PKP	**PKPdf**	**23**	**02**	**48.7 +0.6**
PRU	**Pruhonice**	**145.69**	**339**	*ex*	x	23	02	49.1
KRUC	**Moravsky**	**145.79**	**336**	*e*PKP	**PKPdf**	**23**	**02**	**49.1 +0.5**
MANT	**Manisa**	**145.85**	**312**	PKPdf	**PKPdf**	**23**	**02**	**48.7 -0.6**
MODS	**Mezdra-Piesok**	**146.00**	**335**	*e*	**PKPbc**	**23**	**02**	**50.8 +1.1**
RDO	**Rodhopi**	**146.58**	**318**	PKPdf	**PKPdf**	**23**	**02**	**50.5 +0.3**
KHC	**Kasperske Hory**	**146.74**	**339**	PKPbc	**PKPbc**	**23**	**02**	**52.2 +0.2**
KHC	**Kasperske Hory**	**146.74**	**339**	*ex*	x	23	02	52.1
CKRC	**Cesky Krumlov**	**146.76**	**338**	*ex*	x	23	02	51.6
CONA	**Conrad Observa**	**146.92**	**336**	*e*PKP	**PKPbc**	**23**	**02**	**53.4 +0.8**
	comp=Z,26nm,1.5s							
RONA	**Rosalia, Austr**	**146.93**	**335**	*e*PKP	**PKPbc**	**23**	**02**	**53.1 +0.5**
	comp=Z,17nm,1.2s							
GERES	**GERESS Array B**	**146.95**	**339**	PKPdf	**PKPdf**	**23**	**02**	**51.0 +0.3**
VTS	**Vitosha**	**147.13**	**322**	PKPbc	**PKPbc**	**23**	**02**	**53.3 -0.1**
MOA	**Molln**	**147.59**	**337**	*e*PKP	**PKPbc**	**23**	**02**	**56.0 +1.7**
	comp=Z,23nm,1.2s							
ARSA	**Arzberg**	**147.60**	**335**	*e*PKiKP	**PKPab**	**23**	**02**	**57.8 +1.3**
	comp=Z,16nm,1.9s							
DIVS	**Divibare**	**147.95**	**327**	PKPbc	**PKPbc**	**23**	**02**	**55.3 -0.2**
KBA	**Koelnbreinsper**	**148.58**	**337**	*e*PKP	**PKPbc**	**23**	**02**	**56.8 -0.4**
	comp=Z,13nm,1.3s							
WATA	**Walderalm**	**148.97**	**340**	PKP	**PKPbc**	**23**	**02**	**58.1 0.0**
	comp=Z,12nm,1.5s							
WTTA	**Wattenberg**	**149.01**	**340**	*e*PKP	**PKPbc**	**23**	**02**	**58.2 -0.1**
	comp=Z,11nm,1.2s							
MOTA	**Moosalm**	**149.12**	**340**	*e*PKP	**PKPbc**	**23**	**02**	**58.7 +0.1**
	comp=Z,18nm,1.7s							
SQTA	**Sankt Quirin**	**149.19**	**340**	*e*PKP	**PKPbc**	**23**	**02**	**58.0 -0.7**
	comp=Z,15nm,1.6s							
FETA	**Feichten**	**149.52**	**340**	*e*PKP	**PKPbc**	**23**	**02**	**58.2 -1.4**
	comp=Z,11nm,1.4s							
DAVA	**Damuels**	**149.54**	**342**	*e*PKP	**PKPbc**	**23**	**02**	**58.7 -0.9**
	comp=Z,6.8nm,1.2s							

*IDC **03** 22:45:15.1±0.9, 19°.35S×176°.04E, h0km, mb4.2/11, mbtmp4.2/13, ML4.9/1, Error ellipse: s-maj=34.4km s-min=17.1km az=146.0*
*NEIC **03** 22:45:17.5±1.5, 19°.3S±0°.1×176°.16E±0°.09, h10km±1km, mb4.8/11, Error ellipse: s-maj=25.9km s-min=8.3km az=331.0*

ISC 03 22:45:17.1±0.5, **19°.3S**±0°.1×**176°.03E**±0°.09, **h10**km, **n27**, σ0**9**99/28, **mb4.4**/17, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.45**	**52**	Pn	**Pn**	**22 45 58.1**	**+0.9**
	12nm,0.3s,baz=210,slow=21,SNR=0.9						
MSVF				Sn	**Sn**	**22 46 27.4**	**+0.2**
	53nm,0.3s,baz=284,slow=22,SNR=6.4						
	47nm,0.6s						
MSVF	**Nonsavu**	**2.45**	**52**	Pn	**Pn**	**22 45 57.1**	**-0.1**
DZM	**Mont Dzumac**	**9.40**	**251**	Pn	**Pn**	**22 47 33.4**	**+0.6**
	12nm,1.0s,baz=82,slow=18,SNR=3.5						
DZM	**Mont Dzumac**	**9.40**	**251**	Pn	**Pn**	**22 47 35.1**	**+2.4**
MRZ	**Mangatainoka R**	**21.33**	**181**	P	**P**	**22 50 04.2**	**+0.1**
MRZ				IAmb	IAmb	22 50 12.0	
	comp=Z,34nm,1.1s						
NNZ	**Nelson**	**22.00**	**185**	P	**P**	**22 50 11.7**	**+0.4**
STKA	**Stephens Creek**	**33.36**	**241**	P	**P**	**22 51 55.2**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=69,slow=8.6,SNR=3.1						
	comp=Z,4.2nm,0.9s						
STKA	**Stephens Creek**	**33.36**	**241**	P	**P**	**22 51 55.9**	**+0.3**
WRA	**Warramunga Arr**	**39.21**	**262**	P	**P**	**22 52 44.8**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=96,slow=8.7,SNR=2.4						
	comp=Z,1.0nm,0.8s						
AS31	**Alice Springs**	**39.35**	**256**	P	**P**	**22 52 46.8**	**-0.1**
ASAR	**Alice Springs**	**39.35**	**256**	P	**P**	**22 52 46.1**	**-0.9**
	comp=Z,9.1nm,0.9s,baz=83,slow=8.2,SNR=9.2						
	comp=Z,9.1nm,0.9s						
ASAR	**Alice Springs**	**39.35**	**256**	P	**P**	**22 52 46.8**	**-0.1**
FAKI	**Fak Fak**	**45.75**	**285**	P	**P**	**22 53 37.4**	**-1.7**
FAKI				IAmb	IAmb	22 53 54.8	
	comp=Z,34nm,1.2s						
MBWA	**Marble Bar**	**52.63**	**258**	P	**P**	**22 54 32.3**	**+0.6**
MBWA				IAmb	IAmb	22 54 44.6	
	comp=Z,23nm,1.1s						
NWAO	**Narrogin (SRO)**	**53.91**	**243**	P	**P**	**22 54 41.6**	**+0.7**
VNDA	**Vanda**	**58.71**	**184**	P	**P**	**22 55 14.4**	**0.0**
VNDA				IAmb	IAmb	22 55 39.7	
	comp=Z,7.7nm,1.4s						
MJAR	**Matsushiro Arr**	**66.02**	**327**	P	**P**	**22 56 04.3**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=146,slow=4.6,SNR=4.3						
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**70.79**	**180**	P	**P**	**22 56 32.2**	**-1.4**
	comp=Z,6.1nm,0.9s,baz=24,slow=5.8,SNR=4.5						
	comp=Z,6.1nm,0.9s						
QSPA	**South Pole Qui**	**70.79**	**180**	P	**P**	**22 56 33.3**	**-0.3**
QSPA				IAmb	IAmb	22 56 36.1	
	comp=Z,8.4nm,1.1s						
KLR	**Kul'dur**	**78.72**	**332**	P	**P**	**22 57 18.4**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=198,slow=6.4,SNR=1.7						
	comp=Z,0.9nm,0.7s						
BELA	**Belgrano 2**	**81.44**	**174**	P	**P**	**22 57 33.5**	**-0.5**
BELA				IAmb	IAmb	22 57 40.1	
	comp=Z,3.5nm,0.8s						
P18K	**Big Mountain,**	**81.83**	**14**	P	**P**	**22 57 38.1**	**+2.0**
P18K				IAmb	IAmb	22 57 49.9	
	comp=Z,18nm,1.4s						
NVAR	**Mina Array Bea**	**84.10**	**46**	P	**P**	**22 57 48.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=226,slow=9.9,SNR=5.4						
	comp=Z,1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**84.43**	**292**	P	**P**	**22 57 50.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=140,slow=3.4,SNR=1.6						
	comp=Z,0.9nm,0.3s						
ILAR	**Eielson Array**	**88.47**	**15**	P	**P**	**22 58 09.7**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=229,slow=4.8,SNR=6.6						
	comp=Z,1.4nm,0.9s						
TXAR	**Lajitas Array**	**91.20**	**59**	P	**P**	**22 58 23.9**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=267,slow=4.5,SNR=4.5						
	comp=Z,0.7nm,0.9s						
YKA	**Yellowknife Ar**	**97.81**	**26**	P	**P**	**22 58 50.4**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=258,slow=2.0,SNR=2.1						
	comp=Z,0.4nm,0.8s						

IDC 03 22:48:25.5±3.4, **18°.95S×175°.63E, h0**km, **mb3.8**/4, **mbtmp3.8**/4, **Error ellipse: s-maj=191.7km s-min=30.8km az=152.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.88**	**262**	P	P	22 55 53.2	+0.3
	0.7nm,0.8s,baz=96,slow=8.6,SNR=2.8						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**39.05**	**256**	P	P	22 55 54.1	-0.3
	1.5nm,0.8s,baz=87,slow=9.2,SNR=5.4						
	1.5nm,0.8s						
NVAR	**Mina Array Bea**	**84.16**	**46**	P	P	23 00 59.6	+0.6
	0.6nm,0.7s,baz=210,slow=9.0,SNR=3.6						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**88.27**	**15**	P	P	23 01 17.5	-0.8
	0.5nm,0.8s,baz=234,slow=6.3,SNR=4.1						
	0.5nm,0.8s						

IDC 03 22:51:18.4±3.2, **19°.39S×176°.01E, h0**km, **mb4.0**/5, **mbtmp4.0**/5, **Error ellipse: s-maj=101.1km s-min=31.2km az=135.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.28**	**241**	P	P	22 57 58.8	+1.0
	1.4nm,0.7

18nm,0.3s,baz=308,slow=23,SNR=4.7
11nm,0.3s
WRA **Warramunga Arr** **39.24 260** P P 23 04 28.2 -0.2
1.3nm,1.1s,baz=95,slow=8.8,SNR=3.1
1.3nm,1.1s
ASAR **Alice Springs** **39.50 255** P P 23 04 30.6 0.0
1.7nm,0.9s,baz=84,slow=9.3,SNR=7.5
1.7nm,0.9s
ILAR **Eielson Array** **87.39 15** P P 23 09 46.2 -0.2
0.4nm,0.8s,baz=233,slow=5.9,SNR=2.5
0.4nm,0.8s

IDC 03 22:57:46.2±1.9, 18°44S×175°58E, h0km, mb3.8/4, mbtmp3.7/5, ML4.7/1, Error ellipse: s-maj=120.2km s-min=23.8km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MSVF	**Nonsavu**	**2.45**	**74**	Pn	Pn	Pn	22 58 26.6	-0.9
	7.8nm,0.3s,baz=266,slow=18,SNR=1.4							
MSVF				Sn	Sn	Sn	22 58 54.0	-4.2
	14nm,0.3s,baz=177,slow=23,SNR=2.4							
	13nm,0.3s							
WRA	**Warramunga Arr**	**38.91**	**261**	P	P	P	23 05 13.7	-0.3
	0.4nm,0.8s,baz=92,slow=8.9,SNR=1.8							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**39.14**	**255**	P	P	P	23 05 15.7	-0.2
	2.0nm,0.8s,baz=84,slow=9.0,SNR=8.4							
	2.0nm,0.8s							
NVAR	**Mina Array Bea**	**83.84**	**46**	P	P	P	23 10 18.7	+0.6
	0.6nm,0.6s,baz=224,slow=7.7,SNR=3.8							
	0.6nm,0.6s							
ILAR	**Eielson Array**	**87.79**	**15**	P	P	P	23 10 36.7	-0.1
	0.7nm,0.9s,baz=232,slow=5.6,SNR=3.5							
	0.7nm,0.9s							

*CNRM **03** 23:00:04.1, 36°45N×7°96W, h30km, ml2.6*
*INMG **03** 23:00:07.9±1.9, 36°55N×7°77W, h17km±6km, ML1.9, Error ellipse: s-maj=6.8km s-min=4.4km az=33.0*
*SFS **03** 23:00:07.5, 36°46N×7°84W, h38km, ML2.9/7, MLv2.9/7*
*MDD **03** 23:00:07.6±0.8, 36°50N×7°80W, h40km, mb_Lg2.3/8, Error ellipse: s-maj=6.5km s-min=3.1km az=18.0*
ISC 03 23:00:03.0±1.3, 36°43N±0°03×7°78W±0°03, h16km±10km, n52, σ1§79/77, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PVAQ	**Vaqueiros**	**0.97**	**3**	*e*P	**Pn**	**Pn**	**23 00 23.4**	**+1.3**
PVAQ				*e*S	**Sb**	**Sb**	**23 00 35.1**	**+0.9**
PVAQ				A	A	A	23 00 36.5	
	28nm,0.4s							
PVAQ	**Vaqueiros**	**0.97**	**3**	P	**Pn**	**Pn**	**23 00 23.1**	**+1.1**
PVAQ				S	**Sg**	**Sg**	**23 00 33.8**	**-0.8**
PFVI	**Vila Bisbo**	**1.09**	**310**	*e*P	**Pn**	**Pn**	**23 00 25.0**	**+1.3**
PFVI				*e*S	**Sb**	**Sb**	**23 00 38.5**	**+0.9**
PFVI				A	A	A	23 00 44.0	
	16nm,1.0s							
PFVI	**Vila Bisbo**	**1.09**	**310**	P	**Pb**	**Pb**	**23 00 23.9**	**+0.4**
PFVI				S	**Sg**	**Sg**	**23 00 33.7**	**-4.7**
PFVI	**Vila Bisbo**	**1.09**	**310**	P	**Pg**	**Pg**	**23 00 24.6**	**+0.5**
MORF	**Marmelete**	**1.12**	**322**	*e*P	**Pn**	**Pn**	**23 00 25.3**	**+1.2**
MORF	**Marmelete**	**1.12**	**322**	*e*P	**Pn**	**Pn**	**23 00 25.3**	**+1.2**
EGRO	**El Granado**	**1.13**	**12**	P	**Pn**	**Pn**	**23 00 25.8**	**+1.6**
EGRO	**El Granado**	**1.13**	**12**	Pn	**Pn**	**Pn**	**23 00 25.7**	**+1.6**
EGRO				Sn	**Sn**	**Sb**	**23 00 38.6**	**0.0**
EGRO				*i* Vmb_Lg			23 00 40.7	
PCVE	**Castro Verde**	**1.22**	**350**	*e*P	**Pg**	**Pg**	**23 00 27.1**	**+0.6**
PCVE				*e*S	**Sb**	**Sb**	**23 00 41.7**	**+0.5**
PCVE				A	A	A	23 00 42.1	
	10nm,0.1s							
PCVE	**Castro Verde**	**1.22**	**350**	P	**Pg**	**Pg**	**23 00 27.0**	**+0.6**
PCVE				S	**Sb**	**Sb**	**23 00 41.2**	**0.0**
PTEO	**Sao Teotonio**	**1.34**	**326**	*e*P	**Pb**	**Pb**	**23 00 28.7**	**+0.9**
PTEO				*e*S	**Sb**	**Sb**	**23 00 44.9**	**+0.1**
PTEO				A	A	A	23 00 45.4	
	10nm,0.7s							
PBEJ	**Beja**	**1.59**	**358**	*e*S	**Sn**	**Sn**	**23 00 51.1**	**+0.2**
PBEJ				A	A	A	23 00 54.1	
	4.9nm,0.2s							
EMIN	**Mina Concepcio**	**1.60**	**33**	P	**Pb**	**Pb**	**23 00 33.3**	**+1.0**
EMIN	**Mina Concepcio**	**1.60**	**33**	Pn	**Pn**	**Pn**	**23 00 32.6**	**+1.9**
EMIN				Sn	**Sn**	**Sn**	**23 00 49.1**	**-2.0**
EMIN				*i* Vmb_Lg			23 00 55.6	
ESPR	**Espera**	**1.61**	**74**	Pn	**Pn**	**Pn**	**23 00 31.8**	**+1.0**
ESPR				Sn	**Sn**	**Sn**	**23 00 50.8**	**-0.5**
ESPR				*i* Vmb_Lg			23 00 52.8	
PNCL	**Nicolau / Gran**	**1.78**	**341⇑**	*e*Pn	**Pn**	**Pn**	**23 00 34.6**	**+1.5**
PNCL				*e*Sn	**Sn**	**Sn**	**23 00 54.9**	**-0.6**
PNCL				A	A	A	23 00 58.1	
	5.0nm,0.1s							
PNCL	**Nicolau / Gran**	**1.78**	**341**	P	**Pn**	**Pn**	**23 00 34.3**	**+1.2**
PNCL				S	**Sn**	**Sn**	**23 00 54.5**	**-0.9**
PBAR	**Barrancos**	**1.84**	**19**	*e*Pg	**Pb**	**Pb**	**23 00 37.7**	**+1.4**
PBAR				*e*Sn	**Sn**	**Sn**	**23 00 56.2**	**-0.8**
PBAR				A	A	A	23 00 58.5	
	3.1nm,0.5s							
SMIR	**Smir Dam**	**2.08**	**110**	P	**Pn**	**Pn**	**23 00 39.4**	**+2.0**
EVO	**Evora**	**2.11**	**355**	*e*Pn	**Pn**	**Pn**	**23 00 39.3**	**+1.7**
EVO				*e*Sn	**Sn**	**Sn**	**23 01 02.4**	**-1.1**
EVO				A	A	A	23 01 06.9	
	4.5nm,0.4s							
CHEFC	**Chefchaouen**	**2.39**	**123**	P	**Pn**	**Pn**	**23 00 43.4**	**+1.9**
EBAD	**Badajoz**	**2.40**	**15**	P	**Pn**	**Pn**	**23 00 43.7**	**+2.0**
EBAD	**Badajoz**	**2.40**	**15**	Pn	**Pn**	**Pn**	**23 00 43.7**	**+2.0**
EBAD				Sn	**Sn**	**Sn**	**23 01 07.9**	**-2.8**
EBAD				*i* Vmb_Lg			23 01 13.2	
EMIJ	**Mijas**	**2.43**	**86**	Sn	**Sn**	**Sn**	**23 01 11.4**	**-0.1**
EMIJ				*i* Vmb_Lg			23 01 11.6	
PESTR	**Estremoz**	**2.44**	**4**	*e*Sn	**Sn**	**Sn**	**23 01 10.4**	**-1.3**
PESTR				A	A	A	23 01 14.0	
	3.0nm,0.6s							
PESTR	**Estremoz**	**2.44**	**4**	P	**Pn**	**Pn**	**23 00 44.2**	**+2.0**
ECAB	**El Cabril**	**2.50**	**48**	Pn	**Pn**	**Pn**	**23 00 44.3**	**+1.2**
ECAB				Sn	**Sn**	**Sn**	**23 01 10.5**	**-2.8**
ECAB				*i* Vmb_Lg			23 01 17.1	
PMTG	**Montargil**	**2.66**	**353**	*e*Pn	**Pn**	**Pn**	**23 00 46.6**	**+1.4**
PMTG				*e*Sn	**Sn**	**Sn**	**23 01 16.0**	**-1.1**
PMTG				A	A	A	23 01 17.8	
	3.1nm,0.1s							
PMAFR	**Mafra**	**2.79**	**335**	*e*Pn	**Pn**	**Pn**	**23 00 49.0**	**+2.0**
PMAFR				*e*Sn	**Sn**	**Sn**	**23 01 19.4**	**-0.9**
PMAFR				A	A	A	23 01 26.9	
	14nm,0.6s							
PMRV	**Marv??o**	**3.01**	**6**	*e*Pn	**Pn**	**Pn**	**23 00 51.5**	**+1.4**
PMRV				*e*Sn	**Sn**	**Sn**	**23 01 25.4**	**-0.4**
PMRV				A	A	A	23 01 25.9	
	3.7nm,0.3s							
EGOR	**Sierra Gorda,**	**3.03**	**76**	Sn	**Sn**	**Sn**	**23 01 25.5**	**-1.0**
EGOR				*i* Vmb_Lg			23 01 28.0	
EADA	**Adamuz**	**3.09**	**55**	P	**Pn**	**Pn**	**23 00 52.9**	**+1.7**
EADA	**Adamuz**	**3.09**	**55**	Pn	**Pn**	**Pn**	**23 00 52.5**	**+1.3**
EADA				Sn	**Sn**	**Sn**	**23 01 25.7**	**-2.1**
EADA				*i* Vmb_Lg			23 01 30.1	
ZHG	**ZHG**	**3.12**	**162**	P	**Pn**	**Pn**	**23 00 53.3**	**+1.7**
PSBE	**So Bento**	**3.18**	**346**	*e*Pn	**Pn**	**Pn**	**23 00 54.4**	**+2.0**
PSBE				*e*Sn	**Sn**	**Sn**	**23 01 29.5**	**-0.6**
PCBR	**Castelo Branco**	**3.41**	**4**	*e*Pn	**Pn**	**Pn**	**23 00 57.2**	**+1.6**
PCBR				*e*Sn	**Sn**	**Sn**	**23 01 35.2**	**-0.6**
PCBR				A	A	A	23 01 36.1	
	2.1nm,0.1s							
EQUE	**Quentar**	**3.57**	**76**	Sn	**Sn**	**Sn**	**23 01 38.0**	**-1.8**
PCAS	**Casmilo, Conde**	**3.66**	**351**	*e*Sn	**Sn**	**Sn**	**23 01 41.4**	**-0.5**
EPLA	**Plasencia**	**3.87**	**20**	Sn	**Sn**	**Sn**	**23 01 43.9**	**-3.2**
PSIM	**Granatula de C**	**3.99**	**52**	Pn	**Pn**	**Pn**	**23 01 04.8**	**+1.3**
PSIM				Sn	**Sn**	**Sn**	**23 01 48.2**	**-1.8**
EQES	**Quesada**	**4.01**	**69**	Pn	**Pn**	**Pn**	**23 01 06.5**	**+2.6**
EQES				Sn	**Sn**	**Sn**	**23 01 49.0**	**-1.6**
PAB	**San Pablo**	**4.13**	**40**	Pn	**Pn**	**Pn**	**23 01 07.2**	**+1.7**
PAB				Sn	**Sn**	**Sn**	**23 01 48.9**	**-4.6**
PVIS	**Viseu**	**4.28**	**359**	*e*Sn	**Sn**	**Sn**	**23 01 55.8**	**-1.4**
PVIS				A	A	A	23 01 57.2	
	2.6nm,0.8s							
MD31	**MD31**	**4.34**	**144**	P	**Pn**	**Pn**	**23 01 09.0**	**+0.5**
ESDC	**Sonseca Array**	**4.42**	**42**	Sn	**Sn**	**Sn**	**23 01 55.8**	**-5.0**
MDT	**Midelt**	**4.46**	**143**	P	**Pn**	**Pn**	**23 01 11.0**	**+0.9**
JBK	**JBK**	**4.75**	**115**	P	**Pn**	**Pn**	**23 01 14.2**	**+0.1**
POLO	**Lamas de Olo**	**4.94**	**360**	*e*Sn	**Sn**	**Sn**	**23 02 11.4**	**-2.1**
POLO				A	A	A	23 02 13.3	
	1.0nm,0.4s							
OUK	**Oukaimeden**	**5.21**	**181**	P	**Pn**	**Pn**	**23 01 21.3**	**+0.7**
ECAL	**Calabor**	**5.56**	**8**	Sn	**Sn**	**Sn**	**23 02 24.7**	**-4.2**
OUZM	**OUZ**	**5.57**	**171**	P	**Pn**	**Pn**	**23 01 26.0**	**+0.6**

IDC 03 23:02:01.8±2.8, 18°78S×175°72E, h0km, mb3.6/3, mbtmp3.5/4, ML4.4/1, Error ellipse: s-maj=333.7km s-min=25.2km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MSVF	**Nonsavu**	**2.45**	**65**	Pn	**Pn**	**Pn**	**23 02 40.9**	**-2.2**
	4.0nm,0.3s,baz=131,slow=23,SNR=2.5							
MSVF				Sn	**Sn**	**Sn**	**23 03 10.3**	**-3.6**
	6.0nm,0.3s,baz=113,slow=23,SNR=5.7							
	6.3nm,0.3s							
WRA	**Warramunga Arr**	**38.98**	**261**	P	P	P	23 09 29.7	-0.4
	0.3nm,0.8s,baz=95,slow=9.0,SNR=1.7							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**39.18**	**255**	P	P	P	23 09 31.4	-0.4
	1.0nm,0.8s,baz=84,slow=8.8,SNR=7.1							
	1.0nm,0.8s							
TXAR	**Lajitas Array**	**91.21**	**60**	P	P	P	23 15 10.9	+1.5
	0.4nm,0.9s,baz=225,slow=6.4,SNR=3.8							
	0.4nm,0.9s							

*ATH **03** 23:02:29.8, 40°45N×21°52E, h21km±5km, ML2.7/4, Error ellipse: s-maj=5.4km s-min=1.3km az=87.0*
*THE **03** 23:02:29.9, 40°43N×21°53E, h17km±1km, ML2.6/5, Error ellipse: s-maj=1.3km s-min=0.7km az=296.0*
*SKO **03** 23:02:29.5, 40°34N×21°52E, h0km, ML2.5*
ISC 03 23:02:29.7±0.9, 40°43N±0°02×21°53E±0°02, h16km±8km, n25, σ0§49/42, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
KZN	**Kozani**	**0.22**	**124**	P	**Pb**	**Pb**	**23 02 35.9**	**+0.5**
KZN				S	**Sb**	**Sb**	**23 02 39.6**	**+0.3**
	4μm,0.4s							
KZN	**Kozani**	**0.22**	**124**	P	**Pb**	**Pb**	**23 02 35.9**	**+0.5**
KZN				S	**Sb**	**Sb**	**23 02 39.7**	**+0.5**
KZN				AML	AML	AML	23 02 40.6	
	comp=E,7858μm,0.5s							
KZN				AML	AML	AML	23 02 40.9	
	comp=N,7473μm,0.4s							
NEST	**Nestorio**	**0.37**	**268**	P	**Pg**	**Pg**	**23 02 37.3**	**0.0**
NEST				S	**Sb**	**Sb**	**23 02 43.6**	**+0.1**
	comp=N,1μm,0.1s							
NEST	**Nestorio**	**0.37**	**268**	P	**Pg**	**Pg**	**23 02 37.3**	**0.0**
NEST				S	**Sb**	**Sb**	**23 02 43.3**	**-0.3**
NEST				AML	AML	AML	23 02 44.8	
	comp=E,2808μm,0.2s							
NEST				AML	AML	AML	23 02 45.1	
	comp=N,2984μm,0.2s							
FNA	**Florina**	**0.37**	**342**	P	**Pg**	**Pg**	**23 02 36.9**	**-0.4**
FNA				S	**Sg**	**Sg**	**23 02 42.9**	**+0.4**
	comp=N,2μm,0.3s							
FNA	**Florina**	**0.37**	**342**	*i* Pg	**Pg**	**Pg**	**23 02 37.0**	**-0.4**
FNA				*i* Sg	**Sg**	**Sg**	**23 02 42.9**	**+0.4**
FNA	**Florina**	**0.37**	**342**	P	**Pg**	**Pg**	**23 02 37.0**	**-0.4**
FNA				S	**Sg**	**Sg**	**23 02 42.4**	**-0.1**
FNA				AML	AML	AML	23 02 43.4	
	comp=E,3721μm,0.3s							
FNA				AML	AML	AML	23 02 43.5	
	comp=N,4076μm,0.3s							
PENT	**Pentalofos**	**0.38**	**232**	P	**Pg**	**Pg**	**23 02 37.5**	**0.0**
PENT				S	**Sb**	**Sb**	**23 02 44.1**	**+0.2**
PENT	**Pentalofos**	**0.38**	**232**	P	**Pg**	**Pg**	**23 02 37.4**	**0.0**
KTI	**Kastanea**	**0.45**	**95**	P	**Pg**	**Pg**	**23 02 38.5**	**-0.2**
KPRO	**Kipourio**	**0.49**	**195**	P	**Pg**	**Pg**	**23 02 39.6**	**+0.1**
KPRO				S	**Sg**	**Sg**	**23 02 46.3**	**+0.1**
	comp=N,720nm,0.3s							
KPRO	**Kipourio**	**0.49**	**195**	P	**Pg**	**Pg**	**23 02 39.5**	**-0.1**
KPRO				S	**Sb**	**Sb**	**23 02 47.9**	**+0.8**
KPRO				AML	AML	AML	23 02 50.3	
	comp=N,1504μm,0.3s							
KPRO				AML	AML	AML	23 02 51.9	
	comp=E,1361μm,0.4s							
LIT	**Litokhoron**	**0.80**	**114**	P	**Pb**	**Pb**	**23 02 44.6**	**-0.8**
LIT	**Litokhoron**	**0.80**	**114**	*i* Pg	**Pb**	**Pb**	**23 02 44.5**	**-0.8**
GRG	**Griva**	**0.84**	**51**	P	**Pb**	**Pb**	**23 02 45.8**	**-0.2**
GRG				S	**Sg**	**Sg**	**23 02 57.8**	**+0.5**
	comp=E,138nm,0.8s							
GRG	**Griva**	**0.84**	**51**	*i* Pg	**Pb**	**Pb**	**23 02 45.6**	**-0.4**
GRG				*i* Sg	**Sn**	**Sn**	**23 02 59.2**	**0.0**
GRG	**Griva**	**0.84**	**51**	P	**Pb**	**Pb**	**23 02 45.5**	**-0.5**
OHR	**Ohrid**	**0.88**	**321**	*i* Pg	**Pb**	**Pb**	**23 02 46.5**	**-0.1**
OHR				*i* Sg	**Sn**	**Sn**	**23 03 00.9**	**+0.9**
OHR				*e*Lg	Lg	Lg	23 03 03.2	
	comp=E,196nm,0.6s							
JAN	**Janina**	**0.93**	**214**	P	**Pn**	**Pn**	**23 02 48.1**	**-0.1**
JAN				S	**Sn**	**Sn**	**23 03 00.6**	**-0.7**
THL	**Klokotos Trika**	**0.94**	**157**	P	**Pb**	**Pb**	**23 02 46.8**	**-0.9**
THL				S	**Sg**	**Sg**	**23 03 00.7**	**+0.4**
THE	**Thessaloniki**	**1.11**	**79**	*i* Pg	**Pn**	**Pn**	**23 02 50.1**	**-0.5**
VAY	**Valandovo**	**1.19**	**41**	*i* Pn	**Pn**	**Pn**	**23 02 51.2**	**-0.5**
VAY				*i* Sn	**Sg**	**Sg**	**23 03 09.3**	**+1.1**
VAY				*e*Lg	Lg	Lg	23 03 14.0	
	comp=N,31nm,0.8s							
KNT	**Kendrikon**	**1.27**	**54**	*i* Pn	**Pn**	**Pn**	**23 02 52.4**	**-0.4**
SOH	**Sokhos**	**1.44**	**74**	*i* Pn	**Pn**	**Pn**	**23 02 55.6**	**+0.3**
SKO	**Skopje**	**1.54**	**357**	*i* Pn	**Pb**	**Pb**	**23 02 58.3**	**+0.4**
SKO				*i* Sn	**Sg**	**Sg**	**23 03 19.7**	**+0.3**
SKO				*e*Lg	Lg	Lg	23 03 23.6	
	comp=E,3.2nm,0.5s							

*IDC **03** 23:02:59.4±0.8, 19°24S×175°86E, h0km, mb4.1/11, mbtmp4.1/12, ML3.9/1, Error ellipse: s-maj=26.8km s-min=21.4km az=149.0*
ISC 03 23:03:00.3±0.6, 19°2S±0°1×176°0E±0°1, h10km, n26, σ1§45/21, mb4.2/11, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MSVF	**Nonsavu**	**2.38**	**54**	Pn	**Pn**	**Pn**	**23 03 38.3**	**-1.2**
	11nm,0.3s,baz=42,slow=23,SNR=5.7							
MSVF				Sn	**Sn**	**Sn**	**23 04 07.2**	**-1.6**
	22nm,0.3s,baz=187,slow=23,SNR=7.9							
DZM	**Mont Dzumac**	**9.43**	**250**	Pn	Pn	Pn	23 05 18.4	+2.0
	0.3nm,0.3s,baz=86,slow=19,SNR=7.0							
URZ	**Urewera**	**19.07**	**177**	P	**Pn**	**Pn**	**23 07 23.4**	**-0.2**
	0.3nm,0.3s,baz=126,slow=15,SNR=3.1							
	15nm,0.9s							
PMG	**Port Moresby**	**29.56**	**285**	P	**P**	**P**	**23 09 04.1**	**-1.4**
	11nm,0.3s,baz=151,slow=19,SNR=2.1							
H11S2	**WAKE ISLAND Hy**	**38.51**	**346**	T	T	T	23 51 20.3	
	baz=167							
H11S3	**WAKE ISLAND Hy**	**38.52**	**346**	T	T	T	23 51 23.0	
	baz=167							
H11S1	**WAKE ISLAND Hy**	**38.52**	**346**	T	T	T	23 51 26.0	
	baz=167							
WRA	**Warramunga Arr**	**39.22**	**262**	P	**P**	**P**	**23 10 28.0**	**-1.1**
	0.9nm,1.0s,baz=94,slow=8.9,SNR=3.5							
	0.9nm,1.0s							
ASAR	**Alice Springs**	**39.37**	**256**	P	**P**	**P**	**23 10 29.9**	**-0.5**
	3.4nm,0.8s,baz=85,slow=9.0,SNR=17							
	3.4nm,0.8s							
MJAR	**Matsushiro Arr**	**65.91**	**327**	P	**P**	**P**	**23 13 46.9**	**+0.4**
	3.8nm,1.0s,baz=150,slow=6.8,SNR=4.4							
	3.8nm,1.0s							
QSPA	**South Pole Qui**	**70.91**	**180**	P	**P**	**P**	**23 14 16.8**	**-0.8**
	2.4nm,1.0s,baz=1.9,slow=5.6,SNR=5.2							
	2.4nm,1.0s							
NVAR	**Mina Array Bea**	**84.03**	**46**	P	**P**	**P**	**23 15 33.8**	**+2.3**
	1.8nm,0.7s,baz=230,slow=8.3,SNR=6.2							
	1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**84.38**	**292**	P	**P**	**P**	**23 15 34.8**	**+1.4**
	0.6nm,0.3s,baz=122,slow=4.4,SNR=4.2							
	0.6nm,0.3s							
ILAR	**Eielson Array**	**88.36**	**15**	P	**P**	**P**	**23 15 52.0**	**+0.1**
	1.1nm,0.8s,baz=236,slow=6.3,SNR=9.5							
	1.1nm,0.8s							
SONM	**Songino Array**	**91.10**	**321**	P	**P**	**P**	**23 16 06.3**	**+1.0**
	0.2nm,0.5s,baz=114,slow=3.5,SNR=2.2							
	0.2nm,0.5s							
TXAR	**Lajitas Array**	**91.14**	**59**	P	**P**	**P**	**23 16 08.4**	**+2.5**
	1.2nm,1.0s,baz=225,slow=6.9,SNR=7.8							
	2.2nm,1.0s							
PDAR	**Pinedale Array**	**91.92**	**45**	P	**P**	**P**	**23 16 10.5**	**+1.1**
	0.2nm,0.4s,baz=248,slow=4.8,SNR=1.1							
	0.2nm,0.4s							
YKA	**Yellowknife Ar**	**97.71**	**26**	P	Pdif		23 16 35.5	+0.4
	0.4nm,0.8s,baz=249,slow=4.3,SNR=5.5							
	0.4nm,0.8s							
MORC	**Moravsky Berou**	**144.93**	**336**	*e*PKP		**PKPdf**	**23 22 38.2**	**+0.5**
CLL	**Collm**	**145.22**	**341**	⇓ *i* (PKP)		**PKPdf**	**23 22 38.7**	**+0.6**
	comp=Z,13nm,0.8s							
BRG	**Berggiesshubel**	**145.30**	**340**	Amp			23 22 41.1	
	comp=Z,8.8nm,1.1s							
BRG	**Berggiesshubel**	**145.30**	**340**	*e*P		**PKiKP**	**23 22 39.6**	**-2.6**
JAVC	**Velka Javorina**	**145.60**	**334**	*e*PKP		**PKiKP**	**23 22 42.4**	**-0.6**
VRAC	**Vranov**	**145.67**	**336**	*e*PKP		**PKiKP**	**23 22 41.3**	**-1.7**
KRUC	**Moravsky**	**145.95**	**336**	*e*PKP		**PKiKP**	**23 22 41.9**	**-1.7**
GERES	**GERESS Array B**	**147.12**	**338**	PKPbc		**PKPab**	**23 22 44.7**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=134,slow=9.5,SNR=2.5							

*BJI **03** 23:03:49.1±0.0, 19°19S×176°02E, h6km, mb5.1/45, mB5.8/3, Ms5.7/5, Ms7 5.5/5*
*MOS **03** 23:03:50.1±1.1, 19°24S×175°89E, h10km, mb5.2/14, Error ellipse: s-maj=9.4km s-min=9.1km az=114.7*
*NEIC **03** 23:03:52.5±2.0, 19°23S±0°08×176°20E±0°08, h19km±1km, mb5.3/63, Error ellipse: s-maj=14.2km s-min=8.1km az=136.0*
*IDC **03** 23:03:55.0±4.9, 19°31S×175°96E, h33km±35km, mb4.6/19, mbtmp4.8/21, ML4.6/2, Error ellipse: s-maj=19.1km s-min=13.8km az=134.0*
ISC 03 23:03:50.9±0.3, 19°27S±0°06×176°12E±0°06, h10km, n505, σ1§26/502, mb5.2/87, MS5.4/3, 40C-20D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MSVF	**Nonsavu**	**2.38**	**51**	Pn	**Pb**	**Pb**	**23 04 32.8**	**-1.3**
	17nm,0.3s,baz=210,slow=20,SNR=2.1							
MSVF				Sn	**Sn**	**Sn**	**23 04 57.0**	**-2.5**
	43nm,0.3s,baz=119,slow=20,SNR=11							
	132nm,0.7s							
MSVF	**Nonsavu**	**2.38**	**51**	Pn	**Pn**	**Pn**	**23 04 27.3**	**-2.9**
MSVF				Sn	**Sn**	**Sn**	**23 04 56.5**	**-3.0**
OUENC	**Ouen Island, N**	**9.22**	**249**	Pn	**Pn**	**Pn**	**23 06 05.2**	**+1.2**
DZM	**Mont Dzumac**	**9.48**	**251**	Pn	**Pn**	**Pn**	**23 06 09.2**	**+1.6**
	1.0nm,0.3s,baz=75,slow=18,SNR=16							
DZM				Sn	Sn	Sn	23 07 41.2	-13
	0.1nm,0.3s,baz=102,slow=19,SNR=1.7							
	59nm,1.0s							
DZM	**Mont Dzumac**	**9.48**	**251**	Pn	**Pn**	**Pn**	**23 06 07.5**	**-0.1**
ONTNC	**Ouen Toro**	**9.53**	**250**	Pn	**Pn**	**Pn**	**23 06 08.3**	**0.0**
KOUNC	**Koumac, New Ca**	**11.20**	**261**	Pn	**Pn**	**Pn**	**23 06 31.1**	**-0.1**
OUZ	**Omahuta**	**16.05**	**187**	P	**P**	**P**	**23 07 41.1**	**+1.0**
HNR	**Honiara**	**18.45**	**300**	P	**Pn**	**Pn**	**23 08 09.2**	**+2.3**
	425nm,0.3s,baz=142,slow=18,SNR=4.9							
HNR	**Honiara**	**18.45**	**300**			**P**	**23 08 04.2**	**-2.7**
HNR	**Honiara**	**18.45**	**300**	P	**P**	**P**	**23 08 04.2**	**-2.7**
HNR				pmax	pmax			
	comp=Z,121nm,1.2s							
URZ	**Urewera**	**18.94**	**178**	P	**Pn**	**Pn**	**23 08 15.8**	**+3.0**
	comp=Z,76nm,1.0s,baz=100,slow=7.5,SNR=11							
BKZ	**Black Stump Fm**	**19.83**	**179**	P	**P**	**P**	**23 08 21.8**	**-0.1**
MRZ	**Mangatainoka R**	**21.33**	**181**	P	**P**	**P**	**23 08 38.0**	**0.0**
MRZ				IAmb	IAmb	IAmb	23 08 40.0	
	comp=Z,88nm,1.1s							
NNZ	**Nelson**	**22.00**	**186**	P	**P**	**P**	**23 08 45.4**	**+0.2**
NNZ				IAmb	IAmb	IAmb	23 08 50.0	
	comp=Z,100nm,1.0s							
TUWZ	**Tuamarina**	**22.17**	**184**	P	**P**	**P**	**23 08 47.7**	**+0.7**
PLWZ	**Palliser**	**22.24**	**182**	P	**P**	**P**	**23 08 48.7**	**+0.8**
BSWZ	**Blackbirch Sta**	**22.46**	**184**	P	**P**	**P**	**23 08 51.4**	**+1.3**
LTZ	**Lake Taylor**	**23.67**	**187**	P	**P**	**P**	**23 09 01.6**	**-1.0**
EIDS	**Eidsvold**	**23.92**	**251**	P	**P**	**P**	**23 09 05.0**	**-0.2**
EIDS				IAmb	IAmb	IAmb	23 09 06.8	
	comp=Z,95nm,1.6s							
CTA	**Charters Tower**	**28.12**	**263**	P	**P**	**P**	**23 09 43.5**	**+0.2**
	comp=Z,7.0nm,1.0s,baz=66,slow=13,SNR=3.0							
	comp=Z,7.0nm,1.0s							
CTAO	**Charters Tower**	**28.12**	**263**	P	**P**	**P**	**23 09 42.5**	**-0.7**
CTAO				IAmb	IAmb	IAmb	23 09 44.0	
	comp=Z,78nm,1.9s							
CTAO	**Charters Tower**	**28.12**

MJB9	**Matsu-Tunnel**	**66.06**	**327**		P	**P**	**23 14 38.4**	**+0.3**
MJB9					IAmb	IAmb	23 14 40.4	
	comp=Z,44nm,1.2s							
SBUM	**Sibu**	**66.34**	**282**		P	**P**	**23 14 38.8**	**-1.5**
SBUM					IAmb	IAmb	23 14 41.3	
	comp=Z,22nm,1.3s							
JNU	**Nakatsue**	**67.68**	**320**		P	**P**	**23 14 47.9**	**-0.6**
JNU					IAmb	IAmb	23 14 49.7	
	comp=Z,34nm,1.1s							
KSM	**Kuching**	**67.75**	**280**		P	**P**	**23 14 48.2**	**-1.1**
KSM					IAmb	IAmb	23 14 49.8	
	comp=Z,32nm,1.0s							
NACB	**Ninganchiao**	**68.46**	**307**		P	**P**	**23 14 53.1**	**-0.4**
QSPA	**South Pole Qui**	**70.79**	**180**		P	**P**	**23 15 07.8**	**+0.3**
	comp=Z,27nm,1.0s,baz=29,slow=2.2,SNR=36							
	comp=Z,27nm,1.0s							
QSPA	**South Pole Qui**	**70.79**	**180**		P	**P**	**23 15 06.8**	**-0.7**
KSRS	**Korea Array**	**72.39**	**322**		P	**P**	**23 15 17.9**	**+0.6**
	comp=Z,7.9nm,1.0s,baz=143,slow=6.4,SNR=15							
	comp=Z,7.9nm,1.0s							
KSAR	**Wonju Array Be**	**72.41**	**321**		P	**P**	**23 15 17.8**	**+0.4**
KSAR	**Wonju Array Be**	**72.41**	**321**		P	**P**	**23 15 17.8**	**+0.4**
YSS	**Yuzh-Sakhalins**	**72.45**	**337**	*e*	P	**P**	**23 15 19.3**	**+1.9**
YSS					pmax	pmax		
	comp=Z,30nm,0.9s							
PEA0B	**Petropavlovsk-**	**73.82**	**349**		P	**P**	**23 15 25.8**	**+0.4**
PEA0B					IAmb	IAmb	23 15 27.4	
	comp=Z,42nm,1.2s							
PEA0B	**Petropavlovsk-**	**73.82**	**349**		P	**P**	**23 15 25.8**	**+0.4**
PEA0B					pmax	pmax		
	comp=Z,42nm,1.3s							
PETK	**Petropavlovsk-**	**73.82**	**349**		P	**P**	**23 15 26.3**	**+0.9**
	comp=Z,7.7nm,0.9s,baz=152,slow=6.5,SNR=9.1							
	comp=Z,7.7nm,0.9s							
NJ2	**Nanjing**	**74.90**	**312**	*e*	P	**P**	**23 15 33.0**	**+0.9**
NJ2					pmax	pmax		
	comp=Z,17nm,0.9s							
USA0B	**Ussuriysk Arra**	**74.94**	**329**	*i*	P	**P**	**23 15 33.2**	**+1.1**
USRK	**Ussuriysk Ar.**	**74.94**	**329**		P	**P**	**23 15 34.0**	**+1.9**
	comp=Z,7.7nm,1.1s,baz=145,slow=5.3,SNR=7.8							
	comp=Z,7.7nm,1.1s							
USRK	**Ussuriysk Ar.**	**74.94**	**329**		P	**P**	**23 15 32.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**74.94**	**329**		P	**P**	**23 15 32.6**	**+0.5**
TYV	**Tymovskoe**	**75.78**	**339**	*e*	P	**P**	**23 15 38.3**	**+1.5**
TYV				*e*	S	**S**	**23 25 24.0**	**+5.4**
TYV					pmax	pmax		
	comp=Z,11nm,1.3s							
TYV					pmax	pmax		
	comp=Z,100nm,3.2s							
TYV					smax	smax		
	comp=N,300nm,5.7s							
TYV					smax	smax		
	comp=E,800nm,5.7s							
GRNR	**Gornyy**	**77.98**	**336**	⇑*i*	P	**P**	**23 15 50.6**	**+1.3**
GRNR					pmax	pmax		
	comp=Z,10.0nm,1.1s							
CN2	**Changchun**	**78.04**	**325**	*e*	P	**P**	**23 15 49.9**	**+0.2**
CN2					PP	**PP**	**23 18 48.8**	**+2.5**
CN2					S	**S**	**23 25 42.2**	**-1.4**
CN2					sS	sS	23 25 52.9	+5.6
CN2					SS	**SS**	**23 30 47.1**	**+1.6**
CN2					pmax	pmax		
	comp=Z,40nm,1.2s							
CN2					LR	LR		
	comp=Z,1μm,20.0s							
CN2					LR	LR		
	comp=Z,2μm,20.0s							
CN2					LR	LR		
	comp=Z,2μm,22.0s							
BNX	**BinXian**	**78.32**	**327**	⇑⇑	P	**P**	**23 15 51.7**	**+0.5**
BNX					pmax	pmax		
	comp=Z,13nm,1.0s							
CHIR	**Chirikof Islan**	**78.53**	**16**		P	**P**	**23 15 52.4**	**+0.3**
	baz=207							
KLR	**Kul'dur**	**78.76**	**332**	*ce*	P	**P**	**23 15 54.1**	**+0.6**
KLR					pmax	pmax		
	comp=Z,25nm,2.2s							
RPSI	**Rantau Prapat**	**78.82**	**277**		P	**P**	**23 15 52.6**	**-2.2**
RPSI					IAmb	IAmb	23 15 54.4	
	comp=Z,21nm,1.1s							
PSI	**Prapat**	**78.86**	**277**		P	**P**	**23 15 52.6**	**-2.5**
PSI					pmax	pmax		
	comp=Z,21nm,1.1s							
SII	**Sitkinak Islan**	**79.56**	**16**		P	**P**	**23 15 59.0**	**+1.2**
	baz=208							
R16K	**Pilot Point**	**79.63**	**14**		P	**P**	**23 15 59.3**	**+1.2**
	baz=205							
R17K	**Ugashik Creek**	**79.97**	**15**		P	**P**	**23 16 00.7**	**+0.7**
	baz=206							
OHAK	**Old Harbor**	**80.38**	**16**		P	**P**	**23 16 03.0**	**+0.8**
	baz=209							
Q17K	**Contact Creek**	**80.65**	**15**		P	**P**	**23 16 04.6**	**+0.8**
	baz=207							
HNS	**HongShan**	**80.70**	**315**	⇓	P	**P**	**23 16 05.2**	**+0.9**
HNS					pmax	pmax		
	comp=Z,12nm,1.2s							
LYN	**LuoYang**	**80.74**	**311**	⇑	P	**P**	**23 16 05.7**	**+1.0**
LYN					pmax	pmax		
	comp=Z,20nm,1.1s							
MAW	**Mawson**	**80.79**	**201**		P	**P**	**23 16 04.8**	**+0.4**
	comp=Z,17nm,1.1s,baz=105,slow=9.8,SNR=10							
	comp=Z,17nm,1.1s							
MAW	**Mawson**	**80.79**	**201**		P	**P**	**23 16 04.0**	**-0.4**
MAW	**Mawson**	**80.79**	**201**		P	**P**	**23 16 04.0**	**-0.4**
MAW					pmax	pmax		
	comp=Z,8.0nm,1.3s							
ENH	**Enshi**	**80.81**	**306**		P	**P**	**23 16 04.5**	**-0.7**
ENH					IAmb	IAmb	23 16 06.4	
	comp=Z,40nm,1.2s							
P16K	**Nushagak River**	**80.87**	**13**		P	**P**	**23 16 04.8**	**+0.1**
	baz=205							
KDAK	**Kodiak Island**	**81.06**	**16**		P	**P**	**23 16 07.1**	**+1.3**
	baz=210							
BJT	**Baijiatuau**	**81.19**	**318**		P	**P**	**23 16 05.7**	**-1.2**
BJT	**Baijiatuau**	**81.19**	**318**		P	**P**	**23 16 05.7**	**-1.2**
BJT					pmax	pmax		
	comp=Z,16nm,1.1s							
Q18K	**Katmai Hardscr**	**81.20**	**15**		P	**P**	**23 16 07.1**	**+0.4**
	baz=207							
GYA	**Guiyang**	**81.27**	**302**	⇑*i*	P	**P**	**23 16 07.9**	**+0.1**
GYA					pmax	pmax		
	comp=Z,13nm,1.5s							
P17K	**Kvichak River**	**81.36**	**14**		P	**P**	**23 16 08.1**	**+0.7**
	baz=206							
BELA	**Belgrano 2**	**81.43**	**174**		P	**P**	**23 16 07.1**	**-0.6**
HEH	**HeiHe**	**81.45**	**331**	*e*	P	**P**	**23 16 08.8**	**+0.7**
HEH					pmax	pmax		
	comp=Z,14nm,1.2s							
CIS	**Catalina Islan**	**81.47**	**50**		P	**P**	**23 16 08.2**	**-0.4**
	baz=240							
Q19K	**Cape Douglas,**	**81.79**	**15**		P	**P**	**23 16 10.4**	**+0.7**
	baz=209							
P18K	**Big Mountain,**	**81.81**	**14**		P	**P**	**23 16 09.1**	**-0.7**
P18K					IAmb	IAmb	23 16 12.7	
	comp=Z,23nm,1.1s							
P18K	**Big Mountain,**	**81.81**	**14**		P	**P**	**23 16 10.6**	**+0.8**
	baz=207,SNR=6.3							
Q20K	**Shuyak Island**	**81.83**	**16**		P	**P**	**23 16 10.3**	**+0.4**
	baz=210							
ARVC	**Arvin**	**82.03**	**49**		P	**P**	**23 16 11.3**	**-0.2**
	baz=240							
N16K	**Nishlik Lake**	**82.03**	**12**		P	**P**	**23 16 13.4**	**+2.5**
	baz=204							
VES	**Vestal, Richgr**	**82.20**	**48**		P	**P**	**23 16 13.6**	**+1.2**
	baz=240							
O18K	**Koktuh Hills**	**82.23**	**14**		P	**P**	**23 16 11.1**	**-0.9**
O18K					IAmb	IAmb	23 16 13.9	
	comp=Z,69nm,1.6s							
O18K	**Koktuh Hills**	**82.23**	**14**		P	**P**	**23 16 12.7**	**+0.7**
	baz=207							
TKX	**Tecate**	**82.39**	**52**		P	**P**	**23 16 11.9**	**-1.6**
TIY	**Taiyuan**	**82.40**	**314**		P	**P**	**23 16 14.7**	**+1.2**
BFSC	**Mount Baldy Ra**	**82.42**	**50**		P	**P**	**23 16 15.4**	**+1.6**
	baz=241							
CMB	**Columbia Colle**	**82.44**	**45**		P	**P**	**23 16 14.7**	**+1.1**
CMB					IAmb	IAmb	23 16 16.9	
	comp=Z,26nm,1.2s							
CMB	**Columbia Colle**	**82.44**	**45**		P	**P**	**23 16 14.7**	**+1.1**
CMB					pmax	pmax		
	comp=Z,26nm,1.2s							
MURC	**Murrieta**	**82.45**	**51**		P	**P**	**23 16 15.2**	**+1.4**
	baz=241							
EDW2	**Edwards Air Fo**	**82.50**	**49**		P	**P**	**23 16 16.2**	**+2.1**
	baz=240,SNR=12							
ORV	**Oroville**	**82.50**	**44**		P	**P**	**23 16 14.7**	**+0.8**
ORV					IAmb	IAmb	23 16 17.1	
	comp=Z,32nm,1.4s							
ORV	**Oroville**	**82.50**	**44**		P	**P**	**23 16 14.7**	**+0.8**
ORV					pmax	pmax		
	comp=Z,32nm,1.4s							
AFDM	**Forest Hills D**	**82.52**	**44**		P	**P**	**23 16 15.0**	**+1.0**
AFDM					IAmb	IAmb	23 16 17.2	
	comp=Z,26nm,1.2s							
P19K	**Oil Pt**	**82.53**	**15**		P	**P**	**23 16 14.7**	**+1.2**
	baz=209							
ISA	**Isabella, Lake**	**82.55**	**48**		P	**P**	**23 16 14.6**	**+0.3**
ISA					IAmb	IAmb	23 16 17.9	
	comp=Z,37nm,1.3s							
ISA	**Isabella, Lake**	**82.55**	**48**		P	**P**	**23 16 16.3**	**+2.0**
	baz=240,SNR=11							
ISA	**Isabella, Lake**	**82.55**	**48**		P	**P**	**23 16 14.6**	**+0.3**
ISA					pmax	pmax		
	comp=Z,37nm,1.3s							
MONP2	**Monument Peak**	**82.68**	**52**		P	**P**	**23 16 16.9**	**+1.7**
	baz=242,SNR=9.2							
O19K	**Port Alsworth**	**82.74**	**14**		P	**P**	**23 16 14.7**	**+0.2**
O19K	**Port Alsworth**	**82.74**	**14**		P	**P**	**23 16 15.7**	**+1.1**
	baz=208							
IKP	**In-Ko-Pah, Jac**	**82.80**	**52**		P	**P**	**23 16 17.6**	**+1.9**
	baz=242,SNR=6.2							
ILSW	**Iliamna Southw**	**82.84**	**15**		P	**P**	**23 16 15.2**	**0.0**
ILSW					IAmb	IAmb	23 16 16.8	
	comp=Z,81nm,1.2s							
CNPM	**China Poot**	**82.92**	**16**		P	**P**	**23 16 15.3**	**-0.3**
HOM	**Homer**	**82.93**	**16**		P	**P**	**23 16 17.4**	**+1.8**
	baz=210							
PFO	**Pinyon Flats O**	**83.00**	**51**		P	**P**	**23 16 17.8**	**+1.0**
	baz=241							
TPFO	**Pinon Flats**	**83.00**	**51**		P	**P**	**23 16 17.3**	**+0.5**
	baz=241							
XAN	**Xi'an**	**83.03**	**310**		P	**P**	**23 16 17.6**	**+0.8**
XAN					pP	sP	23 16 22.2	+2.4
XAN					pmax	pmax		
	comp=Z,22nm,1.4s							
O20K	**Slope Mountain**	**83.05**	**15**		P	**P**	**23 16 17.9**	**+1.6**
	baz=209							
SWSC	**Sam W. Stewart**	**83.17**	**52**		P	**P**	**23 16 19.1**	**+1.6**
	baz=242							
CWC	**Cottonwood Cre**	**83.21**	**48**		P	**P**	**23 16 19.2**	**+1.4**
	baz=240							
BRLK	**Bradley Lake**	**83.22**	**16**		P	**P**	**23 16 17.6**	**+0.5**
BRLK					IAmb	IAmb	23 16 19.1	
	comp=Z,39nm,1.3s							
BRSE	**Bradley Lake S**	**83.24**	**16**		P	**P**	**23 16 18.9**	**+1.6**
	baz=211							
N19K	**Bonanza Creek**	**83.25**	**14**		P	**P**	**23 16 17.3**	**-0.1**
N19K					IAmb	IAmb	23 16 18.9	
	comp=Z,25nm,1.2s							
N19K	**Bonanza Creek**	**83.25**	**14**		P	**P**	**23 16 18.0**	**+0.6**
	baz=208,SNR=5.3							
MLAC	**Mammoth, Mammo**	**83.28**	**46**		P	**P**	**23 16 20.6**	**+2.4**
	baz=239							
GAMB	**Gambell**	**83.32**	**5**		P	**P**	**23 16 20.1**	**+2.6**
	baz=192							
BEKR	**Beckworth**	**83.41**	**44**		P	**P**	**23 16 20.0**	**+1.1**
BEKR					IAmb	IAmb	23 16 22.1	
	comp=Z,27nm,1.2s							
MPMC	**Manual Prospec**	**83.44**	**48**		P	**P**	**23 16 20.3**	**+1.2**
	baz=240,SNR=12							
PNTR	**Pine Nut**	**83.51**	**45**		P	**P**	**23 16 20.4**	**+0.9**
BELC	**Belle Mtn. Jos**	**83.52**	**51**		P	**P**	**23 16 20.9**	**+1.4**
	baz=242,SNR=10							
GSC	**Goldstone, Bar**	**83.55**	**49**		P	**P**	**23 16 21.7**	**+2.1**
	baz=241,SNR=7.8							
HEC	**Hector Ludlow**	**83.67**	**50**		P	**P**	**23 16 22.0**	**+1.9**
	baz=241,SNR=6.6							
BC3	**Big Chuckawall**	**83.75**	**51**		P	**P**	**23 16 22.9**	**+2.2**
	baz=242,SNR=6.1							
LHV	**Little Huntoon**	**83.82**	**46**		P	**P**	**23 16 21.2**	**+0.5**
SEW	**Seward**	**83.89**	**17**		P	**P**	**23 16 22.0**	**+1.5**
	baz=212							
GLA	**Glamis**	**83.94**	**52**		P	**P**	**23 16 24.2**	**+2.7**
	baz=242							
ZEA	**Zeya**	**83.96**	**333**	*e*	P	**P**	**23 16 22.0**	**+1.0**
ZEA					pmax	pmax		
	comp=Z,10.0nm,1.8s							
GRAC	**Grapevine Rang**	**83.98**	**48**		P	**P**	**23 16 24.0**	**+2.4**
	baz=240							
CAPN	**Captain Cook N**	**84.01**	**15**		P	**P**	**23 16 22.9**	**+1.8**
	baz=211							
SEY	**Seymchan**	**84.03**	**349**	*ce*	P	**P**	**23 16 20.3**	**-0.9**
SEY					pmax	pmax		
	comp=Z,31nm,1.3s							
NVAR	**Mina Array Bea**	**84.05**	**46**		P	**P**	**23 16 23.8**	**+1.6**
	comp=Z,10nm,1.0s,baz=226,slow=8.2,SNR=29							
	comp=Z,10nm,1.0s							
FURC	**Furnace Creek,**	**84.08**	**48**		P	**P**	**23 16 24.1**	**+2.0**
	baz=241							
N20K	**Mount Spurr**	**84.13**	**15**		P	**P**	**23 16 21.7**	**-0.1**
	baz=210,SNR=6.1							
SPCR	**Spurr Chakacha**	**84.13**	**15**		P	**P**	**23 16 22.9**	**+1.1**
	baz=210							
GMRC	**Granite Mounta**	**84.13**	**50**		P	**P**	**23 16 24.0**	**+1.5**
	baz=242,SNR=7.0							
O22K	**Cooper Landing**	**84.14**	**16**		P	**P**	**23 16 23.6**	**+1.8**
	baz=212							
Q23K	**Middleton Isla**	**84.20**	**18**		P	**P**	**23 16 24.2**	**+2.1**
	baz=215							
IRM	**Iron Mountain**	**84.22**	**51**		P	**P**	**23 16 25.5**	**+2.6**
	baz=242,SNR=16							
SHOC	**Shoshone, Teco**	**84.22**	**49**		P	**P**	**23 16 23.4**	**+0.5**
	baz=241							
M19K	**Big River Lodg**	**84.24**	**14**		P	**P**	**23 16 22.6**	**+0.2**
	baz=208							
TUQ	**Turquoise Moun**	**84.25**	**50**		P	**P**	**23 16 24.1**	**+0.9**
	baz=242							
P23K	**Montague Islan**	**84.37**	**17**		P	**P**	**23 16 23.5**	**+0.5**
	baz=214							
L19K	**White Mountain**	**84.39**	**13**		P	**P**	**23 16 23.2**	**+0.1**
L19K	**White Mountain**	**84.39**	**13**		P	**P**	**23 16 23.9**	**+0.8**
	baz=207							
CMAR	**Chiang Mai Arr**	**84.50**	**292**		P	**P**	**23 16 25.1**	**+0.5**
	comp=Z,7.8nm,1.0s,baz=117,slow=3.4,SNR=30							
	comp=Z,7.8nm,1.0s							
CMAR	**Chiang Mai Arr**	**84.50**	**292**		P	**P**	**23 16 24.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**84.50**	**292**	*ce*	P	**P**	**23 16 25.5**	**+0.9**
CMAR					pmax	pmax		
	comp=Z,8.0nm,1.0s							
HIA	**Hailar**	**84.56**	**327**	*i*	P	**P**	**23 16 23.9**	**-0.4**
HIA					pmax	pmax		
	comp=Z,20nm,1.4s							
K05A	**Summer Lake**	**84.58**	**41**		P	**P**	**23 16 25.7**	**+1.0**
HHC	**Hu-ho-hao-te**	**84.60**	**317**	*e*	P	**P**	**23 16 26.1**	**+1.3**
HHC					pmax	pmax		
	comp=Z,25nm,0.8s							
CHTO	**Chiang Mai**	**84.64**	**292**		P	**P**	**23 16 25.0**	**-0.3**
CHTO					IAmb	IAmb	23 16 26.7	
	comp=Z,16nm,1.2s							
CHTO	**Chiang Mai**	**84.64**	**292**		P	**P**	**23 16 25.0**	**-0.3**
CHTO					pmax	pmax		
	comp=Z,16nm,1.3s							
RC01	**Rabbit Creek A**	**84.65**	**16**		P	**P**	**23 16 23.9**	**-0.5**
RC01	**Rabbit Creek A**	**84.65**	**16**		P	**P**	**23 16 25.4**	**+1.1**
	baz=212,SNR=9.3							
SUA	**Susitna One**	**84.71**	**15**		P	**P**	**23 16 25.6**	**+0.7**
	baz=211,SNR=6.3							
TPNV	**Topopah Spring**	**84.74**	**48**		P	**P**	**23 16 27.4**	**+1.7**
	baz=241,SNR=12							
ANM	**Nome**	**84.78**	**8**		P	**P**	**23 16 26.5**	**+1.6**
	baz=197							
TTA	**Tatalina**	**84.81**	**12**		P	**P**	**23 16 25.6**	**+0.3**
TTA					IAmb	IAmb	23 16 27.6	
	comp=Z,21nm,1.3s							
TTA	**Tatalina**	**84.81**	**12**		P	**P**	**23 16 26.4**	**+1.1**
	baz=206							
TTA	**Tatalina**	**84.81**	**12**		P	**P**	**23 16 25.6**	**+0.3**
TTA					pmax	pmax		
	comp=Z,21nm,1.3s							
PWL	**Port Wells**	**84.83**	**17**		P	**P**	**23 16 25.9**	**+0.5**
PWL	**Port Wells**	**84.83**	**17**		P	**P**	**23 16 25.5**	**+0.2**
	baz=213,SNR=5.5							
L20K	**Farewell, AK**	**84.86**	**13**		P	**P**	**23 16 27.1**	**+1.6**
	baz=208							
214A	**Organ Pipe Nat**	**84.97**	**54**		P	**P**	**23 16 29.4**	**+2.6**
	baz=244							
M22K	**Willow**	**85.12**	**15**		P	**P**	**23 16 28.4**	**+1.7**
	baz=212,SNR=6.2							
PMR	**Palmer**	**85.23**	**16**		P	**P**	**23 16 26.6**	**-0.7**
PMR					IAmb	IAmb	23 16 28.9	
	comp=Z,39nm,1.4s							
PMR	**Palmer**	**85.23**	**16**		P	**P**	**23 16 28.2**	**+0.9**
	baz=213,SNR=6.7							
PMR	**Palmer**	**85.23**	**16**		P	**P**	**23 16 26.6**	**-0.7**
PMR					pmax	pmax		
	comp=Z,39nm,1.4s							
KNK	**Knik Glacier**	**85.26**	**16**		P	**P**	**23 16 27.8**	**+0.4**
	baz=213,SNR=5.6							
PZH	**PanZhiHua**	**85.27**	**300**		P	**P**	**23 16 29.3**	**+0.8**
PZH					pmax	pmax		
	comp=Z,10.0nm,1.2s							
PZH					pmax	pmax		
	comp=Z,100nm,4.7s							
EYAK	**Cordova Ski Ar**	**85.29**	**18**		P	**P**	**23 16 28.9**	**+1.3**
	baz=216							
TNA	**Tin City**	**85.43**	**7**		P	**P**	**23 16 29.1**	**+0.9**
	baz=195							
CD2	**Chengdu**	**85.50**	**305**		P	**P**	**23 16 30.0**	**+0.5**
K20K	**Telida**	**85.60**	**13**		P	**P**	**23 16 30.3**	**+1.1**
	baz=208							
SML	**Sawmill**	**85.62**	**16**		P	**P**	**23 16 29.9**	**+0.6**
	baz=213							
CUT	**Chulitna**	**85.64**	**15**		P	**P**	**23 16 30.8**	**+1.5**
	baz=212							
M23K	**Glacier View**	**85.77**	**16**		P	**P**	**23 16 31.4**	**+1.4**
	baz=214							
R11A	**Troy Canyon, C**	**85.87**	**47**		P	**P**	**23 16 31.7**	**+0.4**
	baz=242,SNR=5.1							
SCM	**Sheep Creek Mo**	**85.91**	**16**		P	**P**	**23 16 31.5**	**+0.7**
	baz=214							
BMRM	**Bremner River**	**85.96**	**18**		P	**P**	**23 16 31.4**	**+0.4**
	baz=217							
KLU	**Klutina**	**86.01**	**17**		P	**P**	**23 16 32.6**	**+1.3**
	baz=216							
CAST	**Castle Rocks**	**86.09**	**14**		P	**P**	**23 16 31.7**	**+0.2**
	baz=210							
J20K	**Nowinta River**	**86.31**	**13**		P	**P**	**23 16 33.9**	**+1.3**
	baz=208							
WAT6	**Susitna Watana**	**86.42**	**16**		P	**P**	**23 16 34.1**	**+0.7**
	baz=214							
WAT1	**Susitna Watana**	**86.42**	**15**		P	**P**	**23 16 34.0**	**+0.7**
	baz=213							
CHUM	**Lake Minchumin**	**86.44**	**13**		P	**P**	**23 16 34.2**	**+1.0**
	baz=210							
M24K	**Tolsona, Glenn**	**86.44**	**17**		P	**P**	**23 16 34.8**	**+1.4**
	baz=215							
S31K	**Pelican**	**86.46**	**23**		P	**P**	**23 16 34.5**	**+1.1**
	baz=224							
N25K	**Chitina, Valde**	**86.48**	**18**		P	**P**	**23 16 34.6**	**+1.0**
	baz=217,SNR=5.7							
V35K	**Ketchikan**	**86.49**	**27**		P	**P**	**23 16 35.1**	**+1.5**
	baz=228							
TUC	**Tucson**	**86.67**	**54**		P	**P**	**23 16 37.0**	**+1.8**
	baz=245							
MCARA	**McCarthy VSAT**	**86.76**	**18**		P	**P**	**23 16 35.8**	**+0.9**
	baz=218							
DHY	**Denali Highway**	**86.93**	**16**		P	**P**	**23 16 36.4**	**+0.5**
	baz=214							
MCK	**McKinley**	**87.09**	**15**		P	**P**	**23 16 37.8**	**+1.4**
	baz=213							
G08A	**Pilot Rock**	**87.12**	**40**		P	**P**	**23 16 36.9**	**-0.3**
G08A					IAmb	IAmb	23 16 40.2	
	comp=Z,23nm,1.2s							
P29M	**Windy Craggy**	**87.13**	**22**		P	**P**	**23 16 38.0**	**+1.2**
	baz=223							
ELIB	**Princess Elisa**	**87.15**	**188**	*d*	P	**P**	**23 16 36.0**	**-1.0**
	comp=Z,15nm,1.1s							
O28M	**Mount Upton**	**87.17**	**20**		P	**P**	**23 16 37.9**	**+0.7**
	baz=221							
R32K	**Eaglecrest**	**87.33**	**24**		P	**P**	**23 16 39.7**	**+2.0**
	baz=226							
BILL	**Bilibino**	**87.35**	**356**	⇑*e*	P	**P**	**23 16 37.0**	**-0.6**
BILL				*e*			23 16 38.3	
BILL					S	S	23 27 06.0	-12
BILL				*e*			23 28 43.6	
BILL					pmax	pmax		
	comp=Z,13nm,1.3s							
BILL					MLR	MLR		
	comp=Z,991nm,18.0s							
TNCH	**TengChong**	**87.36**	**298**		P	**P**	**23 16 38.8**	**-0.1**
TNCH					pmax	pmax		
	comp=Z,12nm,1.6s							
PLBC	**Pleasant Camp**	**87.49**	**22**		P	**P**	**23 16 40.0**	**+1.5**
	baz=224							
M26K	**Nabesna, AK**	**87.57**	**18**		P	**P**	**23 16 38.2**	**-0.7**
	baz=218							
WUAZ	**Wupatki**	**87.60**	**51**		P	**P**	**23 16 41.3**	**+1.5**
	baz=244							
I21K	**Tanana**	**87.64**	**13**		P	**P**	**23 16 39.7**	**+0.7**
	baz=210							
LZH	**Lanzhou**	**87.67**	**309**	*e*	P	**P**	**23 16 41.9**	**+1.8**
LZH					pP	sP	23 16 46.3	+3.2
LZH					sP	pwP	23 16 50.7	+3.8
LZH					pmax	pmax		
	comp=Z,40nm,1.4s							
YUK8	**Steele Glacier**	**87.69**	**20**		P	**P**	**23 16 40.3**	**+0.6**
	baz=221,SNR=5.1							
P30M	**Million Dollar**	**87.76**	**21**		P	**P**	**23 16 41.3**	**+1.4**
	baz=224							
MLY	**Manley**	**87.78**	**13**		P	**P**	**23 16 40.3**	**+0.5**
	baz=211							
YUK3	**Moose Creek**	**87.84**	**19**		P	**P**	**23 16 41.6**	**+1.3**
	baz=220,SNR=5.6							
SKAG	**Skagway**	**87.86**	**23**		P	**P**	**23 16 41.2**	**+1.0**
	baz=225							
M27K	**Edge Creek, AK**	**87.86**	**18**		P	**P**	**23 16 41.0**	**+0.6**
	baz=219							
H21K	**Melozitna Rive**	**87.89**	**12**		P	**P**	**23 16 41.2**	**+0.9**
	baz=209							
YUK6	**Outpost Mounta**	**87.89**	**20**		P	**P**	**23 16 41.1**	**+0.5**
	baz=222							
K24K	**Donnelly Dome**	**87.94**	**16**		P	**P**	**23 16 40.6**	**0.0**
	baz=216							
L26K	**Log Cabin Wild**	**87.97**	**17**		P	**P**	**23 16 41.1**	**+0.4**
	baz=218							
HYT	**Haines Junctio**	**88.09**	**21**		P	**P**	**23 16 41.6**	**+0.1**
	baz=223							
RIDG	**Independent Ri**	**88.13**	**16**		P	**P**	**23 16 41.3**	**-0.2**
	baz=216							
HDA	**Harding Lake**	**88.14**	**15**		P	**P**	**23 16 41.7**	**+0.3**
	baz=214

		baz=246						
121A	Cookes Peak, D	89.07	55	P		P	23 16 48.8	+1.9
	baz=246							
J26L	Joseph Creek	89.08	16	P		P	23 16 47.2	+1.2
	baz=218							
H24K	Noodor Dome	89.10	14	P		P	23 16 46.2	+0.1
	baz=214							
HLID	Hailey	89.11	43	P		P	23 16 49.1	+2.3
	baz=242,SNR=6.4							
K27K	Chicken	89.11	17	P		P	23 16 46.9	+0.8
	baz=219							
F21K	Alatna River	89.13	11	P		P	23 16 47.5	+1.3
	baz=208							
DLBC	Dease Lake	89.19	25	P		P	23 16 48.0	+1.3
	baz=230,SNR=6.9							
SNAA	Sanae	89.29	180	P		P	23 16 45.5	-1.6
SNAA				IAmb		IAmb	23 16 47.3	
	comp=Z,18nm,1.3s							
SNAA	Sanae	89.29	180	P		P	23 16 45.5	-1.6
SNAA				pmax		pmax		
	comp=Z,18nm,1.3s							
P33M	Teslin, Yukon	89.30	23	P		P	23 16 47.8	+0.7
	baz=227							
G23K	Bananza Creek	89.37	13	P		P	23 16 48.7	+1.4
	baz=212							
PRP	Porcupine Dome	89.40	15	P		P	23 16 48.6	+1.0
	baz=216							
R33M	Jennings River	89.45	24	P		P	23 16 49.6	+1.7
	baz=229							
NVL	N'lazarevskaya	89.53	185	*e*P		P	23 16 47.7	-0.4
NVL				pmax		pmax		
	comp=Z,24nm,1.1s							
L29M	L29M	89.56	19	P		P	23 16 49.6	+1.3
	baz=222							
M30M	Minto, Yukon	89.59	20	P		P	23 16 49.4	+1.0
	baz=224							
F22K	John River	89.63	12	P		P	23 16 49.0	+0.6
	baz=210							
NEW	Newport	89.71	38	P		P	23 16 49.6	+0.3
	baz=240							
KIDD	KIDD Seismic O	89.77	56	P		P	23 16 52.6	+2.5
	baz=247							
COLD	Coldfoot	89.78	12	P		P	23 16 50.3	+1.2
	baz=212							
DAWY	Dawson	89.90	18	P		P	23 16 50.1	+0.2
DAWY				IAmb		IAmb	23 16 51.6	
	comp=Z,15nm,1.1s							
DAWY	Dawson	89.90	18	P		P	23 16 50.8	+1.0
	baz=221,SNR=11							
EGAK	Eagle	89.94	17	P		P	23 16 50.5	+0.6
	baz=220							
M31M	Drury Creek, Y	90.12	21	P		P	23 16 51.5	+0.7
	baz=226							
E22K	Anaktuvuk Pass	90.24	11	P		P	23 16 52.3	+1.0
	baz=210							
Y22A	Socorro	90.26	54	P		P	23 16 54.2	+1.8
	baz=247							
K29M	Barlow Dome	90.29	19	P		P	23 16 52.8	+1.1
	baz=223							
MVCO	Mesa Verde	90.41	51	P		P	23 16 54.1	+0.9
	baz=246							
I27K	Kandik River	90.46	16	P		P	23 16 53.3	+0.9
	baz=219							
FARO	Faro, Yukon	90.49	21	P		P	23 16 53.7	+1.1
	baz=227							
F24K	Squaw Lake	90.51	13	P		P	23 16 53.1	+0.5
	baz=214							
J29M	Klondike Camp	90.53	18	P		P	23 16 54.1	+1.3
	baz=222							
MAYO	Mayo, Yukon	90.61	19	P		P	23 16 54.9	+1.8
	baz=224							
MNTX	Cornudas Mount	90.63	57	P		P	23 16 55.4	+1.5
	baz=248							
MNTX	Cornudas Mount	90.63	57	P		P	23 16 55.8	+1.8
	baz=248							
WTLY	Watson Lake, Y	90.75	24	P		P	23 16 55.4	+1.5
	baz=231,SNR=5.5							
E24K	Your Creek	90.85	13	P		P	23 16 56.3	+2.2
	baz=213							
ULN	Ulaanbaatar	90.87	321	P		P	23 16 54.0	-0.8
ULN				IAmb		IAmb	23 16 56.4	
	comp=Z,17nm,1.2s							
ULN	Ulaanbaatar	90.87	321	*c*eP		P	23 16 54.7	-0.2
ULN				pmax		pmax		
	comp=Z,17nm,1.3s							
MSO	Missoula	90.92	40	P		P	23 16 56.3	+1.2
	baz=242							
H27K	Steamboat Moun	90.97	16	P		P	23 16 55.6	+0.9
	baz=219							
G26K	Porcupine Rive	90.97	15	P		P	23 16 55.7	+1.0
	baz=217							
ANMO	Albuquerque	91.03	53	P		P	23 16 57.3	+1.3
	baz=247							
ANMO	Albuquerque	91.03	53	P		P	23 16 57.7	+1.7
	baz=247							
F25K	Christian Rive	91.06	14	P		P	23 16 56.2	+1.1
	baz=216							
TX31	Lajitas Ar. Si	91.13	59	P		P	23 16 58.5	+2.1
	baz=248							
TXAR	Lajitas Array	91.13	59	P		P	23 16 59.0	+2.6
	comp=Z,6.5nm,1.0s,baz=227,slow=5.0,SNR=32							
	comp=Z,6.5nm,1.0s							
D23K	Nanushuk River	91.17	11	P		P	23 16 56.4	+0.8
	baz=211							
I29M	Ogilvie Camp,	91.18	17	P		P	23 16 56.3	+0.6
	baz=222							
SONM	Songino Array	91.25	321	P		P	23 16 56.5	-0.1
	comp=Z,6.6nm,1.1s,baz=132,slow=4.0,SNR=23							
	comp=Z,6.6nm,1.1s							
G27K	Doyon Strip	91.38	15	P		P	23 16 57.1	+0.4
	baz=219							
F26K	Sheenjek River	91.48	14	P		P	23 16 58.0	+0.9
	baz=217							
E25K	Arctic Village	91.51	13	P		P	23 16 58.0	+0.8
	baz=216							
D24K	Happy Valley	91.69	12	P		P	23 16 59.7	+1.8
	baz=213							
O20A	White River Ci	91.78	48	P		P	23 17 00.2	+0.8
	baz=246							
BOZ	Bozeman (W)	91.80	42	P		P	23 17 00.5	+1.2
	baz=244							
S22A	4UR Ranch, Cre	91.84	51	P		P	23 17 00.8	+1.0
	baz=247							
BW06	Boulder Array	91.94	45	P		P	23 17 01.1	+1.0
	baz=245							
PDAR	Pinedale Array	91.94	45	P		P	23 17 01.3	+1.2
	comp=Z,1.9nm,0.9s,baz=243,slow=4.0,SNR=8.3							
	comp=Z,1.9nm,0.9s							
GTA	Gaotai	91.96	311	*e*P		P	23 17 00.7	+0.6
GTA				pP		sP	23 17 05.1	+2.0
GTA				sP		pwP	23 17 08.5	+1.7
GTA				pmax		pmax		
	comp=Z,5.0nm,1.2s							
H17A	Grant Village	91.96	43	P		P	23 17 01.2	+1.0
	baz=245							
WAPA	Wapiti River	92.09	31	P		P	23 17 01.1	+0.9
C24K	Franklin Bluff	92.19	12	P		P	23 17 01.4	+1.2
	baz=213							
A21K	Barrow	92.29	8	P		P	23 17 02.0	+1.4
	baz=206							
EPYK	Eagle Plains	92.36	17	P		P	23 17 02.4	+1.1
	baz=224							
E27K	Coleen River	92.47	15	P		P	23 17 03.1	+1.5
	baz=219							
SDCO	Great Sand Dun	92.81	51	P		P	23 17 06.0	+1.7
	baz=248							
SDCO	Great Sand Dun	92.81	51	P		P	23 17 05.0	+0.7
	baz=248							
G30M	tAoh Zraii Nji	92.94	17	P		P	23 17 04.8	+1.0
	baz=224							
C26K	Camden Bay	93.10	13	P		P	23 17 05.3	+0.8
	baz=216							
RLMT	Red Lodge	93.11	43	P		P	23 17 06.2	+0.8
	baz=246							
C27K	Jago River	93.12	13	P		P	23 17 06.0	+1.4
	baz=218							
T25A	Trinidad	93.40	52	P		P	23 17 07.3	+0.4
	baz=248							
MSTX	Muleshoe	93.50	55	P		P	23 17 09.1	+1.8
	baz=249							
ISCO	Idaho Springs	93.51	49	P		P	23 17 09.3	+1.9
	baz=248							
ISCO	Idaho Springs	93.51	49	P		P	23 17 08.2	+0.7
	baz=248							
Q24A	Divide	93.53	50	P		P	23 17 08.7	+1.2
	baz=248							
N23A	Red Feather La	93.68	48	P		P	23 17 09.7	+1.5
	baz=248							

F31M	Tsiigehtchic	93.96	17	P		P	23 17 10.2	+1.8
	baz=226							
GOMU	GeErMu	94.44	307	P		P	23 17 12.9	+1.0
INK	Inuvik	94.61	17	P		P	23 17 10.8	-0.6
	comp=Z,8.3nm,1.2s,baz=235,slow=4.2,SNR=11							
	comp=Z,8.3nm,1.2s							
INK	Inuvik	94.61	17	P		P	23 17 12.9	+1.5
	baz=227							
WRGLY	Wrigley	94.66	23	P		P	23 17 13.2	+1.5
	baz=235							
AMTX	Amarillo	94.67	55	P		P	23 17 14.0	+1.3
	baz=250							
AMTX	Amarillo	94.67	55	P		P	23 17 13.3	+0.7
	baz=250							
RSSD	Black Hills	96.18	45	P		P	23 17 19.8	+0.2
	baz=249							
RSSD	Black Hills	96.18	45	P		P	23 17 19.7	+0.2
	baz=249							
U32A	Winter Ranch,	97.22	54	P		P	23 17 24.8	+0.7
	baz=251							
YKA	Yellowknife Ar	97.78	26	P		P	23 17 26.2	+0.2
	comp=Z,2.1nm,1.0s,baz=252,slow=4.6,SNR=15							
	comp=Z,2.1nm,1.0s							
C36M	Paulatuk	97.94	18	P		P	23 17 27.3	+0.8
	baz=235							
A36M	Sachs Harbour	99.14	16	P		Pdif	23 17 32.9	+1.1
	baz=235							
WMQ	Urumqi	101.98	312	*e*P		Pdif	23 17 46.8	+1.5
WMQ				LR		LR		
	comp=Z,1μm,21.1s							
WMQ				LR		LR		
	comp=Z,3μm,24.1s							
MKAR	Makanchi Array	106.36	314	Pdiff		Pdif	23 18 03.2	-1.4
	comp=Z,0.5nm,1.0s,baz=101,slow=6.0,SNR=2.6							
ARU	Arti	121.03	325	*i* PKIKP		PKPdf	23 22 43.1	-0.4
ARU							23 24 14.3	
ARU							23 29 54.9	
ARU				SS		SS	23 40 56.4	+11
ABKAR	Akbulak array	121.39	316	PKPdf		PKPdf	23 22 43.6	-0.8
ABKAR	Akbulak array	121.39	316	PKPdf		PKPdf	23 22 43.7	-0.7
GEYT	Alibeck	123.47	303	PKP		PKPdf	23 22 48.0	-0.8
	comp=Z,3.1nm,1.0s,baz=256,slow=6.0,SNR=6.5							
GEYT	Alibeck	123.47	303	PKPdf		PKPdf	23 22 47.5	-1.4
KIRV	Kirov	125.11	329	*i* PKIKP		PKPdf	23 22 50.9	-0.3
BELG	Belogornoye	128.28	322	*i* PKIKP		PKPdf	23 22 57.3	-0.1
LSZ	Lusaka	133.37	225	PKP		PKPdf	23 23 08.1	-0.3
	comp=Z,1.5nm,0.8s,baz=117,slow=4.5,SNR=2.1							
KMBO	Kilima Mbogo	134.83	248	PKP		PKPdf	23 23 10.9	-0.5
	comp=Z,3.3nm,1.0s,baz=20,slow=5.0,SNR=5.4							
AKASG	Malin Array Be	139.14	328	PKP		PKPdf	23 23 17.2	-0.7
	comp=Z,1.1nm,0.7s,baz=55,slow=2.6,SNR=7.4							
AKASG	Malin Array Be	139.14	328	PKPdf		PKPdf	23 23 17.0	-0.9
AKASG	Malin Array Be	139.14	328	PKIKP		PKPdf	23 23 17.0	-0.9
BRTR	Keskin Array B	141.87	310	PKP		PKPdf	23 23 22.2	-1.2
	comp=Z,2.8nm,1.1s,baz=42,slow=2.3,SNR=5.9							
BIZ	Bicaz	143.09	325	⇑P		PKiKP	23 23 30.2	+1.8
HARR	Harsova	143.37	321	⇓P		PKPab	23 23 23.8	+2.1
HARR	Harsova	143.37	321	⇓PKIKP		PKPab	23 23 23.8	+2.1
OZUR		143.78	324	⇑P		PKPbc	23 23 26.0	+1.9
UZH	Uzhgorod	143.89	330	*e*PKHKP		PKPpre	23 23 21.9	
UZH				*i*			23 23 25.4	
ARCR	ARCALIA	143.92	327	⇑P		PKPbc	23 23 25.8	+1.4
MLR	Muntele Rosu	144.06	323	⇓P		PKPab	23 23 26.3	+1.8
MLR	Muntele Rosu	144.06	323	PKPdf		PKPab	23 23 25.2	+0.7
MLR	Muntele Rosu	144.06	323	PKIKP		PKPab	23 23 25.2	+0.7
BORA	Eskisehir	144.07	312	PKPdf		PKPab	23 23 24.1	-0.6
DOPR	Dopca	144.08	324	⇑P		PKPab	23 23 25.9	+1.4
SECR		144.26	323	⇓P		PKPab	23 23 26.2	+1.1
CBBR	Cluj-Babes-Bol	144.54	327	⇓P		PKPbc	23 23 27.8	+1.5
CJR	Cluj-Napoca	144.56	327	⇓P		PKPbc	23 23 28.0	+1.6
CJR	Cluj-Napoca	144.56	327	⇓PKIKP		PKPbc	23 23 28.0	+1.6
VOIR		144.59	324	⇑P		PKPab	23 23 27.2	+0.7
VOIR		144.59	324	⇑PKIKP		PKPab	23 23 27.2	+0.7
MESR	Meseseni	144.60	328	⇑P		PKPbc	23 23 28.4	+2.0
MTUR	Matau	144.71	324	⇑P		PKPab	23 23 27.8	+0.9
MTUR	Matau	144.71	324	⇑PKIKP		PKPab	23 23 27.8	+0.9
LANS	Liptovska Anna	144.77	333	*e*PKIKP		PKPab	23 23 28.4	+1.5
LANS	Liptovska Anna	144.77	333	*e*PKP		PKPab	23 23 28.4	+1.5
LANS				*e*			23 24 56.8	
OKC	Ostrava-Krasne	144.78	335	*e*PKP		PKPab	23 23 27.5	+0.6
OKC	Ostrava-Krasne	144.78	335	*e*PKIKP		PKPab	23 23 27.5	+0.6
KECS	Kecovo	144.83	332	*e*PKIKP		PKPab	23 23 28.3	+1.2
KECS	Kecovo	144.83	332	*e*PKP		PKPab	23 23 28.3	+1.2
MARR	Marisel-Cluj	144.83	327	⇑P		PKPab	23 23 28.1	+0.8
ISP	Isparta	144.84	309	PKPdf		PKPab	23 23 25.9	-1.8
ISP	Isparta	144.84	309	PKIKP		PKPab	23 23 25.9	-1.8
RAZG	Razgrad	144.84	320	⇑P		PKPab	23 23 27.8	+0.5
ARR	Arges	144.87	324	⇑P		PKPab	23 23 28.8	+1.4
OSTC	Ostas	144.94	338	*e*PKP		PKPab	23 23 28.4	+0.9
DRGR		144.96	328	⇑P		PKPab	23 23 28.4	+0.7
DRGR		144.96	328	⇑PKIKP		PKPab	23 23 28.4	+0.7
UPC	Upice	145.05	338	*e*PKP		PKPbc	23 23 28.5	+0.7
UPC	Upice	145.05	338	*e*PKIKP		PKPbc	23 23 28.5	+0.7
DPC	Dobruska-Polom	145.07	337	*e*PKP		PKPbc	23 23 28.9	+1.0
DPC	Dobruska-Polom	145.07	337	*e*PKIKP		PKPbc	23 23 28.9	+1.0
MORC	Moravsky Berou	145.07	336			PKPbc	23 23 27.1	-0.9
MORC	Moravsky Berou	145.07	336	*e*PKP		PKPbc	23 23 27.7	+0.7
MORC	Moravsky Berou	145.07	336	PKIKP		PKPbc	23 23 27.1	-0.9
KRLC	Kraliky	145.12	337	*e*PKP		PKPbc	23 23 28.8	+0.7
KRLC	Kraliky	145.12	337	*e*PKIKP		PKPbc	23 23 28.8	+0.7
HUMR	Humele	145.18	323	⇑P		PKPbc	23 23 28.5	+0.1
MAUC	Maruska	145.28	335	*e*PKP		PKPbc	23 23 29.2	+0.5
CLL	Collm	145.36	341			PKPbc	23 23 27.8	-0.9
CLL	Collm	145.36	341	⇓*i* PKPbc		PKPbc	23 23 29.2	+0.4
	comp=Z,103nm,1.0s							
CLL				*e*PKiKP		sPKPdf	23 23 34.0	+2.0
CLL	Collm	145.36	341	⇓*i* PKIKP		PKPbc	23 23 29.2	+0.4
CLL				pmax		pmax		
	comp=Z,103nm,1.0s							
BRG	Berggiesshubel	145.44	340	*i* PKP		PKPbc	23 23 30.2	+1.1
BRG				Amp			23 23 31.1	
	comp=Z,99nm,1.2s							
BRG	Berggiesshubel	145.44	340	P		PKiKP	23 23 35.9	+2.8
BRG				Amp			23 23 38.9	
	comp=Z,27nm,0.9s							
BRG	Berggiesshubel	145.44	340	*i* PKIKP		PKPbc	23 23 30.1	+1.1
BRG							23 23 35.9	
BRG				pmax		pmax		
	comp=Z,99nm,1.2s							
BRG				pmax		pmax		
	comp=Z,27nm,1.0s							
DEV	Deva	145.47	326	⇓P		PKPdf	23 23 30.5	+1.2
DEV	Deva	145.47	326	⇓PKIKP		PKPdf	23 23 30.5	+1.2
PSZ	Piszkesteto	145.51	331	⇑P		PKPdf	23 23 30.1	+0.6
PSZ	Piszkesteto	145.51	331	⇑PKIKP		PKPdf	23 23 30.1	+0.6
PVCC	Panska Ves	145.53	339	*e*PKP		PKPdf	23 23 30.4	+1.1
PVCC	Panska Ves	145.53	339	*e*PKIKP		PKPdf	23 23 30.4	+1.1
VYHS	Vyhne	145.54	333	*e*PKIKP		PKPdf	23 23 30.5	+1.1
VYHS	Vyhne	145.54	333	*e*PKP		PKPdf	23 23 30.5	+1.1
VYHS				*e*			23 24 58.7	
JAVC	Velka Javorina	145.75	334	*e*PKP		PKPab	23 23 32.1	+1.6
VRAC	Vranov	145.81	336	*e*PKP		PKPdf	23 23 30.6	+0.8
SIRR	Siria	145.85	328	⇑P		PKPdf	23 23 30.9	+0.9
GZR	Gura Zlata	145.86	326	⇑P		PKPdf	23 23 30.6	+0.5
GZR	Gura Zlata	145.86	326	⇑PKIKP		PKPdf	23 23 30.6	+0.5
SURR	Surduc	145.96	327	⇑P		PKPdf	23 23 31.3	+1.1
MANT	Manisa	145.99	311	PKPdf		PKPdf	23 23 28.6	-2.2
PRU	Pruhonice	146.00	339	*e*PKP		PKPdf	23 23 31.2	+1.1
PRU	Pruhonice	146.00	339	*e*PKP2		PKPdf	23 23 31.2	+1.1
PLVB	Pleven	146.07	321	⇑P		PKPdf	23 23 31.3	+0.9
KRUC	Moravsky	146.09	336	*e*PKP		PKPdf	23 23 31.8	+1.5
MODS	Modra-Piesok	146.29	334	*e*PKP2		PKPbc	23 23 33.2	+1.4
MODS	Modra-Piesok	146.29	334	*e*PKP		PKPbc	23 23 33.2	+1.4
MODS				*e*			23 25 01.4	
BZS	Buzias	146.31	327	⇑P		PKPbc	23 23 33.7	+1.8
BZS	Buzias	146.31	327	⇑PKP2		PKPbc	23 23 33.7	+1.8
HERR	Herculane	146.38	325	⇑P		PKPdf	23 23 32.3	+1.4
NKC	Novy Kostel	146.47	341	*e*PKP		PKPdf	23 23 33.0	+2.1
NKC	Novy Kostel	146.47	341	*e*PKP2		PKPdf	23 23 33.0	+2.1
ZST	Bratislava	146.50	334	*e*PKP2		PKPbc	23 23 33.9	+1.5
ZST	Bratislava	146.50	334	*e*PKP		PKPbc	23 23 33.8	+1.4
MDVR	Moldovita	146.83	326	⇑P		PKPdf	23 23 33.6	+1.9
KHC	Kasperske Hory	147.06	339	*e*PKP		PKPdf	23 23 33.9	+1.9
KHC	Kasperske Hory	147.06	339	*e*PKP2		PKPdf	23 23 33.9	+1.9
CKRC	Cesky Krumlov	147.07	338	*e*PKP		PKPdf	23 23 34.5	+2.5
CONA	Conrad Observa	147.22	335	*e*pPKP		PKPbc	23 23 35.1	+0.6
	comp=Z,29nm,1.5s,SNR=9.0							
RONA	Rosalia, Austr	147.23	335	*e*pPKP		PKPbc	23 23 35.1	+0.6
	comp=Z,29nm,1.2s,SNR=7.8							
GERES	GERESS Array B	147.26	338	PKPbc		PKPdf	23 23 35.0	+2.6
	comp=Z,6.7nm,1.0s,baz=46,slow=3.9,SNR=9.1							
GERES	GERESS Array B	147.26	338	PKPdf		PKPdf	23 23 31.6	-0.8
GERES	GERESS Array B	147.26	338	PKP2		PKPdf	23 23 35.0	+2.6

MORH	Mrgy, Hungar	147.35	330	⇑P		PKPdf	23 23 32.1	-0.3
VTS	Vitosha	147.35	321	⇑P		PKPab	23 23 38.4	+1.3
VTS	Vitosha	147.35	321	⇑PKP2		PKPab	23 23 38.4	+1.3
FRGS	Fruska Gora	147.55	328	⇑P		PKPbc	23 23 36.9	+1.3
BTNL	Ternell	147.75	348	*d*PKP		PKPdf	23 23 30.5	-2.6
MEM	Membach	147.75	348	*d*PKP		PKPbc	23 23 36.1	+0.3
BSTI	Sart Tilman	147.86	349	*d*PKP		PKPbc	23 23 37.0	+0.8
MOA	Molln	147.90	337	*ep*PKP		pPKPdf	23 23 36.8	+1.1
	comp=Z,27nm,1.3s							
ARSA	Arzberg	147.90	335	*e*PKP		PKPbc	23 23 37.8	+1.4
	comp=Z,18nm,1.2s							
BCLA	Clavier	148.07	349	*d*PKP		PKPdf	23 23 33.5	0.0
DIVS	Divibare	148.20	326	PKPbc		PKPdf	23 23 35.1	+1.0
BIOA	Bad Ischl, Aus	148.26	337	*ep*PKP		PKiKP	23 23 40.9	+1.9
	comp=Z,17nm,1.2s							
BMRD	Maredsous	148.28	349	*d*PKP		PKPbc	23 23 37.7	+0.5
DOU	Dourbes	148.50	350	*d*PKP		PKPbc	23 23 38.0	+0.2
SOKA	Soboth	148.56	335	*e*PKP		PKPbc	23 23 38.1	-0.2
	comp=Z,16nm,1.5s							
WLF	Walferdange	148.62	347	*d*PKP		PKPbc	23 23 38.8	+0.6
KBA	Koelnbreinsper	148.88	337	*e*PKP		PKPbc	23 23 38.8	-0.3
	comp=Z,20nm,1.8s							
OBKA	Obir	148.89	335	*e*PKP		PKPdf	23 23 38.6	+3.4
	comp=Z,15nm,1.6s							
MYKA	Terra Mystica	149.15	336	*e*PKP		PKPbc	23 23 39.9	+0.2
	comp=Z,23nm,1.4s							
WATA	Walderalm	149.29	339	*e*PKP		PKPbc	23 23 39.9	-0.2
	comp=Z,16nm,1.4s							
WTTA	Wattenberg	149.33	339	*e*PKP		PKPbc	23 23 39.8	-0.5
	comp=Z,19nm,1.2s,SNR=9.5							
RETA	Reutte	149.42	340	*e*PKP		PKPdf	23 23 39.6	+3.7
	comp=Z,11nm,1.0s							
MOTA	Moosalm	149.44	340	*ep*PKP		PKPdf	23 23 38.7	+2.6
	comp=Z,23nm,1.4s							
ABTA	Abfaltersbach	149.47	338	*e*PKP		PKPbc	23 23 39.9	-0.6
	comp=Z,27nm,1.1s,SNR=9.5							
SQTA	Sankt Quirin	149.51	340	*e*PKP		PKPdf	23 23 39.8	+3.6
	comp=Z,24nm,1.1s							
ECH	Echery	149.76	345	PKPdf		PKPdf	23 23 37.0	+0.6
ECH	Echery	149.76	345	PKHKP		PKPpre	23 23 39.7	
FETA	Feichten	149.84	340	*e*PKP		PKPbc	23 23 41.3	-0.2
	comp=Z,15nm,1.0s							
DAVA	Damuels	149.87	341	*e*PKiKP		PKPbc	23 23 41.9	+0.3
	comp=Z,21nm,1.2s							
TEOL	Teolo	150.96	337	PKPbc		PKPbc	23 23 43.7	-0.3
ESDC	Sonseca Array	159.66	0	PKPab		PKPab	23 24 28.6	-0.1
	comp=Z,0.4nm,0.9s,baz=336,slow=2.8,SNR=4.4							
DBIC	Dimbokro	167.44	176	PKPab		PKPab	23 25 03.2	0.0
	comp=Z,3.7nm,0.8s,baz=151,slow=7.7,SNR=4.0							
TORD	Torodi Ar. Bea	171.90	222	PKP		PKPdf	23 24 00.2	-0.6
	comp=Z,4.6nm,1.1s,baz=76,slow=0.8,SNR=15							
TORD				PKPab		PKPab	23 25 22.0	-1.2
	comp=Z,1.3nm,1.0s,baz=112,slow=2.9,SNR=3.6							
TORD	Torodi Ar. Bea	171.90	222	PKPdf		PKPdf	23 23 59.4	-1.5

*IDC **03** 23:05:18.1±0.8, 19°.20S×176°.00E, h0km, mb4.2/10, mbtmp4.2/10, MS4.8/1, Error ellipse: s-maj=37.6km s-min=21.2km az=147.0*
*NEIC **03** 23:05:18.7±1.6, 19°.1S±0°.2×176°.2E±0°.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=32.4km s-min=4.0km az=322.0*

ISC 03 23:05:21.8±0.5, **19°.1S**±0°.1×**176°.2E**±0°.1, **h30km, n34,**
σ1§**43/35, mb4.4**/16, **1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.25	54	Pn		Pn	Pn	23 05 55.7	-1.4
	8.5nm,0.3s,baz=234,slow=19,SNR=0.6								
MSVF				Sn		Sn	Sn	23 06 23.2	-0.6
	42nm,0.3s,baz=270,slow=20,SNR=7.0								
MSVF	Nonsavu	2.25	54	Pn		Pn	Pn	23 05 55.5	-1.6
MSVF				Sn		Sn	Sn	23 06 22.4	-1.5
URZ	Urewera	19.13	178	P		Pn	Pn	23 09 45.9	+2.4
	14nm,0.7s,baz=160,slow=1.6,SNR=2.3								
BKZ	Black Stump Fm	20.02	179	P		P	P	23 09 51.8	-0.5
BKZ				IAmb		IAmb	IAmb	23 10 14.0	
	comp=Z,46nm,1.4s

LIFNC	**LIFOU**	**8.56**	**257**	P	**Pg**	**23 18 24.3**	**+0.6**
YATNC	**Mamie plateau,**	**9.19**	**249**	P	Pg	23 18 43.6	
OUENC	**Ouen Island, N**	**9.35**	**247**	P	Pg	23 18 49.5	
DZM	**Mont Dzumac**	**9.59**	**250**	P	Pg	23 18 46.9	
H11S2	**WAKE ISLAND Hy**	**38.41**	**345**	T	T	00 03 51.2	
	baz=166						
H11S3	**WAKE ISLAND Hy**	**38.42**	**345**	T	T	00 03 53.7	
	baz=166						
H11S1	**WAKE ISLAND Hy**	**38.43**	**345**	T	T	00 03 52.5	
	baz=166						
WRA	**Warramunga Arr**	**39.36**	**262**	P	**P**	**23 23 07.4**	**-2.2**
	0.9nm,0.9s,baz=100,slow=8.3,SNR=4.1						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**39.52**	**256**	P	**P**	**23 23 09.5**	**-1.4**
	1.2nm,0.8s,baz=89,slow=8.8,SNR=9.5						
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**90.97**	**59**	P	**P**	**23 28 46.1**	**+1.6**
	0.3nm,0.8s,baz=216,slow=6.2,SNR=4.0						
	0.3nm,0.8s						

ROM 03 23:20:38.2±0.1, 42°918N×0°003×13°203E±0°005, h6km, ML1.8/19, 5C-4D, Error ellipse: s-maj=0.4km s-min=0.1km az=276.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.01**	**241**	P	Pg	23 20 39.2	-0.3
MC2				S	Sg	23 20 39.8	-0.6
T1256	**Bolognola (MC)**	**0.09**	**11**	⇓P	Pg	23 20 40.4	+0.1
T1256				S	Sg	23 20 42.4	+0.6
T1256				AML	AML		
	comp=E,1110μm,0.4s						
T1256				AML	AML		
	comp=N,1320μm,0.5s						
T1256				AML	AML		
	comp=N,1320μm,1.5s						
MMO1	**Montemonaco**	**0.09**	**101**	⇑P	Pg	23 20 40.5	+0.2
MMO1				S	Sg	23 20 42.2	+0.5
NRCA	**Norcia**	**0.11**	**218**	P	Pg	23 20 40.9	+0.4
NRCA				S	Sg	23 20 43.1	+1.1
NRCA				AML	AML		
	comp=E,1430μm,0.2s						
NRCA				AML	AML		
	comp=N,1405μm,0.1s						
NRCA				AML	AML		
	comp=N,1535μm,0.1s						
NRCA				AML	AML		
	comp=E,1430μm,0.1s						
NRCA				AML	AML		
	comp=N,1405μm,0.1s						
NRCA				AML	AML		
	comp=E,1495μm,0.2s						
T1216	**Preci, Frazion**	**0.14**	**259**	⇑P	Pg	23 20 41.4	+0.4
T1216				S	Sg	23 20 44.2	+1.3
T1216				AML	AML		
	comp=E,1395μm,0.4s						
T1216				AML	AML		
	comp=N,1565μm,0.4s						
T1216				AML	AML		
	comp=E,1395μm,0.4s						
T1216				AML	AML		
	comp=N,1565μm,0.4s						
T1216				AML	AML		
	comp=N,1565μm,1.6s						
FDMO	**Fiordimonte**	**0.15**	**325**	P	Pg	23 20 41.4	+0.2
FDMO				S	Sg	23 20 44.0	+0.9
FDMO				AML	AML		
	comp=E,490μm,0.5s						
FDMO				AML	AML		
	comp=N,694μm,0.1s						
FDMO				AML	AML		
	comp=N,694μm,0.1s						
T1214	**Arquata del Tr**	**0.16**	**178**	⇓P	Pg	23 20 42.0	+0.6
T1214				AML	AML		
	comp=E,628μm,0.2s						
T1214				AML	AML		
	comp=N,420μm,1.0s						
T1214				AML	AML		
	comp=E,618μm,0.2s						
T1214				AML	AML		
	comp=N,430μm,0.6s						
T1214				AML	AML		
	comp=N,420μm,1.0s						
T1214				AML	AML		
	comp=E,618μm,0.2s						
T1214				AML	AML		
	comp=E,628μm,0.2s						
T1214				AML	AML		
	comp=N,420μm,1.0s						
GUMA	**Gualdo di Mace**	**0.17**	**34**	⇑P	Pg	23 20 42.4	+0.7
GUMA				S	Sg	23 20 45.8	+1.8
GUMA				AML	AML		
	comp=E,1735μm,0.9s						
GUMA				AML	AML		
	comp=E,2360μm,0.3s						
GUMA				AML	AML		
	comp=N,1460μm,0.2s						
GUMA				AML	AML		
	comp=N,1605μm,0.8s						
GUMA				AML	AML		
	comp=N,1605μm,1.2s						
T1219	**Muccia, Frazio**	**0.20**	**314**	P	Pg	23 20 42.4	+0.3
T1219				S	Sg	23 20 46.0	+1.2
T1219				AML	AML		
	comp=N,497μm,0.5s						
T1219				AML	AML		
	comp=N,466μm,1.4s						
T1219				AML	AML		
	comp=E,348μm,0.7s						
T1219				AML	AML		
	comp=E,340μm,0.2s						
T1219				AML	AML		
	comp=N,466μm,1.4s						
T1219				AML	AML		
	comp=E,348μm,0.7s						
T1219				AML	AML		
	comp=N,498μm,0.5s						
T1219				AML	AML		
	comp=E,340μm,0.2s						
T1219				AML	AML		
	comp=N,467μm,1.4s						
T1219				AML	AML		
	comp=N,467μm,0.6s						
T1212	**Cascia, Frazio**	**0.20**	**215**	P	Pg	23 20 42.7	+0.5
T1212				S	Sg	23 20 46.4	+1.5
T1212				AML	AML		
	comp=E,269μm,0.3s						
T1212				AML	AML		
	comp=E,269μm,0.3s						
T1212				AML	AML		
	comp=N,277μm,1.5s						
T1212				AML	AML		
	comp=N,277μm,0.5s						
T1212				AML	AML		
	comp=E,269μm,1.7s						
T1220	**Camerino, Fraz**	**0.21**	**337**	P	Pg	23 20 42.6	+0.3
T1220				S	Sg	23 20 46.7	+1.6
T1220				AML	AML		
	comp=E,1071μm,0.5s						
T1220				AML	AML		
	comp=E,1082μm,0.5s						
T1220				AML	AML		
	comp=E,1068μm,0.5s						
T1220				AML	AML		
	comp=E,1083μm,0.5s						
T1220				AML	AML		
	comp=N,1225μm,1.3s						
T1220				AML	AML		
	comp=E,1068μm,0.5s						
T1220				AML	AML		
	comp=N,1260μm,1.3s						
T1220				AML	AML		
	comp=E,1083μm,0.5s						
T1220				AML	AML		
	comp=N,1260μm,0.7s						
T1220				AML	AML		
	comp=N,1225μm,0.7s						
CESI	**CESI - Serrava**	**0.24**	**292**	P	Pg	23 20 43.2	+0.4
CESI				S	Sg	23 20 47.6	+1.6
CESI				AML	AML		
	comp=E,553μm,0.9s						
CESI				AML	AML		
	comp=N,632μm,0.5s						
CESI				AML	AML		
	comp=E,552μm,0.9s						
CESI				AML	AML		
	comp=N,632μm,0.5s						
CESI				AML	AML		
	comp=N,632μm,1.5s						
CESI				AML	AML		
	comp=E,552μm,1.1s						
T1218	**Civita (PG)**	**0.26**	**195**	P	Pg	23 20 43.7	+0.5
T1218				S	Sb	23 20 48.6	-1.4
T1218				AML	AML		
	comp=E,151μm,1.2s						
T1218				AML	AML		
	comp=E,151μm,1.2s						
T1218				AML	AML		
	comp=N,186μm,1.5s						
T1218				AML	AML		
	comp=E,151μm,0.8s						
T1218				AML	AML		
	comp=N,186μm,0.5s						
T1215	**Vallo di Nera,**	**0.27**	**245**	S	Sg	23 20 43.9	-3.1
T1215				AML	AML		
	comp=E,161μm,0.3s						
T1215				AML	AML		
	comp=E,162μm,0.3s						
T1215				AML	AML		
	comp=N,151μm,0.1s						
T1215				AML	AML		
	comp=E,161μm,0.3s						
T1215				AML	AML		
	comp=E,161μm,1.7s						
T1215				AML	AML		
	comp=N,151μm,0.1s						
T1243	**Rocca Santa Ma**	**0.29**	**141**	⇓P	Pg	23 20 44.0	+0.3
SMA1	**SAN MARTINO**	**0.30**	**161**	⇓P	Pg	23 20 44.5	+0.3
SMA1				AML	AML		
	comp=E,163μm,1.0s						
SMA1				AML	AML		
	comp=N,180μm,0.7s						
SMA1				AML	AML		
	comp=E,164μm,1.0s						
SMA1				AML	AML		
	comp=N,180μm,0.7s						
SMA1				AML	AML		
	comp=N,180μm,1.3s						
SMA1				AML	AML		
	comp=E,164μm,1.0s						
LNSS	**Leonessa**	**0.34**	**201**	S	Sg	23 20 45.4	-3.8
LNSS				AML	AML		
	comp=E,204μm,0.2s						
LNSS				AML	AML		
	comp=N,224μm,1.3s						
LNSS				AML	AML		
	comp=E,204μm,0.2s						
LNSS				AML	AML		
	comp=N,224μm,0.7s						
EL6	**Elcito**	**0.42**	**350**	⇑P	Pg	23 20 46.5	+0.2
CING	**Cingoli**	**0.46**	**359**	⇑P	Pg	23 20 47.4	+0.4

IDC 03 23:22:25.8±2.7, 18°65S×175°89E, h0km, mb3.8/3, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=334.1km s-min=25.0km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.25**	**66**	Pn	Pn	23 23 03.1	-1.3
	2.9nm,0.3s,baz=221,slow=19,SNR=1.4						
MSVF				Sn	Sn	23 23 29.8	-3.1
	17nm,0.3s,baz=132,slow=21,SNR=7.9						
	12nm,0.4s						
WRA	**Warramunga Arr**	**39.16**	**261**	P	P	23 29 54.5	-1.2
	1.0nm,1.1s,baz=96,slow=8.9,SNR=2.7						
	1.0nm,1.1s						
ASAR	**Alice Springs**	**39.37**	**255**	P	P	23 29 57.8	+0.4
	1.8nm,1.0s,baz=86,slow=8.8,SNR=6.1						
	1.8nm,1.0s						
TXAR	**Lajitas Array**	**91.00**	**59**	P	P	23 35 33.2	+0.8
	0.4nm,0.8s,baz=228,slow=3.5,SNR=4.0						
	0.4nm,0.8s						

*NEIC **03** 23:23:40.7±1.2, 18°75S×0°2×176°1E±0°1, h10km±1km, mb4.3/8, Error ellipse: s-maj=32.3km s-min=6.3km az=329.0*
*IDC **03** 23:23:40.6±1.5, 18°82S×176°04E, h0km, mb4.0/9, mbtmp3.9/10, ML4.3/1, Error ellipse: s-maj=77.1km s-min=19.6km az=154.0*
ISC 03 23:23:44.1±0.5, 18°9S±0°1×176°14E±0°10, h30km, n37, σ1s53/34, mb4.1/11, 5C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.14**	**58**	Pn	**Pn**	**23 24 16.6**	**-1.3**
	4.1nm,0.3s,baz=225,slow=20,SNR=1.9						
MSVF				Sn	**Sn**	**23 24 42.8**	**-0.7**
	30nm,0.3s,baz=285,slow=23,SNR=11						
	35nm,0.7s						
MSVF	**Nonsavu**	**2.14**	**58**	Pn	**Pn**	**23 24 15.9**	**-2.0**
MSVF				Sn	**Sn**	**23 24 42.5**	**-1.0**
MARNC	**Mare, Loyalty**	**8.05**	**250**	Pn	**Pn**	**23 25 37.4**	**-1.6**
BFZ	**Birch Farm**	**21.73**	**180**	P	**P**	**23 28 33.3**	**+0.4**
THZ	**Tophouse**	**22.97**	**186**	P	**P**	**23 28 47.0**	**+0.7**
STKA	**Stephens Creek**	**33.64**	**241**	P	**P**	**23 30 23.2**	**+0.9**
	1.5nm,0.6s,baz=117,slow=7.7,SNR=2.3						
	1.5nm,0.6s						
STKA	**Stephens Creek**	**33.64**	**241**	P	**P**	**23 30 22.1**	**-0.1**
STKA				IAmb	IAmb	23 30 48.8	
	comp=Z,1.8nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**38.28**	**345**	T	T	00 11 54.4	
	baz=166,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.29**	**345**	T	T	00 11 51.0	
	baz=166,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**38.30**	**345**	T	T	00 11 51.7	
	baz=166,slow=76,SNR=16						
WB0	**Warramunga Arr**	**39.34**	**262**	P	**P**	**23 31 10.1**	**-1.0**
WB0				IAmb	IAmb	23 31 21.7	
	comp=Z,8.6nm,1.3s						
WRA	**Warramunga Arr**	**39.37**	**261**	P	**P**	**23 31 09.9**	**-1.4**
	comp=Z,1.5nm,1.1s,baz=96,slow=8.5,SNR=3.7						
	comp=Z,1.5nm,1.1s						
WRA	**Warramunga Arr**	**39.37**	**261**	P	**P**	**23 31 09.2**	**-2.1**
AS31	**Alice Springs**	**39.54**	**255**	P	**P**	**23 31 11.6**	**-1.2**
ASAR	**Alice Springs**	**39.55**	**255**	P	**P**	**23 31 12.2**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=79,slow=9.0,SNR=10						
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**39.55**	**255**	P	**P**	**23 31 11.2**	**-1.6**
VNDA	**Vanda**	**59.10**	**184**	P	**P**	**23 33 41.6**	**+0.4**
VNDA				IAmb	IAmb	23 33 44.2	
	comp=Z,7.3nm,1.5s						
QSPA	**South Pole Qui**	**71.17**	**180**	P	**P**	**23 34 59.0**	**-1.0**
QSPA				IAmb	IAmb	23 35 04.9	
	comp=Z,8.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**84.38**	**292**	P	**P**	**23 36 16.2**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=130,slow=3.9,SNR=8.3						
	comp=Z,0.9nm,0.3s						
ILAR	**Eielson Array**	**88.08**	**15**	P	**P**	**23 36 31.6**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=235,slow=6.1,SNR=8.3						
	comp=Z,0.9nm,0.8s						
TXAR	**Lajitas Array**	**90.91**	**59**	P	**P**	**23 36 48.6**	**+3.1**
	comp=Z,0.9nm,0.9s,baz=247,slow=4.7,SNR=6.8						
	comp=Z,0.9nm,0.9s						
SONM	**Songino Array**	**90.97**	**321**	P	**P**	**23 36 47.5**	**+2.1**
	comp=Z,0.7nm,0.9s,baz=145,slow=3.5,SNR=4.1						
	comp=Z,0.7nm,0.9s						
PDAR	**Pinedale Array**	**91.66**	**45**	P	**P**	**23 36 50.3**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=224,slow=2.5,SNR=2.1						
	comp=Z,0.2nm,0.8s						
YKA	**Yellowknife Ar**	**97.42**	**26**	P	Pdif	23 37 15.2	+0.7
	comp=Z,0.3nm,0.8s,baz=254,slow=4.6,SNR=3.4						
	comp=Z,0.3nm,0.8s						
PLOR	**Plostina**	**143.15**	**324**	⇑P	**PKPdf**	**23 43 14.9**	**-0.5**
RASA	**Rasa**	**143.82**	**321**	⇑P	PKPbc	23 43 13.4	-0.7
VOIR		**144.30**	**324**	⇓P	**PKPdf**	**23 43 17.9**	**+0.5**
ARR	**Arges**	**144.57**	**325**	⇑P	**PKiKP**	**23 43 19.5**	**-2.1**
MORC	**Moravsky Berou**	**144.73**	**336**	*e*PKP	**PKPdf**	**23 43 18.0**	**0.0**
CLL	**Collm**	**145.01**	**341**	*e*PKPdf	**PKiKP**	**23 43 20.0**	**-2.2**
	comp=Z,10.0nm,0.9s						
JAVC	**Velka Javorina**	**145.41**	**335**	*e*PKP	**PKiKP**	**23 43 22.7**	**-0.5**
VRAC	**Vranov**	**145.47**	**336**	*e*PKP	**PKiKP**	**23 43 21.4**	**-1.8**
SURR	**Surduc**	**145.65**	**327**	⇑P	**PKiKP**	**23 43 21.7**	**-1.9**
KRUC	**Moravsky**	**145.75**	**336**	*e*PKP	**PKiKP**	**23 43 22.2**	**-1.6**
HERR	**Herculane**	**146.08**	**326**	⇑P	**PKiKP**	**23 43 23.3**	**-1.3**
GERES	**GERESS Array B**	**146.91**	**339**	PKPbc	**PKPbc**	**23 43 21.9**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=90,slow=7.2,SNR=2.6						
VTS	**Vitosha**	**147.06**	**322**	⇓P	**PKiKP**	**23 43 28.8**	**+1.9**

*IDC **03** 23:27:02.9±1.5, 24°17N×92°19E, h0km, mb3.5/3, mbtmp3.5/4, Error ellipse: s-maj=32.7km s-min=15.0km az=109.0*
*NDI **03** 23:27:04.6±2.5, 24°13N×92°00E, h8km±10km, ML3.7*
ISC 03 23:27:04.5±0.8, 24°15N±0°04×92°09E±0°06, h10km, n12, σ1s16/17, mb3.9/3, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SILR	**SILCHAR**	**0.91**	**46**	*e*P	**Pg**	**23 27 21.2**	**-0.8**
SILR				*e*S	**Sn**	**23 27 38.1**	**+1.6**
SHL	**Shillong**	**1.43**	**353**	*e*P	**Pg**	**23 27 32.3**	**+0.4**
SHL				*e*S	**Sg**	**23 27 50.6**	**+0.1**
SHL				IAML		23 27 52.8	
	comp=N,4μm,0.3s						
SHL				IAML		23 27 53.0	
	comp=E,2μm,0.2s						
BRDH	**Bariadhala**	**1.52**	**196**	Pg	**Pb**	**23 27 32.4**	**-0.4**
	comp=E,184nm,0.3s,baz=106,slow=6.9,SNR=20						
BRDH				Lg	Lg	23 27 51.7	
	comp=E,324nm,0.3s,baz=0.7,slow=23,SNR=13						
SAIH	**SAIHA**	**1.85**	**153**	*e*P	**Pb**	**23 27 38.0**	**-0.5**
SAIH				*e*S	**Sn**	**23 28 00.9**	**+1.0**
SAIH				IAML		23 28 04.4	
	comp=E,1μm,0.7s						
SAIH				IAML		23 28 04.5	
	comp=N,758nm,0.5s						
TEZP	**TEZPUR**	**2.54**	**15**	*e*P	**Pn**	**23 27 47.2**	**+1.3**
TEZP				*e*S	**Sn**	**23 28 17.4**	**+0.6**
TEZP				IAML		23 28 27.9	
	comp=E,488nm,0.3s						
TEZP				IAML		23 28 28.0	
	comp=N,273nm,0.2s						
ZIRO	**ZIRO**	**3.72**	**25**	*e*P	**Pn**	**23 28 04.3**	**+2.0**
GTK	**Tadong**	**4.46**	**316**	*e*P	**Pb**	**23 28 21.0**	**-2.0**
GTK				*e*S	**Sn**	**23 29 05.8**	**+1.5**
LKP	**Lekhapani**	**4.64**	**46**	*e*S	**Sn**	**23 29 08.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**8.54**	**130**	Pn	**Pn**	**23 29 07.5**	**-0.7**
	comp=N,0.8nm,0.5s,baz=311,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**23.93**	**343**	P	**P**	**23 32 18.4**	**-0.2**
	comp=N,0.3nm,0.7s,baz=144,slow=11,SNR=4.7						
	comp=N,0.3nm,0.7s						
WRA	**Warramunga Arr**	**60.12**	**133**	P	**P**	**23 37 11.9**	**-0.5**
	comp=N,1.2nm,0.9s,baz=322,slow=7.4,SNR=9.6						
	comp=N,1.2nm,0.9s						
ASAR	**Alice Springs**	**62.49**	**136**	P	**P**	**23 37 28.1**	**-0.4**
	comp=N,0.5nm,0.6s,baz=317,slow=6.6,SNR=6.9						
	comp=N,0.5nm,0.6s						

*IDC **03** 23:27:16.9±1.3, 18°64S×175°89E, h0km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=59.7km s-min=21.5km az=152.0*
ISC 03 23:27:19.9±1.1, 18°8S±0°3×176°2E±0°2, h26km, n19, σ1s87/14, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.06**	**61**	Pn	**Pn**	**23 27 50.0**	**-2.8**
	11nm,0.3s,baz=253,slow=19,SNR=6.4						
MSVF				Sn	**Sn**	**23 28 17.0**	**-0.6**
	30nm,0.3s,baz=253,slow=19,SNR=8.4						
STKA	**Stephens Creek**	**33.72**	**240**	P	**P**	**23 33 58.1**	**-1.1**
	3.8nm,0.9s,baz=109,slow=12,SNR=4.8						
	3.8nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**38.16**	**345**	T	T	00 15 23.2	
	baz=166,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**38.16**	**345**	T	T	00 15 23.9	
	baz=166,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**38.17**	**345**	T	T	00 15 24.6	
	baz=166,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**39.29**	**346**	T	T	00 16 47.4	
	baz=164,slow=74						
H11N3	**WAKE ISLAND Hy**	**39.29**	**346**	T	T	00 16 49.1	
	baz=164,slow=74						
H11N2	**WAKE ISLAND Hy**	**39.31**	**346**	T	T	00 16 54.4	
	baz=164						
WRA	**Warramunga Arr**	**39.41**	**261**	P	**P**	**23 34 45.6**	**-2.3**
	1.1nm,0.9s,baz=97,slow=8.5,SNR=4.8						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**39.60**	**255**	P	**P**	**23 34 49.0**	**-0.5**
	1.9nm,0.8s,baz=84,slow=9.2,SNR=7.8						
	1.9nm,0.8s						
MJAR	**Matsushiro Arr**	**65.65**	**327**	P	**P**	**23 38 00.5**	**-1.4**
	2.0nm,0.9s,baz=160,slow=7.4,SNR=2.7						
	2.0nm,0.9s						
NVAR	**Mina Array Bea**	**83.66**	**46**	P	**P**	**23 39 49.2**	**+2.6**
	0.4nm,0.6s,baz=214,slow=6.3,SNR=2.0						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**84.36**	**292**	P	**P**	**23 39 51.9**	**+1.6**
	0.6nm,0.3s,baz=104,slow=3.8,SNR=4.6						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**87.94**	**15**	P	**P**	**23 40 09.2**	**+2.2**
	0.6nm,1.0s,baz=246,slow=5.6,SNR=2.8						
	0.6nm,1.0s						
TXAR	**Lajitas Array**	**90.83**	**59**	P	**P**	**23 40 23.2**	**+1.8**
	0.8nm,1.0s,baz=226,slow=6.2,SNR=6.2						
	0.8nm,1.0s						
SONM	**Songino Array**	**90.88**	**321**	P	**P**	**23 40 21.3**	**0.0**
	0.5nm,0.8s,baz=107,slow=7.7,SNR=3.0						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**91.55**	**45**	P	**P**	**23 40 26.5**	**+1.8**
	0.2nm,0.7s,baz=223,slow=6.2,SNR=2.9						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**97.29**	**26**	P	**P**	**23 40 49.5**	**-0.7**
	0.1nm,0.7s,baz=237,slow=5.1,SNR=2.9						
	0.1nm,0.7s						
GERES	**GERESS Array B**	**146.80**	**339**	PKPbc	**PKPbc**	**23 46 59.1**	**-0.7**
	1.2nm,0.6s,baz=61,slow=6.9,SNR=3.6						

*IDC **03** 23:28:58.2±2.3, 19°68S×176°13E, h0km, mb3.7/6, mbtmp3.6/7, ML4.3/1, Error ellipse: s-maj=134.4km s-min=23.0km az=152.0*
ISC 03 23:29:05.4±2.0, 19°2S±0°7×176°1E±0°4, h35km, n7, σ0s94/7, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.32**	**52**	Pn	**Pn**	**23 29 41.0**	**-0.1**
	2.1nm,0.3s,baz=218,slow=23,SNR=1.2						
MSVF				Sn	**Sn**	**23 30 07.6**	**-0.9**
	11nm,0.3s,baz=109,slow=23,SNR=2.4						
	19nm,0.5s						
WRA	**Warramunga Arr**	**39.31**	**262**	P	**P**	**23 36 30.4**	**-1.0**
	0.2nm,0.5s,baz=95,slow=8.6,SNR=1.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**39.46**	**256**	P	P	23 36 28.1	-4.4
	1.4nm,0.7s,baz=86,slow=9.0,SNR=11						
	1.4nm,0.7s						
NVAR	**Mina Array Bea**	**83.97**	**46**	P	**P**	**23 41 32.9**	**+0.5**
	0.7nm,0.8s,baz=239,slow=8.3,SNR=2.6						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**88.36**	**15**	P	**P**	**23 41 54.2**	**+1.2**
	0.3nm,0.9s,baz=207,slow=5.8,SNR=1.8						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**91.07**	**59**	P	**P**	**23 42 06.5**	**-0.2**
	0.3nm,0.9s,baz=216,slow=4.5,SNR=3.3						
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**97.68**	**26**	P	**P**	**23 42 36.1**	**0.0**
	0.1nm,0.5s,baz=248,slow=5.0,SNR=1.8						
	0.1nm,0.5s						

*TEH **03** 23:29:56.7, 33°52N×45°89E, h10km±143km, ML2.6*
*ISN **03** 23:29:56.7±0.7, 33°50N×45°89E, h13km±3km, ML2.7*
ISC 03 23:29:56.6±1.1, 33°53N±0°04×45°91E±0°04, h8km±11km, n10, σ0s81/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.27**	**68**	Pg	**Pg**	**23 30 01.6**	**-0.4**
ILBA				Sg	**Sg**	**23 30 05.4**	**-0.2**
IBDR	**Badra**	**0.41**	**177**	*e*Pg	**Pg**	**23 30 05.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**23 30 10.0**	**-0.1**
IGHG	**Ghaleghazi**	**0.97**	**34**	Pg	**Pn**	**23 30 16.5**	**-0.3**
IGHG				Sg	**Sn**	**23 30 30.5**	**-0.4**
IDHR	**Dehrash**	**1.24**	**19**	Pg	**Pn**	**23 30 20.4**	**0.0**
BHD	**Baghdad**	**1.30**	**259**	*e*Pg	**Pg**	**23 30 21.5**	**-0.1**
BHD				*e*Sg	**Sg**	**23 30 39.0**	**+0.5**
BHD				AML	AML	23 30 42.1	
	comp=E,172nm,0.4s						
KER	**Kermanshah**	**1.33**	**50**	Pg	**Pg**	**23 30 23.1**	**+1.0**
IKOM	**Komasi**	**1.48**	**64**	Pg	**Pg**	**23 30 25.8**	**+0.7**
IKFM	**Kafar-mosalman**	**1.62**	**90**	Pg	**Pg**	**23 30 28.6**	**+0.9**
RAFI	**Al-Rafai**	**1.81**	**174**	*e*Pn	**Pb**	**23 30 29.0**	**-0.9**
RAFI				AML	AML	23 30 49.2	
	comp=E,68nm,0.4s						

RAFI eSn Sb 23 30 53.0 +0.4
IKRK Kirkuk 2.27 326 ePn **Pn** 23 30 36.0 +1.5
IKRK eSn Sb 23 31 05.0 -1.2

NEIC ***03*** *23:30:56.3±1.9, 19°.2S±0°.2×176°.0E±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=32.1km s-min=4.2km az=323.0*
IDC ***03*** *23:30:56.4±0.8, 19°.00S×175°.79E, h0km, mb4.1/11, mbtmp4.1/12, ML4.2/1, Error ellipse: s-maj=32.6km s-min=19.8km az=143.0*
ISC 03 23:30:59.9±0.5, 19°.18S±0°.10×176°.05E±0°.09, h30km, n36, σ1s 49/38, mb4.2/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.38**	**53**	Pn	**Pn**	**23 31 35.3**	**-1.7**
	3.7nm,0.3s,baz=238,slow=19,SNR=1.7						
MSVF				Sn	**Sn**	**23 32 05.6**	**+0.4**
	16nm,0.3s,baz=120,slow=18,SNR=4.3						
MSVF	**Nonsavu**	**2.38**	**53**	Pn	**Pn**	23 31 35.3	-1.7
MSVF				Sn	**Sn**	23 32 04.6	-0.6
DZM	**Mont Dzumac**	**9.45**	**251**	Pn	**Pn**	**23 33 15.4**	**+1.3**
	0.1nm,0.3s,baz=72,slow=16,SNR=3.8						
URZ	**Urewera**	**19.04**	**177**	P	**Pn**	**23 35 20.9**	**+0.5**
	0.7nm,0.3s,baz=58,slow=13,SNR=5.7						
	12nm,0.8s						
MRZ	**Mangatainoka R**	**21.42**	**181**	P	**P**	**23 35 43.8**	**-1.6**
MRZ				IAmb	IAmb	23 36 14.5	
	comp=Z,51nm,1.2s						
LTZ	**Lake Taylor**	**23.75**	**187**	P	**P**	**23 36 08.4**	**-1.2**
LTZ				IAmb	IAmb	23 36 12.9	
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**33.42**	**241**	P	**P**	**23 37 36.1**	**0.0**
	comp=Z,1.8nm,0.6s,baz=50,slow=9.9,SNR=3.9						
	comp=Z,1.8nm,0.6s						
STKA	**Stephens Creek**	**33.42**	**241**	P	**P**	**23 37 36.0**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**38.54**	**346**	T	T	00 19 18.0	
	baz=166,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**38.55**	**346**	T	T	00 19 19.4	
	baz=166,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.56**	**346**	T	T	00 19 18.7	
	baz=166,slow=76,SNR=13						
WB0	**Warramunga Arr**	**39.21**	**262**	P	**P**	**23 38 22.6**	**-3.2**
WB0				IAmb	IAmb	23 38 39.2	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**39.24**	**262**	P	**P**	**23 38 24.1**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=102,slow=8.4,SNR=2.5						
WRA				PcP	**PcP**	**23 40 33.6**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=91,slow=4.1,SNR=2.8						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**39.24**	**262**	P	**P**	**23 38 23.8**	**-2.3**
AS31	**Alice Springs**	**39.39**	**256**	P	**P**	**23 38 26.3**	**-1.0**
AS31				IAmb	IAmb	23 38 27.2	
	comp=Z,2.1nm,0.8s						
ASAR	**Alice Springs**	**39.39**	**256**	P	**P**	**23 38 26.4**	**-0.9**
	comp=Z,5.4nm,0.8s,baz=86,slow=8.7,SNR=30						
ASAR				PcP	**PcP**	**23 40 35.1**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=99,slow=3.6,SNR=4.8						
	comp=Z,5.4nm,0.8s						
ASAR	**Alice Springs**	**39.39**	**256**	P	**P**	**23 38 25.1**	**-2.2**
FORT	**Forrest**	**44.71**	**245**	P	**P**	**23 39 09.8**	**-0.8**
MBWA	**Marble Bar**	**52.67**	**258**	P	**P**	**23 40 11.3**	**-0.6**
VNDA	**Vanda**	**58.80**	**184**	P	**P**	**23 40 55.5**	**+0.5**
VNDA				IAmb	IAmb	23 41 00.3	
	comp=Z,4.8nm,1.2s						
MJAR	**Matsushiro Arr**	**65.95**	**327**	P	**P**	**23 41 41.5**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=162,slow=6.6,SNR=5.3						
	comp=Z,2.3nm,0.9s						
QSPA	**South Pole Qui**	**70.88**	**180**	P	**P**	**23 42 13.7**	**-0.3**
QSPA				IAmb	IAmb	23 42 14.2	
	comp=Z,6.2nm,1.0s						
BELA	**Belgrano 2**	**81.53**	**174**	P	**P**	**23 43 12.8**	**-1.3**
BELA				IAmb	IAmb	23 43 13.5	
	comp=Z,2.2nm,0.8s						
NVAR	**Mina Array Bea**	**84.03**	**46**	P	**P**	**23 43 30.1**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=233,slow=9.8,SNR=8.0						
	comp=Z,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**84.41**	**292**	P	**P**	**23 43 30.9**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=130,slow=4.9,SNR=4.8						
	comp=Z,1.1nm,0.3s						
ILAR	**Eielson Array**	**88.38**	**15**	P	**P**	**23 43 48.4**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=236,slow=5.0,SNR=9.7						
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**91.14**	**59**	P	**P**	**23 44 04.5**	**+2.1**
	comp=Z,1.1nm,0.9s,baz=226,slow=4.7,SNR=9.4						
	comp=Z,1.1nm,0.9s						
SONM	**Songino Array**	**91.14**	**321**	P	**P**	**23 44 03.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=110,slow=1.7,SNR=2.4						
	comp=Z,0.2nm,0.3s						
PDAR	**Pinedale Array**	**91.93**	**45**	P	**P**	**23 44 08.0**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=219,slow=4.0,SNR=2.9						
	comp=Z,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**97.72**	**26**	P	**P**	**23 44 31.1**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=246,slow=4.6,SNR=4.7						
	comp=Z,0.5nm,0.9s						
MORC	**Moravsky Berou**	**144.96**	**336**	*e*PKP	**PKPdf**	**23 50 35.1**	**+0.9**
CLL	**Collm**	**145.26**	**341**	*i* PKPbc	**PKPdf**	**23 50 35.9**	**+1.4**
	comp=Z,14nm,0.9s						
VRAC	**Vranov**	**145.71**	**336**	*e*PKP	**PKiKP**	**23 50 38.8**	**-0.7**
KRUC	**Moravsky**	**145.98**	**336**	*e*PKP	**PKiKP**	**23 50 39.1**	**-0.9**
GERES	**GERESS Array B**	**147.16**	**338**	PKPbc	**PKPab**	**23 50 41.3**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=35,slow=3.6,SNR=1.5						
TORD	**Torodi Ar. Bea**	**171.92**	**223**	PKP	**PKPdf**	**23 51 06.5**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=129,slow=0.7,SNR=4.4						
TORD				PKPab	**PKPab**	**23 52 32.3**	**+3.2**
	comp=Z,0.7nm,1.0s,baz=170,slow=4.0,SNR=2.3						

MOS ***03*** *23:34:09.7±1.2, 19°.14S×176°.20E, h10km, mb5.3/26, Error ellipse: s-maj=11.4km s-min=10.7km az=4.3*
BJI ***03*** *23:34:10.0±0.0, 19°.00S×176°.20E, h5km, mb5.1/46, mB5.9/19, Ms5.7/18, Ms7 5.5/17*
IDC ***03*** *23:34:11.0±0.6, 19°.10S×176°.08E, h0km, mb4.7/22, mbtmp4.7/23, ML3.7/1, MS5.0/10, Error ellipse: s-maj=19.4km s-min=14.8km az=128.0*
NOU ***03*** *23:34:12.1, 19°.06S×176°.32E, h0km, mb5.1/42, South of Fiji Islands*
NEIC ***03*** *23:34:13.1±2.6, 19°.0S±0°.1×176°.29E±0°.08, h19km±3km, mb5.5/153, Error ellipse: s-maj=17.3km s-min=8.3km az=149.0*
ISC 03 23:34:12.0±0.3, 19°.08S±0°.06×176°.29E±0°.06, h10km, n645, σ1s 34/564, mb5.5/139, MS5.1/19, 40C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.14**	**52**	Pn	**Pn**	**23 34 47.3**	**-0.5**
	68nm,0.3s,baz=229,slow=17,SNR=16						
MSVF				Sn	**Sn**	**23 35 12.4**	**-2.1**
	161nm,0.3s,baz=233,slow=20,SNR=11						
MSVF				LR	LR	23 35 52.7	
	comp=Z,24μm,19.7s,baz=192,slow=44						
MSVF	**Nonsavu**	**2.14**	**52**	Pn	**Pn**	**23 34 46.1**	**-1.7**
MSVF				Sn	**Sn**	**23 35 11.0**	**-3.5**
MSVF	**Nonsavu**	**2.14**	**52**	P	**Pn**	**23 34 47.4**	**-0.5**
MSVF	**Nonsavu**	**2.14**	**52**	*i* P	**Pn**	**23 34 46.1**	**-1.7**
DGTI	**Dogotuki**	**4.29**	**50**	P	**Pn**	**23 35 18.2**	**+0.8**
TAVE	**Taveuni**	**4.32**	**58**	P	**Pn**	**23 35 17.7**	**-0.1**
DVP	**Devils Point**	**7.81**	**279**	P	**Pn**	**23 36 08.3**	**+2.6**
MARNC	**Mare, Loyalty**	**8.11**	**251**	Pn	**Pn**	**23 36 08.9**	**-1.0**
LIFNC	**LIFOU**	**8.68**	**257**	Pn	**Pn**	**23 36 14.3**	**-3.4**
YATNC	**Mamie plateau,**	**9.29**	**250**	P	**Pn**	**23 36 26.5**	**+0.4**
OUENC	**Ouen Island, N**	**9.45**	**248**	Pn	**Pn**	**23 36 27.4**	**-0.7**
OUENC	**Ouen Island, N**	**9.45**	**248**	P	**Pn**	**23 36 29.3**	**+1.1**
DZM	**Mont Dzumac**	**9.69**	**250**	Pn	**Pn**	**23 36 31.0**	**-0.6**
	0.7nm,0.3s,baz=75,slow=13,SNR=60						
	404nm,1.4s						
DZM	**Mont Dzumac**	**9.69**	**250**	*e*Pn	**Pn**	**23 36 28.9**	**-2.8**
	1μm,1.6s						
DZM				*e*LR	LR	23 38 41.3	
	comp=Z,17μm,25.6s						
DZM	**Mont Dzumac**	**9.69**	**250**	P	**Pn**	**23 36 32.2**	**+0.5**
ONTNC	**Ouen Toro**	**9.75**	**249**	Pn	**Pn**	**23 36 32.0**	**-0.4**
ONTNC	**Ouen Toro**	**9.75**	**249**	P	**Pn**	**23 36 33.9**	**+1.5**
KOUNC	**Koumac, New Ca**	**11.39**	**261**	Pn	**Pn**	**23 36 53.9**	**-1.0**
KOUNC	**Koumac, New Ca**	**11.39**	**261**	P	**Pn**	**23 36 56.1**	**+1.2**
OUZ	**Omahuta**	**16.25**	**188**		**Pn**	**23 38 02.6**	**+2.2**
OUZ	**Omahuta**	**16.25**	**188**	P	**Pn**	**23 38 02.5**	**+2.1**
HNR	**Honiara**	**18.50**	**299**	P	**P**	**23 38 28.2**	**-0.3**
	598nm,0.3s,baz=116,slow=14,SNR=8.6						
HNR				LR	LR	23 44 25.6	
	comp=Z,44μm,20.8s,baz=158,slow=34						
HNR	**Honiara**	**18.50**	**299**		**P**	**23 38 27.3**	**-1.2**
HNR				P	**P**	**23 38 27.3**	**-1.2**
	comp=Z,392nm,1.6s						
	comp=Z,392nm,1.6s			pmax	pmax		
URZ	**Urewera**	**19.13**	**178**	P	**Pn**	**23 38 38.4**	**+2.4**
	comp=Z,50nm,0.7s,baz=86,slow=4.5,SNR=18						
RTZ	**Ruatahuna**	**19.48**	**178**	P	**P**	**23 38 40.7**	**+1.5**
BKZ	**Black Stump Fm**	**20.02**	**180**	P	**P**	**23 38 44.8**	**-0.2**
BKZ	**Black Stump Fm**	**20.02**	**180**	P	**P**	**23 38 47.7**	**+2.7**
MRZ	**Mangatainoka R**	**21.52**	**181**	P	**P**	**23 39 00.9**	**-0.3**
BFZ	**Birch Farm**	**21.53**	**180**	P	**P**	**23 39 01.3**	**0.0**
QRZ	**Quartz Range**	**21.91**	**188**	P	**P**	**23 39 07.4**	**+2.0**
TCW	**Tory Channel**	**22.13**	**184**	P	**P**	**23 39 08.2**	**+0.5**
NNZ	**Nelson**	**22.21**	**186**	P	**P**	**23 39 09.8**	**+1.3**
NNZ				IAmb	IAmb	23 39 28.6	
	comp=Z,476nm,1.9s						
BHW	**Baring Head**	**22.29**	**183**	P	**P**	**23 39 10.2**	**+0.7**
BHW				IAmb	IAmb	23 39 11.8	
	comp=Z,300nm,1.7s						
TUWZ	**Tuamarina**	**22.37**	**185**	P	**P**	**23 39 11.6**	**+1.4**
PLWZ	**Palliser**	**22.44**	**182**	P	**P**	**23 39 11.2**	**+0.1**
RAR	**Rarotonga**	**22.57**	**99**	LR	LR	23 46 19.8	
	comp=Z,1μm,19.0s,baz=296,slow=32						
BSWZ	**Blackbirch Sta**	**22.66**	**185**	P	**P**	**23 39 13.3**	**-0.1**
THZ	**Tophouse**	**22.80**	**187**	P	**P**	**23 39 16.0**	**+1.1**
LTZ	**Lake Taylor**	**23.87**	**187**	P	**P**	**23 39 24.7**	**-1.0**
INZ	**Inchbonnie**	**23.93**	**189**	P	**P**	**23 39 27.0**	**+0.9**
EIDS	**Eidsvold**	**24.14**	**250**	P	**P**	**23 39 29.5**	**+1.2**
	baz=24,SNR=3.5						
EIDS	**Eidsvold**	**24.14**	**250**	P	**P**	**23 39 26.6**	**-1.7**
EIDS	**Eidsvold**	**24.14**	**250**	P	**P**	**23 39 30.4**	**+2.1**
OXZ	**Oxford**	**24.44**	**188**	P	**P**	**23 39 30.8**	**-0.1**
OXZ				IAmb	IAmb	23 39 38.4	
	comp=Z,144nm,1.4s						
RPZ	**Rata Peaks**	**24.95**	**189**	P	**P**	**23 39 37.4**	**+1.9**
	comp=Z,30nm,1.0s,baz=53,slow=12,SNR=4.0						
	comp=Z,30nm,1.0s						
JCZ	**Jackson Bay**	**25.70**	**193**	P	**P**	**23 39 45.5**	**+3.1**
RMQ	**Roma**	**26.40**	**249**	P	**P**	**23 39 50.6**	**+1.8**
	baz=26,SNR=14						
RMQ	**Roma**	**26.40**	**249**	P	**P**	**23 39 51.0**	**+2.2**
MLZ	**Mavora Lakes**	**27.08**	**193**	P	**P**	**23 39 55.8**	**+1.0**
MLZ				IAmb	IAmb	23 39 57.6	
	comp=Z,203nm,1.7s						
AULRC	**Lightning Ridg**	**27.73**	**243**	P	**P**	**23 40 02.9**	**+2.2**
	comp=Z,69nm,0.5s						
KRVT	**Kerevat (AS076**	**27.87**	**299**	LR	LR	23 50 19.1	
	comp=Z,2μm,20.8s,baz=328,slow=35						
CTA	**Charters Tower**	**28.30**	**263**	LR	LR	23 49 57.5	
	comp=Z,3μm,19.0s,baz=89,slow=34						
PMG	**Port Moresby**	**29.78**	**285**	P	**P**	**23 40 19.6**	**+0.5**
	comp=Z,8.5nm,0.3s,baz=104,slow=8.2,SNR=9.4						
PMG				LR	LR	23 50 25.6	
	comp=Z,4μm,19.6s,baz=152,slow=33						
	comp=Z,8.5nm,0.3s						
PMG	**Port Moresby**	**29.78**	**285**	P	**P**	**23 40 17.5**	**-1.7**
PMG	**Port Moresby**	**29.78**	**285**	*ce*P	**P**	**23 40 19.5**	**+0.3**
PMG				pmax	pmax		
	comp=Z,44nm,1.7s						
CMSA	**Cobar Meteorol**	**30.21**	**240**	P	**P**	**23 40 22.6**	**-0.2**
QLP	**Quilpie**	**30.41**	**250**	P	**P**	**23 40 24.9**	**+0.2**
	baz=30,SNR=4.3						
QLP	**Quilpie**	**30.41**	**250**	P	**P**	**23 40 25.4**	**+0.7**
COEN	**Coen**	**32.12**	**274**	P	**P**	**23 40 39.8**	**-0.1**
	baz=32,SNR=5.1						
TBI	**Tubuai**	**32.16**	**104**	*e*LR	LR	23 49 06.8	
	comp=Z,40μm,32.8s						
TBI				*e*LR	LR	23 49 06.8	
	comp=Z,82μm,27.5s						
PPT2	**Papeete2**	**32.41**	**93**	*e*LR	LR	23 49 13.3	
	comp=Z,5μm,27.8s						
PPT2				*e*LR	LR	23 49 13.4	
	comp=Z,8μm,27.5s						
PPT	**Papeete**	**32.41**	**93**	LR	LR	23 50 43.5	
	comp=Z,2μm,20.1s,baz=252,slow=30						
TOO	**Toolangi**	**32.57**	**229**	P	**P**	**23 40 43.0**	**-0.5**
TOO	**Toolangi**	**32.57**	**229**	P	**P**	**23 40 45.4**	**+1.8**
TOO	**Toolangi**	**32.57**	**229**	P	**P**	**23 40 43.1**	**-0.5**
TOO				pmax	pmax		
	comp=Z,19nm,1.1s						
INKA	**Innaminka**	**33.64**	**248**	P	**P**	**23 40 54.9**	**+1.9**
STKA	**Stephens Creek**	**33.66**	**241**	P	**P**	**23 40 52.4**	**-0.8**
	comp=Z,5.7nm,0.7s,baz=86,slow=10,SNR=8.6						
	comp=Z,5.7nm,0.7s						
STKA	**Stephens Creek**	**33.66**	**241**	P	**P**	**23 40 53.1**	**-0.1**
	baz=34,SNR=6.5						
STKA	**Stephens Creek**	**33.66**	**241**	P	**P**	**23 40 51.6**	**-1.5**
STKA	**Stephens Creek**	**33.66**	**241**	P	**P**	**23 40 55.1**	**+1.9**
STKA	**Stephens Creek**	**33.66**	**241**	*i* P	**P**	**23 40 51.9**	**-1.3**
LCRK	**Leigh Creek**	**36.22**	**244**	P	**P**	**23 41 16.4**	**+1.1**
HTT	**Hallett**	**36.22**	**239**	P	**P**	**23 41 14.9**	**-0.5**
	baz=36,SNR=3.4						
HTT	**Hallett**	**36.22**	**239**	P	**P**	**23 41 15.0**	**-0.3**
OOD	**Oodnadatta**	**38.11**	**249**	P	**P**	**23 41 32.0**	**+0.7**
BBOO	**Buckleboo**	**38.44**	**241**	P	**P**	**23 41 30.8**	**-3.3**
BBOO	**Buckleboo**	**38.44**	**241**	P	**P**	**23 41 37.0**	**+2.9**
H11S2	**WAKE ISLAND Hy**	**38.50**	**345**	T	T	00 22 22.6	
	baz=166,slow=76,SNR=68						
H11S3	**WAKE ISLAND Hy**	**38.51**	**345**	T	T	00 22 21.4	
	baz=166,slow=76,SNR=74						
H11S1	**WAKE ISLAND Hy**	**38.52**	**345**	T	T	00 22 22.2	
	baz=166,slow=76,SNR=67						
WB0	**Warramunga Arr**	**39.45**	**262**	P	**P**	**23 41 39.8**	**-2.9**
WB2	**Warramunga Arr**	**39.47**	**262**	P	**P**	**23 41 40.1**	**-2.8**
WRAB	**Tennant Creek**	**39.47**	**262**	P	**P**	**23 41 46.0**	**+3.1**
WRAB	**Tennant Creek**	**39.47**	**262**	*i* P	**P**	**23 41 41.0**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,51nm,2.2s						
WRA	**Warramunga Arr**	**39.48**	**262**	P	**P**	**23 41 40.1**	**-2.9**
	comp=Z,2.4nm,0.7s,baz=97,slow=8.8,SNR=13						
	comp=Z,2.4nm,0.7s						
WRA	**Warramunga Arr**	**39.48**	**262**	P	**P**	**23 41 40.3**	**-2.6**
WRA	**Warramunga Arr**	**39.48**	**262**	P	**P**	**23 41 40.3**	**-2.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.9s						
AS01	**Alice Springs**	**39.59**	**256**	P	**P**	**23 41 44.4**	**+0.5**
	comp=Z,16nm,0.9s						
AS31	**Alice Springs**	**39.63**	**256**	P	**P**	**23 41 41.2**	**-3.0**
ASAR	**Alice Springs**	**39.63**	**256**	P	**P**	**23 41 41.8**	**-2.4**
	comp=Z,7.7nm,0.8s,baz=84,slow=8.7,SNR=22						
ASAR				PcP	**PcP**	**23 43 50.1**	**-1.2**
	comp=Z,4.0nm,1.1s,baz=85,slow=5.8,SNR=4.1						
ASAR				LR	LR	23 57 52.4	
	comp=Z,2μm,18.1s,baz=111,slow=36						
	comp=Z,7.7nm,0.8s						
ASAR	**Alice Springs**	**39.63**	**256**	P	**P**	**23 41 41.9**	**-2.3**
MULG	**Mulgathing**	**39.76**	**245**	P	**P**	**23 41 46.0**	**+0.9**
TAOE	**Nuku Hiva Isla**	**43.37**	**83**	*e*LR	LR	23 54 17.0	
	comp=Z,2μm,24.2s						
MTN	**Manton Dam**	**43.76**	**271**	P	**P**	**23 42 16.6**	**-1.5**
	baz=44,SNR=5.7						
WRKA	**Warakurna**	**44.70**	**253**	P	**P**	**23 42 24.6**	**-0.9**
	baz=45,SNR=12						
WRKA	**Warakurna**	**44.70**	**253**	P	**P**	**23 42 25.1**	**-0.5**
FORT	**Forrest**	**44.96**	**245**	P	**P**	**23 42 26.7**	**-0.8**
FORT				IAmb	IAmb	23 42 35.5	
	comp=Z,48nm,0.8s						
FORT	**Forrest**	**44.96**	**245**	P	**P**	**23 42 29.8**	**+2.3**
RKT	**Rikitea**	**45.48**	**104**	*e*LR	LR	23 55 16.8	
	comp=Z,936μm,31.2s						
FAKI	**Fak Fak**	**45.94**	**285**	P	**P**	**23 42 36.6**	**+1.1**
BNDI	**Bandanaira**	**47.48**	**282**	P	**P**	**23 42 48.3**	**+0.7**
	comp=Z,349nm,1.3s						
SIJI	**Sorong**	**47.68**	**287**	LR	LR	00 03 03.5	
	comp=Z,1μm,18.2s,baz=95,slow=36						
SWI	**Sorong**	**47.69**	**287**	P	**P**	**23 42 50.4**	**+1.3**
	comp=Z,38nm,1.5s						
AAI	**Ambon**	**49.38**	**282**	P	**P**	**23 43 03.5**	**+1.3**
	comp=Z,75nm,0.7s,comp=Z,4μm						
SOEI	**Soe**	**51.07**	**273**	P	**P**	**23 43 16.3**	**+1.1**
	comp=Z,61nm,1.2s						
SANI	**Sanana**	**52.03**	**283**	P	**P**	**23 43 25.7**	**+3.5**
SANI	**Sanana**	**52.03**	**283**	P	**P**	**23 43 20.5**	**-1.7**
	comp=Z,29nm,1.2s,comp=Z,2μm						
MBWA	**Marble Bar**	**52.91**	**258**	P	**P**	**23 43 27.1**	**-1.6**
MBWA				IAmb	IAmb	23 43 31.7	
	comp=Z,103nm,1.6s						
MBWA	**Marble Bar**	**52.91**	**258**	P	**P**	**23 43 29.6**	**+0.9**
KLBR	**Kellerberrin**	**53.80**	**244**	P	**P**	**23 43 34.1**	**-1.0**
	baz=54,SNR=4.3						
KLBR	**Kellerberrin**	**53.80**	**244**	P	**P**	**23 43 38.5**	**+3.4**
NWAO	**Narrogin (SRO)**	**54.21**	**243**	P	**P**	**23 43 37.6**	**-0.5**
	baz=54,SNR=4.0						
NWAO				P	**P**	**23 43 37.6**	**-0.5**
	baz=54,SNR=4.0						
NWAO	**Narrogin (SRO)**	**54.21**	**243**	P	**P**	**23 43 36.0**	**-2.1**
NWAO				P	**P**	**23 43 36.0**	**-2.1**
	comp=Z,23nm,0.9s						
	comp=Z,23nm,0.9s			pmax	pmax		
BASI	**Baing, Sumba**	**54.43**	**271**	P	**P**	**23 43 41.0**	**+1.1**
	comp=Z,277nm,1.4s						
MORW	**Morawa**	**55.40**	**247**	P	**P**	**23 43 44.7**	**-2.0**
MORW				IAmb	IAmb	23 43 49.8	
	comp=Z,96nm,1.9s						
BNSI	**Bone**	**56.66**	**277**	P	**P**	**23 43 56.9**	**+0.9**
	comp=Z,17nm,1.4s						
PLAI	**Plampang**	**57.47**	**272**	P	**P**	**23 43 59.9**	**-1.8**
	comp=Z,49nm,1.7s						
TOLI2	**Tolitoli**	**58.05**	**284**	P	**P**	**23 44 03.1**	**-2.6**
TWSI	**Taliwang, Sumb**	**58.34**	**271**	P	**P**	**23 44 07.0**	**-0.8**
	comp=Z,54nm,1.5s						
MPSI	**Mapaga**	**58.56**	**283**	P	**P**	**23 44 07.7**	**-1.7**
	comp=Z,12nm,1.3s						
VNDA	**Vanda**	**58.91**	**184**	P	**P**	**23 44 10.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=22,slow=9.3,SNR=6.5						
	comp=Z,1.0nm,0.8s						
SRBI	**Singaraja**	**60.11**	**272**	P	**P**	**23 44 20.3**	**+0.2**
	comp=Z,39nm,1.6s						
BBKI	**Banjar Baru**	**61.92**	**276**	P	**P**	**23 44 33.2**	**+0.8**
	comp=Z,48nm,1.4s						
MJAR	**Matsushiro Arr**	**65.99**	**327**	P	**P**	**23 44 58.1**	**-0.6**
	comp=Z,16nm,1.1s,baz=157,slow=4.1,SNR=15						
	comp=Z,16nm,1.1s						
MAJO	**Matsushiro**	**65.99**	**327**	P	**P**	**23 45 00.1**	**+1.4**
SBUM	**Sibu**	**66.46**	**281**	P	**P**	**23 45 01.1**	**-1.1**
SBUM				IAmb	IAmb	23 45 12.6	
	comp=Z,51nm,1.8s						
KSM	**Kuching**	**67.88**	**280**	P	**P**	**23 45 09.8**	**-1.4**
NACB	**Ninganchiao**	**68.48**	**307**	P	**P**	**23 45 14.1**	**-0.6**
NACB	**Ninganchiao**	**68.48**	**307**	P	**P**	**23 45 16.3**	**+1.6**
YHNB	**Yeheng**	**68.92**	**307**	P	**P**	**23 45 18.3**	**+0.7**
QSPA	**South Pole Qui**	**70.98**	**180**	P	**P**	**23 45 28.3**	**-1.4**
YSS	**Yuzh-Sakhalins**	**72.34**	**337**	*i* P	**P**	**23 45 39.3**	**+1.5**
YSS				pmax	pmax		
	comp=Z,13nm,1.2s						
KSRS	**Korea Array**	**72.35**	**321**	P	**P**	**23 45 37.9**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=152,slow=5.0,SNR=8.0						
	comp=Z,3.0nm,0.9s						
KSAR	**Wonju Array Be**	**72.36**	**321**	P	**P**	**23 45 38.3**	**+0.1**
KSAR	**Wonju Array Be**	**72.36**	**321**	P	**P**	**23 45 38.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**73.67**	**348**	P	**P**	**23 45 44.2**	**-1.4**
PEA0B	**Petropavlovsk-**	**73.67**	**348**	P	**P**	**23 45 44.2**	**-1.4**
PEA0B				pmax	pmax		
	comp=Z,159nm,1.8s						
PETK	**Petropavlovsk-**	**73.67**	**348**	P	**P**	**23 45 47.1**	**+1.6**
	comp=Z,52nm,1.4s,baz=152,slow=6.5,SNR=7.7						
	comp=Z,52nm,1.4s						
UNV	**Unalaska Valle**	**74.12**	**10**	P	**P**	**23 45 48.6**	**+0.5**
	baz=197						
USA0B	**Ussuriysk Arra**	**74.86**	**329**	P	**P**	**23 45 51.4**	**-1.4**
USA0B	**Ussuriysk Arra**	**74.86**	**329**	P	**P**	**23 45 51.4**	**-1.4**
USA0B				pmax	pmax		
	comp=Z,35nm,1.7s						
USRK	**Ussuriysk Ar.**	**74.86**	**329**	P	**P**	**23 45 53.4**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=152,slow=6.5,SNR=5.9						
	comp=Z,2.8nm,0.8s						
NJ2	**Nanjing**	**74.89**	**312**	*e*P	**P**	**23 45 54.2**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,20nm,1.3s						
TYV	**Tymovskoe**	**75.66**	**339**	*e*P	**P**	**23 45 57.8**	**+0.6**
TYV				*e*S	**S**	**23 55 40.5**	**+2.2**
TYV				pmax	pmax		
	comp=Z,800nm,3.8s						
TYV				pmax	pmax		
	comp=Z,14nm,1.2s						
TYV				smax	smax		
	comp=N,100nm,6.0s						
TYV				smax	smax		
	comp=E,500nm,6.0s						
BKNI	**Bangkinang**	**76.18**	**275**	P	**P**	**23 46 00.1**	**-0.9**
DL2	**Dalian**	**77.08**	**319**	P	**P**	**23 46 06.8**	**+1.3**
DL2			

comp=Z,22nm,1.6s
Q19K **Cape Douglas,** 81.56 15 P P 23 46 30.3 +0.7
baz=209
P18K **Big Mountain,** 81.59 14 IAmb IAmb 23 46 31.8
comp=Z,69nm,1.5s
P18K **Big Mountain,** 81.59 14 P P 23 46 30.7 +0.9
baz=207
BELA **Belgrano 2** 81.60 174 P P 23 46 27.6 -2.1
ARVC **Arvin** 81.78 49 P P 23 46 32.2 +0.9
baz=240
N16K **Nishlik Lake** 81.81 12 P P 23 46 31.4 +0.5
baz=204
VES **Vestal, Richgr** 81.96 48 P P 23 46 33.1 +0.9
baz=240
O18K **Koktuh Hills** 82.01 14 P P 23 46 32.8 +0.9
baz=207
BFSC **Mount Baldy Ra** 82.18 50 P P 23 46 35.1 +1.5
baz=241
MURC **Murrieta** 82.21 51 P P 23 46 34.5 +0.9
baz=241
EDW2 **Edwards Air Fo** 82.25 49 P P 23 46 35.4 +1.6
baz=240,SNR=11
ISA **Isabella, Lake** 82.30 48 IAmb IAmb 23 46 38.2
comp=Z,83nm,1.7s
ISA **Isabella, Lake** 82.30 48 P P 23 46 35.9 +1.8
baz=240
P19K **Oil Pt** 82.30 15 P P 23 46 34.6 +1.1
baz=209
MONP2 **Monument Peak** 82.44 52 P P 23 46 38.0 +2.9
baz=242,SNR=7.9
O19K **Port Alsworth** 82.52 14 P P 23 46 35.4 +0.9
baz=208
IKP **In-Ko-Pah, Jac** 82.55 52 P P 23 46 38.6 +3.1
baz=242,SNR=6.0
ILSW **Iliamna Southw** 82.61 15 IAmb IAmb 23 46 37.9
comp=Z,118nm,1.4s
YUH **Yuha Desert** 82.69 52 IAmb IAmb 23 46 40.2
comp=Z,84nm,2.0s
CNPM **China Poot** 82.70 16 P 23 46 34.3 -1.2
PFO **Pinyon Flats O** 82.75 51 P P 23 46 39.1 +2.5
baz=242
PFO **Pinyon Flats O** 82.75 51 P P 23 46 38.6 +2.0
PFO pmax pmax
comp=Z,10.0nm,2.5s
TPFO **Pinon Flats** 82.75 51 P P 23 46 38.5 +1.9
baz=242
O20K **Slope Mountain** 82.83 15 P P 23 46 37.1 +0.9
baz=209
SWSC **Sam W. Stewart** 82.92 52 P P 23 46 39.9 +2.6
baz=242,SNR=5.3
CWC **Cottonwood Cre** 82.96 48 P P 23 46 39.5 +1.8
baz=240
BRLK **Bradley Lake** 82.99 16 P P 23 46 34.5 -2.5
BRSE **Bradley Lake S** 83.01 16 P P 23 46 38.5 +1.4
baz=211
N19K **Bonanza Creek** 83.03 14 P P 23 46 37.6 +0.3
baz=208
SVW2 **Sparrevohn** 83.04 13 IAmb IAmb 23 46 39.8
comp=Z,58nm,1.6s
XAN **Xi'an** 83.04 309 P P 23 46 38.4 +0.4
XAN pP PcP 23 46 43.2 +0.6
XAN pmax pmax
comp=Z,31nm,1.7s
BEKR **Beckworth** 83.16 44 IAmb IAmb 23 46 42.5
comp=Z,85nm,1.7s
MPMC **Manual Prospec** 83.19 48 P P 23 46 41.6 +2.7
baz=241,SNR=15
BELC **Belle Mtn. Jos** 83.27 51 P P 23 46 42.2 +2.9
baz=242,SNR=11
GSC **Goldstone, Bar** 83.31 49 IAmb IAmb 23 46 43.3
comp=Z,80nm,1.9s
GSC **Goldstone, Bar** 83.31 49 P P 23 46 42.1 +2.7
baz=241,SNR=6.7
VCNR **Virginia City** 83.33 45 IAmb IAmb 23 46 43.6
comp=Z,42nm,1.5s
HEC **Hector,Ludlow** 83.42 50 P P 23 46 42.3 +2.3
baz=241,SNR=12
PHRA **Phrae** 83.47 292 P P 23 46 39.8 -0.7
DSP **Deep Springs** 83.50 47 P P 23 46 41.3 +1.2
BC3 **Big Chuckawall** 83.51 51 P P 23 46 43.1 +2.6
baz=242,SNR=7.9
QSM **Queen of Sheba** 83.58 49 IAmb IAmb 23 46 44.4
comp=Z,50nm,1.7s
LCH **Last Change Ra** 83.66 47 IAmb IAmb 23 46 45.1
comp=Z,74nm,1.8s
SEW **Seward** 83.66 16 P P 23 46 44.2 +3.8
baz=212
GLA **Glamis** 83.70 52 P P 23 46 43.3 +2.0
baz=242
GRAC **Grapevine Rang** 83.73 48 P P 23 46 44.0 +2.5
baz=241
NVAR **Mina Array Bea** 83.80 46 P P 23 46 44.5 +2.5
comp=Z,9.9nm,1.0s,baz=231,slow=6.7,SNR=30
comp=Z,9.9nm,1.0s
NVAR **Mina Array Bea** 83.80 46 P P 23 46 40.0 -2.0
FURC **Furnace Creek,** 83.83 48 P P 23 46 43.9 +2.1
baz=241
GWY **Greenwater Val** 83.83 49 IAmb IAmb 23 46 45.8
comp=Z,42nm,1.7s
ZEA **Zeya** 83.86 333 eP P 23 46 42.2 +0.6
ZEA pmax pmax
comp=Z,10.0nm,1.9s
SEY **Seymchan** 83.88 349 P P 23 46 41.9 +0.4
comp=Z,9.1nm,1.0s,baz=153,slow=9.0,SNR=15
comp=Z,9.1nm,1.0s
SEY **Seymchan** 83.88 349 ceP P 23 46 40.6 -0.9
SEY pmax pmax
comp=Z,53nm,1.5s
GMRC **Granite Mounta** 83.89 50 P P 23 46 44.2 +1.8
baz=242,SNR=9.9
N20K **Mount Spurr** 83.90 15 P P 23 46 41.6 -0.2
baz=210,SNR=11
SPCR **Spurr Chakacha** 83.90 15 P P 23 46 41.4 -0.4
baz=210
O22K **Cooper Landing** 83.91 16 P P 23 46 42.4 +0.7
baz=212
IRM **Iron Mountain** 83.97 51 P P 23 46 44.7 +2.0
baz=242,SNR=19
TUQ **Turquoise Moun** 84.00 49 P P 23 46 44.9 +1.9
baz=242
CRAI **Chiangrai** 84.01 294 P P 23 46 42.2 -0.9
M19K **Big River Lodg** 84.02 13 P P 23 46 42.7 +0.5
baz=208
PIX **Pinacate** 84.05 54 IAmb IAmb 23 46 47.1
comp=Z,49nm,1.9s
WCT **Wildcat Mounta** 84.15 48 IAmb IAmb 23 46 47.7
comp=Z,80nm,1.8s
L19K **White Mountain** 84.17 13 P P 23 46 42.9 -0.1
baz=207
MOD **Modoc Plateau** 84.27 42 IAmb IAmb 23 46 48.0
comp=Z,88nm,1.7s
M20K **Styx River** 84.28 14 P P 23 46 44.1 +0.4
baz=209
K05A **Summer Lake** 84.33 41 P P 23 46 45.8 +1.2
FIS **Fire Island** 84.35 16 IAmb IAmb 23 46 47.5
comp=Z,38nm,0.8s
RC01 **Rabbit Creek A** 84.42 16 IAmb IAmb 23 46 47.3
comp=Z,70nm,1.4s
RC01 **Rabbit Creek A** 84.42 16 P P 23 46 44.7 +0.3
baz=212,SNR=14
SUA **Susitna One** 84.49 15 IAmb IAmb 23 46 46.8
comp=Z,54nm,1.4s
SUA **Susitna One** 84.49 15 P P 23 46 44.9 +0.1
baz=211,SNR=7.4
HIA **Hailar** 84.49 327 i P P 23 46 44.9 -0.1
HIA pmax pmax
comp=Z,17nm,1.6s
TPNV **Topopah Spring** 84.49 48 P P 23 46 47.6 +2.1
baz=241,SNR=16
ANM **Nome** 84.57 8 IAmb IAmb 23 46 48.2
comp=Z,44nm,1.4s
ANM **Nome** 84.57 8 P P 23 46 46.7 +1.7
baz=197
HHC **Hu-ho-hao-te** 84.57 316 eP P 23 46 47.0 +1.3
HHC pmax pmax
comp=Z,27nm,1.0s
HHC pmax pmax
comp=Z,790nm,5.8s
HHC LR LR
comp=Z,2μm,17.8s
HHC LR LR
comp=Z,2μm,16.3s
HHC LR LR
comp=Z,5μm,19.6s
CMAR **Chiang Mai Arr** 84.58 292 P P 23 46 46.6 +0.5
comp=Z,2.8nm,0.8s,baz=130,slow=3.6,SNR=23
comp=Z,2.8nm,0.8s
CMAR **Chiang Mai Arr** 84.58 292 ceP P 23 46 46.7 +0.5
CMAR pmax pmax
comp=Z,4.0nm,0.9s
TTA **Tatalina** 84.59 12 IAmb IAmb 23 46 48.1
comp=Z,43nm,1.6s
TTA **Tatalina** 84.59 12 P P 23 46 45.9 +0.6
baz=206
PWL **Port Wells** 84.60 17 P P 23 46 43.3 -2.0
PWL **Port Wells** 84.60 17 P P 23 46 45.8 +0.5
baz=213,SNR=7.0
L20K **Farewell, AK** 84.64 13 P P 23 46 45.9 +0.4
baz=208
CHTO **Chiang Mai** 84.72 292 P P 23 46 46.1 -0.7
CHTO **Chiang Mai** 84.72 292 P P 23 46 46.1 -0.7
CHTO pmax pmax
comp=Z,25nm,1.4s
214A **Organ Pipe Nat** 84.72 54 P P 23 46 48.5 +1.9
baz=244
SKT **Skwentna** 84.74 15 P P 23 46 44.9 -1.0
baz=210
M22K **Willow** 84.89 15 P P 23 46 46.9 +0.3
baz=212,SNR=7.6
PMR **Palmer** 85.01 16 P P 23 46 46.1 -1.0
PMR **Palmer** 85.01 16 P P 23 46 47.9 +0.7
baz=213,SNR=7.2
PMR **Palmer** 85.01 16 P P 23 46 46.2 -1.0
PMR pmax pmax
comp=Z,89nm,1.6s
KNK **Knik Glacier** 85.03 16 IAmb IAmb 23 46 49.7
comp=Z,58nm,1.5s
KNK **Knik Glacier** 85.03 16 P P 23 46 48.4 +1.0
baz=213,SNR=5.2
EYAK **Cordova Ski Ar** 85.06 18 P P 23 46 47.8 +0.2
baz=216
GHO **Glory Hole Cre** 85.21 16 IAmb IAmb 23 46 51.3
comp=Z,47nm,1.2s
TNA **Tin City** 85.23 7 P P 23 46 49.8 +1.6
baz=195
PZH **PanZhiHua** 85.32 300 P P 23 46 49.9 +0.1
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,4.8s
K20K **Telida** 85.38 13 P P 23 46 49.3 +0.2
baz=208
PPLA **Purkeypile** 85.39 14 P P 23 46 49.1 -0.2
baz=210
SML **Sawmill** 85.39 16 P P 23 46 49.3 0.0
baz=213,SNR=6.8
CUT **Chulitna** 85.41 15 IAmb IAmb 23 46 51.7
comp=Z,56nm,1.2s
CUT **Chulitna** 85.41 15 P P 23 46 49.4 +0.2
baz=212,SNR=5.4
BTO **Baotou** 85.46 316 eP P 23 46 51.1 +0.9
BTO LR LR
comp=Z,7μm,23.1s
CD2 **Chengdu** 85.53 305 P P 23 46 51.4 +0.7
CD2 pmax pmax
comp=Z,10.0nm,0.6s
DIV **Divide** 85.53 17 IAmb IAmb 23 46 52.1
comp=Z,56nm,1.4s
M23K **Glacier View** 85.54 16 P P 23 46 50.7 +0.7
baz=214
R11A **Troy Canyon, C** 85.62 47 P P 23 46 51.3 +0.2
baz=242,SNR=9.2
SCM **Sheep Creek Mo** 85.68 16 P P 23 46 50.0 -0.7
SCM IAmb IAmb 23 46 52.9
comp=Z,74nm,1.5s
SCM **Sheep Creek Mo** 85.68 16 P P 23 46 50.9 +0.2
baz=214
SCM **Sheep Creek Mo** 85.68 16 P P 23 46 50.0 -0.7
SCM pmax pmax
comp=Z,73nm,1.5s
BMRM **Bremner River** 85.73 18 P P 23 46 51.8 +0.8
baz=217
KLU **Klutina** 85.78 17 IAmb IAmb 23 46 53.4
comp=Z,61nm,1.9s
KLU **Klutina** 85.78 17 P P 23 46 51.3 +0.1
baz=216
CAST **Castle Rocks** 85.86 14 P P 23 46 51.7 +0.2
baz=210
I07A **Izee** 85.91 41 IAmb IAmb 23 46 56.2
comp=Z,94nm,1.8s
J20K **Nowinta River** 86.09 13 P P 23 46 53.1 +0.5
baz=208
U33K **Whale Pass** 86.15 26 P P 23 46 53.7 +0.7
baz=227
WAT6 **Susitna Watana** 86.19 16 P P 23 46 53.6 +0.2
baz=214,SNR=12
WAT1 **Susitna Watana** 86.20 15 P P 23 46 53.5 +0.3
baz=213
M24K **Tolsona, Glenn** 86.22 17 P P 23 46 53.4 +0.1
baz=215
CHUM **Lake Minchumin** 86.22 13 P P 23 46 52.6 -0.7
baz=210
S31K **Pelican** 86.22 23 P P 23 46 53.6 +0.3
baz=224
V35K **Ketchikan** 86.25 27 P P 23 46 54.1 +0.5
baz=228
N25K **Chitina, Valde** 86.25 18 IAmb IAmb 23 46 55.9
comp=Z,67nm,1.6s
N25K **Chitina, Valde** 86.25 18 P P 23 46 53.3 -0.3
baz=217,SNR=6.9
VRDI **Verde Repeater** 86.28 18 IAmb IAmb 23 46 56.0
comp=Z,72nm,1.7s
TRF **Thorofare Moun** 86.30 14 IAmb IAmb 23 46 55.2
comp=Z,67nm,2.0s
TRF **Thorofare Moun** 86.30 14 P P 23 46 53.4 -0.5
baz=211
GLB **Gilahina Butte** 86.35 18 IAmb IAmb 23 46 56.1
comp=Z,56nm,1.6s
PNL **Peninsula** 86.36 21 P P 23 46 54.6 +0.5
baz=221
PINM **Pinnacle** 86.40 20 P P 23 46 53.8 -0.5
baz=224
MCARA **McCarthy VSAT** 86.53 18 IAmb IAmb 23 46 57.3
comp=Z,65nm,1.6s
MCARA **McCarthy VSAT** 86.53 18 P P 23 46 55.1 +0.3
baz=218,SNR=7.3
BARN **Barnard Glacie** 86.69 19 P P 23 46 54.0 -1.9
BARN IAmb IAmb 23 46 59.1
comp=Z,44nm,1.2s
DHY **Denali Highway** 86.70 16 IAmb IAmb 23 46 57.8
comp=Z,60nm,1.8s
DHY **Denali Highway** 86.70 16 P P 23 46 55.5 -0.4
baz=214,SNR=6.0
SPR3 **Spring Creek 3** 86.79 47 IAmb IAmb 23 47 00.6
comp=Z,56nm,1.8s
MCK **McKinley** 86.86 15 IAmb IAmb 23 46 59.2
comp=Z,49nm,1.6s
MCK **McKinley** 86.86 15 P P 23 46 55.8 -0.6
baz=213
LTY **Liberty** 86.89 37 IAmb IAmb 23 47 00.3
comp=Z,68nm,1.8s
P29M **Windy Craggy** 86.90 21 P P 23 46 57.2 +0.5
baz=223
O28M **Mount Upton** 86.93 20 P P 23 46 57.8 +0.6
baz=221
ELK **Elko** 86.99 45 IAmb IAmb 23 47 01.7
comp=Z,61nm,1.8s
R32K **Eaglecrest** 87.09 24 P P 23 46 58.7 +1.1
baz=226
O29M **Mount Kennedy** 87.11 21 P P 23 46 58.9 +1.1
baz=222
PAX **Paxson** 87.11 16 P P 23 46 57.8 0.0
baz=216
BILL **Bilibino** 87.18 356 P P 23 46 56.2 -1.6
BILL IAmb IAmb 23 46 59.7
comp=Z,57nm,1.8s
BILL **Bilibino** 87.18 356 ljeP P 23 46 54.6 -3.2
BILL i 23 46 57.5
BILL e 23 58 42.0
BILL pmax pmax
comp=Z,31nm,1.7s
BILL MLR MLR
comp=Z,548nm,18.0s
PLBC **Pleasant Camp** 87.25 22 P P 23 46 58.8 +0.4
baz=224
M26K **Nabesna, AK** 87.34 18 P P 23 46 58.9 +0.1
baz=218
WUAZ **Wupatki** 87.35 51 P P 23 46 59.6 0.0
baz=244
ELIB **Princess Elisa** 87.36 188 dP P 23 46 58.0 -1.1
comp=Z,8.0nm,1.3s
TNCH **TengChong** 87.42 297 P P 23 47 00.0 -0.3
TNCH pP pwP 23 47 07.0 +0.4
TNCH sS sS 23 57 44.6 -1.1
TNCH pmax pmax
comp=Z,890nm,9.0s
TNCH LR LR
comp=Z,520nm,22.5s
TNCH LR LR
comp=Z,700nm,21.4s
TNCH LR LR
comp=Z,2μm,25.7s
I21K **Tanana** 87.42 13 P P 23 46 59.9 +0.8
baz=210
YUK8 **Steele Glacier** 87.46 20 P P 23 47 00.5 +0.8
baz=221,SNR=6.4
P30M **Million Dollar** 87.52 21 P P 23 47 00.7 +0.9
baz=224,SNR=7.6
MLY **Manley** 87.56 13 P P 23 47 00.0 +0.2
baz=211
NEA2 **Nenana** 87.56 14 P P 23 46 59.6 -0.2
baz=212
MENT **Mentasta** 87.56 17 IAmb IAmb 23 47 02.2
comp=Z,49nm,1.8s
YUK3 **Moose Creek** 87.61 19 P P 23 47 01.1 +0.7
baz=220,SNR=14
SKAG **Skagway** 87.62 22 IAmb IAmb 23 47 03.7
comp=Z,65nm,1.7s
SKAG **Skagway** 87.62 22 P P 23 47 02.3 +2.1
baz=225
M27K **Edge Creek, AK** 87.64 18 P P 23 47 01.2 +0.8
baz=219
YUK6 **Outpost Mounta** 87.65 20 P P 23 47 01.3 +0.6
baz=222
H21K **Melozitna Rive** 87.67 12 P P 23 47 01.9 +1.6
baz=209
LZH **Lanzhou** 87.68 309 eP P 23 47 01.7 +0.5
LZH pP sP 23 47 05.8 +1.4
LZH sP pwP 23 47 10.4 +2.8
LZH pmax pmax
comp=Z,54nm,1.6s
WRH **Wood River Hil** 87.69 15 IAmb IAmb 23 47 03.1
comp=Z,35nm,1.6s
K24K **Donnelly Dome** 87.71 16 P P 23 47 01.0 +0.4
baz=216
L26K **Log Cabin Wild** 87.74 17 P P 23 47 02.0 +1.3
baz=218,SNR=5.9
IMAR **Indian Mountai** 87.77 12 P P 23 46 59.9 -0.9
HYT **Haines Junctio** 87.85 21 P P 23 47 02.3 +0.9
baz=223
YUK4 **Talbot Arm** 87.86 20 P P 23 47 02.5 +1.0
baz=222
MFID **Camas Ranch** 87.88 42 P P 23 47 02.1 +0.2
RIDG **Independent Ri** 87.90 16 IAmb IAmb 23 47 04.6
comp=Z,70nm,1.9s
RIDG **Independent Ri** 87.90 16 P P 23 47 02.1 +0.6
baz=216,SNR=5.3
CCB **Clear Creek Bu** 87.90 15 IAmb IAmb 23 47 04.0
comp=Z,58nm,1.9s
HDA **Harding Lake** 87.91 15 IAmb IAmb 23 47 04.5
comp=Z,38nm,1.5s
HDA **Harding Lake** 87.91 15 P P 23 47 01.5 0.0
baz=214
T35M **Bob Quinn** 87.91 26 P P 23 47 02.2 +0.5
baz=230
BVCY **Beaver Creek** 87.98 18 P P 23 47 02.2 +0.3
baz=220
MDM **Murphy Dome** 88.06 14 IAmb IAmb 23 47 04.6
comp=Z,37nm,1.5s
TCOL **CIGO_UAF Yank** 88.08 14 P P 23 47 01.5 -0.7
baz=214
COLA **College** 88.08 14 P P 23 47 04.2 +2.0
COLA **College** 88.08 14 iP P 23 47 01.1 -1.1
COLA pmax pmax
comp=Z,54nm,3.2s
H22K **Ishtalitna Cre** 88.17 13 P P 23 47 03.3 +0.6
baz=210
L27K **Beaver Creek,** 88.20 18 P P 23 47 03.2 +0.3
baz=219
BCAR **Beaver Creek A** 88.21 18 P P 23 47 01.1 -1.9
IL31 88.23 15 P P 23 47 01.1 -1.8
ILAR **Eielson Array** 88.23 15 P P 23 47 02.6 -0.4
comp=Z,4.4nm,1.0s,baz=231,slow=4.8,SNR=19
comp=Z,4.4nm,1.0s
G21K **Allakaket** 88.29 12 P P 23 47 03.0 -0.2
baz=208
O30N **Mendenhall** 88.29 21 P P 23 47 04.8 +1.4
baz=224,SNR=7.2
P32M **Atlin** 88.31 23 P P 23 47 03.9 +0.4
baz=226,SNR=6.8
SCRK **Sand Creek** 88.32 16 IAmb IAmb 23 47 07.1
comp=Z,54nm,1.9s
SCRK **Sand Creek** 88.32 16 P P 23 47 03.9 +0.3
baz=217,SNR=7.6
DUG **Dugway, Tooele** 88.38 46 IAmb IAmb 23 47 08.2
comp=Z,53nm,1.8s
DUG **Dugway, Tooele** 88.38 46 P P 23 47 05.7 +1.2
baz=243,SNR=7.8
DUG **Dugway, Tooele** 88.38 46 P P 23 47 07.0 +2.5
DUG pmax pmax
comp=Z,14nm,2.6s
Q32M **Nakina River** 88.42 24 P P 23 47 06.0 +1.8
baz=228
H23K **Yukon River** 88.50 13 P P 23 47 04.5 +0.2
baz=212
C09A **Chrisman Ranch** 88.56 38 IAmb IAmb 23 47 08.2
comp=Z,67nm,1.6s
BGU **Big Grassy Mou** 88.56 46 IAmb IAmb 23 47 09.1
comp=Z,62nm,1.9s
PLID **Pearl Lake** 88.58 41 P P 23 47 04.5 -0.8
WHY **Whitehorse** 88.63 22 IAmb IAmb 23 47 07.9
comp=Z,41nm,1.7s
WHY **Whitehorse** 88.63 22 P P 23 47 05.6 +0.5
baz=225
M29M **Somme Creek** 88.74 19 P P 23 47 05.6 0.0
baz=222
NLU **North Lily Min** 88.78 47 IAmb IAmb 23 47 10.4
comp=Z,48nm,1.7s
121A **Cookes Peak, D** 88.83 55 P P 23 47 05.5 -1.3
baz=246
121A **Cookes Peak, D** 88.83 55 P P 23 47 05.7 -1.1
baz=246
J26L **Joseph Creek** 88.85 16 P P 23 47 05.8 -0.2
baz=218
HLID **Hailey** 88.86 43 IAmb IAmb 23 47 10.8
comp=Z,48nm,1.7s
HLID **Hailey** 88.86 43 P P 23 47 08.4 +1.7
baz=242,SNR=10
YAK **Yakutsk** 88.87 340 P P 23 47 06.7 +0.7
comp=Z,5.2nm,0.5s,baz=140,slow=1.7,SNR=8.3
comp=Z,5.2nm,0.5s
YAK **Yakutsk** 88.87 340 P P 23 47 05.3 -0.7
YAK IAmb IAmb 23 47 07.5
comp=Z,28nm,0.9s
YAK **Yakutsk** 88.87 340 eP P 23 47 06.4 +0.4
YAK eS S 23 57 32.4 -21
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK smax smax
comp=E,263nm,6.8s
K27K **Chicken** 88.88 17 P P 23 47 06.7 +0.7
baz=219
F21K **Alatna River** 88.92 11 P P 23 47 06.9 +0.7
baz=208
DLBC **Dease Lake** 88.95 25 P P 23 47 07.6 +1.0
baz=230,SNR=9.9
P33M **Teslin, Yukon** 89.06 23 P P 23 47 07.8 +0.7
baz=227
SPUT **South Promonto** 89.13 46 IAmb IAmb 23 47 11.8
comp=Z,79nm,1.8s
G23K **Bananza Creek** 89.15 13 P P 23 47 07.4 +0.1
baz=212
R33M **Jennings River** 89.21 24 P P 23 47 08.9 +1.1
baz=229
CIT **Chita** 89.30 327 eP P 23 47 08.3 -0.1
CIT e 23 47 16.3
CIT pmax pmax
comp=Z,111nm,2.1s
CTU **Camp Tracy** 89.33 46 P P 23 47 07.6 -1.3
CTU IAmb IAmb 23 47 12.6
comp=Z,63nm,1.8s
L29M **L29M** 89.33 19 P P 23 47 09.4 +1.1
baz=222
M30M **Minto, Yukon** 89.36 20 P P 23 47 08.9 +0.5
baz=224,SNR=11
F22K **John River** 89.41 12 P P 23 47 09.3 +0.8
baz=210
NEW **Newport** 89.46 38 P P 23 47 10.4 +1.2
baz=240

JLU	**Jordanelle**	**89.50**	**46**	IAmb	IAmb	23 47 13.6
	comp=Z,61nm,1.6s					
COLD	**Coldfoot**	**89.56**	**12**	P	**P**	**23 47 10.2 +1.0**
	baz=211					
DAWY	**Dawson**	**89.67**	**18**	P	**P**	**23 47 10.4 +0.6**
	baz=221,SNR=8.8					
G24K	**Hadweenzic Riv**	**89.69**	**14**	P	**P**	**23 47 11.1 +1.3**
	baz=214					
EGAK	**Eagle**	**89.72**	**17**	P	**P**	**23 47 09.3 -0.6**
EGAK				IAmb	IAmb	23 47 12.0
	comp=Z,36nm,1.4s					
EGAK	**Eagle**	**89.72**	**17**	P	**P**	**23 47 10.4 +0.5**
	baz=220					
TCUT	**Toone Canyon**	**89.75**	**46**	IAmb	IAmb	23 47 15.7
	comp=Z,48nm,1.2s					
HWUT	**Hardware Ranch**	**89.85**	**46**	IAmb	IAmb	23 47 14.9
	comp=Z,51nm,1.7s					
M31M	**Drury Creek, Y**	**89.88**	**21**	P	**P**	**23 47 11.1 +0.3**
	baz=226					
E22K	**Anaktuvuk Pass**	**90.03**	**11**	P	**P**	**23 47 11.6 +0.2**
	baz=210					
K29M	**Barlow Dome**	**90.06**	**19**	P	**P**	**23 47 11.0 -0.8**
	baz=223					
MVCO	**Mesa Verde**	**90.17**	**51**	P	**P**	**23 47 12.6 -0.4**
	baz=246					
I27K	**Kandik River**	**90.23**	**16**	P	**P**	**23 47 11.8 -0.7**
	baz=219					
FARO	**Faro, Yukon**	**90.26**	**21**	P	**P**	**23 47 12.4 -0.1**
	baz=227					
F24K	**Squaw Lake**	**90.29**	**13**	P	**P**	**23 47 13.3 +0.6**
	baz=214					
E23K	**Chandalar**	**90.39**	**12**	P	**P**	**23 47 12.8 -0.3**
	baz=212					
MNTX	**Cornudas Mount**	**90.39**	**57**	P	**P**	**23 47 15.4 +1.5**
	baz=248					
MNTX	**Cornudas Mount**	**90.39**	**57**	P	**P**	**23 47 13.0 -0.9**
	baz=248					
E24K	**Your Creek**	**90.63**	**13**	P	**P**	**23 47 15.1 +0.9**
	baz=213					
MSO	**Missoula**	**90.67**	**40**	P	**P**	**23 47 14.7 -0.3**
	baz=242					
H27K	**Steamboat Moun**	**90.74**	**16**	P	**P**	**23 47 15.5 +0.7**
	baz=219					
G26K	**Porcupine Rive**	**90.75**	**15**	P	**P**	**23 47 16.9 +2.2**
	baz=217					
ANMO	**Albuquerque**	**90.79**	**53**	P	**P**	**23 47 17.0 +1.0**
	baz=247					
ANMO	**Albuquerque**	**90.79**	**53**	P	**P**	**23 47 17.9 +1.9**
	baz=247					
ULN	**Ulaanbaatar**	**90.83**	**321**	P	**P**	**23 47 15.1 -0.7**
ULN				IAmb	IAmb	23 47 17.4
	comp=Z,26nm,1.3s					
ULN	**Ulaanbaatar**	**90.83**	**321**	*ce*P	**P**	**23 47 15.4 -0.3**
ULN				pmax	pmax	
	comp=Z,27nm,1.4s					
F25K	**Christian Rive**	**90.84**	**14**	P	**P**	**23 47 16.4 +1.2**
	baz=216					
TX31	**Lajitas Ar. Si**	**90.89**	**59**	P	**P**	**23 47 18.0 +1.6**
	baz=249					
TXAR	**Lajitas Array**	**90.89**	**59**	P	**P**	**23 47 18.5 +2.1**
	comp=Z,6.1nm,1.0s,baz=225,slow=5.0,SNR=30					
	comp=Z,6.1nm,1.0s					
BMAR	**Burnt Mountain**	**90.95**	**14**	P	**P**	**23 47 15.5 -0.2**
I29M	**Ogilvie Camp,**	**90.95**	**17**	P	**P**	**23 47 16.4 +0.7**
	baz=222					
D23K	**Nanushuk River**	**90.96**	**11**	P	**P**	**23 47 17.2 +1.6**
	baz=211					
G27K	**Doyon Strip**	**91.16**	**15**	P	**P**	**23 47 17.1 +0.4**
	baz=219					
SONM	**Songino Array**	**91.21**	**321**	P	**P**	**23 47 17.0 -0.5**
	comp=Z,5.4nm,1.1s,baz=140,slow=4.4,SNR=27					
	comp=Z,5.4nm,1.1s					
SONM	**Songino Array**	**91.21**	**321**	P	**P**	**23 47 16.7 -0.8**
SONM				IAmb	IAmb	23 47 19.0
	comp=Z,31nm,1.5s					
SONM	**Songino Array**	**91.21**	**321**	P	**P**	**23 47 16.7 -0.8**
SONM				pmax	pmax	
	comp=Z,31nm,1.5s					
F26K	**Sheenjek River**	**91.26**	**14**	P	**P**	**23 47 18.0 +0.9**
	baz=217					
E25K	**Arctic Village**	**91.28**	**13**	P	**P**	**23 47 18.5 +1.2**
	baz=216					
D24K	**Happy Valley**	**91.47**	**12**	P	**P**	**23 47 19.1 +1.0**
	baz=213					
O20A	**White River Ci**	**91.53**	**48**	P	**P**	**23 47 20.7 +1.4**
	baz=246					
BOZ	**Bozeman (W)**	**91.55**	**42**	P	**P**	**23 47 20.5 +1.4**
	baz=244,SNR=8.8					
S22A	**4UR Ranch, Cre**	**91.60**	**51**	P	**P**	**23 47 21.9 +2.1**
	baz=247					
BW06	**Boulder Array**	**91.70**	**45**	P	**P**	**23 47 20.9 +0.9**
	baz=246					
PDAR	**Pinedale Array**	**91.70**	**45**	P	**P**	**23 47 21.1 +1.1**
	comp=Z,1.7nm,0.8s,baz=240,slow=3.0,SNR=16					
	comp=Z,1.7nm,0.8s					
GTA	**Gaotai**	**91.95**	**311**	⇑P	**P**	**23 47 22.0 +0.8**
GTA				pP	sP	23 47 25.0 +0.7
GTA				sP	pwP	23 47 28.6 +1.1
GTA				pmax	pmax	
	comp=Z,13nm,1.4s					
C24K	**Franklin Bluff**	**91.97**	**12**	P	**P**	**23 47 21.0 +0.7**
	baz=213					
EPYK	**Eagle Plains**	**92.14**	**17**	P	**P**	**23 47 21.3 +0.1**
	baz=224					
E27K	**Coleen River**	**92.24**	**15**	P	**P**	**23 47 22.7 +1.0**
	baz=219					
KOTAN	**Kotaneelee Air**	**92.41**	**26**	P	**P**	**23 47 23.7 +1.1**
	baz=235					
SDCO	**Great Sand Dun**	**92.57**	**51**	P	**P**	**23 47 25.1 +0.8**
	baz=248					
SDCO	**Great Sand Dun**	**92.57**	**51**	P	**P**	**23 47 25.8 +1.5**
	baz=248					
G30M	**tAoh Zraii Nji**	**92.72**	**17**	P	**P**	**23 47 25.0 +1.1**
	baz=224					
RLMT	**Red Lodge**	**92.86**	**43**	P	**P**	**23 47 26.2 +0.9**
	baz=246					
C26K	**Camden Bay**	**92.88**	**13**	P	**P**	**23 47 25.3 +0.8**
	baz=216					
C27K	**Jago River**	**92.90**	**13**	P	**P**	**23 47 25.0 +0.4**
	baz=218					
T25A	**Trinidad**	**93.15**	**52**	IAmb	IAmb	23 47 30.3
	comp=Z,39nm,1.8s					
T25A	**Trinidad**	**93.15**	**52**	P	**P**	**23 47 28.2 +1.3**
	baz=248					
ISCO	**Idaho Springs**	**93.26**	**49**	P	**P**	**23 47 29.6 +2.2**
	baz=248					
ISCO	**Idaho Springs**	**93.26**	**49**	P	**P**	**23 47 28.8 +1.4**
	baz=248					
ISCO	**Idaho Springs**	**93.26**	**49**	P	**P**	**23 47 29.3 +1.9**
ISCO				pmax	pmax	
	comp=Z,6.0nm,2.0s					
MSTX	**Muleshoe**	**93.26**	**55**	P	**P**	**23 47 28.6 +1.3**
	baz=249					
MSTX	**Muleshoe**	**93.26**	**55**	P	**P**	**23 47 28.3 +1.0**
	baz=249					
Q24A	**Divide**	**93.28**	**50**	IAmb	IAmb	23 47 31.3
	comp=Z,59nm,1.8s					
Q24A	**Divide**	**93.28**	**50**	P	**P**	**23 47 29.1 +1.5**
	baz=248					
N23A	**Red Feather La**	**93.44**	**48**	P	**P**	**23 47 29.2 +1.0**
	baz=248					
K22A	**Casper**	**93.70**	**46**	P	**P**	**23 47 28.8 -0.4**
	baz=248					
F31M	**Tsiigehtchic**	**93.73**	**17**	P	**P**	**23 47 29.1 +0.6**
	baz=226					
ZAK	**Zakamensk**	**94.17**	**322**	*e*P	**P**	**23 47 29.7 -1.4**
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.9s					
INK	**Inuvik**	**94.39**	**17**	P	**P**	**23 47 31.1 -0.3**
INK				IAmb	IAmb	23 47 33.8
	comp=Z,31nm,1.5s					
INK	**Inuvik**	**94.39**	**17**	P	**P**	**23 47 31.9 +0.5**
	baz=227					
INK	**Inuvik**	**94.39**	**17**	P	**P**	**23 47 31.1 -0.3**
INK				pmax	pmax	
	comp=Z,31nm,1.5s					
AMTX	**Amarillo**	**94.42**	**55**	IAmb	IAmb	23 47 36.6
	comp=Z,28nm,1.2s					
AMTX	**Amarillo**	**94.42**	**55**	P	**P**	**23 47 34.6 +2.0**
	baz=250					
AMTX	**Amarillo**	**94.42**	**55**	P	**P**	**23 47 33.1 +0.5**
	baz=250					
GOMU	**GeErMu**	**94.45**	**307**	P	**P**	**23 47 33.8 +0.7**
GOMU				pmax	pmax	
	comp=Z,6.0nm,1.3s					
ABTX	**Abilene, Hawle**	**95.27**	**57**	IAmb	IAmb	23 47 40.6
	comp=Z,36nm,1.6s					
ABTX	**Abilene, Hawle**	**95.27**	**57**	P	**P**	**23 47 38.1 +1.6**
	baz=251					
ABTX	**Abilene, Hawle**	**95.27**	**57**	P	**P**	**23 47 37.6 +1.2**
	baz=251					
LAO	**LASA Array**	**95.43**	**42**	P	**P**	**23 47 38.7 +1.8**
	baz=248					
RSSD	**Black Hills**	**95.93**	**45**	P	**P**	**23 47 38.9 -0.5**
RSSD				IAmb	IAmb	23 47 42.3
	comp=Z,40nm,2.0s					
RSSD	**Black Hills**	**95.93**	**45**	P	**P**	**23 47 40.6 +1.2**
	baz=249					
RSSD	**Black Hills**	**95.93**	**45**	P	**P**	**23 47 39.2 -0.3**
	baz=249					
RSSD	**Black Hills**	**95.93**	**45**	P	**P**	**23 47 38.9 -0.5**
RSSD				pmax	pmax	
	comp=Z,40nm,2.0s					
TIXI	**Tiksi**	**96.06**	**346**	P	**P**	**23 47 37.4 -1.6**
	comp=Z,1.0nm,0.2s,baz=270,slow=20,SNR=3.6					
	comp=Z,1.0nm,0.2s					
TIXI	**Tiksi**	**96.06**	**346**	*ce*P	**P**	**23 47 36.0 -3.0**
TIXI				pmax	pmax	
	comp=Z,5.0nm,1.4s					
YKA	**Yellowknife Ar**	**97.53**	**26**	P	Pdif	23 47 46.7 +0.7
	comp=Z,1.7nm,1.0s,baz=252,slow=5.1,SNR=9.6					
	comp=Z,1.7nm,1.0s					
C36M	**Paulatuk**	**97.71**	**18**	IAmb	IAmb	23 47 48.2
	comp=Z,29nm,1.6s					
C36M	**Paulatuk**	**97.71**	**18**	P	**P**	**23 47 47.0 +0.4**
	baz=235					
A36M	**Sachs Harbour**	**98.91**	**16**	P	**P**	**23 47 51.7 -0.2**
	baz=235					
ECSD	**EROS Data Cent**	**100.90**	**47**	P	**Pdif**	**23 48 01.7 +0.2**
	baz=254					
WMQ	**Urumqi**	**101.97**	**312**	*e*P	**Pdif**	**23 48 06.9 +0.6**
CCM	**Cathedral Cave**	**103.39**	**54**	P	**Pdif**	**23 48 12.2 -0.5**
	baz=256					
ZALV	**Zalesovo Beam**	**106.05**	**322**	Pdiff	**Pdif**	**23 48 22.5 -1.5**
	comp=Z,0.3nm,0.4s,baz=99,slow=8.9,SNR=1.7					
MKAR	**Makanchi Array**	**106.34**	**314**	Pdiff	**Pdif**	**23 48 25.8 +0.2**
	comp=Z,0.3nm,0.8s,baz=101,slow=7.8,SNR=3.3					
LONY	**Lake Ozonia**	**116.66**	**49**	P	**PKPdf**	**23 52 55.3 -1.3**
	baz=269					
PKME	**Peaks-Kenny Pk**	**120.41**	**48**	P	**PKPdf**	**23 53 02.6 -1.1**
	baz=273					
ARU	**Arti**	**120.97**	**325**	*i* PKIKP	**PKPdf**	**23 53 02.6 -1.8**
ABKAR	**Akbulak array**	**121.36**	**317**	PKPdf	**PKPdf**	**23 53 04.1 -1.3**
GEYT	**Alibeck**	**123.50**	**303**	PKP	**PKPdf**	**23 53 09.1 -0.8**
	comp=Z,1.5nm,0.8s,baz=36,slow=2.7,SNR=6.1					
BELG	**Belogornoye**	**128.23**	**322**	*e*PKIKP	**PKPdf**	**23 53 16.7 -1.7**
GURO	**Guroymak-BITLI**	**135.99**	**306**	PKPdf	**PKPdf**	**23 53 32.5 -1.3**
AKASG	**Malin Array Be**	**139.07**	**328**	PKP	**PKPdf**	**23 53 39.0 +0.1**
	comp=Z,1.4nm,0.7s,baz=53,slow=2.3,SNR=9.8					
BRTR	**Keskin Array B**	**141.87**	**311**	PKP	**PKPdf**	**23 53 43.0 -1.5**
	comp=Z,2.5nm,1.1s,baz=62,slow=3.6,SNR=5.5					
BRTR	**Keskin Array B**	**141.87**	**311**	PKPdf	**PKPdf**	**23 53 41.9 -2.6**
BURAR	**Bucovina Array**	**143.06**	**327**	PKPdf	**PKPdf**	**23 53 43.3 -3.0**
PLOR	**Plostina**	**143.39**	**324**	⇑P	PKPbc	23 53 45.7 +1.7
BISRR	**Bisoca**	**143.54**	**323**	⇑P	PKiKP	23 54 01.8 +11
OZUR		**143.72**	**325**	⇑P	PKPbc	23 53 46.3 +1.3
ARCR	**ARCALIA**	**143.85**	**327**	⇑P	PKPbc	23 53 46.6 +1.4
MLR	**Muntele Rosu**	**144.00**	**324**	⇑P	PKPbc	23 53 47.3 +1.4
MLR	**Muntele Rosu**	**144.00**	**324**	PKPdf	PKPab	23 53 45.2 -0.2
DOPR	**Dopca**	**144.02**	**325**	⇑P	PKPbc	23 53 47.0 +1.2
LEHL	**Lehliu**	**144.10**	**322**	⇑P	PKPbc	23 53 47.7 +1.7
SULR		**144.31**	**322**	⇑P	**PKPdf**	**23 53 48.6 +0.2**
CJR	**Cluj-Napoca**	**144.49**	**327**	⇑P	PKPbc	23 53 48.3 +1.0
VOIR		**144.53**	**324**	⇑P	PKPbc	23 53 48.6 +1.0
MTUR	**Matau**	**144.66**	**324**	⇑P	**PKPdf**	**23 53 50.0 +0.9**
LANS	**Liptovska Anna**	**144.68**	**333**	*e*PKP	**PKPdf**	**23 53 49.6 +0.6**
OKC	**Ostrava-Krasne**	**144.68**	**335**	*e*PKP	**PKPab**	**23 53 48.4 +0.8**
MARR	**Marisel-Cluj**	**144.76**	**327**	⇑P	**PKPab**	**23 53 48.9 +0.8**
RAZG	**Razgrad**	**144.80**	**321**	⇑P	**PKPdf**	**23 53 50.1 +0.8**
ARR	**Arges**	**144.81**	**325**	⇑P	PKPbc	23 53 49.5 +1.1
OSTC	**Ostas**	**144.82**	**338**	*e*PKP	PKPbc	23 53 49.0 +0.8
DRGR		**144.89**	**328**	⇑P	**PKPab**	**23 53 49.3 +0.7**
UPC	**Upice**	**144.94**	**338**	*e*PKP	**PKPab**	**23 53 49.0 +0.5**
DPC	**Dobruska-Polom**	**144.96**	**338**	*e*PKP	**PKPab**	**23 53 49.2 +0.6**
MORC	**Moravsky Berou**	**144.97**	**336**	PKPdf	**PKPab**	**23 53 48.0 -0.7**
MORC	**Moravsky Berou**	**144.97**	**336**	*e*PKP	**PKPab**	**23 53 49.3 +0.6**
KRLC	**Kraliky**	**145.01**	**337**	*e*PKP	**PKPab**	**23 53 49.6 +0.7**
HUMR	**Humele**	**145.13**	**323**	⇑P	**PKPbc**	**23 53 49.4 +0.1**
MAUC	**Maruska**	**145.18**	**335**	*e*PKP	**PKPdf**	**23 53 51.3 +1.4**
LOT	**Lotru**	**145.23**	**325**	⇑P	**PKPdf**	**23 53 51.4 +1.2**
CLL	**Collm**	**145.23**	**342**	PKPdf	**PKPbc**	**23 53 48.5 -1.0**
CLL	**Collm**	**145.23**	**342**	⇓*i* PKPbc	**PKPbc**	**23 53 49.4 0.0**
	comp=Z,232nm,1.5s					
CLL				*e*(sPKPbc)		23 53 57.0
CLL				*ex*	x	23 54 06.0
SZH	**Strazhica**	**145.32**	**321**	P	**PKPab**	**23 53 50.9 +0.7**
BRG	**Berggiesshubel**	**145.32**	**340**	⇑*i* PKP	**PKPab**	**23 53 50.6 +0.8**
BRG				Amp		23 53 52.7
	comp=Z,224nm,1.5s					
BRG	**Berggiesshubel**	**145.32**	**340**	P	**PKiKP**	**23 53 57.8 +3.8**
BRG				Amp		23 53 59.2
	comp=Z,30nm,1.0s					
BRG	**Berggiesshubel**	**145.32**	**340**	P	PKiKP	23 54 06.2 +12
BRG				Amp		23 54 07.1
	comp=Z,43nm,1.3s					
JMB	**Yambol**	**145.37**	**319**	P	**PKPbc**	**23 53 50.6 +0.4**
DEV	**Deva**	**145.40**	**327**	⇑P	**PKPab**	**23 53 51.2 +0.8**
PVCC	**Panska Ves**	**145.41**	**339**	*e*PKP	**PKPdf**	**23 53 51.5 +1.3**
PSZ	**Piszkesteto**	**145.42**	**332**	⇑P	**PKPdf**	**23 53 52.0 +1.7**
VYHS	**Vyhne**	**145.45**	**333**	*e*PKP	**PKPbc**	**23 53 51.0 +0.7**
VYHS				*e*		23 57 10.5
JAVC	**Velka Javorina**	**145.65**	**335**	*e*PKP	**PKPab**	**23 53 52.8 +1.5**
ELL	**Elmali**	**145.70**	**308**	PKPdf	**PKPdf**	**23 53 50.0 -1.2**
PVL	**Pavlikeni**	**145.71**	**321**	P	**PKPab**	**23 53 52.4 +0.9**
VRAC	**Vranov**	**145.71**	**336**	*e*PKP	**PKPbc**	**23 53 51.9 +0.8**
SIRR	**Siria**	**145.77**	**328**	⇑P	**PKPbc**	**23 53 52.2 +0.8**
VLAD	**Vladila**	**145.78**	**323**	⇑P	**PKPab**	**23 53 53.4 +1.5**
GZR	**Gura Zlata**	**145.79**	**326**	⇑P	**PKPdf**	**23 53 51.8 +0.8**
PRU	**Pruhonice**	**145.88**	**339**	*e*PKP	**PKPdf**	**23 53 51.7 +0.7**
SURR	**Surduc**	**145.89**	**327**	⇑P	**PKPab**	**23 53 54.0 +1.9**
KRUC	**Moravsky**	**145.99**	**336**	*e*PKP	**PKPbc**	**23 53 52.5 +0.6**
MANT	**Manisa**	**145.99**	**311**	PKPdf	**PKPdf**	**23 53 50.3 -1.5**
PLVB	**Pleven**	**146.03**	**322**	⇓P	**PKPdf**	**23 53 52.2 +0.8**
KSL	**Kastellorizon**	**146.16**	**307**	P	**PKPdf**	**23 53 52.8 +0.9**
MODS	**Modra-Piesok**	**146.19**	**335**	*e*PKP	**PKPbc**	**23 53 53.6 +1.0**
BZS	**Buzias**	**146.24**	**327**	⇑P	**PKPdf**	**23 53 51.5 -0.3**
DIM	**Dimitrovgrad**	**146.25**	**319**	P	**PKPbc**	**23 53 53.9 +1.0**
HERR	**Herculane**	**146.32**	**326**	⇑P	**PKPbc**	**23 53 53.4 +0.3**
NKC	**Novy Kostel**	**146.35**	**341**	*e*PKP	**PKPab**	**23 53 55.1 +1.3**
NKC				*ep*PKP	sPKPab	23 54 01.8 +4.8
ZST	**Bratislava**	**146.40**	**335**	*e*PKP	**PKPab**	**23 53 55.3 +1.3**
ALN	**Alexandroupoli**	**146.54**	**317**	P	**PKPdf**	**23 53 49.0 -3.4**
MPEP	**Malo Peshtene**	**146.56**	**322**	P	**PKPdf**	**23 53 53.9 +1.5**
ENEZ	**Enez**	**146.56**	**317**	P	PKPdf	23 53 40.7 -12
PLD	**Plovdiv**	**146.72**	**320**	P	**PKPab**	**23 53 56.8 +1.3**
RDO	**Rodhopi**	**146.74**	**318**	P	**PKPab**	**23 53 56.0 +0.4**
YER	**Yerkesik**	**146.75**	**309**	P	**PKPdf**	**23 53 52.1 -0.9**
MDVR	**Moldovita**	**146.76**	**326**	⇑P	**PKPbc**	**23 53 54.6 +0.2**
PGB	**Panagyurishte**	**146.79**	**321**	P	**PKPbc**	**23 53 54.8 +0.2**
KHC	**Kasperske Hory**	**146.94**	**339**	PKPbc	**PKPdf**	**23 53 53.4 +0.5**
KHC	**Kasperske Hory**	**146.94**	**339**	*e*PKP	**PKPbc**	**23 53 55.4 +0.6**
KHC				*ex*	x	23 54 05.6
CKRC	**Cesky Krumlov**	**146.95**	**338**	*e*PKP	**PKPbc**	**23 53 55.7 +0.9**
CKRC				*ex*	x	23 54 03.3
SMTH	**Samothraki Isl**	**147.10**	**317**	P	**PKPdf**	**23 53 54.0 +0.6**
CONA	**Conrad Observa**	**147.11**	**335**	*ep*PKP	**PKPbc**	**23 53 55.9 +0.5**
	comp=Z,63nm,1.7s,SNR=15					
RONA	**Rosalia, Austr**	**147.13**	**335**	*e*PKiKP	**PKPbc**	**23 53 56.2 +0.9**
	comp=Z,51nm,1.7s,SNR=14					
GERES	**GERESS Array B**	**147.15**	**339**	PKPbc	**PKPdf**	**23 53 55.2 +1.9**
	comp=Z,3.7nm,0.8s,baz=23,slow=5.3,SNR=8.5					
GRFO	**Grafenberg**	**147.20**	**342**	PKPbc	**PKPdf**	**23 53 54.5 +1.3**
ARG	**Arkhangelos**	**147.23**	**308**	P	**PKPbc**	**23 53 57.0 +1.0**
MORH	**Mrgy, Hungar**	**147.26**	**331**	⇑P	**PKPdf**	**23 53 54.2 +0.8**
VTS	**Vitosha**	**147.30**	**322**	⇑P	**PKPab**	**23 53 57.9 -0.1**
VTS	**Vitosha**	**147.30**	**322**	P	**PKPdf**	**23 53 53.7 -0.1**
KAVA	**Kavala**	**147.47**	**318**	P	PKiKP	23 54 08.4 +10
FRGS	**Fruska Gora**	**147.47**	**328**	⇑P	**PKPab**	**23 53 58.7 +0.4**
BDT	**Bodrum**	**147.49**	**310**	P	**PKPbc**	**23 53 56.4 -0.3**
THAS	**Thassos island**	**147.55**	**318**	P	**PKPbc**	**23 53 55.5 +1.4**
MMB	**Musomiste**	**147.62**	**320**	P	**PKPbc**	**23 53 56.6 -0.3**
NVR	**Nevrokopi**	**147.67**	**319**	P	**PKPdf**	**23 53 56.0 +1.7**
MOA	**Molln**	**147.79**	**337**	*e*PKP	**PKPbc**	**23 53 57.7 +0.6**
	comp=Z,43nm,1.4s,SNR=5.3					
CHOS	**Chios island**	**147.79**	**313**	P	**PKPdf**	**23 53 54.9 +0.2**
ARSA	**Arzberg**	**147.80**	**335**	*ep*PKP	pPKPdf	23 53 56.8 +0.1
	comp=Z,22nm,1.6s,SNR=8.1					
KKB	**Krupnik**	**147.84**	**321**	P	**PKPdf**	**23 53 56.8 +2.2**
SRS	**Serrai**	**147.97**	**319**	P	**PKPdf**	**23 53 56.2 +1.4**
BIOA	**Bad Ischl, Aus**	**148.15**	**338**	*e*PKP	**PKPbc**	**23 53 59.1 +1.0**
	comp=Z,41nm,2.0s					
OUR	**Ouranopolis**	**148.17**	**318**	P	**PKPdf**	**23 53 57.6 +2.5**
SOH	**Sokhos**	**148.29**	**319**	P	**PKPdf**	**23 53 56.4 +1.0**
KNT	**Kendrikon**	**148.37**	**320**	P	**PKPdf**	**23 53 51.7 -3.8**
SOKA	**Soboth**	**148.46**	**335**	*e*PKiKP	**PKPbc**	**23 53 59.3 +0.2**
	comp=Z,20nm,1.3s,SNR=6.5					
VAY	**Valandovo**	**148.48**	**320**	*i* P	**PKPdf**	**23 53 58.1 +2.5**
PAIG	**Paliouri**	**148.59**	**317**	P	**PKPdf**	**23 53 57.2 +1.4**
SKO	**Skopje**	**148.75**	**322**	*i* P	**PKPbc**	**23 53 59.9 +0.1**
APE	**Apeiranthos**	**148.77**	**311**	P	**PKPdf**	**23 53 57.6 +1.3**
KBA	**Koelnbreinsper**	**148.77**	**337**	*e*PKiKP	**PKPbc**	**23 54 00.2 +0.3**
	comp=Z,13nm,1.5s					
OBKA	**Obir**	**148.79**	**335**	*e*PKiKP	**PKPbc**	**23 53 59.7 -0.2**
	comp=Z,14nm,1.7s					
KYMI	**Kymi, Euboea I**	**149.00**	**315**	P	**PKPdf**	**23 53 58.5 +2.0**
MYKA	**Terra Mystica**	**149.04**	**336**	*e*PKiKP	**PKPbc**	**23 54 00.7 +0.2**
	comp=Z,21nm,1.2s					
WATA	**Walderalm**	**149.17**	**340**	*e*PKiKP	**PKPbc**	**23 54 00.7 -0.2**
	comp=Z,27nm,1.6s,SNR=8.4					
WTTA	**Wattenberg**	**149.21**	**339**	*e*PKiKP	**PKPbc**	**23 54 01.4 +0.4**
	comp=Z,36nm,1.3s,SNR=10					
NEO	**Neokhori**	**149.22**	**317**	P	**PKiKP**	**23 54 02.7 +0.3**
BFO	**Black Forest**	**149.23**	**344**	PKPbc	**PKPdf**	**23 53 59.5 +2.8**
LIT	**Litokhoron**	**149.24**	**319**	P	**PKPbc**	**23 54 00.0 -1.2**
RETA	**Reutte**	**149.30**	**341**	*e*PKiKP	**PKPbc**	**23 54 01.6 +0.5**
	comp=Z,38nm,1.6s,SNR=9.2					
MOTA	**Moosalm**	**149.31**	**340**	*e*PKiKP	**PKPbc**	**23 54 01.5 +0.2**
	comp=Z,37nm,1.6s,SNR=8.3					
ABTA	**Abfaltersbach**	**149.35**	**338**	*e*PKiKP	**PKPbc**	**23 54 00.9 -0.4**
	comp=Z,37nm,1.6s,SNR=7.5					
SQTA	**Sankt Quirin**	**149.39**	**340**	*e*PKiKP	**PKPbc**	**23 54 01.5 +0.1**
	comp=Z,32nm,1.6s,SNR=8.0					
DION	**Dionisos Attik**	**149.40**	**314**	P	**PKPbc**	**23 54 01.7 +0.1**
PTL	**Penteli**	**149.46**	**314**	P	**PKPdf**	**23 53 58.3 +1.0**
FNA	**Florina**	**149.52**	**321**	P	**PKPdf**	**23 53 58.3 +0.9**
ATHU	**Athens Univers**	**149.56**	**314**	P	**PKPdf**	**23 54 00.4 +2.9**
ATH	**Athens Observa**	**149.60**	**314**	P	**PKPbc**	**23 54 00.8 -1.3**
VLY	**Voula,Athens**	**149.61**	**314**	P	**PKPdf**	**23 54 00.4 +2.9**
TYRN	**Tyrnavos**	**149.63**	**318**	P	**PKPbc**	**23 54 01.2 -0.9**
OHR	**Ohrid**	**149.66**	**322**	*i* P	**PKPbc**	**23 54 02.1 -0.1**
STAL	**STALIGIAL**	**149.70**	**337**	PKPbc	**PKPdf**	**23 54 00.1 +2.7**
FETA	**Feichten**	**149.72**	**340**	*e*PKiKP	**PKPbc**	**23 54 02.7 +0.4**
	comp=Z,26nm,1.4s,SNR=6.4					
DAVA	**Damuels**	**149.75**	**341**	*e*PKiKP	**PKPbc**	**23 54 02.7 +0.3**
	comp=Z,29nm,1.4s,SNR=8.4					
THL	**Klokotos Trika**	**149.85**	**318**	P	**PKPbc**	**23 54 03.8 +1.2**
NEST	**Nestorio**	**149.94**	**320**	P	**PKPbc**	**23 54 03.2 +0.2**
EVR	**Evrytania**	**150.35**	**317**	P	PKPdf	23 53 50.8 -8.0
EFP	**Efpalio**	**150.56**	**316**	P	**PKPbc**	**23 54 05.1 +0.7**
IMMV	**Iera Moni Meta**	**150.61**	**309**	P	**PKPbc**	**23 54 04.4 -0.2**
KLV	**Kalavryta, Ach**	**150.61**	**315**	P	**PKPbc**	**23 54 03.8 -0.8**
TEOL	**Teolo**	**150.85**	**337**	PKPbc	**PKPdf**	**23 54 02.7 +3.5**
RLS	**Riolos of Patr**	**151.06**	**316**	P	**PKPbc**	**23 54 05.9 +0.3**
EVGI	**Lefkada island**	**151.26**	**318**	P	**PKPdf**	**23 54 00.2 +0.1**
ESDC	**Sonseca Array**	**159.47**	**1**	PKPab	**PKPab**	**23 54 48.9 0.0**
	comp=Z,0.8nm,1.1s,baz=358,slow=3.9,SNR=4.8					
TORD	**Torodi Ar. Bea**	**172.14**	**222**	PKP	**PKPdf**	**23 54 20.9 -1.1**
	comp=Z,4.0nm,1.2s,baz=123,slow=5.3,SNR=11					
TORD				PKPab	**PKPab**	**23 55 46.0 +0.6**
	comp=Z,0.8nm,0.8s,baz=102,slow=3.1,SNR=3.2

	comp=Z,6.2nm,0.9s								
LEM	**Lembang**	**67.39**	**271**	P		**P**		**23 52 27.9**	**-0.4**
	comp=Z,12nm,0.3s,baz=15,slow=6.6,SNR=6.3								
	comp=Z,12nm,0.3s								
QSPA	**South Pole Qui**	**70.83**	**180**	P		**P**		**23 52 47.5**	**-1.2**
	comp=Z,9.9nm,0.9s,baz=20,slow=4.2,SNR=21								
	comp=Z,9.9nm,0.9s								
QSPA	**South Pole Qui**	**70.83**	**180**	P		**P**		**23 52 47.7**	**-1.0**
USRK	**Ussuriysk Ar.**	**74.85**	**329**	P		**P**		**23 53 14.9**	**+2.3**
	comp=Z,3.6nm,1.0s,baz=128,slow=9.3,SNR=2.9								
	comp=Z,3.6nm,1.0s								
KLR	**Kul'dur**	**78.67**	**332**	P		**P**		**23 53 35.8**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=174,slow=19,SNR=5.6								
	comp=Z,2.1nm,0.8s								
MAW	**Mawson**	**80.78**	**201**	P		**P**		**23 53 44.4**	**-1.0**
	comp=Z,5.5nm,0.9s,baz=102,slow=5.9,SNR=4.1								
	comp=Z,5.5nm,0.9s								
KDAK	**Kodiak Island**	**81.06**	**16**	P		**P**		**23 53 48.1**	**+1.4**
	comp=Z,6.8nm,0.8s,baz=256,slow=4.2,SNR=3.7								
	comp=Z,6.8nm,0.8s								
P18K	**Big Mountain,**	**81.81**	**14**	P		**P**		**23 53 51.2**	**+0.4**
P18K				IAmb		IAmb		23 53 52.4	
	comp=Z,12nm,0.9s								
O18K	**Koktuh Hills**	**82.22**	**14**	P		**P**		**23 53 53.4**	**+0.4**
O18K				IAmb		IAmb		23 53 54.9	
	comp=Z,11nm,1.0s								
ORV	**Oroville**	**82.55**	**44**	P		**P**		**23 53 56.4**	**+1.2**
ORV				IAmb		IAmb		23 53 57.8	
	comp=Z,7.3nm,1.1s								
ILSW	**Iliamna Southw**	**82.83**	**15**	P		**P**		**23 53 56.5**	**+0.3**
ILSW				IAmb		IAmb		23 53 57.9	
	comp=Z,27nm,1.0s								
N19K	**Bonanza Creek**	**83.24**	**14**	P		**P**		**23 53 58.7**	**+0.3**
N19K				IAmb		IAmb		23 54 06.5	
	comp=Z,12nm,1.4s								
DSP	**Deep Springs**	**83.81**	**47**	P		**P**		**23 54 03.8**	**+2.2**
DSP				IAmb		IAmb		23 54 05.1	
	comp=Z,6.6nm,0.9s								
SEY	**Seymchan**	**83.98**	**349**	P		**P**		**23 54 02.9**	**+0.9**
	comp=Z,7.1nm,0.8s,baz=121,slow=5.9,SNR=21								
	comp=Z,7.1nm,0.8s								
NVAR	**Mina Array Bea**	**84.10**	**46**	P		**P**		**23 54 05.2**	**+1.7**
	comp=Z,4.2nm,0.9s,baz=221,slow=8.1,SNR=19								
	comp=Z,4.2nm,0.8s								
NVAR	**Mina Array Bea**	**84.10**	**46**	P		**P**		**23 54 03.9**	**+0.4**
GWY	**Greenwater Val**	**84.14**	**49**	P		**P**		**23 54 05.7**	**+2.0**
L19K	**White Mountain**	**84.38**	**13**	P		**P**		**23 54 04.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**84.38**	**292**	P		**P**		**23 54 04.8**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=133,slow=3.5,SNR=9.2								
	comp=Z,0.8nm,0.3s								
K05A	**Summer Lake**	**84.63**	**41**	P		**P**		**23 54 07.7**	**+1.7**
K05A				IAmb		IAmb		23 54 09.0	
	comp=Z,8.4nm,0.9s								
SUA	**Susitna One**	**84.71**	**15**	P		**P**		**23 54 06.0**	**+0.2**
SUA				IAmb		IAmb		23 54 08.0	
	comp=Z,7.6nm,0.9s								
PINE	**Pine Mountain**	**85.17**	**40**	P		**P**		**23 54 10.8**	**+2.1**
CAST	**Castle Rocks**	**86.08**	**14**	P		**P**		**23 54 11.6**	**-0.9**
G08A	**Pilot Rock**	**87.16**	**40**	P		**P**		**23 54 20.0**	**+1.6**
G08A				IAmb		IAmb		23 54 20.7	
	comp=Z,6.8nm,1.0s								
ILAR	**Eielson Array**	**88.45**	**15**	P		**P**		**23 54 23.6**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=230,slow=4.9,SNR=22								
	comp=Z,2.5nm,0.9s								
YAK	**Yakutsk**	**88.92**	**340**	P		**P**		**23 54 26.3**	**+0.2**
	comp=Z,4.5nm,0.5s,baz=173,slow=1.0,SNR=5.4								
	comp=Z,4.5nm,0.5s								
J26L	**Joseph Creek**	**89.08**	**16**	P		**P**		**23 54 27.6**	**+0.6**
J26L				IAmb		IAmb		23 54 28.5	
	comp=Z,5.1nm,1.0s								
EGAK	**Eagle**	**89.94**	**17**	P		**P**		**23 54 31.3**	**+0.4**
EGAK				IAmb		IAmb		23 54 32.5	
	comp=Z,7.0nm,1.0s								
SONM	**Songino Array**	**91.15**	**321**	P		**P**		**23 54 36.7**	**-0.5**
	comp=Z,1.5nm,1.1s,baz=129,slow=5.7,SNR=5.2								
	comp=Z,1.5nm,1.1s								
TXAR	**Lajitas Array**	**91.21**	**59**	P		**P**		**23 54 39.7**	**+1.9**
	comp=Z,1.9nm,0.9s,baz=232,slow=4.4,SNR=12								
	comp=Z,1.9nm,0.9s								
PDAR	**Pinedale Array**	**92.00**	**45**	P		**P**		**23 54 42.6**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=263,slow=3.5,SNR=5.2								
	comp=Z,0.6nm,0.8s								
INK	**Inuvik**	**94.61**	**17**	P		**P**		**23 54 52.5**	**0.0**
	comp=Z,2.8nm,1.1s,baz=270,slow=1.0,SNR=5.8								
	comp=Z,2.8nm,1.1s								
AKASG	**Malin Array Be**	**139.05**	**328**	PKP		**PKPdf**		**00 00 57.8**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=52,slow=3.3,SNR=1.5								
MORC	**Moravsky Berou**	**144.99**	**335**	*e*PKP		**PKPab**		**00 01 09.4**	**+0.7**
CLL	**Collm**	**145.29**	**341**	*i*PKPbc		**PKPbc**		**00 01 09.9**	**+0.3**
	comp=Z,23nm,0.9s								
VYHS	**Vyhne**	**145.46**	**333**	*e*		**PKPdf**		**00 01 10.8**	**+0.5**
VYHS	**Vyhne**	**145.46**	**333**	*e*				00 06 52.0	
VRAC	**Vranov**	**145.74**	**336**	*e*PKP		**PKPab**		**00 01 12.1**	**+0.7**
KRUC	**Moravsky**	**146.01**	**336**	*e*PKP		**PKPbc**		**00 01 12.3**	**+0.4**
MODS	**Modra-Piesok**	**146.21**	**334**	*e*		**PKPbc**		**00 01 13.5**	**+0.9**
MODS	**Modra-Piesok**	**146.21**	**334**	*e*				00 06 55.5	
CONA	**Conrad Observa**	**147.14**	**335**	*e*PKP		**PKPbc**		**00 01 15.8**	**+0.4**
	comp=Z,3.6nm,0.8s								
RONA	**Rosalia, Austr**	**147.15**	**334**	*e*PKP		**PKPbc**		**00 01 15.8**	**+0.5**
	comp=Z,4.3nm,1.0s								
GERES	**GERESS Array B**	**147.19**	**338**	PKPbc		**PKPbc**		**00 01 15.3**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=30,slow=8.0,SNR=2.1								
BIOA	**Bad Ischl, Aus**	**148.18**	**337**	*e*PKP		**PKPbc**		**00 01 18.0**	**-0.2**
	comp=Z,2.3nm,0.7s								
SOKA	**Soboth**	**148.48**	**335**	*e*PKP		**PKPbc**		**00 01 18.5**	**-0.5**
	comp=Z,8.4nm,1.4s								
WATA	**Walderalm**	**149.21**	**339**	*e*PKP		**PKPbc**		**00 01 20.6**	**-0.4**
	comp=Z,3.4nm,1.0s								
RETA	**Reutte**	**149.35**	**340**	*e*PKP		**PKPbc**		**00 01 20.9**	**-0.3**
	comp=Z,2.8nm,0.8s								
MOTA	**Moosalm**	**149.36**	**340**	*e*PKiKP		**PKPbc**		**00 01 21.9**	**+0.6**
	comp=Z,4.9nm,0.9s								
ABTA	**Abfaltersbach**	**149.39**	**337**	*e*PKP		**PKPbc**		**00 01 20.6**	**-0.7**
	comp=Z,2.8nm,0.8s								
SQTA	**Sankt Quirin**	**149.44**	**339**	*e*PKiKP		**PKPbc**		**00 01 21.6**	**+0.1**
	comp=Z,1.8nm,0.5s								
FETA	**Feichten**	**149.77**	**340**	*e*PKiKP		**PKPbc**		**00 01 22.0**	**-0.4**
	comp=Z,4.4nm,0.9s								
DAVA	**Damuels**	**149.80**	**341**	*e*PKiKP		**PKPbc**		**00 01 23.3**	**+0.8**
	comp=Z,5.9nm,1.0s								
DBIC	**Dimbokro**	**167.49**	**176**	PKP		**PKPdf**		**00 01 37.8**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=170,slow=3.2,SNR=3.1								
TORD	**Torodi Ar. Bea**	**171.84**	**223**	PKP		**PKPdf**		**00 01 40.5**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=56,slow=1.7,SNR=8.0								

*IDC **03** 23:42:34.5±1.1,5.°99S×153.°92E, h0km, mb3.7/6, mbtmp3.8/8, ML2.7/2, MS4.6/1, Error ellipse: s-maj=27.0km s-min=24.1km az=93.0*

*NEIC **03** 23:42:34.3±2.7, 6.°09S±0.°08×154.°03E±0.°05, h10km±1km, mb4.4/8, Error ellipse: s-maj=13.1km s-min=8.6km az=358.0*

ISC 03 23:42:35.1±0.8, **6.°04S**±0.°08×**153.°94E**±0.°08, **h10**km, **n24,** σ1§**49**/**23**, **mb4.1**/**9**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.55**	**316**			**Pn**		**23 43 15.2**	**-1.3**
KRVT	**Keravat (AS076**	**2.56**	**312**	Pn		**Pn**		**23 43 16.3**	**-0.5**
	6.8nm,0.3s,baz=25,slow=23,SNR=2.6								
KRVT				Sn		**Sn**		**23 43 49.5**	**+1.5**
	14nm,0.3s,baz=73,slow=23,SNR=6.2								
	37nm,0.3s								
HNR	**Honiara**	**6.84**	**120**	Pn		**Pn**		**23 44 17.8**	**+2.2**
	110nm,0.3s,baz=248,slow=11,SNR=1.5								
HNR	**Honiara**	**6.84**	**120**			**Pn**		**23 44 13.1**	**-2.5**
PMG	**Port Moresby**	**7.50**	**243**	Pn		**Pn**		**23 44 27.1**	**+2.4**
	2.1nm,0.3s,baz=64,slow=12,SNR=3.5								
PMG				Sn		**Sn**		**23 45 47.8**	**-2.1**
	3.8nm,0.3s,baz=12,slow=21,SNR=1.9								
	7.2nm,0.2s								
PMG	**Port Moresby**	**7.50**	**243**			**Pn**		**23 44 24.6**	**-0.1**
WB0	**Warramunga Arr**	**23.39**	**233**			**P**		**23 47 41.5**	**-2.8**
WB0				IAmb		IAmb		23 48 02.0	
	comp=Z,8.7nm,1.2s								
WRA	**Warramunga Arr**	**23.53**	**232**	P		**P**		**23 47 45.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=55,slow=9.7,SNR=5.2								
WRA				LR		LR		23 56 57.3	
	comp=Z,2µm,20.8s,baz=104,slow=37								
	comp=Z,0.7nm,0.7s								
ASAR	**Alice Springs**	**26.05**	**226**	P		**P**		**23 48 10.1**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=59,slow=9.1,SNR=4.5								
	comp=Z,0.8nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**27.43**	**27**	T		T		00 16 46.4	
	baz=208								
H11S2	**WAKE ISLAND Hy**	**27.43**	**27**	T		T		00 16 46.7	
	baz=208								
H11S1	**WAKE ISLAND Hy**	**27.45**	**27**	T		T		00 16 47.2	
	baz=208								
FITZ	**Fitzroy Crossi**	**30.10**	**244**	P		**P**		**23 48 45.2**	**0.0**
MBWA	**Marble Bar**	**36.37**	**242**	P		**P**		**23 49 38.4**	**-1.4**
SONM	**Songino Array**	**67.97**	**328**	P		**P**		**23 53 36.2**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=140,slow=5.5,SNR=5.2								
	comp=Z,0.5nm,0.6s								
SONM	**Songino Array**	**67.97**	**328**	P		**P**		**23 53 34.7**	**+0.2**
SONM				IAmb		IAmb		23 53 46.5	
	comp=Z,3.9nm,1.5s								
O18K	**Koktuh Hills**	**76.90**	**24**	P		**P**		**23 54 26.3**	**-1.1**
O18K				IAmb		IAmb		23 54 28.1	
	comp=Z,6.6nm,1.1s								
MK31	**Makanchi Array**	**82.00**	**319**	P		**P**		**23 54 56.6**	**+1.2**
MKAR	**Makanchi Array**	**82.00**	**319**	P		**P**		**23 54 56.9**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=104,slow=8.1,SNR=6.8								
	comp=Z,0.4nm,0.7s								
MKAR	**Makanchi Array**	**82.00**	**319**	P		**P**		**23 54 55.7**	**+0.2**
MAKZ	**Makanchi**	**82.21**	**319**	P		**P**		**23 54 56.2**	**-0.3**
MAKZ				IAmb		IAmb		23 55 11.5	
	comp=Z,3.5nm,1.3s								
ZALV	**Zalesovo Beam**	**82.80**	**326**	P		**P**		**23 54 59.8**	**+0.3**
	comp=Z,2.4nm,1.0s,baz=116,slow=6.6,SNR=6.0								
	comp=Z,2.4nm,1.0s								
ILAR	**Eielson Array**	**82.88**	**22**	P		**P**		**23 54 59.7**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=232,slow=4.4,SNR=0.8								
	comp=Z,0.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**151.75**	**287**	PKPbc		**PKiKP**		**00 02 31.8**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=99,slow=2.3,SNR=5.6								

*WEL **03** 23:44:15.0±0.5, 42.°5S×3.°1W×17.°4E±1.°, h8km±4km, M3.5/18, ML3.7/18, MLv3.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=166.6, confirmed*

*NOU **03** 23:44:14.7, 41.°96S×174.°34E, h11km, MLv4.0/8, Cook Strait, New Zealand*

ISC 03 23:44:14.1±1.0, **41.°89S**±0.°03×**174.°27E**±0.°03, **h16**km±7km, **n75,** σ1§**07**/**86**, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**343**	P		**Pg**		**23 44 18.6**	**+0.6**
CMWZ				S		**Sg**		**23 44 21.4**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.34**	**301**	P		**Pb**		**23 44 21.4**	**-0.5**
TUWZ	**Tuamarina**	**0.52**	**332**	P		**Pg**		**23 44 24.0**	**-0.5**
TUWZ				S		**Sg**		**23 44 30.2**	**-1.2**
SNZO	**South Karori**	**0.67**	**29**	P		**Pb**		**23 44 27.5**	**+0.2**
TCW	**Tory Channel**	**0.68**	**0**	P		**Pg**		**23 44 26.6**	**-0.8**
TCW				S		**Sg**		**23 44 35.3**	**-1.1**
WEL	**Wellington**	**0.71**	**32**	P		**Pb**		**23 44 28.4**	**+0.3**
KHZ	**Kahutara**	**0.76**	**226**	P		**Pn**		**23 44 30.8**	**+0.7**
KHZ	**Kahutara**	**0.76**	**226**	P		**Pn**		**23 44 31.6**	**+1.5**
PLWZ	**Palliser**	**0.80**	**67**	P		**Pn**		**23 44 31.0**	**+0.2**
PLWZ				S		**Sn**		**23 44 44.4**	**+1.9**
NNZ	**Nelson**	**0.95**	**315**	P		**Pg**		**23 44 31.5**	**-0.9**
CAW	**Cannon Point**	**0.99**	**38**	P		**Pn**		**23 44 33.2**	**-0.1**
CAW				S		**Sn**		**23 44 47.0**	**+0.1**
PAWZ	**Paruwai Farm**	**1.01**	**60**	P		**Pn**		**23 44 33.6**	**+0.1**
PAWZ				S		**Sn**		**23 44 49.2**	**+1.8**
THZ	**Tophouse**	**1.03**	**277**	P		**Pn**		**23 44 34.1**	**+0.2**
DUWZ	**D'Urville Isla**	**1.12**	**346**	P		**Pg**		**23 44 34.7**	**-1.5**
DUWZ				S		**Sg**		**23 44 48.1**	**-2.2**
KIW	**Kapiti Island**	**1.14**	**25**	P		**Pn**		**23 44 35.2**	**-0.2**
KIW				S		**Sn**		**23 44 51.0**	**+0.3**
TRWZ	**Traveller**	**1.17**	**66**	P		**Pn**		**23 44 35.7**	**-0.1**
MTW	**Mount Morrison**	**1.18**	**52**	P		**Pn**		**23 44 35.8**	**-0.2**
MTW				S		**Sn**		**23 44 53.8**	**+2.1**
MRNZ	**Matariki Terra**	**1.24**	**293**	P		**Pg**		**23 44 37.4**	**-0.5**
MRNZ				S		**Sn**		**23 44 54.2**	**+1.1**
OGWZ	**Otaki Gorge**	**1.27**	**33**	P		**Pg**		**23 44 37.3**	**-1.2**
OGWZ				S		**Sb**		**23 44 53.9**	**+0.2**
TKNZ	**Takaka Hill**	**1.31**	**311**	P		**Pn**		**23 44 37.7**	**0.0**
TKNZ				S		**Sb**		**23 44 55.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.36**	**44**	P		**Pb**		**23 44 38.7**	**-0.6**
GVZ	**Greta Valley S**	**1.41**	**220**	P		**Pg**		**23 44 40.6**	**-0.6**
TMWZ	**Te Maipa**	**1.45**	**58**	P		**Pn**		**23 44 39.3**	**-0.4**
MRZ	**Mangatainoka R**	**1.58**	**39**	P		**Pn**		**23 44 41.2**	**-0.2**
QRZ	**Quartz Range**	**1.69**	**309**	P		**Pb**		**23 44 44.4**	**-0.4**
QRZ	**Quartz Range**	**1.69**	**309**	P		**Pn**		**23 44 44.0**	**+1.1**
QRZ				S		**Sn**		**23 45 05.9**	**+1.6**
LTZ	**Lake Taylor**	**1.73**	**238**	P		**Pb**		**23 44 44.7**	**-0.8**
CPWZ	**Castlepoint**	**1.75**	**57**	P		Pg		23 44 51.1	+3.4
AMCZ	**Amberley**	**1.75**	**222**	P		**Pb**		**23 44 44.8**	**-1.1**
DSZ	**Denniston Nort**	**1.85**	**274**	P		**Pb**		**23 44 46.9**	**-0.6**
PRWZ	**Pori Road**	**1.85**	**44**	P		**Pn**		**23 44 45.6**	**+0.5**
BFZ	**Birch Farm**	**1.92**	**52**	P		**Pb**		**23 44 48.2**	**-0.5**
DVHZ	**Dannevirke**	**2.14**	**43**	P		**Pg**		**23 44 54.0**	**-1.2**
MQZ	**McQueen's Vall**	**2.17**	**213**	P		**Pn**		**23 44 49.5**	**-0.1**
OXZ	**Oxford**	**2.18**	**228**	P		**Pn**		**23 44 50.1**	**+0.3**
WAZ	**Wanganui**	**2.20**	**14**	P		**Pb**		**23 44 53.6**	**+0.1**
TSZ	**Takapari Road**	**2.23**	**35**	P		**Pn**		**23 44 50.3**	**-0.2**
INZ	**Inchbonnie**	**2.26**	**247**	P		**Pn**		**23 44 52.1**	**+1.4**
RACZ	**Rakaia**	**2.41**	**220**	P		**Pn**		**23 44 52.8**	**-0.1**
LREZ	**Lake Rotokare**	**2.43**	**2**	P		**Pb**		**23 44 56.7**	**-0.7**
PNHZ	**Pukenui**	**2.46**	**37**	P		**Pn**		**23 44 53.3**	**-0.3**
MHCZ	**Mount Hutt**	**2.58**	**230**	P		**Pb**		**23 44 57.2**	**0.0**
KHEZ	**Kahui Hut**	**2.60**	**356**	P		**Pb**		**23 44 58.3**	**-2.1**
KHEZ	**Kahui Hut**	**2.60**	**356**	P		**Pb**		**23 44 59.3**	**-1.1**
NEZ	**North Egmont**	**2.62**	**357**	P		**Pb**		**23 44 59.8**	**-0.9**
MTVZ	**Mangateitei**	**2.67**	**20**	P		**Pb**		**23 45 02.0**	**+0.5**
PKVZ	**Pokaka**	**2.73**	**18**	P		**Pb**		**23 45 01.8**	**-0.7**
MOVZ	**Moawhango**	**2.73**	**25**	P		**Pb**		**23 45 01.6**	**-0.9**
WNVZ	**Wahianoa**	**2.75**	**22**	P		**Pb**		**23 45 00.7**	**-2.3**
KRHZ	**Kereru**	**2.75**	**36**	P		**Pb**		**23 45 03.5**	**+0.6**
BHHZ	**Black Hill Sta**	**2.76**	**30**	P		**Pb**		**23 45 03.4**	**+0.3**
TRVZ	**Turoa**	**2.77**	**21**	P		**Pb**		**23 45 02.9**	**-0.3**
VRZ	**Vera Road**	**2.79**	**8**	P		**Pb**		**23 45 00.9**	**-2.6**
FWVZ	**Far West T-bar**	**2.81**	**21**	P		**Pb**		**23 45 03.6**	**-0.4**
TUVZ	**Tukino**	**2.83**	**22**	P		**Pb**		**23 45 03.1**	**-1.1**
NGZ	**Ngauruhoe**	**2.90**	**21**	P		**Pb**		**23 45 05.3**	**-0.2**
SNVZ	**South Ngauruho**	**2.90**	**22**	P		**Pb**		**23 45 05.0**	**-0.5**
OTVZ	**Oturere**	**2.93**	**22**	P		**Pb**		**23 45 05.3**	**-0.7**
NNVZ	**North Ngauruho**	**2.94**	**21**	P		**Pb**		**23 45 06.0**	**-0.2**
WTVZ	**West Tongariro**	**2.95**	**20**	P		**Pb**		**23 45 04.9**	**+1.6**
ETVZ	**East Tongariro**	**2.96**	**22**	P		**Pb**		**23 45 05.5**	**-1.1**
TMVZ	**Te Maari**	**2.98**	**22**	P		**Pb**		**23 45 05.2**	**-1.7**
KRVZ	**Karewarewa**	**2.98**	**21**	P		**Pb**		**23 45 07.4**	**+0.5**
RPZ	**Rata Peaks**	**2.99**	**231**	P		**Pn**		**23 45 01.1**	**+0.3**
RPZ	**Rata Peaks**	**2.99**	**231**	P		**Pn**		**23 45 01.2**	**+0.3**
ARCZ	**Arundel**	**3.06**	**227**	P		**Pn**		**23 45 02.4**	**+0.5**
RITZ	**Rihia Road**	**3.15**	**23**	P		**Pb**		**23 45 09.5**	**-0.3**
BKZ	**Black Stump Fm**	**3.21**	**33**	P		**Pn**		**23 45 05.7**	**+1.8**
BKZ	**Black Stump Fm**	**3.21**	**33**	P		**Pb**		**23 45 11.2**	**+0.5**
HIZ	**Hauiti**	**3.41**	**8**	P		**Pn**		**23 45 09.4**	**+2.9**
HIZ	**Hauiti**	**3.41**	**8**	P		**Pn**		**23 45 09.9**	**+3.4**
TMZ	**Timaru**	**3.45**	**223**	P		**Pn**		**23 45 07.8**	**+0.6**
ODZ	**Otahua Downs**	**4.11**	**219**	P		**Pn**		**23 45 16.7**	**+0.5**
ODZ	**Otahua Downs**	**4.11**	**219**	P		**Pn**		**23 45 16.2**	**0.0**
JCZ	**Jackson Bay**	**4.58**	**240**	P		Pb		23 45 28.5	-5.6

*NEIC **03** 23:44:38.3±1.2, 18.°3S±0.°2×177.°6W±0.°1, h630km±10km, mb4.2/30, Error ellipse: s-maj=24.7km s-min=15.6km az=164.0*

*IDC **03** 23:44:41.2±1.6, 18.°03S×178.°14W, h643km±18km, mb3.3/14, mbtmp4.2/15, Error ellipse: s-maj=22.6km s-min=12.9km az=144.0*

ISC 03 23:44:38.5±0.8, **18.°3S**±0.°1×**177.°85W**±0.°09, **h623**km±9km, **n66,** σ1§**10**/**73**, **mb4.1**/**30**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.94**	**277**	P		**P**		**23 46 07.0**	**+1.6**
	49nm,0.5s,baz=126,slow=11,SNR=6.0								
MSVF	**Nonsavu**	**3.94**	**277**	P		**P**		**23 46 06.7**	**+1.3**
AFI	**Afiamalu**	**7.27**	**54**	P		**P**		**23 46 30.1**	**-2.1**
NIUE	**Niue**	**7.55**	**97**	P		**P**		**23 46 32.3**	**-2.2**
LTZ	**Lake Taylor**	**25.84**	**197**	P		**P**		**23 49 22.1**	**-0.8**
LTZ				PcP		**PcP**		**23 52 25.7**	**-4.3**
INZ	**Inchbonnie**	**26.03**	**198**	P		**P**		**23 49 22.1**	**-2.2**
MLZ	**Mavora Lakes**	**29.45**	**200**	P		**P**		**23 49 54.5**	**+0.4**
EIDS	**Eidsvold**	**29.65**	**251**	P		**P**		**23 49 56.4**	**+0.3**
CAN	**Canberra**	**33.91**	**233**	P		**P**		**23 50 33.3**	**+1.2**
COEN	**Coen**	**37.64**	**271**	P		**P**		**23 51 03.1**	**+0.2**
COEN				IAmb		IAmb		23 51 40.4	
	comp=Z,15nm,1.4s								
STKA	**Stephens Creek**	**38.93**	**242**	P		**P**		**23 51 14.3**	**+1.2**
	comp=Z,1.9nm,0.4s,baz=77,slow=13,SNR=4.7								
	comp=Z,1.9nm,0.4s								
STKA	**Stephens Creek**	**38.93**	**242**	P		**P**		**23 51 14.1**	**+1.0**
BBOO	**Buckleboo**	**43.70**	**241**	P		**P**		**23 51 51.2**	**+0.7**
BBOO				IAmb		IAmb		23 52 31.2	
	comp=Z,17nm,1.4s								
WR0	**Warramunga Arr**	**44.90**	**260**	P		**P**		**23 51 59.5**	**-0.5**
WR0				IAmb		IAmb		23 52 10.4	
	comp=Z,9.4nm,1.3s								
WB0	**Warramunga Arr**	**45.06**	**260**	P		**P**		**23 52 01.1**	**-0.1**
WB0				IAmb		IAmb		23 52 01.8	
	comp=Z,6.8nm,1.1s								
WB0				PcP		**PcP**		**23 53 27.3**	**-1.0**
WB2	**Warramunga Arr**	**45.08**	**260**	P		**P**		**23 52 00.8**	**-0.5**
WB2				IAmb		IAmb		23 52 35.4	
	comp=Z,9.5nm,1.1s								
WB2				PcP		**PcP**		**23 53 28.6**	**+0.3**
WRA	**Warramunga Arr**	**45.09**	**260**	P		**P**		**23 52 01.1**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=95,slow=6.9,SNR=53								
WRA				PcP		**PcP**		**23 53 28.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=89,slow=3.3,SNR=2.9								
	comp=Z,2.4nm,0.4s								
WRA	**Warramunga Arr**	**45.09**	**260**	P		**P**		**23 52 00.9**	**-0.5**
WRA				PcP		**PcP**		**23 53 28.2**	**-0.1**
AS31	**Alice Springs**	**45.21**	**255**	P		**P**		**23 52 02.2**	**-0.1**
AS31				IAmb		IAmb		23 52 04.0	
	comp=Z,2.9nm,0.4s								
ASAR	**Alice Springs**	**45.21**	**255**	P		**P**		**23 52 02.4**	**+0.2**
	comp=Z,4.2nm,0.4s,baz=92,slow=7.9,SNR=78								
ASAR				PcP		**PcP**		**23 53 29.0**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=103,slow=4.2,SNR=7.3								
ASAR				S		**S**		**23 57 55.7**	**-2.8**
	comp=Z,1.0nm,0.8s,baz=90,slow=15,SNR=5.5								
	comp=Z,4.2nm,0.4s								
ASAR	**Alice Springs**	**45.21**	**255**	P		**P**		**23 52 01.9**	**-0.3**
ASAR				PcP		**PcP**		**23 53 28.7**	**0.0**
MTN	**Manton Dam**	**49.32**	**269**	P		**P**		**23 52 32.5**	**-0.4**
FORT	**Forrest**	**50.34**	**245**	P		**P**		**23 52 40.4**	**+0.2**
FORT				IAmb		IAmb		23 53 05.0	
	comp=Z,16nm,1.0s								
MBWA	**Marble Bar

	comp=Z,58nm,0.8s								
URZ	**Urewera**	**19.01**	**178**	P	**Pn**	**23 50 37.4**	**+2.6**		
	comp=Z,80nm,0.9s,baz=90,slow=4.2,SNR=18								
RTZ	**Ruatahuna**	**19.36**	**178**	P	**P**	**23 50 37.9**	**-0.1**		
MRZ	**Mangatainoka R**	**21.40**	**181**	P	**P**	**23 51 00.4**	**+0.3**		
MRZ				IAmb	IAmb	23 51 03.3			
	comp=Z,57nm,1.0s								
BFZ	**Birch Farm**	**21.42**	**180**	P	**P**	**23 51 00.4**	**+0.2**		
BFZ				IAmb	IAmb	23 51 07.2			
	comp=Z,69nm,1.0s								
BHW	**Baring Head**	**22.17**	**183**	P	**P**	**23 51 09.5**	**+1.2**		
BHW				IAmb	IAmb	23 51 14.6			
	comp=Z,55nm,0.9s								
PLWZ	**Palliser**	**22.32**	**182**	P	**P**	**23 51 08.6**	**-1.3**		
LTZ	**Lake Taylor**	**23.75**	**187**	P	**P**	**23 51 25.2**	**+0.6**		
LTZ				IAmb	IAmb	23 51 44.0			
	comp=Z,58nm,1.2s								
INZ	**Inchbonnie**	**23.80**	**189**	P	**P**	**23 51 26.0**	**+0.9**		
KRVT	**Keravat (AS076**	**27.85**	**299**	LR	LR	00 02 28.8			
	comp=Z,994nm,20.1s,baz=322,slow=35								
CTA	**Charters Tower**	**28.20**	**263**	LR	LR	00 02 49.6			
	comp=Z,1μm,18.6s,baz=275,slow=36								
PMG	**Port Moresby**	**29.73**	**285**	LR	LR	00 02 00.4			
	comp=Z,772nm,21.1s,baz=226,slow=32								
PMG	**Port Moresby**	**29.73**	**285**	P	**P**	**23 52 17.4**	**-1.5**		
PMG				IAmb	IAmb	23 53 25.3			
	comp=Z,32nm,1.4s								
TBI	**Tubuai**	**32.22**	**103**	*e*LR	LR	00 01 03.9			
	comp=Z,42μm,27.2s								
TBI				*e*LR	LR	00 01 04.2			
	comp=Z,22μm,33.5s								
PPT2	**Papeete2**	**32.48**	**93**	*e*LR	LR	00 01 11.0			
	comp=Z,4μm,27.5s								
PPT2				*e*LR	LR	00 01 11.1			
	comp=Z,3μm,29.8s								
PPT	**Papeete**	**32.49**	**93**	LR	LR	00 02 33.9			
	comp=Z,912nm,20.0s,baz=294,slow=30								
STKA	**Stephens Creek**	**33.54**	**241**	P	**P**	**23 52 52.1**	**-0.2**		
	comp=Z,8.9nm,0.9s,baz=83,slow=11,SNR=12								
	comp=Z,8.9nm,0.9s								
STKA	**Stephens Creek**	**33.54**	**241**	P	**P**	**23 52 52.2**	**0.0**		
H11S2	**WAKE ISLAND Hy**	**38.59**	**345**	T	T	00 34 27.2			
	baz=166,slow=76,SNR=36								
H11S3	**WAKE ISLAND Hy**	**38.60**	**345**	T	T	00 34 26.0			
	baz=166,slow=76,SNR=38								
H11S1	**WAKE ISLAND Hy**	**38.61**	**345**	T	T	00 34 26.4			
	baz=166,slow=76,SNR=40								
WB0	**Warramunga Arr**	**39.35**	**262**	P	**P**	**23 53 41.1**	**-0.9**		
WRA	**Warramunga Arr**	**39.38**	**262**	P	**P**	**23 53 40.2**	**-2.1**		
	comp=Z,1.9nm,0.8s,baz=91,slow=8.9,SNR=5.8								
WRA				PcP	**PcP**	**23 55 50.1**	**-0.6**		
	comp=Z,0.6nm,0.8s,baz=104,slow=2.8,SNR=1.6								
	comp=Z,1.9nm,0.8s								
AS31	**Alice Springs**	**39.52**	**256**	P	**P**	**23 53 42.7**	**-0.8**		
ASAR	**Alice Springs**	**39.52**	**256**	P	**P**	**23 53 42.2**	**-1.2**		
	comp=Z,9.6nm,0.9s,baz=86,slow=9.0,SNR=30								
	comp=Z,9.6nm,0.9s								
ASAR	**Alice Springs**	**39.52**	**256**	P	**P**	**23 53 43.0**	**-0.4**		
MTN	**Manton Dam**	**43.68**	**271**	P	**P**	**23 54 16.8**	**-0.8**		
FORT	**Forrest**	**44.83**	**245**	P	**P**	**23 54 25.0**	**-1.7**		
FORT				IAmb	IAmb	23 54 38.4			
	comp=Z,35nm,0.8s								
SIJI	**Sorong**	**47.63**	**287**	P	**P**	**23 54 48.8**	**-0.1**		
	comp=Z,3.6nm,0.4s,baz=223,slow=22,SNR=2.0								
	comp=Z,3.6nm,0.4s								
MBWA	**Marble Bar**	**52.80**	**258**	P	**P**	**23 55 28.3**	**+0.2**		
VNDA	**Vanda**	**58.79**	**184**	P	**P**	**23 56 09.5**	**-0.6**		
VNDA				IAmb	IAmb	23 57 21.0			
	comp=Z,22nm,1.8s								
SBA	**Scott Base**	**58.88**	**182**	P	**P**	**23 56 11.3**	**+0.6**		
CASY	**Casey**	**62.84**	**204**	P	**P**	**23 56 37.2**	**-0.6**		
CASY				IAmb	IAmb	23 56 45.9			
	comp=Z,12nm,1.1s								
MJAR	**Matsushiro Arr**	**66.04**	**327**	P	**P**	**23 56 58.9**	**-0.3**		
	comp=Z,3.9nm,0.9s,baz=140,slow=5.9,SNR=6.1								
	comp=Z,3.9nm,0.9s								
LEM	**Lembang**	**67.59**	**270**	P	**P**	**23 57 09.8**	**0.0**		
	comp=Z,9.3nm,0.4s,baz=126,slow=23,SNR=1.8								
	comp=Z,9.3nm,0.4s								
ASAJ	**Asahikawa**	**70.11**	**335**	P	**P**	**23 57 26.7**	**+2.2**		
	comp=Z,1.6nm,0.3s,baz=175,slow=11,SNR=5.7								
	comp=Z,1.6nm,0.3s								
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**23 57 28.9**	**-0.3**		
	comp=Z,25nm,0.9s,baz=351,slow=1.4,SNR=32								
	comp=Z,25nm,0.9s								
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**23 57 28.8**	**-0.3**		
PETK	**Petropavlovsk-**	**73.77**	**349**	P	**P**	**23 57 47.6**	**+1.3**		
	comp=Z,2.6nm,0.9s,baz=132,slow=6.0,SNR=2.8								
	comp=Z,2.6nm,0.9s								
NJ2	**Nanjing**	**74.91**	**312**	*e*P	**P**	**23 57 55.1**	**+1.7**		
NJ2				pmax	pmax				
	comp=Z,14nm,1.2s								
CN2	**Changchun**	**78.02**	**325**	*e*P	**P**	**23 58 08.7**	**-2.2**		
CN2				PP	**PP**	**00 01 07.4**	**0.0**		
CN2				S	**S**	**00 08 01.7**	**-3.0**		
CN2				SS	**SS**	**00 13 06.8**	**+0.2**		
CN2				LR	LR				
	comp=Z,2μm,21.0s								
CN2				LR	LR				
	comp=Z,1μm,21.0s								
CN2				LR	LR				
	comp=Z,3μm,22.0s								
KLR	**Kul'dur**	**78.73**	**332**	P	**P**	**23 58 15.8**	**+1.2**		
	comp=Z,1.5nm,0.9s,baz=120,slow=8.7,SNR=3.0								
	comp=Z,1.5nm,0.9s								
HNS	**HongShan**	**80.70**	**315**	*e*P	**P**	**23 58 27.8**	**+2.2**		
LYN	**LuoYang**	**80.75**	**311**	*e*P	**P**	**23 58 22.2**	**-3.8**		
LYN				pmax	pmax				
	comp=Z,10.0nm,0.5s								
MAW	**Mawson**	**80.88**	**201**	P	**P**	**23 58 26.0**	**-0.1**		
	comp=Z,7.8nm,1.0s,baz=269,slow=4.2,SNR=5.1								
	comp=Z,7.8nm,1.0s								
MAW	**Mawson**	**80.88**	**201**	P	**P**	**23 58 25.6**	**-0.6**		
KDAK	**Kodiak Island**	**80.97**	**16**	P	**P**	**23 58 27.7**	**+1.2**		
	comp=Z,8.1nm,1.0s,baz=233,slow=10,SNR=3.7								
	comp=Z,8.1nm,1.0s								
Q18K	**Katmai Hardscr**	**81.11**	**15**	P	**P**	**23 58 29.2**	**+1.7**		
	baz=207								
P17K	**Kvichak River**	**81.27**	**14**	P	**P**	**23 58 31.2**	**+3.1**		
	baz=206								
BELA	**Belgrano 2**	**81.50**	**174**	P	**P**	**23 58 28.5**	**-0.8**		
P18K	**Big Mountain,**	**81.72**	**14**	P	**P**	**23 58 30.9**	**+0.2**		
P18K				IAmb	IAmb	23 58 32.3			
	comp=Z,42nm,1.7s								
VES	**Vestal, Richgr**	**82.10**	**48**	P	**P**	**23 58 34.4**	**+1.3**		
	baz=239								
O18K	**Koktuh Hills**	**82.14**	**14**	P	**P**	**23 58 32.6**	**-0.1**		
EDW2	**Edwards Air Fo**	**82.39**	**49**	P	**P**	**23 58 36.7**	**+2.0**		
	baz=240								
ISA	**Isabella, Lake**	**82.44**	**48**	P	**P**	**23 58 37.0**	**+2.0**		
	baz=240								
MONP2	**Monument Peak**	**82.57**	**52**	P	**P**	**23 58 38.1**	**+2.2**		
	baz=241								
O19K	**Port Alsworth**	**82.65**	**14**	P	**P**	**23 58 34.8**	**-0.6**		
O19K	**Port Alsworth**	**82.65**	**14**	P	**P**	**23 58 35.8**	**+0.4**		
	baz=208								
ILSW	**Iliamna Southw**	**82.75**	**15**	P	**P**	**23 58 34.4**	**-1.6**		
ILSW				IAmb	IAmb	23 58 38.2			
	comp=Z,23nm,1.0s								
CNPM	**China Poot**	**82.83**	**16**	P	**P**	**23 58 36.8**	**+0.4**		
XAN	**Xi'an**	**83.05**	**310**	P	**P**	**23 58 40.6**	**+2.4**		
XAN				pP	pwP	23 58 45.3	+0.5		
XAN				pmax	pmax				
	comp=Z,7.0nm,1.5s								
BRSE	**Bradley Lake S**	**83.15**	**16**	P	**P**	**23 58 38.7**	**+0.7**		
	baz=211								
RSO	**Redoubt South**	**83.26**	**15**	P	**P**	**23 58 38.1**	**-0.7**		
BEKR	**Beckworth**	**83.30**	**44**	P	**P**	**23 58 39.7**	**+0.2**		
BEKR				IAmb	IAmb	23 58 43.5			
	comp=Z,18nm,1.3s								
MPMC	**Manual Prospec**	**83.33**	**48**	P	**P**	**23 58 41.7**	**+2.0**		
	baz=240								
BELC	**Belle Mtn. Jos**	**83.41**	**51**	P	**P**	**23 58 42.3**	**+2.1**		
	baz=242								
GSC	**Goldstone, Bar**	**83.45**	**49**	P	**P**	**23 58 39.3**	**-0.9**		
GSC	**Goldstone, Bar**	**83.45**	**49**	P	**P**	**23 58 42.1**	**+1.8**		
	baz=241								
HEC	**Hector,Ludlow**	**83.56**	**50**	P	**P**	**23 58 42.8**	**+2.0**		
	baz=241								
NVAR	**Mina Array Bea**	**83.94**	**46**	P	**P**	**23 58 44.1**	**+1.3**		
	comp=Z,6.8nm,1.0s,baz=225,slow=8.3,SNR=23								
	comp=Z,6.8nm,1.0s								
NVAR	**Mina Array Bea**	**83.94**	**46**	P	**P**	**23 58 43.5**	**+0.7**		
GMRC	**Granite Mounta**	**84.03**	**50**	P	**P**	**23 58 45.4**	**+2.1**		
	baz=242								
IRM	**Iron Mountain**	**84.11**	**51**	P	**P**	**23 58 46.0**	**+2.4**		
	baz=242								
L19K	**White Mountain**	**84.30**	**13**	P	**P**	**23 58 43.5**	**-0.4**		
L19K	**White Mountain**	**84.30**	**13**	P	**P**	**23 58 44.9**	**+1.0**		
	baz=207								
CMAR	**Chiang Mai Arr**	**84.55**	**292**	P	**P**	**23 58 46.4**	**+0.2**		
	comp=Z,1.6nm,0.5s,baz=129,slow=3.7,SNR=8.1								
	comp=Z,1.6nm,0.5s								
CMAR	**Chiang Mai Arr**	**84.55**	**292**	P	**P**	**23 58 46.1**	**0.0**		
RC01	**Rabbit Creek A**	**84.56**	**16**	P	**P**	**23 58 45.8**	**+0.7**		
	baz=212								
HHC	**Hu-ho-hao-te**	**84.60**	**316**	*e*P	**P**	**23 58 47.4**	**+1.4**		
HHC				pmax	pmax				
	comp=Z,23nm,0.8s								
HHC				pmax	pmax				
	comp=Z,860nm,8.8s								
SUA	**Susitna One**	**84.62**	**15**	P	**P**	**23 58 46.0**	**+0.3**		
	baz=211								
TPNV	**Topopah Spring**	**84.63**	**48**	P	**P**	**23 58 48.2**	**+1.8**		
	baz=241								
TTA	**Tatalina**	**84.73**	**12**	P	**P**	**23 58 47.3**	**+1.2**		
	baz=206								
L20K	**Farewell, AK**	**84.77**	**13**	P	**P**	**23 58 46.9**	**+0.6**		
	baz=208								
214A	**Organ Pipe Nat**	**84.86**	**54**	P	**P**	**23 58 50.1**	**+2.7**		
	baz=244								
M22K	**Willow**	**85.03**	**15**	P	**P**	**23 58 48.5**	**+1.0**		
	baz=212								
PMR	**Palmer**	**85.14**	**16**	P	**P**	**23 58 47.9**	**-0.1**		
PMR				IAmb	IAmb	23 59 50.5			
	comp=Z,33nm,1.6s								
PZH	**PanZhiHua**	**85.31**	**300**	P	P	23 58 56.3	+6.4		
PZH				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PZH				pmax	pmax				
	comp=Z,130nm,4.2s								
CD2	**Chengdu**	**85.53**	**305**	P	**P**	**23 58 51.4**	**+0.6**		
SCM	**Sheep Creek Mo**	**85.82**	**16**	P	**P**	**23 58 52.2**	**+0.6**		
	baz=214								
CAST	**Castle Rocks**	**86.00**	**14**	P	**P**	**23 58 52.3**	**0.0**		
	baz=210								
N25K	**Chitina, Valde**	**86.39**	**18**	P	**P**	**23 58 55.3**	**+0.9**		
	baz=217								
TUC	**Tucson**	**86.56**	**54**	P	**P**	**23 58 58.5**	**+2.6**		
	baz=245								
O28M	**Mount Upton**	**87.07**	**20**	P	**P**	**23 58 58.8**	**+0.8**		
	baz=221								
ELIB	**Princess Elisa**	**87.23**	**188**	*d*P	**P**	**23 58 57.1**	**-1.5**		
	comp=Z,5.3nm,0.9s								
TNCH	**TengChong**	**87.40**	**297**	P	**P**	**23 59 02.1**	**+1.8**		
TNCH				S	**S**	**00 09 41.6**	**0.0**		
TNCH				pmax	pmax				
	comp=Z,9.0nm,0.3s								
TNCH				pmax	pmax				
	comp=Z,140nm,5.7s								
M26K	**Nabesna, AK**	**87.48**	**18**	P	**P**	**23 58 59.1**	**-0.5**		
M26K				IAmb	IAmb	23 59 02.1			
	comp=Z,25nm,1.6s								
M26K	**Nabesna, AK**	**87.48**	**18**	P	**P**	**23 59 00.1**	**+0.4**		
	baz=218								
I21K	**Tanana**	**87.55**	**13**	P	**P**	**23 59 00.0**	**+0.2**		
	baz=210								
LZH	**Lanzhou**	**87.69**	**309**	*e*P	**P**	**23 59 03.1**	**+1.7**		
LZH				pP	pwP	23 59 08.2	+0.1		
LZH				sP	sP	23 59 10.4	+5.9		
LZH				pmax	pmax				
	comp=Z,21nm,1.7s								
M27K	**Edge Creek, AK**	**87.77**	**18**	P	**P**	**23 59 01.4**	**+0.2**		
M27K				IAmb	IAmb	23 59 04.0			
	comp=Z,20nm,1.4s								
M27K	**Edge Creek, AK**	**87.77**	**18**	P	**P**	**23 59 03.0**	**+1.8**		
	baz=219								
D08A	**Wollman Farm,**	**87.95**	**38**	P	**P**	**23 59 01.9**	**-0.3**		
HDA	**Harding Lake**	**88.05**	**15**	P	**P**	**23 59 02.8**	**+0.6**		
	baz=214								
ILAR	**Eielson Array**	**88.36**	**15**	P	**P**	**23 59 03.1**	**-0.7**		
	comp=Z,2.3nm,0.8s,baz=232,slow=4.3,SNR=21								
	comp=Z,2.3nm,0.8s								
Q32M	**Nakina River**	**88.56**	**24**	P	**P**	**23 59 08.0**	**+2.9**		
	baz=228								
121A	**Cookes Peak, D**	**88.97**	**55**	P	**P**	**23 59 09.2**	**+1.6**		
	baz=246								
J26L	**Joseph Creek**	**88.99**	**16**	P	**P**	**23 59 06.9**	**0.0**		
J26L				IAmb	IAmb	23 59 09.4			
	comp=Z,4.3nm,0.8s								
J26L	**Joseph Creek**	**88.99**	**16**	P	**P**	**23 59 07.9**	**+1.1**		
	baz=218								
HLID	**Hailey**	**89.00**	**43**	P	**P**	**23 59 09.6**	**+2.1**		
	baz=242								
K27K	**Chicken**	**89.02**	**17**	P	**P**	**23 59 07.6**	**+0.7**		
K27K	**Chicken**	**89.02**	**17**	P	**P**	**23 59 08.0**	**+1.2**		
	baz=219								
DLBC	**Dease Lake**	**89.09**	**25**	P	**P**	**23 59 06.9**	**-0.5**		
DLBC				IAmb	IAmb	00 00 11.2			
	comp=Z,20nm,1.6s								
DLBC	**Dease Lake**	**89.09**	**25**	P	**P**	**23 59 09.1**	**+1.7**		
	baz=230								
R33M	**Jennings River**	**89.35**	**24**	P	**P**	**23 59 10.2**	**+1.5**		
	baz=229								
L29M	**L29M**	**89.47**	**19**	P	**P**	**23 59 09.7**	**+0.7**		
	baz=222								
M30M	**Minto, Yukon**	**89.50**	**20**	P	**P**	**23 59 10.2**	**+1.0**		
	baz=224								
F22K	**John River**	**89.54**	**12**	P	**P**	**23 59 11.1**	**+1.8**		
	baz=210								
NEW	**Newport**	**89.61**	**38**	P	**P**	**23 59 11.1**	**+1.0**		
	baz=240								
DAWY	**Dawson**	**89.81**	**18**	P	**P**	**23 59 11.1**	**+0.4**		
	baz=221								
EGAK	**Eagle**	**89.85**	**17**	P	**P**	**23 59 10.7**	**0.0**		
	baz=220								
Y22A	**Socorro**	**90.15**	**54**	P	**P**	**23 59 14.3**	**+1.2**		
	baz=247								
K29M	**Barlow Dome**	**90.20**	**19**	P	**P**	**23 59 13.3**	**+0.8**		
	baz=223								
I27K	**Kandik River**	**90.37**	**16**	P	**P**	**23 59 15.1**	**+1.9**		
	baz=219								
MNTX	**Cornudas Mount**	**90.52**	**57**	P	**P**	**23 59 16.3**	**+1.6**		
	baz=248								
MNTX	**Cornudas Mount**	**90.52**	**57**	P	**P**	**23 59 17.0**	**+2.3**		
	baz=248								
WTLY	**Watson Lake, Y**	**90.65**	**24**	P	**P**	**23 59 16.8**	**+2.2**		
	baz=231								
ULN	**Ulaanbaatar**	**90.87**	**321**	P	**P**	**23 59 15.7**	**-0.4**		
ULN				IAmb	IAmb	23 59 18.3			
	comp=Z,6.1nm,1.1s								
H27K	**Steamboat Moun**	**90.88**	**16**	P	**P**	**23 59 17.7**	**+2.1**		
	baz=219								
G26K	**Porcupine Rive**	**90.88**	**15**	P	**P**	**23 59 16.2**	**+0.7**		
	baz=217								
ANMO	**Albuquerque**	**90.93**	**53**	P	**P**	**23 59 17.5**	**+0.8**		
	baz=247								
ANMO	**Albuquerque**	**90.93**	**53**	P	**P**	**23 59 18.7**	**+1.9**		
	baz=247								
TX31	**Lajitas Ar. Si**	**91.02**	**59**	P	**P**	**23 59 18.4**	**+1.2**		
	baz=248								
TXAR	**Lajitas Array**	**91.02**	**59**	P	**P**	**23 59 18.9**	**+1.7**		
	comp=Z,4.0nm,0.8s,baz=232,slow=4.4,SNR=34								
	comp=Z,4.0nm,0.8s								
I29M	**Ogilvie Camp,**	**91.09**	**17**	P	**P**	**23 59 16.1**	**-0.4**		
I29M				IAmb	IAmb	23 59 18.5			
	comp=Z,11nm,1.3s								
SONM	**Songino Array**	**91.25**	**321**	P	**P**	**23 59 17.8**	**0.0**		
	comp=Z,1.6nm,1.0s,baz=120,slow=2.6,SNR=7.8								
	comp=Z,1.6nm,1.0s								
G27K	**Doyon Strip**	**91.29**	**15**	P	**P**	**23 59 17.8**	**+0.3**		
	baz=219								
O20A	**White River Ci**	**91.67**	**48**	P	**P**	**23 59 21.9**	**+1.8**		
	baz=246								
BOZ	**Bozeman (W)**	**91.69**	**42**	P	**P**	**23 59 22.7**	**+2.7**		
	baz=244								
S22A	**4UR Ranch, Cre**	**91.74**	**51**	P	**P**	**23 59 22.8**	**+2.3**		
	baz=247								
PDAR	**Pinedale Array**	**91.84**	**45**	P	**P**	**23 59 21.6**	**+0.7**		
	comp=Z,1.1nm,0.8s,baz=224,slow=2.5,SNR=10								
	comp=Z,1.1nm,0.8s								
H17A	**Grant Village**	**91.85**	**43**	P	**P**	**23 59 24.2**	**+3.3**		
	baz=245								
GTA	**Gaotai**	**91.97**	**311**	*e*P	**P**	**23 59 23.5**	**+2.1**		
GTA				pP	pwP	23 59 29.5	+1.5		
GTA				sP	sP	23 59 33.0	+8.6		
GTA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
WAPA	**Wapiti River**	**91.99**	**31**	P	**P**	**23 59 20.9**	**-0.1**		
WAPA				IAmb	IAmb	23 59 24.8			
	comp=Z,13nm,0.9s								
SDCO	**Great Sand Dun**	**92.71**	**51**	P	**P**	**23 59 25.2**	**+0.1**		
	baz=248								
G30M	**tAoh Zraii Nji**	**92.85**	**17**	P	**P**	**23 59 25.0**	**+0.3**		
	baz=224								
RLMT	**Red Lodge**	**93.00**	**43**	P	**P**	**23 59 28.5**	**+2.3**		
	baz=246								
MSTX	**Muleshoe**	**93.40**	**55**	P	**P**	**23 59 29.4**	**+1.3**		
	baz=249								
MSTX	**Muleshoe**	**93.40**	**55**	P	**P**	**23 59 29.6**	**+1.5**		
	baz=249								
ISCO	**Idaho Springs**	**93.40**	**49**	P	**P**	**23 59 29.9**	**+1.6**		
	baz=248								
F31M	**Tsiigehtchic**	**93.86**	**17**	P	**P**	**23 59 29.3**	**+0.1**		
	baz=226								
YKA	**Yellowknife Ar**	**97.68**	**26**	P	**P**	**23 59 46.3**	**-0.4**		
	comp=Z,0.7nm,0.7s,baz=249,slow=4.7,SNR=9.7								
	comp=Z,0.7nm,0.7s								
A36M	**Sachs Harbour**	**99.04**	**16**	P	**Pdif**	**23 59 53.4**	**+0.7**		
	baz=235								
WMQ	**Urumqi**	**101.99**	**312**	*e*P	**Pdif**	**00 00 08.3**	**+1.7**		
GEYT	**Alibeck**	**123.50**	**303**	PKP	**PKPdf**	**00 05 09.1**	**-1.0**		
	comp=Z,0.7nm,0.4s,baz=67,slow=8.0,SNR=2.3								
AKASG	**Malin Array Be**	**139.12**	**328**	PKhKP	PKPpre	00 05 35.3			
	comp=Z,0.4nm,0.4s,baz=53,slow=3.2,SNR=1.7								
BURAR	**Bucovina Array**	**143.12**	**327**	⇑P	**PKPdf**	**00 05 45.8**	**-0.8**		
ARCR	**ARCALIA**	**143.91**	**327**	⇑P	PKPbc	00 05 46.8	+1.2		
MLR	**Muntele Rosu**	**144.05**	**324**	⇓P	**PKPdf**	**00 05 47.8**	**-0.5**		
MLR	**Muntele Rosu**	**144.05**	**324**	PKPdf	PKPbc	00 05 46.8	+0.6		
SECR		**144.25**	**323**	⇑P	**PKPab**	**00 05 46.8**	**+0.4**		
CBBR	**Cluj-Babes-Bol**	**144.53**	**327**	⇑P	PKPbc	00 05 48.3	+0.7		
VOIR		**144.58**	**324**	⇑P	**PKPab**	**00 05 47.8**	**+0.1**		
MTUR	**Matau**	**144.70**	**324**	⇓P	**PKPdf**	**00 05 50.9**	**+1.5**		
OKC	**Ostrava-Krasne**	**144.75**	**335**	*e*PKP	PKPbc	00 05 48.3	+0.2		
SGRR	**Singureni**	**144.78**	**322**	⇑P	**PKPab**	**00 05 48.3**	**0.0**		
MARR	**Marisel-Cluj**	**144.81**	**327**	⇓P	PKPbc	00 05 49.2	+0.6		
ARR	**Arges**	**144.85**	**324**	⇑P	**PKPdf**	**00 05 49.6**	**-0.1**		
OSTC	**Ostas**	**144.90**	**338**	*e*PKP	**PKPab**	**00 05 48.5**	**-0.1**		
DRGR		**144.94**	**328**	⇑P	**PKPdf**	**00 05 49.8**	**+0.1**		
UPC	**Upice**	**145.01**	**338**	*e*PKP	**PKPab**	**00 05 49.5**	**+0.5**		
DPC	**Dobruska-Polom**	**145.03**	**337**	*e*PKP	**PKPab**	**00 05 49.4**	**+0.3**		
MORC	**Moravsky Berou**	**145.04**	**336**	*e*PKP	**PKPab**	**00 05 49.4**	**+0.3**		
MORC				*e*		00 06 50.3			
HUMR	**Humele**	**145.17**	**323**	⇓P	**PKPdf**	**00 05 51.5**	**+1.4**		
MAUC	**Maruska**	**145.25**	**335**	*e*PKP	**PKPbc**	**00 05 49.9**	**+0.1**		
CLL	**Collm**	**145.32**	**341**		**PKPbc**	**00 05 48.6**	**-1.2**		
CLL	**Collm**	**145.32**	**341**	*e*x	x	00 06 01.0			
CLL	**Collm**	**145.32**	**341**	*e*PKPbc	**PKPbc**	**00 05 49.0**	**-0.9**		
	comp=Z,41nm,1.0s								
CLL	**Collm**	**145.32**	**341**	*e*PKiKP	**PKiKP**	**00 05 53.0**	**-1.0**		
CLL	**Collm**	**145.32**	**341**	*e*pPKiKP	**PKiKP**	**00 05 57.0**	**+3.0**		
BRG	**Berggiesshubel**	**145.40**	**340**	Amp		00 05 53.0			
	comp=Z,42nm,1.1s								
BRG	**Berggiesshubel**	**145.40**	**340**	Amp		00 06 00.2			
	comp=Z,18nm,1.0s								
BRG	**Berggiesshubel**	**145.40**	**340**	Amp		00 06 06.6			
	comp=Z,25nm,1.0s								
BRG	**Berggiesshubel**	**145.40**	**340**	*i* PKP	**PKPab**	**00 05 50.7**	**+0.3**		
BRG	**Berggiesshubel**	**145.40**	**340**	P	**PKiKP**	**00 05 59.3**	**+5.0**		
BRG	**Berggiesshubel**	**145.40**	**340**	P	PKiKP	00 06 05.7	+11		
DEV	**Deva**	**145.45**	**326**	⇓P	**PKPab**	**00 05 52.8**	**+2.1**		
JAVC	**Velka Javorina**	**145.72**	**335**	*e*PKP	**PKPab**	**00 05 52.6**	**+0.9**		
JAVC				*e*		00 06 53.7			
VRAC	**Vranov**	**145.78**	**336**	*e*PKP	**PKPbc**	**00 05 51.7**	**+0.2**		
VRAC				*e*		00 06 52.3			
VLAD	**Vladila**	**145.82**	**323**	⇑P	**PKPab**	**00 05 52.9**	**+0.8**		
SIRR	**Siria**	**145.83**	**328**	⇑P	**PKPdf**	**00 05 48.1**	**-3.1**		
GZR	**Gura Zlata**	**145.84**	**326**	⇑P	**PKPdf**	**00 05 51.7**	**+0.4**		
SURR	**Surduc**	**145.94**	**327**	⇑P	**PKPbc**	**00 05 52.1**	**0.0**		
PRU	**Pruhonice**	**145.96**	**339**	*e*PKP	**PKPab**	**00 05 53.4**	**+0.9**		
KRUC	**Moravsky**	**146.06**	**336**	*e*PKP	**PKPb

WRA Warramunga Arr 39.30 262 P **P** **23 54 39.8 -2.4**
comp=Z,2.3nm,0.8s,baz=95,slow=8.5,SNR=5.2
comp=Z,2.3nm,0.8s
WRA Warramunga Arr 39.30 262 P **P** **23 54 39.9 -2.4**
AS31 Alice Springs 39.43 256 P **P** **23 54 41.9 -1.5**
ASAR Alice Springs 39.43 256 P **P** **23 54 42.0 -1.3**
comp=Z,10nm,0.8s,baz=86,slow=8.9,SNR=10
ASAR PcP **PcP** **23 56 50.8 -0.7**
comp=Z,2.1nm,0.8s,baz=116,slow=3.2,SNR=5.8
comp=Z,10nm,0.8s
ASAR Alice Springs 39.43 256 P **P** **23 54 41.2 -2.2**
FORT Forrest 44.72 246 P **P** **23 55 25.9 -0.6**
FORT IAmb IAmb 23 55 32.8
comp=Z,28nm,0.8s
FITZ Fitzroy Crossi 47.71 263 P **P** **23 55 49.7 -0.4**
MBWA Marble Bar 52.72 258 P **P** **23 56 27.7 -0.4**
MBWA IAmb IAmb 23 56 29.4
comp=Z,23nm,1.1s
NWAO Narrogin (SRO) 53.97 243 P **P** **23 56 36.1 -1.0**
NWAO IAmb IAmb 23 56 44.1
comp=Z,26nm,1.2s
VNDA Vanda 58.64 184 P **P** **23 57 08.2 -1.5**
VNDA IAmb IAmb 23 58 31.2
comp=Z,19nm,1.7s
SBA Scott Base 58.73 182 P **P** **23 57 10.4 +0.1**
CASY Casey 62.69 204 P **P** **23 57 35.8 -1.7**
CASY IAmb IAmb 23 59 32.4
comp=Z,24nm,1.5s
MJAR Matsushiro Arr 66.14 327 P **P** **23 57 59.3 -1.1**
comp=Z,3.8nm,0.9s,baz=155,slow=5.7,SNR=5.0
comp=Z,3.8nm,0.9s
QSPA South Pole Qui 70.72 180 P **P** **23 58 29.6 +0.7**
comp=Z,8.2nm,0.7s,baz=33,slow=4.3,SNR=6.5
comp=Z,8.2nm,0.7s
QSPA South Pole Qui 70.72 180 P **P** **23 58 29.4 +0.5**
QSPA IAmb IAmb 23 58 30.1
comp=Z,11nm,0.9s
KSRS Korea Array 72.47 322 P **P** **23 58 40.1 +0.5**
comp=Z,0.9nm,0.6s,baz=134,slow=7.0,SNR=2.0
comp=Z,0.9nm,0.6s
PETK Petropavlovsk- 73.90 349 P **P** **23 58 47.2 -0.5**
comp=Z,3.0nm,0.9s,baz=124,slow=7.9,SNR=3.8
comp=Z,3.0nm,0.9s
KLR Kul'dur 78.83 332 P **P** **23 59 16.2 +0.4**
comp=Z,2.4nm,0.8s,baz=121,slow=2.2,SNR=5.8
comp=Z,2.4nm,0.8s
MAW Mawson 80.73 201 P **P** **23 59 26.3 +0.3**
BELA Belgrano 2 81.36 174 P **P** **23 59 28.7 -0.5**
P18K Big Mountain, 81.88 14 P **P** **23 59 30.3 -1.8**
P18K IAmb IAmb 00 00 03.5
comp=Z,39nm,1.9s
P18K Big Mountain, 81.88 14 P **P** **23 59 32.2 +0.1**
baz=207
N16K Nishlik Lake 82.09 12 P **P** **23 59 36.1 +3.0**
baz=204
O18K Koktuh Hills 82.30 14 P **P** **23 59 34.5 +0.3**
EDW2 Edwards Air Fo 82.53 49 P **P** **23 59 37.9 +1.9**
baz=240
MONP2 Monument Peak 82.71 52 P **P** **23 59 38.9 +1.6**
baz=241
O19K Port Alsworth 82.81 14 P **P** **23 59 37.2 +0.5**
baz=208
IKP In-Ko-Pah, Jac 82.83 52 P **P** **23 59 40.1 +2.4**
baz=242
ILSW Iliamna Southw 82.90 15 P **P** **23 59 37.1 -0.4**
ILSW IAmb IAmb 23 59 38.3
comp=Z,32nm,1.4s
CNPM China Poot 82.99 16 P **P** **23 59 38.3 +0.5**
MPMC Manual Prospec 83.47 48 P **P** **23 59 43.4 +2.3**
baz=240
BELC Belle Mtn. Jos 83.55 51 P **P** **23 59 43.8 +2.4**
baz=241
GSC Goldstone, Bar 83.58 49 P **P** **23 59 43.6 +2.0**
baz=241
HEC Hector,Ludlow 83.69 50 P **P** **23 59 44.1 +2.0**
baz=241
NVAR Mina Array Bea 84.08 46 P **P** **23 59 46.2 +2.0**
comp=Z,2.0nm,0.7s,baz=225,slow=9.2,SNR=7.6
comp=Z,2.0nm,0.7s
GMRC Granite Mounta 84.16 50 P **P** **23 59 46.7 +2.1**
baz=242
IRM Iron Mountain 84.24 51 P **P** **23 59 47.3 +2.4**
baz=242
M19K Big River Lodg 84.31 14 P **P** **23 59 44.3 -0.2**
M19K IAmb IAmb 00 02 13.6
comp=Z,37nm,1.9s
L19K White Mountain 84.45 13 P **P** **23 59 45.9 +0.6**
CMAR Chiang Mai Arr 84.55 292 P **P** **23 59 46.9 +0.1**
comp=Z,1.1nm,0.3s,baz=137,slow=3.9,SNR=4.5
comp=Z,1.1nm,0.3s
TPNV Topopah Spring 84.77 48 P **P** **23 59 49.7 +2.0**
baz=241
SUA Susitna One 84.78 15 P **P** **23 59 46.6 -0.4**
SUA IAmb IAmb 23 59 49.5
comp=Z,8.2nm,0.8s
SUA Susitna One 84.78 15 P **P** **23 59 47.3 +0.2**
baz=211
CAST Castle Rocks 86.15 14 P **P** **23 59 53.4 -0.3**
baz=210
N25K Chitina, Valde 86.54 18 P **P** **23 59 56.3 +0.5**
baz=217
TRF Thorofare Moun 86.59 14 P **P** **23 59 56.3 +0.2**
baz=211
MCK McKinley 87.15 15 P **P** **00 00 00.0 +1.4**
baz=213
O29M Mount Kennedy 87.40 21 P **P** **00 00 00.7 +0.6**
baz=222
YUK3 Moose Creek 87.91 19 P **P** **00 00 03.1 +0.5**
baz=220
ILAR Eielson Array 88.52 15 P **P** **00 00 04.3 -0.8**
comp=Z,1.5nm,0.7s,baz=226,slow=5.1,SNR=8.1
comp=Z,1.5nm,0.7s
TROLL Troll, Antarti 88.78 182 P **P** **00 00 06.0 -0.7**
M29M Somme Creek 89.03 19 P **P** **00 00 08.2 +0.5**
baz=222
YAK Yakutsk 89.07 340 P **P** **00 00 07.3 -0.4**
comp=Z,3.7nm,0.5s,baz=0.6,slow=0.3,SNR=1.6
comp=Z,3.7nm,0.5s
J26L Joseph Creek 89.14 16 P **P** **00 00 08.8 +0.6**
baz=218
SNAA Sanae 89.22 180 P **P** **00 00 07.4 -1.2**
R33M Jennings River 89.51 24 P **P** **00 00 11.2 +1.2**
baz=229
VNA3 Neumayer Olymp 89.56 178 P **P** **00 00 09.8 -0.4**
L29M L29M 89.63 19 P **P** **00 00 11.1 +0.7**
baz=222
M30M Minto, Yukon 89.66 20 P **P** **00 00 11.1 +0.5**
baz=224
VNA2 Neumayer--Watz 89.94 179 P **P** **00 00 12.0 0.0**
baz=156,slow=1.0
DAWY Dawson 89.96 18 P **P** **00 00 12.3 +0.3**
baz=221
EGAK Eagle 90.01 17 P **P** **00 00 12.3 +0.3**
baz=220
ANMO Albuquerque 91.06 53 P **P** **00 00 20.0 +2.0**
baz=247
TXAR Lajitas Array 91.14 59 P **P** **00 00 20.4 +2.1**
comp=Z,2.0nm,0.8s,baz=222,slow=6.1,SNR=8.5
comp=Z,2.0nm,0.8s
SONM Songino Array 91.32 321 P **P** **00 00 18.6 -0.2**
comp=Z,1.1nm,0.9s,baz=125,slow=2.7,SNR=4.1
comp=Z,1.1nm,0.9s
PDAR Pinedale Array 91.98 45 P **P** **00 00 22.9 +0.8**
comp=Z,0.5nm,0.8s,baz=232,slow=3.0,SNR=3.7
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 97.83 26 P **P** **00 00 47.0 -1.0**
comp=Z,0.7nm,0.8s,baz=251,slow=4.8,SNR=4.5
comp=Z,0.7nm,0.8s
A36M Sachs Harbour 99.20 16 P **Pdif** **00 00 54.7 +0.7**
baz=235
AKASG Malin Array Be 139.22 328 PKP **PKPdf** **00 06 40.0 +0.1**
comp=Z,0.3nm,0.4s,baz=58,slow=2.6,SNR=1.6
OKC Ostrava-Krasne 144.86 335 *e*PKP **PKPab** **00 06 48.3 -0.7**
OSTC Ostas 145.01 338 *e*PKP **PKPbc** **00 06 49.8 +0.2**
UPC Upice 145.13 338 *e*PKP **PKPab** **00 06 50.4 +0.4**
DPC Dobruska-Polom 145.14 337 *e*PKP **PKPbc** **00 06 49.7 -0.4**
MAUC Maruska 145.36 335 *e*PKP **PKPab** **00 06 51.3 +0.4**
CLL Collm 145.44 341 ‖ *i*PKPbc **PKPdf** **00 06 50.7 -0.2**
comp=Z,35nm,0.7s
CLL *i* PKiKP **PKiKP** **00 06 55.9 +1.0**
comp=Z,24nm,0.8s
CLL *i* x x 00 07 02.6
BRG Berggiesshubel 145.52 340 *i* P **PKPab** **00 06 51.8 +0.4**
BRG Amp 00 06 52.6
comp=Z,24nm,0.9s
BRG Berggiesshubel 145.52 340 P **PKiKP** **00 06 57.8 +2.7**
BRG Amp 00 06 59.9
comp=Z,16nm,1.0s

PRU Pruhonice 146.08 339 *e*PKP **PKPdf** **00 06 51.7 -0.4**
NKC Novy Kostel 146.55 341 *e*PKP **PKPbc** **00 06 54.9 +0.5**
KHC Kasperske Hory 147.14 339 *e*PKP **PKPbc** **00 06 56.3 +0.2**
CKRC Cesky Krumlov 147.15 338 *e*PKP **PKPab** **00 06 57.4 -0.3**
GERES GERESS Array B 147.34 338 PKPbc **PKPbc** **00 06 56.8 0.0**
comp=Z,2.7nm,0.8s,baz=29,slow=2.2,SNR=4.5
TORD Torodi Ar. Bea 171.86 222 PKP **PKPdf** **00 07 21.8 -0.9**
comp=Z,1.1nm,0.8s,baz=112,slow=3.5,SNR=4.8
TORD PKPab **PKPab** **00 08 43.9 -0.9**
comp=Z,0.6nm,0.8s,baz=105,slow=3.7,SNR=2.6

*IDC **03** 23:56:03.7±0.5, 19°.01S×176°.07E, h0km, mb4.4/17, mbtmp4.3/19, ML4.8/2, Error ellipse: s-maj=22.5km s-min=14.9km az=133.0*
*NEIC **03** 23:56:05.2±2.4, 19°.0S±0°.1×176°.34E±0°.10, h10km±1km, mb5.0/33, Error ellipse: s-maj=24.1km s-min=10.1km az=147.0*
*BJI **03** 23:56:06.0±0.0, 18°.59S×176°.09E, h10km, mb4.7/20, mB5.3/4, Ms5.5/1, Ms7 5.3/1*
ISC 03 23:56:05.2±0.4, **19°.00S**±0°.08×**176°.25E**±0°.07, **h10**km, **n202, s156**/188, **mb4.8**/38, **15C-6D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.13**	**54**	Pn	**Pn**	**23 56 40.6**	**-0.3**
	22nm,0.3s,baz=236,slow=9.9,SNR=14						
MSVF				Sn	**Sn**	**23 57 06.0**	**-1.5**
	82nm,0.3s,baz=133,slow=22,SNR=15						
	101nm,0.5s						
MSVF	**Nonsavu**	**2.13**	**54**	Pn	**Pn**	**23 56 39.3**	**-1.7**
MSVF				Sn	**Sn**	**23 57 04.5**	**-3.0**
OUENC	**Ouen Island, N**	**9.43**	**247**	Pn	**Pn**	**23 58 21.0**	**-0.3**
DZM	**Mont Dzumac**	**9.68**	**250**	Pn	**Pn**	**23 58 25.0**	**+0.3**
	0.2nm,0.3s,baz=97,slow=18,SNR=16						
DZM	**Mont Dzumac**	**9.68**	**250**	Pn	**Pn**	**23 58 24.5**	**-0.2**
KOUNC	**Koumac, New Ca**	**11.37**	**260**	Pn	**Pn**	**23 58 48.4**	**+0.7**
URZ	**Urewera**	**19.20**	**178**	Pn	**Pn**	**00 00 31.6**	**+1.4**
	1.2nm,0.3s,baz=13,slow=19,SNR=9.6						
	11nm,0.6s						
MRZ	**Mangatainoka R**	**21.59**	**181**	P	**P**	**00 00 54.7**	**-0.5**
NNZ	**Nelson**	**22.28**	**186**	P	**P**	**00 01 02.7**	**+0.2**
PLWZ	**Palliser**	**22.51**	**182**	P	**P**	**00 01 05.6**	**+0.6**
LTZ	**Lake Taylor**	**23.94**	**187**	P	**P**	**00 01 20.1**	**+0.5**
LTZ				IAmb	IAmb	00 01 32.2	
	comp=Z,31nm,0.9s						
EIDS	**Eidsvold**	**24.13**	**250**	P	**P**	**00 01 20.2**	**-1.3**
EIDS				IAmb	IAmb	00 01 22.7	
	comp=Z,38nm,1.2s						
CTA	**Charters Tower**	**28.27**	**263**	P	**P**	**00 02 01.8**	**+2.8**
	comp=Z,3.7nm,0.9s,baz=108,slow=9.6,SNR=3.0						
STKA	**Stephens Creek**	**33.66**	**241**	P	**P**	**00 02 46.0**	**-0.4**
	comp=Z,4.4nm,0.8s,baz=87,slow=11,SNR=6.6						
	comp=Z,4.4nm,0.8s						
STKA	**Stephens Creek**	**33.66**	**241**	P	**P**	**00 02 46.4**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**38.42**	**345**	T	T	00 44 14.8	
	baz=166,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**38.43**	**345**	T	T	00 44 14.9	
	baz=166,slow=76,SNR=50						
H11S1	**WAKE ISLAND Hy**	**38.44**	**345**	T	T	00 44 13.6	
	baz=166,slow=76,SNR=54						
WR0	**Warramunga Arr**	**39.26**	**261**	P	**P**	**00 03 31.9**	**-2.5**
WB0	**Warramunga Arr**	**39.42**	**262**	P	**P**	**00 03 33.4**	**-2.2**
WB2	**Warramunga Arr**	**39.44**	**261**	P	**P**	**00 03 33.6**	**-2.2**
WRA	**Warramunga Arr**	**39.45**	**261**	P	**P**	**00 03 33.4**	**-2.5**
	comp=Z,1.5nm,0.8s,baz=97,slow=8.5,SNR=10						
	comp=Z,1.5nm,0.8s						
WRA	**Warramunga Arr**	**39.45**	**261**	P	**P**	**00 03 33.4**	**-2.5**
AS31	**Alice Springs**	**39.61**	**256**	P	**P**	**00 03 36.1**	**-1.2**
ASAR	**Alice Springs**	**39.61**	**256**	P	**P**	**00 03 35.8**	**-1.5**
	comp=Z,6.1nm,0.9s,baz=86,slow=8.9,SNR=45						
ASAR				PcP	**PcP**	**00 05 43.5**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=94,slow=3.6,SNR=3.7						
	comp=Z,6.1nm,0.9s						
ASAR	**Alice Springs**	**39.61**	**256**	P	**P**	**00 03 35.6**	**-1.6**
FORT	**Forrest**	**44.95**	**245**	P	**P**	**00 04 19.7**	**-1.0**
FORT				IAmb	IAmb	00 04 28.9	
	comp=Z,26nm,0.8s						
KNRA	**Kununurra**	**45.34**	**267**	P	**P**	**00 04 22.7**	**-1.3**
MBWA	**Marble Bar**	**52.89**	**257**	P	**P**	**00 05 21.1**	**-0.6**
MBWA				IAmb	IAmb	00 05 53.7	
	comp=Z,28nm,1.3s						
VNDA	**Vanda**	**58.98**	**184**	P	**P**	**00 06 05.3**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=44,slow=8.5,SNR=2.1						
	comp=Z,1.2nm,1.0s						
VNDA	**Vanda**	**58.98**	**184**	P	**P**	**00 06 05.2**	**+0.6**
VNDA				IAmb	IAmb	00 06 18.4	
	comp=Z,34nm,1.9s						
SBA	**Scott Base**	**59.07**	**182**	P	**P**	**00 06 04.6**	**-0.5**
MJAR	**Matsushiro Arr**	**65.91**	**327**	P	**P**	**00 06 50.9**	**-0.5**
	comp=Z,6.3nm,1.2s,baz=160,slow=6.5,SNR=4.4						
	comp=Z,6.3nm,1.2s						
QSPA	**South Pole Qui**	**71.05**	**180**	P	**P**	**00 07 21.9**	**-1.5**
	comp=Z,5.2nm,0.9s,baz=12,slow=2.2,SNR=13						
	comp=Z,5.2nm,0.9s						
QSPA	**South Pole Qui**	**71.05**	**180**	P	**P**	**00 07 22.3**	**-1.1**
QSPA				IAmb	IAmb	00 07 38.6	
	comp=Z,14nm,1.2s						
PETK	**Petropavlovsk-**	**73.59**	**348**	P	**P**	**00 07 36.9**	**-1.5**
	comp=Z,3.9nm,1.1s,baz=130,slow=2.3,SNR=4.0						
	comp=Z,3.9nm,1.1s						
NJ2	**Nanjing**	**74.81**	**312**	*e*P	**P**	**00 07 45.7**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CN2	**Changchun**	**77.89**	**325**	P	**P**	**00 08 03.7**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HNS	**HongShan**	**80.60**	**315**	⇑P	**P**	**00 08 19.5**	**+1.4**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MAW	**Mawson**	**81.08**	**201**	P	**P**	**00 08 21.1**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=76,slow=19,SNR=2.2						
	comp=Z,3.3nm,0.8s						
BELA	**Belgrano 2**	**81.68**	**174**	P	**P**	**00 08 23.6**	**+0.2**
BELA				IAmb	IAmb	00 08 25.1	
	comp=Z,21nm,1.9s						
N16K	**Nishlik Lake**	**81.74**	**12**	P	**P**	**00 08 27.1**	**+3.4**
	baz=204						
EDW2	**Edwards Air Fo**	**82.24**	**49**	P	**P**	**00 08 29.0**	**+2.0**
	baz=240						
ISA	**Isabella, Lake**	**82.28**	**48**	P	**P**	**00 08 29.6**	**+2.4**
	baz=240						
O19K	**Port Alsworth**	**82.46**	**14**	P	**P**	**00 08 28.4**	**+1.0**
	baz=208						
ILSW	**Iliamna Southw**	**82.55**	**15**	P	**P**	**00 08 27.7**	**-0.4**
ILSW				IAmb	IAmb	00 08 29.5	
	comp=Z,41nm,1.4s						
YBH	**Yreka Blue Hor**	**82.63**	**41**	P	**P**	**00 08 30.8**	**+1.9**
	comp=Z,2.1nm,0.9s,baz=233,slow=10,SNR=3.4						
	comp=Z,2.1nm,0.9s						
PFO	**Pinyon Flats O**	**82.74**	**51**	P	**P**	**00 08 31.6**	**+1.9**
	baz=242						
XAN	**Xi'an**	**82.96**	**309**	P	**P**	**00 08 31.7**	**+0.9**
XAN				pP	pwP	00 08 36.5	-0.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
N19K	**Bonanza Creek**	**82.97**	**14**	P	**P**	**00 08 31.0**	**+0.8**
	baz=208						
BEKR	**Beckworth**	**83.14**	**44**	P	**P**	**00 08 32.5**	**+0.7**
BEKR				IAmb	IAmb	00 08 34.7	
	comp=Z,9.1nm,1.3s						
MPMC	**Manual Prospec**	**83.17**	**48**	P	**P**	**00 08 33.8**	**+1.7**
	baz=241						
HEC	**Hector,Ludlow**	**83.41**	**50**	P	**P**	**00 08 35.1**	**+2.0**
	baz=241						
LCH	**Last Change Ra**	**83.64**	**47**	P	**P**	**00 08 35.0**	**+0.7**
LCH				IAmb	IAmb	00 08 36.6	
	comp=Z,11nm,1.5s						
NVAR	**Mina Array Bea**	**83.78**	**46**	P	**P**	**00 08 37.0**	**+1.9**
	comp=Z,2.3nm,0.9s,baz=224,slow=7.5,SNR=11						
	comp=Z,2.3nm,0.9s						
NVAR	**Mina Array Bea**	**83.78**	**46**	P	**P**	**00 08 35.5**	**+0.4**
IRM	**Iron Mountain**	**83.96**	**51**	P	**P**	**00 08 38.6**	**+2.7**
	baz=242						
L19K	**White Mountain**	**84.10**	**13**	P	**P**	**00 08 35.4**	**-0.6**
L19K				IAmb	IAmb	00 08 38.4	
	comp=Z,18nm,1.1s						
L19K	**White Mountain**	**84.10**	**13**	P	**P**	**00 08 37.6**	**+1.6**
	baz=207						
RC01	**Rabbit Creek A**	**84.36**	**16**	P	**P**	**00 08 38.5**	**+1.2**
	baz=212						
SUA	**Susitna One**	**84.43**	**15**	P	**P**	**00 08 38.1**	**+0.4**
	baz=211						
TPNV	**Topopah Spring**	**84.47**	**48**	P	**P**	**00 08 40.8**	**+2.1**
	baz=241						
CMAR	**Chiang Mai Arr**	**84.52**	**292**	P	**P**	**00 08 39.5**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=128,slow=3.6,SNR=9.7						
	comp=Z,0.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**84.52**	**292**	P	**P**	**00 08 38.5**	**-0.5**
L20K	**Farewell, AK**	**84.58**	**13**	P	**P**	**00 08 39.4**	**+1.0**
	baz=208						
M22K	**Willow**	**84.83**	**15**	P	**P**	**00 08 39.7**	**+0.1**
M22K	**Willow**	**84.83**	**15**	P	**P**	**00 08 40.6**	**+1.0**
	baz=212						
PMR	**Palmer**	**84.95**	**16**	P	**P**	**00 08 41.8**	**+1.6**
	baz=213						
PZH	**PanZhiHua**	**85.25**	**300**	P	**P**	**00 08 43.2**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
PPLA	**Purkeypile**	**85.32**	**14**	P	**P**	**00 08 42.0**	**-0.3**
SML	**Sawmill**	**85.34**	**16**	P	**P**	**00 08 42.2**	**0.0**
CD2	**Chengdu**	**85.45**	**305**	P	**P**	**00 08 43.2**	**-0.4**
BMN	**Battle Mountai**	**85.50**	**45**	P	**P**	**00 08 43.6**	**-0.1**
BMN				IAmb	IAmb	00 08 46.8	
	comp=Z,19nm,1.4s						
SCM	**Sheep Creek Mo**	**85.62**	**16**	P	**P**	**00 08 44.1**	**+0.5**
	baz=214						
KLU	**Klutina**	**85.73**	**17**	P	**P**	**00 08 44.7**	**+0.5**
	baz=216						
CAST	**Castle Rocks**	**85.80**	**14**	P	**P**	**00 08 44.2**	**-0.3**
	baz=210						
N25K	**Chitina, Valde**	**86.19**	**18**	P	**P**	**00 08 47.2**	**+0.7**
	baz=217						
MCARA	**McCarthy VSAT**	**86.48**	**18**	P	**P**	**00 08 49.0**	**+1.2**
	baz=218						
G08A	**Pilot Rock**	**86.84**	**40**	P	**P**	**00 08 50.8**	**+0.7**
G08A				IAmb	IAmb	00 08 52.9	
	comp=Z,8.3nm,1.2s						
P29M	**Windy Craggy**	**86.84**	**21**	P	**P**	**00 08 51.2**	**+1.6**
	baz=223						
PAX	**Paxson**	**87.05**	**16**	P	**P**	**00 08 52.1**	**+1.4**
	baz=216						
M26K	**Nabesna, AK**	**87.29**	**18**	P	**P**	**00 08 53.1**	**+1.3**
	baz=218						
YUK8	**Steele Glacier**	**87.40**	**20**	P	**P**	**00 08 53.9**	**+1.3**
	baz=221						
ELIB	**Princess Elisa**	**87.42**	**188**	*d*P	**P**	**00 08 51.0**	**-1.6**
	comp=Z,4.0nm,1.0s						
YUK3	**Moose Creek**	**87.56**	**19**	P	**P**	**00 08 54.4**	**+1.1**
	baz=220						
M27K	**Edge Creek, AK**	**87.58**	**18**	P	**P**	**00 08 53.9**	**+0.6**
M27K				IAmb	IAmb	00 08 55.4	
	comp=Z,15nm,1.2s						
M27K	**Edge Creek, AK**	**87.58**	**18**	P	**P**	**00 08 54.9**	**+1.6**
	baz=219						
LZH	**Lanzhou**	**87.60**	**309**	*e*P	**P**	**00 08 55.2**	**+1.1**
LZH				sP	pwP	00 09 02.3	+1.8
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
HDA	**Harding Lake**	**87.85**	**15**	P	**P**	**00 08 55.1**	**+0.7**
	baz=214						
S34M	**Telegraph Cree**	**88.12**	**25**	P	**P**	**00 08 57.6**	**+1.8**
	baz=229						
IL31		**88.17**	**15**	P	**P**	**00 08 54.5**	**-1.3**
ILAR	**Eielson Array**	**88.17**	**15**	P	**P**	**00 08 55.5**	**-0.5**
	comp=Z,2.3nm,1.0s,baz=239,slow=6.0,SNR=18						
	comp=Z,2.3nm,1.0s						
J26L	**Joseph Creek**	**88.79**	**16**	P	**P**	**00 09 00.1**	**+1.1**
	baz=218						
K27K	**Chicken**	**88.82**	**17**	P	**P**	**00 09 00.6**	**+1.6**
	baz=219						
HLID	**Hailey**	**88.83**	**43**	P	**P**	**00 09 02.1**	**+2.3**
	baz=242						
DLBC	**Dease Lake**	**88.90**	**25**	P	**P**	**00 09 01.6**	**+2.0**
	baz=230						
TMUT	**Trail Mountain**	**89.08**	**48**	P	**P**	**00 09 00.7**	**-0.6**
TMUT				IAmb	IAmb	00 09 04.7	
	comp=Z,8.5nm,1.3s						
R33M	**Jennings River**	**89.16**	**24**	P	**P**	**00 09 02.5**	**+1.6**
	baz=229						
L29M	**L29M**	**89.28**	**19**	P	**P**	**00 09 02.4**	**+1.1**
	baz=222						
M30M	**Minto, Yukon**	**89.31**	**20**	P	**P**	**00 09 02.3**	**+0.9**
	baz=224						
NEW	**Newport**	**89.43**	**38**	P	**P**	**00 09 04.2**	**+1.9**
	baz=240						
DAWY	**Dawson**	**89.61**	**18**	P	**P**	**00 09 03.4**	**+0.6**
	baz=221						
EGAK	**Eagle**	**89.66**	**17**	P	**P**	**00 09 03.6**	**+0.7**
	baz=220						
K29M	**Barlow Dome**	**90.00**	**19**	P	**P**	**00 09 05.7**	**+1.0**
	baz=223						
Y22A	**Socorro**	**90.00**	**54**	P	**P**	**00 09 07.0**	**+1.5**
	baz=247						
F24K	**Squaw Lake**	**90.22**	**13**	P	**P**	**00 09 05.6**	**0.0**
	baz=214						
MNTX	**Cornudas Mount**	**90.38**	**57**	P	**P**	**00 09 08.6**	**+1.5**
	baz=248						
MNTX	**Cornudas Mount**	**90.38**	**57**	P	**P**	**00 09 09.4**	**+2.2**
	baz=248						
MCMT	**McKenzie Canyo**	**90.41**	**42**	P	**P**	**00 09 07.2**	**0.0**
WTLY	**Watson Lake, Y**	**90.46**	**24**	P	**P**	**00 09 08.7**	**+1.9**
	baz=231						
H27K	**Steamboat Moun**	**90.68**	**16**	P	**P**	**00 09 08.7**	**+0.9**
	baz=219						
G26K	**Porcupine Rive**	**90.69**	**15**	P	**P**	**00 09 08.6**	**+0.9**
	baz=217						
ULN	**Ulaanbaatar**	**90.75**	**321**	P	**P**	**00 09 07.7**	**-0.9**
ULN				IAmb	IAmb	00 09 17.2	
	comp=Z,15nm,1.8s						
ANMO	**Albuquerque**	**90.78**	**53**	P	**P**	**00 09 09.3**	**+0.2**
ANMO				IAmb	IAmb	00 09 12.0	
	comp=Z,7.2nm,1.4s						
ANMO	**Albuquerque**	**90.78**	**53**	P	**P**	**00 09 10.8**	**+1.6**
	baz=247						
TX31	**Lajitas Ar. Si**	**90.89**	**59**	P	**P**	**00 09 08.4**	**-1.2**
TX31	**Lajitas Ar. Si**	**90.89**	**59**	P	**P**	**00 09 11.4**	**+1.8**
	baz=249						
TXAR	**Lajitas Array**	**90.89**	**59**	P	**P**	**00 09 11.8**	**+2.1**
	comp=Z,2.2nm,0.9s,baz=224,slow=6.0,SNR=21						
	comp=Z,2.2nm,0.9s						
D23K	**Nanushuk River**	**90.89**	**11**	P	**P**	**00 09 10.0**	**+1.4**
	baz=211						
SONM	**Songino Array**	**91.12**	**321**	P	**P**	**00 09 10.1**	**-0.2**
	comp=Z,2.0nm,1.1s,baz=142,slow=3.3,SNR=8.4						
	comp=Z,2.0nm,1.1s						
O20A	**White River Ci**	**91.51**	**48**	P	**P**	**00 09 14.4**	**+2.0**
	baz=246						
BOZ	**Bozeman (W)**	**91.52**	**42**	P	**P**	**00 09 13.5**	**+1.2**
	baz=244						
S22A	**4UR Ranch, Cre**	**91.58**	**51**	P	**P**	**00 09 15.2**	**+2.3**
	baz=247						
BW06	**Boulder Array**	**91.67**	**45**	P	**P**	**00 09 14.8**	**+1.7**
	baz=246						
PDAR	**Pinedale Array**	**91.67**	**45**	P	**P**	**00 09 13.7**	**+0.5**
	comp=Z,1.3nm,1.1s,baz=190,slow=4.2,SNR=6.9						
	comp=Z,1.3nm,1.1s						
C24K	**Franklin Bluff**	**91.91**	**12**	P	**P**	**00 09 14.5**	**+1.2**
	baz=213						
EPYK	**Eagle Plains**	**92.08**	**17**	P	**P**	**00 09 15.1**	**+0.9**
	baz=224						
E27K	**Coleen River**	**92.18**	**15**	P	**P**	**00 09 15.5**	**+0.9**
	baz=219						
SDCO	**Great Sand Dun**	**92.56**	**51**	P	**P**	**00 09 19.0**	**+1.6**
	baz=248						
SDCO	**Great Sand Dun**	**92.56**	**51**	P	**P**	**00 09 19.4**	**+2.0**
	baz=248						
G30M	**tAoh Zraii Nji**	**92.66**	**17**	P	**P**	**00 09 17.8**	**+0.9**
	baz=224						
MSTX	**Muleshoe**	**93.25**	**55**	P	**P**	**00 09 21.5**	**+1.0**
	baz=249						
F31M	**Tsiigehtchic**	**93.67**	**

MLR	**Muntele Rosu**	**143.92**	**324**	PKP	**PKPbc**	00 15 39.5	+0.6
	comp=Z,4.9nm,1.0s,baz=8.8,slow=2.7,SNR=5.3						
MLR	**Muntele Rosu**	**143.92**	**324**	⇑P	**PKPdf**	**00 15 40.1**	**-1.0**
MLR	**Muntele Rosu**	**143.92**	**324**		PKPbc	00 15 39.1	+0.1
DOPR	**Dopca**	**143.94**	**325**	⇑P	PKPbc	00 15 39.8	+1.0
SECR		**144.12**	**323**	⇑P	PKPbc	00 15 40.1	+0.7
VOIR		**144.45**	**324**	⇓P	**PKPab**	**00 15 39.2**	**-1.0**
OKC	**Ostrava-Krasne**	**144.60**	**335**	*e*PKP	PKPbc	00 15 41.2	+0.5
MARR	**Marisel-Cluj**	**144.67**	**327**	⇑P	PKPbc	00 15 41.7	+0.5
ARR	**Arges**	**144.72**	**325**	⇑P	**PKPab**	**00 15 40.6**	**-0.6**
OSTC	**Ostas**	**144.74**	**338**	*e*PKP	PKPbc	00 15 41.4	+0.2
DRGR		**144.80**	**328**	⇑P	PKPbc	00 15 42.0	+0.4
UPC	**Upice**	**144.85**	**338**	*e*PKP	**PKPdf**	**00 15 42.1**	**-0.4**
DPC	**Dobruska-Polom**	**144.87**	**338**	*e*PKP	PKPbc	00 15 42.1	+0.5
MORC	**Moravsky Berou**	**144.88**	**336**	PKPdf	**PKPab**	**00 15 39.9**	**-1.8**
MORC	**Moravsky Berou**	**144.88**	**336**	*e*PKP	**PKPdf**	**00 15 42.3**	**-0.3**
HUMR	**Humele**	**145.05**	**323**	⇑P	**PKPbc**	**00 15 39.4**	**-2.9**
MAUC	**Maruska**	**145.10**	**335**	*e*PKP	**PKPbc**	**00 15 42.3**	**-0.1**
CLL	**Collm**	**145.15**	**342**		**PKPbc**	**00 15 39.7**	**-2.7**
CLL	**Collm**	**145.15**	**342**	*i* PKPbc	**PKPab**	**00 15 42.6**	**+0.1**
	comp=Z,51nm,1.4s						
CLL				*i* PKiKP	**sPKPdf**	**00 15 46.4**	**+0.3**
CLL				*i* x	x	00 15 51.2	
BRG	**Berggiesshubel**	**145.24**	**340**	*i* PKP	**PKPdf**	**00 15 43.6**	**+0.5**
BRG				Amp		00 15 45.3	
	comp=Z,56nm,1.4s						
BRG	**Berggiesshubel**	**145.24**	**340**	P	**PKiKP**	**00 15 51.8**	**+4.8**
BRG				Amp		00 15 53.3	
	comp=Z,38nm,1.4s						
DEV	**Deva**	**145.32**	**327**	⇑P	**PKPbc**	**00 15 35.5**	**-7.6**
JAVC	**Velka Javorina**	**145.56**	**335**	*e*PKP	**PKPab**	**00 15 45.8**	**+1.6**
VRAC	**Vranov**	**145.62**	**336**	PKPbc	**PKPab**	**00 15 44.4**	**+0.1**
	comp=Z,9.6nm,1.2s,baz=43,slow=5.8,SNR=8.3						
VRAC	**Vranov**	**145.62**	**336**	*e*PKP	**PKPab**	**00 15 44.9**	**+0.6**
SIRR	**Siria**	**145.69**	**328**	⇑P	**PKPab**	**00 15 45.0**	**+0.3**
GZR	**Gura Zlata**	**145.71**	**326**	⇓P	**PKPdf**	**00 15 41.7**	**-2.5**
PRU	**Pruhonice**	**145.80**	**339**	*e*PKP	**PKPab**	**00 15 45.0**	**+0.1**
SURR	**Surduc**	**145.81**	**327**	⇓P	**PKPdf**	**00 15 43.4**	**-0.9**
KRUC	**Moravsky**	**145.90**	**336**	*e*PKP	**PKPab**	**00 15 45.5**	**+0.1**
BZS	**Buzias**	**146.16**	**327**	⇓P	**PKPdf**	**00 15 40.1**	**-4.7**
HERR	**Herculane**	**146.24**	**326**	⇑P	**PKPdf**	**00 15 44.8**	**-0.2**
KHC	**Kasperske Hory**	**146.86**	**339**		**PKPbc**	**00 15 48.0**	**+0.2**
KHC	**Kasperske Hory**	**146.86**	**339**	*e*PKP	**PKPab**	**00 15 48.5**	**-0.6**
KHC				*ex*	x	00 15 57.3	
CKRC	**Cesky Krumlov**	**146.87**	**338**	*e*PKP	**PKPab**	**00 15 49.2**	**+0.1**
CONA	**Conrad Observa**	**147.03**	**335**	*ep*PKP	pPKPdf	00 15 49.3	+0.6
RONA	**Rosalia, Austr**	**147.04**	**335**	*ep*PKP	pPKPdf	00 15 49.4	+0.7
	comp=Z,15nm,1.3s						
GERES	**GERESS Array B**	**147.06**	**339**	PKPbc	**PKPbc**	**00 15 48.0**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=4.3,slow=3.9,SNR=4.0						
MORH	**Mrgy, Hungar**	**147.18**	**331**	⇓P	**PKPbc**	**00 15 48.5**	**-0.2**
VTS	**Vitosha**	**147.22**	**322**	⇑P	**PKiKP**	**00 15 52.0**	**+0.5**
FRGS	**Fruska Gora**	**147.39**	**328**	⇑P	**PKiKP**	**00 15 52.0**	**+0.3**
MOA	**Molln**	**147.70**	**337**	*e*PKP	**PKPab**	**00 15 53.8**	**+1.4**
ARSA	**Arzberg**	**147.71**	**335**	*e*PKP	**PKPdf**	**00 15 48.5**	**+1.1**
	comp=Z,12nm,2.4s						
BIOA	**Bad Ischl, Aus**	**148.06**	**338**	*ep*PKiKP	**PKPab**	**00 15 54.9**	**+1.1**
	comp=Z,7.4nm,1.3s						
SOKA	**Soboth**	**148.38**	**335**	*e*PKiKP	**PKPbc**	**00 15 52.5**	**+0.4**
KBA	**Koelnbreinsper**	**148.69**	**337**	*e*PKP	**PKiKP**	**00 15 55.6**	**+1.1**
OBKA	**Obir**	**148.71**	**335**	*e*PKP	**PKPbc**	**00 15 52.3**	**-0.6**
MYKA	**Terra Mystica**	**148.96**	**336**	*ep*PKP	**PKiKP**	**00 15 55.9**	**+1.0**
	comp=Z,18nm,1.6s						
WATA	**Walderalm**	**149.09**	**340**	*e*PKP	**PKPbc**	**00 15 52.9**	**-1.0**
	comp=Z,7.5nm,1.2s						
WTTA	**Wattenberg**	**149.13**	**339**	*e*PKP	**PKPbc**	**00 15 54.1**	**-0.1**
	comp=Z,13nm,1.2s						
BFO	**Black Forest**	**149.15**	**344**	PKPbc	**PKPbc**	**00 15 52.4**	**-1.6**
RETA	**Reutte**	**149.21**	**341**	*ep*PKP	pPKPdf	00 15 52.7	+0.4
	comp=Z,7.5nm,1.7s						
MOTA	**Moosalm**	**149.23**	**340**	*e*PKiKP	**PKPbc**	**00 15 54.4**	**+0.1**
	comp=Z,11nm,1.6s						
ABTA	**Abfaltersbach**	**149.27**	**338**	*e*PKP	**PKPbc**	**00 15 53.8**	**-0.5**
	comp=Z,8.4nm,1.3s						
SQTA	**Sankt Quirin**	**149.31**	**340**	PKP	**PKPab**	**00 15 57.8**	**-1.2**
	comp=Z,11nm,1.5s						
FETA	**Feichten**	**149.64**	**340**	*e*PKiKP	**PKPbc**	**00 15 55.3**	**0.0**
	comp=Z,9.4nm,1.3s						
DAVA	**Damuels**	**149.66**	**341**	*e*PKP	**PKPbc**	**00 15 54.1**	**-1.3**
	comp=Z,9.6nm,1.2s						
DAVOX	**Davos/Dischmat**	**150.12**	**341**	PKPbc	**PKPbc**	**00 15 55.6**	**-0.9**
	comp=Z,4.2nm,0.8s,baz=45,slow=2.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**172.17**	**223**	PKP	**PKPdf**	**00 16 13.0**	**-2.4**
	comp=Z,1.2nm,1.0s,baz=83,slow=2.2,SNR=4.2						
TORD				PKPab	**PKPab**	**00 17 36.9**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=123,slow=5.3,SNR=2.2						

IDC 03 23:59:34.1±7.5, 18°.89S×176°.98W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=317.8km s-min=119.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.80**	**260**	P	P	00 07 58.4	+0.3
	0.3nm,0.3s,baz=96,slow=7.6,SNR=16 0.3nm,0.3s						
ASAR	**Alice Springs**	**45.85**	**255**	P	P	00 07 57.9	-0.6
	0.9nm,0.6s,baz=91,slow=8.2,SNR=11 0.9nm,0.6s						
AKASG	**Malin Array Be**	**142.05**	**333**	PKP	PKPdf	00 19 07.4	-0.7
	0.7nm,0.5s,baz=47,slow=3.8,SNR=5.5						

IDC 03 23:59:51.3±18.0, 40°.46S×91°.40W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=667.6km s-min=370.8km az=111.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**11.94**	**60**	T	T	00 15 41.2	
	baz=230,slow=73,SNR=108						
H03S1	**Juan Fernandez**	**11.95**	**60**	T	T	00 15 38.9	
	baz=230,slow=73,SNR=84						
H03S3	**Juan Fernandez**	**11.96**	**60**	T	T	00 15 37.8	
	baz=230,slow=73,SNR=95						
H03N3	**Juan Fernandez**	**12.18**	**59**	T	T	00 15 50.8	
	baz=232,slow=71,SNR=309						
H03N2	**Juan Fernandez**	**12.18**	**59**	T	T	00 15 51.9	
	baz=232,slow=71,SNR=311						
H03N1	**Juan Fernandez**	**12.20**	**59**	T	T	00 15 51.3	
	baz=232,slow=71,SNR=349						
TXAR	**Lajitas Array**	**70.37**	**349**	P	P	00 11 06.9	0.0
	0.7nm,1.1s,baz=159,slow=7.7,SNR=2.7 0.7nm,1.1s						
NVAR	**Mina Array Bea**	**82.28**	**339**	P	P	00 12 14.5	-0.1
	0.5nm,0.7s,baz=166,slow=4.6,SNR=4.8 0.5nm,0.7s						
PDAR	**Pinedale Array**	**84.46**	**347**	P	P	00 12 25.8	+0.1
	1.5nm,0.8s,baz=147,slow=5.4,SNR=15 1.5nm,0.8s						

*NEIC **04** 00:03:52.7±1.8, 19°.4S×70°.1×176°.28E±0°.10, h10km±1km, mb4.5/10, Error ellipse: s-maj=25.2km s-min=10.8km az=150.0*

*IDC **04** 00:03:53.0±0.8, 19°.30S×175°.83E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=35.2km s-min=20.0km az=145.0*

ISC 04 00:03:53.5±0.5, 19°.3S±0°.1×176°.16E±0°.09, h10km, n40, σ1°73/41, mb4.3/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.34**	**50**	Pn	**Pn**	**00 04 32.6**	**+0.4**
	11nm,0.3s,baz=221,slow=15,SNR=9.5						
MSVF				Sn	**Sb**	**00 05 02.5**	**-2.4**
	11nm,0.3s,baz=279,slow=19,SNR=10						
MSVF	**Nonsavu**	**2.34**	**50**	Pn	**Pn**	**00 04 31.3**	**-0.9**
MSVF				Sn	**Sn**	**00 04 59.1**	**-2.0**
DZM	**Mont Dzumac**	**9.52**	**251**	Pn	**Pn**	**00 06 11.3**	**+0.5**
	0.2nm,0.3s,baz=82,slow=15,SNR=8.2						
DZM	**Mont Dzumac**	**9.52**	**251**	Pn	**Pn**	**00 06 10.7**	**-0.1**
HNR	**Honiara**	**18.48**	**300**		**Pn**	**00 08 11.4**	**+1.6**
URZ	**Urewera**	**18.96**	**178**	P	**Pn**	**00 08 18.8**	**+3.3**
	13nm,0.7s,baz=122,slow=2.2,SNR=5.1						
EIDS	**Eidsvold**	**23.97**	**251**	P	**P**	**00 09 08.1**	**-0.2**
EIDS				IAmb	IAmb	00 09 09.8	
	comp=Z,24nm,1.2s						
STKA	**Stephens Creek**	**33.48**	**241**	P	**P**	**00 10 31.9**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=78,slow=16,SNR=4.8 comp=Z,2.4nm,0.7s						
STKA	**Stephens Creek**	**33.48**	**241**	P	**P**	**00 10 30.7**	**-2.3**
STKA				IAmb	IAmb	00 10 37.3	
	comp=Z,2.5nm,1.4s						

WB0	**Warramunga Arr**	**39.30**	**262**	P	**P**	**00 11 20.9**	**-2.1**
WB0				IAmb	IAmb	00 11 29.2	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**39.33**	**262**	P	**P**	**00 11 21.1**	**-2.2**
	comp=Z,0.9nm,0.7s,baz=98,slow=8.6,SNR=5.3 comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**39.33**	**262**	P	**P**	**00 11 20.7**	**-2.6**
AS31	**Alice Springs**	**39.47**	**256**	P	**P**	**00 11 23.3**	**-1.1**
ASAR	**Alice Springs**	**39.47**	**256**	P	**P**	**00 11 22.9**	**-1.6**
	comp=Z,4.1nm,0.8s,baz=85,slow=8.7,SNR=39						
ASAR				PcP	**PcP**	**00 13 32.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=100,slow=3.3,SNR=4.4 comp=Z,4.1nm,0.8s						
ASAR	**Alice Springs**	**39.47**	**256**	P	**P**	**00 11 23.2**	**-1.2**
MBWA	**Marble Bar**	**52.76**	**258**	P	**P**	**00 13 08.2**	**-0.9**
MBWA				IAmb	IAmb	00 13 10.4	
	comp=Z,12nm,0.9s						
NWAO	**Narrogin (SRO)**	**54.03**	**243**	P	**P**	**00 13 16.1**	**-2.2**
QSPA	**South Pole Qui**	**70.81**	**180**	P	**P**	**00 15 10.8**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=24,slow=2.7,SNR=8.7 comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**70.81**	**180**	P	**P**	**00 15 09.0**	**-1.2**
QSPA				IAmb	IAmb	00 15 11.9	
	comp=Z,7.8nm,1.1s						
BELA	**Belgrano 2**	**81.45**	**174**	P	**P**	**00 16 08.9**	**-1.6**
BELA				IAmb	IAmb	00 16 12.7	
	comp=Z,4.0nm,1.1s						
NVAR	**Mina Array Bea**	**84.00**	**46**	P	**P**	**00 16 27.2**	**+2.7**
	comp=Z,1.5nm,0.8s,baz=217,slow=7.9,SNR=4.9 comp=Z,1.5nm,0.8s						
SEY	**Seymchan**	**84.02**	**349**	P	**P**	**00 16 25.0**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=147,slow=5.5,SNR=7.0 comp=Z,1.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**84.53**	**292**	P	**P**	**00 16 28.6**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=103,slow=2.9,SNR=4.5 comp=Z,0.8nm,0.4s						
ILAR	**Eielson Array**	**88.42**	**15**	P	**P**	**00 16 46.2**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=223,slow=4.7,SNR=10.0 comp=Z,0.8nm,0.8s						
TXAR	**Lajitas Array**	**91.08**	**59**	P	P	00 17 02.8	+4.0
	comp=Z,0.7nm,0.8s,baz=224,slow=6.2,SNR=7.7 comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**91.90**	**45**	P	**P**	**00 17 05.2**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=222,slow=20,SNR=3.2 comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**97.74**	**26**	P	Pdif	00 17 30.0	+1.6
	comp=Z,0.2nm,0.7s,baz=248,slow=4.6,SNR=2.8 comp=Z,0.2nm,0.7s						
MORC	**Moravsky Berou**	**145.07**	**336**	*e*PKP	**PKiKP**	**00 23 33.3**	**-1.7**
VRAC	**Vranov**	**145.81**	**336**	*e*PKP	**PKiKP**	**00 23 36.1**	**-0.4**
KRUC	**Moravsky**	**146.09**	**336**	*e*PKP	**PKiKP**	**00 23 36.8**	**-0.3**
CONA	**Conrad Observa**	**147.22**	**335**	*e*PKP	**PKPbc**	**00 23 36.0**	**-1.2**
	comp=Z,9.5nm,2.0s						
RONA	**Rosalia, Austr**	**147.23**	**335**	*e*PKP	**PKiKP**	**00 23 39.5**	**-0.1**
	comp=Z,15nm,1.4s						
BIOA	**Bad Ischl, Aus**	**148.26**	**337**	*e*PKP	**PKPab**	**00 23 45.8**	**+2.8**
	comp=Z,4.8nm,1.3s						
OBKA	**Obir**	**148.89**	**335**	PKP	**PKPab**	**00 23 47.2**	**+1.6**
	comp=Z,6.9nm,1.3s						
MYKA	**Terra Mystica**	**149.15**	**336**	PKP	**PKPab**	**00 23 49.6**	**+3.0**
	comp=Z,0.1nm,0.2s						
RETA	**Reutte**	**149.42**	**340**	*e*PKP	**PKPdf**	**00 23 40.3**	**+1.7**
ABTA	**Abfaltersbach**	**149.47**	**338**	*e*PKP	**PKPab**	**00 23 49.6**	**+1.6**
	comp=Z,9.2nm,1.3s						
SQTA	**Sankt Quirin**	**149.51**	**340**	*e*PKP	**PKPab**	**00 23 49.9**	**+1.8**
	comp=Z,8.7nm,1.3s						
DAVOX	**Davos/Dischmat**	**150.32**	**341**	PKPbc	**PKPbc**	**00 23 44.6**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=39,slow=6.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**171.94**	**222**	PKP	**PKPdf**	**00 24 03.5**	**0.0**
	comp=Z,0.8nm,0.9s,baz=109,slow=0.3,SNR=3.9						

*UPP **04** 00:03:59.7±0.1, 58°.81N×15°.09E, h0km, ML3.0, Suspected explosion*

*DNK **04** 00:04:00.1±0.3, 58°.81N×15°.09E, h0km, ML3.0(UPP), Explosion*

ISC 04 00:03:59.4±1.1, 58°.81N±0°.03×15°.10E±0°.03, h0km, n25, σ0°38/29, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASKU	**Askersund**	**0.17**	**303**	P	**Pg**	**00 04 02.9**	**+0.3**
ASKU				S	**Sg**	**00 04 05.2**	**+0.5**
ASKU	**Askersund**	**0.17**	**303**	P	**Pg**	**00 04 02.9**	**+0.3**
ASKU				S	**Sg**	**00 04 05.2**	**+0.5**
LNKU	**Linkoeping**	**0.62**	**160**	P	**Pg**	**00 04 11.6**	**+0.4**
LNKU	**Linkoeping**	**0.62**	**160**	P	**Pg**	**00 04 11.6**	**+0.4**
NRAU	**Nora**	**0.77**	**358**	P	**Pg**	**00 04 13.9**	**-0.2**
NRAU	**Nora**	**0.77**	**358**	P	**Pg**	**00 04 13.9**	**-0.2**
ESKU	**Eskilstuna**	**0.79**	**57**	P	**Pg**	**00 04 14.6**	**+0.1**
ESKU	**Eskilstuna**	**0.79**	**57**	P	**Pg**	**00 04 14.6**	**+0.1**
VIKU	**Vikbolandet**	**0.89**	**109**	P	**Pg**	**00 04 16.4**	**0.0**
VIKU	**Vikbolandet**	**0.89**	**109**	P	**Pg**	**00 04 16.4**	**0.0**
NASU	**Vaermlandsnaes**	**1.00**	**278**	P	**Pg**	**00 04 18.4**	**-0.2**
NASU	**Vaermlandsnaes**	**1.00**	**278**	P	**Pg**	**00 04 18.4**	**-0.2**
EKSU	**Eksjoe**	**1.24**	**175**	P	**Pg**	**00 04 22.7**	**-0.4**
EKSU				S	**Sg**	**00 04 39.6**	**+0.4**
EKSU	**Eksjoe**	**1.24**	**175**	P	**Pg**	**00 04 22.7**	**-0.4**
EKSU				S	**Sg**	**00 04 39.6**	**+0.4**
VSTU	**Vaestervik**	**1.38**	**146**	P	**Pg**	**00 04 25.2**	**-0.5**
VSTU	**Vaestervik**	**1.38**	**146**	P	**Pg**	**00 04 25.2**	**-0.5**
BACU	**Backbrunna**	**1.47**	**43**	P	**Pn**	**00 04 26.8**	**-0.3**
BACU	**Backbrunna**	**1.47**	**43**	P	**Pn**	**00 04 26.8**	**-0.3**
FINU	**Finntorp**	**1.48**	**295**	P	**Pn**	**00 04 26.7**	**-0.6**
FINU	**Finntorp**	**1.48**	**295**	P	**Pn**	**00 04 26.7**	**-0.6**
UDD	**Uddeholm**	**1.50**	**330**	P	**Pn**	**00 04 26.9**	**-0.6**
FIBU	**Brunna**	**1.59**	**45**	P	**Pn**	**00 04 29.0**	**+0.2**
FIBU	**Brunna**	**1.59**	**45**	P	**Pn**	**00 04 29.0**	**+0.2**
VANU	**Vaenersborg**	**1.61**	**260**	P	**Pn**	**00 04 29.1**	**+0.1**
VANU	**Vaenersborg**	**1.61**	**260**	P	**Pn**	**00 04 29.1**	**+0.1**

*IDC **04** 00:08:22.2±6.2, 19°.35S×175°.80E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=236.1km s-min=33.8km az=142.0*

ISC 04 00:08:20.9±4.4, 19°.8S±0°.9×176°.3E±0°.7, h10km, n5, σ1°95/6, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.60**	**40**	Pn	**Pn**	**00 09 01.5**	**-1.5**
	2.4nm,0.3s,baz=279,slow=23,SNR=1.6						
MSVF				Sn	**Sn**	**00 09 35.1**	**+0.4**
	27nm,0.3s,baz=265,slow=23,SNR=9.8						
WRA	**Warramunga Arr**	**39.40**	**262**	P	**P**	**00 15 48.9**	**-2.3**
	0.4nm,1.0s,baz=96,slow=8.9,SNR=1.6 0.4nm,1.0s						
ASAR	**Alice Springs**	**39.48**	**256**	P	**P**	**00 15 52.4**	**+0.5**
	1.9nm,0.8s,baz=82,slow=8.8,SNR=14 1.9nm,0.8s						
SEY	**Seymchan**	**84.54**	**349**	P	**P**	**00 20 55.4**	**+1.7**
	0.5nm,0.3s,baz=131,slow=6.1,SNR=4.4 0.5nm,0.3s						
ILAR	**Eielson Array**	**88.87**	**15**	P	**P**	**00 21 15.6**	**+0.8**
	0.3nm,0.7s,baz=233,slow=7.5,SNR=4.1 0.3nm,0.7s						

*IDC **04** 00:08:32.4±1.3, 36°.38N×29°.37E, h0km, mb3.2/3, mbtmp3.6/8, ML3.5/4, Error ellipse: s-maj=28.7km s-min=18.2km az=146.0*

*DDA **04** 00:08:36.8±0.0, 36°.28N×29°.26E, h42km, MW4.1*

*NIC **04** 00:08:37.5±0.0, 36°.23N×29°.34E, h51km±1km, Ml3.8/5*

*ISK **04** 00:08:38.8, 36°.36N×29°.29E, h31km, ML3.5/20*

*ATH **04** 00:08:38.9, 36°.36N×29°.24E, h20km±3km, ML3.2/5, Error ellipse: s-maj=4.2km s-min=1.0km az=181.0*

*THE **04** 00:08:39.6, 36°.28N×29°.18E, h8km±3km, ML3.2/5, Error ellipse: s-maj=4.2km s-min=0.6km az=88.0*

ISC 04 00:08:37.9±0.9, 36°.23N±0°.03×29°.33E±0°.02, h42km±6km, n87, σ1°53/142, mb3.2/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.21**	**110**	P	**Pn**	**00 08 46.0**	**+0.4**
KSL				S	**Sn**	**00 08 53.1**	**+2.2**
	5μm,0.4s						
KSL	**Kastellorizon**	**0.21**	**110**	P	**Pn**	**00 08 46.0**	**+0.4**
KSL				S	**Sn**	**00 08 53.1**	**+2.2**
KSL	**Kastellorizon**	**0.21**	**110**	P	**Pn**	**00 08 45.9**	**+0.4**
KSL				S	**Sn**	**00 08 51.8**	**+0.9**
KSL				AML	AML	00 08 53.5	
	comp=N,10676μm,0.5s						
KSL				AML	AML	00 08 54.0	
	comp=E,8499μm,0.3s						

AKAS	**Kas**	**0.22**	**88**	Pg	**Pn**	**00 08 46.9**	**+1.1**
AKAS	**Kas**	**0.22**	**88**	P	**Pn**	**00 08 45.8**	**+0.1**
AKAS				S	**Sn**	**00 08 52.0**	**+0.8**
FETY	**Fethiye**	**0.46**	**334**	Pg	**Pn**	**00 08 46.8**	**-1.5**
FETY				Sg	**Sn**	**00 08 53.6**	**-1.9**
ELL	**Elmali**	**0.70**	**41**	Pg	**Pn**	**00 08 51.3**	**-0.2**
ELL	**Elmali**	**0.70**	**41**	P	**Pn**	**00 08 51.0**	**-0.5**
ELL				S	**Sn**	**00 09 01.9**	**+0.7**
DALY	**Dalyan (Mula)**	**0.81**	**317**	Pg	**Pn**	**00 08 52.2**	**-0.6**
DALY				Sg	**Sn**	**00 09 02.6**	**-1.1**
AKUM	**Antalya-Kumluc**	**0.82**	**83**	P	**Pn**	**00 08 53.7**	**+0.6**
AKUM				S	**Sn**	**00 09 07.2**	**+3.2**
AKUM				*i* AML	AML	00 09 08.0	
	comp=E,643nm,0.5s						
AKUM				*i* AML	AML	00 09 11.0	
	comp=E,510nm,0.4s						
CAEL	**Denizli, Camel**	**0.90**	**359**	P	**Pn**	**00 08 53.3**	**-0.9**
CAEL				S	**Sn**	**00 09 06.4**	**+0.3**
CAEL				*i* AML	AML	00 09 14.0	
	comp=E,1μm,0.4s						
CAEL				*i* AML	AML	00 09 18.0	
	comp=E,1μm,0.7s						
ARG	**Arkhangelos**	**0.98**	**270**	P	**Pn**	**00 08 55.7**	**+0.5**
ARG				S	**Sn**	**00 09 08.9**	**+1.1**
	comp=E,1μm,0.3s						
ARG	**Arkhangelos**	**0.98**	**270**	Pg	**Pn**	**00 08 55.7**	**+0.5**
ARG				Sg	**Sn**	**00 09 09.0**	**+1.1**
ARG	**Arkhangelos**	**0.98**	**270**	P	**Pn**	**00 08 55.7**	**+0.5**
ARG				S	**Sn**	**00 09 08.9**	**+1.1**
ARG	**Arkhangelos**	**0.98**	**270**	P	**Pn**	**00 08 55.7**	**+0.5**
ARG				S	**Sn**	**00 09 08.2**	**+0.3**
ARG				AML	AML	00 09 09.4	
	comp=N,1929μm,0.4s						
ARG				AML	AML	00 09 12.0	
	comp=E,2374μm,0.2s						
GOLH	**Golhisar**	**1.03**	**10**	P	**Pn**	**00 08 55.8**	**-0.2**
GOLH				S	**Sn**	**00 09 10.0**	**+0.7**
GOLH				*i* AML	AML	00 09 10.0	
	comp=E,1μm,0.4s						
GOLH				*i* AML	AML	00 09 12.0	
	comp=E,2μm,0.4s						
KORT	**Korkueli**	**1.13**	**46**	Pg	**Pn**	**00 08 58.2**	**+0.8**
KORT	**Korkueli**	**1.13**	**46**	P	**Pn**	**00 08 58.1**	**+0.7**
KORT				S	**Sn**	**00 09 14.5**	**+2.8**
KORT				*i* AML	AML	00 09 16.0	
	comp=E,585nm,0.4s						
KORT				*i* AML	AML	00 09 21.0	
	comp=E,680nm,0.7s						
YER	**Yerkesik**	**1.24**	**317**	P	**Pn**	**00 09 00.0**	**+1.1**
YER	**Yerkesik**	**1.24**	**317**	Pn	**Pn**	**00 08 59.4**	**+0.5**
APMY	**Acipayam-Deniz**	**1.25**	**359**	Pn	**Pn**	**00 08 58.8**	**-0.2**
ANTB	**Antalya**	**1.26**	**57**	Pn	**Pn**	**00 09 00.7**	**+1.7**
TAVA	**DENİZLİ_Tavas**	**1.28**	**345**	P	**Pn**	**00 08 59.8**	**+0.2**
TAVA				S	**Sn**	**00 09 15.6**	**0.0**
TAVA				*i* AML	AML	00 09 17.0	
	comp=E,811nm,0.5s						
TAVA				*i* AML	AML	00 09 18.0	
	comp=E,606nm,0.5s						
MULA	**Mugla, Merkez-**	**1.31**	**322**	P	**Pn**	**00 09 00.8**	**+0.9**
MULA				S	**Sn**	**00 09 17.4**	**+1.1**
MULA				*i* AML	AML	00 09 20.0	
	comp=E,420nm,0.3s						
MULA				*i* AML	AML	00 09 20.0	
	comp=E,730nm,0.3s						
BUCA	**Burdur, Bucak-**	**1.48**	**41**	P	**Pn**	**00 09 02.8**	**+0.7**
BUCA				S	**Sn**	**00 09 23.1**	**+2.8**
BUCA				*i* AML	AML	00 09 27.0	
	comp=E,178nm,0.5s						
BUCA				*i* AML	AML	00 09 30.0	
	comp=E,312nm,0.7s						
DAT	**Datca**	**1.50**	**290**	P	**Pn**	**00 09 03.0**	**+0.5**
DAT				S	**Sn**	**00 09 21.8**	**+0.9**
DAT	**Datca**	**1.50**	**290**	Pn	**Pn**	**00 09 03.4**	**+0.9**
BRDR	**BURDUR-Merkez**	**1.58**	**21**	P	**Pn**	**00 09 04.1**	**+0.5**
BRDR				S	**Sn**	**00 09 25.4**	**+2.5**

YVAC	**Isparta, Yalva**	**2.55**	**36**	P	**Pn**	**00 09 17.0**	**+0.2**
YVAC				S	**Sn**	**00 09 47.7**	**+1.0**
YVAC				*i* AML	AML	00 09 54.0	
	comp=N,20nm,0.8s						
YVAC				*i* AML	AML	00 10 05.0	
	comp=N,24nm,1.1s						
DOGA	**KONYA_Doganhis**	**2.65**	**44**	P	**Pn**	**00 09 19.0**	**+0.7**
DOGA				S	**Sn**	**00 09 50.7**	**+1.5**
DOGA				*i* AML	AML	00 09 51.0	
	comp=N,62nm,0.5s						
DOGA				*i* AML	AML	00 09 57.0	
	comp=N,61nm,0.3s						
DGB	**zmir**	**2.68**	**314**	P	**Pn**	**00 09 18.0**	**-0.5**
DGB				S	**Sn**	**00 09 50.4**	**+0.8**
AKMS	**Akamas**	**2.73**	**115**	P	**Pn**	**00 09 19.5**	**+0.3**
AKMS				S	**Sn**	**00 09 49.7**	**-1.3**
AKMS				AML	AML	00 09 51.9	
	comp=N,2.1nm,0.4s						
AKMS				AML	AML	00 09 51.9	
	comp=N,2.1nm,0.4s						
AKMS				AML	AML	00 09 52.0	
	comp=N,1.5nm,0.3s						
AKMS				AML	AML	00 09 52.0	
	comp=N,1.5nm,0.3s						
ZKR	**Zakros**	**2.77**	**247**	P	**Pn**	**00 09 21.6**	**+1.8**
ZKR				AML	AML	00 09 56.9	
	comp=N,282µm,0.7s						
ZKR				AML	AML	00 09 57.3	
	comp=E,417µm,0.7s						
BLCB	**Balcova**	**2.83**	**320**	P	**Pn**	**00 09 22.3**	**+1.7**
DEMI	**Demirci**	**2.85**	**350**	P	**Pn**	**00 09 20.3**	**-0.8**
DEMI				*i* AML	AML	00 10 07.0	
	comp=E,23nm,0.4s						
DEMI				*i* AML	AML	00 10 13.0	
	comp=E,32nm,0.4s						
GDZ	**Gediz**	**2.86**	**2**	P	**Pn**	**00 09 19.9**	**-1.3**
GDZ				*i* AML	AML	00 09 57.0	
	comp=E,25nm,0.4s						
GDZ				*i* AML	AML	00 09 57.0	
	comp=E,36nm,0.6s						
ALFC	**Alefka**	**2.86**	**111**	P	**Pn**	**00 09 21.1**	**0.0**
ALFC				S	**Sn**	**00 09 52.9**	**-1.5**
ALFC				AML	AML	00 09 54.7	
	comp=E,0.6nm,0.4s						
ALFC				AML	AML	00 09 54.7	
	comp=E,0.6nm,0.4s						
ALFC				AML	AML	00 09 54.7	
	comp=E,0.6nm,0.4s						
ALFC				AML	AML	00 09 54.7	
	comp=E,0.6nm,0.4s						
KMER	**Konya-Meram**	**2.88**	**57**	P	**Pn**	**00 09 23.1**	**+1.8**
KMER				S	**Sn**	**00 09 58.6**	**+3.8**
KMER				*i* AML	AML	00 10 01.0	
	comp=E,46nm,0.3s						
KMER				*i* AML	AML	00 10 01.0	
	comp=E,48nm,0.4s						
NATA	**Nata**	**3.01**	**118**	P	**Pn**	**00 09 23.6**	**+0.4**
NATA				S	**Sn**	**00 09 59.3**	**+1.3**
KKBE	**Karaman, Kazim**	**3.06**	**70**	P	**Pn**	**00 09 25.8**	**+1.9**
KKBE				S	**Sn**	**00 10 01.7**	**+2.3**
KKBE				*i* AML	AML	00 10 11.0	
	comp=E,43nm,0.5s						
KKBE				*i* AML	AML	00 10 12.0	
	comp=E,29nm,0.6s						
OSC1	**CSNet OBS 1**	**3.15**	**149**	P	**Pn**	**00 09 25.3**	**+0.3**
OSC1				S	**Sn**	**00 10 01.3**	**-0.1**
APE	**Apeiranthos**	**3.17**	**287**	P	**Pn**	**00 09 25.5**	**+0.1**
SZAC	**Souni**	**3.25**	**116**	P	**Pn**	**00 09 26.5**	**+0.1**
SZAC				S	**Sn**	**00 10 02.9**	**-0.9**
SZAC				AML	AML	00 10 05.7	
	comp=E,0.8nm,0.3s						
SZAC				AML	AML	00 10 05.7	
	comp=E,0.8nm,0.3s						
SZAC				AML	AML	00 10 09.1	
	comp=E,0.7nm,0.5s						
SZAC				AML	AML	00 10 09.1	
	comp=E,0.7nm,0.5s						
ANDZ	**Kutahya, Merke**	**3.31**	**8**	P	**Pn**	**00 09 26.4**	**-0.9**
ANDZ				S	**Sn**	**00 10 02.6**	**-2.8**
ANDZ				*i* AML	AML	00 10 07.0	
	comp=E,34nm,0.6s						
ANDZ				*i* AML	AML	00 10 09.0	
	comp=E,35nm,0.9s						
CHOS	**Chios island**	**3.39**	**311**	P	**Pn**	**00 09 28.6**	**+0.2**
GULN	**MERSIN_Gulnar**	**3.41**	**89**	P	**Pn**	**00 09 30.0**	**+1.4**
GULN				S	**Sn**	**00 10 07.7**	**0.0**
GULN				*i* AML	AML	00 10 11.0	
	comp=E,35nm,0.5s						
GULN				*i* AML	AML	00 10 14.0	
	comp=E,31nm,0.6s						
CSS	**Mathiatis**	**3.49**	**110**	P	**Pn**	**00 09 30.3**	**+0.5**
ASGA	**Asgata**	**3.50**	**113**	P	**Pn**	**00 09 30.1**	**+0.2**
ASGA				AML	AML	00 10 20.5	
	comp=E,0.5nm,0.4s						
SGAZ	**Eskisehir, Sey**	**3.51**	**19**	P	**Pn**	**00 09 29.5**	**-0.6**
SGAZ				S	**Sn**	**00 10 07.5**	**-2.8**
SGAZ				*i* AML	AML	00 10 12.0	
	comp=E,41nm,0.4s						
SGAZ				*i* AML	AML	00 10 13.0	
	comp=E,47nm,0.6s						
IDI	**Anoyia**	**3.73**	**257**	Pn	**Pn**	**00 09 34.0**	**+0.9**
	comp=E,2.8nm,0.3s,baz=70,slow=5.8,SNR=47						
IDI				Sn	**Sn**	**00 10 13.9**	**-1.9**
	comp=E,7.2nm,0.3s,baz=234,slow=14,SNR=7.8						
	comp=E,7.2nm,0.3s						
BRTR	**Keskin Array B**	**4.88**	**43**	Pn	**Pn**	**00 09 48.4**	**-0.5**
	comp=E,0.8nm,0.3s,baz=217,slow=15,SNR=34						
BRTR				Sn	**Sn**	**00 10 42.5**	**-1.6**
	comp=E,1.0nm,0.3s,baz=215,slow=27,SNR=11						
	comp=E,1.0nm,0.3s						
MMAI	**Mount Meron Ar**	**5.94**	**121**	Pn	**Pn**	**00 10 02.8**	**-0.6**
	comp=E,16nm,0.3s,baz=307,slow=11,SNR=315						
MMAI				Sn	**Sn**	**00 11 06.2**	**-4.1**
	comp=E,12nm,0.3s,baz=319,slow=16,SNR=11						
ASF	**Jabal al Asfar**	**7.46**	**121**	Pn	**Pn**	**00 10 24.4**	**+0.2**
	comp=E,1.2nm,0.3s,baz=315,slow=4.4,SNR=13						
ASF				Sn	**Sn**	**00 11 43.9**	**-3.7**
	comp=E,0.4nm,0.3s,baz=332,slow=22,SNR=2.4						
	comp=E,2.5nm,0.3s						
EIL	**Elat**	**8.06**	**143**	Pn	**Pn**	**00 10 31.8**	**-0.7**
	comp=E,1.4nm,0.3s,baz=350,slow=16,SNR=30						
EIL				Sn	**Sn**	**00 11 57.2**	**-5.1**
	comp=E,1.7nm,0.3s,baz=105,slow=19,SNR=3.7						
	comp=E,3.7nm,0.3s						
TORD	**Torodi Ar. Bea**	**33.82**	**234**	P	**P**	**00 15 16.9**	**+0.6**
	comp=E,0.3nm,0.7s,baz=36,slow=9.1,SNR=6.3						
	comp=E,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**37.80**	**52**	P	**P**	**00 15 48.4**	**-1.6**
	comp=E,0.2nm,0.5s,baz=274,slow=8.7,SNR=2.1						
	comp=E,0.2nm,0.5s						
MKAR	**Makanchi Array**	**40.34**	**58**	P	**P**	**00 16 10.0**	**-1.4**
	comp=E,0.3nm,0.8s,baz=277,slow=7.2,SNR=1.6						
	comp=E,0.3nm,0.8s						

*IDC **04** 00:08:57.6±0.7,41.°1S×91.°74W,h0km,mb4.0/9, mbtmp4.0/10,ML3.4/1,MS4.8/1,Error ellipse: s-maj=26.1km s-min=21.0km az=83.0*
*NEIC **04** 00:08:58.9±1.5,41.°1S±0.°2×91.°70W±0.°06,h10km±1km, mb4.7/39,Error ellipse: s-maj=29.4km s-min=7.4km az=182.0*

ISC 04 00:08:58.7±0.6,41.°1S±0.°1×91.°6W±0.°1,h10km,n66, σ0s87/59,mb4.6/29,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.40**	**59**	T	T	00 24 51.5	
	baz=230,slow=73,SNR=203						
H03S1	**Juan Fernandez**	**12.41**	**59**	T	T	00 24 50.3	
	baz=230,slow=73,SNR=176						
H03S3	**Juan Fernandez**	**12.42**	**59**	T	T	00 24 52.2	
	baz=230,slow=73,SNR=254						
H03N3	**Juan Fernandez**	**12.65**	**57**	T	T	00 25 04.3	
	baz=232,slow=71,SNR=763						
H03N2	**Juan Fernandez**	**12.65**	**57**	T	T	00 25 00.8	
	baz=232,slow=71,SNR=874						
H03N1	**Juan Fernandez**	**12.66**	**57**	T	T	00 25 06.4	
	baz=232,slow=71,SNR=600						
GO07	**Milladeo Hill,**	**13.51**	**105**	Pn	**Pn**	**00 12 09.0**	**-1.3**
LL03	**Petrohue**	**14.51**	**97**	Pn	**Pn**	**00 12 25.2**	**+1.1**
GO06	**Curarrehue**	**15.46**	**91**	Pn	**Pn**	**00 12 37.9**	**+1.1**
PLCA	**Paso Flores**	**15.95**	**96**	Pn	**P**	**00 12 46.0**	**-0.8**
	baz=315,slow=9.0,SNR=1.4						
	1.3nm,0.8s						
GO05	**Huala**	**16.65**	**75**	Pn	**Pn**	**00 12 52.0**	**-0.1**
GO05				IAmb	IAmb	00 13 01.6	
	comp=Z,58nm,1.4s						
MT09	**Talagante**	**17.92**	**73**	Pn	**Pn**	**00 13 06.0**	**-2.1**
CFA	**Coronel Fontan**	**21.03**	**71**	P	**P**	**00 13 43.8**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=235,slow=11,SNR=5.2						
	comp=Z,3.0nm,0.8s						
AC05	**El Transito**	**21.27**	**62**	P	**P**	**00 13 46.9**	**+1.5**
AC05				IAmb	IAmb	00 13 54.9	
	comp=Z,32nm,1.1s						
SIV	**San Ignacio**	**36.35**	**56**	P	**P**	**00 16 04.2**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=258,slow=11,SNR=3.7						
	comp=Z,1.1nm,0.9s						
AQDB	**Aquidauana**	**36.72**	**67**	P	**P**	**00 16 05.9**	**-0.1**
AQDB				IAmb	IAmb	00 16 13.9	
	comp=Z,9.8nm,1.0s						
CZSB	**Cruzeiro do Su**	**37.22**	**32**	P	**P**	**00 16 10.7**	**+0.3**
CZSB				IAmb	IAmb	00 16 28.4	
	comp=Z,6.8nm,0.7s						
MCRA	**Macar, Loja**	**38.00**	**19**	P	**P**	**00 16 16.5**	**-0.5**
ETMB	**Extrema**	**38.38**	**43**		**P**	**00 16 19.7**	**-0.4**
ETMB				IAmb	IAmb	00 16 30.7	
	comp=Z,3.9nm,1.3s						
COHC	**Cochancay**	**40.01**	**19**	P	**P**	**00 16 34.5**	**+0.8**
CHSH	**Refugio Sur-Vo**	**41.04**	**20**	P	**P**	**00 16 42.9**	**0.0**
CHSH				IAmb	IAmb	00 16 47.3	
	comp=Z,11nm,1.3s						
PULU	**Pululahua**	**42.59**	**20**		**P**	**00 16 55.1**	**-0.4**
TULM	**Tulcn-Chalpat**	**43.44**	**20**		**P**	**00 17 02.5**	**0.0**
TULM				IAmb	IAmb	00 17 35.3	
	comp=Z,15nm,0.9s						
BDFB	**Brasilia**	**45.35**	**69**	P	**P**	**00 17 17.8**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=203,slow=6.3,SNR=1.3						
	comp=Z,0.6nm,0.3s						
ROSC	**El Rosal**	**48.35**	**23**	P	**P**	**00 17 41.3**	**+0.2**
QSPA	**South Pole Qui**	**49.17**	**180**	P	**P**	**00 17 48.1**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=171,slow=8.9,SNR=3.0						
	comp=Z,1.3nm,0.6s						
SNAA	**Sanae**	**51.27**	**156**	P	**P**	**00 18 02.3**	**0.0**
	comp=Z,4.0nm,1.1s,baz=276,slow=12,SNR=3.1						
	comp=Z,4.0nm,1.1s						
MDP	**Montagnes des**	**58.15**	**48**	LR	LR	00 43 51.4	
	comp=Z,667nm,18.4s,baz=140,slow=36						
HPIG		**68.89**	**347**	P	**P**	**00 20 02.4**	**-1.3**
833A	**Chaparral WMA,**	**69.40**	**353**	P	**P**	**00 20 06.3**	**-0.3**
833A				IAmb	IAmb	00 20 14.4	
	comp=Z,7.1nm,0.9s						
MAW	**Mawson**	**69.95**	**170**	P	**P**	**00 20 09.6**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=181,slow=7.0,SNR=9.2						
	comp=Z,2.2nm,0.4s						
TXAR	**Lajitas Array**	**70.92**	**349**	P	**P**	**00 20 16.9**	**+0.9**
	comp=Z,1.4nm,1.1s,baz=156,slow=6.9,SNR=8.8						
	comp=Z,1.4nm,1.1s						
TXAR	**Lajitas Array**	**70.92**	**349**	P	**P**	**00 20 15.4**	**-0.6**
TX31	**Lajitas Ar. Si**	**70.92**	**349**	P	**P**	**00 20 15.2**	**-0.9**
TX32	**Lajitas Array**	**70.92**	**349**	P	**P**	**00 20 15.3**	**-0.7**
TX32				IAmb	IAmb	00 20 33.3	
	comp=Z,6.4nm,1.4s						
JCT	**Junction City**	**71.58**	**353**	P	**P**	**00 20 20.3**	**+0.4**
435B	**Jarrell**	**71.69**	**355**	P	**P**	**00 20 21.1**	**+0.6**
319A	**Douglas**	**73.89**	**344**	P	**P**	**00 20 33.0**	**-0.8**
319A				IAmb	IAmb	00 20 42.2	
	comp=Z,9.4nm,1.1s						
214A	**Organ Pipe Nat**	**75.24**	**341**	P	**P**	**00 20 40.0**	**-1.5**
214A				IAmb	IAmb	00 20 45.3	
	comp=Z,11nm,1.4s						
MSTX	**Muleshoe**	**75.36**	**350**	P	**P**	**00 20 42.7**	**+0.5**
MSTX				IAmb	IAmb	00 20 50.2	
	comp=Z,10nm,1.0s						
GLA	**Glamis**	**76.78**	**340**	P	**P**	**00 20 50.4**	**+0.2**
GLA				IAmb	IAmb	00 21 29.7	
	comp=Z,5.8nm,0.9s						
ANMO	**Albuquerque**	**76.85**	**348**	P	**P**	**00 20 50.7**	**-0.1**
X18A	**Snowflake**	**77.08**	**345**	P	**P**	**00 20 51.6**	**-0.5**
X18A				IAmb	IAmb	00 20 55.2	
	comp=Z,11nm,1.3s						
BLYC	**Blythe**	**77.37**	**341**	P	**P**	**00 20 52.8**	**-0.7**
BLYC				IAmb	IAmb	00 21 02.7	
	comp=Z,6.4nm,0.9s						
W18A	**Petrified Fore**	**77.61**	**345**	P	**P**	**00 20 55.0**	**-0.1**
T35A	**Sooner Cattle**	**77.72**	**356**	P	**P**	**00 20 56.1**	**+0.7**
T35A				IAmb	IAmb	00 21 27.1	
	comp=Z,9.3nm,1.1s						
PMD	**Palm Desert**	**77.75**	**339**	P	**P**	**00 20 54.5**	**-1.2**
PMD				IAmb	IAmb	00 21 30.4	
	comp=Z,6.1nm,1.4s						
WUAZ	**Wupatki**	**78.33**	**344**	P	**P**	**00 20 58.8**	**-0.2**
KNB	**Kanab**	**80.08**	**343**	P	**P**	**00 21 08.6**	**-0.1**
KNB				IAmb	IAmb	00 21 11.2	
	comp=Z,11nm,1.5s						
PV11	**David Mesa, Pa**	**80.53**	**346**	P	**P**	**00 21 10.9**	**-0.2**
PV11				IAmb	IAmb	00 21 14.3	
	comp=Z,13nm,1.2s						
SRU	**San Rafael Swe**	**81.63**	**345**	P	**P**	**00 21 16.9**	**+0.1**
P17A	**Butcher Ranch,**	**82.02**	**345**	P	**P**	**00 21 18.3**	**-0.5**
P17A				IAmb	IAmb	00 21 21.2	
	comp=Z,4.8nm,0.9s						
NLU	**North Lily Min**	**82.75**	**344**	P	**P**	**00 21 23.5**	**+0.8**
NVAR	**Mina Array Bea**	**82.77**	**339**	P	**P**	**00 21 24.8**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=167,slow=5.5,SNR=4.1						
	comp=Z,0.7nm,0.8s						
DUG	**Dugway, Tooele**	**83.13**	**344**	P	**P**	**00 21 25.5**	**+0.9**
SPUT	**South Promonto**	**84.13**	**344**	P	**P**	**00 21 29.2**	**-0.5**
SPUT				IAmb	IAmb	00 21 37.5	
	comp=Z,8.0nm,1.2s						
HVU	**Hansel Valley**	**84.65**	**344**	P	**P**	**00 21 32.7**	**+0.4**
HVU				IAmb	IAmb	00 21 39.9	
	comp=Z,5.6nm,1.1s						
PDAR	**Pinedale Array**	**85.00**	**347**	P	**P**	**00 21 35.1**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=155,slow=5.3,SNR=18						
	comp=Z,1.5nm,0.7s						
YAK	**Yakutsk**	**147.65**	**324**	PKPbc	**PKPbc**	**00 28 41.0**	**-1.3**
	comp=Z,2.9nm,0.3s,baz=52,slow=2.6,SNR=1.7						
YAK	**Yakutsk**	**147.65**	**324**	PKPdf	**PKPdf**	**00 28 39.6**	**+0.1**
KLR	**Kul'dur**	**148.69**	**300**	PKPbc	**PKPbc**	**00 28 44.7**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=20,slow=2.6,SNR=3.0						
KSRS	**Korea Array**	**149.34**	**276**	PKPbc	**PKPbc**	**00 28 47.3**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=64,slow=5.5,SNR=2.1						
KSAR	**Wonju Array Be**	**149.36**	**276**	PKPdf	**PKPdf**	**00 28 41.5**	**-1.7**
NRIK	**Noril'sk**	**151.65**	**1**	PKPbc	**PKPbc**	**00 28 51.6**	**-0.4**
	comp=Z,1.4nm,0.2s,baz=66,slow=4.5,SNR=3.8						
NRIK	**Noril'sk**	**151.65**	**1**	PKPbc	**PKPbc**	**00 28 51.4**	**-0.6**
ZALV	**Zalesovo Beam**	**166.88**	**9**	PKP	**PKPdf**	**00 29 04.5**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=70,slow=1.7,SNR=2.2						

*NEIC **04** 00:08:58.2±2.4, 19.°2S±0.°1×176.°45E±0.°08,h10km±1km, mb4.6/14, Error ellipse: s-maj=19.5km s-min=11.6km az=154.0*
*IDC **04** 00:08:59.4±0.9, 19.°50S×175.°85E,h0km,mb4.1/12, mbtmp4.1/12,Error ellipse: s-maj=33.0km s-min=21.6km az=140.0*

ISC 04 00:08:59.2±0.6,19.°25S±0.°10×176.°27E±0.°10,h10km,n33, σ1s83/30,mb4.3/17,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.26**	**49**	Pn	**Pn**	**00 09 33.2**	**-3.6**
OUENC	**Ouen Island, N**	**9.36**	**249**	Pn	**Pn**	**00 11 15.0**	**+0.7**
DZM	**Mont Dzumac**	**9.62**	**251**	Pn	**Pn**	**00 11 18.2**	**+0.3**
	0.2nm,0.3s,baz=110,slow=14,SNR=3.6						
HNR	**Honiara**	**18.57**	**299**	P	**Pn**	**00 13 16.9**	**+0.2**
HNR				IAmb	IAmb	00 13 29.6	
	comp=Z,49nm,0.8s						
URZ	**Urewera**	**18.96**	**178**	P	**Pn**	**00 13 25.0**	**+3.8**
	comp=Z,12nm,0.6s,baz=181,slow=8.7,SNR=3.2						
MRZ	**Mangatainoka R**	**21.35**	**181**	P	**P**	**00 13 46.9**	**+0.3**
MRZ				IAmb	IAmb	00 14 05.0	
	comp=Z,25nm,1.1s						
EIDS	**Eidsvold**	**24.07**	**251**	P	**P**	**00 14 13.7**	**-1.2**
EIDS				IAmb	IAmb	00 14 22.4	
	comp=Z,18nm,1.1s						
MLZ	**Mavora Lakes**	**26.91**	**193**	P	**P**	**00 14 41.8**	**+1.3**
STKA	**Stephens Creek**	**33.57**	**241**	P	**P**	**00 15 35.4**	**-4.2**
	comp=Z,0.9nm,0.4s,baz=128,slow=23,SNR=1.6						
	comp=Z,0.9nm,0.4s						
WB0	**Warramunga Arr**	**39.40**	**262**	P	**P**	**00 16 30.0**	**+0.4**
WB0				IAmb	IAmb	00 16 36.8	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**39.42**	**262**	P	**P**	**00 16 29.9**	**+0.2**
WB2				IAmb	IAmb	00 16 32.3	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**39.44**	**262**	P	**P**	**00 16 27.9**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=96,slow=8.3,SNR=1.8						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**39.44**	**262**	P	**P**	**00 16 27.7**	**-2.1**
AS31	**Alice Springs**	**39.57**	**256**	P	**P**	**00 16 29.7**	**-1.3**
ASAR	**Alice Springs**	**39.57**	**256**	P	**P**	**00 16 29.9**	**-1.0**
	comp=Z,3.0nm,0.6s,baz=87,slow=9.0,SNR=20						
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**39.57**	**256**	P	**P**	**00 16 29.0**	**-2.0**
MTN	**Manton Dam**	**43.75**	**271**	P	**P**	**00 17 04.2**	**-1.0**
FORT	**Forrest**	**44.87**	**245**	P	**P**	**00 17 12.7**	**-1.4**
FORT				IAmb	IAmb	00 17 15.3	
	comp=Z,16nm,0.8s						
MBWA	**Marble Bar**	**52.86**	**258**	P	**P**	**00 18 15.4**	**-0.1**
MBWA				IAmb	IAmb	00 18 25.8	
	comp=Z,12nm,1.0s						
CASY	**Casey**	**62.82**	**204**	P	**P**	**00 19 24.4**	**-0.4**
MJAR	**Matsushiro Arr**	**66.12**	**327**	P	**P**	**00 19 47.7**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=155,slow=5.6,SNR=3.8						
	comp=Z,2.3nm,0.9s						
QSPA	**South Pole Qui**	**70.81**	**180**	P	**P**	**00 20 15.9**	**0.0**
	comp=Z,2.0nm,0.6s,baz=112,slow=0.5,SNR=4.5						
	comp=Z,2.0nm,0.6s						
QSPA	**South Pole Qui**	**70.81**	**180**	P	**P**	**00 20 15.8**	**0.0**
QSPA				IAmb	IAmb	00 20 18.4	
	comp=Z,6.0nm,1.1s						
KLR	**Kul'dur**	**78.81**	**332**	P	**P**	**00 21 04.4**	**+2.2**
	comp=Z,1.8nm,0.9s,baz=104,slow=1.3,SNR=4.3						
	comp=Z,1.8nm,0.9s						
BELA	**Belgrano 2**	**81.44**	**174**	P	**P**	**00 21 15.0**	**-1.1**
NVAR	**Mina Array Bea**	**83.93**	**46**	P	P	00 21 34.5	+4.6
	comp=Z,1.0nm,0.7s,baz=224,slow=7.5,SNR=4.3						
	comp=Z,1.0nm,0.7s						
SEY	**Seymchan**	**84.04**	**349**	P	**P**	**00 21 32.6**	**+3.0**
	comp=Z,2.3nm,0.6s,baz=156,slow=6.9,SNR=8.9						
	comp=Z,2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**84.63**	**292**	P	**P**	**00 21 35.2**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=141,slow=2.7,SNR=4.7						
	comp=Z,0.5nm,0.3s						
ILAR	**Eielson Array**	**88.40**	**15**	P	**P**	**00 21 52.6**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=235,slow=5.0,SNR=12						
	comp=Z,0.7nm,0.6s						
TXAR	**Lajitas Array**	**91.00**	**59**	P	P	00 22 09.7	+5.6
	comp=Z,0.6nm,0.9s,baz=242,slow=2.7,SNR=4.1						
	comp=Z,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**97.70**	**26**	P	Pdif	00 22 37.5	+3.6
	comp=Z,0.5nm,0.9s,baz=249,slow=4.5,SNR=5.9						
	comp=Z,0.5nm,0.9s						
CLL	**Collm**	**145.39**	**341**	*i* PKPbc	**PKiKP**	**00 28 39.9**	**-1.4**
	comp=Z,6.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**172.00**	**221**	PKP	**PKPdf**	**00 29 10.3**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=307,slow=0.9,SNR=2.8						

*BJI **04** 00:09:39.8±0.0, 19.°00S×176.°30E,h5km,mb5.3/51, mB5.9/20,Ms5.3/8,Ms7 5.1/8*
*IDC **04** 00:09:41.5±0.4, 19.°12S×176.°08E,h0km,mb5.1/33, mbtmp5.0/33,MS4.6/1,Error ellipse: s-maj=14.9km s-min=12.5km az=135.0*
*BGR **04** 00:09:41.3, 19.°71S×177.°12E,h10km*
*MOS **04** 00:09:42.0±1.1, 18.°97S×175.°96E,h10km,mb5.4/35,Error ellipse: s-maj=10.4km s-min=9.0km az=40.4*
*NEIC **04** 00:09:43.5±1.8, 18.°9S±0.°1×176.°33E±0.°08,h19km±1km, mb5.4/203,Error ellipse: s-maj=16.3km s-min=8.8km az=153.0*
*NOU **04** 00:09:46.6, 19.°10S×176.°37E,h42km,mb5.3/92,South of Fiji Islands*

ISC 04 00:09:42.9±0.3,19.°08S±0.°06×176.°22E±0.°05,h10km,n901, σ1s53/776,mb5.4/184,MS4.9/6,73C-31D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.20**	**53**	Pn	Pn	00 10 12.3	-7.2
	15nm,0.3s,baz=143,slow=21,SNR=2.8						
MSVF				Sn	**Sn**	**00 10 43.0**	**-3.8**
	60nm,0.3s,baz=16,slow=23,SNR=4.5						
MSVF	**Nonsavu**	**2.20**	**53**		Pn	00 10 14.0	-5.5
MSVF	**Nonsavu**	**2.20**	**53**	P	**Pn**	**00 10 18.3**	**-1.2**
MSVF	**Nonsavu**	**2.20**	**53**	P	**Pn**	**00 10 18.1**	**-1.4**
DGTI	**Dogotuki**	**4.35**	**51**	P	**Pn**	**00 10 49.0**	**-0.1**
TAVE	**Taveuni**	**4.38**	**58**	P	**Pn**	**00 10 48.5**	**-1.0**
DVP	**Devils Point**	**7.74**	**279**	P	**Pn**	**00 11 39.2**	**+3.5**
MARNC	**Mare, Loyalty**	**8.05**	**251**	Pn	**Pn**	**00 11 41.6**	**+1.7**
LIFNC	**LIFOU**	**8.61**	**257**	Pn	**Pn**	**00 11 48.5**	**+0.9**
YATNC	**Mamie plateau,**	**9.22**	**250**	P	**Pn**	**00 11 59.4**	**+3.3**
OUENC	**Ouen Island, N**	**9.38**	**248**	Pn	**Pn**	**00 11 59.5**	**+1.4**
OUENC	**Ouen Island, N**	**9.38**	**248**	P	**Pn**	**00 12 01.2**	**+3.0**
DZM	**Mont Dzumac**	**9.62**	**250**	*e*Pn	**Pn**	**00 12 01.2**	**-0.4**
	643nm,1.5s						
DZM				*e*LR	LR	00 14 14.7	
	comp=Z,6µm,24.9s						
DZM	**Mont Dzumac**	**9.62**	**250**	Pn	**Pn**	**00 12 03.7**	**+2.0**
	1.0nm,0.3s,baz=79,slow=16,SNR=31						
DZM				LR	LR	00 15 15.0	
	comp=Z,3µm,20.7s,baz=43,slow=35						
DZM	**Mont Dzumac**	**9.62**	**250**	Pn	**Pn**	**00 12 03.2**	**+1.6**
DZM	**Mont Dzumac**	**9.62**	**250**	P	**Pn**	**00 12

CMSA **Cobar Meteorol** 30.15 240 P P 00 15 53.5 +0.3
baz=30,SNR=11
CMSA **Cobar Meteorol** 30.15 240 P P 00 15 53.7 +0.5
MTSU **Mount Surprise** 30.23 267 P P 00 15 54.2 +0.1
baz=30,SNR=5.4
MTSU **Mount Surprise** 30.23 267 P P 00 15 54.3 +0.3
QLP **Quilpie** 30.35 250 P P 00 15 54.9 -0.1
baz=30,SNR=12
QLP **Quilpie** 30.35 250 P P 00 15 55.7 +0.7
COEN **Coen** 32.05 274 P P 00 16 10.0 -0.2
baz=32,SNR=4.8
COEN **Coen** 32.05 274 P P 00 16 08.0 -2.2
TBI **Tubuai** 32.23 104 *e*LR LR 00 24 34.5
comp=Z,29μm,25.8s
TBI *e*LR LR 00 24 34.8
comp=Z,10μm,28.0s
PPT2 **Papeete2** 32.48 93 *e*LR LR 00 24 41.4
comp=Z,3μm,29.0s
PPT2 *e*LR LR 00 24 41.7
comp=Z,4μm,27.0s
PPT **Papeete** 32.48 93 P P 00 16 15.7 +1.8
comp=Z,12nm,0.4s,baz=223,slow=7.8,SNR=3.6
comp=Z,12nm,0.4s
TOO **Toolangi** 32.51 229 P P 00 16 15.1 +1.1
baz=33,SNR=6.2
TOO **Toolangi** 32.51 229 P P 00 16 14.7 +0.7
TOO IAmb IAmb 00 16 16.1
comp=Z,46nm,1.1s
TOO **Toolangi** 32.51 229 P P 00 16 15.1 +1.1
TOO **Toolangi** 32.51 229 P P 00 16 14.7 +0.7
TOO pmax pmax
comp=Z,46nm,1.1s
MANU **Manus Island** 32.93 297 P P 00 16 16.1 -1.7
MANU IAmb IAmb 00 16 18.4
comp=Z,55nm,0.8s
MANU **Manus Island** 32.93 297 P P 00 16 17.7 -0.1
INKA **Innaminka** 33.58 248 P P 00 16 24.3 +1.0
STKA **Stephens Creek** 33.60 241 P P 00 16 23.6 0.0
comp=Z,46nm,1.1s,baz=87,slow=9.6,SNR=32
STKA PcP PcP 00 19 03.6 -0.2
comp=Z,10nm,1.0s,baz=138,slow=0.4,SNR=4.4
comp=Z,46nm,1.1s
STKA **Stephens Creek** 33.60 241 P P 00 16 24.1 +0.5
baz=34,SNR=22
STKA **Stephens Creek** 33.60 241 P P 00 16 23.6 0.0
STKA **Stephens Creek** 33.60 241 P P 00 16 24.2 +0.7
STKA **Stephens Creek** 33.60 241 *d* *i*P P 00 16 23.7 +0.2
BRAT **Ballarat** 33.63 230 P P 00 16 24.7 +1.1
QIS **Mount Isa** 34.43 261 P P 00 16 30.7 -0.2
ARPS **Mount Arapiles** 34.87 232 P P 00 16 35.2 +0.7
baz=35,SNR=8.3
ARPS **Mount Arapiles** 34.87 232 P P 00 16 35.6 +1.1
LCRK **Leigh Creek** 36.16 244 P P 00 16 45.3 -0.3
HTT **Hallett** 36.16 239 P P 00 16 46.3 +0.6
baz=36,SNR=7.1
HTT **Hallett** 36.16 239 P P 00 16 46.3 +0.6
WHYH **Whyalla** 37.17 240 P P 00 16 54.5 +0.3
OOD **Oodnadatta** 38.04 249 P P 00 17 02.5 +0.8
BBOO **Buckleboo** 38.38 241 P P 00 17 04.5 0.0
baz=38,SNR=12
BBOO **Buckleboo** 38.38 241 P P 00 17 04.2 -0.2
BBOO IAmb IAmb 00 17 05.6
comp=Z,51nm,0.9s
BBOO **Buckleboo** 38.38 241 P P 00 17 04.8 +0.3
H11S2 **WAKE ISLAND Hy** 38.49 345 T T 00 57 53.6
baz=166,slow=76,SNR=89
H11S3 **WAKE ISLAND Hy** 38.50 345 T T 00 57 52.9
baz=166,slow=76,SNR=96
H11S1 **WAKE ISLAND Hy** 38.51 345 T T 00 57 55.1
baz=166,slow=76,SNR=109
GENI **Genyem** 38.88 291 P P 00 17 07.5 -1.3
comp=Z,113nm,1.1s,comp=Z,10μm
WR0 **Warramunga Arr** 39.22 262 P P 00 17 09.0 -2.6
WB0 **Warramunga Arr** 39.38 262 P P 00 17 10.6 -2.4
WB2 **Warramunga Arr** 39.40 262 P P 00 17 10.5 -2.7
WRAB **Tennant Creek** 39.40 262 P P 00 17 10.4 -2.7
WRAB **Tennant Creek** 39.40 262 *ce*P P 00 17 10.7 -2.5
WRAB pmax pmax
comp=Z,36nm,1.3s
WRA **Warramunga Arr** 39.41 262 P P 00 17 11.4 -1.9
comp=Z,9.7nm,0.8s,baz=93,slow=8.6,SNR=31
WRA PcP PcP 00 19 20.4 -1.1
comp=Z,3.7nm,1.0s,baz=92,slow=2.7,SNR=4.7
comp=Z,9.7nm,0.8s
WRA **Warramunga Arr** 39.41 262 P P 00 17 10.7 -2.6
WRA **Warramunga Arr** 39.41 262 P P 00 17 10.7 -2.6
WRA pmax pmax
comp=Z,4.0nm,1.5s
AS01 **Alice Springs** 39.52 256 P P 00 17 13.8 -0.4
AS31 **Alice Springs** 39.56 256 P P 00 17 13.0 -1.5
ASAR **Alice Springs** 39.56 256 P P 00 17 13.5 -1.1
comp=Z,36nm,0.9s,baz=84,slow=8.9,SNR=36
ASAR PcP PcP 00 19 21.2 -0.7
comp=Z,8.1nm,0.9s,baz=95,slow=3.7,SNR=10
comp=Z,36nm,0.9s
ASAR **Alice Springs** 39.56 256 P P 00 17 13.4 -1.1
ASAR PcP 00 19 20.9 -1.1
ASAR **Alice Springs** 39.56 256 P P 00 17 13.4 -1.1
ASAR 00 19 20.9
H11N1 **WAKE ISLAND Hy** 39.62 346 T T 00 59 16.9
baz=166,slow=76,SNR=36
H11N3 **WAKE ISLAND Hy** 39.62 346 T T 00 59 13.4
baz=166,slow=76,SNR=44
H11N2 **WAKE ISLAND Hy** 39.64 346 T T 00 59 14.1
baz=166,slow=76,SNR=20
MULG **Mulgathing** 39.69 245 P P 00 17 15.3 -0.2
SMPI **Sarmi** 40.45 290 P P 00 17 21.7 -0.2
comp=Z,34nm,1.2s,comp=Z,6μm
KDU **Kakadu** 42.47 272 P P 00 17 38.0 -0.5
TAOE **Nuku Hiva Isla** 43.44 83 *e*LR LR 00 29 44.8
comp=Z,2μm,27.1s
MTN **Manton Dam** 43.70 271 P P 00 17 47.4 -1.0
baz=44,SNR=5.5
MTN **Manton Dam** 43.70 271 P P 00 17 48.0 -0.4
WRKA **Warakurna** 44.63 253 P P 00 17 55.5 -0.4
baz=45,SNR=28
WRKA **Warakurna** 44.63 253 P P 00 17 55.7 -0.2
FORT **Forrest** 44.89 245 P P 00 17 57.7 -0.2
baz=45,SNR=16
FORT **Forrest** 44.89 245 P P 00 17 57.9 0.0
SAUI **Saumlaki** 44.92 278 P P 00 17 57.5 -0.8
comp=Z,275nm,0.9s,comp=Z,13μm
KNRA **Kununurra** 45.31 267 P P 00 18 00.5 -0.8
baz=45,SNR=6.2
KNRA **Kununurra** 45.31 267 P P 00 18 01.1 -0.3
FAKI **Fak Fak** 45.87 285 P P 00 18 02.8 -3.1
FAKI IAmb IAmb 00 18 12.4
comp=Z,59nm,1.2s
FAKI **Fak Fak** 45.87 285 P P 00 18 05.5 -0.4
FAKI **Fak Fak** 45.87 285 P P 00 18 03.2 -2.7
comp=Z,46nm,1.1s
SWI **Sorong** 47.62 287 P P 00 18 18.5 -1.0
comp=Z,44nm,1.7s
FITZ **Fitzroy Crossi** 47.81 263 P P 00 18 20.5 -0.5
FITZ **Fitzroy Crossi** 47.81 263 P P 00 18 21.2 +0.2
AAI **Ambon** 49.31 282 P P 00 18 31.8 -0.7
KMBL **Kambalda** 50.21 245 P P 00 18 38.9 -0.3
baz=50,SNR=5.8
KMBL **Kambalda** 50.21 245 P P 00 18 38.9 -0.3
NLAI **Namlea** 50.49 282 P P 00 18 40.8 -0.7
comp=Z,33nm,1.0s
SOEI **Soe** 51.00 273 P P 00 18 44.1 -1.5
SOEI **Soe** 51.00 273 P P 00 18 46.7 +1.1
SOEI **Soe** 51.00 273 P P 00 18 43.5 -2.1
comp=Z,113nm,1.3s
SANI **Sanana** 51.96 283 P P 00 18 52.4 -0.2
SANI **Sanana** 51.96 283 P P 00 18 51.9 -0.7
comp=Z,51nm,1.1s,comp=Z,1μm
MBWA **Marble Bar** 52.84 258 P P 00 18 58.2 -0.9
MBWA **Marble Bar** 52.84 258 P P 00 18 58.6 -0.5
MEEK **Meekatharra** 53.24 251 P P 00 19 01.1 -0.9
baz=53,SNR=4.2
MEEK **Meekatharra** 53.24 251 P P 00 19 01.6 -0.4
MMRI **Maumere** 53.24 273 P P 00 19 01.8 -0.3
comp=Z,63nm,0.9s
KLBR **Kellerberrin** 53.73 244 P P 00 19 05.0 -0.5
baz=54,SNR=9.5
KLBR **Kellerberrin** 53.73 244 P P 00 19 05.0 -0.5
NWAO **Narrogin (SRO)** 54.15 243 P P 00 19 07.9 -0.7
comp=Z,41nm,0.9s
comp=Z,41nm,0.9s
NWAO **Narrogin (SRO)** 54.15 243 P P 00 19 08.3 -0.2
baz=54,SNR=7.6
NWAO P P 00 19 08.3 -0.2
baz=54,SNR=7.6
NWAO **Narrogin (SRO)** 54.15 243 P P 00 19 07.3 -1.2
NWAO IAmb IAmb 00 19 09.0
comp=Z,56nm,1.0s
NWAO **Narrogin (SRO)** 54.15 243 P P 00 19 08.4 -0.2
NWAO **Narrogin (SRO)** 54.15 243 P P 00 19 07.3 -1.2
NWAO pmax pmax
comp=Z,56nm,1.0s
RKGY **Rocky Gully** 54.36 241 P P 00 19 09.1 -0.9
baz=54,SNR=4.3
RKGY **Rocky Gully** 54.36 241 P P 00 19 10.2 +0.2
BLDU **Ballidu** 54.66 246 P P 00 19 11.5 -0.8
MUN **Mundaring** 55.04 244 P P 00 19 15.1 0.0
baz=55,SNR=5.7
MUN **Mundaring** 55.04 244 P P 00 19 14.9 -0.1
LUWI **Luwuk** 55.32 282 P P 00 19 16.1 -1.1
LUWI IAmb IAmb 00 19 18.6
comp=Z,54nm,0.9s
LUWI **Luwuk** 55.32 282 P P 00 19 17.4 +0.2
LUWI **Luwuk** 55.32 282 P P 00 19 16.6 -0.6
comp=Z,73nm,1.3s,comp=Z,2μm
MORW **Morawa** 55.33 247 P P 00 19 16.7 -0.4
baz=55,SNR=5.3
MORW **Morawa** 55.33 247 IAmb IAmb 00 19 18.9
comp=Z,54nm,1.1s
MORW **Morawa** 55.33 247 P P 00 19 17.4 +0.2
BKSI **Bulukumba** 56.27 276 P P 00 19 22.3 -1.8
comp=Z,22nm,1.1s
APSI **Ampana** 56.40 282 P P 00 19 24.7 -0.3
comp=Z,67nm,1.2s
BNSI **Bone** 56.59 277 P P 00 19 24.6 -1.8
comp=Z,25nm,1.7s
KAPI **Kappang** 56.72 277 P P 00 19 27.6 +0.3
PLAI **Plampang** 57.40 272 P P 00 19 31.8 -0.3
PLAI **Plampang** 57.40 272 P P 00 19 31.4 -0.7
comp=Z,79nm,1.2s,comp=Z,1μm
GIRL **Giralia** 57.67 255 P P 00 19 33.2 -0.6
baz=58,SNR=3.6
TOLI2 **Tolitoli** 57.98 284 P P 00 19 34.1 -2.1
TOLI2 IAmb IAmb 00 19 35.9
comp=Z,35nm,0.9s
TOLI2 **Tolitoli** 57.98 284 P P 00 19 35.3 -0.9
TWSI **Taliwang, Sumb** 58.27 271 P P 00 19 37.2 -1.0
comp=Z,118nm,1.2s,comp=Z,2μm
MPSI **Mapaga** 58.49 283 P P 00 19 38.0 -1.8
comp=Z,35nm,1.1s,comp=Z,5μm
SRBI **Singaraja** 60.04 272 P P 00 19 49.5 -1.0
comp=Z,38nm,1.1s
JAGI **Jajag, Banyuwa** 60.93 271 P P 00 19 56.0 -0.6
comp=Z,44nm,1.3s
ABJI **Asem Bagus** 61.05 272 P P 00 19 56.8 -0.6
comp=Z,62nm,1.2s
BLJI **Banyuglugur** 61.67 271 P P 00 20 00.7 -0.9
comp=Z,44nm,1.1s,comp=Z,3μm
BBKI **Banjar Baru** 61.85 276 P P 00 20 02.2 -0.6
comp=Z,67nm,1.3s,comp=Z,4μm
CASY **Casey** 62.95 204 P P 00 20 08.1 -1.2
CASY IAmb IAmb 00 20 09.7
comp=Z,38nm,1.2s
PWJI **Pagerwojo** 63.28 271 P P 00 20 10.7 -1.7
comp=Z,33nm,1.4s
UGM **Wanagama** 64.53 270 P P 00 20 19.4 -1.2
JOW **Kunigami** 65.15 313 P P 00 20 24.1 -0.2
comp=Z,26nm,1.0s,baz=222,slow=6.4,SNR=3.7
comp=Z,26nm,1.0s
MJAR **Matsushiro Arr** 65.95 327 P P 00 20 29.1 -0.3
comp=Z,28nm,1.1s,baz=161,slow=6.5,SNR=25
comp=Z,28nm,1.1s
MAJO **Matsushiro** 65.96 327 P P 00 20 27.8 -1.5
MAJO IAmb IAmb 00 20 30.5
comp=Z,52nm,1.1s
MAJO **Matsushiro** 65.96 327 P P 00 20 30.0 +0.6
MAJO **Matsushiro** 65.96 327 *i* P P 00 20 27.2 -2.2
MAJO pmax pmax
comp=Z,50nm,1.1s
MJB9 **Matsu-Tunnel** 65.96 327 P P 00 20 28.6 -0.8
MJB9 IAmb IAmb 00 20 31.5
comp=Z,52nm,1.1s
KPJI **Karang Pucung** 66.21 270 P P 00 20 29.4 -2.1
comp=Z,57nm,1.2s
SBUM **Sibu** 66.39 281 P P 00 20 31.7 -1.0
SBUM IAmb IAmb 00 20 33.7
comp=Z,24nm,1.0s
JSU **Suzuyama** 66.76 318 P P 00 20 32.0 -2.7
JSU IAmb IAmb 00 20 35.4
comp=Z,31nm,0.9s
JSU **Suzuyama** 66.76 318 P P 00 20 34.3 -0.4
JNU **Nakatsue** 67.59 320 P P 00 20 39.8 -0.2
comp=Z,16nm,0.9s,baz=113,slow=3.0,SNR=5.7
comp=Z,16nm,0.9s
JNU **Nakatsue** 67.59 320 P P 00 20 40.4 +0.5
LEM **Lembang** 67.60 270 P P 00 20 40.3 -0.3
comp=Z,141nm,1.4s
KSM **Kuching** 67.81 280 P P 00 20 40.4 -1.3
KSM **Kuching** 67.81 280 P P 00 20 41.4 -0.3
YULB **Yu-li** 68.22 306 P P 00 20 43.4 -0.6
NACB **Ninganchiao** 68.42 307 P P 00 20 43.4 -1.8
NACB **Ninganchiao** 68.42 307 P P 00 20 44.8 -0.5
TPUB **Ta-pu** 68.68 305 P P 00 20 44.8 -2.1
TPUB **Ta-pu** 68.68 305 P P 00 20 46.3 -0.6
YHNB **Yeheng** 68.86 307 P P 00 20 46.5 -1.7
YHNB **Yeheng** 68.86 307 P P 00 20 49.2 +1.1
QSPA **South Pole Qui** 70.98 180 P P 00 21 00.6 0.0
comp=Z,24nm,1.0s,baz=20,slow=2.1,SNR=19
comp=Z,24nm,1.0s
QSPA **South Pole Qui** 70.98 180 P P 00 21 00.0 -0.6
QSPA IAmb IAmb 00 21 01.7
comp=Z,37nm,1.1s
LWLI **Liwa** 71.52 271 P P 00 21 03.0 -1.8
comp=Z,157nm,1.0s
MDSI **Maura Dua** 71.58 272 P P 00 21 03.0 -1.9
comp=Z,36nm,1.0s
TJN **Taejon** 71.92 320 *ce*P P 00 21 02.3 -4.2
KSRS **Korea Array** 72.31 321 P P 00 21 09.7 +0.9
comp=Z,9.8nm,1.0s,baz=138,slow=6.2,SNR=16
comp=Z,9.8nm,1.0s
YSS **Yuzh-Sakhalins** 72.32 337 P P 00 21 07.1 -1.4
YSS IAmb IAmb 00 21 12.9
comp=Z,64nm,1.5s
YSS **Yuzh-Sakhalins** 72.32 337 P P 00 21 09.8 +1.2
YSS **Yuzh-Sakhalins** 72.32 337 *eP* P 00 21 09.4 +0.8
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=E,400nm,14.0s
KSAR **Wonju Array Be** 72.32 321 P P 00 21 08.6 -0.2
KSAR **Wonju Array Be** 72.32 321 P P 00 21 08.6 -0.2
NIKH **Nikolski High** 72.91 9 P P 00 21 11.7 -0.2
baz=195
PETK **Petropavlovsk-** 73.66 348 P P 00 21 16.1 -0.3
comp=E,12nm,1.0s,baz=98,slow=9.1,SNR=12
comp=E,12nm,1.0s
USRK **Ussuriysk Ar.** 74.83 329 P P 00 21 24.7 +1.2
comp=E,12nm,1.1s,baz=144,slow=3.5,SNR=6.7
comp=E,12nm,1.1s
TYV **Tymovskoe** 75.64 339 *eP* P 00 21 28.9 +1.0
TYV *eS* S 00 31 12.6 +3.6
TYV pmax pmax
comp=Z,14nm,1.2s
TYV pmax pmax
comp=Z,100nm,2.3s
TYV smax smax
comp=N,100nm,6.6s
TYV smax smax
comp=E,400nm,6.6s
BKNI **Bangkinang** 76.11 275 P P 00 21 32.2 +0.7
BKNI **Bangkinang** 76.11 275 P P 00 21 30.8 -0.7
comp=E,75nm,0.5s
MDJ **Mudanjiang** 76.33 328 IAmb IAmb 00 21 34.1
comp=Z,38nm,1.3s
MDJ **Mudanjiang** 76.33 328 P P 00 21 33.0 +1.0
WHN **Wuhan** 77.27 309 P P 00 21 38.2 +0.6
IPM **Ipoh** 77.54 279 P P 00 21 39.9 +0.3
SNY **Shenyang** 77.70 323 P P 00 21 41.4 +1.6
SNY pmax pmax
comp=Z,20nm,0.9s
GRNR **Gornyy** 77.86 335 *i*P P 00 21 40.4 -0.1
GRNR pmax pmax
comp=Z,20nm,1.2s
CN2 **Changchun** 77.94 325 P P 00 21 41.3 +0.2
CN2 pmax pmax
comp=Z,40nm,1.1s
CHGN **Chignik** 78.08 14 P P 00 21 41.5 0.0
baz=204
KULM **Kulim** 78.17 280 P P 00 21 41.1 -2.0
KULM IAmb IAmb 00 21 43.1
comp=Z,28nm,1.0s
BNX **BinXian** 78.22 327 P P 00 21 42.8 +0.2
BNX pmax pmax
comp=Z,12nm,1.0s
BNX pmax pmax
comp=Z,890nm,11.6s
CHIR **Chirikof Islan** 78.33 16 P P 00 21 43.1 +0.2
baz=207
TIA **Tai'an** 78.36 315 P P 00 21 43.9 +0.2
TIA pmax pmax
comp=Z,31nm,0.9s
KLR **Kul'dur** 78.64 332 P P 00 21 46.0 +1.2
comp=Z,7.3nm,0.9s,baz=103,slow=1.8,SNR=17
comp=Z,7.3nm,0.9s
KLR **Kul'dur** 78.64 332 *ce*P P 00 21 45.1 +0.3
KLR pmax pmax
comp=Z,46nm,3.3s
RPSI **Rantau Prapat** 78.89 277 P P 00 21 45.2 -1.9
RPSI IAmb IAmb 00 21 46.7
comp=Z,38nm,1.1s
PSI **Prapat** 78.93 277 P P 00 21 46.2 -1.3
PSI **Prapat** 78.93 277 P P 00 21 45.2 -2.3
PSI pmax pmax
comp=Z,38nm,1.1s
SII **Sitkinak Islan** 79.36 16 P P 00 21 49.2 +0.5
baz=208
R17K **Ugashik Creek** 79.77 15 P P 00 21 51.2 +0.3
baz=206
OHAK **Old Harbor** 80.18 16 P P 00 21 53.7 +0.7
baz=209
SRIT **Nakonsritamara** 80.31 283 P P 00 21 55.8 +1.0
Q17K **Contact Creek** 80.45 15 P P 00 21 54.4 -0.3
baz=207,SNR=6.4
HNS **HongShan** 80.63 315 P P 00 21 56.7 +0.7
HNS pmax pmax
comp=Z,30nm,1.1s
P16K **Nushagak River** 80.67 13 P P 00 21 55.8 +0.2
baz=204
NONG **Nongkai** 80.69 293 P P 00 21 56.8 +0.1
LYN **LuoYang** 80.69 311 *i*P P 00 21 57.1 +0.7
LYN pmax pmax
comp=Z,30nm,1.3s
SCZ2 **Santa Cruz Isl** 80.69 49 P P 00 21 55.5 -0.9
baz=240
ENH **Enshi** 80.78 306 P P 00 21 57.3 +0.3
KDAK **Kodiak Island** 80.85 16 P P 00 21 56.1 -0.6
baz=210
MAW **Mawson** 81.00 201 P P 00 21 57.3 -0.1
comp=Z,14nm,1.1s,baz=109,slow=11,SNR=5.1
comp=Z,14nm,1.1s
Q18K **Katmai Hardscr** 81.00 15 P P 00 21 57.3 -0.3
baz=207,SNR=9.7
MA2 **Magadan** 81.09 347 P P 00 21 57.2 -0.7
comp=Z,4.4nm,0.4s,baz=142,slow=5.8,SNR=6.3
comp=Z,4.4nm,0.4s
MA2 **Magadan** 81.09 347 *ce*P P 00 21 56.5 -1.4
MA2 pmax pmax
comp=Z,40nm,2.5s
O16K **Kokwok River B** 81.16 13 P P 00 21 57.7 -0.5
baz=204
P17K **Kvichak River** 81.16 14 P P 00 21 58.3 +0.1
baz=206
GYA **Guiyang** 81.25 302 *i*P P 00 22 00.2 +0.5
GYA pmax pmax
comp=Z,36nm,1.4s
HEH **HeiHe** 81.33 331 *e*P P 00 21 48.5 -11
O17K **Koliganek Bris** 81.53 13 P P 00 22 00.2 0.0
baz=205
Q19K **Cape Douglas,** 81.58 15 P P 00 22 00.9 +0.3
baz=209
BELA **Belgrano 2** 81.61 174 P P 00 21 59.2 -1.4
P18K **Big Mountain,** 81.61 14 IAmb IAmb 00 22 01.9
comp=Z,32nm,1.0s
P18K **Big Mountain,** 81.61 14 P P 00 22 00.9 +0.1
baz=207,SNR=11
Q20K **Shuyak Island** 81.62 16 P P 00 22 01.4 +0.7
baz=210
N16K **Nishlik Lake** 81.82 12 P P 00 22 03.0 +1.1
baz=204
VES **Vestal, Richgr** 82.01 48 P P 00 22 03.2 -0.2
baz=240
O18K **Koktuh Hills** 82.03 14 IAmb IAmb 00 22 04.3
comp=Z,24nm,0.9s
O18K **Koktuh Hills** 82.03 14 P P 00 22 03.6 +0.7
baz=207
BFSC **Mount Baldy Ra** 82.23 50 P P 00 22 05.0 +0.2
baz=241
MURC **Murrieta** 82.26 51 P P 00 22 05.6 +0.8
baz=241
EDW2 **Edwards Air Fo** 82.31 49 P P 00 22 06.3 +1.3
baz=240,SNR=12
P19K **Oil Pt** 82.32 15 P P 00 22 04.5 0.0
baz=209
TIY **Taiyuan** 82.33 314 P P 00 22 06.3 +1.2
ISA **Isabella, Lake** 82.35 48 P P 00 22 07.6 +2.3
baz=240,SNR=6.6
MONP2 **Monument Peak** 82.49 52 P P 00 22 07.9 +1.6
baz=242,SNR=7.5
O19K **Port Alsworth** 82.54 14 P P 00 22 03.4 -2.1
O19K **Port Alsworth** 82.54 14 P P 00 22 05.7 +0.2
baz=208
IKP **In-Ko-Pah, Jac** 82.61 52 P P 00 22 08.3 +1.6
baz=242
ILSW **Iliamna Southw** 82.63 15 IAmb IAmb 00 22 07.3
comp=Z,82nm,1.1s
YBH **Yreka Blue Hor** 82.71 41 P P 00 22 08.4 +1.4
comp=Z,11nm,1.1s,baz=161,slow=2.5,SNR=9.9
comp=Z,11nm,1.1s
CNPM **China Poot** 82.72 16 P P 00 22 04.9 -1.6
HOM **Homer** 82.73 16 P P 00 22 07.2 +0.7
baz=210
PFO **Pinyon Flats O** 82.81 51 P P 00 22 08.6 +0.8
comp=Z,6.5nm,1.2s,baz=262,slow=6.4,SNR=4.3
comp=Z,6.5nm,1.2s
PFO **Pinyon Flats O** 82.81 51 P P 00 22 08.9 +1.2
baz=242
TPFO **Pinon Flats** 82.81 51 P P 00 22 09.3 +1.5
baz=242
O20K **Slope Mountain** 82.85 15 P P 00 22 07.7 +0.4
baz=209,SNR=5.3
MDPB **Devils Postpil** 82.92 46 IAmb IAmb 00 22 11.3
comp=Z,22nm,1.1s
SWSC **Sam W. Stewart** 82.98 52 P P 00 22 09.9 +1.4
baz=242
XAN **Xi'an** 82.99 309 P P 00 22 09.1 +0.5
XAN pP pP 00 22 13.8 +2.8
XAN pmax pmax
comp=Z,41nm,1.2s
CWC **Cottonwood Cre** 83.01 48 P P 00 22 10.1 +1.3
baz=240
BRLK **Bradley Lake** 83.02 16 P P 00 22 08.0 -0.1
BRLK IAmb IAmb 00 22 09.7
comp=Z,59nm,1.3s
BRSE **Bradley Lake S** 83.03 16 P P 00 22 09.0 +0.8
baz=211,SNR=8.6
N19K **Bonanza Creek** 83.05 14 IAmb IAmb 00 22 09.4
comp=Z,31nm,1.2s
N19K **Bonanza Creek** 83.05 14 P P 00 22 08.6 +0.3
baz=208,SNR=9.6
MLAC **Mammoth, Mammo** 83.08 46 P P 00 22 10.8 +1.6
baz=240
GAMB **Gambell** 83.12 5 P P 00 22 09.2 +0.7
baz=191
TIN **Tinemaha, Big** 83.22 47 P P 00 22 11.4 +1.6
baz=240
MPMC **Manual Prospec** 83.24 48 P P 00 22 11.8 +1.8
baz=241,SNR=11
BELC **Belle Mtn. Jos** 83.33 51 P P 00 22 12.1 +1.6
baz=242,SNR=6.7
XLT **XiLinHaoTe** 83.34 321 *eP* P 00 22 10.3 +0.1
XLT pmax pmax
comp=Z,14nm,1.1s
XLT pmax pmax
comp=Z,820nm,7.2s
GSC **Goldstone, Bar** 83.36 49 P P 00 22 12.1 +1.6
baz=241,SNR=5.9
PHRA **Phrae** 83.41 292 P P 00 22 10.2 -0.8
HEC **Hector,Ludlow** 83.47 50 P P 00 22 12.4 +1.3
baz=242,SNR=12
BC3 **Big Chuckawall** 83.57 51 P P 00 22 13.4 +1.8
baz=242,SNR=6.3
SEW **Seward** 83.69 17 P P 00 22 12.2 +0.8
baz=212
GLA **Glamis** 83.75 52 P P 00 22 14.0 +1.5
baz=243
GRAC **Grapevine Rang** 83.79 48 P P 00 22 14.7 +2.1
baz=241,SNR=5.4

CAPN **Captain Cook N** 83.81 15 P P 00 22 13.3 +1.3
baz=211
ZEA **Zeya** 83.83 333 *e*P P 00 22 12.6 +0.2
ZEA pmax pmax
comp=Z,10.0nm,1.1s
NVAR **Mina Array Bea** 83.85 46 P P 00 22 14.9 +1.8
comp=Z,15nm,1.1s,baz=227,slow=8.0,SNR=24
comp=Z,15nm,1.1s
SEY **Seymchan** 83.87 349 P P 00 22 12.6 +0.3
comp=Z,21nm,0.9s,baz=152,slow=5.5,SNR=40
comp=Z,21nm,0.9s
SEY **Seymchan** 83.87 349 *ce*P P 00 22 12.1 -0.2
SEY pmax pmax
comp=Z,50nm,1.3s
N20K **Mount Spurr** 83.92 15 P P 00 22 12.2 -0.6
baz=210,SNR=13
SPCR **Spurr Chakacha** 83.92 15 P P 00 22 12.5 -0.3
baz=210
O22K **Cooper Landing** 83.93 16 P P 00 22 13.1 +0.4
baz=212,SNR=5.7
CRAI **Chiangrai** 83.94 294 IAmb IAmb 00 22 15.2
comp=Z,29nm,1.2s
GMRC **Granite Mounta** 83.94 50 P P 00 22 15.1 +1.5
baz=242,SNR=9.2
SPU **Mount Spurr** 83.94 15 P P 00 22 10.8 -2.0
IRM **Iron Mountain** 84.03 51 P P 00 22 15.9 +1.9
baz=242,SNR=15
M19K **Big River Lodg** 84.04 14 IAmb IAmb 00 22 14.2
comp=Z,16nm,1.1s
M19K **Big River Lodg** 84.04 14 P P 00 22 13.4 +0.1
baz=208
TUQ **Turquoise Moun** 84.06 50 P P 00 22 15.3 +1.2
baz=242
P23K **Montague Islan** 84.16 17 P P 00 22 14.0 +0.1
baz=214
L19K **White Mountain** 84.18 13 P P 00 22 14.8 +0.8
baz=207
M20K **Styx River** 84.30 14 IAmb IAmb 00 22 23.4
comp=Z,68nm,2.0s
M20K **Styx River** 84.30 14 P P 00 22 14.7 0.0
baz=209
TPH **Tonopah** 84.41 47 P P 00 22 17.1 +1.1
TPH **Tonopah** 84.41 47 P P 00 22 17.1 +1.1
TPH pmax pmax
comp=Z,148nm,1.3s
RC01 **Rabbit Creek A** 84.45 16 P P 00 22 15.2 -0.1
RC01 **Rabbit Creek A** 84.45 16 P P 00 22 15.2 -0.1
baz=212,SNR=17
HIA **Hailar** 84.45 327 *i*P P 00 22 14.5 -1.2
HIA pmax pmax
comp=Z,36nm,3.6s
DIB **Dawson Inlet,** 84.49 28 IAmb IAmb 00 22 17.9
comp=Z,38nm,1.2s
SUA **Susitna One** 84.51 15 IAmb IAmb 00 22 16.9
comp=Z,34nm,0.9s
SUA **Susitna One** 84.51 15 P P 00 22 15.6 -0.2
baz=211,SNR=20
CM31 **Chiang Mai Arr** 84.52 292 P P 00 22 16.5 -0.2
CM31 IAmb IAmb 00 22 18.5
comp=Z,36nm,1.0s
CMAR **Chiang Mai Arr** 84.52 292 P P 00 22 17.2 +0.5
comp=Z,21nm,1.0s,baz=124,slow=3.6,SNR=61
comp=Z,21nm,1.0s
CMAR **Chiang Mai Arr** 84.52 292 P P 00 22 15.8 -0.8
CMAR **Chiang Mai Arr** 84.52 292 P P 00 22 15.9 -0.8
HHC **Hu-ho-hao-te** 84.53 316 *e*P P 00 22 17.0 +0.6
HHC pmax pmax
comp=Z,47nm,1.1s
HHC pmax pmax
comp=Z,2µm,7.3s
TPNV **Topopah Spring** 84.55 48 P P 00 22 18.5 +1.9
baz=241,SNR=15
ANM **Nome** 84.58 8 P P 00 22 16.8 +0.9
baz=197,SNR=7.3
TTA **Tatalina** 84.61 12 P P 00 22 16.4 +0.2
TTA IAmb IAmb 00 22 18.2
comp=Z,31nm,1.2s
TTA **Tatalina** 84.61 12 P P 00 22 17.4 +1.2
baz=206,SNR=17
TTA **Tatalina** 84.61 12 P P 00 22 16.5 +0.2
TTA pmax pmax
comp=Z,31nm,1.2s
PWL **Port Wells** 84.62 17 P P 00 22 15.2 -1.0
PWL **Port Wells** 84.62 17 P P 00 22 16.4 +0.1
baz=213,SNR=7.1
CHTO **Chiang Mai** 84.65 292 P P 00 22 16.8 -0.6
CHTO IAmb IAmb 00 22 18.7
comp=Z,29nm,1.1s
CHTO **Chiang Mai** 84.65 292 P P 00 22 16.8 -0.6
CHTO pmax pmax
comp=Z,29nm,1.1s
L20K **Farewell, AK** 84.66 13 P P 00 22 16.9 +0.5
baz=208,SNR=17
SKT **Skwentna** 84.76 15 P P 00 22 17.5 +0.5
baz=210,SNR=5.4
214A **Organ Pipe Nat** 84.78 54 P P 00 22 19.8 +2.0
baz=244,SNR=7.3
M22K **Willow** 84.91 15 P P 00 22 17.4 -0.2
M22K **Willow** 84.91 15 P P 00 22 17.6 0.0
baz=212,SNR=9.4
PMR **Palmer** 85.03 16 P P 00 22 17.4 -0.8
PMR **Palmer** 85.03 16 P P 00 22 18.3 +0.1
baz=213,SNR=17
PMR **Palmer** 85.03 16 P P 00 22 17.4 -0.8
PMR pmax pmax
comp=Z,51nm,1.2s
KNK **Knik Glacier** 85.05 16 P P 00 22 18.4 0.0
baz=213,SNR=12
EYAK **Cordova Ski Ar** 85.09 18 P P 00 22 18.9 +0.4
baz=216
EYAK **Cordova Ski Ar** 85.09 18 P P 00 22 18.6 +0.1
TNA **Tin City** 85.24 7 P P 00 22 19.8 +0.7
baz=195
PZH **PanZhiHua** 85.26 300 P P 00 22 21.3 +0.9
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.5s
HOOD **Mount Hood Mea** 85.32 39 IAmb IAmb 00 22 22.8
comp=Z,40nm,1.2s
K20K **Telida** 85.40 13 IAmb IAmb 00 22 21.7
comp=Z,25nm,1.2s
K20K **Telida** 85.40 13 P P 00 22 20.6 +0.5
baz=208
PPLA **Purkeypile** 85.41 14 P P 00 22 19.3 -1.0
baz=210
SML **Sawmill** 85.42 16 P P 00 22 19.8 -0.5
baz=213
CUT **Chulitna** 85.43 15 P P 00 22 18.5 -1.8
CUT **Chulitna** 85.43 15 P P 00 22 19.6 -0.6
baz=212
CD2 **Chengdu** 85.47 305 P P 00 22 21.0 -0.3
CD2 pmax pmax
comp=Z,10.0nm,0.6s
DIV **Divide** 85.55 17 IAmb IAmb 00 22 22.2
comp=Z,34nm,0.9s
M23K **Glacier View** 85.56 16 P P 00 22 21.0 0.0
baz=214
SCM **Sheep Creek Mo** 85.70 16 P P 00 22 21.9 +0.2
baz=214,SNR=13
CRAG **Craig** 85.74 26 P P 00 22 22.5 +0.6
baz=227
BMRM **Bremner River** 85.76 18 P P 00 22 22.5 +0.5
baz=217
KLU **Klutina** 85.81 17 IAmb IAmb 00 22 23.7
comp=Z,26nm,1.2s
KLU **Klutina** 85.81 17 P P 00 22 22.6 +0.3
baz=216
BBB **Bella Bella** 85.85 31 P P 00 22 23.4 +0.9
comp=Z,26nm,1.0s,baz=245,slow=5.5,SNR=4.5
comp=Z,26nm,1.0s
CAST **Castle Rocks** 85.88 14 P P 00 22 20.6 -1.9
CAST IAmb IAmb 00 22 23.2
comp=Z,26nm,1.1s
CAST **Castle Rocks** 85.88 14 P P 00 22 21.8 -0.7
baz=210,SNR=24
SIT **Sitka** 85.96 24 P P 00 22 22.8 -0.1
baz=225
GCSA **Galena City Sc** 86.09 11 P P 00 22 23.8 +0.3
baz=205
J20K **Nowinta River** 86.11 13 P P 00 22 23.5 0.0
baz=208
U33K **Whale Pass** 86.18 26 P P 00 22 23.9 -0.2
baz=227
WAT6 **Susitna Watana** 86.22 16 P P 00 22 24.4 0.0
baz=214,SNR=13
WAT1 **Susitna Watana** 86.22 15 P P 00 22 23.7 -0.5
baz=213
J08A **Circle Bar Ran** 86.22 42 IAmb IAmb 00 22 27.6
comp=Z,26nm,1.2s
CHUM **Lake Minchumin** 86.24 13 P P 00 22 24.3 +0.1
baz=210
M24K **Tolsona, Glenn** 86.24 17 P P 00 22 24.3 0.0
baz=215,SNR=6.6
S31K **Pelican** 86.25 23 P P 00 22 24.2 -0.1
baz=224
N25K **Chitina, Valde** 86.27 18 IAmb IAmb 00 22 26.1
comp=Z,30nm,0.9s
N25K **Chitina, Valde** 86.27 18 P P 00 22 25.0 +0.4
baz=217,SNR=16
V35K **Ketchikan** 86.28 27 P P 00 22 24.4 -0.2
baz=228
VRDI **Verde Repeater** 86.31 18 IAmb IAmb 00 22 26.3
comp=Z,41nm,1.3s
TRF **Thorofare Moun** 86.32 14 P P 00 22 25.1 +0.2
baz=211
GLB **Gilahina Butte** 86.37 18 IAmb IAmb 00 22 26.3
comp=Z,27nm,1.0s
PNL **Peninsula** 86.39 21 P P 00 22 25.1 0.0
baz=221
PNL **Peninsula** 86.39 21 P P 00 22 24.3 -0.8
PCA **Pinnacle** 86.42 20 IAmb IAmb 00 22 26.7
comp=Z,26nm,1.1s
PINM **Pinnacle** 86.42 20 P P 00 22 25.3 0.0
baz=221,SNR=5.3
TUC **Tucson** 86.48 54 P P 00 22 27.9 +1.6
baz=245
MCARA **McCarthy VSAT** 86.56 18 IAmb IAmb 00 22 28.0
comp=Z,35nm,1.1s
MCARA **McCarthy VSAT** 86.56 18 P P 00 22 26.1 +0.2
baz=218,SNR=12
WRAK **Wrangell Islan** 86.71 26 IAmb IAmb 00 22 29.1
comp=Z,35nm,1.1s
WRAK **Wrangell Islan** 86.71 26 P P 00 22 27.7 +1.0
baz=228
LCMT **Little Creek M** 86.71 49 P P 00 22 26.0 -1.4
BPAW **Bear Paw Mtn.** 86.72 14 P P 00 22 26.9 +0.2
baz=211
DHY **Denali Highway** 86.72 16 IAmb IAmb 00 22 28.0
comp=Z,28nm,1.6s
DHY **Denali Highway** 86.72 16 P P 00 22 26.6 -0.3
baz=214
HARP **HAARP** 86.76 17 P P 00 22 27.2 +0.4
baz=216
SPR3 **Spring Creek 3** 86.85 47 IAmb IAmb 00 22 30.8
comp=Z,20nm,1.3s
MCK **McKinley** 86.89 15 IAmb IAmb 00 22 31.2
comp=Z,18nm,1.1s
MCK **McKinley** 86.89 15 P P 00 22 27.9 +0.4
baz=213,SNR=7.5
G08A **Pilot Rock** 86.91 40 IAmb IAmb 00 22 30.8
comp=Z,27nm,1.1s
P29M **Windy Craggy** 86.92 21 IAmb IAmb 00 22 29.9
comp=Z,36nm,1.1s
P29M **Windy Craggy** 86.92 21 P P 00 22 28.0 +0.3
baz=223
LTY **Liberty** 86.94 37 IAmb IAmb 00 22 30.4
comp=Z,21nm,1.2s
O28M **Mount Upton** 86.96 20 P P 00 22 28.7 +0.5
baz=221
ELK **Elko** 87.04 45 IAmb IAmb 00 22 31.9
comp=Z,22nm,1.3s
R32K **Eaglecrest** 87.12 24 P P 00 22 29.1 +0.4
baz=226
O29M **Mount Kennedy** 87.14 21 P P 00 22 29.3 +0.4
baz=222
PAX **Paxson** 87.14 16 P P 00 22 26.4 -2.3
PAX **Paxson** 87.14 16 P P 00 22 29.1 +0.3
baz=216
PAX **Paxson** 87.14 16 P P 00 22 26.5 -2.3
PAX pmax pmax
comp=Z,7.0nm,1.0s
HAWA **Hanford** 87.14 39 IAmb IAmb 00 22 31.8
comp=Z,43nm,1.2s
BILL **Bilibino** 87.17 356 *e*P P 00 22 28.2 -0.5
BILL *e* 00 25 50.1
BILL *e*PPP PPP 00 27 48.4
BILL pmax pmax
comp=Z,20nm,1.3s
BILL MLR MLR
comp=Z,277nm,17.0s
PLBC **Pleasant Camp** 87.28 22 P P 00 22 29.8 +0.4
baz=224,SNR=11
ELIB **Princess Elisa** 87.34 188 *d*P P 00 22 28.6 -1.4
comp=Z,14nm,1.0s
TNCH **TengChong** 87.36 297 P P 00 22 31.7 +0.8
TNCH pP PcP 00 22 33.6 +0.7
TNCH sP sP 00 22 37.3 +3.1
TNCH pmax pmax
comp=Z,20nm,1.1s
TNCH pmax pmax
comp=Z,250nm,4.1s
M26K **Nabesna, AK** 87.37 18 IAmb IAmb 00 22 31.4
comp=Z,31nm,1.1s
M26K **Nabesna, AK** 87.37 18 P P 00 22 30.0 +0.1
baz=218
WUAZ **Wupatki** 87.41 51 P P 00 22 32.5 +1.7
baz=244
I21K **Tanana** 87.44 13 P P 00 22 29.8 -0.3
baz=210,SNR=12
YUK8 **Steele Glacier** 87.48 20 P P 00 22 30.7 0.0
baz=221,SNR=21
P30M **Million Dollar** 87.55 21 P P 00 22 31.5 +0.7
baz=224,SNR=13
MLY **Manley** 87.58 13 P P 00 22 30.2 -0.6
baz=211,SNR=8.5
NEA2 **Nenana** 87.58 14 P P 00 22 27.9 -2.9
NEA2 **Nenana** 87.58 14 P P 00 22 29.8 -0.9
baz=212
YUK3 **Moose Creek** 87.64 19 P P 00 22 32.0 +0.6
baz=220,SNR=26
SKAG **Skagway** 87.65 22 P P 00 22 32.5 +1.3
baz=225,SNR=7.3
M27K **Edge Creek, AK** 87.66 18 IAmb IAmb 00 22 33.3
comp=Z,36nm,1.1s
M27K **Edge Creek, AK** 87.66 18 P P 00 22 31.7 +0.4
baz=219,SNR=19
YUK6 **Outpost Mounta** 87.68 20 P P 00 22 31.7 +0.1
baz=222
H21K **Melozitna Rive** 87.69 12 P P 00 22 31.8 +0.5
baz=209
WRH **Wood River Hil** 87.71 15 IAmb IAmb 00 22 32.6
comp=Z,20nm,1.2s
K24K **Donnelly Dome** 87.73 16 P P 00 22 32.0 +0.4
baz=216,SNR=7.6
L26K **Log Cabin Wild** 87.76 17 IAmb IAmb 00 22 33.3
comp=Z,22nm,1.5s
L26K **Log Cabin Wild** 87.76 17 P P 00 22 32.3 +0.6
baz=218
IMAR **Indian Mountai** 87.79 12 P P 00 22 30.3 -1.5
HYT **Haines Junctio** 87.88 21 P P 00 22 32.8 +0.3
baz=223
YUK4 **Talbot Arm** 87.89 20 P P 00 22 32.8 +0.2
baz=222
CCB **Clear Creek Bu** 87.92 15 IAmb IAmb 00 22 33.3
comp=Z,17nm,0.9s
RIDG **Independent Ri** 87.92 16 IAmb IAmb 00 22 34.8
comp=Z,14nm,1.0s
RIDG **Independent Ri** 87.92 16 P P 00 22 32.2 -0.3
baz=216,SNR=7.7
MFID **Camas Ranch** 87.93 43 IAmb IAmb 00 22 35.9
comp=Z,19nm,1.1s
HDA **Harding Lake** 87.94 15 IAmb IAmb 00 22 34.6
comp=Z,17nm,0.9s
HDA **Harding Lake** 87.94 15 P P 00 22 32.3 -0.2
baz=214,SNR=16
T35M **Bob Quinn** 87.95 26 P P 00 22 33.8 +1.1
baz=230
I23K **Minto, Yukon-K** 87.98 14 P P 00 22 32.4 -0.2
baz=212
BVCY **Beaver Creek** 88.01 18 P P 00 22 33.3 +0.4
baz=220
E09A **Wood Farm, Sta** 88.03 39 P P 00 22 32.5 -0.8
E09A IAmb IAmb 00 22 35.7
comp=Z,38nm,1.3s
MDM **Murphy Dome** 88.08 14 IAmb IAmb 00 22 34.1
comp=Z,22nm,1.0s
TCOL **CIGO, UAF Yank** 88.10 15 P P 00 22 33.3 +0.1
baz=214
COLA **College** 88.10 15 P P 00 22 30.6 -2.6
COLA **College** 88.10 15 P P 00 22 33.2 0.0
baz=214
COLA **College** 88.10 15 P P 00 22 32.3 -0.9
COLA **College** 88.10 15 *i*P P 00 22 31.8 -1.4
COLA pmax pmax
comp=Z,22nm,0.9s
H22K **Ishtalitna Cre** 88.19 13 P P 00 22 33.9 +0.3
baz=210
S34M **Telegraph Cree** 88.20 25 P P 00 22 35.4 +1.6
baz=229,SNR=17
L27K **Beaver Creek,** 88.22 18 P P 00 22 34.3 +0.4
baz=219
BCAR **Beaver Creek A** 88.24 18 P P 00 22 32.6 -1.4
IL31 88.25 15 IAmb IAmb 00 22 34.1
comp=Z,14nm,0.9s
ILAR **Eielson Array** 88.25 15 P P 00 22 33.2 -0.7
comp=Z,11nm,0.9s,baz=237,slow=5.8,SNR=55
comp=Z,11nm,0.9s
ILAR **Eielson Array** 88.25 15 P P 00 22 32.4 -1.5
B08A **Colville Reser** 88.28 37 IAmb IAmb 00 22 36.5
comp=Z,26nm,1.1s
MND **Mandalay** 88.30 294 P P 00 22 34.8 -0.3
G21K **Allakaket** 88.30 12 P P 00 22 34.6 +0.4
baz=206
O30N **Mendenhall** 88.32 21 P P 00 22 35.0 +0.5
baz=224,SNR=5.8
P32M **Atlin** 88.33 23 P P 00 22 35.8 +1.3
baz=226,SNR=8.7
SCRK **Sand Creek** 88.34 16 P P 00 22 34.2 -0.4
baz=217,SNR=9.1
POKR **Poker Plat Res** 88.40 15 IAmb IAmb 00 22 35.5
comp=Z,14nm,0.9s
POKR **Poker Plat Res** 88.40 15 P P 00 22 34.0 -0.7
baz=214,SNR=13
DUG **Dugway, Tooele** 88.44 46 IAmb IAmb 00 22 38.4
comp=Z,18nm,1.4s
DUG **Dugway, Tooele** 88.44 46 P P 00 22 36.4 +0.8
baz=243
Q32M **Nakina River** 88.45 24 P P 00 22 34.7 -0.6
baz=228
W18A **Petrified Fore** 88.45 52 P P 00 22 36.8 +0.9
baz=245
H23K **Yukon River** 88.52 13 P P 00 22 34.9 -0.4
baz=212
C09A **Chrisman Ranch** 88.61 38 IAmb IAmb 00 22 38.4
comp=Z,33nm,1.3s
BGU **Big Grassy Mou** 88.61 46 IAmb IAmb 00 22 38.5
comp=Z,20nm,1.5s
WHY **Whitehorse** 88.66 22 P P 00 22 37.2 +1.1
baz=225,SNR=5.4
M29M **Somme Creek** 88.76 19 P P 00 22 36.9 +0.3
baz=222
YAK **Yakutsk** 88.85 340 P P 00 22 36.8 0.0
comp=Z,8.7nm,0.4s,baz=117,slow=1.8,SNR=12
comp=Z,8.7nm,0.4s
YAK **Yakutsk** 88.85 340 P P 00 22 36.3 -0.5
YAK **Yakutsk** 88.85 340 *e*P P 00 22 36.3 -0.5
YAK *e* 00 26 05.9
YAK *e*S SKSac 00 33 02.0 -4.0
YAK *e**SS SKSac 00 33 22.9 +5.6
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,212nm,4.2s
YAK pmax pmax
comp=N,59nm,4.1s
YAK pmax pmax
comp=E,88nm,3.4s
YAK smax smax
comp=N,107nm,4.1s
YAK smax smax
comp=E,190nm,5.2s
J26L **Joseph Creek** 88.87 16 IAmb IAmb 00 22 38.6
comp=Z,18nm,0.9s
J26L **Joseph Creek** 88.87 16 P P 00 22 37.7 +0.7
baz=218
121A **Cookes Peak, D** 88.89 55 P P 00 22 39.4 +1.4
baz=247
121A **Cookes Peak, D** 88.89 55 P P 00 22 39.7 +1.7
baz=247
H24K **Noodor Dome** 88.90 14 P P 00 22 36.8 -0.2
baz=214
K27K **Chicken** 88.91 17 IAmb IAmb 00 22 39.0
comp=Z,22nm,1.1s
K27K **Chicken** 88.91 17 P P 00 22 37.3 +0.2
baz=219
HLID **Hailey** 88.91 43 P P 00 22 39.2 +1.4
baz=242,SNR=10
DLBC **Dease Lake** 88.98 25 IAmb IAmb 00 22 40.2
comp=Z,31nm,1.1s
DLBC **Dease Lake** 88.98 25 P P 00 22 38.8 +1.2
baz=230,SNR=15
TROLL **Troll, Antarti** 89.04 182 P P 00 22 37.2 -0.8
G22K **Bettles** 89.05 12 P P 00 22 38.6 +0.9
baz=210
P33M **Teslin, Yukon** 89.09 23 P P 00 22 38.9 +0.7
baz=227,SNR=5.2
HVU **Hansel Valley** 89.17 45 IAmb IAmb 00 22 42.0
comp=Z,38nm,1.2s
G23K **Bananza Creek** 89.17 13 P P 00 22 39.8 +1.4
baz=212
SPUT **South Promonto** 89.18 46 IAmb IAmb 00 22 42.0
comp=Z,24nm,1.1s
PRP **Porcupine Dome** 89.19 15 P P 00 22 38.6 +0.1
baz=216
R33M **Jennings River** 89.24 24 P P 00 22 40.1 +1.2
baz=229
L29M **L29M** 89.36 19 P P 00 22 40.1 +0.9
baz=222
M30M **Minto, Yukon** 89.39 20 IAmb IAmb 00 22 41.0
comp=Z,34nm,1.4s
M30M **Minto, Yukon** 89.39 20 P P 00 22 39.8 +0.3
baz=224
F22K **John River** 89.43 12 P P 00 22 40.0 +0.6
baz=210
SNAA **Sanae** 89.48 180 P P 00 22 38.6 -1.3
SNAA **Sanae** 89.48 180 P P 00 22 38.2 -1.7
comp=Z,4.8nm,0.9s,baz=247,slow=3.0,SNR=5.6
comp=Z,4.8nm,0.9s
SNAA **Sanae** 89.48 180 *ce*P P 00 22 37.3 -2.7
SNAA pmax pmax
comp=Z,8.0nm,1.0s
NEW **Newport** 89.51 38 IAmb IAmb 00 22 42.4
comp=Z,20nm,1.1s
NEW **Newport** 89.51 38 P P 00 22 41.0 +0.7
baz=240
SRU **San Rafael Swe** 89.55 48 IAmb IAmb 00 22 43.8
comp=Z,31nm,1.2s
COLD **Coldfoot** 89.58 12 P P 00 22 40.4 +0.3
baz=211
KIDD **KIDD Seismic O** 89.59 56 P P 00 22 42.7 +1.5
baz=247
DAWY **Dawson** 89.69 18 IAmb IAmb 00 22 42.2
comp=Z,21nm,0.9s
DAWY **Dawson** 89.69 18 P P 00 22 41.1 +0.2
baz=221,SNR=26
G24K **Hadweenzic Riv** 89.71 14 P P 00 22 41.1 +0.3
baz=214
NVL **N'lazarevskaya** 89.73 185 *e*P P 00 22 41.1 +0.1
NVL pmax pmax
comp=Z,22nm,0.8s
EGAK **Eagle** 89.74 17 P P 00 22 40.1 -0.8
EGAK IAmb IAmb 00 22 42.2
comp=Z,33nm,1.0s
EGAK **Eagle** 89.74 17 P P 00 22 41.0 +0.1
baz=220,SNR=30
VNA3 **Neumayer Olymp** 89.82 178 P P 00 22 40.1 -1.4
M31M **Drury Creek, Y** 89.91 21 P P 00 22 41.5 -0.3
baz=226,SNR=7.9
E22K **Anaktuvuk Pass** 90.04 11 P P 00 22 42.4 0.0
baz=210
Y22A **Socorro** 90.07 54 P P 00 22 45.5 +2.0
baz=247
G25K **Bearman Lake** 90.08 14 P P 00 22 42.8 +0.4
baz=215
K29M **Barlow Dome** 90.09 19 P P 00 22 43.1 +0.4
baz=223
VNA2 **Neumayer--Watz** 90.20 179 P P 00 22 42.1 -1.1
baz=163,slow=3.0
MVCO **Mesa Verde** 90.22 51 P P 00 22 45.6 +1.4
baz=246
I27K **Kandik River** 90.25 16 P P 00 22 43.5 +0.1
baz=219
FARO **Faro, Yukon** 90.28 21 P P 00 22 43.8 +0.2
baz=227
F24K **Squaw Lake** 90.31 13 P P 00 22 43.9 +0.3
baz=214
PV13 **Radium Mtn., P** 90.37 50 IAmb IAmb 00 22 47.7
comp=Z,20nm,1.3s

PV11 **David Mesa, Pa** **90.39** **49** IAmb IAmb 00 22 47.9
comp=Z,39nm,1.4s
E23K **Chandalar** **90.40** **12** P **P** **00 22 44.7 +0.6**
baz=212
MNTX **Cornudas Mount** **90.45** **57** P P 00 22 42.9 -2.2
MNTX IAmb IAmb 00 22 48.2
comp=Z,20nm,1.3s
MNTX **Cornudas Mount** **90.45** **57** P **P** **00 22 46.7 +1.6**
baz=248
MNTX **Cornudas Mount** **90.45** **57** P **P** **00 22 46.6 +1.6**
baz=248
VNA1 **Neumayer--Stat** **90.45** **179** P **P** **00 22 43.4 -1.0**
WTLY **Watson Lake, Y** **90.55** **24** IAmb IAmb 00 22 47.2
comp=Z,24nm,1.2s
WTLY **Watson Lake, Y** **90.55** **24** P **P** **00 22 46.1 +1.2**
baz=231,SNR=8.9
PV07 **Paradox Valley** **90.61** **49** IAmb IAmb 00 22 48.8
comp=Z,34nm,1.4s
E24K **Your Creek** **90.65** **13** P **P** **00 22 45.8 +0.6**
baz=213
PV15 **Paradox Valley** **90.69** **50** IAmb IAmb 00 22 49.1
comp=Z,26nm,1.3s
MSO **Missoula** **90.72** **40** P **P** **00 22 46.6 +0.5**
baz=243
H27K **Steamboat Moun** **90.76** **16** P **P** **00 22 46.2 +0.4**
baz=219
G26K **Porcupine Rive** **90.77** **15** P **P** **00 22 46.2 +0.6**
baz=217
ULN **Ulaanbaatar** **90.79** **321** P **P** **00 22 46.1 -0.4**
ULN IAmb IAmb 00 22 47.9
comp=Z,24nm,1.1s
ULN **Ulaanbaatar** **90.79** **321** *c* *e*P **P** **00 22 45.5 -0.9**
ULN pmax pmax
comp=Z,27nm,1.1s
RDMU **Red Mountain** **90.83** **47** IAmb IAmb 00 22 49.6
comp=Z,15nm,1.1s
ANMO **Albuquerque** **90.85** **53** P **P** **00 22 48.3 +1.1**
baz=247
ANMO **Albuquerque** **90.85** **53** P **P** **00 22 48.7 +1.6**
baz=247
F25K **Christian Rive** **90.86** **14** P **P** **00 22 46.6 +0.5**
baz=216
TX31 **Lajitas Ar. Si** **90.95** **59** P **P** **00 22 48.4 +0.8**
baz=249
TXAR **Lajitas Array** **90.95** **59** P **P** **00 22 50.0 +2.4**
comp=Z,9.2nm,1.0s,baz=232,slow=5.1,SNR=44
comp=Z,9.2nm,1.0s
TXAR **Lajitas Array** **90.95** **59** P **P** **00 22 50.0 +2.4**
BMAR **Burnt Mountain** **90.97** **14** P **P** **00 22 46.8 +0.1**
D23K **Nanushuk River** **90.97** **11** P **P** **00 22 46.8 +0.2**
baz=211
I29M **Ogilvie Camp,** **90.97** **17** IAmb IAmb 00 22 47.7
comp=Z,24nm,1.1s
I29M **Ogilvie Camp,** **90.97** **17** P **P** **00 22 46.9 +0.2**
baz=222,SNR=13
SONM **Songino Array** **91.17** **321** P **P** **00 22 48.0 -0.2**
comp=Z,14nm,1.1s,baz=134,slow=4.4,SNR=45
comp=Z,14nm,1.1s
SONM **Songino Array** **91.17** **321** P **P** **00 22 46.8 -1.4**
SONM IAmb IAmb 00 22 49.4
comp=Z,21nm,1.1s
SONM **Songino Array** **91.17** **321** P **P** **00 22 46.8 -1.4**
SONM pmax pmax
comp=Z,21nm,1.1s
G27K **Doyon Strip** **91.18** **15** P **P** **00 22 48.1 +0.4**
baz=219,SNR=8.9
F26K **Sheenjek River** **91.28** **14** P **P** **00 22 48.7 +0.6**
baz=217
E25K **Arctic Village** **91.30** **13** P **P** **00 22 48.6 +0.4**
baz=216
D24K **Happy Valley** **91.49** **12** P **P** **00 22 49.3 +0.3**
baz=213
O20A **White River Ci** **91.58** **48** IAmb IAmb 00 22 53.3
comp=Z,30nm,1.2s
O20A **White River Ci** **91.58** **48** P **P** **00 22 51.9 +1.5**
baz=246,SNR=8.6
BOZ **Bozeman (W)** **91.60** **42** IAmb IAmb 00 22 53.7
comp=Z,16nm,1.4s
BOZ **Bozeman (W)** **91.60** **42** P **P** **00 22 51.7 +1.4**
baz=244,SNR=7.0
S22A **4UR Ranch, Cre** **91.65** **51** P **P** **00 22 52.8 +1.9**
baz=247,SNR=18
BW06 **Boulder Array** **91.75** **45** P **P** **00 22 52.5 +1.3**
baz=246,SNR=8.4
PD31 **Pinedale Array** **91.75** **45** P **P** **00 22 50.7 -0.4**
PDAR **Pinedale Array** **91.75** **45** P **P** **00 22 52.2 +1.1**
comp=Z,5.0nm,1.1s,baz=205,slow=3.1,SNR=11
PDAR PP **PP** **00 26 30.7 +0.5**
comp=Z,0.2nm,0.7s,baz=224,slow=5.0,SNR=2.8
comp=Z,5.0nm,1.1s
H17A **Grant Village** **91.76** **43** P **P** **00 22 53.5 +2.3**
baz=245,SNR=7.3
GTA **Gaotai** **91.90** **311** ⇓P **P** **00 22 52.4 +0.6**
GTA pP pwP 00 23 00.2 +2.3
GTA sP sP 00 23 04.3 +9.2
GTA pmax pmax
comp=Z,22nm,1.0s
C24K **Franklin Bluff** **91.99** **12** P **P** **00 22 51.7 +0.5**
baz=213
D25K **Kavik River** **92.12** **12** P **P** **00 22 52.2 +0.3**
baz=215
EPYK **Eagle Plains** **92.16** **17** IAmb IAmb 00 22 53.4
comp=Z,25nm,1.1s
EPYK **Eagle Plains** **92.16** **17** P **P** **00 22 52.6 +0.4**
baz=224,SNR=14
BOD **Bodaibo** **92.21** **332** *e*P **P** **00 22 52.1 -0.5**
BOD pmax pmax
comp=Z,14nm,1.5s
E27K **Coleen River** **92.26** **15** P **P** **00 22 53.0 +0.3**
baz=219
KOTAN **Kotaneelee Air** **92.45** **26** P **P** **00 22 54.2 +0.6**
baz=235
SDCO **Great Sand Dun** **92.63** **51** IAmb IAmb 00 22 58.0
comp=Z,14nm,1.2s
SDCO **Great Sand Dun** **92.63** **51** P **P** **00 22 56.3 +0.9**
baz=248
SDCO **Great Sand Dun** **92.63** **51** P **P** **00 22 56.4 +0.9**
baz=248
G30M **tAoh Zraii Nji** **92.74** **17** P **P** **00 22 55.1 +0.2**
baz=224
C26K **Camden Bay** **92.90** **13** P **P** **00 22 56.5 +1.0**
baz=216
RLMT **Red Lodge** **92.91** **43** IAmb IAmb 00 22 59.8
comp=Z,13nm,1.2s
RLMT **Red Lodge** **92.91** **43** P **P** **00 22 58.5 +2.1**
baz=246,SNR=6.2
C27K **Jago River** **92.92** **13** P **P** **00 22 55.9 +0.3**
baz=218
T25A **Trinidad** **93.21** **52** P **P** **00 22 59.1 +1.1**
baz=249
ISCO **Idaho Springs** **93.31** **49** P **P** **00 23 00.1 +1.6**
baz=248
ISCO **Idaho Springs** **93.31** **49** P **P** **00 22 59.9 +1.4**
baz=248
MSTX **Muleshoe** **93.32** **55** P **P** **00 22 59.9 +1.5**
baz=249
MSTX **Muleshoe** **93.32** **55** P **P** **00 22 59.8 +1.3**
baz=249
Q24A **Divide** **93.34** **50** IAmb IAmb 00 23 01.6
comp=Z,13nm,1.0s
Q24A **Divide** **93.34** **50** P **P** **00 22 59.9 +1.2**
baz=248
N23A **Red Feather La** **93.49** **48** P **P** **00 23 00.7 +1.4**
baz=248
F31M **Tsiigehtchic** **93.75** **17** P **P** **00 22 59.4 0.0**
baz=226,SNR=13
K22A **Casper** **93.75** **46** P **P** **00 23 01.4 +1.0**
baz=248
K22A **Casper** **93.75** **46** P **P** **00 23 01.4 +1.0**
baz=248
EGMT **Eagleton** **93.79** **40** P **P** **00 23 01.5 +1.3**
baz=246
EDM **Edmonton** **93.97** **35** IAmb IAmb 00 23 04.1
comp=Z,14nm,1.1s
ZAK **Zakamensk** **94.13** **322** *e*P **P** **00 23 00.7 -1.1**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
GOMU **GeErMu** **94.40** **307** P **P** **00 23 04.1 +0.4**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
INK **Inuvik** **94.41** **17** P **P** **00 23 01.5 -1.0**
INK IAmb IAmb 00 23 03.3
comp=Z,22nm,1.2s
INK **Inuvik** **94.41** **17** P **P** **00 23 02.3 -0.2**
baz=227
INK **Inuvik** **94.41** **17** P **P** **00 23 01.5 -1.0**
INK pmax pmax
comp=Z,22nm,1.3s

AMTX **Amarillo** **94.48** **55** IAmb IAmb 00 23 06.0
comp=Z,22nm,1.1s
AMTX **Amarillo** **94.48** **55** P **P** **00 23 04.8 +1.0**
baz=250
AMTX **Amarillo** **94.48** **55** P **P** **00 23 04.9 +1.1**
baz=250
JCT **Junction City** **94.50** **59** P **P** **00 23 04.9 +1.1**
baz=251
ABTX **Abilene, Hawle** **95.33** **57** P **P** **00 23 08.8 +1.1**
baz=251
ABTX **Abilene, Hawle** **95.33** **57** P **P** **00 23 08.3 +0.7**
baz=251
LAO **LASA Array** **95.48** **42** P **P** **00 23 10.2 +2.2**
baz=248
LAO **LASA Array** **95.48** **42** P **P** **00 23 08.6 +0.6**
baz=248
RSSD **Black Hills** **95.98** **45** P **P** **00 23 11.2 +0.6**
baz=249
RSSD **Black Hills** **95.98** **45** P **P** **00 23 10.7 +0.1**
baz=249
TIXI **Tiksi** **96.04** **346** P **P** **00 23 08.7 -1.1**
comp=Z,5.0nm,1.0s,baz=90,slow=22,SNR=13
comp=Z,5.0nm,1.0s
TIXI **Tiksi** **96.04** **346** P P 00 23 07.7 -2.2
TIXI **Tiksi** **96.04** **346** ‖ *e*P **P** **00 23 07.8 -2.1**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
ELIS **Ellis County** **96.62** **54** IAmb IAmb 00 23 16.2
comp=Z,32nm,1.3s
WMOK **Wichita Mounta** **96.69** **56** P **P** **00 23 13.6 -0.2**
baz=252
WMOK **Wichita Mounta** **96.69** **56** P **P** **00 23 13.8 0.0**
baz=252
U32A **Winter Ranch,** **97.03** **54** P **P** **00 23 16.5 +1.2**
baz=252
YKA **Yellowknife Ar** **97.57** **26** P **P** **00 23 17.1 +0.2**
comp=Z,3.9nm,0.9s,baz=249,slow=4.7
comp=Z,3.9nm,0.9s
C36M **Paulatuk** **97.73** **18** IAmb IAmb 00 23 18.4
comp=Z,15nm,1.1s
C36M **Paulatuk** **97.73** **18** P **P** **00 23 17.4 -0.2**
baz=235
R32A **Long Quarter,** **97.89** **52** P **P** **00 23 20.3 +1.2**
baz=252
A36M **Sachs Harbour** **98.93** **16** P **P** **00 23 22.1 -0.7**
A36M **Sachs Harbour** **98.93** **16** P **P** **00 23 23.1 +0.2**
baz=235
WMQ **Urumqi** **101.92** **312** *e*P **Pdif** **00 23 37.3 +0.3**
ZALV **Zalesovo Beam** **106.01** **322** Pdiff **Pdif** **00 23 54.4 -0.4**
comp=Z,0.3nm,0.3s,baz=108,slow=4.7,SNR=2.0
MKAR **Makanchi Array** **106.30** **314** Pdiff **Pdif** **00 23 56.5 +0.2**
comp=Z,1.5nm,0.8s,baz=95,slow=6.8,SNR=12
MKAR PKiKP **PKiKP** **00 28 06.6 -1.2**
comp=Z,1.3nm,1.0s,baz=126,slow=2.1,SNR=5.5
KURBB **Kurchatov Arra** **109.33** **318** PKiKP **PKiKP** **00 28 12.2 -1.1**
comp=Z,1.8nm,0.8s,baz=94,slow=1.9,SNR=14
AAK **Ala-Archa** **111.17** **309** *i* PKiKP **PKiKP** **00 28 14.3 -2.9**
BVAR **Borovoye Array** **114.51** **320** PKP PKPdf 00 28 22.2 -0.8
comp=Z,3.6nm,0.8s,baz=70,slow=1.7,SNR=16
BRVK **Borovoye** **114.57** **320** *i* PKiKP PKPdf 00 28 22.2 -0.9
SVE **Sverdlovsk** **119.73** **325** *e*PKiKP **PKPdf** **00 28 32.4 -0.5**
ARU **Arti** **120.93** **325** PKP **PKPdf** **00 28 34.7 -0.5**
comp=Z,4.4nm,0.6s,baz=297,slow=2.2,SNR=11
ARU **Arti** **120.93** **325** PKPdf **PKPdf** **00 28 33.3 -2.0**
ARU **Arti** **120.93** **325** *i* PKiKP **PKPdf** **00 28 34.5 -0.8**
ARU 00 30 06.3
ARU 00 35 46.3
ARU SS SS 00 46 49.4 +13
ABKAR **Akbulak array** **121.32** **317** PKPdf **PKPdf** **00 28 34.0 -2.3**
BOSA **Boshof** **124.90** **211** PKP **PKPdf** **00 28 43.5 -0.5**
comp=Z,8.3nm,1.0s,baz=170,slow=9.2,SNR=4.1
PRGR **Permogore** **125.40** **334** *e*PKiKP **PKPdf** **00 28 41.5 -2.2**
PRGR pmax pmax
comp=Z,22nm,1.3s
BELG **Belogornoye** **128.19** **322** *e*PKiKP **PKPdf** **00 28 48.5 -0.7**
KLMR **Klimovskoe** **128.34** **335** AMP 00 28 35.4
comp=Z,57nm,1.4s
KLMR **Klimovskoe** **128.34** **335** *e*PKHKP PKPpre 00 28 31.4
KLMR pmax pmax
comp=Z,57nm,1.4s
KLMR **Klimovskoe** **128.34** **335** *e*PKPdf PKPpre 00 28 31.5
AKT **Akhty** **131.04** **309** *e*PKiKP **PKPdf** **00 28 53.7 -1.5**
AKT *e* 00 31 09.2
AKT pmax pmax
comp=Z,15nm,1.2s
VRH **Novokhopyorsk** **132.03** **323** *e*PKHKP PKPpre 00 28 38.8
VRH pmax pmax
comp=Z,10.0nm,0.7s
FINES **FINESS Array B** **132.77** **341** PKP **PKPdf** **00 28 56.6 -1.1**
comp=Z,4.8nm,1.0s,baz=126,slow=21,SNR=4.6
LPSR **Galich'ya Gora** **132.95** **326** *e*PKHKP PKPpre 00 28 34.9
LPSR pmax pmax
comp=Z,20nm,1.0s
VSR **Storozhevoye** **133.47** **324** *e*PKHKP PKPpre 00 28 34.4
VSR pmax pmax
comp=Z,20nm,1.3s
ZEI **Tsey** **133.52** **311** *i* PKHKP PKPpre 00 28 41.5
ZEI pmax pmax
comp=Z,4.0nm,1.3s
KIV **Kislovodsk** **134.04** **313** *e*PKiKP **PKPdf** **00 28 59.7 -1.1**
KIV *e* 00 31 29.4
KIV *e*PPP PPP 00 34 23.7
KIV pmax pmax
comp=Z,8.0nm,1.2s
KMBO **Kilima Mbogo** **134.98** **248** PKP **PKPdf** **00 29 02.3 -1.3**
comp=Z,4.5nm,0.9s,baz=31,slow=5.2,SNR=10
MNK **Minsk** **137.18** **333** *i* PKP **PKPdf** **00 29 02.7 -3.4**
comp=E,2.0nm,1.1s
MNK *i* PKP **PKPdf** **00 29 02.7 -3.4**
comp=N,36nm,1.1s
MNK *i* PKP **PKPdf** **00 29 02.7 -3.4**
comp=Z,9.0nm,1.2s,baz=47
MNK *i* PP **PP** **00 31 47.6 -2.6**
MNK *i* PPP PPP 00 34 43.8
MNK *i* SKKS 00 45 50.9
MNK *i* SS **SS** **00 49 55.5 -0.5**
MNK *i* SSS SSS 00 55 00.8
MNK *i* LQ LQ 01 22 18.1
MNK *i* LR LR 01 27 27.1
MNK *i* LRM MLR 01 31 28.7
comp=N,223nm,8.6s
MNK *i* LRM MLR 01 31 30.9
comp=Z,214nm,8.9s
MNK *i* LRM MLR 01 31 36.3
comp=E,55nm,13.7s
MNK **Minsk** **137.18** **333** *i* PKiKP **PKPdf** **00 29 02.7 -3.4**
MNK *i* 00 31 47.6
MNK *i* SS SS 00 49 55.4 -0.6
MNK *i* SSS SSS 00 55 00.7
MNK pmax pmax
comp=Z,9.0nm,1.2s
MNK pmax pmax
comp=E,2.0nm,1.1s
MNK pmax pmax
comp=N,36nm,1.1s
MNK MLR MLR
comp=N,223nm,9.0s
MNK MLR MLR
comp=Z,214nm,9.0s
MNK MLR MLR
comp=E,55nm,14.0s
NACGM **Naroch** **137.36** **334** *e*PKP **PKPdf** **00 29 04.4 -2.1**
comp=Z,25nm,1.2s,baz=45
AKASG **Malin Array Be** **139.04** **328** PKhKP PKPpre 00 29 01.2
comp=Z,0.3nm,0.4s,baz=53,slow=2.9,SNR=8.5
AKASG PKP **PKPdf** **00 29 11.0 +1.3**
comp=Z,2.9nm,0.8s,baz=40,slow=1.9,SNR=11
AKASG **Malin Array Be** **139.04** **328** PKiKP **PKPdf** **00 29 11.0 +1.3**
BRTR **Keskin Array B** **141.82** **311** PKhKP PKPpre 00 29 10.5
comp=Z,3.1nm,1.0s,baz=132,slow=3.5,SNR=7.4
BRTR **Keskin Array B** **141.82** **311** PKPdf PKPdf 00 29 10.1 -5.2
BRTR **Keskin Array B** **141.82** **311** PKiKP PKPdf 00 29 10.1 -5.2
VLDR **Vladesti** **142.54** **323** ⇑P **PKPdf** **00 29 12.4 -3.7**
CFR **Carcaliu** **142.89** **322** ⇑P **PKPdf** **00 29 14.8 -2.0**
CFR **Carcaliu** **142.89** **322** ⇑PKiKP **PKPdf** **00 29 14.8 -2.0**
TPGR **Topolog** **142.90** **321** ⇑P **PKPdf** **00 29 14.0 -2.9**
TESR **Tescani** **142.96** **325** ⇑P **PKPdf** **00 29 13.8 -3.1**
BUR08 **Bucovina Ar. S** **143.02** **327** PKPdf PKPab 00 29 13.5 +1.1
BURAR **Bucovina Array** **143.03** **327** ⇑P PKPab 00 29 13.7 +1.3
BURAR **Bucovina Array** **143.03** **327** ⇑PKiKP PKPab 00 29 13.7 +1.3
HARR **Harsova** **143.28** **321** ⇑P PKPab 00 29 15.8 +2.5
HARR **Harsova** **143.28** **321** ⇑PKiKP PKPab 00 29 15.8 +2.5
VRI **Vrincioaia** **143.30** **324** ⇑P PKPab 00 29 15.4 +1.9
VRI **Vrincioaia** **143.30** **324** ⇑PKiKP PKPab 00 29 15.4 +2.0
PLOR **Plostina** **143.35** **324** ⇓P PKPab 00 29 15.9 +2.2

PLOR **Plostina** **143.35** **324** ⇓PKiKP PKPab 00 29 15.9 +2.2
COVR **Voineasa-Covas** **143.60** **324** ⇑P PKPab 00 29 15.6 +1.0
AMRR **Amara** **143.68** **321** ⇑P PKPab 00 29 16.9 +2.0
AMRR **Amara** **143.68** **321** ⇑PKiKP PKPab 00 29 16.9 +2.0
STHS **Stebnicka Huta** **143.68** **332** *e*PKiKP PKPab 00 29 15.4 +0.6
STHS **Stebnicka Huta** **143.68** **332** *e*PKP PKPab 00 29 15.4 +0.6
OZUR **143.68** **325** ⇑P PKPab 00 29 16.4 +1.5
UZH **Uzhgorod** **143.77** **330** *e*PKHKP PKPpre 00 29 13.3
UZH *i* 00 29 16.3
UZH *i* 00 29 20.1
EKA **Eskdalemuir Ar** **143.81** **359** PKhKP PKPpre 00 29 14.9
comp=Z,3.7nm,0.8s,baz=356,slow=2.2,SNR=3.9
NEHR **Nehoiu** **143.81** **323** ⇑P PKPab 00 29 16.8 +1.4
ARCR **ARCALIA** **143.82** **327** ⇑P PKPab 00 29 17.5 +2.2
ISR **Istrita** **143.85** **323** ⇓P PKPab 00 29 17.1 +1.4
ISR **Istrita** **143.85** **323** ⇓PKiKP PKPab 00 29 17.1 +1.5
MLR **Muntele Rosu** **143.96** **324** ⇑P PKPab 00 29 16.9 +0.8
MLR **Muntele Rosu** **143.96** **324** PKPdf PKPab 00 29 15.8 -0.3
MLR **Muntele Rosu** **143.96** **324** ⇑PKiKP PKPab 00 29 16.9 +0.8
DOPR **Dopca** **143.98** **325** ⇑P PKPab 00 29 17.8 +1.8
TRPA **Tarpa** **144.01** **330** ⇓P **PKPab** **00 29 16.5 +0.5**
BORA **Eskisehir** **144.01** **313** PKPdf **PKPab** **00 29 15.7 -0.8**
LEHL **Lehliu** **144.06** **322** ⇑P **PKPab** **00 29 17.9 +1.5**
NIE **Niedzica** **144.09** **333** *e*PKPdf **PKPab** **00 29 16.9 +0.5**
PLAR **PLOIESTI** **144.26** **323** ⇑P **PKPab** **00 29 18.1 +1.0**
SULR **144.27** **322** ⇑P **PKPab** **00 29 17.8 +0.7**
MDB **Medias** **144.41** **326** ⇓P **PKPab** **00 29 19.1 +1.5**
MDB **Medias** **144.41** **326** ⇓PKiKP **PKPab** **00 29 19.1 +1.5**
PRD **Provadia** **144.42** **319** P **PKPab** **00 29 18.8 +1.1**
CJR **Cluj-Napoca** **144.45** **327** ⇑P **PKPab** **00 29 19.0 +1.2**
CJR **Cluj-Napoca** **144.45** **327** ⇑PKiKP **PKPab** **00 29 19.0 +1.2**
MESR **Meseseni** **144.49** **328** ⇑P **PKPab** **00 29 20.0 +2.1**
VOIR **144.50** **324** ⇑P **PKPab** **00 29 18.8 +0.7**
VOIR **144.50** **324** ⇑PKiKP **PKPab** **00 29 18.8 +0.7**
KSP **Ksiaz** **144.53** **338** *e*PKPdf **PKPab** **00 29 18.2 +0.3**
MTUR **Matau** **144.62** **324** ⇑P **PKPab** **00 29 18.8 +0.3**
MTUR **Matau** **144.62** **324** ⇑PKiKP **PKPab** **00 29 18.8 +0.3**
LANS **Liptovska Anna** **144.65** **333** *e*PKiKP **PKPab** **00 29 19.8 +1.3**
LANS **Liptovska Anna** **144.65** **333** *e*PKP **PKPab** **00 29 19.8 +1.3**
OKC **Ostrava-Krasne** **144.65** **335** *e*PKP **PKPab** **00 29 19.0 +0.6**
OKC **Ostrava-Krasne** **144.65** **335** *e*PKiKP **PKPab** **00 29 19.0 +0.6**
SGRR **Singureni** **144.70** **322** ⇑P **PKPab** **00 29 18.9 +0.2**
KECS **Kecovo** **144.71** **332** *e*PKiKP **PKPab** **00 29 19.8 +1.2**
KECS **Kecovo** **144.71** **332** *e*PKP **PKPab** **00 29 19.8 +1.2**
MARR **Marisel-Cluj** **144.72** **327** ⇑P **PKPab** **00 29 19.7 +0.8**
RAZG **Razgrad** **144.76** **321** ⇑P **PKPab** **00 29 19.9 +0.9**
ARR **Arges** **144.77** **324** ⇑P **PKPab** **00 29 20.5 +1.4**
FLTG **Flechtingen** **144.80** **344** *e*PKPbc **PKPab** **00 29 18.8 0.0**
comp=Z,24,slow=2.9
OSTC **Ostas** **144.80** **338** *e*PKP **PKPab** **00 29 20.0 +1.1**
DRGR **144.85** **328** ⇑P **PKPab** **00 29 20.2 +0.9**
DRGR **144.85** **328** ⇑PKiKP **PKPab** **00 29 20.2 +0.9**
RETH **Rethem/Aller,** **144.88** **346** *e*PKPbc **PKPab** **00 29 19.3 +0.2**
baz=24,slow=2.9
UPC **Upice** **144.91** **338** *e*PKP **PKPab** **00 29 20.2 +0.9**
UPC **Upice** **144.91** **338** *e*PKiKP **PKPab** **00 29 20.2 +0.9**
DPC **Dobruska-Polom** **144.93** **337** *e*PKP **PKPab** **00 29 20.3 +0.8**
DPC *ep*PKP **PKiKP** **00 29 27.4 +3.3**
DPC **Dobruska-Polom** **144.93** **337** *e*PKiKP **PKPab** **00 29 20.3 +0.8**
DPC *e* 00 29 27.4
NRDL **Niedersach Rie** **144.93** **345** *e*PKPbc **PKPab** **00 29 19.5 +0.3**
baz=24,slow=2.9
MORC **Moravsky Berou** **144.94** **336** *e*PKP **PKPab** **00 29 20.0 +0.5**
KRLC **Kraliky** **144.99** **337** *e*PKP **PKPab** **00 29 20.5 +0.8**
KRLC *ep*PKP **PKiKP** **00 29 28.1 +3.9**
KRLC **Kraliky** **144.99** **337** *e*PKiKP **PKPab** **00 29 22.2 +2.5**
KRLC *e* 00 29 30.4
HUMR **Humele** **145.09** **323** ⇑P **PKPbc** **00 29 20.3 +0.1**
ASSE **Asse, Remlinge** **145.12** **344** *e*PKPbc **PKPbc** **00 29 20.3 +0.5**
baz=24,slow=2.9
MAUC **Maruska** **145.16** **335** *e*PKP **PKPbc** **00 29 21.2 +1.0**
LOT **Lotru** **145.19** **325** ⇑P **PKPbc** **00 29 20.8 +0.3**
COPA **Copaceanca** **145.19** **322** ⇑P **PKPbc** **00 29 20.8 +0.4**
CLL **Collm** **145.22** **341** *i* x x 00 29 28.3
CLL **Collm** **145.22** **341** ⇓ *i* PKiKP **PKPbc** **00 29 20.6 +0.3**
CLL *i* 00 29 28.3
CLL pmax pmax
comp=Z,199nm,1.0s
CLL **Collm** **145.22** **341** *e*PKPbc **PKPbc** **00 29 20.4 +0.2**
baz=24,slow=2.9
CLL **Collm** **145.22** **341** ⇓ *i* PKPbc **PKPbc** **00 29 20.6 +0.3**
comp=Z,199nm,1.0s
CLL **Collm** **145.22** **341** *e*PKiKP **PKPdf** **00 29 25.0 +4.3**
SZH **Strazhica** **145.28** **321** P **PKPbc** **00 29 21.1 +0.3**
BRG **Berggiesshubel** **145.30** **340** *i* PKP **PKPbc** **00 29 21.1 +0.5**
BRG Amp 00 29 22.4
comp=Z,177nm,1.1s
BRG **Berggiesshubel** **145.30** **340** P **PKiKP** **00 29 29.4 +4.7**
BRG Amp 00 29 30.3
comp=Z,93nm,1.1s
BRG **Berggiesshubel** **145.30** **340** *i* PKiKP **PKPbc** **00 29 21.1 +0.5**
BRG 00 29 29.4
BRG pmax pmax
comp=Z,177nm,1.1s
BRG pmax pmax
comp=Z,93nm,1.1s
BRG **Berggiesshubel** **145.30** **340** *e*PKPbc **PKPbc** **00 29 21.0 +0.4**
baz=24,slow=2.9
JMB **Yambol** **145.32** **319** P **PKPbc** **00 29 21.9 +1.0**
DEV **Deva** **145.36** **326** ⇑P **PKPbc** **00 29 21.7 +0.8**
DEV **Deva** **145.36** **326** ⇑PKiKP **PKPbc** **00 29 21.7 +0.8**
PSZ **Piszkesteto** **145.39** **332** ⇓P **PKPbc** **00 29 21.6 +0.5**
PSZ **Piszkesteto** **145.39** **332** ⇓PKiKP **PKPbc** **00 29 21.6 +0.5**
PVCC **Panska Ves** **145.39** **339** *e*PKP **PKPbc** **00 29 21.6 +0.7**
PVCC **Panska Ves** **145.39** **339** *e*PKiKP **PKPbc** **00 29 21.6 +0.7**
VYHS **Vyhne** **145.42** **333** *e*PKiKP **PKPbc** **00 29 21.8 +0.7**
VYHS **Vyhne** **145.42** **333** *e*PKP **PKPbc** **00 29 21.8 +0.7**
CLZ **Clausthal** **145.46** **344** *e*PKPbc **PKPbc** **00 29 21.6 +0.5**
baz=24,slow=2.9
EDRB **Edirne** **145.55** **318** P **PKPdf** **00 29 21.4 -0.2**
JAVC **Velka Javorina** **145.62** **335** *e*PKP **PKPdf** **00 29 23.6 +2.0**
IBBN **Ibbenbueren** **145.63** **347** *e*PKPbc **PKPdf** **00 29 21.7 +0.4**
baz=24,slow=2.9
NEUB **Neuenburg** **145.66** **343** *e*PKPbc **PKPdf** **00 29 22.1 +0.7**
baz=24,slow=2.9
PVL **Pavlikeni** **145.66** **321** P **PKPdf** **00 29 23.4 +1.7**
BSZH **Besenyszg** **145.68** **331** ⇑P **PKPdf** **00 29 23.3 +1.7**
VRAC **Vranov** **145.68** **336** *e*PKP **PKPdf** **00 29 22.7 +1.1**
SIRR **Siria** **145.74** **328** ⇑P **PKPdf** **00 29 22.9 +1.2**
VLAD **Vladila** **145.74** **323** ⇑P **PKPdf** **00 29 22.9 +1.1**
GZR **Gura Zlata** **145.75** **326** ⇑P **PKPdf** **00 29 22.6 +0.7**
GZR **Gura Zlata** **145.75** **326** ⇑PKiKP **PKPdf** **00 29 22.6 +0.7**
GTTG **Gottingen** **145.84** **345** *e*PKPbc **PKPdf** **00 29 22.7 +1.0**
baz=24,slow=2.9
GOPC **GO Pecny, Ondr** **145.84** **338** *e*PKP **PKPdf** **00 29 23.0 +1.2**
GOPC **GO Pecny, Ondr** **145.84** **338** *e*PKiKP **PKPdf** **00 29 23.0 +1.2**
SURR **Surduc** **145.85** **327** ⇑P **PKPdf** **00 29 22.8 +0.9**
KULA **Kula-Manisa** **145.86** **311** P **PKPdf** **00 29 22.6 +0.3**
PRU **Pruhonice** **145.86** **339** *e*PKP **PKPdf** **00 29 22.8 +1.0**
PRU *ep*PKP sPKPab 00 29 29.1 +2.9
PRU **Pruhonice** **145.86** **339** *e*PKP2 **PKPdf** **00 29 22.8 +1.0**
KRUC **Moravsky** **145.96** **336** *e*PKP **PKPdf** **00 29 23.3 +1.3**
PLVB **Pleven** **145.98** **322** ⇑P **PKPdf** **00 29 23.7 +1.4**
SMOL **Smolenice** **145.99** **335** *e*PKP2 **PKPdf** **00 29 24.0 +1.9**
MODS **Modra-Piesok** **146.16** **335** *e*PKP2 **PKPdf** **00 29 24.6 +2.2**
MODS **Modra-Piesok** **146.16** **335** *e*PKP **PKPdf** **00 29 24.6 +2.2**
TANN **Tannenbergstha** **146.16** **341** *e*PKPbc **PKPdf** **00 29 23.9 +1.5**
baz=24,slow=2.9
SRO **Srobarova** **146.17** **333** *e*PKP2 **PKPdf** **00 29 24.6 +2.2**
SRO **Srobarova** **146.17** **333** *e*PKP **PKPdf** **00 29 24.6 +2.2**
WERD **Werda** **146.18** **341** *e*PKPbc **PKPdf** **00 29 23.8 +1.4**
baz=24,slow=2.9
PLN **Plauen** **146.19** **342** *e*PKPbc **PKPdf** **00 29 23.9 +1.5**
baz=24,slow=2.9
DIM **Dimitrovgrad** **146.20** **319** P **PKPdf** **00 29 23.9 +1.2**
BZS **Buzias** **146.21** **327** ⇑P **PKPdf** **00 29 22.6 0.0**
BZS **Buzias** **146.21** **327** ⇑PKP2 **PKPdf** **00 29 22.6 0.0**
MOX **Moxa** **146.21** **342** *e*PKPbc **PKPdf** **00 29 24.2 +1.8**
baz=24,slow=2.9
GUNZ **Gunzen** **146.25** **341** *e*PKPbc **PKPdf** **00 29 24.2 +1.7**
baz=24,slow=2.9
HERR **Herculane** **146.28** **326** ⇑P **PKPdf** **00 29 23.5 +0.8**
WERN **Wernitzgruen** **146.30** **341** *e*PKPbc **PKPdf** **00 29 24.2 +1.5**
baz=24,slow=2.9
NKC **Novy Kostel** **146.33** **341** *e*PKP **PKPdf** **00 29 24.2 +1.5**
NKC **Novy Kostel** **146.33** **341** *e*PKP2 **PKPdf** **00 29 24.2 +1.5**
BAIL **Bailesti** **146.33** **324** ⇑P **PKPdf** **00 29 25.0 +2.2**
DJES **Djerdap** **146.37** **325** ⇑P **PKPdf** **00 29 23.7 +0.8**
ZST **Bratislava** **146.38** **334** *e*PKP2 **PKPdf** **00 29 24.6 +1.8**
ZST **Bratislava** **146.38** **334** *e*PKP **PKPdf** **00 29 24.6 +1.8**
KASTN **Kahler Asten** **146.53** **346** *e*PKPbc **PKPdf** **00 29 24.7 +1.7**
baz=24,slow=2.9

MANZ	**Manzenberg**	**146.65**	**341**	*e*PKPbc	**PKPdf**	**00 29 25.2**	**+2.0**
	baz=24,slow=2.9						
PLD	**Plovdiv**	**146.68**	**320**	P	**PKPdf**	**00 29 24.6**	**+1.1**
RDO	**Rodhopi**	**146.69**	**318**	P	**PKPdf**	**00 29 24.4**	**+0.9**
MDVR	**Moldovita**	**146.72**	**326**	⇑P	**PKPdf**	**00 29 25.3**	**+1.8**
PGB	**Panagyurishte**	**146.75**	**321**	P	**PKPdf**	**00 29 25.6**	**+1.9**
ROTZ	**Rotzenmuhle**	**146.81**	**341**	*e*PKPbc	**PKPdf**	**00 29 25.6**	**+2.1**
	baz=24,slow=2.9						
RZN	**Rozhen**	**146.91**	**319**	P	**PKPdf**	**00 29 25.5**	**+1.4**
KHC	**Kasperske Hory**	**146.92**	**339**	*e*PKP	**PKPdf**	**00 29 25.3**	**+1.6**
KHC	**Kasperske Hory**	**146.92**	**339**	*e*PKP2	**PKPdf**	**00 29 25.3**	**+1.6**
CKRC	**Cesky Krumlov**	**146.93**	**338**	*e*PKP	**PKPdf**	**00 29 26.1**	**+2.4**
CONA	**Conrad Observa**	**147.09**	**335**	*e*PKiKP	**PKPdf**	**00 29 26.7**	**+2.6**
	comp=Z,64nm,1.3s,SNR=20						
RONA	**Rosalia, Austr**	**147.10**	**335**	*e*PKiKP	**PKPdf**	**00 29 26.9**	**+2.8**
	comp=Z,55nm,1.2s,SNR=17						
GEC2	**GERESS Array S**	**147.12**	**339**	*e*PKPbc	**PKPdf**	**00 29 26.3**	**+2.2**
	baz=24,slow=2.9						
GERES	**GERESS Array B**	**147.12**	**339**	PKPbc	**PKPdf**	**00 29 26.7**	**+2.6**
	comp=Z,13nm,0.9s,baz=64,slow=3.1,SNR=18						
GRF	**Grafenberg Arr**	**147.18**	**342**	*e*PKPbc	**PKPdf**	**00 29 26.8**	**+2.7**
	baz=24,slow=2.9						
MORH	**Mrgy, Hungar**	**147.23**	**331**	⇑P	**PKPdf**	**00 29 26.2**	**+2.0**
VTS	**Vitosha**	**147.26**	**322**	⇑P	**PKPdf**	**00 29 27.4**	**+2.7**
VTS	**Vitosha**	**147.26**	**322**	⇑PKP2	**PKPdf**	**00 29 27.4**	**+2.7**
VTS	**Vitosha**	**147.26**	**322**	P	**PKPdf**	**00 29 27.3**	**+2.7**
DAT	**Datca**	**147.38**	**309**	P	**PKPdf**	**00 29 26.1**	**+1.1**
TNS	**Taunus Mts**	**147.43**	**345**	*e*PKPbc	**PKPdf**	**00 29 27.3**	**+2.8**
	baz=24,slow=2.9						
AHRW	**Bad Neuenahr-A**	**147.44**	**347**	*e*PKPbc	**PKPdf**	**00 29 27.1**	**+2.7**
	baz=24,slow=2.9						
FRGS	**Fruska Gora**	**147.44**	**328**	⇑P	**PKPdf**	**00 29 28.6**	**+3.9**
BEBN	**Eben Emael**	**147.47**	**349**	*d*PKP	**PKPdf**	**00 29 27.1**	**+2.6**
MMB	**Musomiste**	**147.57**	**320**	P	**PKPdf**	**00 29 27.6**	**+2.5**
BTNL	**Ternell**	**147.59**	**348**	*d*PKP	**PKPdf**	**00 29 27.5**	**+2.7**
MEM	**Membach**	**147.59**	**348**	*d*PKP	**PKPdf**	**00 29 27.0**	**+2.3**
NVR	**Nevrokopi**	**147.63**	**319**	P	**PKPdf**	**00 29 28.1**	**+2.9**
BSTI	**Sart Tilman**	**147.70**	**349**	*d*PKP	**PKPdf**	**00 29 28.3**	**+3.4**
MOA	**Molln**	**147.76**	**337**	*e*PKP	**PKPdf**	**00 29 28.2**	**+3.1**
	comp=Z,28nm,1.1s,SNR=16						
ARSA	**Arzberg**	**147.77**	**335**	*i* PKP	**PKPdf**	**00 29 28.1**	**+2.9**
	comp=Z,14nm,1.2s						
KKB	**Krupnik**	**147.80**	**321**	P	**PKPdf**	**00 29 28.6**	**+3.2**
BHOU	**Houvegnez**	**147.84**	**348**	*d*PKP	**PKPdf**	**00 29 28.8**	**+3.6**
KOKK	**Kokkinochori,**	**147.84**	**318**	P	**PKPdf**	**00 29 27.6**	**+2.1**
BCLA	**Clavier**	**147.90**	**349**	*d*PKP	**PKPdf**	**00 29 27.4**	**+2.1**
SRS	**Serrai**	**147.93**	**319**	P	**PKPdf**	**00 29 27.4**	**+1.8**
BGES	**Gesves**	**147.98**	**349**	*d*PKP	**PKPdf**	**00 29 28.6**	**+3.3**
DIVS	**Divibare**	**148.09**	**327**	PKPdf	**PKPdf**	**00 29 24.3**	**-1.6**
BMRD	**Maredsous**	**148.11**	**350**	*d*PKP	**PKPdf**	**00 29 28.1**	**+2.5**
BIOA	**Bad Ischl, Aus**	**148.12**	**337**	*e*PKiKP	**PKPdf**	**00 29 28.5**	**+2.8**
	comp=Z,18nm,1.2s,SNR=7.3						
RCHB	**Rochefort**	**148.17**	**349**	*d*PKP	**PKPdf**	**00 29 28.6**	**+3.0**
DOU	**Dourbes**	**148.34**	**350**	*d*PKP	**PKPdf**	**00 29 29.5**	**+3.5**
SOKA	**Soboth**	**148.43**	**335**	*e*PKiKP	**PKPdf**	**00 29 29.4**	**+3.0**
	comp=Z,32nm,1.4s						
PERS	**Pernice**	**148.43**	**335**	*i* PKPbc	**PKPdf**	**00 29 29.1**	**+2.8**
VAY	**Valandovo**	**148.44**	**320**	*i* P	**PKPdf**	**00 29 28.8**	**+2.4**
WLF	**Walferdange**	**148.46**	**348**	*d*PKP	**PKPdf**	**00 29 30.3**	**+4.1**
WLF	**Walferdange**	**148.46**	**348**	*e*PKPbc	**PKPdf**	**00 29 30.4**	**+4.2**
	baz=24,slow=2.9						
FUR	**Furstenfeldbru**	**148.51**	**341**	*e*PKPbc	**PKPdf**	**00 29 30.2**	**+3.9**
	baz=24,slow=2.9						
STU	**Stuttgart**	**148.58**	**343**	*e*PKPbc	**PKPdf**	**00 29 30.3**	**+3.9**
	baz=24,slow=2.9						
SKO	**Skopje**	**148.70**	**322**	*i* P	**PKPdf**	**00 29 30.4**	**+3.5**
KBA	**Koelnbreinsper**	**148.75**	**337**	*e*PKiKP	**PKPdf**	**00 29 30.4**	**+3.4**
	comp=Z,18nm,0.9s						
OBKA	**Obir**	**148.76**	**335**	*i* PKiKP	**PKPdf**	**00 29 30.7**	**+3.8**
	comp=Z,15nm,1.3s						
CRES	**Cresnjev**	**148.94**	**333**	*i* PKPbc	**PKPdf**	**00 29 30.8**	**+3.6**
MYKA	**Terra Mystica**	**149.01**	**336**	*i* PKiKP	**PKPdf**	**00 29 30.6**	**+3.3**
	comp=Z,18nm,1.0s						
SANT	**Santorini**	**149.08**	**310**	⇑P	**PKPdf**	**00 29 27.0**	**-0.6**
WATA	**Walderalm**	**149.15**	**339**	*e*PKiKP	**PKPdf**	**00 29 31.3**	**+3.8**
	comp=Z,41nm,1.4s,SNR=7.6						
LJU	**Ljubljana**	**149.15**	**335**	*i* PKPbc	**PKPdf**	**00 29 31.0**	**+3.6**
WTTA	**Wattenberg**	**149.19**	**339**	*e*PKiKP	**PKPdf**	**00 29 31.9**	**+4.2**
	comp=Z,52nm,1.3s,SNR=7.3						
LIT	**Litokhoron**	**149.20**	**318**		**PKPdf**	**00 29 30.3**	**+2.6**
LIT	**Litokhoron**	**149.20**	**318**	PKP2	**PKPdf**	**00 29 30.3**	**+2.6**
BFO	**Black Forest**	**149.21**	**344**	*e*PKPbc	**PKPdf**	**00 29 31.7**	**+4.2**
	baz=24,slow=2.9						
RETA	**Reutte**	**149.28**	**341**	*e*PKiKP	**PKPdf**	**00 29 31.7**	**+4.0**
	comp=Z,25nm,1.2s,SNR=5.4						
MOTA	**Moosalm**	**149.29**	**340**	*e*PKiKP	**PKPdf**	**00 29 31.9**	**+4.1**
	comp=Z,40nm,1.2s,SNR=6.0						
UBR	**Ueberruh**	**149.31**	**341**	*e*PKPbc	**PKPdf**	**00 29 31.8**	**+4.1**
	baz=24,slow=2.9						
ABTA	**Abfaltersbach**	**149.33**	**338**	*e*PKiKP	**PKPdf**	**00 29 31.3**	**+3.5**
	comp=Z,31nm,1.2s,SNR=7.3						
DION	**Dionisos Attik**	**149.35**	**314**	P	**PKPdf**	**00 29 31.6**	**+3.6**
SQTA	**Sankt Quirin**	**149.37**	**340**	*e*PKiKP	**PKPdf**	**00 29 32.1**	**+4.2**
	comp=Z,43nm,1.4s,SNR=11						
FNA	**Florina**	**149.48**	**321**	P	**PKPdf**	**00 29 31.8**	**+3.6**
ATHU	**Athens Univers**	**149.51**	**314**	P	**PKPdf**	**00 29 31.2**	**+2.9**
VLY	**Voula,Athens**	**149.56**	**314**	P	**PKPdf**	**00 29 31.3**	**+3.0**
OHR	**Ohrid**	**149.62**	**322**	*i* P	**PKPdf**	**00 29 32.1**	**+3.6**
PDG	**Podgorica**	**149.63**	**325**	⇑P	**PKPdf**	**00 29 32.7**	**+4.5**
FETA	**Feichten**	**149.70**	**340**	*e*PKiKP	**PKPdf**	**00 29 33.1**	**+4.6**
	comp=Z,28nm,1.1s,SNR=9.0						
DAVA	**Damuels**	**149.73**	**341**	*e*PKiKP	**PKPdf**	**00 29 33.1**	**+4.6**
	comp=Z,43nm,1.2s,SNR=7.5						
MAKR	**Makrakomi, Fth**	**150.04**	**317**	P	**PKPdf**	**00 29 33.1**	**+4.0**
EVR	**Evrytania**	**150.31**	**317**	P	**PKPbc**	**00 29 35.2**	**+0.4**
ANX	**Ano Chora**	**150.42**	**316**	P	**PKPdf**	**00 29 35.0**	**+5.2**
SERG	**Sergoula**	**150.43**	**316**	P	**PKPbc**	**00 29 35.3**	**+0.3**
JAN	**Janina**	**150.48**	**319**	P	**PKPdf**	**00 29 35.1**	**+5.3**
EFP	**Efpalio**	**150.52**	**316**	P	**PKPdf**	**00 29 35.0**	**+5.2**
KLV	**Kalavryta, Ach**	**150.57**	**315**	P	**PKPdf**	**00 29 34.4**	**+4.4**
DRO	**Drossia**	**150.91**	**316**	P	**PKPdf**	**00 29 35.9**	**+5.4**
TIP	**Timpagrande**	**153.23**	**323**	PKPbc	**PKPdf**	**00 29 37.5**	**+3.5**
ESDC	**Sonseca Array**	**159.48**	**0**	PKP	**PKPdf**	**00 29 41.6**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=9.8,slow=2.4,SNR=4.3						
ESDC				PKPab	**PKPab**	**00 30 19.6**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=20,slow=4.7,SNR=8.4						
KEST	**Kesra**	**159.76**	**328**	PKPab	**PKPab**	**00 30 21.6**	**+0.4**
	comp=Z,12nm,1.0s,baz=338,slow=5.6,SNR=4.7						
MDT	**Midelt**	**166.30**	**3**	PKP	**PKPdf**	**00 29 48.8**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=164,slow=6.6,SNR=3.8						
DBIC	**Dimbokro**	**167.62**	**175**	PKP	**PKPdf**	**00 29 49.6**	**-0.8**
	comp=Z,7.4nm,1.0s,baz=228,slow=1.8,SNR=5.7						
DBIC	**Dimbokro**	**167.62**	**175**	⇑PKiKP	**PKPdf**	**00 29 49.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**172.09**	**223**	PKP	**PKPdf**	**00 29 52.1**	**-0.9**
	comp=Z,8.7nm,1.1s,baz=344,slow=1.2,SNR=24						
TORD				PKPab	**PKPab**	**00 31 15.0**	**-1.0**
	comp=Z,2.5nm,1.0s,baz=96,slow=4.4,SNR=5.1						
TORD				PP	**PP**	**00 35 05.0**	**-1.5**
	comp=Z,1.8nm,1.1s,baz=125,slow=7.6,SNR=3.7						

*IDC **04** 00:19:54.9±2.4, 18°.38S×175°.64E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=151.7km s-min=31.1km az=155.0*

ISC 04 00:19:55.2±1.7, 18°.6S±0°.8×176°.0E±0°.3, h10km, n5, σ1s83/6, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.16**	**67**	Pn	**Pn**	**00 20 30.6**	**-0.7**
	8.2nm,0.3s,baz=206,slow=14,SNR=5.9						
MSVF				Sn	**Sn**	**00 20 57.1**	**-1.1**
	28nm,0.3s,baz=307,slow=23,SNR=4.6						
WRA	**Warramunga Arr**	**39.25**	**261**	P	**P**	**00 27 22.7**	**-1.6**
	0.8nm,1.0s,baz=96,slow=9.1,SNR=2.1						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**39.45**	**255**	P	**P**	**00 27 25.4**	**-0.6**
	1.1nm,0.9s,baz=85,slow=9.0,SNR=6.8						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**87.83**	**15**	P	**P**	**00 32 44.8**	**+0.5**
	0.4nm,0.9s,baz=216,slow=5.6,SNR=0.8						
	0.4nm,0.9s						
TXAR	**Lajitas Array**	**90.91**	**59**	P	**P**	**00 33 02.0**	**+2.3**
	0.4nm,0.8s,baz=218,slow=5.7,SNR=4.4						
	0.4nm,0.8s						

*IDC **04** 00:20:23.3±2.2, 18°.76S×175°.46E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=141.2km s-min=30.4km az=153.0*

ISC 04 00:20:24.2±2.0, 18°.8S±0°.9×175°.7E±0°.4, h10km, n7, σ1s78/6, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.49**	**64**	Sn	**Sn**	**00 21 33.8**	**-1.7**
	26nm,0.3s,baz=261,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**39.14**	**255**	P	**P**	**00 27 51.3**	**-1.1**
	2.2nm,0.8s,baz=85,slow=8.8,SNR=10						
	2.2nm,0.8s						
NVAR	**Mina Array Bea**	**84.03**	**46**	P	**P**	**00 32 56.8**	**+1.3**
	0.8nm,0.9s,baz=231,slow=8.0,SNR=3.7						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**88.14**	**15**	P	**P**	**00 33 15.1**	**+0.3**
	0.5nm,0.8s,baz=225,slow=4.7,SNR=5.5						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**91.25**	**60**	P	**P**	**00 33 31.6**	**+1.3**
	0.4nm,0.8s,baz=206,slow=8.3,SNR=4.5						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**97.56**	**26**	P	Pdif	00 33 59.8	+1.4
	0.2nm,0.7s,baz=253,slow=4.5,SNR=3.6						
	0.2nm,0.7s						
DAVOX	**Davos/Dischmat**	**149.78**	**340**	PKPbc	**PKiKP**	**00 40 14.4**	**-1.4**
	2.8nm,1.0s,baz=270,slow=4.0,SNR=3.3						

*IDC **04** 00:21:05.2±2.2, 18°.62S×175°.64E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=145.5km s-min=28.2km az=156.0*

ISC 04 00:21:08.0±2.0, 18°.3S±0°.8×175°.5E±0°.4, h10km, n7, σ2s31/6, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.52**	**77**	Sn	Sn	00 22 09.0	-11
	9.3nm,0.3s,baz=272,slow=23,SNR=1.5						
WRA	**Warramunga Arr**	**38.83**	**261**	P	**P**	**00 28 32.8**	**-0.7**
	0.6nm,0.9s,baz=96,slow=8.8,SNR=1.9						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**39.08**	**255**	P	**P**	**00 28 35.1**	**-0.5**
	1.3nm,0.8s,baz=84,slow=8.7,SNR=4.6						
	1.3nm,0.8s						
NVAR	**Mina Array Bea**	**83.82**	**46**	P	**P**	**00 33 38.2**	**+0.1**
	0.3nm,0.4s,baz=230,slow=7.0,SNR=2.4						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**87.68**	**15**	P	**P**	**00 33 55.9**	**-0.5**
	0.4nm,0.8s,baz=216,slow=4.5,SNR=2.4						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**91.17**	**60**	P	**P**	**00 34 12.5**	**-1.2**
	0.5nm,0.8s,baz=205,slow=5.5,SNR=4.7						
	0.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**149.22**	**340**	PKPbc	**PKPdf**	**00 40 56.6**	**+3.7**
	1.1nm,0.6s,baz=27,slow=6.8,SNR=2.1						

IDC 04 00:23:53.6±3.0, 19°.20S×175°.64E, h0km, mb3.5/3, mbtmp3.4/3, Error ellipse: s-maj=340.8km s-min=38.0km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.72**	**58**	Pn	Pn	00 24 31.3	-7.3
	0.8nm,0.3s,baz=284,slow=22,SNR=0.8						
MSVF				Sn	Sn	00 24 59.5	-13
	6.6nm,0.3s,baz=181,slow=22,SNR=2.6						
WRA	**Warramunga Arr**	**38.85**	**262**	P	P	00 31 19.9	-1.0
	0.3nm,0.7s,baz=95,slow=8.7,SNR=2.3						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**39.00**	**256**	P	P	00 31 22.8	+0.7
	0.5nm,0.7s,baz=89,slow=9.4,SNR=4.0						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**91.49**	**60**	P	P	00 37 02.4	-0.1
	0.4nm,0.9s,baz=227,slow=9.3,SNR=3.2						
	0.4nm,0.9s						

ROM 04 00:26:41.2±0.1, 43°.017N±0°.004×13°.101E±0°.006, h10km, ML1.7/10, 8C-7D, Error ellipse: s-maj=0.4km s-min=0.3km az=244.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.02**	**333**	P	Pg	00 26 42.5	-0.6
T1219	**Muccia, Frazio**	**0.08**	**299**	⇓P	Pg	00 26 43.8	+0.2
T1219				S	Sg	00 26 45.5	+0.2
T1219				AML	AML		
	comp=E,688μm,0.3s						
T1219				AML	AML		
	comp=N,1045μm,0.2s						
T1219				AML	AML		
	comp=N,974μm,0.2s						
T1219				AML	AML		
	comp=N,978μm,0.2s						
T1219				AML	AML		
	comp=E,730μm,0.3s						
T1220	**Camerino, Fraz**	**0.09**	**355**	P	Pg	00 26 44.0	+0.3
T1220				S	Sg	00 26 46.3	+0.8
T1220				AML	AML		
	comp=N,1875μm,0.4s						
T1220				AML	AML		
	comp=E,1455μm,0.3s						
T1220				AML	AML		
	comp=E,1415μm,1.1s						
T1220				AML	AML		
	comp=N,1895μm,0.4s						
T1220				AML	AML		
	comp=E,1415μm,0.9s						
T1256	**Bolognola (MC)**	**0.09**	**97**	⇓P	Pg	00 26 43.8	0.0
T1256				AML	AML		
	comp=N,464μm,1.2s						
T1256				AML	AML		
	comp=E,482μm,0.6s						
T1256				AML	AML		
	comp=N,450μm,1.2s						
T1256				AML	AML		
	comp=E,482μm,0.7s						
T1256				AML	AML		
	comp=N,465μm,1.1s						
T1256				AML	AML		
	comp=E,482μm,1.3s						
MC2	**Monte Cornacci**	**0.12**	**148**	⇓P	Pg	00 26 44.5	+0.2
T1216	**Preci, Frazion**	**0.14**	**205**	⇑P	Pg	00 26 45.0	+0.7
T1216				S	Sg	00 26 47.9	+1.3
T1216				AML	AML		
	comp=N,306μm,0.4s						
T1216				AML	AML		
	comp=E,298μm,0.5s						
T1245	**Castelsantange**	**0.17**	**158**	⇓P	Pg	00 26 45.5	+0.5
T1245				AML	AML		
	comp=N,266μm,1.3s						
T1245				AML	AML		
	comp=E,300μm,0.5s						
GUMA	**Gualdo di Mace**	**0.18**	**75**	⇑P	Pg	00 26 45.9	+0.9
GUMA				S	Sg	00 26 49.3	+1.6
GUMA				AML	AML		
	comp=E,504μm,0.6s						
GUMA				AML	AML		
	comp=N,480μm,1.3s						
GUMA				AML	AML		
	comp=E,448μm,0.3s						
GUMA				AML	AML		
	comp=N,445μm,1.0s						
GUMA				AML	AML		
	comp=N,480μm,0.7s						
NRCA	**Norcia**	**0.18**	**177**	P	Pg	00 26 45.6	+0.5
NRCA				S	Sg	00 26 49.3	+1.5
NRCA				AML	AML		
	comp=N,320μm,0.2s						
NRCA				AML	AML		
	comp=E,400μm,0.2s						
MMO1	**Montemonaco**	**0.20**	**125**	⇓P	Pg	00 26 45.8	+0.4
MMO1				S	Sg	00 26 49.3	+0.9
SNTG	**Esanatoglia**	**0.27**	**334**	⇓P	Pg	00 26 47.3	+0.7
T1212	**Cascia, Frazio**	**0.27**	**189**	⇑P	Pg	00 26 47.4	+0.8
T1212				AML	AML		
	comp=N,152μm,0.9s						
T1212				AML	AML		
	comp=E,142μm,0.5s						
T1214	**Arquata del Tr**	**0.27**	**163**	⇑P	Pg	00 26 47.3	+0.6
T1215	**Vallo di Nera,**	**0.28**	**218**	⇓P	Pb	00 26 47.7	-0.6
EL6	**Elcito**	**0.31**	**0**	⇑P	Pg	00 26 48.1	+0.6
EL6				AML	AML		
	comp=E,154μm,1.6s						
EL6				AML	AML		
	comp=N,240μm,1.6s						
EL6				AML	AML		
	comp=E,154μm,0.4s						
EL6				AML	AML		
	comp=N,240μm,0.4s						
ASSB	**Assisi San Ben**	**0.33**	**275**	⇑P	Pg	00 26 48.4	+0.7
T1218	**Civita (PG)**	**0.35**	**178**	⇑P	Pg	00 26 48.6	+0.5
T1218				AML	AML		
	comp=E,78μm,1.6s						
T1218				AML	AML		
	comp=N,75μm,0.5s						
CING	**Cingoli**	**0.36**	**11**	⇑P	Pb	00 26 49.4	-0.4

*IDC **04** 00:26:47.5±0.6, 19°.36S×175°.85E, h0km, mb4.3/18, mbtmp4.3/20, ML3.8/2, MS3.8/1, Error ellipse: s-maj=24.7km s-min=15.7km az=141.0*
*NEIC **04** 00:26:48.4±1.9, 19°.4S±0°.1×176°.1E±0°.1, h10km±1km, mb4.8/29, Error ellipse: s-maj=23.0km s-min=11.5km az=144.0*

ISC 04 00:26:48.3±0.4, 19°.41S±0°.08×176°.05E±0°.08, h10km, n82, σ1s10/85, mb4.7/33, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.53**	**49**	Pn	**Pn**	**00 27 27.9**	**-1.6**
	14nm,0.3s,baz=269,slow=18,SNR=8.5						
MSVF				Sn	**Sn**	**00 27 58.7**	**-1.7**
	30nm,0.3s,baz=105,slow=22,SNR=11						
MSVF				LR	LR	00 28 29.5	
	comp=Z,2μm,21.5s,baz=220,slow=39						
MSVF	**Nonsavu**	**2.53**	**49**	Pn	**Pn**	**00 27 27.6**	**-1.9**
OUENC	**Ouen Island, N**	**9.11**	**249**	Pn	**Pn**	**00 28 59.1**	**-0.8**
DZM	**Mont Dzumac**	**9.37**	**252**	Pn	**Pn**	**00 29 01.6**	**-2.0**
	0.2nm,0.3s,baz=72,slow=15,SNR=4.8						
	13nm,1.0s						
DZM	**Mont Dzumac**	**9.37**	**252**	Pn	**Pn**	**00 29 03.9**	**+0.3**
KOUNC	**Koumac, New Ca**	**11.12**	**262**	Pn	**Pn**	**00 29 27.8**	**+0.3**
URZ	**Urewera**	**18.80**	**177**	P	**Pn**	**00 31 09.7**	**+1.3**
	1.4nm,0.3s,baz=62,slow=4.8,SNR=9.7						
	24nm,0.7s						
BKZ	**Black Stump Fm**	**19.69**	**179**	P	**P**	**00 31 16.8**	**-1.0**
MRZ	**Mangatainoka R**	**21.18**	**181**	P	**P**	**00 31 33.4**	**-0.5**
MRZ				IAmb	IAmb	00 31 36.4	
	comp=Z,49nm,1.0s						
LTZ	**Lake Taylor**	**23.52**	**187**	P	**P**	**00 31 59.8**	**+1.3**
LTZ				IAmb	IAmb	00 32 02.1	
	comp=Z,24nm,0.8s						
DCZ	**Deep Cove**	**27.01**	**194**	P	**P**	**00 32 30.4**	**0.0**
CTA	**Charters Tower**	**28.04**	**264**	P	**P**	**00 32 41.1**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=122,slow=13,SNR=1.5						
	comp=Z,2.2nm,0.7s						
PMG	**Port Moresby**	**29.65**	**285**	P	**P**	**00 32 53.6**	**-0.7**
	comp=Z,6.2nm,0.4s,baz=104,slow=12,SNR=3.4						
	comp=Z,6.2nm,0.4s						
STKA	**Stephens Creek**	**33.30**	**241**	P	**P**	**00 33 26.2**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=110,slow=11,SNR=8.8						
	comp=Z,3.7nm,0.7s						
STKA	**Stephens Creek**	**33.30**	**241**	P	**P**	**00 33 26.1**	**-0.2**
WR0	**Warramunga Arr**	**39.02**	**262**	P	**P**	**00 34 15.2**	**-0.2**
WR0				IAmb	IAmb	00 34 26.3	
	comp=Z,48nm,2.0s						
WB0	**Warramunga Arr**	**39.17**	**262**	P	**P**	**00 34 13.0**	**-3.8**
WB2	**Warramunga Arr**	**39.19**	**262**	P	**P**	**00 34 15.6**	**-1.3**
WB2				IAmb	IAmb	00 34 33.7	
	comp=Z,26nm,1.6s						
WRA	**Warramunga Arr**	**39.20**	**262**	P	**P**	**00 34 15.5**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=92,slow=9.2,SNR=6.0						
WRA				PcP	**PcP**	**00 36 25.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=91,slow=3.4,SNR=2.5						
	comp=Z,1.2nm,0.9s						
WRA	**Warramunga Arr**	**39.20**	**262**	P	**P**	**00 34 15.8**	**-1.2**
AS31	**Alice Springs**	**39.33**	**256**	P	**P**	**00 34 17.1**	**-0.9**
ASAR	**Alice Springs**	**39.33**	**256**	P	**P**	**00 34 17.2**	**-0.8**
	comp=Z,8.8nm,0.8s,baz=83,slow=8.7,SNR=52						
ASAR				PcP	**PcP**	**00 36 25.7**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=108,slow=2.8,SNR=6.5						
	comp=Z,8.8nm,0.8s						
ASAR	**Alice Springs**	**39.33**	**256**	P	**P**	**00 34 18.3**	**+0.3**
FORT	**Forrest**	**44.61**	**246**	P	**P**	**00 35 00.5**	**-0.6**
FORT				IAmb	IAmb	00 35 24.0	
	comp=Z,20nm,0.9s						
MBWA	**Marble Bar**	**52.62**	**258**	P	**P**	**00 36 02.1**	**-0.7**
VNDA	**Vanda**	**58.57**	**184**	P	**P**	**00 36 45.5**	**+0.8**
VNDA				IAmb	IAmb	00 38 22.5	
	comp=Z,28nm,1.9s						
MJAR	**Matsushiro Arr**	**66.14**	**327**	P	**P**	**00 37 35.0**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=152,slow=5.9,SNR=6.3						
	comp=Z,4.0nm,0.9s						
QSPA	**South Pole Qui**	**70.65**	**180**	P	**P**	**00 38 02.6**	**-1.4**
PETK	**Petropavlovsk-**	**73.95**	**349**	P	**P**	**00 38 23.4**	**-0.1**
	comp=Z,4.6nm,1.0s,baz=234,slow=7.1,SNR=4.4						
	comp=Z,4.6

CLL				*i* x	x	00 46 37.3		
BRG	**Berggiesshubel**	**145.56**	**340**	*e*PKP	**PKPab**	**00 46 27.4**	**+0.3**
BRG				Amp		00 46 29.6		
	comp=Z,13nm,1.2s							
VYHS	**Vyhne**	**145.64**	**333**	*e*PKP	**PKPab**	**00 46 28.0**	**+0.5**
VRAC	**Vranov**	**145.92**	**336**	PKPbc	**PKPab**	**00 46 29.2**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=235,slow=4.9,SNR=4.2							
VRAC	**Vranov**	**145.92**	**336**	*e*PKP	**PKPab**	**00 46 29.0**	**+0.5**
KRUC	**Moravsky**	**146.19**	**336**	*e*PKP	**PKPbc**	**00 46 29.3**	**+0.4**
MODS	**Modra-Piesok**	**146.39**	**334**	*e*PKP	**PKPab**	**00 46 30.9**	**+0.6**
CONA	**Conrad Observa**	**147.32**	**335**	*e*PKP	**PKPab**	**00 46 33.7**	**-0.4**
	comp=Z,4.0nm,0.8s							
RONA	**Rosalia, Austr**	**147.33**	**334**	*e*PKP	**PKPbc**	**00 46 33.0**	**+0.8**
	comp=Z,4.3nm,1.0s							
GERES	**GERESS Array B**	**147.37**	**338**	PKPbc	**PKPbc**	**00 46 33.0**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=333,slow=3.4,SNR=4.6							
ARSA	**Arzberg**	**148.00**	**335**	*e*PKP	**PKPbc**	**00 46 33.4**	**-0.6**
	comp=Z,6.0nm,1.3s							
BIOA	**Bad Ischl, Aus**	**148.37**	**337**	*e*PKP	**PKPab**	**00 46 39.5**	**+1.3**
WTTA	**Wattenberg**	**149.44**	**339**	*e*PKiKP	**PKiKP**	**00 46 40.9**	**+1.8**
	comp=Z,9.3nm,1.3s							
RETA	**Reutte**	**149.53**	**340**	*e*PKP	**PKPab**	**00 46 43.7**	**+0.7**
	comp=Z,14nm,2.0s							
MOTA	**Moosalm**	**149.55**	**340**	*e*PKP	**PKPab**	**00 46 43.8**	**+0.7**
	comp=Z,5.2nm,1.0s							
SQTA	**Sankt Quirin**	**149.62**	**339**	*e*PKP	**PKPbc**	**00 46 39.1**	**+0.8**
	comp=Z,8.6nm,1.3s							
FETA	**Feichten**	**149.95**	**340**	*e*PKP	**PKiKP**	**00 46 40.0**	**-0.2**
	comp=Z,6.7nm,1.3s							
DAVA	**Damuels**	**149.99**	**341**	*e*PKP	**PKiKP**	**00 46 40.3**	**+0.1**
	comp=Z,12nm,1.4s							
DAVOX	**Davos/Dischmat**	**150.44**	**341**	PKPbc	**PKPbc**	**00 46 40.7**	**+0.3**
	baz=105,slow=2.7							
TORD	**Torodi Ar. Bea**	**171.74**	**222**	PKP	**PKPdf**	**00 46 58.0**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=301,slow=1.2,SNR=6.6							
TORD				PKPab	**PKPab**	**00 48 19.3**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=132,slow=2.1,SNR=1.1							

*DDA **04** 00:27:03.1±0.0,37.04N×29.31E,h11km±4km,MLL1.6*
ISK 04 00:27:00.9,36.98N×29.31E,h4km,ML1.7/8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAEL	**Denizli, Camel**	**0.14**	**2**	P	Pg	00 27 04.7	+0.9
CAEL				S	Sg	00 27 07.8	+2.1
CAEL				*i* AML	AML	00 27 08.0	
	comp=N,190nm,0.9s						
CAEL				*i* AML	AML	00 27 09.0	
	comp=E,211nm,0.6s						
GOLH	**Golhisar**	**0.32**	**38**	P	Pg	00 27 08.1	+0.9
GOLH				S	Sb	00 27 14.7	-0.3
GOLH				*i* AML	AML	00 27 15.0	
	comp=N,192nm,0.3s						
GOLH				*i* AML	AML	00 27 15.0	
	comp=E,107nm,0.3s						
FETY	**Fethiye**	**0.39**	**208**	Pg	Pg	00 27 08.9	+0.5
APMY	**Acipayam-Deniz**	**0.49**	**359**	Pg	Pg	00 27 10.9	+0.5
APMY				Sg	Sb	00 27 18.3	-1.5
ELL	**Elmali**	**0.53**	**116**	Pg	Pb	00 27 12.1	-0.8
ELL				Sg	Sb	00 27 19.7	-1.2
DALY	**Dalyan (Mula)**	**0.55**	**253**	Pg	Pg	00 27 11.7	+0.2
TAVA	**DENIZLI_Tavas**	**0.58**	**327**	P	Pg	00 27 12.7	+0.7
TAVA				S	Sb	00 27 22.5	+0.1
KORT	**Korkueli**	**0.83**	**88**	Pg	Pb	00 27 17.8	-0.2
KORT				Sg	Sb	00 27 29.8	+0.2
YER	**Yerkesik**	**0.84**	**281**	Pg	Pb	00 27 17.9	-0.2
YER				Sg	Sb	00 27 29.9	+0.2
DAT	**Datca**	**1.41**	**260**	Pn	Pg	00 27 28.3	+0.3
DAT				Sn	Sn	00 27 48.0	+1.3
AYDB	**Zeytinkoy-Aydi**	**1.49**	**311**	Pn	Pg	00 27 29.4	0.0
AYDB				Sn	Sg	00 27 49.9	+1.2

*IDC **04** 00:30:33.9±0.9,19.23S×175.74E,h0km,mb4.1/12, mbtmp4.1/13,ML4.0/1,Error ellipse: s-maj=33.1km s-min=21.1km az=139.0*
*NEIC **04** 00:30:33.1±2.4,19.3S±0.2×176.0E±0.1,h10km±1km, mb4.3/7,Error ellipse: s-maj=38.6km s-min=3.5km az=330.0*
ISC 04 00:30:34.1±0.6,19.3S±0.1×175.97E±0.09,h10km,n28, σ1s79/28,mb4.3/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.51**	**52**	Pn	**Pn**	**00 31 11.9**	**-3.1**
	3.5nm,0.3s,baz=212,slow=22,SNR=1.3						
MSVF				Sn	**Sn**	**00 31 44.7**	**-1.0**
	15nm,0.3s,baz=78,slow=23,SNR=7.4						
MSVF	**Nonsavu**	**2.51**	**52**	Pn	**Pn**	**00 31 13.6**	**-1.5**
MSVF				Sn	**Sn**	**00 31 44.4**	**-1.3**
DZM	**Mont Dzumac**	**9.34**	**251**	Pn	**Pn**	**00 32 50.4**	**+1.5**
	baz=83,slow=15						
DZM	**Mont Dzumac**	**9.34**	**251**	Pn	**Pn**	**00 32 48.1**	**-0.8**
KOUNC	**Koumac, New Ca**	**11.06**	**262**	Pn	**Pn**	**00 33 11.2**	**-1.3**
URZ	**Urewera**	**18.93**	**177**	P	**Pn**	**00 34 57.3**	**+1.5**
	0.5nm,0.3s,baz=138,slow=1.5,SNR=4.3						
	14nm,0.8s						
STKA	**Stephens Creek**	**33.30**	**241**	P	**P**	**00 37 12.2**	**+0.1**
	2.8nm,0.9s,baz=74,slow=11,SNR=3.5						
	2.8nm,0.9s						
STKA	**Stephens Creek**	**33.30**	**241**	P	**P**	**00 37 11.5**	**-0.6**
STKA				IAmb	IAmb	00 37 50.3	
	comp=Z,1.5nm,1.2s						
WB0	**Warramunga Arr**	**39.12**	**262**	P	**P**	**00 37 59.0**	**-3.1**
WB0				IAmb	IAmb	00 38 08.7	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**39.14**	**262**	P	**P**	**00 37 59.0**	**-3.3**
WRA	**Warramunga Arr**	**39.15**	**262**	P	**P**	**00 38 01.5**	**-0.9**
	comp=Z,1.2nm,1.0s,baz=96,slow=6.2,SNR=3.9						
	comp=Z,1.2nm,1.0s						
WRA	**Warramunga Arr**	**39.15**	**262**	P	**P**	**00 37 59.8**	**-2.5**
AS31	**Alice Springs**	**39.29**	**256**	P	**P**	**00 38 00.7**	**-2.7**
AS31				IAmb	IAmb	00 38 10.7	
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**39.29**	**256**	P	**P**	**00 38 03.1**	**-0.4**
	comp=Z,8.9nm,1.0s,baz=85,slow=8.6,SNR=20						
	comp=Z,8.9nm,1.0s						
MJAR	**Matsushiro Arr**	**66.00**	**327**	P	**P**	**00 41 21.4**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=164,slow=5.4,SNR=4.6						
	comp=Z,2.1nm,0.9s						
QSPA	**South Pole Qui**	**70.77**	**180**	P	**P**	**00 41 50.0**	**-0.5**
QSPA				IAmb	IAmb	00 41 53.3	
	comp=Z,4.6nm,1.0s						
PETK	**Petropavlovsk-**	**73.81**	**349**	P	**P**	**00 42 10.5**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=203,slow=9.9,SNR=1.8						
	comp=Z,3.0nm,0.9s						
BELA	**Belgrano 2**	**81.43**	**174**	P	**P**	**00 42 48.9**	**-2.0**
BELA				IAmb	IAmb	00 43 12.8	
	comp=Z,10nm,1.5s						
SEY	**Seymchan**	**84.03**	**349**	P	**P**	**00 43 04.8**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=86,slow=5.8,SNR=5.2						
	comp=Z,0.9nm,0.4s						
NVAR	**Mina Array Bea**	**84.16**	**46**	P	**P**	**00 43 08.7**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=229,slow=8.2,SNR=4.3						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**84.38**	**292**	P	**P**	**00 43 07.7**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=117,slow=3.1,SNR=4.1						
	comp=Z,0.8nm,0.3s						
ILAR	**Eielson Array**	**88.51**	**15**	P	**P**	**00 43 26.4**	**0.0**
	comp=Z,0.5nm,0.8s,baz=229,slow=6.5,SNR=4.8						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**91.18**	**321**	P	**P**	**00 43 40.2**	**+0.7**
	comp=Z,0.4nm,1.0s,baz=134,slow=4.2,SNR=2.5						
	comp=Z,0.4nm,1.0s						
TXAR	**Lajitas Array**	**91.26**	**59**	P	**P**	**00 43 42.8**	**+2.5**
	comp=Z,0.8nm,0.9s,baz=212,slow=6.8,SNR=5.9						
	comp=Z,0.8nm,0.9s						
YKA	**Yellowknife Ar**	**97.86**	**26**	P	Pdif	00 44 10.6	+1.0
	comp=Z,0.2nm,0.7s,baz=254,slow=4.6,SNR=3.6						
	comp=Z,0.2nm,0.7s						
CLL	**Collm**	**145.34**	**341**	*i* PKPbc	**PKPdf**	**00 50 12.6**	**+0.5**
	comp=Z,8.0nm,0.8s						
CLL	**Collm**	**145.34**	**341**	*ex*	x	00 50 13.0	
TORD	**Torodi Ar. Bea**	**171.78**	**223**	PKP	**PKPdf**	**00 50 43.8**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=297,slow=1.4,SNR=2.5						

*IDC **04** 00:32:11.1±4.2,18.89S×175.65E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=130.8km s-min=38.4km az=139.0*
ISC 04 00:32:10.5±2.4,19.1S±0.5×176.0E±0.3,h10km,n5, σ1s00/6,mb3.7/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.39**	**55**	Pn	**Pn**	**00 32 49.2**	**-0.6**
	3.1nm,0.3s,baz=278,slow=21,SNR=1.0						
MSVF				Sn	**Sn**	**00 33 19.3**	**0.0**
	5.1nm,0.3s,baz=198,slow=21,SNR=1.8						
WRA	**Warramunga Arr**	**39.20**	**262**	P	**P**	**00 39 38.8**	**-0.4**
	0.9nm,1.0s,baz=92,slow=8.4,SNR=1.5						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**39.35**	**256**	P	**P**	**00 39 40.2**	**-0.2**
	1.7nm,0.8s,baz=91,slow=9.2,SNR=5.3						
	1.7nm,0.8s						
MJAR	**Matsushiro Arr**	**65.89**	**327**	P	**P**	**00 42 56.2**	**-0.4**
	1.3nm,0.9s,baz=157,slow=6.9,SNR=2.0						
	1.3nm,0.9s						
ILAR	**Eielson Array**	**88.36**	**15**	P	**P**	**00 45 03.6**	**+1.5**
	0.3nm,0.7s,baz=230,slow=5.4,SNR=2.7						
	0.3nm,0.7s						

IDC 04 00:33:20.2±2.2,2.19N×125.64E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=193.4km s-min=28.9km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**159**	P	P	00 38 32.7	-0.2
	0.5nm,0.6s,baz=338,slow=11,SNR=4.8						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.93**	**163**	P	P	00 39 04.1	+0.7
	0.3nm,0.7s,baz=349,slow=9.4,SNR=1.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.21**	**326**	P	P	00 43 15.9	-0.4
	0.2nm,0.7s,baz=121,slow=6.3,SNR=2.2						
	0.2nm,0.7s						

*IDC **04** 00:34:11.7±1.1,18.85S×175.64E,h0km,mb3.8/6, mbtmp3.9/7,ML4.1/1,Error ellipse: s-maj=41.4km s-min=26.7km az=148.0*
ISC 04 00:34:13.2±1.0,18.9S±0.2×176.0E±0.2,h10km,n11, σ1s99/7,mb3.7/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.29**	**60**	Pn	**Pn**	**00 34 50.1**	**-1.1**
	9.4nm,0.3s,baz=201,slow=22,SNR=6.0						
MSVF				Sn	**Sn**	**00 35 18.2**	**-1.4**
	23nm,0.3s,baz=148,slow=22,SNR=10.0						
URZ	**Urewera**	**19.30**	**177**	P	**P**	**00 38 37.9**	**-0.5**
	0.6nm,0.3s,baz=194,slow=6.1,SNR=5.3						
	10nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**38.27**	**346**	T	T	01 22 30.1	
	baz=166,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**38.27**	**346**	T	T	01 22 30.0	
	baz=166,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**38.28**	**346**	T	T	01 22 30.7	
	baz=166,slow=76,SNR=6.5						
WRA	**Warramunga Arr**	**39.21**	**261**	P	P	00 41 39.5	-2.3
	0.8nm,1.1s,baz=94,slow=8.8,SNR=2.6						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**39.38**	**256**	P	**P**	**00 41 41.8**	**-1.6**
	1.7nm,0.8s,baz=86,slow=7.8,SNR=8.1						
	1.7nm,0.8s						
NVAR	**Mina Array Bea**	**83.90**	**46**	P	**P**	**00 46 45.9**	**+2.2**
	0.8nm,0.9s,baz=218,slow=5.6,SNR=2.5						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**88.14**	**15**	P	**P**	**00 47 03.1**	**-0.7**
	0.3nm,0.8s,baz=228,slow=5.6,SNR=3.5						
	0.3nm,0.8s						
SONM	**Songino Array**	**90.89**	**321**	P	P	00 47 14.4	-2.8
	0.4nm,0.9s,baz=132,slow=2.1,SNR=2.3						
	0.4nm,0.9s						
TXAR	**Lajitas Array**	**91.07**	**59**	P	**P**	**00 47 20.6**	**+2.2**
	0.6nm,0.8s,baz=211,slow=6.6,SNR=5.8						
	0.6nm,0.8s						

*AUST **04** 00:35:09.7±1.0,30.70S×118.42E,h10km,Error ellipse: s-maj=14.0km s-min=8.2km az=156.0*
*CUPWA **04** 00:35:11.0±4.0,30.68S×118.41E,h2km±41km,Region: WESTERN AUSTRALIA*
ISC 04 00:35:09.4±1.0,30.66S±0.05×118.44E±0.04,h13km,n20, σ1s34/27,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.10**	**212**	P	**Pb**	**00 35 30.2**	**0.0**
	baz=1.1,SNR=28						
KLBR				S	**Sb**	**00 35 44.0**	**-0.4**
	baz=1.1						
KLBR	**Kellerberrin**	**1.10**	**212**	P	**Pb**	**00 35 30.2**	**0.0**
KLBR				S	**Sb**	**00 35 44.0**	**-0.4**
BLDU	**Ballidu**	**1.49**	**271**	P	**Pb**	**00 35 36.7**	**-0.3**
	baz=1.5,SNR=16						
BLDU				S	**Sn**	**00 35 55.3**	**+0.1**
	baz=1.5						
BLDU	**Ballidu**	**1.49**	**271**	P	**Pb**	**00 35 36.7**	**-0.3**
BLDU	**Ballidu**	**1.49**	**271**	S	**Sn**	**00 35 55.3**	**+0.1**
MECK	**Meckering**	**1.56**	**231**	P	**Pb**	**00 35 38.3**	**+0.1**
MECK	**Meckering**	**1.56**	**231**	S	**Sb**	**00 35 58.5**	**+0.7**
PING	**Pingelly**	**2.21**	**213**	SG	**Sg**	**00 36 18.8**	**-1.8**
MUN	**Mundaring**	**2.32**	**235**	P	**Pn**	**00 35 48.2**	**+1.0**
	baz=2.3						
MUN				S	**Sn**	**00 36 16.8**	**+1.2**
	baz=2.3						
MUN	**Mundaring**	**2.32**	**235**	P	**Pn**	**00 35 48.2**	**+1.0**
MUN	**Mundaring**	**2.32**	**235**	S	**Sn**	**00 36 16.8**	**+1.2**
NWAO	**Narrogin (SRO)**	**2.48**	**204**	P	**Pn**	**00 35 50.2**	**+0.7**
	baz=2.4						
NWAO				P	**Pn**	**00 35 50.2**	**+0.7**
	baz=2.4						
NWAO	**Narrogin (SRO)**	**2.48**	**204**	P	**Pn**	**00 35 50.2**	**+0.7**
KMBL	**Kambalda**	**3.04**	**104**	P	**Pn**	**00 35 58.7**	**+1.5**
	baz=3.0						
KMBL				S	**Sn**	**00 36 33.8**	**+0.4**
	baz=3.0						
KMBL	**Kambalda**	**3.04**	**104**	P	**Pn**	**00 35 58.7**	**+1.5**
KMBL	**Kambalda**	**3.04**	**104**	S	**Sn**	**00 36 33.8**	**+0.4**
MEEK	**Meekatharra**	**4.01**	**2**	P	**Pn**	**00 36 11.8**	**+1.2**
	baz=4.1						
MEEK	**Meekatharra**	**4.01**	**2**	P	**Pn**	**00 36 11.8**	**+1.2**
FORT	**Forrest**	**8.28**	**93**	P	**Pn**	**00 37 10.8**	**+1.5**
	baz=8.3						
FORT				S	**Sn**	**00 38 38.0**	**-4.7**
	baz=8.3						
WRKA	**Warakurna**	**10.37**	**60**	P	**Pn**	**00 37 38.5**	**+0.6**
	baz=10						

*HEL **04** 00:48:23.9±0.3,67.77N×20.25E,h0km,ML1.4,Explosion*
*UPP **04** 00:48:24.0±0.0,67.82N×20.20E,h0km,ML2.6,Suspected explosion*
ISC 04 00:48:23.3±0.8,67.79N±0.02×20.31E±0.03,h0km,n25, σ0s80/37,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.28**	**277**	P	**Pg**	**00 48 28.5**	**0.0**
RATU				S	**Sg**	**00 48 31.8**	**-0.3**
KOVU	**Salmi**	**0.44**	**353**	P	**Pg**	**00 48 31.8**	**+0.1**
KOVU				S	**Sg**	**00 48 37.2**	**-0.1**
NIKU	**Nikkaluokta**	**0.49**	**279**	P	**Pg**	**00 48 32.4**	**-0.3**
DUNU	**Dundret**	**0.68**	**172**	P	**Pb**	**00 48 37.4**	**-0.7**
DUNU				S	**Sb**	**00 48 47.8**	**-0.2**
LANU	**Lannavaara**	**0.68**	**67**	P	**Pb**	**00 48 37.4**	**-0.7**
LANU				S	**Sb**	**00 48 46.9**	**-1.2**
LANU	**Lannavaara**	**0.68**	**67**	PB	**Pb**	**00 48 37.6**	**-0.5**
LANU				SG	**Sb**	**00 48 46.8**	**-1.3**
MASU	**Masugnsbyn**	**0.73**	**117**	P	**Pb**	**00 48 38.8**	**-0.1**
SALU	**Saltoluokta**	**0.81**	**240**	P	**Pg**	**00 48 39.0**	**+0.2**
KIF	**Kilpisjarvi**	**1.23**	**8**	*eP*	**Pn**	**00 48 47.4**	**-0.3**
KIF	**Kilpisjarvi**	**1.23**	**8**	PG	**Pn**	**00 48 47.5**	**-0.3**
KIF				MSG		00 49 03.0	
	comp=Z,4.3nm,0.2s						
KIF				SG	**Sb**	**00 49 03.1**	**-0.7**
PAJU	**Pajala**	**1.33**	**124**	P	**Pn**	**00 48 49.2**	**+0.1**
HEF	**Hetta**	**1.40**	**62**	*eP*	**Pb**	**00 48 50.2**	**-0.1**
HEF	**Hetta**	**1.40**	**62**	PN	**Pb**	**00 48 50.2**	**-0.1**
HEF				MSG		00 49 06.9	
	comp=Z,2.6nm,0.2s						
HEF				SN	**Sn**	**00 49 09.9**	**+0.7**
ERTU	**Ertsjaerv**	**1.44**	**149**	P	**Pb**	**00 48 51.8**	**+0.8**
ERTU	**Ertsjaerv**	**1.44**	**149**	PN	**Pb**	**00 48 51.1**	**0.0**
ERTU				SN	**Sn**	**00 49 11.5**	**+1.2**
KTK1	**Kautokeino**	**1.63**	**40**	PG	**Pg**	**00 48 54.3**	**-0.3**
KTK1				SN	**Sg**	**00 49 17.7**	**+1.9**
HARU	**Harads**	**1.66**	**171**	P	**Pg**	**00 48 55.1**	**0.0**
TRO	**Tromso**	**1.92**	**345**	PG	**Pb**	**00 48 58.8**	**-0.2**
TRO				SG	**Sb**	**00 49 23.3**	**-0.2**
KALU	**Kalix**	**2.29**	**147**	PG	**Pb**	**00 49 04.4**	**-0.9**
TOF	**Tornio**	**2.34**	**136**	PG	**Pb**	**00 49 05.7**	**-0.5**
TOF				MSG		00 49 33.1	
	comp=Z,1.0nm,0.2s						
SGF	**Sodankyl**	**2.40**	**96**	PG	**Pb**	**00 49 07.2**	**-0.2**
	baz=280						
RNF	**Rovaniemi**	**2.52**	**116**	PG	**Pb**	**00 49 08.6**	**-0.7**
RNF				SG	**Sg**	**00 49 42.9**	**-1.2**
ARA0	**ARCESS Array S**	**2.58**	**45**	PG	**Pg**	**00 49 12.0**	**-0.7**
	baz=227						
ARA0				SB	**Sb**	**00 49 42.2**	**-0.5**
KEV	**Kevo**	**3.13**	**48**	SN	**Sn**	**00 49 53.9**	**+2.1**
VRF	**Varrio**	**3.53**	**86**	SG	**Sb**	**00 50 11.4**	**+1.4**

*IDC **04** 01:03:57.3±0.7,41.90N×82.54E,h0km,mb4.3/19, mbtmp4.3/26,ML3.8/7,MS3.8/1,Error ellipse: s-maj=13.9km s-min=11.5km az=46.0*
*MOS **04** 01:03:59.1±1.3,41.90N×82.59E,h25km,mb4.7/18,Error ellipse: s-maj=7.3km s-min=4.9km az=112.7*
*NEIC **04** 01:04:01.5±1.6,41.93N±0.07×82.53E±0.10,h26km±4km, mb4.6/50,Error ellipse: s-maj=11.3km s-min=9.6km az=134.0*
*SOME **04** 01:04:02.4,42.15N×82.20E,h0km,MS4.0*
*NNC **04** 01:04:03.1±1.7,42.08N×82.30E,h5km±8km,mb4.9, mpv4.7,Error ellipse: s-maj=11.3km s-min=8.7km az=141.0*
ISC 04 01:03:59.3±0.3,41.90N±0.04×82.49E±0.03,h13km,n253, σ1s85/264,mb4.5/58,14C-19D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.21**	**315**	Pg	**Pg**	**01 04 40.6**	**-1.0**
	599nm,0.7s						
KTMS				Lg	Lg	01 05 08.6	
	2μm,0.6s						
KTMS	**Ketmen**	**2.21**	**315**	*e*P	**Pg**	**01 04 40.6**	**-1.0**
	684nm,0.3s						
KTMS				*e*S	**Sg**	**01 05 08.6**	**-1.8**
	2μm,0.3s						
SHLS	**Shalkode**	**2.57**	**300**	Pg	**Pb**	**01 04 43.0**	**-2.3**
	1μm,0.5s						
SHLS				Lg	Lg	01 05 12.2	
	5μm,0.8s						
SHLS	**Shalkode**	**2.57**	**300**	⇓*i*Pn	**Pn**	**01 04 40.4**	**-0.3**
	baz=301						
SHLS	**Shalkode**	**2.57**	**300**	*e*Pg	**Pb**	**01 04 43.0**	**-2.3**
	1μm,0.5s						
SHLS				*e*Lg	Lg	01 05 12.2	
	3μm,0.2s						
SHLS	**Shalkode**	**2.57**	**300**	*e*PN	**Pn**	**01 04 41.3**	**+0.6**
UZB	**Uzunbulak**	**2.85**	**297**	Pg	**Pb**	**01 04 50.6**	**+0.5**
	285nm,0.6s						
UZB				Lg	Lg	01 05 25.8	
	814nm,0.5s						
UZB	**Uzunbulak**	**2.85**	**297**	⇓*i*Pn	**Pb**	**01 04 47.6**	**-2.6**
	baz=295						
UZB	**Uzunbulak**	**2.85**	**297**	*e*Pg	**Pb**	**01 04 50.6**	**+0.5**
	288nm,0.2s						
UZB				*e*Lg	Lg	01 05 25.8	
	2μm,0.3s						
UZB	**Uzunbulak**	**2.85**	**297**	*e*PN	**Pb**	**01 04 51.2**	**+1.0**
DJR	**Jarkent**	**3.14**	**322**	Pg	**Pg**	**01 04 56.9**	**-2.4**
	310nm,0.7s						
DJR				Lg	Lg	01 05 36.4	
	731nm,0.8s						
DJR	**Jarkent**	**3.14**	**322**	*e*Pg	**Pg**	**01 04 57.0**	**-2.4**
	310nm,0.3s						
DJR				*e*Lg	Lg	01 05 36.4	
	744nm,0.3s						
KPKS	**Kokpek**	**3.22**	**300**	Pg	**Pb**	**01 04 55.3**	**-1.0**
	213nm,0.5s						
KPKS				Lg	Lg	01 05 33.6	
	2μm,0.9s						
KPKS	**Kokpek**	**3.22**	**300**	⇓*i*Pn	**Pn**	**01 04 52.3**	**+2.7**
	baz=298						
KPKS	**Kokpek**	**3.22**	**300**	*e*Pg	**Pb**	**01 04 55.3**	**-1.0**
	213nm,0.5s						
KPKS				*e*Lg	Lg	01 05 33.6	
	2μm,0.3s						
KPKS	**Kokpek**	**3.22**	**300**	*e*PN	**Pb**	**01 04 56.4**	**+0.1**
SATY	**Saty**	**3.24**	**292**	Pg	**Pg**	**01 04 59.5**	**-1.9**
	248nm,0.7s						
SATY				Lg	Lg	01 05 40.8	
	939nm,0.6s						
SATY	**Saty**	**3.24**	**292**	*i* Pn	**Pn**	**01 04 53.0**	**+3.0**
	baz=290						
SATY	**Saty**	**3.24**	**292**	*e*Pg	**Pg**	**01 04 59.5**	**-1.9**
	272nm,0.2s						
SATY				*e*Lg	Lg	01 05 40.8	
	2μm,0.4s						
ZHN	**Zhinishke**	**3.26**	**294**	Pg	**Pb**	**01 04 58.7**	**+1.7**
	212nm,0.5s						
ZHN				Lg	Lg	01 05 39.2	
	917nm,0.4s						
ZHN	**Zhinishke**	**3.26**	**294**	⇓*i*Pn	**Pn**	**01 04 53.0**	**+2.8**
	baz=292						
ZHN	**Zhinishke**	**3.26**	**294**	*e*Pg	**Pb**	**01 04 58.7**	**+1.7**
	212nm,0.2s						
ZHN				*e*Lg	Lg	01 05 39.2	
	917nm,0.2s						
TARG	**Taragay, Kyrgy**	**3.51**	**269**	Pn	**Pn**	**01 04 55.7**	**+1.8**
TARG	**Taragay, Kyrgy**	**3.51**	**269**	PN	**Pn**	**01 04 55.7**	**+1.8**
KURS	**Kuram**	**3.56**	**298**	Pg	**Pg**	**01 05 04.6**	**-2.9**
	134nm,0.6s						
KURS				Lg	Lg	01 05 49.4	
	540nm,0.8s						
KURS	**Kuram**	**3.56**	**298**	*e*Pg	**Pg**	**01 05 04.6**	**-2.9**
	117nm,0.3s

AAA Alma-Ata 4.32 289 Pg **Pg** **01 05 18.9 -3.2**
comp=E,421nm,0.9s
AAA Lg Lg 01 06 13.8
comp=E,700nm,1.0s
AAA Alma-Ata 4.32 289 *e*Pn **Pn** **01 05 08.3 +3.5**
baz=288
AAA Alma-Ata 4.32 289 *e*Pg **Pg** **01 05 18.9 -3.2**
comp=E,421nm,0.9s
AAA *e*Lg Lg 01 06 13.8
comp=E,700nm,1.0s
CHKK Chushkaly 4.49 298 Pg **Pg** **01 05 22.2 -3.1**
comp=E,52nm,1.1s
CHKK Lg Lg 01 06 19.9
comp=E,234nm,0.5s
CHKK Chushkaly 4.49 298 *e*Pn **Pn** **01 05 08.7 +1.6**
baz=296
CHKK Chushkaly 4.49 298 *e*Pg **Pg** **01 05 22.2 -3.1**
comp=E,52nm,1.1s
CHKK *e*Lg Lg 01 06 19.9
comp=E,234nm,0.5s
MTBS Maitube 4.65 287 Pg **Pb** **01 05 21.4 +0.7**
comp=E,100nm,1.0s
MTBS Lg Lg 01 06 18.4
comp=E,225nm,1.0s
MTBS Maitube 4.65 287 *e*Pg **Pb** **01 05 21.4 +0.7**
comp=E,100nm,1.0s
MTBS *e*Lg Lg 01 06 18.4
comp=E,225nm,1.0s
ULHL Ulahol 4.67 276 P **Pn** **01 05 12.4 +2.7**
SNR=23
MK31 Makanchi Array 4.90 358 Pn **Pn** **01 05 13.2 +0.6**
MK31 Makanchi Array 4.90 358 ⇑Pn **Pn** **01 05 14.2 +1.5**
comp=E,8.8nm,0.2s,baz=186,slow=12,SNR=1943
MK31 ⇑Pg **Pb** **01 05 26.1 +1.2**
comp=E,127nm,0.4s,baz=173,slow=14,SNR=40
MK31 ⇓Lg Lg 01 06 33.2
comp=E,345nm,0.5s,baz=176,slow=27,SNR=3.1
MK31 Makanchi Array 4.90 358 *e*PN **Pn** **01 05 14.1 +1.5**
MK31 *e* 01 05 26.1
MKAR Makanchi Array 4.90 358 Pn **Pn** **01 05 14.3 +1.7**
comp=E,9.0nm,0.3s,baz=188,slow=12,SNR=266
MKAR Pg **Pb** **01 05 26.9 +2.0**
comp=E,45nm,0.3s,baz=181,slow=15,SNR=33
MKAR Lg Lg 01 06 29.1
comp=E,30nm,0.3s,baz=172,slow=28,SNR=4.2
comp=E,15nm,0.3s
MKAR Makanchi Array 4.90 358 **Pn** **01 05 14.1 +1.5**
MAKZ Makanchi 4.92 356 Pn **Pn** **01 05 14.7 +1.8**
MAKZ Makanchi 4.92 356 ⇓Pn **Pn** **01 05 14.6 +1.6**
comp=E,115nm,0.7s
MAKZ ⇑Sn **Sn** **01 06 13.0 +3.2**
comp=E,201nm,0.8s
MAKZ ⇓Lg Lg 01 06 31.9
comp=E,307nm,0.7s
MAKZ Makanchi 4.92 356 PN **Pn** **01 05 14.7 +1.8**
KUU Kurty 4.94 296 Pg **Pb** **01 05 29.1 +3.4**
comp=E,41nm,0.8s
KUU Lg Lg 01 06 31.9
comp=E,337nm,0.2s
KUU Kurty 4.94 296 *i* Pn **Pn** **01 05 14.4 +1.2**
baz=295
KUU Kurty 4.94 296 *e*Pg **Pb** **01 05 29.1 +3.4**
comp=E,41nm,0.8s
KUU *e*Lg Lg 01 06 31.9
comp=E,337nm,0.2s
KST Kastek 4.96 286 Pg **Pg** **01 05 31.5 -2.8**
comp=E,145nm,0.8s
KST Lg Lg 01 06 35.6
comp=E,407nm,0.8s
KST Kastek 4.96 286 *e*Pg **Pg** **01 05 31.5 -2.8**
comp=E,145nm,0.3s
KST *e*Lg Lg 01 06 35.6
comp=E,407nm,0.5s
DGS Degeres 5.14 287 Pg **Pg** **01 05 35.0 -2.7**
comp=E,90nm,0.8s
DGS Lg Lg 01 06 41.3
comp=E,415nm,0.9s
DGS Degeres 5.14 287 *e*Pg **Pg** **01 05 35.0 -2.7**
comp=E,96nm,0.3s
DGS *e*Lg Lg 01 06 41.3
comp=E,330nm,0.3s
TKM2 Tokmak 2 5.21 284 P **Pn** **01 05 21.1 +4.1**
SNR=11
TKM2 Tokmak 2 5.21 284 ⇓Pn **Pn** **01 05 19.8 +2.7**
comp=E,130nm,1.0s
TKM2 ⇓Lg Lg 01 06 41.2
comp=E,295nm,0.8s
TKM2 Tokmak 2 5.21 284 PN **Pn** **01 05 19.8 +2.7**
TKM2 01 06 41.2
KSH Kashi 5.50 247 P Pb 01 05 30.8 -4.4
KSH S **Sb** **01 06 39.1 -2.0**
KSH pmax pmax
comp=E,32nm,1.0s
KSH smax smax
comp=N,270nm,1.2s
KSH smax smax
comp=E,370nm,1.2s
KBK Karagaybulak 5.65 280 P **Pn** **01 05 26.1 +3.0**
SNR=22
ZSN Zaisan 5.80 16 *i* Pn **Pn** **01 05 26.6 +1.5**
baz=16
ZSN *e*Pg **Pg** **01 05 46.7 -3.7**
baz=16
ZSN *e*Sn **Sn** **01 06 32.7 +1.2**
baz=16
CHMS Chumysh 5.83 283 P **Pb** **01 05 36.3 -4.5**
SNR=11
CHMS Chumysh 5.83 283 ⇓Pg **Pg** **01 05 49.0 -1.9**
comp=E,61nm,0.8s
CHMS ⇓Lg Lg 01 07 03.5
comp=E,236nm,1.1s
UCH Uchtor 5.95 276 P **Pn** **01 05 30.4 +3.0**
SNR=8.2
AAK Ala-Archa 5.98 280 P **Pn** **01 05 31.0 +3.4**
SNR=8.3
AAK Ala-Archa 5.98 280 Pn **Pn** **01 05 30.8 +3.1**
comp=E,1.7nm,0.3s,baz=112,slow=9.5,SNR=21
AAK Pg **Pg** **01 05 51.4 -2.4**
comp=E,8.7nm,0.3s,baz=96,slow=8.8,SNR=17
AAK Lg Lg 01 07 04.7
comp=E,1.6nm,0.3s,baz=253,slow=19,SNR=1.2
comp=E,4.8nm,0.4s
AAK Ala-Archa 5.98 280 Pn **Pn** **01 05 28.4 +0.7**
AAK Ala-Archa 5.98 280 *i* Pn **Pn** **01 05 28.9 +1.3**
SGDS Sogindy 6.00 288 Pg Pg 01 05 48.8 -5.3
comp=E,50nm,1.0s
SGDS Lg Lg 01 07 05.0
comp=E,106nm,1.2s
SGDS Sogindy 6.00 288 *e*Pn **Pn** **01 05 30.8 +3.0**
baz=287
USP Ospenovka 6.06 286 P **Pn** **01 05 31.3 +2.7**
SNR=16
EKS2 Erkin-Say 6.51 280 P Pn 01 05 42.4 +7.5
SNR=5.7
BTLS Baital 6.90 300 *e*Pn **Pn** **01 05 42.7 +2.6**
baz=299
BTLS Baital 6.90 300 *e*Pg Pg 01 06 05.1 -6.3
comp=E,18nm,0.4s
BTLS *e*Lg Lg 01 07 33.2
comp=E,36nm,0.4s
MRKS Merke 6.92 280 Pg Pg 01 06 06.6 -5.2
comp=E,30nm,1.0s
MRKS Lg Lg 01 07 36.3
comp=E,63nm,0.9s
MRKS Merke 6.92 280 *e*Pg Pg 01 06 06.6 -5.2
comp=E,30nm,0.4s
MRKS *e*Lg Lg 01 07 36.3
comp=E,68nm,0.4s
DGZ Jazzator, Alta 8.53 22*c i*P **Pn** **01 06 03.5 +0.9**
KK31 Karatay Array 8.94 282 Pn **Pn** **01 06 08.0 0.0**
KK31 Karatay Array 8.94 282 Pn Pn 01 06 15.6 +7.6
comp=E,0.5nm,0.4s,baz=96,slow=13,SNR=5.0
KK31 ⇑Pg Pg 01 06 45.1 -5.1
comp=E,13nm,0.8s,baz=89,slow=16,SNR=5.8
KK31 ⇑Lg Lg 01 08 45.1
comp=E,26nm,0.6s,baz=87,slow=26,SNR=5.8
KK31 Karatay Array 8.94 282 P **Pn** **01 06 08.0 0.0**
KKAR Karatay Array 8.94 282 Pn **Pn** **01 06 07.8 -0.3**
KKAR Karatay Array 8.94 282 Pn **Pn** **01 06 08.6 +0.6**
KKAR Karatay Array 8.94 282 P **Pn** **01 06 08.6 +0.6**
KURBB Kurchatov Arra 9.15 344 Pn **Pn** **01 06 10.5 -0.4**
comp=E,0.6nm,0.3s,baz=162,slow=12,SNR=40
Sn **Sn** **01 07 44.8 -8.8**
comp=E,0.3nm,0.3s,baz=247,slow=25,SNR=1.8
KURBB Lg Lg 01 08 45.5
comp=E,1.3nm,0.3s,baz=157,slow=32,SNR=6.4
comp=E,6.2nm,0.6s
KURBB Kurchatov Arra 9.15 344 ⇓Pn **Pn** **01 06 09.8 -1.1**
comp=E,21nm,0.5s
KURBB ⇓Lg Lg 01 08 45.0
comp=E,342nm,0.7s
KURBB Kurchatov Arra 9.15 344 P **Pn** **01 06 09.7 -1.1**
KURBB 01 08 05.4
KURK Kurchatov 9.22 344 Pn **Pn** **01 06 10.4 -1.4**
KURK Kurchatov 9.22 344 *i* P **Pn** **01 06 11.4 -0.4**
IUG Iuzhnay 9.28 276 *e*Pn **Pn** **01 06 15.3 +2.5**
baz=275
IUG *e*Lg Lg 01 08 58.8
baz=275
OTUK Ortayu 9.58 315 ⇓Pn **Pn** **01 06 17.6 +0.7**
comp=E,9.8nm,0.6s
OTUK ⇑Sn **Sn** **01 08 02.8 -1.5**
comp=E,27nm,0.6s
OTUK ⇑Lg Lg 01 08 55.2
comp=E,152nm,1.1s
OTUK Ortayu 9.58 315 P **Pn** **01 06 17.6 +0.7**
OTUK 01 08 02.8
CHGR Chuyangaron 10.69 257 Pn **Pn** **01 06 31.3 -0.9**
CHGR Chuyangaron 10.69 257 P **Pn** **01 06 31.3 -0.9**
CHCP Chirah Chowk 10.99 225 P **Pn** **01 06 37.7 +1.4**
NIL Nilore 11.01 225 Pn **Pn** **01 06 37.2 +0.7**
NIL Nilore 11.01 225 P **Pn** **01 06 37.2 +0.7**
GOMU GeErMu 11.14 117 P **Pn** **01 06 37.6 -1.0**
GOMU pmax pmax
comp=Z,16nm,0.7s
CEP Cherat 11.61 229 P **Pn** **01 06 45.9 +1.1**
ZAA0 Zalesovo Array 12.16 7 Pn **Pn** **01 06 50.2 -1.8**
ZALV Zalesovo Beam 12.16 7 Pn **Pn** **01 06 50.7 -1.3**
comp=Z,1.4nm,0.3s,baz=187,slow=13,SNR=34
ZALV Sn **Sn** **01 09 02.8 -4.6**
comp=Z,0.8nm,0.3s,baz=201,slow=20,SNR=2.4
ZALV Lg Lg 01 10 19.9
baz=185,slow=29
comp=Z,19nm,0.5s
ZALV Zalesovo Beam 12.16 7 Pn **Pn** **01 06 50.1 -2.0**
THW Thamme Wali 12.47 227 P **Pn** **01 06 56.6 +0.1**
KBL Kabul 12.87 240 Pn **Pn** **01 07 01.5 -0.6**
KBL Kabul 12.87 240 P **Pn** **01 07 01.5 -0.6**
GTA Gaotai 13.39 95 *e*P **Pn** **01 07 08.8 -0.2**
GTA pP P 01 07 12.1 -6.5
GTA sP 01 07 15.3
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,150nm,5.2s
GTA LR LR
comp=N,330nm,10.4s
GTA LR LR
comp=E,530nm,7.6s
GTA LR LR
comp=Z,310nm,6.8s
BVA0 Borovoye Array 13.79 328 Pn **Pn** **01 07 16.4 +2.0**
comp=Z,0.4nm,0.5s,baz=132,slow=13,SNR=30
BVA0 ⇑Lg Lg 01 11 15.5
comp=Z,4.4nm,1.0s,baz=144,slow=27,SNR=3.6
BVA0 Borovoye Array 13.79 328 *i* P **Pn** **01 07 16.4 +2.0**
BVAR Borovoye Array 13.79 328 Pn **Pn** **01 07 15.2 +0.8**
comp=Z,0.2nm,0.3s,baz=132,slow=11,SNR=32
BVAR Sn **Sn** **01 09 44.0 -3.3**
comp=Z,0.1nm,0.3s,baz=132,slow=22,SNR=2.8
BVAR Lg Lg 01 11 06.3
comp=Z,0.1nm,0.3s,baz=145,slow=31,SNR=3.6
BRVK Borovoye 13.86 328 Pn **Pn** **01 07 15.6 +0.3**
BRVK Borovoye 13.86 328 ⇑Pn **Pn** **01 07 15.3 0.0**
comp=Z,18nm,0.7s
BRVK ⇓Lg Lg 01 11 11.0
comp=Z,73nm,1.3s
BRVK Borovoye 13.86 328 *i* P **Pn** **01 07 16.3 +1.0**
BRVK pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 14.04 147 Pn **Pn** **01 07 17.7 -0.6**
LSA Lhasa 14.04 147 P **Pn** **01 07 17.7 -0.6**
ZAK Zakamensk 16.68 52 *e*P **Pn** **01 07 51.6 -1.1**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
AB31 Akbulak array 17.38 303 Pn **Pn** **01 08 00.5 -0.9**
comp=Z,3.9nm,0.7s,baz=98,slow=9.9,SNR=87
AB31 Akbulak array 17.38 303 *i* P **Pn** **01 08 00.4 -0.9**
ABKAR Akbulak array 17.38 303 Pn **Pn** **01 07 59.7 -1.6**
ABKAR Akbulak array 17.38 303 Pn **Pn** **01 07 59.0 -2.4**
ABKAR IAmb IAmb 01 08 22.4
comp=Z,12nm,1.2s
HRA Herat 17.58 251 Pn **Pn** **01 08 03.5 -0.7**
SONM Songino Array 17.92 63 P **Pn** **01 08 07.8 -0.4**
comp=Z,0.3nm,0.3s,baz=259,slow=11,SNR=16
SONM Lg Lg 01 13 22.8
comp=Z,0.1nm,0.3s,baz=50,slow=46,SNR=2.4
comp=Z,2.6nm,0.7s
SONM Songino Array 17.92 63 **Pn** **01 08 08.2 0.0**
SONM Songino Array 17.92 63 P **Pn** **01 08 08.2 0.0**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SHL Shillong 18.04 152 **Pn** **01 08 10.2 +0.3**
SHL IAmb IAmb 01 08 12.3
comp=Z,49nm,0.9s
SHL Shillong 18.04 152 P **Pn** **01 08 10.2 +0.3**
SHL pmax pmax
comp=Z,49nm,0.9s
ULN Ulaanbaatar 18.36 63 **Pn** **01 08 13.3 -0.3**
ULN Ulaanbaatar 18.36 63 *i* P **Pn** **01 08 13.1 -0.5**
ULN pmax pmax
comp=Z,8.0nm,1.1s
AKTO Aktyubinsk 18.91 305 P **P** **01 08 19.9 +0.3**
comp=Z,0.5nm,0.3s,baz=91,slow=9.4,SNR=11
AKTO S **S** **01 11 53.3 -0.8**
comp=Z,2.3nm,0.7s,baz=20,slow=9.0,SNR=2.3
AKTO Lg Lg 01 13 51.7
comp=Z,0.1nm,0.3s,baz=237,slow=4.1,SNR=4.2
comp=Z,1.7nm,0.4s
AKTO Aktyubinsk 18.91 305 ⇑Pn **Pn** **01 08 20.5 +0.3**
comp=Z,7.2nm,1.1s
AKTO Aktyubinsk 18.91 305 P **Pn** **01 08 20.5 +0.3**
GEYT Alibeck 19.09 266 P **P** **01 08 21.7 0.0**
comp=Z,0.5nm,0.3s,baz=88,slow=7.6,SNR=16
GEYT LR LR 01 17 42.0
comp=Z,249nm,18.1s,baz=60,slow=43
comp=Z,5.5nm,0.7s
GEYT Alibeck 19.09 266 P **P** **01 08 21.4 -0.3**
GYA0 ALIBECK ARRAY 19.09 266 P **P** **01 08 21.4 -0.3**
GYA0 pmax pmax
comp=Z,5.0nm,0.8s
GYA0B ALIBECK ARRAY 19.09 266 P **P** **01 08 21.6 -0.1**
SVE Sverdlovsk 20.50 324 *e*P Pn 01 08 39.6 +0.6
SVE pmax pmax
comp=Z,18nm,1.2s
BRDH Bariadhala 20.64 155 P **P** **01 08 38.4 -0.2**
comp=Z,60nm,0.3s,baz=181,slow=21,SNR=3.7
BTO Baotou 20.71 84 *e*P **P** **01 08 38.2 -1.1**
ARU Arti 21.20 321 P **P** **01 08 45.6 +1.2**
comp=Z,12nm,0.7s,baz=136,slow=4.9,SNR=13
ARU Lg Lg 01 15 12.0
baz=157,slow=13,SNR=1.7
comp=Z,12nm,0.7s
ARU Arti 21.20 321 **P** **P** **01 08 44.0 -0.4**
ARU IAmb IAmb 01 08 54.6
comp=Z,45nm,1.4s
ARU Arti 21.20 321*d i*P **P** **01 08 46.1 +1.7**
ARU 01 09 05.4
ARU S Sn 01 12 44.8 -1.9
ARU SS **SnSn** **01 13 08.1 +6.6**
ARU pmax pmax
comp=Z,11nm,0.7s
TNCH TengChong 21.43 137 ⇑P **P** **01 08 49.2 +1.9**
TNCH pP pP 01 08 54.0 +2.6
TNCH PP **PnPn** **01 09 09.4 +2.1**
TNCH S **S** **01 12 39.6 -5.3**
TNCH sS sS 01 12 47.5 -3.9
TNCH pmax pmax
comp=Z,20nm,0.8s
TNCH pmax pmax
comp=Z,85nm,4.5s
TNCH LR LR
comp=N,190nm,4.5s
TNCH LR LR
comp=E,110nm,5.7s
TNCH LR LR
comp=Z,300nm,17.2s
HHC Hu-ho-hao-te 21.80 83 *e*P **P** **01 08 52.7 +1.6**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,280nm,5.7s
PZH PanZhiHua 22.04 128 P **P** **01 08 55.8 +2.0**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.3s
XAN Xi'an 22.20 102 P **P** **01 08 55.0 -0.4**
XAN pP pP 01 09 00.9 +1.4
XAN pmax pmax
comp=Z,9.0nm,1.3s
ENH Enshi 24.60 109 P **P** **01 09 19.4 +0.1**
ENH IAmb IAmb 01 09 52.1
comp=Z,11nm,1.0s
HNS HongShan 25.12 90 ⇑P **P** **01 09 25.3 +1.5**
HNS pmax pmax
comp=Z,17nm,0.9s
BOD Bodaibo 25.49 41 *e*P **P** **01 09 29.9 +2.9**
BOD pmax pmax
comp=Z,8.0nm,1.5s
BELG Belogornoye 25.70 306 P **P** **01 09 29.9 +1.0**
comp=Z,7.0nm,0.6s,baz=306,slow=3.6,SNR=6.5
comp=Z,7.0nm,0.6s
AKT Akhty 25.86 281 *e*P **P** **01 09 33.0 +2.3**
AKT *e* 01 10 10.4
AKT pmax pmax
comp=Z,16nm,1.1s
CRAI Chiangrai 26.38 140 P **P** **01 09 35.9 +0.5**
KIRV Kirov 26.57 320 P **P** **01 09 38.2 +1.6**
comp=Z,4.0nm,0.6s,baz=359,slow=9.5,SNR=3.3
comp=Z,4.0nm,0.6s
KIRV Kirov 26.57 320 *i* P **P** **01 09 37.0 +0.3**
CHTO Chiang Mai 26.94 144 P **P** **01 09 40.4 0.0**
CHTO Chiang Mai 26.94 144 P **P** **01 09 40.4 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
WSAR Wadi Sarin 27.25 234 P **P** **01 09 43.5 +0.3**
comp=Z,6.5nm,0.8s,baz=86,slow=9.9,SNR=8.2
comp=Z,6.5nm,0.8s
CMAR Chiang Mai Arr 27.25 144 P **P** **01 09 43.2 0.0**
comp=Z,7.4nm,0.4s,baz=322,slow=9.1,SNR=4.1
comp=Z,7.4nm,0.4s
CMAR Chiang Mai Arr 27.25 144 *i* P **P** **01 09 44.2 +1.0**
CMAR pmax pmax
comp=Z,7.0nm,0.4s
NRIK Noril'sk 27.63 4 P **P** **01 09 46.5 +0.3**
comp=Z,1.7nm,0.3s,baz=165,slow=3.6,SNR=8.5
comp=Z,1.7nm,0.3s
NRIK Noril'sk 27.63 4 P **P** **01 09 46.0 -0.2**
NRIK IAmb IAmb 01 09 53.1
comp=Z,9.9nm,1.0s
NRIK Noril'sk 27.63 4 *i* P **P** **01 09 46.2 0.0**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 31.29 72 P P 01 10 25.5 +6.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ZEA Zeya 31.77 53 *e*P P 01 10 15.2 -7.8
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
MARD Mardin 32.23 276 P **P** **01 10 27.1 -0.2**
MARD IAmb IAmb 01 10 34.3
comp=Z,7.8nm,0.6s
YAK Yakutsk 34.32 38 P **P** **01 10 44.4 -0.7**
YAK IAmb IAmb 01 10 48.7
comp=Z,11nm,0.7s
YAK Yakutsk 34.32 38 *i* P **P** **01 10 44.9 -0.2**
YAK pmax pmax
comp=Z,10.0nm,0.6s
KSAR Wonju Array Be 34.91 82 P **P** **01 10 49.8 -0.7**
KSAR Wonju Array Be 34.91 82 P **P** **01 10 49.8 -0.7**
BR131 Keskin Array S 36.64 283 P **P** **01 11 05.4 -0.2**
BR131 IAmb IAmb 01 11 08.2
comp=Z,8.0nm,0.7s
BR131 Keskin Array S 36.64 283 P **P** **01 11 05.4 -0.2**
BR131 pmax pmax
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 36.64 283 P **P** **01 11 05.8 +0.2**
comp=Z,4.3nm,0.8s,baz=97,slow=8.5,SNR=23
comp=Z,4.3nm,0.8s
BRTR Keskin Array B 36.64 283 P **P** **01 11 06.2 +0.6**
BRTR Keskin Array B 36.64 283 *i* P **P** **01 11 07.4 +1.8**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 37.12 302 P **P** **01 11 09.7 +0.4**
comp=Z,1.0nm,0.6s,baz=63,slow=9.9,SNR=6.7
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 37.12 302 *i* P **P** **01 11 12.1 +2.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 37.42 22 P **P** **01 11 10.6 -1.0**
TIXI Tiksi 37.42 22 P **P** **01 11 10.6 -1.0**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 38.56 320 P **P** **01 11 21.9 +0.5**
comp=Z,1.6nm,0.7s,baz=113,slow=14,SNR=6.6
comp=Z,1.6nm,0.7s
VADS Vadso 38.88 334 *e*P **P** **01 11 25.1 +1.1**
ARA0 ARCESS Array S 40.02 333 *e*P **P** **01 11 34.3 +0.9**
ARCES ARCESS Array B 40.02 333 P **P** **01 11 33.8 +0.4**
comp=Z,5.1nm,0.5s,baz=70,slow=4.0,SNR=30
comp=Z,5.1nm,0.5s
JETT Jettan, Norway 41.78 332 *e*P **P** **01 11 51.4 +3.4**
TRO Tromso 42.30 332 *e*P **P** **01 11 53.0 +0.8**
KARP Karpathos 43.00 280 P **P** **01 11 59.2 +0.9**
VTS Vitosha 43.07 292 P **P** **01 12 00.4 +1.4**
VTS Vitosha 43.07 292 P **P** **01 12 00.4 +1.4**
VTS pmax pmax
comp=Z,9.0nm,1.5s
FAUS Fauske 43.50 329 *e*P **P** **01 12 03.5 +1.6**
STEI Steigen 43.52 330 *e*P **P** **01 12 03.2 +1.1**
MOR8 Moi Rana 43.84 327 *e*P **P** **01 12 04.9 +0.2**
LOF Lofoten 44.17 330 *e*P **P** **01 12 08.0 +0.7**
DIVS Divibare 44.79 295 P **P** **01 12 13.7 +1.1**
DIVS IAmb IAmb 01 12 19.5
comp=Z,9.0nm,1.2s
NC405 NORSAR Array S 45.49 320 P **P** **01 12 17.4 -0.5**
NB2 NORSAR Subarra 45.75 320 P **P** **01 12 20.0 0.0**
comp=Z,1.6nm,0.6s,baz=80,slow=7.9
NB2 NORSAR Subarra 45.75 320 P **P** **01 12 20.0 0.0**
slow=7.9
NOA NORSAR Array B 45.75 320 P **P** **01 12 20.1 0.0**
comp=Z,1.6nm,0.6s,baz=80,slow=7.9,SNR=5.5
comp=Z,1.6nm,0.6s
ITM Ithomi 46.10 285 P **P** **01 12 21.9 -1.2**
ARSA Arzberg 46.68 300 *e*P **P** **01 12 30.2 +2.7**
comp=Z,8.1nm,1.4s
WATA Walderalm 49.18 302 *e*P **P** **01 12 49.4 +2.4**
comp=Z,7.8nm,1.5s
SQTA Sankt Quirin 49.45 302 *e*P **P** **01 12 49.5 +0.4**
comp=Z,3.2nm,0.6s
MOTA Moosalm 49.47 302 *e*P **P** **01 12 51.2 +1.9**
comp=Z,6.2nm,0.8s
RETA Reutte 49.64 302 *e*pP **P** **01 12 53.3 +2.9**
comp=Z,3.1nm,0.7s
BNI Bardonecchia 53.20 301 P **P** **01 13 17.3 0.0**
BNI IAmb IAmb 01 13 26.6
comp=Z,11nm,1.1s
BNI Bardonecchia 53.20 301 P **P** **01 13 17.3 0.0**
BNI pmax pmax
comp=Z,11nm,1.2s
ESDC Sonseca Array 62.70 300 P **P** **01 14 24.4 +0.5**
comp=Z,0.9nm,0.8s,baz=49,slow=7.0,SNR=6.6
comp=Z,0.9nm,0.8s
IMAR Indian Mountai 64.07 22 P **P** **01 14 32.6 +0.2**
A36M Sachs Harbour 64.74 9 P **P** **01 14 36.9 +0.2**
A36M IAmb IAmb 01 14 44.7
comp=Z,5.6nm,0.9s
I21K Tanana 65.16 22 P **P** **01 14 40.4 +0.9**
I21K IAmb IAmb 01 14 47.8
comp=Z,5.9nm,1.5s
BMAR Burnt Mountain 65.32 18 P **P** **01 14 41.7 +1.1**
MLY Manley 65.62 22 P **P** **01 14 43.1 +0.5**
K20K Telida 65.89 24 P **P** **01 14 44.6 +0.2**
K20K IAmb IAmb 01 14 51.6
comp=Z,6.5nm,1.4s
MDM Murphy Dome 66.36 21 P **P** **01 14 47.9 +0.5**
CAST Castle Rocks 66.45 24 P **P** **01 14 47.3 -0.6**
CAST IAmb IAmb 01 14 52.3
comp=Z,3.2nm,1.0s
KTH Kantishna Hill 66.69 23 P **P** **01 14 49.7 +0.2**
PPLA Purkeypile 66.81 24 P **P** **01 14 50.6 +0.2**
PPLA IAmb IAmb 01 15 16.2
comp=Z,4.8nm,0.8s
INK Inuvik 66.85 14 P **P** **01 14 50.6 +0.4**
INK IAmb IAmb 01 14 53.3
comp=Z,7.5nm,1.3s
INK Inuvik 66.85 14 P **P** **01 14 50.7 +0.4**

INK pmax pmax
comp=Z,7.0nm,1.3s
ILAR Eielson Array 66.87 21 P **P** **01 14 50.5 0.0**
comp=Z,1.1nm,0.7s,baz=319,slow=4.7,SNR=15
comp=Z,1.1nm,0.7s
MCK McKinley 67.12 22 P **P** **01 14 52.0 -0.2**
MCK IAmb IAmb 01 15 13.0
comp=Z,5.9nm,1.3s
MCK McKinley 67.12 22 P **P** **01 14 52.0 -0.2**
MCK pmax pmax
comp=Z,6.0nm,1.3s
C36M Paulatuk 67.35 10 P **P** **01 14 53.2 -0.2**
SKT Skwentna 67.71 24 P **P** **01 14 54.9 -1.0**
SKT IAmb IAmb 01 14 59.9
comp=Z,5.7nm,1.3s
EPYK Eagle Plains 67.93 16 P **P** **01 14 57.2 0.0**
EPYK IAmb IAmb 01 15 01.1
comp=Z,7.8nm,1.4s
RIDG Independent Ri 68.23 21 P **P** **01 14 58.6 -0.6**
RIDG IAmb IAmb 01 15 09.7
comp=Z,6.6nm,1.0s
ILSW Iliamna Southw 68.70 26 P **P** **01 15 02.9 +0.6**
ILSW IAmb IAmb 01 15 27.4
comp=Z,22nm,1.5s
SML Sawmill 68.81 23 P **P** **01 15 01.6 -1.2**
SML Sawmill 68.81 23 P **P** **01 15 01.7 -1.2**
SML pmax pmax
comp=Z,21nm,1.5s
SCM Sheep Creek Mo 69.08 23 P **P** **01 15 03.9 -0.7**
SCM Sheep Creek Mo 69.08 23 P **P** **01 15 03.9 -0.7**
SCM pmax pmax
comp=Z,8.0nm,0.8s
BCAR Beaver Creek A 69.58 20 P **P** **01 15 08.3 +0.7**
M27K Edge Creek, AK 70.14 20 P **P** **01 15 11.0 -0.2**
M27K IAmb IAmb 01 15 21.2
comp=Z,8.3nm,1.4s
OHAK Old Harbor 70.74 28 P **P** **01 15 16.0 +1.4**
VOI Vohitsoka 71.57 215 P **P** **01 15 21.2 +0.9**
FARO Faro, Yukon 72.28 17 P **P** **01 15 23.8 -0.2**
FARO IAmb IAmb 01 16 04.0
comp=Z,6.3nm,1.4s
HYT Haines Junctio 72.56 19 P **P** **01 15 26.7 +0.9**
HYT IAmb IAmb 01 15 30.6
comp=Z,14nm,1.5s
WHY Whitehorse 73.33 18 P **P** **01 15 30.6 +0.2**
WHY IAmb IAmb 01 15 48.8
comp=Z,8.4nm,1.4s
TORD Torodi Ar. Bea 74.53 274 P **P** **01 15 38.1 +0.2**
comp=Z,3.5nm,0.5s,baz=44,slow=5.1,SNR=36
comp=Z,3.5nm,0.5s
TORD Torodi Ar. Bea 74.53 274 P **P** **01 15 37.8 -0.2**
YKA Yellowknife Ar 75.05 8 P **P** **01 15 40.1 -0.1**
comp=Z,1.6nm,0.6s,baz=336,slow=5.8,SNR=28
comp=Z,1.6nm,0.6s
YKA Yellowknife Ar 75.05 8 P **P** **01 15 40.4 +0.2**
YKA Yellowknife Ar 75.05 8 P **P** **01 15 40.4 +0.2**
WRA Warramunga Arr 77.98 131 P **P** **01 15 57.0 -0.3**
comp=Z,2.9nm,0.7s,baz=326,slow=5.7,SNR=4.5
comp=Z,2.9nm,0.7s
FCC Fort Churchill 79.66 358 P **P** **01 16 07.1 +1.0**
FCC IAmb IAmb 01 16 15.3
comp=Z,7.0nm,1.5s
FCC Fort Churchill 79.66 358 P **P** **01 16 07.1 +1.0**
FCC pmax pmax
comp=Z,7.0nm,1.5s
DBIC Dimbokro 83.62 273 P **P** **01 16 27.3 -0.4**
comp=Z,0.9nm,0.5s,baz=62,slow=5.2,SNR=1.4
comp=Z,0.9nm,0.5s
FFC Flin Flon 83.67 3 P **P** **01 16 26.6 -0.8**
FFC IAmb IAmb 01 16 29.6
comp=Z,3.4nm,0.8s
FFC Flin Flon 83.67 3 P **P** **01 16 26.6 -0.8**
FFC pmax pmax
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 95.02 9 P **P** **01 17 22.0 +0.1**
comp=Z,0.2nm,0.7s,baz=20,slow=2.9,SNR=2.0
comp=Z,0.2nm,0.7s
NVAR Mina Array Bea 97.83 16 P **P** **01 17 34.1 -0.7**
comp=Z,0.2nm,0.4s,baz=303,slow=5.3,SNR=2.1
comp=Z,0.2nm,0.4s

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*MOS **04** 01:06:07.6±1.0, 17°.80S×167°.12E, h13km, mb5.5/35, Error ellipse: s-maj=8.1km s-min=7.8km az=146.5*

*IDC **04** 01:06:07.9±0.5, 17°.77S×167°.06E, h0km, mb4.9/21, mbtmp5.0/23, ML5.8/2, MS4.9/27, Error ellipse: s-maj=14.3km s-min=13.0km az=56.0*

*BJI **04** 01:06:08.1±0.0, 17°.34S×167°.52E, h7km, mb5.1/57, mB5.4/30, Ms5.2/34, Ms7 4.9/35*

*NOU **04** 01:06:09.3, 17°.83S×167°.14E, h0km, ML5.3/102, Vanuatu Islands*

*NEIC **04** 01:06:10.9±2.1, 17°.87S±0°.07×167°.12E±0°.07, h22km±4km, mb5.6/309, Ms_20 5.1/96, Mww5.6/12, Error ellipse: s-maj=10.2km s-min=9.9km az=104.0*

*GCMT **04** 01:06:15.9±0.3, 17°.79S±0°.02×167°.00E±0°.02, h29km±1km, MW5.7/108, Moment Tensor Solution. s19,c21; s108,c141; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr-1.49±.28; Mθθ-0.90±.17; Mϕϕ2.38±.18; Mrθ-0.59±.28; Mrϕ2.81±.10; Mθϕ1.36±.30; Best double couple: M0 3.73200×10^17 NP1:ϕs171.00000°, δ73.00000°, λ-148.00000°. NP2:ϕs71.00000°, δ59.00000°, λ-19.00000°. Principal axes: T 4.1400, Plg9.0000°, Azm298.0000°; N -0.8210, Plg54.0000°, Azm195.0000°; P -3.3240, Plg34.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 01:06:17.9, 17°.99S×167°.13E, h30km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17 Nm; Mrr-0.11; Mθθ-0.98; Mϕϕ1.08; Mrθ-0.43; Mϕϕ2.74; Mθϕ0.90; Fault plane solution: M0 3.10000×10^17 NP1: ϕs170.45000°, δ85.20000°, λ-161.84000°. NP2: ϕs78.88000°, δ71.90000°, λ-5.05000°. Principal axes: T 3.0650, Plg9.0000°, Azm303.0000°; N 0.0655, Plg71.0000°, Azm185.0000°; P -3.1304, Plg16.0000°, Azm36.0000°;*

ISC 04 01:06:10.7±0.2, 17°.85S±0°.04×167°.16E±0°.03, h20km, n843, σ1s40/695, mb5.5/222, MS5.1/89, 18C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DVP	**Devils Point**	**0.99**	**83**	P	**Pb**	**01 06 28.6**	**-0.6**
RTV	**Rentapao**	**1.21**	**87**	P	**Pn**	**01 06 32.7**	**+0.2**
LIFNC	**LIFOU**	**2.91**	**178**	Pn	**Pn**	**01 06 53.0**	**-2.9**
MARNC	**Mare, Loyalty**	**3.70**	**167**	Pn	**Pn**	**01 07 04.2**	**-2.6**
MARNC	**Mare, Loyalty**	**3.70**	**167**	P	**Pn**	**01 07 07.5**	**+0.7**
KOUNC	**Koumac, New Ca**	**3.81**	**225**	Pn	**Pn**	**01 07 07.2**	**-1.1**
KOUNC	**Koumac, New Ca**	**3.81**	**225**	P	**Pn**	**01 07 07.8**	**-0.6**
YATNC	**Mamie plateau,**	**4.19**	**183**	P	**Pn**	**01 07 12.2**	**-1.4**
DZM	**Mont Dzumac**	**4.25**	**189**	*e*Pn	**Pn**	**01 07 11.8**	**-2.7**
	6μm,1.4s						
DZM				*e*Sn	**Sn**	**01 07 58.3**	**-5.2**
	4μm,0.8s						
DZM				*e*LR	LR	01 08 07.7	
	comp=Z,23μm,23.1s						
DZM	**Mont Dzumac**	**4.25**	**189**	Pn	**Pn**	**01 07 14.1**	**-0.4**
	415nm,0.3s,baz=62,slow=4.4,SNR=2040						
DZM				Sn	**Sn**	**01 07 58.1**	**-5.4**
	139nm,0.3s,baz=60,slow=22,SNR=3.8						
DZM				LR	LR	01 08 45.2	
	comp=Z,26μm,20.4s,baz=6.5,slow=36						
	2μm,0.5s						
DZM	**Mont Dzumac**	**4.25**	**189**	Pn	**Pn**	**01 07 13.6**	**-0.9**
DZM	**Mont Dzumac**	**4.25**	**189**	P	**Pn**	**01 07 14.5**	**0.0**
ONTNC	**Ouen Toro**	**4.48**	**188**	Pn	**Pn**	**01 07 17.3**	**-0.3**
ONTNC	**Ouen Toro**	**4.48**	**188**	P	**Pn**	**01 07 18.0**	**+0.5**
OUENC	**Ouen Island, N**	**4.55**	**184**	Pn	**Pn**	**01 07 18.2**	**-0.3**
OUENC	**Ouen Island, N**	**4.55**	**184**	P	**Pn**	**01 07 19.2**	**+0.7**
MSVF	**Nonsavu**	**10.38**	**91**	Pn	**Pn**	**01 08 42.9**	**+4.2**
	5.1nm,0.3s,baz=245,slow=8.0,SNR=10.0						
MSVF				LR	LR	01 12 04.9	
	comp=Z,18μm,18.1s,baz=262,slow=34						
MSVF	**Nonsavu**	**10.38**	**91**	Pn	**Pn**	**01 08 39.4**	**+0.7**
MSVF	**Nonsavu**	**10.38**	**91**	P	**Pn**	**01 08 39.4**	**+0.7**
HNR	**Honiara**	**10.91**	**319**	Pn	**Pn**	**01 08 45.2**	**-0.6**
	2μm,0.3s,baz=192,slow=2.7,SNR=59						
HNR				Sn	**Sn**	**01 10 40.9**	**-6.6**
	95nm,0.3s,baz=15,slow=16,SNR=1.3						
HNR				LR	LR	01 12 52.1	
	comp=Z,36μm,19.3s,baz=134,slow=38						
HNR	**Honiara**	**10.91**	**319**	Pn	**Pn**	**01 08 44.6**	**-1.3**
HNR	**Honiara**	**10.91**	**319**	P	**Pn**	**01 08 46.4**	**+0.5**
NFK	**Norfolk Island**	**11.16**	**176**	P	**Pn**	**01 08 52.3**	**+3.1**
	baz=11,SNR=5.5						
NFK	**Norfolk Island**	**11.16**	**176**	P	**Pn**	**01 08 50.8**	**+1.6**
TAVE	**Taveuni**	**12.41**	**87**	P	**Pn**	**01 09 08.4**	**+2.0**
LKBA	**Tubou, Lakemba**	**13.35**	**94**	P	**Pn**	**01 09 21.3**	**+2.1**
FUNA	**Funafuti**	**14.94**	**53**	P	**P**	**01 09 45.2**	**-1.2**
FUNA	**Funafuti**	**14.94**	**53**	P	**Pn**	**01 09 39.8**	**-1.1**
AUBSH	**Beerwah State**	**15.89**	**233**	P	**Pn**	**01 09 53.9**	**+0.6**
GD1S	**Gladstone Soft**	**16.08**	**246**	P	**Pn**	**01 09 57.0**	**+1.2**
AUWSH	**Wavell State H**	**16.11**	**231**	P	**Pn**	**01 09 56.4**	**+0.2**
GC1S	**Gold Coast 1 S**	**16.20**	**228**	P	**P**	**01 09 59.2**	**-1.1**
	112nm,0.7s						
RK1H	**Rockhampton Ha**	**16.54**	**248**	P	**Pn**	**01 10 02.3**	**+0.7**
EIDS	**Eidsvold**	**16.70**	**241**	P	**P**	**01 10 04.8**	**-1.1**
	baz=17,SNR=8.6						
EIDS	**Eidsvold**	**16.70**	**241**	P	**Pn**	**01 10 03.9**	**+0.2**
EIDS	**Eidsvold**	**16.70**	**241**	P	**Pn**	**01 10 04.6**	**+0.9**
OUZ	**Omahuta**	**18.22**	**163**		**Pn**	**01 10 22.2**	**-0.3**
ARMA	**Armidale**	**18.87**	**226**	P	**Pn**	**01 10 33.2**	**+2.7**
	baz=19,SNR=19						
ARMA	**Armidale**	**18.87**	**226**	P	**P**	**01 10 29.6**	**-0.4**
ARMA	**Armidale**	**18.87**	**226**	P	**Pn**	**01 10 33.3**	**+2.7**
RMQ	**Roma**	**19.06**	**240**	P	**Pn**	**01 10 35.0**	**+2.1**
	baz=19,SNR=38						
RMQ	**Roma**	**19.06**	**240**	P	**Pn**	**01 10 34.9**	**+2.1**
TV1H	**Townsville Har**	**19.35**	**263**	P	**Pn**	**01 10 37.2**	**+0.9**
	114nm,1.1s						
AUPHS	**Peel High Scho**	**19.79**	**225**	P	**Pn**	**01 10 43.6**	**+2.1**
CTA	**Charters Tower**	**19.89**	**260**	P	**Pn**	**01 10 42.9**	**+0.1**
	183nm,1.1s,baz=85,slow=11,SNR=105						
CTA				S	**S**	**01 14 23.0**	**-1.3**
	7.5nm,0.8s,baz=204,slow=5.6,SNR=2.1						
CTA				LR	LR	01 17 37.4	
	comp=Z,8μm,18.7s,baz=82,slow=35						
CTAO	**Charters Tower**	**19.89**	**260**	P	**P**	**01 10 40.6**	**-0.5**
CTAO				IAmb	IAmb	01 10 55.2	
	comp=Z,192nm,0.9s						
CTAO	**Charters Tower**	**19.89**	**260**	P	**Pn**	**01 10 44.1**	**+1.3**
CTAO	**Charters Tower**	**19.89**	**260**	P	**P**	**01 10 40.6**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,192nm,1.0s						
TARA	**Tarawa**	**19.91**	**17**	P	**P**	**01 10 40.8**	**-0.5**
TARA				IAmb	IAmb	01 10 45.3	
	comp=Z,490nm,1.1s						
TARA	**Tarawa**	**19.91**	**17**	P	**P**	**01 10 40.9**	**-0.4**
RABL	**Rabaul**	**20.00**	**311**	P	**P**	**01 10 42.2**	**-0.1**
RABL	**Rabaul**	**20.00**	**311**	P	**Pn**	**01 10 45.6**	**+1.6**
KRVT	**Keravat (AS076**	**20.02**	**310**	P	**P**	**01 10 41.6**	**-0.9**
	comp=Z,28nm,0.3s,baz=114,slow=3.5,SNR=34						
	comp=Z,390nm,0.8s						
KUZ	**Kuaotunu**	**20.28**	**160**	P	Pn	01 10 49.2	+2.0
NTLH	**Newcastle Hard**	**20.44**	**220**	P	Pn	01 10 48.4	-0.7
AFI	**Afiamalu**	**20.64**	**82**	P	**P**	**01 10 48.1**	**-1.2**
AFI	**Afiamalu**	**20.64**	**82**	P	**P**	**01 10 48.1**	**-1.2**
AFI				pmax	pmax		
	comp=Z,125nm,1.1s						
AULRC	**Lightning Ridg**	**20.97**	**233**	P	Pn	01 10 56.6	+1.2
MGCD	**Mangrove Creek**	**21.02**	**220**	P	**P**	**01 10 55.8**	**+2.6**
	baz=21,SNR=7.5						
PMG	**Port Moresby**	**21.15**	**291**	P	**P**	**01 10 55.1**	**+0.3**
	comp=Z,64nm,0.8s,baz=103,slow=6.8,SNR=45						
PMG				S	**S**	**01 14 50.6**	**+1.2**
	comp=Z,5.8nm,0.3s,baz=221,slow=7.1,SNR=1.6						
PMG				LR	LR	01 17 52.6	
	comp=Z,4μm,19.2s,baz=106,slow=34						
	comp=Z,64nm,0.8s						
PMG	**Port Moresby**	**21.15**	**291**	P	**P**	**01 10 54.9**	**+0.1**
PMG	**Port Moresby**	**21.15**	**291**	P	**P**	**01 10 56.0**	**+1.2**
PMG	**Port Moresby**	**21.15**	**291**	P	**P**	**01 10 56.2**	**+1.4**
PMG	**Port Moresby**	**21.15**	**291**	*ce*P	**P**	**01 10 55.6**	**+0.8**
PMG				pmax	pmax		
	comp=Z,151nm,1.3s						
MTSU	**Mount Surprise**	**21.72**	**266**	P	**P**	**01 11 01.7**	**+0.8**
	baz=22,SNR=93						
MTSU	**Mount Surprise**	**21.72**	**266**	P	**P**	**01 11 02.4**	**+1.5**
AUDCS	**Dubbo College**	**22.01**	**226**	P	**P**	**01 11 06.0**	**+2.1**
URZ	**Urewera**	**22.12**	**159**	P	**P**	**01 11 07.7**	**+2.8**
	comp=Z,45nm,0.7s,baz=22,slow=5.2,SNR=16						
	comp=Z,45nm,0.7s						
RTZ	**Ruatahuna**	**22.39**	**159**	P	**P**	**01 11 07.5**	**-0.5**
BKZ	**Black Stump Fm**	**22.74**	**161**	P	**P**	**01 11 11.7**	**+0.1**
BKZ				IAmb	IAmb	01 11 32.1	
	comp=Z,160nm,1.3s						
BKZ	**Black Stump Fm**	**22.74**	**161**	P	**P**	**01 11 13.6**	**+2.0**
AUUHS	**Ulladulla High**	**22.89**	**217**	P	**P**	**01 11 16.4**	**+3.2**
QLP	**Quilpie**	**22.90**	**244**	P	**P**	**01 11 13.9**	**+0.5**
	baz=23,SNR=4.9						
QLP	**Quilpie**	**22.90**	**244**	P	**P**	**01 11 14.4**	**+1.0**
COEN	**Coen**	**23.38**	**276**	P	**P**	**01 11 18.2**	**-0.1**
	baz=23,SNR=24						
COEN	**Coen**	**23.38**	**276**	P	**P**	**01 11 17.5**	**-0.9**
COEN				IAmb	IAmb	01 11 20.1	
	comp=Z,169nm,1.4s						
COEN	**Coen**	**23.38**	**276**	P	**P**	**01 11 19.6**	**+1.2**
CNB	**Canberra Magne**	**23.50**	**219**	P	**P**	**01 11 21.4**	**+1.9**
CAN	**Canberra**	**23.73**	**219**	P	**P**	**01 11 22.1**	**+0.5**
CAN	**Canberra**	**23.73**	**219**	P	**P**	**01 11 23.3**	**+1.6**
CAN	**Canberra**	**23.73**	**219**	P	**P**	**01 11 22.2**	**+0.5**
CAN				pmax	pmax		
	comp=Z,131nm,1.3s						
CMSA	**Cobar Meteorol**	**23.73**	**231**	P	**P**	**01 11 22.4**	**+0.7**
	baz=24,SNR=54						
CMSA	**Cobar Meteorol**	**23.73**	**231**	P	**P**	**01 11 23.4**	**+1.8**
MRZ	**Mangatainoka R**	**23.86**	**164**	P	**P**	**01 11 21.9**	**-0.9**
TCW	**Tory Channel**	**24.07**	**167**	P	**P**	**01 11 24.2**	**-0.6**
TUWZ	**Tuamarina**	**24.21**	**167**	P	**P**	**01 11 25.6**	**-0.4**
THZ	**Tophouse**	**24.33**	**170**	P	**P**	**01 11 27.4**	**+0.2**
THZ				IAmb	IAmb	01 11 42.0	
	comp=Z,85nm,0.8s						
BSWZ	**Blackbirch Sta**	**24.47**	**168**	P	**P**	**01 11 28.3**	**-0.1**
PLWZ	**Palliser**	**24.64**	**165**	P	**P**	**01 11 28.6**	**-1.3**
MILA	**Mila**	**24.84**	**216**	P	**P**	**01 11 33.8**	**+1.9**
	baz=25,SNR=4.0						
MILA	**Mila**	**24.84**	**216**	P	**P**	**01 11 34.3**	**+2.4**
MANU	**Manus Island**	**24.98**	**307**	P	**P**	**01 11 31.1**	**-2.3**
MANU	**Manus Island**	**24.98**	**307**	P	**P**	**01 11 34.4**	**+1.1**
INZ	**Inchbonnie**	**25.06**	**173**	P	**P**	**01 11 34.2**	**+0.5**
INZ				IAmb	IAmb	01 11 42.1	
	comp=Z,180nm,1.0s						
KHZ	**Kahutara**	**25.08**	**169**	P	**P**	**01 11 33.4**	**-0.5**
KHZ				IAmb	IAmb	01 11 45.6	
	comp=Z,565nm,2.0s						
KHZ				IAMs_20	IAMs_20	01 21 30.0	
	comp=Z,6μm,18.0s						
LTZ	**Lake Taylor**	**25.23**	**171**	P	**P**	**01 11 35.6**	**+0.3**
LTZ				IAmb	IAmb	01 12 00.4	
	comp=Z,94nm,1.0s						
LTZ				IAMs_20	IAMs_20	01 21 30.8	
	comp=Z,5μm,18.0s						
RPZ	**Rata Peaks**	**25.99**	**174**	LR	LR	01 21 23.9	
	comp=Z,4μm,18.1s,baz=4.0,slow=35						
RPZ	**Rata Peaks**	**25.99**	**174**	IAMs_20	IAMs_20	01 21 23.0	
	comp=Z,5μm,18.0s						
PATS	**Pohnpei**	**26.04**	**340**	P	**P**	**01 11 39.1**	**-3.8**
	baz=26,SNR=4.0						
QIS	**Mount Isa**	**26.14**	**260**	P	**P**	**01 11 43.5**	**-0.4**
	baz=26,SNR=11						
QIS	**Mount Isa**	**26.14**	**260**	P	**P**	**01 11 43.5**	**-0.4**
JCZ	**Jackson Bay**	**26.18**	**177**	P	**P**	**01 11 47.4**	**+3.4**
INKA	**Innaminka**	**26.21**	**243**	P	**P**	**01 11 44.7**	**+0.4**
WKZ	**Wanaka**	**26.94**	**177**	IAMs_20	IAMs_20	01 22 02.0	
	comp=Z,5μm,18.0s						
STKA	**Stephens Creek**	**26.98**	**234**	P	**P**	**01 11 52.0**	**+0.7**
	comp=Z,55nm,0.8s,baz=74,slow=13,SNR=71						
STKA				LR	LR	01 21 38.0	
	comp=Z,4μm,20.5s,baz=61,slow=34						
	comp=Z,55nm,0.8s						
STKA	**Stephens Creek**	**26.98**	**234**	P	**P**	**01 11 52.0**	**+0.7**
	baz=27,SNR=67						
STKA	**Stephens Creek**	**26.98**	**234**	P	**P**	**01 11 51.2**	**-0.1**
STKA	**Stephens Creek**	**26.98**	**234**	P	**P**	**01 11 52.3**	**+1.0**
STKA	**Stephens Creek**	**26.98**	**234**	*c i*P	**P**	**01 11 51.6**	**+0.3**
TOO	**Toolangi**	**27.33**	**220**	P	**P**	**01 11 55.8**	**+1.3**
	baz=28,SNR=6.8						
TOO	**Toolangi**	**27.33**	**220**	P	**P**	**01 11 53.0**	**-1.4**
TOO	**Toolangi**	**27.33**	**220**	P	**P**	**01 11 55.7**	**+1.3**
TOO	**Toolangi**	**27.33**	**220**	P	**P**	**01 11 53.0**	**-1.4**
TOO				pmax	pmax		
	comp=Z,39nm,1.1s						
MLZ	**Mavora Lakes**	**27.44**	**179**	IAMs_20	IAMs_20	01 21 03.4	
	comp=Z,5μm,21.0s						
LCRK	**Leigh Creek**	**29.14**	**239**	P	**P**	**01 12 11.2**	**+0.6**
ARPS	**Mount Arapiles**	**29.20**	**225**	P	**P**	**01 12 12.5**	**+1.5**
	baz=30,SNR=6.7						
ARPS	**Mount Arapiles**	**29.20**	**225**	P	**P**	**01 12 12.2**	**+1.2**
HTT	**Hallett**	**29.68**	**233**	P	**P**	**01 12 15.8**	**+0.4**
	baz=30,SNR=6.7						
HTT	**Hallett**	**29.68**	**233**	P	**P**	**01 12 16.3**	**+0.9**
MOO	**Moorlands**	**29.83**	**211**	P	**P**	**01 12 20.3**	**+3.8**
	baz=30,SNR=4.0						
MOO	**Moorlands**	**29.83**	**211**	P	**P**	**01 12 18.5**	**+2.0**
GENI	**Genyem**	**30.51**	**297**	P	**P**	**01 12 26.0**	**+3.2**
GENI	**Genyem**	**30.51**	**297**	P	**P**	**01 12 23.3**	**+0.5**
	comp=Z,172nm,1.2s						
WHYH	**Whyalla**	**30.56**	**235**	P	**P**	**01 12 23.5**	**+0.4**
	comp=Z,51nm,0.8s						
OOD	**Oodnadatta**	**30.57**	**245**	P	**P**	**01 12 24.6**	**+1.4**
WR0	**Warramunga Arr**	**30.90**	**261**	P	**P**	**01 12 23.6**	**-2.7**
WB0	**Warramunga Arr**	**31.05**	**261**	P	**P**	**01 12 24.6**	**-3.0**
WB2	**Warramunga Arr**	**31.08**	**261**	P	**P**	**01 12 24.8**	**-3.1**
WRAB	**Tennant Creek**	**31.08**	**261**	IAMs_20	IAMs_20	01 23 33.8	
	comp=Z,4μm,21.0s						
WRAB	**Tennant Creek**	**31.08**	**261**	P	**P**	**01 12 27.8**	**-0.1**
WRAB	**Tennant Creek**	**31.08**	**261**	*ce*P	**P**	**01 12 25.6**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,78nm,2.5s						
WRA	**Warramunga Arr**	**31.09**	**261**	P	**P**	**01 12 26.0**	**-2.0**
	comp=Z,14nm,1.0s,baz=81,slow=5.9,SNR=48						
WRA				LR	LR	01 23 45.2	
	comp=Z,5μm,21.2s,baz=88,slow=34						
WRA				P3KPbc		01 44 15.4	
	comp=Z,2.4nm,1.0s,baz=274,slow=3.6,SNR=7.8						
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**31.09**	**261**	P	**P**	**01 12 25.1**	**-2.9**
RAR	**Rarotonga**	**31.32**	**102**	LR	LR	01 24 49.8	
	comp=Z,937nm,18.4s,baz=269,slow=36						
AS01	**Alice Springs**	**31.54**	**254**	P	**P**	**01 12 31.1**	**-0.8**
AS31	**Alice Springs**	**31.58**	**254**	P	**P**	**01 12 29.9**	**-2.4**
ASAR	**Alice Springs**	**31.58**	**254**	P	**P**	**01 12 30.9**	**-1.4**
	comp=Z,22nm,0.8s,baz=79,slow=8.3,SNR=145						
ASAR				LR	LR	01 24 59.4	
	comp=Z,7μm,18.5s,baz=88,slow=36						
	comp=Z,22nm,0.8s						
ASAR	**Alice Springs**	**31.58**	**254**	P	**P**	**01 12 30.2**	**-2.1**
BBOO	**Buckleboo**	**31.66**	**236**	P	**P**	**01 12 33.0**	**+0.2**
	baz=32,SNR=26						
BBOO	**Buckleboo**	**31.66**	**236**	P	**P**	**01 12 32.4**	**-0.5**
BBOO				IAmb	IAmb	01 12 34.2	
	comp=Z,91nm,1.1s						
BBOO	**Buckleboo**	**31.66**	**236**	P	**P**	**01 12 33.4**	**+0.5**
SMPI	**Sarmi**	**32.06**	**296**	P	**P**	**01 12 36.2**	**-0.3**
	comp=Z,113nm,1.5s						
MULG	**Mulgathing**	**32.53**	**241**	P	**P**	**01 12 40.4**	**-0.1**
MTN	**Manton Dam**	**35.05**	**273**	P	**P**	**01 13 01.5**	**-1.2**
	baz=35,SNR=5.6						
RKPI	**Ransiki, Papua**	**36.23**	**293**	P	**P**	**01 13 12.0**	**-0.7**
	comp=Z,140nm,1.1s,comp=Z,9μm						
WRKA	**Warakurna**	**36.77**	**252**	P	**P**	**01 13 16.0**	**-1.3**
	baz=37,SNR=8.2						
WRKA	**Warakurna**	**36.77**	**252**	P	**P**	**01 13 17.3**	**0.0**
KNRA	**Kununurra**	**36.78**	**268**	P	**P**	**01 13 16.3**	**-1.1**
	baz=37,SNR=14						
KNRA	**Kununurra**	**36.78**	**268**	P	**P**	**01 13 15.5**	**-1.9**
KNRA				IAmb	IAmb	01 13 55.4	
	comp=Z,69nm,0.9s						
KNRA	**Kununurra**	**36.78**	**268**	P	**P**	**01 13 17.6**	**+0.2**
WAKE	**Wake Island**	**36.91**	**359**	P	**P**	**01 13 16.9**	**-1.4**
WAKE	**Wake Island**	**36.91**	**359**	P	**P**	**01 13 19.7**	**+1.4**
FAKI	**Fak Fak**	**37.30**	**289**	P	**P**	**01 13 20.1**	**-1.7**
FAKI				IAmb	IAmb	01 13 21.3	
	comp=Z,62nm,0.8s						
FAKI	**Fak Fak**	**37.30**	**289**	P	**P**	**01 13 21.2**	**-0.6**
FAKI	**Fak Fak**	**37.30**	**289**	P	**P**	**01 13 21.4**	**-0.4**
	comp=Z,91nm,1.5s,comp=Z,2μm						
FORT	**Forrest**	**37.69**	**243**	P	**P**	**01 13 24.8**	**-0.2**
	baz=38,SNR=19						
FORT	**Forrest**	**37.69**	**243**	P	**P**	**01 13 23.3**	**-1.7**
FORT				IAmb	IAmb	01 13 38.3	
	comp=Z,78nm,0.7s						
FORT	**Forrest**	**37.69**	**243**	P	**P**	**01 13 25.7**	**+0.7**
GUMO	**Guam**	**38.21**	**323**	LR	LR	01 29 16.6	
	comp=Z,585nm,18.0s,baz=134,slow=36						
SIJI	**Sorong**	**39.09**	**292**	LR	LR	01 29 03.2	
	comp=Z,3μm,21.7s,baz=114,slow=35						
SWI	**Sorong**	**39.10**	**292**	P	**P**	**01 13 36.4**	**-0.6**
	comp=Z,108nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.43**	**263**	P	**P**	**01 13 39.2**	**-0.5**
TBI	**Tubuai**	**40.86**	**105**	*e*LQ	LQ	01 23 22.7	
	comp=Z,16μm,31.2s						
TBI				*e*LR	LR	01 25 06.3	
TBI				*e*LR	LR	01 25 06.3	
	comp=Z,13μm,30.5s						
PPT2	**Papeete2**	**41.15**	**96**	*e*LQ	LQ	01 23 29.9	
	comp=Z,6μm,27.0s						
PPT2				*e*LR	LR	01 25 14.4	
	comp=Z,3μm,25.8s						
PPT2				*e*LR	LR	01 25 14.6	
	comp=Z,2μm,27.5s						
PPT	**Papeete**	**41.15**	**96**	LR	LR	01 27 10.2	
	comp=Z,976nm,20.5s,baz=264,slow=31						
SOEI	**Soe**	**42.34**	**275**	P	**P**	**01 14 04.5**	**+0.6**
	comp=Z,74nm,1.4s						
BATI	**Baumata**	**42.79**	**274**	LR	LR	01 31 36.6	
	comp=Z,2μm,19.4s,baz=124,slow=36						
KMBL	**Kambalda**	**43.02**	**243**	P	**P**	**01 14 08.4**	**-0.7**
	baz=43,SNR=12						
KMBL	**Kambalda**	**43.02**	**243**	P	**P**	**01 14 10.3**	**+1.2**
SANI

PLAI Plampang 48.75 274 P **P** **01 14 55.4 +0.8**
comp=Z,47nm,0.7s,comp=Z,836nm
TOLI2 Tolitoli 49.37 288 P **P** **01 14 57.7 -1.7**
TOLI2 IAmb IAmb 01 14 58.9
comp=Z,33nm,0.9s
TOLI2 Tolitoli 49.37 288 P **P** **01 15 00.4 +1.1**
TWSI Taliwang, Sumb 49.63 274 P **P** **01 15 00.0 -1.3**
comp=Z,60nm,1.4s,comp=Z,1µm
GIRL Giralia 49.67 255 P **P** **01 15 01.6 0.0**
baz=50,SNR=3.4
MPSI Mapaga 49.86 286 P **P** **01 15 02.6 -0.5**
comp=Z,146nm,1.2s
KEKH Kekaha 51.18 41 P **P** **01 15 12.3 -0.5**
SRBI Singaraja 51.40 274 P **P** **01 15 14.1 -0.6**
comp=Z,45nm,1.0s,comp=Z,1µm
KIP Kipapa 51.85 43 P **P** **01 15 19.1 +1.3**
KIP Kipapa 51.85 43 P **P** **01 15 18.5 +0.7**
KIP Kipapa 51.85 43 *ce*P **P** **01 15 15.5 -2.3**
KIP pmax pmax
comp=Z,76nm,1.7s
TAOE Nuku Hiva Isla 51.90 87 *e*S **S** **01 22 41.4 +0.6**
comp=Z,760nm,32.7s
TAOE *e*SS **SS** **01 26 19.5 +1.6**
comp=Z,660nm,25.2s
TAOE *e*LR LR 01 30 13.4
comp=Z,3µm,25.3s
OPA Opana 52.04 42 P **P** **01 15 18.3 -1.0**
OPA Opana 52.04 42 P **P** **01 15 18.3 -1.0**
OPA pmax pmax
comp=Z,213nm,1.0s
HMH Humu'ula Sheep 52.26 46 P **P** **01 15 20.4 -1.0**
JAGI Jajag, Banyuwa 52.30 273 P **P** **01 15 19.9 -1.5**
JAGI IAmb IAmb 01 15 43.6
comp=Z,285nm,2.0s
JAGI Jajag, Banyuwa 52.30 273 P **P** **01 15 20.4 -1.0**
comp=Z,60nm,1.2s
POHA Pohakuloa 52.33 46 P **P** **01 15 20.9 -0.9**
POHA IAmb IAmb 01 15 21.6
comp=Z,87nm,1.0s
MHA Mahukona 52.37 45 P **P** **01 15 20.8 -1.0**
MHA Mahukona 52.37 45 P **P** **01 15 20.8 -1.0**
ABJI Asem Bagus 52.41 274 P **P** **01 15 21.7 -0.5**
comp=Z,43nm,1.1s
HPAH Hawaii Prepara 52.41 46 P **P** **01 15 20.8 -1.4**
KHLH Kahului Airpor 52.51 44 P **P** **01 15 22.4 -0.4**
BLJI Banyuglugur 53.03 274 P **P** **01 15 26.7 -0.1**
BBKI Banjar Baru 53.17 279 P **P** **01 15 27.2 -0.6**
comp=Z,46nm,0.5s,comp=Z,10µm
RKT Rikitea 54.18 106 *e*LR LR 01 31 16.6
comp=Z,401µm,31.8s
PBKI Pangkalan Bun 56.40 279 P **P** **01 15 55.1 +3.8**
KPJI Karang Pucung 57.58 273 P **P** **01 15 58.7 -0.9**
comp=Z,22nm,1.0s
SBUM Sibu 57.74 285 P **P** **01 16 01.0 +0.3**
JOW Kunigami 58.28 319 LR LR 01 40 33.2
comp=Z,288nm,19.3s,baz=150,slow=36
LEM Lembang 58.97 273 P **P** **01 16 08.6 -1.0**
comp=Z,19nm,0.3s,baz=34,slow=7.7,SNR=6.4
LEM LR LR 01 42 50.8
comp=Z,1µm,19.7s,baz=115,slow=37
comp=Z,19nm,0.3s
KSM Kuching 59.14 283 P **P** **01 16 09.5 -1.0**
KSM IAmb IAmb 01 16 46.7
comp=Z,22nm,0.7s
VNDA Vanda 59.75 181 P **P** **01 16 15.5 +1.7**
comp=Z,2.3nm,0.8s,baz=9.6,slow=5.3,SNR=7.7
VNDA LR LR 01 40 45.1
comp=Z,406nm,18.2s,baz=10,slow=35
comp=Z,2.3nm,0.8s
JMN Monobe 60.32 328 P **P** **01 16 20.0 +1.7**
JSU Suzuyama 60.41 324 P **P** **01 16 19.0 +0.1**
JSU IAmb IAmb 01 16 40.4
comp=Z,59nm,1.2s
MJAR Matsushiro Arr 60.62 333 P **P** **01 16 18.0 -2.3**
comp=Z,6.0nm,1.0s,baz=162,slow=8.3,SNR=7.3
comp=Z,6.0nm,1.0s
MJAR Matsushiro Arr 60.62 333 P **P** **01 16 18.0 -2.3**
MAJO Matsushiro 60.62 333 P **P** **01 16 21.6 +1.3**
JNU Nakatsue 61.40 326 LR LR 01 42 48.1
comp=Z,316nm,18.5s,baz=141,slow=36
JNU Nakatsue 61.40 326 IAmb IAmb 01 16 26.8
comp=Z,107nm,1.6s
JNU Nakatsue 61.40 326 P **P** **01 16 27.2 +1.5**
comp=Z,47nm,2.5s
MDSI Maura Dua 62.93 274 P **P** **01 16 35.4 -0.9**
JKA Kamikawa-asahi 65.63 341 P **P** **01 16 53.3 -0.1**
JKA IAmb IAmb 01 17 20.6
comp=Z,33nm,0.8s
ASAJ Asahikawa 65.63 341 LR LR 01 40 57.3
comp=Z,630nm,20.9s,baz=164,slow=32
ASAJ Asahikawa 65.63 341 P **P** **01 16 53.3 -0.1**
ASAJ pmax pmax
comp=Z,33nm,0.8s
TJN Taejon 65.75 325 P **P** **01 16 54.9 +0.6**
KSRS Korea Array 66.26 327 P **P** **01 16 56.9 -0.6**
comp=Z,2.7nm,0.7s,baz=140,slow=7.0,SNR=10.0
comp=Z,2.7nm,0.7s
KSAR Wonju Array Be 66.27 327 P **P** **01 16 57.8 +0.2**
KSAR Wonju Array Be 66.27 327 P **P** **01 16 57.8 +0.2**
BKNI Bangkinang 67.42 278 P **P** **01 17 05.3 -0.2**
NJ2 Nanjing 67.85 317 *e*P **P** **01 17 08.7 +1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,500nm,18.6s
NJ2 LR LR
comp=Z,550nm,20.6s
NJ2 LR LR
comp=Z,890nm,22.6s
YSS Yuzh-Sakhalins 68.15 342 P **P** **01 17 12.6 +3.3**
YSS Yuzh-Sakhalins 68.15 342 *e*P **P** **01 17 10.6 +1.3**
YSS *e* 01 17 34.7
YSS *e*S **S** **01 26 07.2 -1.0**
YSS pmax pmax
comp=Z,30nm,1.4s
CNSH ChangSha 69.61 310 ⇑P **P** **01 17 22.6 +3.8**
CNSH S **S** **01 26 34.2 +7.9**
CNSH LR LR
comp=Z,400nm,15.5s
CNSH LR LR
comp=Z,400nm,18.0s
CNSH LR LR
comp=Z,380nm,19.9s
USA0B Ussuriysk Arra 69.62 334 P **P** **01 17 18.6 +0.1**
USA0B IAmb IAmb 01 17 25.9
comp=Z,120nm,2.0s
USA0B Ussuriysk Arra 69.62 334 *i*P **P** **01 17 18.2 -0.3**
USRK Ussuriysk Ar. 69.62 334 P **P** **01 17 19.3 +0.8**
comp=Z,6.7nm,0.9s,baz=172,slow=4.6,SNR=10
comp=Z,6.7nm,0.9s
USRK Ussuriysk Ar. 69.62 334 P **P** **01 17 17.7 -0.8**
WHN Wuhan 69.96 313 ⇓P **P** **01 17 21.7 +0.8**
WHN S **S** **01 26 33.5 +3.2**
WHN LR LR
comp=Z,2µm,20.3s
RPSI Rantau Prapat 70.21 280 P **P** **01 17 21.3 -1.5**
RPSI IAmb IAmb 01 17 23.2
comp=Z,69nm,1.5s
PSI Prapat 70.24 280 P **P** **01 17 26.2 +3.0**
PSI Prapat 70.24 280 P **P** **01 17 21.3 -1.9**
PSI pmax pmax
comp=Z,69nm,1.5s
SHEM Shemya Is, Ala 70.54 4 LR LR 01 43 57.0
comp=Z,789nm,19.1s,baz=122,slow=32
ADK Adak 70.86 11 P **P** **01 17 24.1 -1.8**
ADK Adak 70.86 11 P **P** **01 17 26.8 +0.9**
ADK Adak 70.86 11 P **P** **01 17 24.1 -1.8**
ADK pmax pmax
comp=Z,171nm,1.5s
PET Petropavlovsk 70.96 355 P **P** **01 17 26.1 -0.4**
PET IAmb IAmb 01 17 29.8
comp=Z,77nm,1.3s
PET Petropavlovsk 70.96 355 P **P** **01 17 28.7 +2.2**
comp=Z,200nm,1.2s
PET Petropavlovsk 70.96 355 *e*P **P** **01 17 26.7 +0.2**
PET *e*S **S** **01 26 44.4 +3.3**
PET pmax pmax
comp=Z,40nm,1.2s
PET MLR MLR
comp=Z,600nm,21.0s
PEA0B Petropavlovsk- 71.14 354 IAmb IAmb 01 17 32.2
comp=Z,112nm,1.3s
PEA0B Petropavlovsk- 71.14 354 *ce*P **P** **01 17 27.7 +0.1**
PETK Petropavlovsk- 71.14 354 P **P** **01 17 27.9 +0.2**
comp=Z,36nm,1.0s,baz=186,slow=13,SNR=31
PETK LR LR 01 46 53.5
comp=Z,289nm,18.4s,baz=161,slow=34
comp=Z,36nm,1.0s
TIA Tai'an 71.61 319 ⇑P **P** **01 17 30.7 -0.2**
TIA pmax pmax
comp=Z,6.0nm,0.5s
TYV Tymovskoe 71.73 344 *e*P **P** **01 17 32.1 +0.9**
TYV *e*S **S** **01 26 43.3 -6.7**
TYV pmax pmax
comp=Z,16nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.6s
TYV smax smax
comp=N,500nm,8.1s
TYV smax smax
comp=E,500nm,8.1s
SNY Shenyang 71.75 327 ⇑P P 01 17 44.4 +13
SNY S **S** **01 26 57.4 +6.8**
SNY pmax pmax
comp=Z,16nm,0.9s
SNY pmax pmax
comp=Z,490nm,10.2s
SNY LR LR
comp=N,840nm,20.6s
SNY LR LR
comp=E,720nm,17.7s
SNY LR LR
comp=Z,930nm,18.4s
QSPA South Pole Qui 72.19 180 P **P** **01 17 34.8 +0.7**
comp=Z,12nm,0.9s,baz=27,slow=2.9,SNR=8.2
comp=Z,12nm,0.9s
QSPA South Pole Qui 72.19 180 P **P** **01 17 35.8 +1.7**
QSPA IAmb IAmb 01 17 47.5
comp=Z,60nm,1.3s
CN2 Changchun 72.26 330 P **P** **01 17 35.0 +0.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
NONG Nongkai 72.35 296 P **P** **01 17 40.2 +4.5**
NAYO Nakonayok 72.36 292 P **P** **01 17 38.7 +2.9**
comp=Z,219nm,2.1s
BNX BinXian 72.82 332 ⇑P **P** **01 17 37.8 -0.1**
BNX pmax pmax
comp=Z,14nm,0.6s
BNX pmax pmax
comp=Z,280nm,5.9s
ENH Enshi 73.27 310 P **P** **01 17 38.6 -2.4**
ENH IAmb IAmb 01 17 54.8
comp=Z,36nm,1.0s
ENH Enshi 73.27 310 P **P** **01 17 42.3 +1.3**
NIKH Nikolski High 73.53 15 P **P** **01 17 41.4 -0.5**
baz=204
LYN LuoYang 73.60 315 ⇑*i*P **P** **01 17 43.3 +0.6**
LYN pmax pmax
comp=Z,10.0nm,1.0s
LYN LR LR
comp=Z,530nm,18.6s
LYN LR LR
comp=Z,460nm,16.1s
LYN LR LR
comp=Z,580nm,18.6s
KLR Kul'dur 73.81 337 *ce*P **P** **01 17 43.1 -0.6**
KLR pmax pmax
comp=Z,28nm,1.5s
HNS HongShan 73.86 319 ⇓P **P** **01 17 44.8 +0.6**
HNS PcP **pwP** **01 17 57.2 +1.4**
HNS S **S** **01 27 16.7 +1.8**
HNS pmax pmax
comp=Z,18nm,0.9s
HNS LR LR
comp=Z,270nm,15.1s
HNS LR LR
comp=Z,690nm,19.1s
HNS LR LR
comp=Z,740nm,22.1s
UNV Unalaska Valle 74.91 16 IAmb IAmb 01 17 50.1
comp=Z,50nm,1.0s
UNV Unalaska Valle 74.91 16 P **P** **01 17 49.3 -0.6**
baz=206
CRAI Chiangrai 75.65 297 P **P** **01 17 54.4 -0.6**
XAN Xi'an 75.72 313 ⇑P **P** **01 17 55.8 +0.6**
XAN sP sP 01 18 02.8 +0.9
XAN S **S** **01 27 38.1 +2.1**
XAN pmax pmax
comp=Z,24nm,1.5s
XAN pmax pmax
comp=Z,460nm,4.9s
XAN LR LR
comp=Z,460nm,20.2s
XAN LR LR
comp=Z,460nm,16.3s
XAN LR LR
comp=Z,600nm,20.5s
CMAR Chiang Mai Arr 76.13 295 P **P** **01 17 58.6 +0.8**
comp=Z,8.5nm,0.7s,baz=130,slow=4.5,SNR=6.3
comp=Z,8.5nm,0.7s
CMAR Chiang Mai Arr 76.13 295 P **P** **01 17 57.4 -0.3**
CHTO Chiang Mai 76.28 295 P **P** **01 17 58.3 -0.3**
CHTO Chiang Mai 76.28 295 P **P** **01 17 58.3 -0.3**
CHTO pmax pmax
comp=Z,16nm,0.9s
HEH HeiHe 76.32 335 *e*P **P** **01 17 56.8 -1.3**
HEH pmax pmax
comp=Z,9.0nm,1.0s
SPIA Saint Paul Isl 77.09 12 P **P** **01 18 02.0 -0.3**
baz=202
XLT XiLinHaoTe 77.17 325 *e*P **P** **01 18 03.9 +0.7**
XLT pmax pmax
comp=Z,16nm,0.6s
XLT pmax pmax
comp=Z,260nm,5.5s
PZH PanZhiHua 77.30 303 ⇓P **P** **01 18 05.4 +1.0**
PZH pP **sP** **01 18 11.6 +0.5**
PZH S **S** **01 27 52.3 -1.4**
PZH sS **sS** **01 28 02.9 +0.9**
PZH SS **SS** **01 32 53.5 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,4.7s
PZH LR LR
comp=Z,610nm,19.2s
PZH LR LR
comp=Z,810nm,20.0s
PZH LR LR
comp=Z,510nm,19.7s
S12K Black Hills 77.76 17 P **P** **01 18 05.6 -0.5**
baz=210
CD2 Chengdu 77.83 308 P **P** **01 18 08.5 +1.4**
CD2 pmax pmax
comp=Z,20nm,0.8s
HHC Hu-ho-hao-te 77.89 320 *e*P **P** **01 18 08.5 +1.2**
HHC S **S** **01 28 01.9 +2.3**
HHC SS **SS** **01 33 01.8 +0.8**
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,190nm,4.9s
HHC LR LR
comp=Z,850nm,15.2s
HHC LR LR
comp=Z,580nm,14.6s
HHC LR LR
comp=Z,1µm,15.9s
SDPT Sand Point 77.92 18 P **P** **01 18 06.0 -0.9**
baz=211
MA2 Magadan 78.30 352 *i*P **P** **01 18 08.1 -0.9**
MA2 pmax pmax
comp=Z,29nm,1.4s
MAW Mawson 78.97 202 P **P** **01 18 12.2 -0.5**
MAW Mawson 78.97 202 P **P** **01 18 12.2 -0.5**
MAW pmax pmax
comp=Z,4.0nm,1.0s
ZEA Zeya 79.11 337 *e*P **P** **01 18 14.3 +0.7**
ZEA *e*S **S** **01 28 17.8 +6.0**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
TNCH TengChong 79.25 301 ⇑P **P** **01 18 14.1 -1.2**
TNCH pP sP 01 18 21.6 -0.4
TNCH sP PcP 01 18 23.9 +0.4
TNCH S **S** **01 28 17.6 +2.7**
TNCH sS sS 01 28 24.4 +1.3
TNCH pmax pmax
comp=Z,25nm,1.4s
TNCH pmax pmax
comp=Z,160nm,6.9s
TNCH LR LR
comp=Z,130nm,15.8s
TNCH LR LR
comp=Z,260nm,18.0s
TNCH LR LR
comp=Z,260nm,17.5s
CHGN Chignik 79.34 19 P **P** **01 18 13.9 -0.9**
baz=213
CHIR Chirikof Islan 79.84 20 P **P** **01 18 17.2 -0.3**
baz=216
MND Mandalay 80.00 297 P **P** **01 18 22.2 +3.0**
LZH Lanzhou 80.34 313 ⇑P **P** **01 18 22.7 +1.8**
LZH sP PcP 01 18 29.7 +1.7
LZH pmax pmax
comp=Z,31nm,1.1s
R16K Pilot Point 80.66 18 P **P** **01 18 21.4 -0.5**
baz=214
SII Sitkinak Islan 80.91 21 IAmb IAmb 01 18 24.7
comp=Z,94nm,1.0s
SII Sitkinak Islan 80.91 21 P **P** **01 18 23.5 +0.3**
baz=217
SII Sitkinak Islan 80.91 21 P **P** **01 18 25.7 +2.4**
R17K Ugashik Creek 81.08 19 P **P** **01 18 24.3 +0.2**
baz=215
SEY Seymchan 81.35 353 LR LR 01 49 49.2
comp=Z,244nm,18.9s,baz=152,slow=32
SEY Seymchan 81.35 353 *ce*P **P** **01 18 24.9 -0.6**
SEY pmax pmax
comp=Z,74nm,1.3s
OHAK Old Harbor 81.74 20 IAmb IAmb 01 18 29.1
comp=Z,82nm,1.0s
OHAK Old Harbor 81.74 20 P **P** **01 18 27.7 +0.2**
baz=218
Q17K Contact Creek 81.74 19 P **P** **01 18 27.5 -0.3**
baz=215,SNR=28
P16K Nushagak River 81.76 17 P **P** **01 18 26.6 -1.1**
baz=213
O16K Kokwok River B 82.20 17 P **P** **01 18 29.2 -0.8**
baz=213
Q18K Katmai Hardscr 82.33 19 P **P** **01 18 30.6 -0.2**
baz=216,SNR=38
P17K Kvichak River 82.34 18 P **P** **01 18 30.3 -0.5**
baz=215
KDAK Kodiak Island 82.41 20 P **P** **01 18 31.3 +0.1**
KDAK IAmb IAmb 01 18 33.5
comp=Z,60nm,1.1s
KDAK Kodiak Island 82.41 20 P **P** **01 18 31.6 +0.4**
baz=218
KDAK Kodiak Island 82.41 20 *i*P **P** **01 18 31.2 +0.1**
KDAK pmax pmax
comp=Z,89nm,1.1s
O17K Koliganek Bris 82.63 17 P **P** **01 18 32.0 -0.2**
baz=214
N16K Nishlik Lake 82.76 16 P **P** **01 18 34.1 +1.1**
baz=212
P18K Big Mountain, 82.86 18 IAmb IAmb 01 18 34.4
comp=Z,59nm,0.9s
P18K Big Mountain, 82.86 18 P **P** **01 18 33.1 -0.4**
baz=216,SNR=26
Q19K Cape Douglas, 82.98 19 P **P** **01 18 34.1 0.0**
baz=217,SNR=5.5
Q20K Shuyak Island 83.12 20 P **P** **01 18 35.0 +0.2**
baz=218
O18K Koktuh Hills 83.25 18 P **P** **01 18 35.4 -0.1**
baz=216
BELA Belgrano 2 83.64 175 P **P** **01 18 36.1 -1.3**
BELA IAmb IAmb 01 18 54.7
comp=Z,69nm,1.2s
P19K Oil Pt 83.68 19 P **P** **01 18 37.9 +0.2**
baz=218,SNR=18
O19K Port Alsworth 83.78 18 P **P** **01 18 38.2 0.0**
baz=217
HOM Homer 84.19 20 P **P** **01 18 40.9 +0.6**
baz=219,SNR=8.6
O20K Slope Mountain 84.21 19 P **P** **01 18 40.5 0.0**
baz=218,SNR=10
N19K Bonanza Creek 84.23 18 IAMs_20 IAMs_20 01 53 55.7
comp=Z,795nm,20.0s
N19K Bonanza Creek 84.23 18 P **P** **01 18 40.5 -0.2**
baz=216,SNR=22
BRLK Bradley Lake 84.51 20 IAMs_20 IAMs_20 01 47 18.7
comp=Z,873nm,18.0s
BRSE Bradley Lake S 84.54 20 P **P** **01 18 42.7 +0.6**
baz=220,SNR=17
ULN Ulaanbaatar 84.58 324 P **P** **01 18 42.3 -0.5**
ULN IAmb IAmb 01 19 06.3
comp=Z,34nm,1.1s
ULN Ulaanbaatar 84.58 324 *ce*P **P** **01 18 42.7 -0.1**
ULN pmax pmax
comp=Z,26nm,1.7s
GTA Gaotai 84.75 314 *e*P **P** **01 18 44.4 +0.6**
GTA pP sP 01 18 51.5 +0.9
GTA sP pwP 01 18 56.6 +1.1
GTA SKS **SKSac** **01 29 01.7 -5.5**
GTA S **S** **01 29 09.5 -1.3**
GTA sS pS 01 29 16.4 -0.8
GTA pmax pmax
comp=Z,17nm,1.3s
GTA pmax pmax
comp=Z,230nm,7.2s
GTA LR LR
comp=Z,240nm,18.3s
GTA LR LR
comp=Z,500nm,20.3s
GTA LR LR
comp=Z,600nm,19.5s
ANM Nome 84.83 12 IAmb IAmb 01 18 46.2
comp=Z,97nm,1.4s
ANM Nome 84.83 12 P **P** **01 18 44.9 +1.4**
baz=206
SONM Songino Array 84.94 324 P **P** **01 18 44.5 -0.1**
comp=Z,4.0nm,0.8s,baz=149,slow=6.0,SNR=22
comp=Z,4.0nm,0.8s
SHL Shillong 84.96 299 IAmb IAmb 01 19 05.5
comp=Z,59nm,1.2s
YAK Yakutsk 84.97 343 LR LR 01 52 30.1
comp=Z,299nm,21.5s,baz=104,slow=33
YAK Yakutsk 84.97 343 P **P** **01 18 43.3 -0.9**
YAK IAmb IAmb 01 18 46.2
comp=Z,72nm,1.0s
YAK Yakutsk 84.97 343 *e*P **P** **01 18 43.9 -0.3**
YAK *e* 01 22 00.3
YAK *e*S **S** **01 29 04.0 -7.7**
YAK *e*SS **SS** **01 34 44.0 -1.4**
YAK pmax pmax
comp=Z,89nm,1.4s
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,216nm,5.4s
YAK pmax pmax
comp=N,28nm,2.1s
YAK pmax pmax
comp=E,113nm,3.8s
YAK smax smax
comp=N,102nm,3.8s
YAK smax smax
comp=E,247nm,4.8s
M19K Big River Lodg 85.14 17 IAMs_20 IAMs_20 01 52 42.7
comp=Z,1µm,19.0s
M19K Big River Lodg 85.14 17 P **P** **01 18 46.0 +0.9**
baz=216
CAPN Captain Cook N 85.20 19 P **P** **01 18 46.7 +1.4**
baz=219,SNR=8.4
N20K Mount Spurr 85.22 18 P **P** **01 18 44.8 -0.7**
baz=218,SNR=15
SPCR Spurr Chakacha 85.22 18 P **P** **01 18 45.2 -0.3**
baz=218,SNR=7.1
L19K White Mountain 85.24 17 IAMs_20 IAMs_20 01 53 06.2
comp=Z,1µm,20.0s
L19K White Mountain 85.24 17 P **P** **01 18 46.7 +1.1**
baz=216,SNR=52
SEW Seward 85.24 20 IAmb IAmb 01 18 57.4
comp=Z,31nm,0.9s
SEW Seward 85.24 20 P **P** **01 18 45.8 +0.3**
baz=221
TNA Tin City 85.28 10 IAmb IAmb 01 18 48.1
comp=Z,77nm,1.2s
TNA Tin City 85.28 10 P **P** **01 18 46.9 +1.2**

baz=204
O22K Cooper Landing 85.44 20 P P 01 18 46.3 -0.2
baz=221,SNR=8.1
M20K Styx River 85.48 18 IAMs_20 IAMs_20 01 49 58.7
comp=Z,856nm,22.0s
M20K Styx River 85.48 18 P P 01 18 46.8 -0.1
baz=218
TTA Tatalina 85.54 16 IAmb IAmb 01 18 49.3
comp=Z,70nm,1.0s
TTA Tatalina 85.54 16 P P 01 18 48.1 +1.0
baz=215,SNR=39
BILL Bilibino 85.65 360 P P 01 18 47.1 -0.3
BILL IAmb IAmb 01 18 48.9
comp=Z,61nm,1.1s
BILL Bilibino 85.65 360 *ce*P P 01 18 47.4 -0.1
BILL *e* 01 22 04.7
BILL *e*PPP PPP 01 23 59.4
BILL pmax pmax
comp=Z,108nm,1.7s
BILL MLR MLR
comp=Z,127nm,18.0s
P23K Montague Islan 85.85 21 P P 01 18 48.8 +0.2
baz=223
SUA Susitna One 85.87 19 P P 01 18 48.8 0.0
baz=220
RC01 Rabbit Creek A 85.90 19 IAmb IAmb 01 18 50.3
comp=Z,27nm,1.0s
RC01 IAMs_20 IAMs_20 01 58 41.7
comp=Z,734nm,19.0s
RC01 Rabbit Creek A 85.90 19 P P 01 18 48.3 -0.5
baz=221,SNR=8.7
SKT Skwentna 86.03 18 IAmb IAmb 01 18 49.6
comp=Z,37nm,1.6s
SKT IAMs_20 IAMs_20 01 49 09.2
comp=Z,720nm,20.0s
SKT Skwentna 86.03 18 P P 01 18 48.2 -1.3
baz=219,SNR=5.5
PWL Port Wells 86.17 20 IAmb IAmb 01 18 52.8
comp=Z,50nm,0.9s
PWL Port Wells 86.17 20 P P 01 18 50.0 -0.2
baz=222,SNR=11
M22K Willow 86.28 19 IAmb IAmb 01 19 17.2
comp=Z,48nm,0.8s
M22K Willow 86.28 19 P P 01 18 51.0 +0.3
baz=220
SNCC San Nicolas Is 86.40 54 P P 01 18 52.6 +0.6
baz=246
K20K Telida 86.40 16 IAMs_20 IAMs_20 01 54 30.9
comp=Z,941nm,20.0s
K20K Telida 86.40 16 P P 01 18 52.3 +1.0
baz=217
SAO San Andreas Ge 86.42 50 P P 01 18 52.4 +0.3
SAO IAmb IAmb 01 18 53.7
comp=Z,99nm,1.6s
SAO San Andreas Ge 86.42 50 P P 01 18 52.4 +0.3
SAO pmax pmax
comp=Z,99nm,1.6s
PMR Palmer 86.47 19 P P 01 18 52.5 +0.9
baz=221,SNR=7.9
KNK Knik Glacier 86.55 20 IAmb IAmb 01 18 54.8
comp=Z,25nm,1.0s
KNK Knik Glacier 86.55 20 P P 01 18 51.6 -0.4
baz=222,SNR=7.7
PPLA Purkeypile 86.56 17 P P 01 18 52.9 +0.6
baz=218
SCZ2 Santa Cruz Isl 86.62 53 P P 01 18 53.1 0.0
baz=246
GHO Glory Hole Cre 86.67 19 IAmb IAmb 01 18 56.0
comp=Z,92nm,1.8s
GHO IAMs_20 IAMs_20 02 01 13.1
comp=Z,788nm,19.0s
CUT Chulitna 86.74 18 IAmb IAmb 01 18 53.8
comp=Z,36nm,0.8s
CUT Chulitna 86.74 18 P P 01 18 52.7 -0.2
baz=220,SNR=5.2
EYAK Cordova Ski Ar 86.82 21 P P 01 18 53.4 +0.1
baz=224
GCSA Galena City Sc 86.82 15 P P 01 18 54.3 +1.1
baz=214,SNR=8.4
PKM Mcpherson Peak 86.85 52 P P 01 18 55.4 +1.0
baz=246,SNR=6.8
GOMU GeErMu 86.87 309 P P 01 18 56.0 +1.3
GOMU pmax pmax
comp=Z,5.0nm,1.2s
SML Sawmill 86.88 19 IAmb IAmb 01 18 57.3
comp=Z,70nm,1.6s
SML Sawmill 86.88 19 P P 01 18 54.1 +0.3
baz=222,SNR=7.4
CAST Castle Rocks 87.00 17 IAmb IAmb 01 18 54.9
comp=Z,35nm,0.8s
CAST IAMs_20 IAMs_20 01 52 21.7
comp=Z,839nm,19.0s
CAST Castle Rocks 87.00 17 P P 01 18 53.0 -1.2
baz=218,SNR=38
J20K Nowinta River 87.04 16 P P 01 18 52.8 -1.6
J20K IAmb IAmb 01 18 56.6
comp=Z,23nm,0.8s
J20K IAMs_20 IAMs_20 01 51 22.8
comp=Z,905nm,21.0s
J20K Nowinta River 87.04 16 P P 01 18 55.0 +0.6
baz=217
M23K Glacier View 87.07 20 P P 01 18 54.0 -0.6
baz=222
LSA Lhasa 87.12 302 P P 01 18 57.1 +0.9
LSA pmax pmax
comp=Z,17nm,1.4s
ELIB Princess Elisa 87.14 191 *d*P P 01 18 51.5 -3.7
comp=Z,17nm,1.3s
BCW Bitter Crk WRg 87.17 52 IAmb IAmb 01 18 58.4
comp=Z,67nm,1.1s
SCM Sheep Creek Mo 87.22 20 IAmb IAmb 01 18 56.8
comp=Z,23nm,0.8s
SCM Sheep Creek Mo 87.22 20 P P 01 18 54.9 -0.5
baz=223,SNR=11
DIV Divide 87.23 21 IAmb IAmb 01 18 56.7
comp=Z,26nm,1.0s
CHUM Lake Minchumin 87.30 17 P P 01 18 55.1 -0.6
baz=218,SNR=7.6
CIS Catalina Islan 87.31 54 P P 01 18 56.7 +0.3
baz=247,SNR=9.3
KTH Kantishna Hill 87.43 17 IAmb IAmb 01 18 56.9
comp=Z,19nm,0.8s
KTH IAMs_20 IAMs_20 01 54 25.1
comp=Z,769nm,20.0s
KLU Klutina 87.44 21 P P 01 18 55.7 -0.8
baz=224
BMRM Bremner River 87.51 21 IAmb IAmb 01 18 57.6
comp=Z,24nm,1.1s
BMRM Bremner River 87.51 21 P P 01 18 56.1 -0.7
baz=225
FMP Fort Macarthur 87.53 54 P P 01 18 57.6 +0.1
baz=247
TRF Thorofare Moun 87.53 18 IAmb IAmb 01 18 57.7
comp=Z,20nm,0.8s
TRF IAMs_20 IAMs_20 01 51 46.9
comp=Z,801nm,20.0s
TRF Thorofare Moun 87.53 18 P P 01 18 56.1 -0.9
baz=220,SNR=14
ORV Oroville 87.58 47 IAmb IAmb 01 18 59.7
comp=Z,65nm,1.1s
ORV IAMs_20 IAMs_20 01 53 54.1
comp=Z,1µm,19.0s
WAT1 Susitna Watana 87.58 19 P P 01 18 56.5 -0.6
baz=222
WAT6 Susitna Watana 87.64 19 P P 01 18 57.1 -0.4
baz=222,SNR=5.9
ARVC Arvin 87.68 52 P P 01 18 58.6 +0.4
baz=246
DECC Green Verdugo 87.71 53 P P 01 18 58.9 +0.5
baz=247
CMB Columbia Colle 87.72 49 P P 01 18 58.3 -0.1
CMB Columbia Colle 87.72 49 P P 01 18 58.3 -0.1
CMB pmax pmax
comp=Z,68nm,1.1s
VES Vestal, Richgr 87.78 51 P P 01 18 58.2 -0.4
baz=246,SNR=9.3
PASC Pasadena Art C 87.79 53 IAmb IAmb 01 19 00.4
comp=Z,28nm,0.8s
M24K Tolsona, Glenn 87.80 20 IAmb IAmb 01 19 00.2
comp=Z,45nm,1.0s
M24K Tolsona, Glenn 87.80 20 P P 01 18 58.2 +0.1
baz=224,SNR=6.3
BPAW Bear Paw Mtn. 87.83 17 P P 01 18 57.5 -0.7
baz=220
N25K Chitina, Valde 87.96 21 IAmb IAmb 01 19 00.7
comp=Z,36nm,1.2s
N25K Chitina, Valde 87.96 21 P P 01 18 58.4 -0.6
baz=225,SNR=12

ZAK Zakamensk 88.03 325 *e*P P 01 18 58.9 -0.7
ZAK pmax pmax
comp=Z,9.0nm,1.3s
CCX Cicese 88.08 56 IAmb IAmb 01 19 02.2
comp=Z,46nm,1.0s
VRDI Verde Repeater 88.09 22 P P 01 18 59.4 -0.4
VRDI IAmb IAmb 01 19 01.1
comp=Z,34nm,1.5s
GLB Gilahina Butte 88.12 21 IAmb IAmb 01 19 01.1
comp=Z,26nm,1.2s
DHY Denali Highway 88.12 19 IAMs_20 IAMs_20 01 58 45.5
comp=Z,779nm,20.0s
DHY Denali Highway 88.12 19 P P 01 18 59.0 -0.8
baz=223
109C Camp Elliot, M 88.12 55 IAmb IAmb 01 19 02.3
comp=Z,35nm,0.9s
109C Camp Elliot, M 88.12 55 P P 01 19 01.1 +0.8
baz=247,SNR=5.8
MCK McKinley 88.14 18 IAMs_20 IAMs_20 01 54 50.0
comp=Z,702nm,20.0s
MCK McKinley 88.14 18 P P 01 19 00.4 +0.7
baz=221,SNR=9.2
ISA Isabella, Lake 88.16 52 IAmb IAmb 01 19 02.9
comp=Z,70nm,1.2s
ISA Isabella, Lake 88.16 52 P P 01 19 01.6 +1.1
baz=246,SNR=23
ELS Elsinore Mount 88.17 54 IAmb IAmb 01 19 04.0
comp=Z,83nm,1.6s
EDW2 Edwards Air Fo 88.22 53 P P 01 19 01.5 +0.7
baz=247,SNR=35
BFSC Mount Baldy Ra 88.22 53 P P 01 19 01.4 +0.4
baz=247,SNR=13
CCAC Calif City Air 88.30 52 P P 01 19 02.5 +1.3
CCAC IAmb IAmb 01 19 03.6
comp=Z,49nm,1.3s
BWN Browne 88.32 18 IAMs_20 IAMs_20 01 51 18.0
comp=Z,828nm,21.0s
MURC Murrieta 88.33 54 P P 01 19 01.8 +0.5
baz=247,SNR=13
HARP HAARP 88.34 20 P P 01 19 00.2 -0.5
baz=225
MCARA McCarthy VSAT 88.35 22 IAmb IAmb 01 19 03.0
comp=Z,46nm,1.4s
MCARA McCarthy VSAT 88.35 22 P P 01 19 00.5 -0.3
baz=227,SNR=9.3
BAR Barrett 88.38 55 IAmb IAmb 01 19 03.5
comp=Z,26nm,0.9s
I21K Tanana 88.41 16 IAMs_20 IAMs_20 01 52 05.0
comp=Z,953nm,20.0s
I21K Tanana 88.41 16 P P 01 19 01.1 +0.2
baz=219
PCA Pinnacle 88.50 23 IAmb IAmb 01 19 02.9
comp=Z,44nm,1.4s
PINM Pinnacle 88.50 23 P P 01 19 01.2 -0.4
baz=229,SNR=6.2
BEKR Bekworth 88.51 47 P P 01 19 02.5 +0.3
PNL Peninsula 88.55 24 P P 01 19 01.6 -0.1
baz=230
PNL Peninsula 88.55 24 P P 01 19 02.7 +1.0
H21K Melozitna Rive 88.57 15 IAMs_20 IAMs_20 01 51 27.3
comp=Z,828nm,21.0s
H21K Melozitna Rive 88.57 15 P P 01 19 02.2 +0.5
baz=218
BARN Barnard Glacie 88.62 22 P P 01 19 01.2 -1.1
BARN IAmb IAmb 01 19 04.0
comp=Z,49nm,1.1s
MLY Manley 88.62 17 IAMs_20 IAMs_20 01 57 38.6
comp=Z,898nm,20.0s
MLY Manley 88.62 17 P P 01 19 01.1 -0.9
baz=220,SNR=8.1
PAX Paxson 88.65 20 P P 01 19 01.3 -0.9
baz=224
MONP2 Monument Peak 88.66 55 P P 01 19 04.1 +1.0
baz=248,SNR=42
MLAC Mammoth, Mammo 88.68 50 P P 01 19 04.3 +1.1
baz=246
LRMC Laurel Mtn Rad 88.68 52 P P 01 19 03.9 +0.8
baz=247,SNR=5.9
ESJX Sierra Juarez 88.70 56 IAmb IAmb 01 19 05.8
comp=Z,20nm,1.0s
NEA2 Nenana 88.75 17 P P 01 19 02.0 -0.5
baz=221
CWC Cottonwood Cre 88.76 51 P P 01 19 04.2 +0.7
baz=247
S31K Pelican 88.77 26 P P 01 19 02.3 -0.4
baz=233
IKP In-Ko-Pah, Jac 88.81 55 P P 01 19 04.5 +0.8
baz=248,SNR=23
RMX La Rumorosa 88.82 55 IAmb IAmb 01 19 06.2
comp=Z,46nm,1.0s
PALK Pallekele 88.85 278 LR LR 02 00 44.5
comp=Z,526nm,19.9s,baz=215,slow=37
TIN Tinemaha, Big 88.89 50 P P 01 19 05.3 +1.3
baz=218,SNR=38
PFO Pinyon Flats O 88.90 54 P P 01 19 03.7 -0.5
PFO IAmb IAmb 01 19 05.6
comp=Z,28nm,1.1s
PFO Pinyon Flats O 88.90 54 P P 01 19 04.8 +0.7
baz=248,SNR=17
PFO Pinyon Flats O 88.90 54 P P 01 19 03.7 -0.5
PFO pmax pmax
comp=Z,28nm,1.2s
TPFO Pinon Flats 88.90 54 P P 01 19 05.0 +0.8
baz=248,SNR=16
WRH Wood River Hil 88.94 18 IAMs_20 IAMs_20 01 57 05.2
comp=Z,684nm,19.0s
YUH Yuha Desert 88.96 55 IAmb IAmb 01 19 05.9
comp=Z,36nm,1.1s
O28M Mount Upton 88.97 23 P P 01 19 03.4 -0.6
baz=229,SNR=15
RRX Edison Barstow 88.97 53 P P 01 19 05.1 +0.7
baz=247
PMD Palm Desert 88.98 54 IAmb IAmb 01 19 06.4
comp=Z,34nm,1.1s
MPMC Manual Prospec 89.05 52 P P 01 19 05.9 +1.0
baz=247,SNR=31
U33K Whale Pass 89.05 29 P P 01 19 03.2 -0.9
baz=235
M26K Nabesna, AK 89.06 21 P P 01 19 03.5 -0.7
baz=227
G21K Allakaket 89.08 15 P P 01 19 04.7 +0.6
baz=217
I23K Minto, Yukon-K 89.09 17 IAmb IAmb 01 19 19.0
comp=Z,40nm,2.0s
I23K IAMs_20 IAMs_20 01 55 36.1
comp=Z,707nm,20.0s
I23K Minto, Yukon-K 89.09 17 P P 01 19 04.8 +0.8
baz=221
RADR Rader Ridge 89.11 40 IAmb IAmb 01 19 07.5
comp=Z,289nm,1.6s
H22K Ishtalitna Cre 89.12 16 P P 01 19 04.7 +0.4
baz=219,SNR=10
K24K Donnelly Dome 89.15 19 P P 01 19 04.1 -0.4
baz=224,SNR=5.2
CCB Clear Creek Bu 89.16 18 IAMs_20 IAMs_20 01 52 03.8
comp=Z,694nm,20.0s
SWSC Sam W. Stewart 89.16 55 P P 01 19 06.3 +1.1
baz=248,SNR=20
P29M Windy Craggy 89.18 25 P P 01 19 04.3 -0.4
baz=231
MENT Mentasta 89.19 20 P P 01 19 03.9 -0.8
DSP Deep Springs 89.21 50 IAmb IAmb 01 19 07.9
comp=Z,65nm,1.0s
SFX San Felipe 89.21 57 IAmb IAmb 01 19 07.4
comp=Z,28nm,1.0s
HDA Harding Lake 89.23 18 IAmb IAmb 01 19 05.8
comp=Z,63nm,1.3s
HDA IAMs_20 IAMs_20 01 53 55.8
comp=Z,1µm,22.0s
HDA Harding Lake 89.23 18 P P 01 19 04.0 -0.8
baz=223,SNR=26
MDM Murphy Dome 89.27 17 IAmb IAmb 01 19 05.6
comp=Z,37nm,1.3s
MDM IAMs_20 IAMs_20 01 55 10.7
comp=Z,648nm,20.0s
O29M Mount Kennedy 89.27 24 P P 01 19 04.7 -0.6
baz=231,SNR=7.4
GSC Goldstone, Bar 89.28 53 P P 01 19 06.8 +1.0
baz=248,SNR=29
RYN Ryan 89.30 49 IAmb IAmb 01 19 08.3
comp=Z,72nm,1.1s
TCOL CIGO, UAF Yank 89.31 18 IAmb IAmb 01 19 05.7
comp=Z,43nm,1.2s
TCOL CIGO, UAF Yank 89.31 18 P P 01 19 04.0 -1.1
baz=222
COLA College 89.31 18 P P 01 19 03.4 -1.7
COLA IAmb IAmb 01 19 05.2
comp=Z,33nm,1.1s

COLA College 89.31 18 P P 01 19 04.0 -1.1
baz=222
COLA College 89.31 18 P P 01 19 05.3 +0.2
COLA College 89.31 18 *i*P P 01 19 03.6 -1.5
COLA pmax pmax
comp=Z,36nm,1.2s
V35K Ketchikan 89.32 30 P P 01 19 05.8 +0.4
baz=237
L26K Log Cabin Wild 89.38 20 P P 01 19 05.8 +0.2
baz=226,SNR=8.1
NVAR Mina Array Bea 89.38 49 P P 01 19 07.8 +1.4
comp=Z,24nm,0.8s,baz=228,slow=7.7,SNR=130
comp=Z,24nm,0.8s
LCH Last Change Ra 89.39 51 P P 01 19 06.1 -0.3
LCH IAmb IAmb 01 19 08.5
comp=Z,136nm,2.0s
RIDG Independent Ri 89.39 19 IAmb IAmb 01 19 07.5
comp=Z,21nm,1.0s
RIDG Independent Ri 89.39 19 P P 01 19 05.1 -0.6
baz=225,SNR=8.9
MOD Modoc Plateau 89.39 45 IAMs_20 IAMs_20 01 58 33.2
comp=Z,966nm,19.0s
BELC Belle Mtn. Jos 89.40 54 P P 01 19 07.5 +1.0
baz=248,SNR=56
M27K Edge Creek, AK 89.42 21 P P 01 19 05.5 -0.5
baz=228,SNR=9.8
HEC Hector Ludlow 89.45 53 P P 01 19 07.1 +0.5
baz=248,SNR=14
YUK8 Steele Glacier 89.46 23 P P 01 19 05.9 -0.4
baz=230,SNR=20
PLTX Planet X, Gerl 89.47 47 IAmb IAmb 01 19 09.2
comp=Z,124nm,1.0s
QSM Queen of Sheba 89.48 52 IAmb IAmb 01 19 08.8
comp=Z,71nm,1.2s
GRAC Grapevine Rang 89.51 51 IAmb IAmb 01 19 09.3
comp=Z,59nm,0.9s
GRAC Grapevine Rang 89.51 51 P P 01 19 07.7 +0.9
baz=247,SNR=22
NLWA Neilton Lookou 89.51 39 IAmb IAmb 01 19 09.2
comp=Z,66nm,1.2s
IL31 89.52 18 P P 01 19 04.3 -1.8
ILAR Eielson Array 89.52 18 P P 01 19 04.8 -1.3
comp=Z,7.8nm,0.8s,baz=235,slow=5.7,SNR=68
comp=Z,7.8nm,0.8s
YUK3 Moose Creek 89.53 22 P P 01 19 06.0 -0.6
baz=229,SNR=11
H23K Yukon River 89.56 16 IAMs_20 IAMs_20 01 58 10.3
comp=Z,778nm,20.0s
H23K Yukon River 89.56 16 P P 01 19 06.0 -0.4
baz=221
WRAK Wrangell Islan 89.58 29 P P 01 19 06.8 +0.2
baz=236
POKR Poker Plat Res 89.61 18 P P 01 19 05.3 -1.3
baz=223,SNR=5.5
PLBC Pleasant Camp 89.62 25 P P 01 19 06.2 -0.5
baz=232,SNR=8.3
F21K Alatna River 89.65 14 P P 01 19 07.1 +0.3
baz=217
FURC Furnace Creek, 89.68 51 P P 01 19 08.3 +0.8
baz=247,SNR=15
R32K Eaglecrest 89.68 27 P P 01 19 06.7 -0.3
baz=234
BC3 Big Chuckawall 89.69 54 P P 01 19 09.0 +1.1
baz=248,SNR=32
GWY Greenwater Val 89.71 52 P P 01 19 07.5 -0.5
GWY IAmb IAmb 01 19 10.0
comp=Z,68nm,1.2s
TROLL Troll, Antarti 89.76 185 P P 01 19 08.3 +0.7
YUK6 Outpost Mounta 89.76 23 P P 01 19 06.9 -0.7
baz=231
KVN Kaiserville 89.78 49 IAmb IAmb 01 19 10.4
comp=Z,78nm,1.1s
P30M Million Dollar 89.79 24 P P 01 19 07.1 -0.5
baz=232
BVCY Beaver Creek 89.81 22 P P 01 19 07.6 0.0
baz=229
SCRK Sand Creek 89.83 19 P P 01 19 07.0 -0.8
SCRK IAmb IAmb 01 19 10.6
comp=Z,68nm,1.9s
SCRK Sand Creek 89.83 19 P P 01 19 07.2 -0.6
baz=226,SNR=13
G22K Bettles 89.89 15 P P 01 19 08.7 +0.9
baz=219
SHOC Shoshone, Teco 89.90 52 P P 01 19 09.3 +0.6
baz=248,SNR=18
L27K Beaver Creek, 89.91 21 P P 01 19 07.8 -0.2
baz=228
YUK4 Talbot Arm 89.91 23 P P 01 19 08.3 0.0
baz=231,SNR=11
GMRC Granite Mounta 89.95 53 P P 01 19 09.9 +0.8
baz=248,SNR=36
NVL N'lazarevskaya 89.96 188 *e*P P 01 19 14.0 +5.7
NVL *e*S **SKSac** 01 29 43.8 +6.0
NVL pmax pmax
comp=Z,28nm,1.0s
NVL MLR MLR
comp=Z,620nm,18.0s
GLA Glamis 89.96 55 P P 01 19 10.5 +1.4
baz=249,SNR=22
WCT Wildcat Mounta 89.98 51 IAmb IAmb 01 19 11.4
comp=Z,66nm,1.1s
TUQ Turquoise Moun 89.99 53 P P 01 19 10.2 +0.9
baz=248,SNR=6.9
CLRS Cowichan Lake 90.01 38 IAmb IAmb 01 19 11.2
comp=Z,80nm,1.2s
HYT Haines Junctio 90.01 24 P P 01 19 08.3 -0.4
baz=232,SNR=9.7
H24K Noodor Dome 90.02 17 IAMs_20 IAMs_20 01 53 33.6
comp=Z,743nm,21.0s
SKAG Skagway 90.04 26 P P 01 19 08.8 +0.1
baz=233,SNR=12
G23K Bananza Creek 90.11 16 P P 01 19 09.5 +0.6
baz=220
IRM Iron Mountain 90.12 54 P P 01 19 10.8 +1.1
baz=248,SNR=56
F22K John River 90.19 15 P P 01 19 10.0 +0.8
baz=218,SNR=13
TPNV Topopah Spring 90.31 51 P P 01 19 10.5 -0.2
TPNV IAmb IAmb 01 19 13.1
comp=Z,59nm,1.1s
TPNV Topopah Spring 90.31 51 P P 01 19 11.6 +0.9
baz=248,SNR=36
TPNV Topopah Spring 90.31 51 P P 01 19 10.5 -0.2
TPNV pmax pmax
comp=Z,59nm,1.1s
J26L Joseph Creek 90.33 19 P P 01 19 10.0 0.0
baz=226
SNAA Sanae 90.44 183 P P 01 19 10.9 +0.2
SNAA Sanae 90.44 183 *i*P P 01 19 10.5 -0.2
SNAA pmax pmax
comp=Z,26nm,1.2s
PRP Porcupine Dome 90.45 18 IAMs_20 IAMs_20 02 00 07.1
comp=Z,734nm,19.0s
PRP Porcupine Dome 90.45 18 P P 01 19 10.5 -0.2
baz=224
COLD Coldfoot 90.46 15 P P 01 19 11.1 +0.6
baz=220,SNR=21
K27K Chicken 90.48 20 P P 01 19 10.5 -0.1
baz=228
LON Longmire 90.48 41 IAmb IAmb 01 19 13.0
comp=Z,88nm,1.6s
PIX Pinacate 90.51 57 IAmb IAmb 01 19 13.6
comp=Z,39nm,1.1s
O30N Mendenhall 90.53 24 P P 01 19 10.4 -0.6
baz=233,SNR=11
G06A Carlson Farm, 90.57 42 IAmb IAmb 01 19 13.7
comp=Z,74nm,1.2s
M29M Somme Creek 90.68 22 P P 01 19 11.2 -0.6
baz=231
113A Mohawk Valley, 90.69 56 IAmb IAmb 01 19 14.8
comp=Z,63nm,1.1s
NEE2 Needles Airpor 90.74 54 P P 01 19 13.8 +1.2
baz=249,SNR=9.3
E22K Anaktuvuk Pass 90.77 14 P P 01 19 12.7 +0.7
baz=219
G24K Hadweenzic Riv 90.77 16 P P 01 19 11.9 0.0
baz=223
P32M Atlin 90.79 26 P P 01 19 12.1 -0.2
baz=235,SNR=6.7
SLBS Sierra La Lagu 90.79 65 P P 01 19 12.6 -0.6
T35M Bob Quinn 90.86 29 P P 01 19 13.2 +0.6
baz=238
V12A Nelson 90.91 53 IAmb IAmb 01 19 15.9
comp=Z,65nm,1.3s
WHY Whitehorse 90.94 25 P P 01 19 12.6 -0.4
baz=234,SNR=9.7
S11A Rachel 90.95 51 IAmb IAmb 01 19 15.8
comp=Z,44nm,1.0s

S34M	Telegraph Cree baz=237,SNR=15	90.96	28	P	P	01 19 13.4	+0.4	
WTNK	Soaring Height comp=Z,16nm,1.3s	90.96	52	IAmb	IAmb	01 19 15.2		
SHPR	Sheep Range comp=Z,42nm,1.3s	90.96	52	IAmb	IAmb	01 19 16.4		
Q32M	Nakina River baz=236	91.04	27	P	P	01 19 13.7	+0.1	
VNA3	Neumayer Olymp	91.11	181	P	P	01 19 13.8	+0.1	
214A	Organ Pipe Nat baz=250	91.17	57	P	P	01 19 16.0	+1.3	
G25K	Bearman Lake baz=224	91.19	17	P	P	01 19 14.2	+0.4	
L29M	L29M baz=231	91.22	22	P	P	01 19 14.1	-0.1	
E23K	Chandalar baz=221	91.24	15	P	P	01 19 14.4	+0.2	
F24K	Squaw Lake baz=222	91.27	16	P	P	01 19 15.1	+0.8	
EGAK	Eagle comp=Z,20nm,1.1s	91.28	20	IAmb	IAmb	01 19 15.1		
EGAK	Eagle baz=228,SNR=21	91.28	20	P	P	01 19 13.7	-0.7	
R11A	Troy Canyon, C comp=Z,24nm,1.2s	91.33	50	IAmb	IAmb	01 19 16.8		
R11A	Troy Canyon, C baz=248,SNR=20	91.33	50	P	P	01 19 16.1	+0.7	
M30M	Minto, Yukon baz=232	91.36	23	P	P	01 19 14.2	-0.7	
VNA2	Neumayer--Watz baz=171,slow=3.0	91.37	182	P	P	01 19 16.1	+1.2	
DAWY	Dawson	91.39	21	P	P	01 19 13.9	-1.1	
DAWY	comp=Z,18nm,1.1s			IAmb	IAmb	01 19 17.3		
DAWY	Dawson baz=230,SNR=15	91.39	21	P	P	01 19 14.7	-0.3	
LTY	Liberty comp=Z,62nm,1.1s	91.40	40	IAmb	IAmb	01 19 17.3		
W13A	Hualapai Mount comp=Z,53nm,1.1s	91.42	54	IAmb	IAmb	01 19 18.4		
P33M	Teslin, Yukon baz=236	91.52	26	P	P	01 19 15.4	-0.3	
E24K	Your Creek baz=222	91.53	15	P	P	01 19 16.2	+0.7	
VNA1	Neumayer--Stat	91.67	182	P	P	01 19 16.3	+0.1	
D23K	Nanushuk River baz=220	91.68	14	P	P	01 19 17.3	+1.1	
I27K	Kandik River baz=228	91.69	19	P	P	01 19 16.6	+0.3	
DLBC	Dease Lake comp=Z,21nm,1.1s	91.74	28	IAmb	IAmb	01 19 18.1		
DLBC	Dease Lake baz=238,SNR=12	91.74	28	P	P	01 19 16.9	+0.1	
R33M	Jennings River baz=237	91.84	27	P	P	01 19 17.4	+0.1	
K29M	Barlow Dome baz=232	91.89	21	P	P	01 19 16.9	-0.5	
F25K	Christian Rive baz=224	91.91	16	P	P	01 19 18.3	+1.0	
G26K	Porcupine Rive baz=226,SNR=22	91.97	17	P	P	01 19 17.9	+0.4	
J29M	Klondike Camp baz=231	92.04	21	P	P	01 19 17.9	-0.1	
M31M	Drury Creek, Y baz=234,SNR=6.4	92.04	24	P	P	01 19 17.1	-0.9	
BMAR	Burnt Mountain	92.08	17	P	P	01 19 17.2	-0.9	
H27K	Steamboat Moun baz=228	92.14	18	P	P	01 19 18.4	0.0	
D24K	Happy Valley baz=222	92.26	14	P	P	01 19 19.6	+0.8	
E25K	Arctic Village baz=224,SNR=7.8	92.31	16	P	P	01 19 19.9	+0.8	
F26K	Sheenjek River baz=226,SNR=8.7	92.39	17	P	P	01 19 20.1	+0.6	
D08A	Wollman Farm, comp=Z,40nm,1.2s	92.41	41	IAmb	IAmb	01 19 22.2		
ELK	Elko	92.45	48	P	P	01 19 19.9	-0.8	
ELK	comp=Z,31nm,1.2s			IAmb	IAmb	01 19 22.9		
ELK	comp=Z,875nm,20.0s			IAMs_20	IAMs_20	01 57 07.2		
ELK	Elko comp=Z,31nm,1.2s	92.45	48	P pmax	P pmax	01 19 19.9	-0.8	
FARO	Faro, Yukon baz=235	92.45	24	P	P	01 19 18.8	-1.1	
SPR3	Spring Creek 3 comp=Z,27nm,1.2s	92.48	50	IAmb	IAmb	01 19 22.8		
G27K	Doyon Strip baz=228	92.49	18	P	P	01 19 19.5	-0.5	
BMO	Blue Mountains comp=Z,61nm,1.6s	92.58	44	IAmb	IAmb	01 19 22.9		
BMO	comp=Z,693nm,21.0s			IAMs_20	IAMs_20	01 51 27.4		
I29M	Ogilvie Camp, comp=Z,20nm,1.3s	92.58	20	IAmb	IAmb	01 19 22.4		
I29M	Ogilvie Camp, baz=231,SNR=10	92.58	20	P	P	01 19 20.0	-0.4	
LCMT	Little Creek M comp=Z,36nm,1.0s	92.58	52	IAmb	IAmb	01 19 23.5		
B08A	Colville Reser comp=Z,48nm,1.2s	92.68	40	IAmb	IAmb	01 19 22.9		
CCUT	Cedar City comp=Z,20nm,1.1s	92.68	51	IAmb	IAmb	01 19 23.7		
E09A	Wood Farm, Sta comp=Z,27nm,1.0s	92.68	42	IAmb	IAmb	01 19 25.7		
C24K	Franklin Bluff baz=222	92.71	14	P	P	01 19 21.6	+0.8	
SZCU	Shurtz Canyon comp=Z,20nm,1.0s	92.90	52	IAmb	IAmb	01 20 56.4		
TUC	Tucson	92.91	57	P	P	01 19 23.3	+0.5	
TUC	comp=Z,45nm,1.1s			IAmb	IAmb	01 19 25.4		
TUC	Tucson baz=251	92.91	57	P	P	01 19 24.2	+1.4	
TUC	Tucson comp=Z,45nm,1.1s	92.91	57	P pmax	P pmax	01 19 23.3	+0.5	
D25K	Kavik River baz=224	92.97	15	P	P	01 19 22.3	+0.1	
TIXI	Tiksi	93.00	349	P	P	01 19 20.7	-1.4	
TIXI	Tiksi comp=Z,13nm,1.2s	93.00	349	*ce*P pmax	P pmax	01 19 21.2	-0.9	
MFID	Camas Ranch comp=Z,754nm,21.0s	93.03	45	IAMs_20	IAMs_20	01 55 59.2		
U15A	North Rim comp=Z,47nm,1.1s	93.10	53	IAmb	IAmb	01 19 26.4		
C09A	Chrisman Ranch comp=Z,30nm,1.4s	93.11	41	IAmb	IAmb	01 19 25.1		
WTLY	Watson Lake, Y comp=Z,13nm,0.9s	93.15	27	IAmb	IAmb	01 19 24.3		
WTLY	Watson Lake, Y baz=239,SNR=15	93.15	27	P	P	01 19 23.2	0.0	
PKCU	Pink Cliffs comp=Z,56nm,1.3s	93.43	52	IAmb	IAmb	01 19 28.5		
E27K	Coleen River baz=228	93.43	17	P	P	01 19 24.9	+0.7	
WUAZ	Wupatki	93.50	54	P	P	01 19 25.5	-0.1	
WUAZ	comp=Z,40nm,1.1s			IAmb	IAmb	01 19 27.9		
WUAZ	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	01 52 21.1		
WUAZ	Wupatki baz=251,SNR=21	93.50	54	P	P	01 19 26.6	+1.1	
EPYK	Eagle Plains comp=Z,28nm,1.2s	93.72	20	IAmb	IAmb	01 19 27.8		
EPYK	Eagle Plains baz=232,SNR=8.2	93.72	20	P	P	01 19 25.3	-0.4	
TCRU	Three Creeks R comp=Z,14nm,0.9s	93.72	51	IAmb	IAmb	01 19 29.2		
MTPU	Mount Pierson comp=Z,20nm,1.0s	93.72	51	IAmb	IAmb	01 19 29.6		
C26K	Camden Bay baz=225	93.76	15	P	P	01 19 26.8	+1.1	
C27K	Jago River baz=226	93.85	15	P	P	01 19 26.3	+0.1	
MVU	Marysvale	93.86	51	P	P	01 19 28.0	+0.8	
MVU	comp=Z,56nm,1.2s			IAmb	IAmb	01 19 29.2		
DUG	Dugway, Tooele comp=Z,42nm,1.9s	93.99	49	IAmb	IAmb	01 19 29.7		
DUG	Dugway, Tooele baz=250,SNR=9.2	93.99	49	P	P	01 19 27.8	+0.1	
NEW	Newport baz=248	94.00	40	P	P	01 19 27.5	+0.1	
HLID	Hailey baz=249,SNR=17	94.04	46	P	P	01 19 28.5	+0.6	
G30M	tAoh Zraii Nji baz=233	94.25	19	P	P	01 19 27.6	-0.5	
X18A	Snowflake comp=Z,33nm,1.2s	94.28	55	IAmb	IAmb	01 19 31.5		
DUN6	Lazy B Ranch comp=Z,228nm,1.6s	94.34	57	IAmb	IAmb	01 19 31.9		
HVU	Hansel Valley comp=Z,88nm,1.2s	94.56	48	IAmb	IAmb	01 19 32.2		
SPUT	South Promonto	94.63	48	P	P	01 19 29.4	-1.2	
W18A	Petrified Fore baz=252	94.64	55	P	P	01 19 30.5	-0.3	
Q16A	Castle Valley comp=Z,29nm,1.3s	94.76	51	IAmb	IAmb	01 19 33.8		
MPU	Maple Canyon comp=Z,38nm,1.8s	94.78	50	IAmb	IAmb	01 19 33.3		
WMQ	Urumqi	94.83	314	*e*P	P	01 19 31.5	+0.2	
WMQ				sP	pwP	01 19 41.6	-1.4	
WMQ				PP	PP	01 23 23.9	+3.5	
WMQ	comp=Z,17nm,1.5s			pmax	pmax			
WMQ	comp=Z,450nm,20.7s			LR	LR			
KOTAN	Kotaneelee Air baz=243	95.24	28	P	P	01 19 32.5	-0.2	
F31M	Tsiigehtchic baz=235	95.30	19	P	P	01 19 32.4	-0.4	
SRU	San Rafael Swe	95.30	51	P	P	01 19 32.5	-1.3	
SRU	San Rafael Swe	95.30	51	P	P	01 19 32.5	-1.3	
SRU	comp=Z,10.0nm,1.1s			pmax	pmax			
TCUT	Toone Canyon comp=Z,15nm,0.9s	95.31	49	IAmb	IAmb	01 21 27.8		
121A	Cookes Peak, D comp=Z,17nm,1.2s	95.38	58	IAmb	IAmb	01 19 37.6		
121A	Cookes Peak, D baz=252	95.38	58	P	P	01 19 35.1	+0.9	
121A	Cookes Peak, D baz=252	95.38	58	P	P	01 19 34.2	-0.1	
WAPA	Wapiti River comp=Z,26nm,0.9s	95.47	34	IAmb	IAmb	01 19 36.0		
MSO	Missoula baz=250	95.49	43	P	P	01 19 34.5	+0.1	
INK	Inuvik	95.87	19	P	P	01 19 33.8	-1.5	
INK	comp=Z,25nm,1.7s			IAmb	IAmb	01 19 37.0		
INK	Inuvik baz=235	95.87	19	P	P	01 19 34.8	-0.5	
INK	Inuvik comp=Z,25nm,1.7s	95.87	19	P pmax	P pmax	01 19 33.8	-1.5	
BRLDA	Berland Lookou comp=Z,36nm,0.9s	96.04	35	IAmb	IAmb	01 19 40.2		
AHID	Auburn Hatcher comp=Z,639nm,19.0s	96.05	47	IAMs_20	IAMs_20	01 59 16.4		
PV10	Paradox Valley comp=Z,11nm,0.8s	96.18	52	IAmb	IAmb	01 19 42.2		
KIDD	KIDD Seismic O baz=253	96.19	59	P	P	01 19 39.5	+1.6	
MVCO	Mesa Verde	96.23	53	P	P	01 19 36.7	-1.4	
MVCO	Mesa Verde baz=252	96.23	53	P	P	01 19 37.3	-0.9	
PV11	David Mesa, Pa comp=Z,26nm,1.4s	96.28	52	IAmb	IAmb	01 19 40.1		
Y22A	Socorro baz=253	96.46	57	P	P	01 19 40.5	+1.4	
PV07	Paradox Valley comp=Z,16nm,1.3s	96.49	52	IAmb	IAmb	01 19 40.9		
PV15	Paradox Valley comp=Z,25nm,1.4s	96.59	52	IAmb	IAmb	01 19 41.3		
BOZ	Bozeman (W) baz=251,SNR=9.1	96.60	44	P	P	01 19 39.8	+0.4	
MOOW	Moose Ponds	96.61	46	P	P	01 19 38.1	-1.5	
MOOW	comp=Z,981nm,22.0s			IAMs_20	IAMs_20	01 54 46.1		
LOHW	Long Hollow comp=Z,850nm,21.0s	96.66	46	IAMs_20	IAMs_20	01 54 12.6		
YMR	Madison River comp=Z,21nm,1.4s	96.75	45	IAmb	IAmb	01 19 44.1		
WRGLY	Wrigley baz=244,SNR=12	96.88	25	P	P	01 19 40.1	0.0	
H17A	Grant Village baz=252,SNR=9.6	96.93	46	P	P	01 19 42.6	+1.5	
MNTX	Cornudas Mount baz=253	97.09	59	P	Pdif	01 19 42.8	+0.8	
MNTX	Cornudas Mount baz=253	97.09	59	P	Pdif	01 19 42.1	+0.1	
BW06	Boulder Array baz=252	97.13	47	P	P	01 19 41.8	-0.3	
PDAR	Pinedale Array comp=Z,2.7nm,1.0s,baz=242,slow=3.2,SNR=16	97.13	47	P	P	01 19 42.1	0.0	
ANMO	comp=Z,2.7nm,1.0s Albuquerque	97.15	56	P	P	01 19 41.4	-0.9	
ANMO	Albuquerque baz=253	97.15	56	P	Pdif	01 19 42.5	+0.1	
ANMO	Albuquerque baz=253	97.15	56	P	Pdif	01 19 42.4	0.0	
ANMO	Albuquerque comp=Z,9.0nm,1.1s	97.15	56	P pmax	P pmax	01 19 41.4	-0.9	
S22A	4UR Ranch, Cre baz=253,SNR=6.9	97.66	53	P	Pdif	01 19 45.4	+0.7	
TX31	Lajitas Ar. Si baz=254	97.85	62	P	Pdif	01 19 46.1	+0.6	
TX32	Lajitas Array comp=Z,20nm,1.4s	97.85	62	IAmb	IAmb	01 19 47.6		
TXAR	Lajitas Array comp=Z,3.7nm,0.9s,baz=242,slow=5.3,SNR=32	97.85	62	P	Pdif	01 19 45.8	+0.3	
TXAR	comp=Z,3.7nm,0.9s Lajitas Array	97.85	62	P	P	01 19 45.4	-0.1	
TXAR	Lajitas Array	97.85	62	P	P	01 19 45.4	-0.1	
EDM	Edmonton comp=Z,22nm,1.4s	97.99	37	IAmb	IAmb	01 19 48.5		
RLMT	Red Lodge baz=253	98.03	45	P	Pdif	01 19 46.5	+0.4	
SDCO	Great Sand Dun baz=254	98.67	53	P	Pdif	01 19 49.5	+0.3	
SDCO	Great Sand Dun baz=254	98.67	53	P	P	01 19 48.8	-0.4	
ISCO	Idaho Springs baz=254	99.14	51	P	Pdif	01 19 50.8	-0.5	
ISCO	Idaho Springs baz=254	99.14	51	P	Pdif	01 19 51.2	-0.1	
N23A	Red Feather La baz=254	99.19	50	P	Pdif	01 19 51.6	+0.2	
K22A	Casper baz=254	99.24	48	P	Pdif	01 19 51.1	-0.3	
K22A	Casper baz=254	99.24	48	P	Pdif	01 19 51.3	-0.2	
Q24A	Divide baz=255	99.26	52	P	Pdif	01 19 51.6	-0.3	
T25A	Trinidad baz=255	99.35	54	P	Pdif	01 19 51.7	-0.4	
C36M	Paulatuk	99.36	20	P	Pdif	01 19 49.8	-1.3	
C36M	comp=Z,26nm,1.3s			IAmb	IAmb	01 19 51.6		
C36M	Paulatuk baz=244,SNR=10.0	99.36	20	P	Pdif	01 19 50.5	-0.6	
MKAR	Makanchi Array comp=Z,1.2nm,0.6s,baz=97,slow=6.1,SNR=12	99.37	316	P	Pdif	01 19 51.6	-0.1	
MKAR	comp=Z,2.1nm,1.1s,baz=103,slow=6.2,SNR=2.9			PP	PP	01 23 55.0	-0.3	
MKAR	comp=Z,0.7nm,0.8s,baz=302,slow=2.7,SNR=4.7			PKKP	PKKPdf	01 36 19.3	-2.0	
MKAR	Makanchi Array	99.37	316	P	Pdif	01 19 50.2	-1.6	
MKAR	Makanchi Array	99.37	316	*i* P	Pdif	01 19 51.5	-0.2	
MKAR	comp=Z,1.0nm,0.6s			pmax	pmax			
MSTX	Muleshoe baz=255	99.82	58	P	Pdif	01 19 54.3	+0.1	
MSTX	Muleshoe baz=255	99.82	58	P	Pdif	01 19 53.6	-0.5	
ZALV	Zalesovo Beam comp=Z,0.3nm,0.4s,baz=111,slow=6.3,SNR=1.6	99.83	324	P	Pdif	01 19 52.9	-0.7	
A36M	comp=Z,0.3nm,0.4s Sachs Harbour	100.18	17	Pdif	Pdif	01 19 53.6	-1.0	
A36M	Sachs Harbour baz=244	100.18	17	P	Pdif	01 19 54.7	+0.1	
YKA	Yellowknife Ar comp=Z,13nm,1.1s,baz=253,slow=4.9,SNR=60	100.36	28	P	Pdif	01 19 55.9	+0.2	
LAO	LASA Array baz=255	100.51	44	P	Pdif	01 19 57.5	+0.6	
AMTX	Amarillo baz=256	100.92	57	P	Pdif	01 19 58.9	-0.1	
KSCO	Kaye Shedlock' baz=256	101.18	53	P	Pdif	01 20 00.4	+0.3	
833A	Chaparral WMA, baz=256	101.21	64	P	Pdif	01 20 01.4	+1.1	
RSSD	Black Hills	101.37	47	Pdif	Pdif	01 19 59.4	-1.6	
RSSD	Black Hills baz=256	101.37	47	P	Pdif	01 20 00.8	-0.1	
RSSD	Black Hills baz=256	101.37	47	P	Pdif	01 20 00.7	-0.3	
RSSD	Black Hills	101.37	47	*i* P	Pdif	01 19 59.4	-1.6	
JCT	Junction City baz=256	101.39	62	P	Pdif	01 20 01.1	-0.1	
JCT	Junction City baz=256	101.39	62	P	Pdif	01 20 00.7	-0.4	
ABTX	Abilene, Hawle baz=256	102.03	59	P	Pdif	01 20 03.5	-0.4	
ABTX	Abilene, Hawle baz=256	102.03	59	P	Pdif	01 20 03.4	-0.5	
DGMT	Dagmar baz=257	102.27	43	P	Pdif	01 20 04.0	-0.6	
NRIK	Noril'sk comp=Z,0.9nm,0.4s,baz=174,slow=1.3,SNR=4.1	102.94	339	P	Pdif	01 20 06.0	-1.0	
CBKS	Cedar Bluff comp=Z,835nm,20.0s	103.33	53	IAMs_20	IAMs_20	01 59 40.3		
OK031	S. Brethren Rd comp=Z,681nm,21.0s	105.01	57	IAMs_20	IAMs_20	02 04 27.0		
OK048	Pawnee Station comp=Z,498nm,18.0s	105.02	56	IAMs_20	IAMs_20	01 53 12.1		
OK053	SW of W Deep R comp=Z,618nm,20.0s	105.06	57	IAMs_20	IAMs_20	02 04 22.4		
TUL1	Leonard baz=259	105.83	57	P	PKiKP	01 24 32.5	-0.9	
P52A	Corning baz=269	116.98	54	P	PKPdf	01 24 53.7	-0.7	
O53A	New Philadelph baz=270	117.70	53	P	PKPdf	01 24 54.8	-0.9	
M53A	WI Miller and baz=270	118.11	52	P	PKPdf	01 24 55.7	-0.8	
BLA	Blacksburg baz=268	118.27	57	P	PKPdf	01 24 55.8	-1.2	
BELG	Belogorsk	121.90	321	*i* PKiKP	PKPdf	01 25 02.2	-1.2	
APA	Apatity	122.29	341	*i* PKiKP	PKiKP	01 25 14.9	+11	
APA	comp=Z,6.0nm,1.0s			pmax	pmax			
ARCES	ARCESS Array B comp=Z,1.9nm,0.6s,baz=38,slow=6.1,SNR=7.0	123.23	345	PKP	PKPdf	01 25 05.3	-0.2	
KLMR	Klimovskoe	123.40	332	*e*PKPdf	PKPdf	01 25 04.0	-2.0	
KLMR	Klimovskoe	123.40	332	*e*PKiKP	PKPdf	01 25 04.0	-2.0	
VRH	Novokhopyorsk	125.75	321	*e*PKiKP	PKPdf	01 25 08.9	-1.9	
VRH	comp=Z,30nm,1.9s			pmax	pmax			
ZEI	Tsey	126.21	310	*i* PKiKP	PKiKP	01 25 14.7	+2.0	
ZEI	comp=Z,7.0nm,1.2s			pmax	pmax			
KIV	Kislovodsk	126.88	312	*e*PKiKP	PKPdf	01 25 12.2	-1.2	
KIV				*e*		01 27 07.3		
KIV				*e*PPP	PPP	01 29 52.9		
KIV	comp=Z,4.0nm,1.1s			pmax	pmax			
LPSR	Galich'ya Gora	126.94	323	*e*PKiKP	PKPdf	01 25 12.1	-1.0	
LPSR	comp=Z,10.0nm,1.2s			pmax	pmax			
VSR	Storozhevoye	127.27	321	*e*PKiKP	PKPdf	01 25 12.5	-1.3	
VSR	comp=Z,10.0nm,1.6s			pmax	pmax			
GURO	Guroymak-BITLI	128.23	305	PKPdf	PKPdf	01 25 14.7	-1.5	
FINES	FINESS Array B comp=Z,7.3nm,1.1s,baz=222,slow=2.6,SNR=4.6	128.56	337	PKP	PKPdf	01 25 15.9	+0.1	
FINES	FINESS Array B	128.56	337	PKiKP	PKPdf	01 25 16.0	+0.1	
LODK	Lodwar comp=Z,481nm,20.0s	130.67	259	IAMs_20	IAMs_20	02 20 17.3		
AKASG	Malin Array Be comp=Z,2.3nm,0.7s,baz=54,slow=2.2,SNR=16	133.22	324	PKP	PKPdf	01 25 24.1	-0.9	
NOA	NORSAR Array B comp=Z,1.7nm,0.9s,baz=33,slow=2.0,SNR=3.5	133.59	344	PKP	PKPdf	01 25 25.4	-0.1	
BRTR	Keskin Array B comp=Z,0.5nm,0.7s,baz=294,slow=1.2,SNR=4.1	134.41	308	PKP	PKPdf	01 25 27.6	-0.3	
UZH	Uzhgorod	138.13	325	*e*PKHKP	PKPpre	01 25 25.0		
MAUC	Maruska	140.01	329	*e*PKP	PKiKP	01 25 41.8	+1.6	
VRAC	Vranov	140.65	330	*e*PKP	PKPdf	01 25 36.7	-2.2	
BRG	Berggiesshubel	140.75	333	*e*PKP	PKPpre	01 25 24.5		
BRG	comp=Z,10nm,1.2s			Amp		01 25 25.7		
BRG	Berggiesshubel comp=Z,11nm,1.2s	140.75	333	*e*PKHKP pmax	PKPpre pmax	01 25 24.5		
KRUC	Moravsky	140.91	329	*e*PKP	PKPdf	01 25 37.3	-2.1	
RONA	Rosalia, Austr comp=Z,5.6nm,1.0s	141.87	328	*e*PKP	PKPdf	01 25 41.9	+0.7	
CONA	Conrad Observa comp=Z,6.3nm,0.9s	141.94	328	*e*PKiKP	PKPdf	01 25 42.7	+1.3	
CKRC	Cesky Krumlov	142.07	331	*e*PKP	PKiKP	01 25 43.2	-1.2	
KHC	Kasperske Hory	142.19	332	*e*PKP	PKPdf	01 25 39.8	-1.9	
KHC	Kasperske Hory	142.19	332	*e*PKiKP	PKPdf	01 25 39.8	-1.9	
GERES	GERESS Array B comp=Z,1.5nm,0.8s,baz=173,slow=2.6,SNR=2.8	142.34	331	PKP	PKPdf	01 25 39.8	-2.2	
ARSA	Arzberg comp=Z,8.8nm,2.0s	142.56	328	*e*pPKP	pPKPdf	01 25 46.6	-1.0	
MOA	Molln comp=Z,6.2nm,1.1s	142.78	330	*e*PKiKP	PKPdf	01 25 44.3	+1.5	
BIOA	Bad Ischl, Aus comp=Z,2.7nm,0.8s	143.19	330	*e*pPKP	PKiKP	01 25 47.5	+0.7	
SOKA	Soboth comp=Z,11nm,1.3s	143.19	327	*e*PKiKP	PKiKP	01 25 47.0	+0.1	
OBKA	Obir comp=Z,12nm,1.1s	143.56	328	*e*PKiKP	PKiKP	01 25 46.6	-1.1	
KBA	Koelnbreinsper comp=Z,17nm,1.0s	143.76	329	*e*PKiKP	PKiKP	01 25 47.8	-0.3	
MYKA	Terra Mystica comp=Z,5.3nm,1.0s	143.93	329	*e*PKiKP	PKiKP	01 25 47.0	-1.4	
ABTA	Abfaltersbach comp=Z,39nm,1.1s	144.40	330	*e*PKP	PKPbc	01 25 44.6	+0.4	
WATA	Walderalm comp=Z,9.8nm,0.9s	144.41	331	*e*PKP	PKPbc	01 25 44.8	+0.6	
WTTA	Wattenberg comp=Z,13nm,1.3s	144.44	331	*e*PKP	PKPdf	01 25 45.4	-0.5	
MOTA	Moosalm comp=Z,23nm,1.1s	144.62	332	*e*PKP	PKPbc	01 25 45.3	+0.4	
SQTA	Sankt Quirin comp=Z,35nm,1.1s,SNR=6.5	144.67	331	*e*PKP	PKPdf	01 25 45.8	-0.4	
RETA	Reutte comp=Z,9.7nm,0.9s,SNR=5.2	144.67	332	*e*PKP	PKPbc	01 25 45.5	+0.5	
FETA	Feichten comp=Z,59nm,1.1s,SNR=13	145.03	331	*i* PKP	PKPdf	01 25 47.2	+0.2	
BFO	Black Forest	145.05	335		PKPbc	01 25 44.5	-1.6	
BFO	Black Forest	145.05	335	PKiKP	PKPbc	01 25 44.5	-1.6	
DAVA	Damuels comp=Z,31nm,0.8s,SNR=10.0	145.21	333	*e*PKP	PKPdf	01 25 47.7	+0.5	
TUE	Stuetta	146.07	332	PKPdf	PKPdf	01 25 46.1	-2.7	
TIP	Timpagrande	146.66	316		PKPbc	01 25 50.9	-0.5	
BNI	Bardonecchia	148.35	333		PKPbc	01 25 56.7	+0.7	
BNI	Bardonecchia	148.35	333	PKP2	PKPbc	01 25 56.7	+0.7	
KEST	Kesra comp=Z,7.7nm,0.9s,baz=329,slow=5.2,SNR=5.3	153.47	317	PKPbc	PKiKP	01 26 09.1	+0.6	
PBRG	Braganca	155.56	349	*e*PKPab	PKPab	01 26 29.5	+0.4	
PBRG				*i* LQ	LQ	01 26 52.5		
SET	Setif	155.62	322	P	PKPdf	01 26 07.0	+3.4	
POLO	Lamas de Olo	156.16	351	*e*PKPab	PKPab	01 26 32.6	+0.9	
POLO				*i* LQ	LQ	01 26 48.3		
MVO	Moncorvo	156.24	349	*i* LQ	LQ	01 26 56.4		
PVRL	Vila Real	156.25	350	*e*PKPab	PKPab	01 26 32.6	+0.6	
PVRL				*i* LQ	LQ	01 26 56.5		
PVIS	Viseu	156.82	350	*e*PKPab	PKPab	01 26 35.3	+0.8	
PVIS				*i* LQ	LQ	01 26 58.5		
ESDC	Sonseca Array comp=Z,0.6nm,1.0s,baz=334,slow=1.9,SNR=2.5	156.93	342	PKPbc	PKPbc	01 26 15.7		
MTE	Manteigas	157.07	350	*e*PKPab	PKPab	01 26 36.6	+1.0	
COI	Coimbra	157.40	351	*e*PKPab	PKPab	01 26 37.0	+0.1	
PCAS	Casmilo, Conde	157.56	351	*e*PKPab	PKPab	01 26 38.6	+0.9	
PCAS				*i* LQ	LQ	01 27 02.2		
PCBR	Castelo Branco	157.60	349	*e*PKPab	PKPab	01 26 38.1	+0.3	
PCBR				*i* LQ	LQ	01 27 02.2		
PSBE	So Bento	158.13	352	*e*PKPab	PKPab	01 26 41.0	+0.8	
PESTR	Estremoz	158.57	349	*e*PKPab	PKPab	01 26 41.9	-0.2	
EVO	Evora	158.97	349	*e*PKPab	PKPab	01 26 42.0	-1.8	
PBAR	Barrancos	159.12	347	*e*PKPab	PKPab	01 26 43.8	-0.7	
PBAR	

*IDC **04** 01:08:24.3±1.2, 19.°04S×176.°04E, h0km, mb4.5/10, mbtmp4.5/10, Error ellipse: s-maj=51.0km s-min=26.8km az=162.0*

ISC 04 01:08:26.0±1.1, 18.°9S±0.°3×176.°2E±0.°2, h10km, n68, σ1§46/61, mb4.6/10, 19C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.10**	**56**	Pn	**Pn**	**01 09 00.1**	**-1.2**
	42nm,0.3s,baz=113,slow=5.3,SNR=5.6						
MSVF				Sn	**Sn**	**01 09 26.3**	**-1.3**
	80nm,0.3s,baz=116,slow=23,SNR=15						
H11S2	**WAKE ISLAND Hy**	**38.35**	**345**	T	T	01 56 36.6	
	baz=166,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**38.36**	**345**	T	T	01 56 35.4	
	baz=166,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**38.37**	**345**	T	T	01 56 37.8	
	baz=166,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**39.49**	**346**	T	T	01 57 58.7	
	baz=166,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**39.49**	**346**	T	T	01 57 59.8	
	baz=166,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**39.51**	**346**	T	T	01 58 01.0	
	baz=166,slow=76,SNR=11						
ASAR	**Alice Springs**	**39.61**	**256**	P	**P**	**01 15 56.7**	**-1.4**
	8.4nm,1.0s,baz=91,slow=8.5,SNR=5.4						
ASAR				PcP	**PcP**	**01 18 04.0**	**-1.3**
	1.8nm,0.8s,baz=104,slow=3.9,SNR=2.6 8.4nm,1.0s						
MJAR	**Matsushiro Arr**	**65.84**	**327**	P	**P**	**01 19 11.4**	**-0.4**
	7.7nm,1.0s,baz=156,slow=7.6,SNR=5.8 7.7nm,1.0s						
KSRS	**Korea Array**	**72.20**	**321**	P	**P**	**01 19 51.3**	**0.0**
	1.9nm,0.8s,baz=141,slow=5.2,SNR=3.0 1.9nm,0.8s						
NVAR	**Mina Array Bea**	**83.74**	**46**	P	**P**	**01 20 57.5**	**+1.8**
	2.3nm,0.7s,baz=224,slow=8.8,SNR=3.3 2.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**84.48**	**292**	P	**P**	**01 20 59.1**	**-0.5**
	1.6nm,0.4s,baz=120,slow=4.1,SNR=4.2 1.6nm,0.4s						
ILAR	**Eielson Array**	**88.11**	**15**	P	**P**	**01 21 15.8**	**-0.6**
	3.5nm,0.8s,baz=242,slow=5.8,SNR=5.3 3.5nm,0.8s						
TXAR	**Lajitas Array**	**90.87**	**59**	P	**P**	**01 21 32.2**	**+1.9**
	3.1nm,0.8s,baz=227,slow=6.0,SNR=13 3.1nm,0.8s						
SONM	**Songino Array**	**91.06**	**321**	P	**P**	**01 21 30.6**	**-0.3**
	2.9nm,1.0s,baz=129,slow=4.1,SNR=4.7 2.9nm,1.0s						
PDAR	**Pinedale Array**	**91.64**	**45**	P	**P**	**01 21 34.0**	**+0.2**
	0.8nm,0.8s,baz=173,slow=2.9,SNR=3.7 0.8nm,0.8s						
YKA	**Yellowknife Ar**	**97.43**	**26**	P	**P**	**01 21 59.5**	**0.0**
	1.5nm,0.8s,baz=248,slow=4.8,SNR=5.7 1.5nm,0.8s						
GEYT	**Alibeck**	**123.38**	**303**	PKP	**PKPdf**	**01 27 21.9**	**-1.8**
	2.2nm,0.9s,baz=214,slow=0.5,SNR=3.5						
AKASG	**Malin Array Be**	**138.92**	**328**	PKP	**PKPdf**	**01 27 53.4**	**+0.8**
	0.4nm,0.4s,baz=46,slow=4.0,SNR=2.0						
OZUR		**143.58**	**325**	⇑P	PKPab	01 27 59.6	+1.9
MLR	**Muntele Rosu**	**143.86**	**324**	⇑P	PKPab	01 27 58.6	-0.2
DOPR	**Dopca**	**143.87**	**325**	⇑P	PKPab	01 28 00.6	+1.8
SECR		**144.06**	**323**	⇑P	**PKPab**	**01 28 00.8**	**+1.3**
SULR		**144.17**	**322**	⇑P	**PKPab**	**01 28 01.0**	**+1.1**
CJR	**Cluj-Napoca**	**144.34**	**327**	⇑P	**PKPab**	**01 28 01.9**	**+1.4**
OKC	**Ostrava-Krasne**	**144.53**	**335**	*e*PKP	**PKPab**	**01 28 02.0**	**+0.9**
SGRR	**Singureni**	**144.60**	**322**	⇑P	**PKPab**	**01 28 02.1**	**+0.6**
OSTC	**Ostas**	**144.67**	**338**	*e*PKP	**PKPab**	**01 28 02.7**	**+1.1**
DRGR		**144.74**	**328**	⇑P	**PKPab**	**01 28 02.8**	**+0.7**
UPC	**Upice**	**144.79**	**338**	*e*PKP	**PKPab**	**01 28 03.1**	**+1.1**
DPC	**Dobruska-Polom**	**144.81**	**338**	*e*PKP	**PKPab**	**01 28 03.1**	**+1.0**
MORC	**Moravsky Berou**	**144.82**	**336**	*e*PKP	**PKPab**	**01 28 02.9**	**+0.7**
KRLC	**Kraliky**	**144.86**	**337**	*e*PKP	**PKPab**	**01 28 03.2**	**+0.8**
MAUC	**Maruska**	**145.03**	**335**	*e*PKP	**PKPbc**	**01 28 04.0**	**+1.0**
CLL	**Collm**	**145.09**	**342**	⇓*i* PKPbc	**PKPbc**	**01 28 03.4**	**+0.4**
	comp=Z,51nm,1.0s						
BRG	**Berggiesshubel**	**145.17**	**340**	*i* P	**PKPbc**	**01 28 04.2**	**+0.9**
BRG				Amp		01 28 05.1	
	comp=Z,42nm,1.1s						
DEV	**Deva**	**145.25**	**327**	⇑P	**PKPbc**	**01 28 04.4**	**+0.7**
PVCC	**Panska Ves**	**145.26**	**339**	*e*PKP	**PKPbc**	**01 28 04.5**	**+0.9**
VYHS	**Vyhne**	**145.30**	**333**	*e*PKP	**PKPbc**	**01 28 04.7**	**+0.9**
VYHS				*e*		01 36 38.5	
VYHS				*e*		02 06 39.3	
VYHS				*e*		02 07 12.7	
JAVC	**Velka Javorina**	**145.50**	**335**	*e*PKP	**PKPdf**	**01 28 04.3**	**+1.8**
VRAC	**Vranov**	**145.56**	**336**	*e*PKP	**PKPdf**	**01 28 05.4**	**+0.9**
VLAD	**Vladila**	**145.64**	**323**	⇑P	**PKPdf**	**01 28 05.4**	**+0.6**
GZR	**Gura Zlata**	**145.65**	**326**	⇑P	**PKPdf**	**01 28 05.3**	**+0.4**
GOPC	**GO Pecny, Ondr**	**145.71**	**339**	*e*PKP	**PKPdf**	**01 28 05.8**	**+1.0**
PRU	**Pruhonice**	**145.73**	**339**	*e*PKP	**PKPdf**	**01 28 05.7**	**+0.9**
SURR	**Surduc**	**145.74**	**327**	⇑P	**PKPdf**	**01 28 05.6**	**+0.7**
KRUC	**Moravsky**	**145.84**	**336**	*e*PKP	**PKPdf**	**01 28 06.1**	**+1.1**
PLVB	**Pleven**	**145.88**	**322**	⇑P	**PKPdf**	**01 28 06.0**	**+0.7**
AMBH	**Ambrzfalva**	**146.03**	**329**	⇑P	**PKPdf**	**01 28 04.2**	**-1.2**
MODS	**Modra-Piesok**	**146.04**	**335**	*e*PKP	**PKPdf**	**01 28 07.5**	**+2.1**
BZS	**Buzias**	**146.10**	**327**	⇑P	**PKPdf**	**01 28 05.1**	**-0.4**
HERR	**Herculane**	**146.18**	**326**	⇑P	**PKPdf**	**01 28 06.9**	**+1.2**
ZST	**Bratislava**	**146.25**	**335**	*e*PKP	**PKPdf**	**01 28 07.3**	**+1.6**
DJES	**Djerdap**	**146.26**	**325**	⇑P	**PKPdf**	**01 28 06.5**	**+0.6**
MDVR	**Moldovita**	**146.62**	**326**	⇑P	**PKPdf**	**01 28 07.7**	**+1.2**
KHC	**Kasperske Hory**	**146.79**	**339**	*e*PKP	**PKPdf**	**01 28 08.9**	**+2.2**
CKRC	**Cesky Krumlov**	**146.81**	**338**	*e*PKP	**PKPdf**	**01 28 09.8**	**+3.1**
CONA	**Conrad Observa**	**146.96**	**336**	*e*P	**PKPdf**	**01 28 03.0**	**-4.1**
	comp=Z,19nm,0.9s						
RONA	**Rosalia, Austr**	**146.98**	**335**	*e*PcP	**PKPdf**	**01 28 08.6**	**+1.5**
	comp=Z,22nm,1.6s						
GERES	**GERESS Array B**	**147.00**	**339**	PKPbc	**PKPdf**	**01 28 08.9**	**+1.9**
	comp=Z,3.2nm,0.8s,baz=54,slow=5.4,SNR=5.4						
VTS	**Vitosha**	**147.16**	**322**	⇑P	**PKPdf**	**01 28 09.3**	**+1.7**
MOA	**Molln**	**147.64**	**337**	*e*PcP	**PKPdf**	**01 28 11.1**	**+3.0**
	comp=Z,12nm,1.5s						
ARSA	**Arzberg**	**147.65**	**335**	*e*PcP	**PKPdf**	**01 28 04.9**	**-3.2**
	comp=Z,110.0nm,1.3s						
SOKA	**Soboth**	**148.31**	**335**	*e*PcP	**PKPdf**	**01 28 10.8**	**+1.5**
	comp=Z,5.4nm,1.1s						
OBKA	**Obir**	**148.64**	**335**	*e*PcP	**PKPdf**	**01 28 08.3**	**-1.5**
	comp=Z,12nm,1.5s						
MYKA	**Terra Mystica**	**148.89**	**336**	*i* PcP	**PKPdf**	**01 28 11.7**	**+1.4**
	comp=Z,8.9nm,0.9s						
ESDC	**Sonseca Array**	**159.33**	**0**	PKPab	**PKPab**	**01 29 02.8**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=354,slow=4.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**172.21**	**223**	PKP	**PKPdf**	**01 28 34.2**	**-2.0**
	comp=Z,3.0nm,1.0s,baz=21,slow=1.5,SNR=2.4						

*IDC **04** 01:09:38.0±1.0, 32.°38S×179.°70W, h0km, mb4.5/6, mbtmp4.6/7, ML4.5/1, MS4.7/2, Error ellipse: s-maj=31.9km s-min=25.1km az=39.0*

ISC 04 01:09:43.7±0.9, 32.°5S±0.°1×179.°8W±0.°2, h35km, n17, σ1§06/10, mb4.4/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.27**	**203**	Pn	**Pn**	**01 11 14.0**	**+0.3**
	10nm,0.3s,baz=200,slow=3.3,SNR=12						
URZ				Sn	**Sn**	**01 12 23.6**	**-0.5**
	baz=111,slow=18 49nm,0.5s						
DZM	**Mont Dzumac**	**16.01**	**307**	LR	LR	01 18 30.5	
	comp=Z,3μm,18.2s,baz=174,slow=33						
ASAR	**Alice Springs**	**41.50**	**270**	P	**P**	**01 17 28.1**	**+0.4**
	5.3nm,1.0s,baz=119,slow=8.7,SNR=5.4 5.3nm,1.0s						
WRA	**Warramunga Arr**	**42.68**	**275**	P	**P**	**01 17 37.5**	**+0.2**
	2.5nm,0.5s,baz=115,slow=7.7,SNR=12 2.5nm,0.5s						
SIJI	**Sorong**	**55.71**	**294**	P	**P**	**01 19 17.3**	**+0.2**
	4.1nm,0.3s,baz=104,slow=8.3,SNR=9.3 4.1nm,0.3s						
QSPA	**South Pole Qui**	**57.62**	**180**	P	**P**	**01 19 30.6**	**+0.5**
	15nm,0.9s,baz=292,slow=1.4,SNR=5.9 15nm,0.9s						
H03S2	**Juan Fernandez**	**80.60**	**124**	T	T	02 50 47.2	
	baz=234						
H03S1	**Juan Fernandez**	**80.61**	**124**	T	T	02 50 45.9	
	baz=234						
H03S3	**Juan Fernandez**	**80.61**	**124**	T	T	02 50 46.7	
	baz=234						
H03N3	**Juan Fernandez**	**80.81**	**124**	T	T	02 50 43.4	
	baz=240,slow=72,SNR=13						
H03N2	**Juan Fernandez**	**80.81**	**124**	T	T	02 50 46.4	
	baz=240,slow=72,SNR=7.8						
H03N1	**Juan Fernandez**	**80.82**	**124**	T	T	02 50 42.7	
	baz=240,slow=72,SNR=18						
PLCA	**Paso Flores**	**82.21**	**134**	P	**P**	**01 22 02.5**	**+1.1**
	2.1nm,0.8s,baz=239,slow=5.0,SNR=3.0 2.1nm,0.8s						
NVAR	**Mina Array Bea**	**90.83**	**44**	P	**P**	**01 22 43.3**	**-0.3**
	3.4nm,1.1s,baz=219,slow=7.9,SNR=4.1 3.4nm,1.1s						
JTS	**Las Juntas de**	**99.53**	**84**	LR	LR	02 01 36.8	
	comp=Z,324nm,18.0s,slow=31						
FINES	**FINESS Array B**	**146.53**	**338**	PKPbc	**PKPdf**	**01 29 18.2**	**-0.8**
	5.0nm,0.9s,baz=72,slow=2.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**160.69**	**184**	PKPab	**PKPab**	**01 30 20.0**	**-2.2**
	0.9nm,0.7s,baz=141,slow=2.6,SNR=2.9						

*NEIC **04** 01:16:57.4±1.5, 19.°2S±0.°1×176.°3E±0.°1, h10km±1km, mb4.5/10, Error ellipse: s-maj=30.8km s-min=6.5km az=323.0*

*IDC **04** 01:16:58.8±0.9, 19.°23S×175.°87E, h0km, mb4.1/9, mbtmp4.1/10, ML4.0/1, Error ellipse: s-maj=34.2km s-min=20.7km az=139.0*

ISC 04 01:16:58.1±0.5, 19.°21S±0.°1×176.°35E±0.°09, h10km, n32, σ1§92/30, mb4.3/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.18**	**48**	Pn	**Pb**	**01 17 36.6**	**-1.2**
	5.8nm,0.3s,baz=229,slow=8.2,SNR=13						
MSVF				Sn	**Sb**	**01 18 02.5**	**-2.5**
	14nm,0.3s,baz=143,slow=23,SNR=6.1						
MSVF	**Nonsavu**	**2.18**	**48**	Pn	**Pn**	**01 17 34.4**	**-0.2**
MSVF				Sn	**Sn**	**01 18 00.3**	**-1.4**
DZM	**Mont Dzumac**	**9.70**	**251**	Pn	**Pn**	**01 19 16.8**	**-1.1**
	0.1nm,0.3s,baz=69,slow=13,SNR=7.9						
DZM	**Mont Dzumac**	**9.70**	**251**		**Pn**	**01 19 17.5**	**-0.5**
URZ	**Urewera**	**18.99**	**178**	P	**Pn**	**01 21 23.6**	**+3.0**
	0.4nm,0.3s,baz=43,slow=4.4,SNR=5.6 14nm,0.8s						
BKZ	**Black Stump Fm**	**19.89**	**180**	P	**P**	**01 21 28.6**	**-1.1**
BKZ				IAmb	IAmb	01 22 03.1	
	comp=Z,44nm,1.3s						
LTZ	**Lake Taylor**	**23.75**	**187**	P	**P**	**01 22 11.6**	**+1.0**
STKA	**Stephens Creek**	**33.65**	**241**	P	**P**	**01 23 37.9**	**-1.3**
	comp=Z,4.1nm,1.0s,baz=43,slow=11,SNR=3.7 comp=Z,4.1nm,1.0s						
STKA	**Stephens Creek**	**33.65**	**241**	P	**P**	**01 23 38.3**	**-0.9**
H11S2	**WAKE ISLAND Hy**	**38.65**	**345**	T	T	02 05 31.2	
	baz=166						
H11S3	**WAKE ISLAND Hy**	**38.66**	**345**	T	T	02 05 34.2	
	baz=166						
H11S1	**WAKE ISLAND Hy**	**38.66**	**345**	T	T	02 05 28.1	
	baz=166						
WB0	**Warramunga Arr**	**39.49**	**262**	P	**P**	**01 24 27.2**	**-2.0**
WB0				IAmb	IAmb	01 25 01.4	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**39.52**	**262**	P	**P**	**01 24 27.2**	**-2.2**
	comp=Z,1.4nm,1.0s,baz=98,slow=8.4,SNR=4.7 comp=Z,1.4nm,1.0s						
WRA	**Warramunga Arr**	**39.52**	**262**	P	**P**	**01 24 26.0**	**-3.4**
AS31	**Alice Springs**	**39.65**	**256**	P	**P**	**01 24 28.6**	**-1.9**
AS31				IAmb	IAmb	01 24 31.8	
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**39.66**	**256**	P	**P**	**01 24 28.9**	**-1.6**
	comp=Z,5.5nm,0.7s,baz=87,slow=9.6,SNR=35						
ASAR				PcP	**PcP**	**01 26 36.9**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=112,slow=3.7,SNR=4.5 comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**39.66**	**256**	P	**P**	**01 24 28.3**	**-2.3**
FORT	**Forrest**	**44.95**	**245**	P	**P**	**01 25 12.3**	**-1.4**
MJAR	**Matsushiro Arr**	**66.13**	**327**	P	**P**	**01 27 47.5**	**+1.7**
	comp=Z,3.7nm,0.9s,baz=158,slow=5.6,SNR=5.3 comp=Z,3.7nm,0.9s						
QSPA	**South Pole Qui**	**70.84**	**180**	P	**P**	**01 28 13.7**	**-1.4**
QSPA				IAmb	IAmb	01 28 35.9	
	comp=Z,6.7nm,1.3s						
PETK	**Petropavlovsk-**	**73.81**	**348**	P	**P**	**01 28 36.3**	**+3.7**
	comp=Z,0.8nm,0.6s,baz=130,slow=10,SNR=4.4 comp=Z,0.8nm,0.6s						
BELA	**Belgrano 2**	**81.46**	**174**	P	**P**	**01 29 14.5**	**-0.7**
BELA				IAmb	IAmb	01 29 31.7	
	comp=Z,9.7nm,1.5s						
SMAI	**San Martin Ant**	**81.66**	**160**	P	**P**	**01 29 16.3**	**0.0**
SMAI				IAmb	IAmb	01 29 41.7	
	comp=Z,21nm,1.5s						
NVAR	**Mina Array Bea**	**83.85**	**46**	P	**P**	**01 29 32.3**	**+3.9**
	comp=Z,0.6nm,0.5s,baz=222,slow=9.3,SNR=6.9 comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**88.34**	**15**	P	**P**	**01 29 50.9**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=231,slow=4.9,SNR=7.7 comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	**90.91**	**59**	P	P	01 30 07.5	+4.9
	comp=Z,5.5nm,0.8s,baz=230,slow=4.4,SNR=5.1 comp=Z,0.5nm,0.8s						
YKA	**Yellowknife Ar**	**97.63**	**26**	P	Pdif	01 30 35.4	+2.8
	comp=Z,0.5nm,0.9s,baz=254,slow=4.7,SNR=4.0 comp=Z,0.5nm,0.9s						
BELG	**Belogornoye**	**128.37**	**322**	PKP	**PKiKP**	**01 36 06.7**	**+1.2**
	comp=Z,3.4nm,0.7s,baz=60,slow=7.1,SNR=2.4						
EKA	**Eskdalemuir Ar**	**143.94**	**360**	PKP	**PKiKP**	**01 36 35.9**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=96,slow=8.7,SNR=1.9						
GERES	**GERESS Array B**	**147.29**	**339**	PKPbc	**PKiKP**	**01 36 43.7**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=52,slow=6.4,SNR=2.0						
DAVOX	**Davos/Dischmat**	**150.35**	**341**	PKPbc	**PKiKP**	**01 36 50.2**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=43,slow=5.0,SNR=1.9						

*SOME **04** 01:26:02.4, 37.°65N×72.°22E, h15km*

*IDC **04** 01:26:05.6±2.9, 36.°34N×70.°90E, h184km±23km, mb3.3/12, mbtmp3.9/18, Error ellipse: s-maj=24.6km s-min=15.4km az=162.0*

*BJI **04** 01:26:08.5±0.0, 36.°48N×70.°98E, h218km, mb4.4/13, mB4.9/2*

*NEIC **04** 01:26:09.4±1.4, 36.°64N±0.°07×70.°86E±0.°06, h207km±5km, mb4.2/10, Error ellipse: s-maj=11.5km s-min=1.6km az=146.0*

*NNC **04** 01:26:13.1±2.9, 36.°95N×70.°98E, h209km±34km, mb3.3, mpv4.5, Error ellipse: s-maj=29.0km s-min=16.6km az=6.0*

ISC 04 01:26:07.5±0.4, 36.°53N±0.°04×71.°05E±0.°05, h200km, n90, σ2§67/107, mb3.7/17, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.57**	**220**	Pn	**Pn**	**01 26 54.0**	**+1.6**
CHGR	**Chuyangaron**	**2.60**	**325**	Pn	**Pn**	**01 26 53.3**	**+0.7**
CEP	**Cherat**	**2.79**	**165**	P	**Pn**	**01 26 59.1**	**+4.3**
CEP				S	**Sn**	**01 27 36.0**	**+4.3**
CHCP	**Chirah Chowk**	**3.39**	**147**	P	**Pn**	**01 27 05.7**	**+3.9**
NIL	**Nilore**	**3.39**	**147**	Pn	**Pn**	**01 27 05.8**	**+4.0**
THW	**Thamme Wali**	**3.77**	**171**	P	**Pn**	**01 27 09.3**	**+2.8**
SARP	**Sargodha**	**4.79**	**163**	P	**Pn**	**01 27 21.7**	**+2.5**
KSH	**Kashi**	**4.90**	**51**	P	**Pn**	**01 27 18.8**	**-1.9**
KSH				S	**Sn**	**01 28 09.9**	**-8.6**
KSH				smax	smax		
	comp=N,230nm,0.7s						
KSH				smax	smax		
	comp=E,170nm,0.5s						
IUG	**Iuzhnay**	**5.67**	**352**	*e*Pg	**Pn**	**01 27 31.5**	**+1.0**
	20nm,0.2s						
IUG				*e*Lg	Lg	01 28 33.3	
	199nm,0.3s						
CHM	**Chimkent**	**5.89**	**350**	*e*Pg	**Pn**	**01 27 34.7**	**+1.4**
	92nm,0.1s						
CHM				*e*Lg	Lg	01 28 39.2	
	472nm,0.3s						
AML	**Almayashu**	**5.96**	**19**	P	**Pn**	**01 27 35.9**	**+1.4**
	SNR=208						
UCH	**Uchtor**	**6.29**	**24**	P	**Pn**	**01 27 40.7**	**+1.8**
	SNR=20						
DZA	**Taraz**	**6.36**	**2**	*e*Pg	**Pn**	**01 27 40.7**	**+1.3**
	37nm,0.1s						
DZA				*e*Lg	Lg	01 28 49.3	
	212nm,0.2s						
MRKS	**Merke**	**6.43**	**14**	*e*Pg	**Pn**	**01 27 41.4**	**+1.0**
	38nm,0.3s						
MRKS				*e*Lg	Lg	01 28 50.6	
	136nm,0.2s						
EKS2	**Erkin-Say**	**6.48**	**18**	P	**Pn**	**01 27 42.5**	**+1.5**
	SNR=28						
KK31	**Karatay Array**	**6.58**	**357**	Pn	**Pn**	**01 27 42.8**	**+0.6**
KK31	**Karatay Array**	**6.58**	**357**	P	**Pn**	**01 27 42.6**	**+0.4**
	2.5nm,0.2s,baz=175,slow=11,SNR=122						
KK31				⇓S	**Sn**	**01 28 52.8**	**-4.6**
	8.8nm,0.3s,baz=181,slow=24,SNR=4.6						
KKAR	**Karatay Array**	**6.58**	**357**	Pn	**Pn**	**01 27 42.5**	**+0.3**
KKAR	**Karatay Array**	**6.58**	**357**	Pn	**Pn**	**01 27 42.6**	**+0.4**
AAK	**Ala-Archa**	**6.66**	**22**	P	**Pn**	**01 27 45.2**	**+1.8**
	SNR=29						
AAK	**Ala-Archa**	**6.66**	**22**	P	**Pn**	**01 27 45.1**	**+1.8**
	19nm,0.3s,baz=191,slow=7.2,SNR=107						
AAK				S	**Sn**	**01 28 58.6**	**-0.8**
	11nm,0.4s,baz=209,slow=13,SNR=4.0						
AAK	**Ala-Archa**	**6.66**	**22**	Pn	**Pn**	**01 27 44.8**	**+1.5**
BHK	**Bhakra**	**6.77**	**137**	IAML		01 29 05.7	
	comp=E,119nm,0.3s						
BHK				IAML		01 29 07.6	
	comp=N,103nm,0.4s						
KBK	**Karagaybulak**	**6.82**	**25**	P	**Pn**	**01 27 47.5**	**+2.1**
	SNR=32						
ULHL	**Ulahol**	**6.99**	**34**	P	**Pn**	**01 27 50.0**	**+2.3**
	SNR=18						
CHMS	**Chumysh**	**7.07**	**23**	P	**Pn**	**01 27 50.6**	**+2.1**
	SNR=14						
USP	**Ospenovka**	**7.24**	**20**	P	**Pn**	**01 27 52.1**	**+1.4**
	SNR=13						
TKM2	**Tokmak 2**	**7.29**	**27**	P	**Pn**	**01 27 53.3**	**+1.8**
	SNR=8.8						
TKM2	**Tokmak 2**	**7.29**	**27**	⇓P	**Pn**	**01 27 52.3**	**+0.7**
	comp=N,59nm,0.8s						
TKM2				⇓S	**Sn**	**01 29 13.0**	**-1.2**
	comp=N,25nm,1.0s						
TARG	**Taragay, Kyrgy**	**7.39**	**43**	Pn	**Pn**	**01 27 53.7**	**+0.7**
SMLA	**Simla**	**7.41**	**135**	*e*P	**Pn**	**01 27 54.7**	**+1.7**
SMLA				*e*S	**Sn**	**01 29 15.0**	**-1.9**
SMLA				IAML		01 29 20.0	
	comp=N,139nm,0.4s						
SMLA				IAML		01 29 21.2	
	comp=E,160nm,0.3s						
HRA	**Herat**	**7.49**	**256**	Pn	**Pn**	**01 27 54.4**	**+0.1**
KST	**Kastek**	**7.53**	**29**	*e*Pg	**Pn**	**01 27 56.4**	**+1.8**
	comp=E,36nm,0.3s						
KST				*e*Lg	Lg	01 29 16.1	
	comp=E,21nm,0.6s						
DGS	**Degeres**	**7.63**	**27**	*e*Pg	**Pn**	**01 27 57.2**	**+1.3**
	comp=E,16nm,0.3s						
DGS				*e*Lg	Lg	01 29 17.6	
	comp=E,10nm,0.2s						
MDOK	**Medeo**	**8.08**	**33**	⇑P	**Pn**	**01 28 03.6**	**+1.8**
	comp=E,28nm,0.6s						
BTLS	**Baital**	**8.80**	**14**	*e*Pg	Pn	01 28 23.9	+13
	comp=E,2.3nm,0.3s						
BTLS				*e*Lg	Lg	01 30 03.0	
	comp=E,8.3nm,0.3s						
KHET	**Khetri**	**9.34**	**153**	*e*P	**Pn**	**01 28 19.6**	**+1.4**
KHET				*e*S	**Sn**	**01 29 58.0**	**-4.8**
KUDL	**Kundal**	**9.54**	**150**	*e*S	**Sn**	**01 30 00.6**	**-6.9**
GEYT	**Alibeck**	**10.41**	**282**	P	**Pn**	**01 28 29.3**	**-2.7**
	comp=E,0.4nm,0.3s,baz=105,slow=16,SNR=2.3						
GEYT				S	**Sn**	**01 30 23.6**	**-4.6**
	comp=E,2.9nm,0.8s,baz=115,slow=13,SNR=2.2						
GEYT	**Alibeck**	**10.41**	**282**	Pn	**Pn**	**01 28 30.4**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**10.41**	**282**	Pn	**Pn**	**01 28 30.5**	**-1.5**
MAKZ	**Makanchi**	**13.11**	**35**	Pn	**Pn**	**01 29 06.8**	**+0.5**
MK31	**Makanchi Array**	**13.25**	**36**	Pn	**Pn**	**01 29 08.6**	**+0.6**
MK31	**Makanchi Array**	**13.25**	**36**	⇓P	**Pn**	**01 29 08.3**	**+0.4**
	comp=E,2.5nm,0.7s,baz=213,slow=13,SNR=26						
MKAR	**Makanchi Array**	**13.25**	**36**	P	**Pn**	**01 29 08.5**	**+0.6**
	comp=E,2.9nm,0.8s,baz=208,slow=12,SNR=20						
MKAR				S	**Sn**	**01 31 41.1**	**+5.4**
	comp=E,0.2nm,0.6s,baz=11,slow=26,SNR=1.1						
MKAR	**Makanchi Array**	**13.25**	**36**	Pn	**Pn**	**01 29 08.0**	**+0.1**
DANN	**Dangsing**	**13.47**	**124**	*e*P	**P**	**01 29 13.0**	**-0.7**
	comp=E,12nm,0.3s						
DANN				*e*S	**S**	**01 31 34.8**	**-6.7**
GKN	**Gorkha**	**14.28**	**123**	*e*P	**Pn**	**01 29 21.6**	**+0.5**
	comp=E,25nm,0.4s						
GKN				*e*S	**S**	**01 31 54.0**	**-6.1**
WMQ	**Urumqi**	**14.65**	**55**	*e*P	**P**	**01 29 27.4**	**+0.9**
WMQ				pmax	pmax		
	comp=E,15nm,0.7s						
DMN	**Daman**	**14.86**	**123**	*e*S	**S**	**01 32 07.7**	**-5.7**
PKIN	**Phulchoki**	**15.07**	**122**	*e*P	**P**	**01 29 32.0**	**+0.5**
	comp=E,12nm,0.3s						
PKIN				*e*S	**S**	**01 32 12.2**	**-6.2**
AB31	**Akbulak array**	**15.08**	**331**	⇓P	**P**	**01 29 31.2**	**+0.1**
	comp=E,2.7nm,0.8s,baz=150,slow=12,SNR=23						
ABKAR	**Akbulak array**	**15.08**	**331**		**Pn**	**01 29 29.4**

comp=Z,0.5nm,0.9s
PPLA Purkeypile 75.05 19 P **P** **01 37 28.0 +1.1**
PPLA IAmb IAmb 01 37 31.0
comp=Z,12nm,1.5s
J26L Joseph Creek 75.69 15 P **P** **01 37 31.1 +0.7**
BCAR Beaver Creek A 77.33 15 P **P** **01 37 41.4 +1.8**
YKA Yellowknife Ar 81.22 3 P **P** **01 38 01.2 +0.6**
comp=Z,0.5nm,0.6s,baz=347,slow=5.6,SNR=8.0
comp=Z,0.5nm,0.6s
WRA Warramunga Arr 81.97 122 P **P** **01 38 05.3 +0.2**
comp=Z,1.2nm,0.9s,baz=320,slow=5.0,SNR=6.4
comp=Z,1.2nm,0.9s

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*IDC **04** 01:35:02.9±0.9,36˚09N×29˚39E,h0km,mb3.6/7, mbtmp3.8/13,ML3.9/6, Error ellipse: s-maj=20.0km s-min=15.6km az=158.0*
*DDA **04** 01:35:05.4±0.0,36˚03N×29˚28E,h26km±2km, MW3.9*
*HLW **04** 01:35:07.5,35˚98N×29˚40E,h16km±14km,Ml3.7*
*THE **04** 01:35:07.3,36˚15N×29˚32E,h0km,ML3.2/4, Error ellipse: s-maj=1.5km s-min=0.6km az=185.0*
*ATH **04** 01:35:08.0,36˚22N×29˚33E,h11km±6km,ML3.2/5, Error ellipse: s-maj=7.5km s-min=1.0km az=61.0*
*NIC **04** 01:35:07.2±0.0,36˚15N×29˚47E,h30km±1km, Ml3.9/4*
*ISK **04** 01:35:07.1,36˚19N×29˚31E,h12km,ML3.6/20*
*GII **04** 01:35:09.7±0.5,35˚93N×29˚57E,h40km,MD3.3/4, Mm3.5/3*

ISC 04 01:35:06.7±0.9,36˚05N±0˚03×29˚46E±0˚02,h32km±3km, n123,σ1§65/172,mb3.5/7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.14**	**46**	P	**Pb**		**01 35 12.4**	**-0.2**
KSL				S	**Sb**		**01 35 16.5**	**-0.2**
	47µm,0.4s							
KSL	**Kastellorizon**	**0.14**	**46**	P	**Pb**		**01 35 12.4**	**-0.2**
KSL				S	**Sb**		**01 35 16.4**	**-0.2**
KSL	**Kastellorizon**	**0.14**	**46**	P	**Pb**		**01 35 12.4**	**-0.2**
KSL				S	**Sb**		**01 35 16.1**	**-0.5**
KSL				AML	AML		01 35 16.8	
	comp=N,65541µm,0.4s							
KSL				AML	AML		01 35 16.9	
AKAS	**Kas**	**0.22**	**34**	Pg	**Pb**		**01 35 12.7**	**-0.8**
AKAS				Sg	**Sb**		**01 35 16.7**	**-1.5**
FETY	**Fethiye**	**0.66**	**333**	Pg	**Pb**		**01 35 17.4**	**-2.4**
AKUM	**Antalya-Kumluc**	**0.77**	**69**	P	**Pn**		**01 35 23.0**	**+1.8**
AKUM				S	**Sn**		**01 35 35.9**	**+4.2**
AKUM				*i* AML	AML		01 35 37.0	
	comp=N,2µm,0.3s							
AKUM				*i* AML	AML		01 35 43.0	
	comp=N,1µm,0.7s							
ELL	**Elmali**	**0.78**	**28**	Pg	**Pn**		**01 35 20.8**	**-0.8**
ELL				Sg	**Sn**		**01 35 32.3**	**0.0**
ELL	**Elmali**	**0.78**	**28**	P	**Pn**		**01 35 20.7**	**-1.0**
ELL				S	**Sn**		**01 35 34.7**	**+2.3**
DALY	**Dalyan (Mula)**	**1.00**	**320**	Pg	**Pn**		**01 35 23.4**	**-1.0**
DALY				Sg	**Sn**		**01 35 35.1**	**-2.3**
CAEL	**Denizli, Camel**	**1.07**	**354**	P	**Pb**		**01 35 25.7**	**-1.2**
CAEL				S	**Sb**		**01 35 42.2**	**+1.6**
CAEL				*i* AML	AML		01 35 43.0	
	comp=N,2µm,1.2s							
CAEL				*i* AML	AML		01 36 05.0	
	comp=N,2µm,1.1s							
ARG	**Arkhangelos**	**1.09**	**279**	P	**Pn**		**01 35 26.1**	**+0.4**
ARG				S	**Sn**		**01 35 41.3**	**+1.6**
	comp=N,1µm,0.8s							
ARG	**Arkhangelos**	**1.09**	**279**	Pg	**Pn**		**01 35 26.1**	**+0.4**
ARG				Sg	**Sn**		**01 35 39.9**	**+0.3**
ARG	**Arkhangelos**	**1.09**	**279**	P	**Pn**		**01 35 26.2**	**+0.6**
ARG				S	**Sn**		**01 35 40.1**	**+0.5**
ARG	**Arkhangelos**	**1.09**	**279**	P	**Pn**		**01 35 26.1**	**+0.4**
ARG				S	**Sn**		**01 35 40.0**	**+0.3**
ARG				AML	AML		01 35 43.7	
	comp=N,2115µm,0.7s							
ARG				AML	AML		01 35 47.9	
	comp=E,2592µm,0.8s							
KORT	**Korkueli**	**1.19**	**37**	Pn	**Pb**		**01 35 29.4**	**+0.6**
KORT				Sn	**Sb**		**01 35 46.3**	**+2.4**
ANTB	**Antalya**	**1.28**	**48**	Pn	**Pb**		**01 35 31.8**	**+1.6**
APMY	**Acipayam-Deniz**	**1.42**	**355**	Pn	**Pb**		**01 35 31.2**	**-1.5**
APMY				Sn	**Sb**		**01 35 49.2**	**-1.3**
YER	**Yerkesik**	**1.44**	**319**	P	**Pn**		**01 35 31.5**	**+1.0**
YER				S	**Sn**		**01 35 49.3**	**+1.0**
YER	**Yerkesik**	**1.44**	**319**	Pn	**Pn**		**01 35 31.2**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.48**	**343**	P	**Pb**		**01 35 32.0**	**-1.6**
TAVA				S	**Sb**		**01 35 51.6**	**-0.4**
TAVA				*i* AML	AML		01 35 52.0	
	comp=E,1µm,0.8s							
TAVA				*i* AML	AML		01 35 55.0	
	comp=E,986nm,0.6s							
MULA	**Mugla, Merkez-**	**1.51**	**323**	P	**Pn**		**01 35 32.7**	**+1.2**
MULA				S	**Sb**		**01 35 52.6**	**-0.3**
MULA				*i* AML	AML		01 35 54.0	
	comp=E,477nm,0.6s							
MULA				*i* AML	AML		01 36 05.0	
	comp=E,195nm,1.1s							
DAT	**Datca**	**1.66**	**295**	P	**Pn**		**01 35 34.3**	**+0.7**
DAT				S	**Sn**		**01 35 55.9**	**+2.0**
DAT	**Datca**	**1.66**	**295**	Pn	**Pn**		**01 35 34.4**	**+0.8**
BCK	**Bucak**	**1.67**	**33**	Pn	**Pb**		**01 35 36.6**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.71**	**16**	P	**Pb**		**01 35 36.4**	**-1.1**
BRDR				S	**Sb**		**01 36 01.4**	**+2.7**
BRDR				*i* AML	AML		01 36 12.0	
	comp=E,208nm,0.5s							
BRDR				*i* AML	AML		01 36 21.0	
	comp=E,366nm,0.7s							
MLSB	**Milas**	**1.83**	**313**	Pn	**Pn**		**01 35 36.9**	**+0.9**
SUTC	**Sutluce-Ispart**	**1.89**	**41**	Pn	**Pb**		**01 35 39.9**	**-0.6**
BASM	**Basmaki-Afyon**	**1.92**	**14**	Pn	**Pb**		**01 35 38.4**	**-2.7**
KARP	**Karpathos**	**1.93**	**256**	P	**Pn**		**01 35 39.0**	**+1.7**
KARP				S	**Sn**		**01 36 03.2**	**+2.7**
	comp=E,372nm,0.5s							
KARP	**Karpathos**	**1.93**	**256**	Pn	**Pn**		**01 35 39.3**	**+2.0**
KARP	**Karpathos**	**1.93**	**256**	P	**Pn**		**01 35 38.7**	**+1.4**
KARP	**Karpathos**	**1.93**	**256**	P	**Pn**		**01 35 39.3**	**+2.0**
KARP	**Karpathos**	**1.93**	**256**	P	**Pn**		**01 35 39.0**	**+1.7**
KARP				S	**Sn**		**01 36 02.8**	**+2.3**
KARP				AML	AML		01 36 10.0	
	comp=N,679µm,0.7s							
KARP				AML	AML		01 36 24.6	
	comp=E,840µm,0.7s							
ISP	**Isparta**	**1.96**	**25**	Pn	**Pb**		**01 35 40.4**	**-1.4**
ISP	**Isparta**	**1.96**	**25**	Pn	**Pb**		**01 35 41.1**	**-0.7**
NISR	**Nisiros**	**1.96**	**287**	P	**Pn**		**01 35 37.8**	**+0.2**
BODT	**Bodrum**	**2.00**	**301**	P	**Pn**		**01 35 38.5**	**+0.3**
BODT	**Bodrum**	**2.00**	**301**	Pn	**Pn**		**01 35 38.8**	**+0.6**
KZIL	**AFYON_Kizioren**	**2.27**	**14**	P	**Pn**		**01 35 42.5**	**+0.5**
KZIL				*i* AML	AML		01 36 34.0	
	comp=E,138nm,0.7s							
KZIL				*i* AML	AML		01 36 41.0	
	comp=E,98nm,1.0s							
AYDB	**Zeytinkoy-Aydi**	**2.27**	**327**	Pn	**Pn**		**01 35 43.2**	**+1.2**
GCAM	**G?zelcaml?**	**2.43**	**313**	Pn	**Pn**		**01 35 45.6**	**+1.6**
KULA	**Kula-Manisa**	**2.54**	**346**	P	**Pn**		**01 35 45.7**	**0.0**
KULA	**Kula-Manisa**	**2.54**	**346**	Pn	**Pn**		**01 35 47.0**	**+1.3**
MANT	**Manisa**	**2.54**	**344**	P	**Pn**		**01 35 45.6**	**-0.2**
MANT				*i* AML	AML		01 36 30.0	
	comp=E,76nm,0.6s							
MANT				*i* AML	AML		01 36 30.0	
	comp=E,100nm,0.8s							
AKMS	**Akamas**	**2.56**	**113**	P	**Pn**		**01 35 47.8**	**+1.8**
AKMS				S	**Sn**		**01 36 17.3**	**+1.3**
SHUT	**Suhut-Afyon**	**2.64**	**19**	Pn	**Pn**		**01 35 48.3**	**+1.1**
SMG	**Samos**	**2.67**	**309**	P	**Pn**		**01 35 47.6**	**+0.1**
SMG				S	**Sn**		**01 36 19.3**	**+0.5**
	comp=E,238nm,0.5s							
SMG	**Samos**	**2.67**	**309**	P	**Pn**		**01 35 48.2**	**+0.8**
SMG				AML	AML		01 36 22.1	
	comp=N,513µm,0.6s							
SMG				AML	AML		01 36 23.1	
	comp=E,444µm,0.7s							
USAK	**Uak-Merkez**	**2.68**	**353**	P	**Pn**		**01 35 47.7**	**+0.1**
USAK				S	**Sb**		**01 36 23.9**	**-2.6**
USAK				*i* AML	AML		01 36 24.0	
	comp=E,57nm,0.5s							
USAK				*i* AML	AML		01 36 35.0	
	comp=E,80nm,0.7s							
DOGA	**KONYA_Doganhis**	**2.71**	**40**	P	**Pb**		**01 35 51.6**	**-2.9**
DOGA				S	**Sb**		**01 36 24.9**	**-2.4**
DOGA				*i* AML	AML		01 36 27.0	
	comp=E,262nm,0.4s							
DOGA				*i* AML	AML		01 36 28.0	
	comp=E,293nm,0.7s							
ALFC	**Alefka**	**2.71**	**108**	P	**Pn**		**01 35 49.7**	**+1.7**
ALFC				S	**Sn**		**01 36 20.1**	**+0.3**
ALFC				AML	AML		01 36 23.2	
	comp=E,1.6nm,0.3s							
ALFC				AML	AML		01 36 23.2	
	comp=E,1.6nm,0.3s							
ALFC				AML	AML		01 36 24.5	
	comp=E,2.0nm,0.4s							
ALFC				AML	AML		01 36 24.5	
	comp=E,2.0nm,0.4s							
ZKR	**Zakros**	**2.80**	**251**	P	**Pn**		**01 35 51.5**	**+2.3**
ZKR				AML	AML		01 36 26.3	
	comp=N,192µm,0.5s							
ZKR				AML	AML		01 36 35.8	
	comp=E,316µm,0.8s							
NATA	**Nata**	**2.84**	**116**	P	**Pn**		**01 35 52.2**	**+2.4**
KMER	**Konya-Meram**	**2.89**	**53**	P	**Pb**		**01 35 54.9**	**-2.8**
KMER				S	**Sb**		**01 36 31.0**	**-1.6**
KMER				*i* AML	AML		01 36 37.0	
	comp=E,104nm,0.7s							
KMER				*i* AML	AML		01 36 38.0	
	comp=E,62nm,0.3s							
BLCB	**Balcova**	**3.02**	**321**	P	**Pn**		**01 35 53.4**	**+1.1**
KKBE	**Karaman, Kazim**	**3.03**	**66**	P	**Pb**		**01 35 56.2**	**-3.9**
KKBE				S	**Sb**		**01 36 33.3**	**-3.4**
KKBE				*i* AML	AML		01 36 35.0	
	comp=E,122nm,0.4s							
KKBE				*i* AML	AML		01 36 46.0	
	comp=E,128nm,0.7s							
SZAC	**Souni**	**3.08**	**114**	P	**Pn**		**01 35 55.0**	**+1.9**
SZAC				S	**Sn**		**01 36 31.1**	**+2.2**
CSS	**Mathiatis**	**3.34**	**108**	P	**Pn**		**01 35 58.2**	**+1.6**
CSS				S	**Sn**		**01 36 35.8**	**+0.5**
CSS				AML	AML		01 36 44.0	
	comp=E,0.2nm,0.5s							
CSS				AML	AML		01 36 44.0	
	comp=E,0.2nm,0.5s							
CSS				AML	AML		01 36 52.1	
	comp=E,0.2nm,0.4s							
CSS				AML	AML		01 36 52.1	
	comp=E,0.2nm,0.4s							
CSS	**Mathiatis**	**3.34**	**108**	Pn	**Pn**		**01 35 58.1**	**+1.4**
CSS	**Mathiatis**	**3.34**	**108**	P	**Pn**		**01 35 58.5**	**+1.8**
ASGA	**Asgata**	**3.34**	**111**	P	**Pn**		**01 35 58.5**	**+1.8**
ASGA				S	**Sn**		**01 36 37.1**	**+1.8**
ASGA				AML	AML		01 36 40.3	
	comp=E,0.9nm,0.4s							
ASGA				AML	AML		01 36 40.3	
	comp=E,0.9nm,0.4s							
ASGA				AML	AML		01 36 41.6	
	comp=E,1.2nm,0.4s							
ASGA				AML	AML		01 36 41.6	
	comp=E,1.2nm,0.4s							
ALIN	**Konya, Altinte**	**3.53**	**50**	P	Pb		01 36 02.8	-5.7
ALIN				S	**Sb**		**01 36 44.3**	**-6.8**
ALIN				*i* AML	AML		01 37 18.0	
	comp=E,24nm,1.2s							
ALIN				*i* AML	AML		01 38 14.0	
	comp=E,214nm,4.6s							
MVOU	**Mavrovouni**	**3.56**	**106**	P	**Pn**		**01 36 01.4**	**+1.7**
MVOU				AML	AML		01 36 53.2	
	comp=E,0.5nm,0.6s							
MVOU				AML	AML		01 36 53.8	
	comp=E,0.5nm,0.5s							
SGAZ	**Eskisehir, Sey**	**3.64**	**17**	P	**Pn**		**01 36 01.5**	**+0.7**
SGAZ				S	**Sn**		**01 36 42.3**	**-0.4**
SGAZ				*i* AML	AML		01 36 47.0	
	comp=E,26nm,0.5s							
SGAZ				*i* AML	AML		01 36 47.0	
	comp=E,30nm,0.5s							
IDI	**Anoyia**	**3.80**	**260**	Pn	**Pn**		**01 36 03.9**	**+1.0**
	comp=E,4.9nm,0.3s,baz=62,slow=15,SNR=37							
IDI				Sn	**Sn**		**01 36 44.5**	**-2.0**
	comp=E,2.1nm,0.3s,baz=281,slow=19,SNR=1.7							
	comp=E,31nm,0.5s							
BRTR	**Keskin Array B**	**4.94**	**41**	Pn	**Pn**		**01 36 20.9**	**+2.1**
	comp=E,0.7nm,0.3s,baz=218,slow=16,SNR=25							
BRTR				Sn	**Sn**		**01 37 15.7**	**+0.9**
	comp=E,4.5nm,0.3s,baz=213,slow=26,SNR=35							
	comp=E,2.8nm,0.5s							
MATC	**Matruh**	**5.05**	**202**	P	**Pn**		**01 36 21.6**	**+1.5**
	baz=202							
MATC				S	**Sn**		**01 37 14.8**	**-2.5**
	baz=202							
BHL	**Bhannes**	**5.52**	**111**	*e*P	**Pn**		**01 36 26.3**	**-0.4**
DQRL	**Deir Qamar**	**5.54**	**113**	*e*P	**Pn**		**01 36 27.0**	**0.0**
HNTI	**Hanita**	**5.57**	**120**	Pn	**Pn**		**01 36 28.2**	**+0.9**
HNTI				Sn	**Sn**		**01 37 30.1**	**-0.1**
OFRI	**`Ofer**	**5.71**	**125**	Pn	**Pn**		**01 36 30.8**	**+1.5**
OFRI				Sn	**Sn**		**01 37 33.7**	**0.0**
ZAHL	**Zahle**	**5.71**	**111**	*e*P	**Pn**		**01 36 30.4**	**+1.0**
SLUM	**Salum**	**5.76**	**219**	P	**Pn**		**01 36 31.6**	**+1.7**
	baz=220							
MMA0B	**Mount Meron ar**	**5.77**	**120**	Pn	**Pn**		**01 36 31.2**	**+1.1**
MMA0B				Sn	**Sn**		**01 37 35.2**	**+0.1**
MMAI	**Mount Meron Ar**	**5.77**	**120**	Pn	**Pn**		**01 36 31.3**	**+1.2**
	comp=E,19nm,0.3s,baz=298,slow=11,SNR=205							
MMAI				Sn	**Sn**		**01 37 34.5**	**-0.7**
	comp=E,23nm,0.3s,baz=308,slow=23,SNR=5.3							
	comp=E,19nm,0.4s							
RCY	**Rachaya**	**5.83**	**114**	*e*P	**Pn**		**01 36 31.9**	**+0.9**
SLTI	**Sal'it**	**5.99**	**128**	Pn	**Pn**		**01 36 33.9**	**+0.8**
MMLI	**Mount Malkishu**	**6.11**	**124**	Pn	**Pn**		**01 36 36.5**	**+1.7**
MMLI				Sn	**Sn**		**01 37 43.5**	**-0.2**
SHMJ	**Saham**	**6.18**	**121**	P	**Pn**		**01 36 38.1**	**+2.4**
SALP	**Salfit**	**6.20**	**128**	Pn	**Pn**		**01 36 37.5**	**+1.5**
HMDT	**Nahal Hemdat**	**6.30**	**125**	Pn	**Pn**		**01 36 38.9**	**+1.6**
HMYD	**Mayadein**	**6.34**	**169**	P	**Pn**		**01 36 40.3**	**+2.4**
	baz=168							
AMAZ	**Amatzia**	**6.40**	**133**	Pn	**Pn**		**01 36 40.2**	**+1.5**
AMAZ				Sn	**Sn**		**01 37 50.7**	**0.0**
KOT	**Kottamia**	**6.42**	**161**	P	**Pn**		**01 36 41.2**	**+2.1**
	baz=160							
KOT				S	**Sn**		**01 37 48.9**	**-2.4**
	baz=160							
UJAP	**Al Uja**	**6.45**	**128**	Pn	**Pn**		**01 36 41.0**	**+1.7**
HHAG	**Hagoal**	**6.47**	**159**	P	**Pn**		**01 36 41.9**	**+2.1**
	baz=158							
HNAT	**Natroun**	**6.47**	**171**	P	**Pn**		**01 36 41.9**	**+2.2**
	baz=170							
KZIT	**Kziot**	**6.58**	**140**	Pn	**Pn**		**01 36 42.7**	**+1.5**
KZIT				Sn	**Sn**		**01 37 54.0**	**-1.2**
YTIR	**Yattir**	**6.64**	**133**	Pn	**Pn**		**01 36 43.5**	**+1.4**
YTIR				Sn	**Sn**		**01 37 56.1**	**-0.6**
DSI	**Dead Sea**	**6.65**	**131**	Pn	**Pn**		**01 36 43.8**	**+1.6**
HSAF	**As Saff**	**6.65**	**164**	P	**Pn**		**01 36 44.0**	**+1.7**
	baz=163							
GLL	**Jalalah**	**6.73**	**163**	P	**Pn**		**01 36 45.1**	**+1.8**
	baz=162							
SUZ	**Suez**	**6.81**	**154**	P	**Pn**		**01 36 46.8**	**+2.5**
	baz=153							
MDBI	**Mazsada**	**6.82**	**132**	P	**Pn**		**01 36 46.3**	**+1.9**
MSBI	**Mazada**	**6.82**	**132**	Pn	**Pn**		**01 36 46.2**	**+1.8**
WALJ	**Wala**	**6.93**	**128**	P	**Pn**		**01 36 48.5**	**+2.6**
RYAN	**Fayoum**	**6.99**	**174**	P	**Pn**		**01 36 48.2**	**+1.5**
	baz=173							
RYAN				S	**Sn**		**01 38 02.6**	**-2.5**
	baz=173							
KARJ	**KARJ**	**7.13**	**132**	P	Pn		01 36 41.5	-7.3
KARJ				S	Sn		01 37 54.3	-14
ZAF	**Zafarana**	**7.24**	**158**	P	**Pn**		**01 36 52.0**	**+1.8**
	baz=157							
ZNM	**Zenema**	**7.25**	**156**	P	Pn		01 36 52.9	+2.5
	baz=155							
ZFRI	**Zfri**	**7.28**	**137**	Pn	**Pn**		**01 36 51.7**	**+1.0**
ASF	**Jabal al Asfar**	**7.28**	**120**	Pn	**Pn**		**01 36 53.0**	**+2.1**
	comp=E,2.3nm,0.3s,baz=21,slow=16,SNR=3.6							
ASF				Sn	**Sn**		**01 38 10.9**	**-1.6**
	comp=E,0.8nm,0.3s,baz=23,slow=13,SNR=1.7							
	comp=E,4.6nm,0.3s							
SWQJ	**Swaqa**	**7.30**	**129**	P	**Pn**		**01 36 50.5**	**-0.6**
PRNI	**Paran**	**7.34**	**139**	Pn	**Pn**		**01 36 52.5**	**+0.8**
KRMI	**Paran Flat**	**7.39**	**142**	Pn	**Pn**		**01 36 53.2**	**+0.9**
NBNS	**Bani Suef**	**7.57**	**168**	P	**Pn**		**01 36 56.2**	**+1.4**
	baz=167							
SWA2		**7.58**	**208**	P	**Pn**		**01 36 55.9**	**+1.0**
	baz=208							
SWA2				S	Sn		01 38 16.1	-3.6
	baz=208							
HRFI	**Mount Harif**	**7.61**	**140**	Pn	**Pn**		**01 36 56.7**	**+1.4**
HRFI				Sn	**Sn**		**01 38 19.8**	**-0.7**
MBRI	**Mt Berech**	**7.74**	**142**	Pn	**Pn**		**01 36 58.2**	**+1.0**
MBRI	**Mt Berech**	**7.74**	**142**	P	**Pn**		**01 36 58.4**	**+1.2**
EIL	**Elat**	**7.86**	**142**	Pn	**Pn**		**01 36 59.9**	**+1.1**
	comp=E,4.5nm,0.3s,baz=310,slow=3.3,SNR=53							
EIL				Sn	**Sn**		**01 38 23.9**	**-2.8**
	comp=E,1.8nm,0.3s,baz=104,slow=17,SNR=2.3							
	comp=E,12nm,0.3s							
EIL	**Elat**	**7.86**	**142**	Pn	**Pn**		**01 37 00.0**	**+1.2**
EIL				Sn	**Sn**		**01 38 25.8**	**-0.9**
NUB	**Nuweibaa**	**8.26**	**147**	P	**Pn**		**01 37 06.8**	**+2.6**
	baz=146							
TAMRE	**El Minia**	**8.44**	**171**	P	**Pn**		**01 37 07.9**	**+1.2**
	baz=170							
ASUT		**8.81**	**168**	P	**Pn**		**01 37 13.2**	**+1.3**
	baz=167							
MLR	**Muntele Rosu**	**9.80**	**345**	Pn	**Pn**		**01 37 25.7**	**+0.3**
	comp=E,0.3nm,0.3s,baz=144,slow=12,SNR=1.8							
	comp=E,1.2nm,0.6s							
GEYT	**Alibeck**	**22.93**	**77**	P	**P**		**01 40 08.5**	**+0.4**
	comp=E,0.4nm,0.5s,baz=283,slow=13,SNR=3.4							
	comp=E,0.4nm,0.5s							
AKTO	**Aktyubinsk**	**25.09**	**46**	P	**P**		**01 40 27.4**	**-0.8**
	comp=E,0.9nm,0.6s,baz=236,slow=7.3,SNR=2.0							
	comp=E,0.9nm,0.6s							
FINES	**FINESS Array B**	**25.50**	**356**	P	**P**		**01 40 33.8**	**+2.0**
	comp=E,2.3nm,0.9s,baz=186,slow=9.6,SNR=4.0							
	comp=E,2.3nm,0.9s							
ESDC	**Sonseca Array**	**26.54**	**288**	P	**P**		**01 40 40.9**	**-0.7**
	comp=E,0.3nm,0.6s,baz=98,slow=9.3,SNR=2.4							
	comp=E,0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**33.80**	**235**	P	**P**		**01 41 46.8**	**+0.9**
	comp=E,2.0nm,0.7s,baz=33,slow=10.0,SNR=18							
	comp=E,2.0nm,0.7s							
MKAR	**Makanchi Array**	**40.35**	**58**	P	**P**		**01 42 42.7**	**+1.5**
	comp=E,0.3nm,0.6s,baz=292,slow=6.4,SNR=4.1							
	comp=E,0.3nm,0.6s							
DBIC	**Dimbokro**	**42.91**	**235**	P	**P**		**01 43 01.9**	**-0.5**
	comp=E,2.0nm,0.8s,baz=107,slow=6.7,SNR=3.5							
	comp=E,2.0nm,0.8s							

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*IDC **04** 01:46:58.8±1.0,18˚79S×175˚57E,h0km,mb3.9/7, mbtmp3.9/8,ML4.0/1, Error ellipse: s-maj=45.0km s-min=23.5km az=148.0*

ISC 04 01:47:00.3±0.8,18˚85S±0˚2×176˚0E±0˚1,h10km,n10, σ2§56/10,mb3.9/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.17**	**62**	Pn	**Pn**		**01 47 35.4**	**-1.2**
	13nm,0.3s,baz=224,slow=15,SNR=8.6							
MSVF				Sn	**Sn**		**01 48 02.0**	**-1.5**
	35nm,0.3s,baz=133,slow=21,SNR=12							
DZM	**Mont Dzumac**	**9.58**	**248**	Pn	**Pn**		**01 49 20.4**	**+2.0**
	0.2nm,0.3s,baz=49,slow=10,SNR=4.0							
URZ	**Urewera**	**19.46**	**177**	P	**P**		**01 51 26.7**	**-0.4**
	0.5nm,0.3s,baz=100,slow=17,SNR=1.6							
	5.5nm,0.6s							
WRA	**Warramunga Arr**	**39.28**	**261**	P	**P**		**01 54 25.8**	**-3.8**
	0.3nm,0.5s,baz=95,slow=8.8,SNR=2.0							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**39.48**	**255**	P	**P**		**01 54 27.7**	**-3.5**
	3.5nm,1.0s,baz=85,slow=8.5,SNR=16							
	3.5nm,1.0s							
NVAR	**Mina Array Bea**	**83.75**	**46**	P	**P**		**01 59 31.7**	**+1.7**
	0.5nm,0.7s,baz=233,slow=6.7,SNR=3.4							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**87.98**	**15**	P	**P**		**01 59 50.6**	**+0.6**
	0.8nm,0.8s,baz=233,slow=4.6,SNR=8.6							
	0.8nm,0.8s							
TXAR	**Lajitas Array**	**90.94**	**59**	P	**P**		**02 00 07.6**	**+2.7**
	0.9nm,0.8s,baz=218,slow=5.5,SNR=12							
	0.9nm,0.8s							
PDAR	**Pinedale Array**	**91.64**	**45**	P	**P**		**02 00 09.1**	**+1.0**
	0.3nm,0.8s,baz=235,slow=3.2,SNR=2.8							
	0.3nm,0.8s							
YKA	**Yellowknife Ar**	**97.35**	**26**	P	Pdif		02 00 34.7	+1.3
	0.2nm,0.7s,baz=243,slow=4.4,SNR=4.6							
	0.2nm,0.7s							

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*IDC **04** 01:47:27.8±1.1,18˚52S×175˚68E,h0km,mb3.8/7, mbtmp3.8/8,ML4.1/1, Error ellipse: s-maj=44.3km s-min=24.1km az=143.0*

ISC 04 01:47:29.1±0.8,18˚65±0˚2×175˚8E±0˚1,h10km,n12, σ1§15/9,mb3.8/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.28**	**69**	Sn	**Sn**		**01 48 33.3**	**-1.8**
	24nm,0.3s,baz=293,slow=23,SNR=5.7							
URZ	**Urewera**	**19.67**	**177**	P			**01 51 58.9**	**+0.7**
	0.6nm,0.3s,baz=81,slow=3.5,SNR=5.3							
	12nm,0.7s							
STKA	**Stephens Creek**	**33.52**	**240**	P	**P**		**01 54 07.9**	**-1.2**
	1.0nm,0.4s,baz=94,slow=14,SNR=2.6							
	1.0nm,0.4s							
H11S2	**WAKE ISLAND Hy**	**37.88**	**346**	T	T		02 35 55.5	
	baz=166,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**37.89**	**346**	T	T		02 35 48.0	
	baz=166,slow=76,SNR=10							
H11S1	**WAKE ISLAND Hy**	**37.90**	**346**	T	T		02 35 50.9	

comp=E,11nm,0.2s
CHIF Chize 2.20 121 *e*P **Pg 02 10 32.3 +0.7**
CHIF Chize 2.20 121 Pn **Pg 02 10 32.1 +0.6**
FLN La Foliniere 2.31 49 *e*Pn **Pn 02 10 27.6 0.0**
baz=234
FLN La Foliniere 2.31 49 *e*Pg **Pb 02 10 33.3 +2.1**
baz=231
FLN *e*Sg **Sb 02 11 02.1 +2.3**
comp=E,12nm,0.3s
LDF La Druitiere 2.41 56 *e*Pn **Pn 02 10 29.3 +0.4**
LDF La Druitiere 2.41 56 *e*Pg **Pg 02 10 35.1 -0.4**
LDF *e*Sg **Sb 02 11 05.4 +2.8**
comp=E,16nm,0.3s
LFF La Frestale 3.57 130 *e*Pn **Pn 02 10 46.6 +1.7**
LFF La Frestale 3.57 130 *e*Pg **Pg 02 10 58.5 +0.7**
LFF *e*Sn **Sn 02 11 27.7 +0.5**
LFF *e*Sg **Sg 02 11 45.5 +1.4**
comp=E,12nm,0.5s
RJF Les Rejaudoux 3.78 120 *e*Pn **Pn 02 10 49.1 +1.3**
RJF Les Rejaudoux 3.78 120 *e*Pg **Pg 02 11 01.3 -0.5**
RJF *e*Sn **Sn 02 11 31.7 -0.7**
RJF *e*Sg **Sg 02 11 51.5 +0.7**
comp=E,4.1nm,0.2s
TCF Toulx Ste Croi 3.80 103 *e*Pn **Pn 02 10 49.0 +0.9**
TCF Toulx Ste Croi 3.80 103 *e*Pg **Pg 02 11 02.5 +0.3**
TCF *e*Sg **Sg 02 11 51.5 0.0**
comp=E,3.2nm,0.3s
HYF Humbligny 3.93 88 *e*Sn **Sn 02 11 33.7 -2.3**
HYF *e*Sg **Sg 02 11 54.0 -1.5**
BGF Bois d'Agland 4.16 98 *e*Pn **Pn 02 10 54.3 +1.3**
BGF Bois d'Agland 4.16 98 *e*Pg **Pg 02 11 08.9 -0.1**
BGF *e*Sn **Sn 02 11 40.6 -1.1**
comp=E,18nm,0.6s
BGF *e*Sg **Sg 02 12 02.4 -0.5**
comp=E,18nm,0.6s
CAF Calviac 4.32 121 *e*Pn **Pn 02 10 56.4 +1.2**
CAF Calviac 4.32 121 *e*P **Pb 02 11 01.0 -4.4**
CAF Calviac 4.32 121 *e*Pg **Pg 02 11 12.6 +0.6**
CAF *e*Sn **Sn 02 11 44.5 -1.1**
CAF *e*Sg **Sg 02 12 08.6 +0.7**
comp=E,1.4nm,0.2s
SJPF Ste Jean 4.39 161 *e*Pn **Pn 02 10 58.0 +1.9**
SJPF Ste Jean 4.39 161 *e*Pg **Pg 02 11 14.0 +0.6**
SJPF *e*Sn **Sn 02 11 46.2 -1.1**
comp=E,0.9nm,0.2s
SJPF *e*Sg **Sg 02 12 11.4 +1.2**
comp=E,0.4nm,0.1s
AVF Avril sur Loir 4.46 94 *e*Pn **Pn 02 10 58.0 +0.9**
AVF Avril sur Loir 4.46 94 *e*Pg **Pg 02 11 14.3 -0.5**
AVF *e*Sn **Sn 02 11 47.9 -1.2**
comp=E,0.9nm,0.4s
SSF Saint Saulge 4.53 90 *e*Pn **Pn 02 10 59.1 +1.0**
SSF Saint Saulge 4.53 90 *e*Pg **Pg 02 11 15.5 -0.7**
SSF *e*Sg **Sg 02 12 13.5 -1.3**
comp=E,0.9nm,0.3s
ETSF Etsaut 4.75 157 *e*Pn **Pn 02 11 02.1 +0.9**
ETSF Etsaut 4.75 157 *e*Pg **Pg 02 11 20.1 -0.3**
ETSF *e*Sn **Sn 02 11 54.4 -2.0**
ETSF *e*Sg **Sg 02 12 22.0 +0.1**
comp=E,0.8nm,0.3s
LOR Lormes 4.76 88 *e*Pn **Pn 02 11 02.2 +1.0**
baz=278
LOR *e*Sn **Sn 02 11 54.2 -2.3**
comp=E,1.3nm,0.3s
LOR *e*Sg **Sg 02 12 20.5 -1.6**
comp=E,3.6nm,0.4s
SMF Signal de Mont 4.82 95 *e*Pn **Pn 02 11 03.2 +1.2**
SMF Signal de Mont 4.82 95 *e*Pg **Pg 02 11 21.0 -0.6**
SMF *e*Sn **Sn 02 11 56.7 -1.2**
comp=E,1.4nm,0.4s
EPF Esparros 4.91 149 *e*Pn **Pn 02 11 04.9 +1.5**
EPF Esparros 4.91 149 *e*Pg **Pg 02 11 24.1 +0.6**
EPF *e*Sn **Sn 02 11 58.7 -1.6**
comp=E,0.9nm,0.2s
EPF *e*Sg **Sg 02 12 26.9 -0.2**
comp=E,1.9nm,0.3s
MTLF Montolieu 5.46 134 *e*Pn **Pn 02 11 12.0 +1.2**
MTLF Montolieu 5.46 134 *e*Pg **Pg 02 11 33.1 -0.8**
MTLF *e*Sn **Sn 02 12 12.5 -1.2**
MTLF *e*Sg **Sg 02 12 44.7 +0.2**
comp=E,0.6nm,0.2s
MEZF Maizieres J'vi 5.64 75 *e*Pn **Pn 02 11 13.4 +0.2**
LASF Ste Croix 5.86 121 *e*Pn **Pn 02 11 17.7 +1.4**
LASF Ste Croix 5.86 121 *e*P Pn 02 11 22.9 +6.6
LASF Ste Croix 5.86 121 *e*Pg **Pg 02 11 39.8 -1.7**
LASF *e*Sn **Sn 02 12 21.8 -1.7**
LASF *e*Sg **Sg 02 12 56.1 -1.2**
comp=E,1.1nm,0.2s
VIVF Saint-Julien-l 5.95 111 *e*Pg **Pg 02 11 42.0 -1.3**
VIVF *e*Sn **Sn 02 12 21.6 -4.2**
VIVF *e*Sg **Sg 02 12 58.0 -2.3**
comp=E,0.4nm,0.2s
CDF Champ du Feu 7.09 77 *e*Pn **Pn 02 11 34.4 +1.1**
CDF *e*Sn **Sn 02 12 50.2 -3.9**
comp=E,0.7nm,0.1s

*IDC **04** 02:10:18.6±1.2,3.°39S×151.°95E,h372km±14km,mb3.0/3, mbtmp3.7/3,Error ellipse: s-maj=79.3km s-min=25.1km az=115.0*

ISC 04 02:10:18.5±1.4,**3.°2S**±0.°3×**151.°4E**±0.°3,**h350km,n5,** σ1§**82/6,mb3.3/3,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.29**	**150**	P	**Pn**	**02 11 06.5**	**+0.9**
	73nm,0.3s,baz=284,slow=4.2,SNR=12						
WRA	**Warramunga Arr**	**23.54**	**224**	P	**P**	**02 14 59.8**	**+0.9**
	1.1nm,0.5s,baz=49,slow=9.2,SNR=27						
WRA				PcP	**PcP**	**02 18 31.3**	**-2.0**
	0.4nm,0.9s,baz=52,slow=2.3,SNR=5.6						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**26.46**	**218**	P	**P**	**02 15 24.9**	**-0.2**
	0.6nm,0.4s,baz=52,slow=9.1,SNR=14						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**78.18**	**319**	P	**P**	**02 21 41.2**	**+1.2**
	0.2nm,0.6s,baz=91,slow=5.8,SNR=2.7						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.44**	**290**	PKPbc	**PKPbc**	**02 29 23.6**	**-1.7**
	0.4nm,0.5s,baz=46,slow=2.5,SNR=12						

*IDC **04** 02:14:43.3±15.0,35.°53N×72.°35E,h215km±109km, mb3.1/2,mbtmp3.5/4,Error ellipse: s-maj=210.0km s-min=25.4km az=149.0*

*NNC **04** 02:14:56.4±2.9,37.°33N×71.°37E,h237km±28km,mb2.8, mpv3.9,Error ellipse: s-maj=30.5km s-min=18.8km az=171.0*

ISC 04 02:14:50.0±2.8,**36.°9N**±0.°2×**71.°3E**±0.°1,**h200km,n15,** σ1§**91/15,4C-1D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.54**	**19**	P	**Pn**	**02 16 13.4**	**+1.8**
	SNR=75						
UCH	**Uchtor**	**5.87**	**24**	P	**Pn**	**02 16 18.0**	**+2.1**
	SNR=9.6						
EKS2	**Erkin-Say**	**6.05**	**18**	P	**Pn**	**02 16 20.7**	**+2.7**
	SNR=9.3						
KK31	**Karatay Array**	**6.21**	**355**	P	**Pn**	**02 16 21.5**	**+1.6**
	5.3nm,0.2s,baz=170,slow=11,SNR=326						
KK31				⇓S	**Sn**	**02 17 30.9**	**-0.3**
	12nm,0.4s,baz=43,slow=27,SNR=4.3						
AAK	**Ala-Archa**	**6.23**	**22**	P	**Pn**	**02 16 22.2**	**+1.9**
	SNR=7.0						
USP	**Ospenovka**	**6.81**	**20**	P	**Pn**	**02 16 30.1**	**+2.4**
	SNR=12						
TKM2	**Tokmak 2**	**6.86**	**28**	P	**Pn**	**02 16 30.7**	**+2.3**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.86**	**28**	⇑P	**Pn**	**02 16 30.5**	**+2.0**
	3.8nm,0.5s						
TKM2				⇑S	**Sn**	**02 17 45.4**	**-1.1**
	4.9nm,0.8s						
GEYT	**Alibeck**	**10.53**	**280**	P	P	02 17 23.4	+0.2
	0.7nm,0.3s,baz=111,slow=6.9,SNR=2.2						
MKAR	**Makanchi Array**	**12.82**	**36**	P	**P**	**02 17 47.6**	**-1.0**
	0.1nm,0.3s,baz=210,slow=10.0,SNR=4.0						
AB31	**Akbulak array**	**14.84**	**330**	P	**P**	**02 18 10.2**	**-0.7**
	1.5nm,0.6s,baz=147,slow=12,SNR=41						
BVA0	**Borovoye Array**	**16.13**	**358**	⇑P	**Pn**	**02 18 24.6**	**-1.0**
	1.1nm,0.7s,baz=168,slow=11,SNR=6.4						
AKTO	**Aktyubinsk**	**16.54**	**329**	⇑P	**Pn**	**02 18 31.0**	**+0.3**
	3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**19.45**	**25**	P	**Pn**	**02 19 02.9**	**-1.9**
	0.6nm,0.3s,baz=226,slow=12,SNR=4.2						
	0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**65.96**	**269**	P	P	02 25 12.2	-2.9
	0.3nm,0.4s,baz=52,slow=6.1,SNR=9.5						
	0.3nm,0.4s						

*KRSC **04** 02:20:59.0±1.6,61.°35N×168.°37E,h24km±18km,Ml4.7*
*IDC **04** 02:21:01.6±1.0,61.°21N×167.°89E,h0km,mb3.7/6, mbtmp3.8/9,ML5.0/2,Error ellipse: s-maj=35.2km s-min=12.0km az=172.0*
*MOS **04** 02:21:02.0±1.2,61.°41N×167.°78E,h16km,mb4.2/4,Error ellipse: s-maj=17.7km s-min=7.5km az=77.8*
*NEIC **04** 02:21:04.4±1.4,61.°5N±0.°1×167.°6E±0.°2,h15km±7km, mb4.0/10,Error ellipse: s-maj=15.8km s-min=12.3km az=189.0*

ISC 04 02:21:04.6±0.7,**61.°37N**±0.°05×**167.°74E**±0.°06,**h18km,n52,** σ1§**25/56,mb3.9/9,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILK	**Tilichiki**	**1.22**	**221**	PN	**Pn**	**02 21 24.8**	**-1.8**
TILK				S	**Sb**	**02 21 42.3**	**0.0**
TILK	**Tilichiki**	**1.22**	**221**	*e*P	**Pn**	**02 21 24.8**	**-1.8**
TILK				*e*S	**Sb**	**02 21 42.3**	**0.0**
KMSK	**Kamenskaya**	**1.32**	**327**	PN	**Pn**	**02 21 26.5**	**-1.5**
KMSK				S	**Sn**	**02 21 45.1**	**+0.1**
KMSK	**Kamenskaya**	**1.32**	**327**	*e*P	**Pn**	**02 21 26.5**	**-1.5**
KMSK				*e*S	**Sn**	**02 21 45.1**	**+0.1**
OSSR	**Ossora**	**3.16**	**230**	PN	**Pn**	**02 21 51.9**	**-1.4**
OSSR	**Ossora**	**3.16**	**230**	*e*P	**Pn**	**02 21 51.9**	**-1.4**
PALN	**Palana**	**4.50**	**243**	PN	**Pn**	**02 22 14.7**	**+2.9**
PALN	**Palana**	**4.50**	**243**	*e*P	**Pn**	**02 22 14.7**	**+2.9**
KBG	**Krutoberegovo**	**5.76**	**209**	PN	**Pn**	**02 22 29.6**	**+0.6**
KBG	**Krutoberegovo**	**5.76**	**209**	*e*P	**Pn**	**02 22 29.6**	**+0.6**
KBTR	**Krutoberegovo**	**5.78**	**208**	PN	**Pn**	**02 22 29.3**	**0.0**
KBTR	**Krutoberegovo**	**5.78**	**208**	*e*P	**Pn**	**02 22 29.3**	**0.0**
SMKR	**Semkarok**	**5.80**	**217**	PN	**Pn**	**02 22 31.0**	**+1.4**
SMKR	**Semkarok**	**5.80**	**217**	*e*P	**Pn**	**02 22 31.0**	**+1.4**
BKI	**Bering**	**6.26**	**189**	PN	**Pn**	**02 22 35.1**	**-0.7**
BKI	**Bering**	**6.26**	**189**	*e*P	**Pn**	**02 22 35.1**	**-0.7**
KRSR	**Krestovskiy**	**6.37**	**219**	PN	**Pn**	**02 22 39.4**	**+1.8**
KRSR	**Krestovskiy**	**6.37**	**219**	*e*P	**Pn**	**02 22 39.4**	**+1.8**
BILL	**Bilibino**	**6.72**	**355**		**Pn**	**02 22 40.8**	**-1.3**
BILL	**Bilibino**	**6.72**	**355**	PN	**Pn**	**02 22 41.8**	**-0.4**
KMNR	**Kamenistaya**	**6.86**	**218**	PN	**Pn**	**02 22 46.0**	**+1.8**
KMNR	**Kamenistaya**	**6.86**	**218**	*e*P	**Pn**	**02 22 46.0**	**+1.8**
SEY	**Seymchan**	**7.36**	**289**	Pn	**Pn**	**02 22 50.3**	**-0.6**
	1.5nm,0.3s,baz=101,slow=15,SNR=4.6						
SEY				Lg	Lg	02 24 59.0	
	0.8nm,0.3s,baz=17,slow=20,SNR=6.5						
MA2	**Magadan**	**8.57**	**265**	Pn	**Pn**	**02 23 07.7**	**+0.1**
	2.0nm,0.3s,baz=85,slow=12,SNR=2.9						
MA2				Sn	**Sn**	**02 24 44.7**	**+1.0**
	0.6nm,0.3s,baz=153,slow=23,SNR=1.7						
	4.3nm,0.4s						
MA2	**Magadan**	**8.57**	**265**	Pn	**Pn**	**02 23 06.8**	**-0.8**
IMAR	**Indian Mountai**	**17.47**	**58**		**Pn**	**02 25 08.7**	**+1.8**
H21K	**Melozitna Rive**	**17.88**	**59**		**Pn**	**02 25 13.5**	**+1.5**
TIXI	**Tiksi**	**18.19**	**320**	P	**Pn**	**02 25 16.6**	**+0.9**
	14nm,0.3s,baz=90,slow=24,SNR=8.1						
	2.6nm,0.9s						
SUA	**Susitna One**	**19.62**	**71**		**P**	**02 25 33.1**	**+1.4**
SUA				IAmb	IAmb	02 25 40.1	
	comp=Z,6.4nm,1.0s						
H24K	**Noodor Dome**	**19.88**	**58**	P	**P**	**02 25 35.9**	**+1.4**
H24K				IAmb	IAmb	02 25 42.2	
	comp=Z,8.0nm,1.4s						
IL31		**20.47**	**61**	P	Pn	02 25 43.8	+0.7
IL31				IAmb	IAmb	02 25 45.0	
	comp=Z,5.3nm,1.1s						
ILAR	**Eielson Array**	**20.47**	**61**	P	**P**	**02 25 40.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=272,slow=9.9,SNR=9.8						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**20.47**	**61**	P	**P**	**02 25 42.2**	**+1.4**
BMAR	**Burnt Mountain**	**20.99**	**53**	P	**P**	**02 25 46.5**	**0.0**
SCM	**Sheep Creek Mo**	**21.05**	**69**	P	**P**	**02 25 47.0**	**-0.3**
SCM				IAmb	IAmb	02 25 59.7	
	comp=Z,9.3nm,1.0s						
SCM	**Sheep Creek Mo**	**21.05**	**69**	P	**P**	**02 25 47.0**	**-0.3**
SCM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DOT	**Dot Lake**	**21.94**	**63**	P	**P**	**02 25 56.6**	**-0.1**
KLR	**Kul'dur**	**23.47**	**255**	P	**P**	**02 26 12.2**	**-0.6**
	comp=Z,3.8nm,1.1s,baz=54,slow=10,SNR=3.9						
	comp=Z,3.8nm,1.1s						
BARN	**Barnard Glacie**	**23.87**	**68**	P	**P**	**02 26 17.0**	**+0.2**
INK	**Inuvik**	**24.97**	**49**	P	**P**	**02 26 26.3**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=286,slow=12,SNR=17						
	comp=Z,3.4nm,0.8s						
INK	**Inuvik**	**24.97**	**49**	P	**P**	**02 26 26.3**	**-0.2**
INK				IAmb	IAmb	02 26 28.0	
	comp=Z,4.5nm,0.8s						
INK	**Inuvik**	**24.97**	**49**	P	**P**	**02 26 26.3**	**-0.2**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**47.06**	**300**	P	**P**	**02 29 33.9**	**-0.7**
KURK	**Kurchatov**	**47.06**	**300**	P	**P**	**02 29 33.9**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**48.47**	**294**	P	**P**	**02 29 43.5**	**-2.1**
MK31				IAmb	IAmb	02 30 04.8	
	comp=Z,2.5nm,1.5s						
MK31	**Makanchi Array**	**48.47**	**294**	P	**P**	**02 29 43.5**	**-2.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MKAR	**Makanchi Array**	**48.47**	**294**	P	**P**	**02 29 44.0**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=48,slow=8.2,SNR=2.3						
MKAR	**Makanchi Array**	**48.47**	**294**	P	**P**	**02 29 44.7**	**-0.9**
MKAR	**Makanchi Array**	**48.47**	**294**	P	**P**	**02 29 44.7**	**-0.9**
PDAR	**Pinedale Array**	**50.36**	**72**	P	**P**	**02 30 00.2**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=0.0,slow=3.0,SNR=5.1						
	comp=Z,0.7nm,0.9s						
TXAR	**Lajitas Array**	**64.06**	**76**	P	**P**	**02 31 37.9**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=316,slow=2.5,SNR=4.3						
	comp=Z,0.6nm,0.9s						
WRA	**Warramunga Arr**	**85.35**	**211**	P	**P**	**02 33 39.2**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=22,slow=5.6,SNR=3.5						
	comp=Z,0.8nm,0.9s						

IDC 04 02:30:32.0±12.0,**8.°88S**×**121.°65E,h181**km±120km, **mb3.6/1,mbtmp4.0/3,Error ellipse: s-maj=174.1km s-min=81.7km az=33.0,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.48**	**133**	P	Pn	02 34 13.3	+0.2
	0.6nm,0.3s,baz=305,slow=12,SNR=18						
WRA				S	S	02 37 15.7	+0.6
	0.6nm,0.5s,baz=309,slow=24,SNR=9.1						
ASAR	**Alice Springs**	**18.81**	**143**	P	P	02 34 38.2	+0.3
	2.3nm,0.4s,baz=322,slow=11,SNR=37						
STKA	**Stephens Creek**	**29.44**	**144**	P	P	02 36 18.4	-0.4
	1.3nm,0.6s,baz=332,slow=9.7,SNR=5.5						
	1.3nm,0.6s						

*BJI **04** 02:33:01.8±0.0,19.°39S×176.°45E,h10km,mb4.8/23, mB5.3/10,Ms4.9/1,Ms7 4.6/1*
*IDC **04** 02:33:02.9±0.7,19.°26S×175.°87E,h0km,mb4.4/15, mbtmp4.3/15,MS3.7/10,Error ellipse: s-maj=29.6km s-min=17.6km az=147.0*
*NEIC **04** 02:33:03.9±1.2,19.°2S±0.°1×176.°2E±0.°1,h10km±1km, mb4.9/49,Error ellipse: s-maj=25.5km s-min=6.4km az=142.0*

ISC 04 02:33:04.0±0.4,**19.°25S**±0.°08×**176.°15E**±0.°08,**h10km,n209,** σ1§**48**/198,**mb4.8**/46,**MS3.6**/9,**11C-3D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.35**	**50**	Pn	**Pn**	**02 33 42.1**	**-0.7**
	23nm,0.3s,baz=230,slow=15,SNR=26						
MSVF				Sn	**Sn**	**02 34 10.2**	**-1.6**
	15nm,0.3s,baz=234,slow=22,SNR=5.3						
MSVF				LR	LR	02 34 32.5	
	comp=Z,602nm,19.8s,baz=178,slow=35						
MSVF	**Nonsavu**	**2.35**	**50**	Pn	**Pn**	**02 33 41.6**	**-1.2**
MSVF				Sn	**Sn**	**02 34 08.5**	**-3.3**
MARNC	**Mare, Loyalty**	**7.93**	**252**	Pn	**Pn**	**02 34 59.1**	**-0.2**
OUENC	**Ouen Island, N**	**9.25**	**248**	Pn	**Pn**	**02 35 17.7**	**+0.2**
DZM	**Mont Dzumac**	**9.51**	**251**	*e*Pn	**Pn**	**02 35 19.4**	**-1.7**
	196nm,1.5s						
DZM				*e*LR	LR	02 37 29.2	
	comp=Z,733nm,26.9s						
DZM	**Mont Dzumac**	**9.51**	**251**	Pn	**Pn**	**02 35 22.5**	**+1.4**
	0.2nm,0.3s,baz=64,slow=13,SNR=15						
DZM				LR	LR	02 38 19.6	
	comp=Z,460nm,21.7s,baz=49,slow=34						
DZM	**Mont Dzumac**	**9.51**	**251**	Pn	**Pn**	**02 35 22.0**	**+0.9**
KOUNC	**Koumac, New Ca**	**11.23**	**261**	Pn	**Pn**	**02 35 44.5**	**-0.1**
HNR	**Honiara**	**18.46**	**300**	LR	LR	02 43 42.0	
	comp=Z,2µm,18.2s,baz=105,slow=35						
URZ	**Urewera**	**18.96**	**178**	P	**Pn**	**02 37 29.3**	**+3.3**
	27nm,0.7s,baz=115,slow=4.6,SNR=5.6						
RAR	**Rarotonga**	**22.68**	**99**	LR	LR	02 44 54.8	
	comp=Z,118nm,20.6s,baz=279,slow=31						
LTZ	**Lake Taylor**	**23.69**	**187**		**P**	**02 38 15.5**	**-0.4**
LTZ				IAmb	IAmb	02 38 17.0	
	comp=Z,30nm,1.1s						
INZ	**Inchbonnie**	**23.74**	**189**	P	**P**	**02 38 16.2**	**0.0**
KRVT	**Keravat (AS076**	**27.83**	**299**	LR	LR	02 48 46.7	
	comp=Z,143nm,21.2s,baz=257,slow=34						
CTA	**Charters Tower**	**28.14**	**263**	LR	LR	02 48 12.1	
	comp=Z,134nm,21.0s,baz=82,slow=33						
PMG	**Port Moresby**	**29.70**	**285**	LR	LR	02 49 51.4	
	comp=Z,225nm,18.3s,baz=48,slow=34						
TBI	**Tubuai**	**32.26**	**103**	*e*LR	LR	02 47 58.4	
	comp=Z,1µm,27.0s						
TBI				*e*LR	LR	02 47 58.6	
	comp=Z,4µm,26.5s						
PPT2	**Papeete2**	**32.53**	**93**	*e*LR	LR	02 48 06.4	
	comp=Z,256nm,32.8s						
PPT2				*e*LR	LR	02 48 06.7	
	comp=Z,336nm,26.5s						
STKA	**Stephens Creek**	**33.46**	**241**	P	**P**	**02 39 43.0**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=97,slow=12,SNR=8.5						
	comp=Z,3.6nm,0.6s						
STKA	**Stephens Creek**	**33.46**	**241**	P	**P**	**02 39 42.6**	**-0.8**
BBOO	**Buckleboo**	**38.24**	**241**	P	**P**	**02 40 23.1**	**-1.2**
BBOO				IAmb	IAmb	02 40 23.4	
	comp=Z,32nm,1.5s						
WB0	**Warramunga Arr**	**39.29**	**262**	P	**P**	**02 40 30.7**	**-2.6**
WRA	**Warramunga Arr**	**39.32**	**262**	P	**P**	**02 40 31.0**	**-2.6**
	comp=Z,0.9nm,0.6s,baz=102,slow=8.5,SNR=7.2						
	comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**39.32**	**262**	P	**P**	**02 40 31.2**	**-2.4**
AS31	**Alice Springs**	**39.45**	**256**	P	**P**	**02 40 33.4**	**-1.4**
ASAR	**Alice Springs**	**39.46**	**256**	P	**P**	**02 40 32.9**	**-1.8**
	2.7nm,0.8s,baz=85,slow=8.9,SNR=54						
ASAR				PcP	**PcP**	**02 42 41.8**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=108,slow=3.4,SNR=7.2						
ASAR				LR	LR	02 56 09.4	
	comp=Z,137nm,18.4s,baz=122,slow=35						
	comp=Z,7.3nm,0.8s						
ASAR	**Alice Springs**	**39.46**	**256**	P	**P**	**02 40 32.8**	**-1.9**
GUMO	**Guam**	**44.88**	**314**	LR	LR	02 58 08.8	
	comp=Z,84nm,20.5s,baz=135,slow=34						
SIJI	**Sorong**	**47.60**	**287**	LR	LR	03 02 00.0	
	comp=Z,63nm,19.1s,baz=78,slow=37						
VNDA	**Vanda**	**58.73**	**184**	P	**P**	**02 43 01.3**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=2.6,slow=9.1,SNR=5.3						
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**58.73**	**184**	P	**P**	**02 43 00.6**	**-0.9**
SBA	**Scott Base**	**58.82**	**182**	P	**P**	**02 43 02.2**	**+0.1**
CASY	**Casey**	**62.77**	**204**	P	**P**	**02 43 28.0**	**-1.2**
MJAR	**Matsushiro Arr**	**66.06**	**327**	P	**P**	**02 43 50.6**	**-0.5**
	comp=Z,8.0nm,1.1s,baz=152,slow=8.3,SNR=5.1						
	comp=Z,8.0nm,1.1s						
QSPA	**South Pole Qui**	**70.81**	**180**	P	**P**	**02 44 20.8**	**+0.2**
QSPA				IAmb	IAmb	02 44 21.8	
	comp=Z,14nm,1.0s						
KSRS	**Korea Array**	**72.39**	**321**	P	**P**	**02 44 30.6**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=140,slow=6.3,SNR=6.5						
	comp=Z,1.1nm,0.7s						
NJ2	**Nanjing**	**74.90**	**312**	*e*P	**P**	**02 44 47.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CN2	**Changchun**	**78.04**	**325**	P	**P**	**02 45 03.4**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	**HongShan**	**80.70**	**315**	⇑P	**P**	**02 45 18.2**	**+0.8**
HNS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJI	**Beijing**	**81.20**	**318**	P	P	02 45 08.8	-11
BJI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BELA	**Belgrano 2**	**81.45**	**174**	P	**P**	**02 45 19.9**	**-1.0**
P18K	**Big Mountain,**	**81.79**	**14**	P	**P**	**02 45 22.9**	**+0.1**
P18K				IAmb	IAmb	02 45 31.7	
	comp=Z,16nm,1.4s						
O18K	**Koktuh Hills**	**82.21**	**14**	P	**P**	**02 45 24.3**	**-0.7**
O18K	**Koktuh Hills**	**82.21**	**14**	P	**P**	**02 45 25.9**	**+0.9**
	baz=207						
CMB	**Columbia Colle**	**82.41**	**45**	P	**P**	**02 45 26.0**	**-0.5**
CMB				IAmb	IAmb	02 45 29.7	
	comp=Z,11nm,1.1s						
EDW2	**Edwards Air Fo**	**82.47**	**49**	P	**P**	**02 45 29.8**	**+2.8**
	baz=240						
ORV	**Oroville**	**82.47**	**44**	P	**P**	**02 45 24.9**	**-1.8**
ORV				IAmb	IAmb	02 45 30.0	
	comp=Z,11nm,1.3s						
ISA	**Isabella, Lake**	**82.52**	**48**	P	**P**	**02 45 30.1**	**+2.9**
	baz=240						
MONP2	**Monument Peak**	**82.65**	**52**	P	**P**	**02 45 31.0**	**+2.9**
	baz=241						
O19K	**Port Alsworth**	**82.72**	**14**	P	**P**	**02 45 28.6**	**+1.1**
	baz=208						
YBH	**Yreka Blue Hor**	**82.88**	**41**	P	**P**	**02 45 30.8**	**+1.9**
	comp=Z,2.3nm,0.7s,baz=172,slow=8.4,SNR=5.2						
	comp=Z,2.3nm,0.7s						
XAN	**Xi'an**	**83.04**	**310**	P	**P**	**02 45 30.9**	**+1.0**
XAN				pP	pwP	02 45 40.5	+4.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MDPB	**Devils Postpil**	**83.09**	**46**	P	**P**	**02 45 29.1**	**-1.3**
OMMB	**Old Mammoth Mi**	**83.13**	**46**	P	**P**	**02 45 31.1**	**+0.4**
N19K	**Bonanza Creek**	**83.23**	**14**	P	**P**	**02 45 30.8**	**+0.5**

SUA	**Susitna One** baz=211	**84.69**	**15**	P		**P**	**02 45 38.5 +0.7**
TPNV	**Topopah Spring** baz=241	**84.71**	**48**	P		**P**	**02 45 40.3 +1.7**
TTA	**Tatalina** baz=206	**84.79**	**12**	P		**P**	**02 45 39.7 +1.5**
214A	**Organ Pipe Nat** baz=244	**84.94**	**54**	P		**P**	**02 45 42.6 +3.0**
M22K	**Willow** baz=212	**85.09**	**15**	P		**P**	**02 45 40.4 +0.8**
PMR	**Palmer** baz=213	**85.21**	**16**	P		**P**	**02 45 41.1 +0.9**
KNK	**Knik Glacier** baz=213	**85.23**	**16**	P		**P**	**02 45 41.5 +1.1**
CD2	**Chengdu**	**85.52**	**305**	P		**P**	**02 45 43.5 +0.9**
BMN	**Battle Mountai**	**85.74**	**45**	P		**P**	**02 45 42.8 -0.8**
SCM	**Sheep Creek Mo** baz=214	**85.89**	**16**	P		**P**	**02 45 44.6 +0.9**
CAST	**Castle Rocks** baz=210	**86.06**	**14**	P		**P**	**02 45 43.9 -0.6**
N25K	**Chitina, Valde**	**86.46**	**18**	P		**P**	**02 45 46.0 -0.5**
N25K	comp=Z,8.7nm,1.1s			IAmb		IAmb	02 45 48.4
N25K	**Chitina, Valde** baz=217	**86.46**	**18**	P		**P**	**02 45 47.6 +1.1**
TUC	**Tucson**	**86.64**	**54**	P		**P**	**02 45 47.5 -0.7**
TUC	**Tucson** baz=245	**86.64**	**54**	P		**P**	**02 45 50.7 +2.6**
BARN	**Barnard Glacie**	**86.90**	**19**	P		**P**	**02 45 48.0 -0.8**
BARN	comp=Z,8.4nm,1.0s			IAmb		IAmb	02 45 50.8
SPR3	**Spring Creek 3**	**87.01**	**47**	P		**P**	**02 45 49.5 -0.7**
SPR3	comp=Z,5.6nm,1.3s			IAmb		IAmb	02 45 53.0
G08A	**Pilot Rock**	**87.09**	**40**	P		**P**	**02 45 50.4 +0.3**
G08A	comp=Z,6.6nm,0.9s			IAmb		IAmb	02 45 53.1
ELIB	**Princess Elisa**	**87.17**	**188**	*d*P		**P**	**02 45 48.6 -1.5**
HAWA	**Hanford**	**87.32**	**39**	P		**P**	**02 45 49.9 -1.1**
HAWA	comp=Z,12nm,1.1s			IAmb		IAmb	02 45 54.2
TNCH	**TengChong**	**87.38**	**297**	*e*P		**P**	**02 45 53.9 +1.9**
TNCH				pP		sP	02 45 56.6 +1.2
TNCH	comp=Z,10.0nm,0.5s			pmax		pmax	
M26K	**Nabesna, AK** baz=218	**87.55**	**18**	P		**P**	**02 45 53.2 +1.4**
E08A	**Dider Farm, El**	**87.65**	**39**	P		**P**	**02 45 51.1 -1.5**
E08A	comp=Z,6.0nm,0.9s			IAmb		IAmb	02 45 56.5
YUK8	**Steele Glacier** baz=221	**87.67**	**20**	P		**P**	**02 45 54.1 +1.4**
LZH	**Lanzhou**	**87.68**	**309**	*e*P		**P**	**02 45 54.6 +1.4**
LZH				pP		pwP	02 45 59.6 +0.4
LZH	comp=Z,14nm,1.0s			pmax		pmax	
P30M	**Million Dollar** baz=224	**87.73**	**21**	P		**P**	**02 45 54.4 +1.6**
S34M	**Telegraph Cree** baz=229	**88.38**	**25**	P		**P**	**02 45 58.1 +2.3**
IL31		**88.43**	**15**	P		**P**	**02 45 54.6 -1.2**
IL31	comp=Z,5.2nm,1.2s			IAmb		IAmb	02 45 55.7
ILAR	**Eielson Array** comp=Z,1.8nm,0.7s,baz=230,slow=5.0,SNR=24	**88.43**	**15**	P		**P**	**02 45 55.2 -0.6**
	comp=Z,1.8nm,0.7s						
B08A	**Colville Reser**	**88.46**	**37**	P		**P**	**02 45 56.6 +0.1**
B08A	comp=Z,8.7nm,1.1s			IAmb		IAmb	02 45 58.8
F10A	**Beach Ranch, E**	**88.48**	**40**	P		**P**	**02 45 56.7 0.0**
121A	**Cookes Peak, D** baz=246	**89.04**	**55**	P		**P**	**02 46 00.9 +1.2**
J26L	**Joseph Creek** baz=218	**89.06**	**16**	P		**P**	**02 45 59.7 +0.7**
HLID	**Hailey** baz=242	**89.08**	**43**	P		**P**	**02 46 02.0 +2.4**
K27K	**Chicken** baz=219	**89.09**	**17**	P		**P**	**02 46 00.5 +1.5**
DLBC	**Dease Lake** baz=230	**89.17**	**25**	P		**P**	**02 46 01.5 +1.9**
MPU	**Maple Canyon**	**89.33**	**47**	P		**P**	**02 45 59.8 -1.2**
MPU	comp=Z,5.0nm,1.1s			IAmb		IAmb	02 46 04.4
R33M	**Jennings River** baz=229	**89.42**	**24**	P		**P**	**02 46 03.0 +2.1**
L29M	**L29M** baz=222	**89.54**	**19**	P		**P**	**02 46 02.5 +1.3**
M30M	**Minto, Yukon**	**89.57**	**20**	P		**P**	**02 46 00.9 -0.5**
M30M	**Minto, Yukon** baz=224	**89.57**	**20**	P		**P**	**02 46 02.4 +1.0**
KIDD	**KIDD Seismic O** baz=247	**89.74**	**56**	P		**P**	**02 46 04.3 +1.3**
DAWY	**Dawson**	**89.88**	**18**	P		**P**	**02 46 02.5 -0.3**
DAWY	comp=Z,6.1nm,1.1s			IAmb		IAmb	02 46 04.3
DAWY	**Dawson** baz=221	**89.88**	**18**	P		**P**	**02 46 03.7 +0.9**
EGAK	**Eagle**	**89.92**	**17**	P		**P**	**02 46 02.8 -0.1**
EGAK	comp=Z,4.0nm,0.8s			IAmb		IAmb	02 46 04.3
EGAK	**Eagle** baz=220	**89.92**	**17**	P		**P**	**02 46 03.5 +0.6**
TCUT	**Toone Canyon**	**89.97**	**46**	P		**P**	**02 46 04.2 +0.2**
Y22A	**Socorro** baz=247	**90.23**	**54**	P		**P**	**02 46 07.1 +1.8**
K29M	**Barlow Dome** baz=223	**90.27**	**19**	P		**P**	**02 46 05.7 +1.1**
I27K	**Kandik River** baz=219	**90.44**	**16**	P		**P**	**02 46 05.9 +0.5**
MNTX	**Cornudas Mount** baz=248	**90.60**	**57**	P		**P**	**02 46 09.7 +2.8**
MNTX	**Cornudas Mount** baz=248	**90.60**	**57**	P		**P**	**02 46 09.8 +2.9**
MCMT	**McKenzie Canyo**	**90.66**	**42**	P		**P**	**02 46 06.6 -0.6**
G26K	**Porcupine Rive** baz=217	**90.95**	**15**	P		**P**	**02 46 08.8 +1.2**
ANMO	**Albuquerque**	**91.00**	**53**	P		**P**	**02 46 08.0 -0.9**
ANMO	comp=Z,5.9nm,1.1s			IAmb		IAmb	02 46 12.1
ANMO	**Albuquerque** baz=247	**91.00**	**53**	P		**P**	**02 46 11.4 +2.4**
ANMO	**Albuquerque** baz=247	**91.00**	**53**	P		**P**	**02 46 11.5 +2.6**
TX31	**Lajitas Ar. Si**	**91.10**	**59**	P		**P**	**02 46 07.9 -1.5**
TX31	**Lajitas Ar. Si** baz=248	**91.10**	**59**	P		**P**	**02 46 11.3 +2.0**
TX32	**Lajitas Array**	**91.10**	**59**	P		**P**	**02 46 06.1 -3.2**
TX32	comp=Z,6.7nm,1.2s			IAmb		IAmb	02 46 13.4
TXAR	**Lajitas Array** comp=Z,2.3nm,0.8s,baz=217,slow=5.9,SNR=27	**91.10**	**59**	P		**P**	**02 46 12.1 +2.8**
	comp=Z,2.3nm,0.8s						
SONM	**Songino Array** comp=Z,1.7nm,1.0s,baz=125,slow=4.1,SNR=8.3	**91.25**	**321**	P		**P**	**02 46 09.7 0.0**
	comp=Z,1.7nm,1.0s						
SONM	**Songino Array**	**91.25**	**321**	P		**P**	**02 46 09.6 -0.1**
LOHW	**Long Hollow**	**91.58**	**44**	P		**P**	**02 46 10.4 -1.0**
O20A	**White River Ci**	**91.75**	**48**	P		**P**	**02 46 11.5 -0.8**
O20A	comp=Z,10nm,1.5s			IAmb		IAmb	02 46 24.5
O20A	**White River Ci** baz=246	**91.75**	**48**	P		**P**	**02 46 14.7 +2.5**
S22A	**4UR Ranch, Cre** baz=247	**91.81**	**51**	P		**P**	**02 46 15.6 +2.9**
BW06	**Boulder Array** baz=245	**91.92**	**45**	P		**P**	**02 46 14.7 +1.7**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.6s,baz=229,slow=3.2,SNR=7.0	**91.92**	**45**	P		**P**	**02 46 14.4 +1.4**
	comp=Z,0.5nm,0.6s						
EPYK	**Eagle Plains** baz=224	**92.34**	**17**	P		**P**	**02 46 14.7 +0.6**
SDCO	**Great Sand Dun** baz=248	**92.78**	**51**	P		**P**	**02 46 17.9 +0.7**
G30M	**tAoh Zraii Nji** baz=224	**92.92**	**17**	P		**P**	**02 46 17.5 +0.6**
MSTX	**Muleshoe** baz=249	**93.47**	**55**	P		**P**	**02 46 22.2 +1.9**
MSTX	**Muleshoe** baz=249	**93.47**	**55**	P		**P**	**02 46 22.5 +2.2**
INK	**Inuvik** comp=Z,2.4nm,1.2s,baz=230,slow=3.5,SNR=4.1	**94.59**	**17**	P		**P**	**02 46 24.6 +0.2**
	comp=Z,2.4nm,1.2s						
INK	**Inuvik** baz=227	**94.59**	**17**	P		**P**	**02 46 24.6 +0.2**
AMTX	**Amarillo** baz=250	**94.64**	**55**	P		**P**	**02 46 27.5 +1.9**
YKA	**Yellowknife Ar**	**97.75**	**26**	P		Pdif	02 46 39.6 +0.6

	comp=Z,0.6nm,0.8s,baz=249,slow=4.5,SNR=8.5						
	comp=Z,0.6nm,0.8s						
A36M	**Sachs Harbour**	**99.11**	**16**	P		**Pdif**	**02 46 44.7 -0.1**
A36M	**Sachs Harbour** baz=235	**99.11**	**16**	P		**Pdif**	**02 46 45.9 +1.1**
WMQ	**Urumqi**	**101.98**	**312**	*e*P		**Pdif**	**02 47 00.3 +1.9**
ARU	**Arti**	**121.03**	**325**			**PKiKP**	**02 51 56.8 +0.2**
MLR	**Muntele Rosu**	**144.06**	**323**	⇑P		PKPbc	02 52 38.4 +0.4
MLR	**Muntele Rosu**	**144.06**	**323**	⇑P	PKPdf	**PKPab**	**02 52 36.7 -0.9**
VOIR		**144.59**	**324**	⇑P		PKPbc	02 52 40.1 +0.4
ARR	**Arges**	**144.87**	**324**	⇑P		**PKPdf**	**02 52 41.7 +0.3**
OSTC	**Ostas**	**144.93**	**338**	*e*PKP		**PKPdf**	**02 52 41.8 +0.5**
DRGR		**144.96**	**328**	⇑P		**PKPab**	**02 52 38.0 -2.8**
UPC	**Upice**	**145.04**	**338**	*e*PKP		**PKPdf**	**02 52 41.8 +0.3**
DPC	**Dobruska-Polom**	**145.06**	**337**	*e*PKP		**PKPdf**	**02 52 41.7 +0.1**
MORC	**Moravsky Berou**	**145.07**	**336**			**PKPbc**	**02 52 39.4 -1.7**
MORC	**Moravsky Berou**	**145.07**	**336**	*e*PKP		**PKPdf**	**02 52 41.6 0.0**
KRLC	**Kraliky**	**145.12**	**337**	*e*PKP		**PKPdf**	**02 52 42.0 +0.3**
MAUC	**Maruska**	**145.28**	**335**	*e*PKP		**PKPdf**	**02 52 42.7 +0.7**
CLL	**Collm**	**145.35**	**341**			**PKPbc**	**02 52 40.0 -1.8**
CLL	**Collm**	**145.35**	**341**	⇓ *i* PKPbc		**PKPdf**	**02 52 42.3 +0.3**
	comp=Z,44nm,0.8s						
CLL				*i* (PKiKP)			02 52 48.5
CLL				*ex*		x	02 52 56.0
BRG	**Berggiesshubel**	**145.44**	**340**	*i* PKP		**PKPab**	**02 52 43.0 +0.7**
BRG	comp=Z,31nm,1.0s			Amp			02 52 43.9
BRG	**Berggiesshubel**	**145.44**	**340**	P		**PKiKP**	**02 52 49.5 +3.3**
BRG	comp=Z,22nm,1.1s			Amp			02 52 50.4
VYHS	**Vyhne**	**145.54**	**333**	*e*PKP		**PKPab**	**02 52 43.3 +0.5**
JAVC	**Velka Javorina**	**145.74**	**335**	*e*PKP		**PKPab**	**02 52 44.8 +1.2**
VRAC	**Vranov**	**145.81**	**336**	*e*PKP		**PKPab**	**02 52 44.2 +0.4**
GZR	**Gura Zlata**	**145.86**	**326**	⇑P		**PKPdf**	**02 52 42.8 -0.4**
SURR	**Surduc**	**145.96**	**327**	⇑P		**PKPab**	**02 52 44.2 -0.2**
PLVB	**Pleven**	**146.07**	**321**	⇑P		**PKPab**	**02 52 44.9 0.0**
KRUC	**Moravsky**	**146.09**	**336**	*e*PKP		**PKPab**	**02 52 44.6 -0.2**
MODS	**Modra-Piesok**	**146.29**	**334**	*e*PKP		**PKPab**	**02 52 46.0 +0.4**
BZS	**Buzias**	**146.31**	**327**	⇑P		**PKPdf**	**02 52 44.3 +0.5**
HERR	**Heviduane**	**146.39**	**325**	⇑P		**PKPdf**	**02 52 44.5 +0.5**
MDVR	**Moldovita**	**146.83**	**326**	⇓P		**PKPbc**	**02 52 45.8 -0.8**
KHC	**Kasperske Hory**	**147.05**	**339**	PKPdf		**PKPdf**	**02 52 43.2 -1.9**
KHC	**Kasperske Hory**	**147.05**	**339**	*e*PKP		**PKPdf**	**02 52 44.5 -0.5**
CKRC	**Cesky Krumlov**	**147.06**	**338**	*e*PKP		**PKPab**	**02 52 48.6 0.0**
CONA	**Conrad Observa** comp=Z,6.7nm,0.8s	**147.21**	**335**	*ep*PKP		pPKPdf	02 52 48.2 +0.2
RONA	**Rosalia, Austr** comp=Z,14nm,1.2s	**147.22**	**335**	*ep*PKP		**PKPab**	**02 52 48.9 -0.4**
VTS	**Vitosha**	**147.35**	**321**	⇑P		**PKPbc**	**02 52 48.6 +0.4**
MOA	**Molln**	**147.89**	**337**	*ep*PKP		**PKPbc**	**02 52 50.1 +0.7**
	comp=Z,12nm,1.4s						
ARSA	**Arzberg** comp=Z,7.0nm,1.3s	**147.90**	**335**	*ep*PKP		**PKPbc**	**02 52 49.5 +0.1**
BIOA	**Bad Ischl, Aus** comp=Z,2.2nm,0.8s	**148.25**	**337**	*i* pPKiKP		**PKPab**	**02 52 54.8 +1.4**
SOKA	**Soboth** comp=Z,5.3nm,1.2s	**148.56**	**335**	*i* PKiKP		**PKiKP**	**02 52 52.4 -0.4**
KBA	**Koelnbreinsper**	**148.88**	**337**	*e*PKP		**PKPbc**	**02 52 51.9 -0.4**
MYKA	**Terra Mystica** comp=Z,4.4nm,0.8s	**149.14**	**336**	*e*PKP		**PKPbc**	**02 52 52.3 -0.5**
WATA	**Walderalm** comp=Z,1.1nm,1.3s	**149.28**	**339**	*e*PKP		**PKPbc**	**02 52 52.9 -0.3**
WTTA	**Wattenberg** comp=Z,15nm,1.3s	**149.32**	**339**	*ep*PKiKP		**PKPab**	**02 52 58.2 +0.3**
RETA	**Reutte** comp=Z,13nm,1.5s	**149.41**	**340**	*ep*PKiKP		**PKPab**	**02 52 58.9 +0.8**
MOTA	**Moosalm** comp=Z,7.5nm,0.8s	**149.43**	**340**	*e*PKP		**PKPbc**	**02 52 53.3 -0.2**
ABTA	**Abfaltersbach** comp=Z,16nm,2.0s	**149.46**	**338**	*ep*PKP		**PKPbc**	**02 52 52.7 -0.9**
SQTA	**Sankt Quirin** comp=Z,18nm,1.5s	**149.50**	**340**	*e*PKP		**PKPbc**	**02 52 53.7 0.0**
FETA	**Feichten** comp=Z,12nm,1.6s	**149.84**	**340**	*e*PKP		**PKPbc**	**02 52 54.4 -0.2**
CIMO	**Cimolais**	**149.86**	**337**	PKPbc		**PKPbc**	**02 52 53.5 -1.0**
DAVA	**Damuels** comp=Z,9.8nm,1.4s	**149.87**	**341**	*e*PKP		**PKPbc**	**02 52 53.7 -0.9**
FUORN	**Ofenpass-Fuorn**	**150.34**	**340**	PKPbc		**PKPbc**	**02 52 54.0 -2.0**
DBIC	**Dimbokro** comp=Z,2.4nm,0.9s,baz=60,slow=2.7,SNR=3.1	**167.46**	**175**	PKP		**PKPdf**	**02 53 10.7 -0.7**

*IDC **04** 02:33:34.7±5.8,23°.39S×179°.80E,h592km±68km,mb3.3/7, mbtmp4.2/7,Error ellipse: s-maj=38.3km s-min=22.1km az=42.0*
*NEIC **04** 02:33:34.2±0.7,23°.8S±0°.2×179°.7E±0°.1,h571km±20km, mb4.3/16,Error ellipse: s-maj=35.8km s-min=10.9km az=199.0*
ISC 04 02:33:34.1±0.8,**23°.5S**±0°.1×**179°.8E**±0°.1,**h600**km,**n30**, σ1§**37**/27,**mb4.3**/15,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.95**	**344**	P	**P**	**02 35 16.2**	**+1.2**
MARNC	**Mare, Loyalty**	**11.07**	**278**	P	**P**	**02 36 01.7**	**-1.7**
DZM	**Mont Dzumac**	**12.41**	**274**	P	**P**	**02 36 16.0**	**-1.0**
RPZ	**Rata Peaks** 15nm,0.6s,baz=341,slow=5.7,SNR=5.6	**21.43**	**198**	P	**P**	**02 37 42.4**	**+2.0**
	15nm,0.6s						
RPZ	**Rata Peaks**	**21.43**	**198**	P	**P**	**02 37 38.6**	**-1.8**
MLZ	**Mavora Lakes**	**23.82**	**201**	P	**P**	**02 38 00.1**	**-1.6**
CTA	**Charters Tower** 8.5nm,0.4s,baz=92,slow=11,SNR=16	**31.30**	**270**	P	**P**	**02 39 08.5**	**+1.4**
	8.5nm,0.4s						
CTAO	**Charters Tower**	**31.30**	**270**	P	**P**	**02 39 08.4**	**+1.3**
STKA	**Stephens Creek** 1.1nm,0.7s,baz=94,slow=16,SNR=1.8	**34.72**	**248**	P	**P**	**02 39 36.4**	**+0.8**
	1.1nm,0.7s						
STKA	**Stephens Creek**	**34.72**	**248**	P	**P**	**02 39 35.4**	**-0.2**
STKA	comp=Z,1.9nm,1.1s			IAmb	IAmb	02 39 44.8	
COEN	**Coen**	**35.87**	**279**	P	**P**	**02 39 47.4**	**+2.0**
COEN	comp=Z,9.8nm,1.2s			IAmb	IAmb	02 40 12.8	
BBOO	**Buckleboo**	**39.45**	**246**	P	**P**	**02 40 13.9**	**-0.3**
WR0	**Warramunga Arr**	**42.07**	**266**	P	**P**	**02 40 35.6**	**+0.6**
WR0	comp=Z,9.8nm,1.3s			IAmb	IAmb	02 41 04.6	
WB2	**Warramunga Arr**	**42.25**	**266**	P	**P**	**02 40 36.9**	**+0.4**
WB2	comp=Z,15nm,1.3s			IAmb	IAmb	02 41 12.2	
WB0	**Warramunga Arr**	**42.25**	**266**	P	**P**	**02 40 37.0**	**+0.6**
WB0	comp=Z,6.1nm,0.8s			IAmb	IAmb	02 40 37.6	
WRA	**Warramunga Arr** comp=Z,3.0nm,0.6s,baz=90,slow=5.9,SNR=45	**42.26**	**266**	P	**P**	**02 40 37.1**	**+0.5**
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**42.26**	**266**	P	**P**	**02 40 36.8**	**+0.3**
WRA	comp=Z,0.3nm,0.7s			IAmb	IAmb	02 40 37.6	
FORT	**Forrest**	**46.29**	**249**	P	**P**	**02 41 07.6**	**+0.2**
FORT	comp=Z,18nm,0.9s			IAmb	IAmb	02 41 22.9	
VNDA	**Vanda** comp=Z,1.6nm,0.8s,baz=16,slow=7.8,SNR=6.7	**54.78**	**185**	P	P	02 42 09.7	+1.6
	comp=Z,1.6nm,0.8s						
VNDA	**Vanda**	**54.78**	**185**	P	**P**	**02 42 08.4**	**+0.4**
CASY	**Casey**	**60.41**	**206**	P	**P**	**02 42 46.3**	**0.0**
CASY	comp=Z,33nm,1.5s			IAmb	IAmb	02 43 30.0	
QSPA	**South Pole Qui**	**66.60**	**180**	P	**P**	**02 43 26.8**	**+1.0**
QSPA	comp=Z,10nm,0.8s			IAmb	IAmb	02 43 27.9	
SMAI	**San Martin Ant**	**76.56**	**159**	P	P	02 44 24.4	+1.0
SMAI	comp=Z,9.4nm,0.9s			IAmb	IAmb	02 44 25.4	
BELA	**Belgrano 2**	**76.87**	**173**	P	**P**	**02 44 24.7**	**-0.2**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.6s,baz=211,slow=6.3,SNR=7.7	**90.36**	**58**	P	P	02 45 33.8	+1.0
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array** comp=Z,0.3nm,0.6s,baz=197,slow=1.5,SNR=4.1	**92.51**	**44**	P	**P**	**02 45 43.1**	**+0.6**
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B** comp=Z,2.3nm,0.8s,baz=39,slow=2.2,SNR=4.3	**131.44**	**348**	PKP	**PKiKP**	**02 51 39.7**	**+0.1**
AKASG	**Malin Array Be** comp=Z,0.9nm,0.3s,baz=40,slow=3.7,SNR=12	**144.52**	**327**	PKP	**PKiKP**	**02 52 03.5**	**-3.3**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.6s,baz=151,slow=5.0,SNR=5.8	**147.18**	**308**	PKPbc	**PKPab**	**02 52 12.2**	**-2.8**
CLL	**Collm** comp=Z,10.0nm,0.8s	**150.40**	**343**	*i* PKPbc	**PKiKP**	**02 52 19.1**	**+0.2**

IDC 04 02:34:41.8±2.9,**32°.49S**×**179°.31E**,**h0**km,**mb3.7**/2,

mbtmp3.8/3,**ML3.8**/1,**Error ellipse: s-maj=63.9km s-min=34.7km az=93.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera** 2.4nm,0.3s,baz=5.3,slow=7.0,SNR=13	**6.03**	**197**	Pn	Pn	02 36 11.5	-0.8
URZ				Sn	Sn	02 37 24.5	+2.4
	baz=77,slow=23 16nm,0.6s						
ASAR	**Alice Springs** 1.1nm,0.9s,baz=101,slow=7.6,SNR=2.0	**40.76**	**271**	P	P	02 42 24.5	-0.3
	1.1nm,0.9s						
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=115,slow=7.5,SNR=8.2	**41.95**	**276**	P	P	02 42 34.6	0.0
	0.8nm,0.6s						
FINES	**FINESS Array B** 2.3nm,0.8s,baz=48,slow=2.1,SNR=5.0	**146.24**	**337**	PKPbc	PKPdf	02 54 22.9	+0.5

*TIF **04** 02:36:19.6,42°.81N×44°.24E,h9km±2km*
*MOS **04** 02:36:19.6±0.0,42°.77N×44°.13E,h14km,MPVA4.1*
*NORS **04** 02:36:20.0±0.0,42°.66N×44°.13E,h14km,MPVA4.5*
*DRS **04** 02:36:24.4±0.0,42°.76N×44°.28E,h17km*
ISC 04 02:36:20.8±0.9,**42°.77N**±0°.02×**44°.24E**±0°.01,**h5**km±7km, **n49**,σ1§**04**/95,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LACR	**Lac**	**0.07**	**40**	*e*Pg	**Pg**	**02 36 22.3**	**-0.2**
LACR				*e*Sg	**Sg**	**02 36 24.1**	**+0.4**
ZEI	**Tsey**	**0.25**	**274**	*e*Pg	**Pg**	**02 36 25.1**	**-0.5**
ZEI				*e*Sg	**Sg**	**02 36 28.2**	**-0.7**
PNSH	**Pansheti**	**0.31**	**116**	P	**Pg**	**02 36 27.0**	**+0.1**
PNSH				S	**Sg**	**02 36 31.3**	**+0.2**
KORR	**Kora**	**0.34**	**339**	*e*Pg	**Pg**	**02 36 28.0**	**+0.7**
KORR				*e*Sg	**Sg**	**02 36 32.7**	**+0.9**
GUDG	**Gudauri**	**0.36**	**150**	P	**Pg**	**02 36 28.2**	**+0.5**
GUDG				S	**Sg**	**02 36 33.4**	**+1.0**
VLKR	**Vladikavkaz**	**0.43**	**50**	*e*Pg	**Pb**	**02 36 30.4**	**-0.4**
VLKR				*e*Sg	**Sb**	**02 36 38.3**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.50**	**285**	*e*Pg	**Pg**	**02 36 29.7**	**-0.7**
DIGR				*e*Sg	**Sg**	**02 36 35.8**	**-1.1**
KMGR	**Komgaron**	**0.54**	**58**	*e*Pg	**Pb**	**02 36 33.1**	**+0.2**
KMGR				*e*Sg	**Sn**	**02 36 42.4**	**-2.5**
LSNR	**Lesken**	**0.59**	**330**	*e*Pg	**Pg**	**02 36 32.8**	**+0.7**
LSNR				*e*Sg	**Sb**	**02 36 41.8**	**-0.5**
ONI	**Oni**	**0.60**	**253**	P	**Pg**	**02 36 32.2**	**-0.2**
ONI				S	**Sg**	**02 36 40.8**	**+0.6**
STDR	**Stavd-Durt**	**0.61**	**348**	*e*Pg	**Pb**	**02 36 34.0**	**0.0**
STDR				*e*Sg	**Sb**	**02 36 43.2**	**+0.3**
BTKR	**Batakoyurt**	**0.64**	**20**	*e*Pg	**Pn**	**02 36 35.5**	**-1.1**
BTKR				*e*Sg	**Sn**	**02 36 46.1**	**-1.1**
ALIG	**Mtskhetisjvari**	**0.80**	**213**	P	**Pg**	**02 36 35.9**	**-0.1**
ALIG				S	**Sg**	**02 36 47.5**	**+1.1**
NCK	**Nalchik**	**0.86**	**327**	*e*Pg	**Pg**	**02 36 37.9**	**+0.6**
NCK				*e*Sg	**Sb**	**02 36 50.3**	**+0.2**
PRTR	**Priterechnaya**	**0.98**	**2**	*e*Pg	**Pn**	**02 36 41.5**	**+0.2**
PRTR				*e*Sg	**Sn**	**02 36 56.6**	**+1.1**
TKB	**Tkibuli**	**1.01**	**246**	P	**Pg**	**02 36 40.1**	**0.0**
TKB				S	**Sg**	**02 36 54.5**	**+1.3**
TRKR	**Terskaya**	**1.02**	**21**	*e*Pg	**Pn**	**02 36 42.6**	**+0.9**
TRKR				*e*Sg	**Sn**	**02 36 57.8**	**+1.4**
BTNK	**Botanikuri**	**1.17**	**159**	P	Pb	02 36 37.7	-5.8
BTNK				S	**Sb**	**02 36 54.9**	**-4.0**
BRNG	**Burnasheti**	**1.19**	**195**	P	**Pb**	**02 36 43.8**	**-0.1**
KBTC	**Kuba-Taba**	**1.21**	**330**	*i* Pg	**Pn**	**02 36 44.0**	**-0.3**
KBTC				*e*Sg	**Sn**	**02 37 01.9**	**+0.7**
NEY	**Neytrino**	**1.21**	**294**	*e*Pg	**Pn**	**02 36 42.8**	**-1.7**
NEY				*e*Sg	**Sb**	**02 36 57.9**	**-2.3**
GROC	**Groznyy**	**1.22**	**69**	*e*Pg	**Pg**	**02 36 46.0**	**+1.7**
GROC				*e*Sg	**Sn**	**02 37 04.7**	**+3.2**
TRLG	**Trialeti**	**1.24**	**185**	P	**Pn**	**02 36 44.7**	**-0.2**
TRLG				S	**Sn**	**02 37 02.7**	**+0.7**
KBZ	**Khabaz**	**1.37**	**315**	*e*Pg	**Pn**	**02 36 45.5**	**-1.0**
KBZ				*e*Sg	**Sb**	**02 37 03.6**	**-1.1**
DVE	**Vedeno**	**1.40**	**82**	*e*Pg	**Pg**	**02 36 47.8**	**+0.2**
DVE				*e*Sg	**Sg**	**02 37 07.8**	**+1.9**
DMNI	**Dmanisi**	**1.44**	**181**	P	**Pb**	**02 36 48.2**	**0.0**
ABS	**Abastumani**	**1.46**	**227**	P	**Pn**	**02 36 47.9**	**-0.1**
ABS				S	**Sg**	**02 37 09.7**	**+1.9**
AKH	**Akhalkalaki**	**1.47**	**202**	P	**Pn**	**02 36 48.2**	**+0.1**
AKH				S	**Sb**	**02 37 07.9**	**+0.2**
AKH	**Akhalkalaki**	**1.47**	**202**	*e*Pg	**Pn**	**02 36 48.1**	**0.0**
AKH				*e*Sg	**Sb**	**02 37 08.0**	**+0.2**
BTLR	**Botlikh**	**1.47**	**94**	*e*Pg	**Pg**	**02 36 48.6**	**-0.4**
BTLR				*e*Sg	**Sg**	**02 37 07.5**	**-0.4**
SHA1	**Shidzhatmaz**	**1.50**	**310**	*e*Pg	**Pn**	**02 36 48.3**	**-0.4**
SHA1				*e*Sg	**Sn**	**02 37 07.5**	**-1.3**
PYA1	**Pyatigorsk**	**1.53**	**328**	*e*Pg	**Pn**	**02 36 48.6**	**-0.3**
PYA1				*e*Sg	**Sn**	**02 37 09.2**	**+0.3**
BGD	**Bogdanovka**	**1.58**	**198**	P	**Pb**	**02 36 50.5**	**-0.1**
BGD				S	**Sg**	**02 37 13.8**	**+2.3**
BEYR	**Belyy Ugol+**	**1.61**	**321**	*e*Pg	**Pb**	**02 36 50.4**	**-0.7**
BEYR				*i* Sg	**Sb**	**02 37 11.7**	**-0.1**
KIV0	**Kislovodsk Arr**	**1.63**	**317**	*e*Pg	**Pb**	**02 36 50.9**	**-0.5**
KIV0				*e*Sg	**Sb**	**02 37 12.1**	**-0.3**
KIV	**Kislovodsk**	**1.64**	**317**	*i* Pg	**Pb**	**02 36 50.9**	**-0.6

149nm,1.0s,3µm0.7nm
LEM Lembang 7.41 310 Pn **Pn** 02 41 29.6 +1.2
7.8nm,0.3s,baz=112,slow=19,SNR=4.2
LEM LR LR 02 44 32.3
comp=Z,113nm,18.2s,baz=95,slow=40
32nm,0.6s
CNJI Cibinong 7.49 305 P **Pn** 02 41 27.6 -1.8
26nm,0.9s,0.3nm
CGJI Cibinong 9.05 303 P **Pn** 02 41 49.6 -1.3
60nm,1.0s
KAPI Kappang 9.15 44 LR LR 02 46 06.5
comp=Z,203nm,19.0s,baz=206,slow=43
SOEI Soe 10.91 81 Pn **Pn** 02 42 13.4 -3.0
GIRL Giralia 10.96 176 Pn **Pn** 02 42 16.3 -0.7
MBWA Marble Bar 11.27 148 Pn **Pn** 02 42 18.1 -3.1
SBUM Sibu 14.06 355 Pn **Pn** 02 42 56.6 -2.8
TOLI2 Tolitoli 14.68 31 P **P** 02 43 14.0 -0.2
MRSI Marisa 14.78 36 P **Pn** 02 43 09.4 +0.2
41nm,1.0s
GTOI Gorontalo 15.54 39 P **Pn** 02 43 19.3 -0.1
30nm,0.9s
SANI Sanana 15.77 54 P **Pn** 02 43 23.2 +0.9
MORW Morawa 17.51 172 Pn **Pn** 02 43 43.5 -0.9
FAKI Fak Fak 20.66 67 P **P** 02 44 18.9 -1.2
FAKI IAmb IAmb 02 44 26.3
comp=Z,98nm,2.0s
SIJI Sorong 20.77 60 P **P** 02 44 21.4 -0.1
comp=Z,18nm,0.7s,baz=210,slow=14,SNR=5.5
comp=Z,18nm,0.7s
KULM Kulim 21.04 322 P **P** 02 44 23.7 -0.6
WB0 Warramunga Arr 21.80 114 P **P** 02 44 34.1 +1.7
WRA Warramunga Arr 21.81 115 P **P** 02 44 34.6 +2.1
comp=Z,8.8nm,0.7s,baz=288,slow=11,SNR=28
WRA S **S** 02 48 24.7 -9.1
comp=Z,3.3nm,0.7s,baz=286,slow=24,SNR=7.8
comp=Z,8.8nm,0.7s
WRA Warramunga Arr 21.81 115 P **P** 02 44 34.9 +2.4
WB2 Warramunga Arr 21.82 115 P **P** 02 44 35.6 +2.9
WR0 Warramunga Arr 21.99 115 P **P** 02 44 37.0 +2.5
WR0 IAmb IAmb 02 44 48.0
comp=Z,62nm,1.8s
AS31 Alice Springs 22.92 124 P **P** 02 44 46.5 +2.1
ASAR Alice Springs 22.92 124 P **P** 02 44 46.8 +2.4
comp=Z,7.0nm,0.8s,baz=300,slow=9.3,SNR=45
comp=Z,7.0nm,0.8s
ASAR Alice Springs 22.92 124 P **P** 02 44 47.1 +2.7
FORT Forrest 23.41 147 P **P** 02 44 50.9 +1.6
STKA Stephens Creek 32.90 132 P **P** 02 46 17.4 +2.9
comp=Z,3.3nm,0.6s,baz=296,slow=7.0,SNR=9.1
comp=Z,3.3nm,0.6s
STKA Stephens Creek 32.90 132 P **P** 02 46 16.9 +2.3
CMAR Chiang Mai Arr 33.12 334 P **P** 02 46 17.6 +1.0
comp=Z,5.3nm,0.7s,baz=170,slow=8.0,SNR=19
CMAR LR LR 03 00 42.6
comp=Z,42nm,18.3s,baz=325,slow=38
comp=Z,5.3nm,0.7s
TNCH TengChong 39.22 338 P **P** 02 47 10.5 +1.6
TNCH pP sP 02 47 13.4 +2.0
TNCH sP pwP 02 47 17.0 +0.8
TNCH S **S** **02 53 08.4 -1.1**
TNCH sS sS 02 53 15.5 +3.0
TNCH pmax pmax
comp=Z,23nm,1.1s
TNCH pmax pmax
comp=Z,100nm,4.3s
PZH PanZhiHua 39.57 344 P **P** 02 47 14.3 +2.6
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.3s
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.2s
H08S2 Diego Garcia H 40.43 272 T T 03 30 18.9
baz=97,slow=75,SNR=6.5
H08S3 Diego Garcia H 40.45 272 T T 03 30 04.4
baz=97
H08S1 Diego Carcia H 40.45 272 T T 03 30 07.8
baz=97,slow=75,SNR=6.4
SHL Shillong 42.49 331 P **P** 02 47 35.5 -0.3
SHL IAmb IAmb 02 47 37.1
comp=Z,20nm,0.6s
NJ2 Nanjing 43.78 7 *eP* **P** 02 47 47.0 +1.1
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
XAN Xi'an 45.63 355 P **P** 02 48 00.4 -0.4
XAN pP sP 02 48 05.1 +1.8
XAN pmax pmax
comp=Z,10.0nm,1.5s
KSAR Konju Array Be 50.71 15 P **P** 02 48 39.9 -0.1
KSRS Korea Array 50.73 15 P **P** 02 48 40.3 +0.2
comp=Z,9.2nm,0.9s,baz=197,slow=7.8,SNR=18
comp=Z,9.2nm,0.9s
HHC Hu-ho-hao-te 52.26 358 *eP* **P** 02 48 53.5 +1.8
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,200nm,4.3s
MJAR Matsushiro Arr 53.36 25 P **P** 02 48 58.7 -1.1
comp=Z,6.0nm,0.9s,baz=194,slow=7.0,SNR=11
comp=Z,6.0nm,0.9s
XLT XiLinHaoTe 55.34 2 *eP* **P** 02 49 14.5 +0.4
XLT pP pwP 02 49 19.9 -1.8
XLT sP sP 02 49 23.0 +6.4
XLT pmax pmax
comp=Z,9.0nm,1.1s
XLT pmax pmax
comp=Z,130nm,4.9s
MDJ Mudanjiang 57.91 14 P **P** 02 49 31.9 -0.4
USA0B Ussuriysk Arra 58.12 16 P **P** 02 49 33.1 -0.6
USRK Ussuriysk Ar. 58.12 16 P **P** 02 49 33.9 +0.1
comp=Z,19nm,0.7s,baz=174,slow=5.5,SNR=25
comp=Z,19nm,0.7s
USRK Ussuriysk Ar. 58.12 16 P **P** 02 49 33.6 -0.1
JTM Tenmabayashi 58.14 25 P **P** 02 49 33.9 -0.1
NIL Nilore 59.03 321 P **P** 02 49 39.0 -1.4
NIL IAmb IAmb 02 49 40.0
comp=Z,8.8nm,0.8s
ULN Ulaanbaatar 59.52 355 P **P** 02 49 43.4 -0.2
ULN IAmb IAmb 02 49 44.8
comp=Z,5.2nm,1.1s
SONM Songino Array 59.54 355 P **P** 02 49 44.1 +0.4
comp=Z,5.3nm,1.0s,baz=177,slow=8.5,SNR=29
comp=Z,5.3nm,1.0s
SONM Songino Array 59.54 355 P **P** 02 49 43.5 -0.3
SONM IAmb IAmb 02 49 45.1
comp=Z,4.9nm,1.1s
WMQ Urumqi 59.95 339 *eP* **P** 02 49 50.0 +3.5
WMQ pP pwP 02 49 52.8 -1.2
WMQ sP sP 02 49 54.8 +5.7
WMQ PP **PP** **02 52 02.4 +3.4**
WMQ S **S** **02 57 56.0 -2.9**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 62.25 319 P **P** 02 50 01.9 -0.7
KBL IAmb IAmb 02 50 03.1
comp=Z,7.4nm,1.4s
TARG Taragay, Kyrgy 62.38 331 P **P** 02 50 03.1 -0.4
TARG IAmb IAmb 02 50 13.2
comp=Z,6.6nm,1.0s
HEH HeiHe 62.87 10 *eP* **P** 02 50 05.7 -0.3
HEH pmax pmax
comp=Z,15nm,0.8s
TKM2 Tokmak 2 64.35 330 P **P** 02 50 17.2 +0.9
SNR=13
KBK Karagaybulak 64.47 329 P **P** 02 50 18.4 +1.4
SNR=19
MK31 Makanchi Array 64.48 337 P **P** 02 50 17.0 +0.1
MKAR Makanchi Array 64.48 337 P **P** 02 50 17.4 +0.6
comp=Z,11nm,0.5s,baz=146,slow=8.0,SNR=176
comp=Z,11nm,0.5s
MKAR Makanchi Array 64.48 337 P **P** 02 50 16.7 -0.2
MAKZ Makanchi 64.61 337 P **P** 02 50 17.7 0.0
MAKZ IAmb IAmb 02 50 19.1
comp=Z,5.7nm,0.8s
AAK Ala-Archa 64.68 329 P **P** 02 50 19.7 +1.3
SNR=13
AAK Ala-Archa 64.68 329 P **P** 02 50 18.4 -0.1
AML Almayashu 64.72 328 P **P** 02 50 20.0 +1.1
SNR=12
CHGR Chuyangaron 64.83 323 P **P** 02 50 18.0 -1.4
EKS2 Erkin-Say 65.06 329 P **P** 02 50 22.6 +1.8
SNR=11
USP Ospenovka 65.14 330 P **P** 02 50 22.1 +0.8
SNR=6.7

KK31 Karatay Array 67.07 327 P **P** 02 50 32.9 -0.7
KK31 IAmb IAmb 02 50 53.7
comp=Z,6.3nm,1.5s
KKAR Karatay Array 67.07 327 P **P** 02 50 33.6 -0.1
KURK Kurchatov 69.08 337 P **P** 02 50 46.2 +0.2
KURK IAmb IAmb 02 50 47.4
comp=Z,6.9nm,1.1s
ZAA0 Zalesovo Array 69.70 342 P **P** 02 50 49.6 -0.2
ZAA0 IAmb IAmb 02 50 50.8
comp=Z,9.8nm,1.2s
ZALV Zalesovo Beam 69.70 342 P **P** 02 50 49.5 -0.3
comp=Z,2.9nm,0.6s,baz=144,slow=5.3,SNR=16
comp=Z,2.9nm,0.6s
ZALV Zalesovo Beam 69.70 342 P **P** 02 50 49.3 -0.5
GEYT Alibeck 71.39 317 P **P** 02 51 01.6 +1.0
comp=Z,3.4nm,0.7s,baz=156,slow=7.3,SNR=10
comp=Z,3.4nm,0.7s
GEYT Alibeck 71.39 317 P **P** 02 51 00.0 -0.6
GEYT IAmb IAmb 02 51 02.8
comp=Z,12nm,1.2s
GYA0B ALIBECK ARRAY 71.39 317 P **P** 02 51 00.2 -0.4
GYA0B IAmb IAmb 02 51 02.8
comp=Z,12nm,1.2s
YAK Yakutsk 74.56 8 P **P** 02 51 18.6 -0.1
YAK IAmb IAmb 02 51 20.2
comp=Z,15nm,0.9s
ABKAR Akbulak array 76.64 327 P **P** 02 51 31.0 +0.1
QSPA South Pole Qui 78.36 180 P **P** 02 51 42.0 +1.5
QSPA IAmb IAmb 02 52 25.3
comp=Z,24nm,1.9s
NRIK Noril'sk 82.79 351 P **P** 02 52 03.5 -0.4
comp=Z,2.3nm,0.5s,baz=142,slow=7.7,SNR=5.3
comp=Z,2.3nm,0.5s
NRIK Noril'sk 82.79 351 P **P** 02 52 04.3 +0.4
GURO Guroymak-BITLI 83.01 312 P **P** 02 52 06.9 +0.9
GURO IAmb IAmb 02 52 09.0
comp=Z,6.2nm,1.1s
KBZ Khabaz 84.29 317 P **P** 02 52 14.2 +2.0
comp=Z,3.9nm,1.0s,baz=194,slow=4.2,SNR=6.8
comp=Z,3.9nm,1.0s
BRTR Keskin Array B 89.58 311 P **P** 02 52 39.0 +0.8
comp=Z,1.4nm,0.9s,baz=108,slow=9.3,SNR=6.0
comp=Z,1.4nm,0.9s
YKA Yellowknife Ar 118.85 23 PKP **PKiKP** 02 58 29.4 +1.0
comp=Z,0.8nm,0.8s,baz=313,slow=2.3,SNR=12

*NEIC **04** 02:40:53.7±0.9, 18°.9S±0°.2×175°.9E±0°.1, h10km±1km, mb4.4/10, Error ellipse: s-maj=32.8km s-min=5.4km az=331.0*
*IDC **04** 02:40:55.8±1.1, 19°.09S×175°.89E, h0km, mb3.9/4, mbtmp4.1/5, ML4.4/1, Error ellipse: s-maj=39.8km s-min=29.1km az=115.0*
ISC 04 02:40:54.1±0.7, 18°.9S±0°.1×175°.93E±0°.10, h10km, n20, σ1s50/21, mb4.3/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.33**	**60**	Pn	**Pn**		**02 41 32.6**	**-0.1**
	6.4nm,0.3s,baz=259,slow=19,SNR=2.1							
MSVF				Sn	**Sn**		**02 42 00.9**	**-0.6**
	6.6nm,0.3s,baz=301,slow=22,SNR=4.1							
MSVF	**Nonsavu**	**2.33**	**60**	Pn	**Pn**		02 41 31.6	-1.0
MSVF				Sn	**Sn**		02 42 00.4	-1.0
DZM	**Mont Dzumac**	**9.43**	**249**	Pn	**Pn**		**02 43 09.2**	**-0.9**
URZ	**Urewera**	**19.30**	**177**	P	**Pn**		**02 45 21.0**	**+0.7**
	1.1nm,0.3s,baz=27,slow=4.5,SNR=9.2							
	14nm,0.7s							
BKZ	**Black Stump Fm**	**20.19**	**179**	P	**P**		**02 45 28.6**	**-0.3**
BKZ				IAmb	IAmb		02 45 43.3	
	comp=Z,23nm,1.3s							
MRZ	**Mangatainoka R**	**21.68**	**181**	P	**P**		**02 45 44.2**	**-0.8**
WR0	**Warramunga Arr**	**38.97**	**261**	P	**P**		**02 48 18.9**	**-1.9**
WR0				IAmb	IAmb		02 48 36.6	
	comp=Z,6.0nm,0.8s							
WB0	**Warramunga Arr**	**39.13**	**262**	P	**P**		**02 48 20.4**	**-1.8**
WB0				IAmb	IAmb		02 48 31.0	
	comp=Z,7.5nm,0.7s							
WB2	**Warramunga Arr**	**39.15**	**261**	P	**P**		**02 48 23.1**	**+0.8**
WB2				IAmb	IAmb		02 48 33.1	
	comp=Z,8.3nm,0.8s							
WRA	**Warramunga Arr**	**39.16**	**261**	P	**P**		**02 48 22.7**	**+0.3**
AS31	**Alice Springs**	**39.34**	**256**	P	**P**		**02 48 23.7**	**-0.2**
ASAR	**Alice Springs**	**39.34**	**256**	P	**P**		**02 48 26.5**	**+2.6**
	comp=Z,3.3nm,0.8s,baz=83,slow=9.1,SNR=12							
	comp=Z,3.3nm,0.8s							
ASAR	**Alice Springs**	**39.34**	**256**	P	**P**		**02 48 22.3**	**-1.6**
VNDA	**Vanda**	**59.05**	**184**	P	**P**		**02 50 55.3**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=24,slow=3.8,SNR=3.8							
	comp=Z,1.2nm,0.8s							
VNDA	**Vanda**	**59.05**	**184**	P	**P**		**02 50 54.1**	**+0.2**
QSPA	**South Pole Qui**	**71.14**	**180**	P	**P**		**02 52 12.8**	**0.0**
QSPA				IAmb	IAmb		02 52 14.5	
	comp=Z,3.7nm,0.9s							
BELA	**Belgrano 2**	**81.80**	**174**	P	**P**		**02 53 12.2**	**-0.7**
BELA				IAmb	IAmb		02 53 20.4	
	comp=Z,4.6nm,1.2s							
ILAR	**Eielson Array**	**88.16**	**15**	P	**P**		**02 53 48.4**	**+3.7**
	comp=Z,0.6nm,1.0s,baz=210,slow=5.2,SNR=4.7							
	comp=Z,0.6nm,1.0s							
TXAR	**Lajitas Array**	**91.11**	**59**	P	P		02 54 03.8	+4.3
	comp=Z,0.4nm,0.8s,baz=214,slow=5.8,SNR=4.9							
	comp=Z,0.4nm,0.8s							
DAVOX	**Davos/Dischmat**	**149.93**	**341**	PKPbc	**PKPab**		**03 00 48.6**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=68,slow=5.4,SNR=4.6							

*TAP **04** 02:42:52.5, 23°.74N×121°.89E, h21km±1km, ML2.6, C*
*JMA **04** 02:42:52.3±0.1, 23°.7N±0°.6×121°.9E±0°.4, h31km, MV2.1/7, TAIWAN REGION*
ISC 04 02:42:52.3±1.0, 23°.73N±0°.02×121°.87E±0°.03, h28km±8km, n42, σ0s54/72, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.29**	**299**	*eP*	**Pb**		**02 42 59.5**	**0.0**
	baz=311							
TEGC	**Jichi Village**	**0.30**	**267**	*i* P	**Pb**		**02 43 00.0**	**+0.3**
	baz=264							
TEGC				S	**Sn**		**02 43 05.7**	**-0.7**
	baz=264							
EGFH	**Guangfu**	**0.41**	**262**	*e*S	**Sb**		**02 43 08.1**	**+0.7**
	baz=261							
ESL	**Shilin**	**0.41**	**282**	*i* P	**Pb**		**02 43 00.7**	**-0.6**
	baz=271							
ESL				*e*S	**Sb**		**02 43 07.7**	**+0.3**
	baz=271							
ETM	**Tongmen**	**0.42**	**304**	P	**Pb**		**02 43 00.9**	**-0.5**
	baz=308							
ETM				S	**Sb**		**02 43 07.2**	**-0.5**
	baz=308							
TWD	**Chiawan**	**0.43**	**324**	*i* P	**Pb**		**02 43 01.1**	**-0.5**
	baz=323							
TWD				S	**Sb**		**02 43 07.6**	**-0.3**
	baz=323							
HGSD	**Ruisui**	**0.47**	**240**	P	**Pb**		**02 43 02.1**	**-0.2**
	baz=241							
HGSD				*e*S	**Sb**		**02 43 09.3**	**+0.3**
	baz=241							
ETL	**Fush Village**	**0.49**	**332**	P	**Pb**		**02 43 02.0**	**-0.5**
	baz=321							
NACB	**Ninganchiao**	**0.51**	**330**	P	**Pb**		**02 43 02.4**	**-0.5**
	baz=328							
NACB				*e*S	**Sb**		**02 43 09.6**	**-0.5**
	baz=328							
EHY	**Hungye**	**0.55**	**246**	*i* P	**Pb**		**02 43 03.8**	**+0.2**
	baz=253							
EHY				S	**Sb**		**02 43 11.4**	**+0.3**
	baz=253							
ECBN	**Changbin**	**0.56**	**223**	*i* P	**Pb**		**02 43 03.7**	**0.0**
	baz=209							
ECBN				S	**Sb**		**02 43 11.9**	**+0.4**
	baz=209							
ETLH	**Xiulin Townshi**	**0.59**	**323**	P	**Pb**		**02 43 03.6**	**-0.8**
	baz=326							
ETLH				*e*S	**Sb**		**02 43 12.5**	**0.0**
	baz=326							
YULB	**Yu-li**	**0.62**	**238**	*e*P	**Pb**		**02 43 04.7**	**-0.1**
	baz=238							
YULB				S	**Sb**		**02 43 13.9**	**+0.6**
	baz=238							
EYUL	**Yuli**	**0.63**	**233**	P	**Pb**		**02 43 04.9**	**0.0**
	baz=234							
EYUL				*e*S	**Sn**		**02 43 15.1**	**+0.5**
	baz=234							
TWF1	**Yuli**	**0.65**	**235**	P	**Pb**		**02 43 05.2**	**0.0**
	baz=235							
TWF1				*e*S	**Sn**		**02 43 14.6**	**-0.3**
	baz=235							
VWDT	**VWDT**	**0.67**	**272**	*e*P	**Pb**		**02 43 05.5**	**0.0**
	baz=271							
VWDT				*e*S	**Sb**		**02 43 14.9**	**+0.5**
	baz=271							
OWD	**Renai**	**0.68**	**290**	P	**Pb**		**02 43 05.5**	**-0.2**
	baz=288							
OWD				S	**Sb**		**02 43 14.9**	**+0.1**
	baz=288							
WHF	**Hehuan Shan**	**0.69**	**307**	P	**Pb**		**02 43 05.8**	**-0.3**
	baz=306							
WHF				S	**Sb**		**02 43 15.4**	**-0.2**
	baz=306							
ENA	**Nanau**	**0.71**	**350**	*e*P	**Pn**		**02 43 06.4**	**0.0**
	baz=349							
ENA				*e*S	**Sb**		**02 43 15.5**	**-0.1**
	baz=349							
CHGB	**Renai**	**0.72**	**298**	*e*P	**Pb**		**02 43 06.3**	**-0.2**
	baz=296							
CHGB				*e*S	**Sn**		**02 43 16.5**	**-0.5**
	baz=296							
WUSB	**Renai**	**0.74**	**291**	*e*P	**Pb**		**02 43 06.7**	**-0.1**
	baz=298							
WUSB				*e*S	**Sb**		**02 43 16.6**	**0.0**
	baz=298							
TWT	**Tachien**	**0.82**	**310**	*e*S	**Sn**		**02 43 19.6**	**0.0**
	baz=307							
EHD	**Haiduan**	**0.84**	**227**	*e*P	**Pb**		**02 43 07.6**	**-0.8**
	baz=216							
EHD				*e*S	**Sb**		**02 43 18.5**	**-0.9**
	baz=216							
NNS	**Nan Shan**	**0.84**	**327**	*e*P	**Pn**		**02 43 08.9**	**+0.5**
	baz=326							
SSLB	**Suanglung**	**0.84**	**274**	*e*P	**Pb**		**02 43 07.7**	**-0.8**
	baz=274							
SSLB				*e*S	**Sb**		**02 43 18.9**	**-0.6**
	baz=274							
LATG	**Datong**	**0.86**	**339**	*e*P	**Pb**		**02 43 08.7**	**-0.2**
	baz=347							
LATG				*e*S	**Sb**		**02 43 19.6**	**-0.5**
	baz=347							
TWC	**Suao**	**0.88**	**359**	*e*P	**Pb**		**02 43 08.9**	**-0.1**
	baz=358							
TWC				*e*S	**Sn**		**02 43 20.9**	**+0.3**
	baz=358							
SMLT	**Sun Moon Lake**	**0.90**	**280**	*e*P	**Pn**		**02 43 09.5**	**+0.2**
	baz=279							
SMLT				*e*S	**Sn**		**02 43 21.8**	**+0.4**
	baz=279							
EDH	**Donghe**	**0.92**	**215**	*e*P	**Pn**		**02 43 08.2**	**-1.1**
	baz=205							
EDH				*e*S	**Sb**		**02 43 19.7**	**-1.7**
	baz=205							
TYC	**Yuchr**	**0.94**	**281**	*e*P	**Pn**		**02 43 09.8**	**+0.1**
	baz=271							
ENTT	**Nioudou**	**0.95**	**343**	*e*S	**Sn**		**02 43 22.7**	**+0.3**
	baz=353							
ALS	**Alishan**	**1.00**	**258**	*e*P	**Pn**		**02 43 10.9**	**+0.1**
	baz=258							
ALS				*e*S	**Sn**		**02 43 24.4**	**+0.3**
	baz=258							
NSK	**Sanguang**	**1.05**	**334**	*e*P	**Pn**		**02 43 11.7**	**+0.3**
	baz=333							
NSK				*e*S	**Sb**		**02 43 25.1**	**-0.5**
	baz=333							
FUSB	**Fushanzhiwuyua**	**1.06**	**346**	P	**Pn**		**02 43 11.7**	**+0.3**
	baz=344							
FUSB				S	**Sb**		**02 43 25.3**	**-0.3**
	baz=344							
CHN5	**Tsauling**	**1.10**	**263**	*e*P	**Pb**		**02 43 13.4**	**+0.5**
	baz=264							
CHN5				*e*S	**Sb**		**02 43 28.9**	**+2.0**
	baz=264							
JYNG	**Yonagunijimaku**	**1.22**	**54**	P	**Pn**		**02 43 13.9**	**+0.4**
JYNG				S	**Sn**		**02 43 29.3**	**+0.3**
TIPB	**Shuangxi**	**1.24**	**358**	*e*P	**Pb**		**02 43 15.5**	**+0.3**
	baz=356							
TWK	**Hsinying**	**1.35**	**250**	*e*P	**Pb**		**02 43 17.5**	**+0.4**
	baz=251							
SXI1	**Grass Mountain**	**1.36**	**0**	*e*P	**Pb**		**02 43 16.9**	**-0.4**
	baz=14							
SXI1				*e*S	**Sb**		**02 43 34.3**	**0.0**
	baz=14							
HATJ	**Hateruma jima**	**1.80**	**79**	*e*S	**Sn**		**02 43 43.5**	**+0.1**
JKRS	**Kuro-shima**	**2.02**	**75**	*e*S	**Sn**		**02 43 49.7**	**+0.9**
JIJ	**Ishigaki jima**	**2.17**	**73**	S	**Sn**		**02 43 52.5**	**0.0**

*IDC **04** 03:10:22.4±0.9, 6°.05S×153°.84E, h0km, mb4.4/11, mbtmp4.4/14, ML3.0/2, MS4.7/3, Error ellipse: s-maj=26.9km s-min=15.4km az=107.0*
*NEIC **04** 03:10:25.5±1.8, 6°.02S±0°.08×153°.7E±0°.1, h10km±1km, mb5.1/51, Error ellipse: s-maj=18.1km s-min=13.5km az=99.0*
*DJA **04** 03:10:32.5±0.5, 6°.S±3°×15°.3E±°, h66km±5km, M4.8/26, mB5.2/10, mb4.8/26, MLv5.2/4, Mw(mB)4.6/10*
ISC 04 03:10:25.0±0.4, 6°.04S±0°.05×153°.80E±0°.06, h10km, n139, σ1s50/131, mb5.0/53, MS4.9/3, 3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.45**	**318**	Pn	**Pn**		**03 11 03.6**	**-1.6**
RABL	**Rabaul**	**2.45**	**318**	P	**Pg**		**03 11 10.1**	**-1.9**
KRVT	**Keravat (AS076**	**2.46**	**314**	Pn	**Pn**		**03 11 04.4**	**-0.9**
	289nm,0.3s,baz=269,slow=1.4,SNR=38							
KRVT				Sn	**Sn**		**03 11 34.2**	**-1.3**
	150nm,0.3s,baz=339,slow=23,SNR=14							
HNR	**Honiara**	**6.96**	**119**	Pn	Pn		03 12 18.4	+11
	228nm,0.3s,baz=254,slow=3.4,SNR=18							
HNR				Sn	**Sb**		**03 13 44.6**	**-4.8**
	140nm,0.3s,baz=301,slow=18,SNR=2.0							
HNR	**Honiara**	**6.96**	**119**		Pn		03 12 16.7	+10
HNR	**Honiara**	**6.96**	**119**	P	Pn		03 12 18.4	+11
PMG	**Port Moresby**	**7.38**	**243**	Pn	**Pn**		**03 12 12.6**	**-0.3**
	3.3nm,0.3s,baz=58,slow=7.0,SNR=21							
PMG				Sn	**Sn**		**03 13 38.1**	**+1.3**
	3.8nm,0.3s,baz=73,slow=20,SNR=2.4							
PMG				LR	LR		03 15 38.8	
	comp=Z,4µm,18.3s,baz=42,slow=43							
	98nm,0.9s							
PMG	**Port Moresby**	**7.38**	**243**	Pn	**Pn**		**03 12 12.4**	**-0.5**
PMG	**Port Moresby**	**7.38**	**243**	P	**Pn**		**03 12 13.7**	**+0.8**
PMG	**Port Moresby**	**7.38**	**243**	P	**Pn**		**03 12 13.6**	**+0.7**
MANU	**Manus Island**	**7.54**	**301**		**Pn**		**03 12 13.7**	**-1.4**
MANU	**Manus Island**	**7.54**	**301**	P	**Pn**		**03 12 17.2**	**+2.1**
COEN	**Coen**	**13.09**	**232**	Pn	**Pn**		**03 13 28.9**	**-2.2**
COEN	**Coen**	**13.09**	**232**	P	**Pn**		**03 13 32.2**	**+1.1**
PATS	**Pohnpei**	**13.56**	**19**	Pn	**Pn**		**03 13 36.0**	**-1.5**
GENI	**Genyem**	**14.01**	**284**	P	**Pn**		**03 13 44.7**	**+0.9**
	64nm,0.9s							
CTA	**Charters Tower**	**15.77**	**207**	Pn	**Pn**		**03 14 07.4**	**0.0**
	0.2nm,0.3s,baz=35,slow=17,SNR=2.1							
	3.7nm,0.9s							
CTA	**Charters Tower**	**15.77**	**207**	P	**P**		**03 14 10.5**	**-0.8**
CTAO	**Charters Tower**	**15.77**	**207**	Pn	**Pn**		**03 14 05.9**	**-1.5**
CTAO	**Charters Tower**	**15.77**	**207**	P	**P**		**03 14 10.6**	**-0.8**
EIDS	**Eidsvold**	**19.40**	**187**		**P**		**03 14 51.1**	**-0.2**
QIS	**Mount Isa**	**19.95**	**222**	P	**P**		**03 14 57.4**	**0.0**
DZM	**Mont Dzumac**	**20.09**	**144**	P	**P**		**03 15 01.1**	**+2.1**
	11nm,0.5s,baz=268,slow=8.1,SNR=15							
RMQ	**Roma**	**20.90**	**193**	P	Pn		03 15 09.6	-0.5
FAKI	**Fak Fak**	**21.70**	**277**	P	**P**		**03 15 15.2**	**-1.2**
KDU	**Kakadu**	**22.04**	**251**	P	**P**		**03 15 19.2**	**-0.9**
	68nm,1.0s							
QLP	**Quilpie**	**22.38**	**203**	P	**P**		**03 15 25.3**	**+1.8**
SWI	**Sorong**	**23.07**	**282**	P	**P**		**03 15 30.0**	**-1.0**
	49nm,0.9s							
WR0	**Warramunga Arr**	**23.27**	**232**	P	**P**		**03 15 30.8**	**-2.2**
WB0	**Warramunga Arr**	**23.28**	**232**	P	**P**		**03 15 31.8**	**-1.4**
MTN	**Manton Dam**	**23.35**	**252**	P	**P**		**03 15 32.2**	**-1.6**
MTN				IAmb	IAmb		03 15 39.9	
	comp=Z,113nm,1.4s							
WRAB	**Tennant Creek**	**23.41**	**232**	P	**P**		**03 15 34.1**	**-0.3**
	comp=Z,16nm,1.9s							
WB2	**Warramunga Arr**	**23.41**	**232**	P	**P**		**03 15 33.4**	**-1.0**
WRA	**Warramunga Arr**	**23.42**	**232**	P	**P**		**03 15 33.0**	**-1.4**
	comp=Z,5.6nm,0.7s,baz=56,slow=9.9,SNR=27							
WRA				ScP	**ScP**		**03 22 59.6**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=54,slow=2.5,SNR=5.0							
	comp=Z,5.6nm,0.7s							
WRA	**Warramunga Arr**	**23.42**	**232**	P	**P**		**03 15 33.1**	**-1.4**
BNDI	**Bandanaira**	**23.84**	**272**	P	**P**		**03 15 37.0**	**-1.6**
	comp=Z,412nm,1.0s							
AULRC	**Lightning Ridg**	**23.91**	**193**	P	**P**		**03 15 40.9**	**+1.8**

INKA	**Innaminka**	**24.89**	**208**	P		**P**	**03 15 47.7**	**-0.5**
	comp=Z,238nm,1.0s							
AUPHS	**Peel High Scho**	**25.08**	**186**	P		**P**	**03 15 51.4**	**+1.5**
	comp=Z,33nm,0.9s							
AAI	**Ambon**	**25.62**	**274**	P		**P**	**03 15 54.0**	**-0.9**
	comp=Z,49nm,0.8s							
AS31	**Alice Springs**	**25.95**	**225**	P		**P**	**03 15 56.4**	**-1.5**
ASAR	**Alice Springs**	**25.95**	**225**	P		**P**	**03 15 56.5**	**-1.4**
	comp=Z,18nm,1.0s,baz=59,slow=8.7,SNR=92							
ASAR				PcP		**PcP**	**03 19 26.5**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=59,slow=3.2,SNR=4.2							
	comp=Z,18nm,1.0s							
KNRA	**Kununurra**	**26.36**	**247**	P		**P**	**03 16 01.4**	**-0.1**
KNRA				IAmb		IAmb	03 16 29.0	
	comp=Z,66nm,1.2s							
CMSA	**Cobar Meteorol**	**26.48**	**196**	P		**P**	**03 16 03.4**	**+0.9**
AUDCS	**Dubbo College**	**26.50**	**190**	P		**P**	**03 16 05.5**	**+2.8**
H11S3	**WAKE ISLAND Hy**	**27.49**	**27**	T		T	03 44 28.4	
	baz=208,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**27.50**	**27**	T		T	03 44 28.4	
	baz=208,slow=76,SNR=16							
H11S1	**WAKE ISLAND Hy**	**27.51**	**27**	T		T	03 44 29.4	
	baz=208,slow=76,SNR=10							
OOD	**Oodnadatta**	**27.64**	**216**	P		**P**	**03 16 12.1**	**-0.9**
	comp=Z,17nm,2.0s							
STKA	**Stephens Creek**	**28.13**	**202**	P		**P**	**03 16 16.0**	**-1.3**
	comp=Z,4.7nm,0.8s,baz=25,slow=12,SNR=7.8							
	comp=Z,4.7nm,0.8s							
STKA	**Stephens Creek**	**28.13**	**202**	P		**P**	**03 16 15.6**	**-1.7**
STKA	**Stephens Creek**	**28.13**	**202**	P		**P**	**03 16 19.0**	**+1.7**
	comp=Z,1.9nm,1.4s							
FITZ	**Fitzroy Crossi**	**29.98**	**244**	P		**P**	**03 16 31.1**	**-2.8**
FITZ	**Fitzroy Crossi**	**29.98**	**244**	P		**P**	**03 16 33.1**	**-0.8**
MULG	**Mulgathing**	**30.44**	**215**	P		**P**	**03 16 38.2**	**+0.3**
	comp=Z,16nm,2.2s							
WRKA	**Warakurna**	**30.88**	**230**	P		**P**	**03 16 42.7**	**+0.8**
FORT	**Forrest**	**34.49**	**221**	P		**P**	**03 17 11.8**	**-1.5**
FORT	**Forrest**	**34.49**	**221**	P		**P**	**03 17 12.4**	**-1.0**
	comp=Z,73nm,0.8s							
AULHS	**Lilydale High**	**35.55**	**189**	P		**P**	**03 17 23.8**	**+1.4**
	comp=Z,25nm,1.1s							
KMBL	**Kambalda**	**39.08**	**226**	P		**P**	**03 17 51.3**	**-1.3**
	comp=Z,58nm,1.3s							
MEEK	**Meekatharra**	**39.27**	**235**	P		**P**	**03 17 54.4**	**+0.2**
	comp=Z,16nm,1.3s							
KLBR	**Kellerberrin**	**42.21**	**228**	P		**P**	**03 18 17.8**	**-0.6**
MORW	**Morawa**	**42.37**	**233**	P		**P**	**03 18 18.1**	**-1.6**
MORW				IAmb		IAmb	03 18 18.8	
	comp=Z,20nm,1.0s							
MUN	**Mundaring**	**43.55**	**229**	P		**P**	**03 18 28.4**	**-0.8**
	comp=Z,38nm,1.2s							
KSRS	**Korea Array**	**49.55**	**333**	P		**P**	**03 19 14.8**	**-1.3**
	comp=Z,4.2nm,0.8s,baz=150,slow=7.4,SNR=12							
	comp=Z,4.2nm,0.8s							
WHN	**Wuhan**	**52.43**	**316**	⇓P		**P**	**03 19 40.7**	**+2.7**
WHN				S		**S**	**03 27 05.4**	**+1.1**
WHN				LR		LR		
	comp=Z,1μm,18.6s							
USRK	**Ussuriysk Ar.**	**53.73**	**341**	P		**P**	**03 19 47.0**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=181,slow=6.3,SNR=6.4							
	comp=Z,3.4nm,0.8s							
CN2	**Changchun**	**55.83**	**335**	P		**P**	**03 20 05.9**	**+3.4**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
LYN	**LuoYang**	**56.12**	**319**	*e*P		**P**	**03 20 06.0**	**+1.2**
LYN				sP		pwP	03 20 14.5	-1.0
LYN				S		**S**	**03 27 54.5**	**+0.4**
HNS	**HongShan**	**56.53**	**323**	⇓P		**P**	**03 20 07.6**	**0.0**
HNS				pmax		pmax		
	comp=Z,16nm,1.1s							
XAN	**Xi'an**	**58.20**	**316**	P		**P**	**03 20 20.6**	**+1.0**
XAN				pP		pwP	03 20 25.4	-4.8
XAN				pmax		pmax		
	comp=Z,17nm,1.4s							
CRAI	**Chiangrai**	**58.63**	**298**	P		**P**	**03 20 21.6**	**-1.2**
CRAI				IAmb		IAmb	03 20 36.0	
	comp=Z,34nm,1.7s							
PETK	**Petropavlovsk-**	**59.01**	**3**	P		**P**	**03 20 25.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=165,slow=6.0,SNR=6.5							
	comp=Z,1.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**59.30**	**295**	P		**P**	**03 20 27.4**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=123,slow=6.1,SNR=3.4							
	comp=Z,1.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**59.30**	**295**	P		**P**	**03 20 26.6**	**-0.9**
CHTO	**Chiang Mai**	**59.42**	**296**	P		**P**	**03 20 26.0**	**-2.3**
CHTO				IAmb		IAmb	03 20 58.2	
	comp=Z,18nm,1.4s							
HEH	**HeiHe**	**60.54**	**341**	*e*P		**P**	**03 20 35.0**	**-0.4**
HEH				pmax		pmax		
	comp=Z,6.0nm,0.9s							
TNCH	**TengChong**	**61.97**	**302**	*e*P		**P**	**03 20 48.5**	**+2.6**
TNCH				sP		pwP	03 20 56.0	-0.4
TNCH				S		**S**	**03 29 09.8**	**-0.9**
TNCH				sS		sS	03 29 12.2	-0.3
TNCH				pmax		pmax		
	comp=Z,11nm,0.6s							
TNCH				pmax		pmax		
	comp=Z,73nm,4.2s							
LZH	**Lanzhou**	**62.80**	**316**	*e*P		**P**	**03 20 50.3**	**-0.9**
LZH				pP		sP	03 20 54.5	+2.1
LZH				pmax		pmax		
	comp=Z,18nm,0.9s							
MA2	**Magadan**	**65.45**	**358**	P		**P**	**03 21 09.5**	**+1.7**
MA2				IAmb		IAmb	03 21 13.7	
	comp=Z,13nm,0.8s							
GTA	**Gaotai**	**67.23**	**317**	⇓P		**P**	**03 21 20.6**	**+0.7**
GTA				pP		pwP	03 21 28.1	-2.4
GTA				sP		sP	03 21 33.2	+12
GTA				PcP		PP	03 24 01.4	+13
ULN	**Ulaanbaatar**	**67.56**	**328**	P		**P**	**03 21 21.6**	**-0.2**
SHL	**Shillong**	**67.79**	**301**	P		**P**	**03 21 22.1**	**-1.6**
SHL				IAmb		IAmb	03 21 43.2	
	comp=Z,14nm,0.9s							
SONM	**Songino Array**	**67.89**	**328**	P		**P**	**03 21 23.7**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=145,slow=5.7,SNR=26							
	comp=Z,2.4nm,0.5s							
SONM	**Songino Array**	**67.89**	**328**	P		**P**	**03 21 23.8**	**-0.1**
SONM				IAmb		IAmb	03 21 42.3	
	comp=Z,29nm,1.4s							
GOMU	**GeErMu**	**69.32**	**312**	P		**P**	**03 21 35.3**	**+1.9**
GOMU				pP		PcP	03 22 00.1	+3.1
GOMU				sP		pwP	03 22 11.3	+27
GOMU				pmax		pmax		
	comp=Z,3.0nm,0.8s							
GOMU				pmax		pmax		
	comp=Z,76nm,4.4s							
BILL	**Bilibino**	**74.43**	**5**	P		**P**	**03 22 05.0**	**+2.0**
L19K	**White Mountain**	**78.51**	**22**	P		**P**	**03 22 24.9**	**-1.3**
SUA	**Susitna One**	**79.68**	**24**	P		**P**	**03 22 34.6**	**+1.8**
J20K	**Nowinta River**	**79.98**	**21**	P		**P**	**03 22 36.4**	**+2.2**
J20K				IAmb		IAmb	03 23 35.2	
	comp=Z,14nm,1.2s							
CAST	**Castle Rocks**	**80.27**	**22**	P		**P**	**03 22 37.3**	**+1.5**
SML	**Sawmill**	**80.84**	**24**	P		**P**	**03 22 41.0**	**+2.1**
SML				IAmb		IAmb	03 23 39.4	
	comp=Z,42nm,1.4s							
I21K	**Tanana**	**81.33**	**20**	P		**P**	**03 22 43.0**	**+1.6**
MCK	**McKinley**	**81.62**	**22**	P		**P**	**03 22 43.3**	**+0.3**
MCK				IAmb		IAmb	03 23 39.4	
	comp=Z,39nm,1.5s							
MK31	**Makanchi Array**	**81.91**	**319**	P		**P**	**03 22 43.6**	**-1.3**
MKAR	**Makanchi Array**	**81.91**	**319**	P		**P**	**03 22 44.2**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=93,slow=8.5,SNR=31							
	comp=Z,3.4nm,0.6s							
MKAR	**Makanchi Array**	**81.91**	**319**	P		**P**	**03 22 43.8**	**-1.2**
MAKZ	**Makanchi**	**82.11**	**319**	P		**P**	**03 22 45.8**	**-0.2**
MAKZ				IAmb		IAmb	03 22 59.3	
	comp=Z,18nm,1.2s							
CCB	**Clear Creek Bu**	**82.53**	**22**	P		**P**	**03 22 50.4**	**+2.7**
ZAA0	**Zalesovo Array**	**82.73**	**326**	P		**P**	**03 22 48.9**	**-0.1**
ZAA0				IAmb		IAmb	03 22 50.4	
	comp=Z,5.6nm,0.8s							
ZALV	**Zalesovo Beam**	**82.73**	**326**	P		**P**	**03 22 47.4**	**-1.5**
	comp=Z,5.0nm,0.6s,baz=115,slow=5.2,SNR=23							
	comp=Z,5.0nm,0.6s							
ZALV	**Zalesovo Beam**	**82.73**	**326**	P		**P**	**03 22 47.8**	**-1.2**
IL31		**82.93**	**22**	P		**P**	**03 22 51.2**	**+1.4**
ILAR	**Eielson Array**	**82.93**	**22**	P		**P**	**03 22 47.0**	**-2.8**
	comp=Z,0.4nm,0.5s,baz=251,slow=5.1,SNR=10							
	comp=Z,0.4nm,0.5s							
DOT	**Dot Lake**	**83.46**	**23**	P		**P**	**03 22 54.8**	**+2.1**
TARG	**Taragay, Kyrgy**	**83.63**	**313**	P		**P**	**03 22 53.7**	**-0.8**
TARG				IAmb		IAmb	03 23 20.2	
	comp=Z,11nm,1.0s							
J26L	**Joseph Creek**	**84.05**	**23**	P		**P**	**03 22 58.0**	**+2.3**
KSH	**Kashi**	**84.49**	**311**	P		**P**	**03 23 00.7**	**+2.1**
KSH				PP		**pwP**	**03 23 13.1**	**+4.0**
H02S1	**DAWSON INLET T**	**85.17**	**35**	T		T	04 55 59.0	
	SNR=9.7							
KURK	**Kurchatov**	**85.35**	**322**	P		**P**	**03 23 01.4**	**-1.0**
AAK	**Ala-Archa**	**86.23**	**313**	P		**P**	**03 23 06.3**	**-0.9**
EPYK	**Eagle Plains**	**87.43**	**22**	P		**P**	**03 23 12.8**	**+0.4**
YBH	**Yreka Blue Hor**	**89.14**	**48**	LR		LR	04 00 50.3	
	comp=Z,418nm,18.2s,baz=288,slow=34							
KK31	**Karatay Array**	**89.20**	**313**	P		**P**	**03 23 20.6**	**-0.7**
KK31				IAmb		IAmb	03 23 36.5	
	comp=Z,12nm,1.5s							
KKAR	**Karatay Array**	**89.20**	**313**	P		**P**	**03 23 20.5**	**-0.8**
KKAR	**Karatay Array**	**89.20**	**313**	P		**P**	**03 23 20.4**	**-0.8**
KKAR				IAmb		IAmb	03 23 36.5	
	comp=Z,12nm,1.5s							
CHGR	**Chuyangaron**	**89.56**	**309**	P		**P**	**03 23 21.5**	**-1.7**
PINE	**Pine Mountain**	**90.72**	**46**	P		**P**	**03 23 29.1**	**+0.5**
BRVK	**Borovoye**	**90.89**	**323**	P		**P**	**03 23 27.3**	**-1.6**
BRVK				IAmb		IAmb	03 24 09.1	
	comp=Z,5.4nm,0.9s							
A36M	**Sachs Harbour**	**92.90**	**18**	P		**P**	**03 23 38.5**	**+0.7**
BMO	**Blue Mountains**	**93.43**	**45**	P		**P**	**03 23 41.9**	**+0.9**
BMO	**Blue Mountains**	**93.43**	**45**	P		**P**	**03 23 41.9**	**+0.9**
BMO	**Blue Mountains**	**93.43**	**45**	pmax		pmax		
	comp=Z,22nm,1.5s							
BRLDA	**Berland Lookou**	**94.14**	**36**	P		**P**	**03 23 46.2**	**+2.1**
BCYI	**Bear Canyon**	**96.17**	**46**	P		**P**	**03 23 54.8**	**+1.0**
MCMT	**McKenzie Canyo**	**96.59**	**46**	P		**P**	**03 23 56.2**	**+0.5**
LRM	**Limekiln Ridge**	**96.90**	**45**	P		**P**	**03 23 58.5**	**+1.4**
BOZ	**Bozeman (W)**	**97.47**	**45**	P		Pdif	03 24 01.1	+1.5
BOZ				IAmb		IAmb	03 24 08.8	
	comp=Z,5.4nm,1.1s							
BOZ	**Bozeman (W)**	**97.47**	**45**	P		Pdif	03 24 01.1	+1.5
BOZ	**Bozeman (W)**	**97.47**	**45**	pmax		pmax		
	comp=Z,5.0nm,1.2s							
H17A	**Grant Village**	**98.21**	**46**	P		**P**	**03 24 03.4**	**+0.4**
H17A				IAmb		IAmb	03 24 10.8	
	comp=Z,6.6nm,1.1s							
LKWY	**Lake**	**98.33**	**46**	P		Pdif	03 24 04.5	+0.9
LKWY	**Lake**	**98.33**	**46**	P		Pdif	03 24 04.5	+0.9
LKWY	**Lake**	**98.33**	**46**	pmax		pmax		
	comp=Z,11nm,1.3s							
PDAR	**Pinedale Array**	**98.94**	**48**	LR		LR	04 05 39.3	
	comp=Z,290nm,18.6s,baz=262,slow=34							
RLMT	**Red Lodge**	**99.14**	**45**	P		**Pdif**	**03 24 08.3**	**+1.2**
RLMT				IAmb		IAmb	03 24 10.0	
	comp=Z,5.2nm,1.1s							
BOSA	**Boshof**	**119.67**	**232**	PKP		**PKiKP**	**03 29 17.1**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=155,slow=2.0,SNR=3.0							
SRBA	**San Rafael, Bu**	**123.31**	**83**			**PKPdf**	**03 29 21.2**	**-2.3**
BDFB	**Brasilia**	**149.49**	**135**	PKPbc		**PKPbc**	**03 30 14.8**	**-1.0**
	comp=Z,4.9nm,0.5s,baz=206,slow=1.4,SNR=15							

*IDC **04** 03:10:49.5±0.5, 19˚.40S×176˚.08E, h0km, mb4.9/22, mbtmp4.9/24, ML5.4/1, MS4.5/43, Error ellipse: s-maj=17.9km s-min=13.6km az=136.0*
*MOS **04** 03:10:49.9±1.3, 19˚.34S×176˚.05E, h10km, mb5.4/44, Error ellipse: s-maj=9.6km s-min=8.7km az=59.9*
*BJI **04** 03:10:49.0±0.0, 19˚.20S×176˚.20E, h5km, mb5.2/43, mB5.6/31, Ms5.1/27, Ms7 4.8/29*
*NEIC **04** 03:10:51.0±1.6, 19˚.27S±0˚.09×176˚.20E±0˚.08, h10km±1km, mb5.3/213, Error ellipse: s-maj=18.3km s-min=9.7km az=143.0*
*BGR **04** 03:10:55.0, 17˚.92S×178˚.43E, h10km*
*GCMT **04** 03:10:54.0±0.2, 19˚.23S±0˚.03×175˚.95E±0˚.01, h14km, MW5.3/118, Moment Tensor Solution. s38,c43; s118,c178; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=1.38±.08; Mθθ 0.31±.04; Mϕϕ 1.07±.05; Mrθ 0.17±.12; Mθϕ 0.40±.03; Mϕr 0.27±.09; Best double couple: Mo1.35000×10^17 NP1:ϕ205.00000°, δ52.00000°, λ-88.00000°. NP2:ϕ22.00000°, δ38.00000°, λ-93.00000°. Principal axes: T 1.2800, Plg7.0000°, Azm294.0000°; N 0.1370, Plg2.0000°, Azm24.0000°; P -1.4190, Plg83.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 03:10:50.9±0.3, 19˚.32S±0˚.05×176˚.12E±0˚.05, h10km, n709, σ1§21/634, mb5.3/164, MS4.7/56, 48C-17D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.41**	**50**	Pn	**Pn**	**03 11 30.1**	**-0.4**
	38nm,0.3s,baz=291,slow=15,SNR=12						
MSVF				Sn	**Sn**	**03 11 58.3**	**-1.9**
	42nm,0.3s,baz=282,slow=21,SNR=5.7						
MSVF				LR	LR	03 12 39.2	
	comp=Z,15μm,20.8s,baz=188,slow=44						
	164nm,0.6s						
MSVF	**Nonsavu**	**2.41**	**50**		**Pn**	**03 11 29.4**	**-1.1**
MSVF				Sn	**Sn**	**03 11 57.7**	**-2.5**
OUENC	**Ouen Island, N**	**9.21**	**249**	Pn	**Pn**	**03 13 05.4**	**+1.5**
DZM	**Mont Dzumac**	**9.47**	**252**	*e*Pn	**Pn**	**03 13 06.6**	**-0.9**
	482nm,1.6s						
DZM				*e*LR	LR	03 15 16.2	
	comp=Z,12μm,25.3s						
DZM	**Mont Dzumac**	**9.47**	**252**	Pn	**Pn**	**03 13 07.9**	**+0.4**
	26nm,0.8s,baz=81,slow=17,SNR=18						
DZM				LR	LR	03 16 18.5	
	comp=Z,8μm,21.4s,baz=53,slow=35						
DZM	**Mont Dzumac**	**9.47**	**252**	Pn	**Pn**	**03 13 07.7**	**+0.2**
ONTNC	**Ouen Toro**	**9.52**	**250**		**Pn**	**03 13 09.5**	**+1.3**
KOUNC	**Koumac, New Ca**	**11.20**	**262**	Pn	**Pn**	**03 13 31.9**	**+0.7**
OUZ	**Omahuta**	**16.00**	**188**	P	**P**	**03 14 38.5**	**-1.1**
HNR	**Honiara**	**18.48**	**300**	LR	LR	03 21 04.7	
	comp=Z,27μm,19.7s,baz=203,slow=33						
URZ	**Urewera**	**18.89**	**178**	P	**Pn**	**03 15 13.9**	**+1.7**
	73nm,0.7s,baz=85,slow=3.5,SNR=20						
URZ				LR	LR	03 20 39.9	
	comp=Z,1μm,19.9s,baz=102,slow=31						
RTZ	**Ruatahuna**	**19.25**	**178**	P	**Pn**	**03 15 16.6**	**+0.1**
BKZ	**Black Stump Fm**	**19.78**	**179**	P	**Pn**	**03 15 22.7**	**-0.2**
MRZ	**Mangatainoka R**	**21.28**	**181**	P	**P**	**03 15 38.7**	**+1.2**
MRZ				IAmb	IAmb	03 15 41.5	
	comp=Z,99nm,0.9s						
BFZ	**Birch Farm**	**21.29**	**180**	P	**P**	**03 15 36.7**	**-1.0**
BFZ				IAmb	IAmb	03 15 45.3	
	comp=Z,91nm,0.9s						
NNZ	**Nelson**	**21.95**	**186**	P	**P**	**03 15 46.2**	**+1.5**
NNZ				IAmb	IAmb	03 15 55.7	
	comp=Z,186nm,1.2s						
SNZO	**South Karori**	**21.96**	**183**	P	**P**	**03 15 45.8**	**+1.1**
SNZO				IAmb	IAmb	03 15 55.7	
	comp=Z,129nm,1.0s						
PLWZ	**Palliser**	**22.19**	**182**	P	**P**	**03 15 47.8**	**+0.4**
THZ	**Tophouse**	**22.54**	**186**	P	**P**	**03 15 53.0**	**+1.9**
THZ				IAmb	IAmb	03 16 11.8	
	comp=Z,100nm,1.1s						
RAR	**Rarotonga**	**22.69**	**99**	LR	LR	03 22 52.5	
	comp=Z,1μm,21.1s,baz=249,slow=32						
KHZ	**Kahutara**	**23.13**	**185**	P	**P**	**03 16 00.3**	**+3.1**
KHZ				IAmb	IAmb	03 16 05.7	
	comp=Z,100nm,1.0s						
LTZ	**Lake Taylor**	**23.62**	**187**	P	**P**	**03 16 02.6**	**+0.4**
LTZ				IAmb	IAmb	03 16 25.1	
	comp=Z,240nm,1.6s						
INZ	**Inchbonnie**	**23.67**	**189**	P	**P**	**03 16 03.7**	**+1.1**
INZ				IAmb	IAmb	03 16 08.1	
	comp=Z,105nm,0.8s						
EIDS	**Eidsvold**	**23.91**	**251**	P	**P**	**03 16 05.6**	**+0.4**
	baz=24,SNR=3.6						
EIDS	**Eidsvold**	**23.91**	**251**	P	**P**	**03 16 04.1**	**-1.0**
EIDS				IAmb	IAmb	03 16 07.0	
	comp=Z,115nm,1.4s						
RPZ	**Rata Peaks**	**24.70**	**189**	P	**P**	**03 16 11.8**	**-0.4**
	comp=Z,28nm,0.9s,baz=127,slow=21,SNR=3.4						
	comp=Z,28nm,0.9s						
ARMA	**Armidale**	**24.77**	**239**	P	**P**	**03 16 12.2**	**-0.9**
RMQ	**Roma**	**26.16**	**249**	P	**P**	**03 16 27.4**	**+1.7**
	baz=26,SNR=5.1						
KRVT	**Keravat (AS076**	**27.84**	**299**	LR	LR	03 26 46.4	
	comp=Z,μm,21.7s,baz=255,slow=34						
CTA	**Charters Tower**	**28.12**	**263**	P	**P**	**03 16 44.5**	**+1.2**
	comp=Z,22nm,1.1s,baz=91,slow=13,SNR=5.6						
CTA				LR	LR	03 26 33.2	
	comp=Z,2μm,19.3s,baz=78,slow=34						
	comp=Z,22nm,1.1s						
CTAO	**Charters Tower**	**28.12**	**263**	P	**P**	**03 16 42.5**	**-0.8**
CTAO	**Charters Tower**	**28.12**	**263**	P	**P**	**03 16 42.5**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,42nm,1.3s						

PMG	**Port Moresby**	**29.69**	**285**	P		**P**	**03 16 57.5**	**+0.1**
	comp=Z,10nm,0.4s,baz=97,slow=8.7,SNR=3.6							
PMG				LR		LR	03 27 49.3	
	comp=Z,3μm,18.2s,baz=122,slow=34							
	comp=Z,10nm,0.4s							
PMG	**Port Moresby**	**29.69**	**285**	P		**P**	**03 16 56.9**	**-0.5**
PMG				IAmb		IAmb	03 17 04.5	
	comp=Z,73nm,1.2s							
PMG	**Port Moresby**	**29.69**	**285**	*i* P		**P**	**03 16 56.7**	**-0.6**
PMG				pmax		pmax		
	comp=Z,49nm,1.1s							
COEN	**Coen**	**31.98**	**274**	P		**P**	**03 17 17.2**	**-0.4**
TBI	**Tubuai**	**32.26**	**103**	*e*S		**S**	**03 22 34.2**	**+0.7**
	comp=Z,2μm,26.2s							
TBI				*e*LR		LR	03 25 48.7	
	comp=Z,53μm,24.0s							
TBI				*e*LR		LR	03 25 48.8	
	comp=Z,21μm,30.0s							
TOO	**Toolangi**	**32.29**	**229**	P		**P**	**03 17 21.6**	**+1.5**
	baz=32,SNR=7.6							
TOO	**Toolangi**	**32.29**	**229**	P		**P**	**03 17 20.8**	**+0.7**
TOO	**Toolangi**	**32.29**	**229**	P		**P**	**03 17 20.8**	**+0.7**
TOO				pmax		pmax		
	comp=Z,82nm,1.2s							
PPT2	**Papeete2**	**32.55**	**93**	*e*P		**P**	**03 17 24.5**	**+1.9**
	comp=Z,367nm,34.2s							
PPT2				*e*S		**S**	**03 22 38.9**	**+0.6**
	comp=Z,552nm,26.2s							
PPT2				*e*LR		LR	03 25 55.8	
	comp=Z,5μm,25.8s							
PPT2				*e*LR		LR	03 25 56.1	
	comp=Z,4μm,28.0s							
PPT	**Papeete**	**32.55**	**93**	LR		LR	03 27 15.6	
	comp=Z,1μm,21.2s,baz=269,slow=30							
TIAR	**Tiarei**	**32.77**	**93**	*e*P		**P**	**03 17 27.6**	**+3.1**
	comp=Z,4.1nm,1.0s							
STKA	**Stephens Creek**	**33.41**	**241**	P		**P**	**03 17 29.7**	**-0.2**
	comp=Z,24nm,0.9s,baz=78,slow=10,SNR=11							
STKA				PcP		**PcP**	**03 20 11.3**	**-0.1**
	comp=Z,7.5nm,1.0s,baz=85,slow=4.0,SNR=2.9							
STKA				LR		LR	03 30 38.8	
	comp=Z,778nm,18.4s,baz=47,slow=36							
	comp=Z,24nm,0.9s							
STKA	**Stephens Creek**	**33.41**	**241**	P		**P**	**03 17 30.2**	**+0.2**
	baz=34,SNR=6.2							
STKA	**Stephens Creek**	**33.41**	**241**	P		**P**	**03 17 28.9**	**-1.0**
STKA	**Stephens Creek**	**33.41**	**241**	*i* P		**P**	**03 17 28.5**	**-1.4**
HTT	**Hallett**	**35.97**	**239**	P		**P**	**03 17 53.0**	**+0.9**
	baz=36,SNR=7.7							
BBOO	**Buckleboo**	**38.19**	**241**	P		**P**	**03 18 11.2**	**+0.3**
	baz=38,SNR=7.4							
BBOO	**Buckleboo**	**38.19**	**241**	P		**P**	**03 18 10.8**	**-0.1**
BBOO				IAmb		IAmb	03 18 17.9	
	comp=Z,49nm,1.0s							
H11S2	**WAKE ISLAND Hy**	**38.69**	**346**	T		T	03 59 20.0	
	baz=166,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**38.70**	**346**	T		T	03 59 17.8	
	baz=166,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**38.71**	**346**	T		T	03 59 21.7	
	baz=166,slow=76,SNR=16							
GENI	**Genyem**	**38.88**	**291**	P		**P**	**03 18 17.1**	**+0.2**
	comp=Z,101nm,1.5s							
WB0	**Warramunga Arr**	**39.26**	**262**	P		**P**	**03 18 19.3**	**-0.8**
WRAB	**Tennant Creek**	**39.28**	**262**	*i* P		**P**	**03 18 20.2**	**0.0**
WRAB				pmax		pmax		
	comp=Z,14nm,1.1s							
WRA	**Warramunga Arr**	**39.29**	**262**	P		**P**	**03 18 18.6**	**-1.7**
	comp=Z,7.5nm,0.8s,baz=94,slow=8.4,SNR=8.7							
WRA				PcP		**PcP**	**03 20 28.6**	**-0.6**
	comp=Z,5.3nm,0.9s,baz=92,slow=2.6,SNR=5.0							
WRA				LR		LR	03 33 32.1	
	comp=Z,1μm,18.3s,baz=80,slow=35							
	comp=Z,7.5nm,0.8s							
WRA	**Warramunga Arr**	**39.29**	**262**	P		**P**	**03 18 19.3**	**-1.0**
WRA	**Warramunga Arr**	**39.29**	**262**	P		**P**	**03 18 19.3**	**-1.0**
AS31	**Alice Springs**	**39.42**	**256**	P		**P**	**03 18 20.1**	**-1.3**
ASAR	**Alice Springs**	**39.42**	**256**	P		**P**	**03 18 19.7**	**-1.7**
	comp=Z,45nm,0.8s,baz=86,slow=7.1,SNR=36							
ASAR				PcP		**PcP**	**03 20 28.4**	**-1.2**
	comp=Z,8.3nm,0.9s,baz=99,slow=3.4,SNR=6.7							
ASAR				LR		LR	03 33 36.4	
	comp=Z,1μm,21.8s,baz=94,slow=35							
	comp=Z,45nm,0.8s							
ASAR	**Alice Springs**	**39.42**	**256**	P		**P**	**03 18 19.4**	**-2.0**
H11N1	**WAKE ISLAND Hy**	**39.83**	**346**	T		T	04 00 41.7	
	baz=165,slow=74,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**39.83**	**346**	T		T	04 00 43.4	
	baz=165,slow=74,SNR=7.3							
H11N2	**WAKE ISLAND Hy**	**39.85**	**346**	T		T	04 00 51.5	
	baz=165							
TAOE	**Nuku Hiva Isla**	**43.55**	**82**	*e*S		**S**	**03 25 25.1**	**+0.1**

JOW Kunigami 65.25 313 LR LR 03 47 39.4
comp=Z,420nm,20.2s,baz=116,slow=34
MJAR Matsushiro Arr 66.10 327 P **P** **03 21 37.8 -0.5**
comp=Z,23nm,1.0s,baz=158,slow=6.2,SNR=17
MJAR LR LR 03 45 32.3
comp=Z,165nm,21.7s,baz=154,slow=32
comp=Z,23nm,1.0s
MAJO Matsushiro 66.11 327 P **P** **03 21 38.5 +0.2**
MAJO Matsushiro 66.11 327 *i*P **P** **03 21 38.7 +0.3**
MAJO pmax pmax
comp=Z,84nm,1.2s
MJB9 Matsu-Tunnel 66.11 327 P **P** **03 21 37.9 -0.5**
SBUM Sibu 66.36 282 P **P** **03 21 40.4 -0.1**
SBUM IAmb IAmb 03 21 47.2
comp=Z,24nm,1.1s
JSU Suzuyama 66.88 318 P **P** **03 21 43.1 -0.4**
LEM Lembang 67.52 271 LR LR 03 51 13.3
comp=Z,323nm,20.3s,baz=126,slow=36
JNU Nakatsue 67.72 320 P **P** **03 21 48.9 +0.1**
comp=Z,26nm,1.0s,baz=190,slow=7.0,SNR=5.1
JNU LR LR 03 47 26.7
comp=Z,189nm,21.2s,baz=103,slow=32
comp=Z,26nm,1.0s
JNU Nakatsue 67.72 320 P **P** **03 21 49.1 +0.3**
RPN Rapa Nui 68.07 112 LR LR 03 47 47.2
comp=Z,271nm,18.1s,baz=276,slow=33
JKA Kamikawa-asahi 70.19 335 P **P** **03 22 03.8 0.0**
ASAJ Asahikawa 70.19 335 P **P** **03 22 06.1 +2.3**
comp=Z,10.0nm,1.0s,baz=178,slow=16,SNR=6.5
ASAJ LR LR 03 47 21.4
comp=Z,730nm,21.6s,baz=178,slow=31
comp=Z,10.0nm,1.0s
QSPA South Pole Qui 70.74 180 LR LR 03 49 39.1
comp=Z,163nm,19.5s,baz=45,slow=33
QSPA South Pole Qui 70.74 180 P **P** **03 22 06.5 -0.7**
SHEM Shemya Is, Ala 71.76 359 LR LR 03 46 35.3
comp=Z,287nm,21.1s,baz=118,slow=30
KSRS Korea Array 72.43 322 P **P** **03 22 18.8 +1.2**
comp=Z,6.1nm,1.1s,baz=149,slow=6.2,SNR=9.6
KSRS LR LR 03 49 15.3
comp=Z,146nm,21.6s,baz=135,slow=32
comp=Z,6.1nm,1.1s
KSAR Wonju Array Be 72.45 321 P **P** **03 22 18.3 +0.7**
KSAR Wonju Array Be 72.45 321 P **P** **03 22 18.3 +0.7**
YSS Yuzh-Sakhalins 72.50 337 P **P** **03 22 16.8 -0.9**
YSS Yuzh-Sakhalins 72.50 337 *e*P **P** **03 22 18.9 +1.2**
YSS *e**SP **pwP** **03 22 26.0 +1.7**
YSS *e* 03 22 31.1
YSS *e*S **S** **03 31 40.7 -1.2**
YSS *e*SS **SS** **03 36 20.0 -1.2**
YSS pmax pmax
comp=Z,300nm,2.5s
YSS pmax pmax
comp=Z,30nm,0.9s
NIKH Nikolski High 73.16 9 P **P** **03 22 22.5 +1.0**
baz=195
PET Petropavlovsk 73.61 349 *e*P P 03 22 31.0 +6.8
PET *e*S **SKiKP** **03 32 02.1 +7.5**
PET pmax pmax
comp=Z,100nm,13.8s
PET pmax pmax
comp=Z,22nm,1.6s
PEA0B Petropavlovsk- 73.87 349 P **P** **03 22 24.6 -1.1**
PEA0B Petropavlovsk- 73.87 349 *ce*P **P** **03 22 27.7 +2.0**
PETK Petropavlovsk- 73.87 349 P **P** **03 22 27.0 +1.3**
comp=Z,8.8nm,0.9s,baz=166,slow=7.6,SNR=7.3
PETK LR LR 03 48 25.9
comp=Z,229nm,21.9s,baz=167,slow=30
comp=Z,8.8nm,0.9s
NJ2 Nanjing 74.93 312 *e*P **P** **03 22 33.6 +1.2**
NJ2 pmax pmax
comp=Z,15nm,0.5s
USA0B Ussuriysk Arra 74.99 329 P **P** **03 22 31.8 -0.6**
USA0B Ussuriysk Arra 74.99 329 P **P** **03 22 31.8 -0.6**
USA0B pmax pmax
comp=Z,90nm,1.7s
USRK Ussuriysk Ar. 74.99 329 P **P** **03 22 34.1 +1.7**
comp=Z,14nm,1.1s,baz=134,slow=5.5,SNR=12
USRK LR LR 03 49 49.0
comp=Z,141nm,21.3s,baz=134,slow=31
comp=Z,14nm,1.1s
USRK Ussuriysk Ar. 74.99 329 P **P** **03 22 32.4 0.0**
QIZ Qiongzhong 75.36 296 P **P** **03 22 34.6 -0.5**
QIZ S **S** **03 32 17.8 +2.5**
QIZ LR LR
comp=Z,310nm,18.0s
QIZ LR LR
comp=Z,380nm,21.2s
QIZ LR LR
comp=Z,580nm,30.6s
TYV Tymovskoe 75.83 339 *e*P **P** **03 22 39.0 +1.9**
TYV *e*S **S** **03 32 26.0 +6.9**
TYV pmax pmax
comp=Z,18nm,1.4s
TYV pmax pmax
comp=Z,500nm,4.1s
TYV smax smax
comp=N,200nm,5.2s
TYV smax smax
comp=E,200nm,5.2s
MDJ Mudanjiang 76.48 328 P **P** **03 22 40.5 -0.5**
MDJ IAmb IAmb 03 22 49.7
comp=Z,41nm,1.2s
CNSH ChangSha 77.20 306 ⇑P **P** **03 22 46.6 +1.2**
CNSH S **S** **03 32 37.9 +2.7**
CNSH LR LR
comp=Z,310nm,20.5s
CNSH LR LR
comp=Z,310nm,17.3s
CNSH LR LR
comp=Z,450nm,25.1s
WHN Wuhan 77.35 309 ⇓P **P** **03 22 48.0 +1.9**
WHN S **S** **03 32 39.0 +2.4**
WHN LR LR
comp=Z,3μm,25.0s
WHN LR LR
comp=Z,2μm,20.1s
WHN LR LR
comp=Z,3μm,21.1s
GRNR Gornyy 78.03 336 ⇑*i*P **P** **03 22 50.9 +1.4**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,4μm,14.0s
GRNR MLR MLR
comp=Z,140nm,15.0s
CN2 Changchun 78.08 325 P **P** **03 22 50.3 +0.3**
CN2 sP pwP 03 22 57.4 +0.8
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,400nm,20.0s
BNX BinXian 78.37 327 ⇑P **P** **03 22 52.1 +0.6**
BNX pmax pmax
comp=Z,10.0nm,0.7s
BNX pmax pmax
comp=Z,140nm,3.7s
KLR Kul'dur 78.80 332 LR LR 03 54 15.3
comp=Z,201nm,19.9s,baz=144,slow=33
KLR Kul'dur 78.80 332 *ce*P **P** **03 22 56.0 +2.2**
KLR pmax pmax
comp=Z,21nm,1.0s
RPSI Rantau Prapat 78.83 277 P **P** **03 22 53.6 -1.2**
RPSI IAmb IAmb 03 23 00.8
comp=Z,33nm,1.0s
PSI Prapat 78.87 277 P **P** **03 22 53.6 -1.6**
PSI pmax pmax
comp=Z,33nm,1.0s
SII Sitkinak Islan 79.61 16 P **P** **03 22 59.3 +1.3**
baz=208
R16K Pilot Point 79.67 14 P **P** **03 22 59.0 +0.7**
baz=205
R17K Ugashik Creek 80.02 15 P **P** **03 23 01.5 +1.3**
baz=206
OHAK Old Harbor 80.43 16 P **P** **03 23 02.1 -0.3**
OHAK IAmb IAmb 03 23 06.0
comp=Z,73nm,1.4s
OHAK Old Harbor 80.43 16 P **P** **03 23 03.7 +1.3**
baz=209
Q17K Contact Creek 80.70 15 P **P** **03 23 05.2 +1.2**
baz=207
HNS HongShan 80.74 315 ⇑P **P** **03 23 06.2 +1.6**
HNS S **S** **03 33 08.5 -4.0**
HNS pmax pmax
comp=Z,19nm,1.4s
HNS LR LR
comp=Z,300nm,16.7s
HNS LR LR
comp=Z,300nm,23.1s
HNS LR LR
comp=Z,550nm,22.6s
MAW Mawson 80.74 201 P **P** **03 23 04.2 0.0**
comp=Z,15nm,0.9s,baz=119,slow=7.3,SNR=4.8
comp=Z,15nm,0.9s
LYN LuoYang 80.78 311 ⇑P **P** **03 23 05.3 +0.4**
LYN sP pwP 03 23 11.8 +0.3
LYN S **S** **03 33 19.0 +5.9**
LYN pmax pmax
comp=Z,20nm,2.1s
LYN pmax pmax
comp=Z,310nm,3.6s
LYN LR LR
comp=Z,350nm,21.0s
LYN LR LR
comp=Z,290nm,20.6s
LYN LR LR
comp=Z,490nm,26.3s
SCZ2 Santa Cruz Isl 80.91 49 P **P** **03 23 06.8 +1.1**
baz=240
P16K Nushagak River 80.91 13 P **P** **03 23 05.1 +0.1**
baz=205
KDAK Kodiak Island 81.10 16 P **P** **03 23 07.1 +1.1**
baz=210
BJT Baijiatuau 81.23 318 P **P** **03 23 06.7 -0.4**
BJT IAmb IAmb 03 23 14.6
comp=Z,78nm,1.9s
BJT Baijiatuau 81.23 318 P **P** **03 23 06.7 -0.4**
BJT pmax pmax
comp=Z,78nm,1.9s
BJI Beijing 81.24 318 S S 03 33 07.2 -10
BJI pmax pmax
comp=Z,9.0nm,1.6s
BJI pmax pmax
comp=Z,100nm,3.8s
Q18K Katmai Hardscr 81.25 15 P **P** **03 23 07.2 +0.2**
baz=208
MA2 Magadan 81.30 347 LR LR 03 54 25.0
comp=Z,272nm,20.6s,baz=168,slow=32
MA2 Magadan 81.30 347 *ce*P **P** **03 23 07.5 +0.4**
MA2 pmax pmax
comp=Z,24nm,1.2s
BELA Belgrano 2 81.38 174 P **P** **03 23 06.5 -1.0**
BELA IAmb IAmb 03 24 32.5
comp=Z,17nm,0.6s
P17K Kvichak River 81.41 14 P **P** **03 23 07.4 -0.2**
baz=206
CIS Catalina Islan 81.49 50 P **P** **03 23 09.0 +0.2**
baz=240
HEH HeiHe 81.50 331 *e*P **P** **03 23 09.3 +1.0**
HEH pmax pmax
comp=Z,16nm,1.2s
BCW Bitter Crk WRg 81.55 49 P **P** **03 23 08.5 -0.6**
BCW IAmb IAmb 03 23 14.2
comp=Z,33nm,0.9s
O17K Koliganek Bris 81.78 13 P **P** **03 23 09.2 -0.4**
baz=205
Q19K Cape Douglas, 81.83 15 P **P** **03 23 09.8 -0.2**
Q19K Cape Douglas, 81.83 15 P **P** **03 23 10.1 +0.1**
baz=209
P18K Big Mountain, 81.86 14 P **P** **03 23 09.3 -0.8**
P18K IAmb IAmb 03 23 13.0
comp=Z,48nm,1.2s
P18K Big Mountain, 81.86 14 P **P** **03 23 10.5 +0.4**
baz=207,SNR=6.5
N16K Nishlik Lake 82.07 12 P **P** **03 23 12.7 +1.5**
baz=204
VES Vestal, Richgr 82.23 48 P **P** **03 23 14.0 +1.5**
baz=240
O18K Koktuh Hills 82.28 14 P **P** **03 23 11.3 -1.0**
O18K IAmb IAmb 03 23 15.4
comp=Z,48nm,1.1s
O18K Koktuh Hills 82.28 14 P **P** **03 23 12.5 +0.2**
baz=207
ELS Elsinore Mount 82.33 50 P **P** **03 23 12.4 -0.9**
TIY Taiyuan 82.44 314 *e*P **P** **03 23 15.3 +1.6**
BFSC Mount Baldy Ra 82.45 50 P **P** **03 23 14.4 +0.4**
baz=241
CMB Columbia Colle 82.47 45 P **P** **03 23 12.1 -1.7**
CMB IAmb IAmb 03 23 24.0
comp=Z,23nm,1.1s
CMB Columbia Colle 82.47 45 P **P** **03 23 12.1 -1.7**
CMB pmax pmax
comp=Z,23nm,1.1s
MURC Murrieta 82.48 51 P **P** **03 23 15.4 +1.4**
baz=241
EDW2 Edwards Air Fo 82.53 49 P **P** **03 23 15.7 +1.4**
baz=240,SNR=12
ORV Oroville 82.53 44 P **P** **03 23 12.7 -1.3**
ORV IAmb IAmb 03 23 24.3
comp=Z,40nm,1.4s
ORV Oroville 82.53 44 P **P** **03 23 12.7 -1.3**
ORV pmax pmax
comp=Z,40nm,1.4s
AFDM Forest Hills D 82.56 44 P **P** **03 23 13.6 -0.7**
AFDM IAmb IAmb 03 23 24.4
comp=Z,21nm,1.0s
P19K Oil Pt 82.57 15 P **P** **03 23 12.0 -1.8**
P19K Oil Pt 82.57 15 P **P** **03 23 16.2 +2.4**
baz=209
ISA Isabella, Lake 82.57 48 P **P** **03 23 13.9 -0.6**
ISA IAmb IAmb 03 23 19.3
comp=Z,24nm,1.1s
ISA Isabella, Lake 82.57 48 P **P** **03 23 15.8 +1.3**
baz=240,SNR=12
ISA Isabella, Lake 82.57 48 P **P** **03 23 13.9 -0.6**
ISA pmax pmax
comp=Z,24nm,1.1s
MONP2 Monument Peak 82.71 52 P **P** **03 23 16.4 +1.0**
baz=242,SNR=10.0
O19K Port Alsworth 82.79 14 P **P** **03 23 14.3 -0.5**
O19K Port Alsworth 82.79 14 P **P** **03 23 15.7 +0.9**
baz=206
IKP In-Ko-Pah, Jac 82.83 52 P **P** **03 23 16.8 +1.0**
baz=242
RMX La Rumorosa 82.83 52 P **P** **03 23 15.4 -0.5**
ILSW Iliamna Southw 82.88 15 P **P** **03 23 15.1 -0.4**
ILSW IAmb IAmb 03 23 23.5
comp=Z,87nm,1.1s
YBH Yreka Blue Hor 82.94 41 P **P** **03 23 15.4 -0.9**
YBH IAmb IAmb 03 23 21.2
comp=Z,38nm,1.4s
YBH Yreka Blue Hor 82.94 41 P **P** **03 23 15.4 -0.9**
YBH pmax pmax
comp=Z,38nm,1.5s
YUH Yuha Desert 82.96 52 P **P** **03 23 15.5 -0.9**
HOM Homer 82.98 16 P **P** **03 23 15.7 -0.1**
baz=210
PFO Pinyon Flats O 83.02 51 LR LR 03 51 40.2
comp=Z,244nm,20.9s,baz=266,slow=30
PFO Pinyon Flats O 83.02 51 P **P** **03 23 14.9 -2.0**
PFO Pinyon Flats O 83.02 51 P **P** **03 23 18.6 +1.7**
baz=242
PFO Pinyon Flats O 83.02 51 P **P** **03 23 14.9 -2.0**
PFO pmax pmax
comp=Z,7.0nm,1.0s
TPFO Pinon Flats 83.02 51 P **P** **03 23 17.8 +0.9**
baz=242
SFX San Felipe 83.02 54 P **P** **03 23 14.1 -2.7**
SFX IAmb IAmb 03 23 27.8
comp=Z,37nm,2.0s
O20K Slope Mountain 83.10 15 P **P** **03 23 16.9 +0.4**
baz=210
PMD Palm Desert 83.10 51 P **P** **03 23 16.8 -0.4**
PMD IAmb IAmb 03 23 21.8
comp=Z,7.4nm,1.0s
MDPB Devils Postpil 83.14 46 P **P** **03 23 16.7 -0.9**
MDPB IAmb IAmb 03 23 28.0
comp=Z,40nm,1.1s
OMMB Old Mammoth Mi 83.19 46 P **P** **03 23 16.8 -1.1**
OMMB IAmb IAmb 03 23 29.0
comp=Z,26nm,1.2s
SWSC Sam W. Stewart 83.19 52 P **P** **03 23 18.4 +0.8**
baz=242
BRLK Bradley Lake 83.27 16 P **P** **03 23 17.0 -0.4**
BRSE Bradley Lake S 83.28 16 P **P** **03 23 18.9 +1.4**
baz=211,SNR=6.9
N19K Bonanza Creek 83.30 14 P **P** **03 23 16.2 -1.5**
N19K Bonanza Creek 83.30 14 P **P** **03 23 18.2 +0.6**
baz=208
MLAC Mammoth, Mammo 83.31 46 P **P** **03 23 19.1 +0.6**
baz=240
WAKR Walker 83.35 45 P **P** **03 23 17.1 -1.5**
WAKR IAmb IAmb 03 23 29.3
comp=Z,35nm,1.1s
RSO Redoubt South 83.40 15 P **P** **03 23 17.9 -0.4**
PHRA Phrae 83.41 292 P **P** **03 23 17.8 -1.3**
BEKR Beckworth 83.44 44 P **P** **03 23 17.7 -1.3**
BEKR IAmb IAmb 03 23 28.7
comp=Z,26nm,1.1s
MPMC Manual Prospec 83.46 48 P **P** **03 23 19.1 -0.1**
baz=241,SNR=16
XLT XiLinHaoTe 83.47 321 *e*P **P** **03 23 18.9 0.0**
XLT pP pwP 03 23 25.6 0.0
XLT sP PcP 03 23 28.4 +5.1
XLT SKS **S** **03 33 32.6 -8.0**
XLT S **SKKSac** **03 33 44.5 -1.6**
XLT sS ScS 03 33 50.7 -3.3
XLT SS **SS** **03 39 04.5 -2.5**
XLT pmax pmax
comp=Z,13nm,1.7s
XLT pmax pmax
comp=Z,240nm,3.8s
XLT LR LR
comp=Z,260nm,16.8s
XLT LR LR
comp=Z,410nm,21.3s
PNTR Pine Nut 83.54 45 P **P** **03 23 18.4 -1.2**
BELC Belle Mtn, Jos 83.55 51 P **P** **03 23 20.3 +0.7**
baz=242,SNR=13
GSC Goldstone, Bar 83.58 49 P **P** **03 23 19.0 -0.7**
GSC Goldstone, Bar 83.58 49 P **P** **03 23 19.6 -0.1**
baz=241,SNR=8.4
GSC Goldstone, Bar 83.58 49 P **P** **03 23 19.0 -0.7**
GSC pmax pmax
comp=Z,69nm,1.9s
VCNR Virginia City 83.61 45 P **P** **03 23 18.2 -1.7**
VCNR IAmb IAmb 03 23 30.5
comp=Z,25nm,1.2s
LPIG La Paz 83.65 62 LR LR 03 51 39.1
comp=Z,360nm,21.9s,baz=237,slow=29
HEC Hector,Ludlow 83.69 50 P **P** **03 23 21.5 +1.2**
baz=241
DSP Deep Springs 83.78 47 P **P** **03 23 20.4 -0.1**
DSP IAmb IAmb 03 23 30.7
comp=Z,26nm,1.1s
BC3 Big Chuckawall 83.78 51 P **P** **03 23 21.1 +0.3**
baz=242,SNR=6.1
QSM Queen of Sheba 83.86 49 P **P** **03 23 20.6 -0.5**
LCH Last Change Ra 83.93 47 P **P** **03 23 22.4 +0.9**
LCH IAmb IAmb 03 23 26.1
comp=Z,19nm,1.2s
SEW Seward 83.94 17 P **P** **03 23 22.1 +1.4**
baz=212
CRAI Chiangrai 83.96 294 P **P** **03 23 21.8 -0.1**
GLA Glamis 83.97 52 P **P** **03 23 23.3 +1.6**
baz=242,SNR=6.5
ZEA Zeya 84.00 333 *e*P **P** **03 23 23.8 +2.5**
ZEA *e*S **S** **03 33 52.6 +7.3**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA smax smax
comp=N,200nm,16.1s
GRAC Grapevine Rang 84.01 48 P **P** **03 23 20.2 -1.6**
GRAC Grapevine Rang 84.01 48 P **P** **03 23 23.0 +1.1**
baz=241,SNR=8.9
NVAR Mina Array Bea 84.08 46 P **P** **03 23 23.9 +1.5**
comp=N,7.7nm,0.8s,baz=225,slow=8.7,SNR=17
comp=N,7.7nm,0.8s
NVAR Mina Array Bea 84.08 46 P **P** **03 23 21.7 -0.7**
SEY Seymchan 84.08 349 ⇓*i*P **P** **03 23 21.4 -0.1**
SEY pmax pmax
comp=Z,43nm,1.0s
FURC Furnace Creek, 84.11 48 P **P** **03 23 23.8 +1.6**
baz=241
GWY Greenwater Val 84.11 49 P **P** **03 23 21.4 -1.1**
GMRC Granite Mounta 84.16 50 P **P** **03 23 23.1 +0.4**
baz=242,SNR=12
N20K Mount Spurr 84.17 15 P **P** **03 23 23.3 +1.2**
baz=210,SNR=8.8
SPCR Spurr Chakacha 84.17 15 P **P** **03 23 22.4 +0.3**
baz=210
NV11 Mina Array Sit 84.18 46 P **P** **03 23 19.7 -3.0**
NV11 IAmb IAmb 03 23 28.5
comp=Z,38nm,1.3s
O22K Cooper Landing 84.18 16 P **P** **03 23 22.0 0.0**
O22K Cooper Landing 84.18 16 P **P** **03 23 23.8 +1.7**
baz=212
SPU Mount Spurr 84.19 15 P **P** **03 23 21.4 -0.8**
IRM Iron Mountain 84.24 51 P **P** **03 23 23.8 +0.7**
baz=242,SNR=18
SHOC Shoshone, Teco 84.25 49 P **P** **03 23 23.2 +0.2**
baz=241
TUQ Turquoise Moun 84.28 50 P **P** **03 23 23.6 +0.3**
baz=242
WCT Wildcat Mounta 84.43 48 P **P** **03 23 22.8 -1.2**
WCT IAmb IAmb 03 23 28.8
comp=Z,45nm,1.6s
L19K White Mountain 84.43 13 P **P** **03 23 22.7 -0.6**
L19K White Mountain 84.43 13 P **P** **03 23 23.9 +0.5**
baz=207
PMSA Palmer Station 84.50 158 LR LR 03 53 12.9
comp=Z,167nm,21.1s,baz=282,slow=30
BLYC Blythe 84.51 52 P **P** **03 23 23.6 -0.8**
BLYC IAmb IAmb 03 23 29.4
comp=Z,22nm,1.2s
CMAR Chiang Mai Arr 84.53 292 P **P** **03 23 24.9 +0.1**
comp=Z,8.4nm,0.9s,baz=126,slow=3.7,SNR=14
CMAR LR LR 03 59 01.5
comp=Z,83nm,21.6s,baz=115,slow=34
comp=Z,8.4nm,0.9s
CMAR Chiang Mai Arr 84.53 292 *ce*P **P** **03 23 25.8 +1.0**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
KVN Kaiserville 84.53 46 P **P** **03 23 24.1 -0.5**
KVN IAmb IAmb 03 23 34.1
comp=Z,25nm,1.1s
KVN Kaiserville 84.53 46 P **P** **03 23 24.1 -0.5**
KVN pmax pmax
comp=Z,25nm,1.1s
MOD Modoc Plateau 84.55 42 IAmb IAmb 03 23 44.4
comp=Z,22nm,1.1s
113A Mohawk Valley, 84.63 53 IAmb IAmb 03 23 30.0
comp=Z,20nm,1.3s
HHC Hu-ho-hao-te 84.64 317 *e*P **P** **03 23 26.2 +1.2**
HHC S **S** **03 33 52.1 -0.4**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,350nm,4.1s
HHC LR LR
comp=Z,380nm,14.6s
HHC LR LR
comp=Z,470nm,15.2s
HHC LR LR
comp=Z,1μm,15.2s
CHTO Chiang Mai 84.66 292 P **P** **03 23 24.6 -0.9**
CHTO IAmb IAmb 03 23 32.5
comp=Z,23nm,1.1s
CHTO Chiang Mai 84.66 292 P **P** **03 23 24.6 -0.9**
CHTO pmax pmax
comp=Z,23nm,1.2s
RC01 Rabbit Creek A 84.70 16 P **P** **03 23 24.6 -0.1**
baz=212
SUA Susitna One 84.76 15 IAmb IAmb 03 23 33.0
comp=Z,22nm,0.8s
SUA Susitna One 84.76 15 P **P** **03 23 25.3 +0.1**
baz=211
TPNV Topopah Spring 84.77 48 IAmb IAmb 03 23 36.3
comp=Z,26nm,1.2s
TPNV Topopah Spring 84.77 48 P **P** **03 23 25.2 -0.6**
baz=241,SNR=12
ANM Nome 84.83 8 P **P** **03 23 24.1 -1.1**
ANM IAmb IAmb 03 23 33.7
comp=Z,19nm,1.1s
ANM Nome 84.83 8 P **P** **03 23 25.6 +0.4**
baz=198
ANM Nome 84.83 8 P **P** **03 23 24.1 -1.1**
ANM pmax pmax
comp=Z,19nm,1.1s
TTA Tatalina 84.86 12 IAmb IAmb 03 23 29.1
comp=Z,38nm,1.6s
TTA Tatalina 84.86 12 P **P** **03 23 25.3 -0.2**

baz=206
PWL Port Wells 84.87 17 P P 03 23 25.5 -0.1
baz=213
L20K Farewell, AK 84.91 13 P P 03 23 25.6 -0.2
baz=208
NEE2 Needles Airpor 84.91 51 P P 03 23 27.5 +1.1
baz=242
214A Organ Pipe Nat 84.99 54 IAmb IAmb 03 23 32.1
comp=Z,25nm,1.4s
214A Organ Pipe Nat 84.99 54 P P 03 23 27.2 +0.3
baz=244
SKT Skwentna 85.01 15 P P 03 23 27.2 +0.9
baz=210
M22K Willow 85.16 15 P P 03 23 26.9 0.0
baz=212
HSIG 85.17 57 IAmb IAmb 03 23 31.8
comp=Z,38nm,1.6s
PMR Palmer 85.28 16 IAmb IAmb 03 23 36.3
comp=Z,23nm,1.0s
PMR Palmer 85.28 16 P P 03 23 27.5 0.0
baz=213
KNK Knik Glacier 85.30 16 IAmb IAmb 03 23 41.8
comp=Z,43nm,1.4s
KNK Knik Glacier 85.30 16 P P 03 23 28.2 +0.5
baz=213
PZH PanZhiHua 85.30 300 P P 03 23 28.6 -0.1
PZH sP pwP 03 23 34.7 -0.6
PZH SKS SKSac 03 33 49.0 -5.2
PZH S S 03 33 57.5 -2.2
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,320nm,4.6s
PZH LR LR
comp=Z,430nm,19.4s
PZH LR LR
comp=Z,600nm,18.4s
PZH LR LR
comp=Z,530nm,19.6s
EYAK Cordova Ski Ar 85.34 18 P P 03 23 27.4 -0.4
baz=216
TNA Tin City 85.48 7 P P 03 23 28.7 +0.2
baz=195
CD2 Chengdu 85.54 305 P P
CD2 pmax pmax
comp=Z,10.0nm,0.5s
W13A Hualapai Mount 85.60 51 IAmb IAmb 03 23 35.0
comp=Z,38nm,1.9s
K20K Telida 85.64 13 IAmb IAmb 03 23 31.7
comp=Z,48nm,1.8s
K20K Telida 85.64 13 P P 03 23 29.4 +0.1
baz=208
SML Sawmill 85.67 16 P P 03 23 29.3 -0.3
baz=213
CUT Chulitna 85.68 15 P P 03 23 29.4 -0.1
baz=212
BMN Battle Mountai 85.80 45 IAmb IAmb 03 23 35.5
comp=Z,31nm,1.3s
DIV Divide 85.81 17 IAmb IAmb 03 23 37.8
comp=Z,27nm,1.1s
M23K Glacier View 85.81 16 P P 03 23 30.1 -0.2
baz=214
PRN Pahroc Range 85.83 48 IAmb IAmb 03 23 36.2
comp=Z,23nm,1.1s
R11A Troy Canyon, C 85.90 47 P P 03 23 29.5 -2.0
baz=242,SNR=6.8
SCM Sheep Creek Mo 85.95 16 P P 03 23 29.8 -1.2
baz=214
BMRM Bremner River 86.01 18 P P 03 23 31.4 +0.2
baz=217
KLU Klutina 86.06 17 IAmb IAmb 03 23 42.6
comp=Z,20nm,1.2s
KLU Klutina 86.06 17 P P 03 23 31.5 -0.1
baz=216
CAST Castle Rocks 86.13 14 IAmb IAmb 03 23 39.3
comp=Z,15nm,1.0s
J20K Nowinta River 86.36 13 P P 03 23 32.8 0.0
baz=208
U33K Whale Pass 86.43 26 P P 03 23 33.1 -0.2
baz=227
WAT6 Susitna Watana 86.47 16 P P 03 23 32.9 -0.8
baz=214
WAT1 Susitna Watana 86.47 15 P P 03 23 32.9 -0.6
baz=213
CHUM Lake Minchumin 86.49 13 P P 03 23 33.3 -0.1
baz=210
M24K Tolsona, Glenn 86.49 17 P P 03 23 33.5 -0.2
baz=215
S31K Pelican 86.50 23 P P 03 23 33.0 -0.6
baz=224
N25K Chitina, Valde 86.53 18 P P 03 23 32.9 -0.9
baz=217,SNR=7.8
V35K Ketchikan 86.53 27 P P 03 23 34.2 +0.3
baz=226
TRF Thorofare Moun 86.57 14 P P 03 23 33.6 -0.5
baz=212
GLB Gilahina Butte 86.62 18 IAmb IAmb 03 23 37.2
comp=Z,20nm,1.0s
PNL Peninsula 86.64 21 P P 03 23 33.1 -1.3
baz=222
PINM Pinnacle 86.68 20 P P 03 23 34.6 0.0
baz=221
TUC Tucson 86.69 54 P P 03 23 38.1 +2.7
TUC Tucson 86.69 54 P P 03 23 33.8 -1.6
baz=245
TUC Tucson 86.69 54 P P 03 23 38.1 +2.7
TUC pmax pmax
comp=Z,14nm,1.2s
MCARA McCarthy VSAT 86.81 18 IAmb IAmb 03 23 43.5
comp=Z,34nm,1.3s
MCARA McCarthy VSAT 86.81 18 P P 03 23 34.9 -0.3
baz=218
DHY Denali Highway 86.97 16 P P 03 23 35.6 -0.5
baz=214
SPR3 Spring Creek 3 87.07 47 IAmb IAmb 03 23 41.7
comp=Z,13nm,1.2s
CCUT Cedar City 87.09 49 IAmb IAmb 03 24 39.9
comp=Z,35nm,1.9s
ELIB Princess Elisa 87.10 188 dP P 03 23 35.1 -1.7
comp=Z,24nm,0.9s
MCK McKinley 87.14 15 P P 03 23 36.6 -0.1
baz=213
P29M Windy Craggy 87.17 22 IAmb IAmb 03 23 40.8
comp=Z,44nm,1.4s
P29M Windy Craggy 87.17 22 P P 03 23 36.8 -0.3
baz=223
LTY Liberty 87.18 38 IAmb IAmb 03 23 56.7
comp=Z,30nm,1.4s
O28M Mount Upton 87.21 20 P P 03 23 37.4 -0.1
baz=221
KNB Kanab 87.23 49 IAmb IAmb 03 23 53.9
comp=Z,40nm,1.9s
ELK Elko 87.27 45 LR LR 03 56 03.6
comp=Z,366nm,20.4s,baz=260,slow=31
R32K Eaglecrest 87.37 24 P P 03 23 37.8 -0.1
baz=226
HAWA Hanford 87.38 39 IAmb IAmb 03 23 42.8
comp=Z,30nm,1.1s
PAX Paxson 87.39 17 P P 03 23 37.6 -0.5
baz=216
TNCH TengChong 87.39 298 P P 03 23 38.8 -0.3
TNCH sP pwP 03 23 46.8 +1.1
TNCH pmax pmax
comp=Z,110nm,3.8s
BILL Bilibino 87.40 356 P P 03 23 37.2 -0.6
BILL IAmb IAmb 03 23 45.3
comp=Z,20nm,1.1s
BILL Bilibino 87.40 356 eP P 03 23 39.1 +1.2
BILL e 03 27 02.1
BILL ePPP PPP 03 28 56.7
BILL pmax pmax
comp=Z,13nm,1.1s
PLBC Pleasant Camp 87.53 22 P P 03 23 39.4 +0.7
baz=224
M26K Nabesna, AK 87.62 18 P P 03 23 39.7 +0.6
baz=218
WUAZ Wupatki 87.62 51 P P 03 23 39.4 -0.5
baz=244
I21K Tanana 87.69 13 IAmb IAmb 03 23 43.3
comp=Z,12nm,1.0s
I21K Tanana 87.69 13 P P 03 23 39.9 +0.6
baz=210
LZH Lanzhou 87.71 309 eP P 03 23 41.6 +1.3
LZH sP pwP 03 23 47.9 +1.0
LZH sS sS 03 34 26.5 -0.2
LZH pmax pmax
comp=Z,46nm,1.4s
LZH pmax pmax
comp=Z,360nm,4.9s
LZH LR LR
comp=Z,370nm,16.2s
LZH LR LR
comp=Z,600nm,18.4s
LZH LR LR
comp=Z,880nm,20.0s
YUK8 Steele Glacier 87.73 20 P P 03 23 39.7 -0.3
baz=221
P30M Million Dollar 87.80 21 P P 03 23 40.2 +0.1
baz=224
MLY Manley 87.83 13 P P 03 23 38.9 -1.2
baz=211
NEA2 Nenana 87.83 14 P P 03 23 39.3 -0.7
baz=213
YUK3 Moose Creek 87.89 19 P P 03 23 39.7 -0.9
baz=220,SNR=6.5
SKAG Skagway 87.91 23 P P 03 23 40.3 -0.1
baz=225
M27K Edge Creek, AK 87.91 18 P P 03 23 40.1 -0.5
baz=219
YUK6 Outpost Mounta 87.93 20 P P 03 23 41.0 +0.2
baz=222
H21K Melozitna Rive 87.93 12 P P 03 23 40.9 +0.3
baz=209
WRH Wood River Hil 87.96 15 IAmb IAmb 03 23 48.7
comp=Z,17nm,1.3s
K24K Donnelly Dome 87.98 16 P P 03 23 40.8 0.0
baz=216
L26K Log Cabin Wild 88.01 17 IAmb IAmb 03 24 08.9
comp=Z,18nm,1.6s
L26K Log Cabin Wild 88.01 17 P P 03 23 41.1 +0.1
baz=218
YUK4 Talbot Arm 88.14 20 P P 03 23 42.1 +0.3
baz=222
MFID Camas Ranch 88.16 43 IAmb IAmb 03 23 52.5
comp=Z,14nm,1.1s
CCB Clear Creek Bu 88.17 15 IAmb IAmb 03 23 44.2
comp=Z,11nm,0.9s
RIDG Independent Ri 88.17 16 IAmb IAmb 03 23 45.7
comp=Z,18nm,1.1s
RIDG Independent Ri 88.17 16 P P 03 23 41.5 -0.2
baz=216
HDA Harding Lake 88.18 15 IAmb IAmb 03 23 45.5
comp=Z,12nm,0.9s
HDA Harding Lake 88.18 15 P P 03 23 41.9 +0.2
baz=215
T35M Bob Quinn 88.20 26 P P 03 23 42.0 +0.1
baz=230
BVCY Beaver Creek 88.26 19 P P 03 23 41.5 -0.6
baz=220
MDM Murphy Dome 88.33 14 IAmb IAmb 03 23 49.2
comp=Z,14nm,0.9s
TCOL CIGO, UAF Yank 88.35 15 IAmb IAmb 03 23 50.2
comp=Z,24nm,1.1s
TCOL CIGO, UAF Yank 88.35 15 P P 03 23 41.4 -1.0
baz=214
COLA College 88.35 15 P P 03 23 41.5 -0.9
baz=214
COLA College 88.35 15 iP P 03 23 41.2 -1.2
COLA pmax pmax
comp=Z,13nm,0.9s
H22K Ishtalitna Cre 88.43 13 P P 03 23 42.3 -0.6
baz=210
S34M Telegraph Cree 88.45 25 P P 03 23 42.3 -0.8
baz=229,SNR=9.8
IL31 88.50 15 IAmb IAmb 03 23 50.1
comp=Z,9.6nm,0.8s
ILAR Eielson Array 88.50 15 P P 03 23 42.1 -1.0
comp=Z,5.6nm,0.9s,baz=235,slow=5.7,SNR=9.9
comp=Z,5.6nm,0.9s
G21K Allaket 88.55 12 P P 03 23 43.6 +0.2
baz=208
O30N Mendenhall 88.57 21 P P 03 23 43.7 0.0
baz=224
P32M Atlin 88.59 23 P P 03 23 43.6 -0.1
baz=226
SCRK Sand Creek 88.59 16 P P 03 23 43.2 -0.6
baz=217
POKR Poker Plat Res 88.65 15 P P 03 23 42.6 -1.3
baz=214
DUG Dugway, Tooele 88.66 46 P P 03 23 43.3 -1.4
baz=243,SNR=6.1
Q32M Nakina River 88.70 24 P P 03 23 44.4 -0.1
baz=228
H23K Yukon River 88.77 13 P P 03 23 44.1 -0.4
baz=212
TROLL Troll, Antarti 88.80 182 P P 03 23 43.9 -1.0
PLID Pearl Lake 88.86 41 IAmb IAmb 03 23 49.7
comp=Z,22nm,1.2s
WHY Whitehorse 88.91 22 IAmb IAmb 03 23 49.0
comp=Z,38nm,1.6s
WHY Whitehorse 88.91 22 P P 03 23 45.3 -0.1
baz=226
M29M Somme Creek 89.01 19 P P 03 23 45.3 -0.5
baz=222
YAK Yakutsk 89.04 340 P P 03 23 44.3 -1.4
YAK Yakutsk 89.04 340 eP P 03 23 46.0 +0.3
YAK e*PP sP 03 23 50.7 +1.9
YAK e 03 27 15.8
YAK ePPP PPP 03 29 11.8
YAK eS SKSac 03 34 15.1 0.0
YAK e*SS SKSac 03 34 28.3 +1.5
YAK eSS SS 03 40 22.5 -5.1
YAK eSSS SSS 03 44 04.3
YAK pmax pmax
comp=Z,55nm,0.9s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=Z,155nm,3.9s
YAK pmax pmax
comp=N,101nm,4.5s
YAK pmax pmax
comp=E,57nm,3.8s
YAK smax smax
comp=E,90nm,4.5s
YAK smax smax
comp=N,86nm,4.2s
121A Cookes Peak, D 89.10 55 P P 03 23 46.1 -0.9
baz=246
121A Cookes Peak, D 89.10 55 P P 03 23 46.2 -0.8
baz=246
J26L Joseph Creek 89.12 16 IAmb IAmb 03 23 54.6
comp=Z,13nm,0.9s
J26L Joseph Creek 89.12 16 P P 03 23 46.0 -0.3
baz=218
HLID Hailey 89.14 43 P P 03 23 47.2 +0.2
baz=242,SNR=12
H24K Nodor Dome 89.15 14 P P 03 23 46.3 0.0
baz=214
K27K Chicken 89.16 17 IAmb IAmb 03 23 55.0
comp=Z,15nm,1.1s
K27K Chicken 89.16 17 P P 03 23 45.9 -0.4
baz=219
F21K Alatna River 89.18 11 P P 03 23 46.5 +0.1
baz=208
DLBC Dease Lake 89.23 25 P P 03 23 47.4 +0.5
baz=230,SNR=6.0
SNAA Sanae 89.24 180 P P 03 23 45.4 -1.5
SNAA Sanae 89.24 180 P P 03 23 45.7 -1.2
SNAA IAmb IAmb 03 23 53.3
comp=Z,14nm,1.1s
SNAA Sanae 89.24 180 ceP P 03 23 46.3 -0.6
SNAA pmax pmax
comp=Z,16nm,1.7s
G22K Bettles 89.30 12 P P 03 23 47.0 +0.1
baz=210
P33M Teslin, Yukon 89.34 23 P P 03 23 47.1 -0.3
baz=227
TMUT Trail Mountain 89.38 48 IAmb IAmb 03 23 58.6
comp=Z,44nm,1.5s
HVU Hansel Valley 89.40 45 IAmb IAmb 03 23 52.8
comp=Z,22nm,1.1s
SPUT South Promonto 89.41 46 IAmb IAmb 03 23 52.9
comp=Z,17nm,1.0s
G23K Bananza Creek 89.42 13 P P 03 23 48.0 +0.5
baz=212
PRP Porcupine Dome 89.44 15 P P 03 23 47.3 -0.4
baz=216
NVL N'lazarevskaya 89.49 185 eP P 03 23 47.6 -0.3
NVL eS SKSac 03 34 13.7 -4.3
NVL pmax pmax
comp=Z,28nm,0.9s
R33M Jennings River 89.49 24 P P 03 23 48.9 +0.8
baz=229,SNR=7.0
VNA3 Neumayer Olymp 89.59 178 P P 03 23 46.9 -1.6
L29M L29M 89.61 19 P P 03 23 48.6 +0.1
baz=223
M30M Minto, Yukon 89.64 20 IAmb IAmb 03 23 51.9
comp=Z,26nm,1.3s
M30M Minto, Yukon 89.64 20 P P 03 23 48.3 -0.3
baz=224
F22K John River 89.68 12 P P 03 23 48.5 -0.1
baz=210
NEW Newport 89.75 38 IAmb IAmb 03 23 52.2
comp=Z,57nm,2.0s
NEW Newport 89.75 38 P P 03 23 49.0 -0.5
baz=240
SRU San Rafael Swe 89.78 48 IAmb IAmb 03 23 54.7
comp=Z,21nm,1.0s
COLD Coldfoot 89.82 12 P P 03 23 49.6 +0.2
baz=212
DAWY Dawson 89.95 18 IAmb IAmb 03 23 58.2
comp=Z,14nm,0.9s
DAWY Dawson 89.95 18 P P 03 23 50.1 +0.1
baz=221
VNA2 Neumayer--Watz 89.96 179 P P 03 23 49.0 -1.2
baz=151,slow=4.0
EGAK Eagle 89.99 17 IAmb IAmb 03 23 58.2
comp=Z,20nm,0.9s
EGAK Eagle 89.99 17 P P 03 23 50.7 +0.5
baz=220
M31M Drury Creek, Y 90.16 21 P P 03 23 51.2 +0.2
baz=226
VNA1 Neumayer--Stat 90.22 179 P P 03 23 50.3 -1.0
Y22A Socorro 90.28 54 P P 03 23 53.7 +1.2
baz=247
G25K Bearman Lake 90.33 14 P P 03 23 51.8 +0.1
baz=215
K29M Barlow Dome 90.34 19 P P 03 23 51.9 0.0
baz=223
MVCO Mesa Verde 90.44 51 P P 03 23 51.8 -1.4
baz=246
I27K Kandik River 90.50 16 P P 03 23 52.7 +0.1
baz=219
F24K Squaw Lake 90.55 13 P P 03 23 54.0 +1.2
baz=214
J29M Klondike Camp 90.58 18 IAmb IAmb 03 24 01.6
comp=Z,20nm,0.9s
J29M Klondike Camp 90.58 18 P P 03 23 53.6 +0.6
baz=222
MNTX Cornudas Mount 90.65 57 P P 03 23 55.2 +1.1
baz=248
MNTX Cornudas Mount 90.65 57 P P 03 23 53.8 -0.3
baz=248
MAYO Mayo, Yukon 90.66 19 P P 03 23 54.1 +0.8
baz=225
WTLY Watson Lake, Y 90.80 24 IAmb IAmb 03 24 03.2
comp=Z,14nm,1.1s
WTLY Watson Lake, Y 90.80 24 P P 03 23 54.9 +0.8
baz=231
E24K Your Creek 90.89 13 P P 03 23 54.4 0.0
baz=213
PV15 Paradox Valley 90.91 50 IAmb IAmb 03 24 15.1
comp=Z,26nm,1.4s
ULN Ulaanbaatar 90.91 321 P P 03 23 53.1 -2.0
ULN IAmb IAmb 03 24 03.1
comp=Z,19nm,1.3s
ULN Ulaanbaatar 90.91 321 ceP P 03 23 54.5 -0.6
ULN pmax pmax
comp=Z,18nm,1.4s
MSO Missoula 90.95 40 P P 03 23 54.8 -0.4
baz=242
H27K Steamboat Moun 91.01 16 P P 03 23 55.6 +0.7
baz=220
G26K Porcupine Rive 91.02 15 P P 03 23 55.2 +0.3
baz=218
RDMU Red Mountain 91.06 47 IAmb IAmb 03 24 00.5
comp=Z,15nm,1.1s
ANMO Albuquerque 91.06 53 LR LR 03 58 23.5
comp=Z,297nm,19.0s,baz=344,slow=31
ANMO Albuquerque 91.06 53 P P 03 23 55.5 -0.7
ANMO Albuquerque 91.06 53 P P 03 23 57.4 +1.2
baz=247
ANMO Albuquerque 91.06 53 P P 03 23 56.1 0.0
baz=247
ANMO Albuquerque 91.06 53 P P 03 23 55.5 -0.7
ANMO pmax pmax
comp=Z,11nm,1.2s
F25K Christian Rive 91.11 14 P P 03 23 56.5 +1.1
baz=216
TX31 Lajitas Ar. Si 91.15 59 P P 03 23 56.6 +0.1
baz=249
TXAR Lajitas Array 91.15 59 P P 03 23 58.8 +2.2
comp=Z,3.0nm,0.9s,baz=224,slow=5.3,SNR=27
TXAR PKKPbc PKKPbc 03 41 19.1 -1.0
comp=Z,0.8nm,0.8s,baz=91,slow=4.0,SNR=7.5
TXAR LR LR 03 57 54.5
comp=Z,396nm,18.9s,baz=264,slow=31
comp=Z,3.0nm,0.9s
I29M Ogilvie Camp, 91.22 17 P P 03 23 56.6 +0.7
baz=222
SONM Songino Array 91.29 321 P P 03 23 56.0 -0.8
comp=Z,4.2nm,1.1s,baz=134,slow=3.1,SNR=6.6
SONM LR LR 04 05 15.8
comp=Z,141nm,18.1s,baz=153,slow=36
comp=Z,4.2nm,1.1s
SONM Songino Array 91.29 321 IAmb IAmb 03 23 59.3
comp=Z,22nm,1.6s
SONM Songino Array 91.29 321 P P 03 23 56.0 -0.8
G27K Doyon Strip 91.43 15 P P 03 23 56.8 -0.1
baz=219
F26K Sheenjek River 91.53 14 P P 03 23 57.3 0.0
baz=217
E25K Arctic Village 91.55 13 P P 03 23 57.6 +0.1
baz=216
D24K Happy Valley 91.74 12 P P 03 23 57.7 -0.5
baz=213
O20A White River Ci 91.80 48 IAmb IAmb 03 24 04.1
comp=Z,25nm,1.3s
O20A White River Ci 91.80 48 P P 03 23 60.0 +0.5
baz=246
BOZ Bozeman (W) 91.83 42 P P 03 23 59.1 -0.3
baz=244
S22A 4UR Ranch, Cre 91.87 51 IAmb IAmb 03 24 10.0
comp=Z,24nm,1.1s
S22A 4UR Ranch, Cre 91.87 51 P P 03 23 59.2 -0.7
baz=247
BW06 Boulder Array 91.98 45 IAmb IAmb 03 24 28.2
comp=Z,27nm,1.9s
BW06 Boulder Array 91.98 45 P P 03 23 58.9 -1.3
baz=246
PD31 Pinedale Array 91.98 45 IAmb IAmb 03 24 28.2
comp=Z,25nm,1.9s
PDAR Pinedale Array 91.98 45 P P 03 24 00.9 +0.7
comp=Z,1.7nm,0.8s,baz=195,slow=1.8,SNR=14
comp=Z,1.7nm,0.8s
H17A Grant Village 91.99 43 P P 03 24 00.1 -0.2
baz=245
C24K Franklin Bluff 92.24 12 P P 03 24 00.6 +0.1
baz=213
A21K Barrow 92.34 8 P P 03 24 00.9 0.0
baz=208
D25K Kavik River 92.36 12 P P 03 24 00.7 -0.5
baz=215
BOD Bodaibo 92.38 332 eP P 03 24 01.8 +0.4
BOD pmax pmax
comp=Z,71nm,1.5s
EPYK Eagle Plains 92.41 17 P P 03 24 01.5 0.0
baz=224
BRDH Bariadhala 92.42 293 LR LR 04 08 23.8
comp=Z,58nm,18.1s,baz=132,slow=37
E27K Coleen River 92.51 15 P P 03 24 01.6 -0.3
baz=220
SDCO Great Sand Dun 92.84 51 P P 03 24 05.2 +0.7
baz=248
SDCO Great Sand Dun 92.84 51 P P 03 24 03.9 -0.5
baz=248
G30M tAoh Zraii Nji 92.99 17 P P 03 24 03.9 -0.2
baz=224
RLMT Red Lodge 93.14 43 P P 03 24 05.2 -0.4
baz=246
C26K Camden Bay 93.15 13 P P 03 24 05.1 +0.4
baz=216
C27K Jago River 93.17 13 P P 03 24 04.8 0.0
baz=218
MSTX Muleshoe 93.53 55 IAmb IAmb 03 24 11.6
comp=Z,19nm,1.2s
MSTX Muleshoe 93.53 55 P P 03 24 07.1 -0.4
baz=249
MSTX Muleshoe 93.53 55 P P 03 24 06.5 -1.0
baz=249
ISCO Idaho Springs 93.53 49 IAmb IAmb 03 24 26.4

comp=Z,22nm,1.9s
ISCO Idaho Springs 93.53 49 P **P** **03 24 08.1 +0.5**
baz=248
ISCO Idaho Springs 93.53 49 P **P** **03 24 07.5 -0.1**
baz=248
Q24A Divide 93.56 50 IAmb IAmb 03 24 12.3
comp=Z,11nm,1.0s
Q24A Divide 93.56 50 P **P** **03 24 07.2 -0.6**
baz=248
K22A Casper 93.98 46 P **P** **03 24 10.8 +1.3**
baz=248
F31M Tsiigehtchic 94.00 17 P **P** **03 24 09.7 +1.0**
baz=227
GOMU GeErMu 94.47 307 P **P** **03 24 14.4 +2.3**
GOMU pmax pmax
comp=Z,4.0nm,1.0s
GOMU LR LR
comp=Z,160nm,19.9s
GOMU LR LR
comp=Z,380nm,21.5s
GOMU LR LR
comp=Z,590nm,23.5s
CMIG Matias Romero 94.60 74 LR LR 03 57 30.4
comp=Z,412nm,20.4s,baz=238,slow=30
INK Inuvik 94.66 17 P **P** **03 24 11.7 +0.1**
baz=227
AMTX Amarillo 94.69 55 IAmb IAmb 03 24 22.5
comp=Z,10nm,0.9s
AMTX Amarillo 94.69 55 P **P** **03 24 12.9 +0.1**
baz=250
AMTX Amarillo 94.69 55 P **P** **03 24 12.7 -0.1**
baz=250
WRGLY Wrigley 94.71 23 P **P** **03 24 12.0 +0.1**
baz=236
ABTX Abilene, Hawle 95.53 58 P **P** **03 24 16.5 0.0**
baz=251
LAO LASA Array 95.71 43 P **P** **03 24 17.4 +0.3**
baz=248
LAO LASA Array 95.71 43 P **P** **03 24 16.3 -0.8**
baz=248
RSSD Black Hills 96.21 45 P **P** **03 24 20.1 +0.4**
baz=249
RSSD Black Hills 96.21 45 P **P** **03 24 18.6 -1.1**
baz=249
TIXI Tiksi 96.25 346 LR LR 04 02 06.7
comp=Z,288nm,21.6s,baz=86,slow=32
U32A Winter Ranch, 97.24 54 P **P** **03 24 24.4 +0.1**
baz=252
PALK Pallekele 97.46 275 LR LR 04 07 35.7
comp=Z,144nm,21.3s,baz=241,slow=35
YKA Yellowknife Ar 97.82 26 P **P** **03 24 25.6 -0.6**
comp=Z,1.5nm,0.9s,baz=246,slow=4.6,SNR=10
comp=Z,1.5nm,0.9s
C36M Paulatuk 97.99 18 P **P** **03 24 26.0 -0.8**
baz=236
A36M Sachs Harbour 99.18 16 P **Pdif** **03 24 32.3 +0.2**
baz=235
WMQ Urumqi 102.01 312 *e*P **Pdif** **03 24 46.3 +0.8**
WMQ LR LR
comp=Z,150nm,20.1s
MKAR Makanchi Array 106.40 314 PKKPbc PKKPbc 03 40 36.2 -1.4
comp=Z,0.4nm,0.8s,baz=305,slow=2.3,SNR=3.8
KURBB Kurchatov Arra 109.45 318 PKiKP **PKiKP** **03 29 20.5 -1.0**
comp=Z,2.1nm,0.2s,baz=114,slow=2.2,SNR=5.3
BVAR Borovoye Array 114.63 320 PKP PKPdf 03 29 30.0 -1.3
comp=Z,1.4nm,0.7s,baz=135,slow=1.0,SNR=6.3
BVAR Borovoye Array 114.63 320 PKIKP PKPdf 03 29 30.0 -1.3
BRVK Borovoye 114.69 320 *ce*PKiKP **PKiKP** **03 29 33.3 +1.9**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BINY Binghamton 115.83 52 P **PKPdf** **03 29 32.8 -1.2**
baz=267
LONY Lake Ozonia 116.94 49 P **PKPdf** **03 29 34.6 -1.4**
baz=269
ARU Arti 121.08 325 **PKPdf** **03 29 42.3 -1.3**
ARU Arti 121.08 325 *ce*PKIKP **PKiKP** **03 29 44.0 +0.3**
ARU pmax pmax
comp=Z,17nm,1.7s
GEYT Alibeck 123.50 303 PKP **PKPdf** **03 29 48.6 -0.3**
comp=Z,3.2nm,0.9s,baz=101,slow=2.9,SNR=5.0
GEYT Alibeck 123.50 303 PKPdf **PKPdf** **03 29 47.4 -1.5**
BDFB Brasilia 124.39 126 PKP **PKPdf** **03 29 51.6 +0.3**
comp=Z,1.6nm,0.6s,baz=205,slow=20,SNR=4.7
KIRV Kirov 125.16 329 *e* iPKiKP **PKiKP** **03 29 53.6 +1.9**
PRGR Permogore 125.58 333 *e*PKIKP **PKPdf** **03 29 51.2 -0.8**
PRGR pmax pmax
comp=Z,10.0nm,1.3s
BELG Belogornoye 128.32 322 *i* PKiKP **PKiKP** **03 29 58.9 +0.7**
KLMR Klimovskoe 128.51 335 *e*PKPdf **PKPdf** **03 29 57.9 +0.2**
KLMR AMP 03 29 59.9
comp=Z,44nm,1.7s
KLMR Klimovskoe 128.51 335 *e*PKIKP **PKPdf** **03 29 57.9 +0.2**
KLMR pmax pmax
comp=Z,44nm,1.7s
AKT Akhty 131.12 309 *e*PKIKP **PKPdf** **03 30 03.5 +0.1**
AKT *e* 03 32 19.3
AKT pmax pmax
comp=Z,17nm,1.6s
VRH Novokhopyorsk 132.17 323 *e*PKIKP **PKPdf** **03 30 04.2 -0.7**
VRH pmax pmax
comp=Z,7.0nm,0.9s
OBN Obninsk 133.00 329 *e*PKIKP **PKPdf** **03 30 06.8 +0.5**
OBN *e* 03 32 33.0
OBN *e*PPP PPP 03 35 25.2
OBN pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 133.09 325 *e*PKIKP **PKiKP** **03 30 08.8 +1.0**
LPSR pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 133.61 324 *e*PKIKP **PKPdf** **03 30 05.7 -1.9**
VSR pmax pmax
comp=Z,10.0nm,1.2s
KIV Kislovodsk 134.14 313 *e*PKIKP **PKiKP** **03 30 10.3 -0.1**
KIV *e* 03 32 40.4
KIV *e*PPP PPP 03 35 33.9
KIV pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 134.81 248 PKP **PKPdf** **03 30 10.7 -0.7**
comp=Z,4.1nm,0.9s,baz=3.6,slow=3.2,SNR=7.7
KMBO Kilima Mbogo 134.81 248 *ce*PKIKP **PKPdf** **03 30 11.5 +0.1**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
NACGM Naroch 137.53 334 *e*PKP **PKiKP** **03 30 19.9 +3.2**
comp=Z,17nm,1.2s,baz=45
AKASG Malin Array Be 139.19 328 PKP **PKPdf** **03 30 17.9 -0.1**
comp=Z,0.7nm,0.5s,baz=43,slow=3.4,SNR=2.1
BRTR Keskin Array B 141.91 310 PKP **PKPdf** **03 30 21.4 -2.1**
comp=Z,2.1nm,1.0s,baz=354,slow=1.2,SNR=6.5
VLDR Vladesti 142.68 322 ⇑P PKPdf 03 30 15.1 -9.3
BURAR Bucovina Array 143.18 327 ⇓P **PKiKP** **03 30 28.0 -0.7**
BURAR Bucovina Array 143.18 327 ⇓PKIKP **PKiKP** **03 30 28.0 -0.7**
HARR Harsova 143.41 321 ⇑P **PKPdf** **03 30 25.2 -0.6**
HARR Harsova 143.41 321 ⇑PKIKP **PKPdf** **03 30 25.2 -0.6**
UZH Uzhgorod 143.93 330 *e*PKIKP PKPbc 03 30 25.5 +1.2
UZH *i* 03 30 27.6
UZH *e* 03 30 32.2
MLR Muntele Rosu 144.10 323 ⇑P PKPbc 03 30 25.4 +0.3
MLR Muntele Rosu 144.10 323 PKPdf PKPbc 03 30 25.5 +0.3
MLR Muntele Rosu 144.10 323 PKIKP PKPbc 03 30 25.5 +0.3
BORA Eskisehir 144.11 312 PKPdf **PKPab** **03 30 24.7 -0.2**
DOPR Dopca 144.12 324 ⇑P PKPbc 03 30 25.5 +0.4
SECR 144.30 323 ⇑P **PKPab** **03 30 25.6 +0.3**
SULR 144.40 322 ⇑P **PKPab** **03 30 25.4 -0.3**
PRD Provadia 144.54 319 P **PKPdf** **03 30 27.7 -0.1**
CJR Cluj-Napoca 144.60 327 ⇑P **PKPdf** **03 30 28.7 +0.8**
CJR Cluj-Napoca 144.60 327 ⇑PKIKP **PKPdf** **03 30 28.7 +0.8**
VOIR 144.63 324 ⇑P PKPbc 03 30 27.4 +0.6
VOIR 144.63 324 ⇑PKIKP PKPbc 03 30 27.4 +0.6
KSP Ksiaz 144.72 338 *e*PKPdf **PKPab** **03 30 26.8 +0.2**
OKC Ostrava-Krasne 144.83 335 *e*PKP PKPbc 03 30 27.8 +0.7
OKC Ostrava-Krasne 144.83 335 *e*PKIKP PKPbc 03 30 27.8 +0.7
KECS Kecovo 144.87 332 *e*PKIKP **PKPdf** **03 30 28.6 +0.4**
KECS Kecovo 144.87 332 *e*PKP **PKPdf** **03 30 28.6 +0.4**
MARR Marisel-Cluj 144.87 327 ⇑P **PKPdf** **03 30 29.9 +1.5**
ISP Isparta 144.87 309 **PKPab** **03 30 27.1 -0.7**
ISP Isparta 144.87 309 PKIKP **PKPab** **03 30 27.1 -0.7**
RAZG Razgrad 144.89 320 ⇑P **PKPab** **03 30 27.7 +0.2**
ARR Arges 144.91 324 ⇑P **PKPdf** **03 30 28.4 -0.1**
OSTC Ostas 144.98 338 *e*PKP PKPbc 03 30 28.0 +0.3
FLTG Flechtingen 145.00 344 *e*PKPbc **PKPab** **03 30 26.3 -1.3**
baz=22,slow=3.0
DRGR 145.00 328 ⇑P **PKPbc** **03 30 27.8 -0.1**
DRGR 145.00 328 ⇑PKIKP **PKPbc** **03 30 27.8 -0.1**
JAWL J.Aulia 145.08 269 *i* P **PKPbc** **03 30 28.6 -0.4**
JAWL *i* 03 30 38.7
baz=348,slow=22
JAWL J.Aulia 145.08 269 *i* P **PKPbc** **03 30 28.6 -0.4**
JAWL 03 30 38.7
baz=348,slow=22
RETH Rethem/Aller, 145.09 346 *e*PKPbc **PKPbc** **03 30 27.2 -0.7**
baz=22,slow=3.0
UPC Upice 145.10 338 *e*PKP **PKPab** **03 30 28.5 +0.5**
UPC Upice 145.10 338 *e*PKIKP **PKPab** **03 30 28.5 +0.5**
DPC Dobruska-Polom 145.11 337 *e*PKP **PKPab** **03 30 28.5 +0.3**
DPC Dobruska-Polom 145.11 337 *e*PKIKP **PKPab** **03 30 28.5 +0.3**
MORC Moravsky Berou 145.12 336 *e*PKP **PKPdf** **03 30 29.1 +0.4**
NRDL Niedersach Rie 145.13 345 *e*PKPbc **PKPab** **03 30 28.4 +0.4**
baz=22,slow=3.0
KRLC Kraliky 145.17 337 *e*PKIKP **PKPdf** **03 30 31.0 +2.2**
ASSE Asse, Remlinge 145.33 344 *e*PKPbc **PKPbc** **03 30 27.9 -0.7**
baz=22,slow=3.0
LOT Lotru 145.33 325 ⇑P **PKiKP** **03 30 32.0 -1.2**
SZH Strazhica 145.40 320 P **PKPbc** **03 30 29.5 +0.3**
CLL Collm 145.41 341 *i* PKPbc **PKPbc** **03 30 28.9 -0.1**
comp=Z,106nm,1.0s
CLL *i* (PKiKP) 03 30 35.7
comp=Z,102nm,1.0s
CLL *e*SKPdf **SKPdf** **03 34 04.0 +0.5**
CLL Collm 145.41 341 *i* PKIKP **PKPbc** **03 30 28.9 -0.1**
CLL *i* 03 30 35.7
CLL pmax pmax
comp=Z,106nm,1.0s
CLL Collm 145.41 341 *e*PKPbc **PKPbc** **03 30 27.9 -1.1**
baz=22,slow=3.0
JMB Yambol 145.44 319 P **PKPab** **03 30 30.2 +0.6**
BRG Berggiesshubel 145.49 340 *i* PKP **PKPab** **03 30 29.7 +0.2**
BRG Amp 03 30 31.5
comp=Z,20nm,0.8s
BRG Berggiesshubel 145.49 340 P **PKiKP** **03 30 32.2 -1.0**
BRG Amp 03 30 33.0
comp=Z,88nm,1.1s
BRG Berggiesshubel 145.49 340 P **PKiKP** **03 30 36.7 +3.5**
BRG Amp 03 30 37.7
comp=Z,57nm,1.0s
BRG Berggiesshubel 145.49 340 *i* PKIKP **PKPab** **03 30 29.7 +0.2**
BRG 03 30 32.2
BRG 03 30 36.7
BRG pmax pmax
comp=Z,21nm,0.9s
BRG pmax pmax
comp=Z,88nm,1.1s
BRG pmax pmax
comp=Z,57nm,1.0s
BRG Berggiesshubel 145.49 340 *e*PKPbc **PKPdf** **03 30 28.5 -0.7**
baz=22,slow=3.0
DEV Deva 145.51 326 ⇑P **PKiKP** **03 30 32.9 -0.5**
DEV Deva 145.51 326 ⇑PKIKP **PKiKP** **03 30 32.9 -0.5**
PSZ Piszkesteto 145.56 331 ⇑P **PKPdf** **03 30 28.7 -0.8**
PSZ Piszkesteto 145.56 331 ⇑PKIKP **PKPdf** **03 30 28.7 -0.8**
PVCC Panska Ves 145.58 339 *e*PKP **PKiKP** **03 30 32.8 -0.6**
PVCC Panska Ves 145.58 339 *e*PKIKP **PKiKP** **03 30 32.8 -0.6**
VYHS Vyhne 145.59 333 *e*PKIKP **PKPbc** **03 30 29.9 +0.2**
VYHS Vyhne 145.59 333 *e*PKP **PKPbc** **03 30 29.9 +0.2**
VYHS *e* 03 54 57.8
CLZ Clausthal 145.67 344 *e*PKPbc **PKPdf** **03 30 29.2 -0.4**
baz=22,slow=3.0
PVL Pavlikeni 145.79 321 P **PKPab** **03 30 32.3 +1.5**
JAVC Velka Javorina 145.79 334 *e*PKP **PKiKP** **03 30 33.3 -0.7**
IBBN Ibbenburen 145.84 347 *e*PKPbc **PKPdf** **03 30 29.4 -0.3**
baz=22,slow=3.0
NEUB Neuenburg 145.86 342 *e*PKPbc **PKPdf** **03 30 29.9 +0.1**
baz=22,slow=3.0
VRAC Vranov 145.86 336 *e*PKP **PKPab** **03 30 32.0 +1.1**
SIRR Siria 145.89 328 ⇑P **PKiKP** **03 30 33.4 -0.8**
GZR Gura Zlata 145.90 326 ⇑P **PKPdf** **03 30 30.4 +0.2**
GZR Gura Zlata 145.90 326 ⇑PKIKP **PKPdf** **03 30 30.4 +0.2**
SURR Surduc 146.00 327 ⇑P **PKPbc** **03 30 31.4 +0.4**
GOPC GO Pecny, Ondr 146.03 338 *e*PKP **PKPab** **03 30 32.9 +1.4**
GOPC GO Pecny, Ondr 146.03 338 *e*PKP2 **PKPab** **03 30 32.9 +1.4**
GTTG Gottingen 146.04 344 *e*PKPbc **PKPdf** **03 30 30.5 +0.3**
baz=22,slow=3.0
PRU Pruhonice 146.05 339 *e*PKP **PKPdf** **03 30 30.7 +0.5**
PRU Pruhonice 146.05 339 *e*PKP2 **PKPdf** **03 30 30.7 +0.5**
PLVB Pleven 146.11 321 ⇑P **PKPdf** **03 30 31.0 +0.5**
KRUC Moravsky 146.14 336 *e*PKP **PKPab** **03 30 32.1 +0.1**
DIM Dimitrovgrad 146.32 319 P **PKPab** **03 30 33.9 +1.0**
MODS Modra-Piesok 146.34 334 *e*PKP2 **PKPab** **03 30 33.5 +0.7**
MODS Modra-Piesok 146.34 334 *e*PKP **PKPab** **03 30 33.5 +0.7**
TANN Tannenbergstha 146.36 341 *e*PKPbc **PKPbc** **03 30 32.0 -0.1**
baz=22,slow=3.0
BZS Buzias 146.36 327 ⇑P **PKPdf** **03 30 30.3 -0.6**
BZS Buzias 146.36 327 ⇑PKIKP **PKPdf** **03 30 30.3 -0.6**
WERD Werda 146.38 341 *e*PKPbc **PKPbc** **03 30 32.0 -0.1**
baz=22,slow=3.0
PLN Plauen 146.39 341 *e*PKPbc **PKPbc** **03 30 32.0 -0.1**
baz=22,slow=3.0
MOX Moxa 146.41 342 *e*PKPbc **PKPbc** **03 30 31.9 -0.2**
baz=22,slow=3.0
HERR Herculane 146.43 325 ⇑P **PKPdf** **03 30 31.9 +0.9**
GUNZ Gunzen 146.44 341 *e*PKPbc **PKPbc** **03 30 32.3 +0.1**
baz=22,slow=3.0
WERN Wernitzgruen 146.50 341 *e*PKPbc **PKPbc** **03 30 32.6 +0.2**
baz=22,slow=3.0
DJES Djerdap 146.51 325 ⇓P **PKPab** **03 30 34.6 +1.0**
NKC Novy Kostel 146.52 341 *e*PKP **PKPab** **03 30 34.5 +1.1**
NKC Novy Kostel 146.52 341 *e*PKP2 **PKPab** **03 30 34.5 +1.1**
ZST Bratislava 146.55 334 *e*PKP2 **PKPab** **03 30 34.4 +0.9**
ZST Bratislava 146.55 334 *e*PKP **PKPab** **03 30 34.4 +0.9**
MPEP Malo Peshtene 146.65 322 P **PKPbc** **03 30 32.9 -0.1**
UBBA Unterbreizbach 146.70 344 *e*PKPbc **PKPbc** **03 30 33.3 +0.5**
baz=22,slow=3.0
KASTN Kahler Asten 146.73 346 *e*PKPbc **PKPbc** **03 30 32.9 -0.2**
baz=22,slow=3.0
PLD Plovdiv 146.80 319 P **PKPdf** **03 30 32.1 +0.4**
RDO Rodhopi 146.81 317 **PKPdf** **03 30 31.1 -0.7**
MANZ Manzenberg 146.84 341 *e*PKPbc **PKPbc** **03 30 33.7 +0.3**
baz=22,slow=3.0
MDVR Moldovita 146.87 326 ⇑P **PKPbc** **03 30 33.6 -0.1**
HLFA HLFA 146.91 281 *i* P **PKPdf** **03 30 33.0 +0.5**
HLFA *i* 03 30 35.2
baz=111,slow=12
HLFA HLFA 146.91 281 *i* P **PKPdf** **03 30 33.0 +0.5**
HLFA *i* 03 30 35.2
baz=111,slow=12
ROTZ Rotzenmuhle 147.01 341 *e*PKPbc **PKPbc** **03 30 33.4 -0.4**
baz=22,slow=3.0
KHC Kasperske Hory 147.11 339 *e*PKP **PKPbc** **03 30 34.4 +0.2**
KHC *ep*PKP **sPKPab** **03 30 40.5 +1.7**
KHC Kasperske Hory 147.11 339 *e*PKP2 **PKPbc** **03 30 34.4 +0.2**
CKRC Cesky Krumlov 147.12 338 *e*PKP **PKPbc** **03 30 35.1 +0.9**
CONA Conrad Observa 147.26 335 *e*PKiKP **PKPab** **03 30 36.7 +0.2**
comp=Z,37nm,1.3s,SNR=8.6
RONA Rosalia, Austr 147.27 334 PKP **PKPbc** **03 30 34.2 -0.5**
comp=Z,36nm,1.7s,SNR=11
GEC2 GERESS Array S 147.31 338 *e*PKPbc **PKPbc** **03 30 35.2 +0.3**
baz=22,slow=3.0
GERES GERESS Array B 147.31 338 PKPbc **PKPbc** **03 30 34.7 -0.1**
comp=Z,4.5nm,0.7s,baz=210,slow=1.1,SNR=6.2
GRF Grafenberg Arr 147.37 342 *e*PKPbc **PKPbc** **03 30 36.1 +1.2**
baz=22,slow=3.0
VTS Vitosha 147.39 321 ⇑P **PKPab** **03 30 37.6 +0.4**
VTS Vitosha 147.39 321 ⇑PKP2 **PKPab** **03 30 37.6 +0.4**
VTS Vitosha 147.39 321 P **PKPdf** **03 30 33.9 +1.0**
MORH Mrgy, Hungar 147.39 330 ⇑P **PKPbc** **03 30 35.5 +0.4**
FRGS Fruska Gora 147.59 328 ⇓P **PKiKP** **03 30 37.3 -0.5**
TNS Taunus Mts 147.64 345 *e*PKPbc **PKPbc** **03 30 35.9 +0.2**
baz=22,slow=3.0
BEBN Eben Emael 147.69 349 *d*PKP **PKiKP** **03 30 37.2 -0.5**
MMB Musomiste 147.70 319 P **PKPdf** **03 30 33.8 +0.5**
BTNL Ternell 147.80 348 *d*PKP **PKPbc** **03 30 36.0 -0.1**
MEM Membach 147.80 348 *d*PKP **PKPbc** **03 30 37.3 +1.3**
BSTI Sart Tilman 147.91 349 *d*PKP **PKiKP** **03 30 38.3 +0.1**
KKB Krupnik 147.93 320 P **PKPbc** **03 30 36.7 0.0**
MOA Molln 147.94 337 *e*PKiKP **PKiKP** **03 30 38.5 +0.1**
comp=Z,26nm,1.1s,SNR=5.8
ARSA Arzberg 147.95 335 *e*PKiKP **PKiKP** **03 30 38.7 +0.2**
comp=Z,16nm,1.1s
BHOU Houvegnez 148.05 348 *d*PKP **PKPbc** **03 30 37.7 +1.0**
BCLA Clavier 148.12 349 *d*PKP **PKPbc** **03 30 37.1 +0.3**
BIOA Bad Ischl, Aus 148.31 337 *e*PKP **PKPbc** **03 30 36.4 -1.1**
comp=Z,15nm,1.7s
BMRD Maredsous 148.33 349 *d*PKP **PKiKP** **03 30 38.6 -0.4**
RCHB Rochefort 148.38 349 *d*PKP **PKPbc** **03 30 38.2 +0.7**
DOU Dourbes 148.55 350 *d*PKP **PKPbc** **03 30 38.0 0.0**
SOKA Soboth 148.61 335 *e*PKiKP **PKiKP** **03 30 39.7 -0.2**
comp=Z,22nm,1.5s
WLF Walferdange 148.67 347 PKPdf **PKPdf** **03 30 32.9 -1.7**
WLF Walferdange 148.67 347 PKHKP PKPpre 03 30 32.9
WLF Walferdange 148.67 347 *d*PKP **PKiKP** **03 30 40.1 +0.3**
WLF Walferdange 148.67 347 *e*PKPbc **PKPbc** **03 30 38.0 -0.3**
baz=22,slow=3.0
FUR Furstenfeldbru 148.71 340 *e*PKPbc **PKPbc** **03 30 37.7 -0.8**
baz=22,slow=3.0
STU Stuttgart 148.78 343 *e*PKPbc **PKPbc** **03 30 38.0 -0.7**
baz=22,slow=3.0
KBA Koelnbreinsper 148.93 337 *e*PKiKP **PKPbc** **03 30 39.7 +0.4**
comp=Z,17nm,1.6s
OBKA Obir 148.94 335 *e*PKiKP **PKiKP** **03 30 40.5 -0.1**
MYKA Terra Mystica 149.19 336 *e*PKiKP **PKiKP** **03 30 41.1 0.0**
comp=Z,22nm,0.9s
WATA Walderalm 149.34 339 *e*PKiKP **PKiKP** **03 30 41.6 +0.2**
comp=Z,24nm,1.0s
WTTA Wattenberg 149.38 339 *e*PKiKP **PKiKP** **03 30 41.6 0.0**
comp=Z,41nm,1.3s,SNR=8.3
BFO Black Forest 149.41 344 PKPdf **PKPdf** **03 30 32.9 -3.0**
BFO Black Forest 149.41 344 PKIKP **PKPdf** **03 30 32.9 -3.0**
BFO Black Forest 149.41 344 *e*PKPbc **PKPbc** **03 30 39.2 -1.1**
baz=22,slow=3.0
RETA Reutte 149.47 340 *e*PKiKP **PKiKP** **03 30 42.4 +0.8**
comp=Z,27nm,1.1s
MOTA Moosalm 149.48 340 *e*PKiKP **PKPbc** **03 30 41.4 +0.7**
comp=Z,26nm,0.9s,SNR=6.8
ABTA Abfaltersbach 149.52 338 *e*PKiKP **PKiKP** **03 30 41.9 +0.1**
comp=Z,24nm,1.0s,SNR=8.6
SQTA Sankt Quirin 149.56 340 PKP **PKPbc** **03 30 40.6 -0.2**
comp=Z,3.7nm,0.6s
FETA Feichten 149.89 340 PKP **PKPbc** **03 30 40.9 -0.8**
comp=Z,27nm,1.0s
DAVA Damuels 149.92 341 *e*PKiKP **PKiKP** **03 30 43.1 +0.4**
comp=Z,16nm,1.2s
FUORN Ofenpass-Fuorn 150.40 340 PKPdf **PKPdf** **03 30 36.2 -1.6**
ESDC Sonseca Array 159.71 0 PKPab **PKPab** **03 31 29.1 +0.2**
comp=Z,1.0nm,0.9s,baz=351,slow=3.4,SNR=3.6
DBIC Dimbokro 167.39 176 PKP **PKPdf** **03 30 58.2 0.0**
comp=Z,3.5nm,0.8s,baz=74,slow=2.0,SNR=6.2
DBIC PKPab **PKPab** **03 32 02.9 -0.1**
comp=Z,6.0nm,0.8s,baz=174,slow=3.5,SNR=5.9

*JMA **04** 03:33:54.5±0.1, 36°.4N±0°.3×141°.0E±0°.8, h46km±1km, MV3.4/39, E OFF IBARAKI PREF .*
JMA Felt I J1 at E OFF IBARAKI PREF .
*IDC **04** 03:33:55.6±1.9, 36°.37N×141°.03E, h47km±20km, mb3.5/9, mbtmp3.7/12, ML3.3/3, Error ellipse: s-maj=22.7km s-min=13.5km az=92.0*
ISC 04 03:33:54.6±1.0, 36°.41N±0°.04×141°.10E±0°.07, h37km±2km, n36, σ1°.916/38, mb3.7/9, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JHYU	**Hitachinakayam**	**0.42**	**261**	⇓P		**Pn**	**03 34 04.0**	**+0.1**
JHYU				⇓S		**Sn**	**03 34 10.6**	**-0.2**
JHO	**Hitachi**	**0.47**	**296**	⇓P		**Pn**	**03 34 04.5**	**-0.3**
JHO				⇓S		**Sn**	**03 34 11.5**	**-0.5**
JIHU	**Itakohorinouch**	**0.64**	**227**	P		**Pn**	**03 34 07.4**	**+0.1**
JIHU				S		**Sn**	**03 34 16.6**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.73**	**341**	*i* P		**Pn**	**03 34 08.2**	**-0.4**
ONAJ				⇓S		**Sn**	**03 34 17.4**	**-1.1**
JYT	**Yasato**	**0.75**	**257**	*i* P		**Pn**	**03 34 08.0**	**-0.7**
JYT				⇓S		**Sn**	**03 34 17.4**	**-1.4**
JFK	**Kawauchi**	**0.98**	**350**	*i* P		**Pn**	**03 34 11.4**	**-0.4**
JFK				⇓S		**Sn**	**03 34 23.3**	**-1.2**
JAG	**Ashikaga**	**1.33**	**271**	*i* P		**Pn**	**03 34 16.3**	**-0.3**
JMM	**Marumori**	**1.48**	**351**	P		**Pn**	**03 34 19.3**	**+0.6**
JMM	**Marumori**	**1.48**	**351**	⇓P		**Pn**	**03 34 18.8**	**+0.1**
JMM				⇓S		**Sn**	**03 34 36.9**	**+0.2**
JFY	**Yanaizu**	**1.50**	**312**	⇓P		**Pn**	**03 34 19.5**	**+0.6**
JKT	**Katashina**	**1.53**	**284**	⇓*i* P		**Pn**	**03 34 19.9**	**+0.4**
JKT				⇓S		**Sn**	**03 34 39.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.33**	**274**	P		**Pn**	**03 34 30.8**	**+0.3**
	3.0nm,0.3s,baz=110,slow=9.6,SNR=185							
	36nm,0.7s							
MAJO	**Matsushiro**	**2.33**	**274**	P		**Pn**	**03 34 31.7**	**+1.2**
JSD	**Sado**	**2.79**	**307**	P		**Pn**	**03 34 37.4**	**+0.7**
JGF	**Kuroka**	**3.14**	**256**	P		**Pn**	**03 34 44.2**	**+2.7**
JHJ	**Hachijo jima 2**	**3.45**	**199**	P		**Pn**	**03 34 47.5**	**+1.7**
	9.9nm,0.3s,baz=84,slow=18,SNR=2.1							
JHJ				S		**Sn**	**03 35 25.5**	**0.0**
	80nm,0.3s,baz=246,slow=23,SNR=6.3							
	144nm,0.8s							
INU	**Inuyama**	**3.48**	**254**	P		Pn	03 34 51.1	+5.0
JTM	**Tennabayashi**	**4.38**	**360**	P		**Pn**	**03 35 00.6**	**+2.1**
JEM	**Erimo**	**5.83**	**15**	P		**Pn**	**03 35 20.9**	**+2.5**
JHS	**Saijyo**	**6.64**	**260**	P		**Pn**	**03 35 33.0**	**+3.3**
ASAJ	**Asahikawa**	**7.79**	**8**	P		**Pn**	**03 35 45.7**	**+0.4**
	0.7nm,0.3s,baz=249,slow=11,SNR=4.8							
	1.9nm,0.3s							
SONM	**Songino Array**	**27.93**	**305**	P		**P**	**03 39 40.5**	**-0.8**
	1.1nm,0.8s,baz=107,slow=8.6,SNR=8.8							
	1.1nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.05**	**119**	T		T	04 09 18.7	
	baz=312,slow=75,SNR=42							
H11N1	**WAKE ISLAND Hy**	**28.06**	**119**	T		T	04 09 20.5	
	baz=312,slow=75,SNR=29							
H11N3	**WAKE ISLAND Hy**	**28.07**	**119**	T		T	04 09 22.6	
	baz=312,slow=75,SNR=40							
H11S1	**WAKE ISLAND Hy**	**28.74**	**121**	T		T	04 10 05.6	
	baz=314,slow=76,SNR=128							
H11S3	**WAKE ISLAND Hy**	**28.74**	**122**	T		T	04 09 56.6	
	baz=314,slow=76,SNR=85							
H11S2	**WAKE ISLAND Hy**	**28.76**	**122**	T		T	04 10 09.9	
	baz=314,slow=76,SNR=39							
ZALV	**Zalesovo Beam**	**42.15**	**313**	P		**P**	**03 41 43.1**	**-0.1**
	1.7nm,0.5s,baz=90,slow=8.9,SNR=7.4							
	1.7nm,0.5s							
MKAR	**Makanchi Array**	**44.24**	**303**	P		**P**	**03 42 00.3**	**+0.1**
	0.9nm,0.7s,baz=85,slow=8.4,SNR=9.6							
	0.9nm,0.7s							
ILAR	**Eielson Array**	**50.16**	**32**	P		**P**	**03 42 46.8**	**+0.7**
	0.8nm,0.8s,baz=276,slow=6.6,SNR=9.6							
	0.8nm,0.8s							
INK	**Inuvik**	**55.06**	**27**	P		**P**	**03 43 23.4**	**+1.3**
	0.8nm,0.7s,baz=305,slow=11,SNR=4.7							
	0.8nm,0.7s							
WRA	**Warramunga Arr**	**56.40**	**188**	P		**P**	**03 43 31.6**	**-0.8**
	0.8nm,0.8s,baz=8.5,slow=7.5,SNR=2.5							
	0.8nm,0.8s							
ASAR	**Alice Springs**	**60.13**	**188**	P		**P**	**03 43 58.2**	**-0.1**
	0.4nm,0.7s,baz=24,slow=7.1,SNR=1.2							
	0.4nm,0.7s							
YKA	**Yellowknife Ar**	**64.48**	**30**	P		**P**	**03 44 26.2**	**-0.8**
	0.4nm,0.8s,baz=299,slow=7.0,SNR=6.3							
	0.4nm,0.8s							
AKASG	**Malin Array Be**	**74.64**	**322**	P		**P**	**03 45 29.5**	**-0.3**
	0.3nm,0.4s,baz=45,slow=5.6,SNR=4.0							
	0.3nm,0.4s							

*IDC **04** 03:35:13.1±1.0, 18°.97S×175°.83E, h0km, mb4.0/7, mbtmp4.1/8, ML4.7/1, MS4.1/13, Error ellipse: s-maj=39.1km s-min=22.6km az=146.0*
ISC 04 03:35:14.4±0.7, 19°.0S±0°.2×176°.1E±0°.1, h10km, n39, σ2s00/23, mb3.9/7, MS4.1/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MSVF	**Nonsavu**	**2.23**	**56**	Pn		**Pn**	**03 35 49.5**	**-2.1**
	29nm,0.3s,baz=250,slow=11,SNR=21							
MSVF				Sn		**Sn**	**03 36 17.0**	**-2.2**
	65nm,0.3s,baz=214,slow=15,SNR=6.5							
MSVF				LR	LR		03 36 46.0	
	comp=Z,3μm,18.6s,baz=321,slow=38							
DZM	**Mont Dzumac**	**9.56**	**250**	*e*Pn		**Pn**	**03 37 30.4**	**-1.9**
	214nm,1.6s							
DZM				*e*LR	LR		03 39 43.5	
	comp=Z,804nm,24.6s							
DZM	**Mont Dzumac**	**9.56**	**250**	Pn		**Pn**	**03 37 33.4**	**+1.1**
	0.

	comp=Z,374nm,21.2s,baz=92,slow=33							
PMG	**Port Moresby**	**29.61**	**285**	LR	LR	03 52 05.3		
	comp=Z,460nm,18.0s,baz=150,slow=34							
TBI	**Tubuai**	**32.34**	**104**	*e*LR	LR	03 50 12.0		
	comp=Z,3μm,29.8s							
TBI				*e*LR	LR	03 50 12.6		
	comp=Z,8μm,26.8s							
PPT2	**Papeete2**	**32.57**	**93**	*e*LR	LR	03 50 18.0		
	comp=Z,535nm,27.0s							
PPT2				*e*LR	LR	03 50 18.4		
	comp=Z,658nm,25.5s							
PPT	**Papeete**	**32.58**	**93**	LR	LR	03 51 33.9		
	comp=Z,223nm,21.3s,baz=269,slow=30							
STKA	**Stephens Creek**	**33.55**	**241**	P	**P**	**03 41 53.5**	**-1.2**	
	2.8nm,0.7s,baz=99,slow=11,SNR=5.4							
STKA				LR	LR	03 53 27.4		
	comp=Z,177nm,21.2s,baz=44,slow=33							
	2.8nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**38.40**	**346**	T	T	04 23 35.2		
	baz=166,slow=76,SNR=58							
H11S3	**WAKE ISLAND Hy**	**38.41**	**346**	T	T	04 23 35.8		
	baz=166,slow=76,SNR=43							
H11S1	**WAKE ISLAND Hy**	**38.41**	**346**	T	T	04 23 36.6		
	baz=166,slow=76,SNR=55							
WRA	**Warramunga Arr**	**39.33**	**262**	P	**P**	**03 42 41.3**	**-2.8**	
	1.2nm,0.7s,baz=94,slow=9.2,SNR=10							
	1.2nm,0.7s							
ASAR	**Alice Springs**	**39.49**	**256**	P	**P**	**03 42 43.4**	**-2.2**	
	4.7nm,0.8s,baz=86,slow=8.7,SNR=42							
ASAR				PcP	**PcP**	**03 44 53.5**	**+0.2**	
	0.9nm,0.7s,baz=88,slow=3.2,SNR=4.1							
ASAR				LR	LR	03 57 03.8		
	comp=Z,303nm,21.4s,baz=49,slow=33							
	4.7nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**39.53**	**346**	T	T	04 24 58.7		
	baz=165,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**39.53**	**346**	T	T	04 24 58.4		
	baz=165,slow=76,SNR=15							
H11N2	**WAKE ISLAND Hy**	**39.55**	**346**	T	T	04 24 59.7		
	baz=165,slow=76,SNR=11							
TAOE	**Nuku Hiva Isla**	**43.52**	**83**	*e*LR	LR	03 55 20.8		
	comp=Z,267nm,25.7s							
RKT	**Rikitea**	**45.66**	**104**	*e*LR	LR	03 56 23.0		
	comp=Z,121μm,34.0s							
VNDA	**Vanda**	**58.97**	**184**	LR	LR	04 07 29.0		
	comp=Z,205nm,19.1s,baz=28,slow=33							
ILAR	**Eielson Array**	**88.20**	**15**	P	**P**	**03 48 04.6**	**-0.8**	
	0.4nm,0.7s,baz=230,slow=4.9,SNR=7.3							
	0.4nm,0.7s							
TXAR	**Lajitas Array**	**91.00**	**59**	P	**P**	**03 48 20.5**	**+1.1**	
	0.8nm,0.8s,baz=213,slow=5.5,SNR=8.7							
	0.8nm,0.8s							
SONM	**Songino Array**	**91.05**	**321**	P	**P**	**03 48 19.0**	**-0.2**	
	0.7nm,1.1s,baz=133,slow=4.7,SNR=4.1							
	0.7nm,1.1s							
PDAR	**Pinedale Array**	**91.77**	**45**	P	**P**	**03 48 25.0**	**+2.2**	
	0.1nm,0.4s,baz=278,slow=2.6,SNR=2.2							
	0.1nm,0.4s							
CONA	**Conrad Observa**	**146.98**	**335**	*e*PKP	**PKiKP**	**03 55 03.4**	**+3.4**	
	0.1nm,0.4s							
RONA	**Rosalia, Austr**	**147.00**	**335**	*e*PKP	**PKiKP**	**03 55 02.3**	**+2.3**	
	6.7nm,1.1s							
MYKA	**Terra Mystica**	**148.91**	**336**	*e*PKiKP	**PKPab**	**03 55 08.1**	**+1.5**	
	1.5nm,0.6s							
WATA	**Walderalm**	**149.05**	**339**	*e*PKiKP	**PKPab**	**03 55 08.2**	**+1.0**	
	8.2nm,1.5s							
WTTA	**Wattenberg**	**149.09**	**339**	PKP	**PKPab**	**03 55 10.6**	**+3.1**	
	11nm,1.7s							
RETA	**Reutte**	**149.18**	**340**	*e*PKiKP	**PKPab**	**03 55 07.8**	**+0.2**	
	11nm,1.6s							
ABTA	**Abfaltersbach**	**149.23**	**338**	*e*PKiKP	**PKPab**	**03 55 09.2**	**+1.3**	
	11nm,1.8s							
SQTA	**Sankt Quirin**	**149.27**	**340**	*i* PKP	**PKPab**	**03 55 11.2**	**+3.1**	
	4.1nm,0.9s							
FETA	**Feichten**	**149.60**	**340**	*e*PKP	**PKPdf**	**03 55 01.5**	**+1.6**	
	4.1nm,0.9s							
DAVA	**Damuels**	**149.63**	**341**	*e*PKP	**PKiKP**	**03 55 06.6**	**+1.0**	
	9.6nm,1.4s							

*HEL **04** 03:44:22.5±0.1, 67°.82N×20°.19E, h0km, ML1.2, Explosion*
*UPP **04** 03:44:22.0±0.0, 67°.84N×20°.20E, h0km, ML2.5, Confirmed Induced event*

ISC 04 03:44:21.2±0.8, 67°.82N±0°.02×20°.30E±0°.03, h0km, n20, σ0s75/33, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
RATU	**Laukkuluspa**	**0.27**	**271**	P		**Pg**	**03 44 26.6**	**+0.3**
RATU				S		**Sg**	**03 44 29.6**	**-0.1**
KOVU	**Salmi**	**0.41**	**353**	P		**Pg**	**03 44 29.4**	**+0.3**
KOVU				S		**Sg**	**03 44 34.6**	**+0.3**
NIKU	**Nikkaluokta**	**0.48**	**276**	P		**Pg**	**03 44 30.5**	**+0.1**
NIKU				S		**Sg**	**03 44 36.3**	**-0.3**
LANU	**Lannavaara**	**0.68**	**69**	P		**Pb**	**03 44 35.5**	**-0.4**
LANU				S		**Sb**	**03 44 44.7**	**-1.2**
LANU	**Lannavaara**	**0.68**	**69**	PG		**Pb**	**03 44 35.5**	**-0.4**
LANU				SG		**Sb**	**03 44 44.7**	**-1.2**
DUNU	**Dundret**	**0.71**	**171**	P		**Pg**	**03 44 35.6**	**+0.9**
MASU	**Masugnsbyn**	**0.75**	**118**	P		**Pb**	**03 44 36.9**	**-0.1**
SALU	**Saltoluokta**	**0.81**	**238**	P		**Pg**	**03 44 36.9**	**+0.1**
KIF	**Kilpisjarvi**	**1.21**	**9**	PG		**Pn**	**03 44 45.1**	**-0.2**
	baz=186							
KIF				MSG			03 45 00.3	
	comp=Z,2.3nm,0.2s							
KIF				SG		**Sb**	**03 45 00.6**	**-0.3**
PAJU	**Pajala**	**1.35**	**125**	P		**Pb**	**03 44 47.4**	**+0.1**
HEF	**Hetta**	**1.39**	**63**	PG		**Pb**	**03 44 48.2**	**+0.1**
HEF				MSG			03 45 05.5	
	comp=Z,1.3nm,0.2s							
HEF				SG		**Sn**	**03 45 06.6**	**-0.4**
ERTU	**Ertsjaerv**	**1.47**	**149**	PN		**Pb**	**03 44 50.2**	**+0.9**
	baz=336							
ERTU				SN		**Sn**	**03 45 10.1**	**+1.3**
KTK1	**Kautokeino**	**1.62**	**41**	PN		**Pg**	**03 44 52.5**	**+0.3**
KTK1				SN		**Sg**	**03 45 15.2**	**+2.0**
TRO	**Tromso**	**1.89**	**345**	PG		**Pb**	**03 44 56.2**	**-0.3**
TRO				SG		**Sg**	**03 45 21.8**	**0.0**
KALU	**Kalix**	**2.31**	**147**	SG		**Sg**	**03 45 34.8**	**-0.5**
TOF	**Tornio**	**2.36**	**136**	PB		**Pb**	**03 45 04.0**	**-0.4**
	baz=311							
TOF				MSG			03 45 33.2	
	comp=Z,0.9nm,0.2s							
TOF				SG		**Sg**	**03 45 36.2**	**-0.6**
SGF	**Sodankyl**	**2.41**	**96**	PG		**Pb**	**03 45 05.4**	**0.0**
SGF				SG		**Sg**	**03 45 38.0**	**-0.6**
RNF	**Rovaniemi**	**2.54**	**116**	PB		**Pb**	**03 45 06.7**	**-0.8**
RNF				SG		**Sb**	**03 45 40.2**	**+1.0**
KEV	**Kevo**	**3.12**	**48**	SB		**Sb**	**03 45 56.5**	**+0.5**
OBF4	**Vikkela, Lumij**	**3.59**	**145**	SG		**Sg**	**03 46 14.6**	**-1.6**

*IDC **04** 03:47:32.9±1.3, 1°.53N×123°.86E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=70.1km s-min=24.8km az=68.0*

ISC 04 03:47:59.2±1.3, 1°.5N±0°.2×124°.3E±0°.5, h250km, n6, σ0s53/6, mb3.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**23.47**	**156**	P		**P**	**03 52 46.7**	**-0.1**
	0.5nm,0.3s,baz=334,slow=10,SNR=7.3							
	0.5nm,0.3s							
USRK	**Ussuriysk Ar.**	**43.06**	**8**	P		**P**	**03 55 34.8**	**+0.2**
	0.9nm,0.4s,baz=181,slow=6.5,SNR=8.2							
	0.9nm,0.4s							
SONM	**Songino Array**	**48.69**	**344**	P		**P**	**03 56 18.2**	**-0.4**
	0.7nm,0.7s,baz=160,slow=9.9,SNR=6.1							
	0.7nm,0.7s							
MKAR	**Makanchi Array**	**58.05**	**327**	P		**P**	**03 57 25.9**	**-0.4**
	0.6nm,0.3s,baz=124,slow=7.9,SNR=17							
	0.6nm,0.3s							
ZALV	**Zalesovo Beam**	**61.51**	**335**	P		**P**	**03 57 49.4**	**-0.2**
	0.4nm,0.3s,baz=122,slow=14,SNR=2.1							
	0.4nm,0.3s							
BVAR	**Borovoye Array**	**67.89**	**328**	P		**P**	**03 58 31.5**	**+0.7**
	0.3nm,0.3s,baz=99,slow=8.9,SNR=2.6							
	0.3nm,0.3s							

*IDC **04** 03:51:52.2±0.9, 18°.90S×175°.77E, h0km, mb4.1/8, mbtmp4.1/9, ML4.1/1, Error ellipse: s-maj=37.5km s-min=26.1km az=141.0*

ISC 04 03:51:54.2±0.8, 18°.8S±0°.2×176°.1E±0°.1, h10km, n15, σ1s43/15, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MSVF	**Nonsavu**	**2.18**	**60**	Pn		**Pn**	**03 52 29.6**	**-1.0**
	10.0nm,0.3s,baz=262,slow=9.3,SNR=8.2							
MSVF				Sn		**Sn**	**03 52 57.7**	**0.0**
	9.1nm,0.3s,baz=137,slow=20,SNR=10							
URZ	**Urewera**	**19.37**	**178**	P		**P**	**03 56 19.2**	**-0.9**
	0.6nm,0.3s,baz=186,slow=1.7,SNR=6.0							
	12nm,0.7s							
ASAR	**Alice Springs**	**39.49**	**255**	P		P	03 59 21.6	-3.6
	2.2nm,0.8s,baz=83,slow=8.6,SNR=14							
	2.2nm,0.8s							
SEY	**Seymchan**	**83.61**	**349**	P		**P**	**04 04 22.5**	**+0.2**
	1.8nm,0.6s,baz=2.0,slow=19,SNR=7.9							
	1.8nm,0.6s							
NVAR	**Mina Array Bea**	**83.78**	**46**	P		**P**	**04 04 25.3**	**+1.2**
	0.3nm,0.3s,baz=229,slow=8.7,SNR=6.1							
	0.3nm,0.3s							
CMAR	**Chiang Mai Arr**	**84.31**	**292**	P		**P**	**04 04 26.7**	**-0.3**
	1.0nm,0.3s,baz=146,slow=3.0,SNR=4.2							
	1.0nm,0.3s							
ILAR	**Eielson Array**	**88.05**	**15**	P		**P**	**04 04 43.2**	**-1.2**
	1.1nm,0.9s,baz=226,slow=5.1,SNR=13							
	1.1nm,0.9s							
SONM	**Songino Array**	**90.89**	**321**	P		**P**	**04 04 57.4**	**-0.8**
	0.6nm,1.0s,baz=101,slow=7.5,SNR=4.1							
	0.6nm,1.0s							
TXAR	**Lajitas Array**	**90.95**	**59**	P		**P**	**04 05 00.3**	**+1.4**
	0.7nm,0.8s,baz=220,slow=5.3,SNR=7.9							
	0.7nm,0.8s							
YKA	**Yellowknife Ar**	**97.41**	**26**	P		**P**	**04 05 27.6**	**-0.1**
	0.3nm,0.8s,baz=242,slow=4.8,SNR=3.6							
	0.3nm,0.8s							
MORC	**Moravsky Berou**	**144.66**	**336**	*e*PKP		**PKPab**	**04 11 29.8**	**0.0**
CLL	**Collm**	**144.94**	**341**	*i* PKPbc		**PKPab**	**04 11 30.4**	**-0.3**
	comp=Z,13nm,0.9s							
CLL				*e*(PKiKP)			04 11 37.0	
VRAC	**Vranov**	**145.41**	**336**	*e*PKP		**PKPbc**	**04 11 31.5**	**-0.9**
KRUC	**Moravsky**	**145.69**	**336**	*e*PKP		**PKPdf**	**04 11 32.7**	**-0.2**
DAVOX	**Davos/Dischmat**	**149.91**	**341**	PKPbc		**PKPdf**	**04 11 44.2**	**+4.0**
	comp=Z,2.5nm,0.6s,baz=195,slow=0.8,SNR=7.9							

*IDC **04** 03:52:46.5±1.9, 18°.78S×175°.83E, h0km, mb3.9/6, mbtmp3.9/6, MS3.6/1, Error ellipse: s-maj=93.8km s-min=28.6km az=150.0*

ISC 04 03:52:47.1±1.3, 18°.9S±0°.4×176°.1E±0°.2, h10km, n16, σ1s51/10, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MSVF	**Nonsavu**	**2.17**	**58**	Pn		**Pn**	**03 53 22.2**	**-1.1**
	16nm,0.3s,baz=102,slow=23,SNR=2.1							
MSVF				Sn		**Sn**	**03 53 49.1**	**-1.2**
	26nm,0.3s,baz=124,slow=16,SNR=4.4							
DZM	**Mont Dzumac**	**9.61**	**249**	LR		LR	03 58 18.4	
	comp=Z,324nm,18.8s,baz=20,slow=35							
STKA	**Stephens Creek**	**33.61**	**241**	P		**P**	**03 59 27.0**	**-0.8**
	1.8nm,0.8s,baz=75,slow=16,SNR=1.9							
	1.8nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**38.30**	**345**	T		T	04 41 03.5	
	baz=166,slow=76,SNR=4.3							
H11S3	**WAKE ISLAND Hy**	**38.31**	**345**	T		T	04 41 00.3	
	baz=166,slow=76,SNR=9.9							
H11S1	**WAKE ISLAND Hy**	**38.32**	**345**	T		T	04 41 01.1	
	baz=166,slow=76,SNR=5.0							
WRA	**Warramunga Arr**	**39.35**	**261**	P		**P**	**04 00 15.7**	**-1.3**
	0.5nm,0.8s,baz=95,slow=8.4,SNR=2.0							
	0.5nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**39.44**	**346**	T		T	04 42 24.0	
	baz=169,slow=74,SNR=4.8							
H11N3	**WAKE ISLAND Hy**	**39.44**	**346**	T		T	04 42 28.1	
	baz=169,slow=74,SNR=3.9							
H11N2	**WAKE ISLAND Hy**	**39.45**	**346**	T		T	04 42 29.8	
	baz=169							
ASAR	**Alice Springs**	**39.52**	**256**	P		**P**	**04 00 17.2**	**-1.3**
	1.3nm,0.8s,baz=84,slow=9.0,SNR=2.1							
	1.3nm,0.8s							
ILAR	**Eielson Array**	**88.10**	**15**	P		**P**	**04 05 37.2**	**-0.3**
	0.8nm,1.0s,baz=231,slow=5.3,SNR=2.1							
	1.0nm,1.0s							
TXAR	**Lajitas Array**	**90.94**	**59**	P		**P**	**04 05 54.0**	**+2.3**
	1.1nm,1.0s,baz=224,slow=3.5,SNM=5.4							
	1.1nm,1.0s							
SONM	**Songino Array**	**90.98**	**321**	P		**P**	**04 05 52.2**	**+0.7**
	0.2nm,0.4s,baz=122,slow=5.4,SNM=3.7							
	0.2nm,0.4s							
DPC	**Dobruska-Polom**	**144.74**	**337**	*e*PKP		**PKPab**	**04 12 23.9**	**+0.9**
KHC	**Kasperske Hory**	**146.73**	**339**	*e*PKP		**PKPdf**	**04 12 29.2**	**+1.6**

*IDC **04** 03:57:10.7±0.9, 19°.07S×175°.81E, h0km, mb4.1/10, mbtmp4.2/12, ML3.4/2, Error ellipse: s-maj=34.0km s-min=18.9km az=144.0*

ISC 04 03:57:12.9±0.7, 19°.1S±0°.2×175°.8E±0°.1, h10km, n28, σ2s12/23, mb4.1/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MSVF	**Nonsavu**	**2.52**	**59**	Pn		Pn	03 57 47.6	-6.4
	9.1nm,0.3s,baz=250,slow=8.6,SNR=14							
DZM	**Mont Dzumac**	**9.25**	**249**	Pn		**Pn**	**03 59 27.6**	**+1.0**
	0.1nm,0.3s,baz=86,slow=15,SNR=7.9							
	20nm,1.1s							
URZ	**Urewera**	**19.18**	**177**	P		**P**	**04 01 36.5**	**-0.1**
	0.3nm,0.3s,baz=63,slow=23,SNR=4.0							
	13nm,0.8s							
STKA	**Stephens Creek**	**33.26**	**241**	P		**P**	**04 03 49.5**	**-1.1**
	3.4nm,0.8s,baz=96,slow=7.1,SNR=5.3							
	3.4nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**38.36**	**346**	T		T	04 45 32.7	
	baz=166,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**38.37**	**346**	T		T	04 45 33.3	
	baz=166,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**38.38**	**346**	T		T	04 45 34.1	
	baz=166,slow=76,SNR=12							
WRA	**Warramunga Arr**	**39.01**	**262**	P		**P**	**04 04 38.6**	**-1.4**
	1.4nm,0.8s,baz=94,slow=9.0,SNR=7.1							
	1.4nm,0.8s							
ASAR	**Alice Springs**	**39.18**	**256**	P		**P**	**04 04 40.5**	**-0.9**
	8.1nm,0.9s,baz=85,slow=8.8,SNR=43							
ASAR				PcP		**PcP**	**04 06 49.4**	**-1.4**
	1.4nm,0.9s,baz=88,slow=3.0,SNR=6.0							
	8.1nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**39.50**	**347**	T		T	04 46 53.0	
	baz=162,slow=74,SNR=4.7							
H11N3	**WAKE ISLAND Hy**	**39.50**	**347**	T		T	04 46 53.7	
	baz=162,slow=74,SNR=4.4							
H11N2	**WAKE ISLAND Hy**	**39.51**	**347**	T		T	04 46 38.5	
	baz=162							
MJAR	**Matsushiro Arr**	**65.71**	**327**	P		**P**	**04 07 58.0**	**+0.2**
	2.1nm,0.9s,baz=168,slow=6.4,SNR=4.6							
	2.1nm,0.9s							
SEY	**Seymchan**	**83.76**	**349**	P		**P**	**04 09 41.3**	**-0.5**
	0.9nm,0.2s,baz=158,slow=6.9,SNR=5.6							
	0.9nm,0.2s							
NVAR	**Mina Array Bea**	**84.12**	**46**	P		**P**	**04 09 44.2**	**-0.4**
	0.9nm,0.8s,baz=222,slow=6.7,SNR=6.2							
	0.9nm,0.8s							
ILAR	**Eielson Array**	**88.33**	**15**	P		**P**	**04 10 02.6**	**-1.8**
	1.0nm,0.9s,baz=237,slow=6.1,SNR=9.9							
	1.0nm,0.9s							
SONM	**Songino Array**	**90.88**	**321**	P		**P**	**04 10 17.2**	**+0.3**
	1.0nm,1.0s,baz=138,slow=5.2,SNR=5.3							
	1.0nm,1.0s							
TXAR	**Lajitas Array**	**91.29**	**59**	P		**P**	**04 10 18.7**	**-0.5**
	0.7nm,0.8s,baz=215,slow=6.5,SNR=7.6							
	0.7nm,0.8s							
PDAR	**Pinedale Array**	**92.02**	**45**	P		**P**	**04 10 21.7**	**-0.7**
	0.3nm,0.8s,baz=222,slow=2.4,SNR=3.0							
	0.3nm,0.8s							
CLL	**Collm**	**145.06**	**341**	*e*PKPbc		**PKPbc**	**04 16 49.0**	**-0.8**
	comp=Z,17nm,1.0s							
CLL				*i* PKiKP		**PKPdf**	**04 16 53.5**	**+3.0**
CONA	**Conrad Observa**	**146.89**	**335**	*e*PKiKP		**PKPdf**	**04 16 56.9**	**+3.1**
	comp=Z,5.5nm,1.1s							
RONA	**Rosalia, Austr**	**146.90**	**334**	PKP		**PKPdf**	**04 16 56.0**	**+2.2**
	comp=Z,3.5nm,0.9s							
MYKA	**Terra Mystica**	**148.82**	**336**	*e*PKP		**PKPdf**	**04 16 59.0**	**+2.0**
	comp=Z,0.7nm,0.4s							
WATA	**Walderalm**	**148.97**	**339**	*e*PKP		**PKPbc**	**04 17 03.9**	**+2.5**
	comp=Z,7.2nm,0.9s							
SQTA	**Sankt Quirin**	**149.20**	**339**	*e*PKP		**PKPdf**	**04 17 00.9**	**+3.2**
	comp=Z,6.4nm,1.3s							
FETA	**Feichten**	**149.53**	**340**	*e*PKP		**PKPdf**	**04 17 01.4**	**+3.1**
	comp=Z,3.5nm,1.1s							
DAVA	**Damuels**	**149.57**	**341**	*e*PKiKP		**PKPbc**	**04 17 04.5**	**+1.6**
	comp=Z,5.8nm,1.1s							
DAVOX	**Davos/Dischmat**	**150.02**	**340**	PKPbc		**PKPdf**	**04 17 03.8**	**+4.6**
	comp=Z,3.6nm,0.8s,baz=80,slow=4.3,SNR=7.9							

*INET **04** 04:00:12.6±1.1, 11°.64N×86°.73W, h12km±6km, MW3.2*
*UCR **04** 04:00:13.0±0.5, 12°.04N×86°.20W, h20km±999km, MW3.6*

ISC 04 04:00:12.3±2.8, 11°.8N±0°.1×86°.6W±0°.1, h89km±28km, n15, σ0s46/24, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MOMN	**Momotombo**	**0.61**	**2**	*e*P		**Pn**	**04 00 27.7**	**-0.3**
MOMN				*e*S		**Sn**	**04 00 39.4**	**-0.3**
HUEN		**0.66**	**35**	*e*P		**Pn**	**04 00 28.2**	**-0.1**
HUEN				*e*S		**Sn**	**04 00 41.4**	**+1.0**
CNGN	**Cerro Negro**	**0.72**	**349**	*e*P		**Pn**	**04 00 28.8**	**-0.2**
CRIN	**San Cristobal**	**1.02**	**332**	*e*P		**Pn**	**04 00 32.3**	**0.0**
BOAB	**BOACO BROADBAN**	**1.09**	**53**	*e*P		**Pn**	**04 00 32.9**	**-0.1**
HZTE	**Horizontes, Gu**	**1.43**	**138**	*e*P		**Pn**	**04 00 37.4**	**+0.3**
HZTE				*e*S		**Sn**	**04 00 56.4**	**+0.4**
GB1A	**Borinquen Arri**	**1.50**	**130**	*e*P		**Pn**	**04 00 38.2**	**+0.1**
GB1A				*e*S		**Sn**	**04 00 56.4**	**-1.2**
GPS3	**Bodega del ICE**	**1.56**	**131**	*e*P		**Pn**	**04 00 38.9**	**0.0**
GPS3				*e*S		**Sn**	**04 00 59.1**	**+0.2**
GPS2	**Hotel Rincn d**	**1.57**	**131**	*e*P		**Pn**	**04 00 39.0**	**0.0**
GPS2				*e*S		**Sn**	**04 00 59.2**	**-0.1**
COLC	**Colonia**	**1.74**	**130**	*e*P		**Pn**	**04 00 40.9**	**-0.2**
COLC				*e*S		**Sn**	**04 01 02.7**	**-0.3**
CUI	**Cuipilapa**	**1.77**	**129**	*i* P		**Pn**	**04 00 41.4**	**-0.2**
CUI				*e*P		**Pn**	**04 00 41.4**	**-0.2**
CUI				*e*S		**Sn**	**04 01 04.1**	**+0.3**
ORTG	**Ortega, Santa**	**1.79**	**143**	*e*P		**Pn**	**04 00 41.9**	**+0.1**
DUNO	**Dulce Nombre,**	**2.00**	**148**	*e*P		**Pn**	**04 00 44.3**	**-0.2**
JTS	**Las Juntas de**	**2.17**	**133**	*e*P		**Pn**	**04 00 46.2**	**-0.6**
JACO	**JACO, Garabito**	**2.82**	**138**	*e*P		**Pn**	**04 00 56.2**	**+0.7**

*BJI **04** 04:01:17.7±0.0, 19°.02S×176°.16E, h7km, mb5.1/49, mB5.8/38, Ms5.1/36, Ms7 4.9/35*
*IDC **04** 04:01:19.3±0.5, 19°.01S×176°.08E, h0km, mb4.9/26, mbtmp4.9/27, ML4.9/1, MS4.6/53, Error ellipse: s-maj=16.4km s-min=13.6km az=144.0*
*MOS **04** 04:01:19.5±1.4, 18°.97S×176°.17E, h10km, mb5.2/47, Error ellipse: s-maj=8.5km s-min=8.0km az=50.1*
*NEIC **04** 04:01:20.3±1.4, 19°.0S±0°.1×176°.35E±0°.08, h10km±1km, mb5.3/251, Error ellipse: s-maj=19.4km s-min=9.5km az=149.0*
*NOU **04** 04:01:22.6, 19°.02S×176°.38E, h22km, mb5.1/67, South of Fiji Islands*
*BGR **04** 04:01:22.6, 18°.46S×177°.63E, h10km*
*GCMT **04** 04:01:24.3±0.2, 18°.97S±0°.02×176°.17E±0°.01, h12km, MW5.4/120, Moment Tensor Solution. s72,c97; s120,c215; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.31±.03; $M_{\theta\theta}$-0.15±.03; $M_{\phi\phi}$1.46±.02; $M_{r\theta}$-0.69±.09; $M_{\theta\phi}$0.27±.02; $M_{\phi r}$-0.08±.07; Best double couple: $M_0$1.57400×10^{17} NP1:ϕ_s32.00000°, δ54.00000°, λ-59.00000°. NP2:ϕ_s167.00000°, δ46.00000°, λ-125.00000°. Principal axes: T 1.5170, Plg4.0000°, Azm101.0000°; N 0.1110, Plg25.0000°, Azm193.0000°; P -1.6300, Plg65.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 04:01:20.1±0.3, 19°.03S±0°.05×176°.31E±0°.04, h10km, n935, σ1s18/820, mb5.2/222, MS4.7/71, 61C-27D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MSVF	**Nonsavu**	**2.09**	**52**	Pn		**Pn**	**04 01 54.9**	**-0.4**
	114nm,0.3s,baz=241,slow=14,SNR=44							
MSVF				Sn		**Sn**	**04 02 19.9**	**-1.6**
	122nm,0.3s,baz=215,slow=14,SNR=8.3							
MSVF				LR		LR	04 02 20.6	
	comp=Z,10μm,18.0s,baz=191,slow=27							
MSVF	**Nonsavu**	**2.09**	**52**			**Pn**	**04 01 54.6**	**-0.7**
MSVF				Sn		**Sn**	**04 02 19.1**	**-2.5**
MSVF	**Nonsavu**	**2.09**	**52**	P		**Pn**	**04 01 55.0**	**-0.4**
MSVF	**Nonsavu**	**2.09**	**52**	P		**Pn**	**04 01 54.3**	**-1.1**
TAVE	**Taveuni**	**4.28**	**58**	P		**Pn**	**04 02 25.1**	**-0.2**
DVP	**Devils Point**	**7.82**	**278**	P		**Pn**	**04 03 16.5**	**+2.5**
MARNC	**Mare, Loyalty**	**8.15**	**251**	Pn		**Pn**	**04 03 18.9**	**+0.4**
MARNC	**Mare, Loyalty**	**8.15**	**251**	P		**Pn**	**04 03 20.1**	**+1.6**
LIFNC	**LIFOU**	**8.71**	**257**	Pn		**Pn**	**04 03 25.8**	**-0.4

PMG Port Moresby 29.79 285 P **P 04 07 27.2 -0.2**
comp=Z,11nm,0.3s,baz=98,slow=10,SNR=7.3
PMG LR LR 04 18 03.7
comp=Z,3μm,18.1s,baz=127,slow=34
comp=Z,11nm,0.3s
PMG Port Moresby 29.79 285 *ce*P **P 04 07 28.4 +1.0**
PMG pmax pmax
comp=Z,70nm,2.5s
CMSA Cobar Meteorol 30.25 240 P **P 04 07 31.4 +0.1**
baz=30,SNR=9.8
CMSA Cobar Meteorol 30.25 240 P **P 04 07 31.6 +0.3**
MTSU Mount Surprise 30.32 266 P **P 04 07 32.0 -0.1**
baz=30,SNR=4.8
MTSU Mount Surprise 30.32 266 P **P 04 07 32.2 +0.1**
QLP Quilpie 30.45 250 P **P 04 07 33.0 -0.1**
comp=Z,42nm,1.5s
TBI Tubuai 32.16 104 *e*S **S 04 13 03.1 +2.1**
comp=Z,3μm,26.2s
TBI eLR LR 04 16 16.9
comp=Z,29μm,30.2s
TBI eLR LR 04 16 17.0
comp=Z,75μm,27.0s
PAE Paea 32.38 93 *e*P **P 04 07 52.6 +2.5**
comp=Z,6.0nm,1.2s
PPT2 Papeete2 32.39 93 *e*P **P 04 07 52.2 +1.8**
comp=Z,39nm,1.3s
PPT2 *e*S **S 04 13 06.6 +1.7**
comp=Z,831nm,26.2s
PPT2 eLR LR 04 16 22.6
comp=Z,7μm,26.0s
PPT2 eLR LR 04 16 22.9
comp=Z,5μm,28.2s
PPT Papeete 32.39 93 P **P 04 07 53.9 +3.5**
comp=Z,10nm,0.8s,baz=241,slow=19,SNR=2.3
PPT LR LR 04 17 41.9
comp=Z,2μm,21.6s,baz=256,slow=30
comp=Z,10nm,0.8s
PPTF Pamatai, Papee 32.40 93 P **P 04 07 50.9 +0.4**
TOO Toolangi 32.62 229 P **P 04 07 52.7 +0.6**
baz=33,SNR=5.3
TOO Toolangi 32.62 229 P **P 04 07 52.7 +0.6**
TOO IAmb IAmb 04 07 55.0
comp=Z,39nm,1.3s
TOO Toolangi 32.62 229 P **P 04 07 53.6 +1.5**
TOO Toolangi 32.62 229 P **P 04 07 52.7 +0.6**
TOO pmax pmax
comp=Z,39nm,1.3s
INKA Innaminka 33.68 248 P **P 04 08 03.1 +1.6**
STKA Stephens Creek 33.71 241 P **P 04 08 01.9 +0.3**
comp=Z,20nm,1.0s,baz=85,slow=10,SNR=18
STKA PcP **PcP 04 10 41.4 -0.1**
comp=Z,4.4nm,0.9s,baz=81,slow=2.3,SNR=3.7
STKA LR LR 04 20 33.4
comp=Z,1μm,18.6s,baz=64,slow=34
comp=Z,20nm,1.0s
STKA Stephens Creek 33.71 241 P **P 04 08 02.2 +0.5**
baz=34,SNR=8.5
STKA Stephens Creek 33.71 241 P **P 04 08 01.9 +0.3**
STKA Stephens Creek 33.71 241 P **P 04 08 02.0 +0.3**
STKA Stephens Creek 33.71 241 ⇓*i*P **P 04 08 00.6 -1.1**
BRAT Ballarat 33.73 230 P **P 04 08 03.1 +1.3**
QIS Mount Isa 34.53 261 P **P 04 08 10.1 +1.1**
comp=Z,10nm,1.6s
ARPS Mount Arapiles 34.98 232 P **P 04 08 13.6 +1.0**
LCRK Leigh Creek 36.26 244 P **P 04 08 23.9 +0.2**
comp=Z,34nm,1.0s
HTT Hallett 36.27 239 P **P 04 08 24.1 +0.2**
baz=36,SNR=7.5
HTT Hallett 36.27 239 P **P 04 08 24.9 +1.1**
comp=Z,25nm,1.4s
WHYH Whyalla 37.28 240 P **P 04 08 34.1 +1.8**
comp=Z,23nm,0.6s
OOD Oodnadatta 38.15 249 P **P 04 08 40.6 +0.8**
H11S2 WAKE ISLAND Hy 38.46 345 T T 04 49 27.4
baz=166,slow=76,SNR=587
H11S3 WAKE ISLAND Hy 38.47 345 T T 04 49 28.1
baz=166,slow=76,SNR=201
H11S1 WAKE ISLAND Hy 38.48 345 T T 04 49 28.8
baz=166,slow=76,SNR=236
BBOO Buckleboo 38.48 241 P **P 04 08 42.7 +0.1**
baz=39,SNR=5.6
BBOO Buckleboo 38.48 241 P **P 04 08 42.4 -0.2**
BBOO Buckleboo 38.48 241 P **P 04 08 43.1 +0.5**
WR0 Warramunga Arr 39.32 262 P **P 04 08 47.7 -2.0**
WB0 Warramunga Arr 39.47 262 P **P 04 08 49.0 -2.1**
WB2 Warramunga Arr 39.49 261 P **P 04 08 49.0 -2.2**
WRAB Tennant Creek 39.50 262 P **P 04 08 51.3 +0.1**
WRAB Tennant Creek 39.50 262 *ce*P **P 04 08 49.9 -1.3**
WRAB pmax pmax
comp=Z,24nm,1.3s
WB1 Warramunga Ar. 39.50 261 P **P 04 08 50.9 -0.3**
WRA Warramunga Arr 39.51 261 P **P 04 08 49.1 -2.2**
comp=Z,6.9nm,0.9s,baz=93,slow=9.0,SNR=22
WRA LR LR 04 23 47.8
comp=Z,1μm,20.7s,baz=80,slow=34
comp=Z,6.9nm,0.9s
WRA Warramunga Arr 39.51 261 P **P 04 08 49.1 -2.2**
WRA Warramunga Arr 39.51 261 P **P 04 08 49.1 -2.2**
WRA pmax pmax
comp=Z,2.0nm,1.2s
H11N1 WAKE ISLAND Hy 39.60 346 T T 04 50 48.9
baz=166,slow=76,SNR=73
H11N3 WAKE ISLAND Hy 39.60 346 T T 04 50 49.0
baz=166,slow=76,SNR=66
H11N2 WAKE ISLAND Hy 39.61 346 T T 04 50 53.4
baz=166,slow=76,SNR=54
AS01 Alice Springs 39.62 256 P **P 04 08 51.7 -0.6**
AS31 Alice Springs 39.66 256 P **P 04 08 51.4 -1.2**
ASAR Alice Springs 39.66 256 P **P 04 08 51.3 -1.3**
comp=Z,12nm,0.8s,baz=84,slow=8.6,SNR=61
ASAR PcP **PcP 04 10 58.5 -1.1**
comp=Z,4.3nm,0.9s,baz=102,slow=3.6,SNR=6.1
ASAR LR LR 04 24 02.2
comp=Z,2μm,21.7s,baz=96,slow=34
comp=Z,12nm,0.8s
ASAR Alice Springs 39.66 256 P **P 04 08 50.9 -1.7**
ASAR **PcP 04 10 57.9 -1.7**
MULG Mulgathing 39.80 245 P **P 04 08 53.6 0.0**
TAOE Nuku Hiva Isla 43.34 83 *e*S **S 04 15 51.3 +0.2**
comp=Z,711nm,27.7s
TAOE eLR LR 04 21 24.7
comp=Z,2μm,25.7s
MTN Manton Dam 43.78 271 P **P 04 09 25.1 -1.3**
baz=44,SNR=3.3
WRKA Warakurna 44.73 253 P **P 04 09 33.2 -0.7**
baz=45,SNR=22
WRKA Warakurna 44.73 253 P **P 04 09 33.5 -0.4**
GUMO Guam 44.84 314 LR LR 04 26 15.8
comp=Z,1μm,21.6s,baz=128,slow=34
FORT Forrest 45.00 245 P **P 04 09 35.3 -0.6**
baz=45,SNR=11
FORT Forrest 45.00 245 P **P 04 09 35.7 -0.2**
FORT Forrest 45.00 245 P **P 04 09 36.2 +0.3**
KNRA Kununurra 45.40 267 P **P 04 09 38.3 -1.0**
baz=45,SNR=4.1
KNRA Kununurra 45.40 267 P **P 04 09 37.7 -1.6**
KNRA Kununurra 45.40 267 P **P 04 09 40.1 +0.8**
comp=Z,65nm,1.6s
RKT Rikitea 45.48 104 *e*S **S 04 16 23.9 +2.1**
comp=Z,141μm,28.5s
RKT eLR LR 04 22 27.6
comp=Z,897μm,29.8s
SIJI Sorong 47.69 287 P **P 04 09 55.6 -1.7**
comp=Z,7.5nm,0.6s,baz=63,slow=6.8,SNR=8.2
SIJI LR LR 04 30 30.2
comp=Z,1μm,18.6s,baz=128,slow=37
comp=Z,7.5nm,0.6s
FITZ Fitzroy Crossi 47.91 263 P **P 04 09 58.7 -0.3**
FITZ Fitzroy Crossi 47.91 263 P **P 04 09 59.5 +0.5**
KMBL Kambalda 50.31 245 P **P 04 10 17.8 +0.5**
SOEI Soe 51.09 273 P **P 04 10 23.2 -0.3**
SOEI Soe 51.09 273 P **P 04 10 24.5 +1.0**
SOEI Soe 51.09 273 P **P 04 10 21.8 -1.7**
comp=Z,78nm,1.3s
BATI Baumata 51.53 272 LR LR 04 30 52.9
comp=Z,761nm,21.8s,baz=104,slow=35
SANI Sanana 52.04 283 P **P 04 10 29.6 -0.8**
SANI Sanana 52.04 283 P **P 04 10 29.6 -0.8**
comp=Z,31nm,1.1s,comp=Z,2μm
MBWA Marble Bar 52.94 257 P **P 04 10 36.8 -0.2**
MEEK Meekatharra 53.34 251 P **P 04 10 39.7 -0.3**
comp=Z,39nm,1.3s
KLBR Kellerberrin 53.84 244 P **P 04 10 42.5 -1.0**
baz=54,SNR=7.4
KLBR Kellerberrin 53.84 244 P **P 04 10 42.7 -0.8**
NWAO Narrogin (SRO) 54.25 243 P **P 04 10 45.7 -0.8**
comp=Z,28nm,1.0s
NWAO LR LR 04 33 57.3
comp=Z,938nm,18.8s,slow=36
comp=Z,28nm,1.0s
NWAO Narrogin (SRO) 54.25 243 P **P 04 10 46.1 -0.4**
baz=54,SNR=4.4
NWAO P **P 04 10 46.1 -0.4**
baz=54,SNR=4.4
NWAO Narrogin (SRO) 54.25 243 P **P 04 10 45.7 -0.8**
NWAO IAmb IAmb 04 10 46.8
comp=Z,30nm,1.0s
NWAO Narrogin (SRO) 54.25 243 P **P 04 10 46.2 -0.4**
NWAO IAmb IAmb 04 10 46.8
comp=Z,24nm,1.0s
NWAO Narrogin (SRO) 54.25 243 P **P 04 10 47.7 +1.2**
NWAO Narrogin (SRO) 54.25 243 P **P 04 10 46.2 -0.4**
NWAO pmax pmax
comp=Z,24nm,1.0s
LUWI Luwuk 55.39 282 P **P 04 10 55.1 +0.1**
LUWI Luwuk 55.39 282 P **P 04 10 56.7 +1.7**
comp=Z,63nm,1.4s
LUWI Luwuk 55.39 282 P **P 04 10 54.8 -0.2**
comp=Z,63nm,1.3s,comp=Z,3μm
MORW Morawa 55.44 247 P **P 04 10 54.1 -1.1**
MORW Morawa 55.44 247 P **P 04 10 55.8 +0.6**
comp=Z,27nm,1.3s
DAV Davao City (W) 56.31 293 LR LR 04 34 00.6
comp=Z,292nm,19.3s,baz=130,slow=35
APSI Ampana 56.48 282 P **P 04 11 02.6 -0.2**
comp=Z,45nm,1.1s,comp=Z,1μm
JCJ Chichijima 56.54 323 LR LR 04 30 44.8
comp=Z,184nm,20.2s,baz=116,slow=31
BNSI Bone 56.68 277 P **P 04 11 03.3 -0.9**
comp=Z,26nm,1.3s,comp=Z,772nm
KAPI Kappang 56.80 277 *i*P **P 04 11 04.6 -0.5**
KAPI pmax pmax
comp=Z,10.0nm,0.5s
PLAI Plampang 57.49 272 P **P 04 11 11.3 +1.3**
comp=Z,44nm,1.6s
PLAI Plampang 57.49 272 P **P 04 11 08.1 -1.9**
comp=Z,43nm,1.6s,comp=Z,1μm
TOLI2 Tolitoli 58.06 284 P **P 04 11 12.2 -1.8**
TOLI2 IAmb IAmb 04 11 14.8
comp=Z,37nm,1.2s
TOLI2 Tolitoli 58.06 284 P **P 04 11 13.1 -0.8**
TWSI Taliwang, Sumb 58.36 271 P **P 04 11 13.9 -2.2**
comp=Z,93nm,1.3s,comp=Z,1μm
MPSI Mapaga 58.57 283 P **P 04 11 15.5 -2.0**
comp=Z,26nm,1.1s,comp=Z,679nm
VNDA Vanda 58.96 184 P **P 04 11 19.6 +0.3**
comp=Z,1.7nm,0.7s,baz=2.4,slow=9.0,SNR=7.4
VNDA LR LR 04 34 34.1
comp=Z,268nm,18.6s,baz=24,slow=34
comp=Z,1.7nm,0.7s
ABJI Asem Bagus 61.14 271 P **P 04 11 34.2 -1.0**
comp=Z,48nm,1.2s
BLJI Banyuglugur 61.76 271 P **P 04 11 36.8 -2.6**
comp=Z,195nm,0.4s,comp=Z,6μm
MYLDM Lahad Datu 61.78 287 P **P 04 11 39.1 -0.4**
JHJ Hachijo jima 2 62.50 326 LR LR 04 35 58.4
comp=Z,191nm,19.7s,baz=112,slow=33
PWJI Pagerwojo 63.38 270 P **P 04 11 48.3 -1.9**
comp=Z,31nm,1.5s
JOW Kunigami 65.18 313 P **P 04 12 02.3 +0.5**
comp=Z,19nm,0.9s,baz=261,slow=8.7,SNR=4.2
comp=Z,19nm,0.9s
JOW Kunigami 65.18 313 P **P 04 12 01.7 -0.1**
JOW Kunigami 65.18 313 P **P 04 12 02.3 +0.5**
MJAR Matsushiro Arr 65.96 327 P **P 04 12 06.3 -0.4**
comp=Z,25nm,1.1s,baz=157,slow=6.5,SNR=18
MJAR LR LR 04 35 41.9
comp=Z,236nm,21.3s,baz=150,slow=31
comp=Z,25nm,1.1s
MAJO Matsushiro 65.96 327 P **P 04 12 06.6 -0.1**
MAJO Matsushiro 65.96 327 P **P 04 12 07.9 +1.3**
comp=Z,36nm,1.7s
MAJO Matsushiro 65.96 327 *i*P **P 04 12 05.8 -0.8**
MAJO pmax pmax
comp=Z,17nm,1.2s
MJB9 Matsu-Tunnel 65.97 327 P **P 04 12 06.1 -0.6**
KPJI Karang Pucung 66.30 270 P **P 04 12 07.9 -1.4**
comp=Z,51nm,1.2s
SBUM Sibu 66.47 281 P **P 04 12 10.2 -0.2**
SBUM IAmb IAmb 04 12 11.4
comp=Z,15nm,1.1s
JNU Nakatsue 67.61 320 LR LR 04 37 52.5
comp=Z,208nm,21.8s,baz=127,slow=32
LEM Lembang 67.69 270 P **P 04 12 18.2 -0.2**
comp=Z,47nm,0.6s,baz=160,slow=15,SNR=5.8
LEM LR LR 04 40 47.0
comp=Z,498nm,21.9s,baz=128,slow=35
comp=Z,47nm,0.6s
LEM Lembang 67.69 270 P **P 04 12 17.3 -1.1**
comp=Z,63nm,1.0s
KSM Kuching 67.89 280 P **P 04 12 18.5 -0.9**
KSM Kuching 67.89 280 P **P 04 12 19.1 -0.3**
comp=Z,40nm,1.0s
CNJI Cibinong 68.01 270 P **P 04 12 17.7 -2.5**
comp=Z,33nm,1.2s
RPN Rapa Nui 68.01 112 LR LR 04 34 41.5
comp=Z,354nm,21.6s,baz=278,slow=29
NACB Ninganchiao 68.46 307 P **P 04 12 22.2 -0.5**
NACB Ninganchiao 68.46 307 P **P 04 12 23.8 +1.0**
comp=Z,61nm,1.3s
TPUB Ta-pu 68.72 305 P **P 04 12 25.1 +0.7**
comp=Z,59nm,1.2s
YHNB Yeheng 68.90 307 P **P 04 12 26.9 +1.3**
comp=Z,49nm,1.3s
JKA Kamikawa-asahi 70.00 335 P **P 04 12 32.2 +0.4**
ASAJ Asahikawa 70.00 335 LR LR 04 37 33.6
comp=Z,616nm,21.5s,baz=180,slow=31
ASAJ Asahikawa 70.00 335 P **P 04 12 32.3 +0.4**
ASAJ pmax pmax
comp=Z,119nm,2.0s
QSPA South Pole Qui 71.03 180 LR LR 04 39 00.9
comp=Z,152nm,21.4s,baz=32,slow=32
QSPA South Pole Qui 71.03 180 P **P 04 12 38.5 +0.4**
QSPA IAmb IAmb 04 12 43.2
comp=Z,26nm,0.9s
SHEM Shemya Is, Ala 71.48 359 LR LR 04 38 45.7
comp=Z,293nm,19.8s,baz=126,slow=31
TJN Taejon 71.94 320 *ce*P **P 04 12 45.7 +1.9**
YSS Yuzh-Sakhalins 72.31 337 *e*P **P 04 12 46.0 +0.3**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS pmax pmax
comp=Z,500nm,4.2s
YSS MLR MLR
comp=E,200nm,16.0s
KSRS Korea Array 72.32 321 P **P 04 12 46.6 +0.5**
comp=E,8.7nm,1.1s,baz=135,slow=6.5,SNR=14
KSRS LR LR 04 44 14.3
comp=E,124nm,18.0s,baz=135,slow=36
comp=E,8.7nm,1.1s
KSAR Wonju Array Be 72.34 321 P **P 04 12 46.2 +0.1**
KSAR Wonju Array Be 72.34 321 P **P 04 12 46.2 +0.1**
PET Petropavlovsk 73.37 349 *e*P **P 04 12 50.0 -1.9**
PET *e*S **S 04 22 20.5 -0.2**
PET pmax pmax
comp=Z,200nm,11.5s
PET pmax pmax
comp=Z,17nm,1.2s
PEA0B Petropavlovsk- 73.62 348 P **P 04 12 54.3 +0.9**
PEA0B IAmb IAmb 04 12 56.8
comp=Z,58nm,1.4s
PEA0B Petropavlovsk- 73.62 348 *ce*P **P 04 12 56.6 +3.1**
PETK Petropavlovsk- 73.62 348 P **P 04 12 54.0 +0.6**
comp=Z,6.6nm,1.0s,baz=80,slow=9.6,SNR=9.1
PETK LR LR 04 39 45.9
comp=Z,200nm,20.9s,baz=167,slow=31
comp=Z,6.6nm,1.0s
UNV Unalaska Valle 74.07 10 P **P 04 12 56.5 +0.5**
baz=197
USRK Ussuriysk Ar. 74.83 329 P **P 04 13 01.8 +1.1**
comp=Z,7.9nm,1.1s,baz=104,slow=2.4,SNR=5.7
USRK LR LR 04 40 40.7
comp=Z,187nm,21.4s,baz=125,slow=32
comp=Z,7.9nm,1.1s
USRK Ussuriysk Ar. 74.83 329 P **P 04 13 00.8 +0.1**
NJ2 Nanjing 74.87 312 *e*P **P 04 13 01.9 +0.7**
NJ2 pP **PcP 04 13 11.6 -3.5**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 LR LR
comp=Z,440nm,17.8s
NJ2 LR LR
comp=Z,360nm,15.7s
NJ2 LR LR
comp=Z,440nm,21.1s
QIZ Qiongzhong 75.39 296 P **P 04 13 03.5 -1.0**
QIZ S **S 04 22 45.8 +1.0**
QIZ LR LR
comp=Z,400nm,20.8s
QIZ LR LR
comp=Z,530nm,23.9s
QIZ LR LR
comp=Z,860nm,25.1s
TYV Tymovskoe 75.62 339 *e*P **P 04 13 06.8 +1.7**
TYV *e*S **S 04 22 49.8 +3.7**
TYV pmax pmax
comp=Z,13nm,1.2s
TYV pmax pmax
comp=Z,300nm,3.1s
TYV smax smax
comp=E,200nm,5.1s
MDJ Mudanjiang 76.33 328 P **P 04 13 10.4 +1.1**
MDJ pP sP 04 13 14.0 +1.7
MDJ sP pwP 04 13 15.0 -0.8
MDJ S **S 04 22 58.3 +4.1**
MDJ sS sS 04 23 04.2 +6.2
MDJ pmax pmax
comp=E,20nm,1.3s
MDJ pmax pmax
comp=E,580nm,4.1s
MDJ LR LR
comp=E,290nm,10.7s
MDJ LR LR
comp=E,270nm,6.6s
MDJ LR LR
comp=E,510nm,21.1s
WHN Wuhan 77.31 309 ⇑P **P 04 13 15.7 +0.6**
WHN sP **pwP 04 13 20.9 -0.7**
WHN S **S 04 23 09.8 +4.4**
WHN pmax pmax
comp=E,150nm,1.4s
WHN LR LR
comp=E,2μm,17.6s
WHN LR LR
comp=E,3μm,20.0s
WHN LR LR
comp=E,3μm,23.0s
SNY Shenyang 77.71 323 ⇑P **P 04 13 19.1 +2.0**
SNY pmax pmax
comp=E,25nm,1.6s
GRNR Gornyy 77.85 335 ⇓*i*P **P 04 13 19.0 +1.3**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
CN2 Changchun 77.95 325 P **P 04 13 19.1 +0.7**
CN2 S S 04 23 02.0 -10
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,500nm,5.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,18.0s
BNX BinXian 78.22 327 ⇓P **P 04 13 22.3 +2.4**
BNX pmax pmax
comp=Z,20nm,2.5s
BNX pmax pmax
comp=Z,470nm,3.6s
CHIR Chirikof Islan 78.25 16 P **P 04 13 20.3 +0.5**
baz=207
TIA Tai'an 78.39 315 ⇓P **P 04 13 21.3 +0.2**
TIA pmax pmax
comp=Z,16nm,0.9s
TIA pmax pmax
comp=Z,440nm,4.2s
TIA LR LR
comp=Z,190nm,15.9s
TIA LR LR
comp=Z,200nm,20.8s
TIA LR LR
comp=Z,340nm,18.1s
KLR Kul'dur 78.63 332 P **P 04 13 23.2 +1.2**
comp=Z,4.9nm,1.0s,baz=87,slow=3.9,SNR=11
KLR LR LR 04 42 11.7
comp=Z,218nm,22.0s,baz=168,slow=31
comp=Z,4.9nm,1.0s
KLR Kul'dur 78.63 332 *ce*P **P 04 13 23.3 +1.2**
KLR pmax pmax
comp=Z,35nm,2.5s
RPSI Rantau Prapat 78.98 277 P **P 04 13 21.5 -3.3**
RPSI IAmb IAmb 04 13 25.6
comp=Z,63nm,1.6s
PSI Prapat 79.01 277 P **P 04 13 24.0 -1.1**
comp=Z,21nm,1.1s
PSI Prapat 79.01 277 P **P 04 13 21.5 -3.6**
PSI pmax pmax
comp=Z,63nm,1.6s
SII Sitkinak Islan 79.28 16 P **P 04 13 25.6 +0.1**
baz=208
R17K Ugashik Creek 79.70 15 P **P 04 13 27.7 0.0**
baz=206
OHAK Old Harbor 80.10 16 P **P 04 13 30.6 +0.7**
baz=209
SNCC San Nicolas Is 80.29 50 P **P 04 13 31.5 0.0**
baz=240
Q17K Contact Creek 80.38 14 P **P 04 13 32.0 +0.5**
baz=207,SNR=6.3
P16K Nushagak River 80.59 13 P **P 04 13 33.2 +0.7**
baz=205
HNS HongShan 80.66 315 ⇓P **P 04 13 34.2 +0.8**
HNS pmax pmax
comp=Z,17nm,1.2s
HNS pmax pmax
comp=Z,440nm,5.3s
HNS LR LR
comp=Z,140nm,15.1s
HNS LR LR
comp=Z,660nm,24.0s
HNS LR LR
comp=Z,410nm,18.1s
LYN LuoYang 80.72 311 ⇓P **P 04 13 34.7 +0.9**
LYN S **S 04 23 47.5 +5.8**
LYN pmax pmax
comp=Z,30nm,1.6s
LYN pmax pmax
comp=Z,360nm,3.5s
LYN LR LR
comp=Z,300nm,17.8s
LYN LR LR
comp=Z,300nm,20.3s
LYN LR LR
comp=Z,450nm,17.6s
NONG Nongkai 80.75 293 P **P 04 13 34.6 +0.3**
comp=Z,34nm,1.1s
SBC Santa Barbara 80.76 49 P **P 04 13 33.6 -0.3**
baz=240
KDAK Kodiak Island 80.78 16 LR LR 04 43 33.4
comp=Z,310nm,18.9s,baz=235,slow=31
KDAK Kodiak Island 80.78 16 P **P 04 13 34.0 +0.5**
baz=210
ENH Enshi 80.82 306 P **P 04 13 33.7 -0.8**
ENH Enshi 80.82 306 P **P 04 13 34.9 +0.4**
comp=Z,43nm,2.5s
Q18K Katmai Hardscr 80.93 15 P **P 04 13 34.7 +0.3**
baz=207,SNR=6.3
MA2 Magadan 81.06 347 LR LR 04 48 26.9
comp=Z,255nm,18.5s,baz=170,slow=35
MAW Mawson 81.08 201 LR LR 04 46 53.3
comp=Z,133nm,18.7s,baz=104,slow=34
P17K Kvichak River 81.08 14 P **P 04 13 35.6 +0.5**
baz=206
O16K Kokwok River B 81.09 13 P **P 04 13 35.2 +0.1**
baz=204
BJT Baijiatuau 81.14 318 P **P 04 13 35.4 -0.5**
BJT Baijiatuau 81.14 318 P **P 04 13 35.4 -0.5**
BJT pmax pmax
comp=Z,16nm,1.2s
BJI Beijing 81.14 318 S **S 04 23 38.1 -7.7**
BJI pmax pmax
comp=Z,6.0nm,1.4s
BJI pmax pmax
comp=Z,160nm,4.7s
GYA Guiyang 81.30 302 ⇑*i*P **P 04 13 37.5 +0.3**
GYA pmax pmax
comp=Z,21nm,1.2s
HEH HeiHe 81.33 331 *e*P **P 04 13 36.2 -0.4**
HEH pP **sP 04 13 39.6 -0.1**
HEH S **S 04 23 53.2 +5.8**

HEH sS SKKSac 04 23 58.1 -0.5
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,660nm,4.7s
HEH LR LR
comp=Z,330nm,16.7s
HEH LR LR
comp=Z,250nm,14.8s
HEH LR LR
comp=Z,490nm,18.6s
O17K Koliganek Bris 81.46 13 P **P** 04 13 37.3 +0.2
baz=205
Q19K Cape Douglas, 81.51 15 P **P** 04 13 37.6 +0.2
baz=209
P18K Big Mountain, 81.54 14 P **P** 04 13 37.8 +0.3
P18K IAmb IAmb 04 13 39.2
comp=Z,35nm,1.2s
P18K Big Mountain, 81.54 14 P **P** 04 13 37.9 +0.3
baz=207,SNR=7.1
Q20K Shuyak Island 81.55 16 P **P** 04 13 38.0 +0.5
baz=210
BELA Belgrano 2 81.65 174 P **P** 04 13 37.6 -0.5
N16K Nishlik Lake 81.75 12 P **P** 04 13 38.6 0.0
baz=204
SMAI San Martin Ant 81.84 160 P **P** 04 13 39.4 +0.2
SMAI IAmb IAmb 04 13 45.0
comp=Z,26nm,1.2s
VES Vestal, Richgr 81.91 48 P **P** 04 13 40.1 0.0
baz=240
O18K Koktuh Hills 81.96 14 P **P** 04 13 40.0 +0.2
O18K IAmb IAmb 04 13 44.1
comp=Z,24nm,1.1s
O18K Koktuh Hills 81.96 14 P **P** 04 13 40.4 +0.6
baz=207
ELS Elsinore Mount 82.01 50 P **P** 04 13 39.8 -1.0
BFSC Mount Baldy Ra 82.13 50 P **P** 04 13 42.0 +0.6
baz=241
CMB Columbia Colle 82.14 45 P **P** 04 13 41.1 -0.2
CMB Columbia Colle 82.14 45 P **P** 04 13 41.1 -0.2
CMB pmax pmax
comp=Z,9.0nm,1.0s
MURC Murrieta 82.16 51 P **P** 04 13 42.0 +0.6
baz=241
ORV Oroville 82.20 44 P **P** 04 13 42.8 +1.3
ORV IAmb IAmb 04 13 46.6
comp=Z,47nm,2.0s
ORV Oroville 82.20 44 P **P** 04 13 42.8 +1.3
ORV pmax pmax
comp=Z,47nm,2.0s
EDW2 Edwards Air Fo 82.20 49 P **P** 04 13 41.3 -0.5
baz=241,SNR=7.2
P19K Oil Pt 82.25 15 P **P** 04 13 41.9 +0.6
baz=209
ISA Isabella, Lake 82.25 48 P **P** 04 13 41.3 -0.7
ISA Isabella, Lake 82.25 48 P **P** 04 13 43.7 +1.7
baz=240,SNR=6.1
ISA Isabella, Lake 82.25 48 P **P** 04 13 41.3 -0.7
ISA pmax pmax
comp=Z,9.0nm,1.0s
TIY Taiyuan 82.36 314 *e*P **P** 04 13 43.2 +0.7
MONP2 Monument Peak 82.39 52 P **P** 04 13 44.5 +1.6
baz=242,SNR=5.6
O19K Port Alsworth 82.47 14 P **P** 04 13 42.2 -0.2
O19K Port Alsworth 82.47 14 P **P** 04 13 42.8 +0.5
baz=208
IKP In-Ko-Pah, Jac 82.51 52 P **P** 04 13 44.0 +0.6
baz=242
ILSW Iliamna Southw 82.56 15 P **P** 04 13 43.0 0.0
ILSW IAmb IAmb 04 13 46.0
comp=Z,88nm,1.4s
YBH Yreka Blue Hor 82.61 41 LR LR 04 44 37.4
comp=Z,252nm,18.8s,baz=231,slow=31
YBH Yreka Blue Hor 82.61 41 P **P** 04 13 42.0 -1.7
YBH IAmb IAmb 04 13 47.6
comp=Z,44nm,1.6s
YBH Yreka Blue Hor 82.61 41 P **P** 04 13 42.0 -1.7
YBH pmax pmax
comp=Z,44nm,1.6s
CNPM China Poot 82.64 16 P **P** 04 13 41.9 -1.4
YUH Yuha Desert 82.65 52 P **P** 04 13 43.5 -0.5
HOM Homer 82.65 16 P **P** 04 13 44.7 +1.3
baz=210
PFO Pinyon Flats O 82.70 51 LR LR 04 47 33.4
comp=Z,316nm,18.0s,baz=245,slow=34
PFO Pinyon Flats O 82.70 51 P **P** 04 13 45.4 +1.0
baz=242
PFO Pinyon Flats O 82.70 51 *i*P **P** 04 13 43.0 -1.4
TPFO Pinon Flats 82.70 51 P **P** 04 13 45.3 +0.9
baz=242
O20K Slope Mountain 82.77 15 P **P** 04 13 45.2 +1.1
baz=210
MDPB Devils Postpil 82.82 46 P **P** 04 13 44.7 -0.4
OMMB Old Mammoth Mi 82.86 46 P **P** 04 13 44.4 -1.0
OMMB IAmb IAmb 04 13 50.4
comp=Z,27nm,1.6s
SWSC Sam W. Stewart 82.88 52 P **P** 04 13 45.4 +0.3
baz=242
CWC Cottonwood Cre 82.91 48 P **P** 04 13 46.1 +0.6
baz=240
BRLK Bradley Lake 82.94 16 P **P** 04 13 44.8 -0.1
BRLK IAmb IAmb 04 13 46.4
comp=Z,22nm,0.9s
BRSE Bradley Lake S 82.96 16 P **P** 04 13 45.6 +0.6
baz=211,SNR=5.5
N19K Bonanza Creek 82.98 14 P **P** 04 13 45.5 +0.3
N19K IAmb IAmb 04 13 48.0
comp=Z,34nm,1.4s
N19K Bonanza Creek 82.98 14 P **P** 04 13 46.1 +1.0
baz=208
MLAC Mammoth, Mammo 82.98 46 P **P** 04 13 45.1 -0.9
baz=240
SVW2 Sparrevohn 82.99 13 P **P** 04 13 44.1 -1.0
SVW2 IAmb IAmb 04 15 29.6
comp=Z,49nm,2.0s
WAKR Walker 83.02 45 P **P** 04 13 44.5 -1.6
WAKR IAmb IAmb 04 13 49.4
comp=Z,29nm,1.2s
XAN Xi'an 83.03 309 P **P** 04 13 46.5 +0.5
XAN pP PcP 04 13 51.0 +0.3
XAN S **S** **04 24 08.7 +3.1**
XAN pmax pmax
comp=Z,28nm,1.5s
XAN pmax pmax
comp=Z,340nm,4.3s
XAN LR LR
comp=Z,370nm,20.4s
XAN LR LR
comp=Z,610nm,20.8s
XAN LR LR
comp=Z,1µm,24.2s
RSO Redoubt South 83.08 15 P **P** 04 13 45.7 -0.1
BEKR Beckworth 83.11 44 P **P** 04 13 45.2 -1.3
BEKR IAmb IAmb 04 13 50.0
comp=Z,35nm,1.6s
TIN Tinemaha, Big 83.11 47 P **P** 04 13 46.5 +0.1
baz=240
MPMC Manual Prospec 83.14 48 P **P** 04 13 47.1 +0.4
baz=241,SNR=8.4
BELC Belle Mtn. Jos 83.23 51 P **P** 04 13 49.2 +2.0
baz=242,SNR=8.1
GSC Goldstone, Bar 83.26 49 P **P** 04 13 46.7 -0.5
GSC Goldstone, Bar 83.26 49 P **P** 04 13 48.9 +1.6
baz=241,SNR=6.3
GSC Goldstone, Bar 83.26 49 P **P** 04 13 46.7 -0.5
GSC pmax pmax
comp=Z,15nm,1.4s
LPIG La Paz 83.36 62 LR LR 04 43 09.8
comp=Z,446nm,19.0s,baz=245,slow=30
XLT XiLinHaoTe 83.36 321 *e*P **P** 04 13 48.0 +0.4
XLT pP pwP 04 13 54.1 0.0
XLT sP PcP 04 13 55.6 +3.6
XLT pmax pmax
comp=Z,14nm,1.7s
XLT pmax pmax
comp=Z,470nm,4.0s
HEC Hector,Ludlow 83.37 50 P **P** 04 13 49.1 +1.3
baz=242
DSP Deep Springs 83.45 47 P **P** 04 13 47.6 -0.4
DSP IAmb IAmb 04 13 51.4
comp=Z,16nm,1.1s
BC3 Big Chuckawall 83.47 51 P **P** 04 13 49.8 +1.5
baz=242
PHRA Phrae 83.47 292 P **P** 04 13 47.8 -0.8
LHV Little Huntoon 83.52 46 IAmb IAmb 04 13 52.4
comp=Z,25nm,1.2s

QSM Queen of Sheba 83.54 49 P **P** 04 13 48.7 +0.1
QSM IAmb IAmb 04 13 53.6
comp=Z,39nm,1.9s
LCH Last Change Ra 83.61 47 P **P** 04 13 49.5 +0.4
LCH IAmb IAmb 04 13 53.9
comp=Z,33nm,1.7s
SEW Seward 83.61 16 P **P** 04 13 48.4 +0.1
SEW IAmb IAmb 04 13 54.1
comp=Z,36nm,1.4s
GLA Glamis 83.65 52 P **P** 04 13 50.8 +1.5
baz=243
GRAC Grapevine Rang 83.69 48 P **P** 04 13 50.7 +1.4
baz=241,SNR=8.1
RYN Ryan 83.70 46 P **P** 04 13 48.2 -1.3
CAPN Captain Cook N 83.74 15 P **P** 04 13 51.5 +2.6
baz=211
NVAR Mina Array Bea 83.75 46 P **P** 04 13 52.1 +2.2
comp=Z,4.6nm,0.7s,baz=226,slow=8.5,SNR=26
comp=Z,4.6nm,0.7s
NVAR Mina Array Bea 83.75 46 P **P** 04 13 49.5 -0.3
FURC Furnace Creek, 83.78 48 P **P** 04 13 51.0 +1.3
baz=241
GWY Greenwater Val 83.78 49 P **P** 04 13 49.4 -0.7
ZEA Zeya 83.83 333 *e*P **P** 04 13 51.5 +1.9
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA pmax pmax
comp=Z,200nm,4.2s
SEY Seymchan 83.84 349 *ce*P **P** 04 13 50.2 +0.8
SEY pmax pmax
comp=Z,48nm,1.7s
GMRC Granite Mounta 83.84 50 P **P** 04 13 50.4 +0.1
baz=242
N20K Mount Spurr 83.85 15 P **P** 04 13 49.2 -0.4
baz=210,SNR=9.5
SPCR Spurr Chakacha 83.85 15 P **P** 04 13 49.2 -0.4
baz=210
O22K Cooper Landing 83.86 16 P **P** 04 13 49.8 +0.2
O22K Cooper Landing 83.86 16 P **P** 04 13 50.2 +0.7
baz=212
SPU Mount Spurr 83.87 15 P **P** 04 13 49.5 -0.2
IRM Iron Mountain 83.92 51 P **P** 04 13 52.4 +1.8
baz=242,SNR=6.8
SHOC Shoshone, Teco 83.93 49 P **P** 04 13 52.0 +1.4
baz=242
TUQ Turquoise Moun 83.96 49 P **P** 04 13 52.1 +1.2
baz=242
CRAI Chiangrai 84.00 294 P **P** 04 13 50.2 -1.1
CRAI IAmb IAmb 04 13 53.4
comp=Z,25nm,1.4s
P23K Montague Islan 84.09 17 P **P** 04 13 51.7 +1.0
baz=214
WCT Wildcat Mounta 84.11 48 P **P** 04 13 50.0 -1.5
WCT IAmb IAmb 04 13 56.5
comp=Z,25nm,1.5s
L19K White Mountain 84.11 13 P **P** 04 13 51.1 +0.2
L19K White Mountain 84.11 13 P **P** 04 13 52.3 +1.4
baz=207
BLYC Blythe 84.20 52 P **P** 04 13 50.5 -1.4
BLYC IAmb IAmb 04 13 58.2
comp=Z,52nm,2.0s
KVN Kaiserville 84.20 45 P **P** 04 13 49.9 -2.2
KVN Kaiserville 84.20 45 P **P** 04 13 49.9 -2.2
KVN pmax pmax
comp=Z,12nm,1.0s
MOD Modoc Plateau 84.22 42 P **P** 04 13 51.5 -0.6
M20K Styx River 84.23 14 P **P** 04 13 51.6 0.0
baz=209
K05A Summer Lake 84.28 41 P **P** 04 13 50.7 -1.7
K05A IAmb IAmb 04 13 55.5
comp=Z,31nm,1.1s
TPH Tonopah 84.31 47 P **P** 04 13 52.6 -0.1
TPH Tonopah 84.31 47 P **P** 04 13 52.6 -0.1
TPH pmax pmax
comp=Z,53nm,1.0s
113A Mohawk Valley, 84.32 53 P **P** 04 13 51.3 -1.2
113A IAmb IAmb 04 13 57.9
comp=Z,29nm,1.8s
RC01 Rabbit Creek A 84.37 16 P **P** 04 13 51.2 -1.0
RC01 Rabbit Creek A 84.37 16 P **P** 04 13 52.7 +0.5
baz=212,SNR=14
SUA Susitna One 84.44 15 P **P** 04 13 52.2 -0.4
SUA IAmb IAmb 04 13 53.7
comp=Z,30nm,1.1s
SUA Susitna One 84.44 15 P **P** 04 13 53.1 +0.4
baz=211,SNR=10
TPNV Topopah Spring 84.45 48 P **P** 04 13 53.1 -0.3
TPNV IAmb IAmb 04 14 00.8
comp=Z,36nm,1.6s
TPNV Topopah Spring 84.45 48 P **P** 04 13 54.8 +1.4
baz=242,SNR=12
TPNV Topopah Spring 84.45 48 P **P** 04 13 53.1 -0.3
TPNV pmax pmax
comp=Z,36nm,1.6s
ANM Nome 84.52 8 P **P** 04 13 52.8 0.0
ANM IAmb IAmb 04 13 55.6
comp=Z,16nm,1.2s
ANM Nome 84.52 8 P **P** 04 13 54.2 +1.3
baz=197
ANM Nome 84.52 8 P **P** 04 13 52.8 0.0
ANM pmax pmax
comp=Z,15nm,1.2s
TTA Tatalina 84.54 12 P **P** 04 13 53.5 +0.4
TTA IAmb IAmb 04 13 56.9
comp=Z,36nm,1.5s
TTA Tatalina 84.54 12 P **P** 04 13 54.2 +1.1
baz=206,SNR=8.4
TTA Tatalina 84.54 12 P **P** 04 13 53.5 +0.4
TTA pmax pmax
comp=Z,36nm,1.5s
PWL Port Wells 84.55 17 P **P** 04 13 52.9 -0.2
PWL Port Wells 84.55 17 P **P** 04 13 53.4 +0.3
baz=213,SNR=5.8
HHC Hu-ho-hao-te 84.55 316 *e*P **P** 04 13 54.4 +0.7
HHC S **S** **04 24 26.0 +5.2**
HHC pmax pmax
comp=Z,33nm,1.2s
HHC pmax pmax
comp=Z,740nm,4.3s
HHC LR LR
comp=Z,370nm,15.2s
HHC LR LR
comp=Z,290nm,14.6s
HHC LR LR
comp=Z,630nm,15.9s
CMAR Chiang Mai Arr 84.58 292 P **P** 04 13 55.0 +0.7
comp=Z,7.4nm,0.7s,baz=123,slow=3.5,SNR=40
CMAR LR LR 04 47 46.4
comp=Z,135nm,21.6s,baz=110,slow=33
comp=Z,7.4nm,0.7s
CMAR Chiang Mai Arr 84.58 292 P **P** 04 13 53.3 -1.0
L20K Farewell, AK 84.59 13 P **P** 04 13 54.2 +0.9
baz=208
NEE2 Needles Airpor 84.59 51 P **P** 04 13 55.4 +1.5
baz=243
214A Organ Pipe Nat 84.68 54 P **P** 04 13 55.1 +0.6
baz=244
SKT Skwentna 84.69 15 P **P** 04 13 52.8 -1.0
SKT IAmb IAmb 04 13 55.8
comp=Z,48nm,2.0s
SKT Skwentna 84.69 15 P **P** 04 13 53.4 -0.4
baz=210
PMSA Palmer Station 84.70 158 LR LR 04 42 58.1
comp=Z,145nm,21.5s,baz=260,slow=30
CHTO Chiang Mai 84.72 292 P **P** 04 13 53.5 -1.4
CHTO IAmb IAmb 04 13 55.8
comp=Z,13nm,0.8s
CHTO Chiang Mai 84.72 292 P **P** 04 13 53.5 -1.4
CHTO pmax pmax
comp=Z,13nm,0.8s
PINE Pine Mountain 84.83 40 P **P** 04 13 53.6 -1.6
PINE IAmb IAmb 04 13 58.8
comp=Z,16nm,0.8s
M22K Willow 84.84 15 P **P** 04 13 54.2 -0.2
M22K Willow 84.84 15 P **P** 04 13 54.5 0.0
baz=212,SNR=10.0
V12A Nelson 84.87 50 P **P** 04 13 54.5 -0.9
PMR Palmer 84.95 16 P **P** 04 13 54.1 -1.0
PMR Palmer 84.95 16 P **P** 04 13 55.6 +0.5
baz=213,SNR=14
PMR Palmer 84.95 16 P **P** 04 13 54.1 -1.0
PMR pmax pmax
comp=Z,34nm,1.1s
KNK Knik Glacier 84.98 16 P **P** 04 13 55.4 +0.2
KNK Knik Glacier 84.98 16 P **P** 04 13 55.5 +0.2
baz=213,SNR=7.4

SHPR Sheep Range 85.01 49 P **P** 04 13 54.9 -1.4
SHPR IAmb IAmb 04 14 06.4
comp=Z,24nm,2.0s
EYAK Cordova Ski Ar 85.01 18 P **P** 04 13 55.6 +0.2
baz=216
GHO Glory Hole Cre 85.16 16 P **P** 04 13 55.9 -0.4
TNA Tin City 85.18 7 P **P** 04 13 55.5 -0.6
TNA Tin City 85.18 7 P **P** 04 13 56.0 -0.1
baz=195,SNR=6.1
W13A Hualapai Mount 85.28 51 P **P** 04 13 56.1 -1.6
W13A IAmb IAmb 04 14 02.8
comp=Z,24nm,1.8s
PZH PanZhiHua 85.31 300 P **P** 04 13 58.7 +0.8
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.3s
K20K Telida 85.33 13 P **P** 04 13 57.4 +0.5
baz=208
PPLA Purkeypile 85.33 14 P **P** 04 13 57.4 +0.2
baz=210
SML Sawmill 85.34 16 P **P** 04 13 57.5 +0.4
baz=213
CUT Chulitna 85.36 15 P **P** 04 13 57.3 +0.2
baz=212,SNR=8.6
BTO Baotou 85.44 316 *e*P **P** 04 13 59.8 +1.6
BTO LR LR
comp=Z,930nm,14.3s
BTO LR LR
comp=Z,1µm,16.1s
BMN Battle Mountai 85.47 45 IAmb IAmb 04 14 02.0
comp=Z,32nm,1.3s
DIV Divide 85.48 17 IAmb IAmb 04 13 59.5
comp=Z,22nm,1.0s
M23K Glacier View 85.49 16 P **P** 04 13 58.2 +0.3
baz=214
PRN Pahroc Range 85.50 48 IAmb IAmb 04 14 02.5
comp=Z,15nm,1.1s
CD2 Chengdu 85.52 305 P **P** 04 13 58.0 -0.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
R11A Troy Canyon, C 85.58 47 P **P** 04 13 59.3 +0.3
baz=242
SCM Sheep Creek Mo 85.63 16 P **P** 04 13 59.0 +0.4
baz=214,SNR=12
BMRM Bremner River 85.68 18 P **P** 04 13 59.7 +0.8
baz=217
KLU Klutina 85.73 17 IAmb IAmb 04 14 01.0
comp=Z,40nm,1.6s
KLU Klutina 85.73 17 P **P** 04 13 59.6 +0.5
baz=216
BBB Bella Bella 85.76 31 LR LR 04 44 36.3
comp=Z,363nm,20.2s,baz=223,slow=30
CAST Castle Rocks 85.81 14 IAmb IAmb 04 14 00.6
comp=Z,34nm,1.4s
CAST Castle Rocks 85.81 14 P **P** 04 13 59.2 -0.2
baz=210,SNR=16
I07A Izee 85.86 41 IAmb IAmb 04 14 03.8
comp=Z,60nm,1.9s
SIT Sitka 85.87 24 P **P** 04 13 59.8 +0.1
baz=225
GCSA Galena City Sc 86.02 11 P **P** 04 14 01.1 +0.8
baz=205
J20K Nowinta River 86.04 13 P **P** 04 14 01.0 +0.5
baz=208
U33K Whale Pass 86.10 26 P **P** 04 14 01.5 +0.6
baz=227
J08A Circle Bar Ran 86.13 42 IAmb IAmb 04 14 06.3
comp=Z,34nm,1.5s
WAT6 Susitna Watana 86.14 16 P **P** 04 14 01.5 +0.2
baz=214,SNR=10
WAT1 Susitna Watana 86.15 15 P **P** 04 14 01.6 +0.5
baz=213
M24K Tolsona, Glenn 86.17 17 IAmb IAmb 04 14 03.2
comp=Z,38nm,1.2s
M24K Tolsona, Glenn 86.17 17 P **P** 04 14 01.3 0.0
baz=215
CHUM Lake Minchumin 86.17 13 P **P** 04 14 01.6 +0.5
baz=210
S31K Pelican 86.17 23 P **P** 04 14 01.4 +0.2
baz=224
V35K Ketchikan 86.20 27 P **P** 04 14 01.7 +0.3
baz=228
N25K Chitina, Valde 86.20 18 IAmb IAmb 04 14 04.7
comp=Z,21nm,1.0s
N25K Chitina, Valde 86.20 18 P **P** 04 14 01.5 +0.1
baz=217,SNR=13
VRDI Verde Repeater 86.23 18 IAmb IAmb 04 14 04.9
comp=Z,33nm,1.4s
TRF Thorofare Moun 86.25 14 IAmb IAmb 04 14 14.6
comp=Z,31nm,1.6s
TRF Thorofare Moun 86.25 14 P **P** 04 14 01.8 0.0
baz=212
GLB Gilahina Butte 86.29 18 IAmb IAmb 04 14 03.1
comp=Z,13nm,0.9s
PNL Peninsula 86.31 21 P **P** 04 14 01.9 0.0
baz=222
PINM Pinnacle 86.35 20 P **P** 04 14 02.5 +0.3
baz=221
TUC Tucson 86.38 54 P **P** 04 14 02.9 -0.1
TUC Tucson 86.38 54 P **P** 04 14 03.3 +0.3
baz=245
TUC Tucson 86.38 54 P **P** 04 14 02.9 -0.1
TUC pmax pmax
comp=Z,10.0nm,1.3s
BCPM Bancas Point 86.44 21 P **P** 04 14 02.6 +0.1
MCARA McCarthy VSAT 86.48 18 P **P** 04 14 03.0 +0.3
baz=218,SNR=9.6
RND Reindeer 86.56 15 IAmb IAmb 04 14 06.9
comp=Z,55nm,1.9s
DHY Denali Highway 86.65 16 IAmb IAmb 04 14 06.9
comp=Z,38nm,1.9s
DHY Denali Highway 86.65 16 P **P** 04 14 03.8 +0.1
baz=214
BPAW Bear Paw Mtn. 86.65 14 P **P** 04 14 04.1 +0.5
baz=211
HARP HAARP 86.68 17 P **P** 04 14 03.6 -0.2
baz=216
SPR3 Spring Creek 3 86.75 47 IAmb IAmb 04 14 09.4
comp=Z,23nm,1.5s
CCUT Cedar City 86.76 49 IAmb IAmb 04 14 10.2
comp=Z,25nm,1.7s
MCK McKinley 86.81 15 IAmb IAmb 04 14 07.9
comp=Z,32nm,1.4s
MCK McKinley 86.81 15 P **P** 04 14 04.7 +0.4
baz=213,SNR=6.2
G08A Pilot Rock 86.82 40 IAmb IAmb 04 14 07.5
comp=Z,14nm,1.0s
LTY Liberty 86.84 37 IAmb IAmb 04 14 07.7
comp=Z,28nm,1.6s
P29M Windy Craggy 86.84 21 IAmb IAmb 04 14 08.5
comp=Z,40nm,1.4s
P29M Windy Craggy 86.84 21 P **P** 04 14 05.2 +0.6
baz=223
O28M Mount Upton 86.88 20 P **P** 04 14 06.0 +0.9
baz=221
KNB Kanab 86.91 49 IAmb IAmb 04 14 11.0
comp=Z,21nm,1.5s
ELK Elko 86.94 45 LR LR 04 46 25.2
comp=Z,328nm,20.8s,baz=246,slow=31
SZCU Shurtz Canyon 86.98 49 IAmb IAmb 04 15 02.3
comp=Z,30nm,1.2s
U15A North Rim 87.03 50 IAmb IAmb 04 14 11.8
comp=Z,28nm,1.5s
R32K Eaglecrest 87.04 24 P **P** 04 14 06.1 +0.6
baz=226
O29M Mount Kennedy 87.06 21 P **P** 04 14 05.7 0.0
baz=222
PAX Paxson 87.06 16 P **P** 04 14 05.7 +0.1
baz=216
BILL Bilibino 87.13 356 P **P** 04 14 05.9 +0.2
BILL Bilibino 87.13 356 *e*P **P** 04 14 06.4 +0.7
BILL *e*PPP PPP 04 19 24.5
BILL pmax pmax
comp=Z,28nm,1.7s
PLBC Pleasant Camp 87.20 22 P **P** 04 14 06.7 +0.5
baz=224,SNR=6.4
M26K Nabesna, AK 87.29 18 P **P** 04 14 07.5 +0.8
baz=218
WUAZ Wupatki 87.31 51 P **P** 04 14 07.8 +0.2
baz=245
I21K Tanana 87.37 13 IAmb IAmb 04 14 11.1
comp=Z,48nm,2.0s
I21K Tanana 87.37 13 P **P** 04 14 07.0 0.0
baz=210
YUK8 Steele Glacier 87.41 20 P **P** 04 14 08.1 +0.5
baz=221,SNR=10
ELIB Princess Elisa 87.41 188 *d*P **P** 04 14 06.5 -1.0

comp=Z,11nm,0.9s
TNCH TengChong 87.41 297 P P 04 14 09.9 +1.5
TNCH PP **PP** **04 17 32.9 -0.3**
TNCH S S 04 24 40.0 -10
TNCH pmax pmax
comp=Z,36nm,0.4s
TNCH pmax pmax
comp=Z,370nm,3.8s
P30M Million Dollar 87.47 21 P P 04 14 08.6 +1.0
baz=224
MLY Manley 87.51 13 IAmb IAmb 04 14 11.2
comp=Z,26nm,1.9s
MLY Manley 87.51 13 P P 04 14 06.9 -0.8
baz=211
NEA2 Nenana 87.51 14 P P 04 14 07.4 -0.2
baz=213
MENT Mentasta 87.51 17 IAmb IAmb 04 14 11.1
comp=Z,24nm,1.4s
YUK3 Moose Creek 87.56 19 P P 04 14 08.9 +0.7
baz=220,SNR=14
SKAG Skagway 87.57 22 IAmb IAmb 04 14 17.3
comp=Z,33nm,1.7s
SKAG Skagway 87.57 22 P P 04 14 09.1 +1.1
baz=225,SNR=6.7
M27K Edge Creek, AK 87.58 18 P P 04 14 08.9 +0.7
baz=219
YUK6 Outpost Mounta 87.60 20 P P 04 14 08.7 +0.2
baz=222
BMO Blue Mountains 87.61 41 IAmb IAmb 04 14 14.2
comp=Z,44nm,2.0s
H21K Melozitna Rive 87.62 12 P P 04 14 08.2 0.0
baz=209
K24K Donnelly Dome 87.66 16 P P 04 14 08.7 +0.3
baz=216
LZH Lanzhou 87.66 309 ⇓P **P 04 14 10.9 +1.6**
LZH sP pwP 04 14 18.7 +2.9
LZH sS sS 04 24 59.8 +4.3
LZH pmax pmax
comp=Z,77nm,1.4s
LZH pmax pmax
comp=Z,550nm,4.9s
LZH LR LR
comp=Z,490nm,18.1s
LZH LR LR
comp=Z,650nm,17.8s
LZH LR LR
comp=Z,1µm,19.0s
L26K Log Cabin Wild 87.69 17 IAmb IAmb 04 14 11.9
comp=Z,36nm,1.8s
L26K Log Cabin Wild 87.69 17 P P 04 14 08.6 0.0
baz=218
D08A Wollman Farm, 87.75 38 IAmb IAmb 04 14 11.9
comp=Z,14nm,1.0s
HYT Haines Junctio 87.80 21 P P 04 14 09.6 +0.3
baz=223
YUK4 Talbot Arm 87.81 20 P P 04 14 10.2 +0.8
baz=222
MFID Camas Ranch 87.83 42 IAmb IAmb 04 14 13.2
comp=Z,12nm,1.1s
RIDG Independent Ri 87.85 16 P P 04 14 09.7 +0.3
baz=216
T35M Bob Quinn 87.86 26 P P 04 14 10.2 +0.6
baz=230
HDA Harding Lake 87.86 15 IAmb IAmb 04 14 11.4
comp=Z,9.8nm,0.9s
HDA Harding Lake 87.86 15 P P 04 14 10.0 +0.6
baz=215,SNR=8.2
I23K Minto, Yukon-K 87.91 14 IAmb IAmb 04 14 17.9
comp=Z,21nm,1.7s
I23K Minto, Yukon-K 87.91 14 P P 04 14 09.9 +0.4
baz=212
BVCY Beaver Creek 87.93 18 P P 04 14 10.2 +0.5
baz=220
DOT Dot Lake 87.99 17 IAmb IAmb 04 14 25.3
comp=Z,37nm,1.9s
MDM Murphy Dome 88.01 14 IAmb IAmb 04 14 12.7
comp=Z,9.2nm,0.9s
TCOL CIGO, UAF Yank 88.03 14 IAmb IAmb 04 14 11.1
comp=Z,23nm,1.1s
TCOL CIGO, UAF Yank 88.03 14 P P 04 14 10.1 0.0
baz=214
COLA College 88.03 14 P P 04 14 10.1 0.0
COLA IAmb IAmb 04 14 11.1
comp=Z,22nm,1.1s
COLA College 88.03 14 P P 04 14 10.1 0.0
baz=214
COLA College 88.03 14 P P 04 14 10.1 0.0
comp=Z,21nm,1.1s
COLA College 88.03 14 *i* P **P 04 14 10.2 +0.1**
COLA pmax pmax
comp=Z,5.0nm,0.9s
S34M Telegraph Cree 88.11 25 P P 04 14 10.5 -0.1
baz=229,SNR=13
H22K Ishtalitna Cre 88.11 13 P P 04 14 11.0 +0.4
baz=210
L27K Beaver Creek, 88.14 18 IAmb IAmb 04 14 12.7
comp=Z,19nm,1.6s
L27K Beaver Creek, 88.14 18 P P 04 14 10.4 -0.3
baz=219
RDOG Red Dog Mine 88.16 8 P P 04 14 10.9 +0.2
baz=200
ILAR Eielson Array 88.18 15 P P 04 14 10.3 -0.5
comp=Z,5.6nm,0.9s,baz=236,slow=5.7,SNR=47
ILAR LR LR 04 47 35.7
comp=Z,262nm,19.7s,baz=235,slow=32
comp=Z,5.6nm,0.9s
B08A Colville Reser 88.19 37 IAmb IAmb 04 14 13.8
comp=Z,16nm,1.1s
G21K Allakaket 88.24 12 P P 04 14 11.9 +0.8
baz=208
O30N Mendenhall 88.24 21 P P 04 14 11.8 +0.5
baz=224
P32M Atlin 88.25 23 P P 04 14 12.0 +0.6
baz=226,SNR=5.8
SCRK Sand Creek 88.27 16 IAmb IAmb 04 14 14.7
comp=Z,16nm,1.6s
SCRK Sand Creek 88.27 16 P P 04 14 11.9 +0.5
baz=217
POKR Poker Plat Res 88.33 14 P P 04 14 11.0 -0.6
baz=214
DUG Dugway, Tooele 88.33 46 IAmb IAmb 04 14 18.1
comp=Z,21nm,1.7s
DUG Dugway, Tooele 88.33 46 P P 04 14 12.4 +0.1
baz=244
DUG Dugway, Tooele 88.33 46 P P 04 14 14.5 +2.1
DUG pmax pmax
comp=Z,8.0nm,2.0s
Q32M Nakina River 88.37 24 P P 04 14 11.3 -0.9
baz=228
H23K Yukon River 88.45 13 P P 04 14 11.7 -0.4
baz=212
C09A Chrisman Ranch 88.51 38 IAmb IAmb 04 14 15.8
comp=Z,39nm,1.6s
BGU Big Grassy Mou 88.52 46 IAmb IAmb 04 14 17.9
comp=Z,28nm,1.9s
PLID Pearl Lake 88.53 41 IAmb IAmb 04 14 17.6
comp=Z,38nm,1.6s
WHY Whitehorse 88.58 22 P P 04 14 13.7 +0.8
baz=226
M29M Somme Creek 88.69 19 P P 04 14 13.1 -0.3
baz=222
121A Cookes Peak, D 88.79 55 P P 04 14 15.5 +0.8
baz=247
121A Cookes Peak, D 88.79 55 P P 04 14 14.5 -0.3
baz=247
J26L Joseph Creek 88.80 16 P P 04 14 14.0 0.0
baz=218
HLID Hailey 88.81 43 P P 04 14 14.7 +0.1
baz=242,SNR=11
YAK Yakutsk 88.83 340 *e*P **P 04 14 12.5 -1.4**
YAK *e**PP **pwP** **04 14 21.3 +0.9**
YAK *e* 04 17 41.6
YAK *e*PPP PPP 04 19 39.2
YAK *e*S **SKSac** **04 24 38.5 -4.6**
YAK *e**SS **S** **04 25 01.9 +0.8**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,128nm,3.7s
YAK pmax pmax
comp=N,54nm,2.6s
YAK pmax pmax
comp=E,25nm,2.2s
YAK smax smax
comp=E,92nm,4.3s
YAK smax smax
comp=N,53nm,3.3s
H24K Noodor Dome 88.83 14 P P 04 14 13.4 -0.6
baz=214
K27K Chicken 88.83 17 IAmb IAmb 04 14 16.3
comp=Z,14nm,1.1s
K27K Chicken 88.83 17 P P 04 14 14.3 +0.4
baz=219
F21K Alatna River 88.86 11 P P 04 14 14.6 +0.5
baz=208
DLBC Dease Lake 88.90 25 LR LR 04 48 53.6
comp=Z,188nm,18.9s,baz=272,slow=32
DLBC Dease Lake 88.90 25 IAmb IAmb 04 14 17.6
comp=Z,23nm,1.2s
DLBC Dease Lake 88.90 25 P P 04 14 15.0 +0.5
baz=230,SNR=13
G22K Bettles 88.98 12 P P 04 14 15.5 +0.9
baz=210
P33M Teslin, Yukon 89.01 23 IAmb IAmb 04 14 18.8
comp=Z,45nm,2.0s
P33M Teslin, Yukon 89.01 23 P P 04 14 16.3 +1.4
baz=227
TMUT Trail Mountain 89.05 48 IAmb IAmb 04 14 20.0
comp=Z,16nm,1.1s
HVU Hansel Valley 89.07 45 IAmb IAmb 04 14 19.3
comp=Z,31nm,1.4s
SPUT South Promonto 89.08 46 IAmb IAmb 04 14 18.8
comp=Z,13nm,1.1s
TROLL Troll, Antarti 89.09 182 P P 04 14 14.5 -1.0
G23K Bananza Creek 89.10 13 P P 04 14 16.3 +1.0
baz=212
PRP Porcupine Dome 89.12 15 P P 04 14 16.0 +0.6
baz=216
R33M Jennings River 89.16 24 P P 04 14 16.5 +0.7
baz=229
CTU Camp Tracy 89.28 46 IAmb IAmb 04 14 20.1
comp=Z,12nm,1.0s
L29M L29M 89.28 19 P P 04 14 17.4 +1.2
baz=223,SNR=10.0
M30M Minto, Yukon 89.31 20 IAmb IAmb 04 14 18.5
comp=Z,28nm,1.6s
M30M Minto, Yukon 89.31 20 P P 04 14 17.1 +0.9
baz=224
F22K John River 89.36 12 P P 04 14 17.5 +1.1
baz=210
NEW Newport 89.41 38 LR LR 04 49 24.4
comp=Z,217nm,19.2s,baz=224,slow=32
NEW Newport 89.41 38 IAmb IAmb 04 14 19.7
comp=Z,11nm,1.0s
NEW Newport 89.41 38 P P 04 14 18.0 +0.9
baz=240
NEW Newport 89.41 38 P P
NEW pmax pmax **04 14 18.7 +1.6**
comp=Z,15nm,1.2s
JLU Jordanelle 89.45 46 IAmb IAmb 04 14 21.2
comp=Z,15nm,1.1s
SRU San Rafael Swe 89.45 48 IAmb IAmb 04 14 21.1
comp=Z,17nm,1.1s
P17A Butcher Ranch, 89.45 48 IAmb IAmb 04 14 22.9
comp=Z,29nm,1.5s
COLD Coldfoot 89.51 12 P P 04 14 17.9 +0.9
baz=212
SNAA Sanae 89.53 180 P P 04 14 16.0 -1.5
SNAA Sanae 89.53 180 *ce*P **P 04 14 17.6 +0.2**
SNAA pmax pmax
comp=Z,16nm,2.5s
DAWY Dawson 89.62 18 IAmb IAmb 04 14 19.5
comp=Z,12nm,0.9s
DAWY Dawson 89.62 18 P P 04 14 18.4 +0.7
baz=221,SNR=14
EGAK Eagle 89.66 17 IAmb IAmb 04 14 19.6
comp=Z,26nm,1.1s
EGAK Eagle 89.66 17 P P 04 14 18.5 +0.7
baz=220,SNR=18
TCUT Toone Canyon 89.70 46 IAmb IAmb 04 14 22.4
comp=Z,24nm,0.9s
NVL N'lazarevskaya 89.79 185 *e*P **P**
NVL pmax pmax **04 14 17.6 -0.9**
comp=Z,10.0nm,1.0s
M31M Drury Creek, Y 89.83 21 P P 04 14 19.7 +1.0
baz=226
VNA3 Neumayer Olymp 89.87 178 P P 04 14 17.6 -1.4
Y22A Socorro 89.97 54 P P 04 14 21.7 +1.4
baz=247
E22K Anaktuvuk Pass 89.97 11 P P 04 14 20.0 +0.7
baz=210
G25K Bearman Lake 90.00 14 P P 04 14 19.8 +0.4
baz=215
K29M Barlow Dome 90.01 19 P P 04 14 20.3 +0.7
baz=223
I27K Kandik River 90.18 16 P P 04 14 21.1 +0.8
baz=219
FARO Faro, Yukon 90.20 21 P P 04 14 21.0 +0.5
baz=227
F24K Squaw Lake 90.23 13 P P 04 14 21.4 +0.9
baz=214
VNA2 Neumayer--Watz 90.25 179 P P 04 14 19.7 -1.0
baz=163,slow=5.0
J29M Klondike Camp 90.25 18 IAmb IAmb 04 14 35.6
comp=Z,14nm,0.9s
PV13 Radium Mtn., P 90.27 50 IAmb IAmb 04 14 25.1
comp=Z,18nm,1.3s
E23K Chandalar 90.33 12 P P 04 14 21.9 +0.9
baz=212
MNTX Cornudas Mount 90.34 57 IAmb IAmb 04 14 26.9
comp=Z,25nm,1.6s
MNTX Cornudas Mount 90.34 57 P P 04 14 23.6 +1.7
baz=248
MNTX Cornudas Mount 90.34 57 P P 04 14 23.1 +1.3
baz=248
WTLY Wixon Lake, Y 90.46 24 P P 04 14 22.9 +1.1
baz=231,SNR=5.4
PV07 Paradox Valley 90.51 49 IAmb IAmb 04 14 28.5
comp=Z,27nm,1.4s
AHID Auburn Hatcher 90.62 45 IAmb IAmb 04 14 29.0
comp=Z,19nm,1.4s
MSO Missoula 90.62 40 P P 04 14 23.4 +0.5
baz=243
H27K Steamboat Moun 90.69 16 P P 04 14 23.5 +0.9
baz=226
G26K Porcupine Rive 90.70 15 P P 04 14 23.8 +1.2
baz=217
RDMU Red Mountain 90.73 47 IAmb IAmb 04 14 29.4
comp=Z,35nm,1.6s
ANMO Albuquerque 90.75 53 LR LR 04 48 35.4
comp=Z,494nm,19.3s,baz=338,slow=31
ANMO Albuquerque 90.75 53 P P 04 14 22.8 -1.1
ANMO IAmb IAmb 04 14 30.9
comp=Z,28nm,1.9s
ANMO Albuquerque 90.75 53 P P 04 14 24.3 +0.4
baz=247
ANMO Albuquerque 90.75 53 P P 04 14 24.6 +0.8
baz=247
ANMO Albuquerque 90.75 53 P P
ANMO pmax pmax **04 14 22.8 -1.1**
comp=Z,28nm,1.9s
F25K Christian Rive 90.79 14 P P 04 14 23.4 +0.3
baz=216
ULN Ulaanbaatar 90.80 321 P P 04 14 23.5 -0.2
ULN Ulaanbaatar 90.80 321 *ce*P **P 04 14 23.9 +0.1**
ULN pmax pmax
comp=Z,29nm,1.7s
TX31 Lajitas Ar. Si 90.85 59 P P 04 14 25.9 +1.6
baz=249
TXAR Lajitas Array 90.85 59 P P 04 14 27.2 +2.9
comp=Z,5.3nm,0.8s,baz=223,slow=5.7,SNR=62
TXAR PKKPbc **PKKPbc** **04 31 50.1 +0.1**
comp=Z,0.9nm,0.8s,baz=82,slow=3.2,SNR=10.0
TXAR LR LR 04 47 47.4
comp=Z,622nm,19.5s,baz=241,slow=31
comp=Z,5.3nm,0.8s
I29M Ogilvie Camp, 90.90 17 IAmb IAmb 04 14 26.4
comp=Z,27nm,1.4s
I29M Ogilvie Camp, 90.90 17 P P 04 14 24.1 +0.4
baz=222,SNR=7.5
D23K Nanushuk River 90.91 11 P P 04 14 24.7 +1.2
baz=211
G27K Doyon Strip 91.11 15 P P 04 14 25.3 +0.8
baz=219
SONM Songino Array 91.18 321 P P 04 14 25.4 -0.1
comp=Z,7.7nm,1.1s,baz=136,slow=4.3,SNR=32
SONM LR LR 04 52 44.5
comp=Z,180nm,21.8s,baz=134,slow=34
comp=Z,7.7nm,1.1s
SONM Songino Array 91.18 321 IAmb IAmb 04 14 28.1
comp=Z,28nm,1.6s
F26K Sheenjek River 91.21 14 P P 04 14 24.9 -0.1
baz=217
E25K Arctic Village 91.23 13 P P 04 14 25.9 +0.8
baz=216
D24K Happy Valley 91.42 12 P P 04 14 26.7 +0.7
baz=213
O20A White River Ci 91.48 48 P P 04 14 28.1 +1.0
baz=246
BOZ Bozeman (W) 91.50 42 IAmb IAmb 04 14 30.4
comp=Z,14nm,1.4s
BOZ Bozeman (W) 91.50 42 P P 04 14 27.6 +0.6
baz=244,SNR=8.6
YMR Madison River 91.52 43 IAmb IAmb 04 14 30.6
comp=Z,14nm,1.4s
S22A 4UR Ranch, Cre 91.55 51 P P 04 14 28.4 +0.8
baz=247
BW06 Boulder Array 91.65 45 IAmb IAmb 04 14 32.0
comp=Z,23nm,1.8s
BW06 Boulder Array 91.65 45 P P 04 14 28.9 +1.0
baz=246,SNR=5.6
PD31 Pinedale Array 91.65 45 IAmb IAmb 04 14 32.0
comp=Z,19nm,1.8s
PDAR Pinedale Array 91.65 45 P P 04 14 29.2 +1.3
comp=Z,1.7nm,0.8s,baz=215,slow=2.3,SNR=16
PDAR LR LR 04 51 37.3
comp=Z,235nm,18.1s,baz=254,slow=33
comp=Z,1.7nm,0.8s
H17A Grant Village 91.66 43 P P 04 14 28.9 +1.0
baz=245,SNR=5.4
WALA Waterton Lakes 91.66 38 IAmb IAmb 04 14 55.4
comp=Z,23nm,1.7s
C24K Franklin Bluff 91.92 12 P P 04 14 29.0 +0.8
baz=213
GTA Gaotai 91.94 311 *e*P **P 04 14 30.0 +0.8**
GTA pP pwP 04 14 34.4 -1.3
GTA sP sP 04 14 37.7 +5.4
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,270nm,6.8s
GTA LR LR
comp=Z,180nm,15.5s
GTA LR LR
comp=Z,240nm,15.9s
GTA LR LR
comp=Z,470nm,20.7s
EPYK Eagle Plains 92.08 17 IAmb IAmb 04 14 30.8
comp=Z,22nm,1.2s
EPYK Eagle Plains 92.08 17 P P 04 14 29.2 0.0
baz=224,SNR=11
E27K Coleen River 92.19 15 P P 04 14 30.8 +1.2
baz=220
BOD Bodaibo 92.21 332 *e*P **P 04 14 29.5 -0.3**
BOD pmax pmax
comp=Z,14nm,1.8s
KOTAN Kotaneelee Air 92.36 26 P P 04 14 31.0 +0.6
baz=235
SDCO Great Sand Dun 92.52 51 P P 04 14 33.5 +1.3
baz=248
SDCO Great Sand Dun 92.52 51 P P 04 14 32.9 +0.8
baz=248
G30M tAoh Zraii Nji 92.66 17 P P 04 14 31.6 -0.2
baz=224,SNR=12
RLMT Red Lodge 92.81 43 IAmb IAmb 04 14 37.8
comp=Z,14nm,1.4s
RLMT Red Lodge 92.81 43 P P 04 14 33.9 +0.7
baz=246,SNR=6.4
RWWY Rawlins 92.81 47 IAmb IAmb 04 15 43.4
comp=Z,29nm,1.6s
C26K Camden Bay 92.83 13 P P 04 14 32.9 +0.5
baz=216
C27K Jago River 92.85 13 P P 04 14 33.9 +1.4
baz=218
T25A Trinidad 93.11 52 P P 04 14 35.3 +0.5
baz=249
ISCO Idaho Springs 93.21 49 P P 04 14 36.6 +1.3
baz=248
ISCO Idaho Springs 93.21 49 P P 04 14 35.1 -0.3
baz=248
MSTX Muleshoe 93.22 55 IAmb IAmb 04 14 38.2
comp=Z,13nm,0.9s
MSTX Muleshoe 93.22 55 P P 04 14 36.5 +1.3
baz=250
MSTX Muleshoe 93.22 55 P P 04 14 36.0 +0.8
baz=250
SHL Shillong 93.22 296 IAmb IAmb 04 14 35.6
comp=Z,19nm,1.3s
SHL Shillong 93.22 296 P P 04 14 34.6 -0.9
Q24A Divide 93.23 50 IAmb IAmb 04 14 38.8
comp=Z,9.6nm,1.1s
Q24A Divide 93.23 50 P P 04 14 35.3 -0.2
baz=248
N23A Red Feather La 93.39 48 P P 04 14 36.1 0.0
baz=248
F31M Tsiigehtchic 93.68 17 P P 04 14 36.8 +0.5
baz=227,SNR=17
PLCA Paso Flores 94.12 136 LR LR 04 47 59.5
comp=Z,342nm,22.0s,baz=183,slow=30
ZAK Zakamensk 94.14 322 *e*P **P 04 14 38.9 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
INK Inuvik 94.33 17 LR LR 04 52 45.8
comp=Z,150nm,18.7s,baz=255,slow=33
INK Inuvik 94.33 17 IAmb IAmb 04 14 41.9
comp=Z,21nm,1.4s
INK Inuvik 94.33 17 P P 04 14 39.8 +0.4
baz=227,SNR=12
INK Inuvik 94.33 17 P P
INK pmax pmax **04 14 39.3 0.0**
comp=Z,12nm,1.4s
CMIG Matias Romero 94.35 74 LR LR 04 47 33.7
comp=Z,680nm,21.2s,baz=242,slow=29
WRGLY Wrigley 94.37 23 P P 04 14 40.7 +1.0
baz=236
AMTX Amarillo 94.38 55 IAmb IAmb 04 14 43.4
comp=Z,14nm,1.0s
AMTX Amarillo 94.38 55 P P 04 14 42.3 +1.8
baz=250
AMTX Amarillo 94.38 55 P P 04 14 40.6 +0.1
baz=250
GOMU GeErMu 94.44 307 P P 04 14 42.2 +1.1
GOMU pmax pmax
comp=Z,8.0nm,1.5s
GOMU pmax pmax
comp=Z,150nm,7.3s
GOMU LR LR
comp=Z,200nm,23.9s
GOMU LR LR
comp=Z,310nm,23.3s
GOMU LR LR
comp=Z,570nm,24.3s
ABTX Abilene, Hawle 95.22 57 P P 04 14 45.2 +0.8
baz=251
ABTX Abilene, Hawle 95.22 57 P P 04 14 43.9 -0.4
baz=251
LAO LASA Array 95.38 42 IAmb IAmb 04 14 49.7
comp=Z,12nm,1.2s
LAO LASA Array 95.38 42 P P 04 14 46.8 +2.0
baz=248
LAO LASA Array 95.38 42 P P 04 14 45.0 +0.2
baz=248
RSSD Black Hills 95.88 45 P P 04 14 46.1 -1.2
RSSD Black Hills 95.88 45 P P 04 14 48.6 +1.3
baz=250
RSSD Black Hills 95.88 45 P P 04 14 47.4 +0.1
baz=250
RSSD Black Hills 95.88 45 P P 04 14 48.7 +1.3
RSSD pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 96.01 346 P P 04 14 46.5 -0.5
comp=Z,1.5nm,0.6s,baz=270,slow=23,SNR=4.2
TIXI LR LR 04 54 01.0
comp=Z,263nm,20.4s,baz=80,slow=33
comp=Z,1.5nm,0.6s
TIXI Tiksi 96.01 346 *ce*P **P 04 14 46.7 -0.3**
TIXI pmax pmax
comp=Z,12nm,2.5s
WMOK Wichita Mounta 96.58 56 P P 04 14 52.0 +1.5
baz=252
WMOK Wichita Mounta 96.58 56 P P 04 14 50.9 +0.3
baz=252
U32A Winter Ranch, 96.93 54 P P 04 14 53.9 +1.8
baz=252
YKA Yellowknife Ar 97.48 26 P Pdif 04 14 54.6 +0.7
comp=Z,2.3nm,0.8s,baz=249,slow=4.6,SNR=33
YKA PP **PP** **04 18 46.6 -4.7**
comp=Z,0.3nm,0.9s,baz=238,slow=8.9,SNR=4.3
comp=Z,2.3nm,0.8s
HKT Hockley 97.48 61 P Pdif 04 14 56.9 +2.2

baz=253
PALK Pallekele 97.61 275 LR LR 05 00 17.8
comp=Z,212nm,19.7s,baz=221,slow=36
C36M Paulatuk 97.66 18 P **P** **04 14 53.4 -1.1**
baz=236
R32A Long Quarter, 97.79 52 P Pdif 04 14 57.9 +1.9
baz=252
A36M Sachs Harbour 98.86 16 P **P** **04 14 59.6 -0.2**
baz=235
WMQ Urumqi 101.95 312 *e*P **Pdif** **04 15 14.9 +0.5**
WMQ LR LR
comp=Z,310nm,21.7s
MKAR Makanchi Array 106.32 314 Pdiff **Pdif** **04 15 33.8 +0.1**
comp=Z,0.7nm,0.7s,baz=93,slow=6.4,SNR=7.8
BVAR Borovoye Array 114.52 320 PKP PKPdf 04 19 58.5 -1.8
comp=Z,1.3nm,0.7s,baz=98,slow=3.0,SNR=7.2
BRVK Borovoye 114.59 320*c* *i*PKIKP PKPdf 04 20 00.3 -0.1
BRVK pmax pmax
comp=Z,3.0nm,1.3s
ARU Arti 120.94 325 PKP **PKPdf** **04 20 12.1 -0.4**
comp=Z,2.6nm,0.5s,baz=124,slow=6.3,SNR=6.4
ARU Arti 120.94 325 PKPdf **PKPdf** **04 20 11.2 -1.3**
ARU Arti 120.94 325 *i* PKIKP **PKPdf** **04 20 11.8 -0.7**
ARU 04 21 42.2
ARU 04 27 23.6
ARU SS SS 04 38 12.9 -0.5
ABKAR Akbulak array 121.34 317 PKPdf **PKPdf** **04 20 12.7 -0.8**
ABKAR Akbulak array 121.34 317 **PKPdf** **04 20 12.3 -1.2**
AKTO Aktyubinsk 122.41 318 PKP **PKPdf** **04 20 15.0 -0.5**
comp=Z,3.0nm,0.7s,baz=51,slow=2.6,SNR=11
GEYT Alibeck 123.49 303 PKP **PKPdf** **04 20 17.7 -0.3**
comp=Z,4.0nm,0.8s,baz=212,slow=1.4,SNR=7.1
KIRV Kirov 125.00 329*c* *i*PKIKP **PKiKP** **04 20 20.7 +0.2**
BELG Belogornoye 128.21 323 PKP **PKPdf** **04 20 26.6 +0.1**
comp=Z,26nm,1.1s,baz=56,slow=7.3,SNR=5.6
KLMR Klimovskoe 128.33 335 *e*PKPdf **PKPdf** **04 20 25.5 -1.1**
KLMR AMP 04 20 29.2
comp=Z,84nm,1.9s
KLMR Klimovskoe 128.33 335 *e*PKIKP **PKPdf** **04 20 25.4 -1.1**
KLMR pmax pmax
comp=Z,84nm,1.9s
AKT Akhty 131.08 309 *e*PKIKP **PKPdf** **04 20 32.7 +0.2**
AKT *e* 04 22 50.9
AKT pmax pmax
comp=Z,17nm,1.4s
FINES FINESS Array B 132.75 341 PKP **PKPdf** **04 20 34.6 -0.3**
comp=Z,4.0nm,1.0s,baz=211,slow=6.7,SNR=3.9
OBN Obninsk 132.85 330 *e*PKIKP **PKPdf** **04 20 35.3 +0.1**
OBN *e* 04 22 57.0
OBN *e*PPP PPP 04 25 51.0
OBN pmax pmax
comp=Z,7.0nm,1.2s
VORR Voronezh 133.25 324 *e*PKIKP **PKiKP** **04 20 39.0 +1.7**
VORR pmax pmax
comp=Z,20nm,1.6s
KIV Kislovodsk 134.07 313 *e*PKIKP **PKPdf** **04 20 37.5 -0.6**
KIV *e* 04 23 10.1
KIV pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 135.09 248 PKP **PKPdf** **04 20 40.6 -0.5**
comp=Z,2.5nm,0.7s,baz=339,slow=1.2,SNR=6.2
KMBO Kilima Mbogo 135.09 248*c* *i*PKIKP **PKPdf** **04 20 40.9 -0.2**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
MNK Minsk 137.17 333 *e*PKP **PKPdf** **04 20 39.6 -3.8**
comp=E,4.0nm,1.6s
MNK *e*PKP **PKPdf** **04 20 39.6 -3.8**
comp=N,22nm,1.1s
MNK *e*PKP **PKPdf** **04 20 39.6 -3.8**
comp=Z,6.0nm,0.8s,baz=47
MNK *i* PP **PP** **04 23 24.5 -2.9**
MNK *i* PPP PPP 04 26 23.4
MNK *i* SKS **SKSdf** **04 27 50.5 -3.6**
MNK *i* SKKS **SKKSdf** **04 37 26.5 -7.0**
MNK *i* SS **SS** **04 41 31.1 -2.1**
MNK *i* SSS SSS 04 46 38.6
MNK *i* LQ LQ 05 14 01.2
MNK *i* LR LR 05 18 24.7
MNK *i* LRM MLR 05 22 50.2
comp=Z,439nm,20.6s
MNK *i* LRM MLR 05 23 04.4
comp=E,98nm,19.3s
MNK *i* LRM MLR 05 23 05.7
comp=N,1μm,14.2s
MNK Minsk 137.17 333 *e*PKIKP **PKPdf** **04 20 39.5 -3.8**
MNK *i* 04 23 24.4
MNK *i* 04 27 50.5
MNK *i* SS SS 04 41 31.0 -2.1
MNK *i* SSS SSS 04 46 38.5
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,22nm,1.1s
MNK pmax pmax
comp=E,4.0nm,1.6s
MNK MLR MLR
comp=Z,439nm,21.0s
MNK MLR MLR
comp=E,98nm,19.0s
MNK MLR MLR
comp=N,1μm,14.0s
AKASG Malin Array Be 139.04 328 PKIP **PKiKP** **04 20 48.4 -0.7**
comp=N,0.3nm,0.2s,baz=36,slow=1.4,SNR=8.8
AKASG Malin Array Be 139.04 328*c* *i*PKIKP **PKiKP** **04 20 48.9 -0.2**
AKBB Malin Array Si 139.04 328*c* *i*PKIKP **PKiKP** **04 20 50.2 +1.1**
BRTR Keskin Array B 141.86 311 PKP **PKPdf** **04 20 52.5 -0.1**
comp=N,1.4nm,1.0s,baz=141,slow=6.3,SNR=5.7
TPGR Topolog 142.92 321 ⇑P **PKPdf** **04 20 49.8 -4.3**
TESR Tescani 142.97 325 ⇑P **PKPdf** **04 20 51.4 -2.8**
MDUB Mudurnu 143.28 313 PKPdf PKPbc 04 20 51.9 -0.1
HARR Harsova 143.30 321 ⇑P PKPbc 04 20 52.7 +0.9
HARR Harsova 143.30 321 ⇑PKIKP PKPbc 04 20 52.7 +0.9
COVR Voineasa-Covas 143.62 324 ⇑P PKPbc 04 20 53.8 +1.1
STHS Stebnicka Huta 143.68 332 *e*PKIKP PKPbc 04 20 53.2 +0.4
STHS Stebnicka Huta 143.68 332 *e*PKP PKPbc 04 20 53.2 +0.4
OZUR 143.69 325 ⇓P PKPbc 04 20 54.3 +1.3
EKA Eskdalemuir Ar 143.76 359 PKP PKPbc 04 20 53.3 +0.5
comp=N,2.4nm,0.8s,baz=326,slow=2.2,SNR=4.0
UZH Uzhgorod 143.77 331 *e*PKIKP PKPab 04 20 52.8 +0.5
UZH *e* 04 20 58.5
ARCR ARCALIA 143.82 327 ⇑P **PKPdf** **04 20 54.6 -1.1**
ISR Istrita 143.86 323 ⇑P PKPbc 04 20 53.4 -0.2
ISR Istrita 143.86 323 ⇑PKIKP PKPbc 04 20 53.4 -0.1
RUE Ruedersdorf 143.93 342 *e*PKPbc PKPbc 04 20 54.0 +0.7
baz=24,slow=2.9
MLR Muntele Rosu 143.98 324 PKP PKPbc 04 20 54.3 +0.4
comp=N,118nm,1.5s,baz=2.5,slow=3.8,SNR=19
MLR Muntele Rosu 143.98 324 ⇑P PKPbc 04 20 54.1 +0.2
DOPR Dopca 143.99 325 ⇑P **PKPdf** **04 20 55.2 -0.9**
TRPA Tarpa 144.01 330 ⇑P PKPbc 04 20 54.9 +1.1
LEHL Lehliu 144.08 322 ⇑P **PKPdf** **04 20 55.6 -0.6**
SECR 144.18 323 ⇑P PKPbc 04 20 55.5 +1.0
SULR 144.28 322 ⇑P PKPbc 04 20 55.6 +0.9
MDB Medias 144.42 326 ⇑P PKPbc 04 20 55.5 +0.4
MDB Medias 144.42 326 ⇑PKIKP PKPbc 04 20 55.5 +0.3
PRD Provadia 144.44 320 P **PKPdf** **04 20 56.3 -0.5**
CJR Cluj-Napoca 144.46 327 ⇑P **PKPdf** **04 20 56.6 -0.2**
CJR Cluj-Napoca 144.46 327 ⇑PKIKP **PKPdf** **04 20 56.6 -0.2**
VOIR 144.51 324 ⇑P PKPbc 04 20 56.3 +0.8
VOIR 144.51 324 ⇑PKIKP PKPbc 04 20 56.3 +0.7
KSP Ksiaz 144.52 338 *e*PKPdf PKPbc 04 20 55.6 +0.3
MTUR Matau 144.63 324 ⇓P **PKPdf** **04 20 56.9 -0.3**
MTUR Matau 144.63 324 ⇓PKIKP **PKPdf** **04 20 56.9 -0.3**
OKC Ostrava-Krasne 144.65 335 *e*PKP **PKPdf** **04 20 56.6 -0.4**
OKC Ostrava-Krasne 144.65 335 *e*PKIKP **PKPdf** **04 20 56.6 -0.4**
KECS Kecovo 144.70 332 *e*PKIKP **PKPdf** **04 20 57.3 +0.2**
KECS Kecovo 144.70 332 *e*PKP **PKPdf** **04 20 57.3 +0.2**
MARR Marisel-Cluj 144.73 327 ⇑P **PKPdf** **04 20 57.2 -0.1**
FLTG Flechtingen 144.77 344 *e*PKPbc PKPbc 04 20 56.4 +0.4
baz=24,slow=2.9
RAZG Razgrad 144.78 321 ⇑P **PKPdf** **04 20 57.3 -0.1**
ARR Arges 144.78 325 ⇑P **PKPdf** **04 20 58.1 +0.6**
OSTC Ostas 144.78 338 *e*PKP **PKPdf** **04 20 57.5 +0.3**
RETH Rethem/Aller, 144.85 346 *e*PKPbc **PKPdf** **04 20 57.0 -0.2**
baz=24,slow=2.9
DRGR 144.86 328 ⇑P **PKPdf** **04 20 57.6 0.0**
DRGR 144.86 328 ⇑PKIKP **PKPdf** **04 20 57.6 0.0**
UPC Upice 144.90 338 *e*PKP **PKPdf** **04 20 57.6 +0.2**
UPC Upice 144.90 338 *e*PKIKP **PKPdf** **04 20 57.6 +0.2**
NRDL Niedersach Rie 144.90 345 *e*PKPbc **PKPdf** **04 20 57.2 0.0**
baz=24,slow=2.9
DPC Dobruska-Polom 144.92 338 *e*PKP **PKPdf** **04 20 57.6 +0.1**
DPC Dobruska-Polom 144.92 338 *e*PKIKP **PKPdf** **04 20 57.6 +0.1**
MORC Moravsky Berou 144.93 336 *e*PKP PKPbc 04 20 57.2 +0.5

KRLC Kraliky 144.97 337 *e*PKP **PKPdf** **04 20 58.0 +0.4**
KRLC Kraliky 144.97 337 *e*PKIKP **PKPdf** **04 20 58.0 +0.4**
ASSE Asse, Remlinge 145.10 345 *e*PKPbc **PKPdf** **04 20 58.0 +0.4**
baz=24,slow=2.9
HUMR Humele 145.10 323 ⇑P **PKPab** **04 20 57.6 +0.2**
MAUC Maruska 145.15 335 *e*PKP **PKPdf** **04 20 58.5 +0.6**
CLL Collm 145.19 342 ⇓*i*PKPbc **PKPdf** **04 20 58.1 +0.2**
comp=Z,142nm,1.2s
CLL *e*(PKiKP) 04 21 05.0
CLL Collm 145.19 342 ⇓*i*PKIKP **PKPdf** **04 20 58.1 +0.2**
CLL *e* 04 21 05.0
CLL pmax pmax
comp=Z,142nm,1.2s
CLL Collm 145.19 342 *e*PKPbc **PKPdf** **04 20 58.1 +0.2**
baz=24,slow=2.9
LOT Lotru 145.20 325 ⇑P **PKPdf** **04 20 58.4 +0.2**
COPA Copaceanca 145.21 322 ⇑P **PKPbc** **04 20 56.7 -1.0**
BRG Berggiesshubel 145.28 340 *i* PKP **PKPdf** **04 20 58.7 +0.6**
BRG Amp 04 21 01.2
comp=Z,127nm,1.3s
BRG Berggiesshubel 145.28 340 P **PKiKP** **04 21 06.0 +4.1**
BRG Amp 04 21 08.5
comp=Z,34nm,1.0s
BRG Berggiesshubel 145.28 340 *i* PKIKP **PKPdf** **04 20 58.6 +0.6**
BRG 04 21 06.0
BRG pmax pmax
comp=Z,127nm,1.3s
BRG pmax pmax
comp=Z,34nm,1.0s
BRG Berggiesshubel 145.28 340 *e*PKPbc **PKPdf** **04 20 58.6 +0.6**
baz=24,slow=2.9
SZH Strazhica 145.29 321 P **PKPdf** **04 20 58.6 +0.3**
JMB Yambol 145.34 319 P **PKPdf** **04 20 59.4 +1.0**
DEV Deva 145.37 327 ⇑P **PKPab** **04 20 59.5 +1.1**
DEV Deva 145.37 327 ⇑PKIKP **PKPab** **04 20 59.5 +1.1**
PVCC Panska Ves 145.38 339 *e*PKP **PKPab** **04 20 59.3 +1.1**
PVCC Panska Ves 145.38 339 *e*PKIKP **PKPab** **04 20 59.3 +1.1**
PSZ Piszkesteto 145.39 332 ⇓P **PKPab** **04 20 59.2 +0.7**
PSZ Piszkesteto 145.39 332 ⇓PKIKP **PKPab** **04 20 59.2 +0.7**
VYHS Vyhne 145.41 333 *e*PKIKP **PKPab** **04 20 59.0 +0.5**
VYHS Vyhne 145.41 333 *e*PKP **PKPab** **04 20 59.0 +0.5**
CLZ Clausthal 145.44 345 *e*PKPbc **PKPab** **04 20 59.3 +0.8**
baz=24,slow=2.9
EDRB Edirne 145.57 318 P **PKPdf** **04 20 59.0 +0.2**
IBBN Ibbenburen 145.60 348 *e*PKPbc **PKPab** **04 20 59.3 +0.4**
baz=24,slow=2.9
JAVC Velka Javorina 145.61 335 *e*PKP **PKPab** **04 21 00.7 +1.4**
NEUB Neuenburg 145.64 343 *e*PKPbc **PKPab** **04 20 59.7 +0.6**
baz=24,slow=2.9
VRAC Vranov 145.67 336 PKPbc **PKPab** **04 20 59.8 +0.3**
comp=Z,29nm,1.2s,baz=36,slow=3.5,SNR=17
VRAC Vranov 145.67 336 *e*PKP **PKPab** **04 20 59.7 +0.3**
PVL Pavlikeni 145.68 321 P **PKPab** **04 21 00.7 +1.1**
SIRR Siria 145.74 328 ⇓P **PKPab** **04 21 00.5 +0.7**
VLAD Vladila 145.76 323 ⇑P **PKPab** **04 21 00.4 +0.5**
GZR Gura Zlata 145.76 326 ⇑P **PKPdf** **04 20 59.1 -0.1**
GZR Gura Zlata 145.76 326 ⇑PKIKP **PKPdf** **04 20 59.1 -0.1**
DSB Dublin 145.79 3 PKPdf **PKPdf** **04 20 57.7 -1.1**
GTTG Gottingen 145.81 345 *e*PKPbc **PKPab** **04 21 00.3 +0.5**
baz=24,slow=2.9
GOPC GO Pecny, Ondr 145.82 339 *e*PKP **PKPab** **04 21 00.4 +0.4**
GOPC GO Pecny, Ondr 145.82 339 *e*PKP2 **PKPab** **04 21 00.4 +0.4**
PRU Pruhonice 145.85 339 *e*PKP **PKPab** **04 21 00.2 +0.2**
PRU Pruhonice 145.85 339 *e*PKP2 **PKPab** **04 21 00.2 +0.2**
SURR Surduc 145.86 327 ⇑P **PKPab** **04 21 00.3 +0.1**
KRUC Moravsky 145.95 336 *e*PKP **PKPbc** **04 21 00.1 +0.2**
PLVB Pleven 146.00 322 ⇑P **PKPab** **04 21 01.2 +0.4**
TANN Tannenbergstha 146.14 341 *e*PKPbc **PKPab** **04 21 01.7 +0.5**
baz=24,slow=2.9
MODS Modra-Piesok 146.16 335 *e*PKP2 **PKPab** **04 21 02.0 +0.7**
MODS Modra-Piesok 146.16 335 *e*PKP **PKPab** **04 21 02.0 +0.7**
WERD Werda 146.16 342 *e*PKPbc **PKPab** **04 21 01.6 +0.4**
baz=24,slow=2.9
PLN Plauen 146.17 342 PKP2 **PKPab** **04 21 01.6 +0.4**
PLN Plauen 146.17 342 *e*PKPbc **PKPab** **04 21 01.6 +0.4**
baz=24,slow=2.9
MOX Moxa 146.19 342 PKP2 **PKPab** **04 21 01.7 +0.4**
MOX Moxa 146.19 342 *e*PKPbc **PKPab** **04 21 01.7 +0.4**
baz=24,slow=2.9
BZS Buzias 146.21 327 ⇑P **PKPbc** **04 21 00.6 -0.2**
BZS Buzias 146.21 327 ⇑PKP2 **PKPbc** **04 21 00.6 -0.2**
DIM Dimitrovgrad 146.22 319 P **PKPab** **04 21 01.9 +0.2**
GUNZ Gunzen 146.23 341 *e*PKPbc **PKPab** **04 21 02.0 +0.5**
baz=24,slow=2.9
WERN Wernitzgruen 146.28 341 *e*PKPbc **PKPab** **04 21 02.2 +0.5**
baz=24,slow=2.9
HERR Herculane 146.29 326 ⇑P **PKPdf** **04 21 00.6 +0.7**
NKC Novy Kostel 146.31 341 *e*PKP **PKPab** **04 21 01.9 +0.1**
NKC Novy Kostel 146.31 341 *e*PKP2 **PKPab** **04 21 01.9 +0.1**
ZST Bratislava 146.37 335 *e*PKP2 **PKPab** **04 21 02.2 +0.2**
ZST Bratislava 146.37 335 *e*PKP **PKPab** **04 21 02.2 +0.2**
DJES Djerdap 146.38 325 ⇑P **PKPab** **04 21 02.0 -0.2**
UBBA Unterbreizbach 146.47 344 *e*PKPbc **PKPab** **04 21 02.9 +0.7**
baz=24,slow=2.9
KASTN Kahler Asten 146.50 346 *e*PKPbc **PKPab** **04 21 02.3 -0.1**
baz=24,slow=2.9
KDZ Kurdzhali 146.52 319 P **PKPbc** **04 21 01.7 -0.2**
BUG Bochum--Univer 146.52 348 PKP2 **PKPab** **04 21 02.2 -0.3**
BUG Bochum--Univer 146.52 348 *e*PKPbc **PKPab** **04 21 02.2 -0.3**
baz=24,slow=2.9
MPEP Malo Peshtene 146.53 322 P **PKPab** **04 21 03.5 +0.7**
BANR Banloc 146.62 327 ⇑P **PKPab** **04 21 03.5 +0.4**
MANZ Manzenberg 146.63 341 *e*PKPbc **PKPab** **04 21 02.9 -0.1**
baz=24,slow=2.9
PLD Plovdiv 146.70 320 P **PKiKP** **04 21 04.6 -0.6**
RDO Rodhopi 146.71 318 P **PKPab** **04 21 03.8 +0.2**
MDVR Moldovita 146.73 326 ⇓P **PKPbc** **04 21 02.6 +0.2**
YER Yerkesik 146.74 310 P **PKPbc** **04 21 02.8 0.0**
PGB Panagyurishte 146.76 321 P **PKPbc** **04 21 02.7 0.0**
ROTZ Rotzenmuhle 146.79 341 *e*PKPbc **PKPab** **04 21 03.4 -0.3**
baz=24,slow=2.9
EZN Ezine 146.89 315 P **PKiKP** **04 21 06.6 +1.0**
KHC Kasperske Hory 146.91 339 *e*PKP **PKPbc** **04 21 02.9 +0.1**
KHC Kasperske Hory 146.91 339 *e*PKP2 **PKPbc** **04 21 02.9 +0.1**
RZN Rozhen 146.93 319 P **PKPbc** **04 21 03.0 -0.3**
CONA Conrad Observa 147.08 336 *ep*PKP pPKPdf 04 21 04.1 +0.4
comp=Z,76nm,1.3s,SNR=20
SMTH Samothraki Isl 147.08 317 P **PKPdf** **04 21 02.5 +1.0**
RONA Rosalia, Austr 147.09 335 *ep*PKP pPKPdf 04 21 04.2 +0.5
comp=Z,65nm,1.5s,SNR=19
GEC2 GERESS Array S 147.11 339 PKP2 **PKPbc** **04 21 03.9 +0.5**
GEC2 GERESS Array S 147.11 339 *e*PKPbc **PKPbc** **04 21 04.0 +0.5**
baz=24,slow=2.9
GERES GERESS Array B 147.11 339 PKPbc **PKPbc** **04 21 03.8 +0.3**
comp=Z,6.6nm,0.8s,baz=17,slow=1.8,SNR=18
GRF Grafenberg Arr 147.16 342 PKP2 **PKPab** **04 21 04.6 -0.5**
GRF Grafenberg Arr 147.16 342 *e*PKPbc **PKPab** **04 21 04.6 -0.5**
baz=24,slow=2.9
MORH Mrgy, Hungar 147.23 331 ⇑P **PKPdf** **04 21 02.6 +1.1**
VTS Vitosha 147.27 322 ⇑P **PKPbc** **04 21 04.9 +0.7**
VTS Vitosha 147.27 322 ⇑PKP2 **PKPbc** **04 21 04.9 +0.7**
VTS Vitosha 147.27 322 P **PKPbc** **04 21 03.8 -0.4**
TNS Taunus Mts 147.40 345 *e*PKPbc **PKPbc** **04 21 05.0 +0.8**
baz=24,slow=2.9
AHRW Bad Neuenahr-A 147.41 347 *e*PKPbc **PKPbc** **04 21 04.9 +0.8**
baz=24,slow=2.9
KAVA Kavala 147.44 318 P **PKPbc** **04 21 03.8 -0.7**
FRGS Fruska Gora 147.44 328 ⇑P **PKPab** **04 21 05.9 -0.5**
FRGS Fruska Gora 147.44 328 *e*P **PKPbc** **04 21 04.5 +0.1**
BTNL Ternell 147.56 348 *d*PKP **PKPbc** **04 21 04.7 +0.2**
MEM Membach 147.56 348 *d*PKP **PKPbc** **04 21 04.8 +0.3**
MMB Musomiste 147.59 320 P **PKPbc** **04 21 04.3 -0.7**
NVR Nevrokopi 147.65 319 P **PKPbc** **04 21 04.0 -1.1**
BISTI Sart Tilman 147.66 349 *d*PKP **PKPbc** **04 21 05.2 +0.4**
MOA Molln 147.75 337 *e*PKP **PKPbc** **04 21 05.7 +0.5**
comp=Z,32nm,1.3s,SNR=8.0
ARSA Arzberg 147.76 335 *e*PKP **PKPbc** **04 21 06.3 +1.0**
comp=Z,17nm,1.4s
CHOS Chios island 147.77 313 P **PKPbc** **04 21 05.0 -0.6**
BHOU Houvegnez 147.80 348 *d*PKP **PKPbc** **04 21 05.9 +0.7**
KKB Krupnik 147.82 321 P **PKPbc** **04 21 06.1 +0.5**
KOKK Kokkinochori, 147.87 318 P **PKPbc** **04 21 05.0 -0.7**
BCLA Clavier 147.87 349 *d*PKP **PKiKP** **04 21 07.1 -0.2**
BGES Gesves 147.94 349 *d*PKP **PKPbc** **04 21 05.9 +0.3**
SRS Serrai 147.95 319 P **PKPdf** **04 21 04.2 +1.3**
DIVS Divibare 148.10 327 *e*P **PKPdf** **04 21 04.2 +1.1**
BIOA Bad Ischl, Aus 148.11 338 *ep*PKP pPKPdf 04 21 05.9 +0.5
comp=Z,14nm,1.1s
RCHB Rochefort 148.14 349 *d*PKP **PKPbc** **04 21 05.7 -0.4**
KARP Karpathos 148.20 307 P **PKPbc** **04 21 05.8 -1.0**
SOH Sokhos 148.27 319 P **PKPab** **04 21 09.6 -0.2**
DOU Dourbes 148.31 350 *d*PKP **PKPbc** **04 21 05.3 -1.2**
KNT Kendrikon 148.35 320 P **PKPbc** **04 21 06.0 -1.0**

SOKA Soboth 148.42 335 *i* pPKP **PKPbc** **04 21 07.0 -0.1**
comp=Z,18nm,1.4s,SNR=7.3
WLF Walferdange 148.43 348 PKP2 **PKiKP** **04 21 08.0 -0.5**
WLF Walferdange 148.43 348 *d*PKP **PKiKP** **04 21 07.8 -0.6**
WLF Walferdange 148.43 348 *e*PKPbc **PKiKP** **04 21 08.1 -0.5**
baz=24,slow=2.9
VAY Valandovo 148.45 320 *i* P **PKPbc** **04 21 06.4 -0.8**
FUR Furstenfeldbru 148.50 341 PKP2 **PKPbc** **04 21 07.8 +0.7**
FUR Furstenfeldbru 148.50 341 *e*PKPbc **PKPbc** **04 21 07.9 +0.7**
baz=24,slow=2.9
HORT Hortiatis 148.55 319 P **PKPbc** **04 21 06.6 -1.0**
STU Stuttgart 148.55 344 PKP2 **PKPbc** **04 21 08.0 +0.8**
STU Stuttgart 148.55 344 *e*PKPbc **PKPbc** **04 21 08.0 +0.8**
baz=24,slow=2.9
BBLS Lazići 148.56 327 *e*P **PKPbc** **04 21 07.2 -0.3**
HAPS Han Pijesak,Bl 148.64 328 *e*P **PKPbc** **04 21 07.8 0.0**
SKO Skopje 148.72 322 *i* P **PKPdf** **04 21 02.1 -2.0**
KBA Koelnbreinsper 148.74 337 *e*PKiKP **PKPbc** **04 21 07.8 -0.2**
comp=Z,11nm,1.0s
OBKA Obir 148.75 335 *i* PKP **PKPbc** **04 21 07.7 -0.3**
comp=Z,9.7nm,1.6s
OBKA Obir 148.75 335 *e*P **PKPbc** **04 21 06.3 -1.7**
RUDO Rudo 148.76 327 *e*P **PKPbc** **04 21 06.6 -1.3**
A051A Mrakovica 148.94 331 *e*P **PKPbc** **04 21 08.3 -0.1**
CRES Cresnjev 148.94 334 *e*P **PKPbc** **04 21 07.7 -0.6**
MYKA Terra Mystica 149.00 337 *e*PKiKP **PKPbc** **04 21 08.6 +0.1**
comp=Z,20nm,1.2s
BLY Banja Luka 149.01 330 *e*P **PKPbc** **04 21 08.3 -0.2**
WATA Walderalm 149.13 340 *e*PKiKP **PKPbc** **04 21 08.9 -0.1**
comp=Z,30nm,1.2s,SNR=8.6
WTTA Wattenberg 149.17 339 *e*PKiKP **PKPbc** **04 21 09.3 +0.2**
comp=Z,35nm,1.4s,SNR=9.3
BFO Black Forest 149.19 344 PKPdf **PKPdf** **04 21 04.0 -0.7**
BFO Black Forest 149.19 344 PKIKP **PKPdf** **04 21 04.0 -0.7**
BFO Black Forest 149.19 344 *e*PKPbc **PKPbc** **04 21 09.4 +0.5**
baz=24,slow=2.9
LIT Litokhoron 149.22 319 PKPdf **PKPdf** **04 21 05.3 +0.3**
LIT Litokhoron 149.22 319 PKIKP **PKPdf** **04 21 05.3 +0.3**
RETA Reutte 149.26 341 *e*PKP **PKPbc** **04 21 07.8 -1.3**
comp=Z,17nm,1.3s
MOTA Moosalm 149.28 340 *e*PKiKP **PKPbc** **04 21 09.4 0.0**
comp=Z,28nm,1.3s,SNR=8.4
BOJS Bojanci 149.28 333 *e*P **PKPbc** **04 21 09.1 -0.1**
UBR Ueberruh 149.29 342 *e*PKPbc **PKPbc** **04 21 09.5 +0.3**
baz=24,slow=2.9
MGRS Mrkonjic Grad 149.31 330 *e*P **PKPdf** **04 21 05.4 +0.4**
ABTA Abfaltersbach 149.32 338 *e*PKP **PKPbc** **04 21 08.7 -0.6**
comp=Z,21nm,1.2s,SNR=6.2
SQTA Sankt Quirin 149.35 340 *e*PKiKP **PKPbc** **04 21 09.6 +0.2**
comp=Z,34nm,1.5s,SNR=12
DION Dionisos Attik 149.38 314 P **PKPbc** **04 21 09.4 -0.3**
CEY Cerknica 149.43 335 *e*P **PKPdf** **04 21 07.5 +2.3**
PTL Penteli 149.44 314 P **PKPbc** **04 21 09.7 -0.2**
FNA Florina 149.50 321 P **PKPbc** **04 21 08.8 -1.2**
A050A Klekovaca 149.51 331 *e*P **PKPbc** **04 21 09.0 -0.9**
ATHU Athens Univers 149.53 314 P **PKPbc** **04 21 08.9 -1.2**
VLY Vlyla,Athens 149.59 314 P **PKPbc** **04 21 09.2 -1.0**
TYRN Tyrnavos 149.61 318 P **PKPbc** **04 21 08.4 -1.8**
OHR Ohrid 149.63 322 *i* P **PKPbc** **04 21 10.8 +0.5**
PDG Podgorica 149.64 325 ⇓P **PKPbc** **04 21 10.3 +0.2**
FETA Feichten 149.68 340 *e*PKiKP **PKPbc** **04 21 10.7 +0.3**
comp=Z,30nm,1.3s,SNR=7.6
DAVA Damuels 149.71 342 *e*PKiKP **PKPbc** **04 21 10.3 -0.1**
comp=Z,41nm,1.5s,SNR=10
SKDS Skadanscina 149.76 335 *e*P **PKPbc** **04 21 08.3 -2.1**
NEST Nestorio 149.92 320 P **PKPbc** **04 21 11.0 -0.1**
MAKR Makrakomi, Fth 150.07 317 P **PKPbc** **04 21 10.8 -0.6**
LOUT Loutraki 150.07 315 P **PKPbc** **04 21 10.0 -1.4**
STON Ston 150.15 327 *e*P **PKPbc** **04 21 11.7 +0.4**
DAVOX Davos/Dischmat 150.16 341 PKPbc **PKPbc** **04 21 11.8 +0.2**
comp=Z,20nm,1.0s,baz=84,slow=2.4,SNR=30
EPID Epidavros 150.17 314 P **PKPbc** **04 21 09.7 -2.0**
THAL Thalero 150.25 315 P **PKPbc** **04 21 11.2 -0.6**
EVR Evrytania 150.33 317 P **PKiKP** **04 21 13.0 +0.1**
ANX Ano Chora 150.44 317 P **PKiKP** **04 21 13.0 -0.1**
SERG Sergoula 150.45 316 P **PKiKP** **04 21 12.9 -0.2**
JAN Janina 150.50 319 P **PKPbc** **04 21 12.6 +0.2**
EFP Efpalio 150.54 316 P **PKPbc** **04 21 12.6 +0.1**
KLV Kalavryta, Ach 150.59 316 P **PKPbc** **04 21 12.1 -0.6**
PVO Paravola 150.68 317 P **PKPbc** **04 21 11.9 -0.9**
DRO Drossia 150.93 316 P **PKPbc** **04 21 12.4 -1.1**
RLS Riolos of Patr 151.04 316 P **PKPbc** **04 21 13.7 +0.1**
NYDR Nydri-Lefkada 151.16 318 P **PKPbc** **04 21 13.7 -0.2**
BNI Bardonecchia 152.65 344 PKPdf **PKPdf** **04 21 08.7 -1.6**
BNI Bardonecchia 152.65 344 PKIKP **PKPdf** **04 21 08.7 -1.6**
TIP Timpagrande 153.24 323 **PKPbc** **04 21 17.7 -1.0**
ESDC Sonseca Array 159.42 1 PKPab **PKPab** **04 21 57.5 +0.7**
comp=Z,1.4nm,0.9s,baz=355,slow=4.7,SNR=6.7

IDC 04 04:02:56.2±9.0, 33.04S×179.81W, h103km±87km, mb3.6/2, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=76.2km s-min=60.9km az=163.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.78**	**205**	P		P	Pn	04 04 20.3	+0.9
	1.9nm,0.3s,baz=178,slow=4.2,SNR=11								
URZ				S		Sn		04 05 23.9	-0.4
	10nm,0.6s,baz=248,slow=14,SNR=1.0								
ASAR	**Alice Springs**	**41.51**	**271**	P		P	P	04 10 33.3	-0.2
	12nm,0.6s								
	1.5nm,1.0s,baz=110,slow=7.4,SNR=0.9								
	1.5nm,1.0s								
WRA	**Warramunga Arr**	**42.74**	**276**	P		P	P	04 10 43.6	+0.1
	1.6nm,0.7s,baz=114,slow=7.8,SNR=8.5								
	1.6nm,0.7s								
FINES	**FINESS Array B**	**147.04**	**337**	PKPbc		PKPbc		04 22 25.1	-1.0
	4.2nm,1.0s,baz=29,slow=3.2,SNR=1.7								

IDC 04 04:20:11.0±3.4, 50.28S×114.63E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=187.4km s-min=66.3km az=121.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.38**	**358**	T		T	T	04 39 19.8	
	baz=179,slow=74,SNR=29								
H01W1	**Cape Leeuwin H**	**15.38**	**359**	T		T	T	04 39 17.9	
	baz=179,slow=74,SNR=35								
H01W3	**Cape Leeuwin H**	**15.39**	**358**	T		T	T	04 39 14.5	
	baz=179,slow=74,SNR=29								
ASAR	**Alice Springs**	**30.52**	**37**	P		P	P	04 26 25.9	0.0
	1.0nm,0.7s,baz=206,slow=7.6,SNR=9.8								
	1.0nm,0.7s								
WRA	**Warramunga Arr**	**34.08**	**34**	P		P	P	04 26 57.2	+0.1
	2.0nm,0.8s,baz=203,slow=9.6,SNR=6.0								
	2.0nm,0.8s								
H08S2	**Diego Garcia H**	**55.04**	**306**	T		T	T	05 28 35.7	
	baz=148,slow=76,SNR=5.8								
H08S1	**Diego Garcia H**	**55.05**	**306**	T		T	T	05 28 34.3	
	baz=148,slow=76,SNR=7.3								
H08S3	**Diego Garcia H**	**55.06**	**306**	T		T	T	05 28 35.5	

RDO				S	**Sn**	**04 34 56.2**	**-1.7**
RDO				AML	AML	04 34 58.8	
	comp=E,865μm,0.3s						
RDO				AML	AML	04 34 59.2	
	comp=N,1372μm,0.3s						
EDRB	**Edirne**	**1.17**	**104**	P	**Pn**	**04 34 44.5**	**-0.5**
EDRB				S	**Sn**	**04 35 00.5**	**-1.1**
	comp=N,62nm,0.3s						
EDRB	**Edirne**	**1.17**	**104**	Pn	**Pn**	**04 34 44.4**	**-0.5**
KAVA	**Kavala**	**1.26**	**205**	P	**Pn**	**04 34 46.4**	**+0.2**
KAVA				S	**Sn**	**04 35 04.2**	**+0.4**
	comp=N,415nm,0.2s						
KAVA	**Kavala**	**1.26**	**205**	P	**Pn**	**04 34 46.3**	**+0.1**
KAVA				S	**Sn**	**04 35 03.6**	**-0.2**
NVR	**Nevrokopi**	**1.29**	**232**	P	**Pb**	**04 34 47.2**	**+0.7**
NVR				S	**Sn**	**04 35 06.2**	**+1.7**
	comp=N,148nm,0.5s						
NVR	**Nevrokopi**	**1.29**	**232**	P	**Pb**	**04 34 47.1**	**+0.6**
NVR				S	**Sn**	**04 35 05.0**	**+0.5**
NVR				AML	AML	04 35 07.9	
	comp=E,232μm,0.3s						
NVR				AML	AML	04 35 08.1	
	comp=N,363μm,0.8s						
PLVB	**Pleven**	**1.32**	**341**	⇑P	**Pn**	**04 34 47.0**	**+0.1**
PLVB				⇑S	**Sg**	**04 35 03.5**	**-0.3**
ALN	**Alexandroupoli**	**1.39**	**153**	P	**Pg**	**04 34 48.1**	**0.0**
ALN				S	**Sn**	**04 35 08.1**	**+1.1**
ALN	**Alexandroupoli**	**1.39**	**153**	Pn	**Pg**	**04 34 48.9**	**+0.8**
ALN				Sn	**Sn**	**04 35 08.7**	**+1.8**
ALN	**Alexandroupoli**	**1.39**	**153**	P	**Pg**	**04 34 48.0**	**-0.1**
ALN				S	**Sn**	**04 35 06.0**	**-0.9**
ALN				AML	AML	04 35 09.2	
	comp=E,250μm,0.3s						
ALN				AML	AML	04 35 09.7	
	comp=N,194μm,0.3s						
UKOP	**Uzunkopru-Edir**	**1.47**	**133**	Pn	**Pg**	**04 34 50.1**	**+0.6**
UKOP				Sn	**Sg**	**04 35 10.7**	**+2.2**
ZIMR		**1.52**	**4**	⇑P	**Pg**	**04 34 51.1**	**+0.6**
ZIMR				⇑S	**Sg**	**04 35 11.3**	**+1.2**
VTS	**Vitosha**	**1.54**	**288**	⇑P	**Pn**	**04 34 50.4**	**+0.2**
VTS				⇑S	**Sn**	**04 35 06.5**	**-4.5**
VTS	**Vitosha**	**1.54**	**288**	*e*Pg	**Pn**	**04 34 50.4**	**+0.2**
VTS				*e*Sg	**Sn**	**04 35 11.1**	**+0.1**
ENEZ	**Enez**	**1.57**	**153**	P	**Pg**	**04 34 51.3**	**-0.3**
ENEZ				S	**Sg**	**04 35 12.7**	**+0.8**
	comp=N,258nm,0.4s						
ENEZ	**Enez**	**1.57**	**153**	Pn	**Pg**	**04 34 51.4**	**-0.2**
ENEZ				Sn	**Sg**	**04 35 12.9**	**+1.0**
THAS	**Thassos island**	**1.58**	**194**	P	**Pg**	**04 34 51.8**	**0.0**
THAS				S	**Sg**	**04 35 13.2**	**+0.9**
	comp=N,130nm,0.2s						
THAS	**Thassos island**	**1.58**	**194**	P	**Pg**	**04 34 51.6**	**-0.1**
SRS	**Serrai**	**1.59**	**230**	P	**Pb**	**04 34 52.0**	**+0.3**
SRS				S	**Sg**	**04 35 14.5**	**+1.8**
	comp=N,195nm,0.5s						
SRS	**Serrai**	**1.59**	**230**	*e*Pg	**Pb**	**04 34 51.4**	**-0.3**
SRS				*e*Sg	**Sb**	**04 35 12.6**	**+0.3**
SRS	**Serrai**	**1.59**	**230**	P	**Pb**	**04 34 51.9**	**+0.3**
KOKK	**Kokkinochori,**	**1.61**	**215**	P	**Pg**	**04 34 52.4**	**+0.1**
KOKK				S	**Sg**	**04 35 14.8**	**+1.6**
	comp=N,82nm,0.2s						
KOKK	**Kokkinochori,**	**1.61**	**215**	P	**Pn**	**04 34 51.2**	**+0.1**
SMTH	**Samothraki Isl**	**1.69**	**172**	P	**Pn**	**04 34 51.8**	**-0.3**
RAZG	**Razgrad**	**1.71**	**33**	⇑P	**Pg**	**04 34 54.1**	**-0.1**
RAZG				⇓S	**Sg**	**04 35 16.7**	**+0.4**
ERIK	**Erikli-Kesan**	**1.76**	**146**	Pn	**Pg**	**04 34 54.5**	**-0.8**
ERIK				Sn	**Sg**	**04 35 17.9**	**-0.2**
SOH	**Sokhos**	**1.93**	**227**	P	**Pb**	**04 34 57.0**	**-0.4**
VLAD	**Vladila**	**1.95**	**342**	⇑S	**Sg**	**04 35 25.2**	**+1.1**
GELI	**Tayfur-Gelibol**	**1.98**	**151**	Pn	**Pb**	**04 34 57.6**	**-0.7**
COPA	**Copaceanca**	**1.99**	**360**	⇓P	**Pb**	**04 34 58.3**	**-0.1**
COPA				⇓S	**Sb**	**04 35 23.0**	**-0.6**
KNT	**Kendrikon**	**2.00**	**241**	P	**Pb**	**04 34 57.7**	**-0.9**
KNT	**Kendrikon**	**2.00**	**241**	P	**Pb**	**04 34 57.9**	**-0.7**
GADA	**Gvkgeada**	**2.02**	**165**	Pn	**Pb**	**04 34 57.6**	**-1.3**
OUR	**Ouranopolis**	**2.04**	**208**	P	**Pn**	**04 34 57.7**	**+0.9**
OUR	**Ouranopolis**	**2.04**	**208**	Pn	**Pn**	**04 34 57.4**	**+0.6**
OUR	**Ouranopolis**	**2.04**	**208**	P	**Pn**	**04 34 57.7**	**+0.9**
BOSS	**Bosilegrad**	**2.06**	**281**	*e*Pn	**Pb**	**04 34 59.8**	**+0.1**
BOSS				*e*Sn	**Sb**	**04 35 25.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.07**	**134**	Pn	**Pb**	**04 34 58.9**	**-0.9**
RKY				Sn	**Sb**	**04 35 25.5**	**-0.6**
LPK	**Lapseki**	**2.12**	**146**	Pn	**Pb**	**04 34 59.3**	**-1.3**
VAY	**Valandovo**	**2.15**	**248**	*e*Pn	**Pb**	**04 35 01.0**	**-0.1**
VAY				*e*Sn	**Sn**	**04 35 25.6**	**0.0**
VAY	**Valandovo**	**2.15**	**248**	*i* Pn	**Pg**	**04 35 03.1**	**+0.5**
SGRR	**Singureni**	**2.15**	**15**	⇑P	**Pb**	**04 35 01.5**	**+0.4**
SGRR				⇑S	**Sb**	**04 35 28.6**	**+0.3**
ZAPS	**Zavoj**	**2.22**	**301**	*e*Pn	**Pb**	**04 35 01.3**	**-1.0**
ZAPS				*e*Sn	**Sb**	**04 35 29.5**	**-0.7**
PRVS	**Prvonek**	**2.36**	**280**	*e*Pn	**Pn**	**04 35 02.6**	**+1.3**
PRVS				*e*Sn	**Sn**	**04 35 31.9**	**+0.9**
HUMR	**Humele**	**2.39**	**356**	⇓P	Pn	04 34 56.8	-4.9
HUMR				⇑S	**Sg**	**04 35 39.2**	**+1.0**
PAIG	**Paliouri**	**2.50**	**208**	P	**Pn**	**04 35 03.1**	**-0.1**
LEHL	**Lehliu**	**2.60**	**26**	⇑P	**Pb**	**04 35 08.2**	**-0.7**
LEHL				⇑S	**Sg**	**04 35 44.4**	**-0.7**
BARS	**Barje**	**2.61**	**286**	*e*Pn	**Pn**	**04 35 05.4**	**+0.7**
BARS				*e*Sn	**Sn**	**04 35 39.5**	**+2.5**
CTKS	**Kestanelik-??a**	**2.62**	**109**	Pn	**Pb**	**04 35 06.6**	**-2.6**
SULR		**2.64**	**16**	⇑P	Pg	04 35 27.7	+16
KALB	**Balgarevo**	**2.67**	**61**	⇑S	**Sg**	**04 35 46.9**	**-0.3**
PUNG	**Punghina**	**2.71**	**323**	⇑S	**Sg**	**04 35 48.0**	**-0.5**
ICOR	**Ion Corvin**	**2.73**	**43**	⇑P	**Pg**	**04 35 12.5**	**-1.2**
ICOR				⇑S	**Sg**	**04 35 50.2**	**+1.1**
ZAGS	**Zajecar**	**2.75**	**308**	*e*Pn	**Pb**	**04 35 11.0**	**-0.5**
ZAGS				*e*Sn	**Sb**	**04 35 44.0**	**-1.7**
AMRR	**Amara**	**2.91**	**31**	⇑S	**Sb**	**04 35 51.0**	**+0.9**
ISR	**Istrita**	**3.12**	**17**	⇑S	**Sg**	**04 36 03.9**	**+2.1**
SELS	**Selova**	**3.21**	**291**	*e*Pn	**Pn**	**04 35 14.2**	**+1.2**
ARR	**Arges**	**3.25**	**353**	⇑P	**Pn**	**04 35 14.2**	**+0.6**
ARR				⇑S	**Sg**	**04 36 04.8**	**-1.1**
TIRR	**Tirgusor**	**3.28**	**44**	⇑P	**Pb**	**04 35 20.8**	**+0.3**
TIRR				⇑S	**Sb**	**04 36 01.3**	**+0.4**
VOIR		**3.29**	**358**	⇑P	**Pn**	**04 35 14.9**	**+0.7**
VOIR				⇓S	**Sg**	**04 36 08.3**	**+1.1**
MLR	**Muntele Rosu**	**3.39**	**9**	⇑P	**Pn**	**04 35 17.7**	**+2.2**
MLR				⇑S	**Sg**	**04 36 10.9**	**+0.7**
HERR	**Herculane**	**3.41**	**324**	⇑P	**Pn**	**04 35 14.3**	**-1.5**
HERR				⇑S	**Sg**	**04 36 09.0**	**-2.0**
LOT	**Lotru**	**3.47**	**343**	⇑P	**Pn**	**04 35 15.8**	**-0.8**
TPGR	**Topolog**	**3.57**	**40**	⇑P	**Pb**	**04 35 25.9**	**+0.5**
TPGR				⇓S	**Sg**	**04 36 13.6**	**-2.6**
MDVR	**Moldovita**	**3.67**	**317**	⇓P	**Pn**	**04 35 18.6**	**-0.7**
MDVR				⇑S	**Sg**	**04 36 16.6**	**-2.8**
CFR	**Carcaliu**	**3.70**	**34**	⇑P	**Pn**	**04 35 22.1**	**+2.4**
CFR				⇑S	**Sb**	**04 36 16.3**	**+3.5**
GZR	**Gura Zlata**	**3.70**	**332**	⇑P	**Pn**	**04 35 19.0**	**-0.8**
DOPR	**Dopca**	**3.82**	**2**	⇑P	**Pn**	**04 35 23.0**	**+1.6**
VRI	**Vrincioaia**	**3.88**	**16**	⇓P	**Pn**	**04 35 24.8**	**+2.6**
TRUS	**Trudelj**	**4.09**	**302**	*e*Pn	**Pn**	**04 35 26.4**	**+1.3**
SURR	**Surduc**	**4.24**	**329**	⇑P	**Pn**	**04 35 26.5**	**-0.7**
BZS	**Buzias**	**4.34**	**324**	⇑P	**Pn**	**04 35 27.4**	**-1.1**
BZS				⇓S	**Sg**	**04 36 37.4**	**-3.4**

*IDC **04** 04:45:42.2±7.2, 18°.93N×145°.84E, h207km±68km, mb3.2/7, mbtmp3.7/8, Error ellipse: s-maj=43.9km s-min=20.2km az=94.0*

ISC 04 04:45:31.9±1.2, 18°.9N±0°.2×146°.0E±0°.3, h109km, n8, σ1§19/8, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.85**	**340**	P	**Pn**	**04 49 45.3**	**+0.1**
	1.3nm,0.5s,baz=165,slow=9.0,SNR=5.5						
KLR	**Kul'dur**	**32.35**	**342**	P	**P**	**04 51 51.6**	**+0.9**
	0.5nm,0.3s,baz=135,slow=23,SNR=4.2						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**40.29**	**197**	P	**P**	**04 52 58.9**	**+0.4**
	0.2nm,0.5s,baz=14,slow=8.5,SNR=5.2						
	0.2nm,0.5s						
SONM	**Songino Array**	**43.17**	**321**	P	**P**	**04 53 22.2**	**+0.3**
	0.3nm,0.4s,baz=138,slow=10,SNR=3.7						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**63.31**	**26**	P	**P**	**04 55 49.0**	**+0.1**
	0.2nm,0.5s,baz=255,slow=5.8,SNR=4.7						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**77.65**	**28**	P	**P**	**04 57 16.2**	**+0.2**
	0.3nm,0.7s,baz=286,slow=5.8,SNR=5.6						
	0.3nm,0.7s						
ARCES	**ARCESS Array B**	**82.38**	**342**	P	**P**	**04 57 40.9**	**-0.5**
	2.3nm,0.7s,baz=78,slow=9.3,SNR=4.4						
	2.3nm,0.7s						
FINES	**FINESS Array B**	**86.81**	**335**	P	**P**	**04 58 01.4**	**-2.4**
	0.7nm,0.3s,baz=71,slow=4.2,SNR=9.5						
	0.7nm,0.3s						

*IDC **04** 05:02:02.0±2.8, 49°.16N×156°.97E, h0km, mb3.2/3, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=71.3km s-min=27.3km az=153.0*

*KRSC **04** 05:02:23.0±2.1, 50°.45N×157°.40E, h104km±23km, Ml4.1*

ISC 04 05:02:24.1±1.6, 50°.5N±0°.1×157°.2E±0°.1, h120km±12km, n33, σ1§47/32, mb3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.71**	**286**	*i* P	**Pn**	**05 02 43.3**	**-0.2**
SKR				*e*S	**Sn**	**05 02 56.8**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.44**	**23**	*i* P	**Pn**	**05 02 51.8**	**+1.1**
KDTR				*e*S	**Sn**	**05 03 11.7**	**+0.7**
RUS	**Russkaya**	**2.12**	**22**	*e*P	**Pn**	**05 02 59.8**	**+0.9**
RUS				*e*S	**Sn**	**05 03 25.0**	**-0.6**
GRL	**Gorelyy**	**2.14**	**15**	*e*P	**Pn**	**05 03 00.7**	**+1.3**
GRL				*e*S	**Sn**	**05 03 26.8**	**+0.5**
KRMR	**Karymshinskiy**	**2.42**	**14**	*e*P	**Pn**	**05 03 03.5**	**+0.7**
KRMR				*e*S	**Sn**	**05 03 32.5**	**+0.1**
APC	**Apacha**	**2.44**	**360**	*e*P	**Pn**	**05 03 02.5**	**-0.6**
PETK	**Petropavlovsk-**	**2.64**	**7**	Pn	**Pn**	**05 03 04.8**	**-0.9**
	1.6nm,0.3s,baz=181,slow=12,SNR=71						
	6.9nm,0.4s						
PET	**Petropavlovsk**	**2.70**	**19**	*e*P	**Pn**	**05 03 06.9**	**+0.6**
PET				*e*S	**Sn**	**05 03 37.7**	**-1.1**
DALK	**Dalny**	**2.73**	**20**	*e*P	**Pn**	**05 03 07.7**	**+1.0**
DALK				*e*S	**Sn**	**05 03 38.6**	**-0.9**
UGLR	**Uglovaya**	**2.91**	**20**	*e*P	**Pn**	**05 03 11.0**	**+1.8**
KOK	**Koryaka**	**2.95**	**17**	*e*P	**Pn**	**05 03 10.4**	**+0.7**
SMAR	**Somma**	**2.95**	**19**	*e*P	**Pn**	**05 03 11.4**	**+1.5**
KRER	**Korvakskij**	**2.98**	**18**	*e*P	**Pn**	**05 03 10.2**	**0.0**
SDLR	**Sedlovina**	**2.99**	**20**	*e*P	**Pn**	**05 03 11.3**	**+1.1**
KRX	**Arik**	**3.02**	**17**	*e*P	**Pn**	**05 03 10.4**	**-0.2**
SPN	**Mys Shipunski**	**3.15**	**33**	*e*P	**Pn**	**05 03 13.4**	**+1.1**
SPN				*e*S	**Sn**	**05 03 48.5**	**-1.0**
GNL	**Ganaly**	**3.25**	**8**	*e*P	**Pn**	**05 03 13.7**	**+0.1**
MKZ	**Mys Kozlova**	**4.93**	**32**	*e*P	**Pn**	**05 03 36.0**	**+0.1**
MKZ				*e*S	**Sn**	**05 04 28.9**	**-2.9**
TUMD	**Tumrok D**	**5.11**	**21**	*e*P	**Pn**	**05 03 40.1**	**+1.7**
KBTR	**Krutoberegovo**	**6.65**	**28**	*e*P	**Pn**	**05 03 59.8**	**+0.7**
BKI	**Bering**	**7.11**	**45**	*e*S	**Sn**	**05 05 19.3**	**-5.3**
H11N2	**WAKE ISLAND Hy**	**31.64**	**162**	T	T	05 39 10.4	
	baz=339,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**31.66**	**162**	T	T	05 39 12.8	
	baz=339,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**31.66**	**162**	T	T	05 39 15.9	
	baz=339,slow=75,SNR=32						
ILAR	**Eielson Array**	**31.95**	**42**	P	**P**	**05 08 38.6**	**+0.5**
	0.1nm,0.6s,baz=270,slow=5.5,SNR=4.6						
	0.1nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**32.80**	**163**	T	T	05 40 34.0	
	baz=339,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**32.81**	**163**	T	T	05 40 30.0	
	baz=339,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**32.82**	**163**	T	T	05 40 35.3	
	baz=339,slow=76,SNR=31						
YKA	**Yellowknife Ar**	**46.31**	**40**	P	**P**	**05 10 37.8**	**+0.5**
	0.3nm,0.6s,baz=295,slow=7.6,SNR=4.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**47.67**	**296**	P	P	05 10 43.0	-5.2
	0.4nm,0.8s,baz=64,slow=6.9,SNR=6.2						
	0.4nm,0.8s						
H03N2	**Juan Fernandez**	**136.03**	**89**	T	T	07 52 37.8	
	baz=314,slow=77,SNR=5.5						
H03N1	**Juan Fernandez**	**136.05**	**89**	T	T	07 52 38.7	
	baz=314,slow=77,SNR=4.2						
H03N3	**Juan Fernandez**	**136.05**	**89**	T	T	07 52 38.5	
	baz=314,slow=77,SNR=4.9						

JMA 04 05:02:55.7±1.0, 46°.N±7°.×15°.2E±°, h30km, MV4.0/12, KURILE ISLANDS REGION, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.51**	**241**	*e*P	Pn	05 04 14.7	-0.9
NEM2				*e*S	Sn	05 05 13.6	-4.3
JRA	**Rausu**	**5.61**	**249**	*e*P	Pn	05 04 19.4	+2.3
JNK	**Nakash**	**6.04**	**247**	*e*P	Pn	05 04 24.2	+1.3
JAK	**Akkeshi**	**6.35**	**242**	*e*P	Pn	05 04 26.3	-0.9
JAK				*e*S	Sn	05 05 33.8	-4.8
JTKR	**Abashiri--Toko**	**6.40**	**253**	*e*P	Pn	05 04 30.2	+2.4
JAR	**Ashorobuto**	**6.78**	**248**	*e*P	Pn	05 04 34.4	+1.2
JAR				*e*S	Sn	05 05 48.7	-0.6
JOB	**Onbets**	**6.94**	**245**	*e*P	Pn	05 04 35.5	+0.3
JOB				*e*S	Sn	05 05 49.8	-3.3
JKK2	**Kamakawa 2**	**7.21**	**255**	*e*P	Pn	05 04 41.9	+2.9
ASAJ	**Asahikawa**	**7.22**	**257**	Pn	Pn	05 04 42.9	+3.8
	0.6nm,0.3s,baz=49,slow=8.8,SNR=4.8						
ASAJ	**Asahikawa**	**7.22**	**257**				
	2.2nm,0.3s						
JCH	**Churui**	**7.38**	**244**	*e*P	Pn	05 04 41.0	-0.4
JCH				*e*S	Sn	05 05 59.2	-4.9
JNBK	**Urakawa-nobuka**	**7.94**	**244**	*e*P	Pn	05 04 48.3	-0.8

IDC 04 05:16:40.4±1.8, 13°.17N×146°.75E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=43.1km s-min=24.8km az=67.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.88**	**283**	Pn	Pb	05 17 14.9	-0.7
	21nm,0.3s,baz=163,slow=23,SNR=2.6						
GUMO				Sn	Sn	05 17 38.0	-0.2
	72nm,0.3s,baz=205,slow=23,SNR=14						
WRA	**Warramunga Arr**	**35.10**	**201**	P	P	05 23 35.4	-0.3
	0.5nm,0.7s,baz=24,slow=9.4,SNR=2.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**38.71**	**199**	P	P	05 24 06.3	-0.1
	0.3nm,0.5s,baz=24,slow=8.8,SNR=7.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**63.06**	**316**	P	P	05 27 09.8	+0.1
	0.2nm,0.4s,baz=100,slow=6.5,SNR=5.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**66.12**	**320**	P	P	05 27 29.2	-0.3
	0.4nm,0.7s,baz=102,slow=7.0,SNR=5.2						
	0.4nm,0.7s						

IDC 04 05:23:23.8±2.9, 32°.75S×178°.72W, h0km, mb4.3/2, mbtmp4.2/3, ML4.0/1, Error ellipse: s-maj=66.5km s-min=35.6km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.46**	**211**	Pn	Pn	05 25 00.5	+0.3
	3.6nm,0.3s,baz=334,slow=4.2,SNR=18						
URZ				Sn	Sn	05 26 12.9	-1.8
	6.7nm,0.3s,baz=295,slow=22,SNR=6.5						
	7.6nm,0.3s						
ASAR	**Alice Springs**	**42.43**	**270**	P	P	05 31 20.6	+0.1
	2.3nm,0.7s,baz=109,slow=7.9,SNR=19						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**43.63**	**275**	P	P	05 31 30.1	-0.1
	3.1nm,0.5s,baz=114,slow=7.8,SNR=32						
	3.1nm,0.5s						
FINES	**FINESS Array B**	**147.12**	**338**	PKPbc	PKPbc	05 43 07.0	-1.0
	1.9nm,0.6s,baz=32,slow=3.7,SNR=7.3						

*WEL **04** 05:31:41.0±0.5, 42°.S±2°.×17°.4E±°, h11km±3km, M3.3/21, ML3.4/23, MLv3.3/21, Error ellipse: s-maj=0.0km s-min=0.0km az=129.8, confirmed*

*NOU **04** 05:31:40.8, 42°.43S×174°.02E, h9km, MLv3.8/8, Off E. Coast of S. Island, N.Z.*

ISC 04 05:31:40.6±1.1, 42°.39S±0°.03×173°.99E±0°.04, h13km±9km, n65, σ0§92/79, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.34**	**266**	P	**Pg**	**05 31 48.1**	**+0.6**
KHZ	**Kahutara**	**0.34**	**266**	P	**Pg**	**05 31 48.1**	**+0.5**
KHZ				S	**Sg**	**05 31 52.6**	**+0.5**
CMWZ	**Cape Campbell**	**0.67**	**14**	P	Pn	**05 31 55.9**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.69**	**353**	P	**Pg**	**05 31 54.0**	**0.0**
BSWZ				S	**Sg**	**05 32 03.1**	**+0.1**
GVZ	**Greta Valley S**	**0.91**	**231**	P	**Pn**	**05 31 59.8**	**+0.7**
TUWZ	**Tuamarina**	**0.96**	**358**	P	**Pg**	**05 31 59.4**	**+0.1**
TUWZ				S	**Sb**	**05 32 12.7**	**+0.9**
THZ	**Tophouse**	**1.03**	**308**	P	**Pg**	**05 31 59.1**	**-1.3**
THZ				S	**Sg**	**05 32 12.5**	**-1.3**
TCW	**Tory Channel**	**1.20**	**10**	P	**Pb**	**05 32 02.9**	**-0.3**
SNZO	**South Karori**	**1.21**	**26**	P	**Pn**	**05 32 03.8**	**+0.7**
PLWZ	**Palliser**	**1.25**	**49**	P	**Pn**	**05 32 04.3**	**+0.4**
WEL	**Wellington**	**1.25**	**28**	P	**Pn**	**05 32 04.2**	**+0.5**
AMCZ	**Amberley**	**1.26**	**231**	P	**Pn**	**05 32 04.5**	**+0.6**
NNZ	**Nelson**	**1.26**	**338**	P	**Pn**	**05 32 03.4**	**-0.5**
NNZ				S	**Sb**	**05 32 19.9**	**-0.5**
LTZ	**Lake Taylor**	**1.33**	**252**	P	**Pn**	**05 32 04.9**	**0.0**
LTZ				S	**Sb**	**05 32 21.7**	**-0.6**
MRNZ	**Matariki Terra**	**1.36**	**317**	P	**Pn**	**05 32 05.2**	**0.0**
MRNZ				S	**Sb**	**05 32 22.6**	**-0.5**
PAWZ	**Paruwai Farm**	**1.47**	**47**	P	**Pn**	**05 32 07.1**	**+0.2**
PAWZ				S	**Sn**	**05 32 26.6**	**+0.6**
OKCZ	**Okains Bay**	**1.49**	**207**	P	**Pb**	**05 32 08.4**	**+0.1**
OKCZ				S	**Sg**	**05 32 28.3**	**-0.5**
CAW	**Cannon Point**	**1.52**	**32**	P	**Pn**	**05 32 07.8**	**+0.3**
CAW				S	**Sn**	**05 32 27.1**	**+0.1**
TKNZ	**Takaka Hill**	**1.56**	**330**	P	**Pn**	**05 32 08.3**	**+0.2**
TKNZ				S	**Sn**	**05 32 28.0**	**-0.3**
DUWZ	**D'Urville Isla**	**1.59**	**358**	P	**Pn**	**05 32 08.4**	**-0.1**
TRWZ	**Traveller**	**1.61**	**52**	P	**Pn**	**05 32 08.9**	**+0.2**
TRWZ				S	**Sn**	**05 32 30.4**	**+1.1**
MQZ	**McQueen's Vall**	**1.64**	**216**	P	**Pn**	**05 32 09.2**	**+0.1**
MQZ				S	**Sn**	**05 32 29.8**	**-0.2**
MTW	**Mount Morrison**	**1.67**	**43**	P	**Pn**	**05 32 09.6**	**0.0**
KIW	**Kapiti Island**	**1.68**	**24**	P	**Pn**	**05 32 10.1**	**+0.4**
OXZ	**Oxford**	**1.71**	**236**	P	**Pn**	**05 32 09.8**	**-0.4**
DSZ	**Denniston Nort**	**1.75**	**291**	P	**Pn**	**05 32 11.8**	**+1.1**
DSZ				S	**Sn**	**05 32 33.4**	**+0.4**
OGWZ	**Otaki Gorge**	**1.81**	**30**	P	**Pn**	**05 32 11.7**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.88**	**38**	P	**Pn**	**05 32 12.4**	**0.0**
RACZ	**Rakaia**	**1.90**	**225**	P	**Pn**	**05 32 12.7**	**0.0**
INZ	**Inchbonnie**	**1.91**	**259**	P	**Pn**	**05 32 13.0**	**+0.2**
QRZ	**Quartz Range**	**1.91**	**325**	P	**Pn**	**05 32 13.6**	**+0.7**
QRZ	**Quartz Range**	**1.91**	**325**	P	**Pn**	**05 32 13.3**	**+0.4**
TMWZ	**Te Maipa**	**1.92**	**48**	P	**Pn**	**05 32 12.9**	**0.0**
MRZ	**Mangatainoka R**	**2.10**	**35**	P	**Pn**	**05 32 15.4**	**-0.1**
MHCZ	**Mount Hutt**	**2.11**	**237**	P	**Pn**	**05 32 15.1**	**-0.6**
WACZ	**Wakanui South**	**2.21**	**225**	P	**Pn**	**05 32 17.1**	**+0.2**
PRWZ	**Pori Road**	**2.36**	**40**	P	**Pn**	**05 32 18.8**	**-0.3**
BFZ	**Birch Farm**	**2.41**	**45**	P	**Pn**	**05 32 19.3**	**-0.4**
BFZ	**Birch Farm**	**2.41**	**45**	P	**Pn**	**05 32 19.1**	**-0.5**
WVZ	**Waitaha Valley**	**2.49**	**253**	P	**Pn**	**05 32 21.4**	**+0.6**
RPZ	**Rata Peaks**	**2.53**	**238**	P	**Pn**	**05 32 21.2**	**-0.1**
RPZ	**Rata Peaks**	**2.53**	**238**	P	**Pn**	**05 32 21.1**	**-0.2**
ARCZ	**Arundel**	**2.58**	**232**	P	**Pn**	**05 32 22.2**	**+0.1**
WAZ	**Wanganui**	**2.74**	**16**	P	**Pn**	**05 32 26.0**	**+1.7**
TMZ	**Timaru**	**2.95**	**227**	P	**Pn**	**05 32 27.5**	**+0.4**
KHEZ	**Kahui Hut**	**3.10**	**0**	P	**Pn**	**05 32 32.7**	**+3.5**
NBEZ	**Newall Road No**	**3.12**	**358**	P	**Pb**	**05 32 34.7**	**-1.3**
PKVZ	**Pokaka**	**3.27**	**19**	P	**Pn**	**05 32 32.4**	**+0.8**
MOVZ	**Moawhango**	**3.27**	**25**	P	**Pn**	**05 32 31.6**	**0.0**
KRHZ	**Kereru**	**3.28**	**34**	P	**Pn**	**05 32 30.9**	**-0.9**
WNVZ	**Wahianoa**	**3.30**	**22**	P	**Pn**	**05 32 32.9**	**+0.8**
TRVZ	**Turoa**	**3.31**	**21**	P	**Pn**	**05 32 33.3**	**+1.0**
**VRZ

BKZ **Black Stump Fm** 19.82 179 P **Pn** 05 40 42.3 +1.1
RAR **Rarotonga** 22.77 99 P **P** 05 41 13.6 +2.1
comp=Z,13nm,0.9s,baz=173,slow=7.4,SNR=4.5
RAR LR LR 05 48 11.3
comp=Z,1µm,21.1s,baz=256,slow=32
comp=Z,13nm,0.9s
RAR **Rarotonga** 22.77 99 P **P** 05 41 13.3 +1.8
RAR lAmb lAmb 05 41 25.7
comp=Z,197nm,1.6s
RAR **Rarotonga** 22.77 99 P **P** 05 41 13.3 +1.8
RAR pmax pmax
comp=Z,197nm,1.7s
GD1S **Gladstone Soft** 23.56 254 P **P** 05 41 21.3 +1.7
comp=Z,69nm,0.6s
EIDS **Eidsvold** 23.85 251 P **P** 05 41 22.0 -0.5
baz=24,SNR=5.8
EIDS **Eidsvold** 23.85 251 P **P** 05 41 22.0 -0.5
EIDS lAmb lAmb 05 41 38.6
comp=Z,237nm,1.6s
EIDS **Eidsvold** 23.85 251 P **P** 05 41 21.9 -0.5
RK1H **Rockhampton Ha** 24.14 256 P **P** 05 41 28.2 +3.1
comp=Z,35nm,1.4s
OXZ **Oxford** 24.20 187 P **P** 05 41 26.7 +1.1
RPZ **Rata Peaks** 24.71 189 LR LR 05 50 00.3
comp=Z,1µm,20.6s,baz=30,slow=34
RMQ **Roma** 26.11 249 P **P** 05 41 42.5 -0.5
baz=26,SNR=19
RMQ **Roma** 26.11 249 P **P** 05 41 41.5 -1.5
AULRC **Lightning Ridg** 27.43 243 P **P** 05 41 56.5 +1.7
comp=Z,83nm,1.6s
KRVT **Keravat (AS076** 27.77 299 P **P** 05 41 57.6 -0.4
comp=Z,42nm,0.3s,baz=191,slow=2.8,SNR=5.3
KRVT LR LR 05 52 24.6
comp=Z,1µm,21.9s,baz=257,slow=35
comp=Z,42nm,0.3s
CTA **Charters Tower** 28.05 263 P **P** 05 42 00.4 -0.1
comp=Z,12nm,1.1s,baz=82,slow=8.3,SNR=6.3
CTA LR LR 05 51 49.6
comp=Z,2µm,20.4s,baz=84,slow=34
comp=Z,12nm,1.1s
CTAO **Charters Tower** 28.05 263 P **P** 05 41 59.6 -0.9
CTAO **Charters Tower** 28.05 263 P **P** 05 42 02.4 +1.9
CTAO **Charters Tower** 28.05 263 P **P** 05 41 59.6 -0.9
CTAO pmax pmax
comp=Z,77nm,1.6s
CNB **Canberra Magne** 28.46 230 P **P** 05 42 08.8 +4.7
comp=Z,32nm,1.8s
PMG **Port Moresby** 29.61 285 P **P** 05 42 14.4 -0.1
comp=Z,13nm,0.4s,baz=148,slow=4.2,SNR=16
PMG LR LR 05 52 56.4
comp=Z,3µm,18.1s,baz=122,slow=34
comp=Z,13nm,0.4s
PMG **Port Moresby** 29.61 285 P **P** 05 42 13.4 -1.1
PMG lAmb lAmb 05 42 16.2
comp=Z,105nm,1.4s
PMG **Port Moresby** 29.61 285 P **P** 05 42 15.4 +0.9
comp=Z,64nm,1.4s
PMG **Port Moresby** 29.61 285 *ce*P **P** 05 42 14.1 -0.4
PMG pmax pmax
comp=Z,108nm,1.7s
CMSA **Cobar Meteorol** 29.90 240 P **P** 05 42 16.7 -0.2
baz=30,SNR=5.2
CMSA **Cobar Meteorol** 29.90 240 P **P** 05 42 19.3 +2.4
comp=Z,14nm,1.9s
MTSU **Mount Surprise** 30.05 267 P **P** 05 42 19.3 +0.9
comp=Z,7.5nm,1.1s
QLP **Quilpie** 30.13 250 P **P** 05 42 17.8 -1.1
baz=30,SNR=8.1
QLP **Quilpie** 30.13 250 P **P** 05 42 22.9 +4.0
COEN **Coen** 31.91 274 P **P** 05 42 33.1 -1.6
baz=32,SNR=5.4
COEN **Coen** 31.91 274 P **P** 05 42 34.3 -0.4
COEN **Coen** 31.91 274 P **P** 05 42 35.4 +0.7
comp=Z,25nm,2.0s
TOO **Toolangi** 32.26 229 P **P** 05 42 37.8 +0.2
baz=32,SNR=7.5
TOO **Toolangi** 32.26 229 P **P** 05 42 37.1 -0.5
TOO lAmb lAmb 05 42 40.9
comp=Z,72nm,1.4s
TOO **Toolangi** 32.26 229 P **P** 05 42 39.7 +2.0
TOO **Toolangi** 32.26 229 P **P** 05 42 37.1 -0.5
TOO pmax pmax
comp=Z,72nm,1.4s
TBI **Tubuai** 32.34 103 *e*P **P** 05 42 41.0 +2.5
TBI *e*S **S** 05 47 54.3 +2.0
comp=Z,2µm,26.5s
TBI *e*LR LR 05 51 09.0
comp=Z,57µm,26.2s
TBI *e*LR LR 05 51 09.2
comp=Z,21µm,30.0s
PPT2 **Papeete2** 32.63 93 *e*P **P** 05 42 42.0 +0.9
PPT2 *e*S **S** 05 47 58.3 +1.2
comp=Z,497nm,26.2s
PPT2 *e*LR LR 05 51 16.7
comp=Z,3µm,28.2s
PPT2 *e*LR LR 05 51 16.9
comp=Z,4µm,25.8s
PPT **Papeete** 32.63 93 P **P** 05 42 42.3 +1.3
comp=Z,23nm,1.0s,baz=262,slow=5.1,SNR=3.8
PPT LR LR 05 52 34.4
comp=Z,1µm,21.4s,baz=258,slow=30
comp=Z,23nm,1.0s
PPTF **Pamatai, Papee** 32.64 93 P **P** 05 42 44.3 +3.1
INKA **Innaminka** 33.35 249 P **P** 05 42 51.9 +4.6
STKA **Stephens Creek** 33.36 241 P **P** 05 42 46.6 -0.8
comp=Z,11nm,1.0s,baz=68,slow=8.6,SNR=17
STKA PcP **PcP** 05 45 28.2 -0.9
comp=Z,7.5nm,1.1s,baz=36,slow=7.4,SNR=3.0
STKA LR LR 05 54 52.1
comp=Z,680nm,21.5s,baz=64,slow=34
comp=Z,11nm,1.0s
STKA **Stephens Creek** 33.36 241 P **P** 05 42 46.9 -0.4
baz=33,SNR=15
STKA **Stephens Creek** 33.36 241 P **P** 05 42 48.3 +1.0
STKA **Stephens Creek** 33.36 241 *i*P **P** 05 42 45.7 -1.6
BRAT **Ballarat** 33.37 230 P **P** 05 42 50.5 +3.2
comp=Z,15nm,1.1s
QIS **Mount Isa** 34.24 262 P **P** 05 42 54.3 -0.9
baz=34,SNR=4.1
QIS **Mount Isa** 34.24 262 P **P** 05 42 54.9 -0.2
ARPS **Mount Arapiles** 34.62 233 P **P** 05 43 02.8 +4.6
HTT **Hallett** 35.92 239 P **P** 05 43 09.1 -0.4
baz=36,SNR=7.2
HTT **Hallett** 35.92 239 P **P** 05 43 13.4 +3.9
LCRK **Leigh Creek** 35.92 245 P **P** 05 43 11.7 +2.2
WHYH **Whyalla** 36.93 240 P **P** 05 43 22.2 +4.1
comp=Z,16nm,0.9s
OOD **Oodnadatta** 37.82 249 P **P** 05 43 28.3 +2.6
BBOO **Buckleboo** 38.14 241 P **P** 05 43 27.9 -0.4
baz=38,SNR=5.6
BBOO **Buckleboo** 38.14 241 P **P** 05 43 31.8 +3.5
H11S2 **WAKE ISLAND Hy** 38.64 346 T T 06 24 44.7
baz=166,slow=76,SNR=10
H11S3 **WAKE ISLAND Hy** 38.65 346 T T 06 24 47.4
baz=166,slow=76,SNR=11
H11S1 **WAKE ISLAND Hy** 38.66 346 T T 06 24 48.2
baz=166,slow=76,SNR=12
WB2 **Warramunga Arr** 39.21 262 P **P** 05 43 35.2 -2.3
WRAB **Tennant Creek** 39.21 262 P **P** 05 43 39.0 +1.5
WRA **Warramunga Arr** 39.22 262 P **P** 05 43 35.1 -2.5
comp=Z,5.5nm,1.0s,baz=94,slow=9.4,SNR=16
WRA PcP **PcP** 05 45 45.4 -1.4
comp=Z,3.1nm,1.1s,baz=93,slow=2.9,SNR=5.2
WRA LR LR 05 58 28.4
comp=Z,1µm,20.5s,baz=86,slow=34
comp=Z,5.5nm,1.0s
WRA **Warramunga Arr** 39.22 262 P **P** 05 43 35.1 -2.5
AS31 **Alice Springs** 39.35 256 P **P** 05 43 36.8 -1.9
ASAR **Alice Springs** 39.36 256 P **P** 05 43 36.9 -1.9
comp=Z,28nm,1.0s,baz=84,slow=8.5,SNR=156
ASAR PcP **PcP** 05 45 46.0 -1.2
comp=Z,6.0nm,0.9s,baz=103,slow=3.2,SNR=9.4
ASAR LR LR 05 59 03.2
comp=Z,1µm,21.3s,baz=96,slow=35
comp=Z,28nm,1.0s
MULG **Mulgathing** 39.46 246 P **P** 05 43 38.4 -1.1
comp=Z,44nm,1.7s
TAOE **Nuku Hiva Isla** 43.63 83 *e*S **S** 05 50 44.7 +1.1
comp=Z,311nm,27.3s
TAOE *e*LR LR 05 56 21.4
comp=Z,1µm,25.7s
WRKA **Warakurna** 44.41 254 P **P** 05 44 19.1 -1.0
baz=44,SNR=11
WRKA **Warakurna** 44.41 254 P **P** 05 44 20.1 0.0
FORT **Forrest** 44.66 245 P **P** 05 44 20.2 -1.2
baz=45,SNR=7.0
FORT **Forrest** 44.66 245 P **P** 05 44 22.2 +0.3
comp=Z,44nm,1.0s
GUMO **Guam** 44.83 314 LR LR 06 01 14.9
comp=Z,1µm,20.8s,baz=124,slow=34
RKT **Rikitea** 45.66 104 *e*S **S** 05 51 14.6 +1.8
comp=Z,92µm,28.0s
RKT *e*LR LR 05 57 19.5
comp=Z,658µm,29.8s
SIJI **Sorong** 47.52 287 LR LR 06 05 14.6
comp=Z,708nm,19.4s,baz=96,slow=37
SWI **Sorong** 47.53 287 P **P** 05 44 44.0 -0.7
SWI pmax pmax
comp=Z,39nm,1.0s
SWI **Sorong** 47.53 287 P **P** 05 44 43.5 -1.2
comp=Z,35nm,1.1s,comp=Z,926nm
FITZ **Fitzroy Crossi** 47.62 263 P **P** 05 44 44.4 -1.0
KMBL **Kambalda** 49.98 245 P **P** 05 45 02.0 -1.4
baz=50,SNR=5.9
KMBL **Kambalda** 49.98 245 P **P** 05 45 04.2 +0.8
comp=Z,42nm,1.7s
NLAI **Namlea** 50.37 282 P **P** 05 45 07.3 +0.8
comp=Z,20nm,1.1s
SOEI **Soe** 50.85 273 P **P** 05 45 08.9 -1.4
comp=Z,63nm,1.9s
BATI **Baumata** 51.29 272 LR LR 06 07 07.9
comp=Z,653nm,19.0s,baz=118,slow=36
SANI **Sanana** 51.85 283 P **P** 05 45 17.1 -0.6
comp=Z,38nm,1.9s,comp=Z,1µm
MBWA **Marble Bar** 52.64 258 P **P** 05 45 22.6 -0.9
comp=Z,30nm,1.0s
MEEK **Meekatharra** 53.02 251 P **P** 05 45 25.7 -0.5
baz=53,SNR=7.2
MEEK **Meekatharra** 53.02 251 P **P** 05 45 25.8 -0.5
comp=Z,38nm,1.4s
MMRI **Maumere** 53.09 274 P **P** 05 45 23.4 -3.5
comp=Z,132nm,0.8s
KLBR **Kelberberrin** 53.50 245 P **P** 05 45 28.6 -1.1
baz=54,SNR=5.6
KLBR **Kellerberrin** 53.50 245 P **P** 05 45 31.4 +1.7
comp=Z,60nm,1.4s
NWAO **Narrogin (SRO)** 53.91 243 P **P** 05 45 30.8 -1.9
comp=Z,10.0nm,0.8s
NWAO LR LR 06 08 36.7
comp=Z,523nm,19.9s,slow=36
comp=Z,10.0nm,0.8s
NWAO **Narrogin (SRO)** 53.91 243 P **P** 05 45 33.9 +1.2
baz=54,SNR=3.9
NWAO P **P** 05 45 33.9 +1.2
baz=54,SNR=3.9
NWAO **Narrogin (SRO)** 53.91 243 P **P** 05 45 30.2 -2.5
NWAO lAmb lAmb 05 45 33.7
comp=Z,69nm,1.5s
NWAO **Narrogin (SRO)** 53.91 243 P **P** 05 45 35.6 +2.9
comp=Z,37nm,1.7s
NWAO **Narrogin (SRO)** 53.91 243 P **P** 05 45 34.9 +2.2
comp=Z,37nm,1.7s
MUN **Mundaring** 54.80 244 P **P** 05 45 41.1 +1.9
comp=Z,34nm,1.7s
MORW **Morawa** 55.10 248 P **P** 05 45 41.1 -0.3
baz=55,SNR=5.6
MORW **Morawa** 55.10 248 lAmb lAmb 05 45 42.4
comp=Z,44nm,1.2s
MORW **Morawa** 55.10 248 P **P** 05 45 41.9 +0.5
comp=Z,34nm,1.5s
DAV **Davao City (W)** 56.18 293 LR LR 06 08 59.5
comp=Z,180nm,19.1s,baz=118,slow=35
KAPI **Kappang** 56.58 277 LR LR 06 10 11.1
comp=Z,311nm,21.7s,baz=94,slow=36
JCJ **Chichijima** 56.60 323 LR LR 06 05 38.7
comp=Z,408nm,21.8s,baz=154,slow=31
PLAI **Plampang** 57.25 272 P **P** 05 45 58.5 +1.6
comp=Z,70nm,1.4s
PLAI **Plampang** 57.25 272 P **P** 05 45 55.6 -1.3
comp=Z,70nm,1.4s,comp=Z,1µm
TOLI2 **Tolitoli** 57.87 284 P **P** 05 45 59.1 -2.2
TOLI2 lAmb lAmb 05 46 12.0
comp=Z,64nm,1.5s
TOLI2 **Tolitoli** 57.87 284 P **P** 05 46 01.2 -0.1
comp=Z,26nm,1.8s
TWSI **Taliwang, Sumb** 58.12 272 P **P** 05 46 01.6 -1.4
comp=Z,115nm,1.2s,comp=Z,2µm
MPSI **Mapaga** 58.38 283 P **P** 05 46 03.8 -1.1
comp=Z,23nm,1.4s,comp=Z,765nm
VNDA **Vanda** 58.69 184 P **P** 05 46 05.2 -0.9
comp=Z,1.9nm,0.9s,baz=352,slow=13,SNR=3.8
VNDA PcP **PcP** 05 46 55.7 -0.1
comp=Z,4.9nm,1.1s,baz=24,slow=2.8,SNR=3.7
VNDA LR LR 06 08 11.7
comp=Z,406nm,19.2s,baz=20,slow=33
comp=Z,1.9nm,0.9s
JAGI **Jajag, Banyuwa** 60.77 271 P **P** 05 46 20.3 -1.2
JAGI **Jajag, Banyuwa** 60.77 271 P **P** 05 46 23.4 +2.0
comp=Z,49nm,1.2s
JAGI **Jajag, Banyuwa** 60.77 271 P **P** 05 46 21.5 +0.1
comp=Z,49nm,1.2s
BBKI **Banjar Baru** 61.71 277 P **P** 05 46 27.2 -0.6
comp=Z,52nm,1.8s,comp=Z,7µm
CASY **Casey** 62.70 204 P **P** 05 46 32.1 -1.4
MJAR **Matsushiro Arr** 66.04 327 P **P** 05 46 54.4 -1.4
comp=Z,27nm,1.1s,baz=157,slow=6.3,SNR=21
MJAR LR LR 06 09 28.0
comp=Z,199nm,20.9s,baz=152,slow=30
comp=Z,27nm,1.1s
MAJO **Matsushiro** 66.04 327 P **P** 05 46 53.7 -2.1
MAJO **Matsushiro** 66.04 327 P **P** 05 46 57.5 +1.7
comp=Z,51nm,1.8s
MAJO **Matsushiro** 66.04 327 P **P** 05 46 53.7 -2.1
MAJO pmax pmax
comp=Z,113nm,1.5s
MJB9 **Matsu-Tunnel** 66.04 327 P **P** 05 46 54.4 -1.5
SBUM **Sibu** 66.28 282 P **P** 05 46 56.6 -1.2
JSU **Suzuyama** 66.81 318 P **P** 05 46 59.7 -1.1
JSU **Suzuyama** 66.81 318 P **P** 05 47 03.2 +2.4
comp=Z,44nm,1.4s
LEM **Lembang** 67.44 271 P **P** 05 47 04.8 -0.6
comp=Z,14nm,0.5s,baz=107,slow=8.2,SNR=7.3
LEM LR LR 06 16 29.1
comp=Z,292nm,20.1s,baz=87,slow=36
comp=Z,14nm,0.5s
LEM **Lembang** 67.44 271 P **P** 05 47 04.1 -1.3
comp=Z,49nm,1.0s
JNU **Nakatsue** 67.65 320 LR LR 06 12 43.4
comp=Z,228nm,21.1s,baz=110,slow=32
JNU **Nakatsue** 67.65 320 P **P** 05 47 03.5 -2.6
JNU **Nakatsue** 67.65 320 P **P** 05 47 08.4 +2.3
comp=Z,55nm,2.2s
KSM **Kuching** 67.69 280 P **P** 05 47 05.5 -1.3
KSM **Kuching** 67.69 280 P **P** 05 47 07.3 +0.5
comp=Z,35nm,1.4s
RPN **Rapa Nui** 68.15 112 LR LR 06 12 47.8
comp=Z,313nm,18.6s,baz=282,slow=32
NACB **Ningaloo** 68.41 307 P **P** 05 47 13.2 +2.1
comp=Z,45nm,1.4s
TPUB **Ta-pu** 68.67 306 P **P** 05 47 14.3 +1.6
comp=Z,56nm,1.4s
ASAJ **Asahikawa** 70.13 335 P **P** 05 47 22.2 +0.9
comp=Z,9.8nm,1.0s,baz=189,slow=9.3,SNR=7.6
ASAJ LR LR 06 12 27.6
comp=Z,982nm,21.9s,baz=173,slow=31
comp=Z,9.8nm,1.0s
QSPA **South Pole Qui** 70.77 180 LR LR 06 12 53.8
comp=Z,276nm,21.6s,baz=41,slow=31
QSPA **South Pole Qui** 70.77 180 P **P** 05 47 24.2 -1.0
SHEM **Shemya Is, Ala** 71.73 359 LR LR 06 12 15.6
comp=Z,417nm,21.8s,baz=130,slow=30
SKR **Severo-Kuril's** 71.84 347 *e*P P 05 47 42.4 +11
SKR *e*S **SKiKP** 05 57 17.5 +7.9
SKR pmax pmax
comp=Z,33nm,1.0s
SKR pmax pmax
comp=Z,100nm,5.1s
SKR MLR MLR
comp=Z,300nm,18.0s
TJN **Taejon** 71.97 320 *ce*P **P** 05 47 33.9 +1.2
KSRS **Korea Array** 72.36 322 P **P** 05 47 35.1 +0.1
comp=Z,6.8nm,1.1s,baz=139,slow=5.6,SNR=12
KSRS LR LR 06 14 20.8
comp=Z,242nm,21.7s,baz=135,slow=32
comp=Z,6.8nm,1.1s
KSAR **Wonju Array Be** 72.38 322 P **P** 05 47 33.9 -1.1
KSAR **Wonju Array Be** 72.38 322 P **P** 05 47 33.9 -1.1
YSS **Yuzh-Sakhalins** 72.44 337 P **P** 05 47 34.9 -0.3
YSS **Yuzh-Sakhalins** 72.44 337 P **P** 05 47 37.7 +2.5
comp=Z,54nm,1.3s
YSS **Yuzh-Sakhalins** 72.44 337 *e*P **P** 05 47 36.0 +0.8
YSS *e**PP **pwP** 05 47 44.5 +2.2
YSS *e* 05 47 52.9
YSS *e*S **S** 05 56 57.1 -1.7
YSS *e*SS **SS** 06 01 37.2 -0.7
YSS *e*SSS SSS 06 04 47.0
YSS pmax pmax
comp=Z,400nm,2.9s
YSS pmax pmax
comp=Z,60nm,1.2s
NIKH **Nikolski High** 73.14 9 P **P** 05 47 38.0 -1.2
NIKH **Nikolski High** 73.14 9 P **P** 05 47 39.1 -0.1
baz=195
PET **Petropavlovsk** 73.57 349 *e*P **P** 05 47 42.3 +0.6
PET *e*S **SKiKP** 05 57 15.2 +3.1
PET pmax pmax
comp=Z,26nm,1.5s
PET pmax pmax
comp=Z,200nm,13.1s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,400nm,16.0s
PEA0B **Petropavlovsk-** 73.82 349 *ce*P **P** 05 47 44.5 +1.2
PETK **Petropavlovsk-** 73.82 349 P **P** 05 47 43.3 +0.1
comp=Z,9.6nm,1.0s,baz=137,slow=7.4,SNR=10
PETK LR LR 06 13 21.5
comp=Z,254nm,21.0s,baz=161,slow=30
comp=Z,9.6nm,1.0s
UGL **Uglegorsk** 74.47 338 *e*P **P** 05 47 47.7 +0.6
UGL pmax pmax
comp=Z,40nm,0.5s
NJ2 **Nanjing** 74.86 312 ⇑P **P** 05 47 50.2 +0.4
NJ2 pmax pmax
comp=Z,23nm,0.5s
NJ2 LR LR
comp=Z,250nm,16.7s
NJ2 LR LR
comp=Z,220nm,21.8s
NJ2 LR LR
comp=Z,620nm,19.1s
USRK **Ussuriysk Ar.** 74.92 329 P **P** 05 47 50.1 +0.3
comp=Z,7.5nm,0.8s,baz=138,slow=4.0,SNR=12
USRK LR LR 06 15 06.0
comp=Z,170nm,21.0s,baz=141,slow=31
comp=Z,7.5nm,0.8s
QIZ **Qiongzhong** 75.28 296 P **P** 05 47 52.6 +0.1
QIZ S **S** 05 57 33.2 +1.3
QIZ LR LR
comp=Z,430nm,22.4s
QIZ LR LR
comp=Z,640nm,19.1s
TYV **Tymovskoe** 75.77 339 *e*P **P** 05 47 55.4 +0.8
TYV *e*S **S** 05 57 38.7 +2.6
TYV pmax pmax
comp=Z,200nm,2.4s
TYV pmax pmax
comp=Z,28nm,1.3s
TYV smax smax
comp=N,300nm,5.1s
MDJ **Mudanjiang** 76.41 328 lAmb lAmb 05 48 01.8
comp=Z,62nm,1.4s
MDJ **Mudanjiang** 76.41 328 P **P** 05 47 59.5 +1.1
MDJ pP sP 05 48 03.8 +1.3
MDJ S **S** 05 57 49.9 +6.5
MDJ sS sS 05 57 54.5 +6.0
MDJ pmax pmax
comp=Z,35nm,1.9s
MDJ pmax pmax
comp=Z,350nm,3.8s
MDJ LR LR
comp=Z,250nm,24.3s
MDJ LR LR
comp=Z,190nm,24.5s
MDJ LR LR
comp=Z,400nm,24.5s
MDJ **Mudanjiang** 76.41 328 P **P** 05 48 01.2 +2.8
comp=Z,34nm,2.4s
S12K **Black Hills** 76.97 13 P **P** 05 48 01.1 -0.2
baz=201
CNSH **ChangSha** 77.12 306 ⇑P **P** 05 48 03.2 +0.4
CNSH S **S** 05 57 53.0 +1.1
CNSH LR LR
comp=Z,310nm,18.7s
CNSH LR LR
comp=Z,310nm,20.7s
CNSH LR LR
comp=Z,530nm,25.3s
WHN **Wuhan** 77.27 309 ⇓P **P** 05 48 05.2 +1.7
WHN S **S** 05 57 57.0 +3.6
WHN pmax pmax
comp=Z,310nm,1.9s
WHN LR LR
comp=Z,1µm,18.6s
WHN LR LR
comp=Z,3µm,23.7s
WHN LR LR
comp=Z,4µm,24.8s
SNY **Shenyang** 77.76 323 ⇑P **P** 05 48 02.2 -3.8
SNY pmax pmax
comp=Z,50nm,1.5s
GRNR **Gornyy** 77.97 336 ⇓*i*P **P** 05 48 08.3 +1.3
GRNR pmax pmax
comp=Z,10.0nm,1.2s
CN2 **Changchun** 78.01 325 P **P** 05 48 07.6 +0.2
CN2 sP pwP 05 48 14.6 0.0
CN2 S **S** 05 58 00.1 -0.8
CN2 pmax pmax
comp=Z,50nm,1.2s
CN2 pmax pmax
comp=Z,400nm,3.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,400nm,21.0s
BNX **BinXian** 78.30 328 ⇑P **P** 05 48 08.8 -0.2
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,250nm,3.5s
CHGN **Chignik** 78.32 14 P **P** 05 48 08.2 -0.5
baz=205
TIA **Tai'an** 78.39 315 ⇓P **P** 05 48 09.6 -0.1
TIA S **S** 05 58 08.0 +2.7
TIA pmax pmax
comp=Z,10.0nm,0.9s
TIA pmax pmax
comp=Z,200nm,3.1s
TIA LR LR
comp=Z,200nm,21.6s
TIA LR LR
comp=Z,250nm,16.7s
TIA LR LR
comp=Z,620nm,28.4s
KLR **Kul'dur** 78.74 332 *ce*P **P** 05 48 12.6 +1.3
KLR pmax pmax
comp=Z,61nm,2.5s
RPSI **Rantau Prapat** 78.76 277 P **P** 05 48 10.0 -2.2
RPSI lAmb lAmb 05 48 12.8
comp=Z,76nm,1.7s
PSI **Prapat** 78.79 277 P **P** 05 48 13.4 +0.8
comp=Z,22nm,1.6s
PSI **Prapat** 78.79 277 P **P** 05 48 10.0 -2.6
PSI pmax pmax
comp=Z,76nm,1.7s
SII **Sitkinak Islan** 79.60 16 lAmb lAmb 05 48 19.2
comp=Z,58nm,1.1s
SII **Sitkinak Islan** 79.60 16 P **P** 05 48 17.0 +1.2
baz=208
SII **Sitkinak Islan** 79.60 16 P **P** 05 48 18.5 +2.7
comp=Z,52nm,1.1s
R16K **Pilot Point** 79.66 14 P **P** 05 48 16.1 0.0
baz=205
R17K **Ugashik Creek** 80.01 15 P **P** 05 48 18.8 +0.8
baz=206
SRIT **Nakonsritamara** 80.20 283 P **P** 05 48 23.5 +3.4
OHAK **Old Harbor** 80.42 16 P **P** 05 48 18.1 -2.1
OHAK lAmb lAmb 05 48 41.5
comp=Z,100nm,1.6s
OHAK **Old Harbor** 80.42 16 P **P** 05 48 21.0 +0.8
baz=209
NONG **Nongkai** 80.62 293 P **P** 05 48 24.0 +1.8
comp=Z,19nm,0.8s

HNS **HongShan** 80.66 315 ⇓P **P** 05 48 22.6 +0.6
HNS S **S** 05 58 35.0 +5.7
HNS pmax pmax
comp=Z,19nm,1.7s
HNS LR LR
comp=Z,280nm,17.5s
HNS LR LR
comp=Z,590nm,21.5s
HNS LR LR
comp=Z,410nm,19.9s
Q17K **Contact Creek** 80.69 15 P **P** 05 48 21.9 +0.1
baz=207,SNR=6.0
LYN **LuoYang** 80.70 311 ⇓P **P** 05 48 22.7 +0.4
LYN sP pwP 05 48 31.6 +2.1
LYN S **S** 05 58 31.7 +1.8
LYN SS **SS** 06 03 39.8 -3.7
LYN pmax pmax
comp=Z,20nm,1.2s
LYN pmax pmax
comp=Z,250nm,5.8s
LYN LR LR
comp=Z,210nm,19.8s
LYN LR LR
comp=Z,360nm,20.1s
LYN LR LR
comp=Z,500nm,25.5s
MAW **Mawson** 80.75 201 P **P** 05 48 21.1 -0.9
comp=Z,21nm,1.1s,baz=101,slow=6.3,SNR=5.9
comp=Z,21nm,1.1s
MAW **Mawson** 80.75 201 P **P** 05 48 21.1 -0.9
MAW **Mawson** 80.75 201 P **P** 05 48 21.1 -0.9
MAW pmax pmax
comp=Z,13nm,1.4s
ENH **Enshi** 80.77 306 P **P** 05 48 23.2 +0.4
comp=Z,50nm,1.8s
P16K **Nushagak River** 80.90 13 P **P** 05 48 22.9 +0.1
baz=205
SCZ2 **Santa Cruz Isl** 80.95 49 P **P** 05 48 23.7 +0.1
baz=240
KDAK **Kodiak Island** 81.09 16 LR LR 06 20 40.3
comp=Z,279nm,18.8s,baz=235,slow=33
KDAK **Kodiak Island** 81.09 16 P **P** 05 48 23.2 -0.6
KDAK IAmb IAmb 05 48 27.4
comp=Z,39nm,1.1s
KDAK **Kodiak Island** 81.09 16 P **P** 05 48 25.0 +1.2
baz=210
KDAK **Kodiak Island** 81.09 16 P **P** 05 48 23.2 -0.6
KDAK pmax pmax
comp=Z,39nm,1.2s
SAO **San Andreas Ge** 81.11 46 P **P** 05 48 24.6 +0.1
SAO IAmb IAmb 05 48 29.2
comp=Z,56nm,1.1s
SAO **San Andreas Ge** 81.11 46 P **P** 05 48 24.6 +0.1
SAO pmax pmax
comp=Z,56nm,1.2s
BJT **Baijiatuau** 81.16 318 P **P** 05 48 23.7 -0.9
BJT **Baijiatuau** 81.16 318 P **P** 05 48 23.7 -0.9
BJT pmax pmax
comp=Z,44nm,1.7s
BJI **Beijing** 81.16 318 S S 05 58 24.3 -10
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI pmax pmax
comp=Z,88nm,5.3s
GYA **Guiyang** 81.22 302 ⇑P **P** 05 48 27.2 +1.8
GYA sP pwP 05 48 36.6 +4.0
GYA PP **PP** 05 51 30.8 -0.3
GYA S **S** 05 58 35.4 -0.5
GYA pmax pmax
comp=Z,19nm,2.0s
GYA LR LR
comp=Z,390nm,25.6s
Q18K **Katmai Hardscr** 81.24 15 P **P** 05 48 24.8 0.0
baz=208,SNR=12
MA2 **Magadan** 81.25 347 P **P** 05 48 23.7 -1.0
comp=Z,7.0nm,0.9s,baz=156,slow=5.5,SNR=4.7
MA2 LR LR 06 20 12.8
comp=Z,304nm,20.1s,baz=171,slow=32
comp=Z,7.0nm,0.9s
MA2 **Magadan** 81.25 347 P **P** 05 48 23.6 -1.0
MA2 IAmb IAmb 05 48 26.8
comp=Z,63nm,1.7s
MA2 **Magadan** 81.25 347 P **P** 05 48 26.1 +1.5
comp=Z,23nm,2.2s
MA2 **Magadan** 81.25 347 *ce*P **P** 05 48 24.9 +0.3
MA2 pmax pmax
comp=Z,38nm,1.7s
PKM **Mcpherson Peak** 81.27 48 P **P** 05 48 25.7 +0.1
baz=239
SMMC **Simmler** 81.36 48 P **P** 05 48 25.5 -0.4
baz=239
O16K **Kokwok River B** 81.39 13 P **P** 05 48 25.5 +0.1
baz=205
P17K **Kvichak River** 81.39 14 P **P** 05 48 25.4 0.0
baz=206
HEH **HeiHe** 81.43 331 *e*P **P** 05 48 26.2 +0.4
HEH pP **pP** 05 48 28.5 -0.4
HEH S **S** 05 58 38.3 +1.5
HEH sS **SKKSac** 05 58 46.7 -1.0
HEH pmax pmax
comp=Z,25nm,1.7s
HEH pmax pmax
comp=Z,340nm,4.9s
HEH LR LR
comp=Z,300nm,15.2s
HEH LR LR
comp=Z,330nm,15.0s
HEH LR LR
comp=Z,440nm,17.8s
CIS **Catalina Islan** 81.53 50 P **P** 05 48 28.3 +1.5
baz=240,SNR=5.9
BCW **Bitter Crk WRg** 81.58 49 IAmb IAmb 05 48 29.9
comp=Z,29nm,0.9s
SMAI **San Martin Ant** 81.69 160 P **P** 05 48 26.5 -0.5
SMAI IAmb IAmb 05 48 30.4
comp=Z,56nm,1.2s
O17K **Koliganek Bris** 81.77 13 P **P** 05 48 27.4 +0.1
baz=206
P18K **Big Mountain,** 81.85 14 IAmb IAmb 05 48 30.6
comp=Z,56nm,1.2s
P18K **Big Mountain,** 81.85 14 P **P** 05 48 27.7 -0.1
baz=207,SNR=11
KHMM **Horse Mountain** 81.85 42 IAmb IAmb 05 48 33.7
comp=Z,48nm,1.2s
Q20K **Shuyak Island** 81.86 16 P **P** 05 48 28.8 +1.0
baz=210
N16K **Nishlik Lake** 82.06 12 P **P** 05 48 30.9 +2.0
baz=204
ARVC **Arvin** 82.09 49 P **P** 05 48 29.7 0.0
baz=240,SNR=5.9
109C **Camp Elliot, M** 82.24 51 P **P** 05 48 31.2 +0.7
baz=241
O18K **Koktuh Hills** 82.27 14 IAmb IAmb 05 48 33.1
comp=Z,40nm,1.1s
O18K **Koktuh Hills** 82.27 14 P **P** 05 48 30.0 0.0
baz=207
VES **Vestal, Richgr** 82.27 48 P **P** 05 48 31.2 +0.6
baz=240
TIY **Taiyuan** 82.36 314 *e*P **P** 05 48 32.8 +1.7
ELS **Elsinore Mount** 82.37 51 P **P** 05 48 30.8 -0.4
ELS IAmb IAmb 05 48 51.4
comp=Z,73nm,2.0s
BAR **Barrett** 82.46 52 P **P** 05 48 31.1 -0.6
BAR IAmb IAmb 05 48 50.8
comp=Z,64nm,2.0s
BFSC **Mount Baldy Ra** 82.49 50 P **P** 05 48 32.4 +0.5
baz=241,SNR=9.7
CMB **Columbia Colle** 82.50 45 IAmb IAmb 05 48 36.2
comp=Z,30nm,1.1s
MURC **Murrieta** 82.52 51 P **P** 05 48 33.1 +1.1
baz=241,SNR=6.4
P19K **Oil Pt** 82.56 15 P **P** 05 48 32.1 +0.5
baz=209
ORV **Oroville** 82.56 44 IAmb IAmb 05 48 36.4
comp=Z,31nm,1.1s
EDW2 **Edwards Air Fo** 82.56 49 P **P** 05 48 33.6 +1.4
baz=240,SNR=21
AFDM **Forest Hills D** 82.59 44 P **P** 05 48 33.5 +1.3
AFDM IAmb IAmb 05 48 35.0
comp=Z,27nm,1.1s
ISA **Isabella, Lake** 82.61 48 IAmb IAmb 05 48 35.6
comp=Z,45nm,1.2s
ISA **Isabella, Lake** 82.61 48 P **P** 05 48 34.0 +1.5
baz=240,SNR=20
CCAC **Calif City Air** 82.68 49 IAmb IAmb 05 48 37.6
comp=Z,54nm,1.4s
MONP2 **Monument Peak** 82.75 52 P **P** 05 48 34.9 +1.4
baz=242,SNR=20
O19K **Port Alsworth** 82.78 14 P **P** 05 48 32.9 +0.3
baz=208
IKP **In-Ko-Pah, Jac** 82.86 52 P **P** 05 48 34.8 +0.9
baz=242,SNR=8.3
ILSW **Iliamna Southw** 82.87 15 IAmb IAmb 05 48 36.7
comp=Z,165nm,1.3s
HOM **Homer** 82.97 16 P **P** 05 48 34.1 +0.5
baz=211
YBH **Yreka Blue Hor** 82.97 41 LR LR 06 19 21.8
comp=Z,212nm,18.0s,baz=260,slow=31
YBH **Yreka Blue Hor** 82.97 41 IAmb IAmb 05 48 37.6
comp=Z,44nm,1.4s
XAN **Xi'an** 82.99 310 P **P** 05 48 34.0 -0.5
XAN pP PcP 05 48 39.0 -0.2
XAN S **S** 05 58 52.4 -1.3
XAN pmax pmax
comp=Z,35nm,1.7s
XAN pmax pmax
comp=Z,350nm,3.5s
XAN LR LR
comp=Z,340nm,22.0s
XAN LR LR
comp=Z,610nm,21.6s
XAN LR LR
comp=Z,990nm,24.5s
PFO **Pinyon Flats O** 83.06 51 LR LR 06 16 58.7
comp=Z,168nm,19.9s,baz=246,slow=30
PFO **Pinyon Flats O** 83.06 51 P **P** 05 48 34.7 -0.2
PFO IAmb IAmb 05 48 39.6
comp=Z,36nm,1.5s
PFO **Pinyon Flats O** 83.06 51 P **P** 05 48 34.4 -0.5
baz=242
PFO **Pinyon Flats O** 83.06 51 P **P** 05 48 34.7 -0.2
PFO pmax pmax
comp=Z,36nm,1.5s
TPFO **Pinon Flats** 83.06 51 P **P** 05 48 35.4 +0.4
baz=242
LRMC **Laurel Mtn Rad** 83.08 49 P **P** 05 48 35.2 +0.2
baz=241
O20K **Slope Mountain** 83.09 15 P **P** 05 48 35.1 +0.7
baz=210,SNR=9.9
PMD **Palm Desert** 83.14 51 IAmb IAmb 05 48 39.7
comp=Z,38nm,1.8s
OMMB **Old Mammoth Mi** 83.22 46 IAmb IAmb 05 48 39.0
comp=Z,42nm,1.3s
SWSC **Sam W. Stewart** 83.23 52 P **P** 05 48 36.6 +0.9
baz=242,SNR=10
CWC **Cottonwood Cre** 83.27 48 P **P** 05 48 37.8 +1.8
baz=240
BRSE **Bradley Lake S** 83.27 16 P **P** 05 48 35.6 +0.3
baz=211,SNR=8.2
N19K **Bonanza Creek** 83.29 14 IAmb IAmb 05 48 38.0
comp=Z,41nm,1.3s
N19K **Bonanza Creek** 83.29 14 P **P** 05 48 35.6 +0.2
baz=208
GAMB **Gambell** 83.34 5 P **P** 05 48 36.4 +0.9
baz=192
MLAC **Mammoth, Mammo** 83.34 46 P **P** 05 48 37.4 +1.0
baz=240
XLT **XiLinHaoTe** 83.40 321 *e*P **P** 05 48 38.1 +1.7
XLT pP pwP 05 48 44.0 +0.4
XLT S **S** 05 58 58.7 +1.2
XLT pmax pmax
comp=Z,13nm,1.2s
XLT pmax pmax
comp=Z,260nm,4.9s
XLT LR LR
comp=Z,290nm,18.7s
XLT LR LR
comp=Z,390nm,19.0s
BEKR **Beckworth** 83.47 44 IAmb IAmb 05 48 39.3
comp=Z,28nm,1.0s
TIN **Tinemaha, Big** 83.47 47 P **P** 05 48 38.2 +1.2
baz=240
MPMC **Manual Prospec** 83.50 48 P **P** 05 48 38.3 +1.1
baz=241,SNR=15
BELC **Belle Mtn. Jos** 83.58 51 P **P** 05 48 39.3 +1.6
baz=242,SNR=11
GSC **Goldstone, Bar** 83.62 49 IAmb IAmb 05 48 42.2
comp=Z,24nm,1.1s
GSC **Goldstone, Bar** 83.62 49 P **P** 05 48 39.4 +1.7
baz=241,SNR=14
VCNR **Virginia City** 83.64 45 IAmb IAmb 05 48 42.6
comp=Z,38nm,1.2s
LPIG **Lajaz** 83.70 62 LR LR 06 17 09.3
comp=Z,247nm,21.8s,baz=252,slow=29
HEC **Hector,Ludlow** 83.73 50 P **P** 05 48 39.4 +1.1
baz=242,SNR=12
DSP **Deep Springs** 83.81 47 IAmb IAmb 05 48 43.5
comp=Z,49nm,1.2s
BC3 **Big Chuckawall** 83.82 51 P **P** 05 48 40.0 +1.2
baz=242,SNR=8.2
CRAI **Chiangrai** 83.88 294 IAmb IAmb 05 48 41.8
comp=Z,23nm,1.8s
SEW **Seward** 83.93 17 IAmb IAmb 05 48 41.5
comp=Z,55nm,1.4s
SEW **Seward** 83.93 17 P **P** 05 48 38.7 +0.1
baz=213
ZEA **Zeya** 83.94 333 *e*P **P** 05 48 39.9 +1.1
ZEA *e*S **S** 05 59 06.2 +3.9
ZEA pmax pmax
comp=N,10.0nm,1.5s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA pmax pmax
comp=Z,200nm,4.8s
ZEA smax smax
comp=E,100nm,8.6s
ZEA smax smax
comp=N,100nm,11.7s
LCH **Last Change Ra** 83.97 47 IAmb IAmb 05 48 48.2
comp=Z,28nm,1.3s
GLA **Glamis** 84.01 52 P **P** 05 48 40.7 +1.0
baz=243
SEY **Seymchan** 84.04 349 P **P** 05 48 39.2 +0.1
comp=Z,17nm,0.9s,baz=153,slow=5.8,SNR=36
comp=Z,17nm,0.9s
SEY **Seymchan** 84.04 349 *ce*P **P** 05 48 39.4 +0.3
SEY pmax pmax
comp=Z,92nm,2.5s
GRAC **Grapevine Rang** 84.04 48 P **P** 05 48 41.4 +1.6
baz=241,SNR=19
RYN **Ryan** 84.06 46 IAmb IAmb 05 48 42.3
comp=Z,28nm,1.1s
NVAR **Mina Array Bea** 84.11 46 P **P** 05 48 42.0 +1.7
comp=Z,21nm,1.1s,baz=226,slow=7.7,SNR=57
comp=Z,21nm,1.1s
FURC **Furnace Creek,** 84.14 48 P **P** 05 48 41.4 +1.2
baz=241,SNR=7.7
N20K **Mount Spurr** 84.16 15 P **P** 05 48 39.2 -0.7
baz=210,SNR=12
SPCR **Spurr Chakacha** 84.16 15 P **P** 05 48 39.6 -0.2
baz=210,SNR=6.1
O22K **Cooper Landing** 84.17 16 P **P** 05 48 39.8 0.0
baz=212
GMRC **Granite Mounta** 84.20 50 P **P** 05 48 41.5 +0.8
baz=242,SNR=18
IRM **Iron Mountain** 84.28 51 P **P** 05 48 43.1 +2.0
baz=242,SNR=28
SHOC **Shoshone, Teco** 84.28 49 P **P** 05 48 42.7 +1.7
baz=241,SNR=7.1
TUQ **Turquoise Moun** 84.31 50 P **P** 05 48 43.1 +1.7
baz=242,SNR=12
P23K **Montague Islan** 84.41 18 P **P** 05 48 41.8 +0.8
baz=214
L19K **White Mountain** 84.42 13 P **P** 05 48 42.0 +0.9
baz=208,SNR=30
CM31 **Chiang Mai Arr** 84.44 292 P **P** 05 48 41.8 -0.4
CM31 IAmb IAmb 05 48 44.9
comp=Z,64nm,1.7s
CMAR **Chiang Mai Arr** 84.44 292 P **P** 05 48 42.0 -0.2
comp=Z,1.8nm,0.3s,baz=122,slow=3.2,SNR=24
CMAR LR LR 06 24 18.0
comp=Z,112nm,21.3s,baz=110,slow=34
comp=Z,1.8nm,0.3s
CMAR **Chiang Mai Arr** 84.44 292 P **P** 05 48 41.3 -0.9
CMAR **Chiang Mai Arr** 84.44 292 *i*P **P** 05 48 42.5 +0.3
CMAR pmax pmax
comp=Z,2.0nm,0.3s
WCT **Wildcat Mounta** 84.46 48 IAmb IAmb 05 48 46.7
comp=Z,36nm,1.3s
PLTX **Planet X, Gerl** 84.49 44 IAmb IAmb 05 48 46.7
comp=Z,99nm,1.3s
M20K **Styx River** 84.54 14 IAmb IAmb 05 49 02.5
comp=Z,58nm,1.9s
M20K **Styx River** 84.54 14 P **P** 05 48 42.0 +0.2
baz=209
BLYC **Blythe** 84.55 52 IAmb IAmb 05 48 48.2
comp=Z,37nm,1.4s
KVN **Kaiserville** 84.56 46 IAmb IAmb 05 48 47.0
comp=Z,41nm,1.2s
PMSA **Palmer Station** 84.56 158 LR LR 06 18 41.8
comp=Z,228nm,21.1s,baz=268,slow=30
HHC **Hu-ho-hao-te** 84.56 317 *e*P **P** 05 48 43.0 +0.6
HHC S **S** 05 59 08.2 -1.1
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,520nm,4.1s
HHC LR LR
comp=Z,500nm,16.5s
HHC LR LR
comp=Z,380nm,17.1s
HHC LR LR
comp=Z,1μm,18.4s
MOD **Modoc Plateau** 84.58 42 IAmb IAmb 05 48 47.0
comp=Z,47nm,1.3s
CHTO **Chiang Mai** 84.58 292 P **P** 05 48 42.3 -0.6
CHTO IAmb IAmb 05 48 45.3
comp=Z,70nm,1.9s
CHTO **Chiang Mai** 84.58 292 P **P** 05 48 42.3 -0.6
CHTO pmax pmax
comp=Z,70nm,1.9s
113A **Mohawk Valley,** 84.67 53 IAmb IAmb 05 48 56.6
comp=Z,50nm,1.6s
RC01 **Rabbit Creek A** 84.69 16 P **P** 05 48 42.1 -0.3
baz=212,SNR=21
DIB **Dawson Inlet,** 84.74 28 IAmb IAmb 05 48 45.1
comp=Z,36nm,1.3s
SUA **Susitna One** 84.75 15 P **P** 05 48 42.2 -0.6
baz=211,SNR=17
TPNV **Topopah Spring** 84.80 48 IAmb IAmb 05 48 52.1
comp=Z,42nm,1.2s
TPNV **Topopah Spring** 84.80 48 P **P** 05 48 43.6 -0.3
baz=241,SNR=16
ANM **Nome** 84.81 8 IAmb IAmb 05 48 46.8
comp=Z,42nm,1.4s
ANM **Nome** 84.81 8 P **P** 05 48 44.0 +1.1
baz=198
TTA **Tatalina** 84.85 12 IAmb IAmb 05 48 46.8
comp=Z,33nm,1.3s
TTA **Tatalina** 84.85 12 P **P** 05 48 43.8 +0.5
baz=206,SNR=12
PWL **Port Wells** 84.86 17 P **P** 05 48 43.4 0.0
baz=214,SNR=12
L20K **Farewell, AK** 84.90 14 P **P** 05 48 43.8 +0.3
baz=208,SNR=15
NEE2 **Needles Airpor** 84.95 51 P **P** 05 48 44.3 -0.1
baz=242
SKT **Skwentna** 85.00 15 P **P** 05 48 42.9 -1.1
baz=211
214A **Organ Pipe Nat** 85.03 54 IAmb IAmb 05 48 49.9
comp=Z,32nm,1.3s
214A **Organ Pipe Nat** 85.03 54 P **P** 05 48 46.8 +1.9
baz=244,SNR=18
M22K **Willow** 85.15 15 P **P** 05 48 44.6 -0.1
baz=212,SNR=8.2
HSIG 85.22 57 IAmb IAmb 05 48 50.6
comp=Z,28nm,1.2s
PZH **PanZhiHua** 85.22 300 ⇑P **P** 05 48 45.5 -0.6
PZH sP **sP** 05 48 51.1 +0.8
PZH PP **PP** 05 52 08.4 +4.4
PZH S **S** 05 59 19.9 +3.4
PZH pmax pmax
comp=Z,10.0nm,1.5s
PZH pmax pmax
comp=Z,150nm,4.5s
PZH LR LR
comp=Z,450nm,22.6s
PZH LR LR
comp=Z,580nm,21.9s
PZH LR LR
comp=Z,470nm,21.8s
PMR **Palmer** 85.27 16 P **P** 05 48 44.7 -0.6
PMR **Palmer** 85.27 16 P **P** 05 48 45.3 +0.1
baz=213,SNR=16
PMR **Palmer** 85.27 16 P **P** 05 48 44.7 -0.6
PMR pmax pmax
comp=Z,59nm,1.3s
KNK **Knik Glacier** 85.29 16 IAmb IAmb 05 48 48.4
comp=Z,36nm,1.1s
KNK **Knik Glacier** 85.29 16 P **P** 05 48 45.7 +0.2
baz=213,SNR=7.1
WTNK **Soaring Height** 85.33 49 IAmb IAmb 05 48 50.8
comp=Z,11nm,1.4s
EYAK **Cordova Ski Ar** 85.33 18 P **P** 05 48 45.6 0.0
baz=216
EYAK **Cordova Ski Ar** 85.33 18 P **P** 05 48 48.4 +2.8
comp=Z,20nm,1.1s
SHPR **Sheep Range** 85.36 49 IAmb IAmb 05 49 07.1
comp=Z,47nm,2.0s
BTO **Baotou** 85.45 316 *e*P **P** 05 48 48.2 +1.3
BTO S **SKSac** 05 59 09.1 -2.9
BTO LR LR
comp=Z,550nm,7.3s
BTO LR LR
comp=Z,1μm,12.6s
CD2 **Chengdu** 85.46 305 P **P** 05 48 47.2 +0.1
CD2 pmax pmax
comp=Z,10.0nm,0.6s
TNA **Tin City** 85.46 7 IAmb IAmb 05 48 48.2
comp=Z,44nm,1.1s
TNA **Tin City** 85.46 7 P **P** 05 48 45.9 -0.3
baz=195,SNR=6.3
GHO **Glory Hole Cre** 85.47 16 IAmb IAmb 05 48 49.4
comp=Z,43nm,1.0s
K20K **Telida** 85.63 13 P **P** 05 48 47.4 +0.3
baz=208
SML **Sawmill** 85.66 16 P **P** 05 48 47.0 -0.4
SML IAmb IAmb 05 49 05.1
comp=Z,49nm,1.4s
SML **Sawmill** 85.66 16 P **P** 05 48 46.7 -0.6
baz=214
CUT **Chulitna** 85.67 15 P **P** 05 48 47.3 0.0
baz=212,SNR=9.3
DIV **Divide** 85.80 18 IAmb IAmb 05 48 50.8
comp=Z,40nm,1.1s
M23K **Glacier View** 85.81 16 P **P** 05 48 48.2 +0.1
baz=214
BMN **Battle Mountai** 85.83 45 IAmb IAmb 05 48 51.9
comp=Z,54nm,1.3s
R11A **Troy Canyon, C** 85.93 47 P **P** 05 48 50.1 +0.6
baz=242,SNR=6.3
SCM **Sheep Creek Mo** 85.94 16 IAmb IAmb 05 48 51.7
comp=Z,37nm,1.0s
SCM **Sheep Creek Mo** 85.94 16 P **P** 05 48 48.8 0.0
baz=214,SNR=7.8
CRAG **Craig** 86.00 26 P **P** 05 48 49.2 +0.1
baz=227
BMRM **Bremner River** 86.00 18 P **P** 05 48 49.1 0.0
baz=217
KLU **Klutina** 86.05 17 IAmb IAmb 05 48 52.2
comp=Z,36nm,1.3s
KLU **Klutina** 86.05 17 P **P** 05 48 49.7 +0.4
baz=216
BBB **Bella Bella** 86.11 31 LR LR 06 19 27.6
comp=Z,226nm,21.0s,baz=233,slow=30
CAST **Castle Rocks** 86.12 14 P **P** 05 48 49.5 0.0
baz=210,SNR=20
J20K **Nowinta River** 86.34 13 P **P** 05 48 50.8 +0.2
baz=208
U33K **Whale Pass** 86.44 26 P **P** 05 48 51.8 +0.6
baz=227
WAT6 **Susitna Watana** 86.46 16 P **P** 05 48 51.1 -0.3
baz=214,SNR=9.9
WAT1 **Susitna Watana** 86.46 15 P **P** 05 48 50.8 -0.5
baz=213
CHUM **Lake Minchumin** 86.47 13 P **P** 05 48 50.6 -0.6
baz=210
M24K **Tolsona, Glenn** 86.48 17 IAmb IAmb 05 48 55.0
comp=Z,53nm,1.2s
M24K **Tolsona, Glenn** 86.48 17 P **P** 05 48 51.5 0.0
baz=215
S31K **Pelican** 86.51 23 P **P** 05 48 51.5 0.0
baz=224
N25K **Chitina, Valde** 86.52 18 IAmb IAmb 05 48 54.7
comp=Z,38nm,1.1s
N25K **Chitina, Valde** 86.52 18 P **P** 05 48 51.6 0.0
baz=217,SNR=15
V35K **Ketchikan** 86.54 27 P **P** 05 48 52.8 +1.1
baz=228
VRDI **Verde Repeater** 86.55 18 IAmb IAmb 05 49 00.0
comp=Z,63nm,1.6s
TRF **Thorofare Moun** 86.56 14 IAmb IAmb 05 48 54.1
comp=Z,31nm,1.3s

TRF	**Thorofare Moun**	**86.56**	**14**	P	**P**	**05 48 51.5**	**-0.4**	
	baz=212							
GLB	**Gilahina Butte**	**86.61**	**18**	IAmb	IAmb	05 48 55.0		
	comp=Z,29nm,1.2s							
PNL	**Peninsula**	**86.63**	**21**	P	**P**	**05 48 52.7**	**+0.6**	
	baz=222							
PNL	**Peninsula**	**86.63**	**21**	P	**P**	**05 48 54.7**	**+2.5**	
	comp=Z,33nm,1.1s							
PINM	**Pinnacle**	**86.67**	**20**	P	**P**	**05 48 53.0**	**+0.5**	
	baz=221							
TUC	**Tucson**	**86.74**	**54**	P	**P**	**05 48 54.1**	**+0.7**	
TUC				IAmb	IAmb	05 48 58.7		
	comp=Z,40nm,1.6s							
TUC	**Tucson**	**86.74**	**54**	P	**P**	**05 48 55.4**	**+2.0**	
	baz=245							
TUC	**Tucson**	**86.74**	**54**	P	**P**	**05 48 54.1**	**+0.7**	
TUC				pmax	pmax			
	comp=Z,40nm,1.6s							
MCARA	**McCarthy VSAT**	**86.80**	**18**	IAmb	IAmb	05 48 56.2		
	comp=Z,37nm,1.1s							
MCARA	**McCarthy VSAT**	**86.80**	**18**	P	**P**	**05 48 53.5**	**+0.5**	
	baz=218,SNR=11							
RND	**Reindeer**	**86.87**	**15**	IAmb	IAmb	05 49 05.7		
	comp=Z,68nm,2.0s							
F07A	**Phinny Hill Vi**	**86.91**	**39**	IAmb	IAmb	05 48 55.8		
	comp=Z,22nm,1.0s							
WRAK	**Wrangell Islan**	**86.96**	**26**	P	**P**	**05 48 54.8**	**+1.0**	
	baz=228							
DHY	**Denali Highway**	**86.96**	**16**	IAmb	IAmb	05 48 57.5		
	comp=Z,44nm,1.8s							
DHY	**Denali Highway**	**86.96**	**16**	P	**P**	**05 48 53.9**	**0.0**	
	baz=214							
HARP	**HAARP**	**87.00**	**17**	P	**P**	**05 48 54.8**	**+0.9**	
	baz=216							
SPR3	**Spring Creek 3**	**87.11**	**47**	IAmb	IAmb	05 48 59.5		
	comp=Z,23nm,1.3s							
ELIB	**Princess Elisa**	**87.12**	**188**	*d*P	**P**	**05 48 53.0**	**-1.7**	
	comp=Z,14nm,1.2s							
CCUT	**Cedar City**	**87.12**	**49**	IAmb	IAmb	05 49 12.9		
	comp=Z,38nm,1.8s							
MCK	**McKinley**	**87.12**	**15**	IAmb	IAmb	05 48 58.0		
	comp=Z,39nm,1.5s							
MCK	**McKinley**	**87.12**	**15**	P	**P**	**05 48 55.0**	**+0.6**	
	baz=213							
P29M	**Windy Craggy**	**87.17**	**22**	IAmb	IAmb	05 48 58.6		
	comp=Z,39nm,1.2s							
P29M	**Windy Craggy**	**87.17**	**22**	P	**P**	**05 48 55.5**	**+0.7**	
	baz=223							
LTY	**Liberty**	**87.20**	**38**	IAmb	IAmb	05 48 59.2		
	comp=Z,53nm,1.4s							
O28M	**Mount Upton**	**87.20**	**20**	P	**P**	**05 48 56.0**	**+0.7**	
	baz=221							
KNB	**Kanab**	**87.27**	**49**	IAmb	IAmb	05 49 01.9		
	comp=Z,44nm,1.6s							
ELK	**Elko**	**87.30**	**45**	LR	LR	06 21 42.5		
	comp=Z,261nm,19.7s,baz=260,slow=31							
ELK	**Elko**	**87.30**	**45**	IAmb	IAmb	05 49 00.6		
	comp=Z,37nm,1.6s							
ELK	**Elko**	**87.30**	**45**	P	**P**	**05 48 57.6**	**+1.4**	
TNCH	**TengChong**	**87.31**	**298**	P	**P**	**05 48 56.8**	**+0.3**	
TNCH				pmax	pmax			
	comp=Z,21nm,1.7s							
TNCH				pmax	pmax			
	comp=Z,190nm,2.8s							
TNCH				LR	LR			
	comp=Z,250nm,17.9s							
SZCU	**Shurtz Canyon**	**87.34**	**49**	IAmb	IAmb	05 49 17.0		
	comp=Z,64nm,1.9s							
BILL	**Bilibino**	**87.37**	**356**	P	**P**	**05 48 54.3**	**-1.2**	
BILL				IAmb	IAmb	05 48 59.3		
	comp=Z,37nm,1.4s							
BILL	**Bilibino**	**87.37**	**356**	*e*P	**P**	**05 48 55.8**	**+0.3**	
BILL				*e*		05 52 18.2		
BILL				*e*PPP	PPP	05 54 14.3		
BILL				pmax	pmax			
	comp=Z,54nm,2.5s							
PAX	**Paxson**	**87.38**	**17**	IAmb	IAmb	05 48 57.0		
	comp=Z,59nm,2.0s							
PAX	**Paxson**	**87.38**	**17**	P	**P**	**05 48 54.9**	**-0.9**	
	baz=216							
U15A	**North Rim**	**87.39**	**50**	IAmb	IAmb	05 49 01.8		
	comp=Z,28nm,1.2s							
HAWA	**Hanford**	**87.40**	**39**	IAmb	IAmb	05 49 00.6		
	comp=Z,41nm,1.2s							
JIS	**Juneau Island**	**87.42**	**24**	IAmb	IAmb	05 48 59.9		
	comp=Z,62nm,1.7s							
319A	**Douglas**	**87.51**	**56**	IAmb	IAmb	05 49 11.2		
	comp=Z,35nm,1.5s							
PLBC	**Pleasant Camp**	**87.53**	**22**	P	**P**	**05 48 56.7**	**+0.2**	
	baz=224							
M26K	**Nabesna, AK**	**87.61**	**18**	IAmb	IAmb	05 49 00.1		
	comp=Z,38nm,1.2s							
M26K	**Nabesna, AK**	**87.61**	**18**	P	**P**	**05 48 56.7**	**-0.2**	
	baz=218							
LZH	**Lanzhou**	**87.63**	**309**	⇓P	**P**	**05 48 58.8**	**+1.0**	
LZH				pP	pwP	05 49 06.8	+1.8	
LZH				sP	sP	05 49 10.5	+8.5	
LZH				sS	sS	05 59 46.9	+2.1	
LZH				pmax	pmax			
	comp=Z,61nm,1.0s							
LZH				pmax	pmax			
	comp=Z,450nm,5.2s							
LZH				LR	LR			
	comp=Z,380nm,16.2s							
LZH				LR	LR			
	comp=Z,580nm,16.8s							
LZH				LR	LR			
	comp=Z,970nm,19.4s							
WUAZ	**Wupatki**	**87.66**	**51**	IAmb	IAmb	05 49 02.8		
	comp=Z,35nm,1.4s							
WUAZ	**Wupatki**	**87.66**	**51**	P	**P**	**05 48 59.7**	**+1.8**	
	baz=244,SNR=10							
I21K	**Tanana**	**87.67**	**13**	P	**P**	**05 48 56.5**	**-0.5**	
	baz=210,SNR=7.6							
YUK8	**Steele Glacier**	**87.73**	**20**	P	**P**	**05 48 58.0**	**+0.3**	
	baz=221,SNR=7.7							
P30M	**Million Dollar**	**87.80**	**21**	P	**P**	**05 48 58.5**	**+0.6**	
	baz=224							
MLY	**Manley**	**87.81**	**13**	P	**P**	**05 48 57.1**	**-0.7**	
	baz=211,SNR=8.1							
NEA2	**Nenana**	**87.82**	**14**	P	**P**	**05 48 56.6**	**-1.1**	
	baz=213							
PKCU	**Pink Cliffs**	**87.82**	**49**	IAmb	IAmb	05 49 30.2		
	comp=Z,37nm,1.2s							
MENT	**Mentasta**	**87.83**	**17**	IAmb	IAmb	05 49 15.9		
	comp=Z,26nm,1.5s							
YUK3	**Moose Creek**	**87.88**	**19**	P	**P**	**05 48 58.1**	**-0.4**	
	baz=221,SNR=17							
M27K	**Edge Creek, AK**	**87.90**	**18**	P	**P**	**05 48 58.6**	**+0.2**	
	baz=219							
SKAG	**Skagway**	**87.91**	**23**	P	**P**	**05 48 59.2**	**+0.9**	
	baz=225							
H21K	**Melozitna Rive**	**87.92**	**12**	P	**P**	**05 48 58.6**	**+0.4**	
	baz=209,SNR=8.2							
WRH	**Wood River Hil**	**87.95**	**15**	IAmb	IAmb	05 48 59.5		
	comp=Z,26nm,1.3s							
BMO	**Blue Mountains**	**87.96**	**41**	IAmb	IAmb	05 49 03.1		
	comp=Z,44nm,1.6s							
K24K	**Donnelly Dome**	**87.97**	**16**	P	**P**	**05 48 58.4**	**-0.2**	
	baz=216,SNR=8.7							
L26K	**Log Cabin Wild**	**88.00**	**17**	P	**P**	**05 48 58.9**	**+0.1**	
	baz=218							
HYT	**Haines Junctio**	**88.13**	**21**	IAmb	IAmb	05 49 03.0		
	comp=Z,52nm,1.8s							
HYT	**Haines Junctio**	**88.13**	**21**	P	**P**	**05 48 59.1**	**-0.4**	
	baz=223							
YUK4	**Talbot Arm**	**88.13**	**20**	P	**P**	**05 48 59.6**	**0.0**	
	baz=222							
DUN6	**Lazy B Ranch**	**88.14**	**55**	IAmb	IAmb	05 49 21.8		
	comp=Z,71nm,1.5s							
RIDG	**Independent Ri**	**88.17**	**16**	IAmb	IAmb	05 49 03.3		
	comp=Z,39nm,1.5s							
RIDG	**Independent Ri**	**88.17**	**16**	P	**P**	**05 48 59.0**	**-0.6**	
	baz=217,SNR=8.9							
HDA	**Harding Lake**	**88.17**	**15**	IAmb	IAmb	05 49 01.7		
	comp=Z,38nm,1.4s							
HDA	**Harding Lake**	**88.17**	**15**	P	**P**	**05 48 58.6**	**-0.8**	
	baz=215,SNR=13							
MTPU	**Mount Pierson**	**88.18**	**49**	IAmb	IAmb	05 49 15.8		
	comp=Z,45nm,1.7s							
MFID	**Camas Ranch**	**88.19**	**43**	IAmb	IAmb	05 49 04.7		
	comp=Z,46nm,1.6s							
T35M	**Bob Quinn**	**88.20**	**26**	P	**P**	**05 48 58.7**	**-1.0**	
	baz=230							
I23K	**Minto, Yukon-K**	**88.22**	**14**	P	**P**	**05 48 59.8**	**+0.1**	
	baz=212							
TCRU	**Three Creeks R**	**88.24**	**48**	IAmb	IAmb	05 49 17.1		
	comp=Z,28nm,1.3s							
BVCY	**Beaver Creek**	**88.25**	**19**	P	**P**	**05 49 00.6**	**+0.7**	
	baz=220							
X18A	**Snowflake**	**88.30**	**53**	IAmb	IAmb	05 49 05.8		
	comp=Z,56nm,1.9s							
DOT	**Dot Lake**	**88.30**	**17**	IAmb	IAmb	05 49 04.0		
	comp=Z,23nm,1.4s							
MDM	**Murphy Dome**	**88.32**	**14**	IAmb	IAmb	05 49 01.7		
	comp=Z,28nm,1.2s							
TCOL	**CIGO, UAF Yank**	**88.34**	**15**	IAmb	IAmb	05 49 01.2		
	comp=Z,30nm,1.1s							
TCOL	**CIGO, UAF Yank**	**88.34**	**15**	P	**P**	**05 48 60.0**	**-0.2**	
	baz=214							
COLA	**College**	**88.34**	**15**	P	**P**	**05 48 58.7**	**-1.4**	
COLA				IAmb	IAmb	05 49 01.2		
	comp=Z,25nm,1.0s							
COLA	**College**	**88.34**	**15**	P	**P**	**05 48 59.8**	**-0.4**	
	baz=214							
COLA	**College**	**88.34**	**15**	P	**P**	**05 48 59.6**	**-0.6**	
	comp=Z,29nm,1.1s							
COLA	**College**	**88.34**	**15**	*i* P	**P**	**05 48 58.8**	**-1.4**	
COLA				pmax	pmax			
	comp=Z,17nm,1.1s							
H22K	**Ishtalitna Cre**	**88.42**	**13**	P	**P**	**05 49 00.9**	**+0.3**	
	baz=211							
S34M	**Telegraph Cree**	**88.45**	**25**	P	**P**	**05 49 01.4**	**+0.5**	
	baz=229							
L27K	**Beaver Creek,**	**88.47**	**18**	P	**P**	**05 49 00.6**	**-0.4**	
	baz=219							
IL31		**88.49**	**15**	P	**P**	**05 48 59.5**	**-1.4**	
ILAR	**Eielson Array**	**88.49**	**15**	P	**P**	**05 48 59.9**	**-1.1**	
	comp=Z,10nm,1.0s,baz=227,slow=4.7,SNR=49							
ILAR				LR	LR	06 24 16.4		
	comp=Z,232nm,19.4s,baz=230,slow=33							
	comp=Z,10nm,1.0s							
ILAR	**Eielson Array**	**88.49**	**15**	P	**P**	**05 48 59.3**	**-1.7**	
G21K	**Allakaket**	**88.54**	**12**	P	**P**	**05 49 01.3**	**+0.1**	
	baz=209							
B08A	**Colville Reser**	**88.55**	**37**	IAmb	IAmb	05 49 03.0		
	comp=Z,20nm,1.0s							
F10A	**Beach Ranch, E**	**88.57**	**40**	P	**P**	**05 49 01.6**	**-0.3**	
O30N	**Mendenhall**	**88.57**	**21**	P	**P**	**05 49 01.7**	**+0.3**	
	baz=224							
SCRK	**Sand Creek**	**88.58**	**16**	IAmb	IAmb	05 49 14.4		
	comp=Z,41nm,1.9s							
SCRK	**Sand Creek**	**88.58**	**16**	P	**P**	**05 49 01.0**	**-0.6**	
	baz=217,SNR=9.2							
P32M	**Atlin**	**88.59**	**23**	P	**P**	**05 49 02.0**	**+0.5**	
	baz=227,SNR=6.9							
POKR	**Poker Plat Res**	**88.64**	**15**	P	**P**	**05 49 00.7**	**-1.0**	
	baz=214							
HPIG		**88.67**	**61**	IAmb	IAmb	05 49 17.7		
	comp=Z,57nm,1.9s							
DUG	**Dugway, Tooele**	**88.69**	**46**	P	**P**	**05 49 03.0**	**+0.3**	
	baz=243,SNR=7.5							
Q32M	**Nakina River**	**88.70**	**24**	P	**P**	**05 49 03.7**	**+1.4**	
	baz=228							
W18A	**Petrified Fore**	**88.71**	**52**	IAmb	IAmb	05 49 07.6		
	comp=Z,40nm,1.6s							
W18A	**Petrified Fore**	**88.71**	**52**	P	**P**	**05 49 02.3**	**-0.6**	
	baz=245							
H23K	**Yukon River**	**88.75**	**13**	P	**P**	**05 49 02.3**	**+0.1**	
	baz=212							
TROLL	**Troll, Antarti**	**88.83**	**182**	P	**P**	**05 49 01.4**	**-1.5**	
C09A	**Chrisman Ranch**	**88.87**	**38**	IAmb	IAmb	05 49 07.0		
	comp=Z,30nm,1.3s							
PLID	**Pearl Lake**	**88.89**	**41**	IAmb	IAmb	05 49 17.3		
	comp=Z,70nm,1.9s							
WHY	**Whitehorse**	**88.91**	**22**	P	**P**	**05 49 03.7**	**+0.5**	
	baz=226							
YAK	**Yakutsk**	**88.98**	**340**	*c i* P	**P**	**05 49 03.4**	**+0.1**	
YAK				*e*		05 52 31.6		
YAK				*e*PPP	PPP	05 54 27.3		
YAK				*e*S	**SKSac**	**05 59 27.9**	**-4.5**	
YAK				*e**SS	**ScS**	**05 59 54.1**	**-1.9**	
YAK				*e*SS	**SS**	**06 05 38.3**	**-6.1**	
YAK				*e*SSS	SSS	06 09 17.6		
YAK				pmax	pmax			
	comp=Z,42nm,0.9s							
YAK				pmax	pmax			
	comp=N,11nm,1.5s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.4s							
YAK				pmax	pmax			
	comp=Z,108nm,3.5s							
YAK				pmax	pmax			
	comp=N,97nm,5.3s							
YAK				pmax	pmax			
	comp=E,65nm,4.3s							
YAK				smax	smax			
	comp=E,107nm,4.6s							
YAK				smax	smax			
	comp=N,68nm,3.4s							
M29M	**Somme Creek**	**89.01**	**19**	P	**P**	**05 49 03.9**	**+0.3**	
	baz=222							
NLU	**North Lily Min**	**89.09**	**47**	IAmb	IAmb	05 49 19.0		
	comp=Z,55nm,2.0s							
J26L	**Joseph Creek**	**89.11**	**16**	IAmb	IAmb	05 49 07.2		
	comp=Z,26nm,1.1s							
J26L	**Joseph Creek**	**89.11**	**16**	P	**P**	**05 49 04.8**	**+0.7**	
	baz=218							
121A	**Cookes Peak, D**	**89.14**	**55**	P	**P**	**05 49 07.0**	**+2.0**	
	baz=246							
K27K	**Chicken**	**89.15**	**17**	IAmb	IAmb	05 49 07.5		
	comp=Z,26nm,1.2s							
K27K	**Chicken**	**89.15**	**17**	P	**P**	**05 49 04.9**	**+0.8**	
	baz=219							
F21K	**Alatna River**	**89.16**	**11**	P	**P**	**05 49 05.0**	**+0.9**	
	baz=209							
HLID	**Hailey**	**89.17**	**43**	IAmb	IAmb	05 49 09.7		
	comp=Z,34nm,1.6s							
HLID	**Hailey**	**89.17**	**43**	P	**P**	**05 49 06.3**	**+1.4**	
	baz=242,SNR=13							
DLBC	**Dease Lake**	**89.24**	**25**	LR	LR	06 29 21.9		
	comp=Z,135nm,18.4s,baz=261,slow=36							
DLBC	**Dease Lake**	**89.24**	**25**	IAmb	IAmb	05 49 08.8		
	comp=Z,37nm,1.2s							
DLBC	**Dease Lake**	**89.24**	**25**	P	**P**	**05 49 05.4**	**+0.7**	
	baz=230,SNR=14							
Q16A	**Castle Valley**	**89.27**	**48**	IAmb	IAmb	05 49 09.3		
	comp=Z,50nm,1.4s							
SNAA	**Sanae**	**89.28**	**180**	P	**P**	**05 49 02.9**	**-2.0**	
SNAA	**Sanae**	**89.28**	**180**	LR	LR	06 23 55.6		
	comp=Z,133nm,21.9s,baz=183,slow=32							
SNAA	**Sanae**	**89.28**	**180**	P	**P**	**05 49 04.2**	**-0.7**	
SNAA				IAmb	IAmb	05 49 05.8		
	comp=Z,25nm,1.2s							
SNAA	**Sanae**	**89.28**	**180**	*i* P	**P**	**05 49 03.7**	**-1.2**	
SNAA				pmax	pmax			
	comp=Z,28nm,1.4s							
G22K	**Bettles**	**89.28**	**12**	P	**P**	**05 49 05.4**	**+0.8**	
	baz=210							
P33M	**Teslin, Yukon**	**89.34**	**23**	P	**P**	**05 49 06.2**	**+1.1**	
	baz=227,SNR=5.8							
CIT	**Chita**	**89.34**	**327**	*e*P	**P**	**05 49 04.1**	**-1.2**	
CIT				pmax	pmax			
	comp=Z,123nm,1.9s							
G23K	**Bananza Creek**	**89.41**	**13**	P	**P**	**05 49 06.6**	**+1.3**	
	baz=212							
TMUT	**Trail Mountain**	**89.41**	**48**	IAmb	IAmb	05 49 09.7		
	comp=Z,29nm,1.1s							
HVU	**Hansel Valley**	**89.43**	**45**	IAmb	IAmb	05 49 09.1		
	comp=Z,39nm,1.2s							
PRP	**Porcupine Dome**	**89.43**	**15**	P	**P**	**05 49 05.9**	**+0.3**	
	baz=216							
SPUT	**South Promonto**	**89.44**	**46**	IAmb	IAmb	05 49 10.6		
	comp=Z,31nm,1.2s							
R33M	**Jennings River**	**89.49**	**24**	P	**P**	**05 49 06.4**	**+0.4**	
	baz=229,SNR=20							
NVL	**N'lazarevskaya**	**89.51**	**185**	*e*P	**P**	**05 49 04.6**	**-1.3**	
NVL				pmax	pmax			
	comp=Z,23nm,1.2s							
L29M	**L29M**	**89.61**	**19**	P	**P**	**05 49 06.8**	**+0.5**	
	baz=223							
VNA3	**Neumayer Olymp**	**89.62**	**178**	P	**P**	**05 49 04.5**	**-2.0**	
M30M	**Minto, Yukon**	**89.64**	**20**	IAmb	IAmb	05 49 09.5		
	comp=Z,46nm,1.6s							
M30M	**Minto, Yukon**	**89.64**	**20**	P	**P**	**05 49 06.6**	**+0.2**	
	baz=224,SNR=15							
CTU	**Camp Tracy**	**89.64**	**46**	IAmb	IAmb	05 49 11.5		
	comp=Z,31nm,1.1s							
F22K	**John River**	**89.66**	**12**	P	**P**	**05 49 07.0**	**+0.5**	
	baz=210							
NEW	**Newport**	**89.77**	**38**	LR	LR	06 25 39.1		
	comp=Z,101nm,18.2s,baz=259,slow=33							
NEW	**Newport**	**89.77**	**38**	IAmb	IAmb	05 49 11.1		
	comp=Z,38nm,1.5s							
NEW	**Newport**	**89.77**	**38**	P	**P**	**05 49 07.3**	**-0.1**	
	baz=240,SNR=6.3							
NEW	**Newport**	**89.77**	**38**	P	**P**	**05 49 06.3**	**-1.1**	
JLU	**Jordanelle**	**89.81**	**47**	IAmb	IAmb	05 49 10.9		
	comp=Z,25nm,1.1s							
COLD	**Coldfoot**	**89.81**	**12**	P	**P**	**05 49 07.5**	**+0.4**	
	baz=212							
SRU	**San Rafael Swe**	**89.81**	**48**	IAmb	IAmb	05 49 10.9		
	comp=Z,28nm,1.1s							
P17A	**Butcher Ranch,**	**89.81**	**48**	IAmb	IAmb	05 49 22.5		
	comp=Z,63nm,1.7s							
KIDD	**KIDD Seismic O**	**89.84**	**56**	P	**P**	**05 49 09.3**	**+1.1**	
	baz=247							
DAWY	**Dawson**	**89.94**	**18**	IAmb	IAmb	05 49 10.7		
	comp=Z,23nm,1.1s							
DAWY	**Dawson**	**89.94**	**18**	P	**P**	**05 49 08.1**	**+0.3**	
	baz=222,SNR=26							
G24K	**Hadweenzic Riv**	**89.95**	**14**	P	**P**	**05 49 07.4**	**-0.4**	
	baz=214							
EGAK	**Eagle**	**89.98**	**17**	IAmb	IAmb	05 49 10.8		
	comp=Z,31nm,1.1s							
EGAK	**Eagle**	**89.98**	**17**	P	**P**	**05 49 08.2**	**+0.2**	
	baz=220,SNR=32							
VNA2	**Neumayer--Watz**	**90.00**	**179**	P	**P**	**05 49 06.5**	**-1.7**	
	baz=163,slow=4.0							
TCUT	**Toone Canyon**	**90.06**	**46**	IAmb	IAmb	05 49 12.1		
	comp=Z,33nm,0.9s							
M31M	**Drury Creek, Y**	**90.16**	**21**	P	**P**	**05 49 09.3**	**+0.4**	
	baz=226							
VNA1	**Neumayer--Stat**	**90.25**	**179**	P	**P**	**05 49 07.8**	**-1.5**	
E22K	**Anaktuvuk Pass**	**90.28**	**11**	P	**P**	**05 49 09.6**	**+0.3**	
	baz=210							
Y22A	**Socorro**	**90.32**	**54**	P	**P**	**05 49 12.3**	**+1.7**	
	baz=247							
K29M	**Barlow Dome**	**90.33**	**19**	P	**P**	**05 49 10.3**	**+0.5**	
	baz=223							
Y22D	**IRIS PASSCAL I**	**90.41**	**54**	P	**P**	**05 49 11.9**	**+1.0**	
	baz=247							
MVCO	**Mesa Verde**	**90.48**	**51**	IAmb	IAmb	05 49 42.8		
	comp=Z,68nm,2.0s							
MVCO	**Mesa Verde**	**90.48**	**51**	P	**P**	**05 49 10.7**	**-0.5**	
	baz=246							
I27K	**Kandik River**	**90.50**	**16**	P	**P**	**05 49 10.6**	**+0.1**	
	baz=220,SNR=10							
FARO	**Faro, Yukon**	**90.53**	**21**	P	**P**	**05 49 11.2**	**+0.6**	
	baz=227							
F24K	**Squaw Lake**	**90.54**	**13**	P	**P**	**05 49 11.3**	**+0.7**	
	baz=214							
PV10	**Paradox Valley**	**90.56**	**49**	IAmb	IAmb	05 49 14.2		
	comp=Z,20nm,1.0s							
J29M	**Klondike Camp**	**90.57**	**18**	P	**P**	**05 49 11.5**	**+0.7**	
	baz=223							
PV13	**Radium Mtn., P**	**90.63**	**50**	IAmb	IAmb	05 49 24.9		
	comp=Z,42nm,1.6s							
E23K	**Chandalar**	**90.64**	**12**	P	**P**	**05 49 10.7**	**-0.4**	
	baz=212							
PV11	**David Mesa, Pa**	**90.65**	**49**	IAmb	IAmb	05 49 16.5		
	comp=Z,41nm,1.5s							
MAYO	**Mayo, Yukon**	**90.65**	**19**	P	**P**	**05 49 11.9**	**+0.8**	
	baz=225,SNR=5.9							
MNTX	**Cornudas Mount**	**90.70**	**57**	IAmb	IAmb	05 49 15.2		
	comp=Z,22nm,1.3s							
MNTX	**Cornudas Mount**	**90.70**	**57**	P	**P**	**05 49 14.2**	**+2.1**	
	baz=248							
MNTX	**Cornudas Mount**	**90.70**	**57**	P	**P**	**05 49 13.0**	**+0.8**	
	baz=248							
WTLY	**Watson Lake, Y**	**90.80**	**24**	IAmb	IAmb	05 49 15.8		
	comp=Z,30nm,1.3s							
WTLY	**Watson Lake, Y**	**90.80**	**24**	P	**P**	**05 49 12.1**	**+0.2**	
	baz=231,SNR=13							
ULN	**Ulaanbaatar**	**90.84**	**321**	P	**P**	**05 49 12.1**	**-0.5**	
ULN				IAmb	IAmb	05 49 15.1		
	comp=Z,47nm,1.8s							
ULN	**Ulaanbaatar**	**90.84**	**321**	*c*eP	**P**	**05 49 12.6**	**0.0**	
ULN				pmax	pmax			
	comp=Z,25nm,1.7s							
PV07	**Paradox Valley**	**90.87**	**49**	IAmb	IAmb	05 49 26.2		
	comp=Z,26nm,1.3s							
E24K	**Your Creek**	**90.88**	**13**	P	**P**	**05 49 12.5**	**+0.3**	
	baz=213							
PV15	**Paradox Valley**	**90.95**	**50**	IAmb	IAmb	05 49 15.5		
	comp=Z,18nm,1.0s							
MSO	**Missoula**	**90.97**	**40**	P	**P**	**05 49 13.4**	**+0.3**	
	baz=243							
H27K	**Steamboat Moun**	**91.00**	**16**	P	**P**	**05 49 13.2**	**+0.4**	
	baz=220							
G26K	**Porcupine Rive**	**91.01**	**15**	P	**P**	**05 49 13.1**	**+0.4**	
	baz=218							
F25K	**Christian River**	**91.09**	**14**	P	**P**	**05 49 13.5**	**+0.3**	
	baz=216							
ANMO	**Albuquerque**	**91.10**	**53**	*i* P	**P**	**05 49 15.2**	**+1.0**	
ANMO				pmax	pmax			
	comp=Z,20nm,1.2s							
TX31	**Lajitas Ar. Si**	**91.20**	**59**	P	**P**	**05 49 16.1**	**+1.5**	
	baz=249							
TXAR	**Lajitas Array**	**91.20**	**59**	P	**P**	**05 49 16.5**	**+1.9**	
	comp=Z,9.2nm,1.0s,baz=226,slow=4.9,SNR=35							
TXAR				PKKPbc	**PKKPbc**	**06 06 37.6**	**-0.1**	
	comp=Z,0.5nm,0.9s,baz=108,slow=4.1,SNR=4.2							
TXAR				LR	LR	06 23 03.7		
	comp=Z,304nm,19.2s,baz=236,slow=31							
	comp=Z,9.2nm,1.0s							
BMAR	**Burnt Mountain**	**91.20**	**14**	P	**P**	**05 49 12.9**	**-0.8**	
D23K	**Nanushuk River**	**91.21**	**11**	P	**P**	**05 49 14.4**	**+0.9**	
	baz=211							
I29M	**Ogilvie Camp,**	**91.22**	**17**	IAmb	IAmb	05 49 17.0		
	comp=Z,21nm,1.1s							
I29M	**Ogilvie Camp,**	**91.22**	**17**	P	**P**	**05 49 13.9**	**+0.2**	
	baz=222,SNR=15							
SONM	**Songino Array**	**91.22**	**321**	P	**P**	**05 49 13.6**	**-0.7**	
	comp=Z,7.6nm,1.1s,baz=132,slow=4.0,SNR=20							
SONM				LR	LR	06 27 19.5		
	comp=Z,250nm,21.9s,baz=138,slow=34							
	comp=Z,7.6nm,1.1s							
SONM	**Songino Array**	**91.22**	**321**	IAmb	IAmb	05 49 16.7		
	comp=Z,25nm,1.4s							
G27K	**Doyon Strip**	**91.42**	**15**	P	**P**	**05 49 14.5**	**-0.1**	
	baz=220							
F26K	**Sheenjek River**	**91.52**	**14**	P	**P**	**05 49 15.8**	**+0.7**	
	baz=217							
E25K	**Arctic Village**	**91.54**	**13**	P	**P**	**05 49 15.4**	**+0.2**	
	baz=216							
D24K	**Happy Valley**	**91.72**	**12**	P	**P**	**05 49 16.1**	**+0.2**	
	baz=213							
O20A	**White River Ci**	**91.84**	**48**	IAmb	IAmb	05 49 37.5		
	comp=Z,30nm,1.4s							
O20A	**White River Ci**	**91.84**	**48**	P	**P**	**05 49 18.5**	**+1.1**	
	baz=246,SNR=6.8

comp=Z,104nm,20.2s,baz=108,slow=35
D25K Kavik River 92.35 13 P P 05 49 19.1 +0.2
baz=215
EPYK Eagle Plains 92.40 17 P P 05 49 20.3 +1.1
baz=224,SNR=12
E27K Coleen River 92.50 15 P P 05 49 20.4 +0.8
baz=220
SDCO Great Sand Dun 92.88 51 P P 05 49 23.7 +1.3
baz=248
SDCO Great Sand Dun 92.88 51 P P 05 49 22.7 +0.3
baz=248
G30M tAoh Zraii Nji 92.98 17 P P 05 49 21.8 -0.1
baz=224
C26K Camden Bay 93.14 13 P P 05 49 23.4 +1.0
baz=217
C27K Jago River 93.15 13 P P 05 49 22.8 +0.2
baz=218
RLMT Red Lodge 93.17 43 P P 05 49 24.5 +1.0
baz=246,SNR=5.7
T25A Trinidad 93.46 52 P P 05 49 25.1 +0.1
baz=249
ISCO Idaho Springs 93.57 49 P P 05 49 27.1 +1.5
baz=248
ISCO Idaho Springs 93.57 49 P P 05 49 26.3 +0.7
baz=248
MSTX Muleshoe 93.57 55 IAmb IAmb 05 49 27.9
comp=Z,35nm,1.3s
MSTX Muleshoe 93.57 55 P P 05 49 26.7 +1.2
baz=249
MSTX Muleshoe 93.57 55 P P 05 49 26.2 +0.7
baz=249
Q24A Divide 93.59 50 P P 05 49 26.2 +0.5
baz=248
F31M Tsiigehtchic 93.99 17 P P 05 49 26.3 -0.2
baz=227,SNR=13
K22A Casper 94.01 46 P P 05 49 28.5 +1.1
baz=248
PLCA Paso Flores 94.11 136 LR LR 06 22 32.5
comp=Z,335nm,21.9s,baz=259,slow=30
ZAK Zakamensk 94.19 322 *e*P P 05 49 27.0 -0.9
ZAK pmax pmax
comp=Z,7.0nm,2.0s
EDM Edmonton 94.23 35 P P 05 49 24.6 -3.3
EDM IAmb IAmb 05 49 31.1
comp=Z,19nm,1.2s
EDM Edmonton 94.23 35 P P 05 49 24.6 -3.3
EDM pmax pmax
comp=Z,19nm,1.2s
GOMU GeErMu 94.39 307 P P 05 49 30.8 +1.3
GOMU pmax pmax
comp=Z,5.0nm,1.4s
GOMU LR LR
comp=Z,170nm,20.1s
GOMU LR LR
comp=Z,360nm,23.7s
GOMU LR LR
comp=Z,580nm,24.7s
INK Inuvik 94.65 17 LR LR 06 24 28.3
comp=Z,154nm,21.6s,baz=238,slow=31
INK Inuvik 94.65 17 IAmb IAmb 05 49 32.5
comp=Z,27nm,1.4s
INK Inuvik 94.65 17 P P 05 49 29.4 0.0
baz=227,SNR=12
CMIG Matias Romero 94.66 74 LR LR 06 22 18.6
comp=Z,387nm,21.6s,baz=246,slow=29
WRGLY Wrigley 94.71 23 P P 05 49 30.3 +0.5
baz=236
AMTX Amarillo 94.73 55 IAmb IAmb 05 49 33.0
comp=Z,23nm,1.2s
AMTX Amarillo 94.73 55 P P 05 49 31.6 +0.8
baz=250
AMTX Amarillo 94.73 55 P P 05 49 31.8 +1.1
baz=250
KSCO Kaye Shedlock' 95.44 51 P P 05 49 35.3 +1.3
baz=250
KSCO Kaye Shedlock' 95.44 51 P P 05 49 34.6 +0.6
baz=250
ABTX Abilene, Hawle 95.58 58 P P 05 49 36.0 +1.4
baz=251
ABTX Abilene, Hawle 95.58 58 P P 05 49 35.8 +1.2
baz=251
LAO LASA Array 95.74 43 IAmb IAmb 05 50 21.1
comp=Z,22nm,1.7s
LAO LASA Array 95.74 43 P P 05 49 36.5 +1.4
baz=248
LAO LASA Array 95.74 43 P P 05 49 36.0 +0.9
baz=248
TIXI Tiksi 96.20 346 LR LR 06 27 24.6
comp=Z,396nm,21.6s,baz=93,slow=32
TIXI Tiksi 96.20 346 P P 05 49 34.2 -2.2
TIXI Tiksi 96.20 346 *ce*P P 05 49 35.9 -0.6
TIXI pmax pmax
comp=Z,20nm,2.5s
RSSD Black Hills 96.24 46 P P 05 49 36.7 -0.9
RSSD Black Hills 96.24 46 P P 05 49 38.1 +0.5
baz=249
RSSD Black Hills 96.24 46 P P 05 49 37.4 -0.2
baz=249
RSSD Black Hills 96.24 46 P P 05 49 36.7 -0.9
RSSD pmax pmax
comp=Z,7.0nm,1.1s
ELIS Ellis County 96.87 54 IAmb IAmb 05 49 43.1
comp=Z,29nm,1.1s
WMOK Wichita Mounta 96.94 56 P P 05 49 42.5 +1.7
baz=252
U32A Winter Ranch, 97.29 54 P P 05 49 42.3 0.0
baz=252
PALK Pallekele 97.39 275 LR LR 06 32 42.3
comp=Z,180nm,21.7s,baz=220,slow=35
CBKS Cedar Bluff 97.50 52 P Pdif 05 49 44.4 +1.1
baz=252
YKA Yellowknife Ar 97.82 26 P P 05 49 43.9 -0.1
comp=Z,2.3nm,0.9s,baz=250,slow=4.6,SNR=28
YKA LR LR 06 27 02.4
comp=Z,120nm,20.5s,baz=276,slow=31
comp=Z,2.3nm,0.9s
C36M Paulatuk 97.98 18 P Pdif 05 49 44.8 +0.2
baz=236
R32A Long Quarter, 98.14 52 P Pdif 05 49 46.6 +0.4
baz=252
A36M Sachs Harbour 99.17 16 P **Pdif** 05 49 50.2 +0.4
baz=235
T35B Sooner Cattle 99.36 54 P **Pdif** 05 49 53.5 +2.0
baz=253
ECSD EROS Data Cent 101.21 48 P **Pdif** 05 49 59.3 -0.3
baz=254
WMQ Urumqi 101.94 312 *e*P **Pdif** 05 50 03.9 +1.0
WMQ LR LR
comp=Z,420nm,22.5s
MKAR Makanchi Array 106.32 314 PKKPbc PKKPbc 06 05 54.7 -1.0
comp=Z,0.7nm,1.0s,baz=316,slow=4.0,SNR=4.2
ARU Arti 121.01 325 *i* PKIKP **PKPdf** **05 55 00.4 -0.9**
ARU 05 56 30.1
ARU 06 02 12.3
ARU SS SS 06 13 08.8 +6.2
ABKAR Akbulak array 121.35 316 PKPdf **PKPdf** **05 55 01.1 -1.0**
GEYT Alibeck 123.42 303 PKP **PKPdf** **05 55 05.3 -1.2**
comp=Z,1.5nm,0.4s,baz=94,slow=4.3,SNR=5.2
GEYT Alibeck 123.42 303 **PKPdf** **05 55 03.2 -3.4**
BDFB Brasilia 124.47 126 PKP **PKPdf** **05 55 09.0 -0.3**
comp=Z,5.2nm,1.0s,baz=286,slow=5.0,SNR=5.8
BDFB Brasilia 124.47 126 **PKPdf** **05 55 09.3 0.0**
BDFB Brasilia 124.47 126 PKIKP **PKPdf** **05 55 09.3 0.0**
PRGR Permogore 125.51 333 *e*PKIKP **PKPdf** **05 55 09.0 -0.7**
PRGR pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 126.62 348 PKP **PKPdf** **05 55 11.6 -0.2**
comp=Z,10nm,1.1s,baz=30,slow=5.9,SNR=4.7
KLMR Klimovskoe 128.45 335 *e*PKPdf **PKPdf** **05 55 13.2 -2.2**
KLMR AMP 05 55 15.9
comp=Z,57nm,1.7s
KLMR Klimovskoe 128.45 335 *e*PKIKP **PKPdf** **05 55 13.2 -2.2**
KLMR pmax pmax
comp=Z,57nm,1.7s
OBN Obninsk 132.94 329 *e*PKIKP **PKPdf** **05 55 23.9 -0.1**
OBN *e* 05 57 46.5
OBN *e*PPP PPP 06 00 43.4
OBN pmax pmax
comp=Z,4.0nm,1.0s
VORR Voronezh 133.31 324 PKIKP **PKiKP** **05 55 26.0 -0.1**
VORR pmax pmax
comp=Z,20nm,1.7s
VSR Storozhevoye 133.54 324 *e*PKIKP **PKPdf** **05 55 21.9 -3.4**
VSR pmax pmax
comp=Z,10.0nm,1.4s
KIV Kislovodsk 134.06 313 *e*PKIKP **PKPdf** **05 55 26.3 -0.4**
KIV *e* 05 57 56.0
KIV *e*PPP PPP 06 00 51.4
KIV pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 134.75 248 PKP **PKPdf** **05 55 28.2 -0.9**
comp=Z,3.5nm,0.9s,baz=84,slow=6.0,SNR=6.0
AKASG Malin Array Be 139.12 328 **PKPdf** **05 55 33.9 -1.8**
AKASG Malin Array Be 139.12 328 PKIKP **PKPdf** **05 55 33.9 -1.8**
SORM Soroca 141.13 325 ⇑P **PKiKP** **05 55 40.9 -1.2**
SORM Soroca 141.13 325 ⇑PKIKP **PKiKP** **05 55 40.9 -1.2**
BRTR Keskin Array B 141.83 310 PKhKP PKPpre 05 55 35.1
comp=Z,1.5nm,1.0s,baz=3.8,slow=7.4,SNR=3.6
BRTR PKP **PKPdf** **05 55 39.8 -1.4**
comp=Z,4.7nm,1.1s,baz=15,slow=6.0,SNR=7.3
UZH Uzhgorod 143.87 330 *e*PKIKP PKPab 05 55 41.3 0.0
UZH *e* 05 55 44.0
ARCR ARCALIA 143.90 327 ⇑P PKPbc 05 55 42.6 +0.4
MLR Muntele Rosu 144.03 323 ⇓P PKPbc 05 55 43.2 +0.5
MLR Muntele Rosu 144.03 323 PKPdf **PKPab** **05 55 42.0 -0.2**
MLR Muntele Rosu 144.03 323 ⇓PKIKP PKPbc 05 55 43.2 +0.4
BORA Eskisehir 144.03 312 PKPdf **PKPab** **05 55 41.5 -0.9**
DOPR Dopca 144.05 324 ⇑P PKPbc 05 55 43.3 +0.6
RUE Ruedersdorf 144.09 341 *e*PKPbc PKPbc 05 55 42.5 0.0
baz=25,slow=2.9
PRD Provadia 144.47 319 P PKPbc 05 55 44.3 +0.3
CJR Cluj-Napoca 144.53 327 ⇑P PKPbc 05 55 44.4 +0.2
CJR Cluj-Napoca 144.53 327 ⇑PKIKP PKPbc 05 55 44.4 +0.2
VOIR 144.56 324 ⇑P **PKPab** **05 55 42.1 -2.1**
VOIR 144.56 324 ⇑PKIKP **PKPab** **05 55 42.1 -2.1**
KSP Ksiaz 144.66 338 *e*PKPdf PKPbc 05 55 44.6 +0.2
OKC Ostrava-Krasne 144.77 335 *e*PKP **PKPab** **05 55 44.8 +0.1**
OKC Ostrava-Krasne 144.77 335 *e*PKIKP **PKPab** **05 55 44.8 +0.1**
ISP Isparta 144.80 309 PKPdf **PKPab** **05 55 44.0 -1.3**
ISP Isparta 144.80 309 PKIKP **PKPab** **05 55 44.0 -1.3**
MARR Marisel-Cluj 144.81 327 ⇑P PKPbc 05 55 45.2 +0.1
ARR Arges 144.84 324 ⇑P **PKPdf** **05 55 46.1 -0.1**
OSTC Ostas 144.93 337 *e*PKP PKPbc 05 55 45.7 +0.4
DRGR 144.94 328 ⇑P **PKPab** **05 55 45.1 -0.4**
DRGR 144.94 328 ⇑PKIKP **PKPab** **05 55 45.1 -0.4**
FLTG Flechtingen 144.95 344 *e*PKPbc **PKPab** **05 55 45.0 -0.2**
baz=25,slow=2.9
RETH Rethwm/Aller, 145.04 346 *e*PKPbc **PKPab** **05 55 45.6 +0.1**
baz=25,slow=2.9
UPC Upice 145.04 338 *e*PKP **PKPdf** **05 55 46.1 -0.2**
UPC Upice 145.04 338 *e*PKIKP **PKPdf** **05 55 46.1 -0.2**
DPC Dobruska-Polom 145.06 337 *e*PKP **PKPdf** **05 55 46.3 -0.1**
DPC Dobruska-Polom 145.06 337 *e*PKIKP **PKPdf** **05 55 46.3 -0.1**
MORC Moravsky Berou 145.06 335 *e*PKP **PKPbc** **05 55 45.3 -0.5**
NRDL Niedersach Rie 145.09 345 *e*PKPbc **PKPab** **05 55 45.8 +0.1**
baz=25,slow=2.9
KRLC Kraliky 145.11 336 *e*PKP **PKPab** **05 55 46.3 +0.3**
KRLC Kraliky 145.11 336 *e*PKIKP **PKPab** **05 55 46.3 +0.3**
HUMR Humele 145.16 323 ⇑P **PKPbc** **05 55 44.8 -1.4**
COPA Copaceanca 145.25 322 ⇑P **PKPbc** **05 55 46.1 -0.4**
MAUC Mariuka 145.27 335 *e*PKP **PKPdf** **05 55 46.9 +0.1**
ASSE Asse, Remlinge 145.28 344 *e*PKPbc **PKPab** **05 55 46.5 +0.2**
baz=25,slow=2.9
SZH Strazhica 145.33 320 P **PKPdf** **05 55 47.2 +0.2**
CLL Collm 145.35 341 *ex* x 05 55 56.0
CLL Collm 145.35 341 ⇓*i*PKIKP **PKPbc** **05 55 46.5 -0.1**
CLL pmax pmax
comp=Z,146nm,1.3s
CLL Collm 145.35 341 *e*PKPbc **PKPbc** **05 55 46.6 -0.1**
baz=25,slow=2.9
CLL Collm 145.35 341 ⇓*i*PKPbc **PKPbc** **05 55 46.5 -0.1**
comp=Z,146nm,1.3s
JMB Yambol 145.37 319 P **PKPab** **05 55 47.7 +0.6**
BRG Berggiesshubel 145.44 340 Amp 05 55 49.0
comp=Z,160nm,1.4s
BRG Berggiesshubel 145.44 340 P **PKiKP** **05 55 55.1 +4.2**
BRG Amp 05 55 56.1
comp=Z,61nm,1.3s
BRG Berggiesshubel 145.44 340 P PKiKP 05 56 04.0 +13
BRG Amp 05 56 07.1
comp=Z,44nm,1.2s
BRG Berggiesshubel 145.44 340 *i* PKIKP **PKPdf** **05 55 47.0 +0.1**
BRG 05 55 55.1
BRG pmax pmax
comp=Z,160nm,1.4s
BRG pmax pmax
comp=Z,61nm,1.3s
BRG Berggiesshubel 145.44 340 *e*PKPbc **PKPab** **05 55 47.1 0.0**
baz=25,slow=2.9
BRG Berggiesshubel 145.44 340 *i* PKP **PKPab** **05 55 47.0 0.0**
DEV Deva 145.44 326 ⇑P **PKPab** **05 55 47.6 +0.3**
DEV Deva 145.44 326 ⇑PKIKP **PKPab** **05 55 47.6 +0.3**
PVCC Panska Ves 145.53 339 *e*PKP **PKPab** **05 55 48.5 +1.1**
PVCC Panska Ves 145.53 339 *e*PKIKP **PKPab** **05 55 48.5 +1.1**
VYHS Vyhne 145.53 333 *e*PKIKP **PKPab** **05 55 47.5 0.0**
VYHS Vyhne 145.53 333 *e*PKP **PKPab** **05 55 47.5 0.0**
EDRB Edirne 145.59 318 P **PKPdf** **05 55 46.6 -0.9**
CLZ Clausthal 145.62 344 *e*PKPbc **PKPab** **05 55 47.9 +0.1**
baz=25,slow=2.9
PVL Pavlikeni 145.72 321 P **PKPab** **05 55 49.2 +0.8**
JAVC Velka Javorina 145.73 334 *e*PKP **PKPab** **05 55 49.4 +1.1**
IBBN Ibbenburen 145.79 347 *e*PKPbc **PKPbc** **05 55 48.1 +0.1**
baz=25,slow=2.9
VRAC Vranov 145.80 336 *e*PKP **PKPbc** **05 55 48.3 +0.2**
NEUB Neuenburg 145.81 342 *e*PKPbc **PKPbc** **05 55 48.3 +0.2**
baz=25,slow=2.9
SIRR Siria 145.82 328 ⇑P **PKPab** **05 55 49.6 +0.9**
GZR Gura Zlata 145.83 326 ⇑P **PKPdf** **05 55 47.2 -0.7**
GZR Gura Zlata 145.83 326 ⇑PKIKP **PKPdf** **05 55 47.2 -0.7**
KULA Kula-Manisa 145.87 311 P **PKPdf** **05 55 47.9 -0.3**
SURR Surduc 145.94 327 ⇑P **PKPbc** **05 55 48.4 -0.2**
GOPC GO Pecny, Ondr 145.97 338 *e*PKP **PKPbc** **05 55 48.5 -0.1**
GOPC GO Pecny, Ondr 145.97 338 *e*PKP2 **PKPbc** **05 55 48.5 -0.1**
GTTG Gottingen 145.99 344 *e*PKPbc **PKPbc** **05 55 48.9 +0.3**
baz=25,slow=2.9
PRU Pruhonice 145.99 339 *e*PKP **PKPbc** **05 55 48.8 +0.1**
PRU Pruhonice 145.99 339 *e*PKP2 **PKPbc** **05 55 48.8 +0.1**
PLVB Pleven 146.04 321 ⇑P **PKPbc** **05 55 49.1 0.0**
KRUC Moravsky 146.08 336 *e*PKP **PKPdf** **05 55 48.3 +0.2**
DIM Dimitrovgrad 146.25 319 P **PKPab** **05 55 51.3 +0.9**
MODS Modra-Piesok 146.28 334 *e*PKP2 **PKPab** **05 55 50.6 +0.3**
MODS Modra-Piesok 146.28 334 *e*PKP **PKPab** **05 55 50.6 +0.3**
BZS Buzias 146.29 327 ⇑P **PKPdf** **05 55 42.3 -6.2**
BZS Buzias 146.29 327 ⇑PKHKP PKPpre 05 55 42.3
TANN Tannenbergstha 146.30 341 *e*PKPbc **PKPbc** **05 55 49.5 -0.2**
baz=25,slow=2.9
WERD Werda 146.32 341 *e*PKPbc **PKPbc** **05 55 49.7 0.0**
baz=25,slow=2.9
PLN Plauen 146.34 341 *e*PKPbc **PKPbc** **05 55 49.8 +0.1**
baz=25,slow=2.9
MOX Moxa 146.35 342 *e*PKPbc **PKPbc** **05 55 49.5 -0.2**
baz=25,slow=2.9
HERR Herrnsdane 146.36 325 ⇑P **PKPdf** **05 55 49.1 +0.4**
GUNZ Gunzen 146.39 341 *e*PKPbc **PKPbc** **05 55 50.4 +0.5**
baz=25,slow=2.9
WERN Wernitzgruen 146.44 341 *e*PKPbc **PKPab** **05 55 50.7 -0.3**
baz=25,slow=2.9
DJES Djerdap 146.44 325 ⇑P **PKPab** **05 55 50.8 -0.3**
NKC Novy Kostel 146.47 341 *e*PKP **PKPab** **05 55 51.8 +0.8**
NKC Novy Kostel 146.47 341 *e*PKP2 **PKPab** **05 55 51.8 +0.8**
ZST Bratislava 146.49 334 *e*PKP2 **PKiKP** **05 55 52.4 -0.8**
ZST Bratislava 146.49 334 *e*PKP **PKiKP** **05 55 52.4 -0.8**
KDZ Kurdzhali 146.54 318 P **PKPbc** **05 55 50.8 +0.2**
MPEP Malo Peshtene 146.58 322 P **PKPdf** **05 55 48.9 -0.2**
KASTN Kahler Asten 146.68 346 *e*PKPbc **PKPbc** **05 55 50.5 -0.2**
baz=25,slow=2.9
BUG Bochum--Univer 146.71 347 *e*PKPbc **PKPbc** **05 55 50.8 +0.1**
baz=25,slow=2.9
RDO Rodhopi 146.73 317 PKPdf **PKPdf** **05 55 50.3 +0.9**
RDO Rodhopi 146.73 317 P **PKPdf** **05 55 49.5 +0.1**
MANZ Manzenberg 146.79 341 *e*PKPbc **PKPbc** **05 55 50.8 -0.3**
baz=25,slow=2.9
MDVR Moldovita 146.80 326 ⇑P **PKPdf** **05 55 48.5 -1.1**
ROTZ Rotzenmuhle 146.95 341 *e*PKPbc **PKPbc** **05 55 51.6 +0.1**
baz=25,slow=2.9
KHC Kasperske Hory 147.05 339 *e*PKP **PKPbc** **05 55 51.9 0.0**
KHC Kasperske Hory 147.05 339 *e*PKP2 **PKPbc** **05 55 51.9 0.0**
CKRC Cesky Krumlov 147.06 338 *e*PKP **PKPab** **05 55 53.0 -0.4**
CONA Conrad Observa 147.20 335 *e*PKP **PKPbc** **05 55 52.5 +0.1**
comp=Z,35nm,1.3s
RONA Rosalia, Austr 147.21 334 *e*PKP **PKPbc** **05 55 51.5 -0.9**
comp=Z,41nm,1.6s
GEC2 GERESS Array S 147.25 338 *e*PKPbc **PKPbc** **05 55 52.3 -0.2**
baz=25,slow=2.9
GERES GERESS Array B 147.25 338 PKPbc **PKPbc** **05 55 52.2 -0.2**
comp=Z,2.7nm,0.6s,baz=337,slow=3.0,SNR=6.8
VTS Vitosha 147.32 321 ⇑P **PKPab** **05 55 55.0 +0.2**
VTS Vitosha 147.32 321 ⇑PKP2 **PKPab** **05 55 55.0 +0.2**
VTS Vitosha 147.32 321 P **PKPbc** **05 55 52.9 -0.1**
GRF Grafenberg Arr 147.32 342 *e*PKPbc **PKPbc** **05 55 52.9 +0.3**
baz=25,slow=2.9
MORH Mrgy, Hungar 147.33 330 ⇑P **PKPdf** **05 55 50.3 +0.1**
FRGS Fruska Gora 147.53 328 ⇑P **PKPbc** **05 55 53.3 +0.1**
TNS Taunus Mts 147.59 345 *e*PKPbc **PKPbc** **05 55 53.3 -0.1**
baz=25,slow=2.9
AHRW Bad Neuenahr-A 147.60 347 *e*PKPbc **PKPbc** **05 55 53.4 +0.1**
baz=25,slow=2.9
MMB Musomiste 147.62 319 P **PKPbc** **05 55 52.8 -0.9**
NVR Nevrokopi 147.68 319 P **PKPbc** **05 55 53.4 -0.4**
MEM Membach 147.76 348 *d*PKP **PKPbc** **05 55 53.0 -0.7**
KKB Krupnik 147.85 320 P **PKPbc** **05 55 54.4 +0.1**
BSTI Sart Tilman 147.87 349 *d*PKP **PKPbc** **05 55 53.4 -0.6**
MOA Molln 147.88 337 *e*PKP **PKiKP** **05 55 55.9 -0.2**
comp=Z,19nm,1.2s
ARSA Arzberg 147.89 335 *e*PKiKP **PKiKP** **05 55 56.4 +0.3**
comp=Z,22nm,1.5s,SNR=5.7
BHOU Houvegnez 148.00 348 *d*PKP **PKiKP** **05 55 56.5 +0.3**
BCLA Clavier 148.07 349 *d*PKP **PKiKP** **05 55 56.2 -0.1**
BGES Gesves 148.15 349 *d*PKP **PKiKP** **05 55 56.1 -0.4**
BIOA Bad Ischl, Aus 148.25 337 *e*PKP **PKPbc** **05 55 54.7 -0.5**
comp=Z,32nm,1.6s
BMRD Maredsous 148.28 349 *d*PKP **PKPbc** **05 55 55.1 +0.1**
RCHB Rochefort 148.34 349 *d*PKP **PKPdf** **05 55 53.2 +1.4**
KNT Kendrikon 148.38 319 P **PKPdf** **05 55 52.1 -0.1**
VAY Valandovo 148.49 320 *i* P **PKPab** **05 56 01.3 +2.0**
DOU Dourbes 148.51 349 *d*PKP **PKPbc** **05 55 55.3 -0.3**
SOKA Soboth 148.55 335 *e*PKP **PKPbc** **05 55 55.6 -0.4**
comp=Z,21nm,1.3s
WLF Walferdange 148.63 347 *d*PKP **PKPbc** **05 55 56.6 +0.6**
STU Stuttgart 148.73 343 *e*PKPbc **PKPbc** **05 55 56.3 0.0**
baz=25,slow=2.9
SKO Skopje 148.76 322 *i* P **PKPbc** **05 55 56.5 -0.2**
KBA Koelnbreinsper 148.87 337 *e*pPKP **PKPdf** **05 55 54.7 +1.6**
comp=Z,14nm,1.3s
OBKA Obir 148.88 335 *e*pPKP **PKPbc** **05 55 55.5 -1.4**
comp=Z,7.0nm,1.0s
MYKA Terra Mystica 149.13 336 *e*pPKP **PKPbc** **05 55 56.4 -1.1**
comp=Z,6.8nm,0.7s
WATA Walderalm 149.28 339 *e*pPKP pPKPdf 05 55 56.7 -0.1
comp=Z,30nm,1.5s
WTTA Wattenberg 149.32 339 *i* PKP **PKPbc** **05 55 57.4 -0.7**
comp=Z,15nm,1.0s
BFO Black Forest 149.36 344 **PKPbc** **05 55 56.9 -1.1**
BFO Black Forest 149.36 344 PKP2 **PKPbc** **05 55 56.9 -1.1**
BFO Black Forest 149.36 344 *e*PKPbc **PKPbc** **05 55 57.5 -0.5**
baz=25,slow=2.9
RETA Reutte 149.41 340 PKP **PKPbc** **05 55 58.6 +0.4**
comp=Z,31nm,1.6s
MOTA Moosalm 149.43 340 *e*PKP **PKPbc** **05 55 58.0 -0.3**
comp=Z,22nm,1.4s,SNR=8.3
UBR Ueberruh 149.45 341 *e*PKPbc **PKPbc** **05 55 57.6 -0.6**
baz=25,slow=2.9
ABTA Abfaltersbach 149.46 337 *e*PKP **PKPdf** **05 55 52.5 -1.4**
comp=Z,32nm,1.5s
SQTA Sankt Quirin 149.50 339 *e*PKP **PKPbc** **05 55 58.0 -0.4**
comp=Z,44nm,1.6s
ATHU Athens Univers 149.53 313 P **PKPbc** **05 55 56.7 -2.0**
FNA Florina 149.53 320 P **PKPbc** **05 55 56.9 -1.8**
OHR Ohrid 149.68 321 *i* P **PKPbc** **05 55 58.9 -0.2**
PDG Podgorica 149.70 325 ⇑P PKPdf 05 55 40.7 -14
FETA Feichten 149.84 340 *e*PKP **PKPdf** **05 55 55.2 +0.6**
comp=Z,14nm,1.2s
DAVA Damuels 149.87 341 *e*PKP **PKPbc** **05 55 58.5 -1.0**
comp=Z,39nm,1.3s
NEST Nestoria 149.95 320 P **PKPdf** **05 55 57.1 +2.2**
KPRO Kipourio 150.03 319 P **PKiKP** **05 56 00.9 +0.1**
ANX Ano Chora 150.45 316 P **PKPdf** **05 55 58.3 +2.6**
SERG Sergoula 150.46 316 P **PKPbc** **05 56 00.6 -0.4**
JAN Janina 150.53 319 P **PKPbc** **05 56 00.1 -1.0**
EFP Efpalio 150.55 316 P **PKPbc** **05 55 59.3 -1.8**
KLV Kalavryta, Ach 150.60 315 P **PKPbc** **05 55 59.6 -1.7**
TUE Stuetta 150.76 341 **PKPbc** **05 56 00.3 -1.3**
BNI Bardonecchia 152.83 343 **PKPdf** **05 55 59.1 -0.1**
BNI Bardonecchia 152.83 343 PKIKP **PKPdf** **05 55 59.1 -0.1**
ESDC Sonseca Array 159.68 0 PKPab **PKPab** **05 56 46.6 0.0**
comp=Z,1.8nm,1.1s,baz=359,slow=4.4,SNR=5.3
DBIC Dimbokro 167.43 176 PKP **PKPdf** **05 56 15.0 -1.1**
comp=Z,6.2nm,1.0s,baz=156,slow=3.4,SNR=4.4
DBIC PKPab **PKPab** **05 57 19.8 -1.2**
comp=Z,7.7nm,1.1s,baz=200,slow=5.5,SNR=5.3

ROM 04 05:53:06.4±0.1,**42°26.726N**±0.002×**13°13.194E**±0.004,
h10km,**ML1.8**/14,**16C-5D**,**Error ellipse: s-maj=0.3km**
s-min=0.2km az=251.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1214	**Arquata del Tr**	**0.04**	**18**	P	Pg	05 53 08.7	+0.2
T1214				S	Sg	05 53 10.0	0.0
T1214				AML	AML		
	comp=E,2070μm,0.2s						
T1214				AML	AML		
	comp=E,1930μm,0.2s						
T1214				AML	AML		
	comp=N,1425μm,0.2s						
T1214				AML	AML		
	comp=E,2070μm,0.2s						
T1214				AML	AML		
	comp=E,1925μm,0.2s						
T1214				AML	AML		
	comp=N,1425μm,0.2s						
T1214				AML	AML		
	comp=N,1485μm,0.2s						
T1218	**Civita (PG)**	**0.08**	**226**	P	Pg	05 53 09.3	+0.5
T1218				S	Sg	05 53 11.3	+0.6
T1218				AML	AML		
	comp=N,9855μm,0.2s						
T1218				AML	AML		
	comp=E,4090μm,0.2s						
T1218				AML	AML		
	comp=E,3745μm,0.2s						
T1218				AML	AML		
	comp=N,9785μm,0.2s						
T1212	**Cascia, Frazio**	**0.11**	**283**	⇑P	Pg	05 53 09.7	+0.4
T1212				S	Sg	05 53 11.8	+0.5
T1212				AML	AML		
	comp=E,1310μm,0.4s						
T1212				AML	AML		
	comp=N,1144μm,0.1s						
T1212				AML	AML		
	comp=N,1122μm,0.1s						
T1212				AML	AML		
	comp=E,1225μm,0.4s						
T1212				AML	AML		
	comp=E,1310μm,1.6s						
T1212				AML	AML		
	comp=E,1225μm,1.6s						
NRCA	**Norcia**	**0.12**	**331**	P	Pg	05 53 09.8	+0.4
NRCA				S	Sg	05 53 11.9	+0.3
NRCA				AML	AML		
	comp=E,4270μm,0.1s						
NRCA				AML	AML		
	comp=N,2355μm,0.1s						
NRCA				AML	AML		
	comp=E,4575μm,0.1s						
NRCA				AML	AML		
	comp=N,2610μm,0.1s						
T1245	**Castelsantange**	**0.13**	**358**	⇑P	Pg	05 53 10.1	+0.5
T1245				S	Sg	05 53 12.5	+0.6
T1245				AML	AML		
	comp=E,804μm,0.1s						
T1245				AML	AML		
	comp=N,1370μm,1.6s						
T1245				AML	AML		
	comp=E,802μm,0.2s						
T1245				AML	AML		
	comp=N,1355μm,1.2s						
T1245				AML	AML		
	comp=N,1370μm,1.5s						
T1245				AML	AML		
	comp=N,1355μm,0.8s						
T1245				AML	AML		
	comp=N,1370μm,0.5s						
T1245				AML	AML		
	comp=E,804μm,0.1s						
SMA1	**SAN MARTINO**	**0.14**	**132**	⇑P	Pg	05 53 10.4	+0.7
SMA1				AML	AML		
	comp=N,282μm,1.2s						
SMA1				AML	AML		
	comp=N,282μm,0.8s						
SMA1				AML	AML		
	comp=E,227μm,0.5s						
LNSS	**Leonessa**	**0.17**	**223**	AML	AML		
	comp=N,591μm,0.6s						
LNSS				AML	AML		

comp=N,592μm,0.6s
LNSS AML AML
comp=E,493μm,0.7s
MC2 Monte Cornacci 0.19 359 ⇑P Pg 05 53 11.0 +0.5
MC2 S Sg 05 53 14.7 +1.3
T1243 Rocca Santa Ma 0.19 99 ⇑P Pg 05 53 11.0 +0.5
T1243 S Sg 05 53 14.2 +0.9
MMO1 Montemonaco 0.20 29 ⇑P Pg 05 53 11.2 +0.5
MMO1 S Sg 05 53 14.7 +1.1
T1216 Preci, Frazion 0.21 322 ⇑P Pg 05 53 11.4 +0.6
T1216 AML AML
comp=E,180μm,1.0s
T1216 AML AML
comp=N,241μm,0.3s
T1216 AML AML
comp=N,241μm,1.7s
RM33 Pellescritta (0.22 176 ⇑P Pg 05 53 11.6 +0.6
RM33 S Sg 05 53 15.4 +1.4
RM33 AML AML
comp=E,204μm,1.5s
RM33 AML AML
comp=N,152μm,0.3s
T1241 Roccafluvione, 0.22 53 ⇑P Pg 05 53 11.5 +0.5
CAMP Campotosto 0.25 140 ⇑P Pg 05 53 12.1 +0.6
CAMP S Sg 05 53 16.2 +1.2
CAMP AML AML
comp=E,83μm,1.6s
CAMP AML AML
comp=E,83μm,0.4s
CAMP AML AML
comp=N,57μm,0.9s
T1215 Vallo di Nera, 0.25 288 ⇑P Pg 05 53 12.0 +0.4
T1215 AML AML
comp=E,138μm,1.4s
T1215 AML AML
comp=N,162μm,0.3s
T1215 AML AML
comp=E,138μm,0.6s
T1256 Bolognola (MC) 0.28 5 ⇓P Pg 05 53 12.6 +0.4
T1256 S Sb 05 53 17.4 -1.1
T1247 Pizzolo (AQ) 0.29 165 ⇓P Pb 05 53 13.8 0.0
T1211 Morro Reatino 0.32 232 P Pg 05 53 13.0 +0.3
T1211 AML AML
comp=E,123μm,1.5s
T1211 AML AML
comp=E,123μm,0.5s
T1211 AML AML
comp=N,139μm,0.2s
FDMO Fiordimonte 0.32 346 ⇑P Pg 05 53 13.4 +0.5
ARRO Arrone 0.35 245 ⇑P Pg 05 53 13.9 +0.6
CESI CESI - Serrava 0.35 323 P Pg 05 53 13.7 +0.3
CESI S Sb 05 53 19.3 -1.1
CESI AML AML
comp=E,86μm,0.5s
CESI AML AML
comp=N,126μm,0.3s
GUMA Gualdo di Mace 0.35 17 ⇑P Pb 05 53 14.2 -0.6
GUMA S Sb 05 53 20.2 -0.3
GUMA AML AML
comp=E,408μm,0.2s
GUMA AML AML
comp=N,388μm,0.7s
GUMA AML AML
comp=N,388μm,1.3s
T1219 Muccia, Frazio 0.36 337 ⇓P Pg 05 53 13.9 +0.3
T1219 S Sb 05 53 19.5 -1.1
T1220 Camerino, Fraz 0.39 349 ⇑P Pg 05 53 14.5 +0.4
T1220 S Sb 05 53 20.8 -0.7
OFFI Offida 0.42 60 ⇓P Pb 05 53 16.0 +0.1
MOMA Monte Martano 0.47 280 ⇑P Pg 05 53 16.1 +0.6
MOMA AML AML
comp=E,88μm,1.3s
MOMA AML AML
comp=E,88μm,0.7s
MOMA AML AML
comp=N,78μm,1.5s
EL6 Elcito 0.61 354 ⇓P Pb 05 53 18.7 -0.4
EL6 S Sb 05 53 28.0 +0.1
PE3 Peglio 1.10 332 P Pb 05 53 27.4 -0.1

*PDG **04** 05:54:12.5±0.1,43˚.02N×20˚.08E,h13km±1km,ML1.8/8, Error ellipse: s-maj=0.4km s-min=0.9km az=0.0*

BEO 04 05:54:12.9±0.2,43˚.03N×20˚.20E,h0km,ML1.5/10**,4C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BEY	**Berane**	**0.27**	**235**	*e*Pg	Pg	05 54 17.6	-0.5
BEY				*e*Sg	Sg	05 54 21.3	-0.2
IVA	**Berane**	**0.27**	**235**	⇓*i*Pg	Pg	05 54 17.0	-1.1
IVA				*i* Sg	Sg	05 54 20.4	-1.1
SJES	**Sjenica**	**0.29**	**325**	*e*Pg	Pg	05 54 17.9	-0.5
SJES				*e*Sg	Sg	05 54 22.6	+0.5
PVY	**Plav**	**0.47**	**202**	*e*Pg	Pg	05 54 20.9	-0.9
PVY				*e*Sg	Sg	05 54 27.5	-0.3
PVY	**Plav**	**0.47**	**202**	⇑*i*Pg	Pg	05 54 20.9	-0.9
PVY				*i* Sg	Sg	05 54 27.6	-0.2
KOME	**Kolasin**	**0.53**	**251**	*e*Pg	Pg	05 54 22.2	-0.8
KOME				*e*Sg	Sg	05 54 29.5	-0.4
KOME	**Kolasin**	**0.53**	**251**	⇑*i*Pg	Pg	05 54 20.9	-2.1
KOME				*i* Sg	Sg	05 54 28.6	-1.3
IVAS	**Ivanjica**	**0.55**	**357**	*e*Pg	Pg	05 54 22.3	-1.2
IVAS				*e*Sg	Sg	05 54 29.7	-0.9
PLE	**Pljevlja**	**0.66**	**298**	*e*Pg	Pg	05 54 24.9	-0.7
PLE				*e*Sg	Sg	05 54 32.9	-1.3
PLE	**Pljevlja**	**0.66**	**298**	⇑*i*Pg	Pg	05 54 23.7	-1.9
PLE				*i* Sg	Sg	05 54 32.9	-1.3
SELS	**Selova**	**0.70**	**74**	*e*Pg	Pg	05 54 25.0	-1.4
SELS				*e*Sg	Sg	05 54 34.9	-0.6
PDG	**Podgorica**	**0.91**	**230**	*e*Pg	Pg	05 54 29.1	-1.3
PDG				*e*Sg	Sg	05 54 41.4	-0.8
PDG	**Podgorica**	**0.91**	**230**	⇑*i*Pg	Pg	05 54 28.1	-2.3
PDG				*i* Sg	Sg	05 54 41.8	-0.4
GRUS	**Gruza**	**0.94**	**24**	*e*Pg	Pg	05 54 30.7	-0.3
GRUS				*e*Sg	Sg	05 54 42.5	-0.7
UPM	**Unac-Piva**	**0.96**	**281**	⇓*i*Pg	Pg	05 54 28.8	-2.5
UPM				*i* Sg	Sg	05 54 42.6	-1.2
BBLS	**Lazići**	**1.02**	**326**	*e*Pg	Pg	05 54 31.7	-0.7
BBLS				*e*Sg	Sg	05 54 45.2	-0.4
CEME	**Cevo**	**1.05**	**243**	⇓*i*Pg	Pg	05 54 30.6	-2.5
CEME				*i* Sg	Sg	05 54 46.1	-0.7
DIVS	**Divibare**	**1.08**	**352**	*e*Pg	Pg	05 54 32.7	-0.9
DIVS				*e*Sg	Sg	05 54 47.0	-0.7
DRME	**Dracevica, Mon**	**1.12**	**222**	⇓*i*Pg	Pg	05 54 32.5	-1.9
DRME				*i* Sg	Sg	05 54 49.1	+0.2
TRUS	**Trudelj**	**1.21**	**7**	*e*Pg	Pg	05 54 35.3	-0.7
TRUS				*e*Sg	Sg	05 54 50.9	-0.8
BARS	**Barje**	**1.21**	**99**	*e*Pg	Pg	05 54 35.5	-0.6
BARS				*e*Sg	Sg	05 54 51.4	-0.3
PRVS	**Prvonek**	**1.48**	**110**	*e*Pg	Pn	05 54 39.7	-1.1
PRVS				*e*Sg	Sg	05 54 59.4	-1.0
ZAGS	**Zajecar**	**1.68**	**61**	*e*Pg	Pn	05 54 43.8	+0.3
ZAGS				*e*Sg	Sn	05 55 05.4	-0.4
ZAPS	**Zavoj**	**1.80**	**81**	*e*Pg	Pn	05 54 45.8	+0.5
ZAPS				*e*Sg	Sn	05 55 09.2	+0.4

*IDC **04** 05:57:17.1±1.1,19˚.15S×176˚.09E,h0km,mb4.0/5, mbtmp4.0/5,Error ellipse: s-maj=47.0km s-min=28.6km az=146.0*

ISC 04 05:57:18.1±0.9,19˚.0S±0˚.3×176˚.2E±0˚.2,h10km,n9, σ1§69/7,mb4.0/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.17**	**54**	Pn	**Pn**	**05 57 54.0**	**-0.4**
	8.8nm,0.3s,baz=240,slow=14,SNR=9.0						
MSVF				Sn	**Sn**	**05 58 20.3**	**-1.1**
	26nm,0.3s,baz=87,slow=23,SNR=13						
STKA	**Stephens Creek**	**33.62**	**241**	P	**P**	**06 03 59.0**	**+0.1**
	2.0nm,1.0s,baz=34,slow=15,SNR=2.2						
	2.0nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**38.41**	**345**	T	T	06 45 32.8	
	baz=166,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**38.42**	**345**	T	T	06 45 31.3	
	baz=166,slow=76,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**38.43**	**345**	T	T	06 45 31.0	
	baz=166,slow=76,SNR=11						
ASAR	**Alice Springs**	**39.56**	**256**	P	**P**	**06 04 49.0**	**-0.8**
	1.5nm,0.8s,baz=87,slow=9.0,SNR=13						
	1.5nm,0.8s						
QSPA	**South Pole Qui**	**71.05**	**180**	P	**P**	**06 08 35.4**	**-0.9**
	2.5nm,0.9s,baz=27,slow=2.0,SNR=8.2						
	2.5nm,0.9s						
ILAR	**Eielson Array**	**88.19**	**15**	P	**P**	**06 10 08.6**	**-0.3**
	0.6nm,0.9s,baz=230,slow=5.7,SNR=4.2						
	0.6nm,0.9s						
TXAR	**Lajitas Array**	**90.93**	**59**	P	**P**	**06 10 25.7**	**+2.9**
	1.0nm,1.0s,baz=236,slow=6.1,SNR=7.5						
	1.0nm,1.0s						

*BJI **04** 05:58:41.4±0.0,19˚.23S×176˚.34E,h6km,mb4.9/43, mB5.4/24,Ms5.1/25,Ms7 4.8/25*
*BGR **04** 05:58:42.1,19˚.75S×177˚.83E,h10km*
*IDC **04** 05:58:42.4±0.5,19˚.37S×175˚.98E,h0km,mb4.7/24, mbtmp4.7/26,ML5.3/1,MS4.3/13,Error ellipse: s-maj=16.1km s-min=13.3km az=137.0*
*MOS **04** 05:58:43.3±1.1,19˚.40S×175˚.97E,h15km,mb5.3/27,Error ellipse: s-maj=9.8km s-min=9.5km az=91.9*
*NEIC **04** 05:58:44.1±2.0,19˚.39S±0˚.09×176˚.05E±0˚.08,h10km±1km, mb5.3/208,Error ellipse: s-maj=16.6km s-min=11.0km az=143.0*
*GCMT **04** 05:58:48.1±0.2,19˚.28S±0˚.02×175˚.89E±0˚.01,h12km, MW5.2/124,Moment Tensor Solution. s73,c97; s124,c207; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr=0.76±.01; Mθθ=0.17±.01; Mϕϕ=0.58±.01; Mrθ=0.00±.05; Mθϕ=0.29±.01; Mϕr=0.02±.04; Best double couple: M=0.74600×10^17 NP1:ϕs=206.00000°,δ=46.00000°, λ=-91.00000°. NP2:ϕs=28.00000°,δ=44.00000°,λ=-89.00000°. Principal axes: T 0.7360, Plg1.0000°, Azm297.0000°; N 0.0210, Plg1.0000°, Azm207.0000°; P -0.7560, Plg89.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 05:58:44.0±0.3,19˚.45S±0˚.05×176˚.05E±0˚.05,h10km,n569, σ1§16/501,mb5.3/166,MS4.6/25,25C-19D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.55**	**48**	Pn	**Pn**	**05 59 23.5**	**-2.0**
	30nm,0.3s,baz=224,slow=16,SNR=7.7						
MSVF				Sn	**Sn**	**05 59 53.8**	**-3.0**
	50nm,0.3s,baz=127,slow=13,SNR=7.9						
MSVF				LR	LR	06 00 15.0	
	comp=Z,4μm,21.3s,baz=198,slow=36						
MSVF	**Nonsavu**	**2.55**	**48**	Pn	**Pn**	**05 59 24.4**	**-1.1**
MSVF	**Nonsavu**	**2.55**	**48**	P	**Pn**	**05 59 24.4**	**-1.1**
OUENC	**Ouen Island, N**	**9.10**	**249**	Pn	**Pn**	**06 00 54.8**	**-0.6**
DZM	**Mont Dzumac**	**9.36**	**252**	*e*Pn	**Pn**	**06 00 56.2**	**-2.8**
	248nm,1.4s						
DZM				*e*LR	LR	06 03 03.7	
	comp=Z,7μm,25.4s						
DZM	**Mont Dzumac**	**9.36**	**252**	Pn	**Pn**	**06 00 59.9**	**+0.9**
	36nm,1.1s,baz=76,slow=16,SNR=17						
DZM				LR	LR	06 03 22.3	
	comp=Z,435nm,18.6s,baz=63,slow=30						
DZM	**Mont Dzumac**	**9.36**	**252**	Pn	**Pn**	**06 00 59.7**	**+0.7**
ONTNC	**Ouen Toro**	**9.41**	**251**	Pn	**Pn**	**06 00 58.5**	**-1.2**
KOUNC	**Koumac, New Ca**	**11.11**	**262**		**Pn**	**06 01 22.3**	**-0.8**
OUZ	**Omahuta**	**15.86**	**187**	Pn	**Pn**	**06 02 28.0**	**+0.6**
HNR	**Honiara**	**18.48**	**300**	P	**P**	**06 02 59.5**	**-0.7**
	261nm,0.3s,baz=224,slow=11,SNR=0.5						
HNR				LR	LR	06 08 56.9	
	comp=Z,18μm,20.2s,baz=158,slow=33						
HNR	**Honiara**	**18.48**	**300**	P	**P**	**06 02 59.6**	**-0.7**
HNR	**Honiara**	**18.48**	**300**	P	**P**	**06 02 59.6**	**-0.7**
HNR				pmax	pmax		
	comp=Z,148nm,1.4s						
URZ	**Urewera**	**18.77**	**177**	P	**Pn**	**06 03 08.3**	**+4.6**
	comp=Z,47nm,0.9s,baz=110,slow=7.3,SNR=5.4						
URZ				LR	LR	06 08 32.0	
	comp=Z,879nm,21.2s,baz=101,slow=31						
RAR	**Rarotonga**	**22.74**	**99**	LR	LR	06 10 46.9	
	comp=Z,928nm,20.9s,baz=257,slow=32						
EIDS	**Eidsvold**	**23.80**	**251**	P	**P**	**06 03 57.1**	**-0.1**
EIDS				IAmb	IAmb	06 03 59.2	
	comp=Z,100nm,1.2s						
ARMA	**Armidale**	**24.64**	**239**	P	**P**	**06 04 06.3**	**+1.3**
MLZ	**Mavora Lakes**	**26.67**	**193**	P	**P**	**06 04 23.6**	**+0.5**
MLZ				IAmb	IAmb	06 04 28.6	
	comp=Z,144nm,1.5s						
KRVT	**Keravat (AS076**	**27.84**	**300**	P	**P**	**06 04 33.2**	**-0.7**
	comp=Z,44nm,0.4s,baz=216,slow=18,SNR=4.6						
KRVT				LR	LR	06 15 44.2	
	comp=Z,391nm,19.9s,baz=249,slow=37						
CTA	**Charters Tower**	**28.03**	**264**	P	**P**	**06 04 34.0**	**-1.6**
	comp=Z,6.0nm,0.9s,baz=77,slow=11,SNR=6.8						
CTA				LR	LR	06 14 34.6	
	comp=Z,1μm,19.2s,baz=82,slow=34						
	comp=Z,6.0nm,0.9s						
CTAO	**Charters Tower**	**28.03**	**264**	P	**P**	**06 04 35.9**	**+0.3**
CTAO				IAmb	IAmb	06 04 38.3	
	comp=Z,86nm,1.8s						
CTAO	**Charters Tower**	**28.03**	**264**	P	**P**	**06 04 35.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,86nm,1.8s						
PMG	**Port Moresby**	**29.66**	**286**	P	**P**	**06 04 50.8**	**+0.8**
	comp=Z,12nm,0.3s,baz=104,slow=5.6,SNR=18						
PMG				LR	LR	06 15 31.9	
	comp=Z,2μm,18.2s,baz=129,slow=34						
	comp=Z,12nm,0.3s						
PMG	**Port Moresby**	**29.66**	**286**	P	**P**	**06 04 50.0**	**0.0**
PMG				IAmb	IAmb	06 04 52.5	
	comp=Z,120nm,1.6s						
PMG	**Port Moresby**	**29.66**	**286**	*ce*P	**P**	**06 04 50.3**	**+0.2**
PMG				pmax	pmax		
	comp=Z,133nm,2.5s						
COEN	**Coen**	**31.92**	**275**	P	**P**	**06 05 09.8**	**-0.3**
TOO	**Toolangi**	**32.15**	**229**	P	**P**	**06 05 12.9**	**+0.9**
TOO				IAmb	IAmb	06 05 16.0	
	comp=Z,58nm,1.2s						
TOO	**Toolangi**	**32.15**	**229**	P	**P**	**06 05 12.9**	**+0.9**
TOO				pmax	pmax		
	comp=Z,58nm,1.3s						
TBI	**Tubuai**	**32.30**	**103**	*e*S	**S**	**06 10 28.0**	**+0.8**
	comp=Z,1μm,27.2s						
TBI				*e*LR	LR	06 13 41.7	
	comp=Z,39μm,26.2s						
TBI				*e*LR	LR	06 13 42.4	
	comp=Z,15μm,30.0s						
PPT2	**Papeete2**	**32.62**	**92**	*e*S	**S**	**06 10 33.4**	**+1.0**
	comp=Z,348nm,26.2s						
PPT2				*e*LR	LR	06 13 51.0	
	comp=Z,4μm,28.5s						
PPT2				*e*LR	LR	06 13 51.5	
	comp=Z,2μm,28.5s						
PPT	**Papeete**	**32.62**	**92**	LR	LR	06 15 10.2	
	comp=Z,774nm,21.4s,baz=258,slow=30						
MANU	**Manus Island**	**32.96**	**298**	P	**P**	**06 05 18.8**	**-0.3**
STKA	**Stephens Creek**	**33.28**	**241**	P	**P**	**06 05 22.0**	**+0.2**
	comp=Z,17nm,1.0s,baz=81,slow=9.9,SNR=19						
	comp=Z,17nm,1.0s						
STKA	**Stephens Creek**	**33.28**	**241**	P	**P**	**06 05 22.2**	**+0.4**
STKA	**Stephens Creek**	**33.28**	**241**	*i* P	**P**	**06 05 22.3**	**+0.4**
BBOO	**Buckleboo**	**38.06**	**241**	P	**P**	**06 06 03.1**	**+0.2**
BBOO				IAmb	IAmb	06 06 05.2	
	comp=Z,72nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**38.80**	**346**	T	T	06 47 21.5	
	baz=154,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**38.81**	**346**	T	T	06 47 28.2	
	baz=154						
H11S1	**WAKE ISLAND Hy**	**38.82**	**346**	T	T	06 47 23.5	
	baz=154,slow=76,SNR=3.1						
GENI	**Genyem**	**38.86**	**291**	P	**P**	**06 06 10.1**	**+0.3**
	comp=Z,550nm,0.7s,comp=Z,11μm						
WR0	**Warramunga Arr**	**39.01**	**262**	P	**P**	**06 06 10.2**	**-0.8**
WB0	**Warramunga Arr**	**39.17**	**262**	P	**P**	**06 06 10.8**	**-1.5**
WB2	**Warramunga Arr**	**39.19**	**262**	P	**P**	**06 06 10.1**	**-2.4**
WRAB	**Tennant Creek**	**39.19**	**262**	*ce*P	**P**	**06 06 11.2**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,36nm,1.5s						
WRA	**Warramunga Arr**	**39.20**	**262**	P	**P**	**06 06 10.3**	**-2.3**
	comp=Z,5.5nm,0.9s,baz=92,slow=9.0,SNR=17						
WRA				PcP	**PcP**	**06 08 21.3**	**-0.7**
	comp=Z,2.5nm,1.0s,baz=92,slow=3.9,SNR=5.9						
	comp=Z,5.5nm,0.9s						
WRA	**Warramunga Arr**	**39.20**	**262**	P	**P**	**06 06 11.2**	**-1.4**
WRA	**Warramunga Arr**	**39.20**	**262**	P	**P**	**06 06 11.2**	**-1.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
AS31	**Alice Springs**	**39.32**	**256**	P	**P**	**06 06 11.7**	**-1.9**
ASAR	**Alice Springs**	**39.32**	**256**	P	**P**	**06 06 12.2**	**-1.4**
	comp=Z,32nm,0.9s,baz=89,slow=9.7,SNR=76						
ASAR				PcP	**PcP**	**06 08 21.3**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=103,slow=3.4,SNR=8.2						
	comp=Z,32nm,0.9s						
ASAR	**Alice Springs**	**39.32**	**256**	P	**P**	**06 06 12.5**	**-1.1**
ASAR	**Alice Springs**	**39.32**	**256**	P	**P**	**06 06 12.5**	**-1.1**
SMPI	**Sarmi**	**40.42**	**291**	P	**P**	**06 06 24.0**	**+1.2**
	comp=Z,38nm,1.7s,comp=Z,2μm						
TAOE	**Nuku Hiva Isla**	**43.65**	**82**	*e*S	**S**	**06 13 20.0**	**+0.6**
	comp=Z,285nm,27.2s						
TAOE				*e*LR	LR	06 18 57.5	
	comp=Z,882nm,23.5s						
FORT	**Forrest**	**44.59**	**246**	P	**P**	**06 06 55.4**	**-1.2**
FORT				IAmb	IAmb	06 06 58.2	
	comp=Z,54nm,1.1s						
RKT	**Rikitea**	**45.62**	**104**	*e*S	**S**	**06 13 48.4**	**+0.7**
	comp=Z,65μm,27.8s						
RKT				*e*LR	LR	06 19 52.8	
	comp=Z,449μm,30.0s						
FAKI	**Fak Fak**	**45.81**	**285**	P	**P**	**06 07 05.6**	**-0.9**
	comp=Z,30nm,1.6s						
BNDI	**Bandanaira**	**47.33**	**282**	P	**P**	**06 07 17.5**	**-0.9**
	comp=Z,363nm,0.8s						
SIJI	**Sorong**	**47.57**	**287**	P	**P**	**06 07 20.2**	**0.0**
	comp=Z,7.9nm,0.6s,baz=66,slow=3.9,SNR=10						
SIJI				LR	LR	06 27 40.2	
	comp=Z,452nm,19.0s,baz=106,slow=37						
	comp=Z,7.9nm,0.6s						
SWI	**Sorong**	**47.58**	**287**	P	**P**	**06 07 20.0**	**-0.3**
	comp=Z,24nm,1.3s						
FITZ	**Fitzroy Crossi**	**47.61**	**263**	P	**P**	**06 07 18.1**	**-2.4**
AAI	**Ambon**	**49.23**	**282**	P	**P**	**06 07 32.1**	**-0.9**
	comp=Z,56nm,0.6s,comp=Z,3μm						
NLAI	**Namlea**	**50.41**	**282**	P	**P**	**06 07 41.1**	**-0.9**
	comp=Z,22nm,2.0s						
SOEI	**Soe**	**50.86**	**273**	P	**P**	**06 07 45.5**	**-0.1**
	comp=Z,85nm,1.2s						
MBWA	**Marble Bar**	**52.61**	**258**	P	**P**	**06 07 56.8**	**-1.7**
BASI	**Baing, Sumba**	**54.21**	**271**	P	**P**	**06 08 12.0**	**+1.7**
	comp=Z,252nm,0.9s						
MORW	**Morawa**	**55.04**	**248**	P	**P**	**06 08 15.2**	**-1.0**
MORW				IAmb	IAmb	06 08 18.5	
	comp=Z,41nm,1.2s						
LUWI	**Luwuk**	**55.24**	**283**	P	**P**	**06 08 18.7**	**+0.9**
	comp=Z,28nm,1.2s						
DAV	**Davao City (W)**	**56.24**	**293**	LR	LR	06 31 45.3	
	comp=Z,117nm,19.2s,baz=144,slow=35						
BNSI	**Bone**	**56.48**	**278**	P	**P**	**06 08 27.6**	**+0.9**
	comp=Z,30nm,1.8s						
KAPI	**Kappang**	**56.60**	**277**	LR	LR	06 32 46.0	
	comp=Z,239nm,21.3s,baz=94,slow=36						
TOLI2	**Tolitoli**	**57.91**	**284**	P	**P**	**06 08 33.9**	**-2.9**
TWSI	**Taliwang, Sumb**	**58.12**	**272**	P	**P**	**06 08 39.2**	**+0.9**
	comp=Z,96nm,1.4s,comp=Z,1μm						
VNDA	**Vanda**	**58.53**	**184**	P	**P**	**06 08 40.9**	**+0.8**
	comp=Z,1.8nm,1.0s,baz=9.2,slow=8.2,SNR=7.4						
VNDA				PcP	**PcP**	**06 09 31.0**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=342,slow=5.9,SNR=1.9						
	comp=Z,1.8nm,1.0s						
VNDA	**Vanda**	**58.53**	**184**	P	**P**	**06 08 40.8**	**+0.6**
VNDA				IAmb	IAmb	06 09 06.4	
	comp=Z,36nm,1.9s						
SBA	**Scott Base**	**58.62**	**182**	P	**P**	**06 08 41.3**	**+0.5**
SBA	**Scott Base**	**58.62**	**182**	P	**P**	**06 08 41.3**	**+0.5**
SBA				pmax	pmax		
	comp=Z,210nm,1.8s						
CASY	**Casey**	**62.55**	**205**	P	**P**	**06 09 07.7**	**-0.1**
CASY				IAmb	IAmb	06 09 10.0	
	comp=Z,21nm,1.1s						
UGM	**Wanagama**	**64.37**	**270**	P	**P**	**06 09 19.9**	**-0.8**
JGF	**Kuroka**	**65.89**	**326**	P	**P**	**06 09 30.5**	**+0.3**
MJAR	**Matsushiro Arr**	**66.17**	**327**	P	**P**	**06 09 30.2**	**-1.7**
	comp=Z,13nm,1.0s,baz=161,slow=6.3,SNR=14						
	comp=Z,13nm,1.0s						
MAJO	**Matsushiro**	**66.17**	**327**	*i* P	**P**	**06 09 30.8**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SBUM	**Sibu**	**66.31**	**282**	P	**P**	**06 09 32.8**	**-0.5**
SBUM				IAmb	IAmb	06 09 35.3	
	comp=Z,26nm,1.3s						
CMJI	**Cimerak**	**66.37**	**270**	P	**P**	**06 09 33.1**	**-0.5**
	comp=Z,75nm,1.4s						
LEM	**Lembang**	**67.44**	**271**	P	**P**	**06 09 41.8**	**+1.1**
	comp=Z,56nm,1.7s						
NACB	**Ninganchiao**	**68.51**	**307**	P	**P**	**06 09 47.1**	**+0.1**
JKA	**Kamikawa-asahi**	**70.27**	**335**	P	**P**	**06 09 58.0**	**+0.6**
JKA				IAmb	IAmb	06 10 02.1	
	comp=Z,54nm,1.6s						
ASAJ	**Asahikawa**	**70.28**	**335**	P	**P**	**06 09 58.3**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=236,slow=24,SNR=4.8						
	comp=Z,3.5nm,0.6s						
QSPA	**South Pole Qui**	**70.61**	**180**	P	**P**	**06 09 59.8**	**+0.4**
	comp=Z,20nm,1.0s,baz=12,slow=2.4,SNR=21						
	comp=Z,20nm,1.0s						
QSPA	**South Pole Qui**	**70.61**	**180**	P	**P**	**06 09 59.0**	**-0.5**
KSRS	**Korea Array**	**72.49**	**322**	P	**P**	**06 10 10.6**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=153,slow=8.4,SNR=7.3						
	comp=Z,2.3nm,1.0s						
KSAR	**Wonju Array Be**	**72.50**	**322**	P	**P**	**06 10 10.9**	**-0.2**
KSAR	**Wonju Array Be**	**72.50**	**322**	P	**P**	**06 10 10.9**	**-0.2**
YSS	**Yuzh-Sakhalins**	**72.59**	**337**	P	**P**	**06 10 12.0**	**+0.7**
YSS				IAmb	IAmb	06 10 15.6	
	comp=Z,48nm,1.4s						
YSS	**Yuzh-Sakhalins**	**72.59**	**337**	*e*P	**P**	**06 10 11.8**	**+0.5**
YSS				*e**SP	**pwP**	**06 10 20.1**	**+2.9**
YSS				*e*S	**S**	**06 19 34.1**	**-1.9**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS				MLR	MLR		
	comp=N,200nm,16.0s						
MNAI	**Manna**	**72.62**	**271**	P	**P**	**06 10 10.9**	**-1.4**
PET	**Petropavlovsk**	**73.73**	**349**	P	**P**	**06 10 18.6**	**+0.8**
PET				IAmb	IAmb	06 10 20.1	
	comp=Z,71nm,1.7s						
PETK	**Petropavlovsk-**	**73.98**	**349**	P	**P**	**06 10 19.0**	**-0.4**
	comp=Z,5.8nm,1.0s,baz=148,slow=17,SNR=5.1						
	comp=Z,5.8nm,1.0s						
PETK	**Petropavlovsk-**	**73.98**	**349**	P	**P**	**06 10 19.0**	**-0.4**
NJ2	**Nanjing**	**74.97**	**312**	*e*P	**P**	**06 10 27.2**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
USRK	**Ussuriysk Ar.**	**75.06**	**329**	P	**P**	**06 10 24.4**	**-1.5**
	comp=Z,2.9nm,0.9s,baz=165,slow=13,SNR=1.7						
	comp=Z,2.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**75.06**	**329**	P	**P**	**06 10 25.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**75.06**	**329**	P	**P**	**06 10 25.6**	**-0.3**
QIZ	**Qiongzhong**	**75.35**	**297**	P	**P**	**06 10 28.3**	**+0.2**
QIZ				S	**S**	**06 20 08.1**	**-0.1**
QIZ				LR	LR		
	comp=Z,310nm,27.5s						
QIZ				LR	LR		
	comp=Z,380nm,24.7s

KLR	**Kul'dur**	78.88	332		P		**P**	06 10 47.6	+0.3
	comp=N,3.5nm,1.0s,baz=155,slow=7.0,SNR=8.3								
	comp=N,3.5nm,1.0s								
KLR	**Kul'dur**	78.88	332	*ce*	P		**P**	06 10 48.2	+0.9
KLR					pmax		pmax		
	comp=Z,20nm,1.7s								
R16K	**Pilot Point**	79.82	14		P		**P**	06 10 53.5	+1.4
	baz=205								
R17K	**Ugashik Creek**	80.16	15		P		**P**	06 10 55.1	+1.0
	baz=206								
OHAK	**Old Harbor**	80.57	16		P		**P**	06 10 56.8	+0.5
	baz=209								
MAW	**Mawson**	80.60	201		P		**P**	06 10 57.4	+0.9
	comp=Z,15nm,0.9s,baz=327,slow=9.0,SNR=4.4								
	comp=Z,15nm,0.9s								
MAW	**Mawson**	80.60	201		P		**P**	06 10 56.2	-0.2
HNS	**HongShan**	80.78	315	⇑	P		**P**	06 10 58.6	+0.8
HNS					S		**S**	06 21 11.2	+5.2
HNS					pmax		pmax		
	comp=Z,9.0nm,0.8s								
HNS					LR		LR		
	comp=Z,290nm,20.7s								
HNS					LR		LR		
	comp=Z,540nm,22.3s								
HNS					LR		LR		
	comp=Z,260nm,21.1s								
LYN	**LuoYang**	80.81	312	⇑	P		**P**	06 10 58.2	+0.1
LYN					pmax		pmax		
	comp=Z,20nm,1.6s								
LYN					pmax		pmax		
	comp=Z,190nm,7.9s								
LYN					LR		LR		
	comp=Z,270nm,24.5s								
LYN					LR		LR		
	comp=Z,210nm,15.9s								
LYN					LR		LR		
	comp=Z,420nm,19.4s								
Q17K	**Contact Creek**	80.84	15		P		**P**	06 10 57.9	+0.1
	baz=207								
ENH	**Enshi**	80.87	306		P		**P**	06 10 57.3	-1.2
ENH					IAmb		IAmb	06 11 02.3	
	comp=Z,59nm,1.4s								
SCZ2	**Santa Cruz Isl**	81.05	49		P		**P**	06 10 59.9	+0.4
	baz=239								
BELA	**Belgrano 2**	81.26	174		P		**P**	06 10 59.2	-0.7
BELA					IAmb		IAmb	06 10 60.0	
	comp=Z,38nm,1.6s								
BJI	**Beijing**	81.28	318		S		S	06 20 57.5	-14
BJI					pmax		pmax		
	comp=Z,7.0nm,1.5s								
BJI					pmax		pmax		
	comp=Z,62nm,4.2s								
GYA	**Guiyang**	81.30	302		P		**P**	06 11 02.7	+1.6
GYA					pmax		pmax		
	comp=Z,10.0nm,1.9s								
PKM	**Mcpherson Peak**	81.38	48		P		**P**	06 11 02.4	+1.0
	baz=239								
Q18K	**Katmai Hardscr**	81.39	15		P		**P**	06 11 01.1	+0.3
	baz=208								
MA2	**Magadan**	81.41	347	*ce*	P		**P**	06 11 01.3	+0.6
MA2					pmax		pmax		
	comp=Z,23nm,1.7s								
SMMC	**Simmler**	81.47	48		P		**P**	06 11 03.0	+1.3
	baz=239								
SMAI	**San Martin Ant**	81.54	160		P		**P**	06 11 01.6	+0.2
SMAI					IAmb		IAmb	06 11 05.7	
	comp=Z,29nm,1.1s								
P17K	**Kvichak River**	81.55	14		P		**P**	06 11 01.9	+0.5
	baz=206								
HEH	**HeiHe**	81.57	331	*e*	P		**P**	06 11 01.4	-0.4
HEH					pmax		pmax		
	comp=Z,9.0nm,1.1s								
CIS	**Catalina Islan**	81.63	50		P		**P**	06 11 02.9	+0.3
	baz=240								
O17K	**Koliganek Bris**	81.93	13		P		**P**	06 11 03.7	+0.2
	baz=206								
P18K	**Big Mountain,**	82.00	14		P		**P**	06 11 01.4	-2.5
P18K					IAmb		IAmb	06 11 06.3	
	comp=Z,47nm,1.4s								
P18K	**Big Mountain,**	82.00	14		P		**P**	06 11 04.1	+0.1
	baz=207								
Q20K	**Shuyak Island**	82.02	16		P		**P**	06 11 04.4	+0.5
	baz=210								
ARVC	**Arvin**	82.19	49		P		**P**	06 11 07.3	+1.8
	baz=240								
N16K	**Nishlik Lake**	82.21	12		P		**P**	06 11 07.0	+2.0
	baz=204								
VES	**Vestal, Richgr**	82.38	48		P		**P**	06 11 07.1	+0.7
	baz=239								
O18K	**Koktuh Hills**	82.42	14		P		**P**	06 11 06.8	+0.7
	baz=207								
BFSC	**Mount Baldy Ra**	82.59	50		P		**P**	06 11 08.5	+0.8
	baz=240								
CMB	**Columbia Colle**	82.61	45		IAmb		IAmb	06 11 12.0	
	comp=Z,26nm,1.4s								
MURC	**Murrieta**	82.62	51		P		**P**	06 11 09.0	+1.2
	baz=241								
EDW2	**Edwards Air Fo**	82.67	49		P		**P**	06 11 09.6	+1.6
	baz=240,SNR=9.0								
ORV	**Oroville**	82.68	44		P		**P**	06 11 08.5	+0.6
ORV					IAmb		IAmb	06 11 10.6	
	comp=Z,20nm,1.3s								
ORV	**Oroville**	82.68	44		P		**P**	06 11 08.5	+0.6
ORV					pmax		pmax		
	comp=Z,20nm,1.3s								
AFDM	**Forest Hills D**	82.70	44		IAmb		IAmb	06 11 29.9	
	comp=Z,37nm,1.7s								
ISA	**Isabella, Lake**	82.72	48		IAmb		IAmb	06 12 17.0	
	comp=Z,20nm,0.8s								
ISA	**Isabella, Lake**	82.72	48		P		**P**	06 11 09.4	+1.2
	baz=240,SNR=8.7								
P19K	**Oil Pt**	82.72	15		P		**P**	06 11 07.7	+0.1
	baz=209								
MONP2	**Monument Peak**	82.85	52		P		**P**	06 11 10.2	+1.1
	baz=241,SNR=5.7								
O19K	**Port Alsworth**	82.93	14		P		**P**	06 11 09.1	+0.5
	baz=208								
IKP	**In-Ko-Pah, Jac**	82.96	52		P		**P**	06 11 09.7	+0.1
	baz=242								
ILSW	**Iliamna Southw**	83.03	15		P		**P**	06 11 08.5	-0.8
ILSW					IAmb		IAmb	06 11 12.4	
	comp=Z,108nm,1.4s								
YBH	**Yreka Blue Hor**	83.09	41		P		**P**	06 11 09.9	-0.2
YBH					IAmb		IAmb	06 11 13.2	
	comp=Z,49nm,1.6s								
YBH	**Yreka Blue Hor**	83.09	41		P		**P**	06 11 09.9	-0.2
YBH					pmax		pmax		
	comp=Z,49nm,1.6s								
XAN	**Xi'an**	83.10	310		P		**P**	06 11 10.2	0.0
XAN					pP		PcP	06 11 15.1	+0.3
XAN					pmax		pmax		
	comp=Z,25nm,1.6s								
XAN					LR		LR		
	comp=Z,220nm,20.1s								
XAN					LR		LR		
	comp=Z,350nm,17.9s								
XAN					LR		LR		
	comp=Z,660nm,22.7s								
HOM	**Homer**	83.12	16		P		**P**	06 11 12.5	+2.8
	baz=210								
PFO	**Pinyon Flats O**	83.16	51		P		**P**	06 11 08.2	-2.5
PFO					IAmb		IAmb	06 12 12.4	
	comp=Z,13nm,0.5s								
PFO	**Pinyon Flats O**	83.16	51		P		**P**	06 11 09.7	-1.0
	baz=241								
PFO	**Pinyon Flats O**	83.16	51		P		**P**	06 11 08.2	-2.5
PFO					pmax		pmax		
	comp=Z,13nm,0.5s								
TPFO	**Pinon Flats**	83.16	51		P		**P**	06 11 09.8	-0.9
	baz=241								
PMD	**Palm Desert**	83.24	51		IAmb		IAmb	06 12 17.1	
	comp=Z,13nm,0.6s								
O20K	**Slope Mountain**	83.24	15		P		**P**	06 11 11.2	+0.8
	baz=210								
MDPB	**Devils Postpil**	83.29	46		IAmb		IAmb	06 11 25.2	
	comp=Z,20nm,1.2s								
SWSC	**Sam W. Stewart**	83.33	52		P		**P**	06 11 12.8	+1.4
	baz=242								
OMMB	**Old Mammoth Mi**	83.33	46		IAmb		IAmb	06 11 26.3	
	comp=Z,33nm,1.4s								
CWC	**Cottonwood Cre**	83.38	48		P		**P**	06 11 12.8	+1.0
	baz=240								
PHRA	**Phrae**	83.39	292		P		**P**	06 11 10.6	-1.4
BRLK	**Bradley Lake**	83.41	16		P		**P**	06 11 11.2	-0.1
BRLK					IAmb		IAmb	06 11 11.8	
	comp=Z,24nm,1.0s								
BRSE	**Bradley Lake S**	83.43	16		P		**P**	06 11 12.2	+0.9
	baz=211								
N19K	**Bonanza Creek**	83.44	14		P		**P**	06 11 11.2	-0.2
	baz=208								
SVW2	**Sparrevohn**	83.45	13		P		**P**	06 11 11.6	+0.2
SVW2					IAmb		IAmb	06 11 12.7	
	comp=Z,31nm,1.7s								
MLAC	**Mammoth, Mammo**	83.45	46		P		**P**	06 11 14.1	+1.8
	baz=239								
XLT	**XiLinHaoTe**	83.53	321	*e*	P		**P**	06 11 13.8	+1.5
XLT					pP		pwP	06 11 19.6	+1.3
XLT					sP		PcP	06 11 21.5	+5.0
XLT					S		**S**	06 21 40.6	+6.4
XLT					SS		**SS**	06 26 59.8	-1.0
XLT					pmax		pmax		
	comp=Z,7.0nm,1.2s								
XLT					pmax		pmax		
	comp=Z,130nm,4.5s								
XLT					LR		LR		
	comp=Z,210nm,21.4s								
XLT					LR		LR		
	comp=Z,260nm,22.4s								
BEKR	**Beckworth**	83.59	44		IAmb		IAmb	06 11 26.6	
	comp=Z,28nm,1.4s								
MPMC	**Manual Prospec**	83.61	48		P		**P**	06 11 14.3	+1.3
	baz=240,SNR=6.8								
BELC	**Belle Mtn. Jos**	83.68	51		P		**P**	06 11 15.2	+1.8
	baz=242,SNR=7.8								
GSC	**Goldstone, Bar**	83.72	49		P		**P**	06 11 15.2	+1.7
	baz=241								
HEC	**Hector,Ludlow**	83.83	50		P		**P**	06 11 15.1	+1.1
	baz=241								
DSP	**Deep Springs**	83.92	47		P		**P**	06 11 14.8	+0.5
DSP					IAmb		IAmb	06 11 17.6	
	comp=Z,34nm,1.5s								
BC3	**Big Chuckawall**	83.92	51		P		**P**	06 11 16.8	+2.2
	baz=242,SNR=5.1								
LCH	**Last Change Ra**	84.08	47		IAmb		IAmb	06 11 23.8	
	comp=Z,30nm,1.6s								
ZEA	**Zeya**	84.08	333	*e*	P		**P**	06 11 15.6	+0.8
ZEA					pmax		pmax		
	comp=Z,10.0nm,1.5s								
GLA	**Glamis**	84.10	52		P		**P**	06 11 17.2	+1.8
	baz=242								
GRAC	**Grapevine Rang**	84.15	48		P		**P**	06 11 17.1	+1.5
	baz=240								
SEY	**Seymchan**	84.20	349		P		**P**	06 11 14.9	-0.2
	comp=Z,9.2nm,0.8s,baz=156,slow=6.0,SNR=21								
	comp=Z,9.2nm,0.8s								
SEY	**Seymchan**	84.20	349	*i*	P		**P**	06 11 14.0	-1.1
SEY					pmax		pmax		
	comp=Z,9.0nm,0.8s								
NVAR	**Mina Array Bea**	84.22	46		P		**P**	06 11 17.6	+1.4
	comp=Z,5.2nm,0.9s,baz=225,slow=8.1,SNR=13								
	comp=Z,5.2nm,0.9s								
FURC	**Furnace Creek,**	84.25	48		P		**P**	06 11 17.6	+1.6
	baz=241								
GMRC	**Grnite Mounta**	84.30	50		P		**P**	06 11 18.0	+1.5
	baz=242,SNR=6.1								
N20K	**Mount Spurr**	84.32	15		P		**P**	06 11 15.4	-0.5
	baz=210,SNR=7.9								
SPCR	**Spurr Chakacha**	84.32	15		P		**P**	06 11 16.0	+0.2
	baz=210								
NV11	**Mina Array Sit**	84.32	46		P		**P**	06 11 17.0	+0.5
NV11					IAmb		IAmb	06 11 31.5	
	comp=Z,36nm,1.4s								
O22K	**Cooper Landing**	84.33	16		P		**P**	06 11 16.1	+0.3
	baz=212								
IRM	**Iron Mountain**	84.38	51		P		**P**	06 11 19.1	+2.2
	baz=242,SNR=12								
SHOC	**Shoshone, Teco**	84.39	49		P		**P**	06 11 18.7	+1.9
	baz=241								
TUQ	**Turquoise Moun**	84.42	50		P		**P**	06 11 18.4	+1.3
	baz=242								
CMAR	**Chiang Mai Arr**	84.50	292		P		**P**	06 11 17.7	0.0
	comp=Z,1.9nm,0.4s,baz=124,slow=3.5,SNR=16								
CMAR					LR		LR	06 46 53.1	
	comp=Z,90nm,20.9s,baz=120,slow=34								
	comp=Z,1.9nm,0.4s								
CMAR	**Chiang Mai Arr**	84.50	292		P		**P**	06 11 16.3	-1.4
CMAR	**Chiang Mai Arr**	84.50	292	*ce*	P		**P**	06 11 18.1	+0.4
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.3s								
P23K	**Montague Islan**	84.56	17		P		**P**	06 11 18.4	+1.4
	baz=214								
WCT	**Wildcat Mounta**	84.57	48		IAmb		IAmb	06 11 20.8	
	comp=Z,21nm,1.4s								
L19K	**White Mountain**	84.58	13		P		**P**	06 11 18.4	+1.3
	baz=207								
CHTO	**Chiang Mai**	84.64	292		P		**P**	06 11 18.1	-0.3
CHTO	**Chiang Mai**	84.64	292		P		**P**	06 11 18.1	-0.3
CHTO					pmax		pmax		
	comp=Z,17nm,1.4s								
BLYC	**Blythe**	84.65	52		IAmb		IAmb	06 12 38.8	
	comp=Z,14nm,0.5s								
KVN	**Kaiserville**	84.67	46		IAmb		IAmb	06 11 32.1	
	comp=Z,24nm,1.4s								
HHC	**Hu-ho-hao-te**	84.68	317	*e*	P		**P**	06 11 18.9	+0.6
HHC					pmax		pmax		
	comp=Z,18nm,0.7s								
HHC					pmax		pmax		
	comp=Z,280nm,4.7s								
M20K	**Styx River**	84.70	14		P		**P**	06 11 17.0	-0.8
	baz=209								
MOD	**Modoc Plateau**	84.70	42		IAmb		IAmb	06 11 21.2	
	comp=Z,11nm,1.7s								
K05A	**Summer Lake**	84.76	41		IAmb		IAmb	06 11 23.3	
	comp=Z,31nm,1.2s								
113A	**Mohawk Valley,**	84.77	53		IAmb		IAmb	06 11 32.2	
	comp=Z,21nm,1.5s								
RC01	**Rabbit Creek A**	84.84	16		P		**P**	06 11 18.7	+0.2
	baz=212,SNR=7.1								
SUA	**Susitna One**	84.90	15		IAmb		IAmb	06 11 21.2	
	comp=Z,31nm,1.2s								
SUA	**Susitna One**	84.90	15		P		**P**	06 11 19.4	+0.5
	baz=211								
TPNV	**Topopah Spring**	84.91	48		IAmb		IAmb	06 12 31.6	
	comp=Z,12nm,0.6s								
TPNV	**Topopah Spring**	84.91	48		P		**P**	06 11 20.4	+0.9
	baz=241								
ANM	**Nome**	84.97	8		IAmb		IAmb	06 11 22.4	
	comp=Z,45nm,1.8s								
ANM	**Nome**	84.97	8		P		**P**	06 11 20.4	+1.5
	baz=198								
TTA	**Tatalina**	85.00	12		P		**P**	06 11 19.6	+0.3
	baz=206								
PWL	**Port Wells**	85.02	17		P		**P**	06 11 19.5	+0.2
	baz=214,SNR=5.5								
L20K	**Farewell, AK**	85.05	14		P		**P**	06 11 20.1	+0.5
	baz=208								
214A	**Organ Pipe Nat**	85.13	54		IAmb		IAmb	06 11 25.6	
	comp=Z,24nm,1.6s								
214A	**Organ Pipe Nat**	85.13	54		P		**P**	06 11 22.2	+1.6
	baz=244,SNR=6.2								
SKT	**Skwentna**	85.16	15		P		**P**	06 11 19.0	-1.0
	baz=210								
PZH	**PanZhiHua**	85.30	300		P		**P**	06 11 22.7	+1.0
PZH					pmax		pmax		
	comp=Z,10.0nm,0.7s								
PZH					pmax		pmax		
	comp=Z,100nm,4.8s								
HSIG		85.31	57		IAmb		IAmb	06 11 26.3	
	comp=Z,38nm,1.8s								
M22K	**Willow**	85.31	15		P		**P**	06 11 20.8	0.0
	baz=212								
PMR	**Palmer**	85.42	16		IAmb		IAmb	06 11 22.3	
	comp=Z,18nm,1.1s								
PMR	**Palmer**	85.42	16		P		**P**	06 11 21.4	+0.1
	baz=213								
KNK	**Knik Glacier**	85.45	16		P		**P**	06 11 21.6	+0.1
	baz=213								
CD2	**Chengdu**	85.55	305		P		**P**	06 11 23.0	+0.2
BTO	**Baotou**	85.56	316	*e*	P		**P**	06 11 23.6	+0.9
BTO					LR		LR		
	comp=Z,550nm,6.9s								
BTO					LR		LR		
	comp=Z,1μm,13.1s								
TNA	**Tin City**	85.62	7		P		**P**	06 11 23.2	+1.0
	baz=195								
GHO	**Glory Hole Cre**	85.63	16		IAmb		IAmb	06 11 30.4	
	comp=Z,36nm,1.5s								
K20K	**Telida**	85.79	13		P		**P**	06 11 23.6	+0.4
	baz=208								
CUT	**Chulitna**	85.83	15		P		**P**	06 11 23.4	+0.1
	baz=212								
BMN	**Battle Mountai**	85.94	45		IAmb		IAmb	06 11 38.5	
	comp=Z,34nm,1.5s								
PRN	**Pahroc Range**	85.97	48		IAmb		IAmb	06 11 27.3	
	comp=Z,26nm,1.5s								
R11A	**Troy Canyon, C**	86.04	47		P		**P**	06 11 25.4	+0.2
	baz=242								
SCM	**Sheep Creek Mo**	86.10	16		P		**P**	06 11 25.2	+0.4
	baz=214								
BMRM	**Bremner River**	86.16	18		P		**P**	06 11 25.5	+0.4
	baz=217								
KLU	**Klutina**	86.20	17		P		**P**	06 11 25.7	+0.4
	baz=216								
CAST	**Castle Rocks**	86.28	14		P		**P**	06 11 24.8	-0.8
	baz=210,SNR=6.3								
I07A	**Izee**	86.34	41		IAmb		IAmb	06 11 28.6	
	comp=Z,37nm,1.8s								
SIT	**Sitka**	86.36	24		P		**P**	06 11 25.8	-0.2
	baz=225								
J20K	**Nowinta River**	86.50	13		P		**P**	06 11 27.2	+0.6
	baz=208								
U33K	**Whale Pass**	86.58	26		P		**P**	06 11 27.5	+0.4
	baz=227								
J08A	**Circle Bar Ran**	86.61	42		IAmb		IAmb	06 11 32.1	
	comp=Z,38nm,1.6s								
WAT6	**Susitna Watana**	86.61	16		P		**P**	06 11 27.5	0.0
	baz=214,SNR=7.6								
WAT1	**Susitna Watana**	86.61	15		P		**P**	06 11 26.7	-0.6
	baz=213								
CHUM	**Lake Minchumin**	86.63	13		P		**P**	06 11 27.3	+0.1
	baz=210								
M24K	**Tolsona, Glenn**	86.64	17		P		**P**	06 11 27.9	+0.5
	baz=215								
S31K	**Pelican**	86.65	23		P		**P**	06 11 28.2	+0.7
	baz=224								
N25K	**Chitina, Valde**	86.67	18		IAmb		IAmb	06 11 31.3	
	comp=Z,63nm,1.9s								
N25K	**Chitina, Valde**	86.67	18		P		**P**	06 11 27.8	+0.1
	baz=217								
VRDI	**Verde Repeater**	86.70	18		IAmb		IAmb	06 11 28.3	
	comp=Z,35nm,1.5s								
TRF	**Thorofare Moun**	86.72	14		P		**P**	06 11 27.7	-0.2
	baz=212								
TUC	**Tucson**	86.83	54		P		**P**	06 11 28.5	-0.6
TUC					IAmb		IAmb	06 11 34.2	
	comp=Z,43nm,2.0s								
TUC	**Tucson**	86.83	54		P		**P**	06 11 30.7	+1.6
	baz=245								
TUC	**Tucson**	86.83	54		P		**P**	06 11 28.5	-0.6
TUC					pmax		pmax		
	comp=Z,43nm,2.0s								
MCARA	**McCarthy VSAT**	86.95	18		P		**P**	06 11 27.3	-1.6
MCARA					IAmb		IAmb	06 11 30.2	
	comp=Z,26nm,1.4s								
MCARA	**McCarthy VSAT**	86.95	18		P		**P**	06 11 29.1	+0.2
	baz=218								
ELIB	**Princess Elisa**	86.96	188	*d*	P		**P**	06 11 27.9	-1.3
	comp=Z,11nm,0.7s								
BPAW	**Bear Paw Mtn.**	87.11	14		P		**P**	06 11 29.4	-0.3
	baz=211								
DHY	**Denali Highway**	87.12	16		IAmb		IAmb	06 11 32.0	
	comp=Z,54nm,2.0s								
DHY	**Denali Highway**	87.12	16		P		**P**	06 11 30.1	+0.3
	baz=214								
HARP	**HAARP**	87.15	17		P		**P**	06 11 30.0	+0.1
	baz=216								
SPR3	**Spring Creek 3**	87.21	47		IAmb		IAmb	06 11 35.2	
	comp=Z,14nm,1.4s								
MCK	**McKinley**	87.28	15		IAmb		IAmb	06 11 33.7	
	comp=Z,42nm,1.8s								
MCK	**McKinley**	87.28	15		P		**P**	06 11 31.0	+0.5
	baz=213								
G08A	**Pilot Rock**	87.30	40		IAmb		IAmb	06 11 35.1	
	comp=Z,29nm,1.4s								
P29M	**Windy Craggy**	87.32	22		IAmb		IAmb	06 11 32.7	
	comp=Z,30nm,1.5s								
P29M	**Windy Craggy**	87.32	22		P		**P**	06 11 31.2	+0.4
	baz=223								
O28M	**Mount Upton**	87.36	20		P		**P**	06 11 31.3	+0.1
	baz=221								
TNCH	**TengChong**	87.38	298		P		**P**	06 11 32.7	+0.6
TNCH					pmax		pmax		
	comp=Z,140nm,3.1s								
ELK	**Elko**	87.42	45		IAmb		IAmb	06 11 36.3	
	comp=Z,35nm,1.9s								
BILL	**Bilibino**	87.53	356		P		**P**	06 11 31.4	-0.1
BILL					IAmb		IAmb	06 11 34.9	
	comp=Z,26nm,1.5s								
BILL	**Bilibino**	87.53	356	*e*	P		**P**	06 11 32.0	+0.5
BILL					pmax		pmax		
	comp=Z,20nm,1.7s								
PAX	**Paxson**	87.53	17		P		**P**	06 11 31.6	-0.2
	baz=216								
O29M	**Mount Kennedy**	87.53	21		P		**P**	06 11 33.6	+1.7
	baz=222								
319A	**Douglas**	87.60	56		IAmb		IAmb	06 11 38.0	
	comp=Z,52nm,2.0s								
PLBC	**Pleasant Camp**	87.68	22		P		**P**	06 11 33.1	+0.6
	baz=224								
LZH	**Lanzhou**	87.73	309	⇑	P		**P**	06 11 34.6	+1.1
LZH					sP		pwP	06 11 42.2	+2.6
LZH					pmax		pmax		
	comp=Z,37nm,1.1s								
LZH					LR		LR		
	comp=Z,280nm,15.6s								
LZH					LR		LR		
	comp=Z,480nm,17.5s								
LZH					LR		LR		
	comp=Z,680nm,18.1s								
WUAZ	**Wupatki**	87.76	51		IAmb		IAmb	06 11 38.4	
	comp=Z,32nm,1.6s								
WUAZ	**Wupatki**	87.76	51		P		**P**	06 11 34.0	+0.3
	baz=244								
M26K	**Nabesna, AK**	87.76	18		IAmb		IAmb	06 11 36.5	
	comp=Z,21nm,1.4s								
M26K	**Nabesna, AK**	87.76	18		P		**P**	06 11 33.8	+0.9
	baz=218								
I21K	**Tanana**	87.83	13		P		**P**	06 11 32.8	-0.2
	baz=210								
E08A	**Dider Farm, El**	87.86	39		IAmb		IAmb	06 11 36.4	
	comp=Z,14nm,1.0s								
YUK8	**Steele Glacier**	87.88	20		P		**P**	06 11 34.3	+0.6
	baz=221								
P30M	**Million Dollar**	87.95	21		P		**P**	06 11 34.9	+1.1
	baz=224								
MLY	**Manley**	87.97	13		P		**P**	06 11 32.6	-1.2
	baz=211								
NEA2	**Nenana**	87.97	14		P		**P**	06 11 33.9	+0.1
	baz=213								
MENT	**Mentasta**	87.98	17		IAmb		IAmb	06 11 35.4	
	comp=Z,34nm,1.8s								
YUK3	**Moose Creek**	88.04	19		P		**P**	06 11 34.5	+0.1
	baz=220,SNR=8.9								
SKAG	**Skagway**	88.05	23		IAmb		IAmb	06 11 50.8	
	comp=Z,20nm,1.6s								
SKAG	**Skagway**	88.05	23

baz=219
ILAR Eielson Array 88.64 15 P P 06 11 35.6 -1.3
comp=Z,2.0nm,0.7s,baz=231,slow=5.0,SNR=28
comp=Z,2.0nm,0.7s
ILAR Eielson Array 88.64 15 P P 06 11 35.1 -1.8
TROLL Troll, Antarti 88.67 182 P P 06 11 36.8 -0.5
B08A Colville Reser 88.67 37 IAmb IAmb 06 11 39.5
comp=Z,40nm,1.9s
F10A Beach Ranch, E 88.69 40 IAmb IAmb 06 11 41.3
comp=Z,36nm,1.4s
G21K Allakaket 88.69 12 P P 06 11 37.4 +0.2
baz=209
O30N Mendenhall 88.72 21 P P 06 11 38.4 +0.9
baz=224
P32M Atlin 88.73 23 P P 06 11 38.1 +0.6
baz=226
SCRK Sand Creek 88.74 16 IAmb IAmb 06 11 41.1
comp=Z,20nm,1.6s
SCRK Sand Creek 88.74 16 P P 06 11 36.8 -0.8
baz=217
DUG Dugway, Tooele 88.80 46 IAmb IAmb 06 11 40.2
comp=Z,25nm,1.9s
DUG Dugway, Tooele 88.80 46 P P 06 11 37.3 -1.1
baz=243
Q32M Nakina River 88.85 24 P P 06 11 38.7 +0.4
baz=228
C09A Chrisman Ranch 88.99 38 IAmb IAmb 06 11 42.6
comp=Z,57nm,2.0s
PLID Pearl Lake 89.01 41 IAmb IAmb 06 11 41.6
comp=Z,21nm,1.6s
WHY Whitehorse 89.06 22 P P 06 11 39.0 -0.1
WHY IAmb IAmb 06 11 42.2
comp=Z,37nm,1.9s
WHY Whitehorse 89.06 22 P P 06 11 39.8 +0.7
baz=225
SNAA Sanae 89.11 180 P P 06 11 38.5 -0.9
SNAA Sanae 89.11 180 P P 06 11 38.7 -0.6
SNAA IAmb IAmb 06 11 41.9
comp=Z,24nm,1.3s
SNAA Sanae 89.11 180 *ce*P P **06 11 37.3 -2.1**
SNAA pmax pmax
comp=Z,28nm,1.7s
YAK Yakutsk 89.13 340 P P 06 11 38.7 -0.5
YAK Yakutsk 89.13 340 *e*P P **06 11 38.3 -0.9**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.9s
YAK pmax pmax
comp=E,5.0nm,1.2s
M29M Somme Creek 89.16 19 P P 06 11 39.0 -0.6
baz=222
NLU North Lily Min 89.20 47 P P 06 11 40.3 -0.2
121A Cookes Peak, D 89.23 55 P P 06 11 39.3 -1.3
baz=246
J26L Joseph Creek 89.27 16 IAmb IAmb 06 11 42.8
comp=Z,18nm,1.4s
J26L Joseph Creek 89.27 16 P P 06 11 40.3 +0.3
baz=218
HLID Hailey 89.28 43 IAmb IAmb 06 11 45.2
comp=Z,46nm,2.0s
HLID Hailey 89.28 43 P P 06 11 40.7 0.0
baz=242
K27K Chicken 89.30 17 P P 06 11 40.7 +0.7
baz=219
F21K Alatna River 89.32 11 P P 06 11 40.4 +0.3
baz=209
NVL N'lazarevskaya 89.35 185 *e*P P **06 11 40.0 -0.4**
NVL pmax pmax
comp=Z,20nm,0.8s
DLBC Dease Lake 89.38 25 IAmb IAmb 06 11 43.0
comp=Z,42nm,1.7s
DLBC Dease Lake 89.38 25 P P 06 11 41.1 +0.5
baz=230,SNR=5.6
G22K Bettles 89.44 12 P P 06 11 41.4 +0.8
baz=210
VNA3 Neumayer Olymp 89.46 178 P P 06 11 40.0 -1.0
CIT Chita 89.48 327 *e*P P **06 11 38.6 -2.6**
P33M Teslin, Yukon 89.49 23 IAmb IAmb 06 12 09.4
comp=Z,11nm,0.6s
P33M Teslin, Yukon 89.49 23 P P 06 11 41.7 +0.6
baz=227
TMUT Trail Mountain 89.52 48 IAmb IAmb 06 11 46.9
comp=Z,31nm,1.5s
HVU Hansel Valley 89.54 45 IAmb IAmb 06 11 44.8
comp=Z,45nm,1.7s
SPUT South Promonto 89.55 46 IAmb IAmb 06 11 46.3
comp=Z,31nm,1.4s
G23K Bananza Creek 89.56 13 P P 06 11 42.3 +1.1
baz=212
PRP Porcupine Dome 89.59 15 P P 06 11 41.8 +0.2
baz=216
R33M Jennings River 89.64 24 P P 06 11 43.0 +1.1
baz=229
CTU Camp Tracy 89.75 46 IAmb IAmb 06 11 47.1
comp=Z,16nm,1.2s
L29M L29M 89.76 19 P P 06 11 43.1 +0.8
baz=223
M30M Minto, Yukon 89.79 20 P P 06 11 42.2 -0.2
baz=224
F22K John River 89.82 12 P P 06 11 42.9 +0.5
baz=210
VNA2 Neumayer--Watz 89.83 179 P P 06 11 41.9 -0.7
baz=172,slow=4.0
NEW Newport 89.89 38 P P 06 11 43.6 +0.3
baz=240
SRU San Rafael Swe 89.92 48 IAmb IAmb 06 11 46.6
comp=Z,26nm,1.5s
P17A Butcher Ranch, 89.92 48 IAmb IAmb 06 11 59.0
comp=Z,28nm,1.8s
COLD Coldfoot 89.97 12 P P 06 11 44.1 +1.0
baz=212
DAWY Dawson 90.09 18 P P 06 11 42.3 -1.5
DAWY Dawson 90.09 18 P P 06 11 43.7 -0.1
baz=221,SNR=8.5
VNA1 Neumayer--Stat 90.09 179 P P 06 11 42.4 -1.4
G24K Hadweenzic Riv 90.11 14 P P 06 11 43.4 -0.4
baz=214
EGAK Eagle 90.14 17 IAmb IAmb 06 11 45.0
comp=Z,36nm,1.6s
EGAK Eagle 90.14 17 P P 06 11 43.8 -0.1
baz=220
HWUT Hardware Ranch 90.28 46 IAmb IAmb 06 12 02.3
comp=Z,21nm,1.6s
M31M Drury Creek, Y 90.31 21 P P 06 11 44.5 -0.3
baz=226
E22K Anaktuvuk Pass 90.43 11 P P 06 11 45.2 -0.1
baz=210
K29M Barlow Dome 90.48 19 P P 06 11 45.7 -0.1
baz=223
MVCO Mesa Verde 90.58 51 P P 06 11 46.4 -0.6
baz=246
I27K Kandik River 90.65 16 P P 06 11 46.2 -0.2
baz=219
FARO Faro, Yukon 90.68 21 P P 06 11 47.1 +0.6
baz=227
F24K Squaw Lake 90.70 13 P P 06 11 47.2 +0.7
baz=214
PV11 David Mesa, Pa 90.75 49 IAmb IAmb 06 11 50.6
comp=Z,36nm,1.6s
MNTX Cornudas Mount 90.78 57 P P 06 11 48.9 +1.2
baz=248
WTLY Watson Lake, Y 90.94 24 IAmb IAmb 06 11 50.1
comp=Z,36nm,1.7s
WTLY Watson Lake, Y 90.94 24 P P 06 11 49.3 +1.5
baz=231
ULN Ulaanbaatar 90.97 321 P P 06 11 46.7 -1.7
ULN IAmb IAmb 06 11 50.7
comp=Z,25nm,1.8s
ULN Ulaanbaatar 90.97 321 *ce*P P **06 11 48.8 +0.4**
ULN pmax pmax
comp=Z,16nm,1.7s
E24K Your Creek 91.04 13 P P 06 11 48.8 +0.6
baz=213
PV15 Paradox Valley 91.05 50 IAmb IAmb 06 12 09.7
comp=Z,45nm,1.9s
AHID Auburn Hatcher 91.09 45 IAmb IAmb 06 11 52.1
comp=Z,34nm,1.9s
MSO Missoula 91.10 40 P P 06 11 48.9 -0.1
baz=242
H27K Steamboat Moun 91.16 16 P P 06 11 49.3 +0.6
baz=220
G26K Porcupine Rive 91.16 15 P P 06 11 48.8 +0.2
baz=218
ANMO Albuquerque 91.20 53 *ce*P P **06 11 50.9 +1.1**
ANMO pmax pmax
comp=Z,21nm,2.5s
RDMU Red Mountain 91.20 47 IAmb IAmb 06 11 58.1
comp=Z,30nm,2.0s
F25K Christian Rive 91.25 14 P P 06 11 49.7 +0.6
baz=216
TX32 Lajitas Array 91.28 59 IAmb IAmb 06 11 55.5
comp=Z,20nm,1.5s
TXAR Lajitas Array 91.28 59 P P 06 11 50.4 +0.1
comp=Z,3.1nm,1.0s,baz=223,slow=5.4,SNR=14
comp=Z,3.1nm,1.0s
SONM Songino Array 91.35 321 P P 06 11 49.1 -1.0
comp=Z,2.9nm,1.1s,baz=132,slow=4.5,SNR=12
comp=Z,2.9nm,1.1s
SONM Songino Array 91.35 321 IAmb IAmb 06 11 52.3
comp=Z,22nm,1.6s
BMAR Burnt Mountain 91.36 14 P P 06 11 48.3 -1.3
D23K Nanushuk River 91.36 11 P P 06 11 50.2 +0.6
baz=211
I29M Ogilvie Camp, 91.37 17 IAmb IAmb 06 11 50.5
comp=Z,17nm,1.4s
I29M Ogilvie Camp, 91.37 17 P P 06 11 49.5 -0.2
baz=222
G27K Doyon Strip 91.58 15 P P 06 11 50.4 -0.2
baz=219
F26K Sheenjek River 91.67 14 P P 06 11 51.5 +0.4
baz=217
E25K Arctic Village 91.70 13 P P 06 11 52.6 +1.4
baz=216
D24K Happy Valley 91.88 12 P P 06 11 52.6 +0.7
baz=213
O20A White River Ci 91.95 48 P P 06 11 53.1 -0.1
baz=246
BOZ Bozeman (W) 91.98 42 P P 06 11 54.2 +1.1
baz=244
S22A 4UR Ranch, Cre 92.01 51 P P 06 11 55.5 +1.9
baz=247,SNR=10
GTA Gaotai 92.02 311 *e*P P **06 11 53.2 -0.3**
GTA pP pwP 06 11 58.7 -0.9
GTA sP sP 06 12 01.8 +5.0
GTA pmax pmax
comp=Z,3.0nm,1.5s
GTA LR LR
comp=Z,140nm,13.1s
GTA LR LR
comp=Z,190nm,15.5s
GTA LR LR
comp=Z,350nm,22.7s
BW06 Boulder Array 92.12 45 P P 06 11 54.7 +0.7
baz=245
PDAR Pinedale Array 92.12 45 P P 06 11 54.1 +0.1
comp=Z,1.0nm,0.9s,baz=216,slow=3.0,SNR=6.9
comp=Z,1.0nm,0.9s
H17A Grant Village 92.13 43 P P 06 11 55.7 +1.7
baz=245
C24K Franklin Bluff 92.38 12 P P 06 11 56.0 +1.8
baz=213
SMCO Snowmass 92.46 49 IAmb IAmb 06 12 16.6
comp=Z,32nm,1.9s
EPYK Eagle Plains 92.56 17 P P 06 11 55.5 +0.3
baz=224
E27K Coleen River 92.66 15 P P 06 11 55.4 -0.2
baz=220
SDCO Great Sand Dun 92.98 51 P P 06 11 57.0 -1.2
baz=248
G30M tAoh Zraii Nji 93.14 17 P P 06 11 57.4 -0.5
baz=224,SNR=7.0
RLMT Red Lodge 93.28 43 P P 06 11 59.5 +0.2
baz=246
C26K Camden Bay 93.29 13 P P 06 11 58.8 +0.4
baz=216
C27K Jago River 93.31 13 P P 06 11 59.4 +0.9
baz=218
T25A Trinidad 93.56 52 P P 06 12 00.9 +0.1
baz=248
MSTX Muleshoe 93.66 55 IAmb IAmb 06 12 03.6
comp=Z,15nm,1.1s
MSTX Muleshoe 93.66 55 P P 06 12 01.7 +0.6
baz=249
ISCO Idaho Springs 93.67 49 IAmb IAmb 06 13 51.2
comp=Z,5.4nm,0.6s
ISCO Idaho Springs 93.67 49 P P 06 12 01.5 +0.2
baz=248
Q24A Divide 93.69 50 P P 06 12 02.2 +0.7
baz=248
F31M Tsiigehtchic 94.15 17 P P 06 12 01.4 -1.0
baz=227
ZAK Zakamensk 94.32 322 *e*P P **06 12 00.3 -3.4**
ZAK pmax pmax
comp=Z,4.0nm,1.7s
GOMU GeErMu 94.49 307 P P 06 12 06.6 +1.4
GOMU pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 94.80 17 P P 06 12 04.6 -0.8
comp=Z,4.8nm,1.1s,baz=223,slow=4.9,SNR=5.1
INK LR LR 06 47 14.3
comp=Z,112nm,21.1s,baz=249,slow=31
comp=Z,4.8nm,1.1s
INK Inuvik 94.80 17 IAmb IAmb 06 12 08.2
comp=Z,19nm,1.5s
INK Inuvik 94.80 17 P P 06 12 05.4 +0.1
baz=227
RSSD Black Hills 96.35 46 P P 06 12 13.7 +0.4
baz=249
TIXI Tiksi 96.36 346 *ce*P P **06 12 12.1 -0.3**
TIXI pmax pmax
comp=Z,11nm,2.5s
YKA Yellowknife Ar 97.97 26 P P 06 12 19.4 -0.4
comp=Z,0.8nm,0.8s,baz=250,slow=4.8,SNR=13
comp=Z,0.8nm,0.8s
C36M Paulatuk 98.13 18 P P 06 12 19.8 -0.7
baz=236
A36M Sachs Harbour 99.33 16 P Pdif 06 12 25.9 +0.1
baz=235,SNR=6.8
WMQ Urumqi 102.05 312 *e*P **Pdif 06 12 40.8 +2.1**
WMQ LR LR
comp=Z,230nm,21.3s
MKAR Makanchi Array 106.44 314 Pdiff **Pdif 06 12 59.5 +1.5**
comp=Z,0.5nm,1.0s,baz=116,slow=6.7,SNR=2.4
ARU Arti 121.14 325 *i* PKIKP **PKPdf 06 17 36.2 -0.6**
ARU 06 19 07.3
ARU 06 24 48.0
ARU SS SS 06 35 39.4 -0.4
KLMR Klimovskoe 128.60 334 *e*PKPdf **PKPdf 06 17 49.1 -1.8**
KLMR AMP 06 17 56.9
comp=Z,40nm,2.1s
KLMR Klimovskoe 128.60 334 *e*PKIKP **PKPdf 06 17 49.0 -1.8**
KLMR pmax pmax
comp=Z,40nm,2.1s
OBN Obninsk 133.08 329 *e*PKIKP **PKiKP 06 18 01.4 +0.7**
OBN pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 134.17 313 *e*PKIKP **PKPdf 06 18 00.5 -1.6**
KIV *e* 06 20 30.8
KIV *e*PPP PPP 06 23 27.4
KIV pmax pmax
comp=Z,5.0nm,1.0s
MNK Minsk 137.43 333 *i* PKP **PKPdf 06 18 06.9 -0.8**
comp=E,4.0nm,1.1s
MNK *i* PKP **PKPdf 06 18 06.9 -0.8**
comp=N,26nm,1.4s
MNK *i* PKP **PKPdf 06 18 06.9 -0.8**
comp=Z,17nm,1.4s,baz=47
MNK *i* PP **PP 06 20 52.0 -0.9**
MNK *i* PPP PPP 06 23 52.0
MNK *i* SKS **SKSdf 06 25 17.3 -1.1**
MNK *i* SKKS **SKKSdf 06 34 52.6 -4.2**
MNK *i* SS **SS 06 39 00.4 +0.4**
MNK *i* SSS SSS 06 44 07.2
MNK *i* LQ LQ 07 11 23.9
MNK *i* LR LR 07 16 14.0
MNK *i* LRM MLR 07 20 21.2
comp=N,399nm,18.4s
MNK *i* LRM MLR 07 20 22.8
comp=Z,161nm,15.6s
MNK *i* LRM MLR 07 20 27.1
comp=E,61nm,15.6s
MNK Minsk 137.43 333 *i* PKIKP **PKPdf 06 18 06.8 -0.8**
MNK *i* 06 20 52.0
MNK *i* PPP PPP 06 23 51.9
MNK *i* 06 25 17.3
MNK *i* SS SS 06 39 00.4 +0.3
MNK *i* SSS SSS 06 44 07.1
MNK pmax pmax
comp=N,26nm,1.4s
MNK pmax pmax
comp=Z,17nm,1.4s
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK MLR MLR
comp=N,399nm,18.0s
MNK MLR MLR
comp=Z,161nm,16.0s
MNK MLR MLR
comp=E,61nm,16.0s
NACGM Naroch 137.61 334 *e*PKP **PKPdf 06 18 09.0 +0.9**
comp=Z,19nm,1.1s,baz=45
AKASG Malin Array Be 139.26 328 PKP **PKPdf 06 18 11.2 0.0**
comp=Z,0.1nm,0.2s,baz=49,slow=1.7,SNR=7.8
BRTR Keskin Array B 141.94 310 PKhKP PKPpre 06 18 12.9
comp=Z,0.6nm,0.8s,baz=332,slow=2.5,SNR=2.6
BRTR PKP **PKPdf 06 18 16.5 -0.1**
comp=Z,1.3nm,0.9s,baz=97,slow=3.3,SNR=5.7
BRTR Keskin Array B 141.94 310 PKPdf **PKPdf 06 18 11.1 -5.5**
UZH Uzhgorod 144.01 330 *e*PKIKP PKPbc 06 18 18.6 +1.0
UZH *e* 06 18 20.7
UZH *i* 06 18 25.1
BORA Eskisehir 144.14 312 PKPab 06 18 16.9 -1.2
MLR Muntele Rosu 144.16 323 ⇑P **PKPab 06 18 17.4 -0.6**
MLR Muntele Rosu 144.16 323 ⇑PKIKP **PKPab 06 18 17.4 -0.6**
DOPR Dopca 144.18 324 ⇑P PKPbc 06 18 18.5 +0.2
RUE Ruedersdorf 144.25 341 *e*PKPbc **PKPab 06 18 17.8 0.0**
baz=23,slow=2.9
PRD Provadia 144.59 319 P **PKPdf 06 18 20.9 0.0**
VOIR 144.70 324 ⇑P **PKPab 06 18 19.8 -0.1**
VOIR 144.70 324 ⇑PKIKP **PKPab 06 18 19.8 -0.1**
KSP Ksiaz 144.81 338 *e*PKPdf **PKPab 06 18 19.6 -0.5**
MARR Marisel-Cluj 144.94 327 ⇑P **PKPab 06 18 19.9 -0.9**
ARR Arges 144.97 324 ⇑P **PKPab 06 18 19.5 -1.4**
DRGR 145.07 327 ⇓P **PKPbc 06 18 20.8 -0.4**
DRGR 145.07 327 ⇓PKIKP **PKPbc 06 18 20.8 -0.4**
OSTC Ostas 145.07 337 *e*PKP **PKPdf 06 18 21.5 -0.1**
FLTG Flechtingen 145.10 344 *e*PKPbc **PKPbc 06 18 20.3 -0.6**
baz=23,slow=2.9
RETH Rethem/Aller, 145.19 346 *e*PKPbc **PKPbc 06 18 21.0 -0.2**
baz=23,slow=2.9
DPC Dobruska-Polom 145.21 337 *e*PKP **PKPbc 06 18 21.2 -0.3**
DPC Dobruska-Polom 145.21 337 *e*PKIKP **PKPbc 06 18 21.2 -0.3**
MORC Moravsky Berou 145.21 335 *e*PKP **PKPbc 06 18 21.4 -0.1**
NRDL Niedersach Rie 145.24 345 *e*PKPbc **PKPbc 06 18 21.1 -0.2**
baz=23,slow=2.9
KRLC Kraliky 145.26 336 *e*PKIKP **PKiKP 06 18 26.8 +0.9**
MAUC Maruska 145.42 335 *e*PKP **PKPdf 06 18 22.4 +0.1**
ASSE Asse, Remlinge 145.43 344 *e*PKPbc **PKPbc 06 18 21.9 -0.1**
baz=23,slow=2.9
SZH Strazhica 145.45 320 P PKPab 06 18 23.2 +0.5
JMB Yambol 145.49 318 P PKPab 06 18 22.9 +0.1
CLL Collm 145.51 341 ⇓*i* PKPbc **PKPbc 06 18 22.0 -0.4**
comp=Z,109nm,1.4s
CLL *i* x x 06 18 33.1
CLL Collm 145.51 341 ⇓*i* PKIKP **PKPbc 06 18 22.0 -0.4**
CLL pmax pmax
comp=Z,109nm,1.4s
CLL Collm 145.51 341 *e*PKPbc **PKPbc 06 18 21.9 -0.4**
baz=23,slow=2.9
BRG Berggiesshubel 145.59 340 *i* PKP **PKPab 06 18 22.8 -0.1**
BRG Amp 06 18 24.8
comp=Z,103nm,1.5s
BRG Berggiesshubel 145.59 340 P **PKiKP 06 18 34.2 +7.7**
BRG Amp 06 18 35.6
comp=Z,60nm,1.5s
BRG Berggiesshubel 145.59 340 *i* PKIKP **PKPab 06 18 22.8 -0.1**
BRG pmax pmax
comp=Z,103nm,1.5s
BRG Berggiesshubel 145.59 340 *e*PKPbc **PKPbc 06 18 22.5 -0.1**
baz=23,slow=2.9
VYHS Vyhne 145.67 333 *e*PKIKP **PKPab 06 18 23.2 -0.1**
VYHS Vyhne 145.67 333 *e*PKP **PKPab 06 18 23.2 -0.1**
CLZ Clausthal 145.77 344 *e*PKPbc **PKPab 06 18 23.3 -0.3**
baz=23,slow=2.9
PVL Pavlikeni 145.84 320 P PKPab 06 18 24.8 +0.7
JAVC Velka Javorina 145.88 334 *e*PKP **PKPab 06 18 25.1 +1.0**
VRAC Vranov 145.95 336 *e*PKP **PKPab 06 18 24.1 -0.2**
IBBN Ibbenburen 145.95 347 *e*PKPbc **PKPbc 06 18 23.4 -0.2**
baz=23,slow=2.9
NEUB Neuenburg 145.96 342 *e*PKPbc **PKPbc 06 18 23.8 0.0**
baz=23,slow=2.9
GZR Gura Zlata 145.97 326 ⇑P **PKPdf 06 18 22.7 -0.7**
GZR Gura Zlata 145.97 326 ⇑PKIKP **PKPdf 06 18 22.7 -0.7**
SURR Surdue 146.07 327 ⇑P **PKPdf 06 18 23.8 +0.4**
GTTG Gottingen 146.15 344 *e*PKPbc **PKPbc 06 18 24.3 0.0**
baz=23,slow=2.9
PLVB Pleven 146.17 321 ⇑P **PKPdf 06 18 23.8 +0.1**
KRUC Moravsky 146.23 336 *e*PKP **PKPdf 06 18 24.0 +0.4**
DIM Dimitrovgrad 146.37 319 P **PKPbc 06 18 25.0 -0.3**
MODS Modra-Piesok 146.42 334 *e*PKP2 **PKiKP 06 18 27.7 -0.6**
MODS Modra-Piesok 146.42 334 *e*PKP **PKiKP 06 18 27.7 -0.6**
BZS Buzias 146.43 327 ⇓P **PKPdf 06 18 23.8 -0.2**
BZS Buzias 146.43 327 ⇓PKP2 **PKPdf 06 18 23.8 -0.2**
TANN Tannenbergstha 146.46 341 *e*PKPbc **PKPbc 06 18 25.7 +0.3**
baz=23,slow=2.9
WERD Werda 146.48 341 *e*PKPbc **PKPbc 06 18 25.7 +0.3**
baz=23,slow=2.9
PLN Plauen 146.49 341 *e*PKPbc **PKPab 06 18 25.8 -0.5**
baz=23,slow=2.9
MOX Moxa 146.51 342 *e*PKPbc **PKPbc 06 18 25.8 +0.3**
baz=23,slow=2.9
GUNZ Gunzen 146.54 341 *e*PKPbc **PKPbc 06 18 25.9 +0.3**
baz=23,slow=2.9
WERN Wernitzgruen 146.59 341 *e*PKPbc **PKPbc 06 18 25.6 -0.1**
baz=23,slow=2.9
KDZ Kurdzhali 146.66 318 P PKPbc 06 18 25.8 -0.4
MPEP Malo Peshtene 146.71 322 P PKPbc 06 18 25.5 -0.8
UBBA Unterbreizbach 146.80 344 *e*PKPbc **PKPbc 06 18 25.8 -0.3**
baz=23,slow=2.9
KASTN Kahler Asten 146.84 346 *e*PKPbc **PKPbc 06 18 25.7 -0.7**
baz=23,slow=2.9
RDO Rodhopi 146.85 317 PKPdf **PKPdf 06 18 22.2 -2.7**
BUG Bochum--Univer 146.87 347 *e*PKPbc **PKPbc 06 18 26.4 0.0**
baz=23,slow=2.9
MDVR Moldovita 146.94 326 ⇑P **PKPdf 06 18 23.0 -2.0**
ROTZ Rotzenmuhle 147.10 341 *e*PKPbc **PKPbc 06 18 26.5 -0.7**
baz=23,slow=2.9
KHC Kasperske Hory 147.20 339 *e*PKP **PKPab 06 18 28.3 -0.9**
KHC Kasperske Hory 147.20 339 *e*PKP2 **PKPab 06 18 28.3 -0.9**
CKRC Cesky Krumlov 147.21 338 *e*PKP **PKPab 06 18 28.4 -0.8**
CONA Conrad Observa 147.35 335 *ep*PKP **PKPab 06 18 28.9 -0.9**
comp=Z,31nm,1.5s
RONA Rosalia, Austr 147.36 334 *ep*PKP **PKPab 06 18 29.0 -0.8**
comp=Z,46nm,2.0s
GEC2 GERESS Array S 147.40 338 *e*PKPbc **PKPbc 06 18 27.7 -0.5**
baz=23,slow=2.9
GERES GERESS Array B 147.40 338 PKPbc **PKPbc 06 18 27.5 -0.7**
comp=Z,1.3nm,0.6s,baz=98,slow=2.7,SNR=4.2
VTS Vitosha 147.44 321 ⇓P **PKiKP 06 18 31.3 +0.5**
VTS Vitosha 147.44 321 ⇓PKP2 **PKiKP 06 18 31.3 +0.5**
VTS Vitosha 147.44 321 P **PKPdf 06 18 27.1 +1.0**
MORH Mrgy, Hungar 147.47 330 ⇓P **PKPdf 06 18 24.3 -1.4**
GRF Grafenberg Arr 147.47 342 *e*PKPbc **PKPbc 06 18 28.1 -0.1**
baz=23,slow=2.9
FRGS Fruska Gora 147.66 328 ⇑P **PKPbc 06 18 29.0 +0.1**
MMB Musomiste 147.75 319 P PKPbc 06 18 28.4 -0.9
AHRW Bad Neuenahr-A 147.76 347 *e*PKPbc **PKPbc 06 18 28.7 -0.2**
baz=23,slow=2.9
BTNL Ternell 147.91 348 *d*PKP **PKPbc 06 18 30.0 +0.6**
KKB Krupnik 147.98 320 P PKPbc 06 18 29.7 -0.2
BSTI Sant Tilman 148.03 349 *d*PKP **PKPbc 06 18 30.2 +0.6**
ARSA Arzberg 148.03 335 *e*PKP **PKPbc 06 18 29.7 -0.1**
comp=Z,19nm,1.7s
MOA Molln 148.03 337 *e*PKP **PKPab 06 18 32.7 +0.2**
comp=Z,18nm,1.4s
BHOU Houvegnez 148.16 348 *d*PKP **PKPab 06 18 32.4 -0.5**
BCLA Clavier 148.23 349 *d*PKP **PKiKP 06 18 31.8 -0.1**
BGES Gesves 148.30 349 *d*PKP **PKiKP 06 18 31.5 -0.6**
BIOA Bad Ischl, Aus 148.40 337 *ep*PKP pPKPdf 06 18 29.8 0.0
comp=Z,11nm,1.3s
BMRD Maredsous 148.44 349 *d*PKP **PKPbc 06 18 28.9 -1.8**
RCHB Rochefort 148.50 349 *d*PKP **PKPdf 06 18 26.8 -0.6**
SOKA Soboth 148.69 334 *e*PKP **PKPbc 06 18 31.7 +0.1**
comp=Z,15nm,1.3s
WLF Walferdange 148.78 347 *d*PKP **PKPbc 06 18 31.5 -0.2**
WLF Walferdange 148.78 347 *e*PKPbc **PKPbc 06 18 30.0 -1.7**
baz=23,slow=2.9
KBA Koelnbreinsper 149.02 337 *ep*PKP **PKPbc 06 18 32.1 -0.5**
comp=Z,8.5nm,1.1s
OBKA Obir 149.03 335 *e*PKP **PKPbc 06 18 32.6 +0.1**
comp=Z,12nm,1.3s
MYKA Terra Mystica 149.28 336 *ep*PKP **PKPbc 06 18 32.2 -0.9**
comp=Z,6.6nm,0.8s
WATA Walderalm 149.43 339 *e*PKP **PKPbc 06 18 33.9 +0.3**
comp=Z,13nm,1.4s
WTTA Wattenberg 149.47 339 *e*PKP **PKPbc 06 18 34.1 +0.4**
comp=Z,35nm,1.8s
BFO Black Forest 149.52 344 PKPdf 06 18 29.9 +0.8
BFO Black Forest 149.52 344 PKHKP PKPpre 06 18 29.9

RETA	**Reutte**	**149.57**	**340**	*e*PKP	**PKPbc**	**06 18 33.8**	**0.0**
	comp=Z,19nm,1.5s							
MOTA	**Moosalm**	**149.58**	**340**	*e*PKP	**PKPbc**	**06 18 33.9**	**-0.1**
	comp=Z,15nm,1.4s							
ABTA	**Abfaltersbach**	**149.61**	**337**	*e*pPKP	pPKPdf	06 18 32.3	+0.4
	comp=Z,22nm,1.7s							
SQTA	**Sankt Quirin**	**149.65**	**339**	*e*pPKP	**PKPbc**	**06 18 33.5**	**-0.6**
	comp=Z,7.9nm,0.9s							
CLUD	**Cludinico**	**149.72**	**337**		**PKPab**	**06 18 39.5**	**+0.1**
FETA	**Feichten**	**149.99**	**340**	*e*PKP	**PKPbc**	**06 18 34.4**	**-0.6**
	comp=Z,12nm,1.4s							
DAVA	**Damuels**	**150.02**	**341**	*e*PKP	**PKPbc**	**06 18 35.2**	**+0.1**
	comp=Z,9.2nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**150.49**	**340**		**PKPbc**	**06 18 34.4**	**-1.9**
ESDC	**Sonseca Array**	**159.84**	**0**	PKPab	**PKPab**	**06 19 22.2**	**-0.3**
	comp=Z,1.3nm,1.1s,baz=348,slow=3.3,SNR=2.4							
DBIC	**Dimbokro**	**167.27**	**176**	PKPab	**PKPab**	**06 19 55.4**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=182,slow=6.0,SNR=3.9							

NOU ***04*** *06:00:04.5,39˚.87S×174˚.65E,h128km,MLv4.4/12,North Island, New Zealand*
IDC ***04*** *06:00:05.1±1.8,39˚.85S×174˚.67E,h90km±19km,mb3.5/2, mbtmp3.8/4,Error ellipse: s-maj=38.9km s-min=16.0km az=142.0*
WEL ***04*** *06:00:07.5±0.6,40˚.3S×17˚.5E±˚,h93km±6km,M4.2/38, ML4.5/32,MLv4.2/38,Error ellipse: s-maj=0.0km s-min=0.0km az=103.9,confirmed*

ISC 04 06:00:05.3±0.8,39˚.92S±0˚.03×174˚.70E±0˚.03,h122km±5km, n159,σ1§04/178,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WAZ	**Wanganui**	**0.28**	**53**	P		**Pn**	**06 00 22.6**	**+0.2**
WAZ				S		**Sn**	**06 00 34.5**	**-0.8**
LREZ	**Lake Rotokare**	**0.51**	**334**	P		**Pn**	**06 00 23.5**	**-0.1**
LREZ				S		**Sn**	**06 00 36.5**	**-0.8**
VRZ	**Vera Road**	**0.80**	**3**	P		**Pn**	**06 00 25.4**	**-0.3**
VRZ				S		**Sn**	**06 00 39.7**	**-1.3**
NEZ	**North Egmont**	**0.80**	**324**	P		**Pn**	**06 00 25.6**	**-0.2**
NEZ				S		**Sn**	**06 00 39.1**	**-2.1**
MTVZ	**Mangateitei**	**0.80**	**48**	P		**Pn**	**06 00 25.7**	**-0.1**
MTVZ				S		**Sn**	**06 00 39.7**	**-1.6**
PKVZ	**Pokaka**	**0.81**	**39**	P		**Pn**	**06 00 25.5**	**-0.2**
PKVZ				S		**Sn**	**06 00 39.4**	**-1.9**
NMEZ	**Namu Road**	**0.81**	**309**	P		**Pn**	**06 00 25.4**	**-0.3**
NMEZ				S		**Sn**	**06 00 40.1**	**-1.0**
KHEZ	**Kahui Hut**	**0.82**	**320**	P		**Pn**	**06 00 25.7**	**-0.2**
KHEZ	**Kahui Hut**	**0.82**	**320**	P		**Pn**	**06 00 25.8**	**-0.2**
KHEZ				S		**Sn**	**06 00 40.2**	**-1.3**
DREZ	**Durham Road**	**0.83**	**332**	P		**Pn**	**06 00 25.8**	**0.0**
DREZ				S		**Sn**	**06 00 40.5**	**-0.9**
MHEZ	**Mangahewa**	**0.89**	**341**	P		**Pn**	**06 00 26.7**	**+0.3**
MHEZ				S		**Sn**	**06 00 41.8**	**-0.7**
TRVZ	**Turoa**	**0.91**	**47**	P		**Pn**	**06 00 26.8**	**-0.1**
PKE	**Pukeiti**	**0.91**	**323**	P		**Pn**	**06 00 26.4**	**-0.3**
PKE				S		**Sn**	**06 00 41.5**	**-1.3**
NBEZ	**Newall Road No**	**0.92**	**315**	P		**Pn**	**06 00 26.6**	**-0.1**
NBEZ				S		**Sn**	**06 00 41.9**	**-0.9**
WNVZ	**Wahianoa**	**0.92**	**50**	P		**Pn**	**06 00 26.8**	**-0.1**
WNVZ				S		**Sn**	**06 00 41.4**	**-1.7**
DRZ	**Dome Shelter**	**0.93**	**46**	P		**Pn**	**06 00 27.1**	**0.0**
FWVZ	**Far West T-bar**	**0.94**	**45**	P		**Pn**	**06 00 26.9**	**-0.3**
WHVZ	**Whangaehu Hut**	**0.94**	**47**	P		**Pn**	**06 00 27.0**	**-0.1**
POWZ	**Post Office Ro**	**0.95**	**120**	P		**Pn**	**06 00 27.3**	**+0.4**
KIW	**Kapiti Island**	**0.95**	**170**	P		**Pn**	**06 00 27.6**	**+0.6**
KIW				S		**Sn**	**06 00 41.6**	**-2.0**
MOVZ	**Moawhango**	**0.96**	**58**	P		**Pn**	**06 00 26.9**	**-0.3**
MOVZ				S		**Sn**	**06 00 41.8**	**-2.0**
OGWZ	**Otaki Gorge**	**0.96**	**158**	P		**Pn**	**06 00 27.8**	**+0.7**
OGWZ				S		**Sn**	**06 00 42.9**	**-0.8**
TUVZ	**Tukino**	**0.99**	**49**	P		**Pn**	**06 00 27.5**	**0.0**
MRZ	**Mangatainoka R**	**1.00**	**138**	P		**Pn**	**06 00 28.0**	**+0.6**
NGZ	**Ngauruhoe**	**1.02**	**43**	P		**Pn**	**06 00 27.6**	**-0.2**
TWVZ	**Taurewa**	**1.02**	**34**	P		**Pn**	**06 00 27.5**	**-0.4**
SNVZ	**South Ngauruho**	**1.03**	**45**	P		**Pn**	**06 00 28.0**	**0.0**
DUWZ	**D'Urville Isla**	**1.06**	**214**	P		**Pn**	**06 00 28.4**	**+0.3**
DUWZ				S		**Sn**	**06 00 44.8**	**-0.5**
WTVZ	**West Tongariro**	**1.06**	**41**	P		**Pn**	**06 00 28.0**	**-0.2**
NNVZ	**North Ngauruho**	**1.06**	**42**	P		**Pn**	**06 00 28.1**	**-0.2**
OTVZ	**Oturere**	**1.06**	**45**	P		**Pn**	**06 00 28.4**	**+0.1**
KRVZ	**Karewarewa**	**1.10**	**42**	P		Pn	06 00 23.7	-4.9
ETVZ	**East Tongariro**	**1.11**	**45**	P		**Pn**	**06 00 28.8**	**+0.1**
NTVZ	**North Tongarir**	**1.12**	**43**	P		**Pn**	**06 00 28.8**	**0.0**
TMVZ	**Te Maari**	**1.12**	**44**	P		**Pn**	**06 00 29.0**	**+0.2**
BHHZ	**Black Hill Sta**	**1.14**	**68**	P		**Pn**	**06 00 28.6**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.16**	**148**	P		**Pn**	**06 00 29.7**	**+0.6**
PRWZ	**Pori Road**	**1.16**	**123**	P		**Pn**	**06 00 30.0**	**+0.9**
CAW	**Cannon Point**	**1.22**	**167**	P		**Pn**	**06 00 30.5**	**+0.9**
KATZ	**Kakaramea**	**1.22**	**40**	P		**Pn**	**06 00 30.0**	**+0.1**
TIWZ	**Tintock**	**1.25**	**134**	P		**Pn**	**06 00 30.8**	**+0.8**
RITZ	**Rihia Road**	**1.30**	**44**	P		**Pn**	**06 00 30.9**	**+0.3**
KRHZ	**Kereru**	**1.32**	**75**	P		**Pn**	**06 00 31.0**	**+0.2**
TCW	**Tory Channel**	**1.33**	**194**	P		**Pn**	**06 00 31.4**	**+0.6**
RATZ	**Rangitukua**	**1.34**	**39**	P		**Pn**	**06 00 31.4**	**+0.3**
WPHZ	**Waipukurau**	**1.35**	**97**	P		**Pn**	**06 00 31.8**	**+0.7**
WEL	**Wellington**	**1.36**	**178**	P		**Pn**	**06 00 31.9**	**+0.7**
MTW	**Mount Morrison**	**1.38**	**154**	P		**Pn**	**06 00 32.0**	**+0.6**
SNZO	**South Karori**	**1.39**	**180**	P		**Pn**	**06 00 32.2**	**+0.7**
BFZ	**Birch Farm**	**1.41**	**123**	P		**Pn**	**06 00 32.4**	**+0.7**
BFZ	**Birch Farm**	**1.41**	**123**	P		**Pn**	**06 00 32.4**	**+0.7**
HIZ	**Hauiti**	**1.41**	**5**	P		**Pn**	**06 00 32.0**	**+0.2**
HIZ	**Hauiti**	**1.41**	**5**	P		**Pn**	**06 00 31.8**	**-0.1**
KWHZ	**Kaweka Forest**	**1.42**	**70**	P		**Pn**	**06 00 31.7**	**-0.3**
WATZ	**Wairara**	**1.46**	**34**	P		**Pn**	**06 00 32.7**	**+0.4**
TMWZ	**Te Maipa**	**1.49**	**143**	P		**Pn**	**06 00 33.4**	**+0.7**
CPWZ	**Castlepoint**	**1.51**	**131**	P		**Pn**	**06 00 34.3**	**+1.4**
PRHZ	**Porangahau**	**1.53**	**104**	P		**Pn**	**06 00 34.0**	**+0.9**
PAWZ	**Paruwai Farm**	**1.56**	**159**	P		**Pn**	**06 00 34.2**	**+0.7**
BKZ	**Black Stump Fm**	**1.58**	**62**	P		**Pn**	**06 00 33.8**	**0.0**
BKZ	**Black Stump Fm**	**1.58**	**62**	P		**Pn**	**06 00 33.7**	**-0.1**
TUWZ	**Tuamarina**	**1.61**	**201**	P		**Pn**	**06 00 34.3**	**+0.2**
MCHZ	**McNeill Hill**	**1.61**	**73**	P		**Pn**	**06 00 35.0**	**+0.8**
NNZ	**Nelson**	**1.64**	**217**	P		**Pn**	**06 00 34.6**	**+0.3**
TRWZ	**Traveller**	**1.66**	**153**	P		**Pn**	**06 00 35.2**	**+0.6**
PXZ	**Pawanui**	**1.67**	**94**	P		**Pn**	**06 00 35.5**	**+0.8**
KUTZ	**Kaahu Road**	**1.68**	**32**	P		**Pn**	**06 00 35.4**	**+0.5**
KAHZ	**Kahuranaki**	**1.68**	**86**	P		**Pn**	**06 00 35.4**	**+0.5**
PLWZ	**Palliser**	**1.70**	**166**	P		**Pn**	**06 00 35.7**	**+0.5**
MRHZ	**Matea Rd**	**1.72**	**51**	P		**Pn**	**06 00 35.0**	**-0.4**
TLZ	**Tolley Road**	**1.72**	**23**	P		**Pn**	**06 00 35.6**	**+0.1**
TKNZ	**Takaka Hill**	**1.73**	**229**	P		**Pn**	**06 00 35.5**	**0.0**
WPRZ	**Whakapapatarin**	**1.81**	**40**	P		**Pn**	**06 00 36.5**	**+0.1**
NMHZ	**Naumai**	**1.83**	**64**	P		**Pn**	**06 00 37.4**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.85**	**83**	P		**Pn**	**06 00 37.4**	**+0.5**
CMWZ	**Cape Campbell**	**1.86**	**191**	P		**Pn**	**06 00 38.5**	**+1.4**
ALRZ	**Allen Road**	**1.86**	**44**	P		**Pn**	**06 00 37.1**	**-0.1**
QRZ	**Quartz Range**	**1.89**	**241**	P		**Pn**	**06 00 37.2**	**-0.2**
QRZ	**Quartz Range**	**1.89**	**241**	P		**Pn**	**06 00 37.0**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.90**	**199**	P		**Pn**	**06 00 38.1**	**+0.6**
GRRZ	**Galatos Road**	**1.92**	**35**	P		**Pn**	**06 00 38.5**	**+0.7**
PRRZ	**Plateau Road**	**1.94**	**43**	P		**Pn**	**06 00 37.9**	**-0.1**
HRRZ	**Handcock Road**	**1.96**	**39**	P		**Pn**	**06 00 38.8**	**+0.3**
MTHZ	**Maungataniwha**	**1.98**	**58**	P		**Pn**	**06 00 38.3**	**-0.2**
HSRZ	**Hossack Road**	**2.01**	**37**	P		**Pn**	**06 00 39.5**	**+0.6**
MRNZ	**Matariki Terra**	**2.09**	**224**	P		**Pn**	**06 00 40.2**	**+0.3**
UTU	**Utuhina**	**2.10**	**34**	P		**Pn**	**06 00 41.0**	**+1.0**
RAHZ	**Arahi**	**2.11**	**62**	P		**Pn**	**06 00 40.3**	**+0.1**
RRRZ	**Republican Roa**	**2.12**	**42**	P		**Pn**	**06 00 40.4**	**+0.1**
WHHZ	**Waihua**	**2.14**	**68**	P		**Pn**	**06 00 40.7**	**+0.2**
NGRZ	**Ngongotaha**	**2.16**	**33**	P		**Pn**	**06 00 41.7**	**+0.8**
MUGZ	**Murupara**	**2.16**	**49**	P		**Pn**	**06 00 40.4**	**-0.4**
TARZ	**Mount Tarawera**	**2.19**	**40**	P		**Pn**	**06 00 42.1**	**+0.8**
RTZ	**Ruatahuna**	**2.20**	**54**	P		**Pn**	**06 00 41.1**	**-0.3**
OMRZ	**Omania**	**2.23**	**36**	P		**Pn**	**06 00 42.2**	**+0.4**
TOZ	**Tahuroa Road**	**2.28**	**116**	P		**Pn**	**06 00 42.3**	**0.0**
THZ	**Tophouse**	**2.29**	**216**	P		**Pn**	**06 00 42.6**	**+0.2**
KNZ	**Kokohu**	**2.47**	**70**	P		**Pn**	**06 00 44.3**	**-0.4**
URZ	**Urewera**	**2.51**	**49**	P		**Pn**	**06 00 44.3**	**-0.9**
	59nm,0.5s,baz=315,slow=4.8,SNR=65							
URZ				S		**Sn**	**06 01 13.7**	**-2.1**
	486nm,0.4s,baz=196,slow=20,SNR=50							
URZ	**Urewera**	**2.51**	**49**	P		**Pn**	**06 00 44.7**	**-0.5**
URZ	**Urewera**	**2.51**	**49**	P		**Pn**	**06 00 44.3**	**-0.9**
TGRZ	**Tauranga**	**2.51**	**30**	P		**Pn**	**06 00 46.0**	**+0.8**
OPRZ	**Ohinepanea**	**2.53**	**36**	P		**Pn**	**06 00 46.1**	**+0.6**
RAGZ	**Rawiri**	**2.55**	**57**	P		**Pn**	**06 00 45.6**	**-0.2**
MHGZ	**Mahia Peninsul**	**2.60**	**74**	P		**Pn**	**06 00 46.1**	**-0.2**
KHZ	**Kahutara**	**2.64**	**199**	P		**Pn**	**06 00 47.5**	**+0.6**
KHZ	**Kahutara**	**2.64**	**199**	P		**Pn**	**06 00 47.4**	**+0.5**
RIGZ	**Rimuhau**	**2.67**	**64**	P		**Pn**	**06 00 46.7**	**-0.6**
MWZ	**Matawai**	**2.71**	**55**	P		**Pn**	**06 00 47.1**	**-0.8**
MKAZ	**Moumakai**	**2.84**	**8**	P		**Pn**	**06 00 49.6**	**+0.1**
DSZ	**Denniston Nort**	**2.85**	**229**	P		**Pn**	**06 00 49.5**	**-0.2**
AWAZ	**Awhitu Peninsu**	**2.85**	**359**	P		**Pn**	**06 00 50.3**	**+0.6**
TKGZ	**Te Karaka**	**2.86**	**60**	P		**Pn**	**06 00 49.2**	**-0.6**
ETAZ	**East Tamaki Re**	**2.97**	**4**	P		**Pn**	**06 00 51.8**	**+0.6**
WTAZ	**Waiatarua**	**2.99**	**358**	P		**Pn**	**06 00 52.5**	**+1.0**
RUGZ	**Raukumara Rang**	**3.04**	**51**	P		**Pn**	**06 00 50.7**	**-1.5**
CNGZ	**Carnagh Statio**	**3.08**	**63**	P		**Pn**	**06 00 52.1**	**-0.5**
TWGZ	**Tauwhareparae**	**3.09**	**57**	P		**Pn**	**06 00 52.5**	**-0.3**
WIAZ	**Waiheke Island**	**3.14**	**6**	P		**Pn**	**06 00 54.4**	**+0.9**
MBAZ	**Motutapu North**	**3.15**	**3**	P		**Pn**	**06 00 54.7**	**+1.1**
HAZ	**Te Kaha**	**3.24**	**49**	P		**Pn**	**06 00 53.0**	**-1.7**
KUZ	**Kuaotunu**	**3.27**	**15**	P		**Pn**	**06 00 55.8**	**+0.6**
GVZ	**Greta Valley S**	**3.29**	**202**	P		**Pn**	**06 00 55.1**	**-0.3**
PKGZ	**Pakihiroa**	**3.33**	**53**	P		**Pn**	**06 00 55.1**	**-0.8**
PUZ	**Puketiti**	**3.33**	**57**	P		**Pn**	**06 00 54.7**	**-1.3**
LTZ	**Lake Taylor**	**3.39**	**212**	P		**Pn**	**06 00 56.0**	**-0.7**
WMGZ	**Waiomatatini S**	**3.58**	**55**	P		**Pn**	**06 00 57.9**	**-1.3**
AMCZ	**Amberley**	**3.60**	**205**	P		**Pn**	**06 00 58.6**	**-0.8**
MXZ	**Matakaoa Point**	**3.68**	**51**	P		**Pn**	**06 00 59.8**	**-0.7**
MXZ	**Matakaoa Point**	**3.68**	**51**	P		**Pn**	**06 00 59.8**	**-0.7**
INZ	**Inchbonnie**	**3.72**	**220**	P		**Pn**	**06 01 01.1**	**0.0**
OXZ	**Oxford**	**3.94**	**210**	P		**Pn**	**06 01 02.1**	**-1.9**
WCZ	**Waipu Caves**	**3.99**	**356**	P		**Pn**	**06 01 05.3**	**+0.7**
OKCZ	**Okains Bay**	**3.99**	**197**	P		**Pn**	**06 01 03.9**	**-0.8**
MQZ	**McQueen's Vall**	**4.08**	**201**	P		**Pn**	**06 01 04.1**	**-1.7**
RACZ	**Rakaia**	**4.25**	**206**	P		**Pn**	**06 01 06.3**	**-1.8**
MHCZ	**Mount Hutt**	**4.30**	**212**	P		**Pn**	**06 01 08.3**	**-0.5**
WVZ	**Waitaha Valley**	**4.33**	**222**	P		**Pn**	**06 01 10.0**	**+0.8**
WACZ	**Wakanui South**	**4.55**	**207**	P		**Pn**	**06 01 10.5**	**-1.5**
RPZ	**Rata Peaks**	**4.67**	**215**	P		**Pn**	**06 01 13.7**	**0.0**
	13nm,0.8s,baz=223,slow=3.1,SNR=14							
RPZ				S		**Sn**	**06 02 02.8**	**-4.1**
	46nm,0.5s,baz=142,slow=22,SNR=19							
RPZ	**Rata Peaks**	**4.67**	**215**	P		**Pn**	**06 01 13.7**	**0.0**
RPZ	**Rata Peaks**	**4.67**	**215**	P		**Pn**	**06 01 13.9**	**+0.2**
GCSZ	**Gaunt Creek Bo**	**4.71**	**223**	P		**Pn**	**06 01 13.5**	**-0.8**
OUZ	**Omahuta**	**4.78**	**349**	P		**Pn**	**06 01 17.8**	**+2.6**
ARCZ	**Arundel**	**4.80**	**212**	P		**Pn**	**06 01 15.1**	**-0.5**
FOZ	**Fox Glacier**	**5.13**	**224**	P		**Pn**	**06 01 19.2**	**-0.8**
TMZ	**Timaru**	**5.23**	**210**	P		**Pn**	**06 01 19.3**	**-2.0**
LBZ	**Lake Benmore**	**5.58**	**215**	P		**Pn**	**06 01 25.1**	**-0.9**
ODZ	**Otahua Downs**	**5.93**	**209**	P		**Pn**	**06 01 29.7**	**-1.0**
	46nm,2.9s							
ODZ	**Otahua Downs**	**5.93**	**209**	P		**Pn**	**06 01 29.5**	**-1.1**
JCZ	**Jackson Bay**	**6.05**	**225**	P		**Pn**	**06 01 30.9**	**-1.4**
	62nm,0.9s							
JCZ	**Jackson Bay**	**6.05**	**225**	P		**Pn**	**06 01 31.0**	**-1.4**
CTZ	**Chatham Island**	**7.52**	**123**	P		**Pn**	**06 01 52.6**	**+0.4**
WHZ	**Wether Hill Ro**	**7.75**	**217**	P		**Pn**	**06 01 57.2**	**+1.9**
ASAR	**Alice Springs**	**37.91**	**283**	P		**P**	**06 07 12.9**	**+2.2**
	1.2nm,0.7s,baz=124,slow=7.2,SNR=4.4							
ASAR				PcP		**PcP**	**06 09 29.2**	**+4.9**
	0.9nm,0.9s,baz=118,slow=3.4,SNR=1.6 1.2nm,0.7s							
WRA	**Warramunga Arr**	**39.82**	**288**	P		**P**	**06 07 29.3**	**+2.7**
	0.5nm,0.4s,baz=125,slow=8.3,SNR=7.0 0.5nm,0.4s							
ARCES	**ARCESS Array B**	**146.17**	**341**	PKPbc		**PKiKP**	**06 19 32.1**	**-0.9**
	1.2nm,0.5s,baz=60,slow=3.0,SNR=15							
DBIC	**Dimbokro**	**146.89**	**181**	PKPbc		**PKiKP**	**06 19 36.5**	**+0.2**
	1.5nm,0.6s,baz=194,slow=3.4,SNR=4.6							
FINES	**FINESS Array B**	**151.17**	**329**	PKPbc		**PKPab**	**06 19 46.9**	**-4.5**
	5.6nm,1.0s,baz=46,slow=4.0,SNR=3.8							

UPA ***04*** *06:06:23.5±1.8,8˚.91N×78˚.30W,h72km±15km,MW4.0*
ISC 04 06:06:22.6±1.4,9˚.13N±0˚.06×78˚.26W±0˚.04,h74km±12km, n17,σ1§92/27,1C-3D,Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UPD2	**Meteti**	**0.62**	**158**	*i*P		**Pn**	**06 06 35.7**	**-1.4**
UPD2				*i* S		**Sn**	**06 06 45.1**	**-2.6**
UPD2	**Meteti**	**0.62**	**158**	*e*P		**Pn**	**06 06 35.8**	**-1.2**
CNTA3	**Canitas, Panam**	**0.63**	**278**	*i*P		**Pn**	**06 06 39.9**	**+2.8**
CNTA3				*i* S		**Sn**	**06 06 49.5**	**+1.7**
SABA3	**Sabanitas, Col**	**1.54**	**278**	*e*P		**Pn**	**06 06 48.2**	**-0.1**
SABA3				*e*S		**Sn**	**06 07 07.3**	**-0.4**
BCIP	**Isla Barro Col**	**1.56**	**271**	*i*P		**Pn**	**06 06 48.2**	**-0.3**
BCIP				*i* S		**Sn**	**06 07 08.2**	**0.0**
BCIP	**Isla Barro Col**	**1.56**	**271**	*e*P		**Pn**	**06 06 48.3**	**-0.3**
BCIP				*e*S		**Sn**	**06 07 08.1**	**0.0**
BCIP				*i*			06 07 13.2	
	comp=Z,64nm,0.8s							
VTON	**El Valle, Cocl**	**1.91**	**254**	*e*P		**Pn**	**06 06 53.5**	**+0.3**
VTON				*i* S		**Sn**	**06 07 15.0**	**-1.4**
PTAC	**Punta Ardita,**	**2.02**	**167**	*e*P		**Pn**	**06 06 53.8**	**-0.8**
PTAC				*e*S		**Sn**	**06 07 17.8**	**-1.2**
PTAC				*i*			06 07 26.4	
	comp=Z,29nm,0.2s							
APAC	**Apartado, Choc**	**2.06**	**126**	*e*P		**Pn**	**06 06 57.4**	**+2.2**
APAC				*e*S		**Sn**	**06 07 24.7**	**+4.7**
APAC				*i*			06 07 33.0	
	comp=Z,30nm,0.4s							
AZU	**Azuero**	**2.40**	**237**	*e*P		**Pn**	**06 06 58.8**	**-0.9**
AZU	**Azuero**	**2.40**	**237**	*e*P		**Pn**	**06 06 59.1**	**-0.6**
CHIT3	**Chitre**	**2.44**	**242**	*e*P		**Pn**	**06 06 59.7**	**-0.5**
DBBC	**Dabeiba**	**2.92**	**136**	*e*P		**Pn**	**06 07 09.4**	**+2.6**
SJCC	**San Jacinto, C**	**3.13**	**76**	*i*P		**Pn**	**06 07 09.5**	**-0.2**
SJCC				*e*S		**Sn**	**06 07 42.9**	**-3.1**
SJCC				*i*			06 07 47.6	
	comp=Z,12nm,0.3s							
ZARC	**Zaragoza, Cauc**	**3.73**	**116**	*e*P		**Pn**	**06 07 15.1**	**-2.8**
CBOC	**Ciudad Bolivar**	**3.93**	**145**	*e*P		**Pn**	**06 07 22.8**	**+2.0**
CBOC				*e*S		**Sn**	**06 08 07.2**	**+1.3**
ARGC	**Ariguani, Magd**	**4.02**	**79**	*e*P		**Pn**	**06 07 21.6**	**-0.2**

CNRM ***04*** *06:07:20.7,36˚.27N×7˚.75W,h0km*
INMG ***04*** *06:07:29.1±1.7,36˚.50N×7˚.60W,h17km±6km,ML1.4,Error ellipse: s-maj=6.9km s-min=5.3km az=9.0*
SFS ***04*** *06:07:29.7,36˚.47N×7˚.56W,h34km,ML2.6/9,MLv2.6/9*
MDD ***04*** *06:07:29.1±1.1,36˚.47N×7˚.63W,h40km±19km,mb_Lg2.1/5, Error ellipse: s-maj=10.6km s-min=5.3km az=8.0*

ISC 04 06:07:25.6±1.4,36˚.37N±0˚.04×7˚.61W±0˚.04,h28km±13km, n32,σ1§48/57,2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PVAQ	**Vaqueiros**	**1.04**	**355**	*e*P		**Pn**	**06 07 45.6**	**+1.3**
PVAQ				*e*S		**Sn**	**06 07 57.4**	**-0.5**
PVAQ				A		A	06 07 59.9	
	5.5nm,0.4s							
PVAQ	**Vaqueiros**	**1.04**	**355**	P		**Pb**	**06 07 44.4**	**-0.6**
PVAQ				S		**Sb**	**06 07 56.9**	**-1.3**
PVAQ	**Vaqueiros**	**1.04**	**355**	P		**Pn**	**06 07 45.6**	**+1.3**
PVAQ				S		**Sb**	**06 07 56.7**	**-1.4**
SFS	**San Fernando**	**1.14**	**85**	P		**Pb**	**06 07 48.5**	**+1.9**
EGRO	**El Granado**	**1.17**	**5**	P		**Pb**	**06 07 47.6**	**+0.5**
EGRO				S		**Sb**	**06 08 00.2**	**-1.7**
EGRO				*i* Vmb_Lg			06 08 02.4	
PFVI	**Vila Bisbo**	**1.24**	**308**	*e*P		**Pn**	**06 07 48.6**	**+1.5**
PFVI				*e*S		**Sn**	**06 08 03.1**	**+0.2**
PFVI				A		A	06 08 14.5	
	14nm,0.8s							
PFVI	**Vila Bisbo**	**1.24**	**308**	P		**Pn**	**06 07 44.7**	**-2.4**
PFVI				S		**Sn**	**06 07 59.5**	**-3.4**
PFVI	**Vila Bisbo**	**1.24**	**308**	P		**Pn**	**06 07 48.4**	**+1.4**
MORF	**Marmelete**	**1.25**	**319**	*e*P		**Pn**	**06 07 48.6**	**+1.3**
MORF				*e*S		**Sn**	**06 08 02.7**	**-0.6**
MORF				IAML			06 08 04.2	
	comp=E,5.1nm,0.2s							
MORF	**Marmelete**	**1.25**	**319**	*e*P		**Pn**	**06 07 48.6**	**+1.3**
MORF				*e*S		**Sn**	**06 08 03.8**	**+0.5**
MORF				A		A	06 08 13.4	
	comp=E,3.3nm,0.3s							
PCVE	**Castro Verde**	**1.31**	**345**	*e*P		**Pb**	**06 07 49.7**	**+0.2**
PCVE				*e*S		**Sn**	**06 08 04.7**	**+0.1**
PCVE				A		A	06 08 05.6	
	comp=E,5.0nm,0.1s							
PTEO	**Sao Teotonio**	**1.47**	**323**	*e*P		**Pn**	**06 07 52.0**	**+1.7**
PTEO				*e*S		**Sn**	**06 08 09.3**	**+0.6**
EMIN	**Mina Concepcio**	**1.59**	**28**	P		**Pn**	**06 07 52.6**	**+0.8**
EMIN				S		**Sn**	**06 08 10.6**	**-0.9**
EMIN	**Mina Concepcio**	**1.59**	**28**	P		**Pn**	**06 07 53.1**	**+1.2**
EMIN				S		**Sn**	**06 08 10.3**	**-1.2**
EMIN				*i* Vmb_Lg			06 08 17.4	
PBAR	**Barrancos**	**1.86**	**14**	*e*Pn		**Pn**	**06 07 57.1**	**+1.5**
PBAR				*e*Sn		**Sn**	**06 08 17.4**	**-0.8**
PBAR				A		A	06 08 28.1	
	comp=E,1.6nm,0.4s							
PBAR	**Barrancos**	**1.86**	**14**	P		**Pn**	**06 07 57.0**	**+1.3**
PBAR				S		**Sn**	**06 08 18.0**	**-0.2**
PNCL	**Nicolau / Gran**	**1.89**	**337**	*e*Pn		**Pn**	**06 07 57.4**	**+1.4**
PNCL				*e*Sn		**Sn**	**06 08 18.4**	**-0.5**
PNCL				A		A	06 08 25.2	
	comp=E,1.3nm,0.3s							
EVO	**Evora**	**2.18**	**352**	*e*Pn		**Pn**	**06 08 01.6**	**+1.5**
EVO				*e*Sn		**Sn**	**06 08 26.3**	**+0.1**
EVO	**Evora**	**2.18**	**352**	P		**Pn**	**06 08 01.6**	**+1.5**
EVO				S		**Sn**	**06 08 25.9**	**-0.3**
EBAD	**Badajoz**	**2.43**	**11**	P		**Pn**	**06 08 04.5**	**+1.1**
EBAD	**Badajoz**	**2.43**	**11**	P		**Pn**	**06 08 04.6**	**+1.1**
EBAD				S		**Sn**	**06 08 30.5**	**-1.8**
EBAD				*i* Vmb_Lg			06 08 36.4	
ECAB	**El Cabril**	**2.44**	**45**	P		**Pn**	**06 08 05.5**	**+1.8**
ECAB				S		**Sn**	**06 08 29.5**	**-3.2**
ECAB	**El Cabril**	**2.44**	**45**	P		**Pn**	**06 08 04.9**	**+1.2**
ECAB				S		**Sn**	**06 08 30.3**	**-2.4**
ECAB				*i* Vmb_Lg			06 08 39.8	
PESTR	**Estremoz**	**2.49**	**0**	*e*Pn		**Pn**	**06 08 05.7**	**+1.3**
PMTG	**Montargil**	**2.

mb4.5/35, Error ellipse: s-maj=20.1km s-min=16.0km az=150.0
*IDC **04** 06:28:47.0±1.6, 24°.07S×179°.56E, h532km±16km, mb3.6/12, mbtmp4.5/12, Error ellipse: s-maj=21.2km s-min=13.3km az=162.0*

ISC 04 06:28:46.2±0.5, 24°.32S±0°.08×179°.68E±0°.08, h531km, n64, σ0§90/69, mb4.4/30, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**10.98**	**64**	P	**P**	**06 31 13.2**	**-1.0**
MARNC	**Mare, Loyalty**	**11.10**	**282**	P	**P**	**06 31 15.7**	**+0.3**
OUENC	**Ouen Island, N**	**11.94**	**277**	P	**P**	**06 31 23.7**	**-0.5**
DZM	**Mont Dzumac**	**12.38**	**278**	P	**P**	**06 31 30.7**	**+1.8**
	20nm,0.7s,baz=42,slow=22,SNR=13						
DZM	**Mont Dzumac**	**12.38**	**278**	P	**P**	**06 31 30.4**	**+1.6**
URZ	**Urewera**	**14.06**	**188**	P	**P**	**06 31 45.4**	**-0.6**
	5.0nm,0.3s,baz=142,slow=1.9,SNR=8.0						
URZ				S	**S**	**06 34 11.4**	**-2.8**
	8.0nm,0.7s,baz=267,slow=18,SNR=1.9						
BKZ	**Black Stump Fm**	**15.04**	**190**	P	**P**	**06 31 56.5**	**+0.2**
BFZ	**Birch Farm**	**16.56**	**189**	P	**P**	**06 32 10.3**	**-1.2**
MRZ	**Mangatainoka R**	**16.65**	**191**	P	**P**	**06 32 10.3**	**-2.1**
QRZ	**Quartz Range**	**17.51**	**198**	P	**P**	**06 32 20.7**	**+0.3**
TKNZ	**Takaka Hill**	**17.59**	**197**	P	**P**	**06 32 21.0**	**-0.1**
NNZ	**Nelson**	**17.65**	**196**	P	**P**	**06 32 20.9**	**-0.7**
LTZ	**Lake Taylor**	**19.40**	**197**	P	**P**	**06 32 37.3**	**-0.3**
ARMA	**Armidale**	**25.60**	**250**	P	**P**	**06 33 34.2**	**+0.8**
ARMA				IAmb	IAmb	06 33 56.8	
	comp=Z,26nm,1.5s						
EIDS	**Eidsvold**	**25.95**	**262**	P	**P**	**06 33 37.5**	**+1.1**
EIDS				IAmb	IAmb	06 33 51.9	
	comp=Z,35nm,1.4s						
CAN	**Canberra**	**28.68**	**240**	P	**P**	**06 34 01.4**	**+1.1**
CAN				IAmb	IAmb	06 34 02.9	
	comp=Z,9.9nm,1.0s						
CTA	**Charters Tower**	**31.19**	**271**	P	**P**	**06 34 22.6**	**+0.5**
	comp=Z,40nm,0.5s,baz=94,slow=10,SNR=68						
	comp=Z,40nm,0.5s						
CTAO	**Charters Tower**	**31.19**	**271**	P	**P**	**06 34 23.1**	**+0.9**
TOO	**Toolangi**	**31.97**	**237**	P	**P**	**06 34 28.1**	**-0.5**
TOO				IAmb	IAmb	06 34 45.8	
	comp=Z,23nm,1.5s						
STKA	**Stephens Creek**	**34.30**	**249**	P	**P**	**06 34 49.3**	**+1.0**
	comp=Z,3.1nm,0.5s,baz=93,slow=9.2,SNR=15						
	comp=Z,3.1nm,0.5s						
STKA	**Stephens Creek**	**34.30**	**249**	P	**P**	**06 34 48.7**	**+0.4**
PMG	**Port Moresby**	**34.36**	**290**	P	**P**	**06 34 48.4**	**-0.6**
	comp=Z,11nm,0.3s,baz=283,slow=23,SNR=6.5						
	comp=Z,11nm,0.3s						
PMG	**Port Moresby**	**34.36**	**290**	P	**P**	**06 34 47.7**	**-1.3**
PMG				IAmb	IAmb	06 34 49.8	
	comp=Z,19nm,0.7s						
COEN	**Coen**	**35.90**	**280**	P	**P**	**06 35 02.5**	**+0.6**
COEN				IAmb	IAmb	06 35 35.6	
	comp=Z,11nm,0.3s						
BBOO	**Buckleboo**	**39.01**	**247**	P	**P**	**06 35 27.2**	**+0.1**
BBOO				IAmb	IAmb	06 35 27.4	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**41.68**	**261**	P	**P**	**06 35 48.8**	**+0.1**
ASAR	**Alice Springs**	**41.68**	**261**	P	**P**	**06 35 48.8**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=96,slow=7.0,SNR=35						
ASAR				ScP	**ScP**	**06 40 32.5**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=113,slow=4.6,SNR=4.4						
ASAR				S	**S**	**06 41 26.3**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=96,slow=17,SNR=5.0						
	comp=Z,5.1nm,0.7s						
WR0	**Warramunga Arr**	**41.90**	**267**	P	**P**	**06 35 49.7**	**-0.7**
WR0				IAmb	IAmb	06 35 53.0	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**42.08**	**267**	P	**P**	**06 35 51.6**	**-0.1**
WB2				IAmb	IAmb	06 35 52.1	
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**42.08**	**267**	P	**P**	**06 35 51.8**	**0.0**
WRAB				IAmb	IAmb	06 35 52.1	
	comp=Z,14nm,1.1s						
WB0	**Warramunga Arr**	**42.08**	**267**	P	**P**	**06 35 51.5**	**-0.3**
WB0				IAmb	IAmb	06 35 52.2	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**42.09**	**267**	P	**P**	**06 35 51.3**	**-0.6**
	comp=Z,9.5nm,0.5s,baz=104,slow=8.0,SNR=74						
WRA				ScP	**ScP**	**06 40 34.1**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=100,slow=3.7,SNR=7.5						
	comp=Z,9.5nm,0.5s						
WRA	**Warramunga Arr**	**42.09**	**267**	P	**P**	**06 35 51.5**	**-0.4**
FORT	**Forrest**	**45.89**	**250**	P	**P**	**06 36 20.6**	**-0.5**
FORT				IAmb	IAmb	06 36 21.7	
	comp=Z,20nm,0.6s						
MTN	**Manton Dam**	**47.20**	**275**	P	**P**	**06 36 30.8**	**-0.4**
KNRA	**Kununurra**	**48.39**	**270**	P	**P**	**06 36 40.6**	**+0.5**
KNRA				IAmb	IAmb	06 36 41.3	
	comp=Z,18nm,0.9s						
FITZ	**Fitzroy Crossi**	**50.51**	**266**	P	**P**	**06 36 56.2**	**+0.5**
SIJI	**Sorong**	**52.29**	**289**	P	**P**	**06 37 07.9**	**-0.8**
	comp=Z,22nm,0.6s,baz=70,slow=4.2,SNR=6.6						
	comp=Z,22nm,0.6s						
VNDA	**Vanda**	**53.93**	**185**	P	**P**	**06 37 21.5**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=9.0,slow=9.4,SNR=7.7						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**53.93**	**185**	P	**P**	**06 37 19.9**	**+0.5**
NWAO	**Narrogin (SRO)**	**54.80**	**246**	P	**P**	**06 37 25.7**	**-0.5**
NWAO				IAmb	IAmb	06 37 44.7	
	comp=Z,19nm,1.1s						
MBWA	**Marble Bar**	**55.01**	**260**	P	**P**	**06 37 27.6**	**-0.3**
MORW	**Morawa**	**56.46**	**250**	P	**P**	**06 37 37.1**	**-0.7**
CASY	**Casey**	**59.60**	**206**	P	**P**	**06 37 59.0**	**+0.6**
CASY				IAmb	IAmb	06 38 09.2	
	comp=Z,21nm,1.4s						
QSPA	**South Pole Qui**	**65.76**	**180**	P	**P**	**06 38 40.0**	**+1.6**
QSPA				IAmb	IAmb	06 38 40.4	
	comp=Z,5.3nm,0.7s						
PETK	**Petropavlovsk-**	**79.44**	**347**	P	**P**	**06 39 56.1**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=134,slow=8.5,SNR=6.3						
	comp=Z,1.2nm,0.6s						
TROLL	**Troll, Antarti**	**83.91**	**181**	P	**P**	**06 40 20.3**	**+0.4**
SNAA	**Sanae**	**84.25**	**179**	P	**P**	**06 40 21.1**	**-0.4**
VNA3	**Neumayer Olymp**	**84.47**	**177**	P	**P**	**06 40 22.7**	**+0.1**
VNA2	**Neumayer--Watz**	**84.88**	**178**	P	**P**	**06 40 24.8**	**+0.3**
	baz=176,slow=3.0						
NVAR	**Mina Array Bea**	**85.26**	**44**	P	**P**	**06 40 27.2**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=228,slow=8.6,SNR=4.2						
	comp=Z,0.8nm,0.8s						
TMUT	**Trail Mountain**	**90.34**	**46**	P	**P**	**06 40 51.7**	**+0.6**
TMUT				IAmb	IAmb	06 40 53.2	
	comp=Z,4.4nm,0.8s						
GLB	**Gilahina Butte**	**90.39**	**17**	P	**P**	**06 40 50.7**	**+0.3**
GLB				IAmb	IAmb	06 40 55.5	
	comp=Z,3.8nm,1.0s						
TX31	**Lajitas Ar. Si**	**90.90**	**58**	P	**P**	**06 40 54.8**	**+1.1**
TX31				IAmb	IAmb	06 40 55.2	
	comp=Z,4.3nm,0.8s						
TX32	**Lajitas Array**	**90.90**	**58**	P	**P**	**06 40 54.1**	**+0.5**
TXAR	**Lajitas Array**	**90.90**	**58**	P	**P**	**06 40 54.9**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=215,slow=6.5,SNR=21						
	comp=Z,1.3nm,0.7s						
TXAR	**Lajitas Array**	**90.90**	**58**	P	**P**	**06 40 54.6**	**+1.0**
ILAR	**Eielson Array**	**92.51**	**14**	P	**P**	**06 40 58.6**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=218,slow=5.8,SNR=4.4						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**93.20**	**44**	P	**P**	**06 41 03.5**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=217,slow=2.8,SNR=5.3						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**112.22**	**313**	PKiKP	**PKiKP**	**06 46 21.9**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=169,slow=1.0,SNR=1.2						
KURBB	**Kurchatov Arra**	**115.35**	**316**	PKP	**PKPdf**	**06 46 26.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=84,slow=1.8,SNR=2.5						
KIRV	**Kirov**	**131.13**	**328**	SKPbc	**SKPab**	**06 49 32.7**	**-0.5**
	comp=Z,10.0nm,0.7s,baz=162,slow=3.2,SNR=5.1						
FINES	**FINESS Array B**	**138.75**	**341**	SKPbc	**SKPbc**	**06 49 57.1**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=62,slow=6.5,SNR=6.7						
AKASG	**Malin Array Be**	**145.16**	**327**	PKP	**PKPdf**	**06 47 23.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=43,slow=4.1,SNR=4.8						
AKASG				SKPbc	**SKiKP**	**06 50 13.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=33,slow=3.0,SNR=5.0						

IDC 04 06:34:49.5±5.8, 11°.21N×143°.30E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=167.2km s-min=36.2km az=170.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**43.39**	**285**	P	P	06 42 54.2	0.0
	1.4nm,0.3s,baz=92,slow=7.2,SNR=1.7						
	1.4nm,0.3s						
MKAR	**Makanchi Array**	**62.16**	**317**	P	P	06 45 12.5	-0.2
	0.4nm,0.8s,baz=110,slow=6.9,SNR=2.9						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**65.46**	**321**	P	P	06 45 34.1	-0.2
	0.6nm,0.4s,baz=106,slow=6.8,SNR=5.5						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**70.85**	**322**	P	P	06 46 08.5	+0.3
	1.3nm,0.7s,baz=106,slow=4.8,SNR=4.8						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**71.36**	**25**	P	P	06 46 10.7	-0.4
	0.4nm,0.5s,baz=252,slow=5.9,SNR=11						
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**85.67**	**27**	P	P	06 47 30.8	+0.8
	0.2nm,0.6s,baz=286,slow=5.1,SNR=4.3						
	0.2nm,0.6s						

*SOME **04** 06:37:09.0, 42°.08N×82°.47E, h15km*
*NNC **04** 06:37:10.8±2.1, 42°.08N×82°.31E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=16.4km s-min=8.8km az=156.0*

ISC 04 06:37:09.0±4.7, 41°.8N±0°.2×82°.7E±0°.2, h13km, n27, σ1§52/28, 3C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.74**	**300**	Pg	**Pn**	**06 37 51.0**	**-1.7**
	39nm,0.7s						
SHLS				Lg	Lg	06 38 21.1	
	92nm,0.7s						
SHLS	**Shalkode**	**2.74**	**300**	*e*Pg	**Pn**	**06 37 51.0**	**-1.7**
	39nm,0.7s						
SHLS				*e*Lg	Lg	06 38 21.1	
	92nm,0.7s						
UZB	**Uzynbulak**	**3.02**	**297**	Pg	**Pn**	**06 37 59.7**	**+3.1**
	13nm,0.8s						
UZB				Lg	Lg	06 38 36.0	
	50nm,0.8s						
UZB	**Uzynbulak**	**3.02**	**297**	*e*Pg	**Pn**	**06 37 59.7**	**+3.1**
	13nm,0.8s						
UZB				*e*Lg	Lg	06 38 36.0	
	50nm,0.8s						
DJR	**Jarkent**	**3.29**	**321**	Pg	**Pn**	**06 38 01.9**	**+1.7**
	5.3nm,0.8s						
DJR				Lg	Lg	06 38 39.8	
	14nm,0.5s						
DJR	**Jarkent**	**3.29**	**321**	*e*Pg	**Pn**	**06 38 01.9**	**+1.7**
	5.3nm,0.8s						
DJR				*e*Lg	Lg	06 38 39.8	
	14nm,0.5s						
KPKS	**Kokpek**	**3.38**	**300**	Pg	**Pn**	**06 38 03.0**	**+1.5**
	5.6nm,0.4s						
KPKS				Lg	Lg	06 38 41.5	
	48nm,0.6s						
KPKS	**Kokpek**	**3.38**	**300**	*e*Pg	**Pn**	**06 38 03.0**	**+1.5**
	5.6nm,0.4s						
KPKS				*e*Lg	Lg	06 38 41.5	
	48nm,0.6s						
BLB	**Baldybastay**	**3.84**	**308**	Pg	**Pb**	**06 38 15.2**	**-1.4**
	7.3nm,0.6s						
BLB				Lg	Lg	06 39 02.4	
	14nm,1.0s						
KOTS	**Kotyrbulak**	**4.36**	**291**	Pg	**Pb**	**06 38 23.6**	**-1.9**
	12nm,0.7s						
KOTS				Lg	Lg	06 39 16.6	
	22nm,0.6s						
KOTS	**Kotyrbulak**	**4.36**	**291**	*e*Pg	**Pb**	**06 38 23.6**	**-1.9**
	12nm,0.7s						
KOTS				*e*Lg	Lg	06 39 16.6	
	22nm,0.6s						
MDOK	**Medeo**	**4.38**	**290**	Pg	**Pb**	**06 38 24.7**	**-1.3**
	5.1nm,0.6s						
MDOK				Lg	Lg	06 39 18.2	
	13nm,1.2s						
MDOK	**Medeo**	**4.38**	**290**	*e*Pg	**Pb**	**06 38 24.7**	**-1.3**
	5.1nm,0.6s						
MDOK				*e*Lg	Lg	06 39 18.2	
	13nm,1.2s						
TNSS	**Tian-Shan**	**4.42**	**288**	Pg	**Pb**	**06 38 26.5**	**-0.2**
	3.2nm,0.7s						
TNSS				Lg	Lg	06 39 21.4	
	6.5nm,0.5s						
TNSS	**Tian-Shan**	**4.42**	**288**	*e*Pg	**Pb**	**06 38 26.5**	**-0.2**
	3.2nm,0.7s						
TNSS				*e*Lg	Lg	06 39 21.4	
	6.5nm,0.5s						
MK31	**Makanchi Array**	**4.98**	**357**	⇑Pn	**Pn**	**06 38 22.4**	**-1.0**
	0.2nm,0.2s,baz=191,slow=13,SNR=25						
MK31				⇑Pg	**Pb**	**06 38 35.9**	**0.0**
	7.5nm,0.7s,baz=177,slow=16,SNR=25						
MK31				⇓Lg	Lg	06 39 41.1	
	13nm,0.7s,baz=178,slow=27,SNR=4.6						
MAKZ	**Makanchi**	**5.01**	**354**	⇓Pn	**Pn**	**06 38 23.3**	**-0.5**
	0.8nm,0.3s						
MAKZ				⇓Pg	**Pb**	**06 38 37.3**	**+0.8**
	3.2nm,0.7s						
MAKZ				⇓Sn	**Sn**	**06 39 21.5**	**-0.1**
	1.8nm,0.4s						
MAKZ				⇑Lg	Lg	06 39 41.1	
	5.8nm,0.6s						
KUU	**Kurty**	**5.11**	**296**	Pg	**Pb**	**06 38 36.8**	**-1.4**
	2.4nm,1.1s						
KUU				Lg	Lg	06 39 39.7	
	7.5nm,0.9s						
KUU	**Kurty**	**5.11**	**296**	*e*Pg	**Pb**	**06 38 36.8**	**-1.4**
	2.4nm,1.1s						
KUU				*e*Lg	Lg	06 39 39.7	
	7.5nm,0.9s						
KST	**Kastek**	**5.13**	**286**	Pg	**Pb**	**06 38 37.8**	**-0.8**
	2.9nm,1.0s						
KST				Lg	Lg	06 39 40.8	
	7.2nm,1.5s						
KST	**Kastek**	**5.13**	**286**	*e*Pg	**Pb**	**06 38 37.8**	**-0.8**
	2.9nm,1.0s						
KST				*e*Lg	Lg	06 39 40.8	
	7.2nm,1.5s						
DGS	**Degeres**	**5.31**	**288**	Pg	**Pb**	**06 38 40.5**	**-1.1**
	2.5nm,0.6s						
DGS				Lg	Lg	06 39 45.5	
	6.9nm,0.5s						
DGS	**Degeres**	**5.31**	**288**	*e*Pg	**Pb**	**06 38 40.5**	**-1.1**
	2.5nm,0.6s						
DGS				*e*Lg	Lg	06 39 45.5	
	6.9nm,0.5s						
KRBS	**Karabastau**	**5.50**	**292**	Pg	**Pb**	**06 38 45.8**	**+1.0**
	1.3nm,0.8s						
KRBS				Lg	Lg	06 39 54.6	
	2.2nm,0.7s						
KRBS	**Karabastau**	**5.50**	**292**	*e*Pg	**Pb**	**06 38 45.8**	**+1.0**
	1.3nm,0.8s						
KRBS				*e*Lg	Lg	06 39 54.6	
	2.2nm,0.7s						
KURBB	**Kurchatov Arra**	**9.26**	**343**	⇓Lg	Lg	06 41 56.1	
	7.4nm,0.8s						
KURK	**Kurchatov**	**9.33**	**344**	⇓Lg	Lg	06 41 59.2	
	4.5nm,0.7s						

*DSN **04** 06:42:15.6±1.5, 26°.63N×55°.07E, h10km, ML2.9/10, Error ellipse: s-maj=17.8km s-min=8.3km az=6.0*
*OMAN **04** 06:42:21.4±0.1, 26°.30N×55°.14E, h10km, mb5.2/4, ml2.9/15, Error ellipse: s-maj=2.4km s-min=1.1km az=20.0*

ISC 04 06:42:17.2±3.1, 26°.6N±0°.2×55°.11E±0°.08, h10km±14km, n32, σ1§13/43, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UMQ	**Umm Al-Quwin**	**1.14**	**154**	P	**Pg**	**06 42 38.9**	**-0.1**
BANOM	**Banah**	**1.24**	**120**	P	**Pn**	**06 42 40.0**	**-0.5**
BANOM				S	**Sn**	**06 42 58.2**	**+1.0**
BANOM	**Banah**	**1.24**	**120**	P	**Pn**	**06 42 41.3**	**+0.8**
	SNR=63						
BANOM				S	**Sn**	**06 42 58.4**	**+1.2**
MSFE	**Esma-Masafi**	**1.52**	**141**	P	**Pn**	**06 42 43.3**	**-1.0**
NAZ	**Nazwa, Dubai**	**1.63**	**162**	P	**Pn**	**06 42 45.7**	**-0.2**
MDH	**Madha**	**1.64**	**139**	P	**Pn**	**06 42 46.5**	**+0.4**
MDH				S	**Sb**	**06 43 09.1**	**+0.8**
MDH	**Madha**	**1.64**	**139**	P	**Pb**	**06 42 47.0**	**-0.5**
	SNR=6.9						
MDH				S	**Sn**	**06 43 07.4**	**+0.2**
FAQ	**Al Faqa, Dubai**	**1.85**	**166**	P	**Pn**	**06 42 48.0**	**-0.9**
FAQ	**Al Faqa, Dubai**	**1.85**	**166**	P	**Pn**	**06 42 49.6**	**+0.6**
UOSS	**Minazif**	**1.88**	**148**	P	**Pn**	**06 42 49.1**	**-0.2**
UOSS	**Minazif**	**1.88**	**148**	P	**Pb**	**06 42 51.7**	**+0.1**
UOSS				S	**Sn**	**06 43 13.0**	**-0.1**
ASUD	**Al Ashush, Dub**	**1.93**	**174**	P	**Pn**	**06 42 49.7**	**-0.3**
ASUD	**Al Ashush, Dub**	**1.93**	**174**	P	**Pn**	**06 42 51.3**	**+1.3**
HATD	**Hatta, Dubai**	**1.95**	**152**	P	**Pn**	**06 42 51.0**	**+0.7**
HATD	**Hatta, Dubai**	**1.95**	**152**	P	**Pb**	**06 42 52.2**	**-0.6**
HATD				S	**Sn**	**06 43 14.5**	**-0.4**
ASHO	**Ashiyiah**	**2.05**	**155**	P	**Pn**	**06 42 50.4**	**-1.3**
ASHO	**Ashiyiah**	**2.05**	**155**	P	**Pn**	**06 42 53.3**	**+1.6**
	SNR=8.3						
ASHO				S	**Sn**	**06 43 16.8**	**-0.4**
SOHO	**SOHO**	**2.73**	**152**	P	**Pn**	**06 43 02.4**	**+1.4**
SOHO	**SOHO**	**2.73**	**152**	P	**Pn**	**06 43 02.7**	**+1.7**
ARQ	**Araqi**	**3.45**	**158**	P	**Pn**	**06 43 12.4**	**+1.5**
HOQ	**Hoqain**	**3.56**	**146**	P	**Pn**	**06 43 14.7**	**+2.1**
MZR	**Muzera**	**3.83**	**203**	P	**Pn**	**06 43 17.6**	**+1.3**
BSY	**Bisya**	**4.24**	**153**	P	**Pn**	**06 43 23.1**	**+1.2**
SMDO	**Samad**	**4.38**	**142**	P	**Pn**	**06 43 24.7**	**+0.8**
SMDO				S	**Sn**	**06 44 15.0**	**0.0**
WSAR	**Wadi Sarin**	**4.59**	**135**	P	**Pn**	**06 43 27.1**	**+0.5**
WSAR				S	**Sn**	**06 44 18.6**	**-1.5**
JMDO	**Jabal Madar**	**4.97**	**146**	P	**Pn**	**06 43 34.0**	**+2.0**
JMDO				S	**Sn**	**06 44 27.7**	**-1.8**
WBK	**Wadi Bani Khal**	**5.26**	**137**	P	**Pn**	**06 43 35.0**	**-1.0**
	SNR=5.7						
WBK				S	**Sn**	**06 44 35.7**	**-1.0**
JLN	**Jalan Bani Buh**	**5.88**	**137**	P	**Pn**	**06 43 42.9**	**-1.4**
MHTO	**MHTO**	**6.12**	**154**	P	**Pn**	**06 43 49.1**	**+1.4**
WHFO	**Wadi Hawf**	**8.68**	**188**	P	**Pn**	**06 44 22.0**	**-0.9**
	SNR=18						
DMTO	**DMTO**	**8.79**	**181**	P	**Pn**	**06 44 26.0**	**+1.6**
	SNR=6.8						
ABTO	**Aybut**	**9.31**	**191**	P	**Pn**	**06 44 30.1**	**-1.4**

*ANF **04** 06:48:41.6±0.2, 33°.09N×116°.07W, h15km, ML2.8/16, Error ellipse: s-maj=1.6km s-min=1.5km az=26.0*
*NEIC **04** 06:48:42.8±1.6, 33°.078N±0°.009×116°.083W±0°.010, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.5km az=46.0*
*PAS **04** 06:48:42.8±1.4, 33°.068N±0°.010×116°.06W±0°.01, h14km±2km, ML3.0/170, ML2.9/30(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=221.0*

ISC 04 06:48:42.0±0.7, 33°.07N±0°.02×116°.07W±0°.01, h17km±5km, n77, σ0§86/109, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLH	**Sleepy Hollow**	**0.20**	**308**		**Pg**	**06 48 47.0**	**+0.3**
SLH					**Sg**	**06 48 50.8**	**+0.7**
CRR	**Carrizo Plain**	**0.20**	**156**		**Pg**	**06 48 47.1**	**+0.3**
CRR					**Sg**	**06 48 50.5**	**+0.4**
SALN	**Salton City**	**0.22**	**18**		**Pg**	**06 48 47.5**	**+0.4**
SALN					**Sg**	**06 48 51.5**	**+0.9**
SUP	**Superstition M**	**0.24**	**119**		**Pg**	**06 48 47.6**	**+0.2**
SUP					**Sg**	**06 48 51.3**	**+0.2**
SWSC	**Sam W. Stewart**	**0.26**	**119**		**Pg**	**06 48 48.0**	**+0.2**
SWSC					**Sg**	**06 48 52.0**	**+0.3**
SWSC	**Sam W. Stewart**	**0.26**	**119**	P	**Pg**	**06 48 47.9**	**+0.2**
	baz=303,SNR=473						
SWSC				S	**Sg**	**06 48 51.8**	**+0.1**
	baz=303						
MONP2	**Monument Peak**	**0.35**	**239**		**Pg**	**06 48 49.8**	**+0.3**
MONP2					**Sg**	**06 48 54.6**	**+0.2**
MONP2	**Monument Peak**	**0.35**	**239**	P	**Pg**	**06 48 49.7**	**+0.3**
	baz=56,SNR=744						
MONP2				S	**Sg**	**06 48 54.5**	**+0.1**
	baz=56						
BORC	**Borrego Spring**	**0.35**	**304**		**Pg**	**06 48 49.5**	**+0.2**
BORC					**Sg**	**06 48 54.6**	**+0.2**
COK2	**Cook Ranch 2**	**0.36**	**128**		**Pg**	**06 48 50.2**	**+0.7**
COK2					**Sg**	**06 48 56.2**	**+1.6**
WEMD	**Westmorland, C**	**0.41**	**95**		**Pg**	**06 48 51.4**	**+1.0**
WEMD					**Sb**	**06 48 58.6**	**+1.8**
WESC	**Westside Schoo**	**0.42**	**138**		**Pg**	**06 48 51.4**	**+0.8**
IKP	**In-Ko-Pah, Jac**	**0.42**	**185**		**Pg**	**06 48 50.9**	**+0.2**
IKP					**Sg**	**06 48 56.9**	**+0.5**
IKP	**In-Ko-Pah, Jac**	**0.42**	**185**	P	**Pg**	**06 48 50.8**	**+0.2**
	baz=3.9,SNR=124						
IKP				S	**Sg**	**06 48 57.0**	**+0.5**
	baz=3.9						
YUH	**Yuha Desert**	**0.44**	**164**	Pg	**Pg**	**06 48 51.1**	**+0.2**
YUH				IAML		06 48 57.5	
	comp=N,1μm,0.1s						
YUH				IAML		06 48 57.5	
	comp=E,1μm,0.1s						
YUH	**Yuha Desert**	**0.44**	**164**		**Sg**	**06 48 57.0**	**0.0**
JUEM	**Julian Eagle M**	**0.44**	**271**		**Pg**	**06 48 51.5**	**+0.5**
JUEM					**Sg**	**06 48 57.4**	**+0.2**
IMPE	**Imperial**	**0.46**	**112**		**Pg**	**06 48 52.2**	**+1.0**
IMPE					**Sb**	**06 48 60.0**	**+1.8**
RMX	**La Rumorosa**	**0.47**	**181**		**Pg**	**06 48 52.1**	**+1.0**
RMX					**Sb**	**06 49 00.2**	**+1.6**
RMX	**La Rumorosa**	**0.47**	**181**	IAML		06 49 01.2	
	comp=N,991nm,0.2s						
RMX				IAML		06 49 01.3	
	comp=E,1μm,0.1s						
MATG	**Mataguay Scout**	**0.50**	**285**		**Pg**	**06 48 52.5**	**+0.4**
MATG					**Sg**	**06 48 59.4**	**+0.5**
SGL	**Mount Signal**	**0.51**	**145**		**Pg**	**06 48 52.5**	**+0.2**
SGL					**Sg**	**06 48 59.6**	**+0.5**
SNR	**Schaffner Ranc**	**0.57**	**111**		**Pg**	**06 48 53.8**	**+0.5**
SNR					**Sb**	**06 49 03.4**	**+2.0**
DREC	**Desert Rsrch C**	**0.59**	**117**		**Pg**	**06 48 54.2**	**+0.6**
DREC					**

EW2	**E Wide Canyon**	**0.91**	**342**		**Sg**	**06 49 11.9 +0.1**
CPBX	**Cerro Prieto**	**0.92**	**135**	Pg	**Pg**	**06 48 59.9 +0.1**
CPBX				IAML		06 49 19.7
	comp=E,654nm,0.4s					
CPBX				IAML		06 49 30.5
	comp=N,563nm,0.5s					
RUN	**Ruthven**	**0.92**	**96**		**Pg**	**06 48 58.5 -1.5**
RUN					**Sg**	**06 49 10.3 -1.7**
BELC	**Belle Mtn. Jos**	**0.93**	**4**		**Pg**	**06 48 59.2 -0.9**
BELC	**Belle Mtn. Jos**	**0.93**	**4**	P	**Pg**	**06 48 59.2 -0.9**
	baz=184,SNR=65					
TJX	**Tijuana**	**1.00**	**236**		**Pg**	**06 49 01.4 -0.1**
GLA	**Glamis**	**1.04**	**91**		**Pg**	**06 49 00.4 -1.8**
GLA	**Glamis**	**1.04**	**91**	P	**Pg**	**06 49 00.4 -1.8**
	baz=272,SNR=102					
ESJX	**Sierra Juarez**	**1.07**	**175**		**Pg**	**06 49 01.8 -1.0**
ESJX				IAML		06 49 17.8
	comp=E,354nm,0.1s					
ESJX				IAML		06 49 17.8
	comp=N,274nm,0.1s					
MURC	**Murrieta**	**1.08**	**299**	P	**Pg**	**06 49 02.3 -0.6**
	baz=118					
MURC				S	**Sg**	**06 49 16.5 -0.6**
	baz=118					
ELS	**Elsinore Mount**	**1.27**	**297**		**Pg**	**06 49 05.6 -1.0**
ELS				IAML		06 49 22.4
	comp=N,106nm,0.4s					
CCX	**Cicese**	**1.30**	**203**		**Pn**	**06 49 06.1 +0.7**
IRM	**Iron Mountain**	**1.33**	**35**	P	**Pn**	**06 49 05.6 -0.3**
	baz=216,SNR=36					
BBRC	**Big Bear Solar**	**1.38**	**329**	Pg	**Pn**	**06 49 08.3 +1.5**
	baz=149					
BLYC	**Blythe**	**1.46**	**62**		**Pn**	**06 49 07.5 -0.1**
BLYC				IAML		06 49 30.2
	comp=E,78nm,0.6s					
GMRC	**Granite Mounta**	**1.74**	**11**	Pg	**Pn**	**06 49 14.4 +2.8**
	baz=192					
HEC	**Hector,Ludlow**	**1.77**	**353**	Pg	**Pb**	**06 49 15.0 +1.0**
	baz=173					
RRX	**Edison Barstow**	**1.96**	**337**	Pg	**Pb**	**06 49 18.8 +1.6**
	baz=156					
113A	**Mohawk Valley,**	**1.96**	**98**		**Pn**	**06 49 13.3 -1.1**
CIS	**Catalina Islan**	**1.99**	**280**	Sb	**Sb**	**06 49 44.0 +1.6**
	baz=98					
DECC	**Green Verdugo**	**2.23**	**303**	Sb	**Sb**	**06 49 50.7 +1.6**
	baz=121					

IDC ***04*** *07:03:05.1±2.3,7.52S×151.13E,h0km,mb3.5/3, mbtmp3.7/4,ML1.7/1,Error ellipse: s-maj=107.8km s-min=29.8km az=133.0*

ISC 04 07:03:11.1±1.9,7.3S±0.3×150.7E±0.3,h35km,n5,σ0.51/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.20**	**24**	Sn	**Sn**	**07 04 35.6**	**-0.3**
	15nm,0.3s,baz=275,slow=12,SNR=2.4						
PMG	**Port Moresby**	**4.13**	**239**	Pn	**Pn**	**07 04 12.2**	**+0.5**
	2.7nm,0.3s,baz=30,slow=16,SNR=4.7						
PMG				Sn	**Sn**	**07 04 58.5**	**-0.3**
	8.0nm,0.3s,baz=165,slow=20,SNR=9.1						
	7.4nm,0.2s						
WRA	**Warramunga Arr**	**20.29**	**230**	P	**P**	**07 07 43.8**	**-0.3**
	1.2nm,0.4s,baz=58,slow=12,SNR=13						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**22.96**	**223**	P	**P**	**07 08 12.2**	**-0.5**
	0.8nm,0.5s,baz=55,slow=9.3,SNR=22						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**85.20**	**22**	P	**P**	**07 15 43.8**	**+0.2**
	0.4nm,0.9s,baz=248,slow=4.8,SNR=2.4						
	0.4nm,0.9s						

JMA ***04*** *07:07:20.5±0.2,24.1°×121.8E±0.7,h56km±1km, MD4.2/15,MV4.6/15,TAIWAN REGION*

NIED ***04*** *07:07:20.5,23.94N×121.76E,h56km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.63; Mθθ-1.45; Mφφ-0.17; Mrθ0.97; Mθφ-0.27; Mφr1.41; Fault plane solution: M0 2.28000×10^15 NP1:φs50.00000°, δ69.00000°,λ72.00000°. NP2:φs273.00000°,δ27.00000°, λ129.00000°.*

IDC ***04*** *07:07:20.4±3.1,24.07N×121.87E,h52km±29km,mb3.7/15, mbtmp4.0/17,ML4.2/2,MS2.9/7 Error ellipse: s-maj=17.9km s-min=16.0km az=65.0*

NEIC ***04*** *07:07:21.8±1.7,24.01N±0.03×121.83E±0.05,h55km±5km, mb4.4/28,Error ellipse: s-maj=6.7km s-min=4.5km az=88.0*

BJI ***04*** *07:07:21.0±0.0,24.06N×121.84E,h47km,mb4.4/15, mB4.4/6,ML4.0/2,Ms3.6/1*

TAP ***04*** *07:07:21.9,24.05N×121.81E,h53km,ML4.8,B*

ASIES ***04*** *07:07:22.8,24.06N×121.84E,h32km,MW3.8*

ISC 04 07:07:20.8±0.6,24.05N±0.02×121.84E±0.02,h49km±4km, n229,σ1s98/325,mb4.3/30,MS3.1/4,4C-59D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.22**	**252**	⇑*i*P	**Pn**	**07 07 31.1**	**+1.9**
	baz=239						
HWA				*e*S	**Sn**	**07 07 38.4**	**+3.2**
	baz=239						
TWD	**Chiawan**	**0.22**	**279**	⇓*i*P	**Pn**	**07 07 30.6**	**+1.3**
	baz=277						
TWD				*i* S	**Sn**	**07 07 36.9**	**+1.7**
	baz=277						
ETL	**Fush Village**	**0.23**	**300**	P	**Pn**	**07 07 30.6**	**+1.3**
	baz=301						
ETL				S	**Sn**	**07 07 37.3**	**+2.0**
	baz=301						
NACB	**Ninganchiao**	**0.26**	**300**		**Pn**	**07 07 30.8**	**+1.3**
NACB	**Ninganchiao**	**0.26**	**300**	P	**Pn**	**07 07 31.1**	**+1.6**
NACB	**Ninganchiao**	**0.26**	**300**	⇓*i*P	**Pn**	**07 07 30.8**	**+1.3**
	baz=301						
NACB				*i* S	**Sn**	**07 07 37.2**	**+1.5**
	baz=301						
EHP	**Heping Village**	**0.28**	**341**	*e*P	**Pn**	**07 07 30.9**	**+1.2**
	baz=343						
EHP				*e*S	**Sn**	**07 07 38.0**	**+1.9**
	baz=343						
ETLH	**Xiulin Townshi**	**0.36**	**296**	⇓*i*P	**Pn**	**07 07 31.9**	**+1.3**
	baz=289						
ETLH				*i* S	**Sn**	**07 07 39.2**	**+1.7**
	baz=289						
ENA	**Nanau**	**0.39**	**347**	⇑P	**Pn**	**07 07 32.2**	**+1.4**
	baz=347						
ENA				S	**Sn**	**07 07 39.9**	**+2.0**
	baz=347						
EWUT	**Wuta**	**0.40**	**352**	P	**Pn**	**07 07 32.4**	**+1.5**
	baz=351						
EWUT				S	**Sn**	**07 07 40.5**	**+2.4**
	baz=351						
ESL	**Shilin**	**0.44**	**238**	⇓*i*P	**Pn**	**07 07 32.4**	**+1.0**
	baz=243						
ESL				*e*S	**Sn**	**07 07 39.7**	**+0.9**
	baz=243						
EGFH	**Guangfu**	**0.53**	**225**	⇓*i*P	**Pn**	**07 07 33.4**	**+0.9**
	baz=231						
EGFH				*e*S	**Sn**	**07 07 42.3**	**+1.5**
	baz=231						
WHF	**Hehuan Shan**	**0.53**	**281**	⇓*i*P	**Pn**	**07 07 33.9**	**+1.0**
	baz=280						
WHF				S	**Sn**	**07 07 42.6**	**+1.1**
	baz=280						
TWC	**Suao**	**0.56**	**1**	⇓*e*P	**Pn**	**07 07 34.5**	**+1.7**
	baz=5.0						
TWC				*i* S	**Sn**	**07 07 43.7**	**+2.3**
	baz=5.0						
NNSB	**Datong**	**0.56**	**313**	⇓*i*P	**Pn**	**07 07 34.3**	**+1.3**
	baz=313						
NNSB				S	**Sn**	**07 07 42.9**	**+1.2**
	baz=313						
LATG	**Datong**	**0.56**	**330**	⇓*i*P	**Pn**	**07 07 34.1**	**+1.1**
	baz=324						
LATG				*e*S	**Sn**	**07 07 42.8**	**+1.1**
	baz=324						
NNS	**Nan Shan**	**0.58**	**313**	⇓*i*P	**Pn**	**07 07 34.4**	**+1.3**
	baz=314						
NNS				S	**Sn**	**07 07 43.2**	**+1.2**
	baz=314						
NDS	**Dongshan**	**0.59**	**349**	⇓P	**Pn**	**07 07 34.9**	**+1.6**
	baz=351						
NDS				*e*S	**Sn**	**07 07 44.0**	**+1.9**
	baz=351						
CHGB	**Renai**	**0.61**	**271**	⇓*i*P	**Pn**	**07 07 35.0**	**+1.4**
	baz=268						
CHGB				*e*S	**Sn**	**07 07 43.2**	**+0.4**
	baz=268						
OWD	**Renai**	**0.61**	**262**	⇓*i*P	**Pn**	**07 07 34.8**	**+1.2**
	baz=263						
OWD				S	**Sn**	**07 07 43.3**	**+0.6**
	baz=263						
TWT	**Tachien**	**0.64**	**289**	⇓*i*P	**Pn**	**07 07 35.6**	**+1.7**
	baz=288						
TWT				*e*S	**Sn**	**07 07 45.2**	**+1.8**
	baz=288						
ENTT	**Nioudou**	**0.64**	**337**	⇓*i*P	**Pn**	**07 07 35.3**	**+1.5**
	baz=333						
ENTT				*e*S	**Sn**	**07 07 45.0**	**+1.8**
	baz=333						
TDCB	**Techi**	**0.65**	**288**	⇓*i*P	**Pn**	**07 07 35.7**	**+1.6**
	baz=288						
TDCB				*e*S	**Sn**	**07 07 44.9**	**+1.2**
	baz=288						
WUSB	**Renai**	**0.66**	**265**	⇓*i*P	**Pn**	**07 07 35.7**	**+1.5**
	baz=264						
WUSB				*e*S	**Sn**	**07 07 45.0**	**+1.2**
	baz=264						
HGSD	**Ruisui**	**0.67**	**215**	⇓*i*P	**Pn**	**07 07 35.5**	**+1.3**
	baz=204						
HGSD				*e*S	**Sn**	**07 07 45.7**	**+2.0**
	baz=204						
TWE	**Neicheng**	**0.69**	**347**	⇓*i*P	**Pn**	**07 07 36.1**	**+1.6**
	baz=342						
TWE				*e*S	**Sn**	**07 07 46.2**	**+2.0**
	baz=342						
VWDT	**VWDT**	**0.70**	**246**	⇓*i*P	**Pn**	**07 07 36.1**	**+1.6**
	baz=238						
VWDT				*e*S	**Sn**	**07 07 45.9**	**+1.4**
	baz=238						
EHY	**Hungye**	**0.72**	**221**	⇓*i*P	**Pn**	**07 07 35.2**	**+0.4**
	baz=218						
EHY				*e*S	**Sn**	**07 07 44.9**	**0.0**
	baz=218						
ILA	**Ilan**	**0.72**	**353**	*e*P	**Pn**	**07 07 36.7**	**+1.8**
	baz=356						
ILA				*e*S	**Sn**	**07 07 48.2**	**+3.3**
	baz=356						
FUSB	**Fushanzhiwuyua**	**0.75**	**342**	⇓*i*P	**Pn**	**07 07 36.7**	**+1.4**
	baz=336						
FUSB				*e*S	**Sn**	**07 07 47.2**	**+1.5**
	baz=336						
YHNB	**Yeheng**	**0.75**	**326**		**Pn**	**07 07 36.7**	**+1.4**
YHNB	**Yeheng**	**0.75**	**326**	P	**Pn**	**07 07 36.9**	**+1.6**
YHNB	**Yeheng**	**0.75**	**326**	⇓*i*P	**Pn**	**07 07 36.8**	**+1.4**
	baz=327						
YHNB				*e*S	**Sn**	**07 07 46.7**	**+0.9**
	baz=327						
NSK	**Sanguang**	**0.77**	**325**	⇓*i*P	**Pn**	**07 07 36.8**	**+1.3**
	baz=327						
NSK				*e*S	**Sn**	**07 07 47.2**	**+1.1**
	baz=327						
NTC	**Toucheng**	**0.81**	**359**	*e*P	**Pn**	**07 07 37.9**	**+2.0**
	baz=13						
NTC				*e*S	**Sn**	**07 07 49.9**	**+2.9**
	baz=13						
YULB	**Yu-li**	**0.82**	**217**		**Pn**	**07 07 36.5**	**+0.3**
YULB	**Yu-li**	**0.82**	**217**	P	**Pn**	**07 07 36.7**	**+0.6**
YULB	**Yu-li**	**0.82**	**217**	⇓*i*P	**Pn**	**07 07 36.5**	**+0.3**
	baz=224						
YULB				*e*S	**Sn**	**07 07 47.3**	**0.0**
	baz=224						
EYUL	**Yuli**	**0.84**	**214**	*e*P	**Pn**	**07 07 37.3**	**+0.8**
	baz=222						
WCS	**Beigang Elemen**	**0.85**	**271**	⇓P	**Pn**	**07 07 38.2**	**+1.7**
	baz=270						
WCS				*e*S	**Sn**	**07 07 51.2**	**+3.3**
	baz=270						
WHP	**Taichung City**	**0.85**	**286**	⇓*i*P	**Pn**	**07 07 38.4**	**+1.8**
	baz=288						
WHP				*e*S	**Sn**	**07 07 50.1**	**+2.1**
	baz=288						
SSLB	**Suanglung**	**0.85**	**253**		**Pn**	**07 07 37.8**	**+1.2**
SSLB	**Suanglung**	**0.85**	**253**	P	**Pn**	**07 07 38.0**	**+1.4**
SSLB	**Suanglung**	**0.85**	**253**	⇓*i*P	**Pn**	**07 07 37.8**	**+1.2**
	baz=246						
SMLT	**Sun Moon Lake**	**0.87**	**259**	⇓*i*P	**Pn**	**07 07 38.4**	**+1.4**
	baz=254						
SMLT				*e*S	**Sn**	**07 07 50.7**	**+2.0**
	baz=254						
NFF	**Wufeng Townshi**	**0.88**	**312**	⇓*i*P	**Pn**	**07 07 38.8**	**+1.8**
	baz=309						
NFF				*e*S	**Sn**	**07 07 50.3**	**+1.5**
	baz=309						
TYC	**Yuchr**	**0.91**	**261**	⇓*i*P	**Pn**	**07 07 38.7**	**+1.4**
	baz=256						
TYC				*e*S	**Sn**	**07 07 51.9**	**+2.5**
	baz=256						
TIPB	**Shuangxi**	**0.92**	**359**	⇓*i*P	**Pn**	**07 07 39.7**	**+2.1**
	baz=10.0						
TIPB				*e*S	**Sn**	**07 07 52.2**	**+2.4**
	baz=10.0						
NHDH	**Xindian Distri**	**0.96**	**343**	⇓P	**Pn**	**07 07 39.7**	**+1.8**
	baz=335						
NHDH				*e*S	**Sn**	**07 07 52.5**	**+1.9**
	baz=335						
LIOB	**Emei**	**0.96**	**309**	⇓P	**Pn**	**07 07 40.2**	**+2.2**
	baz=309						
LIOB				*e*S	**Sn**	**07 07 53.2**	**+2.5**
	baz=309						
TWA	**Mucha**	**0.96**	**346**	⇓*i*P	**Pn**	**07 07 39.7**	**+1.7**
	baz=336						
TWA				*e*S	**Sn**	**07 07 52.6**	**+2.0**
	baz=336						
NSTT	**Nanjuang**	**0.96**	**307**	⇓P	**Pn**	**07 07 40.0**	**+2.0**
	baz=308						
NSTT				*e*S	**Sn**	**07 07 52.9**	**+2.2**
	baz=308						
WHYT	**Xinyi Township**	**0.97**	**249**	⇓*i*P	**Pn**	**07 07 40.1**	**+2.0**
	baz=249						
WHYT				*e*S	**Sn**	**07 07 52.9**	**+2.1**
	baz=249						
TWB1	**Santiao Chiao**	**0.97**	**8**	⇓*i*P	**Pn**	**07 07 39.9**	**+1.8**
	baz=25						
TWB1				*e*S	**Sn**	**07 07 51.7**	**+0.9**
	baz=25						
TATO	**Taipei**	**0.98**	**341**		**Pn**	**07 07 39.6**	**+1.4**
TATO	**Taipei**	**0.98**	**341**	P	**Pn**	**07 07 39.8**	**+1.5**
TWQ1	**Liyutan**	**1.02**	**287**	⇓*i*P	**Pn**	**07 07 40.7**	**+1.9**
	baz=287						
TWQ1				*e*S	**Sn**	**07 07 54.1**	**+2.0**
	baz=287						
NWF	**Wu-fen Shan**	**1.02**	**357**	⇓*i*P	**Pn**	**07 07 41.1**	**+2.1**
	baz=359						
NWF				*e*S	**Sn**	**07 07 54.5**	**+2.2**
	baz=359						
TAP	**Taipei**	**1.03**	**343**	*e*P	**Pn**	**07 07 41.5**	**+2.5**
	baz=344						
TAP				*e*S	**Sn**	**07 07 54.5**	**+2.1**
	baz=344						
CHKT	**Chengkung**	**1.04**	**205**	⇓P	**Pn**	**07 07 39.7**	**+0.7**
	baz=194						
CHKT				*e*S	**Sn**	**07 07 52.2**	**-0.3**
	baz=194						
WJS	**Zhushan**	**1.04**	**258**	⇓*i*P	**Pn**	**07 07 41.5**	**+2.4**
	baz=257						
WJS				*e*S	**Sn**	**07 07 56.2**	**+3.6**
	baz=257						
SXI1	**Grass Mountain**	**1.04**	**2**	⇓*i*P	**Pn**	**07 07 41.1**	**+1.9**
	baz=4.0						
SXI1				*e*S	**Sn**	**07 07 55.4**	**+2.6**
	baz=4.0						
EHD	**Haiduan**	**1.06**	**213**	P	**Pn**	**07 07 39.6**	**+0.2**
	baz=218						
EHD				*e*S	**Sn**	**07 07 53.0**	**-0.2**
	baz=218						
TCU	**Taichung**	**1.07**	**276**	⇓*e*P	**Pn**	**07 07 41.7**	**+2.3**
	baz=275						
TCU				*e*S	**Sn**	**07 07 56.3**	**+3.1**
	baz=275						
WNT	**Mingjian**	**1.07**	**261**	⇓*i*P	**Pn**	**07 07 42.1**	**+2.6**
	baz=260						
WNT				*e*S	**Sn**	**07 07 56.8**	**+3.5**
	baz=260						
NMLH	**Miaoli**	**1.07**	**297**	*e*P	**Pn**	**07 07 41.3**	**+1.8**
	baz=297						
NMLH				*e*S	**Sn**	**07 07 55.6**	**+2.3**
	baz=297						
SBCB	**Hsinchu**	**1.07**	**314**	*e*P	**Pn**	**07 07 41.6**	**+2.1**
	baz=314						
ALS	**Alishan**	**1.09**	**241**	⇓*i*P	**Pn**	**07 07 41.8**	**+1.8**
	baz=231						
ALS				*e*S	**Sn**	**07 07 56.9**	**+2.7**
	baz=231						
JYNG	**Yonagunijimaku**	**1.09**	**68**	P	**Pn**	**07 07 41.6**	**+1.9**
JYNG				S	**Sn**	**07 07 55.7**	**+1.9**
JYNG	**Yonagunijimaku**	**1.09**	**68**	A	A	07 07 41.6	
	comp=E,9.0nm,0.4s,comp=E,11nm,0.6s						
HSN	**Hsinchu**	**1.09**	**314**	*e*P	**Pn**	**07 07 41.9**	**+2.1**
	baz=317						
HSN				*e*S	**Sn**	**07 07 56.1**	**+2.3**
	baz=317						
NCUH	**Zhongli**	**1.09**	**327**	*e*P	**Pn**	**07 07 41.4**	**+1.6**
	baz=328						
NCUH				*e*S	**Sn**	**07 07 56.4**	**+2.5**
	baz=328						
TWS1	**Kuangyinshan**	**1.12**	**340**	*e*P	**Pn**	**07 07 41.6**	**+1.4**
	baz=341						
TWS1				*e*S	**Sn**	**07 07 56.0**	**+1.6**
	baz=341						
YM01	**YM01**	**1.12**	**347**	*e*P	**Pn**	**07 07 41.5**	**+1.2**
	baz=336						
WDJ	**Dajia District**	**1.13**	**286**	*e*P	**Pn**	**07 07 42.5**	**+2.1**
	baz=285						
WDJ				*e*S	**Sn**	**07 07 58.5**	**+3.7**
	baz=285						
ELDTW	**Lidau**	**1.14**	**222**	*e*P	**Pn**	**07 07 41.0**	**+0.5**
	baz=213						
ELDTW				*e*S	**Sn**	**07 07 56.1**	**+1.0**
	baz=213						
YOJ	**Yonaguni jima**	**1.15**	**69**	Pn	**Pn**	**07 07 42.3**	**+1.8**
YOJ	**Yonaguni jima**	**1.15**	**69**	P	**Pn**	**07 07 42.4**	**+1.8**
YOJ	**Yonaguni jima**	**1.15**	**69**	*i* P	**Pn**	**07 07 42.3**	**+1.8**
YOJ				S	**Sn**	**07 07 56.9**	**+1.7**
YOJ	**Yonaguni jima**	**1.15**	**69**	A	A	07 07 42.3	
	comp=E,5.0nm,2.4s,comp=E,6.0nm,0.9s						
YOJ	**Yonaguni jima**	**1.15**	**69**	*e*P	**Pn**	**07 07 42.2**	**+1.7**
	baz=69						
CHN5	**Tsauling**	**1.15**	**247**	⇓*i*P	**Pn**	**07 07 42.7**	**+2.0**
	baz=238						
CHN5				*e*S	**Sn**	**07 07 58.5**	**+3.1**
	baz=238						
NTST	**Danshui**	**1.17**	**342**	*e*P	**Pn**	**07 07 42.4**	**+1.5**
	baz=343						
NTST				*e*S	**Sn**	**07 07 57.7**	**+2.0**
	baz=343						
WCHH	**Zhanghua**	**1.17**	**272**	*e*P	**Pn**	**07 07 43.1**	**+2.2**
	baz=271						
WCHH				*e*S	**Sn**	**07 07 58.8**	**+3.1**
	baz=271						
ANP	**Anpu**	**1.17**	**346**	*e*P	**Pn**	**07 07 42.5**	**+1.5**
	baz=336						
EDH	**Donghe**	**1.18**	**205**	*e*P	**Pn**	**07 07 41.8**	**+0.9**
	baz=196						
EDH				*e*S	**Sn**	**07 07 56.2**	**+0.3**
	baz=196						
NHW	**Xinwu Township**	**1.20**	**323**	*e*P	**Pn**	**07 07 43.3**	**+2.1**
	baz=324						
NHW				S	**Sn**	**07 07 58.8**	**+2.4**
	baz=324						
WDLH	**Douliu**	**1.24**	**254**	⇓*e*P	**Pn**	**07 07 44.5**	**+2.7**
	baz=243						
WDLH				*e*S	**Sn**	**07 08 01.8**	**+4.3**
	baz=243						
TWY	**Chenhua**	**1.24**	**350**	*e*P	**Pn**	**07 07 43.5**	**+1.6**
	baz=339						
TWY				*e*S	**Sn**	**07 07 59.2**	**+1.7**
	baz=339						
WCKO	**Fanlu**	**1.28**	**242**	*e*P	**Pn**	**07 07 44.8**	**+2.4**
	baz=240						
WCKO				*e*S	**Sn**	**07 08 02.1**	**+3.6**
	baz=240						
LONT	**Longtian**	**1.31**	**210**	*e*P	**Pn**	**07 07 43.0**	**+0.2**
	baz=207						
LONT				*e*S	**Sn**	**07 07 59.1**	**+0.1**
	baz=207						
TPUB	**Ta-pu**	**1.33**	**236**		**Pn**	**07 07 45.1**	**+2.0**
TPUB	**Ta-pu**	**1.33**	**236**	P	**Pn**	**07 07 45.4**	**+2.3**
TPUB	**Ta-pu**	**1.33**	**236**	⇓*e*P	**Pn**	**07 07 45.1**	**+2.0**
	baz=234						
TPUB				*e*S	**Sn**	**07 08 03.0**	**+3.3**
	baz=234						
CHN4	**Tsaushan**	**1.33**	**239**	⇓*e*P	**Pn**	**07 07 45.3**	**+2.2**
	baz=228						
CHN4				*e*S	**Sn**	**07 08 03.7**	**+4.0**
	baz=228						
WRL	**Guolierlin Hig**	**1.34**	**264**	⇓P	**Pn**	**07 07 45.0**	**+1.8**
	baz=275						
WRL				*e*S	**Sn**	**07 08 03.3**	**+3.3**
	baz=275						
CHN2	**Minshiung**	**1.35**	**248**	*e*P	**Pn**	**07 07 46.1**	**+2.8**
	baz=246						
CHN2				*e*S	**Sn**	**07 08 04.5**	**+4.5**
	baz=246						
WTK	**Tuku**	**1.37**	**255**	⇓*e*P	**Pn**	**07 07 46.0**	**+2.4**
	baz=266						
WTK				*e*S	**Sn**	**07 08 04.9**	**+4.2**
	baz=266						
WTP	**Ta-pu**	**1.38**	**235**	⇓*i*P	**Pn**	**07 07 45.7**	**+2.0**
	baz=232						
WTP				*e*S	**Sn**	**07 08 02.7**	**+1.8**
	baz=232						
CHY	**Chiayi**	**1.41**	**247**	⇓P	**Pn**	**07 07 46.4**	**+2.4**
	baz=246						
CHY				*e*S	**Sn**	**07 08 05.5**	**+4.1**
	baz=246						
TWGBT	**Beinan**	**1.41**	**210**	*e*P	**Pn**	**07 07 43.9**	**-0.2**
	baz=200						
TWGBT				*e*S	**Sn**	**07 08 00.8**	**-0.8**
	baz=200						
LDUT	**Ludao**	**1.41**	**194**	*e*P	**Pn**	**07 07 44.3**	**+0.2**
	baz=184						
LDUT				*e*S	**Sn**	**07 08 00.9**	**-0.6**
	baz=184						
TWG	**Pinlang**	**1.41**	**210**		**Pn**	**07 07 43.9**	**-0.2**
TWG	**Pinlang**	**1.41**	**210**	*e*P	**Pn**	**07 07 43.9**	**-0.2**
	baz=200						
TWG				*e*S	**Sn**	**07 08 00.5**	**-1.0**
	baz=200						
WTCT	**Ta-ch'eng**	**1.44**	**263**	*e*P	**Pn**	**07 07 46.5**	**+2.1**
	baz=275						
WTCT				*e*S	**Sn**	**07 08 04.7**	**+2.5**
	baz=275						
TWK	**Hsinying**	**1.46**	**238**	*e*P	**Pn**	**07 07 46.9**	**+2.0**
	baz=236						
TWK				*e*S	**Sn**	**07 08 05.3**	**+2.4**
	baz=236						
CHN1	**Nanshi**	**1.48**	**235**	⇓P	**Pn**	**07 07 47.1**	**+2.1**
	baz=232						
CHN1				*e*S	**Sn**	**07 08 06.8**	**+3.6**
	baz=232						
SGST	**Jiashian**	**1.50**	**230**	⇓*i*P	**Pn**	**07 07 46.9**	**+1.5**
	baz=219						
SGST				*e*S	**Sn**	**07 08 05.9**	**+2.2**
	baz=219						
WSF	**Szhu**	**1.53**	**255**	*e*P	**Pn**	**07 07 47.8**	**+1.9**
	baz=266						
WSF				*e*S	**Sn**	**07 08 08.5**	**+3.9**
	baz=266						
ICHU	**Yijhu**	**1.58**	**245**	*e*P	**Pn**	**07 07 48.8**	**+2.3**
	baz=243						
ICHU				*e*S	**Sn**	**07 08 09.4**	**+3.7**
	baz=243						
PCYT	**Pengchaiyu**	**1.59**	**8**	*e*P	**Pn**	**07 07 47.8**	**+1.2**
	baz=9.0						
CHN8	**Yiju**	**1.65**	**245**	*e*P	**Pn**	**07 07 49.4**	**+2.0**
	baz=232						
CHN8				S	**Sn**	**07 08 10.3**	**+3.0**
	baz=232						
ECL	**Taimali**	**1.66**	**210**	*e*P	**Pn**	**07 07 47.7**	**+0.2**
	baz=203						
CHN3	**Shinhua**	**1.66**	**235**	*e*P	**Pn**	**07 07 51.5**	**+3.9**
	baz=245						
CHN3				*e*S	**Sn**	**07 08 12.9**	**+5.2**
	baz=245						
SSHA	**Shanhua**	**1.69**	**238**	*e*P	**Pn**	**07 07 50.6**	**+2.7**
	baz=235						
SSHA				*e*S	**Sn**	**07 08 12.6**	**+4.3**
	baz=235						
SCST	**Cishan**	**1.69**	**227**	*e*P	**Pn**	**07 07 50.7**	**+2.8**
	baz=224	

baz=238
IRIF Iriomote-Funau 1.75 80 *i* P **Pn 07 07 50.5 +1.7**
IRIF S **Sn 07 08 11.5 +1.6**
IRIF Iriomote-Funau 1.75 80 A A 07 07 50.5
comp=E,6.0nm,0.8s,comp=E,7.0nm,0.8s
TWM1 Shoushan 1.78 227 *e*P **Pn 07 07 53.7 +4.5**
baz=226
HATJ Hateruma jima 1.80 89 P **Pn 07 07 51.5 +2.0**
HATJ S **Sn 07 08 13.0 +1.9**
HATJ Hateruma jima 1.80 89 A A 07 07 51.5
comp=E,6.0nm,1.4s,comp=E,5.0nm,2.9s
SGLT Jiouru 1.81 224 *e*P **Pn 07 07 54.0 +4.5**
baz=222
MASBT Mashibuluo 1.81 218 *e*P **Pn 07 07 51.2 +1.6**
baz=204
MASBT *e*S **Sn 07 08 14.7 +3.4**
baz=204
TSCK Chigu Township 1.84 241 *e*P **Pn 07 07 51.8 +1.8**
baz=239
TSCK *e*S **Sn 07 08 14.3 +2.3**
baz=239
EAST Anshuo 1.89 209 *e*P **Pn 07 07 51.6 +0.8**
baz=203
TAW Tawu 1.89 207 *e*P **Pn 07 07 51.3 +0.6**
baz=206
TAWH Dawu Township 1.91 207 *e*P **Pn 07 07 51.5 +0.6**
baz=204
TAWH *e*S **Sn 07 08 13.3 -0.5**
baz=204
JKRS Kuro-shima 1.99 84 *i* P **Pn 07 07 54.3 +2.2**
JKRS *e*S **Sn 07 08 17.8 +2.0**
JKRS Kuro-shima 1.99 84 A A 07 07 54.3
comp=E,8.0nm,4.2s,comp=E,9.0nm,3.0s
SCZT Fangliau 2.01 214 *e*P **Pn 07 07 54.2 +1.9**
baz=210
SCZT *e*S **Sn 07 08 20.3 +4.1**
baz=210
LAY Lan-yu 2.02 188 *e*P **Pn 07 07 52.6 +0.2**
baz=187
LYUB Lan-yu 2.05 187 *e*P **Pn 07 07 52.2 -0.6**
baz=179
SLIU Shizi 2.06 208 *e*P **Pn 07 07 55.1 +2.1**
baz=203
SLIU *e*S **Sn 07 08 18.5 +1.1**
baz=203
JIJ Ishigaki jima 2.13 81 *i* P **Pn 07 07 55.4 +1.5**
JIJ S **Sn 07 08 19.6 +0.5**
PHUB P'eng-hu 2.14 256 *e*P **Pn 07 07 54.8 +0.7**
baz=257
PNG Penghu 2.15 258 *e*P **Pn 07 07 54.7 +0.6**
baz=257
PNG *e*S **Sn 07 08 19.9 +0.3**
baz=257
WDGT Dungji 2.15 249 *i* P **Pn 07 07 55.5 +1.4**
baz=248
WDGT *e*S **Sn 07 08 20.2 +0.6**
baz=248
SMST Manzhou Townsh 2.22 205 *e*P **Pn 07 07 56.4 +1.2**
baz=196
HEN Hengchun 2.27 207 *e*P **Pn 07 07 59.1 +3.2**
baz=217
TWK1 Hengchun 2.30 205 *e*P **Pn 07 07 58.5 +2.2**
baz=194
TWK1 *e*S **Sn 07 08 23.9 +0.5**
baz=194
TWKBT Hengchun 2.30 204 *e*P **Pn 07 07 57.7 +1.4**
baz=196
JISG Ishigakijimahi 2.32 76 P **Pn 07 07 58.0 +1.5**
JISG S **Sn 07 08 24.5 +0.7**
VCHM Qimei 2.36 250 *e*P **Pn 07 07 58.3 +1.2**
baz=249
VCHM *e*S **Sn 07 08 25.4 +0.5**
baz=249
VWUC VWUC 2.37 294 ⇓P **Pn 07 07 57.5 +0.3**
baz=295
PTMZ Houxiangcun 2.67 292⇓*e*P **Pn 07 08 01.7 +0.4**
baz=283
JTJ Tarama 2.68 77 *i* P **Pn 07 08 03.3 +1.8**
JTJ S **Sn 07 08 33.0 +0.2**
MATB Ma-tsu 2.71 321 *e*P **Pn 07 08 01.6 -0.3**
baz=330
QZH Quanzhou 3.09 287⇓*i* P **Pn 07 08 07.2 +0.1**
QZH S **Sn 07 08 40.0 -2.8**
QZH smax smax
comp=N,1μm,0.3s
QZH smax smax
comp=E,1μm,0.3s
LYJJ Jianjiangzhen 3.12 323 *e*P **Pn 07 08 07.3 -0.2**
baz=323
KNM Kinmen 3.13 277 *e*P **Pn 07 08 09.3 +1.7**
baz=278
JIRB Irabujima 3.14 75 P **Pn 07 08 09.4 +1.6**
JIRB S **Sn 07 08 45.0 +1.0**
KNMB Chin-men Tao 3.18 278 Pn **Pn 07 08 08.5 +0.2**
KNMB Chin-men Tao 3.18 278 *e*P **Pn 07 08 08.1 -0.2**
baz=279
JIKM Ikemajima 3.23 74 P **Pn 07 08 10.9 +1.9**
JIKM S **Sn 07 08 47.8 +1.6**
XPSS Dashiqiu 3.23 333 *e*P **Pn 07 08 09.0 -0.1**
baz=333
JMJ Miyako jima 2 3.24 76 P **Pn 07 08 09.9 +0.7**
JMJ2 Miyako jima3 3.26 77 P **Pn 07 08 11.4 +2.0**
JMJ2 S **Sn 07 08 48.3 +1.4**
MHZQ Yeshan 3.27 309 *e*P **Pn 07 08 09.2 -0.3**
baz=310
JOGS Gusukube 3.33 77 *e*P **Pn 07 08 13.0 +2.6**
AXDP Jialang 3.62 284 *e*P **Pn 07 08 14.9 +0.5**
baz=285
ZPLA Ao Xicun 3.74 269 *e*P **Pn 07 08 17.0 +1.0**
baz=270
DSXP Dongshan 4.05 266 *e*P **Pn 07 08 20.3 0.0**
baz=267
SXFK Yanhouchang 4.46 303 *e*P **Pn 07 08 25.6 -0.4**
baz=304
JOW Kunigami 6.45 63 P **Pn 07 08 53.1 -0.1**
27nm,0.3s,baz=171,slow=11,SNR=134
JOW S **Sn 07 10 02.8 -2.7**
7.6nm,0.3s,baz=127,slow=19,SNR=1.1
JOW LR LR 07 10 58.7
comp=Z,37nm,18.6s,baz=274,slow=34
60nm,0.3s
JOW Kunigami 6.45 63 P **Pn 07 08 53.1 -0.1**
CNSH ChangSha 9.00 299 ⇑P **Pn 07 09 25.7 -2.5**
CNSH S **Sn 07 11 02.6 -5.6**
CNSH smax smax
comp=N,140nm,0.9s
CNSH smax smax
comp=E,110nm,1.2s
WHN Wuhan 9.28 316 P **Pn 07 09 34.5 +2.4**
WHN S **Sn 07 11 18.5 +3.4**
JNU Nakatsue 12.03 39 LR LR 07 15 11.9
comp=E,29nm,21.5s,baz=224,slow=39
LYN LuoYang 13.27 324 *e*P **P 07 10 34.1 -0.9**
LYN pmax pmax
comp=E,10.0nm,0.6s
KSRS Korea Array 14.35 20 P **Pn 07 10 39.4 -1.7**
comp=E,0.2nm,0.3s,baz=198,slow=12,SNR=1.0
KSRS LR LR 07 16 31.5
comp=E,35nm,19.0s,baz=210,slow=39
comp=E,0.3nm,0.4s
XAN Xi'an 15.04 314 P **P 07 10 53.6 -1.2**
XAN pP pP 07 11 05.1 -1.2
XAN pmax pmax
comp=E,9.0nm,1.1s
XAN LR LR
comp=E,230nm,14.4s
MJAR Matsushiro Arr 18.81 45 LR LR 07 18 26.0
comp=E,53nm,20.8s,baz=213,slow=36
LZH Lanzhou 19.62 312 *e*P **Pn 07 11 49.4 +2.3**
LZH pP pP 07 11 59.1 +1.8
LZH sP sP 07 12 07.0 +3.3
LZH pmax pmax
comp=E,19nm,0.8s
TNCH TengChong 21.23 277 ⇑P **P 07 12 05.3 +2.3**
TNCH pP pP 07 12 16.0 +0.9
TNCH pmax pmax
comp=E,27nm,0.6s
TNCH pmax pmax
comp=E,96nm,3.7s
USRK Ussuriysk Ar. 21.75 20 P **P 07 12 07.2 -0.9**
comp=E,1.2nm,0.5s,baz=211,slow=11,SNR=4.7
comp=E,1.2nm,0.5s
CMAR Chiang Mai Arr 22.04 260 P **P 07 12 11.6 +0.1**
comp=E,1.1nm,0.3s,baz=68,slow=9.1,SNR=6.4
CMAR LR LR 07 20 45.1
comp=E,32nm,19.9s,baz=80,slow=36
comp=E,1.1nm,0.3s

KLR Kul'dur 26.32 15 P **P 07 12 51.4 -0.5**
comp=E,1.3nm,0.7s,baz=193,slow=6.2,SNR=5.5
comp=E,1.3nm,0.7s
ULN Ulaanbaatar 26.52 337 P **P 07 12 54.0 +0.1**
ULN IAmb IAmb 07 12 54.9
comp=Z,7.9nm,0.7s
SONM Songino Array 26.73 336 P **P 07 12 55.6 -0.1**
comp=Z,3.5nm,0.7s,baz=153,slow=10.0,SNR=28
comp=Z,3.5nm,0.7s
SONM Songino Array 26.73 336 P **P 07 12 55.4 -0.4**
WMQ Urumqi 34.18 314 *e*P **P 07 14 04.2 +2.6**
MKAR Makanchi Array 38.85 316 P **P 07 14 41.0 -0.2**
comp=Z,3.0nm,0.5s,baz=102,slow=11,SNR=17
MKAR PcP **PcP 07 16 50.5 -1.1**
comp=Z,0.3nm,0.7s,baz=113,slow=3.7,SNR=2.8
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 38.85 316 P **P 07 14 41.7 +0.4**
MAKZ Makanchi 39.06 316 P **P 07 14 43.3 +0.3**
MAKZ IAmb IAmb 07 14 44.1
comp=Z,3.9nm,0.6s
ZAA0 Zalesovo Array 40.69 327 P **P 07 14 55.7 -0.6**
ZAA0 IAmb IAmb 07 14 56.3
comp=Z,6.2nm,1.0s
ZALV Zalesovo Beam 40.69 327 P **P 07 14 55.3 -1.0**
comp=Z,2.9nm,0.4s,baz=109,slow=7.8,SNR=20
comp=Z,2.9nm,0.4s
ZALV Zalesovo Beam 40.69 327 P **P 07 14 55.7 -0.6**
KRVT Keravat (AS076 40.73 130 LR LR 07 30 39.8
comp=Z,31nm,20.6s,baz=239,slow=34
H11N1 WAKE ISLAND Hy 41.90 87 T T 08 00 28.2
baz=282,slow=74
H11N2 WAKE ISLAND Hy 41.90 87 T T 08 00 28.8
baz=282,slow=74
H11N3 WAKE ISLAND Hy 41.91 87 T T 08 00 26.5
baz=282,slow=74
H11S3 WAKE ISLAND Hy 42.02 89 T T 08 00 37.0
baz=284,slow=74
H11S1 WAKE ISLAND Hy 42.03 89 T T 08 00 37.5
baz=284,slow=74
H11S2 WAKE ISLAND Hy 42.04 89 T T 08 00 35.9
baz=284,slow=74
KURK Kurchatov 42.58 320 P **P 07 15 11.2 -0.7**
KURBB Kurchatov Arra 42.60 320 P **P 07 15 11.3 -0.7**
comp=Z,1.4nm,0.7s,baz=112,slow=9.9,SNR=11
comp=Z,1.4nm,0.7s
WRA Warramunga Arr 45.39 163 P **P 07 15 33.6 -1.0**
comp=Z,0.5nm,0.4s,baz=345,slow=8.6,SNR=7.4
comp=Z,0.5nm,0.4s
WR0 Warramunga Arr 45.46 163 P **P 07 15 34.3 -0.9**
KK31 Karatay Array 46.03 307 P **P 07 15 39.9 +0.3**
KKAR Karatay Array 46.03 307 P **P 07 15 39.8 +0.1**
KBL Kabul 46.76 296 P **P 07 15 45.9 +0.2**
BRVK Borovoye 48.23 321 P **P 07 15 56.7 +0.1**
BRVK IAmb IAmb 07 15 57.4
comp=Z,4.6nm,1.1s
ASAR Alice Springs 48.85 165 P **P 07 16 01.4 -0.2**
comp=Z,0.4nm,0.5s,baz=347,slow=7.6,SNR=6.6
comp=Z,0.4nm,0.5s
CTA Charters Tower 49.90 149 LR LR 07 36 40.4
comp=Z,16nm,19.5s,baz=64,slow=35
ABKAR Akbulak array 53.96 314 P **P 07 16 39.9 +0.2**
TTA Tatalina 65.33 30 P **P 07 17 58.4 +0.7**
TTA IAmb IAmb 07 18 23.4
comp=Z,7.3nm,1.4s
SVW2 Sparrevohn 65.70 32 P **P 07 18 00.8 +0.7**
SVW2 IAmb IAmb 07 18 10.6
comp=Z,6.2nm,1.3s
L19K White Mountain 65.93 31 P **P 07 18 03.8 +2.2**
L19K IAmb IAmb 07 18 31.8
comp=Z,10nm,1.5s
O18K Koktuh Hills 66.02 33 P **P 07 18 04.9 +2.7**
J20K Nowinta River 66.05 28 P **P 07 18 03.2 +1.0**
J20K IAmb IAmb 07 18 05.2
comp=Z,2.3nm,0.6s
P18K Big Mountain, 66.07 34 P **P 07 18 03.7 +1.2**
H21K Melozitna Rive 66.46 27 IAmb IAmb 07 18 07.7
comp=Z,3.3nm,0.6s
CAST Castle Rocks 67.05 29 P **P 07 18 10.2 +1.6**
NEA2 Nenana 68.17 28 IAmb IAmb 07 18 17.9
comp=Z,3.8nm,0.7s
MDM Murphy Dome 68.46 27 IAmb IAmb 07 18 19.9
comp=Z,4.0nm,0.7s
ILAR Eielson Array 69.06 27 P **P 07 18 20.7 -0.5**
comp=Z,0.4nm,0.5s,baz=293,slow=7.2,SNR=10
comp=Z,0.4nm,0.5s
M26K Nabesna, AK 71.32 29 IAmb IAmb 07 18 37.4
comp=Z,3.2nm,0.6s
L27K Beaver Creek, 71.65 28 IAmb IAmb 07 18 39.8
comp=Z,3.1nm,0.8s
FINES FINESS Array B 71.86 330 P **P 07 18 37.2 -1.2**
comp=Z,2.7nm,0.8s,baz=64,slow=4.4,SNR=5.7
FINES LR LR 07 51 11.2
comp=Z,182nm,18.1s,baz=206,slow=37
comp=Z,2.7nm,0.8s
DAWY Dawson 72.39 27 P **P 07 18 41.8 +0.2**
DAWY IAmb IAmb 07 18 43.4
comp=Z,2.9nm,0.7s
INK Inuvik 73.13 22 P **P 07 18 45.3 -0.5**
AKASG Malin Array Be 73.37 318 P **P 07 18 45.5 -2.0**
comp=Z,0.2nm,0.4s,baz=54,slow=6.2,SNR=4.2
comp=Z,0.2nm,0.4s
BRTR Keskin Array B 73.73 307 P **P 07 18 48.9 -1.2**
comp=Z,1.1nm,0.8s,baz=76,slow=2.9,SNR=5.2
comp=Z,1.1nm,0.8s
NB2 NORSAR Subarra 78.62 332 P **P 07 19 15.7 -1.6**
comp=Z,0.8nm,0.6s,baz=57,slow=5.9
NOA NORSAR Array B 78.62 332 P **P 07 19 15.0 -2.3**
comp=Z,1.8nm,0.8s,baz=51,slow=2.2,SNR=4.3
comp=Z,1.8nm,0.8s
YKA Yellowknife Ar 82.86 23 P **P 07 19 40.0 +0.1**
comp=Z,2.4nm,0.7s,baz=312,slow=5.1,SNR=52
comp=Z,2.4nm,0.7s

*OTT **04** 07:08:42.1±0.5, 75°82N×73°73W, h18km, ML3.0/4, 201km east from Craig Harbour, Nu Eastern Arctic Background Seismic Zone.*
*DNK **04** 07:08:44.8±1.6, 75°97N×73°17W, h36km±29km, ML1.7*
ISC 04 07:08:39.1±0.9, **75°84N**±0°06×**73°50W**±0°05, **h10**km, **n9, σ2s79/19, Baffin Bay**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TULEG	**Thule**	**1.32**	**56**	*i* P	**Pg**		**07 09 04.0**	**-0.5**
TULEG				*i* P	**Pb**		**07 09 04.1**	**+0.2**
TULEG				*i*			07 09 05.0	
TULEG				*i* S	**Sn**		**07 09 19.6**	**-1.7**
TULEG				IAML			07 09 24.2	
	comp=Z,51nm,0.3s							
KULLO	**Kullorsuaq**	**4.35**	**99**	*e*P	**Pn**		**07 09 47.7**	**+2.5**
KULLO				*i* S	**Sn**		**07 10 33.3**	**-2.5**
KULLO				IAML			07 10 54.6	
	comp=Z,4.1nm,0.4s							
KULLO	**Kullorsuaq**	**4.35**	**99**	PN	**Pn**		**07 09 47.6**	**+2.5**
KULLO				SN	**Sn**		**07 10 34.4**	**-1.5**
KULLO				Trac			07 10 39.0	
	comp=Z,4.0nm,0.1s							
EUNU	**Eureka**	**5.01**	**334**	PN	**Pn**		**07 09 57.6**	**+3.4**
EUNU				SN	**Sn**		**07 10 49.3**	**-2.8**
NEEM	**North Greenlan**	**5.42**	**62**	*i* P	**Pn**		**07 10 00.2**	**+0.2**
NEEM				*e*S	**Sn**		**07 10 59.9**	**-2.7**
NEEM				IAML			07 11 04.1	
	comp=Z,2.0nm,0.3s							
RES	**Resolute Bay**	**5.57**	**269**	PN	**Pn**		**07 10 02.8**	**+1.1**
RES				SN	**Sn**		**07 11 01.7**	**-3.9**
RES				Trac			07 11 09.3	
	comp=Z,6.2nm,0.6s							
CLRN	**Clyde River**	**5.58**	**163**	PN	**Pn**		**07 10 04.1**	**+2.2**
CLRN				SN	**Sn**		**07 11 03.7**	**-2.2**
CLRN				Trac			07 11 08.1	
	comp=Z,1.8nm,0.1s							
UPNV	**Upernavik**	**5.61**	**114**	*e*		**Pn**	**07 10 04.5**	**+2.2**
	baz=303,slow=18							
UPNV				*i* P	Pb		07 10 04.7	-12
UPNV				*i* S	**Sn**		**07 11 01.9**	**-4.7**
UPNV				IAML			07 11 08.1	
	comp=Z,1.4nm,0.3s							
ILON	**Igloolik, Nuna**	**6.95**	**205**	PN	**Pn**		**07 10 24.2**	**+3.4**
ILON				SN	**Sn**		**07 11 36.8**	**-3.0**
ILON				Trac			07 11 48.0	
	comp=Z,3.4nm,0.5s							

*SOME **04** 07:09:52.0, 41°93N×82°42E, h10km*
*NNC **04** 07:09:54.2±2.5, 41°93N×82°34E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=17.9km s-min=9.9km az=154.0
ISC 04 07:09:55.3±3.7, **42°0N**±0°2×**82°2E**±0°1, **h10**km, **n19, σ2s24/23, 5C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.02**	**318**	Pg	**Pg**		**07 10 33.2**	**-0.7**
	16nm,0.3s							
KTMS				Lg	Lg		07 11 02.4	
	42nm,0.5s							
KTMS	**Ketmen**	**2.02**	**318**	*e*Pg	**Pg**		**07 10 33.2**	**-0.7**
	16nm,0.3s							
KTMS				*e*Lg	Lg		07 11 02.4	
	42nm,0.5s							
SHLS	**Shalkode**	**2.35**	**302**	Pg	**Pb**		**07 10 36.3**	**-1.5**
	30nm,0.4s							
SHLS				Lg	Lg		07 11 07.5	
	34nm,0.4s							
SHLS	**Shalkode**	**2.35**	**302**	*e*Pg	**Pb**		**07 10 35.5**	**-2.3**
	30nm,0.4s							
SHLS				*e*Lg	Lg		07 11 06.8	
	48nm,0.3s							
UZB	**Uzynbulak**	**2.63**	**298**	Pg	**Pg**		**07 10 44.6**	**-1.0**
	6.5nm,0.3s							
UZB				Lg	Lg		07 11 21.9	
	36nm,0.6s							
UZB	**Uzynbulak**	**2.63**	**298**	*e*Pg	**Pg**		**07 10 44.6**	**-1.0**
	6.5nm,0.3s							
UZB				*e*Lg	Lg		07 11 21.9	
	36nm,0.6s							
DJR	**Jarkent**	**2.96**	**324**	Pg	**Pb**		**07 10 47.8**	**-0.3**
	3.0nm,0.6s							
DJR				Lg	Lg		07 11 27.4	
	12nm,0.7s							
DJR	**Jarkent**	**2.96**	**324**	*e*Pg	**Pb**		**07 10 47.8**	**-0.3**
	3.0nm,0.6s							
DJR				*e*Lg	Lg		07 11 27.4	
	12nm,0.7s							
KPKS	**Kokpek**	**3.00**	**301**	*e*Pg	**Pb**		**07 10 48.2**	**-0.5**
	4.2nm,0.3s							
KPKS				*e*Lg	Lg		07 11 27.7	
	32nm,0.8s							
KOTS	**Kotyrbulak**	**3.96**	**291**	Pg	**Pg**		**07 11 08.3**	**-2.9**
	6.5nm,0.8s							
KOTS				Lg	Lg		07 12 02.8	
	13nm,0.5s							
KOTS	**Kotyrbulak**	**3.96**	**291**	*e*Pg	**Pg**		**07 11 08.3**	**-2.9**
	6.5nm,0.8s							
KOTS				*e*Lg	Lg		07 12 02.8	
	13nm,0.5s							
MDOK	**Medeo**	**3.99**	**289**	Pg	**Pb**		**07 11 07.0**	**+1.3**
	2.1nm,1.1s							
MDOK				Lg	Lg		07 11 59.9	
	7.6nm,1.1s							
MDOK	**Medeo**	**3.99**	**289**	*e*Pg	**Pb**		**07 11 07.0**	**+1.3**
	2.1nm,1.1s							
MDOK				*e*Lg	Lg		07 11 59.9	
	7.6nm,1.1s							
TNSS	**Tian-Shan**	**4.03**	**287**	Pg	**Pb**		**07 11 08.9**	**+2.4**
	2.6nm,0.6s							
TNSS				Lg	Lg		07 12 03.4	
	4.2nm,0.7s							
TNSS	**Tian-Shan**	**4.03**	**287**	*e*Pg	**Pb**		**07 11 08.9**	**+2.4**
	2.6nm,0.6s							
TNSS				*e*Lg	Lg		07 12 03.4	
	4.2nm,0.7s							
MK31	**Makanchi Array**	**4.84**	**1**	Pn	**Pn**		**07 11 08.4**	**+0.2**
	0.2nm,0.2s,baz=191,slow=13,SNR=30							
MK31				Pg	**Pb**		**07 11 20.8**	**+0.7**
	0.9nm,0.3s,baz=172,slow=16,SNR=17							
MK31				⇑Sn	**Sn**		**07 12 07.0**	**+2.8**
	1.4nm,0.6s							
MK31				⇑Lg	Lg		07 12 23.6	
	2.0nm,0.5s,baz=180,slow=30,SNR=3.9							
MAKZ	**Makanchi**	**4.85**	**358**	⇓Pn	**Pn**		**07 11 09.7**	**+1.3**
	1.0nm,0.5s							
MAKZ				⇑Pg	**Pg**		**07 11 23.9**	**-4.3**
	1.5nm,0.6s							
MAKZ				⇑Sn	**Sn**		**07 12 08.1**	**+3.5**
	0.8nm,0.3s							
MAKZ				⇑Lg	Lg		07 12 26.4	
	2.5nm,0.6s							
KRBS	**Karabastau**	**5.10**	**292**	Pg	**Pg**		**07 11 30.0**	**-2.9**
	1.3nm,0.6s							
KRBS				Lg	Lg		07 12 39.9	
	2.2nm,0.9s							
KRBS	**Karabastau**	**5.10**	**292**	*e*Pg	**Pg**		**07 11 30.0**	**-2.9**
	1.3nm,0.6s							
KRBS				*e*Lg	Lg		07 12 39.9	
	2.2nm,0.9s							

IDC 04 07:16:46.8±18.0, **29°66N×83°10E, h0**km, **mb3.2**/3, **mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=305.2km s-min=71.0km az=29.0, Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.12**	**358**	P		Pn	07 20 47.9	+0.5
	0.1nm,0.3s,baz=174,slow=13,SNR=3.6							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**21.22**	**352**	P		P	07 21 33.1	-0.9
	0.5nm,0.7s,baz=173,slow=10,SNR=6.8							
	0.5nm,0.7s							
ZALV	**Zalesovo Beam**	**24.30**	**2**	P		P	07 22 06.7	+0.9
	0.3nm,0.3s,baz=168,slow=7.4,SNR=1.8							
	0.3nm,0.3s							
SONM	**Songino Array**	**25.52**	**38**	P		P	07 22 16.8	-0.2
	0.3nm,0.6s,baz=218,slow=9.1,SNR=3.0							
	0.3nm,0.6s							

*IDC **04** 07:26:28.8±1.1, 35°72N×26°20E, h0km, mb3.8/11, mbtmp3.8/12, ML3.1/2, Error ellipse: s-maj=33.5km s-min=9.8km az=156.0*
*DDA **04** 07:26:29.0±0.0, 35°17N×26°35E, h7km±4km, MW3.7*
*ATH **04** 07:26:31.9, 35°09N×26°18E, h18km±1km, ML3.7/9, Error ellipse: s-maj=5.7km s-min=1.4km az=160.0*
*ISK **04** 07:26:31.5, 35°22N×26°24E, h12km, ML3.6/22*
*THE **04** 07:26:32.4, 35°20N×26°17E, h0km±1km, ML3.7/7, Error ellipse: s-maj=1.4km s-min=0.9km az=179.0*
ISC 04 07:26:30.4±0.8, **35°07N**±0°04×**26°23E**±0°02, **h25**km±4km, **n86, σ1s67/112, mb3.9/11, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.05**	**345**	P		**Pb**	**07 26 34.8**	**-0.1**
ZKR				S		**Sb**	**07 26 37.8**	**-0.1**
	90μm,0.3s							
ZKR	**Zakros**	**0.05**	**345**	Pg		**Pb**	**07 26 34.9**	**0.0**
ZKR	**Zakros**	**0.05**	**345**	P		**Pb**	**07 26 34.7**	**-0.2**
ZKR				S		**Sb**	**07 26 38.3**	**+0.4**
ZKR				AML		AML	07 26 38.7	
ZKR				AML		AML	07 26 38.8	
FRMA	**Ierapetra Chan**	**0.41**	**263**	P		**Pb**	**07 26 37.0**	**-2.2**
FRMA				S		**Sb**	**07 26 42.0**	**-3.2**
FRMA				AML		AML	07 26 42.7	
	comp=E,86919μm,0.3s							
FRMA				AML		AML	07 26 43.4	
	comp=N,76794μm,0.4s							
KARP	**Karpathos**	**0.90**	**58**	P		**Pn**	**07 26 48.0**	**+0.5**
KARP				S		**Sn**	**07 27 02.4**	**+2.8**
	comp=N,4μm,0.5s							
KARP	**Karpathos**	**0.90**	**58**	Pg		**Pn**	**07 26 47.9**	**+0.5**
KARP	**Karpathos**	**0.90**	**58**	P		**Pn**	**07 26 48.0**	**+0.5**
KARP				AML		AML	07 27 06.8	
	comp=E,5937μm,0.3s							
KARP				AML		AML	07 27 08.6	
	comp=N,8239μm,0.7s							
HRKL	**Herakleio**	**0.96**	**285**	P		**Pb**	**07 26 49.0**	**+0.6**
HRKL				S		**Sn**	**07 27 02.7**	**+1.7**
	comp=N,7μm,0.8s							
HRKL	**Herakleio**	**0.96**	**285**	Pg		**Pb**	**07 26 49.3**	**+0.9**
HRKL	**Herakleio**	**0.96**	**285**	P		**Pb**	**07 26 49.0**	**+0.6**
HRKL				AML		AML	07 27 08.2	
	comp=N,36388μm,0.7s							
HRKL				AML		AML	07 27 15.6	
	comp=E,42098μm,0.7s							
IACM	**Heraklion**	**0.98**	**284**	P		**Pb**	**07 26 49.4**	**+0.6**
IDI	**Anoyia**	**1.12**	**282**	Pg		**Pn**	**07 26 51.0**	**+0.4**
	comp=E,60nm,0.3s,baz=81,slow=4.4,SNR=147							
IDI				Lg		Lg	07 27 06.6	
	comp=E,91nm,0.3s,baz=346,slow=19,SNR=7.6							
IDI				LR		LR	07 27 06.8	
	comp=E,57nm,20.0s,baz=184,slow=33							
SIVA	**Sivas**	**1.17**	**268**	P		**Pb**	**07 26 52.4**	**+0.4**
TMBK	**Timbaki Herakl**	**1.20**	**271**	P		**Pn**	**07 26 52.5**	**+0.9**

TMBK				AML	AML	07 27 15.3	
	comp=E,9545µm,0.7s						
TMBK				AML	AML	07 27 20.2	
	comp=N,7146µm,0.6s						
SANT	**Santorini**	**1.44**	**334**	P	**Pn**	**07 26 55.7**	**+0.7**
SANT				S	**Sb**	**07 27 16.0**	**+1.3**
	comp=N,868nm,0.3s						
SANT	**Santorini**	**1.44**	**334**	Pn	**Pb**	**07 26 56.4**	**-0.3**
SANT				Sn	**Sb**	**07 27 14.3**	**-0.4**
SANT	**Santorini**	**1.44**	**334**	P	**Pn**	**07 26 55.2**	**+0.3**
SANT				S	**Sb**	**07 27 16.1**	**+1.5**
SANT	**Santorini**	**1.44**	**334**	P	**Pn**	**07 26 55.7**	**+0.7**
SANT				AML	AML	07 27 22.4	
	comp=N,870µm,0.3s						
SANT				AML	AML	07 27 24.2	
	comp=E,2432µm,0.4s						
THT2	**Imerovigli**	**1.52**	**334**	Pn	**Pb**	**07 26 57.4**	**-0.5**
SAP3	**Santorini-Thir**	**1.54**	**332**	P	**Pb**	**07 26 58.2**	**-0.2**
SAP3				S	**Sb**	**07 27 18.3**	**+0.8**
	comp=E,3µm,0.5s						
SAP3	**Santorini-Thir**	**1.54**	**332**	P	**Pn**	**07 26 57.0**	**+0.7**
NISR	**Nisiros**	**1.70**	**25**	P	**Pn**	**07 27 00.0**	**+1.5**
NISR				S	**Sb**	**07 27 23.5**	**+1.4**
	comp=E,2µm,0.5s						
NISR	**Nisiros**	**1.70**	**25**	P	**Pb**	**07 27 00.2**	**-0.9**
NISR				AML	AML	07 27 28.1	
	comp=N,3196µm,0.5s						
NISR				AML	AML	07 27 31.2	
	comp=E,4459µm,0.4s						
GVD	**Gavdhos**	**1.78**	**263**	P	**Pb**	**07 27 03.0**	**+0.7**
GVD				S	**Sb**	**07 27 26.0**	**+1.8**
GVD	**Gavdhos**	**1.78**	**263**	Pn	**Pb**	**07 27 03.3**	**+1.0**
GVD	**Gavdhos**	**1.78**	**263**	P	**Pn**	**07 27 01.7**	**+2.2**
KOSK	**Kos Island**	**1.79**	**20**	P	**Pb**	**07 27 01.4**	**-1.1**
KOSK	**Kos Island**	**1.79**	**20**	Pn	**Pn**	**07 27 00.9**	**+1.3**
KOSK	**Kos Island**	**1.79**	**20**	P	**Pb**	**07 27 01.3**	**-1.1**
IMMV	**Iera Moni Meta**	**1.88**	**283**	P	**Pb**	**07 27 03.5**	**-0.6**
IMMV				S	**Sb**	**07 27 28.2**	**+0.9**
IMMV	**Iera Moni Meta**	**1.88**	**283**	Pn	**Pb**	**07 27 03.9**	**-0.2**
ARG	**Arkhangelos**	**1.92**	**53**	P	**Pb**	**07 27 04.4**	**-0.4**
ARG				S	**Sb**	**07 27 30.1**	**+1.8**
ARG	**Arkhangelos**	**1.92**	**53**	Pn	**Pb**	**07 27 04.1**	**-0.7**
ARG	**Arkhangelos**	**1.92**	**53**	P	**Pb**	**07 27 04.4**	**-0.4**
ARG				AML	AML	07 27 38.8	
	comp=N,1123µm,0.6s						
ARG				AML	AML	07 27 41.2	
	comp=E,1401µm,0.7s						
DAT	**Datca**	**1.98**	**33**	P	**Pn**	**07 27 04.0**	**+1.5**
DAT	**Datca**	**1.98**	**33**	Pn	**Pn**	**07 27 04.0**	**+1.5**
APE	**Apeiranthos**	**2.08**	**344**	P	**Pn**	**07 27 04.6**	**+0.9**
APE				S	**Sb**	**07 27 31.6**	**-1.2**
APE	**Apeiranthos**	**2.08**	**344**	Pn	**Pn**	**07 27 05.2**	**+1.5**
APE	**Apeiranthos**	**2.08**	**344**	P	**Pn**	**07 27 04.6**	**+0.9**
APE				S	**Sn**	**07 27 29.9**	**+1.1**
APE	**Apeiranthos**	**2.08**	**344**	P	**Pn**	**07 27 04.5**	**+0.9**
APE				AML	AML	07 27 34.7	
	comp=E,626µm,0.6s						
APE				AML	AML	07 27 35.7	
	comp=N,571µm,0.6s						
KNDR	**Palaiochora Ch**	**2.09**	**275**	Pn	**Pb**	**07 27 07.9**	**+0.2**
BODT	**Bodrum**	**2.17**	**23**	Pn	**Pn**	**07 27 06.6**	**+1.8**
BODT	**Bodrum**	**2.17**	**23**	P	**Pn**	**07 27 06.8**	**+1.8**
BODT				S	**Sb**	**07 27 33.8**	**-1.8**
MHLO	**Agia Marina, M**	**2.20**	**318**	P	**Pb**	**07 27 08.1**	**-1.4**
MHLO				S	**Sb**	**07 27 34.6**	**-1.7**
	comp=N,1µm,0.5s						
BDRM	**Kayabasi**	**2.22**	**26**	P	**Pn**	**07 27 06.8**	**+1.1**
BDRM				S	**Sb**	**07 27 41.0**	**+4.1**
MLSB	**Milas**	**2.55**	**29**	Pn	**Pn**	**07 27 12.1**	**+1.9**
DALY	**Dalyan (Mula)**	**2.63**	**48**	Pn	**Pn**	**07 27 13.5**	**+2.3**
YER	**Yerkesik**	**2.65**	**38**	Pn	**Pn**	**07 27 13.7**	**+2.1**
YER	**Yerkesik**	**2.65**	**38**	P	**Pn**	**07 27 14.4**	**+2.8**
YER				S	**Sb**	**07 27 46.9**	**-2.4**
SMG	**Samos**	**2.68**	**10**	P	**Pn**	**07 27 13.1**	**+1.2**
GCAM	**G?zelcaml?**	**2.75**	**17**	Pn	**Pn**	**07 27 15.2**	**+2.3**
MULA	**Mugla, Merkez-**	**2.76**	**37**	P	**Pn**	**07 27 14.9**	**+1.8**
MULA				S	**Sn**	**07 27 47.1**	**+1.4**
FETY	**Fethiye**	**2.79**	**55**	Pn	**Pn**	**07 27 15.2**	**+1.7**
AYDN	**Tasoluk**	**2.91**	**27**	P	**Pn**	**07 27 17.5**	**+2.4**
AYDN				S	**Sb**	**07 27 54.1**	**-2.6**
AKAS	**Kas**	**2.98**	**66**	Pn	**Pn**	**07 27 18.3**	**+2.1**
AKAS	**Kas**	**2.98**	**66**	P	**Pn**	**07 27 17.3**	**+1.1**
AKAS				S	**Sn**	**07 27 54.7**	**+3.4**
DGB	**zmir**	**3.02**	**10**	P	**Pn**	**07 27 18.3**	**+1.6**
DGB				S	**Sn**	**07 27 52.6**	**+0.6**
VLI	**Veliai**	**3.14**	**303**	P	**Pn**	**07 27 19.7**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**3.17**	**24**	Pn	**Pn**	**07 27 20.9**	**+2.1**
TAVA	**DENIZLI_Tavas**	**3.23**	**41**	P	**Pn**	**07 27 22.8**	**+3.2**
TAVA				S	**Sb**	**07 28 04.0**	**-2.0**
URLA	**Izmir**	**3.30**	**5**	Pn	**Pn**	**07 27 21.9**	**+1.4**
CHOS	**Chios island**	**3.31**	**358**	Pn	**Pn**	**07 27 23.0**	**+2.3**
BLCB	**Balcova**	**3.37**	**11**	Pn	**Pn**	**07 27 23.6**	**+2.1**
ELL	**Elmali**	**3.42**	**60**	Pn	**Pn**	**07 27 24.8**	**+2.5**
ELL	**Elmali**	**3.42**	**60**	P	**Pn**	**07 27 23.8**	**+1.6**
ELL				S	**Sn**	**07 28 05.2**	**+3.1**
APMY	**Acipayam-Deniz**	**3.45**	**45**	Pn	**Pn**	**07 27 24.8**	**+2.2**
GOLH	**Golhisar**	**3.46**	**50**	P	**Pn**	**07 27 24.9**	**+2.2**
GOLH				S	**Sb**	**07 28 13.1**	**+0.6**
AKUM	**Antalya-Kumluc**	**3.57**	**68**	P	**Pn**	**07 27 25.3**	**+1.1**
AKUM				S	**Sn**	**07 28 08.1**	**+2.6**
KORT	**Korkueli**	**3.85**	**59**	P	**Pn**	**07 27 30.7**	**+2.5**
KORT				S	**Sb**	**07 28 19.5**	**-4.6**
PASA	**Karahalli, USA**	**4.19**	**38**	P	**Pn**	**07 27 34.5**	**+1.7**
PASA				S	**Sn**	**07 28 21.6**	**+0.7**
USAK	**Uak-Merkez**	**4.27**	**31**	P	**Pn**	**07 27 35.9**	**+2.0**
USAK				S	**Sn**	**07 28 25.9**	**+3.0**
KEPZ	**Antalya-Kepez**	**4.72**	**66**	P	**Pn**	**07 27 41.1**	**+1.0**
KEPZ				S	**Sn**	**07 28 33.5**	**-0.5**
BRTR	**Keskin Array B**	**7.50**	**50**	Pn	Pn	07 28 15.7	-2.7
	comp=N,0.1nm,0.3s,baz=218,slow=15,SNR=1.9						
MMAI	**Mount Meron Ar**	**7.88**	**102**	Pn	**Pn**	**07 28 23.1**	**-0.4**
	comp=N,2.3nm,0.3s,baz=284,slow=10,SNR=5.5						
MMAI				Sn	Sn	07 29 45.9	-6.0
	comp=N,1.1nm,0.3s,baz=262,slow=30,SNR=1.1						
AKASG	**Malin Array Be**	**15.78**	**7**	Pn	Pn	07 30 04.8	-5.9
	comp=N,0.4nm,0.3s,baz=195,slow=11,SNR=1.5						
	comp=N,0.2nm,0.3s						
ESDC	**Sonseca Array**	**24.37**	**290**	P	**P**	**07 31 45.6**	**-0.9**
	comp=N,0.5nm,0.8s,baz=81,slow=9.1,SNR=2.4						
	comp=N,0.5nm,0.8s						
GEYT	**Alibeck**	**25.73**	**74**	P	**P**	**07 32 00.0**	**+1.2**
	comp=N,2.3nm,0.5s,baz=259,slow=12,SNR=3.8						
	comp=N,2.3nm,0.5s						
AKTO	**Aktyubinsk**	**27.67**	**46**	P	**P**	**07 32 14.1**	**-2.0**
	comp=N,0.9nm,0.5s,baz=241,slow=8.2,SNR=4.7						
	comp=N,0.9nm,0.5s						
EKA	**Eskdalemuir Ar**	**28.63**	**324**	P	P	07 32 21.5	-3.1
	comp=N,2.2nm,0.8s,baz=118,slow=11,SNR=1.8						
	comp=N,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**34.52**	**360**	P	P	07 33 12.7	-3.5
	comp=N,1.2nm,0.7s,baz=174,slow=9.1,SNR=1.1						
	comp=N,1.2nm,0.7s						
BVAR	**Borovoye Array**	**35.78**	**46**	P	P	07 33 23.8	-3.4
	comp=N,0.4nm,0.4s,baz=260,slow=5.7,SNR=1.7						
	comp=N,0.4nm,0.4s						
MKAR	**Makanchi Array**	**43.09**	**57**	P	**P**	**07 34 28.5**	**+0.1**
	comp=N,1.4nm,0.4s,baz=270,slow=8.2,SNR=30						
	comp=N,1.4nm,0.4s						
ZALV	**Zalesovo Beam**	**44.43**	**46**	P	**P**	**07 34 38.1**	**-0.9**
	comp=N,1.1nm,0.4s,baz=262,slow=8.9,SNR=3.6						
	comp=N,1.1nm,0.4s						
SONM	**Songino Array**	**58.86**	**51**	P	**P**	**07 36 26.6**	**-0.5**
	comp=N,0.2nm,0.3s,baz=290,slow=7.0,SNR=4.1						
	comp=N,0.2nm,0.3s						
SCHQ	**Schefferville**	**63.82**	**320**	P	**P**	**07 36 59.4**	**-0.9**
	comp=N,0.9nm,0.4s,baz=72,slow=3.2,SNR=1.5						
	comp=N,0.9nm,0.4s						
YKA	**Yellowknife Ar**	**77.80**	**343**	P	**P**	**07 38 24.0**	**-1.1**
	comp=N,0.1nm,0.6s,baz=33,slow=5.1,SNR=1.6						
	comp=N,0.1nm,0.6s						

REN ***04*** *07:31:17.2±1.4,38°.39N±0°.01×118°.89W±0°.01,h9km±7km, ML2.8/23, ML2.7/50(NEIC), Error ellipse: s-maj=2.1km s-min=1.3km az=199.0*

NEIC 04 07:31:17.7±1.4,38°.39N±0°.02×118°.904W±0°.006, h7km±8km, Error ellipse: s-maj=2.4km s-min=0.6km az=174.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVH1	**TV Hill, Hawth**	**0.13**	**60**		Pg	07 31 20.8	+0.2
TVH1					Sg	07 31 23.2	+0.5
LHV	**Little Huntoon**	**0.34**	**114**		Pg	07 31 24.5	+0.1
LHV					Sg	07 31 29.4	+0.5
LHV	**Little Huntoon**	**0.34**	**114**	IAML		07 31 29.7	
	comp=E,3µm,0.3s						
LHV				IAML		07 31 29.7	
	comp=N,4µm,0.4s						
RYN	**Ryan**	**0.38**	**52**		Pg	07 31 25.2	0.0
RYN					Sg	07 31 30.8	+0.6
RYN	**Ryan**	**0.38**	**52**	IAML		07 31 30.9	
	comp=E,3µm,0.3s						
RYN				IAML		07 31 31.0	
	comp=N,3µm,0.2s						
LUL	**Lundy Lake**	**0.41**	**213**		Pg	07 31 25.6	0.0
WAKR	**Walker**	**0.43**	**285**		Pg	07 31 26.4	+0.2
WAKR					Sg	07 31 32.8	+0.9
WAKR	**Walker**	**0.43**	**285**	IAML		07 31 33.0	
	comp=N,483nm,0.7s						
WAKR				IAML		07 31 39.9	
	comp=E,422nm,0.6s						
NV09	**Mina Array Sit**	**0.45**	**84**		Pg	07 31 26.1	-0.3
NV09					Sg	07 31 32.8	+0.5
NV08	**Mina Array Sit**	**0.46**	**89**		Pg	07 31 26.2	-0.4
NVAR	**Mina Array Bea**	**0.47**	**85**		Pg	07 31 26.5	-0.3
NV11	**Mina Array Sit**	**0.59**	**86**		Pg	07 31 29.5	+0.5
YERR	**Yerington**	**0.65**	**336**		Pg	07 31 30.2	0.0
YERR					Sb	07 31 39.8	-0.9
YERR	**Yerington**	**0.65**	**336**	IAML		07 31 40.5	
	comp=N,458nm,0.3s						
YERR				IAML		07 31 40.7	
	comp=E,515nm,0.4s						
BENR	**Benton**	**0.73**	**159**		Pg	07 31 31.1	-0.6
MDYM	**Dry Creek**	**0.74**	**187**		Pg	07 31 31.6	-0.3
MCBM	**Casa Benchmark**	**0.75**	**180**		Pg	07 31 31.8	-0.3
MCBM					Sg	07 31 42.3	+0.5
MLAC	**Mammoth, Mammo**	**0.76**	**176**		Pg	07 31 32.0	-0.4
MLAC					Sg	07 31 42.8	+0.5
MDPB	**Devils Postpil**	**0.77**	**190**		Pg	07 31 32.0	-0.6
MDPB	**Devils Postpil**	**0.77**	**190**	IAML		07 31 43.1	
	comp=N,267nm,0.3s						
MDPB				IAML		07 31 44.7	
	comp=E,204nm,0.2s						
OMMB	**Old Mammoth Mi**	**0.78**	**186**		Pg	07 31 32.1	-0.6
PNTR	**Pine Nut**	**0.88**	**322**		Pg	07 31 34.5	-0.2
PNTR	**Pine Nut**	**0.88**	**322**	IAML		07 31 47.3	
	comp=E,226nm,0.6s						
PNTR				IAML		07 31 49.3	
	comp=N,209nm,0.5s						
KVN	**Kaiserville**	**0.91**	**44**		Pg	07 31 34.6	-0.5
KVN	**Kaiserville**	**0.91**	**44**	IAML		07 31 47.4	
	comp=N,221nm,0.5s						
KVN				IAML		07 31 50.7	
	comp=E,339nm,0.6s						
MLNR	**Milner Canyon**	**0.91**	**151**		Pg	07 31 34.7	-0.5
VCNR	**Virginia City**	**1.07**	**327**		Pg	07 31 37.9	-0.4
VCNR					Sb	07 31 53.0	0.0
VCNR	**Virginia City**	**1.07**	**327**	IAML		07 31 53.2	
	comp=N,248nm,0.3s						
VCNR				IAML		07 31 53.8	
	comp=E,309nm,0.3s						
EMB	**Emerald Bay**	**1.10**	**302**		Pg	07 31 38.7	-0.2
EMB					Sb	07 31 54.3	+0.5
EMB	**Emerald Bay**	**1.10**	**302**	IAML		07 31 54.5	
	comp=N,283nm,0.5s						
EMB				IAML		07 31 58.0	
	comp=E,250nm,0.5s						
CMB	**Columbia Colle**	**1.22**	**253**	Pn	Pb	07 31 40.2	-0.9
CMB				IAML		07 31 56.6	
	comp=E,123nm,0.2s						
CMB				IAML		07 32 01.1	
	comp=N,119nm,0.6s						
MPK	**Martis Peak**	**1.26**	**316**	Pn	Pg	07 31 40.7	-1.2
MPK				IAML		07 32 00.3	
	comp=N,140nm,0.6s						
MPK				IAML		07 32 07.0	
	comp=E,126nm,0.7s						
DSP	**Deep Springs**	**1.26**	**144**		Pn	07 31 41.0	-0.6
DSP					Sb	07 31 58.0	-0.1
TPH	**Tonopah**	**1.36**	**103**		Pn	07 31 42.3	-0.9
MZP	**Montezuma Peak**	**1.39**	**119**		Pn	07 31 43.6	0.0
MZP				IAML		07 32 05.3	
	comp=N,89nm,0.6s						
Q09A	**Carvers**	**1.42**	**71**		Pn	07 31 43.6	-0.4
TIN	**Tinemaha, Big**	**1.44**	**158**		Pn	07 31 44.3	+0.1
PEAR	**Peavine Mounta**	**1.47**	**326**		Pb	07 31 45.2	-0.1
LCH	**Last Change Ra**	**1.53**	**139**		Pn	07 31 44.6	-0.9
LCH				IAML		07 32 08.0	
	comp=N,90nm,0.2s						
LCH				IAML		07 32 08.2	
	comp=E,118nm,0.2s						
LOY	**Loyalton**	**1.64**	**321**		Pn	07 31 45.2	-1.8
WVA	**Winnemucca Val**	**1.71**	**335**		Pb	07 31 49.4	0.0
AFDM	**Forest Hills D**	**1.71**	**290**		Pn	07 31 48.5	+0.6
GRGC	**Grapevine Rang**	**1.85**	**138**		Pn	07 31 47.4	-0.4
BEKR	**Beckwith**	**1.86**	**323**		Pb	07 31 51.2	1.8
CWC	**Cottonwood Cre**	**2.06**	**161**		Pn	07 31 52.8	+0.1
ORV	**Oroville**	**2.33**	**301**	Pn	Pn	07 31 57.3	+0.9
ORV				IAML		07 32 09.7	
	comp=N,39nm,4.4s						
ORV				IAML		07 32 29.6	
	comp=E,42nm,4.1s						
WCT	**Wildcat Mounta**	**2.41**	**131**	Pn	Pn	07 31 57.5	-0.1
BMN	**Battle Mountai**	**2.42**	**32**	Pn	Pn	07 31 56.5	-1.2
TPNV	**Topopah Spring**	**2.55**	**124**	Pn	Pb	07 32 03.5	-0.4
SAO	**San Andreas Ge**	**2.59**	**232**	Pn	Pb	07 32 03.1	-1.4
R11A	**Troy Canyon, C**	**2.61**	**90**	Pn	Pn	07 31 59.3	-1.1
PMPB	**Monarch Peak**	**2.65**	**215**	Pn	Pn	07 32 03.1	+2.3
QSM	**Queen of Sheba**	**2.92**	**146**	Pn	Pn	07 32 04.3	-0.2
PRN	**Pahroc Range**	**3.20**	**107**		Pn	07 32 08.6	+0.1
ELK	**Elko**	**3.68**	**49**	Pn	Pn	07 32 14.4	-0.8
ELK				IAML		07 33 16.4	
	comp=E,10.0nm,0.4s						
ELK				IAML		07 33 17.6	
	comp=E,9.4nm,0.3s						

NNC ***04*** *07:34:13.6±18.0, 37°.15N×71°.34E, h136km±245km, mb2.6, mpv3.2, Error ellipse: s-maj=176.1km s-min=105.7km az=170.0*

IDC ***04*** *07:34:20.2±8.2, 37°.57N×72°.41E, h234km±52km, mb3.9/1, mbtmp4.0/4, Error ellipse: s-maj=81.0km s-min=50.4km az=180.0*

ISC 04 07:34:14.9±2.5, 37°.2N±0°.2×72°.0E±0°.1, h200km, n15, σ1§94/18, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.07**	**15**	P	**Pn**	**07 35 31.7**	**+1.1**
	SNR=64						
UCH	**Uchtor**	**5.36**	**21**	P	**Pn**	**07 35 36.3**	**+2.0**
	SNR=8.5						
EKS2	**Erkin-Say**	**5.60**	**14**	P	**Pn**	**07 35 39.5**	**+2.5**
	SNR=6.3						
AAK	**Ala-Archa**	**5.74**	**19**	P	**Pn**	**07 35 40.3**	**+1.4**
	SNR=7.2						
AAK	**Ala-Archa**	**5.74**	**19**	P	**Pn**	**07 35 39.7**	**+0.8**
	3.5nm,0.4s,baz=196,slow=5.6,SNR=20						
AAK				S	**Sn**	**07 36 42.8**	**-2.5**
	1.2nm,0.4s,baz=322,slow=22,SNR=7.7						
KK31	**Karatay Array**	**5.97**	**350**	P	**Pn**	**07 35 43.6**	**+1.9**
	0.2nm,0.3s,baz=145,slow=11,SNR=6.6						
KK31				⇑S	**Sn**	**07 36 47.8**	**-2.7**
	4.7nm,0.4s,baz=177,slow=22,SNR=4.1						
ULHL	**Ulahol**	**5.99**	**32**	P	**Pn**	**07 35 42.6**	**+0.3**
	SNR=9.4						
TKM2	**Tokmak 2**	**6.33**	**25**	P	**Pn**	**07 35 47.4**	**+0.8**
	SNR=11						
TKM2	**Tokmak 2**	**6.33**	**25**	⇑P	**Pn**	**07 35 46.9**	**+0.3**
	6.4nm,0.6s						
TKM2				⇑S	**Sn**	**07 37 03.1**	**+3.9**
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**12.25**	**35**	P	**Pn**	**07 37 00.5**	**-2.3**
	0.1nm,0.4s,baz=218,slow=14,SNR=2.3						
AB31	**Akbulak array**	**14.85**	**328**	⇓P	**Pn**	**07 37 34.2**	**-0.9**
	0.2nm,0.5s,baz=134,slow=11,SNR=12						
AKTO	**Aktyubinsk**	**16.56**	**327**	P	**Pn**	**07 37 56.7**	**+1.0**
	1.4nm,0.4s,baz=169,slow=5.2,SNR=5.7						
AKTO	**Aktyubinsk**	**16.56**	**327**	⇓P	**Pn**	**07 37 55.3**	**-0.5**
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**18.93**	**24**	P	**P**	**07 38 19.1**	**-1.5**
	0.7nm,0.3s,baz=215,slow=10,SNR=2.8						
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**07 41 36.5**	**+0.4**
	9.2nm,1.2s,baz=110,slow=8.0,SNR=3.7						
	9.2nm,1.2s						

IDC ***04*** *07:37:18.2±2.3, 51°.53N×178°.45E, h0km, mb3.3/6, mbtmp3.3/6, Error ellipse: s-maj=66.0km s-min=25.6km az=175.0*

NEIC ***04*** *07:37:32.9±0.9, 51°.9N±0°.1×178°.54E±0°.10, h112km±9km, Error ellipse: s-maj=16.0km s-min=8.5km az=173.0*

AEIC ***04*** *07:37:33.6±1.1, 51°.8N±0°.2×178°.5E±0°.1, h111km±9km, ML3.0, Error ellipse: s-maj=23.5km s-min=8.5km az=199.0*

ISC 04 07:37:32.5±0.9, 51°.9N±0°.1×178°.53E±0°.06, h113km, n10, σ1§07/13, mb3.4/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.68**	**135**		Pn	**07 37 51.1**	**+0.2**
AMKA					Sn	**07 38 04.2**	**-0.7**
KIWB	**Kanaga Island**	**2.68**	**88**	Pn	Pn	**07 38 14.6**	**+0.3**
SMY	**Shemya**	**2.86**	**290**	Pn	Pn	**07 38 17.4**	**+0.7**
SMY					Sn	**07 38 48.5**	**-2.1**
ADK	**Adak**	**2.97**	**88**	Pn	Pn	**07 38 18.4**	**+0.3**
ADK					Sn	**07 38 51.3**	**-1.9**
ILAR	**Eielson Array**	**21.94**	**41**	P	**P**	**07 42 15.8**	**-0.7**
	0.3nm,0.8s,baz=243,slow=10.0,SNR=6.2						
	0.3nm,0.8s						
INK	**Inuvik**	**28.03**	**36**	P	**P**	**07 43 13.5**	**+1.0**
	0.4nm,0.4s,baz=244,slow=6.3,SNR=2.2						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**36.11**	**46**	P	**P**	**07 44 23.4**	**+0.4**
	0.2nm,0.6s,baz=281,slow=8.7,SNR=4.7						
	0.2nm,0.6s						
SONM	**Songino Array**	**44.94**	**295**	P	**P**	**07 45 36.2**	**+0.3**
	0.4nm,0.6s,baz=60,slow=8.6,SNR=3.1						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.42**	**307**	P	**P**	**07 47 15.5**	**-0.5**
	0.2nm,0.5s,baz=47,slow=6.0,SNR=4.1						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**60.21**	**80**	P	**P**	**07 47 29.0**	**+0.4**
	0.2nm,0.6s,baz=306,slow=5.4,SNR=6.0						
	0.2nm,0.6s						

WEL ***04*** *07:39:00,40°.60S×176°.15E,h34km,ML4.1,Mw4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr0.81; Mθθ1.07; Mϕϕ -1.88; Mrθ 0.16; Mθϕ 0.47; Mϕr0.23; Fault plane solution: M₀1.60000×10¹⁵ NP1: ϕs128.00000°,δ69.00000°,λ15.00000°. NP2:ϕs33.00000°, δ76.00000°,λ159.00000°. Principal axes: T -196.9800, Plg25.0000°, Azm350.0000°; N 123.5400, Plg65.0000°, Azm181.0000°; P 73.4300, Plg5.0000°, Azm82.0000°;*

IDC ***04*** *07:39:17.2±3.3, 40°.78S×176°.38E, h0km, mb4.2/2, mbtmp4.0/4, ML3.5/2, MS2.7/1 Error ellipse: s-maj=76.2km s-min=29.9km az=133.0*

NOU ***04*** *07:39:20.2, 40°.84S×176°.59E, h18km, MLv4.2/9, North Island, New Zealand*

NEIC ***04*** *07:39:22.6±0.8, 40°.75S±0°.07×176°.3E±0°.1, h27km±4km, mb4.1/5, Error ellipse: s-maj=15.1km s-min=6.4km az=124.0*

WEL ***04*** *07:39:23.7±0.6, 41°.S±3°.×17°.6E±°, h18km±5km, M4.2/10, ML4.5/10, MLv4.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=133.6, confirmed*

ISC 04 07:39:22.0±0.8, 40°.70S±0°.03×176°.31E±0°.03, h29km±3km, n171, σ1§43/183, mb4.2/5, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFZ	**Birch Farm**	**0.05**	**295**	Pg	Pn	**07 39 27.6**	**+0.7**
BFZ	**Birch Farm**	**0.05**	**295**	P	Pn	**07 39 27.5**	**+0.5**
BFZ	**Birch Farm**	**0.05**	**295**	P	Pn	**07 39 27.5**	**+0.5**
BFZ				S	**Sb**	**07 39 31.1**	**+0.7**
CPWZ	**Castlepoint**	**0.22**	**202**	P	Pn	**07 39 31.7**	**+2.4**
CPWZ				S	**Sb**	**07 39 38.7**	**+6.0**
PRWZ	**Pori Road**	**0.30**	**300**	P	**Pb**	**07 39 28.7**	**-0.6**
PRWZ				S	**Sb**	**07 39 32.9**	**-1.5**
TIWZ	**Tintock**	**0.33**	**257**	P	Pn	**07 39 30.5**	**+0.4**
TIWZ				S	**Sb**	**07 39 36.0**	**+0.8**
PRHZ	**Porangahau**	**0.50**	**30**	P	Pn	**07 39 34.2**	**+1.0**
PRHZ				S	**Sn**	**07 39 43.5**	**+2.6**
TMWZ	**Te Maipa**	**0.51**	**218**	P	Pn	**07 39 35.1**	**+1.7**
TMWZ				S	**Sn**	**07 39 45.3**	**+4.2**
POWZ	**Post Office Ro**	**0.52**	**307**	P	**Pb**	**07 39 32.1**	**-0.6**
POWZ				S	**Sb**	**07 39 39.1**	**-0.9**
MRZ	**Mangatainoka R**	**0.56**	**274**		**Pb**	**07 39 33.3**	**-0.1**
MRZ	**Mangatainoka R**	**0.56**	**274**	P	**Pb**	**07 39 33.2**	**-0.1**
MRZ				S	**Sb**	**07 39 40.4**	**-0.7**
HOWZ	**Holdsworth Sta**	**0.63**	**252**	P	Pn	**07 39 35.4**	**+0.4**
HOWZ				S	**Sn**	**07 39 44.9**	**+0.7**
WPHZ	**Waipukurau**	**0.65**	**9**	P	Pn	**07 39 35.7**	**+0.6**
WPHZ				S	**Sn**	**07 39 45.9**	**+1.5**
MTW	**Mount Morrison**	**0.76**	**233**	P	Pn	**07 39 37.7**	**+1.0**
PXZ	**Pawanui**	**0.79**	**32**	P	Pn	**07 39 38.3**	**+1.1**
**CRWZ

MHEZ	Mangahewa	2.23	316	P		Pn	07 39 59.6	+2.6
KUTZ	Kaahu Road	2.24	350	P		Pn	07 39 58.1	+1.0
MUGZ	Murupara	2.25	9	P		Pn	07 39 59.7	+2.4
KHEZ	Kahui Hut	2.26	308	P		Pn	07 39 59.7	+2.4
KHEZ	Kahui Hut	2.26	308	P		Pn	07 39 59.7	+2.4
NMEZ	Namu Road	2.27	304	P		Pb	07 40 01.0	-1.2
NNZ	Nelson	2.28	256	Pn		Pn	07 39 58.1	+0.5
NNZ	Nelson	2.28	256	P		Pn	07 39 58.1	+0.5
RIGZ	Rimuhau	2.29	30	P		Pn	07 39 57.9	+0.2
HRRZ	Handcock Road	2.31	359	P		Pn	07 39 59.7	+1.6
PKE	Pukeiti	2.34	309	P		Pb	07 40 02.6	-0.9
GRRZ	Galatos Road	2.36	356	P		Pb	07 40 05.9	+2.2
NBEZ	Newall Road No	2.36	307	P		Pn	07 40 01.6	+2.9
RAGZ	Rawiri	2.37	22	P		Pn	07 39 59.8	+1.0
RRRZ	Republican Roa	2.37	4	P		Pb	07 40 02.5	-1.4
TLZ	Tolley Road	2.45	346	P		Pb	07 40 05.7	+0.4
HIZ	Hauiti	2.46	332	Pn		Pn	07 40 01.9	+1.8
HIZ	Hauiti	2.46	332	P		Pn	07 40 02.8	+2.7
HIZ	Hauiti	2.46	332	P		Pn	07 40 02.4	+2.4
TARZ	Mount Tarawera	2.47	4	P		Pn	07 40 01.3	+0.9
URZ	Urewera	2.52	14	Pn		Pn	07 40 00.3	-0.5
	12nm,0.3s,baz=308,slow=6.7,SNR=46							
URZ				Sn		Sn	07 40 28.8	-1.8
	32nm,0.3s,baz=156,slow=23,SNR=12							
URZ				LR		LR	07 41 18.2	
	comp=Z,124nm,18.6s,baz=286,slow=47							
	25nm,0.3s							
URZ	Urewera	2.52	14	P		Pn	07 40 00.8	-0.1
URZ	Urewera	2.52	14	P		Pn	07 40 00.8	-0.1
MWZ	Matawai	2.55	22	P		Pn	07 40 01.1	-0.2
TKGZ	Te Karaka	2.56	28	P		Pn	07 40 01.3	0.0
TKNZ	Takaka Hill	2.56	262			Pn	07 40 02.6	+1.1
TKNZ	Takaka Hill	2.56	262	P		Pn	07 40 02.4	+0.9
CNGZ	Carnagh Statio	2.66	34	P		Pn	07 40 02.7	-0.1
KHZ	Kahutara	2.69	230	Pn		Pn	07 40 02.5	-0.7
KHZ	Kahutara	2.69	230	P		Pn	07 40 02.7	-0.5
MRNZ	Matariki Terra	2.77	254	Pn		Pn	07 40 05.4	+0.9
MRNZ	Matariki Terra	2.77	254	P		Pn	07 40 04.9	+0.5
THZ	Tophouse	2.78	247			Pn	07 40 04.4	-0.1
THZ	Tophouse	2.78	247	P		Pn	07 40 04.2	-0.3
TWGZ	Tauwhareparae	2.84	28	P		Pn	07 40 06.6	+1.3
QRZ	Quartz Range	2.87	266	Pn		Pn	07 40 06.7	+0.9
QRZ	Quartz Range	2.87	266	P		Pn	07 40 06.1	+0.4
WHRZ	Whale Island	2.89	10	P		Pn	07 40 07.3	+1.3
RUGZ	Raukumara Rang	2.93	22	P		Pn	07 40 06.6	-0.1
TGRZ	Tauranga	2.97	359	P		Pb	07 40 11.3	-2.9
PUZ	Puketiti	3.03	30	P		Pn	07 40 07.0	-1.0
TOZ	Tahuroa Road	3.04	348	P		Pn	07 40 09.2	+1.2
PKGZ	Pakihiroa	3.13	27	P		Pn	07 40 09.5	+0.1
HAZ	Te Kaha	3.16	22	P		Pn	07 40 09.8	+0.1
WMGZ	Waiomatatini S	3.31	30	P		Pn	07 40 11.1	-0.7
GVZ	Greta Valley S	3.33	226	Pn		Pn	07 40 12.6	+0.5
GVZ	Greta Valley S	3.33	226	P		Pn	07 40 11.8	-0.2
MXZ	Matakaoa Point	3.50	27	Pn		Pn	07 40 14.3	-0.1
MXZ	Matakaoa Point	3.50	27	P		Pn	07 40 14.3	-0.1
MXZ	Matakaoa Point	3.50	27	P		Pn	07 40 14.4	+0.1
DSZ	Denniston Nort	3.55	252	P		Pn	07 40 14.7	-0.5
LTZ	Lake Taylor	3.67	234	Pn		Pn	07 40 15.6	-1.0
LTZ	Lake Taylor	3.67	234	P		Pn	07 40 15.7	-1.0
MKZ	Moumakai	3.71	346	P		Pn	07 40 18.5	+1.4
AWAZ	Awhitu Peninsu	3.86	340	P		Pn	07 40 21.6	+2.3
KUZ	Kuaotunu	3.98	353	P		Pn	07 40 23.2	+2.2
MQZ	McQueen's Vall	4.05	221	Pn		Pn	07 40 22.3	+0.5
MQZ	McQueen's Vall	4.05	221	P		Pn	07 40 20.8	-1.1
OXZ	Oxford	4.12	229	P		Pn	07 40 22.5	-0.5
INZ	Inchbonnie	4.16	239	Pn		Pn	07 40 23.2	-0.3
INZ	Inchbonnie	4.16	239	P		Pn	07 40 22.8	-0.7
MHCZ	Mount Hutt	4.52	230	P		Pn	07 40 28.1	-0.3
WACZ	Wakanui South	4.63	224	P		Pn	07 40 29.0	-0.9
WVZ	Waitaha Valley	4.79	239	P		Pn	07 40 31.4	-0.6
RPZ	Rata Peaks	4.93	231	Pn		Pn	07 40 33.5	-0.5
	1.4nm,0.3s,baz=53,slow=5.1,SNR=1.6							
RPZ				Sn		Sn	07 41 25.6	-4.4
	3.2nm,0.3s,baz=323,slow=23,SNR=7.5							
	5.2nm,0.3s							
RPZ	Rata Peaks	4.93	231	P		Pn	07 40 33.9	-0.2
ARCZ	Arundel	5.00	228	P		Pn	07 40 34.8	-0.2
TMZ	Timaru	5.37	225	P		Pn	07 40 40.6	+0.5
FOZ	Fox Glacier	5.59	238	P		Pn	07 40 41.9	-1.2
LBZ	Lake Benmore	5.83	229	Pn		Pn	07 40 46.4	0.0
LBZ	Lake Benmore	5.83	229	P		Pn	07 40 45.7	-0.7
OUZ	Omahuta	5.88	338	P		Pn	07 40 48.8	+1.7
ODZ	Otahua Downs	6.01	222	P		Pn	07 40 48.4	-0.5
CTZ	Chatham Island	6.06	122	P		Pn	07 40 52.0	+2.5
JCZ	Jackson Bay	6.51	236	P		Pn	07 40 54.9	-0.9
RIZ	Raoul Island	12.37	24	P		P	07 42 23.8	-4.0
BBOO	Buckleboo	32.97	271	P		P	07 45 56.4	+2.3
AS31	Alice Springs	39.29	282	P		P	07 46 49.0	+0.7
AS31				IAmb		IAmb	07 46 59.4	
	comp=Z,2.1nm,1.4s							
ASAR	Alice Springs	39.29	282	P		P	07 46 48.5	+0.2
	comp=Z,1.6nm,0.7s,baz=132,slow=7.8,SNR=25							
	comp=Z,1.6nm,0.7s							
ASAR	Alice Springs	39.29	282	P		P	07 46 48.6	+0.3
WB2	Warramunga Arr	41.23	287	P		P	07 47 05.1	+0.7
WB2				IAmb		IAmb	07 47 28.9	
	comp=Z,12nm,1.4s							
WRA	Warramunga Arr	41.23	287	P		P	07 47 04.0	-0.4
	comp=Z,2.2nm,0.5s,baz=126,slow=8.2,SNR=43							
	comp=Z,2.2nm,0.5s							
WRA	Warramunga Arr	41.23	287	P		P	07 47 05.0	+0.6
WB0	Warramunga Arr	41.31	288	P		P	07 47 05.2	+0.2
WB0				IAmb		IAmb	07 47 25.2	
	comp=Z,6.3nm,1.2s							
ARCES	ARCESS Array B	147.30	341	PKPbc		PKPbc	07 59 00.9	-0.5
	comp=Z,4.1nm,0.9s,baz=54,slow=1.6,SNR=7.5							

IDC 04 07:44:08.7±13.0, 4°.29S×153°.89E, h430km±183km, mb2.6/3, mbtmp3.6/4, Error ellipse: s-maj=184.2km s-min=46.2km az=141.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	17.38	205	P	P	07 47 45.9	+0.1
	3.8nm,0.6s,baz=64,slow=7.3,SNR=4.7						
WRA	Warramunga Arr	24.60	229	P	P	07 48 53.0	0.0
	0.6nm,0.8s,baz=55,slow=9.9,SNR=2.5						
	0.6nm,0.8s						
ASAR	Alice Springs	27.26	223	P	P	07 49 16.5	-0.1
	0.2nm,0.3s,baz=55,slow=9.2,SNR=8.7						
	0.2nm,0.3s						
ILAR	Eielson Array	81.28	22	P	P	07 55 38.4	0.0
	0.3nm,0.9s,baz=258,slow=4.5,SNR=2.0						
	0.3nm,0.9s						

IDC 04 08:01:36.0±1.7, 0°.69S×127°.87E, h0km, mb3.4/3, mbtmp3.6/4, ML3.9/1, MS3.6/1, Error ellipse: s-maj=36.7km s-min=27.2km az=49.0
DJA 04 08:01:39.7±0.3, 1°.5±2°×12°.8E±°, h10km, M4.1/12, mb4.5/4, mB5.9/2, MLv3.8/12, Mw(mB)5.4/2
ISC 04 08:01:41.5±1.0, 0°.57S±0°.06×127°.90E±0°.05, h35km, n14, σ1°.24/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.44	338	P	Pn	08 02 05.1	+0.1
SANI	Sanana	2.41	232	P	Pn	08 02 17.6	-0.8
SANI				S	Sn	08 02 48.2	+1.5
NLAI	Namlea	2.77	197	P	Pn	08 02 22.9	-0.5
NLAI				S	Sn	08 02 56.4	+0.8
MSAI	Masohi	2.94	159	P	Pn	08 02 26.3	+0.5
MSAI				S	Sn	08 03 01.7	+1.7
SWI	Sorong	3.38	95	P	Pn	08 02 31.8	0.0
SIJI	Sorong	3.38	95	Pn	Pn	08 02 31.2	-0.7
	10nm,0.3s,baz=254,slow=22,SNR=20						
SIJI				Sn	Sn	08 03 11.5	+0.6
	1.1nm,0.3s,baz=252,slow=19,SNR=1.5						
	22nm,0.3s						
FAKI	Fak Fak	4.94	118	P	Pn	08 02 54.3	+1.1
LUWI	Luwuk	5.14	265	P	Pn	08 02 56.4	+0.3
	143nm,0.7s,12μm0.7nm						
APSI	Ampana	6.25	267	P	Pn	08 03 12.4	+1.0
	58nm,0.6s,0.3nm						
RKPI	Ransiki, Papua	6.35	98	P	Pn	08 03 13.7	+1.0
WRA	Warramunga Arr	20.26	162	P	P	08 06 11.3	-2.8
	1.7nm,0.8s,baz=347,slow=13,SNR=7.2						
	1.7nm,0.8s						
ASAR	Alice Springs	23.69	166	P	P	08 06 48.8	-1.4
	0.8nm,0.5s,baz=340,slow=8.8,SNR=17						
	0.8nm,0.5s						
RPZ	Rata Peaks	57.61	144	LR	LR	08 37 56.5	
	comp=Z,52nm,18.4s,baz=218,slow=38						
MKAR	Makanchi Array	61.74	326	P	P	08 11 56.9	+0.4
	0.2nm,0.5s,baz=124,slow=8.3,SNR=2.4						
	0.2nm,0.5s						

IDC 04 08:26:58.0±1.0, 18°.61S×176°.01E, h0km, mb3.8/6, mbtmp3.8/8, ML4.7/2, MS3.2/12, Error ellipse: s-maj=44.1km s-min=21.1km az=152.0
ISC 04 08:27:01.6±0.8, 18°.6S±0°.2×176°.1E±0°.1, h26km, n27, σ1°.16/9, mb4.0/5, MS3.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.06	64	Pn	Pn	08 27 33.6	-1.1
	25nm,0.3s,baz=237,slow=16,SNR=24						
MSVF				Sn	Sn	08 27 59.1	-0.6
	20nm,0.3s,baz=268,slow=22,SNR=4.6						
MSVF				LR	LR	08 28 09.0	
	comp=Z,94nm,18.4s,baz=357,slow=33						
	45nm,0.4s						
DZM	Mont Dzumac	9.68	248	ePn	Pn	08 29 19.0	-0.3
	51nm,1.4s						
DZM				eLR	LR	08 31 28.7	
	comp=Z,182nm,25.2s						
DZM	Mont Dzumac	9.68	248	LR	LR	08 32 20.7	
	comp=Z,116nm,19.4s,baz=32,slow=34						
HNR	Honiara	18.13	298	LR	LR	08 38 11.7	
	comp=Z,596nm,18.2s,baz=128,slow=37						
URZ	Urewera	19.57	178	P	P	08 31 27.4	-0.1
	0.6nm,0.3s,baz=0.0,slow=3.0,SNR=2.3						
	6.2nm,0.7s						
RAR	Rarotonga	22.83	100	LR	LR	08 38 58.1	
	comp=Z,36nm,21.5s,baz=266,slow=31						
KRVT	Keravat (AS076	27.50	298	LR	LR	08 44 15.9	
	comp=Z,56nm,18.9s,baz=240,slow=38						
CTA	Charters Tower	28.17	266	LR	LR	08 42 36.6	
	comp=Z,33nm,20.2s,baz=78,slow=33						
TBI	Tubuai	32.45	104	eLR	LR	08 42 04.7	
	comp=Z,437nm,27.5s						
TBI				eLR	LR	08 42 04.7	
	comp=Z,1μm,28.8s						
PPT2	Papeete2	32.62	94	eLR	LR	08 42 13.3	
	comp=Z,100nm,25.5s						
PPT	Papeete	32.62	94	LR	LR	08 43 19.5	
H11S2	WAKE ISLAND Hy	38.03	345	T	T	09 15 09.7	
	baz=166,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	38.04	345	T	T	09 15 10.3	
	baz=166,slow=76,SNR=47						
H11S1	WAKE ISLAND Hy	38.05	345	T	T	09 15 10.9	
	baz=166,slow=76,SNR=56						
H11N1	WAKE ISLAND Hy	39.17	346	T	T	09 16 33.3	
	baz=165,slow=76,SNR=8.1						
H11N3	WAKE ISLAND Hy	39.17	346	T	T	09 16 33.6	
	baz=165,slow=76,SNR=7.6						
H11N2	WAKE ISLAND Hy	39.18	346	T	T	09 16 33.4	
	baz=165,slow=76,SNR=4.6						
WRA	Warramunga Arr	39.36	261	P	P	08 34 29.0	-0.3
	0.6nm,1.0s,baz=96,slow=9.6,SNR=2.2						
	0.6nm,1.0s						
ASAR	Alice Springs	39.56	255	P	P	08 34 30.2	-0.7
	0.8nm,0.8s,baz=76,slow=8.9,SNR=7.7						
ASAR				LR	LR	08 49 57.5	
	comp=Z,33nm,20.3s,baz=112,slow=35						
	0.8nm,0.8s						
TAOE	Nuku Hiva Isla	43.50	83	eLR	LR	08 47 18.5	
	comp=Z,42nm,23.6s						
SIJI	Sorong	47.38	287	LR	LR	08 55 15.0	
	comp=Z,46nm,19.3s,baz=226,slow=36						
JOW	Kunigami	64.77	313	LR	LR	09 04 45.6	
	comp=Z,15nm,18.9s,baz=116,slow=35						
NVAR	Mina Array Bea	83.63	46	P	P	08 39 29.1	+0.9
	0.6nm,0.6s,baz=243,slow=6.0,SNR=2.5						
	0.6nm,0.6s						
BBB	Bella Bella	85.53	31	LR	LR	09 13 44.0	
	comp=Z,12nm,18.5s,baz=20,slow=33						
ILAR	Eielson Array	87.85	15	P	P	08 39 47.6	-0.6
	0.6nm,0.8s,baz=231,slow=6.2,SNR=7.8						
ILAR				LR	LR	09 13 32.9	
	comp=Z,19nm,19.0s,baz=314,slow=32						
	0.6nm,0.8s						
TXAR	Lajitas Array	90.83	59	P	P	08 40 05.3	+2.1
	0.8nm,0.8s,baz=223,slow=4.9,SNR=8.1						
	0.8nm,0.8s						
YKA	Yellowknife Ar	97.22	26	P	Pdif	08 40 32.8	+1.1
	0.3nm,0.8s,baz=251,slow=4.8,SNR=4.3						
	0.3nm,0.8s						

ROM 04 08:28:54.4±0.2, 42°.559N±0°.004×13°.239E±0°.004, h9km±1km, ML0.8/4, 2D, Error ellipse: s-maj=0.5km s-min=0.1km az=357.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RM33	Pellescritta (	0.05	200	P	Pg	08 28 56.6	+0.2
RM33				S	Sg	08 28 57.9	0.0
RM33				AML	AML		
	comp=E,117μm,0.2s						
RM33				AML	AML		
	comp=N,159μm,0.3s						
RM33				AML	AML		
	comp=N,160μm,0.3s						
RM33				AML	AML		
	comp=N,160μm,1.7s						
SMA1	SAN MARTINO	0.10	45	P	Pg	08 28 57.5	+0.5
SMA1				S	Sg	08 28 59.9	+1.0
T1247	Pizzolo (AQ)	0.13	159	P	Pg	08 28 55.4	-1.9
CAMP	Campotosto	0.13	101	P	Pg	08 28 57.9	+0.5
CAMP				S	Sg	08 29 00.3	+0.8
T1218	Civita (PG)	0.14	321	P	Pg	08 28 58.0	+0.4
T1218				S	Sg	08 29 00.5	+0.6
T1218				AML	AML		
	comp=E,170μm,1.6s						
T1218				AML	AML		
	comp=E,170μm,1.6s						
T1218				AML	AML		
	comp=N,198μm,0.7s						
LNSS	Leonessa	0.15	287	P	Pg	08 28 58.3	+0.5
LNSS				S	Sg	08 29 01.2	+1.0
LNSS				AML	AML		
	comp=E,63μm,0.2s						
LNSS				AML	AML		
	comp=E,73μm,1.2s						
LNSS				AML	AML		
	comp=N,94μm,0.3s						
T1246	Crognaleto (TE	0.19	83	P	Pg	08 28 58.9	+0.5
T1246				S	Sg	08 29 02.1	+1.0
T1214	Arquata del Tr	0.20	354	P	Pg	08 28 59.2	+0.5
T1214				S	Sg	08 29 14.9	+13
T1214				AML	AML		
	comp=E,800μm,0.3s						
T1214				AML	AML		
	comp=N,588μm,0.7s						
T1214				AML	AML		
	comp=N,588μm,0.7s						
T1214				AML	AML		
	comp=E,800μm,0.3s						
T1243	Rocca Santa Ma	0.21	48	P	Pg	08 28 59.2	+0.5
T1243				S	Sg	08 29 02.6	+1.0
NRCA	Norcia	0.29	342	S	Sb	08 29 15.4	+8.6
NRCA				AML	AML		
	comp=E,1216μm,0.2s						
NRCA				AML	AML		
	comp=E,1310μm,0.2s						
NRCA				AML	AML		
	comp=N,454μm,0.1s						
NRCA				AML	AML		
	comp=N,409μm,0.1s						
T1245	Castelsantange	0.30	353	S	Sb	08 29 15.5	+8.3
T1245				AML	AML		
	comp=E,555μm,0.7s						
T1245				AML	AML		
	comp=N,712μm,0.3s						
T1245				AML	AML		
	comp=N,587μm,0.9s						
T1245				AML	AML		
	comp=E,555μm,0.6s						
T1245				AML	AML		
	comp=E,500μm,0.1s						
MMO1	Montemonaco	0.35	11	S	Sb	08 29 16.9	+8.4

JMA 04 08:35:06.1±0.5, 32°.9N±0°.9×13°.9E±°, h197km±4km, MV3.4/33, NEAR HACHIJOJIMA ISLAND
IDC 04 08:35:06.3±2.5, 32°.81N×139°.23E, h180km±22km, mb3.6/4, mbtmp3.9/5, Error ellipse: s-maj=139.6km s-min=19.5km az=82.0
ISC 04 08:35:07.0±1.0, 32°.94N±0°.08×139°.48E±0°.07, h200km, n23, σ0°.96/26, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	Aogashimamukai	0.53	153	eP	Pn	08 35 33.4	-0.8
JMYK	Miyake Tsubota	1.12	3	eP	Pn	08 35 36.8	-0.8
TK02	Tokai 2	1.76	306	P	Pn	08 35 41.9	-0.9
JIM2	Oshima 2	1.78	359	eP	Pn	08 35 42.5	-0.8
JIZS	Izushimoda	1.85	344	P	Pn	08 35 43.3	-0.6
TK04	Tokai 4	1.97	318	P	Pn	08 35 44.5	-0.5
BSO3	Boso 3	2.05	24	eP	Pn	08 35 45.2	-0.5
BSO3				eS	Sn	08 36 14.8	-1.2
BSO1	Boso 1	2.12	36	eP	Pn	08 35 45.5	-0.6
BSO1				eS	Sn	08 36 15.6	-1.2
TTO2	TONANKAI O.B.S	2.20	292	P	Pn	08 35 46.3	-0.9
JOD2	Odawara 2	2.34	352	eP	Pn	08 35 48.5	-0.6
JFNN	Fujinakano	2.35	344	eP	Pn	08 35 48.9	-0.2
TTO1	TONANKAI O.B.S	2.36	288	eP	Pn	08 35 47.8	-1.1
JYN	Shimob	2.67	343	P	Pn	08 35 52.9	0.0
JRY	Ryogami san	3.11	351	P	Pn	08 35 57.7	-0.2
JTNC	Tanabenakahech	3.35	286	eP	Pn	08 35 59.5	-1.3
JAG	Ashikaga	3.48	360	eP	Pn	08 36 00.8	-1.6
JWY	Kouya	3.49	293	eP	Pn	08 36 01.8	-0.7
JYTA	Yamagatataniai	3.49	320	eP	Pn	08 36 02.1	-0.3
MJAR	Matsushiro Arr	3.75	344	P	Pn	08 36 04.7	-0.9
	1.7nm,0.4s,baz=158,slow=9.4,SNR=24						
MJAR				S	Sn	08 36 51.2	-0.5
	2.7nm,0.7s,baz=162,slow=13,SNR=4.2						
WRA	Warramunga Arr	52.81	186	P	P	08 44 01.5	-0.4
	0.3nm,0.3s,baz=1.0,slow=7.8,SNR=7.1						
	0.3nm,0.3s						
ASAR	Alice Springs	56.53	186	P	P	08 44 29.2	+0.6
	0.3nm,0.6s,baz=15,slow=13,SNR=7.8						
	0.3nm,0.6s						
ARCES	ARCESS Array B	67.27	340	P	P	08 45 41.3	+1.8
	11nm,1.2s,baz=64,slow=8.1,SNR=2.3						
	11nm,1.2s						
FINES	FINESS Array B	71.70	332	P	P	08 46 08.2	+1.5
	4.3nm,0.9s,baz=66,slow=6.5,SNR=4.3						
	4.3nm,0.9s						

NOU 04 08:44:38.6, 36°.245S×178°.34E, h204km, ML4.3/9, Off E. Coast of N. Island, N.Z.
WEL 04 08:44:41.2±1.2, 36°.5S±10°×17°.8E±1°.0, h144km±17km, M3.6/20, ML3.8/20, MLv3.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=41.8, confirmed
IDC 04 08:44:46.2±2.4, 36°.90S×178°.23E, h205km±18km, mb3.8/2, mbtmp4.3/3, Error ellipse: s-maj=51.9km s-min=35.6km az=134.0
ISC 04 08:44:42.1±1.5, 36°.42S±0°.10×178°.2E±0°.1, h194km±8km, n118, σ1°.64/125, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.15	177	P	Pn	08 45 10.5	-1.8
MXZ	Matakaoa Point	1.15	177	P	Pn	08 45 10.2	-2.0
MXZ				S	Sn	08 45 32.6	-3.3
HAZ	Te Kaha	1.38	195	P	Pn	08 45 13.0	-1.2
HAZ				S	Sn	08 45 37.4	-1.9
WMGZ	Waiomatatini S	1.41	174	P	Pn	08 45 13.6	-0.8
WMGZ				S	Sn	08 45 37.8	-1.9
PKGZ	Pakihiroa	1.47	185	P	Pn	08 45 14.1	-0.9
RUGZ	Raukumara Rang	1.61	196	P	Pn	08 45 15.0	-1.4
TWGZ	Tauwhareparae	1.77	186	P	Pn	08 45 17.7	-0.1
TWGZ				S	Sn	08 45 46.0	+0.2
OPRZ	Ohinepanea	1.96	223	P	Pn	08 45 19.1	-0.5
MWZ	Matawai	1.99	196	P	Pn	08 45 19.8	-0.3
MWZ				S	Sn	08 45 50.5	+0.6
TKGZ	Te Karaka	2.04	188	P	Pn	08 45 20.4	-0.2
TKGZ				S	Sn	08 45 51.6	+0.9
URZ	Urewera	2.04	206	P	Pn	08 45 19.9	-0.7
	44nm,0.3s,baz=342,slow=4.4,SNR=90						
URZ				S	Sn	08 45 49.3	-1.3
	117nm,0.4s,baz=22,slow=19,SNR=14						
URZ	Urewera	2.04	206	P	Pn	08 45 20.1	-0.5
URZ	Urewera	2.04	206	P	Pn	08 45 19.9	-0.7
URZ				S	Sn	08 45 51.3	+0.6
KUZ	Kuaotunu	2.04	260	P	Pn	08 45 18.2	-2.4
KUZ	Kuaotunu	2.04	260	P	Pn	08 45 18.3	-2.4
TGRZ	Tauranga	2.05	230	P	Pn	08 45 20.4	-0.2
CNGZ	Carnagh Statio	2.06	180	P	Pn	08 45 21.1	+0.3
GRZ	Great Barrier	2.24	273	P	Pn	08 45 19.8	-2.9
OMRZ	Omania	2.25	221	P	Pn	08 45 23.6	+0.8
KARZ	Kaharoa	2.25	224	P	Pn	08 45 22.9	+0.1
TARZ	Mount Tarawera	2.28	217	P	Pn	08 45 25.5	+2.3
RIGZ	Rimuhau	2.31	189	P	Pn	08 45 23.4	-0.1
RRRZ	Republican Roa	2.35	215	P	Pn	08 45 25.1	+1.1
MUGZ	Murupara	2.36	209	P	Pn	08 45 23.8	-0.2
UTU	Utuhina	2.39	122	P	Pn	08 45 28.9	+4.5
RTZ	Ruatahuna	2.41	204	P	Pn	08 45 24.5	-0.1
SNGZ	Shannon Statio	2.46	196	P	Pn	08 45 25.9	-0.7
HRRZ	Handcock Road	2.51	218	P	Pn	08 45 26.9	+1.2
WIAZ	Waiheke Island	2.52	260	P	Pn	08 45 24.3	-1.5
PRRZ	Plateau Road	2.54	215	P	Pn	08 45 26.6	+0.5
TOZ	Tahuroa Road	2.54	238	P	Pn	08 45 26.0	0.0
MKAZ	Moumakai	2.56	254	P	Pn	08 45 25.3	-0.9
ALRZ	Allen Road	2.62	214	P	Pn	08 45 27.4	+0.5
KNZ	Kokohu	2.64	189	P	Pn	08 45 26.9	-0.2
RAHZ	Arahi	2.66	200	P	Pn	08 45 27.8	+0.4
WPRZ	Whakapapatarin	2.67	217	P	Pn	08 45 28.6	+1.1
MTHZ	Maungataniwha	2.67	204	P	Pn	08 45 28.2	+0.6
MBAZ	Motutapu North	2.70	262	P	Pn	08 45 23.9	-4.0
ETAZ	East Tamaki Re	2.71	258	P	Pn	08 45 27.1	-0.8

SNZO	South Karori	5.61	208	P	Pn	08 46 02.0	-2.0
	129nm,1.2s						
PLWZ	Palliser	5.64	203	P	Pn	08 46 02.1	-2.5
NNZ	Nelson	6.11	217	P	Pn	08 46 08.6	-1.9
TKNZ	Takaka Hill	6.18	220	P	Pn	08 46 09.3	-2.3
QRZ	Quartz Range	6.27	224	P	Pn	08 46 10.5	-2.1
	150nm,2.4s						
QRZ	Quartz Range	6.27	224	P	Pn	08 46 10.4	-2.3
BSWZ	Blackbirch Sta	6.28	211	P	Pn	08 46 10.7	-2.2
THZ	Tophouse	6.75	216	P	Pn	08 46 17.0	-2.0
KHZ	Kahutara	7.00	210	P	Pn	08 46 20.8	-1.4
	57nm,0.6s						
KHZ	Kahutara	7.00	210	P	Pn	08 46 19.8	-2.4
AMCZ	Amberley	8.00	211	P	Pn	08 46 33.4	-1.8
OKCZ	Okains Bay	8.30	207	P	Pn	08 46 36.8	-2.4
MHCZ	Mount Hutt	8.75	214	P	Pn	08 46 42.6	-2.5
RPZ	Rata Peaks	9.13	215	P	Pn	08 46 47.0	-2.9
	6.5nm,0.4s,baz=202,slow=3.4,SNR=9.9						
RPZ				S	Sn	08 48 26.2	-5.9
	25nm,1.0s,baz=128,slow=23,SNR=6.0						
RPZ	Rata Peaks	9.13	215	P	Pn	08 46 47.9	-2.1
GCSZ	Gaunt Creek Bo	9.18	219	P	Pn	08 46 48.3	-2.4
ARCZ	Arundel	9.25	213	P	Pn	08 46 49.5	-2.1
TMZ	Timaru	9.67	212	P	Pn	08 46 54.8	-2.2
LBZ	Lake Benmore	10.04	215	P	Pn	08 46 59.7	-2.2
ODZ	Otahua Downs	10.36	211	P	Pn	08 47 03.6	-2.3
JCZ	Jackson Bay	10.51	220	P	Pn	08 47 05.2	-2.7
WKZ	Wanaka	10.93	217	P	Pn	08 47 10.5	-2.8
ASAR	Alice Springs	40.09	276	P	P	08 52 02.9	+4.0
	2.5nm,0.6s,baz=116,slow=7.9,SNR=50						
	2.5nm,0.6s						
WRA	Warramunga Arr	41.64	281	P	P	08 52 14.8	+3.3
	2.7nm,0.5s,baz=120,slow=7.8,SNR=33						
	2.7nm,0.5s						
FINES	FINESS Array B	149.44	334	PKPbc	PKPab	09 04 11.2	-1.5
	7.0nm,0.9s,baz=90,slow=1.4,SNR=3.8						

*IDC **04** 08:49:58.1±1.0,23°.86S×82°.45E,h0km,mb4.1/7, mbtmp4.1/7,MS3.3/2,Error ellipse: s-maj=39.1km s-min=22.5km az=19.0*

ISC 04 08:49:59.6±1.0,23°.9S±0°.3×82°.5E±0°.2,h10km,n16, σ0°.79/9,mb4.2/7,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	18.79	328	T	T	09 13 28.3	
	baz=151,slow=74,SNR=36						
H08S1	Diego Garcia H	18.80	328	T	T	09 13 26.1	
	baz=151,slow=74,SNR=47						
H08S3	Diego Garcia H	18.81	328	T	T	09 13 38.0	
	baz=151,slow=74,SNR=37						
H01W3	Cape Leeuwin H	29.57	119	T	T	09 26 55.5	
	baz=284,slow=75,SNR=6.7						
H01W2	Cape Leeuwin H	29.57	119	T	T	09 26 53.4	
	baz=284,slow=75,SNR=7.8						
H01W1	Cape Leeuwin H	29.59	119	T	T	09 26 56.6	
	baz=284,slow=75,SNR=7.0						
PALK	Pallekele	31.04	357	LR	LR	09 05 39.8	
	comp=Z,31nm,21.1s,baz=250,slow=30						
ASAR	Alice Springs	46.85	101	P	P	08 58 30.3	+0.1
	2.8nm,0.7s,baz=265,slow=7.3,SNR=46						
ASAR				PcP	PcP	09 00 02.1	-1.1
	0.6nm,0.7s,baz=276,slow=2.5,SNR=3.7						
	2.8nm,0.7s						
WRA	Warramunga Arr	48.08	96	P	P	08 58 40.0	+0.3
	2.9nm,0.7s,baz=261,slow=7.9,SNR=19						
	2.9nm,0.7s						
BOSA	Boshof	51.11	252	P	P	08 59 02.8	0.0
	2.3nm,0.7s,baz=109,slow=8.2,SNR=5.7						
	2.3nm,0.7s						
QSPA	South Pole Qui	66.20	180	LR	LR	09 25 43.2	
	comp=Z,43nm,18.6s,baz=217,slow=32						
MKAR	Makanchi Array	70.37	360	P	P	09 01 12.9	-0.6
	0.3nm,0.5s,baz=178,slow=5.6,SNR=4.9						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	77.56	1	P	P	09 01 54.6	-0.7
	1.7nm,0.7s,baz=190,slow=3.8,SNR=5.8						
	1.7nm,0.7s						
BRTR	Keskin Array B	77.99	324	P	P	09 01 58.9	+0.6
	1.0nm,0.7s,baz=145,slow=9.7,SNR=6.3						
	1.0nm,0.7s						
AKASG	Malin Array Be	87.87	329	P	P	09 02 49.0	0.0
	0.3nm,0.4s,baz=133,slow=4.1,SNR=4.6						
	0.3nm,0.4s						
NVAR	Mina Array Bea	157.16	46	PKPab	PKPab	09 10 27.9	+1.1
	0.3nm,0.5s,baz=289,slow=2.8,SNR=3.5						

*INET **04** 08:56:36.6±2.4,15°.02N×88°.83W,h5km,MW3.3*

SNET 04 08:56:36.1±10.0,12°.34N×89°.63W,h10km,ML3.0,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	1.31	8	eP	Pg	08 57 03.9	+2.5
JAYA				eS	Sg	08 57 24.4	+5.9
JAYA				IAML		08 57 26.0	
	comp=Z,185nm,0.2s						
SNET	Serv Nac Est T	1.39	16	eP	Pn	08 57 02.0	+0.3
SJTE	Alcalda de S	1.40	26	eP	Pb	08 57 02.1	-0.3
SJTE				eS	Sn	08 57 20.5	0.0
SJTE				IAML		08 57 25.0	
	comp=Z,73nm,0.2s						
UEES	Universidad Ev	1.42	16	eP	Pn	08 57 01.6	-0.5
UEES				eS	Sn	08 57 20.3	-0.5
UEES				IAML		08 57 23.7	
	comp=Z,322nm,0.3s						
ALJI	Alcalda de J	1.42	46	eP	Pg	08 57 07.3	+3.8
ALJI				eS	Sg	08 57 30.5	+8.6
TECO	Alcaldia de Te	1.45	35	eP	Pb	08 57 03.0	-0.2
TECO				eS	Sg	08 57 22.6	-0.2
COEG	Centro de Oper	1.46	30	eP	Pn	08 57 01.8	-0.9
COEG				eS	Sn	08 57 20.4	-1.5
COEG				IAML		08 57 25.9	
	comp=Z,150nm,0.2s						
CEVE	Cerro Verde	1.48	0	eP	Pb	08 57 03.4	-0.4
CEVE				eS	Sg	08 57 24.6	+0.9
CEVE				IAML		08 57 29.1	
	comp=Z,514nm,0.3s						
PAVA	Las Pavas	1.52	26	eP	Pn	08 57 00.3	-3.2
PAVA				eS	Sn	08 57 19.8	-3.7
PAVA				IAML		08 57 21.8	
	comp=Z,268nm,0.3s						
NUBE	Las Nubes	1.56	355	eP	Pn	08 57 03.6	-0.4
NUBE				eS	Sn	08 57 23.8	-0.6
NUBE				IAML		08 57 27.9	
	comp=Z,94nm,0.4s						
COEB	Comit de Eme	1.57	43	eP	Pn	08 57 04.4	+0.2
COEB				eS	Sg	08 57 26.3	-0.4
COEB				IAML		08 57 32.1	
	comp=Z,151nm,0.5s						
SLOZ	Alcaldia de Sa	1.68	355	eP	Pn	08 57 02.3	-3.4
SLOZ				eS	Sn	08 57 21.2	-6.0
PACA	Pacayal	1.69	49	eP	Pn	08 57 04.8	-1.1
LCND	La Caada	1.95	60	eP	Pn	08 57 10.4	+1.1
LCND				eS	Sb	08 57 36.2	+0.1
LCND				IAML		08 57 38.0	
	comp=Z,262nm,0.3s						

IDC 04 09:02:41.8±2.0,32°.85S×179°.18W,h0km,mb3.9/3, mbtmp3.9/4,ML3.5/1,MS3.1/4,Error ellipse: s-maj=44.7km s-min=30.9km az=71.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.18	208	Pn	Pn	09 04 14.7	+0.4
	1.2nm,0.3s,baz=173,slow=5.5,SNR=6.9						
URZ				Sn	Sn	09 05 27.2	+1.5
	baz=74,slow=23						
URZ				LR	LR	09 06 42.2	
	comp=Z,159nm,18.2s,baz=98,slow=39						
	18nm,1.0s						
MSVF	Nonsavu	15.26	350	LR	LR	09 10 40.1	
	comp=Z,94nm,20.9s,baz=154,slow=31						
DZM	Mont Dzumac	16.66	307	LR	LR	09 11 14.2	
	comp=Z,160nm,19.7s,baz=58,slow=31						
CTA	Charters Tower	33.30	284	LR	LR	09 20 09.6	
	comp=Z,14nm,19.4s,baz=98,slow=32						
ASAR	Alice Springs	42.04	270	P	P	09 10 35.5	+0.1
	1.0nm,0.7s,baz=110,slow=7.5,SNR=12						
	1.0nm,0.7s						
WRA	Warramunga Arr	43.25	275	P	P	09 10 44.6	-0.6
	1.0nm,0.6s,baz=115,slow=7.6,SNR=9.5						
	1.0nm,0.6s						
QSPA	South Pole Qui	57.26	180	P	P	09 12 30.6	-0.3
	1.4nm,0.7s,baz=11,slow=1.0,SNR=7.9						
	1.4nm,0.7s						
FINES	FINESS Array B	147.07	338	PKPbc	PKPbc	09 22 25.6	-0.2
	3.2nm,1.0s,baz=65,slow=6.6,SNR=1.4						

*TAP **04** 09:04:06.1,24°.80N×122°.21E,h4km±1km,ML2.6,C*
*JMA **04** 09:04:06.1±0.2,25°.N±1°.×122°.3E±0°.4,h10km,MV2.3/6, TAIWAN REGION*

ISC 04 09:04:05.9±1.0,24°.77N±0°.02×122°.29E±0°.02,h8km±9km, n44,σ0°.43/87,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.36	311	P	Pg	09 04 13.0	0.0
	baz=316						
TWB1				S	Sg	09 04 17.6	-0.2
	baz=316						
TWC	Suao	0.43	248	P	Pg	09 04 14.4	+0.1
	baz=239						
TWC				S	Sg	09 04 20.2	+0.2
	baz=239						
TIPB	Shuangxi	0.47	296	eP	Pg	09 04 15.4	+0.4
	baz=296						
TIPB				eS	Sg	09 04 20.7	-0.4
	baz=296						
SXI1	Grass Mountain	0.49	311	P	Pg	09 04 15.6	+0.1
	baz=313						
SXI1				S	Sg	09 04 22.3	+0.2
	baz=313						
NDS	Dongshan	0.54	255	eP	Pb	09 04 17.6	0.0
	baz=249						
NDS				eS	Sb	09 04 25.1	-0.4
	baz=249						
NWF	Wu-fen Shan	0.55	303	eP	Pg	09 04 17.1	+0.5
	baz=304						
NWF				eS	Sg	09 04 24.5	+0.7
	baz=304						
EWUT	Wuta	0.57	235	eP	Pb	09 04 17.4	-0.7
	baz=228						
EWUT				eS	Sg	09 04 24.9	+0.6
	baz=228						
TWE	Neicheng	0.57	265	P	Pg	09 04 17.1	+0.2
	baz=260						
TWE				S	Sb	09 04 25.3	-1.1
	baz=260						
ENA	Nanau	0.60	236	eP	Pb	09 04 18.6	-0.1
	baz=228						
ENA				eS	Sb	09 04 27.7	+0.3
	baz=228						
FUSB	Fushanzhiwuyua	0.64	269	P	Pb	09 04 18.9	-0.5
	baz=266						
FUSB				S	Sb	09 04 28.0	-0.4
	baz=266						
ENTT	Nioudou	0.67	259	eP	Pb	09 04 19.8	-0.1
	baz=254						
ENTT				eS	Sb	09 04 29.0	-0.3
	baz=254						
TWA	Mucha	0.67	288	eP	Pg	09 04 19.1	+0.1
	baz=287						
TWA				eS	Sb	09 04 28.8	-0.6
	baz=287						
JYNG	Yonagunijimaku	0.68	118	P	Pg	09 04 18.3	-0.7
JYNG				S	Sg	09 04 27.6	-0.2
YOJ	Yonaguni jima	0.72	115	P	Pg	09 04 19.4	-0.5
YOJ				eS	Sg	09 04 28.8	-0.6
YOJ	Yonaguni jima	0.72	115	eP	Pb	09 04 21.7	+0.9
	baz=114						
YOJ				eS	Sn	09 04 33.6	-0.1
	baz=114						
LATG	Datong	0.73	252	P	Pb	09 04 20.4	-0.5
	baz=247						
LATG				S	Sb	09 04 30.9	-0.3
	baz=247						
YM01	YM01	0.75	300	eP	Pb	09 04 20.9	-0.4
	baz=300						
YM01				eS	Sb	09 04 31.5	-0.2
	baz=300						
TWY	Chenhua	0.80	309	eP	Pb	09 04 21.7	-0.4
	baz=310						
TWY				eS	Sb	09 04 32.8	-0.3
	baz=310						
YHNB	Yeheng	0.84	263	P	Pb	09 04 22.4	-0.3
	baz=260						
YHNB				eS	Sb	09 04 34.3	+0.1
	baz=260						
NSK	Sanguang	0.85	264	P	Pb	09 04 22.5	-0.5
	baz=260						
NSK				S	Sb	09 04 34.5	-0.1
	baz=260						
NACB	Ninganchiao	0.87	227	eP	Pg	09 04 22.5	-0.1
	baz=222						
NACB				eS	Sb	09 04 34.5	-0.5
	baz=222						
PCYT	Pengchaiyu	0.88	347	eP	Pb	09 04 23.0	+0.2
	baz=351						
PCYT				eS	Sb	09 04 35.3	0.0
	baz=351						
NNSB	Datong	0.89	248	eP	Pb	09 04 23.6	-0.1
	baz=243						
NNSB				eS	Sb	09 04 36.4	+0.6
	baz=243						
NNS	Nan Shan	0.90	249	eP	Pb	09 04 23.6	-0.2
	baz=244						
NNS				eS	Sb	09 04 36.4	+0.4
	baz=244						
ETLH	Xiulin Townshi	0.93	233	eP	Pb	09 04 24.2	0.0
	baz=228						
ETLH				eS	Sb	09 04 36.8	+0.1
	baz=228						
TWD	Chiawan	0.93	223	eP	Pb	09 04 24.5	+0.2
	baz=217						
TWD				eS	Sn	09 04 37.8	-1.0
	baz=217						
NFF	Wufeng Townshi	1.07	263	eP	Pb	09 04 26.6	-0.2
	baz=260						
NFF				eS	Sn	09 04 41.8	-0.6
	baz=260						
WHF	Hehuan Shan	1.12	237	P	Pb	09 04 27.7	-0.1
	baz=232						
WHF				eS	Sn	09 04 43.3	-0.8
	baz=232						
TWT	Tachien	1.14	243	eP	Pn	09 04 28.2	-0.1
	baz=240						
TWT				eS	Sn	09 04 44.3	+0.1
	baz=240						
NSTT	Nanjuang	1.18	264	eP	Pb	09 04 28.5	-0.1
	baz=261						
NSTT				eS	Sn	09 04 44.5	-0.5
	baz=261						
CHGB	Renai	1.24	235	eP	Pn	09 04 29.9	+0.2
	baz=232						
CHGB				eS	Sn	09 04 47.3	+0.6
	baz=232						
OWD	Renai	1.30	232	eP	Pg	09 04 30.8	-0.1
	baz=228						
OWD				eS	Sn	09 04 48.0	-0.1
	baz=228						
WHP	Taichung City	1.32	248	eP	Pb	09 04 30.9	-0.1
	baz=245						
WHP				eS	Sn	09 04 49.0	+0.5
	baz=245						
WUSB	Renai	1.32	234	eP	Pb	09 04 30.9	-0.1
	baz=231						
WUSB				eS	Sn	09 04 49.1	+0.5
	baz=231						
WCS	Beigang Elemen	1.44	241	eP	Pn	09 04 32.4	+0.1
	baz=238						
WCS				eS	Sg	09 04 52.4	+0.1
	baz=238						
VWDT	VWDT	1.46	226	eP	Pb	09 04 33.3	+0.1
	baz=223						
VWDT				eS	Sg	09 04 53.2	+0.4
	baz=223						
HGSD	Ruisui	1.50	212	eP	Pb	09 04 33.8	-0.2
	baz=208						
EHY	Hungye	1.54	215	eP	Pn	09 04 34.2	+0.6
	baz=212						
EHY				eS	Sg	09 04 55.2	-0.2
	baz=212						
SMLT	Sun Moon Lake	1.54	235	eP	Pn	09 04 34.2	+0.4
	baz=232						
SMLT				eS	Sg	09 04 55.0	-0.7
	baz=232						
SSLB	Suanglung	1.56	232	eP	Pn	09 04 34.5	+0.5
	baz=228						
SSLB				eS	Sg	09 04 55.7	-0.5
	baz=228						
TYC	Yuchr	1.57	237	eP	Pn	09 04 34.5	+0.5
	baz=233						
TYC				eS	Sb	09 04 55.2	+0.1
	baz=233						
YULB	Yu-li	1.65	214	eP	Pb	09 04 36.0	-0.5
	baz=210						
YULB				eS	Sb	09 04 57.7	+0.3
	baz=210						
JIJ	Ishigaki jima	1.74	103	eP	Pn	09 04 36.4	+0.1
JIJ				eS	Sn	09 04 59.2	+0.6
CHN5	Tsauling	1.88	232	eP	Pn	09 04 39.1	+0.7
	baz=229						
CHN5				eS	Sn	09 05 03.1	+0.8
	baz=229						

*DJA **04** 09:08:41.6±0.5,8°.S±4°.×10°.8E±°.,h31km±5km,M4.4/18, mb4.5/7,mB5.1/3,MLv4.3/18,Mw(mB)4.5/3*
*IDC **04** 09:08:43.2±2.0,8°.20S×108°.03E,h101km±15km,mb3.6/7, mbtmp3.9/7,MS3.2/3,Error ellipse: s-maj=55.0km s-min=15.0km az=54.0*

ISC 04 09:08:39.5±0.7,8°.28S±0°.06×108°.23E±0°.06,h55km,n39, σ2°.07/38,mb3.8/7,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.53	23	P	Pn	09 08 52.1	+0.6
CMJI				S	Sn	09 08 59.9	-0.3
BBJI	Bungbulang	0.99	324	P	Pn	09 08 58.9	+1.5
KPJI	Karang Pucung	1.16	36	P	Pn	09 09 00.4	+0.8
CNJI	Cibinong	1.46	311	P	Pn	09 09 04.9	+1.4
CNJI				S	Sn	09 09 22.4	+0.8
LEM	Lembang	1.56	337	P	Pn	09 09 07.5	+2.3
	478nm,0.5s,baz=183,slow=18,SNR=40						
LEM				S	Sn	09 09 28.2	+3.7
	779nm,0.5s,baz=184,slow=21,SNR=12						
LEM	Lembang	1.56	337	P	Pn	09 09 06.8	+1.6
SKJI	Sukabumi	2.09	307	P	Pn	09 09 14.5	+2.3
YOGI	Yogyakarta	2.09	78	P	Pn	09 09 12.4	+0.2
UGM	Wanagama	2.29	81	P	Pn	09 09 16.0	+0.9
UGM	Wanagama	2.29	81	P	Pn	09 09 15.9	+0.9
SMRI	Semarang	2.50	61	P	Pn	09 09 19.9	+2.0
SMRI	Semarang	2.50	61	P	Pn	09 09 19.0	+1.1
CGJI	Cibinong	3.01	303	P	Pn	09 09 26.0	+1.2
CGJI				S	Sn	09 10 01.4	+1.7
XMI	Christmas Isla	3.31	229	P	Pn	09 09 30.9	+2.0
NGJI	Ngawi	3.32	74	P	Pn	09 09 32.7	+3.6
PWJI	Pagerwojo	3.54	86	P	Pn	09 09 32.7	+0.6
GRJI	Gresik	4.42	72	P	Pn	09 09 45.4	+1.3
KASI	Kota Agung	4.61	306	P	Pn	09 09 51.1	+4.4
GMJI	Gumukmas	5.16	90	P	Pn	09 09 56.6	+2.4
	36nm,0.9s,0.2nm						
MDSI	Maura Dua	5.52	313	P	Pn	09 10 03.0	+3.8
	34nm,1.0s,0.2nm						
JAGI	Jajag, Banyuwa	5.86	92	P	Pn	09 10 06.9	+3.0
JAGI	Jajag, Banyuwa	5.86	92	P	Pn	09 10 06.3	+2.4
	49nm,0.8s,2µm0.4nm						
TWSI	Taliwang, Sumb	8.57	94	P	Pn	09 10 42.2	+1.2
	24nm,1.3s						
PLAI	Plampang	9.45	94	P	Pn	09 10 55.3	+2.2
PLAI	Plampang	9.45	94	P	Pn	09 10 54.4	+1.3
KAPI	Kappang	11.89	75	LR	LR	09 16 33.6	
	comp=Z,41nm,18.3s,baz=300,slow=39						
PSI	Prapat	14.40	319	P	Pn	09 11 59.5	-1.1
	14nm,1.1s						
WRA	Warramunga Arr	27.80	117	P	P	09 14 23.7	0.0
	0.4nm,0.4s,baz=289,slow=12,SNR=4.6						
	0.4nm,0.4s						
ASAR	Alice Springs	28.96	125	P	P	09 14 34.8	+0.7
	1.1nm,0.8s,baz=309,slow=8.9,SNR=8.5						
ASAR				PcP	PcP	09 17 41.8	-0.1
	0.4nm,0.4s,baz=308,slow=2.2,SNR=1.6						
	1.1nm,0.8s						
H08S2	Diego Garcia H	35.40	268	T	T	09 52 47.9	
	baz=93,slow=76,SNR=76						
H08S3	Diego Garcia H	35.41	268	T	T	09 52 47.9	
	baz=93,slow=76,SNR=76						
H08S1	Diego Garcia H	35.41	268	T	T	09 52 49.1	
	baz=93,slow=76,SNR=77						
STKA	Stephens Creek	38.88	132	P	P	09 16 01.5	+1.7
	3.4nm,0.5s,baz=313,slow=8.8,SNR=13						
STKA				LR	LR	09 33 33.6	
	comp=Z,24nm,18.9s,baz=25,slow=38						
	3.4nm,0.5s						
SONM	Songino Array	55.89	359	P	P	09 18 11.2	-0.6
	0.4nm,0.4s,baz=178,slow=8.6,SNR=4.5						
	0.4nm,0.4s						
MKAR	Makanchi Array	59.50	340	P	P	09 18 33.5	-3.6
	0.4nm,0.4s,baz=148,slow=7.6,SNR=14						
	0.4nm,0.4s						
VNDA	Vanda	74.50	170	P	P	09 20 11.2	-0.6
	2.2nm,1.1s,baz=290,slow=6.0,SNR=2.6						
	2.2nm,1.1s						
ARU	Arti	76.30	334	LR	LR	10 01 11.0	
	comp=Z,53nm,18.1s,baz=184,slow=41						
BRTR	Keskin Array B	83.58	312	P	P	09 20 59.8	-2.5
	0.6nm,0.7s,baz=96,slow=2.5,SNR=3.6						
	0.6nm,0.7s						
TXAR	Lajitas Array	143.45	51	PKP	PKPab	09 28 05.1	0.0
	0.2nm,0.7s,baz=293,slow=0.7,SNR=2.0						

*DJA **04** 09:11:08.0±0.6,1°.N±3°.×12°.6E±°.,h13km±5km,M4.2/10, mb4.4/4,mB5.0/1,MLv4.1/10,Mw(mB)4.4/1*
*IDC **04** 09:11:09.6±6.5,0°.86N×126°.41E,h73km±59km,mb3.9/6, mbtmp4.2/7,ML4.2/1,Error ellipse: s-maj=50.4km s-min=17.6km az=59.0*
*NEIC **04** 09:11:10.2±1.6,0°.79N±0°.08×126°.54E±0°.07,h60km±5km, mb4.3/21,Error ellipse: s-maj=11.9km s-min=10.0km az=205.0*

ISC 04 09:11:07.9±0.6,0°.84N±0°.06×126°.57E±0°.05,h39km,n45, σ2°.10/50,mb4.2/15,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.80	95		Pn	09 11 26.0	+3.3
TNTI	Ternate	0.80	95	P	Pn	09 11 25.6	+2.8
TNTI				S	Sn	09 11 37.9	+4.4
SANI	Sanana	2.93	191	P	Pn	09 11 53.1	+1.1
SANI				S	Sn	09 12 30.0	+4.0
GTOI	Gorontalo	3.56	267	P	Pn	09 12 02.9	+2.2
GTOI				S	Sn	09 12 46.0	+4.4
NLAI	Namlea	4.09	173	P	Pn	09 12 10.3	+2.3
LUWI	Luwuk	4.23	244	P	Pn	09 12 11.8	+1.9
MRSI	Marisa	4.64	266	P	Pn	09 12 16.5	+1.0
APSI	Ampana	5.22	251	P	Pn	09 12 25.0	+1.5
	88nm,1.2s,2µm0.6nm						
TOLI2	Tolitoli	5.79	273		Pn	09 12 31.7	+0.4
MPSI	Mapaga	6.69	266	P	Pn	09 12 46.0	+2.3
	14nm,0.6s,0.1nm						
FAKI	Fak Fak	6.80	123	Pn	Pn	09 12 49.6	+4.4
BNSI	Bone	8.29	231	P	Pn	09 13 07.2	+1.5
	11nm,1.2s						
BKSI	Bulukumba	8.88	226	P	Pn	09 13 15.1	+1.3
KAPI	Kappang	8.95	229	P	Pn	09 13 16.4	+1.6
	2.8nm,0.3s,baz=37,slow=8.8,SNR=6.7						
KAPI				S	Sn	09 14 52.0	-2.5
	15nm,0.4s,baz=117,slow=18,SNR=12						
	7.4nm,0.3s						
KAPI	Kappang	8.95	229	Pn	Pn	09 13 16.9	+2.1
MYLDM	Lahad Datu	9.13	298	Pn	Pn	09 13 20.7	+3.4
KNRA	Kununurra	16.56	173		Pn	09 14 57.7	+0.4
KNRA				IAmb	IAmb	09 14 58.5	
	comp=Z,26nm,0.8s						
FITZ	Fitzroy Crossi	18.84	183	P	P	09 15 24.1	-0.6
WB0	Warramunga Arr	21.87	160	P	P	09 15 57.0	-0.6
WRAB	Tennant Creek	22.01	160	P	P	09 15 58.8	-0.3
WRAB				IAmb	IAmb	09 16 03.6	
	comp=Z,13nm,0.6s						
WRA	Warramunga Arr	22.02	160	P	P	09 15 58.2	-0.9
	comp=Z,11nm,0.6s,baz=337,slow=11,SNR=39						
	comp=Z,11nm,0.6s						
WRA	Warramunga Arr	22.02	160	P	P	09 15 57.4	-1.7
WB2	Warramunga Arr	22.02	160	P	P	09 15 58.5	-0.6
WB2				IAmb	IAmb	09 15 59.8	
	comp=Z,13nm,0.6s						
COEN	Coen	22

MBWA	**Marble Bar**	**22.86**	**197**	P	**P**		09 16 06.5	**-1.6**
MBWA				IAmb	IAmb		09 16 16.6	
	comp=Z,9.2nm,1.0s							
PMG	**Port Moresby**	**22.89**	**117**	P	**P**		**09 16 08.0**	**-0.5**
PMG				IAmb	IAmb		09 16 10.6	
	comp=Z,5.0nm,0.7s							
TPUB	**Ta-pu**	**23.06**	**346**	P	**P**		**09 16 11.6**	**+1.5**
AS31	**Alice Springs**	**25.38**	**164**	P	**P**		**09 16 31.4**	**-0.4**
AS31				IAmb	IAmb		09 16 34.0	
	comp=Z,2.5nm,0.3s							
ASAR	**Alice Springs**	**25.38**	**164**	P	**P**		**09 16 30.8**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=342,slow=7.3,SNR=28							
ASAR				PcP	**PcP**		**09 20 01.2**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=323,slow=1.7,SNR=4.8							
	comp=Z,2.2nm,0.4s							
ASAR	**Alice Springs**	**25.38**	**164**	P	**P**		**09 16 30.5**	**-1.3**
JOW	**Kunigami**	**25.89**	**3**	P	**P**		**09 16 37.4**	**+1.1**
JOW				IAmb	IAmb		09 16 37.8	
	comp=Z,16nm,1.0s							
FORT	**Forrest**	**31.48**	**178**	P	**P**		**09 17 25.5**	**-0.5**
BBOO	**Buckleboo**	**34.65**	**166**	P	**P**		**09 17 52.6**	**-1.1**
STKA	**Stephens Creek**	**35.52**	**158**	P	**P**		**09 18 00.1**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=335,slow=5.9,SNR=5.8							
	comp=Z,1.8nm,0.4s							
STKA	**Stephens Creek**	**35.52**	**158**	P	**P**		**09 18 00.4**	**-0.8**
CAN	**Canberra**	**41.63**	**152**	P	**P**		**09 18 50.3**	**-2.3**
SONM	**Songino Array**	**49.97**	**342**	P	**P**		**09 19 58.2**	**-0.2**
MK31	**Makanchi Array**	**59.84**	**326**	P	**P**		**09 21 07.2**	**-2.4**
MKAR	**Makanchi Array**	**59.84**	**326**	P	**P**		**09 21 06.9**	**-2.7**
	comp=Z,0.6nm,0.4s,baz=120,slow=8.1,SNR=12							
	comp=Z,0.6nm,0.4s							
MKAR	**Makanchi Array**	**59.84**	**326**	P	**P**		**09 21 07.0**	**-2.5**
ZALV	**Zalesovo Beam**	**63.08**	**334**	P	**P**		**09 21 28.2**	**-3.0**
	comp=Z,1.0nm,0.7s,baz=104,slow=6.1,SNR=4.1							
	comp=Z,1.0nm,0.7s							
VNDA	**Vanda**	**80.60**	**173**	P	**P**		**09 23 14.6**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=309,slow=9.0,SNR=7.0							
	comp=Z,1.5nm,0.9s							
VNDA	**Vanda**	**80.60**	**173**	P	**P**		**09 23 15.0**	**-1.0**
VNDA				IAmb	IAmb		09 23 41.8	
	comp=Z,4.0nm,1.3s							
MAW	**Mawson**	**81.01**	**200**	P	**P**		**09 23 17.8**	**-0.4**
MAW				IAmb	IAmb		09 23 26.5	
	comp=Z,6.7nm,1.4s							

*INET **04** 09:17:14.6,8˚.74N×83˚.96W,h4km,MW3.3,MW3.3(NEIC)*
*UPA **04** 09:17:15.4±1.6,8˚.61N×84˚.08W,h31km±41km,MW3.5*
*UCR **04** 09:17:16.2±1.3,8˚.81N×83˚.90W,h5km, MW3.6*

ISC 04 09:17:13.4±1.5,**8˚.66N**±0˚.05×**83˚.95W**±0˚.04,**h14**km±11km, **n53**,σ1§**00**/63,**1D**,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EDPN	**Palmar Norte**	**0.58**	**58**	*e*P		**Pb**	**09 17 25.5**	**+0.2**
EDDO	**Dominical**	**0.60**	**8**	*e*P		**Pg**	**09 17 24.9**	**-0.3**
ZELE	**Perez Zeledon**	**0.75**	**19**	*e*P		**Pg**	**09 17 27.6**	**-0.5**
PEZE	**Perez Zeledon,**	**0.77**	**21**	*e*P		**Pg**	**09 17 27.6**	**-0.9**
PEZE				*e*S		**Sg**	**09 17 38.5**	**-0.1**
EDAD	**Golfito**	**0.78**	**90**	*e*P		**Pn**	**09 17 30.3**	**+0.2**
FITO	**Golfito**	**0.79**	**92**	*e*P		**Pn**	**09 17 30.3**	**+0.2**
SRBA	**San Rafael, Bu**	**0.82**	**46**	*e*P		**Pg**	**09 17 28.9**	**-0.5**
LLNJ	**Naranjito**	**0.82**	**350**	*e*P		**Pg**	**09 17 29.1**	**-0.4**
EDP2	**Potrero Grande**	**0.85**	**65**	*e*P		**Pn**	**09 17 30.6**	**-0.3**
POTG	**Potrero Grande**	**0.91**	**64**	*e*P		**Pn**	**09 17 32.0**	**+0.1**
EDSV	**San Vito**	**0.98**	**80**	*e*P		**Pn**	**09 17 34.2**	**+1.3**
RAZU	**San Marcos de**	**1.00**	**356**	*e*P		**Pb**	**09 17 31.9**	**-0.8**
ABE2	**San Pablo**	**1.04**	**355**	*e*P		**Pb**	**09 17 32.9**	**-0.5**
CDITO	**Canoas**	**1.07**	**94**	*e*P		**Pn**	**09 17 35.2**	**+1.2**
RIMA	**Rio Macho**	**1.11**	**5**	*e*P		**Pb**	**09 17 33.3**	**-1.2**
ACOS	**Acosta**	**1.15**	**350**	*e*P		**Pn**	**09 17 34.8**	**-0.5**
CTCR	**Cotoan**	**1.20**	**79**	*e*P		**Pg**	**09 17 37.2**	**+0.5**
OCM	**Ochomogo**	**1.23**	**360**	*e*P		**Pn**	**09 17 36.1**	**-0.3**
AMPA	**Desamparados**	**1.24**	**355**	*e*P		**Pb**	**09 17 36.8**	**+0.1**
VINA	**Juan Vinas**	**1.25**	**9**	*e*P		**Pb**	**09 17 36.7**	**-0.1**
BRU2	**Volcan**	**1.25**	**84**	*e*P		**Pg**	**09 17 38.1**	**+0.5**
BRU2				*e*S		**Sg**	**09 17 56.8**	**+2.7**
BRU2	**Volcan**	**1.25**	**84**	*e*P		**Pg**	**09 17 38.1**	**+0.5**
PCAYA	**Pacayas**	**1.26**	**6**	*e*P		**Pg**	**09 17 37.6**	**-0.2**
MRVA	**Moravia de Chi**	**1.26**	**23**	*e*P		**Pn**	**09 17 36.2**	**-0.6**
LUJA	**Lujan**	**1.27**	**355**	*e*P		**Pg**	**09 17 37.5**	**-0.4**
SANTA	**Santa Ana**	**1.29**	**350**	*e*P		**Pn**	**09 17 37.2**	**+0.1**
VIRE	**VIRE**	**1.30**	**2**	*e*P		**Pn**	**09 17 37.5**	**0.0**
VERB	**Verbena**	**1.30**	**11**	*e*P		**Pn**	**09 17 37.4**	**0.0**
ICR3	**Volcano Irazu**	**1.32**	**5**	*e*P		**Pb**	**09 17 38.0**	**-0.2**
HAYA	**Volcan Irazu**	**1.32**	**5**	*e*P		**Pn**	**09 17 38.0**	**-0.2**
VICA	**Volcano Irazu**	**1.32**	**5**	*i* P		**Pn**	**09 17 37.4**	**-0.5**
BC3P	**Paso Ancho**	**1.34**	**83⇓**	*e*P		**Pg**	**09 17 39.6**	**+0.4**
BC3P				*e*S		**Sg**	**09 17 57.9**	**+1.3**
TRB2	**Turrubares**	**1.34**	**339**	*e*P		**Pn**	**09 17 37.9**	**+0.2**
HDC	**Heredia**	**1.34**	**353**	*e*P		**Pn**	**09 17 38.1**	**+0.2**
HDC				*e*S		**Sn**	**09 17 55.4**	**-0.2**
HDC	**Heredia**	**1.34**	**353**	*e*P		**Pb**	**09 17 38.7**	**+0.2**
HDC3	**Heredia 3**	**1.35**	**353**	*e*P		**Pb**	**09 17 38.4**	**-0.1**
VTLA	**Turrialba Volc**	**1.35**	**7**	*e*P		**Pn**	**09 17 38.1**	**-0.1**
CVIMO	**Finca Echandi**	**1.36**	**0**	*e*P		**Pn**	**09 17 38.2**	**0.0**
RVLA	**Villa Bonita**	**1.49**	**14**	*e*P		**Pb**	**09 17 40.4**	**-0.4**
DVD	**David**	**1.50**	**98**	*e*P		**Pg**	**09 17 42.9**	**+0.5**
DVD				*e*S		**Sg**	**09 18 01.9**	**0.0**
DVD				*e*S		**Sb**	**09 18 03.3**	**+3.3**
VPTE	**Poasito**	**1.52**	**351**	*e*P		**Pb**	**09 17 41.8**	**+0.1**
BATAN	**Batan**	**1.54**	**22**	*e*P		**Pb**	**09 17 42.1**	**+0.3**
BATAN				*e*S		**Sg**	**09 18 03.0**	**-0.1**
CHIR3	**Chiriqui UPA,**	**1.63**	**99**	*e*P		**Pb**	**09 17 43.5**	**-1.3**
CHIR3				*e*S		**Sb**	**09 18 03.0**	**-0.6**
CNI2	**El Empalme, Bo**	**1.65**	**62**	*e*P		**Pb**	**09 17 43.3**	**-0.4**
CNI2				*e*S		**Sb**	**09 18 04.5**	**+0.2**
SOCE	**Pocosol**	**1.84**	**339**	*e*P		**Pb**	**09 17 47.0**	**+0.2**
JUNT	**Juntas**	**1.90**	**329**	*e*P		**Pb**	**09 17 47.8**	**0.0**
JTS	**Las Juntas de**	**1.90**	**329**	*e*P		**Pn**	**09 17 46.3**	**+0.8**
JTS				*e*S		**Sg**	**09 18 15.1**	**+0.5**
VACR	**Volcan Arenal**	**1.94**	**338**	*e*P		**Pb**	**09 17 48.8**	**+0.1**
DUNO	**Dulce Nombre,**	**2.08**	**313**	*e*P		**Pb**	**09 17 50.5**	**-0.4**
COVE	**Coope Vega, Sa**	**2.10**	**348**	*e*P		**Pb**	**09 17 50.0**	**-1.3**
REME3	**Remedios, Chir**	**2.14**	**101**	*e*P		**Pb**	**09 17 50.2**	**-1.8**
CUI	**Cuipilapa**	**2.32**	**329**	*e*P		**Pb**	**09 17 54.5**	**-0.5**
VTON	**El Valle, Cocl**	**3.80**	**90**	*e*P		**Pb**	**09 18 15.8**	**-4.5**

*IDC **04** 09:37:54.4±1.0,7˚.65N×36˚.71W,h0km,mb3.7/8, mbtmp3.8/9,ML3.9/1,MS3.6/51,Error ellipse: s-maj=34.9km s-min=22.6km az=130.0*
*GCMT **04** 09:37:58.0±0.4,7˚.61N±0˚.06×36˚.46W±0˚.03,h14km±1km, MW4.7/74,Moment Tensor Solution. s10,c10; s74,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.46±.16; $M_{\theta\theta}$0.20±.09; $M_{\phi\phi}$1.26±.10; $M_{r\theta}$0.18±.32; $M_{\theta\phi}$-0.16±.06; $M_{\phi r}$-0.49±.18; Best double couple: $M_0$1.46800×10^{16} NP1:ϕs348.00000°,δ55.00000°,λ-94.00000°. NP2: ϕs175.00000°,δ35.00000°,λ-84.00000°. Principal axes: T 1.3760, Plg10.0000°, Azm81.0000°; N 0.1790, Plg3.0000°, Azm350.0000°; P -1.5590, Plg79.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 04 09:37:57.7±0.7,**7˚.6N**±0˚.1×**36˚.7W**±0˚.2,**h24**km,**n60**, σ1§**88**/12,**mb3.8/8**,**MS3.6**/50,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.33**	**177**	Pn		**Pn**	**09 41 04.6**	**-0.9**
	0.6nm,0.3s,baz=107,slow=19,SNR=2.3							
RCBR				Sn		Sn	09 43 23.5	-10
	0.4nm,0.3s,baz=65,slow=9.8,SNR=1.3							
	7.4nm,0.9s							
MDP	**Montagnes des**	**16.03**	**262**	LR		LR	09 46 43.1	
	comp=Z,382nm,21.9s,baz=54,slow=33							
BBTS	**Babate**	**20.99**	**69**	LR		LR	09 48 46.9	
	comp=Z,398nm,20.7s,baz=240,slow=31							
BDFB	**Brasilia**	**25.64**	**206**	P		**P**	**09 43 27.2**	**+1.4**
	2.6nm,0.6s,baz=38,slow=13,SNR=4.8							
BDFB				LR		LR	09 52 25.5	
	comp=Z,76nm,19.9s,baz=155,slow=34							
	2.6nm,0.6s							
H10N3	**ASCENSION HYDR**	**26.91**	**124**	T		T	10 11 46.4	
	baz=304,slow=75,SNR=4.9							
H10N2	**ASCENSION HYDR**	**26.91**	**124**	T		T	10 11 46.8	
	baz=304,slow=75,SNR=3.3							
H10N1	**ASCENSION HYDR**	**26.93**	**124**	T		T	10 11 45.3	
	baz=304,slow=75,SNR=3.8							
SJG	**San Juan**	**30.52**	**293**	LR		LR	09 54 08.7	
	comp=Z,175nm,20.6s,baz=103,slow=32							
DBIC	**Dimbokro**	**31.61**	**90**	LR		LR	09 54 21.1	
	comp=Z,150nm,19.4s,baz=290,slow=31							
SDV	**Santo Domingo**	**33.61**	**275**	LR		LR	09 57 43.7	
	comp=Z,103nm,21.4s,baz=84,slow=35							
SIV	**San Ignacio**	**33.62**	**226**	LR		LR	09 57 44.5	
	comp=Z,180nm,18.4s,baz=104,slow=35							
ROSC	**El Rosal**	**37.49**	**268**	LR		LR	10 00 42.8	
	comp=Z,252nm,19.2s,baz=81,slow=36							
MDT	**Midelt**	**38.94**	**45**	P		**P**	**09 45 22.8**	**+0.7**
	1.6nm,0.7s,baz=280,slow=8.4,SNR=4.3							
MDT				LR		LR	10 01 10.2	
	comp=Z,87nm,18.1s,baz=235,slow=36							
	1.6nm,0.7s							
CPUP	**Villa Florida**	**39.20**	**210**	LR		LR	10 00 54.8	
	comp=Z,82nm,21.0s,baz=30,slow=35							
ESDC	**Sonseca Array**	**43.38**	**37**	P		**P**	**09 45 58.4**	**0.0**
	2.0nm,1.2s,baz=249,slow=12,SNR=4.1							
ESDC				LR		LR	10 00 34.3	
	comp=Z,83nm,20.1s,baz=250,slow=31							
	2.0nm,1.2s							
LVC	**Limon Verde**	**43.52**	**226**	LR		LR	10 04 35.9	
	comp=Z,72nm,18.3s,baz=36,slow=37							
ATAH	**Atahualpa**	**44.07**	**252**	LR		LR	10 05 56.8	
	comp=Z,130nm,18.5s,baz=89,slow=38							
NNA	**Nana**	**44.39**	**244**	LR		LR	10 04 32.0	
	comp=Z,98nm,20.1s,baz=74,slow=36							
JTS	**Las Juntas de**	**47.71**	**277**	LR		LR	10 07 25.2	
	comp=Z,83nm,20.6s,slow=37							
CFA	**Coronel Fontan**	**49.25**	**216**	LR		LR	10 07 01.0	
	comp=Z,81nm,19.8s,baz=70,slow=35							
KEST	**Kesra**	**50.51**	**49**	LR		LR	10 09 25.0	
	comp=Z,116nm,18.3s,baz=194,slow=38							
TKL	**Tuckaleechee C**	**51.26**	**310**	LR		LR	10 04 21.0	
	comp=Z,83nm,21.5s,baz=108,slow=31							
SADO	**Sadowa**	**52.20**	**323**	LR		LR	10 04 41.0	
	comp=Z,34nm,21.8s,baz=126,slow=31							
VAE	**Valguarnera**	**54.94**	**49**	LR		LR	10 10 05.1	
	comp=Z,84nm,20.2s,baz=304,slow=35							
DAVOX	**Davos/Dischmat**	**55.71**	**37**	LR		LR	10 08 29.3	
	comp=Z,113nm,20.1s,baz=254,slow=33							
PLCA	**Paso Flores**	**57.27**	**210**	LR		LR	10 12 04.4	
	comp=Z,57nm,20.2s,baz=28,slow=36							
CMIG	**Matias Romero**	**57.45**	**285**	LR		LR	10 10 50.1	
	comp=Z,27nm,21.7s,baz=89,slow=34							
BORG	**Borgarnes**	**58.12**	**8**	LR		LR	10 07 49.5	
	comp=Z,32nm,19.3s,baz=179,slow=31							
GERES	**GERESS Array B**	**58.96**	**36**	LR		LR	10 09 33.5	
	comp=Z,72nm,21.8s,baz=264,slow=32							
VRAC	**Vranov**	**60.87**	**37**	LR		LR	10 11 04.8	
	comp=Z,51nm,21.8s,baz=271,slow=33							
NOA	**NORSAR Array B**	**64.05**	**24**	LR		LR	10 12 23.8	
	comp=Z,35nm,19.9s,baz=270,slow=32							
HFS	**Hagfors**	**64.55**	**24**	LR		LR	10 15 59.6	
	comp=Z,21nm,18.4s,baz=282,slow=35							
SUMG	**Summit**	**64.96**	**359**	*i* P		**P**	**09 48 36.5**	**+0.9**
SUMG				*i* P		**pP**	**09 48 37.0**	**-4.8**
MLR	**Muntele Rosu**	**65.58**	**43**	LR		LR	10 16 41.0	
	comp=Z,50nm,19.0s,baz=262,slow=36							
TXAR	**Lajitas Array**	**66.27**	**299**	P		**P**	**09 48 45.4**	**+0.9**
	0.3nm,0.8s,baz=112,slow=7.1,SNR=1.9							
TXAR				LR		LR	10 15 43.9	
	comp=Z,41nm,22.0s,baz=102,slow=34							
	0.3nm,0.8s							
SUR	**Sutherland**	**67.61**	**129**	LR		LR	10 12 47.7	
	comp=Z,48nm,21.2s,baz=248,slow=31							
LBTB	**Lobatse**	**68.70**	**120**	LR		LR	10 13 35.5	
	comp=Z,86nm,18.5s,baz=296,slow=31							
AKASG	**Malin Array Be**	**69.01**	**38**	P		**P**	**09 49 01.3**	**0.0**
	0.9nm,0.6s,baz=261,slow=5.5,SNR=5.2							
	0.9nm,0.6s							
BOSA	**Kioshof**	**69.66**	**124**	LR		LR	10 13 01.4	
	comp=Z,89nm,21.3s,baz=1.5,slow=30							
BRTR	**Keskin Array B**	**70.09**	**51**	P		**P**	**09 49 08.1**	**-0.2**
	0.8nm,0.9s,baz=266,slow=5.8,SNR=4.7							
	0.8nm,0.9s							
EIL	**Elat**	**70.36**	**61**	LR		LR	10 21 47.6	
	comp=Z,78nm,18.2s,baz=240,slow=37							
FINES	**FINESS Array B**	**70.57**	**27**	LR		LR	10 19 26.2	
	comp=Z,22nm,18.0s,baz=218,slow=35							
LPIG	**La Paz**	**72.02**	**294**	LR		LR	10 22 33.8	
	comp=Z,16nm,18.0s,baz=27,slow=37							
PDAR	**Pinedale Array**	**72.32**	**312**	P		**P**	**09 49 22.0**	**+0.1**
	0.1nm,0.4s,baz=88,slow=6.5,SNR=2.9							
PDAR				LR		LR	10 20 32.4	
	comp=Z,19nm,18.8s,baz=135,slow=35							
	0.1nm,0.4s							
ARCES	**ARCESS Array B**	**73.44**	**19**	LR		LR	10 19 39.7	
	comp=Z,26nm,18.3s,baz=293,slow=34							
KMBO	**Kilimbogo**	**74.25**	**93**	LR		LR	10 20 12.9	
	comp=Z,27nm,19.5s,baz=86,slow=34							
OBN	**Obninsk**	**74.27**	**35**	LR		LR	10 19 21.0	
	comp=Z,8.0nm,20.2s,baz=188,slow=34							
ELK	**Elko**	**76.43**	**310**	LR		LR	10 22 47.4	
	comp=Z,53nm,18.1s,baz=106,slow=35							
KLMR	**Klimovskoe**	**76.72**	**29**	*e*		**P**	**09 49 48.6**	**+1.8**
KLMR					AMP		09 49 50.3	
	comp=Z,35nm,1.7s							
KBZ	**Khabaz**	**77.30**	**47**	LR		LR	10 25 53.8	
	comp=Z,23nm,19.9s,baz=277,slow=37							
YKA	**Yellowknife Ar**	**77.75**	**332**	P		**P**	**09 49 51.5**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=97,slow=5.4,SNR=1.8							
	comp=Z,0.4nm,0.7s							
RPN	**Rapa Nui**	**78.21**	**240**	LR		LR	10 20 34.0	
	comp=Z,47nm,20.7s,baz=85,slow=33							
GNI	**Garni**	**78.63**	**51**	LR		LR	10 24 53.4	
	comp=Z,31nm,21.7s,baz=294,slow=36							
KIRV	**Kirov**	**81.57**	**30**	LR		LR	10 22 46.7	
	comp=Z,27nm,21.8s,baz=295,slow=33							
BBB	**Bella Bella**	**84.95**	**322**	LR		LR	10 25 38.7	
	comp=Z,27nm,20.1s,baz=108,slow=34							
ARU	**Arti**	**86.66**	**34**	LR		LR	10 27 26.0	
	comp=Z,25nm,20.3s,baz=188,slow=34							
ILAR	**Eielson Array**	**91.63**	**336**	LR		LR	10 29 57.0	
	comp=Z,31nm,20.1s,baz=53,slow=34							
WSAR	**Wadi Sarin**	**91.91**	**66**	LR		LR	10 34 44.5	
	comp=Z,65nm,18.1s,baz=310,slow=37							
BVAR	**Bovoro Array**	**94.11**	**35**	LR		LR	10 31 53.6	
	comp=Z,24nm,20.2s,baz=241,slow=34							
KDAK	**Kodiak Island**	**96.97**	**331**	LR		LR	10 35 13.4	
	comp=Z,20nm,19.2s,baz=114,slow=36							

IDC 04 09:39:08.4±2.1,**18˚.64S×175˚.80E,h0km,mb3.8**/3, **mbtmp3.8**/4,**ML4.9**/1,**MS3.4**/12,**Error ellipse: s-maj=308.5km s-min=23.2km az=161.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.32**	**67**	Pn		Pn	09 39 47.6	-0.4
	13nm,0.3s,baz=288,slow=20,SNR=12							
MSVF				Sn		Sn	09 40 12.9	-4.5
	29nm,0.3s,baz=165,slow=13,SNR=9.0							
MSVF				LR		LR	09 40 54.3	
	comp=Z,577nm,18.2s,baz=205,slow=46							
	16nm,0.4s							
DZM	**Mont Dzumac**	**9.41**	**247**	*e*Pn		Pn	09 41 20.8	-4.7
	66nm,1.2s							
DZM				*e*LR		LR	09 43 29.9	
	comp=Z,376nm,25.6s							
DZM	**Mont Dzumac**	**9.41**	**247**	LR		LR	09 44 28.8	
	comp=Z,249nm,21.5s,baz=38,slow=34							
HNR	**Honiara**	**17.89**	**299**	LR		LR	09 48 48.3	
	comp=Z,1μm,20.8s,baz=128,slow=32							
KRVT	**Kirwat (AS076**	**27.25**	**299**	LR		LR	09 54 55.5	
	comp=Z,30nm,20.1s,baz=269,slow=35							
CTA	**Charters Tower**	**27.90**	**262**	LR		LR	09 54 55.7	
	comp=Z,47nm,20.0s,baz=80,slow=34							
TBI	**Tubuai**	**32.72**	**104**	*e*LR		LR	09 54 07.0	
	comp=Z,1μm,26.0s							
TBI				*e*LR		LR	09 54 07.3	
	comp=Z,575nm,30.8s							
PPT2	**Papeete2**	**32.90**	**94**	*e*LR		LR	09 54 15.7	
	comp=Z,110nm,27.0s							
PPT2				*e*LR		LR	09 54 15.8	
	comp=Z,155nm,28.5s							
STKA	**Stephens Creek**	**33.47**	**240**	LR		LR	09 57 58.7	
	comp=Z,30nm,22.0s,baz=27,slow=34							
WRA	**Warramunga Arr**	**39.08**	**261**	P		P	09 46 37.2	-0.5
	1.5nm,1.2s,baz=96,slow=9.2,SNR=2.4							
WRA				LR		LR	10 01 00.6	
	comp=Z,41nm,21.1s,baz=88,slow=34							
	1.5nm,1.2s							
ASAR	**Alice Springs**	**39.29**	**255**	P		P	09 46 39.6	+0.2
	1.3nm,0.8s,baz=83,slow=9.1,SNR=12							
ASAR				PcP		PcP	09 48 47.6	-0.8
	0.4nm,0.8s,baz=108,slow=3.0,SNR=2.5							
ASAR				LR		LR	10 01 46.5	
	comp=Z,66nm,20.8s,baz=69,slow=35							
	1.3nm,0.8s							
TAOE	**Nuku Hiva Isla**	**43.78**	**83**	*e*LR		LR	09 59 21.7	
	comp=Z,185nm,25.1s							
RKT	**Rikitea**	**46.04**	**104**	*e*LR		LR	10 00 17.3	
	comp=Z,14μm,43.8s							
SIJI	**Sorong**	**47.11**	**287**	LR		LR	10 06 39.2	
	comp=Z,40nm,20.9s,baz=109,slow=35							
BATI	**Baumata**	**51.04**	**272**	LR		LR	10 08 09.2	
	comp=Z,42nm,20.9s,baz=219,slow=34							
NWAO	**Narrogin (SRO)**	**54.00**	**242**	LR		LR	10 12 27.3	
	comp=Z,35nm,18.3s,slow=37							
JOW	**Kunigami**	**64.57**	**313**	LR		LR	10 17 38.8	
	comp=Z,11nm,18.0s,baz=173,slow=36							
TXAR	**Lajitas Array**	**91.07**	**59**	P		P	09 52 15.8	+0.4
	0.6nm,0.8s,baz=232,slow=5.4,SNR=5.8							
	0.6nm,0.8s							

*NOU **04** 09:44:56.7,42˚.23S×173˚.95E,h17km,MLv4.0/9,South Island, New Zealand*
*WEL **04** 09:44:56.0±0.4,42˚.S±2˚×17˚.4E±˚,h7km±3km,M3.7/18, ML3.9/18,MLv3.7/18,Error ellipse: s-maj=0.0km s-min=0.0km az=116.0,confirmed*

ISC 04 09:44:55.4±1.2,**42˚.12S**±0˚.03×**173˚.91E**±0˚.03,**h5**km±11km, **n100**,σ1§**55**/110,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.40**	**356**	P		**Pg**	**09 45 03.4**	**+0.3**
BSWZ				S		**Sg**	**09 45 09.3**	**+0.9**
KHZ	**Kahutara**	**0.41**	**223**	P		**Pg**	**09 45 04.7**	**+1.4**
KHZ	**Kahutara**	**0.41**	**223**	P		**Pg**	**09 45 04.5**	**+1.2**
KHZ				S		**Sb**	**09 45 11.1**	**-0.6**
CMWZ	**Cape Campbell**	**0.43**	**32**	P		**Pb**	**09 45 05.7**	**-0.2**
CMWZ				S		**Sb**	**09 45 15.1**	**+2.8**
TUWZ	**Tuamarina**	**0.69**	**2**	P		**Pg**	**09 45 09.0**	**+0.4**
TUWZ				S		**Sb**	**09 45 18.7**	**-0.9**
THZ	**Tophouse**	**0.83**	**295**	P		**Pg**	**09 45 10.7**	**-0.6**
THZ				S		**Sg**	**09 45 21.3**	**-0.8**
TCW	**Tory Channel**	**0.94**	**17**	P		**Pg**	**09 45 13.7**	**+0.2**
TCW				S		**Sb**	**09 45 26.9**	**-0.2**
NNZ	**Nelson**	**0.98**	**336**	P		**Pg**	**09 45 13.5**	**-0.8**
NNZ				S		**Sg**	**09 45 26.0**	**-1.0**
SNZO	**South Karori**	**1.00**	**37**	P		**Pb**	**09 45 16.0**	**+0.8**
WEL	**Wellington**	**1.05**	**38**	P		**Pb**	**09 45 16.9**	**+0.8**
GVZ	**Greta Valley S**	**1.07**	**217**	P		**Pb**	**09 45 17.1**	**+0.6**
GVZ				S		**Sn**	**09 45 33.7**	**+1.2**
MRNZ	**Matariki Terra**	**1.12**	**309**	P		**Pg**	**09 45 16.2**	**-0.7**
PLWZ	**Palliser**	**1.14**	**62**	P		**Pg**	**09 45 17.8**	**+0.5**
TKNZ	**Takaka Hill**	**1.30**	**326**	P		**Pb**	**09 45 19.1**	**-1.2**
TKNZ				S		**Sn**	**09 45 36.9**	**-1.1**
DUWZ	**D'Urville Isla**	**1.31**	**0**	P		**Pn**	**09 45 19.8**	**-0.7**
DUWZ				S		**Sn**	**09 45 38.3**	**-0.1**
CAW	**Cannon Point**	**1.33**	**41**	P		**Pn**	**09 45 20.5**	**-0.2**
PAWZ	**Paruwai Farm**	**1.35**	**58**	P		**Pn**	**09 45 20.5**	**-0.5**
LTZ	**Lake Taylor**	**1.39**	**241**	P		**Pn**	**09 45 21.4**	**-0.1**
AMCZ	**Amberley**	**1.41**	**221**	P		**Pn**	**09 45 21.5**	**-0.3**
KIW	**Kapiti Island**	**1.46**	**31**	P		**Pn**	**09 45 22.7**	**+0.2**
TRWZ	**Traveller**	**1.51**	**62**	P		**Pn**	**09

UEES	**Universidad Ev**	**1.45**	**55**	*e*P	**Pb**	**09 46 47.3**	**+1.4**
PCG	**Pacaya**	**1.50**	**355**	*e*P	**Pb**	**09 46 47.9**	**+1.0**
SJTE	**Alcalda de S**	**1.59**	**63**	*e*P	**Pb**	**09 46 49.4**	**+1.0**
SJTE				*e*S	**Sb**	**09 47 07.6**	**-0.5**
FUG	**Fuego 3**	**1.60**	**347**	*e*P	**Pb**	**09 46 49.3**	**+0.8**
FUG				*e*S	**Sn**	**09 47 05.9**	**+0.7**
NBG	**Las Nubes**	**1.70**	**4**	*e*P	**Pb**	**09 46 51.5**	**+1.3**
NBG				*e*S	**Sb**	**09 47 10.5**	**-0.7**
COEG	**Centro de Oper**	**1.71**	**64**	*e*P	**Pb**	**09 46 51.1**	**+0.9**
COEG				*e*S	**Sb**	**09 47 10.2**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.87**	**64**	*e*P	**Pb**	**09 46 54.0**	**+0.9**
COEB	**Comit de Eme**	**1.98**	**72**	*e*P	**Pb**	**09 46 55.2**	**+0.3**
COEB				*e*S	**Sb**	**09 47 17.3**	**-1.9**
COEB				IAML		09 47 24.2	
	comp=Z,82nm,0.4s						
STG3	**Santiaguito 3,**	**2.11**	**329**	*e*P	**Pb**	**09 46 57.5**	**+0.3**
STG3				*e*S	**Sb**	**09 47 21.4**	**-1.6**

*TAP **04** 09:48:14.1,25˚.22N×122˚.35E,h177km,ML3.5,C*
*JMA **04** 09:48:14.5±0.2,25˚.2°×122˚.3E±0˚.7,h173km±2km,*
MV3.4/13,TAIWAN REGION

ISC 04 09:48:14.7±1.9,25˚.11N±0˚.07×122˚.31E±0˚.03,
h175km±10km,n78,σ0857/137,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.31**	**250**	*i*	P		**Pn**	**09 48 38.3**	**+0.2**
	baz=245								
SXI1	**Grass Mountain**	**0.40**	**267**		P		**Pn**	**09 48 38.5**	**-0.1**
	baz=257								
TIPB	**Shuangxi**	**0.46**	**252**		P		**Pn**	**09 48 38.8**	**0.0**
	baz=255								
NWF	**Wu-fen Shan**	**0.48**	**265**	*i*	P		**Pn**	**09 48 38.9**	**+0.1**
	baz=255								
WFSB	**Wu-fen Shan**	**0.48**	**265**	*i*	P		**Pn**	**09 48 38.3**	**-0.4**
	baz=255								
TNOU	**National Taiwa**	**0.49**	**274**	*i*	P		**Pn**	**09 48 38.7**	**0.0**
	baz=254								
PCYT	**Pengchaiyu**	**0.56**	**337**	*e*	P		**Pn**	**09 48 39.5**	**+0.4**
	baz=337								
TWC	**Suao**	**0.66**	**220**	*i*	P		**Pn**	**09 48 39.5**	**0.0**
	baz=217								
TWC				*e*	S		**Sn**	**09 48 57.7**	**-1.0**
	baz=217								
YM08	**YM08**	**0.66**	**277**	*e*	P		**Pn**	**09 48 39.2**	**-0.4**
	baz=259								
TWY	**Chenhua**	**0.67**	**284**	*i*	P		**Pn**	**09 48 39.8**	**+0.2**
	baz=266								
YM01	**YM01**	**0.67**	**273**	*i*	P		**Pn**	**09 48 39.7**	**0.0**
	baz=256								
TWA	**Mucha**	**0.68**	**259**		P		**Pn**	**09 48 40.4**	**+0.7**
	baz=247								
TWE	**Neicheng**	**0.70**	**236**	*e*	P		**Pn**	**09 48 39.9**	**0.0**
	baz=228								
TWE				*e*	S		**Sn**	**09 49 00.3**	**+1.1**
	baz=228								
NDS	**Dongshan**	**0.72**	**229**	*e*	P		**Pn**	**09 48 41.0**	**+1.1**
	baz=222								
NDS				*e*	S		**Sn**	**09 49 00.6**	**+1.2**
	baz=222								
NHDH	**Xindian Distri**	**0.73**	**258**	*e*	P		**Pn**	**09 48 40.4**	**+0.4**
	baz=248								
NHDH				*e*	S		**Sn**	**09 48 59.8**	**+0.4**
	baz=248								
FUSB	**Fushanzhiwuyua**	**0.75**	**242**		P		**Pn**	**09 48 39.9**	**-0.3**
	baz=241								
FUSB				*e*	S		**Sn**	**09 49 00.2**	**+0.4**
	baz=241								
TATO	**Taipei**	**0.76**	**260**	*e*	P		**Pn**	**09 48 40.0**	**-0.2**
	baz=250								
TATO				*e*	S		**Sn**	**09 48 59.6**	**-0.1**
	baz=250								
NWLT	**Wulai**	**0.81**	**246**	*e*	P		**Pn**	**09 48 40.5**	**-0.1**
	baz=241								
NWLT				*e*	S		**Sn**	**09 48 59.9**	**-0.4**
	baz=241								
EWUT	**Wuta**	**0.82**	**216**		P		**Pn**	**09 48 41.0**	**+0.4**
	baz=215								
EWUT				*e*	S		**Sn**	**09 49 01.0**	**+0.5**
	baz=215								
ENTT	**Nioudou**	**0.83**	**235**	*e*	P		**Pn**	**09 48 40.7**	**+0.1**
	baz=232								
ENTT				*e*	S		**Sn**	**09 49 00.3**	**-0.2**
	baz=232								
ENA	**Nanau**	**0.86**	**217**	*e*	P		**Pn**	**09 48 40.9**	**0.0**
	baz=213								
ENA				*e*	S		**Sn**	**09 49 01.7**	**+0.7**
	baz=213								
JYNG	**Yonagunijimaku**	**0.88**	**139**		P		**Pn**	**09 48 40.9**	**0.0**
JYNG				*e*	S		**Sn**	**09 49 01.1**	**0.0**
NDT	**Datong Townshi**	**0.89**	**235**	*e*	P		**Pn**	**09 48 39.2**	**-1.8**
	baz=242								
YOJ	**Yonaguni jima**	**0.91**	**136**	*e*	P		**Pn**	**09 48 41.2**	**0.0**
YOJ					S		**Sn**	**09 49 01.6**	**0.0**
YOJ	**Yonaguni jima**	**0.91**	**136**	*i*	P		**Pn**	**09 48 41.2**	**0.0**
	baz=150								
YOJ					S		**Sn**	**09 49 02.2**	**+0.7**
	baz=150								
LATG	**Datong**	**0.92**	**231**	*e*	P		**Pn**	**09 48 41.7**	**+0.3**
	baz=222								
LATG				*e*	S		**Sn**	**09 49 01.8**	**-0.1**
	baz=222								
YHNB	**Yeheng**	**0.96**	**243**	*e*	P		**Pn**	**09 48 41.2**	**-0.4**
	baz=230								
YHNB				*e*	S		**Sn**	**09 49 01.4**	**-1.0**
	baz=230								
NSK	**Sanguang**	**0.97**	**244**	*e*	P		**Pn**	**09 48 41.5**	**-0.2**
	baz=231								
NSK				*e*	S		**Sn**	**09 49 01.3**	**-1.2**
	baz=231								
NCUH	**Zhongli**	**1.03**	**262**	*e*	S		**Sn**	**09 49 02.9**	**-0.2**
	baz=263								
NNS	**Nan Shan**	**1.09**	**232**	*e*	P		**Pn**	**09 48 42.9**	**+0.2**
	baz=229								
NNS				*e*	S		**Sn**	**09 49 04.5**	**+0.3**
	baz=229								
NNSB	**Datong**	**1.09**	**231**	*e*	P		**Pn**	**09 48 42.8**	**+0.2**
	baz=229								
NNSB				*e*	S		**Sn**	**09 49 03.1**	**-1.1**
	baz=229								
NNSH	**Datong**	**1.09**	**231**	*e*	P		**Pn**	**09 48 42.8**	**+0.1**
	baz=229								
NNSH				*e*	S		**Sn**	**09 49 04.2**	**0.0**
	baz=229								
ETL	**Fush Village**	**1.14**	**214**	*e*	P		**Pn**	**09 48 42.7**	**-0.3**
	baz=213								
ETL				*e*	S		**Sn**	**09 49 04.9**	**+0.1**
	baz=213								
NACB	**Ninganchiao**	**1.14**	**215**	*e*	P		**Pn**	**09 48 42.6**	**-0.4**
	baz=214								
NACB				*e*	S		**Sn**	**09 49 04.4**	**-0.4**
	baz=214								
ETLH	**Xiulin Townshi**	**1.18**	**220**	*e*	P		**Pn**	**09 48 43.3**	**0.0**
	baz=219								
ETLH				*e*	S		**Sn**	**09 49 05.2**	**-0.3**
	baz=219								
NFF	**Wufeng Townshi**	**1.19**	**246**	*e*	P		**Pn**	**09 48 43.2**	**-0.1**
	baz=238								
NFF				*e*	S		**Sn**	**09 49 04.5**	**-1.0**
	baz=238								
TWD	**Chiawan**	**1.22**	**213**	*e*	P		**Pn**	**09 48 43.4**	**-0.2**
	baz=219								
TWD				*e*	S		**Sn**	**09 49 05.3**	**-0.6**
	baz=219								
LIOB	**Emei**	**1.27**	**249**	*e*	P		**Pn**	**09 48 44.0**	**0.0**
	baz=245								
LIOB				*e*	S		**Sn**	**09 49 06.2**	**-0.4**
	baz=245								
NSTT	**Nanjuang**	**1.28**	**248**	*e*	P		**Pn**	**09 48 44.1**	**-0.1**
	baz=245								
NSTT				*e*	S		**Sn**	**09 49 06.1**	**-0.8**
	baz=245								
FUSS	**Fushou**	**1.30**	**229**	*e*	P		**Pn**	**09 48 45.3**	**+0.7**
	baz=232								
FUSS				*e*	S		**Sn**	**09 49 07.3**	**-0.3**
	baz=232								
TWT	**Tachien**	**1.34**	**231**	*e*	P		**Pn**	**09 48 45.4**	**+0.5**
	baz=229								
TWT				*e*	S		**Sn**	**09 49 08.9**	**+0.7**
	baz=229								
TDCB	**Techi**	**1.36**	**231**	*e*	P		**Pn**	**09 48 45.7**	**+0.7**
	baz=229								
TDCB				*e*	S		**Sn**	**09 49 08.2**	**-0.2**
	baz=229								
WHF	**Hehuan Shan**	**1.36**	**225**	*e*	P		**Pn**	**09 48 45.6**	**+0.3**
	baz=217								
WHF				*e*	S		**Sn**	**09 49 09.0**	**+0.1**
	baz=217								
ETM	**Tongmen**	**1.37**	**213**	*e*	P		**Pn**	**09 48 44.5**	**-0.4**
	baz=213								
ETM				*e*	S		**Sn**	**09 49 07.5**	**-0.8**
	baz=213								
CHGB	**Renai**	**1.48**	**225**		P		**Pn**	**09 48 47.1**	**+0.9**
	baz=217								
CHGB					S		**Sn**	**09 49 11.4**	**+0.9**
	baz=217								
WHP	**Taichung City**	**1.50**	**236**		P		**Pn**	**09 48 46.6**	**+0.4**
	baz=230								
WHP					S		**Sn**	**09 49 10.1**	**-0.5**
	baz=230								
OWD	**Renai**	**1.55**	**222**		P		**Pn**	**09 48 47.3**	**+0.5**
	baz=217								
OWD				*e*	S		**Sn**	**09 49 11.4**	**-0.3**
	baz=217								
WUSB	**Renai**	**1.56**	**225**	*e*	P		**Pn**	**09 48 47.8**	**+0.9**
	baz=217								
WUSB				*e*	S		**Sn**	**09 49 12.3**	**+0.5**
	baz=217								
NSY	**Sanyi**	**1.57**	**244**	*e*	P		**Pn**	**09 48 47.1**	**+0.2**
	baz=247								
NSY				*e*	S		**Sn**	**09 49 11.8**	**0.0**
	baz=247								
TWQ1	**Liyutan**	**1.59**	**242**	*e*	P		**Pn**	**09 48 47.2**	**+0.1**
	baz=233								
TWQ1				*e*	S		**Sn**	**09 49 11.7**	**-0.4**
	baz=233								
EGFH	**Guangfu**	**1.65**	**209**	*e*	P		**Pn**	**09 48 48.0**	**+0.4**
	baz=211								
WPL	**Puli Township**	**1.65**	**229**	*e*	P		**Pn**	**09 48 48.9**	**+1.2**
	baz=233								
WCS	**Beigang Elemen**	**1.65**	**231**	*e*	P		**Pn**	**09 48 48.1**	**+0.4**
	baz=234								
WCS				*e*	S		**Sn**	**09 49 12.4**	**-0.8**
	baz=234								
HATJ	**Hateruma jima**	**1.72**	**127**	*e*	S		**Sn**	**09 49 14.3**	**-0.1**
VWDT	**VWDT**	**1.73**	**219**	*e*	P		**Pn**	**09 48 49.0**	**+0.6**
	baz=215								
VWDT				*e*	S		**Sn**	**09 49 15.7**	**+1.2**
	baz=215								
JKRS	**Kuro-shima**	**1.77**	**119**		P		**Pn**	**09 48 49.4**	**+0.5**
JKRS					S		**Sn**	**09 49 15.3**	**-0.1**
SMLT	**Sun Moon Lake**	**1.78**	**227**	*e*	P		**Pn**	**09 48 49.6**	**+0.5**
	baz=218								
SMLT				*e*	S		**Sn**	**09 49 16.0**	**+0.3**
	baz=218								
TYC	**Yuchr**	**1.79**	**228**	*e*	P		**Pn**	**09 48 49.4**	**+0.3**
	baz=233								
TYC				*e*	S		**Sn**	**09 49 15.5**	**-0.2**
	baz=233								
HGSD	**Ruisui**	**1.81**	**207**	*e*	P		**Pn**	**09 48 49.5**	**+0.1**
	baz=213								
HGSD				*e*	S		**Sn**	**09 49 16.4**	**+0.3**
	baz=213								
SSLB	**Suanglung**	**1.81**	**223**	*e*	P		**Pn**	**09 48 49.6**	**+0.2**
	baz=223								
SSLB				*e*	S		**Sn**	**09 49 15.6**	**-0.6**
	baz=223								
WWF	**Wufeng**	**1.82**	**234**	*e*	P		**Pn**	**09 48 49.5**	**+0.1**
	baz=233								
WWF				*e*	S		**Sn**	**09 49 16.8**	**+0.5**
	baz=233								
JIJ	**Ishigaki jima**	**1.82**	**114**		P		**Pn**	**09 48 49.3**	**-0.1**
JIJ					S		**Sn**	**09 49 14.9**	**-1.4**
EHY	**Hungye**	**1.84**	**210**	*e*	P		**Pn**	**09 48 48.9**	**-0.8**
	baz=210								
JISG	**Ishigakijimahi**	**1.89**	**106**	*e*	P		**Pn**	**09 48 50.1**	**0.0**
JISG					S		**Sn**	**09 49 16.4**	**-1.2**
WJS	**Zhushan**	**1.93**	**229**	*e*	P		**Pn**	**09 48 51.0**	**+0.4**
	baz=235								
WJS				*e*	S		**Sn**	**09 49 18.8**	**+0.3**
	baz=235								
WHYT	**Xinyi Township**	**1.94**	**224**	*e*	P		**Pn**	**09 48 50.9**	**+0.2**
	baz=223								
WHYT				*e*	S		**Sn**	**09 49 19.0**	**+0.3**
	baz=223								
YULB	**Yu-li**	**1.95**	**209**	*e*	P		**Pn**	**09 48 49.8**	**-1.1**
	baz=212								
YULB				*e*	S		**Sn**	**09 49 18.2**	**-0.6**
	baz=212								
TWF1	**Yuli**	**1.98**	**208**	*e*	P		**Pn**	**09 48 52.8**	**+1.5**
	baz=213								
ALS	**Alishan**	**2.11**	**221**	*e*	P		**Pn**	**09 48 53.0**	**+0.1**
	baz=227								
ALS				*e*	S		**Sn**	**09 49 23.1**	**+0.6**
	baz=227								
CHN5	**Tsauling**	**2.12**	**225**	*e*	P		**Pn**	**09 48 53.2**	**+0.4**
	baz=224								
CHN5				*e*	S		**Sn**	**09 49 22.1**	**-0.2**
	baz=224								
JTJ	**Tarama**	**2.22**	**102**		P		**Pn**	**09 48 54.2**	**+0.4**
JTJ					S		**Sn**	**09 49 23.4**	**-0.7**
ELDTW	**Lidau**	**2.25**	**212**	*e*	P		**Pn**	**09 48 54.3**	**0.0**
	baz=210								
CHN4	**Tsaushan**	**2.35**	**222**	*e*	P		**Pn**	**09 48 55.0**	**-0.4**
	baz=222								
CHN4				*e*	S		**Sn**	**09 49 26.5**	**-0.5**
	baz=222								
TPUB	**Ta-pu**	**2.37**	**221**	*e*	P		**Pn**	**09 48 55.4**	**-0.2**
	baz=221								
TPUB				*e*	S		**Sn**	**09 49 26.6**	**-0.7**
	baz=221								
TWK	**Hsinying**	**2.48**	**223**	*e*	P		**Pn**	**09 48 56.5**	**-0.5**
	baz=216								
TWK				*e*	S		**Sn**	**09 49 29.6**	**-0.1**
	baz=216								
JIRB	**Irabujima**	**2.61**	**96**	*e*	P		**Pn**	**09 48 58.8**	**+0.5**
JIRB				*e*	S		**Sn**	**09 49 32.3**	**+0.1**
JMJ2	**Miyako jima3**	**2.76**	**97**		P		**Pn**	**09 49 00.8**	**+0.7**
JMJ2				*e*	S		**Sn**	**09 49 35.1**	**-0.4**
JOGS	**Gusukube**	**2.83**	**97**		P		**Pn**	**09 49 01.5**	**+0.6**
JOGS					S		**Sn**	**09 49 36.6**	**-0.3**

*WEL **04** 10:04:45.9,42˚.5°S×175˚.4E±˚,h18km±6km,M2.8/18,*
ML3.1/24,MLv2.8/18,Error ellipse: s-maj=0.0km
s-min=0.0km az=118.5
*NOU **04** 10:04:51.2,41˚.96S×173˚.80E,h31km,MLv3.9/7,South*
Island,New Zealand

ISC 04 10:04:46.0±1.1,41˚.82S±0˚.04×174˚.18E±0˚.04,h20km±3km,
n59,σ1801/58,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**17**		P		**Pb**	**10 04 49.9**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.26**	**295**		P		**Pg**	**10 04 52.5**	**+0.6**
TUWZ	**Tuamarina**	**0.43**	**335**		P		**Pb**	**10 04 55.3**	**+0.4**
TCW	**Tory Channel**	**0.62**	**6**		P		**Pg**	**10 04 58.2**	**-0.1**
WEL	**Wellington**	**0.69**	**39**		P		**Pb**	**10 04 59.9**	**+0.5**
KHZ	**Kahutara**	**0.76**	**219**		P		**Pn**	**10 05 02.4**	**+0.8**
KHZ	**Kahutara**	**0.76**	**219**		P		**Pn**	**10 05 02.5**	**+0.9**
PLWZ	**Palliser**	**0.84**	**73**		P		**Pb**	**10 05 02.3**	**+0.4**
NNZ	**Nelson**	**0.86**	**315**		P		**Pn**	**10 05 02.9**	**0.0**
THZ	**Tophouse**	**0.96**	**273**		P		**Pn**	**10 05 05.3**	**+0.9**
CAW	**Cannon Point**	**0.98**	**43**		P		**Pb**	**10 05 04.8**	**+0.6**
PAWZ	**Paruwai Farm**	**1.03**	**65**		P		**Pn**	**10 05 05.0**	**-0.3**
DUWZ	**D'Urville Isla**	**1.04**	**349**		P		**Pg**	**10 05 05.8**	**-0.4**
KIW	**Kapiti Island**	**1.11**	**30**		P		**Pn**	**10 05 06.8**	**+0.4**
MRNZ	**Matariki Terra**	**1.15**	**291**		P		**Pg**	**10 05 08.6**	**+0.3**
MTW	**Mount Morrison**	**1.19**	**57**		P		**Pn**	**10 05 07.2**	**-0.3**
TKNZ	**Takaka Hill**	**1.21**	**310**		P		**Pg**	**10 05 09.0**	**-0.4**
OGWZ	**Otaki Gorge**	**1.25**	**37**		P		**Pn**	**10 05 08.9**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.36**	**48**		P		**Pn**	**10 05 10.2**	**+0.3**
GVZ	**Greta Valley S**	**1.43**	**216**		P		**Pn**	**10 05 11.5**	**+0.8**
TMWZ	**Te Maipa**	**1.47**	**61**		P		**Pn**	**10 05 10.7**	**-0.7**
MRZ	**Mangatainoka R**	**1.57**	**43**		P		**Pn**	**10 05 12.7**	**0.0**
QRZ	**Quartz Range**	**1.60**	**308**		P		**Pg**	**10 05 15.7**	**-1.0**
QRZ	**Quartz Range**	**1.60**	**308**		P		**Pg**	**10 05 15.4**	**-1.3**
TIWZ	**Tintock**	**1.66**	**51**		P		**Pn**	**10 05 15.0**	**+1.1**
LTZ	**Lake Taylor**	**1.71**	**235**		P		**Pb**	**10 05 15.8**	**-1.0**
DSZ	**Denniston Nort**	**1.78**	**272**		P		**Pg**	**10 05 18.5**	**-1.8**
PRWZ	**Pori Road**	**1.85**	**47**		P		**Pn**	**10 05 19.1**	**+2.5**
POWZ	**Post Office Ro**	**1.86**	**40**		P		**Pn**	**10 05 17.4**	**+0.6**
OKCZ	**Okains Bay**	**2.07**	**203**		P		**Pn**	**10 05 19.4**	**-0.3**
WAZ	**Wanganui**	**2.15**	**17**		P		**Pb**	**10 05 25.4**	**+1.1**
MQZ	**McQueen's Vall**	**2.19**	**210**		P		**Pn**	**10 05 20.5**	**-0.7**
INZ	**Inchbonnie**	**2.22**	**245**		P		**Pn**	**10 05 23.1**	**+1.4**
KHEZ	**Kahui Hut**	**2.53**	**357**		P		**Pb**	**10 05 31.8**	**+1.1**
NBEZ	**Newall Road No**	**2.56**	**355**		P		**Pg**	**10 05 33.2**	**-2.0**
PKE	**Pukeiti**	**2.63**	**357**		P		**Pb**	**10 05 32.5**	**+0.1**
PKVZ	**Pokaka**	**2.68**	**20**		P		**Pn**	**10 05 27.5**	**-0.6**
MOVZ	**Moawhango**	**2.69**	**27**		P		**Pb**	**10 05 33.2**	**-0.3**
WNVZ	**Wahianoa**	**2.72**	**24**		P		**Pb**	**10 05 34.5**	**+0.5**
TRVZ	**Turoa**	**2.73**	**23**		P		**Pb**	**10 05 34.2**	**0.0**
VRZ	**Vera Road**	**2.73**	**9**		P		**Pb**	**10 05 32.9**	**-1.2**
BHHZ	**Black Hill Sta**	**2.73**	**32**		P		**Pb**	**10 05 34.9**	**+0.7**
TUVZ	**Tukino**	**2.79**	**24**		P		**Pb**	**10 05 35.0**	**-0.2**
NGZ	**Ngauruhoe**	**2.86**	**23**		P		**Pb**	**10 05 36.9**	**+0.5**
SNVZ	**South Ngauruho**	**2.86**	**23**		P		**Pb**	**10 05 36.5**	**+0.1**
OTVZ	**Oturere**	**2.89**	**24**		P		**Pb**	**10 05 38.4**	**+1.5**
NNVZ	**North Ngauruho**	**2.90**	**23**		P		**Pb**	**10 05 37.6**	**+0.4**
WTVZ	**West Tongariro**	**2.91**	**22**		P		**Pb**	**10 05 38.4**	**+1.2**
ETVZ	**East Tongariro**	**2.93**	**24**		P		**Pb**	**10 05 37.7**	**+0.2**
TMVZ	**Te Maari**	**2.94**	**24**		P		**Pb**	**10 05 37.3**	**-0.5**
NTVZ	**North Tongarir**	**2.95**	**23**		P		**Pb**	**10 05 37.7**	**-0.2**
RPZ	**Rata Peaks**	**2.98**	**230**		P		**Pn**	**10 05 32.5**	**+0.4**
BKZ	**Black Stump Fm**	**3.19**	**34**		P		**Pb**	**10 05 43.2**	**+1.3**
HIZ	**Hauiti**	**3.35**	**9**		P		**Pb**	**10 05 44.1**	**-0.5**
HIZ	**Hauiti**	**3.35**	**9**		P		**Pb**	**10 05 42.5**	**-2.1**
TMZ	**Timaru**	**3.46**	**221**		P		**Pn**	**10 05 38.7**	**0.0**
ODZ	**Otahua Downs**	**4.12**	**217**		P		**Pn**	**10 05 48.0**	**+0.2**
JCZ	**Jackson Bay**	**4.56**	**239**		P		**Pn**	**10 05 57.3**	**+3.4**
WIAZ	**Waiheke Island**	**5.08**	**9**		P		Pn	10 06 07.2	+6.2

*IDC **04** 10:10:09.6±1.0,55˚.88N×110˚.19E,h0km,mb3.8/8,*
mbtmp3.8/15,ML3.4/6,MS2.9/2,Error ellipse:
s-maj=21.5km s-min=18.8km az=20.0
*BYKL **04** 10:10:11.2±0.2,55˚.73N×110˚.14E,h9km±3km*

ISC 04 10:10:09.8±1.1,55˚.79N±0˚.03×110˚.17E±0˚.02,h1km±8km,
n50,σ2873/102,mb3.8/8,6C-1D,Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**268**	⇑*i*	P	g	**Pg**	**10 10 17.8**	**+1.2**
NIZ					*e*	Sg	**Sg**	**10 10 22.1**	**+0.9**
NIZ					*e*			10 10 24.7	
NIZ					Pmax				
	197nm,0.5s								
NIZ					max				
	3μm,1.2s								
KMO	**Kumora**	**0.59**	**80**	⇑*i*	P	g	**Pg**	**10 10 21.9**	**+0.8**
KMO					*e*	Pb	**Pb**	**10 10 23.2**	**+0.3**
KMO					*e*	Sg	**Sg**	**10 10 30.3**	**+1.6**
KMO					max				
	308nm,0.3s								
KMO					Smax				
	3μm,1.0s								
YOA	**Uoyan**	**0.94**	**68**	*e*	P	g	**Pb**	**10 10 29.4**	**+0.5**
YOA				*e*	Sg		**Sb**	**10 10 42.5**	**+0.7**
YOA				*e*	Sb		**Sn**	**10 10 45.1**	**+0.9**
YOA					Pmax				
	185nm,0.3s								
YOA					max				
	3μm,0.6s								
YLYR	**Ulyunkhan**	**1.08**	**148**	⇑*i*	P	g	**Pg**	**10 10 29.2**	**-1.2**
YLYR					*e*	Sg	**Sg**	**10 10 44.5**	**+0.2**
YLYR					*e*	Sb	**Sn**	**10 10 48.8**	**+1.2**
YLYR					Pmax				
	288nm,0.5s								
YLYR					max				
	919nm,0.2s								
SVKR	**Severomuysk**	**1.94**	**79**	*e*	Pn		**Pn**	**10 10 44.6**	**+0.8**
SVKR				*e*	Pg		**Pb**	**10 10 46.6**	**+0.7**
SVKR				*e*	Sg		**Sg**	**10 11 12.9**	**+1.0**
SVKR					Pmax				
	436nm,0.4s								
SVKR					Smax				
	4μm,0.6s								
UKT	**Uakit**	**1.98**	**97**	⇑*i*	Pg		**Pb**	**10 10 46.3**	**-0.4**
UKT					*e*			10 10 48.3	
UKT					*e*	Sg	**Sb**	**10 11 13.2**	**+1.3**
UKT					*e*			10 11 14.9	
UKT					max				
	576nm,1.0s								
UKT					max				
	863nm,0.5s								
SYVR	**Suvo**	**2.14**	**183**	*e*	Pn		**Pn**	**10 10 46.7**	**+0.1**
SYVR				⇑*i*	Pg		**Pb**	**10 10 47.9**	**-1.4**
SYVR				*e*	Sg		**Sb**	**10 11 15.7**	**-0.6**
SYVR				*e*				10 11 50.3	
SYVR					Pmax				
	178nm,1.0s								
SYVR					Smax				
	2μm,0.9s								
MXMB	**Maximikha**	**2.66**	**199**	*e*	Pn		**Pn**	**10 10 52.9**	**-0.9**
MXMB				*e*	Pg		**Pb**	**10 10 58.1**	**-0.1**
MXMB				*e*	Sg		**Sb**	**10 11 33.0**	**+1.6**
BOD	**Bodaibo**	**2.93**	**44**	*e*	Pn		**Pn**	**10 10 59.6**	**+2.1**
BOD				*e*	Pg		**Pb**	**10 11 03.6**	**+0.8**
BOD				*e*	Sn		**Sn**	**10 11 34.3**	**+1.1**
BOD				*e*	Sg		**Sg**	**10 11 43.5**	**-0.4**
BOD					Pmax				
	29nm,0.8s								
BOD					Smax				
	310nm,0.7s								
NLYR	**Nelyaty**	**3.18**	**75**	*e*	Pn		**Pn**	**10 11 02.5**	**+1.6**
NLYR				*e*	Pg		**Pb**	**10 11 08.0**	**+1.0**
NLYR				*e*				10 11 12.0	
NLYR				*e*	Sn		**Sn**	**10 11 39.9**	**+0.6**
NLYR				*e*	Sg		**Sg**	**10 11 51.2**	**-0.5**
NLYR					max				
	111nm,0.7s								
NLYR					Smax				
	324nm,1.0s								
KELR

TLY eSg Sb 10 13 04.0 +6.7
TLY max
14nm,0.9s
TLY Smax
74nm,1.1s
TUP Tupik 5.78 100 ePn Pn 10 11 37.3 +0.7
TUP ePg Pb 10 11 54.4 +3.0
TUP eSn Sn 10 12 41.4 -2.1
TUP eSg Sg 10 13 11.6 -3.7
TUP Pmax
21nm,1.0s
TUP Smax
211nm,1.3s
ARS Arshan 6.00 233 ePn Pn 10 11 40.0 +0.3
ARS e 10 11 49.5
ARS eSn Sn 10 12 44.5 -4.5
ARS eSg Sg 10 13 15.8 -6.6
ARS max
56nm,0.5s
ARS Smax
386nm,0.8s
KPC Khapcheranga 6.24 167 ePn Pn 10 11 42.6 -0.4
KPC ePg Pb 10 12 01.7 +2.5
KPC eSn Sn 10 12 51.9 -3.0
KPC eSg Sb 10 13 22.0 +7.7
KPC Pmax
22nm,1.3s
KPC Smax
132nm,1.3s
YKLR Yuktali 6.46 78 ePg Pb 10 12 07.6 +4.7
YKLR eSg Sg 10 13 33.0 -4.2
ZAK Zakamensk 6.82 220 ePn Pn 10 11 51.8 +0.8
ZAK e 10 11 55.5
ZAK eSn Sn 10 13 05.3 -3.9
ZAK eSg Sb 10 13 40.3 +9.3
ZAK max
14nm,1.0s
ZAK Smax
87nm,1.3s
MOY Mondy 6.83 237 ePn Pn 10 11 52.6 +1.5
MOY e 10 12 01.8
MOY eSn Sn 10 13 07.1 -2.4
MOY eSg Sb 10 13 40.6 +9.3
MOY max
80nm,1.1s
MOY Smax
135nm,1.5s
ORL Orlik 6.90 246↑ iPn Pn 10 11 53.3 +1.2
ORL e 10 12 02.1
ORL eSn Sn 10 13 08.5 -2.7
ORL eSg Sg 10 13 44.9 -6.3
ORL max
44nm,1.2s
ORL Smax
102nm,1.2s
IENR Iengra 8.25 81 ePn Pn 10 12 11.7 +1.2
IENR ePg Pb 10 12 39.7 +6.4
IENR eSg Sg 10 14 28.0 -6.3
CLNS Chul'man 8.26 77 eSg Sg 10 14 27.8 -6.8
SONM Songino Array 8.30 198 Pn Pn 10 12 12.6 +1.3
0.2nm,0.3s,baz=14,slow=13,SNR=4.9
SONM Lg Lg 10 14 31.4
1.2nm,0.3s,baz=20,slow=24,SNR=17
0.8nm,0.6s
KLR Kul'dur 14.65 108 Pn Pn 10 13 39.3 +1.3
0.1nm,0.3s,baz=343,slow=19,SNR=2.0
KLR Lg Lg 10 17 49.3
baz=39,slow=23,SNR=3.9
0.7nm,0.5s
ZALV Zalesovo Beam 14.69 273 Pn Pn 10 13 39.3 +0.8
0.1nm,0.3s,baz=67,slow=11,SNR=7.5
ZALV Lg Lg 10 17 54.1
baz=78,slow=21,SNR=1.3
2.0nm,0.7s
NRIK Noril'sk 16.95 332 Pn Pn 10 14 05.6 -2.3
0.4nm,0.3s,baz=121,slow=6.8,SNR=3.1
NRIK Sn Sn 10 17 04.1 -12
0.1nm,0.3s,baz=135,slow=16,SNR=3.9
NRIK Lg Lg 10 18 57.7
0.2nm,0.3s,baz=71,slow=8.6,SNR=2.1
2.1nm,0.5s
TIXI Tiksi 17.79 19 P Pn 10 14 16.1 -2.1
1.5nm,0.4s,baz=270,slow=24,SNR=1.8
TIXI Lg Lg 10 19 26.5
baz=270,slow=23
MKAR Makanchi Array 19.50 254 P P 10 14 38.2 +0.1
0.4nm,0.3s,baz=60,slow=10,SNR=34
2.8nm,0.7s
KURBB Kurchatov Arra 19.53 268 P P 10 14 38.2 -0.1
0.1nm,0.3s,baz=66,slow=12,SNR=12
3.7nm,0.7s
KSRS Korea Array 21.91 139 LR LR 10 23 10.6
comp=Z,15nm,19.1s,baz=275,slow=36
BVAR Borovoye Array 23.10 280 P P 10 15 17.9 +1.2
2.0nm,0.6s,baz=67,slow=11,SNR=8.4
2.0nm,0.6s
MJAR Matsushiro Arr 27.04 124 LR LR 10 26 57.1
comp=Z,40nm,18.0s,baz=72,slow=37
ARCES ARCESS Array B 37.73 325 P P 10 17 26.4 0.0
6.6nm,0.9s,baz=66,slow=9.1,SNR=3.1
6.6nm,0.9s
FINES FINESS Array B 41.27 314 P P 10 17 55.6 -0.4
5.0nm,0.9s,baz=151,slow=4.4,SNR=4.6
5.0nm,0.9s
AKASG Malin Array Be 46.10 299 P P 10 18 34.5 -0.6
0.3nm,0.5s,baz=48,slow=8.8,SNR=1.7
0.3nm,0.5s
ILAR Eielson Array 46.26 35 P P 10 18 35.9 -0.3
0.5nm,0.9s,baz=282,slow=6.0,SNR=5.6
0.5nm,0.9s
NOA NORSAR Array B 47.30 319 P P 10 18 42.3 -2.1
0.5nm,0.6s,baz=55,slow=5.7,SNR=1.8
0.5nm,0.6s
WRA Warramunga Arr 78.17 157 P P 10 22 10.4 -0.1
0.5nm,0.7s,baz=357,slow=5.8,SNR=1.9
0.5nm,0.7s
ASAR Alice Springs 81.68 158 P P 10 22 29.6 +0.1
0.4nm,0.8s,baz=357,slow=4.7,SNR=2.1
0.4nm,0.8s

IDC 04 10:16:03.0±2.6, 18°.94S×176°.04E, h0km, mb3.5/3, mbtmp3.5/3, MS2.7/3, Error ellipse: s-maj=169.4km s-min=38.1km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.26**	**58**	LR	LR	10 17 22.8	
	comp=Z,53nm,20.7s,baz=189,slow=35						
DZM	**Mont Dzumac**	**9.51**	**249**	LR	LR	10 21 24.8	
	comp=Z,79nm,20.1s,baz=26,slow=34						
CTA	**Charters Tower**	**28.08**	**263**	LR	LR	10 30 27.9	
	comp=Z,24nm,20.5s,baz=73,slow=31						
ASAR	**Alice Springs**	**39.43**	**256**	P	P	10 23 35.0	-0.1
	0.4nm,0.9s,baz=93,slow=8.7,SNR=4.6						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**88.16**	**15**	P	P	10 28 55.1	-0.2
	0.2nm,0.8s,baz=224,slow=5.0,SNR=2.4						
	0.2nm,0.8s						
TXAR	**Lajitas Array**	**91.03**	**59**	P	P	10 29 09.8	+0.1
	0.4nm,0.9s,baz=238,slow=4.6,SNR=3.5						
	0.4nm,0.9s						

*NEIC **04** 10:20:43.3±2.2, 12°.1S±0°.1×167°.1E±0°.1, h276km±9km, mb4.4/17, Error ellipse: s-maj=21.1km s-min=15.9km az=84.0*
*IDC **04** 10:20:43.7±2.6, 12°.19S×167°.03E, h288km±25km, mb3.5/13, mbtmp4.2/15, Error ellipse: s-maj=21.2km s-min=17.5km az=122.0*

ISC 04 10:20:45.0±0.5, 12°.19S±0°.07×167°.0E±0°.1, h300km, n37, σ1§05/38, mb4.0/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.42**	**291**	P	**Pn**	**10 22 30.6**	**-1.0**
	344nm,0.4s,baz=156,slow=22,SNR=4.0						
HNR	**Honiara**	**7.42**	**291**	Pn	**Pn**	**10 22 29.7**	**-1.9**
KOUNC	**Koumac, New Ca**	**8.70**	**197**	Pn	**Pn**	**10 22 46.0**	**-1.2**
DZM	**Mont Dzumac**	**9.84**	**183**	P	**Pn**	**10 23 01.6**	**+0.3**
	2.8nm,0.5s,baz=104,slow=22,SNR=13						
DZM				S	**S**	**10 24 50.5**	**-1.9**
	5.0nm,0.8s,baz=74,slow=21,SNR=1.8						
PMG	**Port Moresby**	**19.66**	**276**	P	**P**	**10 24 53.6**	**+1.1**
PMG				IAmb	IAmb	10 24 54.1	
	comp=Z,11nm,1.1s						
EIDS	**Eidsvold**	**19.93**	**227**	P	**P**	**10 24 56.0**	**+0.8**
EIDS				IAmb	IAmb	10 24 56.7	
	comp=Z,13nm,1.1s						
CTA	**Charters Tower**	**21.38**	**246**	P	**P**	**10 25 10.1**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=77,slow=8.9,SNR=6.8						
	comp=Z,2.0nm,0.5s						
CTAO	**Charters Tower**	**21.38**	**246**	P	**P**	**10 25 11.9**	**+2.4**
ARMA	**Armidale**	**23.05**	**216**	P	**P**	**10 25 24.6**	**-0.1**
ARMA				IAmb	IAmb	10 25 40.8	
	comp=Z,21nm,1.3s						
COEN	**Coen**	**23.24**	**263**	P	**P**	**10 25 29.5**	**+3.0**
LTZ	**Lake Taylor**	**30.83**	**172**	P	**P**	**10 26 34.0**	**+0.3**
WRA	**Warramunga Arr**	**32.25**	**252**	P	**P**	**10 26 45.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=84,slow=9.2,SNR=7.4						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**33.38**	**245**	P	**P**	**10 26 55.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=68,slow=10,SNR=12						
	comp=Z,0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**55.53**	**332**	P	**P**	**10 29 49.0**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=173,slow=8.0,SNR=5.0						
	comp=Z,1.2nm,0.6s						
ASAJ	**Asahikawa**	**60.27**	**340**	P	**P**	**10 30 22.2**	**0.0**
	comp=Z,3.3nm,0.6s,baz=244,slow=32,SNR=1.6						
	comp=Z,3.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**64.50**	**333**	P	**P**	**10 30 50.5**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=141,slow=7.4,SNR=2.2						
	comp=Z,1.2nm,0.8s						
VNDA	**Vanda**	**65.38**	**181**	P	**P**	**10 30 57.0**	**+1.7**
PETK	**Petropavlovsk-**	**65.52**	**354**	P	**P**	**10 30 57.3**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=148,slow=8.5,SNR=1.9						
	comp=Z,1.6nm,0.9s						
ENH	**Enshi**	**69.55**	**309**	P	**P**	**10 31 21.7**	**-0.4**
ENH				IAmb	IAmb	10 31 23.8	
	comp=Z,5.6nm,0.5s						
PHRA	**Phrae**	**72.53**	**294**	P	**P**	**10 31 39.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**73.67**	**293**	P	**P**	**10 31 47.3**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=96,slow=3.6,SNR=2.1						
	comp=Z,0.6nm,0.3s						
OHAK	**Old Harbor**	**76.53**	**21**	P	**P**	**10 32 02.1**	**0.0**
P18K	**Big Mountain,**	**77.58**	**19**	P	**P**	**10 32 07.3**	**-0.7**
P18K				IAmb	IAmb	10 32 08.0	
	comp=Z,10nm,1.0s						
QSPA	**South Pole Qui**	**77.82**	**180**	P	**P**	**10 32 09.8**	**+0.4**
PWL	**Port Wells**	**80.95**	**20**	P	**P**	**10 32 26.2**	**+0.1**
N25K	**Chitina, Valde**	**82.77**	**21**	P	**P**	**10 32 35.8**	**+0.2**
N25K				IAmb	IAmb	10 32 36.2	
	comp=Z,4.5nm,0.7s						
MDM	**Murphy Dome**	**83.95**	**18**	P	**P**	**10 32 41.0**	**-0.4**
MDM				IAmb	IAmb	10 32 41.6	
	comp=Z,5.5nm,0.7s						
ILAR	**Eielson Array**	**84.22**	**18**	P	**P**	**10 32 42.0**	**-0.7**
	comp=Z,6.5nm,0.6s,baz=245,slow=5.2,SNR=178						
	comp=Z,6.5nm,0.6s						
K05A	**Summer Lake**	**85.46**	**45**	P	**P**	**10 32 50.3**	**+0.7**
K05A				IAmb	IAmb	10 32 50.5	
	comp=Z,4.7nm,0.8s						
NVAR	**Mina Array Bea**	**85.84**	**49**	P	**P**	**10 32 51.2**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=226,slow=6.0,SNR=4.2						
	comp=Z,0.8nm,0.7s						
F10A	**Beach Ranch, E**	**89.03**	**43**	P	**P**	**10 33 06.6**	**+0.2**
F10A				IAmb	IAmb	10 33 10.5	
	comp=Z,3.2nm,1.2s						
MKAR	**Makanchi Array**	**95.17**	**317**	P	**P**	**10 33 35.8**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=94,slow=6.6,SNR=12						
	comp=Z,1.2nm,0.7s						
TXAR	**Lajitas Array**	**95.32**	**61**	P	**P**	**10 33 34.9**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=225,slow=8.5,SNR=3.7						
	comp=Z,0.3nm,0.7s						
YKA	**Yellowknife Ar**	**95.43**	**27**	P	**P**	**10 33 33.9**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=259,slow=5.1,SNR=17						
	comp=Z,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**117.73**	**346**	PKP	**PKiKP**	**10 38 55.1**	**0.0**
	comp=Z,0.9nm,0.4s,baz=57,slow=0.9,SNR=19						
FINES	**FINESS Array B**	**123.27**	**339**	PKP	**PKiKP**	**10 39 05.9**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=106,slow=2.8,SNR=5.1						
ESDC	**Sonseca Array**	**151.47**	**345**	PKPbc	**PKiKP**	**10 40 04.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=45,slow=2.3,SNR=4.8						

IDC 04 10:24:05.5±2.3, 5°.72S×153°.42E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=141.9km s-min=31.3km az=129.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**231**	P	P	10 29 15.8	+0.4
	1.2nm,0.7s,baz=57,slow=10,SNR=7.6						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**25.91**	**224**	P	P	10 29 39.2	-0.3
	1.6nm,0.6s,baz=59,slow=8.7,SNR=14						
	1.6nm,0.6s						
ILAR	**Eielson Array**	**82.78**	**22**	P	P	10 36 31.2	0.0
	0.1nm,0.5s,baz=243,slow=4.0,SNR=1.7						
	0.1nm,0.5s						

*BJI **04** 10:37:46.9±0.0, 6°.36S×129°.91E, h143km, mb4.6/29, mB4.9/14*
*IDC **04** 10:37:48.7±0.7, 6°.37S×129°.94E, h139km±5km, mb4.2/21, mbtmp4.7/25, MS3.2/14, Error ellipse: s-maj=12.4km s-min=8.6km az=85.0*
*DJA **04** 10:37:48.1±0.2, 6°.S±2°.×13°.0E±°, h143km±3km, M5.1/33, mB5.5/25, mb5.2/33, MLv5.5/17, Mw(mB)5.0/25*
*NEIC **04** 10:37:49.4±1.7, 6°.36S±0°.07×130°.07E±0°.08, h141km±7km, mb4.7/56, Error ellipse: s-maj=11.5km s-min=9.3km az=73.0*

ISC 04 10:37:48.8±0.3, 6°.45S±0°.04×130°.09E±0°.04, h146km, n240, σ1§69/261, mb4.6/47, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.92**	**354**	P	**Pn**	**10 38 22.8**	**0.0**
BNDI	**Bandanaira**	**1.92**	**354**	P	**Pn**	**10 38 22.6**	**-0.2**
BNDI				S	**Sn**	**10 38 48.7**	**-0.2**
SAUI	**Saumlaki**	**1.94**	**142**	Pn	**Pn**	**10 38 24.2**	**+1.2**
SAUI	**Saumlaki**	**1.94**	**142**	P	**Pn**	**10 38 24.4**	**+1.4**
SAUI	**Saumlaki**	**1.94**	**142**	P	**Pn**	**10 38 23.9**	**+0.9**
MSAI	**Masohi**	**3.29**	**339**	P	**Pn**	**10 38 39.9**	**+0.1**
MSAI				S	**Sn**	**10 39 19.5**	**+0.2**
AAI	**Ambon**	**3.33**	**325**	P	**Pn**	**10 38 39.9**	**-0.4**
FAKI	**Fak Fak**	**4.11**	**32**	Pn	**Pn**	**10 38 48.4**	**-2.1**
FAKI	**Fak Fak**	**4.11**	**32**	P	**Pn**	**10 38 48.1**	**-2.4**
FAKI				S	**Sn**	**10 39 33.6**	**-4.9**
NLAI	**Namlea**	**4.36**	**317**	P	**Pn**	**10 38 54.0**	**+0.2**
SIJI	**Sorong**	**5.67**	**12**	P	**Pn**	**10 39 08.3**	**-2.7**
	101nm,0.3s,baz=222,slow=11,SNR=76						
SIJI				S	**Sn**	**10 40 07.3**	**-8.1**
	207nm,0.2s,baz=195,slow=18,SNR=7.1						
SWI	**Sorong**	**5.67**	**12**	P	**Pn**	**10 39 09.2**	**-1.9**
	205nm,0.6s,16µm7.6nm						
SANI	**Sanana**	**5.98**	**317**	P	**Pn**	**10 39 15.2**	**-0.1**
SANI	**Sanana**	**5.98**	**317**	P	**Pn**	**10 39 14.9**	**-0.4**
	433nm,0.7s,4µm1.4nm						
RKPI	**Ransiki, Papua**	**6.38**	**40**	P	**Pn**	**10 39 19.0**	**-1.6**
	383nm,0.5s,15µm20nm						
RKPI				S	**Sn**	**10 40 28.1**	**-4.3**
	383nm,0.5s,15µm20nm						
MTN	**Manton Dam**	**6.44**	**171**	P	**Pn**	**10 39 20.1**	**-1.2**
	baz=6.5,SNR=1000						
MTN				S	**Sn**	**10 40 29.7**	**-4.1**
	baz=6.5						
MTN	**Manton Dam**	**6.44**	**171**	Pn	**Pn**	**10 39 21.0**	**-0.4**
MTN	**Manton Dam**	**6.44**	**171**	P	**Pn**	**10 39 20.8**	**-0.6**
KDU	**Kakadu**	**6.63**	**159**	P	**Pn**	**10 39 23.0**	**-0.9**
	baz=6.6,SNR=1000						
KDU	**Kakadu**	**6.63**	**159**	P	**Pn**	**10 39 23.3**	**-0.6**
SOEI	**Soe**	**6.63**	**240**	Pn	**Pn**	**10 39 23.7**	**-0.4**
SOEI	**Soe**	**6.63**	**240**	P	**Pn**	**10 39 24.5**	**+0.4**
SOEI	**Soe**	**6.63**	**240**	P	**Pn**	**10 39 23.9**	**-0.2**
	2µm,0.7s,19µm6.9nm						
SOEI				S	**Sn**	**10 40 38.0**	**-0.8**
	2µm,0.7s,19µm6.9nm						
BATI	**Baumata**	**7.37**	**239**	P	**Pn**	**10 39 33.4**	**-0.5**
	1µm,0.5s,baz=84,slow=2.8,SNR=118						
BATI				S	**Sn**	**10 40 53.1**	**-3.2**
	604nm,0.4s,baz=101,slow=14,SNR=11						
BATI	**Baumata**	**7.37**	**239**	P	**Pn**	**10 39 32.9**	**-1.0**
	2µm,0.7s,19µm5.3nm						
BATI				S	**Sn**	**10 40 56.1**	**-0.3**
	2µm,0.7s,19µm5.3nm						
TNTI	**Ternate**	**7.67**	**339**	Pn	**Pn**	**10 39 36.5**	**-1.4**
TNTI	**Ternate**	**7.67**	**339**	P	**Pn**	**10 39 36.3**	**-1.6**
	101nm,0.7s,0.4nm						
MMRI	**Maumere**	**8.08**	**254**	Pn	**Pn**	**10 39 43.7**	**+0.2**
MMRI	**Maumere**	**8.08**	**254**	P	**Pn**	**10 39 43.6**	**+0.2**
MMRI	**Maumere**	**8.08**	**254**	P	**Pn**	**10 39 43.4**	**0.0**
	208nm,0.6s,3µm						
WAMI	**Wamena**	**8.96**	**74**	P	**Pn**	**10 39 58.6**	**+3.5**
	371nm,0.7s,5µm						
LUWI	**Luwuk**	**9.06**	**306**	Pn	**Pn**	**10 39 57.9**	**+1.4**
LUWI	**Luwuk**	**9.06**	**306**	P	**Pn**	**10 39 57.4**	**+0.9**
	158nm,0.7s,9µm						
KNRA	**Kununurra**	**9.26**	**188**	P	**Pn**	**10 39 56.9**	**-2.2**
	baz=9.3,SNR=73						
KNRA	**Kununurra**	**9.26**	**188**	Pn	**Pn**	**10 39 57.7**	**-1.5**
KNRA	**Kununurra**	**9.26**	**188**	P	**Pn**	**10 39 57.2**	**-2.0**
SMPI	**Sarmi**	**9.67**	**63**	P	**Pn**	**10 40 04.3**	**-0.3**
	60nm,1.2s,4µm						
BKSI	**Bulukumba**	**9.98**	**276**	P	**Pn**	**10 40 08.3**	**-0.4**
	28nm,0.9s						
APSI	**Ampana**	**10.06**	**303**	P	**Pn**	**10 40 10.6**	**+0.9**
	176nm,0.9s,2µm						
BASI	**Baing, Sumba**	**10.13**	**248**	P	**Pn**	**10 40 08.6**	**-2.1**
	287nm,0.5s						
KAPI	**Kappang**	**10.38**	**277**	P	**Pn**	**10 40 12.5**	**-1.6**
	8.8nm,0.8s,baz=104,slow=8.3,SNR=2.2						
KAPI				LR	LR	10 44 19.9	
	comp=Z,52nm,19.1s,baz=102,slow=38						
MRSI	**Marisa**	**10.65**	**310**	P	**Pn**	**10 40 17.6**	**0.0**
	443nm,0.9s,4µm						
GENI	**Genyem**	**10.75**	**70**	P	**Pn**	**10 40 19.5**	**+0.6**
	100nm,0.6s						
TOLI2	**Tolitoli**	**11.95**	**309**	Pn	**Pn**	**10 40 34.5**	**-0.1**
TOLI2	**Tolitoli**	**11.95**	**309**	P	**Pn**	**10 40 34.9**	**+0.3**
MPSI	**Mapaga**	**12.20**	**303**	P	**Pn**	**10 40 38.6**	**+0.6**
	35nm,1.1s,1µm						
PLAI	**Plampang**	**12.43**	**258**	P	**Pn**	**10 40 38.4**	**-2.5**
PLAI	**Plampang**	**12.43**	**258**	P	**Pn**	**10 40 39.5**	**-1.4**
	60nm,0.6s,2µm						
TWSI	**Taliwang, Sumb**	**13.29**	**259**	P	**Pn**	**10 40 50.0**	**-2.0**
	33nm,0.6s						
WB0	**Warramunga Arr**	**13.88**	**163**		**Pn**	**10 40 56.4**	**-3.1**
WRAB	**Tennant Creek**	**14.03**	**163**	Pn	**Pn**	**10 40 58.2**	**-3.2**
WRA	**Warramunga Arr**	**14.04**	**163**	P	Pn	10 40 57.3	-4.1
	39nm,0.3s,baz=347,slow=13,SNR=204						
WRA				S	Sn	10 43 27.1	-10
	65nm,0.6s,baz=338,slow=21,SNR=7.1						
WRA				LR	LR	10 47 08.3	
	comp=Z,119nm,19.7s,baz=346,slow=40						
WRA	**Warramunga Arr**	**14.04**	**163**	Pn	**Pn**	**10 40 58.2**	**-3.3**
WB2	**Warramunga Arr**	**14.04**	**163**		**Pn**	**10 40 58.7**	**-2.8**
WR0	**Warramunga Arr**	**14.11**	**163**		**Pn**	**10 41 00.2**	**-2.2**
DAV	**Davao City (W)**	**14.16**	**341**	LR	LR	10 46 38.8	
	comp=Z,60nm,20.9s,baz=140,slow=38						
COEN	**Coen**	**14.88**	**121**	P	**Pn**	**10 41 10.1**	**-2.0**
	baz=15,SNR=27						
COEN	**Coen**	**14.88**	**121**	Pn	**Pn**	**10 41 13.1**	**+1.0**
COEN	**Coen**	**14.88**	**121**	P	**Pn**	**10 41 12.4**	**+0.4**
JAGI	**Jajag, Banyuwa**	**15.93**	**262**	Pn	**Pn**	**10 41 23.3**	**-1.8**
JAGI				IAmb	IAmb	10 41 28.9	
	comp=Z,67nm,1.2s						
JAGI	**Jajag, Banyuwa**	**15.93**	**262**	P	**Pn**	**10 41 24.8**	**-0.3**
MYLDM	**Lahad Datu**	**16.35**	**315**		**P**	**10 41 31.3**	**+1.0**
MYLDM				IAmb	IAmb	10 41 50.6	
	comp=Z,43nm,0.9s						
GMJI	**Gumukmas**	**16.61**	**263**	P	**P**	**10 41 31.4**	**-1.8**
	comp=Z,24nm,0.7s						
QIS	**Mount Isa**	**16.79**	**148**	P	**P**	**10 41 35.1**	**-0.1**
	baz=17,SNR=50						
QIS	**Mount Isa**	**16.79**	**148**	P	**P**	**10 41 35.8**	**+0.6**
PMG	**Port Moresby**	**17.16**	**101**	P	**Pn**	**10 41 40.3**	**+0.3**
	comp=Z,42nm,0.7s,baz=283,slow=7.8,SNR=19						
PMG				S	**S**	**10 44 42.9**	**-8.0**
	comp=Z,8.4nm,0.4s,baz=352,slow=22,SNR=5.6						
PMG				LR	LR	10 49 45.5	
	comp=Z,89nm,21.7s,baz=341,slow=41						
PMG	**Port Moresby**	**17.16**	**101**		**Pn**	**10 41 40.8**	**+0.9**
PMG				IAmb	IAmb	10 41 44.2	
	comp=Z,50nm,0.8s						
PMG	**Port Moresby**	**17.16**	**101**	P	**Pn**	**10 41 42.5**	**+2.6**
PMG	**Port Moresby**	**17.16**	**101**	P	**Pn**	**10 41 42.6**	**+2.6**
AS31	**Alice Springs**	**17.51**	**168**	P	**P**	**10 41 44.8**	**+1.7**
AS31				IAmb	IAmb	10 41 48.9	
	comp=Z,30nm,0.8s						
ASAR	**Alice Springs**	**17.51**	**168**	P	**P**	**10 41 43.2**	**+0.1**
	comp=Z,27nm,0.5s,baz=341,slow=13,SNR=334						
ASAR				S	**S**	**10 44 50.0**	**-7.9**
	comp=Z,22nm,0.5s,baz=353,slow=28,SNR=6.4						
ASAR				LR	LR	10 49 01.7	
	comp=Z,137nm,18.9s,baz=360,slow=38						
ASAR	**Alice Springs**	**17.51**	**168**	P	**P**	**10 41 44.6**	**+1.5**
AS01	**Alice Springs**	**17.52**	**168**	P	**P**	**10 41 43.0**	**-0.2**
	comp=Z,100nm,0.6s						
MBWA	**Marble Bar**	**17.73**	**213**	P	**P**	**10 41 45.7**	**+0.1**
MBWA				IAmb	IAmb	10 41 48.4	
	comp=Z,34nm,0.9s						
MBWA	**Marble Bar**	**17.73**	**213**	P	**P**	**10 41 45.4**	**-0.1**
MTSU	**Mount Surprise**	**18.10**	**131**	P	**P**	**10 41 50.4**	**+0.9**
	baz=18,SNR=66						
MTSU	**Mount Surprise**	**18.10**	**131**	P	**Pn**	**10 41 52.4**	**+1.2**
PWJI	**Pagerwoja**	**18.21**	**264**	P	**P**	**10 41 49.5**	**-1.3**
	comp=Z,50nm,0.8s,comp=Z,1µm						
NGJI	**Ngawi**	**18.52**	**266**	P	**P**	**10 41 53.6**	**-0.6**
	comp=Z,48nm,0.7s						
WRKA	**Warakurna**	**18.57**	**185**	P	**P**	**10 41 55.9**	**+1.2**
	baz=19,SNR=237						
WRKA	**Warakurna**	**18.57**	**185**	P	**P**	**10 41 55.9**	**+1.2**
KKM	**Kota Kinabalu**	**18.59**	**312**	P	**Pn**	**10 41 55.8**	**-1.3**
KKM				IAmb	IAmb	10 41 56.6	
	comp=Z,34nm,0.9s						
KKM	**Kota Kinabalu**	**18.59**	**312**	P	**Pn**	**10 41 56.3**	**-0.8**
UGM	**Wanagama**	**19.47**	**265**	P	**P**	**10 42 04.6**	**+0.1**
UGM	**Wanagama**	**19.47**	**265**	P	**P**	**10 42 05.3**	**+0.7**
SBUM	**Sibu**	**19.91**	**296**	P	**P**	**10 42 08.4**	**-0.9**
SBUM				IAmb	IAmb	10 42 11.3	
	comp=Z,31nm,1.5s						
TV1H	**Townsville Har**	**20.65**	**130**	P	Pn	10 42 20.1	-1.0
	comp=Z,31nm,0.8s						
CTA	**Charters Tower**	**20.74**	**132**	P	**P**	**10 42 20.3**	**+2.2**
	comp=Z,3.0nm,0.5s,baz=305,slow=9.5,SNR=10						
	comp=Z,3.0nm,0.5s						
CTA	**Charters Tower**	**20.74**	**132**	P	**P**	**10 42 20.8**	**+2.7**
CTAO	**Charters Tower**	**20.74**	**132**	P	**P**	**10 42 19.5**	**+1.4**
CTAO				IAmb	IAmb	10 42 46.1	
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**20.74**	**132**	P	**P**	**10 42 20.6**	**+2.5**
KPJI	**Karang Pucung**	**21.02**	**266**	P	**P**	**10 42 20.3**	**-0.9**
	comp=Z,124nm,0.7s						
KSM	**Kuching**	**21.26**	**291**	P	**P**	**10 42 22.5**	**-1.3**
KSM				IAmb	IAmb	10 42 32.4	
	comp=Z,23nm,1.2s						
OOD	**Oodnadatta**	**21.89**	**167**	P	**P**	**10 42 30.7**	**+0.5**
GIRL	**Giralia**	**22.20**	**222**	P	**P**	**10 42 34.0**	**+0.5**
	baz=22,SNR=13						
GIRL	**Giralia**	**22.20**	**222**	P	**P**	**10 42 33.9**	**+0.4**
GIRL	**Giralia**	**22.20**	**222**	P	**P**	**10 42 34.6**	**+1.1**
BBJI	**Bungbulang**	**22.30**	**266**	P	**P**	**10 42 32.7**	**-1.9**
LEM	**Lembang**	**22.32**	**268**	P	**P**	**10 42 33.7**	**-1.2**
	comp=Z,93nm,0.8s,baz=355,slow=2.4,SNR=10						
	comp=Z,93nm,0.8s						
CNJI	**Cibinong**

STKA			LR	LR	10 55 09.7	
	comp=Z,74nm,18.6s,baz=20,slow=38					
	comp=Z,5.0nm,0.4s					
STKA	**Stephens Creek**	**27.49 158**	P	**P**	**10 43 22.9 +1.3**	
	baz=28,SNR=17					
STKA	**Stephens Creek**	**27.49 158**	P	**P**	**10 43 22.7 +1.2**	
STKA	**Stephens Creek**	**27.49 158**	P	**P**	**10 43 22.8 +1.2**	
KLBR	**Kellerberrin**	**27.55 203**	P	**P**	**10 43 22.5 +0.5**	
	baz=28,SNR=56					
KLBR	**Kellerberrin**	**27.55 203**	P	**P**	**10 43 22.6 +0.5**	
HTT	**Hallett**	**28.07 164**	P	**P**	**10 43 28.6 +1.8**	
	baz=28,SNR=13					
HTT	**Hallett**	**28.07 164**	P	**P**	**10 43 29.2 +2.4**	
MUN	**Mundaring**	**28.52 205**	P	**P**	**10 43 31.1 +0.5**	
	baz=29,SNR=6.4					
MUN	**Mundaring**	**28.52 205**	P	**P**	**10 43 31.0 +0.3**	
CMSA	**Cobar Meteorol**	**28.92 152**	P	**P**	**10 43 36.2 +2.0**	
	baz=29,SNR=29					
CMSA	**Cobar Meteorol**	**28.92 152**	P	**P**	**10 43 36.2 +2.0**	
NWAO	**Narrogin (SRO)**	**28.93 203**	P	**P**	**10 43 34.5 +0.2**	
	comp=Z,13nm,0.3s					
	comp=Z,13nm,0.3s					
NWAO	**Narrogin (SRO)**	**28.93 203**	P	**P**	**10 43 34.9 +0.6**	
	baz=29,SNR=28					
NWAO			P	**P**	**10 43 34.9 +0.6**	
	baz=29,SNR=28					
NWAO	**Narrogin (SRO)**	**28.93 203**	P	**P**	**10 43 35.0 +0.7**	
NWAO	**Narrogin (SRO)**	**28.93 203**	P	**P**	**10 43 34.8 +0.4**	
NWAO			IAmb	IAmb	10 43 35.9	
	comp=Z,50nm,1.4s					
NWAO	**Narrogin (SRO)**	**28.93 203**	P	**P**	**10 43 34.8 +0.4**	
NWAO	**Narrogin (SRO)**	**28.93 203**	P	**P**	**10 43 34.3 -0.1**	
HNR	**Honiara**	**29.71 98**	LR	LR	10 56 46.2	
	comp=Z,897nm,19.9s,baz=258,slow=38					
RKGY	**Rocky Gully**	**30.53 202**	P	**P**	**10 43 50.4 +2.0**	
	baz=31,SNR=11					
RKGY	**Rocky Gully**	**30.53 202**	P	**P**	**10 43 50.4 +2.0**	
ARPS	**Mount Arapiles**	**32.03 162**	P	**P**	**10 44 03.8 +2.2**	
	baz=32,SNR=41					
ARPS	**Mount Arapiles**	**32.03 162**	P	**P**	**10 44 03.8 +2.2**	
RPSI	**Rantau Prapat**	**32.41 285**	P	**P**	**10 44 04.4 -0.8**	
RPSI			IAmb	IAmb	10 44 07.9	
	comp=Z,19nm,0.9s					
JOW	**Kunigami**	**33.13 357**	P	**P**	**10 44 12.0 +0.8**	
JOW	**Kunigami**	**33.13 357**	P	**P**	**10 44 12.1 +0.8**	
GSI	**Gunungsitoli**	**33.36 282**	P	**P**	**10 44 14.5 +1.1**	
CAN	**Canberra**	**33.59 151**	P	**P**	**10 44 17.5 +2.3**	
CAN			IAmb	IAmb	10 44 18.7	
	comp=Z,17nm,1.0s					
CAN	**Canberra**	**33.59 151**	P	**P**	**10 44 17.9 +2.6**	
TOO	**Toolangi**	**34.01 158**	P	**P**	**10 44 22.4 +3.6**	
	baz=34,SNR=5.2					
TOO	**Toolangi**	**34.01 158**	P	**P**	**10 44 22.1 +3.4**	
TOO			IAmb	IAmb	10 44 33.5	
	comp=Z,17nm,1.1s					
TOO	**Toolangi**	**34.01 158**	P	**P**	**10 44 22.3 +3.6**	
MOO	**Moorlands**	**38.91 160**	P	**P**	**10 45 03.4 +3.1**	
	baz=39,SNR=4.2					
MOO	**Moorlands**	**38.91 160**	P	**P**	**10 45 03.3 +3.0**	
JNU	**Nakatsue**	**39.36 1**	P	**P**	**10 45 02.9 -1.2**	
	comp=Z,7.0nm,0.7s,baz=127,slow=1.6,SNR=5.7					
JNU			LR	LR	11 00 39.2	
	comp=Z,42nm,19.3s,baz=194,slow=35					
	comp=Z,7.0nm,0.7s					
JNU	**Nakatsue**	**39.36 1**	P	**P**	**10 45 04.3 +0.2**	
CMAR	**Chiang Mai Arr**	**39.45 309**	P	**P**	**10 45 04.1 -1.0**	
	comp=Z,2.5nm,0.6s,baz=134,slow=6.7,SNR=18					
CMAR			PcP	**PcP**	**10 47 11.1 +0.9**	
	comp=Z,1.8nm,0.8s,baz=159,slow=3.2,SNR=6.3					
	comp=Z,2.5nm,0.6s					
CHTO	**Chiang Mai**	**39.66 310**	P	**P**	**10 45 06.3 -0.4**	
JHS	**Saijyo**	**41.32 4**	P	**P**	**10 45 21.8 +1.6**	
PZH	**PanZhiHua**	**42.76 321**	P	**P**	**10 45 34.7 +2.5**	
PZH			pmax	pmax		
	comp=Z,8.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,130nm,5.3s					
MJAR	**Matsushiro Arr**	**43.44 10**	P	**P**	**10 45 36.2 -1.1**	
	comp=Z,6.7nm,0.8s,baz=188,slow=9.5,SNR=14					
MJAR			LR	LR	10 59 59.7	
	comp=Z,29nm,21.7s,baz=202,slow=31					
	comp=Z,6.7nm,0.8s					
KSRS	**Korea Array**	**43.72 358**	P	**P**	**10 45 40.0 +0.5**	
	comp=Z,2.0nm,0.5s,baz=178,slow=9.3,SNR=16					
KSRS			PcP	**PcP**	**10 47 24.3 +0.4**	
	comp=Z,1.0nm,0.7s,baz=176,slow=5.1,SNR=2.6					
KSRS			LR	LR	11 06 25.6	
	comp=Z,14nm,18.2s,baz=245,slow=39					
	comp=Z,2.0nm,0.5s					
TNCH	**TengChong**	**43.85 317**	*e*P	**P**	**10 45 43.4 +2.4**	
TNCH			pmax	pmax		
	comp=Z,80nm,2.9s					
BJT	**Baijiatuau**	**47.99 346**	P	**P**	**10 46 13.1 +0.1**	
BJT			IAmb	IAmb	10 46 45.1	
	comp=Z,8.3nm,0.7s					
LZH	**Lanzhou**	**48.96 332**	*e*P	**P**	**10 46 21.8 +1.1**	
LZH			pmax	pmax		
	comp=Z,14nm,0.7s					
CN2	**Changchun**	**50.19 356**	P	**P**	**10 46 30.6 +1.0**	
USRK	**Ussuriysk Ar.**	**50.44 2**	P	**P**	**10 46 31.2 -0.2**	
	comp=Z,4.7nm,0.5s,baz=187,slow=6.6,SNR=21					
	comp=Z,4.7nm,0.5s					
MDJ	**Mudanjiang**	**50.83 360**	P	**P**	**10 46 34.7 +0.3**	
MDJ			pP	pP	10 47 08.1 +1.3	
MDJ			sP	sP	10 47 24.1 +1.6	
MDJ			ScP	**ScP**	**10 51 30.6 -1.1**	
MDJ			PcS	**PcS**	**10 51 45.0 -1.6**	
MDJ			S	**S**	**10 53 43.8 +4.6**	
MDJ			ScS	**ScS**	**10 56 10.6 +0.4**	
MDJ			pmax	pmax		
	comp=Z,11nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,75nm,3.5s					
PALK	**Pallekele**	**51.12 285**	LR	LR	11 09 57.8	
	comp=Z,19nm,18.6s,baz=208,slow=38					
ASAJ	**Asahikawa**	**51.58 11**	LR	LR	11 09 13.1	
	comp=Z,16nm,19.0s,baz=186,slow=37					
RPZ	**Rata Peaks**	**51.62 143**	P	**P**	**10 46 42.4 +2.0**	
	comp=Z,23nm,1.0s,baz=27,slow=15,SNR=2.4					
RPZ			LR	LR	11 08 26.9	
	comp=Z,58nm,19.1s,baz=312,slow=36					
	comp=Z,23nm,1.0s					
BKZ	**Black Stump Fm**	**52.92 135**	P	**P**	**10 46 51.4 +1.2**	
GTA	**Gaotai**	**53.53 331**	*e*P	**P**	**10 46 55.9 +1.2**	
GTA			pmax	pmax		
	comp=Z,4.0nm,0.7s					
HEH	**HeiHe**	**56.52 358**	*e*P	**P**	**10 47 16.1 +0.4**	
HEH			pmax	pmax		
	comp=Z,6.0nm,1.2s					
ULN	**Ulaanbaatar**	**57.77 342**	P	**P**	**10 47 23.7 -1.1**	
ULN			IAmb	IAmb	10 47 58.8	
	comp=Z,5.1nm,0.6s					
SONM	**Songino Array**	**57.95 341**	P	**P**	**10 47 26.1 +0.2**	
	comp=Z,1.1nm,0.4s,baz=166,slow=7.3,SNR=15					
SONM			pP	**pP**	**10 47 59.6 +0.6**	
	comp=Z,2.2nm,0.7s,baz=165,slow=6.6,SNR=4.9					
	comp=Z,1.1nm,0.4s					
SONM	**Songino Array**	**57.95 341**	P	**P**	**10 47 26.8 +0.8**	
CASY	**Casey**	**61.26 189**	P	**P**	**10 47 48.8 +0.6**	
CASY			IAmb	IAmb	10 47 49.9	
	comp=Z,11nm,0.9s					
WMQ	**Urumqi**	**62.98 327**	*e*P	**P**	**10 48 02.2 +2.0**	
WMQ			LR	LR		
	comp=Z,26nm,14.5s					
PETK	**Petropavlovsk-**	**63.77 18**	P	**P**	**10 48 06.2 +1.1**	
	comp=Z,3.4nm,0.9s,baz=169,slow=4.0,SNR=10.0					
PETK			pP	**PcP**	**10 48 39.6 -0.1**	
	comp=Z,2.3nm,0.7s,baz=129,slow=4.4,SNR=2.5					
PETK			LR	LR	11 13 55.5	
	comp=Z,11nm,20.8s,baz=217,slow=34					
	comp=Z,3.4nm,0.9s					
KSH	**Kashi**	**67.67 317**	P	**P**	**10 48 32.0 +1.5**	
KSH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
MK31	**Makanchi Array**	**67.82 327**	P	**P**	**10 48 31.8 +0.7**	
MK31			IAmb	IAmb	10 48 32.4	
	comp=Z,9.1nm,0.6s					
MKAR	**Makanchi Array**	**67.82 327**	P	**P**	**10 48 31.6 +0.5**	
	comp=Z,13nm,0.5s,baz=121,slow=7.9,SNR=146					
MKAR			pP	**pP**	**10 49 04.5 -0.9**	
	comp=Z,2.9nm,0.6s,baz=116,slow=8.4,SNR=1.9					
	comp=Z,13nm,0.5s					
MKAR	**Makanchi Array**	**67.82 327**	P	**P**	**10 48 32.1 +1.0**	
MAKZ	**Makanchi**	**68.00 327**	P	**P**	**10 48 33.1 +0.8**	
MAKZ			IAmb	IAmb	10 48 33.3	
	comp=Z,12nm,0.6s					

TKM2	**Tokmak 2**	**69.62 320**	P	**P**	**10 48 43.3 +0.6**	
	SNR=14					
KBK	**Karagaybulak**	**69.90 320**	P	**P**	**10 48 45.0 +0.7**	
	SNR=5.9					
UCH	**Uchtor**	**69.97 319**	P	**P**	**10 48 46.1 +1.0**	
	SNR=9.5					
AAK	**Ala-Archa**	**70.18 320**	P	**P**	**10 48 46.9 +0.9**	
	SNR=7.7					
AAK	**Ala-Archa**	**70.18 320**	P	**P**	**10 48 46.8 +0.8**	
AAK			IAmb	IAmb	10 48 47.8	
	comp=Z,7.6nm,0.8s					
CHMS	**Chumysh**	**70.19 320**	P	**P**	**10 48 46.3 +0.4**	
	SNR=5.1					
AML	**Almayashu**	**70.45 319**	P	**P**	**10 48 48.9 +1.0**	
	SNR=21					
KBL	**Kabul**	**70.48 310**	P	**P**	**10 48 47.5 -0.5**	
KBL			IAmb	IAmb	10 48 50.3	
	comp=Z,4.7nm,0.6s					
USP	**Ospenovka**	**70.49 320**	P	**P**	**10 48 48.1 +0.4**	
	SNR=23					
EKS2	**Erkin-Say**	**70.65 319**	P	**P**	**10 48 50.0 +1.1**	
	SNR=14					
ZAA0	**Zalesovo Array**	**71.13 334**	P	**P**	**10 48 50.4 -0.8**	
ZALV	**Zalesovo Beam**	**71.13 334**	P	**P**	**10 48 50.8 -0.5**	
	comp=Z,2.8nm,0.5s,baz=123,slow=5.7,SNR=12					
ZALV			pP	**pP**	**10 49 23.6 -2.2**	
	comp=Z,1.5nm,0.4s,baz=108,slow=4.8,SNR=2.8					
	comp=Z,2.8nm,0.5s					
ZALV	**Zalesovo Beam**	**71.13 334**	P	**P**	**10 48 51.0 -0.3**	
GAR	**Garm**	**71.34 315**	P	**P**	**10 48 53.3 +0.2**	
CHGR	**Chuyangaron**	**72.02 314**	P	**P**	**10 48 57.4 +0.3**	
KURK	**Kurchatov**	**72.10 328**	P	**P**	**10 48 57.2 +0.1**	
VNDA	**Vanda**	**72.98 173**	P	**P**	**10 49 03.0 +1.0**	
	comp=Z,4.9nm,0.5s,baz=324,slow=7.2,SNR=28					
VNDA			LR	LR	11 20 20.9	
	comp=Z,34nm,18.3s,baz=224,slow=35					
	comp=Z,4.9nm,0.5s					
VNDA	**Vanda**	**72.98 173**	P	**P**	**10 49 03.4 +1.4**	
VNDA			IAmb	IAmb	10 49 03.4	
	comp=Z,5.8nm,0.7s					
KK31	**Karatay Array**	**72.99 319**	P	**P**	**10 49 02.9 +0.2**	
KKAR	**Karatay Array**	**72.99 319**	P	**P**	**10 49 03.0 +0.3**	
TAS	**Tashkent**	**73.03 317**	P	**P**	**10 49 03.8 +0.9**	
SBA	**Scott Base**	**73.87 172**	P	**P**	**10 49 09.1 +2.0**	
MAW	**Mawson**	**75.49 201**	P	**P**	**10 49 18.0 +1.4**	
	comp=Z,15nm,0.6s,baz=97,slow=8.4,SNR=7.2					
	comp=Z,15nm,0.6s					
MAW	**Mawson**	**75.49 201**	P	**P**	**10 49 18.0 +1.4**	
HRA	**Herat**	**75.69 308**	P	**P**	**10 49 18.9 +0.2**	
BRVK	**Borovoye**	**77.72 328**	P	**P**	**10 49 29.4 0.0**	
TIXI	**Tiksi**	**77.94 360**	P	**P**	**10 49 30.2 -0.1**	
TIXI			IAmb	IAmb	10 49 30.9	
	comp=Z,4.8nm,0.5s					
GEYT	**Alibeck**	**79.93 310**	P	**P**	**10 49 42.5 +0.6**	
	comp=Z,4.5nm,0.6s,baz=134,slow=4.3,SNR=9.4					
	comp=Z,4.5nm,0.6s					
GEYT	**Alibeck**	**79.93 310**	P	**P**	**10 49 42.2 +0.3**	
GEYT			IAmb	IAmb	10 49 43.2	
	comp=Z,5.5nm,0.6s					
GYA0B	**ALIBECK ARRAY**	**79.93 310**	P	**P**	**10 49 42.2 +0.4**	
GYA0B			IAmb	IAmb	10 49 43.1	
	comp=Z,5.7nm,0.6s					
NRIK	**Noril'sk**	**81.05 346**	P	**P**	**10 49 47.4 +0.3**	
	comp=Z,3.7nm,0.6s,baz=141,slow=7.0,SNR=6.6					
	comp=Z,3.7nm,0.6s					
NRIK	**Noril'sk**	**81.05 346**	P	**P**	**10 49 47.3 +0.3**	
VOI	**Vohitsoka**	**81.42 249**	P	**P**	**10 49 50.4 +0.1**	
VOI			IAmb	IAmb	10 49 51.4	
	comp=Z,15nm,0.8s					
VOI	**Vohitsoka**	**81.42 249**	P	**P**	**10 49 51.0 +0.7**	
ABKAR	**Abkalak array**	**82.13 322**	P	**P**	**10 49 52.7 -0.5**	
QSPA	**South Pole Qui**	**83.53 180**	P	**P**	**10 50 00.6 +0.3**	
QSPA			IAmb	IAmb	10 50 01.1	
	comp=Z,7.9nm,0.6s					
ARU	**Arti**	**85.29 328**	P	**P**	**10 50 08.4 -0.7**	
ELIB	**Princess Elisa**	**89.04 197**	*d*P	**P**	**10 50 28.6 +1.5**	
	comp=Z,14nm,0.8s					
KBZ	**Khabaz**	**92.38 314**	P	**P**	**10 50 42.0 -0.9**	
	comp=Z,0.7nm,0.4s,baz=60,slow=22,SNR=1.7					
	comp=Z,0.7nm,0.4s					
GURO	**Guroymak-BITLI**	**92.45 308**	IAmb	IAmb	10 50 45.2	
	comp=Z,4.4nm,0.9s					
KMBO	**Kilima Mbogo**	**92.69 269**	P	**P**	**10 50 43.5 -1.9**	
	comp=Z,1.0nm,0.3s,baz=80,slow=8.5,SNR=4.1					
	comp=Z,1.0nm,0.3s					
ILAR	**Eielson Array**	**92.81 25**	P	**P**	**10 50 43.2 -1.3**	
	comp=Z,0.3nm,0.7s,baz=269,slow=5.3,SNR=5.2					
ILAR			PKKPbc	**PKKPdf**	**11 07 54.0 -1.5**	
	comp=Z,0.3nm,0.6s,baz=335,slow=1.0,SNR=5.4					
	comp=Z,0.3nm,0.7s					
YKA	**Yellowknife Ar**	**107.22 26**	PKiKP	**PKiKP**	**10 55 57.5 +0.1**	
	comp=Z,0.7nm,0.6s,baz=294,slow=2.1,SNR=21					
YKA			PKKPbc	**PKKPbc**	**11 07 13.2 -3.5**	
	comp=Z,0.7nm,0.7s,baz=114,slow=3.0,SNR=12					
GERES	**GERESS Array B**	**112.06 320**	PKiKP	**PKiKP**	**10 56 06.8 -0.3**	
	comp=Z,0.7nm,0.4s,baz=81,slow=6.1,SNR=4.4					
DAVOX	**Davos/Dischmat**	**115.13 319**	PKP	**PKiKP**	**10 56 12.6 -0.5**	
	comp=Z,2.2nm,0.4s,baz=90,slow=20,SNR=4.1					
PDAR	**Pinedale Array**	**115.44 45**	PKP	**PKiKP**	**10 56 16.2 +0.3**	
	comp=Z,0.5nm,0.6s,baz=243,slow=0.7,SNR=6.3					
PDAR			PKKPbc	**PKKPbc**	**11 06 44.6 -1.3**	
	comp=Z,0.4nm,0.6s,baz=116,slow=6.8,SNR=4.4					
EKA	**Eskdalemuir Ar**	**118.72 332**	PKP	**PKPdf**	**10 56 19.3 -0.2**	
	comp=Z,0.4nm,0.4s,baz=35,slow=3.1,SNR=3.8					
ULM	**Lac du Bonnet**	**121.94 33**	PKP	**PKPdf**	**10 56 25.4 -0.5**	
	comp=Z,2.2nm,0.5s,baz=268,slow=3.4,SNR=6.4					
TXAR	**Lajitas Array**	**124.57 59**	PKP	**PKiKP**	**10 56 32.5 +0.4**	
	comp=Z,0.4nm,0.5s,baz=178,slow=3.0,SNR=8.3					
TXAR			PKKPbc	**PKKPab**	**11 06 14.5 +0.3**	
	comp=Z,0.1nm,0.6s,baz=53,slow=6.4,SNR=4.3					
PLCA	**Paso Flores**	**129.36 160**	SKPbc	SKPab	10 59 48.4 +0.3	
	comp=Z,2.5nm,0.9s,baz=176,slow=5.8,SNR=3.5					
DBIC	**Dimbokro**	**135.25 273**	PKP	**PKPdf**	**10 56 51.7 -0.6**	
	comp=Z,3.5nm,0.6s,baz=138,slow=1.2,SNR=7.1					
DBIC			SKPbc	**SKPbc**	**11 00 07.9 -1.9**	
	comp=Z,2.4nm,0.7s,baz=128,slow=4.3,SNR=3.5					
CFA	**Coronel Fontan**	**138.31 156**	SKPbc	**SKPbc**	**11 00 18.3 -0.2**	
	comp=Z,1.5nm,0.4s,baz=269,slow=2.8,SNR=3.7					
LVC	**Limon Verde**	**145.65 148**	PKPbc	**PKPab**	**10 57 13.7 +1.5**	
	comp=Z,10nm,0.7s,baz=256,slow=3.6,SNR=18					
CPUP	**Villa Florida**	**146.63 168**	PKPbc	**PKPbc**	**10 57 14.9 +0.8**	
	comp=Z,12nm,0.8s,baz=192,slow=2.2,SNR=22					
CPUP			SKPbc	**SKPbc**	**11 00 39.5 +0.2**	
	comp=Z,3.8nm,0.8s,baz=257,slow=1.8,SNR=5.4					
SIV	**San Ignacio**	**155.12 154**	PKP	**PKPdf**	**10 57 26.7 +1.1**	
	comp=Z,1.1nm,0.6s,baz=266,slow=2.4,SNR=7.1					
SIV			PKPab	**PKPab**	**10 57 52.3 +1.6**	
	comp=Z,2.8nm,0.6s,baz=216,slow=4.3,SNR=14					

*IDC **04** 10:41:56.6±1.4,32.°87S×70.°78W,h0km,mb3.3/1, mbtmp3.3/2,ML3.8/1,MS2.6/2,Error ellipse: s-maj=78.4km s-min=38.4km az=83.0*

*GUC **04** 10:41:57.7±0.7,32.°82S×72.°00W,h30km±6km,ML3.8*

ISC 04 10:41:55.1±1.7,32.85S±0.03°×72.13W±0.06,h11km±10km, n32,σ0.85/48,1C-6D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.44**	**113**	*i*P		**Pb**	**10 42 05.4 +0.6**
VA01				*e*S		**Sg**	**10 42 10.9 +1.4**
VA06	**Catapilco**	**0.76**	**68**	↓*i*P		**Pg**	**10 42 09.9 +0.2**
VA06				*e*S		**Sg**	**10 42 18.8 -0.8**
VA06				IAML			10 42 22.6
	comp=N,10μm,0.5s						
VA05	**Santo Domingo**	**0.91**	**152**	*i*P		**Pn**	**10 42 13.7 -0.2**
VA05				*e*S		**Sn**	**10 42 26.2 -0.8**
VA05				IAML			10 42 27.3
	comp=E,5μm,0.2s						
MT02	**Curacav**	**0.93**	**116**	↓*i*P		**Pb**	**10 42 13.1 -0.1**
MT02				*e*S		**Sb**	**10 42 24.4 -1.1**
ROCH	**El Roble**	**0.95**	**98**	↓*i*P		**Pb**	**10 42 13.2 -0.5**
ROCH				*e*S		**Sg**	**10 42 24.9 -0.9**
ROCH				IAML			10 42 27.2
	comp=N,4μm,0.2s						
PEL	**Peldehue**	**1.25**	**104**	*e*P		**Pn**	**10 42 18.3 -0.3**
PEL				*e*S		**Sb**	**10 42 34.0 -0.8**
PEL				IAML			10 42 38.5
	comp=E,5μm,0.3s						
MT01	**Popeta**	**1.25**	**144**	↑*i*P		**Pn**	**10 42 18.7 +0.1**
MT01				*e*S		**Sb**	**10 42 33.9 -0.9**
MT01				IAML			10 42 36.9
	comp=E,3μm,0.1s						
MT05	**Renca**	**1.28**	**115**	↓*i*P		**Pn**	**10 42 19.3 +0.2**
MT05				*e*S		**Sb**	**10 42 34.9 -1.1**
MT05				IAML			10 42 41.2
	comp=E,4μm,0.2s						
MT09	**Talagante**	**1.33**	**134**	*e*P		**Pn**	**10 42 20.0 +0.3**
MT09				*e*S		**Sb**	**10 42 37.1 -0.1**
MT09				IAML			10 42 38.2
	comp=N,7μm,0.3s						
VA03	**San Esteban**	**1.33**	**87**	↓*i*P		**Pn**	**10 42 19.1 -0.7**
VA03				*e*S		**Sn**	**10 42 35.5 -2.1**
VA03				IAML			10 42 36.4
	comp=E,6μm,0.1s						
MT03	**Universidad Ad**	**1.50**	**116**	*e*P		**Pn**	**10 42 22.8 +0.7**
MT03				*e*S		**Sn**	**10 42 42.1 +0.3**
FCH	**Farellones**	**1.61**	**108**	*i*P		**Pn**	**10 42 24.1 +0.3**
FCH				*e*S		**Sn**	**10 42 44.8 0.0**
FCH				IAML			10 42 49.7
	comp=E,2μm,0.4s						
BO03	**Pichilemu**	**1.65**	**175**	*i*P		**Pb**	**10 42 24.6 -0.9**
BO03				*e*S		**Sn**	**10 42 44.0 -1.2**
BO04	**La Punta**	**1.70**	**132**	*i*P		**Pn**	**10 42 25.9 +1.0**
BO04				*e*S		**Sn**	**10 42 47.1 +0.4**
BO04				IAML			10 42 54.2
	comp=E,2μm,0.5s						
BO01	**Tunca**	**1.77**	**151**	*e*P		**Pn**	**10 42 26.1 +0.4**
BO01				*e*S		**Sn**	**10 42 47.6 -0.6**
LMEL	**Las Melosas**	**1.89**	**122**	*e*P		**Pn**	**10 42 28.9 +1.3**
LMEL				*e*S		**Sn**	**10 42 52.5 +1.0**
LMEL				IAML			10 42 57.9
	comp=N,2μm,0.2s						
CO02	**Combarbal**	**1.90**	**31**	*i*P		**Pn**	**10 42 27.6 0.0**
CO02				*e*S		**Sn**	**10 42 53.3 +1.7**
GO05	**Huala**	**2.16**	**176**	*e*P		**Pn**	**10 42 31.6 +0.5**
GO05				IAML			10 43 09.9
	comp=N,366nm,0.5s						
BO02	**Sierra Bellavi**	**2.24**	**150**	*e*P		**Pn**	**10 42 33.4 +1.1**
BO02				*e*S		**Sn**	**10 43 00.9 +1.0**
CO03	**El Pedregal**	**2.35**	**32**	*e*P		**Pn**	**10 42 34.1 +0.3**
CO03				IAML			10 43 10.6
	comp=E,666nm,0.1s						
GO04	**Tololo Observa**	**2.90**	**23**	*e*P		**Pn**	**10 42 41.5 0.0**
GO04				*e*S		**Sb**	**10 43 22.7 +0.2**
CO01	**Juntas del Tor**	**3.35**	**32**	*e*P		**Pn**	**10 42 48.7 +1.0**
CO01				IAML			10 43 41.8
	comp=N,122nm,0.4s						
LCO	**Las Campanas**	**4.02**	**18**	*i*P		**Pn**	**10 42 56.5 -0.4**
AC05	**El Transito**	**4.31**	**22**	*e*P		**Pn**	**10 43 01.4 +0.6**
AC04	**Llanos de Chal**	**4.72**	**11**	*e*P		**Pn**	**10 43 05.1 -1.1**
PLCA	**Paso Flores**	**7.97**	**171**	Pn		**Pn**	**10 43 52.4 +1.5**
	comp=N,0.3nm,0.3s,baz=343,slow=13,SNR=9.7						
	comp=N,0.9nm,0.4s						
CPUP	**Villa Florida**	**14.41**	**67**	LR		LR	10 50 32.0
	comp=N,33nm,18.4s,baz=222,slow=38						
SIV	**San Ignacio**	**19.55**	**33**	LR		LR	10 53 46.4
	comp=N,12nm,21.9s,baz=296,slow=37						
TXAR	**Lajitas Array**	**68.70**	**331**	P		P	10 53 06.1 +7.2
	comp=N,0.3nm,0.9s,baz=160,slow=5.1,SNR=2.5						
	comp=N,0.3nm,0.9s						
BVAR	**Borovoye Array**	**146.48**	**42**	PKPbc		**PKPbc**	**11 01 36.0 +0.1**
	comp=N,0.4nm,0.4s,baz=266,slow=5.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**153.29**	**31**	PKPbc		**PKiKP**	**11 01 53.5 +0.7**
	comp=N,0.7nm,0.6s,baz=310,slow=1.6,SNR=2.3						
MKAR	**Makanchi Array**	**156.05**	**47**	PKPab		**PKPab**	**11 02 16.9 +0.1**
	comp=N,0.7nm,0.6s,baz=303,slow=3.8,SNR=7.0						

*IDC **04** 10:52:54.2±1.6,18.°76S×176.°06E,h0km,mb3.6/4, mbtmp3.6/5,ML4.6/1,MS2.8/2,Error ellipse: s-maj=82.7km s-min=19.8km az=157.0*

ISC 04 10:52:56.0±1.8,18.6S±0.8×176.0E±0.3,h10km,n6, σ0.61/6,mb3.6/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.13**	**66**	Pn		**Pn**	**10 53 31.2 -0.5**
	10nm,0.3s,baz=240,slow=15,SNR=10						
MSVF				Sn		**Sn**	**10 53 58.3 0.0**
	11nm,0.3s,baz=278,slow=22,SNR=6.6						
MSVF				LR		LR	10 54 35.9
	comp=Z,162nm,18.8s,baz=191,slow=48						
	11nm,0.4s						
DZM	**Mont Dzumac**	**9.61**	**248**	LR		LR	10 58 17.1
	comp=Z,90nm,20.7s,baz=28,slow=34						
WRA	**Warramunga Arr**	**39.28**	**261**	P		**P**	**11 00 25.0 -0.3**
	0.6nm,0.7s,baz=96,slow=7.8,SNR=3.5						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**39.49**	**255**	P		**P**	**11 00 26.8 -0.3**
	1.3nm,0.8s,baz=85,slow=8.4,SNR=13						
	1.3nm,0.8s						
ILAR	**Eielson Array**	**87.86**	**15**	P		**P**	**11 05 45.3 +0.1**
	0.4nm,0.8s,baz=221,slow=6.8,SNR=2.7						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**90.89**	**59**	P		**P**	**11 06 01.2 +0.8**
	0.2nm,0.7s,

comp=Z,2µm,18.1s,baz=130,slow=44
HNR Honiara 2.09 305 Pn Pn 11 22 58.3 -1.1
KOUNC Koumac, New Ca 10.17 166 Pn Pn 11 24 48.3 -1.9
DZM Mont Dzumac 12.25 159 P P 11 25 26.6 -3.2
3.2nm,0.5s,baz=25,slow=11,SNR=23
DZM S Sn 11 27 37.6 +3.6
4.3nm,0.8s,baz=117,slow=22,SNR=2.0
DZM Mont Dzumac 12.25 159 Pn Pn 11 25 16.6 -2.2
TARA Tarawa 16.34 44 Pn P 11 26 15.8 +0.6
TARA IAmb IAmb 11 26 18.9
comp=Z,85nm,0.9s
MANU Manus Island 16.58 300 Pn Pn 11 26 16.4 +0.4
CTA Charters Tower 17.59 236 P P 11 26 31.7 +2.7
comp=Z,0.4nm,0.3s,baz=45,slow=11,SNR=2.3
CTA LR LR 11 31 54.8
comp=Z,34nm,18.6s,baz=83,slow=32
comp=Z,2.5nm,0.6s
EIDS Eidsvold 17.77 213 P Pn 11 26 28.9 -1.8
CAN Canberra 27.15 203 P P 11 28 05.9 +0.4
WR0 Warramunga Arr 27.74 247 P P 11 28 10.0 -0.9
WR0 IAmb IAmb 11 28 18.2
comp=Z,4.8nm,1.1s
WB0 Warramunga Arr 27.82 248 P P 11 28 12.3 +0.6
WB0 IAmb IAmb 11 28 14.2
comp=Z,6.1nm,1.1s
WB2 Warramunga Arr 27.91 247 P P 11 28 13.2 +0.8
WB2 IAmb IAmb 11 28 14.1
comp=Z,4.9nm,1.1s
WRA Warramunga Arr 27.92 247 P P 11 28 12.9 +0.3
comp=Z,1.7nm,0.6s,baz=77,slow=9.0,SNR=9.3
comp=Z,1.7nm,0.6s
AS31 Alice Springs 29.47 240 P P 11 28 26.4 0.0
ASAR Alice Springs 29.47 240 P P 11 28 26.1 -0.2
comp=Z,0.4nm,0.6s,baz=62,slow=10.0,SNR=9.3
comp=Z,0.4nm,0.6s
KNRA Kununurra 32.42 258 P P 11 28 52.7 +0.3
KNRA IAmb IAmb 11 29 08.0
comp=Z,13nm,1.1s
JOW Kunigami 49.39 320 P P 11 31 15.3 +3.6
SONM Songino Array 76.02 325 P P 11 34 08.9 0.0
comp=Z,0.7nm,0.5s,baz=134,slow=6.4,SNR=4.4
comp=Z,0.7nm,0.5s
QSPA South Pole Qui 79.37 180 P P 11 34 30.2 +2.9
QSPA IAmb IAmb 11 34 41.5
comp=Z,5.2nm,1.1s
ILAR Eielson Array 84.43 20 P P 11 34 52.5 -1.1
comp=Z,0.3nm,0.7s,baz=230,slow=4.2,SNR=4.2
comp=Z,0.3nm,0.7s
MKAR Makanchi Array 90.51 318 P P 11 35 22.5 -1.0
comp=Z,0.2nm,0.7s,baz=90,slow=4.3,SNR=1.6
comp=Z,0.2nm,0.7s

*IDC **04** 11:23:17.6±1.6, 18.°81S×176.°03E, h0km, mb4.0/6, mbtmp3.9/7, ML4.6/1, MS2.9/3, Error ellipse: s-maj=92.6km s-min=20.5km az=154.0*
ISC 04 11:23:18.9±1.3, 18.°8S±0.°5×176.°2E±0.°3, h10km, n9, σ1s48/7, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.08**	**59**	Pn	**Pn**	**11 23 54.0**	**+0.1**
	8.6nm,0.3s,baz=237,slow=12,SNR=11						
MSVF				Sn	**Sn**	**11 24 18.2**	**-1.8**
	8.6nm,0.3s,baz=210,slow=19,SNR=8.2						
MSVF				LR	LR	11 24 48.7	
	comp=Z,347nm,18.7s,baz=218,slow=42						
	19nm,0.5s						
DZM	**Mont Dzumac**	**9.69**	**249**	LR	LR	11 28 42.4	
	comp=Z,87nm,21.4s,baz=40,slow=34						
PPT	**Papeete**	**32.52**	**93**	LR	LR	11 41 13.0	
	comp=Z,16nm,20.7s,baz=258,slow=33						
STKA	**Stephens Creek**	**33.70**	**241**	P	**P**	**11 29 59.6**	**-0.9**
	2.8nm,0.8s,baz=111,slow=10,SNR=3.7						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**39.42**	**261**	P	P	11 30 47.0	-2.4
	1.3nm,0.9s,baz=93,slow=8.3,SNR=5.4						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**39.60**	**255**	P	**P**	**11 30 50.1**	**-0.8**
	3.0nm,0.8s,baz=82,slow=8.9,SNR=24						
	3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**84.40**	**292**	P	**P**	**11 35 52.7**	**+0.5**
	1.5nm,0.8s,baz=134,slow=3.7,SNR=7.4						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**88.01**	**15**	P	**P**	**11 36 08.9**	**+0.1**
	0.7nm,1.0s,baz=226,slow=6.5,SNR=4.7						
	0.7nm,1.0s						
TXAR	**Lajitas Array**	**90.85**	**59**	P	**P**	**11 36 25.1**	**+2.0**
	0.4nm,0.9s,baz=245,slow=5.4,SNR=3.8						
	0.4nm,0.9s						

*IDC **04** 11:30:06.7±1.3, 7.°94N×36.°81W, h0km, mb3.7/5, mbtmp3.7/5, MS3.5/32, Error ellipse: s-maj=44.9km s-min=30.2km az=130.0*
ISC 04 11:30:08.4±1.2, 7.°9N±0.°2×36.°8W±0.°3, h10km, n37, σ0s82/7, mb3.8/5, MS3.5/31, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**15.99**	**261**	LR	LR	11 38 51.1	
	comp=Z,212nm,20.5s,baz=76,slow=33						
BBTS	**Babate**	**20.97**	**69**	LR	LR	11 41 09.5	
	comp=Z,213nm,20.2s,baz=235,slow=32						
BDFB	**Brasilia**	**25.88**	**205**	P	**P**	**11 35 41.0**	**+0.3**
	4.5nm,0.9s,baz=38,slow=5.0,SNR=4.1						
	4.5nm,0.9s						
SJG	**San Juan**	**30.32**	**293**	LR	LR	11 46 06.1	
	comp=Z,130nm,21.0s,baz=97,slow=32						
DBIC	**Dimbokro**	**31.70**	**90**	LR	LR	11 47 02.4	
	comp=Z,98nm,18.7s,baz=250,slow=32						
SDV	**Santo Domingo**	**33.49**	**274**	LR	LR	11 49 09.3	
	comp=Z,65nm,21.2s,baz=115,slow=34						
SIV	**San Ignacio**	**33.77**	**225**	LR	LR	11 49 52.2	
	comp=Z,94nm,18.1s,baz=106,slow=35						
ROSC	**El Rosal**	**37.41**	**268**	LR	LR	11 51 53.8	
	comp=Z,179nm,21.6s,baz=87,slow=35						
MDT	**Midelt**	**38.79**	**46**	LR	LR	11 53 32.3	
	comp=Z,46nm,18.8s,baz=243,slow=36						
CPUP	**Villa Florida**	**39.42**	**210**	LR	LR	11 53 25.1	
	comp=Z,60nm,19.2s,baz=44,slow=35						
ESDC	**Sonseca Array**	**43.19**	**38**	LR	LR	11 51 17.5	
	comp=Z,45nm,20.2s,baz=257,slow=30						
LVC	**Limon Verde**	**43.67**	**225**	LR	LR	11 56 33.4	
	comp=Z,47nm,18.3s,baz=31,slow=36						
ATAH	**Atahualpa**	**44.08**	**251**	LR	LR	11 57 56.4	
	comp=Z,76nm,18.2s,baz=83,slow=38						
NNA	**Nana**	**44.45**	**244**	LR	LR	11 56 41.1	
	comp=Z,47nm,19.6s,baz=74,slow=36						
JTS	**Las Juntas de**	**47.59**	**277**	LR	LR	11 59 32.7	
	comp=Z,27nm,20.0s,slow=37						
TKL	**Tuckaleechee C**	**50.99**	**310**	LR	LR	11 56 18.8	
	comp=Z,53nm,21.3s,baz=126,slow=31						
SADO	**Sadowa**	**51.90**	**322**	LR	LR	11 58 22.6	
	comp=Z,21nm,20.8s,baz=112,slow=33						
DAVOX	**Davos/Dischmat**	**55.52**	**37**	LR	LR	12 00 42.0	
	comp=Z,49nm,20.8s,baz=264,slow=33						
PLCA	**Paso Flores**	**57.49**	**210**	LR	LR	12 03 50.1	
	comp=Z,41nm,20.1s,baz=17,slow=35						
IDI	**Anoyia**	**62.43**	**54**	LR	LR	12 07 13.6	
	comp=Z,48nm,21.8s,baz=264,slow=36						
NOA	**NORSAR Array B**	**63.80**	**24**	LR	LR	12 07 23.9	
	comp=Z,19nm,18.4s,baz=235,slow=35						
SUMG	**Summit**	**64.65**	**359**	*i* P	**P**	**11 40 47.9**	**+1.4**
SUMG				*i* P	**pP**	**11 40 48.0**	**-0.5**
TXAR	**Lajitas Array**	**66.04**	**299**	P	**P**	**11 40 55.6**	**-0.4**
	0.3nm,0.7s,baz=106,slow=7.7,SNR=5.2						
TXAR				LR	LR	12 10 21.1	
	comp=Z,20nm,18.7s,baz=80,slow=37						
	0.3nm,0.7s						
AKASG	**Malin Array Be**	**68.83**	**39**	P	**P**	**11 41 12.8**	**-0.2**
	0.1nm,0.3s,baz=251,slow=4.4,SNR=4.3						
	0.1nm,0.3s						
LBTB	**Lobatse**	**68.94**	**121**	LR	LR	12 06 08.1	
	comp=Z,62nm,18.0s,baz=256,slow=31						
BOSA	**Boshof**	**69.91**	**124**	LR	LR	12 05 24.2	
	comp=Z,60nm,20.7s,baz=332,slow=30						
BRTR	**Keskin Array B**	**69.96**	**51**	P	**P**	**11 41 20.2**	**-0.3**
	0.7nm,1.0s,baz=270,slow=4.3,SNR=2.0						
	0.7nm,1.0s						
EIL	**Elat**	**70.29**	**61**	LR	LR	12 14 00.2	
	comp=Z,50nm,18.1s,baz=240,slow=38						
LPIG	**La Paz**	**71.81**	**293**	LR	LR	12 13 25.2	
	comp=Z,14nm,19.9s,baz=34,slow=36						
KMBO	**Kilima Mbogo**	**74.36**	**93**	LR	LR	12 13 08.6	
	comp=Z,38nm,18.7s,baz=88,slow=35						
ELK	**Elko**	**76.16**	**310**	LR	LR	12 15 05.2	
	comp=Z,43nm,18.1s,baz=108,slow=36						
PFO	**Pinyon Flats O**	**77.10**	**303**	LR	LR	12 14 09.8	
	comp=Z,26nm,19.5s,baz=124,slow=34						
YKA	**Yellowknife Ar**	**77.43**	**332**	P	**P**	**11 42 03.2**	**-0.4**
	1.0nm,1.1s,baz=93,slow=5.1,SNR=4.7						
	1.0nm,1.1s						
RPN	**Rapa Nui**	**78.28**	**240**	LR	LR	12 14 11.2	
	comp=Z,26nm,18.5s,baz=44,slow=34						
YBH	**Yreka Blue Hor**	**81.78**	**311**	LR	LR	12 15 21.1	
	comp=Z,31nm,21.9s,baz=93,slow=33						
ARU	**Arti**	**86.45**	**34**	LR	LR	12 20 20.0	
	comp=Z,18nm,19.6s,baz=260,slow=35						
WSAR	**Wadi Sarin**	**91.87**	**66**	LR	LR	12 26 48.6	
	comp=Z,33nm,18.1s,baz=265,slow=37						

*IDC **04** 12:17:02.9±5.2, 52.°03N×178.°51E, h88km±60km, mb2.9/4, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=64.5km s-min=37.0km az=164.0*
*NEIC **04** 12:17:06.7±0.7, 52.°1N±0.°2×178.°15E±0.°07, h130km±24km, ML3.4/4, Error ellipse: s-maj=29.6km s-min=6.1km az=178.0*
ISC 04 12:17:06.4±0.8, 52.°4N±0.°1×178.°30E±0.°06, h100km, n18, σ1s72/18, mb3.2/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.20**	**148**	Pn	**Pn**	**12 17 30.0**	**+0.9**
AMKA				Sn	**Sn**	**12 17 46.8**	**+0.7**
SHEM	**Shemya Is, Ala**	**2.58**	**279**	P	**Pn**	**12 17 47.0**	**+0.5**
	16nm,0.3s,baz=110,slow=6.8,SNR=30						
SHEM				S	**Sn**	**12 18 18.1**	**+0.8**
	31nm,0.3s,baz=237,slow=21,SNR=2.1						
	56nm,0.3s						
SMY	**Shemya**	**2.58**	**279**	Pn	**Pn**	**12 17 47.4**	**+0.8**
SMY				Sn	**Sn**	**12 18 18.4**	**+1.0**
SMY				IAML		12 18 22.8	
	comp=E,170nm,2.4s						
KIWB	**Kanaga Island**	**2.86**	**99**	Pn	**Pn**	**12 17 52.3**	**+2.1**
ADK	**Adak**	**3.13**	**98**	Pn	**Pn**	**12 17 56.0**	**+2.1**
ADK				IAML		12 18 35.6	
	comp=E,53nm,4.2s						
CLES	**Cleveland East**	**7.21**	**82**	Pn	**Pn**	**12 18 51.1**	**+2.1**
NIKH	**Nikolski High**	**7.83**	**81**	Pn	**Pn**	**12 18 59.0**	**+1.6**
UNV	**Unalaska Valle**	**9.26**	**75**	Pn	**Pn**	**12 19 19.3**	**+2.5**
PETK	**Petropavlovsk-**	**12.50**	**281**	P	**Pn**	**12 20 00.8**	**+0.3**
	comp=E,1nm,0.3s,baz=103,slow=19,SNR=2.3						
	comp=E,2.1nm,0.8s						
SDPT	**Sand Point**	**12.86**	**68**	Pn	**Pn**	**12 20 06.9**	**+1.7**
KDAK	**Kodiak Island**	**17.43**	**60**	P	**P**	**12 21 01.6**	**-1.1**
	comp=E,0.3nm,0.3s,baz=242,slow=2.8,SNR=8.5						
	comp=E,8.8nm,1.1s						
ILAR	**Eielson Array**	**21.62**	**42**	P	**P**	**12 21 46.4**	**-1.7**
	comp=E,0.2nm,0.6s,baz=243,slow=9.3,SNR=11						
	comp=E,0.2nm,0.6s						
INK	**Inuvik**	**27.68**	**37**	P	**P**	**12 22 43.7**	**-0.8**
	comp=E,0.4nm,0.5s,baz=246,slow=10.0,SNR=4.4						
	comp=E,0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**33.80**	**200**	T	T	12 58 52.0	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.81**	**200**	T	T	12 58 58.6	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.81**	**200**	T	T	12 58 59.4	
	baz=11						
YKA	**Yellowknife Ar**	**35.84**	**47**	P	**P**	**12 23 55.8**	**-0.1**
	comp=E,0.4nm,0.7s,baz=282,slow=8.6,SNR=7.4						
	comp=E,0.4nm,0.7s						
TXAR	**Lajitas Array**	**60.26**	**80**	P	**P**	**12 27 01.0**	**-3.2**
	comp=E,0.1nm,0.5s,baz=347,slow=3.7,SNR=3.5						
	comp=E,0.1nm,0.5s						

WEL 04 12:34:19.3±2.5, 33.°S±43.°×17.°8W±3.°6, h226km±96km, M4.5/3, mB4.5/2, MLv4.5/3, Mw(mB)3.7/2, Error ellipse: s-maj=0.1km s-min=0.0km az=146.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKGZ	**Pakihiroa**	**5.38**	**210**	P	Pn	12 35 38.8	-0.3
HAZ	**Te Kaha**	**5.40**	**213**	P	Pn	12 35 39.0	-0.2
PUZ	**Puketiti**	**5.46**	**208**	P	Pn	12 35 40.0	-0.1
PUZ				S	S	12 36 43.4	-0.8
RUGZ	**Raukumara Rang**	**5.62**	**213**	P	Pn	12 35 42.8	+0.7
RUGZ				S	S	12 36 49.0	+1.1
CNGZ	**Carnagh Statio**	**5.84**	**206**	P	Pn	12 35 46.0	+1.2
MWZ	**Matawai**	**5.99**	**212**	P	Pn	12 35 46.8	+0.1
OPRZ	**Ohinepanea**	**6.08**	**220**	P	Pn	12 35 47.3	-0.6
URZ	**Urewera**	**6.12**	**214**	P	Pn	12 35 47.4	-1.0
URZ				S	S	12 37 00.2	+1.0
RIGZ	**Rimuhau**	**6.21**	**208**	P	Pn	12 35 44.2	-5.3
SNGZ	**Shannon Statio**	**6.45**	**210**	P	Pn	12 35 52.7	+0.2
TOZ	**Tahuroa Road**	**6.61**	**226**	P	Pn	12 35 54.7	+0.1
RAHZ	**Arahi**	**6.67**	**211**	P	Pn	12 35 55.2	-0.2
NMHZ	**Naumai**	**6.94**	**212**	P	Pn	12 35 58.3	-0.5

*IDC **04** 12:41:16.0±1.0, 23.°06N×96.°20E, h0km, mb3.8/10, mbtmp3.8/11, ML4.3/1, MS3.1/6, Error ellipse: s-maj=56.6km s-min=13.0km az=61.0*
*NDI **04** 12:41:18.2±2.9, 23.°06N×96.°02E, h10km±85km, ML3.4, mb4.2(NEIC)*
*NEIC **04** 12:41:18.0±1.1, 22.°90N±0.°04×96.°07E±0.°07, h13km±2km, mb4.2/9, Error ellipse: s-maj=9.2km s-min=4.7km az=66.0*
ISC 04 12:41:17.4±0.6, 22.°96N±0.°05×96.°07E±0.°07, h10km, n36, σ1s32/35, mb4.0/13, MS2.9/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MND	**Mandalay**	**0.94**	**177**		**Pg**	**12 41 32.9**	**-2.6**
MND				Sg	**Sg**	**12 41 46.4**	**-1.3**
IMP	**Imphal**	**2.69**	**314**	*e*P	**Pn**	**12 42 02.2**	**+1.3**
SAIH	**SAIHA**	**2.88**	**261**	*e*P	**Pn**	**12 42 04.2**	**+0.7**
SAIH				*e*S	**Sn**	**12 42 41.4**	**+3.0**
SAIH				IAML		12 42 48.2	
	comp=N,208nm,0.4s						
SAIH				IAML		12 42 49.9	
	comp=E,230nm,0.1s						
MOKO	**MOKOCHONG**	**3.64**	**337**	*e*P	**Pn**	**12 42 16.0**	**+2.1**
BRDH	**Bariadhala**	**4.09**	**267**	Sn	**Sn**	**12 43 09.8**	**+1.7**
	comp=E,51nm,0.3s,baz=93,slow=22,SNR=1.7						
SHL	**Shillong**	**4.62**	**305**	*e*P	**Pn**	**12 42 26.9**	**-0.6**
SHL				*e*S	**Sn**	**12 43 19.1**	**-2.2**
CHTO	**Chiang Mai**	**4.92**	**146**		**Pn**	**12 42 31.0**	**-0.5**
ZIRO	**ZIRO**	**4.97**	**337**	*e*P	**Pn**	**12 42 32.6**	**+0.3**
CM31	**Chiang Mai Arr**	**5.22**	**148**		**Pn**	**12 42 35.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**5.22**	**148**	Pn	**Pn**	**12 42 35.6**	**0.0**
	comp=E,2.5nm,0.3s,baz=323,slow=13,SNR=65						
CMAR				Pg	**Pb**	**12 42 52.5**	**+3.6**
	comp=E,9.8nm,0.3s,baz=324,slow=18,SNR=41						
CMAR				Lg	Lg	12 44 00.7	
	comp=E,4.6nm,0.3s,baz=322,slow=30,SNR=6.9						
	comp=E,7.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**5.22**	**148**		**Pn**	**12 42 35.4**	**-0.2**
PHRA	**Phrae**	**5.90**	**138**		**Pn**	**12 42 44.0**	**-0.9**
LSA	**Lhasa**	**8.03**	**328**		**Pn**	**12 43 16.2**	**+1.6**
PALK	**Pallekele**	**21.49**	**226**	LR	LR	12 55 05.1	
	comp=E,31nm,19.0s,baz=148,slow=38						
BJT	**Baijiatuao**	**24.06**	**40**	P	**P**	**12 46 32.3**	**-0.4**
BJT				IAmb	IAmb	12 47 00.6	
	comp=Z,8.1nm,0.9s						
SONM	**Songino Array**	**26.16**	**16**	P	**P**	**12 46 51.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=200,slow=9.1,SNR=2.7						
	comp=Z,0.3nm,0.3s						
MK31	**Makanchi Array**	**26.25**	**338**	P	**P**	**12 46 53.0**	**+0.2**
MKAR	**Makanchi Array**	**26.25**	**338**	P	**P**	**12 46 53.0**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=147,slow=11,SNR=23						
MKAR				LR	LR	12 59 26.2	
	comp=Z,33nm,18.5s,baz=316,slow=42						
	comp=Z,1.7nm,0.5s						
MKAR	**Makanchi Array**	**26.25**	**338**	P	**P**	**12 46 52.7**	**0.0**
KBL	**Kabul**	**26.27**	**302**	P	**P**	**12 46 53.0**	**-0.3**
KBL				IAmb	IAmb	12 46 55.3	
	comp=Z,3.2nm,0.5s						
MAKZ	**Makanchi**	**26.37**	**338**	P	**P**	**12 46 54.4**	**+0.6**
AAK	**Ala-Archa**	**26.59**	**323**	P	**P**	**12 46 56.9**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=133,slow=7.5,SNR=7.3						
	comp=Z,1.5nm,0.5s						
AAK	**Ala-Archa**	**26.59**	**323**	P	**P**	**12 46 56.2**	**+0.3**
AAK				IAmb	IAmb	12 46 59.7	
	comp=Z,3.8nm,1.1s						
GAR	**Garm**	**27.13**	**312**	P	**P**	**12 47 00.3**	**-0.5**
KURBB	**Kurchatov Arra**	**30.82**	**338**	P	**P**	**12 47 32.1**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=147,slow=9.1,SNR=1.6						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**32.09**	**347**	P	**P**	**12 47 44.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=167,slow=8.7,SNR=1.5						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**35.82**	**333**	P	**P**	**12 48 16.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=144,slow=11,SNR=5.2						
	comp=Z,0.7nm,0.6s						
KLR	**Kul'dur**	**38.40**	**38**	LR	LR	13 05 33.5	
	comp=Z,15nm,19.1s,baz=241,slow=38						
ABKAR	**Akbulak array**	**38.67**	**322**	P	**P**	**12 48 40.5**	**-0.6**
ABKAR				IAmb	IAmb	12 48 41.4	
	comp=Z,4.7nm,1.4s						
BATI	**Baumata**	**42.62**	**138**	LR	LR	13 08 58.4	
	comp=Z,115nm,21.4s,baz=75,slow=39						
ARU	**Arti**	**43.23**	**330**	P	**P**	**12 49 17.7**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=114,slow=11,SNR=3.3						
	comp=Z,1.0nm,0.3s						
EIL	**Elat**	**54.66**	**291**	LR	LR	13 16 50.1	
	comp=Z,15nm,19.1s,baz=76,slow=39						
WRA	**Warramunga Arr**	**56.68**	**136**	P	**P**	**12 51 02.0**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=325,slow=7.5,SNR=6.7						
	comp=Z,1.9nm,0.9s						
ASAR	**Alice Springs**	**59.16**	**139**	P	**P**	**12 51 18.9**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=324,slow=7.1,SNR=5.4						
	comp=Z,0.3nm,0.7s						
IDI	**Anoyia**	**62.21**	**299**	LR	LR	13 26 28.4	
	comp=Z,7.3nm,20.1s,baz=250,slow=44						
ILAR	**Eielson Array**	**80.17**	**23**	P	**P**	**12 53 26.5**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=287,slow=5.0,SNR=5.5						
	comp=Z,0.4nm,0.7s						

*ISK **04** 13:04:11.8, 37.°84N×43.°59E, h5km, ML2.7/9*
*DDA **04** 13:04:12.7±0.0, 37.°88N×43.°49E, h7km±3km, ML2.4*
ISC 04 13:04:12.8±1.1, 37.°87N±0.°03×43.°49E±0.°03, h4km±11km, n17, σ1s29/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAKT	**HAKKARI**	**0.35**	**152**	P	**Pg**	**13 04 19.9**	**+0.2**
HAKT				S	**Sg**	**13 04 25.6**	**+1.2**
HAKT				*i* AML	AML	13 04 28.0	
	comp=N,1µm,0.3s						
HAKT				*i* AML	AML	13 04 32.0	
	comp=E,1µm,0.4s						
GEVA	**Gevas**	**0.56**	**322**	P	**Pg**	**13 04 23.4**	**-0.1**
GEVA				S	**Sg**	**13 04 31.0**	**+0.2**
GEVA				*i* AML	AML	13 04 37.0	
	comp=E,221nm,0.4s						
GEVA				*i* AML	AML	13 04 38.0	
	comp=N,163nm,0.3s						
AKDM	**Akdamar-Van**	**0.61**	**319**	Pg	**Pg**	**13 04 24.9**	**+0.4**
AKDM				Sg	**Sn**	**13 04 36.7**	**-2.2**
CUKT	**Cukurca**	**0.63**	**172**	Pg	**Pg**	**13 04 24.5**	**-0.3**
CUKT				Sg	**Sg**	**13 04 33.8**	**+0.8**
YOVA	**Hakkari_Yksek**	**0.69**	**114**	P	**Pg**	**13 04 26.0**	**0.0**
YOVA				S	**Sb**	**13 04 36.9**	**-0.7**
YOVA				*i* AML	AML	13 04 39.0	
	comp=E,144nm,0.3s						
YOVA				*i* AML	AML	13 04 41.0	
	comp=N,178nm,0.3s						
VANB	**Van**	**0.73**	**353**	Pg	**Pg**	**13 04 26.2**	**-0.5**
VANB				Sg	**Sg**	**13 04 36.7**	**+0.5**
PERV	**Siirt/Pervari-**	**0.76**	**276**	P	**Pg**	**13 04 27.6**	**+0.4**
PERV				S	**Sb**	**13 04 39.0**	**-0.4**
PERV				*i* AML	AML	13 04 44.0	
	comp=N,353nm,0.4s						
PERV				*i* AML	AML	13 04 46.0	
	comp=E,467nm,0.4s						
OZAP	**Van, Ozalp-Mer**	**0.88**	**26**	P	**Pb**	**13 04 30.7**	**-0.1**
OZAP				S	**Sb**	**13 04 42.2**	**-0.9**
VMUR	**Van-Muradiye**	**1.12**	**3**	P	**Pn**	**13 04 35.8**	**+0.4**
VMUR				S	**Sn**	**13 04 53.1**	**+1.6**
VMUR				*i* AML	AML	13 05 04.0	
	comp=E,56nm,0.8s						
BLIS	**Bitlis-Merkez**	**1.22**	**297**	P	**Pn**	**13 04 36.4**	**-0.3**
BLIS				S	**Sn**	**13 04 55.3**	**+1.5**
BLIS				*i* AML	AML	13 04 57.0	
	comp=N,109nm,0.7s						
GURO	**Guroymak-BITLI**	**1.34**	**301**	Pn	**Pg**	**13 04 39.5**	**+1.1**
GURO				Sn	**Sn**	**13 05 00.4**	**+3.7**
MLAZ	**Malazgirt-MUS**	**1.47**	**330**	Pn	**Pg**	**13 04 41.5**	**+0.6**
AGRB	**Hanur-Agry**	**1.75**	**347**	Pn	**Pb**	**13 04 45.0**	**-0.5**
SVAN	**Sivan-Aiyarba**	**1.83**	**279**	Pn	**Pb**	**13 04 46.9**	**0.0**
MAZI	**Mazidag**	**2.45**	**261**	Pn	**Pb**	**13 04 55.7**	**-1.8**
KOPR	**Koprukoy-ERZUR**	**2.47**	**329**	Pn	**Pb**	**13 04 56.1**	**-1.8**
BNGB	**Bingl**	**2.48**	**298**	Pn	**Pb**	**13 04 56.1**	**-1.9**

*IDC **04** 13:17:14.0±0.9, 18.°76S×175.°87E, h0km, mb4.1/6, mbtmp4.1/8, ML4.5/2, MS3.2/14, Error ellipse: s-maj=38.1km s-min=22.3km az=153.0*
ISC 04 13:17:15.7±0.8, 18.°8S±0.°2×176.°0E±0.°1, h10km, n27, σ2s10/10, mb4.1/6, MS3.4/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.22**	**63**	Pn	**Pn**	**13 17 51.8**	**-0.9**
	7.4nm,0.3s,baz=166,slow=20,SNR=18						
MSVF				Sn	**Sn**	**13 18 19.5**	**-0.8**
	14nm,0.3s,baz=102,slow=17,SNR=13						
MSVF				LR	LR	13 18 38.7	
	comp=Z,312nm,20.1s,baz=194,slow=37						
	39nm,0.6s						
DZM	**Mont Dzumac**	**9.52**	**248**	*e*LR	LR	13 21 48.7	
	comp=Z,310nm,25.9s						
DZM	**Mont Dzumac**	**9.52**	**248**	LR	LR	13 22 08.7	
	comp=Z,69nm,18.1s,baz=65,slow=31						
URZ	**Urewera**	**19.45**	**177**	P	**P**	**13 21 42.0**	**-0.5**
	0.8nm,0.3s,baz=70,slow=2.1,SNR=6.8						
URZ				LR	LR	13 26 57.1	

3.0nm,0.9s,baz=0.5,slow=12,SNR=5.5

*IDC **04** 13:19:25.1±1.6,6˙20S×154˙28E,h70km±14km,mb3.6/5, mbtmp4.0/8,MS3.2/1,Error ellipse: s-maj=17.9km s-min=12.0km az=38.0*

ISC 04 13:19:24.6±0.8,**6˙17S**±0˙09×**154˙29E**±0˙07,**h61**km,**n9,** σ1**9**09/14,**mb3.8/5,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.92**	**309**	P	**Pn**	**13 20 09.2**	**+0.6**
	47nm,0.3s,baz=294,slow=2.0,SNR=90						
KRVT				S	**Sn**	**13 20 43.9**	**+1.4**
	117nm,0.5s,baz=247,slow=2.4,SNR=4.4						
HNR	**Honiara**	**6.47**	**120**	P	**Pn**	**13 20 58.3**	**+1.1**
	515nm,0.4s,baz=193,slow=1.1,SNR=5.3						
HNR				S	**Sn**	**13 22 10.7**	**+0.9**
	791nm,0.8s,baz=238,slow=4.0,SNR=1.9						
PMG	**Port Moresby**	**7.76**	**245**	P	**Pn**	**13 21 15.8**	**+0.9**
	22nm,0.7s,baz=52,slow=8.3,SNR=15						
PMG				S	**Sn**	**13 22 42.6**	**+1.1**
	14nm,0.6s,baz=198,slow=23,SNR=10						
PMG				LR	LR	13 24 13.1	
	comp=Z,173nm,19.5s,baz=6.5,slow=37						
CTA	**Charters Tower**	**15.89**	**209**	P	**Pn**	**13 23 03.6**	**-0.9**
	4.6nm,0.8s,baz=301,slow=2.3,SNR=1.8						
WRA	**Warramunga Arr**	**23.73**	**233**	P	**P**	**13 24 30.6**	**-0.8**
	6.2nm,0.9s,baz=59,slow=9.4,SNR=19						
WRA				PcP	**PcP**	**13 28 12.9**	**-1.2**
	0.7nm,0.6s,baz=54,slow=2.1,SNR=3.1						
	6.2nm,0.9s						
ASAR	**Alice Springs**	**26.21**	**226**	P	**P**	**13 24 52.8**	**-1.1**
	2.5nm,0.9s,baz=58,slow=9.4,SNR=7.6						
ASAR				PcP	**PcP**	**13 28 18.7**	**-0.9**
	0.2nm,0.5s,baz=45,slow=2.4,SNR=4.3						
	2.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**59.80**	**295**	P	**P**	**13 29 24.7**	**+0.6**
	0.8nm,0.4s,baz=116,slow=6.2,SNR=7.2						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**82.33**	**319**	P	**P**	**13 31 38.7**	**-1.2**
	0.3nm,0.6s,baz=109,slow=6.1,SNR=2.7						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**82.87**	**22**	P	**P**	**13 31 41.7**	**-0.5**
	0.2nm,0.5s,baz=240,slow=5.3,SNR=7.2						
	0.2nm,0.5s						

*SJA **04** 13:23:59.1±0.7,30˙24S×71˙92W,h24km±2km, ML5.1, MW4.9*

*IDC **04** 13:24:03.9±0.5,30˙28S×71˙41W,h43km±3km,mb4.4/15, mbtmp4.6/20,ML4.4/5,MS3.9/35,Error ellipse: s-maj=16.2km s-min=13.1km az=96.0*

*NEIC **04** 13:24:04.7±1.7,30˙28S±0˙03×71˙54W±0˙06,h45km±4km, mb5.0/71,Mwr4.9/53,Mwr5.0(GUC),Error ellipse: s-maj=8.1km s-min=4.6km az=99.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.52; Mθθ0.05; Mϕϕ-2.57; Mrθ-0.47; Mθϕ0.76; Mϕr0.34; Fault plane solution: Mo2.72000×10¹⁶ NP1:ϕs173.94000°, δ40.86000°,λ103.43000°. NP2:ϕs336.42000°,δ50.48000°, λ78.64000°. Principal axes: T 2.6139, Plg80.0000°, Azm193.0000°; N 0.1975, Plg9.0000°, Azm344.0000°; P -2.8114, Plg5.0000°, Azm74.0000°;*

*GUC **04** 13:24:04.5±0.7,30˙31S×71˙53W,h49km±2km,ML5.1*

*VAO **04** 13:24:05.2±0.8,30˙21S×71˙49W,h38km±7km,mb4.9*

*GCMT **04** 13:24:06.7±0.4,30˙51S±0˙03×71˙64W±0˙03,h32km±1km, MW5.0/58,Moment Tensor Solution. s31,c35; s58,c67; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.33±.21; Mθθ-0.28±.13; Mϕϕ-3.05±.16; Mrθ-1.61±.16; Mθϕ1.33±.11; Mϕr0.72±.25; Best double couple: Mo3.88600×10¹⁶ NP1:ϕs320.00000°,δ58.00000°,λ69.00000°. NP2: ϕs175.00000°,δ38.00000°,λ119.00000°. Principal axes: T 3.9500, Plg70.0000°, Azm185.0000°; N -0.1280, Plg17.0000°, Azm332.0000°; P -3.8220, Plg11.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 13:24:03.7±0.3,**30˙29S**±0˙02×**71˙74W**±0˙03,**h41**km±2km, **h41**km:**pP-P,n432,**σ1**972**/495,**mb5.0**/47,**MS4.0**/33,**14C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.57**	**50**		**Pn**	**13 24 15.1**	**-0.4**
CO05				Sn	**Sn**	**13 24 22.8**	**-1.0**
CO05	**La Serena**	**0.57**	**50**	⇑*i* P	**Pn**	**13 24 15.0**	**-0.4**
CO05				*i* S	**Sn**	**13 24 22.8**	**-1.0**
CO05				IAML		13 24 24.0	
	comp=E,219μm,0.4s						
GO04	**Tololo Observa**	**0.82**	**82**		**Pn**	**13 24 17.7**	**-1.3**
GO04				Sn	**Sn**	**13 24 28.2**	**-2.0**
GO04	**Tololo Observa**	**0.82**	**82**	*i* P	**Pn**	**13 24 17.6**	**-1.5**
GO04				*i* S	**Sn**	**13 24 27.3**	**-2.9**
GO04				IAML		13 24 33.2	
	comp=N,272μm,0.5s						
GO04	**Tololo Observa**	**0.82**	**82**	*e*P	**Pn**	**13 24 17.0**	**-2.1**
GO04	**Tololo Observa**	**0.82**	**82**	*e*P	**Pn**	**13 24 17.0**	**-2.1**
CO03	**El Pedregal**	**1.06**	**121**	Pn	**Pn**	**13 24 21.1**	**-1.1**
CO03				Sn	**Sn**	**13 24 33.8**	**-2.0**
CO03	**El Pedregal**	**1.06**	**121**	⇓*i* P	**Pn**	**13 24 21.0**	**-1.1**
CO03				*i* S	**Sn**	**13 24 33.6**	**-2.1**
CO03				IAML		13 24 35.2	
	comp=E,49μm,0.2s						
CO03	**El Pedregal**	**1.06**	**121**	*e*P	**Pn**	**13 24 22.6**	**+0.5**
CO03				*e*S	**Sn**	**13 24 34.3**	**-1.5**
CO03				IAML		13 24 36.0	
	comp=Z,22μm,0.3s						
CO03	**El Pedregal**	**1.06**	**121**	*e*P	**Pn**	**13 24 22.6**	**+0.5**
CO03				*e*S	**Sn**	**13 24 34.3**	**-1.5**
CO03				IAML		13 24 36.0	
	comp=Z,22μm,0.3s						
CO02	**Combarbal**	**1.11**	**145**		**Pn**	**13 24 22.8**	**-0.2**
CO02				Sn	**Sn**	**13 24 37.1**	**0.0**
CO02	**Combarbal**	**1.11**	**145**	⇓*i* P	**Pn**	**13 24 22.9**	**0.0**
CO02				*i* S	**Sn**	**13 24 36.9**	**-0.2**
CO02	**Combarbal**	**1.11**	**145**	*e*P	**Pn**	**13 24 22.9**	**0.0**
CO02				*e*S	**Sn**	**13 24 37.3**	**+0.1**
CO02				IAML		13 24 37.6	
	comp=Z,171μm,0.6s						
CO02	**Combarbal**	**1.11**	**145**	*e*P	**Pn**	**13 24 22.9**	**0.0**
CO02				*e*S	**Sn**	**13 24 37.3**	**+0.1**
CO02				IAML		13 24 37.6	
	comp=Z,171μm,0.6s						
CO01	**Juntas del Tor**	**1.46**	**78**		**Pn**	**13 24 27.0**	**-0.8**
CO01	**Juntas del Tor**	**1.46**	**78**	⇓*i* P	**Pn**	**13 24 27.4**	**-0.5**
CO01				*i* S	**Sn**	**13 24 44.2**	**-1.6**
CO01				IAML		13 24 45.1	
	comp=N,22μm,0.4s						
LCO	**Las Campanas**	**1.56**	**36**		**Pn**	**13 24 28.8**	**-0.4**
LCO	**Las Campanas**	**1.56**	**36**	⇓*i* P	**Pn**	**13 24 28.8**	**-0.4**
AC05	**El Transito**	**1.93**	**42**		**Pn**	**13 24 34.6**	**+0.3**
AC05	**El Transito**	**1.93**	**42**	⇓*i* P	**Pn**	**13 24 34.5**	**+0.3**
AC05				*i* S	**Sn**	**13 24 57.3**	**0.0**
AC05				IAML		13 25 00.1	
	comp=N,28μm,0.8s						
AC05	**El Transito**	**1.93**	**42**	*e*P	**Pn**	**13 24 34.0**	**-0.2**
AC05				*e*S	**Sn**	**13 25 00.7**	**+3.4**
AC05				IAML		13 25 10.9	
	comp=Z,9μm,0.9s						
AC05	**El Transito**	**1.93**	**42**	*e*P	**Pn**	**13 24 34.0**	**-0.2**
AC05				*e*S	**Sn**	**13 25 00.7**	**+3.4**
AC05				IAML		13 25 10.9	
	comp=Z,9μm,0.9s						
AROD	**Rodeo**	**1.96**	**87**	*e*P	**Pn**	**13 24 36.0**	**+1.2**
AROD	**Rodeo**	**1.96**	**87**	*e*P	**Pn**	**13 24 36.0**	**+1.2**
AC04	**Llanos de Chal**	**2.16**	**16**		**Pn**	**13 24 38.2**	**+1.0**
AC04	**Llanos de Chal**	**2.16**	**16**	⇑*i* P	**Pn**	**13 24 37.2**	**0.0**
AC04	**Llanos de Chal**	**2.16**	**16**	*e*P	**Pn**	**13 24 37.0**	**-0.2**
AC04				*e*P	**Pn**	**13 24 37.3**	**0.0**
AC04				*e*S	Sn	13 24 48.5	-14
AC04	**Llanos de Chal**	**2.16**	**16**	*e*P	**Pn**	**13 24 37.0**	**-0.2**
AC04				*e*P	**Pn**	**13 24 37.3**	**0.0**
AC04				*e*S	Sn	13 24 48.5	-14
ACDV	**Cuesta del Vie**	**2.27**	**88**	*e*P	**Pn**	**13 24 41.0**	**+2.1**
ACDV				*e*S	**Sn**	**13 25 09.0**	**+3.2**
ACDV				IAML		13 25 09.4	
	comp=Z,7μm,0.5s						
ACDV	**Cuesta del Vie**	**2.27**	**88**	*e*P	**Pn**	**13 24 41.0**	**+2.1**
ACDV				*e*S	**Sn**	**13 25 09.0**	**+3.2**
ACDV				IAML		13 25 09.4	
	comp=Z,7μm,0.5s						
VA06	**Catapilco**	**2.29**	**171**	Pn	**Pn**	**13 24 40.9**	**+1.8**
VA06	**Catapilco**	**2.29**	**171**	⇑*i* P	**Pn**	**13 24 39.8**	**+0.7**
VA06				IAML		13 25 23.1	
	comp=E,16μm,0.4s						
ACCO	**Cerro Coronel**	**2.33**	**98**	*e*P	**Pn**	**13 24 41.0**	**+1.2**
ACCO				*e*P	**Pn**	**13 24 41.8**	**+2.0**
ACCO	**Cerro Coronel**	**2.33**	**98**	*e*P	**Pn**	**13 24 41.0**	**+1.2**
ACCO				*e*P	**Pn**	**13 24 41.8**	**+2.0**
RTLS	**Leoncito**	**2.58**	**126**	*e*P	**Pn**	**13 24 45.0**	**+1.7**
RTLS				*e*S	**Sn**	**13 25 18.7**	**+5.2**
RTLS				IAML		13 25 20.3	
	comp=Z,16μm,0.4s						
RTLS	**Leoncito**	**2.58**	**126**	*e*P	**Pn**	**13 24 45.0**	**+1.7**
RTLS				*e*S	**Sn**	**13 25 18.7**	**+5.2**
RTLS				IAML		13 25 20.3	
	comp=Z,16μm,0.4s						
VA03	**San Esteban**	**2.67**	**158**		**Pn**	**13 24 45.3**	**+1.0**
VA03	**San Esteban**	**2.67**	**158**	⇑*i* P	**Pn**	**13 24 45.5**	**+1.2**
VA03				*e*S	**Sn**	**13 25 16.3**	**+0.9**
VA03				IAML		13 25 22.8	
	comp=E,12μm,0.4s						
VA03	**San Esteban**	**2.67**	**158**	*e*P	**Pn**	**13 24 45.7**	**+1.5**
VA03				*e*P	**Pn**	**13 24 46.0**	**+1.7**
VA03				*e*S	**Sn**	**13 25 21.5**	**+6.1**
VA03				IAML		13 25 33.2	
	comp=Z,6μm,1.1s						
VA03	**San Esteban**	**2.67**	**158**	*e*P	**Pn**	**13 24 45.7**	**+1.5**
VA03				*e*P	**Pn**	**13 24 46.0**	**+1.7**
VA03				*e*S	**Sn**	**13 25 21.5**	**+6.1**
VA03				IAML		13 25 33.2	
	comp=Z,6μm,1.1s						
VA01	**Torpederas**	**2.73**	**178**		**Pn**	**13 24 48.7**	**+3.7**
VA01	**Torpederas**	**2.73**	**178**	*e*P	**Pn**	**13 24 45.0**	**0.0**
VA01				*e*S	**Sn**	**13 25 16.5**	**-0.2**
VA01	**Torpederas**	**2.73**	**178**	*e*P	**Pn**	**13 24 45.0**	**0.0**
VA01				*e*S	**Sn**	**13 25 16.5**	**-0.2**
ROCH	**El Roble**	**2.75**	**167**	⇑*i* P	**Pn**	**13 24 46.4**	**+0.9**
ROCH				IAML		13 25 30.2	
	comp=N,8μm,0.5s						
ROC1	**El Roble**	**2.75**	**167**	*e*P	**Pn**	**13 24 46.0**	**+0.5**
ROC1				*e*S	**Sn**	**13 25 25.3**	**+7.7**
ROC1	**El Roble**	**2.75**	**167**	*e*P	**Pn**	**13 24 46.0**	**+0.5**
ROC1				*e*S	**Sn**	**13 25 25.3**	**+7.7**
ZON	**Zonda**	**2.91**	**116**		**Pn**	**13 24 49.0**	**+1.4**
ZON	**Zonda**	**2.91**	**116**	*e*P	**Pn**	**13 24 49.0**	**+1.4**
ZON				*e*S	**Sn**	**13 25 26.3**	**+4.9**
ZON				IAML		13 25 42.0	
	comp=Z,3μm,1.1s						
ZON	**Zonda**	**2.91**	**116**	*e*P	**Pn**	**13 24 49.0**	**+1.4**
ZON				*e*S	**Sn**	**13 25 26.3**	**+4.9**
ZON				IAML		13 25 42.0	
	comp=Z,3μm,1.1s						
PEL	**Peldehue**	**2.98**	**163**	⇑*i* P	**Pn**	**13 24 49.7**	**+1.1**
PEL				*i* S	**Sn**	**13 25 23.6**	**+0.5**
PEL				IAML		13 25 36.6	
	comp=N,4μm,0.5s						
GO03	**Copiap**	**2.99**	**27**		**Pn**	**13 24 48.3**	**-0.5**
GO03	**Copiap**	**2.99**	**27**	*i* P	**Pn**	**13 24 48.5**	**-0.3**
GO03	**Copiap**	**2.99**	**27**	*e*P	**Pn**	**13 24 48.8**	**+0.1**
GO03				*e*P	**Pn**	**13 24 49.0**	**+0.3**
GO03				*e*S	Sn	13 25 05.5	-18
GO03	**Copiap**	**2.99**	**27**	*e*P	**Pn**	**13 24 48.8**	**+0.1**
GO03				*e*P	**Pn**	**13 24 49.0**	**+0.3**
GO03				*e*S	Sn	13 25 05.5	-18
RTLL	**Cerro Villicun**	**2.99**	**111**	*e*P	**Pn**	**13 24 50.0**	**+1.3**
RTLL	**Cerro Villicun**	**2.99**	**111**	*e*P	**Pn**	**13 24 50.0**	**+1.3**
MT02	**Curacav**	**3.00**	**170**		**Pn**	**13 24 48.6**	**-0.2**
MT02	**Curacav**	**3.00**	**170**	⇑*i* P	**Pn**	**13 24 49.1**	**+0.2**
MT02	**Curacav**	**3.00**	**170**	*e*P	**Pn**	**13 24 49.0**	**+0.2**
MT02				*e*P	**Pn**	**13 24 49.1**	**+0.2**
MT02				*e*S	**Sn**	**13 25 26.2**	**+2.6**
MT02				IAML		13 25 40.2	
	comp=Z,2μm,1.2s						
MT02	**Curacav**	**3.00**	**170**	*e*P	**Pn**	**13 24 49.0**	**+0.2**
MT02				*e*P	**Pn**	**13 24 49.1**	**+0.2**
MT02				*e*S	**Sn**	**13 25 26.2**	**+2.6**
MT02				IAML		13 25 40.2	
	comp=Z,2μm,1.2s						
AC06	**Mina Casimiro**	**3.17**	**23**		**Pn**	**13 24 50.8**	**-0.3**
AC06	**Mina Casimiro**	**3.17**	**23**	*i* P	**Pn**	**13 24 50.9**	**-0.1**
AC06				IAML		13 25 47.6	
	comp=E,3μm,0.4s						
MT05	**Renca**	**3.21**	**165**	Pn	**Pn**	**13 24 51.8**	**+0.1**
MT05	**Renca**	**3.21**	**165**	⇑*i* P	**Pn**	**13 24 52.7**	**+1.0**
MT05				*i* S	**Sn**	**13 25 29.4**	**+0.7**
MT05				IAML		13 25 43.7	
	comp=N,7μm,0.3s						
MT05	**Renca**	**3.21**	**165**	*e*P	**Pn**	**13 24 52.7**	**+1.0**
MT05				*e*S	**Sn**	**13 25 31.5**	**+2.8**
MT05				IAML		13 25 48.8	
	comp=Z,6μm,1.2s						
MT05	**Renca**	**3.21**	**165**	*e*P	**Pn**	**13 24 52.7**	**+1.0**
MT05				*e*S	**Sn**	**13 25 31.5**	**+2.8**
MT05				IAML		13 25 48.8	
	comp=Z,6μm,1.2s						
FCH	**Farellones**	**3.27**	**158**	⇑*i* P	**Pn**	**13 24 54.2**	**+1.5**
FCH				IAML		13 25 38.4	
	comp=E,5μm,0.8s						
CFA	**Coronel Fontan**	**3.28**	**114**	P	**Pn**	**13 24 53.4**	**+0.7**
	comp=E,691nm,0.3s,baz=312,slow=11,SNR=663						
CFA				S	**Sn**	**13 25 30.0**	**-0.5**
	comp=E,4μm,0.6s,baz=221,slow=22,SNR=15						
CFA				LR	LR	13 26 18.9	
	comp=E,3μm,20.8s,baz=304,slow=44						
VA05	**Santo Domingo**	**3.36**	**178**		**Pn**	**13 24 55.5**	**+1.9**
VA05	**Santo Domingo**	**3.36**	**178**	*i* P	**Pn**	**13 24 53.7**	**0.0**
VA05				IAML		13 25 53.7	
	comp=E,7μm,0.2s						
MT03	**Universidad Ad**	**3.36**	**162**		**Pn**	**13 24 54.9**	**+1.0**
MT03	**Universidad Ad**	**3.36**	**162**	*e*P	**Pn**	**13 24 55.0**	**+1.2**
MT03				*e*S	**Sn**	**13 25 36.0**	**+3.5**
MT03				IAML		13 25 55.3	
	comp=Z,5μm,1.5s						
MT03	**Universidad Ad**	**3.36**	**162**	*e*P	**Pn**	**13 24 55.0**	**+1.2**
MT03				*e*S	**Sn**	**13 25 36.0**	**+3.5**
MT03				IAML		13 25 55.3	
	comp=Z,5μm,1.5s						
MT09	**Talagante**	**3.53**	**170**		**Pn**	**13 24 56.7**	**+0.5**
MT09	**Talagante**	**3.53**	**170**	⇑*i* P	**Pn**	**13 24 57.2**	**+1.0**
MT09				*i* S	**Sn**	**13 25 37.5**	**+0.6**
MT09				IAML		13 25 57.0	
	comp=E,4μm,0.2s						
MT01	**Popeta**	**3.59**	**173**		**Pn**	**13 24 57.8**	**+1.0**
MT01	**Popeta**	**3.59**	**173**	⇑*i* P	**Pn**	**13 24 57.2**	**+0.4**
MT01				IAML		13 25 54.9	
	comp=E,2μm,0.4s						
MT01	**Popeta**	**3.59**	**173**	*e*P	**Pn**	**13 24 57.4**	**+0.6**
MT01				*e*S	**Sn**	**13 25 38.3**	**+0.3**
MT01				IAML		13 25 49.7	
	comp=Z,3μm,0.6s						
MT01	**Popeta**	**3.59**	**173**	*e*P	**Pn**	**13 24 57.4**	**+0.6**
MT01				*e*S	**Sn**	**13 25 38.3**	**+0.3**
MT01				IAML		13 25 49.7	
	comp=Z,3μm,0.6s						
LMEL	**Las Melosas**	**3.78**	**160**		**Pn**	**13 25 00.7**	**+1.1**
LMEL	**Las Melosas**	**3.78**	**160**	⇑*i* P	**Pn**	**13 25 01.5**	**+1.9**
BO04	**La Punta**	**3.81**	**166**		**Pn**	**13 25 00.7**	**+0.7**
BO04	**La Punta**	**3.81**	**166**	⇑*i* P	**Pn**	**13 25 00.9**	**+1.0**
BO01	**Tunca**	**4.13**	**172**	Pn	**Pn**	**13 25 05.0**	**+0.8**
BO01	**Tunca**	**4.13**	**172**	⇑*i* P	**Pn**	**13 25 04.4**	**+0.2**
BO01	**Tunca**	**4.13**	**172**	*e*P	**Pn**	**13 25 04.0**	**-0.2**
BO01				*e*P	**Pn**	**13 25 04.6**	**+0.3**
BO01				*e*S	**Sn**	**13 25 55.5**	**+4.2**
BO01				IAML		13 26 18.3	
	comp=Z,1μm,1.0s						
BO01	**Tunca**	**4.13**	**172**	*e*P	**Pn**	**13 25 04.0**	**-0.2**
BO01				*e*P	**Pn**	**13 25 04.6**	**+0.3**
BO01				*e*S	**Sn**	**13 25 55.5**	**+4.2**
BO01				IAML		13 26 18.3	
	comp=Z,1μm,1.0s						
AC02	**Maricunga**	**4.14**	**34**		**Pn**	**13 25 05.3**	**+0.4**
AC02	**Maricunga**	**4.14**	**34**	*e*P	**Pn**	**13 25 05.1**	**+0.2**
AC02				*e*S	**Sn**	**13 25 54.5**	**+2.2**
AC02				IAML		13 26 19.0	
	comp=Z,2μm,0.9s						
AC02	**Maricunga**	**4.14**	**34**	*e*P	**Pn**	**13 25 05.1**	**+0.2**
AC02				*e*S	**Sn**	**13 25 54.5**	**+2.2**
AC02				IAML		13 26 19.0	
	comp=Z,2μm,0.9s						
BO03	**Pichilemu**	**4.20**	**182**	*i* P	**Pn**	**13 25 04.7**	**-0.5**
AC01	**Pan de Azucar**	**4.25**	**14**	Pn	**Pn**	**13 25 04.1**	**-1.8**
AC01	**Pan de Azucar**	**4.25**	**14**	*e*P	**Pn**	**13 25 04.0**	**-1.9**
AC01				*e*S	**Sn**	**13 25 54.5**	**+0.2**
AC01				IAML		13 26 19.5	
	comp=Z,1μm,1.1s						
AC01	**Pan de Azucar**	**4.25**	**14**	*e*P	**Pn**	**13 25 04.0**	**-1.9**
AC01				*e*S	**Sn**	**13 25 54.5**	**+0.2**
AC01				IAML		13 26 19.5	
	comp=Z,1μm,1.1s						
BO02	**Sierra Bellavi**	**4.56**	**170**		**Pn**	**13 25 10.2**	**-0.1**
BO02	**Sierra Bellavi**	**4.56**	**170**	*i* P	**Pn**	**13 25 10.8**	**+0.5**
BO02	**Sierra Bellavi**	**4.56**	**170**	*e*P	**Pn**	**13 25 11.3**	**+1.0**
BO02				*e*S	**Sn**	**13 26 03.1**	**+1.1**
BO02				IAML		13 26 30.5	
	comp=Z,2μm,0.6s						
BO02	**Sierra Bellavi**	**4.56**	**170**	*e*P	**Pn**	**13 25 11.3**	**+1.0**
BO02				*e*S	**Sn**	**13 26 03.1**	**+1.1**
BO02				IAML		13 26 30.5	
	comp=Z,2μm,0.6s						
GO05	**Huala**	**4.71**	**182**		**Pn**	**13 25 11.8**	**-0.4**
GO05	**Huala**	**4.71**	**182**	*e*P	**Pn**	**13 25 11.8**	**-0.4**
GO05	**Huala**	**4.71**	**182**	*e*P	**Pn**	**13 25 11.8**	**-0.4**
ML02	**Panimavida**	**5.46**	**177**		**Pn**	**13 25 22.6**	**0.0**
PB14	**IPOC Station P**	**5.77**	**12**	Pn	**Pn**	**13 25 24.2**	**-2.8**
PB10	**IPOC Station P**	**6.83**	**9**		**Pn**	**13 25 38.7**	**-2.8**
H03N1	**Juan Fernandez**	**6.86**	**241**	P	**Pn**	**13 25 42.9**	**+1.4**
	baz=115,slow=18						
H03N1				S	**Sn**	**13 26 52.5**	**-5.7**
	baz=210,slow=76,SNR=5.8						
H03N1				T	T	13 32 51.7	
	baz=69,slow=72,SNR=2497						
H03N2	**Juan Fernandez**	**6.88**	**241**	P	**Pn**	**13 25 43.1**	**+1.4**
	baz=115,slow=18						
H03N2				S	**Sn**	**13 26 54.3**	**-4.2**
	baz=210,slow=76,SNR=4.5						
H03N2				T	T	13 32 48.3	
	baz=69,slow=72,SNR=3429						
H03N3	**Juan Fernandez**	**6.88**	**241**	P	**Pn**	**13 25 42.7**	**+1.0**
	baz=115,slow=18						
H03N3				S	**Sn**	**13 26 52.7**	**-6.0**
	baz=210,slow=76,SNR=4.8						
H03N3				T	T	13 32 47.0	
	baz=69,slow=72,SNR=2175						
VA04	**Juan Fernndez**	**6.89**	**239**	Pn	**Pn**	**13 25 42.5**	**+0.3**
H03S3	**Juan Fernandez**	**7.03**	**238**	P	**Pn**	**13 25 43.7**	**-0.1**
	baz=35,slow=19,SNR=161						
H03S3				S	**Sn**	**13 26 58.5**	**-3.9**
	baz=282,slow=6.1,SNR=7.1						
H03S1	**Juan Fernandez**	**7.04**	**238**	P	**Pn**	**13 25 43.5**	**-0.4**
	baz=35,slow=19,SNR=118						
H03S1				S	**Sn**	**13 26 57.9**	**-4.6**
	baz=282,slow=6.1,SNR=6.9						
H03S2	**Juan Fernandez**	**7.05**	**238**	P	**Pn**	**13 25 43.7**	**-0.4**
	baz=35,slow=19,SNR=137						
H03S2				S	**Sn**	**13 26 56.3**	**-6.5**
	baz=282,slow=6.1,SNR=5.1						
PB15	**IPOC Station P**	**7.34**	**17**		**Pn**	**13 25 45.8**	**-2.8**
PB06	**IPOC Station P**	**7.80**	**15**		**Pn**	**13 25 53.2**	**-1.7**
LVC	**Limon Verde**	**8.06**	**19**	P	**Pn**	**13 25 55.6**	**-3.0**
	comp=Z,2.6nm,0.3s,baz=181,slow=6.7,SNR=23						
LVC				S	**Sn**	**13 27 35.5**	**+6.9**
	comp=Z,103nm,0.9s,baz=343,slow=22,SNR=1.9						
LVC				LR	LR	13 28 54.6	
	comp=Z,1μm,21.8s,baz=210,slow=36						
	comp=Z,6.0nm,0.3s						
LVC	**Limon Verde**	**8.06**	**19**		**Pn**	**13 25 55.5**	**-3.1**
LVC	**Limon Verde**	**8.06**	**19**	*e*P	**Pn**	**13 25 57.0**	**-1.6**
PB02	**IPOC Station P**	**9.09**	**11**		**Pn**	**13 26 10.2**	**-2.2**
GO06	**Curarrehue**	**9.28**	**179**		**Pn**	**13 26 14.1**	**-0.8**
LR04	**Corral**	**9.67**	**188**		**Pn**	**13 26 19.0**	**-1.2**
PLCA	**Paso Flores**	**10.46**	**175**	P	**Pn**	**13 26 31.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=340,slow=12,SNR=23						
PLCA				S	Sn	13 28 38.4	+11
	comp=Z,8.4nm,0.9s,baz=66,slow=21,SNR=1.8						
PLCA				LR	LR	13 31 03.3	
	comp=Z,1μm,20.3s,baz=348,slow=40						
	comp=Z,3.0nm,0.4s						
PLCA	**Paso Flores**	**10.46**	**175**		**Pn**	**13 26 31.7**	**+0.5**
PLCA	**Paso Flores**	**10.46**	**175**	*e*P	**Pn**	**13 26 33.4**	**+2.2**
LL04	**Puerto Octay**	**10.61**	**183**		**Pn**	**13 26 31.8**	**-1.3**
TRQA	**Tornquist**	**11.19**	**136**		**Pn**	**13 26 39.4**	**-1.7**
TRQA	**Tornquist**	**11.19**	**136**	*e*P	**Pn**	**13 26 41.5**	**+0.4**
MNMC	**Minye Minye**	**11.28**	**10**		**Pn**	**13 26 41.8**	**-0.8**
ITQB	**Itaqui**	**13.12**	**91**		**Pn**	**13 27 03.6**	**-3.9**
CPUP	**Villa Florida**	**13.29**	**76**	P	**Pn**	**13 27 06.2**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=265,slow=12,SNR=8.3						
CPUP				S	Sn	13 29 24.9	-11
	comp=Z,22nm,0.7s,baz=277,slow=6.9,SNR=1.4						
CPUP				LR	LR	13 32 39.9	
	comp=Z,1μm,19.4s,baz=256,slow=40						
	comp=Z,5.1nm,0.8s						
CPUP	**Villa Florida**	**13.29**	**76**		**Pn

comp=Z,11nm,0.6s,baz=237,slow=8.7,SNR=22
BDFB LR LR 13 41 35.7
comp=Z,109nm,21.9s,baz=241,slow=41
comp=Z,11nm,0.6s
BDFB Brasilia 26.19 61 *e*P **P 13 29 32.9 -1.8**
SNDB Serra Nova Dou 26.30 50 *e*P **P 13 29 35.6 0.0**
MCRA Macar, Loja 26.93 342 P **P 13 29 42.6 +1.3**
NPGB Novo Progresso 27.77 37 *e*P **P 13 29 48.9 0.0**
DIAM Diamantina, MG 28.15 71 *e*P **P 13 29 53.5 +1.1**
MACA Manacapuru-AM 28.94 23 P **P 13 29 58.0 -1.2**
MACA IAmb IAmb 13 30 29.8
comp=Z,15nm,0.7s
MACA Manacapuru-AM 28.94 23 *e*P **P 13 30 00.2 +1.0**
JANB Januaria 29.39 65 *e*P **P 13 30 01.2 -2.2**
SDBA SAO DESIDERIO 30.55 60 *e*P **P 13 30 14.4 +0.8**
SMTB Santa Maria do 31.05 52 *e*P **P 13 30 16.8 -1.1**
RPN Rapa Nui 33.03 266 LR LR 13 40 56.4
comp=Z,114nm,19.6s,baz=69,slow=30
ORTC Ortega, Tolima 34.17 354 *e*P **P 13 30 47.8 +2.6**
BOAV Boa Vista 34.22 20 P **P 13 30 44.9 -0.7**
BOAV IAmb IAmb 13 30 45.8
comp=Z,15nm,0.8s
BOAV Boa Vista 34.22 20 *e*P **P 13 30 44.6 -1.0**
BOAV Boa Vista 34.22 20 *e*P **P 13 30 45.7 +0.1**
PAYG Puerto Ayora 34.33 326 P **P 13 30 47.2 +0.7**
PAYG IAmb IAmb 13 30 51.8
comp=Z,28nm,0.9s
CHIC Chingaza 34.77 357 *e*P **P 13 30 52.2 +1.3**
PMSA Palmer Station 34.84 174 P **P 13 30 50.6 +0.2**
comp=Z,27nm,0.9s,baz=8.5,slow=7.8,SNR=4.7
PMSA LR LR 13 44 30.6
comp=Z,499nm,21.2s,baz=320,slow=35
comp=Z,27nm,0.9s
PMSA Palmer Station 34.84 174 P **P 13 30 51.9 +1.5**
PMSA pP **sP 13 31 05.6 -1.1**
PMSA sP pP 13 31 11.5 +10
ROSC El Rosal 35.02 356 LR LR 13 46 44.4
comp=Z,135nm,19.2s,baz=246,slow=39
MCPB Macapa, AP 35.16 36 *e*P **P 13 30 53.3 -0.4**
GUY2C Guyana, Caldas 35.48 354 *e*P **P 13 30 59.4 +2.4**
RUSC La Rusia 36.00 358 P **P 13 31 02.1 +0.6**
RUSC La Rusia 36.00 358 *e*P **P 13 31 02.8 +1.3**
CBOC Ciudad Bolivar 36.18 353 *e*P **P 13 31 03.8 +1.2**
PTBC PUERTO BERRIO, 36.71 355 *e*P **P 13 31 05.7 -1.3**
PAMC Pamplona, Colo 37.42 358 *e*P **P 13 31 13.2 -0.3**
ZARC Zaragoza, Cauc 37.69 355 *e*P **P 13 31 13.6 -1.6**
SMAI San Martin Ant 37.97 177 P **P 13 31 17.8 +0.7**
SMAI IAmb IAmb 13 31 20.3
comp=Z,17nm,1.2s
SDV Santo Domingo 38.97 2 LR LR 13 49 05.4
comp=Z,197nm,19.1s,baz=210,slow=39
SDV Santo Domingo 38.97 2 P **P 13 31 25.0 -1.2**
SDV Santo Domingo 38.97 2 *e*P **P 13 31 27.6 +1.4**
SDV Santo Domingo 38.97 2 P **P 13 31 25.4 -0.8**
SDV sP **sP 13 31 45.4 +3.4**
BAUV El Baul 39.17 6 P **P 13 31 26.7 -1.0**
BAUV IAmb IAmb 13 31 43.4
comp=Z,44nm,1.0s
MDP Montagnes des 39.66 31 P **P 13 31 30.2 -1.6**
comp=Z,9.6nm,1.0s,baz=77,slow=7.5,SNR=2.0
MDP LR LR 13 49 51.7
comp=Z,221nm,19.7s,baz=184,slow=39
comp=Z,9.6nm,1.0s
RCBR Riachuelo 41.56 61 LR LR 13 50 04.7
comp=Z,480nm,19.2s,baz=1.5,slow=38
JTS Las Juntas de 42.30 340 LR LR 13 46 03.9
comp=Z,80nm,21.1s,slow=31
MLPR Magueyes Islan 48.19 6 P **P 13 32 38.6 -1.6**
CRPR Cabo Rojo, PR 48.22 6 P **P 13 32 39.6 -0.8**
OBIP Obispado Ponce 48.31 7 P **P 13 32 40.6 -0.5**
CELP Cerrillos 48.34 7 P **P 13 32 40.9 -0.5**
CBYP Canovanas 48.61 7 P **P 13 32 42.6 -0.8**
PETF Flores 50.08 337 P **P 13 32 55.7 +1.1**
PETF IAmb IAmb 13 32 57.1
comp=Z,16nm,0.8s
CMIG Matias Romero 52.12 332 LR LR 13 50 29.0
comp=Z,90nm,21.9s,baz=156,slow=30
TEIG Tepich 52.69 340 P **P 13 33 15.3 +1.2**
TEIG pP **sP 13 33 29.0 -0.9**
VNA1 Neumayer--Stat 52.99 158 P **P 13 33 16.7 +0.9**
VNA2 Neumayer--Watz 53.34 158 P **P 13 33 18.4 0.0**
baz=278,slow=7.0
SOR Soroa 53.88 347 P **P 13 33 22.7 -0.1**
SOR IAmb IAmb 13 33 24.7
comp=Z,30nm,1.1s
SNAA Sanae 54.93 159 P **P 13 33 29.9 -0.2**
SNAA Sanae 54.93 159 LR LR 13 55 22.8
comp=Z,94nm,21.6s,baz=332,slow=34
SNAA Sanae 54.93 159 P **P 13 33 29.3 -0.8**
RKT Rikitea 56.32 261 *e*LR LR 13 50 13.4
comp=Z,39µm,26.0s
RKT Rikitea 56.32 261 *e*T T 14 34 31.5
comp=Z,11nm,0.2s
TROLL Troll, Antarti 56.64 159 P **P 13 33 42.3 -0.1**
QSPA South Pole Qui 59.94 180 P **P 13 34 05.5 +0.1**
QSPA South Pole Qui 59.94 180 P **P 13 34 06.2 +0.7**
QSPA pP **sP 13 34 20.3 -2.0**
QSPA sP pP 13 34 25.9 +8.4
H06E1 SOCORRO T-PHAS 61.67 317 T T 14 41 18.5
SNR=17
833A Chaparral WMA, 63.99 333 P **P 13 34 34.5 +1.6**
833A Chaparral WMA, 63.99 333 P **P 13 34 34.8 +1.9**
baz=153
LRAL Lakeview Retre 64.62 346 P **P 13 34 36.5 -0.4**
baz=165
VBMS Vicksburg 64.67 342 P **P 13 34 38.4 +1.1**
baz=162
143A Socs Landing, 65.36 342 P **P 13 34 42.9 +1.2**
HPIG 65.51 327 P **P 13 34 44.3 +1.2**
HPIG IAmb IAmb 13 34 46.1
comp=Z,20nm,1.1s
X51A Calhoun 65.69 348 P **P 13 34 43.7 -0.1**
KMSC Kings Mountain 65.71 351 P **P 13 34 44.0 0.0**
baz=171
JCT Junction City 66.07 334 P **P 13 34 47.2 +0.7**
JCT IAmb IAmb 13 34 49.1
comp=Z,32nm,1.2s
JCT Junction City 66.07 334 P **P 13 34 48.0 +1.6**
baz=154
SWET Sewanee 66.52 347 P **P 13 34 49.6 +0.4**
SWET IAmb IAmb 13 34 50.5
comp=Z,22nm,0.9s
WHTX Lake Whitney, 66.57 336 P **P 13 34 50.5 +1.0**
baz=156
TX32 Lajitas Array 66.65 330 P **P 13 34 51.2 +1.0**
TXAR Lajitas Array 66.65 330 P **P 13 34 51.6 +1.3**
comp=Z,4.1nm,0.9s,baz=150,slow=7.9,SNR=36
TXAR pP **pwP 13 35 04.3 +0.1**
comp=Z,0.7nm,0.5s,baz=152,slow=8.9,SNR=4.7
TXAR LR LR 13 59 21.3
comp=Z,74nm,19.8s,baz=174,slow=32
comp=Z,4.1nm,0.9s
TXAR Lajitas Array 66.65 330 P **P 13 34 51.2 +1.0**
TAOE Nuku Hiva Isla 66.97 273 *e*LR LR 13 55 09.6
comp=Z,174nm,30.7s
MIAR Mount Ida 67.70 341 P **P 13 34 57.4 +0.7**
baz=160
FW03 Perrin-Whitt E 67.74 336 P **P 13 34 57.5 +0.5**
FW03 IAmb IAmb 13 34 59.2
comp=Z,28nm,1.2s
WVT Waverly 67.78 346 P **P 13 34 56.6 -0.5**
WVT IAmb IAmb 13 34 58.3
comp=Z,20nm,1.0s
WVT Waverly 67.78 346 P **P 13 34 57.3 +0.2**
baz=165
WVT Waverly 67.78 346 P **P 13 34 57.2 +0.1**
WVT pP **pwP 13 35 10.6 -1.0**
WVT sP **sP 13 35 16.9 +3.9**
VNDA Vanda 67.78 191 P **P 13 34 57.7 +1.0**
comp=Z,3.2nm,0.9s,baz=116,slow=5.6,SNR=6.5
comp=Z,3.2nm,0.9s
VNDA Vanda 67.78 191 P **P 13 34 58.1 +1.4**
VNDA sP **PcP 13 35 19.5 -3.7**
ABTX Abilene, Hawle 67.93 335 P **P 13 34 59.2 +1.0**
ABTX Abilene, Hawle 67.93 335 P **P 13 34 59.4 +1.2**
baz=154,SNR=10.0
TBI Tubuai 68.48 255 *e*S **S 13 44 01.9 +0.7**
comp=Z,329nm,32.0s
TBI Tubuai 68.48 255 *e*LR LR 13 55 51.2
comp=Z,713nm,25.8s
TBI *e*LR LR 13 55 51.3
comp=Z,3µm,23.0s
TBI Tubuai 68.48 255 *e*T T 14 49 41.1
comp=Z,18nm,0.2s
LCAR Lake Charles 68.49 343 P **P 13 35 01.6 +0.1**
LCAR IAmb IAmb 13 35 03.0
comp=Z,19nm,1.0s
BBTS Babate 69.42 58 LR LR 14 06 29.3
comp=Z,160nm,18.1s,baz=224,slow=37
GDL2 Guadalupe Moun 69.42 331 P **P 13 35 08.6 +1.0**
MNTX Cornudas Mount 69.43 330 P **P 13 35 08.2 +0.7**
MNTX Cornudas Mount 69.43 330 P **P 13 35 07.9 +0.3**
baz=149
WMOK Wichita Mounta 69.53 336 P **P 13 35 08.5 +0.4**
baz=155,SNR=5.6
S44A Carbondale 69.59 345 P **P 13 35 08.6 +0.2**
S44A IAmb IAmb 13 35 09.7
comp=Z,16nm,0.8s
TUL1 Leonard 69.63 339 P **P 13 35 08.9 +0.3**
TUL1 IAmb IAmb 13 35 10.2
comp=Z,29nm,1.0s
TUL1 Leonard 69.63 339 P **P 13 35 09.2 +0.5**
baz=158
MGMO Mountain Grove 69.80 343 P **P 13 35 09.6 -0.1**
MGMO IAmb IAmb 13 35 27.5
comp=Z,20nm,1.2s
MCWV Mont Chateau 70.00 353 P **P 13 35 11.1 +0.2**
baz=172
P52A Corning 70.24 351 P **P 13 35 12.1 -0.2**
baz=170
MSTX Muleshoe 70.32 333 P **P 13 35 13.3 +0.3**
MSTX IAmb IAmb 13 35 15.1
comp=Z,24nm,0.9s
MSTX Muleshoe 70.32 333 P **P 13 35 14.0 +1.0**
baz=152,SNR=10
CCM Cathedral Cave 70.39 344 P **P 13 35 13.9 +0.6**
baz=162
CCM Cathedral Cave 70.39 344 P **P 13 35 13.8 +0.6**
CCM pP **sP 13 35 28.7 -0.6**
P49A Miami Univ. Ec 70.51 349 P **P 13 35 13.5 -0.5**
baz=168
S39A Bolivar 70.58 342 P **P 13 35 14.3 -0.2**
S39A IAmb IAmb 13 35 33.2
comp=Z,38nm,1.6s
AMTX Amarillo 70.70 334 P **P 13 35 16.0 +0.6**
AMTX IAmb IAmb 13 35 17.7
comp=Z,19nm,1.0s
AMTX Amarillo 70.70 334 P **P 13 35 16.5 +1.1**
baz=153
R40A Maddies Statio 70.87 343 P **P 13 35 16.3 +0.1**
TIAR Tiarei 70.88 260 *e*T T 14 52 47.2
comp=Z,6.8nm,0.2s
ACSO Alum Creek Sta 70.94 351 P **P 13 35 16.3 -0.3**
baz=170
PPTF Pamatai, Papee 71.05 260 P **P 13 35 21.4 +3.4**
PPTF pP **sP 13 35 35.8 +1.9**
PPTF sP **PcP 13 35 40.8 +2.6**
PPT2 Papeete2 71.06 260 *e*S **S 13 44 31.7 -0.1**
comp=Z,102nm,29.2s
PPT2 Papeete2 71.06 260 *e*LR LR 13 57 03.0
comp=Z,224nm,26.0s
PPT2 *e*LR LR 13 57 03.2
comp=Z,182nm,23.5s
PPT2 Papeete2 71.06 260 *e*T T 14 52 54.2
comp=Z,2.3nm,0.2s
PPT Papeete 71.07 260 P **P 13 35 20.2 +2.2**
comp=Z,20nm,0.9s,baz=261,slow=14,SNR=4.9
comp=Z,20nm,0.9s
121A Cookes Peak, D 71.21 328 P **P 13 35 20.3 +1.7**
121A IAmb IAmb 13 35 22.0
comp=Z,15nm,1.1s
121A Cookes Peak, D 71.21 328 P **P 13 35 20.9 +2.3**
baz=147
KAN09 Caldwell North 71.32 338 P **P 13 35 20.0 +1.0**
KAN09 IAmb IAmb 13 35 21.1
comp=Z,34nm,1.2s
P40A Paris 71.99 344 P **P 13 35 23.0 +0.1**
P40A IAmb IAmb 13 35 24.6
comp=Z,27nm,1.0s
HDIL Hopedale 72.34 346 P **P 13 35 25.1 +0.1**
baz=164
L61B Northampton 72.39 359 P **P 13 35 26.2 +1.0**
baz=179
TUC Tucson 72.43 326 P **P 13 35 26.0 +0.2**
TUC Tucson 72.43 326 P **P 13 35 27.7 +1.9**
baz=145
ANMO Albuquerque 72.67 331 P **P 13 35 27.3 -0.1**
ANMO IAmb IAmb 13 35 49.9
comp=Z,20nm,1.6s
ANMO Albuquerque 72.67 331 P **P 13 35 29.3 +1.9**
baz=149
214A Organ Pipe Nat 73.14 324 P **P 13 35 31.1 +1.1**
214A IAmb IAmb 13 35 33.6
comp=Z,16nm,1.1s
214A Organ Pipe Nat 73.14 324 P **P 13 35 32.5 +2.4**
baz=144,SNR=12
CBKS Cedar Bluff 73.54 338 P **P 13 35 33.5 +1.2**
baz=155
T25A Trinidad 73.73 333 P **P 13 35 35.3 +1.7**
baz=151,SNR=8.4
DBIC Dimbokro 73.78 72 P **P 13 35 32.6 -1.6**
comp=Z,8.0nm,0.9s,baz=219,slow=7.8,SNR=9.4
DBIC pP **pP 13 35 45.8 -0.5**
comp=Z,12nm,1.0s,baz=210,slow=3.9,SNR=7.3
DBIC LR LR 14 05 51.8
comp=Z,194nm,19.4s,baz=219,slow=34
comp=Z,8.0nm,0.9s
DBIC Dimbokro 73.78 72 P **P 13 35 32.5 -1.6**
DBIC IAmb IAmb 13 35 52.9
comp=Z,28nm,1.2s
W18A Petrified Fore 74.25 328 P **P 13 35 38.4 +1.7**
baz=146,SNR=7.2
LONY Lake Ozonia 74.60 358 P **P 13 35 39.1 +0.9**
baz=177
SDCO Great Sand Dun 74.69 333 P **P 13 35 41.1 +1.8**
baz=150,SNR=7.5
KSCO Kaye Shedlock' 74.71 336 P **P 13 35 40.1 +0.9**
KSCO IAmb IAmb 13 35 59.8
comp=Z,25nm,1.1s
KSCO Kaye Shedlock' 74.71 336 P **P 13 35 40.9 +1.7**
baz=152
JFWS Jewell Farm 74.81 346 P **P 13 35 39.8 +0.3**
baz=163
S22A 4UR Ranch, Cre 75.22 332 P **P 13 35 44.0 +1.6**
baz=149
WUAZ Wupatki 75.33 327 P **P 13 35 44.3 +1.4**
WUAZ IAmb IAmb 13 35 46.3
comp=Z,18nm,1.1s
WUAZ Wupatki 75.33 327 P **P 13 35 45.1 +2.2**
baz=145,SNR=7.3
IKP In-Ko-Pah, Jac 75.40 322 P **P 13 35 45.3 +2.1**
baz=141
BGNE Belgrade 75.40 340 P **P 13 35 43.7 +0.7**
baz=156
BLYC Blythe 75.44 324 P **P 13 35 44.6 +1.3**
MVCO Mesa Verde 75.46 330 P **P 13 35 45.4 +1.7**
baz=148,SNR=7.5
SWSC Sam W. Stewart 75.46 323 P **P 13 35 45.6 +2.2**
baz=142
Q24A Divide 75.61 334 P **P 13 35 46.4 +1.8**
baz=150,SNR=12
BC3 Big Chuckawall 75.84 324 P **P 13 35 47.8 +2.1**
baz=142,SNR=9.2
IRM Iron Mountain 76.08 324 P **P 13 35 49.1 +2.1**
baz=142,SNR=5.9
TPFO Pinon Flats 76.32 323 P **P 13 35 50.6 +2.1**
baz=141,SNR=5.6
PFO Pinyon Flats O 76.33 323 LR LR 14 02 46.6
comp=Z,69nm,19.1s,baz=145,slow=30
PFO Pinyon Flats O 76.33 323 P **P 13 35 50.8 +2.2**
baz=141
BELC Belle Mtn. Jos 76.39 323 P **P 13 35 50.7 +1.8**
baz=142
SUR Sutherland 76.42 120 LR LR 14 04 45.3
comp=Z,110nm,19.9s,baz=222,slow=32
ISCO Idaho Springs 76.51 334 P **P 13 35 49.3 -0.3**
ISCO Idaho Springs 76.51 334 P **P 13 35 51.5 +1.8**
baz=150,SNR=8.0
MAW Mawson 76.66 164 LR LR 14 12 39.7
comp=Z,151nm,18.0s,baz=240,slow=38
K31A O'Neill 76.69 340 P **P 13 35 50.8 +0.5**
MURC Murrieta 76.70 322 P **P 13 35 52.9 +2.4**
baz=141
GMRC Granite Mounta 76.83 324 P **P 13 35 53.7 +2.3**
baz=142,SNR=8.0
ECSD EROS Data Cent 77.11 342 P **P 13 35 53.2 +0.6**
baz=158
CIS Catalina Islan 77.20 321 P **P 13 35 55.0 +1.6**
baz=140
HEC Hector,Ludlow 77.21 324 P **P 13 35 55.7 +2.3**
baz=142
BFSC Mount Baldy Ra 77.44 322 P **P 13 35 56.6 +1.8**
baz=140,SNR=5.8
TUQ Turquoise Moun 77.48 324 P **P 13 35 56.8 +1.8**
baz=142
SPMN Marine on St. 77.56 345 P **P 13 35 57.3 +2.3**
baz=161
N23A Red Feather La 77.58 334 P **P 13 35 57.5 +1.8**
baz=150
GSC Goldstone, Bar 77.82 324 P **P 13 35 59.0 +2.1**
baz=141,SNR=7.2
O20A White River Ci 77.83 332 P **P 13 35 59.0 +2.1**
baz=148,SNR=7.7
SRU San Rafael Swe 77.92 330 P **P 13 35 58.2 +0.8**
RAR Rarotonga 77.98 252 P **P 13 35 59.0 +0.9**
comp=Z,7.8nm,0.8s,baz=343,slow=14,SNR=2.3
RAR LR LR 14 01 25.0
comp=Z,100nm,21.0s,baz=140,slow=29
comp=Z,7.8nm,0.8s
EDW2 Edwards Air Fo 78.11 323 P **P 13 35 59.9 +1.4**
baz=140
RDMU Red Mountain 78.74 332 P **P 13 36 03.6 +1.6**
RDMU IAmb IAmb 13 36 04.5
comp=Z,15nm,1.0s
FURC Furnace Creek, 78.76 324 P **P 13 36 03.9 +2.1**
baz=141
MPMC Manual Prospec 78.76 324 P **P 13 36 03.8 +1.6**
baz=141
TPNV Topopah Spring 78.83 325 P **P 13 36 04.6 +2.2**
baz=142,SNR=8.0
ISA Isabella, Lake 78.96 323 P **P 13 36 05.4 +2.2**
baz=140,SNR=6.6
PKM Mcpherson Peak 79.09 321 P **P 13 36 06.2 +2.2**
baz=139
K22A Casper 79.32 335 P **P 13 36 06.7 +1.7**
baz=150
CWC Cottonwood Cre 79.36 324 P **P 13 36 07.2 +1.8**
baz=140
VES Vestal, Richgr 79.42 323 P **P 13 36 07.6 +2.1**
baz=140,SNR=6.6
GRAC Grapevine Rang 79.42 324 P **P 13 36 07.5 +2.0**
baz=141
SMMC Simmler 79.50 322 P **P 13 36 08.6 +2.5**
baz=139
SPR3 Spring Creek 3 79.53 328 P **P 13 36 06.9 +0.4**
SPR3 IAmb IAmb 13 36 09.2
comp=Z,11nm,1.1s
R11A Troy Canyon, C 79.61 326 P **P 13 36 08.9 +2.2**
baz=142,SNR=7.4
RSSD Black Hills 79.72 337 P **P 13 36 08.5 +1.2**
baz=152
LCH Last Change Ra 79.75 324 P **P 13 36 09.3 +1.8**
DUG Dugway, Tooele 79.81 329 P **P 13 36 09.7 +1.9**
baz=145,SNR=8.3
TIN Tinemaha, Big 79.90 324 P **P 13 36 09.8 +1.5**
baz=140
BGU Big Grassy Mou 80.50 330 P **P 13 36 12.4 +1.0**
SPUT South Promonto 80.57 330 P **P 13 36 13.2 +1.4**
SPUT IAmb IAmb 13 36 14.2
comp=Z,12nm,1.0s
BW06 Boulder Array 80.58 333 P **P 13 36 12.7 +0.8**
baz=147
PDAR Pinedale Array 80.58 333 P **P 13 36 12.2 +0.2**
comp=Z,1.8nm,1.0s,baz=151,slow=4.6,SNR=13
PDAR pP **pP 13 36 23.8 -0.1**
comp=Z,0.6nm,0.6s,baz=163,slow=5.7,SNR=3.9
PDAR LR LR 14 08 50.9
comp=Z,58nm,20.2s,baz=166,slow=33
comp=Z,1.8nm,1.0s
NVAR Mina Array Bea 81.00 325 P **P 13 36 15.0 +0.8**
comp=Z,4.5nm,0.9s,baz=156,slow=5.9,SNR=16
comp=Z,4.5nm,0.9s
HVU Hansel Valley 81.09 330 P **P 13 36 15.4 +0.9**
AGMN Agassiz Nation 81.17 344 P **P 13 36 14.7 +0.1**
baz=159
ELK Elko 81.35 328 LR LR 14 07 49.4
comp=Z,62nm,21.9s,baz=146,slow=32
ELK Elko 81.35 328 P **P 13 36 16.3 +0.2**
BOSA Boshof 81.58 118 LR LR 14 10 36.4
comp=Z,76nm,18.0s,baz=195,slow=34
MDND Maddock 81.71 341 P **P 13 36 18.1 +0.5**
RLMT Red Lodge 82.46 334 P **P 13 36 22.8 +1.0**
baz=148
LAO LASA Array 82.72 337 P **P 13 36 23.8 +0.9**
baz=150
YMR Madison River 82.73 333 P **P 13 36 24.6 +1.4**
YMR IAmb IAmb 13 36 44.0
comp=Z,11nm,1.0s
ULM Lac du Bonnet 83.00 345 P **P 13 36 24.1 -0.1**
comp=Z,8.7nm,1.0s,baz=160,slow=4.4,SNR=7.6
comp=Z,8.7nm,1.0s
HLID Hailey 83.24 330 P **P 13 36 27.4 +1.5**
baz=144
MCMT McKenzie Canyo 83.62 332 P **P 13 36 29.3 +1.5**
DGMT Dagmar 83.62 339 P **P 13 36 28.5 +1.1**
DGMT Dagmar 83.62 339 P **P 13 36 28.6 +1.1**
baz=152
LBTB Lobatse 83.64 115 LR LR 14 08 35.4
comp=Z,112nm,19.7s,baz=210,slow=32
BOZ Bozeman (W) 83.77 333 P **P 13 36 29.3 +0.8**
baz=146
LRM Limekiln Ridge 84.28 333 P **P 13 36 32.2 +1.1**
SCHQ Schefferville 84.88 3 pP **pP 13 36 47.0 +1.0**
comp=Z,9.2nm,1.2s,baz=89,slow=17,SNR=2.6
SCHQ LR LR 14 12 19.7
comp=Z,30nm,21.9s,baz=204,slow=34
MSO Missoula 85.69 332 P **P 13 36 39.0 +0.9**
baz=144
NEW Newport 88.14 332 LR LR 14 13 18.5
comp=Z,58nm,19.5s,baz=152,slow=34
NEW Newport 88.14 332 P **P 13 36 49.5 -0.3**
baz=142
MDT Midelt 89.29 51 LR LR 14 14 22.3
comp=Z,66nm,21.4s,baz=236,slow=34
FRB Frobisher Bay 93.75 1 LR LR 14 24 43.5
comp=Z,26nm,18.1s,baz=164,slow=39
ESDC Sonseca Array 93.82 46 P **P 13 37 15.6 -0.9**
comp=Z,1.6nm,0.9s,baz=241,slow=3.4,SNR=9.3
ESDC pP **pP 13 37 29.4 +0.4**
comp=Z,1.1nm,0.9s,baz=257,slow=4.6,SNR=4.4
ESDC LR LR 14 16 27.3
comp=Z,125nm,20.4s,baz=232,slow=34
comp=Z,1.6nm,0.9s
BBB Bella Bella 95.77 329 LR LR 14 16 25.4
comp=Z,32nm,20.2s,baz=156,slow=33
SFJD Kangerlussuaq 98.30 8 LR LR 14 21 57.6
comp=Z,14nm,21.9s,baz=158,slow=35
YKA Yellowknife Ar 98.64 341 P **P 13 37 37.0 -0.7**
comp=Z,1.3nm,1.0s,baz=147,slow=4.2,SNR=7.6
comp=Z,1.3nm,1.0s
DZM Mont Dzumac 103.62 234 *e*LR LR 14 12 08.6
comp=Z,226nm,24.1s
NACGM Naroch 118.93 41 *e*PKP **PKiKP 13 42 50.8 +3.6**
comp=Z,14nm,1.1s,baz=258
AKASG Malin Array Be 119.47 46 PKP **PKPdf 13 42 46.5 -1.8**
comp=Z,2.3nm,0.6s,baz=260,slow=2.8,SNR=22
BRTR Keskin Array B 119.76 59 PKP **PKPdf 13 42 48.1 -1.4**
comp=Z,2.0nm,0.8s,baz=167,slow=3.5,SNR=9.8
ASAR Alice Springs 120.97 208 PKP **PKPdf 13 42 51.1 -1.2**
comp=Z,1.5nm,0.8s,baz=125,slow=1.6,SNR=18
ASAR PKKPbc **PKKPbc 13 52 53.1 -1.9**
comp=Z,0.8nm,0.8s,baz=347,slow=3.8,SNR=5.9
WRA Warramunga Arr 124.11 210 PKP **PKPdf 13 42 57.2 -1.1**
comp=Z,3.6nm,0.8s,baz=154,slow=1.6,SNR=15
WRA pPKP **pPKPdf 13 43 12.3 +1.7**
comp=Z,0.6nm,0.5s,baz=159,slow=1.6,SNR=2.2
WRA PKKPbc **PKKPbc 13 52 42.2 -0.7**
comp=Z,1.1nm,0.8s,baz=340,slow=4.3,SNR=5.3
H11S2 WAKE ISLAND Hyl 26.00 272 T T 16 01 50.0
baz=115,slow=75,SNR=1264
H11S1 WAKE ISLAND Hyl 26.01 272 T T 16 01 50.9
baz=115,slow=75,SNR=1159
H11S3 WAKE ISLAND Hyl 26.02 272 T T 16 01 47.7
baz=115,slow=75,SNR=1192
KLMR Klimovskoe 126.24 34 *e*PKPdf **PKPdf 13 43 00.0 -1.0**
KLMR AMP 13 43 06.3
comp=Z,59nm,2.2s
KBZ Khabaz 127.38 56 PKP **PKPdf 13 43 03.1 -0.7**
comp=Z,3.7nm,0.9s,baz=205,slow=2.0,SNR=7.3
ARU Arti 136.73 38 PKP **PKPdf 13 43 20.0 -1.0**
comp=Z,1.3nm,0.3s,baz=183,slow=3.4,SNR=7.1
PETK Petropavlovsk- 137.69 317 PKP **PKPdf 13 43 22.3 -0.6**
comp=Z,6.0nm,0.9s,baz=106,slow=4.8,SNR=4.6
AKTO Aktyubinsk 137.69 47 PKhKP PKPpre 13 43 15.2
comp=Z,1.4nm,0.8s,baz=178,slow=4.8,SNR=1.7
AKTO PKP **PKPdf 13 43 22.4 -0.6**
comp=Z,3.5nm,0.8s,baz=314,slow=1.5,SNR=4.0
GEYT Alibeck 138.21 66 PKP **PKPdf 13 43 22.9 -1.5**
comp=Z,2.3nm,0.6s,baz=255,slow=4.5,SNR=5.2
BVAR Borovoye Array 144.33 39 PKP PKPbc 13 43 34.0 +0.7

	comp=Z,7.3nm,0.7s,baz=298,slow=3.2,SNR=44								
BVAR					pPKP	pPKPdf	13 43 47.4	-0.4	
	comp=Z,3.9nm,0.7s,baz=341,slow=1.9,SNR=4.3								
EKS2	**Erkin-Say**	**149.86**	**56**		P	**PKiKP**	**13 43 50.1**	**-0.2**	
	SNR=24								
AML	**Almayashu**	**149.91**	**57**		P	**PKiKP**	**13 43 50.4**	**-0.4**	
	SNR=20								
HYB	**Hyderabad**	**150.06**	**109**	*e*	PKPbc	**PKPbc**	**13 43 49.6**	**-0.9**	
USP	**Ospenovka**	**150.23**	**55**		P	**PKiKP**	**13 43 50.7**	**-0.3**	
	SNR=23								
AAK	**Ala-Archa**	**150.38**	**56**		P	**PKiKP**	**13 43 51.6**	**+0.1**	
	SNR=38								
CHMS	**Chumysh**	**150.47**	**55**		P	**PKiKP**	**13 43 51.3**	**-0.3**	
	SNR=17								
UCH	**Uchtor**	**150.48**	**57**		P	**PKiKP**	**13 43 52.3**	**+0.2**	
	SNR=35								
KBK	**Karagaybulak**	**150.70**	**56**		P	**PKiKP**	**13 43 52.3**	**+0.1**	
	SNR=14								
ZALV	**Zalesovo Beam**	**150.91**	**29**		PKP	**PKPdf**	**13 43 45.2**	**-0.5**	
	comp=Z,4.3nm,0.9s,baz=300,slow=3.1,SNR=13								
ZALV					PKPbc	**PKPbc**	**13 43 51.4**	**0.0**	
	comp=Z,59nm,0.8s,baz=324,slow=2.9,SNR=89								
ZALV					pPKPbc	**pPKPbc**	**13 44 04.2**	**+0.1**	
	comp=Z,41nm,0.8s,baz=311,slow=3.2,SNR=13								
TKM2	**Tokmak 2**	**151.09**	**55**		P	**PKPbc**	**13 43 52.8**	**+0.3**	
	SNR=18								
ULHL	**Ulahol**	**151.73**	**56**		P	**PKiKP**	**13 43 54.5**	**+0.1**	
	SNR=16								
KSH	**Kashi**	**152.09**	**62**		PKPbc	**PKPdf**	**13 43 47.6**	**-0.5**	
KSH					pPKP	PKPbc	13 43 54.7	-0.1	
KSH					sPKP		13 44 03.0		
MKAR	**Makanchi Array**	**154.02**	**43**		PKP	**PKPdf**	**13 43 49.9**	**-0.7**	
	comp=Z,2.3nm,0.8s,baz=321,slow=1.6,SNR=20								
MKAR					PKPbc	**PKPbc**	**13 43 58.0**	**-0.6**	
	comp=Z,3.3nm,0.7s,baz=317,slow=1.9,SNR=23								
MKAR					pPKPbc	**pPKPbc**	**13 44 10.3**	**-1.1**	
	comp=Z,6.2nm,0.8s,baz=294,slow=3.0,SNR=12								
MKAR					pPKPab	**pPKPab**	**13 44 25.6**	**+0.8**	
	comp=Z,6.0nm,0.9s,baz=289,slow=3.7,SNR=4.4								
MJAR	**Matsushiro Arr**	**154.30**	**292**		PKP	**PKPdf**	**13 43 50.1**	**-1.2**	
	comp=Z,1.3nm,0.8s,baz=133,slow=2.1,SNR=4.5								
MJAR					PKPbc	**PKPbc**	**13 43 58.9**	**-0.7**	
	comp=Z,4.2nm,1.0s,baz=128,slow=4.3,SNR=4.9								
MJAR					pPKPbc	**PKPab**	**13 44 14.5**	**+0.7**	
	comp=Z,5.1nm,0.8s,baz=126,slow=2.0,SNR=7.4								
MDJ	**Mudanjiang**	**157.93**	**316**		P	**PKPdf**	**13 43 53.5**	**-2.3**	
MDJ					pmax	pmax			
	comp=Z,9.0nm,1.3s								
MDJ					pmax	pmax			
	comp=Z,120nm,4.2s								
WMQ	**Urumqi**	**158.82**	**45**	*e*	P	**PKPdf**	**13 43 57.1**	**+0.1**	
KSRS	**Korea Array**	**162.19**	**299**		PKP	**PKPdf**	**13 43 59.4**	**-1.4**	
	comp=Z,1.4nm,0.8s,baz=48,slow=1.9,SNR=5.2								
KSRS					PKPab	**PKPab**	**13 44 48.1**	**+0.3**	
	comp=Z,0.6nm,0.7s,baz=46,slow=1.9,SNR=1.9								
SONM	**Songino Array**	**162.42**	**4**		PKP	**PKPdf**	**13 43 59.7**	**-1.1**	
	comp=Z,1.0nm,0.8s,baz=90,slow=1.5,SNR=5.8								
SONM					PKPab	**PKPab**	**13 44 49.0**	**+0.5**	
	comp=Z,1.2nm,0.8s,baz=326,slow=4.7,SNR=4.9								
CMAR	**Chiang Mai Arr**	**165.49**	**142**		PKP	**PKPdf**	**13 44 03.7**	**-0.7**	
	comp=Z,2.5nm,1.1s,baz=248,slow=2.8,SNR=8.3								
GOMU	**GeErMu**	**167.30**	**59**		PKP	**PKPdf**	**13 44 06.5**	**+0.7**	
GOMU					sPKP		13 44 46.1		
GOMU					PKPab	**PKPab**	**13 45 11.8**	**+0.9**	
GTA	**Gaotai**	**168.56**	**35**		PKPbc	**PKPdf**	**13 44 06.8**	**+0.6**	
GTA					PKPab	**PKPab**	**13 45 16.0**	**+0.1**	
HHC	**Hu-ho-hao-te**	**169.13**	**347**	*e*	P	**PKPdf**	**13 44 07.0**	**+0.5**	
HHC					pmax	pmax			
	comp=Z,44nm,0.7s								
HHC					pmax	pmax			
	comp=Z,170nm,4.5s								
NJ2	**Nanjing**	**170.75**	**284**	*e*	P	**PKPdf**	**13 44 06.4**	**-1.1**	
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
HNS	**HongShan**	**171.11**	**325**	⇓	P	**PKPdf**	**13 44 08.5**	**+1.0**	
HNS					pmax	pmax			
	comp=Z,12nm,0.8s								
CD2	**Chengdu**	**176.07**	**80**		PKP	**PKPdf**	**13 44 08.4**	**-1.3**	
XAN	**Xi'an**	**176.22**	**352**		PKP	**PKPdf**	**13 44 10.1**	**+0.5**	
XAN					sPKP		13 44 24.2		

*ROM **04** 13:27:23.0±0.4, 45°56.56N±0.01×14°53.56E±0.04, h7km, ML2.4/7, Error ellipse: s-maj=3.0km s-min=1.3km az=256.0*
*LJU **04** 13:27:23.3±0.6, 45°56.61N×14°47.56E, h12km, ML2.3*
*PRU **04** 13:27:23.5±0.0, 45°59.59N×14°39.39E, h10km*
*VIE **04** 13:27:23.1, 45°56.61N×14°49.56E, h15km, mb2.2/11, ml2.7/17*
30 km NNE of Rijeka
*RHSSO **04** 13:27:24.2±0.3, 45°56.60N×14°48.56E, h3km±2km, ML2.4/9*
ISC 04 13:27:23.8±0.8, 45°56.60N±0.01×14°47.56E±0.01, h12km±5km, n96, σ0°78/177, 6C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KNDS	**Knezji Dol**	**0.10**	**222**	⇓*i*	Pg	**Pg**	**13 27 26.3**	**-0.3**
KNDS					*e*Sg	**Sg**	**13 27 28.4**	**-0.3**
KNDS					IAML		13 27 28.6	
CEY	**Cerknica**	**0.14**	**347**	⇓*e*	Pg	**Pg**	**13 27 27.2**	**-0.2**
CEY					*e*Sg	**Sg**	**13 27 30.0**	**+0.1**
CEY					IAML		13 27 30.5	
	comp=Z,360nm,0.1s							
CEY	**Cerknica**	**0.14**	**347**	*e*	Pg	**Pg**	**13 27 27.1**	**-0.2**
CEY					*e*Sg	**Sg**	**13 27 29.9**	**+0.1**
GBRS	**Gornja Briga**	**0.25**	**106**	⇑*i*	Pg	**Pg**	**13 27 28.8**	**-0.2**
GBRS					*e*Sg	**Sg**	**13 27 32.9**	**+0.4**
GBRS					IAML		13 27 34.9	
	comp=Z,322nm,0.1s							
RIY	**Rijeka**	**0.27**	**178**	*i*	Pg	**Pg**	**13 27 28.7**	**-0.8**
RIY					Sg	**Sg**	**13 27 33.0**	**-0.2**
SKDS	**Skadanscina**	**0.33**	**261**	⇑*i*	Pg	**Pg**	**13 27 29.6**	**-0.8**
SKDS					*i* Sg	**Sg**	**13 27 34.9**	**+0.1**
SKDS					IAML		13 27 35.1	
	comp=Z,372nm,0.1s							
SKDS	**Skadanscina**	**0.33**	**261**	⇑*i*	Pg	**Pg**	**13 27 29.6**	**-0.8**
SKDS					*e*Sg	**Sg**	**13 27 34.6**	**-0.2**
VISS	**Visnje**	**0.33**	**51**	*e*	Pg	**Pg**	**13 27 30.1**	**-0.4**
VISS					*e*Sg	**Sg**	**13 27 35.4**	**+0.5**
VISS					IAML		13 27 36.7	
	comp=Z,90nm,0.1s							
GBAS	**Gorenja Brezov**	**0.34**	**357**	⇓*i*	Pg	**Pg**	**13 27 30.3**	**-0.4**
GBAS					*e*Sg	**Sg**	**13 27 35.8**	**+0.5**
GBAS					IAML		13 27 37.4	
	comp=Z,87nm,0.2s							
JAVS	**Javornik**	**0.41**	**316**	*e*	Pg	**Pg**	**13 27 31.1**	**-0.9**
JAVS					*e*Sg	**Sg**	**13 27 37.4**	**-0.1**
JAVS					IAML		13 27 38.7	
	comp=Z,174nm,0.2s							
LJU	**Ljubljana**	**0.45**	**5**	*i*	Pg	**Pg**	**13 27 32.5**	**-0.1**
LJU					*e*Sg	**Sg**	**13 27 39.3**	**+0.7**
LJU					IAML		13 27 42.3	
	comp=Z,64nm,0.1s							
LJU	**Ljubljana**	**0.45**	**5**		P	**Pg**	**13 27 32.3**	**-0.4**
LJU					S	**Sg**	**13 27 39.3**	**+0.7**
LJU					AML	AML		
	comp=E,4880μm,0.9s							
LJU					AML	AML		
	comp=N,11750μm,0.2s							
LJU					AML	AML		
	comp=N,761μm,0.2s							
LJU					AML	AML		
	comp=E,530μm,0.0s							
CRNS	**Crni Vrh**	**0.51**	**343**	*e*	Pg	**Pg**	**13 27 33.1**	**-0.7**
CRNS					*e*Sg	**Sb**	**13 27 41.5**	**-0.6**
CRNS					IAML		13 27 44.7	
	comp=Z,50nm,0.1s							
VNDS	**Vrh nad Dolski**	**0.53**	**18**	*e*	Pg	**Pg**	**13 27 34.0**	**-0.1**
VNDS					*e*Sg	**Sg**	**13 27 41.8**	**+0.6**
VNDS					IAML		13 27 45.8	
	comp=Z,59nm,0.1s							
A253A	**Karojba, Istri**	**0.55**	**237**	*e*	Pg	**Pg**	**13 27 33.2**	**-1.4**
A253A					Sg	**Sg**	**13 27 41.3**	**-0.6**
BOJS	**Bojanci**	**0.56**	**99**	*e*	Pg	**Pg**	**13 27 34.0**	**-0.7**
BOJS					*e*Sg	**Sg**	**13 27 42.0**	**0.0**
BOJS					IAML		13 27 43.1	
	comp=Z,56nm,0.1s							
BOJS	**Bojanci**	**0.56**	**99**		P	**Pg**	**13 27 33.8**	**-0.9**
BOJS					S	**Sg**	**13 27 42.1**	**0.0**
BOJS					AML	AML		
	comp=E,1096μm,1.1s							
BOJS					AML	AML		
	comp=N,1380μm,0.9s							
BOJS					AML	AML		
BOJS					AML	AML		
	comp=N,99μm,0.1s							
BOJS	**Bojanci**	**0.56**	**99**	⇑*i*	Pg	**Pg**	**13 27 33.9**	**-0.7**
BOJS					*e*Sg	**Sg**	**13 27 42.0**	**0.0**
PDKS	**Podkum**	**0.59**	**38**	*e*	Pg	**Pg**	**13 27 35.2**	**-0.2**
PDKS					*e*Sg	**Sg**	**13 27 43.2**	**0.0**
PDKS					IAML		13 27 45.2	
	comp=Z,68nm,0.1s							
VOJS	**Vojsko**	**0.60**	**317**	*e*	Pg	**Pg**	**13 27 34.3**	**-1.2**
VOJS					*e*Sg	**Sg**	**13 27 44.0**	**+0.5**
VOJS					IAML		13 27 46.0	
	comp=Z,80nm,0.2s							
SMRN	**Sveta Marina**	**0.60**	**202**	*e*	Pg	**Pg**	**13 27 34.4**	**-1.2**
SMRN					Sg	**Sg**	**13 27 43.9**	**+0.4**
LEGS	**Legarje**	**0.69**	**59**	*e*	Pg	**Pg**	**13 27 36.7**	**-0.5**
LEGS					*e*Sg	**Sg**	**13 27 45.7**	**-0.5**
MOZS	**Mozjanca**	**0.70**	**358**	*e*	Pg	**Pg**	**13 27 37.2**	**-0.1**
MOZS					*e*Sg	**Sb**	**13 27 47.3**	**-0.3**
MOZS					IAML		13 27 49.4	
	comp=Z,44nm,0.1s							
OZLJ	**Ozalj**	**0.70**	**88**	*e*	Pg	**Pg**	**13 27 36.4**	**-0.9**
OZLJ					Sg	**Sg**	**13 27 46.2**	**-0.3**
SABO	**M.te Sabotino**	**0.72**	**302**	*e*	Pg	**Pg**	**13 27 36.9**	**-0.9**
SABO					*e*Sg	**Sg**	**13 27 47.1**	**-0.1**
SABO	**M.te Sabotino**	**0.72**	**302**		P	**Pg**	**13 27 36.3**	**-1.5**
SABO					S	**Sg**	**13 27 47.3**	**+0.1**
SABO					AML	AML		
	comp=E,3395μm,1.0s							
SABO					AML	AML		
	comp=N,3945μm,0.3s							
SABO					AML	AML		
	comp=E,747μm,1.0s							
SABO					AML	AML		
	comp=N,1060μm,0.3s							
SABO					AML	AML		
	comp=N,1743μm,0.7s							
SABO					AML	AML		
	comp=N,470μm,0.6s							
SABO					AML	AML		
	comp=E,1048μm,0.3s							
SABO					AML	AML		
	comp=E,231μm,0.3s							
CRES	**Cresnjev**	**0.73**	**71**	*e*	Pg	**Pg**	**13 27 37.4**	**-0.5**
CRES					*e*Sg	**Sg**	**13 27 47.5**	**+0.1**
CRES					IAML		13 27 51.1	
	comp=Z,80nm,0.2s							
CRES	**Cresnjev**	**0.73**	**71**	⇑*i*	Pg	**Pg**	**13 27 37.3**	**-0.6**
CRES					*e*Sg	**Sg**	**13 27 47.0**	**-0.5**
CESS	**Cesta pri Krsk**	**0.79**	**61**	*e*	Pg	**Pg**	**13 27 38.7**	**-0.4**
CESS					*e*Sg	**Sg**	**13 27 49.3**	**-0.1**
CESS					IAML		13 27 52.6	
	comp=Z,106nm,0.2s							
GORS	**Gorjuse**	**0.79**	**335**	*e*	Pg	**Pg**	**13 27 38.5**	**-0.6**
GORS					*e*Sg	**Sb**	**13 27 49.9**	**-0.5**
GORS					IAML		13 27 50.5	
	comp=Z,76nm,0.3s							
CADS	**Cadrg**	**0.81**	**321**	*e*	Pg	**Pg**	**13 27 38.1**	**-1.5**
CADS					*e*Sg	**Sb**	**13 27 50.6**	**-0.3**
CADS					IAML		13 27 52.1	
	comp=Z,105nm,0.4s							
DRE	**Drenchia**	**0.82**	**315**	*e*	Pg	**Pg**	**13 27 38.7**	**-1.0**
DRE					*e*Sg	**Sb**	**13 27 50.8**	**-0.2**
DRE	**Drenchia**	**0.82**	**315**		P	**Pg**	**13 27 38.2**	**-1.4**
DRE					S	**Sb**	**13 27 50.8**	**-0.2**
GCIS	**Gornji Cirnik**	**0.85**	**71**	*e*	Pg	**Pg**	**13 27 40.0**	**-0.3**
GCIS					*e*Sg	**Sn**	**13 27 53.3**	**-0.9**
GCIS					IAML		13 27 53.8	
	comp=Z,30nm,0.1s							
BRJN	**Brijuni**	**0.86**	**217**	*e*	Pg	**Pg**	**13 27 39.8**	**-0.6**
BRJN					Sg	**Sg**	**13 27 51.6**	**0.0**
BRJN	**Brijuni**	**0.86**	**217**		P	**Pg**	**13 27 39.8**	**-0.6**
BRJN					S	**Sg**	**13 27 51.7**	**+0.1**
RABC	**Rab**	**0.88**	**165**	*i*	Pg	**Pg**	**13 27 39.4**	**-1.3**
RABC					Sg	**Sb**	**13 27 52.8**	**+0.2**
DOBS	**Dobrina**	**0.89**	**51**	*e*	Pg	**Pg**	**13 27 40.5**	**-0.5**
DOBS					*e*Sg	**Sb**	**13 27 53.2**	**+0.1**
DOBS					IAML		13 27 56.2	
	comp=Z,102nm,0.2s							
GOLS	**Golise**	**0.91**	**62**	*e*	Pg	**Pg**	**13 27 40.9**	**-0.4**
GOLS					*e*Sg	**Sg**	**13 27 52.7**	**-0.4**
GOLS					IAML		13 27 56.7	
	comp=Z,82nm,0.2s							
OBKA	**Obir**	**0.91**	**3**		Pg	**Pg**	**13 27 41.1**	**-0.4**
	comp=Z,8.5nm,0.1s,SNR=64							
OBKA					*e*Sg	**Sb**	**13 27 53.6**	**-0.3**
	comp=Z,25nm,0.2s							
OBKA	**Obir**	**0.91**	**3**	⇑*i*	Pg	**Pg**	**13 27 40.7**	**-0.8**
OBKA					*e*Sg	**Sg**	**13 27 52.7**	**-0.7**
ROBS	**Robic**	**0.93**	**314**	*i*	Pg	**Pg**	**13 27 41.4**	**-0.5**
ROBS					*e*Sg	**Sb**	**13 27 54.2**	**-0.1**
ROBS					IAML		13 27 57.7	
	comp=Z,33nm,0.2s							
COLI	**Coloredo**	**0.93**	**305**	*e*	Pg	**Pg**	**13 27 40.8**	**-1.0**
COLI					*e*Sg	**Sb**	**13 27 54.5**	**+0.1**
A254A	**Petrova Gora**	**0.98**	**106**	*e*	Pg	**Pg**	**13 27 41.9**	**-0.9**
A254A					Sg	**Sg**	**13 27 54.3**	**-1.2**
BAD	**Bernadia**	**1.07**	**307**		P	**Pb**	**13 27 43.7**	**-0.6**
BAD					S	**Sg**	**13 27 58.9**	**+0.5**
NVLJ	**Novalja**	**1.07**	**165**	*e*	Pg	**Pb**	**13 27 43.0**	**-1.3**
NVLJ					Sg	**Sn**	**13 27 59.2**	**-0.3**
PLIT	**Plitvice**	**1.09**	**131**	*e*	Pg	**Pb**	**13 27 44.0**	**-0.6**
PLIT					Sg	**Sb**	**13 27 58.2**	**-0.6**
PTJ	**Puntijarka**	**1.09**	**73**	*e*	Pg	**Pn**	**13 27 44.9**	**-0.2**
PTJ					Sg	**Sn**	**13 27 59.6**	**-0.6**
PTCC	**Patocco-Chiusa**	**1.12**	**316**		P	**Pb**	**13 27 44.4**	**-0.8**
PTCC					S	**Sg**	**13 28 00.3**	**+0.2**
PTCC					AML	AML		
	comp=E,170μm,0.4s							
PTCC					AML	AML		
	comp=N,216μm,0.4s							
PTCC					AML	AML		
	comp=N,28μm,0.4s							
PTCC					AML	AML		
	comp=E,67μm,0.5s							
PTCC					END			
SOKA	**Soboth**	**1.15**	**20**	*e*	Pg	**Pb**	**13 27 45.1**	**-0.6**
	comp=E,4.9nm,0.2s,SNR=22							
SOKA					*e*Sn	**Sb**	**13 28 00.4**	**-0.3**
	comp=E,14nm,0.2s							
ACOM	**Acomizza, Ital**	**1.16**	**325**		P	**Pn**	**13 27 46.0**	**-0.1**
ACOM					S	**Sn**	**13 28 03.2**	**+1.1**
ACOM					AML	AML		
	comp=E,714μm,0.3s							
ACOM					AML	AML		
	comp=N,422μm,1.6s							
ACOM					AML	AML		
	comp=E,708μm,0.3s							
ACOM					AML	AML		
	comp=N,432μm,1.6s							
ACOM					AML	AML		
	comp=E,669μm,0.3s							
ACOM					AML	AML		
	comp=E,654μm,0.3s							
ACOM					AML	AML		
	comp=N,411μm,0.5s							
ACOM					AML	AML		
	comp=N,422μm,1.6s							
ACOM					END			
MYKA	**Terra Mystica**	**1.18**	**331**	*e*	Pg	**Pg**	**13 27 46.5**	**-0.1**
	comp=N,4.6nm,0.2s,SNR=9.0							
MYKA					*e*Sn	**Sg**	**13 28 02.1**	**+0.1**
	comp=N,21nm,0.2s							
BOO	**Bordano**	**1.20**	**308**		P	**Pn**	**13 27 46.4**	**-0.1**
BOO					S	**Sn**	**13 28 03.0**	**+0.3**
MPRI	**Monte Prat**	**1.22**	**302**		P	**Pb**	**13 27 47.0**	**+0.1**
MPRI					S	**Sn**	**13 28 04.3**	**+1.0**
MPRI					END			
LOBO	**Lobor**	**1.25**	**63**	*e*	Pg	**Pn**	**13 27 46.8**	**-0.4**
LOBO					Sg	**Sg**	**13 28 04.3**	**+0.3**
FUSE	**Fusea**	**1.31**	**309**		P	**Pn**	**13 27 48.0**	**0.0**
FUSE					S	**Sg**	**13 28 06.7**	**+0.7**
PLRO	**Paularo**	**1.32**	**316**		P	**Pb**	**13 27 48.9**	**+0.1**
PLRO					S	**Sg**	**13 28 07.7**	**+1.1**
VIRC	**Vir**	**1.37**	**162**	*e*	Sg	**Sg**	**13 28 07.8**	**-0.1**
CLUD	**Cludinico**	**1.40**	**308**		P	**Pb**	**13 27 49.8**	**-0.2**
CLUD					S	**Sg**	**13 28 09.1**	**+0.1**
CLUD					AML	AML		
	comp=E,293μm,0.7s							
CLUD					AML	AML		
	comp=N,196μm,0.7s							
CLUD					AML	AML		
	comp=N,48μm,0.5s							
CLUD					AML	AML		
	comp=E,38μm,0.6s							
CLUD					AML	AML		
	comp=N,60μm,0.5s							
CLUD					AML	AML		
	comp=E,261μm,0.5s							
CLUD					END			
UDBI	**Udbina**	**1.41**	**139**	*e*	Pn	**Pg**	**13 27 50.5**	**-0.4**
UDBI					Sg	**Sg**	**13 28 09.5**	**+0.3**
ZOU	**Zoufplan**	**1.42**	**313**		P	**Pb**	**13 27 50.2**	**-0.2**
ZOU					S	**Sg**	**13 28 10.4**	**+0.9**
ZOU					AML	AML		
	comp=E,206μm,0.9s							
ZOU					AML	AML		
	comp=N,317μm,1.4s							
ZOU					AML	AML		
	comp=E,205μm,1.1s							
ZOU					AML	AML		
	comp=N,312μm,1.4s							
ZOU					AML	AML		
	comp=N,40μm,0.0s							
ZOU					AML	AML		
	comp=E,14μm,0.2s							
ZOU					AML	AML		
	comp=N,59μm,0.0s							
ZOU					AML	AML		
	comp=E,12μm,0.2s							
ZOU					END			
KALN	**Kalnik**	**1.48**	**68**	*e*	Pn	**Pb**	**13 27 51.5**	**+0.1**
KALN					Sg	**Sg**	**13 28 11.2**	**-0.5**
FVI	**Forni Avoltri**	**1.54**	**311**		P	**Pb**	**13 27 52.2**	**-0.2**
FVI					S	**Sg**	**13 28 14.0**	**+0.4**
FVI					AML	AML		
	comp=E,401μm,0.3s							
FVI					AML	AML		
	comp=N,346μm,1.4s							
FVI					AML	AML		
	comp=E,401μm,0.3s							
FVI					AML	AML		
	comp=N,282μm,0.5s							
FVI					END			
MOSL	**Moslavina**	**1.60**	**89**	*e*	Pn	**Pb**	**13 27 53.0**	**-0.4**
DUGI	**Dugi Otok**	**1.66**	**165**	*e*	Pn	**Pn**	**13 27 53.3**	**+0.5**
DUGI					Sn	**Sb**	**13 28 15.2**	**0.0**
KBA	**Koelnbreinsper**	**1.67**	**333**	*e*	Pg	**Pb**	**13 27 54.9**	**+0.2**
	comp=N,4.0nm,0.3s,SNR=6.5							
KBA					Sn	**Sb**	**13 28 15.7**	**-0.2**
	comp=N,5.4nm,0.4s,SNR=4.6							
ABTA	**Abfaltersbach**	**1.78**	**311**	*e*	Pg	**Pb**	**13 27 56.5**	**0.0**
	comp=N,12nm,0.4s,SNR=22							
ABTA					Sg	**Sg**	**13 28 21.5**	**+0.3**
	comp=N,25nm,0.3s							
ARSA	**Arzberg**	**1.81**	**23**	*e*	Pg	**Pb**	**13 27 57.4**	**+0.5**
	comp=N,3.7nm,0.3s,SNR=4.4							
ARSA					Sn	**Sn**	**13 28 17.6**	**-0.2**
	comp=N,7.3nm,0.3s,SNR=7.0							
ARSA	**Arzberg**	**1.81**	**23**	*e*	Pn	**Pb**	**13 27 56.2**	**-0.7**
ARSA					*e*Sn	**Sb**	**13 28 19.1**	**-0.4**
A051A	**Mrakovica**	**1.81**	**108**	*e*	Pn	**Pb**	**13 27 56.5**	**-0.6**
A051A					*e*Sn	**Sb**	**13 28 19.9**	**+0.1**
BEHE	**Becsehely**	**1.83**	**61**	*e*	Pn	**Pb**	**13 27 56.6**	**-0.6**
BEHE					*e*Sn	**Sb**	**13 28 20.4**	**+0.4**
A050A	**Klekovaca**	**1.84**	**127**	⇓*i*	Pn	**Pb**	**13 27 56.5**	**-0.9**
A050A					*e*Sn	**Sb**	**13 28 19.6**	**-0.8**
MORI	**Morici**	**1.94**	**153**		Sn	**Sb**	**13 28 23.4**	**0.0**
BLY	**Banja Luka**	**2.10**	**113**	*e*	Pn	**Pb**	**13 28 00.3**	**-1.5**
BLY					*e*Sn	**Sn**	**13 28 26.2**	**+1.3**
ZIRJ	**Zirje**	**2.12**	**156**	*i*	Pn	**Pn**	**13 27 59.9**	**+0.9**
ZIRJ					Sn	**Sb**	**13 28 27.4**	**-0.9**
RISI	**Rein**	**2.14**	**310**		P	**Pn**	**13 28 00.3**	**+0.7**
BIOA	**Bad Ischl, Aus**	**2.17**	**345**	*e*	Pn	**Pn**	**13 27 58.7**	**-1.1**
	comp=N,0.9nm,0.2s							
MGRS	**Mrkonjic Grad**	**2.20**	**122**	*e*	Pn	**Pn**	**13 28 01.5**	**+1.3**
MGRS					*e*Sn	**Sn**	**13 28 28.5**	**+1.1**
MOA	**Molln**	**2.26**	**356**	*e*	Pn	**Pn**	**13 28 00.2**	**-0.9**
	comp=N,0.4nm,0.2s							
RONA	**Rosalia, Austr**	**2.45**	**30**	*e*	Pn	**Pn**	**13 28 03.1**	**-0.6**
	comp=N,0.1nm,0.0s							
SRKY	**Kupres RS**	**2.45**	**128**	*e*	Pn	**Pn**	**13 28 05.0**	**+1.2**
SRKY					*e*Sn	**Sn**	**13 28 35.6**	**+1.9**
CONA	**Conrad Observa**	**2.52**	**22**		Pn	**Pn**	**13 28 04.2**	**-0.5**
	comp=N,0.8nm,0.2s							
WTTA	**Wattenberg**	**2.57**	**311**	*e*	Pg	**Pb**	**13 28 11.2**	**+1.2**
	comp=N,0.4nm,0.1s							
WATA	**Walderalm**	**2.65**	**312**	*e*	Pn	**Pn**	**13 28 05.7**	**-0.9**
	comp=N,0.4nm,0.2s							
SQTA	**Sankt Quirin**	**2.78**	**307**	*e*	Pn	**Pn**	**13 28 10.5**	**+2.2**
	comp=N,0.2nm,0.1s							
RICI	**Ricice**	**2.84**	**137**	*e*	Pn	**Pn**	**13 28 11.0**	**+2.1**
RICI					Sn	**Sn**	**13 28 45.3**	**+2.2**
MOTA	**Moosalm**	**2.91**	**308**	*e*	Pn	**Pn**	**13 28 10.3**	**+0.2**
	comp=N,0.3nm,0.1s							
MAKA	**Makarska**	**2.94**	**141**		Sn	**Sn**	**13 28 47.7**	**+2.0**
FETA	**Feichten**	**2.96**	**300**		Pg	**Pb**	**13 28 17.8**	**+1.2**
	comp=N,3.6nm,0.5s							
MORH	**Mrgy, Hungar**	**2.98**	**77**	*e*	Pn	**Pn**	**13 28 12.1**	**+1.2**
RETA	**Reutte**	**3.18**	**308**	*i*	Pn	**Pn**	**13 28 13.3**	**-0.5**
	comp=N,0.2nm,0.1s							
CKRC	**Cesky Krumlov**	**3.23**	**358**	*e*SG		**Sg**	**13 29 07.2**	**-0.2**
LSTV	**Lastovo**	**3.32**	**148**	*e*Pn		**Pn

HUSU	**Husum**	**2.86 310**	SG	Sb	13 35 38.3	+0.9
MTSE	**Matsula**	**2.88 183**	SB	Sn	13 35 34.9	+2.6
GRAU	**Graesoe**	**2.97 248**	P	Pn	13 34 58.3	-0.1
GRAU			S	Sn	13 35 35.3	+0.7
FORU	**Forsmark**	**3.11 250**	P	Pn	13 35 00.5	+0.3
ARNU	**Arnoeviken**	**3.20 275**	P	Pn	13 35 02.8	+1.4
HASU	**Hassela**	**3.58 282**	P	Pn	13 35 07.5	+0.9
OSTU	**Oestervaala**	**3.65 251**	P	Pn	13 35 08.9	+1.3
FIBU	**Brunna**	**3.70 246**	P	Pn	13 35 08.8	+0.5

*IDC **04** 13:39:05.1±2.0, 11°.30S×161°.18E, h0km, mb3.4/4, mbtmp3.5/5, ML4.3/2, Error ellipse: s-maj=49.0km s-min=24.8km az=75.0*

ISC 04 13:39:09.2±1.3, **11°.3S**±0°.2×**161°.3E**±0°.3, **h35**km, **n6,** σ1§**80**/7, **mb3.3**/4, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.29 325**		Pn	**Pn**	**13 39 42.0**	**-2.6**
	484nm,0.3s,baz=153,slow=11,SNR=19						
HNR				Sn	**Sn**	**13 40 12.2**	**+0.7**
	360nm,0.3s,baz=195,slow=20,SNR=2.0						
DZM	**Mont Dzumac**	**11.78 156**		Pn	**Pn**	**13 41 54.0**	**-0.9**
	0.4nm,0.3s,baz=45,slow=12,SNR=43						
	2.2nm,0.4s						
WRA	**Warramunga Arr**	**27.30 248**		P	**P**	**13 44 50.5**	**-0.4**
	0.3nm,0.7s,baz=75,slow=8.5,SNR=1.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**28.80 241**		P	**P**	**13 45 04.6**	**+0.4**
	0.1nm,0.4s,baz=66,slow=10,SNR=1.3						
	0.1nm,0.4s						
SONM	**Songino Array**	**76.35 325**		P	**P**	**13 50 56.1**	**+1.2**
	0.4nm,0.5s,baz=130,slow=5.8,SNR=1.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**90.75 318**		P	**P**	**13 52 10.5**	**+1.8**
	0.2nm,0.8s,baz=102,slow=6.6,SNR=1.6						
	0.2nm,0.8s						

*IDC **04** 13:40:18.4±3.5, 5°.52S×153°.08E, h45km±29km, mb3.7/11, mbtmp4.0/12, ML1.6/1, MS3.4/5, Error ellipse: s-maj=31.9km s-min=12.0km az=96.0*

ISC 04 13:40:17.5±0.8, **5°.52S**±0°.08×**153°.1E**±0°.1, **h37**km, **n18,** σ0§**70**/16, **mb3.9**/11, **MS3.0**/3, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.62 318**		P	**Pn**	**13 40 43.2**	**-0.3**
	589nm,0.3s,baz=265,slow=1.8,SNR=144						
KRVT				S	**Sn**	**13 41 03.8**	**+0.6**
	1µm,0.4s,baz=232,slow=18,SNR=19						
KRVT				LR	LR	13 41 13.5	
	comp=Z,464nm,18.7s,baz=112,slow=34						
PMG	**Port Moresby**	**7.06 236**		P	**Pn**	**13 41 57.5**	**-0.8**
	0.6nm,0.3s,baz=326,slow=7.3,SNR=1.7						
PMG				S	**Sn**	**13 43 18.4**	**+1.1**
	36nm,0.9s,baz=343,slow=23,SNR=8.8						
	2.5nm,0.4s						
HNR	**Honiara**	**7.81 120**		LR	LR	13 45 43.2	
	comp=Z,2µm,19.0s,baz=324,slow=41						
CTA	**Charters Tower**	**15.95 204**		LR	LR	13 50 04.2	
	comp=Z,77nm,19.2s,baz=78,slow=37						
GUMO	**Guam**	**20.67 337**		LR	LR	13 53 32.8	
	comp=Z,42nm,18.7s,baz=137,slow=38						
WRA	**Warramunga Arr**	**23.22 230**		P	**P**	**13 45 21.8**	**+0.3**
	2.4nm,0.8s,baz=55,slow=10,SNR=9.8						
WRA				LR	LR	13 54 04.7	
	comp=Z,54nm,20.3s,baz=63,slow=36						
	2.4nm,0.8s						
ASAR	**Alice Springs**	**25.85 224**		P	**P**	**13 45 46.1**	**+0.4**
	1.2nm,0.9s,baz=61,slow=9.0,SNR=9.0						
	1.2nm,0.9s						
STKA	**Stephens Creek**	**28.36 201**		LR	LR	13 57 14.5	
	comp=Z,58nm,19.5s,baz=24,slow=36						
CMAR	**Chiang Mai Arr**	**58.47 295**		P	**P**	**13 50 10.3**	**0.0**
	0.9nm,0.7s,baz=112,slow=5.5,SNR=5.4						
	0.9nm,0.7s						
PETK	**Petropavlovsk-**	**58.53 3**		P	**P**	**13 50 10.6**	**+0.6**
	6.6nm,0.8s,baz=175,slow=6.6,SNR=16						
	6.6nm,0.8s						
SONM	**Songino Array**	**67.09 328**		P	**P**	**13 51 06.5**	**-0.8**
	0.2nm,0.3s,baz=132,slow=4.3,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**81.07 319**		P	**P**	**13 52 27.5**	**-1.3**
	0.3nm,0.6s,baz=129,slow=5.0,SNR=2.3						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**81.92 326**		P	**P**	**13 52 32.8**	**-0.4**
	2.8nm,0.8s,baz=112,slow=5.9,SNR=10.0						
	2.8nm,0.8s						
ILAR	**Eielson Array**	**82.70 22**		P	**P**	**13 52 37.0**	**0.0**
	1.1nm,0.9s,baz=254,slow=4.8,SNR=8.8						
	1.1nm,0.9s						
QSPA	**South Pole Qui**	**84.45 180**		P	**P**	**13 52 46.5**	**+0.3**
	1.0nm,0.9s,baz=298,slow=6.6,SNR=2.6						
	1.0nm,0.9s						
NRIK	**Noril'sk**	**86.74 341**		P	**P**	**13 52 57.5**	**+0.2**
	0.7nm,0.3s,baz=62,slow=5.0,SNR=1.8						
	0.7nm,0.3s						
YKA	**Yellowknife Ar**	**95.91 28**		P	**P**	**13 53 40.8**	**+0.8**
	0.4nm,0.8s,baz=266,slow=4.7,SNR=6.0						
	0.4nm,0.8s						
BDFB	**Brasilia**	**150.34 135**		PKPbc	**PKPbc**	**14 00 05.6**	**-0.5**
	1.7nm,0.6s,baz=155,slow=12,SNR=1.7						

*SOME **04** 14:09:48.0, 41°.97N×82°.57E, h5km*
*NNC **04** 14:09:50.9±1.6, 42°.00N×82°.49E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.5km s-min=7.2km az=165.0*

ISC 04 14:09:47.2±3.9, **42°.0N**±0°.2×**82°.8E**±0°.2, **h10**km, **n19,** σ1§**59**/20, **1C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.73 296**		Pg	**Pn**	**14 10 32.0**	**+0.7**
	7.9nm,0.3s						
SHLS				Lg	Lg	14 11 04.3	
	53nm,0.3s						
SHLS	**Shalkode**	**2.73 296**		*e*Pg	**Pn**	**14 10 32.0**	**+0.7**
	7.9nm,0.3s						
SHLS				*e*Lg	Lg	14 11 04.3	
	53nm,0.3s						
UZB	**Uzynbulak**	**3.03 294**		Pg	**Pb**	**14 10 42.0**	**+0.8**
	10nm,0.4s						
UZB				Lg	Lg	14 11 20.7	
	46nm,0.5s						
UZB	**Uzynbulak**	**3.03 294**		*e*Pg	**Pb**	**14 10 42.0**	**+0.8**
	10nm,0.4s						
UZB				*e*Lg	Lg	14 11 20.7	
	46nm,0.5s						
DJR	**Jarkent**	**3.22 318**		Pg	**Pb**	**14 10 45.9**	**+1.3**
	3.2nm,0.3s						
DJR				Lg	Lg	14 11 27.3	
	12nm,0.5s						
DJR	**Jarkent**	**3.22 318**		*e*Pg	**Pb**	**14 10 45.9**	**+1.3**
	3.2nm,0.3s						
DJR				*e*Lg	Lg	14 11 27.3	
	12nm,0.5s						
KPKS	**Kokpek**	**3.38 297**		Pg	**Pb**	**14 10 48.4**	**+1.2**
	12nm,0.4s						
KPKS				Lg	Lg	14 11 32.0	
	39nm,0.3s						
KPKS	**Kokpek**	**3.38 297**		*e*Pg	**Pb**	**14 10 48.4**	**+1.2**
	12nm,0.4s						
KPKS				*e*Lg	Lg	14 11 32.0	
	39nm,0.3s						
ZHN	**Zhinishke**	**3.44 292**		Pg	**Pb**	**14 10 49.0**	**+0.8**
	6.1nm,0.4s						
ZHN				Lg	Lg	14 11 33.0	
	38nm,0.3s						
ZHN	**Zhinishke**	**3.44 292**		*e*Pg	**Pb**	**14 10 49.0**	**+0.8**
	6.1nm,0.4s						
ZHN				*e*Lg	Lg	14 11 33.0	
	38nm,0.3s						
BLB	**Baldybastay**	**3.81 305**		Pg	**Pb**	**14 10 55.7**	**+1.1**
BLB				Lg	Lg	14 11 44.4	
MDOK	**Medeo**	**4.41 287**		Pg	**Pg**	**14 11 08.8**	**-2.9**
	2.8nm,0.6s						
MDOK				Lg	Lg	14 11 60.0	
	14nm,0.9s						
MDOK	**Medeo**	**4.41 287**		*e*Pg	**Pb**	**14 11 05.3**	**+0.4**
	1.9nm,0.4s						
MDOK				*e*Lg	Lg	14 12 00.6	
	11nm,0.9s						
TNSS	**Tian-Shan**	**4.46 286**		Pg	**Pb**	**14 11 08.2**	**+2.4**
	3.0nm,0.5s						
TNSS				Lg	Lg	14 12 05.3	
	6.2nm,0.7s						
TNSS	**Tian-Shan**	**4.46 286**		*e*Pg	**Pb**	**14 11 08.2**	**+2.4**
	3.0nm,0.5s						
TNSS				*e*Lg	Lg	14 12 05.3	
	6.2nm,0.7s						
MK31	**Makanchi Array**	**4.82 356**		⇑Pn	Pn	14 11 05.6	+5.8
	0.2nm,0.2s,baz=184,slow=12,SNR=8.6						
MK31				⇓Pg	**Pg**	**14 11 18.3**	**-1.2**
	1.6nm,0.4s,baz=176,slow=18,SNR=17						
MK31				⇓Lg	Lg	14 12 24.9	
	9.1nm,0.7s,baz=176,slow=28,SNR=4.5						
MTBS	**Maitube**	**4.85 286**		*e*Pg	**Pb**	**14 11 13.7**	**+1.4**
	1.9nm,0.3s						
MTBS				*e*Lg	Lg	14 12 14.9	
	7.0nm,0.5s						
ZSN	**Zaisan**	**5.65 14**		Pg	**Pg**	**14 11 33.5**	**-2.0**
ZSN				Lg	Lg	14 12 49.2	
ZSN	**Zaisan**	**5.65 14**		*e*P	**Pg**	**14 11 33.5**	**-2.0**
ZSN				*e*S	**Sg**	**14 12 49.2**	**+0.5**

*NEIC **04** 14:10:22.6±1.6, 10°.6S±0°.1×161°.3E±0°.1, h39km±14km, mb4.4/10, Error ellipse: s-maj=27.7km s-min=5.0km az=220.0*
*IDC **04** 14:10:24.1±2.8, 10°.60S×161°.19E, h54km±33km, mb3.6/4, mbtmp3.9/5, ML3.5/1, MS3.1/1, Error ellipse: s-maj=59.4km s-min=19.4km az=46.0*

ISC 04 14:10:23.6±1.1, **10°.6S**±0°.1×**161°.4E**±0°.1, **h61**km, **n21,** σ1§**31**/23, **mb4.1/7, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.77 309**		P	**Pn**	**14 10 51.0**	**-1.0**
	2µm,0.3s,baz=186,slow=14,SNR=17						
HNR				S	**Sn**	**14 11 11.8**	**-1.7**
	21µm,0.4s,baz=360,slow=19,SNR=8.6						
HNR				LR	LR	14 11 45.6	
	comp=Z,2µm,19.6s,baz=140,slow=48						
HNR	**Honiara**	**1.77 309**		Pn	**Pn**	**14 10 50.8**	**-1.3**
HNR				Sn	**Sn**	**14 11 12.5**	**-1.0**
KOUNC	**Koumac, New Ca**	**10.34 164**		Pn	**Pn**	**14 12 47.4**	**-1.9**
LIFNC	**LIFOU**	**11.64 152**		Pn	**Pn**	**14 13 06.0**	**-1.1**
DZM	**Mont Dzumac**	**12.46 158**		P	**Pn**	**14 13 18.7**	**+0.4**
	0.3nm,0.3s,baz=346,slow=7.1,SNR=16						
DZM				S	**Sn**	**14 15 33.4**	**-2.1**
	4.2nm,0.8s,baz=269,slow=24,SNR=1.5						
	5.5nm,0.8s						
DZM	**Mont Dzumac**	**12.46 158**		Pn	**Pn**	**14 13 15.6**	**-2.7**
CTA	**Charters Tower**	**17.36 235**		LR	LR	14 20 23.9	
	comp=Z,60nm,20.6s,baz=84,slow=35						
CTAO	**Charters Tower**	**17.36 235**		P	**P**	**14 14 24.3**	**+1.8**
CTAO				IAmb	IAmb	14 14 27.7	
	comp=Z,7.6nm,0.9s						
PATS	**Pohnpei**	**17.53 350**		P	**Pn**	**14 14 24.9**	**+0.9**
COEN	**Coen**	**18.08 257**		P	**Pn**	**14 14 31.1**	**+0.4**
WB0	**Warramunga Arr**	**27.55 247**		P	**P**	**14 16 04.7**	**-0.3**
WB0				IAmb	IAmb	14 16 47.9	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**27.65 247**		P	**P**	**14 16 05.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=75,slow=9.1,SNR=5.5						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**29.22 240**		P	**P**	**14 16 19.2**	**-0.7**
ASAR	**Alice Springs**	**29.23 240**		P	**P**	**14 16 19.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=64,slow=10,SNR=16						
	comp=Z,0.5nm,0.6s						
TOO	**Toolangi**	**30.46 205**		P	**P**	**14 16 30.9**	**+0.3**
TOO				IAmb	IAmb	14 16 53.5	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**32.14 223**		P	**P**	**14 16 45.9**	**+0.4**
BBOO				IAmb	IAmb	14 17 20.4	
	comp=Z,26nm,1.4s						
CASY	**Casey**	**65.31 200**		P	**P**	**14 21 00.3**	**+1.3**
VNDA	**Vanda**	**66.96 180**		P	**P**	**14 21 10.8**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=8.0,slow=5.5,SNR=1.7						
	comp=Z,0.8nm,0.8s						
VNDA	**Vanda**	**66.96 180**		P	**P**	**14 21 10.3**	**+1.0**
VNDA				IAmb	IAmb	14 21 41.5	
	comp=Z,4.8nm,1.4s						
QSPA	**South Pole Qui**	**79.45 180**		P	**P**	**14 22 24.1**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=5.2,slow=11,SNR=6.5						
	comp=Z,1.5nm,1.0s						
QSPA	**South Pole Qui**	**79.45 180**		P	**P**	**14 22 24.0**	**+0.6**
QSPA				IAmb	IAmb	14 23 07.6	
	comp=Z,5.2nm,1.4s						

*DMN **04** 14:12:44.7±0.4, 31°.42N×83°.07E, h30km, Ml4.7/10, Error ellipse: s-maj=9.0km s-min=6.1km az=84.0*
*IDC **04** 14:12:50.6±0.4, 30°.58N×83°.88E, h0km, mb4.4/39, mbtmp4.4/42, ML3.9/3, MS3.9/49, Error ellipse: s-maj=11.4km s-min=9.8km az=2.0*
*MOS **04** 14:12:52.6±1.1, 30°.63N×83°.76E, h23km, mb4.9/41, MS4.0/6, Error ellipse: s-maj=7.1km s-min=4.4km az=116.2*
*NEIC **04** 14:12:52.3±1.8, 30°.50N±0°.08×83°.73E±0°.09, h10km±1km, mb4.7/62, Error ellipse: s-maj=15.1km s-min=11.0km az=229.0*
*NDI **04** 14:12:52.9±6.0, 30°.52N×83°.87E, h10km±57km, mb4.6, ML4.2, mb4.7(NEIC)*
*BJI **04** 14:12:55.3±0.3, 30°.43N±0°.02×83°.87E±0°.02, h19km±1km, MW4.8/85, Moment Tensor Solution. s14,c15; s85,c118; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.58±.10; Mθθ-1.49±.09; Mφφ0.91±.07; Mrθ0.28±.16; Mφθ-1.43±.06; Mφr-0.42±.17; Best double couple: M0 1.97300×10^16 NP1:φs108.00000°, δ76.00000°, λ163.00000°. NP2: φs202.00000°, δ73.00000°, λ15.00000°. Principal axes: T 1.7880, Plg22.0000°, Azm65.0000°; N 0.3720, Plg67.0000°, Azm249.0000°; P -2.1580, Plg2.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 14:12:51.0±0.7, **30°.59N**±0°.03×**83°.76E**±0°.03, **h1**km±4km, **n471,** σ1§**76**/520, **mb4.7**/106, **MS4.0**/67, **15C-18D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**2.23 180**		*e*Pg	**Pb**	**14 13 31.4**	**-0.8**
DANN				*e*Sg	**Sg**	**14 14 03.9**	**+1.2**
DANN	**Dangsing**	**2.23 180**		*e*Pg	**Pb**	**14 13 31.5**	**-0.8**
DANN				*e*Sg	**Sg**	**14 14 04.2**	**+1.5**
	10µm,0.8s						
GKN	**Gorkha**	**2.69 163**		*e*Pn	**Pb**	**14 13 38.5**	**-1.4**
GKN				*e*Sn	**Sg**	**14 14 17.6**	**+0.2**
	994nm,0.3s						
GKN	**Gorkha**	**2.69 163**		*e*Pg	**Pb**	**14 13 38.6**	**-1.4**
GKN				*e*Sg	**Sg**	**14 14 17.6**	**+0.2**
	2µm,0.5s						
KOLN	**Koldanda**	**2.81 183**		*e*Pn	**Pb**	**14 13 40.0**	**-2.2**
KOLN				*e*Sn	**Sb**	**14 14 17.3**	**+0.2**
	511nm,0.9s						
KOLN				*e*Sn	**Sg**	**14 14 17.6**	**-3.7**
	518nm,1.3s						
KOLN				*e*Sn	**Sn**	**14 14 18.5**	**+6.6**
	2µm,0.8s						
KOLN	**Koldanda**	**2.81 183**		*e*Pg	**Pb**	**14 13 39.9**	**-2.2**
KOLN				*e*Sg	**Sb**	**14 14 17.4**	**+0.3**
KKN	**Kakani**	**3.09 154**		*e*Pn	**Pn**	**14 13 43.8**	**+2.7**
KKN				*e*Sn	**Sg**	**14 14 28.7**	**-1.6**
KKN	**Kakani**	**3.09 154**		*e*Pg	**Pn**	**14 13 43.9**	**+2.8**
KKN				*e*Sg	**Sg**	**14 14 29.4**	**-0.9**
DMN	**Daman**	**3.19 158**		*e*Pn	**Pn**	**14 13 45.5**	**+2.9**
DMN				*e*Sn	**Sg**	**14 14 31.2**	**-2.4**
	3µm,0.9s						
DMN	**Daman**	**3.19 158**		*e*Pg	**Pn**	**14 13 45.5**	**+2.9**
DMN				*e*Sg	**Sb**	**14 14 30.4**	**+2.2**
	606nm,0.5s						
LGTI	**Lohaghat**	**3.25 250**		*ex*	**Pg**	**14 13 52.1**	**-1.2**
VLK	**Valmikinagar**	**3.26 178**		*e*P	**Pn**	**14 13 45.3**	**+2.1**
VLK				*e*S	**Sn**	**14 14 25.7**	**+3.0**
VLK				IAML		14 14 34.5	
	comp=N,3µm,1.2s						
VLK				IAML		14 14 35.6	
	comp=E,3µm,0.9s						
PKIN	**Phulchoki**	**3.32 154**		*e*Pn	**Pn**	**14 13 47.1**	**+2.7**
PKIN				*e*Sn	**Sb**	**14 14 34.3**	**+2.3**
	comp=E,2µm,1.0s						
PKIN	**Phulchoki**	**3.32 154**		*e*Pg	**Pn**	**14 13 47.2**	**+2.8**
PKIN				*e*Sg	**Sg**	**14 14 36.0**	**-1.9**
	comp=E,680nm,0.6s						
PKI	**Pulchoki**	**3.33 154**		*e*Pn	**Pn**	**14 13 47.3**	**+2.7**
PKI				*e*Sn	**Sb**	**14 14 33.9**	**+1.6**
	comp=E,2µm,1.0s						
PKI	**Pulchoki**	**3.33 154**		*e*Pg	**Pn**	**14 13 47.4**	**+2.8**
PKI				*e*Sg	**Sg**	**14 14 37.2**	**-1.0**
JIRN	**Jiri**	**3.61 143**		*e*Pn	**Pn**	**14 13 51.5**	**+3.2**
JIRN				*e*Sn	**Sb**	**14 14 40.3**	**0.0**
	comp=E,658nm,0.8s						
JIRN	**Jiri**	**3.61 143**		*e*Pg	**Pn**	**14 13 51.6**	**+3.2**
JIRN				*e*Sg	**Sb**	**14 14 43.6**	**+3.3**
	comp=E,501nm,0.5s						
RAMN	**Ramite**	**4.40 145**		*e*Pn	**Pn**	**14 14 01.2**	**+2.1**
RAMN				*e*Sn	**Sb**	**14 15 00.5**	**-2.4**
	comp=E,406nm,0.8s						
RAMN	**Ramite**	**4.40 145**		*e*Pg	**Pn**	**14 14 01.0**	**+1.9**
RAMN				*e*Sg	**Sn**	**14 14 56.2**	**+5.1**
TAPN	**Taplejung**	**4.73 132**		*e*Pn	**Pn**	**14 14 06.4**	**+2.6**
TAPN	**Taplejung**	**4.73 132**		*e*Pg	**Pn**	**14 14 06.7**	**+2.9**
TAPN				*e*Sg	**Sb**	**14 15 09.1**	**-3.4**
	comp=E,2µm,1.2s						
ODAN	**Odare**	**4.89 138**		*e*Pn	**Pn**	**14 14 08.3**	**+2.4**
ODAN				*e*Sn	**Sb**	**14 15 11.9**	**-5.2**
	comp=E,128nm,0.9s						
ODAN	**Odare**	**4.89 138**		*e*Pg	**Pn**	**14 14 08.7**	**+2.8**
ODAN				*e*Sg	**Sb**	**14 15 12.4**	**-4.7**
DDI	**Dehra Dun**	**4.93 268**		*e*P	Pb	14 14 13.3	-4.9
DDI				*i* x	x	14 14 26.6	
SMLA	**Simla**	**5.69 277**		*e*P	**Pn**	**14 14 20.2**	**+3.5**
SMLA				IAML		14 16 07.9	
	comp=N,196nm,1.2s						
SMLA				IAML		14 16 22.9	
	comp=E,149nm,1.2s						
NDI	**New Delhi**	**6.00 253**		*e*P	**Pn**	**14 14 22.6**	**+1.7**
NDI				*e*P	**Pn**	**14 14 25.5**	**+4.6**
SONA	**Sohna**	**6.27 250**		*e*P	**Pn**	**14 14 28.3**	**+3.7**
BHK	**Bhakra**	**6.36 279**		IAMs_20	IAMs_20	14 16 58.2	
	comp=Z,6µm,7.7s						
LSA	**Lhasa**	**6.46 96**		Pn	**Pn**	**14 14 30.5**	**+2.8**
LSA	**Lhasa**	**6.46 96**		Pn	**Pn**	**14 14 31.4**	**+3.7**
LSA				Sn	**Sn**	**14 15 45.2**	**+2.9**
LSA				LR	LR		
	comp=Z,4µm,8.5s						
LSA				LR	LR		
	comp=Z,4µm,10.0s						
LSA				LR	LR		
	comp=Z,6µm,9.3s						
LSA	**Lhasa**	**6.46 96**		P	**Pn**	**14 14 30.5**	**+2.8**
KUDL	**Kundal**	**6.79 251**		*e*P	**Pn**	**14 14 33.8**	**+2.0**
JHNI	**Jhansi**	**6.88 223**		*e*P	**Pn**	**14 14 35.9**	**+3.0**
JHNI				IAmb	IAmb	14 14 40.7	
	comp=Z,67nm,0.6s						
JHNI				IAMs_20	IAMs_20	14 17 53.6	
	comp=Z,2µm,7.8s						
BOK	**Bokaro**	**7.03 164**		*e*P	**Pn**	**14 14 36.0**	**+0.9**
BOK				*ex*	x	14 14 36.1	
JBP	**Jabalpur**	**8.12 205**		*e*P	**Pn**	**14 14 47.5**	**-2.5**
JBP				*ex*	x	14 14 47.5	
	baz=24,slow=22						
JBP				*e*S	**Sn**	**14 16 22.2**	**-0.3**
SHL	**Shillong**	**8.74 123**		*e*P	**Pn**	**14 14 58.4**	**-0.4**
SHL				*ex*	x	14 17 28.3	
SHL				IAMs_20	IAMs_20	14 18 11.3	
	comp=Z,3µm,9.8s						
TEZP	**TEZPUR**	**8.88 114**		*e*P	**Pn**	**14 15 00.3**	**-0.1**
AJM	**Ajmer**	**9.00 245**		*e*P	**Pn**	**14 15 05.2**	**+3.1**
AJM				IAmb	IAmb	14 15 08.0	
	comp=Z,54nm,0.6s						
BHPL	**Bhopal**	**9.24 219**		*e*P	**Pn**	**14 15 05.0**	**-0.5**
ZIRO	**ZIRO**	**9.34 107**		*e*P	**Pn**	**14 15 06.2**	**-0.7**
CHCP	**Chirah Chowk**	**9.41 292**		P	**Pn**	**14 15 08.5**	**+0.7**
MOKO	**MOKOCHONG**	**10.38 112**		*e*P	**Pn**	**14 15 20.1**	**-1.0**
MOKO				*ex*	x	14 17 13.9	
THW	**Thamme Wali**	**10.47 285**		P	**Pn**	**14 15 23.0**	**+0.7**
CEP	**Cherat**	**10.54 291**		P	**Pn**	**14 15 25.1**	**+1.7**
CEP				S	**Sn**	**14 17 15.0**	**-7.2**
BRDH	**Bariadhala**	**10.57 136**		LR	LR	14 20 31.3	
	comp=Z,755nm,18.0s,baz=342,slow=44						
IMP	**Imphal**	**10.69 120**		*e*P	**Pn**	**14 15 25.8**	**+0.4**
GOMU	**GeErMu**	**10.80 56**		P	**Pn**	**14 15 29.9**	**+2.8**
GOMU				S	**Sn**	**14 17 32.2**	**+3.4**
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,86nm,3.9s						
GOMU				LR	LR		
	comp=Z,840nm,11.2s						
GOMU				LR	LR		
	comp=Z,970nm,13.5s						
GOMU				LR	LR		
	comp=Z,1µm,11.9s						
KSH	**Kashi**	**10.95 327**		P	**Pn**	**14 15 28.5**	**-0.4**
KSH				sP		14 15 34.2	
KSH				S	**Sn**	**14 17 29.8**	**-2.4**
KSH				pmax	pmax		
	comp=Z,40nm,0.6s						
KSH				LR	LR		
	comp=Z,1µm,11.3s						
KSH				LR	LR		
	comp=Z,3µm,11.2s						
KSH				LR	LR		
	comp=Z,1µm,10.5s						
SAIH	**SAIHA**	**11.54 132**		*e*P	**Pn**	**14 15 37.9**	**+0.9**
AKL	**Akola**	**11.56 213**		*e*P	**Pn**	**14 15 37.3**	**0.0**
AKL				IAmb	IAmb	14 15 40.8	
	comp=Z,92nm,1.2s						
TARG	**Taragay, Kyrgy**	**12.11 338**		Pn	**Pn**	**14 15 45.8**	**+0.7**
TARG	**Taragay, Kyrgy**	**12.11 338**		P	**Pn**	**14 15 45.8**	**+0.7**
SHLS	**Shalkode**	**13.01 346**		*e*P	**Pn**	**14 15 57.1**	**+0.1**
	baz=347						
KBL	**Kabul**	**13.02 291**			**Pn**	**14 15 57.1**	**-0.2**
KBL	**Kabul**	**13.02 291**		P	**Pn**	**14 15 57.2**	**-0.2**
KBL	**Kabul**	**13.02 291**		P	**Pn**	**14 15 57.8**	**+0.5**
	SNR=27						
UZB	**Uzynbulak**	**13.09 345**		*e*P	**Pn**	**14 15 59.1**	**+0.9**
	comp=Z,11nm,0.8s,baz=344						
UZB				*e*S	**Sn**	**14 18 25.9**	**+1.3**
	baz=344						
ULHL	**Ulahol**	**13.11 335**		P	**Pn**	**14 15 59.1**	**+0.7**
	SNR=5.7						
SATY	**Saty**	**13.16 343**		*e*P	**Pn**	**14 16 00.2**	**+1.1**
	comp=Z,14nm,1.1s,baz=342						
ZHN

AAK Ala-Archa 14.13 331 Pn Pn 14 16 12.6 +0.2
AAK Ala-Archa 14.13 331⇑ eP Pn 14 16 14.8 +2.4
AAK Ala-Archa 14.13 331 P Pn 14 16 13.3 +0.9
TNCH TengChong 14.18 109 P Pn 14 16 10.5 -2.7
TNCH pP P 14 16 14.8 -6.2
TNCH sP 14 16 19.2
TNCH PP PnPn 14 16 25.2 +4.1
TNCH S Sn 14 18 54.2 +2.8
TNCH SS SnSn 14 19 07.7 +3.9
TNCH pmax pmax
comp=Z,18nm,0.8s
TNCH pmax pmax
comp=Z,76nm,6.3s
TNCH LR LR
comp=N,730nm,13.2s
TNCH LR LR
comp=E,960nm,12.6s
TNCH LR LR
comp=Z,1μm,14.8s
CHKK Chushkaly 14.29 340 eP Pn 14 16 15.4 +0.9
baz=340
CHMS Chumysh 14.32 332 P Pn 14 16 17.4 +2.5
SNR=7.5
CHGR Chuyangaron 14.46 308 Pn 14 16 13.2 -3.6
CHGR Chuyangaron 14.46 308 P Pn 14 16 13.2 -3.6
EKS2 Erkin-Say 14.46 329 P P 14 16 20.8 -3.1
SNR=7.6
KUU Kurty 14.53 338 eP Pn 14 16 18.8 +1.1
baz=338
BHUJ Bhuj 14.54 243 IAmb IAmb 14 16 20.6
comp=Z,75nm,1.1s
SGDS Sogindy 14.75 333 eP Pn 14 16 20.9 +0.1
baz=333
TDK Taldyqorghan 14.99 345 eP Pn 14 16 25.7 +1.6
baz=345
POO Poona 15.00 219 eP Pn 14 16 23.2 -1.0
DZA Taraz 15.79 324 eP Pn 14 16 35.3 +0.8
baz=324
GTA Gaotai 15.81 52 eP Pn 14 16 34.2 -0.8
GTA pP P 14 16 38.9 -0.1
GTA sP sP 14 16 42.2 +0.5
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,160nm,5.6s
GTA LR LR
comp=Z,770nm,12.4s
GTA LR LR
comp=Z,870nm,12.0s
GTA LR LR
comp=Z,940nm,12.3s
TAS Tashkent 15.85 316 Pn Pn 14 16 33.1 -2.2
TAS Tashkent 15.85 316 P Pn 14 16 33.2 -2.2
TAS pmax pmax
comp=Z,84nm,0.8s
MK31 Makanchi Array 16.22 356 Pn 14 16 40.2 0.0
MK31 Makanchi Array 16.22 356 i P P 14 16 43.9 +0.6
MKAR Makanchi Array 16.22 356 Pn Pn 14 16 39.2 -0.9
comp=Z,0.1nm,0.3s,baz=174,slow=12,SNR=13
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 16.22 356 Pn 14 16 38.7 -1.4
MKAR Makanchi Array 16.22 356 i P P 14 16 44.4 +1.1
MKAR pmax pmax
comp=Z,13nm,0.8s
MAKZ Makanchi 16.26 356 Pn 14 16 41.5 +1.0
MAKZ Makanchi 16.26 356 P Pn 14 16 41.5 +1.0
MAKZ pmax pmax
comp=Z,20nm,0.8s
PZH PanZhiHua 16.32 100 ⇓P Pn 14 16 39.3 -2.2
PZH pP P 14 16 45.2 +0.6
PZH S Sn 14 19 47.5 +4.3
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,80nm,4.5s
PZH LR LR
comp=N,510nm,8.7s
PZH LR LR
comp=E,430nm,8.0s
PZH LR LR
comp=Z,540nm,8.2s
BTLS Baital 16.32 335 eP P 14 16 42.9 -1.5
baz=335
KK31 Karatay Array 16.36 323 Pn 14 16 39.8 -2.1
KK31 Karatay Array 16.36 323 P Pn 14 16 39.8 -2.1
KK31 pmax pmax
comp=Z,23nm,0.9s
KKAR Karatay Array 16.36 323 Pn 14 16 39.3 -2.5
KKAR Karatay Array 16.36 323 Pn 14 16 39.9 -2.0
KKAR IAmb IAmb 14 16 46.8
comp=Z,23nm,0.9s
KKAR Karatay Array 16.36 323 P Pn 14 16 39.9 -2.0
KKAR pmax pmax
comp=Z,23nm,0.9s
ZSN Zaisan 16.86 3 eP P 14 16 49.7 -0.7
baz=2.4
CD2 Chengdu 17.20 84 P Pn 14 16 51.3 -1.3
CD2 S Sn 14 20 03.7 -0.8
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 LR LR
comp=N,1μm,9.0s
CD2 LR LR
comp=E,710nm,8.6s
CD2 LR LR
comp=Z,940nm,6.5s
GOA Goa 17.57 213 IAmb IAmb 14 17 08.0
comp=Z,19nm,0.5s
LZH Lanzhou 17.65 67 ⇑P P 14 16 59.4 +0.1
LZH pP sP 14 17 03.8 +1.7
LZH sP pP 14 17 07.2 +6.0
LZH S Sn 14 20 16.0 +0.5
LZH pmax pmax
comp=Z,52nm,1.3s
LZH pmax pmax
comp=Z,160nm,5.4s
LZH LR LR
comp=Z,980nm,14.6s
LZH LR LR
comp=Z,1μm,13.3s
LZH LR LR
comp=Z,1μm,14.6s
CHTO Chiang Mai 18.08 127 Pn 14 17 03.0 -0.6
CHTO Chiang Mai 18.08 127 P Pn 14 17 03.0 -0.6
CHTO pmax pmax
comp=Z,26nm,1.2s
CRAI Chiangrai 18.19 121 Pn 14 17 04.5 -0.4
CM31 Chiang Mai Arr 18.32 128 P Pn 14 17 06.1 -0.5
CM31 IAmb IAmb 14 17 12.0
comp=Z,56nm,1.2s
CM31 Chiang Mai Arr 18.32 128 P P 14 17 07.8 +1.1
SNR=16
CMAR Chiang Mai Arr 18.32 128 P Pn 14 17 05.0 -1.6
comp=Z,0.4nm,0.3s,baz=308,slow=12,SNR=39
CMAR LR LR 14 24 59.6
comp=Z,452nm,19.6s,baz=310,slow=40
comp=Z,6.6nm,0.8s
CMAR Chiang Mai Arr 18.32 128 P Pn 14 17 06.4 -0.2
CMAR Chiang Mai Arr 18.32 128 i P Pn 14 17 06.3 -0.2
CMAR pmax pmax
comp=Z,7.0nm,0.8s
HRA Herat 18.54 287 P P 14 17 09.2 0.0
PHRA Phrae 19.19 125 P 14 17 13.8 -2.4
DGZ Jazzator, Alta 19.29 7⇑ eP Pn 14 17 18.7 +0.4
DGZ pmax pmax
comp=Z,13nm,0.8s
OTUK Ortayu 19.68 337 P P 14 17 21.6 +0.2
KURBB Kurchatov Arra 20.39 350 P P 14 17 29.2 +0.1
comp=Z,44nm,0.9s,baz=172,slow=10,SNR=131
KURBB LR LR 14 26 33.9
comp=Z,614nm,19.6s,baz=146,slow=40
comp=Z,44nm,0.9s
KURBB Kurchatov Arra 20.39 350 P P 14 17 28.5 -0.6
KURK Kurchatov 20.47 351 P P 14 17 29.3 -0.7
KURK Kurchatov 20.47 351 ceP P 14 17 29.8 -0.2
KURK pmax pmax
comp=Z,78nm,1.0s
KURK Kurchatov 20.47 351 P P 14 17 29.9 -0.1
KURK P P 14 17 29.9 -0.1
GYA Guiyang 20.53 96 ⇓iP P 14 17 30.3 -0.7
GYA S S 14 21 17.3 -4.3
GYA pmax pmax
comp=Z,56nm,0.9s
GYA LR LR
comp=N,320nm,8.8s
GYA LR LR
comp=E,350nm,7.2s
GYA LR LR
comp=Z,520nm,9.0s
NGCH Negor - Chabah 20.64 261 P Pn 14 17 35.4 +1.2
KOD Kodaikanal 21.08 197 ex P 14 17 31.1 -6.0
KOD ex x 14 17 40.9
KOD IAmb IAmb 14 17 41.9
comp=Z,9.5nm,0.9s
PCHI Peechi 21.11 201⇑ eP P 14 17 40.6 +3.4
PCHI eS Sn 14 21 38.9 -0.2
XAN Xi'an 21.53 74 P P 14 17 40.1 -1.5
XAN pP sP 14 17 44.9 +0.5
XAN S S 14 21 37.8 -3.3
XAN pmax pmax
comp=Z,78nm,1.0s
XAN pmax pmax
comp=Z,230nm,3.5s
XAN LR LR
comp=N,410nm,8.3s
XAN LR LR
comp=E,500nm,8.9s
XAN LR LR
comp=Z,690nm,10.3s
ENH Enshi 22.18 84 P P 14 17 47.5 -1.1
ENH IAmb IAmb 14 18 17.3
comp=Z,32nm,1.0s
GEYT Alibeck 22.38 296 P P 14 17 51.6 +0.9
comp=Z,16nm,1.0s,baz=119,slow=9.3,SNR=32
GEYT LR LR 14 27 50.0
comp=Z,263nm,18.9s,baz=134,slow=40
comp=Z,16nm,1.0s
GEYT Alibeck 22.38 296 P P 14 17 51.5 +0.7
GEYT IAmb IAmb 14 17 53.2
comp=Z,27nm,1.1s
GYA0B ALIBECK ARRAY 22.38 296 P P 14 17 51.5 +0.7
GYA0B IAmb IAmb 14 18 12.8
comp=Z,28nm,1.1s
JASK Jask - Hormozg 23.27 265 P P 14 18 04.7 +4.6
JLN Jalan Bani Buh 23.34 255 P P 14 18 04.9 +4.1
SNR=11
ZAA0 Zalesovo Array 23.36 2 P P 14 18 00.9 +0.2
ZAA0 IAmb IAmb 14 18 05.1
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 23.36 2 P P 14 18 00.1 -0.6
comp=Z,15nm,0.8s,baz=188,slow=9.8,SNR=41
ZALV LR LR 14 28 05.7
comp=Z,249nm,18.4s,baz=320,slow=39
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 23.36 2 P P 14 17 59.9 -0.8
PALK Pallekele 23.37 188 LR LR 14 26 27.4
comp=Z,236nm,18.4s,baz=115,slow=35
BTO Baotou 23.50 58 eP P 14 17 57.1 -5.4
BTO LR LR
comp=N,2μm,11.2s
BTO LR LR
comp=E,1μm,12.8s
WBK Wadi Bani Khal 23.51 256 P P 14 18 07.8 +5.2
SNR=5.2
WBK P P 14 18 07.8 +5.2
SNR=5.2
WSAR Wadi Sarin 23.54 258 P P 14 18 05.2 +2.4
comp=E,7.6nm,1.0s,baz=92,slow=9.8,SNR=7.7
WSAR LR LR 14 29 22.5
comp=E,155nm,20.5s,baz=89,slow=42
comp=E,7.6nm,1.0s
WSAR Wadi Sarin 23.54 258 P P 14 18 07.1 +4.2
SNR=5.1
GULI GuiLin 24.06 96 ⇓P P 14 18 09.2 +1.3
GULI S S 14 22 23.2 -3.0
GULI pmax pmax
comp=E,30nm,1.3s
GULI LR LR
comp=E,700nm,16.6s
GULI LR LR
comp=E,200nm,12.8s
GULI LR LR
comp=E,430nm,10.7s
SMDO Samad 24.10 258 P P 14 18 12.3 +3.9
SMDO P P 14 18 12.3 +3.9
JMDO Jabal Madar 24.34 257 P P 14 18 14.1 +3.7
JMDO P P 14 18 14.1 +3.7
SONM Songino Array 24.44 39 P P 14 18 12.1 +0.8
comp=E,13nm,0.6s,baz=225,slow=10,SNR=117
SONM LR LR 14 28 43.0
comp=E,157nm,20.6s,baz=222,slow=39
comp=E,13nm,0.6s
SONM Songino Array 24.44 39 P P 14 18 12.2 +0.8
SONM IAmb IAmb 14 18 13.6
comp=Z,17nm,0.8s
SONM Songino Array 24.44 39 P P 14 18 12.2 +0.8
SONM pmax pmax
comp=Z,17nm,0.8s
BVA0 Borovoye Array 24.45 340 i P P 14 18 11.6 +0.3
BVAR Borovoye Array 24.45 340 P P 14 18 11.5 +0.2
comp=Z,6.4nm,0.8s,baz=141,slow=9.6,SNR=24
BVAR LR LR 14 29 01.1
comp=Z,197nm,20.6s,baz=136,slow=40
comp=Z,6.4nm,0.8s
LYN LuoYang 24.48 73 eP P 14 18 11.3 -0.3
LYN sP sP 14 18 19.4 +4.9
LYN S S 14 22 26.6 -6.1
LYN sS sS 14 22 38.4 +2.3
LYN pmax pmax
comp=Z,20nm,1.6s
LYN pmax pmax
comp=Z,150nm,4.4s
LYN LR LR
comp=Z,480nm,11.2s
LYN LR LR
comp=Z,530nm,13.5s
BRVK Borovoye 24.52 340 P P 14 18 11.8 0.0
BRVK IAmb IAmb 14 18 26.0
comp=Z,12nm,0.9s
BRVK Borovoye 24.52 340⇓ eP P 14 18 12.7 +0.9
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 24.52 340 P P 14 18 11.8 0.0
HOQ Hoqain 24.52 260 P P 14 18 14.9 +2.7
HOQ P P 14 18 14.9 +2.7
ZAK Zakamensk 24.59 31 eP P 14 18 12.9 +0.3
ZAK pmax pmax
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 24.70 58 eP P 14 18 15.3 +1.6
HHC S S 14 22 35.7 -0.7
HHC pmax pmax
comp=Z,33nm,1.2s
HHC pmax pmax
comp=Z,230nm,5.1s
HHC LR LR
comp=Z,610nm,12.1s
HHC LR LR
comp=Z,500nm,14.0s
HHC LR LR
comp=Z,620nm,15.9s
ULN Ulaanbaatar 24.82 39 P P 14 18 15.0 +0.3
ULN IAmb IAmb 14 18 17.5
comp=Z,30nm,1.1s
ULN Ulaanbaatar 24.82 39 c iP P 14 18 15.5 +0.8
ULN pmax pmax
comp=Z,28nm,1.0s
ULN Ulaanbaatar 24.82 39 P P 14 18 15.5 +0.8
MHTO MHTO 25.06 254 P P 14 18 19.4 +2.4
SNR=11
MHTO P P 14 18 19.4 +2.4
SNR=11
HATD Hatta, Dubai 25.09 264 P P 14 18 20.3 +3.1
ASHO Ashiyiah 25.20 263 P P 14 18 20.2 +1.9
DQM DQM 25.92 252 P P 14 18 28.4 +3.7
DQM P P 14 18 28.4 +3.7
AB31 Akbulak array 25.92 323 eP P 14 18 25.5 +1.0
ABKAR Akbulak array 25.92 323 P P 14 18 24.7 +0.1
ABKAR IAmb IAmb 14 18 38.5
comp=Z,16nm,0.8s
ABKAR Akbulak array 25.92 323 P P 14 18 24.8 +0.3
QIZ Qiongzhong 26.26 110 P P 14 18 28.6 +0.7
QIZ S S 14 23 01.0 -0.3
QIZ LR LR
comp=Z,430nm,17.5s
QIZ LR LR
comp=Z,370nm,14.5s
QIZ LR LR
comp=Z,360nm,16.3s
WHN Wuhan 26.30 82 ⇓P P 14 18 28.6 +0.4
WHN S S 14 23 04.6 +2.7
WHN pmax pmax
comp=Z,110nm,1.0s
WHN LR LR
comp=Z,2μm,12.0s
WHN LR LR
comp=Z,990nm,11.7s
WHN LR LR
comp=Z,1μm,10.6s
HNS HongShan 26.47 67 ⇑P P 14 18 30.3 +0.7
HNS S S 14 23 00.2 -4.1
HNS pmax pmax
comp=Z,28nm,1.0s
HNS LR LR
comp=Z,460nm,11.9s
HNS LR LR
comp=Z,970nm,11.9s
HNS LR LR
comp=Z,940nm,12.1s
AKTO Aktyubinsk 27.63 323 P P 14 18 40.3 +0.4
comp=Z,4.5nm,0.6s,baz=110,slow=6.7,SNR=14
AKTO LR LR 14 30 58.6
comp=Z,713nm,19.1s,baz=326,slow=39
comp=Z,4.5nm,0.6s
BJT Baijiatuau 27.95 61 P P 14 18 42.9 0.0
BJT IAmb IAmb 14 18 44.9
comp=Z,8.7nm,0.8s
BJT Baijiatuau 27.95 61 P P 14 18 42.9 0.0
BJT pmax pmax
comp=Z,9.0nm,0.8s
XLT XiLinHaoTe 28.76 53 eP P 14 18 51.6 +1.4
XLT pP sP 14 18 56.5 +3.4
XLT ScP ScP 14 25 39.9 -2.9
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,100nm,4.0s
XLT LR LR
comp=Z,51nm,15.1s
XLT LR LR
comp=Z,330nm,12.8s
XLT LR LR
comp=Z,450nm,12.6s
DMTO DMTO 29.15 251 P P 14 18 56.9 +3.1
DMTO P P 14 18 56.9 +3.1
DOK Doka 29.36 253 P P 14 18 58.2 +2.6
DOK P P 14 18 58.2 +2.6
WHFO Wadi Hawf 30.01 252 P P 14 19 02.5 +1.0
WHFO P P 14 19 02.5 +1.0
ABTO Aybut 30.68 252 P P 14 19 08.3 +0.8
ABTO P P 14 19 08.3 +0.8
SVE Sverdlovsk 30.80 335 eP P 14 19 09.5 +1.5
SVE pmax pmax
comp=Z,10.0nm,0.6s
AKT Akhty 30.89 301 eP P 14 19 09.7 +0.5
AKT e 14 20 10.1
AKT pmax pmax
comp=Z,27nm,1.4s
ARU Arti 31.30 333 P P 14 19 12.2 -0.2
ARU IAmb IAmb 14 19 13.9
comp=Z,6.7nm,0.6s
ARU Arti 31.30 333 d iP P 14 19 13.0 +0.6
ARU 14 20 15.5
ARU S S 14 24 22.3 +2.4
ARU SS SnSn 14 26 01.7 -0.4
ARU pmax pmax
comp=Z,7.0nm,0.7s
MAK Makhachkala 31.32 303 eP P 14 19 08.0 -4.7
MAK eS S 14 24 12.7 -7.8
MAK pmax pmax
comp=Z,75nm,0.8s
MAK MLR MLR
comp=Z,374nm,14.0s
DL2 Dalian 32.02 65 P P 14 19 19.4 +0.4
DL2 pmax pmax
comp=Z,21nm,0.7s
DL2 LR LR
comp=Z,170nm,10.7s
DL2 LR LR
comp=Z,620nm,12.7s
DL2 LR LR
comp=Z,650nm,14.7s
GROC Groznyy 32.59 303 eP P 14 19 24.5 +0.6
GROC e 14 20 33.0
GROC e 14 22 09.8
GROC pmax pmax
comp=Z,68nm,0.8s
SNY Shenyang 33.76 59 ⇑P P 14 19 34.2 +0.1
SNY pmax pmax
comp=Z,40nm,0.7s
SNY pmax pmax
comp=Z,140nm,5.0s
SNY LR LR
comp=Z,320nm,8.5s
SNY LR LR
comp=Z,200nm,8.7s
SNY LR LR
comp=Z,440nm,12.4s
ZEI Tsey 33.90 302 eP P 14 19 36.5 +0.9
ZEI pmax pmax
comp=Z,17nm,1.3s
NACB Ninganchiao 34.09 91 P P 14 19 38.0 +0.9
TWG Pinlang 34.10 94 P P 14 19 38.8 +1.5
ONI Oni 34.20 302 P P 14 19 38.8 +0.7
ONI IAmb IAmb 14 19 44.1
comp=Z,10nm,0.8s
ONI Oni 34.20 302 P P 14 19 38.8 +0.7
ONI pmax pmax
comp=Z,10.0nm,0.8s
BELG Belogornoye 34.22 320 LR LR 14 34 17.2
comp=Z,214nm,20.8s,baz=143,slow=38
BELG Belogornoye 34.22 320 ⇓iP P 14 19 38.7 +0.7
BELG pmax pmax
comp=Z,3.0nm,0.9s
KARS Kars 34.29 298 P P 14 19 39.3 +0.3
KARS Kars 34.29 298 P P 14 19 39.3 +0.3
KARS pmax pmax
comp=Z,120nm,1.5s
KBZ Khabaz 34.76 304 P P 14 19 43.5 +0.8
comp=Z,4.3nm,0.8s,baz=125,slow=7.2,SNR=11
KBZ LR LR 14 36 05.3
comp=Z,153nm,20.4s,baz=114,slow=40
comp=Z,4.3nm,0.8s
KBZ Khabaz 34.76 304 d iP P 14 19 43.2 +0.4
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 34.94 304 P P 14 19 44.3 -0.3
KIV IAmb IAmb 14 19 50.5
comp=Z,12nm,0.8s
KIV Kislovodsk 34.94 304 eP P 14 19 45.5 +1.0
KIV e 14 21 00.1
KIV ePPP PPP 14 21 15.0
KIV pmax pmax
comp=Z,14nm,0.8s
KIV MLR MLR
comp=Z,203nm,19.0s
KIV Kislovodsk 34.94 304 P P 14 19 45.1 +0.5
KIV P P 14 19 45.1 +0.5
CN2 Changchun 35.36 56⇑ iP P 14 19 48.0 0.0
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,400nm,11.0s
CN2 LR LR
comp=Z,500nm,11.0s
MARD Mardin 36.04 293 P P 14 19 54.8 +0.7
MARD IAmb IAmb 14 19 56.4
comp=Z,7.4nm,0.7s
KIRV Kirov 36.46 330 LR LR 14 36 30.9
comp=Z,163nm,18.4s,baz=144,slow=39
KIRV Kirov 36.46 330 deP P 14 19 57.9 +0.7
KSRS Korea Array 36.98 67 P P 14 20 00.6 -1.3
comp=Z,2.6nm,0.6s,baz=281,slow=9.2,SNR=12
KSRS LR LR 14 36 40.9
comp=Z,345nm,18.6s,baz=265,slow=39
comp=Z,2.6nm,0.6s
SOC Sochi 37.03 303 eP P 14 20 02.6 +0.3
SOC ePPP PPP 14 21 42.9
SOC eS S 14 25 51.5 +2.7
SOC eSSS SSS 14 28 40.9
SOC MLR MLR
comp=Z,185nm,18.0s
VRH Novokhopyorsk 37.20 316 eP P 14 20 02.8 -0.8
VRH pmax pmax

comp=Z,10.0nm,0.7s
HEH HeiHe 37.93 46 *e*P **P** **14 20 10.0 +0.2**
HEH pmax pmax
comp=Z,7.0nm,1.0s
MDJ Mudanjiang 38.42 56 P **P** **14 20 14.3 +0.3**
MDJ S **S** **14 26 09.8 0.0**
MDJ ScP **ScP** **14 26 16.0 -0.5**
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,28nm,4.1s
MDJ LR LR
comp=Z,310nm,9.7s
MDJ LR LR
comp=Z,390nm,12.5s
MDJ LR LR
comp=Z,440nm,11.8s
VSR Storozhevoye 38.75 315 *e*P **P** **14 20 14.8 -1.9**
VSR pmax pmax
comp=Z,10.0nm,1.5s
ANN Anapa 38.78 305 *e*P **P** **14 20 15.5 -1.6**
ANN *e**PP **pP** **14 20 18.2 -0.9**
ANN *e* 14 21 45.3
ANN *e*S **S** **14 26 14.5 -0.8**
ANN pmax pmax
comp=Z,64nm,1.2s
ZEA Zeya 38.84 41 *e*P **P** **14 20 18.6 +1.2**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=Z,100nm,16.0s
NRIK Noril'sk 38.85 2 P **P** **14 20 17.0 -0.3**
comp=Z,3.1nm,0.6s,baz=170,slow=6.1,SNR=2.5
NRIK LR LR 14 37 24.7
comp=Z,186nm,18.8s,baz=178,slow=38
comp=Z,3.1nm,0.6s
NRIK Noril'sk 38.85 2 P **P** **14 20 19.0 +1.6**
NRIK IAmb IAmb 14 20 28.4
comp=Z,13nm,1.1s
NRIK Noril'sk 38.85 2⇓ *e*P **P** **14 20 18.9 +1.6**
NRIK pmax pmax
comp=Z,15nm,1.0s
GAZ Gaziantep 38.89 293 P **P** **14 20 19.1 +0.9**
LPSR Galich'ya Gora 39.26 317 *e*P **P** **14 20 19.9 -1.1**
LPSR pmax pmax
comp=Z,20nm,1.1s
TOKA Tokat 39.32 298 P **P** **14 20 23.1 +1.5**
PRGR Permogore 39.76 333 *e*P **P** **14 20 25.0 +0.1**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
JNU Nakatsue 39.84 74 P **P** **14 20 23.4 -2.8**
comp=Z,7.9nm,1.0s,baz=256,slow=4.2,SNR=2.5
comp=Z,7.9nm,1.0s
USA0B Ussuriysk Arra 40.10 56⇓ *i*P **P** **14 20 28.7 +0.6**
USRK Ussuriysk Ar. 40.10 56 P **P** **14 20 27.8 -0.3**
comp=Z,8.4nm,0.8s,baz=250,slow=6.4,SNR=8.3
USRK LR LR 14 38 32.9
comp=Z,272nm,20.1s,baz=265,slow=38
comp=Z,8.4nm,0.8s
USRK Ussuriysk Ar. 40.10 56 P **P** **14 20 28.5 +0.4**
USRK Ussuriysk Ar. 40.10 56 P **P** **14 20 28.5 +0.4**
KLR Kul'dur 40.48 49 P **P** **14 20 31.4 +0.2**
comp=Z,6.0nm,0.7s,baz=275,slow=9.4,SNR=19
KLR LR LR 14 39 09.4
comp=Z,296nm,19.5s,baz=260,slow=39
comp=Z,6.0nm,0.7s
KLR Kul'dur 40.48 49*c**e*P **P** **14 20 31.3 +0.2**
KLR pmax pmax
comp=Z,7.0nm,0.8s
MMAI Mount Meron Ar 40.88 286 LR LR 14 38 53.2
comp=Z,159nm,20.5s,baz=262,slow=38
OBN Obninsk 41.31 320 *e*P **P** **14 20 38.5 +0.6**
OBN *e* 14 22 14.6
OBN *e*PPP PPP 14 22 44.3
OBN pmax pmax
comp=Z,23nm,1.5s
OBN MLR MLR
comp=Z,327nm,16.0s
BR131 Keskin Array S 41.52 297 P **P** **14 20 40.2 +0.2**
BR131 Keskin Array S 41.52 297⇓ *e*P **P** **14 20 41.6 +1.6**
BRTR Keskin Array B 41.52 297 P **P** **14 20 40.6 +0.6**
comp=Z,2.7nm,1.0s,baz=126,slow=6.3,SNR=11
BRTR LR LR 14 40 52.2
comp=Z,99nm,18.7s,baz=122,slow=40
comp=Z,2.7nm,1.0s
BRTR Keskin Array B 41.52 297 P **P** **14 20 41.0 +1.0**
BRTR Keskin Array B 41.52 297 *i*P **P** **14 20 41.0 +1.0**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
KLMR Klimovskoe 41.93 329 *e*P **P** **14 20 41.9 -1.0**
KLMR AMP 14 20 47.6
comp=Z,29nm,1.7s
KLMR LR LR 14 38 41.4
KLMR Klimovskoe 41.93 329 *e*P **P** **14 20 41.8 -1.1**
KLMR pmax pmax
comp=Z,29nm,1.7s
EIL Elat 41.96 282 LR LR 14 40 33.2
comp=Z,310nm,18.2s,baz=84,slow=40
ANTO Ankara 42.16 297 P **P** **14 20 46.8 +1.6**
YAK Yakutsk 43.17 30 *e*P **P** **14 20 51.5 -1.5**
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.2s
GRNR Gornyy 43.68 47⇑ *i*P **P** **14 20 57.7 +0.4**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,190nm,16.0s
GRNR MLR MLR
comp=N,100nm,14.0s
GRNR MLR MLR
comp=Z,240nm,15.0s
BORA Eskisehir 43.95 297 P **P** **14 21 00.0 +0.3**
BORA IAmb IAmb 14 21 01.1
comp=Z,9.0nm,0.8s
ELL Elmali 44.75 293 P **P** **14 21 06.4 +0.2**
ELL Elmali 44.75 293 P **P** **14 21 06.4 +0.2**
ELL pmax pmax
comp=Z,187nm,0.7s
AKASG Malin Array Be 44.85 313 P **P** **14 21 06.0 -0.6**
comp=Z,1.7nm,0.6s,baz=73,slow=7.6,SNR=7.6
AKASG PP **PP** **14 22 51.7 +0.6**
comp=Z,0.7nm,0.6s,baz=81,slow=9.8,SNR=2.1
AKASG LR LR 14 42 44.1
comp=Z,202nm,18.1s,baz=72,slow=40
comp=Z,1.7nm,0.6s
AKBB Malin Array Si 44.85 313⇑ *e*P **P** **14 21 06.3 -0.3**
MJAR Matsushiro Arr 45.26 67 P **P** **14 21 09.3 -0.8**
comp=Z,2.1nm,0.8s,baz=276,slow=8.2,SNR=3.4
MJAR LR LR 14 41 35.0
comp=Z,198nm,19.9s,baz=298,slow=38
comp=Z,2.1nm,0.8s
DAV Davao City (W) 45.59 112 LR LR 14 41 38.7
comp=Z,84nm,20.3s,baz=344,slow=38
TOLI2 Tolitoli 45.72 123 P **P** **14 21 13.4 -0.6**
MNK Minsk 46.10 318 *i*P **P** **14 21 14.6 -1.9**
MNK *i*P **P** **14 21 14.6 -1.9**
comp=E,3.0nm,1.1s
MNK *i*P **P** **14 21 14.6 -1.9**
comp=N,44nm,0.9s
MNK *i*P **P** **14 21 14.6 -1.9**
comp=Z,5.0nm,0.8s,baz=98
MNK *i*PP **PP** **14 23 01.7 -2.6**
MNK *i*PPP PPP 14 23 42.6
MNK *i*S **S** **14 28 01.6 -1.3**
MNK *i*SS **SS** **14 31 26.2 -1.4**
MNK *i*SSS SSS 14 32 18.6
MNK *i*LQ LQ 14 37 16.3
MNK *i*LR LR 14 40 29.9
MNK *i*LRM MLR 14 42 22.7
comp=Z,169nm,9.0s
MNK *i*LRM MLR 14 43 25.3
comp=N,500nm,16.1s
MNK *i*LRM MLR 14 43 46.5
comp=E,49nm,15.5s
MNK Minsk 46.10 318 *i*P **P** **14 21 14.5 -1.9**
MNK *i* 14 23 01.7
MNK *i*PPP PPP 14 23 42.6
MNK *i*S **S** **14 28 01.5 -1.3**
MNK *i*SSS SSS 14 32 18.5
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,44nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK MLR MLR
comp=Z,169nm,9.0s
MNK MLR MLR
comp=N,500nm,16.0s
MNK MLR MLR
comp=E,49nm,15.0s
NACGM Naroch 46.78 318 *e*P **P** **14 21 21.8 0.0**
comp=Z,17nm,0.9s,baz=97
MLR Muntele Rosu 46.92 305 LR LR 14 46 27.0
comp=Z,163nm,19.5s,baz=67,slow=43
MLR Muntele Rosu 46.92 305 P **P** **14 21 24.0 +0.7**
MLR Muntele Rosu 46.92 305 P **P** **14 21 24.0 +0.7**
MLR pmax pmax
comp=Z,10.0nm,0.8s
TYV Tymovskoe 47.63 47 *e*P **P** **14 21 28.5 0.0**
TYV *e*S **S** **14 28 26.9 +2.1**
TYV pmax pmax
comp=Z,100nm,2.1s
TYV pmax pmax
comp=Z,10.0nm,1.0s
TYV smax smax
comp=N,300nm,5.8s
TYV smax smax
comp=E,400nm,5.8s
YSS Yuzh-Sakhalins 47.69 53⇓ *e*P **P** **14 21 28.8 -0.2**
YSS pmax pmax
comp=Z,18nm,1.5s
TIXI Tiksi 47.70 18 P **P** **14 21 28.6 -0.1**
comp=Z,7.8nm,0.8s,baz=271,slow=23,SNR=16
TIXI LR LR 14 42 22.3
comp=Z,116nm,20.3s,baz=200,slow=37
comp=Z,7.8nm,0.8s
TIXI Tiksi 47.70 18 IAmb IAmb 14 21 32.7
comp=Z,14nm,1.1s
TIXI Tiksi 47.70 18⇓ *i*P **P** **14 21 29.0 +0.3**
TIXI pmax pmax
comp=Z,14nm,1.3s
TIXI Tiksi 47.70 18 P **P** **14 21 29.1 +0.3**
ASAJ Asahikawa 47.73 56 LR LR 14 42 46.5
comp=Z,340nm,18.8s,baz=320,slow=38
FINES FINESS Array B 48.27 327 P **P** **14 21 33.2 -0.2**
comp=Z,4.1nm,0.6s,baz=103,slow=8.2,SNR=13
FINES LR LR 14 43 28.7
comp=Z,300nm,18.6s,baz=127,slow=38
comp=Z,4.1nm,0.6s
FINES FINESS Array B 48.27 327 *i*P **P** **14 21 33.5 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.5s
PAIG Paliouri 49.12 298 P **P** **14 21 40.1 -0.1**
PAIG pmax pmax
comp=Z,15nm,1.0s
ARCES ARCESS Array B 50.69 337 P **P** **14 21 51.6 -0.1**
comp=Z,6.9nm,0.8s,baz=88,slow=3.8,SNR=10
comp=Z,6.9nm,0.8s
ARCES ARCESS Array B 50.69 337 P **P** **14 21 51.8 +0.1**
ARCES ARCESS Array B 50.69 337 P **P** **14 21 51.8 +0.1**
ARCES pmax pmax
comp=Z,39nm,1.4s
MA2 Magadan 52.61 36 P **P** **14 22 06.5 +0.3**
comp=Z,7.7nm,0.7s,baz=279,slow=7.5,SNR=9.2
comp=Z,7.7nm,0.7s
MA2 Magadan 52.61 36⇓ *e*P **P** **14 22 06.2 0.0**
MA2 pmax pmax
comp=Z,14nm,1.3s
VRAC Vranov 53.00 311 LR LR 14 46 00.0
comp=Z,144nm,18.6s,baz=94,slow=38
LODK Lodwar 53.02 249 P **P** **14 22 12.4 +2.5**
SEY Seymchan 53.56 32 P **P** **14 22 12.8 -0.2**
comp=Z,5.0nm,0.8s,baz=267,slow=8.1,SNR=12
comp=Z,5.0nm,0.8s
SEY Seymchan 53.56 32⇓ *i*P **P** **14 22 14.0 +0.9**
SEY pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 54.16 325 LR LR 14 46 55.3
comp=Z,320nm,19.8s,baz=91,slow=38
KMBO Kilima Mbogo 54.30 243 P **P** **14 22 19.9 +0.5**
comp=Z,2.3nm,0.7s,baz=34,slow=10,SNR=5.9
KMBO LR LR 14 44 47.5
comp=Z,106nm,19.2s,baz=91,slow=35
comp=Z,2.3nm,0.7s
KMBO Kilima Mbogo 54.30 243 *i*P **P** **14 22 20.3 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 54.30 243 P **P** **14 22 22.0 +2.5**
GERES GERESS Array B 54.94 311 P **P** **14 22 23.8 +0.2**
comp=Z,0.5nm,0.6s,baz=54,slow=5.5,SNR=2.3
comp=Z,0.5nm,0.6s
CLL Collm 55.07 314 *e*Px Px 14 22 29.0
CLL Collm 55.07 314 *e*P **P** **14 22 29.0 +4.7**
NB2 NORSAR Subarra 55.38 326 P **P** **14 22 25.6 -0.8**
comp=Z,12nm,1.2s,baz=88,slow=7.4
NOA NORSAR Array B 55.38 326 P **P** **14 22 25.6 -0.8**
comp=Z,3.6nm,0.9s,baz=83,slow=8.1,SNR=4.8
comp=Z,3.6nm,0.9s
SPITS Spitsbergen Ar 55.68 347 LR LR 14 50 19.8
comp=Z,172nm,19.3s,baz=88,slow=40
BATI Baumata 55.80 132 LR LR 14 51 47.1
comp=Z,68nm,18.9s,baz=4.5,slow=42
PETK Petropavlovsk- 56.79 44 P **P** **14 22 35.2 -1.4**
comp=Z,3.3nm,0.8s,baz=314,slow=3.7,SNR=9.6
PETK LR LR 14 47 59.4
comp=Z,128nm,18.9s,baz=272,slow=37
comp=Z,3.3nm,0.8s
DAVOX Davos/Dischmat 57.84 309 LR LR 14 49 41.9
comp=Z,119nm,18.1s,baz=83,slow=38
MBAR Mbarara 59.11 249 P **P** **14 22 52.7 -0.9**
comp=Z,14nm,0.3s,baz=351,slow=10,SNR=5.2
MBAR Mbarara 59.11 249⇑ *e*P **P** **14 22 56.2 +2.6**
MBAR pmax pmax
comp=Z,10.0nm,1.8s
MBAR Mbarara 59.11 249 P **P** **14 22 54.0 +0.4**
BILL Bilibino 59.24 26 P **P** **14 22 54.0 +0.4**
BILL IAmb IAmb 14 22 55.5
comp=Z,4.3nm,0.6s
BILL Bilibino 59.24 26*d**e*P **P** **14 22 53.5 -0.1**
BILL *e* 14 23 42.5
BILL *e* 14 25 05.6
BILL pmax pmax
comp=Z,4.0nm,0.7s
BILL MLR MLR
comp=Z,50nm,17.0s
KEST Kesra 61.12 296 P **P** **14 23 07.8 +0.7**
comp=Z,3.6nm,0.7s,baz=80,slow=6.1,SNR=2.4
comp=Z,3.6nm,0.7s
BORG Borgarnes 68.83 334 LR LR 14 53 48.7
comp=Z,93nm,20.0s,baz=175,slow=36
EUNU Eureka 69.46 359 P **P** **14 24 00.6 +0.1**
ESDC Sonseca Array 69.61 305 P **P** **14 24 01.3 -0.8**
comp=Z,1.0nm,0.8s,baz=61,slow=6.0,SNR=6.7
comp=Z,1.0nm,0.8s
WB0 Warramunga Arr 69.82 129 P **P** **14 24 02.1 -1.4**
SUMG Summit 69.86 344 *i*P **P** **14 24 05.0 +1.6**
SUMG *i*P **pP** **14 24 05.9 +0.3**
WRA Warramunga Arr 69.91 129 P **P** **14 24 03.0 -1.0**
comp=Z,6.1nm,0.9s,baz=324,slow=6.5,SNR=25
comp=Z,6.1nm,0.9s
WRA Warramunga Arr 69.91 129 P **P** **14 24 02.9 -1.0**
WRA Warramunga Arr 69.91 129 P **P** **14 24 03.0 -1.0**
WRAB Tennant Creek 69.91 129⇓ *i*P **P** **14 24 03.3 -0.7**
WRAB pmax pmax
comp=Z,21nm,1.2s
LSZ Lusaka 70.25 238 P **P** **14 24 07.9 +1.7**
comp=Z,3.8nm,0.5s,baz=55,slow=6.0,SNR=9.8
comp=Z,3.8nm,0.5s
ANM Nome 71.09 25 P **P** **14 24 11.0 +0.4**
baz=302
TULEG Thule 71.77 353 P **P** **14 24 15.1 +0.6**
TULEG IAmb IAmb 14 24 18.2
comp=Z,10nm,1.1s
AS31 Alice Springs 72.27 132 P **P** **14 24 17.0 -1.2**
ASAR Alice Springs 72.27 132 P **P** **14 24 16.5 -1.7**
comp=Z,1.2nm,0.6s,baz=311,slow=5.6,SNR=27
comp=Z,1.2nm,0.6s
ASAR Alice Springs 72.27 132 P **P** **14 24 16.8 -1.4**
ASAR Alice Springs 72.27 132 P **P** **14 24 16.8 -1.4**
PMG Port Moresby 72.61 112 P **P** **14 24 19.5 -0.9**
comp=Z,8.3nm,0.8s,baz=353,slow=2.7,SNR=6.6
comp=Z,8.3nm,0.8s
PMG Port Moresby 72.61 112 P **P** **14 24 20.1 -0.3**
PMG Port Moresby 72.61 112*c* *i*P **P** **14 24 19.9 -0.6**
PMG pmax pmax
comp=Z,10.0nm,0.8s
MDT Midelt 72.92 298 LR LR 15 01 09.9
comp=Z,43nm,19.0s,baz=90,slow=40
C24K Franklin Bluff 73.06 17 P **P** **14 24 22.0 -0.2**
baz=314
D23K Nanushuk River 73.08 18 P **P** **14 24 22.3 -0.1**
baz=313,SNR=6.8
E22K Anaktuvuk Pass 73.33 19 P **P** **14 24 24.7 +0.7**
baz=312
D24K Happy Valley 73.43 17 P **P** **14 24 25.0 +0.5**
baz=314,SNR=6.7
F21K Alatna River 73.46 20 P **P** **14 24 24.6 -0.1**
baz=311,SNR=10
F22K John River 73.65 19 P **P** **14 24 26.2 +0.4**
baz=312
C26K Camden Bay 73.83 16 P **P** **14 24 27.0 +0.2**
baz=318
G21K Allakaket 73.92 21 P **P** **14 24 27.2 -0.2**
baz=311
D25K Kavik River 73.92 16 P **P** **14 24 27.3 -0.1**
baz=316
GCSA Galena City Sc 73.98 23 P **P** **14 24 28.0 +0.3**
baz=309
E23K Chandalar 73.99 18 P **P** **14 24 28.3 +0.4**
baz=314,SNR=9.4
IMAR Indian Mountai 74.19 21 P **P** **14 24 28.8 -0.3**
G22K Bettles 74.24 20 P **P** **14 24 28.8 -0.4**
baz=313
E24K Your Creek 74.28 18 P **P** **14 24 30.1 +0.5**
baz=315
C27K Jago River 74.33 16 P **P** **14 24 30.2 +0.5**
baz=319
COLD Coldfoot 74.40 19 P **P** **14 24 30.4 +0.2**
COLD IAmb IAmb 14 24 35.0
comp=Z,7.0nm,0.8s
COLD Coldfoot 74.40 19 P **P** **14 24 30.0 -0.2**
baz=314
H21K Melozitna Rive 74.70 21 P **P** **14 24 32.7 +0.7**
H21K IAmb IAmb 14 24 33.6
comp=Z,6.3nm,1.0s
H21K Melozitna Rive 74.70 21 P **P** **14 24 32.3 +0.3**
baz=312
G23K Bananza Creek 74.81 19 P **P** **14 24 32.4 -0.3**
baz=314,SNR=5.8
F24K Squaw Lake 74.84 18 P **P** **14 24 33.2 +0.4**
baz=316
H22K Ishtalitna Cre 74.98 20 P **P** **14 24 33.3 -0.3**
baz=313
E25K Arctic Village 75.00 17 P **P** **14 24 33.7 0.0**
baz=317,SNR=7.5
J20K Nowinta River 75.26 23 P **P** **14 24 36.1 +0.9**
J20K IAmb IAmb 14 24 37.2
comp=Z,5.1nm,0.9s
J20K Nowinta River 75.26 23 P **P** **14 24 35.7 +0.6**
baz=311
I21K Tanana 75.28 21 P **P** **14 24 35.8 +0.5**
baz=313
F25K Christian Rive 75.38 18 P **P** **14 24 35.8 -0.1**
baz=317
TTA Tatalina 75.43 24 P **P** **14 24 36.4 +0.1**
baz=310
G24K Hadweenzic Riv 75.54 19 P **P** **14 24 36.8 0.0**
baz=316
H23K Yukon River 75.57 20 P **P** **14 24 37.4 +0.3**
H23K Yukon River 75.57 20 P **P** **14 24 37.0 0.0**
baz=314
F26K Sheenjek River 75.68 17 P **P** **14 24 37.7 +0.1**
baz=319
MLY Manley 75.77 21 P **P** **14 24 38.4 +0.2**
MLY IAmb IAmb 14 24 39.7
comp=Z,8.8nm,1.2s
MLY Manley 75.77 21 P **P** **14 24 37.9 -0.3**
baz=314
BMAR Burnt Mountain 75.77 17 P **P** **14 24 39.1 +1.0**
K20K Telida 75.82 23 P **P** **14 24 38.8 +0.3**
K20K IAmb IAmb 14 24 40.6
comp=Z,6.8nm,1.1s
K20K Telida 75.82 23 P **P** **14 24 38.4 -0.1**
baz=311
G25K Bearman Lake 75.87 18 P **P** **14 24 38.2 -0.4**
baz=317
E27K Coleen River 75.93 16 P **P** **14 24 39.0 0.0**
baz=321
H24K Woodlor Dome 76.05 19 P **P** **14 24 39.6 -0.2**
baz=316
CHUM Lake Minchumin 76.06 22 P **P** **14 24 39.2 -0.6**
baz=312
I23K Minto, Yukon-K 76.10 20 P **P** **14 24 39.4 -0.6**
baz=315
L19K White Mountain 76.32 24 P **P** **14 24 40.6 -0.8**
baz=311
BPAW Bear Paw Mtn. 76.33 22 P **P** **14 24 40.3 -1.1**
baz=314
G26K Porcupine Rive 76.34 17 P **P** **14 24 40.4 -0.9**
baz=319
CAST Castle Rocks 76.45 23 P **P** **14 24 42.1 +0.1**
CAST IAmb IAmb 14 24 44.3
comp=Z,11nm,1.1s
CAST Castle Rocks 76.45 23 P **P** **14 24 41.3 -0.8**
baz=313
L20K Farewell, AK 76.47 24 P **P** **14 24 42.9 +0.7**
baz=312
NEA2 Nenana 76.59 21 P **P** **14 24 42.9 +0.2**
NEA2 IAmb IAmb 14 24 46.7
comp=Z,8.1nm,0.8s
NEA2 Nenana 76.59 21 P **P** **14 24 42.6 -0.2**
baz=315,SNR=11
POKR Poker Plat Res 76.70 20 P **P** **14 24 44.2 +0.7**
baz=316
TCOL CIGO, UAF Yank 76.75 20 P **P** **14 24 44.2 +0.6**
baz=316
COLA College 76.75 20 P **P** **14 24 44.2 +0.6**
baz=316
COLA College 76.75 20⇑ *i*P **P** **14 24 43.6 -0.1**
COLA pmax pmax
comp=Z,6.0nm,0.9s
O16K Kokwok River B 76.76 27 P **P** **14 24 44.9 +1.1**
baz=309
PPLA Purkeypile 76.77 23 P **P** **14 24 44.6 +0.6**
baz=313
SFJD Kangerlussuaq 76.79 343 LR LR 15 02 28.5
comp=Z,40nm,20.8s,baz=23,slow=39
CCB Clear Creek Bu 76.93 20 P **P** **14 24 44.6 -0.1**
PRP Porcupine Dome 76.95 19 P **P** **14 24 45.5 +0.5**
PRP IAmb IAmb 14 24 47.5
comp=Z,12nm,1.4s
PRP Porcupine Dome 76.95 19 P **P** **14 24 45.8 +0.8**
baz=318
G27K Doyon Strip 76.99 17 P **P** **14 24 45.9 +0.8**
baz=321
TRF Thorofare Moun 77.01 22 P **P** **14 24 45.6 +0.2**
baz=314
IL31 77.11 20 P **P** **14 24 45.3 -0.4**
ILAR Eielson Array 77.11 20 P **P** **14 24 45.4 -0.4**
comp=Z,2.4nm,0.9s,baz=299,slow=4.5,SNR=12
ILAR LR LR 15 01 02.4
comp=Z,58nm,18.2s,baz=268,slow=38
comp=Z,2.4nm,0.9s
ILAR Eielson Array 77.11 20 P **P** **14 24 44.7 -1.0**
M20K Styx River 77.13 24 P **P** **14 24 45.9 -0.1**
baz=312
MCK McKinley 77.24 21 P **P** **14 24 47.4 +0.9**
baz=315
HDA Harding Lake 77.36 20 P **P** **14 24 47.3 +0.2**
baz=317
H27K Steamboat Moun 77.47 17 P **P** **14 24 47.7 -0.1**
baz=321
INK Inuvik 77.59 13 P **P** **14 24 48.3 0.0**
comp=Z,1.4nm,0.5s,baz=349,slow=5.5,SNR=8.9
INK LR LR 15 04 00.7
comp=Z,47nm,18.6s,baz=300,slow=40
comp=Z,1.4nm,0.5s
INK Inuvik 77.59 13 P **P** **14 24 48.9 +0.6**
baz=328
SKT Skwentna 77.62 23 P **P** **14 24 48.0 -0.7**
SKT IAmb IAmb 14 24 50.1
comp=Z,9.1nm,1.0s
SKT Skwentna 77.62 23 P **P** **14 24 48.6 -0.1**
baz=314
I27K Kandik River 77.94 18 P **P** **14 24 50.4 0.0**
baz=321
P18K Big Mountain, 78.02 27 P **P** **14 24 51.1 +0.2**
baz=311
G30M tAoh Zraii Nji 78.13 15 P **P** **14 24 51.1 -0.3**
baz=326
K24K Donnelly Dome 78.15 20 P **P** **14 24 51.5 -0.1**

baz=318,SNR=8.9
DHY Denali Highway 78.20 21 P P 14 24 52.0 -0.1
baz=317
SUA Susitna One 78.25 24 P P 14 24 52.0 -0.2
baz=314
M22K Willow 78.26 23 P P 14 24 51.5 -0.6
baz=315
J26L Joseph Creek 78.27 19 P P 14 24 52.2 -0.1
J26L Joseph Creek 78.27 19 P P 14 24 52.1 -0.2
baz=320
F31M Tsiigehtchic 78.28 14 P P 14 24 51.7 -0.5
baz=328
C36M Paulatuk 78.30 10 P P 14 24 51.9 -0.3
baz=336
CTA Charters Tower 78.38 122 P P 14 24 52.0 -1.4
comp=Z,6.7nm,1.0s,baz=311,slow=4.6,SNR=4.0
comp=Z,6.7nm,1.0s
WAT6 Susitna Watana 78.45 22 P P 14 24 53.0 -0.4
baz=316
LBTB Lobatse 78.47 232 P P 14 24 55.1 +1.1
comp=Z,6.0nm,0.7s,baz=56,slow=5.5,SNR=7.5
comp=Z,6.0nm,0.7s
RIDG Independent Ri 78.47 20 P P 14 24 52.9 -0.5
baz=319
EPYK Eagle Plains 78.53 15 P P 14 24 53.0 -0.7
baz=325
SCRK Sand Creek 78.55 19 P P 14 24 53.8 -0.1
baz=319,SNR=6.9
P19K Oil Pt 78.60 26 P P 14 24 54.0 -0.2
baz=312
R17K Ugashik Creek 78.70 28 P P 14 24 55.0 +0.3
baz=310
PMR Palmer 78.71 23 P P 14 24 54.4 -0.2
baz=316
EGAK Eagle 78.71 18 P P 14 24 54.7 0.0
baz=322
SML Sawmill 78.82 22 P P 14 24 55.6 +0.3
SML Sawmill 78.82 22 P P 14 24 55.2 -0.2
baz=316
SML Sawmill 78.82 22 P P 14 24 55.6 +0.3
SML pmax pmax
comp=Z,18nm,1.2s
RC01 Rabbit Creek A 78.86 23 P P 14 24 55.2 -0.3
baz=315
PAX Paxson 78.87 21 P P 14 24 55.2 -0.5
baz=318
I29M Ogilvie Camp, 78.97 17 P P 14 24 55.8 -0.3
baz=324
M23K Glacier View 79.03 22 P P 14 24 56.3 -0.1
baz=317
K27K Chicken 79.04 19 P P 14 24 56.4 -0.1
baz=321
KNK Knik Glacier 79.06 23 P P 14 24 56.6 0.0
baz=316
SCM Sheep Creek Mo 79.13 22 P P 14 24 57.0 -0.1
baz=317
HARP HAARP 79.39 21 P P 14 24 58.6 +0.2
baz=319
BRSE Bradley Lake S 79.46 25 P P 14 24 58.3 -0.5
baz=314
L26K Log Cabin Wild 79.46 20 P P 14 24 58.9 +0.1
baz=320
PWL Port Wells 79.50 23 P P 14 24 59.3 +0.2
baz=316
DAWY Dawson 79.74 18 P P 14 25 00.5 +0.2
DAWY IAmb IAmb 14 25 02.0
comp=Z,7.9nm,1.4s
DAWY Dawson 79.74 18 P P 14 25 00.4 0.0
baz=323
L27K Beaver Creek, 79.87 19 P P 14 25 01.3 +0.3
baz=321
BCAR Beaver Creek A 79.88 19 P P 14 25 01.7 +0.6
M26K Nabesna, AK 80.04 20 P P 14 25 02.2 +0.1
baz=320
N25K Chitina, Valde 80.17 21 P P 14 25 03.2 +0.5
N25K IAmb IAmb 14 25 04.7
comp=Z,8.0nm,1.2s
N25K Chitina, Valde 80.17 21 P P 14 25 02.8 +0.1
baz=319,SNR=5.0
OHAK Old Harbor 80.23 28 P P 14 25 02.7 -0.3
baz=313
K29M Barlow Dome 80.41 17 P P 14 25 03.6 -0.4
baz=325
BMRM Bremner River 80.65 22 P P 14 25 05.3 0.0
baz=319
BVCY Beaver Creek 80.66 19 P P 14 25 05.4 +0.1
baz=322
MCARA McCarthy VSAT 80.82 21 P P 14 25 06.3 +0.1
MCARA IAmb IAmb 14 25 08.0
comp=Z,13nm,1.0s
MCARA McCarthy VSAT 80.82 21 P P 14 25 06.2 +0.1
baz=320,SNR=5.4
L29M L29M 80.85 18 P P 14 25 06.7 +0.3
baz=324
MAYO Mayo, Yukon 81.02 17 P P 14 25 07.6 +0.4
baz=326
BOSA Boshof 81.09 229 P P 14 25 09.2 +1.0
comp=Z,4.3nm,0.8s,baz=46,slow=4.3,SNR=7.7
BOSA LR LR 14 58 51.3
comp=Z,68nm,19.6s,baz=32,slow=34
comp=Z,4.3nm,0.8s
Q23K Middleton Isla 81.23 23 P P 14 25 07.9 -0.4
baz=318
YUK3 Moose Creek 81.28 20 P P 14 25 08.8 -0.1
baz=323
M29M Somme Creek 81.30 18 P P 14 25 09.0 +0.1
baz=324
M30M Minto, Yukon 81.64 18 P P 14 25 10.1 -0.5
baz=326
YUK8 Steele Glacier 81.87 20 P P 14 25 11.1 -1.0
baz=323
YUK4 Talbot Arm 82.14 19 P P 14 25 13.2 -0.2
baz=324
FARO Faro, Yukon 82.81 17 P P 14 25 16.4 -0.3
baz=328
N31M Braeburn, Yuko 82.81 18 P P 14 25 16.8 +0.1
baz=326
STKA Stephens Creek 82.85 133 P P 14 25 17.4 +0.2
comp=Z,1.3nm,0.7s,baz=303,slow=5.9,SNR=4.1
comp=Z,1.3nm,0.7s
HYT Haines Junctio 82.89 19 P P 14 25 17.2 0.0
HYT IAmb IAmb 14 25 20.6
comp=Z,7.2nm,1.1s
HYT Haines Junctio 82.89 19 P P 14 25 17.2 0.0
baz=325
PNL Peninsula 83.28 20 P P 14 25 19.5 +0.3
baz=324
O30N Mendenhall 83.33 18 P P 14 25 19.6 +0.2
baz=326
FRB Frobisher Bay 83.46 348 LR LR 15 06 06.4
comp=Z,64nm,21.2s,baz=24,slow=38
P30M Million Dollar 83.62 19 P P 14 25 21.4 +0.5
baz=326
WHY Whitehorse 83.75 18 P P 14 25 21.4 -0.3
baz=327
P29M Windy Craggy 83.81 20 P P 14 25 21.4 -0.4
baz=325
PLBC Pleasant Camp 84.35 19 P P 14 25 25.0 +0.5
baz=326
SKAG Skagway 84.64 19 P P 14 25 26.1 +0.1
baz=327
P33M Teslin, Yukon 84.67 17 P P 14 25 25.9 -0.4
baz=329
DBIC Dimbokro 85.46 275 P P 14 25 31.2 +0.2
comp=Z,3.8nm,0.6s,baz=66,slow=4.8,SNR=6.9
DBIC LR LR 15 09 08.5
comp=Z,105nm,18.8s,baz=51,slow=40
comp=Z,3.8nm,0.6s
YKA Yellowknife Ar 86.08 8 P P 14 25 32.5 -0.7
comp=Z,1.7nm,0.8s,baz=336,slow=4.9,SNR=12
comp=Z,1.7nm,0.8s
SUR Sutherland 86.44 229 LR LR 15 02 04.0
comp=Z,70nm,18.5s,baz=104,slow=34
DLBC Dease Lake 86.93 17 LR LR 15 09 19.6
comp=Z,49nm,19.6s,baz=332,slow=39
SCHQ Schefferville 91.24 343 LR LR 15 10 19.5
comp=Z,47nm,21.9s,baz=108,slow=38
BBB Bella Bella 92.98 19 LR LR 15 13 41.9
comp=Z,52nm,18.0s,baz=23,slow=39
NEW Newport 99.30 14 LR LR 15 17 24.3
comp=Z,29nm,19.6s,baz=342,slow=39
ULM Lac du Bonnet 99.52 360 LR LR 15 17 09.1
comp=Z,35nm,19.1s,baz=310,slow=39
TXAR Lajitas Array 119.99 7 PKP PKPdf 14 31 42.9 -1.0
comp=Z,0.2nm,0.5s,baz=206,slow=0.6,SNR=2.2
CPUP Villa Florida 145.64 267 PKPbc PKPdf 14 32 31.4 -0.1
comp=Z,7.1nm,1.0s,baz=73,slow=4.1,SNR=8.1

*IDC **04** 14:15:22.2±0.8,60.˚11N×153.˚63W,h144km±8km,mb3.9/24, mbtmp4.3/30,MS3.3/2,Error ellipse: s-maj=11.6km s-min=8.4km az=37.0*
*NEIC **04** 14:15:23.0±1.8,60.˚08N±0.˚05×153.˚54W±0.˚08, h161km±4km,Error ellipse: s-maj=7.1km s-min=5.5km az=188.0*
*AEIC **04** 14:15:24.5±2.0,60.˚09N±0.˚05×153.˚38W±0.˚10, h159km±4km,ML4.2,mb4.4/37(NEIC),ML4.4/104(NEIC), Error ellipse: s-maj=7.0km s-min=6.8km az=113.0*
*ANF **04** 14:15:24.1±0.1,60.˚14N×153.˚43W,h149km±1km,ML4.5/70, Error ellipse: s-maj=1.8km s-min=1.6km az=139.0*
ISC 04 14:15:24.0±0.5,60.˚11N±0.˚03×153.˚44W±0.˚03, h159km±4km,n424,σ1°33/464,mb4.3/43,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILSW	**Iliamna Southw**	**0.20**	**131**		**Pn**	**14 15 44.8**	**-0.8**
ILSW				IAML		14 16 01.7	
	comp=N,1μm,0.9s						
ILSW				IAML		14 16 03.6	
	comp=E,2μm,0.6s						
O20K	**Slope Mountain**	**0.41**	**94**	P	**Pn**	**14 15 46.0**	**-0.1**
	baz=272,SNR=76						
O20K				S	**Sn**	**14 16 02.9**	**-0.1**
	baz=272						
O19K	**Port Alsworth**	**0.45**	**281**	Pn	**Pn**	**14 15 45.2**	**-0.9**
O19K				IAML		14 16 02.5	
	comp=E,9μm,0.5s						
O19K	**Port Alsworth**	**0.45**	**281**	P	**Pn**	**14 15 45.6**	**-0.5**
	baz=102,SNR=1000						
O19K				S	**Sn**	**14 16 01.9**	**-1.1**
	baz=102						
P19K	**Oil Pt**	**0.47**	**167**		**Pn**	**14 15 46.1**	**-0.2**
P19K	**Oil Pt**	**0.47**	**167**	P	**Pn**	**14 15 46.2**	**-0.2**
	baz=350,SNR=755						
P19K				S	**Sn**	**14 16 03.3**	**0.0**
	baz=350						
RSO	**Redoubt South**	**0.49**	**44**		**Pn**	**14 15 46.0**	**-0.6**
RDJH	**Redoubt Jeurge**	**0.58**	**33**		**Pn**	**14 15 46.8**	**-0.1**
RDJH					**Sn**	**14 16 04.1**	**-0.4**
N19K	**Bonanza Creek**	**0.87**	**324**		**Pn**	**14 15 48.3**	**-0.4**
N19K				IAML		14 16 07.8	
	comp=N,3μm,0.7s						
N19K	**Bonanza Creek**	**0.87**	**324**	P	**Pn**	**14 15 48.4**	**-0.3**
	baz=143,SNR=1000						
N19K				S	**Sn**	**14 16 06.5**	**-1.3**
	baz=143						
O18K	**Koktuh Hills**	**0.93**	**255**		**Pn**	**14 15 48.2**	**-0.9**
O18K				IAML		14 16 08.1	
	comp=N,2μm,0.7s						
O18K	**Koktuh Hills**	**0.93**	**255**	P	**Pn**	**14 15 48.7**	**-0.3**
	baz=74,SNR=678						
O18K				S	**Sn**	**14 16 07.1**	**-1.2**
	baz=74						
HOM	**Homer**	**1.01**	**116**		**Pn**	**14 15 49.1**	**-0.6**
HOM	**Homer**	**1.01**	**116**		**Sn**	**14 16 09.2**	**-0.2**
HOM	**Homer**	**1.01**	**116**	IAML		14 16 11.0	
	comp=N,17μm,0.4s						
HOM				IAML		14 16 11.3	
	comp=E,26μm,0.4s						
HOM	**Homer**	**1.01**	**116**	P	**Pn**	**14 15 49.7**	**0.0**
	baz=297,SNR=92						
HOM				S	**Sn**	**14 16 09.1**	**-0.2**
	baz=297						
P18K	**Big Mountain,**	**1.16**	**232**	Pn	**Pn**	**14 15 49.7**	**-1.3**
P18K	**Big Mountain,**	**1.16**	**232**	P	**Pn**	**14 15 50.3**	**-0.7**
	baz=52,SNR=378						
P18K				S	**Sn**	**14 16 10.1**	**-1.6**
	baz=52						
SPCR	**Spurr Chakacha**	**1.25**	**28**	P	**Pn**	**14 15 51.8**	**0.0**
	baz=208,SNR=142						
SPCR				S	**Sn**	**14 16 12.8**	**-0.5**
	baz=208						
CNPM	**China Poot**	**1.26**	**117**		**Pn**	**14 15 51.3**	**-0.6**
CNPM	**China Poot**	**1.26**	**117**		**Sn**	**14 16 12.0**	**-1.3**
CNPM	**China Poot**	**1.26**	**117**	IAML		14 16 13.5	
	comp=N,8μm,0.4s						
CNPM				IAML		14 16 14.5	
	comp=E,10μm,0.4s						
SPU	**Mount Spurr**	**1.27**	**32**		**Pn**	**14 15 51.2**	**-0.8**
CAPN	**Captain Cook N**	**1.31**	**59**		**Pn**	**14 15 52.8**	**+0.5**
CAPN				IAML		14 16 17.7	
	comp=E,4μm,0.5s						
CAPN				IAML		14 16 27.9	
	comp=N,4μm,0.4s						
CAPN	**Captain Cook N**	**1.31**	**59**	P	**Pn**	**14 15 53.4**	**+1.2**
	baz=240,SNR=33						
BRLK	**Bradley Lake**	**1.33**	**104**	Pn	**Pn**	**14 15 52.1**	**-0.5**
BRLK	**Bradley Lake**	**1.33**	**104**		**Sn**	**14 16 13.9**	**-0.7**
BRLK	**Bradley Lake**	**1.33**	**104**	IAML		14 16 15.0	
	comp=N,16μm,0.3s						
BRLK				IAML		14 16 15.3	
	comp=E,13μm,0.4s						
BRSE	**Bradley Lake S**	**1.41**	**104**		**Pn**	**14 15 53.1**	**-0.2**
BRSE	**Bradley Lake S**	**1.41**	**104**	P	**Pn**	**14 15 53.3**	**0.0**
	baz=286,SNR=282						
BRSE				S	**Sn**	**14 16 15.1**	**-0.8**
	baz=286						
SVW2	**Sparrevohn**	**1.45**	**314**		**Pn**	**14 15 52.7**	**-1.0**
Q20K	**Shuyak Island**	**1.60**	**160**	P	**Pn**	**14 15 54.3**	**-0.9**
	baz=341,SNR=58						
Q20K				S	**Sn**	**14 16 17.5**	**-1.7**
	baz=341						
SLKM	**Skilak Lake**	**1.65**	**75**		**Pn**	**14 15 55.0**	**-0.8**
P17K	**Kvichak River**	**1.78**	**240**	P	**Pn**	**14 15 57.3**	**+0.1**
	baz=58,SNR=841						
P17K				S	**Sn**	**14 16 22.4**	**-0.2**
	baz=58						
M20K	**Styx River**	**1.78**	**5**		**Pn**	**14 15 57.2**	**0.0**
M20K	**Styx River**	**1.78**	**5**	P	**Pn**	**14 15 57.6**	**+0.3**
	baz=184						
M20K				S	**Sn**	**14 16 22.5**	**-0.5**
	baz=184						
O17K	**Koliganek Bris**	**1.87**	**261**	P	**Pn**	**14 15 58.2**	**+0.1**
	baz=79,SNR=81						
O17K				S	**Sn**	**14 16 23.5**	**-0.9**
	baz=79						
O22K	**Cooper Landing**	**1.89**	**77**		**Pn**	**14 15 57.5**	**-0.8**
O22K				IAML		14 16 24.5	
	comp=E,4μm,0.3s						
O22K	**Cooper Landing**	**1.89**	**77**	P	**Pn**	**14 15 57.7**	**-0.6**
	baz=260,SNR=49						
O22K				S	**Sn**	**14 16 23.3**	**-1.5**
	baz=260						
SUA	**Susitna One**	**1.89**	**43**	Pn	**Pn**	**14 15 57.8**	**-0.7**
SUA				IAML		14 16 26.0	
	comp=N,3μm,0.6s						
SUA	**Susitna One**	**1.89**	**43**	P	**Pn**	**14 15 58.1**	**-0.4**
	baz=224,SNR=366						
SUA				S	**Sn**	**14 16 24.8**	**-0.4**
	baz=224						
FIS	**Fire Island**	**1.90**	**55**		**Pn**	**14 15 58.2**	**-0.1**
FIS				IAML		14 16 29.7	
	comp=E,2μm,0.6s						
SEW	**Seward**	**2.00**	**88**	Pn	**Pn**	**14 15 59.0**	**-0.5**
SEW	**Seward**	**2.00**	**88**		**Sn**	**14 16 24.8**	**-2.2**
SEW	**Seward**	**2.00**	**88**	P	**Pn**	**14 15 59.2**	**-0.4**
	baz=271,SNR=70						
SEW				S	**Sn**	**14 16 24.6**	**-2.4**
	baz=271						
RC01	**Rabbit Creek A**	**2.07**	**60**		**Pn**	**14 15 59.1**	**-1.3**
RC01	**Rabbit Creek A**	**2.07**	**60**		**Sn**	**14 16 27.2**	**-1.4**
RC01	**Rabbit Creek A**	**2.07**	**60**	IAML		14 16 31.7	
	comp=N,1μm,0.3s						
RC01				IAML		14 16 32.2	
	comp=E,895nm,0.4s						
RC01	**Rabbit Creek A**	**2.07**	**60**	P	**Pn**	**14 15 59.3**	**-1.1**
	baz=243,SNR=49						
RC01				S	**Sn**	**14 16 27.2**	**-1.4**
	baz=243						
SKT	**Skwentna**	**2.09**	**25**		**Pn**	**14 15 60.0**	**-0.7**
SKT	**Skwentna**	**2.09**	**25**	P	**Pn**	**14 16 00.5**	**-0.2**
	baz=206,SNR=223						
SKT				S	**Sn**	**14 16 28.3**	**-0.8**
	baz=206						
Q16K	**King Salmon**	**2.19**	**230**	P	**Pn**	**14 16 01.7**	**0.0**
	baz=48						
Q16K				S	**Sn**	**14 16 30.3**	**-0.6**
	baz=48						
L19K	**White Mountain**	**2.19**	**342**	Pn	**Pn**	**14 16 01.3**	**-0.5**
L19K	**White Mountain**	**2.19**	**342**	P	**Pn**	**14 16 01.5**	**-0.3**
	baz=161,SNR=734						
L19K				S	**Sn**	**14 16 30.1**	**-1.0**
	baz=161						
M22K	**Willow**	**2.31**	**43**		**Pn**	**14 16 02.4**	**-0.8**
M22K				IAML		14 16 34.9	
	comp=N,2μm,0.8s						
M22K	**Willow**	**2.31**	**43**	P	**Pn**	**14 16 02.4**	**-0.8**
	baz=225,SNR=103						
M22K				S	**Sn**	**14 16 33.2**	**-0.3**
	baz=225						
KDAK	**Kodiak Island**	**2.38**	**169**	P	**Pn**	**14 16 01.6**	**-2.4**
	comp=N,127nm,0.4s,baz=60,slow=12,SNR=458						
KDAK				S	**Sn**	**14 16 31.5**	**-3.4**
	comp=N,2μm,0.4s,baz=301,slow=24,SNR=15						
KDAK	**Kodiak Island**	**2.38**	**169**	Pn	**Pn**	**14 16 01.6**	**-2.4**
KDAK				IAML		14 16 34.9	
	comp=N,2μm,0.7s						
KDAK	**Kodiak Island**	**2.38**	**169**	P	**Pn**	**14 16 01.8**	**-2.2**
	baz=350						
KDAK				S	**Sn**	**14 16 32.0**	**-2.9**
	baz=350						
L20K	**Farewell, AK**	**2.39**	**355**	P	**Pn**	**14 16 04.4**	**+0.3**
	baz=174,SNR=529						
L20K				S	**Sn**	**14 16 34.7**	**-0.5**
	baz=174						
O16K	**Kokwok River B**	**2.41**	**260**	P	**Pn**	**14 16 04.5**	**+0.2**
	baz=76						
O16K				S	**Sn**	**14 16 33.8**	**-1.7**
	baz=76						
P16K	**Nushagak River**	**2.56**	**247**	P	**Pn**	**14 16 06.5**	**+0.3**
	baz=64,SNR=217						
P16K				S	**Sn**	**14 16 38.6**	**-0.2**
	baz=64						
PMR	**Palmer**	**2.58**	**53**	Pn	**Pn**	**14 16 04.5**	**-1.8**
PMR				IAML		14 16 38.8	
	comp=E,702nm,0.4s						
PMR	**Palmer**	**2.58**	**53**	P	**Pn**	**14 16 04.6**	**-1.8**
	baz=236,SNR=31						
PMR				S	**Sn**	**14 16 36.4**	**-2.9**
	baz=236						
PWL	**Port Wells**	**2.64**	**71**	Pn	**Pn**	**14 16 05.1**	**-2.0**
PWL				IAML		14 16 40.0	
	comp=E,1μm,0.4s						
PWL				IAML		14 16 40.9	
	comp=N,2μm,0.6s						
PWL	**Port Wells**	**2.64**	**71**	P	**Pn**	**14 16 05.6**	**-1.6**
	baz=255,SNR=28						
PWL				S	**Sn**	**14 16 38.6**	**-2.0**
	baz=255						
N16K	**Nishlik Lake**	**2.68**	**280**	P	**Pn**	**14 16 07.9**	**+0.2**
	baz=96						
N16K				S	**Sn**	**14 16 39.8**	**-1.7**
	baz=96						
GHO	**Glory Hole Cre**	**2.76**	**51**		**Pn**	**14 16 06.8**	**-2.0**
GHO				IAML		14 16 42.0	
	comp=E,2μm,0.7s						
GHO				IAML		14 16 43.1	
	comp=N,1μm,0.5s						
CUT	**Chulitna**	**2.77**	**32**		**Pn**	**14 16 08.0**	**-0.7**
CUT	**Chulitna**	**2.77**	**32**	P	**Pn**	**14 16 08.0**	**-0.7**
	baz=214,SNR=156						
CUT				S	**Sn**	**14 16 42.6**	**-0.8**
	baz=214						
KNK	**Knik Glacier**	**2.77**	**60**		**Pn**	**14 16 08.1**	**-0.7**
KNK				IAML		14 16 43.7	
	comp=N,1μm,0.5s						
KNK				IAML		14 16 43.8	
	comp=E,1μm,0.6s						
KNK	**Knik Glacier**	**2.77**	**60**	P	**Pn**	**14 16 07.2**	**-1.6**
	baz=244,SNR=30						
KNK				S	**Sn**	**14 16 41.2**	**-2.4**
	baz=244						
PPLA	**Purkeypile**	**2.86**	**12**		**Pn**	**14 16 10.2**	**+0.2**
PPLA	**Purkeypile**	**2.86**	**12**	P	**Pn**	**14 16 10.6**	**+0.6**
	baz=192,SNR=136						
OHAK	**Old Harbor**	**2.90**	**178**	Pn	**Pn**	**14 16 07.3**	**-3.1**
OHAK				IAML		14 16 43.1	
	comp=N,1μm,0.5s						
OHAK				IAML		14 16 45.3	
	comp=E,2μm,0.5s						
OHAK	**Old Harbor**	**2.90**	**178**	P	**Pn**	**14 16 07.9**	**-2.4**
	baz=359,SNR=41						
OHAK				S	**Sn**	**14 16 42.1**	**-4.2**
	baz=359						
R17K	**Ugashik Creek**	**2.91**	**213**	P	**Pn**	**14 16 10.0**	**-0.6**
	baz=31						
R17K				S	**Sn**	**14 16 45.3**	**-1.3**
	baz=31						
SML	**Sawmill**	**3.02**	**53**	Pn	**Pn**	**14 16 09.9**	**-1.9**
SML				IAML		14 16 47.0	
	comp=N,818nm,0.6s						
SML				IAML		14 16 48.4	
	comp=E,830nm,0.7s						
SML	**Sawmill**	**3.02**	**53**	P	**Pn**	**14 16 10.3**	**-1.6**
	baz=237,SNR=35						
SML				S	**Sn**	**14 16 46.1**	**-3.0**
	baz=237						
P23K	**Montague Islan**	**3.03**	**90**	P	**Pn**	**14 16 12.1**	**+0.1**
	baz=274						
P23K				S	**Sn**	**14 16 47.5**	**-1.7**
	baz=274						
TTA	**Tatalina**	**3.09**	**338**	Pn	**Pn**	**14 16 11.4**	**-1.4**
TTA	**Tatalina**	**3.09**	**338**	P	**Pn**	**14 16 12.1**	**-0.7**
	baz=155,SNR=289						
TTA				S	**Sn**	**14 16 49.2**	**-1.4**
	baz=155						
M23K	**Glacier View**	**3.26**	**56**	P	**Pn**	**14 16 13.4**	**-1.5**
	baz=241,SNR=74						
K20K	**Telida**	**3.27**	**355**		**Pn**	**14 16 14.8**	**-0.2**
K20K	**Telida**	**3.27**	**355**	P	**Pn**	**14 16 15.2**	**+0.2**
	baz=174						
K20K				S	**Sn**	**14 16 53.8**	**-1.0**
	baz=174						
R16K	**Pilot Point**	**3.33**	**222**	P	**Pn**	**14 16 15.7**	**-0.2**
	baz=39,SNR=57						
R16K				S	**Sn**	**14 16 55.8**	**-0.3**
	baz=39						
CAST	**Castle Rocks**	**3.38**	**10**	Pn	**Pn**	**14 16 15.6**	**-0.8**
CAST	**Castle Rocks**	**3.38**	**10**	P	**Pn**	**14 16 16.3**	**-0.1**
	baz=191,SNR=209						
CAST				S	**Sn**	**14 16 56.1**	**-1.1**
	baz=191						
SCM	**Sheep Creek Mo**	**3.44**	**57**		**Pn**	**14 16 15.4**	**-1.9**
SCM				IAML		14 16 59.4	
	comp=N,612nm,0.9s						
SCM				IAML		14 17 02.1	
	comp=E,499nm,0.8s						
SCM	**Sheep Creek Mo**	**3.44**	**57**	P	**Pn**	**14 16 15.9**	**-1.4**
	baz=242,SNR=60						
WAT7	**Susitna Watana**	**3.51**	**37**		**Pn**	**14 16 17.1**	**-1.1**
SII	**Sitkinak Islan**	**3.58**	**187**		**Pn**	**14 16 16.8**	**-2.3**
SII	**Sitkinak Islan**	**3.58**	**187**	P	**Pn**	**14 16 16.8**	**-2.3**
	baz=6.3,SNR=16						
SII	**Sitkinak Islan**	**3.58**	**187**	P	**Pn**	**14 16 16.7**	**-2.4**
WAT1	**Susitna Watana**	**3.60**	**39**		**Pn**	**14 16 18.2**	**-1.0**
WAT1	**Susitna Watana**	**3.60**	**39**	P	**Pn**	**14 16 18.2**	**-1.0**
	baz=222						
Q23K	**Middleton Isla**	**3.65**	**98**	P	**Pn**	**14 16 19.1**	**-0.7**
	baz=284						
KTH	**Kantishna Hill**	**3.66**	**18**		**Pn**	**14 16 19.1**	**-0.8**
KTH				IAML		14 17 03.5	
	comp=N,455nm,0.9s						
TRF	**Thorofare Moun**	**3.67**	**23**		**Pn**	**14 16 19.5**	**-0.8**
TRF				IAML		14 17 05.2	
	comp=N,668nm,0.7s						
TRF				IAML		14 17 07.6	
	comp=E,382nm,0.8s						
TRF	**Thorofare Moun**	**3.67**	**23**	P	**Pn**	**14 16 19.4**	**-0.9**
	baz=205,SNR=182						
WAT6	**Susitna Watana**	**3.70**	**45**		**Pn**	**14 16 19.4**	**-1.2**
WAT6	**Susitna Watana**	**3.70**	**45**	P	**Pn**	**14 16 19.4**	**-1.2**
	baz=230,SNR=115						
CHUM	**Lake Minchumin**	**3.82**	**7**		**Pn**	**14 16 21.8**	**-0.2**
CHUM	**Lake Minchumin**	**3.82**	**7**	P	**Pn**	**14 16 21.9**	**-0.1**
	baz=188,SNR=98						
EYAK	**Cordova Ski Ar**	**3.85**	**80**		**Pn**	**14 16 21.8**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.85**	**80**	P	**Pn**	**14 16 21.8**	**-0.6**
	baz=266						
EYAK	**Cordova Ski Ar**	**3.85**	**80**	P	**Pn**	**14 16 21.8**	**-0.6**
DIV	**Divide**	**3.91**	**72**		**Pn**	**14 16 23.3**	**0.0**
KLU	**Klutina**	**3.94**	**66**		**Pn**	**14 16 23.1**	**-0.5**
KLU				IAML		14 17 10.7	
	comp=E,699nm,0.2s						
KLU	**Klutina**	**3.94**	**66**	P	**Pn**	**14 16 22.5**	**-1.2**
	baz=252						
RND	**Reindeer**	**3.96**	**31**		**Pn**	**14 16 23.2**	**-0.7**
M24K	**Tolsona, Glenn**	**4.05**	**57**		**Pn**	**14 16 24.8**	**-0.4**
M24K				IAML		14 17 16.8	
	comp=N,525nm,0.8s						
M24K				IAML		14 17 28.9	

comp=E,524nm,1.2s
M24K Tolsona, Glenn 4.05 57 P Pn 14 16 24.6 -0.6
baz=243,SNR=69
J20K Nowinta River 4.09 356 Pn Pn 14 16 25.2 -0.3
J20K Nowinta River 4.09 356 P Pn 14 16 25.8 +0.2
baz=175,SNR=190
DHY Denali Highway 4.15 42 Pn 14 16 25.3 -1.2
DHY IAML 14 17 16.9
comp=N,453nm,0.7s
DHY IAML 14 17 20.2
comp=E,469nm,0.6s
DHY Denali Highway 4.15 42 P Pn 14 16 25.6 -0.9
baz=226,SNR=132
BPAW Bear Paw Mtn. 4.17 15 Pn 14 16 25.6 -1.0
BPAW IAML 14 17 14.2
comp=E,195nm,0.6s
BPAW IAML 14 17 14.9
comp=N,335nm,0.9s
BPAW Bear Paw Mtn. 4.17 15 P Pn 14 16 25.5 -1.0
baz=197
MCK McKinley 4.21 28 Pn 14 16 26.5 -0.6
MCK IAML 14 17 17.1
comp=E,388nm,0.6s
MCK IAML 14 17 23.8
comp=N,250nm,0.8s
MCK McKinley 4.21 28 P Pn 14 16 26.2 -0.9
baz=212,SNR=200
BMRM Bremner River 4.45 75 Pn 14 16 30.1 -0.2
BMRM Bremner River 4.45 75 P Pn 14 16 29.8 -0.4
baz=262
CHIR Chirikof Islan 4.46 196 Pn 14 16 27.3 -3.0
CHIR Chirikof Islan 4.46 196 P Pn 14 16 27.3 -3.0
baz=14
BWN Browne 4.48 23 Pn 14 16 30.4 -0.1
BWN IAML 14 17 30.3
comp=E,312nm,0.7s
BWN IAML 14 17 31.0
comp=N,330nm,0.6s
CHGN Chignik 4.64 217 Pn 14 16 30.9 -1.8
CHGN IAML 14 17 25.0
comp=E,284nm,0.3s
CHGN IAML 14 17 25.0
comp=N,336nm,0.6s
CHGN Chignik 4.64 217 P Pn 14 16 31.0 -1.6
baz=33,SNR=42
PAX Paxson 4.77 50 Pn 14 16 34.0 -0.4
PAX Paxson 4.77 50 P Pn 14 16 33.8 -0.7
baz=236,SNR=98
GLB Gilahina Butte 4.91 70 Pn 14 16 36.4 +0.1
GLB IAML 14 17 31.6
comp=N,301nm,0.6s
GLB IAML 14 17 33.0
comp=E,235nm,0.7s
GCSA Galena City Sc 4.92 343 Pn 14 16 36.1 -0.2
GCSA Galena City Sc 4.92 343 P Pn 14 16 36.1 -0.2
baz=159,SNR=89
NEA2 Nenana 4.94 22 Pn 14 16 35.8 -0.8
NEA2 IAML 14 17 31.8
comp=N,147nm,0.6s
NEA2 IAML 14 17 32.2
comp=E,126nm,0.5s
NEA2 Nenana 4.94 22 P Pn 14 16 35.4 -1.1
baz=206,SNR=842
WRH Wood River Hil 5.04 27 Pn 14 16 36.7 -1.2
WRH IAML 14 17 37.9
comp=E,164nm,0.6s
WRH IAML 14 17 39.4
comp=N,181nm,0.6s
VRDI Verde Repeater 5.04 73 Pn 14 16 38.1 0.0
VRDI IAML 14 17 36.4
comp=E,161nm,0.8s
VRDI IAML 14 17 37.8
comp=N,312nm,0.7s
MLY Manley 5.09 13 Pn 14 16 37.4 -1.3
MLY Manley 5.09 13 P Pn 14 16 37.5 -1.1
baz=195,SNR=184
I21K Tanana 5.13 7 Pn 14 16 38.2 -0.9
I21K IAML 14 17 36.2
comp=E,222nm,1.0s
I21K Tanana 5.13 7 P Pn 14 16 38.6 -0.5
baz=188,SNR=242
K24K Donnelly Dome 5.17 41 P Pn 14 16 40.4 +0.6
baz=227,SNR=225
CCB Clear Creek Bu 5.25 28 Pn 14 16 39.4 -1.3
CCB IAML 14 17 38.8
comp=E,194nm,0.9s
CCB IAML 14 17 43.2
comp=N,102nm,0.5s
MCARA McCarthy VSAT 5.27 71 Pn 14 16 40.7 -0.2
MCARA McCarthy VSAT 5.27 71 P Pn 14 16 41.0 0.0
baz=260,SNR=59
HDA Harding Lake 5.27 32 Pn 14 16 40.1 -0.9
HDA Harding Lake 5.27 32 P Pn 14 16 39.8 -1.1
baz=218,SNR=639
I23K Minto, Yukon-K 5.39 19 Pn 14 16 42.1 -0.4
I23K Minto, Yukon-K 5.39 19 P Pn 14 16 41.4 -1.1
baz=202,SNR=819
MDM Murphy Dome 5.43 24 Pn 14 16 42.2 -0.9
TCOL CIGO, UAF Yank 5.43 26 Pn 14 16 42.8 -0.3
TCOL CIGO, UAF Yank 5.43 26 P Pn 14 16 42.1 -0.9
baz=211,SNR=166
COLA College 5.43 26 Pn 14 16 42.5 -0.6
COLA College 5.43 26 P Pn 14 16 42.1 -1.0
baz=211
COLA College 5.43 26 P Pn 14 16 42.1 -1.0
MENT Mentasta 5.45 54 Pn 14 16 42.8 -0.6
RIDG Independent Ri 5.45 44 Pn 14 16 42.7 -0.7
RIDG Independent Ri 5.45 44 P Pn 14 16 43.1 -0.3
baz=232,SNR=215
ISLE Juniper Island 5.53 80 Pn 14 16 44.2 -0.4
KIAG Kiagna River 5.54 77 Pn 14 16 44.4 -0.3
M26K Nabesna, AK 5.54 61 P Pn 14 16 44.9 +0.4
baz=250
BALM Baldy 5.55 76 Pn 14 16 44.8 0.0
H21K Melozitna Rive 5.58 3 Pn 14 16 44.2 -0.8
H21K Melozitna Rive 5.58 3 P Pn 14 16 44.6 -0.4
baz=183
IL31 5.58 30 Pn 14 16 44.1 -0.8
ILAR Eielson Array 5.58 30 P Pn 14 16 43.5 -1.5
comp=N,192nm,0.6s,baz=219,slow=13,SNR=1944
ILAR S Sn 14 17 41.8 -6.7
comp=N,122nm,0.7s,baz=221,slow=22,SNR=18
ILAR Eielson Array 5.58 30 Pn 14 16 44.0 -1.0
L26K Log Cabin Wild 5.64 54 Pn 14 16 46.0 +0.1
L26K Log Cabin Wild 5.64 54 P Pn 14 16 45.8 0.0
baz=243,SNR=62
DOT Dot Lake 5.68 47 Pn 14 16 46.1 -0.2
POKR Poker Plat Res 5.74 26 Pn 14 16 46.5 -0.6
POKR Poker Plat Res 5.74 26 P Pn 14 16 46.0 -1.1
baz=211,SNR=151
H22K Ishtalitna Cre 5.88 8 P Pn 14 16 48.1 -1.0
baz=190
BARN Barnard Glacie 5.88 76 Pn 14 16 49.1 -0.2
IMAR Indian Mountai 5.90 359 Pn 14 16 49.3 +0.1
SCRK Sand Creek 5.90 45 Pn 14 16 48.6 -0.8
SCRK Sand Creek 5.90 45 P Pn 14 16 48.2 -1.2
baz=233,SNR=52
H23K Yukon River 6.00 16 Pn 14 16 49.2 -1.4
H23K Yukon River 6.00 16 P Pn 14 16 49.4 -1.3
baz=199
M27K Edge Creek, AK 6.02 63 Pn 14 16 51.0 0.0
M27K Edge Creek, AK 6.02 63 P Pn 14 16 51.6 +0.6
baz=253,SNR=73
SDPT Sand Point 6.08 221 Pn 14 16 48.9 -2.8
SDPT Sand Point 6.08 221 P Pn 14 16 49.4 -2.3
baz=36,SNR=6.4
H24K Noodor Dome 6.28 21 Pn 14 16 52.6 -1.8
H24K Noodor Dome 6.28 21 P Pn 14 16 53.0 -1.3
baz=206,SNR=266
L27K Beaver Creek, 6.28 57 Pn 14 16 53.9 -0.5
L27K Beaver Creek, 6.28 57 P Pn 14 16 54.2 -0.2
baz=247
BCAR Beaver Creek A 6.30 57 Pn 14 16 54.6 0.0
SAMH Samovar Hills 6.33 84 Pn 14 16 55.7 +0.6
J26L Joseph Creek 6.37 42 Pn 14 16 54.0 -1.5
J26L Joseph Creek 6.37 42 P Pn 14 16 54.5 -1.0
baz=230
S12K Black Hills 6.37 230 P Pn 14 16 55.1 -0.6
baz=43
G21K Allakaket 6.43 360 P Pn 14 16 56.1 -0.2
baz=180
BVCY Beaver Creek 6.49 64 P Pn 14 16 57.6 +0.5
baz=254,SNR=49
PRP Porcupine Dome 6.52 30 Pn 14 16 56.6 -1.0
PRP Porcupine Dome 6.52 30 P Pn 14 16 56.4 -1.3
baz=217,SNR=90
YUK3 Moose Creek 6.54 70 P Pn 14 16 58.1 +0.1
baz=261,SNR=39
O28M Mount Upton 6.59 79 P Pn 14 16 59.1 +0.3
baz=270
PCA Pinnacle 6.59 84 Pn 14 16 58.7 +0.1
PINM Pinnacle 6.59 84 P Pn 14 16 58.5 -0.1
baz=276,SNR=24
K27K Chicken 6.62 49 Pn 14 16 57.7 -1.2
K27K Chicken 6.62 49 P Pn 14 16 58.3 -0.6
baz=238
G23K Bananza Creek 6.80 12 P Pn 14 17 00.1 -1.1
baz=194,SNR=230
YUK8 Steele Glacier 6.82 74 P Pn 14 17 01.6 -0.1
baz=266,SNR=23
G22K Bettles 6.89 6 P Pn 14 17 01.4 -0.9
baz=188
BCPM Bancas Point 6.92 85 Pn 14 17 03.1 +0.3
PNL Peninsula 7.08 87 Pn 14 17 04.5 -0.5
PNL Peninsula 7.08 87 P Pn 14 17 04.5 -0.5
baz=280
PNL Peninsula 7.08 87 P Pn 14 17 04.6 -0.4
ANM Nome 7.12 314 Pn 14 17 05.9 +0.4
ANM Nome 7.12 314 P Pn 14 17 05.9 +0.4
baz=123,SNR=24
G24K Hadweenzic Riv 7.13 19 P Pn 14 17 04.1 -1.5
baz=205
F21K Alatna River 7.14 360 P Pn 14 17 05.3 -0.4
baz=180,SNR=29
COLD Coldfoot 7.29 10 Pn 14 17 06.7 -1.0
COLD Coldfoot 7.29 10 P Pn 14 17 06.5 -1.1
baz=193,SNR=63
YUK4 Talbot Arm 7.36 74 P Pn 14 17 09.1 +0.2
baz=266,SNR=10
EGAK Eagle 7.37 45 Pn 14 17 07.3 -1.3
EGAK Eagle 7.37 45 P Pn 14 17 07.6 -1.0
baz=236,SNR=41
O29M Mount Kennedy 7.41 82 P Pn 14 17 09.1 -0.4
baz=275,SNR=36
G25K Bearman Lake 7.44 23 P Pn 14 17 08.0 -1.6
baz=209
F22K John River 7.45 4 P Pn 14 17 09.2 -0.6
baz=185
FYU Fort Yukon 7.45 26 Pn 14 17 08.5 -1.3
YUK6 Outpost Mounta 7.49 77 P Pn 14 17 10.1 -0.5
baz=270,SNR=11
FALS False Pass 7.52 230 Pn 14 17 09.8 -1.0
FALS False Pass 7.52 230 P Pn 14 17 09.9 -1.0
baz=42
M29M Somme Creek 7.58 66 P Pn 14 17 11.9 +0.2
baz=258
DAWY Dawson 7.69 53 Pn 14 17 13.0 0.0
DAWY Dawson 7.69 53 P Pn 14 17 13.0 0.0
baz=245,SNR=42
I27K Kandik River 7.71 39 P Pn 14 17 12.0 -1.4
baz=230,SNR=103
F24K Squaw Lake 7.83 16 P Pn 14 17 13.6 -1.3
baz=201
L29M L29M 7.89 61 P Pn 14 17 15.8 +0.1
baz=254
HYT Haines Junctio 7.91 78 Pn 14 17 16.7 +0.7
HYT Haines Junctio 7.91 78 P Pn 14 17 16.4 +0.3
baz=272,SNR=7.5
P29M Windy Craggy 7.92 87 Pn 14 17 15.7 -0.4
P29M Windy Craggy 7.92 87 P Pn 14 17 15.8 -0.4
baz=280,SNR=108
E22K Anaktuvuk Pass 8.09 4 P Pn 14 17 17.9 -0.4
baz=186
G26K Porcupine Rive 8.10 28 P Pn 14 17 16.7 -1.7
baz=216
E23K Chandalar 8.15 10 P Pn 14 17 18.2 -1.0
baz=193,SNR=41
H27K Steamboat Moun 8.16 36 P Pn 14 17 17.6 -1.6
baz=227
P30M Million Dollar 8.23 83 P Pn 14 17 21.0 +0.7
baz=277,SNR=7.7
F25K Christian Rive 8.25 21 P Pn 14 17 18.9 -1.6
baz=208
E24K Your Creek 8.28 13 P Pn 14 17 19.8 -1.1
baz=197
BMAR Burnt Mountain 8.32 24 Pn 14 17 19.7 -1.7
K29M Barlow Dome 8.37 57 P Pn 14 17 22.7 +0.5
baz=227
M30M Minto, Yukon 8.37 66 Pn 14 17 22.3 +0.2
M30M Minto, Yukon 8.37 66 P Pn 14 17 22.3 +0.2
baz=260
G27K Doyon Strip 8.53 33 P Pn 14 17 22.3 -1.9
baz=223,SNR=37
TNA Tin City 8.57 316 Pn 14 17 23.6 -1.1
TNA Tin City 8.57 316 P Pn 14 17 23.8 -0.9
baz=123
O30N Mendenhall 8.60 78 P Pn 14 17 24.7 -0.5
baz=273,SNR=6.0
F26K Sheenjek River 8.63 24 P Pn 14 17 23.2 -2.3
baz=212,SNR=93
PLBC Pleasant Camp 8.64 87 P Pn 14 17 25.5 -0.2
baz=282,SNR=17
I29M Ogilvie Camp, 8.70 46 Pn 14 17 25.8 -0.7
I29M Ogilvie Camp, 8.70 46 P Pn 14 17 26.0 -0.5
baz=240
E25K Arctic Village 8.74 20 P Pn 14 17 25.2 -1.7
baz=207,SNR=200
N31M Braeburn, Yuko 8.74 73 Pn 14 17 26.7 -0.3
N31M Braeburn, Yuko 8.74 73 P Pn 14 17 27.1 +0.1
baz=269
D23K Nanushuk River 8.97 6 P Pn 14 17 29.4 -0.5
baz=189,SNR=23
MAYO Mayo, Yukon 8.99 60 Pn 14 17 31.3 +1.1
MAYO Mayo, Yukon 8.99 60 P Pn 14 17 31.1 +0.8
baz=255,SNR=28
S31K Pelican 9.13 96 P Pn 14 17 31.7 -0.4
baz=291
SKAG Skagway 9.15 86 Pn 14 17 32.9 +0.4
SKAG Skagway 9.15 86 P Pn 14 17 32.5 +0.1
baz=282
WHY Whitehorse 9.20 79 Pn 14 17 33.0 -0.2
WHY Whitehorse 9.20 79 P Pn 14 17 32.9 -0.4
baz=275,SNR=11
D24K Happy Valley 9.29 10 P Pn 14 17 33.8 -0.4
baz=194,SNR=35
M31M Drury Creek, Y 9.44 69 P Pn 14 17 36.4 +0.2
baz=266,SNR=17
UNV Unalaska Valle 9.49 234 Pn 14 17 34.9 -2.0
UNV Unalaska Valle 9.49 234 P Pn 14 17 34.7 -2.3
baz=44
E27K Coleen River 9.59 27 P Pn 14 17 36.4 -1.8
baz=218
D25K Kavik River 9.72 15 P Pn 14 17 38.3 -1.6
baz=201
EPYK Eagle Plains 9.78 43 Pn 14 17 39.9 -0.9
EPYK Eagle Plains 9.78 43 P Pn 14 17 40.2 -0.5
baz=238,SNR=52
C24K Franklin Bluff 9.85 10 P Pn 14 17 40.4 -1.1
baz=194
FARO Faro, Yukon 9.92 69 P Pn 14 17 43.6 +0.9
baz=266
P32M Atlin 9.93 84 P Pn 14 17 43.6 +0.8
baz=281
SIT Sitka 9.93 100 P Pn 14 17 42.7 -0.1
baz=295
JIS Juneau Island 9.94 92 P Pn 14 17 44.6 +1.8
S32K Killisnoo 10.13 97 P Pn 14 17 45.8 +0.4
baz=293
P33M Teslin, Yukon 10.27 80 Pn 14 17 47.1 -0.2
P33M Teslin, Yukon 10.27 80 P Pn 14 17 46.8 -0.4
baz=278,SNR=15
G30M tAoh Zraii Nji 10.28 41 P Pn 14 17 46.1 -1.2
baz=236
C27K Jago River 10.39 19 P Pn 14 17 46.9 -1.8
baz=208
C26K Camden Bay 10.47 16 P Pn 14 17 48.0 -1.7
baz=204
Q32M Nakina River 10.80 87 P Pn 14 17 54.3 -0.1
baz=285
A21K Barrow 11.33 355 P Pn 14 17 57.7 -3.2
baz=172
R33M Jennings River 11.34 84 P Pn 14 18 02.4 +1.1
baz=283,SNR=8.4
F31M Tsiigehtchic 11.35 41 P Pn 14 17 59.7 -1.5
baz=239,SNR=33
U33K Whale Pass 11.45 102 P Pn 14 18 03.4 +0.8
baz=299,SNR=8.0
WRAK Wrangell Islan 11.69 99 P Pn 14 18 05.4 -0.3
baz=297
S34M Telegraph Cree 11.69 91 P Pn 14 18 06.1 +0.4
baz=290,SNR=6.3
INK Inuvik 11.88 38 P Pn 14 18 06.9 -1.2
comp=N,38nm,0.7s,baz=235,slow=13,SNR=104
INK Inuvik 11.88 38 Pn 14 18 07.9 -0.2
INK Inuvik 11.88 38 P Pn 14 18 07.1 -1.1
baz=236,SNR=53
DLBC Dease Lake 12.07 88 P Pn 14 18 11.4 +0.7
comp=N,0.9nm,0.3s,baz=299,slow=13,SNR=6.9
DLBC Dease Lake 12.07 88 P Pn 14 18 11.5 +0.7
baz=288
WTLY Watson Lake, Y 12.27 79 P Pn 14 18 14.3 +1.1
baz=281
V35K Ketchikan 12.58 103 P Pn 14 18 18.1 +0.9
baz=301
WRGLY Wrigley 14.50 65 P P 14 18 42.7 -0.9
baz=271,SNR=8.7
KOTAN Kotaneelee Air 14.59 77 P P 14 18 44.1 -0.6
baz=283
C36M Paulatuk 15.40 41 Pn 14 18 51.4 -1.1
C36M Paulatuk 15.40 41 P Pn 14 18 50.5 -1.9
baz=248,SNR=57
BBB Bella Bella 16.10 108 P P 14 19 02.6 +1.2
comp=N,16nm,1.0s,baz=315,slow=12,SNR=2.3
A36M Sachs Harbour 16.28 32 P Pn 14 19 02.0 -1.2
A36M Sachs Harbour 16.28 32 P Pn 14 19 01.9 -1.2
baz=238,SNR=29
YKA Yellowknife Ar 18.61 66 P P 14 19 29.4 +0.7
comp=N,6.5nm,0.6s,baz=278,slow=11,SNR=113
YKA PcP PcP 14 23 49.1 -0.9
comp=N,0.7nm,0.5s,baz=265,slow=1.4,SNR=8.1
YKA ScP ScP 14 27 09.3 -0.9
comp=N,0.5nm,0.6s,baz=282,slow=2.1,SNR=7.2
YKA Yellowknife Ar 18.61 66 P P 14 19 28.6 -0.1
CLRS Cowichan Lake 20.25 111 P P 14 19 45.8 -0.8
CLRS IAmb IAmb 14 20 23.8
comp=Z,28nm,1.3s
EDM Edmonton 22.78 90 P P 14 20 13.3 +0.7
EDM IAmb IAmb 14 20 20.9
comp=Z,17nm,1.5s
B08A Colville Reser 22.85 106 P P 14 20 15.1 +1.8
B08A IAmb IAmb 14 20 16.3
comp=Z,12nm,0.6s
LTY Liberty 22.99 109 P P 14 20 16.2 +1.6
LTY IAmb IAmb 14 20 17.6
comp=Z,10nm,0.8s
D08A Wollman Farm, 23.97 107 P P 14 20 25.1 +1.7
D08A IAmb IAmb 14 20 27.9
comp=Z,8.5nm,0.8s
NEW Newport 23.99 103 P P 14 20 25.0 +1.3
comp=Z,7.5nm,0.8s,baz=307,slow=9.0,SNR=15
comp=Z,7.5nm,0.8s
NEW Newport 23.99 103 P P 14 20 24.9 +1.2
baz=313
HAWA Hanford 24.16 109 P P 14 20 27.6 +2.5
HAWA IAmb IAmb 14 20 28.3
comp=Z,8.7nm,0.9s
KEBM Edson Butte 24.71 121 P P 14 20 32.8 +2.6
DBO Dodson Butte 24.98 119 P P 14 20 35.0 +2.3
DBO IAmb IAmb 14 20 39.9
comp=Z,26nm,1.4s
G08A Pilot Rock 25.24 110 P P 14 20 36.8 +1.7
RES Resolute Bay 25.33 32 P P 14 20 35.4 0.0
comp=Z,3.1nm,0.6s,baz=228,slow=11,SNR=7.0
comp=Z,3.1nm,0.6s
RES Resolute Bay 25.33 32 P P 14 20 36.2 +0.8
PINE Pine Mountain 25.47 115 P P 14 20 40.4 +3.2
PINE IAmb IAmb 14 20 41.5
comp=Z,15nm,1.0s
F10A Beach Ranch, E 25.56 107 P P 14 20 40.0 +2.0
K05A Summer Lake 26.33 117 P P 14 20 48.4 +3.4
K05A IAmb IAmb 14 20 48.7
comp=Z,8.0nm,0.7s
YBH Yreka Blue Hor 26.33 120 P P 14 20 47.8 +2.9
comp=Z,3.8nm,0.6s,baz=359,slow=6.7,SNR=11
YBH Yreka Blue Hor 26.33 120 P P 14 20 47.7 +2.9
BMO Blue Mountains 26.35 109 P P 14 20 47.2 +2.2
BMO IAmb IAmb 14 20 48.1
comp=Z,8.3nm,0.8s
PLID Pearl Lake 26.80 107 P P 14 20 51.1 +1.9
PETK Petropavlovsk- 27.23 277 P P 14 20 52.2 -0.5
comp=Z,1.3nm,0.8s,baz=66,slow=14,SNR=1.1
PETK LR LR 14 31 48.3
comp=Z,38nm,20.7s,baz=106,slow=36
comp=Z,1.3nm,0.8s
MOD Modoc Plateau 27.25 117 P P 14 20 55.4 +2.2
MOD IAmb IAmb 14 20 56.7
comp=Z,4.5nm,0.6s
LRM Limekiln Ridge 27.98 102 P P 14 21 01.5 +1.7
MFID Camas Ranch 28.13 109 P P 14 21 03.1 +2.2
MFID IAmb IAmb 14 21 03.8
comp=Z,6.4nm,0.7s
BOZ Bozeman (W) 28.55 102 P P 14 21 06.5 +1.9
BOZ Bozeman (W) 28.55 102 P P 14 21 05.3 +0.7
baz=316
HLID Hailey 28.69 108 P P 14 21 07.5 +1.5
HLID Hailey 28.69 108 P P 14 21 07.5 +1.5
baz=319
BEKR Beckworth 28.88 120 P P 14 21 09.0 +1.3
BEKR IAmb IAmb 14 21 10.7
comp=Z,4.9nm,0.6s
FCC Fort Churchill 29.34 66 P P 14 21 12.6 +1.4
FCC IAmb IAmb 14 21 13.0
comp=Z,7.0nm,0.7s
YMR Madison River 29.54 102 P P 14 21 16.0 +2.5
YMR IAmb IAmb 14 21 16.9
comp=Z,5.4nm,0.6s
H17A Grant Village 29.93 102 P P 14 21 17.9 +0.9
baz=317
RLMT Red Lodge 30.05 100 P P 14 21 20.5 +2.5
baz=316
NVAR Mina Array Bea 30.97 119 P P 14 21 27.8 +1.7
comp=Z,4.3nm,0.7s,baz=310,slow=8.4,SNR=23
NVAR ScP ScP 14 27 46.5 +0.9
comp=Z,1.5nm,0.7s,baz=304,slow=2.0,SNR=6.8
comp=Z,4.3nm,0.7s
SPUT South Promonto 31.35 108 P P 14 21 31.9 +2.5
SPUT IAmb IAmb 14 21 32.5
comp=Z,3.2nm,0.6s
BW06 Boulder Array 31.63 103 P P 14 21 33.5 +1.5
baz=319
PDAR Pinedale Array 31.63 103 P P 14 21 33.9 +2.0
comp=Z,2.2nm,0.6s,baz=337,slow=3.6,SNR=27
PDAR ScP ScP 14 27 47.1 -0.7
comp=Z,0.4nm,0.8s,baz=323,slow=1.4,SNR=4.2
comp=Z,2.2nm,0.6s
DUG Dugway, Tooele 32.05 110 P P 14 21 37.9 +2.4
baz=322,SNR=7.1
R11A Troy Canyon, C 32.25 115 P P 14 21 39.2 +2.0
baz=325,SNR=9.0
GRAC Grapevine Rang 32.57 119 P P 14 21 42.0 +2.1
baz=327
CWC Cottonwood Cre 32.73 120 P P 14 21 43.0 +1.6
baz=328
VES Vestal, Richgr 32.80 122 P P 14 21 43.8 +1.8
baz=329
TPNV Topopah Spring 33.10 118 P P 14 21 47.2 +2.5
baz=326
K22A Casper 33.21 100 P P 14 21 47.5 +1.9
baz=318
MPMC Manual Prospec 33.31 120 P P 14 21 48.2 +1.7
baz=328
RSSD Black Hills 33.36 96 P P 14 21 49.5 +2.5
baz=316
GSC Goldstone, Bar 34.24 120 P P 14 21 56.7 +2.2
baz=328
O20A White River Ci 34.28 105 P P 14 21 57.1 +2.2
baz=321,SNR=9.2
BFSC Mount Baldy Ra 34.78 122 P P 14 22 01.0 +1.9
baz=329
N23A Red Feather La 34.81 102 P P 14 22 00.8 +1.2
baz=320
HEC Hector,Ludlow 34.84 120 P P 14 22 02.3 +2.6
baz=328
GMRC Granite Mounta 35.18 119 P P 14 22 04.3 +1.8
baz=328
CIS Catalina Islan 35.18 124 P P 14 22 03.7 +1.3
baz=330
BELC Belle Mtn. Jos 35.70 120 P P 14 22 08.8 +1.8
baz=329
PFO Pinyon Flats O 35.83 121 P P 14 22 09.8 +1.7
baz=329
IRM Iron Mountain 35.93 119 P P 14 22 11.0 +2.1
baz=328,SNR=5.4

BC3	Big Chuckawall	36.23	120	P		P	14 22 13.1	+1.7
	baz=329							
MVCO	Mesa Verde	36.46	108	P		P	14 22 14.9	+1.3
	baz=324							
WUAZ	Wupatki	36.49	113	P		P	14 22 16.4	+2.6
	baz=326,SNR=7.5							
Q24A	Divide	36.69	103	P		P	14 22 17.2	+1.6
	baz=321							
IKP	In-Ko-Pah, Jac	36.80	121	P		P	14 22 18.2	+1.9
	baz=330							
S22A	4UR Ranch, Cre	36.84	106	P		P	14 22 19.3	+2.5
	baz=323							
GLA	Glamis	37.01	119	P		P	14 22 20.0	+1.9
	baz=329							
SDCO	Great Sand Dun	37.48	105	P		P	14 22 24.7	+2.5
	baz=322,SNR=6.2							
W18A	Petrified Fore	37.58	112	P		P	14 22 25.1	+2.2
	baz=326							
214A	Organ Pipe Nat	38.83	118	P		P	14 22 35.0	+1.7
	baz=329							
ANMO	Albuquerque	39.26	108	P		P	14 22 38.5	+1.5
	baz=325							
TUC	Tucson	39.44	115	P		P	14 22 40.6	+2.2
	baz=328							
CBKS	Cedar Bluff	39.47	98	P		P	14 22 40.0	+1.4
	baz=321							
121A	Cookes Peak, D	40.63	112	P		P	14 22 50.5	+2.2
	baz=327							
PUH	Pauahi	40.71	183	P		P	14 22 48.4	-0.6
SPB2	Spitsbergen Ar	41.82	3	P		P	14 22 58.0	+0.8
MSTX	Muleshoe	41.82	105	P		P	14 22 59.7	+1.8
	baz=325							
KLR	Kul'dur	42.30	290	P		P	14 23 01.6	+0.2
	comp=Z,1.3nm,0.5s,baz=64,slow=7.4,SNR=4.7							
	comp=Z,1.3nm,0.5s							
MNTX	Cornudas Mount	42.44	110	P		P	14 23 05.3	+2.4
MNTX	Cornudas Mount	42.44	110	P		P	14 23 04.9	+2.0
	baz=327,SNR=9.0							
WMOK	Wichita Mounta	43.15	101	P		P	14 23 09.5	+1.0
	baz=323							
SCHQ	Schefferville	43.69	57	P		P	14 23 12.5	-0.1
	comp=Z,3.6nm,0.6s,baz=304,slow=7.8,SNR=10							
	comp=Z,3.6nm,0.6s							
NRIK	Noril'sk	43.70	333	P		P	14 23 12.2	-0.1
	comp=Z,11nm,0.4s,baz=57,slow=6.2,SNR=16							
	comp=Z,11nm,0.4s							
NRIK	Noril'sk	43.70	333	P		P	14 23 12.5	+0.1
ABTX	Abilene, Hawle	44.44	103	P		P	14 23 19.9	+1.1
	baz=325							
TX32	Lajitas Array	45.23	110	P		P	14 23 26.6	+1.5
TXAR	Lajitas Array	45.23	110	P		P	14 23 26.6	+1.5
	comp=Z,2.4nm,0.8s,baz=329,slow=6.2,SNR=27							
TXAR				ScP		ScP	14 28 39.0	-0.6
	comp=Z,0.2nm,0.8s,baz=286,slow=3.4,SNR=4.6							
	comp=Z,2.4nm,0.8s							
TXAR	Lajitas Array	45.23	110	P		P	14 23 26.5	+1.3
USRK	Ussuriysk Ar.	45.80	285	P		P	14 23 28.7	-0.6
	comp=Z,1.7nm,0.7s,baz=64,slow=6.6,SNR=2.1							
	comp=Z,1.7nm,0.7s							
JCT	Junction City	46.12	105	P		P	14 23 33.9	+1.8
	baz=326,SNR=16							
TZTN	Tazewell	49.32	86	P		P	14 23 59.1	+2.5
	baz=322							
PAL	Palisades	50.61	74	P		P	14 24 09.3	+3.1
	baz=320							
ARCES	ARCESS Array B	50.65	0	P		P	14 24 05.0	-1.1
	comp=Z,3.9nm,0.9s,baz=351,slow=4.7,SNR=1.3							
	comp=Z,3.9nm,0.9s							
KSRS	Korea Array	52.94	282	P		P	14 24 24.2	+0.7
	comp=Z,1.1nm,0.5s,baz=46,slow=7.9,SNR=5.2							
	comp=Z,1.1nm,0.5s							
JCJ	Chichijima	54.18	262	LR		LR	14 43 57.2	
	comp=Z,42nm,21.2s,baz=120,slow=32							
SONM	Songino Array	54.55	306	P		P	14 24 35.9	+0.7
	comp=Z,3.2nm,0.7s,baz=45,slow=6.1,SNR=15							
	comp=Z,3.2nm,0.7s							
ZAA0	Zalesovo Array	57.15	323	P		P	14 24 53.5	+0.1
ZALV	Zalesovo Beam	57.15	323	P		P	14 24 53.4	-0.1
	comp=Z,11nm,0.5s,baz=31,slow=7.1,SNR=42							
	comp=Z,11nm,0.5s							
ZALV	Zalesovo Beam	57.15	323	P		P	14 24 53.5	+0.1
HHC	Hu-ho-hao-te	57.94	297	eP		P	14 24 59.9	+0.6
HHC				pmax		pmax		
	comp=Z,22nm,0.9s							
HHC				pmax		pmax		
	comp=Z,220nm,5.0s							
FINES	FINESS Array B	58.77	0	P		P	14 25 03.6	-0.9
	comp=Z,5.4nm,1.0s,baz=0.0,slow=9.0,SNR=2.2							
	comp=Z,5.4nm,1.0s							
KURK	Kurchatov	61.81	325	P		P	14 25 24.7	-0.7
KURK				IAmb		IAmb	14 25 25.8	
	comp=Z,5.3nm,0.9s							
BVAR	Borovoye Array	61.87	332	P		P	14 25 25.2	-0.5
	comp=Z,8.5nm,0.6s,baz=28,slow=6.6,SNR=38							
	comp=Z,8.5nm,0.6s							
KURBB	Kurchatov Arra	61.92	325	P		P	14 25 25.4	-0.7
	comp=Z,4.1nm,0.5s,baz=29,slow=6.5,SNR=19							
	comp=Z,4.1nm,0.5s							
MK31	Makanchi Array	64.21	321	P		P	14 25 40.4	-0.9
MKAR	Makanchi Array	64.21	321	P		P	14 25 40.3	-1.0
	comp=Z,2.1nm,0.5s,baz=38,slow=6.7,SNR=32							
	comp=Z,2.1nm,0.5s							
MKAR	Makanchi Array	64.21	321	P		P	14 25 40.8	-0.5
WMQ	Urumqi	65.03	316	eP		P	14 25 48.8	+2.1
AKTO	Aktyubinsk	66.91	339	P		P	14 25 57.2	-1.3
	comp=Z,3.0nm,0.6s,baz=14,slow=5.2,SNR=7.5							
	comp=Z,3.0nm,0.6s							
ABKAR	Akbulak array	67.67	337	P		P	14 26 02.8	-0.6
AKASG	Malin Array Be	69.52	358	P		P	14 26 12.8	-2.0
	comp=Z,0.7nm,0.4s,baz=7.9,slow=6.0,SNR=5.7							
	comp=Z,0.7nm,0.4s							
AAK	Ala-Archa	70.33	324	P		P	14 26 19.4	-0.6
	comp=Z,1.3nm,0.7s,baz=57,slow=17,SNR=6.2							
	comp=Z,1.3nm,0.7s							
PZH	PanZhiHua	74.37	296	P		P	14 26 44.7	+0.5
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,60nm,4.3s							
KBZ	Khabaz	75.65	348	P		P	14 26 51.1	0.0
	comp=Z,1.6nm,0.8s,baz=349,slow=5.2,SNR=2.9							
	comp=Z,1.6nm,0.8s							
ESDC	Sonseca Array	77.44	24	P		P	14 27 00.9	-0.4
	comp=Z,0.7nm,0.8s,baz=335,slow=6.0,SNR=5.4							
	comp=Z,0.7nm,0.8s							
CMAR	Chiang Mai Arr	82.62	294	P		P	14 27 28.0	-1.2
	comp=Z,0.4nm,0.4s,baz=11,slow=7.3,SNR=1.7							
	comp=Z,0.4nm,0.4s							
LBTB	Lobatse	144.92	2	PKP		PKPbc	14 34 40.7	-0.6
	comp=Z,2.3nm,0.7s,baz=325,slow=7.9,SNR=2.4							
BOSA	Boshof	148.50	2	PKPbc		PKPdf	14 34 50.2	-1.2
	comp=Z,2.9nm,0.8s,baz=50,slow=2.2,SNR=5.8							

*IDC **04** 14:22:13.3±3.2,32°.32S×179°.69W,h0km,mb3.7/2, mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=67.4km s-min=46.3km az=100.0*
*WEL **04** 14:23:28.3,37°.S±37°×17°.8E±2°.5,h59km±35km,M2.4/4, ML2.6/10,MLv2.4/4,Error ellipse: s-maj=0.1km s-min=0.0km az=170.2*

ISC 04 14:22:18.1±2.2,32°.6S±0°.1×179°.5W±0°.3,h35km,n18, σ1s48/17,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WMGZ	Waiomatatini S	5.53	197	P		Pn	14 23 39.4	+1.6
HAZ	Te Kaha	5.65	202	P		Pn	14 23 40.5	+1.0
PKGZ	Pakihiroa	5.68	200	P		Pn	14 23 31.4	-8.6
RUGZ	Raukumara Rang	5.87	202	P		Pn	14 23 45.1	+2.4
TWGZ	Tauwhareparae	5.98	199	P		Pn	14 23 45.0	+0.8
OPRZ	Ohinepanea	6.19	210	P		Pn	14 23 49.5	+2.6
CNGZ	Carnagh Station	6.21	197	P		Pn	14 23 46.5	-0.7
MWZ	Matawai	6.26	202	P		Pn	14 23 49.2	+1.2
URZ	Urewera	6.33	205	Pn		Pn	14 23 49.3	+0.4
	2.2nm,0.3s,baz=152,slow=4.0,SNR=15							
URZ				Sn		Sn	14 24 58.5	-1.5
	baz=63,slow=17							
	15nm,0.5s							
URZ	Urewera	6.33	205	P		Pn	14 23 49.6	+0.7
RIGZ	Rimuhau	6.53	199	P		Pn	14 23 51.8	+0.1
TOZ	Tahuroa Road	6.59	217	P		Pn	14 23 59.0	+6.5
RTZ	Ruatahuna	6.69	204	P		Pn	14 23 53.6	-0.4
SNGZ	Shannon Statio	6.73	202	P		Pn	14 23 55.1	+0.7
PRRZ	Plateau Road	6.81	208	P		Pn	14 23 57.8	+2.2
ASAR	Alice Springs	41.77	270	P		P	14 30 03.5	-0.8
	0.7nm,0.7s,baz=106,slow=7.7,SNR=14							
	0.7nm,0.7s							
WRA	Warramunga Arr	42.95	275	P		P	14 30 12.5	-1.5
	0.6nm,0.5s,baz=114,slow=7.8,SNR=12							
	0.6nm,0.5s							
FINES	FINESS Array B	146.68	338	PKPbc		PKPdf	14 41 54.6	+0.9
	4.5nm,1.0s,baz=62,slow=6.5,SNR=2.0							

*BJI **04** 14:28:06.0±0.0,22°.96N×94°.71E,h124km,mb4.4/32, mB4.8/10*
*NEIC **04** 14:28:07.8±1.4,22°.97N±0°.06×94°.74E±0°.06,h123km±6km, mb4.6/28,Error ellipse: s-maj=9.5km s-min=7.5km az=222.0*
*NDI **04** 14:28:08.9±1.5,23°.06N×94°.58E,h125km,ML4.4, mb4.6(NEIC)*
*IDC **04** 14:28:08.0±1.7,22°.90N×94°.70E,h132km±16km,mb3.9/13, mbtmp4.3/15,Error ellipse: s-maj=21.7km s-min=9.9km az=54.0*

ISC 04 14:28:05.1±0.4,22°.96N±0°.04×94°.64E±0°.05,h105km,n85, σ1s87/103,mb4.5/25,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAIH	SAIHA	1.59	253	eP		Pn	14 28 36.5	+3.6
SAIH				eS		Sn	14 28 58.5	+4.5
SAIH				IAML			14 29 01.9	
	comp=E,2μm,0.4s							
SAIH				IAML			14 29 03.6	
	comp=N,1μm,0.3s							
MND	Mandalay	1.66	124	Pn		Pn	14 28 35.6	+2.0
IMP	Imphal	1.97	341	eP		Pn	14 28 41.6	+3.9
IMP				i x		x	14 28 45.1	
IMP				eS		Sn	14 29 04.1	+1.7
SILR	SILCHAR	2.47	318	eS		Sn	14 29 14.0	+0.1
SILR				IAML			14 29 17.9	
	comp=N,2μm,0.3s							
SILR				IAML			14 29 18.3	
	comp=E,2μm,0.6s							
BRDH	Bariadhala	2.78	265	P		Pn	14 28 52.4	+4.3
	comp=E,74nm,0.3s,baz=132,slow=17,SNR=1.3							
BRDH				S		Sn	14 29 24.6	+3.6
	comp=E,248nm,0.3s,baz=325,slow=23,SNR=35							
SHL	Shillong	3.62	317	eP		Pn	14 29 01.9	+2.5
SHL				eS		Sn	14 29 40.7	-0.6
SHL				IAML			14 29 44.5	
	comp=N,2μm,0.2s							
SHL				IAML			14 29 44.7	
	comp=E,2μm,0.2s							
TEZP	TEZPUR	4.01	336	eP		Pn	14 29 06.7	+2.2
TEZP				eS		Sn	14 29 48.6	-1.9
TEZP				IAML			14 29 51.9	
	comp=E,3μm,0.3s							
TEZP				IAML			14 29 52.2	
	comp=N,3μm,0.1s							
ZIRO	ZIRO	4.61	351	eP		Pn	14 29 15.3	+2.6
ZIRO				eS		Sn	14 30 03.4	-1.8
ZIRO				IAML			14 30 07.5	
	comp=E,2μm,0.3s							
ZIRO				IAML			14 30 08.2	
	comp=N,3μm,0.3s							
CHTO	Chiang Mai	5.76	135			Pn	14 29 30.1	+1.8
CRAI	Chiangrai	5.99	116	Pn		Pn	14 29 32.3	+0.9
CM31	Chiang Mai Arr	6.02	137	Pn		Pn	14 29 33.4	+1.5
CMAR	Chiang Mai Arr	6.02	137	P		Pn	14 29 33.8	+2.0
	comp=N,3.4nm,0.7s,baz=315,slow=13,SNR=15							
CMAR				S		Sn	14 30 40.6	+1.1
	comp=N,1.2nm,0.4s,baz=304,slow=26,SNR=1.1							
CMAR	Chiang Mai Arr	6.02	137			Pn	14 29 33.5	+1.7
PHRA	Phrae	6.86	129	Pn		Pn	14 29 44.3	+1.1
PZH	PanZhiHua	7.36	60	P		Pn	14 29 53.3	+3.2
LSA	Lhasa	7.41	336	Pn		Pn	14 29 53.8	+2.8
LSA	Lhasa	7.41	336	P		Pn	14 29 54.3	+3.3
LSA				smax		smax		
	comp=N,110nm,0.9s							
LSA				smax		smax		
	comp=N,150nm,0.9s							
ODAN	Odare	7.64	302	ePg		Pn	14 29 55.6	+1.6
ODAN				eSg		Sn	14 31 18.1	-1.0
	comp=N,17nm,0.4s							
TAPN	Taplejung	7.65	306	ePg		Pn	14 29 56.3	+2.2
TAPN				eSg		Sn	14 31 18.6	-0.8
	comp=N,40nm,0.3s							
BOK	Bokaro	8.08	278	eS		Sn	14 31 25.8	-3.8
RAMN	Ramite	8.31	300	ePg		Pn	14 30 04.8	+1.8
RAMN				eSg		Sn	14 31 33.0	-2.3
	comp=N,25nm,0.3s							
JIRN	Jiri	8.96	303	ePg		Pn	14 30 13.9	+1.9
JIRN				eSg		Sn	14 31 49.8	-1.6
	comp=N,85nm,0.4s							
PKI	Pulchoki	9.53	301	ePg		Pn	14 30 21.0	+1.3
PKI				eSg		Sn	14 32 02.8	-2.4
PKIN	Phulchoki	9.54	301	ePg		Pn	14 30 21.2	+1.4
PKIN				eSg		Sn	14 32 02.9	-2.5
	comp=N,47nm,0.4s							
KKN	Kakani	9.73	302	ePg		Pn	14 30 24.3	+1.9
KKN				eSg		Sn	14 32 07.4	-2.5
	comp=N,4.4nm,0.2s							
DMN	Daman	9.79	300	ePg		Pn	14 30 24.5	+1.3
DMN				eSg		Sn	14 32 08.9	-2.4
	comp=N,47nm,0.5s							
GKN	Gorkha	10.34	301	ePg		Pn	14 30 31.2	+0.7
GKN				eSg		Sn	14 32 21.8	-2.7
	comp=N,39nm,0.3s							
KOLN	Koldanda	11.07	298	ePg		Pn	14 30 40.9	+0.4
KOLN				eSg		Sn	14 32 37.6	-4.8
	comp=N,6.8nm,0.4s							
DANN	Dangsing	11.18	301	ePg		Pn	14 30 41.8	-0.3
DANN				eSg		Sn	14 32 41.0	-4.3
	comp=N,13nm,0.3s							
GOMU	GeErMu	13.20	1	P		Pn	14 31 07.3	-1.5
GOMU				pmax		pmax		
	comp=N,3.0nm,0.7s							
ENH	Enshi	15.14	58	Pn		Pn	14 31 33.2	-0.2
LZH	Lanzhou	15.33	29	eP		P	14 31 40.2	+1.9
LZH				sP		sP	14 32 08.7	-2.4
LZH				pmax		pmax		
	comp=N,13nm,0.7s							
XAN	Xi'an	16.70	45	P		P	14 31 53.1	-0.3
XAN				pmax		pmax		
	comp=N,11nm,0.7s							
GTA	Gaotai	16.98	14	eP		P	14 31 58.0	+1.4
KULM	Kulim	18.50	161	P		Pn	14 32 14.5	-0.2
KULM				IAmb		IAmb	14 32 21.2	
	comp=Z,37nm,1.3s							
IPM	Ipoh	19.38	160	P		P	14 32 22.7	-0.2
IPM				IAmb		IAmb	14 32 23.6	
	comp=Z,17nm,0.7s							
WMQ	Urumqi	21.59	346	eP		P	14 32 48.7	+2.3
WMQ				pP		pP	14 33 10.3	+3.7
WMQ				sP		sP	14 33 26.0	+6.2
WMQ				pmax		pmax		
	comp=Z,24nm,0.9s							
HHC	Hu-ho-hao-te	22.84	35	eP		P	14 32 59.2	-0.3
HHC				pmax		pmax		
	comp=Z,29nm,0.8s							
HHC				pmax		pmax		
	comp=Z,200nm,4.7s							
KSH	Kashi	22.89	320	P		P	14 33 01.9	+1.9
KSH				pmax		pmax		
	comp=Z,9.0nm,0.8s							
NJ2	Nanjing	23.27	62	eP		P	14 33 02.6	-0.9
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
TARG	Taragay, Kyrgy	23.43	327	P		P	14 33 06.8	+1.4
MK31	Makanchi Array	25.79	340	P		P	14 33 27.5	+1.3
MK31				IAmb		IAmb	14 33 28.5	
	comp=Z,19nm,1.4s							
MKAR	Makanchi Array	25.79	340	P		P	14 33 27.8	+1.5
	comp=Z,6.7nm,0.4s,baz=147,slow=10,SNR=170							
	comp=Z,6.7nm,0.4s							
MKAR	Makanchi Array	25.79	340	P		P	14 33 27.5	+1.3
AAK	Ala-Archa	25.80	324	P		P	14 33 29.0	+2.4
	comp=Z,2.3nm,0.6s,baz=128,slow=5.5,SNR=11							
	comp=Z,2.3nm,0.6s							
AAK	Ala-Archa	25.80	324	P		P	14 33 27.8	+1.2
MAKZ	Makanchi	25.90	340	P		P	14 33 28.1	+0.9
GAR	Garm	26.16	313	P		P	14 33 31.4	+1.6
GAR				IAmb		IAmb	14 34 03.8	
	comp=Z,18nm,1.2s							
SONM	Songino Array	26.55	18	P		P	14 33 33.8	+0.6
	comp=Z,0.2nm,0.4s,baz=187,slow=11,SNR=1.9							
	comp=Z,0.2nm,0.4s							
KURK	Kurchatov	30.39	340	P		P	14 34 07.8	+0.7
KURK				IAmb		IAmb	14 34 08.9	
	comp=Z,8.9nm,0.7s							
ZAA0	Zalesovo Array	31.82	349	P		P	14 34 20.8	+1.1
ZAA0				IAmb		IAmb	14 34 21.7	
	comp=Z,7.4nm,1.1s							
ZALV	Zalesovo Beam	31.82	349	P		P	14 34 20.4	+0.7
	comp=Z,2.3nm,0.4s,baz=163,slow=7.8,SNR=16							
	comp=Z,2.3nm,0.4s							
ZALV	Zalesovo Beam	31.82	349	P		P	14 34 20.5	+0.9
BRVK	Borovoye	35.31	334	P		P	14 34 51.0	+1.1
ABKAR	Akbulak array	37.86	323	P		P	14 35 13.1	+1.4
ABKAR	Akbulak array	37.86	323	P		P	14 35 12.9	+1.3
ABKAR				IAmb		IAmb	14 35 14.0	
	comp=Z,4.8nm,0.9s							
ARU	Arti	42.58	331	P		P	14 35 51.3	+0.8
FAKI	Fak Fak	44.80	120	P		P	14 36 07.9	-0.9
KIV	Kislovodsk	47.27	309	P		P	14 36 29.1	+1.1
KIV				IAmb		IAmb	14 36 30.5	
	comp=Z,10.0nm,1.3s							
MBWA	Marble Bar	50.21	149	P		P	14 36 50.3	-0.2
KNRA	Kununurra	50.89	136	P		P	14 36 55.0	-0.7
AKASG	Malin Array Be	57.10	316	P		P	14 37 39.7	-0.8
	comp=Z,0.2nm,0.3s,baz=76,slow=5.9,SNR=1.3							
AKASG				pP		sP	14 38 13.3	-4.4
	comp=Z,1.0nm,0.6s,baz=76,slow=6.0,SNR=1.8							
	comp=Z,0.2nm,0.3s							
WRA	Warramunga Arr	57.61	135	P		P	14 37 44.0	-0.5
	comp=Z,4.1nm,0.5s,baz=322,slow=7.4,SNR=84							
	comp=Z,4.1nm,0.5s							
WB2	Warramunga Arr	57.62	135	P		P	14 37 43.6	-0.9
WB2				IAmb		IAmb	14 37 44.7	
	comp=Z,7.9nm,0.8s							
WR0	Warramunga Arr	57.76	134	P		P	14 37 44.9	-0.6
NWAO	Narrogin (SRO)	59.61	158	P		P	14 37 57.3	-0.8
FINES	FINESS Array B	59.87	329	P		P	14 37 59.5	0.0
	comp=Z,2.7nm,0.8s,baz=100,slow=9.9,SNR=5.4							
	comp=Z,2.7nm,0.8s							
FINES	FINESS Array B	59.87	329	P		P	14 37 59.6	+0.1
COEN	Coen	60.03	123	P		P	14 38 01.1	-0.1
AS31	Alice Springs	60.03	138	P		P	14 38 00.9	-0.3
AS31				IAmb		IAmb	14 38 01.6	
	comp=Z,1.8nm,0.6s							
ASAR	Alice Springs	60.03	138	P		P	14 38 00.9	-0.3
	comp=Z,3.6nm,0.5s,baz=320,slow=6.9,SNR=132							
	comp=Z,3.6nm,0.5s							
ASAR	Alice Springs	60.03	138	P		P	14 38 00.7	-0.5
ARCES	ARCESS Array B	61.41	338	P		P	14 38 09.8	-0.1
	comp=Z,2.8nm,0.7s,baz=97,slow=7.6,SNR=12							
	comp=Z,2.8nm,0.7s							
VOI	Vohitsoka	64.49	230	P		P	14 38 30.9	-0.2
VOI				IAmb		IAmb	14 38 53.0	
	comp=Z,17nm,1.4s							
CTA	Charters Tower	66.08	126	P		P	14 38 40.6	-0.6
	comp=Z,3.5nm,0.7s,baz=337,slow=5.7,SNR=5.6							
	comp=Z,3.5nm,0.7s							
CTAO	Charters Tower	66.08	126	P		P	14 38 40.6	-0.6
CTAO				IAmb		IAmb	14 38 43.6	
	comp=Z,17nm,1.4s							
STKA	Stephens Creek	70.64	139	P		P	14 39 08.8	-0.7
	comp=Z,0.8nm,0.5s,baz=315,slow=5.7,SNR=0.8							
	comp=Z,0.8nm,0.5s							
STKA	Stephens Creek	70.64	139	P		P	14 39 08.9	-0.5
BMAR	Burnt Mountain	79.88	20	P		P	14 40 01.7	-0.3
LBTB	Lobatse	82.18	239	P		P	14 40 15.2	+0.3
	comp=Z,4.4nm,0.6s,baz=84,slow=3.6,SNR=7.7							
	comp=Z,4.4nm,0.6s							
LBTB	Lobatse	82.18	239	P		P	14 40 15.1	+0.2
LBTB				IAmb		IAmb	14 40 34.1	
	comp=Z,12nm,1.3s							
BOSA	Boshof	84.22	236	P		P	14 40 25.2	-0.2
	comp=Z,5.0nm,0.6s,baz=72,slow=2.2,SNR=14							
	comp=Z,5.0nm,0.6s							
BOSA	Boshof	84.22	236	P		P	14 40 25.1	-0.2
BOSA				IAmb		IAmb	14 41 06.8	
	comp=Z,14nm,1.4s							
BDFB	Brasilia	144.08	275	PKP		PKPbc	14 47 28.0	+0.3
	comp=Z,2.4nm,0.3s,baz=32,slow=14,SNR=3.9							
CPUP	Villa Florida	154.32	257	PKPbc		PKPbc	14 47 52.2	-1.4
	comp=Z,1.5nm,0.7s,baz=40,slow=17,SNR=2.9							

*IDC **04** 14:31:16.5±0.7,19°.18S×175°.96E,h0km,mb4.8/24, mbtmp4.8/26,ML4.0/2,MS3.8/18,Error ellipse: s-maj=20.6km s-min=15.3km az=140.0*
*MOS **04** 14:31:17.5±1.2,19°.19S×175°.83E,h10km,mb5.1/29,Error ellipse: s-maj=12.0km s-min=9.8km az=126.0*
*NEIC **04** 14:31:17.4±1.7,19°.2S±0°.1×176°.24E±0°.06,h10km±1km, mb5.1/64,Error ellipse: s-maj=20.4km s-min=3.0km az=151.0*
*BJI **04** 14:31:18.5±0.0,18°.74S×175°.95E,h10km,mb4.9/46, mB5.3/24,Ms5.3/6,Ms7 5.0/5*
*NOU **04** 14:31:20.4,19°.27S×176°.29E,h26km,mb5.0/66,South of Fiji Islands*

ISC 04 14:31:17.7±0.3,19°.23S±0°.06×176°.16E±0°.06,h10km,n392, σ1s38/385,mb5.1/110,MS3.7/20,8C-23D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	2.34	51	Pn		Pn	14 31 54.3	-2.0
	60nm,0.3s,baz=231,slow=13,SNR=52							
MSVF				Sn		Sn	14 32 21.5	-3.6
	50nm,0.3s,baz=172,slow=23,SNR=6.8							
MSVF				LR		LR	14 32 46.4	
	comp=Z,2μm,19.3s,baz=225,slow=37							
TAVE	Taveuni	4.51	57	P		Pn	14 32 24.7	-1.5
DVP	Devils Point	7.71	280	P		Pn	14 32 15.2	+2.4
MARNC	Mare, Loyalty	7.94	252	Pn		Pn	14 33 14.2	+0.9
YATNC	Mamie plateau,	9.12	250	P		Pn	14 33 30.1	+0.6
OUENC	Ouen Island, N	9.27	248	Pn		Pn	14 33 32.2	+0.7
OUENC	Ouen Island, N	9.27	248	P		Pn	14 33 34.6	+3.1
DZM	Mont Dzumac	9.52	251	ePn		Pn	14 33 32.5	-2.6
	280nm,1.4s							

RABL Rabaul 27.78 300 P P 14 37 04.6 -2.6
RABL IAmb IAmb 14 37 13.4
comp=Z,53nm,1.1s
RABL Rabaul 27.78 300 P P 14 37 08.3 +1.1
comp=Z,47nm,1.3s
KRVT Keravat (AS076 27.83 299 P P 14 37 05.8 -1.7
comp=Z,68nm,0.9s,baz=17,slow=19,SNR=6.5
KRVT LR LR 14 47 09.3
comp=Z,122nm,20.8s,baz=238,slow=34
comp=Z,68nm,0.9s
CTA Charters Tower 28.16 263 P P 14 37 08.0 -2.4
comp=Z,13nm,1.1s,baz=88,slow=9.1,SNR=3.6
CTA LR LR 14 46 58.7
comp=Z,174nm,19.6s,baz=80,slow=34
comp=Z,13nm,1.1s
CTAO Charters Tower 28.16 263 P P 14 37 10.6 +0.1
PMG Port Moresby 29.70 285 P P 14 37 23.1 -1.1
comp=Z,24nm,1.2s,baz=101,slow=7.0,SNR=12
PMG LR LR 14 48 14.2
comp=Z,291nm,18.1s,baz=120,slow=34
comp=Z,24nm,1.2s
PMG Port Moresby 29.70 285 P P 14 37 23.3 -0.9
PMG IAmb IAmb 14 37 30.8
comp=Z,45nm,1.4s
PMG Port Moresby 29.70 285 P P 14 37 24.8 +0.6
comp=Z,24nm,1.3s
PMG Port Moresby 29.70 285 *d* **iP P 14 37 23.5 -0.7**
PMG pmax pmax
comp=Z,37nm,1.3s
CMSA Cobar Meteorol 30.02 240 P P 14 37 26.7 -0.2
MTSU Mount Surprise 30.16 267 P P 14 37 28.0 -0.3
baz=30,SNR=5.1
MTSU Mount Surprise 30.16 267 P P 14 37 29.4 +1.1
comp=Z,6.5nm,0.9s
QLP Quilpie 30.24 250 P P 14 37 28.5 -0.4
baz=30,SNR=5.5
QLP Quilpie 30.24 250 P P 14 37 28.5 -0.4
comp=Z,34nm,1.1s
COEN Coen 32.01 274 P P 14 37 44.1 -0.4
baz=32,SNR=4.7
COEN Coen 32.01 274 P P 14 37 43.8 -0.8
COEN IAmb IAmb 14 37 45.0
comp=Z,20nm,1.3s
COEN Coen 32.01 274 P P 14 37 44.4 -0.2
comp=Z,13nm,1.3s
TBI Tubuai 32.25 103 *e* LR LR 14 46 21.9
comp=Z,3µm,24.2s
TBI *e* LR LR 14 46 22.0
comp=Z,1µm,28.2s
TOO Toolangi 32.37 229 P P 14 37 48.3 +0.7
baz=32,SNR=4.0
TOO Toolangi 32.37 229 P P 14 37 47.0 -0.5
TOO IAmb IAmb 14 37 50.6
comp=Z,17nm,1.1s
TOO Toolangi 32.37 229 P P 14 37 47.9 +0.3
TOO Toolangi 32.37 229 P P 14 37 47.1 -0.5
TOO pmax pmax
comp=Z,17nm,1.1s
PPT2 Papeete2 32.53 93 *e* LR LR 14 46 29.7
comp=Z,406nm,27.8s
PPT2 *e* LR LR 14 46 29.9
comp=Z,444nm,24.5s
PPT Papeete 32.53 93 LR LR 14 47 54.3
comp=Z,135nm,20.8s,baz=224,slow=30
MANU Manus Island 32.95 298 P P 14 37 51.6 -1.2
MANU IAmb IAmb 14 37 53.3
comp=Z,42nm,1.1s
MANU Manus Island 32.95 298 P P 14 37 53.0 +0.2
comp=Z,36nm,1.2s
INKA Innaminka 33.47 249 P P 14 37 57.7 +0.4
comp=Z,41nm,1.1s
STKA Stephens Creek 33.48 241 P P 14 37 57.5 +0.1
comp=Z,8.9nm,0.9s,baz=70,slow=10,SNR=11
STKA LR LR 14 49 50.9
comp=Z,120nm,21.1s,baz=35,slow=33
comp=Z,8.9nm,0.9s
STKA Stephens Creek 33.48 241 P P 14 37 57.5 +0.1
baz=33,SNR=5.7
STKA Stephens Creek 33.48 241 P P 14 37 57.2 -0.2
STKA Stephens Creek 33.48 241 P P 14 37 57.9 +0.6
comp=Z,3.4nm,1.1s
STKA Stephens Creek 33.48 241⇓ *e* **P P 14 37 56.1 -1.2**
BRAT Ballarat 33.49 230 P P 14 37 59.1 +1.8
QIS Mount Isa 34.35 262 P P 14 38 03.8 -1.3
baz=34,SNR=3.4
VAH Vaihoa 34.78 89 *e* **P P 14 38 11.1 +2.4**
comp=Z,23nm,1.2s
HTT Hallett 36.04 239 P P 14 38 19.7 +0.2
LCRK Leigh Creek 36.04 244 P P 14 38 20.0 +0.5
comp=Z,30nm,1.1s
OOD Oodnadatta 37.94 249 P P 14 38 36.2 +0.6
comp=Z,36nm,1.6s
BBOO Buckleboo 38.26 241 P P 14 38 40.4 +2.1
comp=Z,18nm,1.0s
H11S2 WAKE ISLAND Hy 38.62 346 T T 15 19 36.4
baz=166,slow=76,SNR=36
H11S3 WAKE ISLAND Hy 38.63 346 T T 15 19 33.2
baz=166,slow=76,SNR=14
H11S1 WAKE ISLAND Hy 38.64 346 T T 15 19 45.9
baz=166,slow=76,SNR=28
GENI Genyem 38.88 291 P P 14 38 44.1 +0.4
GENI Genyem 38.88 291 P P 14 38 43.3 -0.4
comp=Z,92nm,1.3s
WB0 Warramunga Arr 39.30 262 P P 14 38 45.0 -2.2
WB2 Warramunga Arr 39.32 262 P P 14 38 45.4 -2.0
WRAB Tennant Creek 39.32 262⇓ *e* **P P 14 38 44.5 -2.9**
WRAB pmax pmax
comp=Z,17nm,1.7s
WRA Warramunga Arr 39.33 262 P P 14 38 45.1 -2.3
comp=Z,4.3nm,0.8s,baz=96,slow=8.5,SNR=16
WRA PcP PcP 14 40 55.0 -1.2
comp=Z,1.9nm,1.1s,baz=113,slow=2.9,SNR=3.4
comp=Z,4.3nm,0.8s
WRA Warramunga Arr 39.33 262 P P 14 38 45.3 -2.2
WRA Warramunga Arr 39.33 262 P P 14 38 45.3 -2.2
WRA pmax pmax
comp=Z,3.0nm,1.8s
AS01 Alice Springs 39.43 256 P P 14 38 47.6 -0.7
AS31 Alice Springs 39.47 256 P P 14 38 46.9 -1.7
ASAR Alice Springs 39.47 256 P P 14 38 47.3 -1.3
comp=Z,20nm,0.9s,baz=84,slow=8.5,SNR=108
ASAR PcP PcP 14 40 55.5 -1.0
comp=Z,2.0nm,0.8s,baz=100,slow=2.9,SNR=5.5
ASAR LR LR 14 54 13.7
comp=Z,151nm,20.8s,baz=92,slow=35
comp=Z,20nm,0.9s
ASAR Alice Springs 39.47 256 P P 14 38 47.0 -1.6
ASAR Alice Springs 39.47 256 P P 14 38 47.0 -1.6
MULG Mulgathing 39.58 246 P P 14 38 49.2 -0.2
comp=Z,22nm,1.1s
KDU Kakadu 42.41 272 P P 14 39 14.2 +1.3
comp=Z,30nm,1.5s
TAOE Nuku Hiva Isla 43.52 83 *e* SS SS 14 49 11.8 +6.0
comp=Z,177nm,29.4s
TAOE *e* LR LR 14 51 34.0
comp=Z,165nm,24.6s
WRKA Warakurna 44.53 254 P P 14 39 29.2 -0.7
baz=44,SNR=15
WRKA Warakurna 44.53 254 P P 14 39 29.4 -0.6
comp=Z,38nm,1.4s
FORT Forrest 44.78 245 P P 14 39 30.8 -1.0
FORT Forrest 44.78 245 P P 14 39 32.4 +0.6
comp=Z,55nm,0.9s
GUMO Guam 44.87 314 LR LR 14 56 19.5
comp=Z,62nm,19.2s,baz=105,slow=34
RKT Rikitea 45.57 104 *e* LR LR 14 52 31.9
comp=Z,29µm,26.0s
SIJI Sorong 47.60 287 P P 14 39 51.7 -2.6
comp=Z,42nm,1.1s,baz=23,slow=7.0,SNR=6.2
comp=Z,42nm,1.1s
AAI Ambon 49.28 282 P P 14 40 07.1 -0.1
comp=Z,51nm,1.4s
SOEI Soe 50.95 273 P P 14 40 21.7 +1.6
SANI Sanana 51.94 283 P P 14 40 27.8 +0.5
comp=Z,36nm,1.3s
SANI Sanana 51.94 283 P P 14 40 25.8 -1.5
comp=Z,37nm,1.3s,comp=Z,908nm
MBWA Marble Bar 52.75 258 P P 14 40 32.5 -0.8
MBWA Marble Bar 52.75 258 P P 14 40 33.5 +0.2
comp=Z,27nm,1.3s
MEEK Meekatharra 53.14 251 P P 14 40 35.2 -0.9
baz=53,SNR=5.1
MEEK Meekatharra 53.14 251 P P 14 40 36.6 +0.5
comp=Z,23nm,1.3s
KLBR Kellerberrin 53.62 245 P P 14 40 38.6 -0.9
baz=53,SNR=4.9
KLBR Kellerberrin 53.62 245 P P 14 40 40.2 +0.7
comp=Z,42nm,0.9s
NWAO Narrogin (SRO) 54.03 243 LR LR 15 03 24.8
comp=Z,114nm,18.9s,slow=36
NWAO Narrogin (SRO) 54.03 243 P P 14 40 41.5 -1.0
NWAO IAmb IAmb 14 40 43.9
comp=Z,38nm,1.1s
NWAO Narrogin (SRO) 54.03 243 P P 14 40 42.2 -0.3
NWAO Narrogin (SRO) 54.03 243 P P 14 40 41.8 -0.7
NWAO Narrogin (SRO) 54.03 243 P P 14 40 41.5 -1.0
NWAO pmax pmax
comp=Z,39nm,1.2s
BASI Baing, Sumba 54.30 271 P P 14 40 44.8 +0.1
comp=Z,158nm,0.9s
MORW Morawa 55.22 248 P P 14 40 50.6 -0.6
APSI Ampana 56.38 282 P P 14 40 59.0 -0.7
comp=Z,41nm,1.3s
PLAI Plampang 57.35 272 P P 14 41 04.7 -1.9
comp=Z,57nm,1.1s
TOLI2 Tolitoli 57.96 284 P P 14 41 09.4 -1.5
TOLI2 IAmb IAmb 14 41 11.7
comp=Z,19nm,1.0s
TOLI2 Tolitoli 57.96 284 P P 14 41 10.8 -0.1
comp=Z,20nm,1.3s
TWSI Taliwang, Sumb 58.22 272 P P 14 41 11.9 -0.8
comp=Z,65nm,1.2s,comp=Z,755nm
MPSI Mapaga 58.47 283 P P 14 41 12.6 -1.9
comp=Z,16nm,1.2s
VNDA Vanda 58.75 184 P P 14 41 15.3 -0.2
comp=Z,0.9nm,0.8s,baz=315,slow=1.4,SNR=1.9
JOW Kumgami 65.21 313 P P 14 42 00.3 +0.7
comp=Z,31nm,1.1s,baz=180,slow=1.2,SNR=3.7
comp=Z,31nm,1.1s
MJAR Matsushiro Arr 66.05 327 P P 14 42 04.6 -0.2
comp=Z,21nm,1.1s,baz=156,slow=5.8,SNR=19
comp=Z,21nm,1.1s
MAJO Matsushiro 66.05 327 P P 14 42 03.8 -1.1
MAJO Matsushiro 66.05 327 P P 14 42 06.0 +1.1
comp=Z,46nm,1.5s
MAJO Matsushiro 66.05 327 *de* **P P 14 42 04.3 -0.6**
MAJO pmax pmax
comp=Z,76nm,1.5s
SBUM Sibu 66.37 282 P P 14 42 05.9 -1.5
SBUM IAmb IAmb 14 42 08.3
comp=Z,18nm,1.3s
LEM Lembang 67.55 270 LR LR 15 12 06.9
comp=Z,25nm,18.8s,baz=130,slow=36
JHS Saijyo 67.67 323 P P 14 42 16.2 +1.0
JNU Nakatsue 67.67 320 P P 14 42 14.9 -0.4
comp=Z,35nm,1.2s,baz=101,slow=2.4,SNR=5.2
comp=Z,35nm,1.2s
JNU Nakatsue 67.67 320 P P 14 42 14.9 -0.4
JNU Nakatsue 67.67 320 P P 14 42 15.5 +0.2
KSM Kuching 67.78 280 P P 14 42 15.2 -1.1
KSM Kuching 67.78 280 P P 14 42 17.2 +0.8
comp=Z,25nm,1.1s
NACB Ninganchiao 68.47 307 P P 14 42 21.8 +1.4
comp=Z,36nm,2.6s
YHNB Yeheng 68.91 307 P P 14 42 23.0 -0.2
YHNB Yeheng 68.91 307 P P 14 42 22.5 -0.8
ASAJ Asahikawa 70.12 335 LR LR 15 08 03.1
comp=Z,45nm,22.0s,baz=176,slow=32
QSPA South Pole Qui 70.82 180 P P 14 42 34.5 0.0
QSPA IAmb IAmb 14 42 36.3
comp=Z,41nm,1.6s
SKR Severo-Kuril's 71.82 347⇓ *e* **P P 14 42 41.4 +1.1**
TJN Taejon 72.00 320 P P 14 42 43.4 +1.6
TJN Taejon 72.00 320 *c i* **P P 14 42 43.8 +2.0**
KSRS Korea Array 72.39 321 P P 14 42 44.1 +0.1
comp=Z,9.2nm,1.1s,baz=143,slow=6.3,SNR=16
comp=Z,9.2nm,1.1s
KSAR Wonju Array Be 72.40 321 P P 14 42 44.3 +0.1
KSAR Wonju Array Be 72.40 321 P P 14 42 44.3 +0.1
YSS Yuzh-Sakhalins 72.43 337 P P 14 42 45.7 +1.6
YSS Yuzh-Sakhalins 72.43 337 *e* **P P 14 42 45.9 +1.8**
YSS pmax pmax
comp=Z,10.0nm,1.1s
PEA0B Petropavlovsk- 73.79 349⇑ *e* **P P 14 42 52.1 0.0**
PETK Petropavlovsk- 73.79 349 P P 14 42 51.9 -0.2
comp=Z,6.1nm,0.9s,baz=169,slow=8.4,SNR=3.9
comp=Z,6.1nm,0.9s
NJ2 Nanjing 74.90 312 *e* **P P 14 42 59.8 +0.8**
NJ2 pmax pmax
comp=Z,11nm,0.6s
USA0B Ussuriysk Arra 74.93 329 *de* **P P 14 42 59.6 +0.7**
USRK Ussuriysk Ar. 74.93 329 P P 14 42 59.2 +0.3
comp=Z,11nm,1.1s,baz=138,slow=7.2,SNR=6.1
comp=Z,11nm,1.1s
TYV Tymovskoe 75.76 339 *e* **P P 14 43 05.0 +1.5**
TYV *e* **S S 14 52 51.1 +5.9**
TYV pmax pmax
comp=Z,200nm,4.2s
TYV pmax pmax
comp=Z,11nm,1.6s
TYV smax smax
comp=E,500nm,6.9s
MDJ Mudanjiang 76.42 328 P P 14 43 08.7 +1.3
MDJ pP pwP 14 43 12.1 -1.3
MDJ sP sP 14 43 13.6 +2.9
MDJ S S **14 52 56.0 +3.2**
MDJ sS sS 14 53 00.9 +4.3
MDJ pmax pmax
comp=E,14nm,1.2s
MDJ pmax pmax
comp=E,280nm,6.3s
MDJ LR LR
comp=E,180nm,6.1s
MDJ LR LR
comp=E,260nm,5.2s
MDJ LR LR
comp=E,230nm,4.9s
MDJ Mudanjiang 76.42 328 P P 14 43 08.5 +1.1
WHN Wuhan 77.32 309 ⇑P P 14 43 13.2 +0.4
IPM Ipoh 77.51 279 P P 14 43 13.2 -1.1
IPM Ipoh 77.51 279 P P 14 43 13.8 -0.5
GRNR Gornyy 77.97 335⇓ *i* **P P 14 43 17.3 +1.3**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
CN2 Changchun 78.03 325 P P 14 43 17.2 +0.7
CN2 pmax pmax
comp=Z,30nm,1.0s
BNX BinXian 78.31 327 ⇓P P 14 43 18.8 +0.8
BNX pmax pmax
comp=Z,5.0nm,0.5s
BNX pmax pmax
comp=Z,92nm,3.8s
KLR Kul'dur 78.74 332 P P 14 43 20.6 +0.3
comp=Z,3.2nm,0.9s,baz=109,slow=2.1,SNR=8.8
comp=Z,3.2nm,0.9s
KLR Kul'dur 78.74 332 *de* **P P 14 43 21.4 +1.1**
KLR pmax pmax
comp=Z,12nm,1.7s
RPSI Rantau Prapat 78.85 277 P P 14 43 20.2 -1.6
RPSI IAmb IAmb 14 43 24.0
comp=Z,39nm,1.5s
PSI Prapat 78.89 277 P P 14 43 23.0 +0.9
comp=Z,19nm,1.4s
PSI Prapat 78.89 277 P P 14 43 20.2 -1.9
PSI pmax pmax
comp=Z,39nm,1.5s
NONG Nongkai 80.69 293 P P 14 43 31.7 +0.1
HNS HongShan 80.70 315 ⇓P P 14 43 31.7 +0.5
HNS pmax pmax
comp=Z,10.0nm,1.2s
LYN LuoYang 80.75 311 ⇓P P 14 43 32.3 +0.8
LYN pP PcP 14 43 37.1 -1.1
LYN sP pwP 14 43 41.2 +3.7
LYN pmax pmax
comp=Z,10.0nm,1.1s
LYN pmax pmax
comp=Z,170nm,7.7s
LYN LR LR
comp=Z,430nm,9.5s
LYN LR LR
comp=Z,660nm,13.7s
LYN LR LR
comp=Z,690nm,14.9s
ENH Enshi 80.82 306 P P 14 43 31.7 -0.4
ENH IAmb IAmb 14 43 35.4
comp=Z,47nm,1.4s
ENH Enshi 80.82 306 P P 14 43 32.3 +0.2
comp=Z,23nm,1.5s
KDAK Kodiak Island 81.02 16 P P 14 43 32.5 +0.1
comp=Z,12nm,1.1s,baz=164,slow=7.4,SNR=1.9
comp=Z,12nm,1.1s
KDAK Kodiak Island 81.02 16⇓ *e* **P P 14 43 34.5 +2.1**
KDAK pmax pmax
comp=Z,70nm,1.6s
BJT Baijiatuau 81.19 318 P P 14 43 33.7 -0.1
BJT Baijiatuau 81.19 318 P P 14 43 33.7 -0.1
BJT pmax pmax
comp=Z,12nm,1.1s
MA2 Magadan 81.22 347 LR LR 15 15 45.8
comp=Z,26nm,19.7s,baz=190,slow=33
MA2 Magadan 81.22 347 P P 14 43 33.5 0.0
MA2 Magadan 81.22 347⇓ *e* **P P 14 43 35.1 +1.6**
MA2 pmax pmax
comp=Z,7.0nm,1.1s
GYA Guiyang 81.28 302 P P 14 43 34.8 +0.1
GYA pmax pmax
comp=Z,11nm,1.2s
HEH HeiHe 81.44 331 *e* **P P 14 43 34.3 -0.5**
HEH pmax pmax
comp=Z,11nm,0.9s
P18K Big Mountain, 81.77 14 P P 14 43 36.7 +0.2
baz=207
N16K Nishlik Lake 81.98 12 P P 14 43 39.2 +1.7
baz=204
O18K Koktuh Hills 82.19 14 P P 14 43 39.5 +0.9
baz=207
EDW2 Edwards Air Fo 82.45 49 P P 14 43 43.4 +2.8
baz=240
ISA Isabella, Lake 82.50 48 P P 14 43 44.2 +3.4
baz=240
O19K Port Alsworth 82.70 14 P P 14 43 41.6 +0.4
O19K Port Alsworth 82.70 14 P P 14 43 42.0 +0.8
baz=208
ILSW Iliamna Southw 82.80 15 P P 14 43 42.1 +0.2
ILSW IAmb IAmb 14 43 43.8
comp=Z,48nm,1.4s
PFO Pinyon Flats O 82.95 51⇑ *e* **P P 14 43 46.3 +3.0**
XAN Xi'an 83.04 310 P P 14 43 44.6 +0.9
XAN pP pwP 14 43 49.4 -0.3
XAN pmax pmax
comp=Z,19nm,1.4s
N19K Bonanza Creek 83.21 14 P P 14 43 44.8 +0.8
baz=208
RSO Redoubt South 83.31 15 P P 14 43 44.2 -0.5
BEKR Beckworth 83.36 44 P P 14 43 44.6 -0.8
BEKR IAmb IAmb 14 43 53.4
comp=Z,14nm,1.2s
PHRA Phrae 83.41 292 P P 14 43 46.1 +0.2
XLT XiLinHaoTe 83.43 321 *e* **P P 14 43 46.3 +0.8**
XLT pP pwP 14 43 50.6 -0.9
XLT sP PcP 14 43 52.2 +2.3
XLT pmax pmax
comp=Z,10.0nm,1.2s
XLT pmax pmax
comp=Z,180nm,5.3s
GSC Goldstone, Bar 83.50 49 P P 14 43 49.7 +3.6
baz=241
HEC Hector,Ludlow 83.62 50 P P 14 43 50.1 +3.4
baz=241
GRAC Grapevine Rang 83.93 48 P P 14 43 51.2 +2.9
baz=241
ZEA Zeya 83.94 333 *e* **P P 14 43 49.3 +1.5**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
SEY Seymchan 84.01 349 P P 14 43 48.1 +0.2
comp=Z,8.9nm,0.9s,baz=147,slow=5.8,SNR=30
comp=Z,8.9nm,0.9s
SEY Seymchan 84.01 349⇓ *e* **P P 14 43 48.2 +0.3**
SEY pmax pmax
comp=Z,26nm,1.5s
GMRC Granite Mounta 84.08 50 P P 14 43 52.3 +3.1
baz=242
IRM Iron Mountain 84.17 51 P P 14 43 52.9 +3.4
baz=242
L19K White Mountain 84.34 13 P P 14 43 48.9 -0.8
L19K White Mountain 84.34 13 P P 14 43 51.3 +1.6
baz=207
CMAR Chiang Mai Arr 84.52 292 P P 14 43 51.5 -0.1
comp=Z,7.2nm,1.1s,baz=116,slow=3.3,SNR=24
comp=Z,7.2nm,1.1s
CMAR Chiang Mai Arr 84.52 292 P P 14 43 50.8 -0.8
CMAR Chiang Mai Arr 84.52 292 *i* **P P 14 43 52.2 +0.6**
CMAR pmax pmax
comp=Z,8.0nm,1.1s
HHC Hu-ho-hao-te 84.59 317 eP P 14 43 51.7 +0.1
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,300nm,5.1s
RC01 Rabbit Creek A 84.61 16 P P 14 43 51.8 +0.7
baz=212
CHTO Chiang Mai 84.66 292 P P 14 43 51.4 -0.8
CHTO Chiang Mai 84.66 292 P P 14 43 51.4 -0.8
CHTO pmax pmax
comp=Z,1.0nm,1.5s
SUA Susitna One 84.67 15 P P 14 43 52.0 +0.5
baz=211
TPNV Topopah Spring 84.69 48 P P 14 43 55.3 +3.1
baz=241
TTA Tatalina 84.77 12 P P 14 43 51.8 -0.1
TTA IAmb IAmb 14 43 56.0
comp=Z,36nm,1.9s
TTA Tatalina 84.77 12 P P 14 43 53.6 +1.7
baz=206
TTA Tatalina 84.77 12 P P 14 43 51.8 -0.1
TTA pmax pmax
comp=Z,36nm,1.9s
PWL Port Wells 84.78 17 P P 14 43 52.4 +0.5
baz=213
L20K Farewell, AK 84.82 13 P P 14 43 53.2 +1.1
baz=208
214A Organ Pipe Nat 84.92 54 P P 14 43 51.9 -1.4
214A Organ Pipe Nat 84.92 54 P P 14 43 57.3 +3.9
baz=244
Q09A Carvers 84.96 46 P P 14 43 51.3 -2.3
M22K Willow 85.08 15 P P 14 43 54.0 +0.7
baz=212
PMR Palmer 85.19 16 P P 14 43 54.0 +0.1
baz=213
PZH PanZhiHua 85.29 300 P P 14 43 56.4 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
CD2 Chengdu 85.51 305 P P 14 43 57.0 +0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SCM Sheep Creek Mo 85.87 16 P P 14 43 57.3 -0.1
SCM IAmb IAmb 14 43 58.8
comp=Z,12nm,0.9s
SCM Sheep Creek Mo 85.87 16 P P 14 43 58.4 +1.0
baz=214
SCM Sheep Creek Mo 85.87 16 P P 14 43 57.3 -0.1
SCM pmax pmax
comp=Z,12nm,0.9s
BMRM Bremner River 85.92 18 P P 14 43 58.2 +0.5
baz=217
CAST Castle Rocks 86.05 14 P P 14 43 57.4 -0.8
CAST IAmb IAmb 14 43 59.5
comp=Z,25nm,1.7s
CAST Castle Rocks 86.05 14 P P 14 43 58.3 +0.1
baz=210
GCSA Galena City Sc 86.25 11 P P 14 43 59.9 +0.8
baz=205
ISLE Juniper Island 86.31 19 P P 14 43 56.8 -3.0
ISLE IAmb IAmb 14 44 12.2
comp=Z,32nm,1.4s
N25K Chitina, Valde 86.44 18 P P 14 43 58.6 -1.6
N25K IAmb IAmb 14 44 04.6
comp=Z,39nm,1.9s
GLB Gilahina Butte 86.53 18 P P 14 44 00.9 +0.2
GLB IAmb IAmb 14 44 04.2
comp=Z,12nm,1.3s
G08A Pilot Rock 87.07 40 P P 14 44 03.2 -0.5
O28M Mount Upton 87.12 20 P P 14 44 04.8 +0.9
baz=221
ELIB Princess Elisa 87.19 188 *d* **P P 14 44 03.1 -0.9**
comp=Z,4.7nm,1.4s
U15A North Rim 87.28 50 P P 14 44 03.7 -1.5
U15A IAmb IAmb 14 44 15.9
comp=Z,27nm,1.9s
PAX Paxson 87.30 16 P P 14 44 05.6 +1.2
baz=216
HAWA Hanford 87.30 39 P P 14 44 03.5 -1.2
HAWA IAmb IAmb 14 44 12.5
comp=Z,15nm,1.1s
BILL Bilibino 87.32 356 *e* **P P 14 44 04.7 +0.4**
BILL *e* 14 47 26.8
BILL *e* PPP PPP 14 49 23.0

BILL pmax pmax
comp=Z,15nm,1.4s
TNCH TengChong 87.38 297 P P 14 44 05.9 +0.1
TNCH pP sP 14 44 10.1 +1.0
TNCH S **S** **14 54 40.9 -6.1**
TNCH sS ScS 14 54 53.7 -0.4
TNCH pmax pmax
comp=Z,8.0nm,1.1s
TNCH pmax pmax
comp=Z,82nm,3.9s
M26K Nabesna, AK 87.53 18 P P 14 44 06.7 +1.2
baz=218
I21K Tanana 87.60 13 P P 14 44 05.8 +0.1
baz=210
YUK8 Steele Glacier 87.65 20 P P 14 44 07.5 +1.1
baz=221
LZH Lanzhou 87.68 309 *e*P **P 14 44 08.0 +1.0**
LZH pP pwP 14 44 12.8 -0.2
LZH sP sP 14 44 14.3 +4.0
LZH pmax pmax
comp=Z,34nm,1.1s
P30M Million Dollar 87.71 21 P P 14 44 08.2 +1.8
baz=224
MLY Manley 87.74 13 P P 14 44 05.9 -0.6
baz=211
YUK3 Moose Creek 87.80 19 P P 14 44 07.7 +0.6
baz=220
M27K Edge Creek, AK 87.82 18 P P 14 44 06.8 -0.3
M27K Edge Creek, AK 87.82 18 P P 14 44 08.4 +1.4
baz=219
BMO Blue Mountains 87.86 41 P P 14 44 05.3 -2.2
BMO IAmb IAmb 14 44 15.1
comp=Z,15nm,1.6s
BMO Blue Mountains 87.86 41 P P 14 44 05.3 -2.2
BMO pmax pmax
comp=Z,15nm,1.6s
L26K Log Cabin Wild 87.92 17 P P 14 44 09.2 +1.8
baz=218
MFID Camas Ranch 88.08 43 P P 14 44 08.2 -0.5
MFID IAmb IAmb 14 44 16.6
comp=Z,13nm,1.3s
RIDG Independent Ri 88.09 16 P P 14 44 08.0 -0.1
baz=216
HDA Harding Lake 88.10 15 P P 14 44 08.0 -0.1
baz=214
DOT Dot Lake 88.22 17 P P 14 44 08.2 -0.5
DOT IAmb IAmb 14 44 34.2
comp=Z,11nm,1.5s
COLA College 88.26 15 P P 14 44 09.2 +0.4
comp=Z,7.3nm,0.9s
COLA College 88.26 15⇑ *i*P **P 14 44 08.5 -0.3**
COLA pmax pmax
comp=Z,10.0nm,1.2s
S34M Telegraph Cree 88.36 25 P P 14 44 11.6 +2.1
baz=229
BCAR Beaver Creek A 88.40 18 P P 14 44 07.9 -1.7
IL31 88.41 15 P P 14 44 07.1 -2.4
ILAR Eielson Array 88.41 15 P P 14 44 08.8 -0.8
comp=Z,2.2nm,0.8s,baz=239,slow=5.7,SNR=19
comp=Z,2.2nm,0.8s
ILAR Eielson Array 88.41 15 P P 14 44 08.2 -1.4
ILAR Eielson Array 88.41 15 P P 14 44 08.2 -1.4
F10A Beach Ranch, E 88.46 40 P P 14 44 10.0 -0.4
F10A IAmb IAmb 14 44 17.6
comp=Z,16nm,1.1s
SCRK Sand Creek 88.51 16 P P 14 44 10.8 +0.6
baz=217
YAK Yakutsk 88.97 340 P P 14 44 11.7 -0.5
YAK Yakutsk 88.97 340 *d* *i*P **P 14 44 12.0 -0.2**
YAK *e**PP **pwP** **14 44 17.4 -0.8**
YAK *e*PPP PPP 14 49 36.3
YAK *e*S **SKSac** **14 54 41.0 -0.5**
YAK *e**SS **SKKSac** **14 54 53.5 +0.4**
YAK *e*SS **SS** **15 00 58.4 +5.0**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,3,0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,146nm,4.5s
YAK pmax pmax
comp=N,102nm,4.3s
YAK pmax pmax
comp=E,120nm,4.9s
YAK smax smax
comp=N,166nm,5.0s
YAK smax smax
comp=E,62nm,4.8s
J26L Joseph Creek 89.04 16 P P 14 44 13.1 +0.5
J26L Joseph Creek 89.04 16 P P 14 44 13.6 +0.9
baz=218
K27K Chicken 89.07 17 P P 14 44 13.8 +1.2
baz=219
HVU Hansel Valley 89.32 45 P P 14 44 14.1 -0.5
HVU IAmb IAmb 14 44 22.5
comp=Z,13nm,1.1s
HVU Hansel Valley 89.32 45 P P 14 44 14.1 -0.5
HVU pmax pmax
comp=Z,13nm,1.1s
SNAA Sanae 89.33 180 *e*P **P 14 44 16.6 +2.5**
SNAA pmax pmax
comp=Z,10.0nm,1.7s
G23K Bananza Creek 89.33 13 P P 14 44 17.1 +3.2
baz=212
PRP Porcupine Dome 89.36 15 P P 14 44 13.3 -0.9
R33M Jennings River 89.40 24 P P 14 44 16.3 +1.8
baz=229
L29M L29M 89.52 19 P P 14 44 15.3 +0.4
baz=222
M30M Minto, Yukon 89.55 20 P P 14 44 15.9 +0.9
baz=224
SRU San Rafael Swe 89.70 48 P P 14 44 16.0 -0.5
SRU San Rafael Swe 89.70 48 P P 14 44 16.0 -0.5
SRU pmax pmax
comp=Z,8.0nm,1.0s
DAWY Dawson 89.86 18 P P 14 44 17.3 +0.8
baz=221
EGAK Eagle 89.90 17 P P 14 44 16.9 +0.3
baz=220
K29M Barlow Dome 90.25 19 P P 14 44 19.1 +0.8
baz=223
I27K Kandik River 90.42 16 P P 14 44 19.0 0.0
baz=219
PV04 Paradox Valley 90.55 49 P P 14 44 18.0 -2.5
MAYO Mayo, Yukon 90.57 19 P P 14 44 19.1 -0.6
MAYO IAmb IAmb 14 44 27.1
comp=Z,16nm,0.9s
MNTX Cornudas Mount 90.58 57 P P 14 44 24.1 +3.5
baz=248
ULN Ulaanbaatar 90.87 321 P P 14 44 21.9 +0.2
ULN IAmb IAmb 14 44 25.2
comp=Z,16nm,1.2s
ULN Ulaanbaatar 90.87 321 P P 14 44 21.9 +0.2
ULN pmax pmax
comp=Z,16nm,1.3s
H27K Steamboat Moun 90.93 16 P P 14 44 20.6 -0.8
baz=220
G26K Porcupine Rive 90.93 15 P P 14 44 22.3 +1.0
baz=217
ANMO Albuquerque 90.99 53 P P 14 44 21.6 -1.0
ANMO IAmb IAmb 14 44 29.0
comp=Z,14nm,1.6s
ANMO Albuquerque 90.99 53⇑ *i*P **P 14 44 25.4 +2.8**
TX31 Lajitas Ar. Si 91.08 59 P P 14 44 21.2 -1.8
TXAR Lajitas Array 91.08 59 P P 14 44 25.1 +2.0
comp=Z,2.4nm,1.0s,baz=232,slow=4.1,SNR=12
TXAR LR LR 15 18 20.1
comp=Z,51nm,18.3s,baz=322,slow=31
comp=Z,2.4nm,1.0s
D23K Nanushuk River 91.13 11 P P 14 44 23.0 +0.8
baz=211
I29M Ogilvie Camp, 91.14 17 P P 14 44 22.8 +0.4
baz=222
SONM Songino Array 91.25 321 P P 14 44 23.2 -0.2
comp=Z,6.5nm,1.2s,baz=137,slow=4.6,SNR=20
comp=Z,6.5nm,1.2s
SONM Songino Array 91.25 321 P P 14 44 22.9 -0.5
SONM IAmb IAmb 14 44 25.3
comp=Z,9.9nm,1.3s
SONM Songino Array 91.25 321 P P 14 44 22.9 -0.5
SONM pmax pmax
comp=Z,10.0nm,1.3s
S22A 4UR Ranch, Cre 91.79 51 P P 14 44 29.8 +3.4
baz=247

PDAR Pinedale Array 91.90 45 P P 14 44 27.6 +0.9
comp=Z,0.8nm,1.0s,baz=232,slow=4.9,SNR=6.6
comp=Z,0.8nm,1.0s
GTA Gaotai 91.96 311 *e*P **P 14 44 27.6 +0.7**
GTA pP pwP 14 44 32.4 -0.5
GTA sP sP 14 44 35.6 +5.3
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,120nm,5.2s
GTA LR LR
comp=Z,260nm,10.4s
GTA LR LR
comp=Z,230nm,12.7s
GTA LR LR
comp=Z,300nm,12.0s
EPYK Eagle Plains 92.32 17 P P 14 44 28.1 +0.3
baz=224
G30M tAoh Zraii Nji 92.90 17 P P 14 44 30.7 +0.2
baz=224
F31M Tsiigehtchic 93.91 17 P P 14 44 35.8 +0.7
baz=227
INK Inuvik 94.57 17 P P 14 44 37.7 -0.4
comp=Z,3.1nm,1.2s,baz=155,slow=5.3,SNR=5.0
comp=Z,3.1nm,1.2s
EFI East Falkland 95.04 150 *e*P **P 14 44 42.3 +1.5**
EFI pmax pmax
comp=Z,53nm,1.6s
TIXI Tiksi 96.18 346 P **P 14 44 44.6 -0.8**
comp=Z,1.1nm,0.2s,baz=90,slow=23,SNR=3.9
comp=Z,1.1nm,0.2s
TIXI Tiksi 96.18 346⇑ *e*P **P 14 44 45.2 -0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 97.73 26 P Pdif 14 44 52.1 -0.5
comp=Z,0.7nm,1.0s,baz=245,slow=4.7,SNR=7.3
comp=Z,0.7nm,1.0s
WMQ Urumqi 101.98 312 *e*P **Pdif 14 45 13.9 +1.8**
MKAR Makanchi Array 106.36 314 Pdiff **Pdif 14 45 30.1 -1.4**
comp=Z,0.1nm,0.3s,baz=116,slow=3.4,SNR=2.1
KURBB Kurchatov Arra 109.41 318 PP **PP 14 50 17.6 -0.8**
comp=Z,0.5nm,0.2s,baz=103,slow=7.2,SNR=4.5
AAK Ala-Archa 111.22 309 *i*PKIKP **PKiKP 14 49 50.7 -1.5**
ARU Arti 121.03 325 *i*PKIKP **PKPdf 14 50 09.6 -0.7**
OBN Obninsk 132.95 329 *e*PKIKP **PKiKP 14 50 34.8 +0.6**
OBN *e* 14 52 59.2
OBN *e*PPP PPP 14 55 50.6
OBN pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 134.02 313 *e*PKIKP **PKPdf 14 50 35.5 +0.1**
KIV Kislovodsk 134.10 313 *e*PKIKP **PKPdf 14 50 34.0 -1.8**
KIV pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 139.13 328 PKP **PKPdf 14 50 44.6 -0.2**
comp=Z,0.2nm,0.4s,baz=14,slow=1.1,SNR=4.4
AKASG Malin Array Be 139.13 328 *i* PKIKP **PKiKP 14 50 46.2 -0.8**
BRTR Keskin Array B 141.88 311 PKP **PKPdf 14 50 49.4 -0.9**
comp=Z,0.4nm,0.4s,baz=56,slow=3.8,SNR=4.9
BRTR PP **PP 14 53 54.6 -0.4**
comp=Z,1.1nm,0.9s,baz=46,slow=8.8,SNR=5.2
MLR Muntele Rosu 144.05 323 PKPdf PKPbc 14 50 51.9 +0.1
MLR Muntele Rosu 144.05 323 PKIKP PKPbc 14 50 51.9 +0.1
KSP Ksiaz 144.65 338 *e*PKPdf **PKPdf 14 50 53.9 -0.7**
LANS Liptovska Anna 144.76 333 *e*PKIKP **PKPdf 14 50 55.0 +0.1**
LANS Liptovska Anna 144.76 333 *e*PKP **PKPdf 14 50 55.0 +0.1**
OKC Ostrava-Krasne 144.77 335 *e*PKP **PKPdf 14 50 54.0 -0.8**
OKC Ostrava-Krasne 144.77 335 *e*PKIKP **PKPdf 14 50 54.0 -0.8**
OSTC Ostas 144.92 338 *e*PKP **PKPdf 14 50 55.1 0.0**
OSTC *e*PKP **PKPdf 14 50 55.1 0.0**
UPC Upice 145.03 338 *e*PKP **PKPdf 14 50 55.5 +0.2**
UPC *ex* x 14 51 03.9
UPC Upice 145.03 338 *e*PKIKP **PKPdf 14 50 55.5 +0.2**
UPC *e* 14 51 03.9
DPC Dobruska-Polom 145.05 337 *e*PKP **PKPdf 14 50 55.7 +0.3**
DPC *ex* x 14 51 04.0
DPC Dobruska-Polom 145.05 337 *e*PKIKP **PKPdf 14 50 55.7 +0.3**
DPC *e* 14 51 04.0
MORC Moravsky Berou 145.05 336 PKPab 14 50 54.5 -0.2
MORC Moravsky Berou 145.05 336 *e*PKP **PKPdf 14 50 55.4 0.0**
MORC Moravsky Berou 145.05 336 PKIKP **PKPab 14 50 54.6 -0.2**
KRLC Kraliky 145.10 337 *e*PKIKP **PKiKP 14 50 58.7 -0.6**
MAUC Maruska 145.27 335 *e*PKP **PKPdf 14 50 56.4 +0.6**
MAUC *ex* x 14 51 05.0
CLL Collm 145.34 341 PKPdf 14 50 55.7 0.0
CLL Collm 145.34 341 *i*PKPbc **PKPdf 14 50 56.0 +0.2**
comp=Z,42nm,0.9s
CLL *i* x x 14 51 04.5
CLL Collm 145.34 341 PKIKP **PKPdf 14 50 55.7 0.0**
BRG Berggiesshubel 145.42 340 *i* PKP **PKPab 14 50 56.7 +0.6**
BRG Amp 14 50 59.8
comp=Z,34nm,1.1s
BRG Berggiesshubel 145.42 340 P **PKiKP 14 51 05.4 +5.5**
BRG Amp 14 51 06.2
comp=Z,38nm,1.0s
BRG Berggiesshubel 145.42 340 *i* PKIKP **PKPab 14 50 56.6 +0.6**
BRG pmax pmax
comp=Z,34nm,1.1s
BRG pmax pmax
comp=Z,38nm,1.0s
VYHS Vyhne 145.53 333 *e*PKIKP **PKPab 14 50 57.1 +0.6**
VYHS Vyhne 145.53 333 *e*PKP **PKPab 14 50 57.1 +0.6**
JAVC Velka Javorina 145.73 335 *e*PKP **PKiKP 14 50 58.9 -1.8**
VRAC Vranov 145.80 336 *e*PKP **PKPab 14 50 57.7 +0.2**
PRU Pruhonice 145.98 339 *e*PKP **PKPab 14 50 57.9 -0.2**
PRU Pruhonice 145.98 339 *e*PKP2 **PKPab 14 50 57.9 -0.2**
KRUC Moravsky 146.07 336 *e*PKP **PKPab 14 50 59.1 +0.6**
MODS Modra-Piesok 146.28 334 *e*PKP2 **PKPab 14 50 59.7 +0.4**
MODS Modra-Piesok 146.28 334 *e*PKP **PKPab 14 50 59.7 +0.4**
NKC Novy Kostel 146.45 341 *e*PKP **PKiKP 14 51 00.9 -1.2**
NKC Novy Kostel 146.45 341 *e*PKP2 **PKiKP 14 51 00.9 -1.2**
KHC Kasperske Hory 147.04 339 *e*PKP **PKPbc 14 51 01.1 +0.3**
KHC *ex* x 14 51 09.2
KHC Kasperske Hory 147.04 339 *e*PKP2 **PKPbc 14 51 01.1 +0.3**
CKRC Cesky Krumlov 147.05 338 *e*PKP **PKPab 14 51 02.3 0.0**
CKRC *ex* x 14 51 11.0
CONA Conrad Observa 147.20 335 *i* pPKP **PKPab 14 51 02.2 -0.8**
comp=Z,31nm,1.7s
RONA Tosalia, Austr 147.21 335 *e*PKP **PKiKP 14 51 03.3 -0.4**
comp=Z,26nm,1.5s
GERES GERESS Array B 147.24 338 PKPbc **PKPbc 14 51 01.5 +0.1**
comp=Z,2.0nm,0.7s,baz=11,slow=2.7,SNR=7.0
MEM Membach 147.73 348 *d*PKP **PKPbc 14 51 03.0 +0.3**
MOA Molln 147.88 337 *ep*PKP **PKPab 14 51 06.8 +1.1**
comp=Z,23nm,1.6s
ARSA Arzberg 147.88 335 *i* pPKP **PKPab 14 51 06.3 +0.6**
comp=Z,8.0nm,1.2s
BIOA Bad Ischl, Aus 148.24 337 *ep*PKP **PKPab 14 51 08.2 +1.1**
comp=Z,14nm,1.3s
VAY Valandovo 148.51 320 *i* P **PKPbc 14 51 04.3 -0.7**
SOKA Soboth 148.54 335 *i* PKP **PKiKP 14 51 06.1 -0.5**
comp=Z,17nm,1.6s
WLF Walferdange 148.60 347 *d*PKP **PKiKP 14 51 06.0 -0.4**
SKO Skopje 148.79 322 *i* P **PKPbc 14 51 05.6 -0.1**
KBA Koelnbreinsper 148.87 337 *e*PKP **PKiKP 14 51 06.9 -0.4**
comp=Z,6.6nm,0.9s
OBKA Obir 148.88 335 *e*PKiKP **PKiKP 14 51 08.0 +0.8**
comp=Z,8.7nm,1.4s
MYKA Terra Mystica 149.13 336 *ep*PKP **PKPbc 14 51 06.2 -0.3**
comp=Z,16nm,1.2s
WATA Walderalm 149.27 339 *e*PKiKP **PKiKP 14 51 08.1 0.0**
comp=Z,21nm,1.6s
WTTA Wattenberg 149.31 339 *e*PKP **PKiKP 14 51 07.6 -0.7**
comp=Z,13nm,1.4s
BFO Black Forest 149.34 344 PKP2 **PKiKP 14 51 09.2 +1.1**
RETA Reutte 149.40 340 *e*PKP **PKPab 14 51 11.9 +0.1**
comp=Z,8.1nm,1.0s
MOTA Moosalm 149.42 340 *e*PKP **PKPbc 14 51 07.3 0.0**
comp=Z,12nm,1.0s
ABTA Abfaltersbach 149.45 338 *ep*PKiKP **PKPab 14 51 12.5 +0.4**
comp=Z,33nm,1.7s
SQTA Sankt Quirin 149.49 340 *ep*PKP **PKPab 14 51 10.2 -2.1**
comp=Z,14nm,1.1s
FNA Florina 149.56 320 PKP2 **PKPbc 14 51 07.2 -0.5**
OHR Ohrid 149.70 321 *i* P **PKPdf 14 51 02.4 -1.1**
FETA Feichten 149.82 340 *e*PKP **PKPab 14 51 14.2 +0.5**
comp=Z,21nm,1.6s
DAVA Damuels 149.85 341 *i* PKP **PKPab 14 51 15.2 +1.4**
comp=Z,20nm,1.1s

*NEIC **04** 14:39:27.0±1.7, 17°.9S×0°.1×178°.54W±0°.08, h580km±6km, mb4.5/39, Error ellipse: s-maj=19.1km s-min=11.4km az=169.0*
*IDC **04** 14:39:27.5±1.3, 17°.82S×178°.63W, h591km±14km, mb3.6/22, mbtmp4.5/24, Error ellipse: s-maj=14.8km s-min=10.4km az=146.0*
*NOU **04** 14:39:28.0, 17°.71S×178°.44W, h582km, mb4.6/11, Fiji Islands Region*

ISC 04 14:39:26.4±0.4, 17°.81S±0°.08×178°.57W±0°.07, h579km, n126, s093/131, mb4.6/73, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.48**	**209**	P	**P**	**14 40 35.9**	**+1.3**
TAVE	**Taveuni**	**1.69**	**311**	P	**P**	**14 40 39.3**	**+1.7**
MSVF	**Nonsavu**	**3.22**	**271**	P	**P**	**14 40 46.7**	**+1.5**
	102nm,0.8s,baz=126,slow=9.7,SNR=37						
FUTU	**Fugatoga**	**3.51**	**7**	P	**P**	**14 40 48.4**	**+1.3**
AFI	**Afiamalu**	**7.60**	**60**	P	**P**	**14 41 20.2**	**-1.1**
NIUE	**Niue**	**8.30**	**100**	P	**P**	**14 41 27.3**	**-0.6**
NIUE	**Niue**	**8.30**	**100**	P	**P**	**14 41 28.1**	**+0.2**
	208nm,1.2s						
DVP	**Devils Point**	**12.62**	**268**	P	**P**	**14 42 13.2**	**+1.8**
	657nm,0.7s						
YATNC	**Mamie plateau,**	**14.31**	**250**	P	**P**	**14 42 30.9**	**+2.3**
	18nm,1.0s						
OUENC	**Ouen Island, N**	**14.45**	**249**	P	**P**	**14 42 31.1**	**+1.2**
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**14 42 32.0**	**-0.6**
	9.1nm,0.7s,baz=96,slow=22,SNR=10						
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**14 42 34.2**	**+1.6**
KOUNC	**Koumac, New Ca**	**16.42**	**258**	P	**P**	**14 42 50.0**	**+1.3**
KOUNC				IAmb	IAmb	14 42 51.2	
	comp=Z,17nm,0.8s						
KOUNC	**Koumac, New Ca**	**16.42**	**258**	P	**P**	**14 42 50.5**	**+1.9**
	comp=Z,27nm,1.0s						
OUZ	**Ornahuta**	**18.69**	**200**	P	**P**	**14 43 12.1**	**+3.1**
URZ	**Urewera**	**20.72**	**190**	P	**P**	**14 43 24.8**	**-2.6**
	comp=Z,18nm,1.1s,baz=123,slow=12,SNR=1.5						
EIDS	**Eidsvold**	**29.16**	**250**	P	**P**	**14 44 41.8**	**-0.3**
EIDS				IAmb	IAmb	14 44 42.6	
	comp=Z,11nm,0.8s						
ARMA	**Armidale**	**29.86**	**240**	P	**P**	**14 44 48.4**	**+0.2**
ARMA				IAmb	IAmb	14 44 49.8	
	comp=Z,13nm,0.8s						
RMQ	**Roma**	**31.40**	**248**	P	**P**	**14 45 00.5**	**-0.8**
	comp=Z,20nm,0.7s						
RABL	**Rabaul**	**31.69**	**292**	P	**P**	**14 45 02.8**	**-1.1**
KRVT	**Keravat (AS076**	**31.76**	**292**	P	**P**	**14 45 04.3**	**-0.2**
	comp=Z,26nm,0.5s,baz=223,slow=9.1,SNR=1.8						
	comp=Z,26nm,0.5s						
TV1H	**Townsville Har**	**32.84**	**262**	P	**P**	**14 45 12.5**	**-1.1**
	comp=Z,13nm,0.9s						
CTA	**Charters Tower**	**33.31**	**260**	P	**P**	**14 45 17.4**	**-0.2**
	comp=Z,9.5nm,0.6s,baz=102,slow=8.8,SNR=22						
	comp=Z,9.5nm,0.6s						
CTA	**Charters Tower**	**33.31**	**260**	P	**P**	**14 45 17.1**	**-0.5**
	comp=Z,24nm,0.9s						
CTAO	**Charters Tower**	**33.31**	**260**	P	**P**	**14 45 16.8**	**-0.8**
CTAO				IAmb	IAmb	14 45 18.3	
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**33.31**	**260**	P	**P**	**14 45 17.1**	**-0.5**
	comp=Z,21nm,0.9s						
CAN	**Canberra**	**33.64**	**232**	P	**P**	**14 45 20.2**	**+0.1**
CAN				IAmb	IAmb	14 45 27.4	
	comp=Z,22nm,1.2s						
PMG	**Port Moresby**	**34.29**	**280**	P	**P**	**14 45 25.9**	**+0.1**
	comp=Z,50nm,0.8s,baz=85,slow=6.2,SNR=24						
	comp=Z,50nm,0.8s						
PMG	**Port Moresby**	**34.29**	**280**	P	**P**	**14 45 26.4**	**+0.6**
CMSA	**Cobar Meteorol**	**35.06**	**240**	P	**P**	**14 45 32.3**	**+0.3**
	comp=Z,27nm,0.7s						
MTSU	**Mount Surprise**	**35.27**	**264**	P	**P**	**14 45 33.7**	**-0.2**
	comp=Z,8.7nm,0.6s						
QLP	**Quilpie**	**35.42**	**249**	P	**P**	**14 45 35.2**	**+0.1**
	comp=Z,58nm,0.7s						
COEN	**Coen**	**36.95**	**270**	P	**P**	**14 45 47.8**	**0.0**
COEN	**Coen**	**36.95**	**270**	P	**P**	**14 45 47.9**	**+0.1**
	comp=Z,41nm,1.0s						
TOO	**Toolangi**	**37.11**	**231**	P	**P**	**14 45 49.6**	**+0.8**
TOO				IAmb	IAmb	14 45 50.4	
	comp=Z,23nm,0.8s						
TAU	**Tasmania Unive**	**38.21**	**222**	P	**P**	**14 45 57.4**	**-0.2**
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**14 46 01.0**	**+0.5**
	comp=Z,15nm,0.5s,baz=89,slow=10,SNR=72						
	comp=Z,15nm,0.5s						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**14 46 00.5**	**0.0**
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**14 46 00.7**	**+0.2**
	comp=Z,6.7nm,1.1s						
INKA	**Innaminka**	**38.64**	**248**	P	**P**	**14 46 01.9**	**+0.6**
	comp=Z,42nm,1.2s						
QIS	**Mount Isa**	**39.52**	**259**	P	**P**	**14 46 08.3**	**-0.3**
	comp=Z,4.3nm,0.8s						
HTT	**Hallett**	**41.06**	**239**	P	**P**	**14 46 21.0**	**+0.3**
	comp=Z,28nm,0.9s						
LCRK	**Leigh Creek**	**41.16**	**244**	P	**P**	**14 46 21.6**	**+0.2**
	comp=Z,62nm,0.7s						
OOD	**Oodnadatta**	**43.11**	**248**	P	**P**	**14 46 37.3**	**+0.6**
	comp=Z,22nm,0.9s						
GENI	**Genyem**	**43.19**	**286**	P	**P**	**14 46 38.9**	**+1.3**
	comp=Z,79nm,0.8s						
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**14 46 38.3**	**0.0**
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**14 46 38.1**	**-0.2**
	comp=Z,33nm,0.7s						
HMH	**Humu'ula Sheep**	**43.55**	**32**	P	**P**	**14 46 40.8**	**+0.3**
WR0	**Warramunga Arr**	**44.31**	**259**	P	**P**	**14 46 45.5**	**-0.6**
WR0				IAmb	IAmb	14 46 46.1	
	comp=Z,11nm,1.3s						
WRAB	**Tennant Creek**	**44.49**	**259**	P	**P**	**14 46 46.8**	**-0.7**
	comp=Z,19nm,1.0s						
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**14 46 46.8**	**-0.9**
	comp=Z,9.4nm,0.5s,baz=93,slow=7.1,SNR=158						
WRA				PcP	**PcP**	**14 48 18.2**	**0.0**
	comp=Z,1.2nm,0.4s,baz=94,slow=3.3,SNR=4.6						
	comp=Z,9.4nm,0.5s						
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**14 46 46.5**	**-1.1**
AS31	**Alice Springs**	**44.67**	**254**	P	**P**	**14 46 48.8**	**-0.1**
AS31				IAmb	IAmb	14 46 49.4	
	comp=Z,24nm,0.7s						
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**14 46 48.8**	**-0.1**
	comp=Z,88nm,0.6s,baz=88,slow=8.0,SNR=2275						
ASAR				PcP	**PcP**	**14 48 18.6**	**-0.2**
	comp=Z,3.4nm,0.5s,baz=104,slow=3.9,SNR=6.6						
ASAR				ScP	**ScP**	**14 51 16.1**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=84,slow=4.7,SNR=2.7						
ASAR				S	**S**	**14 52 41.9**	**-2.2**
	comp=Z,0.8nm,0.9s,baz=80,slow=17,SNR=5.2						
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**14 46 49.0**	**+0.1**
MULG	**Mulgathing**	**44.71**	**245**	P	**P**	**14 46 48.8**	**-0.3**
	comp=Z,70nm,0.7s						
KDU	**Kakadu**	**47.41**	**269**	P	**P**	**14 47 09.4**	**-0.3**
	comp=Z,44nm,1.1s						
MTN	**Manton Dam**	**48.65**	**268**	P	**P**	**14 47 18.6**	**-0.3**
MTN	**Manton Dam**	**48.65**	**268**	P	**P**	**14 47 18.4**	**-0.5**
	comp=Z,31nm,1.8s						
WRKA	**Warakurna**	**49.73**	**252**	P	**P**	**14 47 26.7**	**-0.1**
	comp=Z,54nm,0.9s						
FORT	**Forrest**	**49.91**	**245**	P	**P**	**14 47 27.1**	**-0.9**
	comp=Z,43nm,0.8s						
KNRA	**Kununurra**	**50.34**	**264**	P	**P**	**14 47 30.6**	**-0.7**
KNRA				IAmb	IAmb	14 47 31.7	
	comp=Z,24nm,0.7s						
KNRA	**Kununurra**	**50.34**	**264**	P	**P**	**14 47 30.9**	**-0.4**
	comp=Z,36nm,0.6s						
FAKI	**Fak Fak**	**50.41**	**281**	P	**P**	**14 47 31.2**	**-0.7**
	comp=Z,26nm,1.4s						
SIJI	**Sorong**	**52.06**	**283**	P	**P**	**14 47 44.1**	**+0.3**
	comp=Z,37nm,0.6s,baz=108,slow=5.2,SNR=18						
	comp=Z,37nm,0.6s						
AAI	**Ambon**	**53.95**	**279**	P	**P**	**14 47 56.9**	**-0.3**
	comp=Z,42nm,0.5s						
NLAI	**Namlea**	**55.13**	**279**	P	**P**	**14 48 05.1**	**-0.3**
	comp=Z,23nm,0.7s						
SOEI	**Soe**	**55.92**	**270**	P	**P**	**14 48 11.9**	**+0.9**
SOEI	**Soe**	**55.92**	**270**	P	**P**	**14 48 11.2**	**+0.2**
	comp=Z,65nm,1.1s						
SOEI	**Soe**	**55.92**	**270**	P	**P**	**14 48 11.9**	**+0.9**
	comp=Z,66nm,0.8s						
BATI	**Baumata**	**56.38**	**269**	P	**P**	**14 48 14.9**	**+0.8**
	comp=Z,72nm,0.9s						
SANI	**Sanana**	**56.58**	**280**	P	**P**	**14 48 14.6**	**-0.9**
	comp=Z,30nm,0.8s						
SANI	**Sanana**	**56.58**	**280**	P	**P**	**14 48 14.5**	**-0.9**
	comp=Z,29nm,0.8s						
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	**14 48 23.6**	**-1.0**
MBWA				IAmb	IAmb	14 48 24.8	
	comp=Z,11nm,0.8s						
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	**14 48 24.0**	**-0.6**
	comp=Z,8.8nm,0.9s						
MEEK	**Meekatharra**	**58.32**	**249**	P	**P**	**14 48 26.5**	**-0.7**
	comp=Z,20nm,1.9s						
KLBR	**Kellerberrin**	**58.73**	**243**	P	**P**	**14 48 28.9**	**-0.9**

comp=Z,47nm,0.7s
NWAO Narrogin (SRO) 59.12 242 P P 14 48 31.6 -0.7
NWAO IAmb IAmb 14 49 14.1
comp=Z,24nm,1.1s
BLDU Ballidu 59.68 245 P P 14 48 35.5 -0.6
comp=Z,9.6nm,1.8s
MUN Mundaring 60.03 243 P P 14 48 37.8 -0.6
comp=Z,19nm,0.9s
MORW Morawa 60.38 246 P P 14 48 40.1 -0.6
MORW IAmb IAmb 14 49 03.1
comp=Z,16nm,1.2s
MORW Morawa 60.38 246 P P 14 48 39.7 -1.1
comp=Z,13nm,1.8s
VNDA Vanda 60.52 185 P P 14 48 40.9 0.0
comp=Z,1.2nm,0.9s,baz=89,slow=11,SNR=2.0
comp=Z,1.2nm,0.9s
VNDA Vanda 60.52 185 P P 14 48 41.6 +0.8
PLAI Plampang 62.34 269 P P 14 48 53.2 -0.6
comp=Z,26nm,0.6s
GIRL Giralia 62.77 253 P P 14 48 57.7 +1.3
GIRL Giralia 62.77 253 P P 14 48 56.4 0.0
comp=Z,134nm,1.8s
JAGI Jajag, Banyuwa 65.89 269 P P 14 49 15.8 -0.5
JAGI IAmb IAmb 14 49 16.6
comp=Z,25nm,0.8s
MJAR Matsushiro Arr 67.74 323 P P 14 49 26.9 -0.2
comp=Z,1.7nm,0.5s,baz=158,slow=5.8,SNR=5.8
comp=Z,1.7nm,0.5s
MJB9 Matsu-Tunnel 67.75 323 P P 14 49 28.2 +1.0
MJB9 IAmb IAmb 14 49 33.1
comp=Z,26nm,1.4s
KKM Kota Kinabalu 68.57 284 P P 14 49 32.8 0.0
KKM IAmb IAmb 14 50 03.7
comp=Z,30nm,1.0s
UGM Wanagama 69.50 268 P P 14 49 37.7 -0.5
SSLB Suanglung 72.06 303 P P 14 49 52.2 -0.8
SSLB IAmb IAmb 14 50 24.0
comp=Z,46nm,1.5s
QSPA South Pole Qui 72.24 180 P P 14 49 53.6 +0.1
comp=Z,5.7nm,0.9s,baz=1.1,slow=0.7,SNR=16
comp=Z,5.7nm,0.9s
QSPA South Pole Qui 72.24 180 P P 14 49 54.0 +0.5
KSM Kuching 72.52 277 P P 14 49 56.6 +0.6
KSM IAmb IAmb 14 49 57.5
comp=Z,17nm,0.7s
PETK Petropavlovsk- 73.55 345 P P 14 50 00.9 0.0
comp=Z,3.5nm,1.0s,baz=121,slow=5.6,SNR=1.3
comp=Z,3.5nm,1.0s
KSRS Korea Array 74.53 318 P P 14 50 07.7 +0.9
comp=Z,0.7nm,0.7s,baz=139,slow=6.8,SNR=2.7
comp=Z,0.7nm,0.7s
KDAK Kodiak Island 78.35 14 P P 14 50 27.2 0.0
comp=Z,5.9nm,0.8s,baz=232,slow=1.9,SNR=6.6
comp=Z,5.9nm,0.8s
NVAR Mina Array Bea 79.46 44 P P 14 50 34.2 +0.3
comp=Z,2.0nm,0.7s,baz=224,slow=9.0,SNR=11
comp=Z,2.0nm,0.7s
KVN Kaiserville 79.93 43 P P 14 50 37.2 +0.9
PRN Pahroc Range 81.12 46 P P 14 50 43.8 +1.3
U15A North Rim 82.57 48 P P 14 50 51.0 +1.0
ELK Elko 82.69 43 P P 14 50 51.0 +0.6
SEY Seymchan 83.65 347 P P 14 50 54.3 0.0
comp=Z,0.8nm,0.5s,baz=197,slow=10.0,SNR=4.2
comp=Z,0.8nm,0.5s
N25K Chitina, Valde 83.65 16 P P 14 50 54.2 -0.3
N25K IAmb IAmb 14 50 55.3
comp=Z,4.4nm,0.7s
TRF Thorofare Moun 83.95 12 P P 14 50 55.0 -1.0
TRF IAmb IAmb 14 50 56.0
comp=Z,4.8nm,0.8s
M27K Edge Creek, AK 84.99 16 P P 14 51 01.8 +0.7
M27K IAmb IAmb 14 51 03.0
comp=Z,12nm,1.4s
ILAR Eielson Array 85.83 13 P P 14 51 04.1 -0.8
comp=Z,0.6nm,0.4s,baz=223,slow=5.2,SNR=21
comp=Z,0.6nm,0.4s
TX31 Lajitas Ar. Si 86.07 58 P P 14 51 08.8 +1.7
TX31 IAmb IAmb 14 51 22.9
comp=Z,14nm,1.4s
TXAR Lajitas Array 86.08 58 P P 14 51 08.6 +1.6
comp=Z,1.8nm,0.7s,baz=218,slow=6.1,SNR=24
comp=Z,1.8nm,0.7s
PD31 Pinedale Array 87.39 43 P P 14 51 13.4 +0.3
PDAR Pinedale Array 87.39 43 P P 14 51 13.7 +0.6
comp=Z,1.2nm,0.5s,baz=219,slow=3.5,SNR=20
comp=Z,1.2nm,0.5s
PDAR Pinedale Array 87.39 43 P P 14 51 13.4 +0.3
CMAR Chiang Mai Arr 88.71 290 P P 14 51 20.9 +1.5
comp=Z,2.0nm,0.8s,baz=110,slow=3.3,SNR=9.9
comp=Z,2.0nm,0.8s
SNAA Sanae 90.69 179 P P 14 51 27.1 -0.6
comp=Z,1.2nm,0.5s,baz=203,slow=9.8,SNR=9.7
comp=Z,1.2nm,0.5s
INK Inuvik 91.83 15 P P 14 51 31.4 -1.3
comp=Z,0.9nm,0.7s,baz=192,slow=8.9,SNR=4.2
comp=Z,0.9nm,0.7s
SONM Songino Array 93.38 319 P P 14 51 39.2 -1.3
comp=Z,0.3nm,0.5s,baz=116,slow=6.7,SNR=2.3
comp=Z,0.3nm,0.5s
YKA Yellowknife Ar 94.31 25 P P 14 51 44.0 -0.1
comp=Z,0.4nm,0.7s,baz=244,slow=4.7
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 108.96 314 Pdiff **Pdif 14 52 52.2 +2.3**
comp=Z,0.3nm,0.8s,baz=86,slow=6.4,SNR=2.1
MKAR PKiKP **PKiKP 14 56 49.3 -1.4**
comp=Z,0.5nm,0.5s,baz=222,slow=1.7,SNR=9.9
KURBB **Kurchatov Arra 111.71 318** PKiKP **PKiKP 14 56 54.2 -1.5**
comp=Z,0.6nm,0.6s,baz=93,slow=1.8,SNR=6.1
ARCES **ARCESS Array B 126.20 350** PKP **PKPdf 14 57 21.8 -1.3**
comp=Z,11nm,1.3s,baz=2.2,slow=0.8,SNR=5.8
AKASG **Malin Array Be 140.41 332** PKhKP PKPpre 14 57 43.1
comp=Z,0.3nm,0.3s,baz=47,slow=4.2,SNR=5.3
AKASG PKP **PKPdf 14 57 49.0 -1.2**
comp=Z,0.5nm,0.3s,baz=42,slow=3.5,SNR=5.1
BRTR Keskin Array B 144.61 315 PKP **PKPdf 14 57 58.0 -0.2**
comp=Z,2.0nm,0.5s,baz=118,slow=2.8,SNR=14
CLL Collm 145.34 347 *e*PKPbc **PKPab 14 58 01.0 -0.3**
GERES GERESS Array B 147.48 345 PKPbc **PKPbc 14 58 06.1 0.0**
comp=Z,1.4nm,0.5s,baz=32,slow=3.5,SNR=7.4

JMA 04 14:42:03.6±0.1,31°.4N±0°.2×130°.6E±0°.1, h9km±1km, SATSUMA PENINSULA REGION, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JSU	**Suzuyama**	**0.18**	**312**	P		Sg	14 42 10.0	-0.2
JSU	**Suzuyama**	**0.18**	**312**	P		Pg	14 42 07.5	0.0
JSU				S		Sg	14 42 10.2	+0.1

*IDC **04** 14:43:13.4±0.7, 27°.66S×65°.22E, h0km, mb4.3/16, mbtmp4.3/16, MS3.7/16, Error ellipse: s-maj=25.9km s-min=16.3km az=68.0*
*NEIC **04** 14:43:15.0±1.3, 27°.73S±0°.10×65°.2E±0°.2, h10km±1km, mb4.6/34, Error ellipse: s-maj=24.1km s-min=15.7km az=250.0*

ISC 04 14:43:14.8±0.5, 27°.64S±0°.09×65°.2E±0°.1, h10km, n89, σ1s9.04/77, mb4.6/40, MS3.8/17, 1C, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROCAM	**Rodrigues Isla**	**8.02**	**347**	Pn		**Pn**	**14 45 09.6**	**-1.9**
VOI	**Vohitsoka**	**17.66**	**285**	P		**P**	**14 47 22.9**	**+0.8**
ABPO	**Ambohimpanom**	**18.59**	**294**	P		**Pn**	**14 47 32.7**	**0.0**
H08S1	**Diego Carcia H**	**21.04**	**20**	T		T	15 09 46.2	
	baz=199,slow=76,SNR=14							
H08S2	**Diego Garcia H**	**21.05**	**20**	T		T	15 09 39.3	
	baz=199,slow=76,SNR=35							
H08S3	**Diego Garcia H**	**21.06**	**20**	T		T	15 09 48.6	
	baz=199,slow=76,SNR=12							
LBTB	**Lobatse**	**35.50**	**265**	LR		LR	15 02 41.5	
	comp=Z,51nm,20.6s,baz=78,slow=33							
KIBK	**Kibwezi**	**36.16**	**309**	P		**P**	**14 50 17.2**	**-0.5**
KIBK				IAmb		IAmb	14 50 20.5	
	comp=Z,7.6nm,1.0s							
KMBO	**Kilima Mbogo**	**37.58**	**310**	P		**P**	**14 50 29.2**	**-0.8**
	comp=Z,0.8nm,0.2s,baz=98,slow=7.1,SNR=2.4							
	comp=Z,0.8nm,0.2s							
KMBO	**Kilima Mbogo**	**37.58**	**310**	P		**P**	**14 50 30.4**	**+0.4**
KMBO	**Kilima Mbogo**	**37.58**	**310**	*e*PKHKP		**P**	**14 50 29.9**	**0.0**
PALK	**Pallekele**	**37.80**	**26**	LR		LR	15 03 14.1	
	comp=Z,104nm,18.4s,baz=302,slow=32							
PALK	**Pallekele**	**37.80**	**26**	P		**P**	**14 50 32.2**	**+0.7**
PCHI	**Peechi**	**39.45**	**17**	*e*P		**P**	**14 50 45.4**	**+0.1**
MAW	**Mawson**	**40.02**	**181**	LR		LR	15 03 54.1	
	comp=Z,144nm,18.1s,baz=336,slow=31							
H01W2	**Cape Leeuwin H**	**42.10**	**112**	T		T	15 35 55.0	
	baz=265,slow=75,SNR=5.1							
H01W3	**Cape Leeuwin H**	**42.11**	**112**	T		T	15 35 52.6	
	baz=265,slow=75,SNR=5.9							
H01W1	**Cape Leeuwin H**	**42.12**	**112**	T		T	15 35 49.5	
	baz=265,slow=75,SNR=4.9							
LODK	**Lodwar**	**42.20**	**312**	P		**P**	**14 51 09.8**	**+1.6**
MBAR	**Mbarara**	**42.59**	**303**	LR		LR	15 06 43.5	
	comp=Z,68nm,18.2s,baz=92,slow=33							
CASY	**Casey**	**47.60**	**157**	P		**P**	**14 51 47.5**	**-2.9**
WSAR	**Wadi Sarin**	**50.98**	**352**	LR		LR	15 10 07.9	
	comp=Z,68nm,18.8s,baz=192,slow=32							
CM31	**Chiang Mai Arr**	**56.28**	**39**	P		**P**	**14 52 55.7**	**-0.1**
CM31				IAmb		IAmb	14 52 57.7	
	comp=Z,7.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**56.28**	**39**	P		**P**	**14 52 56.3**	**+0.5**
	comp=Z,4.5nm,0.8s,baz=232,slow=7.1,SNR=27							
	comp=Z,4.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**56.28**	**39**	P		**P**	**14 52 55.7**	**-0.1**
ASAR	**Alice Springs**	**61.33**	**103**	P		**P**	**14 53 30.6**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=245,slow=6.2,SNR=13							
	comp=Z,1.9nm,0.8s							
ASAR	**Alice Springs**	**61.33**	**103**	P		**P**	**14 53 30.4**	**-0.7**
AS31	**Alice Springs**	**61.34**	**103**	P		**P**	**14 53 31.1**	**0.0**
KBL	**Kabul**	**61.95**	**4**	P		**P**	**14 53 34.9**	**-0.1**
KBL				IAmb		IAmb	14 53 37.3	
	comp=Z,4.3nm,0.9s							
LSA	**Lhasa**	**62.18**	**25**	P		**P**	**14 53 37.3**	**+0.3**
LSA				IAmb		IAmb	14 53 39.1	
	comp=Z,9.7nm,1.5s							
QSPA	**South Pole Qui**	**62.51**	**180**	P		**P**	**14 53 38.6**	**+0.2**
	comp=Z,9.5nm,1.0s,baz=274,slow=3.8,SNR=16							
QSPA				LR		LR	15 17 31.9	
	comp=Z,57nm,19.6s,baz=274,slow=33							
	comp=Z,9.5nm,1.0s							
QSPA	**South Pole Qui**	**62.51**	**180**	P		**P**	**14 53 38.8**	**+0.4**
WRA	**Warramunga Arr**	**63.01**	**99**	P		**P**	**14 53 42.1**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=249,slow=6.2,SNR=5.9							
	comp=Z,2.2nm,0.9s							
WRA	**Warramunga Arr**	**63.01**	**99**	P		**P**	**14 53 41.9**	**-0.4**
EIL	**Elat**	**63.91**	**331**	LR		LR	15 19 01.9	
	comp=Z,23nm,18.1s,baz=106,slow=34							
VNDA	**Vanda**	**64.66**	**166**	P		**P**	**14 53 52.6**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=274,slow=8.7,SNR=7.7							
VNDA				LR		LR	15 19 49.3	
	comp=Z,95nm,18.1s,baz=244,slow=34							
	comp=Z,2.4nm,0.9s							
VNDA	**Vanda**	**64.66**	**166**	P		**P**	**14 53 52.9**	**+0.6**
VNDA				IAmb		IAmb	14 53 53.5	
	comp=Z,4.1nm,0.9s							
STKA	**Stephens Creek**	**65.16**	**114**	P		**P**	**14 53 56.0**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=299,slow=4.5,SNR=3.1							
	comp=Z,1.5nm,0.8s							
STKA	**Stephens Creek**	**65.16**	**114**	P		**P**	**14 53 55.9**	**-0.3**
GEYT	**Alibeck**	**65.56**	**354**	LR		LR	15 19 53.1	
	comp=Z,45nm,18.5s,baz=150,slow=34							
GAR	**Garm**	**66.46**	**4**	P		**P**	**14 54 04.1**	**-0.3**
GAR				IAmb		IAmb	14 54 05.2	
	comp=Z,7.1nm,1.1s							
KSH	**Kashi**	**67.56**	**9**	P		**P**	**14 54 09.7**	**-1.7**
KSH				pmax		pmax		
	comp=Z,9.0nm,0.8s							
GURO	**Guroymak-BITLI**	**69.32**	**341**	P		**P**	**14 54 23.8**	**+1.3**
GURO				IAmb		IAmb	14 54 25.8	
	comp=Z,6.0nm,1.0s							
GNI	**Garni**	**70.08**	**343**	LR		LR	15 24 06.7	
	comp=Z,78nm,18.2s,baz=160,slow=35							
AAK	**Ala-Archa**	**70.45**	**7**	P		**P**	**14 54 29.5**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=174,slow=3.2,SNR=8.5							
AAK				LR		LR	15 21 35.8	
	comp=Z,60nm,21.4s,baz=196,slow=33							
	comp=Z,3.4nm,1.0s							
AAK	**Ala-Archa**	**70.45**	**7**	P		**P**	**14 54 30.0**	**+0.7**
AAK				IAmb		IAmb	14 54 31.8	
	comp=Z,7.9nm,1.2s							
KK31	**Karatay Array**	**70.56**	**4**	P		**P**	**14 54 30.9**	**+1.0**
KK31				IAmb		IAmb	14 54 34.0	
	comp=Z,5.9nm,1.0s							
KKAR	**Karatay Array**	**70.56**	**4**	P		**P**	**14 54 30.3**	**+0.4**
ONI	**Oni**	**72.70**	**343**	P		**P**	**14 54 44.0**	**+1.2**
ONI				IAmb		IAmb	14 54 50.9	
	comp=Z,6.6nm,1.3s							
BRTR	**Keskin Array B**	**73.19**	**335**	P		**P**	**14 54 46.3**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=167,slow=5.9,SNR=9.1							
	comp=Z,2.8nm,0.9s							
BR131	**Keskin Array S**	**73.19**	**335**	P		**P**	**14 54 46.3**	**+0.4**
BR131				IAmb		IAmb	14 54 47.7	
	comp=Z,11nm,1.2s							
KBZ	**Khabaz**	**73.91**	**343**	LR		LR	15 26 11.5	
	comp=Z,80nm,20.2s,baz=145,slow=35							
GTA	**Gaotai**	**74.10**	**27**	*e*P		**P**	**14 54 52.3**	**+1.1**
GTA				sP		pwP	14 55 00.4	+2.0
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KIV	**Kislovodsk**	**74.17**	**343**	P		**P**	**14 54 51.8**	**+0.3**
MK31	**Makanchi Array**	**75.68**	**12**	P		**P**	**14 55 00.3**	**+0.3**
MKAR	**Makanchi Array**	**75.68**	**12**	P		**P**	**14 55 00.1**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=193,slow=5.0,SNR=25							
	comp=Z,2.7nm,0.8s							
MKAR	**Makanchi Array**	**75.68**	**12**	P		**P**	**14 55 00.3**	**+0.2**
DBIC	**Dimbokro**	**75.69**	**285**	LR		LR	15 25 34.9	
	comp=Z,46nm,20.1s,baz=129,slow=34							
ABKAR	**Akbulak array**	**76.69**	**356**	P		**P**	**14 55 06.1**	**+0.4**
KURBB	**Kurchatov Arra**	**78.80**	**9**	P		**P**	**14 55 17.7**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=206,slow=6.3,SNR=27							
KURBB				LR		LR	15 26 56.7	
	comp=Z,62nm,21.1s,baz=168,slow=33							
	comp=Z,2.7nm,0.8s							
KURK	**Kurchatov**	**78.90**	**9**	P		**P**	**14 55 18.5**	**+0.5**
KURK				IAmb		IAmb	14 55 19.9	
	comp=Z,7.0nm,1.1s							
TIRR	**Tirgusor**	**79.24**	**334**	P		**P**	**14 55 20.8**	**+0.8**
BVAR	**Borovoye Array**	**80.44**	**3**	LR		LR	15 28 48.7	
	comp=Z,48nm,20.2s,baz=130,slow=34							
BRVK	**Borovoye**	**80.47**	**3**	P		**P**	**14 55 26.4**	**0.0**
BRVK				IAmb		IAmb	14 55 30.3	
	comp=Z,7.6nm,1.1s							
ZAA0	**Zalesovo Array**	**83.00**	**12**	P		**P**	**14 55 39.9**	**+0.1**
ZALV	**Zalesovo Beam**	**83.00**	**12**	P		**P**	**14 55 40.6**	**+0.8**
	comp=Z,7.8nm,0.8s,baz=189,slow=4.6,SNR=33							
	comp=Z,7.8nm,0.8s							
ZALV	**Zalesovo Beam**	**83.00**	**12**	P		**P**	**14 55 39.9**	**+0.1**
BURAR	**Bucovina Array**	**83.10**	**334**	P		**P**	**14 55 40.5**	**-0.1**
BURAR				IAmb		IAmb	14 55 43.4	
	comp=Z,3.7nm,1.1s							
SONM	**Songino Array**	**83.75**	**27**	P		**P**	**14 55 44.6**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=202,slow=4.8,SNR=10							
	comp=Z,2.5nm,1.0s							
SONM	**Songino Array**	**83.75**	**27**	P		**P**	**14 55 44.6**	**+0.6**
SONM				IAmb		IAmb	14 55 45.7	
	comp=Z,3.5nm,1.1s							
ARU	**Arti**	**83.92**	**356**	P		**P**	**14 55 45.2**	**+0.7**
ULN	**Ulaanbaatar**	**84.04**	**27**	P		**P**	**14 55 45.6**	**+0.2**
ULN				IAmb		IAmb	14 55 47.0	
	comp=Z,3.8nm,1.1s							
AKASG	**Malin Array Be**	**84.24**	**338**	P		**P**	**14 55 46.5**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=156,slow=3.9,SNR=10.0							
	comp=Z,3.5nm,0.9s							
AKASG	**Malin Array Be**	**84.24**	**338**	P		**P**	**14 55 46.0**	**-0.1**
AKASG				IAmb		IAmb	14 55 47.6	
	comp=Z,7.2nm,1.1s							
ARSA	**Arzberg**	**86.95**	**329**	*e*P		**P**	**14 56 01.5**	**+1.6**
	comp=Z,2.8nm,0.8s							
CONA	**Conrad Observa**	**87.29**	**329**	*e*P		**P**	**14 56 02.4**	**+0.8**
	comp=Z,5.0nm,1.2s							
KSAR	**Wonju Array Be**	**87.43**	**45**	P		**P**	**14 56 02.8**	**+0.4**
KSRS	**Korea Array**	**87.46**	**45**	P		**P**	**14 56 03.5**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=212,slow=4.3,SNR=3.2							
	comp=Z,1.3nm,0.8s							
MNK	**Minsk**	**87.90**	**339**	*i* P		**P**	**14 56 02.4**	**-1.8**
	comp=E,4.0nm,1.4s							
MNK				*i* P		**P**	**14 56 02.4**	**-1.8**
	comp=N,33nm,1.1s							
MNK				*i* P		**P**	**14 56 02.4**	**-1.8**
	comp=Z,18nm,1.1s,baz=147							
MNK				*i* PP		**PP**	**14 59 27.7**	**-3.1**
MNK				*i* PPP		PPP	15 01 22.9	
MNK				*i* S		**SKSac**	**15 06 29.3**	**-2.8**
MNK				*i* SS		**SS**	**15 12 32.4**	**-2.7**
MNK				*i* SSS		SSS	15 16 07.3	
MNK				*i* LQ		LQ	15 29 34.2	
MNK				*i* LR		LR	15 33 04.1	
MNK				*i* LRM		MLR	15 37 56.7	
	comp=Z,135nm,14.7s							
MNK				*i* LRM		MLR	15 38 44.0	
	comp=N,481nm,14.7s							
MNK				*i* LRM		MLR	15 38 49.1	
	comp=E,48nm,18.5s							
ABTA	**Abfaltersbach**	**88.01**	**327**	*e*P		**P**	**14 56 06.9**	**+1.8**
	comp=E,6.7nm,1.4s							
WTTA	**Wattenberg**	**88.80**	**327**	*e*P		**P**	**14 56 09.7**	**+0.8**
	comp=E,3.6nm,0.7s							
WATA	**Walderalm**	**88.88**	**327**	*e*P		**P**	**14 56 09.6**	**+0.4**
	comp=E,4.1nm,1.0s							
SQTA	**Sankt Quirin**	**88.98**	**327**	*e*P		**P**	**14 56 10.2**	**+0.5**
	comp=E,5.7nm,1.0s							
FETA	**Feichten**	**89.08**	**326**	*e*P		**P**	**14 56 11.4**	**+1.2**
	comp=E,6.7nm,0.9s							
MOTA	**Moosalm**	**89.11**	**327**	*e*P		**P**	**14 56 11.4**	**+1.0**
	comp=E,7.7nm,0.9s							
RETA	**Reutte**	**89.38**	**327**	*e*PcP		**PcP**	**14 56 14.0**	**+1.1**
	comp=E,0.2nm,0.3s							
DAVA	**Damuels**	**89.68**	**326**	P		**P**	**14 56 13.0**	**0.0**
	comp=E,5.1nm,0.8s							
ESDC	**Sonseca Array**	**92.86**	**314**	P		**P**	**14 56 28.3**	**+0.5**
	comp=E,0.9nm,0.8s,baz=123,slow=3.2,SNR=4.8							
ESDC				LR		LR	15 39 24.7	
	comp=E,50nm,18.1s,baz=323,slow=36							
	comp=E,0.9nm,0.8s							
YKA	**Yellowknife Ar**	**145.14**	**360**	PKPbc		**PKPdf**	**15 02 51.8**	**-0.1**
	comp=E,4.0nm,0.9s,baz=342,slow=3.6,SNR=25							

*JMA **04** 15:12:45.8±0.1, 36°.9N±0°.3×141°.0E±0°.6, h55km, MV3.1/34, E OFF IBARAKI PREF*
*IDC **04** 15:12:45.9±2.6, 36°.83N×141°.06E, h46km±26km, mb3.3/2, mbtmp3.7/5, ML3.0/3, Error ellipse: s-maj=22.6km s-min=15.1km az=60.0*

ISC 04 15:12:45.8±1.2, 36°.86N±0°.04×141°.04E±0°.08, h50km±8km, n19, σ0s9.71/24, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.31**	**321**	*i* P		**Pn**	**15 12 55.2**	**+0.1**
ONAJ				S		**Sn**	**15 13 01.7**	**0.0**
JFFD	**Fukushimafurud**	**0.45**	**301**	*i* P		**Pn**	**15 12 56.5**	**+0.1**
JFFD				S		**Sn**	**15 13 03.8**	**-0.3**
JHO	**Hitachi**	**0.46**	**236**	*i* P		**Pn**	**15 12 56.5**	**0.0**
JHO				S		**Sn**	**15 13 03.9**	**-0.3**
JFK	**Kawauchi**	**0.52**	**345**	*i* P		**Pn**	**15 12 57.3**	**0.0**
JFK				S		**Sn**	**15 13 05.5**	**-0.2**
JHYU	**Hitachinakayam**	**0.64**	**215**	*i* P		**Pn**	**15 12 58.5**	**-0.2**
JHYU				*e*S		**Sn**	**15 13 07.5**	**-0.6**
JMM	**Marumori**	**1.02**	**349**	*i* P		**Pn**	**15 13 03.9**	**+0.1**
JMM				S		**Sn**	**15 13 16.7**	**-0.3**
JFY	**Yanaizu**	**1.20**	**297**	P		**Pn**	**15 13 05.9**	**-0.3**
JFY				*e*S		**Sn**	**15 13 20.1**	**-1.2**
JAG	**Ashikaga**	**1.35**	**252**	*i* P		**Pn**	**15 13 07.9**	**-0.3**
JAG				S		**Sn**	**15 13 24.2**	**-0.9**
MJAR	**Matsushiro Arr**	**2.30**	**263**	P		**Pn**	**15 13 21.4**	**+0.2**
	0.7nm,0.3s,baz=71,slow=10.0,SNR=51							
MJAR				S		**Sn**	**15 13 48.5**	**+0.2**
	12nm,0.4s,baz=97,slow=29,SNR=9.0							
	3.9nm,0.3s							
JHJ	**Hachijo jima 2**	**3.88**	**196**	P		**Pn**	**15 13 43.8**	**+1.0**
	18nm,0.3s,baz=67,slow=18,SNR=1.2							
JHJ				S		**Sn**	**15 14 27.0**	**-0.1**
	178nm,0.7s,baz=70,slow=20,SNR=1.9							
	77nm,0.4s							
ASAJ	**Asahikawa**	**7.34**	**9**	P		**Pn**	**15 14 29.9**	**-0.4**
	0.3nm,0.3s,baz=286,slow=26,SNR=2.0							
ASAJ				S		**Sn**	**15 15 51.4**	**-0.8**
	5.8nm,0.8s,baz=170,slow=24,SNR=2.0							
	10nm,1.0s							
SONM	**Songino Array**	**27.63**	**304**	P		**P**	**15 18 30.7**	**+2.1**
	0.4nm,0.6s,baz=108,slow=8.6,SNR=3.9							
	0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.32**	**120**	T		T	15 48 22.4	
	baz=313							
H11N1	**WAKE ISLAND Hy**	**28.33**	**120**	T		T	15 48 26.8	
	baz=313,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.34**	**120**	T		T	15 48 28.3	
	baz=313,slow=74							
H11S1	**WAKE ISLAND Hy**	**29.02**	**122**	T		T	15 49 25.5	
	baz=313							
H11S3	**WAKE ISLAND Hy**	**29.02**	**122**	T		T	15 49 28.9	
	baz=313							
H11S2	**WAKE ISLAND Hy**	**29.04**	**122**	T		T	15 49 24.4	
	baz=313							
WRA	**Warramunga Arr**	**56.85**	**188**	P		**P**	**15 22 24.5**	**-0.8**
	0.6nm,0.8s,baz=1.4,slow=7.4,SNR=2.9							
	0.6nm,0.8s							

*NOU **04** 15:13:26.9, 42°.80S×173°.30E, h7km, MLv3.7/8, South Island, New Zealand*
*WEL **04** 15:13:27.3, 43°.3±4°×17°.3E±°, h28km±12km, M2.9/18, mB4.9/1, ML3.1/29, MLv2.9/18, Mw(mB)4.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=84.8*

ISC 04 15:13:27.8±1.0, 42°.66S±0°.03×173°.17E±0°.04, h10km, n57, σ1s9.13/57, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GVZ	**Greta Valley S**	**0.32**	**198**	P		**Pg**	**15 13 35.8**	**+1.6**
KHZ	**Kahutara**	**0.37**	**48**	P		**Pg**	**15 13 35.2**	**+0.1**
KHZ	**Kahutara**	**0.37**	**48**	P		**Pg**	**15 13 35.4**	**+0.3**
AMCZ	**Amberley**	**0.64**	**216**	P		**Pg**	**15 13 41.6**	**+1.4**
LTZ	**Lake Taylor**	**0.67**	**259**	P		**Pg**	**15 13 40.3**	**-0.5**
THZ	**Tophouse**	**0.92**	**348**	P		**Pg**	**15 13 43.9**	**-1.6**
OXZ	**Oxford**	**1.06**	**231**	P		**Pg**	**15 13 47.7**	**-0.5**
OKCZ	**Okains Bay**	**1.06**	**184**	P		**Pg**	**15 13 48.9**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.08**	**29**	P		**Pg**	**15 13 48.1**	**-0.5**
MQZ	**McQueen's Vall**	**1.11**	**200**	P		**Pb**	**15 13 48.1**	**-0.9**
CMWZ	**Cape Campbell**	**1.20**	**41**	P		**Pb**	**15 13 51.4**	**+0.8**
INZ	**Inchbonnie**	**1.27**	**267**	P		**Pn**	**15 13 50.7

*MOS **04** 15:14:30.2±1.0,29˚.45N×102˚.23E,h16km,mb4.5/16, Error ellipse: s-maj=11.6km s-min=7.1km az=98.7*
*NEIC **04** 15:14:32.4±1.2,29˚.75N±0˚.05×102˚.27E±0˚.08,h10km±1km, mb4.7/75, Error ellipse: s-maj=12.7km s-min=8.1km az=74.0*
ISC 04 15:14:31.6±0.4,**29˚.63N**±0˚.03×**102˚.15E**±0˚.04,**h10**km,**n298,** σ1§**26**/307,**mb4.6**/71,**MS3.3**/6,**1C-12D,Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**3.14**	**187**	Op	**Pb**	**Pb**	**15 15 24.9**	**-2.6**
PZH				Sg	**Sb**	**Sb**	**15 16 06.4**	**+0.5**
PZH				smax	smax			
	comp=N,650nm,0.7s							
PZH				smax	smax			
	comp=E,1μm,0.8s							
PZH				LR	LR			
	comp=N,1μm,6.5s							
PZH				LR	LR			
	comp=E,2μm,6.1s							
GYA	**Guiyang**	**5.09**	**127**	⇓Pn	**Pn**	**Pn**	**15 15 48.7**	**+0.7**
GYA				Sn	**Sn**	**Sn**	**15 16 46.9**	**-0.1**
GYA				Sg	**Sg**	**Sg**	**15 17 16.4**	**+1.4**
GYA				smax	smax			
	comp=N,340nm,0.8s							
GYA				smax	smax			
	comp=E,370nm,0.8s							
GYA				LR	LR			
	comp=Z,470nm,5.2s							
TNCH	**TengChong**	**5.61**	**216**	Pn	**Pn**	**Pn**	**15 15 55.9**	**+0.7**
TNCH				Sg	**Sg**	**Sg**	**15 17 29.6**	**-2.1**
TNCH				smax	smax			
	comp=N,240nm,1.5s							
TNCH				smax	smax			
	comp=E,200nm,1.6s							
ENH	**Enshi**	**6.40**	**82**			**Pn**	**15 16 06.2**	**+0.3**
LZH	**Lanzhou**	**6.59**	**12**	⇓Pn		Pn	15 16 14.1	+5.4
LZH				Pg		**Pg**	**15 16 37.8**	**-0.1**
LZH				Sg		**Sg**	**15 18 10.2**	**+6.9**
LZH				smax	smax			
	comp=N,70nm,1.6s							
LZH				smax	smax			
	comp=E,87nm,1.5s							
LZH				LR	LR			
	comp=N,2μm,9.8s							
LZH				LR	LR			
	comp=E,960nm,9.8s							
LZH				LR	LR			
	comp=Z,2μm,10.2s							
XAN	**Xi'an**	**7.25**	**51**	Pn		**Pn**	**15 16 15.9**	**-1.7**
XAN				Sn		**Sn**	**15 17 38.7**	**-1.2**
XAN				Sg		**Sg**	**15 18 20.2**	**-3.9**
XAN				smax	smax			
	comp=Z,580nm,1.2s							
XAN				smax	smax			
	comp=Z,490nm,0.9s							
XAN				LR	LR			
	comp=Z,660nm,8.7s							
XAN				LR	LR			
	comp=Z,1μm,10.2s							
CRAI	**Chiangrai**	**9.50**	**190**	Pn		**Pn**	**15 16 51.3**	**+2.8**
CNSH	**ChangSha**	**9.56**	**96**	⇓P		**Pn**	**15 16 48.5**	**-0.8**
CNSH				S		**Sn**	**15 18 33.4**	**-3.4**
CNSH				smax	smax			
	comp=Z,140nm,0.7s							
CNSH				smax	smax			
	comp=Z,160nm,0.6s							
LSA	**Lhasa**	**9.57**	**273**	Pn		**Pn**	**15 16 52.0**	**+2.1**
LSA	**Lhasa**	**9.57**	**273**	P		**Pn**	**15 16 52.0**	**+2.1**
LYN	**LuoYang**	**10.03**	**58**	*e*P		**Pn**	**15 16 59.1**	**+3.4**
LYN				S		**Sn**	**15 18 47.1**	**-1.2**
LYN				pmax	pmax			
	comp=Z,10.0nm,0.4s							
LYN				LR	LR			
	comp=Z,430nm,9.4s							
LYN				LR	LR			
	comp=Z,660nm,13.9s							
LYN				LR	LR			
	comp=Z,690nm,14.2s							
WHN	**Wuhan**	**10.61**	**82**	P		**Pn**	**15 17 04.6**	**+1.0**
WHN				S		**Sn**	**15 19 01.7**	**-0.8**
WHN				LR	LR			
	comp=Z,2μm,7.1s							
WHN				LR	LR			
	comp=Z,2μm,8.2s							
WHN				LR	LR			
	comp=Z,1μm,5.6s							
CMAR	**Chiang Mai Arr**	**11.50**	**195**	Pn		**Pn**	**15 17 18.5**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=9.8,slow=11,SNR=1.8							
CMAR				Lg		Lg	15 20 36.5	
	baz=14,slow=30							
BRDH	**Bariadhala**	**11.70**	**236**	LR		LR	15 22 39.6	
	comp=Z,161nm,20.0s,baz=88,slow=42							
QIZ	**Qiongzhong**	**12.66**	**145**	P		**Pn**	**15 17 33.4**	**+1.5**
QIZ				S		**Sn**	**15 19 57.2**	**+4.2**
QIZ				LR	LR			
	comp=Z,520nm,9.0s							
QIZ				LR	LR			
	comp=Z,500nm,8.7s							
QIZ				LR	LR			
	comp=Z,250nm,8.1s							
BTO	**Baotou**	**12.70**	**28**	*e*P		**Pn**	**15 17 32.4**	**+0.1**
TAPN	**Taplejung**	**12.90**	**263**	*e*P		**Pn**	**15 17 35.0**	**-0.4**
	comp=Z,8.8nm,0.6s							
HNS	**HongShan**	**13.02**	**50**	*e*P		**Pn**	**15 17 39.2**	**+2.6**
HNS				*e*S		**Sn**	**15 20 02.5**	**+0.9**
HNS				LR	LR			
	comp=Z,340nm,10.0s							
HNS				LR	LR			
	comp=Z,390nm,11.2s							
HNS				LR	LR			
	comp=Z,500nm,14.3s							
HHC	**Hu-ho-hao-te**	**13.57**	**32**	*e*P		**Pn**	**15 17 44.2**	**0.0**
HHC				pmax	pmax			
	comp=Z,13nm,0.9s							
RAMN	**Ramite**	**13.96**	**263**	*e*P		**Pn**	**15 17 48.0**	**-1.7**
	comp=Z,10.0nm,0.7s							
JIRN	**Jiri**	**14.15**	**266**	*e*P		**Pn**	**15 17 52.0**	**-0.5**
	comp=Z,14nm,0.7s							
NJ2	**Nanjing**	**14.55**	**76**	*e*P		**Pn**	**15 17 56.2**	**-1.4**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
UBPT	**Khong Chiam**	**14.61**	**167**	P		**P**	**15 18 05.2**	**+0.3**
PKIN	**Phulchoki**	**14.86**	**266**	*e*P		**Pn**	**15 17 59.9**	**-2.2**
	comp=Z,4.2nm,0.4s							
GKN	**Gorkha**	**15.44**	**268**	*e*P		**Pn**	**15 18 07.0**	**-2.7**
BJT	**Baijiatuan**	**15.47**	**44**	Pn		**Pn**	**15 18 09.7**	**-0.1**
BJT	**Baijiatuan**	**15.47**	**44**	P		**Pn**	**15 18 09.7**	**-0.1**
BJT				pmax	pmax			
	comp=Z,5.0nm,1.0s							
DANN	**Dangsing**	**16.14**	**270**	*e*P		**Pn**	**15 18 15.1**	**-3.8**
	comp=Z,12nm,0.6s							
WMQ	**Urumqi**	**18.26**	**325**	*e*P		**P**	**15 18 45.9**	**+0.6**
WMQ				pmax	pmax			
	comp=Z,7.0nm,1.3s							
SONM	**Songino Array**	**18.47**	**9**	P		**Pn**	**15 18 49.5**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=196,slow=14,SNR=51							
SONM				LR		LR	15 26 32.5	
	comp=Z,310nm,18.1s,baz=171,slow=39							
	comp=Z,11nm,1.0s							
SONM	**Songino Array**	**18.47**	**9**	P		**Pn**	**15 18 49.5**	**+1.7**
SONM	**Songino Array**	**18.47**	**9**	*e*P		**Pn**	**15 18 50.9**	**+3.2**
ULN	**Ulaanbaatar**	**18.60**	**10**	P		**P**	**15 18 47.1**	**-1.9**
ULN	**Ulaanbaatar**	**18.60**	**10**	⇓*e*P		**Pn**	**15 18 52.3**	**+3.0**
ULN				pmax	pmax			
	comp=Z,15nm,1.7s							
ZAK	**Zakamensk**	**20.75**	**2**	*e*P		Pn	15 19 14.8	0.0
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.1s							
MOY	**Mondy**	**22.03**	**358**	*e*P		**P**	**15 19 29.3**	**+3.0**
KSRS	**Korea Array**	**22.81**	**63**	P		**P**	**15 19 33.5**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=257,slow=10,SNR=9.3							
	comp=Z,3.2nm,0.9s							
KSRS	**Korea Array**	**22.81**	**63**	*e*P		**P**	**15 19 33.9**	**-0.6**
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.9s							
DGZ	**Jazzator, Alta**	**22.95**	**335**	*d i*P		**P**	**15 19 39.5**	**+3.4**
DGZ				pmax	pmax			
	comp=Z,13nm,0.9s							
MK31	**Makanchi Array**	**23.07**	**323**	P		**P**	**15 19 36.7**	**-0.5**
MK31	**Makanchi Array**	**23.07**	**323**	*d i*P		**P**	**15 19 40.1**	**+2.9**
MKAR	**Makanchi Array**	**23.07**	**323**	P		**P**	**15 19 39.0**	**+1.8**
	comp=Z,3.5nm,0.8s,baz=128,slow=9.3,SNR=31							
	comp=Z,3.5nm,0.8s							
MKAR	**Makanchi Array**	**23.07**	**323**	P		**P**	**15 19 38.5**	**+1.3**
MKAR	**Makanchi Array**	**23.07**	**323**	*e*P		**P**	**15 19 39.8**	**+2.6**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
TARG	**Taragay, Kyrgy**	**23.08**	**308**	P		**P**	**15 19 37.4**	**-0.5**
TARG	**Taragay, Kyrgy**	**23.08**	**308**	P		**P**	**15 19 37.4**	**-0.5**
TARG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MAKZ	**Makanchi**	**23.24**	**323**	P		**P**	**15 19 38.5**	**-0.4**
MAKZ	**Makanchi**	**23.24**	**323**	P		**P**	**15 19 38.6**	**-0.4**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CN2	**Changchun**	**23.32**	**46**	P		**P**	**15 19 40.0**	**+0.2**
CN2				S		**S**	**15 23 47.9**	**-4.5**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
JNU	**Nakatsue**	**24.74**	**75**	LR		LR	15 29 42.6	
	comp=Z,72nm,18.5s,baz=237,slow=37							
AAK	**Ala-Archa**	**25.70**	**308**	P		**P**	**15 20 07.1**	**+5.0**
	comp=Z,0.3nm,0.4s,baz=59,slow=18,SNR=1.9							
MDJ	**Mudanjiang**	**26.34**	**48**	P		**P**	**15 20 04.4**	**-3.3**
MDJ				S		**S**	**15 24 40.7**	**+0.1**
MDJ				ScS		**ScS**	**15 30 58.7**	**-4.7**
MDJ				pmax	pmax			
	comp=Z,11nm,2.6s							
MDJ				LR	LR			
	comp=Z,160nm,5.0s							
MDJ				LR	LR			
	comp=Z,230nm,5.0s							
MDJ				LR	LR			
	comp=Z,160nm,5.3s							
ZAA0	**Zalesovo Array**	**27.37**	**337**	P		**P**	**15 20 16.8**	**0.0**
ZALV	**Zalesovo Beam**	**27.37**	**337**	P		**P**	**15 20 17.9**	**+1.1**
	comp=Z,5.8nm,0.8s,baz=144,slow=9.8,SNR=25							
	comp=Z,5.8nm,0.8s							
ZALV	**Zalesovo Beam**	**27.37**	**337**	P		**P**	**15 20 16.9**	**+0.1**
KURBB	**Kurchatov Arra**	**27.46**	**326**	P		**P**	**15 20 19.3**	**+1.6**
	comp=Z,5.2nm,0.8s,baz=132,slow=9.5,SNR=65							
KURBB				PcP		**PcP**	**15 23 35.0**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=130,slow=1.5,SNR=5.1							
	comp=Z,5.2nm,0.8s							
KURK	**Kurchatov**	**27.48**	**327**	P		**P**	**15 20 18.4**	**+0.6**
KURK	**Kurchatov**	**27.48**	**327**	⇓*e*P		**P**	**15 20 19.4**	**+1.6**
KURK				pmax	pmax			
	comp=Z,16nm,1.7s							
USRK	**Ussuriysk Ar.**	**27.75**	**50**	LR		LR	15 32 24.6	
	comp=Z,82nm,18.3s,baz=212,slow=39							
HEH	**HeiHe**	**28.04**	**36**	*e*P		**P**	**15 20 24.6**	**+1.8**
HEH				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KBL	**Kabul**	**28.40**	**289**	P		**P**	**15 20 27.0**	**+0.5**
KBL	**Kabul**	**28.40**	**289**	P		**P**	**15 20 27.0**	**+0.5**
KBL				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KKAR	**Karatay Array**	**28.62**	**307**	P		**P**	**15 20 29.0**	**+0.8**
KKAR	**Karatay Array**	**28.62**	**307**	P		**P**	**15 20 29.0**	**+0.8**
KLR	**Kul'dur**	**29.80**	**41**	LR		LR	15 33 51.4	
	comp=Z,59nm,18.2s,baz=228,slow=39							
PALK	**Pallekele**	**30.03**	**226**	LR		LR	15 35 34.9	
	comp=Z,43nm,18.1s,baz=169,slow=42							
ZEA	**Zeya**	**30.22**	**30**	*e*P		**P**	**15 20 43.2**	**+1.0**
BVAR	**Borovoye Array**	**32.95**	**324**	P		**P**	**15 21 08.1**	**+1.9**
	comp=Z,2.7nm,0.8s,baz=126,slow=9.5,SNR=12							
	comp=Z,2.7nm,0.8s							
BRVK	**Borovoye**	**33.02**	**324**	P		**P**	**15 21 06.9**	**+0.1**
BRVK	**Borovoye**	**33.02**	**324**	⇓*i*P		**P**	**15 21 08.1**	**+1.3**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
GEYT	**Alibeck**	**37.24**	**295**	P		**P**	**15 21 45.6**	**+2.1**
	comp=Z,0.8nm,0.4s,baz=94,slow=6.1,SNR=6.0							
	comp=Z,0.8nm,0.4s							
GEYT	**Alibeck**	**37.24**	**295**	P		**P**	**15 21 44.6**	**+1.1**
ABKAR	**Akbulak array**	**37.42**	**314**	P		**P**	**15 21 44.2**	**-0.6**
ARU	**Arti**	**40.59**	**324**	P		**P**	**15 22 12.9**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=122,slow=6.6,SNR=5.5							
	comp=Z,1.3nm,0.3s							
ARU	**Arti**	**40.59**	**324**	P		**P**	**15 22 11.4**	**+0.2**
ARU	**Arti**	**40.59**	**324**	*d i*P		**P**	**15 22 08.3**	**-2.9**
ARU				S		**S**	**15 28 18.0**	**-2.5**
ARU				SS		**SS**	**15 31 16.0**	**-4.3**
ARU				pmax	pmax			
	comp=Z,21nm,3.8s							
NRIK	**Noril'sk**	**40.63**	**352**	P		**P**	**15 22 12.1**	**+0.7**
	comp=Z,5.9nm,0.7s,baz=144,slow=6.4,SNR=13							
	comp=Z,5.9nm,0.7s							
NRIK	**Noril'sk**	**40.63**	**352**	P		**P**	**15 22 11.0**	**-0.3**
NRIK	**Noril'sk**	**40.63**	**352**	*e*P		**P**	**15 22 12.3**	**+0.9**
NRIK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MA2	**Magadan**	**44.24**	**33**	P		**P**	**15 22 39.9**	**-1.0**
MA2				IAmb	IAmb		15 22 42.2	
	comp=Z,8.4nm,0.9s							
MA2	**Magadan**	**44.24**	**33**	⇓*e*P		**P**	**15 22 41.4**	**+0.5**
MA2				pmax	pmax			
	comp=Z,13nm,1.0s							
TIXI	**Tiksi**	**44.53**	**12**	LR		LR	15 42 49.6	
	comp=Z,77nm,21.9s,baz=189,slow=38							
TIXI	**Tiksi**	**44.53**	**12**	⇓*e*P		**P**	**15 22 42.9**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KLMR	**Klimovskoe**	**51.33**	**326**	*e*P		**P**	**15 23 33.4**	**-2.4**
KLMR				AMP			15 23 39.1	
	comp=Z,33nm,1.7s							
KLMR	**Klimovskoe**	**51.33**	**326**	*e*P		**P**	**15 23 33.4**	**-2.4**
KLMR				pmax	pmax			
	comp=Z,33nm,1.7s							
BILL	**Bilibino**	**53.22**	**25**	P		**P**	**15 23 48.9**	**-0.9**
BILL				IAmb	IAmb		15 23 50.5	
	comp=Z,5.1nm,0.7s							
BILL	**Bilibino**	**53.22**	**25**	*ce*P		**P**	**15 23 49.7**	**-0.1**
BILL				pmax	pmax			
	comp=Z,7.0nm,1.7s							
AKASG	**Malin Array Be**	**57.17**	**314**	P		**P**	**15 24 18.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=63,slow=7.0,SNR=2.1							
	comp=Z,0.1nm,0.3s							
AKASG	**Malin Array Be**	**57.17**	**314**	P		**P**	**15 24 18.0**	**-0.5**
FINES	**FINESS Array B**	**57.85**	**327**	P		**P**	**15 24 23.6**	**+0.5**
	comp=Z,9.1nm,1.1s,baz=104,slow=10,SNR=2.9							
	comp=Z,9.1nm,1.1s							
ARCES	**ARCESS Array B**	**57.91**	**336**	P		**P**	**15 24 23.6**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=96,slow=7.3,SNR=2.1							
	comp=Z,3.1nm,0.8s							
WRAB	**Tennant Creek**	**58.23**	**144**	⇓*e*P		**P**	**15 24 25.4**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,20nm,2.5s							
WRA	**Warramunga Arr**	**58.24**	**144**	P		**P**	**15 24 25.4**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=332,slow=7.9,SNR=37							
	comp=Z,3.7nm,0.7s							
ASAR	**Alice Springs**	**61.15**	**147**	P		**P**	**15 24 45.4**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=331,slow=6.9,SNR=20							
	comp=Z,1.1nm,0.6s							
ANM	**Nome**	**64.70**	**29**	P		**P**	**15 25 09.2**	**-0.2**
	baz=286							
CLL	**Collm**	**66.98**	**317**	*e*Px		Px	15 25 29.0	
GCSA	**Galena City Sc**	**68.08**	**27**	P		**P**	**15 25 31.3**	**+0.2**
	baz=293,SNR=7.0							
F21K	**Alatna River**	**68.35**	**24**	P		**P**	**15 25 32.7**	**-0.1**
	baz=295,SNR=13							
E22K	**Anaktuvuk Pass**	**68.53**	**23**	P		**P**	**15 25 33.8**	**-0.1**
	baz=296							
D23K	**Nanushuk River**	**68.53**	**22**	P		**P**	**15 25 34.1**	**+0.2**
	baz=297							
G21K	**Allakaket**	**68.64**	**25**	P		**P**	**15 25 34.3**	**-0.3**
	baz=295							
JMIC	**Jan Mayen**	**68.65**	**341**	LR		LR	15 58 02.9	
	comp=Z,52nm,19.4s,baz=113,slow=38							
F22K	**John River**	**68.68**	**23**	P		**P**	**15 25 35.0**	**+0.1**
	baz=296							
IMAR	**Indian Mountai**	**68.78**	**25**	P		**P**	**15 25 34.8**	**-0.6**
C24K	**Franklin Bluff**	**68.81**	**21**	P		**P**	**15 25 35.9**	**+0.3**
	baz=298							
N16K	**Nishlik Lake**	**68.95**	**32**	P		**P**	**15 25 37.4**	**+0.7**
	baz=293							
D24K	**Happy Valley**	**69.04**	**21**	P		**P**	**15 25 37.7**	**+0.6**
	baz=298							
TTA	**Tatalina**	**69.17**	**29**	P		**P**	**15 25 38.1**	**+0.1**
	baz=294							
G22K	**Bettles**	**69.18**	**24**	P		**P**	**15 25 38.3**	**+0.4**
	baz=297							
H21K	**Melozitna Rive**	**69.27**	**25**	P		**P**	**15 25 37.7**	**-0.9**
H21K				IAmb	IAmb		15 25 40.5	
	comp=Z,8.8nm,1.1s							
H21K	**Melozitna Rive**	**69.27**	**25**	P		**P**	**15 25 38.5**	**0.0**
	baz=296							
E23K	**Chandalar**	**69.30**	**22**	P		**P**	**15 25 39.0**	**+0.2**
	baz=298							
J20K	**Nowinta River**	**69.40**	**27**	P		**P**	**15 25 38.9**	**-0.5**
J20K				IAmb	IAmb		15 25 40.9	
	comp=Z,7.8nm,0.8s							
J20K	**Nowinta River**	**69.40**	**27**	P		**P**	**15 25 39.7**	**+0.3**
	baz=295							
COLD	**Coldfoot**	**69.49**	**23**	P		**P**	**15 25 39.7**	**-0.2**
COLD				IAmb	IAmb		15 25 41.6	
	comp=Z,5.1nm,0.9s							
COLD	**Coldfoot**	**69.49**	**23**	P		**P**	**15 25 40.0**	**+0.1**
	baz=298,SNR=6.1							
O16K	**Kokwok River B**	**69.61**	**32**	P		**P**	**15 25 41.3**	**+0.6**
	baz=294							
E24K	**Your Creek**	**69.67**	**22**	P		**P**	**15 25 41.3**	**+0.3**
	baz=299							
H22K	**Ishtalitna Cre**	**69.69**	**25**	P		**P**	**15 25 42.2**	**+1.0**
	baz=297							
D25K	**Kavik River**	**69.72**	**21**	P		**P**	**15 25 41.4**	**+0.1**
	baz=300							
K20K	**Telida**	**69.78**	**28**	P		**P**	**15 25 42.3**	**+0.5**
	baz=296							
I21K	**Tanana**	**69.79**	**26**	P		**P**	**15 25 41.7**	**0.0**
I21K				IAmb	IAmb		15 25 44.8	
	comp=Z,7.5nm,0.9s							
I21K	**Tanana**	**69.79**	**26**	P		**P**	**15 25 42.3**	**+0.6**
	baz=297,SNR=8.6							
G23K	**Bananza Creek**	**69.80**	**24**	P		**P**	**15 25 42.3**	**+0.4**
	baz=298,SNR=5.5							
C26K	**Camden Bay**	**69.85**	**20**	P		**P**	**15 25 43.1**	**+1.0**
	baz=301							
P16K	**Nushagak River**	**69.88**	**33**	P		**P**	**15 25 43.1**	**+0.7**
	baz=294							
L19K	**White Mountain**	**69.97**	**29**	P		**P**	**15 25 43.2**	**+0.3**
L19K				IAmb	IAmb		15 25 45.0	
	comp=Z,7.0nm,1.1s							
L19K	**White Mountain**	**69.97**	**29**	P		**P**	**15 25 43.4**	**+0.5**
	baz=295							
O17K	**Koliganek Bris**	**70.00**	**32**	P		**P**	**15 25 43.2**	**+0.1**
	baz=294							
SVW2	**Sparrevohn**	**70.12**	**30**	P		**P**	**15 25 44.0**	**+0.1**
SVW2				IAmb	IAmb		15 25 47.4	
	comp=Z,10nm,1.4s							
SDPT	**Sand Point**	**70.13**	**37**	P		**P**	**15 25 42.8**	**-1.1**
F24K	**Squaw Lake**	**70.14**	**23**	P		**P**	**15 25 43.9**	**0.0**
	baz=300							
L20K	**Farewell, AK**	**70.25**	**29**	P		**P**	**15 25 45.2**	**+0.5**
	baz=296							
CHUM	**Lake Minchumin**	**70.25**	**27**	P		**P**	**15 25 45.7**	**+1.1**
	baz=297,SNR=7.3							
MLY	**Manley**	**70.33**	**26**	P		**P**	**15 25 45.0**	**-0.1**
MLY				IAmb	IAmb		15 25 46.5	
	comp=Z,6.3nm,0.8s							
MLY	**Manley**	**70.33**	**26**	P		**P**	**15 25 45.6**	**+0.5**
	baz=298,SNR=8.9							
C27K	**Jago River**	**70.36**	**20**	P		**P**	**15 25 46.0**	**+0.7**
	baz=302							
H23K	**Yukon River**	**70.39**	**25**	P		**P**	**15 25 45.2**	**-0.3**
H23K				IAmb	IAmb		15 25 47.8	
	comp=Z,5.5nm,0.8s							
H23K	**Yukon River**	**70.39**	**25**	P		**P**	**15 25 46.0**	**+0.5**
	baz=299							
P17K	**Kvichak River**	**70.54**	**32**	P		**P**	**15 25 47.1**	**+0.7**
	baz=295							
CAST	**Castle Rocks**	**70.56**	**27**	P		**P**	**15 25 46.5**	**0.0**
CAST	**Castle Rocks**	**70.56**	**27**	P		**P**	**15 25 47.3**	**+0.7**
	baz=297							
BPAW	**Bear Paw Mtn.**	**70.67**	**26**	P		**P**	**15 25 47.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**70.67**	**26**	P		**P**	**15 25 47.6**	**+0.4**
	baz=298							
G24K	**Hadweenzic Riv**	**70.69**	**23**	P		**P**	**15 25 47.5**	**+0.2**
	baz=300							
N19K	**Bonanza Creek**	**70.72**	**30**	P		**P**	**15 25 48.1**	**+0.4**
N19K				IAmb	IAmb		15 25 49.3	
	comp=Z,6.3nm,0.8s							
N19K	**Bonanza Creek**	**70.72**	**30**	P		**P**	**15 25 48.1**	**+0.4**
	baz=296							
PPLA	**Purkeypile**	**70.75**	**28**	P		**P**	**15 25 48.2**	**+0.3**
PPLA	**Purkeypile**	**70.75**	**28**	P		**P**	**15 25 48.1**	**+0.3**
	baz=297,SNR=9.1							
I23K	**Minto, Yukon-K**	**70.78**	**25**	P		**P**	**15 25 48.1**	**+0.3**
I23K				IAmb	IAmb		15 25 49.2	
	comp=Z,6.6nm,0.9s							
I23K	**Minto, Yukon-K**	**70.78**	**25**	P		**P**	**15 25 48.4**	**+0.6**
	baz=299							
O18K	**Koktuh Hills**	**70.82**	**31**	P		**P**	**15 25 49.2**	**+1.0**
O18K				IAmb	IAmb		15 25 49.8	
	comp=Z,7.7nm,0.8s							
O18K	**Koktuh Hills**	**70.82**	**31**	P		**P**	**15 25 48.6**	**+0.4**
	baz=296							
M20K	**Styx River**	**70.83**	**29**	P		**P**	**15 25 48.6**	**+0.3**
M20K				IAmb	IAmb		15 25 49.9	
	comp=Z,9.5nm,0.8s							
M20K	**Styx River**	**70.83**	**29**	P		**P**	**15 25 49.2**	**+0.9**
	baz=297							
F25K	**Christian Rive**	**70.84**	**22**	P		**P**	**15 25 49.0**	**+0.8**
	baz=301							
KTH	**Kantishna Hill**	**70.95**	**27**	P		**P**	**15 25 48.7**	**-0.3**
KTH				IAmb	IAmb		15 25 54.5	
	comp=Z,5.3nm,1.0s							
H24K	**Noodor Dome**	**70.98**	**24**	P		**P**	**15 25 48.8**	**-0.4**
H24K				IAmb	IAmb		15 26 14.4	
	comp=Z,7.1nm,1.4s							
H24K	**Noodor Dome**	**70.98**	**24**	P		**P**	**15 25 49.4**	**+0.3**
	baz=300							
P18K	**Big Mountain,**	**71.02**	**32**	P		**P**	**15 25 49.7**	**+0.3**
P18K				IAmb	IAmb		15 25 50.7	
	comp=Z,8.4nm,0.9s							
P18K	**Big Mountain,**	**71.02**	**32**	P		**P**	**15 25 49.6**	**+0.3**
	baz=296							
O19K	**Port Alsworth**	**71.07**	**31**	P		**P**	**15 25 50.0**	**+0.3**
	baz=296							
G25K	**Bearman Lake**	**71.12**	**23**	P		**P**	**15 25 50.4**	**+0.5**
	baz=301							
NEA2	**Nenana**	**71.17**	**26**	P		**P**	**15 25 50.4**	**+0.2**
NEA2				IAmb	IAmb		15 25 51.7	
	comp=Z,11nm,0.8s							
NEA2	**Nenana**	**

PRP	**Porcupine Dome**	**71.98**	**24**	P	**P**	**15 25 54.9**	**-0.3**
PRP				IAmb	IAmb	15 25 56.4	
	comp=Z,7.7nm,0.8s						
PRP	**Porcupine Dome**	**71.98**	**24**	P	**P**	**15 25 55.5**	**+0.3**
	baz=302,SNR=5.7						
SUA	**Susitna One**	**72.03**	**29**	P	**P**	**15 25 55.2**	**-0.4**
SUA	**Susitna One**	**72.03**	**29**	P	**P**	**15 25 55.2**	**-0.4**
	baz=299,SNR=13						
HDA	**Harding Lake**	**72.05**	**25**	P	**P**	**15 25 55.1**	**-0.5**
	baz=301						
M22K	**Willow**	**72.15**	**28**	P	**P**	**15 25 55.7**	**-0.4**
M22K	**Willow**	**72.15**	**28**	P	**P**	**15 25 56.2**	**+0.1**
	baz=299						
WAT1	**Susitna Watana**	**72.25**	**27**	P	**P**	**15 25 56.0**	**-0.8**
	baz=300						
G27K	**Doyon Strip**	**72.57**	**22**	P	**P**	**15 25 58.7**	**+0.1**
	baz=305,SNR=6.3						
DHY	**Denali Highway**	**72.58**	**27**	P	**P**	**15 25 58.1**	**-0.8**
	baz=301,SNR=5.3						
PMR	**Palmer**	**72.64**	**28**	P	**P**	**15 25 58.1**	**-0.9**
PMR	**Palmer**	**72.64**	**28**	P	**P**	**15 25 58.6**	**-0.4**
	baz=300,SNR=12						
PMR	**Palmer**	**72.64**	**28**	P	**P**	**15 25 58.1**	**-0.9**
PMR				pmax	pmax		
	comp=Z,14nm,0.8s						
RC01	**Rabbit Creek A**	**72.64**	**29**	P	**P**	**15 25 57.8**	**-1.3**
RC01				IAmb	IAmb	15 25 59.4	
	comp=Z,6.2nm,0.7s						
RC01	**Rabbit Creek A**	**72.64**	**29**	P	**P**	**15 25 58.7**	**-0.4**
	baz=300						
WAT6	**Susitna Watana**	**72.70**	**27**	P	**P**	**15 25 59.3**	**-0.3**
	baz=301						
BRLK	**Bradley Lake**	**72.80**	**30**	P	**P**	**15 25 58.6**	**-1.5**
K24K	**Donnelly Dome**	**72.81**	**26**	P	**P**	**15 25 59.2**	**-0.9**
	baz=302,SNR=12						
SML	**Sawmill**	**72.86**	**28**	P	**P**	**15 26 00.2**	**-0.3**
SML	**Sawmill**	**72.86**	**28**	P	**P**	**15 26 00.5**	**0.0**
	baz=301,SNR=11						
SML	**Sawmill**	**72.86**	**28**	P	**P**	**15 25 59.4**	**-1.0**
SML				pmax	pmax		
	comp=Z,20nm,0.8s						
OHAK	**Old Harbor**	**72.92**	**33**	P	**P**	**15 26 00.4**	**-0.4**
OHAK	**Old Harbor**	**72.92**	**33**	P	**P**	**15 26 00.8**	**0.0**
	baz=298						
O22K	**Cooper Landing**	**72.95**	**29**	P	**P**	**15 26 00.7**	**-0.2**
	baz=300						
H27K	**Steamboat Moun**	**72.95**	**22**	P	**P**	**15 26 01.4**	**+0.5**
	baz=305						
KDAK	**Kodiak Island**	**72.99**	**33**	P	**P**	**15 26 01.1**	**0.0**
	baz=299						
KNK	**Knik Glacier**	**73.01**	**28**	P	**P**	**15 26 01.1**	**-0.3**
KNK	**Knik Glacier**	**73.01**	**28**	P	**P**	**15 26 01.0**	**-0.3**
	baz=301						
M23K	**Glacier View**	**73.11**	**28**	P	**P**	**15 26 01.6**	**-0.3**
	baz=301						
RIDG	**Independent Ri**	**73.19**	**25**	P	**P**	**15 26 01.4**	**-1.0**
RIDG				IAmb	IAmb	15 26 02.4	
	comp=Z,5.9nm,0.7s						
RIDG	**Independent Ri**	**73.19**	**25**	P	**P**	**15 26 01.8**	**-0.6**
	baz=303,SNR=6.6						
J26L	**Joseph Creek**	**73.24**	**24**	P	**P**	**15 26 01.6**	**-1.1**
J26L				IAmb	IAmb	15 26 03.4	
	comp=Z,7.8nm,0.9s						
J26L	**Joseph Creek**	**73.24**	**24**	P	**P**	**15 26 02.0**	**-0.7**
	baz=304						
SCM	**Sheep Creek Mo**	**73.25**	**28**	P	**P**	**15 26 02.6**	**-0.2**
	baz=302						
I27K	**Kandik River**	**73.28**	**23**	P	**P**	**15 26 03.1**	**+0.2**
	baz=305						
PWL	**Port Wells**	**73.35**	**29**	P	**P**	**15 26 02.4**	**-0.9**
	baz=301						
PAX	**Paxson**	**73.38**	**26**	P	**P**	**15 26 03.5**	**0.0**
	baz=303						
SCRK	**Sand Creek**	**73.38**	**25**	P	**P**	**15 26 03.1**	**-0.5**
SCRK				IAmb	IAmb	15 26 04.5	
	comp=Z,6.2nm,1.0s						
SCRK	**Sand Creek**	**73.38**	**25**	P	**P**	**15 26 02.8**	**-0.7**
	baz=304,SNR=7.6						
M24K	**Tolsona, Glenn**	**73.57**	**27**	P	**P**	**15 26 04.4**	**-0.2**
M24K	**Tolsona, Glenn**	**73.57**	**27**	P	**P**	**15 26 05.3**	**+0.7**
	baz=302,SNR=5.9						
HARP	**HAARP**	**73.81**	**27**	P	**P**	**15 26 06.3**	**+0.3**
	baz=303						
EGAK	**Eagle**	**73.93**	**23**	P	**P**	**15 26 06.7**	**+0.1**
	baz=306						
KLU	**Klutina**	**74.00**	**28**	P	**P**	**15 26 07.0**	**-0.3**
KLU	**Klutina**	**74.00**	**28**	P	**P**	**15 26 07.5**	**+0.3**
	baz=303						
K27K	**Chicken**	**74.04**	**24**	P	**P**	**15 26 07.4**	**+0.1**
	baz=305						
INK	**Inuvik**	**74.09**	**19**	P	**P**	**15 26 07.0**	**-0.5**
INK				IAmb	IAmb	15 26 08.3	
	comp=Z,4.7nm,0.8s						
INK	**Inuvik**	**74.09**	**19**	P	**P**	**15 26 07.2**	**-0.2**
	baz=312,SNR=5.6						
INK	**Inuvik**	**74.09**	**19**	P	**P**	**15 26 07.0**	**-0.5**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
L26K	**Log Cabin Wild**	**74.15**	**26**	P	**P**	**15 26 07.5**	**-0.5**
	baz=305						
G30M	**tAoh Zraii Nji**	**74.17**	**20**	P	**P**	**15 26 08.2**	**+0.1**
	baz=310						
P23K	**Montague Islan**	**74.19**	**29**	P	**P**	**15 26 08.6**	**+0.3**
	baz=302						
EPYK	**Eagle Plains**	**74.41**	**21**	P	**P**	**15 26 09.2**	**-0.2**
	baz=309						
N25K	**Chitina, Valde**	**74.47**	**27**	P	**P**	**15 26 09.8**	**-0.1**
N25K				IAmb	IAmb	15 26 11.3	
	comp=Z,6.8nm,0.8s						
N25K	**Chitina, Valde**	**74.47**	**27**	P	**P**	**15 26 10.4**	**+0.4**
	baz=304,SNR=5.2						
I29M	**Ogilvie Camp,**	**74.54**	**22**	P	**P**	**15 26 09.6**	**-0.6**
	baz=308						
EYAK	**Cordova Ski Ar**	**74.59**	**28**	P	**P**	**15 26 11.0**	**+0.5**
	baz=303						
F31M	**Tsiigehtchic**	**74.61**	**19**	P	**P**	**15 26 10.3**	**-0.2**
	baz=312						
M26K	**Nabesna, AK**	**74.64**	**26**	P	**P**	**15 26 10.8**	**-0.1**
M26K				IAmb	IAmb	15 26 16.4	
	comp=Z,7.0nm,1.2s						
M26K	**Nabesna, AK**	**74.64**	**26**	P	**P**	**15 26 11.4**	**+0.5**
	baz=305						
L27K	**Beaver Creek,**	**74.69**	**25**	P	**P**	**15 26 11.2**	**0.0**
L27K				IAmb	IAmb	15 26 12.8	
	comp=Z,4.6nm,0.8s						
L27K	**Beaver Creek,**	**74.69**	**25**	P	**P**	**15 26 11.7**	**+0.5**
	baz=306						
BCAR	**Beaver Creek A**	**74.71**	**25**	P	**P**	**15 26 10.8**	**-0.4**
BMRM	**Bremner River**	**74.82**	**28**	P	**P**	**15 26 11.7**	**-0.2**
BMRM	**Bremner River**	**74.82**	**28**	P	**P**	**15 26 11.8**	**-0.2**
	baz=304						
GLB	**Gilahina Butte**	**74.87**	**27**	P	**P**	**15 26 12.8**	**+0.6**
GLB				IAmb	IAmb	15 26 13.3	
	comp=Z,5.3nm,0.8s						
DAWY	**Dawson**	**74.97**	**24**	P	**P**	**15 26 12.5**	**-0.3**
DAWY	**Dawson**	**74.97**	**24**	P	**P**	**15 26 12.2**	**-0.5**
	baz=308,SNR=5.5						
M27K	**Edge Creek, AK**	**75.09**	**26**	P	**P**	**15 26 13.1**	**-0.5**
M27K				IAmb	IAmb	15 26 15.7	
	comp=Z,6.8nm,0.9s						
M27K	**Edge Creek, AK**	**75.09**	**26**	P	**P**	**15 26 13.9**	**+0.3**
	baz=306,SNR=6.8						
J29M	**Klondike Camp**	**75.13**	**23**	P	**P**	**15 26 13.9**	**+0.1**
MCARA	**McCarthy VSAT**	**75.22**	**27**	P	**P**	**15 26 14.0**	**-0.2**
MCARA				IAmb	IAmb	15 26 15.6	
	comp=Z,7.2nm,0.8s						
MCARA	**McCarthy VSAT**	**75.22**	**27**	P	**P**	**15 26 14.3**	**+0.1**
	baz=305						
BVCY	**Beaver Creek**	**75.44**	**25**	P	**P**	**15 26 15.8**	**+0.3**
	baz=307,SNR=6.9						
C36M	**Paulatuk**	**75.75**	**15**	P	**P**	**15 26 16.6**	**-0.4**
C36M				IAmb	IAmb	15 26 17.1	
	comp=Z,5.1nm,1.0s						
C36M	**Paulatuk**	**75.75**	**15**	P	**P**	**15 26 16.9**	**-0.2**
	baz=320,SNR=5.4						
K29M	**Barlow Dome**	**75.75**	**23**	P	**P**	**15 26 16.9**	**-0.5**
	baz=309						
BARN	**Barnard Glacie**	**75.94**	**27**	P	**P**	**15 26 19.1**	**+0.5**
BARN				IAmb	IAmb	15 26 20.0	
	comp=Z,5.5nm,0.7s						
YUK3	**Moose Creek**	**75.97**	**26**	P	**P**	**15 26 18.6**	**-0.2**
	baz=307,SNR=6.1						
L29M	**L29M**	**76.00**	**24**	P	**P**	**15 26 18.8**	**0.0**
	baz=309						
M29M	**Somme Creek**	**76.30**	**25**	P	**P**	**15 26 20.6**	**+0.1**
	baz=309						
YUK8	**Steele Glacier**	**76.54**	**26**	P	**P**	**15 26 22.2**	**+0.1**
	baz=308,SNR=5.8						
O28M	**Mount Upton**	**76.69**	**27**	P	**P**	**15 26 22.7**	**-0.3**
	baz=308						
M30M	**Minto, Yukon**	**76.82**	**24**	P	**P**	**15 26 23.6**	**+0.3**
	baz=310						
YUK4	**Talbot Arm**	**76.92**	**26**	P	**P**	**15 26 24.5**	**+0.3**
	baz=309						
PINM	**Pinnacle**	**77.08**	**27**	P	**P**	**15 26 25.4**	**+0.6**
	baz=308						
YUK6	**Outpost Mounta**	**77.28**	**26**	P	**P**	**15 26 26.1**	**-0.1**
	baz=309						
O29M	**Mount Kennedy**	**77.61**	**26**	P	**P**	**15 26 28.4**	**+0.5**
	baz=309						
PNL	**Peninsula**	**77.68**	**27**	P	**P**	**15 26 28.4**	**+0.2**
	baz=308						
HYT	**Haines Junctio**	**77.69**	**26**	P	**P**	**15 26 26.2**	**-2.1**
HYT				IAmb	IAmb	15 26 30.1	
	comp=Z,6.1nm,1.0s						
HYT	**Haines Junctio**	**77.69**	**26**	P	**P**	**15 26 28.6**	**+0.3**
	baz=310,SNR=5.2						
N31M	**Braeburn, Yuko**	**77.89**	**25**	P	**P**	**15 26 28.6**	**-0.8**
N31M				IAmb	IAmb	15 26 31.1	
	comp=Z,10nm,0.9s						
N31M	**Braeburn, Yuko**	**77.89**	**25**	P	**P**	**15 26 29.8**	**+0.4**
	baz=311,SNR=10						
O30N	**Mendenhall**	**78.25**	**25**	P	**P**	**15 26 31.7**	**+0.4**
	baz=311,SNR=8.2						
P30M	**Million Dollar**	**78.34**	**26**	P	**P**	**15 26 32.5**	**+0.6**
	baz=310						
P29M	**Windy Craggy**	**78.36**	**27**	P	**P**	**15 26 32.8**	**+0.8**
	baz=310						
WHY	**Whitehorse**	**78.77**	**25**	P	**P**	**15 26 34.4**	**+0.1**
	baz=312						
SKAG	**Skagway**	**79.40**	**26**	P	**P**	**15 26 37.6**	**0.0**
SKAG				IAmb	IAmb	15 26 39.3	
	comp=Z,8.1nm,0.9s						
SKAG	**Skagway**	**79.40**	**26**	P	**P**	**15 26 37.9**	**+0.2**
	baz=312						
P33M	**Teslin, Yukon**	**79.83**	**25**	P	**P**	**15 26 40.3**	**+0.2**
	baz=314						
P32M	**Atlin**	**79.92**	**25**	P	**P**	**15 26 40.7**	**+0.1**
	baz=313						
WRGLY	**Wrigley**	**80.63**	**19**	P	**P**	**15 26 44.6**	**+0.4**
	baz=321						
R33M	**Jennings River**	**81.07**	**24**	P	**P**	**15 26 48.2**	**+1.4**
	baz=315						
WTLY	**Watson Lake, Y**	**81.31**	**23**	P	**P**	**15 26 48.0**	**+0.1**
	baz=317						
YKA	**Yellowknife Ar**	**83.58**	**16**	P	**P**	**15 26 59.8**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=327,slow=5.3,SNR=28						
	comp=Z,1.5nm,0.7s						
TXAR	**Lajitas Array**	**116.40**	**25**	PKP	**PKPdf**	**15 33 15.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=201,slow=1.5,SNR=4.2						

*IDC **04** 15:15:02.7±0.8,27˚.20N×126˚.82E,h0km,mb3.7/8, mbtmp3.7/8,MS2.8/1,Error ellipse: s-maj=27.7km s-min=14.4km az=46.0*
*JMA **04** 15:15:03.9±0.3,27˚.2N±0˚.9×126˚.7E±1˚.0,h28km±4km, MV3.5/13,NW OFF OKINAWAJIMA IS*
*NIED **04** 15:15:03.9,27˚.21N×126˚.70E,h28km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.79; Mθθ0.84; Mϕϕ-0.06; Mrθ0.54; Mθϕ0.76; Mϕr-0.75; Fault plane solution: M₀1.43000×10¹⁵ NP1: ϕs274.00000°,δ60.00000°,λ-42.00000°. NP2:ϕs28.00000°, δ54.00000°,λ-142.00000°.*

ISC 04 15:15:03.7±1.7,27˚.20N±0˚.05×126˚.81E±0˚.05,h8km±11km, n21,σθ61/27,mb3.7/8,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.72**	**147**	P		**Pb**	**15 15 18.4**	**-0.1**
JAGN				S		**Sb**	**15 15 29.0**	**+0.4**
JKE	**Kume jima 2**	**0.87**	**181**	P		**Pg**	**15 15 20.0**	**-0.4**
JKE				S		**Sg**	**15 15 31.5**	**-0.2**
JIH	**Iheya**	**1.05**	**99**	P		**Pb**	**15 15 24.0**	**-0.1**
JIH				S		**Sn**	**15 15 39.1**	**-0.5**
JNTH	**Nagotoyohara**	**1.28**	**122**	P		**Pn**	**15 15 27.4**	**-0.6**
JNTH				*e*S		**Sg**	**15 15 45.4**	**+0.5**
JOW	**Kunigami**	**1.36**	**105**	Pn		**Pn**	**15 15 28.7**	**-0.3**
	40nm,0.3s,baz=280,slow=12,SNR=146							
JOW				Sn		**Sn**	**15 15 46.6**	**-0.6**
	108nm,0.3s,baz=108,slow=20,SNR=27							
JOW				LR		LR	15 15 52.5	
	comp=Z,135nm,18.5s,baz=316,slow=37							
JOW	**Kunigami**	**1.36**	**105**	P		**Pn**	**15 15 28.6**	**-0.4**
JOW				*e*S		**Sg**	**15 15 47.9**	**+0.4**
JJT3	**Tamagusuku3**	**1.37**	**140**	P		**Pb**	**15 15 29.1**	**-0.4**
JJT3				S		**Sg**	**15 15 49.3**	**+1.6**
JYRO	**Yoronjima**	**1.48**	**96**	P		**Pn**	**15 15 30.5**	**-0.1**
JYRO				*e*S		**Sg**	**15 15 51.5**	**+0.3**
JOKE	**Okinoerabujima**	**1.58**	**84**	*e*P		**Pb**	**15 15 32.9**	**-0.3**
JTK	**Tokunoshima**	**1.99**	**72**	*e*P		**Pb**	**15 15 39.0**	**-1.2**
JAMN	**Amaminishikomi**	**2.34**	**63**	P		**Pb**	**15 15 46.2**	**0.0**
JNU	**Nakatsue**	**6.88**	**80**	Pn		Pn	15 16 52.7	+7.8
	0.8nm,0.3s,baz=180,slow=9.2,SNR=16							
KSRS	**Korea Array**	**10.27**	**5**	Pn		Pn	15 17 37.3	+5.9
	0.1nm,0.3s,baz=190,slow=12,SNR=5.4							
KSRS				LR		LR	15 21 30.9	
	comp=Z,56nm,19.1s,baz=190,slow=38							
KLR	**Kul'dur**	**22.33**	**9**	P		**P**	**15 20 02.9**	**+1.1**
	1.3nm,0.8s,baz=216,slow=11,SNR=4.3 1.3nm,0.8s							
SONM	**Songino Array**	**26.05**	**328**	P		**P**	**15 20 38.0**	**+0.4**
	1.9nm,0.8s,baz=144,slow=9.0,SNR=5.4 1.9nm,0.8s							
MKAR	**Makanchi Array**	**39.94**	**311**	P		**P**	**15 22 38.6**	**+0.1**
	1.0nm,0.5s,baz=103,slow=8.3,SNR=8.0 1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**40.71**	**323**	P		**P**	**15 22 45.4**	**+0.7**
	0.6nm,0.4s,baz=107,slow=7.7,SNR=2.3 0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**43.27**	**316**	P		**P**	**15 23 05.2**	**-0.4**
	0.6nm,0.7s,baz=104,slow=8.5,SNR=4.3 0.6nm,0.7s							
WRA	**Warramunga Arr**	**47.43**	**170**	P		**P**	**15 23 38.9**	**0.0**
	0.9nm,0.7s,baz=352,slow=8.3,SNR=7.0 0.9nm,0.7s							
BVAR	**Borovoye Array**	**48.70**	**318**	P		**P**	**15 23 48.1**	**-0.5**
	0.7nm,0.5s,baz=82,slow=8.5,SNR=5.4 0.7nm,0.5s							
ASAR	**Alice Springs**	**51.03**	**172**	P		**P**	**15 24 07.0**	**+0.5**
	0.5nm,0.5s,baz=356,slow=9.2,SNR=20 0.5nm,0.5s							

*NEIC **04** 15:28:11.2±0.6,18˚.9S±0˚.2×176˚.1E±0˚.1,h10km±1km, mb4.2/5,Error ellipse: s-maj=30.6km s-min=8.2km az=149.0*
*IDC **04** 15:28:11.7±0.9,18˚.89S×175˚.93E,h0km,mb3.9/7, mbtmp3.9/9,ML4.4/2,MS3.2/6,Error ellipse: s-maj=39.2km s-min=20.3km az=153.0*

ISC 04 15:28:12.1±0.6,18˚.9S±0˚.1×176˚.02E±0˚.09,h10km,n28, σ1836/23,mb4.0/10,MS3.2/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.27**	**59**	Pn		**Pn**	**15 28 49.1**	**-0.6**
	7.3nm,0.3s,baz=220,slow=13,SNR=18							
MSVF				Sn		**Sn**	**15 29 16.6**	**-1.2**
	18nm,0.3s,baz=144,slow=22,SNR=12 29nm,0.5s							
MSVF	**Nonsavu**	**2.27**	**59**	Pn		**Pn**	**15 28 48.2**	**-1.6**
MSVF				Sn		**Sn**	**15 29 15.6**	**-2.1**
DZM	**Mont Dzumac**	**9.50**	**249**	eLR		LR	15 32 38.6	
	comp=Z,294nm,26.1s							
DZM	**Mont Dzumac**	**9.50**	**249**	Pn		**Pn**	**15 30 28.4**	**-0.8**
URZ	**Urewera**	**19.28**	**177**	P		**Pn**	**15 32 39.0**	**+0.9**
	0.5nm,0.3s,baz=303,slow=1.4,SNR=5.6 10.0nm,0.7s							
TUWZ	**Tuamarina**	**22.50**	**184**	P		**P**	**15 33 11.9**	**+0.2**
RAR	**Rarotonga**	**22.84**	**100**	LR		LR	15 40 00.3	
	comp=Z,42nm,21.1s,baz=249,slow=31							
CTA	**Charters Tower**	**28.07**	**263**	LR		LR	15 43 57.0	
	comp=Z,54nm,21.1s,baz=82,slow=34							
PMG	**Port Moresby**	**29.50**	**285**	P		**P**	**15 34 15.3**	**-1.5**
TBI	**Tubuai**	**32.45**	**104**	eLR		LR	15 43 13.4	
	comp=Z,534nm,31.8s							
PPT2	**Papeete2**	**32.67**	**93**	eLR		LR	15 43 22.3	
	comp=Z,126nm,30.2s							
PPT	**Papeete**	**32.67**	**93**	LR		LR	15 46 59.7	
	comp=Z,32nm,18.2s,baz=253,slow=34							
STKA	**Stephens Creek**	**33.52**	**241**	LR		LR	15 47 42.7	
	comp=Z,35nm,18.6s,baz=30,slow=35							
WB0	**Warramunga Arr**	**39.22**	**262**	P		**P**	**15 35 39.9**	**-1.0**
WB0				IAmb		IAmb	15 36 16.6	
	comp=Z,9.9nm,1.3s							
WRA	**Warramunga Arr**	**39.25**	**261**	P		**P**	**15 35 42.2**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=97,slow=9.1,SNR=1.6							
WRA				LR		LR	15 50 37.4	
	comp=Z,46nm,19.4s,baz=344,slow=34 comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	**39.25**	**261**	P		**P**	**15 35 39.9**	**-1.3**
AS31	**Alice Springs**	**39.42**	**256**	P		**P**	**15 35 41.7**	**-1.0**
AS31				IAmb		IAmb	15 35 44.8	
	comp=Z,1.1nm,0.9s							
ASAR	**Alice Springs**	**39.42**	**256**	P		**P**	**15 35 42.0**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=84,slow=9.0,SNR=20							
ASAR				PcP		**PcP**	**15 37 50.5**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=93,slow=3.8,SNR=3.6							
ASAR				LR		LR	15 51 09.3	
	comp=Z,49nm,20.0s,baz=92,slow=35 comp=Z,2.9nm,0.9s							
ASAR	**Alice Springs**	**39.42**	**256**	P		**P**	**15 35 40.8**	**-1.8**
RKT	**Rikitea**	**45.77**	**104**	*e*LR		LR	15 49 23.4	
	comp=Z,32μm,37.5s							
QSPA	**South Pole Qui**	**71.12**	**180**	P		**P**	**15 39 29.1**	**-1.6**
QSPA				IAmb		IAmb	15 39 31.2	
	comp=Z,6.8nm,1.1s							
NVAR	**Mina Array Bea**	**83.88**	**46**	P		**P**	**15 40 44.5**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=213,slow=6.5,SNR=5.7 comp=Z,0.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**84.30**	**292**	P		**P**	**15 40 45.8**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=134,slow=3.9,SNR=2.4 comp=Z,0.3nm,0.4s							
ILAR	**Eielson Array**	**88.15**	**15**	P		**P**	**15 41 03.4**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=232,slow=5.1,SNR=5.3 comp=Z,0.6nm,0.8s							
SONM	**Songino Array**	**90.93**	**321**	P		**P**	**15 41 17.8**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=116,slow=3.4,SNR=2.7 comp=Z,0.6nm,0.9s							
TXAR	**Lajitas Array**	**91.03**	**59**	P		**P**	**15 41 19.7**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=210,slow=5.2,SNR=7.2 comp=Z,0.7nm,0.8s							
CLL	**Collm**	**145.01**	**341**	*i* PKPbc		**PKPdf**	**15 47 49.8**	**+0.2**
	comp=Z,10.0nm,0.8s							
CLL				*ex*		x	15 47 57.0	
GERES	**GERESS Array B**	**146.92**	**338**	PKPbc		**PKPab**	**15 47 55.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=42,slow=1.6,SNR=2.2							

IDC 04 15:31:32.9±2.5,3˚.74N×128˚.64E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=171.9km s-min=27.3km az=68.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.19**	**167**	P		P	15 36 51.7	+0.4
	0.6nm,0.9s,baz=347,slow=10,SNR=2.5 0.6nm,0.9s							
ASAR	**Alice Springs**	**27.72**	**170**	P		P	15 37 23.0	-0.3
	0.4nm,0.9s,baz=354,slow=7.9,SNR=2.2 0.4nm,0.9s							
MKAR	**Makanchi Array**	**58.64**	**324**	P		P	15 41 32.0	-0.1
	0.2nm,0.5s,baz=117,slow=7.8,SNR=7.3 0.2nm,0.5s							

*IDC **04** 15:31:40.8±1.3,37˚.15N×141˚.39E,h0km,mb3.3/5, mbtmp3.2/6,ML1.9/1,Error ellipse: s-maj=28.6km s-min=28.1km az=113.0*
*JMA **04** 15:31:42.7±0.2,37˚.2N±0˚.3×141˚.3E±0˚.8,h23km±1km, MV3.0/36,E OFF FUKUSHIMA PREF*

ISC 04 15:31:42.2±2.1,37˚.15N±0˚.05×141˚.34E±0˚.10,h11km±12km, n18,σθ69/19,mb3.3/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.43**	**301**	P		**Pg**	**15 31 50.9**	**+0.2**
JFK				S		**Sg**	**15 31 56.8**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.44**	**264**	P		**Pg**	**15 31 51.1**	**+0.3**
ONAJ				S		**Sg**	**15 31 57.4**	**+0.9**
JFFD	**Fukushimafurud**	**0.63**	**265**	*i* P		**Pg**	**15 31 54.4**	**+0.1**
JFFD				*e*S		**Sg**	**15 32 03.0**	**+0.4**
JMST	**Minamisoumatoc**	**0.68**	**328**	*i* P		**Pb**	**15 31 55.3**	**-0.8**
JMST				S		**Sb**	**15 32 04.9**	**-0.7**
JHO	**Hitachi**	**0.82**	**229**	P		**Pg**	**15 31 57.3**	**-0.7**
JHO				*e*S		**Sg**	**15 32 08.3**	**-0.3**
JMM	**Marumori**	**0.84**	**329**	*i* P		**Pg**	**15 31 58.0**	**-0.4**
JMM				S		**Sb**	**15 32 09.5**	**-0.7**
MJAR	**Matsushiro Arr**	**2.58**	**257**	Pn		**Pn**	**15 32 24.7**	**+0.7**
	0.2nm,0.3s,baz=83,slow=15,SNR=2.4							
MJAR				Sn		**Sn**	**15 32 59.2**	**-1.2**
	0.3nm,0.3s,baz=100,slow=28,SNR=2.3 1.3nm,0.3s							
SONM	**Songino Array**	**27.68**	**304**	P		**P**	**15 37 30.3**	**0.0**
	0.3nm,0.5s,baz=105,slow=9.1,SNR=2.3 0.3nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	16 07 02.5	
	baz=314,slow=75,SNR=122							
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T		T	16 07 08.3	
	baz=314,slow=75,SNR=97							
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T		T	16 07 09.0	
	baz=314,slow=75,SNR=102							
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	16 08 01.5	
	baz=315,slow=76,SNR=27							
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	16 07 59.0	
	baz=315,slow=76,SNR=19							
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	16 08 02.6	
	baz=315,slow=76,SNR=12							
MKAR	**Makanchi Array**	**44.01**	**302**	P		**P**	**15 39 49.8**	**+0.1**
	0.1nm,0.2s,baz=84,slow=7.4,SNR=2.0 0.1nm,0.2s							
ILAR	**Eielson Array**	**49.43**	**32**	P		**P**	**15 40 32.5**

*NEIC **04** 15:44:03.36ˆ91N×140ˆ91E,h40km,Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{16}Nm; Mrr3.37; Mθθ-0.84; Mφφ-2.54; Mrθ-1.80; Mθφ-3.51; Mφr-4.60; Fault plane solution: M6.78000×10^{16} NP1: φs63.00000°,δ25.00000°,λ129.00000°. NP2: φs202.00000°,δ71.00000°,λ74.00000°. Principal axes: T 5.8833, Plg61.0000°, Azm88.0000°; N 1.5275, Plg15.0000°, Azm207.0000°; P -7.4108, Plg24.0000°, Azm304.0000°;*

ISC 04 15:43:59.5±0.2,36˚89N±0˚02×140˚90E±0˚03,h56km±1km, h56km:pP-P,n1407,σ1s56/1212,mb5.2/385,MS4.5/100, 37C-67D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.23**	**338**	*i* P	**Pn**	**15 44 08.6**	**-0.2**
ONAJ				S	**Sn**	**15 44 15.3**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.23**	**338**	A	A	15 44 08.6	
	comp=E,1µm,0.4s,comp=E,587nm,0.3s						
JFFD	**Fukushimafurud**	**0.34**	**306**	⇓*i* P	**Pn**	**15 44 09.9**	**+0.3**
JFFD				⇓S	**Sn**	**15 44 17.2**	**+0.3**
JFFD	**Fukushimafurud**	**0.34**	**306**	A	A	15 44 09.9	
	comp=E,507nm,1.1s,comp=E,199nm,0.5s						
JHO	**Hitachi**	**0.39**	**224**	⇓*i* P	**Pn**	**15 44 09.9**	**-0.2**
JHO				⇓S	**Sn**	**15 44 17.3**	**-0.3**
JHO	**Hitachi**	**0.39**	**224**	A	A	15 44 09.9	
	comp=E,260nm,1.7s,comp=E,253nm,0.7s						
JFK	**Kawauchi**	**0.47**	**357**	*i* P	**Pn**	**15 44 10.7**	**-0.3**
JFK				*e*S	**Sn**	**15 44 18.8**	**-0.5**
JFK	**Kawauchi**	**0.47**	**357**	A	A	15 44 10.7	
	comp=E,282nm,1.1s,comp=E,165nm,0.8s						
JHYU	**Hitachinakayam**	**0.61**	**205**	⇓*i* P	**Pn**	**15 44 11.9**	**-0.5**
JHYU				⇓S	**Sn**	**15 44 20.9**	**-0.8**
JHYU	**Hitachinakayam**	**0.61**	**205**	A	A	15 44 11.9	
	comp=E,183nm,0.3s,comp=E,171nm,1.0s						
JSB	**Shiboa**	**0.79**	**276**	A	A	15 44 15.3	
	comp=E,396nm,3.5s,comp=E,307nm,2.1s						
JMST	**Minamisoumatoc**	**0.83**	**359**	A	A	15 44 15.4	
	comp=E,157nm,0.4s,comp=E,154nm,2.1s						
JYT	**Yasato**	**0.88**	**221**	A	A	15 44 15.8	
	comp=E,294nm,0.3s,comp=E,251nm,0.3s						
JIHU	**Itakohorinouch**	**0.97**	**188**	A	A	15 44 16.8	
	comp=E,245nm,1.5s,comp=E,250nm,4.7s						
JMM	**Marumori**	**0.98**	**355**		**Pn**	**15 44 17.2**	**+0.1**
JMM				Sn	**Sn**	**15 44 29.7**	**-0.4**
JMM	**Marumori**	**0.98**	**355**	P	**Pn**	**15 44 17.5**	**+0.4**
JMM	**Marumori**	**0.98**	**355**	*i* P	**Pn**	**15 44 17.2**	**+0.1**
JMM				S	**Sn**	**15 44 30.2**	**+0.1**
JMM	**Marumori**	**0.98**	**355**	A	A	15 44 17.2	
	comp=E,187nm,1.9s,comp=E,148nm,1.2s						
JFY	**Yanaizu**	**1.09**	**299**	⇓*i* P	**Pn**	**15 44 19.3**	**+0.7**
JFY	**Yanaizu**	**1.09**	**299**	A	A	15 44 19.3	
	comp=E,116nm,4.1s,comp=E,109nm,3.9s						
JYAR	**Yonezawaarcadi**	**1.19**	**330**	A	A	15 44 20.6	
	comp=E,196nm,1.1s,comp=E,241nm,2.1s						
CHOJ	**Chosi**	**1.19**	**182**	A	A	15 44 19.5	
	comp=E,99nm,4.2s,comp=E,88nm,1.5s						
JAG	**Ashikaga**	**1.26**	**249**	⇓*i* P	**Pn**	**15 44 21.2**	**+0.4**
JAG				⇓S	**Sn**	**15 44 37.6**	**+0.9**
JAG	**Ashikaga**	**1.26**	**249**	A	A	15 44 21.2	
	comp=E,35nm,1.2s,comp=E,40nm,0.6s						
JSMT	**Sammumatsuo**	**1.30**	**197**	A	A	15 44 21.3	
	comp=E,107nm,1.4s,comp=E,129nm,4.4s						
JKT	**Katashina**	**1.33**	**265**	⇓*i* P	**Pn**	**15 44 23.0**	**+1.0**
JKT				⇓S	**Sn**	**15 44 40.9**	**+2.1**
JOU	**Okura**	**1.48**	**353**	*i* P	**Pn**	**15 44 24.4**	**+0.4**
JOU				S	**Sn**	**15 44 43.5**	**+1.2**
JOU	**Okura**	**1.48**	**353**	A	A	15 44 24.4	
	comp=E,136nm,2.1s,comp=E,105nm,2.3s						
JIKH	**Ishinomakikobu**	**1.48**	**17**	A	A	15 44 24.2	
	comp=E,58nm,0.5s,comp=E,40nm,0.5s						
JYS	**Shirataka**	**1.48**	**334**	⇓*i* P	**Pn**	**15 44 25.0**	**+1.0**
JYS				⇓S	**Sn**	**15 44 44.3**	**+2.0**
JYS	**Shirataka**	**1.48**	**334**	A	A	15 44 25.0	
	comp=E,265nm,1.2s,comp=E,203nm,1.3s						
JUON	**Uonuma**	**1.51**	**283**	A	A	15 44 25.4	
	comp=E,34nm,1.6s,comp=E,46nm,4.6s						
TOK	**Tokyo**	**1.52**	**218**	A	A	15 44 24.7	
	comp=E,133nm,2.4s,comp=E,112nm,0.8s						
JNS	**Sasagawa**	**1.57**	**307**	A	A	15 44 26.2	
	comp=E,83nm,2.9s,comp=E,50nm,2.9s						
JCN	**Nagara**	**1.58**	**201**	A	A	15 44 25.3	
	comp=E,145nm,1.6s,comp=E,160nm,1.9s						
JIO	**Ouri**	**1.60**	**13**	A	A	15 44 26.0	
	comp=E,42nm,1.5s,comp=E,36nm,1.8s						
I30JP	**ISUMI INFRASON**	**1.65**	**197**	P	**Pn**	**15 44 27.4**	**+1.2**
	baz=22,slow=8.9						
I30JP				I	I	15 55 30.0	
	baz=16,slow=316,SNR=1.1						
JHU	**Hanno**	**1.67**	**232**	A	A	15 44 27.1	
	comp=E,32nm,2.2s,comp=E,23nm,3.3s						
JOFO	**Osakifurukawao**	**1.71**	**0**	A	A	15 44 27.7	
	comp=E,245nm,3.3s,comp=E,192nm,1.8s						
JKUC	**kamogawauchiur**	**1.82**	**198**	A	A	15 44 28.7	
	comp=E,94nm,4.8s,comp=E,76nm,2.5s						
JRY	**Ryogami san**	**1.83**	**242**	A	A	15 44 29.6	
	comp=E,27nm,1.7s,comp=E,32nm,2.3s						
JGK	**Kuni**	**1.85**	**260**	A	A	15 44 30.0	
	comp=E,40nm,1.0s,comp=E,45nm,3.5s						
JIZZ	**Izumozaki**	**1.86**	**291**	A	A	15 44 30.4	
	comp=E,133nm,2.0s,comp=E,115nm,1.8s						
JSGW	**Sagamiharawaka**	**1.88**	**227**	A	A	15 44 30.0	
	comp=E,40nm,2.6s,comp=E,49nm,1.6s						
JYA	**Atsumi**	**1.94**	**331**	A	A	15 44 31.4	
	comp=E,83nm,1.1s,comp=E,92nm,1.6s						
JYO	**Yokosk**	**1.94**	**211**	A	A	15 44 30.6	
	comp=E,95nm,2.2s,comp=E,72nm,1.9s						
JKMT	**Kesennumamotoy**	**1.97**	**13**	A	A	15 44 31.1	
	comp=E,33nm,1.4s,comp=E,31nm,0.9s						
TATJ	**Tateyama 2**	**2.03**	**204**	A	A	15 44 31.7	
	comp=E,133nm,3.6s,comp=E,104nm,2.0s						
JAW	**Awa shima**	**2.04**	**320**	A	A	15 44 32.9	
	comp=E,21nm,5.5s,comp=E,31nm,3.3s						
JYK	**Kaneyama**	**2.07**	**348**	A	A	15 44 33.0	
	comp=E,34nm,0.9s,comp=E,32nm,1.2s						
JMK	**Ichinoseki**	**2.07**	**7**	A	A	15 44 32.7	
	comp=E,31nm,0.4s,comp=E,28nm,1.5s						
JOD2	**Odawara 2**	**2.19**	**223**	A	A	15 44 34.3	
	comp=E,35nm,2.2s,comp=E,40nm,5.4s						
MJAR	**Matsushiro Arr**	**2.19**	**262**	P	**Pn**	**15 44 34.4**	**+0.8**
	394nm,0.3s,baz=71,slow=11,SNR=2224						
MJAR				S	**Sn**	**15 44 51.2**	**-8.4**
	1µm,0.4s,baz=85,slow=26,SNR=5.8						
MJAR				LR	LR	15 45 42.4	
	comp=Z,10µm,21.7s,baz=86,slow=49						
MAJO	**Matsushiro**	**2.19**	**262**	Pn	**Pn**	**15 44 35.1**	**+1.5**
MAJO	**Matsushiro**	**2.19**	**262**	P	**Pn**	**15 44 35.6**	**+2.0**
MAJO	**Matsushiro**	**2.19**	**262**	*d i* P	**Pn**	**15 44 35.3**	**+1.7**
MJB9	**Matsu-Tunnel**	**2.20**	**262**	Pn	**Pn**	**15 44 35.9**	**+2.3**
JJN	**Nakama**	**2.20**	**276**	A	A	15 44 35.2	
	comp=E,54nm,0.6s,comp=E,43nm,3.8s						
JYYZ	**Yamagatayuza**	**2.26**	**340**	A	A	15 44 35.7	
	comp=E,116nm,2.2s,comp=E,88nm,2.5s						
OFUJ	**Ofunato**	**2.27**	**15**	A	A	15 44 35.4	
	comp=E,42nm,1.4s,comp=E,36nm,0.7s						
JNG	**Nsakai**	**2.31**	**259**	A	A	15 44 36.5	
	comp=E,14nm,5.6s,comp=E,21nm,4.1s						
JYN	**Shimob**	**2.36**	**235**	A	A	15 44 36.9	
	comp=E,48nm,1.3s,comp=E,44nm,2.1s						
JSD	**Sado**	**2.39**	**299**	Pn	**Pn**	**15 44 36.6**	**+0.3**
JSD	**Sado**	**2.39**	**299**	P	**Pn**	**15 44 36.7**	**+0.4**
JSD	**Sado**	**2.39**	**299**	A	A	15 44 37.9	
	comp=E,11nm,2.3s,comp=E,14nm,2.2s						
JNT	**Takato**	**2.45**	**246**	A	A	15 44 38.4	
	comp=E,24nm,4.1s,comp=E,24nm,3.2s						
JHTM	**Izuhatsuma**	**2.47**	**219**	A	A	15 44 38.2	
	comp=E,64nm,1.1s,comp=E,64nm,1.5s						
JFNN	**Fujinakano**	**2.47**	**227**	A	A	15 44 38.4	
	comp=E,45nm,3.3s,comp=E,60nm,2.5s						
JIM2	**Oshima 3**	**2.48**	**209**	A	A	15 44 38.2	
	comp=E,45nm,4.5s,comp=E,35nm,1.8s						
JRG	**Rokugo**	**2.51**	**355**	A	A	15 44 39.1	
	comp=E,40nm,1.7s,comp=E,35nm,1.2s						
JTB	**Tobi-shima**	**2.53**	**336**	A	A	15 44 39.7	
	comp=E,30nm,1.8s,comp=E,27nm,1.7s						
JOM	**Ohasama**	**2.59**	**7**	A	A	15 44 40.1	
	comp=E,37nm,0.6s,comp=E,27nm,0.3s						
JYW	**Yuwa**	**2.70**	**349**	A	A	15 44 41.9	
	comp=E,63nm,1.4s,comp=E,146nm,1.6s						
JIZS	**Izushimoda**	**2.72**	**218**	A	A	15 44 41.8	
	comp=E,16nm,2.1s,comp=E,15nm,2.2s						
MIYJ	**Miyakonagasawa**	**2.78**	**15**	A	A	15 44 42.5	
	comp=E,33nm,4.2s,comp=E,28nm,1.6s						
JSZI	**Iwateshizukuis**	**2.84**	**1**	A	A	15 44 44.2	
	comp=E,106nm,2.0s,comp=E,82nm,1.2s						
SHZ3	**Shizuoka 3**	**2.84**	**231**	A	A	15 44 43.7	
	comp=E,27nm,2.5s,comp=E,32nm,1.1s						
JSZ	**Suzu**	**2.88**	**282**	A	A	15 44 44.8	
	comp=E,28nm,2.4s,comp=E,21nm,2.9s						
JTT	**Ttatey**	**2.88**	**265**	A	A	15 44 44.7	
	comp=E,30nm,2.2s,comp=E,29nm,3.0s						
JNY	**Yasuok**	**2.90**	**239**	A	A	15 44 44.6	
	comp=E,41nm,1.7s,comp=E,75nm,1.5s						
JSKK	**Shikinejimakit**	**2.90**	**209**	A	A	15 44 44.1	
	comp=E,27nm,2.1s,comp=E,20nm,7.0s						
JGN	**Niukaw**	**2.96**	**258**	A	A	15 44 45.8	
	comp=E,8.0nm,4.7s,comp=E,9.0nm,5.0s						
JKZ	**Kuzumaki**	**3.11**	**6**	A	A	15 44 47.4	
	comp=E,21nm,1.3s,comp=E,23nm,1.6s						
JSG	**Sagara**	**3.13**	**226**	Pn	**Pn**	**15 44 47.4**	**+1.1**
JSG	**Sagara**	**3.13**	**226**	P	**Pn**	**15 44 49.3**	**+3.0**
JSG	**Sagara**	**3.13**	**226**	A	A	15 44 47.6	
	comp=E,26nm,2.4s,comp=E,26nm,3.2s						
JTH	**Tanohata**	**3.13**	**14**	A	A	15 44 47.6	
	comp=E,32nm,4.0s,comp=E,28nm,0.7s						
JGF	**Kuroka**	**3.14**	**247**	Pn	**Pn**	**15 44 47.9**	**+1.2**
JGF	**Kuroka**	**3.14**	**247**	P	**Pn**	**15 44 50.1**	**+3.5**
JGF	**Kuroka**	**3.14**	**247**	A	A	15 44 48.1	
	comp=E,10.0nm,3.0s,comp=E,20nm,4.2s						
JKKS	**Kakegawashinom**	**3.19**	**229**	A	A	15 44 48.6	
	comp=E,38nm,4.1s,comp=E,25nm,3.5s						
HMMJ	**Hamamatsu 2**	**3.29**	**233**	A	A	15 44 50.0	
	comp=E,10.0nm,3.6s,comp=E,9.0nm,5.7s						
JAH	**Hinai**	**3.30**	**356**	A	A	15 44 50.2	
	comp=E,36nm,3.4s,comp=E,20nm,2.9s						
JJH	**Hakui**	**3.30**	**272**	A	A	15 44 50.7	
	comp=E,11nm,2.9s,comp=E,16nm,3.1s						
JHG	**Hegura jima**	**3.31**	**288**	A	A	15 44 50.9	
	comp=E,12nm,3.9s,comp=E,9.0nm,4.5s						
JOG3	**Oga3**	**3.34**	**335**	A	A	15 44 48.1	
	comp=E,24nm,2.1s,comp=E,26nm,3.0s						
JKEN	**Kujiedanarisaw**	**3.37**	**11**	A	A	15 44 50.9	
	comp=E,80nm,1.2s,comp=E,83nm,0.5s						
JAO	**Obara**	**3.37**	**242**	A	A	15 44 51.3	
	comp=E,18nm,2.8s,comp=E,24nm,4.2s						
JNTW	**Noshirotokiwa**	**3.42**	**350**	A	A	15 44 52.0	
	comp=E,64nm,2.8s,comp=E,59nm,1.8s						
INU	**Inuyama**	**3.50**	**245**	Pn	**Pn**	**15 44 52.5**	**+1.0**
INU	**Inuyama**	**3.50**	**245**	P	**Pn**	**15 44 54.8**	**+3.3**
JANG	**Nango**	**3.51**	**8**	A	A	15 44 53.0	
	comp=E,17nm,2.0s,comp=E,16nm,1.2s						
JYTA	**Yamagatataniai**	**3.61**	**250**	A	A	15 44 54.7	
	comp=E,9.0nm,1.4s,comp=E,14nm,2.8s						
JICN	**Ichinomiyachia**	**3.65**	**245**	A	A	15 44 55.2	
	comp=E,21nm,2.4s,comp=E,32nm,2.6s						
JKG	**Kaga**	**3.73**	**262**	A	A	15 44 56.6	
	comp=E,7.0nm,3.2s,comp=E,9.0nm,3.8s						
JIW	**Iwasaki**	**3.76**	**350**	A	A	15 44 56.8	
	comp=E,19nm,3.0s,comp=E,14nm,1.5s						
JHHS	**Hirosakihyakuz**	**3.78**	**354**	A	A	15 44 57.0	
	comp=E,63nm,4.2s,comp=E,47nm,5.8s						
JAA	**Atami**	**3.80**	**235**	A	A	15 44 57.2	
	comp=E,7.0nm,1.6s,comp=E,7.0nm,5.9s						
JHJ	**Hachijo jima 2**	**3.88**	**194**	P	**Pn**	**15 44 56.2**	**-0.4**
	626nm,0.3s,baz=50,slow=17,SNR=149						
JHJ				S	**Sn**	**15 45 40.1**	**-0.7**
	2µm,0.4s,baz=75,slow=23,SNR=15						
JHJ				LR	LR	15 46 33.9	
	comp=Z,2µm,21.5s,baz=290,slow=40						
	1µm,0.2s						
JHJ2	**Mitsune**	**3.88**	**194**	Pn	**Pn**	**15 44 56.4**	**-0.2**
JHJ2	**Mitsune**	**3.88**	**194**	P	**Pn**	**15 44 57.2**	**+0.6**
JTM	**Tenmabayashi**	**3.89**	**2**	Pn	**Pn**	**15 44 57.2**	**+0.5**
JTM	**Tenmabayashi**	**3.89**	**2**	P	**Pn**	**15 44 59.2**	**+2.4**
JEG	**Eigenji**	**4.06**	**246**	A	A	15 45 00.9	
	comp=E,5.0nm,4.5s,comp=E,9.0nm,2.4s						
JARK	**Aomorirokkasho**	**4.12**	**5**	A	A	15 45 01.7	
	comp=E,54nm,4.2s,comp=E,20nm,2.1s						
JSI2	**Shiura 2**	**4.18**	**355**	A	A	15 45 02.6	
	comp=E,16nm,1.9s,comp=E,13nm,0.9s						
JFM	**Mihama**	**4.21**	**253**	A	A	15 45 03.1	
	comp=E,6.0nm,2.3s,comp=E,9.0nm,3.5s						
JIE	**Ise**	**4.23**	**235**	A	A	15 45 03.2	
	comp=E,8.0nm,2.6s,comp=E,7.0nm,5.1s						
JAHD	**Aomorihigashid**	**4.38**	**4**	A	A	15 45 05.2	
	comp=E,59nm,0.9s,comp=E,66nm,1.3s						
JOT	**Ohata**	**4.49**	**1**	A	A	15 45 06.8	
	comp=E,33nm,4.4s,comp=E,32nm,3.0s						
JKN2	**Miekihoku**	**4.61**	**236**	A	A	15 45 08.6	
	comp=E,5.0nm,4.8s,comp=E,7.0nm,5.4s						
JSR	**Shiruchi**	**4.65**	**355**	A	A	15 45 09.1	
	comp=E,17nm,3.5s,comp=E,17nm,2.6s						
JOMM	**Oshimamatsumae**	**4.68**	**352**	A	A	15 45 09.6	
	comp=E,6.0nm,4.6s,comp=E,8.0nm,3.0s						
JWT	**Wachi**	**4.74**	**252**	A	A	15 45 10.5	
	comp=E,4.0nm,4.6s,comp=E,6.0nm,7.2s						
JHE	**Heguri**	**4.79**	**244**	A	A	15 45 11.3	
	comp=E,5.0nm,5.5s,comp=E,6.0nm,5.2s						
JKY	**Yasaka**	**4.85**	**257**	A	A	15 45 12.2	
	comp=E,5.0nm,2.4s,comp=E,10.0nm,2.8s						
JKB	**Kayabe**	**4.99**	**1**	A	A	15 45 13.9	
	comp=E,25nm,2.9s,comp=E,21nm,2.3s						
JMIK	**Miki**	**5.19**	**248**	A	A	15 45 16.8	
	comp=E,6.0nm,2.2s,comp=E,7.0nm,2.5s						
JYM2	**Yakumo 2**	**5.24**	**356**	A	A	15 45 17.4	
	comp=E,13nm,2.6s,comp=E,12nm,3.7s						
JTNC	**Tanabenakahech**	**5.30**	**236**	A	A	15 45 18.2	
	comp=E,3.0nm,2.0s,comp=E,5.0nm,2.4s						
ERM	**Erimo**	**5.41**	**18**	Pn	**Pn**	**15 45 16.5**	**-1.0**
ERM	**Erimo**	**5.41**	**18**	P	**Pn**	**15 45 16.9**	**-0.6**
ERM	**Erimo**	**5.41**	**18**	*ce* P	**Pn**	**15 45 15.8**	**-1.7**
ERM				pmax	pmax		
	comp=Z,221nm,1.0s						
JEM	**Erimo**	**5.41**	**18**	P	**Pn**	**15 45 16.8**	**-0.7**
JEM	**Erimo**	**5.41**	**18**	A	A	15 45 19.4	
	comp=Z,12nm,2.5s,comp=Z,11nm,1.7s						
JNBK	**Urakawa-nobuka**	**5.57**	**14**	A	A	15 45 21.7	
	comp=Z,40nm,1.1s,comp=Z,38nm,2.0s						
JNB	**Noboribetsu**	**5.57**	**1**	A	A	15 45 22.0	
	comp=Z,10.0nm,3.4s,comp=Z,6.0nm,3.4s						
JSHD	**Hidakashinhida**	**5.64**	**12**	A	A	15 45 22.8	
	comp=Z,49nm,1.7s,comp=Z,40nm,2.2s						
JTHR	**Tokachihiroo**	**5.70**	**18**	A	A	15 45 23.5	
	comp=Z,13nm,1.0s,comp=Z,14nm,1.1s						
JIAM	**Iburiatsuma**	**5.78**	**7**	A	A	15 45 24.7	
	comp=Z,32nm,1.1s,comp=Z,39nm,1.0s						
JSH	**Shimam**	**5.78**	**354**	A	A	15 45 25.0	
	comp=Z,5.0nm,3.4s,comp=Z,4.0nm,7.2s						
JEW	**Eniwo**	**5.96**	**4**	A	A	15 45 27.3	
	comp=Z,18nm,3.1s,comp=Z,18nm,4.5s						
JBT2	**Biratori 2**	**5.99**	**10**	A	A	15 45 27.6	
	comp=Z,21nm,1.9s,comp=Z,17nm,2.3s						
JCH	**Churui**	**6.02**	**18**	A	A	15 45 28.0	
	comp=Z,19nm,3.4s,comp=Z,20nm,1.7s						
JMN	**Monobe**	**6.55**	**243**		**Pn**	**15 45 33.8**	**+0.4**
JMN	**Monobe**	**6.55**	**243**	P	**Pn**	**15 45 35.7**	**+2.4**
JHS	**Saijyo**	**6.59**	**256**		**Pn**	**15 45 35.4**	**+1.6**
JHS	**Saijyo**	**6.59**	**256**	P	**Pn**	**15 45 37.0**	**+3.1**
ASAJ	**Asahikawa**	**7.33**	**10**	P	**Pn**	**15 45 42.9**	**-1.0**
	comp=Z,40nm,0.3s,baz=218,slow=10,SNR=254						
ASAJ				S	**Sn**	**15 47 03.9**	**-1.7**
	comp=Z,209nm,0.5s,baz=312,slow=26,SNR=2.6						
ASAJ				LR	LR	15 48 54.6	
	comp=Z,910nm,21.4s,baz=192,slow=40						
	comp=Z,98nm,0.4s						
JKA	**Kamikawa-asahi**	**7.33**	**10**		**Pn**	**15 45 42.8**	**-1.1**
NMR	**Nemuro--Hokkai**	**7.45**	**28**	⇑*i* P	**Pn**	**15 45 42.5**	**-3.0**
NMR				*e*S	**Sn**	**15 47 00.4**	**-8.1**
RUSJ	**Misakicho**	**7.93**	**23**	⇓*i* P	**Pn**	**15 45 50.3**	**-1.7**
RUSJ				*e*S	**Sn**	**15 47 15.8**	**-4.4**
YUK	**Yuzh-Kuril'sk**	**8.07**	**26**	*ce* P	**Pn**	**15 45 51.2**	**-2.8**
TEY	**Ternei**	**8.76**	**340**	⇑*e* P	Pn	15 46 08.5	+5.1
TEY				pmax	pmax		
	comp=Z,70nm,0.8s						
TEY				pmax	pmax		
	comp=E,70nm,0.5s						
TEY				pmax	pmax		
	comp=N,70nm,0.8s						
TEY				pmax	pmax		
	comp=N,100nm,1.0s						
TEY				pmax	pmax		
	comp=Z,200nm,1.1s						
TEY				pmax	pmax		
	comp=E,100nm,1.0s						
TEY				MLR	MLR		
	comp=N,100nm,15.0s						
JNU	**Nakatsue**	**9.04**	**248**	P	**Pn**	**15 46 09.6**	**+2.2**
	comp=N,84nm,0.7s,baz=63,slow=6.1,SNR=72						
JNU	**Nakatsue**	**9.04**	**248**	Pn	**Pn**	**15 46 08.7**	**+1.2**
JNU	**Nakatsue**	**9.04**	**248**	P	**Pn**	**15 46 10.4**	**+3.0**
JCJ	**Chichijima**	**9.83**	**173**	P	**Pn**	**15 46 17.1**	**-1.1**
	comp=N,200nm,0.3s,baz=307,slow=17,SNR=32						
JCJ				S	**Sn**	**15 47 58.9**	**-8.1**
	comp=N,222nm,0.3s,baz=143,slow=20,SNR=1.9						
JCJ	**Chichijima**	**9.83**	**173**	Pn	**Pn**	**15 46 14.2**	**-3.9**
KUR	**Kuril'sk**	**9.85**	**30**	P	**Pn**	**15 46 16.9**	**-1.4**
KUR				S	**Sn**	**15 48 00.7**	**-6.6**
KUR				pmax	pmax		
	comp=Z,249nm,0.8s						
KUR				pmax	pmax		
	comp=E,75nm,0.4s						
KUR				pmax	pmax		
	comp=N,75nm,0.3s						
KUR				smax	smax		
	comp=E,845nm,0.7s						
KUR				smax	smax		
	comp=N,464nm,0.6s						
USA0B	**Ussuriysk Arra**	**9.96**	**320**	Pn	**Pn**	**15 46 22.2**	**+2.4**
USA0B	**Ussuriysk Arra**	**9.96**	**320**	*d* P	**Pn**	**15 46 22.1**	**+2.2**
USRK	**Ussuriysk Ar.**	**9.96**	**320**	P	**Pn**	**15 46 22.5**	**+2.6**
	comp=N,195nm,0.7s,baz=136,slow=12,SNR=123						
USRK				LR	LR	15 50 03.2	
	comp=N,3µm,19.4s,baz=122,slow=37						
USRK	**Ussuriysk Ar.**	**9.96**	**320**	Pn	**Pn**	**15 46 22.2**	**+2.4**
USRK	**Ussuriysk Ar.**	**9.96**	**320**	P	**Pn**	**15 46 22.2**	**+2.4**
YSS	**Yuzh-Sakhalins**	**10.15**	**7**	Pn	**Pn**	**15 46 20.5**	**-1.9**
YSS	**Yuzh-Sakhalins**	**10.15**	**7**	P	**Pn**	**15 46 21.2**	**-1.2**
YSS	**Yuzh-Sakhalins**	**10.15**	**7**	*e* P	**Pn**	**15 46 21.0**	**-1.4**
YSS				*e*S	**Sn**	**15 48 08.7**	**-5.9**
YSS				pmax	pmax		
	comp=Z,110nm,0.9s						
YSS				pmax	pmax		
	comp=Z,200nm,5.4s						
YSS				smax	smax		
	comp=N,100nm,1.1s						
YSS				MLR	MLR		
	comp=Z,1µm,15.0s						
JSU	**Suzuyama**	**10.18**	**241**		**Pn**	**15 46 23.5**	**+0.5**
JSU	**Suzuyama**	**10.18**	**241**	P	**Pn**	**15 46 26.2**	**+3.2**
KSRS	**Korea Array**	**10.38**	**277**	P	**Pn**	**15 46 29.8**	**+4.2**
	comp=Z,45nm,0.7s,baz=88,slow=14,SNR=52						
KSRS				S	**Sn**	**15 48 13.4**	**-6.8**
	comp=Z,2.2nm,0.7s,baz=102,slow=24,SNR=1.1						
KSRS				LR	LR	15 50 19.4	
	comp=Z,3µm,19.4s,baz=90,slow=37						
KSAR	**Wonju Array Be**	**10.41**	**277**		**Pn**	**15 46 24.8**	**-1.2**
KSAR	**Wonju Array Be**	**10.41**	**277**	P	**Pn**	**15 46 24.8**	**-1.2**
KS19	**Wonju Array Si**	**10.42**	**277**	Pn	**Pn**	**15 46 26.1**	**-0.1**
TJN	**Taejon**	**10.89**	**271**	P	**Pn**	**15 46 36.4**	**+3.7**
TJN	**Taejon**	**10.89**	**271**	*d* P	**Pn**	**15 46 35.7**	**+3.0**
MDJ	**Mudanjiang**	**11.53**	**316**	Pn	**Pn**	**15 46 42.0**	**+0.7**
MDJ	**Mudanjiang**	**11.53**	**316**	P	**Pn**	**15 46 41.7**	**+0.4**
MDJ				S	**Sn**	**15 48 50.8**	**+2.4**
MDJ				sS		15 48 55.2	
MDJ				pmax	pmax		
	comp=Z,120nm,1.8s						
MDJ				LR	LR		
	comp=Z,2µm,18.8s						
MDJ				LR	LR		
	comp=Z,2µm,20.1s						
MDJ				LR	LR		
	comp=Z,5µm,21.5s						
MDJ	**Mudanjiang**	**11.53**	**316**	P	**Pn**	**15 46 44.8**	**+3.5**
UGL	**Uglegorsk**	**12.21**	**4**	*e* P	**Pn**	**15 46 50.1**	**-0.4**
UGL				*e*S	**Sn**	**15 49 06.1**	**+1.2**
UGL				pmax	pmax		
	comp=Z,30nm,0.9s						
UGL				MLR	MLR		
	comp=N,990nm,16.0s						
UGL				MLR	MLR		
	comp=E,1µm,16.0s						
UGL				MLR	MLR		
	comp=Z,2µm,13.0s						
BNX	**BinXian**	**13.44**	**315**	⇑P	**Pn**	**15 47 07.3**	**-0.1**
BNX				pP	**P

comp=N,930nm,16.9s
HEH LR LR
comp=N,1μm,15.2s
HEH LR LR
comp=N,2μm,22.0s
SKR Severo-Kuril's 17.58 34⇑ eP Pn 15 47 59.0 -1.4
NJ2 Nanjing 18.80 262 eP P 15 48 13.3 -1.0
NJ2 S Sn 15 51 44.6 -0.4
NJ2 sS sS 15 51 59.6 -5.6
NJ2 pmax pmax
comp=N,28nm,1.0s
NJ2 LR LR
comp=N,1μm,17.1s
NJ2 LR LR
comp=N,900nm,23.2s
NJ2 LR LR
comp=N,2μm,18.8s
ZEA Zeya 19.33 335 eP P 15 48 18.0 -2.0
BJT Baijiatuau 19.61 287 P P 15 48 21.8 -1.3
BJT IAmb IAmb 15 48 27.2
comp=Z,90nm,0.8s
BJT Baijiatuau 19.61 287 P P **15 48 21.8 -1.3**
BJT pmax pmax
comp=Z,90nm,0.8s
PEA0B Petropavlovsk- 20.02 31 P P 15 48 25.6 -1.8
PEA0B Petropavlovsk- 20.02 31 ceP P 15 48 28.2 +0.7
PETK Petropavlovsk- 20.02 31 P P 15 48 27.7 +0.2
comp=Z,34nm,0.9s,baz=208,slow=8.4,SNR=19
PETK LR LR 15 55 33.5
comp=Z,327nm,21.9s,baz=219,slow=35
comp=Z,34nm,0.9s
XLT XiLinHaoTe 20.12 298 eP P 15 48 26.6 -2.1
XLT S S 15 52 01.6 -10
XLT PcP PcP 15 52 41.0 -0.8
XLT pmax pmax
comp=Z,210nm,1.1s
XLT pmax pmax
comp=Z,360nm,4.2s
XLT LR LR
comp=Z,2μm,19.0s
XLT LR LR
comp=Z,2μm,18.8s
PET Petropavlovsk 20.35 32 P P 15 48 31.1 +0.1
PET IAmb IAmb 15 48 33.9
comp=Z,269nm,1.3s
PET Petropavlovsk 20.35 32 P Pn 15 48 32.5 -1.1
PET Petropavlovsk 20.35 32⇑ iP P 15 48 31.8 +0.7
PET eS S 15 52 07.9 -7.9
PET pmax pmax
comp=Z,226nm,1.3s
PET MLR MLR
comp=Z,400nm,15.0s
YHNB Yeheng 20.69 239 P P 15 48 32.9 -2.1
HNS HongShan 20.87 279 ⇑P P 15 48 34.6 -2.2
HNS PP sP 15 48 56.7 +0.1
HNS S S 15 52 20.6 -5.8
HNS SS SnSn 15 52 59.2 +9.1
HNS pmax pmax
comp=Z,180nm,0.6s
HNS LR LR
comp=Z,750nm,18.7s
HNS LR LR
comp=Z,2μm,19.1s
HNS LR LR
comp=Z,1μm,18.3s
YULB Yu-li 21.59 237 P P 15 48 40.8 -3.8
TPUB Ta-pu 22.10 238 P P 15 48 46.6 -3.5
TPUB IAmb IAmb 15 48 50.8
comp=Z,212nm,1.7s
TWGBT Beinan 22.13 236 P P 15 48 50.7 +0.3
TIY Taiyuan 22.63 281 eP P 15 48 54.2 -1.6
TIY S S 15 53 00.7 +1.0
TIY SS SnSn 15 53 42.3 +9.0
TIY pmax pmax
comp=Z,26nm,1.3s
TIY LR LR
comp=Z,920nm,15.8s
TIY LR LR
comp=Z,1μm,17.5s
TIY LR LR
comp=Z,2μm,19.9s
WHN Wuhan 22.94 262 ⇑P P 15 48 57.2 -1.7
WHN pP pP 15 49 09.5 -2.2
WHN S S 15 53 00.7 -4.0
WHN pmax pmax
comp=Z,86nm,0.9s
WHN LR LR
comp=Z,1μm,13.8s
WHN LR LR
comp=Z,3μm,14.8s
WHN LR LR
comp=Z,5μm,18.1s
HHC Hu-ho-hao-te 23.13 289 eP P 15 48 59.6 -1.3
HHC PP sP 15 49 26.9 +6.0
HHC S S 15 53 03.6 -4.4
HHC SS SnSn 15 53 48.1 +2.5
HHC pmax pmax
comp=Z,56nm,0.8s
HHC pmax pmax
comp=Z,250nm,4.7s
HHC LR LR
comp=Z,850nm,14.0s
HHC LR LR
comp=Z,1μm,14.9s
HHC LR LR
comp=Z,2μm,15.7s
LYN LuoYang 23.17 273 ⇓P P 15 49 01.3 +0.1
LYN pP pP 15 49 13.7 -0.5
LYN S S 15 53 03.8 -4.8
LYN sS sS 15 53 31.6 -0.2
LYN SS SnSn 15 53 48.2 +1.7
LYN pmax pmax
comp=Z,20nm,1.1s
LYN pmax pmax
comp=Z,130nm,5.6s
LYN LR LR
comp=Z,730nm,13.5s
LYN LR LR
comp=Z,950nm,18.3s
LYN LR LR
comp=Z,1μm,17.7s
GUMO Guam 23.48 170 LR LR 15 56 36.2
comp=Z,327nm,21.0s,baz=346,slow=32
MA2 Magadan 23.58 13 P P 15 49 04.9 +0.1
comp=Z,21nm,0.6s,baz=193,slow=10,SNR=43
MA2 S S **15 53 12.7 -2.0**
comp=Z,3.0nm,0.9s,baz=318,slow=22,SNR=2.0
MA2 LR LR 15 59 11.4
comp=Z,338nm,19.2s,baz=188,slow=39
comp=Z,21nm,0.6s
MA2 Magadan 23.58 13 P P 15 49 03.9 -0.9
MA2 Magadan 23.58 13 P P 15 49 05.1 +0.3
MA2 Magadan 23.58 13 c iP P 15 49 05.2 +0.4
MA2 pmax pmax
comp=Z,54nm,1.3s
BTO Baotou 24.30 288 eP P 15 49 12.3 +0.5
BTO S S 15 53 25.7 -1.3
BTO LR LR
comp=Z,1μm,8.6s
BTO LR LR
comp=Z,3μm,15.5s
CIT Chita 24.50 317 eP P 15 49 11.0 -2.4
CIT e 15 49 23.4
CIT e 15 49 32.4
CIT e 15 49 53.6
CIT e 15 53 28.2
CIT pmax pmax
comp=Z,123nm,2.6s
CNSH ChangSha 25.06 258 ⇑P P 15 49 17.8 -0.9
CNSH S S 15 53 36.8 -2.3
CNSH pmax pmax
comp=Z,59nm,0.9s
CNSH LR LR
comp=Z,710nm,12.8s
CNSH LR LR
comp=Z,610nm,16.1s
CNSH LR LR
comp=Z,750nm,20.6s
YAK Yakutsk 26.12 348 P P 15 49 26.0 -1.9
YAK IAmb IAmb 15 49 50.4
comp=Z,74nm,0.8s
YAK Yakutsk 26.12 348 d iP P 15 49 26.7 -1.2
YAK e*PP pP 15 49 39.4 -2.6
YAK e 15 50 05.6
YAK e 15 52 54.1
YAK eS S 15 53 54.8 -0.4
YAK e 16 00 10.2
YAK pmax pmax
comp=Z,90nm,1.0s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,18nm,1.0s
YAK pmax pmax
comp=Z,94nm,1.5s
YAK pmax pmax
comp=N,50nm,1.3s
YAK pmax pmax
comp=E,32nm,1.3s
YAK smax smax
comp=N,2μm,3.0s
YAK smax smax
comp=E,663nm,3.3s
XAN Xi'an 26.14 273 P P 15 49 27.8 -0.7
XAN pP pP 15 49 41.6 -0.9
XAN S S **15 53 57.5 +1.3**
XAN SS SnSn **15 55 06.8 +7.6**
XAN pmax pmax
comp=E,46nm,0.6s
XAN pmax pmax
comp=E,210nm,3.5s
XAN LR LR
comp=E,670nm,14.4s
XAN LR LR
comp=E,630nm,16.7s
XAN LR LR
comp=E,820nm,17.1s
ENH Enshi 26.91 265 P P 15 49 34.5 -0.9
ENH IAmb IAmb 15 49 41.5
comp=Z,67nm,0.7s
ENH Enshi 26.91 265 P P 15 49 35.2 -0.2
SEY Seymchan 27.01 12 P P 15 49 36.5 +0.6
comp=Z,16nm,0.8s,baz=200,slow=6.8,SNR=38
comp=Z,16nm,0.8s
SEY Seymchan 27.01 12⇓ eP P 15 49 36.4 +0.6
SEY pmax pmax
comp=Z,50nm,1.7s
ULN Ulaanbaatar 27.10 305 P P 15 49 36.5 -0.5
ULN Ulaanbaatar 27.10 305 d iP P 15 49 36.8 -0.3
ULN pmax pmax
comp=Z,65nm,1.3s
ULN Ulaanbaatar 27.10 305 P P 15 49 37.2 +0.1
BOD Bodaibo 27.43 328 eP P 15 49 39.4 -0.4
BOD pmax pmax
comp=Z,49nm,1.1s
SONM Songino Array 27.53 304 P P **15 49 40.5 -0.4**
comp=Z,56nm,0.7s,baz=108,slow=9.2,SNR=62
SONM LR LR 16 01 18.2
comp=Z,761nm,18.8s,baz=116,slow=38
comp=Z,56nm,0.7s
SONM Songino Array 27.53 304 P P 15 49 40.3 -0.6
SONM IAmb IAmb 15 49 45.5
comp=Z,54nm,0.6s
SHEM Shemya Is, Ala 28.06 45 LR LR 15 58 32.0
comp=Z,156nm,21.8s,baz=298,slow=31
H11N2 WAKE ISLAND Hy 28.43 120 T T 16 19 52.0
baz=313,slow=75,SNR=501
H11N1 WAKE ISLAND Hy 28.44 120 T T 16 19 52.6
baz=313,slow=75,SNR=689
H11N3 WAKE ISLAND Hy 28.45 120 T T 16 19 48.0
baz=313,slow=75,SNR=7.3
H11S1 WAKE ISLAND Hy 29.13 122 T T 16 20 46.0
baz=314,slow=76,SNR=1140
H11S3 WAKE ISLAND Hy 29.13 122 T T 16 20 40.1
baz=314,slow=76,SNR=831
H11S2 WAKE ISLAND Hy 29.14 122 T T 16 20 40.3
baz=314,slow=76,SNR=811
LZH Lanzhou 29.69 280 eP P 15 49 59.8 -0.5
LZH pP pP 15 50 15.9 +1.4
LZH sP sP 15 50 21.4 +0.3
LZH PP PnPn **15 50 53.9 -3.6**
LZH S S **15 54 51.1 -1.2**
LZH sS sS 15 55 19.3 +3.2
LZH SS SnSn **15 56 30.4 +4.7**
LZH pmax pmax
comp=Z,72nm,1.1s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=Z,890nm,16.8s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,2μm,17.5s
ZAK Zakamensk 30.04 309 eP P 15 50 01.0 -2.1
ZAK pmax pmax
comp=Z,14nm,1.2s
GYA Guiyang 30.79 260⇓ iP P 15 50 09.0 -1.1
GYA pP pP 15 50 22.0 -2.3
GYA S S **15 55 04.4 -5.2**
GYA pmax pmax
comp=Z,29nm,1.1s
GYA pmax pmax
comp=Z,180nm,4.6s
GYA LR LR
comp=Z,600nm,17.3s
GYA LR LR
comp=Z,680nm,20.8s
GYA LR LR
comp=Z,1μm,23.3s
CD2 Chengdu 31.27 270 P P 15 50 13.0 -1.1
CD2 S S **15 55 16.1 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,390nm,12.2s
CD2 LR LR
comp=Z,690nm,13.7s
MOY Mondy 31.72 311 eP P 15 50 18.2 +0.3
MOY pmax pmax
comp=Z,29nm,1.9s
GTA Gaotai 32.22 287 eP P 15 50 21.9 -0.6
GTA pP pP 15 50 36.4 -0.4
GTA sP sP 15 50 47.2 +3.7
GTA PP PP **15 51 35.0 -0.9**
GTA S S **15 55 30.4 -1.2**
GTA sS sS 15 55 59.1 +3.5
GTA ScP ScP **15 56 48.9 +0.2**
GTA ScS ScS **16 00 46.3 -1.5**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.2s
GTA LR LR
comp=Z,370nm,16.3s
GTA LR LR
comp=Z,300nm,13.9s
GTA LR LR
comp=Z,730nm,24.3s
QIZ Qiongzhong 32.50 245 P P 15 50 26.5 +1.6
QIZ S S **15 55 37.4 +1.3**
QIZ pmax pmax
comp=Z,42nm,1.3s
QIZ LR LR
comp=Z,550nm,16.5s
QIZ LR LR
comp=Z,480nm,15.0s
QIZ LR LR
comp=Z,560nm,19.5s
DAV Davao City (W) 32.81 209 LR LR 16 01 53.6
comp=Z,134nm,21.9s,baz=54,slow=33
BILL Bilibino 34.28 17 P P 15 50 39.2 -0.7
BILL Bilibino 34.28 17⇓ eP P 15 50 39.3 -0.6
BILL e 15 51 51.2
BILL e 15 53 15.6
BILL pmax pmax
comp=Z,13nm,1.1s
BILL Bilibino 34.28 17 P P 15 50 39.2 -0.7
BILL sP sP **15 51 00.3 -0.5**
KMI Kunming 34.54 261 P P 15 50 42.3 -0.6
KMI pP pP **15 50 56.3 -0.9**
PZH PanZhiHua 34.68 264 ⇓P P 15 50 43.3 -0.7
PZH pP pP **15 50 58.7 +0.4**
PZH PP PP **15 52 05.9 +2.5**
PZH S S **15 56 06.0 -4.1**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,80nm,5.9s
PZH LR LR
comp=Z,2μm,16.9s
PZH LR LR
comp=Z,2μm,16.7s
PZH LR LR
comp=Z,2μm,16.3s
TIXI Tiksi 35.38 353 P P 15 50 48.8 -0.6
comp=Z,13nm,0.6s,baz=270,slow=23,SNR=19
TIXI LR LR 16 06 30.4
comp=Z,418nm,18.1s,baz=148,slow=38
comp=Z,13nm,0.6s
TIXI Tiksi 35.38 353 P P 15 50 48.3 -1.0
TIXI Tiksi 35.38 353 ⇓ iP P 15 50 48.7 -0.6
TIXI pmax pmax
comp=Z,17nm,0.8s
TIXI Tiksi 35.38 353 P P 15 50 49.0 -0.4
TIXI pP pP **15 51 02.7 -1.0**
GOMU GeErMu 36.76 283 P P 15 51 02.6 +0.6
GOMU pP sP 15 51 22.0 -1.2
GOMU S S **15 56 38.4 -3.7**
GOMU pmax pmax
comp=Z,15nm,0.8s
GOMU pmax pmax
comp=Z,170nm,4.3s
GOMU LR LR
comp=Z,370nm,19.9s
GOMU LR LR
comp=Z,370nm,21.4s
GOMU LR LR
comp=Z,570nm,23.5s
TNCH TengChong 37.94 264 ⇓P P 15 51 12.1 +0.2
TNCH pP pP 15 51 24.2 -2.2
TNCH sP sP 15 51 34.9 +1.8
TNCH PP PP **15 52 39.0 -0.3**
TNCH S S **15 56 56.8 -3.1**
TNCH pmax pmax
comp=Z,51nm,1.1s
TNCH pmax pmax
comp=Z,170nm,3.8s
TNCH LR LR
comp=Z,280nm,17.0s
TNCH LR LR
comp=Z,220nm,15.9s
TNCH LR LR
comp=Z,690nm,22.3s
SPIA Saint Paul Isl 37.94 42 P P 15 51 12.7 +1.4
baz=259
TNTI Ternate 38.06 202 P P 15 51 11.8 -0.9
TNTI Ternate 38.06 202 P P 15 51 14.1 +1.4
TNTI Ternate 38.06 202 P P 15 51 13.6 +0.9
comp=Z,68nm,1.3s
NONG Nongkai 38.08 251 P P 15 51 13.5 +0.6
UBPT Khong Chiam 38.10 245 P P 15 51 12.8 -0.2
UBPT IAmb IAmb 15 51 15.3
comp=Z,47nm,0.9s
UBPT Khong Chiam 38.10 245 P P 15 51 14.2 +1.1
NIKH Nikolski High 38.18 49 P P 15 51 14.1 +0.7
baz=266
SIJI Sorong 38.62 196 LR LR 16 05 28.4
comp=Z,191nm,20.7s,baz=30,slow=33
SMPI Sarmi 38.74 184 P P 15 51 21.5 +3.1
comp=Z,92nm,1.6s
CRAI Chiangrai 38.95 256 P P 15 51 20.1 -0.1
MANU Manus Island 39.20 170 P P 15 51 22.3 +0.1
MANU Manus Island 39.20 170 P P 15 51 22.8 +0.5
GENI Genyem 39.29 181 P P 15 51 24.9 +1.9
GENI Genyem 39.29 181 P P 15 51 24.6 +1.6
comp=Z,94nm,1.0s
GTOI Gorontalo 39.69 209 P P 15 51 26.0 -0.4
comp=Z,75nm,1.1s,comp=Z,732nm
PHRA Phrae 40.05 254 P P 15 51 28.5 -0.9
DGZ Jazzator, Alta 40.14 306 d iP P 15 51 30.9 +0.9
DGZ pmax pmax
comp=Z,169nm,0.8s
TOLI2 Tolitoli 40.17 212 P P 15 51 29.1 -1.2
TOLI2 IAmb IAmb 15 51 31.1
comp=Z,53nm,1.1s
TOLI2 Tolitoli 40.17 212 P P 15 51 30.2 -0.1
MRSI Marisa 40.26 210 P P 15 51 31.4 +0.3
comp=Z,153nm,1.2s,comp=Z,2μm
FAKI Fak Fak 40.42 193 P P 15 51 30.8 -1.6
FAKI Fak Fak 40.42 193 P P 15 51 31.5 -0.9
comp=Z,42nm,1.1s
WMQ Urumqi 40.54 297 ⇓P P 15 51 34.2 +0.9
WMQ pP pP 15 51 48.1 +0.2
WMQ S S **15 57 37.9 -0.5**
WMQ pmax pmax
comp=Z,100nm,0.9s
WMQ pmax pmax
comp=Z,240nm,4.7s
WMQ LR LR
comp=Z,500nm,15.3s
WMQ LR LR
comp=Z,620nm,16.3s
WMQ LR LR
comp=Z,860nm,21.1s
WMQ Urumqi 40.54 297 P P 15 51 35.4 +2.1
CHTO Chiang Mai 40.86 255 P P 15 51 35.4 -0.7
CHTO Chiang Mai 40.86 255 P P 15 51 35.4 -0.7
CHTO pmax pmax
comp=Z,11nm,0.6s
CM31 Chiang Mai Arr 41.07 255 P P 15 51 37.5 -0.2
CMAR Chiang Mai Arr 41.07 255 P P 15 51 37.1 -0.6
comp=Z,2.1nm,0.6s,baz=54,slow=6.0,SNR=15
CMAR PcP PcP **15 53 37.7 +1.0**
comp=Z,2.5nm,0.8s,baz=28,slow=4.1,SNR=3.4
CMAR LR LR 16 10 56.8
comp=Z,505nm,18.3s,baz=60,slow=40
comp=Z,2.1nm,0.6s
CMAR Chiang Mai Arr 41.07 255 i P P 15 51 38.0 +0.2
CMAR pmax pmax
comp=Z,8.0nm,1.1s
SANI Sanana 41.15 203 P P 15 51 37.8 -0.7
SANI Sanana 41.15 203 P P 15 51 37.7 -0.7
comp=Z,54nm,0.5s,comp=Z,1μm
TNA Tin City 41.18 29 P P 15 51 39.7 +1.6
baz=252
MPSI Mapaga 41.24 213 P P 15 51 39.6 +0.4
comp=Z,14nm,1.2s,comp=Z,584nm
LUWI Luwuk 41.33 208 P P 15 51 38.3 -1.5
LUWI IAmb IAmb 15 51 46.0
comp=Z,112nm,1.2s
LUWI Luwuk 41.33 208 P P 15 51 39.0 -0.8
LUWI Luwuk 41.33 208 P P 15 51 37.3 -2.5
comp=Z,68nm,1.1s,comp=Z,2μm
MND Mandalay 41.34 262 P P 15 51 40.0 0.0
MSAI Masohi 41.56 198 P P 15 51 43.9 +2.2
comp=Z,12nm,1.3s,comp=Z,296nm
APSI Ampana 41.64 210 P P 15 51 42.3 -0.1
comp=Z,183nm,1.2s,comp=Z,2μm
ZAA0 Zalesovo Array 41.71 313 IAmb IAmb 15 51 44.8
comp=Z,65nm,0.8s
ZALV Zalesovo Beam 41.71 313 P P 15 51 42.6 0.0
comp=Z,59nm,0.8s,baz=92,slow=6.2,SNR=170
ZALV PcP PcP **15 53 37.6 -0.6**
comp=Z,5.7nm,0.6s,baz=107,slow=3.5,SNR=2.2
ZALV ScP ScP **15 57 24.5 +1.0**
comp=Z,1.0nm,0.6s,baz=116,slow=3.4,SNR=2.5
ZALV LR LR 16 09 41.1
comp=Z,730nm,19.4s,baz=108,slow=37
comp=Z,59nm,0.8s
ZALV Zalesovo Beam 41.71 313 P P 15 51 42.0 -0.6
ZALV Zalesovo Beam 41.71 313 i P P 15 51 42.8 +0.2
ZALV pmax pmax
comp=Z,59nm,0.8s
NAYO Nakonayok 41.77 248 P P 15 51 44.6 +1.1
LSA Lhasa 41.81 275 P P 15 51 45.8 +1.4
LSA pmax pmax
comp=Z,33nm,1.1s
LSA LR LR
comp=Z,190nm,21.4s
LSA LR LR
comp=Z,480nm,15.7s
LSA LR LR
comp=Z,880nm,17.1s
LSA Lhasa 41.81 275 P P 15 51 46.1 +1.8
LSA Lhasa 41.81 275 P P 15 51 45.6 +1.2
LSA pP pP **15 51 59.1 +0.1**
ANM Nome 41.93 31 P P 15 51 45.0 +0.8
ANM Nome 41.93 31 P P 15 51 46.4 +2.1
baz=255,SNR=7.5
ANM Nome 41.93 31 P P 15 51 45.1 +0.8
ANM pmax pmax
comp=Z,42nm,1.2s
NLAI Namlea 41.95 201 P P 15 51 43.0 -1.9
comp=Z,18nm,1.2s
ZSN Zaisan 42.02 303 ⇓ iP P 15 51 46.0 +0.7
comp=Z,18nm,0.9s,baz=303

AAI Ambon 42.07 199 P **P** **15 51 46.3 +0.4**
comp=Z,115nm,1.1s,comp=Z,2µm
RABL Rabaul 42.20 163 P **P** **15 51 47.0 0.0**
RABL IAmb IAmb 15 51 49.2
comp=Z,74nm,1.2s
RABL Rabaul 42.20 163 P **P** **15 51 48.9 +1.9**
KRVT Keravat (AS076 42.28 163 LR LR 16 07 42.8
comp=Z,157nm,21.0s,baz=134,slow=34
SDPT Sand Point 43.19 45 P **P** **15 51 53.5 -1.1**
baz=270
NRIK Noril'sk 43.23 335 P **P** **15 51 54.5 -0.2**
comp=Z,5.4nm,0.3s,baz=118,slow=9.3,SNR=17
NRIK LR LR 16 10 56.6
comp=Z,582nm,18.8s,baz=106,slow=38
comp=Z,5.4nm,0.3s
NRIK Noril'sk 43.23 335 P **P** **15 51 53.4 -1.3**
NRIK Noril'sk 43.23 335*d iP* **P** **15 51 54.0 -0.7**
NRIK pmax pmax
comp=Z,23nm,1.1s
SBUM Sibu 43.28 224 P **P** **15 51 55.6 -0.2**
SBUM IAmb IAmb 15 51 57.8
comp=Z,72nm,1.2s
MK31 Makanchi Array 43.85 302*d iP* **P** **15 51 59.9 -0.2**
MKAR Makanchi Array 43.85 302 P **P** **15 52 00.5 +0.4**
comp=Z,24nm,0.7s,baz=87,slow=9.6,SNR=207
MKAR LR LR 16 10 48.9
comp=Z,698nm,20.3s,baz=86,slow=37
comp=Z,24nm,0.7s
MKAR Makanchi Array 43.85 302 P **P** **15 52 00.3 +0.2**
BKB Balikpapan 44.02 216 P **P** **15 52 02.8 +1.1**
BKB Balikpapan 44.02 216 P **P** **15 52 02.3 +0.6**
comp=Z,158nm,1.1s,comp=Z,2µm
MAKZ Makanchi 44.06 302 P **P** **15 52 01.7 -0.1**
MAKZ IAmb IAmb 15 52 07.9
comp=Z,28nm,0.7s
MAKZ Makanchi 44.06 302 P **P** **15 52 02.2 +0.4**
MAKZ Makanchi 44.06 302 P **P** **15 52 01.9 +0.1**
N16K Nishlik Lake 44.29 38 P **P** **15 52 05.2 +1.8**
baz=266
BRDH Bariadhala 44.57 266 LR LR 16 13 40.7
comp=Z,946nm,18.1s,baz=78,slow=40
O16K Kokwok River B 44.58 39 P **P** **15 52 07.1 +1.4**
baz=268,SNR=15
P16K Nushagak River 44.61 40 P **P** **15 52 08.0 +2.1**
baz=268,SNR=20
MTKI Muara Teweh, K 44.71 219 P **P** **15 52 07.9 +0.7**
O17K Koliganek Bris 45.09 39 P **P** **15 52 11.5 +1.7**
baz=268
KSM Kuching 45.16 226 P **P** **15 52 11.6 +0.8**
SPSI Sidrap Palu 45.17 210 P **P** **15 52 11.2 +0.3**
comp=Z,35nm,1.6s
Q16K King Salmon 45.30 41 P **P** **15 52 12.9 +1.6**
baz=270
P17K Kvichak River 45.41 40 P **P** **15 52 13.8 +1.5**
baz=269,SNR=8.0
BNSI Bone 45.43 210 P **P** **15 52 14.0 +1.1**
comp=Z,59nm,1.2s,comp=Z,484nm
R17K Ugashik Creek 45.44 42 P **P** **15 52 13.3 +0.8**
baz=271
TAPN Taplejung 45.54 274*eP* **P** **15 52 14.8 +0.7**
comp=Z,30nm,0.4s
GCSA Galena City Sc 45.55 32 P **P** **15 52 14.1 +0.8**
baz=263,SNR=6.6
KURK Kurchatov 45.70 308 P **P** **15 52 14.7 0.0**
KURK Kurchatov 45.70 308*d iP* **P** **15 52 14.3 -0.3**
KURK pmax pmax
comp=Z,154nm,1.1s
KURK Kurchatov 45.70 308 P **P** **15 52 14.9 +0.2**
KURK Kurchatov 45.70 308 P **P** **15 52 14.4 -0.3**
KURK sP **sP** **15 52 36.1 0.0**
KURBB Kurchatov Arra 45.77 308 LR LR 16 12 11.4
comp=Z,1µm,19.6s,baz=98,slow=37
KURBB Kurchatov Arra 45.77 308 P **P** **15 52 14.7 -0.5**
TTA Tatalina 45.77 35 P **P** **15 52 15.3 +0.1**
TTA Tatalina 45.77 35 P **P** **15 52 16.5 +1.3**
baz=266,SNR=8.8
TTA Tatalina 45.77 35 P **P** **15 52 15.3 +0.1**
TTA pmax pmax
comp=Z,17nm,1.1s
SVW2 Sparrevohn 45.88 37 IAmb IAmb 15 52 19.3
comp=Z,47nm,1.0s
CHIR Chirikof Islan 45.93 45 P **P** **15 52 16.2 -0.2**
CHIR Chirikof Islan 45.93 45 P **P** **15 52 17.7 +1.2**
baz=273
ODAN Odare 46.01 273*eP* **P** **15 52 16.8 -1.0**
comp=Z,15nm,1.1s
P18K Big Mountain, 46.03 40 IAmb IAmb 15 52 20.1
comp=Z,64nm,1.2s
P18K Big Mountain, 46.03 40 P **P** **15 52 18.7 +1.4**
baz=270,SNR=13
O18K Koktuh Hills 46.05 39 IAmb IAmb 15 52 20.5
comp=Z,62nm,1.3s
O18K Koktuh Hills 46.05 39 P **P** **15 52 19.1 +1.7**
baz=270,SNR=11
KAPI Kappang 46.13 210 P **P** **15 52 18.8 +0.4**
comp=Z,20nm,0.3s,baz=52,slow=1.5,SNR=8.7
KAPI LR LR 16 11 50.8
comp=Z,103nm,20.4s,baz=34,slow=36
comp=Z,20nm,0.3s
KAPI Kappang 46.13 210 P **P** **15 52 20.4 +1.9**
comp=Z,106nm,1.6s
KBKI Kotabaru 46.15 215 P **P** **15 52 20.7 +2.1**
comp=Z,20nm,1.1s,comp=Z,495nm
L19K White Mountain 46.27 36 IAmb IAmb 15 52 22.1
comp=Z,35nm,1.2s
L19K White Mountain 46.27 36 P **P** **15 52 20.8 +1.7**
baz=268
BKSI Bulukumba 46.27 209 P **P** **15 52 18.8 -0.7**
comp=Z,29nm,0.6s
SURA Surathani 46.41 244 P **P** **15 52 22.2 +1.5**
N19K Bonanza Creek 46.41 38 P **P** **15 52 21.8 +1.5**
baz=269
PMG Port Moresby 46.42 171 LR LR 16 10 55.8
comp=Z,78nm,18.2s,baz=354,slow=35
PMG Port Moresby 46.42 171 P **P** **15 52 20.1 -0.6**
PMG IAmb IAmb 15 53 16.1
comp=Z,57nm,1.5s
PMG Port Moresby 46.42 171 P **P** **15 52 21.5 +0.8**
PMG Port Moresby 46.42 171*ceP* **P** **15 52 21.3 +0.6**
PMG pmax pmax
comp=Z,14nm,0.9s
PMG Port Moresby 46.42 171 P **P** **15 52 21.6 +0.8**
PMG pP **pP** **15 52 35.4 0.0**
O19K Port Alsworth 46.49 39 IAmb IAmb 15 52 23.8
comp=Z,64nm,1.3s
O19K Port Alsworth 46.49 39 P **P** **15 52 22.5 +1.8**
baz=270,SNR=14
SHLS Shalkode 46.54 298⇓*iP* **P** **15 52 19.3 -2.3**
comp=Z,12nm,1.0s,baz=298
SHLS Shalkode 46.54 298*eP* **P** **15 52 19.5 -2.1**
SHLS pmax pmax
comp=Z,4.0nm,0.5s
RAMN Ramite 46.61 274*eP* **P** **15 52 23.0 +0.5**
comp=Z,67nm,0.6s
JIRN Jiri 46.62 275*eP* **P** **15 52 23.6 +0.9**
K20K Telida 46.67 34 IAmb IAmb 15 52 25.2
comp=Z,36nm,0.9s
K20K Telida 46.67 34 P **P** **15 52 24.1 +1.8**
baz=267
J20K Nowinta River 46.68 33 IAmb IAmb 15 52 25.3
comp=Z,36nm,1.0s
J20K Nowinta River 46.68 33 P **P** **15 52 23.9 +1.7**
baz=267
SII Sitkinak Islan 46.69 44 P **P** **15 52 23.3 +0.9**
baz=274
L20K Farewell, AK 46.73 35 P **P** **15 52 24.4 +1.7**
baz=268
A21K Barrow 46.75 23 P **P** **15 52 23.6 +1.0**
baz=257
SRIT Nakonsritamara 46.82 244 P **P** **15 52 25.7 +1.8**
TDK Taldyqorghan 46.85 300*eP* **P** **15 52 23.9 +0.1**
comp=Z,11nm,0.6s,baz=300
UZB Uzynbulak 46.86 298*eP* **P** **15 52 24.0 -0.1**
baz=298
UZB Uzynbulak 46.86 298*eP* **P** **15 52 24.2 +0.1**
UZB pmax pmax
comp=Z,23nm,1.3s
BBKI Banjar Baru 46.92 217 P **P** **15 52 24.4 -0.2**
comp=Z,139nm,1.2s
BBKI pP **pP** **15 52 40.4 +1.0**
comp=Z,139nm,1.2s
KPKS Kokpek 47.02 298*eP* **P** **15 52 25.5 +0.2**
comp=Z,15nm,1.3s,baz=298
KPKS Kokpek 47.02 298*eP* **P** **15 52 25.4 +0.1**
KPKS pmax pmax
comp=Z,6.0nm,0.6s
P19K Oil Pt 47.05 39 P **P** **15 52 26.1 +0.9**
baz=272
M20K Styx River 47.07 36 P **P** **15 52 26.5 +1.1**
M20K Styx River 47.07 36 P **P** **15 52 27.2 +1.8**
baz=270
G21K Allakaket 47.12 30 P **P** **15 52 27.1 +1.4**
baz=265
OHAK Old Harbor 47.14 43 P **P** **15 52 25.4 -0.4**
OHAK IAmb IAmb 15 52 27.5
comp=Z,46nm,1.1s
OHAK Old Harbor 47.14 43 P **P** **15 52 26.4 +0.5**
baz=274,SNR=7.2
F21K Alatna River 47.20 29 P **P** **15 52 27.4 +1.1**
baz=264
WUS Wushi 47.22 295 P **P** **15 52 27.9 +1.0**
WUS pP **pP** **15 52 43.8 +1.9**
ZHN Zhinishke 47.27 298*eP* **P** **15 52 27.4 +0.1**
baz=298
KKN Kakani 47.29 276*eP* **P** **15 52 27.1 -0.7**
comp=Z,17nm,1.1s
PKIN Phulchoki 47.29 275*eP* **P** **15 52 28.0 +0.2**
comp=Z,41nm,0.6s
O20K Slope Mountain 47.34 39 P **P** **15 52 28.6 +1.1**
baz=272
H21K Melozitna Rive 47.34 31 P **P** **15 52 29.0 +1.6**
baz=266
CHUM Lake Minchumin 47.48 33 P **P** **15 52 30.3 +1.9**
baz=268,SNR=6.4
KDAK Kodiak Island 47.48 42 P **P** **15 52 28.7 +0.2**
comp=Z,56nm,1.0s,baz=299,slow=4.3,SNR=42
KDAK LR LR 16 12 19.2
comp=Z,172nm,21.4s,baz=264,slow=36
comp=Z,56nm,1.0s
KDAK Kodiak Island 47.48 42 P **P** **15 52 28.2 -0.2**
KDAK Kodiak Island 47.48 42 P **P** **15 52 29.2 +0.7**
baz=274
KDAK Kodiak Island 47.48 42*c iP* **P** **15 52 29.0 +0.5**
KDAK pmax pmax
comp=Z,141nm,1.3s
KDAK Kodiak Island 47.48 42 P **P** **15 52 28.7 +0.2**
KDAK pP **pP** **15 52 43.7 +0.5**
KDAK sP **sP** **15 52 50.7 +1.0**
PPLA Purkeypile 47.52 35 IAmb IAmb 15 52 32.3
comp=Z,72nm,1.4s
PPLA Purkeypile 47.52 35 P **P** **15 52 30.5 +1.5**
baz=270,SNR=12
SPCR Spurr Chakacha 47.52 37 P **P** **15 52 30.9 +2.0**
baz=271,SNR=10
Q20K Shuyak Island 47.52 41 P **P** **15 52 29.2 +0.4**
baz=273
CAST Castle Rocks 47.57 34 P **P** **15 52 30.9 +1.7**
baz=269,SNR=28
I21K Tanana 47.66 32 IAmb IAmb 15 52 33.1
comp=Z,28nm,1.2s
I21K Tanana 47.66 32 P **P** **15 52 31.4 +1.6**
baz=268
GKN Gorkha 47.71 276*eP* **P** **15 52 31.5 +0.5**
comp=Z,80nm,0.7s
F22K John River 47.73 29 P **P** **15 52 31.8 +1.5**
baz=265
SKT Skwentna 47.83 36 P **P** **15 52 32.3 +1.1**
baz=271,SNR=7.0
E22K Anaktuvuk Pass 47.92 28 P **P** **15 52 33.4 +1.5**
baz=265
H22K Ishtalitna Cre 47.95 31 P **P** **15 52 34.0 +1.9**
baz=268
G22K Bettles 47.95 29 P **P** **15 52 33.4 +1.4**
baz=266
CAPN Captain Cook N 48.05 38 P **P** **15 52 33.9 +1.1**
baz=272
BPAW Bear Paw Mtn. 48.07 33 P **P** **15 52 34.5 +1.5**
baz=270
CNPM China Poot 48.07 39 P **P** **15 52 32.3 -0.8**
CNPM IAmb IAmb 15 52 35.5
comp=Z,37nm,1.2s
KTH Kantishna Hill 48.09 34 IAmb IAmb 15 52 36.2
comp=Z,62nm,1.2s
CHKK Chushkaly 48.11 299*eP* **P** **15 52 34.1 +0.4**
baz=299
MLY Manley 48.19 32 IAmb IAmb 15 52 37.0
comp=Z,33nm,1.2s
MLY Manley 48.19 32 P **P** **15 52 35.6 +1.7**
baz=269,SNR=30
SUA Susitna One 48.22 37 IAmb IAmb 15 52 37.7
comp=Z,36nm,1.1s
SUA Susitna One 48.22 37 P **P** **15 52 34.8 +0.5**
baz=272,SNR=16
BRLK Bradley Lake 48.23 39 IAmb IAmb 15 52 37.0
comp=Z,36nm,1.0s
DANN Dangsing 48.26 277*eP* **P** **15 52 36.2 +0.8**
comp=Z,197nm,0.6s
BRSE Bradley Lake S 48.30 39 P **P** **15 52 36.2 +1.3**
baz=274,SNR=8.3
AAA Alma-Ata 48.33 298*eP* **P** **15 52 35.3 -0.1**
baz=298
TNSS Tian-Shan 48.35 298*eP* **P** **15 52 36.7 +0.7**
baz=298
TRF Thorofare Moun 48.38 34 P **P** **15 52 36.8 +1.2**
baz=271,SNR=6.8
D23K Nanushuk River 48.40 27 P **P** **15 52 37.3 +1.8**
baz=265
CUT Chulitna 48.41 35 IAmb IAmb 15 54 02.8
comp=Z,61nm,1.2s
CUT Chulitna 48.41 35 P **P** **15 52 36.5 +0.8**
baz=272,SNR=7.6
COLD Coldfoot 48.47 29 P **P** **15 52 37.6 +1.5**
baz=267,SNR=7.8
M22K Willow 48.50 36 IAmb IAmb 15 54 03.0
comp=Z,42nm,1.0s
M22K Willow 48.50 36 P **P** **15 52 37.1 +0.8**
baz=272
G23K Bananza Creek 48.52 30 P **P** **15 52 37.7 +1.1**
baz=268
KUU Kuy 48.55 299⇓*iP* **P** **15 52 37.1 0.0**
comp=Z,23nm,1.0s,baz=299
MMRI Maumere 48.56 205 P **P** **15 52 36.5 -0.8**
comp=Z,88nm,0.8s
KOLN Koldanda 48.64 277*eP* **P** **15 52 37.6 -0.6**
comp=Z,20nm,1.2s
H23K Yukon River 48.70 31 IAmb IAmb 15 52 41.2
comp=Z,42nm,1.1s
H23K Yukon River 48.70 31 P **P** **15 52 39.9 +2.0**
baz=269,SNR=40
IPM Ipoh 48.72 238 P **P** **15 52 39.1 +0.5**
RC01 Rabbit Creek A 48.72 37 IAmb IAmb 15 52 39.9
comp=Z,37nm,1.0s
RC01 Rabbit Creek A 48.72 37 P **P** **15 52 38.6 +0.6**
baz=273,SNR=18
E23K Chandalar 48.74 28 P **P** **15 52 39.9 +1.7**
baz=267
O22K Cooper Landing 48.76 38 P **P** **15 52 38.1 -0.3**
O22K Cooper Landing 48.76 38 P **P** **15 52 39.0 +0.6**
baz=274,SNR=7.0
I23K Minto, Yukon-K 48.77 32 IAmb IAmb 15 54 05.1
comp=Z,42nm,1.1s
I23K Minto, Yukon-K 48.77 32 P **P** **15 52 39.9 +1.6**
baz=270,SNR=20
NEA2 Nenana 48.90 33 IAmb IAmb 15 52 42.2
comp=Z,56nm,1.2s
NEA2 Nenana 48.90 33 P **P** **15 52 40.7 +1.3**
baz=271,SNR=38
SEW Seward 48.93 39 IAmb IAmb 15 52 43.6
comp=Z,39nm,1.0s
SEW Seward 48.93 39 P **P** **15 52 40.4 +0.8**
baz=274,SNR=6.4
SOEI Soe 48.96 202 P **P** **15 52 39.6 -0.9**
SOEI Soe 48.96 202 P **P** **15 52 41.3 +0.8**
SOEI Soe 48.96 202 P **P** **15 52 39.8 -0.7**
comp=Z,143nm,1.0s
MCK McKinley 48.98 34 IAmb IAmb 15 52 42.2
comp=Z,29nm,1.2s
MCK McKinley 48.98 34 P **P** **15 52 40.7 +0.7**
baz=272,SNR=14
PMR Palmer 48.98 37 IAmb IAmb 15 52 41.8
comp=Z,43nm,1.2s
PMR Palmer 48.98 37 P **P** **15 52 40.4 +0.4**
baz=273,SNR=14
RND Reindeer 49.02 34 IAmb IAmb 15 52 42.4
comp=Z,44nm,1.4s
D24K Happy Valley 49.08 26 P **P** **15 52 42.2 +1.5**
baz=267
TPRI Tanjung Pinang 49.09 232 P **P** **15 52 40.5 -0.9**
C24K Franklin Bluff 49.16 26 P **P** **15 52 42.6 +1.4**
baz=267
E24K Your Creek 49.16 28 P **P** **15 52 43.3 +1.9**
baz=268
WAT1 Susitna Watana 49.19 35 P **P** **15 52 42.1 +0.5**
baz=273
KNK Knik Glacier 49.32 37 IAmb IAmb 15 54 07.0
comp=Z,35nm,1.0s
KNK Knik Glacier 49.32 37 P **P** **15 52 43.5 +0.8**
baz=274,SNR=12
WRH Wood River Hil 49.33 33 IAmb IAmb 15 54 06.0
comp=Z,36nm,1.0s
TKM2 Tokmak 2 49.34 298 P **P** **15 52 44.3 +1.0**
SNR=30
SML Sawmill 49.35 36 IAmb IAmb 15 52 45.1
comp=Z,29nm,0.9s
SML Sawmill 49.35 36 P **P** **15 52 43.8 +0.9**
baz=274,SNR=11
F24K Squaw Lake 49.38 29 P **P** **15 52 44.7 +1.6**
baz=269,SNR=6.7
H24K Noodor Dome 49.38 31 IAmb IAmb 15 54 07.8
comp=Z,31nm,1.1s
H24K Noodor Dome 49.38 31 P **P** **15 52 44.9 +1.7**
baz=271
TCOL CIGO, UAF Yank 49.41 32 IAmb IAmb 15 52 46.9
comp=Z,25nm,1.1s
TCOL CIGO, UAF Yank 49.41 32 P **P** **15 52 44.5 +1.3**
baz=272,SNR=6.1
COLA College 49.42 32 P **P** **15 52 43.4 +0.2**
COLA IAmb IAmb 15 52 46.9
comp=Z,32nm,1.2s
COLA College 49.42 32 P **P** **15 52 44.6 +1.4**
baz=272
COLA College 49.42 32 P **P** **15 52 44.8 +1.5**
COLA College 49.42 32*deP* **P** **15 52 43.8 +0.5**
COLA pmax pmax
comp=Z,27nm,1.3s
COLA College 49.42 32 P **P** **15 52 43.7 +0.5**
COLA pP **pP** **15 52 58.5 +0.4**
PWL Port Wells 49.42 37 P **P** **15 52 43.2 -0.2**
PWL IAmb IAmb 15 52 45.2
comp=Z,34nm,1.0s
PWL Port Wells 49.42 37 P **P** **15 52 43.8 +0.4**
baz=275,SNR=6.8
HNR Honiara 49.43 155 LR LR 16 10 29.8
comp=Z,5µm,21.9s,baz=320,slow=32
G24K Hadweenzic Riv 49.54 30 P **P** **15 52 46.2 +2.0**
baz=270
BATI Baumata 49.57 203 LR LR 16 13 19.6
comp=Z,91nm,21.7s,baz=32,slow=36
BRZS Berezniki 49.57 308*eP* P 15 52 54.7 +10
BRZS pmax pmax
comp=Z,8.0nm,0.8s
WAT6 Susitna Watana 49.57 35 P **P** **15 52 45.3 +0.6**
baz=274,SNR=9.1
POKR Poker Plat Res 49.59 32 P **P** **15 52 46.6 +1.9**
baz=272,SNR=30
M23K Glacier View 49.64 36 P **P** **15 52 46.0 +0.9**
baz=274,SNR=12
DHY Denali Highway 49.71 35 P **P** **15 52 46.6 +0.8**
baz=274,SNR=12
SCM Sheep Creek Mo 49.82 36 IAmb IAmb 15 52 48.9
comp=Z,49nm,1.2s
SCM Sheep Creek Mo 49.82 36 P **P** **15 52 47.9 +1.3**
baz=275,SNR=14
HDA Harding Lake 49.82 33 IAmb IAmb 15 52 48.1
comp=Z,44nm,1.1s
HDA Harding Lake 49.82 33 P **P** **15 52 47.0 +0.6**
baz=273,SNR=36
IL31 49.83 32 IAmb IAmb 15 52 48.2
comp=Z,29nm,1.1s
ILAR Eielson Array 49.83 32 P **P** **15 52 47.0 +0.6**
comp=Z,15nm,0.9s,baz=270,slow=6.0,SNR=28
comp=Z,7nm,0.9s
ILAR Eielson Array 49.83 32 P **P** **15 52 46.7 +0.2**
BTLS Baital 49.84 301⇓*iP* **P** **15 52 47.0 +0.1**
comp=Z,10nm,1.2s,baz=301
BTLS Baital 49.84 301*eP* **P** **15 52 46.6 -0.2**
BTLS pmax pmax
comp=Z,9.0nm,0.7s
SGDS Sogindy 49.87 299*eP* **P** **15 52 47.5 +0.3**
baz=299
SGDS Sogindy 49.87 299*eP* **P** **15 52 47.9 +0.7**
SGDS pmax pmax
comp=Z,9.0nm,1.4s
KBK Karagaybulak 49.87 298 P **P** **15 52 47.8 +0.4**
SNR=28
KDU Kakadu 49.95 191 P **P** **15 52 47.7 -0.1**
D25K Kavik River 49.96 26 P **P** **15 52 49.0 +1.5**
baz=269
P23K Montague Islan 49.96 39 P **P** **15 52 48.9 +1.4**
baz=276
USP Ospenovka 50.01 299 P **P** **15 52 49.0 +0.7**
SNR=16
G25K Bearman Lake 50.08 30 P **P** **15 52 50.4 +2.1**
baz=272
KSH Kashi 50.09 294 P P 15 52 53.8 +4.8
KSH S **S** **16 00 02.0 +5.7**
KSH pmax pmax
comp=Z,22nm,0.9s
KSH LR LR
comp=Z,770nm,16.5s
KSH LR LR
comp=Z,680nm,17.9s
KSH LR LR
comp=Z,1µm,17.9s
OTUK Ortayu 50.18 306 P **P** **15 52 48.8 -0.6**
AAK Ala-Archa 50.20 298 P **P** **15 52 50.7 +0.9**
SNR=11
AAK Ala-Archa 50.20 298 LR LR 16 15 29.1
comp=Z,2µm,19.6s,baz=70,slow=38
AAK Ala-Archa 50.20 298 P **P** **15 52 49.6 -0.2**
AAK Ala-Archa 50.20 298*d iP* **P** **15 52 50.1 +0.3**
AAK pmax pmax
comp=Z,19nm,1.7s
AAK Ala-Archa 50.20 298 P **P** **15 52 49.8 0.0**
AAK Ala-Archa 50.20 298 P **P** **15 52 50.2 +0.3**
F25K Christian Rive 50.24 29 P **P** **15 52 52.0 +2.3**
baz=271,SNR=11
E25K Arctic Village 50.26 28 P **P** **15 52 51.8 +2.1**
baz=271,SNR=18
UCH Uchtor 50.30 298 P **P** **15 52 52.5 +1.6**
SNR=9.0
MTN Manton Dam 50.32 192 P **P** **15 52 51.1 +0.5**
M24K Tolsona, Glenn 50.34 36 P **P** **15 52 52.4 +2.0**
baz=275,SNR=9.2
BVA0 Borovoye Array 50.37 312 P **P** **15 52 50.1 -0.6**
BVAR Borovoye Array 50.37 312 P **P** **15 52 50.9 +0.2**
comp=Z,10nm,0.5s,baz=80,slow=8.4,SNR=39
BVAR LR LR 16 15 19.6
comp=Z,816nm,19.1s,baz=80,slow=37
comp=Z,10nm,0.5s
PRP Porcupine Dome 50.37 31 P **P** **15 52 52.1 +1.4**
baz=273,SNR=10
K24K Donnelly Dome 50.37 34 P **P** **15 52 51.2 +0.5**
baz=274,SNR=17
PLAI Plampang 50.39 210 P **P** **15 52 49.9 -1.4**
PLAI Plampang 50.39 210 P **P** **15 52 49.4 -1.9**
comp=Z,60nm,0.9s
BRVK Borovoye 50.42 312 P **P** **15 52 50.6 -0.5**
BRVK Borovoye 50.42 312*d iP* **P** **15 52 51.1 -0.1**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 50.42 312 P **P** **15 52 51.1 -0.1**
BRVK Borovoye 50.42 312 P **P** **15 52 51.0 -0.1**
BRVK sP **sP** **15 53 11.5 -1.2**
C26K Camden Bay 50.48 26 P **P** **15 52 53.5 +2.2**
baz=270
KLU Klutina 50.52 37 IAmb IAmb 15 52 54.4
comp=Z,46nm,1.3s
KLU Klutina 50.52 37 P **P** **15 52 53.1 +1.3**
baz=276
PPBI Pangkal Pinang 50.53 228 P **P** **15 52 52.8 +0.5**
comp=Z,26nm,0.5s,comp=Z,21µm
PAX Paxson 50.58 35 IAmb IAmb 15 54 11.7
comp=Z,20nm,1.0s
PAX Paxson 50.58 35 P **P** **15 52 53.6 +1.3**
baz=275,SNR=11
COEN Coen 50.62 177 P **P** **15 52 53.8 +0.9**
DIV Divide 50.63 37 IAmb IAmb 15 52 55.4
comp=Z,51nm,1.1s
BMAR Burnt Mountain 50.65 29 P **P** **15 52 54.3 +1.6**
TWSI Taliwang, Sumb 50.68 211 P **P** **15 52 52.3 -1.1**
comp=Z,91nm,1.0s,comp=Z,723nm
EYAK Cordova Ski Ar 50.72 38 IAmb IAmb 15 52 56.0
comp=Z,29nm,1.0s
EYAK Cordova Ski Ar 50.72 38 P **P** **15 52 54.7 +1.5**
baz=277
EYAK Cordova Ski Ar 50.72 38 P **P** **15 52 54.8 +1.6**
HARP HAARP 50.78 35 P **P** **15 52 55.2 +1.4**
baz=276,SNR=9.9
RIDG Independent Ri 50.79 34 IAmb IAmb 15 54 12.3
comp=Z,25nm,1.0s
RIDG Independent Ri 50.79 34 P **P** **15 52 54.3 +0.5**

baz=275,SNR=9.2
F26K **Sheenjek River** 50.81 28 P P 15 52 56.2 +2.4
baz=273
SRBI **Singaraja** 50.81 214 P P 15 52 53.5 -0.9
comp=Z,76nm,0.8s,comp=Z,745nm
C27K **Jago River** 50.90 26 P P 15 52 56.4 +1.9
baz=271,SNR=14
AML **Almayashu** 50.91 298 P P 15 52 56.6 +1.1
SNR=55
G26K **Porcupine Rive** 50.99 29 P P 15 52 57.6 +2.4
baz=274
ABJI **Asem Bagus** 51.00 215 P P 15 52 56.1 +0.3
comp=Z,60nm,1.1s
ABJI pP **pP** 15 53 11.5 +0.7
comp=Z,60nm,1.1s
GRJI **Gresik** 51.06 217 P P 15 52 56.5 +0.2
comp=Z,99nm,1.0s
N25K **Chitina, Valde** 51.14 36 P P 15 52 58.2 +1.7
baz=277,SNR=5.1
DOT **Dot Lake** 51.15 34 P P 15 52 56.8 +0.3
DOT IAmb IAmb 15 52 59.1
comp=Z,17nm,0.8s
SCRK **Sand Creek** 51.15 33 IAmb IAmb 15 52 58.6
comp=Z,53nm,1.2s
SCRK **Sand Creek** 51.15 33 P P 15 52 57.3 +0.8
baz=276,SNR=46
BMRM **Bremner River** 51.22 37 IAmb IAmb 15 52 59.7
comp=Z,25nm,0.8s
BMRM **Bremner River** 51.22 37 P P 15 52 58.6 +1.5
baz=278
BLJI **Banyuglugur** 51.25 216 P P 15 52 57.0 -0.7
comp=Z,30nm,0.5s
MENT **Mentasta** 51.38 35 IAmb IAmb 15 53 00.8
comp=Z,22nm,0.8s
GLB **Gilahina Butte** 51.53 36 IAmb IAmb 15 53 02.4
comp=Z,52nm,1.6s
L26K **Log Cabin Wild** 51.54 34 IAmb IAmb 15 53 02.4
comp=Z,35nm,0.9s
L26K **Log Cabin Wild** 51.54 34 P P 15 53 01.1 +1.7
baz=277,SNR=52
JAGI **Jajag, Banyuwa** 51.63 215 IAmb IAmb 15 53 02.4
comp=Z,38nm,1.0s
JAGI **Jajag, Banyuwa** 51.63 215 P P 15 53 01.9 +1.3
JAGI **Jajag, Banyuwa** 51.63 215 P P 15 53 01.0 +0.4
comp=Z,40nm,1.0s
VRDI **Verde Repeater** 51.74 37 P P 15 53 01.2 +0.1
VRDI IAmb IAmb 15 53 03.2
comp=Z,22nm,1.1s
E27K **Coleen River** 51.74 28 P P 15 53 02.6 +1.8
baz=274,SNR=20
BKNI **Bangkinang** 51.78 235 P P 15 53 04.3 +2.6
comp=Z,136nm,1.2s
BKNI **Bangkinang** 51.78 235 P P 15 53 03.2 +1.5
comp=Z,137nm,1.2s
M26K **Nabesna, AK** 51.78 35 IAmb IAmb 15 53 04.4
comp=Z,39nm,1.2s
M26K **Nabesna, AK** 51.78 35 P P 15 53 03.3 +2.0
baz=278
GMJI **Gumukmas** 51.78 216 P P 15 53 01.0 -0.7
comp=Z,47nm,1.0s
G27K **Doyon Strip** 51.84 29 P P 15 53 03.6 +2.1
baz=276
MCARA **McCarthy VSAT** 51.92 36 IAmb IAmb 15 53 05.2
comp=Z,33nm,1.0s
MCARA **McCarthy VSAT** 51.92 36 P P 15 53 03.9 +1.7
baz=279,SNR=18
H27K **Steamboat Moun** 51.95 30 P P 15 53 04.6 +2.1
baz=276
K27K **Chicken** 51.98 33 P P 15 53 04.2 +1.5
baz=277
I27K **Kandik River** 51.98 31 P P 15 53 04.2 +1.5
baz=277
MLSI **Meulaboh, Aceh** 52.09 242 P P 15 53 03.0 -1.1
comp=Z,39nm,0.6s
L27K **Beaver Creek,** 52.22 34 IAmb IAmb 15 53 07.6
comp=Z,33nm,1.0s
L27K **Beaver Creek,** 52.22 34 P P 15 53 06.4 +1.9
baz=278
EGAK **Eagle** 52.28 32 P P 15 53 04.7 -0.1
EGAK IAmb IAmb 15 53 07.9
comp=Z,60nm,1.6s
EGAK **Eagle** 52.28 32 P P 15 53 05.3 +0.5
baz=278,SNR=20
M27K **Edge Creek, AK** 52.30 35 IAmb IAmb 15 53 08.2
comp=Z,42nm,1.0s
M27K **Edge Creek, AK** 52.30 35 P P 15 53 07.0 +1.8
baz=279
DZA **Taraz** 52.34 300 *eP* P 15 53 05.6 -0.1
baz=300
BARN **Barnard Glacie** 52.62 37 IAmb IAmb 15 54 20.1
comp=Z,32nm,1.3s
BVCY **Beaver Creek** 52.76 35 P P 15 53 10.2 +1.6
baz=280,SNR=27
KK31 **Karatay Array** 52.84 300 IAmb IAmb 15 53 15.1
comp=Z,40nm,1.1s
KK31 **Karatay Array** 52.84 300 P P 15 53 09.7 +0.3
KKAR **Karatay Array** 52.84 300 P P 15 53 09.6 +0.2
KKAR IAmb IAmb 15 53 15.2
comp=Z,40nm,1.1s
KKAR **Karatay Array** 52.84 300 P P 15 53 09.6 +0.2
KKAR pmax pmax
comp=Z,40nm,1.2s
UGM **Wanagama** 52.89 219 P P 15 53 08.9 -1.0
YUK3 **Moose Creek** 53.06 36 P P 15 53 12.3 +1.4
baz=280,SNR=28
DAWY **Dawson** 53.14 33 P P 15 53 12.6 +1.3
baz=280,SNR=11
GSI **Gunungsitoli** 53.38 239 P P 15 53 14.3 +0.7
O28M **Mount Upton** 53.38 37 P P 15 53 14.7 +1.3
baz=281
I29M **Ogilvie Camp,** 53.38 31 P P 15 53 14.4 +1.4
baz=280,SNR=6.7
YUK8 **Steele Glacier** 53.48 36 P P 15 53 15.6 +1.5
baz=281
PCA **Pinnacle** 53.48 38 IAmb IAmb 15 54 09.2
comp=Z,32nm,1.0s
PINM **Pinnacle** 53.49 38 P P 15 53 15.1 +1.2
baz=282
LEM **Lembang** 53.49 223 P P 15 53 14.1 -0.5
comp=Z,83nm,0.8s,baz=72,slow=7.3,SNR=12
LEM LR LR 16 17 41.9
comp=Z,72nm,18.9s,baz=98,slow=38
comp=Z,83nm,0.8s
KNRA **Kununurra** 53.52 195 P P 15 53 13.6 -0.9
KNRA **Kununurra** 53.52 195 P P 15 53 15.6 +1.1
J29M **Klondike Camp** 53.58 32 IAmb IAmb 15 54 23.4
comp=Z,22nm,1.1s
J29M **Klondike Camp** 53.58 32 P P 15 53 16.3 +1.8
baz=280,SNR=5.3
BCPM **Bancas Point** 53.82 38 IAmb IAmb 15 53 19.0
comp=Z,43nm,1.4s
EPYK **Eagle Plains** 53.85 30 P P 15 53 18.2 +1.8
baz=280,SNR=18
M29M **Somme Creek** 53.85 35 P P 15 53 18.8 +2.2
baz=282,SNR=36
L29M **L29M** 53.87 34 P P 15 53 19.1 +2.4
baz=281
G30M **tAoh Zraii Nji** 53.94 29 P P 15 53 18.7 +1.7
baz=280
K29M **Barlow Dome** 53.99 33 P P 15 53 19.6 +2.0
baz=281
YUK4 **Talbot Arm** 54.00 36 P P 15 53 19.7 +1.9
baz=282,SNR=19
PNL **Peninsula** 54.00 38 P P 15 53 19.1 +1.5
baz=283
PNL **Peninsula** 54.00 38 P P 15 53 18.9 +1.3
YUK6 **Outpost Mounta** 54.22 36 P P 15 53 21.6 +2.2
baz=283,SNR=13
O29M **Mount Kennedy** 54.26 37 P P 15 53 22.0 +2.4
baz=283
GAR **Garm** 54.39 295 P P 15 53 20.9 0.0
M30M **Minto, Yukon** 54.58 34 P P 15 53 24.1 +2.3
baz=283
HYT **Haines Junctio** 54.66 36 P P 15 53 25.0 +2.5
baz=284,SNR=36
INK **Inuvik** 54.70 27 P P 15 53 23.4 +1.0
comp=Z,12nm,0.6s,baz=299,slow=6.5,SNR=54
comp=Z,12nm,0.6s
INK **Inuvik** 54.70 27 P P 15 53 22.6 +0.1
INK **Inuvik** 54.70 27 P P 15 53 23.4 +1.0
baz=282,SNR=21
F31M **Tsiigehtchic** 54.80 28 P P 15 53 24.1 +1.0
baz=282,SNR=17
MTSU **Mount Surprise** 54.82 176 P P 15 53 24.8 +0.9
P29M **Windy Craggy** 54.83 38 IAmb IAmb 15 53 26.8
comp=Z,37nm,0.9s
P29M **Windy Craggy** 54.83 38 P P 15 53 26.0 +2.4
baz=284
SVE **Sverdlovsk** 54.98 319 *eP* P 15 53 25.4 +0.7
SVE *eS* S 16 01 02.3 0.0
SVE pmax pmax
comp=Z,48nm,0.9s
SVE MLR MLR
comp=Z,751nm,18.0s
P30M **Million Dollar** 55.09 37 P P 15 53 28.0 +2.5
baz=284
N31M **Braeburn, Yuko** 55.31 35 IAmb IAmb 15 53 30.6
comp=Z,63nm,1.4s
N31M **Braeburn, Yuko** 55.31 35 P P 15 53 29.5 +2.4
baz=284,SNR=20
O30N **Mendenhall** 55.34 36 P P 15 53 29.1 +1.8
baz=285,SNR=11
CHGR **Chuyangaron** 55.36 295 P P 15 53 28.1 +0.3
SIMJ **Simiganj** 55.47 295 P P 15 53 29.0 +0.3
PLBC **Pleasant Camp** 55.55 38 P P 15 53 30.9 +2.2
baz=285,SNR=20
M31M **Drury Creek, Y** 55.76 34 P P 15 53 30.8 +0.5
M31M **Drury Creek, Y** 55.76 34 P P 15 53 32.1 +1.9
baz=285,SNR=21
WHY **Whitehorse** 55.94 36 IAmb IAmb 15 53 34.4
comp=Z,18nm,0.9s
WHY **Whitehorse** 55.94 36 P P 15 53 33.8 +2.1
baz=286,SNR=19
S31K **Pelican** 56.03 40 P P 15 53 34.4 +2.3
baz=286,SNR=5.9
SKAG **Skagway** 56.06 38 IAmb IAmb 15 53 35.9
comp=Z,33nm,1.2s
SKAG **Skgway** 56.06 38 P P 15 53 34.7 +2.4
baz=286,SNR=9.9
R31K **City Hall, Gus** 56.15 39 P P 15 53 35.0 +2.0
baz=286
ARU **Arti** 56.20 319 LR LR 16 19 49.8
comp=Z,593nm,18.3s,baz=74,slow=38
ARU **Arti** 56.20 319 P P 15 53 31.9 -1.5
ARU **Arti** 56.20 319 *dP* P 15 53 33.2 -0.2
ARU pmax pmax
comp=Z,56nm,0.8s
ARU **Arti** 56.20 319 P P 15 53 33.3 -0.2
ARU pP **pP** 15 53 48.0 -0.6
FARO **Faro, Yukon** 56.22 34 P P 15 53 34.7 +1.1
FARO **Faro, Yukon** 56.22 34 P P 15 53 35.3 +1.7
baz=286,SNR=21
A36M **Sachs Harbour** 56.54 22 P P 15 53 36.1 +0.5
A36M IAmb IAmb 15 54 08.2
comp=Z,33nm,0.8s
A36M **Sachs Harbour** 56.54 22 P P 15 53 37.1 +1.5
baz=286,SNR=7.0
WB0 **Warramunga Arr** 56.69 187 IAmb IAmb 15 53 38.3
comp=Z,37nm,0.8s
SIT **Sitka** 56.76 40 P P 15 53 39.7 +2.3
baz=288
R32K **Eaglecrest** 56.80 39 P P 15 53 40.1 +2.3
baz=288,SNR=8.3
P32M **Atlin** 56.81 37 P P 15 53 40.0 +2.2
baz=287,SNR=13
WRAB **Tennant Creek** 56.86 187 P P 15 53 36.4 -2.1
WRAB IAmb IAmb 15 53 39.6
comp=Z,37nm,0.9s
WRAB **Tennant Creek** 56.86 187 P P 15 53 37.9 -0.5
WRAB **Tennant Creek** 56.86 187 *deP* P 15 53 37.4 -1.0
WRAB pmax pmax
comp=Z,35nm,0.9s
WRAB **Tennant Creek** 56.86 187 P P 15 53 37.7 -0.8
WRAB pP **pP** 15 53 52.7 -0.8
WR0 **Warramunga Arr** 56.86 187 P P 15 53 37.4 -1.1
WR0 IAmb IAmb 15 53 39.6
comp=Z,25nm,0.8s
WB2 **Warramunga Arr** 56.87 187 IAmb IAmb 15 53 39.6
comp=Z,34nm,0.8s
WRA **Warramunga Arr** 56.87 187 P P 15 53 37.9 -0.7
comp=Z,26nm,0.7s,baz=2.3,slow=7.5,SNR=148
WRA LR LR 16 18 14.1
comp=Z,106nm,19.0s,baz=5.0,slow=36
comp=Z,26nm,0.7s
WRA **Warramunga Arr** 56.87 187 P P 15 53 37.4 -1.1
JIS **Juneau Island** 56.87 39 IAmb IAmb 15 53 41.7
comp=Z,43nm,1.0s
JIS **Juneau Island** 56.87 39 P P 15 53 40.3 +2.1
WB1 **Warramunga Ar.** 56.88 187 P P 15 53 38.3 -0.3
CTA **Charters Tower** 56.90 174 LR LR 16 16 54.4
comp=Z,134nm,21.6s,baz=354,slow=35
CTAO **Charters Tower** 56.90 174 P P 15 53 38.4 -0.4
CTAO **Charters Tower** 56.90 174 P P 15 53 38.4 -0.4
CTAO pmax pmax
comp=Z,22nm,1.2s
CTAO **Charters Tower** 56.90 174 P P 15 53 38.7 -0.1
CTAO sP **sP** 15 54 01.4 +1.2
S32K **Killisnoo** 57.02 40 P P 15 53 41.4 +2.2
baz=288
P33M **Teslin, Yukon** 57.05 36 IAmb IAmb 15 53 42.9
comp=Z,32nm,1.1s
P33M **Teslin, Yukon** 57.05 36 P P 15 53 41.6 +2.0
baz=288,SNR=25
KBL **Kabul** 57.09 291 P P 15 53 39.6 -0.7
KBL IAmb IAmb 15 53 58.2
comp=Z,19nm,0.9s
KBL **Kabul** 57.09 291 P P 15 53 39.6 -0.7
KBL pmax pmax
comp=Z,19nm,1.0s
KBL **Kabul** 57.09 291 P P 15 53 40.3 0.0
SNR=11
QIS **Mount Isa** 57.15 181 P P 15 53 40.4 -0.1
POHA **Pohakuloa** 57.52 89 P P 15 53 45.4 +1.8
POHA **Pohakuloa** 57.52 89 P P 15 53 45.3 +1.7
POHA pP **pP** 15 54 00.9 +2.2
Q32M **Nakina River** 57.71 38 P P 15 53 46.8 +2.4
baz=289
ABKAR **Akbulak array** 57.72 310 P P 15 53 43.8 -0.5
KHU **Kahuku** 57.72 89 P P 15 53 45.7 +0.7
KHU **Kahuku** 57.72 89 P P 15 53 45.7 +0.7
KHU pmax pmax
comp=Z,239nm,1.1s
C36M **Paulatuk** 57.73 25 IAmb IAmb 15 53 45.5
comp=Z,23nm,1.0s
C36M **Paulatuk** 57.73 25 P P 15 53 45.1 +1.1
baz=289,SNR=13
AIN **Ainahou** 57.78 89 P P 15 53 45.3 -0.1
HYB **Hyderabad** 57.79 268 *eP* P 15 53 45.6 +0.3
HYB IVmBBB 15 53 46.6
comp=Z,114nm,0.8s
R33M **Jennings River** 58.20 37 P P 15 53 50.0 +2.3
baz=290
U33K **Whale Pass** 58.22 41 P P 15 53 49.9 +2.3
baz=290
CRAG **Craig** 58.44 42 P P 15 53 51.4 +2.2
baz=290
AKTO **Aktyubinsk** 58.47 312 LR LR 16 20 18.3
comp=Z,662nm,19.6s,baz=82,slow=37
WRAK **Wrangell Islan** 58.52 41 P P 15 53 51.7 +2.0
baz=290
S34M **Telegraph Cree** 58.62 39 P P 15 53 53.0 +2.5
baz=290,SNR=13
WTLY **Watson Lake, Y** 58.98 36 P P 15 53 53.5 +0.5
WTLY **Watson Lake, Y** 58.98 36 P P 15 53 54.8 +1.8
baz=291,SNR=12
DLBC **Dease Lake** 58.99 38 P P 15 53 55.4 +2.3
comp=Z,13nm,0.9s,baz=288,slow=7.5,SNR=26
DLBC LR LR 16 18 18.0
comp=Z,38nm,21.1s,baz=300,slow=35
comp=Z,13nm,0.9s
DLBC **Dease Lake** 58.99 38 P P 15 53 55.0 +1.9
DLBC IAmb IAmb 15 53 56.9
comp=Z,30nm,1.1s
DLBC **Dease Lake** 58.99 38 P P 15 53 55.6 +2.5
baz=291,SNR=18
V35K **Ketchikan** 59.29 42 P P 15 53 56.9 +1.8
baz=291
T35M **Bob Quinn** 59.40 39 P P 15 53 58.9 +2.9
baz=291,SNR=20
KIRV **Kirov** 60.11 323 LR LR 16 21 40.6
comp=Z,425nm,21.4s,baz=66,slow=38
KIRV **Kirov** 60.11 323 *dP* P 15 54 00.6 -0.1
WRGLY **Wrigley** 60.18 31 P P 15 54 02.8 +1.6
baz=293
ALE **Alert** 60.28 3 P P 15 54 02.1 +0.6
ALE pP **pP** 15 54 16.7 -0.1
ALE sP **sP** 15 54 23.8 +0.6
EUNU **Eureka** 60.39 8 IAmb IAmb 15 54 22.8
comp=Z,13nm,0.8s
SPITS **Spitsbergen Ar** 60.58 349 LR LR 16 21 25.1
comp=Z,196nm,20.9s,baz=12,slow=37
ASAR **Alice Springs** 60.59 187 P P 15 54 04.0 -0.4
comp=Z,12nm,0.8s,baz=8.7,slow=6.3,SNR=78
ASAR LR LR 16 20 38.9
comp=Z,70nm,18.9s,baz=34,slow=36
comp=Z,12nm,0.8s
ASAR **Alice Springs** 60.59 187 P P 15 54 03.7 -0.7
RK1H **Rockhampton Ha** 60.63 170 P P 15 54 04.9 +0.3
PRGR **Permogore** 60.66 327 *eP* P 15 54 04.5 +0.1
PRGR *e*PP **pP** 15 54 18.4 -1.4
PRGR pmax pmax
comp=Z,32nm,1.3s
KBS **Kingsbay** 60.73 350 P P 15 54 05.6 +0.9
MBWA **Marble Bar** 61.10 203 P P 15 54 07.5 -0.3
MBWA IAmb IAmb 15 54 24.8
comp=Z,25nm,0.8s
MBWA **Marble Bar** 61.10 203 P P 15 54 07.8 0.0
MBWA **Marble Bar** 61.10 203 P P 15 54 07.5 -0.3
MBWA pP **pP** 15 54 22.7 -0.4
KOTAN **Kotaneelee Air** 61.17 35 P P 15 54 09.4 +1.5
baz=294
PALK **Pallekele** 61.94 257 P P 15 54 14.2 +0.4
comp=Z,13nm,1.0s,baz=144,slow=12,SNR=3.9
comp=Z,13nm,1.0s
PALK **Pallekele** 61.94 257 P P 15 54 14.5 +0.7
BBB **Bella Bella** 62.45 44 LR LR 16 16 26.1
comp=Z,50nm,21.6s,baz=284,slow=31
VADS **Vadso** 62.55 339 *eP* P 15 54 16.7 -0.3
APA **Apatity** 62.65 336 *iP* P 15 54 30.1 +12
APA pmax pmax
comp=Z,13nm,0.7s
APA MLR MLR
comp=Z,1µm,16.0s
EIDS **Eidsvold** 62.67 170 P P 15 54 18.7 +0.5
EIDS IAmb IAmb 15 54 20.3
comp=Z,41nm,1.1s
EIDS **Eidsvold** 62.67 170 P P 15 54 19.4 +1.1
ADZR **Andozero** 62.69 331 *eP* P 15 54 18.0 0.0
ADZR *e* 15 54 55.1
ADZR pmax pmax
comp=Z,23nm,0.9s
WRKA **Warakurna** 62.73 193 P P 15 54 18.8 0.0
RES **Resolute Bay** 62.84 14 P P 15 54 18.9 +0.1
comp=Z,5.3nm,0.5s,baz=311,slow=6.8,SNR=16
RES LR LR 16 24 14.2
comp=Z,89nm,19.8s,baz=14,slow=38
comp=Z,5.3nm,0.5s
RES **Resolute Bay** 62.84 14 P P 15 54 19.0 +0.1
QLP **Quilpie** 63.21 177 P P 15 54 21.9 0.0
NOUC **Port Laguerre** 63.38 154 P P 15 54 24.9 +1.9
DZM **Mont Dzumac** 63.41 153 *eP* P 15 54 23.6 +0.3
comp=Z,172nm,1.2s
DZM *e*S **S** 16 02 51.5 -0.5
comp=Z,94nm,31.0s
DZM **Mont Dzumac** 63.41 153 *e*LR LR 16 13 22.1
comp=Z,757nm,21.4s
DZM **Mont Dzumac** 63.41 153 LR LR 16 19 58.9
comp=Z,437nm,20.5s,baz=344,slow=34
DZM **Mont Dzumac** 63.41 153 P P 15 54 24.8 +1.4
DZM **Mont Dzumac** 63.41 153 P P 15 54 25.6 +2.3
DZM **Mont Dzumac** 63.41 153 P P 15 54 25.3 +2.0
PCHI **Peechi** 63.43 263 *eP* P 15 54 24.0 +0.3
PCHI *e*S **S** 16 02 52.7 +0.1
RMQ **Roma** 63.47 172 P P 15 54 24.6 +1.0
GEYT **Alibeck** 63.55 299 P P 15 54 24.8 +0.6
comp=Z,21nm,0.9s,baz=43,slow=2.6,SNR=45
comp=Z,21nm,0.9s
GEYT **Alibeck** 63.55 299 IAmb IAmb 15 54 26.5
comp=Z,23nm,0.9s
GYA0B **ALIBECK ARRAY** 63.55 299 P P 15 54 24.3 +0.1
GYA0B IAmb IAmb 15 54 26.5
comp=Z,21nm,0.9s
YATNC **Mamie plateau,** 63.56 153 P P 15 54 26.0 +1.8
BELG **Belogornoye** 63.62 317 LR LR 16 24 27.4
comp=Z,794nm,18.3s,baz=111,slow=38
BELG **Belogornoye** 63.62 317 *ceP* P 15 54 24.4 0.0
BELG pmax pmax
comp=Z,10.0nm,1.0s
KLMR **Klimovskoe** 63.66 328 *eP* P 15 54 23.3 -1.2
KLMR AMP 15 54 26.7
comp=Z,40nm,1.8s
KLMR **Klimovskoe** 63.66 328 *eP* P 15 54 23.3 -1.2
KLMR pmax pmax
comp=Z,40nm,1.8s
OUENC **Ouen Island, N** 63.87 153 P P 15 54 27.2 +1.0
OUENC IAmb IAmb 15 54 29.6
comp=Z,35nm,0.9s
OUENC **Ouen Island, N** 63.87 153 P P 15 54 28.5 +2.2
FUTU **Fugatoga** 63.90 135 P P 15 54 28.2 +1.6
ARA0 **ARCESS Array S** 63.98 339 *eP* P 15 54 24.9 -1.6
ARCES **ARCESS Array B** 63.98 339 P P 15 54 26.6 +0.1
comp=Z,7.1nm,0.8s,baz=51,slow=4.8,SNR=4.1
ARCES LR LR 16 26 40.8
comp=Z,322nm,19.3s,baz=60,slow=40
comp=Z,7.1nm,0.8s
YKA **Yellowknife Ar** 64.14 30 P P 15 54 28.0 +0.4
comp=Z,8.2nm,0.9s,baz=308,slow=8.1,SNR=6.6
comp=Z,8.2nm,0.9s
INKA **Innaminka** 64.29 180 P P 15 54 29.1 +0.2
DGTI **Dogotuki** 64.34 138 P P 15 54 30.9 +1.4
OOD **Oodnadatta** 64.53 185 P P 15 54 31.0 +0.5
MSVF **Nonsavu** 64.65 140 LR LR 16 17 06.6
comp=Z,290nm,21.9s,baz=334,slow=31
MSVF **Nonsavu** 64.65 140 P P 15 54 34.3 +2.7
MSVF pP **pP** 15 54 49.6 +2.7
MSVF sP **sP** 15 54 56.5 +3.3
KTK1 **Kautokeino** 64.95 339 *eP* P 15 54 34.3 +1.4
HILA **High Level** 65.10 34 P P 15 54 33.5 -0.4
TULEG **Thule** 65.29 7 *iP* P 15 54 34.3 -0.7
TULEG IAmb IAmb 15 54 35.7
comp=Z,4.1nm,0.5s
JETT **Jettan, Norway** 65.38 341 *eP* P 15 54 35.4 -0.3
NEEM **North Greenlan** 65.69 3 *iP* P 15 54 37.5 -0.4
NEEM IAmb IAmb 15 54 45.3
comp=Z,10nm,0.7s
WAPA **Wapiti River** 65.73 38 P P 15 54 37.9 -0.3
AULRC **Lightning Ridg** 66.31 173 P P 15 54 42.9 +1.0
LCRK **Leigh Creek** 67.03 183 P P 15 54 47.5 +0.9
NLWA **Neilton Lookou** 67.11 47 IAmb IAmb 15 54 50.5
comp=Z,41nm,1.0s
MOS **Moscow** 67.12 323 *eP* P 15 54 44.6 -2.3
MOS *e*PP **pP** 15 54 59.7 -2.8
MOS *e* 15 55 18.0
MOS *e* 15 57 11.4
MOS *eS* **S** 16 03 31.6 -5.0
MULG **Mulgathing** 67.13 186 P P 15 54 47.9 +0.7
BRLDA **Berland Lookou** 67.21 39 IAmb IAmb 15 54 50.0
comp=Z,63nm,1.4s
AFI **Afiamalu** 67.36 129 P P 15 54 48.6 -0.4
AFI IAmb IAmb 15 54 56.5
comp=Z,48nm,1.1s
AFI **Afiamalu** 67.36 129 P P 15 54 48.6 -0.4
AFI pmax pmax
comp=Z,48nm,1.1s
VRH **Novokhopyorsk** 67.41 318 *eP* P 15 54 48.0 -0.8
VRH pmax pmax
comp=Z,20nm,0.7s
ARMA **Armidale** 67.71 170 IAmb IAmb 15 54 54.0
comp=Z,36nm,1.1s
ARMA **Armidale** 67.71 170 P P 15 54 52.7 +1.7
STEI **Steigen** 67.87 341 *eP* P 15 54 51.4 0.0
B06A **Marblemount** 67.92 45 IAmb IAmb 15 54 54.6
comp=Z,36nm,1.2s
OBN **Obninsk** 67.96 323 LR LR 16 26 25.9
comp=Z,67nm,18.3s,baz=43,slow=38
OBN **Obninsk** 67.96 323 *ceP* P 15 54 52.2 0.0
OBN *e* 15 55 16.7
OBN *e* 15 57 20.7
OBN pmax pmax
comp=Z,19nm,0.9s
LPSR **Galich'ya Gora** 68.15 320 *eP* P 15 54 53.4 -0.1
LPSR pmax pmax
comp=Z,20nm,0.8s
KULLO **Kullorsuaq** 68.16 5 *iP* P 15 54 47.2 -5.9
KULLO IAmb IAmb 15 54 51.0
comp=Z,7.8nm,0.9s
CMSA **Cobar Meteorol** 68.22 176 P P 15 54 55.1 +1.1
FAUS **Fauske** 68.25 340 *eP* P 15 54 54.5 +0.7
AUPHS **Peel High Scho** 68.28 171 P P 15 54 55.9 +1.5
FORT **Forrest** 68.39 192 P P 15 54 54.6 -0.5
FORT **Forrest** 68.39 192 P P 15 54 55.4 +0.3
STKA **Stephens Creek** 68.42 179 P P 15 54 55.2 0.0
comp=Z,9.6nm,0.8s,baz=359,slow=8.1,SNR=14
comp=Z,9.6nm,0.8s
STKA **Stephens Creek** 68.42 179 P P 15 54 54.7 -0.5
STKA **Stephens Creek** 68.42 179 P P 15 54 55.5 +0.3
STKA **Stephens Creek** 68.42 179 *eP* P 15 54 55.6 +0.3
VORR **Voronezh** 68.50 319 *eP* P 15 54 54.5 -1.2
VORR pmax pmax

comp=Z,10.0nm,0.5s
FIA1 FINESS Array S 68.75 332 IAmb IAmb 15 54 59.5
comp=Z,38nm,1.0s
FINES FINESS Array B 68.75 332 P **P** **15 54 56.9 -0.2**
comp=Z,17nm,0.8s,baz=74,slow=6.8,SNR=21
FINES LR LR 16 27 25.5
comp=Z,452nm,18.2s,baz=44,slow=38
comp=Z,17nm,0.8s
FINES FINESS Array B 68.75 332 *i* P **P** **15 54 57.7 +0.6**
FINES pmax pmax
comp=Z,17nm,0.8s
VSR Storozhevoye 68.77 319 *eP* **P** **15 54 56.9 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
AKT Akhty 68.83 306 *eP* **P** **15 54 58.0 -0.1**
AKT *e* 15 55 22.4
AKT *e* 15 57 28.5
AKT pmax pmax
comp=Z,35nm,0.9s
COR Corvallis 68.88 50 P **P** **15 55 00.3 +2.1**
AUDCS Dubbo College 69.14 173 P **P** **15 55 00.9 +1.1**
GROC Groznyy 69.17 309 *eP* **P** **15 54 58.3 -1.7**
GROC *e* 15 55 21.9
GROC pmax pmax
comp=Z,36nm,0.7s
SEKA Sheki 69.32 306 P **P** **15 55 01.4 +0.3**
MOR8 Moi Rana 69.35 340 *eP* **P** **15 54 59.6 -1.2**
MOR8 IAmb IAmb 15 55 01.4
comp=Z,15nm,0.9s
ZKTA Zakatala 69.47 307 P **P** **15 55 02.0 +0.1**
LKRN Lenkeran, Azer 69.57 303 P **P** **15 55 02.9 +0.3**
MNGR Mingechevir, A 69.62 306 P **P** **15 55 03.0 +0.2**
JASK Jask - Hormozg 69.70 288 P **P** **15 55 04.4 +0.8**
EDM Edmonton 69.71 38 P **P** **15 55 03.6 +0.4**
EDM IAmb IAmb 15 55 05.3
comp=Z,88nm,1.4s
EDM Edmonton 69.71 38 P **P** **15 55 03.6 +0.4**
EDM pmax pmax
comp=Z,88nm,1.4s
HTT Hallett 69.99 182 P **P** **15 55 06.3 +1.3**
GANJ Ganja 70.18 306 P **P** **15 55 06.0 -0.3**
JMIC Jan Mayen 70.21 350 LR LR 16 27 44.7
comp=Z,33nm,19.3s,baz=171,slow=37
VSU Vasula 70.37 329⇑ *eP* **P** **15 55 05.6 -1.5**
VSU pmax pmax
comp=Z,184nm,1.3s
VSU Vasula 70.37 329 *eP* **P** **15 55 08.9 +1.8**
NCK Nalchik 70.38 310⇓ *eP* **P** **15 55 07.7 +0.2**
NCK pmax pmax
comp=Z,30nm,1.0s
JLN Jalan Bani Buh 70.49 283 P **P** **15 55 08.8 +0.4**
WSAR Wadi Sarin 70.51 285 LR LR 16 30 18.5
comp=Z,147nm,19.8s,baz=86,slow=40
WSAR Wadi Sarin 70.51 285 P **P** **15 55 09.2 +0.6**
NEW Newport 70.51 44 P **P** **15 55 08.9 +0.7**
comp=Z,16nm,1.0s,baz=311,slow=5.3,SNR=16
NEW LR LR 16 23 08.7
comp=Z,54nm,22.0s,baz=302,slow=33
comp=Z,16nm,1.0s
NEW Newport 70.51 44 P **P** **15 55 09.6 +1.3**
baz=304,SNR=14
KHMM Horse Mountain 70.56 53 IAmb IAmb 15 55 30.2
comp=Z,94nm,1.6s
ZEI Tsey 70.57 309 *eP* **P** **15 55 07.1 -1.8**
ZEI pmax pmax
comp=Z,11nm,0.9s
WBK Wadi Bani Khal 70.58 284 P **P** **15 55 10.3 +1.2**
SNR=6.0
KBZ Khabaz 70.68 310 P **P** **15 55 09.2 0.0**
comp=Z,23nm,0.9s,baz=44,slow=3.5,SNR=45
KBZ LR LR 16 30 52.6
comp=Z,387nm,18.5s,baz=57,slow=40
comp=Z,23nm,0.9s
KBZ Khabaz 70.68 310 *d iP* **P** **15 55 09.5 +0.2**
KBZ pmax pmax
comp=Z,27nm,0.9s
KVAR Kislovodsk Arr 70.68 311 LR LR 16 30 38.7
comp=Z,228nm,18.3s,baz=248,slow=40
KIV Kislovodsk 70.69 311 ⇑P **P** **15 55 10.4 +0.9**
KIV Kislovodsk 70.69 311 P **P** **15 55 09.4 -0.1**
KIV IAmb IAmb 15 55 12.9
comp=Z,43nm,0.9s
KIV Kislovodsk 70.69 311 *c iP* **P** **15 55 09.6 +0.1**
KIV *e* 15 55 29.8
KIV *e* 15 57 43.8
KIV pmax pmax
comp=Z,53nm,1.0s
KIV Kislovodsk 70.69 311 P **P** **15 55 09.2 -0.3**
KIV Kislovodsk 70.69 311 P **P** **15 55 10.8 +1.3**
PINE Pine Mountain 70.74 49 P **P** **15 55 10.9 +1.0**
BIDO Bidbid 70.75 285 P **P** **15 55 11.3 +1.3**
YBH Yreka Blue Hor 70.75 52 P **P** **15 55 11.5 +1.6**
comp=Z,14nm,1.0s,baz=275,slow=2.0,SNR=20
YBH LR LR 16 20 05.5
comp=Z,29nm,19.8s,baz=296,slow=31
comp=Z,14nm,1.0s
SUMG Summit 70.83 360 *i* P **P** **15 55 10.0 -0.2**
SUMG *i* P **P** **15 55 10.4 +0.2**
SUMG IAmb IAmb 15 55 17.8
comp=Z,8.0nm,0.7s
BANOM Banah 70.87 288 P **P** **15 55 11.7 +0.9**
SHME Shamm 70.92 289 P **P** **15 55 12.3 +1.3**
NEY Neytrino 71.05 310⇑ *eP* **P** **15 55 11.4 -0.4**
NEY pmax pmax
comp=Z,4.0nm,0.9s
SMDO Samad 71.06 285 P **P** **15 55 13.2 +1.2**
SNR=5.5
MASF Masafi 71.27 288 P **P** **15 55 14.5 +1.3**
NSS Namsos 71.27 339 *eP* **P** **15 55 11.6 -0.8**
HOQ Hoqain 71.34 286 P **P** **15 55 13.9 +0.3**
JMDO Jabal Madar 71.39 284 P **P** **15 55 13.7 -0.2**
UOSS Minazif 71.46 288 P **P** **15 55 15.6 +1.2**
NAX Nakhchivan 71.50 305 P **P** **15 55 14.6 +0.2**
HATD Hatta, Dubai 71.58 287 P **P** **15 55 15.9 +0.8**
SOHO SOHO 71.65 287 P **P** **15 55 15.9 +0.5**
ASHO Ashiyiah 71.71 287 P **P** **15 55 17.1 +1.2**
BSY Bisya 71.88 285 P **P** **15 55 19.0 +2.1**
SNR=5.6
MOD Modoc Plateau 72.17 51 P **P** **15 55 19.2 +0.7**
CAN Canberra 72.24 173 P **P** **15 55 17.8 -0.8**
comp=Z,44nm,1.5s
MHTO MHTO 72.25 283 P **P** **15 55 20.0 +0.9**
SNR=10.0
ALNE Al Ain 72.29 287 P **P** **15 55 19.0 -0.4**
BMO Blue Mountains 72.32 47 P **P** **15 55 19.8 +0.5**
BMO IAmb IAmb 15 55 21.9
comp=Z,28nm,1.0s
BMO Blue Mountains 72.32 47 P **P** **15 55 19.8 +0.5**
BMO pmax pmax
comp=Z,28nm,1.0s
IDID Didziasalis 72.37 327 *eP* **P** **15 55 15.5 -3.8**
MNK Minsk 72.38 326 *i* P **P** **15 55 19.2 -0.1**
comp=E,2.0nm,0.8s
MNK *i* P **P** **15 55 19.2 -0.1**
comp=N,40nm,1.2s
MNK *i* P **P** **15 55 19.2 -0.1**
comp=Z,32nm,0.9s,baz=51
MNK *i* PP **PP** **15 57 59.9 -0.4**
MNK *i* PPP PPP 15 59 45.1
MNK *i* S **S** **16 04 38.8 +0.3**
MNK *i* SS **SS** **16 09 17.9 +1.4**
MNK *i* SSS SSS 16 12 38.8
MNK *i* LQ LQ 16 22 23.6
MNK *i* LR LR 16 27 07.1
MNK *i* LRM MLR 16 30 06.5
comp=E,42nm,21.6s
MNK *i* LRM MLR 16 30 15.0
comp=Z,237nm,14.4s
MNK *i* LRM MLR 16 30 19.2
comp=N,415nm,17.4s
MNK Minsk 72.38 326 *i* P **P** **15 55 19.2 -0.1**
MNK *i* 15 57 59.8
MNK *i* PPP PPP 15 59 45.0
MNK *i* S **S** **16 04 38.7 +0.3**
MNK *i* SS **SS** **16 09 17.9 +1.4**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,32nm,0.9s
MNK pmax pmax
comp=N,40nm,1.2s
MNK MLR MLR
comp=E,42nm,22.0s
MNK MLR MLR
comp=Z,237nm,14.0s
MNK MLR MLR
comp=N,415nm,17.0s
ISAL Salakas 72.47 327 *eP* **P** **15 55 21.8 +1.9**
IIGN Ignalina 72.58 327 *eP* **P** **15 55 16.6 -3.9**
NACGM Naroch 72.62 326 *eP* **P** **15 55 20.6 -0.1**
comp=Z,55nm,1.1s,baz=50
MSO Missoula 73.10 44 IAmb IAmb 15 55 26.1
comp=Z,31nm,1.1s
MSO Missoula 73.10 44 P **P** **15 55 24.8 +0.8**
baz=306,SNR=17
DQM DQM 73.16 282 P **P** **15 55 23.3 -1.2**
BEKR Beckworth 73.27 53 P **P** **15 55 25.4 +0.3**
BEKR IAmb IAmb 15 55 27.5
comp=Z,36nm,1.0s
ARPS Mount Arapiles 73.30 179 P **P** **15 55 26.4 +1.7**
ANN Anapa 73.33 314 *eP* **P** **15 55 24.0 -1.1**
ANN *e**PP **pP** **15 55 39.4 -1.5**
ANN *eS* **S** **16 04 48.8 -0.7**
ANN pmax pmax
comp=Z,46nm,1.2s
PABE Paberze 73.44 328 IAmb IAmb 15 55 41.0
comp=Z,48nm,0.9s
PABE Paberze 73.44 328 *eP* **P** **15 55 26.9 +1.4**
MILA Mila 73.97 173 P **P** **15 55 30.4 +1.6**
MFID Camas Ranch 74.02 48 P **P** **15 55 30.5 +1.1**
DOMB Dombas 74.03 339 *eP* **P** **15 55 30.8 +1.8**
FFC Flin Flon 74.04 32 P **P** **15 55 29.3 +0.2**
FFC IAmb IAmb 15 55 31.0
comp=Z,37nm,1.2s
FFC Flin Flon 74.04 32 P **P** **15 55 29.3 +0.2**
FFC pmax pmax
comp=Z,37nm,1.3s
HFS Hagfors 74.05 336 LR LR 16 30 37.9
comp=Z,595nm,19.7s,baz=34,slow=38
NC204 NORSAR Array S 74.12 337 IAmb IAmb 15 55 45.5
comp=Z,71nm,1.4s
BRAT Ballarat 74.12 177 P **P** **15 55 32.5 +3.0**
NB2 NORSAR Subarra 74.16 337 P **P** **15 55 29.4 -0.3**
comp=Z,28nm,1.2s,baz=41,slow=6.2
NB2 NORSAR Subarra 74.16 337 P **P** **15 55 29.4 -0.3**
slow=6.2
NOA NORSAR Array B 74.16 337 P **P** **15 55 29.7 0.0**
comp=Z,7.8nm,0.8s,baz=39,slow=5.8,SNR=19
NOA LR LR 16 31 14.4
comp=Z,424nm,19.0s,baz=35,slow=38
comp=Z,7.8nm,0.8s
AKASG Malin Array Be 74.16 322 P **P** **15 55 29.4 -0.4**
comp=Z,4.4nm,0.4s,baz=46,slow=6.2,SNR=57
AKASG LR LR 16 31 04.2
comp=Z,638nm,19.0s,baz=58,slow=38
comp=Z,4.4nm,0.4s
AKASG Malin Array Be 74.16 322 P **P** **15 55 28.7 -1.1**
AKBB Malin Array Si 74.16 322⇑ *iP* **P** **15 55 29.4 -0.4**
AKBB pmax pmax
comp=Z,22nm,1.0s
CMB Columbia Colle 74.28 54 IAmb IAmb 15 55 33.5
comp=Z,46nm,1.1s
NC602 NORSAR Array S 74.29 337 *eP* **P** **15 55 29.8 -0.6**
NORES NORESS Array B 74.29 337 P **P** **15 55 30.1 -0.3**
ICESG Greenland Ices 74.33 0 *i* P **P** **15 55 31.7 +0.7**
ICESG IAmb IAmb 15 55 32.2
comp=Z,8.1nm,0.6s
HRY Holter Researc 74.34 43 P **P** **15 55 31.7 +0.6**
EGMT Eagleton 74.65 41 IAmb IAmb 15 55 35.3
comp=Z,52nm,1.0s
EGMT Eagleton 74.65 41 P **P** **15 55 34.1 +1.2**
baz=308
HLID Hailey 74.77 47 P **P** **15 55 35.5 +1.7**
baz=307,SNR=24
MCMT McKenzie Canyo 74.91 45 P **P** **15 55 34.2 -0.4**
BMN Battle Mountai 74.92 51 IAmb IAmb 15 55 37.7
comp=Z,38nm,1.1s
BOZ Bozeman (W) 75.13 44 IAmb IAmb 15 55 38.3
comp=Z,41nm,1.1s
BOZ Bozeman (W) 75.13 44 P **P** **15 55 37.2 +1.5**
baz=308,SNR=34
SIM Simferopol' 75.14 315 *eP* **P** **15 55 38.1 +2.4**
SIM *e* 15 55 51.5
SIM pmax pmax
comp=Z,21nm,0.8s
KVN Kaiserville 75.17 52 IAmb IAmb 15 55 39.0
comp=Z,52nm,1.0s
NVAR Mina Array Bea 75.40 53 P **P** **15 55 39.0 +1.4**
comp=Z,22nm,0.8s,baz=283,slow=6.1,SNR=82
comp=Z,22nm,0.8s
NV11 Mina Array Sit 75.49 53 IAmb IAmb 15 55 41.8
comp=Z,59nm,1.6s
HYA Hoyanger 75.56 339 *eP* **P** **15 55 37.5 -0.2**
MARD Mardin 75.62 306 P **P** **15 55 37.7 -1.0**
KLNR Kaliningrad 75.64 329⇓ *eP* **P** **15 55 35.7 -2.6**
KLNR pmax pmax
comp=Z,388nm,1.7s
Q09A Carvers 75.88 52 P **P** **15 55 40.8 +0.5**
Q09A IAmb IAmb 15 55 42.9
comp=Z,60nm,1.0s
ELK Elko 75.95 50 LR LR 16 22 45.0
comp=Z,54nm,21.4s,baz=290,slow=31
ELK Elko 75.95 50 P **P** **15 55 42.5 +1.8**
SFJD Kangerlussuaq 76.06 5 LR LR 16 32 50.5
comp=Z,58nm,19.5s,baz=355,slow=38
YMR Madison River 76.07 44 IAmb IAmb 15 55 44.3
comp=Z,40nm,1.2s
SMMC Simmler 76.10 56 P **P** **15 55 42.9 +1.5**
baz=306
YNR Norris Junctio 76.20 44 IAmb IAmb 15 55 45.5
comp=Z,34nm,1.3s
DSP Deep Springs 76.23 54 IAmb IAmb 15 55 45.1
comp=Z,37nm,1.1s
SORM Soroca 76.24 320 ⇓P **P** **15 55 41.9 0.0**
SORM Soroca 76.24 320 P **P** **15 55 41.8 0.0**
TIN Tinemaha, Big 76.25 54 P **P** **15 55 43.7 +1.4**
baz=306,SNR=7.0
VES Vestal, Richgr 76.40 55 P **P** **15 55 43.5 +0.5**
baz=306,SNR=12
DMTO DMTO 76.43 282 P **P** **15 55 42.9 -0.5**
LKWY Lake 76.45 44 P **P** **15 55 45.0 +1.5**
LKWY IAmb IAmb 15 55 47.8
comp=Z,44nm,1.1s
LKWY Lake 76.45 44 P **P** **15 55 45.0 +1.5**
LKWY pmax pmax
comp=Z,44nm,1.2s
H17A Grant Village 76.46 44 P **P** **15 55 46.9 +3.3**
baz=309,SNR=50
PKM Mcpherson Peak 76.47 57 P **P** **15 55 45.5 +1.8**
baz=306
YMP Mirror Lake Pl 76.47 44 IAmb IAmb 15 55 46.9
comp=Z,50nm,1.5s
DOK Doka 76.56 283 P **P** **15 55 43.7 -0.4**
SNR=8.0
BCW Bitter Crk WRg 76.70 56 IAmb IAmb 15 55 47.9
comp=Z,55nm,1.0s
CWC Cottonwood Cre 76.70 54 P **P** **15 55 46.1 +1.2**
baz=306
RLMT Red Lodge 76.73 43 IAmb IAmb 15 55 47.9
comp=Z,28nm,1.1s
RLMT Red Lodge 76.73 43 P **P** **15 55 46.6 +1.6**
baz=309,SNR=20
MILM Milestii Mici 76.79 319 *eP* **P** **15 55 46.0 +1.0**
MILM *eL* L 16 31 04.0
MILM LRM MLR 16 32 27.0
comp=Z,1μm,17.0s
MILM Milestii Mici 76.79 319 *eP* **P** **15 55 46.0 +1.0**
SBC Santa Barbara 76.79 57 P **P** **15 55 47.1 +1.9**
baz=306
HVU Hansel Valley 76.81 47 IAmb IAmb 15 55 48.3
comp=Z,27nm,0.9s
DY2G Dye2 76.81 3 *i* P **P** **15 55 45.4 +0.3**
DY2G IAmb IAmb 15 55 48.8
comp=Z,4.1nm,0.7s
ECR Eagle Creek 76.84 46 P **P** **15 55 46.6 +0.9**
GRAC Grapevine Rang 76.84 54 IAmb IAmb 15 55 47.9
comp=Z,30nm,0.8s
GRAC Grapevine Rang 76.84 54 P **P** **15 55 47.2 +1.7**
baz=306,SNR=9.1
ISA Isabella, Lake 76.90 55 P **P** **15 55 44.9 -1.1**
ISA Isabella, Lake 76.90 55 P **P** **15 55 46.2 +0.2**
baz=306,SNR=7.0
ISA Isabella, Lake 76.90 55 P **P** **15 55 44.9 -1.1**
ISA pmax pmax
comp=Z,12nm,1.0s
ARVC Arvin 76.98 56 P **P** **15 55 47.5 +1.2**
baz=306
FRB Frobisher Bay 77.00 13 P **P** **15 55 46.1 +0.2**
comp=Z,7.6nm,0.6s,baz=335,slow=6.5,SNR=20
FRB LR LR 16 33 03.2
comp=Z,138nm,19.9s,baz=354,slow=38
comp=Z,7.8nm,0.6s
SCZ2 Santa Cruz Isl 77.10 57 P **P** **15 55 48.0 +1.0**
baz=306
RBK Rabkut 77.13 282 P **P** **15 55 47.1 -0.3**
SNR=7.3
R11A Troy Canyon, C 77.17 52 IAmb IAmb 15 55 50.3
comp=Z,41nm,1.1s
R11A Troy Canyon, C 77.17 52 P **P** **15 55 49.2 +1.6**
baz=307,SNR=56
DGMT Dagmar 77.20 38 P **P** **15 55 46.9 -0.4**
DGMT Dagmar 77.20 38 P **P** **15 55 47.8 +0.4**
baz=312,SNR=8.3
DGMT Dagmar 77.20 38 P **P** **15 55 48.4 +1.1**
baz=312,SNR=8.3
WHFO Wadi Hawf 77.23 283 P **P** **15 55 47.4 -0.6**
SNR=5.1
LVV L'vov 77.25 324 *eP* **P** **15 55 48.4 +0.8**
MPMC Manual Prospec 77.32 54 P **P** **15 55 49.5 +1.1**
baz=306,SNR=21
LAO LASA Array 77.35 41 P **P** **15 55 49.5 +1.2**
baz=311
LAO LASA Array 77.35 41 P **P** **15 55 49.8 +1.6**
baz=311,SNR=11
OSI Osito Audit: C 77.35 56 P **P** **15 55 49.7 +1.3**
baz=306
FURC Furnace Creek, 77.48 54 P **P** **15 55 50.5 +1.4**
baz=307,SNR=7.1
S11A Rachel 77.49 52 IAmb IAmb 15 55 52.1
comp=Z,46nm,0.9s
CCAC Calif City Air 77.50 55 IAmb IAmb 15 55 51.7
comp=Z,42nm,0.9s
LRMC Laurel Mtn Rad 77.53 55 P **P** **15 55 50.4 +0.8**
baz=306
SPR3 Spring Creek 3 77.56 50 IAmb IAmb 15 55 53.2
comp=Z,99nm,1.9s
TPNV Topopah Spring 77.59 53 IAmb IAmb 15 55 52.5
comp=Z,42nm,0.9s
TPNV Topopah Spring 77.59 53 P **P** **15 55 51.2 +1.4**
baz=307,SNR=21
SNCC San Nicolas Is 77.62 58 P **P** **15 55 51.1 +1.2**
baz=306
HWUT Hardware Ranch 77.62 47 P **P** **15 55 50.8 +0.7**
HWUT IAmb IAmb 15 55 53.0
comp=Z,58nm,1.1s
EDW2 Edwards Air Fo 77.68 56 P **P** **15 55 51.8 +1.5**
baz=306,SNR=17
BORG Borgarnes 77.73 352 LR LR 16 31 02.6
comp=Z,88nm,19.8s,baz=6.6,slow=36
DUG Dugway, Tooele 77.76 49 IAmb IAmb 15 55 53.6
comp=Z,50nm,1.1s
DUG Dugway, Tooele 77.76 49 P **P** **15 55 52.4 +1.6**
baz=308,SNR=38
GWY Greenwater Val 77.77 54 IAmb IAmb 15 55 53.3
comp=Z,47nm,1.2s
DECC Green Verdugo 77.83 56 P **P** **15 55 51.9 +0.8**
baz=306
BNN Bunyan 77.83 310 IAmb IAmb 15 56 22.3
comp=Z,46nm,1.0s
ABTO Aybut 77.93 283 P **P** **15 55 51.4 -0.5**
SNR=9.7
TCUT Toone Canyon 78.02 47 IAmb IAmb 15 55 55.1
comp=Z,37nm,1.0s
BW06 Boulder Array 78.06 45 IAmb IAmb 15 55 54.5
comp=Z,22nm,1.1s
BW06 Boulder Array 78.06 45 P **P** **15 55 53.5 +1.0**
baz=310,SNR=19
PD31 Pinedale Array 78.06 45 P **P** **15 55 52.0 -0.4**
PDAR Pinedale Array 78.06 45 P **P** **15 55 53.3 +0.8**
comp=Z,12nm,0.8s,baz=279,slow=2.2,SNR=101
PDAR LR LR 16 27 51.9
comp=Z,44nm,21.1s,baz=328,slow=34
comp=Z,12nm,0.8s
PRN Pahroc Range 78.08 52 IAmb IAmb 15 55 55.4
comp=Z,35nm,1.0s
CTU Camp Tracy 78.08 48 IAmb IAmb 15 55 55.2
comp=Z,24nm,1.0s
JURR Jurilovca 78.15 318 ⇑P **P** **15 55 53.1 +0.5**
BUR08 Bucovina Ar. S 78.16 321 P **P** **15 55 52.7 -0.1**
BURAR Bucovina Array 78.17 321 ⇓P **P** **15 55 52.8 -0.1**
BURAR Bucovina Array 78.17 321 P **P** **15 55 52.7 -0.1**
TESR Tescani 78.18 320 ⇑P **P** **15 55 52.8 0.0**
GSC Goldstone, Bar 78.21 55 P **P** **15 55 54.5 +1.2**
baz=307,SNR=11
CIS Catalina Islan 78.28 57 P **P** **15 55 54.6 +1.1**
baz=307,SNR=9.2
BFSC Mount Baldy Ra 78.28 56 P **P** **15 55 55.7 +1.9**
baz=307,SNR=11
JLU Jordanelle 78.32 48 IAmb IAmb 15 55 56.8
comp=Z,30nm,1.0s
TPGR Topolog 78.34 318 ⇑P **P** **15 55 54.2 +0.4**
NLU North Lily Min 78.35 49 P **P** **15 55 54.1 -0.1**
NLU IAmb IAmb 15 55 56.8
comp=Z,26nm,0.9s
ODBI Odobesti 78.47 319 ⇑P **P** **15 55 55.2 +0.8**
VRI Vrincioaia 78.57 319 ⇓P **P** **15 55 55.4 +0.4**
VRI Vrincioaia 78.57 319 P **P** **15 55 55.3 +0.4**
MPU Maple Canyon 78.58 48 IAmb IAmb 15 55 58.1
comp=Z,54nm,1.1s
PLOR Plostina 78.62 319 ⇑P **P** **15 55 56.1 +0.8**
PLOR Plostina 78.62 319 P **P** **15 55 56.0 +0.8**
BR131 Keskin Array S 78.64 311 ⇓ *eP* **P** **15 55 55.4 -0.2**
BR131 Keskin Array S 78.64 311 P **P** **15 55 57.0 +1.4**
SNR=7.5
BRTR Keskin Array B 78.64 311 P **P** **15 55 55.6 0.0**
comp=Z,6.4nm,1.0s,baz=123,slow=3.8,SNR=19
BRTR LR LR 16 36 56.0
comp=Z,199nm,18.1s,baz=70,slow=40
comp=Z,6.4nm,1.0s
BRTR Keskin Array B 78.64 311 *i* P **P** **15 55 57.0 +1.4**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
TUQ Turquoise Moun 78.71 54 P **P** **15 55 57.5 +1.5**
baz=307,SNR=12
BBRC Big Bear Solar 78.76 56 P **P** **15 55 57.6 +1.1**
baz=307
ELS Elsinore Mount 78.79 56 IAmb IAmb 15 55 58.9
comp=Z,90nm,1.9s
HEC Hector,Ludlow 78.80 55 P **P** **15 55 57.9 +1.3**
baz=307,SNR=18
STHS Stebnicka Huta 78.84 325 *eP* **P** **15 55 57.5 +1.1**
STHS pmax pmax
comp=Z,10.0nm,0.9s
STHS Stebnicka Huta 78.84 325 *eP* **P** **15 55 57.5 +1.1**
COVR Voineasa-Covas 78.86 320 ⇑P **P** **15 55 57.3 +0.8**
UZH Uzhgorod 78.90 324 *eP* P 15 56 04.0 +7.3
UZH *e* 15 56 10.0
UZH *i* 15 56 14.4
UZH *e* 15 56 28.8
OZUR 78.90 320 ⇓P **P** **15 55 57.9 +1.0**
OJC Ojcow 78.93 326 IAmb IAmb 15 56 12.7
comp=Z,42nm,1.2s
TCRU Three Creeks R 78.96 50 IAmb IAmb 15 56 00.6
comp=Z,23nm,0.8s
MURC Murrieta 78.97 56 P **P** **15 55 58.5 +1.0**
baz=307,SNR=5.4
CCUT Cedar City 79.05 51 IAmb IAmb 15 56 01.0
comp=Z,31nm,1.2s
TRPA Tarpa 79.13 323 ⇑P **P** **15 55 57.7 -0.3**
ICOR Ion Corvin 79.16 318 ⇓P **P** **15 55 58.8 +0.6**
ISR Istrita 79.17 319 ⇑P **P** **15 55 59.3 +0.9**
ISR Istrita 79.17 319 P **P** **15 55 59.2 +0.9**
SZCU Shurtz Canyon 79.19 51 P **P** **15 55 58.8 0.0**
DOPR Dopca 79.19 320 ⇑P **P** **15 55 59.1 +0.7**
V12A Nelson 79.22 53 IAmb IAmb 15 56 01.6
comp=Z,34nm,1.2s
MLR Muntele Rosu 79.23 320 LR LR 16 34 23.1
comp=Z,674nm,18.4s,baz=56,slow=38
MLR Muntele Rosu 79.23 320 ⇓P **P** **15 55 59.5 +0.7**
MLR Muntele Rosu 79.23 320 P **P** **15 55 59.4 +0.7**
GMRC Granite Mounta 79.27 55 P **P** **15 56 00.5 +1.3**
baz=308,SNR=26
TMUT Trail Mountain 79.28 49 IAmb IAmb 15 56 02.2
comp=Z,32nm,1.3s
LCMT Little Creek M 79.46 52 IAmb IAmb 15 56 03.1
comp=Z,39nm,1.0s
PFO Pinyon Flats O 79.46 56 P **P** **15 56 01.2 +1.0**
comp=Z,26nm,1.1s,baz=304,slow=4.6,SNR=23
PFO LR LR 16 24 14.8
comp=Z,178nm,20.5s,baz=266,slow=30
comp=Z,26nm,1.1s
PFO Pinyon Flats O 79.46 56 P **P** **15 55 59.6 -0.6**
PFO IAmb IAmb 15 56 02.5
comp=Z,42nm,1.2s
PFO Pinyon Flats O 79.46 56 P **P** **15 56 01.0 +0.8**
baz=307,SNR=18
109C Camp Elliot, M 79.46 57 P **P** **15 56 00.7 +0.6**
baz=307

TPFO **Pinon Flats** 79.46 56 P P 15 56 01.4 +1.2
baz=307,SNR=20
MTPU **Mount Pierson** 79.47 50 IAmb IAmb 15 56 03.8
comp=Z,344nm,0.9s
PMD **Palm Desert** 79.49 56 IAmb IAmb 15 56 02.4
comp=Z,42nm,1.2s
BELC **Belle Mtn. Jos** 79.53 55 P P 15 56 01.4 +0.8
baz=308,SNR=10
Q16A **Castle Valley** 79.54 49 IAmb IAmb 15 56 04.5
comp=Z,39nm,1.1s
P18A **Preston Nutter** 79.65 48 IAmb IAmb 15 56 04.3
comp=Z,44nm,1.0s
VOIR 79.73 320 ⇓P P 15 56 01.9 +0.4
VOIR 79.73 320 P P 15 56 01.8 +0.4
SRU **San Rafael Swe** 79.81 49 P P 15 56 02.9 +0.8
SRU **San Rafael Swe** 79.81 49 P P 15 56 02.9 +0.8
SRU pmax pmax
comp=Z,67nm,1.0s
K22A **Casper** 79.84 44 P P 15 56 02.8 +0.7
baz=311
K22A **Casper** 79.84 44 P P 15 56 02.9 +0.7
baz=311,SNR=5.5
ULM **Lac du Bonnet** 79.84 33 P P 15 56 02.0 +0.2
comp=Z,16nm,1.0s,baz=329,slow=6.6,SNR=9.9
comp=Z,16nm,1.0s
ULM **Lac du Bonnet** 79.84 33 IAmb IAmb 15 56 03.2
comp=Z,34nm,1.2s
ULM **Lac du Bonnet** 79.84 33 P P 15 56 02.0 +0.2
LANS **Liptovska Anna** 79.85 325 eP P 15 56 03.7 +1.8
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS **Liptovska Anna** 79.85 325 eP P 15 56 03.7 +1.8
MARR **Marisel-Cluj** 79.86 322 ⇓P P 15 56 02.2 +0.1
MDND **Maddock** 79.87 37 P P 15 56 03.2 +1.2
baz=315,SNR=9.2
MDND **Maddock** 79.87 37 P P 15 56 02.8 +0.8
baz=315,SNR=9.2
BAR **Barrett** 79.88 57 IAmb IAmb 15 56 04.5
comp=Z,32nm,1.0s
IRM **Iron Mountain** 79.99 55 P P 15 56 04.4 +1.4
baz=308,SNR=23
KSP **Ksiaz** 80.01 328 eP P 15 56 03.5 +0.8
RWWY **Rawlins** 80.08 45 IAmb IAmb 15 56 05.7
comp=Z,46nm,1.0s
BC3 **Big Chuckawall** 80.10 55 P P 15 56 04.8 +1.2
baz=308,SNR=20
RSSD **Black Hills** 80.20 41 P P 15 56 04.2 +0.1
RSSD **Black Hills** 80.20 41 P P 15 56 04.7 +0.5
baz=313
RSSD **Black Hills** 80.20 41 P P 15 56 04.8 +0.6
baz=313
RSSD **Black Hills** 80.20 41 P P 15 56 04.3 +0.1
RSSD pmax pmax
comp=Z,20nm,1.1s
E28A **Huff** 80.23 38 P P 15 56 04.9 +0.9
baz=314
MORC **Moravsky Berou** 80.25 327 ⇓P P 15 56 03.7 -0.5
MORC **Moravsky Berou** 80.25 327 eP P 15 56 05.4 +1.3
MORC epP pP 15 56 19.1 -0.9
MORC **Moravsky Berou** 80.25 327 P P 15 56 03.6 -0.5
IKP **In-Ko-Pah, Jac** 80.27 57 P P 15 56 05.7 +1.1
baz=308,SNR=23
SWSC **Sam W. Stewart** 80.30 56 P P 15 56 05.5 +0.9
baz=308,SNR=9.3
RMX **La Rumorosa** 80.32 57 IAmb IAmb 15 56 07.6
comp=Z,56nm,1.0s
DPC **Dobruska-Polom** 80.36 328 eP P 15 56 05.2 +0.5
DPC **Dobruska-Polom** 80.36 328 eP P 15 56 05.2 +0.5
KRLC **Kraliky** 80.37 327 eP P 15 56 10.4 +5.7
CCX **Cicese** 80.38 57 IAmb IAmb 15 56 07.1
comp=Z,38nm,0.9s
UPC **Upice** 80.38 328 eP P 15 56 05.2 +0.5
UPC **Upice** 80.38 328 eP P 15 56 05.2 +0.5
YUH **Yuha Desert** 80.40 56 IAmb IAmb 15 56 07.4
comp=Z,39nm,1.1s
RAR **Rarotonga** 80.41 126 LR LR 16 24 04.2
comp=Z,294nm,20.3s,baz=316,slow=30
U15A **North Rim** 80.42 52 IAmb IAmb 15 56 08.6
comp=Z,51nm,1.2s
O20A **White River Ci** 80.50 47 P P 15 56 06.2 +0.4
O20A IAmb IAmb 15 56 08.0
comp=Z,38nm,0.9s
O20A **White River Ci** 80.50 47 P P 15 56 06.6 +0.8
baz=311,SNR=20
PSZ **Piszkesteto** 80.53 324 ⇓P P 15 56 05.9 +0.2
PSZ **Piszkesteto** 80.53 324 P P 15 56 05.8 +0.2
VYHS **Vyhne** 80.61 325 eP P 15 56 07.4 +1.4
VYHS pmax pmax
comp=Z,18nm,1.6s
VYHS **Vyhne** 80.61 325 eP P 15 56 07.4 +1.4
BLYC **Blythe** 80.65 55 IAmb IAmb 15 56 09.0
comp=Z,44nm,1.1s
ESJX **Sierra Juarez** 80.77 57 IAmb IAmb 15 56 09.9
comp=Z,45nm,1.0s
JAVC **Velka Javorina** 80.87 326 eP P 15 56 09.7 +2.3
GLA **Glamis** 80.88 56 IAmb IAmb 15 56 10.3
comp=Z,60nm,1.2s
GLA **Glamis** 80.88 56 P P 15 56 09.1 +1.4
baz=308,SNR=8.0
FLTG **Flechtingen** 80.92 331 eP P 15 56 07.5 +0.1
comp=Z,9.7nm,0.7s,baz=38,slow=5.2
BRG **Berggiesshubel** 80.97 329 eP P 15 56 08.3 +0.5
BRG Amp 15 56 10.5
comp=Z,10nm,1.0s
BRG pP pP 15 56 23.3 -0.4
BRG Amp 15 56 25.9
comp=Z,21nm,1.3s
BRG **Berggiesshubel** 80.97 329 eP P 15 56 08.3 +0.5
BRG 15 56 23.3
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,21nm,1.3s
BRG **Berggiesshubel** 80.97 329 eP P 15 56 08.2 +0.5
comp=Z,7.3nm,0.8s,baz=38,slow=5.2
SURR **Surduc** 80.99 322 ⇑P P 15 56 08.5 +0.4
CLL **Collm** 81.02 330 i P P 15 56 08.6 +0.5
CLL i pP pP 15 56 21.8 -2.2
CLL i (sP) sP 15 56 26.8 -3.4
CLL **Collm** 81.02 330 i P P 15 56 08.6 +0.5
CLL i 15 56 21.8
CLL i 15 56 26.8
CLL **Collm** 81.02 330 eP P 15 56 08.9 +0.9
comp=Z,12nm,0.8s,baz=38,slow=5.2
CLL epP pP 15 56 23.3 -0.7
VRAC **Vranov** 81.02 327 LR LR 16 36 01.6
comp=Z,316nm,18.6s,baz=50,slow=39
VRAC **Vranov** 81.02 327 ⇓P P 15 56 08.6 +0.4
VRAC **Vranov** 81.02 327 eP P 15 56 09.0 +0.9
VRAC epP pP 15 56 23.3 -0.8
VRAC **Vranov** 81.02 327 P P 15 56 08.5 +0.4
SMOL **Smolenice** 81.23 326 eP P 15 56 11.3 +2.0
AGMN **Agassiz Nation** 81.28 34 P P 15 56 09.3 -0.3
baz=317
AGMN **Agassiz Nation** 81.28 34 P P 15 56 09.1 -0.4
baz=317
KRUC **Moravsky** 81.29 327 eP P 15 56 10.1 +0.5
KRUC epP pP 15 56 24.3 -1.2
N23A **Red Feather La** 81.32 45 IAmb IAmb 15 56 13.1
comp=Z,61nm,1.1s
N23A **Red Feather La** 81.32 45 P P 15 56 11.8 +1.5
baz=312,SNR=20
PHWY **Pilot Hill** 81.33 44 P P 15 56 10.6 +0.3
PHWY IAmb IAmb 15 56 12.5
comp=Z,43nm,1.6s
GOPC **GO Pecny, Ondr** 81.34 328 eP P 15 56 10.3 +0.4
GOPC **GO Pecny, Ondr** 81.34 328 eP P 15 56 10.3 +0.4
BZS **Buzias** 81.34 322 ⇑P P 15 56 09.7 -0.2
BZS **Buzias** 81.34 322 P P 15 56 09.7 -0.2
SRO **Srobarova** 81.34 325 eP P 15 56 11.5 +1.6
SRO **Srobarova** 81.34 325 eP P 15 56 11.5 +1.6
PV07 **Paradox Valley** 81.37 48 IAmb IAmb 15 56 13.1
comp=Z,34nm,1.1s
PRU **Pruhonice** 81.39 328 eP P 15 56 10.7 +0.6
PRU **Pruhonice** 81.39 328 eP P 15 56 10.7 +0.6
MODS **Modra-Piesok** 81.41 326 eP P 15 56 12.9 +2.7
MODS pmax pmax
comp=Z,21nm,1.0s
MODS **Modra-Piesok** 81.41 326 eP P 15 56 12.9 +2.7
PV15 **Paradox Valley** 81.53 48 IAmb IAmb 15 56 13.9
comp=Z,30nm,1.0s
WUAZ **Wupatki** 81.57 52 P P 15 56 11.9 +0.4
WUAZ IAmb IAmb 15 56 14.4
comp=Z,52nm,1.0s
WUAZ **Wupatki** 81.57 52 P P 15 56 13.0 +1.5
baz=310,SNR=20
D32B **Dogwood Acres,** 81.60 36 P P 15 56 11.4 +0.1
baz=317
CLZ **Clausthal** 81.63 332 eP P 15 56 12.5 +1.1
comp=Z,11nm,0.9s,baz=38,slow=5.2
MMAI **Mount Meron Ar** 81.71 305 LR LR 16 35 59.5
comp=Z,360nm,20.6s,baz=289,slow=38
MDVR **Moldovita** 81.89 321 ⇑P P 15 56 12.7 -0.2
URZ **Urewera** 81.91 152 LR LR 16 28 51.7
comp=Z,188nm,19.0s,baz=64,slow=33
TANN **Tannenbergstha** 81.92 330 eP P 15 56 13.2 +0.3
comp=Z,2.6nm,0.8s,baz=38,slow=5.2
GUNZ **Gunzen** 82.02 330 eP P 15 56 14.2 +0.7
comp=Z,3.3nm,0.8s,baz=38,slow=5.2
GTTG **Gottingen** 82.02 332 eP P 15 56 12.7 -0.7
comp=Z,7.6nm,0.8s,baz=38,slow=5.2
WERN **Wernitzgruen** 82.06 330 eP P 15 56 14.2 +0.6
comp=Z,7.6nm,0.8s,baz=38,slow=5.2
MOX **Moxa** 82.08 330 eP P 15 56 13.7 0.0
comp=Z,4.7nm,0.8s,baz=38,slow=5.2
MOX eL L 16 33 19.5
comp=Z,251nm,20.0s
IBBN **Ibbenburen** 82.23 333 eP P 15 56 15.6 +1.1
comp=Z,10nm,0.8s,baz=38,slow=5.2
ISCO **Idaho Springs** 82.24 45 P P 15 56 16.4 +1.2
baz=312
ISCO **Idaho Springs** 82.24 45 P P 15 56 16.4 +1.2
baz=312,SNR=12
ISCO **Idaho Springs** 82.24 45 P P 15 56 16.7 +1.5
MVCO **Mesa Verde** 82.25 49 P P 15 56 15.3 +0.1
MVCO IAmb IAmb 15 56 17.8
comp=Z,39nm,1.0s
MVCO **Mesa Verde** 82.25 49 P P 15 56 16.7 +1.5
baz=311,SNR=18
RONA **Rosalia, Austr** 82.35 326 eP P 15 56 16.5 +1.2
comp=Z,4.6nm,0.6s
MORH **Mrgy, Hungar** 82.36 324 ⇑P P 15 56 15.9 +0.7
CONA **Conrad Observa** 82.37 326 eP P 15 56 16.5 +1.1
comp=Z,5.2nm,0.7s
CKRC **Cesky Krumlov** 82.38 328 eP P 15 56 16.6 +1.3
KHC **Kasperske Hory** 82.45 328 eP P 15 56 16.1 +0.4
KHC epP pP 15 56 31.2 -0.5
KHC AMS AMS 16 36 00.0
comp=Z,500nm,19.2s
KHC **Kasperske Hory** 82.45 328 ceP P 15 56 16.9 +1.2
KHC pmax pmax
comp=Z,21nm,0.7s
ROTZ **Rotzenmuhle** 82.53 329 eP P 15 56 16.7 +0.6
comp=Z,9.9nm,0.8s,baz=38,slow=5.2
UBBA **Unterbreizbach** 82.58 331 eP P 15 56 17.2 +1.0
comp=Z,2.9nm,0.7s,baz=38,slow=5.2
SUSD **Miller** 82.60 39 P P 15 56 16.6 0.0
SUSD **Miller** 82.60 39 P P 15 56 17.4 +0.8
baz=316
SUSD **Miller** 82.60 39 P P 15 56 17.0 +0.4
baz=316
GEC2 **GERESS Array S** 82.62 328 eP P 15 56 16.6 -0.1
comp=Z,4.8nm,0.8s,baz=38,slow=5.2
GERES **GERESS Array B** 82.62 328 P P 15 56 16.5 -0.1
comp=Z,5.1nm,0.8s,baz=46,slow=6.3,SNR=13
GERES LR LR 16 34 57.9
comp=Z,266nm,19.3s,baz=38,slow=37
comp=Z,5.1nm,0.8s
VTS **Vitosha** 82.62 319 ⇑P P 15 56 17.4 +0.5
VTS **Vitosha** 82.62 319 P P 15 56 17.4 +0.5
PIX **Pinacate** 82.71 56 IAmb IAmb 15 56 19.7
comp=Z,35nm,1.3s
W18A **Petrified Fore** 82.85 51 P P 15 56 19.6 +1.3
baz=310,SNR=5.3
F33A **5 Mile Ranch,** 82.89 36 P P 15 56 17.8 -0.2
F33A IAmb IAmb 15 56 19.7
comp=Z,32nm,1.0s
F33A **5 Mile Ranch,** 82.89 36 P P 15 56 18.6 +0.6
baz=317,SNR=9.8
214A **Organ Pipe Nat** 82.89 55 IAmb IAmb 15 56 20.9
comp=Z,44nm,1.4s
214A **Organ Pipe Nat** 82.89 55 P P 15 56 19.8 +1.5
baz=309,SNR=5.6
S22A **4UR Ranch, Cre** 82.90 48 IAmb IAmb 15 56 21.8
comp=Z,38nm,1.1s
S22A **4UR Ranch, Cre** 82.90 48 P P 15 56 20.2 +1.6
baz=312,SNR=39
GRA1 **Grafenberg Arr** 82.99 330 IAmb IAmb 15 56 57.1
comp=Z,19nm,0.8s
GRF **Grafenberg Arr** 82.99 330 eP P 15 56 19.2 +0.8
comp=Z,15nm,0.8s,baz=38,slow=5.2
GRF eL L 16 38 35.3
comp=Z,257nm,18.7s
GRFO **Grafenberg** 82.99 330 P P 15 56 18.0 -0.5
GRFO IAmb IAmb 15 56 57.0
comp=Z,18nm,0.8s
GRFO **Grafenberg** 82.99 330 P P 15 56 18.0 -0.5
GRFO pmax pmax
comp=Z,18nm,0.8s
ARSA **Arzberg** 83.03 326 ePcP P 15 56 20.3 +1.6
comp=Z,3.1nm,0.7s
Q24A **Divide** 83.07 46 P P 15 56 20.5 +1.0
baz=312,SNR=7.1
X18A **Snowflake** 83.10 52 IAmb IAmb 15 56 22.3
comp=Z,43nm,1.2s
EKA **Eskdalemuir Ar** 83.13 340 LR LR 16 37 05.5
comp=Z,251nm,18.9s,baz=20,slow=38
EKA **Eskdalemuir Ar** 83.13 340 P P 15 56 20.0 +0.9
MOA **Molln** 83.13 327 eP P 15 56 20.3 +1.0
comp=Z,7.6nm,1.0s
OGNE **Ogallala** 83.46 43 IAmb IAmb 15 56 23.9
comp=Z,52nm,1.1s
OGNE **Ogallala** 83.46 43 P P 15 56 21.6 +0.4
baz=314
OGNE **Ogallala** 83.46 43 P P 15 56 21.9 +0.7
baz=314
EYMN **Ely** 83.48 32 P P 15 56 21.4 +0.4
baz=320
EYMN **Ely** 83.48 32 P P 15 56 21.5 +0.4
baz=320
BIOA **Bad Ischl, Aus** 83.53 327 eP P 15 56 21.9 +0.6
comp=Z,7.3nm,0.9s
TNS **Taunus Mts** 83.66 332 eP P 15 56 21.6 -0.4
comp=Z,3.8nm,0.8s,baz=38,slow=5.2
SOKA **Soboth** 83.68 326 ePcP P 15 56 23.2 +1.0
comp=Z,15nm,0.9s,SNR=13
SDCO **Great Sand Dun** 83.69 47 IAmb IAmb 15 56 25.3
comp=Z,24nm,1.0s
SDCO **Great Sand Dun** 83.69 47 P P 15 56 23.8 +1.2
baz=312
SDCO **Great Sand Dun** 83.69 47 P P 15 56 24.2 +1.6
baz=312,SNR=27
TUC **Tucson** 83.99 54 P P 15 56 24.7 +0.6
TUC IAmb IAmb 15 56 26.6
comp=Z,24nm,1.0s
TUC **Tucson** 83.99 54 P P 15 56 25.5 +1.5
baz=310
TUC **Tucson** 83.99 54 P P 15 56 24.7 +0.6
TUC pmax pmax
comp=Z,24nm,1.0s
K31A **O'Neill** 84.01 40 P P 15 56 24.2 +0.3
K31A **O'Neill** 84.01 40 P P 15 56 24.4 +0.6
baz=316
OBKA **Obir** 84.03 326 ePcP P 15 56 24.9 +0.9
comp=Z,5.7nm,0.9s
EIL **Elat** 84.11 303 LR LR 16 37 48.6
comp=Z,187nm,20.8s,baz=56,slow=38
KBA **Koelnbreinsper** 84.13 327 eP P 15 56 24.8 +0.2
comp=Z,6.0nm,0.8s
FUR **Furstenfeldbru** 84.16 329 eP P 15 56 25.1 +0.5
comp=Z,24nm,0.8s,baz=38,slow=5.2
ECSD **EROS Data Cent** 84.28 38 P P 15 56 25.1 -0.2
ECSD IAmb IAmb 15 56 26.7
comp=Z,30nm,1.1s
ECSD **EROS Data Cent** 84.28 38 P P 15 56 25.3 +0.1
baz=317
ECSD **EROS Data Cent** 84.28 38 P P 15 56 25.7 +0.5
baz=317,SNR=12
MYKA **Terra Mystica** 84.34 327 eP P 15 56 24.9 -0.6
comp=Z,4.1nm,0.8s
KSCO **Kaye Shedlock'** 84.47 44 P P 15 56 27.5 +1.1
baz=314
KSCO **Kaye Shedlock'** 84.47 44 P P 15 56 27.5 +1.1
baz=314
E38A **The Farm, Brul** 84.48 33 P P 15 56 26.0 -0.2
baz=320
STU **Stuttgart** 84.53 330 eP P 15 56 26.5 +0.1
comp=Z,42nm,0.8s,baz=38,slow=5.2
WATA **Walderalm** 84.69 328 eP P 15 56 27.0 -0.4
comp=Z,11nm,1.1s
WTTA **Wattenberg** 84.72 328 eP P 15 56 25.2 -2.3
comp=Z,5.6nm,1.1s
T25A **Trinidad** 84.73 47 P P 15 56 29.4 +1.5
baz=313,SNR=20
ABTA **Abfaltersbach** 84.74 327 eP P 15 56 27.8 +0.2
comp=Z,5.4nm,0.9s
RPZ **Rata Peaks** 84.78 159 LR LR 16 28 16.6
comp=Z,362nm,20.3s,baz=336,slow=31
LIT **Litokhoron** 84.78 317 IAmb IAmb 15 56 29.6
comp=Z,30nm,0.9s
PDG **Podgorica** 84.81 321 ⇑P P 15 56 28.2 +0.3
PDG **Podgorica** 84.81 321 IAmb IAmb 15 56 30.2
comp=Z,27nm,1.0s
MOTA **Moosalm** 84.88 328 ePcP P 15 56 29.2 +0.9
comp=Z,7.5nm,1.1s
RETA **Reutte** 84.91 329 eP P 15 56 28.7 +0.3
comp=Z,14nm,0.9s,SNR=7.3
DUN6 **Lazy B Ranch** 84.92 53 IAmb IAmb 15 56 31.6
comp=Z,181nm,1.0s
SQTA **Sankt Quirin** 84.93 328 ePcP P 15 56 29.2 +0.6
comp=Z,2.9nm,0.6s
PPT **Papeete** 84.94 116 P P 15 56 30.1 +1.3
comp=Z,34nm,1.1s,baz=326,slow=11,SNR=5.4
PPT LR LR 16 29 36.9
comp=Z,172nm,19.6s,baz=296,slow=32
comp=Z,34nm,1.1s
PPT2 **Papeete2** 84.95 116 eP P 15 56 29.6 +0.7
comp=Z,39nm,1.3s
PPT2 **Papeete2** 84.95 116 eLR LR 16 23 20.2
comp=Z,694nm,28.0s
PPT2 eLR LR 16 23 21.5
comp=Z,1μm,28.0s
PPT2 **Papeete2** 84.95 116 eT T 17 29 58.3
comp=Z,4.7nm,0.2s
PPTF **Pamatai, Papee** 84.96 116 P P 15 56 27.9 -1.0
SPMN **Marine on St.** 84.98 35 IAmb IAmb 15 56 29.5
comp=Z,26nm,1.2s
SPMN **Marine on St.** 84.98 35 P P 15 56 29.3 +0.5
baz=320
SPMN **Marine on St.** 84.98 35 P P 15 56 29.2 +0.5
baz=320
ANMO **Albuquerque** 84.99 50 P P 15 56 29.8 +0.6
ANMO IAmb IAmb 15 56 32.6
comp=Z,33nm,1.0s
ANMO **Albuquerque** 84.99 50 P P 15 56 31.0 +1.8
baz=312
ANMO **Albuquerque** 84.99 50 P P 15 56 30.9 +1.7
baz=312
ANMO **Albuquerque** 84.99 50 deP P 15 56 29.9 +0.7
ANMO pmax pmax
comp=Z,40nm,1.1s
PAE **Paea** 85.00 116 eP P 15 56 30.4 +1.4
comp=Z,9.0nm,1.3s
UBR **Ueberruh** 85.03 329 eP P 15 56 30.3 +1.3
comp=Z,4.5nm,0.9s,baz=38,slow=5.2
TIAR **Tiarei** 85.10 116 eP P 15 56 30.7 +1.1
comp=Z,4.3nm,1.0s
CIMO **Cimolais** 85.11 327 IAmb IAmb 15 56 43.4
comp=Z,6.6nm,0.9s
BGNE **Belgrade** 85.20 40 P P 15 56 30.1 +0.3
baz=316
BGNE **Belgrade** 85.20 40 P P 15 56 30.2 +0.3
baz=316
BFO **Black Forest** 85.23 330 P P 15 56 29.7 -0.2
BFO IAmb IAmb 15 56 32.0
comp=Z,16nm,0.8s
BFO **Black Forest** 85.23 330 P P 15 56 29.7 -0.2
BFO **Black Forest** 85.23 330 eP P 15 56 30.2 +0.3
comp=Z,14nm,0.8s,baz=38,slow=5.2
BFO epP pP 15 56 44.9 -1.1
FETA **Feichten** 85.29 328 eP P 15 56 30.5 0.0
comp=Z,5.2nm,0.9s,SNR=5.5
TVO **Taravao** 85.31 116 eP P 15 56 31.9 +1.2
comp=Z,16nm,1.1s
Y22A **Socorro** 85.35 51 P P 15 56 32.2 +1.3
baz=312
D41A **Chassel** 85.41 31 P P 15 56 32.0 +1.2
baz=322
DAVA **Damuels** 85.44 329 ePcP P 15 56 31.4 +0.3
comp=Z,17nm,0.8s
SCHQ **Schefferville** 85.58 16 P P 15 56 31.8 +0.3
comp=Z,4.9nm,0.8s,baz=359,slow=8.5,SNR=5.2
SCHQ LR LR 16 39 50.1
comp=Z,60nm,18.8s,baz=34,slow=39
comp=Z,4.9nm,0.8s
I37A **Lemoni, Waseca** 85.62 36 P P 15 56 31.9 0.0
I37B **Waseca** 85.62 36 P P 15 56 33.0 +1.1
baz=319,SNR=10
L34A **Svendsen Farm,** 85.70 39 P P 15 56 33.1 +0.7
baz=318
121A **Cookes Peak, D** 85.77 52 P P 15 56 34.7 +1.6
baz=312,SNR=23
121A **Cookes Peak, D** 85.77 52 P P 15 56 34.7 +1.6
baz=312,SNR=23
ECH **Echery** 85.78 331 IAmb IAmb 15 56 34.5
comp=Z,14nm,0.9s
ECH **Echery** 85.78 331 P P 15 56 31.7 -0.9
DAVOX **Davos/Dischmat** 85.84 329 LR LR 16 38 28.6
comp=Z,461nm,18.1s,baz=78,slow=38
N33B **J Bar K, Exete** 86.05 40 P P 15 56 34.1 0.0
baz=317
G40A **Rib Lake** 86.12 33 P P 15 56 34.6 +0.2
baz=321
CBKS **Cedar Bluff** 86.21 43 P P 15 56 35.0 0.0
baz=316
CBKS **Cedar Bluff** 86.21 43 P P 15 56 35.2 +0.2
baz=316,SNR=8.0
MEH **Mehetia** 86.23 116 eT T 17 31 27.5
comp=Z,30nm,0.2s
TAOE **Nuku Hiva Isla** 86.53 104 eLR LR 16 24 04.0
comp=Z,697nm,22.8s
IDI **Anoyia** 86.78 313 LR LR 16 40 21.7
comp=Z,92nm,20.2s,baz=70,slow=39
N35A **Tabor** 86.89 39 P P 15 56 39.0 +0.8
baz=318
FDMO **Fiordimonte** 87.36 325 IAmb IAmb 15 56 42.5
comp=Z,19nm,0.9s
MATE **Matera** 87.42 321 ⇓P P 15 56 40.9 +0.2
KSU1 **Kansas State U** 87.68 41 P P 15 56 42.4 +0.3
baz=318
KSU1 **Kansas State U** 87.68 41 P P 15 56 42.2 +0.1
baz=318
E46A **Sault Ste Mari** 87.70 29 P P 15 56 43.1 +1.1
baz=325
I42A **Draeger Farm,** 87.77 34 P P 15 56 42.9 +0.6
baz=322
H43A **Windswept, Lux** 87.81 33 P P 15 56 42.7 +0.2
baz=323
MNTX **Cornudas Mount** 87.84 51 P P 15 56 43.9 +0.9
baz=313,SNR=12
MNTX **Cornudas Mount** 87.84 51 P P 15 56 43.9 +0.9
baz=313,SNR=12
MSTX **Muleshoe** 87.88 48 IAmb IAmb 15 56 45.0
comp=Z,15nm,1.1s
MSTX **Muleshoe** 87.88 48 P P 15 56 44.1 +0.8
baz=314
MSTX **Muleshoe** 87.88 48 P P 15 56 43.5 +0.3
baz=314
AMTX **Amarillo** 87.89 47 P P 15 56 44.0 +0.8
baz=315
AMTX **Amarillo** 87.89 47 P P 15 56 44.4 +1.2
baz=315
JFWS **Jewell Farm** 87.93 35 P P 15 56 43.7 +0.5
baz=321
JFWS **Jewell Farm** 87.93 35 P P 15 56 43.3 +0.1
baz=321
L40A **Anamosa** 88.14 36 P P 15 56 44.3 +0.1
baz=321
N38A **Joes South For** 88.14 38 P P 15 56 44.8 +0.6
baz=320
ELIS **Ellis County** 88.35 45 P P 15 56 44.6 -0.7
ELIS IAmb IAmb 15 56 47.8
comp=Z,56nm,1.1s
KS20 **Mayfield South** 88.55 43 IAmb IAmb 15 56 48.0
comp=Z,23nm,1.0s
TBI **Tubuai** 88.81 120 eS S 16 07 29.2 -1.3
comp=Z,231nm,26.8s
TBI **Tubuai** 88.81 120 eLR LR 16 25 07.1
comp=Z,14μm,22.8s
TBI eLR LR 16 25 07.8
comp=Z,4μm,26.8s
TBI **Tubuai** 88.81 120 eT T 17 34 45.1
comp=Z,65nm,0.3s
CROK **Carrier** 88.84 44 IAmb IAmb 15 56 49.6
comp=Z,47nm,1.2s
P38A **Dawn** 88.88 39 IAmb IAmb 15 56 49.5
comp=Z,30nm,1.2s
P38A **Dawn** 88.88 39 P P 15 56 48.2 +0.5
baz=319
L42A **Oliver, Polo** 88.91 35 P P 15 56 48.3 +0.5

baz=322
T35A Sooner Cattle 89.34 42 lAmb lAmb 15 56 51.4
comp=Z,19nm,0.9s
T35B Sooner Cattle 89.34 42 P **P** **15 56 50.8 +0.8**
baz=318
N41A Harden Midland 89.36 37 P **P** **15 56 50.9 +0.9**
baz=321
OK048 Pawnee Station 89.47 43 P **P** **15 56 50.9 +0.3**
OK044 Pawnee Station 89.59 43 lAmb lAmb 15 56 53.0
comp=Z,24nm,1.0s
LPIG La Paz 89.61 60 LR LR 16 32 35.0
comp=Z,51nm,19.2s,baz=334,slow=32
WMOK Wichita Mounta 89.67 45 P **P** **15 56 51.2 -0.3**
WMOK lAmb lAmb 15 56 53.5
comp=Z,31nm,1.3s
WMOK Wichita Mounta 89.67 45 P **P** **15 56 52.1 +0.6**
baz=316
WMOK Wichita Mounta 89.67 45 P **P** **15 56 52.4 +0.9**
baz=316,SNR=12
WMOK Wichita Mounta 89.67 45 P **P** **15 56 51.2 -0.3**
WMOK pmax pmax
comp=Z,31nm,1.3s
P40A Paris 89.69 38 lAmb lAmb 15 56 52.8
comp=Z,22nm,1.1s
P40A Paris 89.69 38 P **P** **15 56 52.5 +0.9**
baz=320,SNR=5.4
QUOK Quay 89.78 43 lAmb lAmb 15 56 54.0
comp=Z,27nm,0.8s
J47A Sunmer 90.06 32 P **P** **15 56 54.3 +1.1**
baz=325
J47A P **P** **15 56 54.3 +1.1**
baz=325
DEOK Depew 90.14 43 lAmb lAmb 15 56 55.6
comp=Z,59nm,1.2s
M44A Midewin, Midew 90.14 35 P **P** **15 56 54.2 +0.6**
baz=323
HDIL Hopedale 90.22 36 P **P** **15 56 54.9 +0.9**
baz=322
HDIL Hopedale 90.22 36 P **P** **15 56 54.4 +0.4**
baz=322
S39A Bolivar 90.45 40 lAmb lAmb 15 56 56.0
comp=Z,10.0nm,0.9s
S39A Bolivar 90.45 40 P **P** **15 56 55.3 +0.2**
baz=320
TUL1 Leonard 90.48 43 P **P** **15 56 55.5 +0.2**
baz=318
TUL1 Leonard 90.48 43 P **P** **15 56 55.9 +0.6**
baz=318
TX31 Lajitas Ar. Si 90.53 52 P **P** **15 56 56.7 +0.9**
baz=314
TX32 Lajitas Array 90.53 52 P **P** **15 56 56.5 +0.7**
TX32 lAmb lAmb 15 56 57.9
comp=Z,23nm,1.0s
TXAR Lajitas Array 90.53 52 P **P** **15 56 56.8 +1.0**
comp=Z,14nm,0.8s,baz=295,slow=3.4,SNR=132
comp=Z,14nm,0.8s
R40A Maddies Statio 90.53 39 P **P** **15 56 55.8 +0.3**
baz=320
ABTX Abilene, Hawle 90.68 47 P **P** **15 56 57.5 +1.1**
baz=316,SNR=8.1
ABTX Abilene, Hawle 90.68 47 P **P** **15 56 56.9 +0.6**
baz=316,SNR=8.1
U38A Gravette 90.84 42 P **P** **15 56 57.5 +0.5**
baz=319,SNR=6.0
HPIG 90.88 55 lAmb lAmb 15 56 59.9
comp=Z,16nm,0.9s
VAE Valguarnera 90.98 320 LR LR 16 43 31.2
comp=Z,276nm,18.6s,baz=48,slow=39
HHAR Hobbs 91.19 41 lAmb lAmb 15 56 59.8
comp=Z,13nm,0.8s
CCM Cathedral Cave 91.23 39 P **P** **15 56 58.7 0.0**
CCM Cathedral Cave 91.23 39 P **P** **15 56 58.9 +0.2**
baz=321
CCM Cathedral Cave 91.23 39 P **P** **15 56 58.7 0.0**
baz=321
CCM Cathedral Cave 91.23 39 P **P** **15 56 58.7 0.0**
CCM pmax pmax
comp=Z,29nm,1.3s
L48A N Adams 91.28 32 P **P** **15 56 58.9 0.0**
baz=325
L48A P **P** **15 56 58.9 0.0**
baz=325
FW03 Perrin-Whitt E 91.31 46 lAmb lAmb 15 57 01.0
comp=Z,42nm,1.1s
SFIN Lafayette 91.38 35 P **P** **15 57 00.1 +0.7**
baz=324
MGMO Mountain Grove 91.40 40 lAmb lAmb 15 57 00.7
comp=Z,19nm,1.0s
Z35A Perchaven, San 91.56 45 P **P** **15 57 01.1 +0.8**
baz=317,SNR=7.1
Q44A Meyer Farm, Va 91.66 37 P **P** **15 57 01.5 +0.9**
baz=322
X37A Clayton 91.69 43 P **P** **15 57 01.4 +0.5**
baz=318
U40A Yellville 91.71 41 P **P** **15 57 01.4 +0.4**
baz=320,SNR=19
U40A P **P** **15 57 01.4 +0.4**
baz=320,SNR=19
P46A Rosedale 91.94 35 P **P** **15 57 02.6 +0.6**
baz=323
JCT Junction City 92.12 49 P **P** **15 57 03.2 +0.2**
baz=316
JCT Junction City 92.12 49 P **P** **15 57 03.7 +0.7**
baz=316,SNR=6.0
OLIL Olney 92.23 36 P **P** **15 57 04.7 +1.4**
baz=323
N49A Columbus Grove 92.23 32 P **P** **15 57 03.7 +0.4**
baz=326
N49A P **P** **15 57 03.7 +0.4**
baz=326
O48B Farmland 92.35 33 P **P** **15 57 04.3 +0.5**
baz=325
O48B Farmland 92.35 33 P **P** **15 57 04.1 +0.2**
baz=325
WHTX Lake Whitney, 92.42 46 P **P** **15 57 05.2 +0.9**
baz=317
WHTX Lake Whitney, 92.42 46 P **P** **15 57 05.1 +0.8**
baz=317
FCAR Ozark Folk Cen 92.44 40 lAmb lAmb 15 57 05.5
comp=Z,18nm,1.0s
S44A Carbondale 92.49 38 P **P** **15 57 05.3 +0.8**
baz=322
MIAR Mount Ida 92.70 42 P **P** **15 57 06.8 +1.3**
baz=319,SNR=10
MIAR Mount Ida 92.70 42 P **P** **15 57 06.3 +0.8**
baz=319,SNR=10
LCAR Lake Charles 92.81 40 lAmb lAmb 15 57 07.7
comp=Z,16nm,1.4s
ERPA Erie 92.95 29 P **P** **15 57 06.6 0.0**
baz=328
P49A Miami Univ. Ec 93.13 34 P **P** **15 57 07.4 -0.1**
baz=325
P49A Miami Univ. Ec 93.13 34 P **P** **15 57 07.9 +0.4**
baz=325
X40A Basin Creek Fa 93.14 42 lAmb lAmb 15 57 09.5
comp=Z,14nm,1.1s
ACSO Alum Creek Sta 93.31 32 P **P** **15 57 09.0 +0.7**
baz=326
WCI Wyandotte Cave 93.48 35 P **P** **15 57 09.1 +0.1**
baz=324
833A Chaparral WMA, 93.90 50 P **P** **15 57 10.8 -0.4**
833A Chaparral WMA, 93.90 50 P **P** **15 57 12.3 +1.1**
baz=316
833A Chaparral WMA, 93.90 50 P **P** **15 57 12.1 +0.9**
baz=316
T47A Sharon Grove 94.09 37 P **P** **15 57 12.1 +0.1**
baz=323
Q51A Peebles 94.16 33 P **P** **15 57 12.4 +0.2**
baz=326
Q51A P **P** **15 57 12.4 +0.2**
baz=326
R50A Paris 94.33 34 P **P** **15 57 13.7 +0.7**
baz=325
R50A P **P** **15 57 13.7 +0.7**
baz=325
WVT Waverly 94.43 38 P **P** **15 57 13.6 +0.1**
baz=323
WVT Waverly 94.43 38 P **P** **15 57 14.2 +0.7**
baz=323
O54A Avella 94.44 30 P **P** **15 57 13.7 +0.2**
baz=328
O54A P **P** **15 57 13.7 +0.2**
baz=328
P53A Whipple 94.61 31 P **P** **15 57 14.1 -0.2**
baz=327
P53A P **P** **15 57 14.1 -0.2**
baz=327
KEST Kesra 94.89 322 LR LR 16 43 46.7
comp=Z,277nm,21.0s,baz=334,slow=38
U49A Red Boiling Sp 95.11 36 P **P** **15 57 17.1 +0.5**
baz=324
T50A Nancy 95.13 35 P **P** **15 57 17.0 +0.3**
baz=325
T50A P **P** **15 57 17.0 +0.3**
baz=325
S51A Beattyville 95.19 34 P **P** **15 57 17.3 +0.3**
baz=326
S51A P **P** **15 57 17.3 +0.3**
baz=326
TKL Tuckaleechee C 96.74 35 P **P** **15 57 24.1 +0.1**
comp=Z,3.9nm,0.7s,baz=300,slow=14,SNR=2.9
comp=Z,3.9nm,0.7s
ESDC Sonseca Array 97.23 333 P **P** **15 57 25.9 -0.3**
comp=Z,1.0nm,0.7s,baz=21,slow=4.4,SNR=7.9
ESDC LR LR 16 44 21.3
comp=Z,395nm,20.8s,baz=5.5,slow=37
comp=Z,1.0nm,0.7s
RKT Rikitea 99.08 112 *e*LR LR 16 29 53.3
comp=Z,135μm,25.0s
SDV Santo Domingo 125.69 40 PKPdf **PKPdf** **16 02 55.2 -0.4**
SDV Santo Domingo 125.69 40 *e*P **PKPdf** **16 02 55.7 +0.2**
DBIC Dimbokro 126.11 316 PKP **PKPdf** **16 02 55.5 -0.5**
comp=Z,6nm,0.7s,baz=120,slow=2.8,SNR=3.5
QSPA South Pole Qui 126.64 180 PKPdf **PKPdf** **16 02 55.1 -0.4**
RUSC La Rusia 126.89 44 PKPdf **PKPdf** **16 02 57.2 -1.0**
BAUV El Baul 126.93 37 PKPdf **PKPdf** **16 02 55.5 -2.2**
ROSC El Rosal 127.05 46 PKP **PKPdf** **16 02 58.6 +0.2**
comp=Z,12nm,0.5s,baz=258,slow=18,SNR=1.9
ELIB Princess Elisa 133.12 202 *d*PKP **PKiKP** **16 03 08.9 -0.1**
SGCB SÉo Gabriel d 135.20 42 *e*P **PKPdf** **16 03 14.0 +0.7**
CZSB Cruzeiro do Su 137.87 55 *e*P **PKPdf** **16 03 18.9 +0.7**
ETMB Extrema 143.56 49 PKPdf PKPab 16 03 23.7 -1.2
ITTB Itaituba 144.21 29 *e*P PKPbc 16 03 28.3 +0.4
TMAB Tom-Au,PA,Br 144.66 16 *e*P PKPbc 16 03 29.2 -0.1
ROSB Rosrio 145.85 9 *e*P **PKPbc** **16 03 32.9 -0.2**
NPGB Novo Progresso 146.80 30 *e*P **PKPdf** **16 03 34.7 +0.6**
LPAZ La Paz 147.12 59 *e*P **PKPdf** **16 03 35.2 0.0**
H03N2 Juan Fernandez 147.41 96 T T 18 48 33.1
baz=291,slow=76,SNR=179
H03N3 Juan Fernandez 147.43 96 T T 18 48 34.0
baz=291,slow=76,SNR=332
H03N1 Juan Fernandez 147.43 96 T T 18 48 34.5
baz=291,slow=76,SNR=226
NBCL Cascavel-CE 147.48 359 *e*P **PKPdf** **16 03 35.0 -0.2**
PRPB Parauapebas 147.89 20 *e*P **PKPdf** **16 03 36.1 +0.1**
MNMC Minye Minye 147.97 65 **PKPdf** **16 03 34.3 -1.9**
MNMC **PKPbc** **16 03 40.1 +0.8**
GO01 Chusmiza 148.61 65 PKPbc **PKPbc** **16 03 41.5 +0.2**
PATCX Punta Patache 148.62 68 PKPbc **PKPbc** **16 03 40.5 -0.2**
VILB Vilhena 149.57 44 *e*P **PKPdf** **16 03 39.1 +0.5**
CLDB Colider 150.03 34 *e*P **PKPdf** **16 03 39.8 +0.5**
PDRB Porto dos Gac 150.24 37 *e*P **PKPdf** **16 03 39.8 +0.1**
LVC Limon Verde 150.60 69 *e*P **PKPdf** **16 03 40.5 0.0**
PTLB Pontes e Lacer 152.19 45 *e*P **PKPdf** **16 03 43.1 +0.6**
LCO Las Campanas 152.43 83 PKPbc **PKPbc** **16 03 48.9 -0.9**
LCO Las Campanas 152.43 83 PKIKP **PKPbc** **16 03 48.9 -0.9**
SNDB Serra Nova Dou 152.87 27 *e*P **PKPdf** **16 03 43.5 -0.1**
VA03 San Esteban 153.92 90 PKPbc **PKPbc** **16 03 51.7 -1.0**
BO02 Sierra Bellavi 154.29 95 PKPbc **PKPbc** **16 03 52.1 -1.3**
PLCA Paso Flores 155.26 109 PKPab **PKPab** **16 04 12.6 +0.9**
comp=Z,12nm,0.9s,baz=259,slow=3.6,SNR=9.4
ARAG Araguaiana, MT 156.06 32 *e*P **PKPdf** **16 03 49.0 +1.0**
GDU01 Guandu, BA 156.92 1 *e*P **PKPdf** **16 03 49.5 +0.4**
BDFB Brasilia 157.40 23 PKPab **PKPab** **16 04 20.5 -0.8**
comp=Z,1.7nm,0.3s,baz=4.7,slow=5.4,SNR=7.4
BDFB Brasilia 157.40 23 *e*P **PKPdf** **16 03 50.3 +0.4**
AQDB Aquidauana 158.15 46 *e*P **PKPdf** **16 03 50.4 -0.1**
SJMB Sao Joao De Ma 161.79 6 *e*P **PKPdf** **16 03 54.9 +0.3**

*SJA **04** 15:44:00.7±0.7, 23°.86S×66°.81W, h220km±4km, ML4.3, MW4.0*
*IDC **04** 15:44:01.7±1.0, 23°.89S×66°.73W, h191km±11km, mb3.2/3, mbtmp3.8/9, Error ellipse: s-maj=20.3km s-min=14.6km az=38.0*
*NEIC **04** 15:44:01.4±2.0, 23°.89S±0°.07×67°.0W±0°.1, h233km±14km, mb4.1/5, ML4.5(GUC), Error ellipse: s-maj=17.8km s-min=9.8km az=96.0*
*VAO **04** 15:44:03.9±0.6, 23°.43S×66°.89W, h226km±9km, mb3.8*
*GUC **04** 15:44:03.6±0.5, 23°.75S×67°.20W, h248km±6km, ML4.4*
ISC 04 15:44:01.5±0.6, 23°.87S±0°.03×66°.85W±0°.03, h211km±6km**, n132,σ1§50/192, mb3.6/4, 13C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.48**	**64**	*e*P	**Pn**	**15 44 36.7**	**+0.2**
HJA				*e*S	**S**	**15 45 03.6**	**+0.3**
HJA	**Humahuaca**	**1.48**	**64**	*e*P	**Pn**	**15 44 36.7**	**+0.2**
HJA				*e*S	**S**	**15 45 03.6**	**+0.3**
SLA	**San Lorenzo**	**1.49**	**125**	*e*P	**Pn**	**15 44 36.8**	**+0.5**
SLA				*e*S	**S**	**15 45 03.3**	**+0.2**
SLA	**San Lorenzo**	**1.49**	**125**	*e*P	**Pn**	**15 44 36.8**	**+0.5**
SLA				*e*S	**S**	**15 45 03.3**	**+0.2**
AF01	**San Pedro de A**	**1.52**	**307**	Pn	**Pn**	**15 44 38.2**	**+1.5**
AZAP	**Zapla**	**1.67**	**103**	*e*P	**Pn**	**15 44 37.8**	**-0.1**
AZAP				*e*S	**S**	**15 45 06.1**	**+0.2**
AZAP	**Zapla**	**1.67**	**103**	*e*P	**Pn**	**15 44 37.8**	**-0.1**
AZAP				*e*S	**S**	**15 45 06.1**	**+0.2**
YJA	**Yavi**	**2.09**	**36**	*e*P	**Pn**	**15 44 43.1**	**+0.8**
YJA				*e*S	**S**	**15 45 14.3**	**+0.7**
YJA	**Yavi**	**2.09**	**36**	*e*P	**Pn**	**15 44 43.1**	**+0.8**
YJA				*e*S	**S**	**15 45 14.3**	**+0.7**
ASTB	**Santa Barbara**	**2.20**	**92**	*e*P	**Pn**	**15 44 42.9**	**-0.1**
ASTB				*e*S	**S**	**15 45 15.0**	**0.0**
ASTB	**Santa Barbara**	**2.20**	**92**	*e*P	**Pn**	**15 44 42.9**	**-0.1**
ASTB				*e*S	**S**	**15 45 15.0**	**0.0**
LVC	**Limon Verde**	**2.27**	**303**	P	**Pn**	**15 44 45.1**	**+1.1**
	159nm,0.3s,baz=133,slow=6.4,SNR=934						
LVC				S	**S**	**15 45 17.0**	**+0.3**
	158nm,0.3s,baz=37,slow=23,SNR=25						
LVC	**Limon Verde**	**2.27**	**303**	Pn	**Pn**	**15 44 44.9**	**+0.9**
LVC	**Limon Verde**	**2.27**	**303**	↑*i*P	**Pn**	**15 44 45.2**	**+1.1**
LVC				*e*S	**S**	**15 45 17.1**	**+0.3**
LVC	**Limon Verde**	**2.27**	**303**	*e*P	**Pn**	**15 44 45.2**	**+1.1**
PB15	**IPOC Station P**	**2.49**	**285**	Pn	**Pn**	**15 44 47.1**	**+0.9**
PB15	**IPOC Station P**	**2.49**	**285**	↑*i*P	**Pn**	**15 44 47.3**	**+1.1**
PB15				*i* S	**S**	**15 45 20.7**	**+0.1**
PB15	**IPOC Station P**	**2.49**	**285**	*e*P	**Pn**	**15 44 47.3**	**+1.1**
PB15				*e*S	**S**	**15 45 21.4**	**+0.7**
PB15				IAML		15 45 24.2	
	comp=Z,2μm,0.2s						
PB15	**IPOC Station P**	**2.49**	**285**	*e*P	**Pn**	**15 44 47.3**	**+1.1**
PB15				*e*S	**S**	**15 45 21.4**	**+0.7**
PB15				IAML		15 45 24.2	
	comp=Z,2μm,0.2s						
ALOL	**LOMAS DE OLMED**	**2.63**	**89**	*e*P	**Pn**	**15 44 47.3**	**-0.2**
ALOL				*e*S	**S**	**15 45 21.5**	**-1.5**
ALOL	**LOMAS DE OLMED**	**2.63**	**89**	*e*P	**Pn**	**15 44 47.3**	**-0.2**
ALOL				*e*S	**S**	**15 45 21.5**	**-1.5**
PB06	**IPOC Station P**	**2.76**	**294**	Pn	**Pn**	**15 44 49.5**	**+0.4**
PB06	**IPOC Station P**	**2.76**	**294**	↑*i*P	**Pn**	**15 44 50.1**	**+1.1**
PB06				*i* S	**S**	**15 45 25.4**	**-0.5**
PB06				IAML		15 45 27.5	
	comp=E,1μm,0.1s						
PB06	**IPOC Station P**	**2.76**	**294**	*e*P	**Pn**	**15 44 50.2**	**+1.1**
PB06				*e*S	**S**	**15 45 26.2**	**+0.3**
PB06				IAML		15 45 27.1	
	comp=Z,635nm,0.3s						
PB06	**IPOC Station P**	**2.76**	**294**	*e*P	**Pn**	**15 44 50.2**	**+1.1**
PB06				*e*S	**S**	**15 45 26.2**	**+0.3**
PB06				IAML		15 45 27.1	
	comp=Z,635nm,0.3s						
PB09	**IPOC Station P**	**3.02**	**313**	Pn	**Pn**	**15 44 52.3**	**+0.2**
PB09	**IPOC Station P**	**3.02**	**313**	↑*i*P	**Pn**	**15 44 53.5**	**+1.3**
PB09				*e*S	**S**	**15 45 31.1**	**-0.3**
PB09				IAML		15 45 34.2	
	comp=N,314nm,0.4s						
PB09	**IPOC Station P**	**3.02**	**313**	*e*P	**Pn**	**15 44 53.4**	**+1.3**
PB09				*e*S	**S**	**15 45 32.4**	**+1.1**
PB09				IAML		15 45 34.5	
	comp=Z,332nm,0.3s						
PB09	**IPOC Station P**	**3.02**	**313**	*e*P	**Pn**	**15 44 53.4**	**+1.3**
PB09				*e*S	**S**	**15 45 32.4**	**+1.1**
PB09				IAML		15 45 34.5	
	comp=Z,332nm,0.3s						
AHML	**Horco Molle**	**3.21**	**155**	*e*P	**Pn**	**15 44 54.4**	**+0.3**
AHML				*e*S	**S**	**15 45 34.2**	**-0.9**
AHML	**Horco Molle**	**3.21**	**155**	*e*P	**Pn**	**15 44 54.4**	**+0.3**
AHML				*e*S	**S**	**15 45 34.2**	**-0.9**
PB03	**IPOC Station P**	**3.23**	**304**	Pn	**Pn**	**15 44 54.0**	**-0.6**
PB03	**IPOC Station P**	**3.23**	**304**	↑*i*P	**Pn**	**15 44 55.3**	**+0.7**
PB03				*e*S	**S**	**15 45 34.3**	**-1.4**
PB03	**IPOC Station P**	**3.23**	**304**	*e*P	**Pn**	**15 44 55.3**	**+0.7**
PB03				*e*S	**S**	**15 45 34.7**	**-1.0**
PB03				IAML		15 45 36.5	
	comp=Z,697nm,0.2s						
PB03	**IPOC Station P**	**3.23**	**304**	*e*P	**Pn**	**15 44 55.3**	**+0.7**
PB03				*e*S	**S**	**15 45 34.7**	**-1.0**
PB03				IAML		15 45 36.5	
	comp=Z,697nm,0.2s						
PB14	**IPOC Station P**	**3.33**	**256**	Pn	**Pn**	**15 44 56.0**	**+0.2**
PB14	**IPOC Station P**	**3.33**	**256**	*e*P	**Pn**	**15 44 56.5**	**+0.7**
PB14				*e*S	**S**	**15 45 37.7**	**-0.3**
PB14				IAML		15 45 38.7	
	comp=Z,392nm,0.2s						
PB14	**IPOC Station P**	**3.33**	**256**	*e*P	**Pn**	**15 44 56.5**	**+0.7**
PB14				*e*S	**S**	**15 45 37.7**	**-0.3**
PB14				IAML		15 45 38.7	
	comp=Z,392nm,0.2s						
PB04	**IPOC Station P**	**3.40**	**296**	Pn	**Pn**	**15 44 56.1**	**-0.5**
PB04	**IPOC Station P**	**3.40**	**296**	↑*i*P	**Pn**	**15 44 57.2**	**+0.6**
PB04				*i* S	**S**	**15 45 37.9**	**-1.5**
PB04	**IPOC Station P**	**3.40**	**296**	*e*P	**Pn**	**15 44 57.2**	**+0.6**
PB04				*e*S	**S**	**15 45 38.3**	**-1.0**
PB04				IAML		15 45 44.5	
	comp=Z,509nm,0.2s						
PB04	**IPOC Station P**	**3.40**	**296**	*e*P	**Pn**	**15 44 57.2**	**+0.6**
PB04				*e*S	**S**	**15 45 38.3**	**-1.0**
PB04				IAML		15 45 44.5	
	comp=Z,509nm,0.2s						
PB10	**IPOC Station P**	**3.41**	**275**	Pn	**Pn**	**15 44 56.8**	**+0.2**
PB10	**IPOC Station P**	**3.41**	**275**	↑*i*P	**Pn**	**15 44 57.4**	**+0.8**
PB10				*i* S	**S**	**15 45 37.1**	**-2.2**
PB10	**IPOC Station P**	**3.41**	**275**	*e*P	**Pn**	**15 44 57.3**	**+0.8**
PB10				*e*S	**S**	**15 45 38.4**	**-0.9**
PB10				IAML		15 45 40.0	
	comp=Z,294nm,0.5s						
PB10	**IPOC Station P**	**3.41**	**275**	*e*P	**Pn**	**15 44 57.3**	**+0.8**
PB10				*e*S	**S**	**15 45 38.4**	**-0.9**
PB10				IAML		15 45 40.0	
	comp=Z,294nm,0.5s						
PB07	**IPOC Station P**	**3.52**	**307**	Pn	**Pn**	**15 44 57.7**	**-0.3**
PB07	**IPOC Station P**	**3.52**	**307**	↑*i*P	**Pn**	**15 44 58.6**	**+0.6**
PB07				*i* S	**S**	**15 45 40.0**	**-1.9**
PB07	**IPOC Station P**	**3.52**	**307**	*e*P	**Pn**	**15 44 58.6**	**+0.6**
PB07				*e*S	**S**	**15 45 40.5**	**-1.5**
PB07				IAML		15 45 46.8	
	comp=Z,360nm,0.4s						
PB07	**IPOC Station P**	**3.52**	**307**	*e*P	**Pn**	**15 44 58.6**	**+0.6**
PB07				*e*S	**S**	**15 45 40.5**	**-1.5**
PB07				IAML		15 45 46.8	
	comp=Z,360nm,0.4s						
AC02	**Maricunga**	**3.60**	**214**	Pn	**Pn**	**15 44 59.1**	**-0.2**
AC02	**Maricunga**	**3.60**	**214**	*e*P	**Pn**	**15 45 00.1**	**+0.9**
AC02				*e*S	**S**	**15 45 49.4**	**+5.2**
AC02	**Maricunga**	**3.60**	**214**	*e*P	**Pn**	**15 45 00.1**	**+0.9**
AC02				*e*S	**S**	**15 45 49.4**	**+5.2**
PB01	**IPOC Station P**	**3.72**	**319**	Pn	**Pn**	**15 45 00.1**	**-0.3**
PB01	**IPOC Station P**	**3.72**	**319**	↑*i*P	**Pn**	**15 45 00.8**	**+0.3**
PB01				*i* S	**S**	**15 45 44.9**	**-1.4**
PB01	**IPOC Station P**	**3.72**	**319**	*e*P	**Pn**	**15 45 00.9**	**+0.5**
PB01				*e*S	**S**	**15 45 45.7**	**-0.6**
PB01				IAML		15 45 48.8	
	comp=Z,209nm,0.5s						
PB01	**IPOC Station P**	**3.72**	**319**	*e*P	**Pn**	**15 45 00.9**	**+0.5**
PB01				*e*S	**S**	**15 45 45.7**	**-0.6**
PB01				IAML		15 45 48.8	
	comp=Z,209nm,0.5s						
PB02	**IPOC Station P**	**3.79**	**311**	Pn	**Pn**	**15 45 01.0**	**-0.2**
PB02	**IPOC Station P**	**3.79**	**311**	↑*i*P	**Pn**	**15 45 01.4**	**+0.2**
PB02				*i* S	**S**	**15 45 45.4**	**-2.3**
PB02	**IPOC Station P**	**3.79**	**311**	*e*P	**Pn**	**15 45 01.5**	**+0.3**
PB02				*e*S	**S**	**15 45 46.4**	**-1.3**
PB02				IAML		15 45 54.1	
	comp=Z,713nm,0.3s						
PB02	**IPOC Station P**	**3.79**	**311**	*e*P	**Pn**	**15 45 01.5**	**+0.3**
PB02				*e*S	**S**	**15 45 46.4**	**-1.3**
PB02				IAML		15 45 54.1	
	comp=Z,713nm,0.3s						
AC01	**Pan de Azucar**	**4.09**	**236**	Pn	**Pn**	**15 45 03.9**	**-0.8**
AC01	**Pan de Azucar**	**4.09**	**236**	*i* P	**Pn**	**15 45 04.3**	**-0.4**
AC01				*i* S	**S**	**15 45 51.4**	**-2.8**
AC01	**Pan de Azucar**	**4.09**	**236**	*e*P	**Pn**	**15 45 04.3**	**-0.4**
AC01				*e*S	**S**	**15 45 51.2**	**-3.0**
AC01				IAML		15 45 53.3	
	comp=Z,134nm,0.2s						
AC01	**Pan de Azucar**	**4.09**	**236**	*e*P	**Pn**	**15 45 04.3**	**-0.4**
AC01				*e*S	**S**	**15 45 51.2**	**-3.0**
AC01				IAML		15 45 53.3	
	comp=Z,134nm,0.2s						
PB08	**IPOC Station P**	**4.28**	**330**	Pn	**Pn**	**15 45 08.2**	**+0.6**
PB08	**IPOC Station P**	**4.28**	**330**	↑*i*P	**Pn**	**15 45 08.7**	**+1.1**
PB08				*e*S	**S**	**15 45 58.8**	**-0.4**
PB08	**IPOC Station P**	**4.28**	**330**	*e*P	**Pn**	**15 45 08.7**	**+1.1**
PB08				*e*S	**S**	**15 45 59.6**	**+0.4**
PB08	**IPOC Station P**	**4.28**	**330**	*e*P	**Pn**	**15 45 08.7**	**+1.1**
PB08				*e*S	**S**	**15 45 59.6**	**+0.4**
PATCX	**Punta Patache**	**4.31**	**314**	Pn	**Pn**	**15 45 06.3**	**-1.3**
PATCX	**Punta Patache**	**4.31**	**314**	↑*i*P	**Pn**	**15 45 07.2**	**-0.4**
PATCX				*i* S	**S**	**15 45 56.1**	**-3.2**
PATCX	**Punta Patache**	**4.31**	**314**	*e*P	**Pn**	**15 45 07.4**	**-0.2**
PATCX				*e*S	**S**	**15 45 57.1**	**-2.1**
PATCX				IAML		15 46 01.1	
	comp=Z,154nm,0.3s						
PATCX	**Punta Patache**	**4.31**	**314**	*e*P	**Pn**	**15 45 07.4**	**-0.2**
PATCX				*e*S	**S**	**15 45 57.1**	**-2.1**
PATCX				IAML		15 46 01.1	
	comp=Z,154nm,0.3s						
TA01	**Diego Aracena**	**4.51**	**316**	Pn	**Pn**	**15 45 09.5**	**-0.5**
TA01	**Diego Aracena**	**4.51**	**316**	*i* P	**Pn**	**15 45 09.3**	**-0.8**
TA01				*e*S	**S**	**15 46 00.8**	**-2.9**
HMBC	**Humberstone**	**4.55**	**321**	↑*i*P	**Pn**	**15 45 09.8**	**-0.9**
HMBC				*e*S	**S**	**15 46 01.4**	**-3.4**
CYA	**Choya**	**4.65**	**169**	*e*P	**Pn**	**15 45 13.1**	**+1.3**
CYA				*e*S	S	15 45 52.6	-14
CYA	**Choya**	**4.65**	**169**	*e*P	**Pn**	**15 45 13.1**	**+1.3**
CYA				*e*S	S	15 45 52.6	-14
AC06	**Mina Casimiro**	**4.70**	**222**	Pn	**Pn**	**15 45 11.1**	**-1.2**
TA02	**Huaiquique**	**4.70**	**319**	Pn	**Pn**	**15 45 10.9**	**-1.5**
GO01	**Chusmiza**	**4.71**	**332**	Pn	**Pn**	**15 45 13.8**	**+0.7**
GO03	**Copiap**	**4.80**	**219**	Pn	**Pn**	**15 45 11.7**	**-2.0**
GO03	**Copiap**	**4.80**	**219**	*e*P	**Pn**	**15 45 13.2**	**-0.5**
GO03				*e*S	**S**	**15 46 08.4**	**-2.0**
GO03	**Copiap**	**4.80**	**219**	*e*P	**Pn**	**15 45 13.2**	**-0.5**
GO03				*e*S	**S**	**15 46 08.4**	**-2.0**
PB11	**IPOC Station P**	**4.85**	**327**	Pn	**Pn**	**15 45 14.1**	**-0.3**
PB11	**IPOC Station P**	**4.85**	**327**	*e*P	**Pn**	**15 45 14.0**	**-0.5**
PB11				IAML		15 46 14.7	
	comp=Z,150nm,0.3s						
PB11	**IPOC Station P**	**4.85**	**327**	*e*P	**Pn**	**15 45 14.0**	**-0.5**
PB11				IAML		15 46 14.7	
	comp=Z,150nm,0.3s						
PSGCX	**Pisagua**	**5.23**	**324**	Pn	**Pn**	**15 45 17.6**	**-1.6**
PSGCX	**Pisagua**	**5.23**	**324**	*e*P	**Pn**	**15 45 17.9**	**-1.3**
PSGCX				IAML		15 46 25.1	
	comp=Z,93nm,0.3s						
PSGCX	**Pisagua**	**5.23**	**324**	*e*P	**Pn**	**15 45 17.9**	**-1.3**
PSGCX				IAML		15 46 25.1	
	comp=Z,93nm,0.3s						
MNMC	**Minye Minye**	**5.36**	**331**	Pn	**Pn**	**15 45 21.0**	**-0.2**
AC05	**El Transito**	**5.82**	**211**	Pn	**Pn**	**15 45 25.1**	**-1.5**
PB16	**IPOC Station P**	**6.04**	**335**	Pn	**Pn**	**15 45 30.4**	**+0.3**
PB12	**IPOC Station P**	**6.15**	**328**	Pn	**Pn**	**15 45 29.8**	**-1.3**
LCO	**Las Campanas**	**6.17**	**213**	Pn	**Pn**	**15 45 29.7**	**-1.7**
GO04	**Tololo Observa**	**7.20**	**208**	Pn	**Pn**	**15 45 42.6**	**-1.9**
LPAZ	**La Paz**	**7.64**	**351**	Pn	**Pn**	**15 45 51.0**	**+0.3**
LPAZ	**La Paz**	**7.64**	**351**	*e*P	Pn	15 45 45.9	-4.8
CFA	**Coronel Fontan**	**7.80**	**189**	P	**Pn**	**15 45 51.6**	**-0.6**
	comp=Z,5.8nm,0.3s,baz=327,sl

PTLB	**Pontes e Lacer**	**11.09**	**42**	*eP*		**Pn**	**15 46 32.9**	**-1.7**
TRCB	**Terra Rica**	**13.11**	**88**			**P**	**15 47 04.3**	**+1.5**
SALV	**Santo Antonio**	**13.15**	**55**	*eP*		**Pn**	**15 46 59.8**	**-0.8**
PTGB	**Pitanga**	**13.51**	**97**	*eP*		**P**	**15 47 09.2**	**+1.9**
ITAB	**Concordia**	**13.70**	**107**			**P**	**15 47 09.7**	**+0.4**
ITAB	**Concordia**	**13.70**	**107**	*eP*		**P**	**15 47 09.7**	**+0.4**
ETMB	**Extrema**	**13.99**	**3**			**Pn**	**15 47 10.4**	**-0.6**
ETMB	**Extrema**	**13.99**	**3**	*eP*		**Pn**	**15 47 07.9**	**-3.1**
PLTB	**Pedras Altas**	**14.11**	**127**			**Pn**	**15 47 12.2**	**-0.1**
TRQA	**Tornquist**	**14.74**	**165**			**Pn**	**15 47 17.9**	**-2.2**
SAML	**Samuel**	**15.25**	**14**	P		**P**	**15 47 26.4**	**-0.2**
FRTB	**Fartura**	**15.86**	**92**	*eP*		**Pn**	**15 47 34.7**	**+0.9**
GO06	**Curarrehue**	**16.15**	**193**		P	**P**	**15 47 35.6**	**-0.7**
GO06					IAmb	IAmb	15 47 39.7	
	comp=Z,8.2nm,0.8s							
PLCA	**Paso Flores**	**17.10**	**190**		P	**Pn**	**15 47 49.2**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=12,slow=15,SNR=3.6							
PLCA	**Paso Flores**	**17.10**	**190**		P	**P**	**15 47 44.6**	**-2.1**
PLCA					IAmb	IAmb	15 48 03.6	
	comp=Z,8.2nm,1.2s							
SPB	**Sao Paulo**	**17.79**	**93**		P	**Pn**	**15 47 55.5**	**-1.0**
IPMB	**Ipameri, GO**	**18.36**	**75**	*eP*		**P**	**15 48 01.7**	**+1.0**
BDFB	**Brasilia**	**19.51**	**69**		P	**P**	**15 48 14.6**	**+1.5**
	comp=Z,4.9nm,0.6s,baz=230,slow=11,SNR=7.2							
JANB	**Januaria**	**22.96**	**72**	*eP*		**P**	**15 48 48.0**	**+0.2**
SDBA	**SAO DESIDERIO**	**23.73**	**65**	*eP*		**P**	**15 48 54.8**	**0.0**
BOAV	**Boa Vista**	**26.82**	**14**	P		**P**	**15 49 21.1**	**-1.4**
BOAV					IAmb	IAmb	15 49 59.9	
	comp=Z,6.6nm,1.2s							
TXAR	**Lajitas Array**	**63.65**	**324**		P	**P**	**15 54 13.1**	**+2.6**
	comp=Z,0.4nm,0.8s,baz=120,slow=7.4,SNR=5.4							
	comp=Z,0.4nm,0.8s							
PDAR	**Pinedale Array**	**77.11**	**329**		P	**P**	**15 55 34.8**	**+3.0**
	comp=Z,0.2nm,0.6s,baz=139,slow=7.0,SNR=2.2							
	comp=Z,0.2nm,0.6s							
BOSA	**Boshof**	**80.67**	**117**		P	**P**	**15 55 52.4**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=182,slow=2.3,SNR=3.6							
	comp=Z,1.7nm,0.7s							
MKAR	**Makanchi Array**	**146.34**	**39**		PKPbc	**PKiKP**	**16 03 19.3**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=303,slow=3.5,SNR=4.7							
CMAR	**Chiang Mai Arr**	**165.70**	**109**		PKPab	**PKPab**	**16 04 43.7**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=270,slow=4.5,SNR=1.3							

ROM 04 15:54:28.8±0.0, 42°.812N±0°.002×13°.131E±0°.003, h10km, ML1.2/7, 2C, Error ellipse: s-maj=0.2km s-min=0.2km az=325.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.02**	**331**	P	Pg	15 54 30.9	+0.2
NRCA				S	Sg	15 54 32.0	-0.1
NRCA				AML	AML		
	comp=E,2020μm,0.1s						
NRCA				AML	AML		
	comp=N,1495μm,1.3s						
T1245	**Castelsantange**	**0.06**	**44**	P	Pg	15 54 31.4	+0.3
T1245				S	Sg	15 54 32.9	+0.1
T1245				AML	AML		
	comp=N,476μm,1.2s						
T1245				AML	AML		
	comp=E,465μm,0.8s						
T1245				AML	AML		
	comp=E,320μm,0.8s						
T1245				AML	AML		
	comp=N,464μm,0.7s						
T1245				AML	AML		
	comp=N,476μm,0.8s						
T1214	**Arquata del Tr**	**0.08**	**132**	P	Pg	15 54 31.6	+0.3
T1214				S	Sg	15 54 33.2	+0.2
T1214				AML	AML		
	comp=E,252μm,0.2s						
T1214				AML	AML		
	comp=E,206μm,0.9s						
T1214				AML	AML		
	comp=N,240μm,1.4s						
T1214				AML	AML		
	comp=N,250μm,0.3s						
T1214				AML	AML		
	comp=E,206μm,0.2s						
T1214				AML	AML		
	comp=E,252μm,0.2s						
T1214				AML	AML		
	comp=N,240μm,0.6s						
T1212	**Cascia, Frazio**	**0.09**	**226**	P	Pg	15 54 31.7	+0.4
T1212				S	Sg	15 54 33.6	+0.4
T1212				AML	AML		
	comp=E,480μm,1.4s						
T1212				AML	AML		
	comp=N,318μm,1.0s						
T1212				AML	AML		
	comp=N,306μm,0.1s						
T1212				AML	AML		
	comp=E,480μm,1.4s						
T1212				AML	AML		
	comp=E,248μm,0.4s						
T1212				AML	AML		
	comp=E,480μm,0.6s						
T1212				AML	AML		
	comp=N,318μm,1.0s						
MC2	**Monte Cornacci**	**0.11**	**24**	P	Pg	15 54 32.2	+0.5
MC2				S	Sg	15 54 34.6	+0.8
T1216	**Preci, Frazion**	**0.11**	**314**	P	Pg	15 54 32.1	+0.5
T1216				S	Sg	15 54 34.2	+0.5
T1218	**Civita (PG)**	**0.14**	**185**	P	Pg	15 54 32.7	+0.6
T1218				S	Sg	15 54 35.5	+1.0
T1218				AML	AML		
	comp=N,195μm,0.2s						
T1218				AML	AML		
	comp=E,106μm,0.1s						
T1218				AML	AML		
	comp=N,196μm,0.2s						
MMO1	**Montemonaco**	**0.17**	**59**	P	Pg	15 54 33.0	+0.5
MMO1				S	Sg	15 54 36.0	+0.9
T1215	**Vallo di Nera,**	**0.19**	**267**	P	Pg	15 54 33.5	+0.6
T1215				S	Sg	15 54 36.6	+0.9
T1215				AML	AML		
	comp=N,51μm,0.1s						
T1215				AML	AML		
	comp=E,29μm,0.1s						
T1256	**Bolognola (MC)**	**0.21**	**20**	⇑P	Pg	15 54 34.0	+0.7
T1256				S	Sg	15 54 37.6	+1.3
LNSS	**Leonessa**	**0.22**	**198**	⇑P	Pg	15 54 34.0	+0.6
LNSS				S	Sg	15 54 37.9	+1.4
LNSS				AML	AML		
	comp=E,110μm,0.3s						
LNSS				AML	AML		
	comp=N,96μm,1.1s						
FDMO	**Fiordimonte**	**0.23**	**352**	AML	AML		
	comp=N,30μm,0.4s						
FDMO				AML	AML		
	comp=E,54μm,0.1s						
FDMO				AML	AML		
	comp=E,54μm,0.1s						
T1241	**Roccafluvione,**	**0.23**	**79**	P	Pg	15 54 34.0	+0.6
T1241				S	Sg	15 54 38.0	+1.3
T1241				AML	AML		
	comp=E,54μm,0.3s						
T1241				AML	AML		
	comp=N,25μm,0.2s						
SMA1	**SAN MARTINO**	**0.24**	**140**	P	Pb	15 54 34.6	-0.6
SMA1				S	Sg	15 54 38.2	+1.2
CESI	**CESI - Serrava**	**0.25**	**319**	P	Pg	15 54 34.7	+0.7
CESI				S	Sb	15 54 38.9	-1.1
CESI				AML	AML		
	comp=E,41μm,0.4s						
CESI				AML	AML		
	comp=N,89μm,0.9s						
T1243	**Rocca Santa Ma**	**0.26**	**116**	P	Pg	15 54 34.6	+0.5
T1243				S	Sg	15 54 38.8	+1.1
RM33	**Pellescritta (**	**0.31**	**168**	P	Pb	15 54 36.0	-0.4
RM33				S	Sb	15 54 40.6	-0.9
RM33				AML	AML		
	comp=N,15μm,0.2s						
RM33				AML	AML		
	comp=E,19μm,0.3s						
T1211	**Morro Reatino**	**0.34**	**216**	P	Pb	15 54 36.4	-0.6
T1211				S	Sb	15 54 41.6	-1.0
TERO	**Teramo**	**0.40**	**118**	P	Pg	15 54 36.8	+0.2
TERO				S	Sb	15 54 43.2	-0.9

*NOU **04** 16:24:01.6, 10°.16S×161°.67E, h58km, mb4.6/13, Solomon Islands*
*NEIC **04** 16:24:02.6±1.9, 10°.46S±0°.08×161°.38E±0°.09, h51km±6km, mb4.7/89, Error ellipse: s-maj=14.2km s-min=10.1km az=62.0*
*IDC **04** 16:24:03.7±2.4, 10°.47S×161°.39E, h65km±19km, mb4.0/15, mbtmp4.3/18, MS3.5/15, Error ellipse: s-maj=21.1km s-min=13.1km az=84.0*
ISC 04 16:24:03.1±0.4, 10°.52S±0°.05×161°.41E±0°.06, h61km, n273, σ1§18/271, mb4.7/66, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.80**	**307**	P	**Pn**	**16 24 30.4**	**-1.4**
	5μm,0.4s,baz=189,slow=4.5,SNR=49						
HNR				S	**Sn**	**16 24 53.9**	**+0.3**
	17μm,0.3s,baz=111,slow=19,SNR=11						
HNR				LR	LR	16 25 28.8	
	comp=Z,7μm,18.9s,baz=163,slow=48						
HNR	**Honiara**	**1.80**	**307**		**Pn**	**16 24 30.2**	**-1.7**
HNR	**Honiara**	**1.80**	**307**	P	**Pn**	**16 24 30.3**	**-1.6**
KOUNC	**Koumac, New Ca**	**10.36**	**165**	Pn	**Pn**	**16 26 27.9**	**-1.1**
KOUNC	**Koumac, New Ca**	**10.36**	**165**	P	**Pn**	**16 26 29.5**	**+0.5**
RABL	**Rabaul**	**11.11**	**304**	Pn	**Pn**	**16 26 36.2**	**-3.2**
KRVT	**Keravat (AS076**	**11.16**	**303**	LR	LR	16 30 48.2	
	comp=Z,122nm,18.1s,baz=234,slow=36						
LIFNC	**LIFOU**	**11.64**	**152**	Pn	**Pn**	**16 26 44.4**	**-2.1**
DZM	**Mont Dzumac**	**12.46**	**158**	P	**Pn**	**16 26 57.9**	**0.0**
	3.6nm,0.3s,baz=13,slow=8.8,SNR=61						
DZM				S	**Sn**	**16 29 08.7**	**-6.4**
	6.5nm,0.9s,baz=5.3,slow=12,SNR=2.2						
DZM				LR	LR	16 30 52.9	
	comp=Z,189nm,19.6s,baz=20,slow=33						
DZM	**Mont Dzumac**	**12.46**	**158**	Pn	**Pn**	**16 26 57.2**	**-0.7**
MARNC	**Marc, Loyalty**	**12.62**	**151**	Pn	**Pn**	**16 26 59.5**	**-0.4**
ONTNC	**Ouen Toro**	**12.68**	**158**	Pn	**Pn**	**16 27 01.4**	**+0.7**
OUENC	**Ouen Island, N**	**12.93**	**157**	Pn	**Pn**	**16 27 04.3**	**+0.3**
PMG	**Port Moresby**	**14.08**	**273**	P	**Pn**	**16 27 18.7**	**-0.9**
	6.1nm,0.9s,baz=89,slow=9.6,SNR=4.2						
PMG				LR	LR	16 32 13.7	
	comp=Z,242nm,21.8s,baz=103,slow=35						
PMG	**Port Moresby**	**14.08**	**273**	Pn	**Pn**	**16 27 16.5**	**-3.1**
CTA	**Charters Tower**	**17.43**	**235**	P	**P**	**16 28 03.3**	**+0.6**
	32nm,1.0s,baz=68,slow=10,SNR=17						
CTA				LR	LR	16 34 07.7	
	comp=Z,136nm,19.5s,baz=56,slow=35						
CTA	**Charters Tower**	**17.43**	**235**	P	**P**	**16 28 04.1**	**+1.4**
CTAO	**Charters Tower**	**17.43**	**235**		**P**	**16 28 02.9**	**+0.2**
CTAO	**Charters Tower**	**17.43**	**235**	P	**P**	**16 28 04.0**	**+1.4**
EIDS	**Eidsvold**	**17.72**	**212**		**P**	**16 28 06.9**	**+1.0**
COEN	**Coen**	**18.14**	**257**	Pn	**Pn**	**16 28 12.5**	**+1.5**
COEN	**Coen**	**18.14**	**257**	P	**Pn**	**16 28 13.2**	**+2.2**
MTSU	**Mount Surprise**	**18.20**	**243**	P	**Pn**	**16 28 14.5**	**+2.8**
RMQ	**Roma**	**19.88**	**215**	P	**Pn**	**16 28 33.4**	**+1.8**
ARMA	**Armidale**	**21.79**	**203**	P	**P**	**16 28 50.8**	**+0.5**
ARMA				IAmb	IAmb	16 28 52.0	
	comp=Z,49nm,1.4s						
AULRC	**Lightning Ridg**	**22.62**	**212**	P	**P**	**16 29 01.0**	**+2.1**
	comp=Z,30nm,1.4s						
QLP	**Quilpie**	**22.77**	**223**	P	**P**	**16 29 02.0**	**+1.4**
	comp=Z,19nm,1.4s						
QIS	**Mount Isa**	**23.23**	**242**	P	**P**	**16 29 06.2**	**+0.9**
SMPI	**Sarmi**	**24.08**	**289**	P	**P**	**16 29 16.1**	**+3.0**
	comp=Z,46nm,1.4s						
INKA	**Innaminka**	**25.90**	**226**	P	**P**	**16 29 30.9**	**+1.4**
SRPI	**Serui, Papua**	**26.43**	**287**	P	**P**	**16 29 37.9**	**+3.4**
WR0	**Warramunga Arr**	**27.53**	**247**	P	**P**	**16 29 43.8**	**-0.6**
WB0	**Warramunga Arr**	**27.61**	**247**	P	**P**	**16 29 44.6**	**-0.4**
WB0				IAmb	IAmb	16 29 45.4	
	comp=Z,8.6nm,0.6s						
WB2	**Warramunga Arr**	**27.70**	**247**	P	**P**	**16 29 45.7**	**-0.2**
WRA	**Warramunga Arr**	**27.71**	**247**	P	**P**	**16 29 45.8**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=77,slow=8.7,SNR=34						
WRA				LR	LR	16 40 42.8	
	comp=Z,110nm,18.1s,baz=48,slow=36						
	comp=Z,3.7nm,0.5s						
WRA	**Warramunga Arr**	**27.71**	**247**	P	**P**	**16 29 43.6**	**-2.4**
STKA	**Stephens Creek**	**28.06**	**218**	P	**P**	**16 29 49.5**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=41,slow=15,SNR=1.7						
STKA				LR	LR	16 41 01.7	
	comp=Z,184nm,19.0s,baz=24,slow=36						
	comp=Z,1.4nm,0.9s						
AS31	**Alice Springs**	**29.29**	**240**	P	**P**	**16 29 58.6**	**-1.4**
ASAR	**Alice Springs**	**29.29**	**240**	P	**P**	**16 29 59.0**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=64,slow=10,SNR=50						
ASAR				LR	LR	16 41 08.4	
	comp=Z,170nm,19.1s,baz=92,slow=35						
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**29.29**	**240**	P	**P**	**16 29 58.2**	**-1.8**
LCRK	**Leigh Creek**	**29.30**	**224**	P	**P**	**16 30 00.8**	**+0.9**
TOO	**Toolangi**	**30.51**	**205**	P	**P**	**16 30 09.7**	**-0.9**
SIJI	**Sorong**	**31.45**	**286**	LR	LR	16 42 51.1	
	comp=Z,57nm,21.3s,baz=118,slow=36						
BKZ	**Black Stump Fm**	**31.55**	**157**	P	**P**	**16 30 21.1**	**+1.4**
KNRA	**Kununurra**	**32.18**	**257**	P	**P**	**16 30 24.6**	**-0.9**
BBOO	**Buckleboo**	**32.20**	**223**	P	**P**	**16 30 25.3**	**-0.2**
BBOO				IAmb	IAmb	16 30 26.6	
	comp=Z,15nm,0.9s						
FORT	**Forrest**	**36.93**	**232**	P	**P**	**16 31 07.5**	**+1.1**
FORT				IAmb	IAmb	16 31 19.6	
	comp=Z,15nm,0.8s						
LUWI	**Luwuk**	**39.52**	**281**	P	**P**	**16 31 27.5**	**-0.9**
MBWA	**Marble Bar**	**41.35**	**250**	P	**P**	**16 31 42.6**	**-0.8**
MBWA				IAmb	IAmb	16 32 17.4	
	comp=Z,17nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.26**	**234**	LR	LR	16 51 36.9	
	comp=Z,70nm,20.7s,slow=36						
JAGI	**Jajag, Banyuwa**	**46.62**	**268**	P	**P**	**16 32 24.6**	**-1.2**
PPT	**Papeete**	**47.96**	**104**	LR	LR	16 51 27.2	
	comp=Z,79nm,18.1s,baz=272,slow=34						
JGF	**Kuroka**	**51.19**	**335**	P	**P**	**16 32 58.6**	**-1.8**
JMN	**Monobe**	**51.20**	**330**	P	**P**	**16 32 60.0**	**-0.6**
MJAR	**Matsushiro Arr**	**51.65**	**336**	P	**P**	**16 33 02.4**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=170,slow=8.3,SNR=13						
MJAR				LR	LR	16 54 06.4	
	comp=Z,18nm,20.7s,baz=161,slow=35						
	comp=Z,2.1nm,0.6s						
MAJO	**Matsushiro**	**51.65**	**336**	P	**P**	**16 33 01.9**	**-1.9**
MAJO				IAmb	IAmb	16 33 04.1	
	comp=Z,7.1nm,0.8s						
MJB9	**Matsu-Tunnel**	**51.66**	**336**	P	**P**	**16 33 02.8**	**-1.1**
MJB9				IAmb	IAmb	16 33 05.1	
	comp=Z,7.0nm,0.8s						
KHU	**Kahuku**	**51.66**	**55**	P	**P**	**16 33 05.4**	**+0.9**
YULB	**Yu-li**	**51.72**	**311**	P	**P**	**16 33 04.3**	**-0.3**
YULB				IAmb	IAmb	16 33 06.1	
	comp=Z,11nm,0.8s						
JMM	**Marumori**	**51.86**	**339**	P	**P**	**16 33 05.5**	**+0.2**
SSLB	**Suanglung**	**52.21**	**311**	P	**P**	**16 33 07.5**	**-0.8**
JNU	**Nakatsue**	**52.25**	**327**	LR	LR	16 53 55.8	
	comp=Z,18nm,19.5s,baz=85,slow=34						
YHNB	**Yeheng**	**52.42**	**312**	P	**P**	**16 33 10.0**	**+0.2**
JTM	**Tenmabayashi**	**54.40**	**341**	P	**P**	**16 33 23.8**	**-0.1**
JKA	**Kamikawa-asahi**	**56.99**	**344**	P	**P**	**16 33 43.0**	**+0.5**
ASAJ	**Asahikawa**	**57.00**	**344**	LR	LR	16 55 29.9	
	comp=Z,69nm,21.8s,baz=174,slow=33						
KSRS	**Korea Array**	**57.12**	**328**	P	**P**	**16 33 42.0**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=148,slow=6.9,SNR=4.2						
KSRS				LR	LR	16 57 04.6	
	comp=Z,23nm,19.7s,baz=135,slow=35						
	comp=Z,1.6nm,0.8s						
NJ2	**Nanjing**	**58.71**	**318**	*eP*	**P**	**16 33 54.8**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**60.65**	**336**	P	**P**	**16 34 07.0**	**-0.8**
USA0B				IAmb	IAmb	16 34 09.2	
	comp=Z,11nm,1.1s						
USRK	**Ussuriysk Ar.**	**60.65**	**336**	P	**P**	**16 34 08.3**	**+0.5**
	comp=Z,6.5nm,0.9s,baz=143,slow=7.2,SNR=9.4						
	comp=Z,6.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**60.65**	**336**	P	**P**	**16 34 06.9**	**-1.0**
PETK	**Petropavlovsk-**	**63.45**	**358**	P	**P**	**16 34 26.6**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=140,slow=7.2,SNR=6.0						
	comp=Z,4.1nm,0.9s						
KIWB	**Kanaga Island**	**64.82**	**15**	P	**P**	**16 34 35.7**	**+0.3**
ADK	**Adak**	**64.96**	**15**	P	**P**	**16 34 37.1**	**+0.8**
XAN	**Xi'an**	**66.66**	**314**	P	**P**	**16 34 48.1**	**+0.4**
XAN				pP	pP	16 35 04.2	+0.7
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VNDA	**Vanda**	**66.99**	**180**	P	**P**	**16 34 51.3**	**+2.2**
	comp=Z,1.9nm,1.1s,baz=308,slow=7.7,SNR=6.0						
	comp=Z,1.9nm,1.1s						
VNDA	**Vanda**	**66.99**	**180**	P	**P**	**16 34 50.1**	**+1.1**
VNDA				IAmb	IAmb	16 34 53.7	
	comp=Z,9.5nm,1.5s						
HEH	**HeiHe**	**67.40**	**337**	*eP*	**P**	**16 34 51.2**	**-0.8**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XLT	**XiLinHaoTe**	**68.01**	**326**	*eP*	**P**	**16 34 56.2**	**+0.1**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,98nm,4.5s						
CMAR	**Chiang Mai Arr**	**68.01**	**295**	P	**P**	**16 34 57.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=113,slow=4.1,SNR=4.3						
CMAR				*pP*	**pP**	**16 35 14.1**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=130,slow=5.7,SNR=2.4						
	comp=Z,0.3nm,0.4s						
UNV	**Unalaska Valle**	**69.66**	**20**	P	**P**	**16 35 05.1**	**-0.9**
SPIA	**Saint Paul Isl**	**71.38**	**16**	P	**P**	**16 35 16.1**	**-0.3**
ULN	**Ulaanbaatar**	**75.41**	**326**	P	**P**	**16 35 41.1**	**+0.5**
R16K	**Pilot Point** baz=222	**75.70**	**21**	P	**P**	**16 35 41.9**	**+0.2**
SONM	**Songino Array**	**75.76**	**325**	P	**P**	**16 35 42.6**	**0.0**
	comp=Z,4.5nm,0.7s,baz=144,slow=5.7,SNR=29						
SONM				LR	LR	17 08 56.1	
	comp=Z,35nm,19.0s,baz=308,slow=36						
	comp=Z,4.5nm,0.7s						
SONM	**Songino Array**	**75.76**	**325**	P	**P**	**16 35 42.3**	**-0.3**
YAK	**Yakutsk**	**76.44**	**345**	P	**P**	**16 35 44.9**	**-1.0**
P16K	**Nushagak River** baz=221	**76.65**	**20**	P	**P**	**16 35 47.9**	**+0.8**
O16K	**Kokwok River B** baz=221	**77.04**	**20**	P	**P**	**16 35 49.6**	**+0.3**
OHAK	**Old Harbor** baz=226	**77.05**	**23**	P	**P**	**16 35 50.0**	**+0.6**
P17K	**Kvichak River** baz=223	**77.31**	**21**	P	**P**	**16 35 51.3**	**+0.5**
N16K	**Nishlik Lake** baz=220	**77.49**	**19**	P	**P**	**16 35 53.3**	**+1.4**
O17K	**Koliganek Bris** baz=222	**77.51**	**20**	P	**P**	**16 35 52.1**	**+0.1**
KDAK	**Kodiak Island** baz=226	**77.72**	**23**	P	**P**	**16 35 53.6**	**+0.5**
P18K	**Big Mountain,** baz=224	**77.88**	**21**	P	**P**	**16 35 54.4**	**+0.3**
Q19K	**Cape Douglas,** baz=225	**78.12**	**22**	P	**P**	**16 35 56.0**	**+0.6**
O18K	**Koktuh Hills** baz=224	**78.22**	**21**	P	**P**	**16 35 56.4**	**+0.5**
BILL	**Bilibino**	**78.43**	**2**	P	**P**	**16 35 55.9**	**-1.0**
BILL				IAmb	IAmb	16 35 58.8	
	comp=Z,5.4nm,0.8s						
O19K	**Port Alsworth** baz=224	**78.78**	**21**	P	**P**	**16 35 59.6**	**+0.6**
SVW2	**Sparrevohn**	**79.00**	**20**	P	**P**	**16 36 01.2**	**+1.0**
N19K	**Bonanza Creek**	**79.16**	**20**	P	**P**	**16 35 59.4**	**-1.8**
N19K	**Bonanza Creek** baz=224	**79.16**	**20**	P	**P**	**16 36 01.7**	**+0.5**
CNPM	**China Poot**	**79.42**	**22**	P	**P**	**16 36 03.3**	**+0.7**
QSPA	**South Pole Qui**	**79.48**	**180**	P	**P**	**16 36 03.2**	**+0.2**
RSO	**Redoubt South**	**79.52**	**21**	P	**P**	**16 36 02.8**	**-0.4**
BRSE	**Bradley Lake S** baz=228	**79.76**	**22**	P	**P**	**16 36 04.9**	**+0.5**
L19K	**White Mountain**	**80.03**	**19**	P	**P**	**16 36 06.6**	**+0.8**
L19K	**White Mountain** baz=224	**80.03**	**19**	P	**P**	**16 36 06.7**	**+0.9**
TTA	**Tatalina**	**80.21**	**18**	P	**P**	**16 36 07.1**	**+0.3**
TTA				IAmb	IAmb	16 36 09.1	
	comp=Z,7.6nm,0.9s						
TTA	**Tatalina** baz=222,SNR=6.7	**80.21**	**18**	P	**P**	**16 36 07.9**	**+1.1**
M20K	**Styx River**	**80.38**	**20**	P	**P**	**16 36 07.7**	**-0.1**
M20K				IAmb	IAmb	16 36 10.0	
	comp=Z,5.8nm,0.8s						
M20K	**Styx River** baz=225	**80.38**	**20**	P	**P**	**16 36 08.8**	**+1.0**
L20K	**Farewell, AK** baz=224	**80.56**	**19**	P	**P**	**16 36 09.8**	**+1.2**
SUA	**Susitna One**	**80.92**	**21**	P	**P**	**16 36 10.5**	**-0.2**
SUA				IAmb	IAmb	16 36 14.5	
	comp=Z,5.9nm,0.7s						
SUA	**Susitna One** baz=228	**80.92**	**21**	P	**P**	**16 36 11.3**	**+0.6**
SKT	**Skwentna** baz=227	**81.00**	**20**	P	**P**	**16 36 11.8**	**+0.8**
RC01	**Rabbit Creek A**	**81.03**	**22**	P	**P**	**16 36 11.5**	**+0.4**
RC01	**Rabbit Creek A** baz=229	**81.03**	**22**	P	**P**	**16 36 11.8**	**+0.7**
K20K	**Telida**	**81.13**	**19**	P	**P**	**16 36 12.2**	**+0.5**
K20K	**Telida** baz=224	**81.13**	**19**	P	**P**	**16 36 12.7**	**+1.1**
GCSA	**Galena City Sc** baz=222	**81.31**	**17**	P	**P**	**16 36 13.3**	**+0.8**
M22K	**Willow** baz=228	**81.33**	**21**	P	**P**	**16 36 13.3**	**+0.6**
PWL	**Port Wells** baz=230	**81.40**	**22**	P	**P**	**16 36 14.4**	**+1.3**
PPLA	**Purkeypile**	**81.41**	**20**	P	**P**	**16 36 13.3**	**0.0**
PPLA	**Purkeypile** baz=226	**81.41**	**20**	P	**P**	**16 36 14.0**	**+0.7**
PMR	**Palmer**	**81.58**	**22**	P	**P**	**16 36 15.2**	**+1.1**
PMR	**Palmer** baz=229	**81.58**	**22**	P	**P**	**16 36 15.0**	**+1.0**
J20K	**Nowinta River**	**81.69**	**18**	P	**P**	**16 36 15.2**	**+0.6**
J20K				IAmb	IAmb	16 36 17.2	
	comp=Z,8.2nm,1.1s						
J20K	**Nowinta River** baz=224,SNR=6.1	**81.69**	**18**	P	**P**	**16 36 15.8**	**+1.2**
KNK	**Knik Glacier** baz=230	**81.71**	**22**	P	**P**	**16 36 15.7**	**+0.9**
CAST	**Castle Rocks**	**81.81**	**19**	P	**P**	**16 36 15.2**	**0.0**
CAST	**Castle Rocks** baz=226,SNR=26	**81.81**	**19**	P	**P**	**16 36 15.2**	**0.0**
SML	**Sawmill** baz=230	**82.01**	**22**	P	**P**	**16 36 17.2**	**+0.8**
CHUM	**Lake Minchumin** baz=226	**82.06**	**19**	P	**P**	**16 36 17.4**	**+1.0**
EYAK	**Cordova Ski Ar** baz=232	**82.19**	**23**	P	**P**	**16 36 18.4**	**+1.2**
M23K	**Glacier View** baz=230	**82.22**	**22**	P	**P**	**16 36 18.2**	**+0.7**
KTH	**Kantishna Hill**	**82.28**	**20**	P	**P**	**16 36 17.2**	**-0.6**
KTH				IAmb	IAmb	16 36 18.7	
	comp=Z,8.9nm,0.7s						
SCM	**Sheep Creek Mo**	**82.39**	**22**	P	**P**	**16 36 19.6**	**+1.1**

MLY				IAmb	IAmb	16 36 25.0	
	comp=Z,6.9nm,0.7s						
MLY	**Manley**	**83.34**	**18**	P	**P**	**16 36 23.8**	**+0.6**
	baz=227,SNR=12						
GLB	**Gilahina Butte**	**83.48**	**23**	P	**P**	**16 36 24.7**	**+0.6**
GLB				IAmb	IAmb	16 36 25.8	
	comp=Z,5.8nm,0.8s						
VRDI	**Verde Repeater**	**83.50**	**24**	P	**P**	**16 36 24.6**	**+0.3**
VRDI				IAmb	IAmb	16 36 26.3	
	comp=Z,5.5nm,1.0s						
HARP	**HAARP**	**83.55**	**22**	P	**P**	**16 36 25.1**	**+0.8**
	baz=233						
G21K	**Allakaket**	**83.56**	**17**	P	**P**	**16 36 25.1**	**+0.9**
	baz=224						
NEA2	**Nenana**	**83.58**	**19**	P	**P**	**16 36 23.5**	**-0.9**
NEA2				IAmb	IAmb	16 36 25.5	
	comp=Z,8.0nm,0.8s						
NEA2	**Nenana**	**83.58**	**19**	P	**P**	**16 36 24.5**	**+0.1**
	baz=229,SNR=9.0						
H22K	**Ishtalitna Cre**	**83.74**	**18**	P	**P**	**16 36 25.9**	**+0.7**
	baz=227						
MCARA	**McCarthy VSAT**	**83.76**	**24**	P	**P**	**16 36 26.6**	**+1.2**
MCARA				IAmb	IAmb	16 36 28.6	
	comp=Z,8.7nm,1.1s						
PAX	**Paxson**	**83.78**	**22**	P	**P**	**16 36 26.0**	**+0.4**
	baz=232						
WRH	**Wood River Hil**	**83.82**	**20**	P	**P**	**16 36 25.1**	**-0.5**
WRH				IAmb	IAmb	16 36 26.3	
	comp=Z,5.3nm,0.6s						
I23K	**Minto, Yukon-K**	**83.86**	**19**	P	**P**	**16 36 25.3**	**-0.4**
I23K	**Minto, Yukon-K**	**83.86**	**19**	P	**P**	**16 36 26.3**	**+0.6**
	baz=228						
CCB	**Clear Creek Bu**	**84.03**	**20**	P	**P**	**16 36 26.1**	**-0.6**
CCB				IAmb	IAmb	16 36 27.1	
	comp=Z,4.9nm,0.6s						
F21K	**Alatna River**	**84.08**	**16**	P	**P**	**16 36 27.6**	**+0.7**
	baz=224						
MDM	**Murphy Dome**	**84.09**	**19**	P	**P**	**16 36 26.7**	**-0.4**
MDM				IAmb	IAmb	16 36 28.1	
	comp=Z,5.4nm,0.8s						
BARN	**Barnard Glacie**	**84.11**	**24**	P	**P**	**16 36 28.4**	**+1.0**
BARN				IAmb	IAmb	16 36 30.2	
	comp=Z,5.9nm,0.6s						
TCOL	**CIGO, UAF Yank**	**84.16**	**19**	P	**P**	**16 36 27.8**	**+0.5**
	baz=230						
COLA	**College**	**84.16**	**19**	P	**P**	**16 36 27.9**	**+0.6**
	baz=230						
PCA	**Pinnacle**	**84.16**	**25**	P	**P**	**16 36 28.0**	**+0.4**
PCA				IAmb	IAmb	16 36 30.0	
	comp=Z,10nm,0.8s						
HDA	**Harding Lake**	**84.16**	**20**	P	**P**	**16 36 27.7**	**+0.3**
HDA				IAmb	IAmb	16 36 28.9	
	comp=Z,10nm,0.8s						
HDA	**Harding Lake**	**84.16**	**20**	P	**P**	**16 36 27.9**	**+0.5**
	baz=231,SNR=12						
PINM	**Pinnacle**	**84.16**	**25**	P	**P**	**16 36 27.9**	**+0.4**
	baz=237						
K24K	**Donnelly Dome**	**84.19**	**21**	P	**P**	**16 36 28.4**	**+0.8**
	baz=232						
H23K	**Yukon River**	**84.25**	**18**	P	**P**	**16 36 28.0**	**+0.2**
H23K				IAmb	IAmb	16 36 29.9	
	comp=Z,5.9nm,0.7s						
H23K	**Yukon River**	**84.25**	**18**	P	**P**	**16 36 28.5**	**+0.7**
	baz=228						
M26K	**Nabesna, AK**	**84.36**	**23**	P	**P**	**16 36 28.2**	**-0.3**
M26K				IAmb	IAmb	16 36 30.8	
	comp=Z,5.9nm,0.8s						
M26K	**Nabesna, AK**	**84.36**	**23**	P	**P**	**16 36 29.4**	**+0.9**
	baz=235						
MENT	**Mentasta**	**84.40**	**22**	P	**P**	**16 36 28.8**	**+0.1**
MENT				IAmb	IAmb	16 36 30.6	
	comp=Z,5.2nm,0.6s						
G22K	**Bettles**	**84.42**	**17**	P	**P**	**16 36 29.7**	**+1.2**
	baz=226						
IL31		**84.42**	**20**	P	**P**	**16 36 28.0**	**-0.5**
IL31				IAmb	IAmb	16 36 30.4	
	comp=Z,7.3nm,1.2s						
ILAR	**Eielson Array**	**84.42**	**20**	P	**P**	**16 36 28.2**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=244,slow=4.9,SNR=58						
	comp=Z,1.7nm,0.4s						
ILAR	**Eielson Array**	**84.42**	**20**	P	**P**	**16 36 28.4**	**-0.2**
POKR	**Poker Plat Res**	**84.45**	**19**	P	**P**	**16 36 29.2**	**+0.4**
	baz=230						
RIDG	**Independent Ri**	**84.47**	**21**	P	**P**	**16 36 29.0**	**0.0**
RIDG				IAmb	IAmb	16 36 30.6	
	comp=Z,6.1nm,1.0s						
RIDG	**Independent Ri**	**84.47**	**21**	P	**P**	**16 36 30.0**	**+1.0**
	baz=233						
O28M	**Mount Upton**	**84.56**	**25**	P	**P**	**16 36 30.8**	**+1.0**
	baz=237						
L26K	**Log Cabin Wild**	**84.59**	**22**	P	**P**	**16 36 30.4**	**+0.8**
L26K				IAmb	IAmb	16 36 32.0	
	comp=Z,6.0nm,0.8s						
L26K	**Log Cabin Wild**	**84.59**	**22**	P	**P**	**16 36 30.9**	**+1.3**
	baz=234,SNR=6.8						
F22K	**John River**	**84.64**	**16**	P	**P**	**16 36 31.0**	**+1.3**
	baz=226						
DOT	**Dot Lake**	**84.70**	**21**	P	**P**	**16 36 30.0**	**-0.1**
DOT				IAmb	IAmb	16 36 31.8	
	comp=Z,8.1nm,0.7s						
G23K	**Bananza Creek**	**84.70**	**17**	P	**P**	**16 36 31.6**	**+1.5**
	baz=228						
M27K	**Edge Creek, AK**	**84.76**	**23**	P	**P**	**16 36 31.6**	**+1.0**
M27K				IAmb	IAmb	16 36 33.0	
	comp=Z,4.6nm,0.7s						
M27K	**Edge Creek, AK**	**84.76**	**23**	P	**P**	**16 36 32.0**	**+1.4**
	baz=236						
SCRK	**Sand Creek**	**84.92**	**21**	P	**P**	**16 36 32.4**	**+1.0**
SCRK				IAmb	IAmb	16 36 33.1	
	comp=Z,5.9nm,0.7s						
SCRK	**Sand Creek**	**84.92**	**21**	P	**P**	**16 36 32.4**	**+1.0**
	baz=234,SNR=9.8						
YUK3	**Moose Creek**	**84.99**	**24**	P	**P**	**16 36 33.5**	**+1.7**
	baz=237,SNR=7.2						
P29M	**Windy Craggy**	**85.00**	**26**	P	**P**	**16 36 33.0**	**+1.2**
	baz=240						
YUK8	**Steele Glacier**	**85.01**	**25**	P	**P**	**16 36 34.1**	**+2.1**
	baz=238,SNR=9.2						
E22K	**Anaktuvuk Pass**	**85.17**	**16**	P	**P**	**16 36 33.6**	**+1.2**
	baz=226						
L27K	**Beaver Creek,**	**85.18**	**22**	P	**P**	**16 36 33.4**	**+0.8**
L27K	**Beaver Creek,**	**85.18**	**22**	P	**P**	**16 36 34.0**	**+1.4**
	baz=236						
BVCY	**Beaver Creek**	**85.19**	**23**	P	**P**	**16 36 34.1**	**+1.5**
	baz=237						
YUK6	**Outpost Mounta**	**85.41**	**25**	P	**P**	**16 36 35.2**	**+1.3**
	baz=239						
G24K	**Hadweenzic Riv**	**85.46**	**18**	P	**P**	**16 36 35.6**	**+1.7**
	baz=230						
YUK4	**Talbot Arm**	**85.50**	**25**	P	**P**	**16 36 36.0**	**+1.6**
	baz=239,SNR=11						
PLBC	**Pleasant Camp**	**85.52**	**27**	P	**P**	**16 36 35.1**	**+0.8**
	baz=241						
P30M	**Million Dollar**	**85.59**	**26**	P	**P**	**16 36 36.3**	**+1.6**
	baz=240						
K27K	**Chicken**	**85.64**	**22**	P	**P**	**16 36 36.6**	**+1.8**
	baz=235						
HYT	**Haines Junctio**	**85.71**	**25**	P	**P**	**16 36 36.6**	**+1.2**
HYT				IAmb	IAmb	16 36 38.0	
	comp=Z,3.2nm,0.8s						
HYT	**Haines Junctio**	**85.71**	**25**	P	**P**	**16 36 36.6**	**+1.2**
	baz=240						
E23K	**Chandalar**	**85.73**	**17**	P	**P**	**16 36 36.7**	**+1.4**
	baz=228						
WMQ	**Urumqi**	**85.73**	**316**	*eP*	**P**	**16 36 36.1**	**+0.3**
F24K	**Squaw Lake**	**85.86**	**17**	P	**P**	**16 36 37.4**	**+1.5**
	baz=230						
G25K	**Bearman Lake**	**85.92**	**18**	P	**P**	**16 36 37.7**	**+1.6**
	baz=232						
D23K	**Nanushuk River**	**86.05**	**16**	P	**P**	**16 36 38.3**	**+1.5**
	baz=227						
E24K	**Your Creek**	**86.06**	**17**	P	**P**	**16 36 38.1**	**+1.2**
	baz=229						
M29M	**Somme Creek**	**86.14**	**24**	P	**P**	**16 36 38.7**	**+1.2**
	baz=239						
O30N	**Mendenhall**	**86.28**	**26**	P	**P**	**16 36 39.5**	**+1.4**
	baz=241						
EGAK	**Eagle**	**86.39**	**21**	P	**P**	**16 36 39.7**	**+1.2**
EGAK				IAmb	IAmb	16 36 40.7	
	comp=Z,5.4nm,0.8s						
EGAK	**Eagle**	**86.39**	**21**	P	**P**	**16 36 40.0**	**+1.6**
	baz=236,SNR=6.8						
F25K	**Christian Rive**	**86.58**	**18**	P	**P**	**16 36 40.8**	**+1.4**
	baz=232						
L29M	**L29M**	**86.62**	**23**	P	**P**	**16 36 41.1**	**+1.4**
	baz=239						
DAWY	**Dawson**	**86.64**	**22**	P	**P**	**16 36 41.3**	**+1.5**
	baz=238						
D24K	**Happy Valley**	**86.67**	**16**	P	**P**	**16 36 41.0**	**+1.2**
	baz=229						
I27K	**Kandik River**	**86.70**	**20**	P	**P**	**16 36 41.5**	**+1.5**
	baz=236						
N31M	**Braeburn, Yuko**	**86.76**	**25**	P	**P**	**16 36 41.4**	**+1.0**
N31M				IAmb	IAmb	16 36 43.3	
	comp=Z,4.1nm,0.8s						
N31M	**Braeburn, Yuko**	**86.76**	**25**	P	**P**	**16 36 42.0**	**+1.5**
	baz=241						
G26K	**Porcupine Rive**	**86.76**	**19**	P	**P**	**16 36 42.1**	**+1.9**
	baz=234						
P32M	**Atlin**	**86.78**	**27**	P	**P**	**16 36 41.6**	**+1.0**
	baz=243						
M30M	**Minto, Yukon**	**86.88**	**24**	P	**P**	**16 36 41.1**	**+0.1**
M30M				IAmb	IAmb	16 36 43.2	
	comp=Z,4.7nm,0.6s						
M30M	**Minto, Yukon**	**86.88**	**24**	P	**P**	**16 36 42.5**	**+1.6**
	baz=240						
E25K	**Arctic Village**	**86.93**	**17**	P	**P**	**16 36 42.8**	**+1.7**
	baz=232						
C24K	**Franklin Bluff**	**87.08**	**15**	P	**P**	**16 36 43.3**	**+1.6**
	baz=229						
H27K	**Steamboat Moun**	**87.08**	**20**	P	**P**	**16 36 43.4**	**+1.5**
	baz=236						
F26K	**Sheenjek River**	**87.10**	**18**	P	**P**	**16 36 43.8**	**+1.9**
	baz=233						
Q32M	**Nakina River**	**87.16**	**28**	P	**P**	**16 36 43.5**	**+0.9**
	baz=244						
K29M	**Barlow Dome**	**87.23**	**23**	P	**P**	**16 36 44.3**	**+1.5**
	baz=240						
S34M	**Telegraph Cree**	**87.26**	**30**	P	**P**	**16 36 44.2**	**+1.4**
	baz=245						
J29M	**Klondike Camp**	**87.29**	**22**	P	**P**	**16 36 44.8**	**+1.9**
	baz=239						
G27K	**Doyon Strip**	**87.37**	**19**	P	**P**	**16 36 44.8**	**+1.6**
	baz=236						
D25K	**Kavik River**	**87.45**	**16**	P	**P**	**16 36 45.0**	**+1.4**
	baz=231						
M31M	**Drury Creek, Y**	**87.68**	**25**	P	**P**	**16 36 44.2**	**-0.6**
M31M	**Drury Creek, Y**	**87.68**	**25**	P	**P**	**16 36 45.0**	**+0.2**
	baz=242						
I29M	**Ogilvie Camp,**	**87.72**	**21**	P	**P**	**16 36 46.2**	**+1.2**
	baz=239						
R33M	**Jennings River**	**87.95**	**28**	P	**P**	**16 36 47.8**	**+1.5**
	baz=246						
FARO	**Faro, Yukon**	**88.13**	**25**	P	**P**	**16 36 48.2**	**+1.2**
	baz=243						
E27K	**Coleen River**	**88.17**	**18**	P	**P**	**16 36 48.7**	**+1.7**
	baz=236						
C26K	**Camden Bay**	**88.22**	**16**	P	**P**	**16 36 49.2**	**+2.1**
	baz=232						
C27K	**Jago River**	**88.38**	**17**	P	**P**	**16 36 49.9**	**+1.9**
	baz=234						
EPYK	**Eagle Plains**	**88.80**	**21**	P	**P**	**16 36 51.7**	**+1.6**
EPYK	**Eagle Plains**	**88.80**	**21**	P	**P**	**16 36 51.9**	**+1.9**
	baz=240						
NVAR	**Mina Array Bea**	**88.97**	**51**	P	**P**	**16 36 52.2**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=228,slow=5.1,SNR=4.7						
	comp=Z,0.9nm,0.7s						
GMRC	**Granite Mounta**	**90.20**	**55**	P	**P**	**16 36 58.2**	**+0.8**
	baz=257						
MKAR	**Makanchi Array**	**90.24**	**318**	P	**P**	**16 36 56.3**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=97,slow=6.3,SNR=15						
	comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**90.66**	**325**	P	**P**	**16 36 58.6**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=90,slow=3.0,SNR=2.5						
	comp=Z,0.5nm,0.3s						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**16 37 25.1**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=262,slow=4.8,SNR=12						
	comp=Z,1.1nm,0.6s						
N23A	**Red Feather La**	**98.79**	**50**	P	**P**	**16 37 37.3**	**+0.5**
	baz=264						
ISCO	**Idaho Springs**	**98.92**	**51**	P	**P**	**16 37 38.1**	**+0.6**
	baz=264						
CLL	**Collm**	**131.83**	**334**	*e*PKPdf	**PKPdf**	**16 43 09.0**	**-0.4**
CLL				*e*SKPdf	**SKPdf**	**16 46 39.0**	**-0.6**
ESDC	**Sonseca Array**	**148.18**	**338**	PKPbc	**PKPbc**	**16 43 43.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=20,slow=4.1,SNR=2.2						

*ISK **04** 16:26:55.7,38.77N×43.32E,h2km,ML2.5/12*
*DDA **04** 16:26:56.0±0.0,38.73N×43.37E,h7km±3km,ML2.4*
ISC 04 16:26:57.0±0.9,38.77N±0.03×43.32E±0.04,h18km±8km, n24,σ1°15/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**163**	Pg	**Pg**	**16 27 01.7**	**0.0**
VANB				Sg	**Sg**	**16 27 06.5**	**+1.6**
VMUR	**Van-Muradiye**	**0.29**	**41**	P	**Pg**	**16 27 02.3**	**-1.2**
VMUR				S	**Sg**	**16 27 06.8**	**-1.2**
VMUR				*i* AML	AML	16 27 08.0	
	comp=N,1μm,0.2s						
VMUR				*i* AML	AML	16 27 09.0	
	comp=E,1μm,0.3s						
ADCV	**BITLIS_Adilcev**	**0.47**	**275**	P	**Pb**	**16 27 06.4**	**-0.5**
ADCV				S	**Sb**	**16 27 14.1**	**+0.5**
ADCV				*i* AML	AML	16 27 17.0	
	comp=N,178nm,0.5s						
ADCV				*i* AML	AML	16 27 17.0	
	comp=E,290nm,0.2s						
GEVA	**Gevas**	**0.50**	**205**	P	**Pg**	**16 27 05.6**	**-1.5**
AKDM	**Akdamar-Van**	**0.51**	**212**	Pg	**Pg**	**16 27 06.4**	**-1.0**
AKDM				Sg	**Sb**	**16 27 14.6**	**-0.2**
OZAP	**Van, Ozalp-Mer**	**0.53**	**101**	P	**Pg**	**16 27 06.5**	**-1.3**
MLAZ	**Malazgirt-MUS**	**0.71**	**302**	Pg	**Pb**	**16 27 10.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.85**	**342**	Pg	**Pb**	**16 27 12.9**	**-0.4**
AGRB				Sg	**Sb**	**16 27 25.2**	**+0.7**
BLIS	**Bitlis-Merkez**	**1.01**	**250**	P	**Pg**	**16 27 15.3**	**-1.3**
BLIS				S	**Sb**	**16 27 29.5**	**+0.4**
BLIS				*i* AML	AML	16 27 31.0	
	comp=E,237nm,0.6s						
PERV	**Siirt/Pervari-**	**1.02**	**217**	P	**Pb**	**16 27 16.3**	**0.0**
GURO	**Guroymak-BITLI**	**1.03**	**258**	Pg	**Pb**	**16 27 16.1**	**-0.4**
KOTA	**Agri, Merkez-K**	**1.04**	**355**	P	**Pg**	**16 27 15.8**	**-1.4**
HAKT	**HAKKARI**	**1.25**	**166**	P	**Pg**	**16 27 18.6**	**-2.4**
IGDI	**IGDIR**	**1.25**	**28**	P	**Pg**	**16 27 19.6**	**-1.5**
EATA	**Eleskirt**	**1.27**	**330**	P	**Pb**	**16 27 20.5**	**-0.1**
EATA				S	**Sb**	**16 27 37.9**	**+1.1**
EATA				*i* AML	AML	16 27 43.0	
	comp=N,41nm,0.4s						
TASB	**TASBURUN-IGDIR**	**1.41**	**30**	Pn	**Pb**	**16 27 23.1**	**+0.3**
VRTB	**Varto-Mus**	**1.51**	**286**	Pn	**Pg**	**16 27 24.6**	**-1.4**
CUKT	**Cukurca**	**1.53**	**171**	Pn	**Pg**	**16 27 25.1**	**-1.4**
DIGO	**Kars**	**1.65**	**1**	P	**Pg**	**16 27 27.6**	**-1.0**
KOPR	**Koprukoy-ERZUR**	**1.67**	**317**	Pn	**Pn**	**16 27 26.6**	**+1.0**
GNI	**Garni**	**1.76**	**38**	Pn	**Pb**	**16 27 28.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.78**	**250**	Pn	**Pb**	**16 27 28.6**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.94**	**338**	Pn	**Pn**	**16 27 30.9**	**+1.6**
MAZI	**Mazidag**	**2.62**	**241**	Pn	**Pn**	**16 27 39.8**	**+1.3**

*NEIC **04** 16:38:59.8±3.0,18.66S±0.09×173.28W±0.1,h10km±2km, mb4.5/14,Error ellipse: s-maj=16.8km s-min=14.9km az=89.0*
*IDC **04** 16:39:02.6±1.3,20.63S×173.28W,h0km,mb4.0/7, mbtmp4.0/8,ML3.2/1,MS3.3/2,Error ellipse: s-maj=53.2km s-min=26.9km az=151.0*
ISC 04 16:38:59.6±0.7,18.71S±0.10×173.29W±0.08,h10km,n31, σ2°19/29,mb4.3/15,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.20**	**97**	Pn	**Pn**	**16 39 50.8**	**+0.7**
AFI	**Afiamalu**	**4.99**	**17**	Pn	**Pn**	**16 40 12.7**	**-2.0**
RAO	**Raoul Island**	**11.31**	**201**	Pn	**Pn**	**16 41 42.7**	**+1.3**
RAR	**Rarotonga**	**12.95**	**103**	Pn	**Pn**	**16 42 02.6**	**-1.2**
	1.4nm,0.3s,baz=274,slow=16,SNR=2.8						
RAR				LR	LR	16 46 34.9	
	comp=Z,125nm,18.5s,baz=306,slow=36						
	5.7nm,0.3s						
RAR	**Rarotonga**	**12.95**	**103**	Pn	**Pn**	**16 42 01.8**	**-2.0**
TKNZ	**Takaka Hill**	**25.18**	**205**	P	**P**	**16 44 24.8**	**-0.5**
MRNZ	**Matariki Terra**	**25.57**	**205**	P	**P**	**16 44 28.2**	**-0.6**
WHZ	**Wether Hill Ro**	**31.24**	**206**	P	**P**	**16 45 17.0**	**-2.4**
EIDS	**Eidsvold**	**33.61**	**252**	P	**P**	**16 45 39.6**	**-0.8**
CAN	**Canberra**	**37.19**	**236**	P	**P**	**16 46 08.7**	**-2.5**
CAN				IAmb	IAmb	16 46 31.8	
	comp=Z,13nm,1.2s						
CTAO	**Charters Tower**	**38.12**	**261**	P	**P**	**16 46 19.6**	**+0.4**
CTAO				IAmb	IAmb	16 46 38.1	
	comp=Z,16nm,1.4s						
PMG	**Port Moresby**	**39.39**	**278**	P	**P**	**16 46 29.2**	**-0.6**
PMG				IAmb	IAmb	16 46 36.8	
	comp=Z,10.0nm,1.1s						
TOO	**Toolangi**	**40.53**	**234**	P	**P**	**16 46 36.7**	**-2.4**
TOO				IAmb	IAmb	16 47 02.0	
	comp=Z,8.9nm,1.2s						
TAU	**Tasmania Unive**	**41.02**	**225**	P	**P**	**16 46 40.3**	**-2.7**
STKA	**Stephens Creek**	**42.56**	**243**	P	**P**	**16 46 53.1**	**-2.7**
	comp=Z,1.2nm,0.6s,baz=92,slow=12,SNR=1.9						
	comp=Z,1.2nm,0.6s						
STKA	**Stephens Creek**	**42.56**	**243**	P	**P**	**16 46 53.6**	**-2.2**
WR0	**Warramunga Arr**	**49.08**	**260**	P	**P**	**16 47 48.0**	**+0.4**
WR0				IAmb	IAmb	16 48 14.0	
	comp=Z,16nm,1.5s						
WB0	**Warramunga Arr**	**49.24**	**260**	P	**P**	**16 47 49.8**	**+1.0**
WB0				IAmb	IAmb	16 47 50.4	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**49.26**	**259**	P	**P**	**16 47 50.0**	**+1.1**
WB2				IAmb	IAmb	16 48 16.6	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**49.26**	**255**	P	**P**	**16 47 50.2**	**+1.3**
AS31				IAmb	IAmb	16 47 52.4	
	comp=Z,9.9nm,0.8s						
ASAR	**Alice Springs**	**49.26**	**255**	P	**P**	**16 47 49.2**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=91,slow=7.7,SNR=56						
ASAR				PcP	**PcP**	**16 49 15.9**	**+4.0**
	comp=Z,0.5nm,0.7s,baz=103,slow=3.7,SNR=2.3						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**49.26**	**255**	P	**P**	**16 47 48.6**	**-0.4**
WRA	**Warramunga Arr**	**49.27**	**259**	P	**P**	**16 47 49.9**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=100,slow=8.2,SNR=18						
WRA				PcP	**PcP**	**16 49 16.3**	**+4.3**
	comp=Z,0.4nm,0.6s,baz=92,slow=3.6,SNR=1.9						
WRA				LR	LR	17 09 15.3	
	comp=Z,35nm,18.2s,baz=146,slow=37						
	comp=Z,2.1nm,0.6s						
WRA	**Warramunga Arr**	**49.27**	**259**	P	**P**	**16 47 50.0**	**+0.9**
QSPA	**South Pole Qui**	**71.35**	**180**	P	**P**	**16 50 18.8**	**-0.8**
MJAR	**Matsushiro Arr**	**71.53**	**321**	P	P	16 50 34.6	+14
	comp=Z,1.2nm,0.8s,baz=150,slow=6.9,SNR=2.5						
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**85.66**	**11**	P	P	16 51 51.2	+13
	comp=Z,0.2nm,0.7s,baz=207,slow=5.6,SNR=2.4						
	comp=Z,0.2nm,0.7s						
SEY	**Seymchan**	**85.73**	**345**	P	P	16 51 51.1	+13
	comp=Z,0.3nm,0.4s,baz=155,slow=8.2,SNR=3.6						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**93.75**	**288**	P	P	16 52 26.2	+8.8
	comp=Z,1.5nm,1.0s,baz=120,slow=3.6,SNR=6.9						
	comp=Z,1.5nm,1.0s						
AKASG	**Malin Array Be**	**143.41**	**336**	PKPbc	**PKiKP**	**16 58 40.3**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=41,slow=4.9,SNR=4.8						
BRTR	**Keskin Array B**	**148.73**	**318**	PKPbc	**PKPab**	**16 58 56.3**	**+4.9**
	comp=Z,0.7nm,0.9s,baz=50,slow=2.3,SNR=2.7						

*UCR **04** 16:45:02.2±2.4, 13.51N×89.79W,h20km,MW4.6, mb5.0(NEIC)*
*IDC **04** 16:45:04.8±1.5, 13.45N×88.93W,h26km±8km,mb4.5/30, mbtmp4.6/31,ML4.3/1,MS3.7/35,Error ellipse: s-maj=20.7km s-min=9.0km az=60.0*
*SNET **04** 16:45:07.1±1.3, 12.98N×89.58W,h52km,ML5.2*
*NEIC **04** 16:45:08.8±1.8, 13.10N±0.06×89.36W±0.07,h68km±7km, mb5.0/324,Error ellipse: s-maj=11.1km s-min=7.2km az=53.0*
*INET **04** 16:45:09.0±1.3, 13.04N×89.49W,h30km,MW5.2*
*GCG **04** 16:45:23.7±0.4, 13.98N×90.29W,h62km±13km,MD4.5*
ISC 04 16:45:08.6±0.5, 13.14N±0.04×89.41W±0.04,h67km±3km, n705,σ1°33/595,mb4.9/177,2C,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.57**	**18**		**Pn**	**16 45 22.0**	**-0.1**
SNET				Sn	**Sn**	**16 45 32.2**	**+0.3**
SNET	**Serv Nac Est T**	**0.57**	**18**	*e*P	**Pn**	**16 45 22.1**	**+0.1**
LFRS	**El Faro**	**0.59**	**35**	⇑*i*P	**Pn**	**16 45 22.7**	**+0.4**
BOQS	**Boqueron**	**0.60**	**12**	*i* P	**Pn**	**16 45 22.7**	**+0.2**
CEDA	**San Andres**	**0.66**	**1**	*e*P	**Pn**	**16 45 23.1**	**+0.1**
CEDA				*e*S	**Sn**	**16 45 34.5**	**+1.1**
LFU	**La Fuente**	**0.67**	**25**	*i* P	**Pn**	**16 45 23.9**	**+0.8**
LBRS	**Las Brisas**	**0.69**	**31**	*i* P	**Pn**	**16 45 24.4**	**+1.1**
COEG	**Centro de Oper**	**0.70**	**47**	*i* P	**Pn**	**16 45 24.2**	**+0.7**
COEG				*e*S	**Sn**	**16 45 36.8**	**+2.4**
ALJI	**Alcalda de J**	**0.84**	**77**	*e*P	**Pn**	**16 45 25.4**	**+0.5**
ALJI				*e*S	**Sn**	**16 45 38.9**	**+1.8**
NUBE	**Las Nubes**	**0.84**	**335**	*e*P	**Pn**	**16 45 24.4**	**-0.8**
NUBE				*e*S	**Sn**	**16 45 36.6**	**-0.8**
UNIC	**Universidad Ca**	**0.85**	**351**	*i* P	**Pn**	**16 45 25.6**	**+0.4**
UNIC				*e*S	**Sn**	**16 45 39.0**	**+1.6**
COEB	**Comit de Eme**	**0.93**	**67**	*e*P	**Pn**	**16 45 26.9**	**+0.7**
COEB				*e*S	**Sn**	**16 45 41.6**	**+2.4**
P5NO	**Presa 5 de nov**	**1.05**	**37**	*e*P	**Pn**	**16 45 29.2**	**+1.5**
P5NO				⇑*i*P	**Pn**	**16 45 29.2**	**+1.5**
PACA	**Pacayal**	**1.11**	**73**	*e*P	**Pn**	**16 45 30.0**	**+1.5**
MTO3	**Montecristo**	**1.25**	**2**	Pn	**Pn**	**16 45 31.5**	**+1.0**
MTO3	**Montecristo**	**1.25**	**2**	*i* P	**Pn**	**16 45 31.5**	**+1.0**
MTO3				*e*S	**Sn**	**16 45 50.5**	**+3.7**
MTO3	**Montecristo**	**1.25**	**2**	*e*P	**Pn**	**16 45 31.5**	**+1.0**
FAGO	**Alcalda de S**	**1.38**	**66**	*i* P	**Pn**	**16 45 33.3**

VICA Volcano Irazu 6.29 119 eP Pn 16 46 42.2 +2.9
ICR3 Volcano Irazu 6.30 119 eP Pn 16 46 42.9 +3.5
RIMA Rio Macho 6.39 121 Pn Pn 16 46 40.4 0.0
RIMA Rio Macho 6.39 121 eP Pn 16 46 42.6 +2.3
CDM Cerro de Muert 6.58 122 eP Pn 16 46 44.8 +1.5
CMIG Matias Romero 6.58 307 Pn Pn 16 46 42.8 -0.1
5.7nm,0.3s,baz=97,slow=11,SNR=34
CMIG Sn Sn 16 47 55.4 -1.2
13nm,0.3s,baz=54,slow=15,SNR=1.8
CMIG LR LR 16 49 41.8
comp=Z,555nm,18.5s,baz=138,slow=41
31nm,0.3s
BUS1 Rivas 6.60 122 eP Pn 16 46 46.2 +2.7
MRVA Moravia de Chi 6.71 119 eP Pn 16 46 46.6 +1.8
PEZE Perez Zeledon, 6.75 123 Pn Pn 16 46 43.5 -1.7
SRBA San Rafael, Bu 7.09 123 Pn Pn 16 46 49.7 -0.2
SRBA San Rafael, Bu 7.09 123 eP Pn 16 46 52.1 +2.2
TEIG Tepich 7.13 9 Pn Pn 16 46 51.3 +1.0
EDPN Palmar Norte 7.17 125 eP Pn 16 46 54.4 +3.5
POTG Potrero Grande 7.39 123 eP Pn 16 46 56.8 +2.8
PRVC Isla de Provid 7.84 87 Pn Pn 16 46 59.7 -0.3
CDITO Canoas 7.86 125 Pn Pn 16 46 59.9 -0.5
CCOL Caracol de Cor 7.88 126 eP Pn 16 47 04.6 +4.0
BRU2 Volcan 7.88 123 Pn Pn 16 47 00.4 -0.4
ICCO Coco Island 7.90 163 eP Pn 16 47 02.5 +1.6
TLIG Tlapa 9.87 298 Pn Pn 16 47 27.6 -0.3
SOR Soroa 11.36 31 Pn Pn 16 47 51.6 +3.4
MOIG Morelia 13.03 301 Pn Pn 16 48 09.8 -1.4
APAC Apartado, Choc 13.64 111 eP Pn 16 48 14.7 -4.5
PAYG Puerto Ayora 13.75 184 Pn Pn 16 48 18.2 -2.4
SJCC San Jacinto, C 14.31 102 eP P 16 48 33.9 +0.6
UREC San Jos de Ur 14.66 110 eP P 16 48 38.1 +1.0
ZARC Zaragoza, Cauc 15.37 110 eP P 16 48 46.0 +1.0
ZAIG Zacatecas 15.75 309 P P 16 48 49.1 -0.3
YOTC Yotoco, Valle 15.79 124 eP P 16 48 49.0 -0.8
GUY2C Guyana, Caldas 15.93 118 eP P 16 48 52.1 +0.4
NORC Norcasia 16.19 116 eP P 16 48 55.3 +1.1
ORTC Ortega, Tolima 16.73 122 eP P 16 49 02.0 +1.8
GCUF Volcan Galeras 16.82 134 eP P 16 49 04.5 +3.0
TULM Tulcn-Chalpat 16.88 136 Pn 16 49 01.6 +0.4
TULM Tulcn-Chalpat 16.88 136 eP P 16 49 03.5 +1.2
IMBA Imbabura, San 16.93 138 Pn Pn 16 48 59.0 -2.8
PULU Pululahua 16.93 139 Pn Pn 16 48 59.2 -2.6
ROSC El Rosal 17.02 118 LR LR 16 56 09.5
comp=Z,137nm,21.2s,baz=261,slow=40
BARC Barichara 17.25 111 eP P 16 49 08.6 +2.5
656A Willston 17.36 20 P Pn 16 49 06.6 +0.1
PAMC Pamplona, Colo 17.42 108 eP P 16 49 08.4 +0.2
RUSC La Rusia 17.63 113 P Pn 16 49 09.1 -1.3
RUSC La Rusia 17.63 113 eP P 16 49 11.8 +1.3
CHIC Chingaza 17.64 117 eP P 16 49 13.1 +2.6
833A Chaparral WMA, 17.74 330 P P 16 49 10.9 -0.2
833A Chaparral WMA, 17.74 330 P Pn 16 49 12.9 +1.7
baz=146,SNR=11
HKT Hockley 17.75 341 P Pn 16 49 11.7 +0.5
FLOC Florencia 17.88 129 eP Pn 16 49 13.3 +3.1
PORT Chimborazo Vol 17.94 143 P 16 49 11.7 -2.4
342A Flagon Creek P 18.34 352 P Pn 16 49 19.0 +0.6
342A IAmb IAmb 16 49 22.0
comp=Z,99nm,0.8s
SDDR Presa de Saban 18.35 69 P P 16 49 18.1 +0.1
COHC Cochancay 18.49 146 P P 16 49 17.3 -2.2
352A Blakely 18.71 12 P Pn 16 49 22.6 -0.3
352A IAmb IAmb 16 49 26.0
comp=Z,60nm,0.7s
MACC Macarena, Meta 18.88 124 eP Pn 16 49 26.7 +1.6
SDV Santo Domingo 18.91 101 P P 16 49 24.4 +0.1
comp=Z,56nm,0.7s,baz=274,slow=3.9,SNR=59
SDV S S 16 52 51.6 -4.2
comp=Z,1.5nm,0.4s,baz=326,slow=18,SNR=1.4
SDV Santo Domingo 18.91 101 P P 16 49 23.5 -0.8
SDV IAmb IAmb 16 49 25.7
comp=Z,44nm,0.7s
SDV Santo Domingo 18.91 101 eP P 16 49 24.5 +0.2
TIGA Tifton 18.98 15 P Pn 16 49 27.0 +0.9
TIGA Tifton 18.98 15 P Pn 16 49 27.2 +1.1
baz=198,SNR=8.9
VBMS Vicksburg 19.02 357 P P 16 49 25.0 -0.1
VBMS Vicksburg 19.02 357 P Pn 16 49 28.2 +1.7
baz=177
435B Jarrell 19.11 338 P P 16 49 26.3 +0.1
435B IAmb IAmb 16 49 32.3
comp=Z,59nm,0.6s
435B Jarrell 19.11 338 P Pn 16 49 27.3 -0.3
baz=155
NATX Nacogdoches 19.15 346 P P 16 49 25.4 -1.2
NATX IAmb IAmb 16 49 38.8
comp=Z,77nm,0.9s
NATX Nacogdoches 19.15 346 P Pn 16 49 27.8 -0.3
baz=164
PTGC Puerto Gaitan, 19.24 116 eP P 16 49 27.9 +0.2
143A Socs Landing, 19.56 355 IAmb IAmb 16 49 34.4
comp=Z,95nm,1.4s
237A Washetta, Mont 19.67 344 IAmb IAmb 16 49 46.6
comp=Z,72nm,0.6s
JCT Junction City 19.75 333 P P 16 49 33.1 -0.1
JCT IAmb IAmb 16 49 34.8
comp=Z,40nm,0.7s
JCT Junction City 19.75 333 P P 16 49 33.9 +0.7
baz=149,SNR=17
MCRA Macar, Loja 19.77 151 P Pn 16 49 34.6 -1.0
152A Waverly Hall 19.91 12 IAmb IAmb 16 49 38.3
comp=Z,60nm,1.1s
LRAL Lakeview Retre 19.93 6 P Pn 16 49 37.1 -0.1
LRAL Lakeview Retre 19.93 6 P Pn 16 49 37.9 +0.7
baz=187,SNR=12
Z47A Carrollton 20.00 3 IAmb IAmb 16 49 42.1
comp=Z,42nm,0.7s
WHTX Lake Whitney, 20.16 340 P P 16 49 38.5 +0.8
baz=157,SNR=36
WLAR White Oak Lake 20.73 351 P P 16 49 43.5 -0.2
Y49A Blount Mountai 20.80 7 IAmb IAmb 16 49 47.5
comp=Z,63nm,0.7s
TXAR Lajitas Array 20.85 323 P Pn 16 49 47.1 -1.2
comp=Z,20nm,0.5s,baz=143,slow=11,SNR=234
TXAR PcP PcP 16 53 53.6 +2.1
comp=Z,1.8nm,0.8s,baz=144,slow=4.2,SNR=6.2
TXAR ScP ScP 16 57 28.9 +6.4
comp=Z,0.3nm,0.5s,baz=131,slow=3.7,SNR=5.8
TXAR LR LR 16 59 36.4
comp=Z,66nm,19.7s,baz=126,slow=42
comp=Z,20nm,0.5s
TX31 Lajitas Ar. Si 20.85 323 IAmb IAmb 16 49 48.8
comp=Z,77nm,0.8s
TX32 Lajitas Array 20.85 323 P P 16 49 46.5 +1.4
Y52A Lilburn 21.20 12 IAmb IAmb 16 49 52.7
comp=Z,41nm,0.9s
OXF Oxford 21.28 0 P P 16 49 51.0 +1.5
baz=180,SNR=27
Z35A Perchaven, San 21.33 342 IAmb IAmb 16 49 51.4
comp=Z,73nm,0.9s
BAUV El Baul 21.38 99 P P 16 49 48.9 -2.0
ABTX Abilene, Hawle 21.54 336 IAmb IAmb 16 49 55.3
comp=Z,49nm,0.8s
ABTX Abilene, Hawle 21.54 336 P P 16 49 52.2 -0.2
baz=152,SNR=18
MIAR Mount Ida 21.64 351 IAmb IAmb 16 49 57.7
comp=Z,55nm,0.8s
MIAR Mount Ida 21.64 351 P P 16 49 54.1 +0.6
baz=169,SNR=31
UALR University of 21.70 353 P P 16 49 54.9 +0.8
X51A Calhoun 21.73 10 IAmb IAmb 16 50 17.1
comp=Z,88nm,1.5s
LOOK Love County 21.93 342 IAmb IAmb 16 49 58.2
comp=Z,86nm,0.6s
HODGE Hodges 21.98 16 IAmb IAmb 16 50 00.0
comp=Z,47nm,0.8s
X37A Clayton 22.03 347 IAmb IAmb 16 50 18.4
comp=Z,44nm,0.7s
SWET Sewanee 22.20 8 P P 16 49 58.6 -0.9
SWET IAmb IAmb 16 50 00.9
comp=Z,27nm,0.6s
WHAR Wooly Hollow 22.21 354 IAmb IAmb 16 50 03.2
comp=Z,45nm,0.7s
HBAR Harrisburg 22.34 357 P P 16 50 01.2 +0.2
BG3 Lake Jocassee 22.53 14 IAmb IAmb 16 50 27.2
comp=Z,65nm,1.3s
LPIG La Paz 22.57 302 LR LR 16 59 57.1
comp=Z,102nm,19.1s,baz=37,slow=39
V48A Smith Brothers 22.62 5 IAmb IAmb 16 50 06.2
comp=Z,32nm,0.8s
CPCT Cooper Cave 22.65 10 IAmb IAmb 16 50 06.0
comp=Z,100nm,1.6s
PAULI Pauline 22.66 16 IAmb IAmb 16 50 07.2
comp=Z,38nm,0.9s
GNAR Gosnell 22.73 359 P P 16 50 05.6 +0.4
FCAR Ozark Folk Cen 22.78 354 IAmb IAmb 16 50 08.5
comp=Z,28nm,0.7s
LCAR Lake Charles 22.88 356 IAmb IAmb 16 50 09.4
comp=Z,78nm,1.2s
BIRD Birdtown, Kers 22.89 19 IAmb IAmb 16 50 09.2
comp=Z,40nm,0.9s
ATAH Atahualpa 22.92 151 P P 16 50 08.8 +1.1
comp=Z,22nm,1.0s,baz=339,slow=6.0,SNR=10
ATAH LR LR 16 57 57.0
comp=Z,168nm,21.1s,baz=319,slow=34
comp=Z,22nm,1.0s
SJG San Juan 22.93 75 P P 16 50 07.1 -0.3
comp=Z,14nm,0.5s,baz=293,slow=7.7,SNR=5.7
SJG PcP PcP 16 53 56.7 +1.1
comp=Z,3.8nm,0.3s,baz=74,slow=8.8,SNR=3.6
WVT Waverly 22.93 3 P P 16 50 06.8 -0.4
WVT Waverly 22.93 3 P P 16 50 08.0 +0.8
baz=184
TKL Tuckaleechee C 22.99 12 P P 16 50 08.0 +0.2
comp=Z,26nm,0.6s,baz=179,slow=11,SNR=54
TKL LR LR 16 59 37.8
comp=Z,284nm,21.2s,baz=205,slow=39
TKL Tuckaleechee C 22.99 12 IAmb IAmb 16 50 32.0
comp=Z,47nm,1.1s
CLTN Cedars of Leba 23.02 6 IAmb IAmb 16 50 09.8
comp=Z,49nm,0.6s
V51A Loudon 23.02 11 IAmb IAmb 16 50 10.4
comp=Z,32nm,0.8s
GLAT Glass 23.03 0 P P 16 50 08.5 +0.4
KMSC Kings Mountain 23.09 17 IAmb IAmb 16 50 10.6
comp=Z,46nm,0.7s
KMSC Kings Mountain 23.09 17 P P 16 50 09.2 +0.4
baz=200,SNR=12
WMOK Wichita Mounta 23.12 340 IAmb IAmb 16 50 10.4
comp=Z,46nm,0.6s
WMOK Wia Mounta 23.12 340 P P 16 50 07.7 -1.3
baz=156,SNR=55
X58A Rowland 23.19 21 IAmb IAmb 16 50 12.7
comp=Z,45nm,0.6s
V53A Saluda 23.21 14 P P 16 50 09.3 -0.6
V53A IAmb IAmb 16 50 12.3
comp=Z,37nm,0.9s
TUL1 Leonard 23.39 347 IAmb IAmb 16 50 37.9
comp=Z,34nm,0.7s
TUL1 Leonard 23.39 347 P P 16 50 11.7 +0.1
baz=154,SNR=5.8
HHAR Hobbs 23.40 351 IAmb IAmb 16 50 38.2
comp=Z,30nm,0.9s
RLO Rose Lookout 23.48 349 IAmb IAmb 16 50 14.3
comp=Z,40nm,0.6s
U49A Red Boiling Sp 23.50 7 IAmb IAmb 16 50 15.1
comp=Z,47nm,0.8s
W57A Gilead 23.51 20 P 16 50 12.1 -0.6
W57A IAmb IAmb 16 50 14.9
comp=Z,31nm,0.7s
MNTX Cornudas Mount 23.59 324 P P 16 50 13.1 -0.4
baz=138,SNR=15
OK030 Cody Creek RV 23.64 345 P P 16 50 12.9 -1.0
OK030 IAmb IAmb 16 50 15.0
comp=Z,49nm,0.6s
OK053 SW of W Deep R 23.72 345 P P 16 50 13.4 -1.3
V55A Taylorsville 23.79 17 IAmb IAmb 16 50 18.0
comp=Z,50nm,0.7s
T45A Paducah 23.79 2 P P 16 50 15.4 +0.2
T47A Sharon Grove 23.84 5 IAmb IAmb 16 50 17.2
comp=Z,90nm,0.9s
QUOK Quay 23.85 345 IAmb IAmb 16 50 16.9
comp=Z,36nm,0.8s
TZTN Tazewell 23.89 12 IAmb IAmb 16 50 18.5
comp=Z,103nm,1.6s
TZTN Tazewell 23.89 12 P P 16 50 16.9 +0.7
baz=194,SNR=7.7
CSTR Hydro, Custer 23.92 341 IAmb IAmb 16 50 18.1
comp=Z,7.5nm,0.6s
MSTX Muleshoe 24.03 332 IAmb IAmb 16 50 18.7
comp=Z,54nm,1.2s
MSTX Muleshoe 24.03 332 P P 16 50 17.2 -0.4
baz=147,SNR=12
MGMO Mountain Grove 24.05 354 IAmb IAmb 16 50 21.2
comp=Z,37nm,0.8s
CGM3 Cape Girardeau 24.06 360 P P 16 50 17.2 -0.4
CGM3 IAmb IAmb 16 50 19.8
comp=Z,121nm,1.3s
OK044 Pawnee Station 24.07 345 IAmb IAmb 16 50 18.9
comp=Z,62nm,0.7s
OK046 Pawnee Station 24.12 345 IAmb IAmb 16 50 19.3
comp=Z,56nm,0.7s
OK050 Pawnee Station 24.13 345 IAmb IAmb 16 50 19.9
comp=Z,60nm,0.9s
OK048 Pawnee Station 24.14 345 IAmb IAmb 16 50 20.5
comp=Z,55nm,0.7s
OK045 Pawnee Station 24.17 345 IAmb IAmb 16 50 19.8
comp=Z,59nm,0.8s
U54A Nelons Funny 24.26 15 P P 16 50 19.0 -0.6
AMTX Amarillo 24.33 335 IAmb IAmb 16 50 21.3
comp=Z,44nm,0.5s
AMTX Amarillo 24.33 335 P P 16 50 20.4 +0.2
baz=150
CNNC Cliffs of the 24.34 23 P P 16 50 20.5 +0.4
baz=208
V58A Windy Hill, Pi 24.39 21 IAmb IAmb 16 50 23.9
comp=Z,52nm,0.6s
PCRV Puerto La Cruz 24.44 94 P P 16 50 20.7 -0.6
comp=Z,15nm,0.7s,baz=337,slow=7.7,SNR=8.8
U56A King 24.49 18 IAmb IAmb 16 50 25.5
comp=Z,45nm,0.8s
CROK Carrier 24.51 343 IAmb IAmb 16 50 23.5
comp=Z,45nm,0.8s
ELIS Ellis County 24.54 340 P P 16 50 22.1 0.0
ELIS IAmb IAmb 16 50 23.9
comp=Z,55nm,0.5s
OK038 West end E0370 24.70 342 IAmb IAmb 16 50 24.2
comp=Z,54nm,0.7s
USIN University of 24.77 3 IAmb IAmb 16 50 26.8
comp=Z,40nm,0.6s
KAN13 South Haven SW 24.85 344 IAmb IAmb 16 50 25.7
comp=Z,45nm,0.6s
OK032 Salt Plains WL 24.85 343 IAmb IAmb 16 50 25.8
comp=Z,65nm,0.7s
CCM Cathedral Cave 24.87 357 P P 16 50 24.4 -0.6
CCM IAmb IAmb 16 50 27.4
comp=Z,67nm,0.9s
CCM Cathedral Cave 24.87 357 P P 16 50 24.9 -0.1
baz=176
NOKA Waynoka 24.91 342 P P 16 50 25.3 -0.1
NOKA IAmb IAmb 16 50 27.5
comp=Z,117nm,0.8s
OK035 E0210 Rd and N 24.91 342 IAmb IAmb 16 50 28.3
comp=Z,36nm,0.7s
KAN14 Manchester OK 24.92 344 IAmb IAmb 16 50 26.7
comp=Z,39nm,0.8s
KAN09 Caldwell North 25.00 344 IAmb IAmb 16 50 27.6
comp=Z,63nm,1.1s
KAN01 Argonia South 25.05 344 IAmb IAmb 16 50 28.2
comp=Z,48nm,0.7s
KS20 Mayfield South 25.07 345 IAmb IAmb 16 50 28.9
comp=Z,40nm,0.7s
WCI Wyandotte Cave 25.14 6 P P 16 50 27.1 -0.3
WCI IAmb IAmb 16 50 28.4
comp=Z,55nm,0.6s
WCI Wyandotte Cave 25.14 6 P P 16 50 27.5 +0.1
baz=187
R40A Maddies Statio 25.18 355 IAmb IAmb 16 50 30.5
comp=Z,68nm,1.1s
KAN12 Harper NE Stat 25.25 344 P P 16 50 28.5 0.0
BLA Blacksburg 25.28 17 IAmb IAmb 16 50 31.0
comp=Z,34nm,0.8s
BLA Blacksburg 25.28 17 P P 16 50 29.3 +0.5
baz=201,SNR=6.6
R49A Shelbyville 25.33 8 IAmb IAmb 16 50 29.8
comp=Z,33nm,0.6s
T57A Hurt 25.44 19 IAmb IAmb 16 50 31.4
comp=Z,23nm,0.5s
OLIL Olney 25.52 2 P P 16 50 30.8 -0.1
OLIL IAmb IAmb 16 50 50.7
comp=Z,35nm,0.8s
121A Cookes Peak, D 25.60 322 P P 16 50 33.6 +1.7
baz=135,SNR=13
SGCB SEo Gabriel d 25.80 119 eP P 16 50 32.3 -1.4
T59A Double "B" Far 26.00 22 IAmb IAmb 16 50 36.7
comp=Z,35nm,0.7s
Q51A Peebles 26.34 11 IAmb IAmb 16 50 39.4
comp=Z,40nm,0.6s
R55A Marlinton 26.37 17 IAmb IAmb 16 50 40.4
comp=Z,31nm,0.9s
P40A Paris 26.39 355 P P 16 50 38.0 -0.8
P40A IAmb IAmb 16 50 40.5
comp=Z,37nm,0.8s
P43A Skaggs, Pawnee 26.40 360 IAmb IAmb 16 50 43.0
comp=Z,36nm,0.8s
P48A Milroy 26.45 7 IAmb IAmb 16 50 39.5
comp=Z,23nm,0.7s
T60A Surry 26.45 23 IAmb IAmb 16 50 41.6
comp=Z,65nm,0.8s
Q52A Bidwell 26.49 13 IAmb IAmb 16 50 40.7
comp=Z,21nm,0.8s
CZSB Cruzeiro do Su 26.56 140 eP P 16 50 40.7 +0.2
P49A Miami Univ. Ec 26.61 8 IAmb IAmb 16 50 40.5
comp=Z,21nm,0.5s
P49A Miami Univ. Ec 26.61 8 P P 16 50 40.1 -0.7
baz=190,SNR=5.1
P38A Dawn 26.63 353 IAmb IAmb 16 50 43.7
comp=Z,39nm,0.5s
ANMO Albuquerque 26.63 328 P P 16 50 42.6 +1.3
comp=Z,2.1nm,0.6s,baz=237,slow=18,SNR=5.1
ANMO PcP PcP 16 54 05.3 +1.5
comp=Z,2.1nm,0.8s,baz=231,slow=4.3,SNR=2.7
ANMO LR LR 17 03 47.3
comp=Z,59nm,18.2s,baz=236,slow=42
comp=Z,2.1nm,0.6s
ANMO Albuquerque 26.63 328 P P 16 50 40.7 -0.5
KSU1 Kansas State U 26.63 347 P P 16 50 41.7 +0.8
baz=164,SNR=5.8
R58B Mineral 26.77 21 IAmb IAmb 16 50 43.5
comp=Z,23nm,0.5s
P51A Williamsport 26.83 11 IAmb IAmb 16 51 23.1
comp=Z,32nm,1.0s
Q54A Coxs Mills 26.84 15 IAmb IAmb 16 50 44.1
comp=Z,33nm,0.8s
O44A Mansfield 26.92 2 IAmb IAmb 16 50 44.6
comp=Z,38nm,1.1s
P52A Corning 27.16 12 P P 16 50 45.7 0.0
baz=196
CBKS Cedar Bluff 27.16 342 IAmb IAmb 16 50 47.0
comp=Z,17nm,0.5s
CBKS Cedar Bluff 27.16 342 P P 16 50 45.7 0.0
baz=158
CBN Corbin Frederi 27.16 21 P P 16 50 45.9 +0.2
baz=206
P53A Whipple 27.18 14 IAmb IAmb 16 50 47.8
comp=Z,26nm,1.0s
SFIN Lafayette 27.21 4 P P 16 50 46.1 0.0
baz=185
O48B Farmland 27.27 7 P P 16 50 46.3 -0.4
baz=189
O49A Covington 27.31 8 IAmb IAmb 16 50 47.4
comp=Z,19nm,0.6s
TUC Tucson 27.34 318 P P 16 50 47.2 -0.3
TUC Tucson 27.34 318 P P 16 50 51.8 +4.3
baz=130
T25A Trinidad 27.41 333 P P 16 50 49.2 +0.9
baz=147,SNR=15
ACSO Alum Creek Sta 27.57 11 IAmb IAmb 16 50 50.3
comp=Z,21nm,0.8s
ACSO Alum Creek Sta 27.57 11 P P 16 50 49.0 -0.4
baz=194
O52A Adamsville 27.68 13 IAmb IAmb 16 50 51.2
comp=Z,28nm,0.6s
MCWV Mont Chateau 27.73 16 P P 16 50 50.7 -0.1
baz=200
NNA Nana 27.91 153 LR LR 17 01 14.1
comp=Z,40nm,18.3s,baz=316,slow=35
O53A New Philadelph 27.95 13 P P 16 50 52.4 -0.3
baz=197
O54A Avella 28.08 15 IAmb IAmb 16 50 54.9
comp=Z,20nm,0.7s
P57A Homestead Farm 28.10 19 IAmb IAmb 16 50 56.0
comp=Z,34nm,0.6s
N35A Tabor 28.15 350 P P 16 50 53.9 -0.6
KSCO Kaye Shedlock' 28.30 338 IAmb IAmb 16 50 57.5
comp=Z,34nm,0.7s
KSCO Kaye Shedlock' 28.30 338 P P 16 50 56.3 +0.2
baz=152,SNR=5.7
SDCO Great Sand Dun 28.40 332 P P 16 50 58.0 +0.9
baz=146,SNR=6.2
SDMD Soldier's Deli 28.43 21 IAmb IAmb 16 50 58.6
comp=Z,22nm,0.6s
214A Organ Pipe Nat 28.48 315 P P 16 50 59.7 +2.0
baz=126
W18A Petrified Fore 28.57 323 P P 16 51 00.2 +1.6
baz=135
L40A Anamosa 28.86 357 IAmb IAmb 16 51 02.3
comp=Z,36nm,0.8s
S22A 4UR Ranch, Cre 29.01 331 P P 16 51 03.0 +0.4
S22A 4UR Ranch, Cre 29.01 331 P P 16 51 03.8 +1.2
baz=143,SNR=13
BGNE Belgrade 29.18 346 P P 16 51 03.9 +0.2
baz=162,SNR=13
SSPA Standing Stone 29.20 18 P P 16 51 03.8 0.0
baz=203
M53A WI Miller and 29.21 14 P P 16 51 04.1 +0.2
baz=198
Q24A Divide 29.26 334 P P 16 51 05.2 +0.4
baz=147
L34A Svendsen Farm, 29.35 349 IAmb IAmb 16 51 26.1
comp=Z,31nm,0.7s
K38A Parkersburg 29.54 355 IAmb IAmb 16 51 07.5
comp=Z,24nm,0.7s
JFWS Jewell Farm 29.68 359 P P 16 51 08.3 +0.3
baz=178,SNR=8.9
OGNE Ogallala 29.82 341 IAmb IAmb 16 51 12.9
comp=Z,12nm,0.7s
OGNE Ogallala 29.82 341 P P 16 51 09.9 +0.4
baz=155
ERPA Erie 30.01 14 P P 16 51 10.8 -0.2
baz=198
ISCO Idaho Springs 30.15 335 P P 16 51 13.5 +0.8
baz=147,SNR=17
BRIGG Briggsdale 30.30 337 P P 16 51 14.7 +0.8
BRIGG IAmb IAmb 16 51 16.4
comp=Z,28nm,0.9s
PV18 Skein Mesa, Pa 30.43 329 P P 16 51 16.1 +1.1
PV18 IAmb IAmb 16 51 19.9
comp=Z,16nm,0.6s
PV11 David Mesa, Pa 30.45 329 IAmb IAmb 16 51 18.1
comp=Z,20nm,0.6s
BOAV Boa Vista 30.50 108 P P 16 51 13.1 -2.6
BOAV IAmb IAmb 16 51 16.3
comp=Z,5.6nm,0.7s
BOAV Boa Vista 30.50 108 eP P 16 51 12.6 -3.1
GLA Glamis 30.51 315 P P 16 51 17.2 +1.6
baz=125
PV19 Morning Glory 30.51 329 P P 16 51 16.0 +0.2
WVNY West Valley, N 30.63 16 IAmb IAmb 16 51 17.5
comp=Z,34nm,0.8s
PAL Palisades 30.90 23 P P 16 51 19.1 +0.3
baz=210
U15A North Rim 30.98 322 P P 16 51 20.6 +0.6
ECSD EROS Data Cent 31.11 350 IAmb IAmb 16 51 21.6
comp=Z,31nm,1.3s
ECSD EROS Data Cent 31.11 350 P P 16 51 20.4 -0.4
baz=166,SNR=14
SWSC Sam W. Stewart 31.13 314 P P 16 51 22.5 +1.6
baz=123
IKP In-Ko-Pah, Jac 31.19 313 P P 16 51 23.7 +2.0
baz=122,SNR=9.4
N23A Red Feather La 31.21 335 IAmb IAmb 16 51 24.1
comp=Z,16nm,0.7s
N23A Red Feather La 31.21 335 P P 16 51 22.4 +0.5
baz=148,SNR=10
BINY Binghamton 31.21 19 IAmb IAmb 16 51 23.9
comp=Z,44nm,1.1s
BINY Binghamton 31.21 19 P P 16 51 21.7 0.0
baz=206
BC3 Big Chuckawall 31.28 315 P P 16 51 24.4 +2.0
baz=125,SNR=16
IRM Iron Mountain 31.36 316 P P 16 51 25.5 +2.4
baz=126,SNR=7.8
PHWY Pilot Hill 31.36 336 P P 16 51 23.3 0.0
PHWY IAmb IAmb 16 51 25.0
comp=Z,16nm,0.9s
L59A Walton 31.52 21 IAmb IAmb 16 51 25.3
comp=Z,25nm,0.7s
O20A White River Ci 31.58 332 IAmb IAmb 16 51 28.9
comp=Z,22nm,0.8s
O20A White River Ci 31.58 332 P P 16 51 26.2 +1.1
baz=143,SNR=15
BELC Belle Mtn. Jos 31.85 315 P P 16 51 29.1 +1.6
baz=124,SNR=7.0
TPFO Pinon Flats 31.95 314 P P 16 51 30.1 +1.7
baz=123
PFO Pinyon Flats O 31.95 314 LR LR 17 06 39.6
comp=Z,132nm,19.8s,baz=168,slow=40
PFO Pinyon Flats O 31.95 314 P P 16 51 28.8 +0.4

PFO Pinyon Flats O 31.95 314 P **P** 16 51 30.4 +2.0
baz=123,SNR=5.9
PFO Pinyon Flats O 31.95 314 P **P** 16 51 30.5 +2.1
PFO PcP **PcP** 16 54 19.3 +2.0
GMRC Granite Mounta 32.07 317 P **P** 16 51 30.7 +1.3
baz=126,SNR=6.4
SPMN Marine on St. 32.11 355 P **P** 16 51 29.2 -0.2
baz=174,SNR=24
SUSD Miller 32.25 347 P **P** 16 51 30.0 -0.7
baz=162,SNR=9.2
P17A Butcher Ranch, 32.29 328 IAmb IAmb 16 51 34.6
comp=Z,14nm,0.7s
ETMB Extrema 32.41 134 P **P** 16 51 32.3 -0.2
ETMB IAmb IAmb 16 51 37.0
comp=Z,55nm,0.6s
ETMB Extrema 32.41 134 *eP* **P** 16 51 33.0 +0.5
MURC Murrieta 32.46 314 P **P** 16 51 35.3 +2.5
baz=122
RDMU Red Mountain 32.55 331 P **P** 16 51 33.2 -0.4
HEC Hector,Ludlow 32.55 316 P **P** 16 51 35.5 +1.9
baz=125
L61B Northampton 32.61 23 P **P** 16 51 33.8 -0.1
baz=211
TUQ Turquoise Moun 32.62 317 P **P** 16 51 35.8 +1.6
baz=126
ELS Elsinore Mount 32.65 313 P **P** 16 51 34.7 +0.2
SADO Sadowa 32.72 14 LR LR 17 05 18.5
comp=Z,199nm,21.6s,baz=293,slow=38
MACA Manacapuru-AM 32.80 118 *eP* **P** 16 51 34.8 -1.0
F36A Milaca 32.80 355 IAmb IAmb 16 51 37.8
comp=Z,12nm,0.7s
K22A Casper 32.93 336 P **P** 16 51 37.4 +0.5
K22A IAmb IAmb 16 51 38.6
comp=Z,22nm,0.8s
K22A Casper 32.93 336 P **P** 16 51 37.4 +0.5
baz=148,SNR=13
F33A 5 Mile Ranch, 33.11 351 IAmb IAmb 16 51 38.2
comp=Z,24nm,0.8s
BFSC Mount Baldy Ra 33.13 314 P **P** 16 51 41.0 +2.3
baz=123,SNR=6.0
GSC Goldstone, Bar 33.13 316 P **P** 16 51 40.4 +1.7
baz=125
MPU Maple Canyon 33.15 328 P **P** 16 51 39.2 +0.3
CIS Catalina Islan 33.23 312 P **P** 16 51 41.5 +2.0
baz=121,SNR=6.9
RSSD Black Hills 33.33 341 P **P** 16 51 40.4 +0.1
RSSD IAmb IAmb 16 51 43.6
comp=Z,19nm,0.8s
RSSD Black Hills 33.33 341 P **P** 16 51 41.3 +0.9
baz=154
RSSD Black Hills 33.33 341 P **P** 16 51 41.5 +1.1
RSSD PcP **PcP** 16 54 21.5 +0.4
EDW2 Edwards Air Fo 33.71 315 P **P** 16 51 45.8 +2.2
baz=123,SNR=6.4
TPNV Topopah Spring 33.74 319 P **P** 16 51 46.2 +2.1
baz=128
LONY Lake Ozonia 33.83 19 P **P** 16 51 44.6 +0.1
baz=206
TCUT Toone Canyon 33.86 329 P **P** 16 51 46.0 +0.9
TCUT IAmb IAmb 16 51 48.6
comp=Z,20nm,0.7s
DUG Dugway, Tooele 33.90 327 P **P** 16 51 47.8 +2.4
baz=136
SNCC San Nicolas Is 33.96 311 P **P** 16 51 48.2 +2.4
baz=119
MPMC Manual Prospec 34.02 317 P **P** 16 51 47.8 +1.3
baz=125,SNR=7.8
SAML Samuel 34.06 129 P **P** 16 51 45.9 -0.9
SAML IAmb IAmb 16 51 47.9
comp=Z,11nm,0.8s
SAML Samuel 34.06 129 P **P** 16 51 46.6 -0.2
SAML PcP **PcP** 16 54 25.9 +2.6
OSI Osito Audit: C 34.08 314 P **P** 16 51 48.7 +1.9
baz=122
R11A Troy Canyon, C 34.21 322 P **P** 16 51 50.0 +1.9
baz=130
BW06 Boulder Array 34.28 333 P **P** 16 51 49.7 +1.0
baz=144,SNR=11
PDAR Pinedale Array 34.28 333 P **P** 16 51 49.0 +0.3
comp=Z,4.5nm,0.6s,baz=128,slow=11,SNR=52
PDAR PcP **PcP** 16 54 23.8 0.0
comp=Z,1.5nm,0.7s,baz=97,slow=4.8,SNR=13
PDAR ScP **ScP** 16 58 06.7 +3.5
comp=Z,2.3nm,1.0s,baz=134,slow=4.3,SNR=11
PDAR PKiKP **PKiKP** 17 01 47.6 +0.3
comp=Z,0.3nm,0.5s,baz=124,slow=3.9,SNR=3.8
PDAR LR LR 17 09 02.8
comp=Z,94nm,19.2s,baz=146,slow=42
comp=Z,4.5nm,0.6s
HWUT Hardware Ranch 34.31 330 P **P** 16 51 49.2 +0.3
HWUT IAmb IAmb 16 51 52.7
comp=Z,8.6nm,0.6s
SCZ2 Santa Cruz Isl 34.41 312 P **P** 16 51 51.7 +2.0
baz=120
ARVC Arvin 34.42 315 P **P** 16 51 51.8 +2.0
baz=122
ISA Isabella, Lake 34.46 316 P **P** 16 51 52.0 +1.8
baz=123
CWC Cottonwood Cre 34.63 317 P **P** 16 51 52.7 +1.0
baz=125
E28A Huff 34.66 346 P **P** 16 51 50.8 -0.8
EYMN Ely 34.74 358 P **P** 16 51 51.3 -1.1
baz=176
VES Vestal, Richgr 34.98 315 P **P** 16 51 56.6 +2.1
baz=123
HVU Hansel Valley 35.04 329 IAmb IAmb 16 51 59.1
comp=Z,7.5nm,0.7s
DSP Deep Springs 35.10 319 P **P** 16 51 55.1 -0.3
LOHW Long Hollow 35.42 333 IAmb IAmb 16 52 00.9
comp=Z,23nm,0.7s
AGMN Agassiz Nation 35.46 353 P **P** 16 51 58.1 -0.4
baz=169
MDND Maddock 35.63 348 P **P** 16 52 00.3 +0.4
baz=163,SNR=39
NVAR Mina Array Bea 35.94 320 P **P** 16 52 04.9 +1.9
comp=Z,6.9nm,0.8s,baz=129,slow=7.5,SNR=20
NVAR PcP **PcP** 16 54 30.2 +1.5
comp=Z,4.7nm,0.8s,baz=132,slow=4.0,SNR=10
NVAR ScP **ScP** 16 58 13.4 +4.2
comp=Z,2.1nm,0.6s,baz=124,slow=4.2,SNR=11
comp=Z,6.9nm,0.8s
NVAR Mina Array Bea 35.94 320 P **P** 16 52 03.7 +0.7
LPAZ La Paz 36.02 144 *eP* **P** 16 52 03.7 -0.6
LPAZ La Paz 36.02 144 P **P** 16 52 04.8 +0.5
LPAZ pP **pP** 16 52 20.6 -0.2
LPAZ sP **sP** 16 52 29.3 +0.7
H17A Grant Village 36.03 334 P **P** 16 52 05.9 +2.2
baz=143,SNR=9.2
RLMT Red Lodge 36.08 336 P **P** 16 52 02.7 -1.4
RLMT IAmb IAmb 16 52 06.1
comp=Z,18nm,0.7s
RLMT Red Lodge 36.08 336 P **P** 16 52 04.7 +0.6
baz=146,SNR=24
LAO LASA Array 36.31 340 P **P** 16 52 06.0 +0.2
LAO LASA Array 36.31 340 P **P** 16 52 06.1 +0.2
baz=152,SNR=13
GCMT Greycliff 36.79 336 P **P** 16 52 10.1 +0.1
HLID Hailey 37.16 329 P **P** 16 52 14.1 +0.8
baz=157,SNR=11
DGMT Dagmar 37.30 344 P **P** 16 52 14.8 +0.6
baz=156,SNR=22
ULM Lac du Bonnet 37.38 353 P **P** 16 52 13.8 -1.0
comp=Z,37nm,0.6s,baz=170,slow=9.1,SNR=66
ULM PcP **PcP** 16 54 32.5 -0.1
comp=Z,4.9nm,0.8s,baz=214,slow=3.6,SNR=3.0
ULM ScP **ScP** 16 58 18.0 +4.0
comp=Z,3.2nm,0.6s,baz=181,slow=4.6,SNR=6.0
ULM LR LR 17 10 14.3
comp=Z,168nm,19.1s,baz=139,slow=41
comp=Z,37nm,0.6s
BOZ Bozeman (W) 37.44 334 IAmb IAmb 16 52 18.2
comp=Z,14nm,0.7s
BOZ Bozeman (W) 37.44 334 P **P** 16 52 16.5 +0.9
baz=143,SNR=27
ITTB Itaituba 37.70 115 *eP* **P** 16 52 16.8 -1.2
MALB Monte Alegre 37.92 111 *eP* **P** 16 52 19.7 -0.1
PB11 IPOC Station P 38.04 149 IAmb IAmb 16 52 23.2
comp=Z,18nm,1.0s
WVOR Wild Horse Val 38.63 325 P **P** 16 52 25.9 +0.3
EGMT Eagleton 38.69 338 P **P** 16 52 26.6 +0.7
baz=147,SNR=7.7
PATCX Punta Patache 38.69 150 P **P** 16 52 25.4 -0.9
PATCX IAmb IAmb 16 52 28.8
comp=Z,24nm,1.0s
VILB Vilhena 38.87 131 IAmb IAmb 16 52 31.2
comp=Z,57nm,0.6s
VILB Vilhena 38.87 131 *eP* **P** 16 52 28.3 +0.5

PB01 IPOC Station P 39.21 150 IAmb IAmb 16 52 33.0
comp=Z,12nm,1.0s
NPGB Novo Progresso 39.32 119 *eP* **P** 16 52 29.3 -2.3
MCPB Macapa, AP 39.38 107 *eP* **P** 16 52 31.4 -0.7
MSO Missoula 39.40 333 P **P** 16 52 32.2 +0.3
baz=140
PB07 IPOC Station P 39.60 151 P **P** 16 52 33.4 -0.6
PB07 IAmb IAmb 16 52 36.5
comp=Z,14nm,0.9s
SIV San Ignacio 40.29 135 P **P** 16 52 40.4 +0.8
comp=Z,14nm,0.6s,baz=304,slow=8.3,SNR=46
SIV PcP **PcP** 16 54 43.5 +1.3
comp=Z,3.9nm,0.5s,baz=254,slow=5.6,SNR=7.0
comp=Z,14nm,0.6s
F10A Beach Ranch, E 40.29 330 IAmb IAmb 16 52 42.9
comp=Z,18nm,1.1s
PB06 IPOC Station P 40.58 151 P **P** 16 52 40.9 -1.2
PB06 IAmb IAmb 16 52 44.0
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 40.60 321 P **P** 16 52 42.5 +0.5
comp=Z,1.5nm,0.6s,baz=117,slow=4.3,SNR=4.0
YBH LR LR 17 10 26.7
comp=Z,140nm,21.8s,baz=144,slow=37
comp=Z,1.5nm,0.6s
PDRB Porto dos Gac 40.69 126 *eP* **P** 16 52 41.9 -1.1
PINE Pine Mountain 40.79 325 P **P** 16 52 42.9 -0.8
LVC Limon Verde 40.82 150 P **P** 16 52 46.1 +1.9
comp=Z,10nm,0.8s,baz=300,slow=5.4,SNR=9.4
LVC LR LR 17 06 54.3
comp=Z,152nm,21.0s,baz=288,slow=32
comp=Z,10nm,0.8s
LVC Limon Verde 40.82 150 *eP* **P** 16 52 43.8 -0.5
LVC Limon Verde 40.82 150 P **P** 16 52 46.2 +1.9
LVC sP **sP** 16 53 11.1 +2.5
CLDB Colider 41.01 124 *eP* **P** 16 52 44.9 -0.7
PTLB Pontes e Lacer 41.28 133 P **P** 16 52 47.1 -0.6
PTLB IAmb IAmb 16 52 51.0
comp=Z,6.3nm,0.9s
PTLB Pontes e Lacer 41.28 133 *eP* **P** 16 52 47.3 -0.4
NEW Newport 41.90 332 P **P** 16 52 52.1 -0.4
comp=Z,2.3nm,0.6s,baz=151,slow=10,SNR=1.9
NEW PcP **PcP** 16 54 47.4 +0.4
comp=Z,2.1nm,0.5s,baz=142,slow=8.1,SNR=3.7
comp=Z,2.3nm,0.6s
C09A Chrisman Ranch 42.10 331 IAmb IAmb 16 52 57.2
comp=Z,12nm,0.5s
FFC Flin Flon 42.65 349 P **P** 16 52 57.5 -0.9
FFC IAmb IAmb 16 52 59.3
comp=Z,20nm,0.6s
FFC Flin Flon 42.65 349 P **P** 16 52 58.6 +0.2
PRPB Parauapebas 43.76 114 *eP* **P** 16 53 06.6 -1.4
SALV Santo Antonio 44.10 130 *eP* **P** 16 53 10.0 -0.5
AC02 Maricunga 44.35 154 P **P** 16 53 12.8 -0.2
AC02 IAmb IAmb 16 53 36.0
comp=Z,16nm,1.1s
SCHQ Schefferville 45.20 18 P **P** 16 53 17.9 -0.9
comp=Z,46nm,0.6s,baz=219,slow=6.5,SNR=147
SCHQ PcP **PcP** 16 54 57.4 -0.6
comp=Z,2.1nm,0.4s,baz=234,slow=4.5,SNR=5.3
SCHQ LR LR 17 14 29.6
comp=Z,104nm,18.4s,baz=184,slow=39
comp=Z,46nm,0.6s
SCHQ Schefferville 45.20 18 P **P** 16 53 17.7 -1.1
SNDB Serra Nova Dou 45.30 122 *eP* **P** 16 53 19.4 -0.8
LCO Las Campanas 45.64 157 P **P** 16 53 24.2 +1.2
FCC Fort Churchill 45.67 357 P **P** 16 53 21.9 -0.6
PP1B Ponte de Pedra 45.77 131 *eP* **P** 16 53 23.1 -0.7
BRLDA Berland Lookou 46.43 338 IAmb IAmb 16 53 29.3
comp=Z,18nm,0.7s
SMTB Santa Maria do 46.93 116 *eP* **P** 16 53 32.4 -0.7
ARAG Araguaiana, MT 46.95 126 *eP* **P** 16 53 32.5 -0.6
AQDB Aquidauana 47.06 135 IAmb IAmb 16 53 34.9
comp=Z,16nm,1.3s
AQDB Aquidauana 47.06 135 *eP* **P** 16 53 33.3 -0.6
H03N2 Juan Fernandez 47.39 168 T T 17 44 12.8
baz=346,slow=76,SNR=14
H03N1 Juan Fernandez 47.39 168 T T 17 44 13.7
baz=346,slow=76,SNR=19
H03N3 Juan Fernandez 47.40 168 T T 17 44 14.8
baz=346,slow=76,SNR=18
WAPA Wapiti River 47.96 337 IAmb IAmb 16 53 40.9
comp=Z,17nm,0.7s
ZON Zonda 48.68 156 P **P** 16 53 46.3 -0.1
ZON IAmb IAmb 16 53 48.9
comp=Z,22nm,1.2s
CFA Coronel Fontan 48.91 156 P **P** 16 53 49.2 +1.2
comp=Z,7.7nm,0.6s,baz=337,slow=7.7,SNR=16
comp=Z,7.7nm,0.6s
BBB Bella Bella 49.75 330 LR LR 17 18 26.0
comp=Z,55nm,19.2s,baz=153,slow=40
BDFB Brasilia 49.95 124 P **P** 16 53 54.7 -1.6
comp=Z,6.7nm,0.6s,baz=304,slow=8.8,SNR=8.4
BDFB PcP **PcP** 16 55 16.5 +0.8
comp=Z,2.0nm,0.4s,baz=211,slow=5.9,SNR=3.4
comp=Z,6.7nm,0.6s
BDFB Brasilia 49.95 124 P **P** 16 53 54.6 -1.7
BDFB IAmb IAmb 16 53 57.8
comp=Z,7.3nm,0.6s
BDFB Brasilia 49.95 124 *eP* **P** 16 53 55.1 -1.2
CPUP Villa Florida 50.13 142 P **P** 16 53 57.2 -0.2
comp=Z,7.4nm,1.1s,baz=330,slow=10.0,SNR=8.1
CPUP PcP **PcP** 16 55 17.4 +1.3
comp=Z,1.6nm,0.6s,baz=288,slow=2.5,SNR=4.6
comp=Z,7.4nm,1.1s
CPUP Villa Florida 50.13 142 P **P** 16 53 55.5 -1.8
CPUP IAmb IAmb 16 53 58.2
comp=Z,13nm,1.2s
CPUP Villa Florida 50.13 142 *eP* **P** 16 53 56.9 -0.4
CPUP Villa Florida 50.13 142 P **P** 16 53 57.0 -0.4
CPUP pP **pP** 16 54 15.1 +0.6
ITRB Iturama 50.43 130 *eP* **P** 16 53 59.0 -0.8
SDBA SAO DESIDERIO 50.91 118 *eP* **P** 16 54 02.6 -1.0
PCMB Pacaembu 50.94 132 *eP* **P** 16 54 02.7 -0.8
IPMB Ipameri, GO 51.08 126 *eP* **P** 16 54 03.7 -1.0
ML02 Panimavida 51.53 161 P **P** 16 54 07.6 -0.1
PTGB Pitanga 52.38 136 *eP* **P** 16 54 13.6 -0.8
YKA Yellowknife Ar 52.46 346 P **P** 16 54 13.4 -0.9
comp=Z,19nm,0.7s,baz=135,slow=7.5,SNR=272
YKA PcP **PcP** 16 55 23.9 -0.2
comp=Z,1.0nm,0.5s,baz=150,slow=3.5,SNR=0.5
YKA ScP **ScP** 16 59 18.9 +3.3
comp=Z,0.8nm,0.7s,baz=148,slow=4.2,SNR=7.5
comp=Z,19nm,0.7s
FRB Frobisher Bay 52.62 11 LR LR 17 16 49.3
comp=Z,182nm,21.5s,baz=194,slow=36
JANB Januaria 52.70 121 *eP* **P** 16 54 16.0 -0.9
ITQB Itaqui 53.02 144 *eP* **P** 16 54 18.2 -0.7
FRTB Fartura 53.24 133 *eP* **P** 16 54 20.1 -0.6
V35K Ketchikan 53.29 331 P **P** 16 54 20.7 +0.2
baz=125
KOTAN Kotaneelee Air 53.36 339 P **P** 16 54 20.9 -0.1
baz=136
ITAB Concordia 54.03 138 *eP* **P** 16 54 25.6 -0.8
RCLB Rio Claro- Sao 54.16 130 *eP* **P** 16 54 27.0 -0.4
DLBC Dease Lake 54.47 335 P **P** 16 54 30.4 +1.2
comp=Z,4.5nm,0.4s,baz=134,slow=6.1,SNR=18
DLBC LR LR 17 23 26.5
comp=Z,96nm,18.2s,baz=79,slow=42
comp=Z,4.5nm,0.4s
DLBC Dease Lake 54.47 335 IAmb IAmb 16 54 31.2
comp=Z,9.3nm,0.8s
DLBC Dease Lake 54.47 335 P **P** 16 54 30.1 +0.9
baz=129,SNR=7.3
S34M Telegraph Cree 54.61 334 P **P** 16 54 30.7 +0.6
baz=127
DIAM Diamantina, MG 54.87 124 *eP* **P** 16 54 31.6 -1.1
PTCN Pitcairn Islan 54.92 226 P **P** 16 54 35.7 +2.8
TAOE Nuku Hiva Isla 54.92 249 *e*LR LR 17 10 33.4
comp=Z,106nm,22.5s
TAOE Nuku Hiva Isla 54.92 249 *e*T T 17 53 12.6
comp=Z,23nm,0.2s
VAO Valinhos 54.93 131 *eP* **P** 16 54 32.5 -0.6
SPB Sao Paulo 54.94 131 *eP* **P** 16 54 32.4 -0.6
WTLY Watson Lake, Y 55.07 337 P **P** 16 54 33.5 0.0
WTLY Watson Lake, Y 55.07 337 P **P** 16 54 33.9 +0.4
baz=131,SNR=9.0
R33M Jennings River 55.45 336 P **P** 16 54 36.8 +0.4
baz=128
WRGLY Wrigley 55.46 342 P **P** 16 54 36.2 +0.1
baz=139
Q32M Nakina River 55.72 335 P **P** 16 54 38.9 +0.5
baz=127
LL04 Puerto Octay 56.03 165 P **P** 16 54 40.5 0.0
GDU01 Guandu, BA 56.12 117 *eP* **P** 16 54 40.6 -1.1
PLTB Pedras Altas 56.31 143 *eP* **P** 16 54 42.4 -0.3
PLCA Paso Flores 56.38 163 P **P** 16 54 43.9 +0.7
comp=Z,6.7nm,0.8s,baz=326,slow=7.8,SNR=9.6
PLCA LR LR 17 13 37.3
comp=Z,103nm,20.2s,baz=358,slow=30
comp=Z,6.7nm,0.8s
PLCA Paso Flores 56.38 163 *eP* **P** 16 54 42.8 -0.3
PLCA Paso Flores 56.38 163 P **P** 16 54 43.5 +0.4
PLCA pP **pP** 16 55 01.5 +0.9
P32M Atlin 56.69 335 P **P** 16 54 45.4 +0.2
baz=126
P33M Teslin, Yukon 56.70 336 P **P** 16 54 45.6 +0.5
baz=127
CMC01 Camacan, BA 56.91 118 *eP* **P** 16 54 46.3 -0.9
SJMB Sao Joao De Ma 57.10 123 *eP* **P** 16 54 47.7 -0.9
GUA01 Guaratinga, BA 57.23 120 *eP* **P** 16 54 48.4 -1.0
RKT Rikitea 57.34 231 *e*LR LR 17 11 42.7
comp=Z,28μm,27.0s
RKT Rikitea 57.34 231 *e*T T 17 56 17.8
comp=Z,5.7nm,0.3s
NAN01 Guarapari, ES 57.56 121 *eP* **P** 16 54 50.8 -1.0
PLBC Pleasant Camp 57.74 334 P **P** 16 54 52.3 -0.1
baz=123
WHY Whitehorse 57.79 335 P **P** 16 54 52.9 0.0
baz=125
RIB01 Linhares ES 58.05 123 *eP* **P** 16 54 54.7 -0.5
FARO Faro, Yukon 58.12 337 P **P** 16 54 54.8 -0.3
baz=127
O30N Mendenhall 58.34 335 P **P** 16 54 57.1 +0.4
baz=124,SNR=6.3
P30M Million Dollar 58.35 334 P **P** 16 54 57.7 +1.0
baz=122
M31M Drury Creek, Y 58.49 337 IAmb IAmb 16 54 60.0
comp=Z,12nm,1.8s
M31M Drury Creek, Y 58.49 337 P **P** 16 54 58.5 +0.9
baz=126
N31M Braeburn, Yuko 58.62 336 IAmb IAmb 16 55 01.2
comp=Z,6.2nm,0.8s
N31M Braeburn, Yuko 58.62 336 P **P** 16 54 59.1 +0.5
baz=124,SNR=6.5
HYT Haines Junctio 58.95 335 P **P** 16 55 01.0 -0.1
baz=122
O29M Mount Kennedy 59.13 334 P **P** 16 55 02.4 +0.1
baz=121
PNL Peninsula 59.17 333 P **P** 16 55 01.6 -0.8
baz=120
YUK6 Outpost Mounta 59.37 335 P **P** 16 55 04.6 +0.5
baz=121
SFJD Kangerlussuaq 59.59 17 LR LR 17 21 03.9
comp=Z,108nm,18.6s,baz=195,slow=36
M30M Minto, Yukon 59.63 337 IAmb IAmb 16 55 38.5
comp=Z,14nm,1.9s
M30M Minto, Yukon 59.63 337 P **P** 16 55 05.5 0.0
baz=124
YUK4 Talbot Arm 59.70 335 P **P** 16 55 06.6 +0.4
baz=122
PINM Pinnacle 59.75 333 P **P** 16 55 06.3 -0.2
baz=119
MAYO Mayo, Yukon 59.87 338 P **P** 16 55 07.2 +0.1
baz=125
O28M Mount Upton 60.06 334 P **P** 16 55 08.9 +0.1
baz=120
YUK8 Steele Glacier 60.13 335 P **P** 16 55 09.7 +0.4
baz=120
M29M Somme Creek 60.20 336 P **P** 16 55 09.8 +0.2
baz=122
C36M Paulatuk 60.30 347 P **P** 16 55 09.4 -0.6
baz=140
L29M L29M 60.43 337 P **P** 16 55 10.8 -0.2
baz=123
COYC Coyhaique 60.50 166 P **P** 16 55 11.7 0.0
COYC Coyhaique 60.50 166 P **P** 16 55 12.6 +1.0
K29M Barlow Dome 60.61 338 P **P** 16 55 11.7 -0.6
baz=124
YUK3 Moose Creek 60.67 335 P **P** 16 55 12.8 0.0
baz=120
BVCY Beaver Creek 61.15 335 P **P** 16 55 16.0 +0.1
baz=120
DAWY Dawson 61.42 337 IAmb IAmb 16 55 18.8
comp=Z,17nm,1.8s
DAWY Dawson 61.42 337 P **P** 16 55 17.2 -0.6
baz=122
F31M Tsiigehtchic 61.49 342 P **P** 16 55 17.5 -0.5
baz=129,SNR=8.1
M27K Edge Creek, AK 61.54 335 IAmb IAmb 16 55 20.3
comp=Z,22nm,1.9s
M27K Edge Creek, AK 61.54 335 P **P** 16 55 18.5 -0.2
baz=119
MCARA McCarthy VSAT 61.56 334 IAmb IAmb 16 55 22.6
comp=Z,9.4nm,1.0s
MCARA McCarthy VSAT 61.56 334 P **P** 16 55 19.0 +0.3
baz=117
RES Resolute Bay 61.61 358 P **P** 16 55 17.9 -0.8
comp=Z,16nm,0.7s,baz=180,slow=10.0,SNR=42
RES LR LR 17 22 25.6
comp=Z,102nm,21.1s,baz=211,slow=36
comp=Z,16nm,0.7s
I29M Ogilvie Camp, 61.73 339 IAmb IAmb 16 55 20.8
comp=Z,23nm,1.8s
I29M Ogilvie Camp, 61.73 339 P **P** 16 55 18.8 -1.0
baz=124,SNR=5.9
EPYK Eagle Plains 61.77 340 P **P** 16 55 19.7 -0.3
baz=126
BCAR Beaver Creek A 61.84 336 P **P** 16 55 19.9 -0.6
L27K Beaver Creek, 61.85 336 P **P** 16 55 20.7 +0.1
baz=119
G30M tAoh Zraii Nji 61.97 341 P **P** 16 55 21.1 -0.3
baz=126
INK Inuvik 61.98 343 P **P** 16 55 21.4 0.0
comp=Z,12nm,0.8s,baz=122,slow=6.9,SNR=46
INK LR LR 17 27 07.2
comp=Z,72nm,18.3s,baz=148,slow=41
comp=Z,12nm,0.8s
INK Inuvik 61.98 343 IAmb IAmb 16 55 22.0
comp=Z,11nm,0.8s
INK Inuvik 61.98 343 P **P** 16 55 21.2 -0.2
baz=130,SNR=17
M26K Nabesna, AK 62.02 335 P **P** 16 55 21.6 -0.1
baz=118
BMRM Bremner River 62.07 333 IAmb IAmb 16 55 23.4
comp=Z,5.5nm,0.7s
BMRM Bremner River 62.07 333 P **P** 16 55 22.3 +0.2
baz=115
N25K Chitina, Valde 62.34 334 IAmb IAmb 16 55 25.4
comp=Z,6.3nm,0.8s
N25K Chitina, Valde 62.34 334 P **P** 16 55 24.2 +0.2
baz=116
EYAK Cordova Ski Ar 62.41 332 P **P** 16 55 24.9 +0.6
baz=114
K27K Chicken 62.42 337 P **P** 16 55 24.5 +0.1
baz=119
EGAK Eagle 62.45 338 P **P** 16 55 24.2 -0.3
EGAK Eagle 62.45 338 P **P** 16 55 24.5 -0.1
baz=120
MENT Mentasta 62.56 335 P **P** 16 55 25.0 -0.4
KLU Klutina 62.87 333 IAmb IAmb 16 55 29.0
comp=Z,16nm,1.5s
KLU Klutina 62.87 333 P **P** 16 55 27.3 -0.2
baz=114
I27K Kandik River 63.03 338 P **P** 16 55 28.2 -0.4
baz=120
SCRK Sand Creek 63.14 336 P **P** 16 55 29.4 +0.1
baz=117
J26L Joseph Creek 63.22 337 P **P** 16 55 30.1 +0.3
baz=118
PAX Paxson 63.29 335 P **P** 16 55 30.0 -0.3
baz=115
H27K Steamboat Moun 63.32 339 P **P** 16 55 30.8 +0.4
baz=121
RIDG Independent Ri 63.37 336 P **P** 16 55 31.0 +0.2
baz=116
G27K Doyon Strip 63.66 340 P **P** 16 55 32.3 -0.4
baz=121
K24K Donnelly Dome 63.77 336 P **P** 16 55 33.5 +0.1
baz=115
M23K Glacier View 63.78 333 P **P** 16 55 33.4 0.0
baz=112
KNK Knik Glacier 63.96 333 P **P** 16 55 34.8 +0.2
baz=112
SML Sawmill 64.05 333 P **P** 16 55 35.6 +0.4
baz=112
WAT6 Susitna Watana 64.09 334 P **P** 16 55 36.0 +0.4
baz=113
PMR Palmer 64.32 333 P **P** 16 55 37.1 +0.2
baz=111
TULEG Thule 64.32 5 P **P** 16 55 35.9 -0.9
TULEG IAmb IAmb 16 55 37.1
comp=Z,13nm,0.8s
TULEG Thule 64.32 5 *i* P **P** 16 55 33.0 -3.7
TULEG *i* P **P** 16 55 35.4 -1.3

E27K	Coleen River	64.36	341	P		P	16 55 37.3	+0.1
	baz=121							
RC01	Rabbit Creek A	64.42	332	P		P	16 55 37.1	-0.5
	baz=110							
PRP	Porcupine Dome	64.43	337	P		P	16 55 37.6	-0.2
	baz=116							
G26K	Porcupine Rive	64.46	339	P		P	16 55 37.4	-0.4
	baz=119							
HDA	Harding Lake	64.50	336	P		P	16 55 37.4	-0.7
	baz=114,SNR=5.4							
WAT1	Susitna Watana	64.53	334	P		P	16 55 37.9	-0.5
	baz=112							
ILAR	Eielson Array	64.62	336	P		P	16 55 38.2	-0.7
	comp=Z,5.0nm,1.1s,baz=162,slow=4.6,SNR=60							
ILAR				PP		PP	16 58 05.0	+3.5
	comp=Z,0.9nm,0.9s,baz=114,slow=7.8,SNR=4.1							
ILAR				LR		LR	17 30 26.9	
	comp=Z,44nm,18.4s,baz=130,slow=42							
	comp=Z,5.0nm,1.1s							
KDAK	Kodiak Island	64.77	328	LR		LR	17 26 41.5	
	comp=Z,78nm,18.0s,baz=109,slow=39							
F26K	Sheenjek River	64.94	340	P		P	16 55 41.3	+0.3
	baz=119							
BMAR	Burnt Mountain	64.97	340	P		P	16 55 40.9	-0.2
POKR	Poker Flat Res	64.98	337	P		P	16 55 40.5	-0.7
	baz=114							
SUA	Susitna One	65.01	332	P		P	16 55 41.6	0.0
	baz=110							
MCK	McKinley	65.03	335	IAmb		IAmb	16 55 43.9	
	comp=Z,22nm,1.8s							
MCK	McKinley	65.03	335	P		P	16 55 41.0	-0.6
	baz=112							
COLA	College	65.04	336	P		P	16 55 40.7	-0.8
G25K	Bearman Lake	65.19	339	P		P	16 55 42.8	+0.3
	baz=116							
MDM	Murphy Dome	65.22	336	IAmb		IAmb	16 56 39.2	
	comp=Z,20nm,2.0s							
F25K	Christian Rive	65.40	339	P		P	16 55 44.6	+0.6
	baz=117							
NEA2	Nenana	65.41	336	P		P	16 55 43.8	-0.3
	baz=112,SNR=6.1							
H24K	Noodor Dome	65.44	337	P		P	16 55 43.6	-0.7
H24K	Noodor Dome	65.44	337	P		P	16 55 44.1	-0.1
	baz=114							
TRF	Thorofare Moun	65.49	334	P		P	16 55 44.7	-0.1
	baz=111,SNR=5.4							
SKT	Skwentna	65.53	333	IAmb		IAmb	16 55 46.0	
	comp=Z,23nm,1.6s							
SKT	Skwentna	65.53	333	P		P	16 55 44.8	-0.1
	baz=109							
E25K	Arctic Village	65.62	340	P		P	16 55 45.9	+0.5
	baz=117,SNR=6.4							
G24K	Hadweenzic Riv	65.66	338	P		P	16 55 45.6	0.0
	baz=115							
I23K	Minto, Yukon-K	65.74	336	IAmb		IAmb	16 55 46.8	
	comp=Z,7.9nm,0.8s							
I23K	Minto, Yukon-K	65.74	336	P		P	16 55 46.1	0.0
	baz=112,SNR=11							
C27K	Jago River	65.75	342	P		P	16 55 46.1	-0.1
	baz=120							
KTH	Kantishna Hill	65.79	334	IAmb		IAmb	16 57 03.8	
	comp=Z,31nm,1.8s							
BPAW	Bear Paw Mtn.	66.01	335	IAmb		IAmb	16 55 48.0	
	comp=Z,7.7nm,0.7s							
BPAW	Bear Paw Mtn.	66.01	335	P		P	16 55 47.4	-0.5
	baz=110							
H23K	Yukon River	66.07	337	P		P	16 55 47.7	-0.6
	baz=112							
PPLA	Purkeypile	66.11	334	P		P	16 55 48.2	-0.6
	baz=109							
F24K	Squaw Lake	66.15	339	P		P	16 55 48.8	0.0
	baz=115							
M20K	Styx River	66.22	332	P		P	16 55 48.7	-0.6
	baz=107							
CAST	Castle Rocks	66.24	334	P		P	16 55 48.3	-1.1
	baz=109,SNR=5.2							
MLY	Manley	66.24	336	IAmb		IAmb	16 55 49.7	
	comp=Z,11nm,0.7s							
MLY	Manley	66.24	336	P		P	16 55 49.0	-0.4
	baz=111,SNR=17							
C26K	Camden Bay	66.26	342	P		P	16 55 49.4	+0.1
	baz=119							
O19K	Port Alsworth	66.29	330	P		P	16 55 49.2	-0.5
	baz=106							
D25K	Kavik River	66.43	341	P		P	16 55 51.2	+0.6
	baz=117							
CHUM	Lake Minchumin	66.49	335	P		P	16 55 50.1	-0.8
	baz=109							
N19K	Bonanza Creek	66.54	331	P		P	16 55 51.1	-0.3
N19K	Bonanza Creek	66.54	331	P		P	16 55 51.0	-0.5
	baz=106							
E24K	Your Creek	66.59	339	P		P	16 55 51.1	-0.4
	baz=114							
G23K	Bananza Creek	66.59	338	P		P	16 55 51.2	-0.4
	baz=112							
O18K	Koktuh Hills	66.64	330	P		P	16 55 51.4	-0.6
	baz=105							
R17K	Ugashik Creek	66.71	327	P		P	16 55 52.7	+0.3
	baz=103							
L20K	Farewell, AK	66.73	333	P		P	16 55 52.0	-0.6
	baz=107							
PPT2	Papeete2	66.77	244	eLR		LR	17 16 04.4	
	comp=Z,91nm,22.0s							
PPT2				eLR		LR	17 16 04.7	
	comp=Z,149nm,25.5s							
I21K	Tanana	66.78	336	P		P	16 55 51.8	-0.9
	baz=110							
H22K	Ishtalitna Cre	66.80	337	P		P	16 55 52.1	-0.8
	baz=111							
COLD	Coldfoot	66.85	338	P		P	16 55 52.9	-0.3
	baz=112							
EUNU	Eureka	66.95	1	P		P	16 55 52.8	-0.9
EUNU				IAmb		IAmb	16 55 54.2	
	comp=Z,13nm,0.8s							
E23K	Chandalar	66.97	339	P		P	16 55 54.5	+0.5
	baz=113							
K20K	Telida	67.07	334	P		P	16 55 54.1	-0.6
	baz=107,SNR=7.0							
Q16K	King Salmon	67.08	328	P		P	16 55 54.6	-0.1
	baz=103							
L19K	White Mountain	67.08	332	P		P	16 55 54.8	0.0
	baz=106							
D24K	Happy Valley	67.15	340	P		P	16 55 55.0	0.0
	baz=114							
G22K	Bettles	67.21	338	P		P	16 55 55.0	-0.4
	baz=111							
H21K	Melozitna Rive	67.27	336	P		P	16 55 54.9	-1.0
	baz=109							
C24K	Franklin Bluff	67.34	341	P		P	16 55 56.2	0.0
	baz=115							
J20K	Nowinta River	67.35	335	IAmb		IAmb	16 55 58.7	
	comp=Z,18nm,1.7s							
J20K	Nowinta River	67.35	335	P		P	16 55 56.1	-0.3
	baz=107							
CHGN	Chignik	67.54	326	P		P	16 55 57.0	-0.6
	baz=100							
O17K	Koliganek Bris	67.54	330	P		P	16 55 57.4	-0.2
	baz=103							
F22K	John River	67.67	338	P		P	16 55 59.0	+0.7
	baz=111							
D23K	Nanushuk River	67.68	340	P		P	16 55 59.0	+0.6
	baz=113							
E22K	Anaktuvuk Pass	67.76	339	P		P	16 55 59.1	+0.1
	baz=111							
TTA	Tatalina	67.80	333	P		P	16 55 58.5	-0.9
	baz=105							
G21K	Allakaket	67.82	337	P		P	16 55 59.6	+0.2
	baz=109							
O16K	Kokwok River B	68.00	329	P		P	16 56 00.1	-0.4
	baz=102							
F21K	Alatna River	68.04	338	P		P	16 56 01.4	+0.6
	baz=109							
N16K	Nishlik Lake	68.51	330	P		P	16 56 04.2	+0.4
	baz=102							
BORG	Borgarnes	68.90	25	LR		LR	17 23 57.5	
	comp=Z,18nm,21.3s,baz=209,slow=34							
TBI	Tubuai	69.03	239	eLR		LR	17 17 07.4	
	comp=Z,2μm,26.5s							
TBI				eLR		LR	17 17 08.0	
	comp=Z,565nm,27.8s							
TBI	Tubuai	69.03	239	eT		T	18 10 57.5	
	comp=Z,4.7nm,0.3s							
ALE	Alert	70.25	4	P		P	16 56 13.0	-1.2
JMIC	Jan Mayen	74.70	20	LR		LR	17 28 34.2	
	comp=Z,73nm,20.9s,baz=276,slow=35							
EKA	Eskdalemuir Ar	77.19	36	P		P	16 56 52.5	-2.7
	comp=Z,2.2nm,0.6s,baz=272,slow=5.8,SNR=10							
	comp=Z,2.2nm,0.6s							

ESDC	Sonseca Array	78.27	52	P		P	16 56 59.1	-2.5
	comp=Z,1.5nm,0.7s,baz=292,slow=5.8,SNR=11							
ESDC				LR		LR	17 24 46.6	
	comp=Z,92nm,19.1s,baz=300,slow=31							
	comp=Z,1.5nm,0.7s							
MDT	Midelt	78.69	59	LR		LR	17 25 20.2	
	comp=Z,57nm,20.9s,baz=273,slow=31							
SPITS	Spitsbergen Ar	80.42	12	LR		LR	17 32 50.5	
	comp=Z,46nm,21.7s,baz=258,slow=36							
BILL	Bilibino	83.18	338	P		P	16 57 26.5	-0.7
DBIC	Dimbokro	83.23	85	P		P	16 57 28.0	-0.5
	comp=Z,2.2nm,0.7s,baz=302,slow=5.4,SNR=3.1							
	comp=Z,2.2nm,0.7s							
NB2	NORSAR Subarra	83.69	29	P		P	16 57 29.1	-0.9
	comp=Z,2.2nm,0.7s,baz=286,slow=5.1							
NOA	NORSAR Array B	83.69	29	P		P	16 57 29.1	-0.9
	comp=Z,2.4nm,0.8s,baz=287,slow=5.0,SNR=6.6							
NOA				LR		LR	17 32 06.7	
	comp=Z,37nm,20.7s,baz=280,slow=34							
	comp=Z,2.4nm,0.8s							
HFS	Hagfors	85.12	29	LR		LR	17 36 11.9	
	comp=Z,35nm,18.7s,baz=260,slow=36							
ARCES	ARCESS Array B	86.15	19	P		P	16 57 41.3	-0.8
	comp=Z,2.3nm,0.7s,baz=291,slow=5.0,SNR=14							
ARCES				LR		LR	17 35 26.3	
	comp=Z,21nm,18.2s,baz=305,slow=35							
	comp=Z,2.3nm,0.7s							
DAVA	Damuels	86.65	42	eP		P	16 57 43.4	-1.9
	comp=Z,6.8nm,1.1s							
DAVOX	Davos/Dischmat	86.79	43	P		P	16 57 45.0	-1.0
	comp=Z,2.1nm,0.6s,baz=301,slow=18,SNR=3.3							
	comp=Z,2.1nm,0.6s							
RETA	Reutte	87.17	42	eP		P	16 57 45.7	-2.0
	comp=Z,3.4nm,0.6s							
FETA	Feichten	87.28	42	eP		P	16 57 46.6	-1.8
	comp=Z,1.6nm,0.6s							
CLL	Collm	87.45	38	eP		P	16 57 47.0	-1.8
KEST	Kesra	89.39	54	P		P	16 57 57.7	-0.7
	comp=Z,2.0nm,0.5s,baz=315,slow=2.9,SNR=2.0							
	comp=Z,2.0nm,0.5s							
FINES	FINESS Array B	90.19	26	P		P	16 58 00.5	-1.0
	comp=Z,3.8nm,1.0s,baz=318,slow=1.9,SNR=8.6							
FINES				LR		LR	17 37 06.2	
	comp=Z,35nm,20.7s,baz=258,slow=35							
	comp=Z,3.8nm,1.0s							
VRAC	Vranov	90.28	39	LR		LR	17 36 06.3	
	comp=Z,39nm,20.3s,baz=298,slow=34							
SEY	Seymchan	90.56	336	P		P	16 58 03.2	0.0
	comp=Z,2.4nm,0.8s,baz=77,slow=5.2,SNR=12							
	comp=Z,2.4nm,0.8s							
AKASG	Malin Array Be	97.04	34	P		P	16 58 30.4	-2.8
	comp=Z,0.4nm,0.5s,baz=280,slow=4.2,SNR=2.7							
AKASG				LR		LR	17 40 25.4	
	comp=Z,64nm,18.3s,baz=306,slow=34							
	comp=Z,0.4nm,0.5s							
DZM	Mont Dzumac	107.77	251	eLR		LR	17 35 05.0	
	comp=Z,63nm,25.3s							
ZALV	Zalesovo Beam	113.00	4	PKiKP		PKiKP	17 03 37.6	-0.4
	comp=Z,0.9nm,0.3s,baz=302,slow=2.3,SNR=6.0							
SONM	Songino Array	117.68	348	PKP		PKiKP	17 03 47.8	+0.3
	comp=Z,1.1nm,0.7s,baz=6.6,slow=1.7,SNR=8.6							
BOSA	Boshof	117.71	116	PKP		PKiKP	17 03 49.5	+1.4
	comp=Z,4.6nm,0.7s,baz=278,slow=3.0,SNR=7.6							
KSRS	Korea Array	118.66	327	PKP		PKiKP	17 03 50.6	+1.2
	comp=Z,1.8nm,0.5s,baz=2.6,slow=1.8,SNR=7.7							
MKAR	Makanchi Array	119.88	7	PKP		PKPdf	17 03 50.9	-0.7
	comp=Z,0.6nm,0.4s,baz=325,slow=2.9,SNR=12							
GEYT	Alibeck	120.77	30	PKP		PKPdf	17 03 53.1	-0.5
	baz=290,slow=4.2							
HHC	Hu-ho-hao-te	122.88	341	eP		PKPdf	17 03 52.9	-4.8
HHC				pmax		pmax		
	comp=Z,36nm,0.8s							
HHC				pmax		pmax		
	comp=Z,150nm,4.7s							
WMQ	Urumqi	123.25	3	eP		PKiKP	17 03 58.6	+0.1
GTA	Gaotai	127.02	351	PKPbc		PKiKP	17 04 06.4	+0.2
NJ2	Nanjing	127.54	330	eP		PKPdf	17 04 04.8	-1.9
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
LZH	Lanzhou	129.46	346	eP		PKiKP	17 04 15.2	+4.0
LZH				pP		pPKPdf	17 04 20.6	-9.3
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
STKA	Stephens Creek	129.81	239	PKP		PKPdf	17 04 11.2	+0.2
	comp=Z,3.3nm,1.0s,baz=278,slow=3.3,SNR=3.2							
CD2	Chengdu	134.41	344	PKP		PKPdf	17 04 18.0	-1.8
WRA	Warramunga Arr	137.61	255	PKhKP		PKPpre	17 04 18.5	
	comp=Z,0.5nm,0.7s,baz=92,slow=3.1,SNR=6.6							
WRA				PKP		PKiKP	17 04 27.2	-0.7
	comp=Z,3.1nm,0.9s,baz=89,slow=2.3,SNR=15							
WRA				SKPbc		SKPab	17 08 01.4	-0.1
	comp=Z,1.2nm,0.7s,baz=88,slow=3.5,SNR=13							
ASAR	Alice Springs	137.74	249	PKhKP		PKPpre	17 04 18.5	
	comp=Z,0.6nm,0.5s,baz=99,slow=2.9,SNR=9.2							
ASAR				PKP		PKiKP	17 04 28.2	+0.2
	comp=Z,2.6nm,0.9s,baz=96,slow=2.1,SNR=8.9							
ASAR				SKPbc		SKPab	17 08 01.8	-0.2
	comp=Z,1.3nm,0.7s,baz=98,slow=3.0,SNR=12							
PZH	PanZhiHua	139.13	345	PKP		PKPdf	17 04 27.6	-1.2
HYB	Hyderabad	147.39	22	ePKPbc		PKPdf	17 04 44.0	+0.6
CMAR	Chiang Mai Arr	147.54	345	PKPbc		PKPbc	17 04 45.2	-1.0
	comp=Z,10nm,0.8s,baz=340,slow=3.4,SNR=13							
CMAR				SKP			17 08 17.0	
	comp=Z,0.4nm,0.3s,baz=318,slow=1.2,SNR=2.3							
CMAR				SKPbc		SKiKP	17 08 23.8	+4.9
	comp=Z,0.4nm,0.3s,baz=343,slow=3.3,SNR=1.7							

WEL ***04*** *17:01:00,41.89S×174.16E,h16km,ML3.9,Mw3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr2.17; Mθθ2.93; Mϕϕ-5.11; Mrθ2.12; Mrϕ-2.90; Mθϕ-1.42; Fault plane solution: M0 5.87000×10^14 NP1: ϕs57.00000°,δ62.00000°,λ157.00000°. NP2: ϕs159.00000°,δ70.00000°,λ31.00000°. Principal axes: T 56.2600, Plg35.0000°, Azm20.0000°; N 4.7900, Plg54.0000°, Azm189.0000°; P -61.0500, Plg5.0000°, Azm287.0000°;*

NOU ***04*** *17:01:55.5,42.21S×174.46E,h29km,MLv4.2/13,Off E. Coast of S. Island, N.Z.*

WEL ***04*** *17:01:56.4±0.6,42.3S×17.4E±,h8km±3km,M3.9/12, ML4.2/12,MLv3.9/12,Error ellipse: s-maj=0.0km s-min=0.0km az=139.0,confirmed*

ISC 04 17:01:54.6±1.1,41.99S±0.03×174.27E±0.03,h14km±8km, n111,σ1§22/124,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.24	350	P	Pg	17 02 00.5	+0.6
CMWZ				S	Sg	17 02 04.6	+1.2
BSWZ	Blackbirch Sta	0.40	313	P	Pg	17 02 02.0	-0.6
BSWZ				S	Sg	17 02 06.6	-1.5
TUWZ	Tuamarina	0.61	336	P	Pg	17 02 06.0	-0.5
TUWZ				S	Sg	17 02 13.3	-1.3
KHZ	Kahutara	0.69	232	P	Pn	17 02 10.1	+0.2
KHZ	Kahutara	0.69	232	P	Pn	17 02 10.0	+0.2
KHZ				S	Sn	17 02 21.0	+0.6
SNZO	South Karori	0.75	26	P	Pn	17 02 10.8	0.0
TCW	Tory Channel	0.78	0	P	Pb	17 02 09.5	-0.4
TCW				S	Sg	17 02 19.6	-0.3
WEL	Wellington	0.80	28	P	Pn	17 02 11.6	+0.2
PLWZ	Palliser	0.85	61	P	Pn	17 02 13.0	+0.9
NNZ	Nelson	1.02	319	P	Pb	17 02 12.9	-1.1
NNZ				S	Sb	17 02 25.2	-2.1
THZ	Tophouse	1.04	282	P	Pb	17 02 14.1	-0.4
PAWZ	Paruwai Farm	1.06	55	P	Pg	17 02 15.6	+0.7
CAW	Cannon Point	1.07	34	P	Pg	17 02 15.9	+0.7
DUWZ	D'Urville Isla	1.22	347	P	Pn	17 02 16.6	-0.5
DUWZ				S	Sb	17 02 32.9	-0.1
TRWZ	Traveller	1.22	61	P	Pb	17 02 17.6	+0.3
KIW	Kapiti Island	1.23	23	P	Pb	17 02 18.0	+0.4
KIW				S	Sg	17 02 34.7	+0.6
MTW	Mount Morrison	1.24	48	P	Pb	17 02 18.0	+0.2
MRNZ	Matariki Terra	1.28	297	P	Pn	17 02 18.0	0.0
MRNZ				S	Sb	17 02 35.1	+0.4
GVZ	Greta Valley S	1.34	223	P	Pb	17 02 19.8	+0.3
OGWZ	Otaki Gorge	1.35	30	P	Pn	17 02 19.1	0.0
TKNZ	Takaka Hill	1.37	314	P	Pn	17 02 18.9	-0.4
TKNZ				S	Sn	17 02 37.3	+0.1
HOWZ	Holdsworth Sta	1.44	41	P	Pn	17 02 20.5	+0.3
TMWZ	Te Maipa	1.50	55	P	Pn	17 02 21.3	+0.2
MRZ	Mangatainoka R	1.66	37	P	Pn	17 02 23.5	+0.4
LTZ	Lake Taylor	1.68	241	P	Pn	17 02 24.2	+0.6
AMCZ	Amberley	1.68	225	P	Pn	17 02 24.2	+0.7
TIWZ	Tintock	1.72	46	P	Pn	17 02 24.4	+0.3

QRZ	Quartz Range	1.75	311	P		Pn	17 02 25.5	+1.0
QRZ	Quartz Range	1.75	311	P		Pn	17 02 25.2	+0.7
DSZ	Denniston Nort	1.86	277	P		Pn	17 02 26.9	+0.9
PRWZ	Pori Road	1.92	42	P		Pn	17 02 27.0	+0.1
OKCZ	Okains Bay	1.95	207	P		Pn	17 02 27.6	+0.4
POWZ	Post Office Ro	1.96	36	P		Pn	17 02 27.6	+0.2
BFZ	Birch Farm	1.98	49	P		Pn	17 02 27.2	-0.5
BFZ	Birch Farm	1.98	49	P		Pn	17 02 27.0	-0.6
MQZ	McQueen's Vall	2.09	214	P		Pn	17 02 28.8	-0.3
OXZ	Oxford	2.12	230	P		Pn	17 02 29.3	-0.2
INZ	Inchbonnie	2.22	250	P		Pn	17 02 31.7	+0.8
WAZ	Wanganui	2.30	14	P		Pn	17 02 34.2	+2.1
RACZ	Rakaia	2.34	221	P		Pn	17 02 32.4	-0.1
PRHZ	Porangahau	2.48	47	P		Pn	17 02 34.5	-0.1
MHCZ	Mount Hutt	2.52	231	P		Pn	17 02 34.9	-0.2
LREZ	Lake Rotokare	2.53	2	P		Pb	17 02 37.9	-1.8
WPHZ	Waipukurau	2.53	41	P		Pn	17 02 34.8	-0.4
NMEZ	Namu Road	2.59	353	P		Pb	17 02 39.9	-0.9
WACZ	Wakanui South	2.64	222	P		Pn	17 02 36.8	+0.1
KHEZ	Kahui Hut	2.70	356	P		Pn	17 02 39.2	+1.6
KHEZ	Kahui Hut	2.70	356	P		Pn	17 02 40.6	+2.9
NEZ	North Egmont	2.72	357	P		Pb	17 02 41.0	-2.1
NBEZ	Newall Road No	2.74	353	P		Pb	17 02 41.3	-2.0
MTVZ	Mangateitei	2.76	20	P		Pn	17 02 40.3	+1.9
PKE	Pukeiti	2.80	356	P		Pn	17 02 41.3	+2.3
MOVZ	Moawhango	2.82	24	P		Pn	17 02 39.6	+0.4
PKVZ	Pokaka	2.82	17	P		Pn	17 02 40.7	+1.5
WVZ	Waitaha Valley	2.83	246	P		Pn	17 02 40.4	+1.1
KRHZ	Kereru	2.84	35	P		Pn	17 02 38.9	-0.5
BHHZ	Black Hill Sta	2.85	29	P		Pn	17 02 39.9	+0.3
WNVZ	Wahianoa	2.85	21	P		Pn	17 02 40.6	+0.9
TRVZ	Turoa	2.86	20	P		Pn	17 02 41.2	+1.3
DRZ	Dome Shelter	2.88	20	P		Pn	17 02 42.0	+1.6
WHVZ	Whangaehu Hut	2.88	21	P		Pn	17 02 41.6	+1.3
VRZ	Vera Road	2.89	8	P		Pn	17 02 42.1	+2.0
FWVZ	Far West T-bar	2.90	20	P		Pn	17 02 42.2	+1.6
MHEZ	Mangahewa	2.91	1	P		Pb	17 02 44.9	-1.3
TUVZ	Tukino	2.92	22	P		Pn	17 02 41.8	+1.2
RPZ	Rata Peaks	2.92	233	P		Pn	17 02 40.6	-0.1
RPZ	Rata Peaks	2.92	233	P		Pn	17 02 40.8	+0.1
KAHZ	Kahuranaki	2.95	43	P		Pn	17 02 39.9	-1.2
NGZ	Ngauruhoe	2.99	20	P		Pn	17 02 43.0	+1.3
SNVZ	South Ngauruho	2.99	21	P		Pn	17 02 42.8	+1.1
ARCZ	Arundel	3.00	228	P		Pn	17 02 41.4	-0.3
OTVZ	Oturere	3.02	21	P		Pn	17 02 43.1	+1.1
NNVZ	North Ngauruho	3.03	20	P		Pn	17 02 43.6	+1.3
KWHZ	Kaweka Forest	3.04	33	P		Pn	17 02 41.7	-0.6
WTVZ	West Tongariro	3.04	20	P		Pn	17 02 43.7	+1.3
ETVZ	East Tongariro	3.06	22	P		Pn	17 02 43.4	+0.8
TMVZ	Te Maari	3.07	21	P		Pn	17 02 43.6	+0.8
KRVZ	Karewarewa	3.08	20	P		Pn	17 02 44.2	+1.4
NTVZ	North Tongarir	3.08	21	P		Pn	17 02 43.9	+0.9
MCHZ	McNeill Hill	3.14	37	P		Pn	17 02 43.1	-0.5
GCSZ	Gaunt Creek Bo	3.19	244	P		Pn	17 02 47.9	+3.6
KATZ	Kakaramea	3.20	20	P		Pn	17 02 46.4	+1.8
RITZ	Rihia Road	3.25	22	P		Pn	17 02 46.4	+1.3
BKZ	Black Stump Fm	3.29	32	P		Pn	17 02 44.3	-1.4
BKZ	Black Stump Fm	3.29	32	P		Pn	17 02 43.8	-1.9
RATZ	Rangitukua	3.33	21	P		Pb	17 02 52.4	-0.9
TMZ	Timaru	3.38	224	P		Pn	17 02 46.7	-0.2
WATZ	Wairara	3.46	19	P		Pb	17 02 55.3	-0.4
HIZ	Hauiti	3.50	8	P		Pn	17 02 50.4	+1.8
HIZ	Hauiti	3.50	8	P		Pn	17 02 50.3	+1.8
MRHZ	Matea Rd	3.55	28	P		Pn	17 02 48.6	-0.7
FOZ	Fox Glacier	3.62	243	P		Pn	17 02 51.4	+1.2
TLZ	Tolley Road	3.78	15	P		Pn	17 02 53.0	+0.5
LBZ	Lake Benmore	3.83	230	P		Pn	17 02 53.3	+0.3
MUGZ	Murupara	4.00	29	P		Pn	17 02 55.4	0.0
ODZ	Otahua Downs	4.03	220	P		Pn	17 02 55.9	0.0
ODZ	Otahua Downs	4.03	220	P		Pn	17 02 55.4	-0.4
URZ	Urewera	4.32	31	P		Pn	17 02 58.8	-1.0
URZ	Urewera	4.32	31	P		Pn	17 02 58.5	-1.3
TOZ	Tahuroa Road	4.36	13	P		Pn	17 03 01.5	+1.2
JCZ	Jackson Bay	4.53	241	P		Pn	17 03 03.2	+0.5
JCZ	Jackson Bay	4.53	241	P		Pn	17 03 03.3	+0.6
MKAZ	Moumakai	4.93	8	P		Pn	17 03 09.0	+0.9
AWAZ	Awhitu Peninsu	4.93	3	P		Pn	17 03 10.1	+2.0
HAZ	Te Kaha	5.02	34	P		Pn	17 03 08.0	-1.3
ETAZ	East Tamaki Re	5.06	6	P		Pn	17 03 11.8	+1.9
WTAZ	Waiatarua	5.06	3	P		Pn	17 03 13.2	+3.2
WIAZ	Waiheke Island	5.23	8	P		Pn	17 03 13.9	+1.5
WMGZ	Waiomatatini S	5.25	39	P		Pn	17 03 10.6	-1.9
KUZ	Kuaotunu	5.36	13	P		Pn	17 03 15.0	+0.9
KUZ	Kuaotunu	5.36	13	P	

HCY	**Herceg Novi**	**1.89**	**152**	⇑*i* Pn		**Pn**	**17 10 55.5**	**+1.1**
HCY				*e*Sn		**Sn**	**17 11 18.9**	**+0.3**
RABC	**Rab**	**1.91**	**290**	Sn		**Sg**	**17 11 22.7**	**-0.1**
DIVS	**Divibare**	**1.93**	**90**	*e*Pn		**Pn**	**17 10 54.8**	**-0.2**
DIVS				*e*Sn		**Sb**	**17 11 22.1**	**+0.5**
DIVS	**Divibare**	**1.93**	**90**	*e*Pn		**Pn**	**17 10 55.0**	**0.0**
DIVS				*e*Sn		**Sn**	**17 11 20.4**	**+0.7**
OZLJ	**Ozalj**	**1.98**	**319**	*e*Pn		**Pn**	**17 10 56.5**	**+1.0**
BOJS	**Bojanci**	**2.01**	**314**	⇑*i* Pn		**Pb**	**17 10 57.2**	**-1.1**
BOJS				*e*Sn		**Sn**	**17 11 22.0**	**+0.6**
PTJ	**Puntijarka**	**2.01**	**332**	*e*Pn		**Pn**	**17 10 57.0**	**+0.9**
FRGS	**Fruska Gora**	**2.06**	**59**	⇑P		**Pn**	**17 10 56.3**	**-0.4**
FRGS				⇑S		**Sn**	**17 11 23.6**	**+0.8**
FRGS	**Fruska Gora**	**2.06**	**59**	*e*Pn		**Pn**	**17 10 56.4**	**-0.3**
FRGS				*e*Sn		**Sn**	**17 11 23.6**	**+0.8**
FRGS	**Fruska Gora**	**2.06**	**59**	*e*Pn		**Pn**	**17 10 56.7**	**0.0**
FRGS				*e*Sn		**Sn**	**17 11 23.6**	**+0.8**
KALN	**Kalnik**	**2.09**	**344**	*e*Pn		**Pn**	**17 10 57.0**	**-0.1**
SJES	**Sjenica**	**2.12**	**113**	*e*Pn		**Pn**	**17 10 59.1**	**+1.5**
SJES				*e*Sn		**Sn**	**17 11 26.7**	**+2.4**
SJES	**Sjenica**	**2.12**	**113**	*e*Pn		**Pn**	**17 10 58.5**	**+0.9**
SJES				*e*Sn		**Sn**	**17 11 24.8**	**+0.5**
IVAS	**Ivanjica**	**2.13**	**104**	*e*Pn		**Pn**	**17 10 59.0**	**+1.3**
IVAS				*e*Sn		**Sb**	**17 11 27.5**	**+0.2**
CRES	**Cresnjev**	**2.14**	**323**	*e*Pn		**Pn**	**17 10 59.1**	**+1.3**
CRES				*e*Sn		**Sn**	**17 11 25.8**	**+1.0**
LOBO	**Lobor**	**2.21**	**337**	*e*Pn		**Pn**	**17 10 59.5**	**+0.8**
PDG	**Podgorica**	**2.22**	**139**	⇓P		**Pn**	**17 10 59.8**	**+1.0**
PDG				⇑S		**Sb**	**17 11 30.3**	**+0.7**
PDG	**Podgorica**	**2.22**	**139**	*e*Pn		**Pn**	**17 11 00.0**	**+1.2**
PDG				*e*Sn		**Sn**	**17 11 29.1**	**+2.6**
TRUS	**Trudelj**	**2.23**	**87**	*e*Pn		**Pn**	**17 10 58.9**	**-0.1**
TRUS				*e*Sn		**Sn**	**17 11 29.3**	**+2.4**
MORH	**Mrgy, Hungar**	**2.29**	**24**	⇓P		**Pn**	**17 10 59.1**	**-0.7**
MORH				⇓S		**Sn**	**17 11 26.8**	**-1.5**
MORH	**Mrgy, Hungar**	**2.29**	**24**	*e*Pn		**Pn**	**17 10 59.9**	**+0.1**
MORH				*e*Sn		**Sn**	**17 11 29.7**	**+1.4**
BEHE	**Becsehely**	**2.37**	**351**	*e*Pn		**Pn**	**17 11 01.4**	**+0.5**
BEHE				*e*Sn		**Sn**	**17 11 30.8**	**+0.5**
DRME	**Dracevica, Mon**	**2.38**	**144**	*e*Pn		**Pn**	**17 11 02.1**	**+1.1**
DRME				*e*Sn		**Sn**	**17 11 31.1**	**+0.5**
SMRN	**Sveta Marina**	**2.43**	**293**	*e*Pn		**Pb**	**17 11 03.8**	**-1.7**
SMRN				Sn		**Sb**	**17 11 34.0**	**-1.7**
GRUS	**Gruza**	**2.47**	**94**	*e*Pn		**Pn**	**17 11 03.2**	**+0.9**
CEY	**Cerknica**	**2.60**	**309**	*e*Pn		**Pn**	**17 11 04.9**	**+0.8**
CEY				*e*Sn		**Sn**	**17 11 37.9**	**+1.8**
BRJN	**Brijuni**	**2.66**	**288**	Sn		**Sb**	**17 11 39.9**	**-2.5**
SKDS	**Skadanscina**	**2.74**	**302**	*e*Pn		**Pn**	**17 11 06.7**	**+0.7**
SKDS				*e*Sn		**Sn**	**17 11 40.4**	**+0.9**
SELS	**Selova**	**2.91**	**107**	*e*Pn		**Pn**	**17 11 08.2**	**-0.2**
SOKA	**Soboth**	**3.01**	**329**	*e*Pn		**Pn**	**17 11 10.3**	**+0.5**
	0.5nm,0.2s							
SOKA				*e*Sn		**Sn**	**17 11 44.9**	**-1.4**
	0.3nm,0.2s							
OBKA	**Obir**	**3.07**	**322**	*e*Pn		**Pb**	**17 11 13.7**	**-2.9**
	0.5nm,0.2s							
OBKA				*i* Sn		**Sb**	**17 11 55.4**	**+1.0**
	3.9nm,0.6s							
OBKA	**Obir**	**3.07**	**322**	*e*Pn		**Pn**	**17 11 11.5**	**+0.8**
OBKA				*e*Sn		**Sn**	**17 11 48.4**	**+0.6**
MDVR	**Moldovita**	**3.22**	**77**	⇑P		**Pn**	**17 11 12.1**	**-0.5**
ARSA	**Arzberg**	**3.36**	**339**	*e*Pn		**Pn**	**17 11 15.6**	**+1.0**
	0.2nm,0.1s							
ARSA				*e*Sn		**Sn**	**17 11 55.8**	**+1.0**
	1.6nm,0.4s							
ARSA	**Arzberg**	**3.36**	**339**	*e*Pn		**Pn**	**17 11 15.3**	**+0.7**
ARSA				*e*Sn		**Sn**	**17 11 55.7**	**+0.9**
BZS	**Buzias**	**3.40**	**63**	⇑P		**Pn**	**17 11 14.0**	**-1.1**
BZS				⇑S		**Sn**	**17 11 55.4**	**-0.5**
MATE	**Matera**	**3.51**	**188**	⇑S		**Sn**	**17 11 59.1**	**+0.8**
BARS	**Barje**	**3.53**	**110**	*e*Pn		**Pn**	**17 11 17.0**	**+0.1**
RONA	**Rosalia, Austr**	**3.64**	**349**	*e*Pn		**Pn**	**17 11 19.4**	**+1.0**
	0.6nm,0.1s							
RONA				*e*Sn		**Sn**	**17 12 03.9**	**+2.2**
	1.6nm,0.3s							
CONA	**Conrad Observa**	**3.93**	**346**	*i* Pn		**Pn**	**17 11 23.5**	**+1.1**
	0.7nm,0.3s							
CONA				*e*Sn		**Sn**	**17 12 06.0**	**-2.9**
	0.8nm,0.3s							
GZR	**Gura Zlata**	**4.09**	**70**	⇑P		**Pn**	**17 11 24.3**	**-0.4**
MODS	**Modra-Piesok**	**4.24**	**360**	*e*PN		**Pn**	**17 11 28.6**	**+1.9**
MODS				*e*SN		**Sn**	**17 12 17.3**	**+0.7**
ABTA	**Abfaltersbach**	**4.27**	**309**	*e*Pn		**Pn**	**17 11 31.0**	**+3.9**
	0.1nm,0.1s							
MOA	**Molln**	**4.28**	**331**	*i* Pn		**Pn**	**17 11 29.1**	**+1.9**
	0.9nm,0.3s							
VYHS	**Vyhne**	**4.49**	**13**	*e*PN		**Pn**	**17 11 31.7**	**+1.6**
VYHS				*e*SN		**Sn**	**17 12 21.2**	**-1.4**
WTTA	**Wattenberg**	**5.06**	**310**	*e*Pn		**Pn**	**17 11 40.7**	**+2.7**
	0.3nm,0.1s							
SQTA	**Sankt Quirin**	**5.27**	**308**	*e*Pn		**Pn**	**17 11 40.3**	**-0.6**
	0.4nm,0.2s							
FETA	**Feichten**	**5.45**	**304**	*e*Pn		**Pn**	**17 11 46.3**	**+2.9**
	0.4nm,0.3s							

IDC 04 17:14:05.6±11.0, **4°.60N**×**126°.43E, h300**km±113km,
mb2.6/3, **mbtmp3.3**/3, **Error ellipse: s-maj=207.5km**
s-min=25.7km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**25.59**	**163**	P	P	17 19 09.0		+0.7
	0.2nm,0.4s,baz=344,slow=9.6,SNR=1.3							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**29.02**	**166**	P	P	17 19 38.2		-0.5
	0.3nm,0.8s,baz=335,slow=7.2,SNR=7.8							
ASAR				PcP	PcP	17 22 38.6		-0.3
	0.2nm,0.7s,baz=346,slow=2.4,SNR=1.6							
	0.3nm,0.8s							
MKAR	**Makanchi Array**	**56.68**	**325**	P	P	17 23 18.3		-0.1
	0.2nm,0.3s,baz=128,slow=7.7,SNR=4.5							
	0.2nm,0.3s							

*IDC **04** 17:25:36.7*±*1.8, 19°.36S*×*175°.94E, h0km, mb4.1/7,*
mbtmp4.1/7, ML4.5/1, MS3.5/11, Error ellipse:
s-maj=81.8km s-min=20.5km az=148.0
ISC 04 17:25:37.9±0.9, **19°.5S**×**0°.2**×**176°.1E**±0°.1, **h10**km, **n21**,
σ1§**18**/10, **mb4.0**/7, **MS3.5**/11, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MSVF	**Nonsavu**	**2.52**	**47**	Pn	**Pn**	**17 26 19.3**		**+0.4**
	4.0nm,0.3s,baz=270,slow=22,SNR=2.3							
MSVF				Sn	**Sn**	**17 26 48.8**		**-1.0**
	8.7nm,0.3s,baz=204,slow=22,SNR=3.8							
MSVF				LR	LR	17 27 31.2		
	comp=Z,652nm,18.3s,baz=148,slow=44							
DZM	**Mont Dzumac**	**9.42**	**252**	*e*Pn	Pn	17 27 49.1		-4.7
	70nm,1.6s							
DZM				*e*LR	LR	17 29 59.7		
	comp=Z,447nm,26.1s							
DZM	**Mont Dzumac**	**9.42**	**252**	LR	LR	17 30 40.6		
	comp=Z,200nm,21.2s,baz=35,slow=33							
HNR	**Honiara**	**18.56**	**300**	LR	LR	17 36 10.6		
	comp=Z,700nm,18.2s,baz=168,slow=35							
RAR	**Rarotonga**	**22.66**	**99**	LR	LR	17 37 29.2		
	comp=Z,61nm,21.6s,baz=294,slow=31							
CTA	**Charters Tower**	**28.10**	**264**	LR	LR	17 41 20.1		
	comp=Z,79nm,19.7s,baz=91,slow=34							
PMG	**Port Moresby**	**29.74**	**286**	LR	LR	17 42 45.4		
	comp=Z,77nm,18.6s,baz=329,slow=35							
TBI	**Tubuai**	**32.22**	**103**	*e*LR	LR	17 40 33.5		
	comp=Z,2μm,26.8s							
TBI				*e*LR	LR	17 40 33.9		
	comp=Z,868nm,31.0s							
PPT2	**Papeete2**	**32.54**	**92**	*e*S	**S**	**17 37 24.3**		**-0.8**
	33nm,26.5s							
PPT2				*e*LR	LR	17 40 41.2		
	comp=Z,188nm,27.0s							
PPT2				*e*LR	LR	17 40 41.7		
	comp=Z,176nm,28.8s							
PPT	**Papeete**	**32.55**	**92**	LR	LR	17 42 04.1		
	comp=Z,47nm,21.5s,baz=260,slow=30							
STKA	**Stephens Creek**	**33.34**	**241**	P	**P**	**17 32 16.0**		**-0.2**
	4.0nm,0.9s,baz=72,slow=9.4,SNR=5.4							
	4.0nm,0.9s							
WRA	**Warramunga Arr**	**39.27**	**262**	P	P	17 33 05.1		-2.0
	1.2nm,0.7s,baz=98,slow=8.8,SNR=8.3							
WRA				LR	LR	17 48 17.4		
	comp=Z,58nm,18.2s,baz=80,slow=35							
	1.2nm,0.7s							
ASAR	**Alice Springs**	**39.38**	**256**	P	**P**	**17 33 07.0**		**-1.0**
	6.8nm,0.7s,baz=85,slow=8.9,SNR=95							
ASAR				LR	LR	17 48 42.1		
	comp=Z,45nm,19.9s,baz=102,slow=35							
	6.8nm,0.7s							
RKT	**Rikitea**	**45.54**	**104**	*e*LR	LR	17 46 47.8		
	comp=Z,33μm,38.5s							
VNDA	**Vanda**	**58.51**	**184**	LR	LR	17 57 26.1		
	comp=Z,45nm,19.4s,baz=200,slow=33							
SEY	**Seymchan**	**84.24**	**349**	P	**P**	**17 38 09.1**		**-0.1**
	1.2nm,0.6s,baz=147,slow=7.4,SNR=5.9							
	1.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**84.59**	**292**	P	**P**	**17 38 11.9**		**-0.1**
	0.4nm,0.4s,baz=107,slow=3.1,SNR=4.5							
	0.4nm,0.4s							
ILAR	**Eielson Array**	**88.65**	**15**	P	**P**	**17 38 30.6**		**-0.2**
	0.8nm,0.8s,baz=243,slow=4.9,SNR=9.0							
	0.8nm,0.8s							
TXAR	**Lajitas Array**	**91.23**	**59**	P	**P**	**17 38 44.6**		**+0.7**
	0.4nm,0.8s,baz=232,slow=5.6,SNR=3.6							
	0.4nm,0.8s							
TIXI	**Tiksi**	**96.41**	**346**	LR	LR	18 22 20.5		
	comp=Z,72nm,18.1s,baz=271,slow=35							
GERES	**GERESS Array B**	**147.46**	**338**	PKPbc	**PKPdf**	**17 45 22.2**		**+2.5**
	1.1nm,0.9s,baz=39,slow=6.3,SNR=2.5							

IDC 04 17:30:44.0±1.6, **3°.59S**×**125°.71E, h0km, mb3.6**/3,
mbtmp3.6/5, **ML3.6**/2, **Error ellipse: s-maj=46.2km**
s-min=25.8km az=70.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SIJI	**Sorong**	**6.17**	**64**	Pn	Pn	17 32 17.1		+0.6
	1.9nm,0.3s,baz=240,slow=16,SNR=8.8							
SIJI				Sn	Sn	17 33 23.6		-4.4
	0.1nm,0.3s,baz=169,slow=21,SNR=1.0							
	8.1nm,0.6s							
WRA	**Warramunga Arr**	**18.30**	**153**	P	Pn	17 34 59.5		-0.2
	0.2nm,0.3s,baz=332,slow=12,SNR=8.6							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**21.47**	**159**	P	P	17 35 35.1		+0.7
	0.6nm,0.4s,baz=345,slow=12,SNR=32							
	0.6nm,0.4s							
STKA	**Stephens Creek**	**31.86**	**154**	P	P	17 37 09.8		-1.1
	1.8nm,0.6s,baz=350,slow=7.3,SNR=5.0							
	1.8nm,0.6s							
MKAR	**Makanchi Array**	**63.07**	**328**	P	P	17 41 13.6		+0.3
	0.2nm,0.7s,baz=118,slow=8.3,SNR=2.0							
	0.2nm,0.7s							

*IDC **04** 17:35:11.4*±*0.6, 37°.14N*×*141°.23E, h0km, mb4.0/20,*
mbtmp4.0/23, ML3.5/3, MS2.7/4, Error ellipse:
s-maj=17.8km s-min=13.3km az=117.0
*JMA **04** 17:35:13.3*±*0.2, 37°.1N*±*0°.3*×*141°.3E*±*0°.8, h26km*±*1km,*
MD4.2/40, MV4.2/40, E OFF FUKUSHIMA PREF
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NEIC **04** 17:35:13.8*±*1.9, 37°.19N*±*0°.05*×*141°.37E*±*0°.07, h10km*±*1km,*
mb4.4/29, Error ellipse: s-maj=11.0km s-min=6.3km
az=60.0
*NIED **04** 17:35:13.3, 37°.13N*×*141°.34E, h26km, MW4.0, Moment*
*Tensor Solution. s3 Moment tensor: Scale 10*14*Nm;*
Mrr=9.85; Mθθ3.60; Mϕϕ6.25; Mrθ0.72; Mθϕ4.41; Mϕr1.23;
*Fault plane solution: Mw9.80000×10*14 *NP1:*
ϕs216.00000°, δ49.00000°, λ-91.00000°. NP2:ϕs37.00000°,
δ41.00000°, λ-89.00000°.
ISC 04 17:35:12.7±1.5, **37°.12N**×**0°.04**×**141°.38E**±0°.06, **h9**km±8km,
n102, σ1§**10**/93, **mb4.2**/35, **4D, Near east coast of eastern**
Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**268**	*i* P	**Pg**	**17 35 22.1**		**+0.3**
ONAJ				S	**Sg**	**17 35 28.4**		**+0.5**
ONAJ	**Iwakimizuishiy**	**0.46**	**268**	A	A	17 35 22.1		
	comp=E,14nm,0.3s,comp=E,13nm,0.3s							
JFK	**Kawauchi**	**0.47**	**301**	*i* P	**Pg**	**17 35 22.1**		**+0.3**
JFK				S	**Sg**	**17 35 28.4**		**+0.3**
JFK	**Kawauchi**	**0.47**	**301**	A	A	17 35 22.1		
	comp=E,7.0nm,3.5s,comp=E,4.0nm,2.6s							
JFFD	**Fukushimafurud**	**0.65**	**267**	*i* P	**Pg**	**17 35 25.4**		**0.0**
JFFD				S	**Sg**	**17 35 33.9**		**0.0**
JFFD	**Fukushimafurud**	**0.65**	**267**	A	A	17 35 25.4		
	comp=E,7.0nm,0.7s,comp=E,14nm,0.7s							
JMST	**Minamisoumatoc**	**0.72**	**327**	*i* P	**Pg**	**17 35 26.5**		**0.0**
JMST				S	**Sg**	**17 35 36.1**		**+0.2**
JMST	**Minamisoumatoc**	**0.72**	**327**	A	A	17 35 26.5		
	comp=E,14nm,0.4s,comp=E,32nm,0.3s							
JHO	**Hitachi**	**0.82**	**232**	⇓*i* P	**Pg**	**17 35 27.7**		**-0.9**
JHO				⇓S	**Sg**	**17 35 38.4**		**-1.0**
JMM	**Marumori**	**0.88**	**328**	P	**Pg**	**17 35 29.0**		**-0.5**
JMM					**Sg**	**17 35 40.4**		**-0.6**
JMM	**Marumori**	**0.88**	**328**	*i* P	**Pg**	**17 35 29.2**		**-0.4**
JMM				S	**Sg**	**17 35 40.7**		**-0.3**
JMM	**Marumori**	**0.88**	**328**	A	A	17 35 29.2		
	comp=E,9.0nm,0.4s,comp=E,17nm,0.6s							
JSB	**Shiboa**	**1.18**	**263**	P	**Pb**	**17 35 34.6**		**-0.5**
JSB				S	**Sn**	**17 35 50.6**		**-0.9**
JSB	**Shiboa**	**1.18**	**263**	A	A	17 35 34.6		
	comp=E,12nm,0.9s,comp=E,7.0nm,1.2s							
JYAR	**Yonezawaarcadi**	**1.26**	**309**	A	A	17 35 35.0		
	comp=E,29nm,1.0s,comp=E,47nm,0.7s							
JIO	**Ouri**	**1.33**	**359**	*i* P	**Pn**	**17 35 36.3**		**-1.1**
JIO				S	**Sn**	**17 35 52.8**		**-2.4**
JFY	**Yanaizu**	**1.36**	**283**	*i* P	**Pn**	**17 35 37.5**		**-0.4**
JFY				S	**Sn**	**17 35 55.5**		**-0.6**
JFY	**Yanaizu**	**1.36**	**283**	A	A	17 35 37.5		
	comp=E,9.0nm,0.5s,comp=E,5.0nm,0.3s							
JOU	**Okura**	**1.36**	**336**	⇓*i* P	**Pn**	**17 35 37.5**		**-0.4**
JOU				⇓*e*S	**Sn**	**17 35 55.5**		**-0.6**
JOU	**Okura**	**1.36**	**336**	A	A	17 35 37.5		
	comp=E,10.0nm,0.9s,comp=E,11nm,1.6s							
JYS	**Shirataka**	**1.51**	**317**	A	A	17 35 38.9		
	comp=E,15nm,0.9s,comp=E,13nm,1.0s							
JOFO	**Osakifurukawao**	**1.52**	**346**	A	A	17 35 39.2		
	comp=E,42nm,2.0s,comp=E,33nm,0.9s							
JYA	**Atsumi**	**1.97**	**319**	A	A	17 35 45.7		
	comp=E,13nm,0.8s,comp=E,11nm,0.8s							
MJAR	**Matsushiro Arr**	**2.61**	**259**	Pn	**Pn**	**17 35 54.4**		**-0.6**
	1.4nm,0.3s,baz=84,slow=25,SNR=134							
MJAR				Sn	**Sb**	**17 36 30.1**		**-1.6**
	1.5nm,0.3s,baz=96,slow=18,SNR=3.3							
MJAR				LR	LR	17 36 44.3		
	comp=Z,58nm,18.9s,baz=62,slow=37							
	12nm,0.4s							
MAJO	**Matsushiro**	**2.61**	**258**		**Pn**	**17 35 55.5**		**+0.4**
MJB9	**Matsu-Tunnel**	**2.61**	**258**		**Pn**	**17 35 56.4**		**+1.4**
JSD	**Sado**	**2.64**	**291**		**Pn**	**17 35 55.0**		**-0.4**
JGF	**Kuroka**	**3.58**	**246**		**Pn**	**17 36 09.6**		**+1.2**
JTM	**Tenmabayashi**	**3.67**	**356**		**Pn**	**17 36 10.2**		**+0.7**
INU	**Inuyama**	**3.94**	**245**		**Pn**	**17 36 14.0**		**+0.6**
JHJ2	**Mitsune**	**4.20**	**198**	Pn	**Pn**	**17 36 16.9**		**0.0**
JHJ	**Hachijo jima 2**	**4.20**	**199**	Pn	**Pn**	**17 36 18.1**		**+1.1**
	8.6nm,0.3s,baz=42,slow=14,SNR=1.2							
JHJ				LR	LR	17 38 10.3		
	comp=Z,72nm,21.7s,baz=114,slow=43							
	117nm,0.7s							
ERM	**Erimo**	**5.08**	**15**	Pn	**Pn**	**17 36 28.4**		**-0.4**
JHS	**Saijyo**	**7.02**	**255**		**Pn**	**17 36 58.0**		**+2.4**
ASAJ	**Asahikawa**	**7.05**	**7**	Pn	**Pn**	**17 36 55.5**		**-0.5**
	2.1nm,0.3s,baz=226,slow=9.5,SNR=23							
	7.6nm,0.4s							
JKA	**Kamikawa-asahi**	**7.05**	**7**	Pn	**Pn**	**17 36 55.0**		**-1.0**
USRK	**Ussuriysk Ar.**	**10.04**	**318**	Pn	**Pn**	**17 37 41.0**		**+4.1**
	0.2nm,0.3s,baz=121,slow=14,SNR=3.4							
KSRS	**Korea Array**	**10.73**	**276**	Pn	**Pn**	**17 37 50.5**		**+4.1**
	0.1nm,0.3s,baz=92,slow=15,SNR=3.6							
KSRS				LR	LR	17 41 21.4		
	comp=Z,65nm,21.4s,baz=75,slow=35							
KLR	**Kul'dur**	**13.98**	**333**	LR	LR	17 43 27.4		
	comp=Z,46nm,18.4s,baz=24,slow=36							
MA2	**Magadan**	**23.27**	**12**	P	**P**	**17 40 20.0**		**-0.3**
	3.8nm,0.6s,baz=183,slow=10,SNR=7.2							
	3.8nm,0.6s							
SEY	**Seymchan**	**26.71**	**11**	P	**P**	**17 40 52.9**		**+0.9**
	3.8nm,0.8s,baz=209,slow=7.4,SNR=13							
	3.8nm,0.8s							
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**17 41 00.2**		**-1.1**
	1.6nm,0.8s,baz=107,slow=9.0,SNR=11							
	1.6nm,0.8s							
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**17 41 00.7**		**-0.6**
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	18 10 36.6		
	baz=314,slow=75,SNR=334							
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	18 10 38.3		
	baz=314,slow=75,SNR=457							
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	18 10 37.9		
	baz=314,slow=75,SNR=402							
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	18 11 27.6		
	baz=315,slow=75,SNR=110							
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	18 11 24.9		
	baz=315,slow=75,SNR=84							
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	18 11 29.2		
	baz=315,slow=75,SNR=56							
CRAI	**Chiangrai**	**39.38**	**256**	P	**P**	**17 42 42.6**		**-0.1**
CMAR	**Chiang Mai Arr**	**41.49**	**255**	P	**P**	**17 42 58.5**		**-1.7**
	0.5nm,0.6s,baz=38,slow=10,SNR=4.2							
	0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**17 43 01.2**		**-1.4**
	2.4nm,0.8s,baz=100,slow=6.7,SNR=8.7							
	2.4nm,0.8s							
MK31	**Makanchi Array**	**44.05**	**302**	P	**P**	**17 43 20.2**		**-0.5**
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**17 43 19.9**		**-0.8**
	1.8nm,0.8s,baz=88,slow=9.8,SNR=21							
	1.8nm,0.8s							
KURK	**Kurchatov**	**45.85**	**308**	P	**P**	**17 43 34.2**		**-0.7**
KURK				IAmb	IAmb	17 43 35.0		
	comp=Z,4.0nm,0.8s							
J20K	**Nowinta River**	**46.28**	**33**	P	**P**	**17 43 38.9**		**+0.7**
J20K				IAmb	IAmb	17 43 45.9		
	comp=Z,2.6nm,1.0s							
H21K	**Melozitna Rive**	**46.95**	**31**	P	**P**	**17 43 43.1**		**-0.3**
H21K				IAmb	IAmb	17 44 12.6		
	comp=Z,4.4nm,1.3s							
KDAK	**Kodiak Island**	**47.05**	**42**	P	**P**	**17 43 44.2**		**-0.1**
	comp=Z,3.6nm,0.6s,baz=274,slow=6.3,SNR=5.3							
	comp=Z,3.6nm,0.6s							
KDAK	**Kodiak Island**	**47.05**	**42**	P	**P**	**17 43 45.2**		**+1.0**
PPLA	**Purkeypile**	**47.11**	**35**	P	**P**	**17 43 46.7**		**+1.9**
CAST	**Castle Rocks**	**47.17**	**34**	P	**P**	**17 43 46.7**		**+1.5**
CAST				IAmb	IAmb	17 43 47.6		
	comp=Z,1.9nm,0.8s							
BPAW	**Bear Paw Mtn.**	**47.67**	**33**	P	**P**	**17 43 49.8**		**+0.8**
BPAW				IAmb	IAmb	17 43 50.5		
	comp=Z,3.0nm,1.2s							
H23K	**Yukon River**	**48.31**	**31**	P	**P**	**17 43 54.8**		**+0.8**
H23K				IAmb	IAmb	17 43 56.8		
	comp=Z,4.5nm,1.0s							
GHO	**Glory Hole Cre**	**48.66**	**36**	P	**P**	**17 43 57.7**		**+0.9**
GHO				IAmb	IAmb	17 43 58.5		
	comp=Z,5.8nm,1.0s							
MDM	**Murphy Dome**	**48.86**	**32**	P	**P**	**17 43 58.7**		**+0.5**
MDM				IAmb	IAmb	17 44 05.6		
	comp=Z,4.0nm,1.0s							
WRH	**Wood River Hil**	**48.93**	**33**	P	**P**	**17 43 59.6**		**+0.9**
SML	**Sawmill**	**48.94**	**36**	P	**P**	**17 43 59.3**		**+0.4**
H24K	**Noodor Dome**	**48.99**	**31**	P	**P**	**17 44 01.2**		**+1.9**
H24K				IAmb	IAmb	17 44 10.6		
	comp=Z,2.1nm,0.9s							
SCM	**Sheep Creek Mo**	**49.41**	**36**	P	**P**	**17 44 03.4**		**+0.8**
SCM				IAmb	IAmb	17 44 11.1		
	comp=Z,8.0nm,1.2s							
HDA	**Harding Lake**	**49.42**	**33**	P	**P**	**17 44 02.8**		**+0.3**
HDA				IAmb	IAmb	17 44 09.2		
	comp=Z,3.1nm,0.8s							
IL31		**49.44**	**32**	P	**P**	**17 44 02.1**		**-0.4**
IL31				IAmb	IAmb	17 44 04.0		
	comp=Z,2.9nm,0.8s							
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**17 44 03.2**		**+0.6**
	comp=Z,1.9nm,0.7s,baz=270,slow=6.4,SNR=25							
	comp=Z,1.9nm,0.7s							
BMAR	**Burnt Mountain**	**50.27**	**29**	P	**P**	**17 44 10.9**		**+1.9**
DOT	**Dot Lake**	**50.75

M_R0.17±.03; $M_{\theta\theta}$0.38±.01; $M_{\phi\phi}$0.25±.03; Best double couple: $M_0$0.96200×10^{17} NP1:ϕ_S208.00000°,δ54.00000°, λ-86.00000°. NP2:ϕ_N21.00000°,δ36.00000°,λ-96.00000°. Principal axes: T 0.9910, Plg9.0000°, Azm295.0000°; N -0.0590, Plg3.0000°, Azm26.0000°; P -0.9320, Plg80.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

BGR ***04*** *17:53:24.6,37.51N×141.40E,h18km,mb5.6,Ms4.8*

NEIC ***04*** *17:53:24,37.23N×141.34E,h12km,Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.88; $M_{\theta\theta}$0.06; $M_{\phi\phi}$0.83; $M_{r\theta}$-0.09; $M_{r\phi}$0.41; $M_{\theta\phi}$-0.45; Fault plane solution: $M_0$1.05000×10^{17} NP1: ϕ_S210.00000°,δ32.00000°,λ-79.00000°. NP2:ϕ_S17.00000°, δ58.00000°,λ-96.00000°. Principal axes: T 1.1049, Plg13.0000°, Azm112.0000°; N -0.1097, Plg6.0000°, Azm21.0000°; P -0.9952, Plg76.0000°, Azm268.0000°;*

ISC 04 17:53:20.5±0.3,37.16N±0.02×141.31E±0.02,h14km±1km, h14km:pP-P,n2146,σ1s43/2111,mb5.6/567,MS4.8/110, 44C-101D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.41**	**300**	*i* P	**Pb**	**17 53 29.6**	**+0.2**
JFK				*e*S	**Sb**	**17 53 36.2**	**+0.7**
JFK	**Kawauchi**	**0.41**	**300**	A	A	17 53 29.6	
comp=E,226nm,6.2s,comp=E,325nm,2.0s							
ONAJ	**Iwakimizuishiy**	**0.42**	**262**	*i* P	**Pb**	**17 53 29.6**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.42**	**262**	A	A	17 53 29.6	
comp=E,828nm,2.5s,comp=E,762nm,3.1s							
JFFD	**Fukushimafurud**	**0.61**	**263**	⇓*i* P	**Pb**	**17 53 32.9**	**0.0**
JFFD				⇓S	**Sb**	**17 53 41.6**	**+0.4**
JFFD	**Fukushimafurud**	**0.61**	**263**	A	A	17 53 32.9	
comp=E,362nm,4.1s,comp=E,379nm,2.2s							
JMST	**Minamisoumatoc**	**0.66**	**329**	*i* P	**Pb**	**17 53 34.0**	**+0.3**
JMST				S	**Sb**	**17 53 43.8**	**+1.2**
JMST	**Minamisoumatoc**	**0.66**	**329**	A	A	17 53 34.0	
comp=E,198nm,3.5s,comp=E,240nm,2.2s							
JHO	**Hitachi**	**0.81**	**228**	⇓*i* P	**Pg**	**17 53 35.1**	**-1.1**
JHO				⇓S	**Sg**	**17 53 45.9**	**-1.0**
JHO	**Hitachi**	**0.81**	**228**	A	A	17 53 35.1	
comp=E,331nm,1.5s,comp=E,373nm,1.3s							
JMM	**Marumori**	**0.82**	**330**		**Pg**	**17 53 36.3**	**0.0**
JMM				Sg	**Sb**	**17 53 47.7**	**+0.4**
JMM	**Marumori**	**0.82**	**330**	P	**Pn**	**17 53 37.1**	**-0.4**
JMM	**Marumori**	**0.82**	**330**	⇓*i* P	**Pb**	**17 53 36.6**	**+0.2**
JMM				⇓S	**Sn**	**17 53 48.4**	**-0.9**
JMM	**Marumori**	**0.82**	**330**	A	A	17 53 36.6	
comp=E,182nm,1.5s,comp=E,174nm,1.2s							
JHYU	**Hitachinakayam**	**1.01**	**216**	A	A	17 53 38.6	
comp=E,493nm,0.7s,comp=E,452nm,0.5s							
JSB	**Shiboa**	**1.13**	**261**	⇓*i* P	**Pg**	**17 53 42.1**	**-0.2**
JSB				⇓S	**Sn**	**17 53 57.9**	**+0.7**
JSB	**Shiboa**	**1.13**	**261**	A	A	17 53 42.1	
comp=E,1μm,1.2s,comp=E,526nm,1.1s							
JYAR	**Yonezawaarcadi**	**1.20**	**309**	A	A	17 53 42.5	
comp=E,480nm,1.2s,comp=E,772nm,1.2s							
JIO	**Ouri**	**1.29**	**1**	⇓*i* P	**Pn**	**17 53 43.6**	**-0.4**
JIO				⇓S	**Sb**	**17 54 00.9**	**0.0**
JIO	**Ouri**	**1.29**	**1**	A	A	17 53 43.6	
comp=E,84nm,3.8s,comp=E,71nm,5.5s							
JYT	**Yasato**	**1.30**	**224**	A	A	17 53 43.2	
comp=E,295nm,1.4s,comp=E,234nm,1.0s							
JFY	**Yanaizu**	**1.31**	**281**	⇓*i* P	**Pb**	**17 53 44.9**	**+0.1**
JFY				⇓S	**Sg**	**17 54 03.1**	**+0.5**
JFY	**Yanaizu**	**1.31**	**281**	A	A	17 53 44.9	
comp=E,201nm,1.6s,comp=E,185nm,4.6s							
JOU	**Okura**	**1.31**	**337**	⇓*i* P	**Pb**	**17 53 44.9**	**+0.1**
JOU				⇓*e*S	**Sg**	**17 54 03.0**	**+0.3**
JOU	**Okura**	**1.31**	**337**	A	A	17 53 44.9	
comp=E,261nm,2.4s,comp=E,298nm,1.4s							
JIHU	**Itakohorinouch**	**1.35**	**208**	A	A	17 53 43.8	
comp=E,1μm,4.5s,comp=E,814nm,1.4s							
JYS	**Shirataka**	**1.45**	**317**	A	A	17 53 46.4	
comp=E,243nm,1.4s,comp=E,345nm,2.7s							
JOFO	**Osakifurukawao**	**1.47**	**348**	A	A	17 53 46.6	
comp=E,881nm,2.8s,comp=E,531nm,1.6s							
CHOJ	**Chosi**	**1.50**	**194**	A	A	17 53 45.9	
comp=E,226nm,2.8s,comp=E,270nm,4.7s							
JKMT	**Kesennumamotoy**	**1.65**	**4**	A	A	17 53 49.1	
comp=E,109nm,2.4s,comp=E,39nm,6.0s							
JAG	**Ashikaga**	**1.67**	**244**	A	A	17 53 49.0	
comp=E,130nm,1.3s,comp=E,135nm,2.1s							
JSMT	**Sammumatsuo**	**1.67**	**205**	A	A	17 53 48.5	
comp=E,440nm,4.1s,comp=E,487nm,1.7s							
JNS	**Sasagawa**	**1.72**	**293**	A	A	17 53 50.3	
comp=E,103nm,1.5s,comp=E,84nm,4.9s							
JMK	**Ichinoseki**	**1.79**	**358**	A	A	17 53 51.2	
comp=E,98nm,2.1s,comp=E,50nm,2.7s							
JUON	**Uonuma**	**1.80**	**272**	A	A	17 53 51.3	
comp=E,84nm,5.1s,comp=E,132nm,2.4s							
JYK	**Kaneyama**	**1.91**	**337**	A	A	17 53 53.0	
comp=E,155nm,2.7s,comp=E,106nm,3.2s							
JYA	**Atsumi**	**1.91**	**319**	A	A	17 53 53.1	
comp=E,194nm,2.0s,comp=E,255nm,1.4s							
OFUJ	**Ofunato**	**1.94**	**8**	A	A	17 53 53.2	
comp=E,57nm,2.4s,comp=E,63nm,4.5s							
TOK	**Tokyo**	**1.94**	**221**	A	A	17 53 52.6	
comp=E,283nm,3.8s,comp=E,352nm,6.9s							
JCN	**Nagara**	**1.96**	**208**	A	A	17 53 52.7	
comp=E,651nm,2.0s,comp=E,438nm,2.8s							
I30JP	**iSUMI INFRASON**	**2.02**	**204**	Pn	**Pn**	**17 53 52.5**	**-1.6**
baz=34,slow=18							
I30JP				I	I	18 03 30.0	
0.1nm,0.6s,baz=18,slow=314,SNR=0.5							
JAW	**Awa shima**	**2.08**	**309**	A	A	17 53 55.6	
comp=E,70nm,8.4s,comp=E,60nm,4.6s							
JHU	**Hanno**	**2.10**	**232**	A	A	17 53 55.0	
comp=E,134nm,2.3s,comp=E,116nm,1.4s							
JIZZ	**Izumozaki**	**2.11**	**281**	A	A	17 53 55.8	
comp=E,763nm,1.6s,comp=E,356nm,3.5s							
JYYZ	**Yamagatayuza**	**2.15**	**330**	A	A	17 53 56.5	
comp=E,389nm,2.4s,comp=E,498nm,5.9s							
JKUC	**kamogawauchiur**	**2.19**	**205**	A	A	17 53 56.1	
comp=E,114nm,2.3s,comp=E,121nm,3.4s							
JGK	**Kuni**	**2.23**	**255**	A	A	17 53 57.2	
comp=E,188nm,1.7s,comp=E,330nm,4.3s							
JRY	**Ryogami san**	**2.25**	**240**	A	A	17 53 57.4	
comp=E,88nm,1.6s,comp=E,108nm,1.7s							
JRG	**Rokugo**	**2.29**	**347**	A	A	17 53 58.5	
comp=E,108nm,4.6s,comp=E,93nm,4.2s							
JSGW	**Sagamiharawaka**	**2.31**	**228**	A	A	17 53 58.0	
comp=E,74nm,3.1s,comp=E,92nm,1.3s							
JOM	**Ohasama**	**2.31**	**360**	A	A	17 53 58.6	
comp=E,65nm,2.9s,comp=E,41nm,5.6s							
JYO	**Yokosk**	**2.35**	**215**	A	A	17 53 58.5	
comp=E,140nm,1.5s,comp=E,141nm,3.9s							
TATJ	**Tateyama 2**	**2.42**	**209**	A	A	17 53 59.4	
comp=E,174nm,3.5s,comp=E,181nm,5.4s							
MIYJ	**Miyakonagasawa**	**2.44**	**9**	A	A	17 54 00.4	
comp=E,44nm,4.3s,comp=E,53nm,5.6s							
JTB	**Tobi-shima**	**2.46**	**326**	A	A	17 54 01.0	
comp=E,72nm,2.3s,comp=E,86nm,2.8s							
JJN	**Nakama**	**2.52**	**270**	A	A	17 54 01.6	
comp=E,255nm,1.4s,comp=E,118nm,4.1s							
JYW	**Yuwa**	**2.53**	**340**	A	A	17 54 01.9	
comp=E,152nm,2.1s,comp=E,272nm,2.2s							
MJAR	**Matsushiro Arr**	**2.57**	**257**	Pn	**Pn**	**17 54 02.4**	**+0.8**
56nm,0.3s,baz=89,slow=17,SNR=2501							
MJAR				Sn	**Sb**	**17 54 37.4**	**-0.2**
88nm,0.3s,baz=154,slow=44,SNR=4.3							
MJAR				LR	LR	17 54 53.0	
comp=Z,4μm,21.0s,baz=74,slow=38							
MAJO	**Matsushiro**	**2.57**	**257**	Pn	**Pn**	**17 54 02.8**	**+1.2**
MAJO	**Matsushiro**	**2.57**	**257**	P	**Pn**	**17 54 03.8**	**+2.2**
MAJO	**Matsushiro**	**2.57**	**257**	*d* iP	**Pn**	**17 54 03.1**	**+1.5**
MJB9	**Matsu-Tunnel**	**2.57**	**257**		**Pn**	**17 54 03.7**	**+2.0**
JSD	**Sado**	**2.58**	**291**	Pn	**Pn**	**17 54 01.7**	**0.0**
JSD	**Sado**	**2.58**	**291**	P	**Pn**	**17 54 03.7**	**+2.0**
JSD	**Sado**	**2.58**	**291**	A	A	17 54 02.6	
comp=E,41nm,3.7s,comp=E,38nm,2.7s							
JSZI	**Iwateshizukuis**	**2.59**	**354**	A	A	17 54 03.2	
comp=E,160nm,4.0s,comp=E,153nm,2.6s							
JOD2	**Odawara 2**	**2.61**	**224**	A	A	17 54 02.4	
comp=E,120nm,1.5s,comp=E,83nm,2.2s							
JNG	**Nsakai**	**2.69**	**255**	A	A	17 54 03.8	
comp=E,60nm,2.6s,comp=E,75nm,5.0s							
JYN	**Shimob**	**2.79**	**234**	A	A	17 54 05.0	
comp=E,64nm,1.4s,comp=E,74nm,4.7s							
JTH	**Tanohata**	**2.81**	**9**	A	A	17 54 05.7	
comp=E,41nm,5.1s,comp=E,33nm,4.4s							
JKZ	**Kuzumaki**	**2.82**	**0**	A	A	17 54 05.9	
comp=E,62nm,5.0s,comp=E,29nm,4.1s							
JNT	**Takato**	**2.86**	**244**	A	A	17 54 06.2	
comp=E,61nm,4.6s,comp=E,49nm,5.1s							
JIM2	**Oshima 3**	**2.88**	**213**	A	A	17 54 06.0	
comp=E,84nm,2.5s,comp=E,96nm,2.0s							
JHTM	**Izuhatsuma**	**2.88**	**221**	A	A	17 54 06.2	
comp=E,126nm,1.6s,comp=E,161nm,1.7s							
JFNN	**Fujinakano**	**2.90**	**228**	A	A	17 54 06.4	
comp=E,101nm,3.7s,comp=E,174nm,2.4s							
JKEN	**Kujiedanarisaw**	**3.06**	**6**	A	A	17 54 09.2	
comp=E,81nm,2.6s,comp=E,53nm,2.5s							
JAH	**Hinai**	**3.07**	**350**	A	A	17 54 09.6	
comp=E,76nm,2.1s,comp=E,58nm,3.0s							
JTHY	**Toshimahigashi**	**3.10**	**213**	A	A	17 54 09.2	
comp=E,55nm,3.8s,comp=E,70nm,2.5s							
JIZS	**Izushimoda**	**3.14**	**220**	A	A	17 54 09.8	
comp=E,37nm,1.2s,comp=E,48nm,2.3s							
JSZ	**Suzu**	**3.16**	**276**	A	A	17 54 10.9	
comp=E,85nm,1.9s,comp=E,85nm,2.9s							
JANG	**Nango**	**3.21**	**3**	A	A	17 54 11.5	
comp=E,41nm,4.9s,comp=E,23nm,6.7s							
JNTW	**Noshirotokiwa**	**3.23**	**344**	A	A	17 54 11.9	
comp=E,273nm,3.1s,comp=E,212nm,2.6s							
JTT	**Ttatey**	**3.24**	**261**	A	A	17 54 11.8	
comp=E,127nm,2.1s,comp=E,140nm,2.1s							
JNIO	**Niijimaoohara**	**3.25**	**211**	A	A	17 54 11.3	
comp=E,64nm,1.3s,comp=E,66nm,1.5s							
JOG3	**Oga3**	**3.26**	**328**	A	A	17 54 08.6	
comp=E,124nm,3.1s,comp=E,123nm,2.5s							
SHZ3	**Shizuoka 3**	**3.27**	**231**	A	A	17 54 11.8	
comp=E,75nm,2.8s,comp=E,84nm,1.5s							
JSKK	**Shikinejimakit**	**3.30**	**212**	A	A	17 54 12.0	
comp=E,52nm,2.4s,comp=E,35nm,1.5s							
JNY	**Yasuok**	**3.32**	**238**	A	A	17 54 12.6	
comp=E,52nm,3.2s,comp=E,65nm,1.5s							
JGN	**Niukaw**	**3.35**	**255**	A	A	17 54 13.2	
comp=E,23nm,3.4s,comp=E,46nm,2.8s							
JMYK	**Miyake Tsubota**	**3.41**	**205**	A	A	17 54 13.5	
comp=E,48nm,4.7s,comp=E,55nm,5.6s							
JKO	**Kozu shima**	**3.46**	**211**	A	A	17 54 14.2	
comp=E,105nm,2.9s,comp=E,56nm,2.8s							
JSG	**Sagara**	**3.55**	**227**		**Pn**	**17 54 15.2**	**+0.1**
JSG	**Sagara**	**3.55**	**227**	P	**Pn**	**17 54 17.3**	**+2.2**
JSG	**Sagara**	**3.55**	**227**	A	A	17 54 15.7	
comp=E,112nm,1.8s,comp=E,79nm,1.9s							
JGF	**Kuroka**	**3.55**	**245**		**Pn**	**17 54 15.7**	**+0.5**
JGF	**Kuroka**	**3.55**	**245**	P	**Pn**	**17 54 17.3**	**+2.1**
JHG	**Hegura jima**	**3.56**	**282**	A	A	17 54 16.5	
comp=E,33nm,3.2s,comp=E,34nm,2.7s							
JHHS	**Hirosakihyakuz**	**3.56**	**348**	A	A	17 54 16.6	
comp=E,189nm,4.7s,comp=E,122nm,5.8s							
JIW	**Iwasaki**	**3.57**	**344**	A	A	17 54 16.8	
comp=E,43nm,6.3s,comp=E,43nm,3.1s							
JKKS	**Kakegawashinom**	**3.62**	**229**	A	A	17 54 16.7	
comp=E,87nm,3.3s,comp=E,84nm,2.7s							
JTM	**Tenmabayashi**	**3.62**	**357**	Pn	**Pn**	**17 54 17.1**	**+1.0**
JTM	**Tenmabayashi**	**3.62**	**357**	P	**Pn**	**17 54 18.1**	**+2.0**
JTM	**Tenmabayashi**	**3.62**	**357**	A	A	17 54 17.4	
comp=E,35nm,6.7s,comp=E,38nm,6.5s							
JJH	**Hakui**	**3.63**	**268**	A	A	17 54 17.4	
comp=E,31nm,2.4s,comp=E,71nm,3.3s							
HMMJ	**Hamamatsu 2**	**3.71**	**233**	A	A	17 54 18.1	
comp=E,51nm,1.9s,comp=E,36nm,2.9s							
JAO	**Obara**	**3.79**	**241**	A	A	17 54 19.3	
comp=E,38nm,1.8s,comp=E,53nm,2.5s							
JSSY	**Shinshiroyabe**	**3.81**	**235**	A	A	17 54 19.6	
comp=E,20nm,1.3s,comp=E,35nm,3.7s							
JARK	**Aomorikkasho**	**3.84**	**1**	A	A	17 54 20.4	
comp=E,49nm,3.5s,comp=E,33nm,3.4s							
INU	**Inuyama**	**3.92**	**244**	Pn	**Pn**	**17 54 20.8**	**+0.7**
INU	**Inuyama**	**3.92**	**244**	P	**Pn**	**17 54 22.2**	**+2.1**
JSI2	**Shiura 2**	**3.95**	**350**	A	A	17 54 22.1	
comp=E,42nm,6.5s,comp=E,36nm,5.0s							
JYTA	**Yamagatataniai**	**4.01**	**248**	A	A	17 54 22.5	
comp=E,23nm,9.2s,comp=E,33nm,6.3s							
JICN	**Ichinomiyachia**	**4.06**	**244**	A	A	17 54 23.2	
comp=E,77nm,2.1s,comp=E,83nm,4.9s							
JAHD	**Aomorihigashid**	**4.10**	**0**	A	A	17 54 24.0	
comp=E,89nm,1.8s,comp=E,63nm,2.0s							
JKG	**Kaga**	**4.10**	**259**	A	A	17 54 23.9	
comp=E,22nm,3.3s,comp=E,22nm,3.3s							
JOT	**Ohata**	**4.22**	**357**	A	A	17 54 25.8	
comp=E,36nm,3.7s,comp=E,31nm,4.9s							
JAA	**Atsumi**	**4.22**	**235**	A	A	17 54 25.3	
comp=E,23nm,2.0s,comp=E,28nm,2.7s							
JHJ2	**Mitsune**	**4.22**	**197**	Pn	**Pn**	**17 54 22.6**	**-1.7**
JHJ2	**Mitsune**	**4.22**	**197**	P	**Pn**	**17 54 24.9**	**+0.6**
JHJ2	**Mitsune**	**4.22**	**197**	A	A	17 54 24.8	
comp=E,27nm,3.6s,comp=E,24nm,3.6s							
JHJ	**Hachijo jima 2**	**4.22**	**198**	Pn	**Pn**	**17 54 24.3**	**-0.1**
336nm,0.3s,baz=304,slow=19,SNR=58							
JHJ				Sn	**Sn**	**17 55 13.2**	**-0.3**
276nm,0.3s,baz=304,slow=22,SNR=8.7							
824nm,0.4s							
JHCJ	**Hachijojimakas**	**4.26**	**197**	A	A	17 54 25.4	
comp=E,17nm,4.8s,comp=E,18nm,3.8s							
JSR	**Shuchi**	**4.42**	**251**	A	A	17 54 28.6	
comp=E,33nm,3.6s,comp=E,37nm,5.3s							
JEG	**Eigenji**	**4.47**	**245**	A	A	17 54 28.9	
comp=E,19nm,3.5s,comp=E,23nm,7.0s							
JOMM	**Oshimamatsumae**	**4.47**	**347**	A	A	17 54 29.4	
comp=E,25nm,5.3s,comp=E,41nm,3.5s							
JFM	**Mihama**	**4.60**	**251**	A	A	17 54 30.8	
comp=E,18nm,4.2s,comp=E,21nm,3.4s							
JIE	**Ise**	**4.66**	**235**	A	A	17 54 31.4	
comp=E,25nm,2.5s,comp=E,30nm,2.5s							
TSUJ	**Tsu 2**	**4.67**	**240**	A	A	17 54 31.6	
comp=E,24nm,2.8s,comp=E,22nm,5.2s							
JKB	**Kayabe**	**4.72**	**357**	A	A	17 54 32.9	
comp=E,39nm,5.3s,comp=E,23nm,3.1s							
JYM2	**Yakumo 2**	**5.00**	**352**	A	A	17 54 36.8	
comp=E,24nm,3.5s,comp=E,24nm,3.5s							
JKN2	**Miekihoku**	**5.03**	**236**	A	A	17 54 36.7	
comp=E,13nm,2.4s,comp=E,22nm,2.8s							
ERM	**Erimo**	**5.05**	**16**	Pn	**Pn**	**17 54 35.4**	**-0.3**
ERM	**Erimo**	**5.05**	**16**	P	**Pn**	**17 54 36.2**	**+0.5**
ERM	**Erimo**	**5.05**	**16**	*d* iP	**Pn**	**17 54 35.5**	**-0.2**
JEM	**Erimo**	**5.05**	**16**	P	**Pn**	**17 54 35.9**	**+0.2**
JWT	**Wachi**	**5.13**	**250**	A	A	17 54 38.3	
comp=E,14nm,4.4s,comp=E,16nm,2.2s							
JHE	**Heguri**	**5.21**	**243**	A	A	17 54 39.3	
comp=E,19nm,7.8s,comp=E,26nm,5.0s							
JNBK	**Urakawa-nobuka**	**5.23**	**12**	A	A	17 54 39.8	
comp=E,19nm,3.8s,comp=E,20nm,3.5s							
JNTK	**Naratenkawa**	**5.28**	**238**	A	A	17 54 40.1	
comp=E,12nm,7.0s,comp=E,14nm,5.1s							
JNB	**Nobetsu**	**5.30**	**358**	A	A	17 54 41.0	
comp=E,9.0nm,2.7s,comp=E,9.0nm,8.7s							
JSHD	**Hidakashinhida**	**5.32**	**9**	A	A	17 54 41.0	
comp=E,32nm,3.9s,comp=E,29nm,6.7s							
JTHR	**Tokachihiroo**	**5.35**	**16**	A	A	17 54 41.4	
comp=E,7.0nm,3.6s,comp=E,7.0nm,3.9s							
JHST	**Hiyamasetana**	**5.37**	**349**	A	A	17 54 41.9	
comp=E,32nm,2.9s,comp=E,22nm,4.8s							
JMMH	**Miemihama**	**5.45**	**234**	A	A	17 54 42.6	
comp=E,11nm,3.3s,comp=E,11nm,3.2s							
JIAM	**Iburiatsuma**	**5.47**	**5**	A	A	17 54 43.3	
comp=E,31nm,6.0s,comp=E,27nm,5.4s							
JWY	**Kouya**	**5.50**	**239**	A	A	17 54 43.4	
comp=E,13nm,2.9s,comp=E,18nm,4.2s							
JSH	**Shimam**	**5.56**	**350**	A	A	17 54 44.6	
comp=E,25nm,5.3s,comp=E,13nm,4.3s							
JKSM	**Kasumi**	**5.59**	**256**	A	A	17 54 44.8	
comp=E,10.0nm,7.0s,comp=E,11nm,6.8s							
JMIK	**Miki**	**5.59**	**247**	A	A	17 54 44.7	
comp=E,15nm,3.7s,comp=E,28nm,2.0s							
JBT2	**Biratori 2**	**5.67**	**8**	A	A	17 54 46.0	
comp=E,11nm,5.1s,comp=E,13nm,2.9s							
JCH	**Churui**	**5.67**	**15**	A	A	17 54 45.9	
comp=E,9.0nm,4.5s,comp=E,7.0nm,4.3s							
JEW	**Eniwo**	**5.67**	**1**	A	A	17 54 46.1	
comp=E,19nm,4.8s,comp=E,16nm,4.0s							
JTNC	**Tanabenakahech**	**5.72**	**236**	A	A	17 54 46.4	
comp=E,13nm,2.8s,comp=E,14nm,4.5s							
JAWN	**Awajishima-nag**	**5.85**	**245**	A	A	17 54 48.3	
comp=E,17nm,7.0s,comp=E,20nm,3.3s							
JWKM	**Wakayamakushim**	**5.86**	**232**	A	A	17 54 48.3	
comp=E,18nm,3.3s,comp=E,14nm,2.1s							
JWM	**Minabe**	**5.88**	**238**	A	A	17 54 48.5	
comp=E,11nm,3.3s,comp=E,24nm,3.0s							
JOB	**Onbets**	**6.05**	**18**	A	A	17 54 51.2	
comp=E,11nm,3.3s,comp=E,11nm,3.0s							
JFR	**Furu**	**6.07**	**9**	A	A	17 54 51.6	
comp=E,5.0nm,7.7s,comp=E,7.0nm,5.8s							
JISS	**Ishikarishitsu**	**6.11**	**1**	A	A	17 54 52.2	
comp=E,19nm,7.6s,comp=E,23nm,5.7s							
JSK	**Shakotan**	**6.22**	**354**	A	A	17 54 53.8	
comp=E,9.0nm,5.0s,comp=E,8.0nm,3.5s							
JMN	**Monobe**	**6.97**	**243**	Pn	**Pn**	**17 55 02.4**	**+0.3**
JMN	**Monobe**	**6.97**	**243**	P	**Pn**	**17 55 03.6**	**+1.5**
JHS	**Saijyo**	**6.98**	**254**	Pn	**Pn**	**17 55 04.6**	**+2.3**
JHS	**Saijyo**	**6.98**	**254**	P	**Pn**	**17 55 03.9**	**+1.6**
ASAJ	**Asahikawa**	**7.01**	**8**	Pn	**Pn**	**17 55 03.0**	**+0.3**
15nm,0.3s,baz=224,slow=9.4,SNR=150							
ASAJ				Sn	**Sn**	**17 56 23.4**	**+1.3**
6.7nm,0.3s,baz=153,slow=18,SNR=1.9							
36nm,0.3s							
JKA	**Kamikawa-asahi**	**7.01**	**8**	Pn	**Pn**	**17 55 02.6**	**0.0**
NMR	**Nemuro--Hokkai**	**7.06**	**27**	⇑*i* P	**Pn**	**17 55 01.3**	**-1.9**
NMR				*i* S	**Sn**	**17 56 17.1**	**-6.1**
RUSJ	**Misakicho**	**7.55**	**22**	⇑*i* P	**Pn**	**17 55 09.2**	**-0.8**
RUSJ				*e*S	**Sn**	**17 56 31.9**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**7.69**	**25**	*c i* P	**Pn**	**17 55 10.2**	**-1.6**
YUK				*i* S	**Sn**	**17 56 33.0**	**-5.6**
YUK				pmax	pmax		
comp=N,94nm,0.3s							
YUK				pmax	pmax		
comp=E,45nm,0.3s							
YUK				pmax	pmax		
comp=Z,556nm,0.3s							
YUK				MLR	MLR		
comp=Z,4μm,17.0s							
YUK				MLR	MLR		
comp=E,2μm,9.0s							
YUK				MLR	MLR		
comp=N,2μm,11.0s							
TEY	**Ternei**	**8.63**	**337**	⇑*e*P	Pn	17 55 34.8	+10
TEY				pmax	pmax		
comp=Z,50nm,1.5s							
TEY				pmax	pmax		
comp=E,30nm,1.3s							
TEY				pmax	pmax		
comp=N,60nm,1.2s							
TEY				MLR	MLR		
comp=N,200nm,11.0s							
TEY				MLR	MLR		
comp=Z,400nm,12.0s							
JNU	**Nakatsue**	**9.45**	**248**	Pn	**Pn**	**17 55 38.2**	**+2.1**
comp=Z,2.2nm,0.3s,baz=67,slow=4.2,SNR=27							
JNU	**Nakatsue**	**9.45**	**248**	Pn	**Pn**	**17 55 37.3**	**+1.2**
JNU	**Nakatsue**	**9.45**	**248**	P	**Pn**	**17 55 38.0**	**+1.9**
KUR	**Kuril'sk**	**9.45**	**29**	*e*P	**Pn**	**17 55 36.6**	**+0.5**
KUR				*e*S	**Sn**	**17 57 15.4**	**-6.6**
KUR				pmax	pmax		
comp=Z,139nm,0.8s							
KUR				pmax	pmax		
comp=E,71nm,0.4s							
KUR				smax	smax		
comp=N,243nm,0.8s							
KUR				smax	smax		
comp=E,200nm,0.7s							
YSS	**Yuzh-Sakhalins**	**9.84**	**6**	Pn	**Pn**	**17 55 40.9**	**-0.5**
YSS	**Yuzh-Sakhalins**	**9.84**	**6**	P	**Pn**	**17 55 43.7**	**+2.3**
YSS	**Yuzh-Sakhalins**	**9.84**	**6**	*e*P	**Pn**	**17 55 41.5**	**+0.1**
YSS				*e*S	**Sn**	**17 57 30.5**	**-1.1**
YSS				pmax	pmax		
comp=Z,120nm,1.0s							
YSS				pmax	pmax		
comp=Z,600nm,3.7s							
YSS				smax	smax		
comp=N,80nm,1.0s							
USA0B	**Ussuriysk Arra**	**9.97**	**318**		Pn	17 55 48.2	+5.0
USA0B	**Ussuriysk Arra**	**9.97**	**318**	*d* iP	**Pn**	**17 55 47.3**	**+4.1**
USRK	**Ussuriysk Ar.**	**9.97**	**318**	Pn	Pn	17 55 48.4	+5.1
comp=N,1.2nm,0.3s,baz=132,slow=14,SNR=24							
USRK				Sn	Sn	17 57 49.0	+14
baz=138,slow=40							
USRK				LR	LR	17 59 19.5	
comp=N,6μm,19.5s,baz=126,slow=36							
USRK	**Ussuriysk Ar.**	**9.97**	**318**	Pn	**Pn**	**17 55 47.6**	**+4.4**
USRK	**

GRNR **Gornyy** 14.05 347 ⇓*i*P **Pn** 17 56 38.7 -0.2
GRNR *e*S **Sn** 17 59 18.2 +3.7
GRNR pmax pmax
comp=N,4.0nm,0.8s
GRNR pmax pmax
comp=Z,4.0nm,0.7s
GRNR smax smax
comp=N,2.0nm,0.6s
GRNR MLR MLR
comp=N,2μm,11.0s
GRNR MLR MLR
comp=Z,3μm,13.0s
JMZ **Minamidaito 2** 14.20 220 Pn **Pn** 17 56 40.1 -1.0
JMZ **Minamidaito 2** 14.20 220 P **Pn** 17 56 41.7 +0.6
SNY **Shenyang** 14.46 294 ⇓P **Pn** 17 56 46.5 +1.9
SNY S **Sn** 17 59 31.5 +6.9
SNY pmax pmax
comp=Z,35nm,1.3s
SNY pmax pmax
comp=Z,1μm,4.4s
SNY LR LR
comp=Z,5μm,11.3s
SNY LR LR
comp=Z,10μm,13.2s
SNY LR LR
comp=Z,14μm,12.4s
JOW **Kunigami** 15.10 231 Pn **Pn** 17 56 52.5 -0.8
comp=Z,0.9nm,0.3s,baz=31,slow=12,SNR=9.4
comp=Z,27nm,0.9s
JOW **Kunigami** 15.10 231 Pn **Pn** 17 56 51.5 -1.8
JOW **Kunigami** 15.10 231 P **Pn** 17 56 52.1 -1.2
DL2 **Dalian** 15.61 282 P **Pn** 17 57 01.6 +1.6
DL2 S **Sn** 17 59 57.8 +5.1
DL2 pmax pmax
comp=Z,87nm,1.1s
DL2 pmax pmax
comp=Z,1μm,7.7s
DL2 LR LR
comp=Z,2μm,11.8s
DL2 LR LR
comp=Z,4μm,13.5s
DL2 LR LR
comp=Z,5μm,12.6s
NKL **Nikolayevsk** 15.99 359 *e*P **Pn** 17 57 02.6 -2.2
NKL *e*S **Sn** 18 00 01.0 -0.8
NKL pmax pmax
comp=E,72nm,1.5s
NKL pmax pmax
comp=N,114nm,1.3s
NKL pmax pmax
comp=Z,154nm,1.4s
NKL smax smax
comp=E,72nm,2.2s
NKL smax smax
comp=N,262nm,4.5s
NKL MLR MLR
comp=E,9μm,12.0s
NKL MLR MLR
comp=N,18μm,14.0s
NKL MLR MLR
comp=Z,22μm,14.0s
OKH **Okha** 16.43 3*c i*P **P** 17 57 13.3 +0.3
OKH *i* S **S** 18 00 18.9 -5.5
OKH pmax pmax
comp=Z,200nm,15.6s
OKH smax smax
comp=N,400nm,9.1s
OKH smax smax
comp=E,200nm,15.5s
OKH MLR MLR
comp=E,7μm,14.0s
OKH MLR MLR
comp=N,6μm,13.0s
OKH MLR MLR
comp=Z,4μm,14.0s
HEH **HeiHe** 16.46 327 *e*P **Pn** 17 57 09.3 -1.5
HEH pP **P** 17 57 12.4 -1.1
HEH SS S 18 00 39.4 +14
HEH pmax pmax
comp=Z,13nm,1.2s
HEH pmax pmax
comp=Z,770nm,6.1s
HEH LR LR
comp=Z,5μm,16.1s
HEH LR LR
comp=Z,5μm,14.9s
HEH LR LR
comp=Z,3μm,17.8s
SKR **Severo-Kuril's** 17.17 33⇓*e*P **Pn** 17 57 19.5 -0.2
NJ2 **Nanjing** 19.16 261 *e*P **P** 17 57 41.8 -1.6
NJ2 pP **Pn** 17 57 44.3 0.0
NJ2 sP **pP** 17 57 47.1 -0.3
NJ2 PP **PnPn** 17 57 56.7 -0.3
NJ2 S **Sn** 18 01 18.1 -0.7
NJ2 SS **SnSn** 18 01 36.4 +3.6
NJ2 pmax pmax
comp=Z,44nm,0.9s
NJ2 pmax pmax
comp=Z,350nm,3.5s
NJ2 LR LR
comp=Z,4μm,16.5s
NJ2 LR LR
comp=Z,3μm,14.9s
NJ2 LR LR
comp=Z,4μm,14.0s
ZEA **Zeya** 19.23 334 *e*P **P** 17 57 42.1 -1.9
ZEA *e* 18 01 13.9
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA pmax pmax
comp=E,200nm,7.5s
ZEA pmax pmax
comp=N,300nm,4.7s
ZEA pmax pmax
comp=Z,400nm,4.3s
ZEA MLR MLR
comp=E,2μm,12.0s
ZEA MLR MLR
comp=N,2μm,13.0s
ZEA MLR MLR
comp=Z,2μm,12.0s
PEA0B **Petropavlovsk-** 19.62 30 **P** 17 57 45.4 -2.9
PEA0B **Petropavlovsk-** 19.62 30*de*P **P** 17 57 48.9 +0.7
PETK **Petropavlovsk-** 19.62 30 P **P** 17 57 48.5 +0.3
comp=Z,0.6nm,0.3s,baz=145,slow=5.4,SNR=17
PETK PcP **PcP** 18 02 08.5 +1.1
comp=Z,8.3nm,1.0s,baz=252,slow=3.8,SNR=3.4
PETK LR LR 18 06 14.2
comp=Z,948nm,18.3s,baz=216,slow=39
comp=Z,22nm,0.9s
BJT **Baijiatuau** 19.84 286 P **P** 17 57 48.9 -1.9
BJT **Baijiatuau** 19.84 286 P **P** 17 57 48.9 -1.9
BJT pmax pmax
comp=Z,119nm,1.2s
PET **Petropavlovsk** 19.95 32 **P** 17 57 52.0 +0.2
PET **Petropavlovsk** 19.95 32 P **Pn** 17 57 53.8 +0.3
PET **Petropavlovsk** 19.95 32 *e*P **P** 17 57 52.6 +0.8
PET *e*S **S** 18 01 25.6 -10
PET pmax pmax
comp=Z,252nm,1.3s
PET pmax pmax
comp=Z,800nm,10.6s
PET MLR MLR
comp=Z,2μm,14.0s
YOJ **Yonaguni jima** 20.14 236 P **P** 17 57 53.1 -1.0
YOJ **Yonaguni jima** 20.14 236 P **P** 17 57 53.1 -1.0
YOJ pmax pmax
comp=Z,65nm,0.8s
XLT **XiLinHaoTe** 20.28 297 *e*P **P** 17 57 53.7 -1.9
XLT pP pP 17 57 59.6 -0.1
XLT PP **PnPn** 17 58 13.1 +0.8
XLT S **S** 18 01 34.9 -7.8
XLT sS Sn 18 01 43.9 -1.9
XLT SS **SnSn** 18 02 04.7 +4.5
XLT pmax pmax
comp=Z,140nm,1.6s
XLT LR LR
comp=Z,7μm,12.4s
XLT LR LR
comp=Z,7μm,13.3s
YHNB **Yeheng** 21.11 239 P **P** 17 58 02.2 -2.5
YHNB **Yeheng** 21.11 239 P **P** 17 58 03.8 -0.9
HNS **HongShan** 21.15 279 ⇓P **P** 17 58 02.1 -2.9
HNS S **S** 18 01 52.4 -7.5
HNS SS **SnSn** 18 02 22.9 +1.4
HNS pmax pmax
comp=Z,100nm,1.4s
HNS LR LR
comp=Z,580nm,11.1s
HNS LR LR
comp=Z,5μm,12.7s
HNS LR LR
comp=Z,5μm,12.3s
NACB **Ninganchiao** 21.28 238 P **P** 17 58 03.4 -3.1
NACB **Ninganchiao** 21.28 238 P **P** 17 58 07.1 +0.6
SSLB **Suanglung** 21.98 238 P **P** 17 58 10.8 -3.2
YULB **Yu-li** 22.01 237 P **P** 17 58 09.6 -4.8
TPUB **Ta-pu** 22.52 238 P **P** 17 58 15.0 -4.9
TWGBT **Beinan** 22.55 236 P **P** 17 58 20.4 +0.3
TWG **Pinlang** 22.55 236 P **P** 17 58 19.5 -0.7
TIY **Taiyuan** 22.90 280 *e*P **P** 17 58 22.0 -1.8
TIY S **S** 18 02 30.7 -2.6
TIY pmax pmax
comp=Z,26nm,0.6s
TIY LR LR
comp=Z,3μm,15.8s
TIY LR LR
comp=Z,3μm,15.1s
TIY LR LR
comp=Z,3μm,15.1s
MA2 **Magadan** 23.25 12 P **P** 17 58 27.0 -0.1
comp=Z,54nm,0.9s,baz=193,slow=8.6,SNR=37
MA2 S **S** 18 02 36.2 -2.3
comp=Z,4.5nm,0.8s,baz=210,slow=12,SNR=2.0
comp=Z,54nm,0.9s
MA2 **Magadan** 23.25 12 P **P** 17 58 26.3 -0.7
MA2 IAmb IAmb 17 58 34.7
comp=Z,190nm,1.1s
MA2 **Magadan** 23.25 12 P **P** 17 58 27.2 +0.2
MA2 **Magadan** 23.25 12*d i*P **P** 17 58 26.9 -0.1
MA2 pmax pmax
comp=Z,90nm,1.0s
WHN **Wuhan** 23.30 261 ⇑P **P** 17 58 26.0 -1.8
WHN sP **pP** 17 58 30.3 -1.7
WHN S **S** 18 02 35.7 -4.2
WHN pmax pmax
comp=Z,260nm,1.0s
WHN LR LR
comp=Z,4μm,8.6s
WHN LR LR
comp=Z,14μm,11.9s
WHN LR LR
comp=Z,16μm,11.1s
KNMB **Chin-men Tao** 23.34 244 P **P** 17 58 24.2 -4.0
HHC **Hu-ho-hao-te** 23.36 288 *e*P **P** 17 58 27.2 -1.3
HHC PP **PnPn** 17 58 58.7 +4.2
HHC S **S** 18 02 33.8 -7.1
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,540nm,4.6s
HHC LR LR
comp=Z,7μm,11.7s
HHC LR LR
comp=Z,3μm,11.4s
HHC LR LR
comp=Z,4μm,11.1s
LYN **LuoYang** 23.49 272 ⇑P **P** 17 58 28.2 -1.5
LYN pP pP 17 58 32.1 -1.8
LYN sP sP 17 58 35.5 -0.2
LYN PP **PnPn** 17 58 58.1 +1.9
LYN S S 18 02 28.0 -15
LYN pmax pmax
comp=Z,10.0nm,1.0s
LYN pmax pmax
comp=Z,320nm,8.6s
LYN LR LR
comp=Z,3μm,14.2s
LYN LR LR
comp=Z,5μm,16.2s
LYN LR LR
comp=Z,5μm,14.5s
GUMO **Guam** 23.69 171 P **P** 17 58 32.3 +0.6
comp=Z,202nm,0.9s,baz=236,slow=13,SNR=6.1
comp=Z,202nm,0.9s
GUMO **Guam** 23.69 171 P **P** 17 58 31.2 -0.5
GUMO **Guam** 23.69 171 P **P** 17 58 32.4 +0.7
CIT **Chita** 24.53 316 *e*P **P** 17 58 37.0 -2.4
CIT *e* 17 59 11.4
CIT *e* 17 59 25.4
CIT *e* 18 02 18.0
CIT *e* 18 03 50.4
CIT pmax pmax
comp=Z,194nm,2.0s
BTO **Baotou** 24.53 288 *e*P **P** 17 58 38.4 -1.2
BTO S **S** 18 02 54.6 -5.2
BTO LR LR
comp=Z,8μm,12.2s
BTO LR LR
comp=Z,7μm,11.9s
CNSH **ChangSha** 25.44 258 ⇓P **P** 17 58 46.5 -1.3
CNSH S **S** 18 03 13.3 -1.0
CNSH pmax pmax
comp=Z,370nm,3.1s
CNSH LR LR
comp=Z,4μm,13.7s
CNSH LR LR
comp=Z,3μm,15.3s
CNSH LR LR
comp=Z,4μm,15.4s
YAK **Yakutsk** 25.93 347 P **P** 17 58 51.0 -0.8
YAK **Yakutsk** 25.93 347*d i*P **P** 17 58 51.0 -0.8
YAK *e**PP **sP** 17 59 02.4 +4.4
YAK *e* 17 59 29.1
YAK *e*S **S** 18 03 19.6 -1.7
YAK *e*SS **SnSn** 18 04 18.1 +0.1
YAK pmax pmax
comp=Z,133nm,1.3s
YAK pmax pmax
comp=N,109nm,1.8s
YAK pmax pmax
comp=E,28nm,1.6s
YAK pmax pmax
comp=Z,180nm,1.5s
YAK pmax pmax
comp=N,147nm,1.8s
YAK pmax pmax
comp=E,133nm,1.9s
YAK smax smax
comp=N,439nm,2.5s
YAK smax smax
comp=E,513nm,3.0s
YAK MLR MLR
comp=E,2μm,14.0s
YAK MLR MLR
comp=N,2μm,15.0s
YAK MLR MLR
comp=Z,763nm,13.0s
XAN **Xi'an** 26.45 273 ⇑P **P** 17 58 55.9 -1.1
XAN pP pP 17 59 00.6 -0.7
XAN PP **PnPn** 17 59 42.2 +5.4
XAN S **S** 18 03 29.3 -1.1
XAN pmax pmax
comp=Z,52nm,1.4s
XAN pmax pmax
comp=Z,550nm,5.5s
XAN LR LR
comp=Z,5μm,15.9s
XAN LR LR
comp=Z,1μm,13.7s
XAN LR LR
comp=Z,4μm,12.1s
SEY **Seymchan** 26.68 11 P **P** 17 58 59.9 +1.3
comp=Z,74nm,1.1s,baz=203,slow=7.3,SNR=54
comp=Z,74nm,1.1s
SEY **Seymchan** 26.68 11⇓*i*P **P** 17 59 00.1 +1.4
SEY pmax pmax
comp=Z,210nm,1.7s
ULN **Ulaanbaatar** 27.22 304 P **P** 17 59 02.1 -1.7
ULN **pP** 17 59 02.6 -5.6
ULN **Ulaanbaatar** 27.22 304*d i*P **P** 17 59 02.8 -1.1
ULN pmax pmax
comp=Z,41nm,1.3s
ULN **Ulaanbaatar** 27.22 304 P **P** 17 59 04.8 +0.9
ENH **Enshi** 27.27 265 P **P** 17 59 02.8 -1.5
ENH **Enshi** 27.27 265 P **P** 17 59 03.6 -0.7
BOD **Bodaibo** 27.38 328 *e*P **P** 17 59 04.4 -0.6
BOD pmax pmax
comp=Z,89nm,1.8s
BALP **Baler** 27.59 225⇑*e*P **P** 17 59 02.4 -4.8
SHEM **Shemya Is, Ala** 27.63 45 LR LR 18 09 11.9
comp=Z,269nm,20.1s,baz=144,slow=34
SONM **Songino Array** 27.65 304 P **P** 17 59 07.1 -0.6
comp=Z,12nm,0.8s,baz=108,slow=7.2,SNR=61
SONM PcP **PcP** 18 02 24.1 -0.6
comp=Z,4.7nm,0.7s,baz=106,slow=2.4,SNR=4.2
SONM S **S** 18 03 55.5 +6.4
comp=Z,0.6nm,0.4s,baz=168,slow=40,SNR=1.0
SONM LR LR 18 10 09.1
comp=Z,1μm,19.3s,baz=102,slow=37
comp=Z,12nm,0.8s
SONM **Songino Array** 27.65 304 P **P** 17 59 06.2 -1.5
H11N2 **WAKE ISLAND Hy** 28.28 121 T T 18 28 45.8
baz=314,slow=75,SNR=5384
H11N1 **WAKE ISLAND Hy** 28.29 121 T T 18 28 45.3
baz=314,slow=75,SNR=7813
H11N3 **WAKE ISLAND Hy** 28.30 121 T T 18 28 47.1
baz=314,slow=75,SNR=6896
LQP **Lukban** 28.94 223⇑*e*P **P** 17 59 18.0 -1.5
H11S1 **WAKE ISLAND Hy** 29.00 123 T T 18 30 13.5
baz=315,slow=75,SNR=8420
H11S3 **WAKE ISLAND Hy** 29.00 123 T T 18 30 13.4
baz=315,slow=75
H11S2 **WAKE ISLAND Hy** 29.01 123 T T 18 30 13.1
baz=315,slow=75,SNR=4819
IRK **Irkutsk** 29.95 312 *e*P **P** 17 59 28.0 0.0
IRK pmax pmax
comp=Z,59nm,2.5s
LZH **Lanzhou** 29.97 279 ⇑P **P** 17 59 28.2 -0.3
LZH sP sP 17 59 35.7 +1.1
LZH pmax pmax
comp=Z,45nm,1.4s
LZH pmax pmax
comp=Z,320nm,4.7s
LZH LR LR
comp=Z,3μm,14.5s
LZH LR LR
comp=Z,4μm,15.3s
LZH LR LR
comp=Z,4μm,17.2s
ZAK **Zakamensk** 30.13 308 *e*P **P** 17 59 29.2 -0.5
ZAK *e* 18 02 29.6
ZAK pmax pmax
comp=Z,26nm,1.1s
ZAK pmax pmax
comp=Z,15nm,1.4s
GYA **Guiyang** 31.16 260⇑*i*P **P** 17 59 38.1 -1.0
GYA pP pP 17 59 43.1 -0.3
GYA S **S** 18 04 41.1 -3.6
GYA pmax pmax
comp=Z,62nm,1.0s
GYA pmax pmax
comp=Z,340nm,4.6s
GYA LR LR
comp=Z,3μm,12.7s
GYA LR LR
comp=Z,2μm,12.0s
GYA LR LR
comp=Z,3μm,12.6s
CD2 **Chengdu** 31.59 270 P **P** 17 59 42.5 -0.3
CD2 pP pP 17 59 43.8 -3.3
CD2 S **S** 18 04 53.6 +2.4
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=Z,2μm,10.0s
CD2 LR LR
comp=Z,3μm,11.0s
CD2 LR LR
comp=Z,3μm,12.5s
MOY **Mondy** 31.80 310 *e*P **P** 17 59 44.6 +0.2
MOY *e* 18 00 58.2
MOY pmax pmax
comp=Z,35nm,2.6s
GTA **Gaotai** 32.45 287 ⇓P **P** 17 59 50.5 +0.2
GTA pP pP 17 59 55.4 +0.7
GTA sP sP 17 59 58.3 +1.8
GTA PP **PP** 18 01 00.6 -2.9
GTA PcP **PcP** 18 02 38.3 +1.0
GTA S S 18 04 53.1 -11
GTA sS sS 18 05 18.2 +6.4
GTA PcS **PcS** 18 06 22.9 +0.5
GTA ScS **ScS** 18 10 19.3 -0.7
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,93nm,5.6s
GTA LR LR
comp=Z,1μm,15.9s
GTA LR LR
comp=Z,1μm,15.1s
GTA LR LR
comp=Z,1μm,15.1s
QIZ **Qiongzhong** 32.91 245 P **P** 17 59 54.4 +0.1
QIZ S **S** 18 05 13.1 +1.3
QIZ LR LR
comp=Z,2μm,16.7s
QIZ LR LR
comp=Z,1μm,15.5s
QIZ LR LR
comp=Z,2μm,13.0s
DAV **Davao City (W)** 33.20 209 LR LR 18 14 47.9
comp=Z,749nm,18.4s,baz=53,slow=39
BILL **Bilibino** 33.93 17 P **P** 18 00 02.5 -0.1
BILL **Bilibino** 33.93 17*c i*P **P** 18 00 02.8 +0.1
BILL *e**PP **pP** 18 00 06.1 -0.9
BILL *e* 18 01 15.1
BILL *e* 18 02 41.0
BILL *e*S **S** 18 05 28.4 +1.8
BILL *e*SS **SnSn** 18 07 38.7 +6.2
BILL pmax pmax
comp=Z,27nm,1.0s
BILL MLR MLR
comp=Z,1μm,14.0s
PZH **PanZhiHua** 35.04 264 ⇓P **P** 18 00 11.7 -1.2
PZH S **S** 18 05 40.3 -4.5
PZH ScP **ScP** 18 06 24.7 -5.2
PZH SS **SnSn** 18 08 01.8 +1.2
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax
comp=Z,280nm,5.3s
PZH LR LR
comp=Z,3μm,17.6s
PZH LR LR
comp=Z,2μm,15.7s
PZH LR LR
comp=Z,2μm,16.8s
TIXI **Tiksi** 35.15 353 P **P** 18 00 13.1 -0.1
comp=Z,7.8nm,0.8s,baz=270,slow=23,SNR=14
comp=Z,7.8nm,0.8s
TIXI **Tiksi** 35.15 353 P **P** 18 00 11.9 -1.3
TIXI **Tiksi** 35.15 353*de*P **P** 18 00 12.9 -0.3
TIXI pmax pmax
comp=Z,30nm,1.7s
GOMU **GeErMu** 37.01 283 P **P** 18 00 30.4 +0.3
GOMU PP **PP** 18 01 54.8 +0.5
GOMU S **S** 18 06 09.6 -5.8
GOMU pmax pmax
comp=Z,25nm,1.5s
GOMU pmax pmax
comp=Z,240nm,5.0s
GOMU LR LR
comp=Z,1μm,12.8s
GOMU LR LR
comp=Z,1μm,13.0s
GOMU LR LR
comp=Z,1μm,13.3s
SPIA **Saint Paul Isl** 37.52 42 P **P** 18 00 33.8 +0.2
baz=259
NIKH **Nikolski High** 37.75 49 P **P** 18 00 34.0 -1.6
baz=266
MYLDM **Lahad Datu** 38.06 219 P **P** 18 00 39.9 +1.3
TNCH **TengChong** 38.29 264 ⇓P **P** 18 00 40.6 -0.1
TNCH pP pP 18 00 44.4 -0.7
TNCH PP **PnPn** 18 02 10.5 +0.6
TNCH S **S** 18 06 32.2 -2.4
TNCH sS ScP 18 06 44.8 +2.8
TNCH pmax pmax
comp=Z,98nm,1.1s
TNCH pmax pmax
comp=Z,400nm,4.1s
TNCH LR LR
comp=Z,2μm,16.6s
TNCH LR LR

comp=Z,870nm,16.7s
TNCH LR LR
comp=Z,2µm,19.6s
TNTI Ternate 38.44 203 P P 18 00 40.5 -1.3
TNTI Ternate 38.44 203 P P 18 00 42.0 +0.3
TNTI Ternate 38.44 203 P P 18 00 40.4 -1.3
comp=Z,283nm,1.6s,comp=Z,4µm
TNTI pP **sP 18 00 48.0 +0.1**
comp=Z,283nm,1.6s,comp=Z,4µm
NONG Nongkai 38.48 251 P P 18 00 42.3 +0.2
UBPT Khong Chiam 38.51 245 P P 18 00 42.8 +0.4
UBPT Khong Chiam 38.51 245 P P 18 00 42.9 +0.5
KKM Kota Kinabalu 38.52 223 P P 18 00 42.4 -0.1
KKM Kota Kinabalu 38.52 223 P P 18 00 44.2 +1.6
GAMB Gambell 38.65 31 P P 18 00 43.3 +0.3
baz=249
DLV T Lat 38.68 238 P P 18 00 45.1 +1.0
SIJI Sorong 38.97 196 LR LR 18 15 19.8
comp=Z,798nm,18.1s,baz=354,slow=34
SMPI Sarmi 39.03 184 P P 18 00 47.8 +1.1
comp=Z,274nm,1.2s,comp=Z,4µm
SMPI pP **sP 18 00 53.3 +0.4**
comp=Z,274nm,1.2s,comp=Z,4µm
RKPI Ransiki, Papua 39.04 191 P P 18 00 46.6 -0.2
comp=Z,111nm,1.2s,comp=Z,1µm
SRPI Serui, Papua 39.12 188 P P 18 00 47.8 +0.3
comp=Z,104nm,1.3s,comp=Z,3µm
UNV Unalaska Valle 39.22 48 P P 18 00 47.2 -0.7
baz=266
CRAI Chiangrai 39.34 256 P P 18 00 48.7 -0.7
MANU Manus Island 39.41 170 P P 18 00 50.0 +0.1
comp=Z,44nm,1.1s
GENI Genyem 39.57 182 P P 18 00 52.5 +1.3
GENI Genyem 39.57 182 P P 18 00 51.9 +0.7
comp=Z,418nm,1.1s,comp=Z,4µm
GTOI Gorontalo 40.09 209 P P 18 00 53.9 -1.6
comp=Z,331nm,1.1s,comp=Z,3µm
DGZ Jazzator, Alta 40.25 306*d* iP **P 18 00 58.1 +1.3**
DGZ pmax pmax
comp=Z,102nm,0.9s
PHRA Phrae 40.44 254 P P 18 00 58.0 -0.5
TOLI2 Tolitoli 40.57 213 P P 18 00 58.5 -1.1
TOLI2 IAmb IAmb 18 01 00.6
comp=Z,228nm,1.1s
TOLI2 Tolitoli 40.57 213 P P 18 00 59.6 0.0
MRSI Marisa 40.66 211 P P 18 01 00.5 +0.2
comp=Z,704nm,1.3s,comp=Z,8µm
WMQ Urumqi 40.71 297 ⇓iP **P 18 01 01.3 +0.7**
WMQ sP sP 18 01 08.2 +1.4
WMQ PcP **PcP 18 03 02.7 +0.8**
WMQ S **S 18 07 11.9 +1.5**
WMQ pmax pmax
comp=Z,53nm,1.1s
WMQ pmax pmax
comp=Z,810nm,4.7s
WMQ LR LR
comp=Z,2µm,13.3s
WMQ LR LR
comp=Z,2µm,12.3s
WMQ LR LR
comp=Z,4µm,17.7s
FAKI Fak Fak 40.76 194 P P 18 00 57.4 -3.7
FAKI IAmb IAmb 18 01 03.1
comp=Z,104nm,0.9s
FAKI Fak Fak 40.76 194 P P 18 01 01.4 +0.3
FAKI Fak Fak 40.76 194 P P 18 01 00.3 -0.8
comp=Z,117nm,0.8s,comp=Z,2µm
FAKI pP **pP 18 01 05.3 -0.2**
comp=Z,117nm,0.8s,comp=Z,2µm
TNA Tin City 40.78 30 P P 18 01 02.5 +1.7
TNA IAmb IAmb 18 01 10.1
comp=Z,176nm,1.2s
TNA Tin City 40.78 30 P P 18 01 02.0 +1.3
baz=251
WAMI Wamena 40.91 184 P P 18 01 05.4 +3.1
comp=Z,245nm,1.0s,comp=Z,2µm
FALS False Pass 41.07 46 P P 18 01 04.0 +0.8
baz=268
CHTO Chiang Mai 41.25 256 P P 18 01 03.5 -1.7
CHTO Chiang Mai 41.25 256 P P 18 01 03.5 -1.7
CHTO pmax pmax
comp=Z,24nm,1.1s
CM31 Chiang Mai Arr 41.45 255 P P 18 01 05.5 -1.4
CM31 Chiang Mai Arr 41.45 255 P P 18 01 06.7 -0.1
SNR=7.8
CMAR Chiang Mai Arr 41.45 255 P P 18 01 06.8 -0.1
comp=Z,5.9nm,0.8s,baz=61,slow=4.2,SNR=30
CMAR PcP **PcP 18 03 05.7 +1.0**
comp=Z,8.1nm,1.0s,baz=19,slow=2.5,SNR=8.0
CMAR LR LR 18 19 42.1
comp=Z,875nm,18.1s,baz=50,slow=38
comp=Z,5.9nm,0.8s
CMAR Chiang Mai Arr 41.45 255 P P 18 01 06.2 -0.7
ANM Nome 41.53 31 P P 18 01 05.1 -1.8
ANM Nome 41.53 31 P P 18 01 09.0 +2.1
baz=255,SNR=12
ANM Nome 41.53 31 P P 18 01 05.1 -1.8
ANM pmax pmax
comp=Z,114nm,1.2s
SANI Sanana 41.53 203 P P 18 01 06.7 -0.7
SANI Sanana 41.53 203 P P 18 01 05.6 -1.8
comp=Z,310nm,1.5s,comp=Z,4µm
MPSI Mapaga 41.65 213 P P 18 01 08.3 -0.1
comp=Z,98nm,1.0s,comp=Z,2µm
MND Mandalay 41.71 262 P P 18 01 08.6 -0.3
LUWI Luwuk 41.72 209 P P 18 01 06.0 -3.0
LUWI Luwuk 41.72 209 P P 18 01 07.8 -1.2
LUWI Luwuk 41.72 209 P P 18 01 06.9 -2.1
comp=Z,211nm,1.1s,comp=Z,3µm
ZAA0 Zalesovo Array 41.77 312 P P 18 01 08.5 -0.5
ZALV Zalesovo Beam 41.77 312 P P 18 01 09.0 0.0
comp=Z,26nm,0.9s,baz=93,slow=6.5,SNR=62
ZALV LR LR 18 19 08.3
comp=Z,1µm,18.3s,baz=106,slow=37
comp=Z,26nm,0.9s
ZALV Zalesovo Beam 41.77 312 P P 18 01 08.3 -0.7
ZALV Zalesovo Beam 41.77 312 *i* P **P 18 01 09.0 0.0**
ZALV pmax pmax
comp=Z,25nm,0.9s
MSAI Masohi 41.92 199 P P 18 01 10.8 +0.2
comp=Z,13nm,0.7s,comp=Z,277nm
APSI Ampana 42.04 210 P P 18 01 11.2 -0.4
comp=Z,793nm,1.3s,comp=Z,9µm
LSA Lhasa 42.12 275 P P 18 01 13.2 +0.4
LSA Lhasa 42.12 275 P P 18 01 13.2 +0.4
LSA pmax pmax
comp=Z,137nm,1.5s
LSA Lhasa 42.12 275 *i* P **P 18 01 12.8 0.0**
SNR=18
LSA Lhasa 42.12 275 P P 18 01 13.7 +1.0
ZSN Zaisan 42.15 303 ⇓iP **P 18 01 13.1 +0.8**
comp=Z,51nm,1.4s,baz=303
ZSN eS **S 18 07 34.0 +2.5**
baz=303
NAYO Nakonayok 42.18 248 P P 18 01 13.4 +0.6
NLAI Namlea 42.32 201 P P 18 01 14.4 +0.6
comp=Z,50nm,2.1s,comp=Z,79µm
RABL Rabaul 42.37 164 P P 18 01 12.9 -1.4
RABL Rabaul 42.37 164 P P 18 01 16.0 +1.7
comp=Z,43nm,1.4s
AAI Ambon 42.44 200 P P 18 01 16.0 +1.2
AAI pmax pmax
comp=Z,244nm,0.8s
AAI Ambon 42.44 200 P P 18 01 15.6 +0.8
comp=Z,244nm,0.8s,comp=Z,3µm
SDPT Sand Point 42.77 46 P P 18 01 16.4 -0.8
SDPT Sand Point 42.77 46 P P 18 01 18.4 +1.3
baz=270
NRIK Noril'sk 43.12 335 P P 18 01 19.8 -0.1
comp=Z,12nm,1.0s,baz=115,slow=6.7,SNR=22
NRIK PcP **PcP 18 03 11.2 +1.9**
comp=Z,21nm,1.0s,baz=110,slow=2.6,SNR=2.3
NRIK LR LR 18 20 30.1
comp=Z,1µm,18.3s,baz=107,slow=38
comp=Z,12nm,1.0s
NRIK Noril'sk 43.12 335 P P 18 01 19.7 -0.1
NRIK Noril'sk 43.12 335*d* iP **P 18 01 19.6 -0.2**
NRIK pmax pmax
comp=Z,68nm,1.5s
SBUM Sibu 43.70 225 P P 18 01 25.1 0.0
N16K Nishlik Lake 43.87 38 P P 18 01 27.7 +1.7
baz=266
CHGN Chignik 43.93 44 P P 18 01 28.7 +2.2
baz=270
MK31 Makanchi Array 43.98 302 P P 18 01 26.7 -0.5
MK31 Makanchi Array 43.98 302 *i* P **P 18 01 27.1 0.0**
MKAR Makanchi Array 43.98 302 P P 18 01 27.3 +0.1
comp=Z,26nm,1.0s,baz=86,slow=9.0,SNR=140
MKAR S **S 18 07 54.8 -3.7**
comp=Z,0.7nm,0.8s,baz=90,slow=5.0,SNR=1.2
MKAR LR LR 18 19 55.1
comp=Z,1µm,20.6s,baz=96,slow=36
comp=Z,26nm,1.0s
MKAR Makanchi Array 43.98 302 P P 18 01 26.1 -1.0
O16K Kokwok River B 44.16 39 P P 18 01 30.2 +1.9
baz=267
P16K Nushagak River 44.19 40 P P 18 01 31.0 +2.4
baz=268,SNR=44
MAKZ Makanchi 44.19 302 P P 18 01 28.1 -0.7
MAKZ Makanchi 44.19 302 P P 18 01 28.5 -0.3
R16K Pilot Point 44.38 42 P P 18 01 30.7 +0.6
baz=270
BKB Balikpapan 44.43 216 P P 18 01 30.9 0.0
BKB Balikpapan 44.43 216 P P 18 01 32.1 +1.2
BKB Balikpapan 44.43 216 P P 18 01 31.0 +0.1
comp=Z,709nm,1.2s,comp=Z,8µm
O17K Koliganek Bris 44.67 39 P P 18 01 34.5 +2.1
baz=268,SNR=24
Q16K King Salmon 44.88 41 P P 18 01 35.9 +1.9
baz=270,SNR=14
BRDH Bariadhala 44.92 266 LR LR 18 22 39.5
comp=Z,1µm,19.1s,baz=78,slow=39
P17K Kvichak River 44.99 40 P P 18 01 36.4 +1.4
baz=269,SNR=12
R17K Ugashik Creek 45.02 42 P P 18 01 35.5 +0.2
baz=271
MTKI Muara Teweh, K 45.13 219 P P 18 01 36.9 +0.4
comp=Z,572nm,1.3s,comp=Z,7µm
GCSA Galena City Sc 45.15 32 P P 18 01 37.3 +1.2
baz=263
TTA Tatalina 45.36 35 P P 18 01 39.0 +1.0
TTA Tatalina 45.36 35 P P 18 01 39.5 +1.5
baz=266,SNR=18
TTA Tatalina 45.36 35 P P 18 01 39.0 +1.0
TTA pmax pmax
comp=Z,41nm,1.2s
SVW2 Sparrevohn 45.47 37 P P 18 01 40.4 +1.6
SVW2 IAmb IAmb 18 01 47.6
comp=Z,111nm,1.1s
CHIR Chirikof Islan 45.51 45 P P 18 01 40.3 +1.2
baz=273
SPSI Sidrap Palu 45.57 211 P P 18 01 39.7 -0.3
comp=Z,197nm,1.2s,comp=Z,2µm
KSM Kuching 45.58 226 P P 18 01 40.6 +0.5
KSM Kuching 45.58 226 P P 18 01 40.9 +0.8
P18K Big Mountain, 45.62 40 P P 18 01 40.0 0.0
P18K IAmb IAmb 18 01 48.4
comp=Z,136nm,1.2s
P18K Big Mountain, 45.62 40 P P 18 01 41.9 +1.9
baz=270,SNR=18
O18K Koktuh Hills 45.63 39 P P 18 01 41.5 +1.5
O18K IAmb IAmb 18 01 48.7
comp=Z,122nm,1.2s
O18K Koktuh Hills 45.63 39 P P 18 01 42.4 +2.3
baz=270,SNR=15
KURK Kurchatov 45.79 308 P P 18 01 40.3 -1.1
KURK Kurchatov 45.79 308*d* iP **P 18 01 41.2 -0.2**
KURK pmax pmax
comp=Z,139nm,1.3s
KURK Kurchatov 45.79 308 P P 18 01 41.8 +0.4
BNSI Bone 45.83 210 P P 18 01 42.1 0.0
comp=Z,252nm,1.2s,comp=Z,3µm
L19K White Mountain 45.85 36 P P 18 01 43.5 +1.7
L19K White Mountain 45.85 36 P P 18 01 43.9 +2.1
baz=268
KURBB Kurchatov Arra 45.86 308 LR LR 18 20 18.5
comp=Z,1µm,21.8s,baz=87,slow=35
KURBB Kurchatov Arra 45.86 308 P P 18 01 41.6 -0.4
SAUI Saumlaki 45.88 194 P P 18 01 43.1 +0.7
SAUI Saumlaki 45.88 194 P P 18 01 44.4 +2.0
SAUI Saumlaki 45.88 194 P P 18 01 42.7 +0.3
comp=Z,424nm,1.0s
N19K Bonanza Creek 46.00 38 P P 18 01 44.2 +1.1
N19K Bonanza Creek 46.00 38 P P 18 01 45.1 +2.1
baz=269
TARA Tarawa 46.03 133 P P 18 01 44.0 +0.3
O19K Port Alsworth 46.08 39 P P 18 01 42.8 -0.7
O19K IAmb IAmb 18 01 54.2
comp=Z,79nm,1.1s
O19K Port Alsworth 46.08 39 P P 18 01 45.3 +1.8
baz=270,SNR=14
K20K Telida 46.27 34 P P 18 01 46.4 +1.4
K20K IAmb IAmb 18 01 53.7
comp=Z,80nm,1.0s
K20K Telida 46.27 34 P P 18 01 46.9 +1.9
baz=267
SII Sitkinak Islan 46.27 44 P P 18 01 45.0 -0.1
SII IAmb IAmb 18 01 52.5
comp=Z,110nm,1.2s
SII Sitkinak Islan 46.27 44 P P 18 01 46.0 +0.8
baz=274
SII Sitkinak Islan 46.27 44 P P 18 01 46.6 +1.5
J20K Nowinta River 46.28 33 P P 18 01 46.7 +1.6
J20K IAmb IAmb 18 01 53.8
comp=Z,112nm,1.1s
J20K Nowinta River 46.28 33 P P 18 01 47.5 +2.4
baz=266
L20K Farewell, AK 46.32 36 P P 18 01 47.6 +2.1
baz=268
A21K Barrow 46.37 23 P P 18 01 44.9 -0.8
A21K Barrow 46.37 23 P P 18 01 47.5 +1.8
baz=257,SNR=19
Q19K Cape Douglas, 46.44 40 P P 18 01 47.3 +0.8
Q19K Cape Douglas, 46.44 40 P P 18 01 46.9 +0.4
baz=272
KAPI Kappang 46.53 210 P P 18 01 48.0 +0.4
KAPI Kappang 46.53 210 P P 18 01 48.2 +0.6
KAPI Kappang 46.53 210 P P 18 01 48.0 +0.4
KAPI pmax pmax
comp=Z,719nm,1.2s
IMAR Indian Mountai 46.58 31 P P 18 01 47.5 0.0
P19K Oil Pt 46.63 39 P P 18 01 48.6 +0.7
P19K IAmb IAmb 18 01 56.1
comp=Z,111nm,1.2s
P19K Oil Pt 46.63 39 P P 18 01 48.1 +0.2
baz=272
PMG Port Moresby 46.65 172 LR LR 18 21 17.3
comp=Z,113nm,18.7s,baz=350,slow=36
PMG Port Moresby 46.65 172 P P 18 01 48.4 0.0
PMG IAmb IAmb 18 02 14.3
comp=Z,45nm,0.9s
PMG Port Moresby 46.65 172 P P 18 01 48.8 +0.4
PMG Port Moresby 46.65 172*d* iP **P 18 01 48.2 -0.2**
PMG pmax pmax
comp=Z,59nm,1.3s
M20K Styx River 46.66 36 P P 18 01 49.1 +0.9
M20K Styx River 46.66 36 P P 18 01 50.8 +2.5
baz=270
BKSI Bulukumba 46.66 210 P P 18 01 48.3 -0.3
comp=Z,170nm,1.1s,comp=Z,2µm
ILSW Iliamna Southw 46.67 39 P P 18 01 49.1 +0.7
ILSW IAmb IAmb 18 01 59.7
comp=Z,15nm,0.8s
SHLS Shalkode 46.71 298 ⇓iP **P 18 01 46.7 -2.2**
comp=Z,29nm,1.5s,baz=298
SHLS eS **S 18 08 35.2 -3.0**
baz=298
SHLS Shalkode 46.71 298 *e*P **P 18 01 46.6 -2.3**
SHLS pmax pmax
comp=Z,40nm,1.5s
OHAK Old Harbor 46.72 43 P P 18 01 49.2 +0.7
OHAK IAmb IAmb 18 01 55.7
comp=Z,60nm,0.9s
OHAK Old Harbor 46.72 43 P P 18 01 49.6 +1.0
baz=274,SNR=6.9
G21K Allakaket 46.73 30 P P 18 01 50.7 +2.1
baz=265,SNR=28
F21K Alatna River 46.80 29 P P 18 01 50.6 +1.4
baz=264
RSO Redoubt South 46.85 38 P P 18 01 51.2 +1.3
O20K Slope Mountain 46.92 39 P P 18 01 51.4 +1.1
baz=272
H21K Melozitna Rive 46.95 31 P P 18 01 50.3 0.0
H21K IAmb IAmb 18 01 58.8
comp=Z,68nm,1.1s
H21K Melozitna Rive 46.95 31 P P 18 01 51.9 +1.6
baz=266
TDK Taldygorghan 47.00 300 ⇓iP **P 18 01 51.6 +0.6**
comp=Z,33nm,1.2s,baz=300
TDK LR LR 18 22 59.3
baz=300
UZB Uzynbulak 47.02 298 *e*P **P 18 01 51.7 +0.3**
comp=Z,34nm,1.3s,baz=298
UZB *e*S **S 18 08 42.9 +0.3**
baz=298
UZB Uzynbulak 47.02 298 *e*P **P 18 01 51.6 +0.2**
UZB pmax pmax
comp=Z,65nm,2.0s
KDAK Kodiak Island 47.06 42 LR LR 18 24 53.6
comp=Z,255nm,19.8s,baz=254,slow=40
KDAK Kodiak Island 47.06 42 P P 18 01 51.7 +0.4
KDAK Kodiak Island 47.06 42 P P 18 01 52.0 +0.8
baz=274
KDAK Kodiak Island 47.06 42 P P 18 01 51.7 +0.4
KDAK pmax pmax
comp=Z,125nm,0.9s
CHUM Lake Minchumin 47.07 34 P P 18 01 54.0 +2.7
baz=268,SNR=21
SPCR Spurr Chakacha 47.10 37 P P 18 01 53.8 +2.1
baz=271,SNR=24
Q20K Shuyak Island 47.11 41 P P 18 01 52.3 +0.7
baz=273,SNR=8.8
PPLA Purkeypile 47.11 35 P P 18 01 53.5 +1.7
PPLA Purkeypile 47.11 35 P P 18 01 54.4 +2.6
baz=269,SNR=35
CAST Castle Rocks 47.16 34 P P 18 01 53.7 +1.6
CAST IAmb IAmb 18 02 00.2
comp=Z,64nm,1.1s
CAST Castle Rocks 47.16 34 P P 18 01 54.4 +2.3
baz=269,SNR=42
KPKS Kokpek 47.18 298 ⇓*i*P **P 18 01 52.8 +0.2**
comp=Z,37nm,1.6s,baz=298
KPKS Kokpek 47.18 298 *e*P **P 18 01 52.7 +0.2**
KPKS pmax pmax
comp=Z,81nm,2.2s
SPU Mount Spurr 47.18 37 P P 18 01 53.8 +1.5
SRIT Nakonsritamara 47.23 244 P P 18 01 53.0 -0.1
SRIT Nakonsritamara 47.23 244 P P 18 01 54.6 +1.5
I21K Tanana 47.26 32 P P 18 01 53.8 +1.1
I21K IAmb IAmb 18 02 01.6
comp=Z,90nm,1.2s
I21K Tanana 47.26 32 P P 18 01 55.1 +2.4
baz=267
BBKI Banjar Baru 47.33 217 P P 18 01 53.0 -0.9
comp=Z,518nm,1.3s,comp=Z,9µm
F22K John River 47.33 29 P P 18 01 55.6 +2.3
baz=265
SKT Skwentna 47.42 36 P P 18 01 55.4 +1.4
SKT IAmb IAmb 18 02 01.9
comp=Z,51nm,1.1s
SKT Skwentna 47.42 36 P P 18 01 55.4 +1.4
baz=271,SNR=22
ZHN Zhinishke 47.43 298 *e*P **P 18 01 54.6 +0.1**
comp=Z,20nm,1.6s,baz=298
HOM Homer 47.44 39 P P 18 01 55.1 +0.9
baz=273
SATY Saty 47.48 298 *e*P **P 18 01 55.5 +0.6**
comp=Z,32nm,1.6s,baz=298
E22K Anaktuvuk Pass 47.53 28 P P 18 01 57.1 +2.2
baz=265
H22K Ishtalina Cre 47.55 31 P P 18 01 57.4 +2.4
baz=267
G22K Bettles 47.55 30 P P 18 01 56.6 +1.6
baz=266
CNPM China Poot 47.65 40 P P 18 01 57.0 +1.1
CNPM IAmb IAmb 18 02 03.9
comp=Z,60nm,1.1s
BPAW Bear Paw Mtn. 47.66 33 P P 18 01 57.1 +1.1
BPAW IAmb IAmb 18 02 04.4
comp=Z,87nm,1.6s
BPAW Bear Paw Mtn. 47.66 33 P P 18 01 57.9 +2.0
baz=269
KTH Kantishna Hill 47.69 34 P P 18 01 56.3 +0.1
MLY Manley 47.78 32 P P 18 01 58.5 +1.6
MLY IAmb IAmb 18 02 05.5
comp=Z,70nm,1.0s
MLY Manley 47.78 32 P P 18 01 59.1 +2.2
baz=269,SNR=56
SUA Susitna One 47.80 37 P P 18 01 57.9 +0.8
SUA Susitna One 47.80 37 P P 18 01 57.9 +0.8
baz=272,SNR=20
BRLK Bradley Lake 47.81 39 P P 18 01 58.6 +1.5
BRLK IAmb IAmb 18 02 05.5
comp=Z,61nm,1.0s
BRSE Bradley Lake S 47.89 39 P P 18 01 58.6 +0.9
baz=274,SNR=7.8
TRF Thorofare Moun 47.97 34 P P 18 01 59.9 +1.4
TRF IAmb IAmb 18 02 07.7
comp=Z,49nm,0.9s
TRF Thorofare Moun 47.97 34 P P 18 02 00.1 +1.6
baz=271,SNR=19
CUT Chulitna 48.00 36 P P 18 01 59.5 +1.0
CUT Chulitna 48.00 36 P P 18 01 59.2 +0.7
baz=272,SNR=11
D23K Nanushuk River 48.01 27 P P 18 02 00.8 +2.2
baz=265
FIS Fire Island 48.07 37 P P 18 02 00.0 +1.0
COLD Coldfoot 48.08 29 P P 18 02 00.1 +1.0
COLD IAmb IAmb 18 02 07.6
comp=Z,92nm,1.8s
COLD Coldfoot 48.08 29 P P 18 02 00.8 +1.7
baz=267,SNR=18
M22K Willow 48.09 37 P P 18 01 59.5 +0.3
M22K IAmb IAmb 18 02 07.4
comp=Z,55nm,0.9s
M22K Willow 48.09 37 P P 18 01 59.5 +0.3
baz=272
G23K Bananza Creek 48.13 30 P P 18 02 01.2 +1.6
baz=268
CHKK Chushkaly 48.27 299 *e*P **P 18 02 00.9 0.0**
baz=299
TARG Taragay, Kyrgy 48.27 296 P P 18 02 01.3 -0.2
TARG IAmb IAmb 18 02 10.4
comp=Z,104nm,1.2s
TARG Taragay, Kyrgy 48.27 296 P P 18 02 01.3 -0.2
TARG pmax pmax
comp=Z,104nm,1.2s
PBKI Pangkalan Bun 48.29 221 P P 18 02 01.4 +0.1
comp=Z,169nm,1.4s
H23K Yukon River 48.30 31 P P 18 02 02.2 +1.4
H23K Yukon River 48.30 31 P P 18 02 02.9 +2.1
baz=269
RC01 Rabbit Creek A 48.31 37 P P 18 02 02.1 +1.1
RC01 Rabbit Creek A 48.31 37 P P 18 02 02.1 +1.1
baz=273,SNR=40
BWN Browne 48.33 33 P P 18 02 03.5 +2.5
E23K Chandalar 48.34 28 P P 18 02 03.5 +2.3
baz=267
O22K Cooper Landing 48.35 38 P P 18 02 01.9 +0.7
O22K Cooper Landing 48.35 38 P P 18 02 02.4 +1.2
baz=274
I23K Minto, Yukon-K 48.37 32 P P 18 02 03.0 +1.7
I23K IAmb IAmb 18 02 10.1
comp=Z,140nm,1.5s
I23K Minto, Yukon-K 48.37 32 P P 18 02 03.5 +2.1
baz=270,SNR=16
MDOK Medeo 48.41 298 *i* P **P 18 02 02.8 +0.6**
baz=298
MDOK LR LR 18 23 39.4
comp=Z,1µm,11.8s,baz=298
MDOK Medeo 48.41 298 P P 18 02 02.3 +0.1
AAA Alma-Ata 48.49 298 *e*P **P 18 02 03.4 +0.7**
baz=298
NEA2 Nenana 48.49 33 P P 18 02 03.8 +1.4
NEA2 Nenana 48.49 33 P P 18 02 04.1 +1.8
baz=271,SNR=45
SEW Seward 48.51 39 P P 18 02 02.0 -0.5
SEW IAmb IAmb 18 02 12.6
comp=Z,85nm,1.0s
SEW Seward 48.51 39 P P 18 02 03.2 +0.7
baz=274,SNR=10
TNSS Tian-Shan 48.52 298 *e*P **P 18 02 03.7 +0.4**
baz=298
PMR Palmer 48.57 37 P P 18 02 03.9 +1.0
PMR Palmer 48.57 37 P P 18 02 03.9 +1.0
baz=273,SNR=20
PMR Palmer 48.57 37 P P 18 02 03.9 +1.0
MCK McKinley 48.57 34 P P 18 02 03.2 +0.2
MCK IAmb IAmb 18 02 10.7
comp=Z,70nm,1.0s
MCK McKinley 48.57 34 P P 18 02 04.2 +1.2
baz=272,SNR=26
MCK McKinley 48.57 34 P P 18 02 03.2 +0.2
MCK pmax pmax
comp=Z,70nm,1.0s
RND Reindeer 48.62 34 P P 18 02 04.2 +0.8
RND IAmb IAmb 18 02 10.8
comp=Z,48nm,1.0s

RND **Reindeer** 48.62 34 P **P** 18 02 04.2 +0.8
RND pmax pmax
comp=Z,48nm,1.0s
GHO **Glory Hole Cre** 48.66 36 P **P** 18 02 04.3 +0.6
D24K **Happy Valley** 48.69 27 P **P** 18 02 05.6 +1.9
baz=267
KUU **Kurty** 48.71 299 ⇓*i*P **P** 18 02 04.0 -0.3
comp=Z,43nm,1.5s,baz=299
KUU LR LR 18 23 42.2
baz=299
E24K **Your Creek** 48.77 28 P **P** 18 02 06.9 +2.4
baz=268
C24K **Franklin Bluff** 48.77 26 P **P** 18 02 06.1 +1.8
baz=266
WAT1 **Susitna Watana** 48.78 35 P **P** 18 02 05.1 +0.5
baz=273
KULM **Kulim** 48.81 240 P **P** 18 02 05.5 +0.1
KULM IAmb IAmb 18 02 13.4
comp=Z,116nm,1.4s
MDM **Murphy Dome** 48.85 32 P **P** 18 02 06.7 +1.6
KNK **Knik Glacier** 48.90 37 P **P** 18 02 06.4 +0.9
KNK IAmb IAmb 18 02 13.3
comp=Z,58nm,0.9s
KNK **Knik Glacier** 48.90 37 P **P** 18 02 06.5 +0.9
baz=274,SNR=21
WRH **Wood River Hil** 48.92 33 P **P** 18 02 06.3 +0.7
SML **Sawmill** 48.94 36 P **P** 18 02 06.7 +0.9
SML IAmb IAmb 18 02 13.6
comp=Z,64nm,0.9s
SML **Sawmill** 48.94 36 P **P** 18 02 06.9 +1.1
baz=274,SNR=26
MMRI **Maumere** 48.94 205 P **P** 18 02 04.8 -1.4
MMRI **Maumere** 48.94 205 P **P** 18 02 06.9 +0.6
MMRI **Maumere** 48.94 205 P **P** 18 02 06.1 -0.2
comp=Z,294nm,1.1s,comp=Z,3µm
F24K **Squaw Lake** 48.98 29 P **P** 18 02 07.6 +1.5
baz=269
H24K **Noodor Dome** 48.98 31 P **P** 18 02 07.8 +1.7
H24K IAmb IAmb 18 02 15.0
comp=Z,91nm,1.1s
H24K **Noodor Dome** 48.98 31 P **P** 18 02 08.3 +2.2
baz=271
PWL **Port Wells** 49.00 38 P **P** 18 02 07.2 +0.9
PWL IAmb IAmb 18 02 13.6
comp=Z,120nm,1.2s
PWL **Port Wells** 49.00 38 P **P** 18 02 07.0 +0.6
baz=275,SNR=13
TCOL **CIGO, UAF Yank** 49.01 32 P **P** 18 02 07.6 +1.4
TCOL **CIGO, UAF Yank** 49.01 32 P **P** 18 02 07.6 +1.4
baz=272
COLA **College** 49.01 32 P **P** 18 02 07.6 +1.4
COLA **College** 49.01 32 P **P** 18 02 07.7 +1.4
baz=272
COLA **College** 49.01 32 P **P** 18 02 07.8 +1.5
COLA **College** 49.01 32*d i*P **P** 18 02 07.9 +1.6
COLA pmax pmax
comp=Z,49nm,1.1s
CCB **Clear Creek Bu** 49.04 33 P **P** 18 02 06.8 +0.3
G24K **Hadweenzic Riv** 49.14 30 P **P** 18 02 09.6 +2.3
baz=270
IPM **Ipoh** 49.14 238 P **P** 18 02 07.3 -0.6
IPM IAmb IAmb 18 02 08.9
comp=Z,99nm,1.1s
IPM **Ipoh** 49.14 238 P **P** 18 02 07.9 0.0
WAT6 **Susitna Watana** 49.16 35 P **P** 18 02 08.8 +1.1
baz=274,SNR=20
POKR **Poker Plat Res** 49.18 32 P **P** 18 02 09.5 +1.9
POKR **Poker Plat Res** 49.18 32 P **P** 18 02 09.6 +1.9
baz=272,SNR=40
M23K **Glacier View** 49.23 36 P **P** 18 02 08.9 +0.9
baz=274,SNR=28
MYKOM **Kota Tinggi** 49.27 233 P **P** 18 02 09.0 +0.1
MYKOM IAmb IAmb 18 02 15.3
comp=Z,197nm,1.9s
DHY **Denali Highway** 49.30 35 P **P** 18 02 09.5 +0.7
DHY IAmb IAmb 18 02 16.4
comp=Z,134nm,1.6s
DHY **Denali Highway** 49.30 35 P **P** 18 02 09.5 +0.7
baz=274,SNR=23
SOEI **Soe** 49.34 202 P **P** 18 02 08.8 -0.6
SOEI **Soe** 49.34 202 P **P** 18 02 09.2 -0.2
SOEI **Soe** 49.34 202 P **P** 18 02 08.8 -0.6
comp=Z,432nm,1.5s,comp=Z,4µm
SCM **Sheep Creek Mo** 49.41 36 P **P** 18 02 10.5 +1.0
SCM IAmb IAmb 18 02 19.6
comp=Z,116nm,1.1s
SCM **Sheep Creek Mo** 49.41 36 P **P** 18 02 10.7 +1.2
baz=275,SNR=38
SCM **Sheep Creek Mo** 49.41 36 P **P** 18 02 10.5 +1.0
SCM pmax pmax
comp=Z,116nm,1.1s
HDA **Harding Lake** 49.42 33 P **P** 18 02 09.9 +0.5
HDA IAmb IAmb 18 02 16.7
comp=Z,81nm,0.9s
HDA **Harding Lake** 49.42 33 P **P** 18 02 10.3 +0.9
baz=273,SNR=90
IL31 **49.43 32** P **P** 18 02 10.0 +0.6
IL31 IAmb IAmb 18 02 16.9
comp=Z,95nm,0.9s
ILAR **Eielson Array** 49.43 32 P **P** 18 02 10.7 +1.2
comp=Z,22nm,0.8s,baz=269,slow=6.1,SNR=193
ILAR LR LR 18 25 03.9
comp=Z,444nm,18.4s,baz=280,slow=38
comp=Z,22nm,0.8s
ILAR **Eielson Array** 49.43 32 P **P** 18 02 09.5 0.0
TKM2 **Tokmak 2** 49.50 298 P **P** 18 02 11.5 +0.9
SNR=45
TPRI **Tanjung Pinang** 49.51 232 P **P** 18 02 11.7 +1.0
comp=Z,133nm,1.2s
HNR **Honiara** 49.53 156 LR LR 18 21 14.5
comp=Z,5µm,21.6s,baz=338,slow=34
P23K **Montague Islan** 49.55 39 P **P** 18 02 11.9 +1.4
baz=276
D25K **Kavik River** 49.57 26 P **P** 18 02 12.2 +1.6
baz=269
BRZS **Berezniki** 49.67 308 *e*P P 18 02 21.3 +10
BRZS pmax pmax
comp=Z,53nm,1.6s
G25K **Bearman Lake** 49.69 30 P **P** 18 02 13.9 +2.5
baz=271
F25K **Christian Rive** 49.84 29 P **P** 18 02 15.3 +2.6
baz=271,SNR=70
E25K **Arctic Village** 49.86 28 P **P** 18 02 15.0 +2.2
baz=271,SNR=55
M24K **Tolsona, Glenn** 49.93 36 P **P** 18 02 15.0 +1.5
M24K IAmb IAmb 18 02 22.0
comp=Z,94nm,1.1s
M24K **Tolsona, Glenn** 49.93 36 P **P** 18 02 15.2 +1.8
baz=275,SNR=17
BATI **Baumata** 49.95 203 LR LR 18 22 08.9
comp=Z,352nm,21.8s,baz=7.5,slow=35
BATI **Baumata** 49.95 203 P **P** 18 02 13.6 -0.4
comp=Z,401nm,1.0s,comp=Z,4µm
K24K **Donnelly Dome** 49.97 34 P **P** 18 02 14.7 +1.0
baz=274,SNR=27
PRP **Porcupine Dome** 49.97 31 P **P** 18 02 14.3 +0.6
PRP IAmb IAmb 18 02 22.0
comp=Z,64nm,1.0s
PRP **Porcupine Dome** 49.97 31 P **P** 18 02 15.1 +1.3
baz=273,SNR=30
BTLS **Baital** 49.98 301 ⇓*i*P **P** 18 02 13.8 -0.2
baz=301
BTLS **Baital** 49.98 301 *e*P **P** 18 02 13.8 -0.2
BTLS pmax pmax
comp=Z,19nm,1.3s
SGDS **Sogindy** 50.02 299 *e*P **P** 18 02 14.6 +0.2
baz=299
SGDS **Sogindy** 50.02 299 *e*P **P** 18 02 14.7 +0.2
SGDS pmax pmax
comp=Z,45nm,2.0s
KBK **Karagaybulak** 50.03 298 P **P** 18 02 15.4 +0.8
SNR=19
FYU **Fort Yukon** 50.04 30 P **P** 18 02 16.2 +2.2
CHMS **Chumysh** 50.07 299 P **P** 18 02 15.6 +0.8
SNR=6.7
CHMS **Chumysh** 50.07 299 P **P** 18 02 14.2 -0.5
C26K **Camden Bay** 50.09 26 P **P** 18 02 17.1 +2.7
baz=270
KLU **Klutina** 50.11 37 P **P** 18 02 15.9 +1.0
KLU IAmb IAmb 18 02 22.9
comp=Z,67nm,1.0s
KLU **Klutina** 50.11 37 P **P** 18 02 16.2 +1.3
baz=276
Q23K **Middleton Isla** 50.14 39 P **P** 18 02 16.3 +1.4
baz=277
USP **Ospenovka** 50.17 299 P **P** 18 02 15.3 -0.2
SNR=25
PAX **Paxson** 50.17 35 P **P** 18 02 16.1 +0.8
PAX **Paxson** 50.17 35 P **P** 18 02 16.8 +1.5
baz=275,SNR=18
PAX **Paxson** 50.17 35 P **P** 18 02 16.1 +0.8
PAX pmax pmax
comp=Z,39nm,1.2s
DIV **Divide** 50.22 37 P **P** 18 02 17.2 +1.5
BMAR **Burnt Mountain** 50.26 29 P **P** 18 02 17.9 +2.1
KDU **Kakadu** 50.27 191 P **P** 18 02 16.2 -0.2
KSH **Kashi** 50.28 294 P **P** 18 02 20.8 +4.3
KSH sP sP 18 02 26.4 +3.6
KSH S **S** 18 09 31.2 +2.5
KSH pmax pmax
comp=Z,19nm,1.1s
KSH LR LR
comp=Z,1µm,11.7s
KSH LR LR
comp=Z,2µm,12.4s
KSH LR LR
comp=Z,3µm,13.1s
EYAK **Cordova Ski Ar** 50.30 38 P **P** 18 02 17.1 +0.9
EYAK IAmb IAmb 18 02 24.5
comp=Z,74nm,1.0s
EYAK **Cordova Ski Ar** 50.30 38 P **P** 18 02 17.8 +1.7
baz=277
EYAK **Cordova Ski Ar** 50.30 38 P **P** 18 02 18.3 +2.2
AAK **Ala-Archa** 50.36 298 P **P** 18 02 17.4 +0.2
SNR=11
AAK **Ala-Archa** 50.36 298 LR LR 18 25 09.4
comp=Z,2µm,18.7s,baz=74,slow=38
AAK **Ala-Archa** 50.36 298 P **P** 18 02 16.3 -0.8
AAK **Ala-Archa** 50.36 298*d i*P **P** 18 02 17.3 +0.2
AAK pmax pmax
comp=Z,84nm,2.2s
AAK **Ala-Archa** 50.36 298 *i* P **P** 18 02 15.8 -1.3
SNR=16
AAK **Ala-Archa** 50.36 298 P **P** 18 02 17.9 +0.8
HARP **HAARP** 50.38 35 P **P** 18 02 17.7 +1.0
baz=276,SNR=20
RIDG **Independent Ri** 50.39 34 P **P** 18 02 17.3 +0.4
RIDG **Independent Ri** 50.39 34 P **P** 18 02 17.8 +1.0
baz=275,SNR=22
F26K **Sheenjek River** 50.41 29 P **P** 18 02 19.7 +2.8
baz=272
BVA0 **Borovoye Array** 50.43 312 *i* P **P** 18 02 16.9 -0.4
BVAR **Borovoye Array** 50.43 312 LR LR 18 24 04.0
comp=Z,868nm,19.7s,baz=77,slow=37
UCH **Uchtor** 50.47 298 P **P** 18 02 19.2 +1.0
SNR=5.9
BRVK **Borovoye** 50.48 312 P **P** 18 02 17.3 -0.3
BRVK **Borovoye** 50.48 312 P **P** 18 02 17.3 -0.3
BRVK pmax pmax
comp=Z,46nm,1.2s
BRVK **Borovoye** 50.48 312 P **P** 18 02 18.2 +0.6
C27K **Jago River** 50.51 26 P **P** 18 02 20.1 +2.5
baz=271
DSRI **Dabo** 50.56 231 P **P** 18 02 19.5 +0.8
comp=Z,48nm,1.6s,comp=Z,1µm
G26K **Porcupine Rive** 50.59 29 P **P** 18 02 21.0 +2.7
baz=273
MTN **Manton Dam** 50.65 193 P **P** 18 02 18.8 -0.4
MTN **Manton Dam** 50.65 193 P **P** 18 02 19.1 -0.1
N25K **Chitina, Valde** 50.73 36 P **P** 18 02 19.6 +0.1
N25K **Chitina, Valde** 50.73 36 P **P** 18 02 20.9 +1.4
baz=277,SNR=12
DOT **Dot Lake** 50.74 34 P **P** 18 02 20.2 +0.6
SCRK **Sand Creek** 50.74 33 P **P** 18 02 19.9 +0.3
SCRK IAmb IAmb 18 02 27.2
comp=Z,92nm,1.0s
SCRK **Sand Creek** 50.74 33 P **P** 18 02 20.7 +1.1
baz=276,SNR=68
PLAI **Plampang** 50.79 211 P **P** 18 02 19.2 -1.1
PLAI **Plampang** 50.79 211 P **P** 18 02 19.2 -1.1
comp=Z,177nm,1.4s,comp=Z,2µm
BMRM **Bremner River** 50.80 37 P **P** 18 02 21.1 +1.1
BMRM IAmb IAmb 18 02 28.3
comp=Z,113nm,1.1s
BMRM **Bremner River** 50.80 37 P **P** 18 02 21.7 +1.7
baz=278
EKS2 **Erkin-Say** 50.85 298 P **P** 18 02 21.2 +0.4
SNR=9.0
COEN **Coen** 50.88 178 P **P** 18 02 20.7 -0.2
COEN IAmb IAmb 18 02 27.9
comp=Z,76nm,1.0s
COEN **Coen** 50.88 178 P **P** 18 02 21.2 +0.3
J26L **Joseph Creek** 50.88 33 P **P** 18 02 20.7 +0.1
J26L **Joseph Creek** 50.88 33 P **P** 18 02 21.1 +0.6
baz=276
PPBI **Pangkal Pinang** 50.95 228 P **P** 18 02 21.8 +0.2
comp=Z,96nm,1.2s,comp=Z,1µm
MENT **Mentasta** 50.97 35 P **P** 18 02 22.9 +1.6
MENT IAmb IAmb 18 02 30.0
comp=Z,78nm,1.1s
AML **Aiyayashu** 51.08 298 P **P** 18 02 23.7 +0.9
SNR=25
TWSI **Taliwang, Sumb** 51.08 212 P **P** 18 02 21.6 -0.9
comp=Z,261nm,1.1s,comp=Z,2µm
GLB **Gilahina Butte** 51.12 37 P **P** 18 02 24.0 +1.5
GLB IAmb IAmb 18 02 30.9
comp=Z,108nm,1.4s
L26K **Log Cabin Wild** 51.13 35 P **P** 18 02 24.1 +1.6
L26K IAmb IAmb 18 02 31.1
comp=Z,101nm,0.9s
L26K **Log Cabin Wild** 51.13 35 P **P** 18 02 24.8 +2.3
baz=277,SNR=42
SRBI **Singaraja** 51.22 214 P **P** 18 02 24.1 +0.5
comp=Z,294nm,1.0s,comp=Z,4µmcomp=Z,2µm
VRDI **Verde Repeater** 51.32 37 P **P** 18 02 25.5 +1.4
VRDI IAmb IAmb 18 02 32.5
comp=Z,83nm,1.2s
E27K **Coleen River** 51.35 28 P **P** 18 02 26.4 +2.4
baz=274,SNR=47
M26K **Nabesna, AK** 51.37 35 P **P** 18 02 25.5 +1.2
M26K IAmb IAmb 18 02 33.1
comp=Z,110nm,1.3s
M26K **Nabesna, AK** 51.37 35 P **P** 18 02 26.6 +2.3
baz=278
ABJI **Asem Bagus** 51.41 215 P **P** 18 02 24.9 -0.1
comp=Z,269nm,1.6s,comp=Z,4µm
G27K **Doyon Strip** 51.44 30 P **P** 18 02 26.9 +2.1
baz=275
GRJI **Gresik** 51.47 218 P **P** 18 02 25.4 -0.1
comp=Z,414nm,0.9s,comp=Z,4µm
MCARA **McCarthy VSAT** 51.51 37 P **P** 18 02 26.8 +1.6
MCARA IAmb IAmb 18 02 35.4
comp=Z,125nm,1.2s
MCARA **McCarthy VSAT** 51.51 37 P **P** 18 02 27.2 +1.9
baz=278,SNR=48
H27K **Steamboat Moun** 51.55 30 P **P** 18 02 28.1 +2.6
baz=276
K27K **Chicken** 51.57 33 P **P** 18 02 27.2 +1.5
K27K IAmb IAmb 18 02 34.2
comp=Z,94nm,1.2s
K27K **Chicken** 51.57 33 P **P** 18 02 27.8 +2.1
baz=277
I27K **Kandik River** 51.58 31 P **P** 18 02 27.2 +1.4
baz=276
BLJI **Banyuglugur** 51.66 216 P **P** 18 02 26.2 -0.7
comp=Z,53nm,1.0s,comp=Z,1µm
DNP **Denpasar** 51.75 214 P **P** 18 02 28.0 +0.5
DNP pmax pmax
comp=Z,502nm,1.1s
DNP **Denpasar** 51.75 214 P **P** 18 02 27.4 -0.1
comp=Z,509nm,1.1s
PSI **Prapat** 51.79 239 P **P** 18 02 28.2 +0.1
PSI **Prapat** 51.79 239 P **P** 18 02 27.0 -1.1
PSI pmax pmax
comp=Z,54nm,1.1s
L27K **Beaver Creek,** 51.81 34 P **P** 18 02 29.1 +1.6
L27K IAmb IAmb 18 02 36.3
comp=Z,101nm,1.1s
L27K **Beaver Creek,** 51.81 34 P **P** 18 02 29.6 +2.1
baz=278,SNR=59
UWJI **Ujung Watu** 51.81 220 P **P** 18 02 27.7 -0.3
comp=Z,168nm,1.8s,comp=Z,3µm
BCAR **Beaver Creek A** 51.83 34 P **P** 18 02 27.9 +0.2
RPSI **Rantau Prapat** 51.87 239 P **P** 18 02 27.0 -1.5
EGAK **Eagle** 51.87 32 P **P** 18 02 28.4 +0.5
EGAK **Eagle** 51.87 32 P **P** 18 02 29.1 +1.2
baz=277,SNR=29
M27K **Edge Creek, AK** 51.90 35 P **P** 18 02 29.5 +1.2
M27K IAmb IAmb 18 02 36.9
comp=Z,96nm,1.1s
M27K **Edge Creek, AK** 51.90 35 P **P** 18 02 29.7 +1.4
baz=279
ISLE **Juniper Island** 51.96 37 P **P** 18 02 29.9 +1.1
JAGI **Jajag, Banyuwa** 52.04 215 P **P** 18 02 29.2 -0.5
JAGI IAmb IAmb 18 02 31.9
comp=Z,104nm,1.0s
JAGI **Jajag, Banyuwa** 52.04 215 P **P** 18 02 30.9 +1.2
JAGI **Jajag, Banyuwa** 52.04 215 P **P** 18 02 29.2 -0.5
comp=Z,116nm,1.0s,comp=Z,1µm
JMBI **JAMBI** 52.05 231 P **P** 18 02 31.2 +1.4
comp=Z,86nm,0.4s
KCSI **Kotacane, Aceh** 52.07 241 P **P** 18 02 28.1 -1.9
comp=Z,38nm,1.0s
GMJI **Gumukmas** 52.20 216 P **P** 18 02 29.6 -1.2
comp=Z,164nm,1.1s,comp=Z,2µm
BKNI **Bangkinang** 52.20 235 P **P** 18 02 31.8 +0.8
BKNI **Bangkinang** 52.20 235 P **P** 18 02 33.3 +2.3
BKNI **Bangkinang** 52.20 235 P **P** 18 02 32.2 +1.2
comp=Z,283nm,1.0s,comp=Z,3µm
BARN **Barnard Glacie** 52.21 37 P **P** 18 02 32.1 +1.4
BVCY **Beaver Creek** 52.35 35 P **P** 18 02 33.5 +1.9
baz=280,SNR=15
NGJI **Ngawi** 52.37 219 P **P** 18 02 32.5 +0.4
comp=Z,181nm,1.0s,comp=Z,3µm
DZA **Taraz** 52.49 299 *e*P **P** 18 02 32.7 -0.2
baz=300
SMRI **Semarang** 52.61 220 P **P** 18 02 34.6 +0.6
SMRI **Semarang** 52.61 220 P **P** 18 02 36.3 +2.3
SMRI **Semarang** 52.61 220 P **P** 18 02 34.2 +0.2
comp=Z,341nm,1.3s
YUK3 **Moose Creek** 52.65 36 P **P** 18 02 35.6 +1.6
baz=280,SNR=41
DAWY **Dawson** 52.74 33 P **P** 18 02 35.1 +0.7
DAWY **Dawson** 52.74 33 P **P** 18 02 35.8 +1.4
baz=280,SNR=14
PWJI **Pagerwojo** 52.76 218 P **P** 18 02 33.6 -1.4
comp=Z,457nm,0.8s,comp=Z,3µm
SDSI **Sungai Dareh** 52.90 234 P **P** 18 02 36.3 +0.2
comp=Z,113nm,1.2s,comp=Z,2µm
O28M **Mount Upton** 52.97 37 P **P** 18 02 38.3 +1.8
baz=281
I29M **Ogilvie Camp,** 52.98 31 P **P** 18 02 37.4 +1.2
I29M **Ogilvie Camp,** 52.98 31 P **P** 18 02 38.1 +2.0
baz=279,SNR=120
KK31 **Karatay Array** 52.99 300 P **P** 18 02 36.5 -0.1
KK31 **Karatay Array** 52.99 300 *i* P **P** 18 02 36.8 +0.2
KKAR **Karatay Array** 52.99 300 P **P** 18 02 36.0 -0.6
KKAR **Karatay Array** 52.99 300 P **P** 18 02 36.5 -0.1
KKAR IAmb IAmb 18 02 57.5
comp=Z,41nm,1.1s
KKAR **Karatay Array** 52.99 300 P **P** 18 02 36.5 -0.1
KKAR pmax pmax
comp=Z,41nm,1.2s
YUK8 **Steele Glacier** 53.07 36 P **P** 18 02 38.1 +0.9
baz=281,SNR=12
PCA **Pinnacle** 53.07 38 P **P** 18 02 38.5 +1.5
PINM **Pinnacle** 53.07 38 P **P** 18 02 38.5 +1.5
baz=282,SNR=6.8
J29M **Klondike Camp** 53.18 32 P **P** 18 02 39.1 +1.5
baz=280
UGM **Wanagama** 53.30 219 P **P** 18 02 38.1 -1.0
UGM **Wanagama** 53.30 219 P **P** 18 02 38.9 -0.2
UGM **Wanagama** 53.30 219 P **P** 18 02 38.3 -0.8
comp=Z,596nm,1.1s
YOGI **Yogyarta** 53.34 220 P **P** 18 02 38.4 -0.9
comp=Z,374nm,1.0s,comp=Z,3µm
M29M **Somme Creek** 53.45 35 P **P** 18 02 42.0 +2.2
baz=282,SNR=46
EPYK **Eagle Plains** 53.45 30 P **P** 18 02 41.3 +1.6
EPYK **Eagle Plains** 53.45 30 P **P** 18 02 41.6 +2.0
baz=280,SNR=42
L29M **L29M** 53.47 34 P **P** 18 02 42.5 +2.7
baz=281,SNR=90
G30M **tAoh Zrail Nji** 53.54 29 P **P** 18 02 42.1 +1.8
baz=280
PNL **Peninsula** 53.59 38 P **P** 18 02 42.3 +1.6
baz=283
PNL **Peninsula** 53.59 38 P **P** 18 02 42.6 +1.9
YUK4 **Talbot Arm** 53.59 36 P **P** 18 02 43.1 +2.2
baz=282,SNR=32
K29M **Barlow Dome** 53.59 33 P **P** 18 02 43.1 +2.3
baz=281,SNR=87
KPJI **Karang Pucung** 53.63 221 P **P** 18 02 41.3 -0.2
comp=Z,287nm,1.0s,comp=Z,2µm
GSI **Gunungsitoli** 53.80 239 P **P** 18 02 42.2 -0.6
GSI **Gunungsitoli** 53.80 239 P **P** 18 02 43.3 +0.5
GSI **Gunungsitoli** 53.80 239 P **P** 18 02 42.9 +0.1
comp=Z,334nm,1.2s,comp=Z,5µm
YUK6 **Outpost Mounta** 53.81 37 P **P** 18 02 44.9 +2.3
baz=283,SNR=24
O29M **Mount Kennedy** 53.85 37 P **P** 18 02 45.4 +2.7
baz=283
KNRA **Kununurra** 53.87 195 P **P** 18 02 42.5 -0.7
KNRA **Kununurra** 53.87 195 P **P** 18 02 43.2 +0.1
KLI **Kotabumi** 53.87 227 P **P** 18 02 43.4 +0.1
KLI pmax pmax
comp=Z,428nm,1.1s
KLI **Kotabumi** 53.87 227 P **P** 18 02 43.2 -0.1
comp=Z,428nm,1.0s,comp=Z,4µm
LEM **Lembang** 53.91 223 LR LR 18 26 51.0
comp=Z,146nm,19.0s,baz=6.5,slow=37
LEM **Lembang** 53.91 223 P **P** 18 02 44.2 +0.4
LEM pmax pmax
comp=Z,402nm,1.1s
LEM **Lembang** 53.91 223 P **P** 18 02 43.7 -0.1
comp=Z,407nm,1.1s,comp=Z,3µm
MDSI **Maura Dua** 53.97 228 P **P** 18 02 42.9 -1.1
comp=Z,85nm,1.0s,comp=Z,2µm
JBP **Jabalpur** 53.98 273 *e*P **P** 18 02 44.0 -0.1
JBP *ex* x 18 02 44.0
baz=210,slow=28
JBP *e*S **S** 18 10 18.4 -1.1
BLSI **Bandar Lampung** 54.05 226 P **P** 18 02 42.9 -1.7
comp=Z,158nm,0.8s,comp=Z,2µm
MASI **Maura Aman, Be** 54.09 231 P **P** 18 02 45.5 +0.6
comp=Z,218nm,1.7s
M30M **Minto, Yukon** 54.18 34 P **P** 18 02 46.6 +1.6
M30M IAmb IAmb 18 02 54.1
comp=Z,60nm,1.1s
M30M **Minto, Yukon** 54.18 34 P **P** 18 02 47.5 +2.5
baz=283
HYT **Haines Junctio** 54.24 37 P **P** 18 02 48.0 +2.4
HYT **Haines Junctio** 54.24 37 P **P** 18 02 48.5 +2.9
baz=283,SNR=53
KSI **Kapahiang** 54.27 230 P **P** 18 02 48.0 +1.8
KSI pmax pmax
comp=Z,99nm,1.0s
INK **Inuvik** 54.31 27 LR LR 18 29 05.7
comp=Z,508nm,18.2s,baz=276,slow=40
INK **Inuvik** 54.31 27 P **P** 18 02 46.8 +1.1
INK IAmb IAmb 18 02 53.8
comp=Z,56nm,1.0s
INK **Inuvik** 54.31 27 P **P** 18 02 46.8 +1.1
baz=281,SNR=39
INK **Inuvik** 54.31 27 P **P** 18 02 46.8 +1.1
INK pmax pmax
comp=Z,56nm,1.0s
MAYO **Mayo, Yukon** 54.35 33 P **P** 18 02 47.7 +1.5
baz=283
F31M **Tsiigehtchic** 54.40 28 P **P** 18 02 48.2 +1.7
baz=282,SNR=22
BBJI **Bungbulang** 54.43 223 P **P** 18 02 47.7 +0.3
LWLI **Liwa** 54.47 228 P **P** 18 02 47.8 +0.1
comp=Z,176nm,0.8s,comp=Z,4µm
GAR **Garm** 54.57 295 P **P** 18 02 47.8 -0.5
GAR IAmb IAmb 18 02 56.4
comp=Z,82nm,1.1s
CNJI **Cibinong** 54.58 223 P **P** 18 02 49.8 +1.4
comp=Z,41nm,1.1s
P30M **Million Dollar** 54.67 37 P **P** 18 02 51.2 +2.5
baz=284
N31M **Braeburn, Yuko** 54.90 36 P **P** 18 02 51.8 +1.6
N31M IAmb IAmb 18 02 59.4
comp=Z,116nm,1.2s
N31M **Braeburn, Yuko** 54.90 36 P **P** 18 02 52.7 +2.4
baz=284,SNR=35
O30N **Mendenhall** 54.93 36 P **P** 18 02 52.5 +2.0
baz=285,SNR=22
SVE **Sverdlovsk** 55.00 319 *ce*P **P** 18 02 51.7 +0.7
SVE *e*S **S** 18 10 33.2 +0.8
SVE pmax pmax
comp=Z,110nm,1.5s
SVE MLR MLR
comp=Z,1µm,13.0s
MTSU **Mount Surprise** 55.07 177 P **P** 18 02 52.0 +0.1
PLBC **Pleasant Camp** 55.13 38 P **P** 18 02 54.1 +2.1
baz=285,SNR=34
M31M **Drury Creek, Y** 55.35 35 P **P** 18 02 55.1 +1.6

M31M Drury Creek, Y 55.35 35 P P 18 02 55.8 +2.2
baz=285,SNR=36
WHY Whitehorse 55.53 36 P P 18 02 56.6 +1.7
WHY IAmb IAmb 18 03 03.8
comp=Z,73nm,1.1s
WHY Whitehorse 55.53 36 P P 18 02 57.4 +2.5
baz=286,SNR=36
CHGR Chuyangaron 55.54 295 P P 18 02 55.2 0.0
CHGR Chuyangaron 55.54 295 P P 18 02 55.3 0.0
CHGR pmax pmax
comp=Z,222nm,1.0s
S31K Pelican 55.61 40 P P 18 02 57.8 +2.5
baz=286,SNR=10
SKAG Skagway 55.64 38 P P 18 02 57.2 +1.6
SKAG IAmb IAmb 18 03 04.7
comp=Z,74nm,1.2s
SKAG Skagway 55.64 38 P P 18 02 57.7 +2.2
baz=286,SNR=14
R31K City Hall, Gus 55.73 39 P P 18 02 58.4 +2.2
baz=286
FARO Faro, Yukon 55.82 34 P P 18 02 58.0 +1.1
FARO IAmb IAmb 18 03 05.4
comp=Z,74nm,1.3s
FARO Faro, Yukon 55.82 34 P P 18 02 58.8 +2.0
baz=286,SNR=27
A36M Sachs Harbour 56.17 22 P P 18 03 00.5 +1.3
A36M IAmb IAmb 18 03 07.5
comp=Z,78nm,1.1s
A36M Sachs Harbour 56.17 22 P P 18 03 00.9 +1.8
baz=286
ARU Arti 56.21 318 LR LR 18 31 04.6
comp=Z,259nm,18.3s,baz=70,slow=40
ARU Arti 56.21 318 P P 18 02 59.5 -0.2
ARU IAmb IAmb 18 03 01.2
comp=Z,133nm,1.3s
ARU Arti 56.21 318*d* iP P 18 02 59.8 +0.1
ARU 18 04 00.4
ARU 18 05 05.5
ARU PPP PPP 18 06 20.9
ARU S S 18 10 51.6 +3.0
ARU SS SS 18 14 31.4 -3.2
ARU pmax pmax
comp=Z,129nm,1.3s
ARU MLR MLR
comp=Z,1μm,15.0s
SIT Sitka 56.34 41 P P 18 03 02.4 +1.8
SIT IAmb IAmb 18 03 09.7
comp=Z,88nm,1.4s
SIT Sitka 56.34 41 P P 18 03 03.1 +2.5
baz=288,SNR=8.2
SIT Sitka 56.34 41 P P 18 03 02.4 +1.8
SIT pmax pmax
comp=Z,88nm,1.4s
TV1H Townsville Har 56.36 174 P P 18 03 01.1 +0.1
R32K Eaglecrest 56.39 39 P P 18 03 03.3 +2.4
baz=287,SNR=12
P32M Atlin 56.40 37 P P 18 03 03.3 +2.3
baz=287,SNR=21
JIS Juneau Island 56.46 39 P P 18 03 03.7 +2.3
JIS IAmb IAmb 18 03 10.5
comp=Z,96nm,1.2s
JIS Juneau Island 56.46 39 P P 18 03 03.8 +2.4
P33M Teslin, Yukon 56.64 37 P P 18 03 04.3 +1.5
P33M IAmb IAmb 18 03 11.8
comp=Z,95nm,1.1s
P33M Teslin, Yukon 56.64 37 P P 18 03 05.1 +2.3
baz=288,SNR=46
WB0 Warramunga Arr 57.00 188 P P 18 03 04.8 -0.8
CTA Charters Tower 57.13 174 LR LR 18 27 04.8
comp=Z,200nm,20.7s,baz=346,slow=36
CTAO Charters Tower 57.13 174 P P 18 03 06.2 -0.4
CTAO IAmb IAmb 18 03 07.7
comp=Z,157nm,1.9s
CTAO Charters Tower 57.13 174 P P 18 03 06.2 -0.4
CTAO Charters Tower 57.13 174 P P 18 03 06.2 -0.4
CTAO pmax pmax
comp=Z,157nm,1.9s
WRAB Tennant Creek 57.17 188 P P 18 03 06.0 -0.8
WRAB IAmb IAmb 18 03 07.5
comp=Z,88nm,1.0s
WRAB Tennant Creek 57.17 188 P P 18 03 06.0 -0.8
WRAB Tennant Creek 57.17 188*d* iP P 18 03 06.1 -0.7
WRAB pmax pmax
comp=Z,239nm,2.5s
WR0 Warramunga Arr 57.17 188 P P 18 03 05.3 -1.5
WR0 IAmb IAmb 18 03 07.5
comp=Z,106nm,1.1s
WB2 Warramunga Arr 57.17 188 P P 18 03 06.0 -0.8
WB2 IAmb IAmb 18 03 07.6
comp=Z,111nm,1.1s
WRA Warramunga Arr 57.18 188 P P 18 03 06.2 -0.7
comp=Z,56nm,0.8s,baz=3.9,slow=7.3,SNR=148
WRA PcP PcP 18 04 01.9 +0.5
comp=Z,17nm,0.8s,baz=1.1,slow=4.5,SNR=5.3
WRA S S 18 11 05.4 +3.4
comp=Z,0.6nm,1.0s,baz=48,slow=31,SNR=1.9
WRA LR LR 18 25 32.1
comp=Z,417nm,21.9s,baz=358,slow=34
WRA PKP2bc 18 33 05.3
comp=Z,1.0nm,1.0s,baz=189,slow=2.3,SNR=3.2
comp=Z,56nm,0.8s
WRA Warramunga Arr 57.18 188 P P 18 03 04.9 -2.0
WRA Warramunga Arr 57.18 188 *i* P P 18 03 06.1 -0.8
WRA pmax pmax
comp=Z,57nm,0.8s
WB1 Warramunga Ar. 57.19 188 P P 18 03 06.6 -0.4
Q32M Nakina River 57.30 38 P P 18 03 10.0 +2.4
baz=289
C36M Paulatuk 57.35 25 P P 18 03 08.2 +0.6
C36M IAmb IAmb 18 03 15.4
comp=Z,96nm,1.2s
C36M Paulatuk 57.35 25 P P 18 03 08.9 +1.4
baz=289,SNR=30
QIS Mount Isa 57.43 182 P P 18 03 08.1 -0.6
T33K Petersburg 57.65 40 P P 18 03 12.2 +2.4
baz=290
R33M Jennings River 57.79 37 P P 18 03 13.7 +2.7
baz=289
AB31 Akbulak array 57.80 310 *i* P P 18 03 10.8 -0.2
ABKAR Akbulak array 57.80 310 P P 18 03 10.7 -0.4
ABKAR IAmb IAmb 18 03 12.5
comp=Z,87nm,1.5s
ABKAR Akbulak array 57.80 310 P P 18 03 10.2 -0.8
U33K Whale Pass 57.80 41 P P 18 03 13.4 +2.5
baz=290,SNR=11
CRAG Craig 58.02 42 P P 18 03 14.0 +1.6
CRAG Craig 58.02 42 P P 18 03 14.3 +1.9
baz=290
WRAK Wrangell Islan 58.10 41 P P 18 03 14.6 +1.6
WRAK Wrangell Islan 58.10 41 P P 18 03 15.4 +2.3
baz=290
HYB Hyderabad 58.13 268 *e*P P 18 03 14.0 +0.1
HYB *e*pP **pP** 18 03 17.4 -1.0
HYB *es*P **sP** 18 03 18.8 -1.3
HYB IVmBBB 18 03 19.7
comp=Z,385nm,1.6s
HYB *e*PcP **PcP** 18 04 05.2 -0.2
HYB *e*PP **PP** 18 05 23.6 +1.1
HYB *e*S **S** 18 11 16.7 +1.8
S34M Telegraph Cree 58.21 39 P P 18 03 16.4 +2.7
baz=290,SNR=23
AKTO Aktyubinsk 58.53 312 LR LR 18 29 46.4
comp=Z,1μm,18.1s,baz=62,slow=37
AKTO Aktyubinsk 58.53 312 P P 18 03 15.6 -0.6
DLBC Dease Lake 58.57 38 LR LR 18 28 06.8
comp=Z,155nm,21.1s,baz=307,slow=36
DLBC Dease Lake 58.57 38 P P 18 03 18.6 +2.2
DLBC IAmb IAmb 18 03 25.8
comp=Z,104nm,1.2s
DLBC Dease Lake 58.57 38 P P 18 03 19.0 +2.6
baz=291,SNR=25
WTLY Watson Lake, Y 58.57 36 P P 18 03 18.2 +1.8
WTLY Watson Lake, Y 58.57 36 P P 18 03 18.7 +2.4
baz=291,SNR=54
V35K Ketchikan 58.87 42 P P 18 03 20.4 +2.0
baz=291
T35M Bob Quinn 58.98 40 P P 18 03 22.4 +3.1
baz=291,SNR=29
DIB Dawson Inlet, 59.19 44 P P 18 03 22.4 +1.8
DIB IAmb IAmb 18 03 28.6
comp=Z,78nm,1.5s
WRGLY Wrigley 59.78 31 P P 18 03 26.9 +2.3
baz=293,SNR=18
EUNU Eureka 60.07 9 P P 18 03 26.6 +0.2
KIRV Kirov 60.10 323 LR LR 18 32 11.3
comp=Z,705nm,19.6s,baz=69,slow=39

KIRV Kirov 60.10 323*c* *i* P P 18 03 26.8 0.0
GRNB Grenville Isla 60.33 43 P P 18 03 30.0 +1.5
GRNB IAmb IAmb 18 03 37.0
comp=Z,67nm,1.4s
SPA0 Spitsbergen Ar 60.38 349 *e*P P 18 03 30.3 +1.7
SPA0 IAmb IAmb 18 03 30.5
comp=Z,169nm,1.7s
SPB2 Spitsbergen Ar 60.38 349 P P 18 03 29.2 +0.6
SPB2 IAmb IAmb 18 04 38.2
comp=Z,65nm,1.2s
SPITS Spitsbergen Ar 60.38 349 LR LR 18 32 53.6
comp=Z,233nm,18.7s,baz=9.5,slow=39
SPITS Spitsbergen Ar 60.38 349 P P 18 03 28.5 -0.1
SPITS pmax pmax
comp=Z,76nm,1.2s
KBS Kingsbay 60.52 350 P P 18 03 29.7 +0.3
KBS Kingsbay 60.52 350⇑ *e*P P 18 03 30.4 +1.0
KBS pmax pmax
comp=Z,185nm,1.7s
KBS Kingsbay 60.52 350 *e*P P 18 03 31.0 +1.5
PRGR Permogore 60.62 327 *e*P P 18 03 30.0 -0.3
PRGR *e**SP **pP** 18 03 35.7 +0.8
PRGR *e* 18 04 13.6
PRGR pmax pmax
comp=Z,86nm,1.3s
KOTAN Kotaneelee Air 60.76 35 P P 18 03 33.0 +1.6
baz=294
RK1H Rockhampton Ha 60.84 170 P P 18 03 32.1 -0.1
AS31 Alice Springs 60.90 188 P P 18 03 31.9 -0.8
ASAR Alice Springs 60.90 188 P P 18 03 32.5 -0.3
comp=Z,32nm,0.9s,baz=9.6,slow=5.5,SNR=150
ASAR S S 18 11 56.0 +5.8
comp=Z,0.5nm,1.0s,baz=337,slow=38,SNR=2.7
ASAR LR LR 18 29 33.1
comp=Z,304nm,20.5s,baz=9.5,slow=36
ASAR PKP2bc 18 33 01.9
comp=Z,2.6nm,1.1s,baz=172,slow=1.9,SNR=8.4
comp=Z,32nm,0.9s
ASAR Alice Springs 60.90 188 P P 18 03 31.4 -1.3
NOR Nord 60.92 356 *i* P P 18 03 31.5 -0.7
NOR *i* P **pP** 18 03 32.0 -4.7
NOR IAmb IAmb 18 03 38.4
comp=Z,9.9nm,0.8s
KOUNC Koumac, New Ca 61.35 155 P P 18 03 33.9 -1.9
KOUNC IAmb IAmb 18 03 38.5
comp=Z,66nm,1.2s
KOUNC Koumac, New Ca 61.35 155 P P 18 03 37.1 +1.3
MBWA Marble Bar 61.48 203 P P 18 03 35.3 -1.3
MBWA IAmb IAmb 18 03 43.0
comp=Z,70nm,1.0s
MBWA Marble Bar 61.48 203 P P 18 03 36.6 0.0
MBWA Marble Bar 61.48 203 P P 18 03 36.6 0.0
LVZ Lovozero 61.96 336⇑ *e*P P 18 03 40.0 +0.6
LVZ pmax pmax
comp=Z,137nm,1.3s
BBB Bella Bella 62.03 44 LR LR 18 31 17.6
comp=Z,83nm,19.2s,baz=346,slow=37
PALK Pallekele 62.32 257 LR LR 18 34 05.6
comp=Z,489nm,18.9s,baz=155,slow=39
PALK Pallekele 62.32 257 P P 18 03 42.2 -0.4
PALK IAmb IAmb 18 03 44.4
comp=Z,80nm,1.2s
PALK Pallekele 62.32 257 P P 18 03 42.2 -0.4
PALK pmax pmax
comp=Z,80nm,1.3s
PALK Pallekele 62.32 257 P P 18 03 43.6 +1.0
HRA Herat 62.39 294 P P 18 03 43.3 +0.2
VADS Vadso 62.42 339 *e*P P 18 03 43.5 +1.1
RES Resolute Bay 62.50 14 LR LR 18 33 48.6
comp=Z,298nm,19.2s,baz=360,slow=39
RES Resolute Bay 62.50 14 P P 18 03 42.6 -0.2
RES IAmb IAmb 18 03 50.0
comp=Z,70nm,1.4s
RES Resolute Bay 62.50 14 P P 18 03 43.5 +0.7
RES pmax pmax
comp=Z,34nm,1.4s
APA Apatity 62.54 336⇓ *i* P P 18 03 42.4 -0.8
APA *i* 18 04 20.0
APA pmax pmax
comp=Z,39nm,0.9s
ADZR Andozero 62.61 331 *e*P P 18 03 42.6 -1.1
ADZR *e* 18 04 19.0
ADZR *e* 18 06 01.1
ADZR pmax pmax
comp=Z,71nm,0.8s
EIDS Eidsvold 62.87 170 P P 18 03 45.9 0.0
EIDS IAmb IAmb 18 03 47.8
comp=Z,76nm,1.2s
EIDS Eidsvold 62.87 170 P P 18 03 46.4 +0.5
WRKA Warakurna 63.07 193 P P 18 03 46.8 -0.5
QLP Quilpie 63.47 177 P P 18 03 49.6 -0.2
DZM Mont Dzumac 63.50 154 *e*P P 18 03 50.6 +0.4
comp=Z,378nm,1.2s
DZM *e*S S 18 12 24.5 +1.3
comp=Z,327nm,24.2s
DZM Mont Dzumac 63.50 154 *e*LR LR 18 22 44.5
comp=Z,978nm,27.5s
DZM Mont Dzumac 63.50 154 P P 18 03 51.0 +0.8
DZM Mont Dzumac 63.50 154 P P 18 03 51.9 +1.7
KLMR Klimovskoe 63.61 328⇑ *i*P P 18 03 50.7 +0.3
KLMR *e*P P 18 03 50.7 +0.3
KLMR *e*P P 18 03 50.7 +0.3
KLMR AMP 18 03 57.2
comp=Z,212nm,1.5s
KLMR LQ LQ 18 25 04.6
KLMR LQ LQ 18 25 04.6
KLMR LR LR 18 26 55.3
KLMR AMP 18 38 57.5
comp=Z,759nm,12.0s
KLMR Klimovskoe 63.61 328*c* *i*P P 18 03 50.6 +0.2
KLMR pmax pmax
comp=Z,212nm,1.5s
YATNC Mamie plateau, 63.65 153 P P 18 03 52.9 +1.8
BELG Belogornoye 63.65 317 LR LR 18 33 45.3
comp=Z,638nm,18.5s,baz=62,slow=38
BELG Belogornoye 63.65 317*d* iP P 18 03 51.0 +0.2
BELG pmax pmax
comp=Z,21nm,1.1s
HAMF Hammerfest 63.67 341 *e*P P 18 03 51.6 +0.9
RMQ Roma 63.70 173 P P 18 03 52.0 +0.7
GEYT Alibeck 63.70 299 P P 18 03 52.0 +0.4
comp=Z,24nm,1.0s,baz=48,slow=2.2,SNR=46
GEYT S S 18 12 27.1 +1.5
comp=Z,0.5nm,0.4s,baz=163,slow=16,SNR=1.1
GEYT LR LR 18 32 55.8
comp=Z,486nm,19.3s,baz=54,slow=37
comp=Z,24nm,1.0s
GEYT Alibeck 63.70 299 P P 18 03 51.3 -0.2
GYA0B ALIBECK ARRAY 63.70 299 P P 18 03 51.5 0.0
ONTNC Ouen Toro 63.72 154 P P 18 03 52.5 +0.9
ONTNC Ouen Toro 63.72 154 P P 18 03 53.4 +1.8
YKA Yellowknife Ar 63.74 30 P P 18 03 52.0 +0.8
comp=Z,10nm,1.0s,baz=297,slow=6.8,SNR=71
YKA PKPPKP **P'P'df** 18 32 45.3 -7.3
comp=Z,1.8nm,1.0s,baz=124,slow=2.2,SNR=10
YKA PKP2bc 18 32 51.2
comp=Z,2.9nm,1.1s,baz=121,slow=2.5,SNR=10
YKA PKP2ab 18 32 59.9
comp=Z,1.1nm,1.0s,baz=115,slow=2.2,SNR=4.6
comp=Z,10nm,1.0s
PCHI Peechi 63.79 263⇓ *e*P P 18 03 52.5 +0.1
PCHI *e*S S 18 12 27.4 +0.3
ARA0 ARCESS Array S 63.85 339 *e*P P 18 03 53.2 +1.3
ARA0 IAmb IAmb 18 03 59.3
comp=Z,107nm,1.2s
ARCES ARCESS Array B 63.85 339 P P 18 03 53.0 +1.1
comp=Z,22nm,0.9s,baz=55,slow=7.4,SNR=56
ARCES LR LR 18 34 58.1
comp=Z,321nm,19.0s,baz=41,slow=39
comp=Z,22nm,0.9s
ARCES ARCESS Array B 63.85 339 P P 18 03 52.6 +0.7
ARCES ARCESS Array B 63.85 339 P P 18 03 53.0 +1.1
OUENC Ouen Island, N 63.96 154 P P 18 03 54.1 +0.9
OUENC Ouen Island, N 63.96 154 P P 18 03 55.5 +2.4
INKA Innaminka 64.56 181 P P 18 03 57.1 +0.1
AUBSH Beerwah State 64.62 168 P P 18 03 58.6 +1.3
MSVF Nonsavu 64.65 141 P P 18 03 59.4 +1.5
comp=Z,5.3nm,0.3s,baz=26,slow=2.3,SNR=7.7
MSVF LR LR 18 26 02.6
comp=Z,323nm,19.9s,baz=344,slow=30
comp=Z,5.3nm,0.3s
MSVF Nonsavu 64.65 141 P P 18 03 58.4 +0.5
MSVF IAmb IAmb 18 04 01.5
comp=Z,59nm,1.1s
HILA High Level 64.69 35 P P 18 03 58.9 +1.4

SGF Sodankyl 64.81 337 P P 18 03 59.0 +0.8
SGF pmax pmax
comp=Z,84nm,1.3s
KTK1 Kautokeino 64.81 339 *e*P P 18 03 59.3 +1.1
KTK1 IAmb IAmb 18 04 05.0
comp=Z,60nm,0.9s
OOD Oodnadatta 64.83 186 P P 18 03 58.9 +0.2
MSF Maaselka 64.90 335 P P 18 04 00.1 +1.3
MSF pmax pmax
comp=Z,85nm,1.6s
TULEG Thule 64.98 7 P P 18 03 59.0 -0.2
TULEG IAmb IAmb 18 04 00.8
comp=Z,69nm,1.5s
TULEG Thule 64.98 7 *i* P P 18 03 59.3 +0.1
TULEG IAmb IAmb 18 04 06.0
comp=Z,6.1nm,0.5s
AUWSH Wavell State H 65.16 169 P P 18 04 02.1 +1.2
JETT Jettan, Norway 65.23 341 *e*P P 18 04 02.4 +1.4
JETT IAmb IAmb 18 04 07.2
comp=Z,72nm,1.1s
WAPA Wapiti River 65.31 39 P P 18 04 02.1 +0.3
NEEM North Greenlan 65.40 3 *i* P P 18 04 03.2 +0.9
NEEM IAmb IAmb 18 04 12.3
comp=Z,7.8nm,0.6s
TRO Tromso 65.57 341 *e*P P 18 04 04.2 +1.1
TRO IAmb IAmb 18 04 09.6
comp=Z,70nm,1.0s
OUL Oulu 66.45 335 P P 18 04 09.8 +1.0
OUL pmax pmax
comp=Z,89nm,1.4s
AULRC Lightning Ridg 66.54 174 P P 18 04 10.1 +0.4
NLWA Neilton Lookou 66.69 47 P P 18 04 12.5 +1.8
BRLDA Berland Lookou 66.80 39 P P 18 04 12.8 +1.4
MEEK Meekatharra 66.96 202 P P 18 04 12.3 -0.2
MOS Moscow 67.10 323 *e*P P 18 04 09.7 -3.4
MOS *e* 18 06 38.8
MOS *e*S S 18 13 04.9 -1.6
MOS pmax pmax
comp=Z,400nm,1.9s
MOS pmax pmax
comp=Z,184nm,1.4s
MOS MLR MLR
comp=Z,900nm,15.0s
E03A Lebam 67.29 48 P P 18 04 15.9 +1.4
LCRK Leigh Creek 67.32 183 P P 18 04 15.3 +0.6
VRH Novokhopyorsk 67.43 318 *e*P P 18 04 14.7 -0.6
VRH *e**SP **pP** 18 04 20.4 +0.5
VRH pmax pmax
comp=Z,30nm,0.6s
VRH MLR MLR
comp=Z,2μm,16.0s
MULG Mulgathing 67.44 187 P P 18 04 15.7 +0.3
B06A Marblemount 67.50 46 P P 18 04 16.8 +1.0
B06A IAmb IAmb 18 04 23.8
comp=Z,74nm,1.4s
STEI Steigen 67.72 341 *e*P P 18 04 17.9 +1.1
STEI IAmb IAmb 18 04 23.3
comp=Z,47nm,0.7s
D05A Enumclaw 67.89 47 P P 18 04 18.5 +0.2
ARMA Armidale 67.92 170 P P 18 04 19.5 +0.9
ARMA IAmb IAmb 18 04 26.2
comp=Z,82nm,1.2s
ARMA Armidale 67.92 170 P P 18 04 20.2 +1.6
OBN Obninsk 67.94 323 LR LR 18 34 41.3
comp=Z,184nm,18.9s,baz=58,slow=37
OBN Obninsk 67.94 323 P P 18 04 18.3 -0.2
OBN Obninsk 67.94 323*d* iP P 18 04 18.5 0.0
OBN *e**PP **pP** 18 04 22.4 -0.7
OBN *e* 18 04 47.2
OBN *e* 18 06 48.2
OBN *e*PPP PPP 18 08 26.8
OBN *e*S S 18 13 15.7 -0.9
OBN pmax pmax
comp=Z,128nm,1.3s
OBN MLR MLR
comp=Z,697nm,18.0s
PUL Pulkovo 68.04 329⇑ *e*P P 18 04 20.0 +1.0
PUL pmax pmax
comp=Z,224nm,1.2s
FAUS Fauske 68.10 340 *e*P P 18 04 20.3 +1.0
FAUS IAmb IAmb 18 04 25.9
comp=Z,62nm,0.8s
DBG Daneborg 68.13 355 *i* P P 18 04 22.2 +2.9
LPSR Galich'ya Gora 68.15 320 *e*P P 18 04 19.3 -0.5
LPSR *e**SP **pP** 18 04 25.0 +0.5
LPSR pmax pmax
comp=Z,90nm,1.3s
LPSR MLR MLR
comp=Z,1μm,19.0s
MAK Makhachkala 68.32 308 *e*P P 18 04 16.1 -4.9
MAK *e*PPP PPP 18 08 26.1
MAK *e*S S 18 13 15.8 -5.7
MAK *e*SS SS 18 17 43.5 -0.6
MAK pmax pmax
comp=Z,223nm,1.8s
COR Corvallis 68.45 50 P P 18 04 22.1 +0.2
COR IAmb IAmb 18 04 31.0
comp=Z,64nm,1.0s
COR Corvallis 68.45 50 P P 18 04 22.1 +0.2
COR pmax pmax
comp=Z,64nm,1.0s
CMSA Cobar Meteorol 68.47 176 P P 18 04 22.9 +1.0
AUPHS Peel High Scho 68.50 171 P P 18 04 23.3 +1.2
VORR Voronezh 68.51 319 *i* P P 18 04 22.4 +0.3
VORR pmax pmax
comp=Z,100nm,1.7s
LTY Liberty 68.62 46 P P 18 04 23.8 +0.8
LTY IAmb IAmb 18 04 31.1
comp=Z,127nm,1.9s
FIA1 FINESS Array S 68.66 332 P P 18 04 23.0 +0.2
FINES FINESS Array B 68.66 332 P P 18 04 23.1 +0.2
comp=Z,57nm,1.0s,baz=53,slow=7.4,SNR=38
FINES LR LR 18 35 15.0
comp=Z,429nm,19.5s,baz=44,slow=37
comp=Z,57nm,1.0s
FINES FINESS Array B 68.66 332 P P 18 04 23.3 +0.4
FINES FINESS Array B 68.66 332 *i* P P 18 04 23.5 +0.6
FINES pmax pmax
comp=Z,57nm,1.0s
STKA Stephens Creek 68.68 180 P P 18 04 23.6 +0.4
comp=Z,35nm,0.9s,baz=344,slow=7.4,SNR=36
STKA LR LR 18 33 45.7
comp=Z,295nm,19.9s,baz=5.2,slow=35
comp=Z,35nm,0.9s
STKA Stephens Creek 68.68 180 P P 18 04 22.6 -0.6
STKA Stephens Creek 68.68 180 P P 18 04 23.6 +0.4
STKA Stephens Creek 68.68 180*d* iP P 18 04 23.4 +0.2
KEBM Edson Butte 68.70 52 P P 18 04 25.9 +2.4
FORT Forrest 68.72 192 P P 18 04 23.3 -0.1
FORT Forrest 68.72 192 P P 18 04 24.2 +0.7
VSR Storozhevoye 68.78 319 *e*P P 18 04 23.6 -0.2
VSR *e**SP **sP** 18 04 29.6 -0.6
VSR pmax pmax
comp=Z,50nm,0.9s
VSR MLR MLR
comp=Z,2μm,16.0s
B08A Colville Reser 68.80 45 P P 18 04 24.9 +0.9
B08A IAmb IAmb 18 04 32.2
comp=Z,63nm,1.4s
BUCK Buck Mountain 68.85 50 P P 18 04 25.0 +0.5
AKT Akhty 68.94 307 *e*P P 18 04 24.4 -0.7
AKT *e* 18 04 46.5
AKT pmax pmax
comp=Z,28nm,0.6s
HOOD Mount Hood Mea 69.07 49 P P 18 04 27.7 +1.8
MOR8 Moi Rana 69.22 340 *e*P P 18 04 26.0 -0.3
MOR8 IAmb IAmb 18 04 31.6
comp=Z,79nm,0.8s
DBO Dodson Butte 69.26 51 P P 18 04 29.1 +2.1
GROC Groznyy 69.26 309 *e*P P 18 04 26.5 -0.4
GROC *e* 18 04 49.5
GROC pmax pmax
comp=Z,28nm,0.6s
EDM Edmonton 69.30 38 P P 18 04 28.2 +1.2
EDM Edmonton 69.30 38 P P 18 04 28.2 +1.2
EDM pmax pmax
comp=Z,113nm,1.2s
AUDCS Dubbo College 69.37 173 P P 18 04 28.8 +1.3
SEKA Sheki 69.42 307 P P 18 04 27.9 -0.2
ZKTA Zakatala 69.56 307 P P 18 04 28.8 -0.1
LKRN Lenkeran, Azer 69.70 304 P P 18 04 29.4 -0.3
C09A Chrisman Ranch 69.70 45 P P 18 04 30.7 +1.1
C09A IAmb IAmb 18 04 37.7
comp=Z,102nm,1.5s

HUMO	Hull Mountain	69.71	52	P		P		18 04 30.1	+0.4
G06A	Carlson Farm,	69.72	48	P		P		18 04 30.1	+0.3
G06A				IAmb		IAmb		18 04 33.2	
	comp=Z,108nm,1.7s								
MNGR	Mingechevir, A	69.72	306	P		P		18 04 29.8	0.0
D08A	Wollman Farm,	69.74	46	P		P		18 04 30.5	+0.7
HAWA	Hanford	69.75	47	P		P		18 04 31.5	+1.6
HAWA				IAmb		IAmb		18 04 38.2	
	comp=Z,87nm,1.7s								
F07A	Phinny Hill Vi	69.78	47	P		P		18 04 30.8	+0.7
F07A				IAmb		IAmb		18 04 38.5	
	comp=Z,40nm,0.9s								
BBOO	Buckleboo	69.78	185	P		P		18 04 29.7	-0.3
BBOO				IAmb		IAmb		18 04 31.6	
	comp=Z,72nm,1.1s								
BBOO	Buckleboo	69.78	185	P		P		18 04 30.7	+0.7
WHYH	Whyalla	69.92	183	P		P		18 04 31.8	+1.0
JASK	Jask - Hormozg	69.93	288	P		P		18 04 32.9	+1.6
	SNR=8.2								
E08A	Dider Farm, El	69.97	46	P		P		18 04 32.6	+1.4
E08A				IAmb		IAmb		18 04 39.3	
	comp=Z,121nm,1.9s								
JMIC	Jan Mayen	70.00	350	LR		LR		18 36 32.3	
	comp=Z,101nm,18.3s,baz=253,slow=37								
MORW	Morawa	70.02	203	P		P		18 04 31.4	-0.2
MORW				IAmb		IAmb		18 04 38.1	
	comp=Z,56nm,1.0s								
MORW	Morawa	70.02	203	P		P		18 04 31.8	+0.2
MEF	Metsahovi	70.08	332	*e*P		P		18 04 32.7	+1.0
NEW	Newport	70.09	44	P		P		18 04 32.7	+0.6
NEW				IAmb		IAmb		18 04 39.3	
	comp=Z,76nm,1.6s								
NEW	Newport	70.09	44	P		P		18 04 33.4	+1.3
	baz=304,SNR=11								
NEW	Newport	70.09	44	P		P		18 04 32.7	+0.6
NEW				pmax		pmax			
	comp=Z,76nm,1.6s								
KHMM	Horse Mountain	70.14	53	P		P		18 04 32.5	-0.1
KHMM				IAmb		IAmb		18 04 40.9	
	comp=Z,98nm,1.5s								
HTT	Hallett	70.27	182	P		P		18 04 34.0	+1.0
GANJ	Ganja	70.28	306	P		P		18 04 33.1	-0.2
VSU	Vasula	70.30	329	*de*P		P		18 04 33.5	+0.5
VSU				pmax		pmax			
	comp=Z,245nm,1.4s								
VSU	Vasula	70.30	329	*e*P		P		18 04 34.0	+0.9
PINE	Pine Mountain	70.32	50	P		P		18 04 35.0	+1.3
PINE				IAmb		IAmb		18 04 42.5	
	comp=Z,79nm,0.9s								
YBH	Yreka Blue Hor	70.33	52	LR		LR		18 30 51.2	
	comp=Z,53nm,19.4s,baz=302,slow=32								
YBH	Yreka Blue Hor	70.33	52	P		P		18 04 35.0	+1.4
YBH				IAmb		IAmb		18 04 42.5	
	comp=Z,66nm,1.4s								
YBH	Yreka Blue Hor	70.33	52	P		P		18 04 35.0	+1.4
YBH				pmax		pmax			
	comp=Z,66nm,1.5s								
NFK	Norfolk Island	70.44	155	P		P		18 04 36.2	+2.1
NCK	Nalchik	70.46	310	⇓*i*P		P		18 04 34.6	+0.3
NCK				pmax		pmax			
	comp=Z,41nm,1.0s								
E09A	Wood Farm, Sta	70.48	46	P		P		18 04 36.2	+1.8
E09A				IAmb		IAmb		18 04 42.6	
	comp=Z,50nm,1.1s								
RAF	Rauma	70.52	333	*e*P		P		18 04 35.0	+0.7
KMBL	Kambalda	70.56	198	P		P		18 04 34.6	-0.2
SUMG	Summit	70.56	360	*i* P		P		18 04 35.9	+1.0
SUMG				IAmb		IAmb		18 04 42.9	
	comp=Z,13nm,1.1s								
ZEI	Tsey	70.66	309	*e*P		P		18 04 33.4	-2.4
ZEI				pmax		pmax			
	comp=Z,38nm,1.5s								
G08A	Pilot Rock	70.68	47	P		P		18 04 36.8	+0.9
JLN	Jalan Bani Buh	70.74	284	P		P		18 04 36.5	+0.1
	SNR=17								
WSAR	Wadi Sarin	70.76	285	LR		LR		18 38 37.1	
	comp=Z,375nm,20.2s,baz=88,slow=38								
WSAR	Wadi Sarin	70.76	285	P		P		18 04 35.7	-0.8
KBZ	Khabaz	70.76	311	P		P		18 04 36.6	+0.6
	comp=Z,30nm,1.1s,baz=55,slow=5.3,SNR=31								
KBZ				LR		LR		18 40 31.9	
	comp=Z,692nm,18.3s,baz=58,slow=40								
	comp=Z,30nm,1.1s								
KBZ	Khabaz	70.76	311	*d i*P		P		18 04 36.2	+0.1
KBZ				pmax		pmax			
	comp=Z,82nm,1.4s								
KIV	Kislovodsk	70.76	311	⇑P		P		18 04 37.4	+1.1
KIV	Kislovodsk	70.76	311	P		P		18 04 36.6	+0.3
KIV	Kislovodsk	70.76	311	*d i*P		P		18 04 36.9	+0.6
KIV				*e**PP		pP		18 04 39.9	-1.0
KIV				*e*				18 04 58.3	
KIV				*e*				18 07 13.4	
KIV				*e*PPP		PPP		18 08 56.1	
KIV				*e*S		S		18 13 51.7	+1.2
KIV				*e*SS		SS		18 18 25.1	+3.2
KIV				pmax		pmax			
	comp=Z,157nm,1.4s								
KIV	Kislovodsk	70.76	311	*i* P		P		18 04 36.8	+0.5
	SNR=21								
KIV	Kislovodsk	70.76	311	P		P		18 04 37.1	+0.9
WBK	Wadi Bani Khal	70.84	284	P		P		18 04 37.8	+0.9
	SNR=12								
K05A	Summer Lake	70.92	51	P		P		18 04 39.1	+1.7
BIDO	Bidbid	70.99	285	P		P		18 04 38.7	+0.9
	SNR=13								
I07A	Izee	71.03	49	P		P		18 04 39.1	+1.2
ONI	Oni	71.04	309	P		P		18 04 38.5	+0.6
ONI				IAmb		IAmb		18 04 45.4	
	comp=Z,91nm,1.4s								
ONI	Oni	71.04	309	P		P		18 04 38.5	+0.6
ONI				pmax		pmax			
	comp=Z,91nm,1.4s								
BANOM	Banah	71.09	289	P		P		18 04 39.0	+0.5
BANOM	Banah	71.09	289	P		P		18 04 39.0	+0.5
NEY	Neytrino	71.13	310	⇑*e*P		P		18 04 40.2	+1.6
NEY				pmax		pmax			
	comp=Z,14nm,1.4s								
NSS	Namsos	71.13	339	*e*P		P		18 04 39.7	+1.7
NSS				IAmb		IAmb		18 04 43.8	
	comp=Z,45nm,1.2s								
SHME	Shamm	71.14	289	P		P		18 04 39.3	+0.6
BLDU	Ballidu	71.25	202	P		P		18 04 38.9	-0.2
MTSE	Matsula	71.30	331	*e*P		P		18 04 40.3	+1.2
SMDO	Samad	71.30	285	P		P		18 04 40.5	+0.6
	SNR=15								
F10A	Beach Ranch, E	71.31	46	P		P		18 04 40.8	+1.2
WALA	Waterton Lakes	71.39	42	P		P		18 04 40.1	+0.1
MDH	Madha	71.43	288	P		P		18 04 39.9	-0.6
MASF	Masafi	71.50	288	P		P		18 04 41.5	+0.5
MSFE	Esma-Masafi	71.50	288	P		P		18 04 41.3	+0.3
GNI	Garni	71.56	307	LR		LR		18 37 52.1	
	comp=Z,213nm,18.4s,baz=71,slow=37								
GNI	Garni	71.56	307	P		P		18 04 41.7	+0.4
GNI				IAmb		IAmb		18 05 09.4	
	comp=Z,44nm,1.1s								
GNI	Garni	71.56	307	P		P		18 04 41.7	+0.4
GNI				pmax		pmax			
	comp=Z,44nm,1.1s								
GNI	Garni	71.56	307	P		P		18 04 42.1	+0.8
GNI	Garni	71.56	307	P		P		18 04 42.1	+0.8
HOQ	Hoqain	71.59	286	P		P		18 04 41.9	+0.5
	SNR=24								
NAX	Nakhchivan	71.61	305	P		P		18 04 41.4	-0.1
JMDO	Jabal Madar	71.64	284	P		P		18 04 42.1	+0.3
	SNR=15								
UOSS	Minazif	71.69	288	P		P		18 04 41.2	-0.9
UOSS				IAmb		IAmb		18 04 43.5	
	comp=Z,77nm,1.3s								
UOSS	Minazif	71.69	288	P		P		18 04 42.1	0.0
UOSS	Minazif	71.69	288	P		P		18 04 42.2	+0.2
MOD	Modoc Plateau	71.74	51	P		P		18 04 42.9	+0.6
MOD				IAmb		IAmb		18 04 49.9	
	comp=Z,80nm,1.7s								
HATD	Hatta, Dubai	71.81	288	*i* P		P		18 04 42.9	+0.1
	SNR=11								
HATD	Hatta, Dubai	71.81	288	P		P		18 04 43.5	+0.6
	SNR=6.0								
GDXM	Geysers	71.86	55	P		P		18 04 44.5	+1.6
GDXM				IAmb		IAmb		18 04 50.9	
	comp=Z,130nm,1.8s								
KLBR	Kellerberrin	71.86	201	P		P		18 04 42.7	0.0
SOHO	SOHO	71.88	287	*i* P		P		18 04 43.4	+0.1
	SNR=9.5								
SOHO	SOHO	71.88	287	P		P		18 04 43.6	+0.4
BMO	Blue Mountains	71.90	47	P		P		18 04 44.3	+1.2
BMO	Blue Mountains	71.90	47	P		P		18 04 44.3	+1.2
BMO				pmax		pmax			
	comp=Z,37nm,1.1s								
ASHO	Ashiyiah	71.95	288	*i* P		P		18 04 44.0	+0.3
	SNR=11								
ASHO	Ashiyiah	71.95	288	P		P		18 04 44.1	+0.4
	SNR=9.3								
SCO	Scoresbysund	71.98	354	P		P		18 04 43.8	+0.8
SCO				IAmb		IAmb		18 04 51.0	
	comp=Z,63nm,1.3s								
SCO	Scoresbysund	71.98	354	*i* P		P		18 04 41.2	-1.8
SCO				IAmb		IAmb		18 04 50.0	
	comp=Z,8.1nm,0.9s								
SCO	Scoresbysund	71.98	354	P		P		18 04 43.8	+0.8
SCO				pmax		pmax			
	comp=Z,63nm,1.3s								
J08A	Circle Bar Ran	72.05	49	P		P		18 04 45.9	+1.8
J08A				IAmb		IAmb		18 04 52.7	
	comp=Z,84nm,1.3s								
NAZ	Nazwa, Dubai	72.08	288	P		P		18 04 44.4	0.0
BSY	Bisya	72.13	285	P		P		18 04 45.3	+0.5
	SNR=23								
FAQ	Al Faqa, Dubai	72.27	288	P		P		18 04 45.5	-0.1
FAQ	Al Faqa, Dubai	72.27	288	P		P		18 04 45.7	+0.2
ORV	Oroville	72.29	54	P		P		18 04 46.2	+0.8
ORV	Oroville	72.29	54	P		P		18 04 46.2	+0.8
ORV				pmax		pmax			
	comp=Z,51nm,1.5s								
IDID	Didziasalis	72.33	327	*e*P		P		18 04 41.9	-3.4
ARQ	Araqi	72.33	286	P		P		18 04 46.6	+0.7
	SNR=15								
MNK	Minsk	72.34	326	*i* P		P		18 04 44.9	-0.5
	comp=E,13nm,1.5s								
MNK				*i* P		P		18 04 44.9	-0.5
	comp=N,44nm,1.1s								
MNK				*i* P		P		18 04 44.9	-0.5
	comp=Z,86nm,1.1s,baz=50								
MNK				*i* PP		PP		18 07 26.9	+1.1
MNK				*i* PPP		PPP		18 09 09.8	
MNK				*i* S		S		18 14 07.6	-0.5
MNK				*i* SS		SS		18 18 47.2	+1.8
MNK				*i* SSS		SSS		18 22 07.6	
MNK				*i* LR		LR		18 37 44.8	
MNK				*i* LRM		MLR		18 40 47.8	
	comp=N,738nm,14.2s								
MNK				*i* LRM		MLR		18 40 55.6	
	comp=Z,1μm,12.2s								
MNK				*i* LRM		MLR		18 41 00.1	
	comp=E,155nm,14.2s								
MNK	Minsk	72.34	326	*i* P		P		18 04 44.9	-0.5
MNK				*i*				18 07 26.8	
MNK				*i* PPP		PPP		18 09 09.8	
MNK				*i* S		S		18 14 07.6	-0.5
MNK				*i* SS		SS		18 18 47.1	+1.8
MNK				pmax		pmax			
	comp=Z,86nm,1.1s								
MNK				pmax		pmax			
	comp=E,13nm,1.5s								
MNK				pmax		pmax			
	comp=N,44nm,1.1s								
MNK				MLR		MLR			
	comp=N,738nm,14.0s								
MNK				MLR		MLR			
	comp=Z,1μm,12.0s								
MNK				MLR		MLR			
	comp=E,155nm,14.0s								
KARS	Kars	72.36	308	P		P		18 04 46.7	+0.7
KARS	Kars	72.36	308	P		P		18 04 46.7	+0.7
KARS				pmax		pmax			
	comp=Z,384nm,1.7s								
ISAL	Salakas	72.42	327	*e*P		P		18 04 47.7	+1.8
CAN	Canberra	72.47	173	P		P		18 04 47.4	+1.1
CAN				IAmb		IAmb		18 04 53.9	
	comp=Z,119nm,1.3s								
CAN	Canberra	72.47	173	P		P		18 04 47.6	+1.3
CAN	Canberra	72.47	173	P		P		18 04 47.4	+1.1
CAN				pmax		pmax			
	comp=Z,119nm,1.3s								
WVOR	Wild Horse Val	72.47	50	P		P		18 04 47.1	+0.4
WVOR				IAmb		IAmb		18 04 55.1	
	comp=Z,66nm,1.4s								
WVOR	Wild Horse Val	72.47	50	P		P		18 04 47.1	+0.4
WVOR				pmax		pmax			
	comp=Z,66nm,1.5s								
CNB	Canberra Magne	72.50	173	P		P		18 04 47.3	+0.8
MHTO	MHTO	72.50	283	P		P		18 04 47.2	+0.3
	SNR=34								
ALNE	Al Ain	72.52	287	*i* P		P		18 04 47.4	+0.3
	SNR=7.0								
ALNE	Al Ain	72.52	287	P		P		18 04 47.5	+0.3
	SNR=7.8								
PLID	Pearl Lake	72.53	46	P		P		18 04 47.4	+0.3
PLID				IAmb		IAmb		18 04 54.8	
	comp=Z,92nm,1.8s								
IIGN	Ignalina	72.53	327	*e*P		P		18 04 43.9	-2.7
ASUD	Al Ashush, Dub	72.53	288	P		P		18 04 47.4	+0.3
ASUD	Al Ashush, Dub	72.53	288	P		P		18 04 47.8	+0.7
NACGM	Naroch	72.57	327	⇓*i* P		P		18 04 47.2	+0.4
	comp=Z,125nm,1.2s,baz=50								
AUUHS	Ulladulla High	72.66	172	P		P		18 04 48.8	+1.5
MSO	Missoula	72.68	44	P		P		18 04 49.0	+1.2
MSO	Missoula	72.68	44	P		P		18 04 48.6	+0.8
	baz=306,SNR=7.4								
SOC	Sochi	72.75	312	*e*P		P		18 04 46.4	-1.7
SOC				*e*PPP		PPP		18 09 15.9	
SOC				*e*S		S		18 14 12.6	-0.6
SOC				*e*SS		SS		18 18 45.5	-6.6
SOC				MLR		MLR			
	comp=Z,647nm,18.0s								
BEKR	Beckworth	72.84	53	P		P		18 04 50.0	+1.0
BEKR				IAmb		IAmb		18 04 57.0	
	comp=Z,62nm,1.3s								
PLTX	Planet X, Gerl	72.93	52	P		P		18 04 51.2	+1.8
PLTX				IAmb		IAmb		18 04 52.9	
	comp=Z,166nm,1.7s								
AUMAG	Moama Anglican	72.96	177	P		P		18 04 50.5	+1.4
AFDM	Forest Hills D	72.97	54	P		P		18 04 51.2	+1.6
NWAO	Narrogin (SRO)	73.26	201	P		P		18 04 50.9	-0.1
NWAO				IAmb		IAmb		18 04 58.6	
	comp=Z,64nm,1.2s								
NWAO	Narrogin (SRO)	73.26	201	P		P		18 04 50.9	-0.1
NWAO				IAmb		IAmb		18 04 58.6	
	comp=Z,46nm,1.2s								
NWAO	Narrogin (SRO)	73.26	201	P		P		18 04 51.5	+0.5
NWAO	Narrogin (SRO)	73.26	201	P		P		18 04 51.2	+0.2
NWAO	Narrogin (SRO)	73.26	201	P		P		18 04 50.9	-0.1
NWAO				pmax		pmax			
	comp=Z,46nm,1.2s								
NWAO	Narrogin (SRO)	73.26	201	P		P		18 04 51.0	0.0
ANN	Anapa	73.38	314	*e*P		P		18 04 49.6	-2.2
ANN				*e**PP		pP		18 04 52.9	-3.6
ANN				*e*S		S		18 14 19.6	-0.7
ANN				pmax		pmax			
	comp=Z,164nm,1.1s								
PABE	Paberze	73.39	328	P		P		18 04 51.5	-0.2
PABE	Paberze	73.39	328	*e*P		P		18 04 52.7	+1.1
DQM	DQM	73.42	283	P		P		18 04 52.5	0.0
	SNR=7.3								
ARPS	Mount Arapiles	73.56	180	P		P		18 04 53.2	+0.5
MFID	Camas Ranch	73.60	48	P		P		18 04 53.9	+0.7
MFID				IAmb		IAmb		18 05 01.6	
	comp=Z,83nm,1.6s								
VCNR	Virginia City	73.62	53	P		P		18 04 54.3	+0.7
FFC	Flin Flon	73.64	33	P		P		18 04 53.3	+0.1
FFC				IAmb		IAmb		18 05 00.7	
	comp=Z,48nm,1.0s								
FFC	Flin Flon	73.64	33	P		P		18 04 53.3	+0.1
FFC				pmax		pmax			
	comp=Z,48nm,1.0s								
UMZA	Um Al Zommool	73.72	286	P		P		18 04 53.8	-0.3
PNTR	Pine Nut	73.77	53	P		P		18 04 54.2	-0.3
PNTR				IAmb		IAmb		18 05 03.1	
	comp=Z,118nm,1.6s								
NC405	NORSAR Array S	73.83	337	P		P		18 04 53.6	-0.5
NC303	NORSAR Array S	73.85	337	P		P		18 04 54.9	+0.7
CMB	Columbia Colle	73.86	54	P		P		18 04 56.2	+1.4
CMB				IAmb		IAmb		18 05 03.0	
	comp=Z,108nm,1.6s								
CMB	Columbia Colle	73.86	54	P		P		18 04 56.2	+1.4
CMB				pmax		pmax			
	comp=Z,108nm,1.6s								
DOMB	Dombas	73.90	339	*e*P		P		18 04 55.4	+0.8
DOMB				IAmb		IAmb		18 05 01.4	
	comp=Z,174nm,1.5s								
MOL	Molde	73.91	340	*e*P		P		18 04 56.2	+1.6
HRY	Holter Researc	73.92	43	P		P		18 04 56.3	+1.2
FCC	Fort Churchill	73.92	27	P		P		18 04 54.7	0.0
FCC				IAmb		IAmb		18 05 01.9	
	comp=Z,83nm,1.2s								
FCC	Fort Churchill	73.92	27	P		P		18 04 54.7	0.0
FCC				pmax		pmax			
	comp=Z,83nm,1.2s								
HFS	Hagfors	73.94	336	LR		LR		18 39 59.7	
	comp=Z,648nm,18.2s,baz=44,slow=38								
NC204	NORSAR Array S	73.99	338	P		P		18 04 55.1	-0.1
NC204				IAmb		IAmb		18 05 02.4	
	comp=Z,90nm,1.0s								
NB201	NORSAR Array S	74.00	337	P		P		18 04 55.4	+0.2
NB201				IAmb		IAmb		18 05 02.2	
	comp=Z,109nm,1.2s								
NB2	NORSAR Subarra	74.04	337	P		P		18 04 54.5	-0.9
NB2				pmax		pmax			
	comp=Z,43nm,1.2s								
NB2	NORSAR Subarra	74.04	337	P		P		18 04 55.6	+0.2
	comp=Z,107nm,1.1s,baz=40,slow=6.2								
NB2	NORSAR Subarra	74.04	337	P		P		18 04 55.6	+0.2
	slow=6.2								
NOA	NORSAR Array B	74.04	337	P		P		18 04 55.9	+0.5
	comp=Z,28nm,1.1s,baz=39,slow=5.8,SNR=28								
NOA				LR		LR		18 39 59.6	
	comp=Z,785nm,21.5s,baz=40,slow=38								
	comp=Z,28nm,1.1s								
ICESG	Greenland Ices	74.06	0	*i* P		P		18 04 56.1	+0.3
ICESG				IAmb		IAmb		18 05 03.1	
	comp=Z,15nm,0.8s								
LRM	Limekiln Ridge	74.11	44	P		P		18 04 57.0	+0.5
AKASG	Malin Array Be	74.15	322	P		P		18 04 56.2	0.0
	comp=Z,4.9nm,0.4s,baz=41,slow=6.0,SNR=96								
AKASG				LR		LR		18 39 26.2	
	comp=Z,760nm,19.9s,baz=54,slow=37								
	comp=Z,4.9nm,0.4s								
AKASG	Malin Array Be	74.15	322	P		P		18 04 55.3	-0.9
AKASG				IAmb		IAmb		18 05 02.7	
	comp=Z,98nm,1.2s								
AKBB	Malin Array Si	74.15	322	P		P		18 04 56.0	-0.2
AKBB				IAmb		IAmb		18 05 02.7	
	comp=Z,112nm,1.2s								
AKBB	Malin Array Si	74.15	322	P		P		18 04 56.0	-0.2
AKBB				pmax		pmax			
	comp=Z,112nm,1.2s								
NC602	NORSAR Array S	74.17	337	P		P		18 04 56.1	0.0
NC602				IAmb		IAmb		18 05 02.3	
	comp=Z,72nm,1.3s								
NC602	NORSAR Array S	74.17	337	*e*P		P		18 04 57.1	+1.0
NORES	NORESS Array B	74.17	337	P		P		18 04 57.0	+0.9
NBO00	NORSAR Array S	74.18	337	P		P		18 04 55.5	-0.8
NBO00				IAmb		IAmb		18 05 02.2	
	comp=Z,61nm,1.1s								
GURO	Guroymak-BITLI	74.20	306	P		P		18 04 56.9	0.0
MILA	Mila	74.20	173	P		P		18 04 58.1	+1.6
WAKR	Walker	74.20	54	P		P		18 04 59.1	+2.1
WAKR				IAmb		IAmb		18 05 00.6	
	comp=Z,122nm,1.9s								
AK05	Malin Array Si	74.21	322	P		P		18 04 56.1	-0.5
AK05				IAmb		IAmb		18 05 03.1	
	comp=Z,101nm,1.3s								
EGMT	Eagleton	74.23	41	P		P		18 04 57.2	+0.3
EGMT				IAmb		IAmb		18 05 04.8	
	comp=Z,113nm,1.2s								
EGMT	Eagleton	74.23	41	P		P		18 04 58.4	+1.5
	baz=308,SNR=12								
NAO01	NORSAR Array S	74.29	337	P		P		18 04 56.4	-0.5
NAO01				IAmb		IAmb		18 05 03.2	
	comp=Z,74nm,1.2s								
HLID	Hailey	74.34	47	P		P		18 04 58.8	+1.0
HLID	Hailey	74.34	47	P		P		18 04 59.5	+1.8
	baz=307,SNR=27								
AKN	Aaknes	74.38	340	*e*P		P		18 04 58.7	+1.3
BRAT	Ballarat	74.38	178	P		P		18 04 58.9	+1.5
TOO	Toolangi	74.46	177	P		P		18 04 58.0	0.0
TOO	Toolangi	74.46	177	P		P		18 04 59.3	+1.3
TOO	Toolangi	74.46	177	P		P		18 04 58.0	0.0
TOO				pmax		pmax			
	comp=Z,70nm,1.5s								
MCMT	McKenzie Canyo	74.49	45	P		P		18 04 59.1	+0.5
BMN	Battle Mountai	74.49	51	P		P		18 04 59.6	+1.0
BMN	Battle Mountai	74.49	51	P		P		18 04 59.6	+1.0
BMN				pmax		pmax			
	comp=Z,66nm,1.5s								
BOZ	Bozeman (W)	74.70	44	P		P		18 05 00.4	+0.6
BOZ	Bozeman (W)	74.70	44	P		P		18 05 01.0	+1.3
	baz=308,SNR=35								
BOZ	Bozeman (W)	74.70	44	P		P		18 05 00.4	+0.6
BOZ				pmax		pmax			
	comp=Z,36nm,1.0s								
RYN	Ryan	74.72	53	P		P		18 05 00.5	+0.5
RYN				IAmb		IAmb		18 05 03.3	
	comp=Z,118nm,1.9s								
KVN	Kaiserville	74.74	52	P		P		18 05 00.4	+0.2
KVN				IAmb		IAmb		18 05 07.8	
	comp=Z,96nm,1.5s								
KVN	Kaiserville	74.74	52	P		P		18 05 00.4	+0.2
KVN				pmax		pmax			
	comp=Z,96nm,1.5s								
MZR	Muzera	74.84	287	*i* P		P		18 05 00.4	-0.2
	SNR=14								
MZR	Muzera	74.84	287	P		P		18 05 00.5	-0.2
	SNR=7.6								
MDPB	Devils Postpil	74.94	54	P		P		18 05 00.1	-1.3
LHV	Little Huntoon	74.95	53	P		P		18 05 01.1	0.0
LHV				IAmb		IAmb		18 05 10.1	
	comp=Z,126nm,1.4s								
NVAR	Mina Array Bea	74.97	53	P		P		18 05 03.4	+1.8
	comp=Z,5.0nm,0.8s,baz=292,slow=6.2,SNR=41								
	comp=Z,5.0nm,0.8s								
NVAR	Mina Array Bea	74.97	53	P		P		18 05 01.9	+0.4
GEXS	Deakin Univers	75.04	178	P		P		18 05 02.9	+1.7
NV11	Mina Array Sit	75.07	53	P		P		18 05 02.9	+1.0
MLAC	Mammoth,

MZP **Montezuma Peak** 75.99 53 P P 18 05 07.8 +0.3
LKWY **Lake** 76.03 44 P P 18 05 09.6 +2.1
LKWY IAmb IAmb 18 05 19.6
comp=Z,62nm,1.2s
LKWY **Lake** 76.03 44 P P 18 05 09.6 +2.1
LKWY pmax pmax
comp=Z,62nm,1.3s
H17A **Grant Village** 76.03 45 P P 18 05 10.3 +2.8
H17A IAmb IAmb 18 05 12.4
comp=Z,99nm,1.4s
H17A **Grant Village** 76.03 45 P P 18 05 10.7 +3.2
baz=309,SNR=36
PKM **Mcpherson Peak** 76.04 57 P P 18 05 09.6 +2.0
baz=306
YMP **Mirror Lake Pl** 76.05 44 P P 18 05 08.8 +1.1
YMP IAmb IAmb 18 05 16.6
comp=Z,107nm,1.7s
LCH **Last Change Ra** 76.10 54 P P 18 05 08.6 +0.7
SORM **Soroca** 76.24 321 ⇑P P 18 05 08.3 0.0
SORM **Soroca** 76.24 321 P P 18 05 08.3 0.0
BCW **Bitter Crk WRg** 76.28 57 P P 18 05 10.3 +1.4
CWC **Cottonwood Cre** 76.28 55 P P 18 05 10.3 +1.3
baz=306
RLMT **Red Lodge** 76.31 43 P P 18 05 10.5 +1.5
RLMT IAmb IAmb 18 05 17.7
comp=Z,90nm,1.6s
RLMT **Red Lodge** 76.31 43 P P 18 05 10.8 +1.8
baz=309,SNR=22
ODD1 **Odda** 76.32 338 eP P 18 05 09.6 +1.0
SBC **Santa Barbara** 76.37 57 P P 18 05 10.9 +1.7
baz=306
HVU **Hansel Valley** 76.38 48 P P 18 05 10.9 +1.5
HVU IAmb IAmb 18 05 18.1
comp=Z,77nm,1.7s
HVU **Hansel Valley** 76.38 48 P P 18 05 10.9 +1.5
HVU pmax pmax
comp=Z,77nm,1.7s
ECR **Eagle Creek** 76.42 46 P P 18 05 10.7 +1.0
GRAC **Grapevine Rang** 76.42 54 P P 18 05 10.0 +0.4
GRAC IAmb IAmb 18 05 13.0
comp=Z,93nm,1.5s
GRAC **Grapevine Rang** 76.42 54 P P 18 05 11.0 +1.4
baz=306,SNR=7.3
ISA **Isabella, Lake** 76.48 56 P P 18 05 10.5 +0.6
ISA **Isabella, Lake** 76.48 56 P P 18 05 10.6 +0.6
baz=306,SNR=6.5
ISA **Isabella, Lake** 76.48 56 P P 18 05 10.5 +0.6
ISA pmax pmax
comp=Z,46nm,1.6s
LOHW **Long Hollow** 76.51 45 P P 18 05 11.4 +1.2
DY2G **Dye2** 76.53 3 *i* P P 18 05 10.1 +0.2
ARVC **Arvin** 76.56 56 P P 18 05 11.7 +1.3
baz=306
TOKA **Tokat** 76.62 311 P P 18 05 11.0 +0.3
FRB **Frobisher Bay** 76.67 13 LR LR 18 42 27.4
comp=Z,375nm,18.9s,baz=346,slow=38
FRB **Frobisher Bay** 76.67 13 P P 18 05 11.2 +0.8
FRB pmax pmax
comp=Z,72nm,1.4s
SCZ2 **Santa Cruz Isl** 76.68 57 P P 18 05 12.4 +1.3
baz=306
DMTO **DMTO** 76.69 282 P P 18 05 10.9 -0.4
SNR=20
KIS **Kishinev** 76.75 319 eP P 18 05 08.0 -3.2
comp=Z,200nm,2.3s
KIS eL L 18 41 13.0
KIS LRM MLR 18 42 07.0
comp=Z,500nm,16.0s
KIS **Kishinev** 76.75 319 eP P 18 05 08.0 -3.2
KIS e 18 05 12.0
KIS e 18 05 16.0
KIS MLR MLR
comp=Z,500nm,16.0s
R11A **Troy Canyon, C** 76.75 52 P P 18 05 12.5 +0.9
R11A IAmb IAmb 18 05 20.1
comp=Z,99nm,1.6s
R11A **Troy Canyon, C** 76.75 52 P P 18 05 13.4 +1.8
baz=307,SNR=44
AHID **Auburn Hatcher** 76.75 46 P P 18 05 11.8 +0.3
BGU **Big Grassy Mou** 76.75 49 P P 18 05 12.1 +0.5
DGMT **Dagmar** 76.79 38 P P 18 05 12.1 +0.6
DGMT IAmb IAmb 18 05 19.1
comp=Z,115nm,1.3s
DGMT **Dagmar** 76.79 38 P P 18 05 12.7 +1.3
baz=312,SNR=9.8
DGMT **Dagmar** 76.79 38 P P 18 05 12.3 +0.9
baz=312,SNR=9.8
MILM **Milestii Mici** 76.80 319 eP P 18 05 08.0 -3.5
comp=Z,330nm,3.7s
MILM eL L 18 33 30.0
MILM LQM 18 35 21.0
comp=Z,900nm,18.5s
MILM LRM MLR 18 41 25.0
comp=Z,1μm,16.0s
MILM **Milestii Mici** 76.80 319 P P 18 05 12.5 +1.0
MILM **Milestii Mici** 76.80 319 P P 18 05 12.4 +1.0
DOK **Doka** 76.82 283 P P 18 05 11.5 -0.5
SNR=26
SPUT **South Promonto** 76.86 48 P P 18 05 13.7 +1.5
SPUT IAmb IAmb 18 05 15.8
comp=Z,134nm,2.0s
MPMC **Manual Prospec** 76.89 55 P P 18 05 13.7 +1.3
baz=306,SNR=21
LAO **LASA Array** 76.93 41 P P 18 05 13.6 +1.2
LAO IAmb IAmb 18 05 20.7
comp=Z,111nm,1.2s
LAO **LASA Array** 76.93 41 P P 18 05 14.6 +2.2
baz=311,SNR=7.6
LAO **LASA Array** 76.93 41 P P 18 05 13.9 +1.6
baz=311,SNR=7.6
OSI **Osito Audit: C** 76.93 57 P P 18 05 14.6 +2.0
baz=306
WCT **Wildcat Mounta** 77.01 54 P P 18 05 14.0 +1.0
FURC **Furnace Creek,** 77.06 54 P P 18 05 14.3 +1.2
baz=307
S11A **Rachel** 77.07 53 P P 18 05 15.9 +2.6
S11A IAmb IAmb 18 05 18.8
comp=Z,121nm,1.5s
CCAC **Calif City Air** 77.08 56 P P 18 05 14.4 +1.0
CCAC IAmb IAmb 18 05 21.5
comp=Z,100nm,1.4s
LRMC **Laurel Mtn Rad** 77.11 55 P P 18 05 15.0 +1.3
baz=307
SPR3 **Spring Creek 3** 77.14 51 P P 18 05 16.3 +2.4
SPR3 IAmb IAmb 18 05 23.0
comp=Z,142nm,1.8s
TPNV **Topopah Spring** 77.16 53 P P 18 05 15.1 +1.2
TPNV **Topopah Spring** 77.16 53 P P 18 05 15.2 +1.3
baz=307,SNR=20
TPNV **Topopah Spring** 77.16 53 P P 18 05 15.1 +1.2
TPNV pmax pmax
comp=Z,213nm,2.0s
SNCC **San Nicolas Is** 77.19 58 P P 18 05 15.4 +1.5
SNCC **San Nicolas Is** 77.19 58 P P 18 05 15.6 +1.7
baz=306
HWUT **Hardware Ranch** 77.20 47 P P 18 05 15.0 +0.9
HWUT IAmb IAmb 18 05 22.7
comp=Z,130nm,1.6s
LVV **L'vov** 77.23 324 eP P 18 05 14.3 +0.4
LVV eS S 18 15 00.0 -2.9
LVV pmax pmax
comp=Z,140nm,1.4s
EDW2 **Edwards Air Fo** 77.26 56 P P 18 05 15.9 +1.6
baz=306,SNR=14
IAS **Iasi** 77.27 320 P P 18 05 14.5 +0.4
IAS pmax pmax
comp=Z,315nm,1.2s
BEL **Belsk** 77.30 327 eP P 18 05 15.4 +1.2
BEL **Belsk** 77.30 327 P P 18 05 15.5 +1.3
BEL pmax pmax
comp=Z,239nm,1.4s
DUG **Dugway, Tooele** 77.33 49 P P 18 05 16.2 +1.4
DUG IAmb IAmb 18 05 23.5
comp=Z,83nm,1.6s
DUG **Dugway, Tooele** 77.33 49 P P 18 05 16.2 +1.4
baz=308,SNR=19
DUG **Dugway, Tooele** 77.33 49 P P 18 05 16.2 +1.4
DUG pmax pmax
comp=Z,83nm,1.6s
GWY **Greenwater Val** 77.35 54 P P 18 05 16.1 +1.1
GWY IAmb IAmb 18 05 17.9
comp=Z,100nm,1.5s
RBK **Rabkut** 77.39 282 P P 18 05 15.0 -0.3
SNR=16
DECC **Green Verdugo** 77.40 57 P P 18 05 16.7 +1.5
baz=306

SNART **Snartemo** 77.42 337 eP P 18 05 15.8 +1.1
WHFO **Wadi Hawf** 77.49 283 P P 18 05 15.1 -0.8
SNR=16
BORG **Borgarnes** 77.51 352 LR LR 18 40 49.5
comp=Z,151nm,19.4s,baz=1.6,slow=37
PASC **Pasadena Art C** 77.55 57 P P 18 05 15.8 -0.1
PASC IAmb IAmb 18 05 24.9
comp=Z,126nm,1.8s
TCUT **Toone Canyon** 77.60 48 P P 18 05 18.2 +1.8
BW06 **Boulder Array** 77.63 45 P P 18 05 17.5 +0.9
BW06 **Boulder Array** 77.63 45 P P 18 05 17.7 +1.2
baz=310,SNR=24
PD31 **Pinedale Array** 77.63 45 P P 18 05 16.8 +0.2
PDAR **Pinedale Array** 77.63 45 P P 18 05 17.6 +1.0
comp=Z,4.1nm,0.6s,baz=278,slow=1.9,SNR=50
PDAR PKKPbc **PKKPbc** 18 24 24.2 +5.7
comp=Z,0.3nm,0.7s,baz=140,slow=4.8,SNR=3.5
comp=Z,4.1nm,0.6s
PDAR **Pinedale Array** 77.63 45 P P 18 05 17.0 +0.4
PRN **Pahroc Range** 77.65 52 P P 18 05 18.5 +1.8
CTU **Camp Tracy** 77.66 48 P P 18 05 18.3 +1.6
CTU IAmb IAmb 18 05 25.2
comp=Z,82nm,1.8s
FMP **Fort Macarthur** 77.75 57 P P 18 05 18.3 +1.2
baz=307
SHOC **Shoshone, Teco** 77.78 54 P P 18 05 18.5 +1.3
baz=307
GSC **Goldstone, Bar** 77.79 55 P P 18 05 18.3 +0.9
GSC IAmb IAmb 18 05 20.3
comp=Z,75nm,1.6s
GSC **Goldstone, Bar** 77.79 55 P P 18 05 18.4 +1.1
baz=307,SNR=12
GSC **Goldstone, Bar** 77.79 55 P P 18 05 18.3 +0.9
GSC pmax pmax
comp=Z,75nm,1.7s
CIS **Catalina Islan** 77.85 57 P P 18 05 18.6 +0.9
baz=307,SNR=6.5
BFSC **Mount Baldy Ra** 77.86 56 P P 18 05 18.8 +0.9
baz=307,SNR=8.5
VLDR **Vladesti** 77.89 319 ⇓P P 18 05 18.4 +0.8
JLU **Jordanelle** 77.89 48 P P 18 05 19.6 +1.5
JLU IAmb IAmb 18 05 21.4
comp=Z,79nm,1.7s
BNN **Bunyan** 77.91 310 P P 18 05 18.4 +0.3
RRX **Edison Barstow** 77.92 55 P P 18 05 19.7 +1.7
baz=307
NLU **North Lily Min** 77.92 49 P P 18 05 19.6 +1.3
GIRR **Girov** 77.96 321 P P 18 05 19.0 +1.0
GAZ **Gaziantep** 78.09 308 P P 18 05 20.1 +1.1
GAZ IAmb IAmb 18 05 26.7
comp=Z,128nm,1.6s
GHRR 78.09 319 ⇑P P 18 05 19.7 +0.9
SHPR **Sheep Range** 78.13 53 P P 18 05 20.4 +1.1
BUR08 **Bucovina Ar. S** 78.15 322 P P 18 05 19.5 +0.3
BUR08 IAmb IAmb 18 05 26.5
comp=Z,53nm,1.1s
MPU **Maple Canyon** 78.15 49 P P 18 05 21.0 +1.6
MPU IAmb IAmb 18 05 28.1
comp=Z,107nm,1.7s
BURAR **Bucovina Array** 78.16 322 ⇓P P 18 05 20.0 +0.7
BURAR **Bucovina Array** 78.16 322 P P 18 05 19.1 -0.1
BURAR **Bucovina Array** 78.16 322 P P 18 05 19.9 +0.7
JURR **Jurilovca** 78.17 318 ⇓P P 18 05 19.3 +0.1
TESR **Tescani** 78.19 320 ⇑P P 18 05 20.4 +1.1
ABTO **Aybut** 78.19 283 P P 18 05 19.6 -0.2
SNR=19
AULHS **Lilydale High** 78.22 175 P P 18 05 20.5 +1.3
TUQ **Turquoise Moun** 78.28 54 P P 18 05 21.6 +1.5
baz=307,SNR=7.1
BBRC **Big Bear Solar** 78.34 56 P P 18 05 21.7 +1.1
baz=307
TPGR **Topolog** 78.36 318 ⇓P P 18 05 21.2 +1.0
ELS **Elsinore Mount** 78.37 57 P P 18 05 22.0 +1.4
ELS IAmb IAmb 18 05 29.6
comp=Z,116nm,1.6s
HEC **Hector,Ludlow** 78.38 55 P P 18 05 22.0 +1.3
baz=307,SNR=22
WTNK **Soaring Height** 78.41 53 P P 18 05 21.6 +0.8
WTNK IAmb IAmb 18 05 24.2
comp=Z,24nm,1.5s
CORO **Coronation Par** 78.42 176 P P 18 05 21.5 +1.3
ODBI **Odobesti** 78.48 319 ⇑P P 18 05 21.9 +1.0
TCRU **Three Creeks R** 78.53 50 P P 18 05 22.5 +0.8
TCRU IAmb IAmb 18 05 30.6
comp=Z,124nm,1.9s
MURC **Murrieta** 78.55 57 P P 18 05 22.9 +1.4
baz=307
VRI **Vrincioaia** 78.58 320 ⇑P P 18 05 22.7 +1.3
VRI **Vrincioaia** 78.58 320 P P 18 05 22.7 +1.3
CCUT **Cedar City** 78.62 51 P P 18 05 23.4 +1.3
TIRR **Tirgusor** 78.63 318 ⇓P P 18 05 22.1 +0.3
TIRR **Tirgusor** 78.63 318 P P 18 05 21.9 +0.2
TIRR **Tirgusor** 78.63 318 P P 18 05 22.0 +0.3
PLOR **Plostina** 78.63 320 ⇓P P 18 05 22.1 +0.3
PLOR **Plostina** 78.63 320 P P 18 05 22.1 +0.3
BR131 **Keskin Array S** 78.71 311 P P 18 05 22.8 +0.3
BR131 **Keskin Array S** 78.71 311 P P 18 05 22.8 +0.3
BR131 **Keskin Array S** 78.71 311 P P 18 05 23.1 +0.6
SNR=11
BRTR **Keskin Array B** 78.71 311 P P 18 05 22.8 +0.3
comp=Z,11nm,1.1s,baz=92,slow=4.2,SNR=35
BRTR LR LR 18 42 09.7
comp=Z,414nm,21.0s,baz=62,slow=37
comp=Z,11nm,1.1s
BRTR **Keskin Array B** 78.71 311 P P 18 05 22.3 -0.1
BRTR **Keskin Array B** 78.71 311 *i* P P 18 05 22.7 +0.3
BRTR pmax pmax
comp=Z,10.0nm,1.0s
HARR **Harsova** 78.73 318 ⇑P P 18 05 22.8 +0.5
HARR **Harsova** 78.73 318 P P 18 05 22.7 +0.5
MVU **Marysvale** 78.74 50 P P 18 05 23.6 +0.8
MSU **Marysvale** 78.76 50 P P 18 05 24.2 +1.3
MSU **Marysvale** 78.76 50 P P 18 05 24.2 +1.3
SZCU **Shurtz Canyon** 78.77 51 P P 18 05 23.0 +0.1
BISRR **Bisoca** 78.80 319 ⇑P P 18 05 24.1 +1.3
V12A **Nelson** 78.80 54 P P 18 05 24.6 +1.6
V12A IAmb IAmb 18 05 26.3
comp=Z,84nm,1.6s
STHS **Stebnicka Huta** 78.81 325 eP P 18 05 23.4 +0.7
STHS pmax pmax
comp=Z,42nm,1.2s
STHS **Stebnicka Huta** 78.81 325 eP P 18 05 23.3 +0.6
GMRC **Granite Mounta** 78.85 55 P P 18 05 24.5 +1.2
baz=308,SNR=14
TMUT **Trail Mountain** 78.86 49 P P 18 05 24.5 +1.0
UZH **Uzhgorod** 78.87 324 ⇓eP P 18 05 22.5 -0.5
UZH *i* 18 05 26.8
UZH *e* 18 05 33.3
UZH *e* 18 08 23.3
UZH *e* 18 10 12.5
UZH *e*S **S** 18 15 18.3 -2.3
UZH *e* 18 15 33.2
UZH *e* 18 20 20.0
UZH MLR MLR
comp=N,180nm,15.0s
UZH MLR MLR
comp=E,280nm,15.0s
UZH MLR MLR
comp=Z,160nm,15.0s
OJC **Ojcow** 78.89 326 eP P 18 05 24.0 +0.9
OJC **Ojcow** 78.89 326 P P 18 05 23.3 +0.2
OJC IAmb IAmb 18 05 30.5
comp=Z,109nm,1.1s
OJC **Ojcow** 78.89 326 P P 18 05 23.3 +0.2
OJC pmax pmax
comp=Z,109nm,1.1s
OZUR 78.91 320 ⇓P P 18 05 24.6 +1.3
ARCR **ARCALIA** 78.95 322 ⇓P P 18 05 24.8 +1.3
BMR **Baia Mare** 78.97 322 ⇑P P 18 05 25.3 +1.7
BMR **Baia Mare** 78.97 322 P P 18 05 25.2 +1.7
RDMU **Red Mountain** 79.02 47 P P 18 05 25.4 +1.1
RDMU IAmb IAmb 18 05 32.6
comp=Z,127nm,1.4s
P17A **Butcher Ranch,** 79.03 49 P P 18 05 25.4 +1.1
P17A IAmb IAmb 18 05 32.8
comp=Z,159nm,1.6s
LCMT **Little Creek M** 79.03 52 P P 18 05 25.4 +1.1
LCMT IAmb IAmb 18 05 27.9
comp=Z,97nm,1.6s
PFO **Pinyon Flats O** 79.03 56 LR LR 18 31 49.1
comp=Z,148nm,20.7s,baz=303,slow=29
PFO **Pinyon Flats O** 79.03 56 P P 18 05 25.4 +1.1
PFO IAmb IAmb 18 05 28.0
comp=Z,93nm,1.5s

PFO **Pinyon Flats O** 79.03 56 P P 18 05 25.6 +1.2
baz=307,SNR=20
PFO **Pinyon Flats O** 79.03 56 P P 18 05 25.4 +1.1
PFO pmax pmax
comp=Z,93nm,1.5s
109C **Camp Elliot, M** 79.04 57 P P 18 05 25.5 +1.3
109C IAmb IAmb 18 05 27.1
comp=Z,66nm,1.3s
109C **Camp Elliot, M** 79.04 57 P P 18 05 25.5 +1.3
baz=307
TPFO **Pinon Flats** 79.04 56 P P 18 05 25.6 +1.3
baz=307,SNR=23
MTPU **Mount Pierson** 79.05 50 P P 18 05 26.9 +2.3
MTPU IAmb IAmb 18 05 33.8
comp=Z,125nm,1.8s
PMD **Palm Desert** 79.07 56 P P 18 05 25.4 +1.0
PMD IAmb IAmb 18 05 33.2
comp=Z,92nm,1.5s
BELC **Belle Mtn. Jos** 79.10 56 P P 18 05 25.7 +1.0
baz=308,SNR=7.2
TRPA **Tarpa** 79.11 323 ⇓P P 18 05 25.6 +1.4
Q16A **Castle Valley** 79.12 49 P P 18 05 26.6 +1.8
Q16A IAmb IAmb 18 05 33.5
comp=Z,155nm,1.6s
ANTO **Ankara** 79.12 312 P P 18 05 24.9 +0.3
ANTO IAmb IAmb 18 05 31.8
comp=Z,101nm,1.6s
ANTO **Ankara** 79.12 312 P P 18 05 24.9 +0.3
ANTO pmax pmax
comp=Z,101nm,1.6s
BR231 **Keskin MP Arra** 79.15 312 P P 18 05 25.2 +0.4
BR231 IAmb IAmb 18 05 32.0
comp=Z,77nm,1.4s
ISR **Istrita** 79.18 319 ⇑P P 18 05 26.0 +1.2
ISR **Istrita** 79.18 319 P P 18 05 26.0 +1.2
ICOR **Ion Corvin** 79.18 318 ⇓P P 18 05 25.9 +1.2
DOPR **Dopca** 79.20 320 ⇑P P 18 05 26.6 +1.8
P18A **Preston Nutter** 79.22 48 P P 18 05 26.9 +1.4
P18A IAmb IAmb 18 05 28.9
comp=Z,106nm,1.6s
MLR **Muntele Rosu** 79.24 320 LR LR 18 43 38.7
comp=Z,1μm,18.1s,baz=42,slow=38
MLR **Muntele Rosu** 79.24 320 ⇓P P 18 05 26.2 +1.0
MLR **Muntele Rosu** 79.24 320 P P 18 05 25.9 +0.7
MLR **Muntele Rosu** 79.24 320 P P 18 05 26.2 +1.0
NIE **Niedzica** 79.24 325 eP P 18 05 26.3 +1.3
KNB **Kanab** 79.29 52 P P 18 05 27.3 +1.5
KNB IAmb IAmb 18 05 29.6
comp=Z,150nm,1.6s
KNB **Kanab** 79.29 52 P P 18 05 27.3 +1.5
KNB pmax pmax
comp=Z,150nm,1.6s
PKCU **Pink Cliffs** 79.34 51 P P 18 05 27.6 +1.4
PKCU IAmb IAmb 18 05 30.3
comp=Z,100nm,1.6s
SRU **San Rafael Swe** 79.39 49 P P 18 05 27.1 +0.9
SRU IAmb IAmb 18 05 34.5
comp=Z,96nm,1.6s
SRU **San Rafael Swe** 79.39 49 P P 18 05 27.1 +0.9
SRU pmax pmax
comp=Z,96nm,1.6s
K22A **Casper** 79.41 44 P P 18 05 26.6 +0.3
K22A IAmb IAmb 18 05 28.9
comp=Z,121nm,1.8s
K22A **Casper** 79.41 44 P P 18 05 27.4 +1.1
baz=311,SNR=8.3
K22A **Casper** 79.41 44 P P 18 05 27.4 +1.1
baz=311,SNR=8.3
ULM **Lac du Bonnet** 79.44 33 P P 18 05 26.2 +0.1
comp=Z,18nm,1.1s,baz=324,slow=7.2,SNR=12
ULM LR LR 18 43 28.5
comp=Z,128nm,19.0s,baz=336,slow=38
comp=Z,18nm,1.1s
ULM **Lac du Bonnet** 79.44 33 P P 18 05 25.8 -0.3
ULM IAmb IAmb 18 05 32.5
comp=Z,76nm,1.3s
MDND **Maddock** 79.45 37 P P 18 05 27.1 +0.8
MDND **Maddock** 79.45 37 P P 18 05 27.8 +1.5
baz=315,SNR=9.9
MDND **Maddock** 79.45 37 P P 18 05 27.4 +1.2
baz=315,SNR=9.9
BAR **Barrett** 79.46 57 P P 18 05 27.5 +1.0
BAR IAmb IAmb 18 05 29.4
comp=Z,82nm,1.4s
NEE2 **Needles Airpor** 79.54 54 P P 18 05 28.1 +1.2
baz=306
TKX **Tecate** 79.57 57 P P 18 05 28.1 +1.0
TKX IAmb IAmb 18 05 36.0
comp=Z,124nm,1.7s
CBBR **Cluj-Babes-Bol** 79.57 322 ⇑P P 18 05 28.5 +1.6
IRM **Iron Mountain** 79.57 55 P P 18 05 28.7 +1.6
baz=308,SNR=25
CJR **Cluj-Napoca** 79.58 322 ⇑P P 18 05 28.4 +1.4
CJR **Cluj-Napoca** 79.58 322 P P 18 05 28.4 +1.4
MESR **Meseseni** 79.60 322 ⇓P P 18 05 27.3 +0.3
RWWY **Rawlins** 79.66 45 P P 18 05 28.2 +0.4
RWWY IAmb IAmb 18 05 35.6
comp=Z,160nm,1.8s
MDUB **Mudurnu** 79.67 313 P P 18 05 27.9 +0.2
BC3 **Big Chuckawall** 79.67 56 P P 18 05 29.1 +1.3
baz=308,SNR=24
VOIR 79.73 320 ⇑P P 18 05 28.2 +0.3
VOIR 79.73 320 P P 18 05 28.2 +0.3
RUE **Ruedersdorf** 79.73 330 eP P 18 05 28.5 +0.9
comp=Z,125nm,1.5s,baz=38,slow=5.2
RSSD **Black Hills** 79.79 42 P P 18 05 28.1 -0.2
RSSD **Black Hills** 79.79 42 P P 18 05 29.4 +1.0
baz=313,SNR=11
RSSD **Black Hills** 79.79 42 P P 18 05 29.1 +0.7
baz=313
RSSD **Black Hills** 79.79 42 P P 18 05 28.2 -0.2
RSSD pmax pmax
comp=Z,59nm,1.5s
W13A **Hualapai Mount** 79.81 54 P P 18 05 29.4 +0.8
LANS **Liptovska Anna** 79.81 325 eP P 18 05 30.0 +1.8
LANS pmax pmax
comp=Z,26nm,1.0s
LANS **Liptovska Anna** 79.81 325 eP P 18 05 30.0 +1.8
E28A **Huff** 79.82 38 P P 18 05 29.0 +0.8
E28A **Huff** 79.82 38 P P 18 05 29.0 +0.8
baz=314
MARR **Marisel-Cluj** 79.85 322 ⇓P P 18 05 29.2 +0.7
IKP **In-Ko-Pah, Jac** 79.85 57 P P 18 05 30.2 +1.5
baz=308,SNR=25
SWSC **Sam W. Stewart** 79.88 56 P P 18 05 29.6 +0.9
baz=308,SNR=6.6
TAU **Tasmania Unive** 79.88 176 P P 18 05 29.1 +0.9
TAU **Tasmania Unive** 79.88 176 P P 18 05 29.1 +0.9
TAU pmax pmax
comp=Z,46nm,1.2s
OKC **Ostrava-Krasne** 79.90 327 eP P 18 05 29.6 +1.0
OKC epP sP 18 05 35.4 +0.4
OKC **Ostrava-Krasne** 79.90 327 eP P 18 05 29.6 +1.0
OKC e*PP sP 18 05 35.4 +0.4
BSEG **Bad Segeberg** 79.91 333 P P 18 05 29.9 +1.4
BSEG pmax pmax
comp=Z,51nm,1.3s
BSEG **Bad Segeberg** 79.91 333 eP P 18 05 29.4 +0.9
comp=Z,84nm,1.3s,baz=38,slow=5.2
KSP **Ksiaz** 79.95 328 eP P 18 05 29.5 +0.6
KSP **Ksiaz** 79.95 328 P P 18 05 29.9 +1.1
KSP pmax pmax
comp=Z,74nm,1.4s
DRGR 79.97 322 P P 18 05 30.1 +1.0
DRGR pmax pmax
comp=Z,61nm,1.8s
YUH **Yuha Desert** 79.98 57 P P 18 05 30.1 +0.8
YUH IAmb IAmb 18 05 33.0
comp=Z,87nm,1.4s
U15A **North Rim** 79.99 52 P P 18 05 31.6 +1.9
U15A IAmb IAmb 18 05 38.6
comp=Z,164nm,1.6s
ARR **Arges** 79.99 320 ⇑P P 18 05 30.7 +1.4
PRD **Provadia** 80.01 317 *i* P P 18 05 35.1 +5.8
O20A **White River Ci** 80.08 47 P P 18 05 30.4 +0.4
O20A **White River Ci** 80.08 47 P P 18 05 31.2 +1.2
baz=311,SNR=8.3
OSTC **Ostas** 80.20 328 eP P 18 05 31.5 +1.3
OSTC epP PcP 18 05 37.2 -0.3
MORC **Moravsky Berou** 80.21 327 ⇑P P 18 05 31.2 +0.9
MORC **Moravsky Berou** 80.21 327 P P 18 05 30.5 +0.2
MORC IAmb IAmb 18 05 32.7
comp=Z,76nm,1.3s
MORC **Moravsky Berou** 80.21 327 eP P 18 05 31.6 +1.3
MORC *e* 18 05 36.7

MORC Moravsky Berou 80.21 327 P P 18 05 31.2 +0.9
RAR Rarotonga 80.30 126 LR LR 18 37 14.5
comp=Z,266nm,18.6s,baz=319,slow=33
DPC Dobruska-Polom 80.31 328 *eP* **P 18 05 31.8 +1.0**
DPC *epP* **sP 18 05 37.5 +0.2**
DPC AMS AMS 18 45 50.0
comp=Z,800nm,14.6s
DPC Dobruska-Polom 80.31 328 *eP* **P 18 05 31.8 +1.0**
DPC *e*PP* **sP 18 05 37.5 +0.2**
DPC MLR MLR
comp=Z,800nm,14.6s
KRLC Kraliky 80.32 327 AMS AMS 18 45 40.0
comp=Z,800nm,15.0s
KRLC Kraliky 80.32 327 *eP* P 18 05 36.9 +6.0
KRLC *e*PP* **PcP 18 05 42.9 +4.9**
KRLC MLR MLR
comp=Z,1µm,17.0s
UPC Upice 80.32 328 *eP* **P 18 05 31.6 +0.7**
UPC AMS AMS 18 48 00.0
comp=Z,800nm,18.9s
UPC Upice 80.32 328 *eP* **P 18 05 31.6 +0.7**
UPC MLR MLR
comp=Z,800nm,18.9s
ESJX Sierra Juarez 80.35 57 P **P 18 05 32.8 +1.2**
ESJX IAmb IAmb 18 05 35.4
comp=Z,77nm,1.3s
GLA Glamis 80.46 56 P **P 18 05 33.6 +1.7**
GLA IAmb IAmb 18 05 35.8
comp=Z,100nm,1.4s
GLA Glamis 80.46 56 P **P 18 05 33.7 +1.7**
baz=308,SNR=7.6
GLA Glamis 80.46 56 P **P 18 05 33.6 +1.7**
GLA pmax pmax
comp=Z,100nm,1.4s
BORA Eskisehir 80.49 313 P **P 18 05 32.0 0.0**
PSZ Piszkesteto 80.51 324 ⇓P **P 18 05 33.2 +1.2**
PSZ Piszkesteto 80.51 324 P **P 18 05 32.1 +0.1**
PSZ IAmb IAmb 18 05 39.6
comp=Z,69nm,1.0s
PSZ Piszkesteto 80.51 324 P **P 18 05 33.2 +1.2**
DEV Deva 80.51 321 P **P 18 05 33.2 +1.3**
DEV pmax pmax
comp=Z,36nm,1.2s
VYHS Vyhne 80.57 325 *eP* **P 18 05 33.1 +0.8**
VYHS pmax pmax
comp=Z,94nm,1.5s
VYHS Vyhne 80.57 325 *eP* **P 18 05 33.1 +0.8**
PV23 Carpenter Ridg 80.72 49 P **P 18 05 35.2 +1.7**
SZH Strazhica 80.75 318 *i* P **P 18 05 33.3 0.0**
JAVC Velka Javorina 80.83 326 *eP* **P 18 05 35.9 +2.2**
JAVC *e* 18 05 41.0
FLTG Flechtingen 80.83 332 *eP* **P 18 05 33.7 +0.2**
comp=Z,111nm,1.3s,baz=38,slow=5.2
AGMN Agassiz Nation 80.88 35 P **P 18 05 33.2 -0.7**
AGMN Agassiz Nation 80.88 35 P **P 18 05 33.9 0.0**
baz=317
AGMN Agassiz Nation 80.88 35 P **P 18 05 34.1 +0.2**
baz=317
PV11 David Mesa, Pa 80.90 49 P **P 18 05 35.3 +0.8**
N23A Red Feather La 80.90 45 P **P 18 05 34.9 +0.4**
N23A IAmb IAmb 18 05 48.4
comp=Z,77nm,1.2s
N23A Red Feather La 80.90 45 P **P 18 05 35.9 +1.4**
baz=312,SNR=22
BRG Berggiesshubel 80.90 329 *eP* **P 18 05 34.6 +0.7**
BRG Amp 18 05 36.1
comp=Z,45nm,1.2s
BRG Berggiesshubel 80.90 329 P P 18 05 40.3 +6.4
BRG Amp 18 05 41.2
comp=Z,60nm,1.3s
BRG Berggiesshubel 80.90 329 *eP* **P 18 05 34.6 +0.7**
BRG 18 05 40.3
BRG pmax pmax
comp=Z,45nm,1.2s
BRG pmax pmax
comp=Z,60nm,1.3s
BRG Berggiesshubel 80.90 329 *eP* **P 18 05 34.6 +0.7**
comp=Z,60nm,1.3s,baz=38,slow=5.2
PHWY Pilot Hill 80.90 45 P **P 18 05 34.9 +0.3**
PVCC Panska Ves 80.91 329 *eP* **P 18 05 35.2 +1.2**
PVCC AMS AMS 18 46 20.0
comp=Z,900nm,16.0s
PVCC Panska Ves 80.91 329 *eP* **P 18 05 35.2 +1.2**
PVCC MLR MLR
comp=Z,900nm,16.0s
GZR Gura Zlata 80.92 321 ⇑P **P 18 05 35.1 +0.8**
GZR Gura Zlata 80.92 321 P **P 18 05 35.0 +0.8**
PV07 Paradox Valley 80.94 48 P **P 18 05 36.5 +1.8**
CLL Collm 80.95 330 P **P 18 05 33.5 -0.6**
CLL IAmb IAmb 18 05 41.0
comp=Z,61nm,1.0s
CLL Collm 80.95 330 *i* P **P 18 05 34.4 +0.2**
comp=Z,69nm,1.2s
CLL *i* sP **pP 18 05 39.4 +0.5**
comp=Z,85nm,1.2s
CLL *e*SS SS 18 21 00.0 +4.8
CLL *e*SSS SSS 18 24 30.0
CLL *e*SSSS 18 26 54.0
CLL LmH 18 39 00.0
comp=N,900nm,18.1s
CLL LmH 18 39 00.0
comp=E,1µm,19.2s
CLL Collm 80.95 330 *i* P **P 18 05 34.4 +0.2**
CLL *i* *SP **pP 18 05 39.4 +0.5**
CLL pmax pmax
comp=Z,69nm,1.2s
CLL Collm 80.95 330 *eP* **P 18 05 34.6 +0.4**
comp=Z,85nm,1.2s,baz=38,slow=5.2
JMB Yambol 80.95 317 *i* P **P 18 05 34.7 +0.3**
VRAC Vranov 80.97 327 LR LR 18 44 57.2
comp=Z,672nm,18.4s,baz=43,slow=38
VRAC Vranov 80.97 327 ⇑P **P 18 05 35.4 +1.0**
VRAC Vranov 80.97 327 *eP* **P 18 05 35.4 +1.0**
VRAC *e* 18 05 41.0
VRAC Vranov 80.97 327 P **P 18 05 35.4 +1.0**
SURR Surduc 80.98 322 ⇑P **P 18 05 35.3 +0.9**
PV13 Radium Mtn., P 81.02 49 P **P 18 05 36.6 +1.5**
Y14A Wickenburg 81.10 54 P **P 18 05 36.6 +1.2**
PV15 Paradox Valley 81.11 48 P **P 18 05 36.9 +1.3**
NRDL Niedersach Rie 81.13 332 *eP* **P 18 05 35.6 +0.5**
comp=Z,58nm,1.5s,baz=38,slow=5.2
WUAZ Wupatki 81.14 52 P **P 18 05 37.8 +2.0**
WUAZ IAmb IAmb 18 05 39.2
comp=Z,86nm,1.5s
WUAZ Wupatki 81.14 52 P **P 18 05 37.5 +1.7**
baz=310,SNR=10
SMOL Smolenice 81.19 326 *eP* **P 18 05 37.4 +1.8**
SMOL pmax pmax
comp=Z,60nm,1.3s
ASSE Asse, Remlinge 81.21 332 *eP* **P 18 05 36.0 +0.5**
comp=Z,50nm,1.5s,baz=38,slow=5.2
RETH Rethem/Aller, 81.21 333 *eP* **P 18 05 36.0 +0.5**
comp=Z,100nm,1.3s,baz=38,slow=5.2
BUD Budapest 81.23 325 P **P 18 05 37.0 +1.3**
BUD pmax pmax
comp=Z,38nm,1.6s
KRUC Moravsky 81.24 327 *eP* **P 18 05 37.0 +1.2**
KRUC *e* 18 05 42.0
KRUC Moravsky 81.24 327 P **P 18 05 36.9 +1.2**
KRUC pmax pmax
comp=Z,50nm,1.4s
GOPC GO Pecny, Ondr 81.28 328 *eP* **P 18 05 37.1 +1.1**
GOPC *epP* **sP 18 05 42.7 +0.2**
GOPC GO Pecny, Ondr 81.28 328 *eP* **P 18 05 37.1 +1.1**
GOPC *e*PP* **sP 18 05 42.7 +0.2**
SRO Srobarova 81.31 325 *eP* **P 18 05 37.7 +1.5**
SRO pmax pmax
comp=Z,77nm,1.2s
SRO Srobarova 81.31 325 *eP* **P 18 05 37.7 +1.5**
113A Mohawk Valley, 81.33 55 P **P 18 05 37.8 +1.3**
PRU Pruhonice 81.33 328 *eP* **P 18 05 37.2 +1.0**
PRU *epP* **sP 18 05 42.9 +0.2**
PRU AMS AMS 18 46 10.0
comp=Z,800nm,16.6s
PRU Pruhonice 81.33 328 *eP* **P 18 05 37.2 +1.0**
PRU *e*PP* **sP 18 05 42.9 +0.2**
PRU MLR MLR
comp=Z,800nm,16.6s
BZS Buzias 81.33 322 P **P 18 05 36.8 +0.5**
BZS pmax pmax
comp=Z,34nm,1.5s
MODS Modra-Piesok 81.36 326 *eP* **P 18 05 38.4 +1.9**
MODS pmax pmax
comp=Z,160nm,1.4s
MODS Modra-Piesok 81.36 326 *eP* **P 18 05 38.4 +1.9**
PLVB Pleven 81.37 319 ⇓P **P 18 05 37.1 +0.5**
NEUB Neuenburg 81.51 331 *eP* **P 18 05 37.8 +0.6**
comp=Z,132nm,1.2s,baz=38,slow=5.2
CLZ Clausthal 81.55 332 *eP* **P 18 05 38.2 +0.7**
comp=Z,126nm,1.4s,baz=38,slow=5.2
CLZ *epP* **PcP 18 05 43.4 0.0**
DJES Djerdap 81.56 321 ⇓P **P 18 05 37.9 +0.3**
DJES Djerdap 81.56 321 P **P 18 05 38.2 +0.6**
ZST Bratislava 81.58 326 *eP* **P 18 05 38.9 +1.3**
ZST pmax pmax
comp=Z,135nm,1.4s
ZST Bratislava 81.58 326 *eP* **P 18 05 38.9 +1.3**
BAIL Bailesti 81.59 320 ⇑P **P 18 05 38.4 +0.7**
SFX San Felipe 81.69 57 P **P 18 05 39.2 +0.8**
SFX IAmb IAmb 18 05 46.6
comp=Z,96nm,1.6s
DIM Dimitrovgrad 81.80 317 *i* P **P 18 05 40.2 +1.3**
ISCO Idaho Springs 81.82 46 P **P 18 05 40.2 +0.8**
ISCO Idaho Springs 81.82 46 P **P 18 05 40.8 +1.4**
baz=312
ISCO Idaho Springs 81.82 46 P **P 18 05 41.2 +1.8**
baz=312,SNR=15
ISCO Idaho Springs 81.82 46 P **P 18 05 40.2 +0.8**
ISCO pmax pmax
comp=Z,18nm,1.1s
MMAI Mount Meron Ar 81.83 305 LR LR 18 45 07.5
comp=Z,586nm,20.4s,baz=283,slow=38
MVCO Mesa Verde 81.83 49 P **P 18 05 40.3 +0.8**
MVCO IAmb IAmb 18 05 42.6
comp=Z,89nm,1.5s
MVCO Mesa Verde 81.83 49 P **P 18 05 41.2 +1.8**
baz=311,SNR=13
MPEP Malo Peshtene 81.85 319 *i* P **P 18 05 39.6 +0.5**
TANN Tannenbergstha 81.86 330 *eP* **P 18 05 39.6 +0.5**
comp=Z,42nm,1.4s,baz=38,slow=5.2
WERD Werda 81.89 330 *eP* **P 18 05 39.8 +0.6**
comp=Z,68nm,1.6s,baz=38,slow=5.2
CSS Mathiatis 81.92 308 P **P 18 05 39.2 -0.5**
PLN Plauen 81.92 330 *eP* **P 18 05 40.0 +0.7**
comp=Z,98nm,1.9s,baz=38,slow=5.2
PLN *epP* **PcP 18 05 45.2 +0.3**
GTTG Gottingen 81.94 332 *eP* **P 18 05 40.2 +0.7**
comp=Z,88nm,1.4s,baz=38,slow=5.2
GUNZ Gunzen 81.95 330 *eP* **P 18 05 40.4 +0.8**
comp=Z,46nm,1.2s,baz=38,slow=5.2
WERN Wernitzgruen 81.99 330 *eP* **P 18 05 40.7 +0.9**
comp=Z,64nm,1.4s,baz=38,slow=5.2
WERN *epP* **PcP 18 05 45.6 +0.3**
URZ Urewera 82.00 152 LR LR 18 35 51.1
comp=Z,250nm,21.9s,baz=62,slow=31
NKC Novy Kostel 82.00 330 *eP* **P 18 05 40.9 +1.1**
NKC Novy Kostel 82.00 330 *eP* **P 18 05 40.9 +1.1**
MOX Moxa 82.01 330 P **P 18 05 40.4 +0.5**
MOX pmax pmax
comp=Z,33nm,1.7s
MOX Moxa 82.01 330 *eP* **P 18 05 40.2 +0.4**
comp=Z,38nm,1.2s,baz=38,slow=5.2
MOX *eL* L 18 44 24.8
comp=Z,436nm,18.4s
BRIGG Briggsdale 82.03 44 P **P 18 05 41.3 +1.0**
BRIGG IAmb IAmb 18 05 48.5
comp=Z,63nm,1.1s
BALB Balikesir 82.13 314 P **P 18 05 41.0 +0.3**
BALB IAmb IAmb 18 05 49.0
comp=Z,148nm,1.8s
IBBN Ibbenburen 82.14 333 *eP* **P 18 05 40.9 +0.5**
comp=Z,155nm,1.3s,baz=38,slow=5.2
IBBN *epP* **PcP 18 05 46.1 +0.2**
KDZ Kurdzhali 82.14 317 *i* P **P 18 05 41.6 +0.9**
SUSD Miller 82.19 39 P **P 18 05 41.9 +0.9**
baz=316
SUSD Miller 82.19 39 P **P 18 05 41.4 +0.5**
baz=316
PGB Panagyurishte 82.19 318 *i* P **P 18 05 41.9 +0.9**
SOP Sopron 82.20 326 P **P 18 05 42.5 +1.6**
SOP pmax pmax
comp=Z,63nm,1.3s
PLD Plovdiv 82.21 318 *i* P **P 18 05 41.4 +0.4**
RTZ Ruatahuna 82.27 153 P **P 18 05 41.0 -0.1**
PIX Pinacate 82.29 56 P **P 18 05 42.6 +1.0**
RONA Rosalia, Austr 82.31 326 *epP* **P 18 05 43.2 +1.7**
comp=Z,57nm,1.3s,SNR=14
CKRC Cesky Krumlov 82.32 328 *eP* **P 18 05 43.2 +1.7**
CKRC *epP* **sP 18 05 48.5 +0.5**
CKRC AMS AMS 18 47 40.0
comp=Z,700nm,14.8s
CONA Conrad Observa 82.33 326 *epP* **P 18 05 43.0 +1.4**
comp=Z,53nm,1.4s,SNR=20
MANZ Manzenberg 82.33 330 *eP* **P 18 05 42.2 +0.6**
comp=Z,10nm,1.3s,baz=38,slow=5.2
MORH Mrgy, Hungar 82.33 324 ⇓P **P 18 05 42.5 +0.9**
KHC Kasperske Hory 82.39 328 P **P 18 05 42.1 +0.2**
KHC IAmb IAmb 18 05 49.3
comp=Z,59nm,1.1s
KHC Kasperske Hory 82.39 328 *eP* **P 18 05 42.6 +0.6**
KHC *epP* **sP 18 05 48.1 -0.2**
KHC AMS AMS 18 47 20.0
comp=Z,1µm,16.6s
KHC Kasperske Hory 82.39 328 *d iP* **P 18 05 42.5 +0.6**
KHC pmax pmax
comp=Z,127nm,1.3s
RDO Rodhopi 82.42 317 P **P 18 05 42.0 -0.1**
RDO IAmb IAmb 18 05 49.6
comp=Z,114nm,1.5s
RDO Rodhopi 82.42 317 P **P 18 05 42.3 +0.2**
W18A Petrified Fore 82.43 51 P **P 18 05 44.0 +1.5**
baz=310
ROTZ Rotzenmuhle 82.46 330 *eP* **P 18 05 43.2 +1.0**
comp=Z,25nm,1.4s,baz=38,slow=5.2
ROTZ *epP* **sP 18 05 48.3 -0.4**
214A Organ Pipe Nat 82.47 56 P **P 18 05 43.8 +1.2**
214A IAmb IAmb 18 05 45.8
comp=Z,77nm,1.6s
214A Organ Pipe Nat 82.47 56 P **P 18 05 44.4 +1.8**
baz=309,SNR=9.9
F33A 5 Mile Ranch, 82.48 37 P **P 18 05 43.2 +0.8**
F33A IAmb IAmb 18 05 49.8
comp=Z,105nm,1.3s
F33A 5 Mile Ranch, 82.48 37 P **P 18 05 43.4 +1.0**
baz=317,SNR=16
S22A 4UR Ranch, Cre 82.48 48 P **P 18 05 44.6 +1.7**
S22A IAmb IAmb 18 05 51.0
comp=Z,61nm,1.4s
S22A 4UR Ranch, Cre 82.48 48 P **P 18 05 44.9 +2.0**
baz=312,SNR=11
RZN Rozhen 82.49 318 *i* P **P 18 05 43.2 +0.4**
UBBA Unterbreizbach 82.50 331 *eP* **P 18 05 43.1 +0.8**
comp=Z,50nm,1.5s,baz=38,slow=5.2
MANT Manisa 82.51 313 P **P 18 05 43.2 +0.2**
MANT IAmb IAmb 18 05 49.7
comp=Z,77nm,1.7s
FRGS Fruska Gora 82.55 323 ⇓P **P 18 05 44.5 +1.8**
FRGS Fruska Gora 82.55 323 ⇓*i* P **P 18 05 43.9 +1.1**
GEC2 GERESS Array S 82.56 328 P **P 18 05 42.8 -0.1**
GEC2 GERESS Array S 82.56 328 *eP* **P 18 05 43.3 +0.4**
comp=Z,45nm,1.3s,baz=38,slow=5.2
GERES GERESS Array B 82.56 328 P **P 18 05 43.3 +0.4**
comp=Z,5.7nm,0.8s,baz=49,slow=4.1,SNR=23
GERES LR LR 18 44 45.6
comp=Z,554nm,20.1s,baz=34,slow=37
comp=Z,5.7nm,0.8s
GERES GERESS Array B 82.56 328 P **P 18 05 43.0 +0.1**
VTS Vitosha 82.63 319 ⇑P **P 18 05 44.1 +0.7**
VTS Vitosha 82.63 319 P **P 18 05 43.8 +0.4**
VTS Vitosha 82.63 319 P **P 18 05 44.1 +0.7**
VTS Vitosha 82.63 319 *i* P **P 18 05 44.2 +0.7**
Q24A Divide 82.65 46 P **P 18 05 43.6 -0.2**
Q24A Divide 82.65 46 P **P 18 05 44.8 +1.0**
baz=312
X18A Snowflake 82.67 52 P **P 18 05 45.1 +1.3**
X18A IAmb IAmb 18 05 52.4
comp=Z,70nm,1.5s
KASTN Kahler Asten 82.79 332 *eP* **P 18 05 44.6 +0.6**
comp=Z,32nm,1.2s,baz=38,slow=5.2
GHAJ Ghor Haditha 82.80 304 P **P 18 05 44.3 +0.1**
GHAJ IAmb IAmb 18 05 51.7
comp=Z,96nm,1.5s
ELL Elmali 82.87 311 P **P 18 05 44.6 -0.1**
ELL Elmali 82.87 311 P **P 18 05 44.6 -0.1**
ELL pmax pmax
comp=Z,126nm,1.0s
GRA1 Grafenberg Arr 82.92 330 P **P 18 05 45.5 +1.0**
GRF Grafenberg Arr 82.92 330 P **P 18 05 45.6 +1.0**
GRF pmax pmax
comp=Z,105nm,1.1s
GRF Grafenberg Arr 82.92 330 *eP* **P 18 05 45.8 +1.1**
comp=Z,174nm,1.4s,baz=38,slow=5.2
GRF *eL* L 18 44 33.2
comp=Z,402nm,18.2s
GRFO Grafenberg 82.92 330 P **P 18 05 45.1 +0.5**
GRFO Grafenberg 82.92 330 P **P 18 05 45.1 +0.5**
GRFO pmax pmax
comp=Z,109nm,1.1s
EKA Eskdalemuir Ar 82.98 340 LR LR 18 46 17.2
comp=Z,404nm,18.8s,baz=36,slow=38
EKA Eskdalemuir Ar 82.98 340 P **P 18 05 45.7 +0.9**
ARSA Arzberg 82.99 326 *epP* **P 18 05 46.0 +1.0**
comp=Z,31nm,1.4s,SNR=11
BUG Bochum--Univer 83.02 333 P **P 18 05 45.4 +0.4**
BUG pmax pmax
comp=Z,43nm,1.5s
OGNE Ogallala 83.04 43 P **P 18 05 46.3 +0.8**
OGNE Ogallala 83.04 43 P **P 18 05 46.6 +1.0**
baz=314
OGNE Ogallala 83.04 43 P **P 18 05 46.3 +0.8**
baz=314,SNR=11
EYMN Ely 83.07 33 P **P 18 05 46.0 +0.5**
EYMN IAmb IAmb 18 05 52.5
comp=Z,80nm,1.2s
EYMN Ely 83.07 33 P **P 18 05 46.2 +0.8**
baz=320
EYMN Ely 83.07 33 P **P 18 05 45.9 +0.5**
baz=320,SNR=7.0
KAVA Kavala 83.08 317 P **P 18 05 45.8 +0.2**
MOA Molln 83.08 327 *epP* **P 18 05 46.5 +1.0**
comp=Z,40nm,1.4s,SNR=14
MMB Musomiste 83.09 318 *i* P **P 18 05 46.4 +0.7**
NVR Nevrokopi 83.19 318 P **P 18 05 47.8 +1.6**
DIVS Divibare 83.23 322 P **P 18 05 46.0 -0.4**
DIVS IAmb IAmb 18 05 53.5
comp=Z,83nm,1.5s
DIVS Divibare 83.23 322 ⇓*i* P **P 18 05 46.3 -0.1**
SDCO Great Sand Dun 83.26 47 P **P 18 05 48.2 +1.2**
SDCO IAmb IAmb 18 05 50.2
comp=Z,54nm,1.6s
SDCO Great Sand Dun 83.26 47 P **P 18 05 48.0 +1.0**
baz=312
SDCO Great Sand Dun 83.26 47 P **P 18 05 48.8 +1.8**
baz=312,SNR=11
BLCB Balcova 83.46 314 P **P 18 05 48.0 +0.4**
BIOA Bad Ischl, Aus 83.48 327 *epP* **P 18 05 48.4 +0.9**
comp=Z,41nm,1.3s,SNR=18
SRS Serrai 83.50 318 P **P 18 05 47.4 -0.4**
TUC Tucson 83.57 54 P **P 18 05 48.8 +0.4**
TUC IAmb IAmb 18 05 56.8
comp=Z,64nm,1.4s
TUC Tucson 83.57 54 P **P 18 05 50.0 +1.6**
baz=310
TUC Tucson 83.57 54 P **P 18 05 48.8 +0.4**
TUC pmax pmax
comp=Z,64nm,1.5s
TNS Taunus Mts 83.58 332 P **P 18 05 48.7 +0.7**
TNS pmax pmax
comp=Z,33nm,1.7s
TNS Taunus Mts 83.58 332 *eP* **P 18 05 48.5 +0.5**
comp=Z,86nm,1.7s,baz=38,slow=5.2
MRZ Mangatainoka R 83.58 154 P **P 18 05 47.9 +0.1**
YER Yerkesik 83.58 312 P **P 18 05 48.0 -0.3**
K31A O'Neill 83.59 40 P **P 18 05 48.7 +0.5**
K31A O'Neill 83.59 40 P **P 18 05 49.3 +1.0**
baz=316
PERS Pernice 83.64 326 *i* P **P 18 05 48.8 +0.4**
SOKA Soboth 83.64 326 *eP* **P 18 05 49.1 +0.6**
comp=Z,79nm,1.3s,SNR=41
BBLS Lazići 83.69 322 ⇓*i* P **P 18 05 49.3 +0.5**
HAPS Han Pijesak,Bl 83.75 322 ⇓*i* P **P 18 05 49.8 +0.7**
F36A Milaca 83.76 35 P **P 18 05 49.3 +0.3**
F36A IAmb IAmb 18 05 50.7
comp=Z,62nm,1.8s
F36A Milaca 83.76 35 P **P 18 05 49.3 +0.3**
baz=319
AHRW Bad Neuenahr-A 83.83 333 *eP* **P 18 05 49.7 +0.5**
comp=Z,80nm,1.4s,baz=38,slow=5.2
OUR Ouranopolis 83.83 317 P **P 18 05 49.4 -0.1**
KNT Kendrikon 83.84 318 P **P 18 05 49.3 -0.2**
ECSD EROS Data Cent 83.86 38 P **P 18 05 49.6 0.0**
ECSD IAmb IAmb 18 05 56.9
comp=Z,56nm,1.2s
ECSD EROS Data Cent 83.86 38 P **P 18 05 50.4 +0.8**
baz=317,SNR=13
ECSD EROS Data Cent 83.86 38 P **P 18 05 50.4 +0.8**
baz=317,SNR=13
GOLS Golise 83.88 325 *eP* **P 18 05 49.9 +0.2**
RUDO Rudo 83.89 322 *eP* **P 18 05 49.7 0.0**
VAY Valandovo 83.90 318 *i* P **P 18 05 50.4 +0.6**
OBKA Obir 83.99 326 *eP* **P 18 05 50.8 +0.5**
comp=Z,13nm,1.1s
OBKA Obir 83.99 326 ⇓*i* P **P 18 05 49.5 -0.8**
SKO Skopje 84.03 319 *i* P **P 18 05 51.7 +1.3**
A051A Mrakovica 84.04 324 ⇓*i* P **P 18 05 50.1 -0.5**
KSCO Kaye Shedlock' 84.05 45 P **P 18 05 52.0 +1.2**
KSCO IAmb IAmb 18 05 58.5
comp=Z,76nm,1.3s
KSCO Kaye Shedlock' 84.05 45 P **P 18 05 51.8 +1.0**
baz=314
KSCO Kaye Shedlock' 84.05 45 P **P 18 05 51.8 +1.0**
baz=314
E38A The Farm, Brul 84.08 34 P **P 18 05 50.9 +0.3**
baz=320
KBA Koelnbreinsper 84.08 327 *epP* **P 18 05 51.7 +0.9**
comp=Z,27nm,1.1s,SNR=7.8
KBA Koelnbreinsper 84.08 327 P **P 18 05 51.7 +0.9**
KBA pmax pmax
comp=Z,30nm,1.2s
CRES Cresnjev 84.10 325 ⇓*i* P **P 18 05 50.6 -0.2**
FUR Furstenfeldbru 84.10 329 P **P 18 05 51.6 +0.8**
FUR pmax pmax
comp=Z,115nm,1.5s
FUR Furstenfeldbru 84.10 329 *eP* **P 18 05 51.6 +0.8**
comp=Z,83nm,0.9s,baz=38,slow=5.2
BLY Banja Luka 84.11 324 *eP* **P 18 05 50.4 -0.4**
HORT Hortiatis 84.13 318 P **P 18 05 51.6 +0.5**
BTNL Ternell 84.14 333 *dP* **P 18 05 51.3 +0.4**
comp=Z,15nm,1.3s
MEM Membach 84.16 333 P **P 18 05 51.9 +1.0**
MEM pmax pmax
comp=Z,46nm,1.7s
MEM Membach 84.16 333 *dP* **P 18 05 47.5 -3.5**
comp=Z,17nm,1.1s
BODT Bodrum 84.20 313 P **P 18 05 50.9 -0.6**
EIL Elat 84.24 303 LR LR 18 47 39.7
comp=Z,418nm,18.6s,baz=71,slow=39
GRG Griva 84.25 318 P **P 18 05 51.4 -0.2**
DAT Datca 84.27 312 P **P 18 05 51.5 -0.4**
PAIG Paliouri 84.28 317 P **P 18 05 51.9 +0.1**
ARG Arkhangelos 84.29 312 P **P 18 05 53.1 +1.2**
ARG Arkhangelos 84.29 312 P **P 18 05 53.1 +1.2**
ARG pmax pmax
comp=Z,230nm,1.3s
MYKA Terra Mystica 84.30 327 *eP* **P 18 05 51.7 -0.1**
comp=Z,25nm,1.2s,SNR=12
T25A Trinidad 84.31 47 P **P 18 05 53.1 +0.8**
T25A IAmb IAmb 18 06 00.4
comp=Z,62nm,1.1s
T25A Trinidad 84.31 47 P **P 18 05 53.3 +1.0**
baz=313,SNR=12
BSTI Sart Tilman 84.34 333 *dP* **P 18 05 49.6 -2.2**
BHOU Houvegnez 84.37 333 *dP* **P 18 05 53.0 +1.0**
MGRS Mrkonjic Grad 84.41 323 ⇓*i* P **P 18 05 59.0 +6.6**
UPM Unac-Piva 84.42 322 *eP* **P 18 05 57.5 +4.8**
BOJS Bojanci 84.44 325 ⇓*i* P **P 18 05 52.6 +0.1**
STU Stuttgart 84.46 330 P **P 18 05 52.7 +0.2**
STU IAmb IAmb 18 05 59.6
comp=Z,76nm,1.2s
STU Stuttgart 84.46 330 P **P 18 05 52.7 +0.2**
STU pmax pmax
comp=Z,77nm,1.2s
STU Stuttgart 84.46 330 *eP* **P 18 05 53.1 +0.6**
comp=Z,274nm,1.5s,baz=38,slow=5.2
DUN6 Lazy B Ranch 84.50 53 P **P 18 05 54.3 +1.1**
DUN6 IAmb IAmb 18 06 01.8
comp=Z,363nm,1.4s
ANMO Albuquerque 84.56 50 P **P 18 05 54.6 +1.0**
ANMO IAmb IAmb 18 05 56.9
comp=Z,60nm,1.4s
ANMO Albuquerque 84.56 50 P **P 18 05 55.5 +1.9**
baz=312,SNR=24
ANMO Albuquerque 84.56 50 P **P 18 05 55.2 +1.7**
baz=312

ANMO Albuquerque 84.56 50 *d iP* **P** **18 05 55.1 +1.5**
ANMO pmax pmax
comp=Z,55nm,1.4s
BCLA Clavier 84.57 333 *d*P **P** **18 05 53.5 +0.5**
comp=Z,14nm,1.4s
SPMN Marine on St. 84.57 35 P **P** **18 05 53.2 +0.1**
SPMN IAmb IAmb 18 06 00.2
comp=Z,48nm,1.2s
SPMN Marine on St. 84.57 35 P **P** **18 05 53.0 -0.1**
baz=320
SPMN Marine on St. 84.57 35 P **P** **18 05 54.1 +1.0**
baz=320
A050A Klekovaca 84.62 324 ⇓ *i*P **P** **18 05 53.6 +0.1**
GBRS Gornja Briga 84.62 325 *e*P **P** **18 05 53.6 +0.2**
SRKY Kupres RS 84.63 323 *e*P **P** **18 05 54.0 +0.4**
WATA Walderalm 84.63 328 *e*P **P** **18 05 54.0 +0.4**
comp=Z,22nm,1.5s,SNR=7.5
CEY Cerknica 84.63 326 ⇓ *i*P **P** **18 05 53.1 -0.4**
VAH Vaihoa 84.65 114 *e*P **P** **18 05 53.0 -0.8**
comp=Z,33nm,1.3s
WTTA Wattenberg 84.66 328 *e*P **P** **18 05 54.2 +0.4**
comp=Z,18nm,1.3s,SNR=5.7
WTTA Wattenberg 84.66 328 P **P** **18 05 54.3 +0.5**
WTTA pmax pmax
comp=Z,19nm,1.8s
BGES Gesves 84.67 334 *d*P **P** **18 05 54.1 +0.6**
comp=Z,14nm,1.3s
ABTA Abfaltersbach 84.69 327 *e*P **P** **18 05 53.4 -0.4**
comp=Z,23nm,1.2s,SNR=8.9
CLUD Cludinico 84.76 327 P **P** **18 05 53.1 -1.0**
CLUD IAmb IAmb 18 06 00.2
comp=Z,51nm,1.0s
PPT Papeete 84.76 116 P **P** **18 05 57.4 +3.0**
comp=Z,30nm,1.0s,baz=41,slow=4.3,SNR=6.1
comp=Z,30nm,1.0s
LENM Lemitar 84.77 51 P **P** **18 05 56.3 +1.7**
PPT2 Papeete2 84.78 117 *e*P **P** **18 05 56.0 +1.5**
comp=Z,58nm,1.4s
PPT2 Papeete2 84.78 117 *e*S **S** **18 16 22.3 0.0**
comp=Z,204nm,24.8s
PPT2 *e*SS **SS** **18 21 55.4 +0.5**
comp=Z,178nm,24.8s
PPT2 Papeete2 84.78 117 *e*LR LR 18 32 30.7
comp=Z,1µm,29.0s
PPT2 *e*LR LR 18 32 36.4
comp=Z,715nm,28.2s
PPT2 Papeete2 84.78 117 *e*T T 19 39 10.9
comp=Z,9.6nm,0.3s
BGNE Belgrade 84.78 41 P **P** **18 05 54.5 +0.2**
BGNE Belgrade 84.78 41 P **P** **18 05 54.4 +0.1**
baz=316
BGNE Belgrade 84.78 41 P **P** **18 05 54.8 +0.5**
baz=316
PPTF Pamatai, Papee 84.78 117 P **P** **18 05 56.1 +1.5**
PPTF IAmb IAmb 18 06 00.9
comp=Z,57nm,1.1s
LIT Litokhoron 84.81 318 P **P** **18 05 54.0 -0.4**
LIT Litokhoron 84.81 318 P **P** **18 05 54.4 -0.1**
LIT Litokhoron 84.81 318 P **P** **18 05 54.1 -0.4**
LIT pmax pmax
comp=Z,89nm,1.1s
PDG Podgorica 84.81 321 ⇑ P **P** **18 05 54.7 +0.3**
PDG Podgorica 84.81 321 P **P** **18 05 54.0 -0.3**
MOTA Moosalm 84.82 329 *e*pP **P** **18 05 55.3 +0.7**
comp=Z,41nm,1.3s,SNR=16
PAE Paea 84.82 117 *e*P **P** **18 05 55.8 +1.2**
comp=Z,19nm,1.3s
BRY Bratogost 84.82 322 *e*P **P** **18 05 54.5 -0.1**
OXZ Oxford 84.84 158 P **P** **18 05 54.3 +0.1**
RETA Reutte 84.85 329 *e*PcP **P** **18 05 55.2 +0.6**
comp=Z,60nm,1.3s,SNR=15
BMRD Maredsous 84.86 334 *d*P **P** **18 05 55.0 +0.5**
comp=Z,33nm,1.2s
Y22D IRIS PASSCAL I 84.86 51 P **P** **18 05 56.7 +1.7**
baz=312
Y22F Passcal Instru 84.86 51 P **P** **18 05 56.3 +1.3**
baz=312
SQTA Sankt Quirin 84.88 328 *e*P **P** **18 05 55.0 +0.2**
comp=Z,21nm,1.1s,SNR=8.5
WLF Walferdange 84.89 333 P **P** **18 05 55.6 +1.0**
WLF Walferdange 84.89 333 P **P** **18 05 55.6 +1.0**
WLF pmax pmax
comp=Z,220nm,1.9s
WLF Walferdange 84.89 333 *d*P **P** **18 05 56.6 +1.9**
comp=Z,17nm,1.8s
WLF Walferdange 84.89 333 *e*P **P** **18 05 55.8 +1.1**
comp=Z,191nm,1.9s,baz=38,slow=5.2
RPZ Rata Peaks 84.91 159 LR LR 18 38 53.6
comp=Z,199nm,20.3s,baz=331,slow=32
FNA Florina 84.91 319 P **P** **18 05 54.8 -0.2**
FNA Florina 84.91 319 P **P** **18 05 54.1 -0.9**
FNA Florina 84.91 319 P **P** **18 05 54.8 -0.2**
FNA pmax pmax
comp=Z,25nm,1.2s
TIAR Tiarei 84.92 116 *e*P **P** **18 05 56.6 +1.4**
comp=Z,7.6nm,1.1s
TIAR Tiarei 84.92 116 *e*T T 19 39 07.2
comp=Z,3.2nm,0.3s
Y22A Socorro 84.92 51 P **P** **18 05 56.6 +1.2**
baz=312,SNR=6.2
UBR Ueberruh 84.97 329 *e*P **P** **18 05 55.2 0.0**
comp=Z,38nm,1.3s,baz=38,slow=5.2
SKDS Skadanscina 84.97 326 *e*P **P** **18 05 54.3 -0.9**
OHR Ohrid 84.98 319 *i*P **P** **18 05 56.0 +0.7**
STAL STALIGIAL 84.99 327 P **P** **18 05 54.0 -1.3**
STAL IAmb IAmb 18 06 00.8
comp=Z,34nm,0.9s
DRME Dracevica, Mon 85.03 321 ⇓ *i*P **P** **18 05 55.5 0.0**
CRNM Carthage 85.06 51 P **P** **18 05 57.0 +0.9**
CIMO Cimolais 85.07 327 P **P** **18 05 54.8 -0.9**
CIMO IAmb IAmb 18 06 01.1
comp=Z,33nm,1.4s
DOU Dourbes 85.09 334 *d*P **P** **18 05 55.8 +0.1**
comp=Z,17nm,1.4s
TVO Taravao 85.14 116 *e*P **P** **18 05 57.6 +1.3**
comp=Z,25nm,1.1s
BFO Black Forest 85.15 331 P **P** **18 05 56.1 +0.1**
BFO Black Forest 85.15 331 P **P** **18 05 56.1 +0.1**
BFO pmax pmax
comp=Z,87nm,1.1s
BFO Black Forest 85.15 331 *e*P **P** **18 05 56.5 +0.5**
comp=Z,104nm,1.4s,baz=38,slow=5.2
HCY Herceg Novi 85.18 321 *e*P **P** **18 05 56.2 -0.1**
I37A Lemond, Waseca 85.21 36 P **P** **18 05 56.2 -0.2**
I37B Waseca 85.21 36 P **P** **18 05 57.8 +1.5**
baz=319,SNR=15
FETA Feichten 85.23 329 *e*PcP **P** **18 05 57.2 +0.6**
comp=Z,22nm,1.2s,SNR=11
SCHQ Schefferville 85.23 16 P **P** **18 05 57.5 +1.2**
comp=Z,10nm,1.0s,baz=346,slow=7.1,SNR=4.3
SCHQ LR LR 18 46 45.7
comp=Z,239nm,19.4s,baz=22,slow=38
comp=Z,10nm,1.0s
BAIF Baives 85.26 334 *e*P **P** **18 05 56.5 0.0**
BAIF pmax pmax
comp=Z,77nm,1.6s
STON Ston 85.26 322 ⇓ *i*P **P** **18 05 55.2 -1.4**
L34A Svendsen Farm, 85.28 39 P **P** **18 05 57.4 +0.6**
baz=317
KARP Karpathos 85.32 312 P **P** **18 05 57.2 +0.1**
121A Cookes Peak, D 85.34 52 P **P** **18 05 57.5 0.0**
121A IAmb IAmb 18 06 00.8
comp=Z,64nm,1.3s
121A Cookes Peak, D 85.34 52 P **P** **18 05 59.4 +1.9**
baz=312,SNR=19
121A Cookes Peak, D 85.34 52 P **P** **18 05 59.4 +1.9**
baz=312,SNR=19
NEST Nestorio 85.35 319 P **P** **18 05 57.3 0.0**
DAVA Damuels 85.37 329 *e*PcP **P** **18 05 58.1 +0.8**
comp=Z,60nm,1.3s,SNR=13
CDF Champ du Feu 85.49 331 *e*P **P** **18 05 57.8 0.0**
CDF pmax pmax
comp=Z,52nm,1.1s
COWI Conover 85.52 33 P **P** **18 05 57.8 -0.2**
COWI IAmb IAmb 18 06 05.0
comp=Z,92nm,1.4s
COWI Conover 85.52 33 P **P** **18 05 58.2 +0.2**
baz=322
SLE Schleitheim 85.55 330 P **P** **18 05 58.0 0.0**
SLE pmax pmax
comp=Z,33nm,1.7s
CTI Castel Tesino 85.61 327 P **P** **18 05 57.8 -0.7**
CTI Castel Tesino 85.61 327 P **P** **18 05 57.8 -0.7**
CTI pmax pmax
comp=Z,30nm,1.1s
ECH Echery 85.70 331 P **P** **18 05 58.1 -0.7**
ECH IAmb IAmb 18 06 05.5
comp=Z,34nm,0.9s
ECH Echery 85.70 331 P **P** **18 05 58.1 -0.7**
ECH pmax pmax
comp=Z,34nm,0.9s
G40A Rib Lake 85.71 34 P **P** **18 05 59.4 +0.5**
G40A Rib Lake 85.71 34 P **P** **18 05 59.5 +0.6**
baz=321
FUORN Ofenpass-Fuorn 85.75 329 P **P** **18 05 59.3 0.0**
FUORN IAmb IAmb 18 06 06.4
comp=Z,31nm,0.8s
DAVOX Davos/Dischmat 85.78 329 LR LR 18 47 33.5
comp=Z,861nm,18.9s,baz=80,slow=38
CBKS Cedar Bluff 85.79 43 P **P** **18 05 59.5 +0.1**
CBKS IAmb IAmb 18 06 06.2
comp=Z,89nm,1.4s
CBKS Cedar Bluff 85.79 43 P **P** **18 06 00.1 +0.7**
baz=316
CBKS Cedar Bluff 85.79 43 P **P** **18 05 58.9 -0.6**
baz=316,SNR=8.1
CBKS Cedar Bluff 85.79 43 P **P** **18 05 59.5 +0.1**
CBKS pmax pmax
comp=Z,89nm,1.4s
MEH Mehetia 86.05 116 *e*T T 19 40 41.0
comp=Z,77nm,0.3s
HINF Hinteralfeld 86.14 331 *e*P **P** **18 06 00.6 -0.4**
HINF pmax pmax
comp=Z,25nm,1.2s
TEOL Teolo 86.15 327 P **P** **18 06 01.0 0.0**
HAU Haudompre 86.18 332 *e*P **P** **18 06 00.8 -0.4**
HAU pmax pmax
comp=Z,17nm,0.8s
ANX Ano Chora 86.19 317 P **P** **18 05 59.2 -2.3**
TAOE Nuku Hiva Isla 86.28 104 *e*S **S** **18 16 36.8 -0.6**
comp=Z,218nm,24.7s
TAOE Nuku Hiva Isla 86.28 104 *e*LR LR 18 33 17.8
comp=Z,818nm,25.6s
N35A Tabor 86.47 40 P **P** **18 06 03.0 +0.3**
N35A IAmb IAmb 18 06 10.2
comp=Z,56nm,0.9s
N35A Tabor 86.47 40 P **P** **18 06 03.4 +0.7**
baz=318
I40A Norwalk 86.59 35 P **P** **18 06 04.0 +0.7**
baz=321
IDI Anoyia 86.84 313 LR LR 18 48 14.4
comp=Z,188nm,19.2s,baz=59,slow=38
SCIA State Center 86.89 38 P **P** **18 06 05.1 +0.3**
SCIA State Center 86.89 38 P **P** **18 06 05.4 +0.7**
baz=319
SCIA State Center 86.89 38 P **P** **18 06 05.8 +1.1**
baz=319
SCTE Santa Cesarea 86.95 320 P **P** **18 06 04.4 -0.6**
SGRT San Giovanni R 87.06 322 P **P** **18 06 05.4 -0.3**
SENIN Lac Senin/Sane 87.16 330 P **P** **18 06 06.3 +0.1**
KSU1 Kansas State U 87.27 41 P **P** **18 06 06.9 +0.3**
KSU1 IAmb IAmb 18 06 13.5
comp=Z,45nm,1.1s
KSU1 Kansas State U 87.27 41 P **P** **18 06 06.9 +0.3**
baz=317
E46A Sault Ste Mari 87.30 30 P **P** **18 06 07.1 +0.5**
baz=325
I42A Draeger Farm, 87.36 34 P **P** **18 06 07.2 +0.2**
I42A IAmb IAmb 18 06 09.1
comp=Z,52nm,1.1s
I42A Draeger Farm, 87.36 34 P **P** **18 06 07.3 +0.4**
baz=322
MURB Monte Urbino 87.41 325 P **P** **18 06 08.6 +1.3**
MNTX Cornudas Mount 87.41 52 P **P** **18 06 08.6 +1.1**
MNTX Cornudas Mount 87.41 52 P **P** **18 06 08.8 +1.3**
baz=313,SNR=9.6
MNTX Cornudas Mount 87.41 52 P **P** **18 06 08.1 +0.6**
baz=313,SNR=9.6
MSTX Muleshoe 87.46 48 P **P** **18 06 07.2 -0.5**
MSTX Muleshoe 87.46 48 P **P** **18 06 08.6 +0.8**
baz=314
MSTX Muleshoe 87.46 48 P **P** **18 06 08.7 +1.0**
baz=314
AMTX Amarillo 87.47 47 P **P** **18 06 08.2 +0.5**
AMTX IAmb IAmb 18 06 15.8
comp=Z,54nm,1.1s
AMTX Amarillo 87.47 47 P **P** **18 06 08.5 +0.8**
baz=315
AMTX Amarillo 87.47 47 P **P** **18 06 08.9 +1.1**
baz=315
JFWS Jewell Farm 87.52 35 P **P** **18 06 07.7 0.0**
baz=321
JFWS Jewell Farm 87.52 35 P **P** **18 06 08.1 +0.4**
baz=321
CLF Chambon-Foret 87.66 334 P **P** **18 06 09.1 +0.8**
GDL2 Guadalupe Moun 87.71 51 P **P** **18 06 09.4 +0.4**
N38A Joes South For 87.73 38 P **P** **18 06 08.3 -0.5**
N38A Joes South For 87.73 38 P **P** **18 06 08.7 -0.1**
baz=320
L40A Anamosa 87.73 36 P **P** **18 06 08.7 -0.1**
L40A IAmb IAmb 18 06 15.8
comp=Z,55nm,1.1s
L40A Anamosa 87.73 36 P **P** **18 06 09.6 +0.9**
baz=321
LOR Lormes 87.73 333 *e*P **P** **18 06 09.5 +0.8**
LOR pmax pmax
comp=Z,46nm,1.3s
INTR Introdacqua 87.74 324 P **P** **18 06 08.8 -0.1**
OSSC Osservatorio P 87.78 326 P **P** **18 06 08.7 -0.3**
NOKA Waynoka 87.80 44 P **P** **18 06 09.7 +0.5**
NOKA IAmb IAmb 18 06 17.1
comp=Z,111nm,1.5s
KAN12 Harper NE Stat 87.83 43 P **P** **18 06 09.7 +0.3**
CESX Cesi 87.90 325 P **P** **18 06 09.3 -0.3**
CESX IAmb IAmb 18 06 15.8
comp=Z,37nm,1.3s
ELIS Ellis County 87.93 45 P **P** **18 06 10.3 +0.4**
ELIS IAmb IAmb 18 06 12.8
comp=Z,91nm,1.3s
KAN06 Argonia West S 87.95 43 P **P** **18 06 10.0 +0.1**
FLN La Foliniere 87.96 336 *e*P **P** **18 06 10.9 +1.2**
FLN pmax pmax
comp=Z,89nm,1.4s
CLNB Carlsbad 87.96 50 P **P** **18 06 09.6 -0.6**
SSF Saint Saulge 88.03 333 *e*P **P** **18 06 10.2 +0.1**
SSF pmax pmax
comp=Z,39nm,1.2s
KAN01 Argonia South 88.07 43 P **P** **18 06 10.6 +0.1**
OK032 Salt Plains WL 88.08 44 P **P** **18 06 11.2 +0.6**
LPL La Plagne 88.08 330 *e*P **P** **18 06 13.0 +2.3**
LPL pmax pmax
comp=Z,49nm,1.4s
KAN14 Manchester OK 88.10 44 P **P** **18 06 10.7 +0.1**
KS20 Mayfield South 88.13 43 P **P** **18 06 11.3 +0.5**
KAN17 Caldwell West 88.15 43 P **P** **18 06 11.6 +0.8**
LATE Laterza 88.25 325 P **P** **18 06 10.9 -0.3**
SMF Signal de Mont 88.26 332 *e*P **P** **18 06 11.2 0.0**
SMF pmax pmax
comp=Z,73nm,1.6s
AVF Avril sur Loir 88.32 333 *e*P **P** **18 06 11.6 +0.1**
AVF pmax pmax
comp=Z,69nm,1.2s
KAN13 South Haven SW 88.33 43 P **P** **18 06 11.5 -0.2**
GRR Gorron 88.41 336 *e*P **P** **18 06 13.2 +1.3**
GRR pmax pmax
comp=Z,103nm,1.4s
CROK Carrier 88.42 44 P **P** **18 06 11.9 -0.2**
CROK IAmb IAmb 18 06 14.7
comp=Z,104nm,1.4s
GLMI Grayling 88.44 31 P **P** **18 06 13.0 +0.9**
baz=325
P38A Dawn 88.46 39 P **P** **18 06 12.4 +0.1**
P38A IAmb IAmb 18 06 19.9
comp=Z,69nm,1.4s
P38A Dawn 88.46 39 P **P** **18 06 13.2 +0.9**
baz=319,SNR=6.3
TIP Timpagrande 88.50 320 P **P** **18 06 12.0 -0.6**
TIP IAmb IAmb 18 06 19.5
comp=Z,56nm,1.3s
L42A Oliver, Polo 88.50 35 P **P** **18 06 11.9 -0.5**
baz=322
CSTR Hydro, Custer 88.64 45 P **P** **18 06 12.7 -0.6**
CSTR IAmb IAmb 18 09 12.7
comp=Z,3.1nm,0.4s
TBI Tubuai 88.66 121 *e*S **S** **18 16 59.0 -0.6**
comp=Z,708nm,28.5s
TBI *e*SS **SS** **18 22 52.1 +0.5**
comp=Z,504nm,27.2s
TBI Tubuai 88.66 121 *e*LR LR 18 34 22.6
comp=Z,4µm,27.0s
TBI *e*LR LR 18 34 23.1
comp=Z,12µm,26.2s
TBI Tubuai 88.66 121 *e*T T 19 44 01.9
comp=Z,124nm,0.3s
MBDF Montbardon 88.72 329 *e*P P **18 06 19.1 +5.5**
MBDF pmax pmax
comp=Z,10.0nm,0.9s
ORIF Oris-en-Rattie 88.92 330 *e*P P **18 06 19.6 +5.1**
ORIF pmax pmax
comp=Z,60nm,1.8s
T35A Sooner Cattle 88.92 43 **P** **18 06 15.7 +1.2**
T35A IAmb IAmb 18 06 17.1
comp=Z,80nm,1.5s
T35B Sooner Cattle 88.92 43 P **P** **18 06 15.7 +1.1**
baz=318
N41A Harden Midland 88.95 37 P **P** **18 06 15.3 +0.7**
N41A IAmb IAmb 18 06 22.0
comp=Z,83nm,1.4s
OK045 Pawnee Station 89.04 43 P **P** **18 06 15.2 +0.1**
OK045 IAmb IAmb 18 06 22.7
comp=Z,55nm,1.3s
OK050 Pawnee Station 89.05 43 P **P** **18 06 16.5 +1.3**
OK050 IAmb IAmb 18 06 22.7
comp=Z,38nm,1.2s
OK048 Pawnee Station 89.05 43 **P** **18 06 14.9 -0.2**
OK048 IAmb IAmb 18 06 22.8
comp=Z,46nm,1.2s
SGMF Saint Gilles 89.07 337 *e*P **P** **18 06 15.3 +0.3**
SGMF pmax pmax
comp=Z,48nm,1.2s
OK046 Pawnee Station 89.09 43 P **P** **18 06 16.4 +1.1**
OK046 IAmb IAmb 18 06 23.0
comp=Z,69nm,1.4s
SBF Sospel 89.15 329 *e*P P 18 06 20.5 +4.9
SBF pmax pmax
comp=Z,8.0nm,0.6s
TCF Toulx Ste Croi 89.16 333 *e*P **P** **18 06 15.8 +0.3**
TCF pmax pmax
comp=Z,40nm,1.4s
L44A Lake County Fo 89.17 34 P **P** **18 06 17.2 +1.6**
baz=323
OK044 Pawnee Station 89.17 43 **P** **18 06 15.8 +0.1**
OK044 IAmb IAmb 18 06 23.3
comp=Z,56nm,1.3s
LPIG La Paz 89.19 60 LR LR 18 47 38.8
comp=Z,140nm,18.3s,baz=255,slow=36
ROSF Rostrenen 89.22 337 *e*P **P** **18 06 16.3 +0.6**
ROSF pmax pmax
comp=Z,47nm,1.1s
OK029 Liberty Lake 89.22 44 **P** **18 06 16.4 +0.5**
OK029 IAmb IAmb 18 06 23.8
comp=Z,55nm,1.1s
BCOK Bluff Creek, N 89.24 44 **P** **18 06 17.1 +1.0**
BCOK IAmb IAmb 18 06 18.8
comp=Z,46nm,1.3s
WMOK Wichita Mounta 89.25 46 P **P** **18 06 16.5 +0.4**
WMOK IAmb IAmb 18 06 23.8
comp=Z,63nm,1.5s
WMOK Wichita Mounta 89.25 46 P **P** **18 06 16.7 +0.5**
baz=316
WMOK Wichita Mounta 89.25 46 P **P** **18 06 17.1 +1.0**
baz=316,SNR=17
WMOK Wichita Mounta 89.25 46 P **P** **18 06 16.5 +0.4**
WMOK pmax pmax
comp=Z,63nm,1.5s
P40A Paris 89.28 38 P **P** **18 06 16.3 +0.1**
P40A Paris 89.28 38 P **P** **18 06 17.0 +0.8**
baz=320,SNR=12
OK033 Mehan 89.33 44 **P** **18 06 17.5 +1.0**
OK033 IAmb IAmb 18 06 24.1
comp=Z,64nm,1.3s
MSEY Mahe Island 89.48 264 P **P** **18 06 18.4 +0.9**
MSEY Mahe Island 89.48 264 P **P** **18 06 18.4 +0.9**
MSEY pmax pmax
comp=Z,91nm,1.4s
MSEY Mahe Island 89.48 264 P **P** **18 06 17.8 +0.4**
OK034 N. Norfolk Rd. 89.48 43 **P** **18 06 18.2 +1.1**
OK034 IAmb IAmb 18 06 19.6
comp=Z,93nm,1.5s
OK030 Cody Creek RV 89.50 44 P **P** **18 06 18.6 +1.3**
OK030 IAmb IAmb 18 06 25.0
comp=Z,78nm,1.4s
PGF Pioggiola 89.55 327 *e*P P 18 06 22.4 +4.9
PGF pmax pmax
comp=Z,44nm,1.1s
QUIF Quistinic 89.56 337 *e*P **P** **18 06 18.0 +0.7**
QUIF pmax pmax
comp=Z,107nm,1.9s
FNO Franklin 89.65 44 **P** **18 06 19.0 +1.0**
J47A Sunmer 89.66 32 P **P** **18 06 18.7 +0.9**
baz=325
J47A P **P** **18 06 18.7 +0.9**
baz=325
DEOK Depew 89.72 43 **P** **18 06 18.8 +0.5**
DEOK IAmb IAmb 18 06 20.7
comp=Z,87nm,1.4s
MFF Saint Martin d 89.72 335 *e*P **P** **18 06 18.5 +0.4**
MFF pmax pmax
comp=Z,93nm,1.6s
M44A Midewin, Midew 89.73 35 P **P** **18 06 18.7 +0.4**
baz=323
HDIL Hopedale 89.81 36 P **P** **18 06 19.4 +0.7**
HDIL Hopedale 89.81 36 P **P** **18 06 19.2 +0.7**
baz=322
HDIL Hopedale 89.81 36 P **P** **18 06 19.3 +0.7**
baz=322
X34A Smith Ranch, M 89.88 45 **P** **18 06 19.7 +0.6**
LMR La Mourre 89.97 329 *e*P P 18 06 24.6 +5.3
LMR pmax pmax
comp=Z,55nm,1.3s
S39A Bolivar 90.03 40 P **P** **18 06 20.1 +0.4**
S39A Bolivar 90.03 40 P **P** **18 06 19.9 +0.1**
baz=320
TUL1 Leonard 90.06 43 **P** **18 06 19.9 +0.1**
TUL1 IAmb IAmb 18 06 22.2
comp=Z,67nm,1.5s
TUL1 Leonard 90.06 43 P **P** **18 06 21.0 +1.1**
baz=318
TUL1 Leonard 90.06 43 P **P** **18 06 20.8 +0.9**
baz=318
TX31 Lajitas Ar. Si 90.11 52 P **P** **18 06 20.6 +0.2**
TX31 IAmb IAmb 18 06 23.0
comp=Z,71nm,1.2s
TX31 Lajitas Ar. Si 90.11 52 P **P** **18 06 21.0 +0.7**
baz=314
TX32 Lajitas Array 90.11 52 P **P** **18 06 20.6 +0.2**
TXAR Lajitas Array 90.11 52 P **P** **18 06 21.4 +1.1**
comp=Z,4.9nm,0.6s,baz=297,slow=2.8,SNR=56
TXAR PP **PP** **18 09 52.2 -1.0**
comp=Z,3.0nm,1.1s,baz=325,slow=7.7,SNR=3.6
TXAR PKKPbc **PKKPbc** **18 23 56.8 +7.5**
comp=Z,0.2nm,0.6s,baz=153,slow=6.3,SNR=3.7
TXAR LR LR 18 48 42.4
comp=Z,80nm,18.0s,baz=329,slow=37
comp=Z,4.9nm,0.6s
TXAR Lajitas Array 90.11 52 P **P** **18 06 20.8 +0.5**
R40A Maddies Statio 90.12 39 P **P** **18 06 20.5 +0.4**
R40A IAmb IAmb 18 06 22.1
comp=Z,83nm,1.6s
R40A Maddies Statio 90.12 39 P **P** **18 06 20.6 +0.6**
baz=320,SNR=9.4
RJF Les Rejaudoux 90.25 333 *e*P **P** **18 06 20.9 +0.3**
RJF pmax pmax
comp=Z,49nm,1.4s
ABTX Abilene, Hawle 90.26 48 P **P** **18 06 21.1 +0.2**
ABTX IAmb IAmb 18 06 23.5
comp=Z,62nm,1.2s
ABTX Abilene, Hawle 90.26 48 P **P** **18 06 21.9 +1.0**
baz=316,SNR=10
ABTX Abilene, Hawle 90.26 48 P **P** **18 06 21.8 +1.0**
baz=316,SNR=10
RLO Rose Lookout 90.28 42 **P** **18 06 21.5 +0.6**
RLO IAmb IAmb 18 06 28.3
comp=Z,42nm,1.3s
CAF Calviac 90.38 332 *e*P **P** **18 06 21.9 +0.7**
CAF pmax pmax
comp=Z,36nm,1.3s
U38A Gravette 90.42 42 **P** **18 06 21.9 +0.3**
U38A IAmb IAmb 18 06 28.1
comp=Z,72nm,1.6s
U38A Gravette 90.42 42 P **P** **18 06 22.3 +0.7**
baz=319,SNR=5.2
P43A Skaggs, Pawnee 90.42 37 P **P** **18 06 21.1 -0.3**
baz=322
HPIG 90.45 55 P **P** **18 06 22.4 +0.3**
LOOK Love County 90.69 45 P **P** **18 06 23.4 +0.6**
LOOK IAmb IAmb 18 06 30.3
comp=Z,55nm,1.3s

HHAR	**Hobbs**	**90.77**	**42**	P	**P**	**18 06 23.5 +0.3**
CCM	**Cathedral Cave**	**90.81**	**39**	P	**P**	**18 06 23.7 +0.4**
CCM				IAmb	IAmb	18 06 30.8
	comp=Z,52nm,1.3s					
CCM	**Cathedral Cave**	**90.81**	**39**	P	**P**	**18 06 23.4 +0.1**
	baz=321,SNR=9.5					
CCM	**Cathedral Cave**	**90.81**	**39**	P	**P**	**18 06 24.1 +0.8**
	baz=321					
CCM	**Cathedral Cave**	**90.81**	**39**	P	**P**	**18 06 23.7 +0.4**
CCM				pmax	pmax	
	comp=Z,52nm,1.3s					
LFF	**La Frestale**	**90.85**	**333**	*e*P	**P**	**18 06 23.9 +0.5**
LFF				pmax	pmax	
	comp=Z,42nm,1.4s					
AAM	**Ann Arbor**	**90.91**	**32**	P	**P**	**18 06 24.2 +0.4**
	baz=326					
SFIN	**Lafayette**	**90.97**	**35**	P	**P**	**18 06 25.2 +1.2**
SFIN	**Lafayette**	**90.97**	**35**	P	**P**	**18 06 24.4 +0.4**
	baz=323					
SFIN	**Lafayette**	**90.97**	**35**	P	**P**	**18 06 24.5 +0.4**
	baz=323					
VAE	**Valguarnera**	**90.98**	**320**	LR	LR	18 51 39.4
	comp=Z,525nm,18.5s,baz=42,slow=38					
MGMO	**Mountain Grove**	**90.98**	**40**	P	**P**	**18 06 24.4 +0.2**
MGMO				IAmb	IAmb	18 06 25.9
	comp=Z,72nm,1.6s					
Z35A	**Perchaven, San**	**91.14**	**46**	P	**P**	**18 06 25.2 +0.3**
Z35A	**Perchaven, San**	**91.14**	**46**	P	**P**	**18 06 25.8 +0.8**
	baz=317					
N47A	**Urbana**	**91.20**	**34**	P	**P**	**18 06 25.5 +0.4**
	baz=324					
N47A				P	**P**	**18 06 25.5 +0.4**
	baz=324					
Q44A	**Meyer Farm, Va**	**91.24**	**37**	P	**P**	**18 06 26.2 +0.9**
	baz=322					
X37A	**Clayton**	**91.27**	**44**		**P**	**18 06 25.8 +0.3**
X37A				IAmb	IAmb	18 06 27.8
	comp=Z,40nm,1.4s					
X37A	**Clayton**	**91.27**	**44**	P	**P**	**18 06 26.0 +0.5**
	baz=318					
FW07	**Weatherford**	**91.29**	**46**	P	**P**	**18 06 25.8 +0.1**
FW07				IAmb	IAmb	18 06 28.2
	comp=Z,95nm,1.5s					
U40A	**Yellville**	**91.29**	**41**	P	**P**	**18 06 26.3 +0.7**
	baz=320,SNR=15					
U40A				P	**P**	**18 06 26.3 +0.7**
	baz=320,SNR=15					
P46A	**Rosedale**	**91.53**	**35**	P	**P**	**18 06 27.3 +0.7**
	baz=323					
JCT	**Junction City**	**91.69**	**49**	P	**P**	**18 06 27.5 -0.1**
JCT				IAmb	IAmb	18 06 29.9
	comp=Z,43nm,1.4s					
JCT	**Junction City**	**91.69**	**49**	P	**P**	**18 06 27.9 +0.3**
	baz=316					
JCT	**Junction City**	**91.69**	**49**	P	**P**	**18 06 28.1 +0.4**
	baz=316					
JCT	**Junction City**	**91.69**	**49**	P	**P**	**18 06 27.5 -0.1**
JCT				pmax	pmax	
	comp=Z,43nm,1.4s					
OLIL	**Olney**	**91.82**	**36**	P	**P**	**18 06 28.2 +0.3**
OLIL	**Olney**	**91.82**	**36**	P	**P**	**18 06 28.9 +0.9**
	baz=323					
N49A	**Columbus Grove**	**91.83**	**33**	P	**P**	**18 06 28.9 +1.0**
	baz=325					
N49A				P	**P**	**18 06 28.9 +1.0**
	baz=325					
D62A	**Allapoint, All**	**91.83**	**20**	P	**P**	**18 06 28.0 +0.1**
	baz=336					
D62A				P	**P**	**18 06 28.0 +0.1**
	baz=336					
O48B	**Farmland**	**91.94**	**34**	P	**P**	**18 06 29.5 +1.0**
	baz=325					
O48B	**Farmland**	**91.94**	**34**	P	**P**	**18 06 29.1 +0.5**
	baz=325					
WHTX	**Lake Whitney,**	**92.00**	**47**	P	**P**	**18 06 29.5 +0.6**
WHTX	**Lake Whitney,**	**92.00**	**47**	P	**P**	**18 06 30.7 +1.8**
	baz=317,SNR=7.3					
WHTX	**Lake Whitney,**	**92.00**	**47**	P	**P**	**18 06 29.9 +0.9**
	baz=317,SNR=7.3					
FCAR	**Ozark Folk Cen**	**92.03**	**41**	P	**P**	**18 06 29.4 +0.4**
FCAR				IAmb	IAmb	18 06 35.9
	comp=Z,34nm,1.3s					
S44A	**Carbondale**	**92.08**	**38**	P	**P**	**18 06 28.9 -0.3**
S44A				IAmb	IAmb	18 10 08.5
	comp=Z,20nm,0.6s					
S44A	**Carbondale**	**92.08**	**38**	P	**P**	**18 06 29.5 +0.3**
	baz=322					
BMNY	**Brushton-Moira**	**92.19**	**25**	P	**P**	**18 06 29.7 +0.2**
	baz=332					
MIAR	**Mount Ida**	**92.28**	**43**	P	**P**	**18 06 31.2 +1.0**
MIAR				IAmb	IAmb	18 06 37.8
	comp=Z,49nm,1.1s					
MIAR	**Mount Ida**	**92.28**	**43**	P	**P**	**18 06 31.4 +1.2**
	baz=319,SNR=12					
MIAR	**Mount Ida**	**92.28**	**43**	P	**P**	**18 06 30.9 +0.7**
	baz=319,SNR=12					
MIAR	**Mount Ida**	**92.28**	**43**	P	**P**	**18 06 31.2 +1.0**
MIAR				pmax	pmax	
	comp=Z,49nm,1.2s					
LONY	**Lake Ozonia**	**92.36**	**25**	P	**P**	**18 06 30.2 -0.2**
	baz=332					
O49A	**Covington**	**92.36**	**33**	P	**P**	**18 06 32.1 +1.6**
	baz=325					
O49A				P	**P**	**18 06 32.1 +1.6**
	baz=325					
LCAR	**Lake Charles**	**92.39**	**40**	P	**P**	**18 06 31.3 +0.7**
LCAR				IAmb	IAmb	18 06 37.9
	comp=Z,44nm,1.7s					
WHAR	**Wooly Hollow**	**92.40**	**41**	P	**P**	**18 06 31.4 +0.6**
WHAR				IAmb	IAmb	18 06 37.8
	comp=Z,45nm,1.2s					
Z38A	**Mt. Pleasant**	**92.47**	**44**	P	**P**	**18 06 32.3 +1.2**
	baz=318					
F62A	**Pittston Farm,**	**92.65**	**21**	P	**P**	**18 06 32.9 +1.2**
	baz=336					
F62A				P	**P**	**18 06 32.9 +1.2**
	baz=336					
X40A	**Basin Creek Fa**	**92.72**	**42**	P	**P**	**18 06 32.3 +0.1**
X40A				IAmb	IAmb	18 06 39.9
	comp=Z,28nm,1.2s					
X40A	**Basin Creek Fa**	**92.72**	**42**	P	**P**	**18 06 34.7 +2.5**
	baz=320,SNR=6.6					
X40A				P	**P**	**18 06 34.7 +2.5**
	baz=320,SNR=6.6					
P49A	**Miami Univ. Ec**	**92.73**	**34**	P	**P**	**18 06 32.1 -0.1**
	baz=325					
435B	**Jarrell**	**92.80**	**48**	P	**P**	**18 06 33.0 +0.4**
	baz=317					
ACSO	**Alum Creek Sta**	**92.91**	**32**	P	**P**	**18 06 33.8 +0.8**
	baz=326					
ACSO	**Alum Creek Sta**	**92.91**	**32**	P	**P**	**18 06 33.0 0.0**
	baz=326					
J57A	**Williamstown**	**92.93**	**26**	P	**P**	**18 06 32.9 -0.1**
	baz=331					
J57A				P	**P**	**18 06 32.9 -0.1**
	baz=331					
WCI	**Wyandotte Cave**	**93.07**	**36**	P	**P**	**18 06 34.0 +0.3**
	baz=324					
833A	**Chaparral WMA,**	**93.48**	**50**	P	**P**	**18 06 35.8 -0.1**
833A				IAmb	IAmb	18 06 44.0
	comp=Z,69nm,1.6s					
833A	**Chaparral WMA,**	**93.48**	**50**	P	**P**	**18 06 36.9 +1.0**
	baz=316					
833A	**Chaparral WMA,**	**93.48**	**50**	P	**P**	**18 06 36.4 +0.6**
	baz=316					
LBNH	**Lisbon**	**93.56**	**23**	P	**P**	**18 06 36.6 +0.7**
	baz=334					
O53A	**New Philadelph**	**93.64**	**31**	P	**P**	**18 06 36.6 +0.2**
	baz=327					
NATX	**Nacogdoches**	**93.77**	**45**	P	**P**	**18 06 37.4 +0.3**
	baz=319					
P52A	**Corning**	**93.77**	**32**	P	**P**	**18 06 37.3 +0.4**
	baz=327					
R50A	**Paris**	**93.93**	**34**	P	**P**	**18 06 38.2 +0.5**
	baz=325					
R50A				P	**P**	**18 06 38.2 +0.5**
	baz=325					
WVT	**Waverly**	**94.01**	**38**	P	**P**	**18 06 38.2 +0.1**
	baz=323					
HKT	**Hockley**	**94.44**	**47**	P	**P**	**18 06 40.7 +0.6**
HKT				IAmb	IAmb	18 06 49.2
	comp=Z,40nm,1.8s					
HKT	**Hockley**	**94.44**	**47**	P	**P**	**18 06 40.7 +0.6**
HKT				pmax	pmax	
	comp=Z,40nm,1.8s					
OXF	**Oxford**	**94.50**	**40**	P	**P**	**18 06 41.1 +0.8**
	baz=322					
T50A	**Nancy**	**94.72**	**35**	P	**P**	**18 06 41.3 -0.1**
	baz=325					
T50A				P	**P**	**18 06 41.3 -0.1**
	baz=325					
S51A	**Beattyville**	**94.78**	**34**	P	**P**	**18 06 42.0 +0.3**
	baz=326					
S51A				P	**P**	**18 06 42.0 +0.3**
	baz=326					
Q54A	**Coxs Mills**	**94.86**	**32**	P	**P**	**18 06 41.9 -0.1**
	baz=328					
Q54A				P	**P**	**18 06 41.9 -0.1**
	baz=328					
KEST	**Kesra**	**94.87**	**323**	P	**P**	**18 06 42.5 +0.3**
	comp=Z,10.0nm,1.0s,baz=320,slow=10,SNR=3.6					
KEST				LR	LR	18 52 51.0
	comp=Z,385nm,19.4s,baz=7.5,slow=38					
	comp=Z,10.0nm,1.0s					
L61B	**Northampton**	**94.92**	**25**	P	**P**	**18 06 42.7 +0.5**
	baz=333					
Y45A	**Yeager Farm, C**	**94.93**	**40**	P	**P**	**18 06 43.1 +0.7**
	baz=322					
ZAIG	**Zacatecas**	**95.34**	**56**	P	**P**	**18 06 45.0 +0.2**
ZAIG				IAmb	IAmb	18 06 48.2
	comp=Z,40nm,1.4s					
TKL	**Tuckaleechee C**	**96.33**	**35**	LR	LR	18 55 39.8
	comp=Z,96nm,18.1s,baz=336,slow=39					
PGAV	**Gavieira, Arco**	**96.49**	**338**	*e*P	**P**	**18 06 50.5 +1.0**
PGAV	**Gavieira, Arco**	**96.49**	**338**	*e*LR	LR	18 42 40.6
	comp=Z,350nm,18.0s					
BLA	**Blacksburg**	**96.53**	**32**	P	**P**	**18 06 48.8 -0.9**
	baz=328					
MVO	**Moncorvo**	**96.83**	**336**	*e*P	**P**	**18 06 49.6 -1.4**
MVO	**Moncorvo**	**96.83**	**336**	*e*LR	LR	18 45 49.7
	comp=Z,441nm,20.0s					
POLO	**Lamas de Olo**	**96.89**	**337**	*e*P	**P**	**18 06 51.5 +0.2**
ESDC	**Sonseca Array**	**97.14**	**334**	P	**P**	**18 06 51.8 -0.6**
	comp=Z,2.2nm,1.1s,baz=19,slow=2.6,SNR=8.7					
ESDC				PP	**PP**	**18 10 48.7 +1.2**
	comp=Z,0.9nm,0.7s,baz=36,slow=7.4,SNR=4.8					
ESDC				LR	LR	18 56 13.6
	comp=Z,393nm,18.9s,baz=16,slow=39					
	comp=Z,2.2nm,1.1s					
ESDC	**Sonseca Array**	**97.14**	**334**	P	**P**	**18 06 51.3 -1.1**
CASEE	**Lake Jocassee**	**97.27**	**35**	P	Pdif	18 06 53.5 +0.4
	baz=326					
MTE	**Manteigas**	**97.69**	**337**	*e*LR	LR	18 45 29.4
	comp=Z,59nm,20.0s					
BRAL	**Brewton**	**98.35**	**40**	P	**P**	**18 06 57.3 -0.6**
	baz=323					
W57A	**Gilead**	**98.45**	**33**	P	**P**	**18 06 58.1 -0.2**
PMRV	**Marv??o**	**98.53**	**336**	*e*P	**P**	**18 06 58.3 -0.3**
PMRV	**Marv??o**	**98.53**	**336**	*e*LR	LR	18 44 53.3
	comp=Z,371nm,20.0s					
RKT	**Rikitea**	**98.88**	**112**	*e*S	**S**	**18 18 27.3 -2.9**
	comp=Z,30µm,40.2s					
RKT				*e*SS	**SS**	**18 25 18.4 +0.8**
	comp=Z,37µm,30.2s					
RKT	**Rikitea**	**98.88**	**112**	*e*LR	LR	18 39 07.1
	comp=Z,124µm,26.8s					
PBAR	**Barrancos**	**99.54**	**335**	*e*P	**Pdif**	**18 07 04.2 +1.1**
PVAQ	**Vaqueiros**	**100.47**	**335**	*e*LR	LR	18 45 27.9
	comp=Z,502nm,20.0s					
VNDA	**Vanda**	**115.11**	**175**	PKP	**PKPdf**	**18 12 00.0 +0.2**
	comp=Z,1.3nm,0.8s,baz=336,slow=4.6,SNR=2.6					
LBTB	**Lobatse**	**124.57**	**263**	PKPdf	**PKPdf**	**18 12 19.5 -0.2**
LBTB	**Lobatse**	**124.57**	**263**	PKIKP	**PKPdf**	**18 12 19.5 -0.2**
PTBC	**PUERTO BERRIO**	**125.17**	**45**	*e*P	**PKPdf**	**18 12 21.0 +0.1**
SDV	**Santo Domingo**	**125.28**	**40**	PKPdf	**PKPdf**	**18 12 21.0 -0.5**
SDV	**Santo Domingo**	**125.28**	**40**	*e*P	**PKiKP**	**18 12 22.3 +0.4**
PLMC	**San Jos del P**	**125.42**	**48**	*e*P	**PKiKP**	**18 12 22.3 +0.3**
GUY2C	**Guyana, Caldas**	**125.71**	**47**	*e*P	**PKiKP**	**18 12 23.1 0.0**
NORC	**Norcasia**	**125.72**	**46**	*e*P	**PKiKP**	**18 12 22.6 -0.1**
YOTC	**Yotoco, Valle**	**126.12**	**49**	*e*P	**PKPdf**	**18 12 23.1 0.0**
DBIC	**Dimbokro**	**126.14**	**317**	PKP	**PKiKP**	**18 12 23.1 -0.2**
	comp=Z,3.7nm,0.6s,baz=4.1,slow=1.7,SNR=9.4					
DBIC				PP	**PP**	**18 14 17.2 +1.1**
	comp=Z,8.0nm,1.1s,baz=48,slow=9.5,SNR=3.5					
DBIC	**Dimbokro**	**126.14**	**317**	PKPdf	**PKPdf**	**18 12 23.0 0.0**
RUSC	**La Rusia**	**126.47**	**44**	PKPdf	**PKPdf**	**18 12 24.3 +0.1**
RUSC	**La Rusia**	**126.47**	**44**	*e*P	**PKPdf**	**18 12 23.6 -0.6**
BAUU	**El Baul**	**126.52**	**37**	PKPdf	**PKPdf**	**18 12 23.5 -0.1**
BOSA	**Boshof**	**126.52**	**259**	PKP	**PKiKP**	**18 12 23.6 -0.2**
	comp=Z,13nm,1.0s,baz=115,slow=2.9,SNR=9.9					
ROSC	**El Rosal**	**126.63**	**46**	PKP	**PKiKP**	**18 12 25.6 +0.8**
	comp=Z,9.5nm,0.6s,baz=28,slow=5.0,SNR=10					
ROSC	**El Rosal**	**126.63**	**46**	PKPdf	**PKPdf**	**18 12 23.3 -1.1**
QSPA	**South Pole Qui**	**126.91**	**180**		**PKPdf**	**18 12 22.7 -0.1**
CHIC	**Chingaza**	**127.14**	**46**	*e*P	**PKPdf**	**18 12 25.5 +0.2**
COHC	**Cochancay**	**129.20**	**57**		**PKPdf**	**18 12 28.5 -0.2**
MCRA	**Macar, Loja**	**130.11**	**59**		**PKPdf**	**18 12 30.1 -0.5**
ATAH	**Atahualpa**	**133.16**	**60**	PKP	**PKiKP**	**18 12 38.6 +0.6**
	comp=Z,16nm,1.0s,baz=307,slow=2.7,SNR=17					
ELIB	**Princess Elisa**	**133.50**	**202**	*e*PKP	**PKiKP**	**18 12 37.2 +0.7**
SGCB	**SGo Gabriel d**	**134.78**	**42**	*e*P	**PKiKP**	**18 12 40.2 -0.6**
BOAV	**Boa Vista**	**135.72**	**32**	*e*P	**PKiKP**	**18 12 42.1 -0.6**
TBTG	**Tabatinga, AM**	**136.47**	**49**	*e*P	**PKiKP**	**18 12 43.7 -0.4**
NVL	**N'lazarevskaya**	**137.38**	**202**	*e*PKIKP	**PKPdf**	**18 12 35.2 -7.1**
NVL				pmax	pmax	
	comp=Z,11nm,1.1s					
CZSB	**Cruzeiro do Su**	**137.44**	**55**	*e*P	**PKPdf**	**18 12 44.8 +0.5**
NNA	**Nana**	**137.63**	**64**	PKP	**PKPdf**	**18 12 45.5 +0.9**
	comp=Z,18nm,0.7s,baz=273,slow=5.4,SNR=6.1					
MACA	**Manacapuru-AM**	**140.58**	**36**	*e*P	**PKPdf**	**18 12 51.0 +1.0**
SNAA	**Sanae**	**140.85**	**197**	PP	**PP**	**18 15 47.6 -2.0**
	comp=Z,2.8nm,0.8s,baz=164,slow=5.0,SNR=4.8					
SNAA	**Sanae**	**140.85**	**197**		PKPpre	18 12 40.8
SNAA	**Sanae**	**140.85**	**197**	PKHKP	PKPpre	18 12 40.8
MCPB	**Macapa, AP**	**141.35**	**22**	*e*P	**PKPdf**	**18 12 52.5 +1.0**
MALB	**Monte Alegre**	**142.04**	**26**	*e*P	**PKPdf**	**18 12 53.5 +0.9**
ETMB	**Extrema**	**143.14**	**49**		PKPpre	18 12 47.3
ETMB	**Extrema**	**143.14**	**49**	*e*P	PKPbc	18 12 50.8 -0.5
ITTB	**Itaituba**	**143.81**	**30**	*e*P	PKPbc	18 12 53.9 +0.6
TMAB	**Tom-Au,PA,Br**	**144.31**	**16**	*e*P	**PKPdf**	**18 12 57.2 +0.6**
SMAI	**San Martin Ant**	**145.18**	**162**		**PKPdf**	**18 12 56.7 +0.3**
ROSB	**Rosrio**	**145.53**	**10**	*e*P	**PKPab**	**18 12 59.3 +0.3**
NPGB	**Novo Progresso**	**146.40**	**31**	*e*P	**PKPbc**	**18 13 01.3 -0.1**
PB18	**Visviri**	**146.64**	**63**		**PKPab**	**18 13 03.6 -0.1**
LPAZ	**La Paz**	**146.70**	**59**		**PKPbc**	**18 13 02.2 -0.8**
LPAZ	**La Paz**	**146.70**	**59**	PKP2	**PKPbc**	**18 13 02.2 -0.8**
LPAZ	**La Paz**	**146.70**	**59**	*e*P	**PKPbc**	**18 13 02.8 -0.2**
PB12	**IPOC Station P**	**146.70**	**65**		**PKPbc**	**18 13 01.8 -0.5**
PB16	**IPOC Station P**	**147.11**	**64**		**PKPdf**	**18 13 01.5 -0.4**
H03N2	**Juan Fernandez**	**147.12**	**96**	T	T	20 57 26.4
	baz=291,slow=76,SNR=406					
H03N3	**Juan Fernandez**	**147.13**	**96**	T	T	20 57 29.4
	baz=291,slow=76,SNR=397					
H03N1	**Juan Fernandez**	**147.13**	**96**	T	T	20 57 27.5
	baz=291,slow=76,SNR=458					
NBCL	**Cascavel-CE**	**147.22**	**359**	*e*P	**PKPdf**	**18 13 02.5 +0.9**
PSGCX	**Pisagua**	**147.47**	**66**	PKPdf	**PKPdf**	**18 13 02.3 +0.4**
PRPB	**Parauapebas**	**147.52**	**21**	*e*P	**PKPdf**	**18 13 03.0 +0.9**
TA02	**Huaiquique**	**147.89**	**67**		**PKPbc**	**18 13 05.6 +0.2**
PB11	**IPOC Station P**	**147.92**	**66**		**PKPbc**	**18 13 04.3 -1.5**
TA01	**Diego Aracena**	**148.03**	**68**		**PKPdf**	**18 13 03.8 +1.1**
GO01	**Chuquiza**	**148.20**	**65**		**PKPdf**	**18 13 04.7 +1.1**
PATCX	**Punta Patache**	**148.21**	**68**		**PKPdf**	**18 13 04.0 +1.0**
PMSA	**Palmer Station**	**148.52**	**159**	*e*P	**PKPdf**	**18 13 03.2 +1.2**
PB08	**IPOC Station P**	**148.52**	**66**		**PKPdf**	**18 13 04.7 +0.7**
PB02	**IPOC Station P**	**148.70**	**68**		**PKPdf**	**18 13 05.3 +1.4**
RCBR	**Riachuelo**	**148.71**	**355**	PKPbc	**PKPbc**	**18 13 07.5 -0.4**
	comp=Z,26nm,1.0s,baz=315,slow=2.7,SNR=5.9					
RCBR	**Riachuelo**	**148.71**	**355**		**PKPdf**	**18 13 05.2 +1.1**
RCBR	**Riachuelo**	**148.71**	**355**	PKIKP	**PKPdf**	**18 13 05.2 +1.1**
RCBR	**Riachuelo**	**148.71**	**355**	*e*P	**PKPdf**	**18 13 05.3 +1.2**
PB01	**IPOC Station P**	**148.84**	**68**		**PKPdf**	**18 13 04.5 +0.4**
PB07	**IPOC Station P**	**148.95**	**69**		**PKPdf**	**18 13 05.4 +1.0**
PB04	**IPOC Station P**	**149.11**	**70**		**PKPdf**	**18 13 03.7 -0.9**
VILB	**Vilhena**	**149.15**	**44**	PKPdf	**PKPdf**	**18 13 04.3 -0.4**
VILB	**Vilhena**	**149.15**	**44**	*e*P	**PKPdf**	**18 13 05.5 +0.8**
PB03	**IPOC Station P**	**149.24**	**69**		**PKPdf**	**18 13 05.0 +0.2**
PB09	**IPOC Station P**	**149.47**	**68**		**PKPdf**	**18 13 05.1 -0.1**
PB10	**IPOC Station P**	**149.47**	**73**		**PKiKP**	**18 13 10.8 +0.3**
CLDB	**Colider**	**149.62**	**35**	*e*P	**PKPdf**	**18 13 06.2 +0.7**
PDRB	**Porto dos Gac**	**149.83**	**37**	*e*P	**PKPdf**	**18 13 06.5 +0.7**
PB15	**IPOC Station P**	**150.13**	**71**		**PKiKP**	**18 13 11.9 -0.2**
LVC	**Limon Verde**	**150.20**	**69**	PKPbc	**PKiKP**	**18 13 13.2 +0.7**
	comp=Z,84nm,1.0s,baz=238,slow=4.9,SNR=4.4					
LVC	**Limon Verde**	**150.20**	**69**	*e*P	**PKPdf**	**18 13 06.4 -0.2**
SMTB	**Santa Maria do**	**150.69**	**18**	*e*P	**PKPdf**	**18 13 08.0 +0.8**
SIV	**San Ignacio**	**151.06**	**49**	PKP	**PKPdf**	**18 13 09.1 +1.4**
	comp=Z,9.4nm,1.0s,baz=323,slow=1.5,SNR=24					
SIV				PKPbc	**sPKPdf**	**18 13 14.2 0.0**
	comp=Z,61nm,0.9s,baz=311,slow=1.8,SNR=62					
SIV				PP	**PP**	**18 16 49.5 -1.3**
	comp=Z,3.5nm,1.1s,baz=352,slow=14,SNR=1.7					
AC06	**Mina Casimiro**	**151.60**	**79**		**PKiKP**	**18 13 15.8 +0.9**
PTLB	**Pontes e Lacer**	**151.77**	**45**	*e*P	**PKPdf**	**18 13 09.5 +0.8**
LCO	**Las Campanas**	**152.07**	**82**		**PKPbc**	**18 13 14.9 -0.9**
LCO	**Las Campanas**	**152.07**	**82**	PKIKP	**PKPbc**	**18 13 14.9 -0.9**
AC02	**Maricunga**	**152.31**	**77**		**PKiKP**	**18 13 17.7 +0.8**
GO04	**Tololo Observa**	**152.47**	**85**		**PKPbc**	**18 13 14.6 -2.0**
SNDB	**Serra Nova Dou**	**152.48**	**28**	*e*P	**PKPdf**	**18 13 10.5 +0.7**
ROC1	**El Roble**	**153.28**	**91**		**PKPdf**	**18 13 10.0 -0.8**
MT01	**Popeta**	**153.36**	**93**		**PKPdf**	**18 13 09.5 -1.1**
MT09	**Talagante**	**153.54**	**92**		**PKPdf**	**18 13 10.4 -0.6**
VA03	**San Esteban**	**153.59**	**90**		**PKiKP**	**18 13 19.5 +0.6**
MT05	**Renca**	**153.63**	**91**		**PKPbc**	**18 13 17.4 -1.5**
BO01	**Tunca**	**153.64**	**94**		**PKPdf**	**18 13 09.4 -1.6**
MT03	**Universidad Ad**	**153.84**	**92**		**PKPdf**	**18 13 11.6 +0.2**
BO04	**La Punta**	**153.91**	**93**		**PKPdf**	**18 13 11.4 0.0**
SALV	**Santo Antonio**	**154.01**	**40**	*e*P	**PKPdf**	**18 13 12.9 +0.9**
ZON	**Zonda**	**154.67**	**86**	PKPdf	**PKPdf**	**18 13 11.8 -0.8**
ZON	**Zonda**	**154.67**	**86**	PKIKP	**PKPdf**	**18 13 11.8 -0.8**
SDBA	**SAO DESIDERIO**	**154.73**	**14**	*e*P	**PKPdf**	**18 13 14.1 +1.0**
PLCA	**Paso Flores**	**155.04**	**108**	PKP	**PKPdf**	**18 13 13.2 +0.5**
	comp=Z,5.1nm,1.2s,baz=137,slow=7.4,SNR=2.2					
PLCA				PKPbc	**sPKPdf**	**18 13 22.2 +2.8**
	comp=Z,6.6nm,1.1s,baz=309,slow=8.0,SNR=3.0					
PLCA				PKPab	**PKPab**	**18 13 38.3 +1.0**
	comp=Z,12nm,1.0s,baz=276,slow=2.9,SNR=5.7					
PLCA	**Paso Flores**	**155.04**	**108**		**PKPdf**	**18 13 13.1 +0.3**
PLCA	**Paso Flores**	**155.04**	**108**	*e*P	**PKPdf**	**18 13 13.3 +0.5**
CFA	**Coronel Fontan**	**155.05**	**86**	PKP	**PKPdf**	**18 13 12.8 -0.2**
	comp=Z,1.4nm,0.5s,baz=273,slow=2.3,SNR=4.1					
CFA				PKPbc	**sPKPdf**	**18 13 22.3 +2.7**
	comp=Z,11nm,1.0s,baz=290,slow=3.1,SNR=8.9					
CFA				PKPab	**PKPab**	**18 13 37.8 +0.2**
	comp=Z,21nm,1.1s,baz=260,slow=6.0,SNR=7.3					
ARAG	**Araguaiana, MT**	**155.66**	**32**	*e*P	**PKPdf**	**18 13 15.1 +0.8**
PP1B	**Ponte de Pedra**	**155.85**	**41**	*e*P	**PKPdf**	**18 13 14.9 +0.5**
GDU01	**Duandu, BA**	**156.64**	**2**	*e*P	**PKPdf**	**18 13 16.7 +1.1**
BDFB	**Brasilia**	**157.02**	**24**	PKP	**PKPdf**	**18 13 16.7 +0.5**
	comp=Z,5.0nm,1.1s,baz=353,slow=5.0,SNR=2.0					
BDFB				PP	**PP**	**18 17 20.7 -3.0**
	comp=Z,6.4nm,1.2s,baz=298,slow=12,SNR=2.1					
BDFB	**Brasilia**	**157.02**	**24**	*e*P	**PKPdf**	**18 13 17.1 +0.9**
JANB	**Januaria**	**157.42**	**14**	*e*P	**PKPdf**	**18 13 17.1 +0.4**
AQDB	**Aquidauana**	**157.73**	**46**	PKPdf	**PKPdf**	**18 13 17.6 +0.8**
AQDB	**Aquidauana**	**157.73**	**46**	*e*P	**PKPdf**	**18 13 17.3 +0.5**
CMC01	**Camacan, BA**	**158.27**	**2**	*e*P	**PKPdf**	**18 13 18.7 +1.1**
IPMB	**Ipameri, GO**	**159.14**	**26**	*e*P	**PKPdf**	**18 13 18.9 +0.3**
GUA01	**Guaratinga, BA**	**159.48**	**3**	*e*P	**PKPdf**	**18 13 19.7 +0.7**
ITRB	**Iturama**	**159.84**	**34**	*e*P	**PKPdf**	**18 13 20.2 +0.9**
DIAM	**Diamantina, MG**	**160.70**	**14**	*e*P	**PKPdf**	**18 13 21.1 +0.5**
NAN01	**Guarapari, ES**	**160.71**	**4**	*e*P	**PKPdf**	**18 13 20.8 +0.5**
CPUP	**Villa Florida**	**160.85**	**61**	PKP	**PKPdf**	**18 13 20.6 +0.3**
	comp=Z,5.0nm,1.0s,baz=3.7,slow=4.0,SNR=5.9					
CPUP				PKPab	**PKPab**	**18 14 03.0 +0.4**
	comp=Z,6.1nm,1.2s,baz=338,slow=9.1,SNR=4.0					
CPUP	**Villa Florida**	**160.85**	**61**	PKPdf	**PKPdf**	**18 13 20.4 +0.2**
CPUP	**Villa Florida**	**160.85**	**61**	*e*P	**PKPdf**	**18 13 20.5 +0.3**
PCMB	**Pacaembu**	**161.05**	**39**	*e*P	**PKPdf**	**18 13 21.7 +1.1**
TRCB	**Terra Rica**	**161.30**	**44**	*e*P	**PKPdf**	**18 13 21.9 +1.0**
SJMB	**Sao Joao De Ma**	**161.48**	**7**	*e*P	**PKPdf**	**18 13 22.1 +0.9**
RIB01	**Linhares ES**	**162.16**	**5**	*e*P	**PKPdf**	**18 13 22.8 +0.9**
PTGB	**Pitanga**	**163.12**	**46**	*e*P	**PKPdf**	**18 13 23.6 +0.8**
ITQB	**Itaqui**	**163.28**	**69**	*e*P	**PKPdf**	**18 13 23.9 +1.2**
FRTB	**Fartura**	**163.35**	**37**	*e*P	**PKPdf**	**18 13 24.2 +1.3**

4.2nm,0.3s
H11N2 WAKE ISLAND Hy 28.21 121 T T 18 43 10.3
baz=314,slow=75,SNR=26
H11N1 WAKE ISLAND Hy 28.22 121 T T 18 43 11.7
baz=314,slow=75,SNR=37
H11N3 WAKE ISLAND Hy 28.23 121 T T 18 43 12.4
baz=314,slow=75,SNR=39
H11S1 WAKE ISLAND Hy 28.93 123 T T 18 44 03.8
baz=316,slow=75,SNR=8.3
H11S3 WAKE ISLAND Hy 28.93 123 T T 18 44 02.6
baz=316,slow=75,SNR=5.8
H11S2 WAKE ISLAND Hy 28.94 123 T T 18 44 05.4
baz=316,slow=75,SNR=5.6
MKAR Makanchi Array 44.05 302 P **P** **18 15 52.6 -0.5**
0.2nm,0.6s,baz=84,slow=7.3,SNR=2.4
0.2nm,0.6s
ILAR Eielson Array 49.44 32 P **P** **18 16 36.0 +1.1**
0.4nm,0.9s,baz=253,slow=6.3,SNR=1.9
0.4nm,0.9s
WRA Warramunga Arr 57.13 188 P **P** **18 17 31.5 -0.4**
0.5nm,0.8s,baz=3.9,slow=7.4,SNR=1.7
0.5nm,0.8s

OTT 04 18:17:03.3±0.5, 76°.63N×118°.37W, h18km, ML3.8/5, 51km northeast from Mould Bay, Nt Sverdrup Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A36M	**Sachs Harbour**	**5.02**	**205**	PN	Pn	18 18 16.8	-0.7
A36M				SN	Sn	18 19 11.8	-3.1
A36M				Trac		18 19 24.8	
	comp=Z,6.5nm,0.3s						
RES	**Resolute Bay**	**6.12**	**97**	PN	Pn	18 18 31.7	-0.8
RES				SN	Sn	18 19 38.2	-3.7
RES				Trac		18 19 43.5	
	comp=Z,18nm,0.8s						
EUNU	**Eureka**	**7.23**	**47**	PN	Pn	18 18 47.7	-0.1
EUNU				Trac		18 20 25.2	
	comp=Z,161nm,3.1s						
KUKN	**Kugluktuk,NWT**	**8.91**	**172**	PN	Pn	18 19 09.9	-0.9
KUKN				SN	Sn	18 20 43.7	-6.8
KUKN				Trac		18 21 18.6	
	comp=Z,9.2nm,0.6s						
INK	**Inuvik**	**9.48**	**216**	PN	Pn	18 19 18.4	-0.1
INK				SN	Sn	18 20 57.5	-6.9
INK				Trac		18 21 02.9	
	comp=Z,50nm,1.7s						
ILON	**Igloolik, Nuna**	**12.66**	**106**	PN	Pn	18 19 58.6	-3.5
ILON				Trac		18 21 55.3	
	comp=Z,2.6nm,0.1s						

*TEH **04** 18:30:43.3, 29°.84N×56°.96E, h8km±35km, ML3.3*
*DSN **04** 18:30:44.3±1.4, 29°.66N×54°.58E, h10km, ML3.6/4, Error ellipse: s-maj=65.2km s-min=9.1km az=79.0*
*IDC **04** 18:30:46.2±1.9, 29°.70N×56°.83E, h0km, mb3.2/4, mbtmp3.4/6, ML3.6/2, Error ellipse: s-maj=38.0km s-min=29.0km az=82.0*
ISC 04 18:30:45.2±0.7, 29°.79N±0°.03×56°.94E±0°.03, h10km, n47, σ1s55/51, mb3.2/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.23**	**230**	Pg	**Pg**	**18 30 48.9**	**-1.3**
KRBR	**Kerman**	**0.24**	**321**	Pg	**Pg**	**18 30 48.7**	**-1.7**
TVBK	**TV Kerman**	**0.24**	**322**	Pg	**Pg**	**18 30 48.5**	**-2.0**
TVBK				Sg	**Sg**	**18 30 51.7**	**-2.3**
CHMN	**Cheshme madani**	**0.53**	**83**	Pg	**Pg**	**18 30 53.4**	**-2.2**
CHMN				Sg	**Sg**	**18 31 01.3**	**-1.4**
KHGB	**Koh Gabri**	**0.70**	**326**	Pg	**Pg**	**18 30 56.7**	**-2.2**
KHGB				Sg	**Sg**	**18 31 06.0**	**-2.2**
ZRDN	**Zarand Kerman**	**1.22**	**344**	Pg	**Pb**	**18 31 06.5**	**-2.1**
KHNJ	**Kahnooj**	**1.96**	**160**	Pn	**Pn**	**18 31 18.0**	**-0.6**
IBAF	**Bafgh**	**2.15**	**327**	Pn	**Pn**	**18 31 21.9**	**+0.6**
IBND	**Bandar-abas**	**2.36**	**189**	Pn	**Pb**	**18 31 26.0**	**-1.8**
BNDS	**Bandar-Abbas**	**2.48**	**196**	Pn	**Pb**	**18 31 27.4**	**-2.6**
GENO	**Geno**	**2.48**	**196**	Pn	**Pb**	**18 31 27.7**	**-2.3**
IMEH	**Mehriz**	**2.56**	**309**	Pn	**Pn**	**18 31 27.6**	**+0.6**
BSRN	**Basiran**	**2.87**	**40**	Pn	**Pn**	**18 31 31.1**	**-0.1**
NHDN	**Nehbandan**	**3.12**	**59**	Pn	**Pn**	**18 31 35.0**	**+0.3**
IKOO	**Kooshah**	**3.17**	**34**	Pn	**Pn**	**18 31 35.5**	**+0.2**
ICHK	**Chekchek**	**3.27**	**319**	Pn	**Pn**	**18 31 37.5**	**+0.7**
YZKH	**Yazd**	**3.28**	**323**	Pn	**Pn**	**18 31 38.0**	**+1.3**
ZHSF	**Zahedan**	**3.34**	**92**	Pn	**Pn**	**18 31 39.2**	**+1.4**
ZHDN	**Zahedan**	**3.40**	**96**	Pn	**Pn**	**18 31 38.9**	**+0.5**
ITEG	**Tejag**	**3.46**	**26**	Pn	**Pn**	**18 31 39.5**	**+0.1**
BAGH	**Bagheran - Bir**	**3.56**	**33**	Pn	**Pn**	**18 31 40.4**	**-0.4**
TKDS	**Koohdasht(Taba**	**3.81**	**2**	Pn	**Pn**	**18 31 44.2**	**0.0**
TABS	**Tabas**	**3.85**	**2**	Pn	**Pn**	**18 31 45.5**	**+0.9**
IDAH	**Dahanechah**	**3.86**	**40**	Pn	**Pn**	**18 31 45.4**	**+0.5**
BANOM	**Banah**	**3.90**	**188**	P	**Pn**	**18 31 46.0**	**+0.8**
JASK	**Jask - Hormozg**	**4.00**	**168**	Pn	**Pn**	**18 31 48.1**	**+1.5**
AFRZ	**Afriz**	**4.03**	**26**	Pn	**Pn**	**18 31 47.3**	**+0.1**
TNSJ	**Nastanj**	**4.17**	**356**	Pn	**Pn**	**18 31 49.3**	**+0.3**
ANAR	**Anarak**	**4.36**	**322**	Pn	**Pn**	**18 31 52.5**	**+0.9**
IRAM	**Ramesheh**	**4.40**	**298**	Pn	**Pn**	**18 31 54.0**	**+1.6**
MSFE	**Esma-Masafi**	**4.47**	**189**	P	**Pn**	**18 31 52.3**	**-0.8**
NASN	**Na'in**	**4.63**	**311**	Pn	**Pn**	**18 31 56.5**	**+0.9**
SHRT	**Shahrakht**	**4.79**	**36**	Pn	**Pn**	**18 31 59.0**	**+1.5**
UOSS	**Minazif**	**4.87**	**188**	P	**Pn**	**18 31 58.9**	**+0.3**
ASHO	**Ashiyiah**	**5.15**	**189**	P	**Pn**	**18 32 01.5**	**-0.9**
ASHO				S	**Sn**	**18 33 02.1**	**+0.1**
KRSH	**Karshahi**	**5.83**	**317**	Pn	**Pn**	**18 32 14.1**	**+2.1**
ISFB	**Sefidab**	**6.04**	**320**	Pn	**Pn**	**18 32 15.5**	**+0.8**
TBJM	**Torbat-e-JAM**	**6.16**	**27**	Pn	**Pn**	**18 32 17.2**	**+0.7**
SHRO	**Shahrood**	**6.23**	**353**	Pn	**Pn**	**18 32 18.9**	**+1.6**
WSAR	**Wadi Sarin**	**6.70**	**167**	Pn	**Pn**	**18 32 24.5**	**+0.8**
	1.7nm,0.3s,baz=351,slow=6.4,SNR=34						
WSAR				Sn	**Sn**	**18 33 39.2**	**-1.0**
	3.1nm,0.3s,baz=245,slow=16,SNR=9.1						
	5.2nm,0.5s						
IAKL	**Akhelmad**	**6.96**	**12**	Pn	**Pn**	**18 32 28.3**	**+0.8**
MRVT	**Maraveh tapeh**	**7.88**	**355**	Pn	**Pn**	**18 32 41.4**	**+1.5**
GEYT	**Alibeck**	**8.17**	**7**	Pn	**Pn**	**18 32 45.8**	**+1.8**
	0.6nm,0.3s,baz=192,slow=13,SNR=6.6						
	1.5nm,0.3s						
AKTO	**Aktyubinsk**	**20.63**	**2**	P	Pn	18 35 29.1	+2.0
	0.6nm,0.5s,baz=207,slow=7.9,SNR=3.5						
	0.6nm,0.5s						
BRTR	**Keskin Array B**	**21.50**	**304**	P	**P**	**18 35 37.0**	**+2.6**
	0.9nm,0.8s,baz=124,slow=12,SNR=5.8						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**25.22**	**19**	P	**P**	**18 36 14.4**	**+3.3**
	0.3nm,0.5s,baz=207,slow=9.1,SNR=2.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**25.98**	**42**	P	**P**	**18 36 21.9**	**+3.8**
	0.4nm,0.8s,baz=238,slow=8.4,SNR=4.0						
	0.4nm,0.8s						

TAP 04 18:45:56.0, 24°.13N×121°.68E, h9km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.06**	**300**	*e*P	Pg	18 45 59.0	+0.8
	baz=300						
ETL				*i* S	Sg	18 46 00.5	+0.9
	baz=300						
NACB	**Ninganchiao**	**0.09**	**300**	*e*P	Pg	18 45 59.3	+0.9
	baz=300						
NACB				*i* S	Sg	18 46 01.2	+1.0
	baz=300						
TWD	**Chiawan**	**0.09**	**238**	P	Pg	18 45 59.0	+0.6
	baz=236						
TWD				*i* S	Sg	18 46 00.9	+0.8
	baz=236						
HWA	**Hwalien**	**0.17**	**205**	*e*P	Pg	18 46 02.2	+2.6
	baz=202						
ETLH	**Xiulin Townshi**	**0.20**	**293**	*e*P	Pg	18 46 01.3	+1.1
	baz=293						
ETLH				S	Sg	18 46 04.5	+1.4
	baz=293						
ETM	**Tongmen**	**0.24**	**227**	P	Pg	18 46 01.7	+0.8
	baz=226						
ETM				S	Sg	18 46 05.0	+0.9
	baz=226						
ENA	**Nanau**	**0.30**	**10**	*i* P	Pb	18 46 03.0	-0.7
	baz=11						
ENA				*e*S	Sg	18 46 07.3	+1.1
	baz=11						
EWUT	**Wuta**	**0.33**	**16**	*e*P	Pg	18 46 02.9	+0.4
	baz=15						
EWUT				*e*S	Sg	18 46 08.1	+1.1
	baz=15						
WHF	**Hehuan Shan**	**0.38**	**273**	*e*P	Pb	18 46 04.8	-0.4
	baz=272						
WHF				S	Sb	18 46 10.2	-1.1
	baz=272						
ESL	**Shilin**	**0.39**	**216**	P	Pg	18 46 04.2	+0.5
	baz=214						
ESL				*e*S	Sg	18 46 09.3	+0.5
	baz=214						
NNSB	**Datong**	**0.40**	**318**	P	Pb	18 46 05.3	-0.1
	baz=317						
NNSB				S	Sb	18 46 11.3	-0.4
	baz=317						
NNS	**Nan Shan**	**0.42**	**318**	P	Pb	18 46 05.7	0.0
	baz=318						
NNS				S	Sb	18 46 12.1	-0.1
	baz=318						
LATG	**Datong**	**0.43**	**341**	P	Pb	18 46 05.5	-0.4
	baz=340						
LATG				S	Sb	18 46 12.4	0.0
	baz=340						
CHGB	**Renai**	**0.47**	**262**	P	Pb	18 46 06.5	0.0
	baz=261						
CHGB				*i* S	Sb	18 46 13.5	-0.2
	baz=261						
OWD	**Renai**	**0.49**	**250**	P	Pb	18 46 06.8	-0.2
	baz=249						
EGFH	**Guangfu**	**0.51**	**207**	*e*P	Pb	18 46 07.8	+0.6
	baz=206						
EGFH				*e*S	Sb	18 46 15.2	+0.4
	baz=206						
ENTT	**Nioudou**	**0.52**	**348**	*e*P	Pb	18 46 07.5	+0.1
	baz=349						
ENTT				S	Sb	18 46 14.9	-0.1
	baz=349						
WUSB	**Renai**	**0.53**	**255**	P	Pb	18 46 07.7	+0.1
	baz=255						
WUSB				*e*S	Sb	18 46 15.0	-0.4
	baz=255						
VWDT	**VWDT**	**0.62**	**233**	*i* S	Sb	18 46 18.4	+0.6
	baz=232						
YOJ	**Yonaguni jima**	**1.26**	**74**	*e*P	Pb	18 46 20.0	+0.1
	baz=74						

JMA 04 18:46:53.2±0.2, 24°N±3°×122°.9E±0°.7, h50km±4km, MV1.8/10, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**12**	*i* P	Pn	18 47 01.9	0.0
JYNG				*e*S	Sn	18 47 08.2	0.0
YOJ	**Yonaguni jima**	**0.29**	**23**	P	Pn	18 47 02.2	0.0
YOJ				S	Sn	18 47 08.4	-0.2
IRIF	**Iriomote-Funau**	**0.78**	**80**	P	Pn	18 47 08.0	0.0
IRIF				S	Sn	18 47 19.2	+0.4
HATJ	**Hateruma jima**	**0.85**	**99**	S	Sn	18 47 19.2	-1.2
JKRS	**Kuro-shima**	**1.02**	**87**	P	Pn	18 47 12.2	+1.0
JKRS				S	Sn	18 47 25.7	+1.2
JIJ	**Ishigaki jima**	**1.16**	**81**	P	Pn	18 47 13.2	+0.2
JIJ				S	Sn	18 47 27.7	-0.2
JISG	**Ishigakijimahi**	**1.35**	**73**	*e*P	Pn	18 47 15.9	+0.1
JISG				S	Sn	18 47 32.1	-0.5
JTJ	**Tarama**	**1.71**	**75**	P	Pn	18 47 21.3	+0.7
JTJ				S	Sn	18 47 42.0	+0.7

IDC 04 19:03:28.8±3.9, 2°.17N×123°.80E, h0km, mb3.8/3, mbtmp3.8/3, MS3.0/1, Error ellipse: s-maj=200.3km s-min=34.5km az=83.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**12.30**	**181**	LR	LR	19 10 58.0	
	comp=Z,71nm,19.1s,baz=330,slow=36						
WRA	**Warramunga Arr**	**24.29**	**155**	P	P	19 08 48.2	0.0
	1.5nm,0.6s,baz=331,slow=11,SNR=21						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**27.50**	**160**	P	P	19 09 17.8	+0.5
	0.5nm,0.6s,baz=344,slow=11,SNR=12						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**87.75**	**25**	P	P	19 16 18.8	-0.7
	0.8nm,1.1s,baz=268,slow=5.0,SNR=3.8						
	0.8nm,1.1s						

JMA 04 19:08:52.5±0.4, 37°.1N±0°.8×14°.1E±°, h24km±3km, MV1.3/24, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**273**	*e*S	Sb	19 09 08.7	+0.1
JFFD	**Fukushimafurud**	**0.65**	**271**	*e*P	Pb	19 09 05.0	-0.3
JFFD				*e*S	Sb	19 09 13.8	-0.2
JMST	**Minamisoumatoc**	**0.76**	**329**	*e*P	Pb	19 09 06.6	-0.4

DJA 04 19:11:28.5±2.0, 2°.7N±6°×12°.5E±°, h21km±17km, M4.0/10, mb4.6/2, mB5.5/2, MLv3.7/10, Mw(mB)5.0/2, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.32**	**112**	P	Pn	19 12 06.6	+1.1
TNTI				S	Sn	19 12 35.1	+1.7
GTOI	**Gorontalo**	**2.43**	**245**	P	Pn	19 12 08.7	+1.7
MRSI	**Marisa**	**3.48**	**250**	P	Pn	19 12 22.2	+0.7
LUWI	**Luwuk**	**3.63**	**222**	P	Pn	19 12 24.0	+0.5
SANI	**Sanana**	**3.76**	**168**	P	Pn	19 12 24.1	-1.3
APSI	**Ampana**	**4.39**	**234**	P	Pn	19 12 34.9	+0.9
NLAI	**Namlea**	**5.22**	**159**	P	Pn	19 12 44.4	-0.9
	26nm,0.8s,11μm0.2nm						

*IDC **04** 19:12:04.2±1.9, 7°.66S×129°.35E, h94km±24km, mb3.2/1, mbtmp3.9/5, Error ellipse: s-maj=24.4km s-min=15.0km az=114.0*
ISC 04 19:12:04.0±0.8, 7°.69S±0°.06×129°.39E±0°.08, h79km, n12, σ1s82/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.19**	**9**	P	**Pn**	**19 12 51.7**	**-0.2**
MTN	**Manton Dam**	**5.40**	**162**	P	Pn	19 13 26.6	+4.6
	32nm,0.4s						
SOEI	**Soe**	**5.46**	**248**	P	**Pn**	**19 13 24.1**	**+1.2**
	36nm,1.1s						
FAKI	**Fak Fak**	**5.53**	**31**	P	**Pn**	**19 13 23.9**	**+0.1**
	26nm,1.3s						
KDU	**Kakadu**	**5.82**	**149**	P	**Pn**	**19 13 31.3**	**+3.6**
	19nm,1.7s						
BATI	**Baumata**	**6.18**	**246**	P	**Pn**	**19 13 33.6**	**+0.9**
	50nm,0.6s,baz=68,slow=5.4,SNR=20						
BATI				S	**Sn**	**19 14 42.0**	**-0.1**
	33nm,0.5s,baz=115,slow=19,SNR=1.5						
SIJI	**Sorong**	**7.03**	**16**	P	**Pn**	**19 13 43.9**	**-0.4**
	2.2nm,0.3s,baz=200,slow=22,SNR=20						
SIJI				S	**Sn**	**19 15 03.2**	**+0.3**
	7.3nm,0.6s,baz=221,slow=22,SNR=5.6						
KNRA	**Kununurra**	**7.96**	**184**	P	**Pn**	**19 13 59.5**	**+2.5**
	71nm,0.6s						
GENI	**Genyem**	**11.87**	**65**	P	**Pn**	**19 14 50.6**	**+0.3**
WRA	**Warramunga Arr**	**13.09**	**159**	P	**Pn**	**19 15 07.0**	**+0.1**
	1.1nm,0.3s,baz=330,slow=13,SNR=36						
WRA				S	**Sn**	**19 17 26.9**	**-3.8**
	3.3nm,0.5s,baz=332,slow=24,SNR=9.7						
ASAR	**Alice Springs**	**16.46**	**165**	P	**P**	**19 15 51.3**	**-0.2**
	0.9nm,0.5s,baz=345,slow=10,SNR=19						
ASAR				S	**Sn**	**19 18 51.7**	**-0.8**
	0.9nm,0.6s,baz=347,slow=24,SNR=6.9						
MKAR	**Makanchi Array**	**68.47**	**327**	P	**P**	**19 22 56.0**	**-1.7**
	0.2nm,0.3s,baz=131,slow=5.9,SNR=6.3						
	0.2nm,0.3s						

*INET **04** 19:14:23.2±0.8, 9°.82N×84°.08W, h61km±4km, MW2.9*
*UCR **04** 19:14:23.1±1.0, 9°.84N×84°.14W, h66km±2km, MW3.9*
*UPA **04** 19:14:23.1±2.0, 9°.56N×84°.29W, h17km±10km, MW3.9*
ISC 04 19:14:24.2±1.2, 9°.81N±0°.03×84°.15W±0°.03, h60km±5km, n109, σ0s90/135, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACOS	**Acosta**	**0.02**	**233**	*e*P	**Pn**	**19 14 32.5**	**-0.7**
ACOS				*e*S	**Sn**	**19 14 39.6**	**-0.1**
AMPA	**Desamparados**	**0.12**	**44**	*e*P	**Pn**	**19 14 33.7**	**+0.2**
AMPA				*e*S	**Sn**	**19 14 41.2**	**+1.1**
SANTA	**Santa Ana**	**0.13**	**343**	*e*P	**Pn**	**19 14 32.7**	**-0.8**
SANTA				*e*S	**Sn**	**19 14 40.1**	**+0.1**
ABE2	**San Pablo**	**0.14**	**139**	*e*P	**Pn**	**19 14 32.8**	**-0.8**
ABE2				*e*S	**Sn**	**19 14 40.5**	**0.0**
CENT	**San Jose**	**0.14**	**29**	*e*P	**Pn**	**19 14 33.8**	**+0.3**
CENT				*e*S	**Sn**	**19 14 41.6**	**+1.4**
LUJA	**Lujan**	**0.14**	**32**	*e*P	**Pn**	**19 14 33.8**	**+0.3**
LUJA				*e*S	**Sn**	**19 14 41.4**	**+1.2**
SJS	**Escuela Geolog**	**0.16**	**35**	*e*P	**Pn**	**19 14 32.9**	**-0.7**
SJS				*e*S	**Sn**	**19 14 40.9**	**+0.5**
SJS3	**Mercedes San J**	**0.16**	**36**	*e*P	**Pn**	**19 14 33.0**	**-0.6**
TIBA	**Tibas**	**0.17**	**26**	*e*P	**Pn**	**19 14 34.2**	**+0.5**
BELE	**Belen**	**0.17**	**346**	*e*P	**Pn**	**19 14 34.0**	**+0.4**
TRIO	**Tres Rios**	**0.18**	**58**	*e*P	**Pn**	**19 14 33.8**	**+0.1**
DOMI	**Santo Domingo**	**0.18**	**18**	*e*P	**Pn**	**19 14 34.1**	**+0.4**
RAZU	**San Marcos de**	**0.19**	**141**	*e*P	**Pn**	**19 14 33.0**	**-0.8**
HDC	**Heredia**	**0.19**	**10**	||*i*P	**Pn**	**19 14 33.1**	**-0.7**
HDC				*i* S	**Sn**	**19 14 40.9**	**+0.2**
HDC	**Heredia**	**0.19**	**10**	*e*P	**Pn**	**19 14 33.1**	**-0.7**
HDC3	**Heredia 3**	**0.20**	**10**	*e*P	**Pn**	**19 14 33.1**	**-0.7**
HDC3				*e*S	**Sn**	**19 14 41.0**	**+0.4**
HDC3	**Heredia 3**	**0.20**	**10**	*e*P	**Pn**	**19 14 33.1**	**-0.7**
OCM	**Ochomogo**	**0.20**	**65**	*e*P	**Pn**	**19 14 33.0**	**-0.9**
CORON	**Coronado**	**0.22**	**41**	*e*P	**Pn**	**19 14 34.5**	**+0.5**
TCS1	**Tacares**	**0.28**	**327**	*e*P	**Pn**	**19 14 33.7**	**-0.5**
RIMA	**Rio Macho**	**0.28**	**99**	*e*P	**Pn**	**19 14 33.3**	**-1.1**
RIMA				*e*S	**Sn**	**19 14 41.6**	**-0.1**
RIMA	**Rio Macho**	**0.28**	**99**	*e*P	**Pn**	**19 14 33.2**	**-1.1**
VIRE	**VIRE**	**0.29**	**57**	*e*P	**Pn**	**19 14 33.8**	**-0.9**
CVIMO	**Finca Echandi**	**0.29**	**43**	*e*P	**Pn**	**19 14 33.7**	**-0.8**
TRB2	**Turrubares**	**0.32**	**289**	*e*P	**Pn**	**19 14 33.7**	**-0.7**
LLNJ	**Naranjito**	**0.34**	**172**	*e*P	**Pn**	**19 14 34.1**	**-0.5**
SARCI	**Sarchi**	**0.34**	**325**	*e*P	**Pn**	**19 14 35.1**	**+0.3**
HAYA	**Volcan Irazu**	**0.34**	**60**	*e*P	**Pn**	**19 14 34.3**	**-0.8**
VICA	**Volcano Irazu**	**0.34**	**60**	*e*P	**Pn**	**19 14 34.3**	**-0.8**
PCAYA	**Pacayas**	**0.35**	**72**	*e*P	**Pn**	**19 14 35.2**	**+0.3**
ICR3	**Volcano Irazu**	**0.35**	**61**	*e*P	**Pn**	**19 14 35.1**	**-0.1**
RAFA	**San Farael, Vo**	**0.36**	**66**	*e*P	**Pn**	**19 14 35.5**	**+0.4**
VPTE	**Poasito**	**0.36**	**352**	*e*P	**Pn**	**19 14 34.4**	**-0.7**
SVQ2	**Quepos**	**0.38**	**183**	*e*P	**Pn**	**19 14 34.4**	**-0.5**
VPS6	**Volcano Poas**	**0.39**	**348**	*e*P	**Pn**	**19 14 35.6**	**+0.2**
CRPO	**Crater poas**	**0.39**	**349**	*e*P	**Pn**	**19 14 34.5**	**-0.9**
POA5	**Crater Von Fra**	**0.40**	**348**	*e*P	**Pn**	**19 14 34.6**	**-0.9**
VINA	**Juan Vinas**	**0.40**	**78**	*e*P	**Pn**	**19 14 34.4**	**-0.9**
VTLA	**Turrialba Volc**	**0.41**	**62**	*e*P	**Pn**	**19 14 35.2**	**-0.5**
RAMO	**San Ramon**	**0.42**	**311**	*e*P	**Pn**	**19 14 35.8**	**+0.4**
VTCG	**Tajo**	**0.43**	**62**	*e*P	**Pn**	**19 14 35.2**	**-0.7**
CVTV	**Tajo**	**0.44**	**64**	*e*P	**Pn**	**19 14 35.3**	**-0.6**
VTCE	**Turrialba Volc**	**0.44**	**61**	*e*P	**Pn**	**19 14 35.1**	**-0.9**
ZARE	**Zarcero**	**0.44**	**327**	*e*P	**Pn**	**19 14 35.2**	**-0.6**
VTCV	**VTCV, Calle Va**	**0.45**	**67**	*e*P	**Pn**	**19 14 35.0**	**-0.9**
CDM	**Cerro de Muert**	**0.46**	**124**	*e*P	**Pn**	**19 14 35.2**	**-0.9**
CDM				*e*S	**Sn**	**19 14 43.7**	**-1.1**
CDM	**Cerro de Muert**	**0.46**	**124**	*e*P	**Pn**	**19 14 35.0**	**-1.2**
TURIB	**Turrialba**	**0.46**	**78**	*e*P	**Pn**	**19 14 35.8**	**0.0**
VERB	**Verbena**	**0.47**	**73**	*e*P	**Pn**	**19 14 35.1**	**-0.8**
BUS1	**Rivas**	**0.47**	**123**	*e*P	**Pn**	**19 14 35.1**	**-1.2**
VTLO	**VTLO**	**0.47**	**61**	*e*P	**Pn**	**19 14 35.3**	**-0.9**
BITO	**Garabito Jaco**	**0.50**	**248**	*e*P	**Pn**	**19 14 35.0**	**-1.2**
RVSTA	**Santa Teresita**	**0.52**	**71**	*e*P	**Pn**	**19 14 35.6**	**-0.8**
CPMI	**Catarata Coope**	**0.52**	**334**	*e*P	**Pn**	**19 14 35.8**	**-0.8**
JACO	**JACO, Garabito**	**0.53**	**254**	*e*P	**Pn**	**19 14 35.9**	**-0.5**
RIFO	**Rio Frio, Sara**	**0.55**	**24**	*e*P	**Pn**	**19 14 35.5**	**-1.2**
ZELE	**Perez Zeledon**	**0.61**	**135**	*e*P	**Pn**	**19 14 36.9**	**-0.6**
EDO	**Dominical**	**0.62**	**153**	*e*P	**Pn**	**19 14 37.0**	**-0.5**
RVLA	**Villa Bonita**	**0.63**	**62**	*e*P	**Pn**	**19 14 37.0**	**-0.6**
PEZE	**Perez Zeledon,**	**0.63**	**132**	*e*P	**Pn**	**19 14 36.6**	**-1.0**
PEZE				*e*S	**Sn**	**19 14 47.2**	**-0.3**
PEZE	**Perez Zeledon,**	**0.63**	**132**	*e*P	**Pn**	**19 14 36.8**	**-0.9**
LCOCO	**El Coco**	**0.64**	**65**	*e*P	**Pn**	**19 14 37.1**	**-0.7**
ITAL	**Pital**	**0.65**	**349**	*e*P	**Pn**	**19 14 38.1**	**+0.2**
CARI	**Cariari**	**0.68**	**36**	*e*P	**Pn**	**19 14 38.3**	**+0.1**
SOCE	**Pocosol**	**0.73**	**321**	*e*P	**Pn**	**19 14 38.2**	**-0.7**
LAFE	**Finca La Fe, P**	**0.75**	**270**	*e*P	**Pn**	**19 14 39.1**	**0.0**
LAFE				*e*S	**Sn**	**19 14 53.6**	**+3.7**
LAFE	**Finca La Fe, P**	**0.75**	**270**	*e*P	**Pn**	**19 14 39.0**	**0.0**
BATAN	**Batan**	**0.81**	**69**	*e*P	**Pn**	**19 14 41.0**	**+1.2**
TUNA	**La Fortuna**	**0.82**	**323**	*e*P	**Pn**	**19 14 40.2**	**+0.3**
MTEVE	**Monteverde**	**0.84**	**307**	*e*P	**Pn**	**19 14 40.7**	**+0.3**
VACR	**Volcan Arenal**	**0.84**	**322**	*e*P	**Pn**	**19 14 39.8**	**-0.5**
SGBR	**La Fortuna**	**0.90**	**318**	*e*P	**Pn**	**19 14 40.2**	**-0.8**
SGBR				*e*S	**Sn**	**19 14 53.2**	**0.0**
TABAC	**Tabacon**	**0.92**	**318**	*i* P	**Pn**	**19 14 40.9**	**-0.3**
TABAC				*i* S	**Sn**	**19 14 55.1**	**+1.2**
JTS	**Las Juntas de**	**0.93**	**301**	||*i*P	**Pn**	**19 14 40.6**	**-0.7**
JTS				*i* S	**Sn**	**19 14 54.2**	**+0.3**
JTS	**Las Juntas de**	**0.93**	**301**	*e*P	**Pn**	**19 14 40.6**	**-0.7**
JTS	**Las Juntas de**	**0.93**	**301**	*e*P	**Pn**	**19 14 40.6**	**-0.7**
**CO

FAKI	Fak Fak	11.86	128	P	P	19 32 51.6 +0.2
BATI	Baumata	14.62	177	P	P	19 33 19.6 +0.3
	83nm,0.4s,baz=1.1,slow=2.6,SNR=29					
TPUB	Ta-pu	18.83	353	P	P	19 33 58.9 +0.9
MTN	Manton Dam	19.05	155	P	P	19 33 59.9 -0.3
KNRA	Kununurra	20.85	164	P	P	19 34 16.9 +0.5
WB0	Warramunga Arr	26.61	155	P	P	19 35 07.3 -0.1
WRAB	Tennant Creek	26.74	156	P	P	19 35 07.6 -1.0
WRAB				IAmb	IAmb	19 35 09.1
	comp=Z,23nm,1.1s					
WRA	Warramunga Arr	26.74	156	P	P	19 35 08.2 -0.5
	comp=Z,8.2nm,0.4s,baz=333,slow=9.9,SNR=248					
WRA				PcP	PcP	19 38 09.8 -2.4
	comp=Z,0.2nm,0.4s,baz=321,slow=3.4,SNR=2.2					
WRA				S	S	19 38 59.9 -4.7
	comp=Z,0.9nm,0.8s,baz=335,slow=16,SNR=3.8					
WRA				ScP	ScP	19 40 56.8 -1.1
	comp=Z,0.4nm,0.6s,baz=339,slow=3.2,SNR=4.7					
	comp=Z,8.2nm,0.4s					
WRA	Warramunga Arr	26.74	156	P	P	19 35 07.4 -1.3
WB2	Warramunga Arr	26.75	156	P	P	19 35 08.6 -0.1
WB2				IAmb	IAmb	19 35 09.2
	comp=Z,14nm,0.6s					
WR0	Warramunga Arr	26.84	155	P	P	19 35 09.3 -0.2
WR0				IAmb	IAmb	19 35 10.4
	comp=Z,5.3nm,0.7s					
COEN	Coen	27.18	133	P	P	19 35 11.7 -0.8
COEN				IAmb	IAmb	19 35 56.0
	comp=Z,6.7nm,1.1s					
PMG	Port Moresby	27.80	120	P	P	19 35 17.3 -0.7
	comp=Z,2.5nm,0.5s,baz=280,slow=12,SNR=2.4					
	comp=Z,2.5nm,0.5s					
AS31	Alice Springs	29.96	160	P	P	19 35 37.2 +0.6
AS31				IAmb	IAmb	19 35 37.7
	comp=Z,2.5nm,0.7s					
ASAR	Alice Springs	29.96	160	P	P	19 35 36.8 +0.2
	comp=Z,4.1nm,0.3s,baz=340,slow=7.1,SNR=221					
ASAR				PcP	PcP	19 38 19.8 -0.6
	comp=Z,0.3nm,0.6s,baz=334,slow=2.5,SNR=2.0					
ASAR				S	S	19 39 53.2 -1.3
	comp=Z,2.5nm,0.9s,baz=347,slow=20,SNR=10					
ASAR				ScP	ScP	19 41 07.4 -0.6
	comp=Z,1.1nm,0.6s,baz=340,slow=2.7,SNR=13					
	comp=Z,4.1nm,0.3s					
ASAR	Alice Springs	29.96	160	P	P	19 35 37.3 +0.7
FORT	Forrest	35.41	172	P	P	19 36 23.3 +0.9
FORT				IAmb	IAmb	19 36 43.1
	comp=Z,20nm,0.9s					
BBOO	Buckleboo	39.13	162	P	P	19 36 53.6 +0.9
BBOO				IAmb	IAmb	19 36 54.3
	comp=Z,11nm,0.9s					
STKA	Stephens Creek	40.29	155	P	P	19 37 02.5 +0.5
	comp=Z,2.4nm,0.3s,baz=328,slow=8.3,SNR=15					
	comp=Z,2.4nm,0.3s					
STKA	Stephens Creek	40.29	155	P	P	19 37 03.2 +1.2
USRK	Ussuriysk Ar.	40.34	10	P	P	19 37 02.7 +0.5
	comp=Z,1.3nm,0.5s,baz=195,slow=8.1,SNR=2.7					
	comp=Z,1.3nm,0.5s					
ASAJ	Asahikawa	43.09	21	P	P	19 37 24.2 +0.5
	comp=Z,9.5nm,0.8s,baz=166,slow=4.2,SNR=6.1					
	comp=Z,9.5nm,0.8s					
JKA	Kamikawa-asahi	43.09	21	P	P	19 37 24.6 +0.8
SONM	Songino Array	45.46	344	P	P	19 37 42.6 +0.4
	comp=Z,0.9nm,0.7s,baz=155,slow=8.8,SNR=6.0					
SONM				PcP	PcP	19 39 08.3 -0.3
	comp=Z,0.2nm,0.6s,baz=158,slow=4.7,SNR=1.8					
SONM				S	S	19 43 40.2 -1.7
	comp=Z,0.1nm,0.3s,baz=93,slow=3.3,SNR=4.0					
	comp=Z,0.9nm,0.7s					
MK31	Makanchi Array	54.81	327	P	P	19 38 51.1 +0.9
MK31				IAmb	IAmb	19 38 51.2
	comp=Z,2.1nm,0.5s					
MKAR	Makanchi Array	54.81	327	P	P	19 38 51.0 +0.7
	comp=Z,2.1nm,0.3s,baz=120,slow=7.6,SNR=78					
MKAR				PcP	PcP	19 39 43.4 -0.1
	comp=Z,1.0nm,0.6s,baz=129,slow=3.6,SNR=9.9					
	comp=Z,2.1nm,0.3s					
MAKZ	Makanchi	54.99	327	P	P	19 38 52.2 +0.8
PETK	Petropavlovsk-	56.22	24	P	P	19 39 00.3 +0.5
	comp=Z,2.1nm,0.9s,baz=241,slow=3.1,SNR=4.3					
	comp=Z,2.1nm,0.9s					
ZALV	Zalesovo Beam	58.24	335	P	P	19 39 12.1 -1.3
	comp=Z,1.0nm,0.4s,baz=135,slow=8.3,SNR=5.4					
	comp=Z,1.0nm,0.4s					
GAR	Garm	58.65	314	P	P	19 39 17.4 +0.7
GAR				IAmb	IAmb	19 39 56.8
	comp=Z,12nm,1.5s					
KURK	Kurchatov	59.10	329	P	P	19 39 19.8 +0.5
KURK				IAmb	IAmb	19 39 20.0
	comp=Z,6.3nm,0.5s					
KKAR	Karatay Array	60.12	318	P	P	19 39 26.7 +0.4
BKZ	Black Stump Fm	65.70	137	P	P	19 40 03.3 +1.1
BKZ				IAmb	IAmb	19 40 22.1
	comp=Z,61nm,1.5s					
GEYT	Alibeck	67.48	309	P	P	19 40 14.3 +1.1
	comp=Z,0.8nm,0.4s,baz=106,slow=15,SNR=2.4					
	comp=Z,0.8nm,0.4s					
ABKAR	Akbulak array	69.19	321	P	P	19 40 23.3 +0.2
ARU	Arti	72.29	328	P	P	19 40 41.0 -0.2
ARU				IAmb	IAmb	19 40 41.3
	comp=Z,2.4nm,0.6s					
GNI	Garni	78.10	310	P	P	19 41 14.0 -0.1
GNI				IAmb	IAmb	19 41 53.7
	comp=Z,51nm,1.4s					
ILAR	Eielson Array	86.04	25	P	P	19 41 52.3 -1.2
	comp=Z,0.2nm,0.6s,baz=247,slow=5.3,SNR=2.0					
	comp=Z,0.2nm,0.6s					
ARCES	ARCESS Array B	88.42	340	P	P	19 42 03.6 -1.1
	comp=Z,3.8nm,1.0s,baz=91,slow=6.3,SNR=2.2					
	comp=Z,3.8nm,1.0s					
FINES	FINESS Array B	89.37	332	P	P	19 42 07.6 -1.5
	comp=Z,1.0nm,0.6s,baz=60,slow=5.5,SNR=7.1					
	comp=Z,1.0nm,0.6s					

*IDC **04** 19:35:45.9±2.6, 41.16N×29.51W, h0km, mb3.6/4, mbtmp3.5/5, ML3.7/1, MS3.4/3, Error ellipse: s-maj=98.9km s-min=28.1km az=3.0*

ISC 04 19:35:48.1±0.9, 41.3N±0.1×29.5W±0.2, h10km, n9, σ0.571/7, mb3.7/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	Cedros	2.74	167	eP	Pg	19 36 40.7	+0.1
PCED				eS	Sn	19 36 43.4	-22
PCED				A	A	19 36 45.5	
	102nm,0.3s						
HOR	Horta	2.85	166	eP	Pg	19 36 42.9	+0.2
HOR				eS	Sn	19 36 46.6	-21
HOR				A	A	19 36 49.0	
	224nm,0.3s						
ESDC	Sonseca Array	19.49	86	P	P	19 40 15.2	0.0
	0.1nm,0.3s,baz=297,slow=5.6,SNR=6.5						
ESDC				LR	LR	19 46 13.9	
	comp=Z,134nm,19.7s,baz=288,slow=32						
	0.9nm,0.9s						
MDT	Midelt	21.55	105	LR	LR	19 47 10.7	
	comp=Z,88nm,18.4s,baz=290,slow=32						
SCHQ	Schefferville	28.00	312	LR	LR	19 51 36.7	
	comp=Z,57nm,19.1s,baz=113,slow=34						
YKA	Yellowknife Ar	52.24	324	P	P	19 45 00.2	+1.2
	0.7nm,1.0s,baz=62,slow=7.2,SNR=2.5						
	0.7nm,1.0s						
PDAR	Pinedale Array	57.26	300	P	P	19 45 35.5	-0.4
	0.9nm,0.9s,baz=69,slow=7.8,SNR=4.8						
	0.9nm,0.9s						
TXAR	Lajitas Array	59.99	284	P	P	19 45 54.5	-0.5
	0.8nm,1.0s,baz=80,slow=6.5,SNR=4.4						
	0.8nm,1.0s						
MKAR	Makanchi Array	73.42	42	P	P	19 47 19.9	-0.4
	0.3nm,0.8s,baz=308,slow=7.1,SNR=3.2						
	0.3nm,0.8s						

*WEL **04** 19:46:26.5±0.3, 43°S±3°×17°E±°, h11km±3km, M3.3/19, ML3.5/19, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=132.3, confirmed*

*NOU **04** 19:46:26.9, 42.82S×172.93E, h18km, MLv4.0/13, South Island, New Zealand*

ISC 04 19:46:26.3±1.1, 42.73S±0.03×172.83E±0.03, h13km±10km, n81, σ1.908/90, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	Greta Valley S	0.28	148	P	Pb	19 46 34.0	+0.7
GVZ				S	Sb	19 46 39.9	+1.9
LTZ	Lake Taylor	0.41	262	P	Pg	19 46 34.6	0.0
LTZ				S	Sg	19 46 40.5	+0.3
AMCZ	Amberley	0.47	196	P	Pn	19 46 37.4	-1.3
KHZ	Kahutara	0.61	59	P	Pg	19 46 38.7	+0.5
KHZ	Kahutara	0.61	59	P	Pg	19 46 38.9	+0.7
KHZ				S	Sb	19 46 48.2	+0.8
OXZ	Oxford	0.83	224	P	Pb	19 46 43.1	+0.4
OXZ				S	Sn	19 46 55.4	-0.6
THZ	Tophouse	0.97	3	P	Pb	19 46 43.8	-1.2
MQZ	McQueen's Vall	0.98	187	P	Pg	19 46 45.3	0.0
MQZ				S	Sn	19 46 59.5	-0.2
OKCZ	Okains Bay	1.01	170	P	Pn	19 46 46.4	+0.2
INZ	Inchbonnie	1.02	270	P	Pb	19 46 45.3	-0.6
RACZ	Rakaia	1.12	207	P	Pb	19 46 47.1	-0.4
MHCZ	Mount Hutt	1.22	229	P	Pb	19 46 48.4	-0.8
DSZ	Denniston Nort	1.24	322	P	Pn	19 46 49.1	-0.4
DSZ				S	Sb	19 47 05.8	+0.2
MRNZ	Matariki Terra	1.33	358	P	Pn	19 46 50.2	-0.4
WACZ	Wakanui South	1.41	210	P	Pn	19 46 51.1	-0.6
CMWZ	Cape Campbell	1.42	47	P	Pn	19 46 52.6	+0.8
TUWZ	Tuamarina	1.54	33	P	Pn	19 46 53.8	+0.3
NNZ	Nelson	1.56	15	P	Pn	19 46 54.0	+0.2
NNZ				S	Sb	19 47 15.6	+0.8
WVZ	Waitaha Valley	1.58	257	P	Pn	19 46 54.2	+0.3
RPZ	Rata Peaks	1.63	232	P	Pn	19 46 54.0	-0.7
RPZ	Rata Peaks	1.63	232	P	Pn	19 46 54.2	-0.5
TKNZ	Takaka Hill	1.70	3	P	Pn	19 46 55.8	+0.2
ARCZ	Arundel	1.71	224	P	Pn	19 46 55.3	-0.6
TCW	Tory Channel	1.86	36	P	Pn	19 46 57.8	-0.1
TCW				S	Sn	19 47 22.2	+1.0
QRZ	Quartz Range	1.92	353	P	Pn	19 47 00.0	+1.4
QRZ	Quartz Range	1.92	353	P	Pn	19 46 58.7	0.0
GCSZ	Gaunt Creek Bo	1.93	251	P	Pn	19 46 59.4	+0.6
GCSZ				S	Sn	19 47 22.8	-0.1
SNZO	South Karori	1.99	45	P	Pn	19 46 59.5	-0.2
DUWZ	D'Urville Isla	2.09	23	P	Pn	19 47 01.6	+0.5
TMZ	Timaru	2.12	218	P	Pn	19 47 00.8	-0.7
CAW	Cannon Point	2.33	47	P	Pn	19 47 03.7	-0.6
FOZ	Fox Glacier	2.35	249	P	Pn	19 47 05.3	+0.7
PAWZ	Paruwai Farm	2.36	56	P	Pn	19 47 03.5	-1.3
KIW	Kapiti Island	2.43	41	P	Pn	19 47 05.5	-0.3
LBZ	Lake Benmore	2.54	228	P	Pn	19 47 06.8	-0.4
OGWZ	Otaki Gorge	2.59	43	P	Pn	19 47 07.3	-0.7
HOWZ	Holdsworth Sta	2.72	49	P	Pn	19 47 08.7	-1.0
ODZ	Otahua Downs	2.80	214	P	Pn	19 47 10.0	-0.9
ODZ	Otahua Downs	2.80	214	P	Pn	19 47 09.9	-0.9
MRZ	Mangatainoka R	2.92	46	P	Pn	19 47 11.2	-1.3
PRWZ	Pori Road	3.20	48	P	Pn	19 47 15.4	-1.0
JCZ	Jackson Bay	3.24	244	P	Pn	19 47 18.0	+1.1
JCZ	Jackson Bay	3.24	244	P	Pn	19 47 16.7	-0.3
BFZ	Birch Farm	3.27	53	P	Pn	19 47 17.8	+0.4
WAZ	Wanganui	3.39	29	P	Pn	19 47 20.3	+1.4
NMEZ	Namu Road	3.41	14	P	Pn	19 47 21.3	+2.2
LREZ	Lake Rotokare	3.48	21	P	Pn	19 47 23.5	+3.4
KHEZ	Kahui Hut	3.55	15	P	Pn	19 47 22.3	+1.1
NBEZ	Newall Road No	3.55	13	P	Pn	19 47 22.8	+1.7
NEZ	North Egmont	3.59	16	P	Pn	19 47 24.2	+2.5
PKE	Pukeiti	3.64	14	P	Pn	19 47 23.9	+1.5
DREZ	Durham Road	3.69	17	P	Pn	19 47 21.3	-1.7
VRZ	Vera Road	3.89	23	P	Pn	19 47 27.4	+1.7
MTVZ	Mangateitei	3.89	32	P	Pn	19 47 26.5	+0.6
MOVZ	Moawhango	3.99	35	P	Pn	19 47 26.3	-0.9
WNVZ	Wahianoa	3.99	33	P	Pn	19 47 27.6	+0.2
TRVZ	Turoa	4.00	32	P	Pn	19 47 27.6	+0.1
BHHZ	Black Hill Sta	4.05	38	P	Pn	19 47 27.6	-0.6
NGZ	Ngauruhoe	4.12	32	P	Pn	19 47 29.6	+0.5
SNVZ	South Ngauruho	4.13	32	P	Pn	19 47 29.3	+0.1
TWPZ	Taurewa	4.15	29	P	Pn	19 47 30.1	+1.6
OTVZ	Oturere	4.16	32	P	Pn	19 47 29.6	0.0
NNVZ	North Ngauruho	4.17	31	P	Pn	19 47 30.0	+0.3
WTVZ	West Tongariro	4.17	31	P	Pn	19 47 30.0	+0.3
ETVZ	East Tongariro	4.20	32	P	Pn	19 47 27.7	-2.5
KRVZ	Karewarewa	4.21	31	P	Pn	19 47 32.4	+2.1
TMVZ	Te Maari	4.21	32	P	Pn	19 47 30.3	-0.1
NTVZ	North Tongarir	4.22	32	P	Pn	19 47 30.4	0.0
KATZ	Kakaramea	4.33	31	P	Pb	19 47 38.4	-4.0
HIZ	Hauiti	4.49	21	P	Pn	19 47 34.6	+0.6
HIZ	Hauiti	4.49	21	P	Pn	19 47 34.6	+0.6
BKZ	Black Stump Fm	4.51	39	P	Pn	19 47 34.7	+0.3
SYZ	Scrubby Hill	4.63	213	P	Pn	19 47 35.6	-0.3
SYZ	Scrubby Hill	4.63	213	P	Pn	19 47 35.4	-0.5
TLZ	Tolley Road	4.86	26	P	Pn	19 47 40.3	+1.2
TOZ	Tahuroa Road	5.39	23	P	Pn	19 47 46.9	+0.5
URZ	Urewera	5.53	38	P	Pn	19 47 48.6	+0.3
AWAZ	Awhitu Peninsu	5.83	14	P	Pn	19 47 53.3	+0.9
MKAZ	Moumakai	5.90	18	P	Pn	19 47 53.9	+0.5
WIAZ	Waiheke Island	6.19	17	P	Pn	19 47 58.2	+0.8
KUZ	Kuaotunu	6.38	21	P	Pn	19 47 59.6	-0.4

*IDC **04** 19:47:46.9±1.5, 37.64N×141.59E, h0km, mb3.6/6, mbtmp3.6/8, ML2.7/2, MS2.6/2, Error ellipse: s-maj=31.7km s-min=23.7km az=132.0*

*JMA **04** 19:47:47.0±0.2, 37.4N±0.4×141.6E±0.8, h28km±1km, MV3.5/35, E OFF FUKUSHIMA PREF*

*NIED **04** 19:47:47.0, 37.38N×141.62E, h28km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}=3.29; $M_{\theta\theta}$=0.99; $M_{\phi\phi}$=2.29; $M_{r\theta}$=-0.83; $M_{\theta\phi}$=1.91; $M_{\phi r}$=-0.25; Fault plane solution: M_0=3.58000×10¹⁴ NP1:φ=45.00000°, δ=51.00000°, λ=-78.00000°. NP2:φ=206.00000°, δ=40.00000°, λ=-105.00000°.*

ISC 04 19:47:45.4±2.1, 37.38N±0.05×141.65E±0.08, h3km±12km, n32, σ1.947/26, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.61	269	P	Pb	19 47 58.5	-0.3
JFK				S	Sb	19 48 06.7	-1.2
JMST	Minamisoumatoc	0.69	300	P	Pb	19 47 59.9	-0.3
JMST				S	Sb	19 48 09.0	-1.1
ONAJ	Iwakimizuishiy	0.73	248	P	Pb	19 48 00.2	-0.6
JMM	Marumori	0.83	306	P	Pb	19 48 02.2	-0.3
JMM	Marumori	0.83	306	P	Pb	19 48 02.1	-0.4
JMM				S	Sb	19 48 12.8	-1.3
JFFD	Fukushimafurud	0.91	252	P	Pg	19 48 03.2	+0.2
JFFD				S	Sg	19 48 15.2	+0.4
JIO	Ouri	1.10	348	P	Pb	19 48 06.3	-0.7
JHO	Hitachi	1.16	229	P	Pb	19 48 06.3	-1.7
JOU	Okura	1.25	322	P	Pg	19 48 09.6	+0.2
JOU				S	Sn	19 48 26.0	-1.2
JSD	Sado	2.76	285	P	Pn	19 48 31.9	+1.3
MJAR	Matsushiro Arr	2.88	254	Pn	Pn	19 48 32.6	+0.4
	0.3nm,0.3s,baz=62,slow=27,SNR=17						
MJAR				Sn	Sb	19 49 11.7	-1.3
	0.3nm,0.3s,baz=58,slow=12,SNR=2.1						
	1.6nm,0.4s						
MAJO	Matsushiro	2.88	254	P	Pb	19 48 35.0	-2.4
JGF	Kuroka	3.89	244	P	Pn	19 48 48.2	+2.2
INU	Inuyama	4.25	243	P	Pn	19 48 55.2	+4.2
ASAJ	Asahikawa	6.77	6	Pn	Pn	19 49 24.5	-1.1
	0.3nm,0.3s,baz=208,slow=15,SNR=1.9						
	7.6nm,0.9s						
KSRS	Korea Array	10.92	275	LR	LR	19 54 11.4	
	comp=Z,32nm,20.4s,baz=80,slow=35						
KLR	Kul'dur	13.85	332	LR	LR	19 56 06.9	
	comp=Z,29nm,18.6s,baz=52,slow=37						
SONM	Songino Array	27.75	303	P	P	19 53 35.7	+0.5
	0.5nm,0.7s,baz=95,slow=7.6,SNR=2.7						
	0.5nm,0.7s						
H11N2	WAKE ISLAND Hy	28.17	122	T	T	20 23 05.3	
	baz=314,slow=75,SNR=62						
H11N1	WAKE ISLAND Hy	28.18	122	T	T	20 23 05.9	
	baz=314,slow=75,SNR=46						
H11N3	WAKE ISLAND Hy	28.19	122	T	T	20 23 09.1	
	baz=314,slow=75,SNR=47						
H11S1	WAKE ISLAND Hy	28.89	124	T	T	20 23 59.4	
	baz=316,slow=76,SNR=31						
H11S3	WAKE ISLAND Hy	28.89	124	T	T	20 23 59.3	
	baz=316,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	28.91	124	T	T	20 23 57.7	
	baz=316,slow=76,SNR=29						
ZALV	Zalesovo Beam	41.82	312	P	P	19 55 38.2	+2.1
	0.4nm,0.3s,baz=90,slow=4.5,SNR=1.2						
	0.4nm,0.3s						
MKAR	Makanchi Array	44.09	302	P	P	19 55 54.7	0.0
	0.8nm,0.7s,baz=90,slow=10,SNR=10						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	45.94	308	P	P	19 56 09.4	+0.1
	0.7nm,0.5s,baz=84,slow=7.9,SNR=6.4						
	0.7nm,0.5s						
ILAR	Eielson Array	49.10	33	P	P	19 56 33.4	-0.3
	0.5nm,0.8s,baz=262,slow=5.6,SNR=4.9						
	0.5nm,0.8s						
WRA	Warramunga Arr	57.43	188	P	P	19 57 39.8	+4.4
	0.5nm,0.8s,baz=5.4,slow=7.6,SNR=2.6						
	0.5nm,0.8s						
H03N2	Juan Fernandez	146.87	96	T	T	22 51 34.3	
	baz=291						
H03N3	Juan Fernandez	146.88	96	T	T	22 51 35.9	
	baz=291						
H03N1	Juan Fernandez	146.89	96	T	T	22 51 34.6	
	baz=291						

IDC 04 19:48:49.5±2.8, 41.69N×29.71W, h0km, mb3.4/4, mbtmp3.3/5, ML3.7/1, Error ellipse: s-maj=114.8km s-min=27.5km az=178.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	Sonseca Array	19.61	87	P	Pn	19 53 20.1	-0.5
	0.1nm,0.3s,baz=287,slow=9.1,SNR=4.4						
	0.5nm,0.8s						
PDAR	Pinedale Array	56.94	300	P	P	19 58 37.9	+1.2
	0.4nm,0.8s,baz=72,slow=8.6,SNR=3.5						
	0.4nm,0.8s						
TXAR	Lajitas Array	59.76	284	P	P	19 58 55.5	-0.9
	0.4nm,0.8s,baz=82,slow=7.4,SNR=4.5						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	68.81	40	P	P	19 59 55.4	+0.1
	0.1nm,0.2s,baz=310,slow=6.4,SNR=1.4						
	0.1nm,0.2s						
MKAR	Makanchi Array	73.22	42	P	P	20 00 21.4	-0.7
	0.2nm,0.7s,baz=317,slow=7.9,SNR=2.5						
	0.2nm,0.7s						

*IDC **04** 19:49:52.9±2.5, 41.12N×29.54W, h0km, mb3.6/6, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=86.8km s-min=24.7km az=179.0*

ISC 04 19:49:54.1±2.3, 41.0N±0.6×29.5W±0.2, h10km, n7, σ0.568/7, mb3.7/6, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	Sonseca Array	19.51	86	P	Pn	19 54 23.3	+0.6
	baz=270,slow=11,SNR=6.0						
	1.3nm,0.9s						
YKA	Yellowknife Ar	52.47	324	P	P	19 59 07.0	+0.4
	0.9nm,1.0s,baz=72,slow=7.3,SNR=4.8						
	0.9nm,1.0s						
PDAR	Pinedale Array	57.40	301	P	P	19 59 43.5	+0.5
	1.2nm,0.9s,baz=64,slow=5.2,SNR=4.9						
	1.2nm,0.9s						
TXAR	Lajitas Array	60.06	284	P	P	20 00 00.9	-0.5
	0.7nm,0.8s,baz=66,slow=9.0,SNR=7.3						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	69.22	40	P	P	20 01 00.1	-0.7
	0.3nm,0.7s,baz=314,slow=6.4,SNR=2.4						
	0.3nm,0.7s						
MKAR	Makanchi Array	73.62	42	P	P	20 01 27.0	-0.5
	0.4nm,0.8s,baz=303,slow=4.5,SNR=4.1						
	0.4nm,0.8s						
SONM	Songino Array	83.28	28	P	P	20 02 20.9	0.0
	0.3nm,0.6s,baz=325,slow=2.3,SNR=2.5						
	0.3nm,0.6s						

*IDC **04** 19:50:18.6±2.2, 40.98N×29.34W, h0km, mb3.8/11, mbtmp3.8/12, ML3.8/1, Error ellipse: s-maj=71.9km s-min=19.1km az=1.0*

ISC 04 19:50:19.7±2.1, 40.9N±0.5×29.3W±0.1, h10km, n12, σ0.555/12, mb3.9/11, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	Sonseca Array	19.36	85	P	Pn	19 54 46.3	-0.3
	0.1nm,0.3s,baz=288,slow=9.2,SNR=8.2						
	1.3nm,1.0s						
AKASG	Malin Array Be	40.98	56	P	P	19 58 01.9	-0.6
	0.9nm,0.6s,baz=274,slow=8.5,SNR=5.4						
	0.9nm,0.6s						
BRTR	Keskin Array B	47.08	70	P	P	19 58 52.2	+0.4
	0.8nm,0.7s,baz=282,slow=6.2,SNR=4.3						
	0.8nm,0.7s						
YKA	Yellowknife Ar	52.67	324	P	P	19 59 34.0	+0.2
	1.0nm,0.9s,baz=69,slow=6.4,SNR=6.8						
	1.0nm,0.9s						
PDAR	Pinedale Array	57.60	301	P	P	20 00 09.6	-0.4
	1.6nm,0.9s,baz=69,slow=8.1,SNR=6.1						
	1.6nm,0.9s						
AKTO	Aktyubinsk	58.40	49	P	P	20 00 14.8	-0.4
	1.5nm,0.7s,baz=280,slow=4.8,SNR=3.1						
	1.5nm,0.7s						
TXAR	Lajitas Array	60.24	284	P	P	20 00 28.4	0.0
	1.1nm,0.9s,baz=68,slow=7.2,SNR=6.3						
	1.1nm,0.9s						
BVAR	Borovoye Array	63.73	42	P	P	20 00 51.8	+0.5
	1.1nm,0.8s,baz=316,slow=6.0,SNR=3.1						
	1.1nm,0.8s						
ILAR	Eielson Array	63.97	335	P	P	20 00 52.4	-0.3
	0.7nm,1.0s,baz=32,slow=5.1,SNR=5.1						
	0.7nm,1.0s						
KURBB	Kurchatov Arra	69.22	40	P	P	20 01 26.0	-0.5
	1.5nm,1.1s,baz=312,slow=6.4,SNR=4.9						
	1.5nm,1.1s						
MKAR	Makanchi Array	73.62	42	P	P	20 01 53.5	+0.3
	0.8nm,0.9s,baz=312,slow=5.5,SNR=4.3						
	0.8nm,0.9s						
SONM	Songino Array	83.32	28	P	P	20 02 47.8	+1.0
	0.8nm,0.9s,baz=297,slow=6.3,SNR=4.9						

0.6nm,0.9s,baz=90,slow=6.3,SNR=2.4
0.6nm,0.9s
PDAR Pinedale Array 57.66 301 P **P** **20 00 36.3 -0.2**
0.7nm,0.9s,baz=70,slow=7.9,SNR=1.7
0.7nm,0.9s
TXAR Lajitas Array 60.23 284 P **P** **20 00 54.8 +0.4**
0.5nm,0.6s,baz=70,slow=6.4,SNR=4.3
0.5nm,0.6s
BVAR Borovoye Array 63.95 41 P **P** **20 01 20.0 +1.1**
0.5nm,0.7s,baz=308,slow=7.1,SNR=1.2
0.5nm,0.7s
ILAR Eielson Array 64.16 335 P **P** **20 01 19.7 -0.3**
0.4nm,1.0s,baz=62,slow=4.2,SNR=1.6
0.4nm,1.0s
KURBB **Kurchatov Arra 69.44 40** P **P** **20 01 53.7 -0.2**
1.1nm,1.0s,baz=312,slow=6.5,SNR=4.4
1.1nm,1.0s
MKAR Makanchi Array 73.84 42 P **P** **20 02 20.0 -0.5**
1.1nm,1.1s,baz=341,slow=5.6,SNR=1.8
1.1nm,1.1s
SONM Songino Array 83.56 28 P **P** **20 03 15.1 +1.0**
0.2nm,0.5s,baz=329,slow=5.4,SNR=1.3
0.2nm,0.5s

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*NEIC **04** 19:55:03.7±1.6,25°.7S±0°.1×179°.9E±0°.2,h483km±12km, mb4.3/14, Error ellipse: s-maj=21.1km s-min=19.4km az=100.0*
*IDC **04** 19:55:04.2±1.6,25°.67S×179°.75E,h500km±19km,mb3.2/6, mbtmp4.2/11, Error ellipse: s-maj=22.4km s-min=12.8km az=159.0*
ISC 04 19:55:03.8±0.6,**25°.61S**±0°.08×**179°.77E**±0°.08,**h493**km,**n59**, σ1**956**/58,**mb4.2**/14,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.17**	**151**	P	**P**	**19 56 19.7**	**-3.4**
MSVF	**Nonsavu**	**8.00**	**348**	P	**P**	**19 57 00.5**	**+0.3**
	12nm,0.4s,baz=163,slow=17,SNR=5.5						
MARNC	**Mare, Loyalty**	**11.53**	**288**		**P**	**19 57 38.1**	**+0.7**
NIUE	**Niue**	**11.53**	**58**		**P**	**19 57 37.0**	**-0.5**
KUZ	**Kuaotunu**	**11.63**	**196**	P	**P**	**19 57 41.4**	**+3.1**
WIAZ	**Waiheke Island**	**11.84**	**198**	P	**P**	**19 57 44.0**	**+3.6**
MXZ	**Matakaoa Point**	**11.98**	**186**		**P**	**19 57 43.4**	**+1.4**
MXZ	**Matakaoa Point**	**11.98**	**186**	P	**P**	**19 57 43.9**	**+1.9**
MKAZ	**Moumakai**	**12.12**	**198**	P	**P**	**19 57 45.6**	**+2.2**
HAZ	**Te Kaha**	**12.23**	**187**	P	**P**	**19 57 46.5**	**+1.9**
WMGZ	**Waiomatatini S**	**12.23**	**185**	P	**P**	**19 57 47.3**	**+2.7**
AWAZ	**Awhitu Peninsu**	**12.23**	**200**	P	**P**	**19 57 47.0**	**+2.3**
PKGZ	**Pakihiroa**	**12.33**	**186**	P	**P**	**19 57 47.6**	**+1.8**
RUGZ	**Raukumara Rang**	**12.45**	**188**	P	**P**	**19 57 51.0**	**+3.9**
LIFNC	**LIFOU**	**12.49**	**290**	P	**P**	**19 57 47.7**	**0.0**
PUZ	**Puketiti**	**12.49**	**186**	P	**P**	**19 57 51.0**	**+3.5**
TWGZ	**Tauwhareparae**	**12.63**	**186**	P	**P**	**19 57 51.4**	**+2.5**
DZM	**Mont Dzumac**	**12.70**	**283**	P	**P**	**19 57 50.1**	**+0.2**
	7.3nm,0.8s,baz=107,slow=19,SNR=3.8						
DZM	**Mont Dzumac**	**12.70**	**283**	P	**P**	**19 57 48.2**	**-1.7**
URZ	**Urewera**	**12.82**	**189**	P	**P**	**19 57 50.4**	**-0.5**
	7.5nm,0.5s,baz=354,slow=3.1,SNR=23						
URZ				S	**S**	**20 00 08.5**	**-0.1**
	12nm,0.7s,baz=14,slow=19,SNR=7.8						
URZ	**Urewera**	**12.82**	**189**	P	**P**	**19 57 50.4**	**-0.5**
MWZ	**Matawai**	**12.83**	**188**	P	**P**	**19 57 53.3**	**+2.2**
CNGZ	**Carnagh Statio**	**12.91**	**186**	P	**P**	**19 57 54.7**	**+2.8**
MUGZ	**Murupara**	**13.08**	**190**	P	**P**	**19 57 53.8**	**+0.1**
RTZ	**Ruatahuna**	**13.19**	**190**	P	**P**	**19 57 54.5**	**-0.4**
HIZ	**Hauiti**	**13.52**	**197**	P	**P**	**19 57 57.5**	**-0.9**
BKZ	**Black Stump Fm**	**13.80**	**181**	P	**P**	**19 57 59.7**	**-1.6**
TMVZ	**Te Maari**	**13.90**	**193**	P	**P**	**19 58 03.5**	**+1.0**
TCW	**Tory Channel**	**16.22**	**195**	P	**P**	**19 58 25.4**	**-1.3**
QRZ	**Quartz Range**	**16.33**	**200**	P	**P**	**19 58 27.6**	**-0.3**
TKNZ	**Takaka Hill**	**16.40**	**199**	P	**P**	**19 58 28.5**	**-0.1**
NNZ	**Nelson**	**16.45**	**197**	P	**P**	**19 58 28.6**	**-0.5**
RAR	**Rarotonga**	**19.27**	**81**	P	**P**	**19 58 56.4**	**+0.1**
	3.9nm,0.5s,baz=231,slow=6.5,SNR=1.4						
RPZ	**Rata Peaks**	**19.42**	**199**	P	**P**	**19 58 56.1**	**-1.2**
	9.6nm,0.9s,baz=355,slow=6.9,SNR=1.1						
EIDS	**Eidsvold**	**25.88**	**264**	P	**P**	**19 59 56.4**	**+0.8**
EIDS				IAmb	IAmb	20 00 10.9	
	comp=Z,36nm,1.4s						
CTAO	**Charters Tower**	**31.32**	**273**	P	**P**	**20 00 43.8**	**+0.6**
CTAO				IAmb	IAmb	20 01 26.3	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**33.93**	**250**	P	**P**	**20 01 04.6**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=98,slow=12,SNR=3.8						
	comp=Z,0.7nm,0.4s						
STKA	**Stephens Creek**	**33.93**	**250**	P	**P**	**20 01 04.5**	**-0.7**
PMG	**Port Moresby**	**34.89**	**292**	P	**P**	**20 01 14.2**	**+0.7**
PMG				IAmb	IAmb	20 01 14.7	
	comp=Z,10nm,1.1s						
COEN	**Coen**	**36.22**	**282**	P	**P**	**20 01 25.5**	**+1.0**
COEN				IAmb	IAmb	20 01 49.0	
	comp=Z,8.4nm,1.2s						
AS31	**Alice Springs**	**41.58**	**263**	P	**P**	**20 02 08.5**	**+0.5**
ASAR	**Alice Springs**	**41.58**	**263**	P	**P**	**20 02 08.0**	**0.0**
	comp=Z,1.0nm,0.3s,baz=91,slow=7.9,SNR=71						
ASAR				S	**S**	**20 07 47.2**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=96,slow=17,SNR=4.3						
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**41.58**	**263**	P	**P**	**20 02 07.5**	**-0.5**
WR0	**Warramunga Arr**	**41.93**	**268**	P	**P**	**20 02 11.1**	**+0.4**
WR0				IAmb	IAmb	20 02 13.3	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**42.10**	**268**	P	**P**	**20 02 12.0**	**-0.2**
WB2				IAmb	IAmb	20 02 37.5	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**42.12**	**268**	P	**P**	**20 02 12.3**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=104,slow=7.7,SNR=23						
	comp=Z,1.7nm,0.5s						
WRA	**Warramunga Arr**	**42.12**	**268**	P	**P**	**20 02 11.6**	**-0.7**
WB0	**Warramunga Arr**	**42.12**	**268**	P	**P**	**20 02 12.1**	**-0.2**
WB0				IAmb	IAmb	20 02 30.1	
	comp=Z,12nm,1.4s						
MTN	**Manton Dam**	**47.41**	**276**	P	**P**	**20 02 53.4**	**+0.3**
MTN				IAmb	IAmb	20 03 17.6	
	comp=Z,41nm,1.3s						
KNRA	**Kununurra**	**48.50**	**271**	P	**P**	**20 03 02.0**	**+0.7**
NVAR	**Mina Array Bea**	**86.12**	**44**	P	**P**	**20 06 53.4**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=222,slow=8.9,SNR=5.2						
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**91.50**	**58**	P	**P**	**20 07 18.8**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=208,slow=6.2,SNR=6.6						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**93.73**	**14**	P	**P**	**20 07 25.9**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=230,slow=7.0,SNR=1.9						
	comp=Z,0.2nm,0.7s						
NB2	**NORSAR Subarra**	**143.73**	**351**	PKP	PKPab	20 13 39.3	-1.1
	comp=Z,1.3nm,0.6s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143.73**	**351**	PKP	PKPab	20 13 39.8	-0.6
	comp=Z,0.3nm,0.5s,baz=16,slow=4.1,SNR=8.2						
HFS	**Hagfors**	**144.17**	**348**	PKPbc	**PKPbc**	20 13 41.3	-0.6
	comp=Z,3.7nm,0.5s,baz=48,slow=3.9,SNR=22						
MMAI	**Mount Meron Ar**	**148.18**	**292**	PKPbc	**PKPbc**	**20 13 53.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=95,slow=6.1,SNR=2.5						
BRTR	**Keskin Array B**	**148.41**	**305**	PKPbc	**PKPbc**	**20 13 53.9**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=73,slow=2.4,SNR=2.8						
EKA	**Eskdalemuir Ar**	**150.22**	**3**	PKPbc	**PKPbc**	**20 13 56.9**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=357,slow=3.1,SNR=6.6						

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*FUNV **04** 19:58:09.6,8°.51N×71°.81W,h5km,MW3.7*
ISC 04 19:58:08.4±2.3,**8°.45N**±0°.04×**71°.75W**±0°.03,**h14**km±17km, **n31**,σ1**956**/46,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.81**	**224**	*eP*	**Pb**	**19 58 22.4**	**-2.0**
SOCV	**Socops**	**0.90**	**101**	*eP*	**Pb**	**19 58 25.6**	**-0.2**
SOCV				*eS*	**Sn**	**19 58 41.0**	**+1.5**
PAMC	**Pamplona, Colo**	**1.45**	**220**	*eP*	**Pn**	**19 58 34.1**	**-0.6**
PAMC				*eS*	**Sn**	**19 58 53.9**	**+0.1**
MCQV	**Machiques**	**1.77**	**334**	*eP*	**Pn**	**19 58 37.6**	**-1.0**
MCQV				*eS*	**Sn**	**19 59 01.0**	**+0.1**
TAMC	**Tame, Arauca**	**2.01**	**181**	*eP*	**Pn**	**19 58 43.5**	**+1.6**
TAMC				*eS*	**Sg**	**19 59 13.5**	**+0.5**
BARC	**Barichara**	**2.33**	**218**	*eP*	**Pb**	**19 58 50.1**	**-0.3**
BARC				*eS*	**Sb**	**19 59 20.6**	**+1.4**
CURV	**Curarigua**	**2.35**	**49**	*eP*	**Pn**	**19 58 48.2**	**+1.5**
CURV				*eS*	**Sn**	**19 59 17.3**	**+1.9**
BRRC	**Barranca, Sant**	**2.36**	**236**	*eP*	**Pb**	**19 58 49.7**	**-1.0**
BRRC				*eS*	**Sb**	**19 59 21.0**	**+1.2**
DABV	**Dabajuro**	**2.69**	**24**	*eP*	**Pn**	**19 58 52.2**	**+1.0**
DABV				*eS*	**Sn**	**19 59 24.7**	**+1.1**
CRJC	**Cerrejon, Guaj**	**2.78**	**336**	*eP*	**Pn**	**19 58 52.5**	**-0.2**
ARGC	**Ariguani, Magd**	**2.83**	**300**	*eP*	Pg	19 59 09.1	+6.4
RUSC	**La Rusia**	**2.87**	**208**	*eP*	**Pn**	**19 58 56.1**	**+1.9**
SIQV	**Siquisique**	**2.90**	**41**	*eP*	**Pn**	**19 58 55.8**	**+1.5**
SIQV				*eS*	**Sn**	**19 59 29.5**	**+0.5**
ZARC	**Zaragoza, Cauc**	**3.22**	**253**	*eP*	**Pn**	**19 58 58.9**	**+0.3**
URIC	**Uribia, Colomb**	**3.24**	**356**	*eP*	**Pn**	**19 59 01.6**	**+2.8**
PTBC	**PUERTO BERRIO,**	**3.29**	**235**	*eP*	**Pn**	**19 58 59.4**	**-0.2**
MAPV	**Macapo**	**3.53**	**67**	*eP*	**Pn**	**19 59 04.3**	**+1.5**
MAPV				*eS*	**Sn**	**19 59 44.7**	**+0.3**
BAUV	**El Baul**	**3.70**	**82**	*eP*	**Pn**	**19 59 06.6**	**+1.4**
BAUV				*eS*	**Sn**	**19 59 49.8**	**+1.2**
JACV	**Jacura**	**3.89**	**47**	*eP*	**Pn**	**19 59 08.8**	**+1.0**
JACV				*eS*	**Sn**	**19 59 53.2**	**-0.2**
NORC	**Norcasia**	**4.22**	**227**	*eP*	**Pn**	**19 59 13.8**	**+1.4**
PTGC	**Puerto Gaitan,**	**4.24**	**185**	*eP*	**Pn**	**19 59 12.1**	**-0.6**
CHIC	**Chingaza**	**4.28**	**208**	*eP*	**Pn**	**19 59 14.8**	**+1.2**
TURV	**Turiamo**	**4.34**	**62**	*eP*	**Pn**	**19 59 15.3**	**+1.3**
TURV				*eS*	**Sn**	**20 00 03.8**	**-0.5**
BENV	**Beln**	**4.36**	**70**	*eP*	**Pn**	**19 59 16.9**	**+2.6**
BENV				*eS*	**Sn**	**20 00 04.7**	**-0.4**
DBBC	**Dabeiba**	**4.64**	**252**	*eP*	Pn	19 59 23.8	+5.6
GUY2C	**Guyana, Caldas**	**4.81**	**228**	*eP*	**Pn**	**19 59 22.8**	**+1.9**
TACV	**Tcata**	**4.95**	**70**	*eP*	**Pn**	**19 59 24.7**	**+2.2**
TACV				*eS*	**Sn**	**20 00 17.2**	**-2.5**
CACV	**CAICARA DEL OR**	**5.23**	**99**	*eP*	Pb	19 59 35.3	-4.4
CACV				*eS*	**Sb**	**20 00 38.9**	**-3.7**
MERV	**Las Mercedes**	**5.45**	**81**	*eP*	**Pn**	**19 59 30.1**	**+0.9**
MERV				*eS*	**Sn**	**20 00 29.9**	**-1.9**
MACC	**Macarena, Meta**	**6.61**	**199**	*eP*	**Pn**	**19 59 44.4**	**-0.8**
PCRV	**Puerto La Cruz**	**7.23**	**76**	*eP*	**Pn**	**19 59 56.0**	**+2.2**
PCRV				*eS*	**Sn**	**20 01 12.8**	**-2.9**

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*IDC **04** 20:02:09.5±10.0,22°.86N×144°.80E,h130km±94km, mb3.2/7, mbtmp3.7/7, Error ellipse: s-maj=104.3km s-min=18.5km az=79.0*
ISC 04 20:02:06.2±2.8,**22°.8N**±0°.2×**144°.8E**±0°.7,**h100**km,**n7**, σ0**947**/7,**mb3.6**/6,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.60**	**319**	P	**P**	**20 06 37.7**	**+0.4**
	1.3nm,0.9s,baz=146,slow=9.7,SNR=3.3						
	1.3nm,0.9s						
KLR	**Kul'dur**	**28.30**	**342**	P	**P**	**20 07 50.4**	**+0.2**
	1.1nm,0.7s,baz=158,slow=9.4,SNR=4.9						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**43.74**	**194**	P	**P**	**20 10 02.3**	**+0.5**
	1.2nm,1.0s,baz=17,slow=8.2,SNR=6.2						
	1.2nm,1.0s						
ASAR	**Alice Springs**	**47.43**	**194**	P	**P**	**20 10 30.6**	**-0.3**
	0.2nm,0.8s,baz=9.2,slow=7.6,SNR=1.7						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**55.07**	**312**	P	**P**	**20 11 27.4**	**-0.5**
	0.3nm,0.6s,baz=97,slow=8.9,SNR=4.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**57.76**	**316**	P	**P**	**20 11 46.4**	**-0.3**
	0.3nm,0.3s,baz=93,slow=7.5,SNR=7.2						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**62.81**	**319**	P	**P**	**20 12 20.9**	**-0.3**
	1.6nm,0.4s,baz=87,slow=7.3,SNR=25						
	1.6nm,0.4s						

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*IDC **04** 20:03:50.8±0.4,18°.87S×176°.16E,h0km,mb4.8/29, mbtmp4.8/31,ML5.5/2,MS4.8/53, Error ellipse: s-maj=15.5km s-min=12.8km az=140.0*
*MOS **04** 20:03:51.5±1.0, 18°.86S×176°.05E,h10km,mb5.3/53, MS5.2/24, Error ellipse: s-maj=8.7km s-min=8.0km az=88.0*
*NEIC **04** 20:03:52.6±2.4, 18°.8S±0°.1×176°.26E±0°.08,h7km±1km, mb5.3/212, Ms_20 5.0/208, Mwb5.6/41, Mww5.7, Error ellipse: s-maj=18.6km s-min=10.4km az=154.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.79; $M_{\theta\theta}$=0.73; $M_{\phi\phi}$=2.06; $M_{r\theta}$=0.76; $M_{\theta\phi}$=0.85; $M_{r\phi}$=0.94; Fault plane solution: M_o=2.91000×10^{17} NP1:ϕ_s=21.89000°, δ33.03000°,λ-97.63000°. NP2:ϕ_s=210.97000°,δ57.30000°, λ-85.07000°. Principal axes: T 2.7315, Plg12.0000°, Azm297.0000°; N 0.3292, Plg4.0000°, Azm28.0000°; P -3.0607, Plg77.0000°, Azm137.0000°;*
*BGR **04** 20:03:52.3, 19°.18S×176°.69E, h10km*
*BJI **04** 20:03:54.3±0.0, 18°.44S×175°.63E, h10km, mb5.1/47, mB5.8/51, Ms5.3/57, Ms7 5.2/55*
*NOU **04** 20:03:56.1, 18°.90S×176°.34E, h36km, ML5.3/70, Fiji Islands Region*
*GCMT **04** 20:03:57.6±0.1, 18°.86S±0°.01×176°.14E, h12km, MW5.7/159, Moment Tensor Solution. s148,c277; s159,c345; Duration: 1^s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-3.66±.04; $M_{\theta\theta}$0.43±.03; $M_{\phi\phi}$3.23±.03; $M_{r\theta}$-0.92±.09; $M_{\theta\phi}$ 1.47±.02; $M_{r\phi}$-0.75±.09; Best double couple: M_o3.94400×10^{17} NP1:ϕ_s31.00000°,δ53.00000°, λ-80.00000°. NP2:ϕ_s195.00000°,δ38.00000°, λ-103.00000°. Principal axes: T 4.0050, Plg8.0000°, Azm114.0000°; N -0.1250, Plg8.0000°, Azm205.0000°; P -3.8840, Plg79.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 20:03:59, 18°.68S×175°.99E, h12km, Moment Tensor Solution. Duration: 12s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.79; $M_{\theta\theta}$1.16; $M_{\phi\phi}$2.63; $M_{r\theta}$-1.41; $M_{\theta\phi}$ 1.40; $M_{r\phi}$-0.64; Fault plane solution: M_o3.96000×10^{17} NP1: ϕ_s201.00000°,δ36.00000°,λ-107.00000°. NP2: ϕ_s43.00000°,δ56.00000°,λ-77.00000°. Principal axes: T 3.7060, Plg10.0000°, Azm124.0000°; N 0.4726, Plg10.0000°, Azm216.0000°; P -4.1786, Plg76.0000°, Azm351.0000°;*
ISC 04 20:03:52.9±0.9,**18°.84S**±0°.05×**176°.14E**±0°.04,**h13**km±4km, **n1041**,σ1**934**/951,**mb5.2**/179,**MS5.0**/191,**39C-82D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.13**	**59**	Pn	**Pn**	**20 04 26.2**	**-2.0**
	197nm,0.3s,baz=242,slow=11,SNR=205						
MSVF				Sn	**Sn**	**20 04 52.2**	**-2.4**
	415nm,0.3s,baz=141,slow=22,SNR=9.0						
	543nm,0.5s						
MSVF	**Nonsavu**	**2.13**	**59**		**Pn**	**20 04 25.5**	**-2.8**
MSVF	**Nonsavu**	**2.13**	**59**	P	**Pn**	**20 04 26.9**	**-1.4**
TAVE	**Taveuni**	**4.33**	**61**	P	**Pn**	**20 04 57.3**	**-1.2**
LKBA	**Tubou, Lakemba**	**4.83**	**84**	P	**Pn**	**20 05 10.4**	**-2.0**
RTV	**Rentapao**	**7.40**	**277**	P	**Pn**	**20 05 43.8**	**+3.1**
DVP	**Devils Point**	**7.63**	**277**	P	**Pn**	**20 05 47.5**	**+3.6**
MARNC	**Mare, Loyalty**	**8.05**	**250**		**Pn**	**20 05 50.7**	**+1.1**
MARNC	**Mare, Loyalty**	**8.05**	**250**	P	**Pn**	**20 05 51.4**	**+1.7**
LIFNC	**LIFOU**	**8.59**	**256**		**Pn**	**20 05 57.8**	**+0.7**
LIFNC	**LIFOU**	**8.59**	**256**	P	**Pn**	**20 05 59.6**	**+2.5**
	296nm,2.1s						
YATNC	**Mamie plateau,**	**9.24**	**248**	P	**Pn**	**20 06 08.8**	**+2.8**
OUENC	**Ouen Island, N**	**9.40**	**246**	Pn	**Pn**	**20 06 09.5**	**+1.3**
OUENC	**Ouen Island, N**	**9.40**	**246**	P	**Pn**	**20 06 11.3**	**+3.1**
DZM	**Mont Dzumac**	**9.64**	**249**	*e*Pn	**Pn**	**20 06 10.6**	**-0.9**
	607nm,1.5s						
DZM				*e*LR	LR	20 08 20.5	
	comp=Z,28µm,26.1s						
DZM	**Mont Dzumac**	**9.64**	**249**	Pn	**Pn**	**20 06 13.8**	**+2.3**
	2.3nm,0.3s,baz=75,slow=15,SNR=28						
DZM	**Mont Dzumac**	**9.64**	**249**	P	**Pn**	**20 06 14.7**	**+3.2**
KOUNC	**Koumac, New Ca**	**11.29**	**259**	Pn	**Pn**	**20 06 34.6**	**+0.5**
KOUNC	**Koumac, New Ca**	**11.29**	**259**	P	**Pn**	**20 06 36.9**	**+2.8**
OUZ	**Omahuta**	**16.47**	**187**		**P**	**20 07 46.9**	**+0.4**
OUZ				IAmb	IAmb	20 07 49.8	
	comp=Z,341nm,1.8s						
HNR	**Honiara**	**18.26**	**299**	P	**Pn**	**20 08 06.4**	**+0.2**
	comp=Z,742nm,0.4s,baz=230,slow=21,SNR=0.9						
HNR				LR	LR	20 14 03.9	
	comp=Z,83µm,19.7s,baz=141,slow=34						
HNR	**Honiara**	**18.26**	**299**		**Pn**	**20 08 06.3**	**0.0**
URZ	**Urewera**	**19.37**	**178**	P	**P**	**20 08 19.6**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=23,slow=1.8,SNR=23						
URZ				LR	LR	20 14 25.4	
	comp=Z,2µm,19.0s,baz=104,slow=33						
	comp=Z,40nm,1.0s						
RTZ	**Ruatahuna**	**19.72**	**178**	P	**P**	**20 08 22.9**	**+0.6**
BKZ	**Black Stump Fm**	**20.26**	**179**	P	**P**	**20 08 28.6**	**+0.5**
BKZ				IAmb	IAmb	20 08 41.9	
	comp=Z,137nm,1.4s						
BKZ	**Black Stump Fm**	**20.26**	**179**	P	**P**	**20 08 27.6**	**-0.6**
MRZ	**Mangatainoka R**	**21.75**	**181**	P	**P**	**20 08 45.3**	**+1.1**
MRZ				IAmb	IAmb	20 08 50.1	
	comp=Z,77nm,1.0s						
DUWZ	**D'Urville Isla**	**21.97**	**184**	P	**P**	**20 08 50.2**	**+3.6**
QRZ	**Quartz Range**	**22.13**	**187**	P	**P**	**20 08 53.8**	**+5.5**
TKNZ	**Takaka Hill**	**22.29**	**186**	P	**P**	**20 08 52.4**	**+2.4**
NNZ	**Nelson**	**22.43**	**185**	P	**P**	**20 08 51.2**	**-0.3**
NNZ	**Nelson**	**22.43**	**185**	P	**P**	**20 08 54.1**	**+2.6**
TUWZ	**Tuamarina**	**22.59**	**184**	P	**P**	**20 08 53.2**	**0.0**
TUWZ	**Tuamarina**	**22.59**	**184**	P	**P**	**20 08 56.1**	**+2.9**
MRNZ	**Matariki Terra**	**22.67**	**187**	P	**P**	**20 08 57.1**	**+3.1**
RAR	**Rarotonga**	**22.75**	**100**	LR	LR	20 15 54.8	
	comp=Z,4µm,21.2s,baz=244,slow=32						
AUBSH	**Beerwah State**	**22.78**	**245**	P	**P**	**20 08 57.8**	**+2.4**
AUWSH	**Wavell State H**	**22.86**	**244**	P	**P**	**20 08 57.7**	**+1.5**
THZ	**Tophouse**	**23.01**	**186**	P	**P**	**20 08 59.0**	**+1.3**
THZ				IAmb	IAmb	20 09 14.7	
	comp=Z,95nm,1.1s						
THZ	**Tophouse**	**23.01**	**186**	P	**P**	**20 08 59.3**	**+1.6**
KHZ	**Kahutara**	**23.61**	**185**	P	**P**	**20 09 02.8**	**-0.8**
EIDS	**Eidsvold**	**24.08**	**250**	P	**P**	**20 09 08.3**	**0.0**
EIDS	**Eidsvold**	**24.08**	**250**	P	**P**	**20 09 09.0**	**+0.7**
LTZ	**Lake Taylor**	**24.09**	**187**	P	**P**	**20 09 08.8**	**+0.6**
LTZ	**Lake Taylor**	**24.09**	**187**	P	**P**	**20 09 10.1**	**+1.8**
INZ	**Inchbonnie**	**24.14**	**188**	P	**P**	**20 09 14.0**	**+5.3**
GVZ	**Greta Valley S**	**24.20**	**186**	P	**P**	**20 09 08.8**	**-0.4**
AMCZ	**Amberley**	**24.44**	**186**	P	**P**	**20 09 10.2**	**-1.2**
OXZ	**Oxford**	**24.66**	**187**	P	**P**	**20 09 12.7**	**-0.7**
ARMA	**Armidale**	**25.02**	**238**	P	**P**	**20 09 18.3**	**+1.3**
	baz=26,SNR=15						
ARMA	**Armidale**	**25.02**	**238**	P	**P**	**20 09 17.6**	**+0.6**
ARMA				IAmb	IAmb	20 09 20.5	
	comp=Z,57nm,1.0s						
ARMA	**Armidale**	**25.02**	**238**	P	**P**	**20 09 18.5**	**+1.5**
RPZ	**Rata Peaks**	**25.17**	**189**	P	**P**	**20 09 17.8**	**-0.1**
	comp=Z,17nm,0.9s,baz=7.2,slow=14,SNR=1.5						
RPZ				LR	LR	20 18 23.4	
	comp=Z,1µm,19.7s,baz=21,slow=35						
	comp=Z,17nm,0.9s						
AUPHS	**Peel High Scho**	**25.87**	**237**	P	**P**	**20 09 26.4**	**+1.9**
RMQ	**Roma**	**26.35**	**248**	P	**P**	**20 09 30.6**	**+1.7**
	baz=27,SNR=14						
RMQ	**Roma**	**26.35**	**248**	P	**P**	**20 09 30.1**	**+1.2**
ODZ	**Otahua Downs**	**26.53**	**189**	P	**P**	**20 09 29.9**	**-0.4**
ODZ				IAmb	IAmb	20 09 31.5	
	comp=Z,120nm,1.5s						
MLZ	**Mavora Lakes**	**27.28**	**192**	P	**P**	**20 09 38.8**	**+1.7**
RABL	**Rabaul**	**27.57**	**299**	P	**P**	**20 09 40.2**	**+0.2**
KRVT	**Keravat (AS076**	**27.62**	**299**	P	**P**	**20 09 40.1**	**-0.3**
	comp=Z,36nm,0.8s,baz=135,slow=1.4,SNR=5.8						
KRVT				LR	LR	20 19 57.1	
	comp=Z,5µm,21.9s,baz=264,slow=35						
	comp=Z,36nm,0.8s						
AULRC	**Lightning Ridg**	**27.70**	**242**	P	**P**	**20 09 41.7**	**+0.6**
WHZ	**Wether Hill Ro**	**27.82**	**192**	P	**P**	**20 09 41.8**	**-0.1**
WHZ				IAmb	IAmb	20 09 45.9	
	comp=Z,52nm,1.1s						
CTA	**Charters Tower**	**28.18**	**262**	P	**P**	**20 09 46.2**	**+0.7**
	comp=Z,9.1nm,1.0s,baz=90,slow=12,SNR=8.7						
CTA				LR	LR	20 19 28.8	
	comp=Z,5µm,21.1s,baz=82,slow=33						
	comp=Z,9.1nm,1.0s						
CTAO	**Charters Tower**	**28.18**	**262**	IAMs_20	IAMs_20	20 19 15.7	
	comp=Z,5µm,20.0s						
PMG	**Port Moresby**	**29.58**	**284**	P	**P**	**20 09 58.0**	**+0.1**
	comp=Z,8.2nm,0.8s,baz=91,slow=6.3,SNR=8.5						
PMG				LR	LR	20 20 15.7	
	comp=Z,5µm,19.1s,baz=115,slow=33						
	comp=Z,8.2nm,0.8s						
PMG	**Port Moresby**	**29.58**	**284**	P	**P**	**20 09 58.3**	**+0.4**
PMG	**Port Moresby**	**29.58**	**284**	P	**P**	**20 10 00.5**	**+2.6**
	comp=Z,23nm,1.0s						
PMG	**Port Moresby**	**29.58**	**284**	*d* iP	**P**	**20 09 57.9**	**0.0**
PMG				pmax	pmax		
	comp=Z,22nm

WRAB Tennant Creek 39.36 261⇑ *e*P **P 20 11 21.2 -1.3**
WRAB pmax pmax
comp=Z,90nm,3.5s
WB1 Warramunga Ar. 39.36 261 P **P 20 11 21.3 -1.2**
WRA Warramunga Arr 39.37 261 P **P 20 11 21.1 -1.4**
comp=Z,7.7nm,0.9s,baz=94,slow=7.9,SNR=20
WRA PcP **PcP 20 13 30.1 -0.9**
comp=Z,2.5nm,0.9s,baz=87,slow=2.8,SNR=4.8
WRA LR LR 20 27 03.9
comp=Z,2µm,18.0s,baz=89,slow=35
comp=Z,7.7nm,0.9s
WRA Warramunga Arr 39.37 261 P **P 20 11 19.9 -2.6**
AS31 Alice Springs 39.55 255 P **P 20 11 22.2 -1.9**
ASAR Alice Springs 39.55 255 P **P 20 11 23.4 -0.6**
comp=Z,16nm,0.8s,baz=83,slow=9.2,SNR=69
ASAR PcP **PcP 20 13 30.6 -0.9**
comp=Z,6.6nm,0.8s,baz=107,slow=3.1,SNR=10
ASAR LR LR 20 26 34.5
comp=Z,4µm,22.0s,baz=95,slow=34
comp=Z,16nm,0.8s
ASAR Alice Springs 39.55 255 P **P 20 11 22.3 -1.7**
MULG Mulgathing 39.72 245 P **P 20 11 25.5 +0.1**
KDU Kakadu 42.38 272 P **P 20 11 47.6 +0.2**
baz=43,SNR=3.5
KDU Kakadu 42.38 272 P **P 20 11 46.8 -0.6**
TAOE Nuku Hiva Isla 43.48 83 *e*P **P 20 11 58.0 +1.5**
comp=Z,253nm,24.6s
TAOE *e*S **S 20 18 27.2 +1.9**
comp=Z,2µm,26.7s
TAOE *e*LR LR 20 24 02.4
comp=Z,5µm,30.0s
MTN Manton Dam 43.61 271 P **P 20 11 57.2 -0.2**
baz=44,SNR=5.8
MTN Manton Dam 43.61 271 P **P 20 11 56.6 -0.8**
MTN IAmb IAmb 20 12 22.0
comp=Z,85nm,1.3s
MTN Manton Dam 43.61 271 P **P 20 11 57.3 -0.1**
GUMO Guam 44.59 314 LR LR 20 28 34.2
comp=Z,3µm,21.9s,baz=128,slow=33
WRKA Warakurna 44.62 253 P **P 20 12 05.5 0.0**
baz=45,SNR=27
WRKA Warakurna 44.62 253 P **P 20 12 05.5 0.0**
FORT Forrest 44.92 245 P **P 20 12 07.7 0.0**
baz=46,SNR=13
FORT Forrest 44.92 245 P **P 20 12 06.7 -1.0**
FORT Forrest 44.92 245 P **P 20 12 07.9 +0.2**
KNRA Kununurra 45.25 266 P **P 20 12 10.3 -0.2**
baz=46,SNR=4.5
KNRA Kununurra 45.25 266 P **P 20 12 09.5 -1.0**
KNRA Kununurra 45.25 266 P **P 20 12 10.2 -0.2**
RKT Rikitea 45.69 104 *e*P **P 20 12 16.0 +2.1**
comp=Z,39µm,24.8s
RKT *e*S **S 20 18 58.3 +1.4**
comp=Z,396µm,28.0s
RKT *e*LR LR 20 25 03.8
comp=Z,1908µm,30.5s
SIJI Sorong 47.47 287 P **P 20 12 27.1 -0.9**
comp=Z,12nm,0.8s,baz=106,slow=17,SNR=4.3
SIJI LR LR 20 31 29.5
comp=Z,3µm,21.3s,baz=117,slow=35
comp=Z,12nm,0.8s
KMBL Kambalda 50.24 245 P **P 20 12 49.1 0.0**
baz=51,SNR=4.7
KMBL Kambalda 50.24 245 P **P 20 12 48.6 -0.5**
SOEI Soe 50.91 273 P **P 20 12 56.6 +2.1**
BATI Baumata 51.36 272 LR LR 20 33 24.5
comp=Z,2µm,21.9s,baz=121,slow=34
BATI Baumata 51.36 272 P **P 20 12 56.8 -1.0**
comp=Z,86nm,1.1s
TNTI Ternate 51.69 287 P **P 20 12 58.3 -1.9**
comp=Z,26nm,1.2s,comp=Z,1µm
MBWA Marble Bar 52.82 257 P **P 20 13 08.1 -0.5**
MEEK Meekatharra 53.25 250 P **P 20 13 11.1 -0.6**
baz=54,SNR=16
MEEK Meekatharra 53.25 250 P **P 20 13 11.4 -0.3**
KLBR Kellerberrin 53.77 244 P **P 20 13 14.8 -0.5**
baz=54,SNR=13
KLBR Kellerberrin 53.77 244 P **P 20 13 15.1 -0.3**
NWAO Narrogin (SRO) 54.19 243 LR LR 20 35 24.5
comp=Z,1µm,18.3s,slow=35
NWAO Narrogin (SRO) 54.19 243 P **P 20 13 18.6 +0.1**
baz=55,SNR=5.7
NWAO P **P 20 13 18.6 +0.1**
baz=55,SNR=5.7
NWAO Narrogin (SRO) 54.19 243 P **P 20 13 17.4 -1.1**
NWAO Narrogin (SRO) 54.19 243 P **P 20 13 18.0 -0.5**
NWAO IAmb IAmb 20 13 21.0
comp=Z,55nm,1.1s
NWAO Narrogin (SRO) 54.19 243 P **P 20 13 18.0 -0.5**
NWAO pmax pmax
comp=Z,55nm,1.2s
BLDU Ballidu 54.69 245 P **P 20 13 20.7 -1.4**
MUN Mundaring 55.08 244 P **P 20 13 23.2 -1.6**
baz=56,SNR=6.6
MUN Mundaring 55.08 244 P **P 20 13 23.4 -1.5**
MORW Morawa 55.35 247 P **P 20 13 26.5 -0.4**
baz=56,SNR=8.6
MORW Morawa 55.35 247 P **P 20 13 26.4 -0.4**
MORW Morawa 55.35 247 P **P 20 13 26.4 -0.5**
GTOI Gorontalo 55.62 284 P **P 20 13 29.0 0.0**
comp=Z,13nm,0.9s,comp=Z,282nm
DAV Davao City (W) 56.09 293 LR LR 20 36 20.4
comp=Z,601nm,19.9s,baz=120,slow=35
APSI Ampana 56.28 282 P **P 20 13 31.9 -1.8**
comp=Z,60nm,1.2s,comp=Z,1µm
JCJ Chichijima 56.29 323 LR LR 20 33 13.4
comp=Z,537nm,19.4s,baz=130,slow=31
KAPI Kappang 56.62 277 LR LR 20 37 57.6
comp=Z,549nm,21.2s,baz=84,slow=36
PLAI Plampang 57.32 272 P **P 20 13 41.0 -0.1**
TOLI2 Tolitoli 57.85 284 P **P 20 13 43.7 -1.2**
TOLI2 Tolitoli 57.85 284 P **P 20 13 44.1 -0.8**
TWSI Taliwang, Sumb 58.19 271 P **P 20 13 45.9 -1.4**
comp=Z,77nm,1.3s,comp=Z,2µm
MPSI Mapaga 58.37 282 P **P 20 13 45.7 -2.8**
comp=Z,19nm,1.0s,comp=Z,632nm
VNDA Vanda 59.14 184 P **P 20 13 53.5 +0.6**
comp=Z,1.6nm,0.9s,baz=332,slow=7.9,SNR=3.5
VNDA LR LR 20 36 07.5
comp=Z,345nm,20.1s,baz=22,slow=33
comp=Z,1.6nm,0.9s
JAGI Jajag, Banyuwa 60.85 271 P **P 20 14 04.7 -0.9**
JAGI Jajag, Banyuwa 60.85 271 P **P 20 14 05.3 -0.4**
JAGI Jajag, Banyuwa 60.85 271 P **P 20 14 03.4 -2.3**
comp=Z,50nm,1.0s,comp=Z,1µm
ABJI Asem Bagus 60.97 271 P **P 20 14 05.1 -1.4**
comp=Z,32nm,1.1s
GMJI Gumukmas 61.58 271 P **P 20 14 08.1 -2.5**
comp=Z,32nm,1.0s
BLJI Banyuglugur 61.59 271 P **P 20 14 08.4 -2.3**
comp=Z,49nm,1.1s,comp=Z,2µm
JHJ Hachijo jima 2 62.25 326 LR LR 20 37 02.4
comp=Z,550nm,21.2s,baz=135,slow=32
KKM Kota Kinabalu 63.99 287 IAMs_20 IAMs_20 20 42 32.5
comp=Z,1µm,21.0s
MJAR Matsushiro Arr 65.71 327 P **P 20 14 37.9 +0.5**
comp=Z,19nm,0.9s,baz=158,slow=6.0,SNR=23
MJAR LR LR 20 38 22.2
comp=Z,559nm,20.8s,baz=142,slow=32
comp=Z,19nm,0.9s
MAJO Matsushiro 65.71 327 IAMs_20 IAMs_20 20 37 14.1
comp=Z,1µm,21.0s
MAJO Matsushiro 65.71 327 *d*/P **P 20 14 37.0 -0.4**
MAJO pmax pmax
comp=Z,44nm,1.2s
MJB9 Matsu-Tunnel 65.72 327 P **P 20 14 39.0 +1.6**
SBUM Sibu 66.27 281 P **P 20 14 41.3 -0.2**
SBUM IAmb IAmb 20 14 50.1
comp=Z,32nm,1.5s
BBJI Bungbulang 67.30 270 P **P 20 14 47.1 -1.1**
JNU Nakatsue 67.36 320 P **P 20 14 48.9 +0.8**
comp=Z,16nm,0.9s,baz=133,slow=5.5,SNR=5.9
JNU LR LR 20 40 21.7
comp=Z,560nm,21.4s,baz=119,slow=32
comp=Z,16nm,0.9s
LEM Lembang 67.52 270 LR LR 20 43 18.0
comp=Z,937nm,21.9s,baz=106,slow=35
LEM Lembang 67.52 270 P **P 20 14 49.9 +0.2**
LEM pmax pmax
comp=Z,109nm,0.8s
KSM Kuching 67.70 280 P **P 20 14 49.5 -1.0**
KSM Kuching 67.70 280 P **P 20 14 50.8 +0.2**
RPN Rapa Nui 68.24 112 LR LR 20 37 06.4
comp=Z,681nm,20.5s,baz=282,slow=29
ASAJ Asahikawa 69.76 335 P **P 20 15 04.5 +1.8**
comp=Z,13nm,0.9s,baz=190,slow=17,SNR=4.0
ASAJ LR LR 20 40 13.5
comp=Z,2µm,21.8s,baz=165,slow=31
comp=Z,13nm,0.9s
KNMB Chin-men Tao 70.83 305 IAMs_20 IAMs_20 20 40 32.0
comp=Z,1µm,22.0s
QSPA South Pole Qui 71.22 180 LR LR 20 40 17.4
comp=Z,430nm,21.7s,baz=36,slow=31
QSPA South Pole Qui 71.22 180 P **P 20 15 10.9 -0.7**
PMBI Palembang 71.42 273 IAMs_20 IAMs_20 20 49 04.7
comp=Z,765nm,19.0s
SKR Severo-Kuril's 71.43 347 *e*P P 20 15 23.4 +11
SKR *e*S **SKiKP 20 25 00.1 +7.5**
SKR pmax pmax
comp=Z,300nm,8.1s
SKR MLR MLR
comp=Z,700nm,17.0s
YSS Yuzh-Sakhalins 72.07 337 P P 20 15 11.1 -5.5
YSS IAmb IAmb 20 15 19.0
comp=Z,42nm,1.4s
YSS Yuzh-Sakhalins 72.07 337 P **P 20 15 18.5 +1.8**
YSS Yuzh-Sakhalins 72.07 337 *e*P **P 20 15 18.4 +1.8**
YSS *e* 20 17 54.1
YSS *e*S **S 20 24 41.5 +3.3**
YSS pmax pmax
comp=Z,500nm,5.1s
YSS pmax pmax
comp=Z,20nm,1.2s
KSRS Korea Array 72.07 321 P **P 20 15 18.1 +1.2**
comp=Z,6.0nm,0.9s,baz=142,slow=6.8,SNR=13
KSRS LR LR 20 45 48.9
comp=Z,466nm,18.7s,baz=130,slow=35
comp=Z,6.0nm,0.9s
KSAR Wonju Array Be 72.08 321 P **P 20 15 15.4 -1.6**
KSAR Wonju Array Be 72.08 321 P **P 20 15 15.4 -1.6**
INCN Inchon 72.86 321 IAMs_20 IAMs_20 20 43 15.6
comp=Z,790nm,20.0s
HKPS Hong Kong Po S 73.09 301 IAMs_20 IAMs_20 20 41 16.0
comp=Z,1µm,22.0s
PET Petropavlovsk 73.15 349 *e*P P 20 15 28.5 +5.5
PET *e*S **SKiKP 20 24 58.4 +3.3**
PET pmax pmax
comp=Z,300nm,13.4s
PET MLR MLR
comp=Z,700nm,17.0s
PETK Petropavlovsk- 73.41 349 P **P 20 15 25.0 +0.4**
comp=Z,10nm,1.0s,baz=163,slow=10,SNR=3.9
PETK LR LR 20 42 06.4
comp=Z,526nm,21.2s,baz=164,slow=31
comp=Z,10nm,1.0s
PETK Petropavlovsk- 73.41 349 P **P 20 15 25.0 +0.4**
MYKOM Kota Tinggi 73.86 278 P **P 20 15 26.9 -1.2**
MYKOM IAmb IAmb 20 15 29.9
comp=Z,48nm,1.6s
UNV Unalaska Valle 73.92 11 P **P 20 15 26.7 -0.8**
USA0B Ussuriysk Arra 74.59 329⇓ *e*P **P 20 15 33.9 +2.3**
USRK Ussuriysk Ar. 74.59 329 P **P 20 15 33.0 +1.4**
comp=Z,6.0nm,1.0s,baz=164,slow=2.7,SNR=5.9
USRK LR LR 20 43 10.3
comp=Z,548nm,21.9s,baz=138,slow=32
comp=Z,6.0nm,1.0s
USRK Ussuriysk Ar. 74.59 329 P **P 20 15 31.7 0.0**
USRK Ussuriysk Ar. 74.59 329 P **P 20 15 33.0 +1.4**
NJ2 Nanjing 74.62 312 *e*P **P 20 15 33.1 +1.0**
NJ2 pP **pwP 20 15 39.6 -0.3**
NJ2 sS sS 20 25 20.0 +7.3
NJ2 SS SS 20 29 45.2 -10
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,520nm,7.4s
NJ2 LR LR
comp=Z,770nm,17.2s
NJ2 LR LR
comp=Z,490nm,15.1s
NJ2 LR LR
comp=Z,1µm,21.4s
QIZ Qiongzhong 75.16 296 P **P 20 15 35.0 -0.5**
QIZ PcP **PcP 20 15 48.6 -0.4**
QIZ S **S 20 25 16.0 +1.7**
QIZ pmax pmax
comp=Z,430nm,5.0s
QIZ LR LR
comp=Z,510nm,23.8s
QIZ LR LR
comp=Z,840nm,26.2s
QIZ LR LR
comp=Z,2µm,25.7s
TYV Tymovskoe 75.39 339 *e*P **P 20 15 37.0 +0.9**
TYV *e*S **S 20 25 19.0 +3.5**
TYV pmax pmax
comp=Z,15nm,1.1s
TYV pmax pmax
comp=Z,600nm,4.5s
TYV smax smax
comp=N,200nm,5.9s
TYV smax smax
comp=E,100nm,5.9s
BKNI Bangkinang 76.01 275 IAMs_20 IAMs_20 20 49 40.1
comp=Z,814nm,21.0s
MDJ Mudanjiang 76.08 328 P **P 20 15 40.3 0.0**
MDJ IAmb IAmb 20 15 42.2
comp=Z,27nm,1.3s
MDJ IAMs_20 IAMs_20 20 45 28.4
comp=Z,842nm,21.0s
MDJ Mudanjiang 76.08 328 P **P 20 15 41.8 +1.5**
MDJ pP sP 20 15 45.0 +0.6
MDJ S **S 20 25 25.1 +1.6**
MDJ sS sS 20 25 31.4 +2.9
MDJ pmax pmax
comp=Z,24nm,3.4s
MDJ pmax pmax
comp=Z,800nm,3.9s
MDJ LR LR
comp=Z,300nm,13.9s
MDJ LR LR
comp=Z,270nm,14.8s
MDJ LR LR
comp=Z,1µm,20.0s
MDJ Mudanjiang 76.08 328 P **P 20 15 41.7 +1.5**
DL2 Dalian 76.81 319 P **P 20 15 45.6 +1.1**
DL2 S **S 20 25 35.4 +3.7**
DL2 pmax pmax
comp=Z,21nm,1.2s
DL2 pmax pmax
comp=Z,600nm,4.4s
DL2 LR LR
comp=Z,570nm,22.0s
DL2 LR LR
comp=Z,370nm,25.2s
DL2 LR LR
comp=Z,710nm,20.6s
WHN Wuhan 77.06 309 ⇑P **P 20 15 47.0 +0.9**
WHN S **S 20 25 35.5 +0.7**
WHN LR LR
comp=Z,4µm,21.3s
WHN LR LR
comp=Z,12µm,28.6s
WHN LR LR
comp=Z,10µm,24.7s
IPM Ipoh 77.42 279 P **P 20 15 47.7 -0.9**
IPM IAmb IAmb 20 15 49.0
comp=Z,29nm,0.9s
IPM IAMs_20 IAMs_20 20 50 08.6
comp=Z,668nm,20.0s
IPM Ipoh 77.42 279 P **P 20 15 48.3 -0.3**
SNY Shenyang 77.46 323 ⇓P **P 20 15 48.9 +0.8**
SNY pmax pmax
comp=Z,17nm,0.9s
SNY pmax pmax
comp=Z,650nm,4.9s
SNY LR LR
comp=Z,520nm,19.0s
SNY LR LR
comp=Z,440nm,16.0s
SNY LR LR
comp=Z,1µm,22.7s
GRNR Gornyy 77.61 335 ⇓*i*P **P 20 15 50.5 +1.8**
GRNR pmax pmax
comp=Z,7.0nm,1.1s
CN2 Changchun 77.70 325 P **P 20 15 50.1 +0.7**
CN2 S **S 20 25 39.3 -1.9**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,600nm,5.0s
CN2 LR LR
comp=Z,400nm,22.0s
CN2 LR LR
comp=Z,500nm,22.0s
CN2 LR LR
comp=Z,600nm,25.0s
BNX BinXian 77.97 327 ⇓P **P 20 15 52.2 +1.3**
BNX PP **PP 20 18 52.5 +5.2**
BNX S **S 20 25 43.2 -0.9**
BNX pmax pmax
comp=Z,13nm,0.8s
BNX pmax pmax
comp=Z,470nm,4.7s
BNX LR LR
comp=Z,370nm,17.3s
BNX LR LR
comp=Z,300nm,10.8s
BNX LR LR
comp=Z,350nm,20.8s
KLR Kul'dur 78.39 332 P **P 20 15 54.5 +1.4**
comp=Z,5.8nm,0.9s,baz=119,slow=3.3,SNR=20
KLR LR LR 20 44 51.9
comp=Z,566nm,21.9s,baz=148,slow=31
comp=Z,5.8nm,0.9s
KLR Kul'dur 78.39 332 *i* P **P 20 15 54.6 +1.5**
KLR pmax pmax
comp=Z,31nm,2.6s
RPSI Rantau Prapat 78.79 277 P **P 20 15 54.9 -1.2**
RPSI IAmb IAmb 20 15 56.2
comp=Z,18nm,0.9s
PSI Prapat 78.83 277 P **P 20 15 55.5 -1.0**
PSI Prapat 78.83 277 P **P 20 15 54.9 -1.6**
PSI pmax pmax
comp=Z,18nm,0.9s
PSI MLR MLR
comp=Z,1µm,22.0s
HNS HongShan 80.41 315 ⇓P **P 20 16 05.5 +1.1**
HNS PP **PP 20 19 05.0 -2.8**
HNS S **S 20 26 14.8 +4.4**
HNS pmax pmax
comp=Z,17nm,1.1s
HNS pmax pmax
comp=Z,550nm,5.4s
HNS LR LR
comp=Z,420nm,23.9s
HNS LR LR
comp=Z,540nm,24.7s
HNS LR LR
comp=Z,700nm,20.7s
P16K Nushagak River 80.45 13 P **P 20 16 04.2 +0.1**
baz=205
LYN LuoYang 80.47 311 ⇓*i*P **P 20 16 05.9 +1.1**
LYN S **S 20 26 09.0 -2.2**
LYN pmax pmax
comp=Z,30nm,3.1s
LYN pmax pmax
comp=Z,700nm,4.2s
LYN LR LR
comp=Z,640nm,18.4s
LYN LR LR
comp=Z,550nm,18.4s
LYN LR LR
comp=Z,830nm,19.1s
NONG Nongkai 80.52 293 P **P 20 16 06.0 +0.6**
ENH Enshi 80.58 306 P **P 20 16 04.9 -0.6**
ENH IAMs_20 IAMs_20 20 46 14.9
comp=Z,892nm,21.0s
ENH Enshi 80.58 306 P **P 20 16 06.2 +0.7**
SCZ2 Santa Cruz Isl 80.59 49 P **P 20 16 04.9 -0.6**
baz=240
KDAK Kodiak Island 80.64 16 P **P 20 16 06.4 +1.2**
comp=Z,6.9nm,1.0s,baz=250,slow=6.8,SNR=2.6
KDAK LR LR 20 44 23.5
comp=Z,751nm,21.2s,baz=233,slow=30
comp=Z,6.9nm,1.0s
MA2 Magadan 80.84 347 P **P 20 16 06.2 0.0**
comp=Z,4.0nm,0.7s,baz=157,slow=9.9,SNR=5.4
comp=Z,4.0nm,0.7s
MA2 Magadan 80.84 347⇑ *e*P **P 20 16 06.4 +0.2**
MA2 pmax pmax
comp=Z,27nm,2.5s
BJT Baijiatuao 80.88 318 P **P 20 16 06.0 -0.9**
BJT Baijiatuao 80.88 318 IAMs_20 IAMs_20 20 50 51.3
comp=Z,637nm,20.0s
BJT Baijiatuao 80.88 318 P **P 20 16 06.0 -0.9**
BJT pmax pmax
comp=Z,9.0nm,1.0s
BJT MLR MLR
comp=Z,600nm,20.0s
O16K Kokwok River B 80.94 13 P **P 20 16 06.5 -0.2**
baz=204
GYA Guiyang 81.06 302 ⇓*i*P **P 20 16 08.4 +0.1**
GYA S **S 20 26 19.2 +1.3**
GYA pmax pmax
comp=Z,16nm,1.3s
GYA pmax pmax
comp=Z,440nm,5.8s
GYA LR LR
comp=Z,490nm,23.2s
GYA LR LR
comp=Z,500nm,22.0s
GYA LR LR
comp=Z,1µm,29.0s
HEH HeiHe 81.09 331 *e*P **P 20 16 07.6 -0.1**
HEH pmax pmax
comp=Z,13nm,1.3s
HEH pmax pmax
comp=Z,610nm,4.3s
Q19K Cape Douglas, 81.37 15 IAMs_20 IAMs_20 20 44 32.0
comp=Z,801nm,20.0s
Q19K Cape Douglas, 81.37 15 P **P 20 16 09.4 +0.3**
baz=209
P18K Big Mountain, 81.40 14 P **P 20 16 08.4 -0.8**
P18K IAmb IAmb 20 16 10.1
comp=Z,19nm,1.1s
P18K Big Mountain, 81.40 14 P **P 20 16 09.2 0.0**
baz=207,SNR=5.3
N16K Nishlik Lake 81.61 12 P **P 20 16 11.4 +1.1**
baz=204
O18K Koktuh Hills 81.81 14 P **P 20 16 10.8 -0.6**
O18K IAmb IAmb 20 16 19.3
comp=Z,50nm,1.6s
O18K IAMs_20 IAMs_20 20 43 50.7
comp=Z,607nm,20.0s
O18K Koktuh Hills 81.81 14 P **P 20 16 11.5 +0.1**
baz=207
TIY Taiyuan 82.11 314 *e*P **P 20 16 14.9 +1.4**
TIY pmax pmax
comp=Z,460nm,5.8s
TIY LR LR
comp=Z,570nm,21.3s
TIY LR LR
comp=Z,350nm,19.2s
TIY LR LR
comp=Z,720nm,21.3s
CMB Columbia Colle 82.13 46 P **P 20 16 12.2 -1.4**
CMB IAMs_20 IAMs_20 20 45 44.4
comp=Z,764nm,21.0s
CMB Columbia Colle 82.13 46 P **P 20 16 12.2 -1.4**
CMB pmax pmax
comp=Z,14nm,1.1s
CMB MLR MLR
comp=Z,800nm,21.0s
BFSC Mount Baldy Ra 82.14 50 P **P 20 16 14.9 +1.1**
baz=241
MURC Murrieta 82.17 51 P **P 20 16 14.8 +0.9**
baz=241
ORV Oroville 82.18 44 P **P 20 16 13.6 -0.2**
ORV IAmb IAmb 20 16 26.1
comp=Z,34nm,1.8s
ORV IAMs_20 IAMs_20 20 47 23.0
comp=Z,627nm,20.0s
ORV Oroville 82.18 44 P **P 20 16 13.6 -0.2**
ORV pmax pmax
comp=Z,34nm,1.8s
ORV MLR MLR
comp=Z,600nm,20.0s
EDW2 Edwards Air Fo 82.21 49 P **P 20 16 15.5 +1.4**
baz=241,SNR=5.2
AFDM Forest Hills D 82.21 44 P **P 20 16 14.6 +0.6**
ISA Isabella, Lake 82.25 48 P **P 20 16 15.7 +1.3**
ISA Isabella, Lake 82.25 48 P **P 20 16 15.6 +1.3**
baz=240,SNR=7.8
ISA Isabella, Lake 82.25 48 P **P 20 16 15.7 +1.3**
ISA pmax pmax
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 82.58 41 LR LR 20 46 59.9
comp=Z,332nm,18.9s,baz=249,slow=31
YBH Yreka Blue Hor 82.58 41 P **P 20 16 15.6 -0.3**

YBH IAmb IAmb 20 16 18.6
comp=Z,19nm,1.2s
YBH Yreka Blue Hor 82.58 41 P P 20 16 15.6 -0.3
YBH pmax pmax
comp=Z,19nm,1.3s
O20K Slope Mountain 82.64 15 P P 20 16 16.3 +0.6
baz=210
YUH Yuha Desert 82.66 52 P P 20 16 16.0 -0.4
PFO Pinyon Flats O 82.72 51 LR LR 20 46 06.4
comp=Z,361nm,19.9s,baz=228,slow=31
PFO Pinyon Flats O 82.72 51 *e*P **P 20 16 16.7 -0.1**
baz=242
PFO Pinyon Flats O 82.72 51 ⇓*e*P **P 20 16 18.4 +1.5**
PFO pmax pmax
comp=Z,38nm,3.5s
TPFO Pinon Flats 82.72 51 P P 20 16 16.7 -0.1
baz=242
XAN Xi'an 82.78 309 ⇓P **P 20 16 18.0 +0.9**
XAN pP PcP 20 16 22.8 +0.9
XAN S **S 20 26 37.5 +2.3**
XAN pmax pmax
comp=Z,20nm,0.9s
XAN pmax pmax
comp=Z,750nm,5.4s
XAN LR LR
comp=Z,830nm,23.0s
XAN LR LR
comp=Z,1μm,21.1s
XAN LR LR
comp=Z,3μm,25.0s
BRSE Bradley Lake S 82.83 16 P P 20 16 18.0 +1.3
baz=211
N19K Bonanza Creek 82.83 14 P P 20 16 17.5 +0.7
baz=208
SWSC Sam W. Stewart 82.89 52 P P 20 16 17.9 +0.2
baz=242
HUMO Hull Mountain 82.91 41 P P 20 16 18.3 +0.7
HUMO IAmb IAmb 20 16 20.3
comp=Z,40nm,1.6s
CWC Cottonwood Cre 82.91 48 P P 20 16 18.9 +1.1
baz=240
RSO Redoubt South 82.94 15 P P 20 16 17.5 +0.1
WAKR Walker 83.01 45 P P 20 16 17.8 -0.6
WAKR IAmb IAmb 20 16 29.6
comp=Z,42nm,1.4s
BEKR Beckworth 83.09 44 P P 20 16 19.7 +1.0
BEKR IAmb IAmb 20 16 21.1
comp=Z,13nm,1.0s
XLT XiLinHaoTe 83.11 321 *e*P **P 20 16 18.0 -0.6**
XLT pP sP 20 16 22.6 -0.2
XLT sP pwP 20 16 25.4 -1.0
XLT S **S 20 26 35.2 -3.0**
XLT sS SKSac 20 26 43.7 +3.3
XLT SS **SS 20 31 58.2 -4.7**
XLT pmax pmax
comp=Z,11nm,1.2s
XLT pmax pmax
comp=Z,490nm,4.6s
XLT LR LR
comp=Z,630nm,21.6s
XLT LR LR
comp=Z,1μm,22.8s
MPMC Manual Prospec 83.14 48 P P 20 16 19.8 +0.6
baz=241,SNR=7.3
PNTR Pine Nut 83.20 45 P P 20 16 17.9 -1.4
BELC Belle Mtn. Jos 83.24 51 P P 20 16 21.1 +1.5
baz=242
PHRA Phrae 83.25 292 P P 20 16 19.4 -0.4
GSC Goldstone, Bar 83.26 49 P P 20 16 18.8 -0.8
GSC Goldstone, Bar 83.26 49 P P 20 16 20.4 +0.8
baz=241
GSC Goldstone, Bar 83.26 49 P P 20 16 18.8 -0.8
GSC pmax pmax
comp=Z,11nm,1.2s
HEC Hector,Ludlow 83.38 50 P P 20 16 20.3 +0.1
baz=242,SNR=7.4
DSP Deep Springs 83.44 47 P P 20 16 21.4 +1.1
DSP IAmb IAmb 20 16 23.8
comp=Z,56nm,1.8s
BC3 Big Chuckawall 83.48 51 P P 20 16 21.7 +0.9
baz=242
SEW Seward 83.48 17 P P 20 16 21.7 +1.7
baz=212
LHV Little Huntoon 83.51 46 P P 20 16 21.5 +0.8
ZEA Zeya 83.58 333 *e*P **P 20 16 22.1 +1.4**
ZEA *e*S **S 20 26 47.0 +4.6**
ZEA *e*SS **SS 20 32 16.5 +7.2**
ZEA *e*SSS SSS 20 35 43.7
ZEA pmax pmax
comp=E,100nm,7.5s
ZEA pmax pmax
comp=N,100nm,4.7s
ZEA pmax pmax
comp=Z,300nm,5.1s
ZEA smax smax
comp=E,200nm,8.1s
ZEA smax smax
comp=N,300nm,12.7s
CAPN Captain Cook N 83.60 15 P P 20 16 21.4 +0.8
baz=211
LCH Last Change Ra 83.60 47 P P 20 16 22.0 +0.6
LCH IAmb IAmb 20 16 29.2
comp=Z,45nm,2.0s
SEY Seymchan 83.62 349 P P 20 16 20.7 +0.1
comp=Z,11nm,0.9s,baz=150,slow=5.9,SNR=49
SEY LR LR 20 46 55.5
comp=Z,636nm,21.3s,baz=149,slow=31
comp=Z,11nm,0.9s
SEY Seymchan 83.62 349 ⇓*i*P **P 20 16 21.1 +0.4**
SEY pmax pmax
comp=Z,22nm,1.0s
GLA Glamis 83.67 52 P P 20 16 22.3 +0.6
baz=243
GRAC Grapevine Rang 83.68 48 P P 20 16 23.1 +1.4
GRAC IAmb IAmb 20 19 02.8
comp=Z,22nm,0.7s
GRAC Grapevine Rang 83.68 48 P P 20 16 22.2 +0.5
baz=241,SNR=5.3
O22K Cooper Landing 83.72 16 IAMs_20 IAMs_20 20 48 03.2
comp=Z,547nm,20.0s
NVAR Mina Array Bea 83.74 46 P P 20 16 23.2 +1.0
comp=Z,6.1nm,0.8s,baz=226,slow=8.6,SNR=30
comp=Z,6.1nm,0.8s
NVAR Mina Array Bea 83.74 46 P P 20 16 23.0 +0.8
CRAI Chiangrai 83.78 294 P P 20 16 22.7 +0.2
CRAI IAmb IAmb 20 16 25.5
comp=Z,18nm,1.2s
NV11 Mina Array Sit 83.84 46 P P 20 16 23.9 +1.3
NV11 IAmb IAmb 20 16 26.0
comp=Z,20nm,1.1s
GMRC Granite Mounta 83.85 50 P P 20 16 23.5 +0.8
baz=242,SNR=8.4
IRM Iron Mountain 83.94 51 P P 20 16 24.5 +1.4
baz=242
L19K White Mountain 83.97 13 P P 20 16 23.3 +0.7
L19K White Mountain 83.97 13 P P 20 16 23.7 +1.2
baz=207
MZP Montezuma Peak 84.01 47 P P 20 16 23.7 0.0
PIX Pinacate 84.03 54 P P 20 16 23.2 -0.3
PIX IAmb IAmb 20 16 32.3
comp=Z,25nm,1.9s
WCT Wildcat Mounta 84.10 48 P P 20 16 23.8 -0.1
WCT IAmb IAmb 20 16 27.1
comp=Z,26nm,1.4s
FIS Fire Island 84.16 16 P P 20 16 23.9 +0.5
KVN Kaiserville 84.19 46 P P 20 16 25.4 +1.0
KVN IAmb IAmb 20 16 26.6
comp=Z,16nm,1.0s
KVN Kaiserville 84.19 46 P P 20 16 25.4 +1.0
KVN pmax pmax
comp=Z,16nm,1.0s
RC01 Rabbit Creek A 84.24 16 P P 20 16 23.6 -0.2
RC01 IAmb IAmb 20 16 25.0
comp=Z,21nm,1.1s
RC01 IAMs_20 IAMs_20 20 53 34.7
comp=Z,588nm,20.0s
RC01 Rabbit Creek A 84.24 16 P P 20 16 24.3 +0.5
baz=212,SNR=6.7
K05A Summer Lake 84.25 41 P P 20 16 26.5 +1.8
HHC Hu-ho-hao-te 84.30 316 *e*P **P 20 16 25.6 +0.8**
HHC S **S 20 26 53.0 +2.6**
HHC SS **SS 20 32 19.8 -0.9**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,730nm,4.4s
HHC LR LR
comp=Z,520nm,18.4s
HHC LR LR
comp=Z,860nm,19.0s
HHC LR LR
comp=Z,2μm,19.7s
SUA Susitna One 84.30 15 P P 20 16 23.7 -0.6
SUA IAmb IAmb 20 16 25.1
comp=Z,18nm,1.0s
SUA IAMs_20 IAMs_20 20 46 47.4
comp=Z,723nm,20.0s
SUA Susitna One 84.30 15 P P 20 16 24.5 +0.1
baz=211
TPH Tonopah 84.31 47 P P 20 16 25.4 +0.4
TPH Tonopah 84.31 47 P P 20 16 25.4 +0.4
TPH pmax pmax
comp=Z,90nm,1.2s
CM31 Chiang Mai Arr 84.36 292 P P 20 16 26.1 +0.6
CM31 IAmb IAmb 20 16 27.9
comp=Z,18nm,0.9s
CMAR Chiang Mai Arr 84.36 292 P P 20 16 25.9 +0.4
comp=Z,12nm,0.9s,baz=128,slow=3.7,SNR=56
CMAR PKKPbc **PKKPbc 20 34 38.4 +0.7**
comp=Z,0.6nm,0.8s,baz=302,slow=4.1,SNR=5.5
CMAR LR LR 20 50 16.4
comp=Z,320nm,21.6s,baz=115,slow=33
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 84.36 292 P P 20 16 26.2 +0.7
CMAR Chiang Mai Arr 84.36 292 *i* P **P 20 16 26.5 +1.0**
CMAR pmax pmax
comp=Z,12nm,0.9s
TTA Tatalina 84.39 12 P P 20 16 24.5 -0.2
TTA Tatalina 84.39 12 P P 20 16 25.2 +0.4
baz=206
TTA Tatalina 84.39 12 P P 20 16 24.5 -0.2
TTA pmax pmax
comp=Z,14nm,1.2s
PWL Port Wells 84.41 17 P P 20 16 24.7 -0.1
baz=213
TPNV Topopah Spring 84.44 48 P P 20 16 27.4 +1.7
TPNV Topopah Spring 84.44 48 P P 20 16 26.6 +0.9
baz=242,SNR=11
TPNV Topopah Spring 84.44 48 P P 20 16 27.4 +1.7
TPNV pmax pmax
comp=Z,82nm,1.9s
L20K Farewell, AK 84.44 13 P P 20 16 25.7 +0.8
baz=208
CHTO Chiang Mai 84.49 292 P P 20 16 25.8 -0.4
CHTO IAmb IAmb 20 16 27.5
comp=Z,19nm,1.1s
CHTO Chiang Mai 84.49 292 IAMs_20 IAMs_20 20 50 06.6
comp=Z,753nm,21.0s
CHTO Chiang Mai 84.49 292 P P 20 16 25.8 -0.4
CHTO pmax pmax
comp=Z,19nm,1.1s
CHTO MLR MLR
comp=Z,800nm,21.0s
SKT Skwentna 84.55 15 IAMs_20 IAMs_20 20 56 29.0
comp=Z,518nm,19.0s
214A Organ Pipe Nat 84.70 54 P P 20 16 28.0 +1.0
214A IAmb IAmb 20 16 38.6
comp=Z,56nm,1.9s
214A Organ Pipe Nat 84.70 54 P P 20 16 26.9 0.0
baz=244
M22K Willow 84.70 15 P P 20 16 26.6 +0.4
M22K IAMs_20 IAMs_20 20 46 58.1
comp=Z,916nm,22.0s
M22K Willow 84.70 15 P P 20 16 26.7 +0.5
baz=212
PINE Pine Mountain 84.79 40 P P 20 16 27.9 +0.5
PINE IAmb IAmb 20 16 30.0
comp=Z,26nm,1.1s
PMR Palmer 84.82 16 P P 20 16 25.6 -1.1
PMR IAmb IAmb 20 16 27.7
comp=Z,13nm,1.0s
PMR Palmer 84.82 16 P P 20 16 27.0 +0.3
baz=213,SNR=5.7
PMR Palmer 84.82 16 P P 20 16 25.6 -1.1
PMR pmax pmax
comp=Z,13nm,1.0s
KNK Knik Glacier 84.84 16 P P 20 16 27.1 +0.2
KNK Knik Glacier 84.84 16 P P 20 16 27.5 +0.6
baz=213,SNR=6.2
V12A Nelson 84.87 50 P P 20 16 27.5 -0.4
V12A IAmb IAmb 20 16 38.9
comp=Z,32nm,1.7s
EYAK Cordova Ski Ar 84.88 18 P P 20 16 27.4 +0.2
baz=216
PMSA Palmer Station 84.94 158 LR LR 20 45 33.4
comp=Z,355nm,21.6s,baz=242,slow=30
SHPR Sheep Range 85.01 49 P P 20 16 29.7 +1.1
SHPR IAmb IAmb 20 16 40.7
comp=Z,20nm,1.6s
TNA Tin City 85.01 7 P P 20 16 28.3 +0.7
baz=195
GHO Glory Hole Cre 85.02 16 P P 20 16 27.9 0.0
PZH PanZhiHua 85.08 300 ⇓P **P 20 16 29.1 0.0**
PZH pP **PcP 20 16 33.1 +0.8**
PZH S **S 20 27 01.1 +2.4**
PZH sS **ScS 20 27 07.6 -1.7**
PZH SS **SS 20 32 30.1 -2.6**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,380nm,4.8s
PZH LR LR
comp=Z,2μm,22.2s
PZH LR LR
comp=Z,1μm,23.3s
PZH LR LR
comp=Z,1μm,21.7s
S11A Rachel 85.12 48 P P 20 16 29.0 -0.1
S11A IAmb IAmb 20 16 31.4
comp=Z,18nm,1.0s
K20K Telida 85.18 13 P P 20 16 29.0 +0.4
K20K IAmb IAmb 20 16 33.2
comp=Z,56nm,2.0s
K20K IAMs_20 IAMs_20 20 46 08.7
comp=Z,577nm,22.0s
K20K Telida 85.18 13 P P 20 16 29.4 +0.8
baz=208
BTO Baotou 85.19 316 *e*P **P 20 16 30.7 +1.4**
BTO S **S 20 26 53.8 -5.5**
BTO LR LR
comp=Z,2μm,17.9s
BTO LR LR
comp=Z,3μm,21.0s
SML Sawmill 85.21 16 P P 20 16 29.1 +0.3
baz=213
CUT Chulitna 85.22 15 IAMs_20 IAMs_20 20 47 25.8
comp=Z,648nm,21.0s
CD2 Chengdu 85.28 305 P P 20 16 30.3 +0.4
W13A Hualapai Mount 85.29 51 P P 20 16 31.5 +1.4
W13A IAmb IAmb 20 16 38.3
comp=Z,50nm,2.0s
DIV Divide 85.35 17 P P 20 16 29.5 0.0
DIV IAmb IAmb 20 16 30.5
comp=Z,16nm,1.0s
M23K Glacier View 85.36 16 P P 20 16 30.2 +0.7
baz=214
BMN Battle Mountai 85.45 45 P P 20 16 30.7 0.0
BMN IAmb IAmb 20 16 33.1
comp=Z,21nm,1.1s
BMN Battle Mountai 85.45 45 P P 20 16 30.7 0.0
BMN pmax pmax
comp=Z,21nm,1.1s
SCM Sheep Creek Mo 85.50 16 P P 20 16 30.6 +0.3
SCM IAmb IAmb 20 16 31.4
comp=Z,15nm,0.9s
SCM Sheep Creek Mo 85.50 16 P P 20 16 30.6 +0.3
baz=214
SCM Sheep Creek Mo 85.50 16 P P 20 16 30.6 +0.3
SCM pmax pmax
comp=Z,15nm,0.9s
PRN Pahroc Range 85.50 48 P P 20 16 30.6 -0.4
PRN IAmb IAmb 20 16 33.8
comp=Z,21nm,1.1s
WVOR Wild Horse Val 85.53 42 P P 20 16 31.6 +0.6
WVOR IAmb IAmb 20 16 33.4
comp=Z,17nm,1.1s
WVOR IAMs_20 IAMs_20 20 49 07.3
comp=Z,601nm,19.0s
WVOR Wild Horse Val 85.53 42 P P 20 16 31.6 +0.6
WVOR pmax pmax
comp=Z,17nm,1.2s
WVOR MLR MLR
comp=Z,600nm,19.0s
BMRM Bremner River 85.56 18 P P 20 16 30.6 0.0
BMRM Bremner River 85.56 18 P P 20 16 30.7 +0.1
baz=217
CRAG Craig 85.56 26 P P 20 16 30.9 +0.3
baz=227
R11A Troy Canyon, C 85.57 47 P P 20 16 31.9 +0.6
R11A Troy Canyon, C 85.57 47 P P 20 16 32.4 +1.0
baz=242,SNR=7.4
KLU Klutina 85.60 17 P P 20 16 30.5 -0.3
KLU IAmb IAmb 20 16 35.4
comp=Z,44nm,2.0s
KLU IAMs_20 IAMs_20 20 45 41.8
comp=Z,622nm,21.0s
KLU Klutina 85.60 17 P P 20 16 30.5 -0.3
baz=216
CAST Castle Rocks 85.67 14 P P 20 16 30.6 -0.5
CAST IAMs_20 IAMs_20 20 48 33.6
comp=Z,607nm,20.0s
CAST Castle Rocks 85.67 14 P P 20 16 30.2 -0.8
baz=210
BBB Bella Bella 85.69 31 LR LR 20 46 17.8
comp=Z,555nm,21.7s,baz=245,slow=30
I07A Izee 85.83 41 P P 20 16 33.6 +1.2
J20K Nowinta River 85.89 13 IAMs_20 IAMs_20 21 01 41.4
comp=Z,570nm,19.0s
J20K Nowinta River 85.89 13 P P 20 16 31.7 -0.4
baz=208
ISLE Juniper Island 85.95 19 P P 20 16 32.2 -0.4
ISLE IAmb IAmb 20 16 33.8
comp=Z,20nm,1.0s
D05A Enumclaw 86.00 37 P P 20 16 33.4 +0.4
WAT1 Susitna Watana 86.01 15 P P 20 16 32.5 -0.3
baz=213
WAT6 Susitna Watana 86.01 16 P P 20 16 32.8 -0.1
baz=214,SNR=6.3
M24K Tolsona, Glenn 86.03 17 P P 20 16 33.7 +0.8
baz=215
N25K Chitina, Valde 86.07 18 P P 20 16 33.5 +0.3
N25K Chitina, Valde 86.07 18 P P 20 16 33.4 +0.3
baz=217,SNR=7.5
J08A Circle Bar Ran 86.10 42 P P 20 16 33.9 +0.1
J08A IAmb IAmb 20 16 38.6
comp=Z,20nm,1.1s
VRDI Verde Repeater 86.10 18 P P 20 16 33.4 -0.1
VRDI IAmb IAmb 20 16 35.3
comp=Z,53nm,1.8s
TRF Thorofare Moun 86.11 14 P P 20 16 32.8 -0.7
TRF IAMs_20 IAMs_20 20 57 12.3
comp=Z,598nm,19.0s
TRF Thorofare Moun 86.11 14 P P 20 16 32.6 -0.9
baz=212
GLB Gilahina Butte 86.17 18 P P 20 16 34.1 +0.5
TABL Table Mountain 86.20 20 P P 20 16 33.8 -0.2
TABL IAmb IAmb 20 16 35.2
comp=Z,17nm,0.9s
TABL IAMs_20 IAMs_20 20 46 04.9
comp=Z,577nm,22.0s
PINM Pinnacle 86.23 20 P P 20 16 34.1 +0.1
baz=221
BCPM Bancas Point 86.32 21 IAMs_20 IAMs_20 20 49 08.9
comp=Z,619nm,19.0s
MCARA McCarthy VSAT 86.35 18 P P 20 16 35.2 +0.8
MCARA IAmb IAmb 20 16 56.7
comp=Z,17nm,1.2s
MCARA McCarthy VSAT 86.35 18 P P 20 16 35.1 +0.6
baz=218,SNR=6.0
TUC Tucson 86.41 54 P P 20 16 36.4 +0.9
TUC Tucson 86.41 54 P P 20 16 36.7 +1.2
baz=245
TUC Tucson 86.41 54 P P 20 16 36.4 +0.9
TUC pmax pmax
comp=Z,15nm,1.3s
RND Reindeer 86.42 15 IAMs_20 IAMs_20 20 47 00.3
comp=Z,581nm,22.0s
BPAW Bear Paw Mtn. 86.51 14 P P 20 16 35.4 +0.2
baz=211
DHY Denali Highway 86.51 16 P P 20 16 35.3 -0.1
DHY IAmb IAmb 20 16 59.3
comp=Z,44nm,2.0s
DHY IAMs_20 IAMs_20 20 57 01.9
comp=Z,558nm,19.0s
DHY Denali Highway 86.51 16 P P 20 16 35.4 -0.1
baz=214
BARN Barnard Glacie 86.52 19 P P 20 16 34.8 -0.8
BARN IAmb IAmb 20 16 36.8
comp=Z,17nm,1.0s
LCMT Little Creek M 86.61 49 P P 20 16 36.4 -0.1
MCK McKinley 86.67 15 P P 20 16 35.8 -0.2
MCK IAmb IAmb 20 16 36.5
comp=Z,34nm,1.9s
MCK IAMs_20 IAMs_20 20 49 46.1
comp=Z,791nm,20.0s
MCK McKinley 86.67 15 P P 20 16 35.8 -0.2
baz=213
MCK McKinley 86.67 15 P P 20 16 35.8 -0.2
MCK pmax pmax
comp=Z,34nm,1.9s
MCK MLR MLR
comp=Z,800nm,20.0s
SPR3 Spring Creek 3 86.74 47 P P 20 16 37.2 -0.2
SPR3 IAmb IAmb 20 16 41.2
comp=Z,9.2nm,1.0s
O28M Mount Upton 86.76 20 P P 20 16 36.9 +0.1
baz=221
CCUT Cedar City 86.76 49 P P 20 16 37.1 -0.2
G08A Pilot Rock 86.78 40 P P 20 16 37.2 +0.1
G08A IAmb IAmb 20 16 39.2
comp=Z,17nm,1.0s
LTY Liberty 86.79 38 P P 20 16 37.3 +0.3
LTY IAmb IAmb 20 17 20.6
comp=Z,55nm,1.9s
KNB Kanab 86.91 49 P P 20 16 38.6 +0.6
KNB IAmb IAmb 20 16 41.7
comp=Z,17nm,1.3s
KNB Kanab 86.91 49 P P 20 16 38.6 +0.6
KNB pmax pmax
comp=Z,17nm,1.3s
BWN Browne 86.92 14 IAMs_20 IAMs_20 20 48 01.7
comp=Z,754nm,21.0s
PAX Paxson 86.93 17 P P 20 16 36.7 -0.6
baz=216
BILL Bilibino 86.93 356 P P 20 16 36.7 -0.4
BILL IAmb IAmb 20 16 39.1
comp=Z,57nm,2.0s
BILL Bilibino 86.93 356 *c i*P **P 20 16 37.1 0.0**
BILL *e* 20 20 01.1
BILL *e*PPP PPP 20 21 59.6
BILL pmax pmax
comp=Z,25nm,2.0s
ELK Elko 86.93 45 LR LR 20 48 49.3
comp=Z,590nm,20.2s,baz=244,slow=31
ELK Elko 86.93 45 P P 20 16 38.0 -0.1
ELK IAMs_20 IAMs_20 20 48 37.5
comp=Z,704nm,21.0s
ELK Elko 86.93 45 P P 20 16 38.0 -0.1
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK MLR MLR
comp=Z,700nm,21.0s
HAWA Hanford 87.00 39 P P 20 16 38.3 +0.3
U15A North Rim 87.04 50 P P 20 16 39.0 +0.3
PLBC Pleasant Camp 87.09 22 P P 20 16 37.5 -0.6
baz=224
M26K Nabesna, AK 87.16 18 P P 20 16 38.2 -0.3
M26K Nabesna, AK 87.16 18 P P 20 16 39.2 +0.7
baz=218
TNCH TengChong 87.18 297 P P 20 16 38.0 -1.6
TNCH S **S 20 27 16.0 -3.5**
TNCH pmax pmax
comp=Z,20nm,2.8s
TNCH pmax pmax
comp=Z,330nm,4.1s
TNCH LR LR
comp=Z,210nm,15.9s
TNCH LR LR
comp=Z,210nm,15.6s
TNCH LR LR
comp=Z,520nm,19.3s
I21K Tanana 87.22 13 P P 20 16 39.3 +0.7
baz=210
YUK8 Steele Glacier 87.28 20 P P 20 16 39.7 +0.3
baz=221,SNR=6.9
E08A Dider Farm, El 87.33 39 P P 20 16 39.5 -0.1
E08A IAmb IAmb 20 16 41.8
comp=Z,23nm,1.0s

P30M Million Dollar 87.36 21 P P 20 16 39.9 +0.4
baz=224
NEA2 Nenana 87.37 14 IAMs_20 IAMs_20 20 47 52.5
comp=Z,578nm,21.0s
MENT Mentasta 87.38 17 P P 20 16 38.9 -0.6
MENT IAmb IAmb 20 16 40.7
comp=Z,23nm,1.6s
LZH Lanzhou 87.42 309 ⇓P P 20 16 42.3 +1.8
LZH pP pwP 20 16 46.0 -2.2
LZH sP sP 20 16 49.3 +4.8
LZH S S 20 27 17.3 -4.0
LZH SS SS 20 33 00.1 -6.7
LZH pmax pmax
comp=Z,52nm,1.0s
LZH pmax pmax
comp=Z,830nm,5.0s
LZH LR LR
comp=Z,870nm,19.0s
LZH LR LR
comp=Z,1µm,19.0s
LZH LR LR
comp=Z,3µm,21.3s
YUK3 Moose Creek 87.44 19 P P 20 16 39.9 -0.1
baz=220
M27K Edge Creek, AK 87.46 18 P P 20 16 39.6 -0.4
M27K IAmb IAmb 20 16 41.4
comp=Z,33nm,1.6s
M27K Edge Creek, AK 87.46 18 P P 20 16 40.7 +0.7
baz=219
SKAG Skagway 87.46 23 P P 20 16 39.9 +0.1
SKAG Skagway 87.46 23 P P 20 16 41.1 +1.2
baz=225
H21K Melozitna Rive 87.47 12 IAMs_20 IAMs_20 20 57 56.2
comp=Z,543nm,20.0s
WRH Wood River Hil 87.50 15 P P 20 16 39.4 -0.5
WRH IAMs_20 IAMs_20 20 48 04.9
comp=Z,867nm,22.0s
K24K Donnelly Dome 87.52 16 P P 20 16 40.2 +0.1
baz=216
L26K Log Cabin Wild 87.56 17 IAMs_20 IAMs_20 20 55 32.5
comp=Z,547nm,20.0s
ELIB Princess Elisa 87.57 188 *d*P P 20 16 39.4 -1.2
comp=Z,22nm,0.9s
BMO Blue Mountains 87.57 41 P P 20 16 40.8 -0.1
BMO IAmb IAmb 20 16 42.8
comp=Z,13nm,1.2s
BMO Blue Mountains 87.57 41 P P 20 16 40.8 -0.1
BMO pmax pmax
comp=Z,13nm,1.2s
BMO MLR MLR
comp=Z,400nm,20.0s
HYT Haines Junctio 87.68 21 P P 20 16 41.2 +0.1
baz=223
YUK4 Talbot Arm 87.69 20 P P 20 16 42.6 +1.4
baz=222
D08A Wollman Farm, 87.71 38 P P 20 16 41.5 +0.1
CCB Clear Creek Bu 87.71 15 P P 20 16 39.6 -1.3
CCB IAMs_20 IAMs_20 20 48 23.6
comp=Z,792nm,22.0s
HDA Harding Lake 87.72 15 P P 20 16 40.9 -0.1
HDA IAMs_20 IAMs_20 20 49 44.9
comp=Z,634nm,19.0s
HDA Harding Lake 87.72 15 P P 20 16 40.4 -0.7
baz=215
MFID Camas Ranch 87.81 43 P P 20 16 42.8 +0.7
MFID IAmb IAmb 20 16 44.3
comp=Z,23nm,1.3s
MFID IAMs_20 IAMs_20 20 50 18.6
comp=Z,511nm,20.0s
DUN6 Lazy B Ranch 87.81 55 P P 20 16 41.8 -0.6
DUN6 IAmb IAmb 20 16 45.3
comp=Z,38nm,1.3s
MTPU Mount Pierson 87.82 49 P P 20 16 41.4 -1.2
MTPU IAmb IAmb 20 16 51.2
comp=Z,34nm,1.6s
DOT Dot Lake 87.85 17 P P 20 16 40.0 -1.7
MDM Murphy Dome 87.87 14 P P 20 16 40.4 -1.4
MDM IAMs_20 IAMs_20 20 48 28.8
comp=Z,611nm,21.0s
TCOL CIGO, UAF Yank 87.89 15 IAMs_20 IAMs_20 20 48 07.2
comp=Z,739nm,22.0s
COLA College 87.89 15 IAMs_20 IAMs_20 20 48 07.2
comp=Z,701nm,22.0s
COLA College 87.89 15 P P 20 16 42.4 +0.6
comp=Z,12nm,1.3s
COLA College 87.89 15⇓*e*P P 20 16 41.3 -0.5
COLA pmax pmax
comp=Z,14nm,1.5s
E09A Wood Farm, Sta 87.89 39 P P 20 16 42.6 +0.3
H22K Ishtalitna Cre 87.97 13 P P 20 16 43.3 +1.0
baz=210
RDOG Red Dog Mine 87.99 8 IAMs_20 IAMs_20 20 56 19.5
comp=Z,630nm,22.0s
S34M Telegraph Cree 88.01 25 P P 20 16 43.9 +1.4
baz=229
L27K Beaver Creek, 88.02 18 P P 20 16 40.8 -1.8
L27K IAmb IAmb 20 17 06.5
comp=Z,18nm,1.8s
L27K Beaver Creek, 88.02 18 P P 20 16 42.8 +0.3
baz=219
IL31 88.04 15 P P 20 16 40.8 -1.7
ILAR Eielson Array 88.04 15 P P 20 16 41.6 -0.9
comp=Z,3.1nm,0.8s,baz=228,slow=4.4,SNR=12
ILAR LR LR 20 49 56.8
comp=Z,558nm,20.2s,baz=226,slow=31
comp=Z,3.1nm,0.8s
ILAR Eielson Array 88.04 15 P P 20 16 40.3 -2.2
G21K Allakaket 88.08 12 P P 20 16 43.0 +0.3
baz=208
O30N Mendenhall 88.12 21 P P 20 16 43.7 +0.6
baz=224
MND Mandalay 88.13 294 P P 20 16 44.6 +0.7
comp=Z,10.0nm,2.8s
B08A Colville Reser 88.14 37 P P 20 16 43.1 -0.4
B08A IAmb IAmb 20 16 44.9
comp=Z,15nm,1.1s
P32M Atlin 88.14 23 P P 20 16 44.6 +1.3
baz=226
F10A Beach Ranch, E 88.17 40 P P 20 16 43.5 -0.2
POKR Poker Plat Res 88.19 15 IAMs_20 IAMs_20 20 48 38.3
comp=Z,834nm,22.0s
POKR Poker Plat Res 88.19 15 P P 20 16 42.1 -1.2
baz=214
ESPZ Base Esperanza 88.23 159 P P 20 16 43.3 -0.4
Q32M Nakina River 88.26 24 P P 20 16 44.9 +0.9
baz=228
H23K Yukon River 88.30 13 IAMs_20 IAMs_20 20 59 25.2
comp=Z,527nm,21.0s
DUG Dugway, Tooele 88.33 46 P P 20 16 44.4 -0.3
DUG Dugway, Tooele 88.33 46 P P 20 16 45.1 +0.4
baz=244,SNR=5.2
DUG Dugway, Tooele 88.33 46 P P 20 16 44.4 -0.3
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG MLR MLR
comp=Z,500nm,21.0s
W18A Petrified Fore 88.37 52 P P 20 16 46.7 +1.7
baz=246
C09A Chrisman Ranch 88.46 38 P P 20 16 45.5 +0.5
WHY Whitehorse 88.47 22 P P 20 16 44.1 -0.7
WHY IAmb IAmb 20 16 46.2
comp=Z,22nm,1.9s
WHY Whitehorse 88.47 22 P P 20 16 44.5 -0.3
baz=226
USHA Ushuaia 88.48 148 LR LR 20 46 39.1
comp=Z,500nm,19.8s,baz=240,slow=29
PLID Pearl Lake 88.50 41 P P 20 16 45.6 +0.1
PLID IAmb IAmb 20 16 47.2
comp=Z,14nm,1.1s
BGU Big Grassy Mou 88.50 46 P P 20 16 45.5 0.0
BGU IAmb IAmb 20 16 53.1
comp=Z,30nm,2.0s
M29M Somme Creek 88.56 19 P P 20 16 45.1 -0.1
baz=222
YAK Yakutsk 88.59 340 P P 20 16 45.0 -0.2
YAK IAMs_20 IAMs_20 20 49 29.3
comp=Z,712nm,22.0s
YAK Yakutsk 88.59 340 *e*P P 20 16 45.3 +0.1
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.2s
J26L Joseph Creek 88.67 16 P P 20 16 46.0 +0.3
J26L Joseph Creek 88.67 16 P P 20 16 45.4 -0.2
baz=218
H24K Noodor Dome 88.69 14 IAMs_20 IAMs_20 20 50 41.4
comp=Z,530nm,20.0s
K27K Chicken 88.70 17 P P 20 16 45.0 -0.7
K27K IAMs_20 IAMs_20 20 47 53.7
comp=Z,563nm,22.0s
K27K Chicken 88.70 17 P P 20 16 46.3 +0.6
baz=219
NLU North Lily Min 88.73 47 P P 20 16 48.5 +1.8
N31M Braeburn, Yuko 88.74 21 IAMs_20 IAMs_20 20 50 56.8
comp=Z,621nm,20.0s
HLID Hailey 88.78 43 P P 20 16 47.8 +1.0
HLID IAMs_20 IAMs_20 20 51 27.5
comp=Z,510nm,19.0s
HLID Hailey 88.78 43 P P 20 16 47.3 +0.4
baz=242,SNR=12
DLBC Dease Lake 88.80 25 P P 20 16 46.3 -0.1
comp=Z,4.5nm,1.0s,baz=203,slow=6.3,SNR=7.3
DLBC LR LR 20 51 54.5
comp=Z,399nm,18.9s,baz=264,slow=32
comp=Z,4.5nm,1.0s
DLBC Dease Lake 88.80 25 P P 20 16 47.8 +1.4
baz=230
121A Cookes Peak, D 88.82 55 P P 20 16 48.0 +0.7
baz=247
121A Cookes Peak, D 88.82 55 P P 20 16 47.9 +0.7
baz=247
G22K Bettles 88.83 12 P P 20 16 47.0 +0.8
baz=210
P33M Teslin, Yukon 88.90 23 P P 20 16 44.9 -1.9
P33M Teslin, Yukon 88.90 23 P P 20 16 48.1 +1.3
baz=227
Q16A Castle Valley 88.91 48 P P 20 16 49.5 +2.0
G23K Bananza Creek 88.95 13 P P 20 16 47.9 +1.0
baz=212
PRP Porcupine Dome 88.98 15 P P 20 16 45.9 -1.3
PRP IAMs_20 IAMs_20 20 49 23.2
comp=Z,781nm,21.0s
PRP Porcupine Dome 88.98 15 P P 20 16 47.6 +0.4
baz=216
CIT Chita 89.02 327 *e*P P 20 16 48.2 +0.7
CIT pmax pmax
comp=Z,104nm,3.4s
TMUT Trail Mountain 89.05 48 P P 20 16 49.8 +1.4
TMUT IAmb IAmb 20 16 51.1
comp=Z,35nm,1.3s
R33M Jennings River 89.05 24 P P 20 16 48.3 +0.7
baz=229
HVU Hansel Valley 89.05 45 P P 20 16 48.9 +0.8
HVU IAmb IAmb 20 16 50.5
comp=Z,16nm,1.0s
HVU Hansel Valley 89.05 45 P P 20 16 48.9 +0.8
HVU pmax pmax
comp=Z,17nm,1.0s
MPU Maple Canyon 89.06 47 P P 20 16 47.5 -0.7
MPU IAmb IAmb 20 16 56.2
comp=Z,48nm,1.8s
SPUT South Promonto 89.06 46 P P 20 16 47.5 -0.6
L29M L29M 89.16 19 P P 20 16 47.9 -0.1
baz=223,SNR=6.6
M30M Minto, Yukon 89.19 20 P P 20 16 47.9 -0.1
M30M IAMs_20 IAMs_20 20 51 40.7
comp=Z,608nm,20.0s
M30M Minto, Yukon 89.19 20 P P 20 16 48.5 +0.5
baz=224
F22K John River 89.21 12 P P 20 16 48.3 +0.2
baz=210
CTU Camp Tracy 89.27 46 P P 20 16 50.1 +1.0
CTU IAmb IAmb 20 16 52.0
comp=Z,15nm,1.0s
TROLL Troll, Antarti 89.28 182 P P 20 16 47.6 -1.1
NEW Newport 89.36 38 LR LR 20 50 44.3
comp=Z,235nm,20.5s,baz=235,slow=32
JLU Jordanelle 89.44 47 P P 20 16 51.9 +1.8
JLU IAmb IAmb 20 16 52.3
comp=Z,18nm,1.1s
P17A Butcher Ranch, 89.45 48 P P 20 16 51.9 +1.8
P17A IAmb IAmb 20 16 53.4
comp=Z,31nm,1.5s
SRU San Rafael Swe 89.45 48 P P 20 16 51.7 +1.6
SRU IAmb IAmb 20 16 53.0
comp=Z,19nm,1.0s
SRU San Rafael Swe 89.45 48 P P 20 16 51.7 +1.6
DAWY Dawson 89.49 18 P P 20 16 49.6 +0.1
DAWY Dawson 89.49 18 P P 20 16 50.0 +0.5
baz=221
ZAIG Zacatecas 89.50 66 P P 20 16 49.7 -1.1
ZAIG IAmb IAmb 20 16 59.9
comp=Z,19nm,1.4s
EPT El Paso 89.52 56 IAMs_20 IAMs_20 20 47 32.5
comp=Z,721nm,21.0s
EGAK Eagle 89.53 17 P P 20 16 48.9 -0.7
EGAK IAmb IAmb 20 16 51.1
comp=Z,21nm,1.4s
EGAK IAMs_20 IAMs_20 20 48 52.7
comp=Z,568nm,21.0s
EGAK Eagle 89.53 17 P P 20 16 49.3 -0.2
baz=220
TCUT Toone Canyon 89.69 46 P P 20 16 52.6 +1.3
M31M Drury Creek, Y 89.72 21 IAMs_20 IAMs_20 20 51 07.6
comp=Z,743nm,21.0s
SNAA Sanae 89.72 180 P P 20 16 49.2 -1.5
SNAA Sanae 89.72 180 LR LR 20 57 23.2
comp=Z,145nm,18.3s,baz=184,slow=36
SNAA Sanae 89.72 180 P P 20 16 48.6 -2.1
SNAA IAmb IAmb 20 16 51.3
comp=Z,29nm,1.4s
SNAA Sanae 89.72 180*d i*P P 20 16 49.1 -1.6
SNAA pmax pmax
comp=Z,22nm,1.4s
HWUT Hardware Ranch 89.79 46 P P 20 16 51.9 +0.3
HWUT IAmb IAmb 20 16 53.5
comp=Z,11nm,1.0s
HWUT IAMs_20 IAMs_20 20 50 40.3
comp=Z,673nm,20.0s
E22K Anaktuvuk Pass 89.82 11 P P 20 16 51.3 +0.4
baz=210
P18A Preston Nutter 89.86 48 P P 20 16 53.8 +1.7
K29M Barlow Dome 89.88 19 P P 20 16 51.7 +0.3
baz=223
FYU Fort Yukon 89.90 14 IAMs_20 IAMs_20 20 51 04.5
comp=Z,709nm,20.0s
NVL N'lazarevskaya 89.96 185⇑*i*P P 20 16 51.2 -0.5
NVL *e*S **SKSac** 20 27 18.7 -3.4
NVL pmax pmax
comp=Z,25nm,0.9s
Y22A Socorro 89.99 54 P P 20 16 53.7 +1.0
baz=247
I27K Kandik River 90.05 16 P P 20 16 52.6 +0.6
baz=219
FARO Faro, Yukon 90.09 21 P P 20 16 52.5 +0.2
baz=227
F24K Squaw Lake 90.09 13 P P 20 16 52.7 +0.5
baz=214
J29M Klondike Camp 90.12 18 P P 20 16 52.1 -0.3
E23K Chandalar 90.19 12 P P 20 16 52.3 -0.3
baz=212
PV11 David Mesa, Pa 90.30 49 P P 20 16 55.4 +1.3
PV11 IAmb IAmb 20 16 57.2
comp=Z,31nm,1.4s
WTLY Watson Lake, Y 90.36 24 P P 20 16 53.8 +0.2
WTLY IAmb IAmb 20 16 56.5
comp=Z,26nm,1.7s
MCMT McKenzie Canyo 90.36 42 P P 20 16 54.8 +0.5
MNTX Cornudas Mount 90.38 57 P P 20 16 54.5 +0.2
MNTX IAmb IAmb 20 16 57.8
comp=Z,29nm,1.7s
MNTX IAMs_20 IAMs_20 20 48 11.3
comp=Z,539nm,20.0s
MNTX Cornudas Mount 90.38 57 P P 20 16 56.9 +2.5
baz=248
MNTX Cornudas Mount 90.38 57 P P 20 16 55.4 +1.0
baz=248
VNA2 Neumayer--Watz 90.44 179 P P 20 16 52.6 -1.3
baz=180,slow=3.0
PV07 Paradox Valley 90.51 49 P P 20 16 55.9 +0.8
ULN Ulaanbaatar 90.55 321 P P 20 16 54.5 -0.4
ULN IAmb IAmb 20 16 56.2
comp=Z,12nm,1.1s
ULN Ulaanbaatar 90.55 321 IAMs_20 IAMs_20 20 58 37.8
comp=Z,573nm,21.0s
ULN Ulaanbaatar 90.55 321*d i*P P 20 16 55.2 +0.2
ULN pmax pmax
comp=Z,15nm,1.2s
H27K Steamboat Moun 90.56 16 P P 20 16 54.8 +0.4
baz=220
G26K Porcupine Rive 90.56 15 P P 20 16 54.8 +0.6
baz=217
AHID Auburn Hatcher 90.60 45 P P 20 16 56.4 +1.0
AHID IAmb IAmb 20 16 57.6
comp=Z,28nm,1.6s
F25K Christian Rive 90.64 14 P P 20 16 55.6 +0.8
baz=216
VNA1 Neumayer--Stat 90.69 179 P P 20 16 54.6 -0.5
RDMU Red Mountain 90.73 47 P P 20 16 55.0 -1.0
RDMU IAmb IAmb 20 17 01.2
comp=Z,11nm,0.9s
BMAR Burnt Mountain 90.75 14 P P 20 16 56.0 +0.7
D23K Nanushuk River 90.75 11 P P 20 16 55.8 +0.6
baz=211
ANMO Albuquerque 90.77 53 LR LR 20 50 39.3
comp=Z,624nm,20.0s,baz=340,slow=31
ANMO Albuquerque 90.77 53 P P 20 16 55.2 -1.1
ANMO IAmb IAmb 20 16 59.2
comp=Z,27nm,1.7s
ANMO Albuquerque 90.77 53 IAMs_20 IAMs_20 20 49 58.5
comp=Z,632nm,21.0s
ANMO Albuquerque 90.77 53 P P 20 16 58.1 +1.8
baz=248
ANMO Albuquerque 90.77 53 P P 20 16 55.3 -1.0
baz=247
ANMO Albuquerque 90.77 53*d i*P P 20 16 57.8 +1.5
ANMO pmax pmax
comp=Z,14nm,1.5s
I29M Ogilvie Camp, 90.77 17 P P 20 16 54.2 -1.2
I29M IAMs_20 IAMs_20 20 57 30.4
comp=Z,555nm,20.0s
I29M Ogilvie Camp, 90.77 17 P P 20 16 55.0 -0.4
baz=222
TX31 Lajitas Ar. Si 90.90 59 P P 20 16 59.0 +2.1
TX31 Lajitas Ar. Si 90.90 59 P P 20 16 59.0 +2.1
baz=249
TX32 Lajitas Array 90.90 59 P P 20 16 58.8 +1.9
TXAR Lajitas Array 90.90 59 P P 20 16 58.6 +1.6
comp=Z,4.3nm,0.8s,baz=219,slow=5.4,SNR=36
TXAR PKKPbo **PKKPdf** 20 34 21.7 +2.3
comp=Z,1.0nm,0.8s,baz=106,slow=2.6,SNR=10
TXAR LR LR 20 50 20.6
comp=Z,735nm,19.5s,baz=236,slow=31
comp=Z,4.3nm,0.8s
TXAR Lajitas Array 90.90 59 P P 20 16 58.1 +1.2
TXAR Lajitas Array 90.90 59 P P 20 16 58.1 +1.2
SONM Songino Array 90.93 321 P P 20 16 56.6 -0.1
comp=Z,4.9nm,1.0s,baz=134,slow=4.9,SNR=23
SONM LR LR 20 58 43.9
comp=Z,353nm,18.1s,baz=126,slow=36
comp=Z,4.9nm,1.0s
SONM Songino Array 90.93 321 P P 20 16 56.3 -0.4
SONM IAmb IAmb 20 16 57.7
comp=Z,12nm,1.3s
G27K Doyon Strip 90.97 15 P P 20 16 55.4 -0.8
baz=219
F26K Sheenjek River 91.06 14 P P 20 16 57.5 +0.8
baz=217
E25K Arctic Village 91.09 13 P P 20 16 57.3 +0.5
baz=216
LOHW Long Hollow 91.29 44 P P 20 16 58.4 -0.2
GDL2 Guadalupe Moun 91.37 56 P P 20 17 00.3 +1.2
BOZ Bozeman (W) 91.47 42 P P 20 16 58.8 -0.5
BOZ IAmb IAmb 20 17 02.3
comp=Z,24nm,1.7s
BOZ IAMs_20 IAMs_20 20 53 05.6
comp=Z,602nm,20.0s
BOZ Bozeman (W) 91.47 42 P P 20 17 00.8 +1.6
baz=244
BOZ Bozeman (W) 91.47 42 P P 20 16 58.8 -0.5
BOZ pmax pmax
comp=Z,25nm,1.7s
BOZ MLR MLR
comp=Z,600nm,20.0s
O20A White River Ci 91.48 48 P P 20 16 59.0 -0.6
baz=246
S22A 4UR Ranch, Cre 91.56 51 P P 20 17 00.1 0.0
S22A 4UR Ranch, Cre 91.56 51 P P 20 17 00.7 +0.6
baz=247
WALA Waterton Lakes 91.62 38 P P 20 17 00.4 +0.6
BW06 Boulder Array 91.63 45 P P 20 17 00.2 0.0
BW06 IAmb IAmb 20 17 02.5
comp=Z,31nm,1.8s
BW06 IAMs_20 IAMs_20 20 52 00.0
comp=Z,531nm,21.0s
BW06 Boulder Array 91.63 45 P P 20 17 00.8 +0.6
baz=246
PDAR Pinedale Array 91.63 45 P P 20 17 00.7 +0.5
comp=Z,2.2nm,0.7s,baz=197,slow=1.5,SNR=9.7
PDAR PKKPbo **PKKPdf** 20 34 20.9 +2.0
comp=Z,0.2nm,0.7s,baz=95,slow=7.4,SNR=4.0
PDAR PKPPKP **P'P'df** 20 42 29.3 +1.6
comp=Z,0.4nm,0.8s,baz=180,slow=1.5,SNR=3.9
PDAR LR LR 20 52 01.8
comp=Z,398nm,19.8s,baz=264,slow=32
comp=Z,2.2nm,0.7s
PDAR Pinedale Array 91.63 45 P P 20 17 00.2 0.0
H17A Grant Village 91.64 43 P P 20 17 02.6 +2.4
H17A Grant Village 91.64 43 P P 20 17 00.5 +0.3
baz=245
GTA Gaotai 91.69 311 ⇓P P 20 17 01.3 +0.9
GTA pP pwP 20 17 05.7 -2.5
GTA sP sP 20 17 07.5 +3.0
GTA S **S** 20 27 57.9 -3.1
GTA sS ScS 20 28 05.7 +2.1
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,250nm,6.0s
GTA LR LR
comp=Z,450nm,23.5s
GTA LR LR
comp=Z,470nm,22.3s
GTA LR LR
comp=Z,1µm,23.9s
WAPA Wapiti River 91.72 31 P P 20 17 00.8 +0.7
C24K Franklin Bluff 91.77 12 P P 20 17 00.7 +0.9
baz=213
HRY Holter Researc 91.83 41 P P 20 17 01.1 +0.3
A21K Barrow 91.87 8 IAMs_20 IAMs_20 20 51 42.8
comp=Z,707nm,22.0s
EPYK Eagle Plains 91.95 17 P P 20 17 00.8 0.0
EPYK IAmb IAmb 20 17 02.4
comp=Z,27nm,1.5s
EPYK Eagle Plains 91.95 17 P P 20 17 00.6 -0.2
baz=224
E27K Coleen River 92.05 15 P P 20 17 01.9 +0.6
baz=220
BRDH Bariadhala 92.24 293 LR LR 20 57 16.1
comp=Z,369nm,22.0s,baz=127,slow=35
KOTAN Kotanelee Air 92.26 26 P P 20 17 02.5 +0.1
baz=235
G30M tAoh Zraii Nji 92.53 17 P P 20 17 02.5 -1.0
baz=224
SDCO Great Sand Dun 92.53 51 P P 20 17 02.0 -2.6
SDCO IAmb IAmb 20 17 07.3
comp=Z,20nm,1.4s
SDCO IAMs_20 IAMs_20 20 49 46.1
comp=Z,466nm,19.0s
SDCO Great Sand Dun 92.53 51 P P 20 17 05.9 +1.3
baz=248
C26K Camden Bay 92.68 13 P P 20 17 04.3 +0.2
baz=216
C27K Jago River 92.70 13 P P 20 17 06.1 +1.9
baz=218
ISCO Idaho Springs 93.22 49 P P 20 17 08.7 +1.0
baz=248
ISCO Idaho Springs 93.22 49 P P 20 17 06.9 -0.8
baz=248
Q24A Divide 93.24 50 P P 20 17 09.0 +1.2
Q24A IAmb IAmb 20 17 10.1
comp=Z,14nm,1.1s
Q24A Divide 93.24 50 P P 20 17 07.5 -0.3
baz=248
MSTX Muleshoe 93.25 55 P P 20 17 07.3 -0.4
MSTX IAmb IAmb 20 17 09.6
comp=Z,20nm,1.1s
MSTX Muleshoe 93.25 55 P P 20 17 08.8 +1.1
baz=250
MSTX Muleshoe 93.25 55 P P 20 17 06.7 -1.0
baz=250
PHWY Pilot Hill 93.88 48 IAMs_20 IAMs_20 20 51 46.6
comp=Z,478nm,21.0s
ZAK Zakamensk 93.89 322 *e*P P 20 17 09.4 -0.9
ZAK pmax pmax
comp=Z,4.0nm,1.6s
833A Chaparral WMA, 94.07 62 P P 20 17 12.6 +1.1

baz=251
GOMU GeErMu 94.19 307 P **P** **20 17 13.7 +1.3**
GOMU PP **PP** **20 21 00.6 +1.2**
GOMU SKS **SKSac** **20 27 42.2 -5.5**
GOMU S **ScS** **20 28 26.6 +1.5**
GOMU SS **SS** **20 34 42.8 -2.4**
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU pmax pmax
comp=Z,190nm,8.1s
GOMU LR LR
comp=Z,360nm,22.9s
GOMU LR LR
comp=Z,710nm,23.5s
GOMU LR LR
comp=Z,1μm,22.2s
INK Inuvik 94.20 17 P **P** **20 17 09.5 -1.6**
comp=Z,4.8nm,1.1s,baz=218,slow=5.1,SNR=6.2
INK LR LR 20 52 31.1
comp=Z,355nm,21.5s,baz=225,slow=31
comp=Z,4.8nm,1.1s
INK Inuvik 94.20 17 P **P** **20 17 09.3 -1.8**
INK IAmb IAmb 20 17 22.9
comp=Z,13nm,1.5s
PLCA Paso Flores 94.37 136 LR LR 20 50 01.3
comp=Z,695nm,20.9s,baz=252,slow=29
AMTX Amarillo 94.41 55 P **P** **20 17 11.1 -2.0**
AMTX IAmb IAmb 20 17 15.4
comp=Z,15nm,0.9s
AMTX Amarillo 94.41 55 P **P** **20 17 14.1 +1.1**
baz=250
JCT Junction City 94.44 59 IAMs_20 IAMs_20 20 51 51.9
comp=Z,559nm,20.0s
CMIG Matias Romero 94.45 74 LR LR 20 50 07.5
comp=Z,1μm,21.4s,baz=242,slow=29
LSA Lhasa 94.94 300 IAMs_20 IAMs_20 20 57 12.6
comp=Z,601nm,20.0s
ABTX Abilene, Hawle 95.27 57 P **P** **20 17 18.2 +1.3**
baz=251
LAO LASA Array 95.35 42 IAMs_20 IAMs_20 20 53 26.3
comp=Z,638nm,20.0s
TIXI Tiksi 95.79 346 P **P** **20 17 17.7 -0.6**
TIXI comp=Z,2.1nm,0.7s,baz=90,slow=20,SNR=5.9 LR LR 20 54 57.5
comp=Z,831nm,21.8s,baz=96,slow=32
comp=Z,2.1nm,0.7s
TIXI Tiksi 95.79 346 P **P** **20 17 17.9 -0.4**
TIXI Tiksi 95.79 346↑*i* P **P** **20 17 18.2 -0.1**
TIXI pmax pmax
comp=Z,7.0nm,2.5s
RSSD Black Hills 95.87 45 P **P** **20 17 20.8 +1.1**
baz=250
OGNE Ogallala 96.18 49 P **P** **20 17 22.0 +1.1**
baz=251
ELIS Ellis County 96.54 54 P **P** **20 17 21.5 -1.2**
ELIS IAmb IAmb 20 17 25.5
comp=Z,36nm,1.3s
WMOK Wichita Mounta 96.62 56 IAMs_20 IAMs_20 20 52 20.4
comp=Z,608nm,21.0s
WMOK Wichita Mounta 96.62 56 P **P** **20 17 24.2 +1.2**
baz=252
OK038 West end E0370 97.19 54 IAMs_20 IAMs_20 20 55 51.4
comp=Z,622nm,19.0s
YKA Yellowknife Ar 97.39 26 P **P** **20 17 25.9 +0.1**
comp=Z,1.2nm,0.8s,baz=249,slow=4.8,SNR=9.8
YKA PKKPbc **PKKPbc** **20 34 03.9 -2.4**
comp=Z,0.2nm,0.6s,baz=48,slow=2.2,SNR=4.4
YKA LR LR 20 55 24.4
comp=Z,2μm,20.5s,baz=133,slow=32
comp=Z,1.2nm,0.8s
PALK Pallekele 97.43 275 LR LR 21 02 59.5
comp=Z,339nm,20.1s,baz=218,slow=36
PALK Pallekele 97.43 275 IAMs_20 IAMs_20 20 58 38.9
comp=Z,503nm,20.0s
C36M Paulatuk 97.53 18 P **P** **20 17 25.9 -0.3**
C36M IAmb IAmb 20 17 26.6
comp=Z,8.0nm,1.1s
C36M IAMs_20 IAMs_20 21 01 15.1
comp=Z,432nm,20.0s
HKT Hockley 97.54 61 IAMs_20 IAMs_20 20 54 30.1
comp=Z,638nm,20.0s
OK032 Salt Plains WL 97.69 54 IAMs_20 IAMs_20 20 56 25.8
comp=Z,592nm,21.0s
OK029 Liberty Lake 97.97 55 IAMs_20 IAMs_20 20 53 00.3
comp=Z,728nm,22.0s
OK033 Mehan 98.45 55 IAMs_20 IAMs_20 20 53 37.8
comp=Z,699nm,21.0s
OK050 Pawnee Station 98.52 55 IAMs_20 IAMs_20 20 57 30.6
comp=Z,513nm,20.0s
OK030 Cody Creek RV 98.53 55 IAMs_20 IAMs_20 20 53 41.1
comp=Z,584nm,20.0s
OK052 Battle Ridge R 98.54 55 IAMs_20 IAMs_20 20 53 17.2
comp=Z,692nm,21.0s
OK053 SW of W Deep R 98.55 55 IAMs_20 IAMs_20 20 53 42.7
comp=Z,684nm,21.0s
OK046 Pawnee Station 98.57 55 IAMs_20 IAMs_20 20 53 37.2
comp=Z,653nm,21.0s
MIAR Mount Ida 100.67 57 IAMs_20 IAMs_20 20 54 48.7
comp=Z,674nm,22.0s
TEIG Tepich 101.36 72 IAMs_20 IAMs_20 20 54 43.1
comp=Z,635nm,21.0s
JTS Las Juntas de 101.62 83 IAMs_20 IAMs_20 20 54 32.1
comp=Z,625nm,20.0s
WMQ Urumqi 101.70 312 *e*P **Pdif** **20 17 48.0 +2.4**
HDC Heredia 102.32 84 IAMs_20 IAMs_20 20 54 15.8
comp=Z,578nm,21.0s
PCHI Peechi 102.51 277 *e*P **Pdif** **20 17 55.6 +5.8**
PCHI *ex* x 20 31 16.2
LVC Limon Verde 104.27 120 IAMs_20 IAMs_20 20 56 03.6
comp=Z,498nm,21.0s
MKAR Makanchi Array 106.07 314 Pdiff **Pdif** **20 18 05.1 +0.1**
comp=Z,1.1nm,0.9s,baz=97,slow=6.7,SNR=7.4
MKAR PKIKP **PKiKP** **20 22 15.6 -1.4**
comp=Z,1.0nm,0.9s,baz=77,slow=1.9,SNR=5.2
MAKZ Makanchi 106.29 314 IAMs_20 IAMs_20 21 02 38.9
comp=Z,502nm,22.0s
KURK Kurchatov 109.06 318 IAMs_20 IAMs_20 21 04 34.7
comp=Z,543nm,22.0s
AAK Ala-Archa 110.96 309 IAMs_20 IAMs_20 21 11 37.0
comp=Z,510nm,20.0s
AAK Ala-Archa 110.96 309↓*i* PKIKP **PKiKP** **20 22 25.5 -0.9**
BVAR Borovoye Array 114.27 320 PKIKP PKPdf 20 22 31.6 -0.6
comp=Z,3.2nm,0.8s,baz=81,slow=3.8,SNR=17
BRVK Borovoye 114.33 320↓*i* PKIKP PKPdf 20 22 31.5 -0.8
HRA Herat 119.85 299 **PKPdf** **20 22 42.3 -1.4**
PKME Peaks-Kenny Pk 120.36 48 **PKPdf** **20 22 41.2 -2.9**
ARU Arti 120.69 325 PKP **PKPdf** **20 22 43.3 -1.1**
comp=Z,5.0nm,0.7s,baz=23,slow=1.2,SNR=15
ARU Arti 120.69 325 PKPdf **PKPdf** **20 22 43.2 -1.2**
ARU Arti 120.69 325 *i* PKIKP **PKPdf** **20 22 43.6 -0.8**
ARU 20 24 12.3
ARU 20 29 55.5
ARU MLR MLR
comp=Z,676nm,21.0s
ABKAR Akbulak array 121.09 317 PKPdf **PKPdf** **20 22 44.2 -1.2**
ABKAR Akbulak array 121.09 317 PKPdf **PKPdf** **20 22 43.7 -1.6**
HUMP Col San Antoni 121.49 80 **PKPdf** **20 22 44.2 -2.8**
AKTO Aktyubinsk 122.16 318 PKP **PKPdf** **20 22 46.5 -0.9**
comp=Z,7.3nm,0.8s,baz=48,slow=1.3,SNR=22
SABA Saba 123.82 81 IAMs_20 IAMs_20 21 03 38.5
comp=Z,285nm,19.0s
SMRT St. Maarten 124.06 81 IAMs_20 IAMs_20 21 19 40.8
comp=Z,402nm,18.0s
BDFB Brasilia 124.66 125 PKP **PKPdf** **20 22 52.5 -0.9**
comp=Z,2.8nm,0.6s,baz=207,slow=6.8,SNR=5.1
KIRV Kirov 124.75 329 PKP **PKPdf** **20 22 51.3 -0.7**
comp=Z,10nm,0.7s,baz=0.0,slow=0.0,SNR=4.8
KIRV Kirov 124.75 329↑*i* PKIKP **PKPdf** **20 22 52.1 0.0**
BOSA Boshof 125.06 212 PKP **PKPdf** **20 22 53.1 -0.9**
comp=Z,6.2nm,0.9s,baz=142,slow=8.2,SNR=5.6
PRGR Permogore 125.16 334 *e*PKIKP **PKPdf** **20 22 51.5 -1.3**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 126.21 348 PKP **PKPdf** **20 22 53.2 -1.4**
comp=Z,13nm,1.1s,baz=72,slow=4.0,SNR=5.8
BELG Belogornoye 127.95 323 PKP **PKPdf** **20 22 58.3 -0.1**
comp=Z,26nm,0.9s,baz=54,slow=19,SNR=13
BELG Belogornoye 127.95 323*d* iPKIKP **PKPdf** **20 22 57.7 -0.7**
KLMR Klimovskoe 128.09 335 *e*PKPdf **PKPdf** **20 22 56.0 -2.4**
KLMR AMP 20 23 07.8
comp=Z,35nm,2.1s
KLMR LR LR 21 06 35.6
KLMR AMP 21 14 56.3
comp=Z,1μm,17.1s
KLMR Klimovskoe 128.09 335 *e*PKIKP **PKPdf** **20 22 56.0 -2.4**
KLMR pmax pmax
comp=Z,35nm,2.1s

VRH Novokhopyorsk 131.80 323 *e*PKIKP **PKPdf** **20 23 04.5 -1.2**
VRH pmax pmax
comp=Z,20nm,1.4s
GROC Groznyy 131.85 312 *e*PKIKP **PKiKP** **20 23 07.4 +0.3**
GROC *e* 20 25 27.6
GROC pmax pmax
comp=Z,18nm,0.8s
FINES FINESS Array B 132.52 341 PKhKP PKPpre 20 22 58.8
comp=Z,10.0nm,1.1s,baz=134,slow=16,SNR=3.7
FINES PKP **PKPdf** **20 23 06.8 0.0**
comp=Z,4.4nm,0.9s,baz=59,slow=5.1,SNR=4.4
OBN Obninsk 132.60 330↓*e*PKIKP **PKPdf** **20 23 07.2 +0.1**
OBN *e* 20 25 28.0
OBN *e*PPP PPP 20 28 23.4
OBN pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 132.71 326 *e*PKIKP **PKPdf** **20 23 06.6 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 133.23 324 *e*PKIKP **PKPdf** **20 23 04.0 -4.5**
VSR pmax pmax
comp=Z,10.0nm,1.5s
ZEI Tsey 133.30 311 *i* PKIKP **PKPdf** **20 23 09.6 +0.4**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
GNI Garni 133.33 308 IAMs_20 IAMs_20 21 29 21.2
comp=Z,320nm,22.0s
KBZ Khabaz 133.74 313 PKP **PKPdf** **20 23 09.0 -0.6**
comp=Z,2.7nm,0.9s,baz=72,slow=6.4,SNR=4.4
KBZ Khabaz 133.74 313*c* iPKIKP **PKPdf** **20 23 10.6 +1.0**
KIV Kislovodsk 133.82 313 *e*PKIKP **PKPdf** **20 23 10.8 +0.8**
KIV *e* 20 25 41.9
KIV pmax pmax
comp=Z,3.0nm,0.9s
NEY Neytrino 134.01 312↑*e*PKIKP **PKPdf** **20 23 09.4 -1.0**
KMBO Kilima Mbogo 135.00 248 PKP **PKPdf** **20 23 12.1 -1.2**
comp=Z,3.0nm,0.8s,baz=124,slow=5.4,SNR=7.6
GURO Guroymak-BITLI 135.73 306 PKPdf **PKPdf** **20 23 11.8 -1.9**
SOC Sochi 135.98 314 *i* PKIKP **PKPdf** **20 23 14.6 +0.7**
SOC *e* 20 25 52.8
SOC *e*PPP PPP 20 28 48.0
SOC *e*SS SS 20 43 55.4 +3.1
SOC *e*SSS SSS 20 48 53.5
SOC MLR MLR
comp=Z,713nm,20.0s
MNK Minsk 136.93 333 *i* PKP **PKPdf** **20 23 14.3 -1.0**
comp=E,1.0nm,0.8s
MNK *i* PKP **PKPdf** **20 23 14.3 -1.0**
comp=N,37nm,1.0s
MNK *i* PKP **PKPdf** **20 23 14.3 -1.0**
comp=Z,9.0nm,0.8s,baz=47
MNK *i* PP **PP** **20 25 57.0 -1.3**
MNK *i* PPP PPP 20 28 54.8
MNK *i* SKS **SKSdf** **20 30 24.6 -1.2**
MNK *i* SKKS **SKKSdf** **20 40 03.3 -2.7**
MNK *i* SS **SS** **20 44 03.9 +1.6**
MNK *i* SSS SSS 20 49 10.8
MNK *i* LQ LQ 21 15 34.8
MNK *i* LR LR 21 17 55.3
MNK *i* LRM MLR 21 21 12.2
comp=E,75nm,18.1s
MNK *i* LRM MLR 21 21 40.5
comp=N,629nm,14.2s
MNK *i* LRM MLR 21 21 47.0
comp=Z,2μm,23.2s
MNK Minsk 136.93 333 *i* PKIKP **PKPdf** **20 23 14.3 -1.0**
MNK *i* 20 25 56.9
MNK *i* PPP PPP 20 28 54.7
MNK *i* 20 30 24.6
MNK *i* SS SS 20 44 03.8 +1.5
MNK *i* SSS SSS 20 49 10.7
MNK pmax pmax
comp=N,37nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK MLR MLR
comp=E,75nm,18.0s
MNK MLR MLR
comp=N,629nm,14.0s
MNK MLR MLR
comp=Z,2μm,23.0s
NACGM Naroch 137.11 334 *e*PKP **PKPdf** **20 23 15.8 +0.2**
comp=Z,16nm,0.8s,baz=45
LODK Lodwar 138.71 253 IAMs_20 IAMs_20 21 18 49.2
comp=Z,368nm,22.0s
AKASG Malin Array Be 138.79 328 PKhKP PKPpre 20 23 12.0
comp=Z,0.4nm,0.4s,baz=50,slow=2.9,SNR=5.2
AKASG PKP **PKPdf** **20 23 19.2 +0.4**
comp=Z,2.6nm,0.8s,baz=48,slow=2.2,SNR=8.0
AKASG Malin Array Be 138.79 328 PKPpre 20 23 11.3
AKBB Malin Array Si 138.79 328↓*e*PKIKP **PKiKP** **20 23 20.6 -0.4**
BR131 Keskin Array S 141.61 311 **PKPdf** **20 23 19.8 -4.7**
BR131 Keskin Array S 141.61 311 PKIKP **PKPdf** **20 23 19.8 -4.7**
BRTR Keskin Array B 141.61 311 PKhKP PKPpre 20 23 21.1
comp=Z,1.9nm,0.8s,baz=113,slow=2.7,SNR=10
BRTR PKP **PKPdf** **20 23 25.9 +1.4**
comp=Z,3.9nm,0.9s,baz=48,slow=2.1,SNR=11
BRTR Keskin Array B 141.61 311 PKPdf **PKPdf** **20 23 20.7 -3.8**
MMAI Mount Meron Ar 142.20 300 PKhKP PKPpre 20 23 22.2
comp=Z,5.0nm,1.0s,baz=25,slow=4.8,SNR=3.3
GHRR 142.56 324↑P **PKPdf** **20 23 23.1 -2.6**
TPGR Topolog 142.67 321↑P **PKPdf** **20 23 22.9 -3.1**
BURAR Bucovina Array 142.78 327 **PKPdf** **20 23 22.7 -3.6**
ODBI Odobesti 142.94 323↓P **PKPdf** **20 23 25.3 -1.2**
VRI Vrincioaia 143.06 324↓P PKPbc 20 23 24.7 +1.2
VRI Vrincioaia 143.06 324↓PKIKP PKPbc 20 23 24.7 +1.2
PLOR Plostina 143.11 324↓P PKPbc 20 23 25.0 +1.3
PLOR Plostina 143.11 324↓PKIKP PKPbc 20 23 25.0 +1.3
BISRR Bisoca 143.26 323↑P PKPbc 20 23 24.5 +0.4
COVR Voineasa-Covas 143.37 324↑P PKPbc 20 23 25.0 +0.6
CSS Mathiatis 143.39 304 IAMs_20 IAMs_20 21 27 57.3
comp=Z,387nm,22.0s
STHS Stebnicka Huta 143.43 332 *e*PKIKP **PKPdf** **20 23 26.7 -0.6**
STHS Stebnicka Huta 143.43 332 *e*PKP **PKPdf** **20 23 26.7 -0.6**
OZUR 143.44 325↑P PKPbc 20 23 25.9 +1.3
NEHR Nehoiu 143.57 323↓P PKPbc 20 23 25.8 +0.8
ARCR ARCALIA 143.57 327↓P PKPbc 20 23 25.9 +1.0
ISR Istrita 143.61 323↓P PKPbc 20 23 25.7 +0.6
ISR Istrita 143.61 323↓PKIKP PKPbc 20 23 25.7 +0.6
MLR Muntele Rosu 143.73 324↑P PKPbc 20 23 26.1 +0.6
MLR Muntele Rosu 143.73 324 PKPdf PKPab 20 23 25.6 +0.7
MLR Muntele Rosu 143.73 324↑PKIKP PKPbc 20 23 26.1 +0.5
DOPR Dopca 143.74 325↑P PKPbc 20 23 27.0 +1.5
TRPA Tarpa 143.76 330↓P PKPbc 20 23 27.2 +1.8
BORA Eskisehir 143.80 313 PKPdf PKPab 20 23 25.9 +0.7
LEHL Lehliu 143.82 322↓P PKPbc 20 23 26.8 +1.2
SULR 144.03 322↑P **PKPab** **20 23 26.5 +0.7**
MDB Medias 144.17 326↑P PKPbc 20 23 28.3 +1.6
MDB Medias 144.17 326↑PKIKP PKPbc 20 23 28.3 +1.6
PRD Provadia 144.19 320 *i* P PKPbc 20 23 27.7 +0.9
CJR Cluj-Napoca 144.21 327↓P PKPbc 20 23 27.7 +0.8
CJR Cluj-Napoca 144.21 327↓PKIKP PKPbc 20 23 27.7 +0.8
VOIR 144.26 324↑P PKPbc 20 23 27.9 +0.8
VOIR 144.26 324↑PKIKP PKPbc 20 23 27.9 +0.8
KSP Ksiaz 144.28 338 *e*PKPdf PKPbc 20 23 27.6 +0.6
MTUR Matau 144.38 324↓P **PKPab** **20 23 27.5 +0.2**
MTUR Matau 144.38 324↓PKIKP **PKPab** **20 23 27.5 +0.2**
LANS Liptovska Anna 144.40 333 *e*PKIKP **PKPdf** **20 23 28.9 -0.1**
LANS Liptovska Anna 144.40 333 *e*PKP PKPbc 20 23 28.8 +1.4
OKC Ostrava-Krasne 144.40 335 *e*PKP PKPbc 20 23 28.1 +0.8
OKC AMS AMS 21 27 50.0
comp=Z,600nm,18.2s
OKC Ostrava-Krasne 144.40 335 *e*PKIKP PKPbc 20 23 28.1 +0.8
OKC MLR MLR
comp=Z,600nm,18.2s
KECS Kecovo 144.46 332 *e*PKIKP PKPbc 20 23 28.2 +0.6
KECS Kecovo 144.46 332 *e*PKP PKPbc 20 23 28.2 +0.6
SGRR Singureni 144.46 322↓P PKPbc 20 23 28.6 +0.9
MARR Marisel-Cluj 144.48 327↓P PKPbc 20 23 28.5 +0.7
RAZG Razgrad 144.53 321↓P **PKPab** **20 23 28.0 +0.3**
ARR Arges 144.53 325↓P **PKPdf** **20 23 29.4 +0.1**
FLTG Flechtingen 144.54 344 *e*PKPbc **PKPab** **20 23 28.0 +0.5**
baz=25,slow=2.9
OSTC Ostas 144.55 338 *e*PKP **PKPab** **20 23 28.3 +0.7**
OSTC AMS AMS 21 25 00.0
comp=Z,800nm,22.3s
DRGR 144.61 328↓P PKPbc 20 23 29.2 +1.0
DRGR 144.61 328↓PKIKP PKPbc 20 23 29.2 +1.0
RETH Rethem/Aller, 144.63 346 *e*PKPbc PKPbc 20 23 28.5 +0.6
baz=25,slow=2.9
UPC Upice 144.66 338 *e*PKP PKPbc 20 23 29.0 +0.9

UPC AMS AMS 21 25 10.0
comp=Z,1μm,23.7s
UPC Upice 144.66 338 *e*PKIKP PKPbc 20 23 29.0 +0.9
UPC MLR MLR
comp=Z,1μm,23.7s
NRDL Niedersach Rie 144.68 345 *e*PKPbc **PKPab** **20 23 28.5 +0.6**
baz=25,slow=2.9
DPC Dobruska-Polom 144.68 338 *e*PKP PKPbc 20 23 29.3 +1.0
DPC AMS AMS 21 25 10.0
comp=Z,600nm,21.4s
DPC Dobruska-Polom 144.68 338 *e*PKIKP PKPbc 20 23 29.3 +1.0
DPC MLR MLR
comp=Z,600nm,21.4s
MORC Moravsky Berou 144.69 336↑P PKPbc 20 23 29.3 +1.0
MORC Moravsky Berou 144.69 336 PKPdf **PKPab** **20 23 28.1 -0.1**
MORC Moravsky Berou 144.69 336 *e*PKP **PKPab** **20 23 28.8 +0.6**
MORC Moravsky Berou 144.69 336↑PKIKP PKPbc 20 23 29.3 +1.0
KRLC Kraliky 144.74 337 *e*PKP PKPbc 20 23 29.4 +0.9
KRLC AMS AMS 21 25 20.0
comp=Z,800nm,20.3s
KRLC Kraliky 144.74 337 *e*PKIKP PKPbc 20 23 29.4 +0.9
KRLC MLR MLR
comp=Z,800nm,20.3s
HUMR Humele 144.85 323↓P **PKPab** **20 23 29.3 +0.4**
ASSE Asse, Remlinge 144.87 344 *e*PKPbc PKPbc 20 23 29.4 +0.8
baz=25,slow=2.9
MAUC Maruska 144.91 335 *e*PKP PKPbc 20 23 29.9 +0.9
LOT Lotru 144.95 325↑P **PKPab** **20 23 30.0 +0.6**
COPA Copaceanca 144.96 322↓P **PKPab** **20 23 29.2 0.0**
CLL Collm 144.96 342 PKPdf **PKPab** **20 23 28.6 -0.4**
CLL Collm 144.96 342↓*i* PKPbc **PKPab** **20 23 29.5 +0.5**
comp=Z,89nm,1.0s
CLL *e*PP **PP** **20 26 42.0 -5.1**
CLL *ex* x 20 33 00.0
CLL *e*PSKS 20 37 06.0
CLL *ex* x 20 40 42.0
CLL *e*SS SS 20 45 54.0 +18
CLL *e*PSPS 20 46 30.0
CLL *ex* x 20 47 36.0
CLL *e*SSS SSS 20 51 06.0
CLL *e*SSSS 20 55 12.0
CLL Collm 144.96 342↓*i* PKIKP **PKPab** **20 23 29.5 +0.5**
CLL pmax pmax
comp=Z,89nm,1.0s
CLL Collm 144.96 342 *e*PKPbc PKPbc 20 23 29.7 +0.6
baz=25,slow=2.9
SZH Strazhica 145.04 321 *i* P **PKPbc** **20 23 29.9 +0.3**
BRG Berggiesshubel 145.05 340 *i* PKP **PKPab** **20 23 30.0 +0.6**
BRG Amp 20 23 31.5
comp=Z,83nm,1.0s
BRG Berggiesshubel 145.05 340 P **PKiKP** **20 23 37.0 +3.2**
BRG Amp 20 23 37.5
comp=Z,29nm,1.1s
BRG Berggiesshubel 145.05 340 P PKiKP 20 23 41.7 +7.8
BRG Amp 20 23 42.7
comp=Z,31nm,1.1s
BRG Berggiesshubel 145.05 340 *i* PKIKP **PKPab** **20 23 30.0 +0.6**
BRG 20 23 37.0
BRG pmax pmax
comp=Z,83nm,1.0s
BRG pmax pmax
comp=Z,29nm,1.1s
BRG MLR MLR
comp=Z,813nm,18.8s
BRG MLR MLR
comp=E,374nm,20.6s
BRG MLR MLR
comp=N,455nm,20.5s
BRG Berggiesshubel 145.05 340 *e*PKPbc **PKPab** **20 23 30.2 +0.8**
baz=25,slow=2.9
JMB Yambol 145.09 319 *i* P **PKPbc** **20 23 30.2 +0.4**
DEV Deva 145.12 327↓P **PKPab** **20 23 30.5 +0.7**
DEV Deva 145.12 327↓PKIKP **PKPab** **20 23 30.5 +0.7**
PVCC Panska Ves 145.14 339 *e*PKP **PKPdf** **20 23 30.6 +0.4**
PVCC AMS AMS 21 25 10.0
comp=N,900nm,20.8s
PVCC Panska Ves 145.14 339 *e*PKIKP **PKPdf** **20 23 30.6 +0.4**
PVCC MLR MLR
comp=Z,900nm,20.8s
PSZ Piszkesteto 145.14 332↓P **PKPbc** **20 23 29.2 -0.7**
PSZ Piszkesteto 145.14 332↓PKIKP **PKPbc** **20 23 29.2 -0.7**
ZIMR 145.15 322↑P **PKPbc** **20 23 30.0 +0.1**
ZIMR 145.15 322↑PKIKP **PKPbc** **20 23 30.0 +0.1**
VYHS Vyhne 145.17 333 *e*PKIKP **PKPab** **20 23 30.6 +0.7**
VYHS Vyhne 145.17 333 *e*PKP **PKPab** **20 23 30.6 +0.7**
CLZ Clausthal 145.21 344 *e*PKPbc **PKPdf** **20 23 30.8 +0.5**
baz=25,slow=2.9
EDRB Edirne 145.32 318 P **PKPbc** **20 23 30.3 -0.2**
JAVC Velka Javorina 145.37 335 *e*PKP **PKPab** **20 23 32.4 +1.7**
IBBN Ibbenburen 145.38 347 *e*PKPbc **PKPab** **20 23 31.0 +0.5**
baz=25,slow=2.9
NEUB Neuenburg 145.41 343 *e*PKPbc **PKPdf** **20 23 31.2 +0.6**
baz=25,slow=2.9
PVL Pavlikeni 145.43 321 *i* P **PKPab** **20 23 32.1 +1.1**
VRAC Vranov 145.43 336↓P **PKPbc** **20 23 31.1 +0.4**
VRAC Vranov 145.43 336 *e*PKP **PKPbc** **20 23 31.3 +0.6**
VRAC Vranov 145.43 336↓PKIKP **PKPbc** **20 23 31.1 +0.4**
ELL Elmali 145.44 308 **PKPdf** **20 23 28.6 -2.7**
ELL Elmali 145.44 308 PKP2 **PKPdf** **20 23 28.6 -2.7**
SIRR Siria 145.50 328↑P **PKPab** **20 23 32.1 +0.9**
VLAD Vladila 145.50 323↓P **PKPdf** **20 23 28.7 -2.3**
GZR Gura Zlata 145.51 326↓P **PKPdf** **20 23 31.2 +0.1**
GZR Gura Zlata 145.51 326↓PKIKP **PKPdf** **20 23 31.2 +0.1**
GTTG Gottingen 145.59 345 *e*PKPbc **PKPab** **20 23 32.1 +0.8**
baz=25,slow=2.9
GOPC GO Pecny, Ondr 145.59 339 *e*PKP **PKPbc** **20 23 31.8 +0.6**
GOPC GO Pecny, Ondr 145.59 339 *e*PKIKP **PKPbc** **20 23 31.8 +0.6**
PRU Pruhonice 145.61 339 *e*PKP **PKPbc** **20 23 31.8 +0.6**
PRU *ex* x 20 23 38.9
PRU AMS AMS 21 25 30.0
comp=Z,800nm,18.3s
PRU Pruhonice 145.61 339 *e*PKIKP **PKPbc** **20 23 31.8 +0.6**
PRU *e* 20 23 38.9
PRU MLR MLR
comp=Z,800nm,18.3s
SURR Surduc 145.61 327↓P **PKPbc** **20 23 32.0 +0.7**
KULA Kula-Manisa 145.64 312 P **PKPdf** **20 23 31.5 0.0**
BALB Balikesir 145.68 314 **PKPdf** **20 23 29.2 -2.2**
KRUC Moravsky 145.71 336 *e*PKP **PKPdf** **20 23 31.9 +0.7**
MANT Manisa 145.72 312 **PKPdf** **20 23 29.8 -2.1**
SMOL Smolenice 145.74 335 *e*PKP2 **PKPab** **20 23 33.3 +1.3**
PLVB Pleven 145.75 322↑P **PKPbc** **20 23 32.6 +0.8**
TREC Trest 145.86 337 AMS AMS 21 26 10.0
comp=Z,800nm,19.2s
AMBH Ambrzfalva 145.90 329↓P **PKPdf** **20 23 28.6 -3.0**
TANN Tannenbergstha 145.91 341 *e*PKPbc **PKPbc** **20 23 32.9 +0.7**
baz=25,slow=2.9
MODS Modra-Piesok 145.91 335 *e*PKP2 **PKPab** **20 23 33.8 +1.1**
MODS Modra-Piesok 145.91 335 *e*PKP **PKPab** **20 23 33.8 +1.1**
SRO Srobarova 145.92 333 *e*PKP2 **PKPab** **20 23 33.8 +1.1**
SRO Srobarova 145.92 333 *e*PKP **PKPab** **20 23 33.8 +1.1**
WERD Werda 145.93 341 *e*PKPbc **PKPbc** **20 23 33.0 +0.8**
baz=25,slow=2.9
PLN Plauen 145.94 342 *e*PKPbc **PKPbc** **20 23 32.8 +0.6**
baz=25,slow=2.9
MOX Moxa 145.96 342 *e*PKPbc **PKPbc** **20 23 32.9 +0.6**
baz=25,slow=2.9
BZS Buzias 145.97 327↑P **PKPdf** **20 23 31.1 -0.6**
BZS Buzias 145.97 327↑PKP2 **PKPdf** **20 23 31.1 -0.6**
DIM Dimitrovgrad 145.97 319 *i* P **PKPdf** **20 23 32.3 +0.5**
GUNZ Gunzen 146.00 341 *e*PKPbc **PKPab** **20 23 33.3 +0.4**
baz=25,slow=2.9
WERN Wernitzgruen 146.05 341 *e*PKPbc **PKPab** **20 23 33.6 +0.4**
baz=25,slow=2.9
ZST Bratislava 146.13 335 *e*PKP2 **PKPab** **20 23 33.8 +0.3**
ZST Bratislava 146.13 335 *e*PKP **PKPab** **20 23 33.8 +0.3**
DJES Djerdap 146.13 325↑P **PKPbc** **20 23 33.5 +0.5**
DJES Djerdap 146.13 325 **PKPdf** **20 23 31.6 -0.5**
UBBA Unterbreizbach 146.24 344 *e*PKPbc **PKPab** **20 23 34.1 +0.4**
baz=25,slow=2.9
KDZ Kurdzhali 146.26 319 *i* P **PKPdf** **20 23 33.3 +0.9**
ALN Alexandroupoli 146.27 317 P **PKPbc** **20 23 34.3 +0.8**
KASTN Kahler Asten 146.27 346 *e*PKPbc **PKPbc** **20 23 33.8 +0.5**
baz=25,slow=2.9
MPEP Malo Peshtene 146.28 322 *i* P **PKPdf** **20 23 33.6 +1.2**
BUG Bochum--Univer 146.30 347 *e*PKPbc **PKPbc** **20 23 34.0 +0.8**
baz=25,slow=2.9
BANR Banloc 146.37 327↑P **PKPdf** **20 23 33.0 +0.6**
MANZ Manzenberg 146.40 341 *e*PKPbc **PKPbc** **20 23 34.4 +0.7**
baz=25,slow=2.9
PLD Plovdiv 146.45 320 *i* P **PKPab** **20 23 35.7 +0.8**
RDO Rodhopi 146.46 318 **PKPdf** **20 23 32.6 -0.1**
RDO Rodhopi 146.46 318 P **PKPdf** **20 23 31.7 -1.0**

MDVR	Moldovita	146.48 326	⇑P		PKPdf	20 23 32.6	-0.1
YER	Yerkesik	146.49 310	P		PKPdf	20 23 34.3	+1.3
PGB	Panagyurishte	146.51 321	*i* P		PKPdf	20 23 34.0	+1.1
ROTZ	Rotzenmuhle	146.56 341	*e*PKPbc		PKPbc	20 23 34.9	+0.8
	baz=25,slow=2.9						
KHC	Kasperske Hory	146.67 339			PKPdf	20 23 33.6	+0.7
KHC	Kasperske Hory	146.67 339	*e*PKP		PKPdf	20 23 32.7	-0.2
KHC				AMS	AMS	21 26 00.0	
	comp=Z,1µm,18.2s						
KHC	Kasperske Hory	146.67 339	*e*PKIKP		PKPdf	20 23 32.7	-0.2
KHC				MLR	MLR		
	comp=Z,1µm,18.2s						
RZN	Rozhen	146.68 319	*i* P		PKPdf	20 23 34.8	+1.5
CKRC	Cesky Krumlov	146.68 338	*e*PKP		PKPab	20 23 35.9	+0.3
CKRC				AMS	AMS	21 26 40.0	
	comp=Z,700nm,23.3s						
SMTH	Samothraki Isl	146.83 317	P		PKPdf	20 23 34.2	+0.8
BLCB	Balcova	146.84 312	P		PKPab	20 23 37.5	+1.0
CONA	Conrad Observa	146.84 335	*e*PKP		PKPbc	20 23 35.9	+0.9
	comp=Z,39nm,0.9s,SNR=15						
RONA	Rosalia, Austr	146.85 335	*e*PKP		PKPbc	20 23 36.0	+0.9
	comp=Z,299nm,1.0s,SNR=8.2						
GEC2	GERESS Array S	146.87 339			PKPbc	20 23 34.9	-0.3
GEC2	GERESS Array S	146.87 339	*e*PKPbc		PKPbc	20 23 35.6	+0.5
	baz=25,slow=2.9						
GERES	GERESS Array B	146.87 339	PKPbc		PKPdf	20 23 34.1	+0.8
	comp=Z,12nm,0.9s,baz=29,slow=3.0,SNR=56						
GERES	GERESS Array B	146.87 339			PKPdf	20 23 34.4	+1.1
GRF	Grafenberg Arr	146.92 342	*e*PKPbc		PKPbc	20 23 35.9	+0.7
	baz=25,slow=2.9						
MORH	Mrgy, Hungar	146.98 331	⇓P		PKPdf	20 23 32.9	-0.5
VTS	Vitosha	147.02 322	⇑P		PKPdf	20 23 34.2	+0.4
VTS	Vitosha	147.02 322			PKPdf	20 23 35.4	+1.6
VTS	Vitosha	147.02 322	⇑PKP2		PKPdf	20 23 34.2	+0.4
VTS	Vitosha	147.02 322	*i* P		PKPdf	20 23 35.2	+1.4
TNS	Taunus Mts	147.18 345	*e*PKPbc		PKPbc	20 23 36.5	+0.5
	baz=25,slow=2.9						
AHRW	Bad Neuenahr-A	147.19 347	*e*PKPbc		PKPbc	20 23 36.3	+0.5
	baz=25,slow=2.9						
KAVA	Kavala	147.19 318	P		PKPdf	20 23 34.1	+0.2
FRGS	Fruska Gora	147.20 328	⇑P		PKPbc	20 23 37.3	+1.2
FRGS	Fruska Gora	147.20 328	⇓*i* P		PKPbc	20 23 37.2	+1.1
THAS	Thassos island	147.28 318	P		PKPdf	20 23 35.8	+1.7
BTNL	Ternell	147.34 348	*d*PKP		PKPbc	20 23 36.8	+0.5
MEM	Membach	147.34 348	*d*PKP		PKPbc	20 23 36.3	+0.1
MMB	Musomiste	147.34 320	*i* P		PKPbc	20 23 36.8	-0.3
NVR	Nevrokopi	147.40 310	P		PKPbc	20 23 36.9	+0.1
BSTI	Sart Tilman	147.45 349	*d*PKP		PKPbc	20 23 37.1	+0.6
MOA	Molln	147.51 337	*e*PKP		PKPbc	20 23 37.2	+0.3
	comp=Z,24nm,1.1s,SNR=5.8						
CHOS	Chios island	147.52 313	P		PKPbc	20 23 37.0	-0.3
ARSA	Arzberg	147.52 335	*e*PKP		PKPbc	20 23 36.7	-0.2
	comp=Z,8.0nm,1.0s						
KKB	Krupnik	147.57 321	*i* P		PKPbc	20 23 37.1	-0.1
BHOU	Houvegnez	147.59 348	*d*PKP		PKPbc	20 23 37.6	+0.6
KOKK	Kokkinochori,	147.62 319	P		PKPbc	20 23 36.8	-0.6
BCLA	Clavier	147.65 349	*d*PKP		PKPbc	20 23 37.1	0.0
SRS	Serrai	147.70 319	P		PKPdf	20 23 34.2	-0.6
TEKS	Tekeris	147.77 328	⇓*i* P		PKPdf	20 23 36.8	+2.0
DIVS	Divibare	147.85 327	PKPdf		PKPdf	20 23 34.9	-0.2
DIVS	Divibare	147.85 327	P		PKPbc	20 23 37.7	-0.3
BMRD	Maredsous	147.86 350	*d*PKP		PKPbc	20 23 37.5	-0.2
BIOA	Bad Ischl, Aus	147.87 338	*e*PKP		PKPbc	20 23 37.5	-0.4
	comp=Z,11nm,1.0s						
OUR	Ouranopolis	147.90 318	P		PKPdf	20 23 36.6	+1.5
RCHB	Rochefort	147.92 349	*d*PKP		PKPbc	20 23 38.2	+0.3
DOU	Dourbes	148.09 350	*d*PKP		PKPbc	20 23 38.8	+0.5
KNT	Kendrikon	148.10 320	P		PKPdf	20 23 37.4	+1.9
SOKA	Soboth	148.18 335	*e*PKP		PKPbc	20 23 38.8	0.0
	comp=Z,18nm,1.1s,SNR=7.5						
VAY	Valandovo	148.20 320	*i* P		PKPbc	20 23 38.3	-0.6
WLF	Walferdange	148.21 348			PKPbc	20 23 37.7	-0.9
WLF	Walferdange	148.21 348	PKP2		PKPbc	20 23 37.7	-0.9
WLF	Walferdange	148.21 348	*d*PKP		PKPbc	20 23 39.3	+0.7
WLF	Walferdange	148.21 348	*e*PKPbc		PKPbc	20 23 39.7	+1.1
	baz=25,slow=2.9						
FUR	Furstenfeldbru	148.26 341	*e*PKPbc		PKPbc	20 23 39.3	+0.4
	baz=25,slow=2.9						
HORT	Hortiatis	148.30 319	P		PKPbc	20 23 38.4	-0.9
BBLS	Lazići	148.31 327	⇓*i* P		PKPbc	20 23 38.6	-0.6
STU	Stuttgart	148.33 343	*e*PKPbc		PKPbc	20 23 39.8	+0.8
	baz=25,slow=2.9						
HAPS	Han Pijesak,BI	148.39 328	⇓*i* P		PKPbc	20 23 39.6	+0.1
SKO	Skopje	148.47 322	*i* P		PKPbc	20 23 39.7	+0.1
KBA	Koelnbreinsper	148.50 337	*e*pPKP		pPKPdf	20 23 39.2	-0.2
	comp=Z,19nm,1.0s						
RUDO	Rudo	148.51 327	*e*P		PKPbc	20 23 39.1	-0.6
OBKA	Obir	148.51 335	*e*pPKP		PKPbc	20 23 39.4	-0.3
	comp=Z,9.8nm,1.1s						
OBKA	Obir	148.51 335	*e*P		PKPdf	20 23 38.4	+2.3
GRG	Griva	148.52 320	P		PKPbc	20 23 38.9	-0.9
A051A	Mrakovica	148.69 331	⇓*i* P		PKPbc	20 23 40.0	-0.2
CRES	Cresnjev	148.69 334	*e*P		PKPbc	20 23 39.6	-0.5
BLY	Banja Luka	148.76 330	⇓*i* P		PKPbc	20 23 40.4	+0.1
MYKA	Terra Mystica	148.76 336	*e*pPKP		pPKPdf	20 23 39.8	+0.1
	comp=Z,14nm,0.8s						
WATA	Walderalm	148.90 339	*e*pPKP		PKPbc	20 23 40.3	-0.4
	comp=Z,22nm,1.1s,SNR=8.7						
LJU	Ljubljana	148.90 335	*i* PKPbc		PKPbc	20 23 40.7	+0.2
WTTA	Wattenberg	148.94 339	*e*PKP		PKPbc	20 23 41.0	+0.2
	comp=Z,28nm,0.9s,SNR=7.9						
BFO	Black Forest	148.96 344			PKPdf	20 23 36.9	+0.2
BFO	Black Forest	148.96 344	PKIKP		PKPdf	20 23 36.9	+0.2
BFO	Black Forest	148.96 344	*e*PKPbc		PKPbc	20 23 40.9	+0.2
	baz=25,slow=2.9						
LIT	Litokhoron	148.97 319			PKPdf	20 23 38.8	+1.9
LIT	Litokhoron	148.97 319	P		PKPdf	20 23 36.8	-0.2
LIT	Litokhoron	148.97 319	PKIKP		PKPdf	20 23 38.8	+1.9
RETA	Reutte	149.03 341	*e*PKP		PKPbc	20 23 41.0	0.0
	comp=Z,9.6nm,0.8s						
GBAS	Gorenja Brezov	149.03 335	*e*PKPbc		PKPbc	20 23 40.7	-0.2
BOJS	Bojanci	149.04 333	*i* PKPbc		PKPbc	20 23 41.3	+0.4
BOJS	Bojanci	149.04 333	⇓*i* P		PKPbc	20 23 41.1	+0.2
MOTA	Moosalm	149.04 340	*e*PKP		PKPbc	20 23 40.9	-0.2
	comp=Z,33nm,1.4s,SNR=8.2						
UBR	Ueberruh	149.05 342	*e*PKPbc		PKPbc	20 23 41.1	+0.1
	baz=25,slow=2.9						
ABTA	Abfaltersbach	149.08 338	*e*pPKP		PKPbc	20 23 40.6	-0.5
	comp=Z,22nm,0.9s,SNR=6.1						
SQTA	Sankt Quirin	149.12 340	*e*PKP		PKPbc	20 23 41.3	+0.1
	comp=Z,28nm,0.9s,SNR=11						
CEY	Cerknica	149.19 335	⇓*i* P		PKPbc	20 23 41.1	-0.3
CLUD	Cludinico	149.19 337	PKPdf		PKPdf	20 23 36.1	-1.0
FNA	Florina	149.25 321	PKPdf		PKPdf	20 23 35.8	-1.6
FNA	Florina	149.25 321	P		PKPbc	20 23 40.8	-0.9
FNA	Florina	149.25 321	PKHKP		PKPpre	20 23 35.8	
A050A	Klekovaca	149.27 331	⇓*i* P		PKPbc	20 23 41.1	-0.6
SRKY	Kupres RS	149.28 330	*e*P		PKPbc	20 23 41.1	-0.6
ATHU	Athens Univers	149.28 314	P		PKPbc	20 23 40.5	-1.3
KZN	Kozani	149.29 320	P		PKPbc	20 23 41.5	-0.4
ECH	Echery	149.36 345			PKPdf	20 23 34.5	-2.8
ECH	Echery	149.36 345	PKHKP		PKPpre	20 23 34.5	
OHR	Ohrid	149.38 322	*i* P		PKPbc	20 23 42.2	+0.2
PDG	Podgorica	149.39 325	⇑P		PKPbc	20 23 42.0	+0.1
PDG	Podgorica	149.39 325	PKPdf		PKPdf	20 23 35.5	-2.0
STAL	STALIGIAL	149.42 337			PKPdf	20 23 37.0	-0.6
BRY	Bratogost	149.44 327	*e*P		PKPbc	20 23 41.6	-0.6
FETA	Feichten	149.45 340	*e*PKP		PKPbc	20 23 42.5	+0.3
	comp=Z,24nm,1.0s,SNR=7.1						
DAVA	Damuels	149.48 341	*e*PKP		PKPbc	20 23 42.4	+0.2
	comp=Z,30nm,1.2s,SNR=7.7						
CIMO	Cimolais	149.48 337			PKPdf	20 23 37.0	-0.6
SKDS	Skadanscina	149.52 335	⇓*i* P		PKPbc	20 23 41.5	-0.7
DRME	Dracevica, Mon	149.59 325	*e*P		PKPbc	20 23 41.9	-0.5
AXAR	Agios Charalam	149.61 316	P		PKPbc	20 23 42.0	-0.6
NEST	Nestorio	149.67 320	P		PKPbc	20 23 42.8	0.0
TREB	Trebinje	149.67 327	*e*P		PKPbc	20 23 41.8	-0.8
AGG	Agios Georgios	149.68 317	P		PKPbc	20 23 41.6	-1.2
HCY	Herceg Novi	149.78 326	*e*P		PKPbc	20 23 42.0	-0.9
MAKR	Makrakomi, Fth	149.82 317	P		PKPbc	20 23 42.4	-0.7
STON	Ston	149.90 327	*e*P		PKPbc	20 23 41.8	-1.3
DAVOX	Davos/Dischmat	149.93 341	PKPbc		PKPbc	20 23 43.2	-0.1
	comp=Z,28nm,0.8s,baz=22,slow=5.4,SNR=35						
FUORN	Ofenpass-Fuorn	149.95 340			PKPbc	20 23 43.6	+0.1
CTI	Castel Tesino	149.99 338			PKPdf	20 23 36.2	-2.3
CTI				PKPbc	PKPbc	20 23 43.0	-0.4
CTI	Castel Tesino	149.99 338	PKIKP		PKPdf	20 23 36.2	-2.3
CTI						20 23 43.0	
EVR	Evrytania	150.08 317	P		PKPbc	20 23 44.5	+0.6
ANX	Ano Chora	150.19 317	P		PKPbc	20 23 44.4	+0.3
SERG	Sergoula	150.20 316	P		PKPbc	20 23 44.9	+0.8
JAN	Janina	150.25 319	P		PKPbc	20 23 44.3	+0.1
EFP	Efpalio	150.29 316	P		PKPbc	20 23 44.3	+0.1
KLV	Kalavryta, Ach	150.34 316	P		PKPbc	20 23 44.2	-0.3
TUE	Stuetta	150.37 341			PKPbc	20 23 44.0	-0.4
CLF	Chambon-Foret	150.46 352			PKPdf	20 23 39.1	+0.1
TEOL	Teolo	150.57 337			PKPdf	20 23 38.3	-1.0
TEOL			PKPbc		PKPbc	20 23 44.6	-0.1
SALO	Salr	150.75 339			PKPbc	20 23 43.9	-1.2
LKD2	Lefkada island	150.89 318	P		PKPbc	20 23 44.5	-1.2
NYDR	Nydri-Lefkada	150.91 318	P		PKPbc	20 23 45.5	-0.1
ITM	Ithomi	150.95 314			PKPbc	20 23 43.9	-2.0
SCTE	Santa Cesarea	151.41 322			PKPbc	20 23 46.4	-0.4
SGRT	San Giovanni R	151.70 328			PKPbc	20 23 45.9	-1.7
FDMO	Fiordimonte	151.95 333			PKPdf	20 23 39.7	-1.8
MURB	Monte Urbino	152.00 334			PKPdf	20 23 40.7	-0.9
NRCA	Norcia	152.10 333			PKPdf	20 23 40.6	-1.2
CAMP	Campotosto	152.21 332			PKPbc	20 23 49.0	+0.2
BNI	Bardonecchia	152.43 344			PKPbc	20 23 49.5	+0.3
BNI	Bardonecchia	152.43 344	PKIKP		PKPbc	20 23 49.5	+0.3
SSB	Saint Sauveur	152.72 347	IAMs_20		IAMs_20	21 13 49.6	
	comp=Z,248nm,21.0s						
TIP	Timpagrande	152.99 323	⇑P		PKPbc	20 23 50.2	-0.3
TIP	Timpagrande	152.99 323			PKPbc	20 23 50.4	-0.1
ESDC	Sonseca Array	159.24 0	PKP		PKPdf	20 23 51.1	-0.3
	comp=Z,0.6nm,0.9s,baz=342,slow=2.0,SNR=5.7						
ESDC			PKPab		PKPab	20 24 25.9	-2.4
	comp=Z,0.9nm,0.8s,baz=350,slow=3.5,SNR=6.7						
DBIC	Dimbokro	167.87 175	PKP		PKPdf	20 23 58.7	-1.5
	comp=Z,3.1nm,1.0s,baz=180,slow=1.0,SNR=3.6						
DBIC			PKPab		PKPab	20 25 06.1	-0.6
	comp=Z,3.8nm,0.9s,baz=182,slow=4.9,SNR=3.7						

*IDC **04** 20:07:57.0±1.0, 57.5°N×33.01°W, h0km, mb3.8/11, mbtmp3.9/15, ML3.1/4, MS3.5/5, Error ellipse: s-maj=27.8km s-min=16.5km az=23.0*

ISC 04 20:07:59.3±0.8, 57.7°N±0.1×33.05°W±0.08, h15km, n25, σ1°75/20, mb3.7/11, MS3.8/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**9.08**	**34**	Pn	**Pn**	**20 10 11.6**	**+2.0**
	0.9nm,0.3s,baz=231,slow=16,SNR=2.0						
BORG				Sn	**Sn**	**20 11 51.3**	**0.0**
	0.2nm,0.3s,baz=249,slow=21,SNR=1.8						
BORG				LR	LR	20 12 48.1	
	comp=Z,205nm,18.4s,baz=207,slow=32						
	18nm,0.9s						
SFJD	**Kangerlussuaq**	**12.38**	**326**	Pn	**Pn**	**20 10 56.1**	**+1.5**
	0.3nm,0.3s,baz=140,slow=7.9,SNR=1.8						
	8.2nm,1.1s						
SUMG	**Summit**	**15.15**	**354**	*i* P	**Pn**	**20 11 31.5**	**-1.3**
SUMG				*i* P	**P**	**20 11 32.0**	**-5.9**
EKA	**Eskdalemuir Ar**	**16.60**	**85**	Pn	**P**	**20 11 53.9**	**+0.2**
	baz=276,slow=7.1						
FRB	**Frobisher Bay**	**18.22**	**304**	P	**P**	**20 12 11.9**	**+0.5**
	0.1nm,0.3s,baz=114,slow=9.5,SNR=7.2						
FRB				LR	LR	20 18 21.2	
	comp=Z,54nm,18.4s,baz=192,slow=34						
	4.6nm,0.9s						
SCHQ	**Schefferville**	**18.87**	**276**	P	**Pn**	**20 12 19.7**	**+0.4**
	0.1nm,0.3s,baz=45,slow=16,SNR=3.9						
SCHQ				LR	LR	20 18 23.1	
	comp=Z,72nm,18.7s,baz=186,slow=33						
	7.5nm,0.9s						
NOA	**NORSAR Array B**	**22.49**	**63**	LR	LR	20 19 51.9	
	comp=Z,24nm,20.7s,baz=240,slow=32						
ESDC	**Sonseca Array**	**26.00**	**121**	P	**P**	**20 13 31.7**	**+0.3**
	1.4nm,1.0s,baz=316,slow=8.8,SNR=6.3						
	1.4nm,1.0s						
VRAC	**Vranov**	**30.08**	**84**	LR	LR	20 24 12.7	
	comp=Z,95nm,21.2s,baz=270,slow=32						
AKASG	**Malin Array Be**	**35.92**	**74**	P	**P**	**20 14 57.9**	**-0.8**
	0.8nm,0.5s,baz=304,slow=8.1,SNR=6.8						
	0.8nm,0.5s						
YKA	**Yellowknife Ar**	**38.42**	**312**	P	**P**	**20 15 20.2**	**+0.5**
	1.3nm,0.9s,baz=57,slow=9.4,SNR=12						
	1.3nm,0.9s						
INK	**Inuvik**	**41.72**	**327**	P	**P**	**20 15 46.8**	**-0.2**
	0.7nm,0.7s,baz=27,slow=4.5,SNR=3.7						
	0.7nm,0.7s						
BRTR	**Keskin Array B**	**45.51**	**83**	P	**P**	**20 16 18.4**	**+0.4**
	1.0nm,0.8s,baz=311,slow=4.7,SNR=5.4						
	1.0nm,0.8s						
AKTO	**Aktyubinsk**	**50.07**	**56**	P	**P**	**20 16 53.4**	**+0.3**
	1.1nm,0.5s,baz=310,slow=8.0,SNR=4.7						
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**53.38**	**47**	P	**P**	**20 17 18.2**	**+0.4**
	0.9nm,0.9s,baz=311,slow=6.6,SNR=4.7						
	0.9nm,0.9s						
DBIC	**Dimbokro**	**55.39**	**145**	P	**P**	**20 17 31.7**	**-1.0**
	3.1nm,0.9s,baz=338,slow=11,SNR=3.1						
	3.1nm,0.9s						
KURBB	**Kurchatov Arra**	**58.40**	**44**	P	**P**	**20 17 53.0**	**-0.6**
	0.5nm,0.7s,baz=320,slow=7.2,SNR=6.8						
	0.5nm,0.7s						
GEYT	**Alibeck**	**59.51**	**67**	LR	LR	20 44 39.6	
	comp=Z,177nm,21.3s,baz=246,slow=37						
MKAR	**Makanchi Array**	**62.97**	**44**	P	**P**	**20 18 24.7**	**-0.2**
	0.5nm,0.7s,baz=1.4,slow=4.9,SNR=5.4						
	0.5nm,0.7s						
H10N2	**ASCENSION HYDR**	**66.99**	**160**	T	T	21 31 23.5	
	baz=350,slow=75,SNR=7.8						
H10N3	**ASCENSION HYDR**	**67.00**	**160**	T	T	21 31 23.8	
	baz=350,slow=75,SNR=8.2						
H10N1	**ASCENSION HYDR**	**67.01**	**160**	T	T	21 31 24.9	
	baz=350,slow=75,SNR=11						
SONM	**Songino Array**	**69.64**	**28**	P	**P**	**20 19 10.1**	**+2.3**
	0.5nm,0.8s,baz=348,slow=6.1,SNR=3.0						
	0.5nm,0.8s						
LVC	**Limon Verde**	**85.39**	**213**	LR	LR	20 56 26.9	
	comp=Z,384nm,21.8s,baz=243,slow=34						
ASAR	**Alice Springs**	**144.76**	**21**	PKP	**PKPdf**	**20 27 34.1**	**-1.1**
	0.7nm,0.9s,baz=343,slow=2.4,SNR=5.0						

IDC 04 20:10:04.6±3.0, 41.40N×29.64W, h0km, mb3.4/3, mbtmp3.4/4, ML3.6/1, MS3.3/2, Error ellipse: s-maj=145.2km s-min=31.4km az=179.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**19.57**	**87**	P	P	20 14 34.7	+0.6
	baz=288,slow=9.8,SNR=5.3						
ESDC				LR	LR	20 21 29.0	
	comp=Z,71nm,18.6s,baz=303,slow=35						
	0.7nm,0.7s						
DAVOX	**Davos/Dischmat**	**28.67**	**66**	LR	LR	20 25 59.8	
	comp=Z,61nm,19.5s,baz=332,slow=33						
BRTR	**Keskin Array B**	**47.14**	**70**	P	P	20 18 37.7	-1.0
	0.3nm,0.7s,baz=335,slow=9.7,SNR=2.1						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**59.88**	**284**	P	P	20 20 12.3	-0.1
	0.2nm,0.5s,baz=80,slow=5.9,SNR=2.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**73.41**	**42**	P	P	20 21 38.9	+0.5
	0.4nm,0.9s,baz=329,slow=5.0,SNR=3.5						
	0.4nm,0.9s						

IDC 04 20:57:38.2±1.9, 0.47N×125.92E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=171.8km s-min=26.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.90**	**158**	P	P	21 02 32.3	-0.8
	0.4nm,0.4s,baz=336,slow=12,SNR=7.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**25.22**	**163**	P	P	21 03 06.5	+0.6
	0.3nm,0.3s,baz=344,slow=11,SNR=9.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.79**	**327**	P	P	21 07 45.2	-0.1
	0.1nm,0.3s,baz=115,slow=7.5,SNR=5.4						
	0.1nm,0.3s						

*BJI **04** 21:03:46.2±0.0, 10.02°S×161.60°E, h53km, mb4.7/43, mB5.1/21, Ms4.8/12, Ms7 4.4/12*
*GCMT **04** 21:03:46.0±0.3, 10.54S±0.03×161.37E±0.02, h36km±2km, MW5.0/74, Moment Tensor Solution. s28,c32; s74,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.67±.25; Mθθ-0.49±.18; Mϕϕ-1.18±.16; Mrθ1.61±.20; Mrϕ0.52±.12; Mθϕ-3.22±.26; Best double couple: Ms4.47500×10^16 NP1:ϕs157.00000°, δ75.00000°, λ108.00000°. NP2: ϕs286.00000°, δ24.00000°, λ42.00000°. Principal axes: T 3.7660, Plg57.0000°, Azm91.0000°; N 1.4140, Plg18.0000°, Azm332.0000°; P -5.1830, Plg27.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 21:03:47.0±1.5, 10.48S±0.07×161.40E±0.08, h49km±2km, mb5.2/130 Error ellipse: s-maj=13.2km s-min=9.1km az=51.0*
*IDC **04** 21:03:48.3±1.8, 10.45S×161.28E, h64km±15km, mb4.4/27, mbtmp4.7/30, MS4.2/53, Error ellipse: s-maj=16.2km s-min=10.5km az=78.0*
*NOU **04** 21:03:48.7, 10.45S×161.48E, h63km, mb5.1/59, Solomon Islands*

ISC 04 21:03:46.9±0.4, 10.52S±0.04×161.36E±0.05, h52km±3km, h52km:pP-P, n476, σ1°11/466, mb5.1/110, MS4.3/57, 2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.76**	**308**	P	**Pn**	**21 04 14.7**	**-0.3**
	43µm,0.4s,baz=150,slow=5.1,SNR=68						
HNR				S	**Sn**	**21 04 35.5**	**-0.8**
	119µm,0.6s,baz=122,slow=19,SNR=5.5						
HNR				LR	LR	21 05 13.6	
	comp=Z,68µm,19.1s,baz=111,slow=52						
HNR	**Honiara**	**1.76**	**308**		**Pn**	**21 04 14.6**	**-0.4**
HNR	**Honiara**	**1.76**	**308**	P	**Pn**	**21 04 15.7**	**+0.7**
DVP	**Devils Point**	**9.75**	**138**	P	**Pn**	**21 06 04.3**	**-0.2**
RTV	**Rentapao**	**9.96**	**137**	P	**Pn**	**21 06 08.8**	**+1.4**
KOUNC	**Koumac, New Ca**	**10.36**	**165**	Pn	**Pn**	**21 06 11.8**	**-1.1**
KOUNC	**Koumac, New Ca**	**10.36**	**165**	P	**Pn**	**21 06 14.8**	**+1.9**
RABL	**Rabaul**	**11.07**	**304**	Pn	**Pn**	**21 06 20.3**	**-2.4**
RABL	**Rabaul**	**11.07**	**304**	P	**Pn**	**21 06 24.8**	**+2.1**
KRVT	**Keravat (AS076**	**11.12**	**303**	P	**Pn**	**21 06 25.6**	**+2.4**
	27nm,0.6s,baz=175,slow=7.9,SNR=1.8						
KRVT				LR	LR	21 11 19.5	
	comp=Z,1µm,19.1s,baz=261,slow=41						
LIFNC	**LIFOU**	**11.66**	**152**		**Pn**	**21 06 30.0**	**-0.6**
LIFNC	**LIFOU**	**11.66**	**152**	P	**Pn**	**21 06 31.0**	**+0.4**
DZM	**Mont Dzumac**	**12.48**	**158**	*e*Pn	**Pn**	**21 06 41.6**	**-0.3**
	86nm,1.1s						
DZM				*e*LR	LR	21 09 35.7	
	comp=Z,3µm,23.9s						
DZM	**Mont Dzumac**	**12.48**	**158**	P	**Pn**	**21 06 42.7**	**+0.9**
	12nm,0.3s,baz=13,slow=11,SNR=58						
DZM				S	**Sn**	**21 08 53.2**	**-6.2**
	8.5nm,0.6s,baz=313,slow=19,SNR=2.7						
DZM				LR	LR	21 10 59.0	
	comp=Z,2µm,19.7s,baz=338,slow=34						
DZM	**Mont Dzumac**	**12.48**	**158**	Pn	**Pn**	**21 06 40.9**	**-1.0**
DZM	**Mont Dzumac**	**12.48**	**158**	P	**Pn**	**21 06 42.5**	**+0.6**
YATNC	**Mamie plateau,**	**12.64**	**156**	P	**Pn**	**21 06 44.1**	**+0.1**
MARNC	**Mare, Loyalty**	**12.64**	**150**		**Pn**	**21 06 42.9**	**-1.1**
MARNC	**Mare, Loyalty**	**12.64**	**150**	P	**Pn**	**21 06 44.6**	**+0.6**
OUENC	**Ouen Island, N**	**12.94**	**157**		**Pn**	**21 06 48.7**	**+0.5**
OUENC	**Ouen Island, N**	**12.94**	**157**	P	**Pn**	**21 06 48.1**	**0.0**
PMG	**Port Moresby**	**14.03**	**273**	P	**Pn**	**21 07 06.3**	**+3.3**
	20nm,0.8s,baz=93,slow=12,SNR=19						
PMG				LR	LR	21 12 09.3	
	comp=Z,2µm,21.8s,baz=106,slow=36						
PMG	**Port Moresby**	**14.03**	**273**	Pn	**Pn**	**21 07 02.6**	**-0.4**
RK1H	**Rockhampton Ha**	**16.47**	**218**	P	**P**	**21 07 37.4**	**+1.0**
CTA	**Charters Tower**	**17.38**	**235**	P	**P**	**21 07 48.0**	**+1.3**
	85nm,0.9s,baz=67,slow=11,SNR=44						
CTA				S	**Sn**	**21 10 52.5**	**-6.2**
	3.6nm,0.7s,baz=156,slow=20,SNR=2.0						
CTA				LR	LR	21 13 42.8	
	comp=Z,1µm,21.0s,baz=53,slow=34						
CTAO	**Charters Tower**	**17.38**	**235**		**P**	**21 07 47.5**	**+0.9**
CTAO				IAmb	IAmb	21 07 51.9	
	comp=Z,93nm,0.8s						
CTAO	**Charters Tower**	**17.38**	**235**	P	**P**	**21 07 48.5**	**+1.9**

comp=Z,203nm,19.6s,baz=308,slow=30
LUWI Luwuk 39.48 281 P **P** **21 11 12.7 +0.1**
DAV Davao City (W) 39.68 295 LR LR 21 24 26.7
comp=Z,60nm,20.3s,baz=84,slow=31
APSI Ampana 40.60 281 P P 21 11 34.8 +13
MBWA Marble Bar 41.30 250 P **P** **21 11 27.6 0.0**
MBWA Marble Bar 41.30 250 P **P** **21 11 27.9 +0.3**
MBWA Marble Bar 41.30 250 P **P** **21 11 27.8 +0.2**
MBWA sP **pwP** **21 11 46.5 +0.3**
KAPI Kappang 41.56 274 LR LR 21 29 55.6
comp=Z,84nm,20.9s,baz=98,slow=38
KAPI Kappang 41.56 274 P **P** **21 11 31.7 +1.9**
JCJ Chichijima 41.77 334 LR LR 21 27 15.1
comp=Z,386nm,19.7s,baz=190,slow=34
TOLI2 Tolitoli 41.98 284 P **P** **21 11 32.1 -1.2**
TOLI2 Tolitoli 41.98 284 P **P** **21 11 32.9 -0.4**
comp=Z,18nm,1.3s
PLAI Plampang 42.97 268 P **P** **21 11 40.5 -0.8**
MEEK Meekatharra 43.34 242 P **P** **21 11 45.0 +0.8**
KLBR Kellerberrin 45.39 236 P **P** **21 12 00.6 +0.1**
MYLDM Lahad Datu 45.44 288 P **P** **21 12 01.6 +0.6**
MYLDM IAmb IAmb 21 12 19.9
comp=Z,67nm,1.5s
BLDU Ballidu 45.97 237 P **P** **21 12 05.7 +0.7**
MORW Morawa 46.13 240 P **P** **21 12 05.9 -0.4**
NWAO Narrogin (SRO) 46.22 234 LR LR 21 31 42.5
comp=Z,514nm,18.9s,slow=36
NWAO Narrogin (SRO) 46.22 234 P **P** **21 12 07.0 -0.1**
NWAO IAmb IAmb 21 13 40.1
comp=Z,64nm,1.5s
NWAO Narrogin (SRO) 46.22 234 P **P** **21 12 09.1 +2.1**
NWAO Narrogin (SRO) 46.22 234 P **P** **21 12 07.1 +0.1**
NWAO pP **pP** **21 12 20.5 +1.0**
NWAO sP **pwP** **21 12 26.2 +0.4**
GIRL Giralia 46.56 249 P **P** **21 12 11.1 +1.3**
GIRL Giralia 46.56 249 P **P** **21 12 11.6 +1.8**
JAGI Jajag, Banyuwa 46.57 268 P **P** **21 12 09.5 -0.5**
JAGI IAmb IAmb 21 12 14.4
comp=Z,45nm,1.0s
JAGI Jajag, Banyuwa 46.57 268 P **P** **21 12 09.7 -0.3**
JAGI Jajag, Banyuwa 46.57 268 P **P** **21 12 11.0 +1.0**
comp=Z,50nm,0.8s,comp=Z,1µm
KKM Kota Kinabalu 47.87 288 P **P** **21 12 19.9 -0.3**
KKM IAmb IAmb 21 12 39.4
comp=Z,21nm,0.9s
KKM Kota Kinabalu 47.87 288 P **P** **21 12 22.3 +2.1**
comp=Z,28nm,0.9s
PPT Papeete 48.01 104 LR LR 21 27 55.2
comp=Z,286nm,21.4s,baz=294,slow=30
PPT2 Papeete2 48.01 104 *e*LR LR 21 26 01.6
comp=Z,406nm,23.5s
PPT2 *e*LR LR 21 26 01.9
comp=Z,501nm,22.8s
JHJ Hachijo jima 2 48.02 335 LR LR 21 35 04.3
comp=Z,261nm,18.0s,baz=136,slow=39
TBI Tubuai 48.53 112 *e*S **S** **21 19 23.3 +0.4**
comp=Z,673nm,26.2s
TBI *e*LR LR 21 26 15.3
comp=Z,1µm,24.0s
TBI *e*LR LR 21 26 16.6
comp=Z,5µm,22.8s
JOW Kunigami 49.09 320 P **P** **21 12 30.1 +0.8**
comp=Z,11nm,0.5s,baz=140,slow=13,SNR=15
comp=Z,11nm,0.5s
JOW Kunigami 49.09 320 P **P** **21 12 30.1 +0.8**
JOW IAmb IAmb 21 12 42.9
comp=Z,50nm,1.4s
JOW Kunigami 49.09 320 P **P** **21 12 30.6 +1.3**
UGM Wanagama 50.20 268 P **P** **21 12 37.5 -0.5**
UGM Wanagama 50.20 268 P **P** **21 12 38.3 +0.3**
SBUM Sibu 50.57 282 P **P** **21 12 41.3 +0.5**
SBUM IAmb IAmb 21 12 53.1
comp=Z,20nm,1.4s
YOJ Yonaguni jima 51.09 313 P **P** **21 12 44.9 +0.5**
INU Inuyama 51.10 334 P **P** **21 12 44.2 -0.1**
INU pP **pP** **21 12 58.0 +0.1**
OPA Opana 51.14 51 P **P** **21 12 45.3 +0.5**
JGF Kuroka 51.17 335 P **P** **21 12 44.4 -0.6**
JGF Kuroka 51.17 335 P **P** **21 12 45.2 +0.3**
comp=Z,26nm,1.9s
JMN Monobe 51.18 330 P **P** **21 12 44.7 -0.3**
JMN Monobe 51.18 330 P **P** **21 12 45.4 +0.4**
JSU Suzuyama 51.22 326 P **P** **21 12 43.6 -1.7**
comp=Z,29nm,1.4s
MJAR Matsushiro Arr 51.64 336 P **P** **21 12 46.9 -1.4**
comp=Z,5.9nm,0.6s,baz=170,slow=8.3,SNR=27
MJAR LR LR 21 33 26.9
comp=Z,184nm,22.0s,baz=134,slow=34
comp=Z,5.9nm,0.6s
MAJO Matsushiro 51.64 336 P **P** **21 12 47.2 -1.1**
MAJO IAmb IAmb 21 14 23.6
comp=Z,87nm,1.9s
MAJO Matsushiro 51.64 336 P **P** **21 12 47.4 -1.0**
YULB Yu-li 51.69 311 P **P** **21 12 48.5 -0.5**
YULB IAmb IAmb 21 14 20.4
comp=Z,76nm,1.8s
KHU Kahuku 51.70 55 P **P** **21 12 49.3 -0.1**
KPJI Karang Pucung 51.84 269 P P 21 13 03.5 +13
JMM Marumori 51.84 339 P **P** **21 12 50.0 +0.2**
JMM IAmb IAmb 21 12 50.9
comp=Z,26nm,0.7s
AIN Ainahou 51.89 55 P **P** **21 12 50.4 -0.3**
NACB Ninganchiao 51.94 312 P **P** **21 12 51.0 +0.3**
NACB Ninganchiao 51.94 312 P **P** **21 12 51.8 +1.0**
HMH Humu'ula Sheep 51.99 55 P **P** **21 12 52.1 +0.5**
POHA Pohakuloa 52.03 55 P **P** **21 12 51.0 -0.8**
POHA Pohakuloa 52.03 55 P **P** **21 12 52.5 +0.7**
POHA sP **sP** **21 13 11.9 -0.2**
TPUB Ta-pu 52.13 311 P **P** **21 12 51.7 -0.6**
TPUB Ta-pu 52.13 311 P **P** **21 12 52.6 +0.3**
comp=Z,38nm,2.4s
SSLB Suanglung 52.18 311 P **P** **21 12 52.5 -0.2**
SSLB IAmb IAmb 21 12 53.5
comp=Z,17nm,0.6s
SSLB Suanglung 52.18 311 P **P** **21 12 53.9 +1.3**
JNU Nakatsue 52.23 327 P **P** **21 12 52.3 -0.5**
comp=Z,6.9nm,0.7s,baz=124,slow=6.0,SNR=5.9
JNU LR LR 21 35 03.7
comp=Z,119nm,18.7s,baz=131,slow=36
comp=Z,6.9nm,0.7s
JNU Nakatsue 52.23 327 P **P** **21 12 51.9 -0.9**
JNU IAmb IAmb 21 13 08.9
comp=Z,44nm,1.2s
YHNB Yeheng 52.39 312 P **P** **21 12 54.5 +0.3**
YHNB Yeheng 52.39 312 P **P** **21 12 55.8 +1.6**
JHS Saijyo 52.58 331 P **P** **21 12 57.2 +1.8**
LEM Lembang 53.20 269 LR LR 21 36 59.0
comp=Z,97nm,20.6s,baz=150,slow=38
TNG Tangerang 54.25 270 P **pP** **21 13 15.7 -5.1**
TNG P **P** **21 13 08.8 +0.8**
comp=Z,1µm,0.5s
JTM Tenmabayashi 54.38 341 P **P** **21 13 08.2 -0.3**
JTM Tenmabayashi 54.38 341 P **P** **21 13 09.5 +1.0**
CGJI Cibinong 55.12 269 P **P** **21 13 14.8 +0.4**
comp=Z,100nm,0.7s
JKA Kamikawa-asahi 56.99 344 P **P** **21 13 27.3 +0.2**
ASAJ Asahikawa 56.99 344 P **P** **21 13 27.2 +0.2**
comp=Z,26nm,0.7s,baz=219,slow=6.5,SNR=23
ASAJ LR LR 21 35 15.0
comp=Z,622nm,22.0s,baz=164,slow=33
comp=Z,26nm,0.7s
KSRS Korea Array 57.09 329 P **P** **21 13 27.7 -0.2**
comp=Z,2.5nm,0.7s,baz=148,slow=7.8,SNR=7.7
KSRS LR LR 21 36 49.4
comp=Z,214nm,20.0s,baz=130,slow=35
comp=Z,2.5nm,0.7s
TAOE Nuku Hiva Isla 57.62 94 *e*LR LR 21 30 28.3
comp=Z,392nm,27.3s
DRV Dumont d'Urvil 57.91 190 P **P** **21 13 31.8 -1.4**
DRV pP **pP** **21 13 44.9 -1.4**
NJ2 Nanjing 58.68 318 *e*P **P** **21 13 40.6 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
YSS Yuzh-Sakhalins 59.58 345 P **P** **21 13 45.7 +0.6**
YSS pP **pP** **21 13 58.9 -0.6**
USA0B Ussuriysk Arra 60.63 336 P **P** **21 13 52.7 +0.3**
USA0B IAmb IAmb 21 13 54.1
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 60.63 336 P **P** **21 13 52.2 -0.2**
comp=Z,15nm,0.9s,baz=139,slow=5.9,SNR=15
USRK LR LR 21 38 33.2
comp=Z,145nm,20.3s,baz=139,slow=34
comp=Z,15nm,0.9s
RKT Rikitea 61.81 111 *e*LR LR 21 32 25.4
comp=Z,66µm,23.5s

MDJ Mudanjiang 61.96 335 P **P** **21 14 02.0 +0.7**
MDJ pP pP 21 14 16.5 +0.6
MDJ sP sP 21 14 22.3 +0.5
MDJ ScP **ScP** **21 18 38.7 -0.5**
MDJ PcS **PcS** **21 18 45.0 +0.4**
MDJ S **S** **21 22 24.0 +2.3**
MDJ pmax pmax
comp=Z,21nm,1.1s
MDJ pmax pmax
comp=Z,87nm,4.0s
MDJ LR LR
comp=Z,140nm,14.8s
MDJ LR LR
comp=Z,290nm,14.9s
MDJ LR LR
comp=Z,440nm,17.2s
KULM Kulim 62.45 282 P **P** **21 14 04.5 -0.8**
CN2 Changchun 63.15 332 P **P** **21 14 08.9 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,100nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
PEA0B Petropavlovsk- 63.45 358 P **P** **21 14 11.2 +0.1**
PETK Petropavlovsk- 63.45 358 P **P** **21 14 10.8 -0.3**
comp=Z,5.2nm,0.7s,baz=164,slow=7.5,SNR=10
PETK LR LR 21 37 13.8
comp=Z,266nm,22.0s,baz=177,slow=32
comp=Z,5.2nm,0.7s
SHEM Shemya Is, Ala 63.94 9 LR LR 21 37 32.3
comp=Z,166nm,19.2s,baz=358,slow=32
ENH Enshi 64.26 311 P **P** **21 14 17.2 +0.2**
LYN LuoYang 64.45 316 ⇓P **P** **21 14 18.1 0.0**
LYN pmax pmax
comp=Z,40nm,5.4s
LYN LR LR
comp=Z,230nm,4.6s
LYN LR LR
comp=Z,140nm,8.4s
LYN LR LR
comp=Z,160nm,18.8s
GSI Gunungsitoli 64.52 277 P **P** **21 14 18.4 -0.6**
HNS HongShan 64.67 320 *e*P **P** **21 14 19.7 +0.3**
KIWB Kanaga Island 64.83 15 P **P** **21 14 20.9 +0.8**
KLR Kul'dur 64.94 339 P **P** **21 14 20.8 -0.2**
comp=Z,5.3nm,0.8s,baz=202,slow=3.2,SNR=16
KLR LR LR 21 41 09.8
comp=Z,230nm,20.2s,baz=149,slow=35
comp=Z,5.3nm,0.8s
ADK Adak 64.98 15 P **P** **21 14 21.9 +0.8**
ADK Adak 64.98 15 P **P** **21 14 21.8 +0.7**
XAN Xi'an 66.62 314 P **P** **21 14 32.1 -0.1**
XAN pP pP 21 14 43.6 -2.7
XAN pmax pmax
comp=Z,18nm,0.7s
XAN Xi'an 66.62 314 P **P** **21 14 32.5 +0.3**
XAN pP **pP** **21 14 46.3 -0.1**
VNDA Vanda 66.98 180 P **P** **21 14 34.4 +0.6**
comp=Z,4.3nm,0.9s,baz=336,slow=7.1,SNR=23
VNDA LR LR 21 38 19.5
comp=Z,119nm,21.8s,baz=1.0,slow=31
comp=Z,4.3nm,0.9s
VNDA Vanda 66.98 180 P **P** **21 14 34.2 +0.5**
VNDA IAmb IAmb 21 14 35.8
comp=Z,40nm,1.8s
VNDA Vanda 66.98 180 P **P** **21 14 34.3 +0.6**
VNDA pP **pP** **21 14 48.8 +1.4**
CRAI Chiangrai 67.32 297 P **P** **21 14 36.7 -0.1**
HEH HeiHe 67.38 337 *e*P **P** **21 14 35.7 -0.9**
HEH pmax pmax
comp=Z,14nm,0.9s
CCD Concordia, Ant 67.94 190 P **P** **21 14 40.9 +0.6**
CMAR Chiang Mai Arr 67.97 295 P **P** **21 14 40.6 -0.3**
comp=Z,1.3nm,0.7s,baz=116,slow=4.8,SNR=13
CMAR LR LR 21 43 41.5
comp=Z,29nm,20.8s,baz=110,slow=35
comp=Z,1.3nm,0.7s
XLT XiLinHaoTe 67.98 326 *e*P **P** **21 14 40.6 0.0**
XLT sP sP 21 15 03.0 +2.8
XLT S **S** **21 23 35.7 -0.2**
XLT ScS **SKiKP** **21 24 31.7 -0.6**
XLT pmax pmax
comp=Z,24nm,0.7s
XLT pmax pmax
comp=Z,97nm,4.9s
XLT LR LR
comp=Z,190nm,18.5s
XLT LR LR
comp=Z,190nm,19.2s
CHTO Chiang Mai 68.08 295 P **P** **21 14 40.3 -1.4**
NIKH Nikolski High 68.18 19 P **P** **21 14 41.3 -0.2**
NIKH Nikolski High 68.18 19 P **P** **21 14 41.8 +0.2**
baz=212
PZH PanZhiHua 68.58 304 P P 21 14 31.0 -14
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.7s
HHC Hu-ho-hao-te 68.69 322 *e*P **P** **21 14 46.8 +1.6**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,210nm,5.2s
CD2 Chengdu 68.89 309 P **P** **21 14 46.5 0.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
UNV Unalaska Valle 69.68 20 P **P** **21 14 50.4 -0.4**
UNV IAmb IAmb 21 15 01.8
comp=Z,70nm,1.3s
UNV Unalaska Valle 69.68 20 P **P** **21 14 51.4 +0.6**
baz=214
AKUT Akutan 70.16 20 P **P** **21 14 53.4 -0.3**
MA2 Magadan 70.38 354 P **P** **21 14 53.9 -1.1**
comp=Z,6.1nm,0.6s,baz=153,slow=5.9,SNR=8.2
MA2 LR LR 21 42 39.4
comp=Z,195nm,20.9s,baz=180,slow=33
comp=Z,6.1nm,0.6s
MA2 Magadan 70.38 354 P **P** **21 14 54.3 -0.7**
MA2 Magadan 70.38 354 P **P** **21 14 54.1 -0.9**
TNCH TengChong 70.67 301 P **P** **21 14 58.4 +0.6**
TNCH pP pP 21 15 08.6 -3.0
TNCH pmax pmax
comp=Z,3.0nm,0.9s
TNCH pmax pmax
comp=Z,35nm,4.6s
LZH Lanzhou 71.25 314 *e*P **P** **21 15 02.9 +1.9**
LZH pP pwP 21 15 18.8 +1.4
LZH pmax pmax
comp=Z,9.0nm,0.8s
SPIA Saint Paul Isl 71.40 16 P **P** **21 15 01.3 +0.1**
SPIA Saint Paul Isl 71.40 16 P **P** **21 15 01.9 +0.7**
baz=210
SDPT Sand Point 72.98 22 P **P** **21 15 10.0 -0.7**
SDPT Sand Point 72.98 22 P **P** **21 15 10.2 -0.5**
baz=219
SEY Seymchan 73.56 356 P **P** **21 15 13.9 -0.1**
comp=Z,4.4nm,0.6s,baz=155,slow=6.2,SNR=25
comp=Z,4.4nm,0.6s
ULN Ulaanbaatar 75.39 326 P **P** **21 15 24.9 -0.3**
GTA Gaotai 75.62 315 *e*P **P** **21 15 25.9 -0.8**
GTA pP pP 21 15 42.0 +1.0
GTA sP sP 21 15 49.5 +2.9
GTA pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 75.74 325 P **P** **21 15 27.1 0.0**
comp=Z,12nm,0.7s,baz=142,slow=5.5,SNR=69
SONM LR LR 21 50 33.3
comp=Z,114nm,18.7s,baz=142,slow=37
comp=Z,12nm,0.7s
R17K Ugashik Creek 76.20 22 P **P** **21 15 29.7 +0.4**
baz=223
SII Sitkinak Islan 76.26 24 P **P** **21 15 29.9 +0.2**
baz=225
YAK Yakutsk 76.43 345 P **P** **21 15 30.0 -0.6**
YAK IAmb IAmb 21 15 43.0
comp=Z,42nm,0.8s
P16K Nushagak River 76.67 20 P **P** **21 15 31.9 0.0**
baz=221
Q16K King Salmon 76.87 21 P **P** **21 15 33.3 +0.3**
baz=222
O16K Kokwok River B 77.06 20 P **P** **21 15 34.0 -0.2**
baz=221
OHAK Old Harbor 77.08 23 P **P** **21 15 34.5 +0.2**
baz=226
P17K Kvichak River 77.33 21 P **P** **21 15 35.0 -0.7**
baz=222
N16K Nishlik Lake 77.51 19 P **P** **21 15 37.7 +1.0**
baz=220
O17K Koliganek Bris 77.53 20 P **P** **21 15 36.7 -0.1**
baz=222
KDAK Kodiak Island 77.74 23 LR LR 21 45 53.1
comp=Z,272nm,19.5s,baz=241,slow=32
KDAK Kodiak Island 77.74 23 P **P** **21 15 37.8 -0.1**
KDAK IAmb IAmb 21 15 39.4
comp=Z,25nm,0.8s
KDAK Kodiak Island 77.74 23 P **P** **21 15 38.3 +0.4**
baz=226
GOMU GeErMu 77.88 311 P **P** **21 15 40.8 +1.0**
GOMU pmax pmax
comp=Z,3.0nm,0.7s
P18K Big Mountain, 77.90 21 P **P** **21 15 38.3 -0.6**
P18K IAmb IAmb 21 15 39.5
comp=Z,19nm,0.8s
P18K Big Mountain, 77.90 21 P **P** **21 15 38.6 -0.3**
baz=224
Q19K Cape Douglas, 78.14 22 P **P** **21 15 40.2 0.0**
baz=225
O18K Koktuh Hills 78.24 21 P **P** **21 15 40.2 -0.6**
O18K IAmb IAmb 21 17 48.2
comp=Z,46nm,1.6s
O18K Koktuh Hills 78.24 21 P **P** **21 15 41.1 +0.3**
baz=224
BILL Bilibino 78.44 2 P **P** **21 15 41.4 -0.3**
BILL IAmb IAmb 21 15 42.9
comp=Z,22nm,1.0s
P19K Oil Pt 78.80 22 P **P** **21 15 43.9 0.0**
baz=226
SVW2 Sparrevohn 79.02 20 P **P** **21 15 45.6 +0.5**
ILSW Iliamna Southw 79.06 21 P **P** **21 15 45.1 -0.3**
ILSW IAmb IAmb 21 16 18.2
comp=Z,31nm,1.3s
N19K Bonanza Creek 79.18 20 P **P** **21 15 46.0 -0.1**
baz=224
TNA Tin City 79.24 12 P **P** **21 15 46.2 +0.2**
TNA Tin City 79.24 12 P **P** **21 15 46.3 +0.2**
baz=211
O20K Slope Mountain 79.32 22 P **P** **21 15 47.3 +0.5**
baz=226
CNPM China Poot 79.45 22 P **P** **21 15 47.4 0.0**
CNPM IAmb IAmb 21 15 49.0
comp=Z,27nm,0.8s
QSPA South Pole Qui 79.48 180 LR LR 21 47 25.8
comp=Z,102nm,19.0s,baz=348,slow=33
QSPA South Pole Qui 79.48 180 P **P** **21 15 47.8 +0.1**
QSPA IAmb IAmb 21 15 51.4
comp=Z,36nm,1.6s
BRLK Bradley Lake 79.74 22 P **P** **21 15 49.4 +0.4**
BRLK IAmb IAmb 21 15 50.6
comp=Z,17nm,0.8s
BRSE Bradley Lake S 79.78 22 P **P** **21 15 49.5 +0.3**
baz=228
TTA Tatalina 80.23 18 P **P** **21 15 52.3 +0.6**
TTA IAmb IAmb 21 15 53.3
comp=Z,18nm,0.7s
TTA Tatalina 80.23 18 P **P** **21 15 52.2 +0.6**
baz=222,SNR=15
CAPN Captain Cook N 80.32 22 P **P** **21 15 53.1 +1.1**
baz=227
M20K Styx River 80.40 20 P **P** **21 15 53.2 +0.6**
baz=225
SEW Seward 80.51 23 P **P** **21 15 53.5 +0.4**
SEW IAmb IAmb 21 15 55.5
comp=Z,19nm,0.9s
SEW Seward 80.51 23 P **P** **21 15 53.8 +0.7**
baz=229
L20K Farewell, AK 80.58 19 P **P** **21 15 54.4 +0.9**
baz=224,SNR=28
O22K Cooper Landing 80.65 22 P **P** **21 15 53.9 +0.1**
O22K IAmb IAmb 21 16 01.4
comp=Z,46nm,0.8s
SUA Susitna One 80.94 21 P **P** **21 15 56.3 +0.8**
baz=228
SKT Skwentna 81.02 21 P **P** **21 15 54.9 -0.9**
SKT Skwentna 81.02 21 P **P** **21 15 55.3 -0.5**
baz=227
RC01 Rabbit Creek A 81.05 22 P **P** **21 15 55.9 -0.1**
RC01 Rabbit Creek A 81.05 22 P **P** **21 15 56.2 +0.2**
baz=228
K20K Telida 81.15 19 P **P** **21 15 57.1 +0.7**
baz=224
GCSA Galena City Sc 81.33 17 P **P** **21 15 58.0 +0.7**
baz=221
M22K Willow 81.36 21 P **P** **21 15 56.9 -0.6**
M22K IAmb IAmb 21 15 58.4
comp=Z,28nm,0.8s
M22K Willow 81.36 21 P **P** **21 15 57.4 -0.1**
baz=228
PWL Port Wells 81.42 22 P **P** **21 15 59.0 +1.0**
baz=230
PPLA Purkeypile 81.43 20 P **P** **21 15 57.5 -0.7**
PPLA IAmb IAmb 21 16 14.7
comp=Z,50nm,2.0s
PPLA Purkeypile 81.43 20 P **P** **21 15 58.5 +0.4**
baz=226
PMR Palmer 81.60 22 P **P** **21 15 59.1 +0.3**
PMR IAmb IAmb 21 16 01.0
comp=Z,12nm,0.7s
PMR Palmer 81.60 22 P **P** **21 15 59.0 +0.3**
baz=229,SNR=6.7
J20K Nowinta River 81.71 18 P **P** **21 15 60.0 +0.6**
baz=224
KNK Knik Glacier 81.73 22 P **P** **21 15 59.1 -0.5**
KNK Knik Glacier 81.73 22 P **P** **21 16 00.1 +0.5**
baz=230
CUT Chulitna 81.74 21 P **P** **21 15 59.3 -0.2**
CUT IAmb IAmb 21 16 00.5
comp=Z,22nm,0.8s
CUT Chulitna 81.74 21 P **P** **21 15 59.2 -0.4**
baz=228,SNR=6.7
GHO Glory Hole Cre 81.80 21 P **P** **21 16 00.3 +0.3**
GHO IAmb IAmb 21 16 01.7
comp=Z,12nm,0.6s
CAST Castle Rocks 81.83 19 P **P** **21 15 59.6 -0.4**
CAST Castle Rocks 81.83 19 P **P** **21 15 59.8 -0.3**
baz=226,SNR=65
SML Sawmill 82.03 22 P **P** **21 16 01.5 +0.2**
SML IAmb IAmb 21 16 03.9
comp=Z,16nm,0.8s
SML Sawmill 82.03 22 P **P** **21 16 01.4 +0.2**
baz=230,SNR=8.2
CHUM Lake Minchumin 82.08 19 P **P** **21 16 01.2 -0.1**
baz=226,SNR=13
PALK Pallekele 82.21 279 LR LR 21 56 03.4
comp=Z,41nm,19.4s,baz=212,slow=38
EYAK Cordova Ski Ar 82.21 23 P **P** **21 16 02.2 +0.1**
EYAK IAmb IAmb 21 16 05.0
comp=Z,11nm,0.7s
EYAK Cordova Ski Ar 82.21 23 P **P** **21 16 02.4 +0.3**
baz=232
M23K Glacier View 82.25 22 P **P** **21 16 02.5 +0.2**
baz=230,SNR=8.0
KTH Kantishna Hill 82.30 20 P **P** **21 16 02.0 -0.6**
KTH IAmb IAmb 21 16 03.3
comp=Z,26nm,0.8s
SCM Sheep Creek Mo 82.42 22 P **P** **21 16 02.7 -0.5**
baz=231,SNR=8.1
TRF Thorofare Moun 82.44 20 P **P** **21 16 02.6 -0.9**
TRF IAmb IAmb 21 16 03.7
comp=Z,15nm,0.8s
TRF Thorofare Moun 82.44 20 P **P** **21 16 02.9 -0.5**
baz=228,SNR=12
DIV Divide 82.56 23 P **P** **21 16 03.5 -0.5**
DIV IAmb IAmb 21 16 06.4
comp=Z,13nm,0.8s
WAT1 Susitna Watana 82.62 21 P **P** **21 16 03.9 -0.3**
baz=229
BPAW Bear Paw Mtn. 82.65 19 P **P** **21 16 03.7 -0.7**
BPAW Bear Paw Mtn. 82.65 19 P **P** **21 16 03.7 -0.7**
baz=227
KLU Klutina 82.73 23 P **P** **21 16 05.0 +0.1**
baz=232
WAT6 Susitna Watana 82.75 21 P **P** **21 16 04.8 -0.3**
baz=230
RND Reindeer 82.89 20 P **P** **21 16 05.4 -0.3**
BMRM Bremner River 82.92 23 P **P** **21 16 05.9 +0.1**
BMRM Bremner River 82.92 23 P **P** **21 16 06.0 +0.1**
baz=233
M24K Tolsona, Glenn 83.01 22 P **P** **21 16 06.8 +0.5**
baz=232,SNR=18
MCK McKinley 83.08 20 P **P** **21 16 06.2 -0.3**

MCK	McKinley	83.08	20	P		P	21 16 06.1	-0.5	
	baz=229,SNR=29								
I21K	Tanana	83.08	18	P		P	21 16 07.1	+0.6	
	baz=226								
H21K	Melozitna Rive	83.17	17	P		P	21 16 07.6	+0.6	
	baz=225								
DHY	Denali Highway	83.19	21	P		P	21 16 07.4	0.0	
DHY	Denali Highway	83.19	21	P		P	21 16 07.3	-0.1	
	baz=230,SNR=7.9								
N25K	Chitina, Valde	83.30	23	P		P	21 16 08.2	+0.4	
	baz=233,SNR=16								
MLY	Manley	83.36	18	P		P	21 16 08.5	+0.4	
MLY				IAmb		IAmb	21 16 09.6		
	comp=Z,18nm,0.7s								
MLY	Manley	83.36	18	P		P	21 16 08.1	0.0	
	baz=227,SNR=34								
HARP	HAARP	83.57	22	P		P	21 16 09.7	+0.6	
	baz=233,SNR=6.0								
MAW	Mawson	83.57	202	LR		LR	21 48 01.8		
	comp=Z,112nm,21.2s,baz=91,slow=32								
MAW	Mawson	83.57	202	P		P	21 16 09.7	+0.6	
MAW				IAmb		IAmb	21 16 28.4		
	comp=Z,31nm,1.4s								
G21K	Allakaket	83.58	17	P		P	21 16 09.4	+0.3	
	baz=224								
NEA2	Nenana	83.60	19	P		P	21 16 08.6	-0.7	
	baz=229,SNR=20								
ISLE	Juniper Island	83.61	24	P		P	21 16 09.7	+0.2	
ISLE				IAmb		IAmb	21 16 12.1		
	comp=Z,23nm,0.8s								
H22K	Ishtalitna Cre	83.76	18	P		P	21 16 10.6	+0.6	
	baz=226								
MCARA	McCarthy VSAT	83.78	24	P		P	21 16 10.8	+0.6	
MCARA				IAmb		IAmb	21 16 26.2		
	comp=Z,16nm,0.8s								
MCARA	McCarthy VSAT	83.78	24	P		P	21 16 10.6	+0.4	
	baz=235,SNR=10								
PAX	Paxson	83.80	22	P		P	21 16 10.5	+0.1	
	baz=232								
WRH	Wood River Hil	83.84	20	P		P	21 16 09.9	-0.6	
WRH				IAmb		IAmb	21 16 10.9		
	comp=Z,14nm,0.7s								
I23K	Minto, Yukon-K	83.88	19	P		P	21 16 10.4	-0.2	
	baz=228,SNR=12								
TABL	Table Mountain	84.00	25	P		P	21 16 11.9	+0.2	
TABL				IAmb		IAmb	21 16 13.4		
	comp=Z,17nm,0.8s								
F21K	Alatna River	84.09	16	P		P	21 16 12.1	+0.4	
	baz=224								
BARN	Barnard Glacie	84.14	24	P		P	21 16 12.9	+0.6	
BARN				IAmb		IAmb	21 16 14.7		
	comp=Z,17nm,0.7s								
TCOL	CIGO, UAF Yank	84.18	19	P		P	21 16 12.2	+0.1	
	baz=230,SNR=6.6								
COLA	College	84.18	19	P		P	21 16 11.9	-0.3	
COLA	College	84.18	19	P		P	21 16 11.9	-0.3	
	baz=230								
HDA	Harding Lake	84.19	20	P		P	21 16 12.0	-0.2	
	baz=231,SNR=23								
PCA	Pinnacle	84.19	25	P		P	21 16 12.7	+0.3	
PCA				IAmb		IAmb	21 16 14.2		
	comp=Z,20nm,0.8s								
PINM	Pinnacle	84.19	25	P		P	21 16 12.8	+0.4	
	baz=237,SNR=7.1								
K24K	Donnelly Dome	84.21	21	P		P	21 16 12.6	+0.2	
	baz=232,SNR=12								
H23K	Yukon River	84.27	18	P		P	21 16 12.7	+0.1	
	baz=228								
PNL	Peninsula	84.32	26	P		P	21 16 13.4	+0.4	
	baz=238								
M26K	Nabesna, AK	84.38	23	P		P	21 16 13.7	+0.4	
	baz=235								
MENT	Mentasta	84.42	22	P		P	21 16 13.9	+0.4	
MENT				IAmb		IAmb	21 16 15.5		
	comp=Z,15nm,0.6s								
G22K	Bettles	84.43	17	P		P	21 16 13.6	+0.2	
	baz=226								
IL31		84.44	20	P		P	21 16 13.0	-0.4	
IL31				IAmb		IAmb	21 16 14.6		
	comp=Z,8.5nm,0.7s								
ILAR	Eielson Array	84.44	20	P		P	21 16 12.8	-0.7	
	comp=Z,4.1nm,0.4s,baz=246,slow=4.7,SNR=87								
ILAR				LR		LR	21 49 41.3		
	comp=Z,338nm,19.4s,baz=248,slow=33								
	comp=Z,4.1nm,0.4s								
POKR	Poker Plat Res	84.47	19	P		P	21 16 12.9	-0.8	
	baz=230,SNR=6.3								
RIDG	Independent Ri	84.50	21	P		P	21 16 14.0	+0.2	
	baz=233,SNR=9.0								
O28M	Mount Upton	84.58	25	P		P	21 16 15.0	+0.4	
	baz=237								
L26K	Log Cabin Wild	84.61	22	P		P	21 16 15.7	+1.3	
	baz=234,SNR=13								
F22K	John River	84.65	16	P		P	21 16 15.3	+0.7	
	baz=226								
RPN	Rapa Nui	84.67	116	LR		LR	21 46 16.7		
	comp=Z,95nm,20.8s,baz=12,slow=30								
G23K	Bananza Creek	84.72	17	P		P	21 16 15.6	+0.7	
	baz=228								
DOT	Dot Lake	84.72	21	P		P	21 16 15.1	+0.1	
DOT				IAmb		IAmb	21 16 16.8		
	comp=Z,22nm,0.7s								
M27K	Edge Creek, AK	84.78	23	P		P	21 16 16.4	+0.9	
	baz=236								
H24K	Noodor Dome	84.80	19	P		P	21 16 15.3	-0.1	
	baz=230								
TIXI	Tiksi	84.80	350	LR		LR	21 57 36.5		
	comp=Z,82nm,18.2s,baz=178,slow=38								
TIXI	Tiksi	84.80	350	P		P	21 16 14.1	-1.0	
S31K	Pelican	84.88	28	P		P	21 16 16.3	+0.6	
	baz=241								
SCRK	Sand Creek	84.94	21	P		P	21 16 16.6	+0.4	
SCRK				IAmb		IAmb	21 16 17.7		
	comp=Z,16nm,0.7s								
SCRK	Sand Creek	84.94	21	P		P	21 16 16.7	+0.4	
	baz=234,SNR=24								
O29M	Mount Kennedy	85.01	26	P		P	21 16 17.3	+0.6	
	baz=239								
COLD	Coldfoot	85.02	17	P		P	21 16 17.5	+1.2	
	baz=228								
YUK3	Moose Creek	85.02	24	P		P	21 16 17.4	+0.7	
	baz=237,SNR=13								
YUK8	Steele Glacier	85.03	25	P		P	21 16 18.0	+1.1	
	baz=238,SNR=28								
E22K	Anaktuvuk Pass	85.19	16	P		P	21 16 17.8	+0.5	
	baz=226								
L27K	Beaver Creek,	85.20	22	P		P	21 16 18.2	+0.8	
	baz=236,SNR=9.7								
BVCY	Beaver Creek	85.21	23	P		P	21 16 18.7	+1.3	
	baz=236,SNR=5.9								
PRP	Porcupine Dome	85.35	20	P		P	21 16 18.3	+0.1	
	baz=232								
J26L	Joseph Creek	85.40	21	P		P	21 16 18.7	+0.2	
J26L	Joseph Creek	85.40	21	P		P	21 16 19.0	+0.5	
	baz=234								
YUK6	Outpost Mounta	85.43	25	P		P	21 16 19.0	+0.1	
	baz=239								
G24K	Hadweenzic Riv	85.48	18	P		P	21 16 19.4	+0.7	
	baz=230								
YUK4	Talbot Arm	85.52	25	P		P	21 16 20.1	+0.9	
	baz=239,SNR=48								
PLBC	Pleasant Camp	85.55	27	P		P	21 16 19.5	+0.4	
	baz=241								
P30M	Million Dollar	85.61	26	P		P	21 16 20.3	+0.8	
	baz=240								
K27K	Chicken	85.66	22	P		P	21 16 21.0	+1.4	
	baz=235								
WMQ	Urumqi	85.69	316	eP		P	21 16 22.1	+1.8	
HYT	Haines Junctio	85.73	25	P		P	21 16 20.3	+0.1	
HYT				IAmb		IAmb	21 16 23.3		
	comp=Z,9.6nm,0.8s								
HYT	Haines Junctio	85.73	25	P		P	21 16 21.0	+0.8	
	baz=240,SNR=11								
E23K	Chandalar	85.74	17	P		P	21 16 21.0	+0.9	
	baz=228								
F24K	Squaw Lake	85.88	17	P		P	21 16 21.7	+1.0	
	baz=230								
G25K	Bearman Lake	85.94	18	P		P	21 16 21.8	+0.9	
	baz=231								
SKAG	Skagway	86.01	27	P		P	21 16 22.2	+0.8	
	baz=242								
D23K	Nanushuk River	86.07	16	P		P	21 16 22.5	+1.0	
	baz=227								
E24K	Your Creek	86.07	17	P		P	21 16 22.3	+0.7	
	baz=229								
FYU	Fort Yukon	86.09	19	P		P	21 16 22.0	+0.4	
M29M	Somme Creek	86.17	24	P		P	21 16 22.9	+0.6	
	baz=239,SNR=5.9								
O30N	Mendenhall	86.31	26	P		P	21 16 23.4	+0.5	
	baz=241								
EGAK	Eagle	86.41	21	P		P	21 16 23.6	+0.3	
EGAK				IAmb		IAmb	21 16 25.3		
	comp=Z,15nm,0.8s								
EGAK	Eagle	86.41	21	P		P	21 16 24.1	+0.8	
	baz=236,SNR=18								
F25K	Christian Rive	86.60	18	P		P	21 16 25.2	+1.0	
	baz=232								
BBB	Bella Bella	86.63	36	LR		LR	21 46 32.8		
	comp=Z,142nm,21.7s,baz=261,slow=30								
YBH	Yreka Blue Hor	86.64	47	LR		LR	21 47 40.4		
	comp=Z,172nm,20.6s,baz=279,slow=30								
L29M	L29M	86.64	23	P		P	21 16 25.7	+1.1	
	baz=239,SNR=14								
DAWY	Dawson	86.67	22	P		P	21 16 25.1	+0.5	
DAWY				IAmb		IAmb	21 16 26.8		
	comp=Z,16nm,1.1s								
DAWY	Dawson	86.67	22	P		P	21 16 25.9	+1.2	
	baz=238,SNR=11								
D24K	Happy Valley	86.69	16	P		P	21 16 25.8	+1.2	
	baz=229								
I27K	Kandik River	86.72	20	P		P	21 16 25.8	+0.9	
	baz=236								
WHY	Whitehorse	86.78	26	P		P	21 16 25.8	+0.4	
	baz=242								
G26K	Porcupine Rive	86.78	19	P		P	21 16 26.2	+1.2	
	baz=234								
N31M	Braeburn, Yuko	86.79	25	P		P	21 16 25.8	+0.5	
N31M				IAmb		IAmb	21 16 27.8		
	comp=Z,12nm,0.8s								
N31M	Braeburn, Yuko	86.79	25	P		P	21 16 26.1	+0.9	
	baz=241,SNR=12								
P32M	Atlin	86.80	27	P		P	21 16 26.1	+0.7	
	baz=243								
M30M	Minto, Yukon	86.90	24	P		P	21 16 25.7	-0.1	
M30M				IAmb		IAmb	21 16 27.8		
	comp=Z,11nm,0.7s								
M30M	Minto, Yukon	86.90	24	P		P	21 16 26.7	+0.8	
	baz=240								
E25K	Arctic Village	86.95	17	P		P	21 16 27.0	+1.1	
	baz=232								
C24K	Franklin Bluff	87.10	15	P		P	21 16 27.6	+1.1	
	baz=229								
H27K	Steamboat Moun	87.10	20	P		P	21 16 27.7	+1.0	
	baz=235								
F26K	Sheenjek River	87.11	18	P		P	21 16 28.1	+1.4	
	baz=233								
Q32M	Nakina River	87.19	28	P		P	21 16 28.2	+0.7	
	baz=244								
K29M	Barlow Dome	87.26	23	P		P	21 16 28.7	+1.1	
	baz=240								
S34M	Telegraph Cree	87.28	30	P		P	21 16 28.8	+1.1	
	baz=245								
J29M	Klondike Camp	87.31	22	P		P	21 16 29.1	+1.4	
	baz=239								
G27K	Doyon Strip	87.39	19	P		P	21 16 29.1	+1.1	
	baz=236								
D25K	Kavik River	87.47	16	P		P	21 16 29.8	+1.4	
	baz=231								
P33M	Teslin, Yukon	87.48	27	P		P	21 16 30.0	+1.2	
	baz=244								
M31M	Drury Creek, Y	87.71	25	P		P	21 16 30.5	+0.8	
	baz=242								
BEKR	Beckworth	87.83	49	P		P	21 16 31.4	+0.4	
BEKR				IAmb		IAmb	21 16 35.1		
	comp=Z,21nm,1.9s								
R33M	Jennings River	87.98	28	P		P	21 16 32.3	+1.1	
	baz=246								
DLBC	Dease Lake	88.03	29	LR		LR	21 53 10.3		
	comp=Z,252nm,18.1s,baz=281,slow=34								
E27K	Coleen River	88.19	18	P		P	21 16 33.3	+1.5	
	baz=236								
C26K	Camden Bay	88.24	16	P		P	21 16 33.7	+1.7	
	baz=232								
C27K	Jago River	88.40	17	P		P	21 16 33.9	+1.1	
	baz=234								
PINE	Pine Mountain	88.48	45	P		P	21 16 35.0	+1.0	
PINE				IAmb		IAmb	21 19 19.9		
	comp=Z,32nm,1.8s								
CWC	Cottonwood Cre	88.70	53	P		P	21 16 35.7	+0.5	
	baz=256								
EPYK	Eagle Plains	88.82	21	P		P	21 16 36.0	+1.1	
EPYK	Eagle Plains	88.82	21	P		P	21 16 36.4	+1.5	
	baz=240								
NVAR	Mina Array Bea	89.01	51	P		P	21 16 37.4	+0.8	
	comp=Z,3.3nm,0.7s,baz=234,slow=7.5,SNR=14								
	comp=Z,3.3nm,0.7s								
MPMC	Manual Prospec	89.07	53	P		P	21 16 37.8	+0.8	
	baz=256								
G30M	tAoh Zrail Nji	89.30	20	P		P	21 16 37.7	+0.6	
	baz=241								
PFO	Pinyon Flats O	89.33	56	LR		LR	21 48 19.7		
	comp=Z,379nm,21.3s,baz=270,slow=30								
GRAC	Grapevine Rang	89.39	52	P		P	21 16 38.9	+0.7	
	baz=256								
GSC	Goldstone, Bar	89.44	54	P		P	21 16 39.1	+0.5	
	baz=257								
MZP	Montezuma Peak	89.54	52	P		P	21 16 39.4	+0.1	
YUH	Yuha Desert	89.56	57	P		P	21 16 39.2	+0.2	
YUH				IAmb		IAmb	21 16 41.5		
	comp=Z,28nm,1.9s								
FURC	Furnace Creek,	89.66	53	P		P	21 16 40.2	+0.8	
	baz=257								
HEC	Hector,Ludlow	89.71	55	P		P	21 16 40.8	+1.0	
	baz=257								
SWSC	Sam W. Stewart	89.72	57	P		P	21 16 40.9	+1.1	
	baz=257								
WVOR	Wild Horse Val	89.75	47	P		P	21 16 39.6	-0.3	
WVOR				IAmb		IAmb	21 16 53.7		
	comp=Z,18nm,1.5s								
BELC	Belle Mtn. Jos	89.79	55	P		P	21 16 41.2	+0.9	
	baz=257								
BC3	Big Chuckawall	90.16	56	P		P	21 16 43.5	+1.5	
	baz=258								
MK31	Makanchi Array	90.21	318	P		P	21 16 40.4	-1.4	
MKAR	Makanchi Array	90.21	318	P		P	21 16 40.3	-1.5	
	comp=Z,3.5nm,0.7s,baz=97,slow=5.6,SNR=41								
	comp=Z,3.5nm,0.7s								
GMRC	Granite Mounta	90.24	55	P		P	21 16 43.2	+0.8	
	baz=257								
TPNV	Topopah Spring	90.25	53	P		P	21 16 43.2	+0.8	
	baz=257								
F31M	Tsiigehtchic	90.37	20	P		P	21 16 43.2	+1.2	
	baz=243								
MAKZ	Makanchi	90.42	318	P		P	21 16 42.0	-0.8	
IRM	Iron Mountain	90.52	55	P		P	21 16 44.4	+0.8	
	baz=258								
ZALV	Zalesovo Beam	90.63	325	P		P	21 16 41.5	-2.1	
	comp=Z,1.2nm,0.6s,baz=112,slow=5.5,SNR=7.1								
ZALV				LR		LR	21 57 55.5		
	comp=Z,84nm,20.9s,baz=42,slow=36								
	comp=Z,1.2nm,0.6s								
INK	Inuvik	90.83	20	LR		LR	21 53 14.4		
	comp=Z,407nm,20.6s,baz=229,slow=33								
INK	Inuvik	90.83	20	P		P	21 16 45.2	+1.0	
	baz=243								
BELA	Belgrano 2	91.29	177	P		P	21 16 45.9	-0.4	
BELA				IAmb		IAmb	21 16 48.9		
	comp=Z,11nm,1.0s								
ELK	Elko	91.84	49	LR		LR	21 50 21.8		
	comp=Z,205nm,21.5s,baz=256,slow=30								
ELK	Elko	91.84	49	P		P	21 16 49.8	-0.1	
NEW	Newport	92.18	41	LR		LR	21 50 16.3		
	comp=Z,197nm,21.7s,baz=274,slow=30								
LPIG	La Paz	92.73	66	LR		LR	21 49 02.0		
	comp=Z,82nm,20.9s,baz=222,slow=29								
HLID	Hailey	93.02	46	P		P	21 16 56.5	+1.4	
	baz=258								
ELIB	Princess Elisa	93.18	192	dP		P	21 16 55.7	+0.4	
KURBB	Kurchatov Arra	93.53	321	P		P	21 16 55.0	-2.1	
	comp=Z,1.3nm,0.4s,baz=102,slow=4.0,SNR=5.0								
KURBB				LR		LR	21 59 53.0		
	comp=Z,124nm,20.9s,baz=153,slow=36								
	comp=Z,1.3nm,0.4s								
NRIK	Noril'sk	94.14	340	P		P	21 16 57.8	-1.6	
	comp=Z,1.9nm,0.5s,baz=90,slow=4.6,SNR=1.9								
NRIK				LR		LR	21 58 03.2		
	comp=Z,332nm,21.7s,baz=120,slow=35								
	comp=Z,1.9nm,0.5s								
C36M	Paulatuk	94.41	20	P		P	21 17 01.1	+0.5	
	baz=252								
WALA	Waterton Lakes	94.43	41	P		P	21 17 01.7	+0.3	
WALA				IAmb		IAmb	21 17 43.3		
	comp=Z,15nm,1.4s								
A36M	Sachs Harbour	94.88	17	P		P	21 17 03.5	+0.8	
	baz=251								
BOZ	Bozeman (W)	95.35	45			P	21 17 05.9	+0.2	
BOZ	Bozeman (W)	95.35	45	P		P	21 17 05.8	+0.1	
	baz=260								
LKWY	Lake	96.05	46	P		P	21 17 10.5	+1.5	
PDAR	Pinedale Array	96.38	48	P		P	21 17 11.3	+0.6	
	comp=Z,0.5nm,0.7s,baz=255,slow=3.5,SNR=3.4								
	comp=Z,0.5nm,0.7s								
YKA	Yellowknife Ar	96.50	28	P		P	21 17 09.2	-1.2	
	comp=Z,3.4nm,0.7s,baz=259,slow=4.9,SNR=50								
	comp=Z,3.4nm,0.7s								
SNAA	Sanae	97.31	185	LR		LR	21 58 58.6		
	comp=Z,130nm,19.9s,baz=132,slow=34								
ANMO	Albuquerque	97.72	56	LR		LR	21 52 53.4		
	comp=Z,138nm,20.7s,baz=74,slow=30								
TXAR	Lajitas Array	99.38	62	P		Pdif	21 17 25.1	+0.9	
	comp=Z,0.4nm,0.8s,baz=224,slow=4.9,SNR=4.2								
TXAR				PP		PP	21 21 32.4	+4.2	
	comp=Z,0.3nm,0.8s,baz=196,slow=9.4,SNR=3.7								
TXAR				LR		LR	21 53 30.6		
	comp=Z,245nm,21.9s,baz=306,slow=30								
	comp=Z,0.4nm,0.8s								
ARCES	ARCESS Array B	114.71	344	PKP		PKPdf	21 22 21.3	+0.4	
	comp=Z,2.2nm,0.9s,baz=30,slow=1.7,SNR=5.4								
BOSA	Boshof	122.45	226	PKP		PKiKP	21 22 38.1	+0.7	
	comp=Z,1.6nm,0.8s,baz=117,slow=6.8,SNR=1.3								
MNK	Minsk	122.82	330	*i* PKP		PKPdf	21 22 31.6	-5.3	
	comp=E,3.0nm,1.4s								
MNK				*i* PKP		PKPdf	21 22 31.6	-5.3	
	comp=N,46nm,1.0s,baz=58								
MNK				*i* PKP		PKiKP	21 22 34.7	-2.4	
	comp=Z,12nm,1.4s								
MNK				*i* PP		PP	21 24 13.4	-2.0	
MNK				*i* PPP		PPP	21 26 49.0		
MNK				*i* SKS		SKSdf	21 29 41.6	-2.9	
MNK				*i* SKKS		SKKSdf	21 40 11.5	-6.0	
MNK				*i* SS		SS	21 40 53.6	-0.6	
MNK				*i* SSS		SSS	21 45 24.9		
MNK				*i* LQ		LQ	22 08 46.0		
MNK				*i* LR		LR	22 13 53.8		
MNK				*i* LRM		MLR	22 16 56.0		
	comp=N,730nm,19.8s								
MNK				*i* LRM		MLR	22 17 02.0		
	comp=E,64nm,18.1s								
MNK				*i* LRM		MLR	22 17 37.2		
	comp=Z,137nm,16.3s								
AKASG	Malin Array Be	124.02	325	PKP		PKPdf	21 22 37.6	-1.8	
	comp=Z,0.3nm,0.4s,baz=42,slow=2.7,SNR=5.2								
KEST	Kesra	144.29	319	PKP		PKPbc	21 23 16.4	+0.4	
	comp=Z,5.5nm,0.9s,baz=39,slow=1.8,SNR=4.4								
PBRG	Braganca	147.13	343	*e*PKPab		PKPbc	21 23 24.9	+0.4	
PGAV	Gavieira, Arco	147.38	346	*e*PKPab		PKPbc	21 23 25.1	-0.1	
PCAB	Cabril	147.56	345	*e*PKPab		PKPbc	21 23 25.7	0.0	
MVO	Moncorvo	147.81	343	*e*PKPab		PKPbc	21 23 27.1	+0.7	
POLO	Lamas de Olo	147.82	345	*e*PKPab		PKPbc	21 23 27.0	+0.6	
PVRL	Vila Real	147.89	344	*e*PKPab		PKPbc	21 23 27.4	+0.8	
ESDC	Sonseca Array	148.16	338	PKPbc		PKPbc	21 23 27.0	-0.4	
	comp=Z,0.8nm,0.6s,baz=38,slow=2.5,SNR=9.6								
PVIS	Viseu	148.46	344	*e*PKPab		PKPbc	21 23 28.6	+0.5	
MTE	Manteigas	148.66	344	*e*PKPbc		PKiKP	21 23 29.4	-0.7	
COI	Coimbra	149.07	345	*e*PKPab		PKPab	21 23 32.7	-1.1	
PCBR	Castelo Branco	149.16	343	*e*PKPbc		PKPbc	21 23 28.9	-0.9	
PMRV	Marv??o	149.52	343	*e*PKPbc		PKiKP	21 23 31.3	-0.6	
PMTG	Montargil	150.09	344	*e*PKPbc		PKPbc	21 23 32.0	-0.1	
EVO	Evora	150.53	343	*e*PKPbc		PKPbc	21 23 31.4	-1.8	
PBAR	Barrancos	150.56	341	*e*PKPab		PKPab	21 23 41.0	+1.0	
PBEJ	Beja	150.95	342	*e*PKPbc		PKiKP	21 23 34.9	+0.1	
PNCL	Nicolau / Gran	151.07	343	*e*PKPbc		PKiKP	21 23 35.4	+0.4	
PCVE	Castro Verde	151.37	342	*e*PKPbc		PKiKP	21 23 36.6	+0.9	
PVAQ	Vaqueiros	151.48	342	*e*PKPab		PKPab	21 23 45.2	+1.4	

JSN **04** *21:24:25.5±0.7,21°.43N×75°.75W,h0km±999km,MD4.7*
OSPL **04** *21:24:26.7±1.6,19°.05N×73°.43W,h0km±7km,ML3.3*
SSNC **04** *21:24:28.6±2.0,19°.04N×73°.41W,h9km±110km,MD3.9, ML3.4,MW3.7*
IDC **04** *21:24:28.1±2.6,19°.59N×73°.32W,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=67.6km s-min=45.4km az=176.0*

ISC 04 21:24:24.8±1.4,**18°.99N**±0°.04×**73°.46W**±0°.04,**h4**km±10km, **n37,σ257/51,mb3.3/4,Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LGNH	Logne	0.94	120	*i* P		Pg	21 24 43.3	+0.4
LGNH				*e*S		Sg	21 24 55.3	+0.1
LGNH				IAML			21 24 57.6	
	comp=Z,663nm,0.2s							
PAPH	Port-au-Prince	1.20	113	*i* P		Pg	21 24 47.5	-0.3
PAPH				*e*S		Sg	21 25 03.8	+0.5
PAPH				IAML			21 25 04.7	
	comp=E,3μm,0.2s							
MASC	Masc	1.38	329	*i* P		Pn	21 24 50.5	-0.4
MASC				*e*S		Sb	21 25 07.5	-1.7
MASC				IAML			21 25 09.7	
	comp=E,935nm,0.4s							
MASC				IAML			21 25 10.9	
	comp=N,482nm,0.2s							
MASC	Masc	1.38	329	*i* P		Pn	21 24 50.6	-0.4
MASC				*e*S		Sb	21 25 07.7	-1.5
MASC				IAML			21 25 09.2	
	comp=Z,429nm,0.6s							
GTBY	Guantanamo Bay	1.81	301	*e*P		Pn	21 24 57.1	+0.3
GTBY				*e*S		Sn	21 25 20.2	-0.1
GTBY	Guantanamo Bay	1.81	301	*i* P		Pn	21 24 57.2	+0.3
GTBY				*e*S		Sn	21 25 20.1	-0.2
GTBY				IAML			21 25 25.9	
	comp=Z,145nm,0.7s							
LOPE2	Hotel El Peder	1.89	120	*i* P		Pn	21 24 58.6	+0.7
LOPE2				IAML			21 25 26.4	
	comp=Z,372nm,0.3s							
SDDR	Presa de Saban	2.06	90	*e*P		Pn	21 24 58.8	-1.5
SDDR	Presa de Saban	2.06	90	*i* P		Pn	21 25 01.3	+0.9
SDDR				*e*S		S

comp=Z,2.4nm,1.1s,baz=285,slow=4.3,SNR=7.0
comp=Z,2.4nm,1.1s
WRA Warramunga Arr 153.78 263 PKPbc **PKiKP 21 44 30.9 +4.6**
comp=Z,1.0nm,1.0s,baz=89,slow=2.6,SNR=3.4

IDC 04 21:24:28.1±4.2, 6.47S×130.54E, h190km±62km, mb2.9/1, mbtmp3.3/4, Error ellipse: s-maj=146.5km s-min=23.2km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SIJI	**Sorong**	**5.61**	**7**	P		Pn	21 25 50.5	+0.2
	1.6nm,0.4s,baz=251,slow=18,SNR=7.5							
SIJI				S		Sn	21 26 50.4	-4.7
	2.8nm,0.2s,baz=216,slow=22,SNR=1.8							
WRA	**Warramunga Arr**	**13.89**	**165**	P		Pn	21 27 35.9	-1.2
	0.1nm,0.3s,baz=349,slow=13,SNR=1.1							
WRA				S		Sn	21 30 01.0	-11
	0.3nm,0.4s,baz=352,slow=23,SNR=7.2							
ASAR	**Alice Springs**	**17.40**	**170**	P		Pn	21 28 19.1	-0.5
	0.6nm,0.8s,baz=352,slow=12,SNR=4.8							
MKAR	**Makanchi Array**	**68.08**	**326**	P		P	21 35 07.1	-0.2
	0.2nm,0.5s,baz=127,slow=7.2,SNR=2.5							
	0.2nm,0.5s							

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*IDC **04** 21:29:43.2±2.6, 36.56N×140.55E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=40.5km s-min=27.4km az=60.0*
*JMA **04** 21:29:44.1±0.0, 36.8N±0.1×140.6E±0.2, h7km, MV3.4/20, NORTHERN IBARAKI PREF*
JMA Felt I J1 at NORTHERN IBARAKI PREF .
ISC 04 21:29:44.3±1.2, 36.80N±0.04×140.58E±0.05, h8km±9km, n24, σ1°03/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JHO	**Hitachi**	**0.19**	**182**	*i* P		**Pg**	**21 29 48.2**	**0.0**
JFFD	**Fukushimafurud**	**0.29**	**357**	*i* P		**Pg**	**21 29 49.6**	**-0.4**
JFFD				*eS*		**Sg**	**21 29 53.7**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.35**	**31**	*i* P		**Pg**	**21 29 51.0**	**-0.2**
JSB	**Shiboa**	**0.55**	**288**	*i* P		**Pg**	**21 29 55.0**	**-0.1**
JSB				S		**Sg**	**21 30 02.5**	**+0.2**
JFK	**Kawauchi**	**0.61**	**23**	*i* P		**Pg**	**21 29 55.5**	**-0.6**
JFK				S		**Sg**	**21 30 04.0**	**-0.2**
JYT	**Yasato**	**0.65**	**208**	*i* P		**Pg**	**21 29 56.4**	**-0.5**
JMM	**Marumori**	**1.07**	**9**	P		**Pg**	**21 30 04.2**	**-0.8**
MJAR	**Matsushiro Arr**	**1.92**	**263**	Pn		**Pn**	**21 30 17.1**	**-0.3**
	2.5nm,0.3s,baz=87,slow=15,SNR=109							
MJAR				Sn		**Sn**	**21 30 41.2**	**-0.5**
	2.4nm,0.3s,baz=91,slow=27,SNR=9.5							
MAJO	**Matsushiro**	**1.92**	**263**	P		**Pn**	**21 30 17.8**	**+0.5**
JSD	**Sado**	**2.22**	**304**	P		**Pn**	**21 30 22.0**	**+0.6**
JGF	**Kuroka**	**2.87**	**246**	P		**Pn**	**21 30 31.6**	**+1.2**
INU	**Inuyama**	**3.23**	**244**	P		**Pn**	**21 30 36.5**	**+1.2**
JTM	**Tenmabayashi**	**4.00**	**5**	P		**Pn**	**21 30 47.0**	**+1.2**
ERM	**Erimo**	**5.58**	**20**	P		**Pn**	**21 31 08.6**	**+2.1**
JEM	**Erimo**	**5.58**	**20**	P		**Pn**	**21 31 09.2**	**+1.7**
JHS	**Saijyo**	**6.32**	**256**	P		**Pn**	**21 31 19.4**	**+1.6**
SONM	**Songino Array**	**27.36**	**305**	P		**P**	**21 35 30.3**	**+0.4**
	0.3nm,0.7s,baz=99,slow=8.9,SNR=1.8							
	0.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.61**	**119**	T		T	22 05 26.6	
	baz=312,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**28.62**	**119**	T		T	22 05 27.3	
	baz=312,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**28.63**	**119**	T		T	22 05 28.0	
	baz=312,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy**	**29.30**	**121**	T		T	22 06 18.0	
	baz=314,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy**	**29.30**	**121**	T		T	22 06 18.3	
	baz=314,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**29.32**	**121**	T		T	22 06 20.0	
	baz=314,slow=76,SNR=11							
WRA	**Warramunga Arr**	**56.74**	**187**	P		**P**	**21 39 27.2**	**-1.4**
	0.3nm,0.5s,baz=2.4,slow=7.5,SNR=1.9							
	0.3nm,0.5s							

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*IDC **04** 21:31:48.0±2.4, 36.44N×140.49E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=39.8km s-min=26.4km az=57.0*
*JMA **04** 21:31:48.1±0.0, 36.82N±0.09×140.6E±0.2, h8km, MV3.3/20, NORTHERN IBARAKI PREF*
JMA Felt I J1 at NORTHERN IBARAKI PREF .
ISC 04 21:31:48.2±1.0, 36.81N±0.04×140.55E±0.07, h10km, n15, σ0°80/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JHO	**Hitachi**	**0.20**	**176**	*i* P		**Pg**	**21 31 52.4**	**0.0**
JFFD	**Fukushimafurud**	**0.28**	**2**	*i* P		**Pg**	**21 31 53.7**	**-0.1**
JFFD				*eS*		**Sg**	**21 31 57.5**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.35**	**35**	*i* P		**Pg**	**21 31 55.0**	**-0.1**
JSB	**Shiboa**	**0.53**	**287**	*i* P		**Pb**	**21 31 59.1**	**-0.5**
JFK	**Kawauchi**	**0.61**	**25**	P		**Pg**	**21 31 59.6**	**-0.4**
JFK				S		**Sg**	**21 32 08.0**	**0.0**
JYT	**Yasato**	**0.65**	**206**	*i* P		**Pg**	**21 32 00.5**	**-0.3**
JYT				S		**Sg**	**21 32 09.6**	**+0.3**
MJAR	**Matsushiro Arr**	**1.90**	**262**	Pn		**Pn**	**21 32 21.0**	**+0.3**
	4.8nm,0.3s,baz=88,slow=15,SNR=24							
MJAR				Sn		**Sb**	**21 32 46.0**	**-0.8**
	3.2nm,0.3s,baz=95,slow=28,SNR=8.4							
H11N2	**WAKE ISLAND Hy**	**28.64**	**119**	T		T	22 07 29.1	
	baz=312,slow=75,SNR=50							
H11N1	**WAKE ISLAND Hy**	**28.64**	**119**	T		T	22 07 29.6	
	baz=312,slow=75,SNR=48							
H11N3	**WAKE ISLAND Hy**	**28.66**	**119**	T		T	22 07 30.4	
	baz=312,slow=75,SNR=45							
H11S1	**WAKE ISLAND Hy**	**29.33**	**121**	T		T	22 08 22.2	
	baz=314,slow=75,SNR=18							
H11S3	**WAKE ISLAND Hy**	**29.33**	**121**	T		T	22 08 22.4	
	baz=314,slow=75,SNR=139							
H11S2	**WAKE ISLAND Hy**	**29.34**	**121**	T		T	22 08 24.1	
	baz=314,slow=75,SNR=125							
MKAR	**Makanchi Array**	**43.65**	**302**	P		**P**	**21 39 54.8**	**+1.9**
	0.2nm,0.6s,baz=83,slow=8.4,SNR=2.1							
	0.2nm,0.6s							
WRA	**Warramunga Arr**	**56.75**	**187**	P		**P**	**21 41 31.2**	**-1.1**
	0.3nm,0.7s,baz=1.0,slow=7.4,SNR=4.9							
	0.3nm,0.7s							

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*IDC **04** 21:33:32.2±3.3, 34.61N×26.87E, h0km, mb3.1/2, mbtmp3.1/4, ML3.1/2, MS3.8/1, Error ellipse: s-maj=73.7km s-min=31.9km az=167.0*
*DDA **04** 21:33:33.3±0.0, 34.96N×27.04E, h8km±4km, ML2.7*
*ISK **04** 21:33:39.0, 35.22N×26.83E, h21km, ML3.3/14*
*ATH **04** 21:33:40.7, 35.33N×26.75E, h17km±2km, ML3.3/8, Error ellipse: s-maj=3.4km s-min=0.9km az=146.0*
*THE **04** 21:33:40.3, 35.26N×26.77E, h5km±3km, ML3.1/4, Error ellipse: s-maj=4.9km s-min=0.7km az=151.0*
ISC 04 21:33:38.2±1.3, 35.16N±0.05×26.83E±0.03, h17km±10km, n55, σ1°00/76, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KARP	**Karpathos**	**0.47**	**35**	P		**Pb**	**21 33 48.9**	**+0.9**
KARP				S		**Sb**	**21 33 56.3**	**+1.6**
	7µm,0.5s							
KARP	**Karpathos**	**0.47**	**35**	Pg		**Pb**	**21 33 48.4**	**+0.4**
KARP	**Karpathos**	**0.47**	**35**	P		**Pb**	**21 33 49.0**	**+1.0**
KARP				S		**Sb**	**21 33 54.6**	**-0.1**
KARP				AML	AML		21 33 59.2	
	comp=E,17150µm,0.4s							
KARP				AML	AML		21 33 59.4	
	comp=N,10816µm,0.5s							
ZKR	**Zakros**	**0.51**	**265**	P		**Pb**	**21 33 49.4**	**+0.8**
ZKR				S		**Sb**	**21 33 57.4**	**+1.6**
	comp=N,5µm,0.6s							
ZKR	**Zakros**	**0.51**	**265**	Pg		**Pb**	**21 33 49.6**	**+1.0**
ZKR				Sg		**Sn**	**21 33 57.7**	**-1.3**
ZKR	**Zakros**	**0.51**	**265**	P		**Pb**	**21 33 49.6**	**+1.0**
ZKR				S		**Sb**	**21 33 57.4**	**+1.6**
ZKR				AML	AML		21 33 59.2	
	comp=E,16495µm,0.6s							
ZKR				AML	AML		21 34 01.0	
	comp=N,4562µm,0.3s							
FRMA	**Ierapetra Chan**	**0.91**	**261**	P		**Pb**	**21 33 54.8**	**-0.7**
FRMA				S		**Sb**	**21 34 07.4**	**0.0**
	comp=N,698nm,0.5s							
FRMA	**Ierapetra Chan**	**0.91**	**261**	P		**Pb**	**21 33 55.2**	**-0.4**
FRMA				S		**Sb**	**21 34 06.8**	**-0.6**
FRMA				AML	AML		21 34 11.3	
	comp=N,4839µm,0.4s							
FRMA				AML	AML		21 34 15.4	
	comp=E,3981µm,0.8s							
HRKL	**Herakleio**	**1.43**	**277**	P		**Pg**	**21 34 05.2**	**-0.4**
HRKL	**Herakleio**	**1.43**	**277**	Pn		**Pb**	**21 34 04.3**	**0.0**
HRKL	**Herakleio**	**1.43**	**277**	P		**Pg**	**21 34 05.6**	**-0.1**
HRKL				S		**Sb**	**21 34 22.3**	**+0.1**
HRKL				AML	AML		21 34 44.4	
	comp=N,8781µm,0.8s							
HRKL				AML	AML		21 34 49.7	
	comp=E,9719µm,1.0s							
NISR	**Nisiros**	**1.47**	**9**	P		**Pn**	**21 34 04.3**	**+0.5**
NISR	**Nisiros**	**1.47**	**9**	P		**Pn**	**21 34 04.1**	**+0.3**
NISR				S		**Sn**	**21 34 21.3**	**-1.3**
NISR				AML	AML		21 34 30.7	
	comp=E,2286µm,0.5s							
NISR				AML	AML		21 34 31.3	
	comp=N,1829µm,0.7s							
ARG	**Arkhangelos**	**1.49**	**45**	P		**Pb**	**21 34 05.9**	**+0.5**
ARG	**Arkhangelos**	**1.49**	**45**	Pn		**Pb**	**21 34 05.1**	**-0.2**
ARG	**Arkhangelos**	**1.49**	**45**	P		**Pb**	**21 34 05.9**	**+0.5**
ARG				S		**Sb**	**21 34 24.4**	**+0.5**
ARG				AML	AML		21 34 33.4	
	comp=E,1563µm,0.6s							
ARG				AML	AML		21 34 34.5	
	comp=N,1175µm,0.7s							
KOSK	**Kos Island**	**1.59**	**4**	Pn		**Pn**	**21 34 06.2**	**+0.7**
SANT	**Santorini**	**1.65**	**318**	P		**Pn**	**21 34 07.3**	**+1.0**
SANT	**Santorini**	**1.65**	**318**	Pn		**Pn**	**21 34 06.9**	**+0.6**
SANT				Sn		**Sn**	**21 34 27.4**	**+0.3**
SANT	**Santorini**	**1.65**	**318**	P		**Pn**	**21 34 07.4**	**+1.0**
SANT				S		**Sn**	**21 34 26.3**	**-0.8**
SANT				AML	AML		21 34 30.0	
	comp=N,436µm,0.4s							
SANT				AML	AML		21 34 31.7	
	comp=E,1296µm,0.3s							
DAT	**Datca**	**1.68**	**21**	P		**Pn**	**21 34 07.2**	**+0.4**
DAT	**Datca**	**1.68**	**21**	Pn		**Pn**	**21 34 07.3**	**+0.4**
TMBK	**Timbaki Herakl**	**1.70**	**268**	P		**Pg**	**21 34 10.3**	**-0.5**
TMBK				S		**Sb**	**21 34 31.1**	**+1.1**
TMBK				AML	AML		21 34 43.0	
	comp=N,2496µm,1.1s							
TMBK				AML	AML		21 34 46.3	
	comp=E,2405µm,1.3s							
THT2	**Imerovigli**	**1.71**	**318**	P		**Pn**	**21 34 07.7**	**+0.5**
THT2	**Imerovigli**	**1.71**	**318**	Pn		**Pn**	**21 34 07.8**	**+0.5**
CMBO	**Columbo, Santo**	**1.75**	**319**	P		**Pn**	**21 34 08.3**	**+0.6**
CMBO	**Columbo, Santo**	**1.75**	**319**	P		**Pn**	**21 34 08.3**	**+0.6**
SAP3	**Santorini-Thir**	**1.76**	**317**	P		**Pn**	**21 34 08.5**	**+0.7**
BODT	**Bodrum**	**1.94**	**11**	Pn		**Pn**	**21 34 10.9**	**+0.6**
APE	**Apeiranthos**	**2.18**	**331**	P		**Pn**	**21 34 13.8**	**+0.2**
APE				S		**Sn**	**21 34 40.1**	**-0.1**
	comp=E,250nm,0.6s							
APE	**Apeiranthos**	**2.18**	**331**	Pn		**Pn**	**21 34 13.8**	**+0.2**
APE				Sn		**Sn**	**21 34 39.6**	**-0.6**
DALY	**Dalyan (Mula)**	**2.22**	**41**	Pn		**Pn**	**21 34 15.2**	**+1.1**
MLSB	**Milas**	**2.26**	**19**	Pn		**Pn**	**21 34 15.7**	**+0.9**
YER	**Yerkesik**	**2.29**	**30**	P		**Pn**	**21 34 16.1**	**+0.8**
YER	**Yerkesik**	**2.29**	**30**	Pn		**Pn**	**21 34 16.0**	**+0.8**
FETY	**Fethiye**	**2.34**	**50**	Pn		**Pn**	**21 34 16.6**	**+0.7**
IMMV	**Iera Moni Meta**	**2.35**	**278**	P		**Pn**	**21 34 18.1**	**+2.1**
IMMV	**Iera Moni Meta**	**2.35**	**278**	Pn		**Pn**	**21 34 17.7**	**+1.7**
MULA	**Mugla, Merkez-**	**2.41**	**29**	P		**Pn**	**21 34 18.3**	**+1.4**
MULA				S		**Sb**	**21 34 50.8**	**+0.1**
MULA				*i* AML	AML		21 34 59.0	
	comp=E,39nm,0.8s							
MULA				*i* AML	AML		21 35 05.0	
	comp=E,84nm,0.6s							
AYDN	**Tasoluk**	**2.63**	**18**	P		**Pn**	**21 34 20.7**	**+0.8**
AYDN				S		**Pg**	**21 34 27.9**	**-0.8**
AYDN				*i* AML	AML		21 34 30.0	
	comp=E,47nm,0.6s							
AYDN				*i* AML	AML		21 34 30.0	
	comp=E,30nm,1.1s							
CAME	**Cameli-Denizli**	**2.68**	**48**	Pn		**Pn**	**21 34 21.3**	**+0.7**
CAEL	**Denizli, Camel**	**2.81**	**45**	P		**Pn**	**21 34 22.4**	**0.0**
CAEL				S		**Sg**	**21 35 10.3**	**+1.9**
CAEL				*i* AML	AML		21 35 20.0	
	comp=E,182nm,0.7s							
TAVA	**DENIZLI_Tavas**	**2.85**	**36**	P		**Pn**	**21 34 22.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**2.91**	**17**	Pn		**Pn**	**21 34 24.5**	**+0.7**
ELL	**Elmali**	**2.96**	**57**	Pn		**Pn**	**21 34 25.8**	**+1.4**
GOLH	**Golhisar**	**3.03**	**46**	P		**Pn**	**21 34 26.2**	**+0.8**
GOLH				S		**Sg**	**21 35 14.4**	**-1.0**
GOLH				*i* AML	AML		21 35 29.0	
	comp=E,66nm,0.8s							
APMY	**Acipayam-Deniz**	**3.05**	**40**	Pn		**Pn**	**21 34 26.2**	**+0.5**
AKUM	**Antalya-Kumluc**	**3.08**	**67**	P		**Pn**	**21 34 24.1**	**-1.9**
AKUM				S		**Sn**	**21 35 02.0**	**-0.4**
AKUM				*i* AML	AML		21 35 15.0	
	comp=E,17nm,0.6s							
AKUM				*i* AML	AML		21 35 25.0	
	comp=E,19nm,1.1s							
USAK	**Uak-Merkez**	**3.96**	**26**	P		**Pn**	**21 34 37.9**	**-0.2**
USAK				*i* AML	AML		21 34 53.0	
	comp=E,13nm,0.7s							
USAK				S		**Pg**	**21 34 53.2**	**-0.7**
USAK				*i* AML	AML		21 35 09.0	
	comp=E,10nm,0.6s							
SEDI	**Konya, Seydise**	**4.58**	**59**	P		**Pn**	**21 34 48.1**	**+1.3**
SEDI				S		**Sn**	**21 35 40.3**	**+0.6**
BRTR	**Keskin Array B**	**7.07**	**48**	Pn		**Pn**	**21 35 24.3**	**+3.2**
	comp=E,0.1nm,0.3s,baz=223,slow=13,SNR=2.3							
	comp=E,0.4nm,0.5s							
AKASG	**Malin Array Be**	**15.63**	**6**	Pn		**Pn**	**21 37 19.2**	**+1.7**
	comp=E,0.3nm,0.3s,baz=194,slow=12,SNR=2.4							
	comp=E,0.2nm,0.5s							
ESDC	**Sonseca Array**	**24.81**	**290**	P		**P**	**21 38 58.0**	**-1.3**
	comp=E,0.2nm,0.5s,baz=82,slow=8.3,SNR=1.8							
	comp=E,0.2nm,0.5s							
MKAR	**Makanchi Array**	**42.63**	**57**	P		**P**	**21 41 32.3**	**-1.2**
	comp=E,0.3nm,0.6s,baz=277,slow=7.1,SNR=4.7							
	comp=E,0.3nm,0.6s							
SPITS	**Spitsbergen Ar**	**43.35**	**357**	LR		LR	22 02 25.4	
	comp=E,119nm,20.6s,baz=342,slow=40							

IDC 04 21:35:23.7±1.9, 0.05S×16.24W, h0km, mb3.5/1, mbtmp3.6/2, ML3.3/1, Error ellipse: s-maj=90.4km s-min=52.0km az=174.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
H10N2	**ASCENSION HYDR**	**7.92**	**167**	T		T	21 45 23.9	
	baz=345,slow=74,SNR=144							
H10N3	**ASCENSION HYDR**	**7.93**	**167**	T		T	21 45 24.4	
	baz=345,slow=74,SNR=113							
H10N1	**ASCENSION HYDR**	**7.94**	**167**	T		T	21 45 17.4	
	baz=345,slow=74,SNR=202							
H10S3	**ASCENSION HYDR**	**8.98**	**170**	T		T	21 46 41.4	
	baz=231,slow=74,SNR=36							
H10S2	**ASCENSION HYDR**	**8.99**	**170**	T		T	21 46 39.9	
	baz=349,slow=74,SNR=19							
DBIC	**Dimbokro**	**13.17**	**59**	Pn		Pn	21 38 32.2	0.0
	0.2nm,0.3s,baz=259,slow=15,SNR=1.4							
DBIC				Sn		Sn	21 40 47.8	-12
	0.2nm,0.3s,baz=89,slow=4.2,SNR=2.6							
	0.8nm,0.4s							
TXAR	**Lajitas Array**	**87.78**	**299**	P		P	21 48 15.4	0.0
	0.2nm,0.8s,baz=119,slow=7.3,SNR=1.9							
	0.2nm,0.8s							
WRA	**Warramunga Arr**	**145.00**	**126**	PKPbc		PKPab	21 55 02.4	-0.9
	0.9nm,0.8s,baz=239,slow=2.5,SNR=5.3							

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*IDC **04** 21:42:00.2±1.0, 27.16N×103.32E, h0km, mb3.7/10, mbtmp3.7/11, ML3.4/1, MS3.2/1, Error ellipse: s-maj=27.8km s-min=19.7km az=65.0*
ISC 04 21:42:01.5±0.9, 27.1N±0.1×103.3E±0.2, h10km, n12, σ0°62/12, mb3.5/9, Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CMAR	**Chiang Mai Arr**	**9.54**	**206**	Pn		**Pn**	**21 44 18.6**	**-0.4**
	0.1nm,0.3s,baz=17,slow=13,SNR=4.9							
CMAR				Pg			21 44 54.7	
	0.1nm,0.3s,baz=5.0,slow=16,SNR=8.4							
CMAR				Lg		Lg	21 46 59.2	
	0.1nm,0.3s,baz=9.3,slow=28,SNR=2.3							
	0.3nm,0.4s							
SONM	**Songino Array**	**20.80**	**6**	P		**P**	**21 46 43.1**	**0.0**
	0.6nm,0.2s,baz=185,slow=11,SNR=4.6							
	0.6nm,0.2s							
KSRS	**Korea Array**	**23.13**	**57**	P		**P**	**21 47 08.0**	**+0.1**
	1.1nm,0.9s,baz=245,slow=8.8,SNR=2.3							
	1.1nm,0.9s							
MKAR	**Makanchi Array**	**25.70**	**325**	P		**P**	**21 47 31.6**	**-0.2**
	0.4nm,0.5s,baz=129,slow=11,SNR=11							
MKAR				PcP		**PcP**	**21 51 01.6**	**-0.3**
	0.1nm,0.5s,baz=116,slow=3.4,SNR=2.3							
	0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**30.11**	**328**	P		**P**	**21 48 10.4**	**-0.9**
	0.5nm,0.7s,baz=135,slow=10,SNR=10.0							
	0.5nm,0.7s							
MJAR	**Matsushiro Arr**	**30.94**	**64**	LR		LR	22 00 30.9	
	comp=Z,41nm,18.5s,baz=308,slow=36							
GEYT	**Alibeck**	**39.27**	**298**	P		**P**	**21 49 32.0**	**+1.4**
	1.1nm,0.5s,baz=106,slow=9.1,SNR=2.8							
	1.1nm,0.5s							
AKTO	**Aktyubinsk**	**41.45**	**317**	P		**P**	**21 49 48.2**	**-0.2**
	0.7nm,0.7s,baz=99,slow=9.2,SNR=2.5							
	0.7nm,0.7s							
ARU	**Arti**	**43.22**	**325**	P		**P**	**21 50 03.0**	**+0.3**
	1.2nm,0.6s,baz=53,slow=7.2,SNR=4.6							
	1.2nm,0.6s							
WRA	**Warramunga Arr**	**55.61**	**144**	P		**P**	**21 51 38.1**	**+0.3**
	0.6nm,0.6s,baz=331,slow=8.4,SNR=7.2							
	0.6nm,0.6s							
AKASG	**Malin Array Be**	**59.65**	**315**	P		**P**	**21 52 05.5**	**-0.4**
	0.1nm,0.3s,baz=66,slow=6.7,SNR=4.3							
	0.1nm,0.3s							
ARCES	**ARCESS Array B**	**60.61**	**337**	P		**P**	**21 52 11.9**	**-0.2**
	5.9nm,1.2s,baz=100,slow=9.2,SNR=1.5							
	5.9nm,1.2s							

IDC 04 21:47:03.0±1.7, 3.29S×128.51E, h0km, mb3.3/2, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=39.3km s-min=25.7km az=96.0, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SIJI	**Sorong**	**3.66**	**49**	Pn		Pn	21 48 01.1	+0.3
	8.3nm,0.3s,baz=257,slow=14,SNR=20							
SIJI				Sn		Sn	21 48 44.2	-0.6
	4.7nm,0.3s,baz=18,slow=22,SNR=10							
	14nm,0.3s							
WRA	**Warramunga Arr**	**17.50**	**161**	P		Pn	21 51 09.2	+0.5
	0.2nm,0.3s,baz=342,slow=12,SNR=12							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**20.92**	**166**	P		P	21 51 47.0	-0.3
	0.7nm,0.4s,baz=348,slow=11,SNR=17							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**64.33**	**327**	P		P	21 57 40.7	+0.1
	0.2nm,0.7s,baz=116,slow=8.3,SNR=2.5							
	0.2nm,0.7s							

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*ISK **04** 22:06:52.7, 36.91N×26.45E, h8km, ML2.8/20*
*DDA **04** 22:06:52.5±0.0, 37.02N×26.35E, h8km±3km, ML2.6*
*ATH **04** 22:06:53.8, 36.96N×26.49E, h26km±12km, ML2.7/3, Error ellipse: s-maj=12.3km s-min=1.2km az=112.0*
*THE **04** 22:06:53.5, 36.96N×26.48E, h6km±3km, ML2.6/4, Error ellipse: s-maj=4.0km s-min=0.6km az=142.0*
ISC 04 22:06:53.5±1.0, 36.98N±0.02×26.47E±0.02, h10km±10km, n44, σ0°69/58, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KOSK	**Kos Island**	**0.47**	**119**	P		**Pg**	**22 07 02.4**	**-0.2**
KOSK				S		**Sg**	**22 07 09.2**	**+0.4**
	1µm,0.3s							
KOSK	**Kos Island**	**0.47**	**119**	Pg		**Pg**	**22 07 02.4**	**-0.2**
KOSK				Sg		**Sg**	**22 07 08.8**	**0.0**
KOSK	**Kos Island**	**0.47**	**119**	P		**Pb**	**22 07 03.3**	**-0.5**
NISR	**Nisiros**	**0.65**	**124**	P		**Pg**	**22 07 05.8**	**-0.1**
NISR				S		**Sb**	**22 07 14.8**	**-1.0**
	1µm,0.2s							
NISR	**Nisiros**	**0.65**	**124**	P		**Pg**	**22 07 05.8**	**-0.1**
NISR				S		**Sg**	**22 07 14.5**	**+0.1**
NISR				AML	AML		22 07 15.8	
	comp=N,1106µm,0.1s							
NISR				AML	AML		22 07 16.0	
	comp=E,3266µm,0.3s							
BODT	**Bodrum**	**0.68**	**83**	P		**Pg**	**22 07 06.3**	**-0.3**
BODT				S		**Sb**	**22 07 16.1**	**-0.8**
BODT	**Bodrum**	**0.68**	**83**	Pg		**Pg**	**22 07 06.5**	**-0.1**
APE	**Apeiranthos**	**0.76**	**277**	P		**Pg**	**22 07 08.2**	**+0.2**
APE				S		**Sb**	**22 07 19.4**	**+0.3**
	comp=E,355nm,0.5s							
APE	**Apeiranthos**	**0.76**	**277**	Pg		**Pg**	**22 07 07.5**	**-0.5**
APE	**Apeiranthos**	**0.76**	**277**	P		**Pg**	**22 07 08.1**	**0.0**
APE				S		**Sg**	**22 07 18.9**	**+1.0**
APE				AML	AML		22 07 21.0	
	comp=N,891µm,0.3s							
APE				AML	AML		22 07 23.1	
	comp=E,690µm,0.4s							
DDIM	**Aydin, Didim**	**0.78**	**52**	P		**Pb**	**22 07 09.0**	**-0.2**
DDIM				S		**Sb**	**22 07 20.2**	**+0.3**
DDIM				*i* AML	AML		22 07 23.0	
	comp=E,332nm,0.5s							
DDIM				*i* AML	AML		22 07 26.0	
	comp=E,295nm,0.8s							
SMG	**Samos**	**0.79**	**22**	P		**Pg**	**22 07 09.0**	**+0.3**
SMG				S		**Sb**	**22 07 20.7**	**+0.7**
	comp=E,495nm,0.3s							
SMG	**Samos**	**0.79**	**22**	P		**Pg**	**22 07 08.9**	**+0.3**
SMG				S		**Sg**	**22 07

5.9nm,0.7s,baz=3.1,slow=4.0,SNR=1.8
RPZ Rata Peaks 21.30 198 P **P** **22 12 24.8 +1.0**
15nm,0.8s,baz=12,slow=9.3,SNR=2.4
15nm,0.8s
ASAR Alice Springs 42.13 260 P **P** **22 15 21.7 +0.1**
2.3nm,0.8s,baz=98,slow=7.9,SNR=21
ASAR ScP **ScP** **22 20 07.8 +0.3**
0.6nm,0.9s,baz=114,slow=4.5,SNR=4.8
2.3nm,0.8s
WRA Warramunga Arr 42.48 266 P **P** **22 15 23.9 -0.5**
2.2nm,0.5s,baz=102,slow=8.3,SNR=48
2.2nm,0.5s
TXAR Lajitas Array 90.27 58 P **P** **22 20 20.8 0.0**
0.2nm,0.7s,baz=202,slow=6.8,SNR=4.1
0.2nm,0.7s
HFS Hagfors 142.36 349 PKhKP PKPpre 22 26 42.6
5.9nm,1.0s,baz=52,slow=5.7,SNR=5.3

*RSNC **04** 22:28:02.4±1.2,7.°21N×73.°37W, h119km±5km, ML3.3, Mw3.7, Fault plane solution: NP1:φs177.40000°, δ50.18000°, λ-4.18000°.*
*IDC **04** 22:28:02.3±1.2,7.°14N×73.°15W, h139km±17km, mb3.5/2, mbtmp4.1/5, Error ellipse: s-maj=46.8km s-min=8.7km az=134.0*
ISC 04 22:28:01.3±0.8,**7.°24N**±0.°03×**73.°34W**±0.°03,**h122**km±6km, **n37**,σ1s**85**/70,**7C-4D**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRRC	**Barranca, Sant**	**0.39**	**251**	*i*	P	**Pn**	**22 28 18.9**	**0.0**
BRRC				*e*	S	**Sn**	**22 28 32.0**	**-0.2**
BRRC				*i*			22 28 37.3	
	comp=Z,440nm,0.2s							
PAMC	**Pamplona, Colo**	**0.64**	**81**	⇓*e*	P	**Pn**	**22 28 22.0**	**+1.0**
PAMC				*e*	S	**Sn**	**22 28 36.7**	**+0.9**
PAMC				*i*			22 28 38.3	
	comp=Z,772nm,0.2s							
BARC	**Barichara**	**0.66**	**166**	⇑*i*	P	**Pn**	**22 28 21.2**	**+0.3**
BARC				*e*	S	**Sn**	**22 28 35.6**	**0.0**
PTBC	**PUERTO BERRIO,**	**1.31**	**238**	⇑*i*	P	**Pn**	**22 28 25.7**	**-1.1**
PTBC				*e*	S	**Sn**	**22 28 44.9**	**-1.2**
PTBC				*i*			22 28 47.1	
	comp=Z,509nm,0.2s							
RUSC	**La Rusia**	**1.36**	**169**	⇑*i*	P	**Pn**	**22 28 27.4**	**-0.4**
RUSC				*e*	S	**Sn**	**22 28 47.0**	**-0.8**
RUSC				*i*			22 28 48.1	
	comp=Z,322nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.53**	**280**	⇓*e*	P	**Pn**	**22 28 29.4**	**+0.2**
ZARC				*e*	S	**Sn**	**22 28 52.1**	**+1.6**
ZARC				*i*			22 28 54.1	
	comp=Z,640nm,0.3s							
TAMC	**Tame, Arauca**	**1.73**	**117**	⇓*i*	P	**Pn**	**22 28 32.5**	**+0.9**
TAMC				*e*	S	**Sn**	**22 28 56.2**	**+1.5**
TAMC				*i*			22 28 57.5	
	comp=Z,144nm,0.4s							
UREC	**San Jos de Ur**	**2.24**	**283**	*e*	P	**Pn**	**22 28 36.9**	**-0.9**
UREC				*e*	S	**Sn**	**22 29 04.1**	**-1.8**
UREC				*i*			22 29 12.6	
	comp=Z,313nm,0.2s							
NORC	**Norcasia**	**2.25**	**223**	*e*	P	**Pn**	**22 28 37.3**	**-0.8**
NORC				*e*	S	**Sn**	**22 29 07.7**	**+1.3**
NORC				*i*			22 29 10.1	
	comp=Z,403nm,0.2s							
LL1C	**La Loma 1 Cana**	**2.30**	**355**	*e*	P	**Pn**	**22 28 41.4**	**+2.7**
LL1C				*e*	S	**Sn**	**22 29 11.6**	**+4.2**
ROSC	**El Rosal**	**2.57**	**202**	P		**Pn**	**22 28 44.4**	**+1.9**
	comp=Z,47nm,0.3s,baz=38,slow=19,SNR=18							
ROSC				S		**Sn**	**22 29 16.7**	**+2.6**
	comp=Z,134nm,0.3s,baz=155,slow=19,SNR=5.0							
ROSC	**El Rosal**	**2.57**	**202**	*e*	P	**Pn**	**22 28 44.5**	**+1.9**
ROSC				*e*	S	**Sn**	**22 29 17.1**	**+3.0**
ROSC				*i*			22 29 21.6	
	comp=Z,135nm,0.2s							
CHIC	**Chingaza**	**2.62**	**189**	*e*	P	**Pn**	**22 28 43.6**	**+0.5**
CHIC				*e*	S	**Sn**	**22 29 17.5**	**+2.3**
CHIC				*i*			22 29 22.6	
	comp=Z,65nm,0.2s							
ARGC	**Ariguani, Magd**	**2.76**	**341**	*e*	P	**Pn**	**22 28 46.1**	**+1.6**
ARGC				*e*	S	**Sn**	**22 29 18.2**	**+0.4**
ARGC				*i*			22 29 29.1	
	comp=Z,60nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.84**	**225**	*e*	P	**Pn**	**22 28 46.6**	**+0.6**
GUY2C				*e*	S	**Sn**	**22 29 22.8**	**+2.5**
GUY2C				IAML			22 29 29.5	
	comp=Z,216nm,0.4s							
DBBC	**Dabeiba**	**2.86**	**266**	⇑*i*	P	**Pn**	**22 28 46.2**	**+0.3**
DBBC				*e*	S	**Sn**	**22 29 19.2**	**-1.1**
DBBC				*i*			22 29 24.2	
	comp=Z,76nm,0.3s							
CBOC	**Ciudad Bolivar**	**2.99**	**243**	⇑*e*	P	**Pn**	**22 28 48.4**	**+0.7**
CBOC				*e*	S	**Sn**	**22 29 18.7**	**-4.7**
CBOC				*i*			22 29 35.4	
	comp=Z,65nm,0.4s							
SDV	**Santo Domingo**	**3.14**	**58**	P		**Pn**	**22 28 50.9**	**+1.3**
	comp=Z,58nm,0.3s,baz=228,slow=9.5,SNR=95							
SDV				S		**Sn**	**22 29 26.4**	**-0.5**
	comp=Z,25nm,0.4s,baz=291,slow=13,SNR=4.6							
SJCC	**San Jacinto, C**	**3.21**	**326**	*e*	P	**Pn**	**22 28 50.4**	**0.0**
SJCC				*e*	S	**Sn**	**22 29 26.8**	**-1.7**
SJCC				*i*			22 29 30.8	
	comp=Z,62nm,0.2s							
PTGC	**Puerto Gaitan,**	**3.25**	**158**	*e*	P	**Pn**	**22 28 50.3**	**-0.6**
PTGC				*e*	S	**Sn**	**22 29 27.2**	**-2.1**
PTGC				*i*			22 29 35.5	
	comp=Z,46nm,0.4s							
APAC	**Apartado, Choc**	**3.28**	**282**	⇓*i*	P	**Pn**	**22 28 51.7**	**+0.3**
APAC				*e*	S	**Sn**	**22 29 29.0**	**-1.0**
APAC				*i*			22 29 34.0	
	comp=Z,76nm,0.4s							
LCBC	**Los crdobas,**	**3.41**	**298**	*e*	P	**Pn**	**22 28 53.5**	**+0.5**
LCBC				*e*	S	**Sn**	**22 29 34.4**	**+1.4**
LCBC				*i*			22 29 40.7	
	comp=Z,67nm,0.2s							
PLMC	**San Jos del P**	**3.73**	**232**	*e*	P	**Pn**	**22 28 57.7**	**+0.3**
PLMC				*e*	S	**Sn**	**22 29 34.8**	**-6.1**
PLMC				*i*			22 29 47.6	
	comp=Z,45nm,0.3s							
CRJC	**Cerrejon, Guaj**	**3.79**	**7**	⇑*i*	P	**Pn**	**22 28 58.0**	**-0.2**
CRJC				*e*	S	**Sn**	**22 29 41.5**	**-0.7**
CRJC				*i*			22 29 46.8	
	comp=Z,121nm,0.5s							
ORTC	**Ortega, Tolima**	**3.81**	**210**	*e*	P	**Pn**	**22 28 58.6**	**+0.1**
ORTC				*e*	S	**Sn**	**22 29 45.3**	**+2.6**
ORTC				*i*			22 29 49.8	
	comp=Z,63nm,0.5s							
SMRC	**Santa Marta, M**	**4.00**	**347**	*e*	P	**Pn**	**22 29 01.9**	**+1.0**
SMRC				*e*	S	**Sn**	**22 29 46.3**	**-0.8**
SMRC				*i*			22 29 56.3	
	comp=Z,34nm,0.3s							
YOTC	**Yotoco, Valle**	**4.40**	**223**	*e*	P	**Pn**	**22 29 08.8**	**+2.4**
YOTC				*e*	S	**Sn**	**22 30 02.1**	**+5.2**
PTAC	**Punta Ardita,**	**4.44**	**269**	*e*	P	**Pn**	**22 29 06.1**	**-0.7**
PTAC				*i*			22 29 42.3	
	comp=Z,16nm,0.4s							
PTAC				*e*	S	**Sn**	**22 29 57.3**	**-0.3**
URIC	**Uribia, Colomb**	**4.63**	**17**	*e*	P	**Pn**	**22 29 09.4**	**+0.1**
URIC				*e*	S	**Sn**	**22 30 00.0**	**-2.2**
URIC				*i*			22 30 07.1	
	comp=Z,14nm,0.2s							
GUVC	**San Jose del G**	**4.71**	**171**	*e*	P	Pn	22 29 14.9	+4.5
GUVC				*e*	S	**Sn**	**22 30 02.2**	**-2.1**
GUVC				*i*			22 30 10.7	
	comp=Z,34nm,0.3s							
MACC	**Macarena, Meta**	**5.08**	**186**	*e*	P	**Pn**	**22 29 14.4**	**-1.0**
MACC				*e*	S	**Sn**	**22 30 09.7**	**-3.5**
MACC				*i*			22 30 20.5	
	comp=Z,21nm,0.5s							
GARC	**Garzon, Huila**	**5.46**	**203**	*e*	P	**Pn**	**22 29 20.0**	**-0.7**
GARC				*e*	S	**Sn**	**22 30 21.9**	**-0.6**
GARC				*i*			22 30 26.6	
	comp=Z,44nm,0.3s							
FLOC	**Florencia**	**6.07**	**202**	*e*	P	**Pn**	**22 29 27.9**	**-0.9**
FLOC				*e*	S	**Sn**	**22 30 37.6**	**+0.6**
FLOC				*i*			22 30 42.2	
	comp=Z,8.3nm,0.4s							
PCRV	**Puerto La Cruz**	**9.08**	**71**	P		**Pn**	**22 30 09.6**	**+0.2**
	comp=Z,8.4nm,0.5s,baz=218,slow=18,SNR=12							
PCRV				S		**Sn**	**22 31 48.0**	**-2.0**
	comp=Z,3.9nm,0.6s,baz=72,slow=20,SNR=1.1							
YKA	**Yellowknife Ar**	**62.80**	**340**	P		**P**	**22 38 13.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=126,slow=6.2,SNR=6.1							
	comp=Z,0.2nm,0.6s							
ARCES	**ARCESS Array B**	**86.36**	**20**	P		**P**	**22 40 29.2**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=282,slow=4.4,SNR=5.2							
	comp=Z,3.4nm,1.0s							
WRA	**Warramunga Arr**	**150.34**	**242**	PKPbc		**PKPbc**	**22 47 37.9**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=106,slow=2.9,SNR=10							

IDC 04 22:29:34.4±2.0,**2.°66N**×**126.°90E**,**h0**km,**mb3.4**/3, **mbtmp3.5**/3,**Error ellipse: s-maj=156.4km s-min=25.0km az=66.0**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.62**	**162**	P		P	22 34 47.0	-0.3
	1.0nm,0.6s,baz=342,slow=10,SNR=10							
	1.0nm,0.6s							
ASAR	**Alice Springs**	**27.04**	**166**	P		P	22 35 18.7	+0.1
	0.2nm,0.4s,baz=337,slow=7.0,SNR=2.3							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**58.53**	**326**	P		P	22 39 32.8	+0.1
	0.2nm,0.4s,baz=119,slow=7.5,SNR=9.4							
	0.2nm,0.4s							

*KRSC **04** 23:30:44.6±1.7,51.°99N×159.°99E, h56km±21km, Ml4.5*
*MOS **04** 23:30:44.1±1.0,51.°94N×160.°04E, h21km, mb4.4/20, Error ellipse: s-maj=8.5km s-min=4.2km az=98.7*
*NEIC **04** 23:30:50.3±2.1,52.°24N±0.°06×159.°6E±0.°1, h53km±7km, mb4.3/30, Error ellipse: s-maj=13.6km s-min=3.5km az=53.0*
*IDC **04** 23:30:52.6±1.9,52.°24N×159.°56E, h72km±15km, mb3.6/24, mbtmp3.9/27, MS3.1/5, Error ellipse: s-maj=16.7km s-min=11.3km az=144.0*
ISC 04 23:30:48.5±1.1,**52.°05N**±0.°05×**159.°88E**±0.°04,**h42**km±10km, **n157**,σ1s**27**/166,**mb4.2**/43,**MS3.0**/4,**1C-7D**,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUS	**Russkaya**	**0.92**	**295**	PN		**Pn**	**23 31 03.3**	**-1.6**
RUS	**Russkaya**	**0.92**	**295**	*e*P		**Pn**	**23 31 03.3**	**-1.6**
SPN	**Mys Shipunski**	**1.05**	**5**	PN		**Pn**	**23 31 06.3**	**-0.4**
SPN				S		**Sn**	**23 31 20.7**	**+0.6**
SPN	**Mys Shipunski**	**1.05**	**5**	*e*P		**Pn**	**23 31 06.3**	**-0.4**
SPN				*e*S		**Sn**	**23 31 20.7**	**+0.6**
KDTR	**Khodutka, Kamc**	**1.14**	**258**	PN		**Pn**	**23 31 07.1**	**-0.8**
KDTR				S		**Sn**	**23 31 21.7**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.14**	**258**	*e*P		**Pn**	**23 31 07.1**	**-0.8**
KDTR				*e*S		**Sn**	**23 31 21.7**	**-0.7**
NLC	**Nalytchevo**	**1.17**	**344**	PN		**Pn**	**23 31 07.9**	**-0.3**
NLC	**Nalytchevo**	**1.17**	**344**	*e*P		**Pn**	**23 31 07.9**	**-0.3**
DALK	**Dalny**	**1.20**	**325**	PN		**Pn**	**23 31 07.6**	**-1.1**
DALK				S		**Sn**	**23 31 23.1**	**-0.6**
DALK	**Dalny**	**1.20**	**325**	*e*P		**Pn**	**23 31 07.6**	**-1.1**
DALK				*e*S		**Sn**	**23 31 23.1**	**-0.6**
GRL	**Gorelyy**	**1.22**	**295**	PN		**Pn**	**23 31 08.7**	**-0.4**
GRL				S		**Sn**	**23 31 25.0**	**+0.6**
GRL	**Gorelyy**	**1.22**	**295**	*e*P		**Pn**	**23 31 08.7**	**-0.4**
GRL				*e*S		**Sn**	**23 31 25.0**	**+0.6**
PET	**Petropavlovsk**	**1.23**	**323**	Pn		**Pn**	**23 31 08.2**	**-1.0**
PET				Sn		**Sn**	**23 31 20.4**	**-4.1**
PET	**Petropavlovsk**	**1.23**	**323**	⇓*i*PN		**Pn**	**23 31 08.1**	**-1.0**
PET				*i* S		**Sn**	**23 31 24.1**	**-0.4**
PET				pmax		pmax		
	comp=Z,820nm,0.5s							
PET				smax		smax		
	comp=E,2μm,0.7s							
PET				smax		smax		
	comp=N,3μm,0.5s							
PET	**Petropavlovsk**	**1.23**	**323**	*e*P		**Pn**	**23 31 08.1**	**-1.0**
PET				*e*S		**Sn**	**23 31 23.9**	**-0.6**
INSR	**Institute**	**1.28**	**323**	*e*P		**Pn**	**23 31 08.9**	**-0.9**
KRMR	**Karymshinskiy**	**1.32**	**307**	PN		**Pn**	**23 31 09.5**	**-0.9**
KRMR				S		**Sn**	**23 31 26.4**	**-0.4**
KRMR	**Karymshinskiy**	**1.32**	**307**	*i* P		**Pn**	**23 31 09.5**	**-0.9**
KRMR				*e*S		**Sn**	**23 31 26.4**	**-0.4**
UGLR	**Uglovaya**	**1.32**	**331**	PN		**Pn**	**23 31 09.9**	**-0.7**
UGLR	**Uglovaya**	**1.32**	**331**	*e*P		**Pn**	**23 31 09.9**	**-0.7**
SDLR	**Sedlovina**	**1.37**	**334**	PN		**Pn**	**23 31 10.2**	**-1.0**
SDLR	**Sedlovina**	**1.37**	**334**	*e*P		**Pn**	**23 31 10.2**	**-1.0**
SMAR	**Somma**	**1.38**	**332**	PN		**Pn**	**23 31 10.4**	**-1.0**
SMAR	**Somma**	**1.38**	**332**	*e*P		**Pn**	**23 31 10.4**	**-1.0**
KRER	**Koryakskii**	**1.43**	**332**	PN		**Pn**	**23 31 11.5**	**-0.6**
KRER	**Koryakskii**	**1.43**	**332**	*e*P		**Pn**	**23 31 11.5**	**-0.6**
KOK	**Koryaka**	**1.45**	**329**	PN		**Pn**	**23 31 11.8**	**-0.5**
KOK	**Koryaka**	**1.45**	**329**	*e*P		**Pn**	**23 31 11.8**	**-0.5**
KRX	**Arik**	**1.51**	**331**	PN		**Pn**	**23 31 12.4**	**-0.7**
KRX	**Arik**	**1.51**	**331**	*e*P		**Pn**	**23 31 12.4**	**-0.7**
PEA0B	**Petropavlovsk-**	**1.70**	**309**	Pn		**Pn**	**23 31 15.4**	**-0.3**
PEA0B	**Petropavlovsk-**	**1.70**	**309**	*d* iPN		**Pn**	**23 31 15.3**	**-0.3**
PETK	**Petropavlovsk-**	**1.70**	**309**	P		**Pn**	**23 31 14.9**	**-0.7**
	comp=N,328nm,0.4s,baz=112,slow=20,SNR=794							
PETK				S		**Sn**	**23 31 35.7**	**-0.4**
	comp=N,142nm,0.5s,baz=109,slow=20,SNR=3.0							
PETK				LR		LR	23 31 45.8	
	comp=N,225nm,19.1s,baz=87,slow=37							
APC	**Apacha**	**1.88**	**299**	PN		**Pn**	**23 31 18.7**	**+0.6**
APC				S		**Sn**	**23 31 43.1**	**+2.6**
APC	**Apacha**	**1.88**	**299**	*e*P		**Pn**	**23 31 18.7**	**+0.6**
APC				*e*S		**Sn**	**23 31 43.1**	**+2.6**
KII	**Karymskiy**	**2.00**	**353**	PN		**Pn**	**23 31 21.0**	**+1.2**
KII	**Karymskiy**	**2.00**	**353**	*e*P		**Pn**	**23 31 21.0**	**+1.2**
GNL	**Ganaly**	**2.02**	**325**	PN		**Pn**	**23 31 20.4**	**+0.3**
GNL	**Ganaly**	**2.02**	**325**	*e*P		**Pn**	**23 31 20.4**	**+0.3**
SKR	**Severo-Kuril's**	**2.73**	**241**	*e*PN		**Pn**	**23 31 29.2**	**-0.5**
SKR				*e*S		**Sn**	**23 32 01.5**	**+0.1**
SKR				pmax		pmax		
	comp=Z,220nm,0.7s							
SKR				smax		smax		
	comp=N,533nm,0.7s							
SKR				smax		smax		
	comp=E,356nm,0.8s							
SKR	**Severo-Kuril's**	**2.73**	**241**	*e*P		**Pn**	**23 31 29.8**	**+0.1**
SKR				*e*S		**Sn**	**23 32 01.1**	**-0.3**
TUMD	**Tumrok D**	**3.17**	**5**	*e*P		**Pn**	**23 31 35.9**	**+0.1**
TUMD				*e*S		**Sn**	**23 32 12.6**	**+0.3**
TUMR	**Tumrok**	**3.24**	**3**	PN		**Pn**	**23 31 35.9**	**-0.9**
KMNR	**Kamenistaya**	**3.72**	**3**	PN		**Pn**	**23 31 45.3**	**+2.0**
KMNR	**Kamenistaya**	**3.72**	**3**	*e*P		**Pn**	**23 31 45.3**	**+2.0**
ESO	**Esso**	**3.94**	**350**	PN		**Pn**	**23 31 48.7**	**+2.3**
ESO	**Esso**	**3.94**	**350**	*e*P		**Pn**	**23 31 48.7**	**+2.3**
SRDR	**Sredinnyy**	**4.27**	**359**	PN		**Pn**	**23 31 52.6**	**+1.6**
SRDR	**Sredinnyy**	**4.27**	**359**	*e*P		**Pn**	**23 31 52.6**	**+1.6**
KLY	**Klyuchi**	**4.29**	**6**	PN		**Pn**	**23 31 51.8**	**+0.6**
KLY	**Klyuchi**	**4.29**	**6**	*e*P		**Pn**	**23 31 51.8**	**+0.6**
KBTR	**Krutoberegovo**	**4.51**	**21**	PN		**Pn**	**23 31 54.5**	**+0.4**
KBTR	**Krutoberegovo**	**4.51**	**21**	*e*P		**Pn**	**23 31 54.5**	**+0.4**
SMKR	**Semkarok**	**4.63**	**11**	PN		**Pn**	**23 31 57.7**	**+1.8**
SMKR	**Semkarok**	**4.63**	**11**	*e*P		**Pn**	**23 31 57.7**	**+1.8**
BKI	**Bering**	**4.81**	**47**	PN		**Pn**	**23 31 57.4**	**-0.8**
BKI	**Bering**	**4.81**	**47**	*e*P		**Pn**	**23 31 57.4**	**-0.8**
BKI				*e*S		**Sn**	**23 32 46.3**	**-6.2**
MA2	**Magadan**	**9.11**	**329**	LR		LR	23 37 10.4	
	comp=E,115nm,19.1s,baz=159,slow=43							
KUR	**Kuril'sk**	**10.47**	**234**	⇓*i*PN		**Pn**	**23 33 17.3**	**+1.5**
JKA	**Kamikawa-asahi**	**13.99**	**242**	Pn		**Pn**	**23 34 04.3**	**+0.4**
ASAJ	**Asahikawa**	**13.99**	**242**	P		**Pn**	**23 34 04.8**	**+0.9**
	comp=E,4.6nm,0.5s,baz=38,slow=12,SNR=2.1							
ASAJ	**Asahikawa**	**13.99**	**242**	P		**Pn**	**23 34 04.3**	**+0.4**
ERM	**Erimo**	**15.16**	**235**	Pn		**Pn**	**23 34 17.9**	**-1.5**
ERM	**Erimo**	**15.16**	**235**	P		**Pn**	**23 34 17.9**	**-1.5**
ERM				pmax		pmax		
	comp=Z,134nm,1.5s							
BILL	**Bilibino**	**16.34**	**9**			**Pn**	**23 34 35.7**	**+1.3**
BILL	**Bilibino**	**16.34**	**9**	*e*P		**P**	**23 34 37.5**	**+0.7**
BILL				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KLR	**Kul'dur**	**18.02**	**272**	P		**P**	**23 34 56.8**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=98,slow=8.2,SNR=7.9							
JMM	**Marumori**	**19.50**	**231**	P		**Pn**	**23 35 13.4**	**0.0**
JMM				IAmb		IAmb	23 35 39.2	
	comp=Z,28nm,1.1s							
USRK	**Ussuriysk Ar.**	**20.11**	**258**	P		Pn	23 35 20.0	-0.6
	comp=Z,2.1nm,0.8s,baz=59,slow=14,SNR=1.8							
MJA0	**Matsu Arr-Jizo**	**21.79**	**233**	*e*P		**P**	**23 35 37.2**	**+0.6**
MJA0				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MAJO	**Matsushiro**	**21.81**	**233**	P		**P**	**23 35 37.3**	**+0.5**
MAJO				IAmb		IAmb	23 35 49.9	
	comp=Z,20nm,1.1s							
MAJO	**Matsushiro**	**21.81**	**233**	P		**P**	**23 35 37.3**	**+0.5**
MAJO				pmax		pmax		
	comp=Z,20nm,1.1s							
MJAR	**Matsushiro Ar**	**21.81**	**233**	P		**P**	**23 35 38.3**	**+1.5**
	comp=Z,5.4nm,0.9s,baz=23,slow=11,SNR=10							
MJAR				LR		LR	23 45 08.9	
	comp=Z,42nm,19.6s,baz=62,slow=39							
	comp=Z,5.4nm,0.9s							
JGF	**Kuroka**	**22.97**	**233**	P		**P**	**23 35 50.0**	**+0.7**
JGF				IAmb		IAmb	23 36 08.8	
	comp=Z,22nm,1.3s							
TIXI	**Tiksi**	**23.98**	**336**	P		**P**	**23 35 56.8**	**-1.7**
	comp=Z,6.6nm,0.6s,baz=90,slow=20,SNR=31							
	comp=Z,6.6nm,0.6s							
TIXI	**Tiksi**	**23.98**	**336**	P		**P**	**23 35 56.9**	**-1.7**
TIXI				IAmb		IAmb	23 35 58.3	
	comp=Z,8.3nm,0.8s							
TIXI	**Tiksi**	**23.98**	**336**	⇓*e*P		**P**	**23 35 57.4**	**-1.1**
TIXI				pmax		pmax		
	comp=Z,8.0nm,0.7s							
K20K	**Telida**	**26.45**	**47**	P		**P**	**23 36 20.8**	**-0.3**
KSRS	**Korea Array**	**26.72**	**250**	P		**P**	**23 36 23.7**	**0.0**
	comp=Z,0.6nm,0.4s,baz=44,slow=9.4,SNR=1.7							
	comp=Z,0.6nm,0.4s							
M20K	**Styx River**	**26.84**	**50**	P		**P**	**23 36 22.7**	**-2.0**
JCJ	**Chichijima**	**28.26**	**215**	LR		LR	23 47 57.1	
	comp=Z,13nm,19.8s,baz=98,slow=36							
SML	**Sawmill**	**29.12**	**50**	P		**P**	**23 36 43.9**	**-1.1**
SML				IAmb		IAmb	23 37 13.0	
	comp=Z,17nm,1.3s							
ILAR	**Eielson Array**	**29.65**	**44**	P		**P**	**23 36 49.7**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=263,slow=7.2,SNR=1.9							
	comp=Z,0.2nm,0.8s							
BARN	**Barnard Glacie**	**32.40**	**51**	P		**P**	**23 37 13.5**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**32.72**	**168**	T		T	00 13 22.8	
	baz=352,slow=76,SNR=48							
H11N3	**WAKE ISLAND Hy**	**32.74**	**168**	T		T	00 13 15.9	
	baz=352,slow=76,SNR=16							
H11N1	**WAKE ISLAND Hy**	**32.74**	**168**	T		T	00 13 14.3	
	baz=352,slow=76,SNR=34							
H11S1	**WAKE ISLAND Hy**	**33.90**	**168**	T		T	00 14 38.9	
	baz=352,slow=74							
H11S3	**WAKE ISLAND Hy**	**33.91**	**168**	T		T	00 14 45.0	
	baz=352,slow=74							
H11S2	**WAKE ISLAND Hy**	**33.92**	**168**	T		T	00 14 43.0	
	baz=352							
SONM	**Songino Array**	**34.02**	**285**	P		**P**	**23 37 27.1**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=70,slow=7.3,SNR=5.9							
SONM				LR		LR	23 52 55.9	
	comp=Z,72nm,19.0s,baz=47,slow=39							
	comp=Z,0.2nm,0.5s							
SONM	**Songino Array**	**34.02**	**285**	*e*P		**P**	**23 37 27.8**	**-0.5**
INK	**Inuvik**	**34.78**	**37**	P		**P**	**23 37 35.2**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=290,slow=8.1,SNR=11							
	comp=Z,1.3nm,0.6s							
INK	**Inuvik**	**34.78**	**37**	P		**P**	**23 37 35.0**	**+0.7**
INK				IAmb		IAmb	23 37 57.9	
	comp=Z,4.9nm,1.4s							
INK	**Inuvik**	**34.78**	**37**	P		**P**	**23 37 35.0**	**+0.7**
INK				pmax		pmax		
	comp=Z,5.0nm,1.5s							
EUNU	**Eureka**	**42.99**	**14**	P		**P**	**23 38 43.4**	**+0.4**
EUNU				IAmb		IAmb	23 39 01.6	
	comp=Z,4.3nm,0.9s							
DGZ	**Jazzator, Alta**	**44.02**	**297**	⇓*e*P		**P**	**23 38 50.7**	**-1.1**
DGZ				pmax		pmax		
	comp=Z,7.0nm,2.8s							
YKA	**Yellowknife Ar**	**44.02**	**42**	P		**P**	**23 38 52.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=297,slow=8.4,SNR=7.3							
	comp=Z,0.8nm,0.7s							
RES	**Resolute Bay**	**44.34**	**22**	P		**P**	**23 38 54.2**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=336,slow=6.0,SNR=4.2							
	comp=Z,1.1nm,0.5s							
RES	**Resolute Bay**	**44.34**	**22**	P		**P**	**23 38 53.4**	**-0.4**
RES	**Resolute Bay**	**44.34**	**22**	P		**P**	**23 38 53.4**	**-0.4**
RES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**48.18**	**303**	P		**P**	**23 39 22.4**	**-1.9**
KURK				IAmb		IAmb	23 39 23.8	
	comp=Z,2.2nm,0.5s							
KURK	**Kurchatov**	**48.18**	**303**	⇓*i*P		**P**	**23 39 22.0**	**-2.2**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MK31	**Makanchi Array**	**48.49**	**296**	P		**P**	**23 39 24.5**	**-2.3**
MK31	**

KIV *e* 23 44 30.0
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 70.20 317 P **P** **23 41 56.2 -0.3**
comp=Z,1.2nm,0.8s,baz=59,slow=9.3,SNR=4.1
comp=Z,1.2nm,0.8s
TX31 Lajitas Ar. Si 71.17 66 P **P** **23 42 04.4 +1.5**
TX31 IAmb IAmb 23 42 16.8
comp=Z,2.3nm,0.8s
TXAR Lajitas Array 71.17 66 P **P** **23 42 04.7 +1.8**
comp=Z,0.7nm,0.6s,baz=300,slow=4.9,SNR=13
comp=Z,0.7nm,0.6s
FCAR Ozark Folk Cen 72.29 54 P **P** **23 42 09.8 +0.4**
FCAR IAmb IAmb 23 42 10.9
comp=Z,3.1nm,0.8s
BUR08 Bucovina Ar. S 73.39 330 P **P** **23 42 15.3 -0.6**
BUR08 IAmb IAmb 23 42 18.1
comp=Z,2.4nm,0.8s
WRA Warramunga Arr 75.08 205 P **P** **23 42 26.5 +0.8**
comp=Z,1.1nm,0.9s,baz=22,slow=6.2,SNR=6.2
comp=Z,1.1nm,0.9s
WRA Warramunga Arr 75.08 205 *e*P **P** **23 42 27.1 +1.4**
WRA pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 75.43 338 P **P** **23 42 27.2 -0.5**
comp=Z,0.5nm,0.5s,baz=25,slow=3.5,SNR=3.7
comp=Z,0.5nm,0.5s
BR131 Keskin Array S 77.34 320 P **P** **23 42 38.6 -0.1**
BR131 IAmb IAmb 23 42 38.9
comp=Z,3.1nm,0.9s
BR131 Keskin Array S 77.34 320 P **P** **23 42 38.6 -0.1**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 77.34 320 P **P** **23 42 38.6 -0.1**
comp=Z,0.9nm,0.7s,baz=51,slow=3.0,SNR=6.6
comp=Z,0.9nm,0.7s
DIVS Divibare 78.16 332 P **P** **23 42 42.9 -0.2**
VTS Vitosha 78.51 329 P **P** **23 42 44.9 -0.2**
VTS IAmb IAmb 23 42 45.8
comp=Z,5.5nm,1.5s
VTS Vitosha 78.51 329 P **P** **23 42 44.9 -0.2**
VTS pmax pmax
comp=Z,6.0nm,1.5s
ASAR Alice Springs 78.75 204 P **P** **23 42 48.1 +1.7**
comp=Z,0.6nm,0.5s,baz=16,slow=5.4,SNR=9.0
comp=Z,0.6nm,0.5s
ESDC Soneca Array 87.57 348 P **P** **23 43 31.8 -0.1**
comp=Z,0.7nm,0.7s,baz=6.0,slow=4.1,SNR=6.1
comp=Z,0.7nm,0.7s
H03N2 Juan Fernandez 134.33 90 T T 02 20 37.4
baz=314,slow=77,SNR=3.2
H03N1 Juan Fernandez 134.34 90 T T 02 20 38.9
baz=314,slow=77,SNR=4.1
H03N3 Juan Fernandez 134.35 90 T T 02 20 39.3
baz=314,slow=77,SNR=3.7

*IDC **04** 23:45:46.8±0.8,30″.24S×60″.84E, h0km, mb4.0/8, mbtmp4.0/9, ML3.7/1, MS3.3/5, Error ellipse: s-maj=30.3km s-min=20.5km az=102.0*
*NEIC **04** 23:45:47.3±0.5,30′.05S±0″.2×60′.6E±0″.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=30.8km s-min=18.9km az=40.0*
ISC 04 23:45:47.9±0.7,**30′.2S**±0″.1×**60′.5E**±0″.1,**h10**km,**n29,** σ1§**30**/**18**,**mb4.2**/**10**,**MS3.2**/**5**,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VOI	**Vohitsoka**	**14.82**	**300**	Pn	**Pn**	**23 49 16.4**	**-1.4**
ABPO	**Ambohimpanom**	**16.39**	**310**	Pn	**Pn**	**23 49 36.3**	**-2.0**
OPO	**Ambohidratompo**	**16.74**	**311**	Pn	**P**	**23 49 45.9**	**+0.9**
	baz=56,slow=19,SNR=2.2						
OPO				Sn	Sn	23 52 36.7	-12
	baz=97,slow=19,SNR=1.7						
	1.1nm,0.5s						
H08S1	**Diego Carcia H**	**25.04**	**29**	T	T	00 17 07.8	
	baz=204						
H08S2	**Diego Garcia H**	**25.05**	**29**	T	T	00 17 06.4	
	baz=204						
H08S3	**Diego Garcia H**	**25.06**	**29**	T	T	00 17 04.3	
	baz=204						
KMBO	**Kilima Mbogo**	**36.37**	**318**	LR	LR	00 05 55.9	
	comp=Z,29nm,20.8s,baz=82,slow=33						
MBAR	**Mbarara**	**40.82**	**311**	LR	LR	00 08 31.4	
	comp=Z,22nm,18.7s,baz=121,slow=33						
H01W2	**Cape Leeuwin H**	**45.00**	**111**	T	T	00 42 11.2	
	baz=260						
H01W3	**Cape Leeuwin H**	**45.00**	**111**	T	T	00 42 20.0	
	baz=260						
H01W1	**Cape Leeuwin H**	**45.02**	**111**	T	T	00 42 07.2	
	baz=260						
WSAR	**Wadi Sarin**	**53.12**	**358**	LR	LR	00 13 15.9	
	comp=Z,23nm,19.2s,baz=243,slow=31						
SNAA	**Sanae**	**53.35**	**201**	P	**P**	**23 55 07.6**	**+0.5**
	4.0nm,0.7s,baz=106,slow=8.7,SNR=16						
	4.0nm,0.7s						
SNAA	**Sanae**	**53.35**	**201**	P	**P**	**23 55 07.3**	**+0.3**
SNAA				IAmb	IAmb	23 55 08.6	
	comp=Z,5.0nm,0.8s						
QSPA	**South Pole Qui**	**60.01**	**180**	P	**P**	**23 55 54.6**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=274,slow=6.0,SNR=9.0						
	comp=Z,2.6nm,0.6s						
QSPA	**South Pole Qui**	**60.01**	**180**	P	**P**	**23 55 54.7**	**+0.1**
QSPA				IAmb	IAmb	23 55 57.2	
	comp=Z,4.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.86**	**42**	P	**P**	**23 56 00.6**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=229,slow=7.6,SNR=11						
	comp=Z,2.0nm,0.6s						
VNDA	**Vanda**	**63.20**	**166**	P	**P**	**23 56 15.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=263,slow=8.1,SNR=2.2						
	comp=Z,1.1nm,0.8s						
VNDA	**Vanda**	**63.20**	**166**	P	**P**	**23 56 16.0**	**+0.3**
VNDA				IAmb	IAmb	23 56 17.6	
	comp=Z,4.6nm,1.4s						
ASAR	**Alice Springs**	**64.74**	**104**	P	**P**	**23 56 25.2**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=247,slow=6.1,SNR=15						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**66.63**	**100**	P	**P**	**23 56 37.7**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=244,slow=5.8,SNR=9.1						
	comp=Z,1.0nm,0.6s						
WB2	**Warramunga Arr**	**66.64**	**100**	P	**P**	**23 56 36.9**	**-2.2**
WB0	**Warramunga Arr**	**66.75**	**100**	P	**P**	**23 56 38.1**	**-1.7**
WB0				IAmb	IAmb	23 56 46.0	
	comp=Z,6.9nm,1.2s						
KBZ	**Khabaz**	**75.28**	**347**	LR	LR	00 29 53.4	
	comp=Z,21nm,19.6s,baz=194,slow=35						
ABKAR	**Akbulak array**	**79.06**	**360**		**P**	**23 57 52.4**	**+0.5**
ABKAR				IAmb	IAmb	23 58 00.2	
	comp=Z,3.4nm,1.4s						
MKAR	**Makanchi Array**	**79.07**	**15**	P	**P**	**23 57 53.7**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=197,slow=4.5,SNR=5.7						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**86.36**	**14**	P	**P**	**23 58 30.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=214,slow=4.9,SNR=3.6						
	comp=Z,0.5nm,0.5s						
DZM	**Mont Dzumac**	**91.92**	**117**	LR	LR	00 31 25.9	
	comp=Z,33nm,20.4s,baz=54,slow=30						
YKA	**Yellowknife Ar**	**147.50**	**356**	PKPbc	**PKPdf**	**00 05 30.3**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=346,slow=3.1,SNR=12						

*IDC **04** 23:46:06.4±6.5,34′.33N×23′.43E, h0km, mb4.1/2, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=106.0km s-min=56.3km az=35.0*
*THE **04** 23:46:14.6,34′.49N×23′.75E, h0km±6km, ML2.8/3, Error ellipse: s-maj=9.0km s-min=1.2km az=197.0*
*ATH **04** 23:46:15.6,34′.54N×23′.77E, h18km±1km, ML3.0/5, Error ellipse: s-maj=3.3km s-min=1.7km az=192.0*
ISC 04 23:46:11.5±2.5,**34′.4N**±0″.2×**23′.7E**±0″.1,**h21**km±7km,**n15,** σ1§**14**/**23**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.59**	**38**	P	**Pb**	**23 46 23.6**	**+0.4**
GVD				S	**Sb**	**23 46 30.0**	**-1.3**
	2μm,0.3s						
GVD	**Gavdhos**	**0.59**	**38**	P	**Pb**	**23 46 23.7**	**+0.4**
GVD				S	**Sb**	**23 46 29.6**	**-1.7**
GVD				AML	AML	23 46 35.2	
	comp=E,5147μm,0.6s						
GVD				AML	AML	23 46 35.5	
	comp=N,6010μm,0.4s						
GVDS	**Gavdos**	**0.60**	**38**	P	**Pb**	**23 46 23.4**	**+0.1**
KNDR	**Palaiochora Ch**	**0.86**	**2**	P	**Pn**	**23 46 29.0**	**+0.6**
KNDR				S	**Sn**	**23 46 40.9**	**+0.5**
	comp=N,435nm,0.6s						
KNDR	**Palaiochora Ch**	**0.86**	**2**	P	**Pb**	**23 46 28.8**	**+1.0**
KNDR				S	**Sb**	**23 46 38.6**	**-0.2**
KNDR				AML	AML	23 46 42.9	
	comp=N,2500μm,0.7s						
KNDR				AML	AML	23 46 45.1	
	comp=E,2630μm,0.5s						
IMMV	**Iera Moni Meta**	**1.12**	**14**	P	**Pb**	**23 46 33.0**	**+0.8**
IMMV				S	**Sn**	**23 46 48.4**	**+1.6**
	comp=E,810nm,0.6s						
IMMV	**Iera Moni Meta**	**1.12**	**14**	P	**Pn**	**23 46 32.6**	**+0.6**
IMMV				S	**Sb**	**23 46 45.1**	**-1.3**
IMMV				AML	AML	23 46 51.0	
	comp=E,1852μm,0.4s						
IMMV				AML	AML	23 46 51.7	
	comp=N,1995μm,0.4s						
SIVA	**Sivas**	**1.16**	**56**	P	**Pb**	**23 46 34.2**	**+1.5**
TMBK	**Timbaki Herakl**	**1.16**	**52**	P	**Pb**	**23 46 33.5**	**+0.7**
TMBK				S	**Sb**	**23 46 46.6**	**-0.7**
TMBK				AML	AML	23 46 57.8	
	comp=E,1966μm,0.4s						
TMBK				AML	AML	23 46 57.9	
	comp=N,2130μm,0.8s						
CHAN	**Chania**	**1.19**	**16**	P	**Pb**	**23 46 34.2**	**+0.9**
CHAN				S	**Sb**	**23 46 47.4**	**-0.9**
CHAN				AML	AML	23 46 55.2	
	comp=N,2413μm,0.7s						
CHAN				AML	AML	23 46 58.8	
	comp=E,1642μm,0.6s						
PRNS	**Prines Rethymn**	**1.22**	**35**	P	**Pn**	**23 46 33.6**	**+0.3**
BRTR	**Keskin Array B**	**9.61**	**53**	Pn	**Pn**	**23 48 30.5**	**+1.8**
	comp=E,0.1nm,0.3s,baz=242,slow=14,SNR=2.1						
	comp=E,0.4nm,0.8s						
AKASG	**Malin Array Be**	**16.82**	**12**	Pn	**Pn**	**23 50 05.0**	**-0.6**
	comp=E,0.6nm,0.3s,baz=201,slow=11,SNR=2.3						
	comp=E,0.1nm,0.3s						
FINES	**FINESS Array B**	**27.14**	**3**	P	**P**	**23 51 50.8**	**-2.1**
	comp=E,8.1nm,1.1s,baz=165,slow=12,SNR=1.7						
	comp=E,8.1nm,1.1s						
MKAR	**Makanchi Array**	**45.25**	**56**	P	**P**	**23 54 27.0**	**-0.3**
	comp=E,0.5nm,0.4s,baz=270,slow=7.9,SNR=12						
	comp=E,0.5nm,0.4s						

*IDC **04** 23:55:58.3±1.4,5′.21N×73′.80W, h157km±7km, mb3.2/2, mbtmp3.7/3, Error ellipse: s-maj=54.7km s-min=26.0km az=125.0*
*RSNC **04** 23:55:58.6±1.4,5′.28N×73′.72W, h154km±6km, ML3.3, Mw3.7*
ISC 04 23:55:58.3±0.9,**5′.32N**±0″.03×**73′.72W**±0″.03,**h155**km±6km, **n36,** σ1§**69**/**68**,**8C-5D**,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIC	**Chingaza**	**0.68**	**181**	⇓*i*P	**Pn**	**23 56 21.3**	**-0.5**
CHIC				*e*S	**Sn**	**23 56 38.0**	**-1.6**
CHIC				*i*		23 56 39.6	
	comp=Z,260nm,0.4s						
ROSC	**El Rosal**	**0.76**	**231**	P	**Pn**	**23 56 23.0**	**+0.8**
	comp=Z,508nm,0.3s,baz=122,slow=15,SNR=195						
ROSC				S	**Sn**	**23 56 40.3**	**-0.1**
	comp=Z,716nm,0.3s,baz=33,slow=22,SNR=8.6						
ROSC	**El Rosal**	**0.76**	**231**	*i*P	**Pn**	**23 56 23.1**	**+0.9**
ROSC				*e*S	**Sn**	**23 56 40.8**	**+0.5**
ROSC				*i*		23 56 44.5	
	comp=Z,990nm,0.5s						
RUSC	**La Rusia**	**0.86**	**48**	⇓*i*P	**Pn**	**23 56 23.7**	**+0.7**
RUSC				*e*S	**Sn**	**23 56 41.8**	**0.0**
RUSC				*i*		23 56 43.8	
	comp=Z,275nm,0.3s						
NORC	**Norcasia**	**1.17**	**282**	⇑*i*P	**Pn**	**23 56 25.0**	**-0.1**
NORC				*e*S	**Sn**	**23 56 45.0**	**-0.5**
NORC				*i*		23 56 46.0	
	comp=Z,523nm,0.2s						
BARC	**Barichara**	**1.38**	**23**	*e*P	**Pn**	**23 56 27.6**	**+0.3**
BARC				*e*S	**Sn**	**23 56 48.7**	**-0.8**
BARC				*i* S	**Sn**	**23 56 48.7**	**-0.8**
BARC				*i*		23 56 54.6	
	comp=Z,347nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.42**	**329**	⇑*e*P	**Pn**	**23 56 27.1**	**-0.4**
PTBC				*e*S	**Sn**	**23 56 49.5**	**-0.3**
PTBC				*i*		23 56 51.2	
	comp=Z,260nm,0.2s						
GUY2C	**Guyana, Caldas**	**1.64**	**267**	⇑*e*P	**Pn**	**23 56 30.1**	**-0.1**
GUY2C				*e*S	**Sn**	**23 56 54.8**	**+0.2**
GUY2C				IAML		23 56 57.9	
	comp=Z,159nm,0.3s						
BRRC	**Barranca, Sant**	**1.78**	**0**	*e*P	**Pn**	**23 56 32.1**	**+0.9**
BRRC				*e*S	**Sn**	**23 56 57.5**	**+0.9**
BRRC				*i*		23 57 01.4	
	comp=Z,191nm,0.2s						
PTGC	**Puerto Gaitan,**	**1.94**	**125**	⇑*i*P	**Pn**	**23 56 32.6**	**-0.4**
PTGC				*e*S	**Sn**	**23 56 57.8**	**-1.9**
PTGC				*i*		23 57 02.2	
	comp=Z,537nm,0.2s						
ORTC	**Ortega, Tolima**	**2.06**	**227**	⇓*i*P	**Pn**	**23 56 34.0**	**-0.5**
ORTC				*e*S	**Sn**	**23 57 00.8**	**-1.7**
ORTC				*i*		23 57 04.5	
	comp=Z,251nm,0.3s						
TAMC	**Tame, Arauca**	**2.22**	**60**	*e*P	**Pn**	**23 56 37.2**	**+0.8**
TAMC				*e*S	**Sn**	**23 57 05.6**	**-0.1**
TAMC				*i*		23 57 08.1	
	comp=Z,184nm,0.3s						
PAMC	**Pamplona, Colo**	**2.25**	**27**	*e*P	**Pn**	**23 56 38.6**	**+1.5**
PAMC				*e*S	**Sn**	**23 57 07.9**	**+0.8**
PAMC				*i*		23 57 10.5	
	comp=Z,61nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.34**	**284**	⇑*e*P	**Pn**	**23 56 38.0**	**+0.1**
CBOC				*e*S	**Sn**	**23 57 08.0**	**-0.5**
CBOC				*i*		23 57 15.0	
	comp=Z,60nm,0.5s						
ZARC	**Zaragoza, Cauc**	**2.44**	**333**	⇑*i*P	**Pn**	**23 56 37.9**	**-1.1**
ZARC				*e*S	**Sn**	**23 57 09.7**	**-0.6**
ZARC				*i*		23 57 16.5	
	comp=Z,302nm,0.4s						
PLMC	**San Jos del P**	**2.58**	**261**	*e*P	**Pn**	**23 56 41.5**	**+0.8**
PLMC				*e*S	**Sn**	**23 57 14.4**	**+0.9**
PLMC				*i*		23 57 18.6	
	comp=Z,34nm,0.5s						
YOTC	**Yotoco, Valle**	**2.93**	**243**	⇑*e*P	**Pn**	**23 56 44.8**	**-0.4**
YOTC				*e*S	**Sn**	**23 57 20.7**	**-0.6**
GUVC	**San Jose del G**	**2.96**	**158**	*e*P	**Pn**	**23 56 44.4**	**-1.1**
GUVC				*e*S	**Sn**	**23 57 19.9**	**-2.1**
GUVC				*i*		23 57 21.9	
	comp=Z,169nm,0.2s						
DBBC	**Dabeiba**	**2.99**	**304**	*e*P	**Pn**	**23 56 46.4**	**+0.5**
DBBC				*e*S	**Sn**	**23 57 22.9**	**+0.2**
DBBC				*i*		23 57 27.6	
	comp=Z,67nm,0.4s						
UREC	**San Jos de Ur**	**3.01**	**323**	⇑*e*P	**Pn**	**23 56 44.5**	**-1.5**
UREC				*e*S	**Sn**	**23 57 20.8**	**-2.3**
UREC				*i*		23 57 22.5	
	comp=Z,166nm,0.1s						
MACC	**Macarena, Meta**	**3.15**	**182**	⇓*e*P	**Pn**	**23 56 46.2**	**-1.7**
MACC				*e*S	**Sn**	**23 57 22.7**	**-3.6**
MACC				*i*		23 57 24.8	
	comp=Z,53nm,0.3s						
GARC	**Garzon, Huila**	**3.58**	**210**	*e*P	**Pn**	**23 56 52.5**	**-1.0**
GARC				*e*S	**Sn**	**23 57 34.3**	**-2.0**
APAC	**Apartado, Choc**	**3.83**	**312**	*e*P	**Pn**	**23 56 56.5**	**+0.1**
APAC				*e*S	**Sn**	**23 57 42.0**	**+0.4**
APAC				*i*		23 57 45.2	
	comp=Z,48nm,0.6s						
FLOC	**Florencia**	**4.18**	**207**	*e*P	**Pn**	**23 57 00.8**	**-0.3**
LL1C	**La Loma 1 Cana**	**4.20**	**2**	*e*P	**Pn**	**23 57 03.5**	**+2.1**
LL1C				*e*S	**Sn**	**23 57 52.7**	**+2.3**
LCBC	**Los crdobas,**	**4.39**	**323**	⇓*e*P	**Pn**	**23 57 02.9**	**-0.9**
LCBC				*e*S	**Sn**	**23 57 54.0**	**-0.8**
LCBC				*i*		23 57 59.3	
	comp=Z,50nm,0.3s						
ARGC	**Ariguani, Magd**	**4.54**	**353**	*e*P	**Pn**	**23 57 06.4**	**+0.6**
ARGC				*e*S	**Sn**	**23 57 56.4**	**-2.1**
SDV	**Santo Domingo**	**4.69**	**41**	P	**Pn**	**23 57 08.9**	**+1.0**
	comp=Z,5.3nm,0.4s,baz=239,slow=13,SNR=8.1						
SDV				S	**Sn**	**23 57 59.4**	**-2.8**
	comp=Z,16nm,0.4s,baz=254,slow=23,SNR=15						
SJCC	**San Jacinto, C**	**4.77**	**342**	*e*P	**Pn**	**23 57 07.0**	**-1.9**
SJCC				*e*S	**Sn**	**23 58 00.3**	**-3.7**
SJCC				*i*		23 58 02.9	
	comp=Z,53nm,0.3s						
CRJC	**Cerrejon, Guaj**	**5.73**	**8**	*e*P	**Pn**	**23 57 21.0**	**-0.5**
CRJC				*e*S	**Sn**	**23 58 21.6**	**-5.2**
CRJC				*i*		23 58 26.1	
	comp=Z,25nm,0.2s						
SMRC	**Santa Marta, M**	**5.83**	**355**	*e*P	**Pn**	**23 57 22.7**	**-0.2**
SMRC				*e*S	**Sn**	**23 58 23.8**	**-5.2**
SMRC				*i*		23 58 29.5	
	comp=Z,16nm,0.3s						
URIC	**Uribia, Colomb**	**6.57**	**15**	*e*P	**Pn**	**23 57 31.0**	**-1.7**
URIC				*e*S	**Sn**	**23 58 42.6**	**-4.1**
URIC				*i*		23 58 50.7	
	comp=Z,4.2nm,0.2s						
YKA	**Yellowknife Ar**	**64.46**	**340**	P	**P**	**00 06 18.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=136,slow=6.1,SNR=18						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**78.06**	**335**	P	**P**	**00 07 40.2**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=106,slow=4.9,SNR=5.5						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**147.74**	**233**	PKPbc	**PKPdf**	**00 15 23.7**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=133,slow=3.2,SNR=1.9						
WRA	**Warramunga Arr**	**149.08**	**239**	PKPbc	**PKPdf**	**00 15 28.0**	**+3.0**
	comp=Z,0.7nm,0.9s,baz=103,slow=3.1,SNR=2.4						

*NOU **05** 00:05:01.2, 14′.54S×167′.56E, h122km, mb4.6/37, Vanuatu Islands*
*IDC **05** 00:05:03.7±2.3, 14′.86S×167′.46E, h140km±19km, mb4.1/16, mbtmp4.5/17, MS3.5/2, Error ellipse: s-maj=18.4km s-min=12.5km az=72.0*
*NEIC **05** 00:05:04.5±2.1, 14′.86S±0″.10×167′.4E±0″.1, h136km±7km, mb4.6/33, Error ellipse: s-maj=16.6km s-min=13.7km az=69.0*
ISC 05 00:05:02.9±0.5,**14′.87S**±0″.06×**167′.44E**±0″.07,**h129**km, **n105,** σ1§**25**/**105**,**mb4.5**/**30**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.93**	**166**	P	**Pn**	**00 05 49.5**	**+0.9**
RTV	**Rentapao**	**3.06**	**162**	P	**Pn**	**00 05 51.9**	**+1.6**
LIFNC	**LIFOU**	**5.88**	**182**	Pn	**Pn**	**00 06 28.5**	**+0.7**
LIFNC	**LIFOU**	**5.88**	**182**	P	**Pn**	**00 06 29.4**	**+1.6**
KOUNC	**Koumac, New Ca**	**6.40**	**208**	Pn	**Pn**	**00 06 36.1**	**+1.2**
KOUNC	**Koumac, New Ca**	**6.40**	**208**	P	**Pn**	**00 06 36.2**	**+1.4**
MARNC	**Mare, Loyalty**	**6.60**	**175**	Pn	**Pn**	**00 06 37.9**	**+0.4**
DZM	**Mont Dzumac**	**7.22**	**187**	P	**Pn**	**00 06 47.9**	**+1.8**
	6.6nm,0.4s,baz=65,slow=5.6,SNR=30						
DZM				S	**Sn**	**00 08 03.9**	**-2.9**
	6.1nm,0.4s,baz=307,slow=20,SNR=1.4						
DZM	**Mont Dzumac**	**7.22**	**187**	Pn	**Pn**	**00 06 47.8**	**+1.7**
DZM	**Mont Dzumac**	**7.22**	**187**	P	**Pn**	**00 06 47.9**	**+1.8**
ONTNC	**Ouen Toro**	**7.46**	**187**		**Pn**	**00 06 51.3**	**+2.2**
ONTNC	**Ouen Toro**	**7.46**	**187**	P	**Pn**	**00 06 51.8**	**+2.7**
OUENC	**Ouen Island, N**	**7.53**	**184**	Pn	**Pn**	**00 06 53.2**	**+3.1**
OUENC	**Ouen Island, N**	**7.53**	**184**	P	**Pn**	**00 06 51.9**	**+1.8**
HNR	**Honiara**	**9.10**	**306**	P	**Pn**	**00 07 13.5**	**+2.1**
	1μm,0.4s,baz=164,slow=6.8,SNR=5.0						
HNR				S	**Sn**	**00 08 54.8**	**+2.6**
	2μm,0.5s,baz=65,slow=20,SNR=1.9						
HNR				LR	LR	00 10 30.0	
	comp=Z,907nm,20.4s,baz=144,slow=36						
HNR	**Honiara**	**9.10**	**306**	Pn	**Pn**	**00 07 11.7**	**+0.3**
EIDS	**Eidsvold**	**18.56**	**233**	P	**Pn**	**00 09 11.5**	**-0.2**
EIDS				IAmb	IAmb	00 09 12.8	
	comp=Z,44nm,0.8s						
EIDS	**Eidsvold**	**18.56**	**233**	P	**Pn**	**00 09 12.1**	**+0.5**
TV1H	**Townsville Har**	**20.21**	**255**	P	**P**	**00 09 29.4**	**+1.6**
PMG	**Port Moresby**	**20.55**	**283**	P	**P**	**00 09 32.3**	**+0.8**
	comp=Z,9.1nm,0.2s,baz=87,slow=9.8,SNR=7.1						
	comp=Z,9.1nm,0.2s						
PMG	**Port Moresby**	**20.55**	**283**	P	**P**	**00 09 31.3**	**-0.2**
PMG				IAmb	IAmb	00 09 35.3	
	comp=Z,18nm,0.8s						
CTA	**Charters Tower**	**20.86**	**253**	P	**P**	**00 09 35.4**	**+0.6**
	comp=Z,24nm,0.8s,baz=77,slow=10,SNR=26						
	comp=Z,24nm,0.8s						
CTAO	**Charters Tower**	**20.86**	**253**	P	**P**	**00 09 35.1**	**+0.3**
CTAO				IAmb	IAmb	00 09 36.6	
	comp=Z,24nm,0.8s						
CTAO	**Charters Tower**	**20.86**	**253**	P	**P**	**00 09 36.0**	**+1.2**
RMQ	**Roma**	**20.92**	**234**	P	**P**	**00 09 37.1**	**+1.6**
OUZ	**Omahuta**	**21.01**	**166**	P	**P**	**00 09 38.2**	**+2.0**
OUZ				IAmb	IAmb	00 09 39.8	
	comp=Z,26nm,0.8s						
OUZ	**Omahuta**	**21.01**	**166**	P	**P**	**00 09 38.8**	**+2.6**
ARMA	**Armidale**	**21.23**	**221**	P	**P**	**00 09 39.0**	**+0.2**
ARMA				IAmb	IAmb	00 09 41.4	
	comp=Z,24nm,1.1s						
NIUE	**Niue**	**22.04**	**104**	P	**P**	**00 09 50.1**	**+2.8**
MGCD	**Mangrove Creek**	**23.52**	**216**	P	**P**	**00 10 03.0**	**+1.6**
COEN	**Coen**	**23.52**	**269**	P	**P**	**00 10 01.4**	**-0.2**
COEN	**Coen**	**23.52**	**269**	P	**P**	**00 10 01.8**	**-0.2**
HIZ	**Hauiti**	**24.45**	**166**	P	**P**	**00 10 11.5**	**+1.8**
QLP	**Quilpie**	**24.59**	**238**	P	**P**	**00 10 12.0**	**+0.8**
URZ	**Urewera**	**24.82**	**162**	P	**P**	**00 10 13.2**	**+0.2**
	comp=Z,6.2nm,0.5s,baz=323,slow=2.8,SNR=9.6						
	comp=Z,6.2nm,0.5s						
URZ	**Urewera**	**24.82**	**162**	P	**P**	**00 10 14.2**	**+1.1**
RTZ	**Ruatahuna**	**25.11**	**162**	P	**P**	**00 10 16.1**	**+0.3**
RTZ				IAmb	IAmb	00 10 17.5	
	comp=Z,21nm,1.2s						
BKZ	**Black Stump Fm**	**25.48**	**163**	P	**P**	**00 10 19.3**	**+0.2**
BKZ	**Black Stump Fm**	**25.48**	**163**	P	**P**	**00 10 19.5**	**+0.3**
CMSA	**Cobar Meteorol**	**25.90**	**226**	P	**P**	**00 10 23.7**	**+0.7**
BFZ	**Birch Farm**	**26.84**	**165**	P	**P**	**00 10 31.9**	**+0.6**
QIS	**Mount Isa**	**27.09**	**254**	P	**P**	**00 10 34.3**	**+0.4**
INKA	**Innaminka**	**27.90**	**238**	P	**P**	**00 10 41.5**	**+0.6**
RPZ	**Rata Peaks**	**28.91**	**175**	P	**P**	**00 10 48.7**	**-1.1**
	comp=Z,11nm,0.6s,baz=64,slow=18,SNR=2.6						
	comp=Z,11nm,0.6s						
STKA	**Stephens Creek**	**29.03**	**230**	P	**P**	**00 10 51.4**	**+0.4**
	comp=Z,13nm,0.5s,baz=51,slow=8.6,SNR=39						
	comp=Z,13nm,0.5s						
STKA	**Stephens Creek**	**29.03**	**230**	P	**P**	**00 10 51.8**	**+0.8**
STKA	**Stephens Creek**	**29.03**	**230**	P	**P**	**00 10 51.9**	**+1.0**
SMPI	**Sarmi**

comp=Z,1.0nm,0.5s
VNDA Vanda 62.73 181 P P 00 15 13.7 -0.1
comp=Z,2.1nm,0.5s,baz=355,slow=8.2,SNR=21
comp=Z,2.1nm,0.5s
VNDA Vanda 62.73 181 P P 00 15 13.8 +0.1
SBA Scott Base 63.00 180 P P 00 15 16.5 +1.0
PEA0B Petropavlovsk- 68.22 354 P P 00 15 51.5 +2.1
PETK Petropavlovsk- 68.22 354 P P 00 15 50.4 +1.1
comp=Z,5.6nm,0.8s,baz=93,slow=2.9,SNR=2.2
comp=Z,5.6nm,0.8s
CMAR Chiang Mai Arr 75.16 294 P P 00 16 31.6 0.0
comp=Z,0.9nm,0.3s,baz=128,slow=3.3,SNR=4.4
comp=Z,0.9nm,0.3s
QSPA South Pole Qui 75.16 180 P P 00 16 30.6 -0.4
QSPA IAmb IAmb 00 16 31.7
comp=Z,6.6nm,0.9s
P18K Big Mountain, 79.96 18 P P 00 16 58.8 +1.4
P18K IAmb IAmb 00 16 59.1
comp=Z,14nm,1.4s
YAK Yakutsk 82.21 343 P P 00 17 09.8 +0.6
SONM Songino Array 82.71 324 P P 00 17 12.2 -0.1
comp=Z,2.0nm,1.1s,baz=140,slow=6.4,SNR=8.6
comp=Z,2.0nm,1.1s
PPLA Purkeypile 83.64 17 P P 00 17 16.4 -0.4
CAST Castle Rocks 84.08 17 P P 00 17 18.4 -0.5
CAST IAmb IAmb 00 17 19.5
comp=Z,5.1nm,0.7s
TRF Thorofare Moun 84.62 18 P P 00 17 21.4 -0.4
I21K Tanana 85.48 16 P P 00 17 26.3 +0.5
I21K IAmb IAmb 00 17 28.3
comp=Z,7.9nm,1.2s
HDA Harding Lake 86.33 18 P P 00 17 30.4 +0.4
IL31 86.61 18 P P 00 17 30.5 -0.8
ILAR Eielson Array 86.61 18 P P 00 17 29.7 -1.7
comp=Z,1.6nm,0.9s,baz=236,slow=5.7,SNR=18
comp=Z,1.6nm,0.9s
TROLL Troll, Antarti 92.74 185 P P 00 17 59.8 -0.6
SNAA Sanae 93.42 183 P P 00 18 02.3 -1.1
VNA2 Neumayer--Watz 94.34 182 P P 00 18 06.5 -1.1
baz=176,slow=5.0
MKAR Makanchi Array 97.42 316 P P 00 18 21.4 -0.6
comp=Z,1.0nm,0.7s,baz=96,slow=5.2,SNR=13
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 97.59 27 P P 00 18 20.7 -1.6
comp=Z,0.3nm,0.8s,baz=255,slow=4.6,SNR=4.9
comp=Z,0.3nm,0.8s
ZALV Zalesovo Beam 97.60 324 P P 00 18 21.6 -0.9
comp=Z,1.0nm,0.6s,baz=110,slow=5.7,SNR=6.2
comp=Z,1.0nm,0.6s
FINES FINESS Array B 125.91 338 PKP PKPdf 00 23 49.1 -0.1
comp=Z,5.0nm,1.0s,baz=48,slow=2.8,SNR=3.9
NOA NORSAR Array B 130.80 345 PKP PKPdf 00 23 58.4 -0.2
comp=Z,0.5nm,0.6s,baz=39,slow=2.8,SNR=1.8
AKASG Malin Array Be 130.94 326 PKP PKPdf 00 23 58.7 -0.4
comp=Z,0.2nm,0.4s,baz=66,slow=1.9,SNR=1.2
GERES GERESS Array B 139.84 333 PKPKP PKPpre 00 24 10.6
comp=Z,0.2nm,0.4s,baz=24,slow=3.6,SNR=3.6
DAVOX Davos/Dischmat 143.08 334 PKP PKPbc 00 24 19.3 +0.2
comp=Z,4.2nm,0.5s,baz=101,slow=3.6,SNR=18
ESDC Sonseca Array 154.16 345 PKPab PKPab 00 24 59.3 -2.8
comp=Z,0.6nm,0.9s,baz=20,slow=4.8,SNR=5.4

DJA 05 00:16:33.3±0.4, 9.5°S±4.4°×12.6°E±°, h10km, M4.1/6, mb4.4/2, mB5.4/1, MLv4.0/6, Mw(mB)4.9/1, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.56**	**241**	P		Pn		00 17 01.2	0.0
SOEI				S		Sg		00 17 24.2	+0.7
BATI	**Baumata**	**2.30**	**238**	P		Pn		00 17 10.2	-1.1
MMRI	**Maumere**	**3.39**	**276**	P		Pn		00 17 26.3	0.0
BSSI	**Bau Bau, Buton** 55nm,0.9s,0.4nm	**5.85**	**299**	P		Pn		00 18 00.5	+0.3
PLAI	**Plampang**	**7.78**	**271**	P		Pn		00 18 25.4	-1.3

*IDC **05** 00:22:06.1±2.0, 8.99S×125.84E, h0km, mb3.4/1, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=34.0km s-min=32.8km az=75.0*
*DJA **05** 00:22:12.1±1.1, 9.5°S±4.4°×12.6E±°, h10km, M3.5/5, MLv3.5/5*
ISC 05 00:22:10.4±1.4, 9.2S±0.1°×125.96E±0.0°8, h35km, n7, σ2§37/11, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.75**	**252**	P		**Pn**		**00 22 38.8**	**+0.4**
SOEI				S		**Sn**		**00 22 57.5**	**-2.0**
BATI	**Baumata** 16nm,0.3s,baz=64,slow=6.5,SNR=5.4	**2.46**	**247**	Pn		**Pn**		**00 22 48.4**	**+0.3**
BATI	6.2nm,0.3s,baz=60,slow=20,SNR=1.8 34nm,0.4s				Sn	**Sn**		**00 23 18.6**	**+1.6**
BATI	**Baumata**	**2.46**	**247**	P		**Pn**		**00 22 48.5**	**+0.4**
BATI				S		**Sn**		**00 23 16.1**	**-0.9**
MMRI	**Maumere**	**3.72**	**279**	P		**Pn**		**00 23 05.2**	**-0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=315,slow=12,SNR=10	**13.38**	**144**	Pn		**Pn**		**00 25 20.5**	**+2.5**
WRA	0.1nm,0.3s,baz=307,slow=25,SNR=1.6 0.5nm,0.4s				Sn	**Sn**		**00 27 41.2**	**-4.5**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=323,slow=11,SNR=9.0 0.6nm,0.4s	**16.25**	**153**	Pn		**Pn**		**00 25 59.4**	**+3.2**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=128,slow=7.2,SNR=4.0 0.2nm,0.5s	**67.98**	**329**	P		**P**		**00 33 05.2**	**-0.8**

*IDC **05** 00:25:51.7±0.9, 19.16S×175.75E, h0km, mb4.1/10, mbtmp4.1/12, ML4.0/3, MS3.3/15, Error ellipse: s-maj=34.9km s-min=17.7km az=149.0*
*NEIC **05** 00:25:51.6±1.7, 19.1S±0.2×176.1E±0.1, h10km±1km, mb4.6/10, Error ellipse: s-maj=30.0km s-min=10.4km az=152.0*
ISC 05 00:25:52.3±0.5, 19.1S±0.1×175.92E±0.09, h10km, n46, σ1§32/37, mb4.4/16, MS3.3/14, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 3.2nm,0.3s,baz=272,slow=23,SNR=2.7	**2.46**	**56**	Pn		**Pn**		**00 26 33.2**	**+0.5**
MSVF	16nm,0.3s,baz=289,slow=22,SNR=11				Sn	**Sn**		**00 27 02.7**	**-0.2**
MSVF	comp=Z,182nm,19.4s,baz=46,slow=38				LR	LR		00 27 29.5	
MSVF	**Nonsavu**	**2.46**	**56**			**Pn**		**00 26 29.3**	**-3.4**
MSVF					Sn	**Sn**		**00 27 00.3**	**-2.6**
DZM	**Mont Dzumac** 65nm,1.3s	**9.34**	**250**	*e*Pn		**Pn**		**00 28 06.2**	**-0.9**
DZM	comp=Z,156nm,24.9s			*e*LR		LR		00 30 15.2	
DZM	**Mont Dzumac** 0.2nm,0.3s,baz=79,slow=16,SNR=4.9 11nm,0.8s	**9.34**	**250**	Pn		**Pn**		**00 28 07.2**	**0.0**
HNR	**Honiara** comp=Z,551nm,18.5s,baz=142,slow=38	**18.22**	**300**	LR		LR		00 37 18.0	
URZ	**Urewera** 0.5nm,0.3s,baz=80,slow=14,SNR=2.7	**19.08**	**177**	P		**Pn**		**00 30 15.6**	**-0.2**
URZ	comp=Z,146nm,19.4s,baz=144,slow=30 9.1nm,0.7s				LR	LR		00 35 32.0	
RAR	**Rarotonga** comp=Z,49nm,20.6s,baz=296,slow=31	**22.91**	**99**	LR		LR		00 37 46.7	
LTZ	**Lake Taylor**	**23.77**	**187**	P		**P**		**00 31 05.6**	**+0.6**
LTZ	comp=Z,31nm,1.0s				IAmb	IAmb		00 31 19.6	
CTA	**Charters Tower** comp=Z,54nm,19.6s,baz=85,slow=32	**27.94**	**263**	LR		LR		00 40 44.4	
TBI	**Tubuai** comp=Z,2μm,26.8s	**32.49**	**104**	*e*LR		LR		00 40 54.1	
TBI	comp=Z,498nm,29.8s			*e*LR		LR		00 40 54.4	
PPT2	**Papeete2** comp=Z,128nm,30.5s	**32.76**	**93**	*e*LR		LR		00 41 01.5	
PPT	**Papeete** comp=Z,32nm,18.1s,baz=191,slow=35	**32.76**	**93**	LR		LR		00 45 02.2	
STKA	**Stephens Creek** comp=Z,3.9nm,0.8s,baz=69,slow=12,SNR=6.5 comp=Z,3.9nm,0.8s	**33.32**	**241**	P		**P**		**00 32 30.5**	**-0.1**
STKA	**Stephens Creek**	**33.32**	**241**	P		**P**		**00 32 30.2**	**-0.4**
WB0	**Warramunga Arr**	**39.09**	**262**	P		**P**		**00 33 18.4**	**-1.6**
WB0	comp=Z,12nm,1.4s				IAmb	IAmb		00 33 23.3	
WRA	**Warramunga Arr** comp=Z,2.1nm,1.0s,baz=93,slow=8.9,SNR=6.2	**39.12**	**262**	P		**P**		**00 33 18.6**	**-1.8**
WRA	comp=Z,46nm,18.5s,baz=125,slow=34 comp=Z,2.1nm,1.0s				LR	LR		00 48 00.6	
AS31	**Alice Springs**	**39.27**	**256**	P		**P**		**00 33 20.9**	**-0.7**
ASAR	**Alice Springs** comp=Z,10nm,0.8s,baz=84,slow=8.9,SNR=81	**39.27**	**256**	P		**P**		**00 33 20.5**	**-1.1**
ASAR				PcP		**PcP**		**00 35 29.9**	**-0.7**
ASAR	comp=Z,1.1nm,0.9s,baz=85,slow=3.2,SNR=4.6				LR	LR		00 49 32.8	
FORT	**Forrest** comp=Z,31nm,19.4s,baz=150,slow=36 comp=Z,10nm,0.8s	**44.61**	**245**	P		**P**		**00 34 04.0**	**-1.1**
GUMO	**Guam**	**44.65**	**314**	LR		LR		00 51 07.7	
MBWA	**Marble Bar** comp=Z,36nm,18.2s,baz=111,slow=34	**52.55**	**258**	P		**P**		**00 35 05.5**	**-0.9**
DAV	**Davao City (W)** comp=Z,12nm,19.7s,baz=146,slow=32	**56.01**	**293**	LR		LR		00 55 49.3	
JHJ	**Hachijo jima 2** comp=Z,6.7nm,18.1s,baz=76,slow=36	**62.39**	**326**	LR		LR		01 02 47.3	
JOW	**Kunigami** comp=Z,26nm,21.7s,baz=113,slow=32	**64.99**	**313**	LR		LR		01 01 02.5	
MJAR	**Matsushiro Arr** comp=Z,3.6nm,0.9s,baz=154,slow=6.2,SNR=4.9 comp=Z,3.6nm,0.9s	**65.85**	**327**	P		**P**		**00 36 38.2**	**0.0**
ASAJ	**Asahikawa** comp=Z,34nm,19.6s,baz=112,slow=31	**69.95**	**335**	LR		LR		01 02 12.3	
QSPA	**South Pole Qui**	**70.91**	**180**	P		**P**		**00 37 09.0**	**-0.6**
QSPA	comp=Z,6.0nm,1.1s				IAmb	IAmb		00 37 12.3	
MA2	**Magadan** comp=Z,25nm,19.1s,baz=54,slow=32	**81.09**	**347**	LR		LR		01 09 27.6	
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.5s,baz=238,slow=8.5,SNR=4.3 comp=Z,0.4nm,0.5s	**84.10**	**46**	P		**P**		**00 38 27.0**	**+3.1**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.4s,baz=102,slow=3.2,SNR=5.8 comp=Z,0.6nm,0.4s	**84.28**	**292**	P		**P**		**00 38 26.5**	**+1.6**
CAST	**Castle Rocks**	**86.01**	**14**	P		**P**		**00 38 32.6**	**0.0**
CAST	comp=Z,7.3nm,1.5s				IAmb	IAmb		00 38 49.6	
GLB	**Gilahina Butte**	**86.52**	**18**	P		**P**		**00 38 35.0**	**-0.2**
GLB	comp=Z,6.5nm,1.3s				IAmb	IAmb		00 38 55.3	
BARN	**Barnard Glacie**	**86.87**	**19**	P		**P**		**00 38 36.5**	**-0.6**
BARN	comp=Z,2.2nm,0.9s				IAmb	IAmb		00 38 49.5	
ILAR	**Eielson Array** comp=Z,0.8nm,0.9s,baz=239,slow=5.5,SNR=5.6 comp=Z,0.8nm,0.9s	**88.38**	**15**	P		**P**		**00 38 44.6**	**+0.6**
SONM	**Songino Array** comp=Z,0.6nm,0.9s,baz=102,slow=14,SNR=2.4	**91.03**	**321**	P		**P**		**00 38 58.2**	**+1.2**
SONM	comp=Z,17nm,21.2s,baz=324,slow=33 comp=Z,0.6nm,0.9s				LR	LR		01 15 33.8	
TXAR	**Lajitas Array** comp=Z,0.5nm,0.9s,baz=222,slow=1.7,SNR=4.0 comp=Z,0.5nm,0.9s	**91.23**	**59**	P		**P**		**00 39 01.3**	**+2.9**
PDAR	**Pinedale Array** comp=Z,0.4nm,1.0s,baz=297,slow=12,SNR=2.2 comp=Z,0.4nm,1.0s	**91.99**	**45**	P		**P**		**00 39 01.5**	**-0.2**
GEYT	**Alibeck** comp=Z,0.3nm,0.4s,baz=38,slow=7.3,SNR=1.7	**123.24**	**303**	PKP		**PKiKP**		**00 44 50.2**	**+0.2**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.8s,baz=42,slow=4.5,SNR=2.0	**141.65**	**310**	PKP		**PKPdf**		**00 45 24.9**	**+0.4**
CLL	**Collm** comp=Z,10.0nm,1.0s	**145.18**	**341**	⇓*i*PKPbc		**PKPdf**		**00 45 30.9**	**+0.8**
CONA	**Conrad Observa** comp=Z,8.9nm,1.4s	**147.03**	**335**	PKP		**PKiKP**		**00 45 37.3**	**-0.7**
GERES	**GERESS Array B** comp=Z,0.2nm,0.5s,baz=52,slow=6.4,SNR=2.5	**147.08**	**338**	PKPbc		**PKPab**		**00 45 36.6**	**-0.5**
ARSA	**Arzberg** comp=Z,7.3nm,1.6s	**147.71**	**335**	*e*PKP		**PKiKP**		**00 45 39.2**	**-0.2**
WATA	**Walderalm** comp=Z,7.7nm,1.5s	**149.10**	**339**	*e*PKP		**PKPab**		**00 45 43.7**	**-1.6**
FETA	**Feichten** comp=Z,7.4nm,1.3s	**149.66**	**340**	*e*PKP		**PKiKP**		**00 45 44.8**	**+1.3**
DAVA	**Damuels** comp=Z,11nm,1.6s	**149.69**	**341**	*e*PKP		**PKPbc**		**00 45 42.4**	**-0.2**

*KRNET **05** 00:31:46.6±0.1, 40.37N×77.08E, h17km, mb2.8*
*SOME **05** 00:31:47.6, 40.40N×77.15E, h15km*
*KNET **05** 00:31:48.1±0.5, 40.58N×77.26E, h0km, ml2.7, Error ellipse: s-maj=10.2km s-min=4.4km az=54.0*
*NNC **05** 00:31:50.4±0.8, 40.55N×77.11E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.4km s-min=4.8km az=169.0*
ISC 05 00:31:47.7±2.2, 40.3N±0.1×77.13E±0.04, h10km, n52, σ1§14/68, 31C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=22	**1.40**	**323**	⇑*i*P		**Pn**		**00 32 11.6**	**-2.0**
NRN	baz=22			⇑*i*S		**Sb**		**00 32 30.1**	**-2.1**
TARG	**Taragay, Kyrgy** baz=22	**1.49**	**20**	⇑*i*P		**Pn**		**00 32 13.7**	**-1.2**
TARG	baz=22			⇑*i*S		**Sn**		**00 32 33.6**	**-1.1**
KDJ	**Kajisay** baz=3.0	**1.80**	**1**	⇑*i*P		**Pn**		**00 32 19.0**	**0.0**
KDJ	baz=3.0			⇑*i*S		**Sn**		**00 32 42.7**	**+0.7**
ULHL	**Ulahol** 3.3nm,0.2s,SNR=18	**2.03**	**341**	⇑P		**Pn**		**00 32 22.8**	**+0.6**
ULHL	20nm,0.3s			⇑S		**Sb**		**00 32 49.4**	**-0.8**
ULHL	**Ulahol** baz=42	**2.03**	**341**	⇑*e*P		**Pn**		**00 32 22.5**	**+0.3**
ULHL	baz=42			⇑*i*S		**Sn**		**00 32 48.8**	**+1.1**
ANVS	**Anan'yevo** baz=10.0	**2.49**	**9**	⇑*i*P		**Pn**		**00 32 29.1**	**+0.7**
ANVS	baz=10.0			⇑*i*S		**Sn**		**00 33 00.1**	**+1.2**
ARLS	**Aral** baz=6.0	**2.62**	**307**	⇑*i*P		**Pn**		**00 32 30.6**	**+0.4**
ARLS	baz=6.0			⇑*i*S		**Sn**		**00 33 02.4**	**+0.3**
TNSS	**Tian-Shan** 9.8nm,0.3s	**2.71**	**357**	Pg		**Pb**		**00 32 35.9**	**-0.7**
TNSS	13nm,0.4s			Lg		Lg		00 33 10.9	
TNSS	**Tian-Shan** 9.8nm,0.1s	**2.71**	**357**	*e*Pg		**Pb**		**00 32 35.9**	**-0.7**
TNSS	13nm,0.1s			*e*Lg		Lg		00 33 10.9	
UCH	**Uchtor** 8.0nm,0.6s,SNR=6.2	**2.74**	**315**	⇑P		**Pb**		**00 32 34.7**	**-2.3**
UCH	10.0nm,0.5s			⇓S		**Sb**		**00 33 12.1**	**+1.3**
UCH	**Uchtor** baz=15	**2.74**	**315**	⇓*i*P		**Pn**		**00 32 32.5**	**+0.4**
UCH	baz=15			⇓*i*S		**Sn**		**00 33 05.8**	**+0.3**
MDOK	**Medeo** 7.7nm,0.8s	**2.83**	**359**	⇓Pn		**Pn**		**00 32 35.1**	**+2.0**
MDOK	5.6nm,0.3s			Pg		**Pb**		**00 32 38.0**	**-0.4**
MDOK	14nm,0.5s			Lg		Lg		00 33 14.2	
MDOK	14nm,0.7s			⇑Lg		Lg		00 33 14.4	
TKM2	**Tokmak 2** 4.6nm,0.3s,SNR=9.2	**2.83**	**337**	⇑P		**Pn**		**00 32 35.5**	**+2.3**
TKM2	**Tokmak 2** 5.3nm,0.9s	**2.83**	**337**	⇓Pn		**Pn**		**00 32 34.9**	**+1.6**
TKM2	17nm,0.6s			⇑Lg		Lg		00 33 14.5	
TKM2	**Tokmak 2** baz=37	**2.83**	**337**	⇑*i*P		**Pn**		**00 32 33.6**	**+0.4**
TKM2	baz=37			⇑*i*S		**Sn**		**00 33 08.1**	**+0.5**
KBK	**Karagaybulak** 8.6nm,0.5s,SNR=9.1	**2.85**	**326**	⇑P		**Pb**		**00 32 36.3**	**-2.4**
KBK	34nm,0.3s			⇑S		**Sb**		**00 33 13.5**	**-0.2**
MTBS	**Maitube** 4.9nm,0.4s	**2.85**	**350**	Pg		**Pb**		**00 32 37.9**	**-0.8**
MTBS	9.7nm,0.2s			Lg		Lg		00 33 14.2	
MTBS	**Maitube** 4.9nm,0.4s	**2.85**	**350**	*e*Pg		**Pb**		**00 32 37.9**	**-0.8**
MTBS	9.7nm,0.2s			*e*Lg		Lg		00 33 14.2	
KST	**Kastek** 3.8nm,0.3s	**2.85**	**342**	Pg		**Pb**		**00 32 38.2**	**-0.5**
KST				Lg		Lg		00 33 14.6	
KST	**Kastek** 3.8nm,0.3s	**2.85**	**342**	*e*Pg		**Pb**		**00 32 38.2**	**-0.5**
KST				*e*Lg		Lg		00 33 14.6	
KOTS	**Kotyrbulak** 7.4nm,0.2s	**2.90**	**360**	Pg		**Pb**		**00 32 39.3**	**-0.4**
KOTS	47nm,0.7s			Lg		Lg		00 33 17.2	
KOTS	**Kotyrbulak** 8.4nm,0.1s	**2.90**	**360**	*e*Pg		**Pb**		**00 32 39.3**	**-0.4**
KOTS	47nm,0.3s			*e*Lg		Lg		00 33 17.2	
ZHN	**Zhinishke** 8.4nm,0.4s	**3.00**	**19**	Pg		**Pb**		**00 32 40.8**	**-0.5**
ZHN	29nm,0.3s			Lg		Lg		00 33 19.2	
ZHN	**Zhinishke** 8.4nm,0.4s	**3.00**	**19**	*e*Pg		**Pb**		**00 32 40.9**	**-0.5**
ZHN	29nm,0.3s			*e*Lg		Lg		00 33 19.2	
AAK	**Ala-Archa** 2.7nm,0.2s	**3.04**	**320**	⇑P		**Pn**		**00 32 38.9**	**+2.9**
AAK	**Ala-Archa** baz=20	**3.04**	**320**	⇑*e*P		**Pn**		**00 32 36.5**	**+0.5**
AAK	baz=20			⇑*i*S		**Sn**		**00 33 12.8**	**+0.2**
DGS	**Degeres** 4.8nm,0.4s	**3.08**	**341**	Pg		**Pb**		**00 32 42.4**	**-0.3**
DGS	15nm,0.5s			Lg		Lg		00 33 22.4	
DGS	**Degeres** 4.8nm,0.4s	**3.08**	**341**	*e*Pg		**Pb**		**00 32 42.4**	**-0.3**
DGS	15nm,0.5s			*e*Lg		Lg		00 33 22.4	
UZB	**Uzynbulak** 5.8nm,0.4s	**3.15**	**26**	Pg		**Pb**		**00 32 44.4**	**+0.5**
UZB	7.9nm,0.3s			Lg		Lg		00 33 25.3	
UZB	**Uzynbulak** 2.2nm,0.1s	**3.15**	**26**	*e*Pg		**Pb**		**00 32 43.6**	**-0.3**
UZB	6.6nm,0.2s			*e*Lg		Lg		00 33 23.8	
AML	**Almayashu** baz=6.0	**3.16**	**306**	⇓*i*P		**Pn**		**00 32 38.2**	**+0.4**
AML	baz=6.0			⇓*i*S		**Sn**		**00 33 15.8**	**0.0**
CHMS	**Chumysh** 3.5nm,0.3s,SNR=6.2	**3.21**	**327**	⇑P		**Pn**		**00 32 40.2**	**+2.0**
CHMS	**Chumysh** 5.7nm,0.7s	**3.21**	**327**	⇓Pn		**Pn**		**00 32 40.0**	**+1.7**
CHMS	8.5nm,0.6s			⇑Lg		Lg		00 33 25.6	
CHMS	**Chumysh** baz=27	**3.21**	**327**	⇓*i*P		**Pn**		**00 32 38.8**	**+0.6**
CHMS	baz=27			⇓*i*S		**Sn**		**00 33 16.8**	**+0.3**
KURS	**Kuram** 3.9nm,0.3s	**3.25**	**13**	*e*Pg		**Pb**		**00 32 45.6**	**+0.1**
KURS	6.7nm,0.1s			*e*Lg		Lg		00 33 27.2	
SHLS	**Shalkode** 1.2nm,0.4s	**3.32**	**31**	*e*Pg		**Pg**		**00 32 49.9**	**-1.4**
SHLS	22nm,0.1s			*e*Lg		Lg		00 33 34.7	
KPKS	**Kokpek** 5.2nm,0.6s	**3.34**	**20**	Pg		**Pb**		**00 32 47.4**	**+0.3**
KPKS	24nm,0.4s			Lg		Lg		00 33 30.3	
KPKS	**Kokpek** 5.0nm,0.4s	**3.34**	**20**	*e*Pg		**Pb**		**00 32 46.2**	**-0.9**
KPKS	26nm,0.0s			*e*Lg		Lg		00 33 28.1	
EKS2	**Erkin-Say** baz=14	**3.43**	**314**	⇑*e*P		**Pn**		**00 32 42.0**	**+0.6**
EKS2	baz=14			⇑*i*S		**Sn**		**00 33 22.3**	**+0.1**
PDGK	**Podgornoye** 7.2nm,1.1s	**3.48**	**30**	⇓Pn		**Pn**		**00 32 43.2**	**+1.2**
PDGK	12nm,0.7s			⇑Lg		Lg		00 33 33.9	
CHKK	**Chushkaly** 3.1nm,0.1s	**3.52**	**358**	*e*Pg		**Pb**		**00 32 50.5**	**+0.3**
CHKK	13nm,0.2s			*e*Lg		Lg		00 33 35.9	
USP	**Ospenovka** 3.6nm,0.3s,SNR=5.5	**3.54**	**327**	⇑P		**Pn**		**00 32 45.0**	**+2.3**
KRBS	**Karabastau** 3.2nm,0.4s	**3.54**	**343**	Pg		**Pb**		**00 32 50.4**	**0.0**
KRBS	8.8nm,0.6s			Lg		Lg		00 33 35.3	
KRBS	**Karabastau** 3.5nm,0.2s	**3.54**	**343**	*e*Pg		**Pb**		**00 32 50.4**	**0.0**
KRBS	8.8nm,0.6s			*e*Lg		Lg		00 33 35.4	
KUU	**Kurty** 1.5nm,0.2s	**3.61**	**351**	Pg		**Pb**		**00 32 51.7**	**+0.1**
KUU	15nm,0.5s			Lg		Lg		00 33 37.7	
KUU	**Kurty** 1.5nm,0.2s	**3.61**	**351**	*e*Pg		**Pb**		**00 32 51.8**	**+0.1**
KUU	14nm,0.1s			*e*Lg		Lg		00 33 37.7	
SGDS	**Sogindy** 4.1nm,0.4s	**3.64**	**330**	Pg		**Pb**		**00 32 51.8**	**-0.3**
SGDS	6.9nm,0.4s			Lg		Lg		00 33 38.0	
MRKS	**Merke** 2.3nm,0.4s	**3.80**	**311**	Pg		**Pb**		**00 32 56.0**	**+1.1**
MRKS	**Merke** 2.3nm,0.4s	**3.80**	**311**	*e*Pg		**Pb**		**00 32 56.0**	**+1.1**
MRKS	3.6nm,0.1s			*e*Lg		Lg		00 33 45.2	
DJR	**Jarkent** 1.6nm,0.3s	**4.46**	**25**	Pg		**Pb**		**00 33 07.2**	**+1.1**
DJR	6.0nm,0.6s			Lg		Lg		00 34 04.2	
DJR	**Jarkent** 1.6nm,0.3s	**4.46**	**25**	*e*Pg		**Pb**		**00 33 07.2**	**+1.1**
DJR	5.7nm,0.1s			*e*Lg		Lg		00 34 04.2	
BTLS	**Baital** 1.7nm,0.1s	**5.23**	**335**	*e*Pg		**Pb**		**00 33 22.1**	**+2.9**
BTLS	3.8nm,0.1s			*e*Lg		Lg		00 34 29.6	

*UPP **05** 00:39:15.5±0.0, 67.85N×20.21E, h0km, ML2.3, Suspected explosion*
*IDC **05** 00:39:16.4±1.3, 67.78N×20.85E, h0km, mbtmp3.0/3, ML2.1/3, Error ellipse: s-maj=19.4km s-min=7.7km az=115.0*
ISC 05 00:39:15.4±1.0, 67.84N±0.04×20.22E±0.03, h8km±9km, n17, σ0§68/21, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**20**	P		**Pg**		**00 39 18.0**	**-0.2**
KUA				S		**Sg**		**00 39 19.7**	**-0.3**
RATU	**Laukkuluspa**	**0.24**	**267**	P		**Pg**		**00 39 20.2**	**0.0**
RATU				S		**Sg**		**00 39 23.5**	**+0.1**
KOVU	**Salmi**	**0.39**	**357**	P		**Pg**		**00 39 22.8**	**-0.2**
NIKU	**Nikkaluokta**	**0.45**	**274**	P		**Pg**		**00 39 24.1**	**-0.1**
LANU	**Lannavaara**	**0.70**	**72**	P		**Pg**		**00 39 28.9**	**0.0**
DUNU	**Dundret**	**0.73**	**169**	P		**Pg**		**00 39 29.3**	**-0.1**
DUNU				S		**Sg**		**00 39 39.6**	**+0.6**
MASU	**Masugnsbyn**	**0.78**	**119**	P		**Pg**		**00 39 30.4**	**+0.1**
SALU	**Saltoluokta**	**0.80**	**236**	P		**Pg**		**00 39 30.6**	**-0.2**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P		**Pn**		**00 39 38.6**	**+0.3**
PAJU	**Pajala**	**1.38**	**125**	P		**Pn**		**00 39 41.0**	**+0.1**
HEF	**Hetta**	**1.41**	**64**	*e*P		**Pn**		**00 39 41.6**	**+0.2**
ERTU	**Ertsjaerv**	**1.50**	**148**	P		**Pb**		**00 39 43.3**	**-0.2**
ERTU	**Ertsjaerv**	**1.50**	**148**	PN		**Pb**		**00 39 43.1**	**-0.4**
HARU	**Harads**	**1.71**	**170**	P		**Pb**		**00 39 46.8**	**-0.2**
ARCES	**ARCESS Array B** 0.6nm,0.3s,baz=226,slow=15,SNR=15	**2.57**	**46**	Pn		**Pn**		**00 39 58.9**	**+1.6**
ARCES	2.1nm,0.3s,baz=222,slow=26,SNR=15 1.5nm,0.3s				Lg	Lg		00 40 32.5	
FINES	**FINESS Array B** 0.1nm,0.3s,baz=344,slow=14,SNR=2.2	**6.89**	**156**	Pn		**Pn**		**00 40 57.4**	**+0.8**
FINES	0.1nm,0.3s,baz=349,slow=20,SNR=2.4				Sn	**Sn**		**00 42 13.4**	**-1.7**
FINES	0.3nm,0.3s,baz=338,slow=25,SNR=2.7 4.2nm,0.9s				Lg	Lg		00 42 47.7	
NOA	**NORSAR Array B**	**7.85**	**214**	Pn		**Pn**		**00 41 10.7**	**+0.9**

baz=24,slow=12,SNR=1.5
NOA Lg Lg 00 43 21.5
baz=33,slow=21,SNR=1.8
0.7nm,0.8s

HEL 05 00:39:16.0±0.2, 66.71N×25.77E, h0km, ML1.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RNF	**Rovaniemi**	**0.14**	**137**	PG	Pg	00 39 18.5	-0.1
RNF				SG	Sg	00 39 20.4	-0.1
KLF	**Kolari**	**0.88**	**307**	MSG		00 39 43.2	
	comp=Z,5.3nm,0.2s						
KLF				SB	Sg	00 39 44.3	-0.1
KALU	**Kalix**	**1.30**	**230**	SB	Sg	00 39 56.3	-1.4
ERTU	**Ertsjaerv**	**1.44**	**265**	SN	Sn	00 40 04.1	+1.3
HEF	**Hetta**	**1.89**	**335**	PB	Pn	00 39 49.0	-0.5
HEF				MSG		00 40 12.0	
	comp=Z,4.6nm,0.2s						
ARA0	**ARCESS Array S**	**2.84**	**358**	PN	Pn	00 40 02.4	-0.1
ARA0				SN	Sn	00 40 36.4	-0.9
RMF	**Romuvaara**	**3.05**	**143**	SN	Sn	00 40 38.7	-3.8
RMF				MSG		00 40 45.6	
	comp=Z,0.4nm,0.2s						
KEV	**Kevo**	**3.09**	**8**	PB	Pb	00 40 09.7	-2.0
KEV				SN	Sn	00 40 45.3	+1.8
KEV				MSG		00 40 47.0	
	comp=Z,4.3nm,0.2s						
UMAU	**Umeaa**	**3.56**	**219**	PN	Pn	00 40 10.5	-1.9

*IDC **05** 00:40:19.8±6.3, 12.82N×143.18E, h115km±85km, mb3.1/5, mbtmp3.5/5, Error ellipse: s-maj=97.7km s-min=19.9km az=87.0*
ISC 05 00:40:18.6±1.0, 12.8N±0.2×143.0E±0.1, h100km, n6, σ0.35/7, mb3.4/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.94**	**66**	P		**00 40 50.5**	**+0.1**
	114nm,0.3s,baz=254,slow=20,SNR=6.5						
GUMO				S	Sn	**00 41 14.6**	**-0.1**
	97nm,0.3s,baz=274,slow=19,SNR=5.6						
WRA	**Warramunga Arr**	**33.65**	**195**	P		**00 46 50.1**	**+0.1**
	0.4nm,0.5s,baz=18,slow=9.6,SNR=8.8						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**37.33**	**194**	P		**00 47 21.4**	**-0.1**
	0.2nm,0.4s,baz=21,slow=10,SNR=5.4						
	0.2nm,0.4s						
SONM	**Songino Array**	**46.37**	**326**	P		**00 48 35.1**	**+0.2**
	0.3nm,0.6s,baz=143,slow=8.1,SNR=2.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**60.83**	**317**	P		**00 50 20.7**	**+0.2**
	0.2nm,0.5s,baz=99,slow=7.0,SNR=2.4						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**61.23**	**325**	P		**00 50 22.4**	**-0.6**
	0.4nm,0.3s,baz=119,slow=8.1,SNR=1.8						
	0.4nm,0.3s						

*GUC **05** 00:43:13.7±0.8, 27.50S×69.42W, h90km±8km, ML3.6*
*IDC **05** 00:43:13.5±1.6, 27.51S×69.04W, h95km±14km, mb3.1/2, mbtmp3.6/6, Error ellipse: s-maj=39.9km s-min=10.4km az=86.0*
*NEIC **05** 00:43:14.1±1.9, 27.48S±0.06×69.45W±0.10, h102km±6km, mb4.3/3, ML3.6(GUC), Error ellipse: s-maj=13.7km s-min=6.7km az=114.0*
ISC 05 00:43:13.4±0.7, 27.50S±0.04×69.40W±0.06, h103km±7km, n54, σ1.907/67, mb4.2/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC02	**Maricunga**	**0.70**	**20**		**Pn**	**00 43 32.6**	**+0.9**
AC02				Sn	**Sn**	**00 43 46.3**	**+0.9**
AC02	**Maricunga**	**0.70**	**20**	*eP*	**Pn**	**00 43 32.6**	**+0.9**
AC02				*i* S	**Sn**	**00 43 46.4**	**+1.0**
AC02				IAML		00 43 46.9	
	comp=E,3μm,0.3s						
GO03	**Copiap**	**0.74**	**263**		**Pn**	**00 43 31.8**	**+0.2**
GO03	**Copiap**	**0.74**	**263**	*eP*	**Pn**	**00 43 31.7**	**+0.2**
GO03				*i* S	**Sn**	**00 43 45.2**	**0.0**
GO03				IAML		00 43 46.0	
	comp=N,5μm,0.2s						
AC06	**Mina Casimiro**	**0.86**	**279**		**Pn**	**00 43 32.6**	**0.0**
AC06	**Mina Casimiro**	**0.86**	**279**	*eP*	**Pn**	**00 43 32.6**	**0.0**
AC06				*i* S	**Sn**	**00 43 47.0**	**-0.1**
AC06				IAML		00 43 48.8	
	comp=E,1μm,0.2s						
AC05	**El Transito**	**1.54**	**210**		**Pn**	**00 43 41.2**	**+0.8**
AC05	**El Transito**	**1.54**	**210**	*eP*	**Pn**	**00 43 41.2**	**+0.8**
AC05				*i* S	**Sn**	**00 44 02.1**	**+1.2**
AC05				IAML		00 44 03.0	
	comp=E,1μm,0.1s						
AC04	**Llanos de Chal**	**1.64**	**244**		**Pn**	**00 43 41.9**	**+0.3**
AC04				Sn	**Sn**	**00 44 03.2**	**+0.3**
AC04	**Llanos de Chal**	**1.64**	**244**	*eP*	**Pn**	**00 43 41.7**	**+0.2**
AC04				*i* S	**Sn**	**00 44 03.4**	**+0.4**
AC04				IAML		00 44 09.9	
	comp=N,859nm,0.2s						
AC01	**Pan de Azucar**	**1.72**	**321**		**Pn**	**00 43 43.1**	**+0.5**
AC01				Sn	**Sn**	**00 44 04.1**	**-0.6**
AC01	**Pan de Azucar**	**1.72**	**321**	*eP*	**Pn**	**00 43 43.1**	**+0.5**
AC01				*i* S	**Sn**	**00 44 04.8**	**0.0**
LCO	**Las Campanas**	**1.89**	**217**		**Pn**	**00 43 45.3**	**+0.3**
LCO	**Las Campanas**	**1.89**	**217**	*eP*	**Pn**	**00 43 44.8**	**-0.3**
LCO				*i* S	**Sn**	**00 44 09.5**	**+0.5**
CO01	**Juntas del Tor**	**2.54**	**194**		**Pn**	**00 43 55.2**	**+1.8**
CO01	**Juntas del Tor**	**2.54**	**194**	*eP*	**Pn**	**00 43 55.3**	**+1.8**
CO01				*i* S	**Sn**	**00 44 26.6**	**+2.5**
CO05	**La Serena**	**2.90**	**213**		**Pn**	**00 43 57.4**	**-0.5**
GO04	**Tololo Observa**	**2.93**	**204**		**Pn**	**00 43 58.4**	**-0.1**
CO03	**El Pedregal**	**3.51**	**198**		**Pn**	**00 44 06.3**	**+0.2**
CO02	**Combarbal**	**3.95**	**200**		**Pn**	**00 44 11.2**	**-0.9**
CO02	**Combarbal**	**3.95**	**200**	*eP*	**Pn**	**00 44 11.2**	**-0.9**
CO02				*i* S	**Sn**	**00 44 56.2**	**-1.2**
PB10	**IPOC Station P**	**4.10**	**345**	Pn	**Pn**	**00 44 15.4**	**+1.3**
CFA	**Coronel Fontan**	**4.21**	**166**	P	**Pn**	**00 44 16.1**	**+0.6**
	comp=N,10nm,0.3s,baz=338,slow=14,SNR=40						
CFA				S	**Sn**	**00 45 02.1**	**-1.7**
	comp=N,29nm,0.6s,baz=342,slow=20,SNR=13						
PB15	**IPOC Station P**	**4.27**	**359**		**Pn**	**00 44 16.9**	**+0.3**
AF01	**San Pedro de A**	**4.66**	**14**	Pn	**Pn**	**00 44 22.9**	**+1.0**
PB06	**IPOC Station P**	**4.78**	**358**		**Pn**	**00 44 24.1**	**+0.7**
LVC	**Limon Verde**	**4.89**	**5**	P	**Pn**	**00 44 25.0**	**-0.1**
	comp=N,7.7nm,0.3s,baz=178,slow=6.1,SNR=28						
LVC				S	**Sn**	**00 45 21.0**	**+0.4**
	comp=N,11nm,0.3s,baz=183,slow=23,SNR=2.3						
LVC	**Limon Verde**	**4.89**	**5**		**Pn**	**00 44 25.3**	**+0.2**
PB04	**IPOC Station P**	**5.19**	**352**	Pn	**Pn**	**00 44 27.4**	**-1.5**
VA03	**San Esteban**	**5.34**	**190**	Pn	**Pn**	**00 44 30.3**	**-0.6**
PB03	**IPOC Station P**	**5.44**	**357**		**Pn**	**00 44 33.2**	**+0.9**
ROC1	**El Roble**	**5.63**	**194**	Pn	**Pn**	**00 44 34.7**	**-0.3**
PB07	**IPOC Station P**	**5.76**	**356**	Pn	**Pn**	**00 44 37.3**	**+0.5**
PB02	**IPOC Station P**	**6.17**	**356**		**Pn**	**00 44 41.4**	**-0.8**
MT09	**Talagante**	**6.40**	**192**	Pn	**Pn**	**00 44 45.2**	**-0.1**
PB01	**IPOC Station P**	**6.43**	**359**		**Pn**	**00 44 44.1**	**-1.6**
MT01	**Popeta**	**6.54**	**194**	Pn	**Pn**	**00 44 47.4**	**+0.4**
BO04	**La Punta**	**6.55**	**189**	Pn	**Pn**	**00 44 48.0**	**+0.7**
BO02	**Sierra Bellavi**	**7.37**	**189**	Pn	**Pn**	**00 45 00.1**	**+1.8**
PB11	**IPOC Station P**	**7.71**	**358**	Pn	**Pn**	**00 45 01.8**	**-1.3**
GO01	**Chusmiza**	**7.80**	**1**	Pn	**Pn**	**00 45 03.8**	**-0.8**
PB16	**IPOC Station P**	**9.12**	**359**	Pn	**Pn**	**00 45 22.2**	**-0.5**
CPUP	**Villa Florida**	**10.84**	**87**	P	Pn	00 45 39.7	-5.8
	comp=N,0.8nm,0.5s,baz=270,slow=20,SNR=1.9						
TRQA	**Tornquist**	**12.23**	**151**	Pn	**Pn**	**00 46 01.9**	**-2.2**
SIV	**San Ignacio**	**13.81**	**36**	P	**Pn**	**00 46 21.1**	**-3.9**
	comp=N,0.5nm,0.4s,baz=139,slow=20,SNR=2.4						
SNAA	**Sanae**	**56.81**	**160**	P	**P**	**00 52 47.1**	**+0.5**
	comp=N,0.9nm,0.7s,baz=246,slow=9.5,SNR=5.5						
	comp=N,0.9nm,0.7s						
SNAA	**Sanae**	**56.81**	**160**	P	**P**	**00 52 47.3**	**+0.6**
SNAA				IAmb	IAmb	00 53 14.3	
	comp=Z,4.3nm,1.3s						
QSPA	**South Pole Qui**	**62.72**	**180**	P	**P**	**00 53 28.9**	**+1.6**
QSPA				IAmb	IAmb	00 53 29.4	
	comp=Z,2.2nm,0.7s						
TXAR	**Lajitas Array**	**65.34**	**327**	P	**P**	**00 53 46.5**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=171,slow=8.2,SNR=1.6						
	comp=Z,0.1nm,0.6s						
DBIC	**Dimbokro**	**70.96**	**72**	P	**P**	**00 54 20.7**	**+0.5**
DBIC				IAmb	IAmb	00 54 49.0	
	comp=Z,5.1nm,1.1s						

ASAR	**Alice Springs**	**124.38**	**206**	PKP	**PKPdf**	**01 02 01.1**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=143,slow=1.3,SNR=1.7						
WRA	**Warramunga Arr**	**127.53**	**209**	PKP	**PKPdf**	**01 02 06.8**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=151,slow=1.8,SNR=5.7						
ZALV	**Zalesovo Beam**	**147.49**	**29**	PKPbc	**PKPbc**	**01 02 46.0**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=306,slow=3.4,SNR=10						
MKAR	**Makanchi Array**	**150.58**	**42**	PKPbc	**PKPbc**	**01 02 54.1**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=310,slow=2.2,SNR=18						

*IDC **05** 01:09:46.3±1.6, 37.16N×141.54E, h0km, mb3.4/5, mbtmp3.3/6, ML2.3/1, Error ellipse: s-maj=33.6km s-min=26.7km az=154.0*
*JMA **05** 01:09:50.0±0.1, 37.1N±0.3×141.3E±0.7, h27km, MV3.5/34, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **05** 01:09:50.0, 37.12N×141.34E, h27km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-2.02; Mθθ0.87; Mϕϕ 1.15; Mrθ-0.19; Mθϕ 0.75; Mϕr-0.03; Fault plane solution: M0 1.90000×10^14 NP1:ϕs 43.00000°, δ 47.00000°, λ -86.00000°. NP2:ϕs 217.00000°, δ 43.00000°, λ -95.00000°.*
ISC 05 01:09:48.5±2.2, 37.09N±0.05×141.4E±0.1, h14km±12km, n18, σ0.77/19, mb3.3/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**271**	*i* P	**Pg**	**01 09 59.0**	**+0.7**
ONAJ				S	**Sg**	**01 10 05.5**	**+0.6**
JFK	**Kawauchi**	**0.51**	**303**	P	**Pg**	**01 09 59.0**	**+0.4**
JFK				S	**Sg**	**01 10 05.4**	**-0.1**
JFFD	**Fukushimafurud**	**0.68**	**270**	⇓*i* P	**Pg**	**01 10 02.1**	**+0.2**
JFFD				⇓S	**Sg**	**01 10 10.6**	**-0.2**
JMST	**Minamisoumatoc**	**0.76**	**327**	*i* P	**Pg**	**01 10 03.3**	**0.0**
JMST				S	**Sg**	**01 10 12.8**	**-0.4**
JHO	**Hitachi**	**0.83**	**235**	P	**Pg**	**01 10 04.3**	**-0.4**
JHO				S	**Sg**	**01 10 14.7**	**-0.9**
JMM	**Marumori**	**0.92**	**328**	⇓*i* P	**Pb**	**01 10 05.9**	**-0.3**
JMM				⇓S	**Sg**	**01 10 17.5**	**-0.8**
MJAR	**Matsushiro Arr**	**2.63**	**259**	Pn	**Pn**	**01 10 31.8**	**+1.2**
	0.5nm,0.3s,baz=69,slow=9.7,SNR=20						
MJAR				Sn	**Sb**	**01 11 05.7**	**-1.9**
	1.2nm,0.3s,baz=48,slow=11,SNR=2.6						
	2.7nm,0.3s						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**01 15 36.9**	**+0.2**
	0.3nm,0.7s,baz=89,slow=12,SNR=2.6						
	0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	01 45 14.2	
	baz=313,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	01 45 14.0	
	baz=313,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	01 45 13.6	
	baz=313,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	01 46 08.4	
	baz=315,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	01 46 06.4	
	baz=315,slow=75,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	01 46 07.1	
	baz=315,slow=75,SNR=11						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**01 17 37.8**	**-0.2**
	0.2nm,0.3s,baz=40,slow=11,SNR=2.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**01 17 56.6**	**+0.6**
	0.3nm,0.7s,baz=91,slow=10,SNR=4.5						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**01 18 37.0**	**-0.7**
	0.3nm,0.8s,baz=269,slow=6.0,SNR=4.8						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**57.12**	**188**	P	**P**	**01 19 35.0**	**+0.4**
	0.5nm,1.0s,baz=2.9,slow=7.5,SNR=1.5						
	0.5nm,1.0s						

*MAN **05** 01:31:40.0, 3.04N×127.37E, h14km, mb4.8, ML3.7, MS3.6*
*IDC **05** 01:31:42.4±2.3, 3.37N×128.03E, h87km±21km, mb3.9/20, mbtmp4.3/22, MS3.3/20, Error ellipse: s-maj=22.9km s-min=10.3km az=70.0*
*NEIC **05** 01:31:42.6±1.6, 3.35N±0.09×127.94E±0.05, h82km±11km, mb4.6/19, Error ellipse: s-maj=13.8km s-min=7.7km az=185.0*
*DJA **05** 01:31:43.1±0.3, 3.1N±3.3×127.8E±°, h104km±8km, M4.6/13, mb4.7/12, mB5.1/8, MLv4.7/13, Mw(mB)4.5/8*
ISC 05 01:31:41.8±0.4, 3.28N±0.04×127.97E±0.06, h84km, n90, σ1.935/82, mb4.5/38, 7C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.56**	**194**	Pn	**Pn**	**01 32 21.7**	**+0.4**
TNTI				Sn	**Sn**	**01 32 53.8**	**+2.2**
TNTI	**Ternate**	**2.56**	**194**	P	**Pn**	**01 32 21.4**	**+0.1**
DDMP	**Don Marcelino,**	**3.60**	**321**	⇑*e*P	**Pn**	**01 32 33.1**	**-2.2**
MATI	**Mati**	**4.03**	**335**	⇑*e*P	**Pn**	**01 32 42.6**	**+1.5**
MATI				*e*S	Sn	01 33 40.5	+13
GSPH	**General Santos**	**4.11**	**313**	⇓*e*P	**Pn**	**01 32 40.0**	**-2.4**
DAV	**Davao City (W)**	**4.46**	**328**	P	**Pn**	**01 32 48.7**	**+1.7**
	273nm,0.4s,baz=186,slow=5.1,SNR=11						
DAV				S	**Sn**	**01 33 40.4**	**+2.7**
	266nm,0.4s,baz=221,slow=20,SNR=4.8						
KCP	**Kidapawan**	**4.69**	**322**	⇑*i* P	**Pn**	**01 32 50.7**	**+0.4**
KCP				*i* S	**Sn**	**01 33 44.4**	**+1.0**
SKMP	**Bagumbayan, Su**	**4.69**	**314**	⇑*e*P	**Pn**	**01 32 48.6**	**-1.7**
SWI	**Sorong**	**5.27**	**141**	P	**Pn**	**01 32 58.2**	**+0.1**
	56nm,0.5s,2μm0.5nm						
SWI				S	**Sn**	**01 33 56.3**	**-1.2**
	56nm,0.5s,2μm0.5nm						
SIJI	**Sorong**	**5.27**	**141**	P	**Pn**	**01 32 58.8**	**+0.6**
	30nm,0.4s,baz=329,slow=17,SNR=16						
SIJI				S	**Sn**	**01 33 55.1**	**-2.6**
	52nm,0.5s,baz=53,slow=20,SNR=12						
SIJI				LR	LR	01 35 15.9	
	comp=Z,260nm,20.2s,baz=42,slow=40						
CTBH	**Cotabato--PC H**	**5.39**	**317**	⇑*e*P	**Pn**	**01 32 59.7**	**-0.1**
GTOI	**Gorontalo**	**5.60**	**242**	P	**Pn**	**01 33 02.3**	**-0.4**
	55nm,0.8s,640nm0.2nm						
SANI	**Sanana**	**5.65**	**201**	P	**Pn**	**01 33 02.1**	**-1.2**
	45nm,1.0s,3μm0.3nm						
SANI				S	**Sn**	**01 34 01.5**	**-5.3**
	45nm,1.0s,3μm0.3nm						
MRSI	**Marisa**	**6.63**	**245**	P	**Pn**	**01 33 16.5**	**-0.2**
	913nm,0.6s,9μm3.4nm						
MSAI	**Masohi**	**6.65**	**172**	P	**Pn**	**01 33 15.4**	**-1.5**
	10nm,0.6s,0.1nm						
GLSP	**General Luna,**	**6.72**	**344**	⇑*e*P	Pn	01 33 24.8	+6.9
LUWI	**Luwuk**	**6.74**	**231**	Pn	**Pn**	**01 33 19.5**	**+1.3**
LUWI	**Luwuk**	**6.74**	**231**	P	**Pn**	**01 33 19.4**	**+1.3**
	115nm,0.6s,8μm0.7nm						
FAKI	**Fak Fak**	**7.50**	**145**	Pn	**Pn**	**01 33 29.4**	**+0.9**
FAKI	**Fak Fak**	**7.50**	**145**	P	**Pn**	**01 33 29.2**	**+0.7**
	33nm,0.9s,0.2nm						
TOLI2	**Tolitoli**	**7.50**	**253**	Pn	**Pn**	**01 33 26.7**	**-1.8**
APSI	**Ampana**	**7.56**	**237**	P	**Pn**	**01 33 29.8**	**+0.4**
	155nm,1.0s,2μm0.5nm						
MPSI	**Mapaga**	**8.58**	**250**	P	**Pn**	**01 33 42.4**	**-0.8**
	43nm,1.1s,838nm						
MYLDM	**Lahad Datu**	**9.63**	**282**		**Pn**	**01 33 58.5**	**+0.9**
SRPI	**Serui, Papua**	**9.72**	**122**	P	**Pn**	**01 33 59.9**	**+1.0**
KAPI	**Kappang**	**11.63**	**225**	LR	LR	01 38 43.7	
	comp=Z,67nm,20.7s,baz=85,slow=36						
SAUI	**Saumlaki**	**11.67**	**163**	Pn	**Pn**	**01 34 28.8**	**+3.4**
SBUM	**Sibu**	**15.75**	**267**	P	**P**	**01 35 20.7**	**-0.4**
KNRA	**Kununurra**	**18.85**	**178**		**Pn**	**01 35 56.7**	**0.0**
KNRA				IAmb	IAmb	01 36 24.3	
	comp=Z,58nm,1.2s						
TPUB	**Ta-pu**	**21.14**	**341**	P	**P**	**01 36 18.4**	**-1.6**
TPUB				IAmb	IAmb	01 36 32.9	
	comp=Z,32nm,0.9s						
SSLB	**Suanglung**	**21.49**	**342**	P	**P**	**01 36 22.7**	**-1.1**
SSLB				IAmb	IAmb	01 36 27.3	
	comp=Z,27nm,0.9s						
JMZ	**Minamidaito 2**	**22.63**	**8**	P	**P**	**01 36 35.8**	**-0.1**
PMG	**Port Moresby**	**22.90**	**124**	LR	LR	01 45 32.5	
	comp=Z,50nm,20.1s,baz=288,slow=36						
JOW	**Kunigami**	**23.43**	**1**	P	**P**	**01 36 43.1**	**-0.6**
	comp=Z,13nm,0.7s,baz=164,slow=6.7,SNR=5.4						
JOW				LR	LR	01 44 53.3	
	comp=Z,70nm,21.7s,baz=144,slow=34						
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**23.90**	**165**	P	**P**	**01 36 49.0**	**+1.0**
WRAB				IAmb	IAmb	01 37 08.5	
	comp=Z,44nm,1.4s						
WRA	**Warramunga Arr**	**23.91**	**165**	P	**P**	**01 36 48.3**	**+0.2**
	comp=Z,6.2nm,0.7s,baz=345,slow=11,SNR=62						

WRA				LR	LR	01 47 04.7	
	comp=Z,95nm,20.0s,baz=332,slow=38						
	comp=Z,6.2nm,0.7s						
KRVT	**Keravat (AS076**	**25.19**	**107**	P	**P**	**01 37 00.9**	**+1.1**
	comp=Z,38nm,0.6s,baz=334,slow=4.0,SNR=2.4						
KRVT				LR	LR	01 44 52.0	
	comp=Z,96nm,22.0s,baz=54,slow=31						
ASAR	**Alice Springs**	**27.40**	**168**	P	**P**	**01 37 20.3**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=352,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**01 40 38.1**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=352,slow=2.6,SNR=1.9						
	comp=Z,1.1nm,0.7s						
CTA	**Charters Tower**	**29.35**	**143**	LR	LR	01 50 49.2	
	comp=Z,54nm,20.2s,baz=256,slow=39						
JNU	**Nakatsue**	**29.82**	**5**	LR	LR	01 48 44.5	
	comp=Z,56nm,20.9s,baz=348,slow=34						
WHN	**Wuhan**	**30.02**	**336**	⇓P	**P**	**01 37 44.8**	**+2.0**
CRAI	**Chiangrai**	**31.74**	**304**	P	**P**	**01 37 59.2**	**+1.1**
CRAI				IAmb	IAmb	01 38 00.6	
	comp=Z,8.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.17**	**300**	P	**P**	**01 38 02.4**	**+0.5**
	comp=Z,3.4nm,0.7s,baz=109,slow=6.8,SNR=19						
CMAR				LR	LR	01 52 55.6	
	comp=Z,14nm,18.2s,baz=100,slow=40						
	comp=Z,3.4nm,0.7s						
CHTO	**Chiang Mai**	**32.31**	**301**	P	**P**	**01 38 02.9**	**-0.3**
CHTO				IAmb	IAmb	01 38 05.3	
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**34.02**	**360**	P	**P**	**01 38 17.1**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=175,slow=11,SNR=4.9						
KSRS				LR	LR	01 51 15.0	
	comp=Z,18nm,20.9s,baz=70,slow=35						
	comp=Z,2.0nm,0.7s						
TIA	**Tai'an**	**34.27**	**344**	P	**P**	**01 38 21.2**	**+1.3**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HNR	**Honiara**	**34.28**	**112**	LR	LR	01 52 21.5	
	comp=Z,289nm,20.6s,baz=320,slow=36						
MJAR	**Matsushiro Arr**	**34.42**	**15**	P	**P**	**01 38 19.0**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=186,slow=10.0,SNR=4.3						
MJAR				LR	LR	01 50 27.8	
	comp=Z,59nm,20.8s,baz=184,slow=33						
	comp=Z,1.4nm,0.6s						
XAN	**Xi'an**	**35.38**	**332**	P	**P**	**01 38 29.4**	**-0.2**
XAN				pP	pP	01 38 42.5	-6.2
XAN				pmax	pmax		
	comp=Z,16nm,1.2s						
HNS	**HongShan**	**36.08**	**342**	⇑P	**P**	**01 38 36.2**	**+0.8**
HNS				pmax	pmax		
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**37.28**	**161**	P	**P**	**01 38 46.3**	**+0.5**
	comp=Z,3.4nm,0.4s,baz=337,slow=8.5,SNR=12						
STKA				LR	LR	01 57 18.7	
	comp=Z,44nm,19.6s,baz=15,slow=41						
	comp=Z,3.4nm,0.4s						
BJT	**Baijiatuau**	**38.11**	**345**	P	**P**	**01 38 51.2**	**-1.3**
BJT				IAmb	IAmb	01 39 12.7	
	comp=Z,12nm,1.2s						
LZH	**Lanzhou**	**39.52**	**329**	*e*P	**P**	**01 39 06.0**	**+1.3**
LZH				pP	pP	01 39 20.1	-4.1
LZH				sP	pwP	01 39 24.5	-1.8
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**40.79**	**65**	T	T	02 22 36.7	
	baz=253,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**40.80**	**65**	T	T	02 22 38.2	
	baz=253,slow=75,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**40.80**	**65**	T	T	02 22 35.7	
	baz=253,slow=75,SNR=26						
USRK	**Ussuriysk Ar.**	**40.91**	**4**	P	**P**	**01 39 15.0**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=173,slow=13,SNR=2.6						
	comp=Z,2.9nm,0.8s						
SHL	**Shillong**	**41.14**	**306**	P	**P**	**01 39 18.6**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**41.34**	**64**	T	T	02 23 29.2	
	baz=253						
H11N2	**WAKE ISLAND Hy**	**41.35**	**64**	T	T	02 23 47.4	
	baz=253						
H11N3	**WAKE ISLAND Hy**	**41.36**	**64**	T	T	02 23 33.2	
	baz=253						
GTA	**Gaotai**	**44.12**	**328**	*e*P	**P**	**01 39 42.6**	**+0.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GOMU	**GeErMu**	**44.81**	**321**	P	**P**	**01 39 49.5**	**+1.6**
GOMU				PcP	**PP**	**01 41 33.9**	**-0.2**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DZM	**Mont Dzumac**	**45.27**	**126**	LR	LR	01 59 49.1	
	comp=Z,43nm,19.8s,baz=30,slow=37						
KLR	**Kul'dur**	**45.90**	**3**	P	**P**	**01 39 54.9**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=204,slow=4.5,SNR=8.3						
KLR				LR	LR	01 58 04.7	
	comp=Z,21nm,20.6s,

az=152.0

ISC 05 01:32:03.5±1.3,**43.06N**±0.04×**80.11E**±0.03,**h4**km±9km, **n70**,σ1=**82**/106,**28C-12D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.42**	**24**	P	**Pg**	**01 32 11.9**	**+0.2**
	310nm,0.2s						
KTMS				S	**Sg**	**01 32 18.0**	**+0.7**
	853nm,0.1s						
KTMS	**Ketmen**	**0.42**	**24**	*e*P	**Pg**	**01 32 11.9**	**+0.2**
	baz=24						
KTMS				*e*S	**Sg**	**01 32 18.0**	**+0.7**
	baz=24						
KTMS	**Ketmen**	**0.42**	**24**	*e*P	**Pg**	**01 32 11.9**	**+0.2**
	310nm,0.1s						
KTMS				*e*S	**Sg**	**01 32 18.0**	**+0.7**
	942nm,0.1s						
SHLS	**Shalkode**	**0.49**	**282**	S	**Sg**	**01 32 14.9**	**-4.3**
	12μm,0.1s						
SHLS	**Shalkode**	**0.49**	**282**	*e*P	**Pg**	**01 32 10.0**	**-2.8**
	baz=77						
SHLS				*e*S	**Sg**	**01 32 14.8**	**-4.3**
	baz=77						
SHLS	**Shalkode**	**0.49**	**282**	*e*P	**Pg**	**01 32 10.0**	**-2.8**
	1μm,0.1s						
SHLS				*e*S	**Sg**	**01 32 14.9**	**-4.3**
	12μm,0.1s						
PDGK	**Podgornoye**	**0.53**	**301**	P	**Pg**	**01 32 14.8**	**+1.2**
	126nm,0.1s						
PDGK				S	**Sg**	**01 32 22.4**	**+1.9**
	796nm,0.2s						
PDGK	**Podgornoye**	**0.53**	**301**	⇓P	**Pg**	**01 32 14.9**	**+1.2**
	72nm,0.3s						
PDGK				S	**Sb**	**01 32 23.4**	**-0.1**
UZB	**Uzynbulak**	**0.80**	**277**	*e*P	**Pb**	**01 32 20.1**	**0.0**
	baz=71						
UZB				*e*S	**Sb**	**01 32 31.3**	**-0.1**
	baz=71						
UZB	**Uzynbulak**	**0.80**	**277**	*e*P	**Pb**	**01 32 20.1**	**0.0**
	52nm,0.0s						
UZB				*e*S	**Sb**	**01 32 31.2**	**-0.1**
	1μm,0.1s						
KPKS	**Kokpek**	**1.12**	**292**	P	**Pg**	**01 32 25.1**	**+0.1**
	102nm,0.1s						
KPKS				S	**Sg**	**01 32 40.6**	**+1.1**
	376nm,0.2s						
KPKS	**Kokpek**	**1.12**	**292**	*e*P	**Pg**	**01 32 25.1**	**+0.1**
	baz=88						
KPKS				*e*S	**Sg**	**01 32 40.6**	**+1.1**
	baz=88						
KPKS	**Kokpek**	**1.12**	**292**	*e*P	**Pg**	**01 32 25.1**	**+0.1**
	102nm,0.1s						
KPKS				*e*S	**Sg**	**01 32 40.6**	**+1.1**
	394nm,0.0s						
ZHN	**Zhinishke**	**1.23**	**276**	P	**Pg**	**01 32 27.6**	**+0.4**
	66nm,0.2s						
ZHN				S	**Sb**	**01 32 44.3**	**+0.6**
	468nm,0.2s						
ZHN	**Zhinishke**	**1.23**	**276**	*e*P	**Pg**	**01 32 27.6**	**+0.4**
	baz=72						
ZHN				*e*S	**Sb**	**01 32 44.3**	**+0.6**
	baz=72						
ZHN	**Zhinishke**	**1.23**	**276**	*e*P	**Pg**	**01 32 27.6**	**+0.4**
	66nm,0.1s						
ZHN				*e*S	**Sb**	**01 32 44.3**	**+0.6**
	468nm,0.2s						
SATY	**Saty**	**1.25**	**271**	P	**Pb**	**01 32 28.5**	**+0.8**
	88nm,0.1s						
SATY				S	**Sn**	**01 32 46.0**	**+0.8**
	578nm,0.1s						
SATY	**Saty**	**1.25**	**271**	*e*P	**Pb**	**01 32 28.5**	**+0.8**
	baz=67						
SATY				*e*S	**Sn**	**01 32 46.0**	**+0.8**
	baz=67						
SATY	**Saty**	**1.25**	**271**	*e*P	**Pb**	**01 32 28.4**	**+0.8**
	88nm,0.1s						
SATY				*e*S	**Sn**	**01 32 46.0**	**+0.8**
	578nm,0.1s						
DJR	**Jarkent**	**1.29**	**350**	P	**Pn**	**01 32 28.0**	**-0.4**
	73nm,0.1s						
DJR	**Jarkent**	**1.29**	**350**	*e*P	**Pn**	**01 32 28.0**	**-0.4**
	73nm,0.1s						
DJR				*e*S	**Sg**	**01 32 45.3**	**+0.2**
	271nm,0.1s						
PRZ	**Przheval'sk**	**1.39**	**246**	⇑*i*P	**Pg**	**01 32 30.5**	**+0.4**
	baz=45						
PRZ				⇑*i*S	**Sn**	**01 32 49.9**	**+1.3**
	baz=45						
KURS	**Kuram**	**1.48**	**287**	P	**Pb**	**01 32 31.7**	**+0.1**
	25nm,0.3s						
KURS				S	**Sg**	**01 32 52.0**	**+0.9**
	141nm,0.4s						
KURS	**Kuram**	**1.48**	**287**	*e*P	**Pb**	**01 32 31.7**	**+0.1**
	baz=84						
KURS				*e*S	**Sg**	**01 32 52.0**	**+0.9**
	baz=84						
KURS	**Kuram**	**1.48**	**287**	*e*P	**Pb**	**01 32 31.7**	**+0.1**
	25nm,0.3s						
KURS				*e*S	**Sg**	**01 32 52.0**	**+0.9**
	141nm,0.4s						
ANVS	**Anan'yevo**	**1.82**	**262**	⇓*i*P	**Pb**	**01 32 37.4**	**0.0**
	baz=60						
ANVS				⇓*i*S	**Sb**	**01 33 00.9**	**+0.3**
	baz=60						
TARG	**Taragay, Kyrgy**	**2.17**	**233**	⇓*i*P	**Pb**	**01 32 42.9**	**-0.6**
	baz=32						
TARG				⇓*i*S	**Sb**	**01 33 10.0**	**-0.8**
	baz=32						
KOTS	**Kotyrbulak**	**2.20**	**276**	Pg	**Pb**	**01 32 44.4**	**+0.4**
	37nm,0.2s						
KOTS				Lg	Lg	01 33 13.8	
	289nm,0.2s						
KOTS	**Kotyrbulak**	**2.20**	**276**	*e*Pg	**Pb**	**01 32 44.4**	**+0.4**
	37nm,0.2s						
KOTS				*e*Lg	Lg	01 33 13.8	
	289nm,0.2s						
MDOK	**Medeo**	**2.25**	**274**	⇓Pn	**Pb**	**01 32 43.5**	**-1.2**
	17nm,0.4s						
MDOK				Pg	**Pg**	**01 32 45.3**	**-1.3**
	15nm,0.4s						
MDOK				Lg	Lg	01 33 14.8	
	116nm,0.4s						
MDOK				⇑Lg	Lg	01 33 15.3	
	111nm,0.6s						
TDK	**Taldyqorghan**	**2.30**	**328**	Pg	**Pg**	**01 32 48.7**	**+1.2**
	95nm,0.4s						
TDK				Lg	Lg	01 33 20.7	
	615nm,0.3s						
TDK	**Taldyqorghan**	**2.30**	**328**	*e*Pg	**Pg**	**01 32 47.3**	**-0.2**
	95nm,0.4s						
TDK				*e*Lg	Lg	01 33 18.0	
	615nm,0.3s						
KNDC	**Almaty**	**2.31**	**275**	⇑Pg	**Pg**	**01 32 47.8**	**+0.1**
	72nm,0.6s						
KNDC				⇑Sn	**Sb**	**01 33 16.6**	**+2.0**
	122nm,0.3s						
TNSS	**Tian-Shan**	**2.32**	**271**	Pg	**Pg**	**01 32 47.7**	**-0.3**
	32nm,0.3s						
TNSS				Lg	Lg	01 33 18.5	
	44nm,0.3s						
TNSS	**Tian-Shan**	**2.32**	**271**	*e*Pg	**Pg**	**01 32 47.7**	**-0.3**
	32nm,0.3s						
TNSS				*e*Lg	Lg	01 33 18.5	
	44nm,0.3s						
AAA	**Alma-Ata**	**2.35**	**275**	Pg	**Pb**	**01 32 47.6**	**+1.3**
	66nm,0.3s						
AAA				Lg	Lg	01 33 18.8	
	40nm,0.3s						
AAA	**Alma-Ata**	**2.35**	**275**	*e*Pg	**Pb**	**01 32 47.6**	**+1.3**
	70nm,0.2s						
AAA				*e*Lg	Lg	01 33 18.8	
	39nm,0.1s						
KDJ	**Kajisay**	**2.36**	**248**	⇑*e*P	**Pb**	**01 32 44.9**	**-1.7**
	baz=46						
KDJ				⇑*i*S	**Sn**	**01 33 14.0**	**+1.4**
	baz=46						
CHKK	**Chushkaly**	**2.41**	**290**	*e*Pg	**Pb**	**01 32 47.8**	**+0.4**
	8.4nm,0.1s						
CHKK				*e*Lg	Lg	01 33 18.7	
	200nm,0.0s						
MTBS	**Maitube**	**2.70**	**273**	Pg	**Pb**	**01 32 53.5**	**+1.1**
	23nm,0.3s						
MTBS				Lg	Lg	01 33 28.8	
	76nm,0.3s						
MTBS	**Maitube**	**2.70**	**273**	*e*Pg	**Pb**	**01 32 53.5**	**+1.1**
	23nm,0.3s						
MTBS				*e*Lg	Lg	01 33 28.8	
	76nm,0.3s						
KUU	**Kurty**	**2.87**	**288**	*e*Pg	**Pb**	**01 32 55.9**	**+0.6**
	11nm,0.3s						
KUU				*e*Lg	Lg	01 33 32.5	
	129nm,0.5s						
ULHL	**Ulahol**	**2.97**	**255**	⇑*i*P	**Pn**	**01 32 53.7**	**+2.1**
	baz=54						
ULHL				⇑*i*S	**Sn**	**01 33 28.8**	**+1.1**
	baz=54						
KST	**Kastek**	**3.04**	**271**	Pg	**Pb**	**01 33 00.1**	**+1.9**
	11nm,0.3s						
KST				Lg	Lg	01 33 40.3	
	62nm,0.3s						
KST	**Kastek**	**3.04**	**271**	*e*Pg	**Pb**	**01 33 00.1**	**+1.9**
	11nm,0.3s						
KST				*e*Lg	Lg	01 33 40.3	
	62nm,0.3s						
DGS	**Degeres**	**3.18**	**275**	Pg	**Pb**	**01 33 02.0**	**+1.3**
	7.9nm,0.3s						
DGS				Lg	Lg	01 33 43.9	
	70nm,0.5s						
DGS	**Degeres**	**3.18**	**275**	*e*Pg	**Pb**	**01 33 02.0**	**+1.3**
	7.9nm,0.3s						
DGS				*e*Lg	Lg	01 33 43.9	
	70nm,0.5s						
KRBS	**Karabastau**	**3.30**	**283**	Pg	**Pb**	**01 33 04.8**	**+2.2**
	11nm,0.3s						
KRBS				Lg	Lg	01 33 47.3	
	23nm,0.3s						
KRBS	**Karabastau**	**3.30**	**283**	*e*Pg	**Pb**	**01 33 04.8**	**+2.2**
	11nm,0.3s						
KRBS				*e*Lg	Lg	01 33 47.4	
	23nm,0.3s						
TKM2	**Tokmak 2**	**3.32**	**269**	⇑Pg	**Pg**	**01 33 05.6**	**-1.4**
	7.9nm,0.3s						
TKM2				⇓Lg	Lg	01 33 47.5	
	61nm,0.7s						
TKM2	**Tokmak 2**	**3.32**	**269**	⇑*i*P	**Pn**	**01 32 58.0**	**+1.7**
	baz=68						
TKM2				⇑*i*S	**Sn**	**01 33 36.7**	**+0.4**
	baz=68						
NRN	**Naryn**	**3.46**	**243**	⇓*i*P	**Pn**	**01 33 00.9**	**+2.5**
	baz=43						
NRN				⇓*i*S	**Sn**	**01 33 41.4**	**+1.5**
	baz=43						
CHMS	**Chumysh**	**3.93**	**271**	⇑Pg	**Pg**	**01 33 18.6**	**-0.2**
	7.7nm,0.6s						
CHMS				⇑Lg	Lg	01 34 07.0	
	32nm,0.5s						
CHMS	**Chumysh**	**3.93**	**271**	⇑*i*P	**Pn**	**01 33 06.4**	**+1.8**
	baz=70						
CHMS				⇑*i*S	**Sn**	**01 33 51.5**	**+0.3**
	baz=70						
MAKZ	**Makanchi**	**3.97**	**19**	⇑Pn	**Pn**	**01 33 05.0**	**-0.2**
	6.1nm,0.3s						
MAKZ				⇑Sn	**Sn**	**01 33 50.9**	**-1.4**
	4.7nm,0.3s						
MAKZ				⇑Lg	Lg	01 34 05.1	
	13nm,0.5s						
SGDS	**Sogindy**	**4.02**	**277**	Pg	**Pb**	**01 33 17.3**	**+2.4**
	2.3nm,0.4s						
SGDS				Lg	Lg	01 34 09.8	
	19nm,0.4s						
MK31	**Makanchi Array**	**4.04**	**22**	⇑Pn	**Pn**	**01 33 06.0**	**-0.1**
	4.7nm,0.1s,baz=202,slow=13,SNR=430						
MK31				⇑Lg	Lg	01 34 06.2	
	34nm,0.6s,baz=226,slow=29,SNR=8.3						
MKAR	**Makanchi Array**	**4.04**	**22**	Pn	**Pn**	**01 33 06.2**	**+0.1**
	9.2nm,0.3s,baz=200,slow=12,SNR=566						
MKAR				Sn	**Sn**	**01 33 51.5**	**-2.3**
	5.3nm,0.3s,baz=194,slow=19,SNR=8.1						
MKAR				Lg	Lg	01 34 07.1	
	12nm,0.3s,baz=199,slow=26,SNR=12						
	12nm,0.3s						
AAK	**Ala-Archa**	**4.15**	**266**	⇑*e*P	**Pn**	**01 33 09.8**	**+2.0**
	baz=65						
AAK				⇑*i*S	**Sn**	**01 33 57.5**	**+0.7**
	baz=65						
BTLS	**Baital**	**4.80**	**296**	*e*Pg	**Pb**	**01 33 31.2**	**+3.1**
	3.1nm,0.0s						
BTLS				*e*Lg	Lg	01 34 33.2	
	9.4nm,0.2s						
MRKS	**Merke**	**5.07**	**269**	*e*Pg	**Pb**	**01 33 36.4**	**+3.7**
	6.3nm,0.1s						
MRKS				*e*Lg	Lg	01 34 42.5	
	13nm,0.3s						
ZSN	**Zaisan**	**5.52**	**36**	Pg	**Pb**	**01 33 43.5**	**+3.1**
	3.3nm,0.3s						
ZSN	**Zaisan**	**5.52**	**36**	*e*Pg	**Pb**	**01 33 43.5**	**+3.1**
	3.2nm,0.0s						
ZSN				*e*Lg	Lg	01 34 53.4	
	28nm,0.6s						
KK31	**Karatay Array**	**7.03**	**274**	⇑Pg	**Pg**	**01 34 13.9**	**-4.2**
	2.3nm,0.6s,baz=84,slow=15,SNR=9.0						
KK31				⇓Lg	Lg	01 35 46.3	
	4.7nm,0.5s,baz=81,slow=28,SNR=6.9						
OTUK	**Ortayu**	**7.52**	**316**	⇑Pn	**Pn**	**01 33 53.4**	**-0.5**
	1.0nm,0.6s						
OTUK				⇑Lg	Lg	01 35 58.2	
	17nm,0.8s						
KURBB	**Kurchatov Arra**	**7.64**	**352**	⇑Pn	**Pn**	**01 33 52.1**	**-3.4**
	0.8nm,0.4s						
KURBB				⇑Lg	Lg	01 36 02.8	
	39nm,0.6s						
KURK	**Kurchatov**	**7.73**	**353**	⇓Pn	**Pn**	**01 33 54.8**	**-1.9**
	6.5nm,2.0s						
KURK				⇓Lg	Lg	01 36 04.9	
	27nm,0.7s						
ZALV	**Zalesovo Beam**	**11.33**	**14**	Pn	**Pn**	**01 34 45.1**	**-0.9**
	0.3nm,0.3s,baz=194,slow=12,SNR=3.7						
ZALV				Sn	**Sn**	**01 36 45.0**	**-8.0**
	0.7nm,0.3s,baz=208,slow=23,SNR=7.7						
ZALV				Lg	Lg	01 37 54.5	
	baz=212,slow=22						
	0.4nm,0.3s						
SONM	**Songino Array**	**19.01**	**66**	P	**P**	**01 36 23.2**	**-3.0**
	0.2nm,0.3s,baz=260,slow=11,SNR=10						
	0.9nm,0.5s						
XAN	**Xi'an**	**24.17**	**102**	*e*P	**P**	**01 37 24.2**	**+3.4**
XAN				pP	sP	01 37 35.2	+12
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						

*JMA **05** 01:40:50.2±0.3, 40.3N±0.6×14.4E±°, h21km±4km, MV3.5/31, FAR E OFF SANRIKU*

*NIED **05** 01:40:50.2, 40.33N×143.67E, h21km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.24; Mθθ1.57; Mφφ-4.80; Mrθ1.59; Mθφ-1.65; Mφr1.72; Fault plane solution: Mφθ4.96000×10¹⁴ NP1:φs36.00000°, δ63.00000°, λ118.00000°. NP2:φs166.00000°, δ39.00000°, λ48.00000°.*

*IDC **05** 01:40:52.2±1.3, 40.46N×142.98E, h0km, mb3.6/8, mbtmp3.5/10, ML2.8/2 Error ellipse: s-maj=30.1km s-min=22.2km az=113.0*

ISC 05 01:40:49.6±1.1,**40.26N**±0.06×**143.80E**±0.07,**h16**km,**n31**, σ1=**27**/34,**mb3.6**/8,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.52**	**258**	P	**Pn**	**01 41 15.3**	**-0.8**
JTH				*e*S	**Sn**	**01 41 33.1**	**-2.4**
JKEN	**Kujiedanarisaw**	**1.60**	**269**	*e*P	**Pn**	**01 41 16.5**	**-0.7**
JKEN				*e*S	**Sn**	**01 41 35.1**	**-2.4**
MIYJ	**Miyakonagasawa**	**1.67**	**246**	P	**Pn**	**01 41 18.2**	**+0.1**
MIYJ				*e*S	**Sn**	**01 41 37.8**	**-1.4**
JANG	**Nango**	**1.75**	**274**	P	**Pn**	**01 41 18.7**	**-0.6**
JEM	**Erimo**	**1.82**	**345**	*e*P	**Pn**	**01 41 19.9**	**-0.4**
JEM				*e*S	**Sn**	**01 41 41.7**	**-1.3**
JOM	**Ohasama**	**2.08**	**249**	P	**Pn**	**01 41 24.3**	**+0.5**
JNBK	**Urakawa-nobuka**	**2.17**	**339**	P	**Pn**	**01 41 25.3**	**+0.3**
JNBK				*e*S	**Sn**	**01 41 52.0**	**+0.5**
JOT	**Ohata**	**2.37**	**299**	*e*P	**Pn**	**01 41 27.7**	**-0.1**
JOT				*e*S	**Sn**	**01 41 55.4**	**-1.1**
JCH	**Churui**	**2.38**	**352**	P	**Pn**	**01 41 27.6**	**-0.3**
JCH				*e*S	**Sn**	**01 41 55.3**	**-1.3**
JMK	**Ichinoseki**	**2.38**	**238**	P	**Pn**	**01 41 28.4**	**+0.4**
JMK				*e*S	**Sn**	**01 41 56.0**	**-0.8**
JAK	**Akkeshi**	**2.81**	**14**	P	**Pn**	**01 41 34.0**	**+0.1**
JAK				*e*S	**Sn**	**01 42 06.0**	**-1.5**
JYK	**Kaneyama**	**2.98**	**244**	P	**Pn**	**01 41 37.2**	**+1.1**
JAR	**Ashorobuto**	**3.03**	**360**	P	**Pn**	**01 41 36.3**	**-0.7**
JAR				S	**Sn**	**01 42 10.2**	**-2.7**
JEW	**Eniwo**	**3.12**	**326**	*e*S	**Sn**	**01 42 14.9**	**-0.1**
NEM2	**Nemuro 2**	**3.43**	**24**	P	**Pn**	**01 41 42.0**	**-0.3**
NEM2				S	**Sn**	**01 42 19.8**	**-2.7**
ASAJ	**Asahikawa**	**3.96**	**347**	Pn	**Pn**	**01 41 51.0**	**+1.4**
	0.8nm,0.3s,baz=246,slow=24,SNR=1.7						
ASAJ				Sn	**Sn**	**01 42 33.6**	**-2.0**
	2.2nm,0.3s,baz=112,slow=19,SNR=3.8						
	3.7nm,0.5s						
MJAR	**Matsushiro Arr**	**5.75**	**232**	Pn	**Pn**	**01 42 13.0**	**-1.3**
	0.1nm,0.3s,baz=40,slow=11,SNR=6.8						
	3.2nm,0.7s						
SONM	**Songino Array**	**27.72**	**298**	P	**P**	**01 46 37.8**	**+0.6**
	0.5nm,0.7s,baz=164,slow=16,SNR=2.7						
	0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.46**	**129**	T	T	02 16 51.3	
	baz=318,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.47**	**129**	T	T	02 17 03.7	
	baz=318						
H11N3	**WAKE ISLAND Hy**	**28.48**	**129**	T	T	02 16 52.7	
	baz=318,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.30**	**131**	T	T	02 17 55.2	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**29.31**	**131**	T	T	02 18 02.5	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**29.32**	**131**	T	T	02 17 52.2	
	baz=322						
ZALV	**Zalesovo Beam**	**41.21**	**310**	P	**P**	**01 48 34.0**	**+0.8**
	0.7nm,0.5s,baz=65,slow=7.0,SNR=4.9						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.06**	**300**	P	**P**	**01 48 56.9**	**+0.3**
	1.2nm,0.9s,baz=82,slow=9.1,SNR=8.6						
	1.2nm,0.9s						
ILAR	**Eielson Array**	**45.78**	**34**	P	P	01 49 16.6	+6.6
	0.6nm,0.9s,baz=262,slow=7.3,SNR=5.3						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**60.09**	**32**	P	P	01 51 02.6	+7.1
	0.3nm,1.0s,baz=302,slow=6.7,SNR=2.1						
	0.3nm,1.0s						
WRA	**Warramunga Arr**	**60.54**	**190**	P	P	01 51 05.3	+6.2
	0.4nm,0.8s,baz=280,slow=3.2,SNR=2.3						
	0.4nm,0.8s						
NOA	**NORSAR Array B**	**71.92**	**338**	P	**P**	**01 52 12.6**	**+0.9**
	0.9nm,1.0s,baz=71,slow=4.4,SNR=1.7						
	0.9nm,1.0s						
AKASG	**Malin Array Be**	**72.88**	**323**	P	**P**	**01 52 18.1**	**+0.6**
	0.2nm,0.2s,baz=51,slow=5.4,SNR=2.1						
	0.2nm,0.2s						

*UCR **05** 01:55:14.6±0.9, 8.29N×82.71W, h15km±6km, MW4.4*

*UPA **05** 01:55:17.3±1.5, 8.40N×82.78W, h10km±5km, MW3.7*

ISC 05 01:55:09.4±1.5,**8.05N**±0.05×**83.00W**±0.03,**h7**km±10km, **n53**,σ1=**52**/73,**1C-6D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCOL	**Caracol de Cor**	**0.35**	**5**	*e*P	**Pn**	**01 55 21.6**	**+0.6**
CCOL				*e*S	**Sb**	**01 55 26.8**	**+2.9**
CDITO	**Canoas**	**0.54**	**14**	*i* P	**Pb**	**01 55 22.1**	**+0.9**
CDITO				*e*S	**Sg**	**01 55 26.2**	**-0.5**
JIME	**Puerto Jimenez**	**0.58**	**327**	*e*P	**Pn**	**01 55 26.5**	**+2.5**
JIME				*e*S	**Sn**	**01 55 36.1**	**+2.2**
DVD	**David**	**0.67**	**55**	*e*P	**Pb**	**01 55 23.9**	**+0.6**
DVD				*e*S	**Sg**	**01 55 30.4**	**-0.6**
CHIR3	**Chiriqui UPA,**	**0.75**	**63**	⇓*i*P	**Pn**	**01 55 26.6**	**+0.1**
CHIR3				*i* S	**Sg**	**01 55 33.6**	**0.0**
EDSV	**San Vito**	**0.76**	**2**	*e*P	**Pn**	**01 55 26.2**	**-0.5**
EDSV				*e*S	**Sg**	**01 55 35.1**	**+1.0**
BRU2	**Volcan**	**0.80**	**23**	⇓*i*P	**Pg**	**01 55 25.4**	**+0.6**
BRU2				⇑*i*S	**Sg**	**01 55 32.9**	**-2.4**
BC3P	**Paso Ancho**	**0.85**	**27**	⇓*i*P	**Pg**	**01 55 25.9**	**+0.1**
BC3P				⇓*i*S	**Sg**	**01 55 34.0**	**-3.0**
EDPN	**Palmar Norte**	**1.01**	**334**	*e*P	**Pn**	**01 55 31.7**	**+1.7**
EDPN				*e*S	**Sn**	**01 55 44.6**	**+0.2**
REME3	**Remedios, Chir**	**1.17**	**81**	*e*P	**Pg**	**01 55 33.0**	**+1.1**
REME3				*e*S	**Sn**	**01 55 48.9**	**+0.3**
SRBA	**San Rafael, Bu**	**1.23**	**343**	*e*P	**Pg**	**01 55 34.5**	**+1.6**
CNI2	**El Empalme, Bo**	**1.46**	**21**	*e*P	**Pn**	**01 55 35.4**	**-0.8**
CNI2				*i* S	**Sn**	**01 55 50.5**	**-5.2**
EDDO	**Dominical**	**1.47**	**325**	*e*P	**Pg**	**01 55 40.2**	**+2.7**
BUS1	**Rivas**	**1.66**	**334**	*e*P	**Pg**	**01 55 41.5**	**+0.1**
CDM	**Cerro de Muert**	**1.67**	**333**	*e*P	**Pg**	**01 55 41.7**	**+0.2**
LLNJ	**Naranjito**	**1.78**	**323**	*e*P	**Pg**	**01 55 44.9**	**+1.4**
RSUS3	**Rio de Jesus,**	**1.83**	**92**	*e*P	**Pg**	**01 55 44.8**	**+0.3**
RSUS3				*e*S	**Sg**	**01 56 08.4**	**+0.2**
RIMA	**Rio Macho**	**1.90**	**334**	*e*P	**Pb**	**01 55 44.9**	**+0.3**
ABE2	**San Pablo**	**1.94**	**328**	*e*P	**Pg**	**01 55 48.0**	**+1.3**
SAFE3	**Santa Fe, Vera**	**1.96**	**76**	⇓*e*P	**Pb**	**01 55 45.0**	**-0.5**
SAFE3				*e*S	**Sn**	**01 56 08.5**	**+0.5**
VERB	**Verbena**	**2.00**	**340**	*e*P	**Pb**	**01 55 46.8**	**+0.5**
BATAN	**Batan**	**2.07**	**350**	*e*P	**Pb**	**01 55 48.0**	**+0.8**
BATAN				*e*S	**Sn**	**01 56 10.2**	**-0.4**
HAYA	**Volcan Irazu**	**2.09**	**337**	*e*P	**Pb**	**01 55 48.3**	**+0.4**
LCOCO	**El Coco**	**2.09**	**345**	*e*P	**Pb**	**01 55 48.1**	**+0.4**
VICA	**Volcano Irazu**	**2.09**	**337**	*e*P	**Pb**	**01 55 48.1**	**+0.2**
JACO	**JACO, Garabito**	**2.29**	**315**	*e*P	**Pg**	**01 55 51.5**	**-1.8**
CHIT3	**Chitre**	**2.56**	**92**	*e*P	**Pb**	**01 55 55.4**	**-0.4**
AZU	**Azuero**	**2.72**	**95**	*e*P	**Pb**	**01 55 58.8**	**+0.5**
AZU				*e*S	**Sb**	**01 56 31.2**	**-0.7**
VTON	**El Valle, Cocl**	**2.92**	**79**	⇓*e*P	**Pb**	**01 56 01.4**	**-0.3**
VTON				*e*S	**Sn**	**01 56 32.0**	**+0.4**
JTS	**Las Juntas de**	**2.94**	**319**	*e*P	**Pb**	**01 56 00.9**	**-1.3**
TABAC	**Tabacon**	**2.99**	**325**	*i* P	**Pb**	**01 56 03.6**	**+0.5**
TABAC				*i* S	**Sb**	**01 56 42.6**	**+2.7**
COTE	**Lago Cote**	**3.14**	**323**	*e*P	**Pb**	**01 56 02.1**	**-3.5**
COTE				*i* S	**Sb**	**01 56 44.8**	**+0.6**
SAAN	**San Antonio**	**3.22**	**312**	*i* P	**Pb**	**01 56 05.9**	**-1.0**
ACAL	**Aguas Claras**	**3.26**	**322**	*e*P	**Pb**	**01 56 07.5**	**-0.2**
ACAL				*e*S	**Sb**	**01 56 43.9**	**-3.6**
PTEN	**Parque Tenorio**	**3.29**	**324**	*i* P	**Pb**	**01 56 07.8**	**-0.5**
MOTZ	**Rio Naranjo**	**3.32**	**322**	*e*P	**Pb**	**01 56 08.4**	**-0.3**
VERA	**Finca Concepci**	**3.34**	**327**	*e*P	**Pb**	**01 56 07.4**	**-1.5**
SAJU	**San Juanillo,**	**3.34**	**307**	*e*P	**Pb**	**01 56 06.9**	**-2.1**
CUI	**Cuipilapa**	**3.35**	**321**	*i* P	**Pb**	**01 56 08.8**	**-0.4**
COLC	**Colonia**	**3.38**	**320**	*e*P	**Pb**	**01 56 09.0**	**-0.

H11S3	**WAKE ISLAND Hy**	**27.99**	**123**	T	T	02 32 33.3		
	baz=314,slow=74							
H11S2	**WAKE ISLAND Hy**	**28.00**	**123**	T	T	02 32 38.2		
	baz=314							
SONM	**Songino Array**	**28.66**	**305**	P	**P**	**02 03 27.5**	**+1.2**	
	0.7nm,0.5s,baz=99,slow=8.9,SNR=2.9							
	0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**42.79**	**313**	P	**P**	**02 05 26.3**	**-0.5**	
	0.2nm,0.3s,baz=113,slow=6.7,SNR=1.4							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**44.99**	**303**	P	**P**	**02 05 46.6**	**+1.9**	
	0.2nm,0.6s,baz=124,slow=6.5,SNR=2.4							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**46.88**	**308**	P	**P**	**02 06 00.0**	**+0.6**	
	0.6nm,0.2s,baz=85,slow=7.9,SNR=1.7							
ILAR	**Eielson Array**	**49.58**	**32**	P	P	02 06 26.4	+6.3	
	0.2nm,0.6s,baz=274,slow=7.1,SNR=2.1							
	0.2nm,0.6s							
CTA	**Charters Tower**	**56.40**	**176**	LR	LR	02 34 50.2		
	comp=Z,10.0nm,19.1s,baz=90,slow=39							
WRA	**Warramunga Arr**	**56.63**	**189**	P	P	02 07 20.4	+8.0	
	0.3nm,0.5s,baz=3.5,slow=7.7,SNR=4.5							
	0.3nm,0.5s							

MAN 05 02:27:17.5, 13.58N×120.67E, h94km, mb3.6, ML2.3, MS1.7, Mindoro

IDC 05 02:34:02.1±1.1, 12.82N×144.24E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=46.9km s-min=15.5km az=119.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.98**	**39**	Pn	Pn	02 34 24.4	+1.3
	114nm,0.3s,baz=326,slow=21,SNR=21						
GUMO				LR	LR	02 34 31.5	
	comp=Z,31nm,19.1s,baz=4.0,slow=30						
GUMO				Sn	Sn	02 34 37.9	+0.1
	234nm,0.3s,baz=330,slow=19,SNR=44						
H11S3	**WAKE ISLAND Hy**	**22.33**	**73**	T	T	03 02 03.3	
	baz=258,slow=75,SNR=84						
H11S1	**WAKE ISLAND Hy**	**22.34**	**72**	T	T	03 02 04.5	
	baz=258,slow=75,SNR=71						
H11S2	**WAKE ISLAND Hy**	**22.34**	**73**	T	T	03 02 08.4	
	baz=258,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**22.78**	**70**	T	T	03 02 38.0	
	baz=255,slow=75,SNR=148						
H11N2	**WAKE ISLAND Hy**	**22.79**	**70**	T	T	03 02 38.2	
	baz=255,slow=75,SNR=140						
H11N3	**WAKE ISLAND Hy**	**22.80**	**70**	T	T	03 02 39.3	
	baz=255,slow=75,SNR=162						
WRA	**Warramunga Arr**	**33.98**	**197**	P	P	02 40 47.7	0.0
	1.2nm,0.8s,baz=20,slow=9.7,SNR=10						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**37.65**	**196**	P	P	02 41 19.2	+0.1
	0.5nm,0.6s,baz=20,slow=11,SNR=14						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**61.62**	**316**	P	P	02 44 22.1	+0.4
	0.1nm,0.5s,baz=91,slow=5.8,SNR=1.6						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**69.52**	**25**	P	P	02 45 10.5	-1.9
	0.1nm,0.5s,baz=249,slow=5.5,SNR=1.8						
	0.1nm,0.5s						

*WEL **05** 02:48:15.0±0.4, 43.3×17.3E±, h16km±4km, M3.0/16, ML3.1/18, MLv3.0/16, Error ellipse: s-maj=0.0km s-min=0.0km az=115.8, confirmed*
*NOU **05** 02:48:15.9, 42.49S×172.77E, h0km, MLv3.6/5, South Island, New Zealand*
ISC 05 02:48:15.4±1.3, 42.56S±0.03×173.16E±0.04, h20km±5km, n48, σ1.915/54, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.32**	**64**	P	**Pg**	**02 48 21.9**	**-0.4**
KHZ				S	**Sg**	**02 48 26.8**	**-0.2**
GVZ	**Greta Valley S**	**0.42**	**192**	P	**Pb**	**02 48 25.5**	**+1.3**
GVZ				S	**Sn**	**02 48 33.2**	**-0.5**
LTZ	**Lake Taylor**	**0.69**	**251**	P	**Pb**	**02 48 28.4**	**-0.4**
AMCZ	**Amberley**	**0.72**	**211**	P	**Pn**	**02 48 30.9**	**+0.4**
THZ	**Tophouse**	**0.81**	**347**	P	**Pb**	**02 48 29.5**	**-1.4**
THZ				S	**Sb**	**02 48 38.9**	**-2.5**
BSWZ	**Blackbirch Sta**	**1.00**	**33**	P	**Pb**	**02 48 33.7**	**-0.3**
CMWZ	**Cape Campbell**	**1.13**	**45**	P	**Pn**	**02 48 36.8**	**+0.7**
OXZ	**Oxford**	**1.13**	**226**	P	**Pn**	**02 48 36.0**	**-0.1**
OKCZ	**Okains Bay**	**1.17**	**183**	P	**Pn**	**02 48 37.0**	**+0.3**
MRNZ	**Matariki Terra**	**1.19**	**345**	P	**Pn**	**02 48 36.2**	**-0.8**
MQZ	**McQueen's Vall**	**1.21**	**198**	P	**Pn**	**02 48 36.7**	**-0.5**
MQZ				S	**Sb**	**02 48 52.7**	**-0.1**
TUWZ	**Tuamarina**	**1.27**	**28**	P	**Pn**	**02 48 37.9**	**-0.1**
INZ	**Inchbonnie**	**1.27**	**262**	P	**Pn**	**02 48 38.2**	**+0.1**
DSZ	**Denniston Nort**	**1.29**	**308**	P	**Pn**	**02 48 38.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.33**	**188**	P	**Pn**	**02 48 39.1**	**+0.2**
NNZ	**Nelson**	**1.35**	**7**	P	**Pn**	**02 48 38.9**	**-0.2**
NNZ				S	**Sb**	**02 48 57.9**	**+1.2**
RACZ	**Rakaia**	**1.39**	**212**	P	**Pn**	**02 48 39.4**	**-0.2**
MHCZ	**Mount Hutt**	**1.52**	**229**	P	**Pn**	**02 48 41.2**	**-0.3**
TKNZ	**Takaka Hill**	**1.53**	**354**	P	**Pn**	**02 48 41.5**	**-0.1**
TCW	**Tory Channel**	**1.58**	**32**	P	**Pn**	**02 48 42.2**	**-0.1**
WACZ	**Wakanui South**	**1.69**	**214**	P	**Pn**	**02 48 43.6**	**-0.2**
WACZ				S	**Sn**	**02 49 04.9**	**+0.1**
SNZO	**South Karori**	**1.70**	**43**	P	**Pg**	**02 48 48.7**	**+0.6**
QRZ	**Quartz Range**	**1.79**	**345**	P	**Pn**	**02 48 45.6**	**+0.4**
QRZ	**Quartz Range**	**1.79**	**345**	P	**Pn**	**02 48 45.7**	**+0.4**
DUWZ	**D'Urville Isla**	**1.84**	**18**	P	**Pn**	**02 48 46.8**	**+0.8**
PLWZ	**Palliser**	**1.85**	**58**	P	**Pn**	**02 48 44.9**	**-1.1**
RPZ	**Rata Peaks**	**1.93**	**232**	P	**Pn**	**02 48 47.2**	**+0.1**
RPZ	**Rata Peaks**	**1.93**	**232**	P	**Pn**	**02 48 46.9**	**-0.2**
ARCZ	**Arundel**	**2.01**	**225**	P	**Pn**	**02 48 47.9**	**-0.3**
CAW	**Cannon Point**	**2.03**	**45**	P	**Pn**	**02 48 47.8**	**-0.8**
PAWZ	**Paruwai Farm**	**2.06**	**56**	P	**Pn**	**02 48 47.6**	**-1.4**
KIW	**Kapiti Island**	**2.14**	**38**	P	**Pn**	**02 48 49.7**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**2.21**	**249**	P	**Pn**	**02 48 51.7**	**+0.7**
OGWZ	**Otaki Gorge**	**2.30**	**42**	P	**Pn**	**02 48 51.5**	**-0.7**
TMZ	**Timaru**	**2.41**	**220**	P	**Pn**	**02 48 53.5**	**-0.2**
MRZ	**Mangatainoka R**	**2.62**	**45**	P	**Pn**	**02 48 55.4**	**-1.2**
FOZ	**Fox Glacier**	**2.64**	**247**	P	**Pn**	**02 48 57.8**	**+1.0**
LBZ	**Lake Benmore**	**2.83**	**229**	P	**Pn**	**02 48 59.5**	**0.0**
ODZ	**Otahua Downs**	**3.08**	**215**	P	**Pn**	**02 49 02.4**	**-0.5**
KHEZ	**Kahui Hut**	**3.32**	**12**	P	**Pn**	**02 49 09.9**	**+3.6**
PKE	**Pukeiti**	**3.42**	**11**	P	**Pn**	**02 49 10.2**	**+2.6**
JCZ	**Jackson Bay**	**3.53**	**243**	P	**Pn**	**02 49 09.2**	**0.0**
VRZ	**Vera Road**	**3.64**	**20**	P	**Pn**	**02 49 13.2**	**+2.6**
WNVZ	**Wahianoa**	**3.72**	**31**	P	**Pn**	**02 49 14.6**	**+2.7**
EAZ	**Earnscleugh**	**3.86**	**225**	P	**Pn**	**02 49 13.2**	**-0.5**
HIZ	**Hauiti**	**4.24**	**18**	P	**Pn**	**02 49 21.4**	**+2.5**
HIZ	**Hauiti**	**4.24**	**18**	P	**Pn**	**02 49 20.2**	**+1.4**
TOZ	**Tahuroa Road**	**5.14**	**21**	P	**Pn**	**02 49 32.1**	**+0.8**

*ROM **05** 03:15:04.0±0.2, 41.736N±0.009×15.96E±0.01, h16km±1km, ML2.8/44, Error ellipse: s-maj=1.2km s-min=0.5km az=43.0*
ISC 05 03:15:04.0±0.8, 41.72N±0.02×15.96E±0.02, h15km±5km, n83, σ0.959/110, 4C, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAG	**Monte S. Angel**	**0.04**	**252**	⇑P	**Pg**	**03 15 07.2**	**+0.4**
MSAG				S	**Sg**	**03 15 09.0**	**+0.3**
MSAG				AML	AML		
	comp=E,25400μm,0.2s						
MSAG				AML	AML		
	comp=E,26400μm,0.1s						
MSAG				AML	AML		
	comp=N,26800μm,1.2s						
MSAG				AML	AML		
	comp=N,28000μm,1.2s						
SGRT	**San Giovanni R**	**0.16**	**281**	⇑P	**Pg**	**03 15 07.9**	**-0.2**
SGRT				S	**Sg**	**03 15 10.7**	**-0.2**
SGRT				AML	AML		
	comp=E,7210μm,0.6s						
SGRT				AML	AML		
	comp=E,7210μm,1.4s						
SGRT				AML	AML		
	comp=N,5550μm,0.2s						
APRC	**Apricena**	**0.31**	**276**	⇑P	**Pg**	**03 15 09.9**	**-0.6**
APRC				S	**Sg**	**03 15 14.8**	**-0.2**
APRC				AML	AML		
	comp=E,2550μm,0.6s						
APRC				AML	AML		
	comp=N,3290μm,1.0s						
APRC				AML	AML		
	comp=N,3290μm,1.0s						
TREM	**Isole Tremiti**	**0.52**	**320**	P	**Pb**	**03 15 14.6**	**-0.3**
TREM				S	**Sb**	**03 15 22.7**	**+0.5**
TREM				AML	AML		
	comp=E,1930μm,1.4s						
TREM				AML	AML		
	comp=N,2630μm,0.5s						
CAPA	**Cerignola FG**	**0.57**	**191**	P	**Pg**	**03 15 14.9**	**-0.4**
CAPA				S	**Sb**	**03 15 24.1**	**+0.4**
CAPA				AML	AML		
	comp=E,862μm,0.2s						
CAPA				AML	AML		
	comp=N,1100μm,1.3s						
CAPA				AML	AML		
	comp=N,1100μm,0.7s						
MELA	**Melanico ??? S**	**0.62**	**269**	P	**Pg**	**03 15 15.3**	**-0.8**
MELA				S	**Sg**	**03 15 24.6**	**+0.2**
MELA				AML	AML		
	comp=N,1830μm,0.3s						
MELA				AML	AML		
	comp=E,1500μm,0.5s						
MELA				AML	AML		
	comp=N,1845μm,0.3s						
MELA				AML	AML		
	comp=E,1460μm,0.5s						
MRVN	**Minervino Murg**	**0.69**	**165**	P	**Pg**	**03 15 16.9**	**-0.5**
MRVN				S	**Sb**	**03 15 27.5**	**+0.4**
MRVN				AML	AML		
	comp=N,958μm,1.0s						
MRVN				AML	AML		
	comp=E,1156μm,0.2s						
MRVN				AML	AML		
	comp=N,958μm,1.0s						
MOCO	**Biccari - m.te**	**0.70**	**240**	P	**Pg**	**03 15 17.4**	**-0.2**
MOCO				AML	AML		
	comp=E,280μm,0.3s						
MOCO				AML	AML		
	comp=N,183μm,1.3s						
MOCO				AML	AML		
	comp=N,198μm,1.3s						
MOCO				AML	AML		
	comp=N,182μm,1.3s						
MOCO				AML	AML		
	comp=N,198μm,0.7s						
MOCO				AML	AML		
	comp=N,182μm,0.7s						
MOCO				AML	AML		
	comp=E,270μm,0.3s						
SGTA	**Sant Agata di**	**0.74**	**217**	P	**Pg**	**03 15 18.3**	**-0.1**
SGTA				AML	AML		
	comp=E,1140μm,0.2s						
SGTA				AML	AML		
	comp=N,776μm,0.5s						
SGTA				AML	AML		
	comp=N,736μm,0.5s						
SGTA				AML	AML		
	comp=E,1090μm,0.2s						
PALZ	**Palazzo San Ge**	**0.78**	**180**	P	**Pg**	**03 15 18.9**	**-0.3**
PALZ				S	**Sb**	**03 15 30.2**	**+0.5**
PALZ				AML	AML		
	comp=E,820μm,0.5s						
PALZ				AML	AML		
	comp=N,570μm,0.9s						
PALZ				AML	AML		
	comp=E,820μm,1.5s						
PALZ				AML	AML		
	comp=N,570μm,1.1s						
CIGN	**Sant'Elia a Pi**	**0.79**	**265**	P	**Pb**	**03 15 18.9**	**-0.6**
CIGN				AML	AML		
	comp=E,183μm,0.4s						
CIGN				AML	AML		
	comp=N,262μm,0.5s						
VULT	**Monte Vulture**	**0.81**	**199**	P	**Pb**	**03 15 19.5**	**-0.4**
VULT				S	**Sb**	**03 15 30.9**	**+0.3**
VULT				AML	AML		
	comp=E,1595μm,0.4s						
VULT				AML	AML		
	comp=N,1925μm,0.3s						
VULT				AML	AML		
	comp=E,1595μm,0.4s						
VULT				AML	AML		
	comp=N,2070μm,0.5s						
VULT				AML	AML		
	comp=E,1595μm,0.4s						
VULT				AML	AML		
	comp=N,1925μm,0.3s						
VULT				AML	AML		
	comp=N,2070μm,1.5s						
BIOG	**Biogem**	**0.81**	**230**	P	**Pn**	**03 15 21.3**	**+0.3**
GATE	**Gambatesa**	**0.81**	**255**	P	**Pg**	**03 15 20.2**	**+0.4**
GATE				AML	AML		
	comp=N,274μm,0.7s						
GATE				AML	AML		
	comp=E,184μm,0.5s						
CAFE	**Carife**	**0.88**	**218**	P	**Pb**	**03 15 21.0**	**-0.1**
CAFE				S	**Sg**	**03 15 33.2**	**+0.5**
CAFE				AML	AML		
	comp=E,689μm,1.2s						
CAFE				AML	AML		
	comp=N,468μm,1.3s						
CAFE				AML	AML		
	comp=E,668μm,1.1s						
CAFE				AML	AML		
	comp=N,401μm,0.2s						
CAFE				AML	AML		
	comp=E,690μm,1.2s						
CAFE				AML	AML		
	comp=N,468μm,1.3s						
CAFE				AML	AML		
	comp=E,669μm,1.1s						
CAFE				AML	AML		
	comp=N,401μm,1.8s						
CAFE				AML	AML		
	comp=N,468μm,0.7s						
CAFE				AML	AML		
	comp=E,690μm,0.8s						
CAFE				AML	AML		
	comp=E,669μm,0.9s						
RDM3	**Ruvo Del Monte**	**0.91**	**201**	⇑P	**Pg**	**03 15 21.7**	**+0.1**
RDM3				S	**Sg**	**03 15 34.5**	**+1.1**
ACER	**Acerenza**	**0.94**	**181**	P	**Pg**	**03 15 22.3**	**+0.2**
ACER				AML	AML		
	comp=N,1525μm,0.3s						
ACER				AML	AML		
	comp=E,1710μm,0.4s						
ACER				AML	AML		
	comp=N,1430μm,0.3s						
ACER				AML	AML		
	comp=E,1760μm,0.5s						
MRB1	**Monte Rocchett**	**0.95**	**231**	P	**Pg**	**03 15 22.6**	**+0.2**
MRB1				AML	AML		
	comp=E,397μm,0.9s						
MRB1				AML	AML		
	comp=E,401μm,0.9s						
MRB1				AML	AML		
	comp=N,472μm,0.6s						
MRB1				AML	AML		
	comp=N,474μm,0.6s						
AMUR	**Altamura**	**0.95**	**149**	P	**Pg**	**03 15 22.5**	**+0.1**
AMUR				S	**Sn**	**03 15 36.1**	**-0.1**
AMUR				AML	AML		
	comp=E,813μm,0.2s						
AMUR				AML	AML		
	comp=N,882μm,0.3s						
AMUR				AML	AML		
	comp=E,813μm,1.8s						
RSF3	**Rocca San Feli**	**0.96**	**218**	P	**Pb**	**03 15 22.1**	**-0.3**
SNAL	**S. Angelo Dei**	**0.98**	**215**	P	**Pb**	**03 15 21.9**	**-0.8**
SNAL				AML	AML		
	comp=E,638μm,0.5s						
SNAL				AML	AML		
	comp=N,714μm,0.8s						
SNAL				AML	AML		
	comp=E,638μm,0.5s						
SNAL				AML	AML		
	comp=E,670μm,0.5s						
SNAL				AML	AML		
	comp=N,764μm,1.0s						
SNAL				AML	AML		
	comp=E,670μm,1.5s						
SNAL				AML	AML		
	comp=E,638μm,1.5s						
SACR	**S. Croce Del S**	**0.99**	**251**	P	**Pb**	**03 15 23.0**	**0.0**
PSB1	**Pescosannita**	**0.99**	**240**	P	**Pb**	**03 15 22.8**	**-0.2**
PSB1				AML	AML		
	comp=E,126μm,0.8s						
PSB1				AML	AML		
	comp=N,130μm,1.5s						
PSB1				AML	AML		
	comp=E,126μm,1.2s						
PSB1				AML	AML		
	comp=N,130μm,0.5s						
LIO3	**Lioni**	**1.01**	**216**	P	**Pb**	**03 15 23.1**	**-0.1**
LIO3				S	**Sb**	**03 15 36.7**	**+0.3**
MRLC	**Muro Lucano**	**1.03**	**200**	P	**Pb**	**03 15 22.9**	**-0.6**
MRLC				AML	AML		
	comp=E,526μm,0.5s						
MRLC				AML	AML		
	comp=E,496μm,0.5s						
MRLC				AML	AML		
	comp=N,526μm,0.8s						
MRLC				AML	AML		
	comp=N,552μm,0.6s						
MRLC				AML	AML		
	comp=E,496μm,1.5s						
MRLC				AML	AML		
	comp=E,526μm,1.5s						
BSSO	**Busso**	**1.04**	**261**	P	**Pb**	**03 15 23.4**	**-0.3**
TRIV	**Trivento**	**1.05**	**273**	P	**Pn**	**03 15 24.0**	**-0.2**
TRIV				AML	AML		
	comp=E,232μm,1.6s						
TRIV				AML	AML		
	comp=N,222μm,0.7s						
TRIV				AML	AML		
	comp=E,232μm,0.4s						
PZUN	**Potenza**	**1.08**	**186**	P	**Pg**	**03 15 25.0**	**+0.1**
MCRV	**Calabrutti - M**	**1.11**	**213**	P	**Pb**	**03 15 24.2**	**-0.8**
MCRV				AML	AML		
	comp=N,801μm,0.2s						
MCRV				AML	AML		
	comp=E,730μm,0.2s						
MCRV				AML	AML		
	comp=N,801μm,1.8s						
VITU	**Vitulano (BN)**	**1.13**	**242**	P	**Pb**	**03 15 25.0**	**-0.4**
VITU				AML	AML		
	comp=E,334μm,1.6s						
VITU				AML	AML		
	comp=E,334μm,0.4s						
VITU				AML	AML		
	comp=N,528μm,0.6s						
PTRP	**Pietrapertosa**	**1.20**	**176**	P	**Pg**	**03 15 27.5**	**+0.3**
PTRP				AML	AML		
	comp=E,462μm,0.4s						
PTRP				AML	AML		
	comp=N,689μm,0.4s						
MATE	**Matera**	**1.21**	**152**	P	**Pn**	**03 15 26.1**	**-0.3**
MATE				AML	AML		
	comp=E,612μm,1.0s						
MATE				AML	AML		
	comp=N,588μm,1.4s						
MATE				AML	AML		
	comp=E,612μm,1.0s						
MATE				AML	AML		
	comp=N,588μm,0.6s						
NOCI	**Noci**	**1.25**	**138**	P	**Pn**	**03 15 26.9**	**-0.1**
NOCI				AML	AML		
	comp=E,900μm,1.2s						
NOCI				AML	AML		
	comp=N,1260μm,0.4s						
NOCI				AML	AML		
	comp=E,900μm,0.8s						
LSTV	**Lastovo**	**1.25**	**33**	*e*Pn	**Pg**	**03 15 28.0**	**-0.1**
LSTV				Sn	**Sg**	**03 15 44.7**	**+0.2**
MIDA	**Miranda**	**1.28**	**267**	P	**Pn**	**03 15 26.8**	**-0.6**
MIDA				AML	AML		
	comp=E,216μm,0.4s						
MIDA				AML	AML		
	comp=N,198μm,0.2s						
LTRZ	**Laterza**	**1.29**	**150**	P	**Pn**	**03 15 27.3**	**-0.3**
CAFR	**Castel Frentan**	**1.30**	**293**	P	**Pg**	**03 15 28.6**	**-0.5**
CAFR				AML	AML		
	comp=E,350μm,0.6s						
CAFR				AML	AML		
	comp=N,390μm,0.2s						
CDRU	**Civita di Ruta**	**1.33**	**202**	P	**Pn**	**03 15 27.0**	**-1.1**
CDRU				AML	AML		
	comp=E,238μm,0.3s						
CDRU				AML	AML		
	comp=E,238μm,1.7s						
CDRU				AML	AML		
	comp=N,157μm,0.4s						
VAGA	**Valle Agricola**	**1.33**	**257**	P	**Pb**	**03 15 28.4**	**-0.2**
VAGA				AML	AML		
	comp=E,248μm,0.6s						
VAGA				AML	AML		
	comp=N,270μm,0.4s						
RNI2	**Rionero Sannit**	**1.35**	**270**	P	**Pn**	**03 15 28.1**	**-0.4**
SLCN	**Sala Consilina**	**1.35**	**191**	P	**Pn**	**03 15 27.5**	**-1.0**
SLCN				AML	AML		
	comp=N,259μm,0.4s						
SLCN				AML	AML		
	comp=E,384μm,0.3s						
LPEL	**Lama dei Pelig**	**1.36**	**284**	P	**Pn**	**03 15 28.4**	**-0.1**
LPEL				AML	AML		
	comp=N,272μm,1.4s						
LPEL				AML	AML		
	comp=N,272μm,0.6s						
LPEL				AML	AML		
	comp=E,382μm,0.2s						
AG11	**Viggiano (PZ)**	**1.39**	**180**	P	**Pn**	**03 15 29.4**	**+0.4**
AG11				AML	AML		
	comp=N,437μm,1.5s						
AG11				AML	AML		
	comp=E,353μm,0.3s						
MCEL	**Monticello**	**1.40**	**185**	P	**Pn**	**03 15 27.3**	**-1.9**
CRAC	**Craco**	**1.41**	**165**	AML	AML		
	comp=E,1195μm,0.5s						
CRAC				AML	AML		
	comp=N,902μm,1.5s						
CRAC				AML	AML		
	comp=N,902μm,0.5s						
VVDG	**Vesuvio Valle**	**1.46**	**233**	P	**Pb**	**03 15 30.8**	**0.0**
MTSN	**Montesano sull**	**1.46**	**186**	P	**Pn**	**03 15 29.1**	**-0.9**
MTSN				AML	AML		
	comp=E,142μm,0.4s						
MTSN				AML	AML		
	comp=N,164μm,0.4s						
CMPR	**Campora**	**1.49**	**200**	P	**Pn**	**03 15 29.1**	**-1.2**
CMPR				AML	AML		
	comp=N,99μm,0.6s						
CMPR				AML	AML		
	comp=E,122μm,0.3s						
HVAR	**Hvar**	**1.50**	**14**	*e*Pn	**Pb**	**03 15 30.9**	**-0.6**
HVAR				Sn	**Sb**	**03 15 50.1**	**-0.3**
SCHR	**S. Chirico Rap**	**1.53**	**177**	P	**Pb**	**03 15 32.0**	**0.0**
SIRI	**Monte Sirino -**	**1.54**	**183**	P	**Pn**	**03 15 30.6**	**-0.4**
SIRI				AML	AML		
	comp=E,318μm,0.2s						
SIRI				AML	AML		
	comp=E,319μm,0.2s						
SIRI				AML	AML		
	comp=N,260μm,0.2s						
SIRI				AML	AML		
	comp=N,278μm,0.2s						
INTR	**Introdacqua**	**1.56**	**281**	P	**Pn**	**03 15 31.5**	**+0.2**
INTR				AML	AML		
	comp=N,224μm,0.5s						
INTR				AML	AML		
	comp=E,140μm,0.5s						
INTR				AML	AML		
	comp=N,224μm,1.5s						
TAR1	**Taranto**	**1.56**	**140**	P	**Pn**	**03 15 31.5**	**+0.3**
TAR1				AML	AML		
	comp=E,536μm,0.5s						
TAR1				AML	AML		
	comp=N,646μm,0.4s						
MGR	**Morigerati**	**1.61**	**191**	P	**Pn**	**03 15 31.0**	**-1.0**
MGR				AML	AML		
	comp=E,112μm,0.5s						
MGR				AML	AML		
	comp=N,142μm,0.3s						
T0110	**Collepietro**	**1.70**	**288**	P	**Pb**	**03 15 34.5**	**-0.5**
T0110				AML	AML		
	comp=E,213μm,0.4s						
T0110				AML	AML		
	comp=E,213μm,1.6s						
T0110				AML	AML		
	comp=N,195μm,0.3s						
VCEL	**Villa Celiera**	**1.71**	**294**	P	**Pn**	**03 15 33.9**	**+0.4**
VCEL				AML	AML		
	comp=E,274μm,1.6s						

VCEL					AML	AML		
	comp=E,274μm,0.4s							
VCEL					AML	AML		
	comp=N,276μm,0.4s							
STON	**Ston**	**1.73**	**48**	*e*Pn	**Pn**		**03 15 34.0**	**+0.5**
STON				Sn	**Sn**		**03 15 55.3**	**0.0**
MAKA	**Makarska**	**1.75**	**26**	Sn	**Sb**		**03 15 57.0**	**-0.6**
VVLD	**Villa Vallelon**	**1.75**	**276**	P	**Pb**		**03 15 34.9**	**-1.0**
VVLD				AML	AML			
	comp=E,81μm,0.7s							
VVLD				AML	AML			
	comp=N,86μm,0.5s							
VVLD				AML	AML			
	comp=E,81μm,1.3s							
VVLD				AML	AML			
	comp=N,86μm,1.5s							
FAGN	**Fagnano**	**1.85**	**288**	P	**Pb**		**03 15 37.3**	**-0.2**
FAGN				AML	AML			
	comp=E,260μm,0.5s							
FAGN				AML	AML			
	comp=N,212μm,1.3s							
FAGN				AML	AML			
	comp=N,212μm,0.7s							
SALB	**San Lorenzo Be**	**1.87**	**171**	P	**Pn**		**03 15 35.3**	**-0.3**
SALB				AML	AML			
	comp=E,128μm,1.4s							
SALB				AML	AML			
	comp=N,93μm,0.3s							
SALB				AML	AML			
	comp=N,96μm,0.3s							
SALB				AML	AML			
	comp=E,128μm,0.6s							
SALB				AML	AML			
	comp=N,96μm,1.7s							
SALB				AML	AML			
	comp=E,126μm,0.4s							
SALB				AML	AML			
	comp=N,93μm,1.7s							
DBRK	**Dubrovnik**	**1.88**	**59**	*e*Pn	**Pb**		**03 15 36.6**	**-1.5**
DBRK				Sn	**Sn**		**03 15 59.5**	**+0.3**
ZIRJ	**Zirje**	**1.94**	**353**	*e*Pn	**Pn**		**03 15 36.4**	**-0.1**
ZIRJ				Sn	**Sn**		**03 16 01.2**	**+0.6**
RICI	**Ricice**	**1.97**	**26**	*e*Pn	**Pn**		**03 15 37.1**	**+0.3**
RICI				Sn	**Sb**		**03 16 02.9**	**-1.1**
MORI	**Morici**	**2.15**	**355**	*e*Pn	**Pn**		**03 15 39.0**	**-0.3**
MORI				Sn	**Sn**		**03 16 06.8**	**+1.1**
CET2	**Cetraro**	**2.19**	**180**	P	**Pn**		**03 15 40.0**	**+0.1**
KIJV	**Kijevo**	**2.30**	**8**	*e*Pn	**Pn**		**03 15 42.3**	**+0.8**
KIJV				Sn	**Sn**		**03 16 10.2**	**+0.6**
DUGI	**Dugi Otok**	**2.36**	**344**	*e*Pn	**Pn**		**03 15 42.1**	**-0.1**
DUGI				Sn	**Sn**		**03 16 11.9**	**+1.0**
CING	**Cingoli**	**2.62**	**310**	P	**Pn**		**03 15 46.1**	**+0.2**
EL6	**Elcito**	**2.65**	**308**	P	**Pn**		**03 15 46.0**	**-0.4**
VIRC	**Vir**	**2.65**	**346**	*e*Pn	**Pn**		**03 15 46.0**	**-0.2**
VIRC				Sn	**Sn**		**03 16 17.8**	**-0.3**
UDBI	**Udbina**	**2.81**	**357**	Sn	**Sn**		**03 16 22.0**	**-0.1**
NVLJ	**Novalja**	**2.95**	**345**	*e*Pn	**Pn**		**03 15 50.4**	**+0.2**
NVLJ				Sn	**Sn**		**03 16 25.5**	**+0.1**
RABC	**Rab**	**3.15**	**345**	*e*Pn	**Pn**		**03 15 53.3**	**+0.3**
RABC				Sn	**Sn**		**03 16 30.5**	**+0.3**
PLIT	**Plitvice**	**3.16**	**356**	Sn	**Sn**		**03 16 32.2**	**+1.4**
SMRN	**Sveta Marina**	**3.56**	**339**	*e*Pn	**Pn**		**03 15 58.9**	**+0.2**
SMRN				Sn	**Sn**		**03 16 40.2**	**-0.3**
OZLJ	**Ozalj**	**3.91**	**355**	*e*Pn	**Pn**		**03 16 05.1**	**+1.6**
OZLJ				Sn	**Sn**		**03 16 49.5**	**+0.5**
MOSL	**Moslavina**	**3.93**	**8**	*e*Pn	**Pn**		**03 16 04.8**	**+1.0**
MOSL				Sn	**Sn**		**03 16 49.2**	**-0.5**
OBKA	**Obir**	**4.89**	**349**	*e*Pn	**Pn**		**03 16 17.7**	**+0.6**
	comp=N,0.3nm,0.2s							
SOKA	**Soboth**	**5.00**	**353**	*e*Pn	**Pn**		**03 16 19.8**	**+1.3**
	comp=N,0.6nm,0.4s							
ARSA	**Arzberg**	**5.54**	**357**	*e*Pn	**Pn**		**03 16 26.7**	**+0.8**
	comp=N,0.3nm,0.2s							
ABTA	**Abfaltersbach**	**5.60**	**335**	*e*Pn	**Pn**		**03 16 26.7**	**-0.1**
	comp=N,0.1nm,0.1s							
KBA	**Koelnbreinsper**	**5.67**	**342**	*e*Pn	**Pn**		**03 16 28.2**	**+0.3**
	comp=N,1.9nm,0.4s							

JMA 05 03:17:14.4±0.2, 37°.4N±0'.5×14°.2E±°, h30km±2km, MV2.6/36, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.64**	**268**	*i* P	Pb	03 17 26.7	-0.5
JFK				S	Sb	03 17 35.2	-0.7
JMST	**Minamisoumatoc**	**0.71**	**298**	P	Pb	03 17 27.9	-0.4
JMST				S	Sb	03 17 37.0	-0.7
JMM	**Marumori**	**0.84**	**304**	P	Pn	03 17 29.9	-0.3
JMM				*e*S	Sn	03 17 40.7	-0.8
JIKH	**Ishinomakikobu**	**0.93**	**350**	*e*P	Pn	03 17 31.6	+0.2
JIKH				S	Sn	03 17 43.7	+0.1
JFFD	**Fukushimafurud**	**0.94**	**251**	P	Pn	03 17 31.2	-0.4
JIO	**Ouri**	**1.09**	**346**	*i* P	Pn	03 17 33.6	0.0
JIO				S	Sn	03 17 47.6	0.0
JHO	**Hitachi**	**1.18**	**229**	P	Pn	03 17 34.9	0.0
JOU	**Okura**	**1.25**	**321**	P	Pb	03 17 37.2	-0.3
JOU				*e*S	Sb	03 17 53.6	+0.2
JFY	**Yanaizu**	**1.57**	**271**	P	Pb	03 17 42.1	-0.7
JMK	**Ichinoseki**	**1.59**	**347**	*i* P	Pn	03 17 41.7	+1.2

*IDC **05** 03:17:31.6±1.1, 36°.82N×141°.18E, h0km, mb3.4/9, mbtmp3.5/11, ML3.2/2, MS2.0/1, Error ellipse: s-maj=22.9km s-min=20.7km az=106.0*
*JMA **05** 03:17:35.0±0.1, 36°.6N±0'.3×141°.2E±0'.7, h45km±1km, MV3.6/35, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
ISC 05 03:17:34.9±1.8, 36°.66N±0'.04×141°.25E±0'.08, h23km±12km, n37, σ1s21/34, mb3.4/9, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.55**	**266**	⇓P	**Pb**	**03 17 45.9**	**+0.1**
JHO				⇓S	**Sb**	**03 17 53.5**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.57**	**321**	⇓P	**Pb**	**03 17 46.7**	**+0.4**
JHYU	**Hitachinakayam**	**0.62**	**240**	P	**Pb**	**03 17 46.9**	**-0.1**
JHYU				S	**Sb**	**03 17 55.0**	**-0.2**
JFFD	**Fukushimafurud**	**0.70**	**309**	⇓P	**Pb**	**03 17 48.5**	**+0.1**
JFFD				⇓S	**Sb**	**03 17 58.1**	**+0.4**
JFK	**Kawauchi**	**0.77**	**337**	P	**Pb**	**03 17 49.6**	**-0.1**
JYT	**Yasato**	**0.95**	**244**	P	**Pb**	**03 17 51.3**	**-1.4**
JYT				S	**Sb**	**03 18 02.9**	**-1.9**
JMM	**Marumori**	**1.26**	**343**	P	**Pn**	**03 17 57.1**	**+0.1**
JMM	**Marumori**	**1.26**	**343**	P	**Pn**	**03 17 56.8**	**-0.2**
JMM				S	**Sn**	**03 18 13.0**	**-0.2**
MJAR	**Matsushiro Arr**	**2.45**	**268**	Pn	**Pn**	**03 18 13.4**	**0.0**
	1.4nm,0.3s,baz=111,slow=10,SNR=60						
MJAR				Sn	**Sn**	**03 18 43.5**	**+0.9**
	2.2nm,0.3s,baz=312,slow=41,SNR=5.7 10nm,0.4s						
MAJO	**Matsushiro**	**2.45**	**268**	P	**Pn**	**03 18 14.4**	**+1.0**
JSD	**Sado**	**2.75**	**301**	P	**Pn**	**03 18 19.6**	**+2.1**
JGF	**Kuroka**	**3.32**	**253**	P	**Pn**	**03 18 27.3**	**+1.9**
INU	**Inuyama**	**3.67**	**250**	P	**Pn**	**03 18 31.8**	**+1.7**
JHJ2	**Mitsune**	**3.73**	**199**	P	**Pn**	**03 18 33.0**	**+2.1**
JHJ	**Hachijo jima 2**	**3.73**	**199**	Pn	**Pn**	**03 18 30.6**	**-0.4**
	17nm,0.3s,baz=94,slow=22,SNR=1.5						
JHJ				Sn	**Sn**	**03 19 14.0**	**-0.2**
	21nm,0.3s,baz=80,slow=21,SNR=1.2 131nm,0.6s						
JTM	**Tenmabayashi**	**4.13**	**358**	P	**Pn**	**03 18 37.7**	**+1.3**
ERM	**Erimo**	**5.55**	**15**	P	**Pn**	**03 18 55.9**	**-0.1**
JEM	**Erimo**	**5.55**	**15**	P	**Pn**	**03 18 57.9**	**+1.9**
KSRS	**Korea Array**	**10.68**	**278**	LR	LR	03 24 25.8	
	comp=Z,7.4nm,18.2s,baz=115,slow=39						
SONM	**Songino Array**	**27.89**	**305**	P	**P**	**03 23 21.3**	**-1.6**
	0.5nm,0.7s,baz=104,slow=11,SNR=3.3 0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.07**	**120**	T	T	03 53 04.4	
	baz=313,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	03 52 55.6	
	baz=313,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	03 52 55.9	
	baz=313,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	03 53 48.7	
	baz=317,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	03 53 52.9	
	baz=317						
H11S2	**WAKE ISLAND Hy**	**28.78**	**122**	T	T	03 53 47.6	
	baz=317,slow=74						

ZALV	**Zalesovo Beam**	**42.07**	**313**	P	**P**		**03 25 23.4**	**-1.1**
	0.8nm,0.5s,baz=96,slow=6.1,SNR=4.5 0.8nm,0.5s							
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**		**03 25 40.1**	**-1.9**
	0.2nm,0.6s,baz=82,slow=11,SNR=2.8 0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**46.13**	**308**	P	**P**		**03 25 55.6**	**-1.5**
	0.8nm,0.5s,baz=84,slow=8.0,SNR=11 0.8nm,0.5s							
ILAR	**Eielson Array**	**49.88**	**32**	P	**P**		**03 26 25.8**	**-0.3**
	0.3nm,0.7s,baz=260,slow=7.3,SNR=5.3 0.3nm,0.7s							
BVAR	**Borovoye Array**	**50.73**	**313**	P	**P**		**03 26 32.8**	**+0.2**
	0.3nm,0.4s,baz=80,slow=7.9,SNR=2.1 0.3nm,0.4s							
INK	**Inuvik**	**54.78**	**27**	P	**P**		**03 27 01.9**	**-0.3**
	0.4nm,0.6s,baz=315,slow=2.4,SNR=4.1 0.4nm,0.6s							
WRA	**Warramunga Arr**	**56.67**	**188**	P	**P**		**03 27 17.4**	**+1.0**
	0.1nm,0.3s,baz=2.2,slow=7.7,SNR=1.6 0.1nm,0.3s							
ASAR	**Alice Springs**	**60.40**	**188**	P	**P**		**03 27 44.5**	**+2.2**
	0.2nm,0.7s,baz=6.5,slow=11,SNR=1.8 0.2nm,0.7s							
H03N2	**Juan Fernandez**	**147.12**	**96**	T	T		06 21 47.7	
	baz=285							
H03N3	**Juan Fernandez**	**147.13**	**97**	T	T		06 21 45.0	
	baz=285,SNR=2.9							
H03N1	**Juan Fernandez**	**147.13**	**96**	T	T		06 21 49.0	
	baz=285							

*IDC **05** 03:23:50.7±0.5, 22°.46S×12°.61W, h0km, mb4.5/23, mbtmp4.5/23, MS4.5/62, Error ellipse: s-maj=16.2km s-min=13.4km az=175.0*
*MOS **05** 03:23:51.4±1.1, 22°.46S×12°.67W, h10km, mb5.2/31, MS4.8/5, Error ellipse: s-maj=12.9km s-min=7.4km az=56.8*
*NEIC **05** 03:23:53.9±1.8, 22°.6S±0'.1×12°.7W±0'.1, h10km±1km, mb5.3/85, Error ellipse: s-maj=19.1km s-min=16.6km az=170.0*
*GCMT **05** 03:23:54.9±0.2, 22°.41S±0'.01×12°.62W±0'.01, h12km±1km, MW5.2/138, Moment Tensor Solution. s80,c115; s138,c226; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr0.38±.14; Mθθ-3.85±.16; Mφφ3.47±.16; Mrθ-1.43±.38; Mrφ7.26±.14; Mθφ-0.41±.34; Best double couple: Ms8.26700×10^16 NP1:ϕ257.00000°, δ89.00000°, λ10.00000°. NP2:ϕ167.00000°, δ80.00000°, λ179.00000°. Principal axes: T 8.0980, Plg8.0000°, Azm122.0000°; N 0.3410, Plg80.0000°, Azm263.0000°; P -8.4350, Plg7.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 03:23:52.7±0.3, 22°.48S±0'.06×12°.60W±0'.06, h9km, n391, σ1s38/349, mb5.0/109, MS4.7/81, 11C-7D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIB01	**Linhares ES**	**26.14**	**272**	*e*P	**P**	**03 29 26.9**	**-0.5**
GUA01	**Guaratinga, BA**	**26.28**	**278**	*e*P	**P**	**03 29 28.7**	**0.0**
SJMB	**Sao Joao De Ma**	**27.00**	**273**	*e*P	**P**	**03 29 34.5**	**-0.7**
DUB01	**Friburgo-RJ**	**27.54**	**265**	*e*P	**P**	**03 29 39.9**	**-0.2**
RCBR	**Riachuelo**	**27.93**	**303**	P	**P**	**03 29 42.2**	**-1.4**
	7.8nm,0.8s,baz=260,slow=12,SNR=1.9						
RCBR				LR	LR	03 37 45.4	
	comp=Z,3μm,21.9s,baz=267,slow=30 7.8nm,0.8s						
RCBR	**Riachuelo**	**27.93**	**303**	P	**P**	**03 29 43.2**	**-0.4**
RCBR				IAmb	IAmb	03 29 49.0	
	comp=Z,76nm,1.6s						
RCBR	**Riachuelo**	**27.93**	**303**		**P**	**03 29 43.3**	**-0.4**
RCBR	**Riachuelo**	**27.93**	**303**	P	**P**	**03 29 43.2**	**-0.4**
RCBR				*PP	**P**	**03 29 43.3**	**-0.4**
RCBR				pmax	pmax		
	comp=Z,76nm,1.6s						
TSUM	**Tsumeb**	**28.37**	**89**	P	**P**	**03 29 46.4**	**-1.2**
	comp=Z,5.6nm,1.1s,baz=237,slow=11,SNR=3.9						
TSUM				LR	LR	03 38 59.7	
	comp=Z,780nm,20.3s,baz=260,slow=32 comp=Z,5.6nm,1.1s						
TSUM	**Tsumeb**	**28.37**	**89**	P	**P**	**03 29 46.4**	**-1.2**
DBIC	**Dimbokro**	**29.95**	**16**	P	**P**	**03 29 59.7**	**-1.7**
	comp=Z,5.0nm,0.9s,baz=193,slow=8.7,SNR=6.3						
DBIC				LR	LR	03 38 59.1	
	comp=Z,2μm,21.3s,baz=198,slow=30 comp=Z,5.0nm,0.9s						
DBIC	**Dimbokro**	**29.95**	**16**	P	**P**	**03 30 00.0**	**-1.4**
DBIC	**Dimbokro**	**29.95**	**16**	P	**P**	**03 30 00.0**	**-1.4**
DBIC				pmax	pmax		
	comp=Z,35nm,1.5s						
JANB	**Januaria**	**30.87**	**278**	*e*P	**P**	**03 30 08.9**	**-0.9**
SUR	**Sutherland**	**31.14**	**116**	P	**P**	**03 30 11.6**	**-0.5**
	comp=Z,8.9nm,0.9s,baz=272,slow=5.1,SNR=3.3						
SUR				LR	LR	03 40 00.2	
	comp=Z,1μm,20.7s,baz=274,slow=31 comp=Z,8.9nm,0.9s						
SUR	**Sutherland**	**31.14**	**116**	P	**P**	**03 30 12.7**	**+0.5**
RCLB	**Rio Claro- Sao**	**32.24**	**263**	*e*P	**P**	**03 30 22.5**	**+0.7**
SDBA	**SAO DESIDERIO**	**32.34**	**283**	*e*P	**P**	**03 30 21.9**	**-0.8**
IPMB	**Ipameri, GO**	**33.66**	**271**	*e*P	**P**	**03 30 33.7**	**-0.5**
BDFB	**Brasilia**	**34.10**	**275**	P	**P**	**03 30 36.9**	**-1.2**
	comp=Z,19nm,0.8s,baz=91,slow=6.4,SNR=26						
BDFB				LR	LR	03 41 56.9	
	comp=Z,1μm,21.1s,baz=108,slow=32 comp=Z,19nm,0.8s						
BDFB	**Brasilia**	**34.10**	**275**	P	**P**	**03 30 37.4**	**-0.7**
BDFB				IAmb	IAmb	03 30 39.0	
	comp=Z,24nm,0.9s						
BDFB	**Brasilia**	**34.10**	**275**	P	**P**	**03 30 37.4**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,24nm,0.9s						
BDFB	**Brasilia**	**34.10**	**275**	*e*P	**P**	**03 30 37.6**	**-0.5**
BOSA	**Boshof**	**34.59**	**108**	P	**P**	**03 30 41.1**	**-1.1**
	comp=Z,4.2nm,0.8s,baz=287,slow=7.3,SNR=8.9						
BOSA				LR	LR	03 42 09.9	
	comp=Z,1μm,21.0s,baz=282,slow=32 comp=Z,4.2nm,0.8s						
BOSA	**Boshof**	**34.59**	**108**	P	**P**	**03 30 41.2**	**-1.1**
BOSA	**Boshof**	**34.59**	**108**	P	**P**	**03 30 41.2**	**-1.1**
BOSA				pmax	pmax		
	comp=Z,24nm,1.3s						
LBTB	**Lobatse**	**34.98**	**102**	P	**P**	**03 30 44.7**	**-0.9**
	comp=Z,3.8nm,0.6s,baz=264,slow=8.3,SNR=6.9						
LBTB				LR	LR	03 42 38.4	
	comp=Z,1μm,21.2s,baz=260,slow=32 comp=Z,3.8nm,0.6s						
LBTB	**Lobatse**	**34.98**	**102**	P	**P**	**03 30 44.6**	**-1.1**
LBTB				IAmb	IAmb	03 30 47.3	
	comp=Z,46nm,1.6s						
ITRB	**Iturama**	**35.28**	**267**	*e*P	**P**	**03 30 48.9**	**+0.7**
PCMB	**Pacaembu**	**35.78**	**264**	*e*P	**P**	**03 30 52.1**	**-0.4**
GRHM	**Grahamstown, E**	**35.91**	**116**	P	**P**	**03 30 53.1**	**-0.3**
GRHM				IAmb	IAmb	03 31 27.8	
	comp=Z,68nm,1.4s						
ITAB	**Concordia**	**36.08**	**254**	P	**P**	**03 30 55.3**	**+0.4**
ITAB	**Concordia**	**36.08**	**254**	*e*P	**P**	**03 30 56.0**	**+1.1**
PTGB	**Pitanga**	**36.15**	**258**	*e*P	**P**	**03 30 55.3**	**-0.4**
SMTB	**Santa Maria do**	**36.20**	**286**	*e*P	**P**	**03 30 54.8**	**-1.3**
BBTS	**Babate**	**37.11**	**354**	P	**P**	**03 31 03.5**	**-0.3**
	comp=Z,30nm,0.9s,baz=154,slow=20,SNR=3.8						
BBTS				LR	LR	03 43 44.0	
	comp=Z,1μm,18.7s,baz=202,slow=32 comp=Z,30nm,0.9s						
CPSB	**Cacapava Do Su**	**37.25**	**249**	*e*P	**P**	**03 31 05.5**	**+0.5**
PLTB	**Pedras Altas**	**37.47**	**247**	P	**P**	**03 31 07.2**	**+0.4**
PLTB				IAmb	IAmb	03 31 16.1	
	comp=Z,68nm,1.2s						
PLTB	**Pedras Altas**	**37.47**	**247**	*e*P	**P**	**03 31 07.2**	**+0.4**
ARAG	**Araguaiana, MT**	**37.58**	**273**	*e*P	**P**	**03 31 07.8**	**0.0**
SNDB	**Serra Nova Dou**	**38.30**	**279**	*e*P	**P**	**03 31 14.2**	**+0.2**
LSZ	**Lusaka**	**39.16**	**87**	P	**P**	**03 31 21.6**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=266,slow=7.7,SNR=10						
LSZ				LR	LR	03 46 27.7	
	comp=Z,465nm,18.4s,baz=259,slow=35 comp=Z,6.0nm,0.8s						
PRPB	**Parauapebas**	**39.38**	**289**	*e*P	**P**	**03 31 22.8**	**-0.2**
TMAB	**Tom-Au,PA,Br**	**39.83**	**295**	*e*P	**P**	**03 31 26.1**	**-0.6**
PP1B	**Ponte de Pedra**	**39.92**	**269**	*e*P	**P**	**03 31 27.5**	**0.0**
ITQB	**Itaqui**	**40.00**	**250**	P	**P**	**03 31 28.4**	**+0.3**
ITQB				IAmb	IAmb	03 31 36.5	
	comp=Z,122nm,1.4s						
ITQB	**Itaqui**	**40.00**	**250**	*e*P	**P**	**03 31 28.8**	**+0.8**

AQDB	**Aquidauana**	**40.06**	**265**	P	**P**		**03 31 28.5**	**-0.1**
AQDB	**Aquidauana**	**40.06**	**265**	*e*P	**P**		**03 31 28.6**	**0.0**
CPUP	**Villa Florida**	**40.76**	**255**	P	**P**		**03 31 33.6**	**-0.8**
	comp=Z,20nm,1.0s,baz=90,slow=7.9,SNR=24							
CPUP				LR	LR		03 45 59.1	
	comp=Z,597nm,19.1s,baz=103,slow=33 comp=Z,20nm,1.0s							
SALV	**Santo Antonio**	**41.12**	**271**	*e*P	**P**		**03 31 38.1**	**+0.7**
CLDB	**Colider**	**42.81**	**278**	*e*P	**P**		**03 31 51.4**	**+0.1**
PDRB	**Porto dos Gac**	**43.41**	**277**	*e*P	**P**		**03 31 56.3**	**+0.2**
NPGB	**Novo Progresso**	**43.92**	**284**	*e*P	**P**		**03 31 59.8**	**-0.5**
MCPB	**Macapa, AP**	**44.24**	**294**	*e*P	**P**		**03 32 02.8**	**+0.1**
PTLB	**Pontes e Lacer**	**44.42**	**271**	P	**P**		**03 32 04.8**	**+0.5**
PTLB				IAmb	IAmb		03 32 06.5	
	comp=Z,25nm,1.0s							
PTLB	**Pontes e Lacer**	**44.42**	**271**	*e*P	**P**		**03 32 05.1**	**+0.9**
TRQA	**Tornquist**	**44.87**	**238**	P	**P**		**03 32 07.1**	**-0.5**
TRQA				IAmb	IAmb		03 32 11.0	
	comp=Z,48nm,0.9s							
TRQA	**Tornquist**	**44.87**	**238**	P	**P**		**03 32 07.1**	**-0.5**
TRQA				pmax	pmax			
	comp=Z,49nm,0.9s							
MALB	**Monte Alegre**	**45.35**	**291**	*e*P	**P**		**03 32 11.1**	**-0.6**
ITTB	**Itaituba**	**45.43**	**287**	*e*P	**P**		**03 32 12.0**	**-0.3**
SIV	**San Ignacio**	**46.06**	**269**	LR	LR		03 49 47.5	
	comp=Z,835nm,19.5s,baz=110,slow=34							
VILB	**Vilhena**	**46.16**	**273**	P	**P**		**03 32 18.8**	**+0.7**
VILB				IAmb	IAmb		03 32 21.3	
	comp=Z,67nm,1.0s							
VILB	**Vilhena**	**46.16**	**273**	*e*P	**P**		**03 32 19.8**	**+1.7**
MBAR	**Mbarara**	**47.42**	**69**	LR	LR		03 49 36.8	
	comp=Z,303nm,20.0s,baz=221,slow=33							
MBAR	**Mbarara**	**47.42**	**69**	P	**P**		**03 32 28.6**	**+0.4**
MBAR	**Mbarara**	**47.42**	**69**	⇓*i*P	**P**		**03 32 29.4**	**+1.3**
MBAR				pmax	pmax			
	comp=Z,54nm,3.5s							
MDP	**Montagnes des**	**47.80**	**300**	LR	LR		03 49 58.8	
	comp=Z,688nm,20.9s,baz=126,slow=33							
VNA1	**Neumayer--Stat**	**48.25**	**178**	P	**P**		**03 32 34.6**	**+1.0**
VNA2	**Neumayer--Watz**	**48.56**	**178**	P	**P**		**03 32 36.8**	**+0.8**
	baz=351,slow=10.0							
SNAA	**Sanae**	**49.53**	**176**	P	**P**		**03 32 43.8**	**+0.3**
SNAA	**Sanae**	**49.53**	**176**	P	**P**		**03 32 43.6**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=333,slow=9.3,SNR=6.3							
SNAA				LR	LR		03 49 28.6	
	comp=Z,292nm,18.5s,baz=345,slow=31 comp=Z,3.5nm,0.9s							
SNAA	**Sanae**	**49.53**	**176**	P	**P**		**03 32 44.0**	**+0.5**
SNAA	**Sanae**	**49.53**	**176**	⇑*e*P	**P**		**03 32 45.8**	**+2.3**
SNAA				pmax	pmax			
	comp=Z,24nm,2.0s							
CFA	**Coronel Fontan**	**49.93**	**247**	LR	LR		03 51 42.6	
	comp=Z,449nm,19.3s,baz=104,slow=34							
TROLL	**Troll, Antarti**	**50.30**	**174**	P	**P**		**03 32 49.6**	**+0.2**
MACA	**Manacapuru-AM**	**50.37**	**285**	P	**P**		**03 32 50.6**	**-0.1**
MACA				IAmb	IAmb		03 32 52.3	
	comp=Z,55nm,1.1s							
MACA	**Manacapuru-AM**	**50.37**	**285**	*e*P	**P**		**03 32 51.5**	**+0.8**
AC02	**Maricunga**	**51.21**	**253**	P	**P**		**03 32 56.7**	**-0.7**
CO01	**Juntas del Tor**	**51.66**	**249**	P	**P**		**03 33 01.2**	**+0.8**
CO01				IAmb	IAmb		03 33 03.8	
	comp=Z,32nm,1.1s							
PLCA	**Paso Flores**	**51.68**	**235**	P	**P**		**03 32 58.1**	**-2.1**
	comp=Z,6.8nm,1.0s,baz=75,slow=5.6,SNR=6.2							
PLCA				LR	LR		03 51 32.9	
	comp=Z,737nm,20.7s,baz=85,slow=32 comp=Z,6.8nm,1.0s							
MT03	**Universidad Ad**	**51.73**	**244**	P	**P**		**03 32 59.7**	**-1.0**
MT03				IAmb	IAmb		03 33 24.3	
	comp=Z,49nm,1.1s							
LVC	**Limon Verde**	**51.73**	**258**	LR	LR		03 53 33.2	
	comp=Z,296nm,20.2s,baz=120,slow=34							
BO02	**Sierra Bellavi**	**51.88**	**243**	P	**P**		**03 33 00.6**	**-1.2**
BO02				IAmb	IAmb		03 33 15.8	
	comp=Z,78nm,1.6s							
MT09	**Talagante**	**52.11**	**244**	P	**P**		**03 33 02.0**	**-1.6**
MT09				IAmb	IAmb		03 33 10.8	
	comp=Z,28nm,0.8s							
PB15	**IPOC Station P**	**52.12**	**257**	P	**P**		**03 33 02.7**	**-1.2**
PB15				IAmb	IAmb		03 33 06.7	
	comp=Z,73nm,1.7s							
BO01	**Tunca**	**52.15**	**243**	P	**P**		**03 33 02.6**	**-1.1**
BO01				IAmb	IAmb		03 33 05.0	
	comp=Z,20nm,0.8s							
ML02	**Panimavida**	**52.36**	**241**	P	**P**		**03 33 04.4**	**-0.9**
ML02				IAmb	IAmb		03 33 12.9	
	comp=Z,53nm,1.1s							
PB08	**IPOC Station P**	**52.48**	**261**	P	**P**		**03 33 05.6**	**-1.2**
PB01	**IPOC Station P**	**52.58**	**260**	P	**P**		**03 33 06.1**	**-1.1**
PB03	**IPOC Station P**	**52.60**	**259**	P	**P**		**03 33 06.0**	**-1.4**
PB03				IAmb	IAmb		03 33 09.1	
	comp=Z,40nm,1.2s							
GO01	**Chusmiza**	**52.62**	**262**	P	**P**		**03 33 06.7**	**-1.3**
GO01				IAmb	IAmb		03 33 17.1	
	comp=Z,44nm,1.7s							
PB14	**IPOC Station P**	**52.70**	**256**	P	**P**		**03 33 07.6**	**-0.7**
ETMB	**Extrema**	**52

comp=Z,9.2nm,1.1s
PMRV Marv??o 61.78 5 *e*P **P 03 34 12.2 +0.5**
comp=Z,29nm,1.9s
PMRV Marv??o 61.78 5 *e*LR LR 03 52 28.2
comp=Z,438nm,22.0s
NNA Nana 61.85 268 LR LR 03 59 07.4
comp=Z,296nm,20.4s,baz=108,slow=34
NNA Nana 61.85 268⇩ *e*P **P 03 34 13.2 +0.3**
NNA pmax pmax
comp=Z,36nm,1.3s
PCBR Castelo Branco 62.18 4 *e*P **P 03 34 14.8 +0.4**
comp=Z,21nm,1.9s
PCAS Casmilo, Conde 62.33 4 *e*P **P 03 34 15.6 +0.2**
ESDC Sonseca Array 62.36 8 P **P 03 34 15.3 -0.3**
comp=Z,1.2nm,0.7s,baz=191,slow=6.7,SNR=15
ESDC LR LR 03 59 38.3
comp=Z,151nm,19.6s,baz=177,slow=34
comp=Z,1.2nm,0.7s
BAUV El Baul 62.64 294 P **P 03 34 18.1 +0.2**
MTE Manteigas 62.73 4 *e*P **P 03 34 18.3 +0.1**
comp=Z,31nm,2.0s
MTE *e*S **S 03 42 49.4 +2.3**
MTE *e*LR LR 03 52 24.2
comp=Z,368nm,20.0s
MVO Moncorvo 63.53 5 *e*P **P 03 34 23.7 +0.3**
comp=Z,23nm,1.6s
MVO Moncorvo 63.53 5 *e*LR LR 03 52 25.9
comp=Z,331nm,20.0s
POLO Lamas de Olo 63.69 4 *e*P **P 03 34 24.1 -0.4**
MAW Mawson 63.89 156 LR LR 03 55 42.7
comp=Z,449nm,21.2s,baz=280,slow=30
PTGC Puerto Gaitan, 63.89 287 *e*P **P 03 34 26.5 +0.1**
PCAB Cabril 64.01 4 *e*P **P 03 34 26.7 +0.2**
PBRG Braganca 64.19 5 *e*P **P 03 34 27.9 +0.2**
PGAV Gavieira, Arco 64.25 4 *e*LR LR 03 51 35.5
comp=Z,311nm,18.0s
MACC Macarena, Meta 64.50 284 *e*P **P 03 34 29.2 -1.2**
SDV Santo Domingo 64.82 292 LR LR 04 01 20.6
comp=Z,898nm,18.3s,baz=115,slow=35
SDV Santo Domingo 64.82 292 P **P 03 34 32.3 -0.3**
SDV IAmb IAmb 03 34 34.3
comp=Z,30nm,1.1s
SDV Santo Domingo 64.82 292 *e*P **P 03 34 33.7 +1.1**
VAE Valguarnera 64.84 24 LR LR 04 01 43.7
comp=Z,787nm,18.8s,baz=164,slow=35
ATAH Atahualpa 64.96 273 LR LR 04 01 33.4
comp=Z,3µm,19.8s,baz=109,slow=35
CHIC Chingaza 65.50 286 *e*P **P 03 34 37.3 -0.1**
RUSC La Rusia 65.51 288 P **P 03 34 36.1 -1.4**
RUSC IAmb IAmb 03 34 48.5
comp=Z,29nm,1.1s
RUSC La Rusia 65.51 288 *e*P **P 03 34 36.5 -1.0**
PAMC Pamplona, Colo 65.85 290 *e*P **P 03 34 40.6 +0.9**
HUMP Col San Antoni 65.89 303 P **P 03 34 38.7 -0.5**
FLOC Florencia 65.89 283 *e*P **P 03 34 39.5 +0.1**
BARC Barichara 65.92 289⇩ *e*P **P 03 34 39.6 -0.3**
GARC Garzon, Huila 66.00 283 *e*P **P 03 34 40.6 +0.1**
ROSC El Rosal 66.12 286 P **P 03 34 41.7 +0.4**
comp=Z,16nm,0.9s,baz=234,slow=2.1,SNR=10
ROSC LR LR 04 02 36.8
comp=Z,1µm,19.0s,baz=143,slow=35
comp=Z,16nm,0.9s
ROSC El Rosal 66.12 286 *e*P **P 03 34 41.9 +0.5**
CELP Cerrillos 66.41 303 P **P 03 34 41.7 -0.9**
ORTC Ortega, Tolima 66.53 285 *e*P **P 03 34 44.1 +0.5**
BRRC Barranca, Sant 66.63 289 *e*P P 03 34 36.8 -7.3
PTBC PUERTO BERRIO, 67.02 288 *e*P **P 03 34 45.0 -1.7**
CRUC La Cruz 67.05 282⇑ *e*P **P 03 34 45.2 -2.1**
PIAT Ana Tenorio 67.19 279 *e*P **P 03 34 48.4 +0.2**
GUY2C Guyana, Caldas 67.22 286 *e*P **P 03 34 46.7 -1.8**
GCUF Volcan Galeras 67.27 281 *e*P **P 03 34 49.3 +0.5**
MCRA Macar, Loja 67.43 275 P **P 03 34 49.6 +0.3**
MCRA IAmb IAmb 03 34 51.0
comp=Z,47nm,1.7s
MCRA Macar, Loja 67.43 275 *e*P **P 03 34 48.4 -0.9**
TULM Tulcn-Chalpat 67.46 281 P **P 03 34 50.8 +0.8**
TULM Tulcn-Chalpat 67.46 281 *e*P **P 03 34 50.3 +0.3**
PORT Chimborazo Vol 67.47 278 P **P 03 34 50.3 +0.1**
PORT IAmb IAmb 03 34 52.8
comp=Z,23nm,1.1s
COHC Cochancay 67.52 277 P **P 03 34 50.4 +0.6**
COHC IAmb IAmb 03 34 52.7
comp=Z,19nm,0.9s
COHC Cochancay 67.52 277 *e*P **P 03 34 52.1 +2.3**
CHSH Refugio Sur-Vo 67.55 278 P **P 03 34 50.4 -0.3**
CHSH IAmb IAmb 03 35 13.6
comp=Z,17nm,0.9s
YOTC Yotoco, Valle 67.55 285 *e*P **P 03 34 49.6 -0.6**
IDI Anoyia 67.56 33 LR LR 04 04 27.1
comp=Z,155nm,18.8s,baz=248,slow=36
QSPA South Pole Qui 67.72 180 LR LR 03 59 42.4
comp=Z,606nm,21.6s,baz=204,slow=32
QSPA South Pole Qui 67.72 180 P **P 03 34 50.7 +0.3**
ZARC Zaragoza, Cauc 67.81 289 *e*P **P 03 34 51.9 +0.2**
ARNL Arenillas 67.84 275 P **P 03 34 52.6 +0.7**
ARNL IAmb IAmb 03 35 00.8
comp=Z,18nm,0.8s
PLMC San Jos del P 67.90 285 *e*P **P 03 34 51.9 -0.3**
CBOC Ciudad Bolivar 68.08 286 *e*P **P 03 34 53.5 0.0**
URIC San Jos de Ur 68.52 289 *e*P **P 03 34 57.2 +1.1**
DBBC Dabeiba 68.78 287 *e*P **P 03 34 59.3 +1.4**
FLF1 Flavio Alfaro- 68.89 279 *e*P **P 03 34 59.3 +0.8**
EIL Elat 69.14 43 LR LR 04 03 20.2
comp=Z,369nm,20.0s,baz=232,slow=34
APAC Apartado, Choc 69.51 288 *e*P **P 03 35 05.3 +3.1**
LIT Litokhoron 70.33 28 P **P 03 35 07.2 +0.5**
LIT IAmb IAmb 03 35 15.7
comp=Z,20nm,1.2s
LIT Litokhoron 70.33 28 P **P 03 35 07.2 +0.5**
LIT pmax pmax
comp=Z,20nm,1.2s
FNA Florina 70.43 27 P **P 03 35 08.8 +1.5**
FNA Florina 70.43 27 P **P 03 35 08.8 +1.5**
FNA pmax pmax
comp=Z,16nm,1.7s
MMAI Mount Meron Ar 71.71 41 LR LR 04 04 02.7
comp=Z,324nm,21.7s,baz=103,slow=34
DAVOX Davos/Dischmat 71.87 16 LR LR 04 05 43.6
comp=Z,739nm,18.5s,baz=259,slow=35
CIMO Cimolais 72.13 18 P **P 03 35 19.7 +2.2**
CIMO IAmb IAmb 03 35 38.1
comp=Z,14nm,1.2s
FETA Feichten 72.31 17 pP pP 03 35 22.7 +2.2
comp=Z,11nm,1.2s
DAVA Damuels 72.34 16 *e*P **P 03 35 21.3 +2.4**
comp=Z,18nm,1.0s
CLUD Cludinico 72.39 18 P **P 03 35 20.8 +1.7**
CLUD IAmb IAmb 03 35 29.6
comp=Z,21nm,1.1s
SLE Schleitheim 72.45 15 P **P 03 35 18.6 -0.8**
SLE pmax pmax
comp=Z,15nm,1.2s
ABTA Abfaltersbach 72.55 18 *e*pP pP 03 35 24.5 +2.7
comp=Z,13nm,1.5s
SQTA Sankt Quirin 72.63 17 *e*P **P 03 35 22.9 +2.3**
comp=Z,4.5nm,0.8s
MOTA Moosalm 72.71 17 *e*pP pP 03 35 25.7 +2.8
comp=Z,6.7nm,1.2s
VTS Vitosha 72.72 27 P **P 03 35 22.0 +0.7**
VTS Vitosha 72.72 27 P **P 03 35 22.0 +0.7**
VTS pmax pmax
comp=Z,6.0nm,0.9s
RETA Reutte 72.75 16 *e*P **P 03 35 24.1 +2.8**
comp=Z,8.9nm,1.4s
MYKA Terra Mystica 72.77 19 *e*P **P 03 35 23.9 +2.6**
comp=Z,9.9nm,1.2s
WTTA Wattenberg 72.78 17 *e*P **P 03 35 23.5 +1.9**
comp=Z,14nm,1.4s
WTTA Wattenberg 72.78 17 P **P 03 35 23.9 +2.4**
WTTA pmax pmax
comp=Z,16nm,1.2s
WATA Walderalm 72.83 17 P **P 03 35 22.3 +0.5**
comp=Z,9.3nm,1.4s
OBKA Obir 72.93 19 *e*P **P 03 35 22.6 +0.2**
comp=Z,14nm,1.4s
BFO Black Forest 72.94 14 P **P 03 35 23.4 +1.1**
BFO pmax pmax
comp=Z,12nm,1.1s
KBA Koelnbreinsper 73.09 18 *e*P **P 03 35 24.5 +1.1**
comp=Z,11nm,1.3s
SOKA Soboth 73.23 19 *e*P **P 03 35 25.6 +1.4**
comp=Z,15nm,1.2s
BIOA Bad Ischl, Aus 73.73 18 *e*P **P 03 35 27.8 +0.9**
comp=Z,5.4nm,0.9s
ARSA Arzberg 73.90 20 *e*P **P 03 35 29.0 +1.0**
comp=Z,9.5nm,0.9s
BORA Eskisehir 73.90 33 P **P 03 35 30.0 +1.8**
MOA Molln 74.06 18 *e*P **P 03 35 29.2 +0.4**
comp=Z,16nm,1.2s
RONA Rosalia, Austr 74.54 20 *e*P **P 03 35 33.5 +1.9**
comp=Z,12nm,1.2s
BZS Buzias 74.58 24 P **P 03 35 32.5 +0.6**
BZS pmax pmax
comp=Z,6.0nm,1.4s
CONA Conrad Observa 74.60 19 P **P 03 35 32.5 +0.4**
comp=Z,7.2nm,1.3s
GERES GERESS Array B 74.79 18 P **P 03 35 32.4 -0.8**
comp=Z,0.6nm,0.6s,baz=188,slow=2.7,SNR=5.0
GERES PP **PP 03 38 20.9 0.0**
comp=Z,2.0nm,1.1s,baz=212,slow=9.2,SNR=4.2
GERES LR LR 04 08 12.1
comp=Z,411nm,18.2s,baz=221,slow=36
comp=Z,0.6nm,0.6s
CKRC Cesky Krumlov 74.94 18 *e*P **P 03 35 36.3 +2.3**
KHC Kasperske Hory 75.02 17 *e*P **P 03 35 33.7 -0.7**
KHC *e*PP **PP 03 38 19.5 -3.2**
KHC AMS AMS 04 06 10.0
comp=Z,600nm,16.9s
KHC Kasperske Hory 75.02 17⇑ *e*P **P 03 35 34.3 -0.1**
ZST Bratislava 75.23 20 *e*P **P 03 35 36.2 +0.6**
ZST Bratislava 75.23 20 *e*P **P 03 35 36.2 +0.6**
MODS Modra-Piesok 75.44 20 *e*P **P 03 35 37.2 +0.3**
MODS pmax pmax
comp=Z,65nm,1.7s
MODS Modra-Piesok 75.44 20 *e*P **P 03 35 37.1 +0.2**
BR131 Keskin Array S 75.44 35 *d* iP **P 03 35 37.4 +0.2**
BRTR Keskin Array B 75.44 35 P **P 03 35 37.5 +0.2**
comp=Z,6.2nm,1.0s,baz=198,slow=4.7,SNR=18
BRTR LR LR 04 08 18.0
comp=Z,137nm,21.0s,baz=240,slow=35
comp=Z,6.2nm,1.0s
GAZ Gaziantep 75.64 39 P **P 03 35 40.2 +1.8**
GAZ IAmb IAmb 03 35 47.6
comp=Z,22nm,1.0s
TREC Trest 75.71 19 AMS AMS 04 06 50.0
comp=Z,600nm,18.1s
NKC Novy Kostel 75.72 16 AMS AMS 04 07 50.0
comp=Z,900nm,17.6s
KRUC Moravsky 75.78 19 *e*P **P 03 35 38.4 -0.3**
BNN Bunyan 76.02 37 P **P 03 35 41.9 +1.4**
VYHS Vyhne 76.05 21 *e*P **P 03 35 40.1 -0.2**
VYHS pmax pmax
comp=Z,49nm,2.1s
VYHS Vyhne 76.05 21 *e*P **P 03 35 40.1 -0.2**
VRAC Vranov 76.05 19 LR LR 04 08 06.2
comp=Z,761nm,20.2s,baz=216,slow=35
VRAC Vranov 76.05 19 *e*P **P 03 35 39.8 -0.5**
PRU Pruhonice 76.06 18 *e*P **P 03 35 43.9 +3.6**
PRU AMS AMS 04 07 20.0
comp=Z,800nm,20.1s
PRU Pruhonice 76.06 18 *e*P **P 03 35 43.9 +3.6**
PRU MLR MLR
comp=Z,800nm,20.1s
GOPC GO Pecny, Ondr 76.06 18 AMS AMS 04 07 40.0
comp=Z,700nm,18.5s
SRBA San Rafael, Bu 76.10 286 P **P 03 35 41.9 +0.4**
SRBA IAmb IAmb 03 35 44.3
comp=Z,57nm,1.7s
MLR Muntele Rosu 76.20 27 LR LR 04 08 53.8
comp=Z,249nm,20.7s,baz=244,slow=36
MLR Muntele Rosu 76.20 27 P **P 03 35 41.8 +0.4**
MLR IAmb IAmb 03 35 50.4
comp=Z,26nm,1.1s
MLR Muntele Rosu 76.20 27 P **P 03 35 41.8 +0.4**
MLR pmax pmax
comp=Z,27nm,1.1s
PVCC Panska Ves 76.56 17 AMS AMS 04 07 10.0
comp=Z,700nm,22.4s
BRG Berggiesshubel 76.70 17 *e*P **P 03 35 45.3 +1.3**
BRG Amp 03 35 46.7
comp=Z,12nm,1.4s
BRG Amp 04 08 27.0
comp=E,0.3nm,15.8s
BRG Amp 04 08 28.0
comp=N,0.4nm,17.9s
BRG Amp 04 08 34.0
comp=Z,0.7nm,17.4s
BRG Berggiesshubel 76.70 17 *e*P **P 03 35 45.2 +1.3**
BRG pmax pmax
comp=Z,12nm,1.4s
MORC Moravsky Berou 76.76 20 *e*P **P 03 35 44.0 -0.4**
KRLC Kraliky 76.79 19 *e*P **P 03 35 44.8 +0.3**
KRLC AMS AMS 04 08 00.0
comp=Z,500nm,15.2s
KRLC Kraliky 76.79 19 *e*P **P 03 35 44.8 +0.3**
KRLC MLR MLR
comp=Z,500nm,15.2s
VRI Vrincioaia 76.82 27 P **P 03 35 44.6 -0.2**
CLL Collm 76.84 16 *e*P **P 03 35 46.0 +1.3**
comp=Z,23nm,1.8s
CLL *e*PP **PP 03 38 38.0 0.0**
CLL *e*S **S 03 45 39.0 +6.7**
CLL *e*PS **PnS 03 46 11.0 +0.2**
CLL *e*PPS PPS 03 46 39.0
CLL *e*SS **SS 03 50 30.0 +0.8**
CLL *e*SSSS 03 55 42.0
CLL *ex* x 03 57 28.0
CLL Lm MLR 04 08 00.0
comp=Z,400nm,20.4s
CLL Collm 76.84 16 *e*P **P 03 35 46.0 +1.3**
CLL *e*S **S 03 45 39.0 +6.7**
CLL pmax pmax
comp=Z,23nm,1.8s
CLL MLR MLR
comp=Z,400nm,20.4s
DPC Dobruska-Polom 76.90 19 *e*P **P 03 35 44.5 -0.6**
DPC AMS AMS 04 08 10.0
comp=Z,500nm,20.0s
DPC Dobruska-Polom 76.90 19 *e*P **P 03 35 44.5 -0.6**
DPC MLR MLR
comp=Z,500nm,20.0s
UPC Upice 76.95 18 AMS AMS 04 08 00.0
comp=Z,400nm,16.6s
OKC Ostrava-Krasne 77.00 20 AMS AMS 04 09 10.0
comp=Z,700nm,14.0s
OSTC Ostas 77.05 18 *e*P **P 03 35 46.1 +0.1**
OSTC AMS AMS 04 09 00.0
comp=Z,600nm,18.6s
UZH Uzhgorod 77.36 23⇑ *i*P **P 03 35 49.0 +1.3**
UZH *i* 03 35 58.7
MARD Mardin 77.85 41 P **P 03 35 52.6 +1.7**
EKA Eskdalemuir Ar 77.92 6 LR LR 04 10 16.2
comp=Z,264nm,18.2s,baz=192,slow=36
JTS Las Juntas de 77.97 286 LR LR 04 09 43.5
comp=Z,536nm,20.0s,slow=35
JTS Las Juntas de 77.97 286⇩ *e*P **P 03 35 51.7 -0.2**
JTS pmax pmax
comp=Z,18nm,1.3s
DUNO Dulce Nombre, 78.36 286 P **P 03 35 54.7 +0.7**
LVV L'vov 78.98 23 *e*P **P 03 35 56.2 -0.5**
GURO Guroymak-BITLI 79.41 41 P **P 03 36 00.1 +0.7**
VNDA Vanda 80.16 179 P **P 03 36 03.5 +0.6**
comp=Z,2.3nm,0.9s,baz=202,slow=5.3,SNR=4.1
VNDA LR LR 04 06 42.4
comp=Z,458nm,21.9s,baz=178,slow=32
comp=Z,2.3nm,0.9s
SOC Sochi 81.39 36 *e*P **P 03 36 08.6 -1.2**
SOC *e* 03 39 19.6
SOC *e*PPP PPP 03 41 04.2
SOC *e*S **S 03 46 19.6 -1.4**
SOC *e*SS **SS 03 51 38.9 +1.1**
SOC *e*SSS SSS 03 55 08.2
AKASG Malin Array Be 81.67 25 P **P 03 36 09.1 -2.0**
comp=Z,3.6nm,0.8s,baz=224,slow=5.4,SNR=17
AKASG LR LR 04 13 31.3
comp=Z,278nm,19.5s,baz=234,slow=36
comp=Z,3.6nm,0.8s
AKBB Malin Array Si 81.67 25⇑ *e*P **P 03 36 11.0 -0.1**
AKBB pmax pmax
comp=Z,18nm,1.3s
NAX Nakhchivan 81.91 42 P **P 03 36 13.2 +0.4**
GNI Garni 82.05 41 LR LR 04 11 10.7
comp=Z,131nm,19.4s,baz=252,slow=35
GNI Garni 82.05 41 P **P 03 36 14.4 +0.8**
GNI Garni 82.05 41 P **P 03 36 14.4 +0.8**
GNI pmax pmax
comp=Z,74nm,1.5s
WSAR Wadi Sarin 82.84 61 LR LR 04 12 34.7
comp=Z,332nm,19.6s,baz=258,slow=35
ZEI Tsey 83.20 38 *e*P **P 03 36 18.1 -1.5**
ZEI pmax pmax
comp=Z,20nm,1.9s
KBZ Khabaz 83.23 37 P **P 03 36 18.6 -0.8**
comp=Z,2.0nm,0.7s,baz=231,slow=6.0,SNR=5.6
KBZ LR LR 04 14 27.7
comp=Z,82nm,18.6s,baz=243,slow=36
comp=Z,2.0nm,0.7s
KBZ Khabaz 83.23 37 *d* eP **P 03 36 20.7 +1.3**
KBZ pmax pmax
comp=Z,12nm,1.3s
KIV Kislovodsk 83.26 37 P **P 03 36 21.4 +1.7**
KIV IAmb IAmb 03 36 34.6
comp=Z,26nm,1.3s
KIV Kislovodsk 83.26 37⇑ *e*P **P 03 36 21.1 +1.4**
KIV *e* 03 39 26.0
KIV *e*S **S 03 46 39.9 -0.5**
KIV pmax pmax
comp=Z,25nm,1.3s
GANJ Ganja 83.30 41 P **P 03 36 19.4 -0.6**
NCK Nalchik 83.47 37⇑ *e*P **P 03 36 20.4 -0.3**
NCK pmax pmax
comp=Z,23nm,1.0s
LKRN Lenkeran, Azer 83.69 44 P **P 03 36 22.3 +0.4**
MNGR Mingechevir, A 83.84 41 P **P 03 36 23.2 +0.5**
ZKTA Zakatala 84.08 40 P **P 03 36 24.5 +0.6**
NACGM Naroch 84.12 22 *e*P **P 03 36 22.5 -1.2**
comp=Z,19nm,0.9s,baz=217
SEKA Sheki 84.17 41 P **P 03 36 25.2 +0.7**
MNK Minsk 84.17 22 *i* P **P 03 36 22.5 -1.6**
comp=E,4.0nm,0.9s
MNK *i* P **P 03 36 22.5 -1.6**
comp=N,50nm,0.9s
MNK *i* P **P 03 36 22.5 -1.6**
comp=Z,13nm,1.0s,baz=217
MNK *i* PP **PP 03 39 36.1 -2.6**
MNK *i* PPP PPP 03 41 28.2
MNK *i* S **S 03 46 44.9 -4.1**
MNK *i* SS **SS 03 52 17.0 -1.8**
MNK *i* SSS SSS 03 55 46.6
MNK *i* LR LR 04 08 46.4
MNK *i* LRM MLR 04 14 27.5
comp=Z,277nm,17.9s
MNK *i* LRM MLR 04 14 59.5
comp=E,117nm,15.3s
MNK *i* LRM MLR 04 15 00.7
comp=N,412nm,12.8s
MNK Minsk 84.17 22 *i* P **P 03 36 22.4 -1.6**
MNK *i* 03 39 36.1
MNK *i* PPP PPP 03 41 28.1
MNK *i* S **S 03 46 44.8 -4.1**
MNK *i* SS **SS 03 52 16.9 -1.8**
MNK *i* SSS SSS 03 55 46.6
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,50nm,0.9s
MNK pmax pmax
comp=Z,13nm,1.0s
MNK MLR MLR
comp=Z,277nm,18.0s
MNK MLR MLR
comp=E,117nm,15.0s
MNK MLR MLR
comp=N,412nm,13.0s
GROC Groznyy 84.54 39 *e*P **P 03 36 26.6 +0.4**
HFS Hagfors 85.07 13 LR LR 04 15 27.2
comp=N,285nm,18.8s,baz=220,slow=36
PETF Flores 85.11 290 P **P 03 36 30.0 +0.4**
NOA NORSAR Array B 85.43 11 P **P 03 36 30.1 -0.2**
comp=N,1.4nm,0.9s,baz=204,slow=5.4,SNR=3.1
NOA LR LR 04 15 11.6
comp=N,157nm,19.3s,baz=190,slow=36
comp=N,1.4nm,0.9s
VSR Storozhevoye 86.31 30 *e*P **P 03 36 34.8 0.0**
VSR pmax pmax
comp=Z,20nm,1.9s
VORR Voronezh 86.64 29 P **P 03 36 38.1 +1.7**
VORR pmax pmax
comp=Z,28nm,1.7s
HODGE Hodges 86.94 309 P **P 03 36 38.5 +0.2**
HODGE IAmb IAmb 03 36 40.6
comp=Z,38nm,1.5s
LPSR Galich'ya Gora 87.15 29 *e*P **P 03 36 38.4 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
BORG Borgarnes 87.21 356 LR LR 04 11 06.4
comp=Z,150nm,18.6s,baz=178,slow=32
U54A Nelsons Funny 87.76 311 P **P 03 36 43.4 +1.0**
BG3 Lake Jocassee 87.79 309 P **P 03 36 42.6 +0.2**
OBN Obninsk 87.92 26 LR LR 04 17 31.6
comp=Z,58nm,19.4s,baz=190,slow=37
TKL Tuckaleechee C 88.72 310 LR LR 04 09 04.7
comp=Z,363nm,20.6s,baz=133,slow=31
R53A Hurricane 88.76 313 P **P 03 36 47.3 +0.4**
FINES FINESS Array B 89.22 17 P **P 03 36 48.1 -0.4**
comp=Z,1.8nm,0.7s,baz=227,slow=7.0,SNR=5.8
FINES LR LR 04 15 45.6
comp=Z,197nm,21.6s,baz=220,slow=35
comp=Z,1.8nm,0.7s
GEYT Alibeck 89.50 48 P **P 03 36 50.5 +0.1**
comp=Z,3.7nm,1.0s,baz=256,slow=6.0,SNR=8.9
GEYT LR LR 04 15 21.8
comp=Z,273nm,21.4s,baz=270,slow=34
comp=Z,3.7nm,1.0s
CMIG Matias Romero 89.56 289 LR LR 04 15 38.8
comp=Z,527nm,21.8s,baz=108,slow=35
SCHQ Schefferville 89.85 332 LR LR 04 10 55.5
comp=Z,579nm,18.6s,baz=144,slow=31
SWET Sewanee 90.06 308 P **P 03 36 53.6 +0.5**
SWET IAmb IAmb 03 37 07.7
comp=Z,20nm,1.1s
T50A Nancy 90.12 310 P **P 03 36 53.9 +0.5**
SADO Sadowa 90.26 319 LR LR 04 10 33.5
comp=Z,270nm,19.0s,baz=138,slow=31
X48A Hartselle 90.52 307 P **P 03 36 56.3 +1.0**
X48A IAmb IAmb 03 37 05.2
comp=Z,14nm,1.1s
CLTN Cedars of Leba 90.75 309 P **P 03 36 55.9 -0.5**
CLTN IAmb IAmb 03 36 59.6
comp=Z,23nm,1.2s
V48A Smith Brothers 90.95 308 P **P 03 36 57.0 -0.2**
BELG Belogornoye 91.09 32 LR LR 04 20 59.1
comp=Z,108nm,18.2s,baz=332,slow=38
BELG Belogornoye 91.09 32⇩ *e*P **P 03 36 59.4 +2.0**
BELG pmax pmax
comp=Z,6.0nm,1.9s
T47A Sharon Grove 91.72 309 P **P 03 37 01.2 +0.4**
JMIC Jan Mayen 93.26 1 LR LR 04 11 52.0
comp=Z,121nm,20.1s,baz=248,slow=31
SFJD Kangerlussuaq 93.63 346 LR LR 04 11 58.5
comp=Z,115nm,18.1s,baz=152,slow=31
AKTO Aktyubinsk 95.51 37 LR LR 04 22 36.7
comp=Z,121nm,18.9s,baz=222,slow=37
KIRV Kirov 95.54 28 LR LR 04 22 44.3
comp=Z,142nm,18.1s,baz=250,slow=37
ARCES ARCESS Array B 95.74 13 LR LR 04 19 56.9
comp=Z,286nm,20.4s,baz=220,slow=35
PRGR Permogore 95.82 24 *e*P **P 03 37 19.2 +0.2**
PRGR pmax pmax
comp=Z,5.0nm,0.9s
FRB Frobisher Bay 96.33 338 LR LR 04 15 58.9
comp=Z,101nm,18.7s,baz=193,slow=32
ARU Arti 98.64 32 LR LR 04 24 15.5
comp=Z,184nm,20.0s,baz=248,slow=37
ARU Arti 98.64 32 *c* iP Pdif 03 37 34.0 +2.1
ARU 03 41 35.7
ARU S **SKSac 03 48 12.2 +2.4**
ARU SS **SS 03 55 40.1 -7.0**
ARU pmax pmax
comp=Z,7.0nm,1.9s
RKT Rikitea 107.91 235 *e*LR LR 04 13 52.5
comp=Z,58µm,34.8s
WMQ Urumqi 112.46 50 *e*P **PKiKP 03 42 29.3 -0.1**
WMQ LR LR
comp=Z,200nm,21.7s
YKA Yellowknife Ar 115.22 330 PKP **PKiKP 03 42 33.3 -0.7**
comp=Z,0.4nm,0.8s,baz=90,slow=1.6,SNR=5.3
TBI Tubuai 118.06 225 *e*SS SS 04 00 10.8 +1.7
comp=Z,403nm,36.2s
TBI Tubuai 118.06 225 *e*LR LR 04 18 35.2
comp=Z,1µm,33.8s
TBI *e*LR LR 04 18 35.4
comp=Z,2µm,21.5s
TAOE Nuku Hiva Isla 119.93 245 *e*LR LR 04 19 27.2
comp=Z,128nm,25.4s
PZH PanZhiHua 120.69 72 PKP **PKPdf 03 42 44.5 -1.3**

INK	**Inuvik**	**121.98**	**338**	P		**PKiKP**	**03 42 48.5**	**+1.5**
	baz=69							
PPT2	**Papeete2**	**122.06**	**230**	*e*SS		SS	04 01 02.6	+1.6
	comp=Z,106nm,30.8s							
PPT2	**Papeete2**	**122.06**	**230**	*e*LR		LR	04 20 26.0	
	comp=Z,217nm,30.5s							
PPT2				*e*LR		LR	04 20 26.2	
	comp=Z,148nm,21.8s							
CD2	**Chengdu**	**123.18**	**67**	PKP		**PKPdf**	**03 42 50.0**	**-0.4**
ASAR	**Alice Springs**	**123.74**	**143**	PKhKP		PKPpre	03 42 47.8	
	comp=Z,0.6nm,0.9s,baz=202,slow=2.3,SNR=3.1							
C27K	**Jago River**	**124.69**	**341**	P		**PKiKP**	**03 42 54.6**	**+2.2**
	baz=58							
G27K	**Doyon Strip**	**125.44**	**338**	P		**PKiKP**	**03 42 55.7**	**+1.7**
	baz=62							
O30N	**Mendenhall**	**125.57**	**330**	P		**PKiKP**	**03 42 56.4**	**+2.0**
	baz=72							
SONM	**Songino Array**	**125.66**	**46**	PKP		**PKPdf**	**03 42 53.5**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=225,slow=4.2,SNR=7.2							
H27K	**Steamboat Moun**	**125.67**	**337**	P		**PKiKP**	**03 42 56.1**	**+1.6**
	baz=62							
F26K	**Sheenjek River**	**125.84**	**339**	P		**PKiKP**	**03 42 56.9**	**+2.1**
	baz=59							
I27K	**Kandik River**	**125.99**	**336**	P		**PKiKP**	**03 42 57.2**	**+2.0**
	baz=63							
M29M	**Somme Creek**	**126.06**	**332**	P		**PKiKP**	**03 42 56.9**	**+1.5**
	baz=68							
E25K	**Arctic Village**	**126.07**	**340**	P		**PKiKP**	**03 42 55.8**	**+0.6**
	baz=57							
ULN	**Ulaanbaatar**	**126.10**	**46**	⇑*i*PKIKP		**PKiKP**	**03 42 58.6**	**+2.6**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.7s							
G26K	**Porcupine Rive**	**126.11**	**338**	P		**PKiKP**	**03 42 56.2**	**+1.0**
	baz=60							
EGAK	**Eagle**	**126.20**	**335**	P		**PKiKP**	**03 42 57.1**	**+1.6**
	baz=64							
WRA	**Warramunga Arr**	**126.89**	**140**	PKhKP		PKPpre	03 42 54.2	
	comp=Z,0.4nm,0.8s,baz=204,slow=1.2,SNR=2.0							
YUK8	**Steele Glacier**	**127.07**	**331**	P		**PKiKP**	**03 42 59.7**	**+2.0**
	baz=67							
L27K	**Beaver Creek,**	**127.22**	**334**			**PKiKP**	**03 42 58.5**	**+0.9**
L27K	**Beaver Creek,**	**127.22**	**334**	P		**PKiKP**	**03 42 58.6**	**+0.9**
	baz=64							
XAN	**Xi'an**	**127.83**	**64**	*e*PKP		**PKiKP**	**03 43 00.2**	**+0.4**
XAN				sPKP			03 43 13.3	
E22K	**Anaktuvuk Pass**	**127.94**	**342**	P		**PKiKP**	**03 43 00.2**	**+1.2**
	baz=50							
RIDG	**Independent Ri**	**128.11**	**335**	P		**PKiKP**	**03 43 00.2**	**+0.7**
	baz=60							
ILAR	**Eielson Array**	**128.34**	**337**	PKP		**PKPdf**	**03 42 59.1**	**0.0**
	comp=Z,2.1nm,0.8s,baz=319,slow=1.0,SNR=19							
MCARA	**McCarthy VSAT**	**128.46**	**332**	P		**PKiKP**	**03 43 02.6**	**+2.5**
	baz=64							
HDA	**Harding Lake**	**128.56**	**337**			**PKiKP**	**03 43 00.8**	**+0.6**
HDA	**Harding Lake**	**128.56**	**337**	P		**PKiKP**	**03 43 01.1**	**+0.9**
	baz=58							
G22K	**Bettles**	**128.62**	**341**	P		**PKiKP**	**03 43 02.5**	**+2.3**
	baz=51							
F21K	**Alatna River**	**129.02**	**342**	P		**PKiKP**	**03 43 03.3**	**+2.2**
	baz=49							
DHY	**Denali Highway**	**129.43**	**335**	P		**PKiKP**	**03 43 04.3**	**+2.1**
	baz=58							
G21K	**Allakaket**	**129.50**	**341**	P		**PKiKP**	**03 43 03.8**	**+1.7**
	baz=49							
MLY	**Manley**	**129.54**	**338**			**PKiKP**	**03 43 02.8**	**+0.5**
MLY	**Manley**	**129.54**	**338**	P		**PKiKP**	**03 43 03.3**	**+1.0**
	baz=53							
KLU	**Klutina**	**129.65**	**333**	P		**PKiKP**	**03 43 04.8**	**+2.2**
	baz=61							
MCK	**McKinley**	**129.66**	**336**	P		**PKiKP**	**03 43 04.3**	**+1.8**
	baz=56							
RND	**Reindeer**	**129.81**	**336**			**PKiKP**	**03 43 03.5**	**+0.6**
RND	**Reindeer**	**129.81**	**336**	PKIKP		**PKiKP**	**03 43 03.5**	**+0.6**
I21K	**Tanana**	**129.87**	**339**	P		**PKiKP**	**03 43 04.3**	**+1.4**
	baz=52							
HHC	**Hu-ho-hao-te**	**129.92**	**55**	*e*P		**PKPdf**	**03 42 59.4**	**-3.7**
WAT1	**Susitna Watana**	**130.01**	**335**	P		**PKiKP**	**03 43 04.8**	**+1.5**
	baz=57							
TRF	**Thorofare Moun**	**130.32**	**337**	P		**PKiKP**	**03 43 05.3**	**+1.3**
	baz=55							
PMR	**Palmer**	**130.91**	**334**	P		**PKiKP**	**03 43 06.3**	**+1.3**
	baz=57							
CAST	**Castle Rocks**	**130.99**	**337**	P		**PKiKP**	**03 43 05.7**	**+0.6**
	baz=53							
J20K	**Nowinta River**	**131.22**	**339**			**PKPdf**	**03 43 05.1**	**+0.4**
J20K	**Nowinta River**	**131.22**	**339**	P		**PKiKP**	**03 43 06.4**	**+0.8**
	baz=50							
SKT	**Skwentna**	**131.64**	**335**	P		**PKiKP**	**03 43 07.9**	**+1.4**
	baz=54							
XLT	**XiLinHaoTe**	**132.89**	**50**	*e*P		**PKPdf**	**03 43 03.4**	**-5.1**
XLT				pmax		pmax		
	comp=Z,5.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,130nm,4.9s							
DZM	**Mont Dzumac**	**135.71**	**179**	*e*LR		LR	04 26 46.3	
	comp=Z,219nm,29.9s							
NJ2	**Nanjing**	**136.12**	**67**	*e*P		**PKPdf**	**03 43 14.0**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MA2	**Magadan**	**141.10**	**13**	*c i*PKIKP		**PKiKP**	**03 43 28.3**	**+2.5**
MA2				pmax		pmax		
	comp=Z,16nm,1.7s							
KSRS	**Korea Array**	**142.97**	**57**	PKhKP		PKPpre	03 43 21.2	
	comp=Z,2.8nm,1.0s,baz=273,slow=3.2,SNR=5.0							
YSS	**Yuzh-Sakhalins**	**148.52**	**33**	*e*PKP2		**PKiKP**	**03 43 41.8**	**+0.4**
YSS				pmax		pmax		
	comp=Z,20nm,1.1s							
JWT	**Wachi**	**149.35**	**58**	PKPdf		**PKPdf**	**03 43 38.4**	**+0.4**
MJAR	**Matsushiro Arr**	**151.12**	**54**	PKPbc		**PKPbc**	**03 43 45.5**	**-1.2**
	comp=Z,6.0nm,0.8s,baz=312,slow=1.4,SNR=9.0							

*NNC **05** 03:41:47.2±2.2,43°.94N×86°.17E, h7km±8km, mb3.9, mpv3.6, Error ellipse: s-maj=16.6km s-min=12.7km az=104.0*

*SOME **05** 03:41:48.9, 43°.92N×86°.02E, h20km*

ISC 05 03:41:46.9±3.1,**43°.9N**±0°.1×**86°.1E**±0°.2,**h10**km,**n18,**
σ2$28/23,7C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.69**	**347**	Pg	**Pn**	**03 42 46.1**	**+2.1**
	9.6nm,0.2s						
ZSN				Lg	Lg	03 43 27.7	
	13nm,0.2s						
ZSN	**Zaisan**	**3.69**	**347**	*e*Pg	**Pg**	**03 42 56.0**	**-1.6**
	30nm,0.5s						
ZSN				*e*Lg	Lg	03 43 44.2	
	15nm,0.1s						
MK31	**Makanchi Array**	**3.98**	**319**	Pn	**Pn**	**03 42 49.4**	**+1.4**
MK31				⇓Pg	**Pg**	**03 43 00.2**	**-3.0**
	8.2nm,0.5s,baz=131,slow=16,SNR=29						
MK31				⇓Sn	**Sn**	**03 43 36.9**	**+2.1**
	3.2nm,0.3s						
MK31				⇓Lg	Lg	03 43 52.4	
	9.5nm,0.4s						
MAKZ	**Makanchi**	**4.15**	**317**	⇓Pn	**Pn**	**03 42 50.4**	**+0.1**
	5.1nm,0.6s						
MAKZ				⇑Sn	**Sn**	**03 43 39.8**	**+1.0**
	8.8nm,0.4s						
MAKZ				⇓Lg	Lg	03 43 56.1	
	20nm,1.1s						
KTMS	**Ketmen**	**4.21**	**266**	Pg	**Pb**	**03 43 04.1**	**+2.9**
	2.8nm,0.4s						
KTMS	**Ketmen**	**4.21**	**266**	*e*Pg	**Pb**	**03 43 04.1**	**+2.9**
	2.8nm,0.1s						
KTMS				*e*Lg	Lg	03 43 58.2	
	6.6nm,0.1s						
DJR	**Jarkent**	**4.59**	**278**	Pg	**Pb**	**03 43 10.5**	**+3.0**
	3.5nm,0.3s						
DJR				Lg	Lg	03 44 10.3	
	12nm,0.3s						
DJR	**Jarkent**	**4.59**	**278**	*e*Pg	**Pb**	**03 43 11.1**	**+3.6**
	4.2nm,0.3s						
DJR				*e*Lg	Lg	03 44 10.3	
	12nm,0.2s						
PDGK	**Podgornoye**	**4.85**	**266**	⇑Pn	**Pn**	**03 42 59.9**	**-0.1**
	2.0nm,0.7s						
PDGK				⇑Sn	**Sn**	**03 43 58.7**	**+2.4**
	5.4nm,0.6s						
PDGK				⇑Lg	Lg	03 44 21.2	
	12nm,0.6s						
SHLS	**Shalkode**	**4.90**	**264**	Pg	**Pb**	**03 43 11.1**	**-1.8**
	4.3nm,0.2s						
SHLS	**Shalkode**	**4.90**	**264**	*e*Pg	**Pb**	**03 43 11.1**	**-1.8**
	4.7nm,0.2s						
SHLS				*e*Lg	Lg	03 44 10.3	
	8.0nm,0.1s						
KPKS	**Kokpek**	**5.41**	**268**	Pg	**Pg**	**03 43 28.9**	**-1.7**
	2.5nm,0.1s						
KPKS				Lg	Lg	03 44 40.8	
	16nm,0.6s						
KPKS	**Kokpek**	**5.41**	**268**	*e*Pg	**Pg**	**03 43 28.9**	**-1.7**
	2.5nm,0.3s						
KPKS				*e*Lg	Lg	03 44 40.8	
	16nm,0.6s						
KURS	**Kuram**	**5.78**	**269**	Pg	**Pg**	**03 43 35.2**	**-2.5**
	2.7nm,0.6s						
KURS				Lg	Lg	03 44 51.6	
	4.0nm,0.5s						
KURS	**Kuram**	**5.78**	**269**	*e*Pg	**Pg**	**03 43 35.2**	**-2.5**
	2.7nm,0.6s						
KURS				*e*Lg	Lg	03 44 51.6	
	4.2nm,0.2s						
DGS	**Degeres**	**7.55**	**269**	Pg	**Pg**	**03 44 10.0**	**-1.4**
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**8.50**	**325**	⇑Pn	**Pn**	**03 43 47.4**	**-2.6**
	4.6nm,1.2s						
KURBB				⇓Lg	Lg	03 46 16.9	
	17nm,0.7s						
KURK	**Kurchatov**	**8.54**	**326**	⇑Pn	**Pn**	**03 43 49.9**	**-0.6**
	1.4nm,1.0s						
KURK				⇓Sn	**Sn**	**03 45 25.0**	**-1.8**
	1.8nm,0.6s						
KURK				⇑Lg	Lg	03 46 16.2	
	10.0nm,1.0s						

*RSPR **05** 03:51:26.0, 18°.38N×68°.92W, h121km±1km, MD3.8/15*
*NEIC **05** 03:51:27.3±2.0, 18°.3N±0°.2×68°.86W±0°.09, h113km±19km, ML3.2/34, Md3.8/15(RSPR), Error ellipse: s-maj=33.3km s-min=9.1km az=194.0*
*OSPL **05** 03:51:28.7±3.4, 18°.53N×68°.80W, h116km±19km, ML2.8*

ISC 05 03:51:25.7±1.2,**18°.50N**±0°.09×**68°.86W**±0°.03,**h134**km,**n69,**
σ1$03/77,8C-8D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.45**	**88**	⇑*e*P	Pn	03 51 43.4	-1.6
PCDR	**Punta Cana, DR**	**0.45**	**88**	*e*S	**Sn**	**03 51 57.2**	**-2.3**
PCDR	**Punta Cana, DR**	**0.45**	**88**		Pn	03 51 43.4	-1.6
PCDR					**Sn**	**03 51 57.2**	**-2.3**
PCDR	**Punta Cana, DR**	**0.45**	**88**	IAML		03 52 01.6	
	comp=N,268nm,0.6s						
PCDR	**Punta Cana, DR**	**0.45**	**88**	*i* P	Pn	03 51 43.4	-1.6
PCDR				*e*S	**Sn**	**03 51 57.0**	**-2.5**
PCDR				IAML		03 52 04.3	
	comp=Z,233nm,1.9s						
IDE	**Isla Desecheo**	**1.32**	**95**	⇓*e*P	**Pn**	**03 51 51.2**	**-1.0**
IDE	**Isla Desecheo**	**1.32**	**95**	*e*S	**Sn**	**03 52 11.9**	**-0.3**
IDE	**Isla Desecheo**	**1.32**	**95**		**Pn**	**03 51 51.2**	**-1.0**
IDE					**Sn**	**03 52 11.9**	**-0.3**
PRSN	**Puerto Rico Se**	**1.65**	**100**		**Pn**	**03 51 55.9**	**+0.2**
AGPR	**Aguadilla, PR**	**1.66**	**91**	⇓*e*P	**Pn**	**03 51 56.2**	**+0.4**
AGPR	**Aguadilla, PR**	**1.66**	**91**	*e*S	**Sn**	**03 52 19.1**	**+0.2**
AGPR	**Aguadilla, PR**	**1.66**	**91**		**Pn**	**03 51 56.2**	**+0.4**
AGPR					**Sn**	**03 52 19.1**	**+0.2**
AGPR	**Aguadilla, PR**	**1.66**	**91**	IAML		03 52 22.4	
	comp=N,248nm,0.4s						
AGPR				IAML		03 52 23.8	
	comp=E,266nm,0.5s						
AGPR	**Aguadilla, PR**	**1.66**	**91**	*i* P	**Pn**	**03 51 56.2**	**+0.4**
AGPR				IAML		03 52 24.9	
	comp=Z,109nm,0.2s						
LSP	**Las Mesas**	**1.71**	**101**	⇓*e*P	**Pn**	**03 51 56.7**	**+0.2**
LSP	**Las Mesas**	**1.71**	**101**	*e*S	**Sn**	**03 52 20.5**	**+0.4**
LSP	**Las Mesas**	**1.71**	**101**		**Pn**	**03 51 56.7**	**+0.2**
LSP					**Sn**	**03 52 20.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.73**	**106**	⇓*e*P	**Pn**	**03 51 55.9**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.73**	**106**	*e*S	**Sn**	**03 52 20.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.73**	**106**		**Pn**	**03 51 55.9**	**-0.8**
CRPR					**Sn**	**03 52 20.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.73**	**106**	*i* P	**Pn**	**03 51 55.8**	**-0.8**
CRPR				*e*S	**Sn**	**03 52 19.4**	**-1.0**
CRPR				IAML		03 52 30.5	
	comp=Z,60nm,0.2s						
MLPR	**Magueyes Islan**	**1.80**	**107**	⇓*e*P	Pn	03 51 55.6	-2.0
MLPR	**Magueyes Islan**	**1.80**	**107**	*e*S	**Sn**	**03 52 20.0**	**-1.9**
MLPR	**Magueyes Islan**	**1.80**	**107**		Pn	03 51 55.6	-2.0
MLPR					**Sn**	**03 52 20.0**	**-1.9**
GBPR	**Guanica, Bosqu**	**1.95**	**105**	⇑*e*P	**Pn**	**03 51 59.2**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.95**	**105**	*e*S	**Sn**	**03 52 25.2**	**+0.2**
GBPR	**Guanica, Bosqu**	**1.95**	**105**		**Pn**	**03 51 59.2**	**-0.1**
GBPR					**Sn**	**03 52 25.2**	**+0.2**
SC01	**Santiago de lo**	**2.00**	**298**		**Pn**	**03 52 01.0**	**+1.1**
SC01				IAML		03 52 34.3	
	comp=E,192nm,0.5s						
SC01				IAML		03 52 35.4	
	comp=N,159nm,0.5s						
SC01	**Santiago de lo**	**2.00**	**298**	*i* P	**Pn**	**03 52 01.8**	**+2.0**
SC01				IAML		03 52 37.0	
	comp=Z,71nm,0.2s						
AOPR	**Arecibo Observ**	**2.00**	**94**	⇑*e*P	**Pn**	**03 52 00.4**	**+0.4**
AOPR	**Arecibo Observ**	**2.00**	**94**	*e*S	**Sn**	**03 52 25.9**	**-0.3**
AOPR	**Arecibo Observ**	**2.00**	**94**		**Pn**	**03 52 00.4**	**+0.4**
AOPR					**Sn**	**03 52 25.9**	**-0.3**
UUPR	**Utuado, UPR, P**	**2.05**	**97**		**Pn**	**03 52 00.6**	**+0.1**
OBIP	**Obispado Ponce**	**2.19**	**102**	⇓*e*P	**Pn**	**03 52 01.7**	**-0.5**
OBIP	**Obispado Ponce**	**2.19**	**102**	*e*S	**Sn**	**03 52 30.2**	**+0.1**
OBIP	**Obispado Ponce**	**2.19**	**102**		**Pn**	**03 52 01.7**	**-0.5**
OBIP					**Sn**	**03 52 30.2**	**+0.1**
CELP	**Cerrillos**	**2.21**	**101**	⇓*e*P	**Pn**	**03 52 01.8**	**-0.6**
CELP	**Cerrillos**	**2.21**	**101**	*e*S	**Sn**	**03 52 31.0**	**+0.4**
CELP	**Cerrillos**	**2.21**	**101**		**Pn**	**03 52 01.8**	**-0.6**
CELP					**Sn**	**03 52 31.0**	**+0.4**
CELP	**Cerrillos**	**2.21**	**101**	IAML		03 52 34.8	
	comp=E,73nm,0.3s						
CELP				IAML		03 52 35.8	
	comp=N,101nm,0.3s						
EMPR	**Esperanza - Ma**	**2.21**	**90**	⇑*e*P	**Pn**	**03 52 03.3**	**+0.9**
EMPR	**Esperanza - Ma**	**2.21**	**90**	*e*S	**Sn**	**03 52 30.5**	**-0.2**
EMPR	**Esperanza - Ma**	**2.21**	**90**		**Pn**	**03 52 03.3**	**+0.9**
EMPR					**Sn**	**03 52 30.5**	**-0.2**
EMPR	**Esperanza - Ma**	**2.21**	**90**	IAML		03 52 36.7	
	comp=E,210nm,0.4s						
EMPR				IAML		03 52 39.9	
	comp=N,158nm,0.5s						
PODR	**Polo**	**2.33**	**262**	*i* P	**Pn**	**03 52 04.1**	**+0.1**
PODR				*e*S	**Sn**	**03 52 32.2**	**-1.3**
SDDR	**Presa de Saban**	**2.35**	**282**		**Pn**	**03 52 05.7**	**+1.4**
SDDR				IAML		03 52 42.9	
	comp=N,55nm,0.7s						
SDDR				IAML		03 52 44.0	
	comp=N,107nm,0.6s						
SDDR	**Presa de Saban**	**2.35**	**282**	*i* P	**Pn**	**03 52 06.9**	**+2.6**
SDDR				IAML		03 52 41.7	
	comp=Z,35nm,0.3s						
SJG	**San Juan**	**2.60**	**98**		**Pn**	**03 52 07.1**	**-0.3**
SJG				IAML		03 52 42.6	
	comp=Z,72nm,0.5s						
SJG				IAML		03 52 51.9	
	comp=Z,92nm,0.4s						
GCPR	**Guaynabo City**	**2.64**	**94**	⇑*e*P	**Pn**	**03 52 08.0**	**+0.1**
GCPR	**Guaynabo City**	**2.64**	**94**	*e*S	**Sn**	**03 52 41.1**	**+0.8**
GCPR	**Guaynabo City**	**2.64**	**94**		**Pn**	**03 52 08.0**	**+0.1**
GCPR					**Sn**	**03 52 41.1**	**+0.8**
GCPR	**Guaynabo City**	**2.64**	**94**	IAML		03 52 43.2	
	comp=E,48nm,0.6s						
IGPR	**InterUniversit**	**2.67**	**101**	⇓*e*P	**Pn**	**03 52 07.9**	**-0.3**
IGPR	**InterUniversit**	**2.67**	**101**	*e*S	**Sn**	**03 52 41.0**	**+0.1**
IGPR	**InterUniversit**	**2.67**	**101**		**Pn**	**03 52 07.9**	**-0.3**
IGPR					**Sn**	**03 52 41.0**	**+0.1**
LOPE2	**Hotel El Peder**	**2.78**	**261**	*i* P	**Pn**	**03 52 11.5**	**+1.9**
LOPE2				*e*S	**Sn**	**03 52 43.9**	**+0.4**
LOPE2				IAML		03 52 57.9	
	comp=Z,47nm,1.4s						
CBYP	**Canovanas**	**2.86**	**94**	⇑*e*P	**Pn**	**03 52 10.8**	**+0.1**
CBYP	**Canovanas**	**2.86**	**94**	*e*S	**Sn**	**03 52 46.0**	**+0.6**
CBYP	**Canovanas**	**2.86**	**94**		**Pn**	**03 52 10.8**	**+0.1**
CBYP					**Sn**	**03 52 46.0**	**+0.6**
HUMP	**Col San Antoni**	**2.88**	**97**	⇑*e*P	**Pn**	**03 52 11.2**	**+0.2**
HUMP	**Col San Antoni**	**2.88**	**97**	*e*S	**Sn**	**03 52 45.9**	**+0.1**
HUMP	**Col San Antoni**	**2.88**	**97**		**Pn**	**03 52 11.2**	**+0.2**
HUMP					**Sn**	**03 52 45.9**	**+0.1**
HUMP	**Col San Antoni**	**2.88**	**97**	IAML		03 52 52.9	
	comp=N,73nm,0.3s						
HUMP				IAML		03 52 53.4	
	comp=E,78nm,0.2s						
CUPR	**Culebra, Puert**	**3.40**	**93**	⇑*e*P	**Pn**	**03 52 17.2**	**-0.4**
CUPR	**Culebra, Puert**	**3.40**	**93**	*e*S	**Sn**	**03 52 59.9**	**+2.0**
CUPR					**Pn**	**03 52 17.2**	**-0.4**
CUPR					**Sn**	**03 52 59.9**	**+2.0**
CUPR	**Culebra, Puert**	**3.40**	**93**	IAML		03 53 01.0	
	comp=N,21nm,0.5s						
CUPR				IAML		03 53 05.4	
	comp=E,25nm,0.6s						
GRTK	**Grand Turk**	**3.68**	**325**	*i* P	Pn	03 52 20.3	-1.0
GRTK				*e*S	**Sn**	**03 53 01.9**	**-2.5**
GRTK				IAML		03 53 09.6	
	comp=Z,53nm,1.2s						
MASC	**Masc**	**5.34**	**289**	*e*S	**Sn**	**03 53 41.1**	**-2.9**

*IDC **05** 03:55:45.5±2.3,2°.43N×95°.75E, h0km, mb3.7/6, mbtmp3.7/7, ML4.3/1, MS4.0/2, Error ellipse: s-maj=92.1km s-min=23.5km az=59.0*
*DJA **05** 03:55:50.9±1.0, 3°N±4°×9°6E±°, h28km±4km, M3.7/7, mb3.9/2, Mjma3.7/7, ML3.7/7, MLv3.7/7, Ms(BB)3.4/5*

ISC 05 03:55:49.7±1.1,**2°.50N**±0°.07×**95°.79E**±0°.09,**h25**km,**n19,**
σ0$74/15,mb3.8/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.55**	**100**	P	**Pb**	**03 56 01.1**	**+0.4**
SNSI				S	**Sb**	**03 56 09.3**	**+1.1**
MLSI	**Meulaboh, Aceh**	**1.86**	**19**	P	**Pn**	**03 56 19.9**	**-0.1**
MLSI				S	**Sn**	**03 56 42.2**	**-0.5**
GSI	**Gunungsitoli**	**2.15**	**124**	P	**Pn**	**03 56 24.3**	**+0.4**
GSI				S	**Sn**	**03 56 48.4**	**-1.4**
KCSI	**Kotacane, Aceh**	**2.23**	**63**	P	**Pn**	**03 56 25.1**	**+0.1**
KCSI				S	**Sn**	**03 56 50.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**16.16**	**11**	Pn	**Pn**	**03 59 36.0**	**+0.8**
	0.4nm,0.3s,baz=194,slow=11,SNR=1.2						
	1.1nm,0.3s						
H08S2	**Diego Garcia H**	**25.33**	**246**	T	T	04 27 24.5	
	baz=67,slow=75,SNR=61						
H08S3	**Diego Garcia H**	**25.33**	**246**	T	T	04 27 33.9	
	baz=67,slow=75,SNR=62						
H08S1	**Diego Garcia H**	**25.35**	**246**	T	T	04 27 25.9	
	baz=67,slow=75,SNR=49						
NWAO	**Narrogin (SRO)**	**40.66**	**152**	LR	LR	04 17 13.9	
	comp=Z,202nm,21.9s,slow=32						
H01W3	**Cape Leeuwin H**	**40.98**	**157**	T	T	04 47 05.4	
	baz=332,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**40.99**	**157**	T	T	04 47 06.4	
	baz=332,slow=76,SNR=9.2						
H01W1	**Cape Leeuwin H**	**41.00**	**157**	T	T	04 47 02.6	
	baz=332,slow=76,SNR=27						
WRA	**Warramunga Arr**	**43.92**	**122**	P	**P**	**04 03 54.3**	**-0.5**
	0.3nm,0.7s,baz=309,slow=9.5,SNR=3.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**45.30**	**127**	P	**P**	**04 04 05.4**	**-0.5**
	0.2nm,0.5s,baz=306,slow=7.9,SNR=1.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**45.66**	**347**	P	**P**	**04 04 08.4**	**+0.1**
	0.7nm,0.4s,baz=158,slow=8.8,SNR=20						
	0.7nm,0.4s						
SONM	**Songino Array**	**46.08**	**10**	P	**P**	**04 04 11.5**	**-0.3**
	0.6nm,0.6s,baz=184,slow=11,SNR=5.9						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**52.07**	**352**	P	**P**	**04 04 57.3**	**0.0**
	0.7nm,0.4s,baz=163,slow=6.3,SNR=4.5						
	0.7nm,0.4s						
ARCES	**ARCESS Array B**	**80.84**	**340**	P	**P**	**04 08 01.3**	**+0.2**
	1.4nm,0.8s,baz=93,slow=6.8,SNR=3.5						
	1.4nm,0.8s						
SHEM	**Shemya Is, Ala**	**80.94**	**37**	LR	LR	04 46 08.2	
	comp=Z,86nm,20.8s,baz=21,slow=37						

*IDC **05** 04:02:59.7±0.9, 6°.47N×125°.21E, h172km±7km, mb3.2/8, mbtmp3.7/8, Error ellipse: s-maj=47.6km s-min=15.7km az=74.0*
*MAN **05** 04:03:00.7, 6°.58N×125°.74E, h166km, mb4.5, ML3.4, MS3.2*

ISC 05 04:02:57.9±0.8,**6°.50N**±0°.09×**125°.9E**±0°.1,**h150**km,**n14,**
σ3$66/19,mb3.4/8,2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.65**	**330**	P	Pn	04 03 25.4	+5.2
	305nm,0.4s,baz=266,slow=4.5,SNR=16						
DAV				S	**Sn**	**04 03 44.6**	**+7.5**
	1µm,0.3s,baz=226,slow=21,SNR=19						
KCP	**Kidapawan**	**0.96**	**302**	⇓*i* P	**Pn**	**04 03 26.2**	**+3.8**
KCP				*i* S	**Sn**	**04 03 45.8**	**+4.7**
GSPH	**General Santos**	**1.04**	**247**	⇓*e*P	**Pn**	**04 03 26.9**	**+3.6**
GSPH				*i* S	**Sn**	**04 03 46.7**	**+4.3**
BIPH	**Bislig**	**1.73**	**15**	⇑*i*P	**Pn**	**04 03 33.8**	**+3.8**
BIPH				*i* S	**Sn**	**04 03 58.6**	**+4.0**
CTBH	**Cotabato--PC H**	**1.80**	**293**	⇓*i*P	**Pn**	**04 03 33.2**	**+2.4**
PAGZ	**P

ISR				⇓S	Sn	04 24 32.8	-0.8	TIRR				⇑S	Sn	04 24 52.3	-0.8				
ISR	**Istrita**	0.55	175	⇑P	Pn	04 24 16.8	+0.5	**TIRR**	**Tirgusor**	1.82	131	P	Pn	04 24 28.2	+1.0				
ISR				⇓S	Sn	04 24 32.8	-0.8	TIRR				S	Sn	04 24 51.9	-1.2				
OZUR		0.65	312	⇑P	Pn	04 24 17.0	+0.3	**LOT**	**Lotru**	1.92	264	⇑P	Pn	04 24 30.7	+2.3				
OZUR		0.65	312	⇑P	Pn	04 24 17.0	+0.3	LOT				⇑S	Sn	04 24 56.9	+1.7				
SECR		0.69	205	⇑P	Pn	04 24 18.3	+1.2	**LOT**	**Lotru**	1.92	264	⇑P	Pn	04 24 30.7	+2.3				
SECR				⇑S	Sn	04 24 34.4	-0.5	LOT				⇑S	Sn	04 24 56.9	+1.7				
SECR		0.69	205	⇑P	Pn	04 24 18.3	+1.2	**LOT**	**Lotru**	1.92	264	P	Pn	04 24 30.5	+2.1				
SECR				⇑S	Sn	04 24 34.4	-0.5	**MFTR**	**Murfatlar**	2.03	136	⇑P	Pn	04 24 30.3	+0.8				
GHRR		0.76	58	⇑P	Pn	04 24 18.2	+0.8	MFTR				⇑S	Sn	04 24 56.8	-0.5				
GHRR				⇑S	Sn	04 24 35.1	-0.5	**MFTR**	**Murfatlar**	2.03	136	⇑P	Pn	04 24 30.3	+0.8				
GHRR		0.76	58	⇑P	Pn	04 24 18.2	+0.8	MFTR				⇑S	Sn	04 24 56.8	-0.5				
GHRR				⇑S	Sn	04 24 35.1	-0.5	**MILM**	**Milestii Mici**	2.04	51	⇓*i*P	Pn	04 24 31.5	+1.9				
PLAR	**PLOIESTI**	0.82	203	⇓P	Pn	04 24 19.1	+1.3	70nm,0.2s											
PLAR				⇓S	Sn	04 24 36.7	+0.4	MILM				*i* S	Sn	04 24 56.6	-1.0				
PLAR	**PLOIESTI**	0.82	203	⇓P	Pn	04 24 19.1	+1.3	180nm,0.2s											
PLAR				⇓S	Sn	04 24 36.7	+0.4	**MILM**	**Milestii Mici**	2.04	51	⇓P	Pn	04 24 31.5	+1.9				
DOPR	**Dopca**	0.82	292	⇑P	Pn	04 24 18.6	+0.7	MILM				⇓S	Sn	04 24 57.0	-0.6				
DOPR				⇑S	Sn	04 24 35.6	-0.9	**MILM**	**Milestii Mici**	2.04	51	⇓P	Pn	04 24 31.5	+1.9				
DOPR	**Dopca**	0.82	292	⇑P	Pn	04 24 18.6	+0.7	MILM				⇓S	Sn	04 24 57.0	-0.6				
DOPR				⇑S	Sn	04 24 35.6	-0.9	**MILM**	**Milestii Mici**	2.04	51	⇑*i*P	Pn	04 24 31.5	+1.9				
TUDR		0.84	95	⇓P	Pn	04 24 18.4	+0.5	MILM				Pm		04 24 31.8					
TUDR				⇓S	Sn	04 24 35.4	-1.1	MILM				*i* S	Sn	04 24 56.6	-1.0				
TUDR		0.84	95	⇓P	Pn	04 24 18.4	+0.5	MILM				Sm		04 24 56.7					
TUDR				⇓S	Sn	04 24 35.4	-1.1	MILM				m		04 24 57.0					
PGOR	**Pogoanele**	0.84	155	⇓P	Pn	04 24 18.9	+1.0	**KIS**	**Kishinev**	2.10	50	⇓*i*P	Pn	04 24 31.2	+1.0				
PGOR				⇓S	Sn	04 24 35.5	-1.1	60nm,0.2s											
PGOR	**Pogoanele**	0.84	155	⇓P	Pn	04 24 18.9	+1.0	KIS				⇑*i*S	Sn	04 24 57.0	-1.7				
PGOR				⇓S	Sn	04 24 35.5	-1.1	350nm,0.5s											
TESR	**Tescani**	0.85	8	⇑P	Pn	04 24 18.3	+0.3	**KIS**	**Kishinev**	2.10	50	⇓P	Pn	04 24 31.2	+1.0				
TESR				⇓S	Sn	04 24 35.2	-1.8	KIS				⇓S	Sn	04 24 57.6	-1.1				
TESR	**Tescani**	0.85	8	⇑P	Pn	04 24 18.3	+0.3	**KIS**	**Kishinev**	2.10	50	⇓P	Pn	04 24 31.2	+1.0				
TESR				⇓S	Sn	04 24 35.2	-1.8	KIS				⇑S	Sn	04 24 57.6	-1.1				
TESR	**Tescani**	0.85	8	⇓P	Pn	04 24 18.3	+0.3	**KIS**	**Kishinev**	2.10	50	*e*P	Pn	04 24 31.0	+0.8				
SLCR	**Slobozia Conac**	0.91	94	⇑P	Pn	04 24 18.9	+0.5	KIS				Pm		04 24 31.4					
SLCR				⇓S	Sn	04 24 36.2	-1.3	KIS				⇓*i*S	Sn	04 24 57.0	-1.7				
SLCR	**Slobozia Conac**	0.91	94	⇑P	Pn	04 24 18.9	+0.5	KIS				Sm		04 24 57.4					
SLCR				⇓S	Sn	04 24 36.2	-1.3	KIS				m		04 24 57.9					
IZVR	**Izvoarele**	0.91	97	⇓P	Pn	04 24 18.8	+0.3	**RAZG**	**Razgrad**	2.10	179	⇑S	Sn	04 24 57.9	-0.9				
IZVR				⇓S	Sn	04 24 36.1	-1.4	**RAZG**	**Razgrad**	2.10	179	⇑S	Sn	04 24 57.9	-0.9				
IZVR	**Izvoarele**	0.91	97	⇓P	Pn	04 24 18.8	+0.3	**BURAR**	**Bucovina Array**	2.13	336	⇑P	Pn	04 24 33.4	+2.6				
IZVR				⇓S	Sn	04 24 36.1	-1.4	**BURAR**	**Bucovina Array**	2.13	336	⇑P	Pn	04 24 33.4	+2.6				
SCHL	**Schela**	0.96	99	⇑P	Pn	04 24 19.3	+0.5	**TSCT**	**Constanta Port**	2.16	133	⇓P	Pn	04 24 32.3	+1.3				
SCHL				⇓S	Sn	04 24 37.0	-1.2	**TSCT**	**Constanta Port**	2.16	133	⇓P	Pn	04 24 32.3	+1.3				
SCHL	**Schela**	0.96	99	⇑P	Pn	04 24 19.3	+0.5	**ZIMR**		2.16	202	⇓P	Pn	04 24 32.3	+1.3				
SCHL				⇓S	Sn	04 24 37.0	-1.2	ZIMR				⇓S	Sn	04 24 59.3	-0.7				
SULR		1.00	189	⇑P	Pn	04 24 20.4	+1.3	**ZIMR**		2.16	202	⇓P	Pn	04 24 32.3	+1.3				
SULR				⇓S	Sn	04 24 39.0	+0.2	ZIMR				⇓S	Sn	04 24 59.3	-0.7				
SULR		1.00	189	⇑P	Pn	04 24 20.4	+1.3	**EFOR**	**EFORIE**	2.20	135	⇓P	Pn	04 24 33.0	+1.5				
SULR				⇓S	Sn	04 24 39.0	+0.2	EFOR				⇓S	Sn	04 25 01.2	+0.4				
VOIR		1.03	258	⇑P	Pn	04 24 20.2	+0.6	**EFOR**	**EFORIE**	2.20	135	⇓P	Pn	04 24 33.0	+1.5				
VOIR				⇓S	Sn	04 24 39.8	+0.3	EFOR				⇓S	Sn	04 25 01.2	+0.4				
VOIR		1.03	258	⇑P	Pn	04 24 20.2	+0.6	**VLAD**	**Vladila**	2.23	222	⇓P	Pn	04 24 32.8	+1.0				
VOIR				⇓S	Sn	04 24 39.8	+0.3	**VLAD**	**Vladila**	2.23	222	⇓P	Pn	04 24 32.8	+1.0				
VOIR		1.03	258	P	Pn	04 24 20.1	+0.6	**MANR**	**Mangalia**	2.38	140	⇓P	Pn	04 24 35.0	+1.4				
SCTR	**Scanteiesti**	1.06	89	⇑P	Pn	04 24 20.6	+0.9	MANR				⇓S	Sn	04 25 04.4	-0.2				
SCTR				⇓S	Sn	04 24 38.7	-0.9	**MANR**	**Mangalia**	2.38	140	⇓P	Pn	04 24 35.0	+1.4				
SCTR	**Scanteiesti**	1.06	89	⇑P	Pn	04 24 20.6	+0.9	MANR				⇓S	Sn	04 25 04.4	-0.2				
SCTR				⇓S	Sn	04 24 38.7	-0.9	**SZH**	**Strazhica**	2.43	189	*i* P	Pn	04 24 35.5	+1.2				
MTUR	**Matau**	1.09	247	⇓P	Pn	04 24 21.3	+1.3	**PURM**	**Purcari**	2.51	69	⇓P	Pn	04 24 35.8	+1.2				
MTUR	**Matau**	1.09	247	⇓P	Pn	04 24 21.3	+1.3	PURM				⇓S	Sn	04 25 06.4	-1.0				
TATR	**Tatarca**	1.10	93	⇑P	Pn	04 24 20.9	+0.9	**PURM**	**Purcari**	2.51	69	⇓P	Pn	04 24 36.3	+1.2				
TATR				⇓S	Sn	04 24 39.4	-0.8	PURM				⇓S	Sn	04 25 06.4	-1.0				
TATR	**Tatarca**	1.10	93	⇑P	Pn	04 24 20.9	+0.9	**SRE**	**Strehaia**	2.53	248	⇓P	Pn	04 24 36.7	+1.3				
TATR				⇓S	Sn	04 24 39.4	-0.8	SRE				⇓S	Sn	04 25 08.3	+0.5				
GISR	**Galati**	1.13	101	⇑P	Pn	04 24 21.1	+0.9	**SRE**	**Strehaia**	2.53	248	⇓P	Pn	04 24 36.7	+1.3				
GISR				⇓S	Sn	04 24 40.2	-0.5	SRE				⇓S	Sn	04 25 08.3	+0.5				
GISR	**Galati**	1.13	101	⇑P	Pn	04 24 21.1	+0.9	**PRD**	**Provadia**	2.55	165	*e*P	Pn	04 24 37.8	+2.1				
GISR				⇓S	Sn	04 24 40.2	-0.5	**PVL**	**Pavlikeni**	2.58	199	*i* P	Pn	04 24 38.8	+2.7				
AMRR	**Amara**	1.22	150	⇑P	Pn	04 24 22.2	+1.2	**GZR**	**Gura Zlata**	2.62	265	⇑P	Pn	04 24 38.2	+1.7				
AMRR				⇓S	Sn	04 24 42.0	-0.1	GZR				⇑S	Sn	04 25 11.9	+2.1				
AMRR	**Amara**	1.22	150	⇑P	Pn	04 24 22.2	+1.2	**GZR**	**Gura Zlata**	2.62	265	⇑P	Pn	04 24 38.2	+1.7				
AMRR				⇓S	Sn	04 24 42.0	-0.1	GZR				⇑S	Sn	04 25 11.9	+2.1				
LEHL	**Lehliu**	1.22	169	⇑P	Pn	04 24 22.3	+1.2	**GZR**	**Gura Zlata**	2.62	265	*e*Pn	Pn	04 24 38.3	+1.7				
LEHL				⇓S	Sn	04 24 42.4	+0.3	GZR				*e*Sn	Sn	04 25 04.5	-5.3				
LEHL	**Lehliu**	1.22	169	⇑P	Pn	04 24 22.3	+1.2	**PLVB**	**Pleven**	2.64	211	⇓P	Pn	04 24 38.0	+1.3				
LEHL				⇓S	Sn	04 24 42.4	+0.3	**PLVB**	**Pleven**	2.64	211	⇓P	Pn	04 24 38.0	+1.3				
GIUM	**Giurgiulesti**	1.23	98	⇑P	Pn	04 24 22.2	+1.1	**BAIL**	**Bailesti**	2.77	235	⇑P	Pn	04 24 39.8	+1.4				
GIUM				⇓S	Sn	04 24 41.6	-0.7	**BAIL**	**Bailesti**	2.77	235	⇑P	Pn	04 24 39.8	+1.4				
GIUM	**Giurgiulesti**	1.23	98	⇑P	Pn	04 24 22.2	+1.1	**SORM**	**Soroca**	2.78	27	⇓P	Pn	04 24 39.1	+0.7				
GIUM				⇓S	Sn	04 24 41.6	-0.7	**SORM**	**Soroca**	2.78	27	⇓P	Pn	04 24 39.1	+0.7				
INCR	**INCERC-Sediu C**	1.25	191	⇓P	Pn	04 24 22.3	+1.0	**SORM**	**Soroca**	2.78	27	P	Pn	04 24 39.1	+0.7				
INCR				⇓S	Sn	04 24 42.6	0.0	**DRGR**		2.85	295	*e*P	Pn	04 24 40.5	+1.1				
INCR	**INCERC-Sediu C**	1.25	191	⇓P	Pn	04 24 22.3	+1.0	**DRGR**		2.85	295	*e*Pn	Pn	04 24 40.1	+0.7				
INCR				⇓S	Sn	04 24 42.6	0.0	**RMGR**	**Halanga-Turnu**	2.86	251	⇑P	Pn	04 24 40.7	+1.2				
CFR	**Carcaliu**	1.26	112	⇑P	Pn	04 24 21.8	+0.4	**RMGR**	**Halanga-Turnu**	2.86	251	⇑P	Pn	04 24 40.7	+1.2				
CFR				⇓S	Sn	04 24 41.6	-1.2	**PUNG**	**Punghina**	2.88	242	⇑P	Pn	04 24 40.2	+0.6				
CFR	**Carcaliu**	1.26	112	⇑P	Pn	04 24 21.8	+0.4	**PUNG**	**Punghina**	2.88	242	⇑P	Pn	04 24 40.2	+0.6				
CFR				⇓S	Sn	04 24 41.6	-1.2	**KMPD**	**K-Podol'skiy**	2.90	360	P	Pn	04 24 40.8	+0.9				
GIRR	**Girov**	1.29	1	⇓P	Pn	04 24 23.0	+1.3	**KMPD**	**K-Podol'skiy**	2.90	360	*i* P	Pn	04 24 41.0	+1.1				
GIRR	**Girov**	1.29	1	⇓P	Pn	04 24 23.0	+1.3	KMPD				⇓*i*S	Sn	04 25 16.4	+0.5				
BIZ	**Bicaz**	1.30	349	⇑S	Sn	04 24 43.9	+0.2	**DJES**	**Djerdap**	2.98	252	*e*Pn	Pn	04 24 41.2	+0.3				
BIZ	**Bicaz**	1.30	349	⇑S	Sn	04 24 43.9	+0.2	DJES				*e*Sn	Sn	04 25 09.0	-8.6				
ARR	**Arges**	1.33	258	⇑P	Pn	04 24 23.8	+1.6	**NDNU**	**Novodnistrovsk**	2.99	11	⇓*i*P	Pn	04 24 42.2	+1.1				
ARR				⇓S	Sn	04 24 45.1	+0.9	NDNU				*e*S	Sn	04 25 14.4	+0.4				
ARR	**Arges**	1.33	258	⇑P	Pn	04 24 23.8	+1.6	**MPEP**	**Malo Peshtene**	3.03	221	*i* P	Pn	04 24 43.0	+1.4				
ARR				⇓S	Sn	04 24 45.1	+0.9	**SURR**	**Surduc**	3.05	273	⇓P	Pn	04 24 43.6	+1.8				
VASR	**Vaslui**	1.33	43	⇓P	Pn	04 24 22.9	+0.8	**SURR**	**Surduc**	3.05	273	⇓P	Pn	04 24 43.6	+1.8				
VASR				⇓S	Sn	04 24 43.3	-0.9	**BZS**	**Buzias**	3.41	271	⇑P	Pn	04 24 48.0	+1.6				
VASR	**Vaslui**	1.33	43	⇓P	Pn	04 24 22.9	+0.8	**BZS**	**Buzias**	3.41	271	⇑P	Pn	04 24 48.0	+1.6				
VASR				⇓S	Sn	04 24 43.3	-0.9	**BZS**	**Buzias**	3.41	271	⇑P	Pn	04 24 47.7	+1.3				
STFAR	**Stefanesti-Arg**	1.34	234	⇓P	Pn	04 24 24.0	+1.7	**BZS**	**Buzias**	3.41	271	*e*Pn	Pn	04 24 47.9	+1.5				
STFAR				⇓S	Sn	04 24 45.4	+1.2	BZS				*e*Sn	Sn	04 25 23.4	-4.1				
STFAR	**Stefanesti-Arg**	1.34	234	⇓P	Pn	04 24 24.0	+1.7	**MDVR**	**Moldovita**	3.48	257	⇑P	Pn	04 24 48.9	+1.5				
STFAR				⇓S	Sn	04 24 45.4	+1.2	**MDVR**	**Moldovita**	3.48	257	⇑P	Pn	04 24 48.9	+1.5				
BUC1	**Bucharest**	1.36	194	⇑P	Pn	04 24 23.5	+1.2	**MDVR**	**Moldovita**	3.48	257	*e*Pn	Pn	04 24 48.8	+1.4				
BUC1				⇓S	Sn	04 24 44.5	0.0	MDVR				*e*Sn	Sn	04 25 22.9	-6.3				
BUC1	**Bucharest**	1.36	194	⇑P	Pn	04 24 23.5	+1.2	**ZAGS**	**Zajecar**	3.55	240	*e*Pn	Pn	04 24 48.2	0.0				
BUC1				⇓S	Sn	04 24 44.5	0.0	ZAGS				*e*Sn	Sn	04 25 25.0	-5.6				
HARR	**Harsova**	1.42	133	⇑P	Pn	04 24 23.8	+0.9	**HORU**	**Horodok**	3.55	359	⇑*i*P	Pn	04 24 50.5	+2.4				
HARR	**Harsova**	1.42	133	⇑P	Pn	04 24 23.8	+0.9	HORU				Pm		04 24 51.2					
SGRR	**Singureni**	1.49	194	⇓P	Pn	04 24 24.6	+0.9	HORU				*i* S	Sn	04 25 31.5	+0.8				
SGRR				⇓S	Sn	04 24 46.3	-0.5	HORU				Sm		04 25 58.2					
SGRR	**Singureni**	1.49	194	⇓P	Pn	04 24 24.6	+0.9	**ZAPS**	**Zavoj**	3.65	230	*e*Pn	Pn	04 24 50.5	+1.0				
SGRR				⇓S	Sn	04 24 46.3	-0.5	ZAPS				*e*Sn	Sn	04 25 25.5	-7.5				
RASA	**Rasa**	1.53	162	⇑P	Pn	04 24 24.9	+0.8	**PLD**	**Plovdiv**	3.79	200	*e*P	Pn	04 24 52.4	+1.2				
RASA				⇓S	Sn	04 24 47.0	-0.4	**PLD**	**Plovdiv**	3.79	200	*e*Pn	Pn	04 24 52.2	+1.0				
RASA	**Rasa**	1.53	162	⇑P	Pn	04 24 24.9	+0.8	**EDRB**	**Edirne**	3.82	177	*e*P	Pn	04 24 53.5	+1.8				
RASA				⇓S	Sn	04 24 47.0	-0.4	**VTS**	**Vitosha**	3.84	219	⇑P	Pn	04 24 53.7	+1.6				
HUMR	**Humele**	1.56	224	⇓P	Pn	04 24 25.4	+1.0	**VTS**	**Vitosha**	3.84	219	⇑P	Pn	04 24 53.7	+1.6				
HUMR				⇓S	Sn	04 24 47.9	-0.2	**VTS**	**Vitosha**	3.84	219	*e*Pn	Pn	04 24 52.9	+0.8				
HUMR	**Humele**	1.56	224	⇓P	Pn	04 24 25.4	+1.0	VTS				*e*Sn	Sn	04 25 31.0	-6.6				
HUMR				⇓S	Sn	04 24 47.9	-0.2	**KDZ**	**Kurdzhali**	4.09	191	*e*P	Pn	04 24 56.8	+1.6				
HUMR	**Humele**	1.56	224	P	Pn	04 24 25.0	+0.6	**LUBAR**	**Lubar, Ukraine**	4.34	11	P	Pn	04 24 58.8	+0.4				
TLBR	**Topalu**	1.58	135	⇓P	Pn	04 24 25.4	+0.8	**BARS**	**Barje**	4.40	231	*e*Pn	Pn	04 25 00.8	+1.6				
TLBR				⇓S	Sn	04 24 47.3	-1.1	BARS				*e*Sn	Sn	04 25 43.6	-6.8				
TLBR	**Topalu**	1.58	135	⇓P	Pn	04 24 25.4	+0.8	**GRUS**	**Gruza**	4.47	249	*e*Pn	Pn	04 25 01.3	+1.2				
TLBR				⇓S	Sn	04 24 47.3	-1.1	GRUS				*e*Sn	Sn	04 25 46.0	-6.1				
TPGR	**Topolog**	1.59	120	⇑P	Pn	04 24 25.3	+0.6	**PRVS**	**Prvonek**	4.48	227	*e*Pn	Pn	04 25 02.0	+1.8				
TPGR				⇓S	Sn	04 24 47.6	-1.1	PRVS				*e*Sn	Sn	04 25 45.0	-7.2				
TPGR	**Topolog**	1.59	120	⇑P	Pn	04 24 25.3	+0.6	**TRUS**	**Trudelj**	4.55	254	*e*Pn	Pn	04 25 02.8	+1.7				
TPGR				⇓S	Sn	04 24 47.6	-1.1	**SELS**	**Selova**	4.55	239	*e*Pn	Pn	04 25 02.3	+1.1				
RMVG	**GOVORA**	1.67	249	⇓S	Sn	04 24 50.5	+0.3	**DIVS**	**Divibare**	4.87	254	P	Pn	04 25 07.0	+1.6				
RMVG	**GOVORA**	1.67	249	⇓S	Sn	04 24 50.5	+0.3	**DIVS**	**Divibare**	4.87	254	*e*Pn	Pn	04 25 06.7	+1.3				
IAS	**Iasi**	1.70	25	⇓P	Pn	04 24 25.9	+0.1	DIVS				*e*Sn	Sn	04 25 55.1	-6.5				
IAS				⇓S	Sn	04 24 49.5	-1.3	**IVAS**	**Ivanjica**	4.98	247	*e*Pn	Pn	04 25 08.1	+1.3				
IAS	**Iasi**	1.70	25	⇓P	Pn	04 24 25.9	+0.1	**SRS**	**Serrai**	5.01	206	P	Pn	04 25 08.7	+1.5				
IAS				⇓S	Sn	04 24 49.5	-1.3	**SEV**	**Sevastopol'**	5.21	100	*e*P	Pn	04 25 11.1	+1.3				
IAS	**Iasi**	1.70	25	P	Pn	04 24 26.4	+0.6	SEV				Pm		04 25 11.2					
IAS				S	Sn	04 24 48.9	-1.9		comp=Z,3.0nm,0.2s										
TLCR		1.71	105	⇑P	Pn	04 24 26.9	+0.9	SEV				*e*S	Sn	04 26 07.1	-2.3				
TLCR				⇓S	Sn	04 24 50.4	-0.5	**SEV**	**Sevastopol'**	5.21	100	*e*P	Pn	04 25 11.1	+1.3				
TLCR		1.71	105	⇑P	Pn	04 24 26.9	+0.9	SEV				*e*S	Sn	04 26 07.1	-2.3				
TLCR				⇓S	Sn	04 24 50.4	-0.5	**AK07**	**Malin Array Si**	5.22	19	P	Pn	04 25 10.6	+0.8				
CVDA	**Cernavoda**	1.73	140	⇑P	Pn	04 24 27.4	+1.2	**AK13**	**Malin Array Si**	5.24	18	P	Pn	04 25 10.7	+0.6				
CVDA				⇓S	Sn	04 24 50.4	-0.9	**AK06**	**Malin Array Si**	5.25	19	P	Pn	04 25 10.9	+0.7				
CVDA	**Cernavoda**	1.73	140	⇑P	Pn	04 24 27.4	+1.2	**AK14**	**Malin Array Si**	5.27	19	P	Pn	04 25 11.2	+0.7				
CVDA				⇓S	Sn	04 24 50.4	-0.9	**AK10**	**Malin Array Si**	5.27	20	P	Pn	04 25 11.0	+0.5				
COPA	**Copaceanca**	1.78	211	⇑P	Pn	04 24 26.8	+0.1	**AK05**	**Malin Array Si**	5.28	19	P	Pn	04 25 11.3	+0.7				
COPA				⇓S	Sn	04 24 52.1	-0.1	**AK09**	**Malin Array Si**	5.30	20	P	Pn	04 25 11.6	+0.8				
COPA	**Copaceanca**	1.78	211	⇑P	Pn	04 24 26.8	+0.1	**AK16**	**Malin Array Si**	5.31	18	P	Pn	04 25 11.6	+0.6				
COPA				⇓S	Sn	04 24 52.1	-0.1	**AK17**	**Malin Array Si**	5.31	18	P	Pn	04 25 11.7	+0.7				
ICOR	**Ion Corvin**	1.81	148	⇑P	Pn	04 24 28.6	+1.5	**AK02**	**Malin Array Si**	5.32	19	P	Pn	04 25 11.8	+0.7				
ICOR				⇓S	Sn	04 24 52.3	-0.6	**AK11**	**Malin Array Si**	5.33	19	P	Pn	04 25 11.9	+0.6				
ICOR	**Ion Corvin**	1.81	148	⇑P	Pn	04 24 28.6	+1.5	**AK15**	**Malin Array Si**	5.33	18	P	Pn	04 25 12.0	+0.7				
ICOR				⇓S	Sn	04 24 52.3	-0.6	**AKBB**	**Malin Array Si**	5.36	19	P	Pn	04 25 12.4	+0.7				
TIRR	**Tirgusor**	1.82	131	⇑P	Pn	04 24 28.2	+1.0	**AK04**	**Malin Array Si**	5.37	19	P	Pn	04 25 12.5	+0.7				
TIRR				⇓S	Sn	04 24 52.3	-0.8	**AK03**	**Malin Array Si**	5.38	19	P	Pn	04 25 12.7	+0.7				
TIRR	**Tirgusor**	1.82	131	⇑P	Pn	04 24 28.2	+1.0	**YAL**	**Yalta**	5.56	100	*e*P	Pn	04 25 13.9	-0.5				
								YAL				Pm		04 25 14.0					

	comp=Z,5.0nm,0.3s							
YAL			*e*S	Sn	04 26 13.9	-3.8		
YAL			Sm		04 26 14.3			
	comp=N,8.0nm,0.2s							
YAL			Sm		04 26 14.3			
	comp=E,5.0nm,0.2s							
YAL	**Yalta**	5.56 100	*e*P	Pn	04 25 13.9	-0.5		
YAL			Pm		04 25 14.0			
YAL			*e*S	Sn	04 26 13.9	-3.8		
YAL			Sm		04 26 14.3			

*IDC **05** 04:54:36.8±4.0, 53°.60N×90°.81E, h0km, mbtmp3.0/3, ML2.3/3, Error ellipse: s-maj=37.9km s-min=26.6km az=48.0*

ISC 05 04:54:39.8±4.7, 53°.5N±0°.2×91°.2E±0°.3, h35km, n8, σ1§70/5, 3C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.80**	**279**	I	I	I	05 21 50.0	
	baz=88,slow=342,SNR=1.8							
ZAA0	**Zalesovo Array**	**3.80**	**279**	⇑Pn		**Pn**	**04 55 37.3**	**+1.5**
	0.5nm,0.7s,baz=94,slow=15							
ZAA0				⇑Lg		Lg	04 56 30.0	
	1.6nm,0.7s,baz=100,slow=27							
ZALV	**Zalesovo Beam**	**3.80**	**279**	Pn		**Pn**	**04 55 34.8**	**-1.0**
	0.3nm,0.3s,baz=84,slow=13,SNR=7.8							
ZALV				Lg		Lg	04 56 28.2	
	0.8nm,0.3s,baz=96,slow=26,SNR=10							
	2.1nm,0.6s							
KURBB	**Kurchatov Arra**	**8.30**	**255**	Pn		**Pn**	**04 56 36.2**	**-1.4**
	0.1nm,0.3s,baz=66,slow=15,SNR=2.7							
KURBB				Sn		**Sn**	**04 58 10.6**	**+0.6**
	baz=67,slow=27,SNR=5.4							
KURBB				Lg		Lg	04 58 55.7	
	0.1nm,0.3s,baz=59,slow=33,SNR=9.3							
	0.6nm,0.5s							
MK31	**Makanchi Array**	**8.80**	**224**	⇑Lg		Lg	04 59 10.1	

PPT	Papeete	32.58	93	LR	LR	05 21 34.3		
	comp=Z,47nm,19.7s,baz=278,slow=31							
STKA	Stephens Creek	33.39	241	P	P	05 11 23.9	-1.8	
	comp=Z,2.2nm,0.8s,baz=147,slow=24,SNR=3.5							
	comp=Z,2.2nm,0.8s							
STKA	Stephens Creek	33.39	241	P	P	05 11 26.0	+0.4	
BBOO	Buckleboo	38.17	241	P	P	05 12 07.4	+0.7	
BBOO				IAmb	IAmb	05 12 31.5		
	comp=Z,6.2nm,0.9s							
WR0	Warramunga Arr	39.07	262	P	P	05 12 14.0	-0.4	
WR0				IAmb	IAmb	05 12 41.4		
	comp=Z,3.6nm,1.0s							
WB0	Warramunga Arr	39.23	262	P	P	05 12 13.9	-1.8	
WB0				IAmb	IAmb	05 12 22.2		
	comp=Z,4.7nm,1.1s							
WRA	Warramunga Arr	39.26	262	P	P	05 12 13.5	-2.6	
	comp=Z,0.4nm,0.6s,baz=96,slow=8.6,SNR=3.1							
WRA				PcP	PcP	05 14 24.5	-0.5	
	comp=Z,0.7nm,1.1s,baz=93,slow=3.2,SNR=2.4							
	comp=Z,0.4nm,0.6s							
AS31	Alice Springs	39.39	256	P	P	05 12 16.2	-0.9	
ASAR	Alice Springs	39.40	256	P	P	05 12 14.7	-2.4	
	comp=Z,4.5nm,0.9s,baz=88,slow=9.5,SNR=30							
ASAR				PcP	PcP	05 14 24.1	-1.3	
	comp=Z,0.7nm,0.7s,baz=99,slow=4.1,SNR=5.0							
ASAR				LR	LR	05 27 17.0		
	comp=Z,81nm,21.5s,baz=34,slow=34							
	comp=Z,4.5nm,0.9s							
TAOE	Nuku Hiva Isla	43.58	82	eLR	LR	05 25 01.3		
	comp=Z,78nm,28.4s							
SIJI	Sorong	47.57	287	LR	LR	05 31 44.8		
	comp=Z,75nm,21.4s,baz=35,slow=34							
KAPI	Kappang	56.63	277	LR	LR	05 36 40.7		
	comp=Z,16nm,21.7s,baz=94,slow=34							
VNDA	Vanda	58.67	184	P	P	05 14 43.9	-0.1	
MJAR	Matsushiro Arr	66.08	327	P	P	05 15 33.5	-0.6	
	comp=Z,7.7nm,1.2s,baz=157,slow=5.2,SNR=4.5							
	comp=Z,7.7nm,1.2s							
RPN	Rapa Nui	68.10	112	LR	LR	05 39 08.6		
	comp=Z,26nm,19.1s,baz=15,slow=30							
ASAJ	Asahikawa	70.17	335	LR	LR	05 41 58.6		
	comp=Z,27nm,19.3s,baz=227,slow=32							
QSPA	South Pole Qui	70.75	180	P	P	05 16 03.4	+0.2	
NVAR	Mina Array Bea	84.09	46	P	P	05 17 18.9	+0.6	
	comp=Z,1.3nm,0.8s,baz=222,slow=8.2,SNR=5.1							
	comp=Z,1.3nm,0.8s							
CMAR	Chiang Mai Arr	84.50	292	LR	LR	05 53 06.0		
	comp=Z,4.3nm,21.4s,baz=155,slow=34							
ILAR	Eielson Array	88.50	15	P	P	05 17 38.5	-0.6	
	comp=Z,0.6nm,0.7s,baz=225,slow=5.1,SNR=11							
ILAR				LR	LR	05 51 46.4		
	comp=Z,19nm,19.4s,baz=327,slow=32							
	comp=Z,0.6nm,0.7s							
ANMO	Albuquerque	91.08	53	LR	LR	05 52 49.3		
	comp=Z,30nm,18.2s,baz=30,slow=32							
SONM	Songino Array	91.27	321	P	P	05 17 53.4	+0.8	
	comp=Z,0.3nm,0.5s,baz=132,slow=4.2,SNR=3.7							
	comp=Z,0.3nm,0.5s							
YKA	Yellowknife Ar	97.83	26	P	P	05 18 22.5	+0.4	
	comp=Z,0.3nm,0.7s,baz=247,slow=4.9,SNR=4.5							
	comp=Z,0.3nm,0.7s							
MORC	Moravsky Berou	145.10	336	ePKP	PKPdf	05 24 25.3	+0.7	
CLL	Collm	145.40	341	i PKPbc	PKPbc	05 24 25.4	+0.6	
	comp=Z,12nm,1.2s							
VRAC	Vranov	145.85	336	ePKP	PKPab	05 24 27.4	+0.6	
KRUC	Moravsky	146.12	336	ePKP	PKPbc	05 24 27.9	+0.7	
GERES	GERESS Array B	147.29	338	PKPbc	PKPdf	05 24 29.8	+1.4	
	comp=Z,0.7nm,0.7s,baz=344,slow=3.3,SNR=5.0							

*JMA **05** 05:18:09.7±0.5, 35°N±2°×13°8E±°, h300km±4km, MV3.0/23, NE AICHI PREF*
*IDC **05** 05:18:10.2±0.8, 35°.37N×138°.29E, h313km±10km, mb2.8/4, mbtmp3.5/5, Error ellipse: s-maj=36.5km s-min=19.0km az=54.0*
ISC 05 05:18:10.5±0.9, 35°.18N±0°.09×137°.57E±0°.09, h300km, n15, σ0$95/17, mb3.1/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYN	Shimob	0.86	68	P	Pn	05 18 50.2	-0.1
JFNN	Fujinakano	0.92	89	eP	Pn	05 18 50.6	+0.2
JOD2	Odawara 2	1.25	86	P	Pn	05 18 52.2	+0.1
JRY	Ryogami san	1.37	52	i P	Pn	05 18 53.2	+0.4
MAT	Matsushiro	1.46	21	eS	S	05 19 26.1	-1.3
MJAR	Matsushiro Arr	1.46	21	P	Pn	05 18 53.4	0.0
	3.6nm,0.4s,baz=187,slow=11,SNR=11						
MJAR				S	S	05 19 26.7	-0.7
	7.0nm,0.9s,baz=176,slow=19,SNR=10						
TTO1	TONANKAI O.B.S	1.68	203	P	Pn	05 18 54.1	-0.5
JWT	Wachi	1.78	272	P	Pn	05 18 54.3	-1.2
JAG	Ashikaga	1.91	50	i P	Pn	05 18 56.3	-0.6
BSO1	Boso 1	2.85	100	P	Pn	05 19 03.7	-0.4
BSO1				eS	S	05 19 46.5	-0.6
KLR	Kul'dur	14.68	345	P	P	05 21 22.8	-1.0
	1.8nm,0.7s,baz=149,slow=12,SNR=5.6						
SONM	Songino Array	26.36	308	P	P	05 23 22.2	+2.5
	0.6nm,0.7s,baz=122,slow=10,SNR=4.0						
	0.6nm,0.7s						
MKAR	Makanchi Array	42.50	303	P	P	05 25 37.4	+0.6
	0.2nm,0.5s,baz=96,slow=9.3,SNR=2.6						
	0.2nm,0.5s						
WRA	Warramunga Arr	54.90	184	P	P	05 27 10.6	-0.1
	0.4nm,0.3s,baz=360,slow=7.6,SNR=7.2						
	0.4nm,0.3s						
ASAR	Alice Springs	58.63	184	P	P	05 27 36.9	+0.2
	0.2nm,0.3s,baz=0.2,slow=6.2,SNR=5.5						
	0.2nm,0.3s						

*NOU **05** 05:20:59.4, 41°.64S×173°.06E, h3km, MLv3.5/8, South Island, New Zealand*
*WEL **05** 05:20:59.1, 42°S±4°×17°3E±°, h12km±7km, M2.9/18, ML3.1/30, MLv2.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=103.9*
ISC 05 05:20:59.5±1.2, 41°.64S±0°.03×173°.12E±0°.03, h12km±13km, n49, σ0$83/49, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	Tophouse	0.20	232	P	Pg	05 21 04.2	+0.3
MRNZ	Matariki Terra	0.36	311	P	Pb	05 21 07.4	-0.4
NNZ	Nelson	0.47	25	P	Pg	05 21 08.3	-0.3
BSWZ	Blackbirch Sta	0.57	98	P	Pg	05 21 10.9	+0.3
TKNZ	Takaka Hill	0.61	349	P	Pg	05 21 11.3	-0.2
TUWZ	Tuamarina	0.66	72	P	Pg	05 21 11.3	-0.9
CMWZ	Cape Campbell	0.83	98	P	Pb	05 21 16.7	+0.9
KHZ	Kahutara	0.84	158	P	Pb	05 21 16.3	+0.4
KHZ	Kahutara	0.84	158	P	Pb	05 21 16.4	+0.4
QRZ	Quartz Range	0.93	331	P	Pg	05 21 16.7	-0.6
QRZ	Quartz Range	0.93	331	P	Pg	05 21 16.8	-0.5
TCW	Tory Channel	0.97	64	P	Pg	05 21 16.8	-1.4
DSZ	Denniston Nort	0.99	263	P	Pb	05 21 18.5	-0.1
DUWZ	D'Urville Isla	1.03	36	P	Pg	05 21 18.0	-1.4
SNZO	South Karori	1.24	75	P	Pn	05 21 22.5	0.0
WEL	Wellington	1.29	75	P	Pn	05 21 22.2	-1.1
LTZ	Lake Taylor	1.30	208	P	Pn	05 21 23.5	-0.1
GVZ	Greta Valley S	1.33	183	P	Pb	05 21 24.4	0.0
KIW	Kapiti Island	1.56	61	P	Pn	05 21 27.1	0.0
CAW	Cannon Point	1.56	71	P	Pn	05 21 27.6	+0.5
AMCZ	Amberley	1.58	192	P	Pn	05 21 27.8	+0.6
INZ	Inchbonnie	1.65	228	P	Pb	05 21 29.6	-0.2
OGWZ	Otaki Gorge	1.75	63	P	Pn	05 21 30.6	+0.9
PAWZ	Paruwai Farm	1.75	82	P	Pn	05 21 29.4	-0.3
MTW	Mount Morrison	1.86	76	P	Pn	05 21 30.3	-0.8
HOWZ	Holdsworth Sta	1.95	69	P	Pn	05 21 33.2	+0.7
OKCZ	Okains Bay	2.08	181	P	Pn	05 21 34.0	-0.3
MQZ	McQueen's Vall	2.10	189	P	Pn	05 21 33.3	-1.0
MRZ	Mangatainoka R	2.10	63	P	Pn	05 21 34.6	+0.2
TMWZ	Te Maipa	2.15	77	P	Pb	05 21 39.4	+1.0
RACZ	Rakaia	2.21	199	P	Pn	05 21 35.3	-0.6
PRWZ	Pori Road	2.41	64	P	Pb	05 21 43.2	+0.4
KHEZ	Kahui Hut	2.44	17	P	Pn	05 21 40.6	+1.4
RPZ	Rata Peaks	2.57	216	P	Pn	05 21 41.3	+0.3
TRVZ	Turoa	2.98	39	P	Pb	05 21 52.7	0.0
WNVZ	Wahianoa	2.98	40	P	Pb	05 21 50.3	-2.3
MOVZ	Moawhango	3.00	43	P	Pb	05 21 52.5	-0.4
BHHZ	Black Hill Sta	3.11	47	P	Pb	05 21 54.5	-0.1
SNVZ	South Ngauruho	3.12	39	P	Pb	05 21 54.8	-0.1
OTVZ	Oturere	3.15	39	P	Pb	05 21 55.7	+0.3
NNVZ	North Ngauruho	3.15	38	P	Pb	05 21 55.1	-0.3
WTVZ	West Tongariro	3.15	38	P	Pb	05 21 54.6	-0.8
TMZ	Timaru	3.15	209	P	Pn	05 21 48.8	-0.1
HIZ	Hauiti	3.40	24	P	Pn	05 21 53.7	+1.5
BKZ	Black Stump Fm	3.57	47	P	Pn	05 21 56.1	+1.4
BKZ	Black Stump Fm	3.57	47	P	Pn	05 21 56.2	+1.5
JCZ	Jackson Bay	4.01	231	P	Pn	05 22 01.2	+0.5
JCZ	Jackson Bay	4.01	231	P	Pn	05 22 01.3	+0.6
MKAZ	Moumakai	4.80	20	P	Pn	05 22 13.0	+1.5

IDC 05 05:32:57.5±3.8, 55°.60N×86°.63E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=30.5km s-min=27.9km az=6.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.96	213	I	I	05 46 50.0	
	baz=31,slow=338,SNR=1.9						
ZALV	Zalesovo Beam	1.96	213	Pg	Pb	05 33 33.1	-0.9
	1.6nm,0.3s,baz=33,slow=16,SNR=21						
ZALV				Lg	Lg	05 33 59.9	
	0.8nm,0.3s,baz=34,slow=25,SNR=5.7						
KURBB	Kurchatov Arra	6.97	228	Pn	Pn	05 34 40.7	-0.1
	0.1nm,0.3s,baz=45,slow=13,SNR=2.7						
KURBB				Lg	Lg	05 36 37.7	
	baz=43,slow=31,SNR=1.2						
	0.6nm,0.3s						
MKAR	Makanchi Array	9.22	199	Pn	Pn	05 35 12.2	+0.4
	baz=11,slow=18,SNR=1.9						
	0.2nm,0.7s						

*REN **05** 05:35:06.1±1.2, 38°.36N±0°.01×118°.90W±0°.02, h8km±3km, ML2.7/13, ML2.5/40(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=92.0*
NEIC 05 05:35:06.1±1.5, 38°.367N±0°.004×118°.91W±0°.02, h7km±5km, Error ellipse: s-maj=1.9km s-min=0.6km az=88.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	TV Hill, Hawth	0.14	51		Pg	05 35 09.4	+0.1
TVH1					Sg	05 35 11.7	+0.2
LHV	Little Huntoon	0.34	110		Pg	05 35 13.0	+0.3
LHV					Sg	05 35 17.9	+0.7
RYN	Ryan	0.40	49		Pg	05 35 14.0	0.0
RYN					Sg	05 35 19.6	+0.4
WAKR	Walker	0.44	289		Pg	05 35 15.2	+0.5
WAKR				IAML		05 35 21.8	
	comp=N,270nm,0.6s						
YERR	Yerington	0.67	337		Pg	05 35 19.1	+0.1
YERR					Sg	05 35 28.8	+1.0
YERR				IAML		05 35 29.5	
	comp=N,298nm,0.2s						
YERR				IAML		05 35 30.0	
	comp=E,291nm,0.4s						
BENR	Benton	0.70	158		Pg	05 35 19.5	-0.1
MDYM	Dry Creek	0.71	187		Pg	05 35 19.2	-0.7
MDYM					Sb	05 35 30.2	-1.0
MCBM	Casa Benchmark	0.72	179		Pg	05 35 20.1	+0.1
MCBM					Sg	05 35 29.8	+0.4
MLAC	Mammoth, Mammo	0.74	176		Pg	05 35 19.3	-1.0
MLAC					Sg	05 35 30.5	+0.6
OMMB	Old Mammoth Mi	0.76	186		Pg	05 35 20.4	-0.2
OMMB					Sg	05 35 30.5	0.0
ORC	Owens River	0.76	165		Pg	05 35 20.6	-0.1
ORC					Sg	05 35 31.0	+0.5
RCCR	Rock Creek Can	0.89	170		Pg	05 35 22.9	-0.3
RCCR					Sg	05 35 34.9	+0.1
PNTR	Pine Nut	0.90	323		Pg	05 35 23.4	0.0
PNTR					Sg	05 35 35.8	+0.6
PNTR				IAML		05 35 36.4	
	comp=E,119nm,0.6s						
PNTR				IAML		05 35 37.1	
	comp=N,107nm,0.4s						
KVN	Kaiserville	0.93	43		Pg	05 35 23.5	-0.5
KVN				IAML		05 35 40.1	
	comp=N,153nm,0.2s						
KVN				IAML		05 35 40.3	
	comp=E,211nm,0.4s						
KCC	Kaiser Creek	1.09	197		Pn	05 35 27.7	-0.2
KCC					Sg	05 35 40.6	-0.6
VCNR	Virginia City	1.09	328		Pg	05 35 26.8	-0.3
VCNR				Sg	Sb	05 35 41.8	-0.3
VCNR				IAML		05 35 42.4	
	comp=N,160nm,0.3s						
VCNR				IAML		05 35 43.5	
	comp=E,139nm,0.5s						
CMB	Columbia Colle	1.21	255		Pg	05 35 28.8	-0.6
CMB					Sg	05 35 44.7	-0.4
CMB	Columbia Colle	1.21	255	IAML		05 35 45.6	
	comp=E,83nm,0.1s						
CMB				IAML		05 35 45.7	
	comp=N,78nm,0.1s						
DSP	Deep Springs	1.24	143		Pb	05 35 29.4	-0.5
DSP					Sg	05 35 45.9	-0.1
MPK	Martis Peak	1.28	317		Pg	05 35 47.3	-0.2
MPK				IAML		05 35 51.5	
	comp=E,105nm,0.7s						
TPH	Tonopah	1.36	102		Pn	05 35 31.5	-0.3
TPH					Sb	05 35 49.4	-0.3
MZP	Montezuma Peak	1.38	118		Pn	05 35 31.4	-0.7
MZP				IAML		05 35 53.6	
	comp=N,56nm,0.6s						
TIN	Tinemaha, Big	1.42	157		Pg	05 35 34.1	+0.8
Q09A	Carvers	1.43	70		Pn	05 35 32.3	-0.4
PEAR	Peavine Mounta	1.49	327		Pb	05 35 34.3	0.0
PEAR					Sg	05 35 55.3	+1.4
WVA	Winnemucca Val	1.73	336		Pb	05 35 38.1	-0.2
GRAC	Grapevine Rang	1.84	138		Pg	05 35 41.2	-0.1
GRAC	Grapevine Rang	1.84	138	IAML		05 36 08.4	
	comp=E,57nm,0.7s						
SGV	South Grapevin	2.03	132		Pn	05 35 40.8	-0.2
KPK	Kanaka Peak	2.23	304		Pb	05 35 47.0	+0.2
BMN	Battle Mountai	2.44	32		Pn	05 35 45.8	-0.8
TPNV	Topopah Spring	2.54	123		Lg	05 36 28.4	
R11A	Troy Canyon, C	2.61	89		Pn	05 35 48.2	-0.8
R11A				IAML		05 36 29.2	
	comp=N,14nm,0.7s						
SDH	Striped Hills	2.67	129		Pb	05 35 52.5	-1.9
CPY	CP-1	2.68	121		Pn	05 35 51.5	+1.6
ISA	Isabella, Lake	2.72	173	Pn	Pn	05 35 50.1	-0.3
GWY	Greenwater Val	2.82	140		Pn	05 35 51.6	-0.2
PRN	Pahroc Range	3.20	106		Pn	05 35 56.8	-0.2
SHPR	Sheep Range	3.51	121		Sg	05 36 38.3	-0.7
ELK	Elko	3.70	49	Pn	Pn	05 36 03.2	-0.8
ELK				IAML		05 37 03.9	
	comp=N,5.5nm,1.0s						
ELK				IAML		05 37 06.3	
	comp=N,5.6nm,0.5s						
DUG	Dugway, Tooele	5.07	67		Sg	05 37 47.7	-1.2

*NDI **05** 05:56:52.7±0.7, 25°.09N×95°.06E, h124km±7km, ML3.9*
*IDC **05** 05:56:52.9±2.7, 24°.87N×95°.17E, h131km±31km, mb3.3/4, mbtmp3.8/6, Error ellipse: s-maj=27.1km s-min=17.3km az=65.0*
ISC 05 05:56:50.6±1.0, 25°.09N±0°.08×95°.14E±0°.07, h104km, n33, σ1$65/61, mb3.6/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	1.11	257	eP	Pn	05 57 15.3	+2.7
IMP				eS	Sn	05 57 32.2	+3.0
IMP				IAML		05 57 37.3	
	comp=N,729nm,0.3s						
IMP				IAML		05 57 37.4	
	comp=E,368nm,0.1s						
TEZP	TEZPUR	2.60	306	eP	Pn	05 57 33.2	+2.0
TEZP				eS	Sn	05 58 02.6	+0.3
ZIRO	ZIRO	2.69	335	eP	Pn	05 57 34.8	+2.2
ZIRO				eS	Sn	05 58 05.5	+0.8
ZIRO				IAML		05 58 08.6	
	comp=E,2μm,0.6s						
ZIRO				IAML		05 58 09.8	
	comp=N,2μm,0.3s						
SHL	Shillong	2.98	280	eP	Pn	05 57 37.8	+1.4
SHL				eS	Sn	05 58 11.8	+0.1
SHL				IAML		05 58 13.4	
	comp=E,745nm,0.2s						
SHL				IAML		05 58 13.4	
	comp=N,571nm,0.1s						
SAIH	SAIHA	3.25	218	eP	Pn	05 57 41.8	+1.8
SAIH				eS	Sn	05 58 17.9	-0.1
SAIH				IAML		05 58 23.1	
	comp=N,360nm,0.2s						
SAIH				IAML		05 58 24.0	
	comp=E,773nm,0.5s						
BRDH	Bariadhala	4.00	234	P	Pn	05 57 52.3	+2.5
	comp=E,79nm,0.3s,baz=271,slow=18,SNR=1.6						
BRDH				S	Sn	05 58 36.5	+0.7
	comp=E,342nm,0.4s,baz=273,slow=21,SNR=28						
TAPN	Taplejung	7.04	290	eP	Pn	05 58 33.3	+2.0
TAPN	Taplejung	7.04	290	eP	Pn	05 58 33.4	+2.1
TAPN				eS	Sn	05 59 48.1	-1.9
TAPN				eS	Sn	05 59 48.6	-1.4
ODAN	Odare	7.19	286	eP	Pn	05 58 34.9	+1.6
ODAN	Odare	7.19	286	eP	Pn	05 58 35.0	+1.6
ODAN				eS	Sn	05 59 52.7	-0.9
ODAN				eS	Sn	05 59 53.4	-0.2
CMAR	Chiang Mai Arr	7.48	151	P	Pn	05 58 37.8	+0.6
	comp=E,3.5nm,0.6s,baz=327,slow=13,SNR=15						
RAMN	Ramite	7.90	285	eP	Pn	05 58 44.4	+1.4
RAMN	Ramite	7.90	285	eP	Pn	05 58 44.4	+1.4
RAMN				eS	Sn	06 00 10.9	0.0
RAMN				eS	Sn	06 00 11.4	+0.5
JIRN	Jiri	8.42	290	eP	Pn	05 58 51.4	+1.3
JIRN	Jiri	8.42	290	eP	Pn	05 58 51.5	+1.3
JIRN				eS	Sn	06 00 21.8	-2.0
JIRN				eS	Sn	06 00 21.8	-2.0
PKI	Pulchoki	9.07	288	eP	Pn	05 58 59.5	+0.5
PKI	Pulchoki	9.07	288	eP	Pn	05 58 59.5	+0.5
PKI				eS	Sn	06 00 37.3	-2.2
PKI				eS	Sn	06 00 38.8	-0.7
PKIN	Phulchoki	9.08	288	eP	Pn	05 58 59.5	+0.4
PKIN	Phulchoki	9.08	288	eP	Pn	05 58 59.7	+0.6
PKIN				eS	Sn	06 00 37.3	-2.4
PKIN				eS	Sn	06 00 38.9	-0.8
KKN	Kakani	9.24	289	eP	Pn	05 59 01.7	+0.7
KKN	Kakani	9.24	289	eP	Pn	05 59 01.8	+0.7
KKN				eS	Sn	06 00 41.7	-1.6
KKN				eS	Sn	06 00 42.4	-0.9
DMN	Daman	9.34	288	eP	Pn	05 59 02.7	+0.1
DMN	Daman	9.34	288	eP	Pn	05 59 02.9	+0.3
DMN				eS	Sn	06 00 45.4	-0.5
DMN				eS	Sn	06 00 48.7	+2.8
GKN	Gorkha	9.84	289	eP	Pn	05 59 10.0	+0.8
GKN	Gorkha	9.84	289	eP	Pn	05 59 10.2	+1.0
GKN				eS	Sn	06 00 56.1	-1.8
GKN				eS	Sn	06 00 56.4	-1.5
DANN	Dangsing	10.68	290	eP	Pn	05 59 19.7	-1.0
DANN	Dangsing	10.68	290	eP	Pn	05 59 20.1	-0.6
DANN				eS	Sn	06 01 15.7	-2.8
DANN				eS	Sn	06 01 16.0	-2.5
KOLN	Koldanda	10.68	287	eP	Pn	05 59 20.1	-0.6
KOLN	Koldanda	10.68	287	eP	Pn	05 59 20.2	-0.5
KOLN				eS	Sn	06 01 14.3	-4.1
KOLN				eS	Sn	06 01 17.2	-1.2
MKAR	Makanchi Array	23.97	338	P	P	06 01 58.1	+2.9
	comp=E,0.8nm,0.4s,baz=150,slow=9.7,SNR=26						
	comp=E,0.8nm,0.4s						
SONM	Songino Array	24.39	19	P	P	06 01 59.1	-0.1
	comp=E,1.0nm,0.8s,baz=204,slow=9.1,SNR=6.2						
	comp=E,1.0nm,0.8s						
WRA	Warramunga Arr	58.80	136	P	P	06 06 37.2	-1.0
	comp=E,0.7nm,0.5s,baz=325,slow=7.3,SNR=9.8						
	comp=E,0.7nm,0.5s						
ASAR	Alice Springs	61.32	139	P	P	06 06 52.4	-3.1
	comp=E,0.5nm,0.6s,baz=323,slow=7.2,SNR=6.0						
	comp=E,0.5nm,0.6s						

*NIED **05** 05:57:38.9, 37°.31N×141°.53E, h30km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.05; $M_{\theta\theta}$0.49; $M_{\phi\phi}$1.55; $M_{r\theta}$-0.70; $M_{\theta\phi}$2.44; $M_{r\phi}$0.30; Fault plane solution: $M_0$3.04000×10^{14} NP1:ϕ_s68.00000°, δ56.00000°, λ-47.00000°. NP2:ϕ_s189.00000°, δ52.00000°, λ-135.00000°.*
*JMA **05** 05:57:38.9±0.2, 37°.3N±0°.4×141°.5E±0°.9, h30km±1km, MV3.6/40, E OFF FUKUSHIMA PREF*
*IDC **05** 05:57:38.8±0.9, 37°.62N×141°.42E, h0km, mb3.6/10, mbtmp3.7/12, ML3.3/2, MS2.6/3, Error ellipse: s-maj=24.4km s-min=17.6km az=144.0*
ISC 05 05:57:38.9±1.9, 37°.34N±0°.05×141°.49E±0°.07, h9km±11km, n34, σ1$06/30, mb3.6/10, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.49	273	i P	Pg	05 57 49.2	+0.8
JFK				S	Sb	05 57 56.7	-0.5
ONAJ	Iwakimizuishiy	0.60	247	⇓i P	Pg	05 57 50.8	+0.2
ONAJ				⇓S	Sg	05 57 59.1	+0.6
JMST	Minamisoumatoc	0.61	309	i P	Pb	05 57 51.4	-0.4
JMST				S	Sb	05 58 00.4	-0.1
JMM	Marumori	0.76	313	⇓i P	Pb	05 57 53.8	-0.6
JMM				⇓S	Sb	05 58 04.5	-0.3
JFFD	Fukushimafurud	0.79	252	P	Pb	05 57 53.7	-1.1
JFFD				eS	Sb	05 58 04.1	-1.4
JHO	Hitachi	1.04	226	P	Pb	05 57 57.0	-2.1
JIO	Ouri	1.11	354	i P	Pn	05 57 58.8	-1.9
JOU	Okura	1.21	328	⇓i P	Pn	05 58 01.5	-0.6
JOU				⇓S	Sn	05 58 18.5	-0.2
JFY	Yanaizu	1.43	273	P	Pn	05 58 04.7	-0.3
JFY				S	Sb	05 58 23.6	-0.3
JYS	Shirataka	1.43	308	P	Pn	05 58 04.7	-0.4
JYS				S	Sb	05 58 24.8	+0.7
MJAR	Matsushiro Arr	2.75	254	Pn	Pn	05 58 23.9	+0.6
	0.8nm,0.3s,baz=92,slow=15,SNR=18						
MJAR				Sn	Sb	05 59 00.9	-1.1
	0.8nm,0.3s,baz=56,slow=3.0,SNR=5.6						
	4.3nm,0.4s						
JHJ	Hachijo jima 2	4.44	199	Pn	Pn	05 58 51.0	+4.6
	27nm,0.3s,baz=85,slow=17,SNR=1.8						
	134nm,0.4s						
JCJ	Chichijima	10.23	177	LR	LR	06 03 38.0	
	comp=Z,33nm,21.9s,baz=219,slow=34						
KSRS	Korea Array	10.80	275	LR	LR	06 04 01.6	
	comp=Z,18n

*GII **05** 06:05:16.1±0.0,30.51N×31.32E,h22km,mb4.0/5, MD3.8/7,Mm3.7/4*
*HLW **05** 06:05:21.0,30.27N×31.94E,h0km±1km*
ISC 05 06:05:19.7±1.4,30.36N±0.04×31.93E±0.03,h3km±12km, n51,σ1§10/66,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHAG	**Hagoal**	**0.43**	**160**	P	**Pg**	**06 05 28.6**	**+0.7**
	baz=156						
KOT	**Kottamia**	**0.44**	**192**	P	**Pb**	**06 05 28.9**	**-1.2**
	baz=197						
HLW	**Helwan**	**0.71**	**226**	P	**Pb**	**06 05 34.3**	**-0.4**
	baz=232						
GLL	**Jalalah**	**0.80**	**194**	P	**Pg**	**06 05 35.4**	**+0.3**
	baz=197						
HSAF	**As Saff**	**0.81**	**204**	P	**Pg**	**06 05 35.4**	**+0.3**
	baz=208						
SUZ	**Suez**	**0.94**	**123**	P	**Pn**	**06 05 38.6**	**-1.2**
	baz=118						
HMYD	**Mayadein**	**1.13**	**241**	P	**Pn**	**06 05 42.2**	**-0.2**
	baz=245						
ZAF	**Zafarana**	**1.20**	**153**	P	**Pb**	**06 05 42.2**	**-0.8**
	baz=151						
ZAF				S	**Sn**	**06 05 58.7**	**-1.5**
	baz=151						
ZNM	**Zenema**	**1.28**	**140**	P	**Pg**	**06 05 44.1**	**0.0**
	baz=137						
ZNM				S	**Sn**	**06 06 02.0**	**-0.1**
	baz=137						
HNAT	**Natroun**	**1.35**	**238**	P	**Pb**	**06 05 45.8**	**+0.1**
	baz=242						
HNAT				S	**Sg**	**06 06 04.4**	**+1.3**
	baz=242						
NBNS	**Bani Suef**	**1.82**	**198**	P	**Pn**	**06 05 51.9**	**0.0**
	baz=200						
RYAN	**Fayoum**	**1.92**	**229**	P	**Pn**	**06 05 53.4**	**+0.1**
	baz=232						
HRDS	**Abu Rudays**	**2.03**	**144**	P	**Pn**	**06 05 54.9**	**+0.1**
	baz=142						
KZIT	**Kziot**	**2.19**	**75**	Pn	**Pn**	**06 05 57.6**	**+0.5**
KZIT				Sn	**Sb**	**06 06 28.4**	**+0.7**
KZIT	**Kziot**	**2.19**	**75**	P	**Pn**	**06 05 57.2**	**+0.1**
GRB	**Gharib**	**2.21**	**160**	P	**Pn**	**06 05 57.4**	**0.0**
	baz=159						
KRMI	**Paran Flat**	**2.43**	**95**	Pn	**Pn**	**06 06 00.9**	**+0.5**
KRMI				Sn	**Sg**	**06 06 36.0**	**-1.8**
TR2	**Tor 2**	**2.51**	**141**	P	**Pn**	**06 06 01.2**	**-0.2**
	baz=139						
HKAT	**Jabal Katrina**	**2.56**	**135**	P	**Pn**	**06 06 02.0**	**-0.3**
	baz=133						
MBRI	**Mt Berech**	**2.65**	**102**	Pn	**Pn**	**06 06 04.2**	**+0.8**
MBRI				Sn	**Sb**	**06 06 42.1**	**+1.3**
MBRI	**Mt Berech**	**2.65**	**102**	P	**Pb**	**06 06 08.9**	**+1.1**
PRNI	**Paran**	**2.66**	**89**	Pn	**Pn**	**06 06 04.0**	**+0.5**
PRNI				Sn	**Sb**	**06 06 41.6**	**+0.6**
HBST	**Basata**	**2.69**	**114**	P	**Pn**	**06 06 04.7**	**+0.8**
	baz=112						
EIL	**Elat**	**2.71**	**104**	Pn	**Pn**	**06 06 04.6**	**+0.4**
EIL				Sn	**Sb**	**06 06 43.4**	**+1.0**
EIL	**Elat**	**2.71**	**104**	P	**Pb**	**06 06 08.8**	**0.0**
HRFI	**Mount Harif**	**2.71**	**96**	Pn	**Pn**	**06 06 04.7**	**+0.5**
HRFI				Sn	**Sb**	**06 06 43.4**	**+0.9**
NUB	**Nuweibaa**	**2.71**	**119**	P	**Pn**	**06 06 05.0**	**+0.9**
	baz=117						
AQBJ	**Aqaba**	**2.78**	**102**	P	**Pb**	**06 06 10.1**	**+0.1**
TAMRE	**El Minia**	**2.81**	**199**	P	**Pn**	**06 06 05.4**	**-0.1**
	baz=200						
ZFRI	**Zfri**	**2.81**	**85**	Pn	**Pn**	**06 06 06.0**	**+0.4**
ZFRI				Sn	**Sb**	**06 06 45.5**	**+0.1**
ZFRI	**Zfri**	**2.81**	**85**	P	**Pn**	**06 06 05.9**	**+0.4**
AMAZ	**Amatzia**	**2.82**	**65**	Pn	**Pn**	**06 06 05.4**	**-0.3**
AMAZ				Sn	**Sb**	**06 06 44.0**	**-2.5**
AMAZ	**Amatzia**	**2.82**	**65**	P	**Pb**	**06 06 12.0**	**+1.3**
HDHB	**Dhahab**	**2.85**	**124**	P	**Pn**	**06 06 06.7**	**+0.6**
	baz=122						
YTIR	**Yattir**	**2.92**	**69**	Pn	**Pn**	**06 06 07.4**	**+0.3**
YTIR				Sn	**Sb**	**06 06 45.6**	**-2.9**
YTIR	**Yattir**	**2.92**	**69**	P	**Pg**	**06 06 14.6**	**-1.0**
TR1	**Tor 1**	**2.94**	**142**	P	**Pn**	**06 06 07.1**	**-0.2**
	baz=141						
ASUT		**2.97**	**186**	P	**Pn**	**06 06 07.8**	**0.0**
	baz=187						
MSBI	**Mazada**	**3.10**	**71**	Pn	**Pn**	**06 06 09.5**	**0.0**
MSBI				Sn	**Sb**	**06 06 51.3**	**-2.3**
LISJ	**El Lisan**	**3.18**	**73**	P	**Pn**	**06 06 11.5**	**+0.9**
DSI	**Dead Sea**	**3.20**	**67**	Pn	**Pn**	**06 06 10.5**	**-0.4**
UJAP	**Al Uja**	**3.42**	**61**	P	**Pn**	**06 06 16.0**	**+2.1**
HHRG	**Al Ghardaqah**	**3.44**	**155**	P	**Pn**	**06 06 16.4**	**+2.1**
	baz=155						
WALJ	**Wala**	**3.54**	**69**	P	**Pn**	**06 06 16.5**	**+0.9**
HMDT	**Nahal Hemdat**	**3.61**	**58**	Pn	**Pn**	**06 06 15.9**	**-0.7**
HMDT				Sn	**Sn**	**06 07 01.3**	**+1.6**
HMDT	**Nahal Hemdat**	**3.61**	**58**	P	**Pn**	**06 06 18.5**	**+1.9**
MMLI	**Mount Malkishu**	**3.63**	**54**	Pn	**Pn**	**06 06 15.8**	**-1.1**
MMLI				Sn	**Sn**	**06 07 00.7**	**+0.3**
MMA0B	**Mount Meron ar**	**3.97**	**47**	Pn	**Pn**	**06 06 19.6**	**-2.0**
SHMJ	**Saham**	**4.04**	**53**	P	**Pn**	**06 06 24.2**	**+1.8**
ASF	**Jabal al Asfar**	**4.62**	**66**	P	**Pn**	**06 06 32.6**	**+2.1**
NADB	**Abo Dabab**	**5.49**	**155**	P	**Pn**	**06 06 42.8**	**+0.4**
	baz=154						

*HEL **05** 06:05:32.7±0.2,67.83N×20.21E,h0km,ML1.8,Explosion*
*UPP **05** 06:05:32.4±0.0,67.84N×20.21E,h0km,ML2.3,Confirmed Induced event*
*IDC **05** 06:05:33.4±1.3,67.85N×20.72E,h0km,mbtmp3.1/3, ML1.9/3,Error ellipse: s-maj=22.6km s-min=7.9km az=122.0*
ISC 05 06:05:32.6±0.8,67.84N±0.02×20.26E±0.02,h0km,n30, σ0§79/49,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.25**	**266**	P	**Pg**	**06 05 37.1**	**-0.3**
RATU				S	**Sg**	**06 05 40.4**	**-0.3**
KOVU	**Salmi**	**0.39**	**355**	P	**Pg**	**06 05 39.7**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**274**	P	**Pg**	**06 05 41.0**	**-0.5**
NIKU				S	**Sg**	**06 05 47.2**	**-0.2**
LANU	**Lannavaara**	**0.69**	**71**	P	**Pg**	**06 05 45.7**	**0.0**
LANU	**Lannavaara**	**0.69**	**71**	PG	**Pg**	**06 05 45.6**	**0.0**
LANU				SG	**Sg**	**06 05 54.6**	**0.0**
DUNU	**Dundret**	**0.73**	**170**	P	**Pg**	**06 05 46.1**	**-0.5**
DUNU				S	**Sg**	**06 05 56.3**	**+0.2**
MASU	**Masugnsbyn**	**0.77**	**119**	P	**Pg**	**06 05 47.3**	**0.0**
MASU				S	**Sg**	**06 05 57.7**	**+0.4**
SALU	**Saltoluokta**	**0.81**	**236**	P	**Pg**	**06 05 47.5**	**-0.7**
KIF	**Kilpisjarvi**	**1.19**	**10**	*eP*	**Pg**	**06 05 55.1**	**-0.2**
KIF	**Kilpisjarvi**	**1.19**	**10**	PG	**Pg**	**06 05 54.9**	**-0.4**
KIF				MSG		06 06 10.3	
	comp=Z,14nm,0.2s						
KIF				SG	**Sg**	**06 06 10.6**	**-0.1**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**06 05 57.7**	**-1.2**
PAJU				S	**Sg**	**06 06 16.5**	**-0.1**
HEF	**Hetta**	**1.40**	**64**	*eP*	**Pg**	**06 05 58.3**	**-1.0**
HEF	**Hetta**	**1.40**	**64**	PG	**Pg**	**06 05 58.5**	**-0.8**
	baz=252						
HEF				MSG		06 06 15.5	
	comp=Z,6.9nm,0.2s						
HEF				SB	**Sg**	**06 06 16.5**	**-0.8**
ERTU	**Ertsjaerv**	**1.50**	**149**	P	**Pn**	**06 05 59.9**	**-0.7**
ERTU				S	**Sb**	**06 06 20.7**	**0.0**
ERTU	**Ertsjaerv**	**1.50**	**149**	PG	**Pn**	**06 05 59.6**	**-1.1**
ERTU				SN	**Sn**	**06 06 20.9**	**0.0**
KLF	**Kolari**	**1.55**	**111**	PG	**Pn**	**06 06 00.7**	**-0.7**
KLF				MSG		06 06 19.6	
	comp=Z,6.7nm,0.2s						
KLF				SN	**Sg**	**06 06 22.3**	**0.0**
KTK1	**Kautokeino**	**1.61**	**42**	PG	**Pn**	**06 06 01.9**	**-0.3**
KTK1				SN	**Sg**	**06 06 24.3**	**+0.1**
TRO	**Tromso**	**1.86**	**346**	PG	**Pn**	**06 06 06.4**	**+0.7**
TRO				SG	**Sn**	**06 06 30.4**	**+0.6**
KALU	**Kalix**	**2.34**	**147**	PG	**Pn**	**06 06 13.1**	**+0.9**
	baz=328						
KALU				SG	**Sb**	**06 06 44.1**	**-0.7**
TOF	**Tornio**	**2.39**	**136**	PB	**Pn**	**06 06 14.3**	**+1.4**
	baz=319						
TOF				MSG		06 06 43.4	
	comp=Z,3.3nm,0.2s						
TOF				SG	**Sb**	**06 06 46.0**	**-0.2**
SGF	**Sodankyl**	**2.43**	**97**	PB	**Pn**	**06 06 14.4**	**+0.9**
SGF				SB	**Sb**	**06 06 46.2**	**-1.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNF	**Rovaniemi**	**2.56**	**116**	PB	**Pn**	**06 06 17.0**	**+1.8**
RNF				SG	**Sb**	**06 06 50.6**	**-0.6**
ARA0	**ARCESS Array S**	**2.56**	**46**	PN	**Pn**	**06 06 16.0**	**+0.7**
	baz=230						
ARA0				SG	**Sb**	**06 06 50.5**	**-0.9**
ARCES	**ARCESS Array B**	**2.56**	**46**	Pn	**Pn**	**06 06 15.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=225,slow=16,SNR=42						
ARCES				Lg	Lg	06 06 48.8	
	comp=Z,1.3nm,0.3s,baz=225,slow=27,SNR=17 comp=Z,1.0nm,0.2s						
KEV	**Kevo**	**3.12**	**49**	PN	**Pn**	**06 06 23.6**	**+0.8**
KEV				SN	**Sn**	**06 07 01.6**	**+0.9**
KEV				MSG		06 07 04.9	
	comp=Z,3.0nm,0.2s						
BURU	**Burvik**	**3.30**	**172**	PB	**Pn**	**06 06 27.0**	**+1.6**
OUL	**Oulu**	**3.57**	**138**	SN	**Sn**	**06 07 13.1**	**+1.1**
OLKF	**Oulanka, Finla**	**3.89**	**109**	PN	**Pn**	**06 06 34.7**	**+1.2**
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**06 07 15.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=345,slow=13,SNR=2.0						
FINES				Lg	Lg	06 09 07.1	
	comp=Z,0.2nm,0.3s,baz=0.4,slow=22,SNR=2.2 comp=Z,3.4nm,1.0s						
NOA	**NORSAR Array B**	**7.86**	**214**	Pn	**Pn**	**06 07 26.8**	**-1.2**
	baz=24,slow=20,SNR=2.5						
NOA				Pg	Pb	06 07 44.6	-4.9
	baz=28,slow=7.5,SNR=1.3						
NOA				Lg	Lg	06 09 45.4	
	baz=61,slow=13,SNR=3.4 comp=Z,1.4nm,1.0s						

*IDC **05** 06:17:07.2±0.7,3.84N×128.71E,h0km,mb4.0/11, mbtmp3.9/12,ML3.8/1,MS3.0/4,Error ellipse: s-maj=45.4km s-min=14.9km az=70.0*
*NEIC **05** 06:17:08.5±0.9,3.97N±0.10×128.74E±0.03,h10km±1km, mb4.5/16,Error ellipse: s-maj=16.1km s-min=5.6km az=4.0*
*DJA **05** 06:17:13.3±0.9,4.1N±6.2×12.9E±,h49km±11km,M4.7/12, mB5.2/7,mb4.6/12,mBc5.8/4,Mjma4.2/10,ML4.7/8, MLv4.5/11,Ms(BB)4.1/11,Mw(mB)4.5/7,MwmBc5.0/4*
ISC 05 06:17:13.0±0.6,3.84N±0.08×128.7E±0.1,h46km,n50, σ1§07/43,mb4.2/16,1C,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.17**	**267**	P	**Pn**	**06 17 59.5**	**-0.9**
TNTI	**Ternate**	**3.33**	**204**	Pn	**Pn**	**06 18 01.8**	**-0.8**
TNTI	**Ternate**	**3.33**	**204**	P	**Pn**	**06 18 01.2**	**-1.4**
DAV	**Davao City (W)**	**4.46**	**316**	LR	LR	06 20 29.1	
	comp=Z,301nm,19.9s,baz=318,slow=45						
KCP	**Kidapawan**	**4.77**	**311**	*eP*	Pn	06 18 35.6	+13
KCP				*i* S	Sn	06 19 24.4	+7.8
SWI	**Sorong**	**5.33**	**151**	P	**Pn**	**06 18 31.8**	**+1.7**
	27nm,0.7s,1μm0.3nm						
SIJI	**Sorong**	**5.34**	**151**	Pn	**Pn**	**06 18 29.4**	**-0.9**
	3.2nm,0.3s,baz=0.0,slow=20,SNR=2.9						
SIJI				Sn	**Sn**	**06 19 28.4**	**-2.1**
	10nm,0.3s,baz=338,slow=23,SNR=22 5.5nm,0.4s						
SANI	**Sanana**	**6.45**	**205**	P	**Pn**	**06 18 44.2**	**-1.3**
GTOI	**Gorontalo**	**6.51**	**241**	P	**Pn**	**06 18 46.4**	**0.0**
	29nm,0.8s,312nm0.1nm0.1nm						
MSAI	**Masohi**	**7.14**	**178**	P	**Pn**	**06 18 55.1**	**+0.1**
	15nm,0.7s,0.1nm0.3nm						
AAI	**Ambon**	**7.50**	**184**	P	**Pn**	**06 18 59.3**	**-0.6**
	92nm,0.9s,0.4nm0.4nm						
MRSI	**Marisa**	**7.53**	**244**	P	**Pn**	**06 19 00.6**	**+0.2**
	589nm,0.6s,5μm1.9nm0.8nm						
FAKI	**Fak Fak**	**7.60**	**152**	Pn	**Pn**	**06 18 59.7**	**-1.6**
FAKI	**Fak Fak**	**7.60**	**152**	P	**Pn**	**06 19 02.6**	**+1.4**
	20nm,1.0s,720nm0.1nm0.1nm						
TOLI2	**Tolitoli**	**8.36**	**251**		**Pn**	**06 19 10.1**	**-1.6**
APSI	**Ampana**	**8.48**	**236**	P	**Pn**	**06 19 14.3**	**+1.0**
	104nm,1.0s,989nm						
MPSI	**Mapaga**	**9.46**	**249**	P	**Pn**	**06 19 26.9**	**+0.2**
	27nm,1.0s,3μm						
MTKI	**Muara Teweh, K**	**14.59**	**251**	P	Pn	06 20 31.0	-5.8
SBUM	**Sibu**	**16.51**	**266**		**Pn**	**06 21 00.8**	**-0.7**
MTN	**Manton Dam**	**16.75**	**172**	Pn	**Pn**	**06 21 04.4**	**-0.1**
MTN				lAmb	lAmb	06 21 04.9	
	comp=Z,52nm,1.4s						
GUMO	**Guam**	**18.67**	**58**	LR	LR	06 27 35.6	
	comp=Z,320nm,19.1s,baz=270,slow=34						
KNRA	**Kununurra**	**19.39**	**180**	P	**P**	**06 21 35.5**	**+0.1**
TPUB	**Ta-pu**	**20.86**	**339**	P	**P**	**06 21 49.8**	**-1.5**
TPUB				lAmb	lAmb	06 21 55.2	
	comp=Z,23nm,0.9s						
PMG	**Port Moresby**	**22.62**	**126**	LR	LR	06 30 20.9	
	comp=Z,61nm,19.8s,baz=120,slow=35						
WB0	**Warramunga Arr**	**24.12**	**167**	P	**P**	**06 22 22.8**	**-1.9**
WB0				lAmb	lAmb	06 22 27.6	
	comp=Z,21nm,1.3s						
WRAB	**Tennant Creek**	**24.27**	**167**	P	**P**	**06 22 26.4**	**+0.3**
WRAB				lAmb	lAmb	06 22 43.8	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**24.28**	**167**	P	**P**	**06 22 25.8**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=344,slow=10,SNR=12 comp=Z,2.0nm,0.7s						
WB2	**Warramunga Arr**	**24.28**	**167**	P	**P**	**06 22 25.8**	**-0.4**
WB2				lAmb	lAmb	06 22 52.7	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**24.34**	**167**	P	**P**	**06 22 26.8**	**+0.1**
WR0				lAmb	lAmb	06 22 54.9	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**27.81**	**170**	P	**P**	**06 22 58.4**	**+0.3**
ASAR	**Alice Springs**	**27.81**	**170**	P	**P**	**06 22 57.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=353,slow=8.0,SNR=9.5						
ASAR				PcP	**PcP**	**06 26 15.2**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=357,slow=2.4,SNR=4.1 comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.52**	**299**	P	**P**	**06 23 41.6**	**+1.8**
	comp=Z,1.4nm,0.4s,baz=98,slow=6.5,SNR=1.0						
CMAR				LR	LR	06 39 02.3	
	comp=Z,13nm,18.9s,baz=120,slow=40 comp=Z,1.4nm,0.4s						
BBOO	**Buckleboo**	**37.12**	**170**	P	**P**	**06 24 19.6**	**+0.3**
STKA	**Stephens Creek**	**37.58**	**162**	P	**P**	**06 24 23.5**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=347,slow=8.4,SNR=22 comp=Z,2.3nm,0.3s						
STKA	**Stephens Creek**	**37.58**	**162**	P	**P**	**06 24 24.1**	**+0.9**
H11S3	**WAKE ISLAND Hy**	**39.89**	**66**	T	T	07 07 52.5	
	baz=253,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**39.91**	**66**	T	T	07 07 52.4	
	baz=253,slow=74,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**39.91**	**66**	T	T	07 07 53.1	
	baz=253,slow=74,SNR=4.9						
ULN	**Ulaanbaatar**	**47.65**	**340**	P	**P**	**06 25 43.4**	**-1.5**
ULN				lAmb	lAmb	06 25 47.3	
	comp=Z,4.3nm,1.1s						
SONM	**Songino Array**	**47.84**	**340**	P	**P**	**06 25 47.1**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=148,slow=7.8,SNR=7.6 comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**58.60**	**324**	P	**P**	**06 27 06.0**	**+0.6**
	comp=Z,2.1nm,0.4s,baz=115,slow=8.2,SNR=68 comp=Z,2.1nm,0.4s						
MAKZ	**Makanchi**	**58.79**	**324**	P	**P**	**06 27 05.6**	**-1.0**
MAKZ				lAmb	lAmb	06 27 07.6	
	comp=Z,2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**61.39**	**332**	P	**P**	**06 27 23.1**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=104,slow=6.1,SNR=2.1 comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**62.71**	**327**	P	**P**	**06 27 32.5**	**-0.7**
ABKAR	**Akbulak array**	**73.31**	**320**	P	**P**	**06 28 38.8**	**-1.0**
VNDA	**Vanda**	**83.30**	**173**	P	**P**	**06 29 35.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=329,slow=5.9,SNR=1.5 comp=Z,0.5nm,0.6s						
VNDA	**Vanda**	**83.30**	**173**	P	**P**	**06 29 35.3**	**+0.9**
ILAR	**Eielson Array**	**84.16**	**25**	P	**P**	**06 29 40.5**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=233,slow=6.4,SNR=4.3 comp=Z,0.6nm,0.9s						
INK	**Inuvik**	**89.34**	**22**	P	**P**	**06 30 04.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=244,slow=4.8,SNR=1.4 comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**98.58**	**25**	P	Pdif	06 30 48.3	+1.5
	comp=Z,0.2nm,0.7s,baz=301,slow=5.0,SNR=2.9 comp=Z,0.2nm,0.7s						

*IDC **05** 06:44:35.5±0.8,3.58N×122.75E,h583km±10km,mb3.5/22, mbtmp4.6/24,Error ellipse: s-maj=15.7km s-min=6.4km az=66.0*
*NEIC **05** 06:44:35.7±1.3,3.63N±0.09×122.69E±0.07,h569km±9km, mb4.7/47,Error ellipse: s-maj=14.7km s-min=9.5km az=207.0*

*DJA **05** 06:44:35.1±0.3,4.1N±4.2×12.3E±,h557km±3km,M4.8/24, mb4.6/24,mB5.0/8,mBc5.8/8,MLv4.9/12,Mw(mB)4.3/8, MwmBc5.0/8*
ISC 05 06:44:33.7±0.3,3.60N±0.04×122.63E±0.06,h550km,n175, σ1§77/195,mb4.5/51,2C-2D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**2.96**	**173**	P	**P**	**06 45 49.9**	**+1.3**
TOLI2	**Tolitoli**	**3.08**	**217**	P	**P**	**06 45 51.7**	**+2.3**
TOLI2	**Tolitoli**	**3.08**	**217**	P	**P**	**06 45 52.3**	**+3.0**
MRSI	**Marisa**	**3.17**	**193**	P	**P**	**06 45 52.5**	**+2.6**
MRSI				S	**S**	**06 46 53.9**	**+2.1**
GSPH	**General Santos**	**3.38**	**43**	*eP*	**P**	**06 45 54.4**	**+3.0**
KCP	**Kidapawan**	**4.18**	**36**	*eP*	**P**	**06 45 59.3**	**+2.2**
KCP				*i* S	**S**	**06 47 09.6**	**+4.6**
MPSI	**Mapaga**	**4.24**	**220**	P	**P**	**06 45 59.7**	**+2.2**
MYLDM	**Lahad Datu**	**4.41**	**291**	P	**P**	**06 46 02.8**	**+4.0**
DAV	**Davao City (W)**	**4.53**	**40**	P	**P**	**06 46 04.2**	**+4.4**
	1μm,0.7s,baz=240,slow=14,SNR=30						
DAV				S	**S**	**06 47 13.6**	**+3.8**
	270nm,0.4s,baz=255,slow=8.6,SNR=1.9						
DAV	**Davao City (W)**	**4.53**	**40**	P	**P**	**06 46 04.1**	**+4.3**
DAV	**Davao City (W)**	**4.53**	**40**	P	**P**	**06 46 04.4**	**+4.7**
APSI	**Ampana**	**4.58**	**192**	P	**P**	**06 46 01.7**	**+1.5**
LUWI	**Luwuk**	**4.61**	**178**	P	**P**	**06 46 02.0**	**+1.6**
LUWI	**Luwuk**	**4.61**	**178**	P	**P**	**06 46 02.5**	**+2.1**
LUWI	**Luwuk**	**4.61**	**178**	P	**P**	**06 46 01.7**	**+1.3**
LUWI				S	**S**	**06 47 10.8**	**-0.2**
TNTI	**Ternate**	**5.50**	**121**	P	**P**	**06 46 08.9**	**+0.9**
TNTI	**Ternate**	**5.50**	**121**	P	**P**	**06 46 09.2**	**+1.3**
TNTI	**Ternate**	**5.50**	**121**	P	**P**	**06 46 08.1**	**+0.2**
	280nm,1.1s,3μm1.3nm						
BIPH	**Bislig**	**5.88**	**39**	*eP*	**P**	**06 46 11.8**	**+0.5**
SANI	**Sanana**	**6.53**	**149**	P	**P**	**06 46 17.0**	**-0.4**
SANI	**Sanana**	**6.53**	**149**	P	**P**	**06 46 16.6**	**-0.8**
	98nm,0.7s,1μm1.1nm						
KKM	**Kota Kinabalu**	**6.84**	**291**	P	**P**	**06 46 22.4**	**+2.0**
KKM	**Kota Kinabalu**	**6.84**	**291**	P	**P**	**06 46 22.4**	**+2.0**
PPR	**Puerto Princes**	**7.26**	**328**	*eP*	**P**	**06 46 27.4**	**+3.1**
BKB	**Balikpapan**	**7.49**	**230**	P	**P**	**06 46 30.2**	**+3.7**
BKB	**Balikpapan**	**7.49**	**230**	P	**P**	**06 46 30.1**	**+3.5**
SPSI	**Sidrap Palu**	**8.04**	**201**	P	**P**	**06 46 33.9**	**+2.0**
NLAI	**Namlea**	**8.12**	**147**	P	**P**	**06 46 35.0**	**+2.2**
	59nm,0.6s,5μm						
BNSI	**Bone**	**8.33**	**198**	P	**P**	**06 46 38.1**	**+3.2**
	61nm,1.1s						
SBUM	**Sibu**	**10.46**	**264**	P	**P**	**06 46 59.7**	**+3.2**
FAKI	**Fak Fak**	**11.59**	**124**	P	**P**	**06 47 09.5**	**+1.4**
FAKI	**Fak Fak**	**11.59**	**124**	P	**P**	**06 47 08.9**	**+0.8**
	26nm,0.4s						
KSM	**Kuching**	**12.49**	**261**	P	**P**	**06 47 19.1**	**+1.6**
KSM	**Kuching**	**12.49**	**261**	P	**P**	**06 47 19.8**	**+2.3**
PLAI	**Plampang**	**13.26**	**201**	P	**P**	**06 47 27.2**	**+1.9**
	38nm,0.9s						
SOEI	**Soe**	**13.36**	**173**	P	**P**	**06 47 27.7**	**+1.1**
SOEI	**Soe**	**13.36**	**173**	P	**P**	**06 47 27.9**	**+1.3**
SOEI	**Soe**	**13.36**	**173**	P	**P**	**06 47 27.2**	**+0.6**
	79nm,1.0s						
TWSI	**Taliwang, Sumb**	**13.53**	**205**	P	**P**	**06 47 31.1**	**+3.0**
	34nm,1.3s						
BATI	**Baumata**	**13.75**	**176**	P	**P**	**06 47 31.8**	**+1.4**
	366nm,0.4s,baz=16,slow=1.9,SNR=30						
BATI				S	**S**	**06 49 58.0**	**+2.1**
	43nm,0.5s,baz=73,slow=20,SNR=1.8						
BATI	**Baumata**	**13.75**	**176**	P	**P**	**06 47 31.4**	**+0.9**
	536nm,0.7s,6μm						
IGBI	**Denpasar**	**14.41**	**211**	P	**P**	**06 47 40.3**	**+3.0**
	58nm,0.6s						
JAGI	**Jajag, Banyuwa**	**14.67**	**215**	P	**P**	**06 47 41.9**	**+2.0**
JAGI	**Jajag, Banyuwa**	**14.67**	**215**	P	**P**	**06 47 41.7**	**+1.8**
JAGI	**Jajag, Banyuwa**	**14.67**	**215**	P	**P**	**06 47 41.0**	**+1.1**
	70nm,1.0s						
GMJI	**Gumukmas**	**14.93**	**218**	P	**P**	**06 47 42.5**	**-0.1**
	83nm,1.1s						
PWJI	**Pagerwojo**	**15.81**	**223**	P	**P**	**06 47 50.8**	**-0.7**
	25nm,0.9s						
UGM	**Wanagama**	**16.63**	**227**	P	**P**	**06 48 00.3**	**+1.0**
UGM	**Wanagama**	**16.63**	**227**	P	**P**	**06 47 56.9**	**-2.4**
	86nm,2.2s						
SMPI	**Sarmi**	**17.00**	**109**	P	**P**	**06 48 02.7**	**+0.1**
	55nm,0.6s						
KPJI	**Karang Pucung**	**17.46**	**232**	P	**P**	**06 48 08.4**	**+1.6**
	163nm,0.9s,2μm						
LEM	**Lembang**	**18.22**	**235**	P	**P**	**06 48 15.2**	**+1.3**
	65nm,0.7s,baz=335,slow=17,SNR=7.8						
LEM	**Lembang**	**18.22**	**235**	P	**P**	**06 48 15.6**	**+1.7**
	82nm,0.9s						
MTN	**Manton Dam**	**18.39**	**153**	P	**P**	**06 48 16.1**	**+0.9**
CNJI	**Cibinong**	**18.89**	**235**	P	**P**

KSRS	Korea Array	34.05	8	P		P	06 50 32.9	+0.5
	comp=Z,1.9nm,0.7s,baz=197,slow=11,SNR=4.1								
	comp=Z,1.9nm,0.7s								
FORT	Forrest	34.57	172	P		P	06 50 37.6	+0.7
FORT	Forrest	34.57	172	P		P	06 50 37.7	+0.7
KMBL	Kambalda	34.77	181	P		P	06 50 39.1	+0.4
MULG	Mulgathing	35.41	163	P		P	06 50 44.9	+0.9
INKA	Innaminka	35.71	152	P		P	06 50 48.0	+1.5
MJAR	Matsushiro Arr	35.79	22	P		P	06 50 46.0	-1.0
	comp=Z,3.2nm,0.9s,baz=194,slow=10,SNR=4.0								
	comp=Z,3.2nm,0.9s								
QLP	Quilpie	36.56	146	P		P	06 50 54.4	+0.9
NWAO	Narrogin (SRO)	36.68	188	P		P	06 50 55.0	+0.6
NWAO				IAmb		IAmb	06 51 08.7		
	comp=Z,34nm,1.4s								
NWAO	Narrogin (SRO)	36.68	188	P		P	06 50 55.3	+0.9
NWAO				IAmb		IAmb	06 51 08.7		
	comp=Z,50nm,1.4s								
LZH	Lanzhou	36.69	334	*e*P		P	06 50 55.0	+0.3
LZH				pP		pP	06 52 29.7	+1.7
LZH				sP		sP	06 53 31.9	+1.4
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
SHL	Shillong	36.73	309	P		P	06 50 55.3	+0.1
SHL				IAmb		IAmb	06 50 56.3		
	comp=Z,16nm,0.7s								
BBOO	Buckleboo	38.38	162	P		P	06 51 08.9	+0.7
BBOO				IAmb		IAmb	06 51 09.5		
	comp=Z,17nm,0.8s								
BBOO	Buckleboo	38.38	162	P		P	06 51 09.3	+1.0
HHC	Hu-ho-hao-te	38.41	346	*e*P		P	06 51 12.2	+3.7
HHC				pmax		pmax			
	comp=Z,30nm,0.9s								
HHC				pmax		pmax			
	comp=Z,180nm,5.4s								
LSA	Lhasa	39.53	314	P		P	06 51 19.6	+1.4
LSA				IAmb		IAmb	06 51 20.8		
	comp=Z,14nm,0.6s								
STKA	Stephens Creek	39.62	154	P		P	06 51 18.3	0.0
	comp=Z,20nm,0.7s,baz=329,slow=7.7,SNR=33								
	comp=Z,20nm,0.7s								
STKA	Stephens Creek	39.62	154	P		P	06 51 18.9	+0.5
STKA	Stephens Creek	39.62	154	P		P	06 51 19.2	+0.9
EIDS	Eidsvold	39.88	138	P		P	06 51 20.7	+0.2
EIDS				IAmb		IAmb	06 51 20.9		
	comp=Z,11nm,0.8s								
HTT	Hallett	39.92	159	P		P	06 51 21.7	+1.0
AULRC	Lightning Ridg	40.85	145	P		P	06 51 29.3	+1.1
ODAN	Odare	40.87	308	*e*P		P	06 51 29.3	+0.6
	comp=Z,6.1nm,0.9s								
GTA	Gaotai	41.23	333	*e*P		P	06 51 32.0	+0.8
GTA				pP		PcP	06 53 17.2	+0.2
GTA				pmax		pmax			
	comp=Z,8.0nm,0.7s								
CMSA	Cobar MeGeorol	41.26	150	P		P	06 51 32.9	+1.5
USRK	Ussuriysk Ar.	41.27	10	P		P	06 51 31.1	-0.2
	comp=Z,5.2nm,0.7s,baz=196,slow=7.2,SNR=11								
	comp=Z,5.2nm,0.7s								
GOMU	GeErMu	41.36	325	P		P	06 51 34.2	+1.6
GOMU				pmax		pmax			
	comp=Z,2.0nm,0.6s								
RAMN	Ramite	41.54	308	*e*P		P	06 51 34.8	+0.8
	comp=Z,62nm,0.7s								
PALK	Pallekele	41.89	277	P		P	06 51 37.2	+0.5
PALK				IAmb		IAmb	06 51 54.5		
	comp=Z,24nm,1.3s								
AUBSH	Beerwah State	42.12	138	P		P	06 51 38.8	+0.5
JIRN	Jiri	42.19	308	*e*P		P	06 51 39.6	+0.3
	comp=Z,54nm,0.7s								
PKI	Pulchoki	42.76	308	*e*P		P	06 51 43.7	0.0
	comp=Z,22nm,0.6s								
PKIN	Phulchoki	42.78	308	*e*P		P	06 51 43.8	0.0
DMN	Daman	43.02	308	*e*P		P	06 51 45.8	+0.2
AUDCS	Dubbo College	43.34	147	P		P	06 51 49.5	+1.7
GKN	Gorkha	43.57	308	*e*P		P	06 51 49.6	-0.2
	comp=Z,32nm,0.4s								
ARMA	Armidale	43.72	143	P		P	06 51 53.4	+2.6
ARMA				IAmb		IAmb	06 51 53.8		
	comp=Z,25nm,0.8s								
ARMA	Armidale	43.72	143	P		P	06 51 53.2	+2.4
ARPS	Mount Arapiles	43.97	158	P		P	06 51 53.3	+0.8
KOLN	Koldanda	44.29	307	*e*P		P	06 51 56.1	+0.7
	comp=Z,13nm,0.8s								
DANN	Dangsing	44.41	308	*e*P		P	06 51 56.8	+0.3
	comp=Z,130nm,0.6s								
CAN	Canberra	45.94	150	P		P	06 52 09.6	+1.8
CAN	Canberra	45.94	150	P		P	06 52 09.2	+1.5
TOO	Toolangi	46.14	155	P		P	06 52 10.7	+1.6
TOO				IAmb		IAmb	06 52 11.5		
	comp=Z,15nm,1.2s								
SONM	Songino Array	46.24	345	P		P	06 52 09.9	0.0
	comp=Z,1.6nm,0.6s,baz=160,slow=9.2,SNR=16								
SONM				PcP		PcP	06 53 32.9	-1.2
	comp=Z,0.3nm,0.3s,baz=137,slow=4.4,SNR=2.8								
SONM				ScP		ScP	06 56 31.8	-3.4
	comp=Z,0.5nm,0.6s,baz=143,slow=3.9,SNR=4.0								
	comp=Z,1.6nm,0.6s								
MNCI	Minicoy	49.50	278	P		P	06 52 35.2	+0.6
MNCI				IAmb		IAmb	06 52 57.4		
	comp=Z,65nm,1.2s								
LIFNC	LIFOU	49.99	121	P		P	06 52 39.4	+1.3
WMQ	Urumqi	50.57	328	*e*P		P	06 52 42.5	+0.5
WMQ				pmax		pmax			
	comp=Z,14nm,1.1s								
KSH	Kashi	55.30	317	P		P	06 53 17.3	+1.4
KSH				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MKAR	Makanchi Array	55.40	327	P		P	06 53 16.2	0.0
	comp=Z,9.3nm,0.6s,baz=123,slow=8.1,SNR=115								
MKAR				PcP		PcP	06 54 07.3	-1.1
	comp=Z,2.9nm,0.6s,baz=133,slow=4.1,SNR=11								
MKAR				ScP		ScP	06 57 10.8	-3.9
	comp=Z,0.8nm,0.6s,baz=120,slow=5.4,SNR=5.0								
	comp=Z,9.3nm,0.6s								
MAKZ	Makanchi	55.57	327	P		P	06 53 17.8	+0.2
TKM2	Tokmak 2	57.19	320	P		P	06 53 29.4	+0.4
	SNR=6.8								
UCH	Uchtor	57.55	319	P		P	06 53 33.0	+1.3
	SNR=8.0								
AAK	Ala-Archa	57.76	319	P		P	06 53 32.4	-0.3
	comp=Z,1.8nm,0.4s,baz=183,slow=7.1,SNR=8.9								
AAK				PcP		PcP	06 54 17.6	-0.4
	comp=Z,1.6nm,0.5s,baz=145,slow=14,SNR=3.8								
	comp=Z,1.8nm,0.4s								
AAK	Ala-Archa	57.76	319	P		P	06 53 33.1	+0.3
AML	Almayashu	58.04	319	P		P	06 53 35.8	+0.8
	SNR=8.2								
USP	Ospenovka	58.05	320	P		P	06 53 35.0	+0.4
	SNR=9.4								
EKS2	Erkin-Say	58.23	319	P		P	06 53 36.6	+0.7
	SNR=5.6								
ZALV	Zalesovo Beam	58.91	335	P		P	06 53 38.9	-1.2
	comp=Z,1.3nm,0.3s,baz=123,slow=5.5,SNR=14								
ZALV				PcP		PcP	06 54 20.2	-2.0
	comp=Z,0.7nm,0.5s,baz=125,slow=7.9,SNR=2.1								
	comp=Z,1.3nm,0.3s								
GAR	Garm	59.04	314	P		P	06 53 41.2	-0.2
GAR				IAmb		IAmb	06 53 42.2		
	comp=Z,20nm,0.9s								
KURK	Kurchatov	59.71	329	P		P	06 53 45.0	-0.5
KURK				IAmb		IAmb	06 53 46.0		
	comp=Z,18nm,0.7s								
CHGR	Chuyangaron	59.75	313	P		P	06 53 45.9	-0.2
KKAR	Karatay Array	60.58	318	P		P	06 53 51.5	+0.1
MRNZ	Matariki Terra	63.87	140	P		P	06 54 12.7	-0.1
SNZO	South Karori	65.09	139	P		P	06 54 19.4	-1.0
SNZO				IAmb		IAmb	06 54 48.0		
	comp=Z,61nm,1.1s								
URZ	Urewera	65.28	135	P		P	06 54 20.2	-1.6
	comp=Z,8.2nm,0.5s,baz=10,slow=3.8,SNR=7.3								
	comp=Z,8.2nm,0.5s								
BRVK	Borovoye	65.31	328	P		P	06 54 21.5	-0.1
GEYT	Alibeck	67.81	310	P		P	06 54 37.2	-0.2
	comp=Z,5.2nm,0.7s,baz=149,slow=6.1,SNR=7.6								
	comp=Z,5.2nm,0.7s								
NRIK	Noril'sk	69.63	347	P		P	06 54 47.0	-0.6
	comp=Z,2.5nm,0.6s,baz=148,slow=9.4,SNR=5.6								
	comp=Z,2.5nm,0.6s								
ABKAR	Akbulak array	69.69	322	P		P	06 54 48.2	-0.3
ARU	Arti	72.89	328	P		P	06 55 05.7	-1.3
RAYN	Ar Rayn	76.78	293	P		P	06 55 28.5	-1.1
VOI	Vohitsoka	78.25	247	P		P	06 55 36.8	-0.9
VOI				IAmb		IAmb	06 55 37.5		
	comp=Z,9.1nm,0.7s								
GURO	Guroymak-BITLI	80.42	308	P		P	06 55 49.3	+0.5
P18K	Big Mountain,	82.91	31	P		P	06 55 60.0	-1.0
P18K				IAmb		IAmb	06 56 22.1		
	comp=Z,23nm,1.5s								
KLMR	Klimovskoe	83.52	331	*e*P		P	06 55 58.9	-4.9
KLMR				AMP			06 56 03.9		
	comp=Z,15nm,1.3s								
K20K	Telida	83.79	27	P		P	06 56 05.6	+0.3
VNDA	Vanda	83.83	172	P		P	06 56 04.7	-0.4
	comp=Z,0.5nm,0.5s,baz=315,slow=6.0,SNR=5.6								
	comp=Z,0.5nm,0.5s								
BRTR	Keskin Array B	86.95	309	P		P	06 56 20.4	-0.7
	comp=Z,0.9nm,0.8s,baz=84,slow=11,SNR=3.9								
	comp=Z,0.9nm,0.8s								
ILAR	Eielson Array	86.98	25	P		P	06 56 18.4	-2.1
	comp=Z,0.3nm,0.6s,baz=248,slow=5.0,SNR=7.3								
	comp=Z,0.3nm,0.6s								
ARCES	ARCESS Array B	89.16	340	P		P	06 56 28.0	-2.5
	comp=Z,3.7nm,0.8s,baz=60,slow=7.2,SNR=5.0								
	comp=Z,3.7nm,0.8s								
AKASG	Malin Array Be	89.41	321	P		P	06 56 29.8	-2.3
	comp=Z,0.2nm,0.3s,baz=67,slow=4.2,SNR=5.1								
	comp=Z,0.2nm,0.3s								
MNK	Minsk	89.86	324	*i* P		P	06 56 31.1	-3.1
	comp=E,4.0nm,1.0s								
MNK				*i* P		P	06 56 31.1	-3.1
	comp=N,33nm,0.9s								
MNK				*i* P		P	06 56 31.1	-3.1
	comp=Z,14nm,0.9s,baz=264								
MNK				*i* pP		pP	06 58 35.1	+1.7
MNK				*i* PP		PP	07 00 14.0	-2.5
MNK				*i* PPP		PPP	07 02 16.9		
MNK				*i* S		SKSac	07 06 06.8	-5.4
MNK				*i* sS		sS	07 10 02.3	-13
MNK				*i* SS		SS	07 12 52.1	-1.8
MNK				*i* SSS		SSS	07 16 36.6		
MNK				*i* LRM		MLR	07 40 28.8		
	comp=Z,132nm,21.7s								
MNK				*i* LRM		MLR	07 40 31.4		
	comp=E,101nm,20.4s								
MNK				*i* LRM		MLR	07 40 32.6		
	comp=N,1μm,21.7s								
FINES	FINESS Array B	90.01	331	P		P	06 56 32.6	-2.0
	comp=N,5.8nm,1.0s,baz=90,slow=1.9,SNR=7.1								
	comp=N,5.8nm,1.0s								
FARO	Faro, Yukon	93.34	27	P		P	06 56 49.9	-0.1
FARO				IAmb		IAmb	06 56 50.5		
	comp=Z,2.5nm,0.7s								

*IDC **05** 06:54:39.0±1.3, 11°.51N×139°.65E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=62.0km s-min=21.2km az=88.0*

ISC 05 06:54:42.2±1.2, 11°.5N±0°.2×139°.7E±0°.4, h22km, n6, σ0s47/6, mb3.6/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.68	190	P	P	07 01 03.8	-0.5
	0.7nm,0.8s,baz=7.0,slow=11,SNR=4.6						
	0.7nm,0.8s						
ASAR	Alice Springs	35.40	189	P	P	07 01 37.2	+0.5
	0.5nm,0.5s,baz=17,slow=13,SNR=22						
	0.5nm,0.5s						
KLR	Kul'dur	38.20	352	P	P	07 02 00.0	-0.2
	0.7nm,0.5s,baz=134,slow=14,SNR=2.2						
	0.7nm,0.5s						
MKAR	Makanchi Array	59.58	318	P	P	07 04 44.6	+0.3
	0.3nm,0.7s,baz=100,slow=8.9,SNR=3.5						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	63.03	321	P	P	07 05 07.6	0.0
	0.3nm,0.7s,baz=110,slow=6.7,SNR=2.3						
	0.3nm,0.7s						
ILAR	Eielson Array	72.61	25	P	P	07 06 07.8	+0.1
	0.5nm,1.0s,baz=263,slow=5.4,SNR=2.3						
	0.5nm,1.0s						

*NOU **05** 06:57:31.4, 42°.60S×173°.02E, h0km, MLv3.9/9, South Island, New Zealand*
*WEL **05** 06:57:32.0±0.3, 43°.S±2°×17°.3E±°, h10km±3km, M3.4/17, ML3.6/17, MLv3.4/17, Error ellipse: s-maj=0.0km s-min=0.0km az=114.7, confirmed*

ISC 05 06:57:31.6±1.2, 42°.54S±0°.02×173°.06E±0°.03, h8km±11km, n79, σ1s50/89, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.38	70	P	Pg	06 57 39.5	+0.6
KHZ	Kahutara	0.38	70	P	Pg	06 57 39.6	+0.6
KHZ				S	Sg	06 57 45.6	+1.7
GVZ	Greta Valley S	0.42	183	P	Pb	06 57 41.9	+0.5
GVZ				S	Sb	06 57 49.8	+1.8
LTZ	Lake Taylor	0.63	247	P	Pb	06 57 44.4	-0.5
LTZ				S	Sb	06 57 53.8	-0.1
AMCZ	Amberley	0.70	205	P	Pn	06 57 47.2	-0.6
AMCZ				S	Sn	06 57 58.5	-0.3
THZ	Tophouse	0.79	352	P	Pg	06 57 46.2	-0.5
THZ				S	Sg	06 57 56.1	-0.9
BSWZ	Blackbirch Sta	1.03	37	P	Pg	06 57 51.2	-0.1
OXZ	Oxford	1.08	223	P	Pb	06 57 52.8	+0.1
OXZ				S	Sn	06 58 08.5	+0.2
MRNZ	Matariki Terra	1.17	349	P	Pg	06 57 53.4	-0.6
CMWZ	Cape Campbell	1.17	48	P	Pn	06 57 54.8	+0.6
OKCZ	Okains Bay	1.18	180	P	Pb	06 57 54.5	+0.2
MQZ	McQueen's Vall	1.20	194	P	Pg	06 57 53.7	-1.0
MQZ				S	Sb	06 58 10.5	+0.3
INZ	Inchbonnie	1.21	261	P	Pg	06 57 54.4	-0.3
DSZ	Denniston Nort	1.23	310	P	Pg	06 57 54.8	-0.3
DSZ				S	Sb	06 58 11.9	+0.9
TUWZ	Tuamarina	1.29	31	P	Pn	06 57 55.4	-0.5
NNZ	Nelson	1.35	10	P	Pn	06 57 55.7	-0.9
RACZ	Rakaia	1.36	209	P	Pn	06 57 56.5	-0.4
MHCZ	Mount Hutt	1.48	227	P	Pn	06 57 58.1	-0.4
TKNZ	Takaka Hill	1.51	357	P	Pn	06 57 58.9	-0.1
TCW	Tory Channel	1.61	35	P	Pn	06 58 00.2	-0.1
WACZ	Wakanui South	1.66	212	P	Pn	06 58 00.6	-0.4
WACZ				S	Sn	06 58 22.5	+0.1
QRZ	Quartz Range	1.76	347	P	Pn	06 58 03.0	+0.6
QRZ	Quartz Range	1.76	347	P	Pn	06 58 02.9	+0.6
WEL	Wellington	1.79	46	P	Pn	06 58 02.4	-0.4
WVZ	Waitaha Valley	1.79	252	P	Pn	06 58 03.5	+0.7
WVZ				S	Sb	06 58 26.8	-0.4
DUWZ	D'Urville Isla	1.85	21	P	Pn	06 58 04.2	+0.5
RPZ	Rata Peaks	1.88	231	P	Pn	06 58 03.7	-0.3
RPZ	Rata Peaks	1.88	231	P	Pn	06 58 03.7	-0.3
PLWZ	Palliser	1.90	60	P	Pn	06 58 03.1	-1.2
ARCZ	Arundel	1.97	224	P	Pn	06 58 04.9	-0.3
CAW	Cannon Point	2.08	47	P	Pn	06 58 06.0	-0.7
PAWZ	Paruwai Farm	2.11	57	P	Pn	06 58 05.9	-1.3
GCSZ	Gaunt Creek Bo	2.15	248	P	Pn	06 58 08.9	+1.1
KIW	Kapiti Island	2.18	40	P	Pn	06 58 07.9	-0.2
MTW	Mount Morrison	2.29	54	P	Pn	06 58 08.3	-1.4
OGWZ	Otaki Gorge	2.34	43	P	Pn	06 58 09.8	-0.6
TMZ	Timaru	2.37	218	P	Pn	06 58 10.5	-0.3
HOWZ	Holdsworth Sta	2.46	49	P	Pn	06 58 10.7	-1.4
FOZ	Fox Glacier	2.58	246	P	Pn	06 58 14.9	+1.3
MRZ	Mangatainoka R	2.67	46	P	Pn	06 58 13.6	-1.2
LBZ	Lake Benmore	2.79	228	P	Pn	06 58 16.5	-0.1
PRWZ	Pori Road	2.95	49	P	Pn	06 58 21.4	+2.7
POWZ	Post Office Ro	2.96	44	P	Pn	06 58 17.8	-1.1
BFZ	Birch Farm	3.03	53	P	Pn	06 58 21.6	+1.8
ODZ	Otahua Downs	3.05	214	P	Pn	06 58 19.4	-0.7
ODZ	Otahua Downs	3.05	214	P	Pn	06 58 19.3	-0.9
WAZ	Wanganui	3.14	28	P	Pn	06 58 25.1	+3.7
NMEZ	Namu Road	3.19	11	P	Pn	06 58 25.5	+3.5
KHEZ	Kahui Hut	3.33	13	P	Pn	06 58 26.4	+2.4
KHEZ	Kahui Hut	3.33	13	P	Pn	06 58 26.7	+2.7
NBEZ	Newall Road No	3.33	11	P	Pn	06 58 26.5	+2.5
NEZ	North Egmont	3.36	14	P	Pn	06 58 27.4	+2.9
PKE	Pukeiti	3.42	12	P	Pn	06 58 27.7	+2.5
DREZ	Durham Road	3.46	15	P	Pn	06 58 28.2	+2.5
JCZ	Jackson Bay	3.48	242	P	Pn	06 58 26.5	+0.5
VRZ	Vera Road	3.65	21	P	Pn	06 58 30.3	+2.0
PKVZ	Pokaka	3.68	29	P	Pn	06 58 32.6	+3.8
MOVZ	Moawhango	3.74	34	P	Pn	06 58 34.2	+4.5
WNVZ	Wahianoa	3.74	32	P	Pn	06 58 30.5	+0.7
TRVZ	Turoa	3.75	31	P	Pn	06 58 30.4	+0.5
FWVZ	Far West T-bar	3.79	31	P	Pb	06 58 37.2	-1.7
BHHZ	Black Hill Sta	3.80	38	P	Pb	06 58 36.3	-2.7
NGZ	Ngauruhoe	3.88	31	P	Pn	06 58 32.1	+0.5
SNVZ	South Ngauruho	3.88	31	P	Pn	06 58 32.2	+0.5
OTVZ	Oturere	3.91	31	P	Pn	06 58 32.6	+0.5
NNVZ	North Ngauruho	3.92	30	P	Pn	06 58 32.7	+0.5
WTVZ	West Tongariro	3.92	30	P	Pn	06 58 32.6	+0.3
ETVZ	East Tongariro	3.95	31	P	Pb	06 58 39.5	-2.1
KRVZ	Karewarewa	3.96	30	P	Pb	06 58 39.5	-2.2
TMVZ	Te Maari	3.97	31	P	Pn	06 58 33.1	+0.3
NTVZ	North Tongarir	3.97	31	P	Pn	06 58 36.0	+3.1
HIZ	Hauiti	4.25	19	P	Pn	06 58 38.0	+1.4
HIZ	Hauiti	4.25	19	P	Pn	06 58 38.0	+1.4
BKZ	Black Stump Fm	4.26	39	P	Pn	06 58 38.0	+1.2
BKZ	Black Stump Fm	4.26	39	P	Pn	06 58 38.3	+1.5
SYZ	Scrubby Hill	4.88	214	P	Pn	06 58 45.2	0.0
AWAZ	Awhitu Peninsu	5.61	13	P	Pn	06 58 57.0	+1.8
MKAZ	Moumakai	5.67	17	P	Pn	06 58 57.0	+1.0
WIAZ	Waiheke Island	5.96	16	P	Pn	06 59 01.5	+1.3

*DNK **05** 07:24:18.4±0.8, 64°.92N×12°.32E, h0km, ML2.4(UPP), Suspected explosion*
*NAO **05** 07:24:19.5±1.0, 64°.97N×12°.14E, h8km±8km, ML2.8*
*IDC **05** 07:24:19.1±1.3, 64°.93N×12°.56E, h0km, mbtmp3.0/4, ML2.2/4, Error ellipse: s-maj=17.0km s-min=7.2km az=110.0*
*HEL **05** 07:24:20.0±0.1, 64°.94N×12°.50E, h10km, ML2.1, ML2.4(UPP), Confirmed Earthquake*
*HEL **05** 07:24:20.4, 64°.94N×12°.49E, h14km, ML2.1, Confirmed Earthquake*
*BER **05** 07:24:20.6±1.8, 64°.96N×12°.36E, h0km±5km, ML2.3, ML2.4(UPP), Confirmed Earthquake*
*UPP **05** 07:24:20.1±1.5, 64°.90N×12°.59E, h0km, ML2.4*

ISC 05 07:24:17.8±0.9, 64°.93N±0°.02×12°.39E±0°.03, h0km, n89, σ1s80/156, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSS	Namsos	0.45	204	Pg	Pb	07 24 29.1	+0.6
NSS				Lg	Lg	07 24 33.5	
NSS	Namsos	0.45	204	*e*P	Pb	07 24 29.0	+0.6
NSS				*e*S	Sg	07 24 35.4	+3.4
NSS				IAML		07 24 37.0	
	comp=Z,292nm,0.1s						
STOK	Stokkvaagen	1.43	10	Pn	Pn	07 24 45.1	+0.2
STOK				Lg	Lg	07 25 03.3	
STOK	Stokkvaagen	1.43	10	*e*P	Pn	07 24 45.1	+0.2
STOK				*e*S	Sg	07 25 03.8	+0.2
MOR8	Moi Rana	1.51	34	Pn	Pb	07 24 48.8	+2.2
MOR8				Lg	Lg	07 25 10.9	
MOR8	Moi Rana	1.51	34	*e*P	Pb	07 24 48.8	+2.2
MOR8				*e*S	Sn	07 25 10.3	+4.0
MOR8				IAML		07 25 11.6	
	comp=Z,133nm,0.3s						
KONS	Konsvik	1.60	10	Pn	Pn	07 24 47.9	+0.6
KONS				Lg	Lg	07 25 09.0	
KONS	Konsvik	1.60	10	*e*P	Pn	07 24 47.9	+0.6
KONS				*e*Sg	Sg	07 25 10.0	+0.9
KONS				IAML		07 25 15.5	
	comp=Z,59nm,0.2s						
NOD	Norderasen	1.84	143	*e*P	Pn	07 24 51.8	+1.1
NOD				*e*S	Sb	07 25 16.7	+0.7
TBLU	Trondheim	1.93	210	Pn	Pn	07 24 50.9	-1.0
TBLU				Sn	Sn	07 25 14.2	-2.5
TBLU	Trondheim	1.93	210	*e*P	Pn	07 24 50.8	-1.0
TBLU				*e*Sg	Sn	07 25 14.2	-2.5
TBLU				IAML		07 25 16.6	
	comp=Z,40nm,0.3s						
TBLU	Trondheim	1.93	210	*e*P	Pn	07 24 50.8	-1.0
TBLU				*e*S	Sn	07 25 13.2	-3.6
FAUS	Fauske	2.73	24	*e*P	Pn	07 25 04.6	+1.9
FAUS				*e*S	Sn	07 25 34.5	-1.8
FAUS				*e*		07 25 42.4	
FAUS				IAML		07 25 47.1	
	comp=Z,29nm,0.5s						
SOLU	Sollefteaa	2.73	126	P	Pn	07 25 04.5	+1.8
SOLU				S	Sn	07 25 37.3	+1.0
SOLU	Sollefteaa	2.73	126	P	Pn	07 25 04.5	+1.8
SOLU				S	Sn	07 25 37.3	+1.0
SOLU	Sollefteaa	2.73	126	P	Pn	07 25 04.5	+1.8
SOLU				S	Sn	07 25 37.3	+1.0
SOLU	Sollefteaa	2.73	126	*e*P	Pn	07 25 04.5	+1.8
SOLU				*e*S	Sn	07 25 37.3	+1.0
BREU	Bredtraesk	2.88	108	P	Pn	07 25 06.0	+1.2
BREU				S	Sn	07 25 40.4	+0.3
BREU	Bredtraesk	2.88	108	P	Pn	07 25 06.0	+1.2
BREU				S	Sn	07 25 40.4	+0.3
BREU	Bredtraesk	2.88	108	P	Pn	07 25 06.0	+1.2
BREU				S	Sn	07 25 40.4	+0.3
BREU	Bredtraesk	2.88	108	*e*P	Pn	07 25 06.0	+1.2
BREU				*e*S	Sn	07 25 40.4	+0.3
SVAU	Svanoeiden	3.12	95	P	Pn	07 25 08.8	+0.8
SVAU				S	Sn	07 25 46.6	+0.7
SVAU	Svanoeiden	3.12	95	P	Pn	07 25 08.8	+0.8
SVAU				S	Sn	07 25 46.6	+0.7
SVAU	Svanoeiden	3.12	95	P	Pn	07 25 08.8	+0.8
SVAU				S	Sn	07 25 46.6	+0.7
SVAU	Svanoeiden	3.12	95	*e*P	Pn	07 25 08.8	+0.8
SVAU				*e*S	Sn	07 25 46.6	+0.7
LILU	Lilltraesk	3.17	80	P	Pn	07 25 10.3	+1

NOA					Lg	Lg	07 26 22.0		
	comp=Z,0.8nm,0.3s,baz=3.5,slow=14,SNR=8.7								
	comp=Z,0.2nm,0.3s								
NRA0	**NORESS Array S**	**4.23**	**186**		Pn	**Pn**	**07 25 24.3**	**+0.9**	
	baz=3.7,slow=11								
NRA0					Sn	**Sn**	**07 26 11.7**	**-1.7**	
	baz=2.3,slow=28								
NRA0					Lg	Lg	07 26 30.5		
	baz=14,slow=37								
ERTU	**Ertsjaerv**	**4.36**	**64**	*eP*		**Pn**	**07 25 25.4**	**+0.3**	
ERTU				*eS*		**Sn**	**07 26 13.6**	**-2.9**	
ERTU	**Ertsjaerv**	**4.36**	**64**	*eP*		**Pn**	**07 25 25.4**	**+0.3**	
ERTU				*eS*		**Sn**	**07 26 13.6**	**-2.9**	
KALU	**Kalix**	**4.68**	**74**	*eP*		**Pn**	**07 25 30.1**	**+0.6**	
KALU				*eS*		**Sn**	**07 26 21.5**	**-2.9**	
KALU	**Kalix**	**4.68**	**74**	*eP*		**Pn**	**07 25 30.1**	**+0.6**	
KALU				*eS*		**Sn**	**07 26 21.5**	**-2.9**	
FALU	**Falun**	**4.73**	**159**		P	**Pn**	**07 25 31.1**	**+0.9**	
FALU	**Falun**	**4.73**	**159**		P	**Pn**	**07 25 31.1**	**+0.9**	
FALU	**Falun**	**4.73**	**159**		P	**Pn**	**07 25 31.1**	**+0.9**	
FALU	**Falun**	**4.73**	**159**	*eP*		**Pn**	**07 25 31.1**	**+0.9**	
HFS	**Hagfors**	**4.86**	**172**		Pn	**Pn**	**07 25 33.6**	**+1.7**	
	baz=343,slow=14								
HFS					Sn	**Sn**	**07 26 26.2**	**-2.6**	
	baz=353,slow=22								
HFS					Lg	Lg	07 26 49.8		
	baz=3.8,slow=37								
HFS	**Hagfors**	**4.86**	**172**		Pn	**Pn**	**07 25 32.7**	**+0.8**	
	comp=Z,0.3nm,0.3s,baz=353,slow=12,SNR=11								
HFS					Sn	**Sn**	**07 26 26.3**	**-2.6**	
	comp=Z,1.1nm,0.3s,baz=357,slow=24,SNR=2.9								
HFS					Lg	Lg	07 26 50.8		
	comp=Z,3.7nm,0.3s,baz=352,slow=27,SNR=9.5								
	comp=Z,2.7nm,0.9s								
PAJU	**Pajala**	**4.86**	**60**	*eP*		**Pn**	**07 25 32.9**	**+0.9**	
PAJU				*eS*		**Sn**	**07 26 26.1**	**-2.8**	
PAJU	**Pajala**	**4.86**	**60**	*eP*		**Pn**	**07 25 32.9**	**+0.9**	
PAJU				*eS*		**Sn**	**07 26 26.1**	**-2.8**	
UDD	**Uddeholm**	**4.89**	**173**		P	**Pn**	**07 25 33.8**	**+1.3**	
UDD					S	**Sn**	**07 26 28.3**	**-1.5**	
UDD	**Uddeholm**	**4.89**	**173**	*eP*		**Pn**	**07 25 33.8**	**+1.3**	
UDD				*eS*		**Sn**	**07 26 28.3**	**-1.5**	
VAF	**Ylistaro**	**4.91**	**108**	*eP*		**Pn**	**07 25 33.4**	**+0.8**	
VAF				*eS*		**Sn**	**07 26 27.0**	**-3.0**	
VAF					MSG		07 26 39.5		
	comp=Z,3.0nm,0.1s								
VAF	**Ylistaro**	**4.91**	**108**	*eP*		**Pn**	**07 25 33.4**	**+0.8**	
VAF				*eS*		**Sn**	**07 26 27.0**	**-3.0**	
VAF					MSG		07 26 39.5		
	comp=Z,3.0nm,0.1s								
LANU	**Lannavaara**	**4.95**	**47**	*eP*		**Pn**	**07 25 34.0**	**+0.7**	
LANU				*eS*		**Sn**	**07 26 28.6**	**-2.6**	
LANU	**Lannavaara**	**4.95**	**47**	*eP*		**Pn**	**07 25 34.0**	**+0.7**	
LANU				*eS*		**Sn**	**07 26 28.6**	**-2.6**	
TOF	**Tornio**	**5.10**	**72**	*eP*		**Pn**	**07 25 35.8**	**+0.6**	
TOF				*eS*		**Sn**	**07 26 32.3**	**-2.4**	
TOF					MSG		07 26 39.8		
	comp=Z,1.5nm,0.1s								
TOF	**Tornio**	**5.10**	**72**	*eP*		**Pn**	**07 25 35.8**	**+0.6**	
TOF				*eS*		**Sn**	**07 26 32.3**	**-2.4**	
TOF					MSG		07 26 39.8		
	comp=Z,1.5nm,0.1s								
KLF	**Kolari**	**5.24**	**59**	*eP*		**Pn**	**07 25 37.8**	**+0.6**	
KLF				*eS*		**Sn**	**07 26 35.8**	**-2.5**	
KLF					MSG		07 26 42.4		
	comp=Z,2.4nm,0.2s								
KLF	**Kolari**	**5.24**	**59**	*eP*		**Pn**	**07 25 37.8**	**+0.6**	
KLF				*eS*		**Sn**	**07 26 35.8**	**-2.5**	
KLF					MSG		07 26 42.4		
	comp=Z,2.4nm,0.2s								
OUF	**Merijarvi**	**5.33**	**91**		MSG		07 27 00.0		
	comp=Z,2.0nm,0.2s								
OUF	**Merijarvi**	**5.33**	**91**		MSG		07 27 00.0		
	comp=Z,2.0nm,0.2s								
KPF	**Kankaanpaa**	**5.35**	**121**	*eP*		**Pn**	**07 25 40.2**	**+1.5**	
KPF				*eS*		**Sn**	**07 26 38.7**	**-2.2**	
OBF4	**Vikkela, Lumij**	**5.42**	**86**	*eP*		**Pn**	**07 25 40.0**	**+0.3**	
OBF4				*eS*		**Sn**	**07 26 38.6**	**-4.0**	
OBF4	**Vikkela, Lumij**	**5.42**	**86**	*eP*		**Pn**	**07 25 40.0**	**+0.3**	
OBF4				*eS*		**Sn**	**07 26 38.6**	**-4.0**	
JETT	**Jettan, Norway**	**5.58**	**30**		Pn	**Pn**	**07 25 43.1**	**+1.1**	
JETT					Sn	**Sn**	**07 26 44.8**	**-2.0**	
JETT					Lg	Lg	07 27 12.4		
RNF	**Rovaniemi**	**5.85**	**67**	*eP*		**Pn**	**07 25 46.4**	**+0.7**	
RNF				*eS*		**Sn**	**07 26 50.3**	**-3.1**	
RNF	**Rovaniemi**	**5.85**	**67**	*eP*		**Pn**	**07 25 46.4**	**+0.7**	
RNF				*eS*		**Sn**	**07 26 50.3**	**-3.1**	
ARA0	**ARCESS Array S**	**6.86**	**42**		Pn	**Pn**	**07 25 58.9**	**-0.5**	
	baz=228,slow=14								
ARA0					Sn	**Sn**	**07 27 13.2**	**-4.9**	
	baz=237,slow=28								
ARA0					Lg	Lg	07 27 46.8		
	baz=230,slow=22								
ARCES	**ARCESS Array B**	**6.86**	**42**		Pn	**Pn**	**07 25 58.8**	**-0.6**	
	comp=Z,0.3nm,0.3s,baz=229,slow=13,SNR=20								
ARCES					Pg	**Pb**	**07 26 14.3**	**-3.4**	
	comp=Z,0.2nm,0.3s,baz=234,slow=13,SNR=6.8								
ARCES					Sn	**Sn**	**07 27 13.4**	**-4.7**	
	comp=Z,0.4nm,0.3s,baz=234,slow=22,SNR=5.3								
ARCES					Lg	Lg	07 27 50.3		
	comp=Z,1.0nm,0.3s,baz=234,slow=26,SNR=8.0								
	comp=Z,0.8nm,0.3s								
FIA0	**FINESS Array S**	**7.11**	**113**		Pn	**Pn**	**07 26 02.6**	**-0.2**	
	baz=313,slow=14								
FIA0					Sn	**Sn**	**07 27 20.4**	**-3.7**	
	baz=306,slow=28								
FIA0					Lg	Lg	07 27 57.4		
	baz=308,slow=28								
FINES	**FINESS Array B**	**7.11**	**113**		Pn	**Pn**	**07 26 02.7**	**-0.2**	
	comp=Z,0.1nm,0.3s,baz=312,slow=13,SNR=1.7								
FINES					Sn	**Sn**	**07 27 19.3**	**-4.9**	
	comp=Z,0.8nm,0.3s,baz=305,slow=22,SNR=9.4								
FINES					Lg	Lg	07 27 57.7		
	comp=Z,1.2nm,0.3s,baz=303,slow=25,SNR=5.7								
	comp=Z,2.7nm,0.9s								

*IDC **05** 07:41:47.9±1.2, 11°.18S×161°.51E, h0km, mb3.9/7, mbtmp3.9/8, ML4.6/1, MS3.4/5, Error ellipse: s-maj=32.7km s-min=25.6km az=145.0*

ISC 05 07:41:52.3±1.1, 11°.2S×161°.5E±0°.2, h28km, n11, σ0.985/9, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.30**	**319**	Pn	**Pn**	**07 42 27.2**	**-1.1**
	160nm,0.3s,baz=110,slow=16,SNR=7.6						
HNR				Sn	**Sn**	**07 42 56.4**	**+0.6**
	684nm,0.3s,baz=156,slow=20,SNR=4.7						
HNR				LR	LR	07 43 35.3	
	comp=Z,2μm,20.0s,baz=50,slow=46						
	973nm,0.5s						
PMG	**Port Moresby**	**14.19**	**276**	LR	LR	07 49 46.9	
	comp=Z,105nm,19.8s,baz=349,slow=34						
CTA	**Charters Tower**	**17.11**	**237**	LR	LR	07 51 30.2	
	comp=Z,72nm,18.4s,baz=80,slow=34						
WRA	**Warramunga Arr**	**27.51**	**248**	P	**P**	**07 47 37.2**	**+0.5**
	3.5nm,1.1s,baz=76,slow=9.3,SNR=6.2						
WRA				LR	LR	07 57 42.1	
	comp=Z,100nm,19.7s,baz=78,slow=35						
	3.5nm,1.1s						
STKA	**Stephens Creek**	**27.58**	**219**	LR	LR	07 57 38.3	
	comp=Z,95nm,20.1s,baz=29,slow=34						
ASAR	**Alice Springs**	**29.02**	**241**	P	**P**	**07 47 49.5**	**-0.5**
	1.2nm,1.0s,baz=78,slow=10,SNR=6.7						
	1.2nm,1.0s						
SONM	**Songino Array**	**76.35**	**325**	P	**P**	**07 53 40.1**	**+1.1**
	0.5nm,0.6s,baz=141,slow=6.8,SNR=4.9						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.02**	**20**	P	**P**	**07 54 24.3**	**-0.5**
	1.2nm,1.1s,baz=259,slow=5.7,SNR=7.9						
	1.2nm,1.1s						
NVAR	**Mina Array Bea**	**89.34**	**51**	P	**P**	**07 54 47.0**	**+0.4**
	0.4nm,0.7s,baz=262,slow=3.0,SNR=2.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**90.77**	**318**	P	**P**	**07 54 53.4**	**+0.5**
	0.2nm,0.4s,baz=81,slow=4.7,SNR=2.3						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**97.04**	**28**	P	**P**	**07 55 20.8**	**-0.5**
	0.1nm,0.6s,baz=266,slow=4.7,SNR=5.5						
	0.1nm,0.6s						

*NNC **05** 07:52:27.2±4.2, 35°.33N×71°.03E, h0km, mb4.9, mpv5.0, Error ellipse: s-maj=43.1km s-min=33.8km az=11.0*

*IDC **05** 07:52:53.0±0.7, 37°.37N×71°.73E, h0km, mb4.3/21, mbtmp4.4/29, ML4.0/8, MS3.5/21, Error ellipse: s-maj=13.1km s-min=11.4km az=171.0*

*MOS **05** 07:52:54.9±1.4, 37°.47N×71°.76E, h35km, mb4.6/38, Error ellipse: s-maj=6.2km s-min=4.1km az=99.9*

*BJI **05** 07:52:59.7±0.0, 37°.73N×71°.66E, h61km, mb4.2/14, mB4.4/5, ML4.1/3, Ms4.0/6, Ms7 3.8/6*

*NEIC **05** 07:52:59.0±2.2, 37°.45N±0°.05×71°.50E±0°.07, h34km±6km, mb4.6/31, Error ellipse: s-maj=8.3km s-min=7.5km az=110.0*

ISC 05 07:52:58.3±0.4, 37°.44N±0°.04×71°.74E±0°.04, h35km, n350, σ2.905/360, mb4.5/66, MS3.5/21, 16C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**1.92**	**325**		**Pn**	**07 53 28.7**	**+0.2**
CHGR	**Chuyangaron**	**2.37**	**302**	Pn	**Pn**	**07 53 35.9**	**+1.1**
CHGR	**Chuyangaron**	**2.37**	**302**	PN	**Pn**	**07 53 35.9**	**+1.1**
CEP	**Cherat**	**3.61**	**178**	P	Pn	07 53 58.5	+6.6
CEP				S	Sn	07 54 44.0	+11
KSH	**Kashi**	**3.91**	**57**	P	**Pn**	**07 53 55.9**	**-0.1**
KSH				smax	smax		
	comp=N,1μm,0.7s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
CHCP	**Chirah Chowk**	**3.97**	**161**	P	**Pn**	**07 54 01.4**	**+4.7**
NIL	**Nilore**	**3.98**	**162**		**Pn**	**07 54 01.1**	**+4.3**
NIL	**Nilore**	**3.98**	**162**	PN	**Pn**	**07 54 01.1**	**+4.3**
TAS	**Tashkent**	**4.32**	**335**	Pn	**Pn**	**07 54 02.5**	**+1.1**
TAS	**Tashkent**	**4.32**	**335**	PN	**Pn**	**07 54 02.5**	**+1.1**
THW	**Thamme Wali**	**4.64**	**180**	P	**Pn**	**07 54 09.3**	**+3.5**
AML	**Almayashu**	**4.92**	**17**	P	**Pn**	**07 54 13.2**	**+3.2**
	SNR=135						
UCH	**Uchtor**	**5.23**	**23**	P	**Pn**	**07 54 17.8**	**+3.4**
	SNR=130						
EKS2	**Erkin-Say**	**5.44**	**16**	P	**Pn**	**07 54 20.4**	**+3.4**
	SNR=33						
AAK	**Ala-Archa**	**5.60**	**21**	P	**Pn**	**07 54 22.9**	**+3.6**
	SNR=41						
AAK	**Ala-Archa**	**5.60**	**21**	Pn	**Pn**	**07 54 22.4**	**+3.2**
	11nm,0.3s,baz=206,slow=9.0,SNR=77						
AAK				Sn	**Sn**	**07 55 29.0**	**+6.6**
	6.1nm,0.3s,baz=212,slow=14,SNR=1.7						
AAK				Lg	Lg	07 55 51.4	
	5.7nm,0.3s,baz=319,slow=20,SNR=3.7						
AAK				LR	LR	07 56 42.8	
	comp=Z,532nm,20.7s,baz=207,slow=40						
	18nm,0.3s						
AAK	**Ala-Archa**	**5.60**	**21**	Pn	**Pn**	**07 54 22.2**	**+3.0**
AAK	**Ala-Archa**	**5.60**	**21**	*ce*PN	**Pn**	**07 54 22.7**	**+3.5**
AAK				pmax	pmax		
	comp=Z,39nm,0.8s						
KK31	**Karatay Array**	**5.73**	**351**	Pn	**Pn**	**07 54 21.9**	**+1.0**
KK31	**Karatay Array**	**5.73**	**351**	⇑P	**Pn**	**07 54 22.8**	**+1.9**
	comp=Z,31nm,0.5s,baz=178,slow=14,SNR=206						
KK31	**Karatay Array**	**5.73**	**351**	PN	**Pn**	**07 54 21.9**	**+1.0**
KKAR	**Karatay Array**	**5.73**	**351**	Pn	**Pn**	**07 54 22.3**	**+1.4**
KKAR	**Karatay Array**	**5.73**	**351**	PN	**Pn**	**07 54 22.3**	**+1.4**
KBK	**Karagaybulak**	**5.76**	**24**	P	**Pn**	**07 54 25.8**	**+4.4**
	SNR=35						
ULHL	**Ulahol**	**5.92**	**34**	P	**Pn**	**07 54 27.6**	**+4.0**
	SNR=22						
CHMS	**Chumysh**	**6.01**	**22**	P	**Pn**	**07 54 28.2**	**+3.6**
	SNR=30						
CHMS	**Chumysh**	**6.01**	**22**	⇑P	**Pn**	**07 54 28.1**	**+3.4**
	comp=Z,24nm,0.4s						
CHMS	**Chumysh**	**6.01**	**22**	PN	**Pn**	**07 54 28.0**	**+3.4**
CHMS				S	Sn	07 55 59.5	+27
USP	**Ospenovka**	**6.19**	**19**	P	**Pn**	**07 54 30.1**	**+3.0**
	SNR=40						
TKM2	**Tokmak 2**	**6.22**	**27**	P	**Pn**	**07 54 31.3**	**+3.6**
	SNR=208						
TKM2	**Tokmak 2**	**6.22**	**27**	⇓P	**Pn**	**07 54 29.7**	**+2.0**
	comp=Z,96nm,0.6s						
TKM2				⇑S	Sn	07 56 08.6	+31
	comp=Z,110nm,1.0s						
TKM2	**Tokmak 2**	**6.22**	**27**	PN	**Pn**	**07 54 31.5**	**+3.8**
TARG	**Taragay, Kyrgy**	**6.34**	**46**		**Pn**	**07 54 32.7**	**+3.1**
TARG	**Taragay, Kyrgy**	**6.34**	**46**	PN	**Pn**	**07 54 27.5**	**-2.1**
TARG				pmax	pmax		
	comp=Z,68nm,1.0s						
DHRM	**DHARAMSHALA**	**6.39**	**143**	*eP*	**Pn**	**07 54 31.9**	**+1.8**
DHRM				*i* x	x	07 54 57.6	
DHRM				*eS*	**Sn**	**07 55 46.1**	**+4.1**
DHRM				IAML		07 55 50.2	
	comp=E,455nm,0.5s						
DHRM				IAML		07 55 51.4	
	comp=N,397nm,0.4s						
SGDS	**Sogindy**	**6.39**	**19**	*e*PN	**Pn**	**07 54 32.1**	**+2.1**
MDOK	**Medeo**	**7.01**	**34**	P	**Pn**	**07 54 40.6**	**+2.1**
	comp=N,34nm,0.8s						
KNDC	**Almaty**	**7.01**	**33**	⇓P	**Pn**	**07 54 40.6**	**+2.1**
	comp=N,110nm,0.8s						
SMLA	**Simla**	**7.73**	**143**	*eP*	**Pn**	**07 54 49.5**	**+1.2**
SMLA				*eS*	**Sn**	**07 56 12.3**	**-2.3**
SMLA				IAML		07 56 20.0	
	comp=N,117nm,0.5s						
SMLA				IAML		07 56 20.8	
	comp=E,143nm,0.5s						
SMLA				IAML		07 56 22.8	
	comp=N,125nm,0.4s						
SMLA				IAML		07 56 24.1	
	comp=E,192nm,0.6s						
BTLS	**Baital**	**7.79**	**12**	*eP*	**Pn**	**07 54 50.1**	**+1.1**
UZB	**Uzynbulak**	**7.96**	**42**	*eP*	Pn	07 55 01.2	+10
KPKS	**Kokpek**	**8.01**	**39**	*eP*	**Pn**	**07 54 54.8**	**+2.6**
NDI	**New Delhi**	**9.87**	**151**	*eP*	**Pn**	**07 55 21.0**	**+3.4**
NDI				*eS*	**Sn**	**07 57 04.0**	**-3.1**
GEYT	**Alibeck**	**10.81**	**277**	Pn	**Pn**	**07 55 28.4**	**-2.1**
	comp=E,3.2nm,0.3s,baz=111,slow=11,SNR=19						
GEYT				Sn	**Sn**	**07 57 25.5**	**-4.7**
	comp=E,4.6nm,0.3s,baz=119,slow=12,SNR=3.8						
	comp=E,6.5nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**10.81**	**277**	Pn	**Pn**	**07 55 28.0**	**-2.5**
MAKZ	**Makanchi**	**12.04**	**36**	Pn	**Pn**	**07 55 49.1**	**+1.8**
MAKZ	**Makanchi**	**12.04**	**36**	⇓P	**Pn**	**07 55 48.0**	**+0.7**
	comp=E,23nm,0.8s						
MAKZ	**Makanchi**	**12.04**	**36**	P	**Pn**	**07 55 49.1**	**+1.8**
MK31	**Makanchi Array**	**12.18**	**37**	Pn	**Pn**	**07 55 51.0**	**+1.8**
MK31	**Makanchi Array**	**12.18**	**37**	⇓P	**Pn**	**07 55 49.9**	**+0.7**
	comp=E,18nm,0.9s,baz=229,slow=15,SNR=79						
MK31	**Makanchi Array**	**12.18**	**37**	*i* P	**Pn**	**07 55 51.3**	**+2.1**
MKAR	**Makanchi Array**	**12.18**	**37**	Pn	**Pn**	**07 55 50.9**	**+1.7**
	comp=E,0.8nm,0.3s,baz=230,slow=14,SNR=54						
MKAR				Lg	Lg	07 59 23.3	
	comp=E,0.1nm,0.3s,baz=246,slow=17,SNR=3.6						
MKAR				LR	LR	08 00 21.3	
	comp=E,41nm,21.5s,baz=266,slow=37						
	comp=E,13nm,0.8s						
MKAR	**Makanchi Array**	**12.18**	**37**	*i* P	**Pn**	**07 55 51.4**	**+2.2**
MKAR				pmax	pmax		
	comp=Z,12nm,0.8s						
BRZS	**Berezniki**	**12.55**	**3**	*eP*	**P**	**07 56 02.6**	**-2.8**
DANN	**Dangsing**	**13.56**	**128**	*eP*	**Pn**	**07 56 05.6**	**-2.8**
	comp=Z,13nm,0.4s						
DANN				*eS*	**Sn**	**07 58 32.3**	**-5.6**
KOLN	**Koldanda**	**13.88**	**131**	*eP*	**Pn**	**07 56 09.5**	**-3.1**
KURBB	**Kurchatov Arra**	**14.04**	**18**	Pn	**Pn**	**07 56 12.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=214,slow=13,SNR=61						
KURBB				Lg	Lg	08 00 18.6	
	baz=207,slow=29,SNR=4.6						
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**14.04**	**18**	⇓P	**Pn**	**07 56 12.4**	**-2.1**
	comp=Z,9.4nm,0.7s						
KURK	**Kurchatov**	**14.15**	**18**	Pn	**Pn**	**07 56 14.0**	**-2.0**
KURK	**Kurchatov**	**14.15**	**18**	*i* P	**Pn**	**07 56 14.7**	**-1.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GKN	**Gorkha**	**14.35**	**127**	*eP*	**Pn**	**07 56 16.2**	**-2.9**
	comp=Z,19nm,0.3s						
GKN				*eS*	**Sn**	**07 58 51.2**	**-5.9**
AB31	**Akbulak array**	**14.58**	**328**	⇑P	Pn	07 56 17.0	-4.9
	comp=Z,5.2nm,0.4s,baz=141,slow=12,SNR=356						
AB31	**Akbulak array**	**14.58**	**328**	*eP*	**Pn**	**07 56 18.4**	**-3.4**
ABKAR	**Akbulak array**	**14.58**	**328**		**Pn**	**07 56 18.1**	**-3.7**
DMN	**Daman**	**14.92**	**127**	*eP*	**Pn**	**07 56 23.6**	**-3.3**
	comp=Z,12nm,0.4s						
DMN				*eS*	**Sn**	**07 59 04.7**	**-6.4**
BHPL	**Bhopal**	**14.97**	**159**	*ex*	Pn	07 56 22.6	-4.8
BHPL				*i* x	x	08 01 51.3	
PKIN	**Phulchoki**	**15.13**	**127**	*eP*	**Pn**	**07 56 26.3**	**-3.3**
	comp=Z,3.1nm,0.2s						
PKIN				*eS*	**Sn**	**07 59 10.2**	**-6.0**
PKI	**Pulchoki**	**15.14**	**127**	*e*P	**Pn**	**07 56 26.3**	**-3.6**
	comp=Z,10nm,0.5s						
PKI				*eS*	**Sn**	**07 59 10.2**	**-6.4**
JIRN	**Jiri**	**15.59**	**125**	*e*P	**Pn**	**07 56 32.0**	**-3.7**
	comp=Z,27nm,0.3s						
JIRN				*eS*	**Sn**	**07 59 21.1**	**-6.3**
BVA0	**Borovoye Array**	**15.61**	**357**	⇓P	**Pn**	**07 56 31.2**	**-4.3**
	comp=Z,4.1nm,0.4s,baz=162,slow=11,SNR=67						
BVAR	**Borovoye Array**	**15.61**	**357**	Pn	**Pn**	**07 56 33.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=20						
BVAR				LR	LR	08 02 52.1	
	comp=Z,343nm,20.4s,baz=179,slow=38						
	comp=Z,4.4nm,0.6s						
BRVK	**Borovoye**	**15.65**	**357**	Pn	**Pn**	**07 56 34.1**	**-1.9**
BRVK	**Borovoye**	**15.65**	**357**	⇓P	**Pn**	**07 56 32.3**	**-3.7**
	comp=Z,14nm,1.1s						
BRVK	**Borovoye**	**15.65**	**357**	*ce*P	**Pn**	**07 56 34.4**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
AKTO	**Aktyubinsk**	**16.29**	**327**	Pn	**Pn**	**07 56 42.0**	**-2.1**
	comp=Z,1.9nm,0.3s,baz=122,slow=10,SNR=28						
AKTO				Sn	**Sn**	**07 59 38.6**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=54,slow=14,SNR=3.8						
	comp=Z,20nm,0.8s						
AKTO	**Aktyubinsk**	**16.29**	**327**	⇑P	**Pn**	**07 56 39.6**	**-4.6**
	comp=Z,38nm,0.7s						
DGZ	**Jazzator, Alta**	**16.67**	**38**	*i* P	**Pn**	**07 56 48.8**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,46nm,0.7s						
WSAR	**Wadi Sarin**	**18.09**	**222**	P	**Pn**	**07 57 05.2**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=353,slow=4.2,SNR=2.3						
	comp=Z,9.0nm,0.8s						
BOK	**Bokaro**	**18.22**	**134**	*e*P	**Pn**	**07 57 09.8**	**+1.4**
GOMU	**GeErMu**	**18.51**	**87**	P	**P**	**07 57 12.7**	**+0.8**
GOMU				pP	pP	07 57 24.1	+1.8
GOMU				sP	sP	07 57 30.2	+2.8
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAA0	**Zalesovo Array**	**18.81**	**25**	P	**P**	**07 57 14.3**	**-0.3**
ZAA0	**Zalesovo Array**	**18.81**	**25**	⇑P	**P**	**07 57 13.2**	**-1.4**
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**18.81**	**25**	P	**P**	**07 57 14.1**	**-0.5**
	comp=Z,6.1nm,0.3s,baz=216,slow=9.6,SNR=86						
ZALV				LR	LR	08 05 08.4	
	comp=Z,81nm,20.4s,baz=232,slow=39						
	comp=Z,14nm,0.4s						
AKT	**Akhty**	**18.96**	**290**	*eP*	**Pn**	**07 57 17.3**	**0.0**
AKT				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GROC	**Groznyy**	**20.56**	**294**	P	Pn	07 57 36.9	+0.7
GROC				pmax	pmax		
	comp=Z,40nm,0.6s						
SVE	**Sverdlovsk**	**20.76**	**343**	*eP*	**P**	**07 57 35.9**	**+0.1**
SVE				*eS*	Sn	08 01 32.4	+0.9
SHL	**Shillong**	**20.81**	**119**	P	**P**	**07 57 38.1**	**+1.3**
SHL	**Shillong**	**20.81**	**119**	P	**P**	**07 57 38.1**	**+1.3**
SHL				pmax	pmax		
	comp=Z,14nm,0.7s						
ARU	**Arti**	**20.95**	**339**	P	**P**	**07 57 37.6**	**-0.3**
	comp=Z,9.5nm,0.4s,baz=159,slow=7.4,SNR=21						
ARU				LR	LR	08 06 41.2	
	comp=Z,163nm,20.7s,baz=131,slow=39						
	comp=Z,9.5nm,0.4s						
ARU	**Arti**	**20.95**	**339**	P	**P**	**07 57 37.9**	**+0.1**
ARU	**Arti**	**20.95**	**339**	*c* P	**P**	**07 57 38.8**	**+0.9**
ARU						07 58 01.0	
ARU				S	**S**	**08 01 28.2**	**-1.0**
ARU				SS	**SnSn**	**08 02 02.3**	**+11**
GNI	**Garni**	**21.19**	**286**	P	**P**	**07 57 39.5**	**-1.3**
	comp=Z,16nm,0.6s,baz=167,slow=17,SNR=1.2						
	comp=Z,16nm,0.6s						
GNI	**Garni**	**21.19**	**286**	P	**P**	**07 57 43.2**	**+2.4**
GNI				lAmb	lAmb	07 57 46.8	
	comp=Z,27nm,0.9s						
GNI	**Garni**	**21.19**	**286**	P	**P**	**07 57 43.2**	**+2.4**
GNI				pmax	pmax		
	comp=Z,27nm,0.9s						
ZEI	**Tsey**	**21.90**	**293**	*eP*	**P**	**07 57 50.6**	**+2.2**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GTA	**Gaotai**	**22.05**	**76**	*eP*	**P**	**07 57 51.0**	**+1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NCK	**Nalchik**	**22.19**	**295**	*i* P	**P**	**07 57 54.3**	**+2.9**
NCK				pmax	pmax		
	comp=Z,76nm,

AKASG LR LR 08 13 57.4
comp=Z,38nm,18.3s,baz=60,slow=38
comp=Z,1.6nm,0.4s
AKASG Malin Array Be 32.83 308 *e*P **P 07 59 28.9 +0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 32.83 308 P **P 07 59 28.5 +0.3**
AKBB lAmb lAmb 07 59 30.3
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 32.83 308 *ce*P **P 07 59 29.2 +0.9**
AKBB pmax pmax
comp=Z,41nm,3.1s
NRIK Noril'sk 33.10 10 P **P 07 59 30.8 +0.5**
comp=Z,1.6nm,0.3s,baz=201,slow=5.2,SNR=6.1
NRIK LR LR 08 14 40.0
comp=Z,92nm,20.6s,baz=338,slow=39
comp=Z,1.6nm,0.3s
NRIK Noril'sk 33.10 10 *i*P **P 07 59 30.9 +0.5**
NRIK Noril'sk 33.10 10⇑ *e*P **P 07 59 30.9 +0.5**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
MNK Minsk 34.26 314 *i*P **P 07 59 39.5 -1.1**
comp=E,2.0nm,0.7s
MNK *i*P **P 07 59 39.5 -1.1**
comp=N,21nm,0.7s
MNK *i*P **P 07 59 39.5 -1.1**
comp=Z,7.0nm,0.7s,baz=281
MNK *i*pP **sP 07 59 58.3 +1.8**
MNK *i*PP **PP 08 00 55.5 -3.0**
MNK *i*S **S 08 04 59.8 -5.3**
MNK *i*sS sS 08 05 32.8 +9.3
MNK *i*SS **SnSn 08 07 15.6 +0.1**
MNK *i*LR LR 08 13 24.1
MNK *i*LRM MLR 08 16 22.3
comp=Z,168nm,15.3s
MNK *i*LRM MLR 08 16 51.1
comp=N,1µm,16.6s
MNK *i*LRM MLR 08 16 58.8
comp=E,100nm,17.2s
MNK Minsk 34.26 314 *i*P **P 07 59 39.5 -1.1**
MNK *i* 08 00 55.5
MNK *i* 08 02 15.4
MNK *i*S **S 08 04 59.8 -5.3**
MNK *i*SS **SnSn 08 07 15.6 +0.1**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=N,21nm,0.7s
MNK MLR MLR
comp=Z,168nm,15.0s
MNK MLR MLR
comp=N,1µm,17.0s
MNK MLR MLR
comp=E,100nm,17.0s
MLR Muntele Rosu 34.85 298 P **P 07 59 48.9 +2.8**
MLR pmax pmax
comp=Z,10.0nm,1.0s
VOIR 35.48 298 P **P 07 59 52.9 +1.4**
VOIR pmax pmax
comp=Z,2.0nm,0.9s
LVZ Lovozero 36.81 338 P **P 08 00 02.8 +0.4**
LVZ Lovozero 36.81 338 P **P 08 00 02.8 +0.4**
LVZ pmax pmax
comp=Z,35nm,1.2s
FINES FINESS Array B 37.04 325 P **P 08 00 04.3 -0.1**
comp=Z,3.8nm,0.4s,baz=114,slow=9.5,SNR=39
FINES LR LR 08 15 34.3
comp=Z,59nm,19.4s,baz=74,slow=37
comp=Z,3.8nm,0.4s
FINES FINESS Array B 37.04 325 *e*P **P 08 00 05.2 +0.8**
FINES pmax pmax
comp=Z,4.0nm,0.4s
KNT Kendrikon 37.59 291 P **P 08 00 10.2 +0.9**
KNT pmax pmax
comp=Z,4.0nm,0.9s
MSF Maaselka 37.62 333 P **P 08 00 09.3 0.0**
MSF pmax pmax
comp=Z,29nm,2.6s
OUL Oulu 38.44 331 P **P 08 00 16.5 +0.3**
OUL pmax pmax
comp=Z,25nm,2.9s
NIE Niedzica 38.52 305 P **P 08 00 19.4 +2.3**
NIE pmax pmax
comp=Z,7.0nm,1.3s
FNA Florina 38.79 291 P **P 08 00 20.6 +1.1**
FNA pmax pmax
comp=Z,3.0nm,1.7s
OJC Ojcow 38.82 306 P **P 08 00 20.5 +0.9**
OJC pmax pmax
comp=Z,10.0nm,1.6s
LHMI Lhok Sumawe 39.47 138 P **P 08 00 27.3 +2.0**
VADS Vadso 39.65 339 *e*P **P 08 00 27.4 +1.2**
KEV Kevo 40.15 338 P **P 08 00 31.6 +1.2**
KEV Kevo 40.15 338 P **P 08 00 31.6 +1.2**
KEV pmax pmax
comp=Z,48nm,1.5s
MORC Moravsky Berou 40.29 306 P **P 08 00 33.4 +1.5**
MORC pmax pmax
comp=Z,5.0nm,0.8s
ARA0 ARCESS Array S 40.51 337 *e*P **P 08 00 34.1 +0.7**
ARCES ARCESS Array B 40.51 337 P **P 08 00 34.0 +0.6**
comp=Z,6.5nm,0.7s,baz=110,slow=8.0,SNR=28
ARCES LR LR 08 18 36.2
comp=Z,153nm,19.7s,baz=144,slow=38
comp=Z,6.5nm,0.7s
ARCES ARCESS Array B 40.51 337 P **P 08 00 34.0 +0.6**
KRLC Kraliky 40.76 306 P **P 08 00 37.4 +1.6**
KRLC pmax pmax
comp=Z,4.0nm,1.4s
VRAC Vranov 40.94 305 P **P 08 00 39.3 +2.1**
VRAC pmax pmax
comp=Z,11nm,0.8s
ZEA Zeya 41.00 48 *e*P P 08 00 43.6 +6.0
KTK1 Kautokeino 41.00 336 *e*P **P 08 00 38.0 +0.6**
DPC Dobruska-Polom 41.04 307 *e*P **P 08 00 40.1 +2.0**
DPC Dobruska-Polom 41.04 307 *e*P **P 08 00 40.1 +2.0**
HEH HeiHe 41.21 54 *e*P **P 08 00 40.6 +1.2**
HEH pmax pmax
comp=Z,8.0nm,0.9s
JETT Jettan, Norway 42.14 336 *e*P **P 08 00 49.5 +2.7**
BRG Berggiesshubel 42.52 308 P **P 08 00 51.6 +1.5**
BRG pmax pmax
comp=Z,8.0nm,1.1s
HFS Hagfors 42.70 321 LR LR 08 19 31.0
comp=Z,98nm,18.4s,baz=74,slow=37
YAK Yakutsk 42.86 36 *e*P **P 08 00 53.2 +0.6**
YAK *e* 08 02 33.1
YAK *e* 08 02 44.5
YAK *e*S **S 08 07 09.7 -4.8**
YAK *e*SS **SS 08 10 19.1 -7.0**
YAK *e* 08 10 49.4
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=Z,164nm,4.4s
YAK pmax pmax
comp=N,127nm,4.6s
YAK pmax pmax
comp=E,67nm,4.2s
YAK smax smax
comp=E,102nm,3.9s
YAK smax smax
comp=N,73nm,3.8s
GERES GERESS Array B 42.88 305 P **P 08 00 53.9 +0.7**
comp=N,0.7nm,0.7s,baz=87,slow=9.5,SNR=4.1
GERES LR LR 08 20 26.2
comp=N,32nm,18.3s,baz=44,slow=38
comp=N,0.7nm,0.7s
GERES GERESS Array B 42.88 305 *e*P **P 08 00 55.5 +2.3**
GERES pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 42.92 305 *e*P **P 08 00 55.0 +1.5**
KHC Kasperske Hory 42.92 305 *e*P **P 08 00 55.0 +1.5**
CLL Collm 43.07 308 *e*P **P 08 00 56.0 +1.5**
CLL Collm 43.07 308 *e*P **P 08 00 56.0 +1.5**
FAUS Fauske 43.25 332 *e*P **P 08 00 57.0 +1.2**
MOR8 Moi Rana 43.29 330 *e*P **P 08 00 56.2 0.0**
NORES NORESS Array B 43.81 322 P **P 08 01 00.5 +0.1**
KONS Konsvik 43.88 330 *e*P **P 08 01 01.7 +0.9**

NB2 NORSAR Subarra 43.99 322 P **P 08 01 01.9 0.0**
comp=Z,2.2nm,0.5s,baz=92,slow=7.9
NB2 NORSAR Subarra 43.99 322 P **P 08 01 01.9 0.0**
slow=7.9
NOA NORSAR Array B 43.99 322 P **P 08 01 01.7 -0.2**
comp=Z,3.3nm,0.6s,baz=93,slow=7.7,SNR=14
NOA LR LR 08 22 43.2
comp=Z,21nm,18.7s,baz=120,slow=41
comp=Z,3.3nm,0.6s
NOA NORSAR Array B 43.99 322 *e*P **P 08 01 02.2 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.5s
KSRS Korea Array 44.02 72 P **P 08 01 02.6 +0.2**
comp=Z,1.8nm,0.8s,baz=286,slow=10.0,SNR=3.2
KSRS LR LR 08 22 01.2
comp=Z,44nm,18.8s,baz=265,slow=40
comp=Z,1.8nm,0.8s
KLR Kul'dur 44.11 55 LR LR 08 20 54.8
comp=Z,74nm,20.0s,baz=288,slow=38
KLR Kul'dur 44.11 55 *i*P **P 08 01 03.8 +0.8**
KLR pmax pmax
comp=Z,3.0nm,1.5s
TIXI Tiksi 44.68 22 LR LR 08 20 54.6
comp=Z,58nm,21.7s,baz=202,slow=38
TIXI Tiksi 44.68 22 P **P 08 01 07.3 +0.2**
TIXI lAmb lAmb 08 01 08.5
comp=Z,5.9nm,0.8s
TIXI Tiksi 44.68 22 *ce*P **P 08 01 08.0 +0.8**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
KONO Kongsberg 44.73 320 P **P 08 01 08.3 +0.5**
KONO lAmb lAmb 08 01 22.9
comp=Z,15nm,1.2s
KONO Kongsberg 44.73 320 P **P 08 01 08.3 +0.5**
KONO pmax pmax
comp=Z,15nm,1.2s
SPITS Spitsbergen Ar 46.72 347 LR LR 08 24 35.0
comp=Z,60nm,18.3s,baz=110,slow=41
WLF Walferdange 47.63 307 P **P 08 01 32.7 +2.0**
WLF pmax pmax
comp=Z,12nm,1.5s
EKA Eskdalemuir Ar 52.03 316 P **P 08 02 05.2 +1.2**
MJAR Matsushiro Arr 52.06 69 P **P 08 02 05.0 +0.4**
comp=Z,2.8nm,0.8s,baz=292,slow=10.0,SNR=4.9
comp=Z,2.8nm,0.8s
MJAR Matsushiro Arr 52.06 69 P **P 08 02 05.0 +0.4**
MJA0 Matsu Arr-Jizo 52.09 69 *e*P **P 08 02 05.4 +0.6**
MJA0 pmax pmax
comp=Z,3.0nm,0.8s
NOR Nord 52.99 349 P **P 08 02 11.8 +1.0**
MA2 Magadan 53.26 39 LR LR 08 25 36.8
comp=Z,45nm,21.6s,baz=110,slow=37
BILL Bilibino 57.50 26⇑ *e*P **P 08 02 41.7 -1.8**
BILL *e* 08 03 37.1
BILL *e*S S 08 11 06.0 +28
BILL pmax pmax
comp=Z,19nm,2.9s
BILL MLR MLR
comp=Z,63nm,15.0s
ESDC Sonseca Array 57.55 298 P **P 08 02 44.5 +0.2**
comp=Z,2.4nm,0.7s,baz=58,slow=7.5,SNR=19
comp=Z,2.4nm,0.7s
PETK Petropavlovsk- 58.88 45 LR LR 08 27 39.1
comp=Z,67nm,18.6s,baz=332,slow=35
OPO Ambohidratompo 60.32 207 LR LR 08 27 39.7
comp=Z,61nm,21.4s,baz=15,slow=35
C24K Franklin Bluff 69.13 14 P **P 08 04 01.1 +0.7**
baz=327
D23K Nanushuk River 69.36 15 P **P 08 04 02.7 +0.8**
baz=325
D24K Happy Valley 69.58 14 P **P 08 04 03.8 +0.6**
baz=327
C26K Camden Bay 69.66 13 P **P 08 04 04.8 +1.1**
baz=330
E22K Anaktuvuk Pass 69.81 16 P **P 08 04 05.1 +0.5**
baz=324
D25K Kavik River 69.91 14 P **P 08 04 06.1 +0.8**
baz=329
C27K Jago River 70.12 12 P **P 08 04 07.7 +1.1**
baz=331
F21K Alatna River 70.17 17 P **P 08 04 07.4 +0.6**
baz=323
A36M Sachs Harbour 70.21 6 P **P 08 04 07.6 +0.6**
A36M Sachs Harbour 70.21 6 P **P 08 04 07.8 +0.8**
baz=346
E23K Chandalar 70.34 15 P **P 08 04 08.6 +0.6**
baz=326
G21K Allakaket 70.73 18 P **P 08 04 10.7 +0.4**
baz=323
G22K Bettles 70.86 17 P **P 08 04 11.9 +0.9**
baz=325
COLD Coldfoot 70.90 16 P **P 08 04 11.6 +0.2**
COLD lAmb lAmb 08 04 13.3
comp=Z,8.7nm,1.0s
COLD Coldfoot 70.90 16 P **P 08 04 12.1 +0.7**
baz=326
E25K Arctic Village 71.10 14 P **P 08 04 13.4 +0.8**
baz=330
F24K Squaw Lake 71.15 15 P **P 08 04 13.6 +0.7**
baz=328
GCSA Galena City Sc 71.27 20 P **P 08 04 14.5 +1.0**
baz=321
G23K Bananza Creek 71.37 16 P **P 08 04 15.1 +0.8**
baz=326
F25K Christian River 71.54 14 P **P 08 04 16.0 +0.8**
baz=330
H21K Melozitna Rive 71.59 18 P **P 08 04 16.2 +0.7**
H21K lAmb lAmb 08 04 17.8
comp=Z,5.2nm,1.1s
H21K Melozitna Rive 71.59 18 P **P 08 04 16.2 +0.7**
baz=324
F26K Sheenjek River 71.74 14 P **P 08 04 17.3 +0.9**
baz=331
H22K Ishtalitna Cre 71.74 17 P **P 08 04 17.0 +0.6**
baz=325
E27K Coleen River 71.76 12 P **P 08 04 17.3 +0.8**
baz=333
G24K Hadweenzic Riv 71.93 15 P **P 08 04 18.5 +0.9**
baz=328
G25K Bearman Lake 72.16 15 P **P 08 04 20.1 +1.2**
baz=329
I21K Tanana 72.18 18 P **P 08 04 20.0 +1.0**
baz=325
H23K Yukon River 72.22 17 P **P 08 04 20.5 +1.2**
H23K lAmb lAmb 08 04 21.7
comp=Z,9.4nm,1.1s
H23K Yukon River 72.22 17 P **P 08 04 20.1 +0.8**
baz=327
J20K Nowinta River 72.45 19 P **P 08 04 21.5 +0.9**
baz=323
G26K Porcupine Rive 72.46 14 P **P 08 04 21.8 +1.2**
baz=331
H24K Noodor Dome 72.58 16 P **P 08 04 22.7 +1.2**
H24K lAmb lAmb 08 04 29.1
comp=Z,7.7nm,1.2s
H24K Noodor Dome 72.58 16 P **P 08 04 22.5 +1.0**
baz=328
MLY Manley 72.60 17 P **P 08 04 22.4 +0.8**
baz=326
I23K Minto, Yukon-K 72.83 17 P **P 08 04 23.8 +1.0**
baz=327
INK Inuvik 72.88 10 P **P 08 04 24.0 +0.9**
INK lAmb lAmb 08 04 25.1
comp=Z,11nm,1.1s
INK Inuvik 72.88 10 P **P 08 04 23.9 +0.9**
baz=339
INK Inuvik 72.88 10 P **P 08 04 24.0 +0.9**
INK pmax pmax
comp=Z,11nm,1.1s
C36M Paulatuk 72.89 6 P **P 08 04 23.4 +0.3**
baz=347
TTA Tatalina 72.93 21 P **P 08 04 24.7 +1.0**
baz=322
G27K Doyon Strip 72.98 13 P **P 08 04 25.0 +1.1**
baz=333
K20K Telida 73.13 20 P **P 08 04 25.6 +0.8**
baz=324
CHUM Lake Minchumin 73.16 19 P **P 08 04 25.8 +1.0**
baz=325
MDM Murphy Dome 73.25 17 P **P 08 04 26.2 +0.8**
MDM lAmb lAmb 08 04 27.9
comp=Z,7.9nm,1.2s
POKR Poker Plat Res 73.29 16 P **P 08 04 26.2 +0.5**
baz=329
BPAW Bear Paw Mtn. 73.32 18 P **P 08 04 26.6 +0.7**
baz=326
NEA2 Nenana 73.37 17 P **P 08 04 26.5 +0.4**
baz=327,SNR=8.2
TCOL CIGO, UAF Yank 73.41 16 P **P 08 04 27.4 +1.1**
baz=328
COLA College 73.41 16 P **P 08 04 27.0 +0.8**
baz=328
H27K Steamboat Moun 73.52 13 P **P 08 04 28.2 +1.1**
baz=333
CAST Castle Rocks 73.60 19 P **P 08 04 28.6 +1.1**
baz=325,SNR=11
F31M Tsiigehtchic 73.66 10 P **P 08 04 28.6 +0.9**
baz=339
ILAR Eielson Array 73.71 16 P **P 08 04 27.9 -0.3**
comp=Z,2.9nm,0.9s,baz=317,slow=5.1,SNR=31
comp=Z,2.9nm,0.9s
ILAR Eielson Array 73.71 16 *e*P **P 08 04 28.1 0.0**
ILAR pmax pmax
comp=Z,3.0nm,0.9s
G30M tAoh Zraii Nji 73.73 11 P **P 08 04 28.7 +0.4**
baz=337
L19K White Mountain 73.86 21 P **P 08 04 29.8 +0.7**
baz=323
L20K Farewell, AK 73.89 20 P **P 08 04 30.0 +0.8**
baz=324
PPLA Purkeypile 74.00 19 P **P 08 04 30.5 +0.5**
baz=325
HDA Harding Lake 74.01 16 P **P 08 04 30.2 +0.3**
baz=329
N16K Nishlik Lake 74.03 23 P **P 08 04 31.5 +1.4**
baz=320
TRF Thorofare Moun 74.03 18 P **P 08 04 30.6 +0.4**
baz=327
I27K Kandik River 74.06 14 P **P 08 04 30.7 +0.5**
baz=333
MCK McKinley 74.12 18 P **P 08 04 31.2 +0.6**
baz=328
EPYK Eagle Plains 74.22 12 P **P 08 04 31.7 +0.6**
baz=337
FRB Frobisher Bay 74.34 343 P **P 08 04 32.4 +0.7**
FRB pmax pmax
comp=Z,7.0nm,1.8s
J26L Joseph Creek 74.66 15 P **P 08 04 33.9 +0.1**
baz=332
K24K Donnelly Dome 74.79 16 P **P 08 04 34.8 +0.3**
baz=330,SNR=6.6
I29M Ogilvie Camp, 74.88 13 P **P 08 04 35.8 +0.9**
I29M lAmb lAmb 08 04 36.8
comp=Z,8.4nm,1.1s
I29M Ogilvie Camp, 74.88 13 P **P 08 04 35.6 +0.7**
baz=336
EGAK Eagle 74.89 14 P **P 08 04 35.6 +0.6**
baz=334
O16K Kokwok River B 74.92 24 P **P 08 04 36.7 +1.5**
baz=321
SKT Skwentna 74.93 20 P **P 08 04 35.9 +0.6**
SKT lAmb lAmb 08 04 36.3
comp=Z,15nm,1.1s
SKT Skwentna 74.93 20 P **P 08 04 35.8 +0.5**
baz=326,SNR=9.6
WAT1 Susitna Watana 74.98 18 P **P 08 04 35.3 -0.3**
baz=328
SCRK Sand Creek 75.03 15 P **P 08 04 36.2 +0.3**
baz=332
RIDG Independent Ri 75.06 16 P **P 08 04 36.1 +0.1**
baz=331
DHY Denali Highway 75.06 17 P **P 08 04 36.7 +0.6**
baz=329
N19K Bonanza Creek 75.06 21 P **P 08 04 37.3 +1.2**
baz=324
K27K Chicken 75.38 15 P **P 08 04 39.0 +1.2**
K27K lAmb lAmb 08 04 40.0
comp=Z,6.8nm,1.0s
K27K Chicken 75.38 15 P **P 08 04 38.6 +0.8**
baz=333
WAT6 Susitna Watana 75.39 18 P **P 08 04 38.1 -0.1**
baz=329
P16K Nushagak River 75.40 24 P **P 08 04 39.2 +1.3**
baz=321
M22K Willow 75.50 19 P **P 08 04 39.3 +0.9**
baz=327
SUA Susitna One 75.57 20 P **P 08 04 39.7 +0.7**
baz=326
PAX Paxson 75.59 17 P **P 08 04 39.3 +0.2**
baz=330
O18K Koktuh Hills 75.62 22 P **P 08 04 40.4 +1.1**
baz=323
J29M Klondike Camp 75.73 13 P **P 08 04 40.8 +0.9**
baz=336
P17K Kvichak River 75.76 23 P **P 08 04 41.5 +1.4**
baz=322
DAWY Dawson 75.87 14 P **P 08 04 41.5 +0.8**
baz=335,SNR=6.8
PMR Palmer 75.89 19 P **P 08 04 41.6 +0.9**
baz=328
SML Sawmill 75.91 18 P **P 08 04 41.7 +0.7**
SML Sawmill 75.91 18 P **P 08 04 41.1 +0.2**
baz=328
P18K Big Mountain, 75.98 23 P **P 08 04 42.5 +1.1**
baz=323
L26K Log Cabin Wild 76.01 16 P **P 08 04 42.2 +0.8**
baz=332
M23K Glacier View 76.07 18 P **P 08 04 42.2 +0.4**
baz=329,SNR=6.3
Q16K King Salmon 76.11 24 P **P 08 04 43.4 +1.4**
baz=322
SCM Sheep Creek Mo 76.13 18 P **P 08 04 42.7 +0.4**
baz=329
RC01 Rabbit Creek A 76.15 19 P **P 08 04 42.5 +0.2**
baz=327
HARP HAARP 76.16 17 P **P 08 04 43.7 +1.4**
baz=331,SNR=5.0
M24K Tolsona, Glenn 76.17 17 P **P 08 04 43.2 +0.7**
baz=330
KNK Knik Glacier 76.21 19 P **P 08 04 43.5 +0.8**
baz=328
L27K Beaver Creek, 76.30 15 P **P 08 04 44.2 +1.1**
baz=333
K29M Barlow Dome 76.41 13 P **P 08 04 44.8 +1.0**
baz=337
M26K Nabesna, AK 76.64 16 P **P 08 04 46.1 +1.1**
baz=332
KLU Klutina 76.77 18 P **P 08 04 46.9 +1.1**
baz=330
Q19K Cape Douglas, 76.84 22 P **P 08 04 48.1 +1.9**
baz=325
M27K Edge Creek, AK 76.92 15 P **P 08 04 47.8 +1.0**
M27K lAmb lAmb 08 04 49.2
comp=Z,8.6nm,1.0s
M27K Edge Creek, AK 76.92 15 P **P 08 04 47.9 +1.1**
baz=333
MAYO Mayo, Yukon 76.92 12 P **P 08 04 47.7 +1.0**
baz=338
L29M L29M 76.98 13 P **P 08 04 48.1 +1.2**
baz=336,SNR=6.0
N25K Chitina, Valde 76.98 17 P **P 08 04 48.4 +1.4**
baz=331
BRSE Bradley Lake S 77.01 21 P **P 08 04 49.0 +1.8**
baz=327
R17K Ugashik Creek 77.02 24 P **P 08 04 49.5 +2.3**
baz=323
BVCY Beaver Creek 77.08 15 P **P 08 04 48.5 +1.0**
baz=334
Q20K Shuyak Island 77.48 22 P **P 08 04 51.7 +2.0**
baz=326
M29M Somme Creek 77.53 14 P **P 08 04 52.0 +1.9**
baz=336,SNR=5.1
MCARA McCarthy VSAT 77.54 16 P **P 08 04 51.8 +1.7**
baz=332
BMRM Bremner River 77.54 17 P **P 08 04 51.2 +1.0**
baz=331
M30M Minto, Yukon 77.71 13 P **P 08 04 52.2 +1.2**
baz=337
YUK3 Moose Creek 77.74 15 P **P 08 04 52.9 +1.4**
baz=334,SNR=5.4
YUK8 Steele Glacier 78.33 15 P **P 08 04 55.8 +1.0**
baz=335
M31M Drury Creek, Y 78.48 12 P **P 08 04 56.5 +1.2**
baz=339,SNR=5.7
YUK4 Talbot Arm 78.50 14 P **P 08 04 56.5 +0.9**
baz=336,SNR=5.6
FARO Faro, Yukon 78.62 12 P **P 08 04 57.1 +1.0**
FARO Faro, Yukon 78.62 12 P **P 08 04 57.2 +1.1**
baz=340,SNR=5.8
O28M Mount Upton 78.70 15 P **P 08 04 58.1 +1.2**
baz=335
N31M Braeburn, Yuko 78.91 13 P **P 08 04 59.0 +1.3**
baz=338
YUK6 Outpost Mounta 78.92 14 P **P 08 04 59.3 +1.3**
baz=336

WRGLY	**Wrigley** baz=348,SNR=7.6	78.94	7	P		P	08 04 59.3	+1.6
HYT	**Haines Junctio** baz=337,SNR=10	79.20	14	P		P	08 05 00.9	+1.5
PINM	**Pinnacle** baz=335	79.30	16	P		P	08 05 01.3	+1.3
O30N	**Mendenhall** baz=338,SNR=5.3	79.52	13	P		P	08 05 02.4	+1.4
WHY	**Whitehorse** baz=339	79.84	13	P		P	08 05 03.7	+0.8
PNL	**Peninsula** baz=336	79.87	15	P		P	08 05 04.0	+1.0
YKA	**Yellowknife Ar** comp=Z,7.4nm,0.7s,baz=348,slow=5.6 comp=Z,7.4nm,0.7s	80.28	3	P		P	08 05 05.7	+0.7
P33M	**Teslin, Yukon** baz=341,SNR=8.7	80.62	12	P		P	08 05 08.5	+1.5
PLBC	**Pleasant Camp** baz=338,SNR=5.3	80.68	14	P		P	08 05 08.7	+1.5
SKAG	**Skagway** baz=339	80.88	14	P		P	08 05 09.9	+1.6
P32M	**Atlin** baz=340	81.05	13	P		P	08 05 10.9	+1.6
WTLY	**Watson Lake, Y** baz=344	81.33	10	P		P	08 05 12.0	+1.2
R33M	**Jennings River** baz=342	81.69	12	P		P	08 05 13.8	+0.9
Q32M	**Nakina River** baz=341	81.89	12	P		P	08 05 15.1	+1.1
WRA	**Warramunga Arr** comp=Z,1.2nm,0.7s,baz=323,slow=5.3,SNR=8.5 comp=Z,1.2nm,0.7s	81.99	122	P		P	08 05 14.8	0.0
WRA WRA	**Warramunga Arr** comp=Z,1.0nm,0.7s	81.99	122	*e*P pmax		P pmax	08 05 16.1	+1.4
WRAB WRAB	**Tennant Creek** comp=Z,8.0nm,2.5s	81.99	122	P pmax		P pmax	08 05 14.9	+0.2
DLBC DLBC	**Dease Lake** comp=Z,4.3nm,1.0s	82.76	11	P IAmb		P IAmb	08 05 19.3 08 05 21.1	+0.9
DLBC	**Dease Lake** baz=343	82.76	11	P		P	08 05 19.9	+1.5
S34M	**Telegraph Cree** baz=342	83.08	12	P		P	08 05 21.7	+1.7
T35M	**Bob Quinn** baz=343	84.12	12	P		P	08 05 27.4	+2.1
WRAK	**Wrangell Islan** baz=341	84.29	13	P		P	08 05 28.4	+2.3
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=311,slow=5.6,SNR=5.7 comp=Z,0.5nm,0.7s	84.31	125	P		P	08 05 26.9	+0.2
EDM	**Edmonton**	89.60	3	P		P	08 05 52.9	+0.8
EDM EDM	**Edmonton** comp=Z,13nm,0.6s	89.60	3	P pmax		P pmax	08 05 52.9	+0.8

*IDC **05** 07:55:41.1±2.9,5.˚62S×153.˚38E, h50km±23km, mb3.6/7, mbtmp3.9/8, ML2.1/1, Error ellipse: s-maj=29.8km s-min=13.8km az=81.0*

ISC 05 07:55:40.4±1.1, 5.˚57S±0.˚08×153.˚4E±0.˚1, h43km, n9, σ1§02/11, mb3.9/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** 231nm,0.5s,baz=162,slow=19,SNR=32	1.87	312	P	Pn	07 56 09.1	-0.8
KRVT	264nm,0.4s,baz=72,slow=20,SNR=11			S	Sn	07 56 33.9	+1.6
KRVT	comp=Z,113nm,21.3s,baz=233,slow=32			LR	LR	07 56 41.4	
PMG	**Port Moresby** 2.0nm,0.3s,baz=72,slow=19,SNR=2.3	7.28	238	P	Pn	07 57 24.9	+0.6
PMG	7.4nm,0.4s,baz=135,slow=16,SNR=1.8 4.9nm,0.4s			S	Sn	07 58 44.8	-1.0
DZM	**Mont Dzumac** 2.0nm,0.5s,baz=242,slow=13,SNR=6.5 2.0nm,0.5s	20.69	144	P	P	08 00 17.9	+0.8
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=53,slow=9.7,SNR=3.6 0.9nm,0.7s	23.42	231	P	P	08 00 46.1	+0.3
ASAR	**Alice Springs** 0.5nm,0.8s,baz=56,slow=9.3,SNR=4.7 0.5nm,0.8s	26.02	224	P	P	08 01 08.8	-0.9
SONM	**Songino Array** 0.6nm,0.5s,baz=148,slow=6.7,SNR=6.0 0.6nm,0.5s	67.30	328	P	P	08 06 31.6	+0.7
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=64,slow=7.2,SNR=6.5 1.1nm,0.8s	81.30	319	P	P	08 07 52.9	+0.6
ZALV	**Zalesovo Beam** 1.0nm,0.7s,baz=110,slow=4.2,SNR=2.7 1.0nm,0.7s	82.13	326	P	P	08 07 56.0	-0.5
NRIK	**Noril'sk** 1.4nm,0.3s,baz=187,slow=5.9,SNR=4.2 1.4nm,0.3s	86.88	341	P	P	08 08 19.0	-1.2

*IDC **05** 08:26:00.9±3.9, 6.˚11S×154.˚44E, h58km±39km, mb3.0/3, mbtmp3.5/6, ML1.5/1, Error ellipse: s-maj=30.4km s-min=20.1km az=89.0*

ISC 05 08:26:00.7±1.3, 6.˚16S±0.˚10×154.˚5E±0.˚1, h61km, n6, σ0§86/8, mb3.0/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** 28nm,0.5s,baz=135,slow=20,SNR=1.8	3.04	307	P	Pn	08 26 46.2	-0.2
KRVT	48nm,0.6s,baz=180,slow=20,SNR=4.4			S	Sn	08 27 22.0	+0.4
PMG	**Port Moresby** 0.4nm,0.3s,baz=58,slow=13,SNR=1.8	7.91	245	P	Pn	08 27 52.2	-0.9
PMG	3.2nm,0.3s,baz=15,slow=17,SNR=1.5 4.8nm,0.4s			S	Sn	08 29 21.4	+0.1
DZM	**Mont Dzumac** 4.2nm,0.8s,baz=326,slow=15,SNR=1.7	19.61	145	P	Pn	08 30 26.5	+0.3
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=55,slow=10,SNR=1.4 0.3nm,0.5s	23.86	233	P	P	08 31 09.3	+0.6
ASAR	**Alice Springs** 0.3nm,0.6s,baz=58,slow=9.5,SNR=2.2 0.3nm,0.6s	26.33	227	P	P	08 31 32.5	+1.3
ILAR	**Eielson Array** 0.4nm,0.9s,baz=242,slow=4.9,SNR=4.2 0.4nm,0.9s	82.80	22	P	P	08 38 17.4	-0.6

*JMA **05** 08:34:39.4±0.1, 38.˚9N±0.˚3×141.˚6E±0.˚5, h61km, MV3.4/39, NORTHERN MIYAGI PREF*
JMA Felt II J1 at NORTHERN MIYAGI PREF .
*IDC **05** 08:34:40.1±2.6, 38.˚97N×141.˚92E, h80km±22km, mb3.4/9, mbtmp3.7/13, Error ellipse: s-maj=26.5km s-min=15.1km az=105.0*

ISC 05 08:34:38.3±0.9, 38.˚88N±0.˚06×141.˚78E±0.˚09, h61km±6km, n29, σ1§59/31, mb3.7/9, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	0.22	338	*i* P	Pn	08 34 49.1	+1.1
OFUJ				S	Sn	08 34 55.8	+0.8
JKMT	**Kesennumamotoy**	0.24	255	*i* P	Pn	08 34 48.8	+0.7
JKMT				S	Sn	08 34 55.2	+0.1
JMK	**Ichinoseki**	0.44	280	*i* P	Pn	08 34 49.9	+0.2
JMK				S	Sn	08 34 57.2	-0.7
JIO	**Ouri**	0.54	219	P	Pn	08 34 51.0	+0.3
JIO				S	Sn	08 34 59.0	-0.7
JOM	**Ohasama**	0.71	328	⇓*i* P	Pn	08 34 53.3	+0.7
JOM				⇓S	Sn	08 35 03.4	+0.2
JOU	**Okura**	1.01	240	P	Pn	08 34 56.4	-0.1
JOU				S	Sn	08 35 08.8	-1.2
JRG	**Rokugo**	1.03	301	⇓*i* P	Pn	08 34 56.8	+0.1
JYK	**Kaneyama**	1.11	273	⇓*i* P	Pn	08 34 57.6	-0.2
JMM	**Marumori**	1.27	218	*e*P	Pn	08 34 60.0	+0.1
JMM				S	Sn	08 35 14.3	-1.7
JYS	**Shirataka**	1.49	245	⇓P	Pn	08 35 03.0	+0.1
JYS				⇓*e*S	Sn	08 35 21.2	-0.2
MJAR	**Matsushiro Arr** 1.7nm,0.4s,baz=42,slow=12,SNR=9.8	3.66	232	P	Pn	08 35 34.4	+1.9
MJAR	1.3nm,0.4s,baz=63,slow=14,SNR=1.3			S	Sn	08 36 21.3	+6.8
ASAJ	**Asahikawa** 14nm,0.9s,baz=248,slow=5.4,SNR=2.4	5.27	6	P	Pn	08 35 55.8	+1.3
USRK	**Ussuriysk Ar.** 3.9nm,0.7s,baz=114,slow=14,SNR=4.9	9.06	309	P	Pn	08 36 47.1	+0.8
KSRS	**Korea Array** 0.5nm,0.4s,baz=160,slow=16,SNR=4.3	11.00	267	P	Pn	08 37 18.0	+5.2
SONM	**Songino Array** 0.2nm,0.5s,baz=88,slow=8.8,SNR=2.0 0.2nm,0.5s	27.04	301	P	P	08 40 15.4	+0.5
H11N2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=28	28.89	124	T	T	09 11 04.1	
H11N1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=36	28.90	124	T	T	09 11 01.9	
H11N3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=32	28.91	124	T	T	09 11 04.2	
H11S1	**WAKE ISLAND Hy** baz=319,slow=76,SNR=19	29.66	126	T	T	09 12 05.2	
H11S3	**WAKE ISLAND Hy** baz=319,slow=76,SNR=17	29.67	126	T	T	09 12 03.3	
H11S2	**WAKE ISLAND Hy** baz=319,slow=76,SNR=16	29.68	126	T	T	09 12 00.3	
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=57,slow=10,SNR=2.8 0.6nm,0.5s	40.91	311	P	P	08 42 12.9	-1.5
NRIK	**Noril'sk** 2.2nm,0.4s,baz=56,slow=2.9,SNR=7.3 2.2nm,0.4s	41.73	334	P	P	08 42 19.8	-1.1
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=85,slow=11,SNR=15 0.7nm,0.5s	43.41	301	P	P	08 42 35.2	+0.3
ILAR	**Eielson Array** 0.4nm,0.8s,baz=275,slow=6.5,SNR=4.4 0.4nm,0.8s	47.79	33	P	P	08 43 07.9	-1.3
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=5.0,slow=7.0,SNR=2.2 0.4nm,0.5s	58.92	188	P	P	08 44 31.7	+0.5
ASAR	**Alice Springs** 0.2nm,0.7s,baz=7.6,slow=7.7,SNR=1.3 0.2nm,0.7s	62.65	188	P	P	08 44 56.5	+0.1
FINES	**FINESS Array B** 7.9nm,1.1s,baz=121,slow=13,SNR=2.3 7.9nm,1.1s	67.32	332	P	P	08 45 27.4	+1.1
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=54,slow=4.3,SNR=4.9 0.5nm,0.4s	73.02	322	P	P	08 46 00.6	-0.8

JMA 05 08:37:31.6±0.2, 25.˚7N×122.˚7E±0.˚8, h26km±1km, MV1.5/4, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	0.29	99	P	Pb	08 37 37.6	-0.2
JYNG				S	Sb	08 37 42.1	+0.1
YOJ	**Yonaguni jima**	0.29	99	P	Pb	08 37 38.5	-0.1
YOJ				S	Sb	08 37 43.1	-0.2
IRIF	**Iriomote-Funau**	0.96	100	*e*P	Pn	08 37 49.0	-0.4
JKRS	**Kuro-shima**	1.23	102	P	Pn	08 37 53.3	+0.2
JKRS				*e*S	Sn	08 38 09.0	+0.2

STR 05 08:38:11.0±0.8, 44.˚N±5.˚×.˚±.˚, h0km, MLv1.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=146.6, preliminary, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIGF	**Trigance**	0.26	332	Pg	Pg	08 38 15.7	-0.4
TRIGF				Sg	Sg	08 38 19.9	+0.4
FLAF	**Flassans-sur-l**	0.27	241	Pg	Pg	08 38 16.4	+0.2
FLAF				Sg	Sg	08 38 20.5	+0.9
CALF	**Calern**	0.34	46	Pg	Pg	08 38 17.5	-0.1
CALF				Sg	Sg	08 38 22.8	+0.7
ENAUX	**Enaux**	0.61	13	Pg	Pg	08 38 22.3	-0.4
SPIF	**crte de Spivo**	0.72	41	Pg	Pg	08 38 25.5	+0.7
TURF	**col de Turini**	0.75	52	Pg	Pg	08 38 25.4	+0.1
ISO	**Isola**	0.75	27	Pg	Pg	08 38 24.9	-0.4
BSTF	**la Bastide-des**	0.77	299	Pg	Pb	08 38 27.1	-0.2
RUSF	**Rustrel**	0.90	299	Pg	Pg	08 38 28.5	+0.3
JAUF	**Jausiers**	0.92	8	Pg	Pb	08 38 29.6	-0.4
OGAG	**Argentiere**	0.94	358	Pg	Pn	08 38 35.6	+4.0
SURF	**Saint Ours**	0.98	10	Pg	Pb	08 38 30.8	-0.2

TAP 05 08:38:10.5, 24.˚33N×122.˚12E, h7km, ML2.2, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta** baz=290	0.33	290	P	Pg	08 38 17.9	+0.8
EWUT	baz=290			S	Sb	08 38 23.5	-0.8
TWC	**Suao** baz=319	0.37	318	P	Pg	08 38 18.5	+0.8
TWC	baz=319			*e*S	Sg	08 38 23.6	+0.9
LATG	**Datong** baz=291	0.58	291	*e*P	Pg	08 38 22.3	+0.6
LATG	baz=291			*e*S	Sb	08 38 30.6	-0.9
ETLH	**Xiulin Townshi** baz=271	0.60	258	*e*P	Pg	08 38 22.4	+0.4
FUSB	**Fushanzhiwuyua** baz=311	0.65	312	*e*P	Pb	08 38 24.2	0.0
FUSB	baz=311			*e*S	Sb	08 38 33.7	+0.2
TIPB	**Shuangxi** baz=337	0.69	337	*e*P	Pb	08 38 25.3	+0.3
TIPB	baz=337			*e*S	Sb	08 38 34.5	-0.3
NWLT	**Wulai** baz=308	0.72	309	*e*P	Pb	08 38 25.4	0.0
NWLT	baz=308			*e*S	Sb	08 38 34.7	-0.8
YHNB	**Yeheng** baz=297	0.76	297	*e*P	Pb	08 38 26.0	-0.1
YHNB	baz=297			*e*S	Sg	08 38 35.8	+0.8
NSK	**Sanguang** baz=297	0.78	297	*e*P	Pb	08 38 26.3	-0.1
NSK	baz=297			*e*S	Sb	08 38 36.5	-0.7
SXI1	**Grass Mountain** baz=343	0.79	344	*e*P	Pb	08 38 27.3	+0.6
SXI1	baz=343			*e*S	Sb	08 38 37.9	+0.2
YOJ	**Yonaguni jima** baz=79	0.82	81	*e*P	Pg	08 38 26.6	+0.3
YOJ	baz=79			*e*S	Sb	08 38 38.4	-0.1
YM01	**YM01** baz=328	0.96	328	*e*P	Pn	08 38 30.8	+0.4
YM01	baz=328			*e*S	Sn	08 38 44.4	0.0

GEN 05 08:38:58.5, 44.˚20N×7.˚89E, h2km±5km, Ml1.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RORO	**Rocca Rossa**	0.15	123	P	Pg	08 39 02.2	+0.7
RORO				S	Sg	08 39 04.6	+1.0
MGRO	**Montegrosso**	0.16	200	P	Pg	08 39 02.4	+0.7
MGRO				S	Sg	08 39 05.4	+1.5
CANO	**Canova, Maglio**	0.25	87	S	Sg	08 39 08.6	+1.9

*MEX **05** 08:54:10.5±0.6, 16.˚10N×99.˚23W, h20km±101km, MD4.2*
*IDC **05** 08:54:11.3±5.3, 16.˚62N×98.˚88W, h0km, mb3.6/5, mbtmp3.5/7, ML3.1/2, MS2.8/2, Error ellipse: s-maj=105.8km s-min=28.2km az=16.0*

ISC 05 08:54:06.5±1.6, 16.˚10N±0.˚05×99.˚19W±0.˚03, h1km±10km, n66, σ2§29/107, mb3.5/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	1.02	334	*i* P	Pg	08 54 25.8	-0.4
ACP2	**Acapulco**	1.02	319	*e*P	Pg	08 54 26.7	+0.5
PNIG	**Pinotepa**	1.06	74	*e*P	Pg	08 54 27.3	+0.4
MGIG	**Malinaltepec**	1.25	25	*e*P	Pn	08 54 30.1	-1.2
TLIG	**Tlapa**	1.57	22	*e*P	Pn	08 54 34.8	-1.0
TLIG				*e*S	Sn	08 54 53.7	-3.1
ATYC	**Atoyac**	1.63	313	*e*S	Sn	08 54 53.6	-4.5
YOIG	**Yosondua**	1.74	64	*e*P	Pn	08 54 38.3	0.0
TXIG	**Tlaxiaco**	1.78	50	*i* P	Pn	08 54 38.5	-0.2
HMTT	**Tlapaneco**	1.79	19	*e*P	Pn	08 54 37.9	-0.9
HMTT				*e*S	Sn	08 54 59.4	-2.9
PEIG	**Puerto Escondi**	1.96	93	*e*P	Pn	08 54 40.9	-0.1
PEIG				*e*S	Sn	08 55 03.1	-3.2
FTIG	**Fresnillo de T**	2.06	29	*e*P	Pn	08 54 41.0	-1.5
FTIG				*e*S	Sn	08 55 05.2	-3.7
HLIG	**Huajuapan de L**	2.17	37	*e*P	Pn	08 54 43.8	-0.3
HLIG				*e*S	Sn	08 55 09.1	-2.7
PLIG	**Platanillo**	2.30	352	*e*P	Pn	08 54 46.5	+0.8
PLIG				*e*S	Sn	08 55 11.7	-3.1
ARIG	**Puente Sto Nin**	2.44	333	*e*P	Pn	08 54 48.5	+0.9
ARIG				*e*S	Sn	08 55 15.9	-2.2
VHO	**Vista Hermosa**	2.54	67	*e*P	Pn	08 54 49.6	+0.5
VHO				*e*S	Sn	08 55 18.0	-2.9
ZIIG	**Zihuatanejo**	2.65	305	*e*P	Pn	08 54 51.3	+0.8
ZIIG				*e*S	Sn	08 55 17.0	-6.2
YAIG	**Yautepec**	2.75	2	*e*P	Pn	08 54 53.1	+1.1
YAIG				*e*S	Sn	08 55 23.9	-2.0
TOIG	**Toxpalan**	2.84	45	*e*P	Pn	08 54 52.6	-0.5
TOIG				*e*S	Sn	08 55 27.0	-1.1
MAVM	**Malinalco, Edo**	2.86	354	*e*P	Pb	08 55 00.8	+2.3
MAVM				*e*S	Sn	08 55 28.1	-0.7
TPIG	**Tehuac#an**	2.89	37	*e*P	Pn	08 54 53.8	-0.2
TPIG				*e*S	Sn	08 55 26.2	-3.2
HUIG	**Huatulco**	2.98	96	*e*P	Pn	08 54 55.3	+0.3
HUIG				*e*S	Sn	08 55 28.4	-3.0
AMVM	**AMECAMECA**	3.04	7	*e*P	Pn	08 54 59.2	+3.1
AMVM				*e*S	Sn	08 55 29.9	-3.4
PHPU	**Puebla**	3.08	18	*e*	Sg	08 55 43.6	-2.2
TLVM	**San Miguel Top**	3.09	1	*e*P	Pn	08 54 58.7	+1.8
TLVM				*e*S	Sn	08 55 33.2	-1.5
XCVM	**Xochimilco**	3.14	1	*e*P	Pn	08 54 57.5	+0.1
XCVM				*e*S	Sn	08 55 29.6	-6.1
AOVM	**Tlapan**	3.15	358	*e*P	Pn	08 55 01.0	+3.2
AOVM				*e*S	Sn	08 55 30.6	-5.7
INVM	**La Marquesa**	3.18	357	*e*P	Pb	08 55 02.6	-1.6
INVM				*e*S	Sn	08 55 36.1	-0.8
THVM	**De Xico**	3.20	4	*e*P	Pn	08 54 58.5	+0.2
THVM				*e*S	Sn	08 55 34.4	-2.9
TOVM	**TOLUCA**	3.20	352	*e*P	Pn	08 54 58.8	+0.4
TOVM				*e*S	Sn	08 55 34.9	-2.4
UNM	**Universidad Na**	3.21	0	*e*P	Pn	08 55 00.7	+2.2
UNM				*e*S	Sn	08 55 34.4	-3.2
COVM	**Coyoacan**	3.23	0	*e*P	Pn	08 54 59.2	+0.4
COVM				*e*S	Sn	08 55 36.7	-1.4
CJVM	**Cuajimalpa**	3.25	358	*e*P	Pb	08 55 03.4	-1.8
CJVM				*e*S	Sn	08 55 38.2	-0.2
BJVM	**Benito Juarez**	3.26	0	*e*P	Pn	08 55 00.9	+1.8
BJVM				*e*S	Sn	08 55 38.5	-0.1
MHVM	**Bosque de Chap**	3.29	360	*e*P	Pn	08 55 03.6	+4.0
MHVM				*e*S	Sn	08 55 38.2	-1.3
PBVM	**Pinon**	3.33	2	*e*P	Pn	08 55 00.4	+0.7
PBVM				*e*S	Sn	08 55 41.2	+1.3
GMVM	**Gustavo A Made**	3.38	1	*e*P	Pn	08 54 57.8	-2.9
GMVM				*e*S	Sn	08 55 41.9	+0.2
OZST	**Orizaba**	3.39	36	*e*	Sg	08 55 55.1	-0.6
AZVM	**Cuida Lopez Ma**	3.47	358	*e*P	Pn	08 55 03.0	+1.0
AZVM				*e*S	Sn	08 55 40.4	-3.5
PTVM	**Pico Tres Padr**	3.48	1	*e*P	Pn	08 55 03.3	+1.3
PTVM				*e*S	Sn	08 55 41.7	-2.4
NEUV	**Arroyo Zacate**	3.61	63	*e*P	Pn	08 55 03.8	+0.1
NEUV				*e*S	Sn	08 55 47.6	+0.6
ATVM	**ATLACOMULCO**	3.69	350	*e*P	Pn	08 55 05.7	+0.5
ATVM				*e*S	Sn	08 55 47.1	-2.4
ZUVM	**ZUMPANGO**	3.71	2	*e*P	Pn	08 55 05.7	+0.4
ZUVM				*e*S	Sn	08 55 46.4	-3.4
JAUV	**Jalcomulco**	3.96	35	*e*P	Pn	08 55 07.7	-0.9
JAUV				*e*S	Sn	08 55 54.9	-0.9
CMIG	**Matias Romero** 1.0nm,0.3s,baz=265,slow=13,SNR=19	4.24	76	P	Pn	08 55 12.1	-0.3
CMIG	4.0nm,0.3s,baz=266,slow=19,SNR=7.2			Sn	Sn	08 56 00.4	-2.1
CMIG	comp=Z,111nm,20.2s,baz=286,slow=42 2.5nm,0.4s			LR	LR	08 56 54.8	
CMIG	**Matias Romero**	4.24	76	*e*P	Pn	08 55 11.2	-1.1
CMIG				*e*S	Sn	08 56 01.0	-1.5
CXUV	**Coxquihui**	4.33	20	*e*P	Pn	08 55 15.6	+2.0
CXUV				*e*S	Sn	08 56 02.2	-2.5
LVIG	**Laguna Verde**	4.46	36	*e*P	Pn	08 55 14.9	+0.6
LVIG				*e*S	Sn	08 56 10.0	+1.9
UXUV	**UXUV**	4.98	75	*e*P	Pn	08 55 20.7	-1.8
UXUV				*e*S	Sn	08 56 18.7	-2.0
COIG	**Colima**	5.28	306	*e*P	Pn	08 55 24.9	-1.8
JUBC	**Volcan de Coli**	5.38	310	*e*P	Pn	08 55 26.2	-2.1
EZ5V		5.38	309	*e*P	Pn	08 55 28.0	-0.3
MNGA	**Volcan de Coli**	5.39	309	*e*P	Pn	08 55 28.0	-0.4
INCO	**Volcan de Coli**	5.42	310	*e*P	Pn	08 55 29.4	+0.5
R15V		5.50	304	*e*P	Pn	08 55 28.4	-1.4
PCIG		5.75	93	*e*P	Pn	08 55 31.7	-1.4
PCIG				*e*S	Sn	08 56 35.2	-4.7
TGIG		5.86	83	*e*P	Pn	08 55 39.4	+4.7
TGIG				*e*S	Sn	08 56 39.6	-2.9
PATR	**El Naranjo**	6.77	97	*e*P	Pn	08 55 49.8	+2.4
CCIG	**Comitan**	6.77	87	*e*P	Pn	08 55 51.7	+4.3
PAVE	**Pavencul**	6.81	97	*e*P	Pn	08 55 48.8	+0.9
CHUJ	**Union Juarez**	6.89	97	*e*P	Pn	08 55 51.1	+2.1
ANMO	**Albuquerque** 0.1nm,0.3s,baz=217,slow=10,SNR=3.8 0.3nm,0.3s	19.87	342	P	Pn	08 58 41.7	+0.7
NVAR	**Mina Array Bea** 0.2nm,0.4s,baz=149,slow=11,SNR=1.6 0.2nm,0.4s	27.88	327	P	P	09 00 01.4	+3.1
PDAR	**Pinedale Array** 0.7nm,0.8s,baz=134,slow=11,SNR=6.9	28.02	344	P	P	09 00 00.8	+1.3
PDAR	comp=Z,26nm,20.8s,baz=166,slow=35 0.7nm,0.8s			LR	LR	09 10 15.0	
ULM	**Lac du Bonnet** 2.6nm,0.8s,baz=195,slow=12,SNR=3.9 2.6nm,0.8s	34.17	4	P	P	09 00 52.7	-0.6
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=163,slow=7.1,SNR=11 0.6nm,0.8s	47.60	350	P	P	09 02 44.1	+0.3
ILAR	**Eielson Array** 0.4nm,0.9s,baz=158,slow=5.6,SNR=3.1 0.4nm,0.9s	58.25	338	P	P	09 04 05.1	+2.6

*IDC **05** 09:03:41.5±2.7, 54.˚33N×86.˚98E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=23.7km s-min=15.3km az=70.0*
*NNC **05** 09:03:42.9±4.9, 54.˚15N×86.˚85E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=30.4km s-min=17.9km az=78.0, Suspected Mining explosion.*

ISC 05 09:03:42.4±3.1, 54.˚4N±0.˚2×86.˚8E±0.˚1, h0km, n8, σ0§94/12, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=72,slow=340,SNR=1.7	1.23	251	I	I	09 13 50.0	
ZAA0	**Zalesovo Array** 0.6nm,0.5s,baz=73,slow=17	1.23	251	⇑P	Pg	09 04 05.2	-0.7
ZAA0	1.5nm,0.6s,baz=83,slow=30			⇓S	Sb	09 04 22.7	-0.1
ZALV	**Zalesovo Beam** 3.4nm,0.3s,baz=70,slow=17,SNR=34	1.23	251	Pg	Pg	09 04 05.0	-0.8
ZALV	3.1nm,0.3s,baz=70,slow=26,SNR=3.2			Lg	Lg	09 04 24.3	
KURK	**Kurchatov** 5.5nm,1.5s	6.17	237	⇑Pn	Pn	09 05 15.6	+0.9
KURK	2.6nm,1.5s			⇓Sn	Sn	09 06 26.5	+0.5
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=14,SNR=9.7	6.27	237	Pn	Pn	09 05 17.0	+0.8
KURBB	baz=22,slow=18,SNR=0.9			Sn	Sn	09 06 29.6	+1.1
KURBB	baz=55,slow=32,SNR=1.7 1.3nm,0.4s			Lg	Lg	09 07 01.6	
KURBB	**Kurchatov Arra** 2.0nm,0.5s	6.27	237	⇓Pn	Pn	09 05 17.5	+1.4
KURBB	2.7nm,0.6s			⇑Sn	Sn	09 06 28.0	-0.5
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=26,slow=14,SNR=4.6	8.09	202	Pn	Pn	09 05 41.9	+0.8
MKAR	0.1nm,0.3s,baz=29,slow=28,SNR=4.6			Sn	Sn	09 07 12.2	-1.0
MKAR	baz=13,slow=20,SNR=3.3 0.2nm,0.3s			Lg	Lg	09 07 56.0	
BVAR	**Borovoye Array** 0.1nm,0.3s

NNC 05 09:04:49.0±5.8, 38°51N×74°14E, h0km, mb4.0, mpv3.5, 5C, Error ellipse: s-maj=48.3km s-min=18.1km az=135.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke** 27nm,0.3s	**4.29**	**351**	Pg	Pb	09 06 08.0	+2.8
MRKS	51nm,0.3s			Lg	Lg	09 07 06.3	
TKM2	**Tokmak 2** 1.1nm,0.5s	**4.54**	**14**	⇑Pn	Pn	09 06 16.6	+0.6
TKM2	1.2nm,0.5s			⇑Sn	Sb	09 07 04.0	-1.1
DGS	**Degeres** 1.2nm,0.3s	**4.89**	**14**	Pg	Pb	09 06 18.0	+2.5
DGS	6.2nm,0.6s			Lg	Lg	09 07 22.8	
KRBS	**Karabastau** 0.6nm,0.5s	**5.31**	**12**	Pg	Pg	09 06 26.7	-4.0
KRBS	0.4nm,0.3s			Lg	Lg	09 07 38.0	
KK31	**Karatay Array** 7.1nm,0.5s,baz=157,slow=10,SNR=95	**5.35**	**330**	⇑Pn	Pn	09 06 13.7	+3.6
KK31	2.2nm,0.4s			⇑Pg	Pb	09 06 26.3	+3.0
KK31	9.1nm,0.4s			⇑Lg	Lg	09 07 15.4	

*SOME **05** 09:08:33.3, 44°55N×81°90E, h5km*
*NNC **05** 09:08:35.6±0.7, 44°61N×81°74E, h20km±13km, mb3.6, mpv3.1, Error ellipse: s-maj=11.9km s-min=4.1km az=170.0*

ISC 05 09:08:33.0±2.3, 44°5N±0°1×82°1E±0°1, h10km, n11, σ0s51/14, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent** 12nm,0.3s	**1.69**	**264**	S	**Sg**	**09 09 27.0**	**-0.4**
DJR	**Jarkent** 4.9nm,0.2s	**1.69**	**264**	*e*P	**Pn**	**09 09 03.2**	**+0.5**
DJR	12nm,0.2s			*e*S	**Sn**	**09 09 24.7**	**+0.2**
MK31	**Makanchi Array** 7.1nm,0.5s,baz=192,slow=15,SNR=252	**2.27**	**3**	⇑Pn	**Pn**	**09 09 11.2**	**+0.6**
MK31	6.5nm,0.3s,baz=189,slow=23			⇑Sn	**Sn**	**09 09 39.1**	**+0.3**
MAKZ	**Makanchi** 2.5nm,0.3s	**2.29**	**357**	⇑Pn	**Pn**	**09 09 11.0**	**+0.2**
MAKZ	4.4nm,0.3s			⇑Sn	**Sn**	**09 09 38.1**	**-1.0**
UZB	**Uzynbulak** 4.4nm,0.3s	**2.64**	**240**	Pg	**Pb**	**09 09 20.1**	**-0.4**
UZB	3.0nm,0.7s			Lg	Lg	09 09 53.8	
UZB	**Uzynbulak** 4.4nm,0.3s	**2.64**	**240**	*e*Pg	**Pb**	**09 09 20.1**	**-0.4**
UZB	3.0nm,0.7s			*e*Lg	Lg	09 09 53.8	
KPKS	**Kokpek** 5.5nm,0.2s	**2.71**	**248**	Pg	**Pb**	**09 09 21.1**	**-0.5**
KPKS	16nm,0.3s			Lg	Lg	09 09 55.8	
KPKS	**Kokpek** 5.4nm,0.1s	**2.71**	**248**	*e*Pg	**Pb**	**09 09 21.1**	**-0.5**
KPKS	16nm,0.0s			*e*Lg	Lg	09 09 55.8	
SATY	**Saty** 2.2nm,0.2s	**3.07**	**243**	Pg	**Pb**	**09 09 27.8**	**0.0**
SATY	8.7nm,0.3s			Lg	Lg	09 10 07.1	
SATY	**Saty** 2.2nm,0.2s	**3.07**	**243**	*e*Pg	**Pb**	**09 09 27.8**	**0.0**
SATY	8.7nm,0.3s			*e*Lg	Lg	09 10 07.1	
KUU	**Kurty** 1.1nm,0.3s	**4.22**	**263**	*e*Pg	**Pb**	**09 09 47.6**	**+0.4**
KUU	3.0nm,0.3s			*e*Lg	Lg	09 10 41.3	

DJA 05 09:14:59.7±0.3, 2°N±2°×99°E±°, h10km, M3.6/8, Mjma3.4/8, ML3.8/8, MLv3.5/8, Ms(BB)3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.41**	**250**	P	Pg	09 15 06.7	-1.0
MNSI	**Mandailing Nat**	**0.94**	**161**	P	Pg	09 15 17.8	0.0
MNSI				S	Sb	09 15 30.8	+0.1
GSI	**Gunungsitoli**	**1.74**	**257**	P	Pn	09 15 29.8	-0.2
GSI				S	Sn	09 15 52.1	-0.1
PBSI	**Pulau Batu**	**2.00**	**210**	P	Pn	09 15 34.3	+0.8
BKNI	**Bangkinang**	**2.23**	**127**	P	Pn	09 15 36.2	-0.5
KCSI	**Kotacane, Aceh**	**2.36**	**321**	P	Pb	09 15 41.0	-1.3
PDSI	**Padang**	**2.85**	**155**	P	Pn	09 15 45.3	0.0

*IDC **05** 09:28:21.6±1.1, 26°93N×140°25E, h483km±13km, mb2.9/10, mbtmp3.8/11, Error ellipse: s-maj=23.4km s-min=15.1km az=93.0*
*JMA **05** 09:28:22.5±0.3, 27°N±1°×140°0E±°, h443km±3km, MV3.9/16, W OFF OGASAWARA*

ISC 05 09:28:20.0±0.7, 27°11N±0°09×140°3E±0°1, h443km, n20, σ2s60/21, mb3.4/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**90**	P	**P**	**09 29 21.0**	**+2.9**
CBIJ				*e*S	**S**	**09 30 07.0**	**+1.8**
JCJ	**Chichijima** 54nm,0.3s,baz=66,slow=24,SNR=25	**1.67**	**90**	P	P	09 29 23.9	+5.8
JCJ	91nm,0.4s,baz=319,slow=22,SNR=9.6			S	**S**	**09 30 09.2**	**+4.0**
JHH2	**Haha-jima-NKT2**	**1.73**	**106**	*e*P	P	09 29 21.9	+3.5
JHH2				*e*S	**S**	**09 30 08.8**	**+3.0**
BSO3	**Boso 3**	**7.67**	**1**	*e*S	**S**	**09 31 42.8**	**0.0**
JAG	**Ashikaga**	**9.32**	**356**	*e*P	**P**	**09 30 31.9**	**+2.4**
JHO	**Hitachi**	**9.47**	**1**	*e*P	**P**	**09 30 34.3**	**+3.1**
JHO				*e*S	**S**	**09 32 18.8**	**-0.6**
JAMN	**Amaminishikomi**	**9.94**	**279**	P	P	09 30 40.4	+3.9
JOW	**Kunigami** 9.4nm,0.5s,baz=119,slow=12,SNR=6.2	**10.75**	**271**	P	**P**	**09 30 46.4**	**+1.1**
JOW	**Kunigami**	**10.75**	**271**	P	**P**	**09 30 48.3**	**+3.0**
KSRS	**Korea Array** 0.7nm,0.4s,baz=144,slow=9.0,SNR=4.4	**14.69**	**318**	P	P	09 31 35.0	+7.1
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=2.5,slow=7.5,SNR=10	**47.13**	**188**	P	**P**	**09 36 07.8**	**-3.0**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=93,slow=10.0,SNR=4.2	**49.18**	**310**	P	**P**	**09 36 25.4**	**-0.6**
MKAR	0.2nm,0.5s,baz=93,slow=5.0,SNR=3.1			ScP	**ScP**	**09 40 48.6**	**-5.0**
ASAR	**Alice Springs** 0.1nm,0.5s,baz=356,slow=4.1,SNR=4.7	**50.86**	**188**	P	**P**	**09 36 35.8**	**-2.8**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=253,slow=5.7,SNR=6.2	**58.50**	**29**	P	**P**	**09 37 31.0**	**-0.9**
AKTO	**Aktyubinsk** 0.6nm,0.5s,baz=53,slow=5.1,SNR=2.2	**64.86**	**316**	P	**P**	**09 38 11.4**	**-2.5**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=297,slow=6.4,SNR=8.0	**72.92**	**28**	P	**P**	**09 39 01.9**	**-0.7**
ARCES	**ARCESS Array B** 2.5nm,0.9s,baz=74,slow=7.7,SNR=7.1	**72.98**	**340**	P	**P**	**09 39 02.8**	**-0.1**
FINES	**FINESS Array B** 1.9nm,0.3s,baz=69,slow=5.0,SNR=23	**77.19**	**333**	P	**P**	**09 39 25.4**	**-1.2**
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=53,slow=4.9,SNR=5.8	**81.61**	**323**	P	**P**	**09 39 48.4**	**-1.9**
NOA	**NORSAR Array B** 0.6nm,0.5s,baz=31,slow=5.3,SNR=4.4	**82.97**	**338**	P	**P**	**09 39 55.2**	**-2.0**

*IDC **05** 09:29:53.5±8.2, 22°69S×179°42W, h435km±58km, mb3.1/4, mbtmp4.0/5, Error ellipse: s-maj=138.3km s-min=23.1km az=139.0*

ISC 05 09:29:55.1±1.7, 22°5S±0°2×179°6W±0°3, h450km, n9, σ0s40/9, mb3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 54nm,0.7s,baz=164,slow=22,SNR=20	**5.26**	**334**	P	**P**	**09 31 22.2**	**-0.1**
DZM	**Mont Dzumac** 4.8nm,0.8s,baz=153,slow=20,SNR=2.2	**12.95**	**269**	P	P	09 32 49.1	+4.6
STKA	**Stephens Creek** 1.1nm,0.5s,baz=138,slow=12,SNR=3.4	**35.61**	**246**	P	**P**	**09 36 13.2**	**-0.3**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=94,slow=6.5,SNR=19	**42.66**	**259**	P	**P**	**09 37 11.2**	**+0.2**
ASAR	0.3nm,0.5s,baz=109,slow=4.3,SNR=4.1			PcP	**PcP**	**09 38 53.5**	**+0.3**
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=96,slow=8.3,SNR=57	**42.91**	**265**	P	**P**	**09 37 13.0**	**+0.1**
ILAR	**Eielson Array** 0.9nm,0.3s,baz=219,slow=4.4,SNR=7.9	**90.61**	**13**	P	**P**	**09 42 07.9**	**+0.1**
ARCES	**ARCESS Array B** 0.3nm,0.5s,baz=38,slow=4.1,SNR=6.7	**130.62**	**349**	PKP	**PKPdf**	**09 48 12.5**	**-0.7**
AKASG	**Malin Array Be** 5.4nm,1.1s,baz=352,slow=1.8,SNR=4.6	**144.02**	**329**	PKP	**PKPab**	**09 48 37.5**	**+0.1**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=2.5,slow=3.3,SNR=1.8	**147.04**	**309**	PKPbc	**PKPbc**	**09 48 47.3**	**+0.5**

*TIF **05** 10:07:17.7, 42°40N×41°01E, h22km±2km*
*MOS **05** 10:07:19.9±0.0, 42°52N×41°08E, h4km, MPVA4.1*
*DDA **05** 10:07:20.5±0.0, 42°17N×40°98E, h18km±1km, ML2.7*
*NORS **05** 10:07:20.3±0.0, 42°52N×41°13E, h4km, MPVA3.9*
*ISK **05** 10:07:25.7, 41°81N×41°35E, h5km, ML2.9/7*

ISC 05 10:07:17.9±1.1, 42°42N±0°02×41°15E±0°02, h10km±9km, n55, σ1s07/104, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.91**	**153**	P	**Pn**	**10 07 37.1**	**+0.4**
BATM				S	**Sn**	**10 07 51.3**	**+1.4**
DOMR	**Dombai**	**0.94**	**21**	*i* Pg	**Pn**	**10 07 37.3**	**-0.1**
DOMR				*i* Sg	**Sb**	**10 07 49.6**	**+0.5**
HOPA	**Hopa-Artvin**	**1.05**	**168**	Pg	**Pg**	**10 07 35.3**	**-2.8**
DBOC	**Borcka**	**1.14**	**160**	P	**Pb**	**10 07 39.9**	**+0.2**
DBOC				S	**Sg**	**10 07 54.7**	**+0.2**
DBOC	comp=E,492nm,0.3s			*i* AML	AML	10 07 56.0	
ARXR	**Arkhyz**	**1.15**	**4**	*i* Pg	**Pn**	**10 07 40.9**	**+0.6**
ARXR				*i* Sg	**Sn**	**10 07 56.1**	**-0.1**
VSLR	**Vesyoloye**	**1.33**	**322**	*i* Pg	**Pg**	**10 07 43.3**	**-0.2**
VSLR				*i* Sg	**Sn**	**10 08 01.0**	**+0.6**
CHOM	**Cayeli-Rize**	**1.35**	**193**	Pg	**Pn**	**10 07 42.5**	**-0.4**
CHAY	**Cayeli-Rize**	**1.37**	**194**	Pg	**Pn**	**10 07 42.8**	**-0.2**
TKB	**Tkibuli**	**1.37**	**92**	P	**Pg**	**10 07 44.7**	**+0.6**
TKB				S	**Sg**	**10 08 03.6**	**+1.8**
ABS	**Abastumani**	**1.40**	**118**	P	**Pg**	**10 07 45.1**	**+0.3**
ABS				S	**Sg**	**10 08 05.1**	**+2.1**
NEY	**Neytrino**	**1.42**	**54**	*e*Pg	**Pg**	**10 07 46.2**	**+0.9**
NEY				*e*Sg	**Sg**	**10 08 04.8**	**+1.0**
RPOR	**Krasnaya Polya**	**1.44**	**333**	*i* Pg	**Pg**	**10 07 45.0**	**-0.5**
RPOR				*e*Sg	**Sg**	**10 08 03.8**	**-0.5**
DAGI	**Agillar**	**1.45**	**157**	P	**Pn**	**10 07 44.7**	**+0.3**
DAGI				S	**Sn**	**10 08 03.3**	**-0.2**
DAGI	comp=N,50nm,0.4s			*i* AML	AML	10 08 05.0	
DBAD	**Bademkaya**	**1.45**	**164**	P	**Pn**	**10 07 44.5**	**+0.1**
DBAD				S	**Sn**	**10 08 02.8**	**-0.7**
DBAD	comp=N,147nm,0.1s			*i* AML	AML	10 08 04.0	
SOC	**Sochi**	**1.57**	**318**	*i* Pg	**Pb**	**10 07 47.1**	**0.0**
SOC				*i* Sg	**Sg**	**10 08 07.6**	**-0.9**
DDEM	**Demirkent**	**1.59**	**163**	P	**Pn**	**10 07 46.7**	**+0.5**
DDEM				S	**Sn**	**10 08 06.6**	**-0.2**
DDEM	comp=N,375nm,0.2s			*i* AML	AML	10 08 10.0	
ONI	**Oni**	**1.71**	**83**	P	**Pg**	**10 07 50.6**	**-0.1**
ONI				S	**Sg**	**10 08 14.4**	**+1.5**
SHA1	**Shidzhatmaz**	**1.72**	**39**	*e*Pg	**Pg**	**10 07 51.5**	**+0.5**
SHA1				*e*Sg	**Sg**	**10 08 14.3**	**+0.9**
AHMR	**Akhmetovskaya**	**1.74**	**357**	*e*Pg	**Pg**	**10 07 50.9**	**-0.5**
AHMR				*e*Sg	**Sg**	**10 08 14.5**	**+0.5**
GUZR	**Guzeripl'**	**1.75**	**335**	*e*Pg	**Pg**	**10 07 50.9**	**-0.7**
GUZR				*e*Sg	**Sg**	**10 08 13.3**	**-1.0**
KTUT	**Trabzon**	**1.76**	**217**	Pn	**Pg**	**10 07 54.1**	**+2.3**
MACK	**Trabzon**	**1.80**	**216**	P	**Pn**	**10 07 49.2**	**+0.2**
MACK				S	**Sn**	**10 08 10.7**	**-1.2**
MACK	comp=N,624nm,0.2s			*i* AML	AML	10 08 18.0	
KBZ	**Khabaz**	**1.83**	**44**	*i* Pg	**Pg**	**10 07 53.5**	**+0.4**
KBZ				*e*Sg	**Sg**	**10 08 17.7**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.85**	**74**	*e*Pg	**Pg**	**10 07 53.5**	**-0.1**
DIGR				*e*Sg	**Sg**	**10 08 18.6**	**+1.0**
ALIG	**Mtskhetisjvari**	**1.88**	**99**	P	**Pb**	**10 07 52.2**	**-0.2**
ALIG				S	**Sb**	**10 08 16.5**	**+0.6**
KIV	**Kislovodsk**	**1.91**	**36**	*e*Pg	**Pg**	**10 07 54.3**	**-0.2**
KIV				*e*Sg	**Sg**	**10 08 18.2**	**-0.9**
KIV0	**Kislovodsk Arr**	**1.91**	**36**	*i* Pg	**Pg**	**10 07 54.5**	**0.0**
KIV0				*e*Sg	**Sg**	**10 08 19.6**	**+0.3**
LZRR	**Lazarevskoye**	**2.00**	**320**	*e*Pg	**Pb**	**10 07 54.4**	**0.0**
LZRR				*e*Sg	**Sb**	**10 08 19.9**	**+0.6**
BEYR	**Belyy Ugol+**	**2.01**	**37**	*e*Pg	**Pg**	**10 07 55.8**	**-0.6**
BEYR				*e*Sg	**Sg**	**10 08 21.3**	**-1.1**
AKH	**Akhalkalaki**	**2.01**	**119**	P	**Pb**	**10 07 54.7**	**-0.1**
AKH				S	**Sg**	**10 08 23.5**	**+0.8**
AKH	**Akhalkalaki**	**2.01**	**119**	Pn	**Pg**	**10 07 56.9**	**+0.3**
AKH				Sn	**Sb**	**10 08 20.0**	**+0.1**
AKH	**Akhalkalaki**	**2.01**	**119**	*e*Pg	**Pb**	**10 07 54.6**	**-0.1**
AKH				*e*Sg	**Sg**	**10 08 22.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.06**	**154**	Pn	**Pb**	**10 07 55.2**	**-0.3**
SENK				Sn	**Sn**	**10 08 15.1**	**-3.5**
ZEI	**Tsey**	**2.06**	**79**	*e*Pg	**Pg**	**10 07 56.7**	**-0.8**
ZEI				*e*Sg	**Sg**	**10 08 24.8**	**+0.5**
KRIK	**Erzurum-spir**	**2.08**	**185**	P	**Pn**	**10 07 54.3**	**+1.2**
KRIK				S	**Sn**	**10 08 19.8**	**+0.6**
LSNR	**Lesken**	**2.15**	**65**	*e*Pg	**Pg**	**10 07 59.0**	**-0.1**
LSNR				*e*Sg	**Sg**	**10 08 26.2**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**2.16**	**201**	Pn	**Pb**	**10 07 57.3**	**+0.1**
BAYT				Sn	**Sn**	**10 08 20.8**	**-0.2**
KBTC	**Kuba-Taba**	**2.17**	**49**	*e*Pg	**Pg**	**10 08 00.9**	**+1.4**
KBTC				*e*Sg	**Sg**	**10 08 28.4**	**+0.9**
GOYR	**Goytkh**	**2.24**	**325**	*e*Pg	**Pb**	**10 07 58.1**	**-0.5**
GOYR				*e*Sg	**Sb**	**10 08 25.7**	**-0.7**
KORR	**Kora**	**2.25**	**72**	*e*Pn	**Pg**	**10 07 59.6**	**-1.4**
KORR				*e*Sn	**Sg**	**10 08 30.5**	**+0.3**
NVNR	**Nevinnomyssk**	**2.28**	**15**	*e*Pn	**Pg**	**10 07 60.0**	**-1.6**
NVNR				*e*Sn	**Sb**	**10 08 28.4**	**+1.1**
ESPY	**Espiye-Giresun**	**2.35**	**231**	Pn	**Pg**	**10 08 04.3**	**+1.2**
LACR	**Lac**	**2.36**	**79**	*e*Pn	**Pg**	**10 08 01.9**	**-1.3**
LACR				*e*Sn	**Sg**	**10 08 32.6**	**-1.1**
TRLG	**Trialeti**	**2.37**	**111**	P	**Pb**	**10 08 00.9**	**+0.2**
TRLG				S	**Sg**	**10 08 33.9**	**-0.1**
KOPT	**Kop Dagi**	**2.44**	**192**	P	**Pn**	**10 07 59.8**	**+1.6**
KOPT				S	**Sb**	**10 08 31.8**	**-0.7**
KOPT	comp=N,16nm,0.5s			*i* AML	AML	10 08 41.0	
KOPR	**Koprukoy-ERZUR**	**2.48**	**167**	Pn	**Pn**	**10 08 00.1**	**+1.6**
DMNI	**Dmanisi**	**2.51**	**115**	P	**Pb**	**10 08 04.3**	**+1.0**
DMNI				S	**Sg**	**10 08 38.2**	**-0.5**
PNSH	**Pansheti**	**2.57**	**84**	P	**Pb**	**10 08 05.4**	**+1.2**
PNSH				S	**Sb**	**10 08 34.0**	**-1.9**
ALER	**Alexandrovskoy**	**2.67**	**28**	*e*Pn	**Pb**	**10 08 04.9**	**-1.0**
ALER				*e*Sn	**Sn**	**10 08 35.7**	**+2.2**
KELT	**Kelkit**	**2.68**	**213**	P	**Pn**	**10 08 02.5**	**+1.1**
KELT				S	**Sn**	**10 08 33.2**	**-0.6**
KELT	comp=N,43nm,0.4s			*i* AML	AML	10 08 34.0	
ALUC	**Giresun/Alucra**	**2.74**	**222**	P	**Pn**	**10 08 02.8**	**+0.8**
ALUC				S	**Sn**	**10 08 34.1**	**-1.2**
ALUC	comp=N,70nm,0.7s			*i* AML	AML	10 08 38.0	
SHTL	**Shatili**	**2.97**	**84**	P	**Pb**	**10 08 11.1**	**+0.2**
SHTL				S	**Sg**	**10 08 53.0**	**-0.2**
SUSE	**Susehri**	**3.13**	**226**	P	**Pn**	**10 08 07.5**	**0.0**
SUSE				S	**Sn**	**10 08 45.6**	**+0.6**
SUSE	comp=N,29nm,0.7s			*i* AML	AML	10 08 49.0	
DGRG	**David-gareji**	**3.29**	**106**	P	**Pb**	**10 08 14.7**	**-1.7**
DGRG				S	**Sg**	**10 09 04.1**	**+0.4**
LGD	**Lagodekhi**	**3.83**	**97**	P	**Pg**	**10 08 29.9**	**-1.4**
LGD				S	**Sg**	**10 09 16.9**	**-4.0**

*TAP **05** 10:09:13.0, 24°82N×122°36E, h13km, ML3.3, C*
*JMA **05** 10:09:14.0±0.1, 24°8N±0°7×122°4E±0°3, h48km±2km, MV2.9/10, TAIWAN REGION*

ISC 05 10:09:12.0±1.2, 24°85N±0°03×122°39E±0°02, h7km±9km, n99, σ0s73/170, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=299	**0.40**	**293**	*i* P	**Pb**	**10 09 21.3**	**-0.1**
TWB1	baz=299			*i* S	**Sb**	**10 09 26.1**	**-1.7**
SXI1	**Grass Mountain** baz=301	**0.53**	**297**	*e*P	**Pb**	**10 09 24.3**	**+0.6**
SXI1	baz=301			*i* S	**Sb**	**10 09 32.0**	**+0.5**
TIPB	**Shuangxi** baz=287	**0.53**	**283**	*i* P	**Pb**	**10 09 23.8**	**+0.1**
TIPB	baz=287			*i* S	**Sb**	**10 09 31.9**	**+0.4**
TWC	**Suao** baz=252	**0.55**	**244**	*i* P	**Pg**	**10 09 22.8**	**+0.1**
TWC	baz=252			S	**Sg**	**10 09 29.8**	**-0.1**
ILA	**Ilan** baz=264	**0.59**	**262**	P	**Pb**	**10 09 24.0**	**-0.7**
NWF	**Wu-fen Shan** baz=295	**0.60**	**292**	*i* P	**Pn**	**10 09 25.9**	**-1.2**
NWF	baz=295			*i* S	**Sb**	**10 09 34.1**	**+0.6**
WFSB	**Wu-fen Shan** baz=295	**0.60**	**292**	P	**Pn**	**10 09 26.0**	**-0.9**
WFSB	baz=295			S	**Sb**	**10 09 34.6**	**+1.1**
JYNG	**Yonagunijimaku**	**0.64**	**128**	P	**Pb**	**10 09 26.4**	**+0.8**
JYNG				S	**Sb**	**10 09 35.7**	**+1.0**
NDS	**Dongshan** baz=244	**0.65**	**251**	P	**Pb**	**10 09 25.6**	**-0.2**
NDS	baz=244			S	**Sb**	**10 09 34.8**	**-0.2**
TWE	**Neicheng** baz=260	**0.67**	**259**	*i* P	**Pb**	**10 09 25.6**	**-0.5**
TWE	baz=260			*i* S	**Sb**	**10 09 36.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.68**	**124**	P	**Pb**	**10 09 27.2**	**+0.9**
YOJ	**Yonaguni jima**	**0.68**	**124**	P	**Pb**	**10 09 27.1**	**+0.9**
YOJ				S	**Sb**	**10 09 36.8**	**+0.9**
YOJ	**Yonaguni jima** baz=121	**0.68**	**124**	P	**Pb**	**10 09 27.3**	**+0.9**
YOJ	baz=121			S	**Sb**	**10 09 36.5**	**+0.6**
EWUT	**Wuta** baz=234	**0.69**	**234**	P	**Pg**	**10 09 25.6**	**+0.2**
EWUT	baz=234			S	**Sb**	**10 09 35.1**	**-1.1**
ENA	**Nanau** baz=234	**0.73**	**235**	*i* P	**Pg**	**10 09 25.8**	**-0.2**
ENA	baz=234			*i* S	**Sg**	**10 09 36.0**	**+0.5**
FUSB	**Fushanzhiwuyua** baz=265	**0.74**	**263**	P	**Pb**	**10 09 26.9**	**-0.4**
FUSB	baz=265			S	**Sb**	**10 09 37.3**	**-0.3**
TWA	**Mucha** baz=282	**0.75**	**280**	*i* P	**Pb**	**10 09 27.9**	**+0.5**
TWA	baz=282			S	**Sb**	**10 09 38.0**	**+0.3**
NWRT	**Kuosheng** baz=300	**0.75**	**298**	P	**Pn**	**10 09 28.5**	**-0.6**
NWRT	baz=300			S	**Sb**	**10 09 38.6**	**+0.7**
ENTT	**Nioudou** baz=255	**0.78**	**255**	*i* P	**Pb**	**10 09 27.7**	**-0.2**
ENTT	baz=255			*i* S	**Sb**	**10 09 38.2**	**-0.6**
NHDH	**Xindian Distri** baz=280	**0.80**	**278**	*i* P	**Pn**	**10 09 29.5**	**-0.2**
NHDH	baz=280			*i* S	**Sb**	**10 09 40.0**	**+0.8**
YM08	**YM08** baz=297	**0.80**	**295**	P	**Pn**	**10 09 29.2**	**-0.6**
YM08	baz=297			S	**Sb**	**10 09 39.5**	**+0.1**
YM01	**YM01** baz=294	**0.80**	**292**	P	**Pn**	**10 09 29.2**	**-0.6**
YM01	baz=294			S	**Sb**	**10 09 38.9**	**-0.5**
NWLT	**Wulai** baz=285	**0.81**	**265**	*i* P	**Pb**	**10 09 28.6**	**+0.1**
NWLT	baz=285			*i* S	**Sb**	**10 09 38.8**	**-0.9**
TAP	**Taipei** baz=285	**0.83**	**283**	S	**Sb**	**10 09 40.6**	**+0.5**
PCYT	**Pengchaiyu** baz=342	**0.83**	**339**	*i* P	**Pn**	**10 09 30.6**	**+0.5**
TATO	**Taipei**	**0.83**	**279**	P	**Pn**	**10 09 30.0**	**-0.2**
TATO	**Taipei** baz=280	**0.83**	**279**	P	**Pn**	**10 09 29.8**	**-0.4**
TATO	baz=280			S	**Sb**	**10 09 40.7**	**+0.5**
TWY	**Chenhua** baz=303	**0.83**	**301**	*i* P	**Pn**	**10 09 30.4**	**+0.2**
TWY	baz=303			*i* S	**Sn**	**10 09 41.5**	**-1.3**
LATG	**Datong** baz=235	**0.85**	**248**	P	**Pb**	**10 09 28.7**	**-0.5**
LATG	baz=235			S	**Sb**	**10 09 40.2**	**-0.6**
ANP	**Anpu** baz=296	**0.86**	**293**	*i* P	**Pb**	**10 09 29.4**	**0.0**
TWS1	**Kuangyinshan** baz=288	**0.92**	**286**	P	**Pn**	**10 09 32.8**	**+1.4**
TWS1	baz=288			*i* S	**Sb**	**10 09 42.8**	**0.0**
YHNB	**Yeheng**	**0.94**	**259**	P	**Pb**	**10 09 30.7**	**-0.1**
YHNB	**Yeheng** baz=243	**0.94**	**259**	P	**Pb**	**10 09 30.6**	**-0.2**
YHNB	baz=243			S	**Sb**	**10 09 44.0**	**+0.5**
NSK	**Sanguang** baz=243	**0.96**	**260**	*i* P	**Pb**	**10 09 30.8**	**-0.2**
NSK	baz=243			S	**Sb**	**10 09 43.3**	**-0.6**
ETL	**Fush Village** baz=236	**0.98**	**226**	P	**Pg**	**10 09 31.0**	**+0.1**
ETL	baz=236			S	**Sb**	**10 09 44.2**	**-0.4**
NACB	**Ninganchiao**	**0.99**	**227**	P	**Pg**	**10 09 30.7**	**-0.4**
NACB	**Ninganchiao** baz=237	**0.99**	**227**	P	**Pg**	**10 09 30.7**	**-0.4**
NACB	baz=237			S	**Sg**	**10 09 43.4**	**-0.6**
NNSB	**Datong** baz=233	**1.01**	**246**	P	**Pg**	**10 09 31.3**	**-0.1**
NNSB	baz=233			S	**Sb**	**10 09 44.9**	**-0.6**
NNSH	**Datong** baz=235	**1.01**	**246**	*i* P	**Pb**	**10 09 31.9**	**-0.1**
NNSH	baz=235			*i* S	**Sb**	**10 09 45.2**	**-0.4**
NNS	**Nan Shan** baz=234	**1.01**	**246**	*i* P	**Pb**	**10 09 31.9**	**-0.1**
NNS	baz=234			*i* S	**Sb**	**10 09 45.1**	**-0.5**
ETLH	**Xiulin Townshi** baz=232	**1.05**	**232**	P	**Pg**	**10 09 31.9**	**-0.2**
ETLH	baz=232			S	**Sg**	**10 09 45.0**	**-0.8**
TWD	**Chiawan** baz=231	**1.06**	**224**	*i* P	**Pg**	**10 09 32.1**	**-0.2**
TWD	baz=231			S	**Sb**	**10 09 46.8**	**+0.1**
NFF	**Wufeng Townshi** baz=259	**1.18**	**260**	P	**Pn**	**10 09 35.1**	**+0.1**
NFF	baz=259			S	**Sn**	**10 09 51.4**	**0.0**
FUSS	**Fushou** baz=240	**1.21**	**240**	*i* P	**Pb**	**10 09 35.3**	**0.0**
FUSS	baz=240			*i* S	**Sg**	**10 09 50.7**	**-0.2**
TEYL	**Yanliau Villag** baz=198	**1.22**	**217**	P	**Pn**	**10 09 35.9**	**+0.4**
TEYL	baz=198			S	**Sg**	**10 09 51.1**	**-0.2**
WHF	**Hehuan Shan** baz=235	**1.25**	**236**	*i* P	**Pg**	**10 09 35.8**	**-0.1**
WHF				*i* S	**Sb**	**10 09 52.1**	**-0.4**

	baz=235								
TWT	**Tachien**	**1.26 242**	*i*	P		**Pn**	**10 09 36.2**	**0.0**	
	baz=242								
LIOB	**Emei**	**1.27 261**	*i*	P		**Pn**	**10 09 36.5**	**+0.3**	
LIOB	baz=261			S		**Sn**	**10 09 53.9**	**+0.3**	
	baz=261								
NSTT	**Nanjuang**	**1.28 260**	*i*	P		**Pn**	**10 09 37.1**	**+0.7**	
NSTT	baz=260			S		**Sn**	**10 09 54.0**	**+0.1**	
	baz=260								
IRIF	**Iriomote-Funau**	**1.32 113**		P		**Pn**	**10 09 36.4**	**-0.5**	
ESL	**Shilin**	**1.35 220**	*i*	P		**Pn**	**10 09 37.5**	**+0.1**	
ESL	baz=202			S		**Sg**	**10 09 55.1**	**-0.4**	
	baz=202								
CHGB	**Renai**	**1.36 235**		P		**Pb**	**10 09 38.0**	**0.0**	
CHGB	baz=234			S		**Sn**	**10 09 56.3**	**+0.2**	
	baz=234								
OWD	**Renai**	**1.42 231**	*i*	P		**Pb**	**10 09 39.0**	**0.0**	
OWD	baz=244		*i*	S		**Sb**	**10 09 57.4**	**0.0**	
	baz=244								
WHP	**Taichung City**	**1.44 247**	*i*	P		**Pg**	**10 09 39.9**	**+0.4**	
WHP	baz=246		*i*	S		**Sn**	**10 09 59.4**	**+1.6**	
	baz=246								
WUSB	**Renai**	**1.44 234**		P		**Pg**	**10 09 39.6**	**-0.2**	
WUSB	baz=248			S		**Sb**	**10 09 57.9**	**-0.1**	
	baz=248								
EGFH	**Guangfu**	**1.47 217**	*i*	P		**Pn**	**10 09 39.2**	**+0.2**	
NMLH	baz=199 **Miaoli**	**1.49 258**		P		**Pg**	**10 09 41.0**	**+0.3**	
NMLH	baz=258			S		**Sg**	**10 10 00.5**	**+0.5**	
	baz=258								
HATJ	**Hateruma jima**	**1.51 121**	*e*	S		**Sn**	**10 09 57.2**	**-2.2**	
NSY	**Sanyi**	**1.55 254**		P		**Pg**	**10 09 41.6**	**-0.1**	
NSY	baz=271			S		**Sg**	**10 10 02.5**	**+0.7**	
	baz=271								
TWQ1	**Liyutan**	**1.56 252**		P		**Pg**	**10 09 42.4**	**+0.5**	
TWQ1	baz=270		*i*	S		**Sb**	**10 10 01.1**	**0.0**	
	baz=270								
WCS	**Beigang Elemen**	**1.56 240**		P		**Pg**	**10 09 42.7**	**+0.6**	
WCS	baz=239			S		**Sg**	**10 10 01.6**	**-0.7**	
	baz=239								
VWDT	**VWDT**	**1.58 227**		P		**Pb**	**10 09 41.7**	**+0.1**	
VWDT	baz=208			S		**Sn**	**10 10 01.5**	**+0.3**	
	baz=208								
JKRS	**Kuro-shima**	**1.59 112**		P		**Pn**	**10 09 40.7**	**0.0**	
JKRS				S		**Sn**	**10 09 59.8**	**-1.7**	
HGSD	**Ruisui**	**1.62 213**		P		**Pn**	**10 09 41.6**	**+0.6**	
EHY	baz=198 **Hungye**	**1.66 216**		P		**Pn**	**10 09 41.9**	**+0.3**	
	baz=215								
JIJ	**Ishigaki jima**	**1.67 107**		P		**Pn**	**10 09 41.2**	**-0.5**	
JIJ			*e*	S		**Sn**	**10 10 01.5**	**-1.8**	
SMLT	**Sun Moon Lake**	**1.67 235**	*i*	P		**Pg**	**10 09 44.0**	**0.0**	
SMLT	baz=247			S		**Sn**	**10 10 03.9**	**+0.3**	
	baz=247								
SSLB	**Suanglung**	**1.69 231**		P		**Pb**	**10 09 43.6**	**+0.2**	
SSLB	**Suanglung**	**1.69 231**		P		**Pb**	**10 09 43.6**	**+0.2**	
SSLB	baz=241			S		**Sb**	**10 10 05.2**	**+0.4**	
	baz=241								
TYC	**Yuchr**	**1.69 236**	*i*	P		**Pg**	**10 09 43.8**	**-0.6**	
TYC	baz=235			S		**Sg**	**10 10 06.0**	**-0.3**	
	baz=235								
JISG	**Ishigakijimahi**	**1.76 98**	*e*	P		**Pn**	**10 09 42.7**	**-0.3**	
YULB	**Yu-li**	**1.76 215**		P		**Pn**	**10 09 42.9**	**-0.1**	
YULB	**Yu-li**	**1.76 215**		P		**Pn**	**10 09 42.5**	**-0.5**	
EYUL	baz=213 **Yuli**	**1.79 213**	*e*	S		**Sn**	**10 10 06.7**	**+0.3**	
	baz=212								
WHYT	**Xinyi Township**	**1.82 231**	*i*	P		**Pb**	**10 09 46.0**	**+0.3**	
WHYT	baz=213		*i*	S		**Sg**	**10 10 09.6**	**-0.9**	
	baz=213								
WJS	**Zhushan**	**1.83 236**	*i*	P		**Pg**	**10 09 47.1**	**-0.1**	
WJS	baz=255			S		**Sg**	**10 10 12.4**	**+1.4**	
	baz=255								
WNT	**Mingjian**	**1.83 238**		P		**Pg**	**10 09 47.1**	**-0.1**	
WNT	baz=257			S		**Sg**	**10 10 10.3**	**-0.7**	
	baz=257								
ALS	**Alishan**	**1.97 228**	*i*	P		**Pb**	**10 09 47.9**	**-0.6**	
ALS	baz=209			S		**Sb**	**10 10 13.4**	**+0.1**	
	baz=209								
CHN5	**Tsauling**	**2.00 232**	*i*	P		**Pb**	**10 09 49.0**	**+0.2**	
CHN5	baz=213			S		**Sb**	**10 10 14.9**	**+0.8**	
	baz=213								
EHD	**Haiduan**	**2.01 213**		P		**Pn**	**10 09 45.8**	**-0.6**	
WDLH	baz=211 **Douliu**	**2.05 236**		P		**Pb**	**10 09 49.7**	**+0.1**	
WDLH	baz=254			S		**Sg**	**10 10 16.7**	**-1.3**	
	baz=254								
ELDTW	**Lidau**	**2.08 218**	*i*	P		**Pn**	**10 09 47.8**	**+0.3**	
WCKO	baz=202 **Fanlu**	**2.16 230**		P		**Pb**	**10 09 51.3**	**-0.1**	
WCKO	baz=211			S		**Sb**	**10 10 17.8**	**-0.6**	
	baz=211								
CHN4	**Tsaushan**	**2.22 228**	*i*	P		**Pb**	**10 09 52.3**	**-0.2**	
CHN4	baz=210			S		**Sb**	**10 10 20.1**	**-0.2**	
	baz=210								
TPUB	**Ta-pu**	**2.23 227**		P		**Pb**	**10 09 52.3**	**-0.4**	
TPUB	baz=210			S		**Sb**	**10 10 19.5**	**-1.0**	
	baz=210								
WTP	**Ta-pu**	**2.28 226**	*i*	P		**Pb**	**10 09 52.2**	**-1.4**	
WTP	baz=208			S		**Sb**	**10 10 21.5**	**-0.5**	
	baz=208								
TWK	**Hsinying**	**2.35 228**	*i*	P		**Pn**	**10 09 53.0**	**+1.9**	
TWK	baz=211			S		**Sn**	**10 10 22.3**	**+2.0**	
	baz=211								
CHN1	**Nanshi**	**2.38 226**	*i*	P		**Pb**	**10 09 53.7**	**-1.6**	
CHN1	baz=211			S		**Sb**	**10 10 24.5**	**-0.3**	
	baz=211								
WSL	**Shuilin Townsh**	**2.38 237**		P		**Pn**	**10 09 52.6**	**+1.2**	
SGST	baz=236 **Jiashian**	**2.42 224**		P		**Pn**	**10 09 53.3**	**+1.3**	
MATB	baz=206 **Ma-tsu**	**2.56 301**		P		**Pn**	**10 09 54.2**	**+0.2**	
MATB	baz=300			S		**Sn**	**10 10 24.9**	**-0.5**	
	baz=300								
TSMG	**Majia**	**2.67 217**		S		**Sn**	**10 10 29.9**	**+1.8**	
VWUC	baz=202 **VWUC**	**2.68 274**		P		**Pn**	**10 09 55.8**	**+0.3**	
EAST	baz=274 **Anshuo**	**2.84 210**	*i*	P		**Pn**	**10 09 58.5**	**+0.7**	
EAST	baz=208			S		**Sn**	**10 10 30.1**	**-2.2**	
	baz=208								
LYJJ	**Jianjiangzhen**	**2.92 306**		P		**Pn**	**10 09 59.8**	**+1.0**	
SCZT	baz=306 **Fangliau**	**2.96 214**		P		**Pn**	**10 10 01.1**	**+1.6**	
SCZT	baz=198			S		**Sn**	**10 10 35.8**	**+0.6**	
	baz=198								
PTMZ	**Houxiangcun**	**2.98 274**	*e*	P		**Pn**	**10 10 00.4**	**+0.7**	
SLIU	baz=274 **Shizi**	**3.00 209**		P		**Pn**	**10 10 01.4**	**+1.3**	
SMST	baz=197 **Manzhou Townsh**	**3.16 207**		P		**Pn**	**10 10 03.5**	**+1.3**	
SMST	baz=206			S		**Sn**	**10 10 39.6**	**-0.6**	
	baz=206								

TAP ***05*** *10:16:05.0, 24.°63N×122.°35E, h10km, ML2.7, C*

JMA ***05*** *10:16:05.4±0.1, 24.°6N±0.°6×122.°4E±0.°2, h25km±2km, MV2.2/10, TAIWAN REGION*

ISC 05 10:16:03.5±1.1, **24.°59N**±0.°02×**122.°44E**±0.°02, **h5**km±10km, **n75**, σ0.°64/131, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.48**	**106**	*e*	P	**Pn**	**10 16 16.1**	**-0.9**
JYNG					S	**Sb**	**10 16 23.9**	**+2.2**
YOJ	**Yonaguni jima**	**0.53**	**104**	*e*	P	**Pn**	**10 16 17.2**	**-0.6**
YOJ				*e*	S	**Sn**	**10 16 25.6**	**-1.5**
YOJ	**Yonaguni jima**	**0.53**	**104**		P	**Pn**	**10 16 17.1**	**-0.7**
YOJ	baz=105				S	**Sn**	**10 16 26.6**	**-0.6**
	baz=105							
TWC	**Suao**	**0.54**	**272**	*i*	P	**Pg**	**10 16 13.3**	**-0.6**
TWC	baz=267			*i*	S	**Sg**	**10 16 21.0**	**0.0**
	baz=267							
TWB1	**Santiao Chiao**	**0.59**	**315**	*i*	P	**Pb**	**10 16 15.8**	**-0.5**
TWB1	baz=320			*i*	S	**Sg**	**10 16 22.2**	**-0.4**
	baz=320							
NTC	**Toucheng**	**0.62**	**296**		S	**Sb**	**10 16 25.7**	**-0.1**
EWUT	baz=296 **Wuta**	**0.62**	**257**		P	**Pg**	**10 16 15.7**	**+0.2**
EWUT	baz=260				S	**Sg**	**10 16 24.0**	**+0.4**
	baz=260							
ENA	**Nanau**	**0.66**	**256**	*i*	P	**Pg**	**10 16 16.5**	**+0.2**
ENA	baz=261			*i*	S	**Sg**	**10 16 23.5**	**-1.3**
	baz=261							
NDS	**Dongshan**	**0.66**	**274**		P	**Pg**	**10 16 16.2**	**-0.1**
NDS	baz=270				S	**Sg**	**10 16 25.2**	**+0.2**
	baz=270							
TIPB	**Shuangxi**	**0.68**	**304**	*i*	P	**Pg**	**10 16 16.7**	**+0.1**
TIPB	baz=298			*i*	S	**Sb**	**10 16 26.9**	**-0.7**
	baz=298							
TWE	**Neicheng**	**0.72**	**281**	*i*	P	**Pg**	**10 16 16.7**	**-0.6**
TWE	baz=278			*i*	S	**Sg**	**10 16 27.0**	**+0.3**
	baz=278							
SXI1	**Grass Mountain**	**0.72**	**314**		P	**Pb**	**10 16 18.7**	**+0.1**
SXI1	baz=317				S	**Sb**	**10 16 28.0**	**-0.9**
	baz=317							
NWF	**Wu-fen Shan**	**0.77**	**309**	*i*	P	**Pb**	**10 16 19.6**	**+0.2**
NWF	baz=311				S	**Sb**	**10 16 29.8**	**-0.5**
	baz=311							
WFSB	**Wu-fen Shan**	**0.77**	**309**		P	**Pb**	**10 16 19.7**	**+0.3**
WFSB	baz=326				S	**Sb**	**10 16 30.2**	**0.0**
	baz=326							
FUSB	**Fushanzhiwuyua**	**0.80**	**283**		P	**Pg**	**10 16 18.5**	**-0.4**
FUSB	baz=281				S	**Sg**	**10 16 29.9**	**+0.7**
	baz=281							
ENTT	**Nioudou**	**0.80**	**274**	*i*	P	**Pg**	**10 16 18.8**	**-0.1**
ENTT	baz=262			*i*	S	**Sg**	**10 16 28.9**	**-0.4**
	baz=262							
TNOU	**National Taiwa**	**0.83**	**313**		P	**Pb**	**10 16 20.2**	**-0.2**
LATG	baz=315 **Datong**	**0.84**	**267**		P	**Pg**	**10 16 19.0**	**-0.6**
LATG	baz=263				S	**Sg**	**10 16 31.4**	**+0.9**
	baz=263							
ETL	**Fush Village**	**0.86**	**240**		P	**Pb**	**10 16 20.8**	**-0.2**
TWA	baz=235 **Mucha**	**0.87**	**297**	*i*	P	**Pb**	**10 16 21.2**	**0.0**
TWA	baz=287			*i*	S	**Sb**	**10 16 32.8**	**-0.4**
	baz=287							
NWLT	**Wulai**	**0.88**	**283**	*i*	P	**Pg**	**10 16 20.3**	**-0.1**
NWLT	baz=273			*i*	S	**Sg**	**10 16 32.1**	**+0.3**
	baz=273							
NACB	**Ninganchiao**	**0.88**	**242**		P	**Pg**	**10 16 20.2**	**-0.1**
NACB	baz=236				S	**Sg**	**10 16 31.0**	**-0.8**
	baz=236							
NHDH	**Xindian Distri**	**0.92**	**294**	*i*	P	**Pb**	**10 16 22.1**	**+0.3**
NHDH	baz=286				S	**Sg**	**10 16 33.6**	**+0.6**
	baz=286							
TWD	**Chiawan**	**0.92**	**237**	*i*	P	**Pn**	**10 16 23.2**	**0.0**
ETLH	baz=231 **Xiulin Townshi**	**0.95**	**247**		P	**Pg**	**10 16 22.0**	**+0.2**
YM01	baz=251 **YM01**	**0.97**	**305**		P	**Pb**	**10 16 22.6**	**-0.3**
YM01	baz=306				S	**Sg**	**10 16 34.9**	**+0.1**
	baz=306							
YHNB	**Yeheng**	**0.97**	**275**		P	**Pg**	**10 16 22.1**	**-0.2**
YHNB	baz=265				S	**Sb**	**10 16 35.7**	**-0.5**
	baz=265							
NNSB	**Datong**	**0.98**	**261**		P	**Pg**	**10 16 21.6**	**-0.7**
NNSB	baz=257				S	**Sg**	**10 16 34.4**	**-0.6**
	baz=257							
NNS	**Nan Shan**	**0.99**	**262**	*i*	P	**Pg**	**10 16 22.6**	**+0.1**
NNS	baz=257			*i*	S	**Sg**	**10 16 34.6**	**-0.6**
	baz=257							
NSK	**Sanguang**	**0.99**	**275**	*i*	P	**Pg**	**10 16 22.2**	**-0.4**
NSK	baz=272			*i*	S	**Sg**	**10 16 34.6**	**-0.9**
	baz=272							
TWY	**Chenhua**	**1.03**	**312**	*i*	P	**Pb**	**10 16 23.5**	**-0.3**
TWY	baz=314			*i*	S	**Sg**	**10 16 36.9**	**+0.3**
	baz=314							
TWS1	**Kuangyinshan**	**1.06**	**299**		P	**Pb**	**10 16 24.7**	**+0.3**
TWS1	baz=299				S	**Sg**	**10 16 38.1**	**+0.4**
	baz=299							
PCYT	**Pengchaiyu**	**1.09**	**342**	*i*	P	**Pn**	**10 16 25.8**	**+0.3**
FUSS	baz=346 **Fushou**	**1.15**	**253**	*i*	P	**Pg**	**10 16 25.8**	**+0.3**
FUSS	baz=249				S	**Sb**	**10 16 41.9**	**+0.7**
	baz=249							
WHF	**Hehuan Shan**	**1.16**	**248**	*i*	P	**Pb**	**10 16 26.4**	**0.0**
WHF	baz=253				S	**Sb**	**10 16 41.9**	**0.0**
	baz=253							
IRIF	**Iriomote-Funau**	**1.20**	**102**	*e*	P	**Pn**	**10 16 27.8**	**+0.9**
ESL	**Shilin**	**1.20**	**230**	*i*	P	**Pn**	**10 16 27.2**	**+0.2**
ESL	baz=224				S	**Sn**	**10 16 44.2**	**+0.6**
	baz=224							
TWT	**Tachien**	**1.20**	**254**		S	**Sb**	**10 16 43.5**	**+0.7**
NFF	baz=250 **Wufeng Townshi**	**1.21**	**272**		P	**Pg**	**10 16 26.7**	**0.0**
NFF	baz=269				S	**Sb**	**10 16 42.8**	**-0.1**
	baz=269							
CHGB	**Renai**	**1.27**	**246**		P	**Pg**	**10 16 28.1**	**+0.2**
CHGB	baz=220				S	**Sn**	**10 16 45.9**	**+0.2**
	baz=220							
LIOB	**Emei**	**1.30**	**273**	*i*	P	**Pg**	**10 16 29.2**	**+0.7**
LIOB	baz=270			*i*	S	**Sb**	**10 16 45.7**	**+0.2**
	baz=270							
EGFH	**Guangfu**	**1.30**	**226**		S	**Sn**	**10 16 47.3**	**+1.1**
NSTT	baz=202 **Nanjuang**	**1.31**	**272**	*i*	P	**Pg**	**10 16 29.6**	**+0.8**
NSTT	baz=269			*i*	S	**Sg**	**10 16 46.0**	**+0.2**
	baz=269							
OWD	**Renai**	**1.32**	**242**	*i*	P	**Pg**	**10 16 29.9**	**+1.1**
OWD	baz=218			*i*	S	**Sn**	**10 16 47.0**	**+0.2**
	baz=218							
WUSB	**Renai**	**1.35**	**244**		P	**Pb**	**10 16 29.4**	**+0.1**
WUSB	baz=221				S	**Sn**	**10 16 48.3**	**+0.8**
	baz=221							
HATJ	**Hateruma jima**	**1.35**	**113**		S	**Sn**	**10 16 48.2**	**+0.8**
WHP	**Taichung City**	**1.40**	**258**	*i*	P	**Pg**	**10 16 30.6**	**+0.2**
WHP	baz=254				S	**Sg**	**10 16 48.8**	**+0.2**
HGSD	baz=254 **Ruisui**	**1.44**	**221**		P	**Pb**	**10 16 30.7**	**0.0**
HGSD	baz=200				S	**Sb**	**10 16 48.5**	**-0.8**
	baz=200							
VWDT	**VWDT**	**1.45**	**235**		P	**Pb**	**10 16 31.0**	**0.0**
VWDT	baz=212				S	**Sg**	**10 16 50.8**	**+0.6**
	baz=212							
JKRS	**Kuro-shima**	**1.47**	**103**	*e*	P	**Pg**	**10 16 31.9**	**+0.2**
JKRS					S	**Sg**	**10 16 51.8**	**+1.0**
EHY	**Hungye**	**1.49**	**224**		P	**Pn**	**10 16 30.5**	**-0.5**
WCS	baz=220 **Beigang Elemen**	**1.49**	**250**		P	**Pb**	**10 16 32.0**	**+0.2**
WCS	baz=254				S	**Sb**	**10 16 51.4**	**+0.4**
	baz=254							
NMLH	**Miaoli**	**1.50**	**268**		P	**Pg**	**10 16 34.0**	**+1.5**
NMLH	baz=280				S	**Sg**	**10 16 53.4**	**+1.4**
	baz=280							
TWQ1	**Liyutan**	**1.54**	**261**		S	**Sg**	**10 16 55.1**	**+2.0**
JIJ	baz=276 **Ishigaki jima**	**1.56**	**98**		S	**Sb**	**10 16 53.1**	**+0.1**
SMLT	**Sun Moon Lake**	**1.57**	**244**		P	**Pb**	**10 16 33.4**	**+0.2**
SSLB	baz=223 **Suanglung**	**1.58**	**240**		P	**Pb**	**10 16 32.9**	**-0.4**
SSLB	baz=219				S	**Sn**	**10 16 53.4**	**+0.4**
	baz=219							
YULB	**Yu-li**	**1.59**	**222**		P	**Pn**	**10 16 31.0**	**-1.3**
YULB	baz=216				S	**Sn**	**10 16 53.0**	**-0.2**
	baz=216							
TYC	**Yuchr**	**1.60**	**245**		P	**Pg**	**10 16 34.5**	**+0.2**
TYC	baz=247				S	**Sb**	**10 16 54.5**	**+0.4**
	baz=247							
EYUL	**Yuli**	**1.61**	**220**		P	**Pn**	**10 16 32.8**	**+0.2**
JISG	baz=235 **Ishigakijimahi**	**1.70**	**90**	*e*	S	**Sg**	**10 16 57.5**	**-0.7**
WHYT	**Xinyi Township**	**1.70**	**239**	*i*	P	**Pb**	**10 16 35.6**	**+0.2**
WHYT	baz=217			*i*	S	**Sg**	**10 16 58.5**	**+0.2**
	baz=217							
EHD	**Haiduan**	**1.83**	**219**		P	**Pn**	**10 16 34.5**	**-1.1**
EHD	baz=213				S	**Sn**	**10 16 59.1**	**0.0**
	baz=213							
ALS	**Alishan**	**1.84**	**235**	*i*	P	**Pb**	**10 16 38.2**	**+0.3**
ALS	baz=214				S	**Sb**	**10 17 01.4**	**0.0**
	baz=214							
CHN5	**Tsauling**	**1.89**	**239**	*i*	P	**Pg**	**10 16 39.6**	**-0.2**
CHN5	baz=216			*i*	S	**Sb**	**10 17 03.3**	**+0.7**
	baz=216							
ELDTW	**Lidau**	**1.91**	**223**		P	**Pn**	**10 16 37.7**	**+0.9**
ELDTW	baz=204				S	**Sn**	**10 17 00.6**	**-0.7**
	baz=204							
EDH	**Donghe**	**1.92**	**213**		P	**Pn**	**10 16 36.9**	**+0.1**
EDH	baz=194				S	**Sn**	**10 17 00.4**	**-0.9**
	baz=194							
WCKO	**Fanlu**	**2.03**	**236**		S	**Sb**	**10 17 06.3**	**-0.3**
CHN4	baz=215 **Tsaushan**	**2.09**	**234**	*i*	P	**Pb**	**10 16 41.1**	**-0.9**
CHN4	baz=213				S	**Sb**	**10 17 08.6**	**+0.3**
	baz=213							
TPUB	**Ta-pu**	**2.10**	**233**		P	**Pb**	**10 16 41.9**	**-0.2**
TPUB	baz=214				S	**Sb**	**10 17 08.3**	**-0.1**
	baz=214							
WTP	**Ta-pu**	**2.14**	**232**	*i*	P	**Pb**	**10 16 42.0**	**-0.8**
WTP	baz=209				S	**Sb**	**10 17 09.4**	**-0.3**
	baz=209							
TWK	**Hsinying**	**2.22**	**234**		P	**Pb**	**10 16 44.3**	**+0.1**
TWK	baz=214			*i*	S	**Sb**	**10 17 12.3**	**+0.3**
	baz=214							
CHN1	**Nanshi**	**2.24**	**232**	*i*	S	**Sb**	**10 17 13.1**	**+0.5**
SGST	baz=212 **Jiashian**	**2.27**	**229**		S	**Sb**	**10 17 13.1**	**-0.3**
MASBT	baz=209 **Mashibuluo**	**2.57**	**221**		P	**Pb**	**10 16 48.6**	**-1.6**
MASBT	baz=204				S	**Sb**	**10 17 21.1**	**-1.1**
	baz=204							

WEL ***05*** *10:22:02.9±0.3, 42.°S±3.°×17.°4E±.°, h13km±3km, M3.2/18, ML3.5/18, MLv3.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=152.4, confirmed*

NOU ***05*** *10:22:03.8, 41.°65S×174.°37E, h0km, MLv3.5/8, Cook Strait, New Zealand*

ISC 05 10:22:02.4±1.4, **41.°58S**±0.°03×**174.°43E**±0.°02, **h15**km±12km, **n94**, σ1.°14/104, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.23**	**224**	P		**Pb**	**10 22 09.1**	**+0.8**
CMWZ				S		**Sb**	**10 22 14.3**	**+2.0**
SNZO	**South Karori**	**0.34**	**37**	P		**Pb**	**10 22 10.5**	**+0.3**
TCW	**Tory Channel**	**0.39**	**343**	P		**Pb**	**10 22 11.2**	**+0.1**
TCW				S		**Sb**	**10 22 16.8**	**-0.1**
WEL	**Wellington**	**0.39**	**41**	P		**Pb**	**10 22 11.3**	**+0.2**
TUWZ	**Tuamarina**	**0.40**	**293**	P		**Pb**	**10 22 11.4**	**+0.2**
TUWZ				S		**Sb**	**10 22 17.2**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.43**	**252**	P		**Pb**	**10 22 12.3**	**+0.5**
BSWZ				S		**Sb**	**10 22 19.4**	**+1.2**
PLWZ	**Palliser**	**0.62**	**89**	P		**Pg**	**10 22 15.5**	**+0.9**
PLWZ				S		**Sn**	**10 22 26.5**	**0.0**
CAW	**Cannon Point**	**0.68**	**45**	P		**Pb**	**10 22 16.1**	**+0.1**
CAW				S		**Sb**	**10 22 25.4**	**+0.3**
PAWZ	**Paruwai Farm**	**0.78**	**75**	P		**Pg**	**10 22 18.1**	**+0.5**
PAWZ				S		**Sn**	**10 22 30.2**	**-0.1**
KIW	**Kapiti Island**	**0.81**	**27**	P		**Pb**	**10 22 18.3**	**+0.1**
KIW				S		**Sb**	**10 22 29.3**	**+0.4**
DUWZ	**D'Urville Isla**	**0.87**	**334**	P		**Pb**	**10 22 19.6**	**+0.4**
NNZ	**Nelson**	**0.87**	**295**	P		**Pb**	**10 22 19.7**	**+0.4**
MTW	**Mount Morrison**	**0.91**	**63**	P		**Pg**	**10 22 20.4**	**+0.2**
MTW				S		**Sn**	**10 22 34.0**	**+0.4**
OGWZ	**Otaki Gorge**	**0.95**	**36**	P		**Pb**	**10 22 20.6**	**+0.1**
TRWZ	**Traveller**	**0.96**	**79**	P		**Pb**	**10 22 20.8**	**0.0**
KHZ	**Kahutara**	**1.06**	**218**	P		**Pb**	**10 22 22.7**	**+0.2**
KHZ	**Kahutara**	**1.06**	**218**	P		**Pb**	**10 22 22.6**	**0.0**
KHZ				S		**Sb**	**10 22 37.6**	**+1.3**
HOWZ	**Holdsworth Sta**	**1.07**	**50**	P		**Pb**	**10 22 22.7**	**+0.1**
HOWZ				S		**Sn**	**10 22 37.8**	**+0.3**
THZ	**Tophouse**	**1.16**	**261**	P		**Pb**	**10 22 24.4**	**+0.3**
TMWZ	**Te Maipa**	**1.20**	**67**	P		**Pn**	**10 22 24.0**	**-0.7**
TKNZ	**Takaka Hill**	**1.23**	**296**	P		**Pb**	**10 22 25.7**	**+0.3**
MRZ	**Mangatainoka R**	**1.27**	**44**	P		**Pn**	**10 22 25.7**	**+0.1**
MRNZ	**Matariki Terra**	**1.27**	**278**	P		**Pb**	**10 22 26.4**	**+0.4**
TIWZ	**Tintock**	**1.36**	**54**	P		**Pn**	**10 22 26.6**	**-0.3**
PRWZ	**Pori Road**	**1.55**	**49**	P		**Pn**	**10 22 29.3**	**-0.3**
POWZ	**Post Office Ro**	**1.56**	**41**	P		**Pn**	**10 22 29.8**	**+0.1**
QRZ	**Quartz Range**	**1.62**	**297**	P		**Pb**	**10 22 32.2**	**+0.2**
QRZ	**Quartz Range**	**1.62**	**297**	P		**Pb**	**10 22 32.0**	**-0.1**
BFZ	**Birch Farm**	**1.64**	**57**	P		**Pb**	**10 22 33.2**	**+0.8**
BFZ	**Birch Farm**	**1.64**	**57**	P		**Pn**	**10 22 29.8**	**-1.0**
GVZ	**Greta Valley S**	**1.73**	**216**	P		**Pn**	**10 22 31.3**	**-0.7**
WAZ	**Wanganui**	**1.88**	**13**	P		**Pb**	**10 22 37.2**	**+0.8**
DSZ	**Denniston Nort**	**1.97**	**264**	P		**Pn**	**10 22 36.3**	**+0.9**
LTZ	**Lake Taylor**	**2.00**	**233**	P		**Pn**	**10 22 35.4**	**-0.4**
AMCZ	**Amberley**	**2.07**	**219**	P		**Pn**	**10 22 34.4**	**-2.2**
LREZ	**Lake Rotokare**	**2.12**	**359**	P		**Pg**	**10 22 42.7**	**-0.4**
WPHZ	**Waipukurau**	**2.15**	**46**	P		**Pn**	**10 22 38.0**	**+0.2**
NMEZ	**Namu Road**	**2.21**	**349**	P		**Pb**	**10 22 42.5**	**+0.4**
KHEZ	**Kahui Hut**	**2.31**	**352**	P		**Pb**	**10 22 43.8**	**0.0**
KHEZ	**Kahui Hut**	**2.31**	**352**	P		**Pb**	**10 22 43.8**	**0.0**
NEZ	**North Egmont**	**2.33**	**354**	P		**Pb**	**10 22 44.3**	**+0.3**
MTVZ	**Mangateitei**	**2.34**	**20**	P		**Pg**	**10 22 46.0**	**-1.3**
NBEZ	**Newall Road No**	**2.35**	**349**	P		**Pg**	**10 22 46.4**	**-1.2**
OKCZ	**Okains Bay**	**2.37**	**205**	P		**Pn**	**10 22 39.1**	**-1.7**
PKVZ	**Pokaka**	**2.40**	**17**	P		**Pb**	**10 22 46.3**	**+1.0**
MOVZ	**Moawhango**	**2.40**	**25**	P		**Pb**	**10 22 45.3**	**0.0**
DREZ	**Durham Road**	**2.40**	**356**	P		**Pg**	**10 22 48.3**	**-0.2**
PKE	**Pukeiti**	**2.41**	**352**	P		**Pg**	**10 22 47.3**	**-1.4**
PXZ	**Pawanui**	**2.41**	**51**	P		**Pb**	**10 22 46.7**	**+1.2**
WNVZ	**Wahianoa**	**2.42**	**22**	P		**Pb**

BHHZ	Black Hill Sta	2.44	31	P		Pb	10 22 45.8	-0.2
KRHZ	Kereru	2.44	38	P		Pn	10 22 41.1	-0.7
TRVZ	Turoa	2.44	21	P		Pb	10 22 46.7	+0.6
WHVZ	Whangaehu Hut	2.46	21	P		Pb	10 22 47.5	+1.0
VRZ	Vera Road	2.47	6	P		Pb	10 22 45.6	-0.9
FWVZ	Far West T-bar	2.48	21	P		Pb	10 22 47.1	+0.3
OXZ	Oxford	2.48	225	P		Pn	10 22 40.6	-1.7
MQZ	McQueen's Vall	2.49	211	P		Pn	10 22 40.3	-2.2
INZ	Inchbonnie	2.50	242	P		Pn	10 22 42.5	0.0
TUVZ	Tukino	2.50	22	P		Pb	10 22 47.7	+0.7
MHEZ	Mangahewa	2.51	358	P		Pg	10 22 50.8	+0.3
NGZ	Ngauruhoe	2.57	21	P		Pb	10 22 48.6	+0.4
SNVZ	South Ngauruho	2.57	22	P		Pb	10 22 48.1	-0.2
KAHZ	Kahuranaki	2.58	47	P		Pn	10 22 42.7	-1.0
OTVZ	Oturere	2.60	22	P		Pn	10 22 45.5	+1.5
NNVZ	North Ngauruho	2.61	21	P		Pn	10 22 46.2	+1.9
WTVZ	West Tongariro	2.62	20	P		Pb	10 22 49.6	+0.5
TWVZ	Taurewa	2.63	17	P		Pb	10 22 50.2	+1.0
ETVZ	East Tongariro	2.63	22	P		Pb	10 22 49.8	+0.4
KWHZ	Kaweka Forest	2.64	36	P		Pb	10 22 51.0	+1.5
TMVZ	Te Maari	2.65	22	P		Pb	10 22 50.0	+0.3
KRVZ	Karewarewa	2.65	21	P		Pb	10 22 50.4	+0.7
NTVZ	North Tongarir	2.66	21	P		Pb	10 22 49.0	-0.8
RACZ	Rakaia	2.73	217	P		Pn	10 22 43.9	-1.7
KATZ	Kakaramea	2.78	21	P		Pb	10 22 53.0	+1.1
RITZ	Rihia Road	2.82	23	P		Pb	10 22 53.9	+1.3
BKZ	Black Stump Fm	2.88	34	P		Pb	10 22 54.1	+0.5
BKZ	Black Stump Fm	2.88	34	P		Pb	10 22 54.7	+1.1
RATZ	Rangitukua	2.90	21	P		Pb	10 22 55.9	+2.0
WACZ	Wakanui South	3.03	218	P		Pn	10 22 48.4	-1.4
WATZ	Wairara	3.04	20	P		Pb	10 22 57.6	+1.4
HIZ	Hauiti	3.08	6	P		Pb	10 22 54.5	-2.5
HIZ	Hauiti	3.08	6	P		Pb	10 22 54.3	-2.7
WVZ	Waitaha Valley	3.12	240	P		Pb	10 22 56.5	-1.0
MRHZ	Matea Rd	3.14	30	P		Pb	10 22 57.0	-0.9
RPZ	Rata Peaks	3.28	228	P		Pn	10 22 52.0	-1.2
RPZ				P		Pb	10 22 52.2	-8.1
TLZ	Tolley Road	3.36	15	P		Pb	10 22 59.6	-2.1
ARCZ	Arundel	3.36	224	P		Pn	10 22 53.3	-1.1
TMZ	Timaru	3.76	221	P		Pn	10 22 58.5	-1.4
MKRZ	Makatiti	3.78	25	P		Pb	10 23 08.3	-0.6
URZ	Urewera	3.91	33	P		Pb	10 23 07.1	-3.9
ODZ	Otahua Downs	4.42	217	P		Pn	10 23 06.8	-2.2
MKAZ	Moumakai	4.51	7	P		Pn	10 23 15.2	+5.0
JCZ	Jackson Bay	4.84	237	P		Pn	10 23 18.9	+4.1

IDC ***05*** *10:34:36.6±4.0, 19°.55N×109°.34W, h0km, mb3.2/5, mbtmp3.4/7, ML3.5/2, MS2.9/3, Error ellipse: s-maj=79.8km s-min=13.8km az=129.0*

ISC 05 10:34:41.6±2.6, 19°.6N±0°.2×109°.4W±0°.3, h35km, n15, σ1part13, mb3.1/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.69**	**241**	Pn	**Pn**	**10 35 07.9**	**-0.8**
H06E1				Sn	**Sn**	**10 35 29.8**	**+0.6**
H06E1				T	T	10 37 16.0	
	SNR=10						
H06N1	**SOCORRO T-PHAS**	**1.71**	**245**	Pn	**Pn**	**10 35 08.1**	**-0.7**
H06N1				Sn	**Sn**	**10 35 28.9**	**-0.5**
H06N1				T	T	10 37 09.7	
	SNR=7.2						
H06S1	**SOCORRO T**	**1.74**	**241**	Pn	**Pn**	**10 35 08.4**	**-0.9**
H06S1				Sn	**Sn**	**10 35 30.0**	**-0.4**
H06S1				T	T	10 37 01.8	
	SNR=6.6						
LPIG	**La Paz**	**4.56**	**349**	Pn	**Pn**	**10 35 46.7**	**-1.5**
	9.0nm,0.3s,baz=170,slow=5.6,SNR=20						
	31nm,0.4s						
CMIG	**Matias Romero**	**13.97**	**98**	LR	LR	10 42 51.4	
	comp=Z,41nm,21.7s,baz=258,slow=36						
PFO	**Pinyon Flats O**	**15.32**	**337**	LR	LR	10 43 51.0	
	comp=Z,58nm,19.8s,baz=354,slow=36						
ANMO	**Albuquerque**	**15.50**	**9**	Pn	**Pn**	**10 38 18.4**	**+0.7**
	baz=94,slow=10,SNR=3.1						
ANMO				LR	LR	10 44 07.6	
	comp=Z,57nm,18.6s,baz=280,slow=37						
	0.6nm,0.8s						
NVAR	**Mina Array Bea**	**20.31**	**339**	P	**P**	**10 39 16.8**	**+2.0**
	1.1nm,0.7s,baz=166,slow=13,SNR=7.3						
	1.1nm,0.7s						
ELK	**Elko**	**21.67**	**348**	P	**P**	**10 39 30.7**	**+1.3**
	0.7nm,0.8s,baz=181,slow=2.3,SNR=3.8						
	0.7nm,0.8s						
PDAR	**Pinedale Array**	**23.10**	**360**	P	**P**	**10 39 44.3**	**-0.3**
	0.2nm,0.5s,baz=163,slow=11,SNR=2.7						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**43.01**	**356**	P	**P**	**10 42 36.5**	**-0.9**
	0.3nm,0.7s,baz=178,slow=7.9,SNR=6.3						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**51.56**	**341**	P	**P**	**10 43 44.8**	**+0.8**
	0.3nm,0.7s,baz=146,slow=6.6,SNR=6.4						
	0.3nm,0.7s						
H03N2	**Juan Fernandez**	**60.21**	**151**	T	T	11 50 08.2	
	baz=329,slow=77,SNR=18						
H03N1	**Juan Fernandez**	**60.22**	**151**	T	T	11 50 19.2	
	baz=329,slow=77,SNR=28						
H03N3	**Juan Fernandez**	**60.23**	**151**	T	T	11 50 08.5	
	baz=329,slow=77,SNR=24						

NOU ***05*** *10:34:55.8, 42°.45S×173°.81E, h9km, MLv4.5/14, South Island, New Zealand*

NEIC ***05*** *10:34:56.8±2.2, 42°.32S±0°.03×173°.63E±0°.04, h11km±8km, mb4.3/2, Mwr4.0/35, Error ellipse: s-maj=4.7km s-min=3.9km az=200.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr0.08; Mθθ0.97; Mφφ-1.05; Mrθ0.37; Mθφ-0.22; Mrφ0.16; Fault plane solution: Mw1.11000×10^15 NP1:φ49.99000°, δ83.99000°, λ159.31000°. NP2:φ142.25000°, δ69.43000°, λ6.42000°. Principal axes: T 1.1131, Plg19.0000°, Azm4.0000°; N -0.0041, Plg68.0000°, Azm215.0000°; P -1.1090, Plg10.0000°, Azm98.0000°;*

WEL ***05*** *10:34:56.9, 42°.5S±4°×17°.4E±°, h10km±6km, M4.4/8, ML4.6/8, MLv4.4/8 Error ellipse: s-maj=0.0km s-min=0.0km az=68.4, confirmed*

NEIC ***05*** *10:34:56.8, 42°.32S×173°.63E, h11km*

ISC 05 10:34:56.0±1.1, 42°.35S±0°.03×173°.70E±0°.03, h13km±7km, n168, σ1part27/176, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**243**		**Pb**	**10 35 00.6**	**+0.1**
KHZ	**Kahutara**	**0.14**	**243**	P	**Pb**	**10 35 00.8**	**+0.3**
KHZ	**Kahutara**	**0.14**	**243**	P	**Pb**	**10 35 00.6**	**+0.1**
KHZ				S	**Sg**	**10 35 03.2**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.65**	**11**		**Pg**	**10 35 09.1**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.65**	**11**	P	**Pg**	**10 35 09.0**	**+0.4**
BSWZ				S	**Sg**	**10 35 18.0**	**+0.7**
CMWZ	**Cape Campbell**	**0.71**	**32**		**Pb**	**10 35 11.7**	**+1.3**
CMWZ	**Cape Campbell**	**0.71**	**32**	P	**Pb**	**10 35 11.6**	**+1.3**
GVZ	**Greta Valley S**	**0.79**	**219**		**Pn**	**10 35 13.8**	**+0.9**
GVZ	**Greta Valley S**	**0.79**	**219**	P	**Pn**	**10 35 13.8**	**+0.9**
GVZ				S	**Sn**	**10 35 26.3**	**+1.8**
THZ	**Tophouse**	**0.84**	**315**		**Pg**	**10 35 11.4**	**-0.8**
THZ	**Tophouse**	**0.84**	**315**	P	**Pg**	**10 35 11.2**	**-1.0**
THZ				S	**Sg**	**10 35 21.0**	**-2.2**
TUWZ	**Tuamarina**	**0.94**	**11**		**Pg**	**10 35 14.5**	**+0.4**
TUWZ	**Tuamarina**	**0.94**	**11**	P	**Pg**	**10 35 14.3**	**+0.1**
AMCZ	**Amberley**	**1.13**	**223**	Pn	**Pn**	**10 35 19.3**	**+1.7**
AMCZ	**Amberley**	**1.13**	**223**	P	**Pn**	**10 35 18.5**	**+1.0**
LTZ	**Lake Taylor**	**1.14**	**248**		**Pb**	**10 35 17.4**	**-0.3**
LTZ	**Lake Taylor**	**1.14**	**248**	P	**Pb**	**10 35 17.3**	**-0.3**
LTZ				S	**Sn**	**10 35 33.2**	**0.0**
NNZ	**Nelson**	**1.16**	**348**		**Pb**	**10 35 17.6**	**-0.4**
NNZ	**Nelson**	**1.16**	**348**	P	**Pb**	**10 35 17.1**	**-0.8**
NNZ				S	**Sb**	**10 35 31.1**	**-1.7**
MRNZ	**Matariki Terra**	**1.19**	**323**		**Pb**	**10 35 18.0**	**-0.4**
MRNZ	**Matariki Terra**	**1.19**	**323**	P	**Pb**	**10 35 17.7**	**-0.7**
MRNZ				S	**Sb**	**10 35 31.7**	**-2.0**
TCW	**Tory Channel**	**1.22**	**21**	Pn	**Pn**	**10 35 19.3**	**+0.5**
TCW	**Tory Channel**	**1.22**	**21**	P	**Pn**	**10 35 19.1**	**+0.4**
TCW				S	**Sn**	**10 35 35.9**	**+0.8**
SNZO	**South Karori**	**1.28**	**36**		**Pn**	**10 35 20.6**	**+1.0**
SNZO	**South Karori**	**1.28**	**36**	P	**Pn**	**10 35 20.4**	**+0.8**
BHW	**Baring Head**	**1.28**	**43**		**Pn**	**10 35 20.6**	**+0.9**
WEL	**Wellington**	**1.33**	**37**	P	**Pn**	**10 35 21.1**	**+0.8**
PLWZ	**Palliser**	**1.40**	**56**	Pn	**Pn**	**10 35 22.0**	**+0.8**
PLWZ	**Palliser**	**1.40**	**56**	P	**Pn**	**10 35 21.7**	**+0.4**
TKNZ	**Takaka Hill**	**1.43**	**337**		**Pn**	**10 35 22.1**	**+0.4**
TKNZ	**Takaka Hill**	**1.43**	**337**	P	**Pn**	**10 35 21.9**	**+0.2**
OKCZ	**Okains Bay**	**1.45**	**199**	P	**Pn**	**10 35 22.7**	**+0.7**
DSZ	**Denniston Nort**	**1.54**	**293**		**Pb**	**10 35 24.3**	**-0.1**
DSZ	**Denniston Nort**	**1.54**	**293**	P	**Pn**	**10 35 23.8**	**+0.6**
MQZ	**McQueen's Vall**	**1.56**	**209**		**Pn**	**10 35 23.6**	**+0.2**
MQZ	**McQueen's Vall**	**1.56**	**209**	P	**Pn**	**10 35 23.2**	**-0.2**
DUWZ	**D'Urville Isla**	**1.56**	**6**	P	**Pn**	**10 35 23.9**	**+0.5**
OXZ	**Oxford**	**1.56**	**231**		**Pn**	**10 35 23.6**	**0.0**
OXZ	**Oxford**	**1.56**	**231**	P	**Pn**	**10 35 23.2**	**-0.3**
CAW	**Cannon Point**	**1.61**	**40**	P	**Pn**	**10 35 24.7**	**+0.6**
PAWZ	**Paruwai Farm**	**1.61**	**54**	P	**Pn**	**10 35 24.4**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.63**	**201**	P	**Pn**	**10 35 24.9**	**+0.6**
INZ	**Inchbonnie**	**1.71**	**257**		**Pn**	**10 35 26.2**	**+0.7**
INZ	**Inchbonnie**	**1.71**	**257**	P	**Pn**	**10 35 25.9**	**+0.4**
KIW	**Kapiti Island**	**1.74**	**32**	P	**Pn**	**10 35 26.8**	**+0.8**
TRWZ	**Traveller**	**1.76**	**58**	P	**Pn**	**10 35 26.3**	**0.0**
QRZ	**Quartz Range**	**1.76**	**330**	Pn	**Pb**	**10 35 27.6**	**-0.6**
QRZ	**Quartz Range**	**1.76**	**330**	P	**Pb**	**10 35 27.4**	**-0.8**
QRZ	**Quartz Range**	**1.76**	**330**	P	**Pb**	**10 35 27.4**	**-0.8**
RACZ	**Rakaia**	**1.79**	**219**	P	**Pn**	**10 35 26.5**	**-0.1**
MTW	**Mount Morrison**	**1.80**	**49**	P	**Pn**	**10 35 26.8**	**+0.1**
OGWZ	**Otaki Gorge**	**1.89**	**36**	P	**Pn**	**10 35 28.5**	**+0.5**
MHCZ	**Mount Hutt**	**1.96**	**232**	P	**Pn**	**10 35 28.5**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.99**	**44**	P	**Pn**	**10 35 29.3**	**0.0**
TMWZ	**Te Maipa**	**2.06**	**53**	P	**Pn**	**10 35 30.1**	**-0.2**
WACZ	**Wakanui South**	**2.09**	**220**	P	**Pn**	**10 35 30.7**	**-0.1**
MRZ	**Mangatainoka R**	**2.20**	**40**	Pn	**Pn**	**10 35 32.6**	**+0.3**
MRZ	**Mangatainoka R**	**2.20**	**40**	P	**Pn**	**10 35 32.3**	**+0.1**
TIWZ	**Tintock**	**2.27**	**47**	P	**Pn**	**10 35 33.2**	**0.0**
WVZ	**Waitaha Valley**	**2.30**	**251**	P	**Pn**	**10 35 34.3**	**+0.7**
RPZ	**Rata Peaks**	**2.37**	**234**		**Pn**	**10 35 34.7**	**+0.1**
RPZ	**Rata Peaks**	**2.37**	**234**	P	**Pn**	**10 35 34.4**	**-0.3**
RPZ	**Rata Peaks**	**2.37**	**234**	P	**Pn**	**10 35 34.3**	**-0.3**
ARCZ	**Arundel**	**2.44**	**228**	P	**Pn**	**10 35 35.1**	**-0.5**
PRWZ	**Pori Road**	**2.48**	**44**	P	**Pn**	**10 35 35.8**	**-0.2**
POWZ	**Post Office Ro**	**2.50**	**39**	P	**Pn**	**10 35 36.8**	**+0.4**
BFZ	**Birch Farm**	**2.54**	**50**	Pn	**Pn**	**10 35 37.0**	**+0.2**
BFZ	**Birch Farm**	**2.54**	**50**	P	**Pn**	**10 35 36.6**	**-0.3**
BFZ	**Birch Farm**	**2.54**	**50**	P	**Pn**	**10 35 36.2**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.66**	**248**	P	**Pn**	**10 35 39.4**	**+0.7**
WAZ	**Wanganui**	**2.77**	**21**	P	**Pn**	**10 35 42.6**	**+2.5**
TMZ	**Timaru**	**2.83**	**223**	P	**Pn**	**10 35 40.7**	**-0.2**
LREZ	**Lake Rotokare**	**2.94**	**11**	P	**Pn**	**10 35 45.8**	**+3.4**
NMEZ	**Namu Road**	**2.94**	**3**	P	**Pb**	**10 35 46.5**	**-1.8**
PRHZ	**Porangahau**	**3.04**	**48**	P	**Pn**	**10 35 45.6**	**+1.8**
KHEZ	**Kahui Hut**	**3.06**	**5**	P	**Pn**	**10 35 46.7**	**+2.5**
KHEZ	**Kahui Hut**	**3.06**	**5**	P	**Pn**	**10 35 47.6**	**+3.4**
WPHZ	**Waipukurau**	**3.08**	**43**	P	**Pn**	**10 35 43.9**	**-0.4**
NBEZ	**Newall Road No**	**3.08**	**2**	P	**Pn**	**10 35 47.0**	**+2.6**
FOZ	**Fox Glacier**	**3.09**	**246**	Pn	**Pn**	**10 35 45.6**	**+1.2**
FOZ	**Fox Glacier**	**3.09**	**246**	P	**Pn**	**10 35 45.2**	**+0.8**
NEZ	**North Egmont**	**3.09**	**6**	P	**Pn**	**10 35 47.8**	**+3.2**
PKE	**Pukeiti**	**3.16**	**4**	P	**Pn**	**10 35 48.5**	**+3.0**
DREZ	**Durham Road**	**3.18**	**7**	P	**Pb**	**10 35 49.9**	**-2.5**
MTVZ	**Mangateitei**	**3.25**	**25**	P	**Pn**	**10 35 49.0**	**+2.2**
LBZ	**Lake Benmore**	**3.27**	**230**	Pn	**Pn**	**10 35 49.0**	**+2.0**
LBZ	**Lake Benmore**	**3.27**	**230**	P	**Pn**	**10 35 47.2**	**+0.1**
PKVZ	**Pokaka**	**3.31**	**23**	P	**Pn**	**10 35 49.1**	**+1.6**
MHEZ	**Mangahewa**	**3.31**	**8**	P	**Pb**	**10 35 53.8**	**-0.7**
VRZ	**Vera Road**	**3.32**	**14**	P	**Pn**	**10 35 49.7**	**+2.1**
PXZ	**Pawanui**	**3.33**	**47**	P	**Pn**	**10 35 48.6**	**+0.9**
MOVZ	**Moawhango**	**3.33**	**28**	P	**Pn**	**10 35 48.5**	**+0.7**
WNVZ	**Wahianoa**	**3.35**	**26**	P	**Pn**	**10 35 49.5**	**+1.3**
TRVZ	**Turoa**	**3.36**	**25**	P	**Pn**	**10 35 49.8**	**+1.4**
BHHZ	**Black Hill Sta**	**3.37**	**33**	P	**Pn**	**10 35 48.5**	**+0.1**
KRHZ	**Kereru**	**3.38**	**38**	P	**Pn**	**10 35 47.8**	**-0.7**
DRZ	**Dome Shelter**	**3.38**	**25**	P	**Pb**	**10 35 50.0**	**-1.0**
WHVZ	**Whangaehu Hut**	**3.38**	**26**	P	**Pn**	**10 35 51.2**	**+2.4**
FWVZ	**Far West T-bar**	**3.40**	**25**	P	**Pn**	**10 35 50.8**	**+1.8**
TUVZ	**Tukino**	**3.42**	**26**	P	**Pn**	**10 35 50.3**	**+1.2**
NGZ	**Ngauruhoe**	**3.49**	**25**	P	**Pn**	**10 35 51.4**	**+1.3**
ODZ	**Otahua Downs**	**3.49**	**218**		**Pn**	**10 35 50.1**	**+0.2**
ODZ	**Otahua Downs**	**3.49**	**218**	P	**Pn**	**10 35 49.7**	**-0.2**
ODZ	**Otahua Downs**	**3.49**	**218**	P	**Pn**	**10 35 49.5**	**-0.4**
SNVZ	**South Ngauruho**	**3.49**	**26**	P	**Pn**	**10 35 51.3**	**+1.2**
KAHZ	**Kahuranaki**	**3.50**	**44**	P	**Pn**	**10 35 49.3**	**-0.9**
OTVZ	**Oturere**	**3.52**	**26**	P	**Pn**	**10 35 51.6**	**+1.1**
NNVZ	**North Ngauruho**	**3.53**	**25**	P	**Pn**	**10 35 52.0**	**+1.3**
TWVZ	**Taurewa**	**3.53**	**22**	P	**Pn**	**10 35 51.9**	**+1.2**
WTVZ	**West Tongariro**	**3.54**	**25**	P	**Pn**	**10 35 51.9**	**+1.1**
ETVZ	**East Tongariro**	**3.56**	**26**	P	**Pn**	**10 35 52.2**	**+1.2**
KRVZ	**Karewarewa**	**3.57**	**25**	P	**Pn**	**10 35 52.5**	**+1.3**
TMVZ	**Te Maari**	**3.57**	**26**	P	**Pn**	**10 35 52.3**	**+1.1**
KWHZ	**Kaweka Forest**	**3.58**	**36**	P	**Pn**	**10 35 50.8**	**-0.5**
NTVZ	**North Tongarir**	**3.58**	**25**	P	**Pn**	**10 35 52.4**	**+1.4**
MCHZ	**McNeill Hill**	**3.69**	**39**	P	**Pn**	**10 35 52.1**	**-0.6**
RITZ	**Rihia Road**	**3.75**	**27**	P	**Pb**	**10 35 59.8**	**-2.3**
BKZ	**Black Stump Fm**	**3.82**	**35**	Pn	**Pn**	**10 35 56.4**	**+1.8**
BKZ	**Black Stump Fm**	**3.82**	**35**	P	**Pn**	**10 35 54.5**	**-0.1**
BKZ	**Black Stump Fm**	**3.82**	**35**	P	**Pn**	**10 35 53.5**	**-1.1**
HIZ	**Hauiti**	**3.94**	**13**	Pn	**Pn**	**10 35 58.6**	**+2.4**
HIZ	**Hauiti**	**3.94**	**13**	P	**Pn**	**10 35 58.5**	**+2.4**
HIZ	**Hauiti**	**3.94**	**13**	P	**Pn**	**10 35 58.3**	**+2.2**
JCZ	**Jackson Bay**	**3.98**	**243**	P	**Pn**	**10 35 57.0**	**+0.1**
JCZ	**Jackson Bay**	**3.98**	**243**	P	**Pn**	**10 35 57.3**	**+0.5**
NMHZ	**Naumai**	**4.02**	**37**	P	**Pn**	**10 35 56.7**	**-0.6**
MRHZ	**Matea Rd**	**4.08**	**31**	P	**Pn**	**10 35 57.1**	**-1.0**
HHSZ	**Highcliff Hill**	**4.18**	**211**	P	**Pn**	**10 35 59.1**	**-0.3**
WKZ	**Wanaka**	**4.21**	**232**	Pn	**Pn**	**10 36 01.0**	**+1.1**
WKZ	**Wanaka**	**4.21**	**232**	P	**Pn**	**10 35 59.5**	**-0.3**
MTHZ	**Maungataniwha**	**4.23**	**35**	P	**Pn**	**10 36 00.0**	**-0.3**
TLZ	**Tolley Road**	**4.26**	**20**	P	**Pn**	**10 36 01.6**	**+1.0**
ALRZ	**Allen Road**	**4.29**	**29**	P	**Pn**	**10 36 00.3**	**-0.6**
EAZ	**Earnscleugh**	**4.29**	**226**	P	**Pn**	**10 36 00.7**	**-0.3**
TUZ	**Tuapeka**	**4.64**	**218**	P	**Pn**	**10 36 06.0**	**+0.2**
RAGZ	**Rawiri**	**4.78**	**38**	P	**Pn**	**10 36 11.0**	**+3.1**
MSZ	**Milford Sound**	**4.80**	**239**	P	**Pn**	**10 36 10.6**	**+2.7**
TOZ	**Tahuroa Road**	**4.82**	**17**	P	**Pn**	**10 36 09.2**	**+1.0**
URZ	**Urewera**	**4.85**	**34**	P	**Pn**	**10 36 08.8**	**+0.2**
URZ	**Urewera**	**4.85**	**34**	P	**Pn**	**10 36 07.1**	**-1.5**
TGRZ	**Tauranga**	**5.02**	**24**	P	**Pn**	**10 36 14.0**	**+3.0**
MLZ	**Mavora Lakes**	**5.04**	**231**	Pn	**Pn**	**10 36 10.7**	**-0.6**
MLZ	**Mavora Lakes**	**5.04**	**231**	P	**Pn**	**10 36 10.5**	**-0.8**
TWGZ	**Tauwhareparae**	**5.30**	**40**	P	**Pn**	**10 36 13.9**	**-1.0**
SYZ	**Scrubby Hill**	**5.31**	**216**	P	**Pn**	**10 36 15.8**	**+0.9**
SYZ	**Scrubby Hill**	**5.31**	**216**	P	**Pn**	**10 36 15.3**	**+0.4**
AWAZ	**Awhitu Peninsu**	**5.33**	**8**	P	**Pn**	**10 36 16.9**	**+1.6**
RUGZ	**Raukumara Rang**	**5.34**	**36**	P	**Pn**	**10 36 15.3**	**-0.1**
MKAZ	**Moumakai**	**5.36**	**13**	P	**Pn**	**10 36 16.7**	**+1.0**
WHZ	**Wether Hill Ro**	**5.45**	**228**	Pn	**Pn**	**10 36 16.0**	**-0.2**
WHZ	**Wether Hill Ro**	**5.45**	**228**	P	**Pn**	**10 36 16.0**	**-0.9**
WTAZ	**Waiatarua**	**5.46**	**7**	P	**Pn**	**10 36 19.2**	**+2.1**
ETAZ	**East Tamaki Re**	**5.47**	**10**	P	**Pn**	**10 36 19.1**	**+1.8**
PUZ	**Puketiti**	**5.52**	**41**	P	**Pn**	**10 36 17.8**	**0.0**
EPAZ	**Eden Park BICE**	**5.53**	**9**	P	**Pn**	**10 36 20.0**	**+2.0**
HAZ	**Te Kaha**	**5.56**	**36**	P	**Pn**	**10 36 16.8**	**-1.5**
RVAZ	**Riverhead Bore**	**5.62**	**7**	P	**Pn**	**10 36 21.0**	**+1.8**
MBAZ	**Motutapu North**	**5.65**	**10**	P	**Pn**	**10 36 21.7**	**+2.0**
DCZ	**Deep Cove**	**5.66**	**234**	Pn	**Pn**	**10 36 18.5**	**-1.3**
WIAZ	**Waiheke Island**	**5.66**	**12**	P	**Pn**	**10 36 21.9**	**+2.0**
KUZ	**Kuaotunu**	**5.81**	**16**	P	**Pn**	**10 36 23.1**	**+1.2**
KUZ	**Kuaotunu**	**5.81**	**16**	P	**Pn**	**10 36 22.7**	**+0.8**
MXZ	**Matakaoa Point**	**5.95**	**38**	Pn	**Pn**	**10 36 24.0**	**+0.2**
WCZ	**Waipu Caves**	**6.42**	**5**	P	**Pn**	**10 36 32.3**	**+2.0**
OUZ	**Omahuta**	**7.12**	**359**	P	**Pn**	**10 36 41.4**	**+1.5**
OUZ	**Omahuta**	**7.12**	**359**	P	**Pn**	**10 36 42.1**	**+2.2**
WB2	**Warramunga Arr**	**39.93**	**292**	P	**P**	**10 42 29.9**	**-0.1**
WB2				IAmb	IAmb	10 42 45.8	
	comp=Z,7.7nm,1.2s						
WB0	**Warramunga Arr**	**40.02**	**292**	P	**P**	**10 42 31.7**	**+1.0**
WB0				IAmb	IAmb	10 42 48.8	
	comp=Z,12nm,1.4s						

ISK ***05*** *10:37:17.9, 36°.59N×31°.42E, h23km, ML2.3/7*

DDA ***05*** *10:37:19.0±0.0, 36°.89N×31°.46E, h7km±6km, ML1.8*

ISC 05 10:37:17.8±1.5, 36°.67N±0°.06×31°.45E±0°.04, h16km±11km, n13, σ0part72/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEYD	**Seydisehir-KON**	**0.80**	**23**	Pg	**Pn**	**10 37 35.5**	**+1.0**
SUTC	**Sutluce-Ispart**	**0.88**	**336**	Pg	**Pn**	**10 37 36.5**	**+0.8**
SUTC				Sg	**Sn**	**10 37 49.9**	**+1.7**
KORT	**Korkueli**	**0.94**	**291**	Pg	**Pg**	**10 37 36.4**	**+0.4**
KORT				Sg	**Sn**	**10 37 49.7**	**+0.1**
KORT	**Korkueli**	**0.94**	**291**	P	**Pb**	**10 37 35.6**	**-0.2**
KORT				S	**Sn**	**10 37 49.8**	**+0.2**
KORT				*i* AML	AML	10 38 01.0	
	comp=N,18nm,0.7s						
ELL	**Elmali**	**1.24**	**274**	Pn	**Pn**	**10 37 39.9**	**-0.7**
KKBE	**Karaman, Kazim**	**1.32**	**65**	P	**Pn**	**10 37 41.9**	**+0.2**
KKBE				S	**Sg**	**10 38 00.1**	**-0.3**
KKBE				*i* AML	AML	10 38 04.0	
	comp=N,27nm,0.9s						
DOGA	**KONYA_Doganhis**	**1.44**	**7**	P	**Pn**	**10 37 43.6**	**+0.2**
KONT	**Konya--Tatoy**	**1.47**	**30**	Sn	**Sg**	**10 38 04.6**	**-0.5**
BERE	**Bereket-Mersin**	**1.47**	**102**	Pn	**Pn**	**10 37 43.9**	**+0.1**
BERE				Sn	**Sn**	**10 38 02.6**	**-0.1**
YVAC	**Isparta, Yalva**	**1.60**	**354**	P	**Pn**	**10 37 45.0**	**-0.6**
YVAC				S	**Sn**	**10 38 05.2**	**-0.9**
LADK	**Ladik-KONYA**	**1.69**	**25**	Pn	**Pn**	**10 37 46.8**	**0.0**
IKL	**Isikli**	**1.86**	**103**	Pn	**Pn**	**10 37 49.3**	**+0.3**
KDHN	**Kadinhani**	**1.92**	**16**	P	**Pn**	**10 37 49.0**	**-1.0**
KDHN				S	**Sn**	**10 38 13.4**	**-0.5**

BJI ***05*** *10:42:39.1±0.0, 25°.87N×128°.85E, h10km, mb4.8/62, mB4.8/32, Ms4.6/55, Ms7 4.4/51*

IDC ***05*** *10:42:42.5±0.6, 26°.15N×128°.63E, h0km, mb4.5/23, mbtmp4.4/27, ML3.8/4, MS3.6/25, Error ellipse: s-maj=17.7km s-min=12.5km az=84.0*

MOS ***05*** *10:42:43.3±1.1, 26°.09N×128°.57E, h18km, mb5.0/41, Error ellipse: s-maj=8.7km s-min=5.0km az=109.0*

NEIC ***05*** *10:42:43.4±2.4, 26°.01N±0°.05×128°.70E±0°.07, h10km±1km, mb4.9/66, Error ellipse: s-maj=10.9km s-min=8.4km az=236.0*

NIED ***05*** *10:42:46.3, 26°.16N×128°.65E, h42km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr6.00; Mθθ-1.06; Mφφ-4.94; Mrθ0.63; Mθφ-5.61; Mrφ0.36; Fault plane solution: Mw7.51000×10^15 NP1:φ45.41.00000°, δ48.00000°, λ98.00000°

comp=E,610nm,9.3s
DL2 LR LR
comp=Z,1µm,11.7s
TIA Tai'an 14.14 318 P P 10 46 24.6 +13
TIA S **Sn** **10 48 49.2 +8.8**
TIA pmax pmax
comp=Z,9.0nm,0.9s
TIA pmax pmax
comp=Z,95nm,3.3s
TIA LR LR
comp=N,510nm,13.1s
TIA LR LR
comp=E,970nm,12.6s
TIA LR LR
comp=Z,1µm,12.8s
LYN LuoYang 16.34 305⇑ *i*P **P** **10 46 36.3 +0.2**
LYN sP pP 10 46 42.8 +0.7
LYN PP **pwP** **10 46 49.6 +4.3**
LYN S **S** **10 49 45.9 -0.2**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN pmax pmax
comp=Z,150nm,4.5s
LYN LR LR
comp=Z,650nm,11.0s
LYN LR LR
comp=Z,1µm,10.9s
LYN LR LR
comp=Z,2µm,12.8s
HNS HongShan 16.38 317⇑ P **P** **10 46 36.8 +0.3**
HNS S **Sn** **10 49 38.0 +3.1**
HNS pmax pmax
comp=Z,38nm,0.9s
HNS LR LR
comp=Z,1µm,12.2s
HNS LR LR
comp=Z,1µm,12.8s
HNS LR LR
comp=Z,2µm,12.2s
BJT Baijiatuau 17.40 326 P **Pn** **10 46 47.1 +0.4**
BJT Baijiatuau 17.40 326 P **Pn** **10 46 47.1 +0.4**
BJT pmax pmax
comp=Z,15nm,0.6s
ENH Enshi 17.43 288 P **P** **10 46 48.2 0.0**
CN2 Changchun 17.90 352 *e*P **Pn** **10 46 52.2 -0.6**
CN2 *ep*P P 10 46 55.7 +2.4
CN2 *e*S **Sn** **10 50 10.2 -1.4**
CN2 *es*S S 10 50 15.9 -1.8
CN2 LR LR
comp=Z,1µm,12.0s
CN2 LR LR
comp=Z,670nm,12.0s
CN2 LR LR
comp=Z,1µm,13.0s
TIY Taiyuan 18.00 314 *e*P **P** **10 46 56.0 +1.4**
TIY pmax pmax
comp=Z,24nm,0.6s
TIY LR LR
comp=Z,800nm,12.4s
TIY LR LR
comp=Z,590nm,11.7s
TIY LR LR
comp=Z,860nm,14.0s
USA0B Ussuriysk Arra 18.30 8 P **Pn** **10 46 58.6 +0.9**
USA0B Ussuriysk Arra 18.30 8 P **Pn** **10 46 58.6 +0.9**
USA0B pmax pmax
comp=Z,32nm,1.6s
USRK Ussuriysk Ar. 18.30 8 P **Pn** **10 46 58.4 +0.6**
comp=Z,0.7nm,0.3s,baz=180,slow=8.4,SNR=14
comp=Z,6.3nm,0.7s
QIZ Qiongzhong 18.73 252 P **P** **10 47 00.2 -2.4**
QIZ S **Sn** **10 50 30.2 -1.9**
QIZ LR LR
comp=Z,800nm,17.0s
QIZ LR LR
comp=Z,410nm,18.2s
XAN Xi'an 18.84 300 P **P** **10 47 02.2 -1.6**
XAN pP Pn 10 47 06.9 +2.5
XAN S **S** **10 50 37.5 +1.0**
XAN SS **SnSn** **10 51 02.0 +13**
XAN pmax pmax
comp=Z,31nm,0.6s
XAN pmax pmax
comp=Z,170nm,5.2s
XAN LR LR
comp=Z,810nm,12.8s
XAN LR LR
comp=Z,650nm,12.9s
XAN LR LR
comp=Z,910nm,13.1s
DAV Davao City (W) 19.11 189 LR LR 10 53 55.2
comp=Z,62nm,21.9s,baz=348,slow=35
GUMO Guam 19.62 126 LR LR 10 53 10.3
comp=Z,98nm,21.0s,baz=338,slow=32
GYA Guiyang 19.74 276 *e*P **Pn** **10 47 15.8 +0.4**
GYA sP pP 10 47 20.2 +0.3
GYA S **Sn** **10 50 59.2 +2.6**
GYA pmax pmax
comp=Z,15nm,0.9s
GYA LR LR
comp=Z,700nm,10.3s
GYA LR LR
comp=Z,600nm,11.0s
GYA LR LR
comp=Z,570nm,11.2s
HHC Hu-ho-hao-te 20.48 320 *e*P **P** **10 47 21.9 +0.3**
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,270nm,5.0s
HHC LR LR
comp=Z,2µm,12.2s
HHC LR LR
comp=Z,2µm,13.1s
XLT XiLinHaoTe 20.53 333 *e*P **P** **10 47 20.0 -2.2**
XLT pP Pn 10 47 25.2 +0.7
XLT sP pP 10 47 27.7 -0.5
XLT PP **PnPn** **10 47 39.2 -0.8**
XLT S Sn 10 51 16.4 +1.0
XLT pmax pmax
comp=Z,16nm,1.1s
XLT pmax pmax
comp=Z,100nm,4.2s
XLT LR LR
comp=Z,490nm,11.9s
BTO Baotou 21.23 318 *e*P **P** **10 47 30.2 +0.4**
BTO S Sn 10 51 32.7 +0.5
BTO LR LR
comp=Z,3µm,13.3s
BTO LR LR
comp=Z,2µm,12.7s
ASAJ Asahikawa 21.27 29 P **P** **10 47 29.6 -0.5**
comp=Z,11nm,0.8s,baz=239,slow=10,SNR=4.7
comp=Z,11nm,0.8s
CD2 Chengdu 22.41 288 P **P** **10 47 41.1 -1.4**
CD2 S **S** **10 51 47.4 0.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,680nm,8.6s
CD2 LR LR
comp=Z,1µm,10.4s
CD2 LR LR
comp=Z,1µm,12.8s
KLR Kul'dur 23.26 5 P **P** **10 47 49.5 -1.6**
comp=Z,5.4nm,0.9s,baz=194,slow=7.6,SNR=11
comp=Z,5.4nm,0.9s
KLR Kul'dur 23.26 5*ce*P **P** **10 47 50.9 -0.2**
KLR pmax pmax
comp=Z,16nm,1.7s
LZH Lanzhou 23.44 301 *e*P **P** **10 47 52.5 -0.7**
LZH pP pP 10 47 57.5 -2.0
LZH sP sP 10 48 00.1 -2.2
LZH SS **SnSn** **10 52 49.0 +7.4**
LZH pmax pmax
comp=Z,36nm,1.2s
LZH pmax pmax
comp=Z,270nm,4.3s
LZH LR LR
comp=Z,430nm,10.3s
LZH LR LR
comp=Z,600nm,11.7s
LZH LR LR
comp=Z,650nm,11.7s
YSS Yuzh-Sakhalins 23.66 25 P **P** **10 47 55.6 +0.6**
YSS Yuzh-Sakhalins 23.66 25 *e*P **P** **10 47 56.2 +1.2**

YSS pmax pmax
comp=Z,40nm,1.2s
PZH PanZhiHua 24.14 277 P **P** **10 48 00.2 +0.3**
PZH S **S** **10 52 17.2 +0.6**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,180nm,5.6s
PZH LR LR
comp=Z,940nm,15.2s
PZH LR LR
comp=Z,1µm,13.5s
PZH LR LR
comp=Z,770nm,12.7s
UGL Uglegorsk 25.24 21 *e*P **P** **10 48 10.9 +1.4**
UGL *e*S **S** **10 52 31.1 -2.5**
UGL pmax pmax
comp=Z,70nm,1.1s
UGL smax smax
comp=E,60nm,1.2s
UGL smax smax
comp=N,40nm,0.8s
GRNR Gornyy 25.39 12⇓ *i*P **P** **10 48 10.6 -0.2**
GRNR pmax pmax
comp=Z,20nm,0.8s
CRAI Chiangrai 26.63 263 P **P** **10 48 23.4 +1.0**
SIJI Sorong 26.88 174 LR LR 10 58 14.0
comp=Z,73nm,19.7s,baz=33,slow=34
TYV Tymovskoe 26.99 20 *e*P **P** **10 48 26.5 +1.2**
TYV *e*S **S** **10 53 08.3 +7.1**
TYV pmax pmax
comp=Z,100nm,2.8s
TYV pmax pmax
comp=Z,14nm,0.9s
TYV smax smax
comp=N,300nm,4.6s
TYV smax smax
comp=E,400nm,4.6s
TNCH TengChong 27.20 274 P **P** **10 48 28.0 +0.3**
TNCH sP pP 10 48 34.0 -0.1
TNCH S **S** **10 53 02.8 -2.6**
TNCH pmax pmax
comp=E,37nm,0.4s
TNCH pmax pmax
comp=E,120nm,5.1s
TNCH LR LR
comp=E,370nm,10.9s
TNCH LR LR
comp=E,810nm,10.4s
TNCH LR LR
comp=E,920nm,11.7s
PHRA Phrae 27.33 260 P **P** **10 48 28.7 0.0**
GTA Gaotai 27.55 306⇑ P **P** **10 48 29.4 -1.3**
GTA pP pP 10 48 35.3 -1.9
GTA sP sP 10 48 38.2 -1.8
GTA S **S** **10 53 09.0 -1.7**
GTA sS pS 10 53 18.9 +0.8
GTA pmax pmax
comp=E,35nm,1.0s
GTA pmax pmax
comp=E,52nm,6.4s
GTA LR LR
comp=E,280nm,12.7s
GTA LR LR
comp=E,360nm,15.5s
GTA LR LR
comp=E,630nm,13.5s
ULN Ulaanbaatar 27.62 328 P **P** **10 48 31.0 -0.2**
ULN IAmb IAmb 10 48 34.0
comp=Z,24nm,0.8s
ULN Ulaanbaatar 27.62 328*ce*P **P** **10 48 29.5 -1.7**
ULN pmax pmax
comp=Z,43nm,1.3s
ZEA Zeya 27.67 358 *e*P **P** **10 48 32.9 +1.5**
ZEA *e*S **S** **10 53 11.0 -0.9**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA smax smax
comp=N,100nm,5.5s
ZEA MLR MLR
comp=E,100nm,12.0s
ZEA MLR MLR
comp=N,200nm,10.0s
ZEA MLR MLR
comp=Z,100nm,15.0s
SONM Songino Array 27.91 327 P **P** **10 48 32.5 -1.4**
comp=Z,17nm,0.7s,baz=140,slow=9.1,SNR=87
SONM LR LR 11 00 53.2
comp=Z,162nm,18.6s,baz=176,slow=39
comp=Z,17nm,0.7s
CHTO Chiang Mai 28.36 261 P **P** **10 48 39.1 +1.1**
CHTO Chiang Mai 28.36 261 P **P** **10 48 39.1 +1.1**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 28.49 261 P **P** **10 48 40.6 +1.6**
comp=Z,2.5nm,0.8s,baz=55,slow=7.5,SNR=15
comp=Z,2.5nm,0.8s
FAKI Fak Fak 29.01 173 P **P** **10 48 42.6 -1.1**
GOMU GeErMu 30.56 298 P **P** **10 48 57.4 -0.3**
GOMU S **S** **10 53 51.8 -6.7**
GOMU pmax pmax
comp=Z,7.0nm,1.1s
GOMU LR LR
comp=Z,200nm,15.3s
GOMU LR LR
comp=Z,130nm,12.5s
KAPI Kappang 32.07 197 LR LR 11 01 46.3
comp=Z,39nm,21.4s,baz=9.5,slow=36
SHL Shillong 33.05 277 P **P** **10 49 19.7 +0.2**
SHL pmax pmax
comp=Z,29nm,1.0s
PETK Petropavlovsk- 34.64 31 LR LR 11 05 11.9
comp=Z,60nm,19.8s,baz=256,slow=39
YAK Yakutsk 35.98 1 *e*P **P** **10 49 43.6 -0.5**
YAK *e**PP **pP** **10 49 46.9 -3.7**
YAK *e* 10 52 10.0
YAK *e*S **S** **10 55 23.1 +2.0**
YAK *e**SS **sS** **10 55 33.7 +1.8**
YAK *e*SS **SnSn** **10 57 48.9 +3.0**
YAK *e* 11 00 05.4
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=Z,234nm,5.1s
YAK pmax pmax
comp=N,92nm,5.2s
YAK pmax pmax
comp=E,87nm,4.4s
YAK smax smax
comp=N,145nm,5.3s
YAK smax smax
comp=E,143nm,3.7s
YAK MLR MLR
comp=Z,135nm,18.0s
MA2 Magadan 36.85 19 LR LR 11 06 15.5
comp=Z,80nm,19.1s,baz=220,slow=38
ODAN Odare 36.85 281 *e*P **P** **10 49 52.7 +0.3**
WMQ Urumqi 37.53 309 *e*P **P** **10 49 57.9 +0.1**
WMQ pP pP 10 50 05.6 +1.2
WMQ sP pwP 10 50 08.8 +1.4
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.5s
WMQ LR LR
comp=Z,310nm,13.3s
WMQ LR LR
comp=Z,380nm,14.9s
WMQ LR LR
comp=Z,180nm,14.9s
RAMN Ramite 37.54 281 *e*P **P** **10 49 58.3 +0.1**
JIRN Jiri 37.80 282 *e*P **P** **10 50 00.4 -0.2**
comp=Z,3.9nm,0.3s
PKI Pulchoki 38.50 282 *e*P **P** **10 50 06.3 -0.1**
PKIN Phulchoki 38.51 282 *e*P **P** **10 50 06.7 +0.3**
LEM Lembang 38.55 215 LR LR 11 09 17.8
comp=Z,28nm,18.0s,baz=38,slow=41
KKN Kakani 38.58 283 *e*P **P** **10 50 06.9 -0.1**
DMN Daman 38.76 282 *e*P **P** **10 50 09.1 +0.6**
GKN Gorkha 39.12 283 *e*P **P** **10 50 11.5 +0.1**
comp=Z,59nm,0.6s
DGZ Jazzator, Alta 39.52 318 *i*P **P** **10 50 14.7 +0.2**

DGZ pmax pmax
comp=Z,5.0nm,1.6s
PMG Port Moresby 39.57 151 LR LR 11 04 28.9
comp=Z,89nm,19.7s,baz=326,slow=33
DANN Dangsing 39.84 284 *e*P **P** **10 50 18.2 +0.6**
comp=Z,33nm,0.6s
KOLN Koldanda 40.06 283 *e*P **P** **10 50 19.8 +0.5**
SEY Seymchan 40.07 17 P **P** **10 50 19.1 +0.4**
comp=Z,6.7nm,0.6s,baz=213,slow=7.1,SNR=34
comp=Z,6.7nm,0.6s
SEY Seymchan 40.07 17*ce*P **P** **10 50 21.2 +2.5**
SEY pmax pmax
comp=Z,14nm,1.7s
ZSN Zaisan 40.41 314 *e*P **P** **10 50 20.8 -0.9**
baz=314
KNRA Kununurra 41.48 180 P **P** **10 50 31.4 +0.7**
KNRA IAmb IAmb 10 50 33.0
comp=Z,19nm,0.8s
MK31 Makanchi Array 41.95 312 P **P** **10 50 34.3 -0.1**
MK31 Makanchi Array 41.95 312 *i*P **P** **10 50 32.9 -1.5**
MK31 pmax pmax
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 41.95 312 P **P** **10 50 33.8 -0.6**
comp=Z,7.4nm,0.6s,baz=99,slow=10,SNR=94
MKAR PcP **PcP** **10 52 30.4 +0.9**
comp=Z,2.2nm,0.8s,baz=91,slow=6.1,SNR=4.6
comp=Z,7.4nm,0.6s
MKAR Makanchi Array 41.95 312*ce*P **P** **10 50 33.7 -0.7**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MAKZ Makanchi 42.16 312 P **P** **10 50 35.2 -0.9**
MAKZ Makanchi 42.16 312 P **P** **10 50 35.2 -0.9**
MAKZ pmax pmax
comp=Z,18nm,1.2s
ZAA0 Zalesovo Array 42.63 323 P **P** **10 50 38.9 -0.9**
ZALV Zalesovo Beam 42.63 323 P **P** **10 50 38.5 -1.2**
comp=Z,4.2nm,0.6s,baz=104,slow=7.5,SNR=18
ZALV LR LR 11 09 43.3
comp=Z,106nm,19.4s,baz=107,slow=38
comp=Z,4.2nm,0.6s
SHLS Shalkode 43.30 306 *e*P **P** **10 50 42.1 -3.5**
baz=306
UZB Uzynbulak 43.62 306 *e*P **P** **10 50 47.5 -0.7**
baz=306
KPKS Kokpek 43.90 306 *e*P **P** **10 50 50.0 -0.4**
baz=306
SATY Saty 44.06 306 *e*P **P** **10 50 51.2 -0.5**
baz=306
TARG Taragay, Kyrgy 44.39 304 P **P** **10 50 55.2 +0.5**
TARG pmax pmax
comp=Z,9.0nm,1.1s
AAA Alma-Ata 45.16 306 *e*P **P** **10 50 59.8 -0.6**
baz=306
CHKK Chushkaly 45.16 307 *e*P **P** **10 50 59.9 -0.5**
baz=307
KURK Kurchatov 45.22 317 P **P** **10 50 59.6 -1.0**
KURK IAmb IAmb 10 51 01.2
comp=Z,12nm,1.1s
KURK Kurchatov 45.22 317*ce*P **P** **10 51 00.1 -0.5**
KURK pmax pmax
comp=Z,15nm,1.7s
KURBB Kurchatov Arra 45.25 316 P **P** **10 51 00.3 -0.6**
comp=Z,3.2nm,0.4s,baz=103,slow=8.5,SNR=29
KURBB LR LR 11 11 23.4
comp=Z,136nm,20.8s,baz=200,slow=38
comp=Z,3.2nm,0.4s
KURBB Kurchatov Arra 45.25 316 P **P** **10 50 59.7 -1.2**
TIXI Tiksi 45.63 0 LR LR 11 10 15.0
comp=Z,117nm,18.1s,baz=4.0,slow=36
TIXI Tiksi 45.63 0 P **P** **10 51 03.1 -0.5**
TIXI Tiksi 45.63 0*ce*P **P** **10 51 03.4 -0.2**
TIXI pmax pmax
comp=Z,25nm,1.7s
KUU Kurty 45.64 307 *e*P **P** **10 51 02.6 -1.5**
baz=307
KSH Kashi 45.69 301 P P 10 51 09.6 +4.9
KSH sP pwP 10 51 17.5 +3.0
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH LR LR
comp=Z,140nm,10.3s
KSH LR LR
comp=Z,280nm,12.4s
KSH LR LR
comp=Z,390nm,15.8s
WRAB Tennant Creek 46.04 173 P **P** **10 51 07.1 -0.3**
WRAB IAmb IAmb 10 51 17.0
comp=Z,6.8nm,0.7s
WRAB Tennant Creek 46.04 173 P **P** **10 51 07.1 -0.3**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 46.05 173 P **P** **10 51 08.5 +1.0**
comp=Z,5.5nm,0.6s,baz=354,slow=8.4,SNR=57
comp=Z,5.5nm,0.6s
WB2 Warramunga Arr 46.05 173 P **P** **10 51 08.5 +1.0**
WB2 IAmb IAmb 10 51 22.7
comp=Z,8.1nm,0.8s
TKM2 Tokmak 2 46.10 305 P **P** **10 51 07.4 -0.6**
SGDS Sogindy 46.84 306 *e*P **P** **10 51 12.7 -0.9**
baz=306
AAK Ala-Archa 46.90 305 LR LR 11 14 30.8
comp=Z,66nm,18.9s,baz=110,slow=41
AAK Ala-Archa 46.90 305 *i*P **P** **10 51 14.2 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s
BTLS Baital 47.37 308 *e*P **P** **10 51 17.6 -0.1**
baz=308
BILL Bilibino 47.71 18 P **P** **10 51 20.9 +1.0**
BILL Bilibino 47.71 18*ce*P **P** **10 51 21.1 +1.1**
BILL *e* 10 53 15.3
BILL pmax pmax
comp=Z,20nm,1.7s
BILL MLR MLR
comp=Z,92nm,17.0s
NRIK Noril'sk 49.54 342 P **P** **10 51 33.0 -1.0**
comp=Z,2.6nm,0.5s,baz=97,slow=5.2,SNR=5.0
NRIK PcP **PcP** **10 52 55.9 +0.4**
comp=Z,2.6nm,0.7s,baz=132,slow=3.7,SNR=4.4
comp=Z,2.6nm,0.5s
NRIK Noril'sk 49.54 342*ce*P **P** **10 51 32.9 -1.0**
NRIK pmax pmax
comp=Z,9.0nm,1.3s
ASAR Alice Springs 49.69 174 P **P** **10 51 37.3 +1.7**
comp=Z,3.1nm,0.7s,baz=5.2,slow=14,SNR=30
comp=Z,3.1nm,0.7s
KK31 Karatay Array 49.83 305 *i*P **P** **10 51 37.9 +1.2**
KKAR Karatay Array 49.83 305 P **P** **10 51 37.8 +1.1**
KKAR Karatay Array 49.83 305 P **P** **10 51 37.8 +1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.9s
GAR Garm 50.09 300 IAmb IAmb 10 51 52.9
comp=Z,10nm,1.0s
BVA0 Borovoye Array 50.67 318 *i*P **P** **10 51 42.8 0.0**
BVAR Borovoye Array 50.67 318 LR LR 11 14 21.3
comp=Z,115nm,18.0s,baz=92,slow=38
BRVK Borovoye 50.74 318 P **P** **10 51 43.6 +0.3**
BRVK IAmb IAmb 10 51 56.0
comp=Z,18nm,1.1s
BRVK Borovoye 50.74 318*ce*P **P** **10 51 44.1 +0.8**
BRVK pmax pmax
comp=Z,13nm,0.8s
CHGR Chuyangaron 51.02 300 P **P** **10 51 46.5 +0.7**
CHGR pmax pmax
comp=Z,28nm,0.6s
SVE Sverdlovsk 56.64 322 *e*P P 10 52 38.8 +12
SVE pmax pmax
comp=Z,18nm,1.2s
AB31 Akbulak array 57.05 313 *i*P **P** **10 52 29.5 0.0**
ABKAR Akbulak array 57.05 313 P **P** **10 52 29.2 -0.4**
ARU Arti 57.77 322 LR LR 11 20 15.0
comp=Z,147nm,18.9s,baz=80,slow=39
ARU Arti 57.77 322 P **P** **10 52 33.1 -1.4**
ARU IAmb IAmb 10 52 47.0
comp=Z,11nm,1.0s
ARU Arti 57.77 322*c* *i*P **P** **10 52 34.4 -0.1**
ARU 10 53 20.8
ARU S **S** **11 00 35.3 +3.3**
ARU SS **SS** **11 04 27.9 +5.6**
ARU pmax pmax
comp=Z,10.0nm,1.1s
ARU MLR MLR
comp=Z,305nm,15.0s
AKTO Aktyubinsk 58.24 315 P **P** **10 52 37.0 -0.9**
STKA Stephens Creek 58.91 167 P **P** **10 52 43.1 +0.5**
comp=Z,1.5nm,0.6s,baz=3.3,slow=11,SNR=3.6
comp=Z,1.5nm,0.6s

GEYT	**Alibeck**	**59.72**	**300**	P		**P**		**10 52 49.1**	**+0.7**
	comp=Z,7.2nm,0.7s,baz=20,slow=4.7,SNR=11								
	comp=Z,7.2nm,0.7s								
J20K	**Nowinta River**	**61.31**	**29**	IAmb		IAmb		10 53 01.8	
	comp=Z,12nm,1.1s								
K20K	**Telida**	**61.36**	**30**	IAmb		IAmb		10 53 02.2	
	comp=Z,13nm,1.1s								
H21K	**Melozitna Rive**	**61.85**	**27**	IAmb		IAmb		10 53 05.3	
	comp=Z,8.8nm,0.9s								
I21K	**Tanana**	**62.21**	**28**	IAmb		IAmb		10 53 13.6	
	comp=Z,7.7nm,0.8s								
CAST	**Castle Rocks**	**62.25**	**30**	P		**P**		**10 53 05.6**	**+0.4**
CAST				IAmb		IAmb		10 53 22.2	
	comp=Z,8.4nm,1.0s								
KDAK	**Kodiak Island**	**62.42**	**36**	P		**P**		**10 53 04.4**	**-1.9**
KDAK	**Kodiak Island**	**62.42**	**36**	P		**P**		**10 53 04.4**	**-1.9**
KDAK				pmax		pmax			
	comp=Z,68nm,1.4s								
KIRV	**Kirov**	**62.62**	**325**	*ce*P		**P**		**10 53 07.5**	**-0.1**
COLD	**Coldfoot**	**62.85**	**26**	P		**P**		**10 53 10.0**	**+1.0**
BRLK	**Bradley Lake**	**63.10**	**34**	P		**P**		**10 53 12.5**	**+1.6**
I23K	**Minto, Yukon-K**	**63.32**	**28**	IAmb		IAmb		10 53 26.2	
	comp=Z,8.4nm,1.1s								
NEA2	**Nenana**	**63.49**	**29**	IAmb		IAmb		10 53 29.9	
	comp=Z,9.3nm,0.8s								
MCK	**McKinley**	**63.63**	**29**	P		**P**		**10 53 15.2**	**+0.9**
MCK				IAmb		IAmb		10 53 30.5	
	comp=Z,11nm,1.0s								
MCK	**McKinley**	**63.63**	**29**	P		**P**		**10 53 15.2**	**+0.9**
MCK				pmax		pmax			
	comp=Z,11nm,1.0s								
H24K	**Noodor Dome**	**63.87**	**27**	IAmb		IAmb		10 53 24.7	
	comp=Z,6.1nm,0.8s								
PRGR	**Permogore**	**64.16**	**328**	*e*P		**P**		**10 53 16.6**	**-1.1**
PRGR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**64.40**	**28**	P		**P**		**10 53 19.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=261,slow=4.4,SNR=14								
ILAR				LR		LR		11 24 04.0	
	comp=Z,34nm,18.4s,baz=316,slow=39								
	comp=Z,0.8nm,0.7s								
HDA	**Harding Lake**	**64.42**	**29**	IAmb		IAmb		10 53 20.6	
	comp=Z,6.3nm,0.7s								
BELG	**Belogornoye**	**64.47**	**318**	LR		LR		11 22 10.4	
	comp=Z,81nm,19.6s,baz=337,slow=37								
RIDG	**Independent Ri**	**65.43**	**29**	IAmb		IAmb		10 53 28.4	
	comp=Z,16nm,1.3s								
SCRK	**Sand Creek**	**65.77**	**29**	P		**P**		**10 53 28.5**	**+0.2**
DOT	**Dot Lake**	**65.79**	**29**	P		**P**		**10 53 25.5**	**-2.9**
DOT				IAmb		IAmb		10 53 29.8	
	comp=Z,8.0nm,0.8s								
J26L	**Joseph Creek**	**65.86**	**28**	IAmb		IAmb		10 53 30.1	
	comp=Z,8.5nm,0.8s								
MENT	**Mentasta**	**66.07**	**30**	P		**P**		**10 53 31.7**	**+1.5**
MENT				IAmb		IAmb		10 53 32.6	
	comp=Z,4.7nm,0.8s								
L26K	**Log Cabin Wild**	**66.22**	**30**	IAmb		IAmb		10 54 02.7	
	comp=Z,8.7nm,1.3s								
M26K	**Nabesna, AK**	**66.50**	**31**	IAmb		IAmb		10 53 35.3	
	comp=Z,5.4nm,0.8s								
MAK	**Makhachkala**	**66.54**	**308**	*e*P		P		10 53 27.4	-6.1
MAK				*e*S		**S**		**11 02 16.0**	**-7.0**
AKT	**Akhty**	**66.75**	**306**	*e*P		**P**		**10 53 33.0**	**-2.1**
AKT				*e*				10 54 03.0	
AKT				pmax		pmax			
	comp=Z,8.0nm,0.9s								
I29M	**Ogilvie Camp,**	**67.87**	**27**	IAmb		IAmb		10 54 35.6	
	comp=Z,5.2nm,0.5s								
J29M	**Klondike Camp**	**68.13**	**28**	IAmb		IAmb		10 53 46.1	
	comp=Z,7.0nm,0.6s								
EPYK	**Eagle Plains**	**68.25**	**26**	IAmb		IAmb		10 53 59.8	
	comp=Z,8.2nm,0.7s								
INK	**Inuvik**	**68.89**	**23**	LR		LR		11 27 04.6	
	comp=Z,34nm,18.5s,baz=281,slow=39								
ZEI	**Tsey**	**69.14**	**308**	*e*P		**P**		**10 53 49.3**	**-0.9**
ZEI				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GNI	**Garni**	**69.30**	**305**	LR		LR		11 28 09.9	
	comp=Z,50nm,18.3s,baz=101,slow=39								
MOS	**Moscow**	**69.45**	**323**	*e*P		P		10 53 57.3	+5.7
KBZ	**Khabaz**	**69.58**	**310**	P		**P**		**10 53 53.2**	**+0.7**
	comp=Z,8.1nm,0.8s,baz=96,slow=2.3,SNR=12								
	comp=Z,8.1nm,0.8s								
KBZ	**Khabaz**	**69.58**	**310**	*ce*P		**P**		**10 53 53.8**	**+1.2**
KBZ				pmax		pmax			
	comp=Z,11nm,0.9s								
KIV	**Kislovodsk**	**69.66**	**310**	*ce*P		**P**		**10 53 53.6**	**+0.4**
KIV				*e*				10 54 16.6	
KIV				*e*				10 56 25.0	
KIV				pmax		pmax			
	comp=Z,13nm,0.9s								
KIV				MLR		MLR			
	comp=Z,52nm,19.0s								
SHA1	**Shidzhatmaz**	**69.74**	**310**	*i* P		**P**		**10 53 54.1**	**+0.2**
OBN	**Obninsk**	**70.21**	**322**	*e*P		**P**		**10 53 56.4**	**+0.2**
OBN				*e*				10 54 18.1	
OBN				*e*				10 56 31.7	
OBN				pmax		pmax			
	comp=Z,24nm,1.7s								
OBN				MLR		MLR			
	comp=Z,143nm,15.0s								
ARCES	**ARCESS Array B**	**70.31**	**339**	P		**P**		**10 53 57.0**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=76,slow=6.6,SNR=11								
ARCES				LR		LR		11 28 52.4	
	comp=Z,37nm,21.3s,baz=165,slow=39								
	comp=Z,3.4nm,0.8s								
FARO	**Faro, Yukon**	**70.89**	**29**	IAmb		IAmb		10 54 02.9	
	comp=Z,7.1nm,0.8s								
EUNU	**Eureka**	**72.41**	**6**	IAmb		IAmb		10 54 23.1	
	comp=Z,6.4nm,0.8s								
MARD	**Mardin**	**73.14**	**304**	P		**P**		**10 54 13.7**	**-0.8**
FINES	**FINESS Array B**	**73.21**	**331**	P		**P**		**10 54 14.6**	**+0.4**
	comp=Z,7.6nm,0.7s,baz=67,slow=5.5,SNR=29								
	comp=Z,7.6nm,0.7s								
RAYN	**Ar Rayn**	**74.24**	**289**	P		**P**		**10 54 21.4**	**+0.4**
RAYN	**Ar Rayn**	**74.24**	**289**	P		**P**		**10 54 21.4**	**+0.4**
RAYN				pmax		pmax			
	comp=Z,8.0nm,1.1s								
MNK	**Minsk**	**75.13**	**324**	*i* P		**P**		**10 54 23.6**	**-1.9**
	comp=E,3.0nm,0.9s								
MNK				*i* P		**P**		**10 54 23.6**	**-1.9**
	comp=N,29nm,0.8s								
MNK				*i* P		**P**		**10 54 23.6**	**-1.9**
	comp=Z,11nm,0.6s,baz=246								
MNK				*i* PcP		**pwP**		**10 54 37.0**	**+1.0**
MNK				*i* PP		**PP**		**10 57 11.4**	**-2.0**
MNK				*i* PPP		PPP		10 58 57.2	
MNK				*i* S		**S**		**11 04 02.6**	**+0.1**
MNK				*i* ScS		**ScS**		**11 04 36.0**	**-0.5**
MNK				*i* SS		**SS**		**11 08 52.4**	**+1.4**
MNK				*i* SSS		SSS		11 12 14.8	
MNK				*i* LQ		LQ		11 22 27.0	
MNK				*i* LR		LR		11 28 10.0	
MNK				*i* LRM		MLR		11 30 20.0	
	comp=N,572nm,14.4s								
MNK				*i* LRM		MLR		11 30 25.1	
	comp=E,48nm,16.1s								
MNK				*i* LRM		MLR		11 30 26.0	
	comp=Z,119nm,16.9s								
MNK	**Minsk**	**75.13**	**324**	*i* P		**P**		**10 54 23.6**	**-1.9**
MNK				*i*				10 54 36.9	
MNK				*i*				10 57 11.3	
MNK				*i* PPP		PPP		10 58 57.1	
MNK				*i* S		**S**		**11 04 02.5**	**+0.1**
MNK				*i*				11 04 35.9	
MNK				*i* SS		**SS**		**11 08 52.4**	**+1.4**
MNK				pmax		pmax			
	comp=N,29nm,0.8s								
MNK				pmax		pmax			
	comp=E,3.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,11nm,0.6s								
MNK				MLR		MLR			
	comp=N,572nm,14.0s								
MNK				MLR		MLR			
	comp=E,48nm,16.0s								
MNK				MLR		MLR			
	comp=Z,119nm,17.0s								
NACGM	**Naroch**	**75.55**	**324**	*e*P		**P**		**10 54 29.0**	**+1.1**
	comp=Z,38nm,1.4s,baz=65								
RES	**Resolute Bay**	**75.64**	**11**	IAmb		IAmb		10 54 34.1	
	comp=Z,12nm,0.8s								
RES	**Resolute Bay**	**75.64**	**11**	P		**P**		**10 54 29.0**	**+0.9**
RES				pmax		pmax			
	comp=Z,17nm,0.8s								
AKASG	**Malin Array Be**	**75.92**	**320**	P		**P**		**10 54 30.2**	**+0.1**
	comp=Z,5.2nm,0.5s,baz=53,slow=6.6,SNR=43								
AKASG				LR		LR		11 30 47.2	
	comp=Z,106nm,19.0s,baz=60,slow=38								
	comp=Z,5.2nm,0.5s								
AKBB	**Malin Array Si**	**75.92**	**320**	*ce*P		**P**		**10 54 29.9**	**-0.2**
AKBB				pmax		pmax			
	comp=Z,13nm,0.6s								
NEEM	**North Greenlan**	**76.73**	**360**	*i* P		**P**		**10 54 34.5**	**-0.2**
NEEM				IAmb		IAmb		10 54 47.1	
	comp=Z,6.1nm,0.5s								
TULEG	**Thule**	**77.08**	**4**	*i* P		**P**		**10 54 39.2**	**+3.0**
TULEG				IAmb		IAmb		10 54 40.7	
	comp=Z,5.6nm,0.7s								
BR131	**Keskin Array S**	**77.45**	**308**	*i* P		**P**		**10 54 39.5**	**+0.3**
BRTR	**Keskin Array B**	**77.45**	**308**	P		**P**		**10 54 40.0**	**+0.8**
	comp=Z,9.9nm,0.9s,baz=90,slow=5.4,SNR=32								
	comp=Z,9.9nm,0.9s								
SORM	**Soroca**	**77.50**	**318**	⇑P		**P**		**10 54 38.8**	**-0.3**
SORM	**Soroca**	**77.50**	**318**	⇑P		**P**		**10 54 38.8**	**-0.3**
YKA	**Yellowknife Ar**	**78.52**	**25**	P		**P**		**10 54 45.5**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=302,slow=5.5,SNR=26								
	comp=Z,1.9nm,0.7s								
TPGR	**Topolog**	**78.86**	**314**	P		P		10 54 37.5	-9.2
CFR	**Carcaliu**	**78.90**	**315**	⇑P		P		10 54 39.8	-7.1
CFR	**Carcaliu**	**78.90**	**315**	⇑P		P		10 54 39.8	-7.1
HARR	**Harsova**	**79.25**	**314**	⇑P		P		10 54 39.7	-9.1
TESR	**Tescani**	**79.25**	**317**	⇑P		**P**		**10 54 47.2**	**-1.6**
VRI	**Vrincioaia**	**79.49**	**316**	⇑P		**P**		**10 54 47.8**	**-2.4**
VRI	**Vrincioaia**	**79.49**	**316**	⇑P		**P**		**10 54 47.8**	**-2.4**
PLOR	**Plostina**	**79.54**	**316**	⇑P		**P**		**10 54 47.5**	**-3.0**
PLOR	**Plostina**	**79.54**	**316**	⇑P		**P**		**10 54 47.5**	**-3.0**
BURAR	**Bucovina Array**	**79.63**	**318**	⇑P		**P**		**10 54 52.6**	**+1.6**
BURAR	**Bucovina Array**	**79.63**	**318**	⇑P		**P**		**10 54 52.6**	**+1.6**
NB2	**NORSAR Subarra**	**79.64**	**334**	P		**P**		**10 54 50.9**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=52,slow=5.6								
NOA	**NORSAR Array B**	**79.64**	**334**	P		**P**		**10 54 50.7**	**0.0**
	comp=Z,4.7nm,0.7s,baz=52,slow=5.6,SNR=16								
	comp=Z,4.7nm,0.7s								
COVR	**Voineasa-Covas**	**79.83**	**316**	⇓P		**P**		**10 54 49.7**	**-2.3**
OZUR		**79.97**	**316**	⇑P		**P**		**10 54 52.3**	**-0.5**
MLR	**Muntele Rosu**	**80.15**	**316**	⇑P		**P**		**10 54 51.1**	**-2.8**
MLR	**Muntele Rosu**	**80.15**	**316**	P		**P**		**10 54 53.9**	**0.0**
MLR				IAmb		IAmb		10 54 56.5	
	comp=Z,12nm,1.0s								
MLR	**Muntele Rosu**	**80.15**	**316**	P		**P**		**10 54 53.9**	**0.0**
MLR				pmax		pmax			
	comp=Z,12nm,1.0s								
DOPR	**Dopca**	**80.28**	**316**	⇑P		**P**		**10 54 54.3**	**-0.1**
PLAR	**PLOIESTI**	**80.36**	**315**	⇑P		**P**		**10 54 50.5**	**-4.3**
WAPA	**Wapiti River**	**80.56**	**33**	IAmb		IAmb		10 55 14.5	
	comp=Z,25nm,1.8s								
VOIR		**80.73**	**316**	⇑P		**P**		**10 54 57.5**	**+0.5**
VOIR		**80.73**	**316**	⇑P		**P**		**10 54 57.5**	**+0.5**
ARR	**Arges**	**81.02**	**316**	⇑P		**P**		**10 54 59.2**	**+0.7**
SUMG	**Summit**	**81.24**	**356**	*i* P		**P**		**10 54 59.4**	**-0.1**
SUMG				IAmb		IAmb		10 55 04.8	
	comp=Z,12nm,0.7s								
SUMG	**Summit**	**81.24**	**356**	P		**P**		**10 55 00.6**	**+1.1**
SUMG				pmax		pmax			
	comp=Z,30nm,0.9s								
MARR	**Marisel-Cluj**	**81.33**	**318**	⇑P		**P**		**10 55 02.0**	**+1.8**
OJC	**Ojcow**	**81.50**	**322**	P		**P**		**10 54 59.4**	**-1.4**
OJC				IAmb		IAmb		10 55 05.5	
	comp=Z,16nm,1.0s								
OJC	**Ojcow**	**81.50**	**322**	P		**P**		**10 54 59.4**	**-1.4**
OJC				pmax		pmax			
	comp=Z,16nm,1.0s								
VYHS	**Vyhne**	**82.93**	**321**	*e*P		**P**		**10 55 09.7**	**+1.3**
VYHS				pmax		pmax			
	comp=Z,6.0nm,0.9s								
VYHS	**Vyhne**	**82.93**	**321**	*e*P		**P**		**10 55 09.6**	**+1.2**
KSP	**Ksiaz**	**83.07**	**324**	P		**P**		**10 55 09.3**	**+0.3**
KSP				pmax		pmax			
	comp=Z,13nm,0.8s								
KRLC	**Kraliky**	**83.22**	**323**	*e*P		**P**		**10 55 11.1**	**+1.2**
KRLC	**Kraliky**	**83.22**	**323**	*e*P		**P**		**10 55 11.1**	**+1.2**
VTS	**Vitosha**	**83.22**	**314**	⇑P		**P**		**10 55 06.8**	**-3.4**
VTS	**Vitosha**	**83.22**	**314**	P		**P**		**10 55 09.8**	**-0.4**
VTS	**Vitosha**	**83.22**	**314**	P		**P**		**10 55 09.8**	**-0.4**
VTS				pmax		pmax			
	comp=Z,17nm,1.3s								
OSTC	**Ostas**	**83.27**	**324**	*e*P		**P**		**10 55 13.9**	**+3.8**
DPC	**Dobruska-Polom**	**83.32**	**323**	*e*P		**P**		**10 55 10.1**	**-0.3**
DPC	**Dobruska-Polom**	**83.32**	**323**	*e*P		**P**		**10 55 10.1**	**-0.3**
JAVC	**Velka Javorina**	**83.39**	**322**	*e*P		**P**		**10 55 12.9**	**+2.1**
VRAC	**Vranov**	**83.74**	**322**	LR		LR		11 35 48.0	
	comp=Z,129nm,19.5s,baz=80,slow=38								
VRAC	**Vranov**	**83.74**	**322**	*e*P		**P**		**10 55 13.3**	**+0.7**
VRAC	**Vranov**	**83.74**	**322**	P		**P**		**10 55 14.5**	**+1.9**
VRAC				pmax		pmax			
	comp=Z,8.0nm,1.3s								
MODS	**Modra-Piesok**	**83.87**	**321**	*e*		P		10 55 27.1	+14
KRUC	**Mravsky**	**83.99**	**322**	*e*P		**P**		**10 55 14.3**	**+0.5**
FRGS	**Fruska Gora**	**84.09**	**318**	⇑P		**P**		**10 55 16.5**	**+2.1**
BRG	**Berggiesshubel**	**84.29**	**325**	*e*P		**P**		**10 55 19.9**	**+4.6**
BRG				Amp				10 55 17.6	
	comp=Z,6.7nm,1.0s								
BRG				r				11 37 37.3	
BRG				r				11 38 32.6	
BRG				Amp				11 38 39.9	
	comp=Z,8.4nm,1.1s								
BRG	**Berggiesshubel**	**84.29**	**325**	*e*P		**P**		**10 55 19.9**	**+4.6**
BRG				pmax		pmax			
	comp=Z,7.0nm,1.0s								
PRU	**Pruhonice**	**84.47**	**324**	*e*P		**P**		**10 55 17.5**	**+1.2**
PRU	**Pruhonice**	**84.47**	**324**	*e*P		**P**		**10 55 17.5**	**+1.2**
CLL	**Collm**	**84.52**	**325**	P		**P**		**10 55 15.6**	**-0.8**
CLL	**Collm**	**84.52**	**325**	⇓P		**P**		**10 55 17.7**	**+1.2**
	comp=Z,15nm,1.0s								
CLL				*e*(PP)				10 58 43.0	
CLL				*e*S		**S**		**11 05 48.0**	**+6.3**
CLL	**Collm**	**84.52**	**325**	⇓P		**P**		**10 55 17.7**	**+1.2**
CLL				pmax		pmax			
	comp=Z,15nm,1.0s								
ICESG	**Greenland Ices**	**84.75**	**356**	*i* P		**P**		**10 55 14.3**	**-3.4**
ICESG				IAmb		IAmb		10 55 23.1	
	comp=Z,5.6nm,0.7s								
CONA	**Conrad Observa**	**84.91**	**322**	*e*PcP		**PcP**		**10 55 20.2**	**+1.6**
	comp=Z,7.5nm,1.1s								
CKRC	**Cesky Krumlov**	**85.26**	**323**	*e*P		**P**		**10 55 22.7**	**+2.4**
KHC	**Kasperske Hory**	**85.48**	**323**	*e*P		**P**		**10 55 22.7**	**+1.3**
KHC	**Kasperske Hory**	**85.48**	**323**	*e*P		**P**		**10 55 22.7**	**+1.3**
GERES	**GERESS Array B**	**85.58**	**323**	P		**P**		**10 55 22.7**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=58,slow=5.0,SNR=7.4								
	comp=Z,1.7nm,0.7s								
MOA	**Molln**	**85.84**	**322**	*e*PcP		**PcP**		**10 55 24.9**	**-1.1**
	comp=Z,4.2nm,0.8s								
OBKA	**Obir**	**86.44**	**321**	*e*pP		pP		10 55 29.9	-3.4
	comp=Z,12nm,1.4s								
KBA	**Koelnbreinsper**	**86.80**	**322**	*e*P		**P**		**10 55 27.7**	**-0.4**
	comp=Z,3.0nm,0.6s								
ABTA	**Abfaltersbach**	**87.45**	**322**	*e*pP		**P**		**10 55 34.5**	**+3.4**
	comp=Z,3.7nm,0.6s								
WTTA	**Wattenberg**	**87.63**	**323**	*i* pP		pP		10 55 36.1	-3.1
	comp=Z,1.8nm,0.5s								
DY2G	**Dye2**	**87.68**	**358**	*i* P		**P**		**10 55 30.0**	**-2.0**
DY2G				IAmb		IAmb		10 55 38.5	
	comp=Z,5.0nm,0.6s								
MOTA	**Moosalm**	**87.87**	**323**	*e*PcP		**P**		**10 55 33.5**	**+0.3**
	comp=Z,3.5nm,0.8s								
SQTA	**Sankt Quirin**	**87.89**	**323**	*e*P		**P**		**10 55 32.6**	**-0.7**
	comp=Z,7.0nm,1.3s								
FETA	**Feichten**	**88.27**	**323**	*e*pP		pP		10 55 39.6	-2.7
	comp=Z,2.6nm,0.8s								
DAVA	**Damuels**	**88.56**	**323**	*i* pP		pP		10 55 40.8	-2.9
	comp=Z,2.3nm,0.2s								
FFC	**Flin Flon**	**88.57**	**27**	P		**P**		**10 55 37.6**	**+1.4**
FFC				pmax		pmax			
	comp=Z,9.0nm,1.4s								
PDAR	**Pinedale Array**	**93.05**	**39**	P		**P**		**10 55 58.6**	**+1.0**
	comp=Z,0.2nm,0.8s,baz=257,slow=3.6,SNR=1.6								
	comp=Z,0.2nm,0.8s								

ROM 05 10:52:05.1±0.1, 43°.025N±0°.004×13°.053E±0°.009, h7km, Md1.0/6, 1D, Error ellipse: s-maj=0.5km s-min=0.5km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**65**	P	Pg	10 52 06.6	+0.1
FDMO				S	Sg	10 52 07.4	0.0
FDMO				END			
T1219	**Muccia, Frazio**	**0.05**	**313**	P	Pg	10 52 07.0	+0.3
T1219				S	Sg	10 52 08.0	+0.3
T1219				AML	AML		
	comp=E,192μm,0.3s						
T1219				AML	AML		
	comp=N,244μm,0.3s						
T1219				END			
FEMA	**Monte Fema**	**0.06**	**182**	P	Pg	10 52 07.4	+0.4
FEMA				END			
T1220	**Camerino, Fraz**	**0.09**	**17**	P	Pg	10 52 07.6	+0.4
T1220				S	Sg	10 52 09.4	+0.7
T1220				END			
T1256	**Bolognola (MC)**	**0.13**	**98**	P	Pg	10 52 10.3	+2.4
SNTG	**Esanatoglia**	**0.24**	**340**	P	Pg	10 52 10.7	+0.7
SNTG				S	Sg	10 52 14.7	+1.4
SNTG				END			
T1215	**Vallo di Nera,**	**0.26**	**211**	⇓P	Pg	10 52 11.0	+0.7
T1212	**Cascia, Frazio**	**0.27**	**181**	P	Pg	10 52 11.2	+0.6
T1212				S	Sb	10 52 15.8	-1.5
T1212				END			
EL6	**Elcito**	**0.31**	**7**	S	Sg	10 52 11.6	-3.7

*VAO **05** 10:55:20.7±1.0, 22°.97S×68°.52W, h168km±9km, mb4.0*
*GUC **05** 10:55:22.7±0.6, 23°.355S×68°.24W, h140km±7km, ML3.6*

ISC 05 10:55:21.0±0.9, 23°.26S±0°.05×68°.34W±0°.09, h159km±10km, n22, σ1°.73/37, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.83**	**321**	⇑*i*P	**Pn**	**10 55 45.8**	**-0.1**
LVC				*e*S	**Sn**	**10 56 03.5**	**-1.4**
LVC	**Limon Verde**	**0.83**	**321**	*e*P	**Pn**	**10 55 45.7**	**-0.1**
LVC				*e*S	**Sn**	**10 56 03.6**	**-1.2**
PB15	**IPOC Station P**	**1.04**	**273**	⇑*i*P	**Pn**	**10 55 47.4**	**+0.2**
PB15				*e*S	**Sn**	**10 56 07.4**	**+0.1**
PB06	**IPOC Station P**	**1.26**	**296**	⇑*i*P	**Pn**	**10 55 50.0**	**+0.8**
PB06				*e*S	**Sn**	**10 56 11.0**	**+0.3**
PB06				IAML		10 56 13.7	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**1.68**	**330**	*i* P	**Pn**	**10 55 55.1**	**+1.7**
PB09				*e*S	**Sn**	**10 56 19.8**	**+1.5**
PB09				IAML		10 56 22.2	
	comp=N,408nm,0.3s						
PB03	**IPOC Station P**	**1.78**	**313**	⇑*i*P	**Pn**	**10 55 55.6**	**+1.2**
PB03				*e*S	**Sn**	**10 56 20.8**	**+0.7**
PB03				IAML		10 56 22.2	
	comp=N,591nm,0.1s						
PB10	**IPOC Station P**	**2.05**	**263**	⇑*i*P	**Pn**	**10 55 58.0**	**+0.8**
PB10				*e*S	**Sn**	**10 56 25.8**	**+0.6**
PB07	**IPOC Station P**	**2.09**	**317**	⇑*i*P	**Pn**	**10 55 59.5**	**+1.5**
PB07				*e*S	**Sn**	**10 56 27.1**	**+0.7**
PB07				IAML		10 56 29.2	
	comp=N,619nm,0.3s						
PB14	**IPOC Station P**	**2.32**	**234**	*e*P	**Pn**	**10 56 00.6**	**-0.2**
PB14				*e*S	**Sn**	**10 56 29.7**	**-1.7**
PB14				IAML		10 56 32.3	
	comp=E,178nm,0.2s						
PB02	**IPOC Station P**	**2.41**	**323**	⇑*i*P	**Pn**	**10 56 03.0**	**+1.3**
PB02				*e*S	**Sn**	**10 56 34.2**	**+1.2**
PATCX	**Punta Patache**	**2.96**	**325**	*e*P	**Pn**	**10 56 09.6**	**+1.3**
PATCX				*e*S	**Sn**	**10 56 40.9**	**-4.0**
PB08	**IPOC Station P**	**3.20**	**346**	*e*P	**Pn**	**10 56 13.8**	**+2.2**
PB08				*e*S	**Sn**	**10 56 48.4**	**-2.5**
PB08				IAML		10 56 57.6	
	comp=E,56nm,0.1s						
HMBC	**Humberstone**	**3.30**	**334**	*e*P	**Pn**	**10 56 13.9**	**+1.2**
HMBC				*e*S	**Sn**	**10 56 47.8**	**-5.0**
PB11	**IPOC Station P**	**3.69**	**340**	*e*P	**Pn**	**10 56 18.6**	**+0.9**
PB11				*e*S	**Sn**	**10 57 02.6**	**+0.7**
PSGC	**Pisagua**	**4.01**	**335**	*e*P	**Pn**	**10 56 23.7**	**+1.9**
PSGC				*e*S	**Sn**	**10 57 08.4**	**-0.7**
PTLB	**Pontes e Lacer**	**11.65**	**50**	*e*P	**Pn**	**10 58 01.4**	**-1.3**
AQDB	**Aquidauana**	**12.06**	**79**	*e*P	**Pn**	**10 58 09.3**	**+1.4**
CNLB	**Canela**	**16.80**	**115**	*e*P	**Pn**	**10 59 09.4**	**+2.4**
IPMB	**Ipameri, GO**	**19.55**	**78**	*e*P	**P**	**10 59 36.0**	**-0.7**
VAO	**Valinhos**	**19.66**	**93**	*e*P	**P**	**10 59 37.1**	**-0.7**
SNDB	**Serra Nova Dou**	**19.73**	**58**	*e*P	**P**	**10 59 38.3**	**-0.3**
NPGB	**Novo Progresso**	**20.40**	**40**	*e*P	**P**	**10 59 43.2**	**-2.5**

**IDC 05 10:58:16.7±2.5, 56°.35S×148°.09E, h0km, mb3.8/4, mbtmp3.8/4, MS3.7/4, Error ellipse: s-maj=251.8km s

TWE	**Neicheng**	**0.47**	**307**	P	Pb	11 02 14.6 0.0
	baz=307					
TWE				S	Sb	11 02 21.6 +0.2
	baz=307					
ENTT	**Nioudou**	**0.51**	**293**	P	Pb	11 02 15.5 +0.2
	baz=292					
ENTT				S	Sb	11 02 23.2 +0.6
	baz=292					
LATG	**Datong**	**0.51**	**281**	P	Pb	11 02 15.7 +0.3
	baz=280					
LATG				S	Sb	11 02 23.6 +0.9
	baz=280					
NACB	**Ninganchiao**	**0.52**	**239**	*e*P	Pg	11 02 14.6 -0.3
	baz=238					
NACB				S	Sb	11 02 23.0 +0.3
	baz=238					
FUSB	**Fushanzhiwuyua**	**0.55**	**305**	*e*P	Pb	11 02 16.6 +0.6
	baz=305					
FUSB				S	Sb	11 02 24.4 +0.6
	baz=305					
TIPB	**Shuangxi**	**0.58**	**336**	P	Pb	11 02 16.6 +0.2
	baz=336					
TIPB				S	Sb	11 02 24.6 +0.1
	baz=336					
ETLH	**Xiulin Townshi**	**0.59**	**247**	P	Pg	11 02 16.3 0.0
	baz=246					
ETLH				*e*S	Sb	11 02 25.1 0.0
	baz=246					
NWLT	**Wulai**	**0.62**	**303**	P	Pg	11 02 17.0 +0.1
	baz=302					
NWLT				*e*S	Sb	11 02 26.0 +0.2
	baz=302					
NNSB	**Datong**	**0.64**	**269**	P	Pb	11 02 17.3 -0.2
	baz=268					
NNSB				*i* S	Sb	11 02 27.0 +0.7
	baz=268					
SXI1	**Grass Mountain**	**0.68**	**344**	P	Pb	11 02 18.1 -0.1
	baz=344					
SXI1				S	Sb	11 02 27.7 +0.3
	baz=344					
YHNB	**Yeheng**	**0.68**	**290**	*e*P	Pb	11 02 18.8 +0.5
	baz=289					
YHNB				S	Sb	11 02 28.2 +0.6
	baz=289					
NSK	**Sanguang**	**0.70**	**290**	*e*P	Pb	11 02 19.1 +0.5
	baz=289					
NSK				S	Sb	11 02 28.6 +0.5
	baz=289					
FUSS	**Fushou**	**0.79**	**256**	P	Pb	11 02 20.3 +0.2
	baz=255					
FUSS				*e*S	Sb	11 02 31.3 +0.5
	baz=255					
WHF	**Hehuan Shan**	**0.80**	**248**	*i* P	Pg	11 02 20.3 0.0
	baz=248					
WHF				*e*S	Sb	11 02 32.3 +1.0
	baz=248					
YM01	**YM01**	**0.84**	**327**	*i* P	Pb	11 02 21.1 +0.1
	baz=326					
YM01				S	Sn	11 02 33.2 -1.0
	baz=326					
YOJ	**Yonaguni jima**	**0.85**	**88**	*e*P	Pg	11 02 20.9 -0.1
	baz=88					
NFF	**Wufeng Townshi**	**0.90**	**282**	P	Pb	11 02 21.8 -0.1
	baz=282					
NFF				*e*S	Sb	11 02 33.5 -0.2
	baz=282					
OWD	**Renai**	**0.96**	**240**	P	Pg	11 02 23.4 +0.2
	baz=239					
OWD				S	Sg	11 02 36.3 +0.6
	baz=239					
WUSB	**Renai**	**0.99**	**243**	P	Pg	11 02 23.9 +0.2
	baz=242					
WUSB				S	Sn	11 02 37.7 -0.1
	baz=242					

*IDC **05** 11:05:31.5±5.2, 36°.56N×70°.61E, h205km±41km, mb3.2/5, mbtmp3.7/11, Error ellipse: s-maj=41.1km s-min=25.7km az=15.0.*

ISC 05 11:05:31.3±0.8, 36°.56N±0°.06×70°.6E±0°.1, h204km, n21, σ0.94/24, mb3.1/5, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.93**	**158**	P			**Pn**	**11 06 21.7**	**+1.1**
CEP				S			**S**	**11 06 59.0**	**+0.5**
CHCP	**Chirah Chowk**	**3.63**	**142**	P			**Pn**	**11 06 30.0**	**+1.2**
THW	**Thamme Wali**	**3.87**	**165**	P			**Pn**	**11 06 31.2**	**-0.6**
SARP	**Sargodha**	**4.94**	**159**	P			**Pn**	**11 06 44.3**	**-0.8**
AML	**Almayashu**	**6.07**	**22**	P			**Pn**	**11 07 00.1**	**+0.3**
	SNR=27								
UCH	**Uchtor**	**6.43**	**27**	P			**Pn**	**11 07 05.4**	**+0.8**
	SNR=11								
EKS2	**Erkin-Say**	**6.58**	**21**	P			**Pn**	**11 07 07.4**	**+1.3**
	SNR=9.6								
AAK	**Ala-Archa**	**6.78**	**25**	P			**Pn**	**11 07 10.3**	**+1.5**
	SNR=5.8								
AAK	**Ala-Archa**	**6.78**	**25**	P			**Pn**	**11 07 09.9**	**+1.1**
	3.6nm,0.3s,baz=212,slow=4.6,SNR=15								
AAK				S			**S**	**11 08 25.2**	**-0.8**
	13nm,0.4s,baz=351,slow=20,SNR=25								
USP	**Ospenovka**	**7.35**	**23**	P			**Pn**	**11 07 16.8**	**+0.8**
	SNR=12								
TKM2	**Tokmak 2**	**7.44**	**30**	P			**Pn**	**11 07 19.4**	**+2.0**
	SNR=5.4								
MKAR	**Makanchi Array**	**13.44**	**37**	P			**P**	**11 08 35.8**	**-0.8**
	0.3nm,0.5s,baz=235,slow=13,SNR=7.9								
MKAR				S			**S**	**11 11 02.9**	**-0.5**
	1.2nm,0.7s,baz=195,slow=28,SNR=11								
KURBB	**Kurchatov Arra**	**15.18**	**20**	P			**Pn**	**11 08 55.0**	**-0.4**
	0.2nm,0.5s,baz=212,slow=11,SNR=4.4								
BVAR	**Borovoye Array**	**16.47**	**360**	P			**P**	**11 09 09.2**	**-0.8**
	0.5nm,0.4s,baz=162,slow=10,SNR=6.3								
AKTO	**Aktyubinsk**	**16.57**	**331**	P			**P**	**11 09 10.8**	**-0.2**
	4.2nm,0.7s,baz=146,slow=12,SNR=17								
ZALV	**Zalesovo Beam**	**20.00**	**25**	P			**P**	**11 09 48.1**	**-0.1**
	0.7nm,0.3s,baz=215,slow=12,SNR=3.9								
AKASG	**Malin Array Be**	**32.65**	**309**	P			**P**	**11 11 43.3**	**-0.6**
	0.2nm,0.4s,baz=82,slow=5.9,SNR=4.1								
	0.2nm,0.4s								
FINES	**FINESS Array B**	**37.25**	**326**	P			**P**	**11 12 23.4**	**+0.4**
	2.5nm,0.8s,baz=123,slow=10,SNR=1.8								
	2.5nm,0.8s								
ARCES	**ARCESS Array B**	**40.97**	**338**	P			**P**	**11 12 54.4**	**+0.7**
	5.4nm,1.0s,baz=112,slow=9.1,SNR=2.5								
	5.4nm,1.0s								
YKA	**Yellowknife Ar**	**81.20**	**2**	P			**P**	**11 17 24.4**	**+0.5**
	0.2nm,0.8s,baz=346,slow=5.1,SNR=4.8								
	0.2nm,0.8s								
ASAR	**Alice Springs**	**84.56**	**125**	P			**P**	**11 17 41.1**	**-0.7**
	0.3nm,0.9s,baz=327,slow=5.3,SNR=1.7								
	0.3nm,0.9s								

HEL 05 11:10:10.2±0.3, 67°.63N×20°.90E, h0km, ML1.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.59**	**44**	PG			Pg	11 10 20.5	-1.0
LANU				SG			Sg	11 10 28.9	-0.2
PAJU	**Pajala**	**1.05**	**124**	PG			Pg	11 10 28.8	-1.5
PAJU				SG			Sg	11 10 42.9	-1.1
ERTU	**Ertsjaerv**	**1.20**	**154**	PG			Pg	11 10 31.9	-1.2
ERTU				SB			Sg	11 10 48.5	0.0
KLF	**Kolari**	**1.25**	**107**	PG			Pg	11 10 32.6	-1.5
KLF				MSG				11 10 48.0	
	comp=Z,1.3nm,0.2s								
KLF				SB			Sg	11 10 49.9	-0.3
HEF	**Hetta**	**1.30**	**52**	*e*P			Pg	11 10 33.4	-1.7
HEF	**Hetta**	**1.30**	**52**	PG			Pg	11 10 33.2	-1.9
	baz=237								
HEF				MSG				11 10 49.6	
	comp=Z,2.9nm,0.2s								
HEF				SG			Sg	11 10 50.6	-1.3
KIF	**Kilpisjarvi**	**1.38**	**359**	*e*P			Pg	11 10 36.0	-0.6
KIF	**Kilpisjarvi**	**1.38**	**359**	PG			Pg	11 10 35.9	-0.7
KIF				MSG				11 10 53.0	
	comp=Z,8.6nm,0.2s								
KIF				SN			Sn	11 10 55.8	+0.3
KTK1	**Kautokeino**	**1.64**	**31**	PN			Pn	11 10 40.4	+0.1
KTK1				SN			Sg	11 11 03.3	+0.6
KALU	**Kalix**	**2.03**	**150**	PG			Pn	11 10 46.3	+0.7
TOF	**Tornio**	**2.06**	**137**	PG			Pn	11 10 47.2	+1.1
TOF				MSG				11 11 11.6	
	comp=Z,1.1nm,0.2s								
SGF	**Sodankyl**	**2.17**	**92**	PG			Pn	11 10 48.1	+0.5
ARA0	**ARCESS Array S**	**2.55**	**39**	PB			Pn	11 10 53.2	+0.4
KEV	**Kevo**	**3.09**	**43**	PN			Pn	11 11 00.5	+0.4
KEV				MSG				11 11 40.9	
	comp=Z,0.6nm,0.2s								
MSF	**Maaselka**	**3.66**	**114**	PN			Pn	11 11 09.2	+1.2

*WEL **05** 11:17:00, 41°.85S×173°.99E, h11km, ML5.3, Mw5.3, Moment Tensor Solution. s13 Moment tensor: Scale 10^17Nm; Mrr=0.51; Mθθ=0.96; Mφφ=-0.46; Mrθ=-0.01; Mθφ=-0.55; Mφr=0.88; Fault plane solution: M0 1.32000×10^17 NP1:φs=254.00000°, δ51.00000°, λ=-155.00000°. NP2: φs=147.00000°, δ71.00000°, λ=-42.00000°. Principal axes: T 12157.5200, Plg12.0000°, Azm205.0000°; N 2116.0700, Plg45.0000°, Azm307.0000°; P -14273.5900, Plg43.0000°, Azm103.0000°;*

*IDC **05** 11:17:31.3±0.4, 41°.66S×174°.22E, h0km, mb4.6/16, mbtmp4.6/17, ML4.2/1, MS4.7/45 Error ellipse: s-maj=14.8km s-min=12.5km az=30.0*

*NOU **05** 11:17:32.4, 42°.29S×175°.05E, h0km, mb5.1/69, Off E. Coast of S. Island, N.Z.*

*NEIC **05** 11:17:34.8±2.1, 41°.83S±0°.03×174°.06E±0°.04, h17km±3km, mb5.2/20, Mwr5.3/61, Mww5.4, Error ellipse: s-maj=4.7km s-min=3.6km az=149.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.26; Mθθ 0.77; Mφφ=0.51; Mrθ=0.09; Mθφ=0.59; Mφr 0.61; Fault plane solution: M0 1.09000×10^17 NP1:φs=250.80000°, δ55.27000°, λ=-164.81000°. NP2:φs=152.01000°, δ77.56000°, λ=-35.69000°. Principal axes: T 1.0759, Plg15.0000°, Azm206.0000°; N 0.0183, Plg52.0000°, Azm315.0000°; P -1.0942, Plg34.0000°, Azm106.0000°;*

*WEL **05** 11:17:34.9±0.4, 42°.5S±3°×17°.4E±°, h14km±2km, M5.4/22, ML5.7/22, MLv5.4/22 Error ellipse: s-maj=0.0km s-min=0.0km az=165.0, confirmed*

*NEIC **05** 11:17:36, 41°.86S×174°.08E, h20km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^17Nm; Mrr=0.54; Mθθ 1.02; Mφφ=0.48; Mrθ=0.09; Mθφ=0.50; Mφr 0.93; Fault plane solution: M0 1.38000×10^17 NP1: φs=252.00000°, δ48.00000°, λ=-154.00000°. NP2: φs=145.00000°, δ71.00000°, λ=-44.00000°. Principal axes: T 1.2622, Plg14.0000°, Azm204.0000°; N 0.2159, Plg43.0000°, Azm307.0000°; P -1.4781, Plg44.0000°, Azm99.0000°;*

*GCMT **05** 11:17:38.8±0.1, 41°.84S±0°.01×173°.96E±0°.01, h21km, MW5.3/108, Moment Tensor Solution. s96, c142; s108, c174; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.32±.02; Mθθ 0.74±.02; Mφφ=0.41±.01; Mrθ=0.48±.03; Mθφ=0.51±.01; Mφr 0.80±.04; Best double couple: M0 1.23200×10^17 NP1:φs=147.00000°, δ81.00000°, λ=-54.00000°. NP2:φs=250.00000°, δ37.00000°, λ=-165.00000°. Principal axes: T 1.2970, Plg27.0000°, Azm209.0000°; N -0.1290, Plg36.0000°, Azm321.0000°; P -1.1680, Plg43.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 11:17:35.4±0.6, 41°.87S±0°.02×174°.12E±0°.02, h19km±2km, n435, σ2.900/380, mb5.0/42, MS4.8/56, 3C-1D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**30**				**Pg**	**11 17 39.9**	**+0.3**
CMWZ	**Cape Campbell**	**0.13**	**30**	P			**Pg**	**11 17 40.1**	**+0.4**
CMWZ				S			**Sg**	**11 17 44.0**	**+1.5**
BSWZ	**Blackbirch Sta**	**0.24**	**309**				**Pb**	**11 17 39.2**	**-1.7**
BSWZ	**Blackbirch Sta**	**0.24**	**309**	P			**Pb**	**11 17 39.1**	**-1.8**
BSWZ				S			**Sb**	**11 17 42.5**	**-1.9**
TUWZ	**Tuamarina**	**0.46**	**343**				**Pg**	**11 17 43.2**	**-1.6**
TUWZ	**Tuamarina**	**0.46**	**343**	P			**Pg**	**11 17 43.2**	**-1.6**
TUWZ				S			**Sg**	**11 17 49.4**	**-1.6**
TCW	**Tory Channel**	**0.66**	**10**				**Pb**	**11 17 47.1**	**-1.2**
TCW	**Tory Channel**	**0.66**	**10**	P			**Pb**	**11 17 47.1**	**-1.2**
TCW				S			**Sg**	**11 17 57.1**	**-0.3**
KHZ	**Kahutara**	**0.70**	**218**				**Pg**	**11 17 49.2**	**-0.1**
KHZ	**Kahutara**	**0.70**	**218**	P			**Pg**	**11 17 49.4**	**+0.1**
KHZ				S			**Sn**	**11 18 00.6**	**+0.1**
SNZO	**South Karori**	**0.70**	**38**				**Pg**	**11 17 49.2**	**-0.1**
SNZO	**South Karori**	**0.70**	**38**	P			**Pg**	**11 17 49.6**	**+0.3**
BHW	**Baring Head**	**0.72**	**51**				**Pn**	**11 17 50.2**	**-0.4**
WEL	**Wellington**	**0.76**	**40**	P			**Pg**	**11 17 50.2**	**-0.1**
WEL				S			**Sn**	**11 18 02.2**	**+0.3**
NNZ	**Nelson**	**0.85**	**319**				**Pb**	**11 17 49.8**	**-1.9**
NNZ	**Nelson**	**0.85**	**319**	P			**Pb**	**11 17 49.7**	**-1.9**
NNZ				S			**Sb**	**11 18 01.0**	**-1.7**
PLWZ	**Palliser**	**0.90**	**71**				**Pg**	**11 17 52.6**	**-0.3**
PLWZ	**Palliser**	**0.90**	**71**	P			**Pg**	**11 17 52.6**	**-0.3**
THZ	**Tophouse**	**0.92**	**276**				**Pb**	**11 17 51.0**	**-1.7**
THZ	**Tophouse**	**0.92**	**276**	P			**Pb**	**11 17 51.6**	**-1.1**
THZ				S			**Sb**	**11 18 02.8**	**-1.7**
MSWZ	**Moikau Station**	**0.96**	**62**				**Pb**	**11 17 53.2**	**-0.2**
MSWZ	**Moikau Station**	**0.96**	**62**	P			**Pn**	**11 17 53.7**	**-0.1**
MSWZ				S			**Sn**	**11 18 09.1**	**+2.2**
CAW	**Cannon Point**	**1.04**	**43**	P			**Pb**	**11 17 54.8**	**0.0**
CAW				S			**Sg**	**11 18 10.1**	**+0.9**
DUWZ	**D'Urville Isla**	**1.07**	**352**	P			**Pb**	**11 17 53.7**	**-1.7**
DUWZ				S			**Sb**	**11 18 09.1**	**+0.1**
PAWZ	**Paruwai Farm**	**1.09**	**64**	P			**Pb**	**11 17 55.1**	**-0.6**
MRNZ	**Matariki Terra**	**1.12**	**294**	Pn			**Pn**	**11 17 54.5**	**-1.7**
MRNZ	**Matariki Terra**	**1.12**	**294**	P			**Pn**	**11 17 55.3**	**-0.8**
MRNZ				S			**Sb**	**11 18 10.2**	**-0.3**
KIW	**Kapiti Island**	**1.16**	**31**	P			**Pn**	**11 17 56.2**	**-0.5**
KIW				S			**Sg**	**11 18 13.4**	**+0.1**
TKNZ	**Takaka Hill**	**1.21**	**313**				**Pn**	**11 17 56.0**	**-1.3**
TKNZ	**Takaka Hill**	**1.21**	**313**	P			**Pn**	**11 17 55.7**	**-1.6**
MTW	**Mount Morrison**	**1.25**	**56**	P			**Pn**	**11 17 57.1**	**-0.8**
TRWZ	**Traveller**	**1.26**	**69**	P			**Pn**	**11 17 57.2**	**-0.8**
OGWZ	**Otaki Gorge**	**1.31**	**37**	P			**Pn**	**11 17 58.4**	**-0.2**
OGWZ				S			**Sb**	**11 18 16.3**	**+0.5**
GVZ	**Greta Valley S**	**1.37**	**216**				**Pn**	**11 17 58.8**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.43**	**48**	P			**Pn**	**11 17 59.5**	**-0.8**
TMWZ	**Te Maipa**	**1.53**	**61**	P			**Pn**	**11 18 00.6**	**-1.1**
QRZ	**Quartz Range**	**1.59**	**310**				**Pn**	**11 18 02.3**	**-0.2**
QRZ	**Quartz Range**	**1.59**	**310**	P			**Pn**	**11 18 02.0**	**-0.5**
MRZ	**Mangatainoka R**	**1.63**	**43**	Pn			**Pn**	**11 18 02.4**	**-0.7**
MRZ	**Mangatainoka R**	**1.63**	**43**	P			**Pn**	**11 18 02.4**	**-0.7**
LTZ	**Lake Taylor**	**1.65**	**236**				**Pn**	**11 18 02.6**	**-0.8**
TIWZ	**Tintock**	**1.72**	**51**	P			**Pn**	**11 18 03.1**	**-1.2**
DSZ	**Denniston Nort**	**1.74**	**273**				**Pn**	**11 18 03.9**	**-0.7**
DSZ	**Denniston Nort**	**1.74**	**273**	P			**Pn**	**11 18 04.9**	**+0.3**
CPWZ	**Castlepoint**	**1.83**	**59**	P			**Pn**	**11 18 05.3**	**-0.5**
PRWZ	**Pori Road**	**1.91**	**47**	P			**Pn**	**11 18 05.9**	**-1.0**
POWZ	**Post Office Ro**	**1.93**	**41**	P			**Pn**	**11 18 06.2**	**-0.9**
BFZ	**Birch Farm**	**1.99**	**54**				**Pn**	**11 18 06.0**	**-2.0**
BFZ	**Birch Farm**	**1.99**	**54**	P			**Pn**	**11 18 06.6**	**-1.4**
BFZ	**Birch Farm**	**1.99**	**54**	P			**Pn**	**11 18 06.3**	**-1.7**
MQZ	**McQueen's Vall**	**2.13**	**210**				**Pn**	**11 18 07.6**	**-2.4**
INZ	**Inchbonnie**	**2.17**	**246**				**Pn**	**11 18 09.9**	**-0.5**
WAZ	**Wanganui**	**2.21**	**18**	P			**Pn**	**11 18 12.2**	**+1.2**
LREZ	**Lake Rotokare**	**2.41**	**5**	P			**Pn**	**11 18 15.3**	**+1.5**
NMEZ	**Namu Road**	**2.46**	**356**	P			**Pn**	**11 18 15.8**	**+1.4**
PRHZ	**Porangahau**	**2.48**	**51**	P			**Pn**	**11 18 12.7**	**-2.0**
WPHZ	**Waipukurau**	**2.51**	**45**	P			**Pn**	**11 18 13.6**	**-1.6**
KHEZ	**Kahui Hut**	**2.57**	**358**				**Pb**	**11 18 19.0**	**-1.9**
KHEZ	**Kahui Hut**	**2.57**	**358**	P			**Pn**	**11 18 17.5**	**+1.4**
NEZ	**North Egmont**	**2.59**	**360**	P			**Pn**	**11 18 17.7**	**+1.4**
NBEZ	**Newall Road No**	**2.60**	**356**	P			**Pn**	**11 18 18.3**	**+1.9**
PKE	**Pukeiti**	**2.67**	**358**	P			**Pn**	**11 18 18.9**	**+1.5**
DREZ	**Durham Road**	**2.67**	**1**	P			**Pn**	**11 18 18.9**	**+1.4**
MTVZ	**Mangateitei**	**2.68**	**23**	P			**Pn**	**11 18 18.6**	**+1.0**
PKVZ	**Pokaka**	**2.74**	**20**	P			**Pn**	**11 18 19.0**	**+0.7**
MOVZ	**Moawhango**	**2.75**	**27**	P			**Pn**	**11 18 18.0**	**-0.5**
PXZ	**Pawanui**	**2.77**	**49**	P			**Pn**	**11 18 16.4**	**-2.3**
VRZ	**Vera Road**	**2.78**	**10**	P			**Pn**	**11 18 20.0**	**+1.1**
TRVZ	**Turoa**	**2.78**	**23**	P			**Pn**	**11 18 19.7**	**+0.6**
MHEZ	**Mangahewa**	**2.79**	**3**	P			**Pn**	**11 18 21.4**	**+2.4**
BHHZ	**Black Hill Sta**	**2.79**	**32**	P			**Pn**	**11 18 18.4**	**-0.8**
KRHZ	**Kereru**	**2.80**	**38**	P			**Pn**	**11 18 17.5**	**-1.7**
DRZ	**Dome Shelter**	**2.81**	**23**	P			**Pn**	**11 18 20.6**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.81**	**24**	P			**Pn**	**11 18 20.0**	**+0.5**
FWVZ	**Far West T-bar**	**2.83**	**23**	P			**Pn**	**11 18 20.2**	**+0.5**
TUVZ	**Tukino**	**2.84**	**25**	P			**Pn**	**11 18 20.3**	**+0.4**
NGZ	**Ngauruhoe**	**2.91**	**23**	P			**Pn**	**11 18 21.2**	**+0.4**
SNVZ	**South Ngauruho**	**2.91**	**24**	P			**Pn**	**11 18 21.1**	**+0.2**
RPZ	**Rata Peaks**	**2.92**	**230**	Pn			**Pn**	**11 18 18.6**	**-2.3**
	283nm,0.3s,baz=75,slow=1.5,SNR=574								
RPZ				S			**Sn**	**11 18 52.9**	**-2.4**
	241nm,0.3s,baz=325,slow=23,SNR=20								
RPZ				Lg			Lg	11 19 11.5	
	269nm,0.3s,baz=254,slow=23,SNR=6.1								
RPZ				LR			LR	11 19 28.1	
	comp=Z,5μm,19.6s,baz=56,slow=38								
RPZ	**Rata Peaks**	**2.92**	**230**				**Pn**	**11 18 19.1**	**-1.8**
RPZ	**Rata Peaks**	**2.92**	**230**	P			**Pn**	**11 18 19.7**	**-1.1**
KAHZ	**Kahuranaki**	**2.94**	**46**	P			**Pn**	**11 18 18.9**	**-2.2**
OTVZ	**Oturere**	**2.94**	**24**	P			**Pn**	**11 18 21.5**	**+0.2**
NNVZ	**North Ngauruho**	**2.96**	**23**	P			**Pn**	**11 18 22.0**	**+0.5**
TWVZ	**Taurewa**	**2.96**	**20**	P			**Pn**	**11 18 22.0**	**+0.4**
WTVZ	**West Tongariro**	**2.96**	**23**	P			**Pn**	**11 18 21.9**	**+0.4**
ETVZ	**East Tongariro**	**2.98**	**24**	P			**Pn**	**11 18 21.8**	**0.0**
KRVZ	**Karewarewa**	**3.00**	**23**	P			**Pn**	**11 18 22.4**	**+0.4**
TMVZ	**Te Maari**	**3.00**	**24**	P			**Pn**	**11 18 22.1**	**+0.1**
KWHZ	**Kaweka Forest**	**3.00**	**36**	P			**Pn**	**11 18 20.3**	**-1.6**
NTVZ	**North Tongarir**	**3.01**	**24**	P			**Pn**	**11 18 22.3**	**+0.2**
MCHZ	**McNeill Hill**	**3.11**	**40**	P			**Pn**	**11 18 21.6**	**-1.9**
KATZ	**Kakaramea**	**3.13**	**23**	P			**Pn**	**11 18 24.5**	**+0.7**
CKHZ	**Cape Kidnapper**	**3.15**	**46**	P			**Pn**	**11 18 22.5**	**-1.4**
RITZ	**Rihia Road**	**3.17**	**25**	P			**Pn**	**11 18 24.8**	**+0.5**
BKZ	**Black Stump Fm**	**3.25**	**35**	Pn			**Pn**	**11 18 24.3**	**-1.0**
BKZ	**Black Stump Fm**	**3.25**	**35**	P			**Pn**	**11 18 25.3**	**0.0**
BKZ	**Black Stump Fm**	**3.25**	**35**	P			**Pn**	**11 18 23.3**	**-2.0**
RATZ	**Rangitukua**	**3.25**	**23**	P			**Pn**	**11 18 26.4**	**+1.0**
WATZ	**Wairara**	**3.38**	**22**	P			**Pn**	**11 18 28.5**	**+1.3**
HIZ	**Hauiti**	**3.39**	**10**	Pn			**Pn**	**11 18 28.5**	**+1.1**
HIZ	**Hauiti**	**3.39**	**10**	P			**Pn**	**11 18 29.4**	**+2.1**
HIZ	**Hauiti**	**3.39**	**10**	P			**Pn**	**11 18 28.3**	**+0.9**
NMHZ	**Naumai**	**3.44**	**37**	P			**Pn**	**11 18 26.0**	**-2.0**
WHTZ	**Whakaora**	**3.49**	**24**	P			**Pn**	**11 18 30.2**	**+1.5**
MRHZ	**Matea Rd**	**3.50**	**31**	P			**Pn**	**11 18 26.9**	**-1.9**
FOZ	**Fox Glacier**	**3.59**	**241**				**Pn**	**11 18 29.5**	**-0.4**
KUTZ	**Kaahu Road**	**3.61**	**22**	P			**Pn**	**11 18 31.8**	**+1.4**
MTHZ	**Maungataniwha**	**3.66**	**35**	P			**Pn**	**11 18 29.0**	**-2.0**
WHHZ	**Waihua**	**3.66**	**41**	P			**Pn**	**11 18 29.9**	**-1.1**
WPRZ	**Whakapapatarin**	**3.69**	**26**	P			**Pn**	**11 18 31.5**	**+0.1**
TLZ	**Tolley Road**	**3.69**	**18**	P			**Pn**	**11 18 31.4**	**-0.1**
ALRZ	**Allen Road**	**3.71**	**28**	P			**Pn**	**11 18 29.9**	**-1.8**
RAHZ	**Arahi**	**3.71**	**38**	P			**Pn**	**11 18 29.6**	**-2.1**
PRRZ	**Plateau Road**	**3.78**	**28**	P			**Pn**	**11 18 31.1**	**-1.6**
GRRZ	**Galatos Road**	**3.83**	**24**	P			**Pn**	**11 18 33.4**	**+0.1**
LBZ	**Lake Benmore**	**3.83**	**228**				**Pn**	**11 18 31.9**	**-1.5**
HRRZ	**Handcock Road**	**3.84**	**26**	P			**Pn**	**11 18 32.9**	**-0.6**
HSRZ	**Hossack Road**	**3.90**	**25**	P			**Pn**	**11 18 34.4**	**0.0**
RTZ	**Ruatahuna**	**3.91**	**35**	Pn			**Pn**	**11 18 33.3**	**-1.2**
RTZ	**Ruatahuna**	**3.91**	**35**	P			**Pn**	**11 18 33.8**	**-0.8**
KNZ	**Kokohu**	**3.92**	**45**	P			**Pn**	**11 18 32.5**	**-2.0**
SNGZ	**Shannon Statio**	**3.94**	**40**	P			**Pn**	**11 18 32.0**	**-2.9**
MUGZ	**Murupara**	**3.94**	**32**	P			**Pn**	**11 18 32.8**	**-2.1**
MHGZ	**Mahia Peninsul**	**3.96**	**48**	P			**Pn**	**11 18 33.4**	**-1.6**
RRRZ	**Republican Roa**	**3.97**	**28**	P			**Pn**	**11 18 33.8**	**-1.4**
HLRZ	**Highlands Stat**	**3.99**	**26**	P			**Pn**	**11 18 37.8**	**+2.2**
UTU	**Utuhina**	**4.01**	**24**	P			**Pn**	**11 18 36.7**	**+0.8**
TARZ	**Mount Tarawera**	**4.06**	**28**	P			**Pn**	**11 18 35.7**	**-0.8**
ODZ	**Otahua Downs**	**4.06**	**217**				**Pn**	**11 18 34.7**	**-1.8**
ODZ	**Otahua Downs**	**4.06**	**217**	P			**Pn**	**11 18 34.7**	**-1.8**
NGRZ	**Ngongotaha**	**4.08**	**24**	P			**Pn**	**11 18 39.1**	**+2.3**
OMRZ	**Omania**	**4.13**	**25**	P			**Pn**	**11 18 38.2**	**+0.7**
MKRZ	**Makatiti**	**4.13**	**27**	P			**Pn**	**11 18 40.4**	**+2.8**
KARZ	**Kaharoa**	**4.17**	**24**	P			**Pn**	**11 18 38.5**	**+0.4**
RAGZ	**Rawiri**	**4.20**	**38**	P			**Pn**	**11 18 35.5**	**-3.0**
RIGZ	**Rimuhau**	**4.21**	**43**	P			**Pn**	**11 18 35.3**	**-3.2**
LIRZ	**Lichensteins R**	**4.23**	**25**	P			**Pn**	**11 18 42.7**	**+3.9**

comp=Z,26nm,1.2s
MSVF Nonsavu 24.29 9 P **P** **11 22 50.0 -1.6**
comp=Z,3.6nm,0.3s,baz=174,slow=18,SNR=5.1
MSVF LR LR 11 31 43.8
comp=Z,3µm,18.6s,baz=194,slow=35
comp=Z,3.6nm,0.3s
MSVF Nonsavu 24.29 9 P **P** **11 22 50.9 -0.7**
MSVF IAmb IAmb 11 23 18.9
comp=Z,101nm,1.1s
AULRC Lightning Ridg 24.50 292 P P 11 23 00.7 +7.3
comp=Z,80nm,1.5s
CMSA Cobar Meteorol 24.91 285 P **P** **11 22 59.5 +2.3**
baz=25,SNR=15
CMSA Cobar Meteorol 24.91 285 P **P** **11 23 02.0 +4.8**
EIDS Eidsvold 25.16 304 P **P** **11 23 01.5 +2.0**
baz=25,SNR=4.6
RMQ Roma 25.86 298 P **P** **11 23 11.2 +5.3**
baz=26,SNR=4.1
RMQ Roma 25.86 298 P P 11 23 14.9 +9.0
STKA Stephens Creek 27.72 280 P **P** **11 23 21.9 -0.6**
comp=Z,0.9nm,0.6s,baz=112,slow=12,SNR=1.4
STKA LR LR 11 33 20.4
comp=Z,3µm,19.8s,baz=121,slow=34
comp=Z,0.9nm,0.6s
STKA Stephens Creek 27.72 280 P **P** **11 23 26.8 +4.2**
baz=28,SNR=5.0
STKA Stephens Creek 27.72 280 P P 11 23 31.0 +8.4
QLP Quilpie 28.86 292 P **P** **11 23 36.2 +3.5**
baz=29,SNR=5.5
QLP Quilpie 28.86 292 P P 11 23 41.1 +8.4
RAR Rarotonga 30.11 55 P **P** **11 23 42.3 -1.5**
comp=Z,14nm,0.9s,baz=180,slow=10,SNR=3.6
RAR LR LR 11 34 26.6
comp=Z,1µm,21.1s,baz=215,slow=34
comp=Z,14nm,0.9s
INKA Innaminka 30.60 287 P P 11 23 58.2 +10
LCRK Leigh Creek 30.94 280 P **P** **11 23 55.6 +4.5**
BBOO Buckleboo 31.37 274 P **P** **11 23 56.9 +2.0**
baz=31,SNR=4.8
BBOO Buckleboo 31.37 274 P **P** **11 23 55.4 +0.5**
BBOO IAmb IAmb 11 24 01.7
comp=Z,30nm,0.9s
BBOO Buckleboo 31.37 274 P P 11 24 03.9 +9.0
CTA Charters Tower 32.04 304 LR LR 11 35 43.9
comp=Z,2µm,21.2s,baz=124,slow=34
CTAO Charters Tower 32.04 304 P **P** **11 23 59.0 -1.9**
CTAO IAmb IAmb 11 24 13.5
comp=Z,31nm,1.2s
CTAO Charters Tower 32.04 304 P P 11 24 06.0 +5.1
MULG Mulgathing 34.10 277 P P 11 24 24.4 +5.6
OOD Oodnadatta 34.23 282 P **P** **11 24 23.8 +3.8**
HNR Honiara 34.64 335 P **P** **11 24 21.1 -2.4**
comp=Z,136nm,0.3s,baz=346,slow=19,SNR=1.6
HNR LR LR 11 37 25.1
comp=Z,19µm,19.8s,baz=174,slow=35
HNR Honiara 34.64 335 P P 11 24 30.5 +7.0
MTSU Mount Surprise 34.71 304 P **P** **11 24 27.0 +2.8**
baz=35,SNR=6.6
MTSU Mount Surprise 34.71 304 P P 11 24 30.5 +6.3
TBI Tubuai 35.47 70 *e*P **P** **11 24 30.9 +0.3**
comp=Z,123nm,1.2s
TBI *e*S **S** **11 30 04.7 -0.1**
comp=Z,1µm,28.0s
TBI *e*LR LR 11 34 00.1
comp=Z,11µm,26.2s
TBI *e*LR LR 11 34 01.5
comp=Z,47µm,23.0s
TBI Tubuai 35.47 70 *e*T T 12 02 04.0
comp=Z,35nm,0.3s
QIS Mount Isa 36.02 295 P **P** **11 24 38.6 +3.2**
baz=36,SNR=10
QIS Mount Isa 36.02 295 P P 11 24 40.5 +5.1
VNDA Vanda 36.12 184 P **P** **11 24 36.4 +0.7**
comp=Z,3.9nm,1.2s,baz=121,slow=8.2,SNR=2.1
VNDA LR LR 11 37 50.3
comp=Z,2µm,19.6s,baz=17,slow=34
comp=Z,3.9nm,1.2s
AS01 Alice Springs 37.94 286 P P 11 24 59.2 +7.4
comp=Z,31nm,1.2s
ASAR Alice Springs 37.97 286 P **P** **11 24 49.2 -2.8**
comp=Z,1.8nm,0.5s,baz=126,slow=7.0,SNR=7.9
ASAR PcP **PcP** **11 27 05.3 -2.3**
comp=Z,0.9nm,0.6s,baz=127,slow=4.1,SNR=0.9
ASAR S **S** **11 30 48.5 +5.3**
comp=Z,1.2nm,1.0s,baz=129,slow=16,SNR=4.5
ASAR LR LR 11 40 34.0
comp=Z,3µm,18.1s,baz=142,slow=36
comp=Z,1.8nm,0.5s
FORT Forrest 38.32 272 P **P** **11 24 52.1 -2.7**
FORT **pP** **11 24 58.3 -2.6**
FORT IAmb IAmb 11 25 02.0
comp=Z,66nm,0.9s
FORT Forrest 38.32 272 P P 11 25 01.1 +6.3
COEN Coen 38.62 307 P **P** **11 24 58.9 +1.4**
baz=39,SNR=6.8
COEN Coen 38.62 307 P **P** **11 24 57.2 -0.3**
PAE Paea 39.24 63 *e*P **P** **11 25 04.1 +1.5**
comp=Z,24nm,1.4s
PPT2 Papeete2 39.30 63 *e*P **P** **11 25 04.1 +0.9**
comp=Z,82nm,1.4s
PPT2 *e*S **S** **11 31 03.6 +0.4**
comp=Z,345nm,24.8s
PPT2 *e*LR LR 11 35 46.4
comp=Z,2µm,26.2s
PPT2 *e*LR LR 11 35 46.7
comp=Z,3µm,25.8s
PPTF Pamatai, Papee 39.30 63 P **P** **11 25 03.2 -0.1**
PPT Papeete 39.31 63 P **P** **11 25 02.3 -1.0**
comp=Z,28nm,0.8s,baz=204,slow=16,SNR=7.1
PPT LR LR 11 40 58.6
comp=Z,1µm,18.2s,baz=226,slow=36
comp=Z,28nm,0.8s
TVO Taravao 39.38 64 *e*P **P** **11 25 04.9 +1.0**
comp=Z,23nm,1.1s
TIAR Tiarei 39.47 63 *e*P **P** **11 25 07.0 +2.4**
comp=Z,4.7nm,0.9s
WR0 Warramunga Arr 39.90 291 P **P** **11 25 06.8 -1.4**
WB1 Warramunga Ar. 40.04 291 P **P** **11 25 12.7 +3.4**
WB2 Warramunga Arr 40.05 291 P **P** **11 25 07.8 -1.6**
WB2 IAmb IAmb 11 25 16.9
comp=Z,28nm,0.7s
WRAB Tennant Creek 40.05 291 P **P** **11 25 08.2 -1.3**
WRAB IAmb IAmb 11 25 16.9
comp=Z,27nm,0.7s
WRAB Tennant Creek 40.05 291 P **P** **11 25 13.1 +3.6**
WRA Warramunga Arr 40.05 291 P **P** **11 25 07.0 -2.5**
comp=Z,1.3nm,0.4s,baz=129,slow=7.9,SNR=13
WRA PcP **PcP** **11 27 11.9 -2.2**
comp=Z,1.0nm,0.7s,baz=136,slow=2.9,SNR=1.1
WRA S **S** **11 31 18.8 +4.3**
comp=Z,1.0nm,1.0s,baz=131,slow=14,SNR=3.3
WRA LR LR 11 40 51.7
comp=Z,2µm,21.2s,baz=128,slow=35
comp=Z,1.3nm,0.4s
PMG Port Moresby 40.10 316 LR LR 11 42 02.3
comp=Z,1µm,18.2s,baz=157,slow=37
PMG Port Moresby 40.10 316 P **P** **11 25 09.0 -0.9**
PMG Port Moresby 40.10 316 P P 11 25 14.9 +5.0
MEH Mehetia 40.11 65 *e*P **P** **11 25 06.9 -3.0**
comp=Z,25nm,0.9s
WB0 Warramunga Arr 40.13 291 P **P** **11 25 09.1 -1.1**
WB0 IAmb IAmb 11 25 17.6
comp=Z,100nm,1.6s
WRKA Warakurna 41.24 279 P **P** **11 25 17.6 -1.7**
baz=41,SNR=36
WRKA Warakurna 41.24 279 P **P** **11 25 22.1 +2.8**
KRVT Keravat (AS076 42.29 326 P **P** **11 25 26.0 -1.8**
comp=Z,19nm,0.6s,baz=256,slow=20,SNR=1.8
KRVT LR LR 11 42 21.3
comp=Z,1µm,18.9s,baz=289,slow=35
comp=Z,19nm,0.6s
KMBL Kambalda 42.64 267 P **P** **11 25 32.3 +1.7**
baz=43,SNR=4.9
KMBL Kambalda 42.64 267 P **P** **11 25 34.8 +4.2**
comp=Z,59nm,1.4s
NWAO Narrogin (SRO) 45.34 262 LR LR 11 41 23.6
comp=Z,2µm,21.5s,slow=32
KLBR Kellerberrin 45.60 264 P P 11 26 00.5 +6.1
comp=Z,78nm,1.1s
RKT Rikitea 46.11 82 *e*LR LR 11 38 56.8
comp=Z,421µm,26.8s
RKT Rikitea 46.11 82 *e*T T 12 14 36.3
comp=Z,9.2nm,0.3s
MANU Manus Island 46.36 322 P P 11 26 06.0 +5.6
KDU Kakadu 46.39 296 P **P** **11 26 02.5 +1.9**
baz=46,SNR=3.3
KNRA Kununurra 46.84 290 P **P** **11 26 05.7 +1.5**
baz=47,SNR=7.8
KNRA Kununurra 46.84 290 P P 11 26 13.8 +10
BLDU Ballidu 46.87 265 P P 11 26 09.8 +5.5
MTN Manton Dam 47.18 295 P **P** **11 26 05.8 -1.0**
baz=47,SNR=11
MTN Manton Dam 47.18 295 P **P** **11 26 05.8 -1.0**
MTN IAmb IAmb 11 26 12.2
comp=Z,26nm,0.8s
MTN Manton Dam 47.18 295 P P 11 26 11.9 +5.1
comp=Z,41nm,1.4s
FITZ Fitzroy Crossi 47.45 285 P **P** **11 26 07.6 -1.3**
FITZ Fitzroy Crossi 47.45 285 P **P** **11 26 13.1 +4.1**
MEEK Meekatharra 47.54 270 P **P** **11 26 07.8 -1.9**
baz=48,SNR=19
MEEK Meekatharra 47.54 270 P **P** **11 26 12.9 +3.3**
MORW Morawa 48.16 266 P **P** **11 26 18.5 +4.1**
baz=48,SNR=5.3
MORW Morawa 48.16 266 P **P** **11 26 18.7 +4.3**
comp=Z,36nm,1.0s
QSPA South Pole Qui 48.26 180 P **P** **11 26 16.3 +1.4**
comp=Z,17nm,1.0s,baz=30,slow=2.2,SNR=35
QSPA LR LR 11 45 10.6
comp=Z,1µm,18.2s,baz=42,slow=34
comp=Z,17nm,1.0s
QSPA South Pole Qui 48.26 180 P **P** **11 26 17.3 +2.5**
TAOE Nuku Hiva Isla 51.91 64 *e*P **P** **11 26 43.7 +0.7**
comp=Z,173nm,24.3s
TAOE *e*S **S** **11 34 03.8 -1.3**
comp=Z,434nm,24.4s
TAOE *e*SS **SS** **11 37 43.0 +1.0**
comp=Z,308nm,24.4s
TAOE *e*LR LR 11 41 37.6
comp=Z,2µm,25.5s
GIRL Giralia 53.08 272 P P 11 26 56.3 +4.8
baz=53,SNR=4.5
FAKI Fak Fak 53.91 304 P **P** **11 26 55.0 -2.7**
BATI Baumata 54.19 291 LR LR 11 49 54.0
comp=Z,1µm,21.1s,baz=166,slow=36
SIJI Soreng 56.12 305 LR LR 11 52 48.7
comp=Z,754nm,18.7s,baz=142,slow=38
BELA Belgrano 2 59.24 173 P **P** **11 27 36.1 +1.3**
BELA IAmb IAmb 11 27 44.0
comp=Z,41nm,1.0s
MAW Mawson 59.31 205 P **P** **11 27 35.0 -0.4**
comp=Z,9.9nm,1.0s,baz=123,slow=11,SNR=1.5
MAW LR LR 11 52 31.2
comp=Z,2µm,18.4s,baz=107,slow=35
comp=Z,9.9nm,1.0s
KAPI Kappang 60.58 292 LR LR 11 55 23.0
comp=Z,838nm,18.3s,baz=138,slow=38
SMAI San Martin Ant 61.20 158 P **P** **11 27 49.8 +1.5**
GUMO Guam 61.42 327 LR LR 11 54 25.5
comp=Z,154nm,18.6s,baz=136,slow=36
RPN Rapa Nui 62.84 103 LR LR 11 50 48.0
comp=Z,612nm,18.4s,baz=237,slow=32
PMSA Palmer Station 64.41 156 LR LR 11 51 03.7
comp=Z,168nm,20.6s,baz=234,slow=31
DAV Davis City (W) 65.83 305 LR LR 11 57 16.3
comp=Z,361nm,20.7s,baz=138,slow=36
TROLL Troll, Antarti 66.28 183 P **P** **11 28 23.0 +1.1**
TROLL Troll, Antarti 66.28 183 pP pP 11 28 29.0 +0.8
SNAA Sanae 66.75 181 P **P** **11 28 26.0 +1.1**
SNAA Sanae 66.75 181 pP pP 11 28 31.9 +0.7
SNAA Sanae 66.75 181 LR LR 11 55 32.3
comp=Z,892nm,21.0s,baz=169,slow=34
VNA2 Neumayer--Watz 67.52 179 P **P** **11 28 30.3 +0.7**
baz=174,slow=5.0
VNA2 Neumayer--Watz 67.52 179 pP pP 11 28 36.7 +0.8
baz=172,slow=6.0
VNA1 Neumayer--Stat 67.78 179 P **P** **11 28 33.4 +2.1**
VNA1 Neumayer--Stat 67.78 179 pP pP 11 28 38.6 +1.0
LEM Lembang 68.03 281 LR LR 11 57 04.0
comp=Z,2µm,21.9s,baz=134,slow=35
USHA Ushuaia 69.93 147 LR LR 11 56 07.4
comp=Z,640nm,18.2s,baz=122,slow=33
KKM Kota Kinabalu 71.03 297 P **P** **11 28 52.6 +0.4**
JCJ Chichijima 74.70 331 LR LR 11 59 51.2
comp=Z,234nm,19.2s,baz=228,slow=34
PLCA Paso Flores 79.08 136 P **P** **11 29 38.8 +0.3**
comp=Z,5.2nm,0.8s,baz=227,slow=7.4,SNR=12
PLCA LR LR 11 56 25.6
comp=Z,199nm,20.5s,baz=219,slow=30
comp=Z,5.2nm,0.8s
H03S2 Juan Fernandez 79.21 126 T T 12 54 51.3
baz=226
H03S1 Juan Fernandez 79.22 126 T T 12 54 58.2
baz=226
H03S3 Juan Fernandez 79.22 126 T T 12 54 57.4
baz=226
H03N3 Juan Fernandez 79.47 126 T T 12 55 13.8
baz=231
H03N2 Juan Fernandez 79.47 126 T T 12 55 18.4
baz=231
H03N1 Juan Fernandez 79.49 126 T T 12 55 13.4
baz=231
JOW Kunigami 80.42 319 LR LR 12 01 43.3
comp=Z,304nm,20.3s,baz=109,slow=33
JNU Nakatsu 84.55 325 LR LR 12 03 38.2
comp=Z,211nm,21.5s,baz=140,slow=33
MJAR Matsushiro Arr 84.66 332 P **P** **11 30 04.4 -3.1**
comp=Z,4.0nm,1.1s,baz=171,slow=5.2,SNR=4.3
MJAR LR LR 12 05 03.1
comp=Z,98nm,19.6s,baz=149,slow=34
comp=Z,4.0nm,1.1s
QIZ Qiongzhong 84.77 301 P **P** **11 30 11.4 +3.0**
QIZ S **S** **11 40 31.5 -4.0**
QIZ LR LR
comp=Z,290nm,19.3s
QIZ LR LR
comp=Z,310nm,19.4s
QIZ LR LR
comp=Z,390nm,20.4s
CFA Coronel Fontan 87.07 131 LR LR 12 02 43.3
comp=Z,185nm,18.6s,baz=105,slow=31
NJ2 Nanjing 89.41 316 *e*P **P** **11 30 32.0 +1.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KSRS Korea Array 89.50 325 P **P** **11 30 27.8 -3.1**
comp=Z,2.5nm,0.9s,baz=152,slow=5.7,SNR=5.6
KSRS LR LR 12 06 25.5
comp=Z,132nm,22.0s,baz=140,slow=33
comp=Z,2.5nm,0.9s
ASAJ Asahikawa 90.15 338 LR LR 12 06 12.8
comp=Z,422nm,21.6s,baz=156,slow=32
WHN Wuhan 90.68 312 ⇓P **P** **11 30 40.9 +4.3**
CMAR Chiang Mai Arr 91.60 293 P **P** **11 30 39.9 -1.3**
comp=Z,1.6nm,0.4s,baz=152,slow=3.7,SNR=9.3
CMAR LR LR 12 15 57.4
comp=Z,303nm,18.9s,baz=130,slow=38
comp=Z,1.6nm,0.4s
LVC Limon Verde 93.37 124 LR LR 12 05 07.1
comp=Z,180nm,19.1s,baz=229,slow=31
USRK Ussuriysk Ar. 93.64 331 LR LR 12 11 13.9
comp=Z,193nm,19.0s,baz=164,slow=34
SHEM Shemya Is, Ala 94.22 360 LR LR 12 07 25.5
comp=Z,566nm,21.3s,baz=114,slow=32
PZH PanZhiHua 95.31 301 P **P** **11 30 59.3 +1.1**
PZH S **S** **11 42 14.9 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
PZH LR LR
comp=Z,240nm,19.6s
PZH LR LR
comp=Z,210nm,21.0s
PZH LR LR
comp=Z,350nm,21.4s
PETK Petropavlovsk- 95.65 350 LR LR 12 07 30.2
comp=Z,582nm,22.0s,baz=168,slow=31
LPIG La Paz 95.73 63 LR LR 12 05 48.8
comp=Z,660nm,20.2s,baz=218,slow=30
NNA Nana 95.81 112 LR LR 12 05 23.4
comp=Z,260nm,19.9s,baz=224,slow=30
XAN Xi'an 96.33 311 *e*P **P** **11 31 05.1 +2.5**
XAN sP sP 11 31 13.5 +2.1
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN LR LR
comp=Z,190nm,19.9s
XAN LR LR
comp=Z,310nm,19.0s
XAN LR LR
comp=Z,400nm,20.4s
TNCH TengChong 96.39 298 P **P** **11 31 00.8 -2.5**
TNCH pmax pmax
comp=Z,95nm,4.2s
CD2 Chengdu 97.13 305 P **P** **11 31 06.0 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CPUP Villa Florida 97.15 135 P Pdif 11 31 07.0 +0.2
comp=Z,1.4nm,0.8s,baz=191,slow=8.6,SNR=2.9
CPUP LR LR 12 08 26.1
comp=Z,180nm,20.9s,baz=212,slow=31
comp=Z,1.4nm,0.8s
KLR Kul'dur 98.07 333 LR LR 12 11 18.1
comp=Z,263nm,21.1s,baz=148,slow=33
ATAH Atahualpa 98.08 107 LR LR 12 07 51.1
comp=Z,399nm,19.2s,baz=236,slow=31
PFO Pinyon Flats O 98.46 52 LR LR 12 10 46.0
comp=Z,360nm,18.2s,baz=205,slow=32
BRDH Bariadhala 99.47 292 LR LR 12 18 32.2
comp=Z,574nm,22.0s,baz=152,slow=37
HHC Hu-ho-hao-te 99.91 317 *e*P **Pdif** **11 31 21.2 +2.6**
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=Z,370nm,16.9s
HHC LR LR
comp=Z,740nm,19.7s
XLT XiLinHaoTe 100.00 321 *e*P **Pdif** **11 31 20.8 +1.9**
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,200nm,4.3s
LZH Lanzhou 100.70 309 *e*P **Pdif** **11 31 25.2 +2.9**
LZH pP sP 11 31 31.9 +0.7
LZH sP sPdif 11 31 34.1 +2.9
LZH pmax pmax
comp=Z,8.0nm,1.1s
LZH LR LR
comp=Z,190nm,17.2s
LZH LR LR
comp=Z,370nm,17.2s
LZH LR LR
comp=Z,310nm,18.4s
NVAR Mina Array Bea 100.82 48 P **Pdif** **11 31 25.2 +2.4**
comp=Z,0.2nm,0.5s,baz=236,slow=9.6,SNR=1.7
NVAR PKKP **PKKPdf** **11 47 40.3 -1.5**
comp=Z,0.8nm,0.8s,baz=54,slow=4.6,SNR=5.1
PCHI Peechi 102.72 273 *e*P **Pdif** **11 31 38.3 +6.7**
PCHI *ex* x 11 41 24.4
PDAR Pinedale Array 108.65 49 PP **PP** **11 36 27.4 -1.9**
comp=Z,1.7nm,1.2s,baz=203,slow=4.4,SNR=5.1
PDAR PKKPbc **PKKPbc** **11 47 12.6 +0.6**
comp=Z,0.7nm,0.7s,baz=46,slow=2.6,SNR=2.1
ILAR Eielson Array 110.60 17 PKKPab PKKPab 11 47 10.4 -1.6
comp=Z,0.9nm,1.0s,baz=344,slow=2.2,SNR=5.5
ILAR PKKP 11 47 20.4
comp=Z,2.1nm,0.8s,baz=5.5,slow=3.7,SNR=17
WMQ Urumqi 115.16 307 *e*PKP **PKiKP** **11 36 15.1 +0.2**
WMQ LR LR
comp=Z,150nm,19.9s
INK Inuvik 116.59 19 **PKPdf** **11 36 15.2 -1.5**
ECSD EROS Data Cent 116.81 54 **PKPdf** **11 36 17.1 -0.9**
YKA Yellowknife Ar 118.52 30 PKP **PKPdf** **11 36 17.6 -3.1**
comp=Z,1.4nm,0.5s,baz=240,slow=1.7,SNR=4.6
YKA PKKPbc **PKKPab** **11 46 37.7 0.0**
comp=Z,0.4nm,0.7s,baz=52,slow=4.0,SNR=5.9
FFC Flin Flon 119.70 42 **PKPdf** **11 36 21.3 -2.0**
C36M Paulatuk 119.76 21 **PKPdf** **11 36 20.7 -2.2**
MKAR Makanchi Array 119.97 308 PKP **PKPdf** **11 36 20.8 -3.3**
comp=Z,0.5nm,0.7s,baz=158,slow=1.7,SNR=6.7
ULM Lac du Bonnet 120.65 48 PKP **PKPdf** **11 36 22.2 -3.0**
comp=Z,3.1nm,0.5s,baz=250,slow=5.1,SNR=6.3
ZALV Zalesovo Beam 122.07 316 PKP **PKPdf** **11 36 24.1 -3.6**
comp=Z,0.4nm,0.5s,baz=162,slow=0.5,SNR=2.4
KMBO Kilima Mbogo 122.14 234 PKP **PKiKP** **11 36 29.8 +0.1**
comp=Z,5.4nm,0.8s,baz=52,slow=4.2,SNR=8.3
FCC Fort Churchill 125.42 40 **PKPdf** **11 36 31.5 -2.5**
NRIK Noril'sk 127.28 334 PKP **PKiKP** **11 36 38.0 +0.1**
comp=Z,3.5nm,0.9s,baz=354,slow=1.3,SNR=1.9
BVAR Borovoye Array 129.57 310 PKP **PKPdf** **11 36 41.8 -0.4**
comp=Z,0.6nm,0.5s,baz=99,slow=4.5,SNR=3.4
GEYT Ailbeck 131.76 289 PKP **PKiKP** **11 36 47.5 -0.4**
comp=Z,1.8nm,0.6s,baz=100,slow=1.8,SNR=1.8
AKTO Aktyubinsk 136.17 304 PKP **PKPdf** **11 36 54.9 +0.2**
comp=Z,1.0nm,0.6s,baz=108,slow=4.5,SNR=1.7
SCHQ Schefferville 138.77 50 PKP **PKPdf** **11 36 59.1 -0.2**
comp=Z,4.0nm,1.0s,baz=204,slow=10.0,SNR=2.0
KBS Kingsbay 142.17 354 *e*PKPdf **PKPdf** **11 37 05.7 +0.8**
SPA0 Spitsbergen Ar 142.48 353 *e*PKPdf **PKPdf** **11 37 05.8 +0.3**
BELG Belogornoye 142.91 305 PKP **PKPdf** **11 37 04.5 -2.4**
comp=Z,14nm,0.9s,baz=123,slow=2.7,SNR=2.4
LIC Lamto 144.50 181⇑ *e*PKP2 **PKPdf** **11 37 10.5 -0.4**
comp=Z,67nm,0.7s
KBZ Khabaz 144.57 290 PKP **PKPab** **11 37 07.5 -1.1**
comp=Z,18nm,0.8s,baz=96,slow=1.5,SNR=14
KIC Kosan Boka 144.63 182⇑ *e*PKP2 **PKPab** **11 37 09.6 -0.1**
comp=Z,14nm,0.6s
KVAR Kislovodsk Arr 144.77 290 PKP **PKPab** **11 37 08.9 -0.6**
comp=Z,1.8nm,0.3s,baz=108,slow=23,SNR=1.7
ASF Jabal al Asfar 144.82 268 PKP **PKPab** **11 37 08.8 -1.3**
comp=Z,4.4nm,0.8s,baz=99,slow=13,SNR=2.5
TIC Toumodi 144.92 181⇑ *e*PKP2 PKPbc 11 37 10.9 +0.1
comp=Z,56nm,0.8s
DBIC Dimbokro 144.94 182 PKPbc **PKPab** **11 37 10.8 0.0**
comp=Z,4.4nm,0.7s,baz=160,slow=4.0,SNR=7.3
EIL Elat 145.02 263 PKPbc **PKPbc** **11 37 09.2 -1.5**
comp=Z,2.3nm,0.5s,baz=37,slow=20,SNR=2.1
SFJD Kangerlussuaq 145.07 29 **PKPbc** **11 37 07.4 -2.3**
SFJD Kangerlussuaq 145.07 29 *i* P **PKPbc** **11 37 07.8 -1.9**
SUMG Summit 145.45 17 *i* P **PKPdf** **11 37 08.7 -2.6**
NUUK Nuuk 145.65 34 *i* P **PKPdf** **11 37 11.2 0.0**
MMAI Mount Meron Ar 146.32 268 PKPbc **PKPbc** **11 37 14.4 -0.4**
comp=Z,13nm,0.6s,baz=106,slow=3.1,SNR=6.3
VADS Vadso 146.46 339 *e*PKPdf **PKPdf** **11 37 13.0 +0.5**
KLMR Klimovskoe 146.78 320 *e*PKPdf **PKiKP** **11 37 17.4 -0.3**
KLMR AMP 11 37 26.1
comp=Z,41nm,1.0s
DBG Daneborg 146.80 7 *i* P **PKPdf** **11 37 13.2 +0.2**
DY2G Dye2 146.86 28 *i* P **PKPbc** **11 37 15.7 +0.2**
ICESG Greenland Ices 147.51 22 *i* P **PKPdf** **11 37 15.7 +0.9**
ARA0 ARCESS Array S 147.85 340 *e*PKPdf **PKPdf** **11 37 15.0 +0.1**
ARCES ARCESS Array B 147.85 340 PKPbc **PKPdf** **11 37 14.4 -0.5**
comp=Z,3.4nm,0.7s,baz=46,slow=3.9,SNR=11
IVI Ivigtut 148.13 38 PKPdf **PKPdf** **11 37 16.2 +0.7**
IVI Ivigtut 148.13 38 *i* P **PKPdf** **11 37 17.1 +1.6**
KTK1 Kautokeino 148.80 340 *e*PKPdf **PKPdf** **11 37 16.9 +0.4**
JETT Jettan, Norway 149.07 342 *e*PKPdf **PKPdf** **11 37 17.5 +0.6**
TRO Tromso 149.34 343 *e*PKPdf **PKPdf** **11 37 17.8 +0.5**
NRS Narsarsuaq 149.41 37 *i* P **PKPbc** **11 37 20.2 -1.9**
BRTR Keskin Array B 150.19 279 PKPbc **PKPbc** **11 37 22.4 -2.5**
comp=Z,2.6nm,0.8s,baz=138,slow=6.6,SNR=11
LOF Lofoten 151.69 345 *e*PKPdf **PKPdf** **11 37 21.3 +0.4**
FAUS Fauske 151.95 343 *e*PKPdf **PKPdf** **11 37 21.4 0.0**
FINES FINESS Array B 152.58 326 PKPbc **PKPbc** **11 37 26.7 -2.8**
comp=Z,2.8nm,0.7s,baz=64,slow=4.5,SNR=11
AKASG Malin Array Be 154.39 302 PKPbc **PKPbc** **11 37 30.6 -3.1**
comp=Z,0.8nm,0.5s,baz=65,slow=2.2,SNR=4.5
MNK Minsk 154.46 311 *i* PKP **PKPdf** **11 37 25.8 +0.4**
comp=E,6.0nm,0.9s
MNK *i* PKP **PKPdf** **11 37 25.8 +0.4**
comp=N,39nm,0.8s
MNK *i* PKP **PKPdf** **11 37 25.8 +0.4**
comp=Z,20nm,0.8s,baz=254
MNK *i* SKP 11 40 57.6
MNK *i* PKS **PKSdf** **11 41 00.0 +0.8**
MNK *i* PP **PP** **11 41 24.2 +0.1**
MNK *i* SKS **SKSdf** **11 44 31.5 +0.8**
MNK *i* PPP PPP 11 44 53.5
MNK *i* SKKS **SKKSdf** **11 53 10.6 +0.5**
MNK *i* SS **SS** **12 01 04.5 +1.1**
MNK *i* SSS SSS 12 06 57.1
MNK *i* LR LR 12 41 56.2
MNK *i* LRM MLR 12 45 09.1
comp=N,2µm,18.4s
MNK *i* LRM MLR 12 45 09.1
comp=Z,193nm,18.4s
MNK *i* LRM MLR 12 45 14.3
comp=E,211nm,21.0s
NACGM Naroch 154.95 313 *e*PKP **PKPbc** **11 37 34.8 0.0**
baz=71
HFS Hagfors 158.10 333 PKPab **PKPab** **11 38 00.4 -3.4**
comp=E,1.4nm,0.6s,baz=81,slow=4.5,SNR=5.0
NB2 NORSAR Subarra158.17 337 PKP **PKPab** **11 38 07.0 +2.9**
comp=Z,1.8nm,0.7s,baz=37,slow=4.6
NOA NORSAR Array B158.17 337 PKPab **PKPab** **11 38 02.8 -1.3**
comp=Z,3.2nm,1.1s,baz=39,slow=4.6,SNR=2.9
GERES GERESS Array B 164.59 304 PKPab **PKPab** **11 38 31.3 -1.3**
comp=Z,0.5nm,0.7s,baz=90,slow=4.0,SNR=1.4
KEST Kesra 166.65 248 PKPab **PKPab** **11 38 41.4 -0.7**
comp=Z,18nm,1.0s,baz=112,slow=5.4,SNR=2.1

DAVOX	**Davos/Dischmat**	**167.70**	**299**	PKPab	**PKPab**	**11 38 45.9**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=63,slow=6.8,SNR=1.5						
MDT	**Midelt**	**170.91**	**187**	PKP	**PKPdf**	**11 37 43.5**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=348,slow=5.5,SNR=2.2						
MDT				PKPab	**PKPab**	**11 39 02.1**	**+1.3**
	comp=Z,2.3nm,1.0s,baz=164,slow=1.9,SNR=2.3						
MORF	**Marmelete**	**174.97**	**154**	*i* LQ	LQ	11 37 50.8	
PTEO	**Sao Teotonio**	**175.16**	**152**	*i* LQ	LQ	11 37 51.2	
PVAQ	**Vaqueiros**	**175.32**	**162**	*i* LQ	LQ	11 37 50.8	
PVAQ	**Vaqueiros**	**175.32**	**162**	*e*LR	LR	12 45 45.4	
	comp=Z,512nm,22.0s						
PCVE	**Castro Verde**	**175.46**	**158**	*e*PKPdf	**PKPdf**	**11 37 43.7**	**-0.1**
PCVE				*i* LQ	LQ	11 37 50.8	
PNCL	**Nicolau / Gran**	**175.73**	**151**	*e*PKPdf	**PKPdf**	**11 37 44.7**	**+0.9**
PNCL				*i* LQ	LQ	11 37 51.0	
PBEJ	**Beja**	**175.87**	**158**	*e*PKPdf	**PKPdf**	**11 37 44.9**	**+1.0**
PBEJ				*i* LQ	LQ	11 37 50.8	
PBAR	**Barrancos**	**176.21**	**166**	*e*PKPdf	**PKPdf**	**11 37 44.4**	**+0.5**
PBAR				*i* LQ	LQ	11 37 50.8	
EVO	**Evora**	**176.29**	**153**	*i* LQ	LQ	11 37 51.1	
PMTG	**Montargil**	**176.68**	**147**	*i* LQ	LQ	11 37 50.2	
PESTR	**Estremoz**	**176.73**	**156**	*i* LQ	LQ	11 37 50.6	
PMRV	**Marv??o**	**177.31**	**154**	*e*LR	LR	12 49 14.2	
	comp=Z,450nm,20.0s						
ESDC	**Sonseca Array**	**177.37**	**214**	PKP	**PKPdf**	**11 37 44.1**	**-0.1**
	comp=Z,1.4nm,1.1s,baz=259,slow=1.3,SNR=8.5						
ESDC				PKPab	PKPab	11 39 30.5	+1.2
	comp=Z,5.3nm,1.0s,baz=164,slow=4.4,SNR=10						
ESDC				PP	**PP**	**11 43 24.3**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=151,slow=3.4,SNR=4.4						
PCBR	**Castelo Branco**	**177.64**	**148**	*e*PKPdf	**PKPdf**	**11 37 45.1**	**+1.0**
PCBR				*i* LQ	LQ	11 37 51.3	
MTE	**Manteigas**	**178.07**	**139**	*i* LQ	LQ	11 37 50.9	
MTE	**Manteigas**	**178.07**	**139**	*e*LR	LR	12 44 47.8	
	comp=Z,412nm,18.0s						
PGAV	**Gavieira, Arco**	**178.21**	**86**	*i* LQ	LQ	11 37 50.4	
PGAV	**Gavieira, Arco**	**178.21**	**86**	*e*LR	LR	12 46 31.2	
	comp=Z,336nm,18.0s						
MVO	**Moncorvo**	**178.89**	**129**	*i* LQ	LQ	11 37 51.0	
MVO	**Moncorvo**	**178.89**	**129**	*e*LR	LR	12 46 33.7	
	comp=Z,494nm,18.0s						

*NNC **05** 11:41:28.4±2.0,51°.96N×75°.58E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=30.7km s-min=12.8km az=25.0, Suspected Mining explosion.*

*IDC **05** 11:41:30.8±1.5,51°.62N×75°.45E,h0km,mbtmp2.6/3, ML2.0/3,Error ellipse: s-maj=44.9km s-min=13.0km az=32.0*

ISC 05 11:41:27.4±1.2,52°.30N±0°.09×76°.15E±0°.06,h0km,n9, σ0s93/9,6C-2D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.21**	**135**	⇑Pn	**Pb**	**11 42 08.2**	**-0.1**
	1.9nm,0.5s						
KURK				⇑Sn	**Sb**	**11 42 36.2**	**0.0**
	12nm,0.8s						
KURBB	**Kurchatov Arra**	**2.24**	**138**	⇓Pn	**Pb**	**11 42 07.3**	**-1.5**
	5.0nm,0.6s,baz=300,slow=14						
KURBB				⇑Sn	**Sg**	**11 42 39.5**	**0.0**
	32nm,0.8s,baz=309,slow=25						
BVA0	**Borovoye Array**	**3.58**	**284**	⇓Pg	**Pb**	**11 42 30.5**	**-1.1**
	3.7nm,1.4s,baz=111,slow=16,SNR=4.9						
BVA0				⇑Lg	Lg	11 43 13.0	
	22nm,0.9s						
BVAR	**Borovoye Array**	**3.58**	**284**	Pn	**Pn**	**11 42 25.3**	**+1.1**
	baz=110,slow=12,SNR=4.1						
BVAR				Lg	Lg	11 43 17.1	
	0.2nm,0.3s,baz=105,slow=28,SNR=12						
	0.6nm,0.5s						
BRVK	**Borovoye**	**3.65**	**284**	⇑Lg	Lg	11 43 15.9	
	15nm,0.8s						
I46RU	**ZALESOVO INFRA**	**5.47**	**69**	I	I	12 16 30.0	
	baz=252,slow=317,SNR=2.0						
ZALV	**Zalesovo Beam**	**5.47**	**69**	Pn	**Pb**	**11 43 03.1**	**-0.7**
	0.4nm,0.3s,baz=256,slow=14,SNR=4.5						
	1.0nm,0.5s						
MK31	**Makanchi Array**	**6.80**	**142**	⇑Lg	Lg	11 45 03.8	
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**6.80**	**142**	Pn	**Pn**	**11 43 08.6**	**+0.1**
	0.1nm,0.3s,baz=307,slow=14,SNR=2.3						
MKAR				Sn	**Sn**	**11 44 27.0**	**+0.4**
	0.1nm,0.3s,baz=333,slow=16,SNR=2.4						
MKAR				Lg	Lg	11 44 58.0	
	0.2nm,0.3s,baz=326,slow=24,SNR=8.6						
	0.1nm,0.5s						

*NEIC **05** 11:49:42.5±1.4,18°.40S±0°.07×69°.84W±0°.10,h120km±9km, mb4.0/2,ML4.0(GUC),Error ellipse: s-maj=14.2km s-min=8.7km az=111.0*

*GUC **05** 11:49:43.3±0.7,18°.32S×69°.58W,h100km±3km,ML4.0*

ISC 05 11:49:42.2±1.0,18°.38S±0°.04×69°.71W±0°.07,h111km±8km, n41,σ1s14/54,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.19**	**78**		**Pn**	**11 49 57.9**	**-0.5**
PB16	**IPOC Station P**	**0.19**	**78**	*e*P	**Pn**	**11 49 58.3**	**-0.1**
PB16				*i* S	**Sn**	**11 50 09.6**	**-1.0**
PB16				IAML		11 50 11.2	
	comp=N,7μm,0.7s						
AP01	**Chacalluta**	**0.60**	**270**		**Pn**	**11 50 00.8**	**+0.9**
AP01	**Chacalluta**	**0.60**	**270**	*e*P	**Pn**	**11 50 00.7**	**+0.9**
AP01				*i* S	**Sn**	**11 50 14.2**	**+1.0**
PB12	**IPOC Station P**	**0.64**	**248**		**Pn**	**11 50 00.6**	**+0.4**
PB12	**IPOC Station P**	**0.64**	**248**	*e*P	**Pn**	**11 50 00.6**	**+0.4**
PB12				*i* S	**Sn**	**11 50 14.5**	**+0.7**
PB12				IAML		11 50 17.9	
	comp=E,4μm,0.3s						
MNMC	**Minye Minye**	**0.76**	**172**		**Pn**	**11 50 01.6**	**+0.1**
MNMC	**Minye Minye**	**0.76**	**172**	*e*P	**Pn**	**11 50 01.8**	**+0.3**
MNMC				*i* S	**Sn**	**11 50 15.9**	**-0.1**
MNMC				IAML		11 50 20.3	
	comp=E,6μm,0.2s						
PB18	**Visviri**	**0.81**	**15**		**Pn**	**11 50 04.1**	**+1.8**
PB18	**Visviri**	**0.81**	**15**	*e*P	**Pn**	**11 50 04.0**	**+1.8**
PB18				*i* S	**Sn**	**11 50 19.5**	**+2.2**
PSGC	**Pisagua**	**1.28**	**198**	*e*P	**Pn**	**11 50 06.9**	**+0.3**
PSGC				*i* S	**Sn**	**11 50 25.6**	**+0.6**
PSGCX	**Pisagua**	**1.28**	**198**		**Pn**	**11 50 06.9**	**+0.4**
GO01	**Chusmiza**	**1.37**	**159**		**Pn**	**11 50 09.1**	**+1.0**
GO01	**Chusmiza**	**1.37**	**159**	*e*P	**Pn**	**11 50 09.0**	**+1.0**
GO01				*i* S	**Sn**	**11 50 28.8**	**+1.1**
GO01				IAML		11 50 36.0	
	comp=E,3μm,0.1s						
PB11	**IPOC Station P**	**1.38**	**178**		**Pn**	**11 50 08.2**	**+0.4**
PB11	**IPOC Station P**	**1.38**	**178**	*e*P	**Pn**	**11 50 08.2**	**+0.4**
PB11				*i* S	**Sn**	**11 50 27.3**	**+0.1**
PB08	**IPOC Station P**	**1.83**	**164**		**Pn**	**11 50 14.5**	**+1.1**
PB08	**IPOC Station P**	**1.83**	**164**	*e*P	**Pn**	**11 50 14.5**	**+1.1**
PB08				*i* S	**Sn**	**11 50 38.5**	**+1.2**
PB08				IAML		11 50 44.5	
	comp=E,1μm,0.2s						
HMBC	**Humberstone**	**1.90**	**185**	*e*P	**Pn**	**11 50 14.3**	**+0.2**
HMBC				*i* S	**Sn**	**11 50 39.5**	**+1.1**
HMBC				IAML		11 50 43.7	
	comp=N,2μm,0.6s						
TA02	**Huaiquique**	**1.93**	**192**		**Pn**	**11 50 14.8**	**+0.5**
TA01	**Diego Aracena**	**2.22**	**192**		**Pn**	**11 50 17.8**	**-0.3**
TA01	**Diego Aracena**	**2.22**	**192**	*i* S	**Sn**	**11 50 46.4**	**+0.9**
PATCX	**Punta Patache**	**2.47**	**190**		**Pn**	**11 50 22.1**	**+0.8**
PB01	**IPOC Station P**	**2.66**	**176**		**Pn**	**11 50 24.0**	**+0.2**
PB02	**IPOC Station P**	**2.93**	**183**		**Pn**	**11 50 28.7**	**+1.3**
PB02	**IPOC Station P**	**2.93**	**183**	*e*P	**Pn**	**11 50 28.5**	**+1.1**
PB02				*i* S	**Sn**	**11 51 03.9**	**+1.6**
PB07	**IPOC Station P**	**3.34**	**183**		**Pn**	**11 50 33.9**	**+1.1**
PB07	**IPOC Station P**	**3.34**	**183**	*e*P	**Pn**	**11 50 33.8**	**+0.9**
PB07				*i* S	**Sn**	**11 51 13.8**	**+1.8**
PB09	**IPOC Station P**	**3.43**	**173**		**Pn**	**11 50 34.7**	**+0.7**
PB09	**IPOC Station P**	**3.43**	**173**	*e*P	**Pn**	**11 50 35.3**	**+1.2**
PB09				*i* S	**Sn**	**11 51 15.9**	**+1.7**
PB09				IAML		11 51 40.8	
	comp=E,229nm,0.3s						
PB03	**IPOC Station P**	**3.65**	**181**		**Pn**	**11 50 37.5**	**+0.5**
PB04	**IPOC Station P**	**3.96**	**186**		**Pn**	**11 50 40.6**	**-0.5**
LVC	**Limon Verde**	**4.28**	**170**		**Pn**	**11 50 46.5**	**+0.9**
PB06	**IPOC Station P**	**4.31**	**178**		**Pn**	**11 50 46.0**	**+0.1**
PB15	**IPOC Station P**	**4.81**	**177**		**Pn**	**11 50 52.6**	**-0.1**
AC01	**Pan de Azucar**	**7.78**	**186**	Pn	**Pn**	**11 51 29.3**	**-3.3**
VILB	**Vilhena**	**10.62**	**61**		**Pn**	**11 52 10.4**	**-1.0**
SAML	**Samuel**	**11.31**	**35**	Pn	**Pn**	**11 52 18.0**	**-2.5**
MT02	**Curacav**	**14.88**	**185**		**Pn**	**11 53 06.8**	**0.0**
TRQA	**Tornquist**	**20.74**	**163**	P	**P**	**11 54 14.8**	**+0.8**
TRQA				IAmb	IAmb	11 54 17.1	
	comp=Z,11nm,1.3s						
PLCA	**Paso Flores**	**22.29**	**182**	P	**P**	**11 54 31.7**	**+1.3**
PLCA				IAmb	IAmb	11 54 34.2	
	comp=Z,8.6nm,1.2s						

*NOU **05** 11:51:07.6,42°.18S×174°.58E,h8km,MLv3.9/8, Off E. Coast of S. Island, N.Z.*

*WEL **05** 11:51:09.6±0.4,42°.5±3°×17°.4E±°,h14km±3km,M3.4/12, ML3.6/12,MLv3.4/12,Error ellipse: s-maj=0.0km s-min=0.0km az=146.6,confirmed*

ISC 05 11:51:09.4±1.0,41°.89S±0°.03×174°.04E±0°.03,h20km±3km, n88,σ1s48/96,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.19**	**42**	P	**Pg**	**11 51 14.7**	**+0.3**
CMWZ				S	**Sg**	**11 51 19.2**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.22**	**325**	P	**Pb**	**11 51 13.7**	**-0.7**
BSWZ				S	**Sb**	**11 51 16.8**	**-0.8**
TUWZ	**Tuamarina**	**0.47**	**351**	P	**Pb**	**11 51 17.8**	**-1.2**
TUWZ				S	**Sg**	**11 51 23.9**	**-1.6**
KHZ	**Kahutara**	**0.64**	**215**	P	**Pn**	**11 51 23.8**	**+0.4**
KHZ	**Kahutara**	**0.64**	**215**	P	**Pn**	**11 51 23.6**	**+0.2**
KHZ				S	**Sn**	**11 51 34.9**	**+1.8**
TCW	**Tory Channel**	**0.70**	**14**	P	**Pb**	**11 51 24.8**	**-1.2**
SNZO	**South Karori**	**0.77**	**41**	P	**Pb**	**11 51 24.0**	**0.0**
WEL	**Wellington**	**0.82**	**42**	P	**Pb**	**11 51 24.9**	**0.0**
WEL				S	**Sn**	**11 51 36.9**	**-0.4**
NNZ	**Nelson**	**0.84**	**323**	P	**Pb**	**11 51 24.3**	**-1.0**
NNZ				S	**Sb**	**11 51 35.0**	**-1.1**
THZ	**Tophouse**	**0.86**	**278**	P	**Pb**	**11 51 25.5**	**-0.2**
THZ				S	**Sb**	**11 51 36.9**	**+0.1**
PLWZ	**Palliser**	**0.96**	**71**	P	**Pb**	**11 51 27.3**	**-0.1**
MRNZ	**Matariki Terra**	**1.08**	**297**	P	**Pn**	**11 51 29.5**	**+0.1**
DUWZ	**D'Urville Isla**	**1.09**	**355**	S	**Sb**	**11 51 42.5**	**-1.1**
TKNZ	**Takaka Hill**	**1.18**	**316**	P	**Pn**	**11 51 30.3**	**-0.6**
GVZ	**Greta Valley S**	**1.31**	**214**	P	**Pb**	**11 51 33.5**	**+0.2**
OGWZ	**Otaki Gorge**	**1.37**	**39**	P	**Pn**	**11 51 33.1**	**-0.3**
OGWZ				S	**Sb**	**11 51 51.3**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.49**	**49**	P	**Pn**	**11 51 34.3**	**-0.8**
LTZ	**Lake Taylor**	**1.58**	**235**	P	**Pb**	**11 51 37.3**	**-0.7**
TMWZ	**Te Maipa**	**1.59**	**61**	P	**Pn**	**11 51 35.4**	**-1.1**
AMCZ	**Amberley**	**1.64**	**218**	P	**Pb**	**11 51 38.2**	**-0.8**
DSZ	**Denniston Nort**	**1.68**	**274**	P	**Pb**	**11 51 39.1**	**-0.6**
MRZ	**Mangatainoka R**	**1.69**	**44**	P	**Pn**	**11 51 37.1**	**-0.7**
TIWZ	**Tintock**	**1.78**	**52**	P	**Pn**	**11 51 38.4**	**-0.7**
OKCZ	**Okains Bay**	**1.97**	**201**	P	**Pn**	**11 51 41.5**	**-0.1**
PRWZ	**Pori Road**	**1.98**	**48**	P	**Pn**	**11 51 40.7**	**-1.1**
POWZ	**Post Office Ro**	**1.99**	**42**	P	**Pn**	**11 51 41.3**	**-0.6**
BFZ	**Birch Farm**	**2.06**	**55**	P	**Pn**	**11 51 41.2**	**-1.6**
BFZ	**Birch Farm**	**2.06**	**55**	P	**Pn**	**11 51 41.3**	**-1.6**
OXZ	**Oxford**	**2.06**	**225**	P	**Pn**	**11 51 42.4**	**-0.5**
MQZ	**McQueen's Vall**	**2.08**	**209**	P	**Pn**	**11 51 42.2**	**-1.0**
INZ	**Inchbonnie**	**2.10**	**246**	P	**Pn**	**11 51 44.8**	**+1.4**
AKCZ	**Akaroa Harbour**	**2.15**	**202**	P	**Pn**	**11 51 44.7**	**+0.6**
WAZ	**Wanganui**	**2.25**	**19**	P	**Pn**	**11 51 47.4**	**+1.8**
RACZ	**Rakaia**	**2.31**	**217**	P	**Pn**	**11 51 45.6**	**-0.6**
LREZ	**Lake Rotokare**	**2.45**	**7**	P	**Pb**	**11 51 51.0**	**-1.7**
MHCZ	**Mount Hutt**	**2.45**	**227**	P	**Pn**	**11 51 48.4**	**+0.1**
NMEZ	**Namu Road**	**2.48**	**357**	P	**Pb**	**11 51 54.1**	**+0.8**
KHEZ	**Kahui Hut**	**2.60**	**360**	P	**Pb**	**11 51 53.9**	**-1.4**
KHEZ	**Kahui Hut**	**2.60**	**360**	P	**Pb**	**11 51 53.7**	**-1.6**
WACZ	**Wakanui South**	**2.61**	**218**	P	**Pn**	**11 51 50.3**	**-0.1**
NEZ	**North Egmont**	**2.62**	**1**	P	**Pb**	**11 51 53.9**	**-1.9**
NBEZ	**Newall Road No**	**2.63**	**357**	P	**Pb**	**11 51 55.3**	**-0.5**
PKE	**Pukeiti**	**2.70**	**359**	P	**Pb**	**11 51 54.9**	**-2.1**
DREZ	**Durham Road**	**2.71**	**3**	P	**Pb**	**11 51 54.7**	**-2.4**
WVZ	**Waitaha Valley**	**2.71**	**243**	P	**Pb**	**11 51 55.3**	**-2.0**
MTVZ	**Mangateitei**	**2.73**	**24**	P	**Pb**	**11 51 55.7**	**-1.9**
PKVZ	**Pokaka**	**2.78**	**21**	P	**Pb**	**11 51 56.1**	**-2.4**
MOVZ	**Moawhango**	**2.80**	**28**	P	**Pb**	**11 51 56.6**	**-2.2**
VRZ	**Vera Road**	**2.82**	**11**	P	**Pn**	**11 51 54.8**	**+1.4**
WNVZ	**Wahianoa**	**2.82**	**25**	P	**Pn**	**11 51 55.2**	**+1.6**
PXZ	**Pawanui**	**2.83**	**50**	P	**Pn**	**11 51 56.2**	**+2.7**
TRVZ	**Turoa**	**2.83**	**24**	P	**Pb**	**11 51 56.8**	**-2.6**
BHHZ	**Black Hill Sta**	**2.85**	**33**	P	**Pb**	**11 51 59.2**	**-0.4**
RPZ	**Rata Peaks**	**2.85**	**229**	P	**Pb**	**11 51 54.7**	**+0.1**
RPZ	**Rata Peaks**	**2.85**	**229**	P	**Pn**	**11 51 54.0**	**+0.1**
DRZ	**Dome Shelter**	**2.86**	**24**	P	**Pb**	**11 51 59.6**	**-0.3**
KRHZ	**Kereru**	**2.86**	**39**	P	**Pb**	**11 52 00.6**	**+0.9**
WHVZ	**Whangaehu Hut**	**2.86**	**25**	P	**Pb**	**11 51 58.1**	**-1.8**
FWVZ	**Far West T-bar**	**2.88**	**24**	P	**Pb**	**11 51 59.0**	**-1.1**
TUVZ	**Tukino**	**2.90**	**26**	P	**Pb**	**11 51 59.8**	**-0.7**
ARCZ	**Arundel**	**2.94**	**225**	P	**Pn**	**11 51 55.0**	**0.0**
NGZ	**Ngauruhoe**	**2.96**	**24**	P	**Pb**	**11 51 59.5**	**-2.1**
SNVZ	**South Ngauruho**	**2.97**	**25**	P	**Pn**	**11 51 57.5**	**+2.0**
OTVZ	**Oturere**	**3.00**	**25**	P	**Pn**	**11 51 57.8**	**+1.9**
NNVZ	**North Ngauruho**	**3.01**	**24**	P	**Pn**	**11 51 57.6**	**+1.5**
TWVZ	**Taurewa**	**3.01**	**21**	P	**Pn**	**11 52 00.1**	**-2.3**
WTVZ	**West Tongariro**	**3.02**	**24**	P	**Pb**	**11 52 01.8**	**-0.7**
ETVZ	**East Tongariro**	**3.03**	**25**	P	**Pb**	**11 52 00.4**	**-2.4**
KRVZ	**Karewarewa**	**3.05**	**24**	P	**Pb**	**11 52 02.0**	**-1.1**
TMVZ	**Te Maari**	**3.05**	**25**	P	**Pn**	**11 51 59.1**	**+2.4**
NTVZ	**North Tongarir**	**3.06**	**25**	P	**Pn**	**11 51 59.7**	**+3.0**
GCSZ	**Gaunt Creek Bo**	**3.09**	**241**	P	**Pb**	**11 52 00.8**	**-2.9**
KATZ	**Katarere**	**3.18**	**24**	P	**Pb**	**11 52 05.0**	**-0.2**
RITZ	**Rihia Road**	**3.23**	**26**	P	**Pb**	**11 52 05.4**	**-0.6**
RATZ	**Rangitukua**	**3.30**	**24**	P	**Pb**	**11 52 07.5**	**+0.3**
BKZ	**Black Stump Fm**	**3.30**	**35**	P	**Pb**	**11 52 06.9**	**-0.4**
TMZ	**Timaru**	**3.34**	**221**	P	**Pn**	**11 52 00.3**	**-0.2**
HIZ	**Hauiti**	**3.43**	**11**	P	**Pn**	**11 52 05.3**	**+3.5**
HIZ	**Hauiti**	**3.43**	**11**	P	**Pn**	**11 52 04.3**	**+2.5**
WATZ	**Wairara**	**3.43**	**23**	P	**Pb**	**11 52 09.0**	**-0.6**
TLZ	**Tolley Road**	**3.74**	**18**	P	**Pn**	**11 52 08.7**	**+2.7**
LBZ	**Lake Benmore**	**3.77**	**227**	P	**Pn**	**11 52 07.2**	**+0.9**
ODZ	**Otahua Downs**	**4.00**	**217**	P	**Pn**	**11 52 09.5**	**-0.1**
ODZ	**Otahua Downs**	**4.00**	**217**	P	**Pn**	**11 52 08.9**	**-0.7**
TOZ	**Tahuroa Road**	**4.31**	**16**	P	**Pn**	**11 52 15.5**	**+1.7**
JCZ	**Jackson Bay**	**4.43**	**239**	P	**Pn**	**11 52 18.1**	**+2.5**
JCZ	**Jackson Bay**	**4.43**	**239**	P	**Pn**	**11 52 18.1**	**+2.5**
MKAZ	**Moumakai**	**4.86**	**11**	P	**Pn**	**11 52 23.7**	**+2.3**

*IDC **05** 11:51:56.8±1.8,36°.85N×144°.57E,h0km,mb3.7/3, mbtmp3.7/5,ML3.4/2,Error ellipse: s-maj=43.5km s-min=26.0km az=65.0*

*JMA **05** 11:51:59.7±0.2,37°.4N±0°.7×14°.4E±°,h67km,MV3.8/25, FAR E OFF NORTH HONSHU*

ISC 05 11:51:59.0±1.3,37°.38N±0°.06×144°.66E±0°.09,h35km,n23, σ2s10/28,mb3.9/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.69**	**291**	P	**Pn**	**11 52 39.5**	**-0.3**
JIKH				S	**Sn**	**11 53 09.1**	**-2.0**
JIO	**Ouri**	**2.83**	**293**	P	**Pn**	**11 52 41.6**	**-0.1**
JIO				S	**Sn**	**11 53 12.8**	**-1.7**
JKMT	**Kesennumamotoy**	**2.89**	**301**	P	**Pn**	**11 52 42.2**	**-0.3**
JKMT				S	**Sn**	**11 53 14.5**	**-1.5**
OFUJ	**Ofunato**	**2.90**	**307**	P	**Pn**	**11 52 42.6**	**-0.1**
OFUJ				S	**Sn**	**11 53 14.7**	**-1.6**
JMK	**Ichinoseki**	**3.13**	**301**	P	**Pn**	**11 52 45.9**	**+0.1**
JMK				S	**Sn**	**11 53 20.7**	**-1.3**
JOM	**Ohasama**	**3.37**	**309**	P	**Pn**	**11 52 49.6**	**+0.6**
JOM				S	**Sn**	**11 53 26.9**	**-1.0**
BSO1	**Boso 1**	**4.04**	**229**	*e*P	**Pn**	**11 52 57.8**	**-0.1**
BSO1				*e*S	**Sn**	**11 53 41.8**	**-1.9**
JRY	**Ryogami san**	**4.82**	**255**	P	**Pn**	**11 53 08.7**	**-0.5**
JRY				S	**Sn**	**11 54 00.5**	**-3.3**
JOD2	**Odawara 2**	**4.97**	**246**	*e*S	**Sn**	**11 54 03.5**	**-4.0**
MJAR	**Matsushiro Arr**	**5.23**	**263**	Pn	**Pn**	**11 53 15.4**	**+0.7**
	0.3nm,0.3s,baz=88,slow=15,SNR=13						
MJAR				Sn	**Sn**	**11 54 14.2**	**+0.3**
	0.3nm,0.3s,baz=52,slow=13,SNR=5.7						
	6.5nm,0.5s						
JCH	**Churui**	**5.32**	**350**	P	**Pn**	**11 53 15.3**	**-0.5**
JCH				*e*S	**Sn**	**11 54 12.0**	**-3.9**
JOSM	**Okushiri--Mats**	**6.16**	**321**	*e*P	**Pn**	**11 53 28.3**	**+0.9**
JTKR	**Abashiri--Toko**	**6.61**	**355**	P	**Pn**	**11 53 32.9**	**-0.7**
JTKR				*e*S	**Sn**	**11 54 42.9**	**-4.7**
ASAJ	**Asahikawa**	**6.91**	**348**	Pn	Pn	11 53 46.3	+8.6
	1.3nm,0.3s,baz=189,slow=12,SNR=8.4						
ASAJ				Sn	**Sn**	**11 54 57.5**	**+2.6**
	baz=234,slow=30						
	4.5nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.18**	**126**	T	T	12 24 35.3	
	baz=317,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hy**	**26.19**	**126**	T	T	12 24 37.8	
	baz=317,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hy**	**26.20**	**126**	T	T	12 24 32.3	
	baz=317,slow=74,SNR=30						
H11S1	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	12 25 27.9	
	baz=315,slow=74,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	12 25 31.9	
	baz=315,slow=74,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**26.97**	**128**	T	T	12 25 52.9	
	baz=315,SNR=0.4						
MKAR	**Makanchi Array**	**46.12**	**302**	P	**P**	**12 00 24.0**	**+4.2**
	0.2nm,0.6s,baz=62,slow=5.9,SNR=2.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**57.84**	**191**	P	**P**	**12 01 45.8**	**-1.3**
	1.2nm,0.5s,baz=11,slow=7.3,SNR=7.1						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**61.56**	**191**	P	**P**	**12 02 12.6**	**-0.2**
	0.4nm,0.4s,baz=8.1,slow=7.1,SNR=9.0						
	0.4nm,0.4s						

IDC 05 11:53:19.6±2.8,30°.47S×177°.30W,h0km,mb3.6/2, mbtmp3.9/4,ML3.6/1,Error ellipse: s-maj=68.5km s-min=33.5km az=112.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.04**	**209**	Pn	Pn	**11 55 31.7**	**+0.5**
	5.8nm,0.8s,baz=94,slow=17,SNR=1.5						
URZ				Sn	Sn	11 57 12.5	-1.1
	0.6nm,0.3s,baz=28,slow=21,SNR=1.6						
RPZ	**Rata Peaks**	**16.13**	**212**	Pn	Pn	**11 57 08.0**	**+0.4**
	0.2nm,0.3s,baz=36,slow=19,SNR=1.6						
RPZ				Sn	Sn	11 59 58.9	-8.3
	0.1nm,0.3s,baz=218,slow=14,SNR=1.1						
	13nm,0.9s						
ASAR	**Alice Springs**	**43.71**	**267**	P	P	12 01 26.3	-0.4
	0.2nm,0.4s,baz=102,slow=7.3,SNR=1.5						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.70**	**272**	P	P	12 01 34.8	+0.1
	0.6nm,0.3s,baz=110,slow=8.1,SNR=18						
	0.6nm,0.3s						
H03S2	**Juan Fernandez**	**79.92**	**123**	T	T	13 35 02.9	
	baz=240						
H03S1	**Juan Fernandez**	**79.93**	**123**	T	T	13 35 07.1	
	baz=240						
H03S3	**Juan Fernandez**	**79.94**	**123**	T	T	13 35 05.5	
	baz=240						
H03N3	**Juan Fernandez**	**80.11**	**123**	T	T	13 35 13.4	
	baz=232						
H03N2	**Juan Fernandez**	**80.11**	**123**	T	T	13 35 18.2	
	baz=232						
H03N1	**Juan Fernandez**	**80.13**	**123**	T	T	13 35 13.8	
	baz=232						
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	PKPbc	12 12 57.7	-1.0
	1.7nm,0.4s,baz=50,slow=4.1,SNR=16						

*SFS **05** 12:17:51.0,36°.33N×4°.55W,h96km,ML3.4/18,MLv3.5/18*

*MDD **05** 12:17:51.4±0.3,36°.35N×4°.56W,h90km±3km,Mb3.3/38, Error ellipse: s-maj=2.3km s-min=1.6km az=167.0*

*CNRM **05** 12:17:51.0,36°.29N×4°.63W,h107km,ml3.3*

*LDG **05** 12:17:51.4±0.2,36°.58N×4°.52W,h71km,Ml

PVAQ					*e*S		Sn	12 19 03.0	-2.0
PVAQ					A		A	12 19 05.2	
	102nm,0.2s								
PVAQ	**Vaqueiros**	**2.74**	**292**		P		Pn	**12 18 33.1**	**+0.6**
PVAQ					S		Sn	**12 19 05.4**	**+0.4**
PVAQ	**Vaqueiros**	**2.74**	**292**		P		Pn	**12 18 32.5**	**+0.1**
PVAQ					S		Sn	**12 19 02.2**	**-2.8**
PVAQ	**Vaqueiros**	**2.74**	**292**		P		Pn	**12 18 33.0**	**+0.6**
PVAQ					S		Sn	**12 19 02.9**	**-2.0**
EMUR	**La Murta**	**3.01**	**60**		P		Pn	**12 18 37.6**	**+1.6**
EMUR					⇑*i*Vmb_V			12 18 45.6	
	186nm,SNR=2.1								
PCVE	**Castro Verde**	**3.06**	**295**		*e*P		Pn	**12 18 37.3**	**+0.6**
PCVE					*e*S		Sn	**12 19 10.6**	**-2.0**
PCVE					A		A	12 19 11.7	
	89nm,0.3s								
PCVE	**Castro Verde**	**3.06**	**295**		P		Pn	**12 18 37.3**	**+0.6**
EBAD	**Badajoz**	**3.06**	**321**		P		Pn	**12 18 37.8**	**+1.0**
EBAD					S		Sn	**12 19 11.1**	**-1.7**
EBAD	**Badajoz**	**3.06**	**321**		P		Pn	**12 18 37.8**	**+1.0**
EBAD					⇑*i*Vmb_V			12 18 38.1	
	10µm,SNR=175								
EBAD					S		Sn	**12 19 11.6**	**-1.2**
CART	**Cartagena**	**3.07**	**66**		P		Pn	**12 18 39.7**	**+2.8**
CART					S		Sn	**12 19 17.4**	**+4.5**
PBEJ	**Beja**	**3.11**	**302**		*e*P		Pn	**12 18 38.3**	**+0.9**
PBEJ					*e*S		Sn	**12 19 11.9**	**-2.0**
PBEJ					A		A	12 19 14.3	
	86nm,0.6s								
PAB	**San Pablo**	**3.15**	**3**		P		Pn	**12 18 38.8**	**+0.8**
PAB					S		Sn	**12 19 13.4**	**-1.5**
PAB	**San Pablo**	**3.15**	**3**		P		Pn	**12 18 38.8**	**+0.8**
PAB					⇑*i*Vmb_V			12 18 39.0	
	665nm,SNR=12								
PAB					S		Sn	**12 19 12.6**	**-2.2**
ETOB	**Tobarra**	**3.27**	**46**		P		Pn	**12 18 40.4**	**+0.9**
ETOB	**Tobarra**	**3.27**	**46**		P		Pn	**12 18 40.5**	**+0.9**
ETOB					⇑*i*Vmb_V			12 18 40.9	
	1µm,SNR=8.7								
ETOB					S		Sn	**12 19 15.4**	**-2.3**
ESDC	**Sonseca Array**	**3.30**	**8**		P		Pn	**12 18 40.9**	**+0.9**
ESDC					⇑*i*Vmb_V			12 18 49.5	
	404nm,SNR=5.3								
ESDC					S		Sn	**12 19 16.1**	**-2.4**
ZHG	**ZHG**	**3.41**	**211**		P		Pn	**12 18 41.1**	**-0.5**
ZHG					S		Sn	**12 19 22.3**	**+1.1**
MORF	**Marmelete**	**3.42**	**287**		*e*P		Pn	**12 18 41.9**	**+0.4**
MORF					*e*S		Sn	**12 19 18.4**	**-3.0**
MORF					IAML			12 19 20.6	
	comp=E,138nm,0.1s								
MORF	**Marmelete**	**3.42**	**287**	⇓	*i*P		Pn	**12 18 42.0**	**+0.4**
MORF					*e*S		Sn	**12 19 18.9**	**-2.4**
MORF					A		A	12 19 20.1	
	comp=E,85nm,0.2s								
PESTR	**Estremoz**	**3.45**	**316**		*e*P		Pn	**12 18 43.1**	**+1.1**
PESTR					*e*S		Sn	**12 19 20.1**	**-2.0**
PESTR					A		A	12 19 23.3	
	comp=E,52nm,0.2s								
PESTR	**Estremoz**	**3.45**	**316**		P		Pn	**12 18 43.4**	**+1.4**
PESTR					S		Sn	**12 19 24.5**	**+2.3**
PESTR	**Estremoz**	**3.45**	**316**		P		Pn	**12 18 42.9**	**+0.8**
PESTR					S		Sn	**12 19 20.4**	**-1.7**
PESTR	**Estremoz**	**3.45**	**316**		P		Pn	**12 18 42.8**	**+0.8**
EVO	**Evora**	**3.49**	**309**		*e*P		Pn	**12 18 43.5**	**+1.1**
EVO					*e*S		Sn	**12 19 21.2**	**-1.7**
EVO					A		A	12 19 22.4	
	comp=E,173nm,0.5s								
PFVI	**Vila Bisbo**	**3.52**	**283**		*e*P		Pn	**12 18 43.1**	**+0.2**
PFVI					*e*S		Sn	**12 19 20.8**	**-2.8**
PFVI					A		A	12 19 24.5	
	comp=E,41nm,0.4s								
PFVI	**Vila Bisbo**	**3.52**	**283**		P		Pn	**12 18 43.2**	**+0.4**
PFVI					S		Sn	**12 19 22.8**	**-0.8**
PFVI	**Vila Bisbo**	**3.52**	**283**		P		Pn	**12 18 43.1**	**+0.2**
PFVI	**Vila Bisbo**	**3.52**	**283**		P		Pn	**12 18 43.1**	**+0.2**
MD31	**MD31**	**3.53**	**183**		P		Pn	**12 18 43.0**	**-0.1**
MD31					S		Sn	**12 19 23.3**	**-0.7**
PTEO	**Sao Teotonio**	**3.54**	**290**		*e*P		Pn	**12 18 44.2**	**+1.1**
PTEO					*e*S		Sn	**12 19 22.3**	**-1.8**
PTEO					A		A	12 19 25.4	
	comp=E,47nm,0.3s								
MDT	**Midelt**	**3.58**	**181**		P		Pn	**12 18 43.8**	**0.0**
MDT					S		Sn	**12 19 23.3**	**-1.9**
MDT	**Midelt**	**3.58**	**181**		P		Pn	**12 18 43.7**	**0.0**
PNCL	**Nicolau / Gran**	**3.61**	**299**		*e*P		Pn	**12 18 44.9**	**+0.8**
PNCL					*e*S		Sn	**12 19 23.6**	**-2.3**
PNCL					A		A	12 19 24.1	
	comp=E,24nm,0.3s								
PNCL	**Nicolau / Gran**	**3.61**	**299**		P		Pn	**12 18 44.7**	**+0.6**
PNCL					S		Sn	**12 19 23.0**	**-2.9**
PMRV	**Marv??o**	**3.77**	**324**	⇓	*e*P		Pn	**12 18 47.4**	**+1.1**
PMRV					*e*S		Sn	**12 19 27.5**	**-2.3**
PMRV					A		A	12 19 41.5	
	comp=E,43nm,0.8s								
EPLA	**Plasencia**	**3.85**	**342**		P		Pn	**12 18 48.7**	**+1.2**
EPLA					⇑*i*Vmb_V			12 18 49.0	
	comp=E,1µm,SNR=14								
EPLA					S		Sn	**12 19 30.4**	**-1.4**
AVE	**Averroes**	**3.89**	**218**		P		Pn	**12 18 47.8**	**-0.1**
AVE					S		Sn	**12 19 30.7**	**-2.0**
AFON	**Font Roja**	**3.90**	**53**		P		Pn	**12 18 49.3**	**+1.2**
AFON					⇑*i*Vmb_V			12 18 51.6	
	comp=E,337nm,SNR=2.4								
AFON					S		Sn	**12 19 30.7**	**-2.4**
PMTG	**Montargil**	**3.95**	**313**	⇓	*e*P		Pn	**12 18 49.3**	**+0.6**
PMTG					*e*S		Sn	**12 19 31.5**	**-2.6**
PMTG					A		A	12 19 46.1	
	comp=E,40nm,0.4s								
EBEN2	**Beniarda presa**	**4.14**	**55**		S		Sn	**12 19 36.5**	**-2.1**
PCBR	**Castelo Branco**	**4.14**	**327**		*e*P		Pn	**12 18 52.5**	**+1.3**
PCBR					*e*S		Sn	**12 19 36.5**	**-2.2**
PCBR					A		A	12 19 40.8	
	comp=E,23nm,0.2s								
GUD	**Guadarrama**	**4.25**	**4**		P		Pn	**12 18 53.7**	**+0.8**
GUD					⇑*i*Vmb_V			12 18 54.2	
	comp=E,156nm,SNR=3.9								
GUD					S		Sn	**12 19 39.3**	**-2.1**
ECHE	**Chera**	**4.26**	**40**		P		Pn	**12 18 53.4**	**+0.6**
ECHE					⇑*i*Vmb_V			12 18 57.1	
	comp=E,365nm,SNR=1.9								
ECHE					S		Sn	**12 19 37.6**	**-3.8**
PMAFR	**Mafra**	**4.55**	**306**		*e*P		Pn	**12 18 58.2**	**+1.5**
PMAFR					*e*S		Sn	**12 19 46.4**	**-2.0**
PMAFR					A		A	12 20 00.7	
	comp=E,49nm,0.4s								
PMAFR	**Mafra**	**4.55**	**306**		P		Pn	**12 18 57.9**	**+1.2**
PSBE	**So Bento**	**4.58**	**314**		*e*P		Pn	**12 18 58.6**	**+1.4**
PSBE					*e*S		Sn	**12 19 47.1**	**-2.2**
PSBE					A		A	12 20 03.4	
	comp=E,34nm,0.4s								
MTE	**Manteigas**	**4.64**	**330**		*e*P		Pn	**12 18 58.8**	**+0.8**
MTE					*e*S		Sn	**12 19 47.5**	**-3.3**
MTE					A		A	12 20 15.8	
	comp=E,38nm,0.6s								
GOLM	**Goulmima**	**4.70**	**184**		P		Pn	**12 18 59.3**	**+0.4**
GOLM					S		Sn	**12 19 54.0**	**+1.7**
PCAS	**Casmilo, Conde**	**4.80**	**321**		*e*P		Pn	**12 19 01.4**	**+1.3**
PCAS					*e*S		Sn	**12 19 52.0**	**-2.5**
PCAS					A		A	12 19 53.2	
	comp=E,30nm,0.4s								
EJUZ	**Juzbado, Salam**	**4.80**	**348**		P		Pn	**12 19 01.6**	**+1.4**
EJUZ					S		Sn	**12 19 52.3**	**-2.3**
ETOR	**Torete**	**4.82**	**23**		P		Pn	**12 19 01.3**	**+0.8**
ETOR					⇑*i*Vmb_V			12 19 04.4	
	comp=E,471nm,SNR=3.8								
ETOR					S		Sn	**12 19 51.5**	**-3.7**
COI	**Coimbra**	**4.87**	**322**		*e*S		Sn	**12 19 53.5**	**-2.8**
FIGM	**Figuig**	**5.05**	**147**		P		Pn	**12 19 05.3**	**+1.7**
FIGM					S		Sn	**12 20 00.6**	**-0.3**
PVIS	**Viseu**	**5.05**	**330**		*e*P		Pn	**12 19 04.8**	**+1.3**
PVIS					*e*S		Sn	**12 19 57.9**	**-2.8**
PVIS					A		A	12 20 11.8	
	comp=E,27nm,0.3s								
EMOS	**Mosqueruela**	**5.09**	**38**		P		Pn	**12 19 05.4**	**+1.2**
EMOS					⇑*i*Vmb_V			12 19 06.7	
	comp=E,385nm,SNR=1.4								
EMOS					S		Sn	**12 19 58.7**	**-3.1**
MVO	**Moncorvo**	**5.14**	**339**		*e*P		Pn	**12 19 06.0**	**+1.2**
MVO					*e*S		Sn	**12 20 00.0**	**-2.9**
MVO					A		A	12 20 31.1	
	comp=E,30nm,0.7s								
PVRL	**Vila Real**	**5.46**	**334**		*e*P		Pn	**12 19 08.9**	**-0.3**
PVRL					*e*S		Sn	**12 20 09.4**	**-1.3**
PVRL					A		A	12 20 14.1	
	comp=E,26nm,0.1s								
POLO	**Lamas de Olo**	**5.58**	**334**		*e*P		Pn	**12 19 12.4**	**+1.6**
POLO					*e*S		Sn	**12 20 11.7**	**-1.9**
POLO					A		A	12 20 49.3	
	comp=E,5.6nm,0.5s								
PBRG	**Braganca**	**5.66**	**343**		*e*P		Pn	**12 19 13.7**	**+1.8**
PBRG					*e*S		Sn	**12 20 13.5**	**-2.1**
PBRG					A		A	12 20 15.2	
	comp=E,9.1nm,1.0s								
TZRR	**Tazzarine**	**5.66**	**189**		P		Pn	**12 19 13.2**	**+1.1**
TZRR	**Tazzarine**	**5.66**	**189**		P		Pn	**12 19 13.1**	**+1.1**
PTO	**Porto**	**5.70**	**327**		*e*P		Pn	**12 19 14.0**	**+1.7**
OUZM	**OUZ**	**5.78**	**199**		P		Pn	**12 19 13.8**	**+0.2**
OUZM					S		Sn	**12 20 20.1**	**+1.5**
ECAL	**Calabor**	**5.79**	**344**		P		Pn	**12 19 15.2**	**+1.5**
ECAL					⇑*i*Vmb_V			12 19 16.3	
	comp=E,215nm,SNR=2.6								
ECAL					S		Sn	**12 20 17.2**	**-1.5**
OUK	**Oukaimeden**	**5.87**	**209**		P		Pn	**12 19 14.6**	**-0.4**
OUK					S		Sn	**12 20 18.8**	**-2.4**
OUK	**Oukaimeden**	**5.87**	**209**		P		Pn	**12 19 14.3**	**-0.7**
ERTA	**Horta de San J**	**5.94**	**38**		S		Sn	**12 20 20.2**	**-2.0**
PCAB	**Cabril**	**5.96**	**334**		*e*P		Pn	**12 19 17.6**	**+1.8**
PCAB					*e*S		Sn	**12 20 20.2**	**-2.5**
PCAB					A		A	12 20 57.1	
	comp=E,13nm,0.4s								
ELOB	**Lobios**	**6.11**	**334**		S		Sn	**12 20 22.9**	**-3.5**
ESAC	**San Caprasio**	**6.19**	**30**		P		Pn	**12 19 20.8**	**+1.8**
ESAC					⇑*i*Vmb_V			12 19 30.0	
	comp=E,432nm,SNR=1.6								
ESAC					S		Sn	**12 20 26.8**	**-1.5**
PGAV	**Gavieira, Arco**	**6.27**	**334**		*e*P		Pn	**12 19 22.0**	**+1.9**
PGAV					*e*S		Sn	**12 20 27.7**	**-2.6**
PGAV					A		A	12 20 33.2	
	comp=E,11nm,0.7s								
EAH	**EAH**	**6.32**	**223**		P		Pn	**12 19 20.9**	**0.0**
EAH					S		Sn	**12 20 31.3**	**-0.3**
EPOB	**Poblet**	**6.61**	**40**		P		Pn	**12 19 25.6**	**+0.9**
EPOB					⇑*i*Vmb_V			12 19 33.1	
	comp=E,146nm,SNR=0.8								
EPOB					S		Sn	**12 20 34.2**	**-4.4**
ELAN	**Lanestosa**	**6.88**	**7**		P		Pn	**12 19 30.4**	**+2.1**
ELAN					⇑*i*Vmb_V			12 19 32.5	
	comp=E,201nm,SNR=2.4								
ELAN					S		Sn	**12 20 40.4**	**-4.6**
EARI	**Arriondas**	**6.91**	**356**		P		Pn	**12 19 30.8**	**+2.0**
EARI					⇑*i*Vmb_V			12 19 37.8	
	comp=E,177nm,SNR=1.3								
EARI					S		Sn	**12 20 42.7**	**-3.2**
EORO	**Oroz-Betelu**	**6.95**	**20**		S		Sn	**12 20 44.1**	**-2.7**
EAGO	**Agolada(Pontev**	**6.96**	**338**		P		Pn	**12 19 31.4**	**+2.0**
EAGO					⇑*i*Vmb_V			12 19 32.1	
	comp=E,373nm,SNR=2.7								
SJPF	**Ste Jean**	**7.18**	**20**		*e*P		Pn	**12 19 33.8**	**+1.4**
SJPF					*e*Sn		Sn	12 20 42.7	-10
ETSF	**Etsaut**	**7.18**	**24**		*e*P		Pn	**12 19 33.7**	**+1.2**
ETSF					*e*Sn		Sn	12 20 43.2	-9.3
	comp=E,3.9nm,0.2s								
EALK	**Alkurruntz**	**7.20**	**18**		P		Pn	**12 19 35.7**	**+3.0**
EALK					⇑*i*Vmb_V			12 19 38.5	
	comp=E,192nm,SNR=1.9								
EALK					S		Sn	**12 20 50.1**	**-2.9**
EPON	**Pontenova**	**7.21**	**345**		P		Pn	**12 19 34.8**	**+2.0**
EPON					⇑*i*Vmb_V			12 19 36.1	
	comp=E,169nm,SNR=1.2								
EPON					S		Sn	**12 20 50.5**	**-2.4**
ECHI	**Chisagues Biel**	**7.25**	**29**		P		Pn	**12 19 34.8**	**+1.4**
ECHI					⇑*i*Vmb_V			12 19 37.0	
	comp=E,147nm,SNR=1.3								
ECHI					S		Sn	**12 20 50.3**	**-3.9**
EMIR	**Miracle**	**7.25**	**39**		S		Sn	**12 20 51.6**	**-2.5**
EMAZ	**Mazaricos**	**7.38**	**334**		P		Pn	**12 19 37.0**	**+1.8**
EMAZ					S		Sn	**12 20 54.4**	**-2.9**
EPF	**Esparros**	**7.62**	**28**		*e*P		Pn	**12 19 40.0**	**+1.6**
EPF					*e*Sn		Sn	12 20 53.4	-10
	comp=E,7.5nm,0.3s								
MTLF	**Montolieu**	**8.66**	**35**		*e*P		Pn	**12 19 54.1**	**+1.6**
MTLF					*e*Sn		Sn	12 21 18.3	-10
	comp=E,2.1nm,0.3s								
LFF	**La Frestale**	**9.43**	**24**		*e*Pn		Pn	**12 19 59.9**	**-3.0**
LFF	**La Frestale**	**9.43**	**24**		*e*P		Pn	**12 20 04.5**	**+1.6**
LFF					*e*Sn		Sn	12 21 37.3	-10
	comp=E,5.9nm,0.4s								
TANT	**Tantan**	**9.77**	**217**		P		Pn	**12 20 07.4**	**-0.3**
TANT					S		Sn	**12 21 55.4**	**-0.1**
CAF	**Calviac**	**9.88**	**28**		*e*P		Pn	**12 20 10.0**	**+0.9**
CAF					*e*Sn		Sn	12 21 48.1	-10
	comp=E,1.5nm,0.3s								
RJF	**Les Rejaudoux**	**10.01**	**25**		*e*P		Pn	**12 20 11.9**	**+1.1**
RJF					*e*Sn		Sn	12 21 50.6	-10
	comp=E,1.7nm,0.2s								
MFF	**Saint Martin d**	**10.71**	**17**		*e*P		Pn	**12 20 24.0**	**+3.6**
MFF					*e*Sn		Sn	12 22 07.1	-11
	comp=E,0.5nm,0.1s								
QUIF	**Quistinic**	**11.55**	**5**		*e*P		Pn	**12 20 33.1**	**+1.4**
QUIF					*e*Sn		Sn	12 22 26.6	-12
	comp=E,2.0nm,0.3s								
SGMF	**Saint Gilles**	**11.94**	**6**		*e*P		Pn	**12 20 38.8**	**+2.0**
SGMF					*e*Sn		Sn	12 22 37.0	-11
	comp=E,0.7nm,0.3s								
ROSF	**Rostrenen**	**11.97**	**4**		*e*P		Pn	**12 20 39.6**	**+2.4**
ROSF					*e*Sn		Sn	12 22 37.3	-11
	comp=E,1.4nm,0.3s								
GRR	**Gorron**	**12.29**	**12**		*e*P		Pn	**12 20 43.7**	**+2.3**
GRR					*e*Sn		Sn	12 22 44.2	-12
	comp=E,1.5nm,0.3s								
LDF	**La Druitiere**	**12.61**	**14**		*e*P		Pn	**12 20 47.5**	**+1.8**
LDF					*e*Sn		Sn	12 22 51.7	-13
	comp=E,1.1nm,0.3s								
FLN	**La Foliniere**	**12.71**	**12**		*e*P		Pn	**12 20 50.3**	**+3.3**
FLN					*e*Sn		Sn	12 22 54.1	-13
	comp=E,0.5nm,0.2s								

IDC 05 12:23:55.8±1.3, 18°46S×176°03E, h0km, mb3.8/4, mbtmp3.8/5, ML4.7/1, MS3.6/1, Error ellipse: s-maj=74.2km s-min=21.9km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.05**	**70**	Pn	Pn	12 24 30.6	-1.1
	14nm,0.3s,baz=249,slow=18,SNR=12						
MSVF				Sn	Sn	12 24 55.0	-3.1
	24nm,0.3s,baz=297,slow=23,SNR=12						
	26nm,0.4s						
DZM	**Mont Dzumac**	**9.69**	**247**	*e*LR	LR	12 28 12.5	
	comp=Z,187nm,25.1s						
TBI	**Tubuai**	**32.55**	**105**	*e*LR	LR	12 38 48.6	
	comp=Z,391nm,29.8s						
TBI				*e*LR	LR	12 38 48.8	
	comp=Z,2µm,26.2s						
PPT2	**Papeete2**	**32.69**	**94**	*e*LR	LR	12 38 56.2	
	comp=Z,84nm,26.0s						
STKA	**Stephens Creek**	**33.76**	**240**	P	P	12 30 40.5	+1.1
	3.3nm,0.6s,baz=67,slow=7.7,SNR=5.2						
STKA				LR	LR	12 43 22.4	
	comp=Z,104nm,19.4s,baz=19,slow=35						
	3.3nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**37.84**	**345**	T	T	13 11 54.3	
	baz=162						
H11S3	**WAKE ISLAND Hy**	**37.85**	**345**	T	T	13 12 11.2	
	baz=162						
H11S1	**WAKE ISLAND Hy**	**37.86**	**345**	T	T	13 12 04.5	
	baz=162						
WRA	**Warramunga Arr**	**39.33**	**261**	P	P	12 31 25.8	-1.3
	0.5nm,0.7s,baz=98,slow=7.3,SNR=6.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**39.55**	**255**	P	P	12 31 28.6	-0.3
	1.4nm,0.7s,baz=86,slow=9.2,SNR=14						
	1.4nm,0.7s						
PDAR	**Pinedale Array**	**91.44**	**45**	P	P	12 37 05.6	+1.2
	0.2nm,0.6s,baz=226,slow=4.8,SNR=2.1						
	0.2nm,0.6s						

*IDC **05** 12:26:54.8±0.8, 10°74S×162°02E, h38km±6km, mb3.6/9, mbtmp4.0/12, ML4.3/2, MS3.2/8, Error ellipse: s-maj=19.9km s-min=18.4km az=90.0*
*NOU **05** 12:26:58.4, 10°77S×162°04E, h55km, mb4.9/26, Solomon Islands*
ISC 05 12:26:55.5±0.6, 10°71S±0°07×162°09E±0°08, h35km, n40, σ1891/39, mb4.0/10, MS3.1/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**301**	Pn	Pn	**12 27 33.8**	**+0.7**
	2µm,0.3s,baz=170,slow=1.0,SNR=89						
HNR				Sn	Sn	**12 28 02.6**	**+0.6**
	2µm,0.3s,baz=103,slow=11,SNR=4.4						
HNR				LR	LR	12 28 41.0	
	comp=Z,9µm,18.1s,baz=168,slow=44						
HNR	**Honiara**	**2.46**	**301**	P	Pn	**12 27 35.6**	**+2.5**
DVP	**Devils Point**	**9.14**	**140**	P	Pn	**12 29 07.1**	**+2.1**
RTV	**Rentapao**	**9.34**	**140**	P	Pn	**12 29 11.2**	**+3.5**
KOUNC	**Koumac, New Ca**	**10.01**	**168**	P	Pn	**12 29 17.9**	**+1.0**
LIFNC	**LIFOU**	**11.17**	**154**	P	Pn	**12 29 33.5**	**+0.8**
DZM	**Mont Dzumac**	**12.04**	**160**	Pn	Pn	**12 29 44.8**	**0.0**
	2.2nm,0.3s,baz=336,slow=20,SNR=230						
DZM				Sn	Sn	**12 31 54.8**	**-3.2**
	0.5nm,0.3s,baz=274,slow=23,SNR=1.9						
DZM				LR	LR	12 33 32.5	
	comp=Z,149nm,18.2s,baz=7.0,slow=33						
	6.7nm,0.3s						
DZM	**Mont Dzumac**	**12.04**	**160**	P	Pn	**12 29 47.8**	**+3.0**
MARNC	**Mare, Loyalty**	**12.13**	**153**	P	Pn	**12 29 49.3**	**+3.4**
YATNC	**Mamie plateau,**	**12.19**	**158**	P	Pn	**12 29 47.3**	**+0.6**
ONTNC	**Ouen Toro**	**12.27**	**161**	P	Pn	**12 29 51.2**	**+3.4**
OUENC	**Ouen Island, N**	**12.50**	**159**	P	Pn	**12 29 54.4**	**+3.4**
PMG	**Port Moresby**	**14.76**	**274**	Pn	Pn	**12 30 21.3**	**-0.5**
	7.1nm,0.9s,baz=151,slow=9.6,SNR=2.2						
PMG				LR	LR	12 35 46.9	
	comp=Z,203nm,18.8s,baz=90,slow=36						
RK1H	**Rockhampton Ha**	**16.77**	**220**	P	Pn	**12 30 49.3**	**+1.5**
MSVF	**Nonsavu**	**16.97**	**116**	LR	LR	12 35 25.7	
	comp=Z,85nm,21.4s,baz=13,slow=30						
PATS	**Pohnpei**	**17.83**	**348**	P	P	**12 31 04.2**	**+2.8**
CTA	**Charters Tower**	**17.87**	**237**	P	Pn	**12 31 01.2**	**-0.3**
	0.7nm,0.3s,baz=60,slow=13,SNR=10						
	3.8nm,0.5s						
CTAO	**Charters Tower**	**17.87**	**237**	P	P	**12 31 03.9**	**+2.0**
INKA	**Innaminka**	**26.25**	**227**	P	P	**12 32 27.6**	**+0.1**
WRAB	**Tennant Creek**	**28.24**	**248**	P	P	**12 32 44.6**	**-0.9**
WRA	**Warramunga Arr**	**28.25**	**248**	P	P	**12 32 43.0**	**-2.6**
	0.5nm,0.4s,baz=77,slow=9.0,SNR=12						
WRA				LR	LR	12 43 03.5	
	comp=Z,118nm,19.0s,baz=74,slow=34						
	0.5nm,0.4s						
GUMO	**Guam**	**29.57**	**324**	LR	LR	12 43 57.6	
	comp=Z,50nm,20.2s,baz=118,slow=35						
LCRK	**Leigh Creek**	**29.63**	**225**	P	P	**12 32 59.4**	**+1.7**
ASAR	**Alice Springs**	**29.78**	**241**	P	P	**12 32 56.2**	**-2.9**
	0.3nm,0.4s,baz=64,slow=10,SNR=6.7						
	0.3nm,0.4s						
MTN	**Manton Dam**	**30.37**	**263**	P	P	**12 33 05.6**	**+1.2**
BKZ	**Black Stump Fm**	**31.11**	**158**	P	P	**12 33 12.4**	**+1.6**
BBOO	**Buckleboo**	**32.51**	**223**	P	P	**12 33 21.5**	**-0.6**
MULG	**Mulgathing**	**32.53**	**229**	P	P	**12 33 21.9**	**-1.4**
KNRA	**Kununurra**	**32.80**	**258**	P	P	**12 33 24.7**	**-1.0**
JOW	**Kunigami**	**49.70**	**319**	LR	LR	12 53 54.4	
	comp=Z,19nm,21.6s,baz=182,slow=33						
JNU	**Nakatsue**	**52.77**	**327**	LR	LR	12 56 35.0	
	comp=Z,22nm,19.6s,baz=182,slow=34						
KSRS	**Korea Array**	**57.63**	**328**	LR	LR	12 58 38.3	
	comp=Z,7.2nm,20.3s,baz=310,slow=33						
USRK	**Ussuriysk Ar.**	**61.10**	**336**	pP	pP	12 37 17.6	+0.7
	4.0nm,0.8s,baz=155,slow=7.5,SNR=4.2						
VNDA	**Vanda**	**66.80**	**180**	P	P	**12 37 42.6**	**-0.4**
	2.4nm,0.7s,baz=340,slow=7.1,SNR=9.3						
	2.4nm,0.7s						
SONM	**Songino Array**	**76.30**	**325**	P	P	**12 38 40.1**	**-0.8**
	0.5nm,0.7s,baz=154,slow=4.9,SNR=4.2						
SONM				pP	pP	**12 38 51.5**	**-0.5**
	1.3nm,0.6s,baz=146,slow=6.0,SNR=9.1						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**79.29**	**180**	P	P	**12 38 56.5**	**-0.8**
	0.7nm,0.5s,baz=76,slow=10,SNR=2.8						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**84.37**	**20**	P	P	**12 39 22.2**	**-1.5**
	0.3nm,0.4s,baz=241,slow=5.3,SNR=7.4						
ILAR				pP	pP	**12 39 35.5**	**+0.5**
	0.8nm,0.6s,baz=250,slow=4.8,SNR=6.4						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**88.57**	**51**	P	P	**12 39 44.6**	**-0.6**
	0.2nm,0.4s,baz=234,slow=5.4,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**90.83**	**317**	P	P	**12 39 53.6**	**-1.7**
	0.2nm,0.5s,baz=95,slow=5.7,SNR=4.5						
MKAR				pP	pP	**12 40 05.2**	**-1

PACA					*e*S		**Sn**	**13 02 02.7**	**-0.4**
PACA	**Pacayal**	**1.81**	**25**	*e*P			**Pn**	**13 01 41.1**	**-0.1**
JAYA	**Jayaque - finc**	**1.86**	**350**	*e*P			**Pn**	**13 01 41.9**	**0.0**
JAYA					IAML			13 02 10.8	
	comp=Z,700nm,0.2s								
PQSS	**Presa 15 de Se**	**1.88**	**16**	*e*P			**Pn**	**13 01 42.1**	**+0.1**
PAVA	**Las Pavas**	**1.89**	**5**	*e*P			**Pn**	**13 01 42.2**	**-0.2**
LCND	**La Caada**	**1.90**	**39**	*e*P			**Pn**	**13 01 42.0**	**-0.3**
CNCH	**Conchagua**	**1.91**	**40**	*e*P			**Pn**	**13 01 42.5**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.91**	**11**	*e*P			**Pn**	**13 01 42.5**	**0.0**
BOQS	**Boqueron**	**1.92**	**355**	*e*P			**Pn**	**13 01 42.4**	**-0.3**
LFU	**La Fuente**	**1.92**	**360**	*e*P			**Pn**	**13 01 42.2**	**-0.5**
CEVE	**Cerro Verde**	**2.06**	**346**	*e*P			Pn	13 01 45.4	+0.6
CEVE					IAML			13 02 12.0	
	comp=Z,899nm,0.4s								
FAGO	**Alcalda de S**	**2.11**	**27**	||*e*P		**Pn**	**13 01 45.3**	**+0.1**
CAHU	**Cacacuatique**	**2.13**	**24**	*e*P			**Pn**	**13 01 46.0**	**+0.4**
RTR	**El Retiro**	**2.13**	**346**	*e*P			Pn	13 01 46.4	+0.7
NUBE	**Las Nubes**	**2.17**	**343**	*e*P			**Pn**	**13 01 46.5**	**+0.2**
P5NO	**Presa 5 de nov**	**2.18**	**9**	*e*P			**Pn**	**13 01 46.9**	**+0.6**
CRIN	**San Cristobal**	**2.19**	**66**	*e*P			**Pn**	**13 01 46.7**	**+0.3**
CNGN	**Cerro Negro**	**2.45**	**74**	*e*P			**Pn**	**13 01 49.9**	**-0.1**
MOMN	**Momotombo**	**2.58**	**77**	*e*P			**Pn**	**13 01 51.6**	**-0.1**
MTO3	**Montecristo**	**2.58**	**355**	*e*P			Pn	13 01 52.5	+0.6
ESQI	**Esquipulas**	**2.74**	**355**	*e*P			Pn	13 01 55.1	+1.1
TGUH	**Tegucigalpa,Un**	**2.86**	**39**	*e*P			**Pn**	**13 01 56.0**	**+0.4**

IDC 05 13:11:40.0±3.9, 19°62S×176°37E, h0km, mb3.8/3, mbtmp3.8/3, MS3.2/3, Error ellipse: s-maj=190.4km s-min=41.0km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
MSVF	**Nonsavu**	**2.46**	**41**	LR		LR	13 13 10.1			
	comp=Z,128nm,19.3s,baz=161,slow=37									
CTA	**Charters Tower**	**28.31**	**264**	LR		LR	13 27 27.3			
	comp=Z,34nm,18.7s,baz=86,slow=34									
WRA	**Warramunga Arr**	**39.48**	**262**	P		P	13 19 12.2			-0.4
	0.6nm,0.8s,baz=96,slow=8.4,SNR=2.5									
	0.6nm,0.8s									
ASAR	**Alice Springs**	**39.57**	**256**	P		P	13 19 13.2			-0.2
	2.4nm,0.8s,baz=91,slow=8.9,SNR=20									
ASAR				PcP		PcP	13 21 21.3			+0.5
	0.5nm,0.9s,baz=110,slow=3.3,SNR=2.6									
	2.4nm,0.8s									
ILAR	**Eielson Array**	**88.73**	**15**	P		P	13 24 34.6			-0.4
	0.4nm,0.8s,baz=230,slow=5.6,SNR=2.7									
	0.4nm,0.8s									
SNAA	**Sanae**	**88.95**	**180**	LR		LR	14 01 50.0			
	comp=Z,37nm,18.4s,baz=6.0,slow=34									

*BUC **05** 13:16:09.8±0.2, 45°.63N×26°.51E, h141km±1km, ml3.8/44, Error ellipse: s-maj=1.6km s-min=1.2km az=174.0*
*MCSM **05** 13:16:09.3±0.9, 46°.8°×.2°.7E±°, h141km±8km, ML3.5*
*SOF **05** 13:16:11.1, 45°.65N×26°.40E, h80km, MD3.3*

ISC 05 13:16:08.8±1.3, 45°.67N±0°.03×26°.52E±0°.02, h150km±5km, n150, σ0s57/210, 126C-51D, Romania

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
BISRR	**Bisoca**	**0.18**	**132**	||P		**Pn**	**13 16 29.7**		**+0.6**
BISRR	**Bisoca**	**0.18**	**132**	||P		**Pn**	**13 16 29.7**		**+0.6**
PLOR	**Plostina**	**0.20**	**26**	↑P			**Pn**	**13 16 29.3**		**+0.2**
PLOR				↑S			**Sn**	**13 16 43.7**		**-0.9**
PLOR	**Plostina**	**0.20**	**26**	↑P			**Pn**	**13 16 29.3**		**+0.2**
PLOR				↑S			**Sn**	**13 16 43.7**		**-0.9**
PLOR	**Plostina**	**0.20**	**26**	P			**Pn**	**13 16 29.1**		**0.0**
VRI	**Vrincioaia**	**0.25**	**36**	↑P			**Pn**	**13 16 29.4**		**+0.3**
VRI				↑S			**Sn**	**13 16 44.0**		**-0.7**
VRI	**Vrincioaia**	**0.25**	**36**	↑P			**Pn**	**13 16 29.4**		**+0.3**
VRI				↑S			**Sn**	**13 16 44.0**		**-0.7**
VRI	**Vrincioaia**	**0.25**	**36**	P			**Pn**	**13 16 29.4**		**+0.3**
COVR	**Voineasa-Covas**	**0.28**	**309**	↑P			**Pn**	**13 16 29.3**		**+0.1**
COVR				↑S			**Sn**	**13 16 44.3**		**-0.5**
COVR	**Voineasa-Covas**	**0.28**	**309**	↑P			**Pn**	**13 16 29.3**		**+0.1**
COVR				↑S			**Sn**	**13 16 44.3**		**-0.5**
NEHR	**Nehoiu**	**0.29**	**213**	||P		**Pn**	**13 16 29.9**		**+0.6**
NEHR				||S		**Sn**	**13 16 45.0**		**+0.1**
NEHR	**Nehoiu**	**0.29**	**213**	||P		**Pn**	**13 16 29.9**		**+0.6**
NEHR				||S		**Sn**	**13 16 45.0**		**+0.1**
GRER		**0.43**	**132**	↑S			**Sn**	**13 16 45.4**		**-0.3**
GRER		**0.43**	**132**	↑S			**Sn**	**13 16 45.4**		**-0.3**
MLR	**Muntele Rosu**	**0.44**	**246**	↑P			**Pn**	**13 16 30.4**		**+0.4**
MLR				||S		**Sn**	**13 16 45.5**		**-0.6**
MLR	**Muntele Rosu**	**0.44**	**246**	↑P			**Pn**	**13 16 30.4**		**+0.4**
MLR				||S		**Sn**	**13 16 45.5**		**-0.6**
MLR	**Muntele Rosu**	**0.44**	**246**	P			**Pn**	**13 16 30.7**		**+0.3**
PANC	**Panciu**	**0.48**	**65**	↑P			**Pn**	**13 16 30.6**		**+0.7**
PANC				↑S			**Sn**	**13 16 46.2**		**+0.1**
PANC	**Panciu**	**0.48**	**65**	↑P			**Pn**	**13 16 30.6**		**+0.7**
PANC				↑S			**Sn**	**13 16 46.2**		**+0.1**
ISR	**Istrita**	**0.55**	**178**	↑P			**Pn**	**13 16 31.2**		**+0.7**
ISR				↑S			**Sn**	**13 16 45.3**		**-1.6**
ISR	**Istrita**	**0.55**	**178**	↑P			**Pn**	**13 16 31.2**		**+0.7**
ISR				↑S			**Sn**	**13 16 45.3**		**-1.6**
OZUR		**0.67**	**310**	↑P			**Pn**	**13 16 31.0**		**-0.1**
OZUR		**0.67**	**310**	↑P			**Pn**	**13 16 31.0**		**-0.1**
SECR		**0.71**	**207**	↑P			**Pn**	**13 16 31.6**		**+0.2**
SECR				↑S			**Sn**	**13 16 48.0**		**-0.4**
SECR		**0.71**	**207**	↑P			**Pn**	**13 16 31.6**		**+0.2**
SECR				↑S			**Sn**	**13 16 48.0**		**-0.4**
GHRR		**0.73**	**57**	↑P			**Pn**	**13 16 32.1**		**+0.7**
GHRR				↑S			**Sn**	**13 16 49.1**		**+0.3**
GHRR		**0.73**	**57**	↑P			**Pn**	**13 16 32.1**		**+0.7**
GHRR				↑S			**Sn**	**13 16 49.1**		**+0.3**
TUDR		**0.81**	**95**	↑P			**Pn**	**13 16 32.3**		**+0.4**
TUDR				||S		**Sn**	**13 16 50.0**		**+0.4**
TUDR		**0.81**	**95**	↑P			**Pn**	**13 16 32.3**		**+0.4**
TUDR				||S		**Sn**	**13 16 50.0**		**+0.4**
PGOR	**Pogoanele**	**0.83**	**156**	↑S			**Sn**	**13 16 49.9**		**0.0**
PGOR	**Pogoanele**	**0.83**	**156**	↑S			**Sn**	**13 16 49.9**		**0.0**
PLAR	**PLOIESTI**	**0.83**	**205**	↑P			**Pn**	**13 16 32.9**		**+0.7**
PLAR	**PLOIESTI**	**0.83**	**205**	↑P			**Pn**	**13 16 32.9**		**+0.7**
DOPR	**Dopca**	**0.84**	**291**	↑P			**Pn**	**13 16 32.6**		**+0.3**
DOPR				||S		**Sn**	**13 16 49.6**		**-0.6**
DOPR	**Dopca**	**0.84**	**291**	↑P			**Pn**	**13 16 32.6**		**+0.3**
DOPR				||S		**Sn**	**13 16 49.6**		**-0.6**
TESR	**Tescani**	**0.85**	**6**	↑P			**Pn**	**13 16 32.2**		**-0.1**
TESR	**Tescani**	**0.85**	**6**	↑P			**Pn**	**13 16 32.2**		**-0.1**
TESR	**Tescani**	**0.85**	**6**	P			**Pn**	**13 16 32.2**		**-0.1**
SLCR	**Slobozia Conac**	**0.88**	**95**	↑S			**Sn**	**13 16 50.0**		**-0.5**
SLCR	**Slobozia Conac**	**0.88**	**95**	↑S			**Sn**	**13 16 50.0**		**-0.5**
IZVR	**Izvoarele**	**0.89**	**98**	↑P			**Pn**	**13 16 32.9**		**+0.4**
IZVR				||S		**Sn**	**13 16 50.1**		**-0.5**
IZVR	**Izvoarele**	**0.89**	**98**	↑P			**Pn**	**13 16 32.9**		**+0.4**
IZVR				||S		**Sn**	**13 16 50.1**		**-0.5**
SCHL	**Schela**	**0.94**	**100**	↑S			**Sn**	**13 16 50.8**		**-0.5**
SCHL	**Schela**	**0.94**	**100**	↑S			**Sn**	**13 16 50.8**		**-0.5**
BIR	**Birlad**	**0.98**	**52**	↑P			**Pn**	**13 16 33.9**		**+0.6**
BIR				↑S			**Sn**	**13 16 51.4**		**-0.7**
BIR	**Birlad**	**0.98**	**52**	↑P			**Pn**	**13 16 33.9**		**+0.6**
BIR				↑S			**Sn**	**13 16 51.4**		**-0.7**
SULR		**1.01**	**191**	||P		**Pn**	**13 16 34.0**		**+0.5**
SULR		**1.01**	**191**	||P		**Pn**	**13 16 34.0**		**+0.5**
SCTR	**Scanteiesti**	**1.03**	**89**	↑P			**Pn**	**13 16 34.6**		**+0.8**
SCTR				↑S			**Sn**	**13 16 52.8**		**-0.1**
SCTR	**Scanteiesti**	**1.03**	**89**	↑P			**Pn**	**13 16 34.6**		**+0.8**
SCTR				↑S			**Sn**	**13 16 52.8**		**-0.1**
VOIR		**1.06**	**258**	↑P			**Pn**	**13 16 34.2**		**0.0**
VOIR				↑S			**Sn**	**13 16 52.9**		**-0.4**
VOIR		**1.06**	**258**	↑P			**Pn**	**13 16 34.2**		**0.0**
VOIR				↑S			**Sn**	**13 16 52.9**		**-0.4**
VOIR		**1.06**	**258**	P			**Pn**	**13 16 34.1**		**0.0**
TATR	**Tatarca**	**1.08**	**93**	||P		**Pn**	**13 16 34.3**		**+0.1**
TATR				↑S			**Sn**	**13 16 53.3**		**-0.1**
TATR	**Tatarca**	**1.08**	**93**	||P		**Pn**	**13 16 34.3**		**+0.1**
TATR				↑S			**Sn**	**13 16 53.3**		**-0.1**
GISR	**Galati**	**1.10**	**101**	↑S			**Sn**	**13 16 53.8**		**-0.1**
GISR	**Galati**	**1.10**	**101**	↑S			**Sn**	**13 16 53.8**		**-0.1**
VLDR	**Vladesti**	**1.11**	**80**	↑P			**Pn**	**13 16 35.0**		**+0.6**
VLDR				↑S			**Sn**	**13 16 53.6**		**-0.4**
VLDR	**Vladesti**	**1.11**	**80**	↑P			**Pn**	**13 16 35.0**		**+0.6**
VLDR				↑S			**Sn**	**13 16 53.6**		**-0.4**
GIUM	**Giurgiulesti**	**1.20**	**98**	↑P			**Pn**	**13 16 35.8**		**+0.5**
GIUM				↑S			**Sn**	**13 16 55.6**		**+0.1**
GIUM	**Giurgiulesti**	**1.20**	**98**	↑P			**Pn**	**13 16 35.8**		**+0.5**
GIUM				↑S			**Sn**	**13 16 55.6**		**+0.1**
AMRR	**Amara**	**1.21**	**151**	↑S			**Sn**	**13 16 55.9**		**+0.3**
AMRR	**Amara**	**1.21**	**151**	↑S			**Sn**	**13 16 55.9**		**+0.3**
LEHL	**Lehliu**	**1.21**	**170**	||S		**Sn**	**13 16 56.4**		**+0.6**
LEHL	**Lehliu**	**1.21**	**170**	||S		**Sn**	**13 16 56.4**		**+0.6**
CFR	**Carcaliu**	**1.24**	**113**	↑P			**Pn**	**13 16 35.8**		**+0.1**
CFR				||S		**Sn**	**13 16 55.5**		**-0.6**
CFR	**Carcaliu**	**1.24**	**113**	↑P			**Pn**	**13 16 35.8**		**+0.1**
CFR				||S		**Sn**	**13 16 55.5**		**-0.6**
INCR	**INCERC-Sediu C**	**1.25**	**192**	↑S			**Sn**	**13 16 56.6**		**+0.2**
INCR	**INCERC-Sediu C**	**1.25**	**192**	↑S			**Sn**	**13 16 56.6**		**+0.2**
BIZ	**Bicaz**	**1.30**	**347**	||S		**Sn**	**13 16 57.5**		**+0.1**
BIZ	**Bicaz**	**1.30**	**347**	||S		**Sn**	**13 16 57.5**		**+0.1**
VASR	**Vaslui**	**1.31**	**42**	↑P			**Pn**	**13 16 36.8**		**+0.4**
VASR	**Vaslui**	**1.31**	**42**	↑P			**Pn**	**13 16 36.8**		**+0.4**
ARR	**Arges**	**1.36**	**258**	||S		**Sn**	**13 16 58.6**		**+0.2**
ARR	**Arges**	**1.36**	**258**	||S		**Sn**	**13 16 58.6**		**+0.2**
HARR	**Harsova**	**1.40**	**134**	||P		**Pn**	**13 16 37.8**		**+0.6**
HARR	**Harsova**	**1.40**	**134**	||P		**Pn**	**13 16 37.8**		**+0.6**
SGRR	**Singureni**	**1.50**	**195**	↑S			**Sn**	**13 17 00.1**		**-0.7**
SGRR	**Singureni**	**1.50**	**195**	↑S			**Sn**	**13 17 00.1**		**-0.7**
RASA	**Rasa**	**1.52**	**163**	||S		**Sn**	**13 17 00.9**		**-0.3**
RASA	**Rasa**	**1.52**	**163**	||S		**Sn**	**13 17 00.9**		**-0.3**
TLBR	**Topalu**	**1.56**	**136**	↑P			**Pn**	**13 16 39.5**		**+0.6**
TLBR				↑S			**Sn**	**13 17 01.0**		**-1.0**
TLBR	**Topalu**	**1.56**	**136**	↑P			**Pn**	**13 16 39.5**		**+0.6**
TLBR				↑S			**Sn**	**13 17 01.0**		**-1.0**
TPGR	**Topolog**	**1.57**	**120**	↑P			**Pn**	**13 16 39.4**		**+0.3**
TPGR				↑S			**Sn**	**13 17 01.3**		**-0.9**
TPGR	**Topolog**	**1.57**	**120**	↑P			**Pn**	**13 16 39.4**		**+0.3**
TPGR				↑S			**Sn**	**13 17 01.3**		**-0.9**
HUMR	**Humele**	**1.58**	**224**	||P		**Pn**	**13 16 39.4**		**+0.3**
HUMR				↑S			**Sn**	**13 17 01.8**		**-0.5**
HUMR	**Humele**	**1.58**	**224**	||P		**Pn**	**13 16 39.4**		**+0.3**
HUMR				↑S			**Sn**	**13 17 01.8**		**-0.5**
HUMR	**Humele**	**1.58**	**224**	P			**Pn**	**13 16 39.2**		**+0.1**
TLCR		**1.69**	**106**	↑P			**Pn**	**13 16 41.1**		**+0.8**
TLCR				↑S			**Sn**	**13 17 04.3**		**-0.1**
TLCR		**1.69**	**106**	↑P			**Pn**	**13 16 41.1**		**+0.8**
TLCR				↑S			**Sn**	**13 17 04.3**		**-0.1**
COPA	**Copaceanca**	**1.79**	**212**	||P		**Pn**	**13 16 41.8**		**+0.3**
COPA				↑S			**Sn**	**13 17 06.0**		**-0.5**
COPA	**Copaceanca**	**1.79**	**212**	||P		**Pn**	**13 16 41.8**		**+0.3**
COPA				↑S			**Sn**	**13 17 06.0**		**-0.5**
ICOR	**Ion Corvin**	**1.80**	**149**	||P		**Pn**	**13 16 42.2**		**+0.6**
ICOR				↑S			**Sn**	**13 17 06.0**		**-0.7**
ICOR	**Ion Corvin**	**1.80**	**149**	||P		**Pn**	**13 16 42.2**		**+0.6**
ICOR				↑S			**Sn**	**13 17 06.0**		**-0.7**
TIRR	**Tirgusor**	**1.81**	**131**	↑P			**Pn**	**13 16 42.2**		**+0.5**
TIRR				↑S			**Sn**	**13 17 06.1**		**-0.6**
TIRR	**Tirgusor**	**1.81**	**131**	↑P			**Pn**	**13 16 42.2**		**+0.5**
TIRR				↑S			**Sn**	**13 17 06.1**		**-0.6**
JURR	**Jurilovca**	**1.90**	**118**	||P		**Pn**	**13 16 43.0**		**+0.4**
JURR	**Jurilovca**	**1.90**	**118**	||P		**Pn**	**13 16 43.0**		**+0.4**
LOT	**Lotru**	**1.94**	**264**	||S		**Sn**	**13 17 10.2**		**+0.4**
LOT	**Lotru**	**1.94**	**264**	||S		**Sn**	**13 17 10.2**		**+0.4**
MILM	**Milestii Mici**	**2.02**	**51**	||*i*P		**Pn**	**13 16 45.4**		**+1.3**
MILM	25nm,0.2s									
	110nm,0.3s				*i*	S	**Sn**	**13 17 10.5**		**-0.8**
MILM	**Milestii Mici**	**2.02**	**51**	↑P			**Pn**	**13 16 45.4**		**+1.3**
MILM	**Milestii Mici**	**2.02**	**51**	↑P			**Pn**	**13 16 45.4**		**+1.3**
RIS	**Kishinev**	**2.08**	**49**	*e*S			**Sn**	**13 17 11.0**		**-1.4**
	150nm,0.5s									
RAZG	**Razgrad**	**2.10**	**180**	↑S			**Sn**	**13 17 12.4**		**-0.6**
RAZG	**Razgrad**	**2.10**	**180**	↑S			**Sn**	**13 17 12.4**		**-0.6**
BURAR	**Bucovina Array**	**2.14**	**336**	↑P			**Pn**	**13 16 47.4**		**+1.8**
BURAR	**Bucovina Array**	**2.14**	**336**	↑P			**Pn**	**13 16 47.4**		**+1.8**
ZIMR		**2.17**	**203**	↑S			**Sn**	**13 17 13.3**		**-1.1**
ZIMR		**2.17**	**203**	↑S			**Sn**	**13 17 13.3**		**-1.1**
MANR	**Mangalia**	**2.37**	**141**	↑S			**Sn**	**13 17 18.2**		**-0.4**
MANR	**Mangalia**	**2.37**	**141**	↑S			**Sn**	**13 17 18.2**		**-0.4**
SZH	**Strazhica**	**2.44**	**190**	*i*P			**Pn**	**13 16 49.3**		**+0.2**
PRD	**Provadia**	**2.55**	**165**	*i*P			**Pn**	**13 16 50.8**		**+0.4**
SRE	**Strehaia**	**2.55**	**248**	||P		**Pn**	**13 16 50.6**		**+0.1**
SRE				↑S			**Sn**	**13 17 21.9**		**-0.7**
SRE	**Strehaia**	**2.55**	**248**	||P		**Pn**	**13 16 50.6**		**+0.1**
SRE				↑S			**Sn**	**13 17 21.9**		**-0.7**
PVL	**Pavlikeni**	**2.59**	**200**	*i*P			**Pn**	**13 16 52.8**		**+1.8**
GZR	**Gura Zlata**	**2.65**	**265**	||P		**Pn**	**13 16 52.3**		**+0.6**
GZR				||S		**Sn**	**13 17 25.8**		**+1.0**
GZR	**Gura Zlata**	**2.65**	**265**	||P		**Pn**	**13 16 52.3**		**+0.6**
GZR				||S		**Sn**	**13 17 25.8**		**+1.0**
GZR	**Gura Zlata**	**2.65**	**265**	P			**Pn**	**13 16 52.1**		**+0.4**
GZR				S			**Sn**	**13 17 25.0**		**+0.2**
PLVB	**Pleven**	**2.65**	**211**	↑P			**Pn**	**13 16 52.0**		**+0.2**
PLVB	**Pleven**	**2.65**	**211**	↑P			**Pn**	**13 16 52.0**		**+0.2**
SORM	**Soroca**	**2.77**	**26**	↑P			**Pn**	**13 16 53.2**		**+0.1**
SORM	**Soroca**	**2.77**	**26**	↑P			**Pn**	**13 16 53.2**		**+0.1**
SORM	**Soroca**	**2.77**	**26**	P			**Pn**	**13 16 53.1**		**0.0**
KMPD	**K-Podol'skiy**	**2.90**	**359**	P			**Pn**	**13 16 54.3**		**-0.4**
MPEP	**Malo Peshtene**	**3.05**	**222**	*i*P			**Pn**	**13 16 56.9**		**+0.2**
BZS	**Buzias**	**3.44**	**271**	||P		**Pn**	**13 17 02.0**		**+0.3**
BZS				||S		**Sn**	**13 17 42.0**		**-0.7**
BZS	**Buzias**	**3.44**	**271**	||P		**Pn**	**13 17 02.0**		**+0.3**
BZS				||S		**Sn**	**13 17 42.0**		**-0.7**
MDVR	**Moldovita**	**3.51**	**257**	↑P			**Pn**	**13 17 02.8**		**+0.2**
MDVR	**Moldovita**	**3.51**	**257**	↑P			**Pn**	**13 17 02.8**		**+0.2**
MDVR	**Moldovita**	**3.51**	**257**	P			**Pn**	**13 17 03.0**		**+0.3**
VTS	**Vitosha**	**3.86**	**219**	↑S			**Sn**	**13 17 52.3**		**-0.4**
VTS	**Vitosha**	**3.86**	**219**	↑S			**Sn**	**13 17 52.3**		**-0.4**
LUBAR	**Lubar, Ukraine**	**4.34**	**11**	P			**Pn**	**13 17 12.9**		**-0.4**
AK07	**Malin Array Si**	**5.21**	**19**	P			**Pn**	**13 17 25.0**		**+0.2**
AK13	**Malin Array Si**	**5.23**	**18**	P			**Pn**	**13 17 25.0**		**-0.1**
AK06	**Malin Array Si**	**5.24**	**19**	P			**Pn**	**13 17 25.0**		**-0.2**
AK10	**Malin Array Si**	**5.26**	**19**	P			**Pn**	**13 17 25.5**		**0.0**
AK05	**Malin Array Si**	**5.27**	**19**	P			**Pn**	**13 17 25.8**		**+0.2**
AK09	**Malin Array Si**	**5.29**	**19**	P			**Pn**	**13 17 25.8**		**0.0**
AK08	**Malin Array Si**	**5.29**	**19**	P			**Pn**	**13 17 26.0**		**0.0**
AK16	**Malin Array Si**	**5.30**	**18**	P			**Pn**	**13 17 25.9**		**-0.1**
AK17	**Malin Array Si**	**5.30**	**18**	P			**Pn**	**13 17 25.8**		**-0.2**
AK02	**Malin Array Si**	**5.31**	**19**	P			**Pn**	**13 17 26.2**		**+0.1**
MI28	**Mi28,Pidlybu**	**5.32**	**8**	P			**Pn**	**13 17 26.6**		**+0.3**
AK15	**Malin Array Si**	**5.32**	**18**	P			**Pn**	**13 17 26.4**		**+0.1**
AKBB	**Malin Array Si**	**5.35**	**19**	P			**Pn**	**13 17 26.8**		**+0.1**
AK04	**Malin Array Si**	**5.36**	**18**	P			**Pn**	**13 17 26.7**		**-0.1**
AK03	**Malin Array Si**	**5.37**	**19**	P			**Pn**	**13 17 27.0**		**0.0**

*IDC **05** 13:32:57.5±1.5, 6°.23S×154°.71E, h0km, mb3.4/3, mbtmp3.9/6, ML2.8/2, MS2.7/1, Error ellipse: s-maj=33.8km s-min=29.6km az=17.0*

ISC 05 13:33:05.7±1.1, 6°.18S±0°.10×154°.47E±0°.09, h61km, n9, σ1s07/10, mb3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KRVT	**Keravat (AS076**	**3.07**	**307**	Pn		**Pn**	**13 33 51.8**			**0.0**
	5.2nm,0.3s,baz=310,slow=1.9,SNR=11									
KRVT					Sn	**Sn**	**13 34 25.8**			**-1.4**
	11nm,0.3s,baz=184,slow=21,SNR=3.7									
	15nm,0.3s									
HNR	**Honiara**	**6.31**	**121**	Pn		Pn	13 34 29.3			-6.9
	94nm,0.4s,baz=20,slow=12,SNR=2.0									
HNR					Sn	**Sn**	**13 35 45.6**			**-1.3**
	17nm,0.3s,baz=164,slow=12,SNR=1.2									
PMG	**Port Moresby**	**7.92**	**246**	Pn		**Pn**	**13 34 58.4**			**+0.2**
	1.9nm,0.3s,baz=46,slow=9.4,SNR=6.0									
PMG					Sn	**Sn**	**13 36 25.6**			**-0.9**
	0.7nm,0.3s,baz=168,slow=21,SNR=2.0									
PMG					LR	LR	13 37 57.7			
	comp=Z,53nm,20.2s,baz=76,slow=37									
	10nm,0.5s									
WRA	**Warramunga Arr**	**23.87**	**233**	P		**P**	**13 38 13.9**			**+0.2**
	0.7nm,0.6s,baz=58,slow=9.4,SNR=9.8									
WRA					PcP	**PcP**	**13 41 56.8**			**+1.3**
	0.5nm,0.5s,baz=57,slow=2.6,SNR=8.4									
	0.7nm,0.6s									
ASAR	**Alice Springs**	**26.34**	**227**	P		**P**	**13 38 36.1**			**-0.1**
	0.6nm,0.8s,baz=58,slow=8.9,SNR=17									
ASAR					PcP	**PcP**	**13 42 02.2**			**+1.2**
	0.2nm,0.5s,baz=50,slow=2.0,SNR=5.9									
	0.6nm,0.8s									
H11S3	**WAKE ISLAND Hy**	**27.32**	**26**	T		T	14 06 46.9			
	baz=207,slow=73,SNR=8.5									
H11S2	**WAKE ISLAND Hy**	**27.32**	**26**	T		T	14 06 46.7			
	baz=207,slow=73,SNR=5.6									
H11S1	**WAKE ISLAND Hy**	**27.34**	**26**	T		T	14 06 50.4			
	baz=207,slow=73,SNR=4.4									
MKAR	**Makanchi Array**	**82.45**	**319**	P		**P**	**13 45 21.9**			**+0.3**
	0.2nm,0.6s,baz=94,slow=4.8,SNR=2.4									
	0.2nm,0.6s									

*IDC **05** 13:44:51.6±0.7, 19°.23S×175°.88E, h0km, mb4.6/15, mbtmp4.7/18, ML3.6/2, MS3.7/33, Error ellipse: s-maj=22.8km s-min=16.2km az=135.0*
*NEIC **05** 13:44:52.3±2.0, 19°.17S±0°.07×176°.11E±0°.09, h10km±1km, mb4.9/31, Error ellipse: s-maj=16.6km s-min=9.6km az=305.0*
*GCMT **05** 13:44:55.3±0.3, 19°.44S±0°.03×175°.93E±0°.02, h14km±1km, MW4.8/92, Moment Tensor Solution. s31,c35; s92,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.08±.13; Mθθ0.74±.09; Mφφ1.33±.09; Mrθ-0.98±.24; Mθφ0.73±.05; Mφr0.23±.17; Best double couple: Mo2.14900×10¹⁶ NP1:φs54.00000°, δ54.00000°, λ-66.00000°. NP2: φs198.00000°, δ42.00000°, λ-119.00000°. Principal axes: T 1.8570, Plg6.0000°, Azm128.0000°; N 0.5770, Plg19.0000°, Azm220.0000°; P -2.4410, Plg70.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **05** 13:44:57.4, 19°.22S×176°.48E, h33km*
*BJI **05** 13:45:05.0±0.0, 18°.58S×175°.09E, h69km, mb4.7/33, mB5.1/18, Ms5.0/4, Ms7 4.6/4*

**ISC 05 13:44:56.1±0.4, 19°.31S±0°.07×176°.01E±0°.06, h35km, n290, σ1s60/265, mb4.8/42, MS3.8/36, 1C-5D, South

CASY Casey 62.66 204 P P 13 55 16.4 -0.5
JOW Kunigami 65.17 313 LR LR 14 21 31.2
comp=Z,71nm,20.2s,baz=52,slow=34
MJAR Matsushiro Arr 66.04 327 P P 13 55 39.6 +0.2
MJAR LR LR 14 19 09.7
comp=Z,44nm,22.0s,baz=152,slow=31
comp=Z,8.6nm,0.9s
LEM Lemang 67.41 271 LR LR 14 25 03.8
comp=Z,36nm,20.0s,baz=115,slow=36
JNU Nakatsue 67.64 320 LR LR 14 21 17.3
comp=Z,29nm,21.2s,baz=78,slow=32
TPUB Ta-pu 68.65 306 P P 13 55 53.3 -2.9
ASAJ Asahikawa 70.14 335 LR LR 14 21 22.7
comp=Z,136nm,21.2s,baz=164,slow=31
QSPA South Pole Qui 70.75 180 P P 13 56 07.2 -1.5
QSPA IAmb IAmb 13 56 10.2
comp=Z,18nm,1.0s
KSRS Korea Array 72.36 322 LR LR 14 23 16.7
comp=Z,23nm,21.6s,baz=140,slow=32
NJ2 Nanjing 74.85 312 eP P 13 56 34.1 +0.8
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
USRK Ussuriysk Ar. 74.92 329 LR LR 14 24 00.6
comp=Z,21nm,20.1s,baz=140,slow=31
CN2 Changchun 78.01 325 eP P 13 56 50.5 -0.4
CN2 esP pwP 13 57 19.1 +14
CN2 pmax pmax
comp=Z,10.0nm,1.0s
TIA Tai'an 78.38 315 P P 13 57 00.6 +7.4
TIA pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 78.75 332 P P 13 56 56.6 +1.7
comp=Z,3.7nm,0.9s,baz=129,slow=2.9,SNR=11
KLR LR LR 14 24 41.4
comp=Z,63nm,21.4s,baz=144,slow=30
comp=Z,3.7nm,0.9s
LYN LuoYang 80.69 312 ⇑P P 13 57 07.6 +1.8
LYN pmax pmax
comp=Z,10.0nm,1.0s
MA2 Magadan 81.27 347 LR LR 14 28 16.6
comp=Z,62nm,19.4s,baz=152,slow=32
SMMC Simmler 81.40 48 P P 13 57 11.6 +2.0
baz=239
P17K Kvichak River 81.42 14 P P 13 57 09.7 +0.6
baz=206
HEH HeiHe 81.44 331 eP P 13 57 12.0 +2.6
HEH pmax pmax
comp=Z,7.0nm,1.2s
HEH pmax pmax
comp=Z,110nm,5.4s
P18K Big Mountain, 81.88 14 P P 13 57 12.4 +0.9
baz=207
Q20K Shuyak Island 81.89 16 P P 13 57 12.7 +1.2
baz=210
N16K Nishlik Lake 82.09 12 P P 13 57 14.6 +2.0
baz=204,SNR=6.4
ARVC Arvin 82.13 49 P P 13 57 15.2 +1.8
baz=240
O18K Koktuh Hills 82.30 14 P P 13 57 16.5 +2.8
baz=207
VES Vestal, Richgr 82.31 48 P P 13 57 16.0 +1.7
baz=240
BFSC Mount Baldy Ra 82.53 50 P P 13 57 17.4 +1.7
baz=241
MURC Murrieta 82.56 51 P P 13 57 17.7 +2.0
baz=241
EDW2 Edwards Air Fo 82.60 49 P P 13 57 17.6 +1.7
baz=240,SNR=5.1
ISA Isabella, Lake 82.65 48 P P 13 57 17.7 +1.5
baz=240
MONP2 Monument Peak 82.79 52 P P 13 57 18.9 +1.8
baz=242
O19K Port Alsworth 82.81 14 P P 13 57 17.4 +1.1
baz=208,SNR=7.4
IKP In-Ko-Pah, Jac 82.90 52 P P 13 57 19.5 +1.9
baz=242
XAN Xi'an 82.98 310 P P 13 57 19.1 +1.2
XAN pP pwP 13 57 37.2 +4.9
XAN pmax pmax
comp=Z,10.0nm,2.0s
XAN LR LR
comp=Z,140nm,18.5s
XAN LR LR
comp=Z,140nm,19.9s
XAN LR LR
comp=Z,190nm,23.4s
PFO Pinyon Flats O 83.10 51 P P 13 57 20.3 +1.6
baz=242
O20K Slope Mountain 83.12 15 P P 13 57 19.6 +1.6
baz=210
SWSC Sam W. Stewart 83.27 52 P P 13 57 21.5 +2.1
baz=242
BRSE Bradley Lake S 83.31 16 P P 13 57 20.1 +1.2
baz=212
CWC Cottonwood Cre 83.31 48 P P 13 57 22.3 +2.6
baz=240
N19K Bonanza Creek 83.32 14 P P 13 57 20.1 +1.1
baz=208
XLT XiLinHaoTe 83.40 321 eP P 13 57 21.6 +1.7
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,110nm,4.4s
BEKR Beckworth 83.51 44 P P 13 57 19.4 -1.4
BEKR IAmb IAmb 13 57 24.1
comp=Z,11nm,1.1s
TIN Tinemaha, Big 83.51 47 P P 13 57 23.2 +2.6
baz=240
MPMC Manual Prospec 83.54 48 P P 13 57 22.3 +1.4
baz=241,SNR=6.5
PNTR Pine Nut 83.61 45 P P 13 57 20.2 -1.1
GSC Goldstone, Bar 83.66 49 P P 13 57 23.6 +2.2
baz=241
HEC Hector,Ludlow 83.77 50 P P 13 57 24.0 +1.9
baz=242,SNR=8.7
BC3 Big Chuckawall 83.86 51 P P 13 57 24.6 +2.1
baz=242
GLA Glamis 84.05 52 P P 13 57 26.1 +2.7
baz=242
SEY Seymchan 84.06 349 P P 13 57 23.6 +1.0
comp=Z,8.5nm,0.8s,baz=143,slow=7.3,SNR=10.0
comp=Z,8.5nm,0.8s
CAPN Captain Cook N 84.08 16 P P 13 57 24.6 +1.8
baz=211
GRAC Grapevine Rang 84.08 48 P P 13 57 25.6 +2.0
baz=241,SNR=6.6
NVAR Mina Array Bea 84.15 46 P P 13 57 26.0 +1.9
comp=Z,5.2nm,0.8s,baz=228,slow=8.2,SNR=31
comp=Z,5.2nm,0.8s
IRM Iron Mountain 84.32 51 P P 13 57 26.7 +1.9
baz=242,SNR=6.4
TUQ Turquoise Moun 84.36 50 P P 13 57 26.9 +1.9
baz=242
CMAR Chiang Mai Arr 84.42 292 P P 13 57 26.3 +0.8
comp=Z,1.6nm,0.4s,baz=132,slow=4.1,SNR=15
CMAR LR LR 14 33 02.6
comp=Z,15nm,21.5s,baz=165,slow=34
comp=Z,1.6nm,0.4s
L19K White Mountain 84.45 13 P P 13 57 23.9 -0.9
L19K White Mountain 84.45 13 P P 13 57 26.4 +1.7
baz=208
HHC Hu-ho-hao-te 84.56 317 eP P 13 57 25.7 -0.2
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.7s
SUA Susitna One 84.78 15 P P 13 57 27.2 +0.6
SUA IAmb IAmb 13 57 28.2
comp=Z,12nm,1.0s
SUA Susitna One 84.78 15 P P 13 57 27.4 +0.8
baz=211
TPNV Topopah Spring 84.84 48 P P 13 57 29.5 +1.9
baz=241,SNR=5.8
TTA Tatalina 84.88 12 P P 13 57 29.1 +2.2
baz=206
PWL Port Wells 84.89 17 P P 13 57 30.1 +3.1
baz=214
214A Organ Pipe Nat 85.07 54 P P 13 57 31.0 +2.4
baz=244
M22K Willow 85.18 15 P P 13 57 29.5 +1.2
baz=212
PZH PanZhiHua 85.21 300 P P 13 57 29.9 +0.4
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,6.0s
PINE Pine Mountain 85.22 40 P P 13 57 26.3 -3.0
PINE IAmb IAmb 13 57 32.9
comp=Z,12nm,0.8s
PMR Palmer 85.30 16 P P 13 57 30.2 +1.3
baz=213
KNK Knik Glacier 85.33 16 P P 13 57 30.6 +1.4
baz=214
EYAK Cordova Ski Ar 85.36 18 P P 13 57 31.1 +1.8
baz=216
CD2 Chengdu 85.44 305 P P 13 57 30.0 -0.5
TNA Tin City 85.49 7 P P 13 57 31.7 +1.9
baz=195
K20K Telida 85.66 13 P P 13 57 32.9 +2.1
baz=208
PPLA Purkeypile 85.67 14 P P 13 57 33.0 +2.0
baz=210
WVOR Wild Horse Val 85.95 42 P P 13 57 33.0 +0.1
WVOR IAmb IAmb 13 57 36.3
comp=Z,8.0nm,1.0s
R11A Troy Canyon, C 85.97 47 P P 13 57 34.7 +1.6
baz=242
SCM Sheep Creek Mo 85.98 16 P P 13 57 34.2 +1.7
baz=214
CRAG Craig 86.03 26 P P 13 57 35.1 +2.4
baz=227
CAST Castle Rocks 86.15 14 P P 13 57 32.4 -0.9
CAST IAmb IAmb 13 57 35.5
comp=Z,6.9nm,1.1s
CAST Castle Rocks 86.15 14 P P 13 57 33.9 +0.7
baz=210
GCSA Galena City Sc 86.35 11 P P 13 57 35.5 +1.5
baz=206
J20K Nowinta River 86.37 13 P P 13 57 36.0 +1.8
baz=208
WAT1 Susitna Watana 86.49 15 P P 13 57 36.1 +1.2
baz=213
M24K Tolsona, Glenn 86.51 17 P P 13 57 36.9 +1.9
baz=216
S31K Pelican 86.54 23 P P 13 57 36.9 +1.7
baz=225
N25K Chitina, Valde 86.55 18 P P 13 57 37.0 +1.7
baz=217
V35K Ketchikan 86.57 27 P P 13 57 37.5 +2.1
baz=229
TUC Tucson 86.78 54 P P 13 57 39.4 +2.3
baz=245
MCARA McCarthy VSAT 86.83 18 P P 13 57 38.1 +1.6
baz=218
DHY Denali Highway 86.99 16 P P 13 57 39.2 +1.7
baz=214
WRAK Wrangell Islan 87.00 26 P P 13 57 40.0 +2.5
baz=228
MCK McKinley 87.15 15 P P 13 57 39.7 +1.5
baz=213
G08A Pilot Rock 87.21 40 P P 13 57 38.8 -0.2
G08A IAmb IAmb 13 57 42.2
comp=Z,8.2nm,0.9s
O28M Mount Upton 87.24 20 P P 13 57 40.3 +1.4
baz=221
O29M Mount Kennedy 87.42 21 P P 13 57 42.8 +3.2
baz=222
PLBC Pleasant Camp 87.56 22 P P 13 57 42.0 +1.8
baz=224
LZH Lanzhou 87.62 309 eP P 13 57 43.8 +2.6
LZH pP pwP 13 58 03.5 +8.1
LZH sP sP 13 58 12.9 +18
LZH pmax pmax
comp=Z,23nm,1.0s
M26K Nabesna, AK 87.64 18 P P 13 57 41.5 +1.0
baz=218
I21K Tanana 87.70 13 P P 13 57 42.2 +1.6
baz=210
YUK8 Steele Glacier 87.76 20 P P 13 57 42.3 +0.9
baz=221
P30M Million Dollar 87.83 22 P P 13 57 42.5 +0.9
baz=224
MLY Manley 87.84 13 P P 13 57 42.3 +0.9
baz=211
YUK3 Moose Creek 87.92 19 P P 13 57 43.2 +1.1
baz=221
M27K Edge Creek, AK 87.94 18 P P 13 57 43.9 +1.9
baz=219
H21K Melozitna Rive 87.95 12 P P 13 57 43.2 +1.3
baz=209
K24K Donnelly Dome 88.00 16 P P 13 57 42.9 +0.7
baz=216
HYT Haines Junctio 88.16 21 P P 13 57 43.9 +0.7
baz=223
RIDG Independent Ri 88.20 16 P P 13 57 44.6 +1.4
baz=217
HDA Harding Lake 88.20 15 P P 13 57 44.2 +1.0
baz=215
I23K Minto, Yukon-K 88.25 14 P P 13 57 45.6 +2.3
baz=213
TCOL CGO, UAF Yank 88.37 15 P P 13 57 44.2 +0.4
baz=214
COLA College 88.37 15 P P 13 57 44.4 +0.5
baz=214
H22K Ishtalitna Cre 88.45 13 P P 13 57 45.6 +1.4
baz=211
RDOG Red Dog Mine 88.47 8 P P 13 57 46.0 +1.7
baz=200
S34M Telegraph Cree 88.49 25 P P 13 57 46.4 +1.9
baz=229,SNR=5.1
L27K Beaver Creek, 88.50 18 P P 13 57 46.3 +1.8
baz=220
ILAR Eielson Array 88.52 15 P P 13 57 43.9 -0.7
comp=Z,4.1nm,0.9s,baz=236,slow=5.7,SNR=21
comp=Z,4.1nm,0.9s
G21K Allakaket 88.57 12 P P 13 57 46.4 +1.6
baz=209
SCRK Sand Creek 88.62 16 P P 13 57 46.3 +1.1
baz=218
DUG Dugway, Tooele 88.73 46 P P 13 57 47.7 +1.3
baz=243
Q32M Nakina River 88.74 24 P P 13 57 48.4 +2.4
baz=228
TROLL Troll, Antarti 88.81 182 P P 13 57 46.0 -0.2
PLID Pearl Lake 88.93 41 P P 13 57 46.7 -0.5
WHY Whitehorse 88.94 22 P P 13 57 48.8 +2.0
baz=226
YAK Yakutsk 88.99 340 LR LR 14 31 46.3
comp=Z,30nm,19.4s,baz=86,slow=32
M29M Somme Creek 89.04 19 P P 13 57 48.8 +1.5
baz=222
J26L Joseph Creek 89.15 16 P P 13 57 49.2 +1.6
baz=218
H24K Noodor Dome 89.17 14 P P 13 57 49.7 +2.0
baz=214
K27K Chicken 89.18 17 P P 13 57 49.5 +1.8
baz=219
121A Cookes Peak, D 89.18 55 P P 13 57 51.0 +2.3
baz=246
HLID Hailey 89.21 43 P P 13 57 50.5 +1.9
baz=242,SNR=5.4
DLBC Dease Lake 89.27 25 P P 13 57 50.4 +2.1
baz=230
P33M Teslin, Yukon 89.38 23 P P 13 57 51.1 +2.3
baz=228
R33M Jennings River 89.53 24 P P 13 57 51.6 +2.0
baz=229,SNR=5.5
L29M L29M 89.64 19 P P 13 57 51.9 +1.9
baz=223
M30M Minto, Yukon 89.67 20 P P 13 57 49.6 -0.5
M30M IAmb IAmb 13 57 53.5
comp=Z,8.0nm,1.1s
M30M Minto, Yukon 89.67 20 P P 13 57 51.9 +1.8
baz=224
F22K John River 89.69 12 P P 13 57 51.8 +1.8
baz=210
COLD Coldfoot 89.84 13 P P 13 57 52.7 +1.9
baz=212
DAWY Dawson 89.97 18 P P 13 57 49.4 -2.0
DAWY IAmb IAmb 13 57 54.4
comp=Z,6.4nm,0.9s
DAWY Dawson 89.97 18 P P 13 57 53.2 +1.7
baz=222
VNA2 Neumayer--Watz 89.97 179 P P 13 57 51.2 -0.3
baz=192,slow=3.0
EGAK Eagle 90.01 17 P P 13 57 53.5 +1.9
baz=220
M31M Drury Creek, Y 90.19 21 P P 13 57 53.8 +1.3
baz=226
VNA1 Neumayer--Stat 90.23 179 P P 13 57 52.4 -0.3
K29M Barlow Dome 90.36 19 P P 13 57 54.9 +1.5
baz=223
MVCO Mesa Verde 90.52 51 P P 13 57 56.4 +1.5
baz=246
E23K Chandalar 90.67 12 P P 13 57 56.1 +1.4
baz=212
MAYO Mayo, Yukon 90.69 19 P P 13 57 56.4 +1.6
baz=225
MNTX Cornudas Mount 90.74 57 P P 13 57 57.9 +2.1
baz=248
WTLY Watson Lake, Y 90.83 24 P P 13 57 57.5 +2.0
baz=231
H27K Steamboat Moun 91.04 16 P P 13 57 57.9 +1.5
baz=220
G26K Porcupine Rive 91.04 15 P P 13 57 57.8 +1.5
baz=218
F25K Christian River 91.12 14 P P 13 57 58.6 +1.8
baz=216
ANMO Albuquerque 91.14 53 P P 13 57 59.5 +1.7
baz=247
SONM Songino Array 91.22 321 P P 13 57 57.3 -0.5
comp=Z,2.0nm,1.1s,baz=120,slow=2.7,SNR=7.2
SONM LR LR 14 38 58.5
comp=Z,27nm,18.5s,baz=126,slow=36
comp=Z,2.0nm,1.1s
D23K Nanushuk River 91.24 11 P P 13 57 58.8 +1.5
baz=211
I29M Ogilvie Camp, 91.25 17 P P 13 57 58.6 +1.3
baz=223
E25K Arctic Village 91.57 13 P P 13 58 01.2 +2.4
baz=216
O20A White River Ci 91.88 48 P P 13 58 03.3 +2.1
baz=246
GTA Gaotai 91.91 311 eP P 13 58 02.8 +1.6
GTA sP pwP 13 58 25.0 +10
GTA pmax pmax
comp=Z,4.0nm,0.9s
S22A 4UR Ranch, Cre 91.95 51 P P 13 58 03.8 +2.2
baz=247
PDAR Pinedale Array 92.05 45 P P 13 58 02.5 +0.7
comp=Z,1.2nm,0.9s,baz=193,slow=2.8,SNR=9.4
comp=Z,1.2nm,0.9s
H17A Grant Village 92.06 43 P P 13 58 04.4 +2.5
baz=245
C24K Franklin Bluff 92.25 12 P P 13 58 03.3 +1.4
baz=213
BRDH Bariadhala 92.31 293 LR LR 14 39 21.8
comp=Z,14nm,20.3s,baz=94,slow=36
EPYK Eagle Plains 92.44 17 P P 13 58 04.0 +1.1
baz=224
KOTAN Kotaneelee Air 92.74 26 P P 13 58 05.9 +1.6
baz=235
SDCO Great Sand Dun 92.92 51 P P 13 58 08.2 +2.1
baz=248
G30M tAoh Zraii Nji 93.01 17 P P 13 58 06.8 +1.3
baz=225
RLMT Red Lodge 93.21 43 P P 13 58 09.2 +2.1
baz=246
T25A Trinidad 93.50 52 P P 13 58 10.3 +1.6
baz=248
MSTX Muleshoe 93.61 55 P P 13 58 10.3 +1.2
baz=249
Q24A Divide 93.63 50 P P 13 58 11.2 +1.8
baz=248
N23A Red Feather La 93.79 48 P P 13 58 12.1 +2.1
baz=248
F31M Tsiigehtchic 94.03 17 P P 13 58 11.2 +1.1
baz=227
INK Inuvik 94.68 17 P P 13 58 14.1 +1.0
baz=227
CMIG Matias Romero 94.70 74 LR LR 14 31 12.2
comp=Z,40nm,21.6s,baz=224,slow=29
WRGLY Wrigley 94.74 23 P P 13 58 15.8 +2.4
baz=236
AMTX Amarillo 94.77 55 P P 13 58 16.2 +1.8
baz=250
TIXI Tiksi 96.22 346 LR LR 14 34 25.4
comp=Z,60nm,21.2s,baz=87,slow=31
WMOK Wichita Mounta 96.98 56 P P 13 58 25.7 +1.3
baz=252
YKA Yellowknife Ar 97.86 26 P Pdif 13 58 28.1 +0.4
comp=Z,0.9nm,0.8s,baz=250,slow=4.6,SNR=12
comp=Z,0.9nm,0.8s
C36M Paulatuk 98.01 18 P Pdif 13 58 28.7 +0.5
baz=236
A36M Sachs Harbour 99.20 16 P Pdif 13 58 34.6 +1.2
baz=235
WMQ Urumqi 101.93 312 eP Pdif 13 58 47.8 +1.4
NACGM Naroch 137.47 334 ePKP PKiKP 14 04 19.0 +1.2
baz=47
BRTR Keskin Array B 141.82 310 PKhKP PKPpre 14 04 22.1
comp=Z,1.3nm,0.9s,baz=132,slow=2.1,SNR=3.8
OKC Ostrava-Krasne 144.78 335 ePKP PKPdf 14 04 29.1 -0.1
OSTC Ostas 144.93 337 ePKP PKPdf 14 04 30.0 +0.5
FLTG Flechtingen 144.96 344 ePKPbc PKPdf 14 04 30.0 +0.6
baz=25,slow=3.0
UPC Upice 145.05 338 ePKP PKPdf 14 04 30.4 +0.7
DPC Dobruska-Polom 145.06 337 ePKP PKPdf 14 04 30.0 +0.2
MORC Moravsky Berou 145.07 335 PKPdf 14 04 30.2 +0.4
MORC Moravsky Berou 145.07 335 ePKP PKPdf 14 04 30.6 +0.8
NRDL Niedersach Rie 145.10 345 ePKPbc PKiKP 14 04 30.6 -2.9
baz=25,slow=3.0
KRLC Kraliky 145.12 336 ePKP PKPdf 14 04 30.0 +0.1
CLL Collm 145.37 341 PKPab 14 04 31.2 +1.0
CLL Collm 145.37 341 i/ePKPbc PKPab 14 04 31.1 +0.9
comp=Z,36nm,0.8s
CLL ePKiKP pPKPab 14 04 37.0 -3.2
CLL Collm 145.37 341 ePKPbc PKiKP 14 04 31.5 -2.6
baz=25,slow=3.0
BRG Berggiesshubel 145.45 340 i PKP PKiKP 14 04 31.6 -2.7
BRG Amp 14 04 32.9
comp=Z,36nm,1.1s
BRG Berggiesshubel 145.45 340 P PKiKP 14 04 38.0 +3.7
BRG Amp 14 04 39.4
comp=Z,28nm,1.2s
BRG Berggiesshubel 145.45 340 ePKPbc PKiKP 14 04 31.9 -2.4
baz=25,slow=3.0
VYHS Vyhne 145.53 333 ePKP PKiKP 14 04 32.3 -2.3
JAVC Velka Javorina 145.74 334 ePKP PKiKP 14 04 33.9 -1.2
IBBN Ibbenburen 145.81 347 ePKPbc PKiKP 14 04 32.6 -2.4
baz=25,slow=3.0
VRAC Vranov 145.81 336 PKPbc PKPab 14 04 31.2 -0.7
comp=Z,5.6nm,1.0s,baz=89,slow=2.3,SNR=6.7
VRAC Vranov 145.81 336 ePKP PKiKP 14 04 33.9 -1.2
PRU Pruhonice 146.00 338 ePKP PKPab 14 04 32.1 -0.6
KRUC Moravsky 146.09 336 ePKP PKiKP 14 04 34.6 -1.1
MODS Modra-Piesok 146.28 334 ePKP PKiKP 14 04 35.0 -1.2
TANN Tannenbergstha 146.32 341 ePKPbc PKiKP 14 04 34.4 -1.8
baz=25,slow=3.0
GUNZ Gunzen 146.40 341 ePKPbc PKiKP 14 04 34.7 -1.6
baz=25,slow=3.0
WERN Wernitzgruen 146.45 341 ePKPbc PKiKP 14 04 35.1 -1.4
baz=25,slow=3.0
NKC Novy Kostel 146.48 341 ePKP PKiKP 14 04 34.9 -1.6
KASTN Kahler Asten 146.70 346 ePKPbc PKiKP 14 04 35.2 -1.7
baz=25,slow=3.0
KHC Kasperske Hory 147.06 339 ePKP PKPab 14 04 36.0 -0.8
CKRC Cesky Krumlov 147.07 338 ePKP PKiKP 14 04 37.3 -0.5
CONA Conrad Observa 147.21 335 epPKP PKPab 14 04 36.9 -0.6
comp=Z,16nm,1.5s
RONA Rosalia, Austr 147.22 334 epPKP PKiKP 14 04 37.0 -1.1
comp=Z,16nm,1.4s
GEC2 GERESS Array S 147.26 338 ePKPbc PKPab 14 04 37.0 -0.7
baz=25,slow=3.0
GERES GERESS Array B 147.26 338 PKPbc PKPab 14 04 36.3 -1.4
comp=Z,2.2nm,0.8s,baz=46,slow=3.9,SNR=9.5
GERES GERESS Array B 147.26 338 PKPbc PKPab 14 04 36.7 -1.0
BTNL Ternell 147.77 348 dPKP PKPab 14 04 40.4 +0.9
MEM Membach 147.77 348 dPKP PKPab 14 04 40.2 +0.7
MOA Molln 147.89 337 pPKP PKPab 14 04 39.2 -1.0
comp=Z,0.4nm,0.3s
BIOA Bad Ischl, Aus 148.26 337 ePKP PKPab 14 04 42.0 +0.4
comp=Z,111nm,1.4s
DOU Dourbes 148.53 349 dPKP PKiKP 14 04 39.7 -0.9
WLF Walferdange 148.64 347 dPKP PKPab 14 04 41.1 -1.9
WLF Walferdange 148.64 347 ePKPbc PKPab 14 04 41.2 -1.8
baz=25,slow=3.0
MYKA Terra Mystica 149.14 336 ePKP PKiKP 14 04 41.4 -0.8
comp=Z,7.2nm,1.1s
WATA Walderalm 149.29 339 ePKP PKiKP 14 04 41.7 -0.8
comp=Z,1.8nm,0.8s
WTTA Wattenberg 149.33 339 epPKP PKPbc 14 04 39.9 -1.6
comp=Z,15nm,1.7s
RETA Reutte 149.43 340 epPKiKP PKPab 14 04 47.6 +1.2
comp=Z,8.4nm,1.0s
MOTA Moosalm 149.44 340 ePKP PKiKP 14 04 42.4 -0.4
comp=Z,14nm,1.1s
ABTA Abfaltersbach 149.47 337 epPKP PKiKP 14 04 41.6 -1.2
comp=Z,14nm,1.5s
SQTA Sankt Quirin 149.51 339 ePKP PKiKP 14 04 42.4 -0.5
comp=Z,11nm,1.0s
FETA Feichten 149.85 340 ePKiKP PKiKP 14 04 44.0 +0.2

comp=Z,8.5nm,1.1s
DAVA Damuels 149.88 341 *e*PKP **PKPab 14 04 49.1 +0.7**
comp=Z,8.3nm,0.9s
DAVOX Davos/Dischmat 150.33 341 PKPbc **PKiKP 14 04 44.4 -0.4**
comp=Z,7.1nm,0.8s,baz=11,slow=4.9,SNR=8.7
ESDC Sonseca Array 159.70 360 PKPab **PKPab 14 05 31.1 +0.9**
comp=Z,0.6nm,0.9s,baz=352,slow=5.2,SNR=4.2

BGR ***05*** *14:04:54.9, 36°.06N×27°.66E, h100km, mb4.2*
IDC ***05*** *14:05:03.9±0.7, 36°.46N×26°.78E, h126km±9km, mb3.9/16, mbtmp4.3/28, MS2.7/1, Error ellipse: s-maj=12.5km s-min=7.6km az=163.0*
NEIC ***05*** *14:05:03.6±2.7, 36°.44N±0°.08×26°.80E±0°.06, h132km±4km, mb4.4/27, Error ellipse: s-maj=11.1km s-min=6.7km az=191.0*
HLW ***05*** *14:05:04.4, 36°.30N×27°.01E, h24km±25km, Md4.6, Ml4.8*
ISK ***05*** *14:05:04.8, 36°.51N×26°.80E, h122km, ML4.3/22*
MOS ***05*** *14:05:04.0±0.9, 36°.46N×26°.86E, h144km, mb4.0/10, Error ellipse: s-maj=6.0km s-min=3.6km az=107.9*
ATH ***05*** *14:05:05.7, 36°.50N×26°.82E, h115km±1km, ML4.5/19, Error ellipse: s-maj=2.0km s-min=1.0km az=100.0*
GII ***05*** *14:05:07.0±0.0, 35°.95N×27°.12E, h20km, mb4.3/5, MD4.2/5, Mm4.4/1*
MED_RC ***05*** *14:05:08.0±0.9, 36°.47N×26°.80E, h156km±8km, MW4.5/7, Moment Tensor Solution. Mantle waves: s7,c7; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr=1.01±.73; Mθθ=3.05±1.44; Mϕϕ=-2.04±1.13; Mrθ=2.73±.72; Mrϕ=4.78±.87; Mθϕ=-2.61±.77; Best double couple: M=6.60000×10^15 NP1: ϕs=281.00000°, δ76.00000°, λ-30.00000°. NP2: ϕs=19.00000°, δ61.00000°, λ-164.00000°. Principal axes: T 6.0900, Plg10.0000°, Azm332.0000°; N 1.0200, Plg57.0000°, Azm77.0000°; P -7.1100, Plg31.0000°, Azm236.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
THE ***05*** *14:05:08.6, 36°.47N×26°.80E, h98km±1km, ML4.3/19 Error ellipse: s-maj=1.8km s-min=0.5km az=31.0*
DDA ***05*** *14:05:08.8±0.0, 36°.52N×26°.79E, h58km±6km, MW4.2*
ISC 05 14:05:03.0±0.5, 36°.42N±0°.03×26°.86E±0°.03, h125km±4km, n509, σ1§87/579, mb4.1/30, 20C-19D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.29**	**49**	P	**Pn**	**14 05 22.0**	**+1.6**
NISR				S	**Sn**	**14 05 32.0**	**-1.6**
	4µm,0.7s						
NISR	**Nisiros**	**0.29**	**49**	P	**Pn**	**14 05 21.8**	**+1.3**
NISR				S	**Sn**	**14 05 34.3**	**+0.7**
NISR				AML	AML	14 05 35.5	
	comp=N,8813µm,0.9s						
NISR				AML	AML	14 05 36.8	
	comp=E,8560µm,0.6s						
KOSK	**Kos Island**	**0.35**	**17**	P	**Pn**	**14 05 22.5**	**+1.8**
KOSK				S	**Sn**	**14 05 31.5**	**-2.5**
	comp=E,5µm,0.5s						
KOSK	**Kos Island**	**0.35**	**17**	Pg	**Pn**	**14 05 22.4**	**+1.8**
KOSK				Sg	**Sn**	**14 05 35.0**	**+1.0**
KOSK	**Kos Island**	**0.35**	**17**	P	**Pn**	**14 05 22.4**	**+1.7**
KOSK				S	**Sn**	**14 05 33.4**	**-0.6**
KOSK				AML	AML	14 05 36.0	
	comp=E,31542µm,0.5s						
KOSK				AML	AML	14 05 38.1	
	comp=N,29996µm,0.5s						
DAT	**Datca**	**0.66**	**62**	P	**Pn**	**14 05 24.7**	**+2.1**
DAT				S	**Sn**	**14 05 36.4**	**-1.1**
DAT	**Datca**	**0.66**	**62**	Pg	**Pn**	**14 05 24.6**	**+2.0**
DAT				Sg	**Sn**	**14 05 38.9**	**+1.4**
BODT	**Bodrum**	**0.74**	**30**	P	**Pn**	**14 05 24.8**	**+1.6**
BODT				S	**Sn**	**14 05 37.3**	**-1.1**
BODT	**Bodrum**	**0.74**	**30**	Pg	**Pn**	**14 05 24.7**	**+1.6**
BODT				Sg	**Sn**	**14 05 39.2**	**+0.8**
BODT	**Bodrum**	**0.74**	**30**	P	**Pn**	**14 05 24.8**	**+1.6**
BDRM	**Kayabasi**	**0.80**	**36**	P	**Pn**	**14 05 25.2**	**+1.6**
BDRM				S	**Sn**	**14 05 39.2**	**-0.1**
KARP	**Karpathos**	**0.91**	**164**	Pn	**Pn**	**14 05 26.7**	**+2.1**
KARP				Sn	**Sn**	**14 05 43.4**	**+2.4**
KARP	**Karpathos**	**0.91**	**164**	P	**Pn**	**14 05 27.2**	**+2.5**
KARP				S	**Sn**	**14 05 41.7**	**+0.8**
	comp=N,31µm,0.2s						
KARP	**Karpathos**	**0.91**	**164**	Pg	**Pn**	**14 05 27.2**	**+2.5**
KARP	**Karpathos**	**0.91**	**164**	P	**Pn**	**14 05 27.1**	**+2.5**
KARP	**Karpathos**	**0.91**	**164**	P	**Pn**	**14 05 27.1**	**+2.5**
KARP				S	**Sn**	**14 05 43.0**	**+2.1**
KARP				AML	AML	14 05 46.8	
	comp=N,82593µm,0.3s						
KARP				AML	AML	14 05 46.8	
	comp=E,41048µm,0.2s						
ARG	**Arkhangelos**	**1.05**	**101**		**Pn**	**14 05 28.4**	**+2.5**
ARG				Sn	**Sn**	**14 05 45.9**	**+2.7**
ARG	**Arkhangelos**	**1.05**	**101**	P	**Pn**	**14 05 28.6**	**+2.7**
ARG				S	**Sn**	**14 05 44.4**	**+1.2**
	comp=E,19µm,0.4s						
ARG	**Arkhangelos**	**1.05**	**101**	Pn	**Pn**	**14 05 28.6**	**+2.7**
ARG	**Arkhangelos**	**1.05**	**101**	P	**Pn**	**14 05 28.4**	**+2.5**
ARG						14 05 45.9	
ARG	**Arkhangelos**	**1.05**	**101**	P	**Pn**	**14 05 28.5**	**+2.7**
ARG				AML	AML	14 05 46.7	
	comp=E,55841µm,0.4s						
ARG				AML	AML	14 05 46.9	
	comp=N,20062µm,0.3s						
SANT	**Santorini**	**1.13**	**268**	⇑P	**Pn**	**14 05 28.9**	**+2.2**
SANT	**Santorini**	**1.13**	**268**		**Pn**	**14 05 28.4**	**+1.7**
SANT				Sn	**Sn**	**14 05 45.5**	**+0.7**
SANT	**Santorini**	**1.13**	**268**	P	**Pn**	**14 05 28.6**	**+1.9**
SANT				S	**Sn**	**14 05 43.2**	**-1.5**
	comp=N,3µm,0.8s						
SANT	**Santorini**	**1.13**	**268**	Pn	**Pn**	**14 05 28.6**	**+1.9**
SANT	**Santorini**	**1.13**	**268**	P	**Pn**	**14 05 28.7**	**+1.9**
SANT				S	**Sn**	**14 05 45.2**	**+0.5**
SANT	**Santorini**	**1.13**	**268**	P	**Pn**	**14 05 28.6**	**+1.9**
SANT				S	**Sn**	**14 05 45.4**	**+0.7**
SANT				AML	AML	14 05 46.4	
	comp=N,4113µm,1.1s						
SANT				AML	AML	14 05 46.5	
	comp=E,8545µm,0.6s						
MLSB	**Milas**	**1.15**	**40**	Pn	**Pn**	**14 05 28.6**	**+1.7**
MLSB	**Milas**	**1.15**	**40**	P	**Pn**	**14 05 29.0**	**+2.1**
MLSB				S	**Sn**	**14 05 45.5**	**+0.5**
SFIR	**Foira Santorin**	**1.15**	**271**	P	**Pn**	**14 05 29.1**	**+2.2**
SFIR				S	**Sn**	**14 05 44.9**	**-0.2**
	comp=E,13µm,0.8s						
THT2	**Imerovigli**	**1.16**	**271**	P	**Pn**	**14 05 29.2**	**+2.2**
THT2	**Imerovigli**	**1.16**	**271**	Pn	**Pn**	**14 05 28.7**	**+1.7**
CMBO	**Columbo, Santo**	**1.17**	**273**	P	**Pn**	**14 05 29.1**	**+2.0**
CMBO				S	**Sn**	**14 05 45.7**	**+0.3**
	comp=E,12µm,0.6s						
CMBO	**Columbo, Santo**	**1.17**	**273**	P	**Pn**	**14 05 29.1**	**+2.0**
CMBO				S	**Sn**	**14 05 46.1**	**+0.7**
CMBO				AML	AML	14 05 47.4	
	comp=N,35512µm,0.6s						
CMBO				AML	AML	14 05 47.8	
	comp=E,26019µm,0.7s						
APE	**Apeiranthos**	**1.25**	**302**	⇑P	**Pn**	**14 05 29.7**	**+1.8**
APE	**Apeiranthos**	**1.25**	**302**	P	**Pn**	**14 05 29.6**	**+1.6**
APE				S	**Sn**	**14 05 46.6**	**-0.3**
	comp=E,2µm,0.6s						
APE	**Apeiranthos**	**1.25**	**302**	Pn	**Pn**	**14 05 29.1**	**+1.1**
APE	**Apeiranthos**	**1.25**	**302**	P	**Pn**	**14 05 29.7**	**+1.8**
APE				S	**Sn**	**14 05 46.6**	**-0.3**
APE	**Apeiranthos**	**1.25**	**302**	*c i* P	**Pn**	**14 05 29.5**	**+1.6**
APE	**Apeiranthos**	**1.25**	**302**	P	**Pn**	**14 05 29.6**	**+1.6**
APE				S	**Sn**	**14 05 47.2**	**+0.2**
APE				AML	AML	14 05 47.6	
	comp=N,4158µm,0.6s						
APE				AML	AML	14 05 48.4	
	comp=E,2987µm,0.7s						
GCAM	**G?zelcaml?**	**1.31**	**13**	Pn	**Pn**	**14 05 30.1**	**+1.5**
GCAM	**G?zelcaml?**	**1.31**	**13**	P	**Pn**	**14 05 30.2**	**+1.5**
GCAM				S	**Sn**	**14 05 48.6**	**+0.5**
YER	**Yerkesik**	**1.35**	**58**	P	**Pn**	**14 05 31.6**	**+2.5**
YER				S	**Sn**	**14 05 49.9**	**+0.9**
YER	**Yerkesik**	**1.35**	**58**	Pn	**Pn**	**14 05 31.3**	**+2.2**
YER				Sn	**Sn**	**14 05 49.7**	**+0.7**
YER	**Yerkesik**	**1.35**	**58**	P	**Pn**	**14 05 31.5**	**+2.5**
YER				S	**Sn**	**14 05 50.4**	**+1.4**
YER	**Yerkesik**	**1.35**	**58**	P	**Pn**	**14 05 31.6**	**+2.5**
YER				S	**Sn**	**14 05 49.9**	**+0.9**
ZKR	**Zakros**	**1.40**	**202**	P	**Pn**	**14 05 32.8**	**+3.1**
ZKR				S	**Sn**	**14 05 52.3**	**+2.4**
	comp=E,13µm,0.5s						
ZKR	**Zakros**	**1.40**	**202**	Pn	**Pn**	**14 05 32.8**	**+3.1**
ZKR	**Zakros**	**1.40**	**202**	P	**Pn**	**14 05 32.7**	**+3.1**
ZKR				S	**Sn**	**14 05 52.9**	**+3.0**
ZKR				AML	AML	14 05 54.3	
	comp=E,36763µm,0.5s						
ZKR				AML	AML	14 05 55.2	
	comp=N,11380µm,0.3s						
DALY	**Dalyan (Mula)**	**1.50**	**74**	Pn	**Pn**	**14 05 33.9**	**+3.2**
FRMA	**Ierapetra Chan**	**1.67**	**213**	P	**Pn**	**14 05 35.5**	**+2.8**
FRMA				S	**Sn**	**14 05 56.2**	**+0.8**
	comp=N,3µm,0.3s						
FRMA	**Ierapetra Chan**	**1.67**	**213**	P	**Pn**	**14 05 35.4**	**+2.6**
FRMA				AML	AML	14 05 58.2	
	comp=E,18330µm,0.2s						
FRMA				AML	AML	14 05 59.2	
	comp=N,18695µm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.73**	**28**	Pn	**Pn**	**14 05 35.1**	**+1.5**
TNSA	**Tinos**	**1.76**	**310**	P	**Pn**	**14 05 36.1**	**+2.4**
HRKL	**Herakleio**	**1.80**	**233**	P	**Pn**	**14 05 36.6**	**+2.3**
HRKL				S	**Sn**	**14 06 00.7**	**+2.6**
	comp=N,11µm,0.5s						
HRKL	**Herakleio**	**1.80**	**233**	Pn	**Pn**	**14 05 36.6**	**+2.3**
HRKL				Sn	**Sn**	**14 06 00.0**	**+1.9**
HRKL	**Herakleio**	**1.80**	**233**	P	**Pn**	**14 05 36.6**	**+2.3**
HRKL				S	**Sn**	**14 05 59.5**	**+1.4**
HRKL				AML	AML	14 06 03.3	
	comp=E,75850µm,0.4s						
HRKL				AML	AML	14 06 08.7	
	comp=N,50610µm,0.5s						
FETY	**Fethiye**	**1.81**	**82**	Pn	**Pn**	**14 05 37.1**	**+2.7**
IACM	**Heraklion**	**1.83**	**233**	P	**Pn**	**14 05 36.8**	**+2.2**
IACM				S	**Sn**	**14 06 00.8**	**+2.2**
	comp=N,31µm,0.5s						
IACM	**Heraklion**	**1.83**	**233**	P	**Pn**	**14 05 36.6**	**+2.1**
IACM				S	**Sn**	**14 06 00.2**	**+1.6**
IACM				AML	AML	14 06 01.3	
	comp=N,52370µm,0.3s						
IACM				AML	AML	14 06 02.8	
	comp=E,62017µm,0.4s						
KSTL	**Kastelli Herak**	**1.83**	**233**	P	**Pn**	**14 05 35.8**	**+1.2**
ZEYE	**Izmir, Urla-Ze**	**1.84**	**351**	P	**Pn**	**14 05 35.6**	**+0.9**
ZEYE				S	**Sn**	**14 05 58.3**	**-0.6**
URLA	**Izmir**	**1.95**	**354**	Pn	**Pn**	**14 05 37.2**	**+1.2**
URLA	**Izmir**	**1.95**	**354**	P	**Pn**	**14 05 37.3**	**+1.2**
URLA				S	**Sn**	**14 06 02.2**	**+0.8**
IDI	**Anoyia**	**1.96**	**235**	P	**Pn**	**14 05 38.0**	**+1.8**
	comp=E,742nm,0.4s,baz=63,slow=5.2,SNR=3156						
IDI				S	**Sn**	**14 06 02.0**	**+0.4**
	comp=E,990nm,0.4s,baz=179,slow=24,SNR=22						
IDI				LR	LR	14 06 21.2	
	comp=E,182nm,18.6s,baz=340,slow=40						
BLCB	**Balcova**	**1.97**	**4**	Pn	**Pn**	**14 05 37.4**	**+1.1**
MHLO	**Agia Marina, M**	**1.99**	**279**	P	**Pn**	**14 05 39.5**	**+2.9**
MHLO				S	**Sn**	**14 06 03.6**	**+1.3**
	comp=E,3µm,0.8s						
CAME	**Cameli-Denizli**	**2.04**	**74**	Pn	**Pn**	**14 05 39.6**	**+2.3**
CHOS	**Chios island**	**2.06**	**342**	Pn	**Pn**	**14 05 38.9**	**+1.4**
CHOS	**Chios island**	**2.06**	**342**	P	**Pn**	**14 05 38.7**	**+1.2**
CHOS				AML	AML	14 06 04.6	
	comp=E,3382µm,0.9s						
CHOS				AML	AML	14 06 07.4	
	comp=N,3069µm,0.8s						
TMBK	**Timbaki Herakl**	**2.17**	**232**	P	**Pn**	**14 05 41.5**	**+2.8**
SIVA	**Sivas**	**2.17**	**231**	P	**Pn**	**14 05 41.9**	**+3.0**
SIVA				S	**Sn**	**14 06 08.4**	**+2.1**
	comp=N,7µm,0.6s						
SIVA	**Sivas**	**2.17**	**231**	P	**Pn**	**14 05 41.8**	**+3.0**
SIVA				AML	AML	14 06 12.9	
	comp=N,9073µm,0.6s						
SIVA				AML	AML	14 06 14.2	
	comp=E,17104µm,0.6s						
KSL	**Kastellorizon**	**2.22**	**96**	P	**Pn**	**14 05 42.2**	**+2.8**
KSL				S	**Sn**	**14 06 10.7**	**+3.4**
	comp=E,10µm,0.6s						
KSL	**Kastellorizon**	**2.22**	**96**	P	**Pn**	**14 05 42.0**	**+2.6**
KSL				AML	AML	14 06 11.2	
	comp=E,21321µm,0.6s						
KSL				AML	AML	14 06 11.7	
	comp=N,17447µm,0.7s						
APMY	**Acipayam-Deniz**	**2.22**	**61**	Pn	**Pn**	**14 05 41.7**	**+2.2**
GOLH	**Golhisar**	**2.32**	**69**	P	**Pn**	**14 05 43.7**	**+3.0**
GOLH				S	**Sn**	**14 06 10.6**	**+0.9**
CHAN	**Chania**	**2.45**	**249**	P	**Pn**	**14 05 44.3**	**+2.0**
CHAN				AML	AML	14 06 13.9	
	comp=N,10236µm,0.4s						
CHAN				AML	AML	14 06 21.3	
	comp=E,10719µm,0.5s						
MANT	**Manisa**	**2.47**	**33**		**Pn**	**14 05 43.8**	**+1.0**
MANT	**Manisa**	**2.47**	**33**	P	**Pn**	**14 05 44.5**	**+1.7**
ELL	**Elmali**	**2.48**	**81**		**Pn**	**14 05 45.7**	**+2.9**
ELL	**Elmali**	**2.48**	**81**	Pn	**Pn**	**14 05 46.2**	**+3.4**
ELL	**Elmali**	**2.48**	**81**	P	**Pn**	**14 05 45.7**	**+2.9**
IMMV	**Iera Moni Meta**	**2.52**	**249**	Pn	**Pn**	**14 05 45.6**	**+2.4**
IMMV	**Iera Moni Meta**	**2.52**	**249**	P	**Pn**	**14 05 45.1**	**+1.9**
IMMV				AML	AML	14 06 21.2	
	comp=N,13653µm,0.4s						
IMMV				AML	AML	14 06 21.4	
	comp=E,12600µm,0.4s						
KULA	**Kula-Manisa**	**2.54**	**34**	Pn	**Pn**	**14 05 45.4**	**+1.9**
KULA	**Kula-Manisa**	**2.54**	**34**	P	**Pn**	**14 05 45.2**	**+1.7**
ZEDA	**zmir-Bergama**	**2.55**	**4**	P	**Pn**	**14 05 44.9**	**+1.3**
DKL	**Dikili**	**2.65**	**1**	Pn	**Pn**	**14 05 46.1**	**+1.4**
DKL	**Dikili**	**2.65**	**1**	P	**Pn**	**14 05 46.3**	**+1.4**
GVD	**Gavdhos**	**2.75**	**236**	P	**Pn**	**14 05 49.0**	**+2.8**
GVD				S	**Sn**	**14 06 22.2**	**+2.8**
	comp=E,5µm,0.4s						
GVD	**Gavdhos**	**2.75**	**236**	Pn	**Pn**	**14 05 49.0**	**+2.8**
GVD	**Gavdhos**	**2.75**	**236**	P	**Pn**	**14 05 48.8**	**+2.6**
GVD				AML	AML	14 06 24.5	
	comp=E,11624µm,0.3s						
GVD				AML	AML	14 06 26.4	
	comp=N,10239µm,0.4s						
KNDR	**Palaiochora Ch**	**2.83**	**246**	Pn	**Pn**	**14 05 50.9**	**+3.7**
KNDR	**Palaiochora Ch**	**2.83**	**246**	P	**Pn**	**14 05 51.0**	**+3.7**
KNDR				AML	AML	14 06 28.5	
	comp=N,14071µm,0.5s						
KNDR				AML	AML	14 06 28.9	
	comp=E,11288µm,0.4s						
VLY	**Voula,Athens**	**2.83**	**301**	P	**Pn**	**14 05 49.5**	**+2.3**
VLY	**Voula,Athens**	**2.83**	**301**	P	**Pn**	**14 05 49.3**	**+2.0**
PASA	**Karahalli, USA**	**2.85**	**47**	P	**Pn**	**14 05 49.5**	**+1.9**
PASA				S	**Sn**	**14 06 22.2**	**+0.4**
KHL	**Karahalli**	**2.85**	**47**	Pn	**Pn**	**14 05 49.8**	**+2.2**
DION	**Dionisos Attik**	**2.86**	**306**	P	**Pn**	**14 05 50.6**	**+3.0**
DION				S	**Sn**	**14 06 22.7**	**+0.7**
	comp=E,902nm,1.1s						
DION	**Dionisos Attik**	**2.86**	**306**	P	**Pn**	**14 05 50.5**	**+2.9**
PRK	**Paraskevi**	**2.86**	**351**	P	**Pn**	**14 05 49.2**	**+1.7**
KORT	**Korkueli**	**2.87**	**77**	Pn	**Pn**	**14 05 50.7**	**+2.9**
PTL	**Penteli**	**2.89**	**305**	P	**Pn**	**14 05 51.1**	**+3.1**
PTL	**Penteli**	**2.89**	**305**	P	**Pn**	**14 05 51.0**	**+3.0**
ATHU	**Athens Univers**	**2.90**	**303**	P	**Pn**	**14 05 50.2**	**+2.1**
SIGR	**SIGRI**	**2.90**	**344**	Pn	**Pn**	**14 05 49.2**	**+1.1**
SIGR	**SIGRI**	**2.90**	**344**	P	**Pn**	**14 05 49.1**	**+1.0**
ANKY	**Antikythira Is**	**2.93**	**260**	P	**Pn**	**14 05 50.6**	**+2.1**
ANKY				S	**Sn**	**14 06 26.5**	**+3.0**
	comp=E,3µm,0.6s						
ANKY	**Antikythira Is**	**2.93**	**260**	P	**Pn**	**14 05 50.1**	**+1.6**
ATH	**Athens Observa**	**2.95**	**303**	P	**Pn**	**14 05 50.9**	**+2.2**
BASM	**Basmaki-Afyon**	**2.96**	**59**	Pn	**Pn**	**14 05 50.8**	**+1.9**
STEP	**BALIKESIR_Sava**	**3.03**	**13**	P	**Pn**	**14 05 50.8**	**+1.0**
KTHA	**Kythira Island**	**3.07**	**268**	Pn	**Pn**	**14 05 52.4**	**+2.1**
KTHA	**Kythira Island**	**3.07**	**268**	P	**Pn**	**14 05 52.1**	**+1.8**
KTHA				AML	AML	14 06 27.7	
	comp=E,6602µm,0.5s						
KTHA				AML	AML	14 06 28.4	
	comp=N,5345µm,0.4s						
MNVA	**Monemvasia**	**3.09**	**276**	P	**Pn**	**14 05 53.7**	**+3.2**
KYMI	**Kymi, Euboea I**	**3.11**	**316**	P	**Pn**	**14 05 52.5**	**+1.6**
KRND	**KRANIDI**	**3.12**	**289**	P	**Pn**	**14 05 53.1**	**+2.1**
SIMA	**Simav-Kutahya**	**3.15**	**32**	Pn	**Pn**	**14 05 53.3**	**+1.9**
BCK	**Bucak**	**3.17**	**70**	Pn	**Pn**	**14 05 54.5**	**+2.8**
BCK	**Bucak**	**3.17**	**70**	P	**Pn**	**14 05 55.0**	**+3.3**
VLI	**Veliai**	**3.17**	**277**	P	**Pn**	**14 05 53.7**	**+2.1**
VLI				S	**Sn**	**14 06 31.0**	**+1.9**
	comp=N,2µm,0.4s						
VLI	**Veliai**	**3.17**	**277**	P	**Pn**	**14 05 53.3**	**+1.7**
ISP	**Isparta**	**3.25**	**63**	Pn	**Pn**	**14 05 53.6**	**+0.8**
ISP	**Isparta**	**3.25**	**63**	Pn	**Pn**	**14 05 54.6**	**+1.8**
ISP	**Isparta**	**3.25**	**63**	*i* P	**Pn**	**14 05 54.4**	**+1.6**
GEDZ	**Gediz**	**3.31**	**37**	Pn	**Pn**	**14 05 55.5**	**+1.9**
BALB	**Balikesir**	**3.32**	**14**	Pn	**Pn**	**14 05 54.9**	**+1.4**
BALB	**Balikesir**	**3.32**	**14**	Pn	**Pn**	**14 05 55.0**	**+1.4**
VIL2	**Platees**	**3.37**	**303**	P	**Pn**	**14 05 55.8**	**+1.5**
DST	**Dursunbey**	**3.47**	**23**	P	**Pn**	**14 05 56.8**	**+1.2**
LOUT	**Loutraki**	**3.47**	**298**	P	**Pn**	**14 05 57.7**	**+2.1**
SHUT	**Suhut-Afyon**	**3.63**	**53**	Pn	**Pn**	**14 06 00.2**	**+2.4**
THAL	**Thalero**	**3.71**	**297**	P	**Pn**	**14 06 01.0**	**+2.2**
EDC	**Edincik**	**4.00**	**11**	P	**Pn**	**14 06 03.9**	**+1.3**
ITM	**Ithomi**	**4.03**	**282**	Pn	**Pn**	**14 06 03.3**	**+0.3**
ITM	**Ithomi**	**4.03**	**282**	P	**Pn**	**14 06 05.4**	**+2.4**
NEO	**Neokhori**	**4.07**	**316**	P	**Pn**	**14 06 05.6**	**+2.0**
KLV	**Kalavryta, Ach**	**4.09**	**295**	P	**Pn**	**14 06 06.1**	**+2.3**
XOR	**Xorichti**	**4.13**	**317**	P	**Pn**	**14 06 06.2**	**+1.8**
SMTH	**Samothraki Isl**	**4.18**	**346**	P	**Pn**	**14 06 06.0**	**+1.0**
LAKA	**Lakka**	**4.29**	**297**	P	**Pn**	**14 06 08.7**	**+2.2**
PAIG	**Paliouri**	**4.30**	**325**	P	**Pn**	**14 06 08.5**	**+1.9**
PAIG	**Paliouri**	**4.30**	**325**	P	**Pn**	**14 06 08.3**	**+1.6**
SERG	**Sergoula**	**4.31**	**299**	P	**Pn**	**14 06 10.3**	**+3.5**
DRO	**Drossia**	**4.38**	**292**	P	**Pn**	**14 06 10.4**	**+2.6**
EFP	**Efpalio**	**4.42**	**298**	P	**Pn**	**14 06 10.4**	**+2.2**
AGG	**Agios Georgios**	**4.43**	**307**	P	**Pn**	**14 06 11.0**	**+2.6**
BORA	**Eskisehir**	**4.47**	**38**		**Pn**	**14 06 10.8**	**+1.9**
ANX	**Ano Chora**	**4.48**	**300**	P	**Pn**	**14 06 11.5**	**+2.4**
THAS	**Thassos island**	**4.50**	**339**	P	**Pn**	**14 06 11.5**	**+2.2**
OUR	**Ouranopolis**	**4.51**	**331**	P	**Pn**	**14 06 11.3**	**+1.9**
OUR	**Ouranopolis**	**4.51**	**331**	P	**Pn**	**14 06 11.2**	**+1.7**
MAKR	**Makrakomi, Fth**	**4.55**	**306**	P	**Pn**	**14 06 13.0**	**+3.0**
RLS	**Riolos of Patr**	**4.60**	**292**	P	**Pn**	**14 06 12.9**	**+2.3**
EVR	**Evrytania**	**4.72**	**303**	P	**Pn**	**14 06 16.2**	**+4.0**
PVO	**Paravola**	**4.77**	**299**	P	**Pn**	**14 06 15.2**	**+2.3**
RDO	**Rodhopi**	**4.83**	**348**		**Pn**	**14 06 13.7**	**+0.1**
RDO	**Rodhopi**	**4.83**	**348**	P	**Pn**	**14 06 15.1**	**+1.8**
TYRN	**Tirnavos**	**4.91**	**313**	P	**Pn**	**14 06 17.5**	**+2.8**
THL	**Klokotos Trika**	**4.95**	**311**	P	**Pn**	**14 06 17.7**	**+2.4**
LIT	**Litokhoron**	**5.03**	**318**		**Pn**	**14 06 18.5**	**+2.1**
LIT	**Litokhoron**	**5.03**	**318**	P	**Pn**	**14 06 18.5**	**+2.1**
MATC	**Matruh**	**5.07**	**176**	⇓P	**Pn**	**14 06 19.1**	**+2.2**
	baz=177						
SLUM	**Salum**	**5.10**	**196**	P	**Pn**	**14 06 19.2**	**+1.8**
	baz=198						
SLUM				S	**Sn**	**14 07 11.9**	**-3.4**
	baz=198						
HORT	**Hortiatis**	**5.11**	**326**	P	**Pn**	**14 06 19.8**	**+2.3**
SOH	**Sokhos**	**5.18**	**329**	P	**Pn**	**14 06 20.9**	**+2.5**
SOH				pmax	pmax		
	comp=Z,73nm,0.8s						
THE	**Thessaloniki**	**5.20**	**325**	P	**Pn**	**14 06 21.1**	**+2.5**
THE				pmax	pmax		
	comp=Z,203nm,0.9s						
MDUB	**Mudurnu**	**5.29**	**39**	Pn	**Pn**	**14 06 21.6**	**+1.7**
SRS	**Serrai**	**5.34**	**332**	P	**Pn**	**14 06 22.5**	**+2.0**
SRS				pmax	pmax		
	comp=Z,100nm,0.9s						
CSS	**Mathiatis**	**5.47**	**104**	Pn	**Pn**	**14 06 22.4**	**+0.2**
RZN	**Rozhen**	**5.52**	**343**	*i* P	**Pn**	**14 06 24.6**	**+1.5**
MMB	**Musomiste**	**5.71**	**336**	*i* P	**Pn**	**14 06 27.0**	**+1.5**
GRG	**Griva**	**5.71**	**324**	P	**Pn**	**14 06 28.1**	**+2.5**
GRG				pmax	pmax		
	comp=Z,100nm,0.8s						
BR231	**Keskin MP Arra**	**5.78**	**52**	Pn	**Pn**	**14 06 29.0**	**+2.4**
ANTO	**Ankara**	**5.81**	**52**		**Pn**	**14 06 29.8**	**+2.9**
ANTO	**Ankara**	**5.81**	**52**	P	**Pn**	**14 06 29.8**	**+2.9**
VAY	**Valandovo**	**5.93**	**327**	*i* Pn	**Pn**	**14 06 31.1**	**+2.7**
FNA	**Florina**	**6.12**	**317**	Pn	**Pn**	**14 06 32.7**	**+1.7**
FNA	**Florina**	**6.12**	**317**	P	**Pn**	**14 06 32.7**	**+1.7**
KKB	**Krupnik**	**6.18**	**333**	*i* P	**Pn**	**14 06 32.6**	**+0.8**
BR131	**Keskin Array S**	**6.29**	**56**	Pn	**Pn**	**14 06 32.7**	**-0.7**
BR131	**Keskin Array S**	**6.29**	**56**	*d i* P	**Pn**	**14 06 35.6**	**+2.2**
BRTR	**Keskin Array B**	**6.29**	**56**	P	**Pn**	**14 06 36.0**	**+2.6**
	comp=Z,36nm,0.8s,baz=226,slow=15,SNR=175						
BRTR				S	**Sn**	**14 07 47.0**	**+3.0**
	comp=Z,18nm,0.7s,baz=224,slow=25,SNR=9.6						
BRTR	**Keskin Array B**	**6.29**	**56**	*e*P	**Pn**	**14 06 36.0**	**+2.6**
BRTR				pmax	pmax		
	comp=Z,37nm,0.7s						
KEK	**Kerkira**	**6.46**	**303**

comp=Z,2.5nm,0.9s,baz=240,slow=13,SNR=3.3
MLR Muntele Rosu 9.09 356 ⇑P **Pn** **14 07 14.7 +3.5**
TREB Trebinje 9.09 316 *e*Pn **Pn** **14 07 10.7 -0.4**
KRMI Paran Flat 9.10 131 Pn **Pn** **14 07 11.2 -0.2**
KRMI Sn **Sn** **14 08 48.2 -3.9**
PRNI Paran 9.11 129 Pn **Pn** **14 07 11.4 -0.1**
PRNI Sn **Sn** **14 08 47.7 -4.6**
PRNI Paran 9.11 129 P **Pn** **14 07 12.1 +0.6**
VOIR 9.11 352 ⇑P **Pn** **14 07 15.2 +3.8**
VOIR 9.11 352 P **Pn** **14 07 15.2 +3.8**
UPM Unac-Piva 9.12 320 *e*Pn Pn 14 07 04.0 -7.7
RUDO Rudo 9.22 324 *e*Pn **Pn** **14 07 12.2 -0.3**
MDVR Moldovita 9.22 337 ⇑P **Pn** **14 07 14.8 +1.9**
DIVS Divibare 9.29 328 Pn **Pn** **14 07 12.9 -1.0**
DIVS Divibare 9.29 328 *e*Pn **Pn** **14 07 14.7 +0.9**
ASF Jabal al Asfar 9.32 114 P **Pn** **14 07 15.8 +1.4**
comp=Z,12nm,0.3s,baz=289,slow=5.2,SNR=26
ASF S **Sn** **14 08 59.4 +1.8**
comp=Z,11nm,0.5s,baz=104,slow=18,SNR=2.4
ASF Jabal al Asfar 9.32 114 P **Pn** **14 07 16.6 +2.2**
HRFI Mount Harif 9.35 131 Pn **Pn** **14 07 14.7 0.0**
HRFI Sn **Sn** **14 08 53.9 -4.2**
TAMRE El Minia 9.37 157 P **Pn** **14 07 15.6 +0.7**
baz=157
CUC Castrocucco 9.39 296 **Pn** **14 07 14.8 -0.4**
HRDS Abu Rudays 9.41 143 P **Pn** **14 07 16.6 +1.1**
baz=143
COVR Voineasa-Covas 9.43 357 ⇑P Pn 14 07 20.7 +5.0
VRI Vrincioaia 9.44 359 ⇑P Pn 14 07 21.0 +5.3
VRI Vrincioaia 9.44 359 P Pn 14 07 21.0 +5.3
MBRI Mt Berech 9.45 132 Pn **Pn** **14 07 16.1 0.0**
MBRI Sn **Sn** **14 08 56.8 -3.8**
MBRI Mt Berech 9.45 132 P **Pn** **14 07 16.4 +0.3**
GZR Gura Zlata 9.48 342 ⇑P **Pn** **14 07 18.6 +2.2**
GZR Gura Zlata 9.48 342 P **Pn** **14 07 18.5 +2.2**
STON Ston 9.55 315 *e*Pn **Pn** **14 07 15.9 -1.4**
EIL Elat 9.56 132 P **Pn** **14 07 18.3 +0.8**
comp=Z,42nm,0.5s,baz=282,slow=1.9,SNR=59
EIL S **Sn** **14 08 59.6 -3.5**
comp=Z,33nm,0.4s,baz=298,slow=4.7,SNR=8.1
EIL Elat 9.56 132 Pn **Pn** **14 07 17.4 -0.1**
EIL Sn **Sn** **14 08 58.7 -4.5**
EIL Elat 9.56 132 P **Pn** **14 07 17.8 +0.3**
AQBJ Aqaba 9.58 132 P **Pn** **14 07 18.6 +0.9**
DOPR Dopca 9.60 354 ⇓P **Pn** **14 07 22.7 +4.7**
HSNJ Maan 9.61 127 P **Pn** **14 07 20.0 +1.8**
HAPS Han Pijesak,BI 9.75 324 *e*Pn **Pn** **14 07 20.6 +0.6**
TR2 Tor 2 9.89 142 ⇓P **Pn** **14 07 22.7 +0.7**
baz=142
SURR Surduc 9.98 341 ⇓P **Pn** **14 07 25.5 +2.4**
BZS Buzias 10.00 338 ⇑P **Pn** **14 07 24.7 +1.4**
BZS Buzias 10.00 338 P **Pn** **14 07 24.7 +1.4**
VAE Valguarnera 10.02 280 P **Pn** **14 07 24.4 +0.7**
comp=Z,18nm,0.5s,baz=142,slow=1.4,SNR=5.6
VAE S **Sn** **14 09 06.8 -7.4**
comp=Z,99nm,0.6s,baz=350,slow=12,SNR=10
RAFF Raffo Rosso 10.05 278 Pn **Pn** **14 07 22.8 -1.2**
TESR Tescani 10.09 359 ⇑P Pn 14 07 29.8 +5.4
SGRT San Giovanni R 10.14 305 Pn **Pn** **14 07 24.0 -1.3**
SIRR Siria 10.58 340 ⇑P **Pn** **14 07 32.7 +1.6**
MGRS Mrkonjic Grad 10.91 320 *e*Pn **Pn** **14 07 37.4 +1.8**
BLY Banja Luka 11.10 322 *e*Pn **Pn** **14 07 36.8 -1.2**
A050A Klekovaca 11.25 319 *e*Pn **Pn** **14 07 40.3 +0.2**
BURAR Bucovina Array 11.25 354 ⇓P **P** **14 07 45.3 -3.9**
BURAR Bucovina Array 11.25 354 P **P** **14 07 45.3 -3.9**
A051A Mrakovica 11.42 324 *e*Pn **Pn** **14 07 42.8 +0.4**
INTR Introdacqua 11.49 303 Pn **Pn** **14 07 41.7 -1.6**
ANN Anapa 11.60 41 *e*P **Pn** **14 07 43.4 -1.2**
ANN pmax pmax
comp=Z,178nm,1.1s
CAMP Campotosto 12.05 305 Pn **Pn** **14 07 46.5 -4.2**
NRCA Norcia 12.37 305 Pn **Pn** **14 07 54.2 -0.7**
FDMO Fiordimonte 12.48 306 Pn **Pn** **14 07 53.8 -2.5**
PSZ Piszkesteto 12.59 338 P **P** **14 08 03.9 -0.2**
PSZ pmax pmax
comp=Z,27nm,0.8s
BOJS Bojanci 12.61 320 *e*Pn **Pn** **14 07 56.4 -1.4**
CRES Cresnjev 12.72 321 *e*Pn **Pn** **14 07 58.6 -0.7**
GBRS Gornja Briga 12.86 319 *i* Pn **Pn** **14 08 04.5 +3.4**
CRVS Cervenica-Dubn 13.09 344 *e*P **P** **14 08 12.8 +3.2**
CRVS Cervenica-Dubn 13.09 344 *e*P **P** **14 08 12.8 +3.2**
KNDS Knezji Dol 13.09 318 *i* Pn **Pn** **14 08 06.0 +1.9**
KNDS *i* P **P** **14 08 10.7 +1.0**
CEY Cerknica 13.20 319 *e*Pn **Pn** **14 08 06.9 +1.4**
SKDS Skadanscina 13.30 317 *e*Pn **Pn** **14 08 06.7 -0.1**
LJU Ljubljana 13.35 320 *i* Pn **Pn** **14 08 09.9 +2.5**
LJU *i* P **P** **14 08 13.4 +1.0**
VYHS Vyhne 13.43 336 *e*P **P** **14 08 14.9 +1.5**
VYHS Vyhne 13.43 336 *e*P **P** **14 08 14.9 +1.5**
SOKA Soboth 13.53 323 *e*Pn **Pn** **14 08 11.8 +1.9**
comp=Z,13nm,1.1s,SNR=5.9
STHS Stebnicka Huta 13.62 344 *e*P **P** **14 08 17.9 +2.4**
STHS Stebnicka Huta 13.62 344 *e*P **P** **14 08 17.9 +2.4**
OBKA Obir 13.65 321 *e*Pn **Pn** **14 08 13.9 +2.5**
comp=Z,5.5nm,0.5s
OBKA Obir 13.65 321 *e*Pn **Pn** **14 08 11.3 -0.1**
ARSA Arzberg 13.71 326 *i* Pn **P** **14 08 15.8 -0.7**
comp=Z,3.9nm,0.4s
RONA Rosalia, Austr 13.72 329 *e*Pn **P** **14 08 15.0 -1.6**
comp=Z,5.4nm,0.5s
SABO M.te Sabotino 13.80 318 Pn **Pn** **14 08 12.6 -0.7**
LANS Liptovska Anna 13.82 339 *e*P **P** **14 08 19.8 +2.0**
LANS Liptovska Anna 13.82 339 *e*P **P** **14 08 19.8 +2.0**
NIE Niedzica 13.84 342 P **P** **14 08 18.8 +0.8**
NIE pmax pmax
comp=Z,5.0nm,0.9s
CASP Castiglione de 13.86 302 Pn **Pn** **14 08 14.0 -0.1**
MODS Modra-Piesok 13.87 332 *e*P **P** **14 08 19.5 +1.2**
MODS Modra-Piesok 13.87 332 *e*P **P** **14 08 19.5 +1.2**
CONA Conrad Observa 14.08 328 *e*Pn **P** **14 08 20.2 -0.5**
comp=Z,2.9nm,0.5s
SHA1 Shidzhatmaz 14.12 54 *i* P **P** **14 08 21.0 -0.4**
KEST Kesra 14.18 272 P **Pn** **14 08 19.3 +1.0**
comp=Z,5.1nm,0.7s,baz=68,slow=15,SNR=2.0
KEST S Sn 14 10 46.5 -8.4
comp=Z,6.5nm,0.5s,baz=245,slow=23,SNR=8.6
MYKA Terra Mystica 14.19 320 *e*Pn **Pn** **14 08 17.9 -0.5**
comp=Z,14nm,0.6s
KIV Kislovodsk 14.24 53 *de*P **P** **14 08 23.9 +1.4**
KIV pmax pmax
comp=Z,12nm,1.1s
KVAR Kislovodsk Arr 14.24 53 P **Pn** **14 08 20.6 +1.5**
comp=Z,2.2nm,0.5s,baz=67,slow=19,SNR=1.7
KBZ Khabaz 14.28 54 P **P** **14 08 22.8 0.0**
comp=Z,27nm,0.9s,baz=244,slow=9.8,SNR=33
KBZ Khabaz 14.28 54 *i* P **Pn** **14 08 21.3 +2.0**
KBZ pmax pmax
comp=Z,28nm,0.9s
AKASG Malin Array Be 14.38 6 P **P** **14 08 24.0 +0.1**
comp=Z,5.1nm,0.5s,baz=200,slow=11,SNR=16
AKASG S **S** **14 11 07.3 -3.2**
comp=Z,2.8nm,0.8s,baz=184,slow=21,SNR=15
AKASG Malin Array Be 14.38 6 *e*P **P** **14 08 24.3 +0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 14.38 6 *i* P **P** **14 08 24.0 +0.1**
AKBB pmax pmax
comp=Z,17nm,1.9s
ZCCA Zocca 14.45 308 Pn **Pn** **14 08 21.2 -0.3**
STAL STALIGIAL 14.46 317 **Pn** **14 08 20.0 -1.6**
CLUD Cludinico 14.48 318 Pn **Pn** **14 08 22.6 +0.6**
MAUC Maruska 14.52 336 *e*P **P** **14 08 26.5 +1.0**
TEOL Teolo 14.53 313 P **Pn** **14 08 23.5 +1.0**
GNI Garni 14.53 70 P **Pn** **14 08 24.2 +1.5**
comp=Z,11nm,0.9s,baz=347,slow=23,SNR=2.8
CIMO Cimolais 14.63 317 **Pn** **14 08 24.0 +0.1**
KBA Koelnbreinsper 14.64 321 *i* Pn **P** **14 08 28.8 +1.8**
comp=Z,13nm,0.4s,SNR=8.1
KBA Koelnbreinsper 14.64 321 P **P** **14 08 28.7 +1.6**
KBA pmax pmax
comp=Z,74nm,1.1s
OJC Ojcow 14.71 342 P **P** **14 08 29.5 +1.9**
OJC pmax pmax
comp=Z,33nm,1.0s
MOA Molln 14.73 325 *i* Pn **Pn** **14 08 26.8 +1.7**
comp=Z,7.9nm,0.8s
KRUC Moravsky 14.77 332 *e*PN **P** **14 08 28.7 +0.5**
OKC Ostrava-Krasne 14.83 337 *e*P **P** **14 08 30.6 +1.8**
OKC Ostrava-Krasne 14.83 337 *e*P **P** **14 08 30.6 +1.8**
ABTA Abfaltersbach 14.87 318 *e*Pn **Pn** **14 08 26.7 -0.2**
comp=Z,11nm,0.6s,SNR=5.7
VRAC Vranov 14.90 333 P **P** **14 08 29.1 -0.6**
comp=Z,20nm,0.7s,baz=145,slow=11,SNR=20
VRAC Vranov 14.90 333 *e*PN **P** **14 08 30.6 +0.9**
BIOA Bad Ischl, Aus 14.92 323 *e*Pn **P** **14 08 32.2 +2.3**
comp=Z,9.4nm,0.5s
CTI Castel Tesino 14.92 315 **Pn** **14 08 27.2 -0.4**
CTI Castel Tesino 14.92 315 P **Pn** **14 08 27.2 -0.4**
MORC Moravsky Berou 14.97 336 Pn **Pn** **14 08 27.6 -0.4**
MORC Moravsky Berou 14.97 336 *e*PN **P** **14 08 31.5 +1.0**
MORC Moravsky Berou 14.97 336 P **Pn** **14 08 27.6 -0.4**
SALO Salr 15.35 312 Pn **Pn** **14 08 30.5 -2.3**
MSSA Maissana 15.37 306 **Pn** **14 08 34.2 +1.0**
MSSA IAmb IAmb 14 08 57.6
comp=Z,17nm,0.8s
CKRC Cesky Krumlov 15.43 327 *e*P **P** **14 08 35.6 0.0**
KRLC Kraliky 15.48 335 *e*P **P** **14 08 37.5 +1.4**
KRLC Kraliky 15.48 335 *e*P **P** **14 08 37.5 +1.4**
WTTA Wattenberg 15.65 319 *e*Pn **P** **14 08 39.9 +1.7**
comp=Z,25nm,0.7s,SNR=6.9
WTTA Wattenberg 15.65 319 P **P** **14 08 40.3 +2.0**
WTTA pmax pmax
comp=Z,38nm,0.8s
GEC2 GERESS Array S 15.71 326 *e*P **P** **14 08 38.9 +0.1**
comp=Z,18nm,1.0s,baz=132,slow=11
GERES GERESS Array B 15.71 326 P **P** **14 08 39.1 +0.2**
comp=Z,9.0nm,0.7s,baz=138,slow=13,SNR=31
GERES GERESS Array B 15.71 326 P **Pn** **14 08 38.2 +0.8**
WATA Walderalm 15.73 319 *e*Pn **P** **14 08 40.2 +1.1**
comp=Z,13nm,0.5s,SNR=10
SQTA Sankt Quirin 15.86 318 *e*Pn **P** **14 08 41.8 +1.3**
comp=Z,8.7nm,0.4s,SNR=7.1
DPC Dobruska-Polom 15.87 335 *e*P **P** **14 08 40.8 +0.4**
DPC Dobruska-Polom 15.87 335 *e*P **P** **14 08 40.8 +0.4**
KHC Kasperske Hory 15.98 327 **Pn** **14 08 40.0 -0.7**
KHC IAmb IAmb 14 08 44.3
comp=Z,22nm,0.8s
KHC Kasperske Hory 15.98 327 *e*P **P** **14 08 41.9 +0.2**
KHC Kasperske Hory 15.98 327 *i* P **Pn** **14 08 41.0 +0.4**
KHC pmax pmax
comp=Z,56nm,0.9s
MOTA Moosalm 15.99 318 *e*Pn **P** **14 08 43.0 +1.1**
comp=Z,9.9nm,0.5s,SNR=6.1
FETA Feichten 16.00 316 *e*Pn **P** **14 08 43.0 +0.9**
comp=Z,46nm,0.8s,SNR=23
FUORN Ofenpass-Fuorn 16.04 315 Pn **Pn** **14 08 39.7 -1.9**
FUORN IAmb IAmb 14 08 46.5
comp=Z,22nm,0.6s
OSTC Ostas 16.08 335 *e*P **P** **14 08 43.1 +0.4**
UPC Upice 16.11 334 *e*P **P** **14 08 46.3 +3.3**
UPC Upice 16.11 334 *e*P **P** **14 08 46.3 +3.3**
PRU Pruhonice 16.23 330 *e*P **Pn** **14 08 44.2 +0.5**
PRU Pruhonice 16.23 330 *e*P **Pn** **14 08 44.2 +0.5**
RETA Reutte 16.26 318 *i* Pn **P** **14 08 45.9 +1.0**
comp=Z,14nm,0.6s
KSP Ksiaz 16.29 336 P **P** **14 08 46.4 +1.3**
KSP pmax pmax
comp=Z,16nm,1.4s
DAVOX Davos/Dischmat 16.35 315 P **P** **14 08 47.1 +1.1**
comp=Z,7.0nm,0.4s,baz=149,slow=15,SNR=12
FUR Furstenfeldbru 16.41 320 P **P** **14 08 47.5 +1.0**
FUR pmax pmax
comp=Z,64nm,0.9s
FUR Furstenfeldbru 16.41 320 *e*P **P** **14 08 47.4 +1.0**
comp=Z,36nm,0.8s,baz=132,slow=11
DAVA Damuels 16.63 316 *i* Pn **P** **14 08 50.4 +1.4**
comp=Z,23nm,0.5s,SNR=10
PVCC Panska Ves 16.65 332 *e*P **P** **14 08 52.3 +3.3**
PVCC Panska Ves 16.65 332 *e*P **P** **14 08 52.3 +3.3**
UBR Ueberruh 16.73 317 *e*P **P** **14 08 51.2 +1.1**
comp=Z,13nm,0.6s,baz=132,slow=11
LLS Linth-Limmern 16.89 314 P **Pn** **14 08 53.7 +1.8**
LLS pmax pmax
comp=Z,42nm,0.7s
ROTZ Rotzenmuhle 17.06 326 *e*P **Pn** **14 08 54.4 +0.7**
comp=Z,2.9nm,0.9s,baz=132,slow=11
MMK Mattmark 17.12 310 P **Pn** **14 08 56.1 +1.3**
MMK pmax pmax
comp=Z,51nm,0.6s
BRG Berggiesshubel 17.17 331 *e*P **Pn** **14 08 55.8 +0.7**
BRG Amp 14 08 56.3
comp=Z,3.5nm,0.5s
BRG Berggiesshubel 17.17 331 *e*P **Pn** **14 08 55.7 +0.7**
BRG pmax pmax
comp=Z,4.0nm,0.5s
VSR Storozhevoye 17.22 27 *e*P **Pn** **14 08 56.1 +0.5**
VSR pmax pmax
comp=Z,9.0nm,0.5s
MANZ Manzenberg 17.26 326 *e*P **Pn** **14 08 56.6 +0.4**
comp=Z,1.8nm,0.8s,baz=132,slow=11
NKC Novy Kostel 17.29 327 P **Pn** **14 08 57.3 +0.7**
WERN Wernitzgruen 17.36 327 *e*P **Pn** **14 08 58.2 +0.8**
comp=Z,12nm,0.6s,baz=132,slow=11
RRL Rocca Remolon 17.40 305 P **Pn** **14 09 00.5 +2.4**
RRL pmax pmax
comp=Z,33nm,1.4s
ZUR Degenried 17.41 315 P **Pn** **14 08 59.0 +0.9**
ZUR pmax pmax
comp=Z,92nm,0.8s
TANN Tannenbergstha 17.42 328 *e*P **Pn** **14 08 58.5 +0.3**
comp=Z,4.6nm,0.6s,baz=132,slow=11
GUNZ Gunzen 17.44 328 *e*P **Pn** **14 08 59.0 +0.7**
comp=Z,10nm,0.6s,baz=132,slow=11
WERD Werda 17.51 328 *e*P **Pn** **14 08 59.6 +0.4**
comp=Z,14nm,0.7s,baz=132,slow=11
BNI Bardonecchia 17.52 306 **Pn** **14 09 00.7 +1.2**
BNI IAmb IAmb 14 09 06.3
comp=Z,21nm,1.2s
BNI Bardonecchia 17.52 306 P **Pn** **14 09 00.7 +1.2**
BNI pmax pmax
comp=Z,21nm,1.2s
SENIN Lac Senin/Sane 17.68 310 P **P** **14 09 01.4 +0.7**
SLE Schleitheim 17.68 316 P **Pn** **14 09 01.6 +0.3**
SLE pmax pmax
comp=Z,21nm,1.2s
RSL Roselend 17.81 308 P **Pn** **14 09 03.5 +0.5**
RSL pmax pmax
comp=Z,29nm,0.5s
STU Stuttgart 17.88 319 *e*P **Pn** **14 09 03.7 +0.1**
comp=Z,32nm,0.7s,baz=132,slow=11
CLL Collm 17.88 331 P **P** **14 09 02.7 +0.2**
CLL IAmb IAmb 14 09 04.1
comp=Z,13nm,0.7s
CLL Collm 17.88 331 *i* P **P** **14 09 02.9 +0.4**
comp=Z,14nm,0.6s
CLL *i* x x 14 09 06.1
CLL *es*P **sP** **14 09 40.0 -0.6**
CLL Collm 17.88 331 *i* P **P** **14 09 02.9 +0.4**
CLL pmax pmax
comp=Z,14nm,0.6s
CLL Collm 17.88 331 *e*P **P** **14 09 03.2 +0.7**
comp=Z,12nm,0.6s,baz=132,slow=11
MOX Moxa 17.95 327 P **Pn** **14 09 06.3 +1.8**
MOX Moxa 17.95 327 *e*P **Pn** **14 09 05.1 +0.6**
comp=Z,7.8nm,0.7s,baz=132,slow=11
ORIF Oris-en-Rattie 18.00 305 P **Pn** **14 09 10.5 +5.3**
ORIF pmax pmax
comp=Z,24nm,1.4s
BFO Black Forest 18.08 317 P **Pn** **14 09 06.4 +0.3**
BFO Black Forest 18.08 317 P **Pn** **14 09 06.4 +0.3**
BFO pmax pmax
comp=Z,29nm,0.7s
BFO Black Forest 18.08 317 *e*P **Pn** **14 09 07.1 +1.0**
comp=Z,21nm,0.7s,baz=132,slow=11
VRH Novokhopyorsk 18.21 31 *e*P **P** **14 09 07.0 +0.9**
VRH pmax pmax
comp=Z,20nm,0.6s
LPSR Galich'ya Gora 18.28 24 *e*P **Pn** **14 09 08.4 0.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
ECH Echery 18.68 315 P **P** **14 09 10.8 -0.5**
ECH IAmb IAmb 14 09 17.9
comp=Z,12nm,1.1s
ECH Echery 18.68 315 P **P** **14 09 12.0 +0.7**
ECH pmax pmax
comp=Z,62nm,1.8s
SSB Saint Sauveur 19.01 305 P **P** **14 09 12.3 -2.7**
SSB IAmb IAmb 14 09 33.5
comp=Z,14nm,1.3s
SSB Saint Sauveur 19.01 305 P **P** **14 09 12.3 -2.7**
SSB pmax pmax
comp=Z,14nm,1.3s
TNS Taunus Mts 19.16 322 P **P** **14 09 17.4 +0.9**
TNS pmax pmax
comp=Z,30nm,1.1s
TNS Taunus Mts 19.16 322 *e*P **P** **14 09 17.2 +0.7**
comp=Z,14nm,0.8s,baz=132,slow=11
PABE Paberze 19.19 355 P **P** **14 09 15.4 -1.4**
GTTG Gottingen 19.33 327 *e*P **P** **14 09 19.7 +1.3**
comp=Z,18nm,0.8s,baz=132,slow=11
CLZ Clausthal 19.36 328 *e*P **P** **14 09 18.9 +0.1**
comp=Z,5.6nm,0.7s,baz=132,slow=11
OBN Obninsk 19.85 17 ‖*e*P **P** **14 09 23.8 -0.1**
OBN *e*S **S** **14 13 01.5 +1.1**
OBN pmax pmax
comp=Z,31nm,1.5s
WLF Walferdange 20.02 318 P **P** **14 09 24.6 -1.2**
WLF IAmb IAmb 14 09 31.9
comp=Z,16nm,0.8s
WLF Walferdange 20.02 318 P **P** **14 09 24.6 -1.2**
WLF pmax pmax
comp=Z,16nm,0.8s
WLF Walferdange 20.02 318 *d*P **P** **14 09 26.6 +0.8**
comp=Z,12nm,0.7s
WLF Walferdange 20.02 318 *e*P **P** **14 09 26.8 +1.0**
comp=Z,12nm,0.8s,baz=132,slow=11
AHRW Bad Neuenahr-A 20.04 321 *e*P **P** **14 09 27.5 +1.5**
comp=Z,14nm,0.7s,baz=132,slow=11
BSD Bornholm Skovb 20.41 340 *i* P **P** **14 09 28.0 -2.0**
BSD IAmb IAmb 14 09 31.7
comp=Z,14nm,0.6s
BTNL Ternell 20.55 320 *d*P **P** **14 09 32.8 +1.2**
comp=Z,13nm,1.0s
MEM Membach 20.63 320 P **P** **14 09 34.0 +1.6**
MEM pmax pmax
comp=Z,45nm,0.9s
MEM Membach 20.63 320 *d*P **P** **14 09 33.8 +1.5**
comp=Z,24nm,0.8s
RCHB Rochefort 20.79 318 *d*P **P** **14 09 35.0 +0.9**
BSTI Sart Tilman 20.85 319 *d*P **P** **14 09 36.8 +2.1**
BCLA Clavier 20.89 319 *d*P **P** **14 09 36.8 +1.6**
comp=Z,16nm,0.8s
BSEG Bad Segeberg 20.95 332 *e*P **P** **14 09 36.2 +0.5**
comp=Z,9.4nm,0.8s,baz=132,slow=11
BGES Gesves 20.99 318 *d*P Pn 14 09 39.2 -1.0
comp=Z,15nm,0.8s
DOU Dourbes 21.10 317 *d*P **P** **14 09 38.4 +1.0**
comp=Z,10nm,0.7s
BLEU Blekinge 21.25 343 *i* P **P** **14 09 36.7 -2.2**
LUNU Lund 21.28 339 *i* P **P** **14 09 38.0 -1.3**
BELG Belogornoye 21.68 36 P **P** **14 09 44.1 +0.6**
comp=Z,7.7nm,0.4s,baz=298,slow=1.2,SNR=4.3
comp=Z,7.7nm,0.4s
BELG Belogornoye 21.68 36 *i* P **P** **14 09 44.5 +1.0**
BELG pmax pmax
comp=Z,2.0nm,0.7s
DEL Delary 21.89 340 *i* P **P** **14 09 44.2 -1.5**
ESBB Sonseca Array 24.43 287 P **P** **14 10 09.8 -0.2**
ESDC Sonseca Array 24.43 287 P **P** **14 10 11.3 +1.3**
comp=Z,1.9nm,0.5s,baz=81,slow=9.3,SNR=24
comp=Z,1.9nm,0.5s
ESDC Sonseca Array 24.43 287 P **P** **14 10 08.6 -1.5**
FINES FINESS Array B 25.05 359 P **P** **14 10 15.5 +0.1**
comp=Z,2.7nm,0.4s,baz=167,slow=11,SNR=18
comp=Z,2.7nm,0.4s
FINES FINESS Array B 25.05 359 P **P** **14 10 14.9 -0.4**
FINES FINESS Array B 25.05 359 *e*P **P** **14 10 15.1 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FIA1 FINESS Array S 25.05 359 P **P** **14 10 13.9 -1.4**
HFS Hagfors 25.20 344 P **P** **14 10 16.2 -0.5**
comp=Z,5.8nm,0.5s,baz=148,slow=11,SNR=24
comp=Z,5.8nm,0.5s
NC602 NORSAR Array S 26.22 343 P **P** **14 10 24.3 -1.6**
NC602 IAmb IAmb 14 10 38.0
comp=Z,16nm,1.4s
NORES NORESS Array B 26.22 343 P **P** **14 10 28.7 +2.8**
AKTO Aktyubinsk 26.39 48 P **P** **14 10 29.5 +2.0**
comp=Z,1.0nm,0.4s,baz=254,slow=11,SNR=3.0
comp=Z,1.0nm,0.4s
PBRG Braganca 26.51 292 *e*P **P** **14 10 29.8 +1.0**
NC405 NORSAR Array S 26.52 343 P **P** **14 10 26.6 -2.0**
NB2 NORSAR Subarra 26.57 343 P **P** **14 10 28.0 -1.1**
comp=Z,0.8nm,0.5s,baz=154,slow=10
NOA NORSAR Array B 26.57 343 P **P** **14 10 28.3 -0.8**
comp=Z,0.6nm,0.5s,baz=155,slow=9.8,SNR=8.6
comp=Z,0.6nm,0.5s
NBO00 NORSAR Array S 26.66 343 P **P** **14 10 28.2 -1.7**
NBO00 IAmb IAmb 14 10 39.7
comp=Z,24nm,1.2s
MVO Moncorvo 26.73 291 *e*P **P** **14 10 31.8 +1.0**
NC204 NORSAR Array S 26.88 343 P **P** **14 10 31.4 -0.5**
NC204 IAmb IAmb 14 10 41.4
comp=Z,10nm,1.1s
PBAR Barrancos 26.94 284 *e*P **P** **14 10 32.9 +0.3**
PMRV Marv??o 27.09 287 *e*P **P** **14 10 34.7 +0.7**
PCBR Castelo Branco 27.12 288 *e*P **P** **14 10 35.2 +1.0**
POLO Lamas de Olo 27.30 291 *e*P **P** **14 10 37.2 +1.3**
PVAQ Vaqueiros 27.57 283 *e*P **P** **14 10 39.0 +0.7**
PVAQ Vaqueiros 27.57 283 P **P** **14 10 36.2 -2.1**
PVAQ IAmb IAmb 14 11 16.9
comp=Z,6.1nm,1.4s
EKA Eskdalemuir Ar 27.85 322 P **P** **14 10 39.4 -1.1**
comp=Z,1.4nm,0.5s,baz=118,slow=10,SNR=9.0
comp=Z,1.4nm,0.5s
ARU Arti 29.22 37 P **P** **14 10 53.4 +0.7**
comp=Z,1.4nm,0.3s,baz=214,slow=10,SNR=3.5
ARU LR LR 14 23 28.8
comp=Z,14nm,18.4s,baz=72,slow=38
comp=Z,1.4nm,0.3s
ARU Arti 29.22 37 *c i*P **P** **14 10 53.4 +0.7**
ARU 14 11 50.0
ARU 14 13 55.2
ARU S **S** **14 15 36.8 +0.8**
ARU pmax pmax
comp=Z,4.0nm,1.2s
ARCES ARCESS Array B 33.18 359 P **P** **14 11 27.7 +0.4**
comp=Z,5.3nm,1.0s,baz=175,slow=8.2,SNR=8.1
comp=Z,5.3nm,1.0s
BRVK Borovoye 34.43 47 *i* P **P** **14 11 38.4 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,1.5s
AAK Ala-Archa 36.87 65 P **P** **14 11 57.8 -1.7**
AAK Ala-Archa 36.87 65 *i* P **P** **14 12 00.0 +0.5**
AAK pmax pmax
comp=Z,3.0nm,0.9s
NIL Nilore 37.81 80 P **P** **14 12 07.5 +0.2**
NIL IAmb IAmb 14 12 11.3
comp=Z,6.7nm,0.9s
NIL Nilore 37.81 80 P **P** **14 12 07.5 +0.2**
NIL pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 39.32 52 P **P** **14 12 20.1 +0.4**
KURK Kurchatov 39.32 52 P **P** **14 12 20.1 +0.4**
KURK pmax pmax
comp=Z,4.0nm,1.3s
DBIC Dimbokro 41.43 232 P **P** **14 12 39.1 +1.7**
comp=Z,5.2nm,0.5s,baz=46,slow=8.9,SNR=12
comp=Z,5.2nm,0.5s
DBIC Dimbokro 41.43 232 P **P** **14 12 37.6 +0.2**
DBIC IAmb IAmb 14 12 40.3
comp=Z,20nm,1.5s
MAKZ Makanchi 41.72 58 P **P** **14 12 39.4 -0.1**
MAKZ Makanchi 41.72 58 P **P** **14 12 39.4 -0.1**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 41.94 58 P **P** **14 12 42.1 +0.8**
MK31 IAmb IAmb 14 12 43.5
comp=Z,2.8nm,0.6s
MK31 Makanchi Array 41.94 58 *d i*P **P** **14 12 42.8 +1.5**
MKAR Makanchi Array 41.94 58 P **P** **14 12 43.0 +1.7**
comp=Z,2.7nm,0.5s,baz=269,slow=8.4,SNR=63
MKAR ScP **ScP** **14 18 13.2 +0.1**
comp=Z,0.3nm,0.5s,baz=280,slow=2.5,SNR=4.8
comp=Z,2.7nm,0.5s
MKAR Makanchi Array 41.94 58 P **P** **14 12 42.6 +1.4**
ZAA0 Zalesovo Array 43.14 47 P **P** **14 12 49.9 -1.0**
ZALV Zalesovo Beam 43.14 47 P **P** **14 12 51.6 +0.7**
comp=Z,1.9nm,0.3s,baz=267,slow=9.1,SNR=12
comp=Z,1.9nm,0.3s
ZALV Zalesovo Beam 43.14 47 P **P** **14 12 49.7 -1.1**
NRIK Noril'sk 46.15 25 *i* P **P** **14 13 13.4 -1.1**
NRIK pmax pmax
comp=Z,3.0nm,1.1s
WMQ Urumqi 46.19 61 *e*P **P** **14 13 17.2 +2.0**
SONM Songino Array 57.62 52 P **P** **14 14 40.8 +0.8**
comp=Z,0.2nm,0.3s,baz=290,slow=7.4,SNR=2.6
comp=Z,0.2nm,0.3s
SCHQ Schefferville 63.12 320 P **P** **14 15 16.9 -0.3**
comp=Z,3.4nm,0.5s,baz=63,slow=4.6,SNR=11
comp=Z,3.4nm,0.5s
HHC Hu-ho-hao-te 63.80 57 *e*P **P** **14 15 21.3 -0.6**
HHC pmax pmax
comp=Z,16nm,0.6s

HHC					pmax	pmax			
	comp=Z,260nm,4.2s								
CMAR	**Chiang Mai Arr**	**65.07**	**85**	P		**P**	**14 15 31.9**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=292,slow=7.9,SNR=5.1								
	comp=Z,0.6nm,0.7s								
KLR	**Kul'dur**	**71.91**	**42**	*i* P		**P**	**14 16 13.1**	**+0.6**
KLR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
ULM	**Lac du Bonnet**	**80.02**	**327**	P		**P**	**14 16 58.3**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=54,slow=4.3,SNR=4.9								
	comp=Z,1.8nm,0.6s								
ULM	**Lac du Bonnet**	**80.02**	**327**	*e*P		**P**	**14 16 57.8**	**-0.6**
ULM					pmax	pmax			
	comp=Z,2.0nm,0.6s								

*MDD **05** 14:19:28.9±1.9,32°15N×7°64W,h17km±11km,Mb3.7/4, M_mb3.0/4,Error ellipse: s-maj=29.5km s-min=12.5km az=91.0*

INMG 05 14:19:28.8±0.9,32°27N×8°22W,h0km,ML2.0,4C,Error ellipse: s-maj=5.6km s-min=4.8km az=38.0,Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**4.88**	**354**	*e*P	Pn	14 20 43.0	-0.5
PVAQ	**Vaqueiros**	**5.14**	**4**	*e*P	Pn	14 20 45.5	-1.6
PVAQ				S	Sn	14 21 44.4	-2.7
PVAQ				A	A	14 21 46.4	
	1.4nm,0.7s						
EGRO	**El Granado**	**5.29**	**6**	Pn	Pn	14 20 47.5	-1.6
EGRO				⇑*i*Vmb_V		14 20 50.5	
	63nm,SNR=1.2						
PCVE	**Castro Verde**	**5.36**	**2**	*e*P	Pn	14 20 49.2	-0.8
EMIN	**Mina Concepcio**	**5.63**	**13**	Pn	Pn	14 20 51.2	-2.6
EMIN				⇑*i*Vmb_V		14 20 53.3	
	22nm,SNR=1.5						
PNCL	**Nicolau / Gran**	**5.84**	**358**	*e*P	Pn	14 20 56.4	-0.2
PBAR	**Barrancos**	**5.97**	**9**	*e*P	Pn	14 20 57.4	-1.1
ECAB	**El Cabril**	**6.23**	**21**	Pn	Pn	14 20 58.7	-3.4
ECAB				⇑*i*Vmb_V		14 20 59.6	
	51nm,SNR=0.8						
EADA	**Adamuz**	**6.60**	**26**	Pn	Pn	14 21 03.0	-4.1
EADA				⇑*i*Vmb_V		14 21 04.2	
	47nm,SNR=1.0						
PMTG	**Montargil**	**6.79**	**360**	*e*P	Pn	14 21 09.0	-0.7
PMRV	**Marv??o**	**7.18**	**5**	*e*P	Pn	14 21 14.4	-0.7

*IDC **05** 14:20:10.7±1.0,15°44S×173°59W,h0km,mb4.2/7, mbtmp4.2/8,ML3.4/1,MS3.7/31,Error ellipse: s-maj=55.0km s-min=19.5km az=149.0*

*NEIC **05** 14:20:14±2.1,15°15'S±0°1'×173°5'W±0°1,h10km±1km, mb4.5/27,Error ellipse: s-maj=25.2km s-min=13.9km az=298.0*

ISC 05 14:20:12.5±0.6,15°14S±0°09'×173°5W±0°1,h10km,n84, σ1§65/46,mb4.5/22,MS3.7/32,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.08**	**54**	Pn	**Pn**	**14 20 45.8**	**-1.8**
NIUE	**Niue**	**5.21**	**139**		**Pn**	**14 21 30.4**	**-0.1**
MSVF	**Nonsavu**	**8.49**	**251**	LR	LR	14 25 16.6	
	comp=Z,824nm,19.9s,baz=99,slow=37						
RAR	**Rarotonga**	**14.38**	**117**	Pn	**Pn**	**14 23 34.3**	**-2.0**
	1.8nm,0.3s,baz=308,slow=7.9,SNR=2.5						
RAR				Sn	Sn	14 26 06.5	-9.5
	0.5nm,0.3s,baz=65,slow=22,SNR=1.1						
RAR				LR	LR	14 27 21.5	
	comp=Z,88nm,18.9s,baz=264,slow=30						
	6.2nm,0.4s						
DZM	**Mont Dzumac**	**20.19**	**247**	*e*LR	LR	14 29 38.5	
	comp=Z,561nm,25.9s						
DZM	**Mont Dzumac**	**20.19**	**247**	LR	LR	14 31 32.0	
	comp=Z,228nm,21.0s,baz=39,slow=34						
PPT	**Papeete**	**23.10**	**99**	LR	LR	14 33 16.3	
	comp=Z,26nm,18.9s,baz=278,slow=34						
PPT2	**Papeete2**	**23.10**	**99**	*e*LR	LR	14 30 53.3	
	comp=Z,83nm,25.0s						
TBI	**Tubuai**	**24.11**	**113**	*e*LR	LR	14 31 21.8	
	comp=Z,337nm,26.5s						
URZ	**Urewera**	**24.47**	**198**	LR	LR	14 33 40.9	
	comp=Z,428nm,19.8s,baz=116,slow=34						
BKZ	**Black Stump Fm**	**25.49**	**198**	P	**P**	**14 25 43.0**	**+1.9**
RPZ	**Rata Peaks**	**31.38**	**202**	LR	LR	14 38 10.1	
	comp=Z,260nm,18.5s,baz=26,slow=35						
TAOE	**Nuku Hiva Isla**	**33.20**	**83**	*e*LR	LR	14 35 40.0	
	comp=Z,112nm,22.2s						
CTA	**Charters Tower**	**38.59**	**257**	LR	LR	14 42 58.9	
	comp=Z,117nm,18.3s,baz=80,slow=36						
H11S2	**WAKE ISLAND Hy**	**38.69**	**329**	T	T	15 08 20.0	
	baz=147,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	15 08 23.1	
	baz=147,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	15 08 51.5	
	baz=147,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	15 09 34.6	
	baz=148,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**39.64**	**330**	T	T	15 09 42.4	
	baz=148,slow=76,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**39.65**	**330**	T	T	15 09 55.5	
	baz=148,slow=76,SNR=9.7						
STKA	**Stephens Creek**	**44.07**	**240**	P	**P**	**14 28 18.1**	**-2.8**
	3.3nm,1.0s,baz=85,slow=12,SNR=3.2						
STKA				LR	LR	14 44 19.6	
	comp=Z,69nm,21.1s,baz=29,slow=33						
	3.3nm,1.0s						
WB0	**Warramunga Arr**	**49.75**	**257**	P	**P**	**14 29 05.7**	**+0.1**
WB0				IAmb	IAmb	14 29 34.8	
	comp=Z,7.4nm,1.1s						
WB2	**Warramunga Arr**	**49.78**	**257**	P	**P**	**14 29 06.2**	**+0.4**
WB2				IAmb	IAmb	14 29 41.1	
	comp=Z,9.9nm,1.4s						
WRAB	**Tennant Creek**	**49.78**	**257**	P	**P**	**14 29 05.8**	**0.0**
WRA	**Warramunga Arr**	**49.79**	**257**	P	**P**	**14 29 04.4**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=97,slow=6.0,SNR=17						
	comp=Z,1.5nm,0.6s						
WRA	**Warramunga Arr**	**49.79**	**257**	P	**P**	**14 29 05.8**	**0.0**
AS31	**Alice Springs**	**50.08**	**252**	P	**P**	**14 29 07.1**	**-1.0**
ASAR	**Alice Springs**	**50.08**	**252**	P	**P**	**14 29 07.0**	**-1.1**
	comp=Z,5.7nm,0.7s,baz=88,slow=7.9,SNR=94						
	comp=Z,5.7nm,0.7s						
ASAR	**Alice Springs**	**50.08**	**252**	P	**P**	**14 29 07.4**	**-0.7**
GUMO	**Guam**	**50.10**	**303**	LR	LR	14 48 52.1	
	comp=Z,21nm,18.1s,baz=77,slow=34						
NWAO	**Narrogin (SRO)**	**64.64**	**240**	LR	LR	14 56 26.6	
	comp=Z,54nm,22.0s,slow=34						
JNU	**Nakatsue**	**71.54**	**313**	LR	LR	14 57 59.0	
	comp=Z,23nm,18.4s,baz=35,slow=32						
PFO	**Pinyon Flats O**	**72.83**	**47**	LR	LR	14 57 42.8	
	comp=Z,92nm,20.3s,baz=214,slow=31						
LPIG	**La Paz**	**73.00**	**59**	LR	LR	14 55 10.7	
	comp=Z,68nm,19.6s,baz=234,slow=29						
YBH	**Yreka Blue Hor**	**73.46**	**37**	LR	LR	14 55 21.1	
	comp=Z,84nm,22.0s,baz=245,slow=29						
NVAR	**Mina Array Bea**	**74.22**	**42**	P	**P**	**14 31 51.7**	**+1.7**
	comp=Z,4.0nm,0.8s,baz=226,slow=10,SNR=24						
	comp=Z,4.0nm,0.8s						
NV11	**Mina Array Sit**	**74.31**	**42**	P	**P**	**14 31 51.0**	**+0.5**
NV11				IAmb	IAmb	14 31 54.4	
	comp=Z,6.5nm,1.1s						
MZP	**Montezuma Peak**	**74.41**	**43**	P	**P**	**14 31 51.4**	**+0.2**
KDAK	**Kodiak Island**	**74.69**	**11**	LR	LR	14 56 49.9	
	comp=Z,89nm,20.6s,baz=217,slow=29						
QSPA	**South Pole Qui**	**74.90**	**180**	P	**P**	**14 31 54.7**	**+1.2**
PINE	**Pine Mountain**	**75.76**	**36**	P	**P**	**14 32 00.6**	**+1.8**
KSRS	**Korea Array**	**75.90**	**316**	LR	LR	15 00 35.3	
	comp=Z,12nm,21.2s,baz=105,slow=32						
R11A	**Troy Canyon, C**	**75.95**	**43**	P	**P**	**14 32 00.4**	**+0.4**
R11A				IAmb	IAmb	14 32 02.8	
	comp=Z,3.5nm,1.1s						
BMN	**Battle Mountai**	**76.03**	**41**	P	**P**	**14 32 00.8**	**+0.5**
BMN				IAmb	IAmb	14 32 03.3	
	comp=Z,5.6nm,0.9s						
TUC	**Tucson**	**76.32**	**51**	P	**P**	**14 32 02.7**	**+0.7**
TUC				IAmb	IAmb	14 32 05.8	
	comp=Z,8.5nm,1.4s						
LCMT	**Little Creek M**	**76.84**	**46**	P	**P**	**14 32 07.3**	**+2.3**
CCUT	**Cedar City**	**77.03**	**45**	P	**P**	**14 32 08.4**	**+2.2**
CCUT				IAmb	IAmb	14 32 09.2	
	comp=Z,2.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**77.11**	**323**	LR	LR	14 59 25.5	
	comp=Z,56nm,20.3s,baz=93,slow=30						
U15A	**North Rim**	**77.21**	**46**	P	**P**	**14 32 09.5**	**+2.2**
U15A				IAmb	IAmb	14 32 10.2	
	comp=Z,4.4nm,1.1s						
DUN6	**Lazy B Ranch**	**77.70**	**51**	P	**P**	**14 32 11.7**	**+1.8**
DUN6				IAmb	IAmb	14 32 13.4	
	comp=Z,16nm,0.8s						
G08A	**Pilot Rock**	**77.79**	**36**	P	**P**	**14 32 10.6**	**+0.5**
G08A				IAmb	IAmb	14 32 13.8	
	comp=Z,5.0nm,1.2s						
BMO	**Blue Mountains**	**78.49**	**37**	P	**P**	**14 32 14.3**	**+0.3**
BMO				IAmb	IAmb	14 32 35.1	
	comp=Z,4.1nm,1.3s						
MFID	**Camas Ranch**	**78.56**	**39**	P	**P**	**14 32 15.2**	**+0.8**
MFID				IAmb	IAmb	14 32 17.7	
	comp=Z,2.3nm,0.8s						
121A	**Cookes Peak, D**	**78.68**	**52**	P	**P**	**14 32 17.7**	**+2.3**
121A				IAmb	IAmb	14 32 18.8	
	comp=Z,3.9nm,0.8s						
TMUT	**Trail Mountain**	**79.37**	**44**	P	**P**	**14 32 21.3**	**+2.1**
TMUT				IAmb	IAmb	14 32 23.6	
	comp=Z,5.4nm,0.9s						
HLID	**Hailey**	**79.50**	**39**	P	**P**	**14 32 21.8**	**+2.1**
HLID				IAmb	IAmb	14 32 23.0	
	comp=Z,3.9nm,0.8s						
MA2	**Magadan**	**79.89**	**342**	LR	LR	15 03 14.3	
	comp=Z,26nm,20.2s,baz=147,slow=32						
TCUT	**Toone Canyon**	**80.14**	**43**	P	**P**	**14 32 24.9**	**+1.7**
MNTX	**Cornudas Mount**	**80.17**	**53**	P	**P**	**14 32 25.4**	**+2.0**
KLR	**Kul'dur**	**80.24**	**327**	LR	LR	15 03 59.3	
	comp=Z,19nm,18.9s,baz=88,slow=33						
NEW	**Newport**	**80.56**	**34**	LR	LR	14 58 51.5	
	comp=Z,53nm,20.6s,baz=238,slow=29						
MCMT	**McKenzie Canyo**	**81.13**	**39**	P	**P**	**14 32 29.3**	**+0.8**
GDL2	**Guadalupe Moun**	**81.16**	**53**	P	**P**	**14 32 30.9**	**+2.1**
DLBC	**Dease Lake**	**81.50**	**21**	LR	LR	15 03 17.3	
	comp=Z,49nm,18.2s,baz=204,slow=32						
CCB	**Clear Creek Bu**	**81.93**	**11**	P	**P**	**14 32 32.6**	**+0.6**
CCB				IAmb	IAmb	14 32 34.4	
	comp=Z,4.8nm,0.9s						
PD31	**Pinedale Array**	**82.15**	**42**	P	**P**	**14 32 34.3**	**+0.3**
PDAR	**Pinedale Array**	**82.15**	**42**	P	**P**	**14 32 35.3**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=212,slow=3.4,SNR=12						
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**82.22**	**11**	P	**P**	**14 32 34.2**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=232,slow=7.0,SNR=9.5						
ILAR				LR	LR	15 00 57.7	
	comp=Z,49nm,20.8s,baz=234,slow=30						
	comp=Z,0.8nm,0.7s						
HRY	**Holter Researc**	**82.72**	**38**	P	**P**	**14 32 37.3**	**+0.7**
CMIG	**Matias Romero**	**83.90**	**71**	LR	LR	15 01 44.5	
	comp=Z,33nm,21.0s,baz=212,slow=30						
APG	**El Apazote**	**87.36**	**74**	LR	LR	15 04 32.2	
	comp=Z,29nm,21.1s,baz=252,slow=30						
INK	**Inuvik**	**88.05**	**14**	LR	LR	15 07 37.5	
	comp=Z,38nm,18.5s,baz=298,slow=32						
PLCA	**Paso Flores**	**89.77**	**132**	LR	LR	15 05 25.0	
	comp=Z,25nm,19.9s,baz=190,slow=30						
YKA	**Yellowknife Ar**	**89.91**	**23**	P	**P**	**14 33 12.0**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=237,slow=4.6,SNR=10						
	comp=Z,0.7nm,0.9s						
JTS	**Las Juntas de**	**91.28**	**80**	LR	LR	15 04 24.2	
	comp=Z,35nm,20.0s,slow=29						
ULM	**Lac du Bonnet**	**93.81**	**39**	LR	LR	15 10 15.7	
	comp=Z,79nm,18.6s,baz=222,slow=32						
SONM	**Songino Array**	**94.58**	**318**	LR	LR	15 10 30.5	
	comp=Z,32nm,21.8s,baz=137,slow=32						
TIXI	**Tiksi**	**94.73**	**344**	LR	LR	15 11 20.2	
	comp=Z,20nm,19.6s,baz=174,slow=32						
TKL	**Tuckaleechee C**	**98.46**	**55**	LR	LR	15 10 32.6	
	comp=Z,41nm,18.8s,baz=311,slow=31						
CLL	**Collm**	**143.55**	**353**	*i* PKPdf	**PKPdf**	**14 39 47.2**	**-0.3**
KHC	**Kasperske Hory**	**145.61**	**352**	*e*P	**PKPdf**	**14 39 45.5**	**-5.7**
GERES	**GERESS Array B**	**145.87**	**351**	PKPbc	**PKPbc**	**14 39 52.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=20,slow=4.3,SNR=5.8						
BRTR	**Keskin Array B**	**145.89**	**321**	PKPbc	**PKPdf**	**14 39 52.6**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=126,slow=2.9,SNR=9.1						
ESDC	**Sonseca Array**	**153.90**	**19**	PKPbc	**PKiKP**	**14 40 14.0**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=8.5,slow=2.6,SNR=4.5						

*IDC **05** 14:33:48.2±4.5,6°22S×154°53E,h57km±35km,mb3.4/8, mbtmp3.8/10,ML3.3/2,MS3.2/6,Error ellipse: s-maj=40.2km s-min=20.7km az=117.0*

ISC 05 14:33:48.8±0.9,6°2S±0°1'×154°5E±0°1,h61km,n16, σ1§03/14,mb3.5/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.09**	**306**	P	**Pn**	**14 34 34.9**	**-0.3**
	13nm,0.3s,baz=294,slow=2.4,SNR=30						
KRVT				S	Sn	14 35 21.4	+10
	240nm,0.8s,baz=256,slow=20,SNR=8.6						
KRVT				LR	LR	14 36 09.6	
	comp=Z,248nm,18.9s,baz=232,slow=45						
	26nm,0.3s						
HNR	**Honiara**	**6.29**	**122**	LR	LR	14 38 02.2	
	comp=Z,3µm,19.0s,baz=272,slow=41						
PMG	**Port Moresby**	**7.98**	**246**	P	**Pn**	**14 35 42.2**	**0.0**
	11nm,0.3s,baz=54,slow=8.9,SNR=33						
PMG				S	**Sn**	**14 37 11.7**	**+0.7**
	29nm,0.9s,baz=175,slow=23,SNR=8.1						
PMG				LR	LR	14 38 46.4	
	comp=Z,182nm,20.3s,baz=56,slow=37						
	54nm,0.5s						
CTA	**Charters Tower**	**16.01**	**209**	P	**P**	**14 37 32.7**	**0.0**
	4.2nm,0.7s,baz=33,slow=9.4,SNR=5.2						
DZM	**Mont Dzumac**	**19.58**	**145**	LR	LR	14 44 49.2	
	comp=Z,75nm,18.2s,baz=64,slow=34						
SIJI	**Sorong**	**23.79**	**282**	LR	LR	14 50 45.6	
	comp=Z,18nm,18.9s,baz=70,slow=43						
WRA	**Warramunga Arr**	**23.93**	**233**	P	**P**	**14 38 56.2**	**-1.1**
	1.1nm,0.8s,baz=56,slow=10.0,SNR=5.5						
WRA				PcP	**PcP**	**14 42 37.9**	**-0.9**
	1.4nm,0.7s,baz=60,slow=2.6,SNR=9.8						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**26.39**	**227**	P	**P**	**14 39 18.6**	**-1.2**
	0.5nm,0.6s,baz=57,slow=9.2,SNR=13						
ASAR				PcP	**PcP**	**14 42 44.9**	**+0.6**
	0.8nm,0.8s,baz=50,slow=2.5,SNR=7.6						
	0.5nm,0.6s						
KAPI	**Kappang**	**34.62**	**270**	LR	LR	14 57 02.9	
	comp=Z,17nm,19.1s,baz=112,slow=40						
CMAR	**Chiang Mai Arr**	**60.00**	**295**	P	**P**	**14 43 50.6**	**+1.0**
	1.0nm,0.8s,baz=110,slow=4.4,SNR=7.0						
	1.0nm,0.8s						
SONM	**Songino Array**	**68.38**	**327**	P	**P**	**14 44 44.7**	**+0.6**
	0.6nm,0.8s,baz=161,slow=5.8,SNR=7.7						
	0.6nm,0.8s						
VNDA	**Vanda**	**71.43**	**178**	LR	LR	15 08 40.8	
	comp=Z,97nm,21.6s,baz=170,slow=29						
MKAR	**Makanchi Array**	**82.47**	**319**	P	**P**	**14 46 03.8**	**-1.0**
	0.3nm,0.6s,baz=108,slow=4.2,SNR=4.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**82.77**	**22**	P	**P**	**14 46 04.3**	**-1.6**
	0.4nm,0.8s,baz=205,slow=4.0,SNR=2.8						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**91.57**	**52**	P	**P**	**14 46 50.9**	**+1.4**
	1.0nm,0.8s,baz=266,slow=6.4,SNR=5.0						
	1.0nm,0.8s						
YKA	**Yellowknife Ar**	**95.81**	**28**	P	**P**	**14 47 08.8**	**+0.7**
	0.2nm,0.8s,baz=263,slow=5.1,SNR=2.7						
	0.2nm,0.8s						

IDC 05 14:41:50.7±5.4,7°96S×120°02E,h219km±44km,mb2.8/3, mbtmp3.4/5,Error ellipse: s-maj=200.9km s-min=16.1km az=58.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.94**	**355**	P	Pn	14 42 40.7	0.0
	13nm,0.4s,baz=175,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**18.28**	**132**	P		14 45 47.7	-0.8
	0.8nm,0.8s,baz=304,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**20.52**	**141**	P		14 46 12.9	+0.4
	0.3nm,0.8s,baz=314,slow=9.3,SNR=7.4						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**64.01**	**332**	P		14 52 01.2	+0.3
	0.4nm,0.5s,baz=145,slow=7.7,SNR=5.9						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**68.44**	**339**	P		14 52 28.5	-0.4
	0.4nm,0.8s,baz=141,slow=6.5,SNR=2.2						
	0.4nm,0.5s						

ROM 05 14:44:31.3±0.4,42°674N±0°010×13°13E±0°02,h9km±2km, ML1.7/3,1C-1D,Error ellipse: s-maj=1.5km s-min=0.4km az=103.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.01**	**244**	P	Pg	14 44 33.2	+0.1
T1218				S	Sg	14 44 34.9	+0.5
T1218				AML	AML		
	comp=E,378µm,0.3s						
T1218				AML	AML		
	comp=N,470µm,0.1s						
T1218				AML	AML		
	comp=E,354µm,0.3s						
T1218				AML	AML		
	comp=N,488µm,0.1s						
T1218				AML	AML		
	comp=E,377µm,0.3s						
T1218				AML	AML		
	comp=N,385µm,0.8s						
T1218				AML	AML		
	comp=N,396µm,0.8s						
T1218				AML	AML		
	comp=N,385µm,1.2s						
T1218				AML	AML		
	comp=N,396µm,1.2s						
T1218				AML	AML		
	comp=E,377µm,1.7s						
T1218				AML	AML		
	comp=E,354µm,1.7s						
LNSS	**Leonessa**	**0.10**	**222**	⇑P	Pg	14 44 34.4	+0.6
T1212	**Cascia, Frazio**	**0.10**	**322**	P	Pg	14 44 33.9	+0.1
T1212				S	Sg	14 44 35.9	+0.2
T1214	**Arquata del Tr**	**0.10**	**35**	P	Pg	14 44 33.4	-0.6
T1214				S	Sg	14 44 36.4	+0.5
T1214				AML	AML		
	comp=E,358µm,0.3s						
T1214				AML	AML		
	comp=N,371µm,0.3s						
T1214				AML	AML		
	comp=N,370µm,0.3s						
NRCA	**Norcia**	**0.16**	**357**	P	Pg	14 44 36.1	+1.3
NRCA				S	Sg	14 44 38.2	+1.0
NRCA				AML	AML		
	comp=E,1075µm,0.2s						
NRCA				AML	AML		
	comp=N,508µm,1.5s						
T1245	**Castelsantange**	**0.19**	**14**	P	Pg	14 44 36.5	+1.2
T1245				S	Sg	14 44 39.0	+0.9
T1215	**Vallo di Nera,**	**0.23**	**304**	P	Pg	14 44 36.0	0.0
MC2	**Monte Cornacci**	**0.24**	**11**	P	Pg	14 44 37.5	+1.2
MC2				S	Sg	14 44 40.9	+1.2
MMO1	**Montemonaco**	**0.27**	**33**	P	Pg	14 44 34.4	-2.4
T1220	**Camerino, Fraz**	**0.44**	**356**	P	Pb	14 44 40.9	-0.2
SNTG	**Esanatoglia**	**0.60**	**347**	S	Sb	14 44 53.1	+0.7
MURB	**Monte Urbino**	**0.74**	**323**	S	Sn	14 45 04.2	+5.0
ATFO	**Monte Foce - G**	**0.80**	**330**	P	Pg	14 44 45.8	-1.0
CAFI	**Castiglion Fio**	**1.07**	**308**	P	Pg	14 44 49.8	-2.1
CSNT	**Castellina Chi**	**1.56**	**301**	P	Pb	14 45 00.7	+0.3
TRIF	**Trifonti**	**1.69**	**286**	P	Pn	14 45 01.5	+0.5
NDIM	**Novi di Modena**	**2.74**	**325**	⇓P	Pb	14 45 18.4	-1.9
TEOL	**Teolo**	**2.88**	**339**	P	Pb	14 45 20.7	-2.1
TEOL				S	Sb	14 45 57.6	-0.6
TEOL				AML	AML		
	comp=N,112µm,1.2s						
TEOL				AML	AML		
	comp=N,112µm,0.8s						
TEOL				AML	AML		
	comp=E,154µm,0.1s						
RNCA	**Ronca, Sant'Ol**	**3.53**	**302**	P	Pb	14 45 34.5	+0.7
CIMO	**Cimolais**	**3.67**	**353**	S	Sb	14 46 16.4	-4.4
RORO	**Rocca Rossa**	**3.96**	**293**	P	Pn	14 45 28.5	-3.6

*MCSM **05** 14:47:43.7±0.3,46°N±4°×2°7E±°,h113km±4km,ML3.9*
*BUC **05** 14:47:44.1±0.2,45°76N×26°73E,h114km±2km,ml3.9/43, Error ellipse: s-maj=1.5km s-min=1.3km az=165.0*
*SOF **05** 14:47:45.5,45°67N×26°69E,h80km,MD3.6*
*BEO **05** 14:47:45.1±0.8,45°34N×26°36E,h0km,ML3.0/7*

ISC 05 14:47:43.1±1.2,45°77N±0°02×26°70E±0°02,h124km±4km, n169,σ0§97/264,134C-76D,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.09**	**339**	⇑P	**Pn**	**14 48 00.1**	**+0.1**
PLOR				⇑S	**Sn**	**14 48 12.3**	**-0.6**
PLOR	**Plostina**	**0.09**	**339**	⇑P	**Pn**	**14 48 00.1**	**+0.1**
PLOR				⇑S	**Sn**	**14 48 12.3**	**-0.6**
PLOR	**Plostina**	**0.09**	**339**	P	**Pn**	**14 48 00.0**	**0.0**
PLOR				S	**Sn**	**14 48 12.1**	**-0.8**
VRI	**Vrincioaia**	**0.10**	**13**	⇓P	**Pn**	**14 48 00.2**	**+0.2**
VRI				⇓S	**Sn**	**14 48 12.1**	**-0.7**
VRI	**Vrincioaia**	**0.10**	**13**	⇓P	**Pn**	**14 48 00.2**	**+0.2**
VRI				⇓S	**Sn**	**14 48 12.1**	**-0.7**
VRI	**Vrincioaia**	**0.10**	**13**	P	**Pn**	**14 48 00.2**	**+0.2**
BISRR	**Bisoca**	**0.22**	**177**	⇓P	**Pn**	**14 48 00.9**	**+0.5**
BISRR				⇓S	**Sn**	**14 48 13.2**	**-0.1**
BISRR	**Bisoca**	**0.22**	**177**	⇓P	**Pn**	**14 48 00.9**	**+0.5**
BISRR				⇓S	**Sn**	**14 48 13.2**	**-0.1**
ODBI	**Odobesti**	**0.25**	**91**	⇑P	**Pn**	**14 48 01.3**	**+1.1**
ODBI	**Odobesti**	**0.25**	**91**	⇑P	**Pn**	**14 48 01.3**	**+1.1**
PANC	**Panciu**	**0.33**	**72**	⇑P	**Pn**	**14 48 01.0**	**+0.5**
PANC				⇑S	**Sn**	**14 48 13.6**	**-0.2**
PANC	**Panciu**	**0.33**	**72**	⇑P	**Pn**	**14 48 01.0**	**+0.5**
PANC				⇑S	**Sn**	**14 48 13.6**	**-0.2**
COVR	**Voineasa-Covas**	**0.35**	**283**	⇓P	**Pn**	**14 48 00.9**	**+0.1**
COVR				⇓S	**Sn**	**14 48 13.6**	**-0.5**
COVR	**Voineasa-Covas**	**0.35**	**283**	⇓P	**Pn**	**14 48 00.9**	**

VLDR	Vladesti	0.97	85	⇑P	Pn	14 48 05.8	+0.7				
VLDR				⇑S	Sn	14 48 21.4	-0.4				
VLDR	Vladesti	0.97	85	⇑P	Pn	14 48 05.8	+0.7				
VLDR				⇑S	Sn	14 48 21.4	-0.4				
PLAR	PLOIESTI	0.97	209	⇓S	Sn	14 48 22.8	+0.9				
PLAR	PLOIESTI	0.97	209	⇓S	Sn	14 48 22.8	+0.9				
GISR	Galati	1.01	108	⇑S	Sn	14 48 22.2	-0.2				
GISR	Galati	1.01	108	⇑S	Sn	14 48 22.2	-0.2				
GIUM	Giurgiulesti	1.10	104	⇓S	Sn	14 48 24.0	0.0				
GIUM	Giurgiulesti	1.10	104	⇓S	Sn	14 48 24.0	0.0				
SULR		1.13	196	⇑P	Pn	14 48 07.6	+0.9				
SULR				⇑S	Sn	14 48 25.5	+0.8				
SULR		1.13	196	⇑P	Pn	14 48 07.6	+0.9				
SULR				⇑S	Sn	14 48 25.5	+0.8				
VASR	Vaslui	1.16	41	⇑P	Pn	14 48 07.6	+0.6				
VASR				⇑S	Sn	14 48 24.9	-0.3				
VASR	Vaslui	1.16	41	⇑P	Pn	14 48 07.6	+0.6				
VASR				⇑S	Sn	14 48 24.9	-0.3				
CFR	Carcaliu	1.17	120	⇓P	Pn	14 48 07.3	+0.2				
CFR				⇑S	Sn	14 48 24.9	-0.4				
CFR	Carcaliu	1.17	120	⇓P	Pn	14 48 07.3	+0.2				
CFR				⇑S	Sn	14 48 24.9	-0.4				
VOIR		1.20	255	⇓P	Pn	14 48 07.8	+0.3				
VOIR				⇑S	Sn	14 48 26.3	+0.2				
VOIR		1.20	255	⇓P	Pn	14 48 07.8	+0.3				
VOIR				⇑S	Sn	14 48 26.3	+0.2				
VOIR		1.20	255	P	Pn	14 48 07.8	+0.3				
AMRR	Amara	1.24	158	⇑P	Pn	14 48 08.5	+0.7				
AMRR				⇑S	Sn	14 48 26.9	+0.3				
AMRR	Amara	1.24	158	⇑P	Pn	14 48 08.5	+0.7				
AMRR				⇑S	Sn	14 48 26.9	+0.3				
MTUR	Matau	1.27	245	⇓P	Pn	14 48 09.4	+1.1				
MTUR	Matau	1.27	245	⇓P	Pn	14 48 09.4	+1.1				
LEHL	Lehliu	1.30	176	⇓P	Pn	14 48 09.2	+0.8				
LEHL				⇑S	Sn	14 48 28.0	+0.2				
LEHL	Lehliu	1.30	176	⇓P	Pn	14 48 09.2	+0.8				
LEHL				⇑S	Sn	14 48 28.0	+0.2				
INCR	INCERC-Sediu C	1.38	196	⇑S	Sn	14 48 29.9	+0.6				
INCR	INCERC-Sediu C	1.38	196	⇑S	Sn	14 48 29.9	+0.6				
HARR	Harsova	1.39	141	⇑P	Pn	14 48 09.8	+0.4				
HARR	Harsova	1.39	141	⇑P	Pn	14 48 09.8	+0.4				
BUC1	Bucharest	1.50	199	⇓S	Sn	14 48 31.3	-0.4				
BUC1	Bucharest	1.50	199	⇓S	Sn	14 48 31.3	-0.4				
ARR	Arges	1.50	255	P	Pn	14 48 11.4	+0.6				
TPGR	Topolog	1.52	126	⇓P	Pn	14 48 11.0	0.0				
TPGR				⇓S	Sn	14 48 31.0	-1.2				
TPGR	Topolog	1.52	126	⇓P	Pn	14 48 11.0	0.0				
TPGR				⇓S	Sn	14 48 31.0	-1.2				
STFAR	Stefanesti-Arg	1.52	234	⇑P	Pn	14 48 12.4	+1.4				
STFAR				⇑S	Sn	14 48 33.2	+1.0				
STFAR	Stefanesti-Arg	1.52	234	⇑P	Pn	14 48 12.4	+1.4				
STFAR				⇑S	Sn	14 48 33.2	+1.0				
IAS	Iasi	1.54	22	⇑P	Pn	14 48 11.3	+0.1				
IAS				⇑S	Sn	14 48 32.0	-0.7				
IAS	Iasi	1.54	22	⇑P	Pn	14 48 11.3	+0.1				
IAS				⇑S	Sn	14 48 32.0	-0.7				
TLBR	Topalu	1.55	142	⇓P	Pn	14 48 11.8	+0.5				
TLBR				⇓S	Sn	14 48 31.9	-0.9				
TLBR	Topalu	1.55	142	⇓P	Pn	14 48 11.8	+0.5				
TLBR				⇓S	Sn	14 48 31.9	-0.9				
RASA	Rasa	1.59	168	⇓S	Sn	14 48 33.0	-0.6				
RASA	Rasa	1.59	168	⇓S	Sn	14 48 33.0	-0.6				
TLCR		1.60	111	⇑P	Pn	14 48 12.5	+0.6				
TLCR				⇑S	Sn	14 48 32.8	-1.0				
TLCR		1.60	111	⇑P	Pn	14 48 12.5	+0.6				
TLCR				⇑S	Sn	14 48 32.8	-1.0				
SGRR	Singureni	1.63	199	⇑S	Sn	14 48 33.9	-0.5				
SGRR	Singureni	1.63	199	⇑S	Sn	14 48 33.9	-0.5				
CVDA	Cernavoda	1.72	146	⇑P	Pn	14 48 13.9	+0.7				
CVDA				⇓S	Sn	14 48 36.2	-0.1				
CVDA	Cernavoda	1.72	146	⇑P	Pn	14 48 13.9	+0.7				
CVDA				⇓S	Sn	14 48 36.2	-0.1				
HUMR	Humele	1.73	225	⇓P	Pn	14 48 13.6	+0.2				
HUMR	Humele	1.73	225	⇓P	Pn	14 48 13.6	+0.2				
TIRR	Tirgusor	1.79	137	⇓P	Pn	14 48 14.5	+0.4				
TIRR	Tirgusor	1.79	137	⇓P	Pn	14 48 14.5	+0.4				
ICOR	Ion Corvin	1.83	154	⇓P	Pn	14 48 15.3	+0.7				
ICOR				⇓S	Sn	14 48 37.5	-1.1				
ICOR	Ion Corvin	1.83	154	⇓P	Pn	14 48 15.3	+0.7				
ICOR				⇓S	Sn	14 48 37.5	-1.1				
JURR	Jurilovca	1.84	122	⇑P	Pn	14 48 15.6	+0.9				
JURR	Jurilovca	1.84	122	⇑P	Pn	14 48 15.6	+0.9				
MILM	Milestii Mici	1.86	51	⇑*i*P	Pn	14 48 16.5	+1.5				
	70nm,0.2s										
MILM				*e*S	Sn	14 48 38.9	-0.5				
	210nm,0.3s										
MILM	Milestii Mici	1.86	51	⇑P	Pn	14 48 16.5	+1.5				
MILM				⇑S	Sn	14 48 39.1	-0.3				
MILM	Milestii Mici	1.86	51	⇑P	Pn	14 48 16.5	+1.5				
MILM				⇑S	Sn	14 48 39.1	-0.3				
KIS	Kishinev	1.92	49	⇑*i*P	Pn	14 48 16.3	+0.6				
	110nm,0.2s										
KIS				*e*S	Sn	14 48 39.6	-1.0				
	80nm,0.2s										
KIS	Kishinev	1.92	49	⇑P	Pn	14 48 16.2	+0.6				
KIS				⇑S	Sn	14 48 39.8	-0.7				
KIS	Kishinev	1.92	49	⇑P	Pn	14 48 16.2	+0.6				
KIS				⇑S	Sn	14 48 39.8	-0.7				
COPA	Copaceanca	1.94	213	⇑P	Pn	14 48 16.6	+0.6				
COPA				⇓S	Sn	14 48 40.3	-0.8				
COPA	Copaceanca	1.94	213	⇑P	Pn	14 48 16.6	+0.6				
COPA				⇓S	Sn	14 48 40.3	-0.8				
MFTR	Murfatlar	2.01	142	⇓P	Pn	14 48 17.4	+0.6				
MFTR				⇑S	Sn	14 48 41.6	-1.0				
MFTR	Murfatlar	2.01	142	⇓P	Pn	14 48 17.4	+0.6				
MFTR				⇑S	Sn	14 48 41.6	-1.0				
LOT	Lotru	2.08	262	⇑P	Pn	14 48 17.8	0.0				
LOT				⇑S	Sn	14 48 45.3	+0.9				
LOT	Lotru	2.08	262	⇑P	Pn	14 48 17.8	0.0				
LOT				⇑S	Sn	14 48 45.3	+0.9				
BURAR	Bucovina Array	2.11	332	⇑P	Pn	14 48 19.9	+1.8				
BURAR				⇓S	Sn	14 48 46.2	+1.2				
BURAR	Bucovina Array	2.11	332	⇑P	Pn	14 48 19.9	+1.8				
BURAR				⇓S	Sn	14 48 46.2	+1.2				
RAZG	Razgrad	2.21	184	⇓P	Pn	14 48 19.8	+0.5				
RAZG	Razgrad	2.21	184	⇓P	Pn	14 48 19.8	+0.5				
PURM	Purcari	2.34	70	⇑P	Pn	14 48 21.5	+0.7				
PURM				⇑S	Sn	14 48 49.7	-0.2				
PURM	Purcari	2.34	70	⇑P	Pn	14 48 21.5	+0.7				
PURM				⇑S	Sn	14 48 49.7	-0.2				
MANR	Mangalia	2.37	145	⇑P	Pn	14 48 22.0	+0.7				
MANR				⇓S	Sn	14 48 51.0	+0.3				
MANR	Mangalia	2.37	145	⇑P	Pn	14 48 22.0	+0.7				
MANR				⇓S	Sn	14 48 51.0	+0.3				
SZH	Strazhica	2.56	193	*i*P	Pn	14 48 24.2	+0.4				
PRD	Provadia	2.62	169	*i*P	Pn	14 48 25.5	+1.0				
SORM	Soroca	2.62	25	⇑P	Pn	14 48 24.7	+0.1				
SORM	Soroca	2.62	25	⇑P	Pn	14 48 24.7	+0.1				
SORM	Soroca	2.62	25	P	Pn	14 48 24.6	+0.1				
MARR	Marisel-Cluj	2.64	291	⇑P	Pn	14 48 26.0	+1.1				
MARR	Marisel-Cluj	2.64	291	⇑P	Pn	14 48 26.0	+1.1				
KALB	Balgarevo	2.66	152	⇑P	Pn	14 48 26.2	+1.2				
KALB				⇑S	Sn	14 48 58.4	+1.1				
KALB	Balgarevo	2.66	152	⇑P	Pn	14 48 26.2	+1.2				
KALB				⇑S	Sn	14 48 58.4	+1.1				
ROIA	ROIAK	2.72	169	*i*P	Pn	14 48 26.6	+0.8				
PVL	Pavlikeni	2.73	201	*i*P	Pn	14 48 27.9	+2.0				
GZR	Gura Zlata	2.78	264	⇑P	Pn	14 48 27.8	+1.2				
GZR				⇑S	Sn	14 49 01.8	+1.7				
GZR	Gura Zlata	2.78	264	⇑P	Pn	14 48 27.8	+1.2				
GZR				⇑S	Sn	14 49 01.8	+1.7				
GZR	Gura Zlata	2.78	264	*e*Pn	Pn	14 48 27.1	+0.5				
GZR				*e*Sn	Sn	14 49 00.4	+0.3				
KMPD	K-Podol'skiy	2.80	357	P	Pn	14 48 26.2	-0.6				
PLVB	Pleven	2.80	213	⇑P	Pn	14 48 27.0	+0.1				
PLVB	Pleven	2.80	213	⇑P	Pn	14 48 27.0	+0.1				
PUNG	Punghina	3.06	242	*e*Sn	Sn	14 49 02.9	-3.6				
MPEP	Malc Peshtene	3.21	222	*i*P	Pn	14 48 32.6	+0.5				
JMB	Yambol	3.30	181	*i*P	Pn	14 48 33.5	+0.1				
BZS	Buzias	3.56	269	⇑P	Pn	14 48 37.8	+1.0				
BZS	Buzias	3.56	269	⇑P	Pn	14 48 37.8	+1.0				
BZS	Buzias	3.56	269	*e*Pn	Pn	14 48 37.1	+0.3				
BZS				*e*Sn	Sn	14 49 20.2	+1.8				
MDVR	Moldovita	3.65	256	P	Pn	14 48 38.1	0.0				
MDVR	Moldovita	3.65	256	*e*Pn	Pn	14 48 38.2	+0.1				
MDVR				*e*Sn	Sn	14 49 17.4	-3.2				
ZAGS	Zajecar	3.73	240	*e*Pn	Pn	14 48 36.9	-2.1				
ZAGS				*e*Sn	Sn	14 49 17.5	-4.9				
ZAPS	Zavoj	3.83	231	*e*Pn	Pn	14 48 39.5	-0.9				
ZAPS				*e*Sn	Sn	14 49 19.8	-5.0				
LUBAR	Lubar, Ukraine	4.22	9	P	Pn	14 48 45.5	0.0				
BARS	Barje	4.58	232	*e*Pn	Pn	14 48 50.7	+0.3				
GRUS	Gruza	4.65	248	*e*Pn	Pn	14 48 51.6	+0.3				
PRVS	Prvonek	4.66	227	*e*Pn	Pn	14 48 51.7	+0.3				
RDO	Rodhopi	4.70	191	P	Pn	14 48 53.1	+1.2				
TRUS	Trudelj	4.72	253	*e*Pn	Pn	14 48 52.2	-0.1				
SELS	Selova	4.73	239	*e*Pn	Pn	14 48 51.6	-0.9				
SELS				*e*Sn	Sn	14 49 40.8	-5.6				
ALN	Alexandroupoli	4.89	186	P	Pn	14 48 55.3	+0.7				
DIVS	Divibare	5.04	253	P	Pn	14 48 57.2	+0.5				
DIVS	Divibare	5.04	253	*e*Pn	Pn	14 48 56.6	-0.1				
SEV	Sevastopol'	5.08	101	*e*P	Pn	14 48 57.9	+0.8				
SEV				Pm		14 48 58.0					
	comp=Z,3.0nm,0.3s										
SEV				*e*S	Sn	14 49 53.7	-1.0				
SEV				Sm		14 49 56.0					
	comp=N,11nm,0.3s										
SEV				Sm		14 49 56.0					
	comp=E,24nm,0.5s										
AK14	Malin Array Si	5.13	17	P	Pn	14 48 57.8	+0.2				
AK10	Malin Array Si	5.13	19	P	Pn	14 48 58.2	+0.6				
AK05	Malin Array Si	5.14	18	P	Pn	14 48 58.0	+0.2				
AK09	Malin Array Si	5.15	19	P	Pn	14 48 58.1	+0.2				
IVAS	Ivanjica	5.16	247	*e*Pn	Pn	14 48 58.2	0.0				
AK08	Malin Array Si	5.16	18	P	Pn	14 48 58.3	+0.2				
AK16	Malin Array Si	5.16	17	P	Pn	14 48 58.2	+0.1				
AK17	Malin Array Si	5.17	17	P	Pn	14 48 57.9	-0.3				
MI28	Mi28,Pidlybu	5.21	7	P	Pn	14 48 59.1	+0.4				
AKBB	Malin Array Si	5.22	18	P	Pn	14 48 58.9	+0.1				
SUDU	Sudak	5.92	96	*e*S	Sn	14 50 12.1	-2.8				
SUDU				Sm		14 50 15.3					
	comp=N,7.0nm,0.4s										
SUDU				Sm		14 50 15.3					
	comp=E,13nm,0.5s										

RSNC 05 14:53:11.3±1.2, 6.83N×73.15W, h147km±5km, ML3.1, Mw3.5, 4C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	189	⇓*i*P	Pn	14 53 31.1	-0.6
BARC				*e*S	Sn	14 53 46.0	-1.1
BARC				*i*		14 53 48.2	
	comp=Z,389nm,0.3s						
BRRC	Barranca, Sant	0.63	296	⇓*i*P	Pn	14 53 32.9	-0.2
BRRC				*e*S	Sn	14 53 50.0	+0.4
BRRC				*i*		14 53 54.0	
	comp=Z,191nm,0.3s						
PAMC	Pamplona, Colo	0.68	41	⇓*i*P	Pn	14 53 33.9	-0.1
PAMC				*e*S	Sn	14 53 50.9	-0.3
PAMC				*i*		14 53 53.2	
	comp=Z,476nm,0.5s						
RUSC	La Rusia	0.93	176	⇑*i*P	Pn	14 53 35.0	-0.8
RUSC				*e*S	Sn	14 53 53.9	-0.6
RUSC				*i*		14 53 55.0	
	comp=Z,268nm,0.3s						
PTBC	PUERTO BERRIO,	1.33	258	⇑*i*P	Pn	14 53 37.4	-1.6
PTBC				*e*S	Sn	14 53 58.8	-1.3
PTBC				*i*		14 54 05.8	
	comp=Z,160nm,0.7s						
TAMC	Tame, Arauca	1.40	106	⇓*i*P	Pn	14 53 39.5	-0.2
TAMC				*e*S	Sn	14 54 01.1	-0.2
ZARC	Zaragoza, Cauc	1.82	291	*e*P	Pn	14 53 43.3	-0.9
ZARC				*e*S	Sn	14 54 08.9	-0.6
ZARC				*i*		14 54 17.9	
	comp=Z,124nm,0.3s						
NORC	Norcasia	2.12	234	*e*P	Pn	14 53 46.8	-1.0
NORC				*e*S	Sn	14 54 15.4	-0.4
NORC				*i*		14 54 22.9	
	comp=Z,97nm,0.2s						
CHIC	Chingaza	2.26	195	⇑*i*P	Pn	14 53 49.0	-0.8
CHIC				*e*S	Sn	14 54 18.5	-0.9
CHIC				*i*		14 54 22.1	
	comp=Z,89nm,0.5s						
ROSC	El Rosal	2.29	211	*e*P	Pn	14 53 50.8	+0.6
ROSC				*e*S	Sn	14 54 21.4	+1.3
ROSC				*i*		14 54 29.3	
	comp=Z,146nm,0.3s						
UREC	San Jos de Ur	2.54	291	*e*P	Pn	14 53 50.9	-1.9
UREC				*e*S	Sn	14 54 22.3	-2.5
UREC				*i*		14 54 33.8	
	comp=Z,92nm,0.2s						
GUY2C	Guyana, Caldas	2.72	234	*e*P	Pn	14 53 55.4	-0.2
GUY2C				*e*S	Sn	14 54 30.5	+0.9
GUY2C				IAML		14 54 37.2	
	comp=Z,89nm,0.3s						
PTGC	Puerto Gaitan,	2.80	159	⇓*i*P	Pn	14 53 54.3	-1.7
PTGC				*e*S	Sn	14 54 27.6	-2.9
PTGC				*i*		14 54 32.5	
	comp=Z,135nm,0.3s						
CBOC	Ciudad Bolivar	3.01	252	*e*P	Pn	14 53 58.8	0.0
CBOC				*e*S	Sn	14 54 34.9	-0.6
CBOC				*i*		14 54 39.0	
	comp=Z,22nm,0.5s						
DBBC	Dabeiba	3.05	274	*e*P	Pn	14 53 58.5	-0.8
DBBC				*e*S	Sn	14 54 34.3	-2.1
DBBC				*i*		14 54 36.0	
	comp=Z,31nm,0.2s						
ARGC	Ariguani, Magd	3.20	340	*e*P	Pn	14 54 01.9	+0.7
ARGC				*e*S	Sn	14 54 39.3	-0.5
ARGC				*i*		14 54 51.5	
	comp=Z,36nm,0.3s						
APAC	Apartado, Choc	3.57	288	*e*P	Pn	14 54 05.0	-0.9
APAC				*e*S	Sn	14 54 46.9	-1.3
APAC				*i*		14 54 51.8	
	comp=Z,36nm,0.4s						
ORTC	Ortega, Tolima	3.57	216	*e*P	Pn	14 54 05.4	-0.6
ORTC				*e*S	Sn	14 54 48.7	+0.3
ORTC				*i*		14 54 52.3	
	comp=Z,48nm,0.5s						
SJCC	San Jacinto, C	3.66	327	⇑*i*P	Pn	14 54 05.3	-1.8
SJCC				*e*S	Sn	14 54 46.1	-4.2
SJCC				*i*		14 54 53.8	
	comp=Z,21nm,0.3s						
PLMC	San Jos del P	3.66	239	*e*P	Pn	14 54 06.7	-0.5
PLMC				*e*S	Sn	14 54 50.5	+0.1
PLMC				*i*		14 54 52.7	
	comp=Z,29nm,0.2s						
CRJC	Cerrejon, Guaj	4.17	4	*e*P	Pn	14 54 11.3	-2.6
CRJC				*e*S	Sn	14 54 59.3	-3.3
CRJC				*i*		14 55 02.3	
	comp=Z,35nm,0.2s						
YOTC	Yotoco, Valle	4.26	229	*e*P	Pn	14 54 13.5	-1.5
YOTC				*e*S	Sn	14 55 01.7	-2.8
GUVC	San Jose del G	4.28	173	*e*P	Pn	14 54 13.8	-1.5
GUVC				*e*S	Sn	14 55 01.8	-3.3
GUVC				*i*		14 55 08.6	
	comp=Z,41nm,0.2s						
SMRC	Santa Marta, M	4.44	346	*e*P	Pn	14 54 16.0	-1.3
SMRC				*e*S	Sn	14 55 04.0	-4.7
SMRC				*i*		14 55 07.5	
	comp=Z,31nm,0.3s						
MACC	Macarena, Meta	4.70	189	*e*P	Pn	14 54 17.9	-2.9
MACC				*e*S	Sn	14 55 10.4	-4.5
MACC				*i*		14 55 13.5	
	comp=Z,15nm,0.4s						
GARC	Garzon, Huila	5.17	207	*e*P	Pn	14 54 25.0	-2.2
GARC				*e*S	Sn	14 55 20.5	-5.8
GARC				*i*		14 55 27.4	
	comp=Z,27nm,0.2s						

*SOME **05** 15:10:18.7, 43.02N×72.85E, h10km*
*IDC **05** 15:10:18.4±2.6, 42.72N×73.05E, h0km, mb3.6/1, mbtmp3.6/3, ML3.1/2, MS3.8/1, Error ellipse: s-maj=70.1km s-min=17.3km az=155.0*
*NNC **05** 15:10:19.3±0.7, 43.10N×72.87E, h0km±3km, mb4.0, mpv3.7, Error ellipse: s-maj=5.5km s-min=3.8km az=1.0*
*KRNET **05** 15:10:19.0±0.1, 42.95N×72.82E, h35km, mb3.6*
*KNET **05** 15:10:19.6±0.5, 42.96N×72.85E, h21km±4km, ml2.9, Error ellipse: s-maj=3.1km s-min=2.8km az=130.0*

ISC 05 15:10:17.8±1.1, 42.95N±0.03×72.85E±0.02, h4km±9km, n98, σ1s50/141, 50C-37D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	0.35	126	P	Pb	15 10 26.8	+0.2
	144nm,0.1s						
MRKS				S	Sb	15 10 32.4	-0.1
	2μm,0.3s						
MRKS	Merke	0.35	126	*e*P	Pb	15 10 26.8	+0.2
	144nm,0.1s						
MRKS				*e*S	Sb	15 10 32.4	-0.1
	2μm,0.3s						
EKS2	Erkin-Say	0.74	113	⇑P	Pb	15 10 34.0	+0.7
	30nm,0.1s,SNR=67						
EKS2				⇑S	Sb	15 10 45.1	+1.3
	490nm,0.2s						
EKS2	Erkin-Say	0.74	113	⇑*e*P	Pb	15 10 34.1	+0.7
	baz=12						
EKS2				⇑*e*S	Sb	15 10 45.0	+1.1
	baz=12						
AML	Almayashu	1.03	142	⇓P	Pn	15 10 38.8	-0.6
	25nm,0.2s,SNR=108						
AML				⇑S	Sb	15 10 53.1	+0.7
	311nm,0.3s						
AML	Almayashu	1.03	142	⇓*e*P	Pn	15 10 38.7	-0.6
	baz=41						
AML				⇓*e*S	Sb	15 10 52.7	+0.3
	baz=41						
DZA	Taraz	1.11	267	*e*P	Pg	15 10 37.9	-1.2
	baz=259						
DZA	Taraz	1.11	267	*e*P	Pn	15 10 41.0	+0.9
	70nm,0.1s						
DZA				*e*S	Sn	15 10 56.6	+0.6
	367nm,0.2s						
USP	Ospenovka	1.25	75	⇑P	Pn	15 10 42.5	+0.5
	109nm,0.3s,SNR=207						
USP				⇓S	Sn	15 10 59.5	+0.2
	234nm,0.2s						
USP	Ospenovka	1.25	75	⇑*e*P	Pn	15 10 42.2	+0.1
	baz=75						
USP				⇑*e*S	Sb	15 10 58.8	+0.4
	baz=75						
AAK	Ala-Archa	1.25	104	P	Pn	15 10 43.2	+1.0
	94nm,0.2s,SNR=129						
AAK				⇑S	Sn	15 11 00.9	+1.3
	153nm,0.3s						
AAK	Ala-Archa	1.25	104	⇑*i*P	Pn	15 10 42.2	0.0
	baz=4.0						
AAK				⇑*e*S	Sb	15 10 58.8	+0.2
	baz=4.0						
FRU1	Bishkek	1.32	96	⇑*e*P	Pg	15 10 42.7	-0.3
	baz=95						
FRU1				⇑*e*S	Sg	15 11 00.0	-0.1
	baz=95						
ARK	Arkit	1.33	210	⇑*i*P	Pb	15 10 42.6	-0.6
	baz=9.0						
ARK				⇑*i*S	Sb	15 10 59.9	-0.7
	baz=9.0						
SGDS	Sogindy	1.40	68	P	Pb	15 10 45.1	+0.6
	36nm,0.2s						
SGDS				S	Sn	15 11 03.8	+0.8
	391nm,0.3s						
SGDS	Sogindy	1.40	68	*i* Pg	Pb	15 10 45.1	+0.6
	baz=75						
SGDS				*e*S	Sn	15 11 03.9	+0.9
	baz=75						
CHMS	Chumysh	1.40	87	⇑P	Pb	15 10 45.1	+0.6
	40nm,0.2s,SNR=51						
CHMS				⇑S	Sn	15 11 04.3	+1.3
	114nm,0.1s						
CHMS	Chumysh	1.40	87	⇑P	Pb	15 10 44.5	+0.1
	26nm,0.5s						
CHMS				⇓S	Sn	15 11 03.4	+0.4
	117nm,0.5s						
CHMS	Chumysh	1.40	87	⇑*e*P	Pg	15 10 44.1	-0.5
	baz=88						
CHMS				⇑*e*S	Sg	15 11 02.4	-0.3
	baz=88						
UCH	Uchtor	1.43	120	⇑P	Pb	15 10 46.3	+1.1
	21nm,0.2s,SNR=27						
UCH				⇓S	Sn	15 11 06.1	+1.8
	362nm,0.4s						
UCH	Uchtor	1.43	120	⇓*e*P	Pg	15 10 44.6	-0.5
	baz=20						
UCH				⇓*e*S	Sg	15 11 03.1	-0.6
	baz=20						
KBK	Karagaybulak	1.57	100	⇑P	Pg	15 10 48.5	+0.6
	39nm,0.1s,SNR=53						
KBK				⇑S	Sg	15 11 10.5	+2.2
	400nm,0.3s						
KBK	Karagaybulak	1.57	100	⇑*e*P	Pn	15 10 46.8	+0.2
	baz=0.0						
KBK				⇑*e*S	Sn	15 11 06.6	-0.9
	baz=0.0						
KK31	Karatay Array	1.72	276	⇓P

MTBS	**Maitube**	**2.63**	**85**	*e*Pg	**Pg**	**15 11 08.0**	**-0.2**
	17nm,0.3s							
MTBS				*e*Lg	Lg	15 11 42.2		
	88nm,0.4s							
KUU	**Kurty**	**2.71**	**69**	Pg	**Pb**	**15 11 07.7**	**+0.8**
	11nm,0.3s							
KUU				Lg	Lg	15 11 42.2		
	98nm,0.5s							
KUU	**Kurty**	**2.71**	**69**	⇑*i*Pb	**Pb**	**15 11 04.4**	**-2.4**
	baz=72							
KUU	**Kurty**	**2.71**	**69**	*e*Pg	**Pg**	**15 11 08.8**	**-1.0**
	11nm,0.3s							
KUU				*e*Lg	Lg	15 11 43.4		
	98nm,0.5s							
NRN	**Naryn**	**2.79**	**122**	⇓*e*P	**Pn**	**15 11 03.3**	**-0.2**
	baz=22							
NRN				⇓*e*S	**Sn**	**15 11 35.4**	**-2.4**
	baz=22							
AAA	**Alma-Ata**	**2.99**	**84**	Pg	**Pg**	**15 11 14.5**	**-0.6**
	22nm,0.2s							
AAA				Lg	Lg	15 11 53.3		
	22nm,0.4s							
AAA	**Alma-Ata**	**2.99**	**84**	*e*Pb	**Pg**	**15 11 14.3**	**-0.8**
	baz=87							
AAA	**Alma-Ata**	**2.99**	**84**	*e*Pg	**Pg**	**15 11 14.4**	**-0.6**
	22nm,0.2s							
AAA				*e*Lg	Lg	15 11 53.2		
	22nm,0.4s							
TNSS	**Tian-Shan**	**3.01**	**87**	Pg	**Pg**	**15 11 15.2**	**-0.2**
	7.6nm,0.4s							
TNSS				Lg	Lg	15 11 55.0		
	28nm,0.4s							
TNSS	**Tian-Shan**	**3.01**	**87**	*e*Pn	**Pb**	**15 11 09.7**	**-2.5**
	baz=90							
TNSS	**Tian-Shan**	**3.01**	**87**	*e*Pg	**Pg**	**15 11 15.2**	**-0.2**
	7.6nm,0.4s							
TNSS				*e*Lg	Lg	15 11 55.0		
	28nm,0.4s							
KNDC	**Almaty**	**3.03**	**84**	⇓Pg	**Pg**	**15 11 18.1**	**+2.3**
	22nm,0.5s							
KNDC				⇑Lg	Lg	15 11 54.4		
	140nm,0.6s							
MDOK	**Medeo**	**3.09**	**85**	⇓Pg	**Pg**	**15 11 15.6**	**-1.3**
	8.0nm,0.5s							
MDOK				Pg	**Pg**	**15 11 15.9**	**-1.0**
	13nm,0.3s							
MDOK				⇓Lg	Lg	15 11 54.7		
	48nm,0.6s							
MDOK				Lg	Lg	15 11 55.8		
	52nm,0.5s							
MDOK	**Medeo**	**3.09**	**85**	*e*Pb	**Pb**	**15 11 12.7**	**-0.6**
	baz=88							
MDOK	**Medeo**	**3.09**	**85**	*e*Pg	**Pg**	**15 11 15.9**	**-1.0**
	13nm,0.3s							
MDOK				*e*Lg	Lg	15 11 55.8		
	52nm,0.5s							
TAS	**Tashkent**	**3.10**	**240**	⇑*e*P	**Pn**	**15 11 06.8**	**-0.7**
	baz=39							
TAS				⇑*e*S	**Sn**	**15 11 41.5**	**-3.5**
	baz=39							
BTK	**Batken**	**3.27**	**208**	⇑*e*P	**Pn**	**15 11 09.5**	**-0.3**
	baz=8.0							
BTK				⇑*e*S	**Sn**	**15 11 45.9**	**-3.3**
	baz=8.0							
KDJ	**Kajisay**	**3.31**	**103**	⇓*e*P	**Pn**	**15 11 10.9**	**+0.5**
	baz=3.0							
KDJ				⇓*e*S	**Sn**	**15 11 48.5**	**-1.8**
	baz=3.0							
ANVS	**Anan'yevo**	**3.55**	**91**	⇓*e*P	**Pn**	**15 11 14.3**	**+0.5**
	baz=91							
ANVS				⇓*e*S	**Sn**	**15 11 54.1**	**-2.1**
	baz=91							
DRK	**Karamyk**	**3.56**	**193**	⇑*i*P	**Pn**	**15 11 13.8**	**-0.2**
	baz=93							
DRK				⇑*i*S	**Sn**	**15 11 53.8**	**-2.8**
	baz=93							
KURS	**Kuram**	**3.93**	**80**	Pg	**Pg**	**15 11 31.4**	**-1.5**
	23nm,0.7s							
KURS				Lg	Lg	15 12 21.5		
	26nm,0.6s							
KURS	**Kuram**	**3.93**	**80**	*e*Pg	**Pg**	**15 11 31.2**	**-1.8**
	30nm,0.2s							
KURS				*e*Lg	Lg	15 12 21.5		
	24nm,0.3s							
SATY	**Saty**	**4.08**	**87**	Pg	**Pg**	**15 11 33.9**	**-2.0**
	8.4nm,0.6s							
SATY				Lg	Lg	15 12 26.7		
	40nm,0.4s							
SATY	**Saty**	**4.08**	**87**	*e*Pn	**Pn**	**15 11 25.2**	**+4.2**
	baz=89							
SATY	**Saty**	**4.08**	**87**	*e*Pg	**Pg**	**15 11 33.9**	**-2.0**
	8.4nm,0.6s							
SATY				*e*Lg	Lg	15 12 26.7		
	40nm,0.4s							
ZHN	**Zhinishke**	**4.10**	**85**	Pg	**Pg**	**15 11 34.8**	**-1.5**
	4.8nm,0.4s							
ZHN				Lg	Lg	15 12 28.0		
	32nm,0.3s							
ZHN	**Zhinishke**	**4.10**	**85**	*e*Pg	**Pg**	**15 11 34.8**	**-1.5**
	4.8nm,0.4s							
ZHN				*e*Lg	Lg	15 12 28.0		
	32nm,0.3s							
BLB	**Baldybastay**	**4.25**	**72**	Pg	**Pg**	**15 11 36.5**	**-2.7**
	23nm,0.4s							
BLB				Lg	Lg	15 12 31.5		
	72nm,0.5s							
KPKS	**Kokpek**	**4.30**	**81**	*e*Pg	**Pb**	**15 11 36.2**	**+2.3**
	baz=84							
KPKS	**Kokpek**	**4.30**	**81**	*e*Pg	**Pg**	**15 11 36.8**	**-3.3**
	9.4nm,0.1s							
KPKS				*e*Lg	Lg	15 12 32.1		
	53nm,0.3s							
GAR	**Garm**	**4.39**	**207**	⇑*e*P	**Pn**	**15 11 24.8**	**-0.4**
	baz=6.0							
GAR				⇑*e*S	**Sn**	**15 12 12.9**	**-3.9**
	baz=6.0							
TDK	**Taldyqorghan**	**4.51**	**61**	*e*Pg	**Pg**	**15 11 42.1**	**-1.9**
	baz=63							
UZB	**Uzynbulak**	**4.53**	**85**	Lg	Lg	15 12 40.7		
	4.6nm,0.3s							
UZB	**Uzynbulak**	**4.53**	**85**	*e*Pg	**Pg**	**15 11 43.1**	**-1.4**
	baz=87							
UZB	**Uzynbulak**	**4.53**	**85**	*e*P	**Pg**	**15 11 41.5**	**-3.1**
	5.9nm,0.2s							
UZB				*e*S	**Sg**	**15 12 40.7**	**-2.6**
	4.6nm,0.3s							
SHLS	**Shalkode**	**4.85**	**85**	Pg	Pg	15 11 55.3	+4.6
	4.6nm,1.0s							
SHLS	**Shalkode**	**4.85**	**85**	*e*Pb	**Pg**	**15 11 51.0**	**+0.3**
	baz=87							
SHLS	**Shalkode**	**4.85**	**85**	*e*Pg	**Pg**	**15 11 53.5**	**+2.8**
	4.6nm,1.0s							
SHLS				*e*Lg	Lg	15 13 00.2		
	14nm,0.8s							
DJR	**Jarkent**	**5.22**	**72**	*e*Pg	**Pg**	**15 11 54.0**	**-3.8**
	2.8nm,0.6s							
DJR				*e*Lg	Lg	15 13 01.6		
	21nm,0.6s							
OTUK	**Ortayu**	**5.30**	**356**	⇑Pn	**Pn**	**15 11 38.3**	**+0.6**
	1.9nm,0.5s							
OTUK				⇓Pg	**Pb**	**15 11 51.8**	**+0.8**
	1.9nm,0.5s							
OTUK				⇓Sn	**Sn**	**15 12 38.4**	**-0.9**
	7.2nm,0.3s							
OTUK				⇓Lg	Lg	15 13 02.7		
	22nm,0.6s							
KTMS	**Ketmen**	**5.51**	**82**	Pg	**Pg**	**15 12 01.1**	**-2.1**
	2.3nm,0.4s							
KTMS	**Ketmen**	**5.51**	**82**	*e*Pg	**Pg**	**15 12 01.1**	**-2.1**
	2.3nm,0.4s							
KTMS				*e*Lg	Lg	15 13 13.2		
	1.9nm,0.0s							
MAKZ	**Makanchi**	**7.54**	**56**	⇓Pn	**Pn**	**15 12 09.9**	**+1.5**
	1.1nm,0.8s							
MAKZ				⇓Sn	**Sn**	**15 13 35.5**	**+1.1**
	1.0nm,0.5s							
MAKZ				⇓Lg	Lg	15 14 14.2		
	8.2nm,0.6s							
MK31	**Makanchi Array**	**7.73**	**57**	⇓Pn	**Pn**	**15 12 11.7**	**+0.7**
	0.5nm,0.4s,baz=239,slow=14,SNR=29							
MK31				⇑Sn	**Sn**	**15 13 37.8**	**-1.2**
	0.9nm,0.4s							
MK31				⇓Lg	Lg	15 14 20.9		
	3.6nm,0.5s,baz=253,slow=27,SNR=5.2							
MKAR	**Makanchi Array**	**7.73**	**57**	Pn	**Pn**	**15 12 12.8**	**+1.8**
	0.6nm,0.3s,baz=239,slow=15,SNR=26							
MKAR				Sn	**Sn**	**15 13 39.5**	**+0.5**
	0.5nm,0.3s,baz=237,slow=23,SNR=13							
MKAR				Lg	Lg	15 14 24.3		
	0.9nm,0.3s,baz=249,slow=26,SNR=6.6							
	1.0nm,0.3s							
KURBB	**Kurchatov Arra**	**8.61**	**25**	⇑Lg	Lg	15 14 44.7		
	11nm,0.7s							
BVA0	**Borovoye Array**	**10.21**	**352**	⇑Pn	**Pn**	**15 12 43.6**	**-1.4**
	3.5nm,1.4s,baz=151,slow=10,SNR=8.3							
BVA0				⇓Sn	**Sn**	**15 14 37.2**	**-2.7**
	1.2nm,0.4s,baz=156,slow=22,SNR=7.2							
BVA0				⇑Lg	Lg	15 15 41.7		
	4.4nm,0.7s,baz=160,slow=26,SNR=4.9							
BRVK	**Borovoye**	**10.26**	**351**	⇓Pn	**Pn**	**15 12 43.6**	**-2.0**
	3.4nm,1.4s							
BRVK				⇑Sn	**Sn**	**15 14 38.5**	**-2.4**
	1.8nm,0.5s							
BRVK				⇑Lg	Lg	15 15 39.9		
	7.5nm,0.8s							
AB31	**Akbulak array**	**10.95**	**310**	⇑P	**Pn**	**15 12 54.0**	**-1.0**
	0.3nm,0.5s,baz=116,slow=13,SNR=12							
AKTO	**Aktyubinsk**	**12.62**	**311**	⇑P	**Pn**	**15 13 15.5**	**-2.4**
	1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**13.55**	**32**	Pn	**Pn**	**15 13 33.6**	**+3.1**
	0.2nm,0.3s,baz=227,slow=15,SNR=3.7							
ZALV				Sn	**Sn**	**15 16 03.6**	**+2.1**
	0.3nm,0.3s,baz=228,slow=25,SNR=4.1							
ZALV				Lg	Lg	15 17 34.2		
	0.1nm,0.3s,baz=225,slow=26,SNR=3.0							
	0.8nm,0.5s							
BRTR	**Keskin Array B**	**29.43**	**277**	P	**P**	**15 16 25.3**	**+2.8**
	0.7nm,1.0s,baz=68,slow=9.4,SNR=1.8							
	0.7nm,1.0s							
JOW	**Kunigami**	**47.38**	**91**	LR	LR	15 39 59.3		
	comp=Z,99nm,19.9s,baz=160,slow=38							

IDC 05 15:30:08.7±889.0, 29°.19N×101°.33E, h0km, Error ellipse: s-maj=402.7km s-min=219.7km az=65.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**19.00**	**11**	I	I	17 24 23.5	
	0.1nm,1.1s,baz=188,slow=342,SNR=15						
I45RU	**USSURIYSK INFR**	**28.58**	**50**	I	I	18 29 53.5	
	baz=249,slow=308,SNR=1.8						
I39PW	**PALAU INFRASON**	**37.95**	**118**	I	I	19 20 10.0	
	baz=308,slow=307,SNR=1.3						

*IDC **05** 15:39:09.1±2.6, 5°.20S×101°.87E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=112.8km s-min=19.3km az=54.0*
*NEIC **05** 15:39:11.8±1.7, 4°.96S±0°.07×102°.05E±0°.05, h10km±6km, mb4.2/12, Error ellipse: s-maj=10.4km s-min=6.3km az=194.0*
*DJA **05** 15:39:13.7±0.7, 5°.S±4°.×10°.2E±°, h10km, M3.9/6, MLv3.9/6*

ISC 05 15:39:11.8±2.9, 5°.03S±0°.08×102°.08E±0°.07, h12km±17km, n37, σ0s87/39, mb4.0/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.10**	**53**	P	**Pb**	**15 39 33.1**	**+0.3**
MNAI				Sn	**Sn**	**15 39 48.0**	**-0.2**
MNAI	**Manna**	**1.10**	**53**	P	**Pb**	**15 39 33.1**	**+0.3**
MNAI				S	**Sb**	**15 39 46.9**	**-0.2**
KSI	**Kapahiang**	**1.46**	**21**	P	**Pb**	**15 39 39.4**	**+0.4**
KSI				S	**Sg**	**15 39 59.1**	**+0.1**
LHSI	**Lahat**	**1.87**	**50**	P	**Pn**	**15 39 44.3**	**+0.6**
MASI	**Maura Aman, Be**	**1.88**	**5**	P	**Pb**	**15 39 47.0**	**+0.8**
MDSI	**Maura Dua**	**2.16**	**76**	P	**Pn**	**15 39 48.2**	**+0.5**
MDSI				S	**Sn**	**15 40 15.5**	**+1.0**
KASI	**Kota Agung**	**2.46**	**102**	P	**Pn**	**15 39 52.3**	**+0.5**
KASI				S	**Sn**	**15 40 20.3**	**-1.5**
GSI	**Gunungsitoli**	**7.73**	**324**	Pn	**Pn**	**15 41 02.6**	**-1.7**
UGM	**Wanagama**	**8.87**	**109**	Pn	**Pn**	**15 41 19.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**12.47**	**107**	Pn	**Pn**	**15 42 08.6**	**-0.7**
UBPT	**Khong Chiam**	**20.46**	**9**	P	**P**	**15 43 49.0**	**-0.5**
UBPT				IAmb	IAmb	15 44 15.2	
	comp=Z,13nm,1.5s						
CMAR	**Chiang Mai Arr**	**23.54**	**353**	P	**P**	**15 44 22.4**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=185,slow=8.6,SNR=11						
	comp=Z,0.7nm,0.3s						
KNRA	**Kununurra**	**28.26**	**114**	P	**P**	**15 45 04.9**	**-0.3**
H08S2	**Diego Garcia H**	**29.51**	**263**	T	T	16 16 14.9	
	baz=87,slow=75,SNR=44						
H08S3	**Diego Garcia H**	**29.52**	**263**	T	T	16 16 15.5	
	baz=87,slow=75,SNR=29						
H08S1	**Diego Garcia H**	**29.53**	**263**	T	T	16 16 15.5	
	baz=87,slow=75,SNR=33						
WB0	**Warramunga Arr**	**34.70**	**118**	P	**P**	**15 46 01.3**	**-0.5**
WB0				IAmb	IAmb	15 46 06.9	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**34.71**	**118**	P	**P**	**15 46 01.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=289,slow=9.0,SNR=3.4						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**34.71**	**118**	P	**P**	**15 46 01.7**	**-0.3**
WB2	**Warramunga Arr**	**34.72**	**118**	P	**P**	**15 46 00.1**	**-2.0**
WB2				IAmb	IAmb	15 46 11.6	
	comp=Z,7.8nm,1.2s						
WR0	**Warramunga Arr**	**34.90**	**118**	P	**P**	**15 46 02.5**	**-1.1**
WR0				IAmb	IAmb	15 46 41.1	
	comp=Z,7.9nm,1.4s						
ASAR	**Alice Springs**	**35.82**	**124**	P	**P**	**15 46 11.6**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=294,slow=7.5,SNR=42						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**35.82**	**124**	P	**P**	**15 46 11.0**	**-0.5**
AS31	**Alice Springs**	**35.82**	**124**	P	**P**	**15 46 11.2**	**-0.4**
SONM	**Songino Array**	**52.78**	**4**	P	**P**	**15 48 27.8**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=182,slow=9.3,SNR=14						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**52.78**	**4**	P	**P**	**15 48 27.0**	**+0.1**
SONM				IAmb	IAmb	15 48 28.9	
	comp=Z,1.8nm,1.0s						
MK31	**Makanchi Array**	**54.50**	**343**	P	**P**	**15 48 39.5**	**+0.1**
MK31				IAmb	IAmb	15 49 20.7	
	comp=Z,1.5nm,1.4s						
MKAR	**Makanchi Array**	**54.50**	**343**	P	**P**	**15 48 39.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=146,slow=9.3,SNR=10						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**54.50**	**343**	P	**P**	**15 48 38.7**	**-0.7**
KURBB	**Kurchatov Arra**	**59.03**	**343**	P	**P**	**15 49 11.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=163,slow=6.7,SNR=5.0						
	comp=Z,0.6nm,0.7s						
ZAA0	**Zalesovo Array**	**60.52**	**348**	P	**P**	**15 49 20.1**	**-1.6**
ZAA0				IAmb	IAmb	15 49 34.8	
	comp=Z,2.6nm,1.1s						
ZALV	**Zalesovo Beam**	**60.52**	**348**	P	**P**	**15 49 21.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=169,slow=6.0,SNR=6.1						
	comp=Z,0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**60.52**	**348**	P	**P**	**15 49 20.6**	**-1.1**
BVAR	**Borovoye Array**	**63.73**	**339**	P	**P**	**15 49 43.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=150,slow=9.6,SNR=4.4						
	comp=Z,0.5nm,0.5s						
OUENC	**Ouen Island, N**	**64.78**	**112**	P	**P**	**15 49 50.8**	**0.0**
ABKAR	**Akbulak array**	**65.28**	**331**	P	**P**	**15 49 53.6**	**+0.1**
MCQ	**Macquarie Isla**	**67.15**	**148**	P	**P**	**15 50 07.8**	**+2.4**

DJA 05 15:41:46.5±0.3, 7°.S±2°.×12°.2E±°, h91km±9km, M3.8/13, mb4.0/5, mB6.7/1, MLv3.7/13, Mw(mB)6.5/1, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.34**	**290**	Pn	Pn	15 42 11.2	+0.9
BSSI				S	Sn	15 42 29.5	+1.2
BKSI	**Bulukumba**	**2.06**	**308**	P	Pn	15 42 19.4	-0.2
BKSI				S	Sn	15 42 44.1	-0.8
MMRI	**Maumere**	**2.08**	**167**	P	Pn	15 42 19.2	-0.6
BNSI	**Bone**	**2.74**	**323**	Pn	Pn	15 42 28.0	-0.5
BNSI				S	Sn	15 43 00.8	0.0
SPSI	**Sidrap Palu**	**3.28**	**323**	P	Pn	15 42 35.2	-0.7
BASI	**Baing, Sumba**	**3.78**	**198**	Pn	Pn	15 42 42.2	-0.4
SOEI	**Soe**	**4.00**	**142**	P	Pn	15 42 45.1	-0.6
PLAI	**Plampang**	**4.53**	**240**	Pn	Pn	15 42 51.9	-0.8
TWSI	**Taliwang, Sumb**	**5.28**	**246**	Pn	Pn	15 43 02.9	-0.1
	15nm,1.0s,0.1nm						
SANI	**Sanana**	**6.18**	**43**	Pn	Pn	15 43 14.1	-1.2
	15nm,1.5s,0.1nm						
NLAI	**Namlea**	**6.28**	**58**	Pn	Pn	15 43 16.3	-0.3
	11nm,1.5s,0.1nm						
KBKI	**Kotabaru**	**6.46**	**300**	Pn	Pn	15 43 18.1	-1.0

*IDC **05** 15:42:21.4±5.7, 36°.88N×70°.61E, h193km±29km, mb3.6/2, mbtmp3.4/7, Error ellipse: s-maj=84.9km s-min=25.7km az=148.0*

ISC 05 15:42:13.9±2.9, 37°.6N±0°.2×68°.8E±0°.2, h10km, n8, σ2s40/9, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.63**	**13**	⇓Pn	**Pb**	**15 43 51.6**	**-0.5**
	0.9nm,0.4s,baz=183,slow=13,SNR=8.9						
KK31				⇑Pg	**Pg**	**15 44 00.9**	**-0.7**
	0.5nm,0.2s,baz=176,slow=12,SNR=5.8						
KK31				⇑Lg	Lg	15 45 02.6	
	5.2nm,0.4s						
AAK	**Ala-Archa**	**6.64**	**39**	P	**Pn**	**15 43 54.9**	**+3.3**
	1.1nm,0.3s,baz=203,slow=13,SNR=8.2						
AAK				S	**Sn**	**15 45 08.2**	**+0.9**
	2.1nm,0.5s,baz=154,slow=23,SNR=4.4						
GEYT	**Alibeck**	**8.47**	**275**	P	Pb	15 44 41.0	+0.4
	0.6nm,0.4s,baz=96,slow=15,SNR=1.7						
MKAR	**Makanchi Array**	**13.54**	**43**	P	**Pn**	**15 45 22.6**	**-3.4**
	0.1nm,0.3s,baz=217,slow=13,SNR=2.2						
KURBB	**Kurchatov Arra**	**14.73**	**25**	P	**Pn**	**15 45 41.3**	**-0.9**
	0.1nm,0.3s,baz=206,slow=10,SNR=2.5						
BVAR	**Borovoye Array**	**15.44**	**4**	P	**P**	**15 45 59.1**	**+2.9**
	0.3nm,0.5s,baz=161,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**35.57**	**326**	P	**P**	**15 49 11.2**	**+0.2**
	3.0nm,0.9s,baz=104,slow=12,SNR=3.8						
	3.0nm,0.9s						
ARCES	**ARCESS Array B**	**39.44**	**338**	P	**P**	**15 49 42.3**	**-1.4**
	3.0nm,1.0s,baz=113,slow=8.2,SNR=6.7						
	3.0nm,1.0s						

IDC 05 16:22:41.2±6.1, 4°.45S×129°.76E, h111km±76km, mb3.3/1, mbtmp4.1/4, ML4.1/3, Error ellipse: s-maj=111.5km s-min=18.3km az=85.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.86**	**23**	P	Pn	16 23 40.8	+2.0
	12nm,0.3s,baz=214,slow=18,SNR=43						
SIJI				S	Sn	16 24 23.2	-0.2
	90nm,0.2s,baz=56,slow=22,SNR=32						
	37nm,0.4s						
WRA	**Warramunga Arr**	**16.03**	**164**	P	Pn	16 26 19.3	-1.1
	0.4nm,0.3s,baz=344,slow=12,SNR=14						
WRA				S	Sn	16 29 06.7	-11
	0.5nm,0.5s,baz=337,slow=22,SNR=5.8						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**19.52**	**169**	P	P	16 26 60.0	0.0
	1.7nm,0.3s,baz=348,slow=11,SNR=270						
ASAR				S	S	16 30 27.8	-6.8
	0.3nm,0.5s,baz=354,slow=26,SNR=4.2						
	9.5nm,0.5s						
MKAR	**Makanchi Array**	**65.98**	**326**	P	P	16 33 15.8	+0.1
	0.2nm,0.3s,baz=126,slow=7.8,SNR=6.9						
	0.2nm,0.3s						

*IDC **05** 16:24:38.0±0.7, 22°.03S×70°.40W, h0km, mb4.0/8, mbtmp4.0/12, ML4.0/4, MS3.3/7, Error ellipse: s-maj=24.4km s-min=12.0km az=29.0*
*SJA **05** 16:24:40.4±0.7, 22°.05S×70°.41W, h31km±2km, ML4.2, MW4.3*
*NEIC **05** 16:24:42.9±1.8, 22°.05S±0°.03×70°.30W±0°.06, h31km±6km, mb4.5/8, Mwr4.1/46, ML4.1(GUC), Error ellipse: s-maj=8.1km s-min=4.9km az=92.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.32; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-1.17; $M_{r\theta}$0.05; $M_{\theta\phi}$0.42; $M_{\phi r}$-0.75; Fault plane solution: $M_0$1.52000×10^{15} NP1:∅s168.09000°, δ59.74000°, λ97.79000°. NP2:∅s332.90000°, δ31.16000°, λ76.92000°. Principal axes: T 1.5310, Plg74.0000°, Azm98.0000°; N -0.0270, Plg7.0000°, Azm344.0000°; P -1.5040, Plg14.0000°, Azm252.0000°;*
*GUC **05** 16:24:43.7±0.7, 22°.06S×70°.28W, h35km±2km, ML4.1*

ISC 05 16:24:40.1±1.0, 22°.06S±0°.02×70°.28W±0°.04, h15km±6km, n163, σ1s55/213, mb4.2/11, MS3.4/3, 8C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.30**	**155**		**Pn**	**16 24 50.7**	**+0.7**
PB04					**Sn**	**16 24 56.3**	**-0.1**
PB04	**IPOC Station P**	**0.30**	**155**	⇑*i*P	**Pn**	**16 24 51.3**	**+1.2**
PB04				*i*S	**Sn**	**16 24 56.7**	**+0.3**
PB04	**IPOC Station P**	**0.30**	**155**	*e*P	**Pn**	**16 24 51.0**	**+0.9**
PB04				IAML		16 25 01.3	
	comp=Z,32μm,0.3s						
PB04	**IPOC Station P**	**0.30**	**155**	*e*P	**Pn**	**16 24 51.0**	**+0.9**
PB04				IAML		16 25 01.3	
	comp=Z,32μm,0.3s						
PB03	**IPOC Station P**	**0.49**	**89**		**Pn**	**16 24 53.1**	**+0.3**
PB03				Sn	**Sn**	**16 25 00.6**	**-0.4**
PB03	**IPOC Station P**	**0.49**	**89**	⇓*i*P	**Pn**	**16 24 53.9**	**+1.2**
PB03				*i*S	**Sn**	**16 25 00.8**	**-0.2**
PB03				IAML		16 25 01.6	
	comp=N,24μm,0.3s						
PB03	**IPOC Station P**	**0.49**	**89**	*e*P	**Pg**	**16 24 48.2**	**-1.8**
PB03				*e*P	**Pn**	**16 24 53.0**	**+0.3**
PB03				*e*P	**Pn**	**16 24 53.7**	**+1.0**
PB03				IAML		16 25 01.6	
	comp=Z,23μm,0.5s						
PB03	**IPOC Station P**	**0.49**	**89**	*e*P	**Pg**	**16 24 48.2**	**-1.8**
PB03				*e*P	**Pn**	**16 24 53.0**	**+0.3**
PB03				*e*P	**Pn**	**16 24 53.7**	**+1.0**
PB03				IAML		16 25 01.6	
	comp=Z,23μm,0.5s						
PB07	**IPOC Station P**	**0.50**	**48**		**Pn**	**16 24 53.1**	**+0.3**
PB07				Sn	**Sn**	**16 25 00.7**	**-0.5**
PB07	**IPOC Station P**	**0.50**	**48**	⇑*i*P	**Pn**	**16 24 53.9**	**+1.1**
PB07				*i*S	**Sn**	**16 25 01.2**	**0.0**
PB07	**IPOC Station P**	**0.50**	**48**	*e*P	**Pg**	**16 24 48.2**	**-1.9**
PB07				*e*P	**Pn**	**16 24 53.0**	**+0.3**
PB07				*e*P	**Pn**	**16 24 53.7**	**+0.9**
PB07				IAML		16 25 01.9	
	comp=Z,30μm,0.3s						
PB07	**IPOC Station P**	**0.50**	**48**	*e*P	**Pg**	**16 24 48.2**

PB01 IPOC Station P 1.25 36 Pg 16 25 04.6 +0.3
PB01 IPOC Station P 1.25 36 ⇓ *i* P Pg 16 25 04.8 +0.5
PB01 IAML 16 25 23.7
comp=E,3µm,0.8s
PB01 IPOC Station P 1.25 36 *e* P Pb 16 25 04.0 +0.5
PB01 *e* P Pg **16 25 04.8 +0.5**
PB01 *e* S Sg **16 25 22.9 +2.2**
PB01 IAML 16 25 24.9
comp=Z,3µm,0.7s
PB01 IPOC Station P 1.25 36 *e* P Pb 16 25 04.0 +0.5
PB01 *e* P Pg **16 25 04.8 +0.5**
PB01 *e* S Sg **16 25 22.9 +2.2**
PB01 IAML 16 25 24.9
comp=Z,3µm,0.7s
PB15 IPOC Station P 1.37 147 Pg 16 25 06.9 +0.5
PB15 IPOC Station P 1.37 147 ⇑ *i* P Pg 16 25 06.9 +0.5
PB15 *i* S Sg **16 25 25.1 +0.8**
PB15 IPOC Station P 1.37 147 *e* P Pg 16 25 07.0 +0.5
PB15 *e* P Pb 16 25 07.0 +1.4
PB15 *e* P Pn **16 25 07.1 +2.3**
PB15 *e* S Sg **16 25 26.2 +1.8**
PB15 IPOC Station P 1.37 147 *e* P Pg 16 25 07.0 +0.5
PB15 *e* P Pb 16 25 07.0 +1.4
PB15 *e* P Pn **16 25 07.1 +2.3**
PB15 *e* S Sg **16 25 26.2 +1.8**
LVC Limon Verde 1.38 114 Pn Pg 16 25 08.0 +1.2
comp=Z,191nm,0.3s,baz=289,slow=12,SNR=947
LVC Lg Lg 16 25 26.5
comp=Z,1µm,0.3s,baz=139,slow=19,SNR=18
LVC Limon Verde 1.38 114 Pg 16 25 07.8 +1.0
LVC Limon Verde 1.38 114 ⇓ *e* P Pg 16 25 07.6 +0.8
LVC *e* S Sg **16 25 26.0 +1.1**
PB10 IPOC Station P 1.47 190 Pb 16 25 07.1 0.0
PB10 IPOC Station P 1.47 190 *i* P Pb 16 25 07.0 0.0
PB10 IAML 16 25 32.4
comp=N,3µm,0.5s
PB10 IPOC Station P 1.47 190 *e* P Pb 16 25 06.9 -0.2
PB10 *e* P Pb **16 25 07.0 0.0**
PB10 *e* S Pb **16 25 07.1 0.0**
PB10 IAML 16 25 35.7
comp=Z,2µm,0.4s
PB10 IPOC Station P 1.47 190 *e* P Pb 16 25 06.9 -0.2
PB10 *e* P Pb **16 25 07.0 0.0**
PB10 *e* S Pb **16 25 07.1 0.0**
PB10 IAML 16 25 35.7
comp=Z,2µm,0.4s
TA01 Diego Aracena 1.49 4 Pn Pb 16 25 07.4 -0.1
TA01 Diego Aracena 1.49 4 ⇑ *i* P Pb 16 25 07.4 -0.1
TA01 *e* S Sb **16 25 25.9 -0.2**
TA01 IAML 16 25 30.2
comp=N,5µm,0.4s
TA01 Diego Aracena 1.49 4 *e* P Pb 16 25 07.0 -0.4
TA01 *e* S Pn **16 25 07.6 +1.3**
TA01 IAML 16 25 29.6
comp=Z,3µm,0.5s
TA01 Diego Aracena 1.49 4 *e* P Pb 16 25 07.0 -0.4
TA01 *e* S Pn **16 25 07.6 +1.3**
TA01 IAML 16 25 29.6
comp=Z,3µm,0.5s
TA02 Huaiquique 1.79 5 Pn 16 25 11.2 +0.8
TA02 Huaiquique 1.79 5 *e* P Pb 16 25 13.0 +0.5
TA02 IAML 16 25 42.0
comp=Z,1µm,0.6s
TA02 Huaiquique 1.79 5 *e* P Pb 16 25 13.0 +0.5
TA02 IAML 16 25 42.0
comp=Z,1µm,0.6s
AF01 San Pedro de A 2.14 115 Pg 16 25 21.4 +0.1
PB08 IPOC Station P 2.18 29 Pb 16 25 18.5 -1.0
PB08 IPOC Station P 2.18 29 ⇑ *e* P Pb 16 25 19.1 -0.5
PB08 *e* S Sb **16 25 45.9 -0.5**
PB08 IAML 16 25 51.3
comp=N,1µm,0.5s
PB08 IPOC Station P 2.18 29 *e* P Pb 16 25 19.0 -0.5
PB08 *e* S Sn **16 25 44.7 +1.6**
PB08 IAML 16 25 50.1
comp=Z,1µm,1.0s
PB08 IPOC Station P 2.18 29 *e* P Pb 16 25 19.0 -0.5
PB08 *e* S Sn **16 25 44.7 +1.6**
PB08 IAML 16 25 50.1
comp=Z,1µm,1.0s
PB11 IPOC Station P 2.36 14 Pn 16 25 19.9 +1.4
PB11 IPOC Station P 2.36 14 *e* P Pn 16 25 19.9 +1.4
PB11 *e* S Sb **16 25 49.4 -2.1**
PB11 IAML 16 25 57.5
comp=E,2µm,0.6s
PB11 IPOC Station P 2.36 14 *e* P Pn 16 25 20.2 +1.7
PB11 *e* S Sn **16 25 48.2 +0.9**
PB11 IAML 16 25 55.4
comp=Z,1µm,0.6s
PB11 IPOC Station P 2.36 14 *e* P Pn 16 25 20.2 +1.7
PB11 *e* S Sn **16 25 48.2 +0.9**
PB11 IAML 16 25 55.4
comp=Z,1µm,0.6s
PSGC Pisagua 2.46 4 ⇑ *i* P Pn 16 25 20.7 +1.0
PSGC *e* S Sn **16 25 48.6 -0.9**
PSGC IAML 16 26 05.7
comp=N,977nm,0.3s
PSGCX Pisagua 2.46 4 Pn 16 25 20.4 +0.8
PSGCX Pisagua 2.46 4 *e* P Pn 16 25 20.7 +1.1
PSGCX *e* S Sn **16 25 50.7 +1.2**
PSGCX IAML 16 26 00.6
comp=Z,884nm,1.0s
PSGCX Pisagua 2.46 4 *e* P Pn 16 25 20.7 +1.1
PSGCX *e* S Sn **16 25 50.7 +1.2**
PSGCX IAML 16 26 00.6
comp=Z,884nm,1.0s
PB14 IPOC Station P 2.56 182 Pn Pn 16 25 22.0 +0.7
PB14 IPOC Station P 2.56 182 *e* P Pn 16 25 22.0 +0.7
PB14 IAML 16 26 07.3
comp=Z,1µm,0.8s
PB14 IPOC Station P 2.56 182 *e* P Pn 16 25 22.0 +0.7
PB14 IAML 16 26 07.3
comp=Z,1µm,0.8s
GO01 Chusmiza 2.59 23 Pb 16 25 24.5 -1.9
GO01 Chusmiza 2.59 23 *e* P Pb 16 25 24.9 -1.6
GO01 Chusmiza 2.59 23 *e* P Pb 16 25 24.6 -1.9
GO01 *e* S Sn **16 25 53.7 +0.4**
GO01 Chusmiza 2.59 23 *e* P Pb 16 25 24.6 -1.9
GO01 *e* S Sn **16 25 53.7 +0.4**
MNMC Minye Minye 2.98 13 Pn 16 25 28.6 +1.5
MNMC Minye Minye 2.98 13 ⇑ *e* P Pn 16 25 28.8 +1.7
MNMC *e* S Sn **16 26 05.0 +2.3**
MNMCX Minye Minye 2.98 13 *e* P Pn 16 25 29.0 +1.9
MNMCX *e* S Sb **16 26 06.2 -3.3**
MNMCX IAML 16 26 15.6
comp=Z,1µm,1.1s
MNMCX Minye Minye 2.98 13 *e* P Pn 16 25 29.0 +1.9
MNMCX *e* S Sb **16 26 06.2 -3.3**
MNMCX IAML 16 26 15.6
comp=Z,1µm,1.1s
PB12 IPOC Station P 3.43 359 Pn 16 25 33.8 +0.7
PB12 IPOC Station P 3.43 359 *e* P Pn 16 25 33.8 +0.7
PB12 IAML 16 26 34.8
comp=N,641nm,0.4s
PB12 IPOC Station P 3.43 359 *e* P Pn 16 25 34.3 +1.2
PB12 *e* S Sb **16 26 19.7 -2.5**
PB12 *e* S Sn **16 26 20.2 +6.7**
PB12 IAML 16 26 30.3
comp=Z,505nm,0.7s
PB12 IPOC Station P 3.43 359 *e* P Pn 16 25 34.3 +1.2
PB12 *e* S Sb **16 26 19.7 -2.5**
PB12 *e* S Sn **16 26 20.2 +6.7**
PB12 IAML 16 26 30.3
comp=Z,505nm,0.7s
AP01 Chacalluta 3.67 359 Pn Pn 16 25 37.5 +1.2
PB16 IPOC Station P 3.78 11 Pn 16 25 39.9 +1.6
PB16 IPOC Station P 3.78 11 ⇓ *e* P Pn 16 25 40.6 +2.4
PB16 IPOC Station P 3.78 11 *e* P Pn 16 25 40.7 +2.4
PB16 *e* S Sb **16 26 30.2 -2.4**
PB16 IAML 16 26 46.3
comp=Z,330nm,0.6s
PB16 IPOC Station P 3.78 11 *e* P Pn 16 25 40.7 +2.4
PB16 *e* S Sb **16 26 30.2 -2.4**
PB16 IAML 16 26 46.3
comp=Z,330nm,0.6s
AC01 Pan de Azucar 4.08 184 Pn 16 25 41.5 -0.4
AC01 Pan de Azucar 4.08 184 *e* P Pn 16 25 41.7 -0.3
AC01 *e* P Pn **16 25 41.7 -0.3**
AC01 *e* S Pn 16 26 42.2 +60
AC01 IAML 16 26 54.7
comp=Z,372nm,0.6s
AC01 Pan de Azucar 4.08 184 *e* P Pn 16 25 41.7 -0.3
AC01 *e* S Pn 16 26 42.2 +60
AC01 IAML 16 26 54.7
comp=Z,372nm,0.6s
PB18 Visviri 4.51 10 Pn 16 25 51.5 +3.2
AC02 Maricunga 4.87 168 Pn 16 25 55.8 +2.5
AC06 Mina Casimiro 5.28 181 Pn 16 25 58.8 +0.5
GO03 Copiap 5.51 180 Pn 16 26 02.3 +0.7
LPAZ La Paz 6.09 20 Pn Pn 16 26 12.5 +2.3
LPAZ La Paz 6.09 20 *e* P Pn 16 26 15.5 +5.4
AC04 Llanos de Chal 6.16 187 Pn Pn 16 26 08.1 -2.4
AC05 El Transito 6.75 180 Pn Pn 16 26 18.6 -0.1
LCO Las Campanas 6.93 183 Pn Pn 16 26 20.9 -0.5
CO05 La Serena 7.87 186 Pn Pn 16 26 34.4 +0.3
CO01 Juntas del Tor 7.89 179 Pn Pn 16 26 35.1 +0.6
GO04 Tololo Observa 8.09 183 Pn Pn 16 26 37.4 +0.1
CO03 El Pedregal 8.75 182 Pn Pn 16 26 45.9 -0.3
CO02 Combarbal 9.13 184 Pn Pn 16 26 52.2 +0.8
CFA Coronel Fontan 9.68 170 Pn Pn 16 26 59.4 +0.5
comp=Z,0.8nm,0.3s,baz=345,slow=14,SNR=10.0
CFA Sn **Sn 16 28 42.2 -5.2**
comp=Z,0.9nm,0.3s,baz=155,slow=22,SNR=1.2
CFA LR LR 16 30 50.6
comp=Z,210nm,20.3s,baz=109,slow=38
comp=Z,1.5nm,0.3s
VA06 Catapilco 10.50 185 Pn Pn 16 27 11.1 +1.0
SIV San Ignacio 10.60 57 Pn Pn 16 27 13.3 +1.8
comp=Z,0.3nm,0.3s,baz=248,slow=9.7,SNR=35
SIV Sn **Sn 16 29 14.6 +4.7**
baz=323,slow=22
comp=Z,8.5nm,0.4s
VA03 San Esteban 10.66 181 Pn Pn 16 27 12.2 -0.2
ROC1 El Roble 10.89 183 Pn Pn 16 27 14.9 -0.7
VA01 Torpederas 10.99 186 Pn Pn 16 27 16.5 -0.2
MT02 Curacav 11.18 184 Pn Pn 16 27 18.6 -0.8
MT05 Renca 11.30 182 Pn Pn 16 27 21.4 +0.3
MT09 Talagante 11.69 183 Pn Pn 16 27 25.9 -0.6
NNA Nana 11.81 327 LR LR 16 31 25.7
comp=Z,74nm,22.0s,baz=176,slow=35
BO04 La Punta 11.89 181 Pn Pn 16 27 29.5 +0.4
BO01 Tunca 12.31 183 Pn Pn 16 27 32.6 -2.2
PTLB Pontes e Lacer 12.43 60 Pn Pn 16 27 34.8 -1.8
CPUP Villa Florida 12.56 112 Pn Pn 16 27 39.2 +0.9
comp=Z,0.1nm,0.3s,baz=174,slow=16,SNR=2.0
CPUP LR LR 16 33 15.4
comp=Z,116nm,19.1s,baz=288,slow=41
comp=Z,0.9nm,0.5s
CPUP Villa Florida 12.56 112 Pn Pn 16 27 37.7 -0.6
BO02 Sierra Bellavi 12.69 182 Pn Pn 16 27 38.8 -1.3
ETMB Extrema 12.79 18 Pn Pn 16 27 38.8 -2.6
GO05 Huala 12.98 186 Pn Pn 16 27 42.4 -1.7
VILB Vilhena 13.20 48 Pn Pn 16 27 44.4 -2.7
H03N1 Juan Fernandez 13.66 212 Pn Pn 16 27 51.8 -1.3
baz=110,slow=14
H03N1 T T 16 41 51.9
baz=37,slow=72,SNR=572
H03N2 Juan Fernandez 13.67 212 Pn Pn 16 27 51.9 -1.3
baz=110,slow=14
H03N2 T T 16 41 51.8
baz=37,slow=72,SNR=276
H03N3 Juan Fernandez 13.68 212 Pn Pn 16 27 51.0 -2.3
baz=110,slow=14
H03N3 T T 16 41 50.8
baz=37,slow=72,SNR=309
H03S3 Juan Fernandez 13.97 211 Pn Pn 16 27 55.3 -2.0
baz=223,slow=71
H03S1 Juan Fernandez 13.99 211 Pn Pn 16 27 54.7 -2.7
baz=223,slow=71
H03S2 Juan Fernandez 13.99 211 Pn Pn 16 27 55.0 -2.5
baz=223,slow=71
TRQA Tornquist 17.47 158 P Pn 16 28 43.1 -0.1
GO06 Curarrehue 17.50 183 Pn 16 28 43.1 -0.5
PLCA Paso Flores 18.62 181 P Pn 16 28 58.0 +0.7
comp=Z,0.1nm,0.3s,baz=357,slow=4.3,SNR=4.7
PLCA LR LR 16 36 16.7
comp=Z,81nm,20.5s,baz=2.5,slow=38
comp=Z,1.4nm,0.8s
PLCA Paso Flores 18.62 181 P P 16 28 56.5 -0.5
PLCA IAmb IAmb 16 29 22.8
comp=Z,13nm,1.4s
SNDB Serra Nova Dou 20.72 64 *e* P P 16 29 20.2 +0.1
NPGB Novo Progresso 20.74 46 *e* P P 16 29 17.7 -2.6
IPMB Ipameri, GO 21.13 83 *e* P P 16 29 26.4 +1.8
BDFB Brasilia 22.01 77 P P 16 29 35.7 +1.6
comp=Z,2.4nm,0.5s,baz=153,slow=7.2,SNR=3.3
comp=Z,2.4nm,0.5s
ITTB Itaituba 22.54 41 *e* P P 16 29 32.3 -7.4
SMTB Santa Maria do 25.46 63 *e* P P 16 30 05.3 -2.4
JANB Januaria 25.56 79 *e* P P 16 30 07.8 -0.8
BOAV Boa Vista 26.11 23 P P 16 30 13.5 0.0
BOAV IAmb IAmb 16 30 30.3
comp=Z,12nm,1.0s
RUSC La Rusia 27.91 354 P P 16 30 29.0 -1.3
RUSC IAmb IAmb 16 30 41.5
comp=Z,8.3nm,0.8s
SDV Santo Domingo 30.76 359 LR LR 16 44 37.0
comp=Z,50nm,19.4s,baz=172,slow=39
MDP Montagnes des 32.05 35 LR LR 16 45 00.8
comp=Z,104nm,19.1s,baz=203,slow=38
BCIP Isla Barro Col 32.42 342 P P 16 31 10.3 +0.8
BCIP IAmb IAmb 16 31 42.6
comp=Z,51nm,1.3s
CVTR Volcan Turrial 34.51 336 P P 16 31 30.8 +2.5
RPN Rapa Nui 35.77 254 LR LR 16 42 12.0
comp=Z,53nm,18.1s,baz=10.0,slow=30
ANMO Albuquerque 66.28 328 P P 16 35 28.7 +0.7
comp=Z,1.2nm,0.6s,baz=220,slow=9.1,SNR=3.0
comp=Z,1.2nm,0.6s
DBIC Dimbokro 70.12 74 P P 16 35 51.5 -0.8
comp=Z,2.8nm,0.7s,baz=262,slow=6.7,SNR=4.7
comp=Z,2.8nm,0.7s
PDAR Pinedale Array 73.97 331 P P 16 36 15.6 +0.5
comp=Z,0.3nm,0.6s,baz=183,slow=5.6,SNR=3.6
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 75.16 323 P P 16 36 22.9 +0.9
comp=Z,0.9nm,0.8s,baz=156,slow=7.4,SNR=5.1
comp=Z,0.9nm,0.8s
ELK Elko 75.17 326 P P 16 36 22.8 +0.7
comp=Z,1.0nm,0.8s,baz=109,slow=4.0,SNR=4.6
comp=Z,1.0nm,0.8s
BOSA Boshof 84.31 118 P P 16 37 12.1 +0.1
comp=Z,4.9nm,1.0s,baz=240,slow=3.0,SNR=4.8
comp=Z,4.9nm,1.0s
YKA Yellowknife Ar 91.29 341 P P 16 37 44.6 +0.1
comp=Z,0.6nm,0.5s,baz=138,slow=4.3,SNR=15
comp=Z,0.6nm,0.5s
H11S2 WAKE ISLAND Hyl 26.68 277 T T 19 03 22.3
baz=105,slow=75,SNR=209
H11S1 WAKE ISLAND Hyl 26.69 277 T T 19 03 14.0
baz=105,slow=75,SNR=177
H11S3 WAKE ISLAND Hyl 26.70 277 T T 19 03 20.7
baz=105,slow=75,SNR=153
H11N3 WAKE ISLAND Hyl 26.78 279 T T 19 03 26.3
baz=104,slow=74,SNR=219
H11N2 WAKE ISLAND Hyl 26.80 279 T T 19 03 27.4
baz=104,slow=74,SNR=160
H11N1 WAKE ISLAND Hyl 26.80 279 T T 19 03 27.6
baz=104,slow=74,SNR=89
ASAR Alice Springs 128.82 209 PKP PKPdf 16 43 47.6 -0.1
comp=Z,0.5nm,0.7s,baz=159,slow=2.8,SNR=7.2
WRA Warramunga Arr 131.82 212 PKP PKPdf 16 43 54.0 +0.5
comp=Z,0.4nm,0.6s,baz=140,slow=1.5,SNR=5.7
ZALV Zalesovo Beam 142.99 24 PKP PKPdf 16 44 11.7 -1.2
comp=Z,2.1nm,0.7s,baz=252,slow=0.5,SNR=10
KSH Kashi 146.44 51 PKPbc PKPab 16 44 21.5 -0.3
MKAR Makanchi Array 146.83 35 PKPbc PKPdf 16 44 20.4 +0.6
comp=Z,2.0nm,0.7s,baz=306,slow=2.4,SNR=21
USRK Ussuriysk Ar. 151.27 325 PKPbc PKPbc 16 44 32.5 -0.4
comp=Z,0.7nm,0.5s,baz=9.3,slow=3.1,SNR=6.3
PZH PanZhiHua 171.49 57 PKP PKPdf 16 44 48.6 -0.1

*IDC **05** 16:29:05.8±1.2,21.74S×70.48W,h0km,mb3.4/1, mbtmp3.6/2,ML3.7/1,Error ellipse: s-maj=53.2km s-min=15.8km az=35.0*
*NEIC **05** 16:29:09.5±1.9,22.37S±0.03×70.75W±0.07,h35km±8km, mb4.1/1,ML3.9(GUC),Error ellipse: s-maj=9.1km s-min=4.9km az=84.0*
*GUC **05** 16:29:10.3±0.8,22.38S×70.64W,h37km±3km,ML3.9*
ISC 05 16:29:08.0±1.4,22.36S±0.03×70.71W±0.06,h26km±11km, n69,σ1s20/80,2C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.52**	**87**	Pn		**Pb**		**16 29 19.4**	**+0.9**
PB04				Sn		**Sn**		**16 29 26.9**	**-0.9**

PB04 IPOC Station P 0.52 87 ⇓ *e* P Pn 16 29 20.1 +0.3
PB04 *i* S Sn **16 29 27.2 -0.7**
PB04 IAML 16 29 27.7
comp=N,30µm,0.4s
PB03 IPOC Station P 0.94 71 Pn Pn 16 29 25.6 0.0
PB03 Sn Sn **16 29 37.3 -0.9**
PB03 IPOC Station P 0.94 71 ⇓ *i* P Pb 16 29 26.1 +0.5
PB03 *i* S Sn **16 29 37.5 -0.7**
PB03 IAML 16 29 37.9
comp=N,9µm,0.3s
PB07 IPOC Station P 0.99 51 Pn Pn 16 29 26.5 +0.2
PB07 Sn Sn **16 29 38.8 -0.7**
PB07 IPOC Station P 0.99 51 ⇓ *e* P Pb 16 29 27.0 +0.5
PB07 *i* S Sn **16 29 39.1 -0.4**
PB07 IAML 16 29 41.0
comp=N,4µm,0.3s
PB06 IPOC Station P 1.10 108 Pn Pn 16 29 28.3 +0.4
PB06 Sn Sb **16 29 42.0 -0.5**
PB06 IPOC Station P 1.10 108 ⇓ *i* P Pb 16 29 28.9 +0.4
PB06 *i* S Sb **16 29 42.2 -0.3**
PB06 IAML 16 29 43.1
comp=N,10µm,0.3s
PB10 IPOC Station P 1.16 173 Pn 16 29 29.7 +1.1
PB10 IPOC Station P 1.16 173 ⇑ *i* P Pn 16 29 29.6 +1.1
PB10 *i* S Sn **16 29 43.9 +0.4**
PB02 IPOC Station P 1.28 36 Pn Pn 16 29 30.9 +0.7
PB02 Sn Sn **16 29 46.3 -0.3**
PB02 IPOC Station P 1.28 36 ⇑ *e* P Pn 16 29 31.0 +0.7
PB02 *e* S Sn **16 29 46.4 -0.2**
PB02 IAML 16 29 47.1
comp=E,2µm,0.2s
PB15 IPOC Station P 1.42 127 Pn Pb 16 29 33.5 -0.4
PB15 Sn Sb **16 29 51.1 -0.6**
PB15 IPOC Station P 1.42 127 *e* P Pb 16 29 33.6 -0.3
PB15 *e* S Sb **16 29 51.4 -0.3**
PB09 IPOC Station P 1.47 68 Pn Pb 16 29 34.7 0.0
PB09 Sn Sb **16 29 52.6 -0.4**
PB09 IPOC Station P 1.47 68 *e* P Pb 16 29 34.5 -0.2
PB09 *e* S Sb **16 29 52.9 -0.1**
PATCX Punta Patache 1.61 19 Pn Pn 16 29 35.1 +0.3
PATCX Punta Patache 1.61 19 *e* P Pn 16 29 35.5 +0.7
LVC Limon Verde 1.68 99 Pn Pb 16 29 38.3 -0.2
comp=E,107nm,0.3s,baz=274,slow=4.7,SNR=13
LVC Lg Lg 16 29 58.7
comp=E,411nm,0.3s,baz=119,slow=18,SNR=18
LVC LR LR 16 30 16.6
comp=E,385nm,18.1s,baz=227,slow=42
LVC Limon Verde 1.68 99 Pn Pb 16 29 38.1 -0.3
LVC Sn Sb **16 29 57.9 -1.4**
LVC Limon Verde 1.68 99 ⇓ *e* P Pb 16 29 38.2 -0.2
LVC *e* S Sb **16 29 58.2 -1.0**
PB01 IPOC Station P 1.73 41 Pn Pn 16 29 38.4 +1.9
PB01 Sn Sn **16 29 57.8 +0.1**
TA01 Diego Aracena 1.85 15 Pn 16 29 38.3 +0.3
TA01 Diego Aracena 1.85 15 *e* P Pn 16 29 38.5 +0.5
TA02 Huaiquique 2.15 15 Pn 16 29 42.5 +0.5
TA02 Huaiquique 2.15 15 *e* P Pn 16 29 43.4 +1.3
TA02 IAML 16 30 12.1
comp=N,913nm,0.2s
HMBC Humberstone 2.21 20 *e* P Pn 16 29 44.0 +1.0
HMBC IAML 16 30 21.9
comp=E,786nm,0.4s
PB14 IPOC Station P 2.27 173 Pn 16 29 44.7 +0.6
AF01 San Pedro de A 2.41 105 Pn 16 29 47.5 +1.5
AF01 San Pedro de A 2.41 105 *e* P Pb 16 29 48.8 -2.0
PB08 IPOC Station P 2.64 34 Pn 16 29 51.8 +2.6
PB08 IPOC Station P 2.64 34 *e* P Pn 16 29 52.1 +2.9
PB11 IPOC Station P 2.76 21 Pn 16 29 52.2 +1.5
PB11 IPOC Station P 2.76 21 *e* P Pn 16 29 52.1 +1.3
PB11 IAML 16 30 29.8
comp=N,338nm,0.2s
PSGCX Pisagua 2.80 11 Pn 16 29 51.7 +0.5
PSGC Pisagua 2.80 11 *e* P Pn 16 29 51.8 +0.6
GO01 Chusmiza 3.03 28 Pn 16 29 57.0 +2.4
GO01 Chusmiza 3.03 28 *e* P Pn 16 29 57.1 +2.4
MNMC Minye Minye 3.38 18 Pn Pn 16 29 59.9 +0.6
PB12 IPOC Station P 3.74 5 Pn 16 30 04.9 +0.8
AC01 Pan de Azucar 3.77 179 Pn Pn 16 30 05.4 +0.9
PB16 IPOC Station P 4.16 16 Pn Pn 16 30 11.1 +0.8
AC02 Maricunga 4.68 162 Pn 16 30 19.1 +1.7
AC06 Mina Casimiro 4.99 176 Pn Pn 16 30 21.1 -0.1
GO03 Copiap 5.23 175 Pn Pn 16 30 25.2 +0.6
AC04 Llanos de Chal 5.83 183 Pn Pn 16 30 33.6 +0.8
AC05 El Transito 6.46 177 Pn Pn 16 30 45.2 +3.6
LPAZ La Paz 6.51 22 Pn 16 30 46.6 +3.9
LCO Las Campanas 6.62 180 Pn Pn 16 30 45.1 +1.2
GO04 Tololo Observa 7.78 181 Pn Pn 16 31 00.2 +0.4
CFA Coronel Fontan 9.47 167 Pn Pn 16 31 33.3 +11
comp=N,0.6nm,0.3s,baz=354,slow=14,SNR=1.3
comp=N,1.5nm,0.3s
H03N1 Juan Fernandez 13.20 212 Pn Pn 16 32 13.1 -0.4
H03N1 T T 16 45 54.2
baz=38,slow=72,SNR=15
H03N2 Juan Fernandez 13.21 212 Pn Pn 16 32 13.1 -0.6
H03N2 T T 16 45 54.1
baz=38,slow=72,SNR=12
H03N3 Juan Fernandez 13.22 212 Pn Pn 16 32 12.9 -0.9
H03N3 T T 16 45 53.1
baz=38,slow=72,SNR=14
H03S3 Juan Fernandez 13.52 211 Pn Pn 16 32 16.7 -1.2
H03S1 Juan Fernandez 13.53 210 Pn Pn 16 32 16.5 -1.5
H03S2 Juan Fernandez 13.54 211 Pn Pn 16 32 16.0 -2.0
TRQA Tornquist 17.35 156 P P 16 33 10.5 +1.0
TRQA IAmb IAmb 16 33 26.7
comp=Z,20nm,1.4s
YKA Yellowknife Ar 91.45 341 P P 16 42 11.6 +0.2
comp=Z,0.1nm,0.6s,baz=130,slow=3.8,SNR=2.4
comp=Z,0.1nm,0.6s
H11S2 WAKE ISLAND Hyl 26.33 277 T T 19 07 47.8
baz=105,slow=75,SNR=7.1
H11S1 WAKE ISLAND Hyl 26.34 277 T T 19 07 45.3
baz=105,slow=75,SNR=10
H11S3 WAKE ISLAND Hyl 26.35 277 T T 19 07 53.0
baz=105,slow=75,SNR=6.0
H11N3 WAKE ISLAND Hyl 26.44 279 T T 19 07 59.1
baz=104,slow=75,SNR=19
H11N2 WAKE ISLAND Hyl 26.45 279 T T 19 08 00.1
baz=104,slow=75,SNR=13
H11N1 WAKE ISLAND Hyl 26.45 279 T T 19 08 00.3
baz=104,slow=75,SNR=10.0
ASAR Alice Springs 128.37 209 PKP PKiKP 16 48 14.6 +1.0
comp=Z,0.4nm,0.7s,baz=170,slow=2.5,SNR=2.2
WRA Warramunga Arr 131.36 212 PKP PKiKP 16 48 21.0 +1.3
comp=Z,0.1nm,0.2s,baz=141,slow=1.6,SNR=5.4
ZALV Zalesovo Beam 143.43 24 PKP PKiKP 16 48 41.7 -1.5
comp=Z,0.6nm,0.5s,baz=328,slow=5.2,SNR=2.7
MKAR Makanchi Array 147.30 35 PKPbc PKPbc 16 48 48.9 -0.2
comp=Z,0.7nm,0.6s,baz=320,slow=3.4,SNR=7.8

*NOU **05** 16:52:10.9, 19.56S×133.98E,h0km,mb4.1/6,Northern Territory, Australia*
*AUST **05** 16:52:13.9±1.0, 19.84S×133.98E,h10km,Error ellipse: s-maj=12.7km s-min=10.5km az=42.0*
*IDC **05** 16:52:15.7±3.0,20.03S×134.16E,h0km,mbtmp3.6/2, ML3.3/2,Error ellipse: s-maj=39.2km s-min=12.3km az=123.0*
ISC 05 16:52:12.9±0.8,19.83S±0.05×133.95E±0.05,h12km,n23, σ2s42/33,1C,Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**0.38**	**107**	Pg		**Pg**		**16 52 19.4**	**-1.2**
	6.4nm,0.3s,baz=114,slow=30,SNR=164								
WB2	**Warramunga Arr**	**0.39**	**107**	⇑ P		**Pg**		**16 52 21.6**	**+0.8**
	baz=0.4								
WB2				S		**Sg**		**16 52 25.7**	**-0.3**
	baz=0.4								
ASAR	**Alice Springs**	**3.82**	**181**	Pn		**Pn**		**16 53 14.9**	**+3.3**
	2.0nm,0.3s,baz=9.7,slow=9.5,SNR=81								
ASAR				Sn		**Sn**		**16 53 57.8**	**+1.3**
	1.9nm,0.3s,baz=1.8,slow=28,SNR=11								
ASAR				Lg		Lg		16 54 10.1	
	3.2nm,0.3s,baz=3.4,slow=30,SNR=9.4								
	2.6nm,0.3s								
ASPA	**Alice Springs**	**3.82**	**181**	P		**Pn**		**16 53 14.9**	**+3.3**
	baz=3.8								
ASPA				S		**Sn**		**16 53 57.7**	**+1.3**
	baz=3.8								
QIS	**Mount Isa**	**5.36**	**99**	P		**Pn**		**16 53 35.0**	**+2.3**
	baz=5.3								
QIS				S		**Sn**		**16 54 33.1**	**-1.3**
	baz=5.3								

KNRA	Kununurra	6.44 309	P	Pn	16 53 49.6	+2.0
	baz=6.5					
KNRA			S	Sn	16 54 57.7	-3.4
	baz=6.5					
KDU	Kakadu	7.24 348	P	Pn	16 54 00.0	+1.4
	baz=7.3					
KDU			S	Sn	16 55 19.2	-1.6
	baz=7.3					
WRKA	Warakurna	7.36 224	P	Pn	16 54 01.5	+1.2
	baz=7.4					
WRKA			S	Sn	16 55 20.8	-3.0
	baz=7.4					
WRKA	Warakurna	7.36 224	P	Pn	16 54 02.8	+2.5
MTN	Manton Dam	7.45 338	P	Pn	16 54 03.4	+1.9
	baz=7.5					
MTN			S	Sn	16 55 23.9	-2.1
	baz=7.5					
OOD	Oodnadatta	8.09 169	P	Pn	16 54 11.4	+1.2
	baz=8.1,SNR=4.6					
OOD			S	Sn	16 55 38.9	-2.7
	baz=8.1					
OOD	Oodnadatta	8.09 169	P	Pn	16 54 13.1	+2.9
INKA	Innaminka	10.03 143	P	Pn	16 54 38.1	+1.3
	baz=10.0,SNR=4.8					
INKA	Innaminka	10.03 143	P	Pn	16 54 38.8	+1.9
	11nm,2.1s					
MULG	Mulgathing	10.41 179	P	Pn	16 54 41.6	-0.4
	baz=10,SNR=4.3					
MULG			S	Sn	16 56 31.6	-7.0
	baz=10					
MULG	Mulgathing	10.41 179	P	Pn	16 54 45.5	+3.5
	9.4nm,2.5s					
COEN	Coen	10.58 58	P	Pn	16 54 45.0	+0.6
	baz=11					
COEN			S	Sn	16 56 34.3	-8.7
	baz=11					
LCRK	Leigh Creek	11.26 161	P	Pn	16 54 54.1	+0.5
	baz=11					
LCRK	Leigh Creek	11.26 161	P	Pn	16 54 56.0	+2.4
	7.5nm,1.0s					
FORT	Forrest	12.13 205	P	Pn	16 55 04.6	-0.9
	baz=12					
FORT	Forrest	12.13 205	P	Pn	16 55 07.5	+1.9
	36nm,1.1s					
BBOO	Buckleboo	13.07 172	P	Pn	16 55 18.8	+0.4
	baz=13					
STKA	Stephens Creek	13.82 152	Pn	Pn	16 55 27.9	-0.8
	0.1nm,0.3s,baz=332,slow=14,SNR=1.5					
	4.3nm,1.2s					

*NEIC **05** 17:12:41.8±0.8,22°.4S±0°.2×179°.2W±0°.2, h549km±17km, mb4.4/20, Error ellipse: s-maj=27.5km s-min=25.7km az=213.0*

*IDC **05** 17:12:47.6±2.6, 22°.53S×179°.72W, h575km±25km, mb3.4/5, mbtmp4.3/6, Error ellipse: s-maj=35.3km s-min=28.7km az=126.0*

ISC 05 17:12:46.7±1.2, 22°.6S±0°.1×179°.6W±0°.2, h579km, n31, σ0^{s}83/31, mb4.2/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.30 335		P	P	17 14 20.9	0.0
	3.3nm,0.3s,baz=204,slow=22,SNR=2.3						
NIUE	Niue	9.72 71		P	P	17 14 51.9	-10
DZM	Mont Dzumac	12.90 270		P	P	17 15 35.2	+0.5
CAN	Canberra	30.11 238		P	P	17 18 09.8	-0.7
CTAO	Charters Tower	31.84 268		P	P	17 18 26.3	+0.9
CTAO				IAmb	IAmb	17 18 26.8	
	comp=Z,10.0nm,0.7s						
TOO	Toolangi	33.46 236		P	P	17 18 39.3	+0.4
TOO				IAmb	IAmb	17 18 40.2	
	comp=Z,6.1nm,0.6s						
TAU	Tasmania Unive	34.09 226		P	P	17 18 44.4	+0.4
STKA	Stephens Creek	35.54 246		P	P	17 18 57.2	+0.9
	comp=Z,4.4nm,0.5s,baz=91,slow=10,SNR=16						
	comp=Z,4.4nm,0.5s						
STKA	Stephens Creek	35.54 246		P	P	17 18 56.4	+0.1
BBOO	Buckleboo	40.29 245		P	P	17 19 34.6	-0.1
BBOO				IAmb	IAmb	17 19 35.5	
	comp=Z,11nm,0.9s						
AS31	Alice Springs	42.60 259		P	P	17 19 53.2	+0.1
ASAR	Alice Springs	42.60 259		P	P	17 19 53.5	+0.4
	comp=Z,6.0nm,0.7s,baz=98,slow=7.1,SNR=82						
ASAR				PcP	PcP	17 21 32.5	+0.6
	comp=Z,0.3nm,0.6s,baz=89,slow=4.9,SNR=2.4						
	comp=Z,6.0nm,0.7s						
ASAR	Alice Springs	42.60 259		P	P	17 19 52.9	-0.3
WR0	Warramunga Arr	42.67 265		P	P	17 19 53.4	-0.3
WR0				IAmb	IAmb	17 20 10.7	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	42.84 265		P	P	17 19 54.8	-0.3
WB0				IAmb	IAmb	17 19 55.4	
	comp=Z,6.2nm,0.9s						
WB2	Warramunga Arr	42.84 265		P	P	17 19 54.7	-0.4
WB2				IAmb	IAmb	17 19 56.3	
	comp=Z,3.9nm,0.8s						
WRAB	Tennant Creek	42.85 265		P	P	17 19 54.1	-1.0
WRAB				IAmb	IAmb	17 19 55.8	
	comp=Z,7.5nm,0.8s						
WRA	Warramunga Arr	42.85 265		P	P	17 19 55.1	-0.1
	comp=Z,4.3nm,0.7s,baz=96,slow=8.2,SNR=38						
	comp=Z,4.3nm,0.7s						
WRA	Warramunga Arr	42.85 265		P	P	17 19 54.6	-0.6
FORT	Forrest	47.10 248		P	P	17 20 27.3	-0.1
MTN	Manton Dam	47.71 273		P	P	17 20 31.6	-0.6
MTN				IAmb	IAmb	17 21 04.2	
	comp=Z,27nm,1.2s						
KNRA	Kununurra	49.05 269		P	P	17 20 42.5	+0.5
VNDA	Vanda	55.71 185		P	P	17 21 30.2	+1.5
	comp=Z,3.1nm,1.1s,baz=36,slow=5.4,SNR=2.3						
	comp=Z,3.1nm,1.1s						
VNDA	Vanda	55.71 185		P	P	17 21 27.0	-1.6
MBWA	Marble Bar	55.95 259		P	P	17 21 30.2	-1.0
MBWA				IAmb	IAmb	17 21 42.6	
	comp=Z,27nm,1.3s						
NWAO	Narrogin (SRO)	56.10 245		P	P	17 21 30.6	-1.5
QSPA	South Pole Qui	67.49 180		P	P	17 22 45.8	+0.2
KS19	Wonju Array Si	77.53 320		P	P	17 23 42.2	-1.4
KS19				IAmb	IAmb	17 24 06.8	
	comp=Z,34nm,1.4s						
CMAR	Chiang Mai Arr	89.40 290		P	P	17 24 44.7	+1.9
	comp=Z,0.6nm,0.3s,baz=123,slow=3.3,SNR=5.9						
	comp=Z,0.6nm,0.3s						
AKASG	Malin Array Be	144.05 328		PKP	PKPab	17 31 16.6	0.0
	comp=Z,0.9nm,0.5s,baz=39,slow=4.2,SNR=9.4						
BRTR	Keskin Array B	147.04 309		PKPbc	PKPbc	17 31 25.9	+0.3
	comp=Z,0.6nm,0.6s,baz=127,slow=3.8,SNR=3.8						

*NOU **05** 17:15:12.7, 30°.69S×118°.44E, h0km, MLv3.6/7, Western Australia*

*AUST **05** 17:15:13.6±1.8, 30°.72S×118°.35E, h10km, Error ellipse: s-maj=16.7km s-min=15.0km az=122.0*

*CUPWA **05** 17:15:14.9±10.0, 30°.67S×118°.36E, h2km±65km, Region: WESTERN AUSTRALIA*

ISC 05 17:15:11.8±0.9, 30°.64S±0°.04×118°.45E±0°.04, h13km, n31, σ1^{s}97/41, 1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	Kellerberrin	1.13 212		↓P	Pb	17 15 33.3	+0.1
	baz=1.0,SNR=42						
KLBR				S	Sb	17 15 47.0	-0.7
	baz=1.0						
KLBR	Kellerberrin	1.13 212		P	Pb	17 15 33.3	+0.1
KLBR	Kellerberrin	1.13 212		S	Sb	17 15 47.2	-0.5
KLBR	Kellerberrin	1.13 212		P	Pb	17 15 33.3	+0.1
BLDU	Ballidu	1.50 270		P	Pn	17 15 39.1	+0.6
	baz=1.4,SNR=26						
BLDU				S	Sb	17 15 58.6	0.0
	baz=1.4						
BLDU	Ballidu	1.50 270		P	Pn	17 15 39.8	+1.3
BLDU	Ballidu	1.50 270		S	Sb	17 15 58.6	0.0
BLDU	Ballidu	1.50 270		P	Pn	17 15 39.1	+0.6
MECK	Meckering	1.59 231		P	Pn	17 15 41.5	+1.9
MECK				S	Sb	17 16 01.5	+0.5
QUAI	Quairading	1.65 213		P	Pn	17 15 42.5	+2.1
AUKUL	Kulin High Sch	2.04 187		P	Pn	17 15 48.5	+2.6
PING	Pingelly	2.24 213		P	Pn	17 15 51.3	+2.6
MUN	Mundaring	2.34 235		P	Pn	17 15 51.3	+1.3
	baz=2.2,SNR=4.1						
MUN				S	Sn	17 16 17.4	-1.2
	baz=2.2						
MUN	Mundaring	2.34 235		P	Pn	17 15 51.7	+1.7
MUN	Mundaring	2.34 235		S	Sn	17 16 17.4	-1.2
NWAO	Narrogin (SRO)	2.51 204		P	Pn	17 15 53.9	+1.5
	baz=2.4,SNR=5.5						
NWAO				P	Pn	17 15 53.9	+1.5
	baz=2.4,SNR=5.5						
NWAO	Narrogin (SRO)	2.51 204		P	Pn	17 15 53.9	+1.5
NWAO	Narrogin (SRO)	2.51 204		P	Pn	17 15 53.9	+1.5
MORW	Morawa	2.61 306		P	Pn	17 15 56.1	+2.3
	baz=2.6						
MORW	Morawa	2.61 306		P	Pn	17 15 56.7	+2.9
MORW	Morawa	2.61 306		P	Pn	17 15 56.1	+2.3
KMBL	Kambalda	3.03 105		P	Pn	17 16 01.2	+1.7
	baz=3.1,SNR=5.4						
KMBL				S	Sn	17 16 36.4	+0.7
	baz=3.1						
KMBL	Kambalda	3.03 105		P	Pn	17 16 01.8	+2.3
KMBL	Kambalda	3.03 105		P	Pn	17 16 01.2	+1.7
KMBL				S	Sn	17 16 36.4	+0.7
MEEK	Meekatharra	3.98 2		P	Pn	17 16 14.7	+2.0
	baz=4.1						
MEEK				S	Sn	17 16 59.3	0.0
	baz=4.1						
MEEK	Meekatharra	3.98 2		P	Pn	17 16 15.7	+3.0
AUBUS	Georgiana Moll	3.99 220		P	Pn	17 16 14.9	+2.3
	baz=3.9						
RKGY	Rocky Gully	4.15 197		P	Pn	17 16 17.2	+2.3
	baz=4.1						
FORT	Forrest	8.27 93		P	Pn	17 17 12.3	+0.8
	baz=8.3						
FORT				S	Sn	17 18 41.3	-3.5
	baz=8.3						
WRKA	Warakurna	10.34 60		P	Pn	17 17 39.7	-0.2
	baz=10						
WRKA				S	Sn	17 19 29.8	-5.9
	baz=10						

IDC 05 17:19:59.5±4.9, 4°.86S×133°.30E, h0km, mb3.3/1, mbtmp3.4/4, ML3.2/3, MS2.3/1, Error ellipse: s-maj=265.5km s-min=24.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.46 333		Pn	Pn	17 21 06.8	-1.6
	0.8nm,0.3s,baz=74,slow=6.0,SNR=9.1						
SIJI				Sn	Sn	17 22 02.1	+1.0
	0.9nm,0.3s,baz=50,slow=22,SNR=4.3						
	12nm,0.7s						
KAPI	Kappang	13.50 269		LR	LR	17 29 46.0	
	comp=Z,12nm,18.2s,baz=90,slow=43						
WRA	Warramunga Arr	15.02 176		Pn	Pn	17 23 31.7	-1.6
	0.1nm,0.3s,baz=356,slow=13,SNR=2.1						
WRA				Sn	Sn	17 26 09.9	-11
	0.1nm,0.3s,baz=356,slow=24,SNR=2.1						
	0.7nm,0.7s						
ASAR	Alice Springs	18.70 178		P	P	17 24 19.8	+0.1
	0.1nm,0.3s,baz=4.1,slow=12,SNR=8.8						
ASAR				S	Sn	17 27 36.9	-13
	0.7nm,1.0s,baz=2.2,slow=27,SNR=2.1						
	0.6nm,0.7s						
MKAR	Makanchi Array	68.31 325		P	P	17 31 03.4	+0.7
	0.2nm,0.5s,baz=110,slow=7.3,SNR=2.7						
	0.2nm,0.5s						

*IDC **05** 17:26:53.3±6.2, 37°.16N×141°.76E, h0km, mb3.4/2, mbtmp3.2/3, ML2.1/1, MS2.6/1, Error ellipse: s-maj=101.7km s-min=46.1km az=136.0*

*JMA **05** 17:26:57.7±0.2, 37°.3N±0°.3×141°.4E±0°.9, h23km±1km, MV3.2/40, E OFF FUKUSHIMA PREF*

ISC 05 17:26:55.8±2.3, 37°.23N±0°.06×141°.48E±0°.09, h5km±13km, n19, σ0^{s}55/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.50 287		P	Pg	17 27 05.8	+0.3
JFK				S	Sg	17 27 11.8	-0.3
ONAJ	Iwakimizuishiy	0.56 257		P	Pg	17 27 06.9	+0.3
ONAJ				S	Sg	17 27 14.1	+0.2
JMST	Minamisoumatoc	0.69 317		P	Pg	17 27 09.4	+0.4
JMST				S	Sg	17 27 18.1	+0.1
JFFD	Fukushimafurud	0.74 260		P	Pg	17 27 10.2	+0.1
JFFD				S	Sg	17 27 19.3	-0.5
JMM	Marumori	0.84 320		P	Pg	17 27 12.1	+0.2
JMM				S	Sg	17 27 22.7	-0.2
JHO	Hitachi	0.95 230		P	Pg	17 27 13.9	-0.2
JIO	Ouri	1.23 355		P	Pg	17 27 19.1	-0.4
JIO				S	Sg	17 27 35.4	0.0
JSB	Shiboa	1.27 259		S	Sg	17 27 36.4	-0.3
JOU	Okura	1.31 331		P	Pg	17 27 20.8	-0.2
JOU				S	Sg	17 27 37.6	-0.3
MJAR	Matsushiro Arr	2.71 256		Pn	Pn	17 27 40.8	+0.8
	0.3nm,0.3s,baz=76,slow=18,SNR=7.6						
MJAR				Sn	Sb	17 28 16.7	-1.5
	0.4nm,0.3s,baz=333,slow=31,SNR=5.5						
	4.1nm,0.7s						
KSRS	Korea Array	10.80 275		LR	LR	17 33 05.6	
	comp=Z,29nm,19.3s,baz=85,slow=34						
SONM	Songino Array	27.72 304		P	P	17 32 45.8	+0.6
	0.3nm,0.9s,baz=111,slow=8.2,SNR=1.9						
	0.3nm,0.9s						
H11N2	WAKE ISLAND Hy	28.20 121		T	T	18 02 26.6	
	baz=314,slow=75,SNR=24						
H11N1	WAKE ISLAND Hy	28.21 121		T	T	18 02 23.7	
	baz=314,slow=75,SNR=36						
H11N3	WAKE ISLAND Hy	28.22 121		T	T	18 02 26.6	
	baz=314,slow=75,SNR=29						
H11S1	WAKE ISLAND Hy	28.92 123		T	T	18 03 13.7	
	baz=316,slow=75,SNR=9.8						
H11S3	WAKE ISLAND Hy	28.92 123		T	T	18 03 14.4	
	baz=316,slow=75,SNR=6.8						
H11S2	WAKE ISLAND Hy	28.94 123		T	T	18 03 14.7	
	baz=316,slow=75,SNR=7.3						
MKAR	Makanchi Array	44.06 302		P	P	17 35 04.3	-0.3
	0.6nm,0.9s,baz=94,slow=8.4,SNR=4.8						
	0.6nm,0.9s						

*NOU **05** 17:37:30.0, 42°.68S×173°.63E, h0km, MLv3.7/8, South Island, New Zealand*

*WEL **05** 17:37:33.0±0.4, 42°.5S±3°.1×17°.3E±1°, h5km±3km, M3.3/12, ML3.6/12, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=128.9, confirmed*

ISC 05 17:37:31.4±1.0, 42°.57S±0°.02×173°.55E±0°.04, h9km±8km, n73, σ1^{s}25/86, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.15 358		P	Pg	17 37 35.0	+0.3
KHZ	Kahutara	0.15 358		P	Pg	17 37 35.0	+0.3
KHZ				S	Sg	17 37 37.1	+0.2
GVZ	Greta Valley S	0.55 223		P	Pg	17 37 44.2	+2.1
GVZ				S	Sb	17 37 53.0	+1.7
AMCZ	Amberley	0.90 227		P	Pg	17 37 50.0	+1.3
AMCZ				S	Sb	17 38 02.7	+1.6
THZ	Tophouse	0.94 329		P	Pg	17 37 48.6	-0.8
THZ				S	Sg	17 37 59.5	-2.1
CMWZ	Cape Campbell	0.96 31		P	Pb	17 37 51.8	+1.7
CMWZ				S	Sb	17 38 04.7	+1.9
LTZ	Lake Taylor	0.96 257		P	Pg	17 37 50.1	+0.1
LTZ				S	Sg	17 38 02.7	+0.2
TUWZ	Tuamarina	1.18 15		P	Pg	17 37 54.2	+0.2
TUWZ				S	Sn	17 38 10.6	+0.5
OKCZ	Okains Bay	1.21 197		P	Pg	17 37 54.7	+0.1
OKCZ				S	Sg	17 38 11.1	+0.8
MRNZ	Matariki Terra	1.31 333		P	Pg	17 37 55.5	-1.0
MRNZ				S	Sn	17 38 12.9	-0.5
MQZ	McQueen's Vall	1.31 210		P	Pn	17 37 54.8	-1.1
MQZ				S	Sb	17 38 12.0	-1.1
OXZ	Oxford	1.34 235		P	Pn	17 37 55.6	-0.7
OXZ				S	Sg	17 38 12.7	-1.8
NNZ	Nelson	1.35 355		P	Pn	17 37 56.4	0.0
NNZ				S	Sg	17 38 13.2	-1.7
AKCZ	Akaroa Harbour	1.39 199		P	Pn	17 37 56.7	-0.2
TCW	Tory Channel	1.46 22		P	Pn	17 37 57.8	-0.1
SNZO	South Karori	1.52 35		P	Pn	17 37 59.1	+0.3
DSZ	Denniston Nort	1.54 302		P	Pn	17 37 59.3	+0.3
DSZ				S	Sg	17 38 19.2	-1.5
RACZ	Rakaia	1.55 221		P	Pn	17 37 58.5	-0.6
INZ	Inchbonnie	1.56 264		P	Pn	17 37 59.3	0.0
WEL	Wellington	1.57 36		P	Pn	17 37 59.8	+0.4
TKNZ	Takaka Hill	1.59 344		P	Pn	17 38 00.4	+0.6
TKNZ				S	Sg	17 38 21.1	-1.6
PLWZ	Palliser	1.62 52		P	Pn	17 37 59.8	-0.3
MHCZ	Mount Hutt	1.74 236		P	Pn	17 38 01.0	-0.9
DUWZ	D'Urville Isla	1.79 9		P	Pn	17 38 02.7	+0.3
DUWZ				S	Sb	17 38 27.1	+0.3
PAWZ	Paruwai Farm	1.83 50		P	Pn	17 38 02.6	-0.5
CAW	Cannon Point	1.85 38		P	Pn	17 38 03.1	-0.2
WACZ	Wakanui South	1.86 222		P	Pn	17 38 02.7	-0.7
QRZ	Quartz Range	1.90 336		P	Pn	17 38 04.9	+0.9
QRZ	Quartz Range	1.90 336		P	Pn	17 38 04.9	+0.9
KIW	Kapiti Island	1.99 31		P	Pn	17 38 05.4	+0.2
MTW	Mount Morrison	2.03 47		P	Pn	17 38 05.1	-0.6
WVZ	Waitaha Valley	2.13 255		P	Pn	17 38 07.6	+0.5
OGWZ	Otaki Gorge	2.13 35		P	Pn	17 38 06.9	-0.3
RPZ	Rata Peaks	2.15 237		P	Pn	17 38 06.7	-0.8
RPZ	Rata Peaks	2.15 237		P	Pn	17 38 06.7	-0.8
BFZ	Birch Farm	2.77 48		P	Pn	17 38 15.1	-0.8
BFZ	Birch Farm	2.77 48		P	Pn	17 38 14.5	-1.3
FOZ	Fox Glacier	2.90 249		P	Pn	17 38 19.0	+1.3
WAZ	Wanganui	3.01 22		P	Pn	17 38 21.3	+2.0
LBZ	Lake Benmore	3.05 232		P	Pn	17 38 19.1	-0.7
ODZ	Otahua Downs	3.25 219		P	Pn	17 38 21.8	-0.7
ODZ	Otahua Downs	3.25 219		P	Pn	17 38 21.6	-0.9
KHEZ	Kahui Hut	3.29 6		P	Pn	17 38 25.1	+2.0
KHEZ	Kahui Hut	3.29 6		P	Pn	17 38 25.8	+2.7
PKE	Pukeiti	3.39 6		P	Pn	17 38 27.3	+2.9
PKVZ	Pokaka	3.55 23		P	Pn	17 38 28.0	+1.3
VRZ	Vera Road	3.56 15		P	Pn	17 38 29.2	+2.5
WNVZ	Wahianoa	3.59 26		P	Pn	17 38 28.5	+1.1
BHHZ	Black Hill Sta	3.62 33		P	Pn	17 38 27.3	-0.3
BHHZ				P	Pb	17 38 28.0	-7.5
KRHZ	Kereru	3.62 37		P	Pn	17 38 31.3	+3.6
FWVZ	Far West T-bar	3.64 25		P	Pn	17 38 33.0	+4.9
NGZ	Ngauruhoe	3.73 25		P	Pb	17 38 35.0	-2.5
SNVZ	South Ngauruho	3.73 26		P	Pb	17 38 35.3	-2.2
NNVZ	North Ngauruho	3.77 25		P	Pn	17 38 30.9	+1.1
WTVZ	West Tongariro	3.78 25		P	Pb	17 38 36.8	-1.6
JCZ	Jackson Bay	3.79 245		P	Pn	17 38 29.8	-0.2
ETVZ	East Tongariro	3.80 26		P	Pn	17 38 31.1	+0.8
TMVZ	Te Maari	3.82 26		P	Pn	17 38 31.3	+0.9
EAZ	Earnscleugh	4.06 228		P	Pn	17 38 32.9	-0.7
BKZ	Black Stump Fm	4.07 34		P	Pn	17 38 39.4	+5.6
HIZ	Hauiti	4.17 14		P	Pn	17 38 35.8	+0.6
HIZ	Hauiti	4.17 14		P	Pn	17 38 36.6	+1.4
TUZ	Tuapeka	4.40 218		P	Pn	17 38 37.7	-0.7
TLZ	Tolley Road	4.50 20		P	Pn	17 38 41.6	+1.9
AWAZ	Awhitu Peninsu	5.56 9		P	Pn	17 38 55.5	+1.3
MKAZ	Moumakai	5.60 13		P	Pn	17 38 55.1	+0.3
WIAZ	Waiheke Island	5.90 12		P	Pn	17 38 60.0	+1.1

*BJI **05** 17:39:06.0±0.0, 38°.57N×142°.69E, h27km, mb4.5/55, mB4.8/30, Ms4.1/16, Ms7 4.0/16*

*NEIC **05** 17:39:11.7±1.2, 38°.66N±0°.06×142°.3E±0°.1, h31km±5km, mb4.6/57, Error ellipse: s-maj=12.2km s-min=7.3km az=118.0*

*MOS **05** 17:39:11.0±0.9, 38°.73N×142°.32E, h39km, mb4.8/35, Error ellipse: s-maj=7.7km s-min=4.8km az=105.9*

*NIED **05** 17:39:12.5, 38°.71N×142°.28E, h39km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.41; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-2.47; $M_{r\theta}$0.49; $M_{\theta\phi}$-0.60; $M_{r\phi}$3.66; Fault plane solution: $M_0$4.46000×10^{15} NP1:ϕ_s8.00000°, δ73.00000°, λ87.00000°. NP2:ϕ_s198.00000°, δ17.00000°, λ99.00000°.*

*JMA **05** 17:39:12.5±0.1, 38°.7N±0°.3×142°.3E±0°.7, h39km±1km, MD4.4/40, MV4.7/40, E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

*IDC **05** 17:39:13.9±1.8, 38°.68N×142°.22E, h47km±16km, mb4.1/22, mbtmp4.3/29, ML3.8/7, MS3.5/40, Error ellipse: s-maj=17.2km s-min=12.0km az=104.0*

ISC 05 17:39:12.1±0.5, 38°.62N±0°.04×142°.41E±0°.04, h40km±4km, n301, σ1^{s}74/285, mb4.6/95, MS3.7/41, 17C-22D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.74 309		↓P	Pn	17 39 24.7	-1.4
OFUJ				↓S	Sn	17 39 33.0	-3.1
OFUJ	Ofunato	0.74 309		A	A	17 39 24.7	
	comp=E,20nm,0.5s,comp=E,24nm,0.7s						
JKMT	Kesennumamotoy	0.76 285		↓P	Pn	17 39 25.1	-1.2
JKMT				↓S	Sn	17 39 33.8	-2.8
JIKH	Ishinomakikobu	0.81 248		↓iP	Pn	17 39 26.6	-0.3
JIKH				↓S	Sn	17 39 36.3	-1.4
JIKH	Ishinomakikobu	0.81 248		A	A	17 39 26.6	
	comp=E,6nm,0.2s,comp=E,62nm,0.2s						
JIO	Ouri	0.85 259		↓iP	Pn	17 39 26.8	-0.7
JIO				↓S	Sn	17 39 36.7	-2.1
JIO	Ouri	0.85 259		A	A	17 39 26.8	
	comp=E,7.0nm,0.3s,comp=E,18nm,0.6s						
JMK	Ichinoseki	0.99 290		↓iP	Pn	17 39 28.5	-1.0
JMK				↓S	Sn	17 39 39.9	-2.4
JMK	Ichinoseki	0.99 290		A	A	17 39 28.5	
	comp=E,10.0nm,0.6s,comp=E,11nm,0.5s						
MIYJ	Miyakonagasawa	1.06 334		A	A	17 39 29.4	
	comp=E,15nm,1.1s,comp=E,15nm,0.7s						
JOFO	Osakifurukawao	1.18 270		A	A	17 39 31.5	
	comp=E,48nm,1.1s,comp=E,38nm,1.7s						
JOM	Ohasama	1.22 315		↓iP	Pn	17 39 31.8	-0.9
JOM				↓S	Sn	17 39 45.5	-2.4
JOM	Ohasama	1.22 315		A	A	17 39 31.8	
	comp=E,36nm,0.3s,comp=E,28nm,0.3s						
JTH	Tanohata	1.39 342	*i*	P	Pn	17 39 34.0	-0.9
JTH				S	Sn	17 39 49.7	-2.3
JTH	Tanohata	1.39 342		A	A	17 39 34.0	
	comp=E,6.0nm,0.9s,comp=E,5.0nm,0.3s						
JOU	Okura	1.40 260		↓iP	Pn	17 39 35.4	+0.3
JOU				↓S	Sn	17 39 51.9	-0.4
JOU	Okura	1.40 260		A	A	17 39 35.4	
	comp=E,20nm,0.4s,comp=E,31nm,0.4s						
JMM	Marumori	1.48 240		P	Pn	17 39 35.8	-0.4
JMM	Marumori	1.48 240		↓iP	Pn	17 39 36.1	-0.1
JMM				↓*e*S	Sn	17 39 53.5	-0.8
JRG	Rokugo	1.59 300		↓iP	Pn	17 39 37.1	-0.6
JRG	Rokugo	1.59 300		A	A	17 39 37.1	
	comp=E,11nm,0.8s,comp=E,12nm,1.0s						
JSZI	Iwateshizukuis	1.60 315		A	A	17 39 37.6	
	comp=E,17nm,2.3s,comp=E,14nm,1.1s						
JKZ	Kuzumaki	1.60 329		A	A	17 39 37.4	
	comp=E,10.0nm,0.7s,comp=E,9.0nm,2.2s						
JYK	Kaneyama	1.63 281		↓iP	Pn	17 39 37.9	-0.4
JYK	Kaneyama	1.63 281		A	A	17 39 37.9	
	comp=E,5.0nm,4.4s,comp=E,4.0nm,0.7s						
JKEN	Kujiedanarisaw	1.68 341

JEM Erimo 3.44 9 P **Pn** **17 40 04.2 +1.1**
MJAR Matsushiro Arr 3.93 239 P **Pn** **17 40 11.5 +1.6**
4.6nm,0.3s,baz=38,slow=11,SNR=120
MJAR LR LR 17 42 03.6
comp=Z,854nm,18.4s,baz=66,slow=44
60nm,0.5s
MAJO Matsushiro 3.93 239 Pn **Pn** **17 40 12.1 +2.1**
MAJO Matsushiro 3.93 239 *e*P **Pn** **17 40 12.0 +2.1**
MJB9 Matsu-Tunnel 3.93 240 **Pn** **17 40 13.1 +3.2**
JGF Kuroka 5.04 235 **Pn** **17 40 28.4 +3.2**
JSG Sagara 5.20 222 Pn **Pn** **17 40 30.1 +2.8**
NMR Nemuro--Hokkai 5.37 27 *e*P **Pn** **17 40 27.9 -1.7**
NMR *e*S **Sn** **17 41 24.5 -5.6**
INU Inuyama 5.41 235 Pn **Pn** **17 40 32.5 +2.2**
ASAJ Asahikawa 5.50 1 P **Pn** **17 40 31.8 +0.5**
3.3nm,0.3s,baz=202,slow=15,SNR=31
ASAJ S **Sn** **17 41 39.4 +6.1**
45nm,0.6s,baz=156,slow=27,SNR=5.1
16nm,0.5s
JKA Kamikawa-asahi 5.50 1 Pn **Pn** **17 40 31.6 +0.2**
RUSJ Misakicho 5.88 20 *e*P **Pn** **17 40 36.3 -0.3**
RUSJ *e*S **Sn** **17 41 40.6 -2.1**
JHJ Hachijo jima 2 5.89 202 P **Pn** **17 40 38.0 +1.2**
31nm,0.3s,baz=61,slow=18,SNR=1.0
JHJ S **Sn** **17 41 42.1 -0.9**
139nm,0.4s,baz=242,slow=23,SNR=1.4
71nm,0.3s
YUK Yuzh-Kuril'sk 6.00 25 *e*P **Pn** **17 40 36.3 -2.0**
YUK *i* S **Sn** **17 41 40.9 -4.8**
YUK pmax pmax
comp=E,55nm,0.2s
YUK pmax pmax
comp=Z,165nm,0.2s
YUK smax smax
comp=E,571nm,0.4s
YUK smax smax
comp=N,288nm,0.3s
KUR Kuril'sk 7.76 30 *e*P **Pn** **17 41 03.2 +0.8**
KUR *e*S **Sn** **17 42 25.1 -3.8**
KUR pmax pmax
comp=Z,81nm,0.7s
KUR smax smax
comp=N,103nm,0.5s
KUR smax smax
comp=E,73nm,0.6s
JHS Saijyo 8.29 247 Pn **Pn** **17 41 13.9 +4.2**
JHS Saijyo 8.29 247 P **Pn** **17 41 12.5 +2.8**
YSS Yuzh-Sakhalins 8.34 2 Pn **Pn** **17 41 09.9 -0.3**
YSS Yuzh-Sakhalins 8.34 2 *e*P **Pn** **17 41 10.6 +0.3**
YSS *e*S **Sn** **17 42 42.1 -0.9**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,200nm,15.0s
JMN Monobe 8.45 237 Pn **Pn** **17 41 14.2 +2.2**
JMN Monobe 8.45 237 P **Pn** **17 41 14.7 +2.7**
USA0B Ussuriysk Arra 9.61 309 **Pn** **17 41 30.1 +2.4**
USA0B Ussuriysk Arra 9.61 309 *i* P **Pn** **17 41 29.1 +1.3**
USRK Ussuriysk Ar. 9.61 309 P **Pn** **17 41 28.2 +0.4**
comp=Z,2.3nm,0.3s,baz=117,slow=14,SNR=26
USRK LR LR 17 44 57.2
comp=Z,336nm,19.7s,baz=122,slow=36
comp=Z,18nm,0.6s
USRK Ussuriysk Ar. 9.61 309 Pn **Pn** **17 41 30.1 +2.4**
USRK Ussuriysk Ar. 9.61 309 P **Pn** **17 41 30.1 +2.4**
JNU Nakatsue 10.84 243 P **Pn** **17 41 44.4 -0.3**
comp=Z,1.1nm,0.3s,baz=272,slow=20,SNR=2.3
JNU LR LR 17 46 13.4
comp=Z,400nm,20.6s,baz=42,slow=39
comp=Z,7.5nm,0.6s
JNU Nakatsue 10.84 243 Pn **Pn** **17 41 47.0 +2.3**
JNU Nakatsue 10.84 243 P **Pn** **17 41 47.4 +2.6**
MDJ Mudanjiang 11.31 306 **Pn** **17 41 54.1 +3.1**
MDJ Mudanjiang 11.31 306 P **Pn** **17 41 53.9 +2.9**
MDJ sP 17 42 04.7
MDJ pmax pmax
comp=Z,20nm,1.2s
MDJ pmax pmax
comp=Z,160nm,4.6s
MDJ LR LR
comp=Z,320nm,18.4s
MDJ LR LR
comp=Z,500nm,19.9s
KSRS Korea Array 11.49 269 P **Pn** **17 41 53.1 -0.3**
comp=Z,0.1nm,0.3s,baz=80,slow=14,SNR=2.4
KSRS LR LR 17 45 53.9
comp=Z,262nm,20.1s,baz=75,slow=35
comp=Z,1.0nm,0.6s
KSAR Wonju Array Be 11.52 269 Pn **Pn** **17 41 55.5 +1.5**
KSAR Wonju Array Be 11.52 269 P **Pn** **17 41 55.5 +1.5**
KS19 Wonju Array Si 11.52 269 **Pn** **17 41 56.2 +2.2**
KLR Kul'dur 13.08 328 P **Pn** **17 42 14.5 -0.8**
comp=Z,0.2nm,0.3s,baz=131,slow=14,SNR=4.8
KLR LR LR 17 47 10.0
comp=Z,285nm,19.4s,baz=143,slow=37
comp=Z,2.0nm,0.8s
KLR Kul'dur 13.08 328 *ce*P **Pn** **17 42 13.6 -1.6**
KLR pmax pmax
comp=Z,8.0nm,1.7s
BNX BinXian 13.20 307 ⇑P **Pn** **17 42 17.9 +1.1**
BNX pmax pmax
comp=Z,3.0nm,0.7s
BNX pmax pmax
comp=Z,260nm,4.7s
HEH HeiHe 15.78 322 *e*P **Pn** **17 42 47.5 -3.7**
HEH pmax pmax
comp=Z,5.0nm,1.6s
HEH pmax pmax
comp=Z,160nm,5.8s
JOW Kunigami 16.70 229 LR LR 17 49 59.4
comp=Z,56nm,20.0s,baz=206,slow=39
PETK Petropavlovsk- 17.92 31 LR LR 17 49 38.3
comp=Z,100nm,20.6s,baz=219,slow=35
ZEA Zeya 18.35 330 *e*P **P** **17 43 21.0 -2.0**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,100nm,11.0s
TIA Tai'an 20.21 271 P **P** **17 43 42.6 -1.0**
TIA pmax pmax
comp=Z,13nm,1.0s
NJ2 Nanjing 20.28 258 ⇓P Pn 17 43 45.5 -1.0
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
XLT XiLinHaoTe 20.45 293 *e*P **P** **17 43 43.5 -2.6**
XLT pP Pn 17 43 50.0 +1.6
XLT sP pP 17 43 56.1 +0.1
XLT pmax pmax
comp=Z,16nm,0.7s
XLT pmax pmax
comp=Z,120nm,4.5s
MA2 Magadan 21.64 12 P **P** **17 43 59.1 +0.4**
comp=Z,8.1nm,0.9s,baz=163,slow=16,SNR=2.6
MA2 LR LR 17 54 04.1
comp=Z,52nm,18.7s,baz=194,slow=41
comp=Z,8.1nm,0.9s
NACB Ninganchiao 22.80 237 P **P** **17 44 09.9 -1.5**
NACB IAmb IAmb 17 44 39.4
comp=Z,22nm,0.9s
SSLB Suanglung 23.49 237 P **P** **17 44 15.9 -2.4**
YULB Yu-li 23.54 236 P **P** **17 44 17.4 -1.4**
YULB IAmb IAmb 17 44 25.6
comp=Z,14nm,1.0s
HHC Hu-ho-hao-te 23.77 285 *e*P **P** **17 44 19.8 -1.2**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,220nm,4.8s
HHC LR LR
comp=Z,510nm,13.2s
HHC LR LR
comp=Z,550nm,13.7s
TWG Pinlang 24.09 235 P **P** **17 44 23.6 -0.4**
TWG IAmb IAmb 17 44 46.9
comp=Z,32nm,1.1s
LYN LuoYang 24.33 270 ⇓*i*P **P** **17 44 25.8 -0.3**
LYN pmax pmax
comp=Z,10.0nm,0.6s
WHN Wuhan 24.40 259 ⇑P **P** **17 44 26.6 -0.1**
YAK Yakutsk 24.72 346 P **P** **17 44 28.7 -0.5**
comp=Z,3.7nm,0.3s,baz=92,slow=1.9,SNR=7.4
YAK LR LR 17 54 35.2
comp=Z,61nm,19.5s,baz=116,slow=37
comp=Z,3.7nm,0.3s
YAK Yakutsk 24.72 346 P **P** **17 44 27.8 -1.5**
YAK IAmb IAmb 17 44 43.4
comp=Z,17nm,0.8s
YAK Yakutsk 24.72 346 *e*P **P** **17 44 28.8 -0.5**
YAK *e**PP **sP** **17 44 42.0 -2.6**
YAK *e* 17 48 05.0
YAK *e*S **S** **17 48 47.5 -0.7**
YAK *e**SS **sS** **17 49 09.0 +3.4**
YAK *e*SS **SnSn** **17 49 41.6 +4.8**
YAK *e* 17 55 31.2
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,183nm,3.9s
YAK pmax pmax
comp=E,123nm,4.8s
YAK pmax pmax
comp=N,78nm,4.7s
YAK smax smax
comp=N,85nm,3.0s
YAK smax smax
comp=E,68nm,2.8s
GUMO Guam 25.02 174 LR LR 17 53 19.4
comp=E,27nm,22.0s,baz=94,slow=34
SEY Seymchan 25.09 11 P **P** **17 44 33.9 +1.3**
comp=E,8.3nm,0.8s,baz=203,slow=4.5,SNR=13
comp=E,8.3nm,0.8s
SEY Seymchan 25.09 11 *ce*P **P** **17 44 34.3 +1.7**
SEY pmax pmax
comp=Z,9.0nm,1.0s
BOD Bodaibo 26.64 325 *e*P **P** **17 44 45.8 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.4s
ULN Ulaanbaatar 27.16 301 P **P** **17 44 50.0 -1.7**
ULN Ulaanbaatar 27.16 301 *ce*P **P** **17 44 50.3 -1.5**
ULN pmax pmax
comp=Z,6.0nm,1.3s
XAN Xi'an 27.27 271 P **P** **17 44 47.3 -5.5**
XAN pP pP 17 44 57.0 -6.5
XAN pmax pmax
comp=Z,10.0nm,0.6s
XAN LR LR
comp=N,140nm,13.3s
XAN LR LR
comp=E,110nm,10.2s
XAN LR LR
comp=Z,150nm,16.2s
SONM Songino Array 27.60 301 P **P** **17 44 55.5 -0.1**
comp=Z,1.4nm,0.4s,baz=102,slow=9.3,SNR=15
SONM LR LR 17 56 16.5
comp=Z,84nm,20.6s,baz=142,slow=37
comp=Z,1.4nm,0.4s
SONM Songino Array 27.60 301 P **P** **17 44 55.2 -0.4**
ENH Enshi 28.29 263 P **P** **17 45 00.4 -1.4**
H11N2 WAKE ISLAND Hy 28.34 125 T T 18 15 29.2
baz=317,slow=75,SNR=3707
H11N1 WAKE ISLAND Hy 28.35 125 T T 18 15 29.9
baz=317,slow=75,SNR=2116
H11N3 WAKE ISLAND Hy 28.36 125 T T 18 15 30.5
baz=317,slow=75,SNR=2323
H11S1 WAKE ISLAND Hy 29.11 127 T T 18 16 27.5
baz=318,slow=76,SNR=190
H11S3 WAKE ISLAND Hy 29.11 127 T T 18 16 20.7
baz=318,slow=76,SNR=224
H11S2 WAKE ISLAND Hy 29.13 127 T T 18 16 24.4
baz=318,slow=76,SNR=143
ZAK Zakamensk 29.95 306 *e*P **P** **17 45 15.5 -0.9**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
LZH Lanzhou 30.61 277 *e*P **P** **17 45 20.9 -1.7**
LZH pP pP 17 45 29.8 -3.5
LZH sP sP 17 45 33.4 -4.7
LZH pmax pmax
comp=Z,12nm,1.1s
LZH LR LR
comp=Z,190nm,13.4s
LZH LR LR
comp=Z,260nm,12.9s
LZH LR LR
comp=Z,280nm,15.5s
MOY Mondy 31.55 308 *e*P **P** **17 45 29.9 -0.7**
BILL Bilibino 32.28 17 ⇓*e*P **P** **17 45 36.7 0.0**
BILL *e* 17 46 41.9
BILL *e*S **S** **17 50 50.0 +2.8**
BILL pmax pmax
comp=Z,12nm,2.5s
BILL MLR MLR
comp=Z,24nm,12.0s
GYA Guiyang 32.29 259 ⇑P **P** **17 45 36.2 -1.1**
GYA pP pP 17 45 49.1 +1.0
GYA pmax pmax
comp=Z,11nm,1.1s
CD2 Chengdu 32.49 268 *e*P **P** **17 45 37.7 -1.2**
GTA Gaotai 32.89 285 *e*P **P** **17 45 42.4 0.0**
GTA pP pP 17 45 51.4 -1.9
GTA sP sP 17 45 55.7 -2.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,59nm,4.8s
GTA LR LR
comp=Z,70nm,10.8s
GTA LR LR
comp=Z,200nm,17.5s
GTA LR LR
comp=Z,240nm,16.7s
TIXI Tiksi 33.82 352 LR LR 18 00 56.2
comp=Z,53nm,18.0s,baz=38,slow=39
TIXI Tiksi 33.82 352 P **P** **17 45 49.7 -0.3**
TIXI IAmb IAmb 17 45 50.5
comp=Z,5.3nm,0.5s
TIXI Tiksi 33.82 352 *ce*P **P** **17 45 50.1 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
PZH PanZhiHua 36.07 263 P **P** **17 46 09.9 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.9s
GOMU GeErMu 37.56 282 P **P** **17 46 23.3 +0.4**
GOMU pmax pmax
comp=Z,13nm,0.8s
GOMU pmax pmax
comp=Z,130nm,4.9s
TNCH TengChong 39.32 263 P **P** **17 46 38.0 +0.4**
TNCH pP pP 17 46 44.4 -4.2
TNCH sP sP 17 46 48.6 -4.7
TNCH PP **PnPn** **17 48 10.0 -1.2**
TNCH S **S** **17 52 32.2 -4.0**
TNCH pmax pmax
comp=Z,11nm,0.9s
TNCH pmax pmax
comp=Z,66nm,4.7s
TNCH LR LR
comp=Z,140nm,4.4s
TNCH LR LR
comp=Z,95nm,4.5s
TNCH LR LR
comp=Z,110nm,5.1s
DGZ Jazzator, Alta 40.13 304 *i* P **P** **17 46 43.8 -0.3**
DGZ pmax pmax
comp=Z,16nm,0.7s
CRAI Chiangrai 40.54 255 P **P** **17 46 48.4 +0.8**
CRAI IAmb IAmb 17 46 51.9
comp=Z,7.9nm,0.7s
SIJI Sorong 40.61 197 LR LR 18 00 41.5
comp=Z,35nm,18.5s,baz=57,slow=32
WMQ Urumqi 40.85 295 *e*P **P** **17 46 50.3 +0.3**
WMQ sP sP 17 47 03.8 -1.9
WMQ PP **PnPn** **17 48 28.0 -0.9**
WMQ pmax pmax
comp=Z,11nm,1.1s
ZAA0 Zalesovo Array 41.45 311 P **P** **17 46 54.4 -0.3**
ZAA0 IAmb IAmb 17 46 55.6
comp=Z,9.0nm,0.8s
ZALV Zalesovo Beam 41.45 311 P **P** **17 46 54.6 -0.1**
comp=Z,7.9nm,0.5s,baz=89,slow=8.2,SNR=46
ZALV PcP **PcP** **17 48 51.9 +0.1**
comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=3.9
ZALV LR LR 18 04 46.9
comp=Z,98nm,18.9s,baz=76,slow=37
comp=Z,7.9nm,0.5s
ZALV Zalesovo Beam 41.45 311 P **P** **17 46 54.1 -0.6**
NRIK Noril'sk 42.17 334 P **P** **17 46 59.9 -0.5**
comp=Z,2.5nm,0.4s,baz=108,slow=7.5,SNR=4.5
NRIK LR LR 18 05 33.7
comp=Z,123nm,18.9s,baz=98,slow=38
comp=Z,2.5nm,0.4s
NRIK Noril'sk 42.17 334 P **P** **17 47 00.1 -0.3**
NRIK Noril'sk 42.17 334 *i* P **P** **17 47 00.6 +0.2**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 42.67 254 P **P** **17 47 05.7 +0.6**
comp=Z,0.6nm,0.6s,baz=44,slow=6.9,SNR=5.6
CMAR LR LR 18 06 07.5
comp=Z,22nm,19.5s,baz=45,slow=38
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 42.67 254 *ce*P **P** **17 47 05.6 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
LSA Lhasa 42.87 274 P **P** **17 47 06.4 -0.7**
LSA Lhasa 42.87 274 P **P** **17 47 06.4 -0.7**
LSA pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 43.97 301 P **P** **17 47 14.9 -0.3**
MK31 Makanchi Array 43.97 301 *i* P **P** **17 47 15.1 -0.1**
MKAR Makanchi Array 43.97 301 P **P** **17 47 15.1 -0.2**
comp=Z,4.8nm,0.7s,baz=86,slow=10,SNR=60
MKAR LR LR 18 06 04.5
comp=Z,47nm,20.1s,baz=120,slow=37
comp=Z,4.8nm,0.7s
MKAR Makanchi Array 43.97 301 P **P** **17 47 14.5 -0.7**
MAKZ Makanchi 44.17 301 P **P** **17 47 16.4 -0.5**
MAKZ IAmb IAmb 17 47 20.8
comp=Z,9.2nm,1.1s
MAKZ Makanchi 44.17 301 P **P** **17 47 16.4 -0.5**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
SHL Shillong 44.23 268 P **P** **17 47 17.4 -0.4**
SHL IAmb IAmb 17 47 20.0
comp=Z,5.5nm,0.8s
SHL Shillong 44.23 268 P **P** **17 47 17.4 -0.4**
SHL pmax pmax
comp=Z,6.0nm,0.8s
KDAK Kodiak Island 45.40 43 LR LR 18 06 00.1
comp=Z,50nm,21.0s,baz=284,slow=35
KURK Kurchatov 45.59 307 P **P** **17 47 27.4 -0.6**
KURK Kurchatov 45.59 307 *ce*P **P** **17 47 27.6 -0.5**
KURK pmax pmax
comp=Z,23nm,0.7s
KURBB Kurchatov Arra 45.67 307 P **P** **17 47 28.2 -0.4**
comp=Z,23nm,0.7s,baz=80,slow=8.1,SNR=191
comp=Z,23nm,0.7s
KURBB Kurchatov Arra 45.67 307 P **P** **17 47 27.8 -0.9**
TAPN Taplejung 46.63 273 *e*P **P** **17 47 36.9 0.0**
comp=Z,5.4nm,0.4s
NEA2 Nenana 46.80 33 P **P** **17 47 35.4 -2.0**
NEA2 IAmb IAmb 17 47 54.0
comp=Z,15nm,1.2s
ODAN Odare 47.12 273 *e*P **P** **17 47 39.8 -0.9**
KSM Kuching 47.22 226 P **P** **17 47 42.7 +1.5**
KSM IAmb IAmb 17 47 43.7
comp=Z,8.6nm,1.0s
JIRN Jiri 47.68 274 *e*P **P** **17 47 45.3 +0.2**
comp=Z,12nm,0.5s
RAMN Ramite 47.69 273 *e*P **P** **17 47 44.4 -0.7**
comp=Z,7.4nm,0.5s
ILAR Eielson Array 47.73 33 P **P** **17 47 46.1 +1.4**
comp=Z,0.5nm,0.6s,baz=270,slow=5.9,SNR=6.1
comp=Z,0.5nm,0.6s
ILAR Eielson Array 47.73 33 P **P** **17 47 44.5 -0.1**
KKN Kakani 48.33 275 *e*P **P** **17 47 49.4 -0.6**
PKI Pulchoki 48.33 275 *e*P **P** **17 47 49.4 -0.7**
comp=Z,5.1nm,0.5s
PKIN Phulchoki 48.34 275 *e*P **P** **17 47 49.5 -0.6**
comp=Z,5.2nm,0.4s
DMN Daman 48.55 275 *e*P **P** **17 47 51.6 -0.1**
comp=Z,7.5nm,0.5s
GKN Gorkha 48.73 276 *e*P **P** **17 47 52.5 -0.5**
comp=Z,7.8nm,0.4s
DANN Dangsing 49.25 276 *e*P **P** **17 47 57.3 +0.1**
comp=Z,52nm,0.6s
TKM2 Tokmak 2 49.59 298 P **P** **17 47 58.4 -1.1**
KOLN Koldanda 49.65 276 *e*P **P** **17 47 58.5 -1.6**
BVA0 Borovoye Array 50.10 312 *i* P **P** **17 47 59.8 -3.2**
BVAR Borovoye Array 50.10 312 LR LR 18 10 06.6
comp=Z,66nm,19.3s,baz=76,slow=37
BRVK Borovoye 50.16 312 P **P** **17 48 02.7 -0.7**
BRVK IAmb IAmb 17 48 03.6
comp=Z,5.4nm,0.8s
BRVK Borovoye 50.16 312 *ce*P **P** **17 48 03.4 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 50.45 298 LR LR 18 10 51.3
comp=Z,52nm,19.0s,baz=66,slow=38
INK Inuvik 52.62 28 P **P** **17 48 22.8 +1.3**
comp=Z,0.7nm,0.5s,baz=333,slow=10,SNR=3.2
comp=Z,0.7nm,0.5s
KK31 Karatay Array 53.03 299 P **P** **17 48 24.4 -0.6**
KK31 IAmb IAmb 17 48 25.6
comp=Z,5.9nm,1.1s
KK31 Karatay Array 53.03 299 *i* P **P** **17 48 24.4 -0.6**
KKAR Karatay Array 53.03 299 P **P** **17 48 24.4 -0.6**
KKAR IAmb IAmb 17 48 25.6
comp=Z,5.9nm,1.1s
KKAR Karatay Array 53.03 299 P **P** **17 48 24.4 -0.6**
KKAR pmax pmax
comp=Z,6.0nm,1.2s
HON Honolulu 53.52 91 P **P** **17 48 26.6 -2.3**
SVE Sverdlovsk 54.49 318 *e*P **P** **17 48 35.8 +0.4**
SVE pmax pmax
comp=Z,13nm,0.9s
A36M Sachs Harbour 54.49 22 P **P** **17 48 36.7 +1.5**
A36M IAmb IAmb 17 48 50.7
comp=Z,9.5nm,1.0s
GAR Garm 54.74 295 P **P** **17 48 37.1 -0.6**
GAR IAmb IAmb 17 48 39.4
comp=Z,13nm,1.3s
ARU Arti 55.71 318 LR LR 18 15 03.7
comp=Z,132nm,18.4s,baz=66,slow=39
ARU Arti 55.71 318 P **P** **17 48 43.5 -0.7**
ARU Arti 55.71 318 *d* *i* P **P** **17 48 44.6 +0.4**
ARU 17 49 42.8
ARU 17 50 44.7
ARU S **S** **17 56 29.6 +2.0**
ARU SS **SS** **18 00 13.3 +0.6**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU MLR MLR
comp=Z,134nm,19.0s
CHGR Chuyangaron 55.71 295 P **P** **17 48 44.4 -0.3**
CHGR Chuyangaron 55.71 295 P **P** **17 48 44.4 -0.3**
CHGR pmax pmax
comp=Z,11nm,0.7s
STCH Steam Cracks 56.84 91 P **P** **17 48 52.8 -0.1**
AB31 Akbulak array 57.53 310 P **P** **17 48 54.9 -2.4**
ABKAR Akbulak array 57.53 310 P **P** **17 48 56.5 -0.8**
ABKAR Akbulak array 57.53 310 P **P** **17 48 56.6 -0.7**
ABKAR IAmb IAmb 17 48 57.3
comp=Z,6.2nm,0.6s
KBL Kabul 57.60 290 P **P** **17 48 56.6 -1.6**
KBL IAmb IAmb 17 48 58.5
comp=Z,4.5nm,0.8s
KBL Kabul 57.60 290 P **P** **17 48 56.6 -1.6**
KBL pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 58.21 312 LR LR 18 15 02.3
comp=Z,58nm,19.5s,baz=66,slow=37
AKTO Aktyubinsk 58.21 312 P **P** **17 49 00.1 -2.0**
WB0 Warramunga Arr 58.56 189 P **P** **17 49 05.2 +0.5**
WR0 Warramunga Arr 58.73 189 P **P** **17 49 06.7 +0.7**
WR0 IAmb IAmb 17 49 07.2
comp=Z,4.6nm,0.8s
WB2 Warramunga Arr 58.74 189 P **P** **17 49 06.0 0.0**
WB2 IAmb IAmb 17 49 21.4
comp=Z,8.1nm,0.9s
WRA Warramunga Arr 58.74 189 P **P** **17 49 06.7 +0.8**
comp=Z,3.5nm,0.7s,baz=6.6,slow=7.2,SNR=20
comp=Z,3.5nm,0.7s
WRA Warramunga Arr 58.74 189 P **P** **17 49 06.8 +0.9**
WRA Warramunga Arr 58.74 189 *ce*P **P** **17 49 06.6 +0.6**
WRA pmax pmax
comp=Z,4.0nm,0.7s
KIRV Kirov 59.47 323 LR LR 18 17 00.9
comp=Z,44nm,18.4s,baz=43,slow=38
KIRV Kirov 59.47 323 *ce*P **P** **17 49 11.2 +0.6**
PRGR Permogore 59.87 327 *e*P **P** **17 49 13.4 +0.1**
PRGR pmax pmax

comp=Z,6.0nm,0.8s
BBB Bella Bella 60.38 45 LR LR 18 13 12.0
comp=Z,11nm,20.6s,baz=243,slow=34
RES Resolute Bay 60.87 15 LR LR 18 18 26.3
comp=Z,22nm,18.0s,baz=7.0,slow=39
YKA Yellowknife Ar 62.04 31 P **P** **17 49 30.1 +2.0**
comp=Z,0.2nm,0.6s,baz=298,slow=6.9,SNR=1.7
AS31 Alice Springs 62.47 189 P **P** **17 49 32.5 +1.2**
ASAR Alice Springs 62.47 189 P **P** **17 49 32.6 +1.3**
comp=Z,2.0nm,0.7s,baz=14,slow=5.9,SNR=27
comp=Z,2.0nm,0.7s
ASAR Alice Springs 62.47 189 P **P** **17 49 31.8 +0.5**
ARCES ARCESS Array B 62.80 339 P **P** **17 49 33.2 +0.2**
comp=Z,3.3nm,0.8s,baz=30,slow=5.6,SNR=7.9
comp=Z,3.3nm,0.8s
KLMR Klimovskoe 62.84 328 *e*P **P** **17 49 29.2 -4.2**
KLMR AMP 17 49 32.4
comp=Z,25nm,1.9s
KLMR Klimovskoe 62.84 328 *e*P **P** **17 49 29.1 -4.3**
KLMR pmax pmax
comp=Z,25nm,1.9s
GEYT Alibeck 63.77 299 P **P** **17 49 40.1 +0.1**
comp=Z,4.1nm,0.7s,baz=25,slow=3.9,SNR=9.6
GEYT LR LR 18 19 04.7
comp=Z,51nm,19.4s,baz=66,slow=38
comp=Z,4.1nm,0.7s
GEYT Alibeck 63.77 299 P **P** **17 49 39.1 -0.9**
GEYT IAmb IAmb 17 49 40.8
comp=Z,5.1nm,0.8s
GYA0B ALIBECK ARRAY 63.77 299 P **P** **17 49 38.8 -1.2**
GYA0B IAmb IAmb 17 49 40.7
comp=Z,4.8nm,0.9s
SGF Sodankyl 63.80 337 P **P** **17 49 39.7 0.0**
SGF pmax pmax
comp=Z,28nm,2.5s
MSF Maaselka 63.94 335 P **P** **17 49 40.7 0.0**
MSVF Nonsavu 65.25 142 LR LR 18 14 26.6
comp=Z,36nm,21.4s,baz=144,slow=32
OBN Obninsk 67.30 323⇑ *e*P **P** **17 50 02.0 -0.4**
OBN *e* 17 50 34.9
OBN *e* 17 52 30.2
OBN *e*S **PnS** **17 59 34.2 +14**
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,57nm,17.0s
FINES FINESS Array B 67.78 332 P **P** **17 50 05.5 +0.1**
comp=Z,5.1nm,0.8s,baz=44,slow=11,SNR=8.6
FINES LR LR 18 21 07.7
comp=Z,42nm,19.5s,baz=37,slow=37
comp=Z,5.1nm,0.8s
AKT Akhty 68.77 307 *e*P **P** **17 50 11.3 -0.8**
AKT *e* 17 50 34.2
AKT pmax pmax
comp=Z,12nm,1.2s
KVAR Kislovodsk Arr 70.46 311 LR LR 18 24 41.7
comp=Z,96nm,20.9s,baz=146,slow=39
KIV Kislovodsk 70.47 311 P **P** **17 50 21.9 -0.5**
KIV Kislovodsk 70.47 311 *de*P **P** **17 50 22.5 0.0**
KIV *e* 17 50 42.8
KIV *e* 17 52 55.4
KIV *e*S **SKiKP** **18 00 07.3 +4.1**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,32nm,17.0s
KBZ Khabaz 70.47 311 P **P** **17 50 23.2 +0.8**
comp=Z,7.7nm,0.9s,baz=59,slow=2.6,SNR=12
comp=Z,7.7nm,0.9s
KBZ Khabaz 70.47 311 *ce*P **P** **17 50 22.6 +0.3**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
WSAR Wadi Sarin 71.22 285 LR LR 18 23 52.2
comp=Z,39nm,18.3s,baz=66,slow=38
MNK Minsk 71.63 326 *i* P **P** **17 50 28.7 -0.5**
comp=E,2.0nm,0.8s
MNK *i* P **P** **17 50 28.7 -0.5**
comp=N,41nm,0.9s
MNK *i* P **P** **17 50 28.7 -0.5**
comp=Z,14nm,0.8s,baz=229
MNK *i* PcP **PcP** **17 50 47.7 -0.5**
MNK *i* PP **PP** **17 53 07.5 -0.4**
MNK *i* PPP PPP 17 54 51.2
MNK *i* S **S** **17 59 46.0 +0.4**
MNK *i* ScS **ScS** **18 00 31.0 -0.1**
MNK *i* SS **SS** **18 04 22.3 +1.9**
MNK *i* SSS SSS 18 07 42.2
MNK *i* LR LR 18 21 18.6
MNK *i* LRM MLR 18 23 44.7
comp=E,205nm,21.5s
MNK *i* LRM MLR 18 23 45.6
comp=N,2μm,19.8s
MNK *i* LRM MLR 18 23 51.6
comp=Z,142nm,16.3s
MNK Minsk 71.63 326 *i* P **P** **17 50 28.7 -0.5**
MNK *i* 17 50 47.7
MNK *i* 17 53 07.4
MNK *i* PPP PPP 17 54 51.2
MNK *i* S **S** **17 59 45.9 +0.4**
MNK *i* 18 00 30.9
MNK *i* SS **SS** **18 04 22.3 +1.9**
MNK pmax pmax
comp=N,41nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,205nm,21.0s
MNK MLR MLR
comp=N,2μm,20.0s
MNK MLR MLR
comp=Z,142nm,16.0s
NACGM Naroch 71.84 327 *e*P **P** **17 50 30.5 +0.1**
comp=Z,15nm,0.9s,baz=48
HFS Hagfors 72.97 336 LR LR 18 24 46.0
comp=Z,67nm,19.3s,baz=71,slow=38
NB2 NORSAR Subarra 73.03 337 P **P** **17 50 37.3 -0.2**
comp=Z,1.5nm,0.7s,baz=37,slow=5.9
NOA NORSAR Array B 73.03 337 P **P** **17 50 37.7 +0.2**
comp=Z,1.4nm,0.6s,baz=39,slow=6.0,SNR=7.5
NOA LR LR 18 25 16.1
comp=Z,51nm,21.9s,baz=295,slow=38
comp=Z,1.4nm,0.6s
AKASG Malin Array Be 73.53 322 P **P** **17 50 40.2 -0.4**
comp=Z,5.2nm,0.7s,baz=46,slow=5.9,SNR=32
AKASG LR LR 18 25 50.9
comp=Z,51nm,18.5s,baz=20,slow=38
comp=Z,5.2nm,0.7s
AKASG Malin Array Be 73.53 322 P **P** **17 50 40.2 -0.4**
AKASG Malin Array Be 73.53 322⇑ *e*P **P** **17 50 40.3 -0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 73.53 322 P **P** **17 50 40.4 -0.1**
AKBB IAmb IAmb 17 50 41.2
comp=Z,8.1nm,0.8s
AKBB Malin Array Si 73.53 322 *ce*P **P** **17 50 39.3 -1.2**
AKBB pmax pmax
comp=Z,44nm,3.8s
GURO Guroymak-BITLI 74.03 307 P **P** **17 50 44.6 +0.7**
SNOW Snow King Moun 74.88 46 P **P** **17 50 49.2 +0.2**
FRB Frobisher Bay 75.05 14 P **P** **17 50 49.2 +0.1**
MARD Mardin 75.57 306 P **P** **17 50 53.3 +0.4**
MARD IAmb IAmb 17 50 54.3
comp=Z,8.3nm,0.8s
PDAR Pinedale Array 76.00 46 P **P** **17 50 57.0 +1.6**
comp=Z,0.4nm,0.6s,baz=129,slow=2.1,SNR=5.3
comp=Z,0.4nm,0.6s
BUR08 Bucovina Ar. S 77.54 322 P **P** **17 51 03.9 +0.1**
BURAR Bucovina Array 77.56 322 P **P** **17 51 04.1 +0.2**
BURAR Bucovina Array 77.56 322 P **P** **17 51 04.1 +0.2**
BURAR pmax pmax
comp=Z,3.0nm,0.9s
VRI Vrincioaia 78.03 320 P **P** **17 51 07.8 +1.4**
VRI pmax pmax
comp=Z,8.0nm,2.5s
OJC Ojcow 78.16 326 P **P** **17 51 07.4 +0.4**
OJC pmax pmax
comp=Z,12nm,2.7s
BRTR Keskin Array B 78.39 312 P **P** **17 51 08.7 0.0**
comp=Z,1.0nm,0.5s,baz=104,slow=3.4,SNR=13
comp=Z,1.0nm,0.5s
ISR Istrita 78.64 319 P **P** **17 51 10.6 +0.8**
ISR pmax pmax
comp=Z,21nm,1.0s
MLR Muntele Rosu 78.69 320 LR LR 18 28 41.6
comp=Z,56nm,18.2s,baz=50,slow=38
KSP Ksiaz 79.17 329 P **P** **17 51 12.0 -0.6**
KSP pmax pmax
comp=Z,8.0nm,0.9s
VOIR 79.17 320 P **P** **17 51 13.9 +1.1**
VOIR pmax pmax
comp=Z,4.0nm,2.7s
MORC Moravsky Berou 79.46 327 P **P** **17 51 14.4 +0.2**
MORC IAmb IAmb 17 51 15.8
comp=Z,4.3nm,0.9s
MORC Moravsky Berou 79.46 327 *e*P **P** **17 51 15.2 +1.0**
MORC Moravsky Berou 79.46 327 P **P** **17 51 14.5 +0.2**
MORC pmax pmax
comp=Z,4.0nm,0.9s
DPC Dobruska-Polom 79.53 328 *e*P **P** **17 51 13.7 -0.9**
DPC Dobruska-Polom 79.53 328 *e*P **P** **17 51 13.7 -0.9**
KRLC Kraliky 79.55 328 *e*P **P** **17 51 15.0 +0.3**
KRLC Kraliky 79.55 328 *e*P **P** **17 51 15.0 +0.3**
BRG Berggiesshubel 80.09 330 P **P** **17 51 18.1 +0.6**
BRG pmax pmax
comp=Z,10.0nm,1.5s
JAVC Velka Javorina 80.10 327 *e*P **P** **17 51 19.9 +2.2**
PVCC Panska Ves 80.11 329 P **P** **17 51 18.6 +0.9**
PVCC P **pP** **17 51 27.6 -1.8**
PVCC pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 80.11 331 P **P** **17 51 17.5 -0.1**
CLL IAmb IAmb 17 51 18.7
comp=Z,6.2nm,0.7s
CLL Collm 80.11 331 *e*PcP **PcP** **17 51 24.0 -0.9**
CLL Collm 80.11 331 *i* P **P** **17 51 17.2 -0.5**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 80.11 331 *i* P **P** **17 51 17.2 -0.5**
comp=Z,7.0nm,0.8s
VRAC Vranov 80.22 327 LR LR 18 29 04.4
comp=Z,49nm,18.4s,baz=237,slow=37
VRAC Vranov 80.22 327 *e*P **P** **17 51 19.4 +1.1**
VRAC Vranov 80.22 327 P **P** **17 51 19.1 +0.8**
VRAC pmax pmax
comp=Z,6.0nm,2.1s
KRUC Moravsky 80.49 327 *e*P **P** **17 51 20.2 +0.5**
KRUC Moravsky 80.49 327 P **P** **17 51 20.3 +0.5**
KRUC pmax pmax
comp=Z,6.0nm,0.8s
PRU Pruhonice 80.54 329 P **P** **17 51 20.3 +0.3**
PRU pmax pmax
comp=Z,7.0nm,1.5s
BZS Buzias 80.72 322 P **P** **17 51 21.1 +0.1**
BZS P **PcP** **17 51 29.2 +1.5**
BZS pmax pmax
comp=Z,5.0nm,2.4s
RAYN Ar Rayn 80.78 293 P **P** **17 51 21.9 +0.1**
RAYN pmax pmax
comp=Z,1.0nm,0.9s
RONA Rosalia, Austr 81.58 327 *i* P **P** **17 51 27.0 +1.3**
comp=Z,4.1nm,0.5s
CONA Conrad Observa 81.59 327 *e*P **P** **17 51 26.9 +1.2**
comp=Z,4.4nm,1.0s
KHC Kasperske Hory 81.60 329 *e*P **P** **17 51 26.2 +0.5**
KHC Kasperske Hory 81.60 329 *e*P **P** **17 51 26.2 +0.5**
GEC2 GERESS Array S 81.78 329 P **P** **17 51 26.9 +0.2**
GERES GERESS Array B 81.78 329 P **P** **17 51 26.9 +0.2**
comp=Z,1.5nm,0.7s,baz=40,slow=5.2,SNR=5.6
comp=Z,1.5nm,0.7s
VTS Vitosha 82.10 319 P **P** **17 51 28.7 +0.1**
VTS IAmb IAmb 17 51 30.8
comp=Z,5.3nm,0.9s
VTS Vitosha 82.10 319 P **P** **17 51 28.7 +0.1**
VTS pmax pmax
comp=Z,5.0nm,0.9s
BIOA Bad Ischl, Aus 82.71 328 *e*PcP **P** **17 51 33.0 +1.4**
comp=Z,1.0nm,0.3s
SOKA Soboth 82.92 327 *e*P **P** **17 51 33.2 +0.5**
comp=Z,5.3nm,0.8s
OBKA Obir 83.26 327 *i* P **P** **17 51 35.4 +0.9**
comp=Z,1.6nm,0.5s
MOTA Moosalm 84.03 329 *i* PcP **P** **17 51 39.1 +0.6**
comp=Z,1.2nm,0.5s
EIL Elat 84.17 303 LR LR 18 33 28.1
comp=Z,26nm,18.6s,baz=24,slow=39
FETA Feichten 84.44 329 *e*PcP **PcP** **17 51 42.6 -1.6**
comp=Z,2.3nm,0.6s
DAVA Damuels 84.56 330 *i* PcP **P** **17 51 41.8 +0.6**
comp=Z,2.2nm,0.5s
PPT Papeete 84.64 117 LR LR 18 25 22.7
comp=Z,26nm,21.0s,baz=332,slow=33
FUORN Ofenpass-Fuorn 84.95 329 P **P** **17 51 43.3 0.0**
DAVOX Davos/Dischmat 84.97 329 LR LR 18 32 58.9
comp=Z,45nm,18.1s,baz=88,slow=38
KAN08 Anthony NE Sta 86.25 44 P **P** **17 51 49.6 0.0**
LPIG La Paz 87.72 61 LR LR 18 28 51.4
comp=Z,27nm,18.8s,baz=205,slow=34
ESDC Sonseca Array 96.21 335 LR LR 18 39 46.5
comp=Z,32nm,18.1s,baz=89,slow=38

OSPL ***05*** *17:48:54.1±2.1, 19.°17N×68.°13W, h0km±11km, ML2.9*
NEIC ***05*** *17:48:56.4±1.0, 18.°92N±0.°07×68.°12W±0.°05, h9km±9km, ML3.1/34, Md2.9/14(RSPR), Error ellipse: s-maj=10.8km s-min=4.9km az=212.0*
RSPR ***05*** *17:48:58.4, 18.°82N×68.°20W, h86km±4km, MD2.9/14*
ISC 05 17:48:55.8±1.2, 19.°05N±0.°06×68.°10W±0.°03, h20km, n58, σ1.9 s 20/63, 14C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
PCDR	**Punta Cana, DR**	**0.59**	**207**	⇑ *e*P	**Pb**	**17 49 07.1**	**-0.5**
PCDR	**Punta Cana, DR**	**0.59**	**207**		**Pb**	**17 49 07.1**	**-0.5**
PCDR	**Punta Cana, DR**	**0.59**	**207**	IAML		17 49 15.3	
	comp=N,1μm,0.4s						
PCDR				IAML		17 49 15.4	
	comp=E,562nm,0.3s						
PCDR	**Punta Cana, DR**	**0.59**	**207**	*i* P	**Pb**	**17 49 07.0**	**-0.6**
PCDR				*e*S	**Sb**	**17 49 15.1**	**-0.4**
PCDR				IAML		17 49 19.9	
	comp=Z,537nm,0.3s						
IDE	**Isla Desecheo**	**0.88**	**138**	⇓ *e*P	**Pb**	**17 49 10.5**	**-2.0**
IDE	**Isla Desecheo**	**0.88**	**138**	*e*S	**Sb**	**17 49 20.9**	**-3.0**
IDE	**Isla Desecheo**	**0.88**	**138**		**Pb**	**17 49 10.5**	**-2.0**
IDE					**Sb**	**17 49 20.9**	**-3.0**
AGPR	**Aguadilla, PR**	**1.10**	**121**	⇑ *e*P	**Pn**	**17 49 16.7**	**+0.6**
AGPR	**Aguadilla, PR**	**1.10**	**121**		**Pn**	**17 49 16.7**	**+0.6**
AGPR	**Aguadilla, PR**	**1.10**	**121**	IAML		17 49 33.9	
	comp=N,366nm,0.3s						
AGPR				IAML		17 49 35.0	
	comp=E,331nm,0.2s						
AGPR	**Aguadilla, PR**	**1.10**	**121**	*i* P	**Pb**	**17 49 14.1**	**-2.1**
AGPR				*e*S	**Sn**	**17 49 31.8**	**+1.1**
AGPR				IAML		17 49 35.0	
	comp=Z,241nm,0.2s						
PRSN	**Puerto Rico Se**	**1.23**	**132**		**Pb**	**17 49 18.6**	**+0.3**
LSP	**Las Mesas**	**1.29**	**132**	⇑ *e*P	**Pb**	**17 49 20.3**	**+0.8**
LSP	**Las Mesas**	**1.29**	**132**	*e*S	**Sb**	**17 49 36.5**	**+0.8**
LSP	**Las Mesas**	**1.29**	**132**		**Pb**	**17 49 20.3**	**+0.8**
LSP					**Sb**	**17 49 36.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.40**	**138**	⇑ *e*P	**Pn**	**17 49 20.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.40**	**138**	*e*S	**Sb**	**17 49 38.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.40**	**138**		**Pn**	**17 49 20.8**	**+0.6**
CRPR					**Sb**	**17 49 38.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.40**	**138**	*i* P	**Pb**	**17 49 21.2**	**-0.1**
CRPR				*e*S	**Sb**	**17 49 40.3**	**+1.7**
CRPR				IAML		17 49 46.8	
	comp=Z,183nm,0.4s						
AOPR	**Arecibo Observ**	**1.45**	**118**	⇑ *e*P	**Pn**	**17 49 21.8**	**+0.7**
AOPR	**Arecibo Observ**	**1.45**	**118**	*e*S	**Sb**	**17 49 41.0**	**+0.7**
AOPR	**Arecibo Observ**	**1.45**	**118**		**Pn**	**17 49 21.8**	**+0.7**
AOPR					**Sb**	**17 49 41.0**	**+0.7**
AOPR	**Arecibo Observ**	**1.45**	**118**	IAML		17 49 52.1	
	comp=N,320nm,0.3s						
MLPR	**Magueyes Islan**	**1.47**	**137**	⇓ *e*P	**Pn**	**17 49 22.0**	**+0.8**
MLPR	**Magueyes Islan**	**1.47**	**137**		**Pn**	**17 49 22.0**	**+0.8**
UUPR	**Utuado, UPR, P**	**1.53**	**121**	⇑ *e*P	**Pb**	**17 49 23.1**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.53**	**121**		**Pb**	**17 49 23.1**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.57**	**132**	⇑ *e*P	**Pb**	**17 49 24.2**	**0.0**
GBPR	**Guanica, Bosqu**	**1.57**	**132**	*e*S	**Sn**	**17 49 42.9**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.57**	**132**		**Pb**	**17 49 24.2**	**0.0**
GBPR					**Sn**	**17 49 42.9**	**+0.5**
EMPR	**Esperanza - Ma**	**1.59**	**111**	⇓ *e*P	**Pb**	**17 49 24.4**	**-0.1**
EMPR	**Esperanza - Ma**	**1.59**	**111**	*e*S	**Sb**	**17 49 45.7**	**+1.4**
EMPR	**Esperanza - Ma**	**1.59**	**111**		**Pb**	**17 49 24.4**	**-0.1**
EMPR					**Sb**	**17 49 45.7**	**+1.4**
EMPR	**Esperanza - Ma**	**1.59**	**111**	IAML		17 49 47.0	
	comp=E,225nm,0.6s						
EMPR				IAML		17 49 49.3	
	comp=N,189nm,0.3s						
OBIP	**Obispado Ponce**	**1.73**	**125**	⇑ *e*P	**Pn**	**17 49 26.0**	**+1.2**
OBIP	**Obispado Ponce**	**1.73**	**125**	*e*S	**Sb**	**17 49 48.1**	**-0.3**
OBIP	**Obispado Ponce**	**1.73**	**125**		**Pn**	**17 49 26.0**	**+1.2**
OBIP					**Sb**	**17 49 48.1**	**-0.3**
OBIP	**Obispado Ponce**	**1.73**	**125**	IAML		17 49 51.4	
	comp=E,145nm,0.4s						
OBIP				IAML		17 49 51.5	
	comp=N,177nm,0.7s						
CELP	**Cerrillos**	**1.74**	**124**	⇑ *e*P	**Pb**	**17 49 26.4**	**-0.7**
CELP	**Cerrillos**	**1.74**	**124**	*e*S	**Sb**	**17 49 48.6**	**+0.1**
CELP	**Cerrillos**	**1.74**	**124**		**Pb**	**17 49 26.4**	**-0.7**
CELP					**Sb**	**17 49 48.6**	**+0.1**
CELP	**Cerrillos**	**1.74**	**124**	IAML		17 49 50.9	
	comp=E,162nm,0.3s						
CELP				IAML		17 49 51.4	
	comp=N,211nm,0.3s						
GCPR	**Guaynabo City**	**2.05**	**111**		**Sb**	**17 49 56.2**	**-1.2**
SJG	**San Juan**	**2.07**	**116**		**Pn**	**17 49 29.8**	**+0.4**
SJG				IAML		17 50 00.6	
	comp=N,98nm,0.3s						
SJG				IAML		17 50 01.7	
	comp=N,113nm,0.4s						
IGPR	**InterUniversit**	**2.17**	**119**	⇑ *e*P	**Pn**	**17 49 32.2**	**+1.3**
IGPR	**InterUniversit**	**2.17**	**119**	*e*S	**Sb**	**17 49 59.0**	**-2.1**
IGPR	**InterUniversit**	**2.17**	**119**		**Pn**	**17 49 32.2**	**+1.3**
IGPR					**Sb**	**17 49 59.0**	**-2.1**
CBYP	**Canovanas**	**2.26**	**110**	⇑ *e*P	**Pn**	**17 49 33.2**	**+1.0**
CBYP	**Canovanas**	**2.26**	**110**	*e*S	**Sb**	**17 50 02.4**	**-1.3**
CBYP	**Canovanas**	**2.26**	**110**		**Pn**	**17 49 33.2**	**+1.0**
CBYP					**Sb**	**17 50 02.4**	**-1.3**
CBYP	**Canovanas**	**2.26**	**110**	IAML		17 50 15.6	
	comp=N,213nm,0.2s						
HUMP	**Col San Antoni**	**2.31**	**113**	⇑ *e*P	**Pn**	**17 49 34.2**	**+1.4**
HUMP	**Col San Antoni**	**2.31**	**113**		**Pn**	**17 49 34.2**	**+1.4**
HUMP	**Col San Antoni**	**2.31**	**113**	IAML		17 50 12.0	
	comp=E,90nm,0.2s						
CUPR	**Culebra, Puert**	**2.77**	**105**	⇑ *e*P	**Pb**	**17 49 42.6**	**-2.1**
CUPR	**Culebra, Puert**	**2.77**	**105**		**Pb**	**17 49 42.6**	**-2.1**
SDDR	**Presa de Saban**	**3.02**	**269**		**Pn**	**17 49 42.2**	**-0.3**
SDDR				IAML		17 50 36.0	
	comp=E,105nm,0.6s						
SDDR				IAML		17 50 36.9	
	comp=E,73nm,0.5s						
GRTK	**Grand Turk**	**3.76**	**311**	Pn	**Pn**	**17 49 54.0**	**+1.3**

ROM 05 17:49:13.8±0.0, 42.°828N±0.°001×13.°077E±0.°003, h11km, ML1.6/7, 7C-6D, Error ellipse: s-maj=0.2km s-min=0.1km az=268.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
NRCA	**Norcia**	**0.03**	**78**	P		Pg 17 49 16.1	+0.2
NRCA				S		Sg 17 49 17.5	0.0
NRCA				AML	AML		
	comp=E,2780μm,0.1s						
NRCA				AML	AML		
	comp=N,4115μm,0.1s						
NRCA				AML	AML		
	comp=E,2830μm,0.1s						
NRCA				AML	AML		
	comp=N,4550μm,0.1s						
T1216	**Preci, Frazion**	**0.08**	**326**	P		Pg 17 49 16.6	+0.4
T1216				S		Sg 17 49 18.5	+0.4
T1216				AML	AML		
	comp=E,799μm,0.2s						
T1216				AML	AML		
	comp=N,696μm,0.3s						
T1212	**Cascia, Frazio**	**0.08**	**197**	⇑ P		Pg 17 49 16.8	+0.5
T1212				S		Sg 17 49 18.7	+0.5
T1212				AML	AML		
	comp=E,1287μm,0.2s						
T1212				AML	AML		
	comp=N,1245μm,0.2s						
T1212				AML	AML		
	comp=E,1230μm,0.2s						
T1212				AML	AML		
	comp=N,1290μm,0.2s						
T1245	**Castelsantange**	**0.09**	**70**	⇓ P		Pg 17 49 16.8	+0.3
T1245				S		Sg 17 49 18.7	+0.2
T1245				AML	AML		
	comp=E,904μm,0.9s						
T1245				AML	AML		
	comp=N,1630μm,1.1s						
T1245				AML	AML		
	comp=E,883μm,0.4s						
T1245				AML	AML		
	comp=N,1475μm,1.1s						
MC2	**Monte Cornacci**	**0.12**	**44**	⇑ P		Pg 17 49 17.4	+0.4
MC2				S		Sg 17 49 19.9	+0.6
T1214	**Arquata del Tr**	**0.12**	**125**	P		Pg 17 49 17.3	+0.4
T1214				S		Sg 17 49 19.5	+0.4
T1214				AML	AML		
	comp=E,474μm,1.1s						
T1214				AML	AML		
	comp=N,395μm,0.2s						
T1214				AML	AML		
	comp=E,468μm,1.1s						
T1214				AML	AML		
	comp=N,426μm,0.2s						
T1215	**Vallo di Nera,**	**0.15**	**261**	⇑ P		Pg 17 49 17.9	+0.6
T1215				S		Sg 17 49 20.7	+0.9
T1215				AML	AML		
	comp=E,534μm,0.1s						
T1215				AML	AML		
	comp=E,575μm,0.1s						
T1215				AML	AML		
	comp=N,296μm,0.1s						
T1215				AML	AML		
	comp=N,332μm,0.1s						
T1218	**Civita (PG)**	**0.16**	**170**	P		Pg 17 49 17.9	+0.4
T1218				S		Sg 17 49 20.8	+0.8
T1218				AML	AML		
	comp=E,410μm,0.9s						
T1218				AML	AML		
	comp=N,531μm,0.3s						
T1218				AML	AML		
	comp=N,516μm,0.2s						
T1218				AML	AML		
	comp=E,360μm,0.9s						
MMO1	**Montemonaco**	**0.20**	**69**	⇓ P		Pg 17 49 18.4	+0.4
MMO1				S		Sg 17 49 21.7	+0.6
FDMO	**Fiordimonte**	**0.21**	**2**	⇑ P		Pg 17 49 18.7	+0.4
FDMO				S		Sg 17 49 22.5	+1.1
FDMO				AML	AML		
	comp=E,159μm,0.2s						
T1256	**Bolognola (MC)**	**0.21**	**31**	⇑ P		Pg 17 49 18.7	+0.4
T1256				S		Sg 17 49 22.4	+0.9
CESI	**CESI - Serrava**	**0.22**	**325**	⇓ P		Pg 17 49 19.0	+0.6
CESI				S		Sg 17 49 22.7	+1.1
CESI				AML	AML		
	comp=N,446μm,0.3s						
CESI				AML	AML		
	comp=E,212μm,0.4s						
LNSS	**Leonessa**	**0.23**	**187**	⇑ P		Pg 17 49 19.0	+0.5
LNSS				S		Sg 17 49 22.8	+1.0
LNSS				AML	AML		
	comp=E,341μm,0.3s						
LNSS				AML	AML		
	comp=N,329μm,0.1s						
T1220	**Camerino, Fraz**	**0.28**	**2**	P		Pg 17 49 19.9	+0.3
T1220				S		Sb 17 49 24.9	-0.7
T1220				AML	AML		
	comp=E,267μm,0.6s						
T1220				AML	AML		
	comp=N,298μm,1.5s						
T1243	**Rocca Santa Ma**	**0.30**	**115**	⇑ P		Pg 17 49 20.2	+0.3
RM33	**Pellescritta (**	**0.33**	**162**	P		Pg 17 49 20.8	+0.3
ASSB	**Assisi San Ben**	**0.38**	**305**	⇓ P		Pg 17 49 21.5	+0.3
SNTG	**Esanatoglia**	**0.44**	**347**	P		Pg 17 49 22.9	+0.4
TERO	**Teramo**	**0.44**	**118**	⇓ P		Pg 17 49 21.9	-0.5
EL6	**Elcito**	**0.50**	**2**	P		Pg 17 49 23.8	+0.1
SRES	**S.Oreste - Sor**	**0.72**	**216**	⇓ P		Pg 17 49 27.3	-0.5
LAV9	**Lanuvio**	**1.18**	**194**	S		Sn 17 49 52.1	-0.2

UPP ***05*** *18:04:31.3±0.1, 67.°07N×20.°94E, h0km, ML2.8, Suspected explosion*
IDC ***05*** *18:04:32.0±0.9, 67.°12N×21.°38E, h0km, mbtmp3.0/4, ML2.1/3, Error ellipse: s-maj=16.2km s-min=7.1km az=112.0*
DNK ***05*** *18:04:31.8±0.6, 67.°08N×20.°94E, h0km, ML2.8(UPP),*

Explosion
*BER **05** 18:04:32.4±1.3,66°.83N×21°.45E,h0km,ML1.9, Suspected explosion*

ISC 05 18:04:30.6±0.7,**67°.06N**±0°.03×**20°.92E**±0°.02,**h0**km,**n37**, σ1°**16**/48,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**296**	P	**Pg**	**18 04 34.5**	**+1.0**
DUNU				S	**Sg**	**18 04 36.6**	**+1.1**
DUNU	**Dundret**	**0.15**	**296**	P	**Pg**	**18 04 34.5**	**+1.0**
DUNU				S	**Sg**	**18 04 36.6**	**+1.1**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**18 04 42.2**	**+0.4**
MASU				S	**Sg**	**18 04 49.7**	**+0.4**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**18 04 42.2**	**+0.4**
MASU				S	**Sg**	**18 04 49.7**	**+0.4**
ERTU	**Ertsjaerv**	**0.71**	**134**	P	**Pg**	**18 04 44.7**	**+0.5**
ERTU	**Ertsjaerv**	**0.71**	**134**	P	**Pg**	**18 04 44.7**	**+0.5**
PAJU	**Pajala**	**0.86**	**91**	P	**Pg**	**18 04 47.3**	**+0.2**
PAJU	**Pajala**	**0.86**	**91**	P	**Pg**	**18 04 47.3**	**+0.2**
RATU	**Laukkuluspa**	**0.93**	**327**	P	**Pg**	**18 04 48.3**	**0.0**
RATU	**Laukkuluspa**	**0.93**	**327**	P	**Pg**	**18 04 48.3**	**0.0**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**18 04 49.9**	**+0.3**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**18 04 49.9**	**+0.3**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**18 04 50.8**	**-0.5**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**18 04 50.8**	**-0.5**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**18 04 51.4**	**-0.1**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**18 04 51.4**	**-0.1**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**18 04 59.9**	**+0.5**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**18 04 59.9**	**+0.5**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pg**	**18 05 01.2**	**+0.4**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pg**	**18 05 01.2**	**+0.4**
HEF	**Hetta**	**1.71**	**36**	*eP*	**Pn**	**18 05 02.1**	**+0.4**
HEF				*eS*	**Sn**	**18 05 24.2**	**-0.1**
KTK1	**Kautokeino**	**2.15**	**23**	*eP*	**Pb**	**18 05 09.9**	**-0.4**
KTK1				*eS*	**Sb**	**18 05 36.7**	**-0.8**
KTK1				IAML		18 05 46.5	
	comp=Z,8.1nm,0.2s						
FAUS	**Fauske**	**2.22**	**281**	*eP*	**Pb**	**18 05 11.1**	**-0.4**
FAUS				*eS*	**Sg**	**18 05 40.9**	**-0.8**
FAUS				IAML		18 05 47.9	
	comp=Z,27nm,0.2s						
STEI	**Steigen**	**2.35**	**294**	*eS*	**Sg**	**18 05 45.5**	**-0.6**
STEI				IAML		18 05 54.3	
	comp=Z,7.6nm,0.2s						
JETT	**Jettan, Norway**	**2.52**	**356**	*eP*	**Pb**	**18 05 16.7**	**0.0**
JETT				*eS*	**Sb**	**18 05 48.9**	**+0.7**
JETT				IAML		18 05 55.0	
	comp=Z,26nm,0.2s						
ARA0	**ARCESS Array S**	**3.02**	**32**	*eP*	**Pn**	**18 05 20.6**	**+1.0**
ARA0				IAML		18 06 10.3	
	comp=Z,3.4nm,0.2s						
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**18 05 20.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=213,slow=13,SNR=37						
ARCES				Lg	Lg	18 06 00.9	
	comp=Z,1.0nm,0.3s,baz=214,slow=26,SNR=8.0 comp=Z,1.5nm,0.2s						
LOF	**Lofoten**	**3.02**	**294**	*e*	**Pb**	**18 05 22.9**	**-2.3**
KONS	**Konsvik**	**3.14**	**263**	*eP*	**Pb**	**18 05 24.6**	**-2.6**
KONS				IAML		18 06 20.5	
	comp=Z,6.0nm,0.3s						
STOK	**Stokkvaagen**	**3.22**	**261**	*e*	**Pn**	**18 05 24.4**	**+2.0**
KEV	**Kevo**	**3.52**	**37**	*eP*	**Pn**	**18 05 27.4**	**+0.9**
KEV				*eS*	**Sn**	**18 06 08.8**	**0.0**
HAMF	**Hammerfest**	**3.74**	**14**	*e*	**Pb**	**18 05 36.0**	**-1.5**
VADS	**Vadso**	**4.36**	**41**	*eP*	**Pn**	**18 05 38.7**	**+0.7**
VADS				IAML		18 06 56.4	
	comp=Z,8.3nm,0.5s						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**18 06 02.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=347,slow=13,SNR=11						
FINES				Sn	**Sn**	**18 07 11.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=24,SNR=2.6						
FINES				Lg	Lg	18 07 44.7	
	comp=Z,0.3nm,0.3s,baz=340,slow=27,SNR=3.6 comp=Z,0.4nm,0.2s						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**18 06 21.1**	**+1.6**
	baz=33,slow=10,SNR=6.0						
NOA				Sn	**Sn**	**18 07 39.6**	**-4.2**
	baz=43,slow=18,SNR=1.7						
NOA				Lg	Lg	18 08 26.0	
	baz=161,slow=20,SNR=1.3 comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**18 06 23.6**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=29,slow=15,SNR=1.4						
HFS				Sn	**Sn**	**18 07 53.1**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=28,slow=25,SNR=1.5						
LUNU	**Lund**	**12.00**	**201**	*i* P	Pn	18 07 13.3	-9.3

IDC 05 18:41:30.8±2.2,**11°.40S**×**113°.39E**,**h0**km,**mb3.4**/4, **mbtmp3.5**/4,**Error ellipse: s-maj=113.8km s-min=23.2km az=47.0**,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87**	**115**	P	P	18 46 26.2	+0.8
	0.3nm,0.4s,baz=289,slow=12,SNR=6.0 0.3nm,0.4s						
ASAR	**Alice Springs**	**23.02**	**125**	P	P	18 46 37.0	-0.8
	0.2nm,0.4s,baz=306,slow=9.6,SNR=5.4 0.2nm,0.4s						
STKA	**Stephens Creek**	**33.04**	**132**	P	P	18 48 08.0	-0.1
	1.6nm,0.9s,baz=298,slow=9.8,SNR=1.9 1.6nm,0.9s						
MKAR	**Makanchi Array**	**64.26**	**337**	P	P	18 52 07.9	0.0
	0.7nm,0.4s,baz=145,slow=8.0,SNR=14 0.7nm,0.4s						

*IDC **05** 18:43:37.5±1.2,24°.11N×127°.04E,h0km,mb3.7/6, mbtmp3.8/8,ML4.2/2,MS3.0/2,Error ellipse: s-maj=33.4km s-min=19.8km az=83.0*
*JMA **05** 18:43:41.4±0.2,24°.41N±1°×126°.7E±0°.9,h101km,MV3.5/31, NEAR MIYAKOJIMA ISLAND*
*NIED **05** 18:43:41.4,24°.41N×126°.74E,h101km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=4.32; Mθθ8.10; Mϕϕ-3.78; Mrθ1.04; Mθϕ3.55; Mϕr-1.89; Fault plane solution: M07.88000×10^14^ NP1: ϕs291.00000°,δ63.00000°,λ-34.00000°. NP2:ϕs38.00000°, δ60.00000°,λ-149.00000°.*

ISC 05 18:43:29.1±1.8,**23°.88N**±0°.07×**127°.10E**±0°.04,**h11**km±12km, **n36**,σ1°**49**/44,**mb3.6**/6,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.77**	**300**	P	**Pg**	**18 44 05.3**	**+2.1**
JOGS				*eS*	**Sn**	**18 44 22.6**	**+0.3**
JMJ2	**Miyako jima3**	**1.83**	**298**	P	**Pg**	**18 44 06.0**	**+1.8**
JMJ2				*eS*	**Sn**	**18 44 23.8**	**+0.2**
JIKM	**Ikemajima**	**1.98**	**302**	P	**Pg**	**18 44 07.6**	**+0.5**
JIKM				S	**Sn**	**18 44 27.1**	**-0.3**
JIRB	**Irabujima**	**1.99**	**299**	P	**Pg**	**18 44 07.9**	**+0.6**
JIRB				S	**Sn**	**18 44 26.8**	**-0.9**
JTJ	**Tarama**	**2.31**	**290**	P	**Pg**	**18 44 12.8**	**-0.7**
JTJ				*eS*	**Sn**	**18 44 35.4**	**-0.2**
JJT3	**Tamagusuku3**	**2.34**	**15**	P	**Pg**	**18 44 13.8**	**-0.2**
JJT3				*eS*	**Sn**	**18 44 37.3**	**+1.0**
JKE	**Kume jima 2**	**2.46**	**353**	P	**Pb**	**18 44 13.9**	**+0.7**
JKE				*eS*	**Sn**	**18 44 37.7**	**-1.4**
JISG	**Ishigakijimahi**	**2.64**	**286**	P	**Pb**	**18 44 17.3**	**+0.9**
JISG				*eS*	**Sn**	**18 44 42.8**	**-0.9**
JAGN	**Aguni-jima**	**2.71**	**3**	P	**Pb**	**18 44 17.9**	**+0.4**
JIJ	**Ishigaki jima**	**2.74**	**281**	P	**Pb**	**18 44 19.0**	**+0.9**
JIJ				S	**Sn**	**18 44 45.8**	**-0.4**
JNTH	**Nagotoyohara**	**2.76**	**17**	*eP*	**Pb**	**18 44 19.2**	**+0.7**
JNTH				*eS*	**Sn**	**18 44 46.1**	**-0.5**
JKRS	**Kuro-shima**	**2.84**	**278**	P	**Pb**	**18 44 21.0**	**+1.1**
JKRS				*eS*	**Sn**	**18 44 49.7**	**+1.0**
HATJ	**Hateruma jima**	**3.02**	**274**	P	**Pb**	**18 44 23.1**	**+0.3**
HATJ				*eS*	**Sn**	**18 44 53.2**	**+0.2**
IRIF	**Iriomote-Funau**	**3.11**	**279**	P	**Pb**	**18 44 24.2**	**-0.2**
IRIF				S	**Sn**	**18 44 56.0**	**+0.7**
JOW	**Kunigami**	**3.13**	**20**	Pn	**Pb**	**18 44 24.5**	**-0.2**
	26nm,0.3s,baz=168,slow=26,SNR=178						
JOW				Sn	**Sn**	**18 44 57.1**	**+1.3**
	16nm,0.3s,baz=118,slow=28,SNR=7.9 55nm,0.3s						
JOW	**Kunigami**	**3.13**	**20**	P	**Pb**	**18 44 24.6**	**-0.2**
JOW				S	**Sn**	**18 44 55.8**	**0.0**
JIH	**Iheya**	**3.24**	**14**	P	**Pb**	**18 44 26.1**	**-0.6**
JIH				*eS*	**Sn**	**18 44 59.0**	**+0.4**
JYRO	**Yoronjima**	**3.37**	**21**	P	**Pb**	**18 44 27.8**	**-1.0**
JOKE	**Okinoerabujima**	**3.72**	**21**	*eP*	**Pb**	**18 44 32.9**	**-1.9**
YOJ	**Yonaguni jima**	**3.78**	**280**	P	**Pb**	**18 44 33.2**	**-2.6**
YOJ				*eS*	**Sn**	**18 45 11.3**	**-0.5**
JYNG	**Yonagunijimaku**	**3.83**	**279**	*eP*	**Pb**	**18 44 34.1**	**-2.6**
JYNG				*eS*	**Sn**	**18 45 12.4**	**-0.8**
JMZ	**Minamidaito 2**	**4.22**	**62**	P	**Pb**	**18 44 40.9**	**-2.4**
JMZ				*eS*	**Sn**	**18 45 26.4**	**+3.8**
JTK	**Tokunoshima**	**4.24**	**23**	P	**Pb**	**18 44 40.1**	**-3.5**
JKDJ	**Kitadaitoujima**	**4.34**	**61**	P	**Pb**	**18 44 43.5**	**-1.8**
JKDJ				*eS*	**Sn**	**18 45 29.0**	**+3.5**
JAMN	**Amaminishikomi**	**4.73**	**23**	P	Pb	18 44 46.4	-5.7
JAM	**Amami Oshima**	**5.05**	**26**	P	Pb	18 44 51.2	-6.2
JZK	**Kikaishima**	**5.12**	**30**	P	Pb	18 44 53.0	-5.7
JNU	**Nakatsue**	**9.79**	**19**	Pn	Pn	18 45 56.6	+6.7
	3.7nm,0.3s,baz=206,slow=7.6,SNR=35 12nm,0.4s						
KSRS	**Korea Array**	**13.55**	**3**	LR	LR	18 52 10.7	
	comp=Z,18nm,18.4s,baz=55,slow=38						
CMAR	**Chiang Mai Arr**	**26.78**	**264**	P	P	18 49 18.6	+9.3
	0.3nm,0.3s,baz=84,slow=9.2,SNR=4.4 0.3nm,0.3s						
SONM	**Songino Array**	**29.03**	**331**	P	P	18 49 38.8	+10
	0.9nm,0.5s,baz=150,slow=11,SNR=14 0.9nm,0.5s						
MKAR	**Makanchi Array**	**42.38**	**314**	P	P	18 51 31.0	+7.5
	0.3nm,0.4s,baz=100,slow=9.3,SNR=9.5 0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**43.53**	**325**	P	P	18 51 41.1	+8.5
	0.3nm,0.4s,baz=96,slow=8.8,SNR=2.1 0.3nm,0.4s						
WRA	**Wyanunga Arr**	**44.12**	**170**	P	P	18 51 49.3	+12
	1.2nm,0.8s,baz=354,slow=9.2,SNR=4.9 1.2nm,0.8s						
ASAR	**Alice Springs**	**47.72**	**172**	P	P	18 52 18.5	+12
	0.3nm,0.5s,baz=345,slow=7.0,SNR=2.8 0.3nm,0.5s						
ARU	**Arti**	**58.62**	**323**	LR	LR	19 22 13.8	
	comp=Z,34nm,18.1s,baz=238,slow=40						

IDC 05 18:44:39.9±2.4,**12°.11S**×**121°.36E**,**h0**km,**mb3.5**/1, **mbtmp3.6**/4,**ML3.6**/3,**Error ellipse: s-maj=52.2km s-min=34.6km az=42.0**,**South of Timor**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.95**	**50**	Pn	Pn	18 45 28.2	+0.2
	9.8nm,0.3s,baz=280,slow=19,SNR=16						
BATI				Sn	Sn	18 45 59.4	-4.7
	18nm,0.3s,baz=227,slow=21,SNR=9.3 21nm,0.3s						
WRA	**Warramunga Arr**	**14.70**	**124**	Pn	Pn	18 48 07.6	-1.6
	0.2nm,0.3s,baz=298,slow=13,SNR=10.0						
WRA				Sn	Sn	18 50 42.7	-10
	0.2nm,0.3s,baz=293,slow=24,SNR=4.8 0.7nm,0.6s						
ASAR	**Alice Springs**	**16.55**	**136**	Pn	Pn	18 48 34.8	+1.2
	0.2nm,0.3s,baz=316,slow=13,SNR=14						
ASAR				Sn	Sn	18 51 28.9	-9.3
	0.1nm,0.3s,baz=305,slow=22,SNR=5.2 1.7nm,0.7s						
MKAR	**Makanchi Array**	**68.27**	**332**	P	P	18 55 42.6	0.0
	0.2nm,0.5s,baz=149,slow=8.0,SNR=3.5 0.2nm,0.5s						

*NOU **05** 18:46:28.0,42°.52S×174°.01E,h5km,MLv3.6/8, Off E. Coast of S. Island, N.Z.*
*WEL **05** 18:46:29.9±0.4,42°.3S±2°×17°.4E±°,h11km±3km,M3.2/24, ML3.5/24,MLv3.2/24,Error ellipse: s-maj=0.0km s-min=0.0km az=124.8,confirmed*

ISC 05 18:46:28.9±1.1,**42°.39S**±0°.03×**173°.91E**±0°.04,**h9**km±9km, **n73**,σ1°**16**/84,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**263**	P	**Pg**	**18 46 35.3**	**+0.9**
KHZ	**Kahutara**	**0.28**	**263**	P	**Pg**	**18 46 35.3**	**+0.9**
KHZ				S	**Sg**	**18 46 38.8**	**+0.7**
CMWZ	**Cape Campbell**	**0.68**	**20**	P	**Pb**	**18 46 44.2**	**+1.4**
GVZ	**Greta Valley S**	**0.87**	**228**	P	**Pb**	**18 46 48.0**	**+0.7**
GVZ				S	**Sn**	**18 47 01.5**	**+1.4**
TUWZ	**Tuamarina**	**0.95**	**2**	P	**Pg**	**18 46 47.2**	**0.0**
TUWZ				S	**Sg**	**18 46 59.7**	**+0.1**
THZ	**Tophouse**	**0.97**	**309**	P	**Pg**	**18 46 46.0**	**-1.6**
THZ				S	**Sg**	**18 46 56.9**	**-3.3**
TCW	**Tory Channel**	**1.21**	**13**	P	**Pn**	**18 46 51.8**	**-0.1**
TCW				S	**Sb**	**18 47 08.2**	**+0.6**
AMCZ	**Amberley**	**1.22**	**229**	P	**Pn**	**18 46 53.4**	**+1.3**
SNZO	**South Karori**	**1.23**	**29**	P	**Pb**	**18 46 52.9**	**+0.7**
NNZ	**Nelson**	**1.23**	**341**	P	**Pn**	**18 46 51.0**	**-1.3**
LTZ	**Lake Taylor**	**1.27**	**251**	P	**Pb**	**18 46 53.1**	**+0.1**
LTZ				S	**Sg**	**18 47 09.7**	**-0.1**
WEL	**Wellington**	**1.27**	**31**	P	**Pn**	**18 46 53.5**	**+0.7**
PLWZ	**Palliser**	**1.29**	**51**	P	**Pn**	**18 46 53.6**	**+0.4**
MRNZ	**Matariki Terra**	**1.31**	**319**	P	**Pn**	**18 46 52.3**	**-1.1**
OKCZ	**Okains Bay**	**1.48**	**205**	P	**Pg**	**18 46 56.9**	**-0.3**
PAWZ	**Paruwai Farm**	**1.51**	**49**	P	**Pn**	**18 46 56.5**	**+0.4**
TKNZ	**Takaka Hill**	**1.52**	**332**	P	**Pn**	**18 46 56.0**	**-0.3**
TKNZ				S	**Sn**	**18 47 13.6**	**-0.7**
CAW	**Cannon Point**	**1.54**	**35**	P	**Pn**	**18 46 56.9**	**+0.4**
CAW				S	**Sn**	**18 47 16.7**	**0.0**
DUWZ	**D'Urville Isla**	**1.58**	**0**	P	**Pn**	**18 46 56.9**	**-0.2**
MQZ	**McQueen's Vall**	**1.61**	**214**	P	**Pn**	**18 46 57.3**	**-0.1**
MQZ				S	**Sn**	**18 47 18.0**	**-0.3**
TRWZ	**Traveller**	**1.66**	**54**	P	**Pn**	**18 46 58.3**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.66**	**206**	P	**Pb**	**18 46 59.0**	**-0.6**
AKCZ				S	**Sg**	**18 47 20.7**	**-1.4**
OXZ	**Oxford**	**1.67**	**235**	P	**Pn**	**18 46 58.0**	**-0.3**
DSZ	**Denniston Nort**	**1.69**	**292**	P	**Pn**	**18 46 59.2**	**+0.5**
DSZ				S	**Sn**	**18 47 20.5**	**+0.1**
KIW	**Kapiti Island**	**1.70**	**27**	P	**Pn**	**18 46 59.2**	**+0.5**
MTW	**Mount Morrison**	**1.71**	**45**	P	**Pn**	**18 46 58.9**	**0.0**
OGWZ	**Otaki Gorge**	**1.83**	**32**	P	**Pn**	**18 47 00.8**	**+0.3**
INZ	**Inchbonnie**	**1.85**	**259**	P	**Pn**	**18 47 01.1**	**+0.3**
RACZ	**Rakaia**	**1.86**	**223**	P	**Pn**	**18 47 01.0**	**0.0**
QRZ	**Quartz Range**	**1.87**	**326**	P	**Pn**	**18 47 01.5**	**+0.4**
QRZ	**Quartz Range**	**1.87**	**326**	P	**Pn**	**18 47 01.5**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.91**	**40**	P	**Pn**	**18 47 01.7**	**+0.1**
TMWZ	**Te Maipa**	**1.96**	**50**	P	**Pn**	**18 47 02.3**	**0.0**
MHCZ	**Mount Hutt**	**2.06**	**235**	P	**Pn**	**18 47 03.3**	**-0.5**
MRZ	**Mangatainoka R**	**2.13**	**37**	P	**Pn**	**18 47 04.6**	**0.0**
WACZ	**Wakanui South**	**2.17**	**223**	P	**Pn**	**18 47 05.4**	**+0.2**
PRWZ	**Pori Road**	**2.40**	**41**	P	**Pn**	**18 47 08.1**	**-0.2**
POWZ	**Post Office Ro**	**2.43**	**36**	P	**Pn**	**18 47 09.1**	**+0.2**
BFZ	**Birch Farm**	**2.44**	**47**	P	**Pn**	**18 47 08.6**	**-0.4**
BFZ	**Birch Farm**	**2.44**	**47**	P	**Pn**	**18 47 08.3**	**-0.6**
RPZ	**Rata Peaks**	**2.48**	**237**	P	**Pn**	**18 47 09.4**	**0.0**
RPZ	**Rata Peaks**	**2.48**	**237**	P	**Pn**	**18 47 09.5**	**+0.1**
ARCZ	**Arundel**	**2.54**	**231**	P	**Pn**	**18 47 10.3**	**+0.1**
WAZ	**Wanganui**	**2.75**	**18**	P	**Pn**	**18 47 15.2**	**+2.0**
TMZ	**Timaru**	**2.91**	**226**	P	**Pn**	**18 47 16.0**	**+0.6**
LREZ	**Lake Rotokare**	**2.95**	**7**	P	**Pn**	**18 47 19.3**	**+3.5**
KHEZ	**Kahui Hut**	**3.09**	**2**	P	**Pn**	**18 47 20.3**	**+2.4**
KHEZ	**Kahui Hut**	**3.09**	**2**	P	**Pn**	**18 47 20.6**	**+2.7**
NBEZ	**Newall Road No**	**3.11**	**359**	P	**Pb**	**18 47 22.5**	**-1.9**
NEZ	**North Egmont**	**3.12**	**3**	P	**Pn**	**18 47 21.7**	**+3.4**
PKE	**Pukeiti**	**3.19**	**1**	P	**Pn**	**18 47 21.8**	**+2.6**
FOZ	**Fox Glacier**	**3.21**	**248**	P	**Pn**	**18 47 20.4**	**+0.9**
MOVZ	**Moawhango**	**3.29**	**26**	P	**Pn**	**18 47 20.7**	**+0.1**
KRHZ	**Kereru**	**3.31**	**35**	P	**Pn**	**18 47 20.0**	**-0.9**
WNVZ	**Wahianoa**	**3.31**	**23**	P	**Pn**	**18 47 21.9**	**+0.9**
VRZ	**Vera Road**	**3.32**	**12**	P	**Pn**	**18 47 22.7**	**+1.7**
BHHZ	**Black Hill Sta**	**3.32**	**30**	P	**Pn**	**18 47 20.9**	**-0.1**
FWVZ	**Far West T-bar**	**3.37**	**22**	P	**Pn**	**18 47 23.0**	**+1.1**
LBZ	**Lake Benmore**	**3.37**	**232**	P	**Pn**	**18 47 22.4**	**+0.7**
NGZ	**Ngauruhoe**	**3.45**	**22**	P	**Pn**	**18 47 24.0**	**+1.1**
NNVZ	**North Ngauruho**	**3.50**	**22**	P	**Pn**	**18 47 24.7**	**+1.1**
WTVZ	**West Tongariro**	**3.51**	**22**	P	**Pn**	**18 47 24.9**	**+1.2**
KWHZ	**Kaweka Forest**	**3.52**	**34**	P	**Pn**	**18 47 23.3**	**-0.5**
ETVZ	**East Tongariro**	**3.52**	**23**	P	**Pn**	**18 47 24.7**	**+0.8**
TMVZ	**Te Maari**	**3.54**	**23**	P	**Pn**	**18 47 25.0**	**+0.9**
ODZ	**Mahua Downs**	**3.56**	**221**	P	**Pn**	**18 47 24.4**	**+0.2**
BKZ	**Black Stump Fm**	**3.77**	**32**	P	**Pn**	**18 47 26.7**	**-0.5**
BKZ	**Black Stump Fm**	**3.77**	**32**	P	**Pn**	**18 47 25.9**	**-1.3**
HIZ	**Hauiti**	**3.94**	**11**	P	**Pn**	**18 47 31.6**	**+2.2**
HIZ	**Hauiti**	**3.94**	**11**	P	**Pn**	**18 47 31.0**	**+1.6**
TLZ	**Tolley Road**	**4.24**	**18**	P	**Pn**	**18 47 34.5**	**+0.8**
AWAZ	**Awhitu Peninsu**	**5.34**	**6**	P	**Pn**	**18 47 50.2**	**+1.4**
MKAZ	**Moumakai**	**5.36**	**11**	P	**Pn**	**18 47 49.5**	**+0.5**

*IDC **05** 18:48:54.3±1.1,10°.55S×119°.08E,h0km,mb4.3/7,*

mbtmp4.3/12,ML4.1/5,MS3.0/10,Error ellipse: s-maj=38.5km s-min=17.5km az=47.0
*DJA **05** 18:48:59.2±0.3,11°.S±4°×,11°.9E±°,h53km±24km,M4.7/13, mB5.4/5,mb4.6/8,MLv4.7/13,Mw(mB)4.8/5*
*NEIC **05** 18:49:00.6±1.4,10°.36S±0°.05×119°.30E±0°.06,h35km±1km, mb4.3/28,Error ellipse: s-maj=11.7km s-min=6.9km az=236.0*

ISC 05 18:49:00.3±0.5,**10°.42S**±0°.05×**119°.31E**±0°.04,**h35**km,**n83**, σ1°**46**/86,**mb4.4**/15,**MS2.9**/5,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.26**	**81**	P	**Pn**	**18 49 23.2**	**+1.8**
BASI				S	**Sn**	**18 49 39.8**	**+2.6**
PLAI	**Plampang**	**2.19**	**316**	P	**Pn**	**18 49 36.8**	**+2.6**
PLAI	**Plampang**	**2.19**	**316**	P	**Pn**	**18 49 36.1**	**+1.9**
PLAI				S	**Sn**	**18 50 02.5**	**+2.5**
MMRI	**Maumere**	**3.38**	**59**	Pn	**Pn**	**18 49 50.0**	**-0.6**
MMRI				Sn	**Sn**	**18 50 26.4**	**-3.3**
MMRI	**Maumere**	**3.38**	**59**	P	**Pn**	**18 49 52.4**	**+1.7**
MMRI	**Maumere**	**3.38**	**59**	P	**Pn**	**18 49 51.4**	**+0.7**
BATI	**Baumata**	**4.29**	**88**	Pn	**Pn**	**18 50 05.7**	**+2.6**
	17nm,0.3s,baz=269,slow=1.9,SNR=32						
BATI				Sn	**Sn**	**18 50 53.5**	**+1.5**
	70nm,0.3s,baz=36,slow=23,SNR=13 77nm,0.5s						
BSSI	**Bau Bau, Buton**	**4.40**	**15**	P	**Pn**	**18 50 06.3**	**+1.6**
IGBI	**Denpasar**	**4.40**	**291**	P	**Pn**	**18 50 04.6**	**-0.1**
SOEI	**Soe**	**4.92**	**83**	Pn	**Pn**	**18 50 14.4**	**+2.4**
SOEI				Sn	**Sn**	**18 51 07.1**	**-0.7**
SOEI	**Soe**	**4.92**	**83**	P	**Pn**	**18 50 14.5**	**+2.5**
SOEI	**Soe**	**4.92**	**83**	P	**Pn**	**18 50 13.6**	**+1.6**
	115nm,0.7s,2µm1.0nm						
BKSI	**Bulukumba**	**5.12**	**9**	P	**Pn**	**18 50 17.1**	**+2.5**
	157nm,0.6s,2µm1.3nm						
KAPI	**Kappang**	**5.38**	**5**	Pn	**Pn**	**18 50 19.0**	**+0.8**
	7.6nm,0.3s,baz=175,slow=7.6,SNR=22						
KAPI				Sn	**Sn**	**18 51 20.1**	**+1.2**
	16nm,0.3s,baz=76,slow=22,SNR=12						
KAPI				LR	LR	18 52 47.2	
	comp=Z,152nm,19.0s,baz=178,slow=42 25nm,0.2s						
KAPI	**Kappang**	**5.38**	**5**		**Pn**	**18 50 18.7**	**+0.5**
KAPI					**Sn**	**18 51 17.1**	**-1.8**
JAGI	**Jajag, Banyuwa**	**5.45**	**290**	Pn	**Pn**	**18 50 18.7**	**-0.3**
JAGI	**Jajag, Banyuwa**	**5.45**	**290**	P	**Pn**	**18 50 19.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**5.45**	**290**	P	**Pn**	**18 50 18.4**	**-0.6**
	42nm,0.7s,3µm0.9nm						
BNSI	**Bone**	**6.03**	**8**	P	**Pn**	**18 50 29.6**	**+2.6**
	41nm,0.9s,0.2nm						
GMJI	**Gumukmas**	**6.17**	**290**	P	**Pn**	**18 50 28.4**	**-0.6**
	32nm,1.2s,0.2nm						
SPSI	**Sidrap Palu**	**6.42**	**4**	P	**Pn**	**18 50 36.0**	**+3.5**
	25nm,0.7s,0.1nm						
UGM	**Wanagama**	**9.03**	**285**	Pn	**Pn**	**18 51 08.4**	**+0.2**
UGM	**Wanagama**	**9.03**	**285**	P	**Pn**	**18 51 10.0**	**+1.8**
KNRA	**Kununurra**	**10.59**	**121**	Pn	**Pn**	**18 51 30.6**	**+1.0**
KNRA	**Kununurra**	**10.59**	**121**	P	**Pn**	**18 51 31.1**	**+1.5**
MBWA	**Marble Bar**	**10.69**	**178**	Pn	**Pn**	**18 51 31.7**	**+0.7**
MBWA	**Marble Bar**	**10.69**	**178**	P	**Pn**	**18 51 32.0**	**+1.0**
MTN	**Manton Dam**	**11.83**	**103**	Pn	**Pn**	**18 51 46.1**	**-0.5**
MTN	**Manton Dam**	**11.83**	**103**	P	**Pn**	**18 51 46.4**	**-0.2**
SAUI	**Saumlaki**	**12.08**	**79**	Pn	**Pn**	**18 51 47.3**	**-2.7**
GIRL	**Giralia**	**13.09**	**201**	Pn	**Pn**	**18 52 04.4**	**+0.5**
GIRL	**Giralia**	**13.09**	**201**	P	**Pn**	**18 52 05.1**	**+1.2**
KSM	**Kuching**	**14.82**	**322**	P	**P**	**18 52 32.5**	**-0.4**
SIJI

KKAR			IAmb	IAmb	19 00 06.2
	comp=Z,2.8nm,1.2s				
KURK	**Kurchatov**	**70.39 334**	P	**P**	**19 00 10.1 -0.6**
KURK			IAmb	IAmb	19 00 11.0
	comp=Z,2.8nm,0.8s				
ZAA0	**Zalesovo Array**	**70.47 339**	P	**P**	**19 00 09.5 -1.5**
ZALV	**Zalesovo Beam**	**70.47 339**	P	**P**	**19 00 09.8 -1.2**
	comp=Z,2.8nm,0.6s,baz=142,slow=4.5,SNR=17				
	comp=Z,2.8nm,0.6s				
ZALV	**Zalesovo Beam**	**70.47 339**	P	**P**	**19 00 09.1 -1.9**
PETK	**Petropavlovsk-**	**71.24 23**	P	**P**	**19 00 15.2 -0.5**
	comp=Z,4.0nm,1.0s,baz=190,slow=7.3,SNR=1.3				
	comp=Z,4.0nm,1.0s				
ABKAR	**Akbulak array**	**78.89 325**	P	**P**	**19 00 59.6 -0.4**

JMA 05 18:51:00.7±0.1, 26.7N±0.3×143.4E±0.4, h77km, MV4.2/22, NEAR CHICHIJIMA ISLAND, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.08**	**265**	P	Pn	18 51 20.7	+0.2
JHH2				S	Sn	18 51 35.8	+0.5
CBIJ	**Chichi jima**	**1.12**	**289**	P	Pn	18 51 21.4	+0.3
CBIJ				*e*S	Sn	18 51 36.6	+0.3
JHJ2	**Mitsune**	**7.06**	**335**	S	Sn	18 54 01.4	+1.2
BSO3	**Boso 3**	**8.41**	**344**	*e*P	Pn	18 53 01.9	+2.4
JOD2	**Odawara 2**	**9.26**	**338**	P	Pn	18 53 14.7	+3.3
JHU	**Hanno**	**9.73**	**340**	P	Pn	18 53 19.6	+1.8
JHO	**Hitachi**	**10.13**	**347**	*e*P	Pn	18 53 24.0	+0.8
JAG	**Ashikaga**	**10.22**	**342**	P	Pn	18 53 26.8	+2.3

*IDC **05** 19:06:48.8±1.9, 43.62N×105.38W, h0km, mbtmp3.3/4, ML3.4/4, Error ellipse: s-maj=46.7km s-min=7.9km az=148.0*

*NEIC **05** 19:06:49.8±0.9, 43.84N±0.05×105.24W±0.06, h0km±2km, ML3.3/58, Error ellipse: s-maj=9.3km s-min=6.5km az=339.0*

ISC 05 19:06:49.7±1.0, 43.83N±0.06×105.26W±0.06, h0km, n56, σ0.977/56, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**71**	Pn	**Pb**	**19 07 09.2**	**+0.4**
K22A	**Casper**	**1.50**	**219**	Pn	**Pn**	**19 07 16.1**	**-1.9**
K22A				IAML		19 07 41.6	
	comp=E,363nm,0.3s						
PHWY	**Pilot Hill**	**2.53**	**183**	Pn	**Pn**	**19 07 32.0**	**-0.4**
RWWY	**Rawlins**	**2.58**	**215**	Pn	**Pn**	**19 07 33.1**	**+0.1**
RWWY				IAML		19 08 10.3	
	comp=E,175nm,0.9s						
LAO	**LASA Array**	**2.94**	**347**	Pn	**Pn**	**19 07 37.5**	**-0.3**
N23A	**Red Feather La**	**2.98**	**190**		**Pn**	**19 07 38.9**	**+0.5**
N23A				IAML		19 08 25.3	
	comp=N,105nm,0.5s						
N23A				IAML		19 08 34.5	
	comp=E,102nm,1.0s						
RLMT	**Red Lodge**	**3.15**	**296**	Pn	**Pn**	**19 07 41.0**	**+0.2**
RLMT				IAML		19 08 36.8	
	comp=E,91nm,0.3s						
RLMT				IAML		19 08 44.1	
	comp=E,62nm,0.7s						
BW06	**Boulder Array**	**3.31**	**253**	Pn	**Pn**	**19 07 43.1**	**0.0**
BW06				IAML		19 08 34.2	
	comp=E,54nm,0.3s						
PD31	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 07 43.1**	**0.0**
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 07 43.2**	**+0.2**
	comp=E,5.4nm,0.3s,baz=79,slow=16,SNR=82						
PDAR				Lg	Lg	19 08 27.9	
	comp=E,11nm,0.3s,baz=67,slow=32,SNR=16						
	comp=E,6.0nm,0.3s						
BRIGG	**Briggsdale**	**3.32**	**168**		**Pn**	**19 07 42.8**	**-0.3**
YMP	**Mirror Lake Pl**	**3.63**	**286**	Pn	**Pn**	**19 07 47.9**	**+0.3**
GCMT	**Greycliff**	**3.70**	**304**	Pn	**Pn**	**19 07 45.6**	**-2.7**
OGNE	**Ogallala**	**3.74**	**139**		**Pn**	**19 07 49.1**	**+0.3**
LKWY	**Lake**	**3.77**	**283**	Pn	**Pn**	**19 07 49.7**	**+0.3**
H17A	**Grant Village**	**3.87**	**280**	Pn	**Pn**	**19 07 52.0**	**+1.3**
FLWY	**Flagg Ranch**	**3.94**	**276**		**Pn**	**19 07 51.8**	**+0.2**
FLWY				IAML		19 09 05.7	
	comp=E,38nm,1.0s						
FLWY				IAML		19 09 07.6	
	comp=E,40nm,1.2s						
MOOW	**Moose Ponds**	**3.97**	**271**		**Pn**	**19 07 51.8**	**-0.3**
SNOW	**Snow King Moun**	**4.01**	**267**	Pn	**Pn**	**19 07 52.4**	**-0.2**
SNOW				IAML		19 09 01.0	
	comp=E,44nm,1.1s						
SNOW				IAML		19 09 01.5	
	comp=E,46nm,1.0s						
TPAW	**Teton Pass**	**4.14**	**267**		**Pn**	**19 07 54.6**	**+0.1**
TPAW				IAML		19 09 15.5	
	comp=E,29nm,0.9s						
TPAW				IAML		19 09 23.3	
	comp=E,42nm,0.9s						
YMR	**Madison River**	**4.18**	**284**		**Pn**	**19 07 54.3**	**-0.8**
YMR				IAML		19 09 19.9	
	comp=N,41nm,1.1s						
YMR				IAML		19 09 44.6	
	comp=E,37nm,0.9s						
O20A	**White River Ci**	**4.31**	**212**		**Pn**	**19 07 56.9**	**+0.2**
O20A				IAML		19 09 20.4	
	comp=E,40nm,0.9s						
AHID	**Auburn Hatcher**	**4.39**	**258**		**Pn**	**19 07 57.9**	**0.0**
AHID				IAML		19 09 18.2	
	comp=E,32nm,0.9s						
ECR	**Eagle Creek**	**4.52**	**262**	Pn	**Pn**	**19 07 59.2**	**-0.4**
RDMU	**Red Mountain**	**4.57**	**226**	Pn	**Pn**	**19 08 01.0**	**+0.7**
RDMU				IAML		19 09 16.5	
	comp=E,35nm,1.0s						
RDMU				IAML		19 09 20.1	
	comp=N,25nm,0.9s						
DGMT	**Dagmar**	**4.70**	**9**		**Pn**	**19 08 01.7**	**-0.2**
Q24A	**Divide**	**4.86**	**179**	Pn	**Pn**	**19 08 04.3**	**-0.1**
BOZ	**Bozeman (W)**	**4.87**	**293**		**Pn**	**19 08 05.1**	**+0.7**
BOZ				IAML		19 09 27.7	
	comp=N,22nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.21**	**157**	Pn	**Pn**	**19 08 07.8**	**-1.2**
TCUT	**Toone Canyon**	**5.29**	**241**		**Pn**	**19 08 10.4**	**+0.1**
HRY	**Holter Researc**	**5.46**	**304**	Pn	**Pn**	**19 08 12.7**	**+0.3**
P18A	**Preston Nutter**	**5.62**	**223**		**Pn**	**19 08 14.9**	**+0.1**
BCYI	**Bear Canyon**	**5.89**	**277**	Pn	**Pn**	**19 08 16.7**	**-1.7**
PV07	**Paradox Valley**	**5.96**	**207**		**Pn**	**19 08 19.4**	**0.0**
P17A	**Butcher Ranch,**	**5.98**	**225**		**Pn**	**19 08 19.2**	**-0.5**
PV15	**Paradox Valley**	**6.00**	**205**	Pn	**Pn**	**19 08 18.6**	**-1.4**
PV23	**Carpenter Ridg**	**6.07**	**209**		**Pn**	**19 08 19.6**	**-1.4**
PV10	**Paradox Valley**	**6.15**	**209**	Pn	**Pn**	**19 08 21.9**	**-0.2**
SRU	**San Rafael Swe**	**6.15**	**222**		**Pn**	**19 08 21.3**	**-0.8**
PV11	**David Mesa, Pa**	**6.16**	**208**	Pn	**Pn**	**19 08 21.4**	**-0.8**
ECSD	**EROS Data Cent**	**6.26**	**88**	Pn	**Pn**	**19 08 23.9**	**+0.6**
PV13	**Radium Mtn., P**	**6.27**	**207**	Pn	**Pn**	**19 08 23.9**	**+0.1**
TMUT	**Trail Mountain**	**6.36**	**227**		**Pn**	**19 08 25.1**	**+0.1**
NLU	**North Lily Min**	**6.39**	**235**	Pn	**Pn**	**19 08 25.0**	**-0.3**
BGU	**Big Grassy Mou**	**6.45**	**246**	Pn	**Pn**	**19 08 26.3**	**+0.3**
Q16A	**Castle Valley**	**6.62**	**224**	Pn	**Pn**	**19 08 27.9**	**-0.6**
DUG	**Dugway, Tooele**	**6.70**	**240**	Pn	**Pn**	**19 08 29.0**	**-0.5**
T25A	**Trinidad**	**6.72**	**174**	Pn	**Pn**	**19 08 29.2**	**-0.6**
MSU	**Marysvale**	**7.45**	**227**	Pn	**Pn**	**19 08 40.2**	**+0.4**
AGMN	**Agassiz Nation**	**7.91**	**52**	Pn	**Pn**	**19 08 46.9**	**+0.9**
ELK	**Elko**	**8.02**	**251**	Pn	**Pn**	**19 08 47.0**	**-0.7**
	comp=N,0.9nm,0.3s,baz=66,slow=9.2,SNR=17						
	comp=N,1.5nm,0.3s						
ELK	**Elko**	**8.02**	**251**	Pn	**Pn**	**19 08 47.9**	**+0.2**
I10CA	**LAC DU BONNET**	**8.96**	**41**	I	I	20 05 50.0	
	baz=219,slow=335,SNR=1.9						
ULM	**Lac du Bonnet**	**9.07**	**42**	Pn	**Pn**	**19 09 02.1**	**+0.3**
	comp=N,0.8nm,0.3s,baz=235,slow=13,SNR=6.2						
ULM				Pg		19 09 32.5	
	comp=N,0.2nm,0.3s,baz=248,slow=12,SNR=2.1						
ULM				Sn	**Sn**	**19 10 43.0**	**-1.5**
	comp=N,0.4nm,0.3s,baz=78,slow=6.6,SNR=3.0						
ULM				Lg	Lg	19 11 30.9	
	comp=N,0.3nm,0.3s,baz=124,slow=21,SNR=1.7						
	comp=N,1.9nm,0.3s						
ULM	**Lac du Bonnet**	**9.07**	**42**	Pn	**Pn**	**19 09 02.3**	**+0.6**
YKA	**Yellowknife Ar**	**19.48**	**347**	P	**P**	**19 11 18.0**	**+0.1**
	comp=N,0.1nm,0.3s,baz=156,slow=13,SNR=4.5						
	comp=N,0.1nm,0.5s						

*TEH **05** 19:12:45.6, 28.88N×51.53E, h12km±26km, ML3.4*

*IDC **05** 19:12:49.4±2.8, 28.72N×51.80E, h43km±28km, mb3.5/13, mbtmp3.7/17, ML3.1/4, Error ellipse: s-maj=22.2km s-min=18.4km az=48.0*

ISC 05 19:12:45.2±0.6, 28.79N±0.05×51.60E±0.05, h10km, n74, σ1.851/77, mb3.6/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.28**	**285**	Pg	**Pg**	**19 12 49.7**	**-1.2**
AHBU				Sg	**Sg**	**19 12 53.4**	**-1.2**
DSBU	**Dashti - Bushe**	**0.52**	**215**	Pg	**Pb**	**19 12 56.6**	**+0.1**
DSBU				Sg	**Sb**	**19 13 05.7**	**+1.5**
KAZ1	**Kazerun**	**0.83**	**2**	Pg	**Pg**	**19 13 00.2**	**-1.1**
SHI	**Shiraz**	**1.16**	**43**	Pg	**Pn**	**19 13 08.0**	**+0.2**
QIR1	**Qir**	**1.31**	**104**	Pg	**Pn**	**19 13 12.0**	**+2.4**
JHRM	**Jahrom**	**1.76**	**99**	Pn	**Pn**	**19 13 18.8**	**+3.0**
LMD1	**Lamerd**	**2.00**	**136**	Pn	**Pn**	**19 13 22.2**	**+3.1**
ABEH	**Behbahan**	**2.15**	**327**	Pn	**Pn**	**19 13 21.9**	**+0.8**
KLNJ	**Kolanjah**	**2.21**	**360**	Pn	**Pn**	**19 13 23.0**	**+0.7**
IRAM	**Ramesheh**	**3.08**	**12**	Pn	**Pn**	**19 13 35.2**	**+1.0**
IBRJ	**Brojen**	**3.12**	**355**	Pn	**Pn**	**19 13 35.1**	**+0.3**
AMIS	**Naft Sefid**	**3.50**	**326**	Pn	**Pn**	**19 13 39.9**	**+0.2**
SHK1	**Shahrekord**	**3.58**	**350**	Pn	**Pn**	**19 13 41.5**	**+0.5**
ISAD	**Sadrabad**	**3.59**	**30**	Pn	**Pn**	**19 13 43.3**	**+2.0**
IGAR	**Gharneh**	**3.62**	**6**	Pn	**Pn**	**19 13 43.1**	**+1.5**
IMEH	**Mehriz**	**3.67**	**44**	Pn	**Pn**	**19 13 44.8**	**+2.5**
IPIR	**Pirpir**	**3.93**	**351**	Pn	**Pn**	**19 13 46.1**	**+0.2**
NASN	**Na'in**	**4.13**	**14**	Pn	**Pn**	**19 13 49.7**	**+1.1**
IZEF	**Zefreh**	**4.14**	**9**	Pn	**Pn**	**19 13 49.3**	**+0.5**
ICHK	**Chekchek**	**4.21**	**34**	Pn	**Pn**	**19 13 50.7**	**+1.1**
BNDS	**Bandar-Abbas**	**4.27**	**108**	Pn	**Pn**	**19 13 53.6**	**+3.2**
YZKH	**Yazd**	**4.42**	**35**	Pn	**Pn**	**19 13 54.1**	**+1.7**
IBAF	**Bafgh**	**4.42**	**50**	Pn	**Pn**	**19 13 54.4**	**+1.9**
IKLH	**Kolahrood**	**4.51**	**360**	Pn	**Pn**	**19 13 54.3**	**+0.5**
KHGB	**Koh Gabri**	**4.53**	**68**	Pn	**Pn**	**19 13 55.8**	**+1.7**
KRBR	**Kerman**	**4.66**	**74**	Pn	**Pn**	**19 13 58.4**	**+2.5**
TVBK	**TV Kerman**	**4.66**	**74**	Pn	**Pn**	**19 13 58.6**	**+2.7**
ANAR	**Anarak**	**4.75**	**22**	Pn	**Pn**	**19 13 58.5**	**+1.5**
QAMS	**Qamsar**	**4.93**	**358**	*i* Pn	**Pn**	**19 14 00.5**	**+0.9**
KHMZ	**Khomeyn**	**5.13**	**344**	Pn	**Pn**	**19 14 03.1**	**+0.8**
KRSH	**Kashahi**	**5.18**	**5**	Pn	**Pn**	**19 14 03.3**	**+0.3**
CHMN	**Cheshme madani**	**5.29**	**77**	Pn	**Pn**	**19 14 07.2**	**+2.5**
ISFB	**Sefidab**	**5.57**	**5**	Pn	**Pn**	**19 14 08.6**	**+0.4**
GHVR	**GHOM**	**5.68**	**357**	Pn	**Pn**	**19 14 10.8**	**+1.1**
IDOB	**Doab**	**5.78**	**330**	Pn	**Pn**	**19 14 11.7**	**+0.4**
ASAO	**Ashtian**	**5.89**	**347**	Pn	**Pn**	**19 14 13.9**	**+1.1**
IQOM	**Qom**	**6.05**	**356**	Pn	**Pn**	**19 14 14.5**	**-0.5**
IVRN	**Varamin**	**6.18**	**1**	Pn	**Pn**	**19 14 16.7**	**0.0**
IKOM	**Komasi**	**6.40**	**328**	Pn	**Pn**	**19 14 20.7**	**+0.9**
ILBA	**Ilam Banvizeh**	**6.67**	**318**	Pn	**Pn**	**19 14 23.6**	**+0.2**
TNSJ	**Nastanj**	**6.70**	**38**	Pn	**Pn**	**19 14 24.9**	**+1.1**
TKDS	**Koohdasht(Taba**	**6.74**	**43**	Pn	**Pn**	**19 14 25.7**	**+1.3**
TABS	**Tabas**	**6.76**	**43**	Pn	**Pn**	**19 14 26.0**	**+1.3**
DAMV	**Damavand**	**6.83**	**3**	Pn	**Pn**	**19 14 25.6**	**-0.1**
IFIR	**Firoozkooh**	**6.90**	**8**	Pn	**Pn**	**19 14 28.0**	**+1.3**
IGHG	**Ghaleghazi**	**6.99**	**323**	Pn	**Pn**	**19 14 28.2**	**+0.3**
CHTH	**Kharan**	**7.11**	**357**	Pn	**Pn**	**19 14 30.1**	**+0.6**
BSRN	**Basiran**	**7.23**	**62**	Pn	**Pn**	**19 14 33.9**	**+2.9**
SNGE	**Sanandaj**	**7.25**	**331**	Pn	**Pn**	**19 14 31.7**	**+0.3**
ILIN	**Lien**	**7.27**	**328**	Pn	**Pn**	**19 14 31.8**	**+0.1**
IDHR	**Dehrash**	**7.38**	**324**	Pn	**Pn**	**19 14 33.0**	**-0.2**
QALM	**Alamut, Qazvin**	**7.66**	**354**	Pn	**Pn**	**19 14 38.3**	**+1.2**
ZHSF	**Zahedan**	**8.06**	**82**	Pn	**Pn**	**19 14 45.2**	**+2.6**
ZHDN	**Zahedan**	**8.08**	**83**	Pn	**Pn**	**19 14 44.7**	**+1.9**
SHRO	**Shahrood**	**8.09**	**26**	Pn	**Pn**	**19 14 44.7**	**+1.9**
WSAR	**Wadi Sarin**	**8.40**	**130**	P	**Pn**	**19 14 46.4**	**-0.6**
	0.3nm,0.3s,baz=312,slow=9.8,SNR=9.6						
WSAR				S	**Sn**	**19 16 18.2**	**-3.7**
	6.1nm,0.9s,baz=97,slow=4.7,SNR=2.0						
	6.9nm,0.9s						
MRVT	**Maraveh tapeh**	**9.61**	**22**	Pn	**Pn**	**19 15 05.2**	**+1.6**
SRVN	**Saravan**	**9.63**	**96**	Pn	**Pn**	**19 15 05.8**	**+1.6**
GEYT	**Alibeck**	**10.61**	**29**	P	**Pn**	**19 15 18.0**	**+0.6**
	0.1nm,0.3s,baz=219,slow=11,SNR=1.9						
	1.0nm,0.6s						
KBZ	**Khabaz**	**16.46**	**337**	P	**Pn**	**19 16 36.9**	**+0.7**
	0.1nm,0.3s,baz=162,slow=9.6,SNR=2.3						
	1.5nm,0.8s						
BRTR	**Keskin Array B**	**18.39**	**311**	P	**P**	**19 17 02.8**	**+2.3**
	0.1nm,0.3s,baz=119,slow=13,SNR=3.6						
	0.6nm,0.7s						
AKTO	**Aktyubinsk**	**22.16**	**11**	P	**P**	**19 17 41.4**	**+0.3**
	0.8nm,0.4s,baz=202,slow=10.0,SNR=5.2						
	0.8nm,0.4s						
AAK	**Ala-Archa**	**23.07**	**47**	P	**P**	**19 17 50.8**	**-0.2**
	0.6nm,0.5s,baz=222,slow=12,SNR=1.9						
	0.6nm,0.5s						
AKASG	**Malin Array Be**	**27.64**	**329**	P	**P**	**19 18 34.8**	**+2.0**
	0.2nm,0.4s,baz=131,slow=11,SNR=2.8						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**27.89**	**25**	P	**P**	**19 18 34.8**	**-0.4**
	0.8nm,0.4s,baz=238,slow=5.0,SNR=6.7						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**29.92**	**45**	P	**P**	**19 18 53.1**	**-0.1**
	0.5nm,0.7s,baz=231,slow=8.0,SNR=5.7						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**34.86**	**35**	P	**P**	**19 19 35.6**	**-0.8**
	0.7nm,0.6s,baz=262,slow=10,SNR=3.8						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**43.47**	**347**	P	**P**	**19 20 49.9**	**+1.7**
	3.7nm,0.9s,baz=143,slow=9.1,SNR=2.3						
	3.7nm,0.9s						
SONM	**Songino Array**	**45.97**	**50**	P	**P**	**19 21 08.6**	**0.0**
	0.2nm,0.4s,baz=260,slow=9.6,SNR=2.3						
	0.2nm,0.4s						
DBIC	**Dimbokro**	**57.52**	**259**	P	**P**	**19 22 36.3**	**+1.2**
	2.6nm,0.8s,baz=78,slow=7.5,SNR=4.4						
	2.6nm,0.8s						
FRB	**Frobisher Bay**	**76.52**	**337**	P	**P**	**19 24 34.5**	**-0.7**
	2.3nm,0.5s,baz=19,slow=4.5,SNR=3.1						
	2.3nm,0.5s						
ILAR	**Eielson Array**	**85.63**	**8**	P	**P**	**19 25 22.4**	**-1.3**
	0.3nm,0.8s,baz=324,slow=4.5,SNR=2.1						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**88.36**	**354**	P	**P**	**19 25 36.6**	**-0.3**
	0.3nm,0.6s,baz=10,slow=5.8,SNR=4.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**94.79**	**114**	P	**P**	**19 26 04.9**	**-2.6**
	0.2nm,0.8s,baz=316,slow=5.2,SNR=1.4						
	0.2nm,0.8s						

IDC 05 19:16:14.4±1.7, 3.48N×127.89E, h0km, mb3.3/3, mbtmp3.4/4, ML3.4/1, MS4.1/1, Error ellipse: s-maj=104.8km s-min=23.5km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.49**	**142**	Pn	Pn	19 17 36.9	-0.6
	1.0nm,0.3s,baz=326,slow=21,SNR=6.6						
SIJI				Sn	Sn	19 18 34.2	-7.2
	1.1nm,0.3s,baz=332,slow=23,SNR=9.3						
	2.6nm,0.3s						
WRA	**Warramunga Arr**	**24.13**	**165**	P	P	19 21 31.9	-0.4
	0.3nm,0.7s,baz=343,slow=10,SNR=2.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**27.61**	**168**	P	P	19 22 04.2	+0.5
	0.3nm,0.7s,baz=350,slow=8.0,SNR=4.6						
	0.3nm,0.7s						
HNR	**Honiara**	**34.43**	**112**	LR	LR	19 34 50.9	
	comp=Z,324nm,21.1s,baz=202,slow=32						
MKAR	**Makanchi Array**	**58.42**	**325**	P	P	19 26 11.9	0.0
	0.3nm,0.4s,baz=110,slow=8.5,SNR=10						
	0.3nm,0.4s						

*REN **05** 19:18:56.0±1.1, 38.42N±0.01×118.90W±0.01, h9km±3km, ML3.2/13, ML3.1/62(NEIC), Error ellipse: s-maj=1.7km s-min=1.7km az=144.0*

NEIC 05 19:18:56.1±1.0, 38.42N±0.01×118.90W±0.02, h10km±2km, Error ellipse: s-maj=2.2km s-min=1.6km az=95.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.11**	**69**	Pg	Pg	19 18 59.0	-0.3
TVH1				Sg	Sg	19 19 01.1	-0.4
LHV	**Little Huntoon**	**0.35**	**118**	Pg	Pg	19 19 03.4	+0.3
LHV				Sg	Sg	19 19 08.2	+0.4
LHV	**Little Huntoon**	**0.35**	**118**	IAML		19 19 09.2	
	comp=N,6μm,0.5s						
LHV				IAML		19 19 10.3	
	comp=E,4μm,0.7s						
RYN	**Ryan**	**0.36**	**54**		Pg	19 19 03.4	0.0
RYN					Sg	19 19 08.7	+0.4
RYN	**Ryan**	**0.36**	**54**	IAML		19 19 08.8	
	comp=N,5μm,0.4s						
RYN				IAML		19 19 09.1	
	comp=E,6μm,0.2s						
HCK	**Huntoon Valley**	**0.42**	**145**		Pg	19 19 04.8	+0.4
WAKR	**Walker**	**0.43**	**282**		Pg	19 19 04.6	-0.1
WAKR					Sg	19 19 10.7	+0.3
WAKR	**Walker**	**0.43**	**282**	IAML		19 19 11.6	
	comp=E,2μm,0.4s						
WAKR				IAML		19 19 12.0	
	comp=N,1μm,0.3s						
NV09	**Mina Array Sit**	**0.44**	**88**		Pg	19 19 04.8	-0.1
NV08	**Mina Array Sit**	**0.46**	**91**		Pg	19 19 05.0	-0.2
NVAR	**Mina Array Bea**	**0.47**	**88**		Pg	19 19 05.1	-0.3
NV11	**Mina Array Sit**	**0.58**	**88**		Pb	19 19 08.3	-0.3
NV11					Sb	19 19 16.3	-0.7
NV11	**Mina Array Sit**	**0.58**	**88**	IAML		19 19 16.7	
	comp=E,670nm,0.6s						
NV11				IAML		19 19 17.5	
	comp=N,792nm,0.3s						
YERR	**Yerington**	**0.63**	**335**		Pg	19 19 08.0	-0.3
YERR					Sg	19 19 16.7	+0.1
YERR	**Yerington**	**0.63**	**335**	IAML		19 19 22.2	
	comp=E,979nm,0.6s						
YERR				IAML		19 19 23.6	
	comp=N,929nm,0.4s						
BENR	**Benton**	**0.75**	**160**		Pg	19 19 10.3	-0.3
MDYM	**Dry Creek**	**0.76**	**187**		Pg	19 19 10.9	-0.1
MDYM					Sb	19 19 21.9	-0.4
MCBM	**Casa Benchmark**	**0.77**	**180**		Pg	19 19 11.0	-0.1
MCBM					Sg	19 19 21.8	+0.6
MDPB	**Devils Postpil**	**0.80**	**190**		Pg	19 19 11.2	-0.4
MDPB					Sg	19 19 22.0	0.0
ORC	**Owens River**	**0.80**	**166**		Pg	19 19 11.5	-0.2
PNTR	**Pine Nut**	**0.86**	**321**		Pg	19 19 12.4	-0.5
PNTR					Sg	19 19 24.4	+0.2
PNTR	**Pine Nut**	**0.86**	**321**	IAML		19 19 24.6	
	comp=N,580nm,0.6s						
PNTR				IAML		19 19 30.7	
	comp=E,589nm,0.8s						
KVN	**Kaiserville**	**0.89**	**44**		Pg	19 19 12.8	-0.5
KVN					Sg	19 19 24.9	-0.1
KVN	**Kaiserville**	**0.89**	**44**	IAML		19 19 28.9	
	comp=N,403nm,0.4s						
KVN				IAML		19 19 29.1	
	comp=E,525nm,0.6s						
MLNR	**Milner Canyon**	**0.93**	**152**		Pg	19 19 13.9	-0.3
RCCR	**Rock Creek Can**	**0.94**	**171**		Pn	19 19 16.1	+0.3
VCNR	**Virginia City**	**1.05**	**326**		Pg	19 19 15.8	-0.7
VCNR					Sg	19 19 30.3	+0.1
SCHCA	**Scheelite**	**1.07**	**171**		Pg	19 19 16.3	-0.4
SCHCA					Sg	19 19 30.7	0.0
EMB	**Emerald Bay**	**1.09**	**301**		Pg	19 19 16.7	-0.5
EMB					Sb	19 19 31.6	-0.1
EMB	**Emerald Bay**	**1.09**	**301**	IAML		19 19 32.3	
	comp=E,551nm,0.3s						
KCC	**Kaiser Creek**	**1.14**	**197**		Pb	19 19 17.2	-0.8
KCC					Sb	19 19 32.2	-0.7
BHPR	**Bishop**	**1.16**	**164**		Pn	19 19 18.8	+0.1
CMB	**Columbia Colle**	**1.23**	**252**	Pn	Pn	19 19 18.8	-0.7
CMB				IAML		19 19 35.0	
	comp=N,557nm,0.3s						
CMB				IAML		19 19 35.2	
	comp=E,419nm,0.2s						
CMB	**Columbia Colle**	**1.23**	**252**		Sb	19 19 34.8	-0.7
MPK	**Martis Peak**	**1.24**	**315**		Pn	19 19 19.4	-0.4
MPK					Sg	19 19 36.4	+0.1
MPK	**Martis Peak**	**1.24**	**315**	IAML		19 19 40.2	
	comp=E,456nm,0.6s						
DSP	**Deep Springs**	**1.28**	**145**		Pn	19 19 20.1	+0.1
DSP					Sg	19 19 37.5	+0.2
TPH	**Tonopah**	**1.36**	**104**		Pn	19 19 21.2	-0.2
TPH					Sn	19 19 39.7	+0.1
MZP	**Montezuma Peak**	**1.40**	**120**		Pn	19 19 21.9	0.0
MZP					Sg	19 19 41.0	0.0
MZP	**Montezuma Peak**	**1.40**	**120**	IAML		19 19 45.0	
	comp=N,200nm,0.7s						
Q09A	**Carvers**	**1.41**	**72**		Pn	19 19 22.2	+0.2
Q09A					Sg	19 19 41.6	+0.1
PEAR	**Peavine Mounta**	**1.45**	**326**		Pn	19 19 22.7	+0.1
PEAR					Sg	19 19 43.4	+0.6
DONR	**Donner Summit**	**1.45**	**311**		Pn	19 19 22.8	+0.2
DONR					Sb	19 19 42.3	+0.3
TIN	**Tinemaha, Big**	**1.46**	**158**		P

σ1§14/40, **MS3.4/6, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.66**	**107**	Pn	**Pn**	**19 20 25.2**	**-2.3**
KEBM				Sn	**Sn**	**19 21 09.4**	**-1.0**
KBO	**Bosley Butte**	**4.00**	**115**	Pn	**Pn**	**19 20 29.9**	**-2.3**
HEBO	**Mount Hebo**	**4.00**	**71**	Pn	Pn	19 20 26.6	-5.6
HEBO	comp=N,49nm,1.6s			IAML		19 21 52.3	
HEBO	comp=E,48nm,2.0s			IAML		19 23 12.1	
COR	**Corvallis**	**4.20**	**80**	Pn	**Pn**	**19 20 34.0**	**-0.9**
COR	comp=E,34nm,2.3s			IAML		19 21 32.9	
COR	comp=E,33nm,3.1s			IAML		19 21 55.4	
DBO	**Dodson Butte**	**4.35**	**100**	Pn	**Pn**	**19 20 36.2**	**-0.8**
DBO	comp=N,32nm,4.2s			IAML		19 23 07.4	
BUCK	**Buck Mountain**	**4.41**	**86**		**Pn**	**19 20 38.2**	**+0.3**
BUCK				Sn	**Sn**	**19 21 29.6**	**+0.7**
BUCK	comp=E,39nm,3.9s			IAML		19 22 28.7	
BUCK	comp=N,32nm,3.5s			IAML		19 23 06.9	
RADR	**Rader Ridge**	**4.45**	**55**	Pn	**Pn**	**19 20 36.7**	**-1.7**
RADR	comp=E,36nm,4.0s			IAML		19 23 37.7	
RADR	comp=N,30nm,3.8s			IAML		19 23 41.0	
E03A	**Lebam**	**4.66**	**55**		**Pn**	**19 20 40.8**	**-0.3**
E03A	comp=E,20nm,2.4s			IAML		19 21 49.4	
HUMO	**Hull Mountain**	**4.70**	**105**	Pn	**Pn**	**19 20 42.0**	**+0.2**
WISH	**Wishkah**	**4.86**	**49**		**Pn**	**19 20 44.2**	**+0.3**
NLWA	**Neilton Lookou**	**4.98**	**46**		**Pn**	**19 20 45.3**	**-0.4**
NLWA	comp=E,16nm,0.7s			IAML		19 21 44.1	
H04A	**Detroit Lake**	**5.01**	**80**		**Pn**	**19 20 46.9**	**+0.9**
C03A	**Quillayute Air**	**5.04**	**37**		**Pn**	**19 20 45.9**	**-0.6**
YBH	**Yreka Blue Hor**	**5.22**	**114**	Pn	**Pn**	**19 20 50.9**	**+1.9**
YBH	comp=E,0.3nm,0.3s,baz=304,slow=11,SNR=1.8			Sn	**Sn**	**19 21 49.4**	**+0.3**
YBH	comp=E,0.3nm,0.3s,baz=59,slow=23,SNR=1.6			LR	LR	19 22 05.9	
YBH	comp=E,52nm,19.2s,baz=263,slow=30 comp=E,1.5nm,0.5s			Pn	**Pn**	**19 20 48.6**	**-0.4**
YBH				IAML		19 22 40.7	
HOOD	comp=E,15nm,4.2s **Mount Hood Mea**	**5.47**	**74**		**Pn**	**19 20 52.5**	**0.0**
OZB	**Mount Ozzard**	**5.54**	**25**	Pn	**Pn**	**19 20 52.4**	**-0.8**
B04A	**Port Angeles**	**5.62**	**42**		**Pn**	**19 20 54.1**	**-0.2**
LON	**Longmire**	**5.82**	**59**	Pn	**Pn**	**19 20 57.5**	**+0.4**
PINE	**Pine Mountain**	**5.90**	**89**		**Pn**	**19 20 58.5**	**+0.1**
CLRS	**Cowichan Lake**	**5.91**	**34**		**Pn**	**19 20 57.8**	**-0.5**
D05A	**Emumclaw**	**5.91**	**55**		**Pn**	**19 20 57.9**	**-0.5**
PGC	**Sidney**	**6.07**	**38**	Pn	**Pn**	**19 20 59.5**	**-0.9**
G06A	**Carlson Farm,**	**6.17**	**76**		**Pn**	**19 21 02.7**	**+0.8**
LTY	**Liberty**	**6.74**	**58**		**Pn**	**19 21 10.1**	**+0.2**
B06A	**Marblemount**	**6.94**	**47**		**Pn**	**19 21 12.1**	**-0.4**
HAWA	**Hanford**	**7.17**	**67**		**Pn**	**19 21 15.1**	**-0.5**
G08A	**Pilot Rock**	**7.35**	**76**		**Pn**	**19 21 18.3**	**+0.1**
J08A	**Circle Bar Ran**	**7.74**	**91**	Pn	**Pn**	**19 21 22.1**	**-1.4**
D08A	**Wollman Farm,**	**7.77**	**63**		**Pn**	**19 21 23.8**	**-0.1**
B08A	**Colville Reser**	**8.05**	**54**	Pn	**Pn**	**19 21 26.0**	**-1.7**
C09A	**Chrisman Ranch**	**8.45**	**60**		**Pn**	**19 21 33.0**	**-0.2**
NEW	**Newport** comp=E,0.1nm,0.3s,baz=89,slow=11,SNR=2.0	**9.34**	**59**	Pn	Pn	19 21 38.7	-6.7
NEW	comp=E,151nm,18.8s,baz=220,slow=40 comp=E,1.1nm,0.8s			LR	LR	19 25 12.4	
NEW	**Newport**	**9.34**	**59**	Pn	**Pn**	**19 21 45.5**	**+0.1**
ELK	**Elko** comp=E,59nm,20.9s,baz=304,slow=39	**10.77**	**103**	LR	LR	19 26 19.6	
PDAR	**Pinedale Array** comp=E,0.5nm,0.8s,baz=276,slow=9.0,SNR=2.0	**14.27**	**88**	Pn	**Pn**	**19 22 54.5**	**+1.4**
PDAR	comp=E,96nm,18.5s,baz=284,slow=40			LR	LR	19 28 39.7	
PFO	**Pinyon Flats O** comp=E,68nm,19.6s,baz=44,slow=34	**14.30**	**132**	LR	LR	19 27 40.3	
ANMO	**Albuquerque** comp=E,0.2nm,0.3s,baz=29,slow=15,SNR=6.1 comp=E,1.6nm,0.8s	**19.64**	**110**	P	**Pn**	**19 24 03.5**	**+2.5**
YKA	**Yellowknife Ar** baz=210,slow=11,SNR=12 comp=E,0.5nm,0.7s	**20.35**	**20**	P	**P**	**19 24 06.0**	**-0.9**
ILAR	**Eielson Array** comp=E,1.4nm,1.1s,baz=134,slow=8.9,SNR=8.7	**23.06**	**340**	P	**P**	**19 24 37.8**	**+1.9**
ILAR	comp=E,49nm,19.2s,baz=210,slow=34 comp=E,1.4nm,1.1s			LR	LR	19 32 17.1	
ULM	**Lac du Bonnet** comp=E,2.2nm,0.8s,baz=279,slow=9.8,SNR=5.0	**23.32**	**63**	P	**P**	**19 24 36.2**	**-2.4**
ULM	comp=E,102nm,18.3s,baz=338,slow=37 comp=E,2.2nm,0.8s			LR	LR	19 33 29.5	
INK	**Inuvik** comp=E,76nm,18.0s,baz=16,slow=36	**24.46**	**356**	LR	LR	19 34 00.6	
SADO	**Sadowa** comp=E,76nm,19.0s,baz=82,slow=37	**35.26**	**71**	LR	LR	19 41 02.2	
TKL	**Tuckaleechee C** comp=E,79nm,19.2s,baz=322,slow=38	**35.42**	**88**	LR	LR	19 41 17.7	
SCHQ	**Schefferville** comp=E,83nm,18.4s,baz=169,slow=35	**40.62**	**52**	LR	LR	19 42 40.9	
H11N3	**WAKE ISLAND Hy** baz=49,slow=75,SNR=2209	**57.97**	**267**	T	T	20 32 04.7	
H11N2	**WAKE ISLAND Hy** baz=49,slow=75,SNR=652	**57.97**	**267**	T	T	20 32 08.6	
H11N1	**WAKE ISLAND Hy** baz=49,slow=75,SNR=714	**57.99**	**267**	T	T	20 32 07.9	
H11S1	**WAKE ISLAND Hy** baz=50,slow=75,SNR=164	**58.90**	**266**	T	T	20 33 14.4	
H11S2	**WAKE ISLAND Hy** baz=50,slow=75,SNR=145	**58.91**	**266**	T	T	20 33 17.8	
H11S3	**WAKE ISLAND Hy** baz=50,slow=75,SNR=93	**58.92**	**266**	T	T	20 33 15.6	

IDC 05 20:07:57.0±2.6, 8°79S×112°56E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=145.1km s-min=26.5km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=294,slow=11,SNR=6.4 0.5nm,0.7s	**23.80**	**120**	P	P	20 13 11.7	-0.1
ASAR	**Alice Springs** 0.4nm,0.7s,baz=305,slow=9.6,SNR=6.3 0.4nm,0.7s	**25.22**	**128**	P	P	20 13 24.9	+0.1
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=147,slow=6.9,SNR=6.3 0.1nm,0.3s	**61.56**	**337**	P	P	20 18 16.1	0.0

HEL 05 20:08:50.0±0.4, 67°93N×20°36E, h0km, ML1.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.63**	**78**	PG	Pb	20 09 03.2	-0.6
KIF	**Kilpisjarvi**	**1.09**	**8**	PG	Pg	20 09 10.5	-0.4
KIF				SG	Sg	20 09 24.3	-0.8
KIF	comp=Z,2.1nm,0.2s			MSG		20 09 24.5	
HEF	**Hetta**	**1.32**	**67**	PN	Pn	20 09 15.8	+0.1
HEF	comp=Z,0.9nm,0.2s			MSG		20 09 29.9	
HEF				SG	Sg	20 09 31.2	-1.3
KLF	**Kolari**	**1.55**	**115**	PG	Pn	20 09 18.6	-0.2
ERTU	**Ertsjaerv**	**1.55**	**152**	PG	Pn	20 09 17.6	-1.3
ERTU				SG	Sn	20 09 36.6	-3.0
TRO	**Tromso**	**1.79**	**344**	SG	Sn	20 09 45.1	-0.4
TOF	**Tornio** comp=Z,0.5nm,0.2s	**2.42**	**138**	MSG		20 10 01.8	
TOF				SB	Sn	20 10 02.6	+1.6
ARA0	**ARCESS Array S**	**2.48**	**47**	PG	Pb	20 09 34.9	-0.4
ARA0				SG	Sb	20 10 07.1	+0.8
RNF	**Rovaniemi**	**2.56**	**118**	SG	Sb	20 10 08.5	-0.3

*IDC **05** 20:13:29.0±0.7, 53°95S×2°12W, h0km, mb4.4/10, mbtmp4.4/11, ML4.6/1, MS3.9/34, Error ellipse: s-maj=22.4km s-min=18.3km az=106.0*

*NEIC **05** 20:13:30.4±1.4, 54°1S±0°2×2°1W±0°1, h10km±1km, mb4.6/11, Error ellipse: s-maj=27.1km s-min=11.3km az=162.0*

ISC 05 20:13:30.3±0.5, 53°98S±0°09×2°1W±0°1, h10km, n57, σ0§86/29, mb4.5/15, MS4.0/33, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.96**	**187**	P	**P**	**20 17 28.9**	**-0.2**
VNA2	**Neumayer--Watz** baz=4.0,slow=15	**17.17**	**186**	P	**Pn**	**20 17 29.9**	**0.0**
VNA3	**Neumayer Olymp**	**17.64**	**188**	P	**P**	**20 17 35.8**	**-1.0**
SNAA	**Sanae**	**17.76**	**181**	P	**P**	**20 17 38.0**	**-0.1**
SNAA	**Sanae** 1.8nm,0.3s,baz=29,slow=13,SNR=62	**17.76**	**181**	P	**P**	**20 17 38.5**	**+0.4**
SNAA	comp=Z,458nm,18.6s,baz=355,slow=32 4.0nm,0.4s			LR	LR	20 23 03.0	
SNAA	**Sanae**	**17.76**	**181**	P	**Pn**	**20 17 36.6**	**-0.8**
TROLL	**Troll, Antarti**	**18.21**	**175**	P	**P**	**20 17 44.3**	**+1.1**
SUR	**Sutherland** 6.7nm,0.9s,baz=210,slow=8.1,SNR=2.0	**27.08**	**46**	P	**P**	**20 19 12.9**	**-0.3**
SUR	comp=Z,442nm,18.1s,baz=198,slow=32 6.7nm,0.9s			LR	LR	20 27 43.5	
PMSA	**Palmer Station** comp=Z,157nm,19.1s,baz=117,slow=32	**31.99**	**226**	LR	LR	20 30 25.6	
BOSA	**Boshof** 3.7nm,1.0s,baz=200,slow=6.7,SNR=3.9	**32.26**	**49**	P	**P**	**20 19 57.5**	**-1.5**
BOSA	comp=Z,253nm,18.0s,baz=192,slow=33 3.7nm,1.0s			LR	LR	20 31 02.2	
MAW	**Mawson** comp=Z,112nm,21.1s,baz=310,slow=31	**32.75**	**140**	LR	LR	20 30 15.3	
LBTB	**Lobatse** comp=Z,453nm,18.2s,baz=187,slow=33	**35.54**	**47**	LR	LR	20 33 03.2	
QSPA	**South Pole Qui** 5.3nm,0.9s,baz=212,slow=6.6,SNR=10	**36.27**	**180**	P	**P**	**20 20 33.2**	**-0.2**
QSPA	comp=Z,253nm,19.1s,baz=219,slow=35 5.3nm,0.9s			LR	LR	20 34 47.8	
QSPA	**South Pole Qui** comp=Z,9.8nm,1.0s	**36.27**	**180**	P	**P**	**20 20 32.4**	**-1.1**
QSPA				IAmb	IAmb	20 20 35.1	
TSUM	**Tsumeb** comp=Z,13nm,0.9s,baz=199,slow=10.0,SNR=11	**37.88**	**31**	P	**P**	**20 20 48.1**	**+0.6**
TSUM	comp=Z,218nm,22.0s,baz=153,slow=31 comp=Z,13nm,0.9s			LR	LR	20 32 56.0	
TSUM	**Tsumeb**	**37.88**	**31**	P	**P**	**20 20 48.2**	**+0.7**
TRQA	**Tornquist**	**43.16**	**266**	P	**P**	**20 21 31.4**	**+0.5**
TRQA	comp=Z,14nm,1.3s			IAmb	IAmb	20 22 15.4	
AY01	**Puyuhuapi**	**45.26**	**252**	P	**P**	**20 21 47.3**	**-0.3**
LSZ	**Lusaka**	**45.30**	**43**	LR	LR	20 38 28.2	
LSZ	comp=Z,481nm,20.1s,baz=206,slow=33 **Lusaka**	**45.30**	**43**	P	**P**	**20 21 47.5**	**-0.8**
PLCA	**Paso Flores** comp=Z,49nm,21.9s,baz=136,slow=32	**46.41**	**257**	LR	LR	20 37 56.5	
VNDA	**Vanda** comp=Z,5.8nm,1.0s,baz=220,slow=5.6,SNR=8.5	**48.39**	**175**	P	**P**	**20 22 13.1**	**+1.4**
VNDA	comp=Z,352nm,19.7s,baz=192,slow=35 comp=Z,5.8nm,1.0s			LR	LR	20 42 00.4	
CPUP	**Villa Florida** comp=Z,3.5nm,1.0s,baz=125,slow=4.8,SNR=4.9	**48.82**	**282**	P	**P**	**20 22 14.9**	**-0.6**
CPUP	comp=Z,32nm,21.2s,baz=142,slow=32 comp=Z,3.5nm,1.0s			LR	LR	20 39 21.9	
CPUP	**Villa Florida**	**48.82**	**282**	P	**P**	**20 22 16.6**	**+1.0**
CPUP	comp=Z,7.5nm,1.2s			IAmb	IAmb	20 22 50.1	
CFA	**Coronel Fontan** comp=Z,6.6nm,1.1s,baz=144,slow=8.9,SNR=5.3	**51.33**	**268**	P	**P**	**20 22 33.6**	**-1.0**
CFA	comp=Z,82nm,21.4s,baz=94,slow=32 comp=Z,6.6nm,1.1s			LR	LR	20 41 08.7	
OPO	**Ambohidratompo** comp=Z,119nm,19.7s,baz=358,slow=32	**51.63**	**67**	LR	LR	20 40 57.9	
BDFB	**Brasilia** comp=Z,3.7nm,0.7s,baz=116,slow=5.0,SNR=3.9	**52.25**	**299**	P	**P**	**20 22 42.2**	**+0.5**
BDFB	comp=Z,105nm,20.3s,baz=116,slow=31 comp=Z,3.7nm,0.7s			LR	LR	20 40 25.8	
RCBR	**Riachuelo** comp=Z,88nm,19.4s,baz=312,slow=30	**55.26**	**318**	LR	LR	20 41 15.4	
PTLB	**Pontes e Lacer** comp=Z,7.1nm,1.2s	**58.42**	**288**	P	**P**	**20 23 26.3**	**+0.3**
PTLB				IAmb	IAmb	20 23 27.2	
LVC	**Limon Verde** comp=Z,32nm,19.9s,baz=334,slow=34	**58.43**	**275**	LR	LR	20 46 49.4	
SIV	**San Ignacio** comp=Z,83nm,20.3s,baz=117,slow=33	**59.08**	**286**	LR	LR	20 45 34.6	
MBAR	**Mbarara** comp=Z,152nm,21.8s,baz=178,slow=34	**59.70**	**39**	LR	LR	20 46 51.6	
DBIC	**Dimbokro** comp=Z,72nm,21.1s,baz=169,slow=30	**60.47**	**357**	LR	LR	20 43 13.5	
KMBO	**Kilima Mbogo** comp=Z,240nm,19.6s,baz=90,slow=34	**61.82**	**46**	LR	LR	20 48 36.4	
LODK	**Lodwar**	**65.16**	**42**	P	**P**	**20 24 12.3**	**+0.8**
LODK	comp=Z,6.2nm,1.3s			IAmb	IAmb	20 24 15.1	
SAML	**Samuel** comp=Z,3.4nm,1.1s	**65.98**	**289**	P	**P**	**20 24 16.5**	**-0.3**
SAML				IAmb	IAmb	20 24 17.7	
ETMB	**Extrema** comp=Z,3.9nm,1.1s	**66.98**	**286**	P	**P**	**20 24 21.7**	**-1.5**
ETMB				IAmb	IAmb	20 24 23.6	
NNA	**Nana** comp=Z,26nm,19.7s,baz=135,slow=35	**71.41**	**275**	LR	LR	20 55 15.3	
MDP	**Montagnes des** comp=Z,62nm,18.4s,baz=214,slow=33	**72.38**	**306**	LR	LR	20 53 44.5	
H01W2	**Cape Leeuwin H** baz=212	**75.83**	**131**	T	T	21 49 11.1	
H01W1	**Cape Leeuwin H** baz=212	**75.84**	**131**	T	T	21 49 10.9	
H01W3	**Cape Leeuwin H** baz=212	**75.84**	**130**	T	T	21 49 13.9	
NWAO	**Narrogin (SRO)** comp=Z,56nm,21.8s,slow=29	**78.87**	**132**	LR	LR	20 52 00.6	
RPZ	**Rata Peaks** comp=Z,113nm,20.6s,baz=163,slow=33	**82.51**	**175**	LR	LR	20 59 06.2	
ROSC	**El Rosal** comp=Z,72nm,20.1s,baz=195,slow=34	**83.55**	**287**	LR	LR	21 01 34.1	
SDV	**Santo Domingo** comp=Z,54nm,18.5s,baz=153,slow=34	**84.84**	**293**	LR	LR	21 02 06.4	
MDT	**Midelt** comp=Z,81nm,18.2s,baz=178,slow=33	**86.46**	**358**	LR	LR	21 00 59.9	
STKA	**Stephens Creek** comp=Z,2.6nm,0.9s,baz=92,slow=3.1,SNR=2.9 comp=Z,2.6nm,0.9s	**88.91**	**150**	P	**P**	**20 26 23.9**	**-0.9**
EIL	**Elat** comp=Z,83nm,18.3s,baz=200,slow=35	**89.27**	**32**	LR	LR	21 06 03.2	
SJG	**San Juan** comp=Z,48nm,18.9s,baz=118,slow=34	**90.19**	**301**	LR	LR	21 04 19.1	
MMAI	**Mount Meron Ar** comp=Z,72nm,19.6s,baz=135,slow=35	**92.52**	**31**	LR	LR	21 07 04.8	
WSAR	**Wadi Sarin** comp=Z,76nm,20.1s,baz=280,slow=35	**92.93**	**53**	LR	LR	21 07 13.3	
ASAR	**Alice Springs** comp=Z,0.3nm,0.8s,baz=201,slow=4.7,SNR=2.6 comp=Z,0.3nm,0.8s	**93.88**	**140**	P	**P**	**20 26 49.3**	**+1.3**
JTS	**Las Juntas de** comp=Z,37nm,18.4s,slow=36	**94.06**	**282**	LR	LR	21 09 12.8	
BRTR	**Keskin Array B** comp=Z,65nm,21.1s,baz=176,slow=35	**98.28**	**27**	LR	LR	21 11 15.6	
YKA	**Yellowknife Ar** comp=Z,3.7nm,1.0s,baz=144,slow=3.5,SNR=30	**145.04**	**312**	PKPbc	**PKPdf**	**20 33 06.3**	**0.0**
ILAR	**Eielson Array** comp=Z,0.8nm,0.9s,baz=48,slow=3.4,SNR=5.4	**159.36**	**315**	PKPab	**PKPab**	**20 34 06.2**	**+0.9**

*RHSSO **05** 20:14:56.9±0.2, 43°49N×17°45E, h8km±1km, ML2.7/15*
*BEO **05** 20:14:56.8±0.5, 43°49N×17°40E, h2km±3km, ML2.5/7*
*PRU **05** 20:14:56.1±0.0, 43°63N×17°99E, h0km*

ISC 05 20:14:56.2±1.1, 43°50N±0°02×17°47E±0°02, h1km±9km, n68, σ0§87/118, 5C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.24**	**269**	*e*Pg	**Pg**	**20 15 01.0**	**+0.1**
RICI				Sg	**Sg**	**20 15 04.9**	**+0.8**
MAKA	**Makarska**	**0.39**	**237**	*e*Pg	**Pg**	**20 15 03.2**	**-0.5**
MAKA				Sg	**Sg**	**20 15 09.1**	**+0.3**
SRKY	**Kupres RS**	**0.61**	**339**	*i*Pg	**Pg**	**20 15 07.9**	**0.0**
SRKY				*e*Sg	**Sg**	**20 15 16.7**	**+0.9**
STON	**Ston**	**0.65**	**165**	*e*Pg	**Pg**	**20 15 07.9**	**-0.8**
STON	**Ston**	**0.65**	**165**	*e*Pg	**Pg**	**20 15 08.0**	**-0.7**
STON				*e*Sg	**Sg**	**20 15 18.7**	**+1.6**
STON	**Ston**	**0.65**	**165**	*i*Pg	**Pg**	**20 15 07.9**	**-0.8**
STON				*e*Sg	**Sg**	**20 15 18.1**	**+1.0**
HVAR	**Hvar**	**0.81**	**247**	Sg	**Sg**	**20 15 21.7**	**-0.6**
LSTV	**Lastovo**	**0.84**	**210**	*e*Pg	**Pg**	**20 15 10.8**	**-1.6**
LSTV				Sg	**Sg**	**20 15 23.7**	**+0.4**
KIJV	**Kijevo**	**0.92**	**304**	*e*Pg	**Pg**	**20 15 13.2**	**-0.7**
KIJV				Sg	**Sb**	**20 15 27.2**	**-0.5**
MGRS	**Mrkonjic Grad**	**0.96**	**343**	*i*Pg	**Pg**	**20 15 14.5**	**-0.1**
MGRS				*e*Sg	**Sg**	**20 15 27.8**	**+0.8**
DBRK	**Dubrovnik**	**0.97**	**149**	*e*Pg	**Pg**	**20 15 13.8**	**-1.0**
BRY	**Bratogost**	**0.98**	**127**	*e*Pg	**Pg**	**20 15 15.5**	**+0.4**
BRY				*e*Sg	**Sg**	**20 15 28.8**	**+0.9**
TREB	**Trebinje**	**1.01**	**140**	*e*Pg	**Pg**	**20 15 14.5**	**-1.2**
TREB				*e*Sg	**Sb**	**20 15 30.5**	**+0.1**
TREB	**Trebinje**	**1.01**	**140**	*i*Pg	**Pg**	**20 15 14.5**	**-1.2**
TREB				*e*Sg	**Sg**	**20 15 29.6**	**+0.8**
A050A	**Klekovaca**	**1.19**	**326**	*e*Pg	**Pg**	**20 15 18.6**	**-0.5**
A050A				*e*Sg	**Sb**	**20 15 35.3**	**-0.3**
HAPS	**Han Pijesak,Bl**	**1.22**	**61**	*i*Pg	**Pg**	**20 15 19.9**	**+0.2**
HAPS				*e*Sg	**Sg**	**20 15 36.1**	**+0.6**
BLY	**Banja Luka**	**1.27**	**351**	*e*Pg	**Pg**	**20 15 20.3**	**-0.2**
BLY				*e*Sg	**Sn**	**20 15 38.5**	**-0.1**
BLY	**Banja Luka**	**1.27**	**351**	*e*Pg	**Pg**	**20 15 19.2**	**-1.3**
BLY				*e*Sg	**Sg**	**20 15 37.3**	**+0.4**
HCY	**Herceg Novi**	**1.29**	**144**	*e*Pg	**Pg**	**20 15 19.6**	**-1.4**
HCY				*e*Sg	**Sb**	**20 15 38.7**	**+0.3**
MORI	**Morici**	**1.33**	**287**	Sg	**Sb**	**20 15 39.9**	**+0.4**
ZIRJ	**Zirje**	**1.33**	**277**	Sg	**Sb**	**20 15 39.7**	**+0.1**
RUDO	**Rudo**	**1.39**	**84**	*i*Pg	**Pn**	**20 15 21.5**	**-1.2**
RUDO				*e*Sg	**Sn**	**20 15 41.6**	**-0.1**
BBLS	**Lazići**	**1.45**	**75**	*e*Pg	**Pb**	**20 15 24.2**	**+0.1**
BBLS				*e*Sg	**Sn**	**20 15 43.5**	**+0.1**
A051A	**Mrakovica**	**1.56**	**345**	*i*Pn	**Pn**	**20 15 25.2**	**0.0**
A051A				*e*Sn	**Sn**	**20 15 45.7**	**-0.5**
PRIJ	**Prijedor**	**1.57**	**340**	*e*Sn	**Sn**	**20 15 45.2**	**-1.0**
A052A	**Srbac**	**1.60**	**1**	*e*Pn	**Pn**	**20 15 26.2**	**+0.5**
A052A				*e*Sn	**Sn**	**20 15 47.1**	**+0.2**
PDG	**Podgorica**	**1.69**	**129**	*e*Pn	**Pn**	**20 15 26.4**	**-0.5**
PDG				*e*Sn	**Sb**	**20 15 49.9**	**0.0**
DUGI	**Dugi Otok**	**1.81**	**287**	*e*Pn	**Pn**	**20 15 28.4**	**-0.1**
DUGI				Sn	**Sb**	**20 15 53.4**	**0.0**
DRME	**Dracevica, Mon**	**1.82**	**136**	*e*Pn	**Pn**	**20 15 29.0**	**+0.3**
DRME				*e*Sn	**Sn**	**20 15 52.3**	**0.0**
SJES	**Sjenica**	**1.84**	**97**	*e*Pn	**Pb**	**20 15 31.3**	**+0.5**
SJES				*e*Sn	**Sg**	**20 15 55.1**	**-0.3**
SJES	**Sjenica**	**1.84**	**97**	*e*Pn	**Pn**	**20 15 29.8**	**+0.7**
SJES				*e*Sn	**Sn**	**20 15 52.5**	**-0.5**
PLIT	**Plitvice**	**1.91**	**317**	*e*Pn	**Pb**	**20 15 31.1**	**-0.8**
PLIT				Sn	**Sb**	**20 15 56.4**	**+0.1**
VIRC	**Vir**	**1.92**	**295**	*e*Pn	**Pn**	**20 15 30.5**	**+0.6**
VIRC				Sn	**Sb**	**20 15 55.9**	**-0.4**
DIVS	**Divibare**	**1.92**	**71**	*e*Pn	**Pn**	**20 15 30.8**	**+0.7**
DIVS				*e*Sn	**Sb**	**20 15 56.7**	**+0.1**
DIVS	**Divibare**	**1.92**	**71**	*e*Pn	**Pn**	**20 15 30.1**	**0.0**
DIVS				*e*Sn	**Sn**	**20 15 54.8**	**-0.2**
IVAS	**Ivanjica**	**1.95**	**87**	*e*Pn	**Pn**	**20 15 31.1**	**+0.6**
IVAS				*e*Sn	**Sb**	**20 15 57.5**	**0.0**
NVLJ	**Novalja**	**2.15**	**300**	Sn	**Sn**	**20 16 00.9**	**+0.3**
MOSL	**Moslavina**	**2.17**	**347**	Sn	**Sn**	**20 16 01.5**	**+0.4**
TRUS	**Trudelj**	**2.25**	**70**	*e*Pn	**Pn**	**20 15 35.0**	**+0.5**
RABC	**Rab**	**2.30**	**304**	Sn	**Sn**	**20 16 05.7**	**+1.5**
FRGS	**Fruska Gora**	**2.36**	**45**	*e*Pn	**Pn**	**20 15 36.3**	**+0.2**
FRGS	**Fruska Gora**	**2.36**	**45**	*e*Pn	**Pn**	**20 15 35.6**	**-0.5**
FRGS				*e*Sn	**Sn**	**20 16 05.3**	**-0.4**
GRUS	**Gruza**	**2.39**	**80**	*e*Pn	**Pb**	**20 15 38.8**	**-1.2**
OZLJ	**Ozalj**	**2.55**	**327**	*e*Pn	**Pn**	**20 15 39.6**	**+0.9**
OZLJ				Sn	**Sn**	**20 16 11.5**	**+1.1**
BOJS	**Bojanci**	**2.56**	**322**	*e*Pn	**Pn**	**20 15 38.7**	**-0.1**
BOJS				*e*Sn	**Sn**	**20 16 09.9**	**-0.6**
SELS	**Selova**	**2.68**	**95**	*e*Pn	**Pn**	**20 15 41.7**	**+1.2**
CRES	**Cresnjev**	**2.73**	**329**	*e*Pn	**Pn**	**20 15 41.4**	**+0.2**
CRES				*e*Sn	**Sn**	**20 16 14.2**	**-0.7**
SMRN	**Sveta Marina**	**2.83**	**304**	Sn	**Sn**	**20 16 18.4**	**+1.2**
MORH	**Mrgy, Hungar**	**2.84**	**17**	*e*Pn	**Pn**	**20 15 42.4**	**-0.3**
MORH				*e*Sn	**Sn**	**20 16 17.4**	**-0.1**
BRJN	**Brijuni**	**3.02**	**299**	*e*Pn	**Pn**	**20 15 45.2**	**+0.1**
BRJN				Sn	**Sn**	**20 16 22.2**	**+0.3**
CEY	**Cerknica**	**3.12**	**317**	*e*Pn	**Pn**	**20 15 46.0**	**-0.5**
CEY				*e*Sn	**Sn**	**20 16 23.0**	**-1.4**
SKDS	**Skadanscina**	**3.21**	**311**	*e*Pn	**Pn**	**20 15 47.4**	**-0.4**
SKDS				*e*Sn	**Sn**	**20 16 25.2**	**-1.4**
BARS	**Barje**	**3.25**	**101**	*e*Pn	**Pn**	**20 15 50.3**	**+1.6**
PRVS	**Prvonek**	**3.52**	**105**	*e*Pn	**Pn**	**20 15 53.4**	**+1.3**
SOKA	**Soboth** 1.2nm,0.3s	**3.62**	**332**	*i* Pn	**Pn**	**20 15 53.4**	**0.0**
SOKA	2.0nm,0.5s			*e*Sn	**Sn**	**20 16 35.6**	**-1.2**
OBKA	**Obir** 0.4nm,0.2s	**3.65**	**326**	*i* Pn	**Pn**	**20 15 55.1**	**+1.1**
OBKA	2.8nm,0.4s			*e*Sn	**Sn**	**20 16 38.2**	**+0.5**
OBKA	**Obir**	**3.65**	**326**	*e*Pn	**Pn**	**20 15 53.6**	**-0.3**
OBKA				*e*Sn	**Sn**	**20 16 36.2**	**-1.5**
ARSA	**Arzberg** 0.9nm,0.2s	**3.99**	**341**	*i* Pn	**Pn**	**20 15 58.7**	**+0.2**
ARSA	2.6nm,0.7s			*e*Sn	**Sn**	**20 16 44.5**	**-1.5**
ARSA	**Arzberg**	**3.99**	**341**	*e*Pn	**Pn**	**20 15 58.3**	**-0.2**
ARSA				*e*Sn	**Sn**	**20 16 44.3**	**-1.7**
CONA	**Conrad Observa** 0.4nm,0.2s	**4.57**	**346**	*i* Pn	**Pn**	**20 16 06.5**	**0.0**
CONA	1.4nm,0.3s			*e*Sn	**Sn**	**20 16 58.3**	**-1.9**
KBA	**Koelnbreinsper** 1.7nm,0.4s	**4.

RPSI	**Rantau Prapat**	**6.04**	**138**	Pn		**Pn**	**20 30 20.9**	**-0.9**
DGPR	**DIGLIPUR**	**6.21**	**342**	*e*P		**Pn**	**20 30 23.0**	**-1.1**
DGPR				*e*S		**S**	**20 31 31.9**	**-3.4**
GSI	**Gunungsitoli**	**6.47**	**156**	Pn		**Pn**	**20 30 25.3**	**-2.2**
GSI	**Gunungsitoli**	**6.47**	**156**	P		**Pn**	**20 30 26.9**	**-0.6**
GSI	**Gunungsitoli**	**6.47**	**156**	P		**Pn**	**20 30 26.1**	**-1.4**
	58nm,0.9s,1.3nm							
IPM	**Ipoh**	**6.68**	**114**	Pn		**Pn**	**20 30 30.1**	**-0.1**
IPM	**Ipoh**	**6.68**	**114**	P		**Pn**	**20 30 30.9**	**+0.7**
BKNI	**Bangkinang**	**9.20**	**138**	Pn		**Pn**	**20 31 02.0**	**-0.8**
BKNI	**Bangkinang**	**9.20**	**138**	P		**Pn**	**20 31 03.3**	**+0.4**
	88nm,0.5s							
BKNI	**Bangkinang**	**9.20**	**138**	P		**Pn**	**20 31 02.7**	**-0.2**
	91nm,0.5s							
MYKOM	**Kota Tinggi**	**10.43**	**121**			**Pn**	**20 31 19.3**	**+0.5**
CM31	**Chiang Mai Arr**	**11.82**	**19**			**Pn**	**20 31 37.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.82**	**19**	P		**Pn**	**20 31 38.6**	**+2.0**
	4.1nm,1.0s,baz=211,slow=12,SNR=31							
CMAR	**Chiang Mai Arr**	**11.82**	**19**	Pn		**Pn**	**20 31 36.6**	**+0.1**
CHTO	**Chiang Mai**	**12.16**	**18**			**P**	**20 31 43.0**	**-2.0**
UBPT	**Khong Chiam**	**13.08**	**51**			**P**	**20 31 54.9**	**-0.5**
UBPT	**Khong Chiam**	**13.08**	**51**	P		**P**	**20 31 54.7**	**-0.6**
NONG	**Nongkai**	**13.43**	**36**	P		**P**	**20 31 58.6**	**-0.5**
	37nm,0.9s							
CRAI	**Chiangrai**	**13.96**	**22**	P		**P**	**20 32 06.0**	**+0.9**
MNAI	**Manna**	**14.05**	**145**	Pn		**Pn**	**20 32 03.6**	**-0.8**
MNAI	**Manna**	**14.05**	**145**	P		**Pn**	**20 32 04.0**	**-0.4**
	277nm,0.8s							
PALK	**Pallekele**	**14.09**	**271**	P		**P**	**20 32 06.2**	**-0.4**
MND	**Mandalay**	**14.74**	**4**			**Pn**	**20 32 12.8**	**0.0**
MND	**Mandalay**	**14.74**	**4**	P		**Pn**	**20 32 13.1**	**+0.3**
KSM	**Kuching**	**16.39**	**110**	P		**P**	**20 32 29.9**	**-2.0**
KSM				IAmb		IAmb	20 32 35.8	
	comp=Z,14nm,0.9s							
KSM	**Kuching**	**16.39**	**110**	P		**Pn**	**20 32 35.0**	**+2.1**
	comp=Z,17nm,1.1s							
SALM	**Salem**	**17.05**	**286**	*e*P		**Pn**	**20 32 42.8**	**+2.1**
SALM				*i* x		x	20 32 51.2	
SALM				*e*S		**S**	**20 35 50.6**	**+4.3**
SALM				*ex*		**S**	**20 35 51.1**	**+4.8**
SALM				IAmb		IAmb	20 36 02.6	
	comp=Z,15nm,0.8s							
CGJI	**Cibinong**	**17.47**	**142**	P		**P**	**20 32 41.5**	**-2.3**
	comp=Z,29nm,0.9s							
KOD	**Kodaikanal**	**17.49**	**281**	*e*P		**Pn**	**20 32 48.0**	**+1.8**
KOD				*i* x		P	20 32 54.0	+10
KOD				*e*S		**S**	**20 35 58.2**	**+2.5**
SBUM	**Sibu**	**17.89**	**105**	P		**Pn**	**20 32 49.8**	**-0.8**
TNCH	**TengChong**	**18.03**	**11**	⇑P		**Pn**	**20 32 54.6**	**+2.3**
TNCH				sP		sP	20 33 52.9	+4.2
TNCH				S		**S**	**20 36 12.2**	**+6.1**
TNCH				pmax		pmax		
	comp=Z,14nm,1.1s							
TNCH				pmax		pmax		
	comp=Z,130nm,4.9s							
SHL	**Shillong**	**18.45**	**351**	P		**P**	**20 32 52.2**	**-2.4**
SHL				IAmb		IAmb	20 33 25.5	
	comp=Z,13nm,1.0s							
BOK	**Bokaro**	**18.60**	**333**	*e*P		**P**	**20 32 55.2**	**-0.8**
BOK				IAmb		IAmb	20 33 01.4	
	comp=Z,15nm,0.6s							
PCHI	**Peechi**	**18.62**	**281**	*e*S		S	20 36 02.7	-15
PZH	**PanZhiHua**	**20.23**	**18**	P		Pn	20 33 16.6	-2.0
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,130nm,5.1s							
AKL	**Akola**	**21.88**	**310**	*ex*		P	20 33 56.4	+26
AKL				*i* x		x	20 34 07.5	
LSA	**Lhasa**	**22.62**	**351**	P		**P**	**20 33 37.0**	**-1.0**
ENH	**Enshi**	**26.69**	**29**	P		**P**	**20 34 13.5**	**-0.7**
KAPI	**Kappang**	**27.62**	**115**	P		**P**	**20 34 23.1**	**+0.4**
XAN	**Xi'an**	**29.65**	**24**	⇓P		**P**	**20 34 40.6**	**+0.2**
XAN				pP		pwP	20 35 23.2	-1.6
XAN				pmax		pmax		
	comp=Z,31nm,0.7s							
GTA	**Gaotai**	**32.34**	**7**	*e*P		**P**	**20 35 05.1**	**+1.1**
GTA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
NIL	**Nilore**	**33.05**	**326**	P		**P**	**20 35 09.1**	**-1.0**
NIL				IAmb		IAmb	20 35 11.2	
	comp=Z,7.4nm,0.6s							
TIA	**Tai'an**	**35.27**	**32**	P		**P**	**20 35 30.5**	**+1.3**
TIA				pmax		pmax		
	comp=Z,13nm,0.8s							
KSH	**Kashi**	**36.36**	**335**	P		**P**	**20 35 37.9**	**-0.7**
KSH				pmax		pmax		
	comp=Z,6.0nm,0.6s							
BJT	**Baijiatuan**	**37.80**	**27**	P		**P**	**20 35 49.9**	**-0.5**
BJT				IAmb		IAmb	20 35 53.7	
	comp=Z,12nm,1.1s							
WSAR	**Wadi Sarin**	**38.29**	**299**	P		**P**	**20 35 56.8**	**+1.8**
	comp=Z,3.2nm,0.5s,baz=145,slow=6.4,SNR=7.6							
	comp=Z,3.2nm,0.5s							
GAR	**Garm**	**38.61**	**329**	P		**P**	**20 35 57.6**	**+0.2**
GAR				IAmb		IAmb	20 35 58.8	
	comp=Z,10nm,1.1s							
CHGR	**Chuyangaron**	**38.96**	**327**	P		**P**	**20 36 00.1**	**-0.3**
CHGR				IAmb		IAmb	20 36 03.5	
	comp=Z,16nm,1.2s							
AAK	**Ala-Archa**	**39.59**	**336**	P		**P**	**20 36 07.3**	**+1.8**
	comp=Z,3.4nm,0.8s,baz=162,slow=4.3,SNR=10							
	comp=Z,3.4nm,0.8s							
AAK	**Ala-Archa**	**39.59**	**336**	P		**P**	**20 36 07.1**	**+1.6**
MK31	**Makanchi Array**	**40.87**	**347**	P		**P**	**20 36 15.6**	**-0.3**
MKAR	**Makanchi Array**	**40.87**	**347**	P		**P**	**20 36 16.0**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=165,slow=8.2,SNR=32							
MKAR				PcP		**PcP**	**20 38 12.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=170,slow=3.4,SNR=1.6							
	comp=Z,2.3nm,0.6s							
MKAR	**Makanchi Array**	**40.87**	**347**	P		**P**	**20 36 15.1**	**-0.8**
MAKZ	**Makanchi**	**40.96**	**346**	P		**P**	**20 36 15.6**	**-1.0**
SONM	**Songino Array**	**41.62**	**12**	P		**P**	**20 36 22.8**	**+0.7**
	comp=Z,6.3nm,0.8s,baz=191,slow=9.2,SNR=43							
SONM				PcP		**PcP**	**20 38 15.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=205,slow=4.3,SNR=4.1							
	comp=Z,6.3nm,0.8s							
SONM	**Songino Array**	**41.62**	**12**	P		**P**	**20 36 22.8**	**+0.7**
SONM				IAmb		IAmb	20 36 23.8	
	comp=Z,6.3nm,0.9s							
KKAR	**Karatay Array**	**41.67**	**333**	P		**P**	**20 36 22.9**	**+0.6**
KKAR	**Karatay Array**	**41.67**	**333**	P		**P**	**20 36 22.3**	**-0.1**
KKAR				IAmb		IAmb	20 36 24.2	
	comp=Z,2.4nm,0.9s							
ULN	**Ulaanbaatar**	**41.79**	**12**	P		**P**	**20 36 23.2**	**-0.2**
ULN				IAmb		IAmb	20 36 24.7	
	comp=Z,4.6nm,0.7s							
KSRS	**Korea Array**	**42.45**	**40**	P		**P**	**20 36 29.9**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=214,slow=11,SNR=4.4							
	comp=Z,2.3nm,0.8s							
GEYT	**Alibeck**	**45.17**	**318**	P		**P**	**20 36 51.3**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=147,slow=9.0,SNR=6.1							
	comp=Z,1.1nm,0.4s							
KURBB	**Kurchatov Arra**	**45.34**	**345**	P		**P**	**20 36 52.0**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=167,slow=6.7,SNR=28							
	comp=Z,2.1nm,0.5s							
KURK	**Kurchatov**	**45.41**	**346**	P		**P**	**20 36 52.1**	**+0.1**
HIA	**Hailar**	**46.81**	**22**	P		**P**	**20 37 03.3**	**+0.2**
HIA				IAmb		IAmb	20 37 04.8	
	comp=Z,11nm,0.6s							
WRA	**Warramunga Arr**	**47.28**	**126**	P		**P**	**20 37 05.8**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=306,slow=8.4,SNR=27							
WRA				ScP		**ScP**	**20 42 06.0**	**-3.3**
	comp=Z,0.5nm,0.6s,baz=316,slow=3.7,SNR=4.9							
	comp=Z,1.2nm,0.5s							
ZAA0	**Zalesovo Array**	**47.28**	**352**	P		**P**	**20 37 06.7**	**+0.1**
ZAA0				IAmb		IAmb	20 37 07.9	
	comp=Z,10.0nm,1.0s							
ZALV	**Zalesovo Beam**	**47.28**	**352**	P		**P**	**20 37 07.1**	**+0.6**
	comp=Z,5.4nm,0.5s,baz=179,slow=6.9,SNR=32							
	comp=Z,5.4nm,0.5s							
ZALV	**Zalesovo Beam**	**47.28**	**352**	P		**P**	**20 37 06.0**	**-0.6**
BNX	**BinXian**	**47.52**	**31**	⇑P		**P**	**20 37 09.3**	**+0.8**
BNX				pmax		pmax		
	comp=Z,12nm,1.1s							
BNX				pmax		pmax		
	comp=Z,80nm,4.9s							
MDJ	**Mudanjiang**	**47.91**	**33**	P		**P**	**20 37 13.1**	**+1.5**
MDJ				IAmb		IAmb	20 37 14.9	
	comp=Z,11nm,1.1s							
ASAR	**Alice Springs**	**48.93**	**130**	P		**P**	**20 37 18.9**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=302,slow=7.1,SNR=27							
ASAR				pP		**pP**	**20 38 04.6**	**0.0**
	comp=Z,1.0nm,0.7s,baz=301,slow=7.4,SNR=3.3							
ASAR				ScP		**ScP**	**20 42 12.3**	**-4.0**
	comp=Z,0.4nm,0.9s,baz=310,slow=4.8,SNR=4.1							
	comp=Z,1.5nm,0.6s							
USRK	**Ussuriysk Ar.**	**48.99**	**35**	P		**P**	**20 37 20.0**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=242,slow=7.7,SNR=3.0							
	comp=Z,1.9nm,0.8s							
BRVK	**Borovoye**	**49.89**	**341**	P		**P**	**20 37 26.1**	**-0.4**
RAYN	**Ar Rayn**	**50.03**	**295**	P		**P**	**20 37 28.8**	**+0.7**
RAYN				IAmb		IAmb	20 37 30.1	
	comp=Z,6.1nm,0.8s							
HEH	**HeiHe**	**50.72**	**26**	*e*P		**P**	**20 37 33.2**	**+0.5**
HEH				pmax		pmax		
	comp=Z,12nm,0.7s							
HEH				pmax		pmax		
	comp=Z,220nm,6.0s							
ABKAR	**Akbulak array**	**51.15**	**331**	P		**P**	**20 37 35.9**	**+0.1**
ABKAR	**Akbulak array**	**51.15**	**331**	P		**P**	**20 37 35.5**	**-0.4**
AKTO	**Aktyubinsk**	**52.87**	**331**	P		**P**	**20 37 48.9**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=132,slow=4.3,SNR=6.9							
	comp=Z,2.3nm,0.7s							
GNI	**Garni**	**55.42**	**314**	P		**P**	**20 38 06.3**	**-1.0**
	comp=Z,5.1nm,1.1s,baz=146,slow=11,SNR=1.6							
	comp=Z,5.1nm,1.1s							
YSS	**Yuzh-Sakhalins**	**56.82**	**37**	P		**P**	**20 38 18.1**	**+1.2**
KBZ	**Khabaz**	**58.06**	**318**	P		**P**	**20 38 24.2**	**-1.5**
	comp=Z,4.5nm,0.9s,baz=172,slow=6.6,SNR=6.7							
	comp=Z,4.5nm,0.9s							
KMBO	**Kilima Mbogo**	**58.11**	**264**	P		**P**	**20 38 26.5**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=34,slow=8.2,SNR=4.1							
	comp=Z,1.7nm,0.8s							
GAZ	**Gaziantep**	**60.07**	**309**	P		**P**	**20 38 40.1**	**+0.4**
YAK	**Yakutsk**	**60.36**	**18**	P		**P**	**20 38 40.4**	**-0.6**
NRIK	**Noril'sk**	**62.21**	**357**	P		**P**	**20 38 53.3**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=151,slow=5.1,SNR=6.6							
	comp=Z,3.4nm,0.6s							
NRIK	**Noril'sk**	**62.21**	**357**	P		**P**	**20 38 52.8**	**-0.5**
NRIK				IAmb		IAmb	20 38 53.7	
	comp=Z,4.4nm,0.8s							
BR131	**Keskin Array S**	**63.41**	**311**	P		**P**	**20 39 01.0**	**-1.0**
BR131				IAmb		IAmb	20 39 01.9	
	comp=Z,6.5nm,0.7s							
BRTR	**Keskin Array B**	**63.41**	**311**	P		**P**	**20 39 01.3**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=129,slow=7.0,SNR=12							
	comp=Z,2.8nm,0.6s							
BRTR	**Keskin Array B**	**63.41**	**311**	P		**P**	**20 39 00.8**	**-1.3**
TIXI	**Tiksi**	**67.70**	**11**	P		**P**	**20 39 27.9**	**-0.8**
AKASG	**Malin Array Be**	**69.12**	**322**	P		**P**	**20 39 36.9**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=85,slow=4.6,SNR=14							
	comp=Z,0.7nm,0.6s							
MLR	**Muntele Rosu**	**70.15**	**316**	P		**P**	**20 39 44.5**	**0.0**
MLR				IAmb		IAmb	20 39 46.3	
	comp=Z,7.9nm,1.0s							
MNK	**Minsk**	**70.88**	**325**	*i* P		**P**	**20 39 48.3**	**-0.2**
	comp=E,2.0nm,0.8s							
MNK				*i* P		**P**	**20 39 48.3**	**-0.2**
	comp=N,36nm,0.8s							
MNK				*i* P		**P**	**20 39 48.3**	**-0.2**
	comp=Z,9.0nm,0.9s,baz=105							
MNK				*i* PcP		**PcP**	**20 40 07.2**	**-0.5**
MNK				*i* pP		**pwP**	**20 40 46.0**	**+6.6**
MNK				*i* PP		**PP**	**20 42 28.4**	**+0.1**
MNK				*i* PPP		PPP	20 44 13.0	
MNK				*i* S		**S**	**20 48 42.7**	**-4.0**
MNK				*i* ScS		**SKSac**	**20 49 27.3**	**-3.5**
MNK				*i* sS		sS	20 50 24.7	+14
MNK				*i* SS		**SS**	**20 53 21.2**	**-2.4**
MNK				*i* SSS		SSS	20 56 42.0	
MNK				*i* LRM		MLR	21 13 35.8	
	comp=N,870nm,16.1s							
MNK				*i* LRM		MLR	21 13 38.4	
	comp=E,47nm,17.8s							
MNK				*i* LRM		MLR	21 13 42.6	
	comp=Z,68nm,17.8s							
BURAR	**Bucovina Array**	**71.02**	**318**			**P**	**20 39 49.7**	**+0.1**
BUR08	**Bucovina Ar. S**	**71.04**	**318**	P		**P**	**20 39 49.8**	**+0.1**
BUR08				IAmb		IAmb	20 39 51.3	
	comp=Z,6.3nm,1.2s							
FINES	**FINESS Array B**	**73.62**	**332**	P		**P**	**20 40 03.9**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=93,slow=5.7,SNR=18							
	comp=Z,3.2nm,0.6s							
BOSA	**Boshof**	**75.89**	**238**	P		**P**	**20 40 18.9**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=77,slow=4.0,SNR=7.2							
	comp=Z,2.2nm,0.7s							
ARCES	**ARCESS Array B**	**76.11**	**340**	P		**P**	**20 40 18.9**	**+0.2**
	comp=Z,5.3nm,1.0s,baz=98,slow=6.5,SNR=7.7							
	comp=Z,5.3nm,1.0s							
GERES	**GERESS Array B**	**78.80**	**318**	P		**P**	**20 40 34.1**	**0.0**
	comp=Z,1.2nm,0.8s,baz=104,slow=4.4,SNR=7.6							
	comp=Z,1.2nm,0.8s							
CIMO	**Cimolais**	**79.61**	**316**	P		**P**	**20 40 38.1**	**-0.3**
CIMO				IAmb		IAmb	20 40 38.9	
	comp=Z,8.7nm,1.0s							
ESDC	**Sonseca Array**	**92.20**	**310**	P		**P**	**20 41 40.6**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=59,slow=4.6,SNR=3.2							
	comp=Z,0.5nm,0.8s							
NVAR	**Mina Array Bea**	**125.06**	**32**	PKP		**PKPdf**	**20 47 30.2**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=336,slow=1.6,SNR=2.4							
PDAR	**Pinedale Array**	**125.47**	**22**	PKP		**PKPdf**	**20 47 30.2**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=64,slow=3.4,SNR=3.8							
PLCA	**Paso Flores**	**144.21**	**199**	PKP		PKPbc	20 48 04.3	-0.1
	comp=Z,3.1nm,0.8s,baz=182,slow=1.4,SNR=8.2							
CPUP	**Villa Florida**	**147.46**	**231**	PKPbc		**PKPbc**	**20 48 14.5**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=56,slow=2.3,SNR=5.5							

KRSC ***05*** *20:52:35.9±0.9, 55.°55N×160.°72E, h176km±9km, Ml4.5*
MOS ***05*** *20:52:35.6±0.9, 55.°68N×160.°51E, h182km, mb4.3/1, Error ellipse: s-maj=17.4km s-min=5.5km az=77.2*
IDC ***05*** *20:52:36.8±1.6, 55.°70N×160.°49E, h178km±17km, mb3.3/9, mbtmp3.9/12, MS3.3/1, Error ellipse: s-maj=23.4km s-min=16.6km az=133.0*

ISC 05 20:52:36.2±0.6, 55.°58N±0.°03×160.°67E±0.°04, h179km±5km, n80, σ1§02/111, mb3.4/9, 1C, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.30**	**307**	PN	**Pn**	**20 53 01.0**	**+0.8**
KMNR	**Kamenistaya**	**0.30**	**307**	*e*P	**Pn**	**20 53 01.0**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**0.36**	**3**	PN	**Pn**	**20 53 00.6**	**+0.2**
BZGR				S	**Sn**	**20 53 19.7**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**0.36**	**3**	*e*P	**Pn**	**20 53 00.6**	**+0.2**
BZGR				*e*S	**Sn**	**20 53 19.7**	**+0.5**
BZMR	**Bezymyannaya**	**0.37**	**345**	PN	**Pn**	**20 53 00.7**	**+0.2**
BZMR	**Bezymyannaya**	**0.37**	**345**	*e*P	**Pn**	**20 53 00.7**	**+0.2**
BZWR	**Bezymyannyi-We**	**0.40**	**346**	PN	**Pn**	**20 53 01.1**	**+0.5**
BZWR				S	**Sn**	**20 53 19.9**	**+0.4**
BZWR	**Bezymyannyi-We**	**0.40**	**346**	*e*P	**Pn**	**20 53 01.1**	**+0.5**
BZWR				*e*S	**Sn**	**20 53 19.9**	**+0.4**
TUMD	**Tumrok D**	**0.41**	**202**	*e*P	**Pn**	**20 53 00.9**	**+0.5**
KIRR	**Kirishev**	**0.42**	**334**	PN	**Pn**	**20 53 00.7**	**+0.1**
KIRR				S	**Sn**	**20 53 19.3**	**-0.3**
KIRR	**Kirishev**	**0.42**	**334**	*e*P	**Pn**	**20 53 00.7**	**+0.1**
KIRR				*e*S	**Sn**	**20 53 19.3**	**-0.3**
TUMR	**Tumrok**	**0.42**	**225**	PN	**Pn**	**20 53 00.9**	**+0.3**
CIRR	**Tsirk**	**0.54**	**5**	PN	**Pn**	**20 53 01.8**	**+0.7**
CIRR				S	**Sn**	**20 53 21.5**	**+1.0**
CIRR	**Tsirk**	**0.54**	**5**	*e*P	**Pn**	**20 53 01.8**	**+0.7**
CIRR				*e*S	**Sn**	**20 53 21.5**	**+1.0**
KLY	**Klyuchi**	**0.74**	**359**	PN	**Pn**	**20 53 02.1**	**+0.2**
KLY				S	**Sn**	**20 53 22.2**	**+0.3**
KLY	**Klyuchi**	**0.74**	**359**	*e*P	**Pn**	**20 53 02.1**	**+0.2**
KLY				*e*S	**Sn**	**20 53 22.2**	**+0.3**
SRDR	**Sredinnyy**	**0.91**	**325**	PN	**Pn**	**20 53 03.0**	**-0.1**
SRDR				S	**Sn**	**20 53 23.6**	**-0.4**
SRDR	**Sredinnyy**	**0.91**	**325**	*e*P	**Pn**	**20 53 03.0**	**-0.1**
SRDR				*e*S	**Sn**	**20 53 23.6**	**-0.4**
SMKR	**Semkarok**	**1.10**	**24**	PN	**Pn**	**20 53 05.0**	**+0.5**
SMKR				S	**Sn**	**20 53 26.5**	**-0.1**
SMKR	**Semkarok**	**1.10**	**24**	*e*P	**Pn**	**20 53 05.0**	**+0.5**
SMKR				*e*S	**Sn**	**20 53 26.5**	**-0.1**
ESO	**Esso**	**1.17**	**288**	PN	**Pn**	**20 53 06.1**	**+1.1**
ESO	**Esso**	**1.17**	**288**	*e*P	**Pn**	**20 53 06.1**	**+1.1**
KBG	**Krutoberegovo**	**1.33**	**59**	PN	**Pn**	**20 53 06.8**	**+0.5**
KBG				S	**Sn**	**20 53 29.8**	**0.0**
KBG	**Krutoberegovo**	**1.33**	**59**	*e*P	**Pn**	**20 53 06.8**	**+0.5**
KBG				*e*S	**Sn**	**20 53 29.8**	**0.0**
KBTR	**Krutoberegovo**	**1.37**	**62**	PN	**Pn**	**20 53 07.0**	**+0.3**
KBTR				S	**Sn**	**20 53 29.6**	**-0.7**
KBTR	**Krutoberegovo**	**1.37**	**62**	*e*P	**Pn**	**20 53 07.0**	**+0.3**
KBTR				*e*S	**Sn**	**20 53 29.6**	**-0.7**
SPN	**Mys Shipunski**	**2.51**	**189**	PN	**Pn**	**20 53 18.4**	**-0.5**
SPN				S	**Sn**	**20 53 49.2**	**-2.9**
SPN	**Mys Shipunski**	**2.51**	**189**	*e*P	**Pn**	**20 53 18.4**	**-0.5**
SPN				*e*S	**Sn**	**20 53 49.2**	**-2.9**
KRX	**Arik**	**2.52**	**209**	PN	**Pn**	**20 53 20.5**	**+1.4**
SDLR	**Sedlovina**	**2.53**	**205**	PN	**Pn**	**20 53 20.1**	**+0.9**
SDLR	**Sedlovina**	**2.53**	**205**	*e*P	**Pn**	**20 53 20.1**	**+0.9**
NLC	**Nalytchevo**	**2.53**	**198**	PN	**Pn**	**20 53 21.5**	**+2.4**
NLC				S	**Sn**	**20 53 52.0**	**-0.4**
NLC	**Nalytchevo**	**2.53**	**198**	*e*P	**Pn**	**20 53 21.5**	**+2.4**
NLC				*e*S	**Sn**	**20 53 52.0**	**-0.4**
KRER	**Koryakskii**	**2.54**	**207**	PN	**Pn**	**20 53 21.0**	**+1.6**
KRER	**Koryakskii**	**2.54**	**207**	*e*P	**Pn**	**20 53 21.0**	**+1.6**
SMAR	**Somma**	**2.56**	**206**	PN	**Pn**	**20 53 20.6**	**+0.9**
SMAR	**Somma**	**2.56**	**206**	*e*P	**Pn**	**20 53 20.6**	**+0.9**
AVH	**Avacha**	**2.58**	**207**	PN	**Pn**	**20 53 21.0**	**+1.3**
AVH	**Avacha**	**2.58**	**207**	*e*P	**Pn**	**20 53 21.0**	**+1.3**
KOK	**Koryaka**	**2.58**	**208**	PN	**Pn**	**20 53 21.5**	**+1.7**
KOK	**Koryaka**	**2.58**	**208**	*e*P	**Pn**	**20 53 21.5**	**+1.7**
UGLR	**Uglovaya**	**2.61**	**205**	PN	**Pn**	**20 53 20.9**	**+0.8**
UGLR	**Uglovaya**	**2.61**	**205**	*e*P	**Pn**	**20 53 20.9**	**+0.8**
DALK	**Dalny**	**2.79**	**204**	PN	**Pn**	**20 53 22.4**	**+0.3**
DALK				S	**Sn**	**20 53 57.3**	**-0.6**
DALK	**Dalny**	**2.79**	**204**	*e*P	**Pn**	**20 53 22.4**	**+0.3**
DALK				*e*S	**Sn**	**20 53 57.3**	**-0.6**
PET	**Petropavlovsk**	**2.82**	**206**	*e*PN	**Pn**	**20 53 23.1**	**+0.6**
PET				*e*S	**Sn**	**20 53 57.9**	**-0.7**
PET				pmax	pmax		
	comp=Z,94nm,0.3s						
PET				smax	smax		
	comp=N,142nm,0.3s						
PET				smax	smax		
	comp=E,413nm,0.4s						
PET	**Petropavlovsk**	**2.82**	**206**	*e*P	**Pn**	**20 53 23.0**	**+0.5**
PET				*e*S	**Sn**	**20 53 57.8**	**-0.7**
PEA0B	**Petropavlovsk-**	**3.02**	**216**	*i* PN	**Pn**	**20 53 25.5**	**+0.5**
PETK	**Petropavlovsk-**	**3.02**	**216**	P	**Pn**	**20 53 24.9**	**-0.1**
	comp=E,11nm,0.6s,baz=68,slow=14,SNR=97						
PETK				S	**Sn**	**20 54 05.4**	**+2.4**
	comp=E,6.3nm,0.4s,baz=91,slow=18,SNR=4.1						
BKI	**Bering**	**3.05**	**95**	PN	**Pn**	**20 53 26.5**	**+1.2**
BKI				S	**Sn**	**20 54 03.3**	**-0.2**
BKI	**Bering**	**3.05**	**95**	*e*P	**Pn**	**20 53 26.5**	**+1.2**
BKI				*e*S	**Sn**	**20 54 03.3**	**-0.2**
KRMR	**Karymshinskiy**	**3.13**	**209**	PN	**Pn**	**20 53 27.0**	**+0.7**
KRMR				S	**Sn**	**20 54 05.3**	**0.0**
KRMR	**Karymshinskiy**	**3.13**	**209**	*e*P	**Pn**	**20 53 27.0**	**+0.7**
KRMR				*e*S	**Sn**	**20 54 05.3**	**0.0**
APC	**Apacha**	**3.36**	**219**	PN	**Pn**	**20 53 30.5**	**+1.4**
APC	**Apacha**	**3.36**	**219**	*e*P	**Pn**	**20 53 30.5**	**+1.4**
GRL	**Gorelyy**	**3.40**	**208**	PN	**Pn**	**20 53 30.5**	**+0.8**
GRL	**Gorelyy**	**3.40**	**208**	*e*P	**Pn**	**20 53 30.5**	**+0.8**
RUS	**Russkaya**	**3.40**	**203**	*e*S	**Sn**	**20 54 08.8**	**-2.4**
PALN	**Palana**	**3.54**	**354**	PN	**Pn**	**20 53 31.7**	**+0.4**
PALN	**Palana**	**3.54**	**354**	*e*P	**Pn**	**20 53 31.7**	**+0.4**
OSSR	**Ossora**	**3.90**	**18**	PN	**Pn**	**20 53 36.9**	**+1.1**
OSSR	**Ossora**	**3.90**	**18**	*e*P	**Pn**	**20 53 36.9**	**+1.1**
BILL	**Bilibino**	**12.77**	**10**	⇑*e*PN	**Pn**	**20 55 28.2**	**-3.0**
BILL				*e*S	**Sn**	**20 57 51.2**	**-1.6**
BILL			

comp=E,76nm,0.6s
BRIGG Briggsdale 3.25 166 Pn **Pn** **21 08 30.7 +1.0**
YMP Mirror Lake Pl 3.61 288 Pn **Pn** **21 08 35.6 +0.9**
YMP IAML 21 09 38.2
comp=N,102nm,0.6s
GCMT Greycliff 3.70 305 Pn **Pn** **21 08 37.0 +1.1**
OGNE Ogallala 3.71 138 **Pn** **21 08 36.6 +0.6**
LKWY Lake 3.74 284 Pn **Pn** **21 08 37.3 +0.8**
LKWY Pg **Pg** **21 08 47.8 -1.2**
LKWY IAML 21 09 41.8
comp=N,49nm,1.1s
H17A Grant Village 3.84 282 Pn **Pn** **21 08 38.6 +0.8**
H17A IAML 21 09 50.0
comp=N,56nm,1.0s
FLWY Flagg Ranch 3.90 277 Pn **Pn** **21 08 39.2 +0.7**
FLWY Pg **Pb** **21 08 49.3 +2.3**
FLWY IAML 21 09 54.2
comp=N,68nm,2.1s
FLWY IAML 21 09 54.5
comp=N,68nm,2.2s
MOOW Moose Ponds 3.92 272 **Pn** **21 08 39.7 +0.7**
ISCO Idaho Springs 3.95 183 **Pn** **21 08 39.9 +0.5**
SNOW Snow King Moun 3.95 268 Pn **Pn** **21 08 39.6 +0.2**
SNOW IAML 21 09 56.5
comp=N,65nm,1.1s
YNR Norris Junctio 3.96 286 Pn **Pn** **21 08 39.6 0.0**
YNR **Pb** **21 08 51.0 +2.8**
TPAW Teton Pass 4.09 268 Pn **Pn** **21 08 42.5 +1.2**
TPAW IAML 21 09 56.5
comp=N,52nm,1.0s
TPAW IAML 21 10 09.1
comp=N,40nm,1.0s
YMR Madison River 4.16 285 Pn **Pn** **21 08 42.6 +0.4**
YMR IAML 21 09 56.6
comp=E,67nm,1.1s
O20A White River Ci 4.21 212 Pn **Pn** **21 08 44.2 +1.2**
AHID Auburn Hatcher 4.33 259 **Pn** **21 08 45.0 +0.4**
AHID IAML 21 09 57.8
comp=E,55nm,1.0s
E28A Huff 4.33 48 Pn **Pn** **21 08 45.1 +0.7**
RDMU Red Mountain 4.47 226 IAML 21 10 02.8
comp=N,48nm,1.0s
RDMU IAML 21 10 17.6
comp=E,51nm,1.0s
BOZ Bozeman (W) 4.86 295 IAML 21 10 10.5
comp=E,31nm,2.6s
BOZ IAML 21 10 11.6
comp=E,23nm,2.8s
HWUT Hardware Ranch 5.07 247 IAML 21 10 22.2
comp=E,36nm,0.9s
ELK Elko 7.94 251 Pn **Pn** **21 09 34.3 +0.2**
comp=E,0.1nm,0.3s,baz=70,slow=14,SNR=3.1
ELK Lg Lg 21 11 39.3
comp=E,0.1nm,0.3s,baz=12,slow=21,SNR=1.3
ELK LR LR 21 12 19.8
comp=E,28nm,19.8s,baz=92,slow=36
comp=E,0.5nm,0.4s
I10CA LAC DU BONNET 9.06 41 I I 22 05 50.0
comp=E,0.1nm,1.5s,baz=220,slow=341,SNR=2.5
ULM Lac du Bonnet 9.16 41 Pn **Pn** **21 09 48.9 -1.8**
comp=E,1.9nm,0.3s,baz=229,slow=11,SNR=8.3
ULM Lg Lg 21 12 18.5
comp=E,0.2nm,0.3s,baz=82,slow=12,SNR=1.4
comp=E,3.9nm,0.3s
NEW Newport 9.37 303 LR LR 21 13 54.7
comp=E,106nm,18.6s,baz=88,slow=40
YBH Yreka Blue Hor 12.94 267 LR LR 21 15 46.0
comp=E,34nm,19.7s,baz=50,slow=38
YKA Yellowknife Ar 19.55 347 P **Pn** **21 12 07.5 0.0**
comp=E,0.1nm,0.3s,baz=155,slow=8.2,SNR=2.6
comp=E,0.2nm,0.5s
ARCES ARCESS Array B 61.42 18 P **P** **21 17 53.2 -1.6**
comp=E,4.5nm,1.0s,baz=338,slow=6.0,SNR=1.7
comp=E,4.5nm,1.0s
ZALV Zalesovo Beam 82.29 354 P **P** **21 19 58.3 -2.0**
comp=E,0.3nm,0.3s,baz=19,slow=6.1,SNR=2.4
comp=E,0.3nm,0.3s
MKAR Makanchi Array 89.59 355 P **P** **21 20 36.5 -0.1**
comp=E,0.3nm,0.7s,baz=16,slow=6.6,SNR=2.0
comp=E,0.3nm,0.7s

*IDC **05** 21:14:26.1±1.7,34.6′61N×142.3′39E, h0km, mb3.6/6, mbtmp3.7/10, ML3.4/4, MS2.5/2, Error ellipse: s-maj=38.7km s-min=18.7km az=70.0*
*JMA **05** 21:14:30.2±0.4,34.6′6N±0.6′9×14.2′2E±.6′, h49km, MV3.6/34, FAR E OFF CENTRAL HONSHU*
*NIED **05** 21:14:30.2,34.55N×142.24E, h49km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr-1.69; Mθθ-0.39; Mφφ2.08; Mrθ-0.10; Mθφ0.21; Mφr-0.15; Fault plane solution: M0 1.90000×10^14 NP1:φs8.00000°, δ48.00000°, λ-85.00000°. NP2:φs181.00000°, δ43.00000°, λ-95.00000°.*

ISC 05 21:14:28.2±2.2, 34°55N±0°.06×142°29E±0°.09, h14km±13km, n31, σ0.97/31, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.08**	**276**	P		**Pg**		**21 14 48.8**	**-0.2**
BSO3	**Boso 3**	**1.48**	**280**	P		**Pn**		**21 14 55.2**	**+0.9**
CHOJ	**Chosi**	**1.64**	**315**	P		**Pn**		**21 14 57.0**	**+0.4**
CHOJ				eS		**Sn**		**21 15 16.3**	**-1.3**
BSO4	**Boso 4**	**1.66**	**286**	P		**Pn**		**21 14 57.9**	**+1.1**
JKUC	**kamogawauchiur**	**1.82**	**290**	P		**Pn**		**21 14 59.7**	**+0.6**
JKUC				eS		**Sn**		**21 15 21.9**	**-0.1**
JMKN	**Mikurajimanish**	**2.33**	**254**	P		**Pn**		**21 15 05.9**	**-0.2**
JMKN				S		Sn		21 15 31.5	-3.0
JIM2	**Oshima 3**	**2.36**	**275**	*e*P		**Pn**		**21 15 06.4**	**-0.2**
JHJ2	**Mitsune**	**2.50**	**236**	P		**Pn**		**21 15 09.1**	**+0.6**
JHJ2				eS		**Sn**		**21 15 37.7**	**-1.2**
JHJ	**Hachijo jima 2**	**2.52**	**236**	Pn		**Pn**		**21 15 09.2**	**+0.4**
	52nm,0.3s,baz=149,slow=24,SNR=10								
JHJ						Sn		**21 15 37.1**	**-2.2**
	84nm,0.3s,baz=249,slow=23,SNR=6.4								
	175nm,0.4s								
JOD2	**Odawara 2**	**2.72**	**286**	P		**Pn**		**21 15 11.3**	**-0.2**
JOD2				eS		**Sn**		**21 15 41.9**	**-2.4**
JIZS	**Izushimoda**	**2.81**	**274**	P		**Pn**		**21 15 13.2**	**+0.4**
JAG	**Ashikaga**	**2.98**	**310**	P		**Pn**		**21 15 15.4**	**+0.4**
JFK	**Kawauchi**	**3.04**	**338**	P		**Pn**		**21 15 15.2**	**-0.6**
JRY	**Ryogami san**	**3.13**	**299**	P		**Pn**		**21 15 17.9**	**+0.7**
JRY				S		**Sn**		**21 15 54.3**	**-0.1**
JYN	**Shimob**	**3.21**	**288**	P		**Pn**		**21 15 18.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.87**	**302**	Pn		**Pn**		**21 15 28.5**	**+1.1**
	0.5nm,0.3s,baz=60,slow=13,SNR=15								
MJAR						Sn		**21 16 13.5**	**+0.8**
	0.4nm,0.3s,baz=36,slow=12,SNR=7.5								
MJAR						LR		21 17 28.0	
	comp=Z,61nm,18.4s,baz=36,slow=46								
	1.9nm,0.2s								
JCJ	**Chichijima**	**7.43**	**181**	Pn		**Pn**		**21 16 17.3**	**+1.1**
	2.1nm,0.3s,baz=88,slow=19,SNR=1.5								
JCJ						Sn		Sn 21 17 31.9	-8.5
	3.7nm,0.3s,baz=255,slow=22,SNR=2.0								
	57nm,0.7s								
ASAJ	**Asahikawa**	**9.56**	**1**	Pn		**Pn**		**21 16 43.8**	**-1.6**
	0.4nm,0.3s,baz=288,slow=30,SNR=1.2								
ASAJ						Sn		Sn 21 18 22.3	-10
	0.2nm,0.3s,baz=296,slow=3.2,SNR=1.6								
	2.4nm,0.5s								
KSRS	**Korea Array**	**11.99**	**288**	LR		LR		21 22 08.8	
	comp=Z,24nm,19.6s,baz=95,slow=38								
H11N2	**WAKE ISLAND Hy**	**26.32**	**118**	T		T		21 47 40.5	
	baz=310								
H11N1	**WAKE ISLAND Hy**	**26.32**	**118**	T		T		21 47 41.1	
	baz=310								
H11N3	**WAKE ISLAND Hy**	**26.33**	**118**	T		T		21 47 46.9	
	baz=310								
H11S3	**WAKE ISLAND Hy**	**26.96**	**120**	T		T		21 48 36.6	
	baz=312								
H11S1	**WAKE ISLAND Hy**	**26.96**	**120**	T		T		21 48 30.1	
	baz=312								
H11S2	**WAKE ISLAND Hy**	**26.97**	**120**	T		T		21 48 37.0	
	baz=312								
SONM	**Songino Array**	**29.81**	**307**	P		**P**		**21 20 34.9**	**+0.1**
	0.3nm,0.7s,baz=111,slow=7.9,SNR=2.3								
	0.3nm,0.7s								
CMAR	**Chiang Mai Arr**	**41.63**	**259**	P		**P**		**21 22 16.5**	**+0.3**
	0.7nm,0.6s,baz=49,slow=8.0,SNR=6.1								
	0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**44.13**	**314**	P		**P**		**21 22 36.0**	**0.0**
	0.7nm,0.5s,baz=104,slow=6.0,SNR=4.0								
	0.7nm,0.5s								
MKAR	**Makanchi Array**	**46.07**	**304**	P		**P**		**21 22 52.1**	**+0.5**
	0.2nm,0.6s,baz=91,slow=8.4,SNR=2.3								
	0.2nm,0.6s								
WRA	**Warramunga Arr**	**54.71**	**189**	P		**P**		**21 23 57.9**	**+0.8**
	1.7nm,0.6s,baz=6.2,slow=7.6,SNR=18								
	1.7nm,0.6s								
ASAR	**Alice Springs**	**58.44**	**189**	P		**P**		**21 24 23.6**	**0.0**
	0.3nm,0.8s,baz=7.7,slow=7.6,SNR=1.7								
	0.3nm,0.8s								

*RHSSO **05** 21:18:59.2±0.3, 44.38N×16.29E, h3km±1km, ML2.4/10*
*VIE **05** 21:19:03.7, 44.63N×16.13E, h10km, mb2.7/2, ml1.9/7*
106 km SSE of Karlovac

ISC 05 21:18:56.8±1.0, 44°43N±0°.02×16°25E±0°.02, h16km±9km, n46, σ1.48/83, 5C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
A050A	**Klekovaca**	**0.21**	**74**	⇑*i*	Pg	**Pb**		**21 19 03.0**	**+0.6**
A050A					Sg	**Sb**		**21 19 06.4**	**+0.3**
UDBI	**Udbina**	**0.36**	**287**	*e*	Pg	**Pb**		**21 19 05.8**	**+0.7**
UDBI					Sg	**Sb**		**21 19 10.8**	**+0.3**
KIJV	**Kijevo**	**0.43**	**165**	*e*	Pg	**Pg**		**21 19 04.6**	**-1.0**
KIJV					Sg	**Sg**		**21 19 09.7**	**-1.7**
MGRS	**Mrkonjic Grad**	**0.60**	**90**	⇑*i*	Pg	**Pb**		**21 19 09.2**	**+0.2**
MGRS					eSg	**Sb**		**21 19 17.7**	**+0.5**
PLIT	**Plitvice**	**0.64**	**316**	*e*	Pg	**Pn**		**21 19 10.7**	**-0.6**
PLIT					Sg	**Sn**		**21 19 20.5**	**-0.7**
PRIJ	**Prijedor**	**0.64**	**31**	*e*	Pg	**Pn**		**21 19 11.2**	**-0.2**
PRIJ					eSg	**Sn**		**21 19 20.3**	**-1.0**
MORI	**Morici**	**0.68**	**215**	*e*	Pg	**Pg**		**21 19 09.7**	**-0.5**
MORI					Sg	**Sg**		**21 19 18.7**	**-0.5**
BLY	**Banja Luka**	**0.74**	**64**	⇑*i*	Pg	**Pn**		**21 19 12.6**	**-0.1**
BLY					eSg	**Sn**		**21 19 22.2**	**-1.5**
SRKY	**Kupres RS**	**0.75**	**118**	*e*	Pg	**Pg**		**21 19 11.2**	**-0.2**
SRKY					eSg	**Sb**		**21 19 21.9**	**+0.3**
A051A	**Mrakovica**	**0.75**	**38**	⇓*i*	Pg	**Pn**		**21 19 13.7**	**+0.8**
A051A					eSg	**Sn**		**21 19 24.0**	**0.0**
VIRC	**Vir**	**0.87**	**262**	*e*	Pg	**Pb**		**21 19 14.1**	**+0.5**
VIRC					Sg	**Sb**		**21 19 24.4**	**-0.5**
ZIRJ	**Zirje**	**0.89**	**210**	*e*	Pg	**Pb**		**21 19 13.2**	**-0.6**
A254A	**Petrova Gora**	**0.94**	**341**	*e*	Pg	**Pn**		**21 19 17.5**	**+2.0**
A254A					Sg	**Sn**		**21 19 29.6**	**+0.8**
DUGI	**Dugi Otok**	**0.96**	**244**	*e*	Pg	**Pb**		**21 19 15.2**	**0.0**
DUGI					Sg	**Sb**		**21 19 28.5**	**+0.8**
NVLJ	**Novalja**	**1.00**	**278**	*e*	Pg	**Pg**		**21 19 16.9**	**+0.8**
RABC	**Rab**	**1.10**	**288**	*e*	Pg	**Pg**		**21 19 18.9**	**+0.8**
RABC					Sg	**Sg**		**21 19 34.2**	**+1.8**
A052A	**Srbac**	**1.13**	**53**	*e*	Pg	**Pg**		**21 19 19.8**	**+1.2**
A052A					eSg	**Sn**		**21 19 35.5**	**+2.3**
RICI	**Ricice**	**1.13**	**145**	*e*	Pg	**Pn**		**21 19 17.9**	**-0.1**
MOSL	**Moslavina**	**1.24**	**17**	Sg		**Sg**		**21 19 39.4**	**+2.4**
HVAR	**Hvar**	**1.25**	**173**	Sg		**Sb**		**21 19 35.4**	**-0.7**
BOJS	**Bojanci**	**1.29**	**327**	⇑*i*	Pg	**Pg**		**21 19 23.8**	**+2.1**
BOJS					eSg	**Sg**		**21 19 41.8**	**+3.2**
OZLJ	**Ozalj**	**1.31**	**335**	*e*	Pg	**Pg**		**21 19 23.9**	**+1.7**
CRES	**Cresnjev**	**1.51**	**338**	⇑*i*	Pn	**Pg**		**21 19 27.3**	**+1.4**
CRES					eSn	**Sg**		**21 19 48.4**	**+2.9**
SMRN	**Sveta Marina**	**1.61**	**293**	*e*	Pg	**Pg**		**21 19 28.7**	**+0.8**
SMRN					Sg	**Sg**		**21 19 50.2**	**+1.4**
LSTV	**Lastovo**	**1.72**	**164**	*e*	Pn	**Pb**		**21 19 28.6**	**+0.5**
LSTV					Sg	**Sb**		**21 19 50.5**	**+1.1**
CEY	**Cerknica**	**1.84**	**316**	*e*	Pn	**Pg**		**21 19 32.1**	**-0.1**
CEY					eSn	**Sg**		**21 19 56.5**	**+0.3**
BRJN	**Brijuni**	**1.85**	**286**	*e*	Pn	**Pg**		**21 19 32.1**	**-0.2**
BRJN					Sn	**Sg**		**21 19 57.2**	**+0.9**
STON	**Ston**	**1.88**	**145**	*e*	Pn	**Pb**		**21 19 31.8**	**+1.1**
STON					Sn	**Sg**		**21 19 56.5**	**-0.7**
STON	**Ston**	**1.88**	**145**	*e*	Pn	**Pb**		**21 19 31.2**	**+0.5**
STON					eSn	**Sb**		**21 19 54.5**	**+0.6**
SKDS	**Skadanscina**	**1.94**	**306**	*e*	Pn	**Pg**		**21 19 33.9**	**-0.3**
SKDS					eSn	**Sg**		**21 19 58.8**	**-0.6**
HAPS	**Han Pijesak,Bl**	**1.97**	**99**	*e*	Pn	**Pb**		**21 19 32.1**	**-0.3**
HAPS					eSn	**Sb**		**21 19 57.6**	**+0.8**
DBRK	**Dubrovnik**	**2.23**	**141**	*e*	Pn	**Pb**		**21 19 37.2**	**+0.4**
DBRK					Sn	**Sb**		**21 20 05.2**	**+1.0**
TREB	**Trebinje**	**2.29**	**137**	*e*	Pn	**Pb**		**21 19 37.5**	**-0.3**
TREB					eSn	**Sb**		**21 20 05.6**	**-0.3**
RUDO	**Rudo**	**2.39**	**109**	*e*	Pn	**Pb**		**21 19 39.0**	**-0.5**
RUDO					eSn	**Sb**		**21 20 08.1**	**-0.7**
OBKA	**Obir**	**2.40**	**331**	*e*	Pn	**Pg**		**21 19 41.0**	**-1.9**
	0.3nm,0.1s								
OBKA					eSn	**Sb**		**21 20 08.0**	**-1.3**
	1.7nm,0.3s								
OBKA	**Obir**	**2.40**	**331**	*e*	Pn	**Pb**		**21 19 40.0**	**+0.2**
OBKA					eSn	**Sg**		**21 20 11.0**	**-3.1**
SOKA	**Soboth**	**2.41**	**340**	*e*	Pn	**Pg**		**21 19 41.1**	**-1.9**
	0.2nm,0.2s								
SOKA					eSn	**Sb**		**21 20 09.9**	**+0.5**
	1.1nm,0.4s								
MORH	**Mrgy, Hungar**	**2.46**	**42**	*e*	Pn	**Pb**		**21 19 40.4**	**-0.3**
MORH					eSn	**Sb**		**21 20 11.1**	**+0.3**
FRGS	**Fruska Gora**	**2.64**	**73**	*e*	Pn	**Pb**		**21 19 43.1**	**-0.6**
FRGS					eSn	**Sb**		**21 20 14.8**	**-1.1**
DIVS	**Divibare**	**2.71**	**96**	*e*	Pn	**Pb**		**21 19 43.1**	**-1.9**
DIVS					eSn	**Sb**		**21 20 16.4**	**-1.6**
MYKA	**Terra Mystica**	**2.87**	**321**	*e*	Pn	**Pb**		**21 19 47.4**	**-0.3**
	1.8nm,0.4s								
MYKA					eSn	**Sb**		**21 20 19.1**	**-3.5**
	0.8nm,0.3s								
ARSA	**Arzberg**	**2.87**	**350**	*e*	Pn	**Pb**		**21 19 46.5**	**-1.2**
	1.5nm,0.4s								
ARSA					eSn	**Sn**		**21 20 18.4**	**+2.1**
	0.3nm,0.2s								
ARSA	**Arzberg**	**2.87**	**350**	*e*	Pn	**Pb**		**21 19 46.1**	**-1.6**
CONA	**Conrad Observa**	**3.52**	**356**	*e*	Pn	**Pb**		**21 19 56.0**	**-2.8**
	0.4nm,0.1s								
CONA					eSn	**Sn**		**21 20 34.7**	**+2.5**
	0.9nm,0.4s								
MOA	**Molln**	**3.69**	**339**	*i*	Pn	**Pb**		**21 19 58.0**	**-3.7**
	0.2nm,0.1s								
MOA					eSn	**Sb**		**21 20 41.2**	**-5.1**
	0.9nm,0.5s								
SQTA	**Sankt Quirin**	**4.50**	**310**	*e*	Pn	Pn		21 20 09.6	+5.1
	0.3nm,0.1s								

*IPEC **05** 21:56:20.3±0.5, 51.50N×16.20E, h1km±2km, ML2.0/5, Error ellipse: s-maj=3.2km s-min=1.2km az=24.0*
*PRU **05** 21:56:21.0±0.0, 51.50N×16.06E, h0km*
*VIE **05** 21:56:22.5, 51.35N×15.97E, h0km, mb2.5/2, ml2.3/4 78 km WNW of Wroclaw Suspected Mining induced.*

ISC 05 21:56:20.3±1.3, 51°52N±0°.06×16°10E±0°.03, h0km, n28, σ1.24/57, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	*e*	Pg	**Pg**		**21 56 33.7**	**+0.2**
KSP					eSg	**Sg**		**21 56 42.9**	**+0.5**
OSTC	**Ostas**	**0.97**	**176**	*e*	PG	**Pg**		**21 56 39.2**	**+0.4**
OSTC					eSG	**Sg**		**21 56 51.3**	**0.0**
	comp=Z,22nm,0.3s								
UPC	**Upice**	**1.02**	**183**	*e*	PG	**Pg**		**21 56 39.8**	**+0.1**
UPC					eSG	**Sg**		**21 56 52.4**	**-0.5**
	comp=Z,34nm,0.4s								
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*	PG	**Pg**		**21 56 42.4**	**-0.5**
DPC					eSG	**Sg**		**21 56 57.5**	**-0.7**
	comp=Z,23nm,0.6s								
PVCC	**Panska Ves**	**1.39**	**225**	*e*	PG	**Pg**		**21 56 46.7**	**-0.1**
PVCC					eSG	**Sb**		**21 57 05.3**	**0.0**
	comp=Z,78nm,0.3s								
BRG	**Berggiesshubel**	**1.50**	**245**	Pg		**Pb**		**21 56 49.1**	**+0.1**
BRG				Sg		**Sn**		**21 57 09.2**	**+0.4**
BRG				Amp				21 57 10.0	
	comp=Z,27nm,0.3s								
KRLC	**Kraliky**	**1.51**	**163**	*e*	PG	**Pn**		**21 56 48.0**	**-0.6**
KRLC					eSG	**Sb**		**21 57 08.5**	**-0.4**
	comp=Z,13nm,0.3s								
GOPC	**GO Pecny, Ondr**	**1.81**	**208**	*e*	PG	**Pn**		**21 56 52.7**	**-0.1**
GOPC					eSG	**Sb**		**21 57 17.3**	**-0.3**
	comp=Z,6.2nm,0.8s								
PRU	**Pruhonice**	**1.82**	**213**	*e*	PG	**Pn**		**21 56 53.1**	**+0.2**
PRU					eSG	**Sb**		**21 57 17.5**	**-0.4**
	comp=Z,9.2nm,0.6s								
CLL	**Collm**	**1.95**	**265**	*e*	Pg	**Pb**		**21 56 57.0**	**+0.3**
CLL					eSg	**Sg**		**21 57 23.0**	**+0.1**
	comp=Z,10.0nm,0.6s								
MORC	**Moravsky Berou**	**1.97**	**152**	*e*	PN	**Pn**		**21 56 54.1**	**-0.9**
MORC					eSG	**Sn**		**21 57 20.3**	**-0.2**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*	Pn	**Pn**		**21 56 54.0**	**-0.9**
	baz=334								
MORC					eSg	**Sn**		**21 57 20.2**	**-0.2**
	comp=Z,9.2nm,0.4s,baz=334								
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*	PG	**Pb**		**21 56 59.9**	**+0.2**
OKC					eSG	**Sg**		**21 57 27.7**	**-1.0**
	comp=Z,9.2nm,0.6s								
VRAC	**Vranov**	**2.24**	**172**	*e*	PN	**Pn**		**21 56 58.1**	**-0.5**
VRAC					eSG	**Sb**		**21 57 29.4**	**-0.4**
VRAC	**Vranov**	**2.24**	**172**	*e*	Pn	**Pn**		**21 56 58.1**	**-0.5**
	baz=354								
VRAC					eSg	**Sb**		**21 57 29.3**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=354								
MAUC	**Maruska**	**2.42**	**152**	*e*	PG	**Pb**		**21 57 04.6**	**-0.2**
MAUC					eSG	**Sg**		**21 57 37.2**	**-0.9**
KRUC	**Moravsky**	**2.47**	**175**	*e*	PN	**Pn**		**21 57 01.7**	**-0.1**
KRUC					eSG	**Sb**		**21 57 37.0**	**+0.6**
KRUC	**Moravsky**	**2.47**	**175**	*e*	Pn	**Pn**		**21 57 01.6**	**-0.2**
	baz=357								
KRUC					eSg	**Sb**		**21 57 37.0**	**+0.6**
	comp=Z,5.9nm,0.6s,baz=357								
NKC	**Novy Kostel**	**2.65**	**242**	*e*	PG	**Pb**		**21 57 09.8**	**+1.2**
NKC					eSG	**Sg**		**21 57 45.1**	**-0.2**
	comp=Z,19nm,0.4s								
OJC	**Ojcow**	**2.68**	**118**	*e*	Pg	**Pg**		**21 57 11.4**	**-0.2**
OJC					eSg	**Sg**		**21 57 47.0**	**+0.6**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*	PN	**Pn**		**21 57 07.9**	**+0.4**
KHC					ePG	**Pb**		**21 57 13.2**	**+0.6**
KHC					eSN	**Sn**		**21 57 41.5**	**-1.5**
KHC					eSG	**Sg**		**21 57 51.2**	**-1.8**
	comp=Z,4.2nm,0.3s								
CKRC	**Cesky Krumlov**	**2.94**	**204**	*e*	PN	**Pn**		**21 57 09.5**	**+1.3**
CKRC					ePG	**Pb**		**21 57 14.0**	**+0.5**
CKRC					eSG	**Sg**		**21 57 53.6**	**-1.0**
LANS	**Liptovska Anna**	**3.21**	**136**	*e*	SG	**Sg**		**21 58 02.9**	**-0.4**
MODS	**Modra-Piesok**	**3.24**	**166**	*e*	SG	**Sg**		**21 58 11.8**	**+7.5**
CONA	**Conrad Observa**	**3.60**	**183**	*i*	Pn	**Pn**		**21 57 17.5**	**+0.1**
	comp=Z,0.4nm,0.2s								
CONA					eSg	**Sg**		**21 58 14.5**	**-1.3**
	comp=Z,1.5nm,0.3s								
MOA	**Molln**	**3.86**	**199**	*i*	Pn	**Pn**		**21 57 21.2**	**+0.3**
	comp=Z,0.8nm,0.4s								
MOA					eSg	**Sg**		**21 58 23.7**	**-0.6**
	comp=Z,2.7nm,0.5s								
BIOA	**Bad Ischl, Aus**	**4.15**	**204**	*i*	Pn	**Pn**		**21 57 24.1**	**-0.8**
	comp=Z,0.4nm,0.2s								
BIOA					eSg	**Sg**		**21 58 32.2**	**-1.4**
	comp=Z,0.6nm,0.2s								
ARSA	**Arzberg**	**4.29**	**185**	*e*	Pn	**Pn**		**21 57 28.6**	**+1.7**
	comp=Z,0.4nm,0.2s								
ARSA					eSg	**Sg**		**21 58 38.9**	**+0.9**
	comp=Z,1.8nm,0.4s								

*IDC **05** 22:12:19.9±1.0, 7.01N×73.27W, h149km±15km, mb3.2/1, mbtmp3.9/3, Error ellipse: s-maj=47.8km s-min=8.3km az=131.0*
*RSNC **05** 22:12:22.2±1.2, 6.83N×73.17W, h145km±5km, ML3.4, Mw3.8*

ISC 05 22:12:20.1±0.9, 6°84N±0°.03×73°11W±0°.04, h153km±6km, n34, σ1.72/63, 5C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**196**	⇑*i*	P	**Pn**		**22 12 41.8**	**+0.5**
BARC					eS	**Sn**		**22 12 57.1**	**-0.2**
BARC					*i*			22 12 58.7	
	comp=Z,576nm,0.3s								
PAMC	**Pamplona, Colo**	**0.64**	**40**	⇑*i*	P	**Pn**		**22 12 44.5**	**+1.4**
PAMC					eS	**Sn**		**22 13 01.3**	**+0.6**
PAMC					*i*			22 13 04.7	
	comp=Z,209nm,0.2s								
BRRC	**Barranca, Sant**	**0.65**	**294**	⇑*i*	P	**Pn**		**22 12 43.5**	**+0.9**
BRRC					eS	**Sn**		**22 13 00.4**	**+0.6**
BRRC					*i*			22 13 04.3	
	comp=Z,679nm,0.2s								
RUSC	**La Rusia**	**0.94**	**178**	⇑*i*	P	**Pn**		**22 12 45.7**	**+0.4**
RUSC					eS	**Sn**		**22 13 04.1**	**-0.4**
RUSC					*i*			22 13 06.8	
	comp=Z,403nm,0.4s								
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*e*	P	**Pn**		**22 12 48.2**	**-0.4**
PTBC					eS	**Sn**		**22 13 09.2**	**-1.1**
PTBC					*i*			22 13 11.0	
	comp=Z,452nm,0.3s								
TAMC	**Tame, Arauca**	**1.37**	**107**	⇓*i*	P	**Pn**		**22 12 50.2**	**+1.6**
TAMC					eS	**Sn**		**22 13 11.9**	**+1.5**
TAMC					*i*			22 13 12.7	
	comp=Z,124nm,0.5s								
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*	P	**Pn**		**22 12 54.5**	**+0.8**
ZARC					eS	**Sn**		**22 13 18.8**	**-0.7**
ZARC					*i*			22 13 25.1	
	comp=Z,666nm,0.3s								
NORC	**Norcasia**	**2.16**	**234**	⇑*i*	P	**Pn**		**22 12 57.4**	**+0.1**
NORC					eS	**Sn**		**22 13 25.9**	**0.0**
NORC					*i*			22 13 29.6	
	comp=Z,194nm,0.3s								
CHIC	**Chingaza**	**2.28**	**196**	*e*	P	**Pn**		**22 12 59.8**	**+0.7**
CHIC					eS	**Sn**		**22 13 29.6**	**+0.3**
CHIC					*i*			22 13 34.0	
	comp=Z,207nm,0.3s								
ROSC	**El Rosal**	**2.32**	**211**	P		**Pn**		**22 13 01.

ASAR	Alice Springs	149.13	234	PKPbc	PKPbc	22 31 49.8	-1.4
	comp=Z,0.2nm,0.5s,baz=115,slow=2.8,SNR=2.3						
WRA	Warramunga Arr	150.35	241	PKPbc	PKPbc	22 31 53.0	-1.3
	comp=Z,0.4nm,0.6s,baz=105,slow=2.9,SNR=2.5						

IDC 05 22:21:16.2±8.1, 15°25S×173°90W, h0km, mb3.9/2, mbtmp3.9/2, MS2.9/1, Error ellipse: s-maj=341.8km s-min=68.2km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.11**	**251**	LR	LR	22 26 01.2	
	comp=Z,95nm,21.2s,baz=107,slow=35						
H11S2	**WAKE ISLAND Hy**	**38.59**	**330**	T	T	23 09 12.8	
	baz=149,slow=76,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**38.60**	**330**	T	T	23 09 11.2	
	baz=149,slow=76,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**38.61**	**330**	T	T	23 09 11.9	
	baz=149,slow=76,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**39.55**	**331**	T	T	23 10 25.0	
	baz=150,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**39.55**	**331**	T	T	23 10 19.9	
	baz=150,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**39.56**	**331**	T	T	23 10 29.2	
	baz=150,slow=76,SNR=11						
WRA	**Warramunga Arr**	**49.41**	**257**	P	P	22 30 07.5	-0.7
	1.0nm,1.0s,baz=94,slow=6.2,SNR=3.5						
	1.0nm,1.0s						
ASAR	**Alice Springs**	**49.70**	**252**	P	P	22 30 10.6	+0.2
	2.4nm,0.8s,baz=86,slow=7.9,SNR=35						
	2.4nm,0.8s						
BRTR	**Keskin Array B**	**145.74**	**321**	PKPbc	PKPdf	22 40 56.8	-0.5
	0.5nm,0.7s,baz=60,slow=3.3,SNR=2.7						

*DJA **05** 22:38:35.6±0.9, 9°S±5°×107°9E±°, h11km±7km, M3.6/13, mb3.1/2, MLv3.9/13*
*IDC **05** 22:38:42.3±1.7, 8.09S×109.01E, h109km±28km, mb3.2/8, mbtmp3.6/8, Error ellipse: s-maj=120.3km s-min=14.6km az=50.0*

ISC 05 22:38:37.0±0.9, 8°47S±0.09×108°90E±0.06, h55km, n24, σ2§13/24, mb3.5/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.81**	**327**	P	Pn	22 38 52.7	+0.3
CMJI				S	Sn	22 39 03.4	-0.3
KPJI	**Karang Pucung**	**1.13**	**2**	P	Pn	22 38 57.7	+1.1
KPJI				S	Sn	22 39 13.3	+2.2
YOGI	**Yogyakarta**	**1.52**	**65**	P	Pn	22 39 02.2	+0.3
UGM	**Wanagama**	**1.70**	**71**	P	Pn	22 39 04.5	+0.2
LEM	**Lembang**	**2.07**	**322**	P	Pn	22 39 12.7	+3.2
	42nm,0.5s,baz=127,slow=18,SNR=5.8						
LEM				S	Sn	22 39 38.5	+4.3
	71nm,0.5s,baz=355,slow=22,SNR=2.8						
LEM	**Lembang**	**2.07**	**322**	P	Pn	22 39 11.1	+1.6
SMRI	**Semarang**	**2.08**	**47**	P	Pn	22 39 11.0	+1.5
CNJI	**Cibinong**	**2.10**	**303**	P	Pn	22 39 10.7	+1.0
PWJI	**Pagerwojo**	**2.91**	**81**	P	Pn	22 39 21.6	+0.8
CGJI	**Cibinong**	**3.67**	**300**	P	Pn	22 39 32.4	+1.1
GRJI	**Gresik**	**3.87**	**67**	P	Pn	22 39 35.5	+1.5
GMJI	**Gumukmas**	**4.50**	**88**	P	Pn	22 39 44.6	+1.9
JAGI	**Jajag, Banyuwa**	**5.20**	**90**	P	Pn	22 39 53.9	+1.7
	21nm,0.5s,0.3nm						
WRA	**Warramunga Arr**	**27.13**	**118**	P	P	22 44 16.2	+1.0
	0.5nm,0.7s,baz=290,slow=12,SNR=6.5						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**28.31**	**125**	P	P	22 44 26.4	+0.7
	0.5nm,0.8s,baz=304,slow=9.0,SNR=4.3						
	0.5nm,0.8s						
H08S2	**Diego Garcia H**	**36.05**	**269**	T	T	23 24 03.4	
	baz=93,slow=75,SNR=25						
H08S3	**Diego Garcia H**	**36.06**	**269**	T	T	23 24 04.3	
	baz=93,slow=75,SNR=25						
H08S1	**Diego Carcia H**	**36.07**	**269**	T	T	23 24 08.1	
	baz=93,slow=75,SNR=12						
STKA	**Stephens Creek**	**38.27**	**132**	P	P	22 45 54.2	+2.1
	1.2nm,0.6s,baz=324,slow=11,SNR=5.0						
	1.2nm,0.6s						
SONM	**Songino Array**	**56.10**	**358**	P	P	22 48 08.0	-2.8
	0.2nm,0.6s,baz=175,slow=8.0,SNR=2.4						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.91**	**339**	P	P	22 48 34.8	-2.5
	0.3nm,0.5s,baz=147,slow=7.5,SNR=7.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.48**	**339**	P	P	22 49 04.9	-2.8
	0.2nm,0.3s,baz=148,slow=6.7,SNR=1.9						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**65.43**	**345**	P	P	22 49 11.4	-2.4
	0.4nm,0.3s,baz=139,slow=5.3,SNR=2.4						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**69.45**	**336**	P	P	22 49 36.2	-3.1
	0.2nm,0.5s,baz=150,slow=6.0,SNR=2.1						
	0.2nm,0.5s						

*IDC **05** 22:47:17.2±2.5, 17°67N×145°86E, h176km±26km, mb3.2/10, mbtmp3.7/11, Error ellipse: s-maj=25.1km s-min=19.8km az=99.0*
*NEIC **05** 22:47:19.8±1.6, 17°68N±0°10×145°63E±0°09, h182km±10km, mb4.2/9, Error ellipse: s-maj=14.1km s-min=12.2km az=195.0*

ISC 05 22:47:19.0±0.7, 17°70N±0°07×145°6E±0°1, h182km, n25, σ1§35/24, mb3.7/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.15**	**190**	P	Pn	22 48 21.6	-0.5
	22nm,0.4s,baz=7.3,slow=20,SNR=1.3						
GUMO				S	Sn	22 49 09.3	-2.4
	37nm,0.3s,baz=51,slow=21,SNR=2.3						
GUMO	**Guam**	**4.15**	**190**	Pn	Pn	22 48 22.4	+0.2
GUMO				Sn	Sn	22 49 13.1	+1.4
PATS	**Pohnpei**	**16.43**	**130**		Pn	22 51 02.8	+3.2
JOW	**Kunigami**	**18.43**	**303**		Pn	22 51 24.1	+1.1
JOW				IAmb	IAmb	22 51 29.4	
	comp=Z,37nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**20.25**	**81**	T	T	23 12 52.9	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**20.26**	**81**	T	T	23 12 53.5	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**20.27**	**81**	T	T	23 12 54.3	
	baz=264						
WB0	**Warramunga Arr**	**38.83**	**197**	P	P	22 54 26.3	-0.3
WB0				IAmb	IAmb	22 54 55.1	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**38.98**	**197**	P	P	22 54 26.1	-1.6
WR0				IAmb	IAmb	22 54 43.2	
	comp=Z,8.4nm,1.4s						
WB2	**Warramunga Arr**	**39.01**	**197**	P	P	22 54 26.9	-1.1
WB2				IAmb	IAmb	22 54 56.6	
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**39.01**	**197**	P	P	22 54 27.6	-0.4
	comp=Z,0.5nm,0.6s,baz=22,slow=8.5,SNR=5.3						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**39.01**	**197**	P	P	22 54 28.7	+0.6
ASAR	**Alice Springs**	**42.68**	**196**	P	P	22 54 56.2	-1.8
	comp=Z,0.2nm,0.5s,baz=14,slow=8.0,SNR=1.6						
	comp=Z,0.2nm,0.5s						
SONM	**Songino Array**	**43.87**	**322**	P	P	22 55 08.0	+0.6
	comp=Z,0.3nm,0.6s,baz=108,slow=7.7,SNR=2.2						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.28**	**278**	P	P	22 55 12.4	+1.5
	comp=Z,0.8nm,0.3s,baz=76,slow=7.5,SNR=1.5						
	comp=Z,0.8nm,0.3s						
MK31	**Makanchi Array**	**59.10**	**314**	P	P	22 57 00.2	-0.1
MKAR	**Makanchi Array**	**59.10**	**314**	P	P	22 56 60.0	-0.3
	comp=Z,0.2nm,0.5s,baz=92,slow=8.9,SNR=2.9						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.10**	**314**	P	P	22 57 01.0	+0.7
MAKZ	**Makanchi**	**59.31**	**314**	P	P	22 57 01.7	-0.1
MAKZ				IAmb	IAmb	22 57 27.0	
	comp=Z,1.0nm,0.8s						
OHAK	**Old Harbor**	**59.72**	**33**	P	P	22 57 04.4	+0.1
KURBB	**Kurchatov Arra**	**62.01**	**318**	P	P	22 57 19.4	-0.4
	comp=Z,1.4nm,0.8s,baz=96,slow=6.7,SNR=10						
	comp=Z,1.4nm,0.8s						
ILAR	**Eielson Array**	**64.57**	**26**	P	P	22 57 34.5	-1.9
	comp=Z,0.3nm,0.4s,baz=252,slow=6.0,SNR=5.6						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**67.19**	**321**	P	P	22 57 53.0	-0.4
	comp=Z,1.2nm,0.6s,baz=89,slow=7.3,SNR=9.9						
	comp=Z,1.2nm,0.6s						
INK	**Inuvik**	**70.31**	**23**	P	P	22 58 11.8	-0.5
	comp=Z,1.4nm,0.7s,baz=322,slow=2.0,SNR=3.9						
	comp=Z,1.4nm,0.7s						
YKA	**Yellowknife Ar**	**78.90**	**28**	P	P	22 59 00.0	-1.8
	comp=Z,0.6nm,0.7s,baz=286,slow=5.7,SNR=8.4						
	comp=Z,0.6nm,0.7s						

*ISN **05** 23:03:56.7±1.6, 32°75N×47°48E, h10km±10km, ML2.7*
*TEH **05** 23:03:57.3, 32°70N×47°63E, h8km±35km, ML3.0*

ISC 05 23:03:58.6±0.9, 32°69N±0°04×47°61E±0°03, h10km, n36, σ1§02/39, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.28**	**269**	Pg	Pg	23 04 03.0	-1.2
IKFM	**Kafar-mosalman**	**0.86**	**13**	Pg	Pg	23 04 13.3	-1.9
IDOB	**Doab**	**1.20**	**23**	Pg	Pb	23 04 20.6	-1.0
IBDR	**Badra**	**1.47**	**287**	*e*Pg	Pn	23 04 26.0	+0.8
	baz=105						
IBDR				*e*Sg	Sg	23 04 47.0	+1.0
IKOM	**Komasi**	**1.49**	**357**	Pg	Pn	23 04 25.5	-0.1
ILBA	**Ilam Banvizeh**	**1.50**	**309**	Pg	Pn	23 04 25.9	+0.2
RAFI	**Al-Rafai**	**1.59**	**233**	*e*Pn	Pn	23 04 27.0	+0.2
RAFI				*e*Sn	Sn	23 04 48.0	+0.6
RAFI				AML	AML	23 05 05.2	
	comp=E,126nm,0.5s						
AHWZ	**Ahwaz**	**1.61**	**147**	Pg	Pb	23 04 28.5	0.0
AHWZ				Sg	Sg	23 04 52.0	+1.5
KCHF	**Cheshme Sefid,**	**1.65**	**344**	Pg	Pn	23 04 28.4	+0.5
HSAM	**Samen**	**1.73**	**28**	Pg	Pn	23 04 29.8	+0.7
KER	**Kermanshah**	**1.74**	**347**	Pg	Pn	23 04 29.8	+0.8
AMIS	**Naft Sefid**	**1.75**	**125**	Pg	Pn	23 04 29.0	-0.1
IBZA	**Bozab**	**1.79**	**7**	Pg	Pn	23 04 30.9	+1.0
IGHG	**Ghaleghazi**	**1.85**	**332**	Pn	Pn	23 04 32.2	+1.5
KHMZ	**Khomeyn**	**2.23**	**61**	Pn	Pn	23 04 37.8	+1.8
IDHR	**Dehrash**	**2.25**	**333**	Pn	Pn	23 04 37.3	+1.2
ILIN	**Lien**	**2.29**	**347**	Pn	Pn	23 04 37.3	+0.6
SNGE	**Sanandaj**	**2.41**	**355**	Pn	Pn	23 04 39.7	+1.3
HAGD	**Aghdareh**	**2.48**	**31**	Pn	Pn	23 04 40.1	+0.8
ASAO	**Ashtian**	**2.74**	**47**	Pn	Pn	23 04 44.7	+1.8
IPIR	**Pirpir**	**2.77**	**89**	Pn	Pn	23 04 44.2	+0.9
SHK1	**Shahrekord**	**2.79**	**96**	Pn	Pn	23 04 43.6	0.0
IRAZ	**Razeghan**	**3.33**	**35**	Pn	Pn	23 04 51.4	+0.5
QAMS	**Qamsar**	**3.34**	**71**	Pn	Pn	23 04 52.3	+1.1
IKLH	**Kolahrood**	**3.40**	**78**	Pn	Pn	23 04 52.6	+0.6
GHVR	**GHOM**	**3.56**	**59**	Pn	Pn	23 04 55.5	+1.4
IQOM	**Qom**	**3.60**	**52**	Pn	Pn	23 04 55.1	+0.4
KLNJ	**Kolanjah**	**3.78**	**115**	Pn	Pn	23 04 57.3	0.0
IZEF	**Zefreh**	**3.98**	**86**	Pn	Pn	23 05 00.1	+0.1
KRSH	**Karshahi**	**4.00**	**70**	Pn	Pn	23 05 00.9	+0.7
ZNJK	**Zanjan**	**4.07**	**12**	Pn	Pn	23 05 02.7	+1.5
IVRN	**Varamin**	**4.13**	**55**	Pn	Pn	23 05 02.8	+0.9
IRAM	**Ramesheh**	**4.14**	**101**	Pn	Pn	23 05 02.5	+0.4
ISFB	**Sefidab**	**4.21**	**66**	Pn	Pn	23 05 03.8	+0.8
CHTH	**Charan**	**4.34**	**41**	Pn	Pn	23 05 06.2	+1.3
DAMV	**Damavand**	**4.66**	**50**	Pn	Pn	23 05 10.5	+1.2

*IDC **05** 23:06:48.8±2.3, 19°75S×176°58E, h0km, mb3.8/3, mbtmp3.7/4, ML4.9/1, MS3.5/3, Error ellipse: s-maj=86.5km s-min=25.2km az=145.0*
*NEIC **05** 23:06:50.9±1.2, 19°3S±0°2×176°4E±0°1, h10km±2km, mb4.0/3, Error ellipse: s-maj=36.0km s-min=11.4km az=143.0*

ISC 05 23:06:54.2±1.0, 19°4S±0°2×176°4E±0°2, h35km, n17, σ1§43/14, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.28**	**44**	Pn	Pn	23 07 29.9	+0.4
	12nm,0.3s,baz=215,slow=22,SNR=16						
MSVF				Sn	Sn	23 07 58.2	+1.8
	33nm,0.3s,baz=123,slow=23,SNR=17						
MSVF				LR	LR	23 08 36.7	
	comp=Z,357nm,20.0s,baz=173,slow=44						
	15nm,0.4s						
MSVF	**Nonsavu**	**2.28**	**44**	Pn	Pn	23 07 28.0	-1.4
MSVF				Sn	Sn	23 07 55.2	-1.2
DZM	**Mont Dzumac**	**9.69**	**252**	LR	LR	23 12 24.0	
	comp=Z,174nm,19.4s,baz=112,slow=34						
DZM	**Mont Dzumac**	**9.69**	**252**	Pn	Pn	23 09 13.1	+1.9
HNR	**Honiara**	**18.74**	**300**	LR	LR	23 16 43.6	
	comp=Z,487nm,21.7s,baz=146,slow=31						
MRNZ	**Matariki Terra**	**22.15**	**187**	P	P	23 11 46.3	-0.6
COEN	**Coen**	**32.25**	**275**	P	P	23 13 17.0	-2.7
COEN				IAmb	IAmb	23 13 57.3	
	comp=Z,16nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**38.84**	**345**	T	T	23 55 08.9	
	baz=166,slow=76,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**38.84**	**345**	T	T	23 55 09.0	
	baz=166,slow=76,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**38.85**	**345**	T	T	23 55 10.8	
	baz=166,slow=76,SNR=8.8						
WB2	**Warramunga Arr**	**39.52**	**262**	P	P	23 14 21.5	-0.4
WB2				IAmb	IAmb	23 14 27.6	
	comp=Z,7.8nm,1.2s						
WRA	**Warramunga Arr**	**39.53**	**262**	P	P	23 14 22.2	+0.2
	comp=Z,0.4nm,0.6s,baz=99,slow=8.4,SNR=2.4						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**39.53**	**262**	P	P	23 14 21.4	-0.6
WRA				IAmb	IAmb	23 14 54.3	
	comp=Z,0.2nm,1.3s						
ASAR	**Alice Springs**	**39.65**	**256**	P	P	23 14 23.7	+0.7
	comp=Z,2.0nm,0.9s,baz=86,slow=8.7,SNR=12						
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**88.51**	**15**	P	P	23 19 44.3	+1.7
	comp=Z,0.6nm,0.8s,baz=230,slow=6.4,SNR=5.2						
	comp=Z,0.6nm,0.8s						
CLL	**Collm**	**145.57**	**342**	*i* PKPbc	PKiKP	23 26 32.0	-0.6
	comp=Z,8.0nm,0.7s						
GERES	**GERESS Array B**	**147.48**	**339**	PKPbc	PKPbc	23 26 34.8	+0.2
	comp=Z,0.6nm,0.8s,baz=48,slow=4.4,SNR=2.4						

*IDC **05** 23:23:01.8±0.7, 18°94S×175°98E, h0km, mb4.1/11, mbtmp4.1/14, ML5.0/2, MS3.9/10, Error ellipse: s-maj=26.0km s-min=15.5km az=165.0*
*NEIC **05** 23:23:02.4±2.4, 19°1S±0°2×176°3E±0°1, h10km±1km, mb4.8/22, Error ellipse: s-maj=30.3km s-min=11.5km az=151.0*
*GCMT **05** 23:23:07.4±0.3, 19°08S±0°02×176°18E±0°02, h12km, MW4.8/77, Moment Tensor Solution. s15,c16; s77,c108; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.87±.09; Mθθ-1.53±.10; Mϕϕ2.40±.07; Mrθ0.85±.32; Mθϕ-0.23±.09; Mϕr-0.03±.24; Best double couple: M◎2.26900×10¹⁶ NP1:ϕs216.00000°, δ65.00000°, λ-25.00000°. NP2: ϕs216.00000°, δ65.00000°, λ-25.00000°. Principal axes: T 2.4150, Plg1.0000°, Azm86.0000°; N -0.2970, Plg56.0000°, Azm354.0000°; P -2.1220, Plg34.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 23:23:05.6±0.5, 19°08S±0°09×176°17E±0°07, h30km, n93, σ1§38/76, mb4.7/25, MS4.0/11, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.23**	**53**	Pn	Pn	23 23 39.7	-0.9
	35nm,0.3s,baz=288,slow=13,SNR=22						
MSVF				Sn	Sn	23 24 07.3	+0.1
	62nm,0.3s,baz=129,slow=18,SNR=15						
MSVF				LR	LR	23 24 46.0	
	comp=Z,4μm,19.5s,baz=212,slow=45						
	67nm,0.5s						
MSVF	**Nonsavu**	**2.23**	**53**	Pn	Pn	23 23 37.6	-3.0
LIFNC	**LIFOU**	**8.57**	**257**	Pn	Pn	23 25 08.0	+0.4
OUENC	**Ouen Island, N**	**9.34**	**248**	Pn	Pn	23 25 17.8	-0.4
DZM	**Mont Dzumac**	**9.58**	**250**	*e*Pn	Pn	23 25 22.7	+1.1
	292nm,1.6s						
DZM				*e*LR	LR	23 27 31.4	
	comp=Z,2μm,25.3s						
DZM	**Mont Dzumac**	**9.58**	**250**	Pn	Pn	23 25 17.7	-3.9
	1.6nm,0.8s,baz=164,slow=21,SNR=1.6						
DZM				LR	LR	23 27 47.7	
	comp=Z,169nm,18.8s,baz=40,slow=30						
DZM	**Mont Dzumac**	**9.58**	**250**	Pn	Pn	23 25 22.1	+0.5
ONTNC	**Ouen Toro**	**9.64**	**249**	Pn	Pn	23 25 22.0	-0.3
KOUNC	**Koumac, New Ca**	**11.28**	**261**	Pn	Pn	23 25 46.4	+1.6
OUZ	**Omahuta**	**16.23**	**188**		P	23 26 53.0	-1.3
OUZ				IAmb	IAmb	23 26 58.4	
	comp=Z,112nm,1.4s						
URZ	**Urewera**	**19.12**	**178**	P	Pn	23 27 27.8	+0.7
	comp=Z,1.7nm,0.3s,baz=80,slow=4.2,SNR=13						
URZ				LR	LR	23 32 58.2	
	comp=Z,338nm,19.9s,baz=90,slow=31						
	comp=Z,18nm,0.7s						
MRZ	**Mangatainoka R**	**21.51**	**181**	P	P	23 27 49.8	-2.2
MRZ				IAmb	IAmb	23 27 52.8	
	comp=Z,86nm,1.4s						
TKNZ	**Takaka Hill**	**22.05**	**186**	P	P	23 27 56.6	-1.2
RAR	**Rarotonga**	**22.68**	**99**	P	P	23 28 06.2	+1.5
	comp=Z,4.9nm,0.4s,baz=18,slow=20,SNR=1.8						
RAR				LR	LR	23 34 59.8	
	comp=Z,194nm,21.1s,baz=266,slow=31						
	comp=Z,4.9nm,0.4s						
THZ	**Tophouse**	**22.78**	**186**	P	P	23 28 05.8	+0.1
INZ	**Inchbonnie**	**23.90**	**189**	P	P	23 28 17.0	+0.3
INZ				IAmb	IAmb	23 28 20.7	
	comp=Z,54nm,1.2s						
RPZ	**Rata Peaks**	**24.93**	**189**	LR	LR	23 37 11.5	
	comp=Z,377nm,19.2s,baz=328,slow=34						
KRVT	**Keravat (AS076**	**27.77**	**299**	P	P	23 28 51.0	-1.0
	comp=Z,20nm,0.3s,baz=41,slow=20,SNR=1.0						
CTA	**Charters Tower**	**28.19**	**263**	LR	LR	23 38 51.4	
	comp=Z,432nm,21.9s,baz=80,slow=34						
PMG	**Port Moresby**	**29.68**	**285**	LR	LR	23 39 39.8	
	comp=Z,323nm,18.1s,baz=127,slow=34						
TBI	**Tubuai**	**32.27**	**104**	*e*LR	LR	23 38 11.3	
	comp=Z,3μm,27.0s						
TBI				*e*LR	LR	23 38 11.4	
	comp=Z,8μm,26.8s						
PPT2	**Papeete2**	**32.52**	**93**	*e*S	S	23 34 59.4	+12
	comp=Z,154nm,39.5s						
PPT2				*e*LR	LR	23 38 18.4	
	comp=Z,855nm,25.8s						
PPT2				*e*LR	LR	23 38 18.5	
	comp=Z,704nm,28.5s						
PPT	**Papeete**	**32.52**	**93**	P	P	23 29 36.4	+2.3
	comp=Z,7.7nm,0.6s,baz=213,slow=12,SNR=3.6						
PPT				LR	LR	23 39 22.7	
	comp=Z,210nm,21.5s,baz=260,slow=30						
	comp=Z,7.7nm,0.6s						
STKA	**Stephens Creek**	**33.56**	**241**	P	P	23 29 42.7	-0.3
	comp=Z,3.7nm,1.1s,baz=56,slow=11,SNR=2.9						
	comp=Z,3.7nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**38.48**	**345**	T	T	00 11 18.2	
	baz=166,slow=76,SNR=93						
H11S3	**WAKE ISLAND Hy**	**38.49**	**345**	T	T	00 11 21.2	
	baz=166,slow=76,SNR=82						
H11S1	**WAKE ISLAND Hy**	**38.50**	**345**	T	T	00 11 21.9	
	baz=166,slow=76,SNR=91						
WR0	**Warramunga Arr**	**39.17**	**262**	P	P	23 30 30.4	-0.6
WB0	**Warramunga Arr**	**39.33**	**262**	P	P	23 30 30.8	-1.6
WB0				IAmb	IAmb	23 31 08.5	
	comp=Z,45nm,1.9s						
WB2	**Warramunga Arr**	**39.35**	**262**	P	P	23 30 30.6	-2.0
WRA	**Warramunga Arr**	**39.37**	**262**	P	P	23 30 31.4	-1.3
	comp=Z,0.5nm,0.5s,baz=96,slow=8.8,SNR=5.8						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**39.37**	**262**	P	P	23 30 31.7	-1.0
ASAR	**Alice Springs**	**39.52**	**256**	P	P	23 30 34.4	+0.5
	comp=Z,3.3nm,0.8s,baz=87,slow=9.0,SNR=19						
ASAR				PcP	PcP	23 32 42.4	+1.0
	comp=Z,2.6nm,1.1s,baz=102,slow=3.1,SNR=2.8						
	comp=Z,3.3nm,0.8s						
ASAR	**Alice Springs**	**39.52**	**256**	P	P	23 30 32.0	-2.0
H11N1	**WAKE ISLAND Hy**	**39.62**	**346**	T	T	00 12 42.7	
	baz=166,slow=77,SNR=10						
H11N3	**WAKE ISLAND Hy**	**39.62**	**346**	T	T	00 12 47.7	
	baz=165,slow=77,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.63**	**346**	T	T	00 12 45.4	
	baz=165,slow=77,SNR=6.1						
TAOE	**Nuku Hiva Isla**	**43.48**	**83**	*e*LR	LR	23 43 22.9	
	comp=Z,387nm,25.6s						
MTN	**Manton Dam**	**43.65**	**271**	P	P	23 31 08.4	+0.6
RKT	**Rikitea**	**45.59**	**104**	*e*LR	LR	23 44 22.0	
	comp=Z,88μm,27.8s						
MJAR	**Matsushiro Arr**	**65.93**	**327**	P	P	23 33 47.2	-1.6
	comp=Z,0.9nm,0.4s,baz=152,slow=7.9,SNR=3.4						
	comp=Z,0.9nm,0.4s						
CN2	**Changchun**	**77.92**	**325**	*e*P	P	23 34 59.2	-1.4
CN2				*e*PP	PP	23 37 58.0	+1.0
CN2				*e*S	S	23 44 51.5	-0.3
CN2	**Changchun**	**77.92**	**325**	*e*sS	sS	23 45 02.1	-3.3
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KDAK	**Kodiak Island**	**80.87**	**16**	LR	LR	00 05 26.5	
	comp=Z,66nm,20.4s,baz=29,slow=32						
MA2	**Magadan**	**81.08**	**347**	LR	LR	00 04 25.8	
	comp=Z,45nm,20.4s,baz=152,slow=31						
XAN	**Xi'an**	**82.96**	**310**	P	P	23 35 32.7	+4.7
XAN				sP	pwP	23 35 40.1	-0.1
XAN				pmax	pmax		
	comp=Z,8.0nm,1.6s						
WAKR	**Walker**	**83.15**	**45**	P	P	23 35 27.1	-1.9
WAKR				IAmb	IAmb	23 35 34.6	
	comp=Z,9.4nm,1.2s						
BEKR	**Beckworth**	**83.25**	**44**	P	P	23 35 29.1	-0.4
XLT	**XiLinHaoTe**	**83.32**	**321**	*e*P	P	23 35 28.8	-0.9
XLT				pP	PcP	23 35 34.8	+0.8
XLT				sP	pP	23 35 36.4	-1.9
XLT				pmax	pmax		
	comp=Z,37nm,3.3s						
NVAR	**Mina Array Bea**	**83.88**	**46**	P	P	23 35 35.4	+2.5
	comp=Z,1.6nm,0.8s,baz=220,slow=7.6,SNR=9.0						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**83.88**	**46**	P	P	23 35 31.2	-1.7
KVN	**Kaiserville**	**84.33**	**46**	P	P	23 35 32.6	-2.4
MOD	**Modoc Plateau**	**84.35**	**42**	P	P	23 35 35.4	+0.3
CMAR	**Chiang Mai Arr**	**84.48**	**292**	P	P	23 35 35.3	-0.7
	comp=Z,0.6nm,0.4s,baz=124,slow=4.5,SNR=

CKRC	**Cesky Krumlov**	**146.92**	**338**	*e*PKP	**PKiKP**	**23**	**42**	**48.1 +0.5**
CONA	**Conrad Observa**	**147.07**	**335**	*ep*PKP	pPKPdf	23	42	50.8 -1.5
	comp=Z,9.2nm,1.2s							
RONA	**Rosalia, Austr**	**147.08**	**335**	*e*PKP	**PKPab**	**23**	**42**	**46.9 -0.3**
	comp=Z,9.3nm,1.3s							
GERES	**GERESS Array B**	**147.11**	**339**	PKPbc	**PKPab**	**23**	**42**	**46.6 -0.7**
	comp=Z,0.6nm,0.6s,baz=12,slow=5.0,SNR=4.5							
BIOA	**Bad Ischl, Aus**	**148.11**	**337**	*e*PKP	**PKPab**	**23**	**42**	**50.9 -0.3**
	comp=Z,7.9nm,1.2s							
SOKA	**Soboth**	**148.42**	**335**	*e*PKiKP	**PKiKP**	**23**	**42**	**51.2 +0.3**
	comp=Z,13nm,1.6s							
WTTA	**Wattenberg**	**149.18**	**339**	*e*PKP	**PKPab**	**23**	**42**	**55.6 -0.1**
	comp=Z,15nm,1.5s							
RETA	**Reutte**	**149.27**	**340**	*e*PKP	**PKPab**	**23**	**42**	**55.5 -0.4**
	comp=Z,8.2nm,1.4s							
MOTA	**Moosalm**	**149.28**	**340**	*e*PKP	**PKPbc**	**23**	**42**	**52.0 +0.5**
	comp=Z,8.4nm,1.4s							
SQTA	**Sankt Quirin**	**149.36**	**340**	*ep*PKP	pPKPdf	23	42	55.2 -0.9
	comp=Z,14nm,1.5s							
FETA	**Feichten**	**149.69**	**340**	*e*PKiKP	**PKiKP**	**23**	**42**	**54.3 +0.7**
	comp=Z,0.1nm,0.4s							
DAVA	**Damuels**	**149.72**	**341**	*ep*PKP	**PKiKP**	**23**	**42**	**55.0 +1.4**
	comp=Z,8.6nm,1.3s							

*IDC **05** 23:24:10.4±4.3, 19°.38S×176°.43E, h0km, mb3.8/4, mbtmp3.8/6, ML2.9/1, MS3.6/4, Error ellipse: s-maj=170.6km s-min=21.3km az=145.0*

ISC 05 23:24:14.8±3.9, 19°.5S±0°.7×176°.6E±0°.6, h35km, n16, σ1ş15/7, mb3.7/4, MS3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.26**	**38**	Pn	**Pn**	**23 24 49.2**	**-0.7**
	293nm,1.1s,baz=221,slow=19,SNR=1.5						
MSVF				Sn	**Sn**	**23 25 16.5**	**-0.1**
	44nm,0.3s,baz=275,slow=24,SNR=2.8						
DZM	**Mont Dzumac**	**9.81**	**253**	Pn	**Pn**	**23 26 33.9**	**+0.3**
	0.1nm,0.3s,baz=290,slow=4.3,SNR=1.3						
	9.6nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**39.00**	**345**	T	T	00 12 26.8	
	baz=166,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**39.01**	**345**	T	T	00 12 27.7	
	baz=166,slow=76,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**39.02**	**345**	T	T	00 12 29.0	
	baz=166,slow=76,SNR=6.7						
WRA	**Warramunga Arr**	**39.69**	**262**	P	**P**	**23 31 42.3**	**-1.6**
	0.9nm,0.9s,baz=96,slow=9.0,SNR=2.2						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**39.79**	**256**	P	**P**	**23 31 44.2**	**-0.6**
	3.4nm,1.0s,baz=83,slow=8.5,SNR=4.8						
	3.4nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**40.13**	**346**	T	T	00 13 53.4	
	baz=165						
H11N3	**WAKE ISLAND Hy**	**40.13**	**346**	T	T	00 13 53.0	
	baz=165						
H11N2	**WAKE ISLAND Hy**	**40.15**	**346**	T	T	00 13 53.0	
	baz=165						
KAPI	**Kappang**	**57.11**	**277**	LR	LR	23 57 14.0	
	comp=Z,48nm,21.6s,baz=94,slow=35						
JOW	**Kunigami**	**65.70**	**313**	LR	LR	00 00 06.6	
	comp=Z,76nm,22.0s,baz=104,slow=33						
MJAR	**Matsushiro Arr**	**66.51**	**327**	LR	LR	00 00 11.5	
	comp=Z,34nm,21.3s,baz=183,slow=33						
MA2	**Magadan**	**81.59**	**347**	LR	LR	00 13 26.1	
	comp=Z,28nm,18.6s,baz=152,slow=36						
ILAR	**Eielson Array**	**88.59**	**15**	P	**P**	**23 37 04.4**	**+0.8**
	0.3nm,0.8s,baz=213,slow=6.5,SNR=1.4						
	0.3nm,0.8s						
SONM	**Songino Array**	**91.72**	**321**	P	**P**	**23 37 19.9**	**+1.1**
	0.3nm,0.7s,baz=123,slow=5.3,SNR=1.9						
	0.3nm,0.7s						

*IDC **05** 23:35:32.6±1.2, 5°.56S×153°.88E, h0km, mb3.7/7, mbtmp3.8/8, ML3.3/1, MS3.5/5, Error ellipse: s-maj=35.5km s-min=22.3km az=63.0*

ISC 05 23:35:37.8±1.1, 5°.6S±0°.2×153°.9E±0°.2, h35km, n13, σ0ş53/11, mb3.7/6, MS3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.22**	**305**	Pn	**Pn**	**23 36 11.2**	**-0.9**
	8.6nm,0.3s,baz=97,slow=6.6,SNR=2.1						
KRVT				Sn	**Sn**	**23 36 38.6**	**+0.3**
	20nm,0.3s,baz=25,slow=16,SNR=2.7						
	39nm,0.5s						
DZM	**Mont Dzumac**	**20.42**	**145**	P	**P**	**23 40 11.8**	**-0.4**
	3.4nm,0.8s,baz=18,slow=22,SNR=2.3						
DZM				LR	LR	23 46 56.1	
	comp=Z,90nm,18.6s,baz=172,slow=34						
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**23.74**	**231**	P	**P**	**23 40 47.2**	**+0.2**
	0.4nm,0.8s,baz=55,slow=9.3,SNR=1.9						
WRA				PcP	**PcP**	**23 44 30.9**	**+0.3**
	0.9nm,0.9s,baz=54,slow=2.1,SNR=5.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**26.31**	**225**	P	**P**	**23 41 10.7**	**+0.3**
	1.2nm,0.9s,baz=54,slow=9.3,SNR=11						
ASAR				PcP	**PcP**	**23 44 35.9**	**-0.3**
	0.7nm,0.7s,baz=64,slow=2.7,SNR=7.5						
	1.2nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**27.07**	**28**	T	T	00 09 46.0	
	baz=202,slow=78,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**27.07**	**28**	T	T	00 09 36.5	
	baz=202,slow=78,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**27.09**	**28**	T	T	00 09 37.9	
	baz=202,slow=78,SNR=4.0						
CMAR	**Chiang Mai Arr**	**59.16**	**295**	P	**P**	**23 45 35.7**	**+0.1**
	1.1nm,0.3s,baz=96,slow=5.7,SNR=5.1						
	1.1nm,0.3s						
SONM	**Songino Array**	**67.54**	**328**	P	**P**	**23 46 31.3**	**+0.5**
	0.5nm,0.8s,baz=137,slow=6.9,SNR=3.0						
SONM				LR	LR	00 15 27.4	
	comp=Z,25nm,22.0s,baz=154,slow=36						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**81.60**	**319**	P	**P**	**23 47 52.9**	**+0.7**
	1.3nm,0.8s,baz=105,slow=5.5,SNR=13						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**82.38**	**326**	P	**P**	**23 47 55.7**	**-0.4**
	0.3nm,0.3s,baz=126,slow=3.9,SNR=2.4						
ZALV				LR	LR	00 26 04.9	
	comp=Z,23nm,19.9s,baz=53,slow=37						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**90.49**	**323**	LR	LR	00 29 22.7	
	comp=Z,22nm,21.1s,baz=107,slow=36						
ARU	**Arti**	**97.55**	**326**	LR	LR	00 33 46.5	
	comp=Z,33nm,21.2s,baz=126,slow=36						

*REN **06** 00:18:29.8±1.2, 38°.34N±0°.01×118°.90W±0°.01, h8km, ML2.8/12, ML2.7/50(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=136.0*

NEIC 06 00:18:29.8±1.1, 38°.346N±0°.009×118°.91W±0°.02, h10km±4km, Error ellipse: s-maj=1.8km s-min=1.3km az=102.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVH1	**TV Hill, Hawth**	**0.16**	**45**		Pg	00 18 33.5	0.0
TVH1					Sg	00 18 36.2	0.0
LHV	**Little Huntoon**	**0.33**	**107**		Pg	00 18 36.5	+0.1
LHV					Sg	00 18 40.9	+0.1
LHV				IAML		00 18 41.5	
	comp=N,1μm,0.4s						
LHV				IAML		00 18 44.0	
	comp=E,1μm,0.5s						
RYN	**Ryan**	**0.41**	**47**		Pg	00 18 38.0	+0.1
RYN					Sg	00 18 43.9	+0.4
WAKR	**Walker**	**0.45**	**291**		Pg	00 18 38.9	+0.3
WAKR					Sg	00 18 45.5	+1.0
NV09	**Mina Array Sit**	**0.46**	**79**		Pg	00 18 38.6	-0.2
NV08	**Mina Array Sit**	**0.47**	**83**		Pg	00 18 38.8	-0.2
NVAR	**Mina Array Bea**	**0.48**	**80**		Pg	00 18 39.0	-0.2
NV11	**Mina Array Sit**	**0.60**	**82**		Pb	00 18 42.1	-0.3
BENR	**Benton**	**0.68**	**157**		Pg	00 18 42.6	-0.5
YERR	**Yerington**	**0.69**	**338**		Pg	00 18 43.2	0.0
YERR					Sb	00 18 53.0	-0.7
MDYM	**Dry Creek**	**0.69**	**187**		Pg	00 18 42.8	-0.4
MDYM					Sg	00 18 53.0	+0.7
MCBM	**Casa Benchmark**	**0.70**	**179**		Pg	00 18 43.3	-0.1
MCBM					Sg	00 18 52.8	+0.2
MLAC	**Mammoth, Mammo**	**0.72**	**175**		Sb	00 18 53.9	-0.6
MDPB	**Devils Postpil**	**0.73**	**191**		Pg	00 18 43.3	-0.5
ORC	**Owens River**	**0.74**	**164**		Pg	00 18 43.7	-0.4
MLNR	**Milner Canyon**	**0.87**	**149**		Pg	00 18 46.3	-0.4
MLNR					Sb	00 18 58.6	-0.4
PNTR	**Pine Nut**	**0.92**	**324**		Pg	00 18 47.4	-0.2
PNTR					Sb	00 18 60.0	-0.3
PNTR				IAML		00 19 02.5	
	comp=E,194nm,0.7s						
PNTR				IAML		00 19 02.7	
	comp=N,206nm,0.5s						
KVN	**Kaiserville**	**0.95**	**42**		Pg	00 18 47.5	-0.6
KVN					Sg	00 19 00.3	0.0
KVN				IAML		00 19 04.0	
	comp=N,260nm,0.4s						
SCHCA	**Scheelite**	**1.00**	**170**		Pg	00 18 48.5	-0.6
KCC	**Kaiser Creek**	**1.07**	**198**		Pb	00 18 50.5	0.0
KCC					Sg	00 19 03.4	-0.9
VCNR	**Virginia City**	**1.11**	**329**		Pg	00 18 50.9	-0.3
VCNR				IAML		00 19 06.7	
	comp=N,253nm,0.3s						
VCNR	**Virginia City**	**1.11**	**329**		Sb	00 19 06.2	+0.3
EMB	**Emerald Bay**	**1.13**	**304**		Pg	00 18 51.4	-0.1
EMB				IAML		00 19 10.9	
	comp=E,189nm,0.8s						
EMB	**Emerald Bay**	**1.13**	**304**		Sn	00 19 07.2	-0.3
CMB	**Columbia Colle**	**1.21**	**256**		Pb	00 18 52.2	-0.5
CMB					Sb	00 19 08.4	0.0
CMB	**Columbia Colle**	**1.21**	**256**		Pb	00 18 52.1	-0.7
CMB	**Columbia Colle**	**1.21**	**256**	IAML		00 19 08.7	
	comp=E,128nm,0.1s						
CMB				IAML		00 19 12.0	
	comp=N,136nm,0.6s						
DSP	**Deep Springs**	**1.23**	**142**		Pn	00 18 52.6	-0.3
DSP					Sg	00 19 09.1	-0.1
MPK	**Martis Peak**	**1.29**	**318**		Pb	00 18 54.4	0.0
MPK	**Martis Peak**	**1.29**	**318**	IAML		00 19 15.7	
	comp=E,148nm,0.8s						
TPH	**Tonopah**	**1.35**	**101**		Pn	00 18 54.6	-0.3
MZP	**Montezuma Peak**	**1.37**	**118**	Pn	Pn	00 18 55.0	-0.1
Q09A	**Carvers**	**1.44**	**70**		Pn	00 18 56.3	+0.3
LCH	**Last Change Ra**	**1.50**	**138**		Pn	00 18 57.2	+0.4
LCH				IAML		00 19 18.4	
	comp=E,61nm,0.2s						
AFDM	**Forest Hills D**	**1.72**	**291**		Pb	00 19 01.1	-0.4
AFDM				IAML		00 19 27.3	
	comp=E,69nm,0.3s						
AFDM				IAML		00 19 27.4	
	comp=N,87nm,0.5s						
GRAC	**Grapevine Rang**	**1.82**	**137**		Pb	00 19 03.3	+0.1
GRAC				IAML		00 19 35.4	
	comp=E,58nm,0.5s						
GRAC				IAML		00 19 35.5	
	comp=N,68nm,0.7s						
BEKR	**Beckworth**	**1.89**	**324**		Pb	00 19 04.0	-0.6
SGV	**South Grapevin**	**2.02**	**132**		Pn	00 19 04.3	+0.3
ORV	**Oroville**	**2.35**	**302**		Pn	00 19 07.9	-0.6
ORV				IAML		00 19 44.3	
	comp=N,30nm,0.8s						
ORV				IAML		00 19 44.6	
	comp=E,26nm,0.9s						
WCT	**Wildcat Mounta**	**2.39**	**130**		Pn	00 19 09.1	+0.1
BBGB	**Big Mountain B**	**2.45**	**225**	Pg	Pb	00 19 14.5	+0.5
BMN	**Battle Mountai**	**2.46**	**32**		Pn	00 19 09.7	-0.3
TPNV	**Topopah Spring**	**2.53**	**123**		Pb	00 19 16.4	+1.0
TPNV				IAML		00 19 53.7	
	comp=E,35nm,0.9s						
TPNV				IAML		00 19 57.6	
	comp=E,34nm,1.0s						
R11A	**Troy Canyon, C**	**2.61**	**89**		Pn	00 19 11.5	-0.7
R11A				IAML		00 19 53.2	
	comp=N,17nm,0.7s						
ELK	**Elko**	**3.71**	**49**	IAML		00 20 29.6	
	comp=N,12nm,0.3s						
ELK				IAML		00 20 30.1	
	comp=N,11nm,0.5s						

*ISK **06** 00:23:34.6, 39°.42N×25°.61E, h9km, ML2.7/13*
*ATH **06** 00:23:34.7, 39°.35N×25°.50E, h10km±5km, ML2.7/2, Error ellipse: s-maj=7.3km s-min=1.5km az=75.0*
*DDA **06** 00:23:34.7±0.0, 39°.36N×25°.58E, h8km±1km, ML2.5*
*THE **06** 00:23:34.8, 39°.36N×25°.50E, h1km±2km, ML2.4/5, Error ellipse: s-maj=2.9km s-min=1.0km az=311.0*

ISC 06 00:23:34.8±1.1, 39°.37N±0°.02×25°.56E±0°.03, h12km±8km, n32, σ0ş59/51, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.28**	**125**	P	**Pg**	**00 23 40.5**	**0.0**
SIGR				S	**Sb**	**00 23 44.9**	**-1.4**
	4μm,0.2s						
SIGR	**SIGRI**	**0.28**	**125**	Pg	**Pg**	**00 23 40.7**	**+0.1**
SIGR				Sg	**Sb**	**00 23 45.0**	**-1.4**
SIGR	**SIGRI**	**0.28**	**125**	P	**Pg**	**00 23 40.6**	**0.0**
SIGR				S	**Sg**	**00 23 44.7**	**+0.3**
SIGR				AML	AML	00 23 45.2	
	comp=N,12068μm,0.2s						
SIGR				AML	AML	00 23 45.2	
	comp=E,3738μm,0.2s						
KOCA	**Canakkale, Ayv**	**0.47**	**74**	P	**Pg**	**00 23 43.9**	**-0.1**
KOCA				S	**Sg**	**00 23 50.7**	**+0.5**
PRK	**Paraskevi**	**0.57**	**103**	P	**Pb**	**00 23 47.0**	**+0.4**
PRK				S	**Sb**	**00 23 55.2**	**+0.6**
	comp=E,482nm,0.5s						
PRK	**Paraskevi**	**0.57**	**103**	P	**Pb**	**00 23 47.0**	**+0.4**
PRK				S	**Sb**	**00 23 54.4**	**-0.2**
PRK				AML	AML	00 23 55.2	
	comp=N,871μm,0.3s						
PRK				AML	AML	00 23 56.9	
	comp=E,886μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.85**	**64**	P	**Pg**	**00 23 50.6**	**-0.5**
BAYC				S	**Sb**	**00 24 02.4**	**-0.3**
BAYC				*i* AML	AML	00 24 04.0	
	comp=E,142nm,0.2s						
GADA	**Gvkgeada**	**0.86**	**18**	Pg	**Pg**	**00 23 50.5**	**-0.9**
GADA				Sg	**Sg**	**00 24 02.2**	**-0.4**
GOKA	**anakkale-Gk**	**0.86**	**18**	P	**Pg**	**00 23 51.2**	**-0.3**
GOKA				S	**Sb**	**00 24 03.8**	**+0.7**
CHOS	**Chios island**	**1.06**	**158**	P	**Pg**	**00 23 54.8**	**-0.4**
CHOS				S	**Sb**	**00 24 09.3**	**+0.5**
	comp=E,475nm,0.3s						
CHOS	**Chios island**	**1.06**	**158**	P	**Pg**	**00 23 54.8**	**-0.4**
CHOS				S	**Sb**	**00 24 08.6**	**-0.2**
DKL	**Dikili**	**1.09**	**106**	Pg	**Pb**	**00 23 55.5**	**0.0**
DKL				Sg	**Sn**	**00 24 10.7**	**0.0**
SMTH	**Samothraki Isl**	**1.10**	**359**	P	**Pg**	**00 23 55.4**	**-0.5**
SMTH				S	**Sn**	**00 24 11.4**	**+0.3**
	comp=E,62nm,0.3s						
SMTH	**Samothraki Isl**	**1.10**	**359**	P	**Pg**	**00 23 55.2**	**-0.8**
SMTH				S	**Sb**	**00 24 11.2**	**+1.2**
BUHA	**Balikesir, Bur**	**1.18**	**83**	P	**Pb**	**00 23 56.7**	**-0.5**
BUHA				S	**Sg**	**00 24 12.0**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.24**	**34**	Pn	**Pn**	**00 23 57.7**	**-0.2**
GELI				Sn	**Sb**	**00 24 14.5**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.36**	**237**	P	**Pn**	**00 23 58.5**	**-1.0**
KYMI				S	**Sb**	**00 24 17.8**	**+0.4**
	comp=E,95nm,0.5s						
ENEZ	**Enez**	**1.44**	**18**	Pn	**Pn**	**00 24 00.6**	**0.0**
ERIK	**Erikli-Kesan**	**1.49**	**29**	Pn	**Pn**	**00 24 01.7**	**+0.4**
BLCB	**Balcova**	**1.52**	**130**	P	**Pb**	**00 24 02.9**	**0.0**
BLCB				S	**Sg**	**00 24 24.6**	**+0.9**
OUR	**Ouranopolis**	**1.55**	**309**	Pn	**Pn**	**00 24 03.2**	**+1.1**
OUR	**Ouranopolis**	**1.55**	**309**	P	**Pn**	**00 24 01.2**	**-0.9**
ALN	**Alexandroupoli**	**1.57**	**14**	Pn	**Pn**	**00 24 02.5**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.67**	**89**	P	**Pb**	**00 24 05.7**	**+0.2**
STEP				*i* AML	AML	00 24 31.0	
	comp=E,46nm,0.9s						
KRBG	**Karabiga-Canak**	**1.68**	**52**	Pn	**Pn**	**00 24 03.9**	**-0.1**
KNL	**Balıkesir**	**1.76**	**59**	P	**Pn**	**00 24 05.5**	**+0.4**
KNL				S	**Sn**	**00 24 27.7**	**+0.3**
KNL				*i* AML	AML	00 24 32.0	
	comp=E,73nm,1.0s						
KNL				*i* AML	AML	00 24 34.0	
	comp=E,50nm,0.9s						
RDO	**Rodhopi**	**1.77**	**359**	Pn	**Pn**	**00 24 05.4**	**+0.2**
DION	**Dionisos Attik**	**1.81**	**225**	P	**Pn**	**00 24 06.5**	**+0.7**
BALB	**Balikesir**	**1.81**	**81**	Pn	**Pn**	**00 24 06.1**	**+0.3**
UKOP	**Uzunkopru-Edir**	**1.94**	**25**	Pn	**Pn**	**00 24 07.3**	**-0.2**
KDZ	**Kurdzhali**	**2.28**	**357**	Pn	**Pn**	**00 24 12.1**	**-0.1**
EDRB	**Edirne**	**2.63**	**20**	Pn	**Pn**	**00 24 17.6**	**+0.6**

IDC 06 00:51:44.8±10.0, 9°.88S×159°.18E, h0km, mb3.7/4, mbtmp3.7/4, MS3.3/3, Error ellipse: s-maj=297.2km s-min=37.4km az=117.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.08**	**229**	LR	LR	01 00 36.2	
	comp=Z,38nm,18.6s,baz=82,slow=33						
WRA	**Warramunga Arr**	**25.97**	**244**	P	P	00 57 19.1	-0.3
	0.6nm,0.7s,baz=74,slow=8.9,SNR=3.7						
WRA				LR	LR	01 07 35.4	
	comp=Z,73nm,20.5s,baz=132,slow=37						
	0.6nm,0.7s						
STKA	**Stephens Creek**	**27.29**	**214**	LR	LR	01 08 25.4	
	comp=Z,101nm,18.2s,baz=27,slow=37						
ASAR	**Alice Springs**	**27.75**	**237**	P	P	00 57 35.5	+0.1
	0.9nm,0.9s,baz=68,slow=10,SNR=2.2						
	0.9nm,0.9s						
SONM	**Songino Array**	**74.00**	**326**	P	P	01 03 22.0	-0.4
	1.4nm,0.9s,baz=126,slow=7.3,SNR=7.4						
	1.4nm,0.9s						
MKAR	**Makanchi Array**	**88.29**	**318**	P	P	01 04 39.0	+0.7
	0.4nm,0.7s,baz=112,slow=4.5,SNR=5.2						
	0.4nm,0.7s						

*BJI **06** 01:12:02.6±0.0, 6°.05S×152°.78E, h16km, mb4.6/25, mB5.1/12*
*IDC **06** 01:12:02.6±0.6, 5°.59S×153°.03E, h0km, mb4.3/19, mbtmp4.3/20, ML2.4/1, MS3.4/24, Error ellipse: s-maj=19.7km s-min=13.5km az=97.0*
*NEIC **06** 01:12:03.8±1.3, 5°.71S±0°.07×153°.1E±0°.1, h10km±1km, mb4.6/31, Error ellipse: s-maj=18.7km s-min=11.3km az=74.0*
*DJA **06** 01:12:09.0±0.5, 6°.5±5°×15°.3E±°, h44km±8km, M4.6/9, mB4.7/3, mb4.5/9, MLv4.7/4, Mw(mB)4.0/3*

ISC 06 01:12:07.9±0.5, 5°.69S±0°.05×153°.04E±0°.08, h37km, n88, σ1ş21/78, mb4.5/39, MS3.4/23, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.70**	**324**	Pn	**Pn**	**01 12 33.8**	**-1.3**
	98nm,0.3s,baz=170,slow=3.5,SNR=64						
KRVT				Sn	**Sn**	**01 12 56.3**	**+0.7**
	320nm,0.3s,baz=156,slow=20,SNR=4.6						
KRVT				LR	LR	01 13 06.6	
	comp=Z,568nm,22.0s,baz=273,slow=40						
RABL	**Rabaul**	**1.72**	**329**		**Pn**	**01 12 34.5**	**-0.9**
RABL				Sn	**Sn**	**01 12 57.0**	**+0.9**
PMG	**Port Moresby**	**6.90**	**237**	Pn	**Pn**	**01 13 47.8**	**+1.2**
	4.0nm,0.3s,baz=33,slow=12,SNR=5.2						
PMG				Sn	**Sn**	**01 15 05.8**	**+1.8**
	3.8nm,0.3s,baz=208,slow=20,SNR=5.8						
PMG				LR	LR	01 16 31.4	
	comp=Z,198nm,21.9s,baz=52,slow=39						
	10nm,0.3s						
PMG	**Port Moresby**	**6.90**	**237**	Pn	**Pn**	**01 13 45.4**	**-1.2**
SMPI	**Sarmi**	**14.76**	**284**	P	**Pn**	**01 15 33.0**	**-1.1**
	31nm,1.3s						
CTA	**Charters Tower**	**15.76**	**204**	Pn	**P**	**01 15 50.8**	**-0.1**
	0.2nm,0.3s,baz=21,slow=13,SNR=2.2						
CTA				LR	LR	01 21 10.1	
	comp=Z,122nm,20.5s,baz=80,slow=34						
EIDS	**Eidsvold**	**19.66**	**185**	P	**P**	**01 16 32.6**	**-1.2**
DZM	**Mont Dzumac**	**20.82**	**143**	*e*Pn	Pn	01 16 49.5	+0.4
	61nm,1.2s						
DZM				*e*LR	LR	01 21 45.9	
	comp=Z,298nm,25.3s						
DZM	**Mont Dzumac**	**20.82**	**143**	P	**P**	**01 16 47.7**	**+1.2**
	5.3nm,1.0s,baz=296,slow=13,SNR=9.4						
DZM				LR	LR	01 23 35.6	
	comp=Z,164nm,20.4s,baz=26,slow=33						
	5.3nm,1.0s						
DZM	**Mont Dzumac**	**20.82**	**143**	P	**P**	**01 16 45.0**	**-1.5**
DZM				IAmb	IAmb	01 17 04.7	
	comp=Z,27nm,1.1s						
OUENC	**Ouen Island, N**	**21.32**	**143**	P	**P**	**01 16 50.9**	**-0.8**
OUENC				IAmb	IAmb	01 17 19.9	
	comp=Z,34nm,1.3s						
MTN	**Manton Dam**	**22.75**	**250**	P	**P**	**01 17 06.8**	**-0.3**
WB0	**Warramunga Arr**	**22.91**	**231**	P	**P**	**01 17 05.9**	**-2.9**
WRAB	**Tennant Creek**	**23.04**	**230**	P	**P**	**01 17 08.9**	**-1.3**
WRAB				IAmb	IAmb	01 17 11.8	
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	**23.05**	**230**	P	**P**	**01 17 08.0**	**-2.2**
WRA	**Warramunga Arr**	**23.05**	**230**	P	**P**	**01 17 09.5**	**-0.8**
	comp=Z,9.0nm,1.0s,baz=53,slow=9.8,SNR=18						
WRA				PcP	**PcP**	**01 21 00.1**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=46,slow=2.4,SNR=2.7						
WRA				LR	LR	01 26 45.5	
	comp=Z,87nm,19.7s,baz=60,slow=38						
	comp=Z,9.0nm,1.0s						
ARMA	**Armidale**	**24.64**	**183**	P	**P**	**01 17 22.6**	**-2.6**
ARMA				IAmb	IAmb	01 17 39.6	
	comp=Z,19nm,1.0s						
AS31	**Alice Springs**	**25.67**	**224**	P	**P**	**01 17 33.5**	**-1.1**
ASAR	**Alice Springs**	**25.67**	**224**	P	**P**	**01 17 34.5**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=57,slow=9.1,SNR=26						
ASAR				PcP	**PcP**	**01 21 05.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=56,slow=2.7,SNR=3.4						
ASAR				LR	LR	01 27 14.8	
	comp=Z,92nm,19.8s,baz=53,slow=35						
	comp=Z,4.0nm,0.9s						
ASAR	**Alice Springs**	**25.67**	**224**	P	**P**	**01 17 32.4**	**-2.2**
KNRA	**Kununurra**	**25.81**	**245**	P	**P**	**01 17 35.1**	**-0.8**
STKA	**Stephens Creek**	**28.17**	**201**	P	**P**	**01 17 57.5**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=16,slow=14,SNR=7.5						
STKA				LR	LR	01 29 10.6	
	comp=Z,81nm,18.5s,baz=23,slow=36						
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**28

	comp=Z,14nm,0.8s							
GTA	**Gaotai**	**66.47**	**317**	*e*P		**P**		**01 22 56.2 +2.2**
GTA				pP		pP		01 23 01.5 -1.9
GTA				sP		sP		01 23 05.1 -3.0
GTA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ULN	**Ulaanbaatar**	**66.87**	**328**	P		**P**		**01 22 56.6 +0.2**
ULN				IAmb		IAmb		01 23 11.0
	comp=Z,6.8nm,1.4s							
SHL	**Shillong**	**66.96**	**301**	P		**P**		**01 22 57.1 -0.3**
SONM	**Songino Array**	**67.20**	**328**	P		**P**		**01 22 59.1 +0.7**
	comp=Z,1.0nm,0.6s,baz=136,slow=6.0,SNR=7.2							
SONM				LR		LR		01 53 18.1
	comp=Z,19nm,18.4s,baz=325,slow=37							
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**67.20**	**328**	P		**P**		**01 22 58.8 +0.4**
SONM				IAmb		IAmb		01 22 59.9
	comp=Z,4.3nm,1.4s							
SEY	**Seymchan**	**68.42**	**360**	P		**P**		**01 23 05.7 0.0**
	comp=Z,1.7nm,0.3s,baz=201,slow=5.0,SNR=7.1							
	comp=Z,1.7nm,0.3s							
YAK	**Yakutsk**	**69.88**	**349**	LR		LR		01 51 11.5
	comp=Z,16nm,21.8s,baz=253,slow=34							
YAK	**Yakutsk**	**69.88**	**349**	P		**P**		**01 23 14.9 +0.2**
BILL	**Bilibino**	**74.14**	**5**	P		**P**		**01 23 40.4 +0.2**
WMQ	**Urumqi**	**76.55**	**317**	*e*P		**P**		**01 23 57.9 +3.3**
WMQ				pmax		pmax		
	comp=Z,10.0nm,1.1s							
L19K	**White Mountain**	**78.47**	**22**	P		**P**		**01 24 05.6 +0.7**
L19K				IAmb		IAmb		01 24 06.6
	comp=Z,7.7nm,0.9s							
K20K	**Telida**	**79.46**	**21**	P		**P**		**01 24 11.1 +0.8**
K20K				IAmb		IAmb		01 24 21.0
	comp=Z,6.1nm,1.2s							
J20K	**Nowinta River**	**79.92**	**21**	P		**P**		**01 24 13.2 +0.5**
J20K				IAmb		IAmb		01 24 14.2
	comp=Z,6.5nm,0.9s							
CAST	**Castle Rocks**	**80.23**	**22**	P		**P**		**01 24 13.6 -0.8**
CAST				IAmb		IAmb		01 24 14.9
	comp=Z,5.6nm,0.9s							
IMAR	**Indian Mountai**	**81.13**	**19**	P		**P**		**01 24 19.4 +0.2**
MK31	**Makanchi Array**	**81.15**	**319**	P		**P**		**01 24 19.1 -0.6**
MKAR	**Makanchi Array**	**81.15**	**319**	P		**P**		**01 24 19.7 0.0**
	comp=Z,1.6nm,0.9s,baz=101,slow=6.4,SNR=11							
	comp=Z,1.6nm,0.9s							
MKAR	**Makanchi Array**	**81.15**	**319**	P		**P**		**01 24 19.2 -0.5**
MAKZ	**Makanchi**	**81.36**	**319**	P		**P**		**01 24 20.0 -0.8**
MCK	**McKinley**	**81.58**	**22**	P		**P**		**01 24 20.9 -0.8**
ZAA0	**Zalesovo Array**	**82.02**	**326**	P		**P**		**01 24 23.8 -0.2**
ZAA0				IAmb		IAmb		01 24 24.4
	comp=Z,2.9nm,0.8s							
ZALV	**Zalesovo Beam**	**82.02**	**326**	P		**P**		**01 24 23.8 -0.3**
	comp=Z,2.7nm,0.7s,baz=116,slow=5.7,SNR=14							
ZALV				LR		LR		02 00 39.6
	comp=Z,17nm,21.3s,baz=76,slow=36							
	comp=Z,2.7nm,0.7s							
ZALV	**Zalesovo Beam**	**82.02**	**326**	P		**P**		**01 24 23.2 -0.9**
CCB	**Clear Creek Bu**	**82.48**	**22**	IAmb		IAmb		01 24 35.1
	comp=Z,7.5nm,1.4s							
IL31		**82.88**	**22**	IAmb		IAmb		01 24 43.6
	comp=Z,5.6nm,1.1s							
ILAR	**Eielson Array**	**82.88**	**22**	P		**P**		**01 24 26.9 -1.5**
	comp=Z,2.6nm,0.9s,baz=252,slow=4.8,SNR=16							
ILAR				LR		LR		01 57 09.0
	comp=Z,19nm,19.9s,baz=115,slow=33							
	comp=Z,2.6nm,0.9s							
ILAR	**Eielson Array**	**82.88**	**22**	P		**P**		**01 24 26.7 -1.7**
BCAR	**Beaver Creek A**	**84.11**	**25**	P		**P**		**01 24 34.6 -0.2**
KURK	**Kurchatov**	**84.61**	**322**	P		**P**		**01 24 37.1 -0.4**
KURK				IAmb		IAmb		01 24 38.5
	comp=Z,5.9nm,1.1s							
KURBB	**Kurchatov Arra**	**84.64**	**322**	P		**P**		**01 24 37.2 -0.4**
	comp=Z,1.7nm,0.9s,baz=96,slow=4.5,SNR=6.1							
	comp=Z,1.7nm,0.9s							
BMAR	**Burnt Mountain**	**84.99**	**20**	P		**P**		**01 24 38.8 -0.4**
NRIK	**Noril'sk**	**86.87**	**341**	P		**P**		**01 24 48.2 -0.2**
	comp=Z,4.2nm,0.8s,baz=106,slow=4.5,SNR=6.8							
NRIK				LR		LR		02 06 07.0
	comp=Z,13nm,18.0s,baz=44,slow=37							
	comp=Z,4.2nm,0.8s							
NRIK	**Noril'sk**	**86.87**	**341**	P		**P**		**01 24 47.6 -0.7**
NRIK				IAmb		IAmb		01 24 51.7
	comp=Z,6.6nm,1.1s							
YBH	**Yreka Blue Hor**	**89.46**	**48**	LR		LR		02 01 00.5
	comp=Z,73nm,18.1s,baz=279,slow=33							
BVAR	**Borovoye Array**	**90.09**	**323**	P		**P**		**01 25 03.5 -0.5**
	comp=Z,3.0nm,0.8s,baz=90,slow=4.4,SNR=15							
	comp=Z,3.0nm,0.8s							
BRVK	**Borovoye**	**90.16**	**323**	P		**P**		**01 25 03.9 -0.4**
BRVK				IAmb		IAmb		01 25 13.4
	comp=Z,3.2nm,0.8s							
NVAR	**Mina Array Bea**	**92.44**	**52**	P		**P**		**01 25 16.6 +1.0**
	comp=Z,0.2nm,0.3s,baz=238,slow=5.2,SNR=2.0							
	comp=Z,0.2nm,0.3s							
A36M	**Sachs Harbour**	**92.80**	**18**	IAmb		IAmb		01 25 17.5
	comp=Z,3.4nm,0.8s							
NEW	**Newport**	**94.09**	**42**	LR		LR		01 59 14.0
	comp=Z,29nm,20.5s,baz=302,slow=30							
YKA	**Yellowknife Ar**	**96.09**	**28**	P		**P**		**01 25 31.2 -0.2**
	comp=Z,1.2nm,0.9s,baz=271,slow=5.0,SNR=1.3							
	comp=Z,1.2nm,0.9s							
PDAR	**Pinedale Array**	**99.26**	**48**	LR		LR		02 05 33.7
	comp=Z,60nm,18.7s,baz=287,slow=32							
CLL	**Collm**	**123.74**	**331**	*e*(PKPdf)		**PKiKP**		**01 31 06.0 +3.9**
CLL				*ex*		x		01 31 14.0
GERES	**GERESS Array B**	**124.93**	**328**	PKP		**PKiKP**		**01 31 04.7 0.0**
	comp=Z,0.6nm,0.7s,baz=79,slow=2.1,SNR=5.5							
ESDC	**Sonseca Array**	**140.32**	**332**	PKP		**PKPdf**		**01 31 33.6 +0.2**
	comp=Z,0.4nm,0.9s,baz=78,slow=3.5,SNR=2.6							
MDT	**Midelt**	**145.90**	**325**	PKPbc		**PKPab**		**01 31 45.5 +0.8**
	comp=Z,5.4nm,1.1s,baz=81,slow=6.2,SNR=7.3							
BDFB	**Brasilia**	**150.27**	**136**	PKPbc		**PKiKP**		**01 31 57.7 +0.6**
	comp=Z,6.5nm,0.9s,baz=190,slow=6.1,SNR=7.3							

*JMA **06** 01:14:05.5±0.1,36°.3N±0°.3×140°.9E±0°.9,h45km±1km, MV3.4/38,E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
*NIED **06** 01:14:05.5,36°.34N×140°.92E,h45km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.41; $M_{\theta\theta}$-0.64; $M_{\phi\phi}$1.04; $M_{r\theta}$1.14; $M_{\theta\phi}$-1.98; $M_{\phi r}$1.74; Fault plane solution: $M_0$2.97000×10^{14} NP1: ϕ_s190.00000°,δ81.00000°,λ-41.00000°. NP2: ϕ_s288.00000°,δ50.00000°,λ-168.00000°.*
*IDC **06** 01:14:09.0±7.2,36°.09N×140°.77E,h59km±54km, mb3.2/3, mbtmp3.4/4,ML2.7/1,MS2.8/1 Error ellipse: s-maj=67.1km s-min=32.0km az=56.0*
ISC 06 01:14:05.5±1.2,36°.37N±0°.05×141°.00E±0°.08,h35km,n21, σ0°.79/23,mb3.3/3,11D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.34**	**266**	⇓*i*P		**Pn**	**01 14 13.9**	**+0.1**
JHYU				⇓S		**Sn**	**01 14 19.6**	**0.0**
JHO	**Hitachi**	**0.43**	**305**	⇓*i*P		**Pn**	**01 14 14.9**	**-0.1**
JHO				⇓S		**Sn**	**01 14 21.4**	**-0.3**
JIHU	**Itakohorinouch**	**0.56**	**224**	P		**Pn**	**01 14 17.1**	**+0.2**
JIHU				S		**Sn**	**01 14 25.1**	**+0.3**
JYT	**Yasato**	**0.67**	**258**	*i* P		**Pn**	**01 14 17.7**	**-0.7**
JYT				S		**Sn**	**01 14 25.8**	**-1.8**
ONAJ	**Iwakimizuishiy**	**0.75**	**348**	⇓*i*P		**Pn**	**01 14 19.6**	**0.0**
ONAJ				⇓S		**Sn**	**01 14 29.3**	**-0.5**
JSMT	**Sammumatsuo**	**0.85**	**212**	S		**Sn**	**01 14 31.9**	**-0.2**
JFK	**Kawauchi**	**1.00**	**354**	⇓*i*P		**Pn**	**01 14 22.9**	**-0.2**
JFK				⇓S		**Sn**	**01 14 35.2**	**-0.9**
JAG	**Ashikaga**	**1.25**	**273**	⇓*i*P		**Pn**	**01 14 26.0**	**-0.4**
JAG				⇓S		**Sn**	**01 14 40.7**	**-1.4**
JKT	**Katashina**	**1.47**	**286**	*i* P		**Pn**	**01 14 29.8**	**+0.3**
JKT				S		**Sn**	**01 14 47.1**	**-0.4**
JFY	**Yanaizu**	**1.47**	**315**	⇓P		**Pn**	**01 14 30.2**	**+0.7**
MJAR	**Matsushiro Arr**	**2.26**	**275**	P		**Pn**	**01 14 41.2**	**+0.9**
	2.4nm,0.3s,baz=111,slow=9.5,SNR=68							
MJAR				S		**Sn**	**01 15 07.2**	**+0.2**
	5.3nm,0.3s,baz=88,slow=18,SNR=6.2							
	7.7nm,0.3s							
JCJ	**Chichijima**	**9.30**	**173**	LR		LR	01 19 47.7	
	comp=Z,68nm,21.1s,baz=114,slow=38							
SONM	**Songino Array**	**27.89**	**305**	P		**P**	**01 19 53.7**	**+1.7**
	0.5nm,0.7s,baz=115,slow=8.3,SNR=3.8							
	0.5nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.10**	**119**	T		T	01 49 52.6	
	baz=312							
H11N1	**WAKE ISLAND Hy**	**28.11**	**119**	T		T	01 50 01.0	
	baz=312							
H11N3	**WAKE ISLAND Hy**	**28.12**	**119**	T		T	01 49 57.1	
	baz=312							
H11S1	**WAKE ISLAND Hy**	**28.79**	**121**	T		T	01 50 38.7	
	baz=314,slow=76,SNR=58							
H11S3	**WAKE ISLAND Hy**	**28.79**	**121**	T		T	01 50 41.1	
	baz=314,slow=76,SNR=30							
H11S2	**WAKE ISLAND Hy**	**28.80**	**121**	T		T	01 50 20.9	
	baz=314,slow=76,SNR=35							
MKAR	**Makanchi Array**	**44.20**	**303**	P		**P**	**01 22 11.2**	**+0.3**
	0.3nm,0.8s,baz=93,slow=9.2,SNR=4.0							
	0.3nm,0.8s							
WRA	**Warramunga Arr**	**56.36**	**188**	P		**P**	**01 23 42.1**	**-1.0**
	0.4nm,0.6s,baz=5.3,slow=7.3,SNR=1.7							
	0.4nm,0.6s							

*IDC **06** 01:22:08.7±5.5,36°.04N×71°.44E,h49km±35km, mb3.3/4, mbtmp3.6/9,ML3.3/5, Error ellipse: s-maj=69.4km s-min=26.3km az=169.0*
*SOME **06** 01:22:12.2,37°.85N×71°.90E,h0km*
*NNC **06** 01:22:18.4±4.1,36°.81N×71°.12E,h104km±73km, mb3.1, mpv3.6, Error ellipse: s-maj=33.3km s-min=31.1km az=53.0*
ISC 06 01:22:01.8±1.0,35°.8N±0°.1×71°.15E±0°.09,h10km,n25, σ1°.34/28,mb3.7/3,2C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IUG	**Iuzhnay**	**6.39**	**352**	*e*Pg		**Pn**	**01 23 37.9**	**+1.9**
	6.2nm,0.1s							
IUG				*e*Lg		Lg	01 24 38.8	
	37nm,0.2s							
MRKS	**Merke**	**7.11**	**12**	*e*Pg		**Pn**	**01 23 46.7**	**+0.7**
	5.0nm,0.2s							
MRKS				*e*Lg		Lg	01 24 54.3	
	23nm,0.1s							
AAK	**Ala-Archa**	**7.29**	**20**	P		**Pn**	**01 23 49.6**	**+1.1**
	1.2nm,0.3s,baz=189,slow=8.9,SNR=9.0							
AAK				S		Sn	01 25 02.3	-9.2
	3.8nm,0.5s,baz=329,slow=16,SNR=5.6							
	2.9nm,0.3s							
KK31	**Karatay Array**	**7.30**	**356**	P		**Pn**	**01 23 49.4**	**+0.9**
	1.7nm,0.4s,baz=179,slow=12,SNR=26							
KK31				⇓S		Sn	01 25 00.0	-11
	3.1nm,0.5s,baz=167,slow=12,SNR=5.5							
CHMS	**Chumysh**	**7.70**	**20**	⇑P		**Pn**	**01 23 54.6**	**+0.6**
	1.9nm,0.4s							
CHMS				⇑S		Sn	01 25 11.6	-10
	8.8nm,0.8s							
DGS	**Degeres**	**8.23**	**24**	*e*Pg		Pn	01 24 06.7	+5.3
	1.6nm,0.4s							
DGS				*e*Lg		Lg	01 25 28.6	
	3.6nm,0.4s							
GEYT	**Alibeck**	**10.66**	**285**	P		Pn	01 24 41.4	+6.8
	0.6nm,0.3s,baz=105,slow=11,SNR=7.5							
GEYT				S		**Sn**	**01 26 33.6**	**-0.4**
	1.5nm,0.5s,baz=107,slow=14,SNR=1.9							
	0.9nm,0.3s							
DANN	**Dangsing**	**13.02**	**121**	*e*P		**P**	**01 25 14.6**	**-3.1**
DANN				*e*S		**Sn**	**01 27 34.4**	**+2.3**
	9.4nm,0.4s							
MKAR	**Makanchi Array**	**13.78**	**34**	P		**Pn**	**01 25 16.8**	**-0.5**
	baz=222,slow=12,SNR=1.1							
	0.2nm,0.7s							
GKN	**Gorkha**	**13.84**	**120**	*e*P		**P**	**01 25 24.9**	**-1.8**
GKN				*e*S		**Sn**	**01 27 53.0**	**+1.0**
	12nm,0.3s							
DMN	**Daman**	**14.41**	**121**	*e*P		**P**	**01 25 32.0**	**-1.1**
PKIN	**Phulchoki**	**14.63**	**120**	*e*P		**P**	**01 25 34.9**	**-0.7**
PKIN				*e*S		**Sn**	**01 28 12.1**	**+0.6**
	4.0nm,0.2s							
PKI	**Pulchoki**	**14.64**	**120**	*e*P		**P**	**01 25 34.9**	**-0.9**
PKI				*e*S		**Sn**	**01 28 12.0**	**+0.1**
	2.8nm,0.3s							
JIRN	**Jiri**	**15.14**	**118**	*e*P		**P**	**01 25 40.8**	**-0.6**
AB31	**Akbulak array**	**15.75**	**332**	P		**Pn**	**01 25 41.9**	**-1.7**
	0.4nm,0.4s,baz=139,slow=12,SNR=30							
AB31				S		Sn	01 28 25.2	-13
	0.9nm,0.5s,baz=153,slow=23,SNR=4.1							
RAMN	**Ramite**	**15.86**	**120**	*e*P		**P**	**01 25 50.5**	**+1.3**
TAPN	**Taplejung**	**16.42**	**116**	*e*P		**P**	**01 25 56.7**	**+1.2**
BVAR	**Borovoye Array**	**17.22**	**358**	P		**Pn**	**01 26 01.7**	**-0.6**
	baz=158,slow=11,SNR=4.2							
	0.8nm,0.6s							
AKTO	**Aktyubinsk**	**17.44**	**331**	P		**P**	**01 26 06.2**	**-0.1**
	0.3nm,0.3s,baz=123,slow=9.0,SNR=5.9							
	2.2nm,0.6s							
AKTO	**Aktyubinsk**	**17.44**	**331**	⇓P		**P**	**01 26 05.6**	**-0.7**
	1.9nm,0.3s							
ZALV	**Zalesovo Beam**	**20.49**	**24**	P		**P**	**01 26 38.3**	**-1.4**
	0.7nm,0.5s,baz=219,slow=8.9,SNR=3.2							
	0.7nm,0.5s							
SONM	**Songino Array**	**28.63**	**54**	P		**P**	**01 27 58.1**	**-0.4**
	0.2nm,0.4s,baz=267,slow=10,SNR=2.1							
	0.2nm,0.4s							
HFS	**Hagfors**	**43.69**	**322**	P		**P**	**01 30 08.6**	**+2.1**
	1.4nm,0.5s,baz=105,slow=11,SNR=1.5							
	1.4nm,0.5s							
NB2	**NORSAR Subarra**	**45.01**	**323**	P		**P**	**01 30 18.6**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**45.01**	**323**	P		**P**	**01 30 18.4**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.7,SNR=3.4							
	comp=Z,0.4nm,0.5s							

*IDC **06** 01:38:01.4±2.7,36°.21N×70°.81E,h170km±21km, mb3.6/13, mbtmp4.1/19,MS2.2/1, Error ellipse: s-maj=20.8km s-min=15.2km az=9.0*
*NNC **06** 01:38:09.4±1.5,36°.86N×70°.78E,h198km±13km, mb3.4, mpv4.8, Error ellipse: s-maj=13.6km s-min=9.5km az=22.0*
*SOME **06** 01:38:12.4,38°.40N×72°.13E,h0km*
ISC 06 01:38:05.5±0.6,36°.50N±0°.06×70°.72E±0°.07,h204km,n66, σ1°.45/71,mb3.9/12,7C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.84**	**160**	P		**Pn**	**01 38 54.7**	**+1.0**
CEP				S		**S**	**01 39 30.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.52**	**143**	P		**Pn**	**01 39 01.7**	**+0.1**
THW	**Thamme Wali**	**3.79**	**167**	P		**Pn**	**01 39 04.5**	**-0.4**
SARP	**Sargodha**	**4.84**	**160**	P		**Pn**	**01 39 16.9**	**-1.1**
KSH	**Kashi**	**5.13**	**52**	Pn		**Pn**	**01 39 17.3**	**-4.4**
KSH				Sn		S	01 40 10.4	-11
KSH				pmax		pmax		
	comp=Z,97nm,0.5s							
KSH				smax		smax		
	comp=N,130nm,0.5s							
KSH				smax		smax		
	comp=E,84nm,0.7s							
IUG	**Iuzhnay**	**5.67**	**355**	Pg		Pn	**01 39 29.1**	**+0.5**
	comp=E,115nm,0.2s							
IUG				Lg		Lg	01 40 30.9	
	comp=E,260nm,0.5s							
IUG	**Iuzhnay**	**5.67**	**355**	*e*Pg		**Pn**	**01 39 29.1**	**+0.5**
	comp=E,115nm,0.2s							
IUG				*e*Lg		Lg	01 40 30.9	
	comp=E,260nm,0.5s							
AML	**Almayashu**	**6.08**	**21**	P		**Pn**	**01 39 34.0**	**-0.2**
	SNR=425							
DZA	**Taraz**	**6.41**	**4**	*e*Pg		**Pn**	**01 39 38.7**	**+0.7**
	comp=E,286nm,0.6s							
DZA				*e*Lg		Lg	01 40 48.1	
	comp=E,196nm,0.3s							
UCH	**Uchtor**	**6.43**	**26**	P		**Pn**	**01 39 38.6**	**-0.1**
	SNR=55							
MRKS	**Merke**	**6.53**	**16**	*e*Pg		**Pn**	**01 39 39.6**	**-0.1**
	comp=E,80nm,0.6s							
MRKS				*e*Lg		Lg	01 40 50.1	
	comp=E,71nm,0.5s							
EKS2	**Erkin-Say**	**6.59**	**20**	P		**Pn**	**01 39 40.7**	**+0.2**
	SNR=21							
KK31	**Karatay Array**	**6.60**	**359**	P		**Pn**	**01 39 40.3**	**-0.2**
	comp=E,18nm,0.5s,baz=185,slow=12,SNR=370							
KK31				⇑S		**S**	**01 40 50.9**	**-4.9**
	comp=E,22nm,0.5s,baz=175,slow=16,SNR=8.6							
AAK	**Ala-Archa**	**6.79**	**24**	P		**Pn**	**01 39 43.4**	**+0.3**
	SNR=31							
AAK	**Ala-Archa**	**6.79**	**24**	P		**Pn**	**01 39 43.4**	**+0.3**
	comp=E,32nm,0.5s,baz=190,slow=6.2,SNR=191							
AAK				S		**S**	**01 40 58.1**	**-2.3**
	comp=E,19nm,0.6s,baz=336,slow=24,SNR=17							
AAK				LR		LR	01 42 14.7	
	comp=E,16nm,18.1s,baz=339,slow=36							
KBK	**Karagaybulak**	**6.96**	**27**	P		**Pn**	**01 39 45.7**	**+0.4**
	SNR=38							

ULHL	**Ulahol**	**7.16**	**35**	P		**Pn**	**01 39 48.1**	**+0.2**
	SNR=22							
CHMS	**Chumysh**	**7.20**	**24**	P		**Pn**	**01 39 48.5**	**+0.2**
	SNR=14							
CHMS	**Chumysh**	**7.20**	**24**	⇓P		**Pn**	**01 39 47.9**	**-0.3**
	comp=E,18nm,0.4s							
CHMS				⇑S		**S**	**01 41 06.5**	**-3.3**
	comp=E,18nm,0.6s							
USP	**Ospenovka**	**7.36**	**22**	P		**Pn**	**01 39 50.1**	**-0.2**
	SNR=31							
TKM2	**Tokmak 2**	**7.44**	**29**	P		**Pn**	**01 39 51.5**	**0.0**
	SNR=45							
TKM2	**Tokmak 2**	**7.44**	**29**	⇑P		**Pn**	**01 39 51.2**	**-0.3**
	comp=E,90nm,1.1s							
TKM2				⇑S		**S**	**01 41 13.0**	**-2.8**
	comp=E,19nm,0.9s							
SGDS	**Sogindy**	**7.57**	**22**	P		**Pn**	**01 39 51.7**	**-1.3**
KST	**Kastek**	**7.68**	**30**	*e*Pg		**Pn**	**01 39 53.7**	**-1.0**
	comp=E,30nm,0.6s							
KST				*e*Lg		Lg	01 41 15.3	
	comp=E,18nm,0.6s							
DGS	**Degeres**	**7.78**	**28**	P		**Pn**	**01 39 55.4**	**-0.4**
DGS	**Degeres**	**7.78**	**28**	*e*Pg		**Pn**	**01 39 53.7**	**-2.1**
	comp=E,11nm,0.4s							
DGS				*e*Lg		Lg	01 41 15.5	
	comp=E,11nm,0.3s							
TNSS	**Tian-Shan**	**8.10**	**34**	P		**Pn**	**01 39 59.9**	**-0.4**
KRBS	**Karabastau**	**8.13**	**26**	P		**Pn**	**01 39 59.5**	**-0.9**
KRBS	**Karabastau**	**8.13**	**26**	*e*Pg		**Pn**	**01 39 59.3**	**-1.1**
	comp=E,2.7nm,0.2s							
KRBS				*e*Lg		Lg	01 41 25.0	
	comp=E,3.1nm,0.3s							
MDOK	**Medeo**	**8.25**	**34**	P		**Pn**	**01 40 02.1**	**+0.1**
	comp=E,26nm,0.7s							
KUU	**Kurty**	**8.55**	**28**	P		**Pn**	**01 40 04.3**	**-1.4**
CHKK	**Chushkaly**	**8.77**	**31**	P		**Pn**	**01 40 08.1**	**-0.6**
SATY	**Saty**	**8.83**	**40**	P		**Pn**	**01 40 09.3**	**-0.2**
BTLS	**Baital**	**8.90**	**15**	P		**Pn**	**01 40 10.5**	**+0.2**
BTLS	**Baital**	**8.90**	**15**	*e*Pg		Pn	01 40 20.0	+10
	comp=E,4.0nm,0.3s							
BTLS				*e*Lg		Lg	01 42 03.3	
	comp=E,5.3nm,0.4s							
GEYT	**Alibeck**	**10.15**	**282**	P		**Pn**	**01 40 25.8**	**-0.9**
	comp=E,1.3nm,0.5s,baz=116,slow=10,SNR=3.8							
GEYT				S		**S**	**01 42 16.7**	**-3.8**
	comp=E,2.9nm,0.7s,baz=69,slow=20,SNR=1.6							
OTUK	**Ortayu**	**11.80**	**5**	⇑P		**Pn**	**01 40 46.9**	**-0.7**
	comp=E,3.2nm,0.7s							
MAKZ	**Makanchi**	**13.29**	**36**	⇓P		**Pn**	**01 41 05.2**	**-1.1**
	comp=E,4.8nm,0.5s							
MK31	**Makanchi Array**	**13.43**	**36**	P		**Pn**	**01 41 08.0**	**0.0**
	comp=E,5.1nm,0.8s,baz=213,slow=12,SNR=36							
MKAR	**Makanchi Array**	**13.43**	**36**	P		**Pn**	**01 41 08.2**	**+0.2**
	comp=E,1.0nm,0.3s,baz=217,slow=8.6,SNR=26							
GKN	**Gorkha**	**14.49**	**122**	*e*P		**P**	**01 41 24.2**	**+1.5**
AB31	**Akbulak array**	**14.98**	**332**	⇓P		**P**	**01 41 28.1**	**+0.5**
	comp=E,1.2nm,0.5s,baz=150,slow=12,SNR=55							
KURBB	**Kurchatov Arra**	**15.20**	**19**	P		**Pn**	**01 41 28.9**	**-0.8**
	comp=E,8.8nm,0.4s,baz=210,slow=11,SNR=7.0							
PKIN	**Phulchoki**	**15.28**	**121**	*e*P		**P**	**01 41 32.0**	**+0.5**
PKIN				*e*S		S	01 43 42.3	-39
	comp=E,5.6nm,0.2s							
PKI	**Pulchoki**	**15.29**	**121**	*e*P		**P**	**01 41 31.9**	**+0.2**
PKI				*e*S		S	01 43 42.1	-39
	comp=E,5.2nm,0.2s							
JIRN	**Jiri**	**15.78**	**120**	*e*P		**P**	**01 41 34.1**	**-3.1**
RAMN	**Ramite**	**16.51**	**121**	*e*P		**P**	**01 41 44.2**	**-0.8**
BVA0	**Borovoye Array**	**16.53**	**359**	P		**Pn**	**01 41 46.5**	**+0.8**
	comp=E,2.6nm,1.1s,baz=152,slow=8.4,SNR=11							
BVAR	**Borovoye Array**	**16.53**	**359**	P		**Pn**	**01 41 46.1**	**+0.4**
	comp=E,1.2nm,0.4s,baz=177,slow=10.0,SNR=17							
AKTO	**Aktyubinsk**	**16.67**	**331**	P		**Pn**	**01 41 48.0**	**+0.5**
	comp=E,3.6nm,0.6s,baz=140,slow=9.0,SNR=12							
AKTO	**Aktyubinsk**	**16.67**	**331**	⇑P		**Pn**	**01 41 47.8**	**+0.3**
	comp=E,3.2nm,0.9s							
ZAA0	**Zalesovo Array**	**20.01**	**25**	⇑P		**P**	**01 42 22.8**	**+0.4**
	comp=E,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**20.01**	**25**	P		**P**	**01 42 23.1**	**+0.6**
	comp=E,1.5nm,0.4s,baz=216,slow=11,SNR=40							
	comp=E,7.5nm,0.4s							
ARU	**Arti**	**21.57**	**341**	P		**

CUAYA				S	**Sg**	**01 46 34.3**	**0.0**
TOKT	**Tokat**	**1.41**	**57**	Pn	**Pb**	**01 46 15.7**	**-0.4**
BBAL	**Bala**	**1.45**	**270**	P	**Pb**	**01 46 16.9**	**+0.1**
BBAL				S	**Sb**	**01 46 35.7**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**1.48**	**169**	P	**Pn**	**01 46 15.6**	**-0.9**
YAHY				S	**Sn**	**01 46 33.1**	**-2.8**
CANT	**Cankiri**	**1.49**	**315**	Pn	**Pg**	**01 46 17.9**	**-0.5**
CANT				Sn	**Sg**	**01 46 38.5**	**+0.7**
AFSR	**Afar-Bala (An**	**1.50**	**266**	Pn	**Pb**	**01 46 17.5**	**-0.1**
AFSR				Sn	**Sg**	**01 46 38.7**	**+0.8**
YARM	**Yarimca-Ladik(**	**1.51**	**25**	Pn	**Pb**	**01 46 17.8**	**+0.1**
KIZO	**Buyukkizoglu-L**	**1.52**	**28**	Pn	**Pb**	**01 46 18.1**	**+0.1**
ELDT	**Eldivan**	**1.53**	**308**	P	**Pg**	**01 46 18.6**	**-0.5**
ELDT				S	**Sn**	**01 46 37.0**	**-0.1**
NIDE	**Nigde/Merkez-G**	**1.56**	**186**	P	**Pb**	**01 46 18.6**	**-0.2**
NIDE				S	**Sb**	**01 46 38.6**	**+0.1**
SVSK	**Karacayir**	**1.58**	**76**	Pn	**Pb**	**01 46 18.5**	**-0.5**
SARI	**SarD1z-Kayseri**	**1.59**	**136**	Pn	**Pb**	**01 46 18.9**	**-0.3**
HAVZ	**Havza**	**1.61**	**20**	P	**Pb**	**01 46 19.4**	**-0.2**
HAVZ				S	**Sg**	**01 46 40.8**	**-0.9**
KAGI	**orum-Kargı**	**1.63**	**346**	P	**Pb**	**01 46 20.0**	**+0.2**
KAGI				S	**Sn**	**01 46 38.8**	**-0.6**
KULU	**Kulu**	**1.63**	**252**	Pn	**Pb**	**01 46 19.8**	**-0.1**
KKUL	**Konya-Kulu**	**1.66**	**257**	P	**Pb**	**01 46 20.7**	**+0.4**
KKUL				S	**Sg**	**01 46 43.1**	**-0.1**
SCER	**sogukcermik**	**1.67**	**79**	P	**Pb**	**01 46 19.8**	**-0.8**
SCER				S	**Sb**	**01 46 42.1**	**+0.4**
KVT	**Kavak**	**1.72**	**27**	Pn	**Pb**	**01 46 21.1**	**-0.3**
ANTO	**Ankara**	**1.73**	**281**	Pn	**Pb**	**01 46 21.2**	**-0.4**
LOD	**Lodumlu**	**1.76**	**282**	Pn	**Pb**	**01 46 21.4**	**-0.6**
SULT	**Sultanhani-AKS**	**1.78**	**221**	Pn	**Pb**	**01 46 21.7**	**-0.7**
SAIM	**ADANA**	**1.79**	**151**	P	**Pb**	**01 46 21.9**	**-0.7**
CHBY	**Cihanbeyli**	**1.91**	**240**	Pn	**Pb**	**01 46 23.7**	**-0.9**
CUKAN	**kangal_SIVAS**	**1.93**	**96**	P	**Pb**	**01 46 24.0**	**-0.9**
CUKAN				S	**Sg**	**01 46 52.6**	**+1.0**
CUGUR	**Gurin_SVAS**	**1.95**	**114**	P	**Pn**	**01 46 23.9**	**+1.0**
RSDY	**Resadiye-TOKAT**	**1.98**	**64**	Pn	**Pb**	**01 46 24.6**	**-1.1**
BOYA	**Sinop/Boyabat-**	**1.99**	**353**	P	**Pb**	**01 46 25.5**	**-0.5**
BOYA				S	**Sb**	**01 46 52.0**	**+1.2**
SAMS	**Samsun-Alacam**	**2.02**	**26**	P	**Pb**	**01 46 26.4**	**0.0**
KMON	**Kastamonu**	**2.04**	**333**	Pn	**Pn**	**01 46 24.9**	**+0.8**
ELBS	**KAHRAMANMARAS**	**2.07**	**126**	P	**Pb**	**01 46 27.8**	**+0.5**
ALIN	**Konya, Altinte**	**2.08**	**234**	P	**Pn**	**01 46 25.8**	**+1.3**
DIKM	**Dikmen**	**2.10**	**5**	Pn	**Pb**	**01 46 26.5**	**-1.3**
AKO	**Adana**	**2.12**	**170**	P	**Pb**	**01 46 27.9**	**-0.3**
CMDR	**Camlidere-ANKA**	**2.15**	**297**	P	**Pb**	**01 46 27.5**	**-1.3**
DARE	**Darende-Malaty**	**2.17**	**116**	Pn	**Pb**	**01 46 27.4**	**-1.6**
PELI	**Kastamonı-Ara**	**2.17**	**324**	P	**Pn**	**01 46 27.0**	**+1.1**
PELI				S	**Sn**	**01 46 52.0**	**-0.7**
KOZT	**Kozan**	**2.17**	**162**	Pn	**Pn**	**01 46 27.0**	**+1.2**
KERG	**Konya-Eregli**	**2.24**	**198**	P	**Pb**	**01 46 31.1**	**+0.7**
KARA	**Karaisali**	**2.29**	**179**	Pn	**Pn**	**01 46 28.9**	**+1.5**
HEKM	**Malatya_Hekimh**	**2.40**	**105**	P	**Pb**	**01 46 32.4**	**-0.5**
LADK	**Ladik-KONYA**	**2.46**	**238**	Pn	**Pn**	**01 46 31.4**	**+1.5**
BZK	**Bozkurt**	**2.52**	**343**	Pn	**Pn**	**01 46 32.7**	**+2.2**
KMRS	**Kahramanmaras**	**2.53**	**143**	Pn	**Pn**	**01 46 32.2**	**+1.4**
SUSE	**Susehri**	**2.55**	**74**	P	**Pn**	**01 46 32.5**	**+1.4**
SUSE				S	**Sb**	**01 47 06.9**	**-0.1**
KAHM	**Kahramanmaras,**	**2.56**	**142**	P	**Pb**	**01 46 36.5**	**+0.8**
DED	**Mersin**	**2.59**	**184**	P	**Pb**	**01 46 34.6**	**-1.7**
DED				S	**Sb**	**01 47 08.4**	**+0.3**
CEYT	**Ceyhan**	**2.61**	**167**	Pn	**Pn**	**01 46 33.4**	**+1.6**
KONT	**Konya--Tatoy**	**2.62**	**233**	Pn	**Pn**	**01 46 33.7**	**+1.8**
ARPR	**Arapgir-MALATY**	**2.63**	**99**	Pn	**Pn**	**01 46 33.7**	**+1.5**
SVRH	**Sivrihisar-ESK**	**2.69**	**269**	Pn	**Pn**	**01 46 34.8**	**+1.8**
KAMA	**Osmaniye**	**2.70**	**150**	P	**Pn**	**01 46 35.0**	**+1.8**
AKDA	**Adyaman/G¶l**	**2.74**	**129**	P	**Pn**	**01 46 35.9**	**+2.1**
GAZ	**Gaziantep**	**2.95**	**143**	Pn	**Pn**	**01 46 38.4**	**+1.9**
ESPY	**Espiye-Giresun**	**3.16**	**63**	Pn	**Pn**	**01 46 41.6**	**+2.2**

*SKHL **06** 01:51:20.2±0.4,46°.10N×141°.30E, h9km±5km, mb4.2/7*
*JMA **06** 01:51:20.1±0.3,46°.2N±0°.8×14°.1E±°, h4km±2km, MV3.1/26, SOUTH SAKHALIN*
ISC 06 01:51:20.7±2.1,46°.11N±0°.05×141°.2E±0°.1, h10km±13km, n7, σ0°.30/13, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JRBN	**Rebuntou**	**0.69**	**187**	*e*P		**Pb**	**01 51 34.4**	**-0.4**
JRBN				*e*S		**Sb**	**01 51 44.2**	**0.0**
JWK2	**Keihoku**	**0.94**	**147**	*e*P		**Pb**	**01 51 39.7**	**-0.2**
JWK2				*e*S		**Sn**	**01 51 53.2**	**-0.1**
JRR	**Rishiri**	**0.97**	**175**	*e*P		**Pb**	**01 51 40.0**	**+0.4**
JRR				*e*S		**Sn**	**01 51 54.5**	**+0.2**
KHLM	**Kholmsk**	**1.12**	**32**	*i* Pg		**Pn**	**01 51 42.5**	**+0.1**
KHLM				*e*Sg		**Sn**	**01 51 58.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**1.38**	**51**	*e*Pg		**Pg**	**01 51 46.9**	**-0.2**
YSS				AMB		AMB	01 51 47.5	
	50nm,0.4s							
YSS				*e*Sg		**Sg**	**01 52 05.4**	**+0.4**
YSS				A		A	01 52 07.9	
	320nm,0.3s							
YSS				A		A	01 52 07.9	
	210nm,0.3s							
JSE	**Soyaes**	**1.51**	**139**	*e*P		**Pb**	**01 51 48.6**	**-0.2**
JSS	**Shosan**	**1.77**	**164**	*e*P		**Pb**	**01 51 53.3**	**+0.1**
JSS				*e*S		**Sg**	**01 52 18.0**	**+0.3**

IDC 06 01:53:25.6±2.0, 28°.24N×86°.66E, h0km, mb3.5/3, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=63.7km s-min=31.5km az=59.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**18.84**	**351**	P		Pn	01 57 47.5	+0.1
	0.3nm,0.3s,baz=175,slow=11,SNR=22							
	0.6nm,0.4s							
SONM	**Songino Array**	**24.86**	**33**	P		P	01 58 50.0	+0.2
	0.3nm,0.8s,baz=215,slow=7.0,SNR=2.4							
	0.3nm,0.8s							
FINES	**FINESS Array B**	**51.61**	**328**	P		P	02 02 33.1	-0.4
	0.6nm,0.4s,baz=99,slow=8.6,SNR=6.9							
	0.6nm,0.4s							
WRA	**Warramunga Arr**	**66.47**	**131**	P		P	02 04 17.2	0.0
	0.4nm,0.8s,baz=330,slow=6.5,SNR=1.8							
	0.4nm,0.8s							

*JMA **06** 02:01:25.1±0.2,35°.6N±0°.5×141°.0E±0°.9, h14km±1km, MV2.9/29, NEAR CHOSHI CITY*
*IDC **06** 02:01:40.0±2.0,34°.90N×138°.02E, h0km, mb3.2/2, mbtmp3.2/2, MS2.7/2, Error ellipse: s-maj=66.8km s-min=24.0km az=95.0*
ISC 06 02:01:25.4±1.7,35°.64N±0°.04×141°.04E±0°.09, h10km, n13, σ1¶12/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**0.16**	**293**	P		**Pg**	**02 01 29.1**	**+0.2**
CHOJ				S		**Sg**	**02 01 32.2**	**+0.8**
JSMT	**Sammumatsuo**	**0.48**	**270**	P		**Pg**	**02 01 34.8**	**0.0**
JSMT				S		**Sg**	**02 01 41.5**	**+0.4**
JIHU	**Itakohorinouch**	**0.53**	**308**	*i* P		**Pb**	**02 01 36.3**	**-0.5**
JIHU				*e*S		**Sb**	**02 01 44.4**	**-0.1**
JCN	**Nagara**	**0.72**	**252**	P		**Pb**	**02 01 39.4**	**-0.6**
JCN				S		**Sb**	**02 01 50.1**	**+0.2**
BSO4	**Boso 4**	**0.87**	**222**	P		**Pg**	**02 01 41.2**	**-0.9**
JYT	**Yasato**	**0.90**	**311**	P		**Pg**	**02 01 41.7**	**-1.1**
JYT				S		**Sg**	**02 01 53.6**	**-0.9**
BSO3	**Boso 3**	**0.94**	**207**	P		**Pg**	**02 01 42.4**	**-1.2**
JHO	**Hitachi**	**1.04**	**339**	P		**Pg**	**02 01 44.7**	**-1.8**
JHO				S		**Sb**	**02 01 58.5**	**-0.7**
MJAR	**Matsushiro Arr**	**2.46**	**292**	Pn		**Pb**	**02 02 09.6**	**-0.2**
	0.2nm,0.3s,baz=195,slow=22,SNR=6.0							
MJAR				Sn		**Sn**	**02 02 34.0**	**-1.8**
	0.2nm,0.3s,baz=173,slow=16,SNR=1.8							
JHJ	**Hachijo jima 2**	**2.72**	**203**	LR		LR	02 02 49.7	
	comp=Z,90nm,19.4s,baz=268,slow=30							
JCJ	**Chichijima**	**8.58**	**173**	LR		LR	02 06 22.7	
	comp=Z,111nm,21.6s,baz=104,slow=33							
MKAR	**Makanchi Array**	**44.61**	**303**	P		**P**	**02 09 40.6**	**+2.8**
	0.1nm,0.6s,baz=81,slow=9.2,SNR=1.8							
	0.1nm,0.6s							
ASAR	**Alice Springs**	**59.37**	**188**	P		P	02 11 37.2	+9.3
	0.6nm,1.1s,baz=359,slow=7.4,SNR=1.4							
	0.6nm,1.1s							

IDC 06 02:05:58.1±2.8, 6°.36S×129°.86E, h0km, mb3.9/1, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=229.5km s-min=31.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.19**	**163**	Pn		Pn	02 09 19.1	-1.4
	0.1nm,0.3s,baz=339,slow=14,SNR=4.6							
WRA				Sn		Sn	02 11 47.9	-11
	0.4nm,0.3s,baz=348,slow=24,SNR=7.0							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**17.65**	**168**	P		P	02 10 06.5	-0.1
	0.2nm,0.3s,baz=353,slow=9.8,SNR=7.9							
ASAR				S		Sn	02 13 11.6	-11
	0.3nm,0.7s,baz=346,slow=27,SNR=2.0							
	0.9nm,0.8s							
NWAO	**Narrogin (SRO)**	**28.93**	**202**	LR		LR	02 24 48.8	
	comp=Z,48nm,18.5s,slow=39							
MKAR	**Makanchi Array**	**67.61**	**327**	P		P	02 16 56.8	0.0
	0.5nm,0.4s,baz=114,slow=8.1,SNR=10							
	0.5nm,0.4s							

*TEH **06** 02:07:38.9, 32°.65N×47°.66E, h10km±37km, ML2.7*
*ISN **06** 02:07:38.3±0.9, 32°.71N×47°.46E, h10km±6km, ML2.4*
ISC 06 02:07:37.4±1.7, 32°.50N±0°.09×47°.77E±0°.08, h15km, n13, σ1¶17/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	**Dehloran**	**0.45**	**294**	Pg		**Pg**	**02 07 45.4**	**-1.1**
IKFM	**Kafar-mosalman**	**1.02**	**4**	Pg		**Pb**	**02 07 55.1**	**-1.7**
IDOB	**Doab**	**1.33**	**15**	Pg		**Pg**	**02 08 02.1**	**-0.1**
AMIS	**Naft Sefid**	**1.54**	**122**	Pg		Pg	02 08 11.1	+4.2
RAFI	**Al-Rafai**	**1.60**	**242**	*e*Pn		**Pg**	**02 08 08.0**	**-0.2**
RAFI				*e*Sn		**Sg**	**02 08 28.0**	**-1.1**
IBDR	**Badra**	**1.66**	**292**	*e*Pg		**Pb**	**02 08 08.0**	**+0.2**
	baz=107							
IBDR				*e*Sg		**Sb**	**02 08 29.0**	**+0.5**
IBDR				AML		AML	02 08 32.3	
	comp=E,79nm,0.4s							
IBDR				AML		AML	02 08 32.9	
	comp=N,70nm,0.4s							
IKOM	**Komasi**	**1.68**	**353**	Pg		**Pn**	**02 08 07.6**	**+1.1**
ILBA	**Ilam Banvizeh**	**1.72**	**311**	Pg		**Pn**	**02 08 07.8**	**+0.8**
IBZA	**Bozab**	**1.96**	**2**	Pn		**Pb**	**02 08 13.8**	**+0.7**
IGHG	**Ghaleghazi**	**2.08**	**332**	Pn		**Pb**	**02 08 14.0**	**-1.1**
IDHR	**Dehrash**	**2.48**	**333**	Pn		**Pn**	**02 08 19.2**	**+1.8**
ILIN	**Lien**	**2.50**	**345**	Pn		**Pn**	**02 08 19.3**	**+1.4**
HAGD	**Aghdareh**	**2.58**	**26**	Pn		**Pb**	**02 08 22.8**	**-0.9**

*IDC **06** 02:33:26.6±0.3,28°.07N×53°.19E, h0km, mb5.1/48, mbtmp5.1/56, ML4.6/8, MS4.4/73, Error ellipse: s-maj=9.0km s-min=8.2km az=44.0*
*THR **06** 02:33:27.7±1.3,28°.08N×53°.10E, h15km, ML4.9*
*TEH **06** 02:33:27.9,28°.16N×53°.17E, h8km±45km, ML5.0*
*GCMT **06** 02:33:28.2±0.2,28°.04N±0°.02×53°.03E±0°.02, h12km, MW5.0/115, Moment Tensor Solution. s41,c50; s115,c167; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.49±.07; Mθθ-1.76±.09; Mφφ-1.73±.08; Mrθ0.16±.29; Mθφ1.58±.06; Mφr1.12±.27; Best double couple: M₀3.57900×10¹⁶ NP1:φs328.00000°,δ52.00000°, λ106.00000°. NP2:φs123.00000°,δ41.00000°,λ70.00000°. Principal axes: T 3.7630, Plg76.0000°, Azm292.0000°; N -0.3690, Plg13.0000°, Azm138.0000°; P -3.3940, Plg6.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GII **06** 02:33:29.1±0.0,28°.16N×53°.11E, h10km*
*MOS **06** 02:33:29.1±1.0,28°.11N×53°.11E, h26km, mb5.4/98, MS4.2/13, Error ellipse: s-maj=4.1km s-min=2.5km az=111.8*
*OMAN **06** 02:33:29.8±0.1,28°.15N×53°.19E, h10km, mb6.3/24, ml5.4/17, ms5.3/4, Error ellipse: s-maj=5.0km s-min=3.1km az=247.0*
*NEIC **06** 02:33:29.2±1.7,28°.20N±0°.06×53°.11E±0°.06, h10km±1km, mb5.3/196, Mww5.0/14, Error ellipse: s-maj=10.7km s-min=9.1km az=200.0*
*DSN **06** 02:33:30.7±1.3,27°.95N×53°.06E, h10km, ML5.2/15, Error ellipse: s-maj=17.9km s-min=4.7km az=3.0*
*NEIC **06** 02:33:36.1,28°.31N×52°.79E, h24km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10¹⁶Nm; Mrr3.73; Mθθ-1.63; Mφφ-2.10; Mrθ-0.19; Mθφ2.55; Mφr-1.78; Fault plane solution: M₀4.49000×10¹⁶ NP1: φs156.39000°,δ56.29000°,λ113.52000°. NP2: φs298.28000°,δ40.29000°,λ59.11000°. Principal axes: T 4.3786, Plg69.0000°, Azm117.0000°; N 0.2272, Plg19.0000°, Azm323.0000°; P -4.6059, Plg8.0000°, Azm230.0000°;*
*BGR **06** 02:33:50.8,29°.27N×50°.78E, h33km, mb5.1, Ms3.9*
ISC 06 02:33:29.6±0.5, 28°.16N±0°.02×53°.15E±0°.02, h16km±3km, n1295, σ1¶47/1343, mb5.3/379, MS4.6/105, 56C-35D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
QIR1	**Qir**	**0.33**	**344**	Pg		**Pg**	**02 33 34.8**	**-1.7**
JHRM	**Jahrom**	**0.51**	**48**	Pg		**Pg**	**02 33 37.5**	**-2.4**
LMD1	**Lamerd**	**0.81**	**179**	Pg		**Pb**	**02 33 44.1**	**-1.3**
LAR1	**LAR**	**1.19**	**114**	Pg		**Pn**	**02 33 50.3**	**-1.3**
SHI	**Shiraz**	**1.58**	**340**	P		**Pb**	**02 33 58.6**	**+0.1**
SHI	**Shiraz**	**1.58**	**340**	Pg		**Pn**	**02 33 57.7**	**+0.7**
DSBU	**Dashti - Bushe**	**1.68**	**277**	Pg		**Pb**	**02 33 59.5**	**-0.6**
AHBU	**AHRAM**	**1.77**	**294**	Pg		**Pn**	**02 34 00.6**	**+1.0**
KAZ1	**Kazerun**	**1.97**	**318**	Pn		**Pn**	**02 34 03.3**	**+1.0**
BNDS	**Bandar-Abbas**	**2.78**	**105**	*e*Pn		**Pn**	**02 34 13.7**	**0.0**
BNDS				IAML			02 35 22.4	
	comp=E,3μm,0.6s							
BNDS				IAML			02 35 22.6	
	comp=N,4μm,0.6s							
SHMA	**Al-Shehemyia**	**3.01**	**221**	P		**Pb**	**02 34 20.0**	**-2.8**
SHMA				S		**Sb**	**02 35 00.4**	**+1.2**
ESRB	**Sir Abu**	**3.08**	**161**	Pn		**Pg**	**02 34 28.1**	**-0.6**
IBND	**Bandar-abas**	**3.09**	**102**	Pn		**Pn**	**02 34 19.1**	**+1.5**
KLNJ	**Kolanjah**	**3.15**	**335**	Pn		**Pn**	**02 34 19.6**	**+0.8**
SAKB	**Bahrain**	**3.18**	**228**	P		**Pn**	**02 34 20.6**	**+1.6**
SAKB				S		**Sb**	**02 35 02.2**	**-2.0**
SAKB	**Bahrain**	**3.18**	**228**	Pn		**Pn**	**02 34 20.6**	**+1.6**
JRN	**Qarnain Island**	**3.21**	**185**	P		**Pn**	**02 34 22.0**	**+2.6**
	SNR=25							
JRN	**Qarnain Island**	**3.21**	**185**	Pn		**Pn**	**02 34 22.5**	**+3.2**
UMQ	**Umm Al-Quwin**	**3.45**	**139**	P		**Pn**	**02 34 24.2**	**+1.5**
UMQ	**Umm Al-Quwin**	**3.45**	**139**	P		**Pn**	**02 34 26.1**	**+3.4**
UMQ				S		**Sn**	**02 35 05.8**	**+2.6**
UMQ	**Umm Al-Quwin**	**3.45**	**139**	Pn		**Pn**	**02 34 25.6**	**+3.0**
IMEH	**Mehriz**	**3.46**	**21**	Pn		**Pn**	**02 34 25.5**	**+2.4**
NGRK	**Negar Kerman**	**3.47**	**64**	Pn		**Pn**	**02 34 24.3**	**+1.0**
ABEH	**Behbahan**	**3.51**	**315**	Pn		**Pn**	**02 34 24.6**	**+1.1**
BANOM	**Banah**	**3.59**	**128**	*i* P		**Pn**	**02 34 25.9**	**+1.4**
	SNR=18							
BANOM	**Banah**	**3.59**	**128**	P		**Pn**	**02 34 27.4**	**+2.8**
	SNR=18							
BANOM	**Banah**	**3.59**	**128**	Pn		**Pn**	**02 34 26.9**	**+2.4**
KRBR	**Kerman**	**3.65**	**59**	*e*Pn		**Pn**	**02 34 27.4**	**+1.8**
KRBR				IAML			02 35 34.7	
	comp=N,1μm,0.5s							
KRBR				IAML			02 35 39.3	
	comp=E,2μm,0.7s							
TVBK	**TV Kerman**	**3.65**	**59**	Pn		**Pn**	**02 34 27.3**	**+1.6**
KHGB	**Koh Gabri**	**3.65**	**52**	Pn		**Pn**	**02 34 26.9**	**+1.2**
IRAM	**Ramesheh**	**3.70**	**350**	Pn		**Pn**	**02 34 27.9**	**+1.7**
ISAD	**Sadrabad**	**3.77**	**7**	Pn		**Pn**	**02 34 29.2**	**+1.9**
MASF	**Masafi**	**3.87**	**135**	P		**Pn**	**02 34 29.7**	**+1.3**
	SNR=59							
MASF				S		**Sn**	**02 35 17.4**	**+3.9**
MSFE	**Esma-Masafi**	**3.88**	**135**	*i* P		**Pn**	**02 34 28.5**	**0.0**
	SNR=59							
MSFE	**Esma-Masafi**	**3.88**	**135**	Pn		**Pn**	**02 34 29.4**	**+0.9**
NAZ	**Nazwa, Dubai**	**3.88**	**144**	*i* P		**Pn**	**02 34 29.7**	**+1.1**
	SNR=44							
NAZ	**Nazwa, Dubai**	**3.88**	**144**	P		**Pn**	**02 34 30.0**	**+1.5**
	SNR=44							
NAZ				S		**Sn**	**02 35 17.2**	**+3.4**
NAZ	**Nazwa, Dubai**	**3.88**	**144**	Pn		**Pn**	**02 34 30.0**	**+1.5**
AJN	**Ajban**	**3.94**	**155**	*i* P		**Pn**	**02 34 29.4**	**0.0**
	SNR=21							
AJN	**Ajban**	**3.94**	**155**	P		**Pn**	**02 34 31.0**	**+1.6**
	SNR=21							
AJN	**Ajban**	**3.94**	**155**	Pn		**Pn**	**02 34 30.8**	**+1.4**
MDH	**Madha**	**4.01**	**135**	*i* P		**Pn**	**02 34 30.7**	**+0.4**
	SNR=27							
MDH	**Madha**	**4.01**	**135**	P		**Pn**	**02 34 31.4**	**+1.1**
	SNR=38							
MDH				S		**Sn**	**02 35 18.3**	**+1.4**
MDH	**Madha**	**4.01**	**135**	Pn		**Pn**	**02 34 31.2**	**+1.0**
IBAF	**Bafgh**	**4.01**	**31**	Pn		**Pn**	**02 34 32.3**	**+1.7**
ASUD	**Al Ashush, Dub**	**4.03**	**150**	*i* P		**Pn**	**02 34 31.1**	**+0.6**
	SNR=155							
ASUD	**Al Ashush, Dub**	**4.03**	**150**	P		**Pn**	**02 34 32.0**	**+1.4**
	SNR=155							
ASUD				S		**Sb**	**02 35 23.4**	**-5.2**
ASUD	**Al Ashush, Dub**	**4.03**	**150**	Pn		**Pn**	**02 34 32.3**	**+1.8**
KHNJ	**Kahnooj**	**4.03**	**92**	Pn		**Pn**	**02 34 31.5**	**+0.8**
FAQ	**Al Faqa, Dubai**	**4.04**	**147**	*i* P		**Pn**	**02 34 31.5**	**+0.7**
	SNR=29							
FAQ	**Al Faqa, Dubai**	**4.04**	**147**	P		**Pn**	**02 34 32.0**	**+1.1**
	SNR=29							
FAQ				S		**Sn**	**02 35 20.0**	**+2.2**
FAQ	**Al Faqa, Dubai**	**4.04**	**147**	Pn		**Pn**	**02 34 31.9**	**+1.1**
ZRDN	**Zarand Kerman**	**4.07**	**46**	Pn		**Pn**	**02 34 33.0**	**+1.6**
IBRJ	**Brojen**	**4.08**	**337**	Pn		**Pn**	**02 34 32.1**	**+0.6**
GHWR	**Ruwais**	**4.18**	**183**	P		**Pn**	**02 34 35.8**	**+3.1**
GHWR				S		**Sn**	**02 35 24.2**	**+2.9**
GHWR	**Ruwais**	**4.18**	**183**	Pn		**Pn**	**02 34 35.2**	**+2.4**
CHMN	**Cheshme madani**	**4.20**	**65**	Pn		**Pn**	**02 34 34.9**	**+1.6**
UOSS	**Minazif**	**4.21**	**139**	Pn		**Pn**	**02 34 33.1**	**0.0**
UOSS	**Minazif**	**4.21**	**139**	*i* P		**Pn**	**02 34 32.6**	**-0.5**
	SNR=61							
UOSS	**Minazif**	**4.21**	**139**	P		**Pn**	**02 34 33.3**	**+0.1**
UOSS				S		**Sn**	**02 35 24.0**	**+2.0**
UOSS	**Minazif**	**4.21**	**139**	Pn		**Pn**	**02 34 33.5**	**+0.3**
ICHK	**Chekchek**	**4.22**	**15**	Pn		**Pn**	**02 34 34.7**	**+1.3**
HATD	**Hatta, Dubai**	**4.26**	**140**	*i* P		**Pn**	**02 34 34.0**	**+0.2**
	SNR=45							
HATD	**Hatta, Dubai**	**4.26**	**140**	P		**Pn**	**02 34 35.0**	**+1.1**
	SNR=43							
HATD				S		**Sn**	**02 35 24.1**	**+0.8**
HATD	**Hatta, Dubai**	**4.26**	**140**	Pn		**Pn**	**02 34 34.5**	**+0.6**
SLWR	**Sila**	**4.28**	**198**	P		**Pn**	**02 34 34.4**	**+0.5**
SLWR	**Sila**	**4.28**	**198**	Pn		**Pn**	**02 34 34.2**	**+0.2**
ASHO	**Ashiyiah**	**4.33**	**142**	*i* P		**Pn**	**02 34 34.9**	**0.0**
	SNR=91							
ASHO	**Ashiyiah**	**4.33**	**142**	P		**Pn**	**02 34 35.6**	**+0.7**
	SNR=79							
ASHO	**Ashiyiah**	**4.33**	**142**	Pn		**Pn**	**02 34 35.3**	**+0.5**
IGAR	**Gharneh**	**4.34**	**348**	Pn		**Pn**	**02 34 37.0**	**+1.9**
YZKH	**Yazd**	**4.40**	**16**	*e*Pn		**Pn**	**02 34 38.3**	**+2.6**
MZWR	**Madinat Zayed**	**4.43**	**171**	P		**Pn**	**02 34 37.5**	**+1.4**
MZWR				S		**Sn**	**02 35 30.2**	**+2.9**
MZWR	**Madinat Zayed**	**4.43**	**171**	Pn		**Pn**	**02 34 37.2**	**+1.2**
SHK1	**Shahrekord**	**4.59**	**335**	Pn		**Pn**	**02 34 38.6**	**0.0**
NASN	**Na'in**	**4.63**	**356**	*e*Pn		**Pn**	**02 34 40.5**	**+1.2**
ALNE	**Al Ain**	**4.71**	**150**	*i* P		**Pn**	**02 34 40.0**	**+0.1**
	SNR=69							
ALNE	**Al Ain**	**4.71**	**150**	P		**Pn**	**02 34 40.7**	**+0.8**
	SNR=69							
ALNE				P		**Pn**	**02 34 40.8**	**+0.8**
	SNR=61							
ALNE	**Al Ain**	**4.71**	**150**	Pn		**Pn**	**02 34 40.6**	**+0.8**
IZEF	**Zefreh**	**4.77**	**352**	Pn		**Pn**	**02 34 41.9**	**+0.9**
JASK	**Jask - Hormozg**	**4.79**	**117**	P		**Pn**	**02 34 41.9**	**+0.9**
	SNR=160							
JASK	**Jask - Hormozg**	**4.79**	**117**	Pn		**Pn**	**02 34 41.9**	**+0.9**
AMIS	**Naft Sefid**	**4.84**	**317**	Pn		**Pn**	**02 34 42.8**	**+1.0**
AHWZ	**Ahwaz**	**5.03**	**310**	Pn		**Pn**	**02 34 46.0**	**+1.7**
SOHO	**SOHO**	**5.03**	**142**	*i* P		**Pn**	**02 34 44.0**	**-0.4**
	SNR=127							
SOHO	**SOHO**

SNR=32
JLN S Sn 02 37 00.0 -1.3
SNR=5.5
RAYN Ar Rayn 8.29 238 Pn Pn 02 35 28.1 -1.1
RAYN Ar Rayn 8.29 238 P Pn 02 35 28.8 -0.3
RAYN Ar Rayn 8.29 238 *i* P Pn 02 35 28.5 -0.8
SNR=290
RAYN *i* P Pn 02 35 28.9 -0.3
SNR=56
RAYN Ar Rayn 8.29 238 P Pn 02 35 28.4 -0.8
IGHG Ghaleghazi 8.34 319 Pn Pn 02 35 29.0 -1.0
IGLO Ghaloghah 8.34 4 Pn Pn 02 35 33.0 +3.0
MZPU Pul - Mazandar 8.37 351 Pn Pn 02 35 31.9 +1.6
MHTO MHTO 8.38 147 P Pn 02 35 30.0 -0.4
SNR=105
SNGE Sanandaj 8.50 326 *e*Pn Pn 02 35 31.6 -0.5
SNGE Sanandaj 8.50 326 Pn Pn 02 35 31.6 -0.5
QALM Alamut, Qazvin 8.52 346 Pn Pn 02 35 33.8 +1.3
KLST Kelardasht - M 8.52 349 Pn Pn 02 35 33.7 +1.1
QCNT Qazvin 8.53 343 Pn Pn 02 35 22.2 -10
ILIN Lien 8.56 323 Pn Pn 02 35 32.4 -0.6
IGZV Ghazvin 8.57 344 Pn Pn 02 35 32.9 -0.3
IDHR Dehrash 8.71 320 Pn Pn 02 35 34.1 -0.9
TBHD Torbat heydari 8.89 34 Pn Pn 02 35 39.0 +1.4
GIDE GILAN DEYLAMAN 9.16 343 *e*Pn Pn 02 35 42.5 +1.3
GIDE GILAN DEYLAMAN 9.16 343 Pn Pn 02 35 42.5 +1.3
IMND Minoodasht 9.27 11 Pn Pn 02 35 44.7 +2.1
ZNJK Zanjan 9.29 337 *e*Pn Pn 02 35 42.5 -0.5
ZNJK Zanjan 9.29 337 Pn Pn 02 35 42.5 -0.5
TBJM Torbat-e-JAM 9.36 39 Pn Pn 02 35 45.1 +1.2
IMOG Moghan 9.50 32 Pn Pn 02 35 47.3 +1.3
DOK Doka 9.54 174 P Pn 02 35 45.0 -1.3
SNR=47
IAKL Akhelmad 9.66 28 Pn Pn 02 35 49.9 +1.7
MRVT Maraveh tapeh 9.79 14 *e*Pn Pn 02 35 51.7 +1.9
MRVT Maraveh tapeh 9.79 14 Pn Pn 02 35 51.7 +1.9
JRKH Jarkhoshk 9.85 37 Pn Pn 02 35 52.3 +1.7
HRA Herat 9.95 49 Pn Pn 02 35 53.0 +0.9
IMYA Miami 10.06 34 Pn Pn 02 35 55.0 +1.5
IKRD Kardeh 10.13 30 Pn Pn 02 35 56.8 +2.1
WHFO Wadi Hawf 10.21 177 P Pn 02 35 53.8 -1.7
SNR=81
IEMG Emamgholi 10.32 25 Pn Pn 02 36 02.0 +4.8
IHSH Hashtrud 10.38 333 Pn Pn 02 35 56.5 -1.5
DMTO DMTO 10.52 171 P Pn 02 35 58.0 -1.8
SNR=15
GEYT Alibeck 10.60 22 Pn Pn 02 36 02.8 +2.0
comp=E,2.2nm,0.3s,baz=204,slow=14,SNR=49
GEYT Lg Lg 02 39 04.2
comp=E,0.2nm,0.3s,baz=178,slow=22,SNR=1.3
comp=E,25nm,0.7s
GEYT Alibeck 10.60 22 Pn 02 36 01.9 +1.1
GYA0 ALIBECK ARRAY 10.60 22 P Pn 02 36 04.3 +3.5
GYA0B ALIBECK ARRAY 10.60 22 Pn 02 36 02.0 +1.2
MAHB Mahabad 10.63 326 Pn Pn 02 35 59.9 -1.5
RBK Rabkut 10.65 175 P Pn 02 35 60.0 -1.6
SNR=40
ISRB Sarab 10.68 336 Pn Pn 02 36 01.1 -1.0
ABTO Aybut 10.76 179 P Pn 02 36 01.7 -1.4
SNR=103
GAS1 Astara - Iran 10.82 342 Pn Pn 02 36 01.0 -2.7
LKRN Lenkeran, Azer 11.14 342 P Pn 02 36 08.1 0.0
IAZR Azarshahr 11.24 329 Pn Pn 02 36 09.6 -0.1
IHRS Heris 11.34 335 Pn Pn 02 36 09.8 -1.4
GRMI Germi 11.49 339 *e*Pn Pn 02 36 10.5 -2.5
ITBZ Tabriz 11.63 332 Pn Pn 02 36 13.8 -1.1
ISHB Shabestar 11.90 330 Pn Pn 02 36 16.8 -2.0
CUKT Cukurca 12.10 321 *e*P Pn 02 36 18.5 -3.0
IMRD Marand 12.22 331 Pn Pn 02 36 22.8 -0.3
NAX Nakhchivan 12.69 332 P Pn 02 36 30.0 +0.5
GEVA Gevas 13.17 323 Pn 02 36 34.3 -1.9
MAKU Maku 13.19 330 *e*Pn Pn 02 36 37.2 +0.8
MAKU Maku 13.19 330 Pn Pn 02 36 36.7 +0.4
VANB Van 13.21 324 *e*P Pn 02 36 34.9 -1.7
AKDM Akdamar-Van 13.23 323 *e*P Pn 02 36 33.2 -3.7
MNGR Mingechevir, A 13.54 340 P Pn 02 36 41.1 +0.2
GANJ Ganja 13.66 337 P Pn 02 36 43.1 +0.4
GNI Garni 13.83 332 Pn Pn 02 36 47.8 +2.7
comp=E,0.7nm,0.3s,baz=282,slow=10,SNR=12
GNI Lg Lg 02 40 45.4
comp=E,0.1nm,0.3s,baz=226,slow=22,SNR=1.1
comp=E,15nm,0.7s
GNI Garni 13.83 332 Pn Pn 02 36 46.4 +1.4
GNI Garni 13.83 332 *e*P P 02 36 51.2 -2.2
GNI Garni 13.83 332 P Pn 02 36 46.4 +1.4
GNI Garni 13.83 332 P Pn 02 36 49.2 +4.2
MARD Mardin 13.83 314 Pn Pn 02 36 41.0 -4.1
SEKA Sheki 13.90 341 P Pn 02 36 46.0 0.0
TASB TASBURUN-IGDIR 13.90 330 *e*P Pn 02 36 47.8 +1.8
AKT Akhty 14.01 343 *e*P Pn 02 36 48.3 +0.8
AKT *e*S Sn 02 39 25.4 +2.7
AKT pmax pmax
comp=Z,27nm,0.7s
AKT smax smax
comp=E,8.0nm,0.6s
AKT smax smax
comp=N,11nm,0.7s
MLAZ Malazgirt-MUS 14.05 324 *e*P P 02 36 52.3 -3.6
SVAN Silvan-Diyarba 14.11 318 *e*P Pn 02 36 43.4 -5.4
MAZI Mazidag 14.13 314 *e*P Pn 02 36 44.4 -4.8
AGRB Hanur-Agry 14.16 326 *e*P Pn 02 36 51.9 +2.3
ASF Jabal al Asfar 14.61 290 Pn Pn 02 36 53.6 -2.2
comp=N,1.4nm,0.3s,baz=130,slow=11,SNR=16
ASF Sn Sn 02 39 31.2 -6.3
comp=N,0.7nm,0.3s,baz=135,slow=11,SNR=2.5
comp=N,8.6nm,0.5s
DYBB Diyarbakir 14.63 315 *e*P P 02 36 59.8 -2.4
VRTB Varto-Mus 14.65 321 *e*P Pn 02 36 54.3 -2.0
KARS Kars 14.95 329 Pn 02 37 01.2 +0.9
KARS Kars 14.95 329 *e*P P 02 37 05.9 +0.1
KARS Kars 14.95 329 P Pn 02 37 01.2 +0.9
BNGB Bingl 14.97 319 *e*P Pn 02 36 55.3 -5.3
KBL Kabul 14.99 61 Pn 02 37 02.7 +1.7
KBL IAmb IAmb 02 37 15.8
comp=Z,112nm,1.5s
KBL Kabul 14.99 61 P Pn 02 37 02.7 +1.7
KBL pmax pmax
comp=Z,112nm,1.5s
KBL Kabul 14.99 61 P Pn 02 37 02.9 +1.9
SNR=27
KOPR Koprukoy-ERZUR 15.05 325 *e*P P 02 37 06.9 0.0
URFA Urfa 15.18 311 *e*P P 02 37 06.9 -1.4
SENK Senkaya-Erzuru 15.23 327 *e*P Pn 02 37 05.9 +1.7
YEDI Yedisu-Bingol 15.35 320 *e*P Pn 02 37 06.6 +0.9
AKH Akhalkalaki 15.40 332 Pn 02 37 07.8 +1.4
AKH Akhalkalaki 15.40 332 *e*P P 02 37 11.7 +0.8
AKH Akhalkalaki 15.40 332 P Pn 02 37 07.8 +1.4
AKH pmax pmax
comp=Z,214nm,0.8s
MAK Makhachkala 15.46 344 *d*iP Pn 02 37 03.7 -3.2
MAK *e*S Sn 02 39 53.9 -3.9
MAK pmax pmax
comp=Z,325nm,1.0s
MAK MLR MLR
comp=Z,633nm,14.0s
GHAJ Ghor Haditha 15.59 286 Pn 02 37 07.5 -1.2
HMDT Nahal Hemdat 15.77 289 Pn Pn 02 37 10.2 -0.8
MSBI Mazada 15.77 286 Pn Pn 02 37 10.4 -0.6
DSI Dead Sea 15.78 287 Pn Pn 02 37 10.6 -0.6
ZFRI Zfri 15.85 283 Pn Pn 02 37 11.2 -0.8
MMLI Mount Malkishu 15.89 290 Pn Pn 02 37 12.9 +0.3
HRFI Mount Harif 15.94 281 Pn Pn 02 37 12.2 -1.1
YTIR Yattir 15.98 286 Pn Pn 02 37 13.5 -0.3
PRNI Paran 15.99 282 Pn Pn 02 37 13.7 -0.1
EIL Elat 16.01 280 Pn Pn 02 37 14.0 -0.1
comp=Z,2.5nm,0.3s,baz=41,slow=2.8,SNR=24
EIL LR LR 02 44 15.1
comp=Z,1μm,21.5s,baz=100,slow=40
comp=Z,48nm,1.1s
EIL Elat 16.01 280 Pn Pn 02 37 13.8 -0.3
MMA0B Mount Meron ar 16.02 292 Pn Pn 02 37 14.7 +0.3
MMAI Mount Meron Ar 16.02 292 Pn Pn 02 37 12.7 -1.6
comp=Z,3.0nm,0.3s,baz=103,slow=16,SNR=26
MMAI Sn Sn 02 40 07.0 -4.8
baz=89,slow=26
MMAI LR LR 02 44 51.4
comp=Z,1μm,18.5s,baz=330,slow=43
comp=Z,13nm,0.5s
MBRI Mt Berech 16.04 280 Pn Pn 02 37 14.6 0.0
GAZ Gaziantep 16.13 308 Pn 02 37 15.9 +0.1
GAZ Gaziantep 16.13 308 *e*P P 02 37 19.2 +0.3
BLGI Bet Lehem HaGe 16.14 291 Pn Pn 02 37 15.5 -0.3
GROC Groznyy 16.14 340 *e*P P 02 37 18.2 -0.7
GROC pmax pmax
comp=Z,538nm,0.8s
AMAZ Amatzia 16.17 286 Pn Pn 02 37 15.9 -0.3
SLTI Sal'it 16.17 289 Pn Pn 02 37 16.6 +0.4
KRMI Paran Flat 16.22 281 Pn Pn 02 37 16.6 -0.2
HNTI Hanita 16.23 292 Pn Pn 02 37 16.5 -0.4
BAYT Aydıntepe-Bayb 16.24 322 *e*P P 02 37 23.7 +3.5
OFRI `Ofer 16.29 290 Pn Pn 02 37 17.6 -0.1
ZEI Tsey 16.41 335 *e*P Pn 02 37 20.0 +0.7
ZEI pmax pmax
comp=Z,352nm,1.3s
ONI Oni 16.41 334 P Pn 02 37 20.2 +1.0
ONI Oni 16.41 334 *e*P P 02 37 20.7 -1.2
ONI Oni 16.41 334 P Pn 02 37 20.2 +1.0
ONI pmax pmax
comp=Z,131nm,1.2s
CHOM Cayeli-Rize 16.42 325 *e*P P 02 37 22.6 +0.5
ARPR Arapgir-MALATY 16.44 315 *e*P Pn 02 37 20.4 +0.7
KMRS Kahramanmaras 16.51 308 *e*P Pn 02 37 20.9 +0.4
THW Thamme Wali 16.68 69 P Pn 02 37 23.1 +0.4
DARE Darende-Malaty 16.68 312 *e*P Pn 02 37 21.6 -1.1
CHGR Chuyangaron 16.96 48 Pn 02 37 24.9 -1.3
CHGR IAmb IAmb 02 37 30.4
comp=Z,131nm,0.8s
CHGR Chuyangaron 16.96 48 P Pn 02 37 24.9 -1.3
CHGR pmax pmax
comp=Z,131nm,0.8s
CEP Cherat 17.04 66 P P 02 37 28.4 -0.7
CEP S S 02 40 42.0 -4.3
NCK Nalchik 17.13 336 *i* P Pn 02 37 28.8 +0.5
NCK pmax pmax
comp=Z,69nm,0.9s
KOZT Kozan 17.25 307 *e*P Pn 02 37 29.1 -0.7
NEY Neytrino 17.25 334 *i* P Pn 02 37 30.4 +0.5
NEY pmax pmax
comp=Z,51nm,1.8s
SARI SarD1z-Kayseri 17.30 310 *e*P Pn 02 37 31.1 +0.5
SARP Sargodha 17.32 73 P Pn 02 37 29.0 -1.6
KBZ Khabaz 17.59 335 P P 02 37 34.6 -0.3
comp=Z,1.1nm,0.3s,baz=140,slow=9.1,SNR=30
KBZ S S 02 40 55.0 -2.0
comp=Z,14nm,1.0s,baz=102,slow=14,SNR=2.9
KBZ LR LR 02 45 14.6
comp=Z,678nm,21.6s,baz=142,slow=40
comp=Z,45nm,1.0s
KBZ Khabaz 17.59 335 *c*eP Pn 02 37 32.0 -1.9
KBZ pmax pmax
comp=Z,57nm,1.1s
SHA1 Shidzhatmaz 17.69 334 *i* P Pn 02 37 35.8 +0.4
KARA Karaisali 17.70 305 *e*P P 02 37 35.9 -0.3
SVSK Karacayir 17.76 315 *e*P P 02 37 37.4 +0.6
RSDY Resadiye-TOKAT 17.85 317 *e*P P 02 37 38.7 +0.8
KVAR Kislovodsk Arr 17.86 335 S Sn 02 40 58.5 +2.3
comp=Z,16nm,1.1s,baz=173,slow=19,SNR=1.6
KIV Kislovodsk 17.86 335 ⇑P P 02 37 39.3 +1.2
KIV Kislovodsk 17.86 335 P Pn 02 37 36.5 -0.9
KIV Kislovodsk 17.86 335 *e*P P 02 37 39.6 +1.5
KIV Kislovodsk 17.86 335 *e*P Pn 02 37 37.2 -0.2
KIV *e*S Sn 02 40 56.5 +0.2
KIV pmax pmax
comp=Z,198nm,1.3s
KIV MLR MLR
comp=Z,137nm,12.0s
KIV Kislovodsk 17.86 335 P P 02 37 38.6 +0.5
KIV P P 02 37 38.6 +0.5
GAR Garm 17.90 48 Pn Pn 02 37 36.7 -1.3
GAR IAmb IAmb 02 37 44.2
comp=Z,169nm,0.9s
BNN Bunyan 17.91 311 P Pn 02 37 37.3 -0.8
BNN IAmb IAmb 02 37 42.2
comp=Z,274nm,1.2s
BNN Bunyan 17.91 311 *e*P P 02 37 38.6 -0.1
NIL Nilore 18.09 67 Pn Pn 02 37 40.1 -0.1
NIL Nilore 18.09 67 P Pn 02 37 40.1 -0.1
NIL pmax pmax
comp=Z,425nm,1.1s
CHCP Chirah Chowk 18.10 67 P P 02 37 41.2 +0.5
LFK Lefkose 18.12 298 *e*P P 02 37 44.1 +3.2
CSS Mathiatis 18.18 297 Pn 02 37 40.9 -0.5
CSS Mathiatis 18.18 297 *e*P Pn 02 37 39.3 -2.1
TOKT Tokat 18.28 316 *e*P P 02 37 42.9 +0.2
IKL Isikli 18.32 301 *e*P Pn 02 37 42.0 -0.9
TOKA Tokat 18.32 316 P Pn 02 37 42.5 -0.6
LEF Lefka 18.58 297 *e*P Pn 02 37 50.4 +4.3
TAS Tashkent 18.63 41 P Pn 02 37 46.9 +0.2
TAS IAmb IAmb 02 37 58.7
comp=Z,80nm,0.5s
TAS Tashkent 18.63 41 P Pn 02 37 46.9 +0.2
TAS pmax pmax
comp=Z,80nm,0.5s
BERE Bereket-Mersin 18.70 301 *e*P Pn 02 37 48.3 +0.5
KOZK Kozakli-Nevseh 18.75 311 *e*P P 02 37 43.8 -4.1
GULA Gulagac 18.77 308 *e*P P 02 37 47.7 -0.3
SOC Sochi 18.81 328 *e*P P 02 37 47.6 -0.8
SOC *e* 02 41 20.0
SOC pmax pmax
comp=Z,70nm,0.8s
SOC MLR MLR
comp=Z,838nm,21.0s
KVT Kavak 19.04 317 *e*P Pn 02 37 53.3 +1.5
KVT Kavak 19.04 317 P P 02 37 50.8 -0.2
ATD Arta Tunnel 19.15 212 P Pn 02 37 53.3 0.0
ATD IAmb IAmb 02 37 57.7
comp=Z,395nm,1.6s
ATD Arta Tunnel 19.15 212 *e*P Pn 02 37 53.8 +0.5
ATD *e*S S 02 41 42.4 +13
YAYX Yaylak 19.34 309 *e*P Pn 02 37 55.0 -0.4
CORM Corum 19.41 313 *e*P Pn 02 37 57.6 +1.3
IUG Iuzhnay 19.58 40 *e*P Pn 02 37 58.2 -0.1
baz=40
IUG *i* S Sn 02 41 39.1 +1.3
baz=40
IUG Iuzhnay 19.58 40 *e*P Pn 02 37 58.2 -0.1
IUG *i* S Sn 02 41 39.1 +1.3
BR131 Keskin Array S 19.83 311 P 02 37 59.8 0.0
BR131 Keskin Array S 19.83 311 *i* P P 02 38 00.3 +0.6
BR131 Keskin Array S 19.83 311 P P 02 38 00.3 +0.6
SNR=52
BRTR Keskin Array B 19.83 311 P P 02 38 00.6 +0.8
comp=Z,3.3nm,0.3s,baz=133,slow=12,SNR=104
BRTR S Sn 02 41 44.9 +0.9
comp=Z,0.6nm,0.7s,baz=128,slow=16,SNR=0.8
BRTR ScP ScP 02 45 53.5 +0.7
comp=Z,2.9nm,0.9s,baz=144,slow=5.2,SNR=7.0
BRTR LR LR 02 47 45.9
comp=Z,965nm,18.6s,baz=128,slow=43
comp=Z,30nm,0.6s
KONT Konya--Tatoy 19.93 305 *e*P Pn 02 38 01.8 -0.7
KSLA Kassala 20.02 234 *i* P P 02 38 01.5 -0.3
KSLA *i* S Sn 02 41 53.9 +5.3
LADK Ladik-KONYA 20.03 305 *e*P Pn 02 38 04.2 +0.5
CANT Cankiri 20.29 313 *e*P P 02 38 05.2 +0.5
BR231 Keskin MP Arra 20.47 310 P P 02 38 07.7 +1.1
BR231 IAmb IAmb 02 38 11.9
comp=Z,120nm,1.0s
ANTO Ankara 20.47 310 ⇓P Pn 02 38 08.6 -0.1
ANTO Ankara 20.47 310 P P 02 38 07.5 +0.9
ANTO IAmb IAmb 02 38 10.6
comp=Z,103nm,0.7s
ANTO Ankara 20.47 310 *e*P P 02 38 07.3 +0.7
ANTO Ankara 20.47 310 P Pn 02 38 08.6 -0.2
ANTO Ankara 20.47 310 P Pn 02 38 07.8 -0.9
KK31 Karatay Array 20.47 39 P P 02 38 06.5 0.0
KK31 Karatay Array 20.47 39 *i* P P 02 38 06.7 +0.2
KKAR Karatay Array 20.47 39 P P 02 38 06.8 +0.3
KKAR Karatay Array 20.47 39 P P 02 38 06.6 +0.1
KKAR IAmb IAmb 02 38 09.3
comp=Z,67nm,0.8s
KKAR Karatay Array 20.47 39 P P 02 38 06.8 +0.3
LOD Lodumlu 20.50 310 *e*P P 02 38 07.3 +0.4
HLFA HLFA 20.68 257 *i* P Pn 02 38 10.6 -0.7
HLFA HLFA 20.68 257 *i* P Pn 02 38 10.2 -1.1
SUTC Sutluce-Ispart 20.77 302 *e*P Pn 02 38 11.8 -0.5
DZA Taraz 20.80 40 *e*P P 02 38 10.7 +0.6
baz=40
DZA Taraz 20.80 40 *e*P P 02 38 10.7 +0.6
BZK Bozkurt 20.80 316 *e*P P 02 38 10.9 +0.9
ANN Anapa 20.81 327 *e*P P 02 38 11.3 +1.2
ANN *e*S Sn 02 42 04.6 -2.5
ANN pmax pmax
comp=Z,68nm,0.8s
SVRH Sivrihisar-ESK 21.15 308 *e*P P 02 38 15.3 +1.3
DESE Dese 21.16 219 *e*P P 02 38 14.0 -0.5
DESE *e*S S 02 42 11.1 +1.4
ISP Isparta 21.24 303 P P 02 38 15.8 +0.8
ISP IAmb IAmb 02 38 20.9
comp=Z,254nm,1.7s
ISP Isparta 21.24 303 P P 02 38 15.8 +0.8
ISP pmax pmax
comp=Z,254nm,1.7s
ELL Elmali 21.36 300 P P 02 38 16.8 +0.5
ELL Elmali 21.36 300 P P 02 38 16.8 +0.5
ELL pmax pmax
comp=Z,434nm,1.0s
CIFT Cifteler, Eski 21.44 307 *e*P P 02 38 18.3 +1.2
SHUT Suhut-Afyon 21.48 305 *e*P P 02 38 18.4 +0.8
MRWI Hamdab 21.51 248 *i* P P 02 38 18.9 +1.0
MRWI Hamdab 21.51 248 *i* P P 02 38 18.3 +0.4
AB31 Akbulak array 21.70 12 *e*P P 02 38 19.9 +0.2
ABKAR Akbulak array 21.70 12 P P 02 38 19.5 -0.2
ABKAR Akbulak array 21.70 12 P P 02 38 19.4 -0.3
ABKAR IAmb IAmb 02 38 26.8
comp=Z,52nm,0.8s
AML Almayashu 21.76 45 P P 02 38 22.7 +1.9
SNR=51
MDUB Mudurnu 21.83 310 P P 02 38 20.5 -0.8
MDUB Mudurnu 21.83 310 *e*P P 02 38 21.7 +0.4
KSH Kashi 22.02 53 P P 02 38 19.4 -4.0
KSH sP pP 02 38 26.8 -1.5
KSH S S 02 42 16.7 -9.3
KSH pmax pmax
comp=Z,82nm,0.7s
KSH LR LR
comp=Z,1μm,11.7s
KSH LR LR
comp=Z,2μm,14.1s
KSH LR LR
comp=Z,2μm,11.9s
KDZE Karadeniz Ereo 22.07 312 ⇓P P 02 38 25.0 +1.2
BORA Eskisehir 22.08 308 P P 02 38 23.0 -1.0
EKS2 Erkin-Say 22.10 44 P P 02 38 27.6 +3.3
SNR=15
GULT Gulveren 22.28 309 *e*P P 02 38 27.1 +1.0
UCH Uchtor 22.32 45 P P 02 38 28.8 +1.8
SNR=40
ANKE Ethiopia-Afar 22.37 217 *e*P P 02 38 28.5 +0.9
ANKE *e*S S 02 42 33.4 +0.2
AAK Ala-Archa 22.53 45 P P 02 38 32.0 +3.2
SNR=19
AAK Ala-Archa 22.53 45 P P 02 38 30.4 +1.5
comp=Z,11nm,0.6s,baz=220,slow=9.9,SNR=30
AAK PcP PcP 02 42 23.3 +0.9
comp=Z,8.5nm,0.8s,baz=190,slow=3.5,SNR=4.2
AAK S S 02 42 39.7 +4.2
comp=Z,5.0nm,1.0s,baz=288,slow=20,SNR=1.1
AAK ScP ScP 02 46 00.8 +1.4
comp=Z,3.3nm,0.7s,baz=170,slow=4.5,SNR=5.7
AAK LR LR 02 48 52.8
comp=Z,4μm,18.6s,baz=242,slow=41
comp=Z,11nm,0.6s
AAK Ala-Archa 22.53 45 P P 02 38 30.0 +1.1
AAK IAmb IAmb 02 38 42.3
comp=Z,128nm,1.2s
AAK Ala-Archa 22.53 45 P P 02 38 30.4 +1.5
AAK P P 02 38 30.4 +1.5
AKTO Aktyubinsk 22.55 8 P P 02 38 29.6 +0.7
comp=Z,53nm,0.6s,baz=184,slow=9.8,SNR=127
AKTO S S 02 42 34.7 -0.7
comp=Z,4.4nm,0.8s,baz=203,slow=15,SNR=1.9
AKTO LR LR 02 49 21.5
comp=Z,2μm,18.7s,baz=202,slow=42
comp=Z,53nm,0.6s
SIM Simferopol' 22.59 323 *e*P P 02 38 31.0 +1.7
SIM *e*S S 02 42 38.3 +2.1
SIM pmax pmax
comp=Z,212nm,1.0s
SIM MLR MLR
comp=Z,131nm,14.0s
KBK Karagaybulak 22.82 45 P P 02 38 35.1 +3.1
SNR=43
USP Ospenovka 22.88 43 P P 02 38 36.2 +3.7
SNR=43
CHMS Chumysh 22.89 44 P P 02 38 36.2 +3.7
SNR=30
MANT Manisa 22.92 303 P P 02 38 31.7 -1.4
MANT IAmb IAmb 02 38 40.1
comp=Z,178nm,1.4s
JAWL J.Aulia 23.05 240 *i* P P 02 38 35.0 +0.6
JAWL J.Aulia 23.05 240 *i* P P 02 38 35.1 +0.8
SGDS Sogindy 23.07 43 *e*P P 02 38 34.9 +0.6
comp=Z,36nm,1.3s,baz=43
SGDS *e*S S 02 42 47.8 +3.0
baz=43
SGDS Sogindy 23.07 43 *e*P P 02 38 34.9 +0.6
SGDS *e*S S 02 42 47.7 +3.0
SGDS pmax pmax
comp=Z,36nm,1.3s
AAE Adis Abeba 23.36 218 *e*P P 02 38 37.3 -0.5
AAE *e*S S 02 42 51.0 +0.5
TKM2 Tokmak 2 23.37 45 P P 02 38 39.6 +2.0
SNR=12
FURI Furi 23.52 218 P P 02 38 39.2 -0.1
FURI IAmb IAmb 02 38 57.7
comp=Z,92nm,0.9s
FURI Furi 23.52 218 *e*P P 02 38 40.0 +0.6
FURI *e*S S 02 42 50.9 -2.1
FURI IAMs_20 IAMs_20 02 48 45.4
comp=Z,3μm,13.4s
BTLS Baital 23.67 39 *e*P P 02 38 40.7 +0.4
comp=Z,36nm,1.0s,baz=39
BTLS Baital 23.67 39 *e*P P 02 38 40.6 +0.4
BTLS pmax pmax
comp=Z,36nm,1.0s
BALB Balikesir 23.81 305 P P 02 38 40.8 -0.9
BALB IAmb IAmb 02 38 56.6
comp=Z,199nm,1.7s
TNSS Tian-Shan 24.28 46 *e*P P 02 38 47.7 +1.1
baz=46
TNSS Tian-Shan 24.28 46 *e*P P 02 38 47.6 +1.1
KUU Kurty 24.34 44 *e*P P 02 38 47.5 +0.9
comp=Z,50nm,1.2s,baz=44
KUU Kurty 24.34 44 *e*P P 02 38 47.5 +0.9
KUU pmax pmax
comp=Z,50nm,1.2s
AAA Alma-Ata 24.34 46 *e*P P 02 38 48.2 +1.5
baz=46
AAA Alma-Ata 24.34 46 *e*P P 02 38 48.2 +1.5
BELG Belogornoye 24.56 352 P P 02 38 48.9 +0.4
comp=Z,106nm,0.8s,baz=278,slow=0.7,SNR=31
BELG PcP PcP 02 42 25.9 -0.2
comp=Z,41nm,0.9s,baz=296,slow=2.1,SNR=4.7
BELG LR LR 02 51 22.0
comp=Z,457nm,20.2s,baz=150,slow=44
comp=Z,106nm,0.8s
BELG Belogornoye 24.56 352 *i* P P 02 38 48.5 +0.1
BELG pmax pmax
comp=Z,29nm,0.9s
VRH Novokhopyorsk 24.58 343 *e*P P 02 38 49.1 +0.5
VRH *e*S S 02 43 05.2 -3.6
VRH pmax pmax
comp=Z,170nm,0.6s
VRH smax smax
comp=E,970nm,4.0s
JBP Jabalpur 24.67 96 *e*P P 02 38 49.7 0.0
JBP *ex* P 02 38 49.7 0.0
baz=326,slow=18
JBP IAmb IAmb 02 38 52.0
comp=Z,59nm,0.9s
JBP *e*S S 02 43 13.1 +2.2
CHKK Chushkaly 24.72 44 *e*P P 02 38 50.7 +0.6
baz=44
CHKK Chushkaly 24.72 44 *e*P P 02 38 50.7 +0.6
APE Apeiranthos 24.83 298 ⇑P P 02 38 51.5 +0.3
APE Apeiranthos 24.83 298 ⇑P P 02 38 51.5 +0.3
OTUK Ortayu 24.96 31 P P 02 38 53.2 +1.0
IDI Anoyia 25.01 294 P P 02 38 54.0 +1.1
comp=Z,115nm,0.7s,baz=77,slow=12,SNR=30
IDI LR LR 02 52 47.5
comp=Z,308nm,20.5s,baz=72,slow=46
comp=Z,115nm,0.7s
SATY Saty 25.23 47 *e*P P 02 38 56.3 +1.5
baz=47
SATY Saty 25.23 47 *e*P P 02 38 56.2 +1.5
ZHN Zhinishke 25.30 47 *e*P P 02 38 56.9 +1.5
baz=47
ZHN Zhinishke 25.30 47 *e*P P 02 38 56.8 +1.5
VSR Storozhevoye 25.33 339 *e*P P 02 38 55.4 0.0
VSR *e*S S 02 43 21.5 +0.6

VSR pmax pmax
comp=Z,150nm,0.8s
VSR smax smax
comp=N,590nm,3.6s
TIRR Tirgusor 25.58 316 ⇓P **P 02 38 60.0 +2.2**
TIRR Tirgusor 25.58 316 ⇓P **P 02 39 00.0 +2.2**
KPKS Kokpek 25.59 47 *e*P **P 02 38 58.8 +0.7**
comp=N,52nm,0.7s,baz=47
KPKS Kokpek 25.59 47 *e*P **P 02 38 58.8 +0.7**
KPKS pmax pmax
comp=Z,52nm,0.7s
UZB Uzynbulak 25.67 48 *e*P **P 02 39 00.3 +1.5**
comp=Z,49nm,1.0s,baz=48
UZB Uzynbulak 25.67 48 *e*P **P 02 39 00.3 +1.5**
UZB pmax pmax
comp=Z,49nm,1.0s
HYB Hyderabad 25.69 109 *e*P **P 02 38 60.0 +0.8**
VORR Voronezh 25.71 340 *e*P **P 02 38 59.6 +0.7**
VORR *e*S **S 02 43 29.8 +2.9**
VORR pmax pmax
comp=Z,310nm,1.2s
TLCR 25.73 318 ⇑P **P 02 38 59.9 +0.8**
TLCR 25.73 318 ⇑P **P 02 38 59.9 +0.8**
TPGR Topolog 25.79 317 ⇓P **P 02 39 02.1 +2.4**
DILA Dilla 25.79 216 *e*P **P 02 39 01.7 +1.6**
PURM Purcari 25.89 321 ⇑P **P 02 39 03.0 +2.4**
SHLS Shalkode 25.96 48 *e*P **P 02 39 04.7 +3.3**
comp=Z,27nm,0.8s,baz=48
SHLS Shalkode 25.96 48 *e*P **P 02 39 04.7 +3.3**
SHLS pmax pmax
comp=Z,27nm,0.8s
RDO Rodhopi 26.02 307 P **P 02 39 01.1 -0.8**
RDO IAmb IAmb 02 39 07.9
comp=Z,80nm,1.1s
CFR Carcaliu 26.13 317 ⇑P **P 02 39 03.2 +0.4**
CFR Carcaliu 26.13 317 ⇑P **P 02 39 03.2 +0.4**
LPSR Galich'ya Gora 26.61 340 *e*P **P 02 39 07.0 0.0**
LPSR *e*S **S 02 43 39.5 -1.6**
LPSR pmax pmax
comp=Z,180nm,0.8s
LPSR smax smax
comp=N,480nm,3.4s
MILM Milestii Mici 26.71 321 *e*P **P 02 39 08.0 0.0**
comp=N,350nm,2.5s
MILM Milestii Mici 26.71 321 ⇑P **P 02 39 08.8 +0.8**
MILM Milestii Mici 26.71 321 ⇑P **P 02 39 08.8 +0.8**
KIS Kishinev 26.76 321 *e*P **P 02 39 07.0 -1.4**
comp=N,20nm,0.4s
KOLN Koldanda 26.87 84 *e*P **P 02 39 09.2 -0.7**
comp=N,16nm,1.6s
DANN Dangsing 26.93 82 *e*P **P 02 39 10.7 +0.1**
comp=N,117nm,0.8s
PLD Plovdiv 26.96 309 P **P 02 39 12.9 +2.6**
PLD pmax pmax
comp=Z,149nm,1.3s
VRI Vrincioaia 27.33 317 ⇓P **P 02 39 16.4 +2.7**
VRI Vrincioaia 27.33 317 ⇓P **P 02 39 16.4 +2.7**
PLOR Plostina 27.37 317 ⇑P **P 02 39 15.5 +1.4**
PLOR Plostina 27.37 317 ⇑P **P 02 39 15.5 +1.4**
SRS Serrai 27.40 306 P **P 02 39 15.5 +1.2**
SRS pmax pmax
comp=Z,59nm,1.3s
SOH Sokhos 27.47 305 P **P 02 39 17.7 +2.7**
MLR Muntele Rosu 27.62 316 P **P 02 39 17.5 +1.2**
comp=Z,22nm,0.9s,baz=127,slow=4.1,SNR=12
MLR ScP **ScP 02 46 15.9 +2.3**
comp=Z,8.8nm,0.8s,baz=194,slow=5.7,SNR=4.9
MLR LR LR 02 54 14.5
comp=Z,485nm,18.3s,baz=100,slow=45
comp=Z,22nm,0.9s
MLR Muntele Rosu 27.62 316 ⇑P **P 02 39 20.1 +3.8**
MLR Muntele Rosu 27.62 316 P **P 02 39 17.2 +0.9**
MLR IAmb IAmb 02 39 34.2
comp=Z,38nm,1.0s
COVR Voineasa-Covas 27.64 317 ⇓P **P 02 39 18.4 +2.0**
SORM Soroca 27.69 323 ⇑P **P 02 39 17.3 +0.6**
SORM Soroca 27.69 323 ⇑P **P 02 39 17.3 +0.6**
TESR Tescani 27.72 319 ⇓P **P 02 39 18.0 +0.9**
GKN Gorkha 27.75 83 *e*P **P 02 39 17.1 -0.6**
comp=Z,17nm,0.4s
BRVK Borovoye 27.92 22 P **P 02 39 19.4 +0.6**
BRVK IAmb IAmb 02 39 22.4
comp=Z,40nm,0.8s
BRVK Borovoye 27.92 22*ce*P **P 02 39 18.8 0.0**
BRVK pmax pmax
comp=Z,66nm,1.3s
BRVK Borovoye 27.92 22 P **P 02 39 18.4 -0.4**
BRVK P **P 02 39 18.4 -0.4**
BVA0 Borovoye Array 27.93 22 *i* P **P 02 39 20.0 +1.1**
BVAR Borovoye Array 27.93 22 P **P 02 39 19.8 +0.9**
comp=Z,71nm,0.9s,baz=223,slow=7.2,SNR=104
BVAR PcP **PcP 02 42 34.3 +0.2**
comp=Z,17nm,0.7s,baz=200,slow=2.3,SNR=22
BVAR ScP **ScP 02 46 14.6 +0.3**
comp=Z,8.8nm,0.8s,baz=218,slow=1.6,SNR=15
BVAR LR LR 02 52 01.7
comp=Z,1μm,19.4s,baz=212,slow=40
comp=Z,71nm,0.9s
PCHI Peechi 27.95 124⇑*e*P **P 02 39 20.3 +0.8**
VOIR 28.14 315 ⇓P **P 02 39 22.2 +1.2**
VOIR 28.14 315 ⇓P **P 02 39 22.2 +1.2**
DOPR Dopca 28.19 317 ⇓P **P 02 39 22.5 +1.2**
VAY Valandovo 28.19 306 *i* P **P 02 39 23.8 +2.5**
DMN Daman 28.21 83 *e*P **P 02 39 21.5 -0.5**
KKN Kakani 28.34 83 *e*P **P 02 39 22.3 -0.8**
ARR Arges 28.37 315 ⇓P **P 02 39 23.9 +0.9**
PKIN Phulchoki 28.47 83 *e*P **P 02 39 23.8 -0.5**
PKI Pulchoki 28.48 83 *e*P **P 02 39 23.7 -0.8**
comp=Z,49nm,0.8s
ARU Arti 28.52 6 P **P 02 39 24.5 +0.5**
comp=Z,9.3nm,0.9s,baz=180,slow=7.7,SNR=8.3
ARU LR LR 02 52 39.5
comp=Z,1μm,19.8s,baz=185,slow=40
comp=Z,9.3nm,0.9s
ARU Arti 28.52 6 P **P 02 39 24.0 -0.1**
ARU Arti 28.52 6*ce*P **P 02 39 26.0 +1.9**
ARU pmax pmax
comp=Z,18nm,1.3s
ARU MLR MLR
comp=Z,1μm,17.0s
MDB Medias 28.89 316 ⇑P **P 02 39 29.5 +1.9**
MDB Medias 28.89 316 ⇑P **P 02 39 29.5 +1.9**
AKASG Malin Array Be 28.89 328 P **P 02 39 26.9 -0.6**
comp=Z,11nm,0.6s,baz=135,slow=8.7,SNR=50
AKASG PcP **PcP 02 42 36.1 -0.3**
comp=Z,8.0nm,0.8s,baz=91,slow=1.6,SNR=7.4
comp=Z,11nm,0.6s
AKBB Malin Array Si 28.89 328 P **P 02 39 26.0 -1.5**
AKBB IAmb IAmb 02 39 29.0
comp=Z,36nm,0.7s
AKBB Malin Array Si 28.89 328*ce*P **P 02 39 26.2 -1.2**
AKBB pmax pmax
comp=Z,43nm,0.8s
FNA Florina 28.90 304 P **P 02 39 31.0 +3.2**
FNA pmax pmax
comp=Z,24nm,1.3s
BURAR Bucovina Array 29.13 319 ⇑P **P 02 39 30.6 +0.8**
BURAR Bucovina Array 29.13 319 P **P 02 39 29.5 -0.3**
BURAR Bucovina Array 29.13 319 P **P 02 39 30.8 +1.0**
SVE Sverdlovsk 29.14 8 *e*P **P 02 39 31.3 +1.7**
SVE *e* 02 50 09.8
SVE pmax pmax
comp=Z,25nm,1.5s
SVE MLR MLR
comp=Z,1μm,15.0s
JIRN Jiri 29.16 83 *e*P **P 02 39 29.1 -1.4**
comp=Z,29nm,0.7s
SKO Skopje 29.20 307 *i* P **P 02 39 28.7 -1.6**
MAKZ Makanchi 29.25 43 P **P 02 39 31.2 +0.5**
MAKZ IAmb IAmb 02 39 34.1
comp=Z,63nm,0.8s
MAKZ Makanchi 29.25 43 ⇑P **P 02 39 31.9 +1.1**
KBN Korca 29.29 304 IAmb IAmb 02 39 34.9
comp=Z,32nm,0.8s
ARCR ARCALIA 29.36 318 ⇓P **P 02 39 33.2 +1.5**
OHR Ohrid 29.41 305 P **P 02 39 35.0 +2.7**
OHR pmax pmax
comp=Z,82nm,1.5s
OHR Ohrid 29.41 305 *i* P **P 02 39 32.4 +0.1**
MK31 Makanchi Array 29.43 43 IAmb IAmb 02 39 35.7
comp=Z,47nm,1.1s
MK31 Makanchi Array 29.43 43 *i* P **P 02 39 33.2 +0.8**
MKAR Makanchi Array 29.43 43 P **P 02 39 33.1 +0.7**
comp=Z,35nm,0.8s,baz=229,slow=8.2,SNR=164
MKAR PcP **PcP 02 42 37.3 -0.6**
comp=Z,4.4nm,0.6s,baz=246,slow=2.4,SNR=9.8
MKAR ScP **ScP 02 46 20.4 +1.3**
comp=Z,1.2nm,0.7s,baz=246,slow=4.6,SNR=4.7
MKAR LR LR 02 53 12.1
comp=Z,1μm,20.3s,baz=238,slow=40
comp=Z,35nm,0.8s
MKAR Makanchi Array 29.43 43 P **P 02 39 33.0 +0.6**
OBN Obninsk 29.49 341 P **P 02 39 33.3 +0.7**
comp=Z,12nm,0.4s,baz=96,slow=0.6,SNR=19
comp=Z,12nm,0.4s
OBN Obninsk 29.49 341 ⇑P **P 02 39 32.8 +0.1**
OBN Obninsk 29.49 341 P **P 02 39 32.6 -0.1**
OBN Obninsk 29.49 341⇑*e*P **P 02 39 30.9 -1.8**
OBN *e* 02 40 25.6
OBN *e* 02 42 39.0
OBN *e*S **S 02 44 28.9 +2.6**
OBN *e*SS **SnSn 02 45 51.8 -2.2**
OBN *e*SSS SSS 02 46 14.3
OBN pmax pmax
comp=Z,48nm,1.0s
OBN MLR MLR
comp=Z,254nm,18.0s
KURBB Kurchatov Arra 29.54 34 P **P 02 39 33.7 +0.5**
comp=Z,29nm,0.7s,baz=234,slow=8.6,SNR=127
KURBB PcP **PcP 02 42 38.0 0.0**
comp=Z,8.7nm,0.8s,baz=236,slow=3.1,SNR=6.4
KURBB ScP **ScP 02 46 19.3 0.0**
comp=Z,4.2nm,0.9s,baz=232,slow=4.1,SNR=9.8
KURBB PKiKP **PKiKP 02 50 10.9 -0.1**
comp=Z,0.1nm,0.4s,baz=222,slow=1.3,SNR=4.2
KURBB LR LR 02 53 08.5
comp=Z,2μm,21.7s,baz=252,slow=40
comp=Z,29nm,0.7s
KURBB Kurchatov Arra 29.54 34 P **P 02 39 33.4 +0.2**
GZR Gura Zlata 29.55 314 ⇑P **P 02 39 34.0 +0.5**
RAMN Ramite 29.63 84 *e*P **P 02 39 33.2 -1.4**
comp=Z,51nm,0.9s
CJR Cluj-Napoca 29.64 317 ⇑P **P 02 39 36.3 +2.1**
CJR Cluj-Napoca 29.64 317 ⇑P **P 02 39 36.3 +2.1**
KURK Kurchatov 29.64 34 P **P 02 39 34.6 +0.5**
KURK IAmb IAmb 02 39 37.3
comp=Z,38nm,0.8s
KURK Kurchatov 29.64 34 P **P 02 39 33.7 -0.4**
KURK 02 42 38.0
KURK 02 46 19.3
KURK *i* 02 50 10.9
KURK Kurchatov 29.64 34 P **P 02 39 34.7 +0.5**
DEV Deva 29.69 315 P **P 02 39 35.5 +0.9**
MOS Moscow 29.74 342 *e*P **P 02 39 35.7 +0.8**
MOS *e* 02 40 28.7
MOS *e*S **S 02 44 31.7 +1.5**
MOS pmax pmax
comp=Z,88nm,0.7s
LODK Lodwar 29.88 218 P **P 02 39 37.7 +1.1**
LODK Lodwar 29.88 218 *e*P **P 02 39 34.2 -2.4**
LODK *e*S S 02 44 18.0 -15
LODK Lodwar 29.88 218 P **P 02 39 37.6 +1.1**
SNR=9.0
MARR Marisel-Cluj 29.91 316 ⇑P **P 02 39 37.7 +1.0**
MDVR Moldovita 29.99 312 ⇓P **P 02 39 38.4 +1.0**
SURR Surduc 30.12 314 ⇓P **P 02 39 41.6 +3.2**
BMR Baia Mare 30.16 318 ⇑P **P 02 39 39.5 +0.7**
BMR Baia Mare 30.16 318 ⇑P **P 02 39 39.5 +0.7**
DRGR 30.21 316 ⇓P **P 02 39 40.3 +1.0**
DRGR 30.21 316 P **P 02 39 40.5 +1.2**
DRGR pmax pmax
comp=Z,61nm,1.0s
SEM Semipalatinsk 30.27 35 *e*P **P 02 39 40.9 +0.9**
comp=Z,36nm,1.0s,baz=35
SEM Semipalatinsk 30.27 35 *e*P **P 02 39 40.8 +0.9**
SEM pmax pmax
comp=Z,36nm,1.0s
BZS Buzias 30.39 313 ⇑P **P 02 39 41.5 +0.8**
BZS Buzias 30.39 313 P **P 02 39 41.6 +0.8**
KIRV Kirov 30.53 356 P **P 02 39 43.0 +1.2**
comp=Z,119nm,0.5s,baz=177,slow=4.2,SNR=41
KIRV ScP **ScP 02 46 23.6 +1.3**
comp=Z,7.1nm,0.8s,baz=256,slow=4.2,SNR=3.7
comp=Z,119nm,0.5s
TRPA Tarpa 30.95 318 ⇓P **P 02 39 46.7 +1.0**
LVV L'vov 30.98 322 *e*P **P 02 39 45.9 -0.1**
ZSN Zaisan 31.29 43 *e*P **P 02 39 50.1 +1.2**
baz=44
ZSN Zaisan 31.29 43 *e*P **P 02 39 50.0 +1.2**
UZH Uzhgorod 31.34 319 ⇓*i*P **P 02 39 49.2 +0.1**
UZH *e* 02 39 59.0
WMQ Urumqi 31.75 51 *e*P **P 02 39 54.2 +1.2**
WMQ pP pP 02 39 57.5 -0.7
WMQ sP sP 02 40 01.5 +1.2
WMQ pmax pmax
comp=Z,65nm,0.9s
WMQ pmax pmax
comp=Z,310nm,5.9s
WMQ LR LR
comp=Z,1μm,15.7s
WMQ LR LR
comp=Z,1μm,16.5s
WMQ LR LR
comp=Z,1μm,18.7s
CRVS Cervenica-Dubn 31.95 319 *e*P **P 02 39 56.1 +1.6**
CRVS pmax pmax
comp=Z,38nm,1.0s
CRVS Cervenica-Dubn 31.95 319 *e*P **P 02 39 56.1 +1.6**
TIP Timpagrande 32.02 300 IAmb IAmb 02 40 05.3
comp=Z,63nm,1.2s
MNK Minsk 32.11 332 *i* P **P 02 39 55.2 -0.6**
comp=E,3.0nm,0.8s
MNK *i* P **P 02 39 55.2 -0.6**
comp=N,14nm,0.8s
MNK *i* P **P 02 39 55.2 -0.6**
comp=Z,56nm,0.8s,baz=135
MNK *i* PP **PP 02 41 00.7 -7.6**
MNK *i* S **S 02 45 08.4 +1.0**
MNK *i* SS **SS 02 47 18.5 -6.7**
MNK *i* LQ LQ 02 50 27.7
MNK *i* LR LR 02 52 25.8
MNK *i* LRM MLR 02 54 07.9
comp=Z,353nm,17.1s
MNK *i* LRM MLR 02 54 09.9
comp=N,831nm,17.1s
MNK *i* LRM MLR 02 54 11.2
comp=E,57nm,17.1s
MNK Minsk 32.11 332 *i* P **P 02 39 55.2 -0.6**
MNK *i* 02 41 00.7
MNK *i* 02 42 44.1
MNK *i* S **S 02 45 08.3 +1.0**
MNK *i* SS **SS 02 47 18.5 -6.7**
MNK *i* 02 50 26.5
MNK pmax pmax
comp=Z,56nm,0.8s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=Z,353nm,17.0s
MNK MLR MLR
comp=N,831nm,17.0s
MNK MLR MLR
comp=E,57nm,17.0s
STHS Stebnicka Huta 32.32 320 *e*P **P 02 40 00.2 +2.4**
STHS Stebnicka Huta 32.32 320 *e*P **P 02 40 00.2 +2.4**
PSZ Piszkesteto 32.43 317 IAmb IAmb 02 40 16.1
comp=Z,61nm,1.9s
MORH Mrgy. Hungar 32.53 313 ⇑P **P 02 39 59.5 -0.2**
MSEY Mahe Island 32.72 176 P **P 02 40 01.0 -0.6**
MSEY IAmb IAmb 02 40 04.3
comp=Z,73nm,1.4s
MSEY Mahe Island 32.72 176 P **P 02 40 01.0 -0.6**
MSEY pmax pmax
comp=Z,73nm,1.4s
BUD Budapest 32.78 315 P **P 02 40 03.6 +1.8**
BUD pmax pmax
comp=Z,37nm,1.0s
NACGM Naroch 32.84 332⇑*i*P **P 02 40 02.3 0.0**
comp=Z,69nm,0.8s,baz=133
CUC Castrocucco 32.87 301 P **P 02 40 03.4 +0.6**
CUC IAmb IAmb 02 40 10.4
comp=Z,38nm,0.9s
KMBO Kilima Mbogo 32.87 210 P **P 02 40 02.6 -0.6**
comp=Z,8.5nm,1.8s,baz=24,slow=9.0,SNR=15
KMBO ScP **ScP 02 46 32.4 +1.0**
comp=Z,1.3nm,0.8s,baz=48,slow=3.3,SNR=2.5
KMBO LR LR 02 54 24.2
comp=Z,1μm,19.0s,baz=26,slow=38
comp=Z,8.5nm,1.0s
KMBO Kilima Mbogo 32.87 210 P **P 02 40 03.0 -0.2**
KMBO Kilima Mbogo 32.87 210 *e*P **P 02 40 03.1 -0.2**
KMBO IAmb IAmb 02 40 06.9
comp=Z,82nm,1.2s
KMBO Kilima Mbogo 32.87 210 P **P 02 40 03.0 -0.2**
KMBO pmax pmax
comp=Z,26nm,1.3s
KMBO Kilima Mbogo 32.87 210 *e*P P 02 39 55.9 -7.3
KMBO *e*S **S 02 45 21.8 +1.4**
IDID Didziasalis 33.15 332 *e*P **P 02 40 00.4 -4.6**
LSA Lhasa 33.20 78 P **P 02 40 06.3 0.0**
LSA LR LR
comp=Z,610nm,13.5s
LSA LR LR
comp=Z,510nm,14.2s
LSA LR LR
comp=Z,820nm,13.7s
LANS Liptovska Anna 33.23 318 *e*P **P 02 40 06.9 +1.1**
LANS pmax pmax
comp=Z,30nm,0.9s
LANS Liptovska Anna 33.23 318 *e*P **P 02 40 06.9 +1.1**
VYHS Vyhne 33.32 317 *e*P **P 02 40 06.8 +0.3**
VYHS pmax pmax
comp=Z,20nm,1.1s
VYHS Vyhne 33.32 317 *e*P **P 02 40 06.8 +0.3**
PALK Pallekele 33.32 123 P **P 02 40 07.5 +0.6**
PALK IAmb IAmb 02 40 09.3
comp=Z,31nm,0.8s
PALK Pallekele 33.32 123 P **P 02 40 07.5 +0.6**
PALK pmax pmax
comp=Z,31nm,0.9s
SRO Srobarova 33.35 316 *e*P **P 02 40 08.2 +1.4**
SRO pmax pmax
comp=Z,37nm,1.0s
SRO Srobarova 33.35 316 *e*P **P 02 40 08.2 +1.4**
IIGN Ignalina 33.39 332 *e*P **P 02 40 02.6 -4.4**
OJC Ojcow 33.53 320 *e*P **P 02 40 08.7 +0.3**
OJC Ojcow 33.53 320 IAmb IAmb 02 40 10.8
comp=Z,39nm,1.0s
OJC Ojcow 33.53 320 P **P 02 40 08.9 +0.5**
ISAL Salakas 33.58 332 *e*P **P 02 40 10.1 +1.4**
KIBK Kibwezi 33.62 208 P **P 02 40 10.7 +1.1**
KIBK IAmb IAmb 02 40 13.6
comp=Z,32nm,1.1s
KIBK Kibwezi 33.62 208 P **P 02 40 10.2 +0.6**
SNR=15
VAE Valguarnera 33.66 296 P **P 02 40 10.4 +0.7**
comp=Z,35nm,0.8s,baz=63,slow=4.5,SNR=4.5
VAE LR LR 02 56 41.0
comp=Z,121nm,18.6s,baz=353,slow=41
comp=Z,35nm,0.8s
DGZ Jazzator, Alta 33.83 41 *i* P **P 02 40 11.5 +0.4**
DGZ pmax pmax
comp=Z,38nm,0.7s
PRGR Permogore 33.85 354 *e*P **P 02 40 10.1 -0.8**
PRGR *e* 02 42 49.6
PRGR pmax pmax
comp=Z,26nm,0.8s
KLMR Klimovskoe 33.96 348 *e*P **P 02 40 11.7 -0.2**
KLMR AMP 02 40 13.7
comp=Z,92nm,0.8s
KLMR LQ LQ 02 53 39.1
KLMR LQ LQ 02 53 39.1
KLMR LR LR 02 54 29.9
KLMR AMP 02 58 19.5
comp=Z,479nm,14.0s
KLMR Klimovskoe 33.96 348 *e*P **P 02 40 11.7 -0.2**
KLMR pmax pmax
comp=Z,92nm,0.8s
KLMR MLR MLR
comp=Z,479nm,14.0s
KOGS Kog 34.17 312 *i* P **P 02 40 14.4 +0.5**
JAVC Velka Javorina 34.17 317 *e*P **P 02 40 15.7 +1.7**
JAVC *e* 02 46 38.4
SMOL Smolenice 34.18 316 *e*P **P 02 40 15.2 +1.2**
MODS Modra-Piesok 34.22 316 *e*P **P 02 40 14.4 0.0**
MODS pmax pmax
comp=Z,87nm,1.5s
MODS Modra-Piesok 34.22 316 *e*P **P 02 40 14.4 0.0**
ZST Bratislava 34.25 316 *e*P **P 02 40 15.2 +0.6**
ZST Bratislava 34.25 316 *e*P **P 02 40 15.2 +0.6**
MAUC Maruska 34.29 318 *e*P **P 02 40 15.9 +0.9**
OKC Ostrava-Krasne 34.30 319 *e*P **P 02 40 15.4 +0.3**
OKC Ostrava-Krasne 34.30 319 *e*P **P 02 40 15.4 +0.3**
PABE Paberze 34.45 331 *e*P **P 02 40 16.1 -0.1**
SHL Shillong 34.56 85 P **P 02 40 17.3 -0.5**
SHL Shillong 34.56 85 P **P 02 40 17.3 -0.5**
SHL pmax pmax
comp=Z,13nm,1.0s
RONA Rosalia, Austr 34.57 314 *e*P **P 02 40 18.1 +0.6**
comp=Z,26nm,1.3s,SNR=6.3
ZAA0 Zalesovo Array 34.63 33 P **P 02 40 17.7 -0.1**
ZALV Zalesovo Beam 34.63 33 P **P 02 40 18.2 +0.4**
comp=Z,97nm,0.6s,baz=238,slow=9.3,SNR=187
ZALV PcP **PcP 02 42 50.9 -1.0**
comp=Z,6.6nm,0.6s,baz=230,slow=4.0,SNR=5.0
ZALV ScP **ScP 02 46 37.4 +0.8**
comp=Z,2.6nm,0.7s,baz=261,slow=3.6,SNR=4.3
ZALV LR LR 02 56 18.7
comp=Z,2μm,19.5s,baz=232,slow=40
comp=Z,97nm,0.6s
MORC Moravsky Berou 34.63 318 ⇓P **P 02 40 17.5 -0.5**
MORC Moravsky Berou 34.63 318 *e*P **P 02 40 17.9 -0.1**
MORC *e* 02 46 38.9
MORC Moravsky Berou 34.63 318 P **P 02 40 18.3 +0.3**
VSVD Vaisvydziai 34.77 331 *e*P **P 02 40 19.2 +0.2**
ARSA Arzberg 34.91 313 *e*P **P 02 40 20.7 +0.4**
comp=Z,14nm,1.0s
CONA Conrad Observa 34.93 315 *e*P **P 02 40 19.8 -0.8**
comp=Z,17nm,1.2s,SNR=5.3
VRAC Vranov 35.00 317 P **P 02 40 21.6 +0.4**
comp=Z,13nm,0.8s,baz=114,slow=8.9,SNR=18
VRAC LR LR 02 57 55.4
comp=Z,274nm,18.1s,baz=112,slow=42
comp=Z,13nm,0.8s
VRAC Vranov 35.00 317 ⇑P **P 02 40 21.8 +0.7**
VRAC Vranov 35.00 317 *e*P **P 02 40 21.3 +0.2**
VRAC *e* 02 46 40.4
VRAC Vranov 35.00 317 ⇑P **P 02 40 21.8 +0.7**
KRUC Moravsky 35.02 317 *e*P **P 02 40 21.4 +0.1**
KRUC *e* 02 46 40.6
SOKA Soboth 35.04 312 *e*P **P 02 40 22.0 +0.5**
comp=Z,18nm,1.2s
BRDH Bariadhala 35.09 90 LR LR 02 57 24.3
comp=Z,396nm,19.0s,baz=276,slow=41
KRLC Kraliky 35.20 318 *e*P **P 02 40 22.9 0.0**
KRLC Kraliky 35.20 318 *e*P **P 02 40 22.9 0.0**
PUL Pulkovo 35.25 340*ce*P **P 02 40 24.8 +1.8**
PUL pmax pmax
comp=Z,53nm,0.7s
OBKA Obir 35.30 312 *e*pP **P 02 40 25.4 +1.6**
comp=Z,18nm,1.2s
CRNS Crni Vrh 35.37 311 *e*P **P 02 40 24.9 +0.5**
VSU Vasula 35.41 336 *i* P **P 02 40 25.5 +1.0**
VSU pmax pmax
comp=Z,162nm,0.8s
VSU Vasula 35.41 336 *e*P **P 02 40 24.7 +0.2**
DPC Dobruska-Polom 35.59 319 *e*P **P 02 40 26.0 -0.2**
DPC AMS AMS 02 59 30.0
comp=Z,300nm,13.2s
DPC Dobruska-Polom 35.59 319 *e*P **P 02 40 26.0 -0.2**
DPC MLR MLR
comp=Z,300nm,13.2s
PBUR Paburge 35.67 330 *e*P **P 02 40 26.9 +0.1**
OSTC Ostas 35.73 319 *e*P **P 02 40 27.7 +0.3**
MBAR Mbarara 35.77 221 P **P 02 40 27.9 -0.4**
comp=Z,20nm,0.7s,baz=31,slow=9.9,SNR=26
MBAR LR LR 02 55 56.4
comp=Z,2μm,18.3s,baz=28,slow=38
comp=Z,20nm,0.7s
MBAR Mbarara 35.77 221 P **P 02 40 28.2 -0.1**
MBAR IAmb IAmb 02 40 31.3
comp=Z,30nm,0.9s
MBAR Mbarara 35.77 221 *i* P **P 02 40 28.5 +0.2**
MBAR Mbarara 35.77 221 *e*P P 02 40 20.2 -8.0
MBAR *e*S S 02 45 52.8 -12
KSP Ksiaz 35.81 319 *e*P **P 02 40 28.1 +0.1**
KSP Ksiaz 35.81 319 P **P 02 40 28.5 +0.5**
UPC Upice 35.83 319 *e*P **P 02 40 28.3 +0.1**
UPC Upice 35.83 319 *e*P **P 02 40 28.3 +0.1**
MOA Molln 35.91 314 *e*P **P 02 40 29.2 +0.2**
comp=Z,13nm,0.9s
MYKA Terra Mystica 35.94 312 *e*pP **P 02 40 31.1 +1.9**
comp=Z,20nm,1.5s

GOMU GeErMu 35.95 66 P **P** **02 40 31.3 +1.4**
GOMU pP pP 02 40 34.7 -0.4
GOMU sP sP 02 40 39.2 +2.0
GOMU S **S** **02 46 04.3 -3.7**
GOMU pmax pmax
comp=Z,56nm,1.1s
GOMU LR LR
comp=Z,290nm,17.3s
GOMU LR LR
comp=Z,330nm,18.1s
GOMU LR LR
comp=Z,620nm,17.3s
CKRC Cesky Krumlov 36.21 315 *e*P **P** **02 40 32.5 +1.0**
BIOA Bad Ischl, Aus 36.26 313 *e*P **P** **02 40 32.2 +0.3**
comp=Z,31nm,0.9s,SNR=8.9
KBA Koelnbreinsper 36.26 312 *e*P **P** **02 40 33.0 +0.8**
comp=Z,30nm,0.8s,SNR=10
KBA Koelnbreinsper 36.26 312 P **P** **02 40 32.3 +0.1**
GOPC GO Pecny, Ondr 36.32 317 *e*P **P** **02 40 34.0 +1.6**
GOPC GO Pecny, Ondr 36.32 317 *e*P **P** **02 40 34.0 +1.6**
STAL STALIGIAL 36.45 311 IAmb IAmb 02 40 38.6
comp=Z,43nm,1.2s
PRU Pruhonice 36.49 317 *e*P **P** **02 40 35.2 +1.3**
PRU Pruhonice 36.49 317 *e*P **P** **02 40 35.2 +1.3**
GEC2 GERESS Array S 36.60 315 *e*P **P** **02 40 35.7 +0.8**
comp=Z,17nm,1.6s,baz=111,slow=8.5
GERES GERESS Array B 36.60 315 P **P** **02 40 34.5 -0.4**
comp=Z,3.6nm,0.8s,baz=127,slow=8.3,SNR=23
GERES PcP **PcP** **02 42 56.7 -1.3**
comp=Z,3.6nm,0.9s,baz=123,slow=4.9,SNR=5.3
GERES ScP **ScP** **02 46 45.4 +1.4**
comp=Z,1.8nm,1.1s,baz=122,slow=3.6,SNR=4.8
GERES LR LR 02 57 41.7
comp=Z,189nm,21.9s,baz=112,slow=40
comp=Z,3.6nm,0.8s
GERES GERESS Array B 36.60 315 P **P** **02 40 34.4 -0.5**
GERES PcP **PcP** **02 42 58.3 +0.4**
CIMO Cimolais 36.65 311 IAmb IAmb 02 40 40.4
comp=Z,32nm,1.1s
MTSE Matsula 36.66 335 *e*P **P** **02 40 35.0 -0.2**
PVCC Panska Ves 36.68 318 *e*P **P** **02 40 35.4 -0.1**
PVCC AMS AMS 03 00 00.0
comp=Z,300nm,16.9s
PVCC Panska Ves 36.68 318 *e*P **P** **02 40 35.4 -0.1**
PVCC MLR MLR
comp=Z,300nm,16.9s
ABTA Abfaltersbach 36.72 311 *e*P **P** **02 40 36.5 +0.5**
comp=Z,18nm,0.9s,SNR=5.5
KHC Kasperske Hory 36.77 316 IAmb IAmb 02 40 37.4
comp=Z,124nm,2.0s
KHC Kasperske Hory 36.77 316 *e*P **P** **02 40 36.3 0.0**
KHC Kasperske Hory 36.77 316 *i*P **P** **02 40 35.7 -0.6**
KHC pmax pmax
comp=Z,36nm,0.9s
ADZR Andozero 37.04 349 *e*P **P** **02 40 36.9 -1.4**
ADZR *e* 02 41 59.2
ADZR *e* 02 42 56.5
ADZR pmax pmax
comp=Z,103nm,1.4s
BRG Berggiesshubel 37.18 318 *e*P **P** **02 40 40.5 +0.7**
BRG Amp 02 40 41.8
comp=Z,13nm,1.0s
BRG Berggiesshubel 37.18 318 *e*P **P** **02 40 40.5 +0.7**
BRG 02 48 51.5
BRG pmax pmax
comp=Z,13nm,1.0s
BRG smax smax
comp=Z,2.0nm,0.4s
BRG MLR MLR
comp=Z,201nm,16.6s
BRG Berggiesshubel 37.18 318 *e*P **P** **02 40 40.6 +0.9**
comp=Z,63nm,1.9s,baz=111,slow=8.5
ZCCA Zocca 37.20 307 IAmb IAmb 02 40 55.9
comp=Z,119nm,1.6s
WTTA Wattenberg 37.43 312 *e*P **P** **02 40 42.0 -0.2**
comp=Z,58nm,1.2s,SNR=12
WTTA Wattenberg 37.43 312 P **P** **02 40 42.0 -0.2**
WATA Walderalm 37.49 312 *e*P **P** **02 40 42.1 -0.6**
comp=Z,57nm,1.1s,SNR=20
MEF Metsahovi 37.51 337 *e*P **P** **02 40 42.9 +0.5**
KEST Kesra 37.68 293 P **P** **02 40 45.4 +1.1**
comp=Z,12nm,0.7s,baz=28,slow=4.8,SNR=9.5
KEST LR LR 02 59 32.0
comp=Z,451nm,19.4s,baz=337,slow=42
comp=Z,12nm,0.7s
SQTA Sankt Quirin 37.70 312 *e*P **P** **02 40 44.0 -0.4**
comp=Z,38nm,0.7s,SNR=14
PRMA PARMA 37.75 308 IAmb IAmb 02 40 59.3
comp=Z,103nm,1.5s
SALO Salr 37.78 309 IAmb IAmb 02 40 48.7
comp=Z,36nm,0.9s
MOTA Moosalm 37.80 312 *e*P **P** **02 40 44.4 -0.8**
comp=Z,42nm,0.9s,SNR=12
ROTZ Rotzenmuhle 37.83 316 *e*P **P** **02 40 46.6 +1.4**
baz=111,slow=8.5
NKC Novy Kostel 37.84 317 *e*P **P** **02 40 45.6 +0.2**
NKC Novy Kostel 37.84 317 *e*P **P** **02 40 45.6 +0.2**
FINES FINESS Array B 37.86 339 P **P** **02 40 45.3 0.0**
comp=Z,45nm,0.5s,baz=143,slow=8.7,SNR=199
FINES PcP **PcP** **02 43 00.9 -0.4**
comp=Z,7.1nm,0.8s,baz=99,slow=9.8,SNR=1.7
FINES LR LR 02 58 03.0
comp=Z,243nm,18.5s,baz=142,slow=39
comp=Z,45nm,0.5s
FINES FINESS Array B 37.86 339 P **P** **02 40 44.6 -0.7**
CLL Collm 37.90 319 *i*P **P** **02 40 45.1 -0.7**
comp=Z,29nm,1.1s
CLL *e*PP **PnPn** **02 42 15.0 +1.4**
CLL *e*PPP PPP 02 42 32.0
CLL *e*PcP **PcP** **02 43 03.0 +1.3**
comp=Z,15nm,1.5s
CLL *e*S **S** **02 46 35.0 -1.6**
CLL *e*ScP **ScP** **02 46 50.0 +1.3**
comp=Z,10.0nm,1.2s
CLL *e*SS **SnSn** **02 49 12.0 -6.0**
CLL *e*ScS **ScS** **02 50 57.0 -0.5**
CLL Collm 37.90 319 *i*P **P** **02 40 45.1 -0.7**
CLL *e* 02 43 03.0
CLL *e*S **S** **02 46 35.0 -1.6**
CLL *e* 02 46 50.0
CLL pmax pmax
comp=Z,29nm,1.1s
CLL pmax pmax
comp=Z,15nm,1.5s
CLL Collm 37.90 319 *e*P **P** **02 40 46.8 +1.0**
comp=Z,81nm,1.9s,baz=111,slow=8.5
WERN Wernitzgruen 37.90 317 *e*P **P** **02 40 47.2 +1.3**
comp=Z,34nm,1.6s,baz=111,slow=8.5
RUE Ruedersdorf 37.92 321 *e*P **P** **02 40 47.0 +1.1**
RUE Ruedersdorf 37.92 321 *e*P **P** **02 40 46.9 +1.0**
comp=Z,250nm,2.1s,baz=111,slow=8.5
FUR Furstenfeldbru 37.92 313 P **P** **02 40 46.2 +0.1**
FUR Furstenfeldbru 37.92 313 *e*P **P** **02 40 46.6 +0.5**
comp=Z,191nm,1.9s,baz=111,slow=8.5
GUNZ Gunzen 37.95 317 *e*P **P** **02 40 47.5 +1.2**
comp=Z,28nm,1.7s,baz=111,slow=8.5
MANZ Manzenberg 37.96 316 *e*P **P** **02 40 47.5 +1.1**
comp=Z,4.2nm,1.4s,baz=111,slow=8.5
FETA Feichten 37.97 311 *e*P **P** **02 40 46.6 -0.1**
comp=Z,43nm,1.0s,SNR=16
RETA Reutte 38.07 312 *e*P **P** **02 40 46.7 -0.7**
comp=Z,12nm,0.7s,SNR=6.6
GRA1 Grafenberg Arr 38.41 316 IAmb IAmb 02 40 51.3
comp=Z,182nm,1.9s
GRF Grafenberg Arr 38.41 316 P **P** **02 40 50.6 +0.4**
GRF Grafenberg Arr 38.41 316 *e*P **P** **02 40 51.1 +0.9**
comp=Z,155nm,1.9s,baz=111,slow=8.5
GRF *e*L L 02 58 26.8
comp=Z,235nm,19.8s
GRFO Grafenberg 38.41 316 P **P** **02 40 49.8 -0.3**
GRFO IAmb IAmb 02 40 51.3
comp=Z,185nm,1.9s
GRFO Grafenberg 38.41 316 P **P** **02 40 49.8 -0.3**
GRFO pmax pmax
comp=Z,185nm,1.9s
DAVOX Davos/Dischmat 38.48 311 P **P** **02 40 51.1 +0.1**
comp=Z,20nm,0.7s,baz=129,slow=8.8,SNR=25
comp=Z,20nm,0.7s
MOX Moxa 38.48 317 *e*P **P** **02 40 51.7 +1.0**
baz=111,slow=8.5
MOX *e*L L 02 58 38.8
comp=Z,182nm,18.7s
BSD Bornholm Skovb 38.49 325 *i*P **P** **02 40 49.7 -1.0**
BSD IAmb IAmb 02 40 51.3
comp=Z,51nm,0.7s
BSD Bornholm Skovb 38.49 325 *e*P **P** **02 40 49.9 -0.8**

UBR Ueberruh 38.54 312 *e*P **P** **02 40 51.7 +0.3**
comp=Z,123nm,1.8s,baz=111,slow=8.5
NEUB Neuenburg 38.58 318 *e*P **P** **02 40 52.5 +0.9**
comp=Z,55nm,1.8s,baz=111,slow=8.5
DAVA Damuels 38.60 312 *e*P **P** **02 40 51.5 -0.4**
comp=Z,40nm,0.8s,SNR=22
RAF Rauma 39.01 336 *e*P **P** **02 40 55.6 +0.6**
RGN Rugen 39.05 324 *e*P **P** **02 40 57.3 +1.9**
comp=Z,232nm,1.1s,baz=111,slow=8.5
MND Mandalay 39.24 89 P **P** **02 40 56.9 -0.5**
FLTG Flechtingen 39.30 320 *e*P **P** **02 40 59.0 +1.5**
comp=Z,123nm,1.6s,baz=111,slow=8.5
UBBA Unterbreizbach 39.51 317 *e*P **P** **02 41 01.1 +1.9**
comp=Z,58nm,1.9s,baz=111,slow=8.5
ASSE Asse, Remlinge 39.55 319 *e*P **P** **02 41 00.9 +1.3**
comp=Z,28nm,1.6s,baz=111,slow=8.5
CLZ Clausthal 39.62 319 *e*P **P** **02 41 01.8 +1.4**
comp=Z,40nm,1.0s,baz=111,slow=8.5
SLE Schleitheim 39.62 312 P **P** **02 40 59.7 -0.7**
SBF Sospel 39.64 306 *e*P **P** **02 40 59.7 -0.9**
SBF pmax pmax
comp=Z,24nm,0.7s
GTTG Gottingen 39.76 318 *e*P **P** **02 41 03.2 +1.7**
comp=Z,64nm,1.8s,baz=111,slow=8.5
BFO Black Forest 39.86 313 P **P** **02 41 01.7 -0.7**
BFO Black Forest 39.86 313 P **P** **02 41 01.7 -0.7**
BFO pmax pmax
comp=Z,9.0nm,1.1s
BFO Black Forest 39.86 313 *e*P **P** **02 41 02.5 +0.2**
comp=Z,26nm,1.9s,baz=111,slow=8.5
GTA Gaotai 39.98 61 ⇑P **P** **02 41 04.6 +1.0**
GTA sP sP 02 41 18.7 +7.7
GTA S **S** **02 47 11.0 +2.4**
GTA SS **SS** **02 50 05.2 -0.3**
GTA pmax pmax
comp=Z,110nm,1.2s
GTA pmax pmax
comp=Z,240nm,5.1s
GTA LR LR
comp=Z,380nm,14.5s
GTA LR LR
comp=Z,490nm,14.9s
GTA LR LR
comp=Z,590nm,14.5s
NRDL Niedersach Rie 40.00 320 *e*P **P** **02 41 05.6 +2.3**
comp=Z,197nm,1.7s,baz=111,slow=8.5
COP Copenhagen 40.01 325 *e*P **P** **02 41 03.5 +0.1**
COP IAmb IAmb 02 41 06.9
comp=Z,101nm,0.8s
SENIN Lac Senin/Sane 40.13 310 IAmb IAmb 02 41 24.3
comp=Z,65nm,0.8s
MBDF Montbardon 40.23 307 *e*P **P** **02 41 05.7 +0.1**
MBDF pmax pmax
comp=Z,19nm,0.7s
TNS Taunus Mts 40.28 316 *e*P **P** **02 41 07.1 +1.3**
comp=Z,22nm,1.2s,baz=111,slow=8.5
BNI Bardonecchia 40.34 307 P **P** **02 41 05.5 -1.0**
BNI Bardonecchia 40.34 307 P **P** **02 41 05.5 -1.0**
BNI pmax pmax
comp=Z,19nm,0.9s
LPL La Plagne 40.38 308 *e*P **P** **02 41 05.5 -1.4**
LPL pmax pmax
comp=Z,31nm,1.0s
BSEG Bad Segeberg 40.41 322 *e*P **P** **02 41 08.3 +1.6**
comp=Z,95nm,1.5s,baz=111,slow=8.5
RETH Rethem/Aller, 40.51 320 *e*P **P** **02 41 09.7 +2.1**
comp=Z,95nm,1.5s,baz=111,slow=8.5
TNCH TengChong 40.52 84 ⇓P **P** **02 41 08.8 +0.5**
TNCH sP sP 02 41 14.7 -0.9
TNCH pmax pmax
comp=Z,230nm,4.3s
CDF Champ du Feu 40.56 313 *e*P **P** **02 41 08.1 -0.1**
CDF pmax pmax
comp=Z,10.0nm,0.9s
KASTN Kahler Asten 40.58 317 *e*P **P** **02 41 10.1 +1.8**
comp=Z,62nm,1.7s,baz=111,slow=8.5
ECH Echery 40.60 312 P **P** **02 41 07.3 -1.2**
ECH IAmb IAmb 02 41 08.9
comp=Z,111nm,1.9s
ECH Echery 40.60 312 P **P** **02 41 07.3 -1.2**
ECH pmax pmax
comp=Z,111nm,1.9s
MSF Maaselka 40.63 345 P **P** **02 41 08.5 0.0**
HINF Hinteralfeld 40.71 312 *e*P **P** **02 41 08.0 -1.4**
HINF pmax pmax
comp=Z,13nm,0.9s
OUL Oulu 40.73 343 P **P** **02 41 09.6 +0.4**
SET Setif 40.87 294 P **P** **02 41 13.0 +2.1**
CABF La Chapelle 41.00 310 *e*P **P** **02 41 11.0 -0.9**
CABF pmax pmax
comp=Z,73nm,1.4s
HAU Haudompre 41.08 312 *e*P **P** **02 41 10.8 -1.7**
HAU pmax pmax
comp=Z,11nm,0.8s
APA Apatity 41.20 349 ⇓*i*P **P** **02 41 13.0 -0.1**
APA pmax pmax
comp=Z,35nm,1.2s
APA MLR MLR
comp=Z,2μm,14.0s
IBBN Ibbenburen 41.30 319 *e*P **P** **02 41 16.2 +2.1**
comp=Z,76nm,1.5s,baz=111,slow=8.5
BUG Bochum-Univer 41.34 317 *e*P **P** **02 41 16.2 +1.8**
comp=Z,43nm,1.4s,baz=111,slow=8.5
WLF Walferdange 41.57 314 P **P** **02 41 15.8 -0.6**
WLF Walferdange 41.57 314 P **P** **02 41 15.8 -0.6**
WLF pmax pmax
comp=Z,23nm,1.0s
WLF Walferdange 41.57 314 *d*P **P** **02 41 16.0 -0.4**
comp=Z,14nm,0.9s
WLF Walferdange 41.57 314 *e*P **P** **02 41 16.9 +0.5**
comp=Z,84nm,1.9s,baz=111,slow=8.5
HFS Hagfors 41.61 331 P **P** **02 41 16.3 -0.3**
comp=Z,39nm,0.6s,baz=120,slow=8.8,SNR=93
HFS LR LR 03 00 15.1
comp=Z,342nm,20.8s,baz=118,slow=39
comp=Z,39nm,0.6s
VIVF Saint-Julien-l 41.73 307 *e*P **P** **02 41 17.7 -0.1**
VIVF pmax pmax
comp=Z,56nm,1.6s
BHOU Houvegnez 41.82 315 *d*P **P** **02 41 18.9 +0.4**
MEM Membach 41.88 316 *d*P **P** **02 41 23.1 +4.2**
comp=Z,11nm,0.9s
MUD Monsted U'grnd 41.99 325 *i*P **P** **02 41 20.7 +1.0**
MUD IAmb IAmb 02 41 22.3
comp=Z,60nm,0.9s
RCHB Rochefort 42.26 315 *d*P **P** **02 41 22.1 +0.1**
comp=Z,12nm,1.0s
BCLA Clavier 42.28 315 *d*P **P** **02 41 22.4 +0.3**
comp=Z,8.6nm,1.0s
BGES Gesves 42.40 315 *d*P **P** **02 41 23.7 +0.5**
GIVF Givet 42.51 315 *e*P **P** **02 41 23.7 -0.3**
GIVF pmax pmax
comp=Z,39nm,1.2s
SMF Signal de Mont 42.53 309 *e*P **P** **02 41 23.0 -1.3**
SMF pmax pmax
comp=Z,22nm,0.8s
MOY Mondy 42.58 43 *e*P **P** **02 41 26.2 +1.4**
MOY pmax pmax
comp=Z,63nm,1.5s
BMRD Maredsous 42.58 315 *d*P **P** **02 41 25.0 +0.3**
comp=Z,9.0nm,1.1s
LOR Lormes 42.61 310 *e*P **P** **02 41 23.5 -1.5**
LOR pmax pmax
comp=Z,16nm,1.0s
DOU Dourbes 42.65 315 *d*P **P** **02 41 25.5 +0.3**
comp=Z,11nm,0.9s
OSL Oslo 42.80 330 *e*P **P** **02 41 26.3 +0.1**
OSL IAmb IAmb 02 41 27.8
comp=Z,90nm,0.7s
CHTO Chiang Mai 42.81 92 P **P** **02 41 27.2 +0.3**
CHTO IAmb IAmb 02 41 29.7
comp=Z,91nm,1.0s
CHTO Chiang Mai 42.81 92 P **P** **02 41 27.2 +0.3**
CHTO pmax pmax
comp=Z,91nm,1.0s
SSF Saint Saulge 42.82 310 *e*P **P** **02 41 25.5 -1.1**
SSF pmax pmax
comp=Z,22nm,0.9s
NC602 NORSAR Array S 42.84 331 *e*P **P** **02 41 27.1 +0.5**
NORES NORESS Array B 42.84 331 P **P** **02 41 27.4 +0.8**
BAIF Baives 42.88 314 *e*P **P** **02 41 27.1 0.0**
BAIF pmax pmax
comp=Z,31nm,0.9s
AVF Avril sur Loir 42.89 310 *e*P **P** **02 41 25.9 -1.2**
AVF pmax pmax
comp=Z,71nm,1.8s

CM31 Chiang Mai Arr 42.94 93 P **P** **02 41 27.4 -0.5**
CMAR Chiang Mai Arr 42.94 93 P **P** **02 41 27.4 -0.6**
comp=Z,24nm,1.0s,baz=287,slow=8.4,SNR=61
CMAR PcP **PcP** **02 43 18.4 -0.1**
comp=Z,8.3nm,0.8s,baz=288,slow=4.7,SNR=8.2
CMAR LR LR 03 04 07.7
comp=Z,247nm,18.5s,baz=285,slow=43
comp=Z,24nm,1.0s
CMAR Chiang Mai Arr 42.94 93 P **P** **02 41 28.5 +0.5**
CMAR Chiang Mai Arr 42.94 93 P **P** **02 41 28.5 +0.5**
PZH PanZhiHua 42.97 80 P **P** **02 41 28.8 +0.5**
PZH sP **pP** **02 41 34.0 +0.4**
PZH PP **PcP** **02 43 14.8 -3.9**
PZH S **S** **02 47 49.7 -3.5**
PZH SS **SS** **02 51 04.2 -0.9**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,170nm,6.1s
PZH LR LR
comp=Z,930nm,21.1s
PZH LR LR
comp=Z,610nm,20.1s
PZH LR LR
comp=Z,1μm,24.5s
HOMB Homborsund 43.07 327 *e*P **P** **02 41 28.1 -0.3**
HOMB IAmb IAmb 02 41 30.1
comp=Z,39nm,0.8s
NB201 NORSAR Array S 43.10 332 IAmb IAmb 02 41 30.0
comp=Z,38nm,0.8s
NB2 NORSAR Subarra 43.13 332 P **P** **02 41 28.0 -1.0**
comp=Z,17nm,0.7s,baz=120,slow=8.6
NB2 PP PP 02 43 01.3 -7.8
comp=Z,28nm,1.4s,baz=126,slow=11
NB2 NORSAR Subarra 43.13 332 P **P** **02 41 28.0 -1.0**
slow=8.6
NOA NORSAR Array B 43.13 332 P **P** **02 41 28.2 -0.8**
comp=Z,14nm,0.6s,baz=121,slow=8.2,SNR=51
NOA PP **PP** **02 43 02.9 -6.2**
comp=Z,2.8nm,0.7s,baz=126,slow=11,SNR=4.3
NOA LR LR 03 02 16.4
comp=Z,201nm,20.7s,baz=115,slow=40
comp=Z,14nm,0.6s
KONO Kongsberg 43.16 329 P **P** **02 41 28.7 -0.5**
KONO IAmb IAmb 02 41 30.6
comp=Z,34nm,0.8s
KONO Kongsberg 43.16 329 P **P** **02 41 28.7 -0.5**
KONO pmax pmax
comp=Z,34nm,0.9s
KONO Kongsberg 43.16 329 *e*P **P** **02 41 29.3 +0.1**
NAO01 NORSAR Array S 43.17 331 IAmb IAmb 02 41 31.8
comp=Z,62nm,1.3s
BGF Bois d'Agland 43.20 309 *e*P **P** **02 41 28.6 -1.1**
BGF pmax pmax
comp=Z,20nm,1.0s
LZH Lanzhou 43.25 66 *e*P **P** **02 41 31.1 +0.6**
LZH pP pP 02 41 36.2 +0.4
LZH sP sP 02 41 39.5 +1.6
LZH S **S** **02 47 58.0 +0.8**
LZH sS sS 02 48 06.3 +0.3
LZH SS **SS** **02 51 01.2 -9.2**
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,250nm,4.6s
LZH LR LR
comp=Z,460nm,14.6s
LZH LR LR
comp=Z,800nm,14.3s
LZH LR LR
comp=Z,1μm,16.5s
MTLF Montolieu 43.36 304 *e*P **P** **02 41 32.1 +1.0**
MTLF pmax pmax
comp=Z,55nm,1.4s
NC204 NORSAR Array S 43.44 332 P **P** **02 41 31.4 -0.1**
CRAI Chiangrai 43.58 90 IAmb IAmb 02 41 40.2
comp=Z,96nm,1.4s
CAF Calviac 43.58 307 *e*P **P** **02 41 32.1 -0.7**
CAF pmax pmax
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 43.61 309 *e*P **P** **02 41 32.1 -0.9**
TCF pmax pmax
comp=Z,17nm,0.9s
ZAK Zakamensk 43.70 45 *e*P **P** **02 41 33.8 0.0**
ZAK *e* 02 43 19.4
ZAK pmax pmax
comp=Z,21nm,1.1s
ZAK pmax pmax
comp=Z,15nm,1.2s
CD2 Chengdu 43.82 74 P **P** **02 41 35.3 +0.3**
CD2 S **S** **02 48 06.6 +1.3**
CD2 pmax pmax
comp=Z,60nm,0.9s
RJF Les Rejaudoux 44.00 307 *e*P **P** **02 41 35.7 -0.5**
RJF pmax pmax
comp=Z,22nm,0.9s
VADS Vadso 44.15 349 *e*P **P** **02 41 37.4 +0.4**
VADS IAmb IAmb 02 41 39.6
comp=Z,84nm,1.1s
KMI Kunming 44.19 82 ⇑P **P** **02 41 37.7 -0.5**
KMI S **S** **02 48 04.1 -7.1**
KMI SS **SS** **02 51 22.0 -7.1**
KMI pmax pmax
comp=Z,38nm,1.2s
KMI pmax pmax
comp=Z,220nm,4.6s
KMI LR LR
comp=Z,200nm,15.2s
KMI LR LR
comp=Z,180nm,16.2s
KMI LR LR
comp=Z,240nm,22.7s
SKAR Skarslia 44.21 330 *e*P **P** **02 41 38.1 +0.4**
SKAR IAmb IAmb 02 41 39.9
comp=Z,31nm,0.8s
KEV Kevo 44.27 347 P **P** **02 41 38.0 0.0**
KEV IAmb IAmb 02 41 41.0
comp=Z,67nm,1.1s
KEV Kevo 44.27 347 P **P** **02 41 38.0 0.0**
KEV pmax pmax
comp=Z,67nm,1.1s
ARA0 ARCESS Array S 44.39 347 *e*P **P** **02 41 39.4 +0.4**
ARA0 IAmb IAmb 02 41 42.1
comp=Z,57nm,1.2s
ARCES ARCESS Array B 44.39 347 P **P** **02 41 39.1 +0.1**
comp=Z,6.8nm,0.6s,baz=145,slow=9.7,SNR=38
ARCES PcP **PcP** **02 43 22.7 +0.2**
comp=Z,25nm,1.1s,baz=167,slow=4.5,SNR=5.6
ARCES LR LR 03 04 07.6
comp=Z,261nm,18.5s,baz=134,slow=41
comp=Z,6.8nm,0.6s
KTK1 Kautokeino 44.47 345 *e*P **P** **02 41 39.8 +0.2**
KTK1 IAmb IAmb 02 41 41.4
comp=Z,40nm,0.7s
BLS5 Blasjo 44.51 328 *e*P **P** **02 41 41.0 +0.9**
DOMB Dombas 44.52 332 *e*P **P** **02 41 41.1 +1.0**
ODD1 Odda 44.63 329 *e*P **P** **02 41 43.0 +2.0**
ODD1 IAmb IAmb 02 41 44.7
comp=Z,41nm,0.8s
TBLU Trondheim 44.65 334 *e* **P** **02 41 41.5 +0.4**
IRK Irkutsk 44.69 43 *e*P **P** **02 41 42.4 +0.8**
IRK pmax pmax
comp=Z,64nm,1.6s
NSS Namsos 44.71 336 *e*P **P** **02 41 41.8 +0.3**
NSS IAmb IAmb 02 41 43.1
comp=Z,49nm,0.8s
EPF Esparros 44.72 304 *e*P **P** **02 41 41.1 -0.9**
EPF pmax pmax
comp=Z,5.0nm,0.8s
MOR8 Moi Rana 44.85 339 *e*P **P** **02 41 43.1 +0.4**
SONM Songino Array 45.34 49 P **P** **02 41 47.5 +0.5**
comp=Z,31nm,1.1s,baz=263,slow=8.1,SNR=83
SONM PcP **PcP** **02 43 25.3 -1.1**
comp=Z,2.0nm,0.8s,baz=254,slow=3.8,SNR=1.6
SONM LR LR 03 03 46.3
comp=Z,1μm,18.3s,baz=221,slow=40
comp=Z,31nm,1.1s
SONM Songino Array 45.34 49 P **P** **02 41 46.8 -0.2**
SONM IAmb IAmb 02 41 50.6
comp=Z,43nm,1.2s
FAUS Fauske 45.37 341 *e*P **P** **02 41 47.1 +0.4**
FAUS IAmb IAmb 02 41 48.3
comp=Z,50nm,1.0s
ETSF Etsaut 45.38 304 *e*P **P** **02 41 47.5 +0.2**
ETSF pmax pmax
comp=Z,18nm,0.8s

STOK Stokkvaagen 45.41 339 *e*P **P 02 41 47.4 +0.3**
BER Bergen 45.42 329 *e*P **P 02 41 46.5 -0.7**
LDF La Druitiere 45.44 312 *e*P **P 02 41 46.0 -1.6**
LDF pmax pmax
comp=Z,14nm,0.6s
AKN Aaknes 45.45 332 *e*P **P 02 41 49.2 +1.7**
KONS Konsvik 45.48 339 *e*P **P 02 41 47.5 -0.1**
KONS IAmb IAmb 02 41 48.5
comp=Z,55nm,1.0s
JETT Jettan, Norway 45.53 345 *e*P **P 02 41 48.6 +0.5**
JETT IAmb IAmb 02 41 50.2
comp=Z,105nm,0.7s
HAMF Hammerfest 45.66 347 *e*P **P 02 41 49.5 +0.5**
FLN La Foliniere 45.70 312 *e*P **P 02 41 48.2 -1.4**
FLN pmax pmax
comp=Z,21nm,0.7s
STEI Steigen 45.74 341 *e*P **P 02 41 49.3 -0.4**
NRIK Noril'sk 45.78 16 P **P 02 41 51.0 +1.1**
comp=Z,23nm,0.9s,baz=223,slow=6.1,SNR=26
NRIK PcP **PcP 02 43 27.4 +0.1**
comp=Z,17nm,1.1s,baz=204,slow=1.6,SNR=2.6
NRIK LR LR 03 04 31.3
comp=Z,564nm,19.1s,baz=220,slow=41
comp=Z,23nm,0.9s
NRIK Noril'sk 45.78 16 P **P 02 41 50.8 +0.9**
NRIK IAmb IAmb 02 41 53.8
comp=Z,34nm,1.0s
NRIK Noril'sk 45.78 16 *ce*P **P 02 41 50.9 +0.9**
NRIK pmax pmax
comp=Z,43nm,1.0s
NRIK MLR MLR
comp=Z,693nm,17.0s
ULN Ulaanbaatar 45.79 49 P **P 02 41 50.6 0.0**
ULN IAmb IAmb 02 41 53.3
comp=Z,37nm,1.1s
ULN Ulaanbaatar 45.79 49 *ce*P **P 02 41 50.9 +0.3**
ULN pmax pmax
comp=Z,50nm,1.3s
ULN Ulaanbaatar 45.79 49 P **P 02 41 51.3 +0.7**
ULN P **P 02 41 51.3 +0.7**
SJPF Ste Jean 45.87 304 *e*P **P 02 41 51.3 +0.2**
SJPF pmax pmax
comp=Z,20nm,0.6s
GRR Gorron 45.91 311 *e*P **P 02 41 50.5 -0.8**
GRR pmax pmax
comp=Z,93nm,1.7s
TRO Tromso 45.95 344 *e*P **P 02 41 51.5 +0.2**
TRO IAmb IAmb 02 41 52.5
comp=Z,106nm,1.2s
WOL Wolverton 46.50 315 *e*P **P 02 41 56.1 +0.1**
WOL IAmb IAmb 02 42 01.5
comp=Z,112nm,0.8s
NAYO Nakonayok 46.68 97 P **P 02 41 58.8 +1.1**
NONG Nongkai 46.79 91 P **P 02 41 58.7 +0.1**
FIGM Figuig 46.81 289 P **P 02 41 60.0 +1.2**
OPO Ambohidratompo 46.81 188 P **P 02 41 58.7 -0.1**
comp=Z,12nm,1.0s,baz=341,slow=3.8,SNR=8.9
OPO LR LR 03 02 42.4
comp=Z,277nm,18.3s,baz=178,slow=38
comp=Z,12nm,1.0s
JSA Saint Aubin 46.85 312 *e*P **P 02 41 58.2 -0.5**
JSA IAmb IAmb 02 42 00.3
comp=Z,41nm,0.8s
JVM Valle D.L. Mar 46.88 312 *e*P **P 02 41 58.0 -0.8**
SGMF Saint Gilles 47.02 311 *e*P **P 02 42 00.3 +0.2**
SGMF pmax pmax
comp=Z,18nm,0.7s
LBWR Ladybower, Pea 47.14 318 *e*P **P 02 42 00.9 0.0**
STRD Stroud 47.15 316 *e*P **P 02 42 00.5 -0.6**
STRD IAmb IAmb 02 42 06.5
comp=Z,64nm,0.7s
HPK Haverah Park 47.18 319 *e*P **P 02 42 01.5 +0.3**
HPK IAmb IAmb 02 42 01.9
comp=Z,339nm,2.0s
ABPO Ambohimpanom 47.25 188 P **P 02 42 02.6 +0.4**
ABPO IAmb IAmb 02 42 04.5
comp=Z,25nm,1.2s
ABPO Ambohimpanom 47.25 188 P **P 02 42 02.6 +0.4**
ABPO pmax pmax
comp=Z,25nm,1.3s
GYA Guiyang 47.26 79 *e*P **P 02 42 05.1 +2.7**
GYA pP sP 02 42 09.8 0.0
GYA pmax pmax
comp=Z,14nm,0.9s
GYA LR LR
comp=Z,340nm,15.9s
TAF Taforalt 47.34 293 P **P 02 42 05.0 +2.1**
QUIF Quistinic 47.41 311 *e*P **P 02 42 01.7 -1.3**
QUIF pmax pmax
comp=Z,18nm,0.7s
ROSF Rostrenen 47.51 311 *e*P **P 02 42 02.5 -1.3**
ROSF pmax pmax
comp=Z,28nm,0.8s
JBK JBK 47.53 292 P **P 02 42 06.0 +1.5**
MONM Monmouth 47.55 316 *e*P **P 02 42 02.4 -1.7**
MONM IAmb IAmb 02 42 09.0
comp=Z,44nm,0.8s
XAN Xi'an 47.63 68 P **P 02 42 04.8 -0.2**
XAN pP sP 02 42 17.9 +5.4
XAN S **S 02 48 58.7 -1.4**
XAN sS sS 02 49 14.0 +5.0
XAN pmax pmax
comp=Z,100nm,1.1s
XAN pmax pmax
comp=Z,140nm,3.6s
XAN LR LR
comp=Z,690nm,14.1s
XAN LR LR
comp=Z,520nm,14.3s
XAN LR LR
comp=Z,900nm,17.5s
MCH1 Michaelchurch 47.69 316 *e*P **P 02 42 04.6 -0.6**
MCH1 IAmb IAmb 02 42 06.9
comp=Z,84nm,0.8s
BTO Baotou 47.80 59 *e*P **P 02 42 07.6 +1.2**
FOEL Foel Wylfa 47.94 317 *e*P **P 02 42 07.1 0.0**
FOEL IAmb IAmb 02 42 09.1
comp=Z,46nm,1.1s
ESBB Sonseca Array 48.04 299 IAmb IAmb 02 42 09.7
comp=Z,49nm,1.8s
ESDC Sonseca Array 48.04 299 P **P 02 42 07.9 -0.3**
comp=Z,4.7nm,0.8s,baz=71,slow=7.2,SNR=31
ESDC PcP **PcP 02 43 36.6 +0.6**
comp=Z,2.8nm,0.9s,baz=50,slow=3.5,SNR=1.4
ESDC LR LR 03 05 53.7
comp=Z,149nm,20.1s,baz=84,slow=40
comp=Z,4.7nm,0.8s
ESDC Sonseca Array 48.04 299 IAmb IAmb 02 42 09.5
comp=Z,36nm,1.6s
ESY Stoneypath 48.11 321 *e*P **P 02 42 08.3 -0.1**
EKA Eskdalemuir Ar 48.31 320 P **P 02 42 09.7 -0.2**
comp=Z,2.1nm,0.4s,baz=107,slow=8.2,SNR=24
EKA PcP **PcP 02 43 36.7 +0.2**
comp=Z,2.2nm,0.7s,baz=95,slow=7.3,SNR=1.5
EKA LR LR 03 05 48.5
comp=Z,221nm,20.2s,baz=100,slow=40
comp=Z,2.1nm,0.4s
EBL Broad Law 48.32 321 *e*P **P 02 42 10.1 0.0**
PAB San Pablo 48.35 299 P **P 02 42 10.1 -0.5**
PAB IAmb IAmb 02 42 11.9
comp=Z,75nm,1.9s
PAB San Pablo 48.35 299 P **P 02 42 10.8 +0.1**
PAB San Pablo 48.35 299 P **P 02 42 10.1 -0.5**
PAB pmax pmax
comp=Z,75nm,1.9s
EDI Edinburgh 48.43 321 *e*P **P 02 42 11.1 +0.2**
RSBS Rosebush, Pemb 48.76 316 *e*P **P 02 42 13.6 +0.2**
ENH Enshi 48.79 73 P **P 02 42 13.1 -1.0**
ENH Enshi 48.79 73 P **P 02 42 14.4 +0.3**
HHC Hu-ho-hao-te 48.95 59 *e*P **P 02 42 16.3 +1.0**
HHC S **S 02 49 16.9 -2.0**
HHC SS **SS 02 52 48.2 -1.3**
HHC pmax pmax
comp=Z,81nm,1.1s
HHC pmax pmax
comp=Z,350nm,5.3s
HHC LR LR
comp=Z,410nm,14.0s
HHC LR LR
comp=Z,1μm,15.9s
HHC LR LR
comp=Z,2μm,16.5s
INVG Invergeldie, C 49.00 322 *e*P **P 02 42 14.4 -0.8**
INVG IAmb IAmb 02 42 17.1
comp=Z,42nm,0.9s

ARF Arif 49.41 289 P **P 02 42 21.0 +2.1**
MDT Midelt 49.47 290 LR LR 03 07 05.3
comp=Z,163nm,19.0s,baz=98,slow=41
MDT Midelt 49.47 290 P **P 02 42 20.3 +1.0**
LSZ Lusaka 49.48 212 P **P 02 42 18.3 -1.2**
comp=Z,19nm,1.0s,baz=40,slow=7.5,SNR=32
LSZ LR LR 03 04 46.9
comp=Z,2μm,18.1s,baz=40,slow=38
comp=Z,19nm,1.0s
LSZ Lusaka 49.48 212 P **P 02 42 19.9 +0.4**
LSZ IAmb IAmb 02 42 21.4
comp=Z,39nm,1.2s
LSZ Lusaka 49.48 212 *e*P **P 02 42 18.3 -1.2**
LSZ IAmb IAmb 02 42 21.1
comp=Z,342nm,1.2s
LSZ Lusaka 49.48 212 P **P 02 42 19.9 +0.4**
LSZ pmax pmax
comp=Z,39nm,1.2s
UBPT Khong Chiam 49.92 93 IAmb IAmb 02 42 24.2
comp=Z,69nm,1.4s
UBPT Khong Chiam 49.92 93 P **P 02 42 23.7 +0.9**
TIY Taiyuan 49.94 63 *e*P **P 02 42 23.4 +0.6**
TIY S **S 02 49 35.5 +2.8**
TIY pmax pmax
comp=Z,40nm,0.6s
TIY LR LR
comp=Z,310nm,11.9s
TIY LR LR
comp=Z,400nm,16.5s
TIY LR LR
comp=Z,530nm,16.2s
GOLM Goulmima 49.97 289 P **P 02 42 25.0 +1.8**
PBRG Braganca 49.99 302 *e*P **P 02 42 23.4 +0.3**
comp=Z,25nm,1.5s
GSI Gunungsitoli 50.13 114 IAmb IAmb 02 42 26.8
comp=Z,52nm,0.9s
GSI Gunungsitoli 50.13 114 P **P 02 42 26.0 +1.6**
VOI Vohitsoka 50.15 188 P **P 02 42 24.9 +0.5**
VOI Vohitsoka 50.15 188 P **P 02 42 27.3 +2.9**
MVO Moncorvo 50.26 302 *e*P **P 02 42 25.6 +0.5**
comp=Z,47nm,2.0s
PSI Prapat 50.37 112 P **P 02 42 27.6 +1.3**
LYN LuoYang 50.44 67⇓ *i*P **P 02 42 27.4 +0.9**
LYN S **S 02 49 37.8 -1.8**
LYN pmax pmax
comp=Z,50nm,1.2s
LYN LR LR
comp=Z,460nm,17.6s
LYN LR LR
comp=Z,340nm,12.2s
LYN LR LR
comp=Z,560nm,16.2s
PBAR Barrancos 50.59 298 *e*P **P 02 42 27.5 -0.1**
comp=Z,53nm,1.4s
TZRR Tazzarine 50.68 288 P **P 02 42 30.0 +1.4**
PMRV Marv??o 50.71 299 *e*P **P 02 42 28.5 0.0**
comp=Z,25nm,1.6s
MTE Manteigas 50.72 301 *e*P **P 02 42 29.3 +0.7**
comp=Z,38nm,1.5s
PCBR Castelo Branco 50.73 300 *e*P **P 02 42 29.0 +0.4**
comp=Z,47nm,1.4s
PVRL Vila Real 50.76 302 *e*P **P 02 42 29.6 +0.7**
comp=Z,40nm,1.9s
POLO Lamas de Olo 50.81 302 *e*P **P 02 42 29.7 +0.3**
comp=Z,21nm,1.5s
ZGR Zagora 50.87 287 P **P 02 42 31.1 +1.1**
PESTR Estremoz 50.93 299 *e*P **P 02 42 29.6 -0.6**
comp=Z,23nm,1.5s
PVIS Viseu 50.95 301 *e*P **P 02 42 31.3 +0.9**
comp=Z,65nm,1.5s
PGAV Gavieira, Arco 51.11 303 *e*P **P 02 42 32.2 +0.6**
comp=Z,40nm,1.8s
IPM Ipoh 51.18 108 P **P 02 42 32.2 -0.2**
BOD Bodaibo 51.19 37 *e*P **P 02 42 31.5 -0.3**
BOD pmax pmax
comp=Z,115nm,1.2s
PVAQ Vaqueiros 51.22 297 *e*P **P 02 42 32.2 -0.2**
comp=Z,34nm,1.4s
PBEJ Beja 51.25 298 *e*P **P 02 42 32.5 -0.1**
comp=Z,28nm,1.6s
EVO Evora 51.30 298 *e*P **P 02 42 33.1 +0.2**
comp=Z,40nm,1.4s
PMTG Montargil 51.39 299 *e*P **P 02 42 34.9 +1.3**
comp=Z,22nm,1.6s
COI Coimbra 51.40 300 *e*P **P 02 42 34.4 +0.7**
comp=Z,48nm,1.7s
COI Coimbra 51.40 300 IAmb IAmb 02 42 39.8
comp=Z,35nm,0.9s
PTO Porto 51.44 302 *e*P **P 02 42 35.3 +1.3**
comp=Z,36nm,1.9s
PCVE Castro Verde 51.44 297 *e*P **P 02 42 34.0 -0.1**
comp=Z,29nm,1.7s
PCAS Casmilo, Conde 51.48 300 *e*P **P 02 42 35.2 +0.9**
comp=Z,43nm,1.6s
OUZM OUZ 51.65 289 P **P 02 42 38.2 +2.3**
PNCL Nicolau / Gran 51.76 298 *e*P **P 02 42 36.6 +0.2**
comp=Z,28nm,1.4s
HNS HongShan 51.77 63⇑ P **P 02 42 36.8 +0.3**
HNS *e*S **S 02 50 00.4 +2.5**
HNS pmax pmax
comp=Z,30nm,1.2s
HNS LR LR
comp=Z,410nm,14.9s
HNS LR LR
comp=Z,600nm,23.0s
PSBE So Bento 51.77 300 *e*P **P 02 42 37.0 +0.5**
comp=Z,55nm,1.9s
MORF Marmelete 51.98 297 *e*P **P 02 42 38.6 +0.5**
comp=Z,49nm,1.5s
PTEO Sao Teotonio 51.99 297 *e*P **P 02 42 40.3 +2.1**
XLT XiLinHaoTe 52.06 55⇓ *i*P **P 02 42 39.7 +1.0**
XLT pP pP 02 42 44.2 +0.1
XLT sP sP 02 42 46.9 +0.7
XLT PcP **PcP 02 43 51.5 +0.8**
XLT PcS **PcS 02 47 44.6 -4.3**
XLT S **S 02 49 54.6 -7.3**
XLT ScS **ScS 02 52 22.2 -6.1**
XLT pmax pmax
comp=Z,36nm,1.2s
XLT pmax pmax
comp=Z,90nm,3.6s
XLT LR LR
comp=Z,1μm,16.5s
XLT LR LR
comp=Z,2μm,20.8s
PFVI Vila Bisbo 52.14 297 *e*P **P 02 42 39.2 -0.1**
QIZ Qiongzhong 52.35 87 IAmb IAmb 02 42 43.6
comp=Z,72nm,1.2s
QIZ Qiongzhong 52.35 87 P **P 02 42 40.9 -0.2**
QIZ S **S 02 50 13.1 +6.8**
QIZ pmax pmax
comp=Z,48nm,1.2s
QIZ LR LR
comp=Z,280nm,23.4s
QIZ LR LR
comp=Z,190nm,18.6s
QIZ LR LR
comp=Z,300nm,18.4s
QIZ Qiongzhong 52.35 87 P **P 02 42 42.3 +1.2**
BJT Baijiatuau 52.53 60 P **P 02 42 42.6 +0.5**
BJT IAmb IAmb 02 42 44.7
comp=Z,21nm,0.8s
BJT Baijiatuau 52.53 60 P **P 02 42 42.6 +0.5**
BJT pmax pmax
comp=Z,21nm,0.8s
SPA0 Spitsbergen Ar 52.76 351 *e*P **P 02 42 44.0 +0.9**
SPITS Spitsbergen Ar 52.76 351 P **P 02 42 44.1 +0.9**
comp=Z,45nm,0.9s,baz=140,slow=12,SNR=13
SPITS PcP **PcP 02 43 52.2 -0.4**
comp=Z,3.7nm,0.5s,baz=129,slow=6.6,SNR=1.2
SPITS LR LR 03 09 56.5
comp=Z,243nm,18.4s,baz=108,slow=41
comp=Z,45nm,0.9s
SPITS Spitsbergen Ar 52.76 351 P **P 02 42 44.2 +0.9**
SPITS pmax pmax
comp=Z,189nm,1.6s
WHN Wuhan 52.82 72⇑ P **P 02 42 45.6 +1.2**
WHN S **S 02 50 11.0 -1.4**
WHN pmax pmax
comp=Z,150nm,1.1s
WHN LR LR
comp=Z,720nm,22.4s
BKNI Bangkinang 53.51 113 P **P 02 42 50.5 +0.9**
BKNI Bangkinang 53.51 113 P **P 02 42 51.5 +1.9**
comp=Z,148nm,0.8s,comp=Z,7μm
TIA Tai'an 53.88 64⇓ P **P 02 42 52.7 +0.5**

TIA S **S 02 50 26.3 -0.5**
TIA pmax pmax
comp=Z,57nm,0.6s
TIA LR LR
comp=Z,350nm,14.9s
TIA LR LR
comp=Z,400nm,16.4s
TIA LR LR
comp=Z,590nm,13.5s
KBS Kingsbay 53.91 351 *ce*P **P 02 42 53.8 +2.1**
KBS pmax pmax
comp=Z,134nm,1.7s
KBS Kingsbay 53.91 351 *e* **P 02 42 52.1 +0.4**
HIA Hailar 54.23 48 P **P 02 42 55.7 +1.2**
HIA IAmb IAmb 02 42 57.1
comp=Z,25nm,1.1s
HIA Hailar 54.23 48 *i*P **P 02 42 55.4 +0.9**
HIA pmax pmax
comp=Z,24nm,1.2s
JMIC Jan Mayen 54.48 339 LR LR 03 07 16.2
comp=Z,154nm,20.9s,baz=121,slow=37
SDSI Sungai Dareh 54.55 114 P **P 02 42 56.7 -0.6**
comp=Z,39nm,1.9s
MUSN Musina, Limpop 54.96 207 *i*P **P 02 43 01.8 +1.8**
MUSN Musina, Limpop 54.96 207 *i*P **P 02 43 01.9 +1.9**
MUSN Musina, Limpop 54.96 207 *e*P **P 02 43 00.3 +0.2**
MUSN IAmb IAmb 02 43 01.8
comp=Z,71nm,1.3s
MOPA Mopani 55.49 204 *i*P **P 02 43 05.7 +1.9**
MOPA Mopani 55.49 204 *i*P **P 02 43 05.2 +1.4**
MOPA Mopani 55.49 204⇑ *i*P **P 02 43 04.3 +0.5**
MOPA IAmb IAmb 02 43 07.5
comp=Z,473nm,2.7s
NJ2 Nanjing 56.19 69 *e*P **P 02 43 08.8 -0.1**
NJ2 pP **pP 02 43 14.6 +0.3**
NJ2 sP **sP 02 43 17.6 +1.2**
NJ2 pmax pmax
comp=Z,51nm,1.1s
DSRI Dabo 56.87 111 P **P 02 43 14.8 +0.9**
comp=Z,34nm,1.5s
DL2 Dalian 56.88 60 P **P 02 43 14.3 +0.6**
DL2 S **S 02 51 06.8 0.0**
DL2 pmax pmax
comp=Z,48nm,1.1s
DL2 pmax pmax
comp=Z,100nm,4.3s
DL2 LR LR
comp=Z,610nm,17.7s
DL2 LR LR
comp=Z,650nm,17.3s
DL2 LR LR
comp=Z,920nm,19.3s
LEPH Lephalale, Lim 57.20 208 *e*P **P 02 43 15.9 -0.1**
LEPH IAmb IAmb 02 43 20.6
comp=Z,25nm,0.8s
CNG Changalane 57.77 202 *e*P **P 02 43 19.1 -0.8**
CNG IAmb IAmb 02 43 21.8
comp=Z,5.6nm,1.1s
SNY Shenyang 57.80 56⇑ P **P 02 43 20.7 +0.6**
SNY S **S 02 51 12.9 -5.8**
SNY pmax pmax
comp=Z,23nm,0.7s
SNY pmax pmax
comp=Z,220nm,3.9s
SNY LR LR
comp=Z,410nm,12.2s
SNY LR LR
comp=Z,1μm,15.5s
SNY LR LR
comp=Z,2μm,17.1s
CRLN Carolina, Mapu 58.25 205 *e*P **P 02 43 24.5 +1.0**
CRLN IAmb IAmb 02 43 24.9
comp=Z,31nm,1.4s
BORG Borgarnes 58.30 331 LR LR 03 13 14.5
comp=Z,204nm,19.2s,baz=154,slow=41
TSUM Tsumeb 58.31 220 LR LR 03 10 42.7
comp=Z,874nm,18.9s,baz=56,slow=38
TSUM Tsumeb 58.31 220 P **P 02 43 23.9 -0.2**
TSUM IAmb IAmb 02 43 25.7
comp=Z,24nm,1.0s
TSUM Tsumeb 58.31 220 *e*P **P 02 43 23.3 -0.7**
ZEA Zeya 58.58 42 *e*P **P 02 43 26.5 +1.1**
ZEA pmax pmax
comp=E,10.0nm,1.4s
ZEA pmax pmax
comp=N,20nm,1.5s
ZEA pmax pmax
comp=Z,20nm,1.3s
DBG Daneborg 58.63 342 *i*P **P 02 43 25.9 +0.5**
DBG IAmb IAmb 02 43 28.2
comp=Z,27nm,1.0s
DBIC Dimbokro 58.74 260 P **P 02 43 26.7 -0.4**
comp=Z,34nm,0.8s,baz=60,slow=5.6,SNR=48
DBIC LR LR 03 10 24.3
comp=Z,612nm,21.8s,baz=58,slow=38
comp=Z,34nm,0.8s
DBIC Dimbokro 58.74 260 P **P 02 43 26.7 -0.4**
DBIC Dimbokro 58.74 260⇑ *i*P **P 02 43 26.3 -0.8**
DBIC IAmb IAmb 02 43 27.4
comp=Z,61nm,1.1s
DBIC Dimbokro 58.74 260 P **P 02 43 26.7 -0.4**
DBIC pmax pmax
comp=Z,63nm,1.1s
CN2 Changchun 58.79 54 *e*P **P 02 43 26.6 -0.4**
CN2 *e*PP **PP 02 45 38.0 +1.1**
CN2 *e*S **S 02 51 28.5 -3.2**
CN2 *e*SS **SS 02 55 22.8 -1.9**
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 LR LR
comp=Z,420nm,18.0s
CN2 LR LR
comp=Z,860nm,18.0s
CN2 LR LR
comp=Z,1μm,19.0s
KIC Kosan Boka 58.79 260⇑ *e*P **P 02 43 26.9 -0.5**
comp=Z,27nm,0.6s
MDSI Maura Dua 58.86 115 P **P 02 43 26.6 -1.2**
comp=Z,57nm,0.9s
TIC Toumodi 58.90 260⇑ *e*P **P 02 43 26.5 -1.7**
comp=Z,52nm,0.6s
TIXI Tiksi 59.05 21 LR LR 03 12 21.5
comp=Z,506nm,19.3s,baz=355,slow=40
TIXI Tiksi 59.05 21 P **P 02 43 28.4 +0.1**
TIXI Tiksi 59.05 21 *ce*P **P 02 43 28.6 +0.3**
TIXI pmax pmax
comp=Z,75nm,1.7s
LWLI Liwa 59.08 116 P **P 02 43 29.8 +0.3**
comp=Z,171nm,0.7s
HEH HeiHe 59.09 46 *e*P **P 02 43 28.6 -0.4**
HEH pmax pmax
comp=Z,46nm,0.9s
HEH pmax pmax
comp=Z,200nm,4.7s
PPBI Pangkal Pinang 59.10 112 P **P 02 43 30.3 +0.8**
comp=Z,36nm,1.0s,comp=Z,18μm
LIC Lamto 59.10 260⇑ *e*P **P 02 43 29.1 -0.5**
comp=Z,116nm,0.6s
LBTB Lobatse 59.15 209 LR LR 03 10 25.3
comp=Z,937nm,20.4s,baz=52,slow=38
LBTB Lobatse 59.15 209 P **P 02 43 29.8 +0.1**
LBTB IAmb IAmb 02 43 34.9
comp=Z,33nm,0.8s
LBTB Lobatse 59.15 209 *i*P **P 02 43 31.6 +1.9**
LBTB Lobatse 59.15 209 *i*P **P 02 43 31.0 +1.3**
LBTB Lobatse 59.15 209⇑ *i*P **P 02 43 30.4 +0.6**
LBTB IAmb IAmb 02 43 34.7
comp=Z,34nm,0.8s
LBTB Lobatse 59.15 209 P **P 02 43 29.8 +0.1**
LBTB pmax pmax
comp=Z,33nm,0.9s
YAK Yakutsk 59.27 32 LR LR 03 10 23.3
comp=Z,161nm,20.2s,baz=268,slow=37
YAK Yakutsk 59.27 32 P **P 02 43 29.6 -0.5**
YAK Yakutsk 59.27 32 *e*P **P 02 43 29.2 -0.8**
YAK pmax pmax
comp=Z,61nm,1.0s
YAK pmax pmax
comp=E,26nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=E,1μm,14.0s
YAK MLR MLR

comp=N,260nm,15.0s
KSR Koster 59.34 208 *e*P **P** **02 43 34.9 +3.8**
KSR IAmb IAmb 02 43 55.9
comp=Z,109nm,2.3s
NOR Nord 59.40 351 *i* P **P** **02 43 30.7 +0.1**
NOR IAmb IAmb 02 43 31.5
comp=Z,70nm,1.8s
KASI Kota Agung 59.73 116 P **P** **02 43 34.2 +0.3**
comp=Z,102nm,1.0s
BNX BinXian 59.81 51 ⇑P **P** **02 43 34.9 +0.9**
BNX pmax pmax
comp=Z,32nm,1.2s
BNX pmax pmax
comp=Z,190nm,4.8s
PRYS Parys 60.11 207 *e*P **P** **02 43 36.2 -0.1**
PRYS IAmb IAmb 02 43 37.2
comp=Z,38nm,1.2s
TPUB Ta-pu 60.30 78 P **P** **02 43 39.5 +1.8**
SSLB Suanglung 60.41 77 P **P** **02 43 40.2 +1.7**
YHNB Yeheng 60.48 76 P **P** **02 43 40.6 +1.6**
KSM Kuching 60.62 105 P **P** **02 43 39.2 -0.8**
KSM IAmb IAmb 02 43 41.5
comp=Z,26nm,1.0s
KSM Kuching 60.62 105 P **P** **02 43 40.6 +0.6**
NACB Ninganchiao 60.83 77 P **P** **02 43 42.4 +1.1**
YULB Yu-li 60.84 78 P **P** **02 43 42.1 +0.6**
YULB IAmb IAmb 02 43 45.7
comp=Z,39nm,1.1s
YULB Yu-li 60.84 78 P **P** **02 43 44.2 +2.7**
TWGBT Beinan 60.85 78 P **P** **02 43 43.2 +1.7**
INCN Inchon 61.05 61 P **P** **02 43 42.5 -0.1**
INCN Inchon 61.05 61 P **P** **02 43 44.6 +1.9**
INCN Inchon 61.05 61 P **P** **02 43 42.5 -0.1**
INCN pmax pmax
comp=Z,68nm,1.1s
SNKL Senekal, Frees 61.16 206 *e*P **P** **02 43 43.2 -0.3**
SNKL IAmb IAmb 02 43 48.4
comp=Z,85nm,0.9s
SWZ Schweizer 61.16 208 *e*P **P** **02 43 43.4 -0.2**
SWZ IAmb IAmb 02 43 47.9
comp=Z,30nm,1.0s
WIN Windhoek 61.27 218 *e*P **P** **02 43 44.3 -0.1**
WIN IAmb IAmb 02 43 46.0
comp=Z,8.5nm,1.0s
CGJI Cibinong 61.33 116 P **P** **02 43 44.5 -0.3**
comp=Z,101nm,0.9s
SBUM Sibu 61.75 103 P **P** **02 43 46.7 -1.0**
SBUM IAmb IAmb 02 43 49.0
comp=Z,27nm,1.1s
TJN Taejon 61.90 62 P **P** **02 43 48.7 +0.3**
TJN Taejon 61.90 62*ce*P **P** **02 43 47.7 -0.7**
KS19 Wonju Array Si 61.99 60 P **P** **02 43 48.4 -0.6**
KS19 IAmb IAmb 02 43 50.6
comp=Z,16nm,0.7s
KSAR Wonju Array Be 62.02 60 P **P** **02 43 48.8 -0.4**
KSAR Wonju Array Be 62.02 60 P **P** **02 43 48.8 -0.4**
KLR Kul'dur 62.04 47 LR LR 03 13 28.8
comp=Z,924nm,19.1s,baz=286,slow=39
KLR Kul'dur 62.04 47*d* *i*P **P** **02 43 48.9 -0.2**
KLR pmax pmax
comp=Z,30nm,1.1s
KSRS Korea Array 62.04 60 P **P** **02 43 48.2 -1.1**
comp=Z,25nm,1.0s,baz=278,slow=6.8,SNR=45
KSRS LR LR 03 14 29.5
comp=Z,610nm,19.6s,baz=275,slow=40
comp=Z,25nm,1.0s
SOEG Soedalen 62.16 335 *i* P **P** **02 43 51.8 +2.2**
SKJI Sukabumi 62.25 116 P **P** **02 43 51.4 +0.4**
comp=Z,161nm,0.8s
BOSA Boshof 62.45 208 P **P** **02 43 52.1 -0.1**
comp=Z,12nm,0.4s,baz=19,slow=6.2,SNR=59
BOSA LR LR 03 14 07.5
comp=Z,378nm,18.3s,baz=34,slow=39
comp=Z,12nm,0.4s
BOSA Boshof 62.45 208 P **P** **02 43 52.1 -0.1**
BOSA IAmb IAmb 02 43 52.7
comp=Z,24nm,1.1s
BOSA Boshof 62.45 208 *i* P **P** **02 43 52.9 +0.7**
BOSA Boshof 62.45 208 *i* P **P** **02 43 53.2 +1.0**
BOSA Boshof 62.45 208 *e*P **P** **02 43 51.8 -0.4**
BOSA IAmb IAmb 02 43 55.4
comp=Z,21nm,1.1s
BOSA Boshof 62.45 208 P **P** **02 43 52.1 -0.1**
BOSA pmax pmax
comp=Z,24nm,1.1s
CNJI Cibinong 62.89 116 P **P** **02 43 54.3 -1.0**
comp=Z,64nm,1.3s,comp=Z,732nm
LEM Lembang 62.99 115 LR LR 03 11 51.0
comp=Z,72nm,20.4s,baz=82,slow=37
USA0B Ussuriysk Arra 63.32 52 IAmb IAmb 02 43 58.9
comp=Z,17nm,1.0s
USRK Ussuriysk Ar. 63.32 52 P **P** **02 43 56.5 -1.2**
comp=Z,11nm,0.9s,baz=282,slow=6.4,SNR=14
USRK LR LR 03 15 06.3
comp=Z,543nm,18.3s,baz=272,slow=40
comp=Z,11nm,0.9s
KKM Kota Kinabalu 63.46 98 P **P** **02 43 58.4 -0.8**
KKM Kota Kinabalu 63.46 98 P **P** **02 43 58.4 -0.8**
SUMG Summit 63.88 340 *i* P **P** **02 44 01.9 +0.4**
SUMG IAmb IAmb 02 44 04.5
comp=Z,63nm,1.0s
UPI Upington 63.97 211 *e*P **P** **02 44 02.3 +0.1**
UPI IAmb IAmb 02 44 07.5
comp=Z,22nm,0.8s
HVD Gariep Dam 64.12 206 *e*P **P** **02 44 03.0 -0.3**
HVD IAmb IAmb 02 44 06.8
comp=Z,104nm,1.7s
CMJI Cimerak 64.22 115 P **P** **02 44 03.9 -0.2**
comp=Z,85nm,1.2s
KEIM Keimoes 64.39 211 *e*P **P** **02 44 05.2 +0.2**
KEIM IAmb IAmb 02 44 10.0
comp=Z,35nm,0.9s
ARMS Ukamas 64.41 213 *e*P **P** **02 44 05.7 +0.6**
ARMS IAmb IAmb 02 44 10.5
comp=Z,49nm,0.9s
GRNR Gornyy 64.64 44 ⇑*i*P **P** **02 44 06.7 +0.3**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,300nm,14.0s
GRNR MLR MLR
comp=Z,560nm,16.0s
ICESG Greenland Ices 65.00 337 *i* P **P** **02 44 08.7 -0.1**
ICESG IAmb IAmb 02 44 10.9
comp=Z,28nm,0.7s
AUSN Aus 65.02 216 *e*P **P** **02 44 07.8 -1.4**
AUSN IAmb IAmb 02 44 22.1
comp=Z,196nm,2.2s
BBTS Babate 65.49 274 LR LR 03 15 30.1
comp=Z,349nm,19.0s,baz=66,slow=38
JOW Kunigami 65.59 72 LR LR 03 16 04.9
comp=Z,297nm,19.1s,baz=292,slow=39
ISOG Isortoq, Green 65.59 333 *i* P **P** **02 44 12.1 -0.1**
ISOG IAmb IAmb 02 44 13.8
comp=Z,42nm,0.9s
JNU Nakatsue 65.62 64 LR LR 03 17 23.2
comp=Z,371nm,18.7s,baz=290,slow=40
NEEM North Greenlan 65.75 347 *i* P **P** **02 44 14.2 +0.7**
NEEM IAmb IAmb 02 44 15.8
comp=Z,59nm,0.8s
BFON Badsfontein, M 65.89 207 *e*P **P** **02 44 15.4 +0.7**
BFON IAmb IAmb 02 44 16.2
comp=Z,194nm,1.9s
SOE Somerset East 65.97 205 P **P** **02 44 15.9 +0.8**
GRAF Camdeboo Natio 66.00 206 *e*P **P** **02 44 14.2 -1.1**
GRAF IAmb IAmb 02 44 27.3
comp=Z,25nm,1.1s
FRAZ Fraserburg 66.96 209 *e*P **P** **02 44 21.8 +0.3**
FRAZ IAmb IAmb 02 44 25.7
comp=Z,268nm,2.1s
MERW Merweville 67.55 209 *e*P **P** **02 44 26.9 +1.7**
MERW IAmb IAmb 02 45 43.1
comp=Z,1μm,3.6s
SUR Sutherland 67.60 209 LR LR 03 16 03.4
comp=Z,806nm,19.4s,baz=30,slow=38
DY2G Dye2 68.16 335 *i* P **P** **02 44 29.5 +0.6**
DY2G IAmb IAmb 02 44 31.2
comp=Z,57nm,0.8s
KULLO Kullorsuaq 68.28 344 *i* P **P** **02 44 29.1 0.0**
KULLO IAmb IAmb 02 44 31.1
comp=Z,26nm,0.9s
TYV Tymovskoe 68.41 43 *e*P **P** **02 44 32.3 +1.9**
TYV *e*S **S** **02 53 38.1 +6.9**
TYV pmax pmax
comp=Z,31nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.0s
TYV smax smax
comp=N,400nm,5.8s
TYV smax smax
comp=E,400nm,5.8s
MATJ Matjiesfontein 68.46 209 *e*P **P** **02 44 31.9 +1.0**
MATJ IAmb IAmb 02 44 44.0
comp=Z,947nm,2.7s
UPNV Upernavik 68.82 342 *i* P **P** **02 44 32.9 +0.3**
UPNV IAmb IAmb 02 44 34.8
comp=Z,29nm,0.7s
CER Ceres 69.10 210 *e*P **P** **02 44 35.6 +0.8**
CER IAmb IAmb 02 44 40.0
comp=Z,15nm,0.6s
SEY Seymchan 69.35 29 LR LR 03 18 34.5
comp=Z,2μm,19.2s,baz=324,slow=39
MPSI Mapaga 69.44 101 P **P** **02 44 38.8 +1.4**
comp=Z,50nm,1.2s
SFJD Kangerlussuaq 69.57 336 LR LR 03 16 29.3
comp=Z,193nm,20.2s,baz=59,slow=37
SFJD Kangerlussuaq 69.57 336 *i* P **P** **02 44 37.6 +0.2**
INU Inuyama 69.67 60 P **P** **02 44 39.5 +1.0**
TULEG Thule 69.71 348 *i* P **P** **02 44 37.1 -0.9**
TULEG IAmb IAmb 02 44 39.6
comp=Z,34nm,0.9s
NRS Narsarsuaq 69.71 329 *i* P **P** **02 44 38.0 -0.3**
NRS IAmb IAmb 02 44 46.8
comp=Z,63nm,1.0s
YSS Yuzh-Sakhalins 69.75 47 P **P** **02 44 38.3 -0.5**
YSS Yuzh-Sakhalins 69.75 47 P **P** **02 44 39.4 +0.6**
YSS Yuzh-Sakhalins 69.75 47 *e*P **P** **02 44 38.2 -0.5**
YSS pmax pmax
comp=Z,50nm,0.8s
EUNU Eureka 69.79 353 P **P** **02 44 39.6 +1.0**
EUNU IAmb IAmb 02 44 41.5
comp=Z,24nm,0.9s
MA2 Magadan 69.85 33 LR LR 03 18 08.1
comp=Z,696nm,18.0s,baz=294,slow=38
MA2 Magadan 69.85 33 P **P** **02 44 40.3 +1.1**
MJB9 Matsu-Tunnel 70.15 59 IAmb IAmb 02 44 43.6
comp=Z,22nm,1.0s
MAJO Matsushiro 70.15 59 P **P** **02 44 41.1 -0.4**
MAJO IAmb IAmb 02 44 42.6
comp=Z,22nm,0.9s
MAJO Matsushiro 70.15 59 P **P** **02 44 42.0 +0.5**
MAJO Matsushiro 70.15 59 P **P** **02 44 41.1 -0.4**
MAJO pmax pmax
comp=Z,22nm,1.0s
MJAR Matsushiro Arr 70.15 59 P **P** **02 44 40.9 -0.6**
comp=Z,8.4nm,0.9s,baz=295,slow=8.5,SNR=12
MJAR LR LR 03 19 08.6
comp=Z,298nm,18.5s,baz=306,slow=39
comp=Z,8.4nm,0.9s
ASAJ Asahikawa 70.62 50 LR LR 03 18 36.5
comp=Z,395nm,20.4s,baz=314,slow=38
MRSI Marisa 71.14 100 P **P** **02 44 48.4 +0.6**
comp=Z,134nm,1.0s
APSI Ampana 71.57 101 P **P** **02 44 52.6 +2.2**
comp=Z,78nm,1.0s,comp=Z,948nm
GTOI Gorontalo 71.99 99 P **P** **02 44 52.2 -0.8**
comp=Z,29nm,1.1s,comp=Z,279nm
KAPI Kappang 72.03 106 P **P** **02 44 52.6 -0.6**
comp=Z,70nm,1.2s,baz=298,slow=4.2,SNR=9.4
KAPI LR LR 03 19 38.0
comp=Z,41nm,20.5s,baz=288,slow=38
comp=Z,70nm,1.2s
KAPI Kappang 72.03 106 P **P** **02 44 53.5 +0.3**
KAPI Kappang 72.03 106 P **P** **02 44 53.6 +0.4**
KAPI Kappang 72.03 106 P **P** **02 44 53.5 +0.3**
KAPI pmax pmax
comp=Z,117nm,1.3s
BILL Bilibino 72.27 21 P **P** **02 44 54.3 +0.5**
BILL Bilibino 72.27 21 *e*P **P** **02 44 55.6 +1.9**
BILL *e* 02 45 12.9
BILL *e* 02 47 33.9
BILL *e*PPP PPP 02 49 20.0
BILL *e*S **S** **02 54 20.0 +4.2**
BILL *e*SS **SS** **02 58 57.2 +4.4**
BILL pmax pmax
comp=Z,54nm,1.1s
BILL MLR MLR
comp=Z,370nm,15.0s
PLAI Plampang 72.40 110 P **P** **02 44 53.8 -1.6**
BKSI Bulukumba 72.50 106 P **P** **02 44 58.1 +2.1**
comp=Z,29nm,1.1s
JHJ Hachijo jima 2 72.62 61 LR LR 03 20 06.3
comp=Z,504nm,18.6s,baz=288,slow=38
RES Resolute Bay 75.32 352 LR LR 03 23 33.8
comp=Z,250nm,20.1s,baz=19,slow=40
RES Resolute Bay 75.32 352 P **P** **02 45 12.0 +0.5**
RES Resolute Bay 75.32 352 P **P** **02 45 12.0 +0.5**
RES pmax pmax
comp=Z,5.0nm,0.9s
TNTI Ternate 75.74 97 P **P** **02 45 15.7 +0.8**
TNTI Ternate 75.74 97 P **P** **02 45 17.8 +2.9**
comp=Z,110nm,1.3s
SANI Sanana 75.90 100 P **P** **02 45 16.9 +1.1**
SANI Sanana 75.90 100 P **P** **02 45 17.2 +1.4**
comp=Z,45nm,1.0s
PEA0B Petropavlovsk- 76.07 37 P **P** **02 45 15.3 -0.9**
PEA0B Petropavlovsk- 76.07 37 P **P** **02 45 15.3 -0.9**
PEA0B pmax pmax
comp=Z,122nm,1.4s
PETK Petropavlovsk- 76.07 37 P **P** **02 45 15.2 -1.0**
comp=Z,13nm,0.9s,baz=0.0,slow=0.4,SNR=6.9
PETK LR LR 03 22 30.0
comp=Z,451nm,18.5s,baz=293,slow=39
comp=Z,13nm,0.9s
JCJ Chichijima 76.94 66 LR LR 03 23 08.1
comp=Z,135nm,21.3s,baz=82,slow=39
FRB Frobisher Bay 77.63 337 LR LR 03 22 36.2
comp=Z,133nm,19.0s,baz=34,slow=38
BATI Baumata 78.04 108 P **P** **02 45 27.5 -0.4**
comp=Z,57nm,0.7s,baz=318,slow=7.7,SNR=4.4
BATI LR LR 03 22 28.5
comp=Z,166nm,21.5s,baz=318,slow=38
comp=Z,57nm,0.7s
SOEI Soe 78.31 108 P **P** 02 45 37.9 +8.4
A21K Barrow 78.61 9 P **P** **02 45 30.6 +0.6**
A21K Barrow 78.61 9 P **P** **02 45 29.0 -1.1**
baz=334
SWI Sorong 79.93 96 P **P** **02 45 39.0 +0.7**
comp=Z,57nm,1.2s
SIJI Sorong 79.94 96 P **P** **02 45 37.8 -0.5**
comp=Z,37nm,1.0s,baz=330,slow=6.6,SNR=13
comp=Z,37nm,1.0s
A36M Sachs Harbour 80.12 359 P **P** **02 45 38.1 -0.2**
A36M Sachs Harbour 80.12 359 P **P** **02 45 38.3 0.0**
baz=1.5
MBWA Marble Bar 80.85 120 P **P** **02 45 43.0 0.0**
MBWA IAmb IAmb 02 45 45.2
comp=Z,20nm,1.0s
C24K Franklin Bluff 81.13 8 P **P** **02 45 44.1 +0.4**
baz=341
TNA Tin City 81.38 16 P **P** **02 45 44.8 -0.3**
baz=324
D23K Nanushuk River 81.59 8 P **P** **02 45 45.8 -0.4**
baz=339
C27K Jago River 81.73 6 P **P** **02 45 47.1 +0.1**
baz=345
D25K Kavik River 81.77 7 P **P** **02 45 46.9 -0.3**
baz=343
GAMB Gambell 81.81 18 P **P** **02 45 46.7 -0.7**
baz=321
E23K Chandalar 82.59 8 P **P** **02 45 52.0 +0.5**
baz=340
SCHQ Schefferville 82.67 330 P **P** **02 45 52.3 +0.2**
comp=Z,24nm,0.8s,baz=39,slow=3.9,SNR=12
comp=Z,24nm,0.8s
SCHQ Schefferville 82.67 330 P **P** **02 45 52.1 -0.1**
E24K Your Creek 82.71 8 P **P** **02 45 52.9 +0.7**
baz=341
F22K John River 82.75 10 P **P** **02 45 52.9 +0.5**
baz=338
C36M Paulatuk 82.76 359 IAmb IAmb 02 45 53.9
comp=Z,24nm,0.8s
C36M Paulatuk 82.76 359 P **P** **02 45 51.2 -1.1**
baz=2.5,SNR=17
ANM Nome 82.81 16 P **P** **02 45 52.7 0.0**
baz=326,SNR=24
F21K Alatna River 82.81 10 P **P** **02 45 52.1 -0.6**
baz=337
E25K Arctic Village 83.00 7 P **P** **02 45 54.2 +0.5**
baz=344
COLD Coldfoot 83.29 9 IAmb IAmb 02 45 58.0
comp=Z,21nm,1.0s
COLD Coldfoot 83.29 9 P **P** **02 45 55.6 +0.4**
baz=339
F24K Squaw Lake 83.32 8 P **P** **02 45 56.0 +0.7**
baz=341
E27K Coleen River 83.32 5 P **P** **02 45 56.1 +0.7**
baz=347
G22K Bettles 83.39 10 P **P** **02 45 55.3 -0.3**
baz=338
G21K Allakaket 83.46 10 P **P** **02 45 56.1 +0.1**
baz=337
F25K Christian River 83.50 7 P **P** **02 45 56.7 +0.4**
baz=343
F26K Sheenjek River 83.56 7 P **P** **02 45 55.5 -1.1**
baz=345
INK Inuvik 83.70 2 LR LR 03 27 20.9
comp=Z,81nm,21.8s,baz=292,slow=39
INK Inuvik 83.70 2 IAmb IAmb 02 45 59.3
comp=Z,10nm,0.8s
INK Inuvik 83.70 2 P **P** **02 45 56.6 -0.5**
baz=354,SNR=8.7
G23K Bananza Creek 83.80 9 P **P** **02 45 57.6 -0.2**
baz=340
IMAR Indian Mountai 83.91 11 P **P** **02 45 58.3 0.0**
G24K Hadweenzic Riv 84.15 8 P **P** **02 45 59.7 +0.2**
baz=342
G26K Porcupine Rive 84.32 7 P **P** **02 45 59.9 -0.5**
baz=345
H21K Melozitna Rive 84.37 11 P **P** **02 46 00.8 +0.1**
baz=337
H22K Ishtalitna Cre 84.37 10 P **P** **02 46 01.2 +0.5**
baz=338
SHEM Shemya Is, Ala 84.46 32 LR LR 03 27 51.7
comp=Z,285nm,18.3s,baz=100,slow=39
GCSA Galena City Sc 84.48 12 P **P** **02 46 00.4 -0.8**
baz=334
F31M Tsiigehtchic 84.56 3 P **P** **02 46 01.1 -0.4**
baz=354,SNR=16
G27K Doyon Strip 84.67 6 P **P** **02 46 02.3 +0.1**
baz=347
H23K Yukon River 84.70 9 P **P** **02 46 02.6 +0.2**
baz=340
G30M tAoh Zraii Nji 84.89 4 P **P** **02 46 03.5 +0.1**
baz=352
H24K Noodor Dome 84.92 9 IAmb IAmb 02 46 06.5
comp=Z,29nm,1.1s
H24K Noodor Dome 84.92 9 P **P** **02 46 03.7 +0.2**
baz=342,SNR=14
I21K Tanana 84.94 10 P **P** **02 46 03.9 +0.3**
baz=338
KNRA Kununurra 85.11 111 P **P** **02 46 04.8 -0.4**
KNRA Kununurra 85.11 111 P **P** **02 46 06.1 +0.9**
GUMO Guam 85.19 77 LR LR 03 26 49.9
comp=Z,65nm,21.8s,baz=103,slow=38
H27K Steamboat Moun 85.24 6 P **P** **02 46 05.4 +0.2**
baz=347
MLY Manley 85.28 10 P **P** **02 46 05.3 0.0**
baz=339,SNR=17
I23K Minto, Yukon-K 85.37 9 IAmb IAmb 02 46 08.5
comp=Z,39nm,1.2s
I23K Minto, Yukon-K 85.37 9 P **P** **02 46 06.2 +0.6**
baz=340
EPYK Eagle Plains 85.47 4 IAmb IAmb 02 46 08.2
comp=Z,24nm,0.9s
EPYK Eagle Plains 85.47 4 P **P** **02 46 06.4 +0.2**
baz=351,SNR=10
J20K Nowinta River 85.50 12 P **P** **02 46 07.0 +0.6**
baz=336
PRP Porcupine Dome 85.52 8 P **P** **02 46 06.7 +0.1**
baz=344,SNR=15
POKR Poker Plat Res 85.66 9 P **P** **02 46 07.6 +0.4**
baz=342,SNR=14
TCOL CIGO, UAF Yank 85.84 9 P **P** **02 46 07.9 -0.1**
baz=342
COLA College 85.84 9 P **P** **02 46 07.9 -0.1**
baz=342
COLA College 85.84 9 P **P** **02 46 08.3 +0.3**
COLA College 85.84 9 P **P** **02 46 08.3 +0.3**
I27K Kandik River 85.85 6 P **P** **02 46 08.5 +0.3**
baz=347
NEA2 Nenana 85.94 9 P **P** **02 46 08.7 +0.2**
baz=340
NWAO Narrogin (SRO) 85.95 131 P **P** **02 46 07.8 -1.2**
comp=Z,24nm,0.9s
comp=Z,24nm,0.9s
IL31 86.06 8 P **P** **02 46 08.8 -0.4**
IL31 IAmb IAmb 02 46 10.6
comp=Z,14nm,0.8s
ILAR Eielson Array 86.06 8 P **P** **02 46 08.6 -0.6**
comp=Z,9.6nm,0.8s,baz=328,slow=4.2,SNR=61
ILAR PP **PP** **02 49 29.5 +0.9**
comp=Z,1.6nm,0.9s,baz=347,slow=8.2,SNR=5.4
ILAR PKKPbc **PKKPbc** **03 04 09.8 +0.2**
comp=Z,0.6nm,0.7s,baz=186,slow=2.6,SNR=6.6
ILAR LR LR 03 31 49.5
comp=Z,79nm,18.4s,baz=334,slow=41
comp=Z,9.6nm,0.8s
CHUM Lake Minchumin 86.09 11 P **P** **02 46 09.7 +0.4**
baz=338,SNR=19
BPAW Bear Paw Mtn. 86.11 10 P **P** **02 46 09.0 -0.4**
baz=339,SNR=31
K20K Telida 86.27 12 P **P** **02 46 10.4 +0.1**
baz=336
TTA Tatalina 86.29 13 P **P** **02 46 10.8 +0.4**
TTA IAmb IAmb 02 46 13.0
comp=Z,32nm,1.2s
TTA Tatalina 86.29 13 P **P** **02 46 10.8 +0.4**
baz=334,SNR=13
TTA Tatalina 86.29 13 P **P** **02 46 10.8 +0.4**
TTA pmax pmax
comp=Z,32nm,1.2s
I29M Ogilvie Camp, 86.36 5 IAmb IAmb 02 46 12.5
comp=Z,24nm,0.8s
I29M Ogilvie Camp, 86.36 5 P **P** **02 46 10.9 +0.2**
baz=350
HDA Harding Lake 86.40 9 IAmb IAmb 02 46 11.8
comp=Z,16nm,0.7s
HDA Harding Lake 86.40 9 P **P** **02 46 10.2 -0.7**
baz=342,SNR=9.6
CAST Castle Rocks 86.56 11 P **P** **02 46 11.8 +0.1**
baz=338,SNR=31
KTH Kantishna Hill 86.63 11 IAmb IAmb 02 46 15.3
comp=Z,35nm,1.2s
EGAK Eagle 86.70 6 P **P** **02 46 12.6 +0.3**
baz=347,SNR=17
KDU Kakadu 86.72 106 P **P** **02 46 13.0 -0.2**
J26L Joseph Creek 86.72 7 P **P** **02 46 12.5 -0.1**
baz=345
MCK McKinley 86.77 10 P **P** **02 46 12.1 -0.6**
baz=341,SNR=14
TRF Thorofare Moun 86.83 10 IAmb IAmb 02 46 25.2
comp=Z,17nm,1.0s
TRF Thorofare Moun 86.83 10 P **P** **02 46 13.0 -0.2**
baz=340
SMPI Sarmi 87.02 94 P **P** **02 46 17.8 +3.1**
comp=Z,35nm,1.5s,comp=Z,3μm
PPLA Purkeypile 87.03 11 P **P** **02 46 13.8 -0.4**
baz=338
RND Reindeer 87.09 10 IAmb IAmb 02 46 16.2
comp=Z,22nm,1.1s
L20K Farewell, AK 87.11 12 P **P** **02 46 14.3 -0.1**
baz=336
K24K Donnelly Dome 87.14 8 P **P** **02 46 14.9 +0.4**
baz=343,SNR=7.6
SCRK Sand Creek 87.19 7 P **P** **02 46 15.1 +0.3**
SCRK Sand Creek 87.19 7 P **P** **02 46 15.5 +0.6**
baz=345,SNR=22
L19K White Mountain 87.20 13 IAmb IAmb 02 46 18.0
comp=Z,34nm,1.2s
L19K White Mountain 87.20 13 P **P** **02 46 14.8 0.0**
baz=336
J29M Klondike Camp 87.27 5 IAmb IAmb 02 46 20.0
comp=Z,17nm,0.8s
J29M Klondike Camp 87.27 5 P **P** **02 46 15.2 0.0**
baz=350
RIDG Independent Ri 87.31 8 P **P** **02 46 15.7 +0.3**
baz=344
K27K Chicken 87.34 7 P **P** **02 46 16.0 +0.6**
baz=347
DAWY Dawson 87.56 5 IAmb IAmb 02 46 18.8
comp=Z,30nm,1.1s
DAWY Dawson 87.56 5 P **P** **02 46 16.8 +0.3**
baz=349,SNR=11
DHY Denali Highway 87.62 9 IAmb IAmb 02 46 18.6
comp=Z,15nm,1.0s
DHY Denali Highway 87.62 9 P **P** **02 46 17.0 0.0**
baz=342
WAT1 Susitna Watana 87.68 10 P **P** **02 46 17.3 +0.2**
baz=341
M20K Styx River 87.80 12 P **P** **02 46 18.4 +0.6**

	baz=337							
N16K	**Nishlik Lake**	**87.90**	**15**	P	**P**	**02 46 18.7**	**+0.4**	
	baz=332							
K29M	**Barlow Dome**	**87.92**	**5**	P	**P**	**02 46 18.6**	**+0.2**	
	baz=351							
PAX	**Paxson**	**87.98**	**8**	P	**P**	**02 46 18.2**	**-0.5**	
	baz=344							
SKT	**Skwentna**	**88.00**	**11**	P	**P**	**02 46 18.2**	**-0.5**	
	baz=338							
WAT6	**Susitna Watana**	**88.04**	**10**	P	**P**	**02 46 18.5**	**-0.5**	
	baz=342							
L26K	**Log Cabin Wild**	**88.18**	**7**	P	**P**	**02 46 19.5**	**0.0**	
	baz=346							
L27K	**Beaver Creek,**	**88.31**	**7**	IAmb	IAmb	02 46 23.1		
	comp=Z,18nm,1.1s							
L27K	**Beaver Creek,**	**88.31**	**7**	P	**P**	**02 46 20.2**	**+0.1**	
	baz=347							
M22K	**Willow**	**88.45**	**11**	P	**P**	**02 46 20.2**	**-0.5**	
	baz=340							
N19K	**Bonanza Creek**	**88.52**	**13**	P	**P**	**02 46 21.1**	**-0.1**	
	baz=336							
HARP	**HAARP**	**88.57**	**8**	P	**P**	**02 46 21.1**	**-0.3**	
	baz=344							
GENI	**Genyem**	**88.58**	**94**	P	**P**	**02 46 22.3**	**+0.1**	
GENI	**Genyem**	**88.58**	**94**	P	**P**	**02 46 24.6**	**+2.4**	
L29M	**L29M**	**88.60**	**5**	P	**P**	**02 46 21.0**	**-0.5**	
	baz=350							
SML	**Sawmill**	**88.69**	**10**	IAmb	IAmb	02 46 23.7		
	comp=Z,22nm,1.0s							
SML	**Sawmill**	**88.69**	**10**	P	**P**	**02 46 21.5**	**-0.4**	
	baz=341							
M24K	**Tolsona, Glenn**	**88.71**	**9**	P	**P**	**02 46 22.0**	**-0.1**	
	baz=343							
PMR	**Palmer**	**88.77**	**10**	P	**P**	**02 46 22.0**	**-0.2**	
	baz=340							
M23K	**Glacier View**	**88.79**	**10**	P	**P**	**02 46 22.3**	**-0.2**	
	baz=342							
SCM	**Sheep Creek Mo**	**88.81**	**10**	P	**P**	**02 46 22.4**	**-0.2**	
	baz=342							
M26K	**Nabesna, AK**	**88.83**	**7**	P	**P**	**02 46 22.1**	**-0.5**	
	baz=346							
O16K	**Kokwok River B**	**88.84**	**15**	P	**P**	**02 46 22.1**	**-0.5**	
	baz=333							
WRGLY	**Wrigley**	**88.89**	**358**	P	**P**	**02 46 22.3**	**-0.4**	
	baz=3.0							
O17K	**Koliganek Bris**	**88.91**	**15**	P	**P**	**02 46 22.9**	**-0.1**	
	baz=334							
M27K	**Edge Creek, AK**	**89.00**	**7**	IAmb	IAmb	02 46 26.4		
	comp=Z,17nm,1.1s							
M27K	**Edge Creek, AK**	**89.00**	**7**	P	**P**	**02 46 23.1**	**-0.4**	
	baz=347							
KNK	**Knik Glacier**	**89.04**	**10**	P	**P**	**02 46 23.3**	**-0.3**	
	baz=341							
YKA	**Yellowknife Ar**	**89.13**	**354**	P	**P**	**02 46 24.2**	**+0.2**	
	comp=Z,15nm,0.8s							
YKA				PP	**PP**	**02 50 00.1**	**+6.9**	
	comp=Z,1.6nm,1.1s,baz=2.6,slow=8.1,SNR=4.2							
YKA				PKKPbc	**PKKPbc**	**03 04 00.1**	**-2.1**	
	comp=Z,0.6nm,1.0s,baz=194,slow=2.7,SNR=5.6							
	comp=Z,15nm,0.8s							
RC01	**Rabbit Creek A**	**89.14**	**11**	P	**P**	**02 46 23.6**	**-0.5**	
	baz=340							
FCC	**Fort Churchill**	**89.21**	**344**	P	**P**	**02 46 24.4**	**0.0**	
FCC				IAmb	IAmb	02 46 26.9		
	comp=Z,23nm,1.6s							
FCC	**Fort Churchill**	**89.21**	**344**	P	**P**	**02 46 24.4**	**0.0**	
FCC				pmax	pmax			
	comp=Z,23nm,1.6s							
M30M	**Minto, Yukon**	**89.23**	**5**	P	**P**	**02 46 24.2**	**-0.3**	
	baz=351							
M29M	**Somme Creek**	**89.23**	**5**	P	**P**	**02 46 23.9**	**-0.7**	
	baz=350							
KLU	**Klutina**	**89.34**	**9**	P	**P**	**02 46 24.5**	**-0.6**	
	baz=343							
P16K	**Nushagak River**	**89.37**	**16**	P	**P**	**02 46 24.7**	**-0.4**	
	baz=333							
WRKA	**Warakurna**	**89.56**	**119**	P	**P**	**02 46 27.3**	**+0.7**	
YUK3	**Moose Creek**	**89.71**	**6**	P	**P**	**02 46 26.2**	**-0.8**	
	baz=348							
M31M	**Drury Creek, Y**	**89.75**	**4**	P	**P**	**02 46 26.7**	**-0.2**	
	baz=353							
FARO	**Faro, Yukon**	**89.78**	**3**	P	**P**	**02 46 27.2**	**+0.1**	
	baz=354							
Q16K	**King Salmon**	**90.00**	**15**	P	**P**	**02 46 27.8**	**-0.2**	
	baz=334							
YUK4	**Talbot Arm**	**90.30**	**6**	P	**P**	**02 46 28.8**	**-0.9**	
	baz=350							
N31M	**Braeburn, Yuko**	**90.38**	**4**	P	**P**	**02 46 29.3**	**-0.6**	
	baz=352							
HYT	**Haines Junctio**	**90.91**	**5**	IAmb	IAmb	02 46 35.3		
	comp=Z,17nm,0.9s							
HYT	**Haines Junctio**	**90.91**	**5**	P	**P**	**02 46 32.3**	**-0.1**	
	baz=351							
R17K	**Ugashik Creek**	**91.00**	**15**	P	**P**	**02 46 32.9**	**+0.2**	
	baz=334							
O30N	**Mendenhall**	**91.07**	**5**	P	**P**	**02 46 33.1**	**0.0**	
	baz=352							
WHY	**Whitehorse**	**91.26**	**4**	P	**P**	**02 46 33.7**	**-0.4**	
	baz=353							
O29M	**Mount Kennedy**	**91.34**	**6**	P	**P**	**02 46 34.0**	**-0.5**	
	baz=350							
KDAK	**Kodiak Island**	**91.70**	**13**	LR	LR	03 31 57.4		
	comp=Z,171nm,21.9s,baz=357,slow=38							
KDAK	**Kodiak Island**	**91.70**	**13**	P	**P**	**02 46 35.4**	**-0.6**	
	baz=338							
P33M	**Teslin, Yukon**	**91.82**	**3**	P	**P**	**02 46 35.7**	**-0.9**	
	baz=355							
WRA	**Warramunga Arr**	**91.83**	**112**	P	**P**	**02 46 36.1**	**-1.1**	
	comp=Z,7.8nm,0.9s,baz=306,slow=4.4,SNR=20							
WRA				LR	LR	03 34 06.2		
	comp=Z,24nm,18.1s,baz=306,slow=40							
	comp=Z,7.8nm,0.9s							
WRA	**Warramunga Arr**	**91.83**	**112**	P	**P**	**02 46 36.7**	**-0.5**	
WRA	**Warramunga Arr**	**91.83**	**112**	P	**P**	**02 46 36.7**	**-0.5**	
WRA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
WRAB	**Tennant Creek**	**91.84**	**112**	P	**P**	**02 46 36.1**	**-1.1**	
WRAB				IAmb	IAmb	02 46 38.5		
	comp=Z,21nm,1.1s							
WRAB	**Tennant Creek**	**91.84**	**112**	P	**P**	**02 46 38.1**	**+0.8**	
WRAB	**Tennant Creek**	**91.84**	**112**	P	**P**	**02 46 36.1**	**-1.1**	
WRAB				pmax	pmax			
	comp=Z,21nm,1.1s							
WB2	**Warramunga Arr**	**91.84**	**112**	IAmb	IAmb	02 46 38.4		
	comp=Z,18nm,1.0s							
WB1	**Warramunga Ar.**	**91.85**	**112**	P	**P**	**02 46 37.6**	**+0.3**	
RCBR	**Riachuelo**	**91.88**	**264**	LR	LR	03 29 01.4		
	comp=Z,408nm,18.1s,baz=206,slow=36							
RCBR	**Riachuelo**	**91.88**	**264**	*e*P	**P**	**02 46 38.8**	**+1.1**	
WR0	**Warramunga Arr**	**92.01**	**111**	IAmb	IAmb	02 46 39.2		
	comp=Z,13nm,1.1s							
KOTAN	**Kotaneelee Air**	**92.01**	**359**	P	**P**	**02 46 36.8**	**-0.6**	
	baz=2.5							
WTLY	**Watson Lake, Y**	**92.04**	**1**	P	**P**	**02 46 37.2**	**-0.4**	
	baz=358							
NBCL	**Cascavel-CE**	**93.24**	**267**	*e*P	**P**	**02 46 44.7**	**+0.8**	
ASAR	**Alice Springs**	**93.29**	**115**	P	**P**	**02 46 42.9**	**-1.1**	
	comp=Z,10nm,0.8s,baz=304,slow=4.3,SNR=48							
ASAR				PKKPbc	**PKKPdf**	**03 03 50.8**	**+0.4**	
	comp=Z,1.5nm,1.1s,baz=77,slow=5.5,SNR=4.6							
	comp=Z,10nm,0.8s							
DLBC	**Dease Lake**	**93.69**	**2**	LR	LR	03 37 50.7		
	comp=Z,45nm,18.2s,baz=308,slow=41							
DLBC	**Dease Lake**	**93.69**	**2**	P	**P**	**02 46 44.9**	**-0.4**	
	baz=357							
FFC	**Flin Flon**	**94.72**	**346**	P	**P**	**02 46 49.3**	**-0.7**	
FFC	**Flin Flon**	**94.72**	**346**	P	**P**	**02 46 49.3**	**-0.7**	
FFC				pmax	pmax			
	comp=Z,9.0nm,1.1s							
MAW	**Mawson**	**95.75**	**176**	LR	LR	03 22 55.3		
	comp=Z,177nm,21.0s,baz=350,slow=31							
OOD	**Oodnadatta**	**96.67**	**118**	P	**P**	**02 47 00.3**	**+1.1**	
ULM	**Lac du Bonnet**	**97.24**	**341**	P	**P**	**02 47 01.4**	**-0.2**	
	comp=Z,4.1nm,1.0s,baz=358,slow=8.7,SNR=4.6							
ULM				LR	LR	03 33 44.0		
	comp=Z,103nm,19.0s,baz=14,slow=37							
	comp=Z,4.1nm,1.0s							
ROSB	**Rosrio**	**97.77**	**271**	*e*P	Pdif	02 47 05.9	+1.3	
P52A	**Corning**	**100.73**	**326**	P	**Pdif**	**02 47 16.2**	**-1.2**	
	baz=39							
DUG	**Dugway, Tooele**	**110.75**	**349**	P	**PKiKP**	**02 52 01.6**	**-0.4**	
	baz=13							
SDCO	**Great Sand Dun**	**111.45**	**342**	P	**PKiKP**	**02 52 02.4**	**-1.2**	
	baz=20							
NVAR	**Mina Array Bea**	**113.28**	**353**	PKiKP	**PKiKP**	**02 52 07.2**	**+0.2**	
	comp=Z,2.6nm,0.8s,baz=5.2,slow=1.0,SNR=11							
GSC	**Goldstone, Bar**	**116.17**	**351**	P	**PKiKP**	**02 52 12.3**	**-0.2**	
	baz=9.9							
HEC	**Hector,Ludlow**	**116.57**	**350**	P	**PKPdf**	**02 52 13.0**	**-0.3**	
	baz=10							
121A	**Cookes Peak, D**	**116.98**	**342**	P	**PKPdf**	**02 52 13.7**	**-0.6**	
	baz=19							
MNTX	**Cornudas Mount**	**117.06**	**339**		**PKPdf**	**02 52 13.8**	**-0.4**	
MNTX	**Cornudas Mount**	**117.06**	**339**	P	**PKPdf**	**02 52 13.3**	**-0.9**	
	baz=21							
TPFO	**Pinon Flats**	**117.79**	**350**	P	**PKPdf**	**02 52 14.4**	**-1.3**	
	baz=10							
TUC	**Tucson**	**117.95**	**345**	PKPdf	**PKPdf**	**02 52 15.2**	**-0.8**	
TUC	**Tucson**	**117.95**	**345**	P	**PKPdf**	**02 52 14.8**	**-1.1**	
	baz=16							
TUC	**Tucson**	**117.95**	**345**	PKIKP	**PKPdf**	**02 52 15.2**	**-0.8**	
833A	**Chaparral WMA,**	**117.98**	**333**	P	**PKPdf**	**02 52 15.3**	**-0.7**	
	baz=27							
TXAR	**Lajitas Array**	**118.68**	**337**	PKPdf	**PKPdf**	**02 52 16.9**	**-0.6**	
TXAR	**Lajitas Array**	**118.68**	**337**	PKIKP	**PKPdf**	**02 52 16.9**	**-0.6**	
CPUP	**Villa Florida**	**118.97**	**254**	PKP	**PKPdf**	**02 52 16.5**	**-1.3**	
	comp=Z,1.9nm,0.8s,baz=307,slow=2.2,SNR=3.9							
DZM	**Mont Dzumac**	**119.95**	**100**	*e*LR	LR	03 29 04.1		
	comp=Z,197nm,36.0s							
ETMB	**Extrema**	**120.41**	**275**	*e*P	**PKiKP**	**02 52 21.1**	**+0.1**	
TBTG	**Tabatinga, AM**	**120.96**	**283**	*e*P	**PKPdf**	**02 52 21.1**	**-0.9**	
HPIG		**121.56**	**338**	PKPdf	**PKPdf**	**02 52 22.7**	**-0.5**	
TGUH	**Tegucigalpa,Un**	**123.17**	**312**		**PKPdf**	**02 52 25.8**	**-0.6**	
HDC	**Heredia**	**123.90**	**306**	*e*P	**PKiKP**	**02 52 28.4**	**+0.3**	
LPAZ	**La Paz**	**124.83**	**269**	PKPdf	**PKPdf**	**02 52 30.1**	**0.0**	
LPAZ	**La Paz**	**124.83**	**269**	PKIKP	**PKPdf**	**02 52 30.1**	**0.0**	
LPAZ	**La Paz**	**124.83**	**269**	*e*P	**PKiKP**	**02 52 30.7**	**+0.3**	
PULU	**Pululahua**	**125.92**	**293**	PKPdf	**PKiKP**	**02 52 32.7**	**+0.2**	
LVC	**Limon Verde**	**127.77**	**262**	*e*P	**PKiKP**	**02 52 36.6**	**+0.8**	
DSZ	**Denniston Nort**	**128.92**	**122**	PKPdf	**PKiKP**	**02 52 38.6**	**+1.5**	
ARNL	**Arenillas**	**129.22**	**290**	PKPdf	**PKPdf**	**02 52 37.7**	**-0.2**	
AC05	**El Transito**	**130.69**	**255**	PKPdf	**PKPdf**	**02 52 40.3**	**-0.1**	
PLCA	**Paso Flores**	**132.64**	**239**	PKiKP	PKPpre	02 52 34.0		
	comp=Z,1.3nm,1.0s,baz=95,slow=12,SNR=1.8							
PLCA				PKP	**PKPdf**	**02 52 42.9**	**-0.8**	
	comp=Z,2.1nm,0.9s,baz=75,slow=8.5,SNR=3.0							
GO06	**Curarrehue**	**133.28**	**241**	PKPdf	**PKPdf**	**02 52 44.7**	**-0.3**	
PPT2	**Papeete2**	**156.61**	**68**	*e*LR	LR	03 46 02.0		
	comp=Z,215nm,25.2s							
PPT2				*e*LR	LR	03 46 02.7		
	comp=Z,194nm,26.2s							
TAOE	**Nuku Hiva Isla**	**157.07**	**36**	*e*LR	LR	03 46 14.9		
	comp=Z,171nm,28.1s							
TBI	**Tubuai**	**159.09**	**82**	*e*LR	LR	03 47 10.6		
	comp=Z,3µm,22.5s							
TBI				*e*LR	LR	03 47 13.1		
	comp=Z,549nm,22.5s							

GII ***06*** *02:38:53.0±0.0, 30°.26N×31°.75E, h10km, Mm2.9/2*
HLW ***06*** *02:38:54.7, 30°.31N×31°.94E, h6km±1km, Md2.7, Ml3.1*
ISC 06 02:38:54.2±1.9, 30°.28N±0°.06×31°.88E±0°.05, h5km±12km, n20, σ0s56/27, 3D, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOT	**Kottamia**	**0.36**	**187**	⇑P	**Pb**	**02 39 02.7**	**-0.3**
	baz=195						
KOT				S	**Sb**	**02 39 08.4**	**-0.6**
	baz=195						
HHAG	**Hagoal**	**0.38**	**150**	⇑P	**Pg**	**02 39 02.4**	**+0.8**
	baz=158						
GLL	**Jalalah**	**0.72**	**192**	⇑P	**Pb**	**02 39 09.2**	**0.0**
	baz=196						
HSAF	**As Saff**	**0.72**	**203**	⇓P	**Pb**	**02 39 09.3**	**0.0**
	baz=207						
SUZ	**Suez**	**0.94**	**118**	⇑P	**Pg**	**02 39 12.1**	**0.0**
	baz=120						
ZAF	**Zafarana**	**1.16**	**150**	⇑P	**Pg**	**02 39 16.0**	**-0.3**
	baz=152						
ZAF				S	**Sg**	**02 39 31.5**	**+0.2**
	baz=152						
ZNM	**Zenema**	**1.25**	**136**	⇑P	**Pn**	**02 39 18.0**	**-0.3**
	baz=138						
ZNM				S	**Sn**	**02 39 35.4**	**-0.2**
	baz=138						
HNAT	**Natroun**	**1.27**	**240**	S	**Sn**	**02 39 37.5**	**+1.4**
	baz=240						
RYAN	**Fayoum**	**1.84**	**230**	P	**Pb**	**02 39 27.5**	**-0.8**
	baz=231						
HRDS	**Abu Rudays**	**2.00**	**141**	⇓P	**Pn**	**02 39 28.3**	**-0.2**
	baz=143						
GRB	**Gharib**	**2.16**	**158**	P	**Pn**	**02 39 30.8**	**0.0**
	baz=159						
KZIT	**Kziot**	**2.26**	**73**	Pn	**Pn**	**02 39 31.7**	**-0.5**
KZIT				Sn	**Sn**	**02 40 01.3**	**+0.9**
KRMI	**Paran Flat**	**2.47**	**93**	Pn	**Pn**	**02 39 34.4**	**-0.7**
TR2	**Tor 2**	**2.48**	**139**	⇓P	**Pn**	**02 39 34.9**	**-0.4**
	baz=140						
MBRI	**Mt Berech**	**2.67**	**100**	Pn	**Pn**	**02 39 38.0**	**0.0**
MBRI				Sn	**Sn**	**02 40 11.7**	**+0.9**
PRNI	**Paran**	**2.70**	**88**	Pn	**Pn**	**02 39 30.4**	**-0.1**
EIL	**Elat**	**2.73**	**102**	Pn	**Pn**	**02 39 38.9**	**+0.2**
EIL				Sn	**Sn**	**02 40 12.3**	**+0.2**
HRFI	**Mount Harif**	**2.75**	**94**	Pn	**Pn**	**02 39 39.1**	**+0.2**
HRFI				Sn	**Sn**	**02 40 13.0**	**+0.5**
AMAZ	**Amatzia**	**2.89**	**64**	Pn	**Pn**	**02 39 40.3**	**-0.6**
DSI	**Dead Sea**	**3.27**	**66**	Pn	**Pn**	**02 39 46.0**	**-0.1**

IDC 06 03:02:40.4±4.8, 6°.13S×130°.13E, h81km±55km, mb3.7/2, mbtmp4.1/5, ML4.2/3, Error ellipse: s-maj=103.1km s-min=19.8km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.35**	**12**	P	Pn	03 03 57.7	-0.1
	20nm,0.3s,baz=217,slow=23,SNR=47						
SIJI				S	Sn	03 04 52.8	-5.3
	28nm,0.2s,baz=257,slow=23,SNR=10.0						
	55nm,0.2s						
WRA	**Warramunga Arr**	**14.33**	**164**	P	Pn	03 05 58.2	-1.1
	0.8nm,0.3s,baz=346,slow=13,SNR=15						
WRA				S	Sn	03 08 27.8	-9.3
	2.3nm,0.5s,baz=341,slow=22,SNR=6.5						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**17.81**	**169**	P	Pn	03 06 44.4	+1.4
	0.9nm,0.3s,baz=347,slow=10,SNR=39						
ASAR				S	Sn	03 09 51.1	-10
	0.8nm,0.8s,baz=344,slow=21,SNR=5.9						
	2.7nm,0.6s						
STKA	**Stephens Creek**	**27.77**	**159**	P	P	03 08 21.1	-0.5
	1.0nm,0.3s,baz=346,slow=8.2,SNR=5.6						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**67.57**	**327**	P	P	03 13 28.4	+0.1
	0.9nm,0.6s,baz=113,slow=8.2,SNR=12						
	0.9nm,0.6s						

IPEC ***06*** *03:30:41.3±0.3, 51°.56N×16°.18E, h0km±1km, ML1.8/4, Error ellipse: s-maj=2.2km s-min=1.1km az=23.0*
PRU ***06*** *03:30:42.3±0.0, 51°.55N×16°.06E, h0km*
VIE ***06*** *03:30:43.4, 51°.42N×16°.01E, h0km, mb2.6/5, ml2.4/4 78 km WNW of Wroclaw Suspected Mining induced.*
ISC 06 03:30:41.2±1.3, 51°.58N±0°.06×16°.07E±0°.03, h0km, n26, σ0s75/53, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.75**	**169**	*e*Pg	**Pg**	**03 30 55.6**	**0.0**
KSP				*e*Sg	**Sg**	**03 31 05.1**	**-0.1**
OSTC	**Ostas**	**1.03**	**175**	*e*PG	**Pg**	**03 31 00.9**	**+0.1**
OSTC				*e*SG	**Sg**	**03 31 14.2**	**+0.1**
	comp=Z,29nm,0.3s						
UPC	**Upice**	**1.07**	**182**	*e*PG	**Pg**	**03 31 01.7**	**0.0**
UPC				*e*SG	**Sg**	**03 31 16.0**	**+0.4**
DPC	**Dobruska-Polom**	**1.24**	**172**	*e*PG	**Pg**	**03 31 04.3**	**-0.6**
DPC				*e*SG	**Sg**	**03 31 20.6**	**-0.4**
PVCC	**Panska Ves**	**1.41**	**223**	*e*PG	**Pg**	**03 31 08.3**	**0.0**
PVCC				*e*SG	**Sn**	**03 31 27.4**	**-0.1**
	comp=Z,53nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**243**	Pg	**Pg**	**03 31 10.3**	**+0.2**
BRG				Sg	**Sn**	**03 31 30.4**	**+0.5**
BRG				Amp		03 31 33.8	
	comp=Z,32nm,0.4s						
KRLC	**Kraliky**	**1.57**	**163**	*e*PG	**Pn**	**03 31 10.1**	**-0.3**
KRLC				*e*SG	**Sn**	**03 31 30.2**	**-1.2**
	comp=Z,8.8nm,0.3s						
PRU	**Pruhonice**	**1.86**	**212**	*e*PG	**Pn**	**03 31 14.9**	**+0.6**
PRU				*e*SG	**Sb**	**03 31 39.9**	**0.0**
	comp=Z,16nm,0.3s						
CLL	**Collm**	**1.94**	**263**	*e*Pn	**Pn**	**03 31 15.0**	**-0.4**
CLL				*e*Pg	**Pg**	**03 31 18.0**	**-0.3**
CLL				*ex*	x	03 31 22.0	
CLL				*e*Sg	**Sg**	**03 31 43.0**	**-0.4**
	comp=Z,10.0nm,0.8s						
MORC	**Moravsky Berou**	**2.03**	**152**	*e*PN	**Pn**	**03 31 16.0**	**-0.8**
MORC				*e*SG	**Sn**	**03 31 43.5**	**+0.6**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn	**Pn**	**03 31 15.9**	**-0.8**
	baz=335						
MORC				*e*Sg	**Sn**	**03 31 43.4**	**+0.6**
	comp=Z,9.2nm,0.3s,baz=335						
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*SG	**Sg**	**03 31 50.7**	**-0.7**
	comp=Z,9.9nm,0.5s						
VRAC	**Vranov**	**2.30**	**171**	*e*PN	**Pn**	**03 31 20.1**	**-0.2**
VRAC				*e*SG	**Sb**	**03 31 52.3**	**-0.2**
VRAC	**Vranov**	**2.30**	**171**	*e*Pn	**Pn**	**03 31 20.1**	**-0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**03 31 52.2**	**-0.2**
	comp=Z,4.0nm,0.3s,baz=354						
KRUC	**Moravsky**	**2.53**	**175**	*e*PN	**Pn**	**03 31 23.4**	**-0.1**
KRUC				*e*SG	**Sb**	**03 31 59.7**	**+0.7**
KRUC	**Moravsky**	**2.53**	**175**	*e*Pn	**Pn**	**03 31 23.4**	**-0.1**
	baz=357						
KRUC				*e*Sg	**Sb**	**03 31 59.7**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=357						
NKC	**Novy Kostel**	**2.66**	**241**	*e*PN	**Pn**	**03 31 25.4**	**+0.1**
NKC				*e*PG	**Pg**	**03 31 31.5**	**-0.6**
NKC				*e*SG	**Sg**	**03 32 07.7**	**+1.1**
	comp=Z,26nm,0.7s						
OJC	**Ojcow**	**2.72**	**118**	*e*Pg	**Pg**	**03 31 33.5**	**+0.1**
OJC				*e*Sg	**Sg**	**03 32 08.2**	**-0.5**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PN	**Pn**	**03 31 29.3**	**+0.3**
KHC				*e*PG	**Pb**	**03 31 34.6**	**+0.4**
KHC				*e*SN	**Sn**	**03 32 05.3**	**+0.5**
KHC				*e*SG	**Sg**	**03 32 14.6**	**-0.4**
CKRC	**Cesky Krumlov**	**2.98**	**203**	*e*PN	**Pn**	**03 31 32.1**	**+1.4**
CKRC				*e*SG	**Sg**	**03 32 16.3**	**-0.7**
	comp=Z,4.8nm,0.5s						
LANS	**Liptovska Anna**	**3.26**	**137**	*e*SG	**Sg**	**03 32 27.7**	**+1.8**
MODS	**Modra-Piesok**	**3.30**	**166**	*e*SG	**Sg**	**03 32 29.1**	**+1.9**
CONA	**Conrad Observa**	**3.66**	**182**	*e*Pn	**Pn**	**03 31 38.3**	**-0.7**
	comp=Z,0.6nm,0.2s						
CONA				*e*Sg	**Sg**	**03 32 37.0**	**-1.6**
	comp=Z,1.8nm,0.2s						
MOA	**Molln**	**3.91**	**198**	*e*Pn	**Pn**	**03 31 42.6**	**+0.1**
	comp=Z,1.3nm,0.3s						
MOA				*e*SG	**Sg**	**03 32 46.7**	**0.0**
	comp=Z,1.5nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.20**	**203**	*e*Pn	**Pn**	**03 31 46.3**	**-0.2**
	comp=Z,0.8nm,0.2s						
BIOA				*e*Sn	**Sn**	**03 32 33.7**	**-2.5**
	comp=Z,1.1nm,0.3s						
ARSA	**Arzberg**	**4.34**	**185**	*i* Pn	**Pn**	**03 31 48.7**	**+0.2**
	comp=Z,0.7nm,0.3s						
ARSA				*e*SG	**Sg**	**03 33 00.7**	**0.0**
	comp=Z,2.0nm,0.5s						

IDC ***06*** *03:55:50.7±1.0, 13°.03N×144°.21E, h124km±9km, mb3.4/11, mbtmp3.8/11, MS3.2/1, Error ellipse: s-maj=28.6km s-min=19.6km az=94.0*
ISC 06 03:55:48.7±0.9, 13°.0N±0°.1×143°.9E±0°.1, h100km, n12, σ1s68/13, mb3.6/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.14**	**58**	P	**Pn**	**03 56 12.6**	**+1.9**
	1µm,0.4s,baz=278,slow=2.1,SNR=111						
GUMO				S	**Sn**	**03 56 28.1**	**+0.8**
	760nm,0.3s,baz=174,slow=23,SNR=30						
JNU	**Nakatsue**	**23.30**	**332**	P	**P**	**04 00 49.6**	**+1.7**
	10nm,1.0s,baz=79,slow=9.1,SNR=2.6						
	10nm,1.0s						
WRA	**Warramunga Arr**	**34.04**	**196**	P	**P**	**04 02 22.8**	**-0.6**
	1.8nm,0.9s,baz=17,slow=9.6,SNR=2.0						
	1.8nm,0.9s						
ASAR	**Alice Springs**	**37.70**	**195**	P	**P**	**04 02 56.3**	**+1.6**
	0.3nm,0.7s,baz=24,slow=12,SNR=2.1						
	0.3nm,0.7s						
SONM	**Songino Array**	**46.68**	**326**	P	**P**	**04 04 07.5**	**0.0**
	0.3nm,0.5s,baz=145,slow=8.1,SNR=3.7						
SONM				LR	LR	04 24 38.9	
	comp=Z,27nm,19.6s,baz=184,slow=37						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**61.26**	**316**	P	**P**	**04 05 54.9**	**+1.5**
	0.5nm,0.9s,baz=88,slow=8.6,SNR=3.6						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**64.46**	**320**	P	**P**	**04 06 15.5**	**+0.9**
	0.5nm,0.5s,baz=102,slow=6.6,SNR=6.0						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**69.53**	**25**	P	**P**	**04 06 42.6**	**-3.7**
	0.4nm,0.8s,baz=251,slow=5.8,SNR=4.7						
	0.4nm,0.8s						
BVAR	**Borovoye Array

OLKF	**Oulanka, Finla**	**2.24**	**134**	PG	Pb	04 02 05.6	-1.3
OLKF				MSG		04 02 31.8	
	comp=Z,4.7nm,0.2s						
OLKF				SG	Sb	04 02 35.5	+0.4
MSF	**Maaselka**	**2.48**	**143**	PG	Pb	04 02 09.6	-1.2
MSF				SG	Sb	04 02 41.4	-0.5
KU6	**Riekki**	**2.60**	**135**	MSG		04 02 42.2	
	comp=Z,2.9nm,0.2s						
LVZ	**Lovozero**	**3.48**	**86**	PN	Pn	04 02 18.7	-2.2

IDC ***06*** *04:13:47.2±4.3,2˚.20N×84˚.42W, h0km, mb3.8/3, mbtmp3.9/5, ML3.3/1, MS3.2/10, Error ellipse: s-maj=127.2km s-min=78.9km az=82.0*

ISC 06 04:13:47.3±1.7, 2.0N±0.2×84.7W±0.2, h10km, n23, σ1§07/11, mb3.9/3, MS3.4/6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAC1	**Pacto, Paraso**	**6.16**	**106**	*eP*	**Pn**	**04 15 17.8**	**-0.8**
CUSE	**Cuicocha Este**	**6.53**	**105**	*eP*	Pn	04 15 19.5	-4.4
GCUF	**Volcan Galeras**	**7.41**	**96**	*eP*	**Pn**	**04 15 35.5**	**-0.5**
JTS	**Las Juntas de**	**8.28**	**358**	Pn	**Pn**	**04 15 45.9**	**-1.6**
	12nm,0.6s						
JTS				LR	LR	04 18 11.7	
	comp=Z,180nm,20.0s,slow=33						
ORTC	**Ortega, Tolima**	**9.65**	**78**	*eP*	**Pn**	**04 16 05.8**	**-0.7**
GUY2C	**Guyana, Caldas**	**9.88**	**71**	*eP*	**Pn**	**04 16 10.7**	**+0.7**
MACC	**Macarena, Meta**	**10.86**	**89**	*eP*	**Pn**	**04 16 23.8**	**+0.7**
ATAH	**Atahualpa**	**11.02**	**145**	LR	LR	04 20 18.7	
	comp=Z,80nm,18.4s,baz=296,slow=35						
CHIC	**Chingaza**	**11.28**	**76**	*eP*	**Pn**	**04 16 30.6**	**+1.4**
SDV	**Santo Domingo**	**15.61**	**63**	LR	LR	04 22 53.1	
	comp=Z,80nm,18.8s,baz=262,slow=36						
CMIG	**Matias Romero**	**18.05**	**327**	P	**P**	**04 17 58.9**	**0.0**
	0.1nm,0.3s,baz=148,slow=9.5,SNR=4.4						
CMIG				LR	LR	04 23 44.4	
	comp=Z,38nm,18.1s,baz=145,slow=33						
	2.4nm,0.9s						
SJG	**San Juan**	**24.28**	**47**	LR	LR	04 27 59.4	
	comp=Z,32nm,19.7s,baz=181,slow=36						
SIV	**San Ignacio**	**29.40**	**128**	LR	LR	04 31 20.4	
	comp=Z,44nm,18.4s,baz=342,slow=36						
TKL	**Tuckaleechee C**	**33.54**	**1**	LR	LR	04 33 35.5	
	comp=Z,49nm,18.2s,baz=150,slow=36						
H03N2	**Juan Fernandez**	**35.63**	**172**	T	T	04 58 53.1	
	baz=353						
H03N1	**Juan Fernandez**	**35.64**	**172**	T	T	04 58 50.4	
	baz=353,slow=74						
H03N3	**Juan Fernandez**	**35.65**	**172**	T	T	04 58 48.3	
	baz=353,slow=74						
SADO	**Sadowa**	**42.91**	**6**	LR	LR	04 38 48.2	
	comp=Z,68nm,18.4s,baz=110,slow=35						
PDAR	**Pinedale Array**	**46.30**	**335**	LR	LR	04 42 14.8	
	comp=Z,50nm,20.9s,baz=192,slow=37						
ULM	**Lac du Bonnet**	**49.04**	**351**	P	**P**	**04 22 34.0**	**-0.4**
	3.3nm,1.0s,baz=174,slow=9.4,SNR=3.0						
	3.3nm,1.0s						
FRB	**Frobisher Bay**	**62.78**	**8**	LR	LR	04 50 01.1	
	comp=Z,33nm,18.0s,baz=242,slow=35						
YKA	**Yellowknife Ar**	**64.38**	**345**	P	**P**	**04 24 23.9**	**+0.7**
	0.7nm,0.8s,baz=142,slow=6.3,SNR=12						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**76.66**	**337**	P	**P**	**04 25 39.4**	**+1.2**
	0.4nm,1.0s,baz=111,slow=4.0,SNR=3.5						
	0.4nm,1.0s						

NOU 06 04:29:08.1, 14.56S×167.35E, h134km, mb4.0/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.25**	**166**	P	Pn	04 29 58.7	+0.6
RTV	**Rentapao**	**3.38**	**162**	P	Pn	04 30 01.1	+1.4
LIFNC	**LIFOU**	**6.18**	**181**	P	Pn	04 30 36.4	-0.7
KOUNC	**Koumac, New Ca**	**6.64**	**206**	P	Pn	04 30 43.8	+0.6
YATNC	**Mamie plateau,**	**7.47**	**183**	P	Pn	04 30 52.9	-1.6
DZM	**Mont Dzumac**	**7.52**	**186**	P	Pn	04 30 55.1	-0.1
OUENC	**Ouen Island, N**	**7.83**	**183**	P	Pn	04 30 59.6	+0.3

JMA ***06*** *04:56:57.5±0.1,29˚N±1˚×14˚0E±˚, h448km, MV4.0/38, W OFF OGASAWARA*

IDC ***06*** *04:56:59.4±0.9,28˚.60N×139˚.60E, h444km±9km, mb3.3/22, mbtmp4.2/28, Error ellipse: s-maj=14.1km s-min=9.8km az=82.0*

ISC 06 04:56:59.2±0.5, 28.63N±0.06×139.82E±0.10, h450km, n41, σ2§19/57, mb3.7/22, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.59**	**126**	P	**P**	**04 58 00.6**	**-2.9**
CBIJ				S	**S**	**04 58 49.9**	**-5.5**
JCJ	**Chichijima**	**2.59**	**126**	P	**P**	**04 58 03.4**	**0.0**
	379nm,0.4s,baz=274,slow=19,SNR=53						
JCJ				S	**S**	**04 58 52.2**	**-3.2**
	1µm,0.4s,baz=300,slow=20,SNR=23						
JHH2	**Haha-jima-NKT2**	**2.88**	**133**	*eP*	**P**	**04 58 02.7**	**-2.8**
JHH2				S	**S**	**04 58 54.1**	**-5.0**
JHH2	**Haha-jima-NKT2**	**2.88**	**133**	A	A	04 58 02.7	
	comp=E,10.0nm,0.4s,comp=E,8.0nm,0.5s						
JHJ	**Hachijo jima 2**	**4.47**	**360**	P	**P**	**04 58 17.4**	**-1.0**
	241nm,0.9s,baz=207,slow=22,SNR=1.5						
JHJ				S	**S**	**04 59 24.0**	**+0.8**
	128nm,0.4s,baz=240,slow=20,SNR=2.0						
BSO1	**Boso 1**	**6.08**	**9**	P	**P**	**04 58 33.8**	**+0.1**
BSO1				S	**S**	**04 59 48.8**	**-2.2**
BSO4	**Boso 4**	**6.35**	**4**	*eP*	**P**	**04 58 36.1**	**-0.8**
HMMJ	**Hamamatsu 2**	**6.46**	**344**	*eP*	**P**	**04 58 38.5**	**+0.4**
JOD2	**Odawara 2**	**6.64**	**355**	P	**P**	**04 58 39.4**	**-0.7**
JOD2				*eS*	**S**	**04 59 58.5**	**-4.1**
JNY	**Yasuok**	**6.91**	**347**	*eP*	**P**	**04 58 43.0**	**+0.1**
JHU	**Hanno**	**7.21**	**356**	P	**P**	**04 58 44.0**	**-2.0**
JHU				*eS*	**S**	**05 00 07.6**	**-6.0**
JRY	**Ryogami san**	**7.40**	**354**	P	**P**	**04 58 47.5**	**-0.7**
JRY				*eS*	**S**	**05 00 14.1**	**-3.4**
JAG	**Ashikaga**	**7.78**	**358**	P	**P**	**04 58 50.5**	**-1.6**
JAG				*eS*	**S**	**05 00 18.8**	**-5.9**
JHO	**Hitachi**	**7.98**	**4**	P	**P**	**04 58 53.9**	**-0.4**
MJAR	**Matsushiro Arr**	**8.00**	**351**	P	**P**	**04 58 53.4**	**-1.2**
	4.5nm,0.5s,baz=169,slow=11,SNR=16						
MJAR				S	**S**	**05 00 26.2**	**-3.1**
	4.3nm,0.7s,baz=214,slow=16,SNR=2.2						
JFK	**Kawauchi**	**8.76**	**6**	*eP*	**P**	**04 59 03.2**	**+0.5**
JFK				S	**S**	**05 00 41.6**	**-2.6**
JNU	**Nakatsue**	**8.89**	**302**	P	**P**	**04 59 04.0**	**-0.3**
	9.6nm,0.7s,baz=144,slow=5.0,SNR=6.7						
KSRS	**Korea Array**	**13.29**	**314**	P	**P**	**04 59 51.4**	**-0.5**
	1.3nm,0.7s,baz=133,slow=9.1,SNR=5.6						
USRK	**Ussuriysk Ar.**	**16.75**	**340**	P	**P**	**05 00 29.5**	**+0.9**
	7.1nm,0.3s,baz=147,slow=9.4,SNR=30						
KLR	**Kul'dur**	**21.48**	**345**	P	**P**	**05 01 15.1**	**+1.3**
	3.0nm,0.5s,baz=173,slow=6.1,SNR=17						
KLR				S	**S**	**05 04 43.3**	**+2.7**
	0.3nm,0.3s,baz=68,slow=22,SNR=1.8						
	3.0nm,0.5s						
PETK	**Petropavlovsk-**	**27.78**	**23**	P	**P**	**05 02 13.3**	**+3.3**
	5.3nm,1.0s,baz=191,slow=3.0,SNR=1.7						
	5.3nm,1.0s						
SONM	**Songino Array**	**32.16**	**316**	P	**P**	**05 02 48.2**	**-0.1**
	3.7nm,0.6s,baz=124,slow=8.1,SNR=42						
SONM				PcP	**PcP**	**05 05 25.0**	**+0.8**
	0.2nm,0.4s,baz=107,slow=3.2,SNR=1.8						
	3.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.66**	**264**	P	**P**	**05 03 41.9**	**-1.0**
	1.1nm,0.3s,baz=48,slow=10,SNR=4.3						
	1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**46.96**	**319**	P	**P**	**05 04 47.4**	**-0.4**
	1.7nm,0.5s,baz=106,slow=7.6,SNR=9.1						
ZALV				PcP	**PcP**	**05 06 11.1**	**-0.4**
	0.8nm,0.5s,baz=132,slow=2.2,SNR=3.8						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**47.89**	**309**	P	**P**	**05 04 54.4**	**-0.5**
	2.2nm,0.7s,baz=93,slow=9.5,SNR=26						
MKAR				PcP	**PcP**	**05 06 14.9**	**-0.2**
	1.2nm,0.7s,baz=76,slow=6.4,SNR=7.6						
MKAR				ScP	**ScP**	**05 09 26.5**	**+0.6**
	0.9nm,0.6s,baz=85,slow=5.5,SNR=10						
	2.2nm,0.7s						
WRA	**Warramunga Arr**	**48.58**	**187**	P	**P**	**05 05 02.1**	**+1.7**
	0.4nm,0.3s,baz=5.9,slow=7.9,SNR=1.1						
	0.4nm,0.3s						
NRIK	**Noril'sk**	**50.46**	**339**	P	**P**	**05 05 13.7**	**0.0**
	1.5nm,0.3s,baz=106,slow=12,SNR=3.5						
	1.5nm,0.3s						

ASAR	**Alice Springs**	**52.31**	**187**	P	**P**	**05 05 27.5**	**-0.3**
	0.3nm,0.4s,baz=2.3,slow=7.0,SNR=9.3						
ASAR				PcP	**PcP**	**05 06 32.4**	**+0.7**
	0.1nm,0.4s,baz=17,slow=4.6,SNR=4.2						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**57.38**	**29**	P	**P**	**05 06 04.1**	**+1.2**
	0.6nm,0.4s,baz=253,slow=5.5,SNR=25						
	0.6nm,0.4s						
STKA	**Stephens Creek**	**60.20**	**178**	P	**P**	**05 06 23.5**	**+1.1**
	1.3nm,0.7s,baz=306,slow=7.5,SNR=3.0						
	1.3nm,0.7s						
INK	**Inuvik**	**62.51**	**25**	P	**P**	**05 06 39.1**	**+2.0**
	1.1nm,0.4s,baz=331,slow=11,SNR=2.2						
	1.1nm,0.4s						
ARCES	**ARCESS Array B**	**71.40**	**340**	P	**P**	**05 07 33.1**	**+0.8**
	5.8nm,1.0s,baz=56,slow=6.5,SNR=5.2						
	5.8nm,1.0s						
YKA	**Yellowknife Ar**	**71.78**	**28**	P	**P**	**05 07 35.8**	**+1.2**
	0.5nm,0.5s,baz=292,slow=6.1,SNR=7.5						
	0.5nm,0.5s						
KBZ	**Khabaz**	**75.43**	**312**	P	**P**	**05 07 55.8**	**0.0**
	3.6nm,0.8s,baz=107,slow=5.4,SNR=6.7						
	3.6nm,0.8s						
FINES	**FINESS Array B**	**75.64**	**333**	P	**P**	**05 07 56.8**	**+0.1**
	2.1nm,0.5s,baz=71,slow=4.7,SNR=22						
	2.1nm,0.5s						
AKASG	**Malin Array Be**	**80.14**	**323**	P	**P**	**05 08 20.9**	**-0.4**
	0.9nm,0.5s,baz=49,slow=5.7,SNR=9.4						
	0.9nm,0.5s						
NVAR	**Mina Array Bea**	**81.20**	**51**	P	**P**	**05 08 29.9**	**+2.5**
	0.6nm,0.6s,baz=296,slow=5.2,SNR=5.8						
	0.6nm,0.6s						
NOA	**NORSAR Array B**	**81.40**	**337**	P	**P**	**05 08 27.6**	**-0.1**
	1.0nm,0.8s,baz=54,slow=6.1,SNR=2.1						
	1.0nm,0.8s						
BRTR	**Keskin Array B**	**83.43**	**312**	P	**P**	**05 08 38.5**	**-0.1**
	0.9nm,0.6s,baz=129,slow=4.1,SNR=5.5						
	0.9nm,0.6s						
ULM	**Lac du Bonnet**	**87.28**	**32**	P	**P**	**05 08 56.3**	**-0.6**
	1.5nm,0.4s,baz=244,slow=9.2,SNR=4.5						
	1.5nm,0.4s						
GERES	**GERESS Array B**	**89.11**	**328**	P	**P**	**05 09 04.7**	**-0.9**
	0.5nm,0.8s,baz=70,slow=6.4,SNR=2.2						
	0.5nm,0.8s						

NOU ***06*** *05:14:23.5, 42˚.57S×173˚.77E, h0km, MLv4.1/9, South Island, New Zealand*

WEL ***06*** *05:14:25.5±0.8, 43˚.3±3˚×17˚.4E±˚, h26km±7km, M3.6/24, ML3.8/24, MLv3.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=124.6, confirmed*

ISC 06 05:14:23.2±1.4, 42.52S±0.03×173.83E±0.04, h5km±10km, n77, σ1§38/92, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.24**	**297**	P	**Pg**	**05 14 27.9**	**+0.1**
KHZ	**Kahutara**	**0.24**	**297**	P	**Pg**	**05 14 28.1**	**+0.3**
KHZ				S	**Sg**	**05 14 30.7**	**-0.3**
GVZ	**Greta Valley S**	**0.73**	**232**	P	**Pn**	**05 14 40.5**	**+0.2**
GVZ				S	**Sn**	**05 14 52.6**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.81**	**3**	P	**Pg**	**05 14 39.0**	**+0.3**
CMWZ	**Cape Campbell**	**0.83**	**21**	P	**Pb**	**05 14 41.2**	**+1.2**
CMWZ				S	**Sn**	**05 14 54.3**	**+0.2**
THZ	**Tophouse**	**1.02**	**318**	P	**Pb**	**05 14 42.2**	**-1.2**
THZ				S	**Sb**	**05 14 56.0**	**-1.3**
AMCZ	**Amberley**	**1.08**	**233**	P	**Pn**	**05 14 45.5**	**+0.5**
AMCZ				S	**Sn**	**05 15 02.0**	**+1.6**
TUWZ	**Tuamarina**	**1.10**	**5**	P	**Pb**	**05 14 44.4**	**-0.3**
TUWZ				S	**Sb**	**05 14 59.6**	**+0.4**
LTZ	**Lake Taylor**	**1.18**	**257**	P	**Pb**	**05 14 46.3**	**+0.2**
LTZ				S	**Sn**	**05 15 02.7**	**-0.2**
OKCZ	**Okains Bay**	**1.32**	**205**	P	**Pb**	**05 14 49.2**	**+0.6**
NNZ	**Nelson**	**1.35**	**346**	P	**Pn**	**05 14 48.1**	**-0.6**
NNZ				S	**Sb**	**05 15 07.3**	**+0.8**
TCW	**Tory Channel**	**1.35**	**15**	P	**Pn**	**05 14 48.0**	**-0.8**
TCW				S	**Sn**	**05 15 06.6**	**-0.6**
MRNZ	**Matariki Terra**	**1.38**	**324**	P	**Pn**	**05 14 48.8**	**-0.3**
MRNZ				S	**Sn**	**05 15 07.3**	**-0.4**
SNZO	**South Karori**	**1.38**	**29**	P	**Pn**	**05 14 49.0**	**-0.1**
WEL	**Wellington**	**1.42**	**30**	P	**Pn**	**05 14 49.5**	**-0.2**
PLWZ	**Palliser**	**1.43**	**49**	P	**Pn**	**05 14 49.2**	**-0.6**
MQZ	**McQueen's Vall**	**1.46**	**216**	P	**Pn**	**05 14 49.9**	**-0.4**
MQZ				S	**Sb**	**05 15 08.3**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.50**	**206**	P	**Pn**	**05 14 51.2**	**+0.4**
AKCZ				S	**Sb**	**05 15 11.1**	**+0.1**
OXZ	**Oxford**	**1.54**	**238**	P	**Pn**	**05 14 51.0**	**-0.4**
OXZ				S	**Sn**	**05 15 11.0**	**-0.7**
TKNZ	**Takaka Hill**	**1.62**	**336**	P	**Pn**	**05 14 52.5**	**0.0**
PAWZ	**Paruwai Farm**	**1.65**	**47**	P	**Pn**	**05 14 52.1**	**-0.8**
PAWZ				S	**Sn**	**05 15 13.3**	**-1.2**
CAW	**Cannon Point**	**1.69**	**34**	P	**Pn**	**05 14 52.9**	**-0.5**
CAW				S	**Sn**	**05 15 13.9**	**-1.6**
DSZ	**Denniston Nort**	**1.69**	**297**	P	**Pn**	**05 14 53.1**	**-0.4**
DUWZ	**D'Urville Isla**	**1.72**	**2**	P	**Pn**	**05 14 54.1**	**+0.3**
RACZ	**Rakaia**	**1.72**	**225**	P	**Pn**	**05 14 53.7**	**-0.1**
INZ	**Inchbonnie**	**1.77**	**263**	P	**Pn**	**05 14 54.3**	**-0.2**
TRWZ	**Traveller**	**1.79**	**52**	P	**Pn**	**05 14 54.4**	**-0.4**
KIW	**Kapiti Island**	**1.85**	**26**	P	**Pn**	**05 14 55.6**	**0.0**
MTW	**Mount Morrison**	**1.85**	**43**	P	**Pn**	**05 14 54.5**	**-1.1**
MHCZ	**Mount Hutt**	**1.94**	**238**	P	**Pn**	**05 14 56.2**	**-0.7**
QRZ	**Quartz Range**	**1.96**	**330**	P	**Pn**	**05 14 57.8**	**+0.5**
QRZ	**Quartz Range**	**1.96**	**330**	P	**Pn**	**05 14 57.6**	**+0.3**
WACZ	**Wakanui South**	**2.03**	**225**	P	**Pn**	**05 14 58.0**	**-0.1**
TMWZ	**Te Maipa**	**2.09**	**48**	P	**Pn**	**05 14 58.1**	**-0.8**
MRZ	**Mangatainoka R**	**2.28**	**36**	P	**Pn**	**05 15 00.8**	**-0.7**
WVZ	**Waitaha Valley**	**2.34**	**255**	P	**Pn**	**05 15 02.4**	**+0.1**
RPZ	**Rata Peaks**	**2.35**	**239**	P	**Pn**	**05 15 02.2**	**-0.3**
RPZ	**Rata Peaks**	**2.35**	**239**	P	**Pn**	**05 15 02.0**	**-0.5**
ARCZ	**Arundel**	**2.40**	**233**	P	**Pn**	**05 15 02.8**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**2.69**	**252**	P	**Pn**	**05 15 07.5**	**+0.4**
TMZ	**Timaru**	**2.77**	**227**	P	**Pn**	**05 15 08.1**	**-0.1**
WAZ	**Wanganui**	**2.90**	**18**	P	**Pn**	**05 15 13.1**	**+3.0**
TSZ	**Takapari Road**	**2.94**	**34**	P	**Pn**	**05 15 09.8**	**-0.8**
LREZ	**Lake Rotokare**	**3.09**	**8**	P	**Pb**	**05 15 19.4**	**+0.7**
FOZ	**Fox Glacier**	**3.11**	**250**	P	**Pn**	**05 15 13.1**	**+0.2**
KHEZ	**Kahui Hut**	**3.23**	**3**	P	**Pn**	**05 15 16.4**	**+1.8**
KHEZ	**Kahui Hut**	**3.23**	**3**	P	**Pn**	**05 15 18.2**	**+3.5**
LBZ	**Lake Benmore**	**3.24**	**234**	P	**Pn**	**05 15 14.6**	**-0.1**
NBEZ	**Newall Road No**	**3.25**	**1**	P	**Pb**	**05 15 20.6**	**-0.8**
PKE	**Pukeiti**	**3.33**	**2**	P	**Pb**	**05 15 20.7**	**-2.1**
ODZ	**Otahua Downs**	**3.41**	**221**	P	**Pn**	**05 15 16.8**	**-0.3**
ODZ	**Otahua Downs**	**3.41**	**221**	P	**Pn**	**05 15 16.8**	**-0.3**
MOVZ	**Moawhango**	**3.44**	**26**	P	**Pn**	**05 15 20.8**	**+3.3**
WNVZ	**Wahianoa**	**3.46**	**23**	P	**Pn**	**05 15 19.5**	**+1.5**
VRZ	**Vera Road**	**3.47**	**12**	P	**Pn**	**05 15 19.4**	**+1.5**
FWVZ	**Far West T-bar**	**3.52**	**22**	P	**Pb**	**05 15 23.5**	**-2.6**
TUVZ	**Tukino**	**3.54**	**24**	P	**Pn**	**05 15 23.2**	**+4.3**
NGZ	**Ngauruhoe**	**3.60**	**23**	P	**Pn**	**05 15 23.6**	**+3.7**
NNVZ	**North Ngauruho**	**3.65**	**22**	P	**Pn**	**05 15 23.3**	**+2.8**
TWVZ	**Taurewa**	**3.66**	**20**	P	**Pn**	**05 15 24.0**	**+3.4**
ETVZ	**East Tongariro**	**3.67**	**24**	P	**Pn**	**05 15 22.0**	**+1.2**
TMVZ	**Te Maari**	**3.69**	**23**	P	**Pn**	**05 15 23.9**	**+2.9**
JCZ	**Jackson Bay**	**3.99**	**245**	P	**Pn**	**05 15 25.3**	**+0.2**
JCZ	**Jackson Bay**	**3.99**	**245**	P	**Pn**	**05 15 24.8**	**-0.3**
HIZ	**Hauiti**	**4.08**	**11**	P	**Pn**	**05 15 28.6**	**+2.3**
HIZ	**Hauiti**	**4.08**	**11**	P	**Pn**	**05 15 28.2**	**+1.9**
HHSZ	**Highcliff Hill**	**4.08**	**214**	P	**Pn**	**05 15 26.4**	**+0.1**
WKZ	**Wanaka**	**4.18**	**235**	P	**Pn**	**05 15 26.8**	**-0.9**
EAZ	**Earnscleugh**	**4.24**	**229**	P	**Pn**	**05 15 28.1**	**-0.4**
MTHZ	**Maungataniwha**	**4.32**	**33**	P	**Pn**	**05 15 33.9**	**+4.2**
TUZ	**Tuapeka**	**4.57**	**220**	P	**Pn**	**05 15 33.0**	**+0.1**
MLZ	**Mavora Lakes**	**5.01**	**233**	P	**Pn**	**05 15 38.3**	**-0.7**
SYZ	**Scrubby Hill**	**5.23**	**218**	P	**Pn**	**05 15 42.1**	**+0.1**
SYZ	**Scrubby Hill**	**5.23**	**218**	P	**Pn**	**05 15 42.3**	**+0.3**
WHZ	**Wether Hill Ro**	**5.40**	**229**	P	**Pn**	**05 15 43.6**	**-0.8**
MKAZ	**Moumakai**	**5.51**	**11**	P	**Pn**	**05 15 46.9**	**+1.0**
WIAZ	**Waiheke Island**	**5.81**	**10**	P	**Pn**	**05 15 50.2**	**+0.2**

GII ***06*** *05:15:47.0±0.0, 32˚.28N×35˚.68E, h8km, MD3.2/4, Mm2.9/8*

JSO ***06*** *05:15:47.7, 32˚.28N×35˚.62E, h8km±3km, ML3.0/29, Mw3.8/29*

GRAL ***06*** *05:15:49.2±0.7, 32˚.35N×35˚.69E, h0km±3km, MD3.6*

ISC 06 05:15:47.3±0.9, 32.29N±0.02×35.66E±0.03, h18km±5km, n51, σ0§87/78, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HMDT	**Nahal Hemdat**	**0.12**	**254**	Pg	**Pg**	**05 15 51.1**	**-0.1**
HMDT				Sg	**Sg**	**05 15 53.1**	**-0.6**
HMDT	**Nahal Hemdat**	**0.12**	**254**	P	**Pg**	**05 15 51.2**	**0.0**
HMDT				S	**Sg**	**05 15 54.0**	**+0.3**
HMDT				IAML		05 15 54.7	
MMLI	**Mount Malkishu**	**0.25**	**307**	Pg	**Pb**	**05 15 52.9**	**-0.5**
MMLI				Sg	**Sb**	**05 15 57.3**	**-0.2**
UJAP	**Al Uja**	**0.37**	**207**	Pg	**Pg**	**05 15 54.6**	**-0.5**
UJAP				Sg	**Sg**	**05 16 00.2**	**-0.1**
UJAP	**Al Uja**	**0.37**	**207**	P	**Pg**	**05 15 54.8**	**-0.3**
SHMJ	**Saham**	**0.45**	**11**	P	**Pb**	**05 15 56.7**	**-0.1**
SALP	**Salfit**	**0.45**	**242**	Pg	**Pg**	**05 15 55.7**	**-0.9**
SALP				Sg	**Sg**	**05 16 02.7**	**-0.1**
HSUJ	**Al Zarqa**	**0.49**	**112**	P	**Pb**	**05 15 58.5**	**+1.1**
SLTI	**Sal'it**	**0.53**	**265**	Pg	**Pg**	**05 15 57.4**	**-0.5**
SLTI				Sg	**Sg**	**05 16 05.3**	**+0.3**
SLTI	**Sal'it**	**0.53**	**265**	P	**Pg**	**05 15 57.3**	**-0.6**
BLGI	**Bet Lehem HaGe**	**0.60**	**318**	Pg	**Pg**	**05 15 58.6**	**-0.7**
BLGI				Sg	**Sb**	**05 16 07.3**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.60**	**318**	P	**Pg**	**05 15 58.5**	**-0.7**
BLGI				IAML		05 16 08.9	
OFRI	**`Ofer**	**0.66**	**300**	Pg	**Pg**	**05 15 59.5**	**-0.9**
OFRI				Sg	**Sb**	**05 16 09.7**	**+0.4**
OFRI	**`Ofer**	**0.66**	**300**	P	**Pg**	**05 15 59.8**	**-0.6**
WALJ	**Wala**	**0.73**	**170**	P	**Pg**	**05 16 01.2**	**-0.5**
DSI	**Dead Sea**	**0.75**	**199**	Pg	**Pg**	**05 16 01.0**	**-1.1**
DSI	**Dead Sea**	**0.75**	**199**	P	**Pg**	**05 16 00.6**	**-1.5**
DSI				IAML		05 16 13.9	
MMA0B	**Mount Meron ar**	**0.76**	**343**	Pg	**Pb**	**05 16 01.7**	**-0.4**
MMA0B				Sg	**Sb**	**05 16 12.6**	**+0.4**
MMC7	**Mount Meron ar**	**0.77**	**343**	Pg	**Pb**	**05 16 01.8**	**-0.5**
HNTI	**Hanita**	**0.89**	**333**	Pg	**Pg**	**05 16 04.0**	**-0.8**
HNTI				Sg	**Sb**	**05 16 16.6**	**+0.6**
HNTI	**Hanita**	**0.89**	**333**	P	**Pg**	**05 16 04.0**	**-0.8**
HNTI				IAML		05 16 17.7	
AMAZ	**Amatzia**	**0.98**	**220**	Pg	**Pg**	**05 16 05.3**	**-1.1**
AMAZ				Sg	**Sg**	**05 16 19.0**	**-0.4**
AMAZ	**Amatzia**	**0.98**	**220**	P	**Pg**	**05 16 05.3**	**-1.1**
AMAZ				S	**Sg**	**05 16 18.6**	**-0.8**
AMAZ				IAML		05 16 25.7	
GHAJ	**Ghor Haditha**	**0.98**	**185**	Pg	**Pg**	**05 16 05.1**	**-1.3**
GHAJ				Sg	**Sg**	**05 16 19.0**	**-0.4**
GHAJ	**Ghor Haditha**	**0.98**	**185**	P	**Pg**	**05 16 05.2**	**-1.2**
GHAJ				IAML		05 16 20.7	
MDBI	**Mazsada**	**1.00**	**195**	Pg	**Pg**	**05 16 05.2**	**-1.6**
MDBI				Sg	**Sg**	**05 16 18.8**	**-1.2**
MDBI	**Mazsada**	**1.00**	**195**	P	**Pg**	**05 16 05.4**	**-1.4**
MSBI	**Mazada**	**1.00**	**195**	Pg	**Pg**	**05 16 05.6**	**-1.2**
MSBI				Sg	**Sg**	**05 16 19.6**	**-0.4**
YTIR	**Yattir**	**1.03**	**207**	Pg	**Pg**	**05 16 05.7**	**-1.7**
YTIR				Sg	**Sg**	**05 16 20.1**	**-0.8**
YTIR	**Yattir**	**1.03**	**207**	P	**Pg**	**05 16 05.5**	**-1.9**
ASF	**Jabal al Asfar**	**1.05**	**96**	P	**Pb**	**05 16 07.2**	**+0.1**
ASF				S	**Sn**	**05 16 21.8**	**+0.1**
ASF				IAML		05 16 25.8	
LISJ	**El Lisan**	**1.05**	**188**	IAML		05 16 23.5	
LISJ				P	**Pb**	**05 16 07.3**	**+0.3**
SWQJ	**Swaqa**	**1.09**	**162**	P	**Pb**	**05 16 05.3**	**-2.5**
DAMI2	**DAM2**	**1.

SHLS Shalkode 2.58 298 *e*Pn **Pn** 05 26 39.1 -2.2
baz=299
SHLS Shalkode 2.58 298 *e*Pg **Pn** 05 26 42.5 +1.2
856nm,0.1s
SHLS *e*Lg Lg 05 27 12.0
2µm,0.7s
SHLS Shalkode 2.58 298 *e*PN **Pn** 05 26 39.1 -2.2
UZB Uzynbulak 2.87 295 Pg **Pb** 05 26 52.4 +1.5
123nm,0.5s
UZB Lg Lg 05 27 28.8
1µm,0.8s
UZB Uzynbulak 2.87 295 *e*Pn **Pn** 05 26 46.8 +1.5
baz=293
UZB *i* Pb **Pb** 05 26 51.1 +0.2
baz=293
UZB Uzynbulak 2.87 295 *e*Pg **Pb** 05 26 52.4 +1.5
123nm,0.5s
UZB *e*Lg Lg 05 27 28.8
1µm,0.8s
UZB Uzynbulak 2.87 295 *e*PN **Pn** 05 26 46.8 +1.5
DJR Jarkent 3.10 320 Pg **Pb** 05 26 56.3 +1.5
187nm,0.7s
DJR Lg Lg 05 27 35.9
304nm,0.8s
DJR Jarkent 3.10 320 *e*Pg **Pb** 05 26 53.5 -1.4
187nm,0.7s
DJR *e*Lg Lg 05 27 31.1
266nm,0.5s
KPKS Kokpek 3.23 299 Pg **Pb** 05 26 57.5 +0.6
140nm,0.4s
KPKS Lg Lg 05 27 38.2
1µm,0.5s
KPKS Kokpek 3.23 299 *i* Pn **Pn** 05 26 51.4 +1.3
baz=296
KPKS *i* Pb **Pb** 05 26 56.7 -0.2
baz=296
KPKS Kokpek 3.23 299 *e*Pg **Pb** 05 26 57.5 +0.6
140nm,0.4s
KPKS *e*Lg Lg 05 27 38.2
1µm,0.5s
KPKS Kokpek 3.23 299 *i* PN **Pn** 05 26 51.4 +1.3
SATY Saty 3.26 291 Pg **Pb** 05 26 58.7 +1.2
172nm,0.6s
SATY Lg Lg 05 27 40.7
1µm,0.9s
SATY Saty 3.26 291 *i* Pn **Pn** 05 26 52.0 +1.3
baz=288
SATY *i* Pg **Pb** 05 26 59.5 +1.9
baz=288
SATY Saty 3.26 291 *e*Pg **Pb** 05 26 58.7 +1.2
172nm,0.6s
SATY *e*Lg Lg 05 27 40.7
1µm,0.9s
SATY Saty 3.26 291 *i* PN **Pn** 05 26 52.0 +1.3
SATY *i* 05 26 59.5
ZHN Zhinishke 3.28 292 *e*Pn **Pn** 05 26 51.7 +0.7
baz=290
ZHN Zhinishke 3.28 292 *e*PN **Pn** 05 26 51.6 +0.7
TARG Taragay, Kyrgy 3.57 267 **Pn** 05 26 55.2 0.0
TARG Taragay, Kyrgy 3.57 267 PN **Pn** 05 26 55.2 0.0
KURS Kuram 3.58 296 Pg **Pb** 05 27 04.4 +1.6
71nm,0.6s
KURS Lg Lg 05 27 49.7
376nm,0.8s
KURS Kuram 3.58 296 *e*Pg **Pb** 05 27 04.4 +1.6
71nm,0.6s
KURS *e*Lg Lg 05 27 49.7
376nm,0.8s
WMQ Urumqi 4.18 62 *e*Pn **Pn** 05 27 06.4 +3.1
WMQ Sn **Sn** 05 27 54.2 +2.2
WMQ smax smax
comp=N,410nm,1.1s
WMQ smax smax
comp=E,670nm,1.1s
MDOK Medeo 4.25 288 ⇑Pn **Pn** 05 27 05.5 +1.2
comp=E,37nm,0.6s
MDOK Pg **Pb** 05 27 16.0 +1.6
comp=E,57nm,0.7s
MDOK Lg Lg 05 28 09.5
comp=E,262nm,1.0s
MDOK ⇑Lg Lg 05 28 13.0
comp=E,485nm,0.8s
MDOK Medeo 4.25 288 *i* Pn **Pn** 05 27 05.6 +1.4
baz=286
MDOK *i* Pg **Pb** 05 27 17.9 +3.6
baz=286
MDOK Medeo 4.25 288 *i* PN **Pn** 05 27 05.6 +1.4
MDOK *i* 05 27 17.9
TDK Taldyqorghan 4.28 316 *e*P **Pb** 05 27 16.6 +1.9
TDK *e*S **Sb** 05 28 10.6 +4.4
TNSS Tian-Shan 4.29 286 Pg **Pb** 05 27 17.6 +2.3
comp=E,78nm,0.6s
TNSS Lg Lg 05 28 12.1
comp=E,190nm,0.5s
TNSS Tian-Shan 4.29 286 *e*Pn **Pn** 05 27 06.7 +1.6
baz=284
TNSS Tian-Shan 4.29 286 *e*Pg **Pb** 05 27 17.6 +2.3
comp=E,78nm,0.6s
TNSS *e*Lg Lg 05 28 12.1
comp=E,190nm,0.5s
TNSS Tian-Shan 4.29 286 *e*PN **Pn** 05 27 06.7 +1.6
AAA Alma-Ata 4.35 288 Pg **Pb** 05 27 17.9 +1.8
comp=E,170nm,0.9s
AAA Lg Lg 05 28 13.0
comp=E,542nm,1.1s
AAA Alma-Ata 4.35 288 *e*Pg **Pb** 05 27 19.6 +3.5
baz=287
AAA Alma-Ata 4.35 288 *e*Pg **Pb** 05 27 17.9 +1.8
comp=E,170nm,0.9s
AAA *e*Lg Lg 05 28 13.0
comp=E,542nm,1.1s
AAA Alma-Ata 4.35 288 *e*PN **Pb** 05 27 19.6 +3.5
CHKK Chushkaly 4.51 296 Pg **Pb** 05 27 21.2 +2.5
comp=E,31nm,0.6s
CHKK Lg Lg 05 28 18.7
comp=E,144nm,0.5s
CHKK Chushkaly 4.51 296 *e*Pn **Pn** 05 27 09.2 +1.4
baz=295
CHKK Chushkaly 4.51 296 *e*Pg **Pb** 05 27 21.2 +2.5
comp=E,31nm,0.6s
CHKK *e*Lg Lg 05 28 18.7
comp=E,144nm,0.5s
CHKK Chushkaly 4.51 296 *e*PN **Pn** 05 27 09.1 +1.4
MTBS Maitube 4.68 286 Pg **Pb** 05 27 23.7 +2.0
comp=E,54nm,0.7s
MTBS Lg Lg 05 28 22.5
comp=E,129nm,0.7s
MTBS Maitube 4.68 286 *e*Pg **Pb** 05 27 23.7 +2.0
comp=E,54nm,0.7s
MTBS *e*Lg Lg 05 28 22.5
comp=E,129nm,0.7s
MK31 Makanchi Array 4.81 358 **Pn** 05 27 12.1 +0.3
MK31 Makanchi Array 4.81 358 ⇑Pn **Pn** 05 27 13.6 +1.7
comp=E,3.6nm,0.3s,baz=189,slow=11,SNR=662
MK31 ⇑Pg **Pb** 05 27 26.9 +3.1
comp=E,112nm,0.7s,baz=163,slow=14,SNR=42
MK31 ⇓Lg Lg 05 28 30.8
comp=E,284nm,0.8s,baz=180,slow=29,SNR=4.9
MK31 Makanchi Array 4.81 358 *i* PN **Pn** 05 27 11.4 -0.4
MKAR Makanchi Array 4.81 358 Pn **Pn** 05 27 13.7 +1.9
comp=E,4.0nm,0.3s,baz=187,slow=12,SNR=164
MKAR Pg **Pb** 05 27 26.7 +2.9
comp=E,16nm,0.3s,baz=174,slow=16,SNR=39
MKAR Sn **Sn** 05 28 11.7 +4.3
comp=E,7.4nm,0.3s,baz=178,slow=18,SNR=6.6
MKAR Lg Lg 05 28 29.5
comp=E,9.5nm,0.3s,baz=176,slow=29,SNR=6.1
MKAR LR LR 05 29 22.4
comp=E,203nm,20.6s,baz=60,slow=42
comp=E,17nm,0.5s
MKAR Makanchi Array 4.81 358 Pn **Pn** 05 27 12.2 +0.4
MKAR Makanchi Array 4.81 358 *i* PN **Pn** 05 27 13.3 +1.5
MKAR pmax pmax
comp=E,8.0nm,0.3s
MAKZ Makanchi 4.84 355 Pn **Pn** 05 27 12.8 +0.5
MAKZ Makanchi 4.84 355 ⇑Pn **Pn** 05 27 13.8 +1.5
comp=E,68nm,0.9s
MAKZ ⇓Pg **Pb** 05 27 27.4 +3.1
comp=E,77nm,0.8s
MAKZ ⇑Lg Lg 05 28 32.2
comp=Z,238nm,1.0s
MAKZ Makanchi 4.84 355 PN **Pn** 05 27 12.8 +0.5
KUU Kurty 4.96 295 Pg Pb 05 27 31.5 +5.1
comp=E,38nm,0.7s
KUU Lg Lg 05 28 35.6
comp=E,182nm,0.8s
KUU Kurty 4.96 295 *e*Pn **Pn** 05 27 15.1 +1.2
baz=293
KUU Kurty 4.96 295 *e*Pg Pb 05 27 31.5 +5.1
comp=E,38nm,0.4s
KUU *e*Lg Lg 05 28 35.9
comp=E,182nm,0.8s
KUU Kurty 4.96 295 *e*PN **Pn** 05 27 15.1 +1.2
KST Kastek 5.00 284 Pg **Pb** 05 27 30.7 +3.5
comp=E,67nm,0.6s
KST Lg Lg 05 28 35.2
comp=E,176nm,1.1s
KST Kastek 5.00 284 *e*Pg **Pb** 05 27 30.7 +3.5
comp=E,67nm,0.6s
KST *e*Lg Lg 05 28 35.2
comp=E,176nm,1.1s
DGS Degeres 5.17 286 Pg **Pb** 05 27 34.1 +4.0
comp=E,51nm,0.6s
DGS Lg Lg 05 28 41.0
comp=E,172nm,0.9s
DGS Degeres 5.17 286 *e*Pg **Pb** 05 27 34.1 +4.0
comp=E,51nm,0.6s
DGS *e*Lg Lg 05 28 41.0
comp=E,172nm,0.9s
TKM2 Tokmak 2 5.25 283 ⇓Pn **Pn** 05 27 20.2 +2.2
comp=E,8.6nm,0.8s
TKM2 ⇑Pg **Pb** 05 27 35.4 +3.9
comp=E,54nm,0.7s
TKM2 ⇑Lg Lg 05 28 44.9
comp=E,141nm,0.6s
KRBS Karabastau 5.35 291 Pg Pb 05 27 38.0 +4.9
comp=E,36nm,0.7s
KRBS Lg Lg 05 28 47.4
comp=E,85nm,0.8s
KRBS Karabastau 5.35 291 *e*Pg Pb 05 27 38.0 +4.9
comp=E,36nm,0.7s
KRBS *e*Lg Lg 05 28 47.4
comp=E,85nm,0.8s
KSH Kashi 5.59 246 P Pn 05 27 29.8 +7.1
KSH sP Pb 05 27 37.7 +0.5
KSH S **Sb** 05 28 40.2 -4.0
KSH pmax pmax
comp=E,17nm,1.0s
KSH smax smax
comp=N,150nm,1.3s
KSH smax smax
comp=E,250nm,1.1s
ZSN Zaisan 5.70 16 Pg Pb 05 27 45.4 +6.4
comp=E,79nm,1.0s
ZSN Lg Lg 05 28 59.1
comp=E,321nm,0.8s
ZSN Zaisan 5.70 16 *e*Pn **Pn** 05 27 25.4 +1.4
baz=16
ZSN Zaisan 5.70 16 *e*Pn Pb 05 27 45.0 +6.0
comp=E,79nm,0.5s
ZSN *e*Lg Lg 05 28 59.1
comp=E,321nm,0.8s
ZSN Zaisan 5.70 16 *e*PN **Pn** 05 27 25.4 +1.4
CHMS Chumysh 5.87 283 ⇓Pn **Pn** 05 27 26.9 +0.5
comp=E,11nm,0.7s
CHMS ⇓Pg Pb 05 27 48.1 +6.1
comp=E,38nm,0.7s
CHMS ⇑Lg Lg 05 29 04.6
comp=E,99nm,0.7s
AAK Ala-Archa 6.03 279 Pn **Pn** 05 27 30.6 +1.9
comp=E,0.4nm,0.3s,baz=152,slow=13,SNR=5.4
AAK Pg Pb 05 27 50.1 +5.4
comp=E,4.8nm,0.3s,baz=112,slow=7.8,SNR=14
AAK Lg Lg 05 29 04.3
comp=E,2.0nm,0.3s,baz=135,slow=10.0,SNR=6.1
comp=E,2.1nm,0.6s
AAK Ala-Archa 6.03 279 *i* PN **Pn** 05 27 27.8 -0.9
SGDS Sogindy 6.03 287 Pg **Pb** 05 27 48.3 +3.5
comp=E,14nm,0.3s
SGDS Lg Lg 05 29 04.6
comp=E,70nm,0.8s
SGDS Sogindy 6.03 287 *e*Pn **Pn** 05 27 30.6 +1.8
baz=286
SGDS Sogindy 6.03 287 *e*PN **Pn** 05 27 30.5 +1.8
BTLS Baital 6.91 299 Pg Pb 05 28 05.7 +6.1
comp=E,11nm,1.0s
BTLS Lg Lg 05 29 36.6
comp=E,27nm,1.1s
BTLS Baital 6.91 299 *e*Pn **Pn** 05 27 41.9 +1.2
baz=298
BTLS Baital 6.91 299 *e*Pg Pb 05 28 05.7 +6.1
comp=E,11nm,0.4s
BTLS *e*Lg Lg 05 29 35.1
comp=E,27nm,0.4s
BTLS Baital 6.91 299 *e*PN **Pn** 05 27 41.8 +1.2
MRKS Merke 6.97 279 Pg Pb 05 28 07.4 +6.8
comp=E,16nm,0.6s
MRKS Lg Lg 05 29 37.6
comp=E,43nm,0.7s
MRKS Merke 6.97 279 *e*Pg Pb 05 28 07.5 +6.8
comp=E,16nm,0.6s
MRKS *e*Lg Lg 05 29 37.6
comp=E,43nm,0.7s
DGZ Jazzator, Alta 8.42 22 *i* P **Pn** 05 28 01.8 +0.3
KK31 Karatay Array 8.98 281 Pn **Pn** 05 28 09.5 +0.4
KK31 Karatay Array 8.98 281 ⇑Pn **Pn** 05 28 11.1 +2.1
comp=E,2.9nm,0.8s
KK31 ⇑Pg Pg 05 28 42.5 -8.9
comp=E,6.2nm,0.7s,baz=79,slow=16,SNR=5.6
KK31 ⇑Lg Lg 05 30 42.3
comp=E,60nm,0.9s
KK31 Karatay Array 8.98 281 P **Pn** 05 28 09.5 +0.4
KKAR Karatay Array 8.98 281 Pn **Pn** 05 28 09.0 0.0
KKAR Karatay Array 8.98 281 Pn **Pn** 05 28 10.4 +1.4
KKAR Karatay Array 8.98 281 P **Pn** 05 28 10.5 +1.4
KURBB Kurchatov Arra 9.08 343 Pn **Pn** 05 28 09.4 -0.9
comp=E,0.2nm,0.3s,baz=165,slow=12,SNR=15
KURBB Sn **Sn** 05 29 49.5 -2.8
comp=E,0.3nm,0.3s,baz=161,slow=18,SNR=4.5
KURBB Lg Lg 05 30 43.0
comp=E,0.4nm,0.3s,baz=206,slow=28,SNR=5.7
comp=E,2.2nm,0.6s
KURK Kurchatov 9.15 344 Pn **Pn** 05 28 10.8 -0.5
KURK Kurchatov 9.15 344 ⇑Pn **Pn** 05 28 10.6 -0.7
comp=E,14nm,0.7s
KURK ⇑Sn **Sn** 05 29 53.5 -0.6
comp=E,127nm,0.9s
KURK ⇓Lg Lg 05 30 48.9
comp=E,145nm,0.8s
KURK Kurchatov 9.15 344 *ce*P **Pn** 05 28 11.4 +0.1
KURK pmax pmax
comp=Z,6.0nm,0.8s
IUG Iuzhnay 9.33 275 *e*Pn **Pn** 05 28 15.8 +1.7
baz=274
IUG *e*Pg 05 28 50.7
baz=274
IUG Iuzhnay 9.33 275 *e*P **Pn** 05 28 15.7 +1.7
OTUK Ortayu 9.56 314 ⇓Pn **Pn** 05 28 17.5 +0.5
comp=Z,7.6nm,0.8s
OTUK ⇑Sn **Sn** 05 30 03.5 -0.8
comp=Z,15nm,0.7s
OTUK ⇓Lg Lg 05 31 01.6
comp=Z,168nm,1.6s
GAR Garm 9.80 256 **Pn** 05 28 19.9 -0.6
CHGR Chuyangaron 10.77 256 **Pn** 05 28 31.9 -1.8
CHGR Chuyangaron 10.77 256 P **Pn** 05 28 31.9 -1.8
SIMJ Simiganj 10.88 257 **Pn** 05 28 32.8 -2.4
CHCP Chirah Chowk 11.10 225 P **Pn** 05 28 37.9 -0.3
NIL Nilore 11.11 225 **Pn** 05 28 36.9 -1.4
NIL Nilore 11.11 225 P **Pn** 05 28 36.9 -1.4
GOMU GeErMu 11.12 117 P **Pn** 05 28 36.7 -2.1
GOMU pP 05 28 39.6
GOMU sP 05 28 44.6
GOMU S Sn 05 30 54.9 +12
GOMU pmax pmax
comp=Z,7.0nm,0.6s
GOMU pmax pmax
comp=Z,70nm,5.2s
GOMU LR LR
comp=N,98nm,12.5s
GOMU LR LR
comp=E,79nm,12.9s
GOMU LR LR
comp=Z,32nm,12.7s
CEP Cherat 11.71 229 P **Pn** 05 28 45.6 -1.1
ZAA0 Zalesovo Array 12.06 6 Pn **Pn** 05 28 49.7 -1.4
ZAA0 Zalesovo Array 12.06 6 ⇑Pn **Pn** 05 28 52.1 +1.0
comp=Z,3.3nm,0.8s
ZAA0 ⇑Lg Lg 05 32 23.3
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 12.06 6 Pn **Pn** 05 28 49.8 -1.4
comp=Z,0.4nm,0.3s,baz=188,slow=12,SNR=23
ZALV Lg Lg 05 32 17.5
comp=Z,0.2nm,0.3s,baz=197,slow=25,SNR=1.6
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 12.06 6 Pn **Pn** 05 28 49.2 -2.0
ZALV Zalesovo Beam 12.06 6 *i* P **Pn** 05 28 49.7 -1.4
ZALV pmax pmax
comp=Z,14nm,0.6s
THW Thamme Wali 12.58 227 P **Pn** 05 28 56.5 -1.9
KBL Kabul 12.97 239 Pn **Pn** 05 29 00.9 -2.9
KBL Kabul 12.97 239 P **Pn** 05 29 00.9 -2.9
GTA Gaotai 13.33 95 *e*P **Pn** 05 29 08.0 -0.7
GTA pP P 05 29 11.4 -7.0
GTA pmax pmax
comp=Z,6.0nm,0.5s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=N,260nm,14.9s
GTA LR LR
comp=E,230nm,16.0s
GTA LR LR
comp=Z,170nm,15.6s
BVA0 Borovoye Array 13.75 328 ⇓Pn **Pn** 05 29 15.6 +1.3
comp=Z,7.2nm,0.9s,baz=132,slow=14,SNR=8.0
BVA0 ⇑Lg Lg 05 33 13.6
comp=Z,39nm,1.1s,baz=129,slow=28,SNR=3.6
BVAR Borovoye Array 13.75 328 Pn **Pn** 05 29 13.8 -0.5
comp=Z,0.1nm,0.3s,baz=127,slow=12,SNR=10.0
BVAR Sn **Sn** 05 31 42.5 -4.2
baz=122,slow=19,SNR=1.7
BVAR Lg Lg 05 33 10.0
baz=132,slow=28,SNR=5.5
BVAR LR LR 05 34 47.5
comp=Z,83nm,20.4s,baz=119,slow=38
comp=Z,1.6nm,0.5s
BRVK Borovoye 13.82 327 Pn **Pn** 05 29 15.2 0.0
BRVK Borovoye 13.82 327 ⇑Pn **Pn** 05 29 15.9 +0.7
comp=Z,5.3nm,1.1s
BRVK ⇑Lg Lg 05 33 16.9
comp=Z,76nm,1.3s
BRVK Borovoye 13.82 327 *ce*P **Pn** 05 29 16.1 +0.9
BRVK pmax pmax
comp=Z,14nm,1.7s
LSA Lhasa 14.09 148 **Pn** 05 29 19.8 +0.4
LSA Lhasa 14.09 148 P **Pn** 05 29 19.8 +0.4
ZAK Zakamensk 16.57 53 *e*P **Pn** 05 29 50.0 -1.8
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.4s
AB31 Akbulak array 17.38 302 P **Pn** 05 30 00.0 -1.8
comp=Z,4.0nm,0.7s,baz=99,slow=11,SNR=41
ABKAR Akbulak array 17.38 302 P **Pn** 05 30 01.1 -0.7
HRA Herat 17.67 251 P **Pn** 05 30 06.2 +0.4
HRA IAmb IAmb 05 30 08.5
comp=Z,9.3nm,1.0s
SONM Songino Array 17.82 63 P **Pn** 05 30 07.3 -0.1
comp=Z,0.1nm,0.3s,baz=269,slow=12,SNR=10
SONM Lg Lg 05 35 22.4
comp=Z,0.1nm,0.3s,baz=78,slow=27,SNR=1.5
comp=Z,1.8nm,1.0s
SHL Shillong 18.09 152 P **Pn** 05 30 10.0 -1.0
SHL IAmb IAmb 05 30 11.3
comp=Z,21nm,0.8s
SHL Shillong 18.09 152 P **Pn** 05 30 10.0 -1.0
SHL pmax pmax
comp=Z,21nm,0.8s
ULN Ulaanbaatar 18.26 63 P **Pn** 05 30 13.9 +1.0
ULN Ulaanbaatar 18.26 63 *ce*P **Pn** 05 30 14.1 +1.2
ULN pmax pmax
comp=Z,3.0nm,0.9s
AKTO Aktyubinsk 18.91 305 P **P** 05 30 19.5 -0.5
comp=Z,0.2nm,0.3s,baz=90,slow=11,SNR=4.3
AKTO Lg Lg 05 35 56.1
comp=Z,0.1nm,0.3s,baz=34,slow=22,SNR=1.9
comp=Z,1.7nm,0.6s
AKTO Aktyubinsk 18.91 305 ⇑P **P** 05 30 20.6 +0.7
comp=Z,6.0nm,1.4s
GEYT Alibeck 19.16 266 P **P** 05 30 22.2 -0.7
comp=Z,0.3nm,0.3s,baz=74,slow=11,SNR=4.9
comp=Z,3.6nm,0.7s
SVE Sverdlovsk 20.46 324 *e*P **P** 05 30 38.5 +1.7
SVE pmax pmax
comp=Z,16nm,1.3s
ARU Arti 21.17 321 P **P** 05 30 44.4 -0.1
comp=Z,5.7nm,0.7s,baz=170,slow=18,SNR=13
ARU Lg Lg 05 37 09.6
baz=217,slow=20,SNR=4.3
ARU LR LR 05 39 25.3
comp=Z,64nm,21.3s,baz=82,slow=38
comp=Z,5.7nm,0.7s
ARU Arti 21.17 321 P **P** 05 30 43.5 -1.0
ARU IAmb IAmb 05 30 50.2
comp=Z,14nm,1.1s
ARU Arti 21.17 321 *c i*P **P** 05 30 45.1 +0.6
ARU 05 31 06.0
ARU S **S** 05 34 41.5 +2.0
ARU SS **SnSn** 05 35 04.9 +3.7
ARU pmax pmax
comp=Z,25nm,1.8s
TNCH TengChong 21.45 137 P **P** 05 30 48.7 +0.8
TNCH sP sP 05 30 55.1 +1.2
TNCH PP **PnPn** 05 31 13.9 +5.8
TNCH S **S** 05 34 40.5 -5.3
TNCH SS **SnSn** 05 35 22.5 +14
TNCH pmax pmax
comp=Z,23nm,0.9s
TNCH pmax pmax
comp=Z,120nm,4.4s
PZH PanZhiHua 22.05 128 P **P** 05 30 58.0 +3.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,4.9s
BELG Belogornoye 25.69 306 P **P** 05 31 30.4 +1.2
comp=Z,1.7nm,0.4s,baz=164,slow=8.2,SNR=2.0
comp=Z,1.7nm,0.4s
KIRV Kirov 26.54 320 P **P** 05 31 38.3 +1.5
comp=Z,2.8nm,0.4s,baz=180,slow=4.4,SNR=1.1
comp=Z,2.8nm,0.4s
CMAR Chiang Mai Arr 27.29 144 P **P** 05 31 43.1 -0.9
comp=Z,2.1nm,0.4s,baz=322,slow=9.5,SNR=8.4
comp=Z,2.1nm,0.4s
CMAR Chiang Mai Arr 27.29 144 P **P** 05 31 44.0 0.0
CMAR Chiang Mai Arr 27.29 144 *i* P **P** 05 31 46.7 +2.7
CMAR pmax pmax
comp=Z,2.0nm,0.4s
NRIK Noril'sk 27.54 4 P **P** 05 31 47.1 +1.4
comp=Z,2.7nm,0.7s,baz=182,slow=9.2,SNR=3.7
comp=Z,2.7nm,0.7s
NRIK Noril'sk 27.54 4 P **P** 05 31 45.7 -0.1
NRIK IAmb IAmb 05 32 09.1
comp=Z,5.8nm,0.8s
NRIK Noril'sk 27.54 4 *ce*P **P** 05 31 47.0 +1.2
NRIK pmax pmax
comp=Z,5.0nm,1.0s
CN2 Changchun 31.21 72 *e*P **P** 05 32 20.0 +1.4
CN2 *e*PP **PP** 05 33 23.4 -5.5
CN2 *e*S **S** 05 37 27.4 +3.1
OBN Obninsk 32.54 310 *e*P **P** 05 32 29.9 -0.2
OBN *e* 05 33 39.2
OBN pmax pmax
comp=Z,4.0nm,1.0s
KLR Kul'dur 34.63 61 P **P** 05 32 46.8 -1.6
comp=Z,0.4nm,0.3s,baz=237,slow=10,SNR=2.0
comp=Z,0.4nm,0.3s
KSRS Korea Array 34.86 82 P **P** 05 32 48.5 -2.0
comp=Z,0.6nm,0.5s,baz=294,slow=15,SNR=1.8
comp=Z,0.6nm,0.5s
BR131 Keskin Array S 36.68 283 P **P** 05 33 06.3 -0.1
BR131 IAmb IAmb 05 33 10.2
comp=Z,5.4nm,0.8s
BR131 Keskin Array S 36.68 283 P **P** 05 33 06.3 -0.1
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 36.68 283 P **P** 05 33 06.6 +0.3
comp=Z,2.3nm,0.8s,baz=99,slow=8.8,SNR=12
comp=Z,2.3nm,0.8s
BRTR Keskin Array B 36.68 283 P **P** 05 33 06.3 -0.1
BRTR Keskin Array B 36.68 283 *i* P **P** 05 33 07.0 +0.6
BRTR pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 37.12 302 P **P** 05 33 09.4 -0.3
comp=Z,0.2nm,0.4s,baz=75,slow=7.8,SNR=1.9
comp=Z,0.2nm,0.4s
AKBB Malin Array Si 37.12 302 P **P** 05 33 09.8 0.0
AKBB IAmb IAmb 05 33 18.2
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 37.12 302 P **P** 05 33 09.8 0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIXI	Tiksi	37.31	22	P	P	05 33 10.8	-0.3
TIXI				IAmb	IAmb	05 33 12.2	
	comp=Z,6.8nm,1.4s						
TIXI	Tiksi	37.31	22	ceP	P	05 33 12.4	+1.3
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
FINES	FINESS Array B	38.53	320	P	P	05 33 22.4	+0.8
	comp=Z,3.2nm,1.0s,baz=132,slow=2.8,SNR=1.8						
	comp=Z,3.2nm,1.0s						
ARCES	ARCESS Array B	39.96	333	P	P	05 33 33.4	0.0
	comp=Z,3.0nm,0.6s,baz=88,slow=6.4,SNR=12						
	comp=Z,3.0nm,0.6s						
NB2	NORSAR Subarra	45.72	320	P	P	05 34 20.5	+0.3
	comp=Z,5.6nm,0.6s,baz=80,slow=7.9						
NOA	NORSAR Array B	45.72	320	P	P	05 34 20.4	+0.3
	comp=Z,0.8nm,0.6s,baz=83,slow=7.2,SNR=4.4						
	comp=Z,0.8nm,0.6s						
GERES	GERESS Array B	47.32	303	P	P	05 34 34.4	+1.4
	comp=Z,0.2nm,0.4s,baz=141,slow=10,SNR=1.7						
	comp=Z,0.2nm,0.4s						
BILL	Bilibino	49.58	29	eP	P	05 34 51.4	+1.4
BILL				e		05 36 49.3	
BILL				pmax	pmax		
	comp=Z,16nm,2.8s						
ESDC	Sonseca Array	62.71	300	P	P	05 36 23.5	-0.9
	comp=Z,0.7nm,0.9s,baz=48,slow=6.7,SNR=3.1						
	comp=Z,0.7nm,0.9s						
ILAR	Eielson Array	66.76	21	P	P	05 36 49.4	-0.9
	comp=Z,0.6nm,0.8s,baz=314,slow=3.8,SNR=7.8						
	comp=Z,0.6nm,0.8s						
YKA	Yellowknife Ar	74.95	8	P	P	05 37 39.1	-0.9
	comp=Z,1.1nm,0.9s,baz=338,slow=5.8,SNR=12						
	comp=Z,1.1nm,0.9s						
WRA	Warramunga Arr	77.99	131	P	P	05 37 57.1	-0.7
	comp=Z,2.2nm,0.9s,baz=327,slow=5.5,SNR=7.1						
	comp=Z,2.2nm,0.9s						
ASAR	Alice Springs	80.73	134	P	P	05 38 11.5	-1.2
	comp=Z,1.5nm,0.8s,baz=320,slow=5.5,SNR=12						
	comp=Z,1.5nm,0.8s						

*OSPL **06** 05:26:46.7±0.5, 18.°85N×67.°13W, h31^{km}±2^{km}, ML1.7*
*RSPR **06** 05:26:47.1, 18.°83N×67.°23W, h18^{km}±1^{km}, MD2.7/6*
ISC 06 05:26:45.7±1.9**, 18.°80N**±0.°09×**67.°18W**±0.°06**, h29^{km}, n18, σ0.^{s}37**/20**, 7C, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.33	169	⇑eP	Pn	05 26 54.4	-0.2
AGPR	Aguadilla, PR	0.33	169	eS	Sn	05 27 00.3	-0.2
AGPR	Aguadilla, PR	0.33	169	i P	Pn	05 26 54.4	-0.2
AGPR				eS	Sn	05 27 00.7	+0.2
AGPR				IAML		05 27 01.1	
	comp=Z,53nm,0.1s						
LSP	Las Mesas	0.62	172	⇑eP	Pb	05 26 58.5	+0.2
LSP	Las Mesas	0.62	172	eS	Sn	05 27 07.8	0.0
EMPR	Esperanza - Ma	0.69	117	⇑eP	Pn	05 26 59.9	+0.3
EMPR	Esperanza - Ma	0.69	117	eS	Sn	05 27 10.2	+0.8
CRPR	Cabo Rojo, PR	0.79	175	⇑eP	Pb	05 27 01.2	+0.3
CRPR	Cabo Rojo, PR	0.79	175	i P	Pb	05 27 01.3	+0.3
CRPR				eS	Sb	05 27 11.4	+0.2
CRPR				IAML		05 27 14.1	
	comp=Z,28nm,1.7s						
MLPR	Magueyes Islan	0.83	171	⇑eP	Pn	05 27 01.4	-0.1
MLPR	Magueyes Islan	0.83	171	eS	Sb	05 27 12.7	+0.1
CELP	Cerrillos	0.92	141	⇑eP	Pn	05 27 02.7	0.0
CELP	Cerrillos	0.92	141	eS	Sn	05 27 14.9	0.0
OBIP	Obispado Ponce	0.93	144	⇑eP	Pb	05 27 03.0	-0.3
OBIP	Obispado Ponce	0.93	144	eS	Sn	05 27 15.1	0.0
PCDR	Punta Cana, DR	1.17	256	eS	Sn	05 27 21.1	-0.1
CBYP	Canovanas	1.36	112	eS	Sn	05 27 26.2	+0.2
HUMP	Col San Antoni	1.42	117	eS	Sb	05 27 28.3	-1.0

IDC 06 05:27:40.0±3.1**, 10.°63S**×**161.°69E, h0^{km}, mb3.5**/3**, mbtmp3.7**/4**, ML5.1**/1**, Error ellipse: s-maj=56.3km s-min=36.5km az=74.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.09	305	Pn	Pn	05 28 17.4	+1.2
	687nm,0.3s,baz=146,slow=7.3,SNR=8.5						
HNR				Sn	Sn	05 28 42.0	-0.9
	1μm,0.3s,baz=148,slow=19,SNR=5.0						
	2μm,0.4s						
WRA	Warramunga Arr	27.92	247	P	P	05 33 32.3	+0.1
	0.3nm,0.5s,baz=76,slow=8.8,SNR=1.4						
	0.3nm,0.5s						
ASAR	Alice Springs	29.47	240	P	P	05 33 45.6	-0.3
	0.3nm,0.6s,baz=63,slow=10,SNR=1.9						
	0.3nm,0.6s						
SONM	Songino Array	76.01	325	P	P	05 39 29.1	-0.2
	0.4nm,0.6s,baz=139,slow=5.7,SNR=2.4						
	0.4nm,0.6s						

*IDC **06** 05:44:39.2±1.5, 34.°12N×138.°66E, h0^{km}, mb3.6/4, mbtmp3.5/5, ML2.7/1, Error ellipse: s-maj=43.0km s-min=20.5km az=78.0*
*JMA **06** 05:44:46.8±0.2, 34.°7N±0.°6×139.°8E±0.°7, h82^{km}±1^{km}, MV3.1/35, SE OFF BOSO PENINSULA*
ISC 06 05:44:46.3±0.9**, 34.°72N**±0.°05×**139.°79E**±0.°05**, h89^{km}**±7^{km}**, n23, σ0.^{s}74**/27**, mb3.7**/4**, 2D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.30	270	i P	Pn	05 44 59.4	-0.2
JIM2				S	Sn	05 45 09.2	-0.4
TATJ	Tateyama 2	0.32	14	P	Pn	05 44 60.0	+0.2
TATJ				S	Sn	05 45 09.3	-0.5
BSO3	Boso 3	0.60	82	⇓iP	Pn	05 45 01.8	+0.4
BSO3				⇓eX		05 45 13.7	
JMYK	Miyake Tsubota	0.69	197	eP	Pn	05 45 02.8	+0.2
JMYK				eS	Sn	05 45 14.9	+0.2
JIZS	Izushimoda	0.75	270	P	Pn	05 45 03.8	+0.5
JOD2	Odawara 2	0.80	313	P	Pn	05 45 03.4	-0.3
JOD2				S	Sn	05 45 16.2	-0.6
JMKN	Mikurajimanish	0.84	192	P	Pn	05 45 04.8	+0.6
JMKN				S	Sn	05 45 18.4	+0.9
BSO1	Boso 1	0.98	93	P	Pn	05 45 05.4	+0.3
BSO1				S	Sn	05 45 20.7	+1.5
JFNN	Fujinakano	1.03	298	P	Pn	05 45 06.7	+0.5
JFNN				eS	Sn	05 45 21.6	+0.4
JYN	Shimob	1.29	308	i P	Pn	05 45 10.0	+0.6
JYN				S	Sn	05 45 27.7	+0.8
SHZ3	Shizuoka 3	1.35	285	P	Pn	05 45 11.2	+1.0
JRY	Ryogami san	1.49	331	i P	Pn	05 45 12.0	+0.1
JRY				S	Sn	05 45 31.4	+0.1
MJAR	Matsushiro Arr	2.23	325	Pn	Pn	05 45 21.5	-0.1
	1.7nm,0.3s,baz=168,slow=38,SNR=58						
MJAR				Sn	Sn	05 45 50.4	+1.9
	3.0nm,0.3s,baz=171,slow=30,SNR=6.5						
	5.8nm,0.3s						
H11N2	WAKE ISLAND Hy	28.23	115	T	T	06 20 21.3	
	baz=308,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy	28.24	115	T	T	06 20 21.8	
	baz=308,slow=75,SNR=23						
H11N3	WAKE ISLAND Hy	28.25	115	T	T	06 19 58.2	
	baz=308,slow=75,SNR=21						
H11S3	WAKE ISLAND Hy	28.84	117	T	T	06 21 10.6	
	baz=310,slow=75,SNR=7.9						
H11S1	WAKE ISLAND Hy	28.84	117	T	T	06 21 10.8	
	baz=310,slow=75,SNR=8.2						
H11S2	WAKE ISLAND Hy	28.86	117	T	T	06 21 07.7	
	baz=310,slow=75,SNR=3.5						
ZALV	Zalesovo Beam	42.54	314	P	P	05 52 32.9	0.0
	0.4nm,0.3s,baz=108,slow=6.9,SNR=2.7						
	0.4nm,0.3s						
MKAR	Makanchi Array	44.27	304	P	P	05 52 47.2	+0.2
	0.6nm,0.6s,baz=93,slow=9.7,SNR=7.9						
	0.6nm,0.6s						
WRA	Warramunga Arr	54.60	186	P	P	05 54 04.6	-1.1
	0.3nm,0.4s,baz=0.7,slow=7.6,SNR=4.8						
	0.3nm,0.4s						
ASAR	Alice Springs	58.33	186	P	P	05 54 31.3	-0.8
	0.2nm,0.5s,baz=16,slow=10,SNR=2.1						
	0.2nm,0.5s						

*DJA **06** 05:54:26.5±0.6, 5°S±3°×13°1E±°, h131^{km}±13^{km}, M4.0/7, mb4.1/1, MLv4.0/7*
*IDC **06** 05:54:37.4±2.7, 6.°77S×131.°49E, h0^{km}, mb3.3/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=137.1km s-min=27.7km az=74.0*
ISC 06 05:54:23.4±1.1**, 5.°80S**±0.°06×**131.°51E**±0.°09**, h61^{km}, n10, σ1.^{s}50**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.04	308	P	Pn	05 54 57.1	+1.6
BNDI				S	Sn	05 55 19.7	-0.3
SAUI	Saumlaki	2.18	186	P	Pn	05 55 07.3	+10
FAKI	Fak Fak	2.96	14	P	Pn	05 55 09.9	+1.9
FAKI				S	Sn	05 55 40.7	-1.6
MSAI	Masohi	3.55	313	P	Pn	05 55 13.5	-2.6
SWI	Sorong	4.91	357	P	Pn	05 55 36.1	+1.3
RKPI	Ransiki, Papua	5.02	32	P	Pn	05 55 37.0	+0.7
SOEI	Soe	8.18	241	P	Pn	05 56 19.8	+0.1
WRA	Warramunga Arr	14.32	169	Pn	P	05 57 49.1	+0.5
	0.2nm,0.3s,baz=351,slow=13,SNR=2.6						
WRA				Sn	Sn	06 00 20.4	-0.3
	0.2nm,0.3s,baz=347,slow=24,SNR=1.7						
	1.0nm,0.9s						
ASAR	Alice Springs	17.91	173	Pn	Pn	05 58 35.5	+7.0
	0.1nm,0.3s,baz=350,slow=13,SNR=2.4						
ASAR				Sn	Sn	06 01 47.4	-0.3
	baz=352,slow=27,SNR=1.5						
	0.2nm,0.3s						
MKAR	Makanchi Array	68.07	326	P	P	06 05 44.0	+27
	0.2nm,0.6s,baz=126,slow=5.8,SNR=1.8						
	0.2nm,0.6s						

WEL 06 05:59:43.2±0.9**, 41°S**±5°×**17°3E**±°**, h139^{km}**±6^{km}**, M3.5**/17**, MLv3.5**/17**, Error ellipse: s-maj=0.0km s-min=0.0km az=98.1, confirmed, Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKNZ	Takaka Hill	0.18	218	P	Pn	06 00 03.0	+0.9
TKNZ				S	Sn	06 00 18.3	+1.8
NNZ	Nelson	0.39	148	P	Pn	06 00 03.6	+1.0
NNZ				S	Sn	06 00 19.6	+2.0
QRZ	Quartz Range	0.45	278	P	Pn	06 00 04.0	+1.0
QRZ				S	Sn	06 00 19.8	+1.8
MRNZ	Matariki Terra	0.57	208	P	Pn	06 00 04.5	+0.8
MRNZ				S	Sn	06 00 20.8	+1.5
DUWZ	D'Urville Isla	0.62	82	P	Pn	06 00 04.9	+0.9
DUWZ				S	Sn	06 00 21.7	+2.0
TUWZ	Tuamarina	0.83	131	P	Pn	06 00 06.1	+0.7
TUWZ				S	Sn	06 00 23.2	+0.8
THZ	Tophouse	0.89	190	P	Pn	06 00 06.7	+0.7
THZ				S	Sn	06 00 24.9	+1.5
TCW	Tory Channel	0.94	110	P	Pn	06 00 07.1	+0.8
TCW				S	Sn	06 00 24.8	+0.8
BSWZ	Blackbirch Sta	1.01	145	P	Pn	06 00 07.6	+0.6
BSWZ				S	Sn	06 00 26.0	+0.9
CMWZ	Cape Campbell	1.20	136	P	Pn	06 00 09.3	+0.6
DSZ	Denniston Nort	1.30	229	P	Pn	06 00 09.9	0.0
WEL	Wellington	1.31	108	P	Pn	06 00 09.8	-0.1
KIW	Kapiti Island	1.36	89	P	Pn	06 00 10.4	0.0
CAW	Cannon Point	1.50	99	P	Pn	06 00 11.5	-0.3
KHZ	Kahutara	1.56	168	P	Pn	06 00 12.4	-0.1
OGWZ	Otaki Gorge	1.56	88	P	Pn	06 00 12.4	-0.2
NBEZ	Newall Road No	1.72	20	P	Pn	06 00 14.6	+0.2
NBEZ				S	Sn	06 00 39.3	+1.1
KHEZ	Kahui Hut	1.74	24	P	Pn	06 00 14.5	-0.2
PLWZ	Palliser	1.75	113	P	Pn	06 00 14.0	-0.7
PAWZ	Paruwai Farm	1.82	106	P	Pn	06 00 14.7	-0.8
HOWZ	Holdsworth Sta	1.82	91	P	Pn	06 00 14.9	-0.6
PKE	Pukeiti	1.82	22	P	Pn	06 00 15.7	+0.1
WAZ	Wanganui	1.83	52	P	Pn	06 00 15.9	+0.3
MTW	Mount Morrison	1.83	99	P	Pn	06 00 14.9	-0.7
MRZ	Mangatainoka R	1.89	84	P	Pn	06 00 15.4	-0.9
LTZ	Lake Taylor	1.99	198	P	Pn	06 00 16.9	-0.7
TRWZ	Traveller	2.01	105	P	Pn	06 00 17.0	-0.7
GVZ	Greta Valley S	2.08	182	P	Pn	06 00 17.7	-0.8
POWZ	Post Office Ro	2.08	77	P	Pn	06 00 17.7	-0.9
TIWZ	Tintock	2.11	88	P	Pn	06 00 17.1	-1.8
VRZ	Vera Road	2.17	36	P	Pn	06 00 18.8	-0.9
PRWZ	Pori Road	2.20	82	P	Pn	06 00 19.4	-0.7
INZ	Inchbonnie	2.22	214	P	Pn	06 00 19.2	-1.0
AMCZ	Amberley	2.31	188	P	Pn	06 00 20.3	-1.1
TSZ	Takapari Road	2.33	70	P	Pn	06 00 20.5	-1.1
PKVZ	Pokaka	2.34	48	P	Pn	06 00 21.1	-0.8
TRVZ	Turoa	2.45	50	P	Pn	06 00 22.5	-0.9
WNVZ	Wahianoa	2.46	52	P	Pn	06 00 22.5	-1.0
FWVZ	Far West T-bar	2.48	50	P	Pn	06 00 22.7	-1.1
MOVZ	Moawhango	2.51	55	P	Pn	06 00 22.4	-1.6
TUVZ	Tukino	2.54	51	P	Pn	06 00 23.4	-1.0
TWVZ	Taurewa	2.55	45	P	Pn	06 00 23.0	-1.5
PNHZ	Pukenui	2.55	69	P	Pn	06 00 23.3	-1.1
OXZ	Oxford	2.56	198	P	Pn	06 00 22.7	-1.8
NGZ	Ngauruhoe	2.57	49	P	Pn	06 00 23.7	-1.1
WTVZ	West Tongariro	2.60	48	P	Pn	06 00 23.6	-1.6
NNVZ	North Ngauruho	2.60	48	P	Pn	06 00 23.8	-1.4
ETVZ	East Tongariro	2.66	50	P	Pn	06 00 24.5	-1.3
BHHZ	Black Hill Sta	2.66	59	P	Pn	06 00 23.8	-2.0
TMVZ	Te Maari	2.67	49	P	Pn	06 00 24.8	-1.1
WPHZ	Waipukurau	2.67	73	P	Pn	06 00 25.1	-0.8
HIZ	Hauiti	2.73	30	P	Pn	06 00 25.0	-1.7
WVZ	Waitaha Valley	2.81	218	P	Pn	06 00 25.8	-1.8
OKCZ	Okains Bay	2.83	181	P	Pn	06 00 25.9	-2.1
MQZ	McQueen's Vall	2.83	187	P	Pn	06 00 25.4	-2.5
MHCZ	Mount Hutt	2.88	203	P	Pn	06 00 26.4	-2.2
RACZ	Rakaia	2.93	194	P	Pn	06 00 27.2	-1.9
AKCZ	Akaroa Harbour	2.98	183	P	Pn	06 00 27.8	-2.1
PXZ	Pawanui	2.99	75	P	Pn	06 00 28.6	-1.4
KAHZ	Kahuranaki	3.08	70	P	Pn	06 00 29.7	-1.4
BKZ	Black Stump Fm	3.12	58	P	Pn	06 00 29.4	-2.3
GCSZ	Gaunt Creek Bo	3.19	220	P	Pn	06 00 30.4	-2.0
WACZ	Wakanui South	3.19	197	P	Pn	06 00 30.6	-1.9
RPZ	Rata Peaks	3.21	208	P	Pn	06 00 30.2	-2.6
MRHZ	Matea Rd	3.27	52	P	Pn	06 00 30.9	-2.7
NMHZ	Naumai	3.36	59	P	Pn	06 00 33.0	-1.8
ARCZ	Arundel	3.38	204	P	Pn	06 00 32.3	-2.6
FOZ	Fox Glacier	3.60	222	P	Pn	06 00 35.2	-2.6
WHHZ	Waihua	3.65	62	P	Pn	06 00 37.4	-1.1
TMZ	Timaru	3.82	203	P	Pn	06 00 38.2	-2.5
SNGZ	Shannon Statio	3.88	58	P	Pn	06 00 40.3	-1.2
URZ	Urewera	4.06	51	P	Pn	06 00 40.2	-3.6
MHGZ	Mahia Peninsul	4.07	66	P	Pn	06 00 41.4	-2.6
LBZ	Lake Benmore	4.11	211	P	Pn	06 00 41.6	-3.0
RIGZ	Rimuhau	4.19	60	P	Pn	06 00 42.9	-2.8
MWZ	Matawai	4.26	55	P	Pn	06 00 43.1	-3.5
JCZ	Jackson Bay	4.51	224	P	Pn	06 00 46.8	-3.1
ODZ	Otahua Downs	4.53	203	P	Pn	06 00 47.4	-2.7
RUGZ	Raukumara Rang	4.58	52	P	Pn	06 00 46.5	-4.5
TWGZ	Tauwhareparae	4.64	56	P	Pn	06 00 48.5	-3.1
HAZ	Te Kaha	4.79	51	P	Pn	06 00 48.6	-4.9
PKGZ	Pakihiroa	4.88	54	P	Pn	06 00 51.0	-3.8
WKZ	Wanaka	4.95	216	P	Pn	06 00 51.7	-4.0
WMGZ	Waiomatatini S	5.13	55	P	Pn	06 00 55.3	-2.8
EAZ	Earnscleugh	5.16	211	P	Pn	06 00 54.5	-3.9
MXZ	Matakaoa Point	5.22	52	P	Pn	06 00 55.7	-3.7
HHSZ	Highcliff Hill	5.32	199	P	Pn	06 00 58.5	-2.1
MSZ	Milford Sound	5.37	224	P	Pn	06 00 57.0	-4.2
TUZ	Tuapeka	5.66	205	P	Pn	06 01 02.3	-2.8
MLZ	Mavora Lakes	5.78	218	P	Pn	06 01 03.2	-3.5
WHZ	Wether Hill Ro	6.26	215	P	Pn	06 01 08.9	-4.2
SYZ	Scrubby Hill	6.34	206	P	Pn	06 01 10.8	-3.3

IDC 06 06:07:49.0±2.3**, 6.°39S**×**132.°48E, h235^{km}**±40^{km}**, mb3.4**/2**, mbtmp3.9**/5**, Error ellipse: s-maj=316.4km s-min=15.3km az=77.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.62	348	P	Pn	06 09 11.2	-1.0
	7.9nm,0.4s,baz=202,slow=19,SNR=1.7						
SIJI				S	S	06 10 19.8	+1.4
	8.7nm,0.2s,baz=224,slow=23,SNR=2.0						
WRA	Warramunga Arr	13.59	173	P	Pn	06 10 50.8	-1.9
	1.2nm,0.3s,baz=352,slow=12,SNR=11						
WRA				S	S	06 13 13.4	-10
	2.2nm,0.4s,baz=333,slow=22,SNR=9.1						
ASAR	Alice Springs	17.23	176	P	P	06 11 35.2	+0.9
	0.8nm,0.4s,baz=346,slow=10.0,SNR=27						
ASAR				S	S	06 14 34.4	-7.2
	0.7nm,0.8s,baz=348,slow=25,SNR=4.5						
MKAR	Makanchi Array	69.09	326	P	P	06 18 30.0	+0.3
	0.6nm,0.4s,baz=119,slow=7.9,SNR=17						
	0.6nm,0.4s						
KURBB	Kurchatov Arra	73.30	327	P	P	06 18 53.9	-0.8
	0.3nm,0.2s,baz=131,slow=4.7,SNR=1.6						
	0.3nm,0.2s						

*JMA **06** 06:09:55.4±0.1, 37.°1N±0.°3×141.°3E±0.°7, h28^{km}, MD3.8/39, MV4.0/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*IDC **06** 06:09:55.4±1.2, 37.°52N×141.°20E, h0^{km}, mb3.5/6, mbtmp3.5/7, ML2.5/1, MS2.5/1, Error ellipse: s-maj=29.0km s-min=23.8km az=113.0*
*NIED **06** 06:09:55.4, 37.°12N×141.°34E, h28^{km}, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.08; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$1.15; $M_{r\theta}$-0.24; $M_{\theta\phi}$1.40; $M_{\phi r}$0.65; Fault plane solution: $M_0$1.87000×10^{14} NP1: ϕ_s181.00000°, δ64.00000°, λ-136.00000°. NP2: ϕ_s68.00000°, δ51.00000°, λ-34.00000°.*
ISC 06 06:09:54.5±2.0**, 37.°13N**±0.°05×**141.°41E**±0.°08**, h12^{km}**±10^{km}**, n40, σ1.^{s}17**/33**, mb3.6**/6**, 2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.49	299	P	Pg	06 10 04.5	+0.4
JFK				S	Sg	06 10 10.8	+0.2
ONAJ	Iwakimizuishiy	0.49	267	P	Pg	06 10 04.3	+0.2
ONAJ				S	Sg	06 10 10.5	-0.1
ONAJ	Iwakimizuishiy	0.49	267	A	A	06 10 04.3	
	comp=E,24nm,0.3s,comp=E,10.0nm,0.3s						
JFFD	Fukushimafurud	0.68	267	P	Pg	06 10 07.5	-0.2
JFFD				S	Sg	06 10 15.9	-0.7
JFFD	Fukushimafurud	0.68	267	A	A	06 10 07.5	
	comp=E,7.0nm,0.3s,comp=E,6.0nm,0.8s						
JMST	Minamisoumatoc	0.72	325	P	Pg	06 10 08.7	+0.1
JMST				S	Sg	06 10 18.3	+0.2
JMST	Minamisoumatoc	0.72	325	A	A	06 10 08.7	
	comp=E,9.0nm,0.3s,comp=E,12nm,0.2s						
JHO	Hitachi	0.85	233	P	Pb	06 10 09.7	-1.4
JHO				S	Sb	06 10 20.8	-1.7
JMM	Marumori	0.88	327	P	Pb	06 10 11.5	-0.3
JMM	Marumori	0.88	327	P	Pb	06 10 11.3	-0.4
JMM				S	Sb	06 10 22.9	-0.6
JMM	Marumori	0.88	327	A	A	06 10 11.3	
	comp=E,3.0nm,1.0s,comp=E,7.0nm,0.4s						
JYAR	Yonezawaarcadi	1.27	308	A	A	06 10 17.2	
	comp=E,12nm,0.8s,comp=E,23nm,1.3s						
JIO	Ouri	1.32	358	P	Pn	06 10 18.1	-0.7
JIO				S	Sn	06 10 35.4	-0.9
JOU	Okura	1.37	335	⇓iP	Pn	06 10 19.6	+0.1
JOU				⇓S	Sg	06 10 38.2	-0.4
JFY	Yanaizu	1.39	282	i P	Pn	06 10 19.5	-0.2
JFY				S	Sb	06 10 37.7	-0.3
MJAR	Matsushiro Arr	2.63	258	Pn	Pn	06 10 37.2	+0.3
	0.9nm,0.3s,baz=85,slow=24,SNR=36						
MJAR				Sn	Sb	06 11 12.6	-1.3
	1.4nm,0.3s,baz=92,slow=34,SNR=1.9						
	3.5nm,0.3s						
MAJO	Matsushiro	2.63	258	P	Pn	06 10 38.0	+1.2
JSD	Sado	2.66	291	P	Pn	06 10 39.3	+2.1
JGF	Kuroka	3.61	246	P	Pn	06 10 52.0	+1.8
JTM	Tenmabayashi	3.66	356	P	Pn	06 10 52.5	+1.5
INU	Inuyama	3.97	245	P	Pn	06 10 57.7	+2.5
ERM	Erimo	5.06	15	P	Pn	06 11 10.8	+0.6
JEM	Erimo	5.06	15	P	Pn	06 11 10.7	+0.5
JHS	Saijyo	7.04	255	P	Pn	06 11 39.9	+2.5
KSRS	Korea Array	10.75	276	LR	LR	06 16 04.4	
	comp=Z,22nm,18.4s,baz=355,slow=35						
H11N2	WAKE ISLAND Hy	28.20	121	T	T	06 45 20.4	
	baz=314,slow=75,SNR=146						
H11N1	WAKE ISLAND Hy	28.21	121	T	T	06 45 21.1	
	baz=314,slow=75,SNR=187						
H11N3	WAKE ISLAND Hy	28.22	121	T	T	06 45 20.2	
	baz=314,slow=75,SNR=195						
H11S1	WAKE ISLAND Hy	28.92	123	T	T	06 46 08.0	
	baz=316,slow=76,SNR=78						
H11S3	WAKE ISLAND Hy	28.92	123	T	T	06 46 11.3	
	baz=316,slow=76,SNR=70						
H11S2	WAKE ISLAND Hy	28.93	123	T	T	06 46 12.4	
	baz=316,slow=76,SNR=48						
MKAR	Makanchi Array	44.06	302	P	P	06 18 01.9	-0.3
	0.3nm,0.7s,baz=81,slow=8.9,SNR=2.4						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	45.94	308	P	P	06 18 18.5	+1.5
	0.3nm,0.4s,baz=84,slow=8.2,SNR=4.4						
	0.3nm,0.4s						
ILAR	Eielson Array	49.42	32	P	P	06 18 44.9	+1.0
	0.4nm,0.8s,baz=264,slow=8.1,SNR=5.1						
	0.4nm,0.8s						
WRA	Warramunga Arr	57.15	188	P	P	06 19 46.6	+5.5
	0.8nm,0.7s,baz=1.4,slow=7.4,SNR=5.6						
	0.8nm,0.7s						
ASAR	Alice Springs	60.88	188	P	P	06 20 12.2	+5.2
	0.4nm,0.8s,baz=6.9,slow=8.5,SNR=2.9						
	0.4nm,0.8s						
AKASG	Malin Array Be	74.22	322	P	P	06 21 29.7	-1.3
	0.2nm,0.3s,baz=51,slow=5.4,SNR=1.7						
	0.2nm,0.3s						
H03N2	Juan Fernandez	147.04	96	T	T	09 13 56.4	
	baz=291,slow=76,SNR=5.9						
H03N3	Juan Fernandez	147.05	96	T	T	09 13 55.2	
	baz=291,slow=76,SNR=6.4						
H03N1	Juan Fernandez	147.06	96	T	T	09 14 00.6	
	baz=291,slow=76,SNR=9.1						

*DJA **06** 06:15:55.3±0.2, 3°S±3°×10°1E±°, h77^{km}±3^{km}, M4.9/25, mb4.9/25, mB5.5/10, MLv4.9/24, Mw(mB)4.9/10*
*NEIC **06** 06:15:55.8±1.7, 2.°83S±0.°07×101.°50E±0.°08, h92^{km}±7^{km}, mb4.8/48, Error ellipse: s-maj=12.1km s-min=8.6km az=59.0*
*IDC **06** 06:15:57.2±1.5, 2.°65S×101.°63E, h104^{km}±13^{km}, mb4.2/34, mbtmp4.6/36, MS3.4/9, Error ellipse: s-maj=15.3km s-min=9.0km az=65.0*
ISC 06 06:15:54.9±0.4**, 2.°79S**±0.°04×**101.°52E**±0.°05**, h89^{km}**±2^{km}**, h89^{km}:pP-P, n273, σ1.^{s}24**/313**, mb4.7**/65**, 1C-2D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	0.80	116	P	Pn	06 16 12.9	+0.5
KSI	Kapahiang	1.37	129	P	Pn	06 16 20.1	+1.0
PPSI	Pulau Pagai	1.51	271	P	Pn	06 16 22.5	+1.7
SDSI	Sungai Dareh	1.84	357	P	Pn	06 16 26.3	+1.2
MNAI	Manna	2.12	138	Pn	Pn	06 16 29.1	+0.4
MNAI	Manna	2.12	138	P	Pn	06 16 29.4	+0.7
PDSI	Padang	2.14	330	P	Pn	06 16 30.1	+1.1
JMBI	JAMBI	2.41	62	P	Pn	06 16 33.7	+1.2
BKNI	Bangkinang	3.13	351	Pn	Pn	06 16 44.6	+2.3
BKNI	Bangkinang	3.13	351	P	Pn	06 16 45.2	+3.0
BKNI	Bangkinang	3.13	351	P	Pn	06 16 44.7	+2.5
MDSI	Maura Dua	3.14	123	P	Pn	06 16 44.1	+1.7
PMBI	Palembang	3.25	93	Pn	Pn	06 16 43.1	-0.7
PMBI	Palembang	3.25	93	P	Pn	06 16 56.8	+13
LWLI	Liwa	3.36	131	P	Pn	06 16 47.5	+2.0
DSRI	Dabo	3.82	53	P	Pn	06 16 52.8	+1.3
KLI	Kotabumi	3.92	122	P	Pn	06 16 54.6	+1.8
KASI	Kota Agung	4.02	133	P	Pn	06 16 54.8	+0.5
MNSI	Mandailing Nat	4.05	331	P	Pn	06 16 55.9	+1.2
PBSI	Pulau Batu	4.23	310	P	Pn	06 16 58.2	+1.1
BLSI	Bandar Lampung	4.51	125	P	Pn	06 17 11.8	+11
TPRI	Tanjung Pinang	4.75	39	P	Pn	06 17 06.2	+2.0
MYKOM	Kota Tinggi	5.11	27		Pn	06 17 10.9	+1.9
CGJI	Cibinong	5.63	133	P	Pn	06 17 14.5	-1.7
	159nm,0.4s,5μm0.9nm						
GSI	Gunungsitoli	5.66	316	Pn	Pn	06 17 16.7	0.0
GSI	Gunungsitoli	5.66	316	P	Pn	06 17 16.9	+0.3
	921nm,0.5s						
GSI	Gunungsitoli	5.66	316	P	Pn	06 17 16.4	-0.2
	973nm,0.5s,14μm4.6nm						
RPSI	Rantau Prapat	6.03	334	Pn	Pn	06 17 22.0	+0.4
PSI	Prapat	6.13	335	P	Pn	06 17 22.8	-0.3
	83nm,0.8s						
SKJI	Sukabumi	6.54	130	P	Pn	06 17 28.0	-0.5
CNJI	Cibinong	7.17	129	P	Pn	06 17 35.4	-1.7
IPM	Ipoh	7.23	356	Pn	Pn	06 17 39.8	+1.7
LEM	Lembang	7.28	124	P	Pn	06 17 40.3	+1.5
	27nm,0.5s,baz=294,slow=20,SNR=6.3						
LEM				LR	LR	06 20 46.1	
	comp=Z,332nm,18.9s,baz=210,slow=40						
LEM	Lembang	7.28	124	P	Pn	06 17 40.3	+1.5
	80nm,1.6s,0.4nm						

KCSI Kotacane, Aceh 7.30 329 P **Pn** 06 17 38.9 -0.1
95nm,0.7s,0.3nm
SNSI Sinabang, Aceh 7.32 315 P **Pn** 06 17 39.2 0.0
542nm,1.0s,6µm1.7nm
BBJI Bungbulang 7.67 128 P **Pn** 06 17 42.9 -1.2
144nm,0.5s
KULM Kulim 8.07 354 Pn **Pn** 06 17 52.3 +2.9
CMJI Cimerak 8.50 126 P **Pn** 06 17 53.0 -2.3
80nm,0.6s,2µm
KPJI Karang Pucung 8.65 122 P **Pn** 06 17 57.7 +0.3
74nm,0.7s
MLSI Meulaboh, Aceh 8.67 324 P **Pn** 06 17 57.1 -0.6
315nm,0.7s,5µm
LHMI Lhok Sumawe 9.18 330 P **Pn** 06 18 04.5 -0.1
278nm,1.0s
KSM Kuching 9.75 64 Pn **Pn** 06 18 15.1 +2.8
SMRI Semarang 9.84 116 Pn **Pn** 06 18 15.7 +2.1
UGM Wanagama 10.30 120 **Pn** 06 18 19.3 -0.7
UGM Wanagama 10.30 120 P **Pn** 06 18 19.1 -0.9
51nm,0.5s
COCO West Island 10.43 206 **Pn** 06 18 21.1 -0.6
JAGI Jajag, Banyuwa 13.78 115 Pn **Pn** 06 19 05.4 -1.1
JAGI Jajag, Banyuwa 13.78 115 P **Pn** 06 19 07.0 +0.5
48nm,0.6s
JAGI Jajag, Banyuwa 13.78 115 P **Pn** 06 19 06.7 +0.2
41nm,0.7s
PLAI Plampang 17.24 111 P **P** 06 19 52.4 +1.9
26nm,0.8s
KAPI Kappang 18.32 98 P **Pn** 06 20 03.5 +0.1
9.0nm,0.3s,baz=256,slow=6.7,SNR=7.3
KAPI LR LR 06 28 13.2
comp=Z,47nm,18.3s,baz=277,slow=40
KAPI Kappang 18.32 98 P **Pn** 06 20 03.0 -0.3
KAPI IAmb IAmb 06 20 07.5
comp=Z,51nm,1.1s
KAPI Kappang 18.32 98 P **Pn** 06 20 06.6 +3.3
comp=Z,50nm,1.3s
UBPT Khong Chiam 18.37 12 P **P** 06 20 03.3 +0.5
BNSI Bone 18.62 95 P **Pn** 06 20 12.1 +5.2
MPSI Mapaga 18.63 81 P **Pn** 06 20 08.5 +1.5
comp=Z,36nm,1.3s
MYLDM Lahad Datu 18.72 65 P **P** 06 20 06.3 -0.4
MYLDM IAmb IAmb 06 20 16.5
comp=Z,35nm,0.6s
BKSI Bulukumba 18.72 98 P **Pn** 06 20 10.8 +2.7
comp=Z,75nm,1.2s,comp=Z,838nm
TOLI2 Tolitoli 19.64 79 P **P** 06 20 16.0 -0.8
TOLI2 IAmb IAmb 06 20 19.4
comp=Z,38nm,1.0s
APSI Ampana 20.20 85 P Pn 06 20 31.9 +6.4
MRSI Marisa 20.67 81 P Pn 06 20 33.0 +2.0
comp=Z,46nm,1.1s
PHRA Phrae 21.19 357 P **P** 06 20 34.3 +0.9
PHRA IAmb IAmb 06 20 38.9
comp=Z,95nm,1.1s
CM31 Chiang Mai Arr 21.26 353 P **P** 06 20 34.5 +0.3
CMAR Chiang Mai Arr 21.26 353 P **P** 06 20 32.1 -2.1
comp=Z,7.9nm,0.7s,baz=184,slow=9.7,SNR=16
CMAR PcP **PcP** 06 24 36.4 +0.4
comp=Z,2.0nm,0.5s,baz=211,slow=2.9,SNR=5.9
CMAR ScP **ScP** 06 28 04.3 -0.9
comp=Z,2.2nm,0.6s,baz=205,slow=3.5,SNR=8.7
CMAR LR LR 06 28 25.2
comp=Z,52nm,20.9s,baz=170,slow=35
comp=Z,7.9nm,0.7s
CMAR Chiang Mai Arr 21.26 353 P **P** 06 20 32.5 -1.7
CHTO Chiang Mai 21.61 353 P **P** 06 20 38.3 +0.4
GTOI Gorontalo 21.75 81 P **P** 06 20 41.8 +2.4
comp=Z,20nm,1.0s
CRAI Chiangrai 22.90 357 P **P** 06 20 50.6 -0.9
QIZ Qiongzhong 23.17 20 P **P** 06 20 54.1 0.0
QIZ S **S** 06 25 01.4 +2.5
DAV Davao City (W) 25.93 68 LR LR 06 32 24.9
comp=Z,45nm,20.7s,baz=245,slow=38
BRDH Bariadhala 27.08 340 LR LR 06 34 18.6
comp=Z,53nm,19.3s,baz=104,slow=41
PZH PanZhiHua 29.12 0 P **P** 06 21 51.7 +4.0
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,6.1s
SHL Shillong 29.69 342 P **P** 06 21 51.5 -1.3
SHL IAmb IAmb 06 21 52.3
comp=Z,9.4nm,0.6s
KNRA Kununurra 29.73 117 P **P** 06 21 53.2 +0.1
baz=30,SNR=7.3
KNRA Kununurra 29.73 117 P **P** 06 21 52.2 -0.9
KNRA IAmb IAmb 06 21 53.0
comp=Z,36nm,1.4s
TWG Pinlang 31.81 36 P **P** 06 22 11.9 +0.6
TWG IAmb IAmb 06 22 23.0
comp=Z,32nm,1.4s
TPUB Ta-pu 31.93 35 P **P** 06 22 13.7 +1.4
KDU Kakadu 32.17 109 P **P** 06 22 13.7 -0.9
baz=32,SNR=3.4
SSLB Suanglung 32.49 35 P **P** 06 22 17.9 +0.6
SSLB IAmb IAmb 06 22 38.9
comp=Z,30nm,1.5s
TAPN Taplejung 32.79 337 *e*P **ScP** 06 28 38.8 -1.1
comp=Z,15nm,0.9s
RAMN Ramite 32.89 335 *e*P **ScP** 06 28 37.7 -2.5
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 33.41 156 LR LR 06 34 30.7
comp=Z,58nm,21.4s,slow=33
JIRN Jiri 33.68 335 *e*P **ScP** 06 28 41.9 -1.2
comp=Z,18nm,0.7s
ENH Enshi 33.74 12 P **P** 06 22 27.6 -0.5
ENH IAmb IAmb 06 22 28.8
comp=Z,14nm,0.6s
PKI Pulchoki 33.94 334 *e*P **ScP** 06 28 42.5 -1.5
WRKA Warakurna 33.98 133 P **P** 06 22 30.1 -0.2
baz=34,SNR=6.9
DMN Daman 34.11 333 *e*P **ScP** 06 28 43.0 -1.5
comp=Z,11nm,0.3s
GKN Gorkha 34.66 333 *e*P **ScP** 06 28 44.9 -1.4
DANN Dangsing 35.35 332 *e*P **ScP** 06 28 47.6 -1.4
comp=Z,38nm,0.8s
WB0 Warramunga Arr 36.26 120 P **P** 06 22 49.2 -0.8
WB0 IAmb IAmb 06 22 49.8
comp=Z,12nm,1.0s
WRA Warramunga Arr 36.29 121 P **P** 06 22 49.4 -0.8
comp=Z,3.4nm,0.3s,baz=297,slow=9.1,SNR=52
WRA PcP **PcP** 06 25 13.3 -0.2
comp=Z,2.6nm,0.6s,baz=310,slow=2.2,SNR=8.3
WRA S **S** 06 28 18.6 -6.1
comp=Z,1.4nm,0.9s,baz=290,slow=17,SNR=4.6
WRA LR LR 06 38 22.6
comp=Z,29nm,19.9s,baz=276,slow=37
comp=Z,3.4nm,0.3s
WRA Warramunga Arr 36.29 121 P **P** 06 22 48.9 -1.3
WRAB Tennant Creek 36.29 120 P **P** 06 22 49.5 -0.7
WRAB pP **pP** 06 23 10.7 -0.3
WRAB sP **sP** 06 23 21.6 +0.2
WR0 Warramunga Arr 36.47 120 P **P** 06 22 50.5 -1.2
WR0 IAmb IAmb 06 22 52.2
comp=Z,15nm,1.1s
XAN Xi'an 37.29 10 P **P** 06 22 58.3 -0.2
XAN pmax pmax
comp=Z,36nm,0.6s
XAN Xi'an 37.29 10 P **P** 06 22 58.2 -0.2
AS31 Alice Springs 37.56 126 P **P** 06 23 00.5 -0.5
ASAR Alice Springs 37.56 126 P **P** 06 23 00.8 -0.2
comp=Z,11nm,0.8s,baz=300,slow=8.3,SNR=101
ASAR PcP **PcP** 06 25 17.9 +0.5
comp=Z,5.2nm,0.8s,baz=314,slow=2.9,SNR=16
ASAR S **S** 06 28 38.9 -5.3
comp=Z,2.9nm,0.8s,baz=297,slow=16,SNR=12
comp=Z,11nm,0.8s
NJ2 Nanjing 38.36 24 *e*P **P** 06 23 09.3 +1.9
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
LZH Lanzhou 38.73 3 *e*P **P** 06 23 10.7 -0.1
LZH pP pP 06 23 32.3 +0.5
LZH PcP **PcP** 06 25 21.8 +0.9
LZH pmax pmax
comp=Z,21nm,1.0s
QIS Mount Isa 41.10 118 P **P** 06 23 29.9 -0.5
baz=41,SNR=6.1
HNS HongShan 41.82 16 ⇑P **P** 06 23 36.4 +0.4
HNS pmax pmax
comp=Z,11nm,0.8s
GTA Gaotai 42.02 358 *e*P **P** 06 23 38.4 +0.6
GTA pmax pmax
comp=Z,3.0nm,1.1s
JSU Suzuyama 43.82 37 P **P** 06 23 53.2 +0.8
BBOO Buckleboo 44.03 137 P **P** 06 23 54.5 +0.5
baz=44,SNR=8.3
BBOO Buckleboo 44.03 137 P **P** 06 23 54.1 0.0
HHC Hu-ho-hao-te 44.39 11 *e*P **P** 06 23 59.1 +2.3
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,300nm,5.3s
MTSU Mount Surprise 44.61 113 P **P** 06 23 58.3 -0.6
baz=45,SNR=5.2
BJT Baijiatuau 44.67 16 P **P** 06 23 60.0 +1.0
BJT IAmb IAmb 06 24 01.0
comp=Z,9.6nm,0.5s
BJT Baijiatuau 44.67 16 P **P** 06 23 59.9 +1.0
NIL Nilore 44.99 326 P **P** 06 24 01.9 +0.2
NIL Nilore 44.99 326 P **P** 06 24 02.1 +0.4
NIL pP **pP** 06 24 23.1 +0.1
JNU Nakatsue 45.23 35 P **P** 06 24 04.5 +0.9
comp=Z,15nm,0.9s,baz=195,slow=5.0,SNR=3.8
comp=Z,15nm,0.9s
HTT Hallett 46.37 135 P **P** 06 24 12.9 +0.4
baz=46,SNR=11
KSRS Korea Array 46.94 29 P **P** 06 24 16.6 -0.2
comp=Z,3.3nm,0.9s,baz=229,slow=9.0,SNR=8.7
KSRS PcP **PcP** 06 25 47.5 -0.6
comp=Z,0.7nm,0.5s,baz=209,slow=4.6,SNR=4.3
comp=Z,3.3nm,0.9s
STKA Stephens Creek 47.50 132 P **P** 06 24 21.9 +0.6
comp=Z,17nm,0.8s,baz=308,slow=8.2,SNR=36
comp=Z,17nm,0.8s
STKA Stephens Creek 47.50 132 P **P** 06 24 21.2 -0.1
baz=48,SNR=23
STKA Stephens Creek 47.50 132 P **P** 06 24 22.0 +0.6
WMQ Urumqi 48.03 347 *e*P **P** 06 24 26.3 +1.0
WMQ sP sP 06 25 01.6 +4.5
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ Urumqi 48.03 347 P **P** 06 24 26.1 +0.8
KBL Kabul 48.06 323 P **P** 06 24 25.6 -0.3
KSH Kashi 48.20 333 P **P** 06 24 26.2 -0.6
KSH pmax pmax
comp=Z,13nm,0.6s
WUS Wushi 48.27 337 P **P** 06 24 27.9 +0.6
TARG Taragay, Kyrgy 49.27 337 P **P** 06 24 35.7 +0.5
TARG IAmb IAmb 06 24 37.4
comp=Z,14nm,0.8s
CMSA Cobar Meteorol 50.44 129 P **P** 06 24 44.1 +0.2
baz=51,SNR=18
GAR Garm 50.55 328 P **P** 06 24 44.6 0.0
GAR IAmb IAmb 06 24 46.8
comp=Z,7.5nm,0.9s
SONM Songino Array 50.59 4 P **P** 06 24 45.5 +0.7
comp=Z,7.0nm,0.5s,baz=188,slow=9.7,SNR=69
comp=Z,7.0nm,0.5s
SONM Songino Array 50.59 4 P **P** 06 24 45.3 +0.5
SONM IAmb IAmb 06 24 47.0
comp=Z,7.2nm,0.6s
ULN Ulaanbaatar 50.67 5 P **P** 06 24 46.2 +0.7
SIMJ Simiganj 50.99 327 P **P** 06 24 47.2 -0.8
SIMJ pP **pP** 06 25 08.0 -1.8
RMQ Roma 51.01 122 P **P** 06 24 48.8 +0.6
baz=51,SNR=4.4
UCH Uchtor 51.05 334 P **P** 06 24 49.8 +1.0
SNR=6.8
CN2 Changchun 51.11 22 *e*P **P** 06 24 48.0 -0.6
CN2 *es*P sP 06 25 22.7 +1.8
CN2 *e*S **S** 06 31 58.6 -1.2
CN2 *es*S sS 06 32 39.5 +2.5
TKM2 Tokmak 2 51.16 336 P **P** 06 24 49.9 +0.6
SNR=12
KBK Karagaybulak 51.22 335 P **P** 06 24 51.0 +1.4
SNR=7.2
AML Almayashu 51.33 334 P **P** 06 24 52.0 +1.2
SNR=10
AAK Ala-Archa 51.39 335 P **P** 06 24 51.4 +0.4
comp=Z,2.1nm,0.5s,baz=141,slow=8.4,SNR=8.5
comp=Z,2.1nm,0.5s
AAK Ala-Archa 51.39 335 P **P** 06 24 52.0 +1.0
AAK IAmb IAmb 06 25 20.4
comp=Z,5.9nm,0.7s
AAK Ala-Archa 51.39 335 P **P** 06 24 52.0 +1.0
AAK pP **pP** 06 25 13.8 +1.1
AAK pwP **sP** 06 25 19.3 -3.4
EKS2 Erkin-Say 51.72 334 P **P** 06 24 55.0 +1.6
SNR=13
USP Ospenovka 51.90 335 P **P** 06 24 55.2 +0.6
SNR=11
MJAR Matsushiro Arr 51.94 38 P **P** 06 24 53.5 -1.5
comp=Z,2.7nm,0.7s,baz=203,slow=6.6,SNR=6.8
comp=Z,2.7nm,0.7s
MK31 Makanchi Array 52.20 343 P **P** 06 24 56.7 0.0
MKAR Makanchi Array 52.20 343 P **P** 06 24 57.0 +0.3
comp=Z,18nm,0.6s,baz=149,slow=8.1,SNR=175
MKAR ScP **ScP** 06 29 53.7 -2.7
comp=Z,0.9nm,0.9s,baz=145,slow=5.3,SNR=3.7
MKAR S **S** 06 32 14.8 +0.1
comp=Z,0.8nm,0.8s,baz=144,slow=15,SNR=4.1
comp=Z,18nm,0.6s
MKAR Makanchi Array 52.20 343 P **P** 06 24 57.0 +0.3
MAKZ Makanchi 52.30 343 P **P** 06 24 57.5 0.0
MAKZ pP **pP** 06 25 18.0 -1.3
MAKZ sP **sP** 06 25 27.7 -1.7
EIDS Eidsvold 52.65 120 P **P** 06 25 00.6 +0.2
baz=53,SNR=4.9
EIDS Eidsvold 52.65 120 P **P** 06 25 00.1 -0.3
EIDS IAmb IAmb 06 25 26.3
comp=Z,21nm,1.4s
BNX BinXian 53.50 22 ⇓P **P** 06 25 06.6 +0.4
BNX pmax pmax
comp=Z,15nm,0.5s
BNX pmax pmax
comp=Z,110nm,5.5s
KKAR Karatay Array 53.55 332 P **P** 06 25 07.3 +0.6
KKAR Karatay Array 53.55 332 P **P** 06 25 06.2 -0.1
USA0B Ussuriysk Arra 54.15 27 P **P** 06 25 11.2 +0.2
USRK Ussuriysk Ar. 54.15 27 P **P** 06 25 11.1 +0.1
comp=Z,23nm,0.5s,baz=217,slow=4.8,SNR=62
comp=Z,23nm,0.5s
KURBB Kurchatov Arra 56.74 343 P **P** 06 25 29.6 +0.1
comp=Z,12nm,0.8s,baz=160,slow=7.0,SNR=90
KURBB ScP **ScP** 06 30 14.2 -1.9
comp=Z,0.6nm,0.7s,baz=152,slow=3.6,SNR=5.9
KURBB S **S** 06 33 11.9 -3.5
comp=Z,0.5nm,0.4s,baz=144,slow=15,SNR=9.5
comp=Z,12nm,0.8s
KURK Kurchatov 56.79 343 P **P** 06 25 30.1 +0.2
KURK Kurchatov 56.79 343 P **P** 06 25 29.9 +0.1
KURK sP **sP** 06 26 01.8 -0.1
GEYT Alibeck 57.02 320 P **P** 06 25 32.4 +0.6
comp=Z,2.1nm,0.5s,baz=145,slow=5.3,SNR=3.6
comp=Z,2.1nm,0.5s
HEH HeiHe 57.33 19 *e*P **P** 06 25 33.6 0.0
HEH pmax pmax
comp=Z,7.0nm,0.6s
HEH pmax pmax
comp=Z,140nm,6.0s
KLR Kul'dur 58.04 23 P **P** 06 25 38.5 -0.1
comp=Z,5.7nm,0.7s,baz=240,slow=6.3,SNR=26
comp=Z,5.7nm,0.7s
ZAA0 Zalesovo Array 58.23 348 P **P** 06 25 40.0 +0.2
ZALV Zalesovo Beam 58.23 348 P **P** 06 25 39.8 0.0
comp=Z,13nm,0.4s,baz=163,slow=5.6,SNR=60
ZALV ScP **ScP** 06 30 20.2 -2.5
comp=Z,0.4nm,0.4s,baz=150,slow=3.2,SNR=4.1
ZALV S **S** 06 33 31.4 -3.4
comp=Z,1.5nm,0.6s,baz=171,slow=9.8,SNR=5.5
comp=Z,13nm,0.4s
ZALV Zalesovo Beam 58.23 348 P **P** 06 25 39.5 -0.4
ASAJ Asahikawa 59.41 33 P **P** 06 25 48.5 +0.2
comp=Z,3.4nm,0.4s,baz=234,slow=14,SNR=4.0
comp=Z,3.4nm,0.4s
JKA Kamikawa-asahi 59.41 33 P **P** 06 25 48.4 +0.1
BVAR Borovoye Array 61.45 339 P **P** 06 26 00.9 -1.0
comp=Z,6.1nm,0.7s,baz=139,slow=10.0,SNR=34
BVAR LR LR 06 54 22.8
comp=Z,83nm,20.4s,baz=284,slow=38
comp=Z,6.1nm,0.7s
BRVK Borovoye 61.51 339 P **P** 06 26 02.3 -0.1
BRVK Borovoye 61.51 339 P **P** 06 26 01.9 -0.5
BRVK pP **pP** 06 26 22.8 -2.1
BRVK sP **sP** 06 26 33.1 -1.7
ABKAR Akbulak array 63.06 331 P **P** 06 26 12.2 -0.6
ABKAR Akbulak array 63.06 331 P **P** 06 26 12.6 -0.2
ABKAR IAmb IAmb 06 26 34.8
comp=Z,6.8nm,0.9s
KOUNC Koumac, New Ca 63.56 111 P **P** 06 26 16.5 -0.1
KOUNC IAmb IAmb 06 26 17.3
comp=Z,9.0nm,0.8s
AKTO Aktyubinsk 64.78 331 P **P** 06 26 23.7 -0.3
comp=Z,1.2nm,0.4s,baz=115,slow=3.5,SNR=6.0
comp=Z,1.2nm,0.4s
DZM Mont Dzumac 65.75 113 P **P** 06 26 30.6 -0.4
DZM IAmb IAmb 06 26 31.9
comp=Z,11nm,1.0s
DZM Mont Dzumac 65.75 113 P **P** 06 26 31.1 +0.1
OUENC Ouen Island, N 66.16 113 P **P** 06 26 33.2 -0.3
DRV Dumont d'Urvil 69.16 165 P **P** 06 26 52.7 +1.2
KBZ Khabaz 69.90 319 P **P** 06 26 57.5 +1.1
comp=Z,2.4nm,0.7s,baz=146,slow=9.0,SNR=7.4
comp=Z,2.4nm,0.7s
BELG Belogornoye 71.19 328 P **P** 06 27 03.6 -0.5
comp=Z,7.6nm,0.9s,baz=165,slow=6.5,SNR=4.1
comp=Z,7.6nm,0.9s
NRIK Noril'sk 72.61 355 P **P** 06 27 11.8 -0.6
comp=Z,2.6nm,0.4s,baz=141,slow=4.9,SNR=4.9
comp=Z,2.6nm,0.4s
PETK Petropavlovsk- 72.74 32 P **P** 06 27 12.7 -0.8
comp=Z,5.2nm,1.0s,baz=273,slow=3.2,SNR=4.7
comp=Z,5.2nm,1.0s
BRTR Keskin Array B 74.97 312 P **P** 06 27 27.1 +0.2
comp=Z,1.3nm,0.5s,baz=124,slow=7.2,SNR=7.8
comp=Z,1.3nm,0.5s
SEY Seymchan 75.79 21 P **P** 06 27 31.4 +0.5
comp=Z,1.2nm,0.3s,baz=284,slow=5.3,SNR=5.3
comp=Z,1.2nm,0.3s
TIXI Tiksi 76.39 9 P **P** 06 27 32.8 -1.4
comp=Z,1.8nm,0.5s,baz=90,slow=23,SNR=5.0
comp=Z,1.8nm,0.5s
BOSA Boshof 76.61 241 P **P** 06 27 38.0 +1.5
comp=Z,4.0nm,0.8s,baz=83,slow=4.6,SNR=5.4
comp=Z,4.0nm,0.8s
VNDA Vanda 81.10 169 P **P** 06 28 01.4 +1.4
comp=Z,2.2nm,0.7s,baz=311,slow=5.7,SNR=11
comp=Z,2.2nm,0.7s
SHEM Shemya Is, Ala 81.75 36 P **P** 06 28 03.1 -0.7
comp=Z,137nm,1.0s,baz=271,slow=17,SNR=1.5
MNK Minsk 82.83 326 *i* P **P** 06 28 08.9 -0.5
comp=E,1.0nm,0.9s
MNK *i* P **P** 06 28 08.9 -0.5
comp=N,12nm,0.9s
MNK *i* P **P** 06 28 08.9 -0.5
comp=Z,15nm,0.9s,baz=105
MNK *i* pP **pP** 06 28 32.6 -0.3
MNK *i* sP **sP** 06 28 42.6 +0.1
MNK *i* PP PP 06 31 35.9 +15
MNK *i* PPP PPP 06 33 18.6
MNK *i* S **S** 06 38 20.6 +0.2
MNK *i* sS **sS** 06 39 01.7 +0.9
MNK *i* SS **SS** 06 43 46.1 +1.0
MNK *i* SSS SSS 06 47 15.3
ELIB Princess Elisa 83.70 198 *d*PcP **PcP** 06 28 16.8 -1.0
comp=Z,12nm,0.9s
FINES FINESS Array B 85.51 332 P **P** 06 28 23.4 +0.5
comp=Z,1.1nm,0.5s,baz=100,slow=7.2,SNR=6.1
comp=Z,1.1nm,0.5s
QSPA South Pole Qui 87.18 180 P **P** 06 28 32.9 +1.7
comp=Z,4.4nm,1.0s,baz=311,slow=2.4,SNR=11
comp=Z,4.4nm,1.0s
QSPA South Pole Qui 87.18 180 P **P** 06 28 32.6 +1.4
QSPA IAmb IAmb 06 28 33.8
comp=Z,10nm,1.2s
ARCES ARCESS Array B 87.72 340 P **P** 06 28 33.8 +0.3
comp=Z,1.8nm,0.6s,baz=107,slow=5.4,SNR=11
comp=Z,1.8nm,0.6s
GERES GERESS Array B 90.64 319 P **P** 06 28 48.9 +1.1
comp=Z,0.6nm,0.7s,baz=71,slow=4.3,SNR=5.4
comp=Z,0.6nm,0.7s
HFS Hagfors 91.31 330 P **P** 06 28 51.7 +1.3
comp=Z,2.4nm,0.7s,baz=108,slow=4.8,SNR=4.6
comp=Z,2.4nm,0.7s
CIMO Cimolais 91.36 316 P **P** 06 28 51.9 +0.8
CIMO IAmb IAmb 06 29 15.7
comp=Z,5.1nm,0.8s
SNAA Sanae 91.87 198 P **P** 06 28 55.6 +2.6
comp=Z,3.0nm,1.0s,baz=113,slow=6.5,SNR=5.1
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 92.57 331 P **P** 06 28 55.8 -0.5
comp=Z,1.2nm,0.9s,baz=94,slow=5.2,SNR=1.4
comp=Z,1.2nm,0.9s
FUORN Ofenpass-Fuorn 92.87 316 P **P** 06 28 59.5 +1.1
FUORN IAmb IAmb 06 29 11.9
comp=Z,3.8nm,1.1s
RAR Rarotonga 97.11 112 LR LR 07 12 07.8
comp=Z,179nm,21.9s,baz=106,slow=35
IMAR Indian Mountai 98.51 24 P **P** 06 29 22.6 -0.6
YKA Yellowknife Ar 114.67 18 PKP **PKiKP** 06 34 23.7 -1.0
comp=Z,2.0nm,0.5s,baz=308,slow=2.0,SNR=2.2
NVAR Mina Array Bea 129.22 40 PKP **PKiKP** 06 34 54.6 +0.2
comp=Z,0.8nm,0.5s,baz=308,slow=2.2,SNR=7.5
ULM Lac du Bonnet 130.46 15 PKP **PKPdf** 06 34 55.5 +0.1
comp=Z,2.3nm,0.6s,baz=270,slow=0.7,SNR=4.7
PDAR Pinedale Array 131.50 31 PKP **PKPdf** 06 34 56.9 -1.0
comp=Z,0.3nm,0.4s,baz=95,slow=1.2,SNR=5.2
RSSD Black Hills 133.04 25 P **PKPdf** 06 34 59.8 -1.0
baz=324
F36A Milaca 135.12 15 P **PKPdf** 06 35 03.6 -0.7
baz=339
ECSD EROS Data Cent 136.16 19 P **PKPdf** 06 35 05.7 -0.7
baz=333
U40A Yellville 144.05 20 P **PKPab** 06 35 18.4 0.0
baz=335,SNR=9.3
U40A P **PKPab** 06 35 18.4 0.0
baz=335,SNR=9.3
R49A Shelbyville 144.14 9 P **PKPab** 06 35 18.6 0.0
baz=349,SNR=6.4
R49A P **PKPab** 06 35 18.6 0.0
baz=349,SNR=6.4
TX31 Lajitas Ar. Si 144.37 40 P PKPbc 06 35 20.8 +0.6
baz=313
R53A Hurricane 144.48 5 P **PKPab** 06 35 19.8 -0.1
baz=354,SNR=7.2
R53A P **PKPab** 06 35 19.8 -0.1
baz=354,SNR=7.2
R55A Marlinton 144.64 2 P **PKPab** 06 35 19.6 -1.0
baz=357
R55A P **PKPab** 06 35 19.6 -1.0
baz=357
X37A Clayton 144.66 24 P **PKPab** 06 35 20.7 0.0
baz=330,SNR=7.7
T45B Paducah 144.67 14 P **PKPab** 06 35 20.3 -0.4
baz=342
CBN Corbin Frederi 144.74 358 P **PKPab** 06 35 20.3 -0.6
baz=2.0
LCAR Lake Charles 144.87 18 P **PKPab** 06 35 20.5 -0.9
baz=338,SNR=18
Z35A Perchaven, San 144.90 28 P **PKPab** 06 35 21.5 -0.2
baz=326,SNR=12
R58B Mineral 144.99 359 P PKPbc 06 35 21.1 -0.7
baz=1.1
R58B P PKPbc 06 35 21.1 -0.7
baz=1.1
S51A Beattyville 145.00 7 P PKPbc 06 35 21.2 -0.6
baz=351,SNR=10
S51A P PKPbc 06 35 21.2 -0.6
baz=351,SNR=10
T47A Sharon Grove 145.05 12 P **PKPbc** 06 35 21.5 -0.5
baz=345,SNR=12
S54A Dingess, Beckl 145.06 4 P **PKPbc** 06 35 21.1 -1.0
baz=355
S54A P **PKPbc** 06 35 21.1 -1.0
baz=355
S57A Dark Hollow, R 145.19 1 P **PKPbc** 06 35 21.9 -0.5
baz=359
S57A P **PKPbc** 06 35 21.9 -0.5
baz=359
MIAR Mount Ida 145.41 22 P **PKPbc** 06 35 23.3 0.0
baz=333,SNR=17
T50A Nancy 145.43 9 P **PKPdf** 06 35 22.5 -0.7
baz=349
T50A P **PKPdf** 06 35 22.5 -0.7
baz=349
WVT Waverly 145.71 14 P **PKPdf** 06 35 23.7 0.0
baz=343,SNR=15
X40A Basin Creek Fa 145.74 21 P **PKPab** 06 35 24.6 -0.1
baz=334,SNR=5.9
X40A P **PKPab** 06 35 24.6 -0.1
baz=334,SNR=5.9
U49A Red Boiling Sp 145.77 10 P **PKPdf** 06 35 23.6 -0.1
baz=347,SNR=6.1
JCT Junction City 145.85 34 P **PKPdf** 06 35 23.6 -0.6
baz=320
T57A Hurt 145.95 1 P **PKPdf** 06 35 24.1 +0.1
baz=359
T57A P **PKPdf** 06 35 24.1 +0.1
baz=359
T59A Double "B" Far 145.97 359 P **PKPdf** 06 35 24.4 +0.4

	baz=1.8							
T59A				P		PKPdf	06 35 24.4	+0.4
	baz=1.8							
Z38A	**Mt. Pleasant**	**145.97**	**25**	P		**PKPdf**	06 35 24.4	+0.2
	baz=330							
TZTN	**Tazewell**	**146.08**	**7**	P		**PKPdf**	06 35 24.7	+0.3
	baz=351							
U54A	**Nelsons Funny**	**146.29**	**5**	P		**PKPdf**	06 35 24.7	0.0
	baz=354							
U54A				P		**PKPdf**	06 35 24.7	0.0
	baz=354							
W45A	**Hickory Valley**	**146.29**	**16**	P		**PKPbc**	06 35 25.5	-0.4
	baz=341,SNR=5.5							
V48A	**Smith Brothers**	**146.31**	**12**	P		**PKPdf**	06 35 25.2	+0.5
	baz=345,SNR=10							
U59A	**Littleton**	**146.59**	**359**	P		**PKPdf**	06 35 25.6	+0.5
	baz=1.4							
U59A				P		**PKPdf**	06 35 25.6	+0.5
	baz=1.4							
V52A	**Sevierville**	**146.77**	**8**	P		**PKPdf**	06 35 25.8	+0.3
	baz=351							
435B	**Jarrell**	**146.81**	**31**	P		**PKPdf**	06 35 25.7	0.0
	baz=324							
OXF	**Oxford**	**146.83**	**17**	P		**PKPdf**	06 35 25.7	+0.1
	baz=340							
TKL	**Tuckaleechee C**	**146.93**	**8**	P		**PKPbc**	06 35 26.5	+0.7
	baz=350							
V55A	**Taylorsville**	**147.00**	**4**	P		**PKPbc**	06 35 27.2	-0.7
	baz=355							
V55A				P		**PKPbc**	06 35 27.2	-0.7
	baz=355							
V53A	**Saluda**	**147.03**	**6**	P		**PKPdf**	06 35 26.8	+0.7
	baz=352							
V53A				P		**PKPdf**	06 35 26.8	+0.7
	baz=352							
W50A	**Signal Mountai**	**147.13**	**10**	P		**PKPdf**	06 35 27.3	+1.1
	baz=348							
NATX	**Nacogdoches**	**147.40**	**26**	P		**PKPbc**	06 35 28.6	-0.6
	baz=329							
Y45A	**Yeager Farm, C**	**147.40**	**17**	P		**PKPdf**	06 35 27.8	+1.2
	baz=339							
W52A	**Murphy**	**147.46**	**8**	P		**PKPdf**	06 35 27.9	+1.1
	baz=350							
X48A	**Hartselle**	**147.50**	**13**	P		**PKPdf**	06 35 27.8	+1.1
	baz=344							
CASEE	**Lake Jocassee**	**147.69**	**7**	P		**PKPdf**	06 35 28.4	+1.3
	baz=352							
KMSC	**Kings Mountain**	**147.70**	**4**	P		**PKPbc**	06 35 28.6	-1.3
	baz=355							
CNNC	**Cliffs of the**	**147.71**	**359**	P		**PKPdf**	06 35 28.4	+1.3
	baz=1.2							
W57A	**Gilead**	**147.76**	**2**	P		**PKPbc**	06 35 28.7	-1.3
	baz=357							
W57A				P		**PKPbc**	06 35 28.7	-1.3
	baz=357							
X51A	**Calhoun**	**147.83**	**10**	P		**PKPdf**	06 35 27.9	+0.7
	baz=348							
X51A				P		**PKPdf**	06 35 27.9	+0.7
	baz=348							
PAULI	**Pauline**	**147.98**	**5**	P		**PKPbc**	06 35 29.4	-1.3
	baz=354							
Y49A	**Blount Mountai**	**148.21**	**13**	P		**PKPbc**	06 35 30.1	-1.2
	baz=345							
BIRD	**Birdtown, Kers**	**148.25**	**3**	P		**PKPbc**	06 35 30.4	-0.9
	baz=356							
HKT	**Hockley**	**148.37**	**30**	P		**PKPbc**	06 35 31.6	-0.1
	baz=326							
Z47A	**Carrollton**	**148.44**	**15**	P		**PKPbc**	06 35 31.0	-0.8
	baz=342							
HODGE	**Hodges**	**148.52**	**6**	P		**PKPbc**	06 35 31.0	-1.1
	baz=353							
JSC	**Jenkinsville**	**148.56**	**4**	P		**PKPbc**	06 35 31.1	-1.1
	baz=355							
Y52A	**Lilburn**	**148.64**	**9**	P		**PKPbc**	06 35 31.9	-0.6
	baz=349							
Y52A				P		**PKPbc**	06 35 31.9	-0.6
	baz=349							
146A	**Union**	**148.69**	**17**	P		**PKPbc**	06 35 32.1	-0.5
	baz=340							
LRAL	**Lakeview Retre**	**148.87**	**14**	P		**PKPbc**	06 35 32.1	-0.9
	baz=344							
Z51A	**Franklin**	**148.99**	**11**	P		**PKPbc**	06 35 32.3	-1.0
	baz=347							
344A	**Westbrook Farm**	**149.23**	**21**	P		**PKPbc**	06 35 33.1	-0.8
	baz=336							
HAW	**Hawthorne Fire**	**149.44**	**5**	P		**PKPbc**	06 35 33.4	-1.0
	baz=354							
152A	**Waverly Hall**	**149.70**	**10**	P		**PKPbc**	06 35 34.4	-0.8
	baz=348							
154A	**Montrose**	**150.01**	**8**	P		**PKPbc**	06 35 35.6	-0.2
	baz=351							
250A	**Grady**	**150.05**	**13**	P		**PKPbc**	06 35 35.7	-0.3
	baz=344							
255A	**Hazlehurst**	**150.77**	**7**	P		**PKPbc**	06 35 36.8	-0.9
	baz=352							
352A	**Blakely**	**150.82**	**11**	P		**PKPbc**	06 35 37.5	-0.3
	baz=347							
TIGA	**Tifton**	**151.09**	**9**	P		**PKPbc**	06 35 38.7	+0.3
	baz=350							
456A	**Hilliard**	**152.01**	**7**	P		**PKPbc**	06 35 40.4	-0.2
	baz=353							
PPLP	**Puerto Lpez**	**175.12**	**152**	*eP*		**PKPdf**	06 35 58.9	+3.2

SJA ***06*** *06:30:31.1±0.7,22˚.35S×67˚.87W,h193km±8km,ML5.7, MW5.4*

MOS ***06*** *06:30:32.4±0.9,22˚.06S×67˚.57W,h143km,mb5.6/44, Error ellipse: s-maj=9.6km s-min=6.8km az=100.0*

SCB ***06*** *06:30:33.9±1.2,22˚.34S×67˚.85W,h155km±15km,ML5.7/2, MW5.4,Error ellipse: s-maj=8.0km s-min=5.9km az=0.0*

GUC ***06*** *06:30:33.6±0.7,22˚.31S×67˚.92W,h177km±5km,ML6.1*

VAO ***06*** *06:30:33.4±0.3,22˚.19S×67˚.64W,h149km±3km,mb5.8*

IDC ***06*** *06:30:34.5±1.1,22˚.22S×67˚.53W,h156km±9km,mb5.1/22, mbtmp5.6/27,MS4.6/35,Error ellipse: s-maj=10.7km s-min=7.7km az=69.0*

BJI ***06*** *06:30:34.0±0.0,22˚.40S×67˚.70W,h141km,mB5.5/27*

NEIC ***06*** *06:30:35.5±3.3,22˚.32S±0˚.05×67˚.80W±0˚.07,h172km±1km, mb5.6/261,Mwb5.7/30,Mww5.8/63,Mwr5.8(GUC),Error ellipse: s-maj=10.6km s-min=8.2km az=258.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.46; Mθθ-1.10; Mφφ0.64; Mrθ2.28; Mθφ-0.38; Mφr-3.50; Fault plane solution: M₀4.31000×10¹⁷ NP1: φs143.80000°,δ89.66000°,λ99.70000°. NP2: φs235.80000°,δ9.70000°,λ2.03000°. Principal axes: T 4.6830, Plg45.0000°, Azm63.0000°; N -0.8904, Plg10.0000°, Azm324.0000°; P -3.7926, Plg44.0000°, Azm224.0000°;*

NEIC ***06*** *06:30:37.4,22˚.39S×67˚.83W,h170km,Moment Tensor Solution. Duration: 3‡9 Moment tensor: Scale 10¹⁷Nm; Mrr0.49; Mθθ-0.64; Mφφ0.15; Mrθ2.38; Mθφ-0.63; Mφr-4.76; Fault plane solution: M₀5.32000×10¹⁷ NP1: φs333.64000°,δ89.98000°,λ-89.31000°. NP2:φs65.33000°, δ0.69000°,λ-178.31000°. Principal axes: T 5.8164, Plg45.0000°, Azm63.0000°; N -0.9876, Plg1.0000°, Azm154.0000°; P -4.8288, Plg45.0000°, Azm244.0000°;*

GCMT ***06*** *06:30:38.5±0.1,22˚.30S±0˚.01×67˚.88W±0˚.01,h175km, MW5.8/146,Moment Tensor Solution. s136,c259; s146,c334; Duration: 1‡8 Moment tensor: Scale 10¹⁷ Nm; Mrr0.04±.05; Mθθ-0.57±.06; Mφφ0.53±.07; Mrθ2.63±.04; Mθφ-0.47±.05; Mφr-4.50±.04; Best double couple: M₀5.22800×10¹⁷ NP1:φs329.00000°,δ88.00000°, λ-93.00000°. NP2:φs208.00000°,δ3.00000°,λ-31.00000°. Principal axes: T 5.5780, Plg43.0000°, Azm62.0000°; N -0.7000, Plg3.0000°, Azm329.0000°; P -4.8780, Plg47.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 06 06:30:34.5±0.2,22˚.29S±0˚.02×67˚.76W±0˚.02,h164km±1km, h165km;pP-P,n1464,σ1‡78/1716,**mb5.6**/238,**37C-22D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.76**	**210**		**Pn**	**06 30 58.5**	**-0.9**
AF01				Sn	**Sn**	**06 31 18.0**	**-0.4**
AF01	**San Pedro de A**	**0.76**	**210**	*iP*	**Pn**	**06 30 58.5**	**-0.9**
AF01	**San Pedro de A**	**0.76**	**210**	Pg	**Pn**	**06 30 57.8**	**-1.5**
LVC	**Limon Verde**	**1.11**	**253**	P	**Pn**	**06 31 00.6**	**-1.4**
	14μm,0.3s,baz=71,slow=6.0						
LVC				S	**Sn**	**06 31 20.1**	**-2.9**
	9μm,0.4s,baz=62,slow=5.7,SNR=7.4						
LVC	**Limon Verde**	**1.11**	**253**	Pn	**Pn**	**06 31 00.6**	**-1.4**
LVC				Sn	**Sn**	**06 31 20.7**	**-2.4**
LVC	**Limon Verde**	**1.11**	**253**	*eP*	**Pn**	**06 31 00.2**	**-1.8**
LVC				*i* S	**Sn**	**06 31 20.6**	**-2.4**
LVC	**Limon Verde**	**1.11**	**253**	P	**Pn**	**06 31 00.6**	**-1.4**
LVC						06 31 20.7	
LVC	**Limon Verde**	**1.11**	**253**	Pg	**Pn**	**06 31 00.5**	**-1.4**
LVC	**Limon Verde**	**1.11**	**253**	*eP*	**Pn**	**06 31 00.5**	**-1.4**
PB09	**IPOC Station P**	**1.46**	**289**		**Pn**	**06 31 04.0**	**-0.9**
PB09				Sn	**Sn**	**06 31 26.7**	**-1.6**
PB09	**IPOC Station P**	**1.46**	**289**	*iP*	**Pn**	**06 31 04.2**	**-0.8**
PB09				*i* S	**Sn**	**06 31 26.8**	**-1.6**
PB06	**IPOC Station P**	**1.72**	**256**		**Pn**	**06 31 06.2**	**-1.5**
PB06				Sn	**Sn**	**06 31 30.6**	**-2.7**
PB06	**IPOC Station P**	**1.72**	**256**	*eP*	**Pn**	**06 31 05.8**	**-1.9**
PB06				*i* S	**Sn**	**06 31 30.4**	**-2.8**
PB06	**IPOC Station P**	**1.72**	**256**	Pg	**Pn**	**06 31 06.7**	**-1.0**
PB06				Sg	**Sn**	**06 31 30.5**	**-2.7**
PB06				IAML		06 31 34.1	
	43μm,0.3s						
PB15	**IPOC Station P**	**1.82**	**240**		**Pn**	**06 31 07.1**	**-1.7**
PB15				Sn	**Sn**	**06 31 32.7**	**-2.5**
PB15	**IPOC Station P**	**1.82**	**240**	*eP*	**Pn**	**06 31 07.4**	**-1.5**
PB15				*i* S	**Sn**	**06 31 33.4**	**-1.8**
PB15	**IPOC Station P**	**1.82**	**240**	*eP*	**Pn**	**06 31 07.0**	**-1.8**
PB15				*eS*	**Sn**	**06 31 34.9**	**-0.4**
PB15				IAML		06 31 38.5	
	comp=Z,118μm,0.2s						
PB15	**IPOC Station P**	**1.82**	**240**	*eP*	**Pn**	**06 31 07.0**	**-1.8**
PB15				*eS*	**Sn**	**06 31 34.9**	**-0.4**
PB15				IAML		06 31 38.5	
	comp=Z,118μm,0.2s						
PB15	**IPOC Station P**	**1.82**	**240**	Pg	**Pn**	**06 31 07.3**	**-1.5**
PB03	**IPOC Station P**	**1.86**	**277**		**Pn**	**06 31 07.8**	**-1.3**
PB03				Sn	**Sn**	**06 31 32.9**	**-2.9**
PB03	**IPOC Station P**	**1.86**	**277**	*iP*	**Pn**	**06 31 07.6**	**-1.5**
PB03				*i* S	**Sn**	**06 31 33.2**	**-2.6**
PB03	**IPOC Station P**	**1.86**	**277**	*eP*	**Pn**	**06 31 07.0**	**-2.2**
PB03				*eP*		06 31 07.6	
PB03				*eS*	**Sn**	**06 31 33.6**	**-2.2**
PB03				IAML		06 31 36.3	
	comp=Z,87μm,0.5s						
PB03	**IPOC Station P**	**1.86**	**277**	*eP*	**Pn**	**06 31 07.0**	**-2.2**
PB03				*eP*		06 31 07.6	
PB03				*eS*	**Sn**	**06 31 33.6**	**-2.2**
PB03				IAML		06 31 36.3	
	comp=Z,87μm,0.5s						
PB01	**IPOC Station P**	**2.03**	**307**		**Pn**	**06 31 09.7**	**-1.3**
PB01	**IPOC Station P**	**2.03**	**307**	*eP*	**Pn**	**06 31 09.6**	**-1.3**
PB01				*i* S	**Sn**	**06 31 36.9**	**-2.2**
PB01				IAML		06 31 39.2	
	comp=E,100μm,0.5s						
PB01	**IPOC Station P**	**2.03**	**307**	*eP*	**Pn**	**06 31 09.7**	**-1.3**
PB01				*eS*	**Sn**	**06 31 32.9**	**-6.2**
PB01				IAML		06 31 41.8	
	comp=Z,36μm,0.8s						
PB01	**IPOC Station P**	**2.03**	**307**	*eP*	**Pn**	**06 31 09.7**	**-1.3**
PB01				*eS*	**Sn**	**06 31 32.9**	**-6.2**
PB01				IAML		06 31 41.8	
	comp=Z,36μm,0.8s						
PB07	**IPOC Station P**	**2.05**	**286**		**Pn**	**06 31 09.5**	**-1.8**
PB07				Sn	**Sn**	**06 31 36.6**	**-3.0**
PB07	**IPOC Station P**	**2.05**	**286**	*iP*	**Pn**	**06 31 09.8**	**-1.5**
PB07				*i* S	**Sn**	**06 31 36.7**	**-2.9**
YJA	**Yavi**	**2.09**	**87**	*eP*	**Pn**	**06 31 12.5**	**+0.5**
YJA				*eS*	**Sn**	**06 31 42.7**	**+1.8**
YJA				IAML		06 31 46.2	
	comp=Z,3μm,0.6s						
YJA	**Yavi**	**2.09**	**87**	*eP*	**Pn**	**06 31 12.5**	**+0.5**
YJA				*eS*	**Sn**	**06 31 42.7**	**+1.8**
YJA				IAML		06 31 46.2	
	comp=Z,3μm,0.6s						
YJA	**Yavi**	**2.09**	**87**	Pg	**Pn**	**06 31 12.4**	**+0.4**
PB02	**IPOC Station P**	**2.20**	**296**		**Pn**	**06 31 11.2**	**-1.8**
PB02	**IPOC Station P**	**2.20**	**296**	*iP*	**Pn**	**06 31 11.5**	**-1.5**
PB02				*eS*	**Sn**	**06 31 39.7**	**-3.0**
PB02				IAML		06 31 40.5	
	comp=N,152μm,0.6s						
PB02	**IPOC Station P**	**2.20**	**296**	Pg	**Pn**	**06 31 11.6**	**-1.4**
PB04	**IPOC Station P**	**2.21**	**268**		**Pn**	**06 31 11.3**	**-1.8**
PB04	**IPOC Station P**	**2.21**	**268**	*iP*	**Pn**	**06 31 11.3**	**-1.8**
PB04				*i* S	**Sn**	**06 31 38.6**	**-4.3**
PB04				IAML		06 31 43.7	
	comp=N,64μm,0.7s						
PB04	**IPOC Station P**	**2.21**	**268**	*eP*	**Pn**	**06 31 11.0**	**-2.1**
PB04				*eS*	**Sn**	**06 31 40.5**	**-2.5**
PB04				IAML		06 31 43.8	
	comp=Z,48μm,0.7s						
PB04	**IPOC Station P**	**2.21**	**268**	*eP*	**Pn**	**06 31 11.0**	**-2.1**
PB04				*eS*	**Sn**	**06 31 40.5**	**-2.5**
PB04				IAML		06 31 43.8	
	comp=Z,48μm,0.7s						
PB04	**IPOC Station P**	**2.21**	**268**	Pg	**Pn**	**06 31 11.4**	**-1.7**
MOCB	**Mochara**	**2.23**	**63**	Pg	**Pn**	**06 31 14.2**	**+0.5**
MOCB				Sg	**Sn**	**06 31 44.3**	**+0.5**
MOCB				IAML		06 31 46.7	
	comp=Z,33μm,0.6s						
PB08	**IPOC Station P**	**2.50**	**329**		**Pn**	**06 31 17.0**	**+0.2**
PB08	**IPOC Station P**	**2.50**	**329**	*iP*	**Pn**	**06 31 16.6**	**-0.2**
PB08				*i* S	**Sn**	**06 31 48.9**	**-0.5**
PB08				IAML		06 31 52.5	
	comp=N,35μm,0.3s						
PB08	**IPOC Station P**	**2.50**	**329**	*eP*	Pn	06 31 11.2	-5.7
PB08				*eP*		06 31 16.0	
PB08				*eS*	**Sn**	**06 31 50.0**	**+0.6**
PB08				IAML		06 31 53.9	
	comp=Z,21μm,0.5s						
PB08	**IPOC Station P**	**2.50**	**329**	*eP*	Pn	06 31 11.2	-5.7
PB08				*eP*		06 31 16.0	
PB08				*eS*	**Sn**	**06 31 50.0**	**+0.6**
PB08				IAML		06 31 53.9	
	comp=Z,21μm,0.5s						
PATCX	**Punta Patache**	**2.66**	**303**	Pn	**Pn**	**06 31 16.8**	**-1.6**
PATCX	**Punta Patache**	**2.66**	**303**	*eP*	**Pn**	**06 31 16.4**	**-2.0**
PATCX				*i* S	**Sn**	**06 31 48.9**	**-3.5**
PATCX				IAML		06 31 51.1	
	comp=N,88μm,0.8s						
PATCX	**Punta Patache**	**2.66**	**303**	*eP*	**Pn**	**06 31 16.0**	**-2.4**
PATCX				*eP*		06 31 16.7	
PATCX				*eS*	Sn	06 31 39.6	-13
PATCX				IAML		06 31 51.9	
	comp=Z,47μm,0.5s						
PATCX	**Punta Patache**	**2.66**	**303**	*eP*	**Pn**	**06 31 16.0**	**-2.4**
PATCX				*eP*		06 31 16.7	
PATCX				*eS*	Sn	06 31 39.6	-13
PATCX				IAML		06 31 51.9	
	comp=Z,47μm,0.5s						
HMBC	**Humberstone**	**2.82**	**315**	*eP*	**Pn**	**06 31 18.2**	**-2.1**
HMBC				*i* S	**Sn**	**06 31 52.8**	**-3.1**
TA01	**Diego Aracena**	**2.83**	**307**	Pn	**Pn**	**06 31 18.4**	**-2.0**
TA01	**Diego Aracena**	**2.83**	**307**	*eP*	**Pn**	**06 31 18.2**	**-2.2**
TA01				*i* S	**Sn**	**06 31 52.6**	**-3.4**
TA01	**Diego Aracena**	**2.83**	**307**	*eP*	**Pn**	**06 31 18.0**	**-2.4**
TA01				*eP*		06 31 18.4	
TA01				*eS*	**Sn**	**06 31 53.5**	**-2.5**
TA01				IAML		06 31 56.6	
	comp=Z,26μm,0.4s						
TA01	**Diego Aracena**	**2.83**	**307**	*eP*	**Pn**	**06 31 18.0**	**-2.4**
TA01				*eP*		06 31 18.4	
TA01				*eS*	**Sn**	**06 31 53.5**	**-2.5**
TA01				IAML		06 31 56.6	
	comp=Z,26μm,0.4s						
TA01	**Diego Aracena**	**2.83**	**307**	Pg	**Pn**	**06 31 18.9**	**-1.5**
PB10	**IPOC Station P**	**2.85**	**244**	Pn	**Pn**	**06 31 18.7**	**-1.9**
PB10	**IPOC Station P**	**2.85**	**244**	*eP*	**Pn**	**06 31 18.5**	**-2.1**
PB10				*i* S	**Sn**	**06 31 51.3**	**-5.0**
PB10				IAML		06 31 53.3	
	comp=N,20μm,0.4s						
PB10	**IPOC Station P**	**2.85**	**244**	*eP*	**Pn**	**06 31 18.0**	**-2.6**
PB10				*eP*		06 31 18.3	
PB10				*eS*	**Sn**	**06 31 52.6**	**-3.7**
PB10				IAML		06 32 00.8	
	comp=Z,10μm,0.9s						
PB10	**IPOC Station P**	**2.85**	**244**	*eP*	**Pn**	**06 31 18.0**	**-2.6**
PB10				*eP*		06 31 18.3	
PB10				*eS*	**Sn**	**06 31 52.6**	**-3.7**
PB10				IAML		06 32 00.8	
	comp=Z,10μm,0.9s						
GO01	**Chusmiza**	**2.93**	**333**		**Pn**	**06 31 21.7**	**-0.5**
GO01	**Chusmiza**	**2.93**	**333**	*eP*	**Pn**	**06 31 21.4**	**-0.7**
GO01				*i* S	**Sn**	**06 31 58.0**	**-1.1**
GO01				IAML		06 32 02.3	
	comp=E,28μm,0.3s						
GO01	**Chusmiza**	**2.93**	**333**	*eP*	**Pn**	**06 31 21.0**	**-1.2**
GO01				*eS*	**Sn**	**06 31 59.2**	**+0.2**
GO01	**Chusmiza**	**2.93**	**333**	*eP*	**Pn**	**06 31 21.0**	**-1.2**
GO01				*eS*	**Sn**	**06 31 59.2**	**+0.2**
GO01	**Chusmiza**	**2.93**	**333**	Pg	**Pn**	**06 31 21.8**	**-0.4**
AOVT	**TarijaAcel**	**2.94**	**76**	Pg	**Pn**	**06 31 22.3**	**+0.4**
TA02	**Huaiquique**	**2.98**	**312**		**Pn**	**06 31 20.1**	**-2.2**
TA02	**Huaiquique**	**2.98**	**312**	*iP*	**Pn**	**06 31 20.3**	**-2.0**
TA02				*eS*	**Sn**	**06 31 55.7**	**-3.7**
TA02				IAML		06 31 58.6	
	comp=N,38μm,0.3s						
TA02	**Huaiquique**	**2.98**	**312**	*eP*	**Pn**	**06 31 20.5**	**-1.8**
TA02				*eS*	**Sn**	**06 31 57.4**	**-2.0**
TA02				IAML		06 32 00.1	
	comp=Z,19μm,0.6s						
TA02	**Huaiquique**	**2.98**	**312**	*eP*	**Pn**	**06 31 20.5**	**-1.8**
TA02				*eS*	**Sn**	**06 31 57.4**	**-2.0**
TA02				IAML		06 32 00.1	
	comp=Z,19μm,0.6s						
PB11	**IPOC Station P**	**3.08**	**325**		**Pn**	**06 31 22.3**	**-1.4**
PB11	**IPOC Station P**	**3.08**	**325**	*iP*	**Pn**	**06 31 21.8**	**-1.8**
PB11				*i* S	**Sn**	**06 31 58.8**	**-2.9**
PB11				IAML		06 32 01.4	
	comp=E,58μm,0.3s						
AZAP	**Zapla**	**3.14**	**128**	*eP*	**Pn**	**06 31 23.8**	**-0.7**
AZAP				*eS*	**Sn**	**06 31 59.6**	**-3.6**
AZAP				IAML		06 32 14.9	
	comp=Z,8μm,1.1s						
AZAP	**Zapla**	**3.14**	**128**	*eP*	**Pn**	**06 31 23.8**	**-0.7**
AZAP				*eS*	**Sn**	**06 31 59.6**	**-3.6**
AZAP				IAML		06 32 14.9	
	comp=Z,8μm,1.1s						
SLA	**San Lorenzo**	**3.19**	**140**	*eP*	**Pn**	**06 31 25.0**	**0.0**
SLA				*eS*	**Sn**	**06 32 00.7**	**-3.6**
SLA				IAML		06 32 06.6	
	comp=Z,4μm,1.6s						
SLA	**San Lorenzo**	**3.19**	**140**	*eP*	**Pn**	**06 31 25.0**	**0.0**
SLA				*eS*	**Sn**	**06 32 00.7**	**-3.6**
SLA				IAML		06 32 06.6	
	comp=Z,4μm,1.6s						
PB14	**IPOC Station P**	**3.36**	**226**	Pn	**Pn**	**06 31 25.4**	**-1.9**
PB14	**IPOC Station P**	**3.36**	**226**	*eP*	**Pn**	**06 31 25.0**	**-2.2**
PB14				*i* S	**Sn**	**06 32 02.2**	**-6.1**
ASTB	**Santa Barbara**	**3.47**	**119**	*eP*	**Pn**	**06 31 27.8**	**-0.7**
ASTB				*eS*	**Sn**	**06 32 11.2**	**+0.7**
ASTB				IAML		06 32 17.8	
	comp=Z,526nm,1.4s						
ASTB	**Santa Barbara**	**3.47**	**119**	*eP*	**Pn**	**06 31 27.8**	**-0.7**
ASTB				*eS*	**Sn**	**06 32 11.2**	**+0.7**
ASTB				IAML		06 32 17.8	
	comp=Z,526nm,1.4s						
PSGC	**Pisagua**	**3.47**	**320**	*iP*	**Pn**	**06 31 25.8**	**-2.8**
PSGC				*i* S	**Sn**	**06 32 04.0**	**-6.6**
PSGC				IAML		06 32 08.3	
	comp=N,24μm,0.7s						
PSGCX	**Pisagua**	**3.47**	**320**	Pn	**Pn**	**06 31 25.9**	**-2.6**
MNMC	**Minye Minye**	**3.58**	**331**	Pn	**Pn**	**06 31 28.7**	**-1.4**
MNMC	**Minye Minye**	**3.58**	**331**	*iP*	**Pn**	**06 31 28.7**	**-1.4**
MNMC				*i* S	**Sn**	**06 32 11.2**	**-2.1**
MNMCX	**Minye Minye**	**3.58**	**331**	*eP*	**Pn**	**06 31 28.7**	**-1.4**
MNMCX				*eS*	**Sn**	**06 32 12.2**	**-1.2**
MNMCX				IAML		06 32 14.4	
	comp=Z,27μm,1.0s						
MNMCX	**Minye Minye**	**3.58**	**331**	*eP*	**Pn**	**06 31 28.7**	**-1.4**
MNMCX				*eS*	**Sn**	**06 32 12.2**	**-1.2**
MNMCX				IAML		06 32 14.4	
	comp=Z,27μm,1.0s						
ALOL	**LOMAS DE OLMED**	**3.80**	**114**	*eP*	**Pn**	**06 31 31.6**	**-1.1**
ALOL				*eS*	**Sn**	**06 32 11.7**	**-6.2**
ALOL	**LOMAS DE OLMED**	**3.80**	**114**	*eP*	**Pn**	**06 31 31.6**	**-1.1**
ALOL				*eS*	**Sn**	**06 32 11.7**	**-6.2**
PB16	**IPOC Station P**	**4.26**	**337**		**Pn**	**06 31 38.8**	**-0.4**
PB16	**IPOC Station P**	**4.26**	**337**	*eP*	**Pn**	**06 31 38.0**	**-1.2**
PB16				*eS*	**Sn**	**06 32 24.1**	**-5.3**
PB16				IAML		06 32 32.0	
	comp=Z,5μm,0.5s						
PB16	**IPOC Station P**	**4.26**	**337**	*eP*	**Pn**	**06 31 38.0**	**-1.2**
PB16				*eS*	**Sn**	**06 32 24.1**	**-5.3**
PB16				IAML		06 32 32.0	
	comp=Z,5μm,0.5s						
PB12	**IPOC Station P**	**4.38**	**326**	Pn	**Pn**	**06 31 38.3**	**-1.9**
PB12	**IPOC Station P**	**4.38**	**326**	*eP*	**Pn**	**06 31 37.2**	**-3.0**
PB12	**IPOC Station P**	**4.38**	**326**	*eP*	**Pn**	**06 31 37.0**	**-3.2**
PB12				IAML		06 32 56.4	
	comp=Z,10μm,1.1s						
PB12	**IPOC Station P**	**4.38**	**326**	*eP*	**Pn**	**06 31 37.0**	**-3.2**
PB12				IAML		06 32 56.4	
	comp=Z,10μm,1.1s						
SOET	**ToroToro**	**4.54**	**24**	Pg	**Pn**	**06 31 43.1**	**+0.5**
AP01	**Chacalluta**	**4.59**	**328**		**Pn**	**06 31 40.2**	**-2.7**
AP01	**Chacalluta**	**4.59**	**328**	Pg	**Pn**	**06 31 41.7**	**-1.2**
AC01	**Pan de Azucar**	**4.63**	**213**	Pn	**Pn**	**06 31 40.0**	**-3.3**
AC02	**Maricunga**	**4.69**	**195**	Pn	**Pn**	**06 31 42.8**	**-1.8**
PB18	**Visviri**	**4.95**	**341**		**Pn**	**06 31 48.6**	**+0.5**
SOEJ	**Jacaque**	**5.30**	**356**	Pg	**Pn**	**06 31 53.1**	**+0.3**
BBOE	**La Paz, Chanca**	**5.45**	**358**	Pg	**Pn**	**06 31 55.5**	**+0.7**
AC06	**Mina Casimiro**	**5.57**	**204**	Pn	**Pn**	**06 31 51.5**	**-4.1**
BBOD	**La Paz, Gloria**	**5.68**	**352**	Pg	**Pn**	**06 31 58.0**	**+0.3**
GO03	**Copiap**	**5.74**	**203**		**Pn**	**06 31 54.2**	**-3.7**
LPAZ	**La Paz**	**5.98**	**

TRCB Terra Rica 13.99 95 eP Pn 06 33 43.9 -1.9
PTGB Pitanga 14.60 103 eP Pn 06 33 53.5 -0.1
ALGR Alto Alegre (B 14.79 119 eP Pn 06 33 54.7 -1.1
VA04 Juan Fernndez 14.94 218 Pn 06 33 54.1 -3.4
PDRB Porto dos Gac 14.96 47 eP Pn 06 33 55.4 -2.6
ITAB Concordia 15.03 112 eP Pn 06 33 57.3 -1.3
CPSB Cacapava Do Su 15.16 125 eP Pn 06 33 58.5 -1.8
LPA La Plata 15.24 148 ceP Pn 06 33 58.6 -2.6
LPA SKIKS 06 53 32.8
CZSB Cruzeiro do Su 15.24 341 Pn Pn 06 33 55.4 -5.9
CZSB Cruzeiro do Su 15.24 341 eP Pn 06 33 55.5 -5.8
PCMB Pacaembu 15.33 91 eP Pn 06 34 01.1 -1.4
PLTB Pedras Altas 15.74 130 Pn 06 34 04.7 -2.8
PLTB Pedras Altas 15.74 130 eP Pn 06 34 05.1 -2.3
CLDB Colider 16.12 47 eP Pn 06 34 11.2 -1.0
ARAG Araguaiana, MT 16.44 69 eP P 06 34 14.5 -1.3
ITRB Iturama 16.46 84 eP P 06 34 15.2 -0.8
TRQA Tornquist 16.48 164 P P 06 34 13.4 -2.7
TRQA Tornquist 16.48 164 eP Pn 06 34 17.1 +0.8
CNLB Canela 16.75 118 eP P 06 34 17.9 -1.2
FRTB Fartura 16.82 97 eP P 06 34 19.4 -0.5
TIJ01 Guaruva-PR 17.43 104 eP P 06 34 26.9 +0.1
GO06 Curarrehue 17.53 190 P P 06 34 26.5 -1.2
LR03 Panguipulli 17.72 192 P P 06 34 28.1 -1.6
TBTG Tabatinga, AM 18.12 353 eP P 06 34 34.1 0.0
TBTG Tabatinga, AM 18.12 353 eP P 06 34 33.1 -1.1
ATAH Atahualpa 18.22 324 P Pn 06 34 38.1 +0.4
comp=Z,59nm,0.9s,baz=159,slow=9.8,SNR=48
ATAH S S 06 37 55.5 -0.6
comp=Z,8.1nm,0.7s,baz=112,slow=22,SNR=1.5
PLCA Paso Flores 18.54 187 P P 06 34 38.9 +0.3
comp=Z,157nm,1.0s,baz=10,slow=13,SNR=97
PLCA S S 06 38 00.6 -0.8
comp=Z,17nm,1.0s,baz=9.5,slow=13,SNR=1.6
PLCA LR LR 06 43 11.9
comp=Z,3µm,20.8s,baz=11,slow=41
PLCA Paso Flores 18.54 187 P 06 34 37.7 -1.0
PLCA Paso Flores 18.54 187 eP P 06 34 38.5 -0.2
RCLB Rio Claro- Sao 18.72 94 eP P 06 34 40.0 -0.8
SNLB Serra Nova Dou 18.77 60 eP P 06 34 40.3 -0.9
SPB Sao Paulo 18.77 98 P P 06 34 40.4 -0.9
SPB Sao Paulo 18.77 98 eP P 06 34 40.7 -0.5
IPMB Ipameri, GO 18.85 80 eP P 06 34 41.6 -0.6
TEFE Tefe 18.91 10 eP P 06 34 42.7 -0.2
PET01 Itanhaem-SP 18.93 100 eP P 06 34 41.9 -1.0
LL04 Puerto Octay 18.97 191 P P 06 34 42.4 -0.9
VAO Valinhos 19.21 96 eP P 06 34 44.9 -1.2
NPGB Novo Progresso 19.31 40 eP P 06 34 45.3 -1.8
LL05 Los Muermos 19.66 193 P P 06 34 49.3 -1.3
BDFB Brasilia 19.80 74 P P 06 34 49.2 -3.5
comp=Z,197nm,0.5s,baz=253,slow=9.2,SNR=400
BDFB S S 06 38 24.2 -2.7
comp=Z,37nm,0.9s,baz=329,slow=19,SNR=1.8
BDFB LR LR 06 42 50.6
comp=Z,1µm,19.7s,baz=249,slow=38
BDFB Brasilia 19.80 74 P P 06 34 51.7 -0.9
BDFB Brasilia 19.80 74 P P 06 34 51.7 -0.9
BDFB Brasilia 19.80 74 eP P 06 34 51.5 -1.2
MACA Manacapuru-AM 20.22 21 P P 06 34 54.8 -2.1
MACA Manacapuru-AM 20.22 21 eP P 06 34 55.3 -1.6
LL01 San Ignacio de 20.41 190 P P 06 34 56.7 -1.9
PARB Paraibuna 20.44 97 eP P 06 34 57.7 -1.6
LL07 Hotel Espejo d 21.03 192 P P 06 35 03.3 -2.0
ITTB Itaituba 21.29 35 eP P 06 35 06.0 -2.3
GO07 Milladeo Hill, 21.34 192 P P 06 35 06.8 -1.8
MCRA Macar, Loja 21.37 325 P P 06 35 09.9 +0.6
SGCB SÈo Gabriel d 22.05 2 eP P 06 35 15.3 -0.9
ARNL Arenillas 22.12 326 P P 06 35 17.6 +0.6
ARNL IAmb IAmb 06 35 20.4
comp=Z,198nm,0.7s
AY01 Puyuhuapi 22.44 189 P P 06 35 18.3 -1.4
AY01 IAmb IAmb 06 35 20.4
comp=Z,244nm,0.9s
VAS01 Vassouras-RJ 22.50 95 eP P 06 35 19.0 -1.6
DIAM Diamantina, MG 22.93 84 eP P 06 35 23.2 -1.6
JANB Januaria 23.33 76 eP P 06 35 26.4 -1.8
COYC Coyhaique 23.49 188 P P 06 35 29.0 -0.3
PIAT Ana Tenorio 23.50 333 eP P 06 35 32.1 +2.0
DUB01 Friburgo-RJ 23.51 94 eP P 06 35 28.1 -1.7
SMTB Santa Maria do 23.54 59 eP P 06 35 29.0 -1.1
PRPB Parauapebas 23.61 50 eP P 06 35 28.5 -2.2
SDBA SAO DESIDERIO 23.90 70 eP P 06 35 31.5 -1.9
MALB Monte Alegre 24.19 35 eP P 06 35 34.8 -1.2
PULU Pululahua 24.52 333 P P 06 35 40.2 +0.7
BONI La Bonita 24.53 336 eP P 06 35 40.9 +1.5
CUSE Cuicocha Este 24.74 334 eP P 06 35 43.2 +1.8
FLF1 Flavio Alfaro- 24.77 330 eP P 06 35 43.3 +2.0
PAC1 Pacto, Paraso 24.86 333 eP P 06 35 43.7 +1.4
TULM Tulcn-Chalpat 24.87 336 P P 06 35 44.4 +1.8
TULM IAmb IAmb 06 36 23.0
comp=Z,254nm,1.1s
TULM Tulcn-Chalpat 24.87 336 eP P 06 35 44.6 +1.9
FLOC Florencia 24.95 341 eP P 06 35 43.5 +0.7
MACC Macarena, Meta 25.00 345 eP P 06 35 41.8 -1.5
CMBC Cumbal 25.09 336 eP P 06 35 46.8 +2.1
GUVC San Jose del G 25.14 348 eP P 06 35 44.9 +0.4
SJMB Sao Joao De Ma 25.14 87 eP P 06 35 42.5 -2.1
GCUF Volcan Galeras 25.17 337 eP P 06 35 47.7 +2.2
ALF01 Guarapari-ES 25.21 91 eP P 06 35 43.2 -2.0
CRUC La Cruz 25.35 330 eP P 06 35 51.5 +4.6
GARC Garzon, Huila 25.47 342 eP P 06 35 48.8 +0.9
BOAV Boa Vista 25.53 17 P P 06 35 48.2 +0.1
BOAV IAmb IAmb 06 35 50.0
comp=Z,571nm,1.2s
BOAV Boa Vista 25.53 17 eP P 06 35 48.0 -0.1
BOAV Boa Vista 25.53 17 eP P 06 35 47.9 -0.3
RIB01 Linhares ES 25.74 88 eP P 06 35 48.3 -1.7
BETC Betania 25.93 342 eP P 06 35 52.9 +1.1
TUMC Tumaco 26.25 335 eP P 06 35 56.5 +1.9
MCPB Macapa, AP 26.63 37 eP P 06 35 57.2 -0.8
PTGC Puerto Gaitan, 26.67 350 eP P 06 35 57.6 -0.8
GUA01 Guaratinga, BA 26.95 83 eP P 06 35 59.2 -1.7
ORTC Ortega, Tolima 27.05 343 eP P 06 36 02.0 +0.2
GR1C Gorgona, Isla 27.12 337 eP P 06 36 03.4 +1.0
CHIC Chingaza 27.38 347 eP P 06 36 04.4 -0.8
YOTC Yotoco, Valle 27.43 341 eP P 06 36 05.2 +0.0
TMAB Tom-Au,PA,Br 27.52 47 eP P 06 36 05.0 -0.9
ABR01 Abrolhos, BA 27.61 86 eP P 06 36 04.1 -2.6
ROSC El Rosal 27.72 346 P P 06 36 09.2 +1.1
comp=Z,35nm,0.5s,baz=162,slow=4.5,SNR=19
comp=Z,35nm,0.5s
ROSC El Rosal 27.72 346 P P 06 36 08.8 +0.7
ROSC IAmb IAmb 06 37 10.9
comp=Z,94nm,1.1s
ROSC El Rosal 27.72 346 eP P 06 36 08.7 +0.5
PLMC San Jos del P 28.29 342 eP P 06 36 12.4 -0.4
GUY2C Guyana, Caldas 28.34 344 eP P 06 36 13.5 -0.2
RUSC La Rusia 28.49 349 P P 06 36 14.7 -0.3
RUSC La Rusia 28.49 349 eP P 06 36 14.6 -0.5
NORC Norcasia 28.54 345 eP P 06 36 13.9 -1.2
PIZC Pizarro, Choco 28.67 340 eP P 06 36 21.3 +5.2
TAMC Tame, Arauca 28.82 352 eP P 06 36 16.7 -0.8
CBOC Ciudad Bolivar 29.12 343 eP P 06 36 19.4 -0.9
GO09 Cerro Castillo 29.15 186 P P 06 36 19.8 -0.2
GO09 IAmb IAmb 06 36 22.2
comp=Z,97nm,1.0s
BARC Barichara 29.19 349 eP P 06 36 19.2 -1.8
PTBC PUERTO BERRIO, 29.39 346 eP P 06 36 19.4 -3.1
MG05 Puerto Natales 29.57 186 P P 06 36 23.9 +0.2
MG05 IAmb IAmb 06 36 25.6
comp=Z,149nm,0.9s
BRRC Barranca, Sant 29.79 348 eP P 06 36 23.2 -2.8
PAMC Pamplona, Colo 29.84 350 eP P 06 36 25.7 -1.4
ROSB Rosrio 29.97 53 eP P 06 36 26.6 -1.1
DBBC Dabeiba 30.28 343 eP P 06 36 29.8 -0.6
EFI East Falkland 30.28 168 d iP P 06 36 30.0 0.0
EFI pmax pmax
comp=Z,243nm,2.5s
EFI East Falkland 30.28 168 P P 06 36 30.0 0.0
EFI pP pP 06 37 06.2 +0.5
EFI sP sP 06 37 25.7 +0.4
ZARC Zaragoza, Cauc 30.40 346 eP P 06 36 29.0 -2.5
MG02 Cerro Sombrero 30.46 182 P P 06 36 32.3 +0.7
MG04 Isla Riesco 30.66 185 P P 06 36 31.7 -1.6
PAYG Puerto Ayora 30.70 311 P P 06 36 36.1 +2.0
PAYG IAmb IAmb 06 36 37.7
comp=Z,127nm,1.4s
PAYG Puerto Ayora 30.70 311 eP P 06 36 35.3 +1.2
PAYG Puerto Ayora 30.70 311 P P 06 36 36.3 +2.2
UREC San Jos de Ur 30.81 345 eP P 06 36 33.0 -2.1
PTAC Punta Ardita, 30.87 340 eP P 06 36 36.6 +1.1

MDP Montagnes des 30.99 30 P P 06 36 35.7 -0.9
comp=Z,120nm,1.0s,baz=213,slow=9.9,SNR=48
MDP S S 06 41 18.6 -11
comp=Z,28nm,1.2s,baz=228,slow=19,SNR=2.1
MDP LR LR 06 50 40.7
comp=Z,3µm,18.7s,baz=223,slow=39
comp=Z,120nm,1.0s
MPGF Montagnes des 30.99 30 P P 06 36 35.7 -0.9
BAUV El Baul 31.04 359 P P 06 36 35.7 -1.3
BAUV pP pP 06 37 12.8 +0.1
BAUV El Baul 31.04 359 eP P 06 36 24.3 -13
SDV Santo Domingo 31.11 355 P P 06 36 36.9 -1.0
comp=Z,79nm,0.9s,baz=171,slow=9.2,SNR=55
SDV S S 06 41 26.5 -5.0
comp=Z,6.2nm,0.3s,baz=210,slow=20,SNR=1.2
SDV LR LR 06 51 08.6
comp=Z,2µm,21.2s,baz=160,slow=40
comp=Z,79nm,0.9s
SDV Santo Domingo 31.11 355 P P 06 36 36.2 -1.6
SDV IAmb IAmb 06 36 38.3
comp=Z,72nm,0.8s
SDV Santo Domingo 31.11 355 eP P 06 36 36.6 -1.3
SDV Santo Domingo 31.11 355 P P 06 36 36.5 -1.3
SDV pP pP 06 37 13.3 -0.3
APAC Apartado, Choc 31.22 343 eP P 06 36 38.5 -0.2
UPD2 Meteti 32.25 341 eP P 06 36 48.0 +0.3
AZU Azuero 32.31 336 eP P 06 36 50.6 +2.4
USHA Ushuaia 32.50 181 P P 06 36 50.5 +1.1
comp=Z,36nm,0.8s,baz=3.2,slow=5.8,SNR=8.1
USHA S S 06 41 52.9 +0.9
comp=Z,5.8nm,0.4s,baz=40,slow=16,SNR=1.5
USHA LR LR 06 52 03.7
comp=Z,1µm,19.6s,baz=355,slow=40
comp=Z,36nm,0.8s
ARGC Ariguani, Magd 32.58 348 eP P 06 36 48.7 -1.8
SJCC San Jacinto, C 32.80 346 eP P 06 36 50.8 -1.7
TRN Trinidad (W) 33.32 11 eP P 06 36 53.1 -3.8
BCIP Isla Barro Col 33.43 338 P P 06 36 59.5 +1.7
BCIP IAmb IAmb 06 37 01.5
comp=Z,170nm,0.9s
BCIP Isla Barro Col 33.43 338 P P 06 36 59.5 +1.7
BCIP pmax pmax
comp=Z,170nm,1.0s
BCIP Isla Barro Col 33.43 338 eP P 06 36 59.8 +1.9
NBCL Cascavel-CE 33.72 62 eP P 06 37 00.3 -0.2
SMRC Santa Marta, M 33.84 349 eP P 06 36 52.0 -9.4
URIC Uribia, Colomb 34.03 353 P P 06 37 00.2 -2.9
URIC Uribia, Colomb 34.03 353 eP P 06 36 57.8 -5.3
TOSP Speyside 34.12 13 P P 06 37 03.5 -0.4
TOSP Speyside 34.12 13 eP P 06 37 05.2 +1.4
BRU2 Volcan 34.18 333 eP P 06 37 05.1 +0.5
GRGR Grenville 34.73 11 P P 06 37 08.8 -0.3
GRGR Grenville 34.73 11 eP P 06 36 57.2 -12
GRGR Grenville 34.73 11 eP P 06 37 08.0 -1.1
RCBR Riachuelo 34.85 67 LR LR 06 52 06.9
comp=Z,1µm,21.4s,baz=356,slow=37
RCBR Riachuelo 34.85 67 P P 06 37 09.6 -0.7
RCBR IAmb IAmb 06 37 12.3
comp=Z,105nm,0.8s
RCBR Riachuelo 34.85 67 P P 06 37 09.6 -0.7
RCBR pmax pmax
comp=Z,105nm,0.8s
RCBR Riachuelo 34.85 67 eP P 06 37 09.5 -0.7
RCBR Riachuelo 34.85 67 P P 06 37 09.5 -0.7
RCBR pP pP 06 37 47.2 +0.7
SRBA San Rafael, Bu 34.86 332 P P 06 37 12.2 +1.8
SRBA IAmb IAmb 06 37 13.9
comp=Z,82nm,0.8s
SRBA pP pP 06 37 48.6 +2.1
SRBA sP sP 06 38 01.9 -3.9
PEZE Perez Zeledon, 35.13 332 P P 06 37 14.3 +1.7
PEZE IAmb IAmb 06 37 16.2
comp=Z,72nm,0.7s
PEZE Perez Zeledon, 35.13 332 eP P 06 37 15.1 +2.4
ABE2 San Pablo 35.58 332 eP P 06 37 19.4 +2.7
VERB Verbena 35.64 332 eP P 06 37 20.3 +3.2
ACOS Acosta 35.71 332 eP P 06 37 20.6 +2.9
TRIO Tres Rios 35.74 332 eP P 06 37 21.8 +3.9
VIRE VIRE 35.75 332 eP P 06 37 21.0 +2.8
JACO JACO, Garabito 35.82 331 P P 06 37 20.5 +2.1
JACO IAmb IAmb 06 37 59.1
comp=Z,144nm,1.5s
HDC3 Heredia 3 35.87 332 eP P 06 37 22.1 +3.0
HDC Heredia 35.87 332 P P 06 37 21.3 +2.2
HDC IAmb IAmb 06 37 23.1
comp=Z,149nm,0.7s
HDC pP pP 06 37 58.5 +3.1
HDC Heredia 35.87 332 P P 06 37 22.1 +3.1
HDC pP pP 06 37 58.8 +3.4
HDC sP sP 06 38 20.7 +6.0
SVB Belmont 35.91 11 P P 06 37 17.6 -1.6
VPTE Poasito 36.06 332 eP P 06 37 24.0 +3.2
RIFO Rio Frio, Sara 36.07 332 eP P 06 37 22.9 +2.4
BBGH Gun Hill 36.12 14 eP P 06 37 19.7 -1.3
CPMI Catarata Coope 36.24 332 eP P 06 37 25.0 +2.7
MCLT Moule a Chique 36.40 11 P P 06 37 22.3 -1.0
MCLT Moule a Chique 36.40 11 eP P 06 37 25.8 +1.5
SOCE Pocosol 36.44 331 eP P 06 37 26.9 +3.2
POPE POPE, Guanacas 36.45 330 eP P 06 37 26.1 +2.3
CMARA Lajas Hojancha 36.48 330 eP P 06 37 26.5 +2.4
JTS Las Juntas de 36.50 331 P P 06 37 26.7 +2.5
comp=Z,29nm,0.6s
comp=Z,29nm,0.6s
JTS Las Juntas de 36.50 331 P P 06 37 26.3 +2.0
JTS pP pP 06 38 03.1 +2.4
JTS IAmb IAmb 06 38 06.2
comp=Z,267nm,1.9s
JTS Las Juntas de 36.50 331 P P 06 37 26.3 +2.0
JTS pmax pmax
comp=Z,267nm,1.9s
JTS Las Juntas de 36.50 331 eP P 06 37 26.5 +2.2
JTS Las Juntas de 36.50 331 P P 06 37 26.8 +2.5
JTS pP pP 06 38 03.1 +2.4
TUNA La Fortuna 36.52 331 eP P 06 37 28.7 +4.3
CASO Castillo 36.53 331 eP P 06 37 28.0 +3.5
CEDE Laguna Cedeo 36.56 331 iP P 06 37 27.9 +3.0
NICO Nicoya 36.59 330 eP P 06 37 28.8 +3.8
TABAC Tabacon 36.60 331 eP P 06 37 28.0 +2.8
SAAN San Antonio 36.65 330 eP P 06 37 27.6 +2.2
SLBI Saint Lucia, B 36.70 11 eP P 06 37 17.8 -8.0
COTE Lago Cote 36.74 331 iP P 06 37 28.1 +1.8
ORTG Ortega, Santa 36.80 330 eP P 06 37 29.2 +2.4
ACAL Aguas Claras 36.84 331 iP P 06 37 30.1 +2.9
PTEN Parque Tenorio 36.89 331 iP P 06 37 30.4 +2.8
MOTZ Rio Naranjo 36.91 331 eP P 06 37 30.6 +3.0
CUI Cuipilapa 36.92 331 eP P 06 37 30.5 +2.7
CUI iP P 06 37 30.5 +2.7
COLC Colonia 36.95 331 eP P 06 37 30.7 +2.7
COLC iP P 06 37 31.1 +3.0
VERA Finca Concepci 36.96 331 eP P 06 37 30.6 +2.5
HORNC Hornillas 36.98 331 iP P 06 37 31.1 +2.7
GUAB Guayabo de Bag 37.00 331 eP P 06 37 31.3 +2.8
GUAB eP P 06 37 31.3 +2.8
MESS Mesas 37.01 331 iP P 06 37 31.4 +2.8
VMAR Armenia, Volca 37.04 331 eP P 06 37 31.4 +2.6
VMAR iP P 06 37 31.6 +2.8
GP77 Hacienda Santa 37.09 331 eP P 06 37 32.2 +3.0
ELI1 Hacienda Flor 37.09 330 eP P 06 37 33.1 +3.9
GPS2 Hotel Rincn d 37.09 331 eP P 06 37 31.9 +2.6
GP14 Hacienda Santa 37.09 331 iP P 06 37 32.1 +2.8
GPS3 Bodega del ICE 37.10 330 eP P 06 37 32.1 +2.7
GPS1 Guardaparques 37.11 331 eP P 06 37 32.4 +2.9
MPOM Morne Pois Mar 37.13 11 P P 06 37 27.9 -1.5
MPOM Morne Pois Mar 37.13 11 eP P 06 37 25.4 -4.0
VORI VORI 37.15 331 eP P 06 37 32.5 +2.6
BUEV Buena Vista 37.16 330 iP P 06 37 32.5 +2.7
BIM Bigot 37.16 11 P P 06 37 28.6 -1.2
BIM Bigot 37.16 11 eP P 06 37 20.3 -10
GBS3 Finca Las Img 37.16 330 iP P 06 37 32.5 +2.7
HZTE Horizontes, Gu 37.17 330 P P 06 37 32.2 +2.3
HZTE pP pP 06 38 09.3 +2.9
HZTE sP sP 06 38 24.7 -0.9
HZTE Horizontes, Gu 37.17 330 eP P 06 37 32.5 +2.7
GB1A Borinquen Arri 37.17 330 iP P 06 37 32.6 +2.6
BUAI Buenos Aires 37.19 331 iP P 06 37 32.6 +2.5
FDF Fort de France 37.36 11 P P 06 37 29.8 -1.7
FDF Fort de France 37.36 11 eP P 06 37 25.7 -5.8
FDF Fort de France 37.36 11 P P 06 37 29.8 -1.7
FDF pmax pmax
comp=Z,810nm,0.9s
FDF Fort de France 37.36 11 P P 06 37 30.3 -1.2
FDF pP pP 06 38 06.7 -1.3

PRVC Isla de Provid 37.87 338 P P 06 37 38.0 +2.3
PRVC Isla de Provid 37.87 338 eP P 06 37 37.6 +1.9
ESPN Las Esperanzas 37.91 333 P P 06 37 38.1 +2.1
RPN Rapa Nui 37.95 254 LR LR 06 50 01.8
comp=Z,2µm,19.5s,baz=105,slow=31
RPN Rapa Nui 37.95 254 P P 06 37 38.0 +1.7
RPN pP pP 06 38 13.6 +1.1
ACON Acoyapa 38.09 332 P P 06 37 38.3 +0.7
ACON Acoyapa 38.09 332 eP P 06 37 37.8 +0.2
MAGL Barre de l'ile 38.53 10 eP P 06 37 32.9 -8.3
BOAB BOACO BROADBAN 38.73 331 P P 06 37 43.8 +0.9
BOAB pP pP 06 38 20.6 +0.8
GDHS Morne Mazeau, 38.77 9 P P 06 37 40.8 -2.5
GDHS IAmb IAmb 06 37 42.2
comp=Z,100nm,0.8s
GDSD La Dsirade Is 38.92 10 P P 06 37 42.1 -2.4
GDSD IAmb IAmb 06 37 45.6
comp=Z,76nm,0.8s
ABD La Joyeuse, An 39.01 10 eP P 06 37 38.4 -6.8
MLYT Lee's Yard 39.15 8 eP P 06 37 52.6 +6.2
MBFL Flemmings, Mon 39.18 8 eP P 06 37 42.4 -4.2
ANBD Bethesda, Anti 39.53 9 eP P 06 37 41.2 -8.3
CRIN San Cristobal 39.58 330 eP P 06 37 45.8 -4.3
HOPE Hope Point 39.68 152 P P 06 37 51.2 +0.9
HOPE Hope Point 39.68 152 P P 06 37 51.2 +0.9
HOPE pmax pmax
comp=Z,671nm,1.0s
HOPE Hope Point 39.68 152 P P 06 37 51.5 +1.1
CDVI St. Croix 39.90 4 P P 06 37 50.1 -2.4
CDVI IAmb IAmb 06 37 51.7
comp=Z,144nm,0.8s
SABA Saba 39.91 7 eP P 06 37 48.0 -4.7
MLPR Magueyes Islan 40.02 1 P P 06 37 50.7 -2.8
CRPR Cabo Rojo, PR 40.05 1 P P 06 37 52.0 -1.8
OBIP Obispado Ponce 40.10 2 P P 06 37 51.7 -2.5
OBIP pP pP 06 38 30.5 -0.7
CELP Cerrillos 40.13 2 P P 06 37 52.5 -2.0
ANWB Willy Bob 40.14 9 P P 06 37 51.4 -3.2
ANWB Willy Bob 40.14 9 eP P 06 37 46.6 -7.9
SJG San Juan 40.19 2 P P 06 37 52.8 -2.1
comp=Z,326nm,0.7s,baz=190,slow=2.2,SNR=144
SJG S S 06 43 42.6 -6.8
comp=Z,18nm,1.0s,baz=253,slow=22,SNR=13
SJG San Juan 40.19 2 P P 06 37 52.6 -2.2
SJG pP pP 06 38 30.4 -1.4
SJG San Juan 40.19 2 P P 06 37 52.7 -2.2
SJG pP pP 06 38 29.8 -2.1
SJG sP sP 06 38 51.9 +1.0
UUPR Utuado, UPR, P 40.31 2 P P 06 37 54.0 -1.9
CBYP Canovanas 40.36 3 P P 06 37 54.3 -2.0
CBYP IAmb IAmb 06 37 55.8
comp=Z,257nm,0.9s
GCPR Guaynabo City 40.38 2 P P 06 37 54.3 -2.2
GCPR IAmb IAmb 06 37 55.6
comp=Z,209nm,0.8s
CUPR Culebra, Puert 40.42 4 P P 06 37 54.7 -2.1
PCDR Punta Cana, DR 40.56 359 P P 06 37 56.6 -1.4
TGUH Tegucigalpa,Un 40.87 330 P P 06 38 01.9 +1.1
TGUH IAmb IAmb 06 38 02.9
comp=Z,110nm,0.8s
TGUH Tegucigalpa,Un 40.87 330 eP P 06 38 01.8 +1.0
SDDR Presa de Saban 41.16 355 P P 06 38 01.1 -1.9
SDDR Presa de Saban 41.16 355 eP P 06 38 01.3 -1.6
MTDJ Mount Denham 41.39 346 P P 06 38 04.7 -0.2
MTDJ Mount Denham 41.39 346 eP P 06 38 02.5 -2.4
SC01 Santiago de lo 41.56 356 P P 06 38 05.0 -1.1
SC01 IAmb IAmb 06 38 06.8
comp=Z,237nm,0.9s
SC01 pP pP 06 38 43.3 0.0
MTO3 Montecristo 42.16 328 P P 06 38 12.2 +0.8
MTO3 pP pP 06 38 50.1 +1.6
ESQI Esquipulas 42.29 328 P P 06 38 13.1 +0.8
ESQI IAmb IAmb 06 38 15.1
comp=Z,86nm,0.7s
PMSA Palmer Station 42.54 178 P P 06 38 14.1 +0.6
comp=Z,88nm,0.8s,baz=12,slow=6.1,SNR=24
PMSA LR LR 06 57 11.6
comp=Z,2µm,19.4s,baz=346,slow=38
comp=Z,88nm,0.8s
PMSA Palmer Station 42.54 178 P P 06 38 13.9 +0.4
PMSA IAmb IAmb 06 38 16.0
comp=Z,133nm,0.9s
PMSA Palmer Station 42.54 178 eP P 06 38 15.2 +1.7
PMSA Palmer Station 42.54 178 P P 06 38 14.3 +0.8
GTBY Guantanamo Bay 42.57 350 P P 06 38 13.6 -0.7
GTBY Guantanamo Bay 42.57 350 eP P 06 38 12.6 -1.7
GRTK Grand Turk 43.66 355 P P 06 38 21.9 -1.1
PETF Flores 44.57 329 P P 06 38 31.6 +1.3
CCIG Comitan 45.16 326 P P 06 38 36.1 +0.9
SMAI San Martin Ant 45.84 180 P P 06 38 39.8 +0.1
SMAI IAmb IAmb 06 38 42.8
comp=Z,275nm,1.3s
TEIG Tepich 46.77 333 P P 06 38 48.3 +0.8
TEIG IAmb IAmb 06 38 49.0
comp=Z,129nm,0.8s
TEIG Tepich 46.77 333 eP P 06 38 47.6 +0.1
TEIG Tepich 46.77 333 P P 06 38 47.9 +0.4
TEIG pP pP 06 39 28.0 +2.5
SOR Soroa 47.20 341 P P 06 38 51.2 +0.3
SOR IAmb IAmb 06 38 53.0
comp=Z,192nm,0.9s
SOR Soroa 47.20 341 P P 06 38 51.2 +0.3
SOR pmax pmax
comp=Z,192nm,0.9s
CMIG Matias Romero 47.29 324 P P 06 38 52.8 +1.1
comp=Z,43nm,0.7s,baz=146,slow=5.6,SNR=106
CMIG S S 06 45 25.9 -6.8
comp=Z,2.0nm,1.0s,baz=157,slow=7.7,SNR=2.3
comp=Z,43nm,0.7s
061Z Ochoppi 49.54 344 P P 06 39 09.9 +1.2
061Z Ochoppi 49.54 344 P P 06 39 09.9 +1.2
baz=164,SNR=18
TLIG Tlapa 49.77 320 P P 06 39 11.8 +1.0
TLIG pP pP 06 39 50.1 +0.9
TLIG PcP PcP 06 40 30.7 +1.5
060A Indiantown 50.53 345 P P 06 39 17.4 +1.3
baz=165
DWPF Disney Wildern 51.82 345 P P 06 39 25.8 +0.1
DWPF Disney Wildern 51.82 345 P P 06 39 26.4 +0.7
baz=164,SNR=24
DWPF Disney Wildern 51.82 345 P P 06 39 26.4 +0.7
baz=164
DWPF Disney Wildern 51.82 345 P P 06 39 26.2 +0.6
DWPF pP pP 06 40 04.9 +0.5
MOIG Morelia 52.98 319 P P 06 39 35.8 +1.1
MOIG IAmb IAmb 06 39 37.7
comp=Z,120nm,0.8s
MOIG pP pP 06 40 14.9 +1.3
656A Willston 53.29 344 P P 06 39 36.5 -0.1
656A pP pP 06 40 15.7 +0.3
656A Willston 53.29 344 P P 06 39 37.4 +0.8
baz=163,SNR=19
BBSR BB Station 54.43 3 P P 06 39 44.2 -0.6
BBSR IAmb IAmb 06 39 45.6
comp=Z,240nm,1.7s
BBSR BB Station 54.43 3 P P 06 39 44.3 -0.4
BBSR pP pP 06 40 23.3 -0.4
456A Hilliard 54.46 345 P P 06 39 46.1 +1.2
baz=164,SNR=15
451A Vernon 55.37 341 P P 06 39 52.0 +0.6
baz=160,SNR=5.8
257A Skidaway Islan 55.43 346 P P 06 39 52.9 +1.0
baz=165
TIGA Tifton 55.54 344 P P 06 39 52.2 -0.5
TIGA IAmb IAmb 06 39 53.9
comp=Z,122nm,0.8s
TIGA Tifton 55.54 344 P P 06 39 53.2 +0.5
baz=162,SNR=14
TIGA Tifton 55.54 344 P P 06 39 53.1 +0.4
baz=162,SNR=14
255A Hazlehurst 55.72 345 P P 06 39 54.3 +0.3
baz=164,SNR=9.1
352A Blakely 55.94 342 P P 06 39 55.5 -0.1
352A Blakely 55.94 342 P P 06 39 55.8 +0.3
baz=161,SNR=52
ZAIG Zacatecas 56.16 321 P P 06 39 58.7 +1.0
ZAIG IAmb IAmb 06 40 00.8
comp=Z,97nm,1.1s
ZAIG pP pP 06 40 38.6 +1.6
BRAL Brewton 56.28 340 P P 06 39 58.2 +0.2
BRAL Brewton 56.28 340 P P 06 39 58.8 +0.8
baz=159
BRAL Brewton 56.28 340 P P 06 39 58.2 +0.2
baz=159

NHSC **New Hope** **56.35 347** P **P** **06 39 59.0 +0.6**
NHSC **New Hope** **56.35 347** P **P** **06 39 59.8 +1.4**
baz=166,SNR=19
NHSC **New Hope** **56.35 347** P **P** **06 39 59.5 +1.1**
baz=166,SNR=19
154A **Montrose** **56.53 344** P **P** **06 39 59.5 -0.3**
154A pP **pP** **06 40 39.2 0.0**
154A **Montrose** **56.53 344** P **P** **06 40 00.2 +0.5**
baz=163,SNR=29
250A **Grady** **56.79 341** P **P** **06 40 01.7 +0.1**
baz=160,SNR=31
Y60A **Bolivia** **56.86 350** P **P** **06 40 02.5 +0.5**
Y60A **Bolivia** **56.86 350** P **P** **06 40 03.0 +1.1**
baz=168,SNR=14
Y60A P **P** **06 40 03.0 +1.1**
baz=168,SNR=14
HAW **Hawthorne Fire** **56.89 346** P **P** **06 40 02.8 +0.5**
baz=165,SNR=36
SACV **Santiago Islan** **56.95 53** P **P** **06 40 01.2 -1.9**
SACV lAmb lAmb 06 40 02.8
comp=Z,200nm,1.5s
152A **Waverly Hall** **57.00 343** P **P** **06 40 02.4 -0.7**
152A lAmb lAmb 06 40 03.9
comp=Z,77nm,0.8s
152A pP **pP** **06 40 42.2 -0.3**
152A PcP **PcP** **06 40 56.5 +0.2**
152A **Waverly Hall** **57.00 343** P **P** **06 40 03.0 0.0**
baz=161,SNR=35
Y58A **Scranton** **57.02 348** P **P** **06 40 03.3 +0.2**
Y58A **Scranton** **57.02 348** P **P** **06 40 04.2 +1.0**
baz=167,SNR=17
Y58A P **P** **06 40 04.2 +1.0**
baz=167,SNR=17
Y57A **Sumter** **57.27 348** P **P** **06 40 05.7 +0.8**
baz=166,SNR=18
Y57A P **P** **06 40 05.7 +0.8**
baz=166,SNR=18
346A **Big Creek Wild** **57.28 338** P **P** **06 40 05.1 0.0**
346A lAmb lAmb 06 40 06.2
comp=Z,122nm,0.8s
346A pP **pP** **06 40 45.4 +0.9**
346A **Big Creek Wild** **57.28 338** P **P** **06 40 05.5 +0.5**
baz=156,SNR=13
X58A **Rowland** **57.59 349** P **P** **06 40 07.2 0.0**
X58A **Rowland** **57.59 349** P **P** **06 40 08.0 +0.8**
baz=167,SNR=41
X58A P **P** **06 40 08.0 +0.8**
baz=167,SNR=41
JSC **Jenkinsville** **57.71 347** P **P** **06 40 08.4 +0.5**
JSC lAmb lAmb 06 40 09.6
comp=Z,111nm,0.8s
JSC pP **pP** **06 40 47.5 -0.1**
JSC **Jenkinsville** **57.71 347** P **P** **06 40 08.8 +0.9**
baz=165,SNR=41
JSC **Jenkinsville** **57.71 347** P **P** **06 40 08.4 +0.5**
JSC pmax pmax
comp=Z,111nm,0.8s
Z51A **Franklin** **57.74 343** P **P** **06 40 07.7 -0.5**
Z51A lAmb lAmb 06 40 09.1
comp=Z,67nm,0.9s
Z51A **Franklin** **57.74 343** P **P** **06 40 08.5 +0.3**
baz=161,SNR=13
344A **Westbrook Farm** **57.80 337** P **P** **06 40 08.8 +0.2**
344A lAmb lAmb 06 40 10.2
comp=Z,100nm,0.8s
344A **Westbrook Farm** **57.80 337** P **P** **06 40 09.4 +0.8**
baz=155,SNR=18
BELA **Belgrano 2** **57.82 172** P **P** **06 40 09.5 +1.3**
BELA lAmb lAmb 06 40 10.6
comp=Z,124nm,1.2s
HODGE **Hodges** **57.88 346** P **P** **06 40 09.8 +0.7**
baz=164,SNR=23
BIRD **Birdtown, Kers** **57.89 348** P **P** **06 40 09.9 +0.7**
BIRD **Birdtown, Kers** **57.89 348** P **P** **06 40 09.7 +0.5**
baz=166
Y52A **Lilburn** **57.96 344** P **P** **06 40 09.1 -0.7**
Y52A lAmb lAmb 06 40 10.7
comp=Z,80nm,0.9s
Y52A **Lilburn** **57.96 344** P **P** **06 40 09.8 +0.1**
baz=162,SNR=25
Y52A P **P** **06 40 09.8 +0.1**
baz=162,SNR=25
LRAL **Lakeview Retre** **58.00 341** P **P** **06 40 09.4 -0.7**
LRAL lAmb lAmb 06 40 10.8
comp=Z,71nm,0.8s
LRAL **Lakeview Retre** **58.00 341** P **P** **06 40 09.9 -0.1**
baz=159,SNR=40
LRAL **Lakeview Retre** **58.00 341** P **P** **06 40 09.7 -0.3**
baz=159,SNR=40
CNNC **Cliffs of the** **58.02 350** P **P** **06 40 10.9 +0.9**
baz=169,SNR=8.5
CNNC **Cliffs of the** **58.02 350** P **P** **06 40 10.2 +0.2**
baz=169,SNR=8.5
441A **DeRidder** **58.11 334** P **P** **06 40 12.8 +2.0**
baz=152,SNR=5.6
146A **Union** **58.29 339** P **P** **06 40 12.4 +0.4**
baz=157,SNR=17
W57A **Gilead** **58.30 348** P **P** **06 40 12.5 +0.5**
W57A pP **pP** **06 40 51.7 +0.1**
W57A **Gilead** **58.30 348** P **P** **06 40 12.8 +0.8**
baz=167,SNR=37
W57A P **P** **06 40 12.8 +0.8**
baz=167,SNR=37
342B **Flagon Creek P** **58.32 335** P **P** **06 40 13.8 +1.5**
baz=153,SNR=21
PAULI **Pauline** **58.34 346** P **P** **06 40 12.8 +0.4**
PAULI lAmb lAmb 06 40 14.1
comp=Z,117nm,0.9s
PAULI pP **pP** **06 40 51.6 -0.4**
PAULI **Pauline** **58.34 346** P **P** **06 40 13.3 +1.0**
baz=165,SNR=32
V61A **Roper** **58.37 352** P **P** **06 40 13.0 +0.5**
baz=170
V61A P **P** **06 40 13.0 +0.5**
baz=170
VBMS **Vicksburg** **58.41 337** P **P** **06 40 13.2 +0.3**
baz=155,SNR=7.9
VBMS **Vicksburg** **58.41 337** P **P** **06 40 12.8 -0.1**
baz=155,SNR=7.9
Z47A **Carrollton** **58.48 340** P **P** **06 40 12.8 -0.5**
Z47A lAmb lAmb 06 40 14.1
comp=Z,133nm,0.8s
Z47A **Carrollton** **58.48 340** P **P** **06 40 13.3 0.0**
baz=158,SNR=34
735A **Kenedy** **58.52 329** P **P** **06 40 14.7 +1.0**
baz=147
HKT **Hockley** **58.54 331** P **P** **06 40 14.8 +1.0**
baz=149
HKT **Hockley** **58.54 331** P **P** **06 40 14.5 +0.8**
HKT pP **pP** **06 40 54.3 +1.1**
HKT sP **sP** **06 41 15.4 +3.8**
KMSC **Kings Mountain** **58.55 347** P **P** **06 40 14.6 +0.7**
baz=165,SNR=60
KMSC **Kings Mountain** **58.55 347** P **P** **06 40 14.6 +0.7**
baz=165,SNR=60
Y49A **Blount Mountai** **58.59 342** P **P** **06 40 13.6 -0.5**
Y49A lAmb lAmb 06 40 14.8
comp=Z,72nm,0.8s
Y49A **Blount Mountai** **58.59 342** P **P** **06 40 14.0 -0.1**
baz=160,SNR=26
SHEL **Horse Pasture** **58.60 96** P **P** **06 40 15.2 +0.6**
V58A **Windy Hill, Pi** **58.76 349** P **P** **06 40 15.6 +0.4**
V58A **Windy Hill, Pi** **58.76 349** P **P** **06 40 15.7 +0.4**
baz=168,SNR=43
V58A P **P** **06 40 15.7 +0.4**
baz=168,SNR=43
CASEE **Lake Jocassee** **58.76 345** P **P** **06 40 16.0 +0.8**
baz=164,SNR=32
X51A **Calhoun** **58.83 344** P **P** **06 40 16.1 +0.3**
baz=162,SNR=50
X51A P **P** **06 40 16.1 +0.3**
baz=162,SNR=50
833A **Chaparral WMA,** **58.85 327** P **P** **06 40 16.8 +0.8**
833A lAmb lAmb 06 40 17.9
comp=Z,137nm,0.9s
833A pP **pP** **06 40 55.8 +0.3**
833A **Chaparral WMA,** **58.85 327** P **P** **06 40 17.1 +1.0**
baz=146,SNR=33
833A **Chaparral WMA,** **58.85 327** P **P** **06 40 16.6 +0.6**
baz=146,SNR=33
VNA3 **Neumayer Olymp** **58.99 161** P **P** **06 40 17.1 +0.6**
U59A **Littleton** **59.09 351** P **P** **06 40 17.4 -0.1**
U59A lAmb lAmb 06 40 19.4
comp=Z,151nm,0.9s
U59A **Littleton** **59.09 351** P **P** **06 40 17.9 +0.4**
baz=169,SNR=39
U59A P **P** **06 40 17.9 +0.4**
baz=169,SNR=39
W52A **Murphy** **59.09 345** P **P** **06 40 17.7 +0.1**
W52A lAmb lAmb 06 40 19.5
comp=Z,168nm,1.1s
W52A pP **pP** **06 40 57.1 -0.3**
W52A **Murphy** **59.09 345** P **P** **06 40 18.1 +0.5**
baz=163,SNR=36
143A **Socs Landing,** **59.17 337** P **P** **06 40 18.6 +0.5**
baz=154
VNA1 **Neumayer--Stat** **59.19 160** P **P** **06 40 19.4 +1.6**
V55A **Taylorsville** **59.21 347** P **P** **06 40 18.7 +0.3**
V55A **Taylorsville** **59.21 347** P **P** **06 40 19.4 +1.1**
baz=166,SNR=107
V55A P **P** **06 40 19.4 +1.1**
baz=166,SNR=107
X48A **Hartselle** **59.33 342** P **P** **06 40 18.7 -0.5**
X48A **Hartselle** **59.33 342** P **P** **06 40 19.2 0.0**
baz=159,SNR=93
V53A **Saluda** **59.38 346** P **P** **06 40 19.9 +0.3**
V53A lAmb lAmb 06 40 21.0
comp=Z,105nm,0.8s
V53A **Saluda** **59.38 346** P **P** **06 40 20.2 +0.6**
baz=164,SNR=39
V53A P **P** **06 40 20.2 +0.6**
baz=164,SNR=39
U56A **King** **59.53 348** P **P** **06 40 21.7 +1.2**
baz=166,SNR=49
U56A P **P** **06 40 21.7 +1.2**
baz=166,SNR=49
W50A **Signal Mountai** **59.55 343** P **P** **06 40 20.8 0.0**
baz=161,SNR=70
VNA2 **Neumayer--Watz** **59.56 161** P **P** **06 40 21.0 +0.6**
baz=290,slow=7.0
Y45A **Yeager Farm, C** **59.57 339** P **P** **06 40 21.1 +0.2**
baz=157
CPCT **Cooper Cave** **59.58 344** P **P** **06 40 20.6 -0.3**
CPCT lAmb lAmb 06 40 22.6
comp=Z,174nm,1.1s
TKL **Tuckaleechee C** **59.59 345** P **P** **06 40 21.1 +0.1**
comp=Z,140nm,0.9s,baz=162,slow=8.8,SNR=112
TKL LR LR 07 09 13.1
comp=Z,472nm,21.6s,baz=159,slow=39
comp=Z,140nm,0.9s
TKL **Tuckaleechee C** **59.59 345** P **P** **06 40 20.7 -0.3**
TKL **Tuckaleechee C** **59.59 345** P **P** **06 40 21.2 +0.1**
baz=163,SNR=68
NATX **Nacogdoches** **59.60 333** P **P** **06 40 22.6 +1.6**
baz=151,SNR=9.9
NATX **Nacogdoches** **59.60 333** P **P** **06 40 22.0 +0.9**
baz=151,SNR=9.9
T59A **Double "B" Far** **59.66 351** P **P** **06 40 21.3 -0.1**
T59A **Double "B" Far** **59.66 351** P **P** **06 40 21.8 +0.4**
baz=170,SNR=42
T59A P **P** **06 40 21.8 +0.4**
baz=170,SNR=42
T60A **Surry** **59.71 352** P **P** **06 40 22.5 +0.8**
baz=170,SNR=8.0
T60A P **P** **06 40 22.5 +0.8**
baz=170,SNR=8.0
V52A **Sevierville** **59.73 345** P **P** **06 40 22.1 +0.2**
baz=163,SNR=77
V51A **Loudon** **59.88 344** P **P** **06 40 23.1 +0.2**
baz=162,SNR=19
T57A **Hurt** **59.96 349** P **P** **06 40 24.2 +0.8**
baz=168,SNR=45
T57A P **P** **06 40 24.2 +0.8**
baz=168,SNR=45
U54A **Nelsons Funny** **59.98 347** P **P** **06 40 23.9 +0.2**
U54A **Nelsons Funny** **59.98 347** P **P** **06 40 24.5 +0.8**
baz=165,SNR=78
U54A P **P** **06 40 24.5 +0.8**
baz=165,SNR=78
435B **Jarrell** **60.03 330** P **P** **06 40 24.9 +0.8**
baz=148,SNR=8.5
435B **Jarrell** **60.03 330** P **P** **06 40 24.4 +0.3**
baz=148
OXF **Oxford** **60.12 339** P **P** **06 40 24.0 -0.6**
baz=157,SNR=43
OXF **Oxford** **60.12 339** P **P** **06 40 24.0 -0.6**
baz=157,SNR=43
PLAL **Pickwick Lake** **60.13 341** P **P** **06 40 24.0 -0.6**
PLAL lAmb lAmb 06 40 25.7
comp=Z,146nm,1.1s
237A **Washetta, Mont** **60.29 333** P **P** **06 40 27.4 +1.6**
baz=150
BLA **Blacksburg** **60.37 348** P **P** **06 40 27.6 +1.3**
baz=167,SNR=47
BLA **Blacksburg** **60.37 348** P **P** **06 40 27.4 +1.1**
baz=167,SNR=47
TZTN **Tazewell** **60.39 345** P **P** **06 40 26.1 -0.3**
TZTN lAmb lAmb 06 40 28.1
comp=Z,108nm,1.1s
TZTN **Tazewell** **60.39 345** P **P** **06 40 26.6 +0.2**
baz=163,SNR=18
TZTN **Tazewell** **60.39 345** P **P** **06 40 26.6 +0.2**
baz=163,SNR=18
V48A **Smith Brothers** **60.47 342** P **P** **06 40 26.9 -0.1**
baz=160,SNR=71
W45A **Hickory Valley** **60.64 340** P **P** **06 40 27.8 -0.4**
baz=157,SNR=39
S57A **Dark Hollow, R** **60.65 350** P **P** **06 40 28.9 +0.7**
baz=168,SNR=38
S57A P **P** **06 40 28.9 +0.7**
baz=168,SNR=38
CLTN **Cedars of Leba** **60.66 343** P **P** **06 40 28.2 0.0**
CLTN lAmb lAmb 06 40 29.8
comp=Z,165nm,1.0s
CLTN pP **pP** **06 41 07.6 -0.6**
R58B **Mineral** **60.68 351** P **P** **06 40 29.1 +0.8**
baz=169,SNR=45
R58B P **P** **06 40 29.1 +0.8**
baz=169,SNR=45
R61A **Willards** **60.72 353** P **P** **06 40 30.0 +1.5**
baz=172
R61A P **P** **06 40 30.0 +1.5**
baz=172
JCT **Junction City** **60.83 328** P **P** **06 40 30.1 +0.5**
baz=146,SNR=37
JCT **Junction City** **60.83 328** P **P** **06 40 29.8 +0.2**
baz=146,SNR=37
CBN **Corbin Frederi** **60.85 351** P **P** **06 40 30.2 +0.8**
baz=170,SNR=5.2
CBN **Corbin Frederi** **60.85 351** P **P** **06 40 30.0 +0.6**
baz=170,SNR=5.2
U49A **Red Boiling Sp** **60.91 343** P **P** **06 40 29.7 -0.2**
baz=161,SNR=29
WHTX **Lake Whitney,** **61.00 331** P **P** **06 40 31.5 +0.9**
baz=148
WHTX **Lake Whitney,** **61.00 331** P **P** **06 40 30.9 +0.3**
baz=148
Z38A **Mt. Pleasant** **61.04 334** P **P** **06 40 32.1 +1.2**
baz=151,SNR=7.5
S54A **Dingess, Becki** **61.11 348** P **P** **06 40 32.1 +0.8**
baz=166,SNR=45
S54A P **P** **06 40 32.1 +0.8**
baz=166,SNR=45
WVT **Waverly** **61.13 342** P **P** **06 40 30.8 -0.5**
baz=159,SNR=110
WVT **Waverly** **61.13 342** P **P** **06 40 31.0 -0.3**
baz=159
WVT **Waverly** **61.13 342** P **P** **06 40 31.0 -0.3**
WVT **Waverly** **61.13 342** jP **P** **06 40 30.9 -0.5**
WVT pP **pP** **06 41 10.0 -1.3**
HPIG **61.15 321** P **P** **06 40 32.6 +0.6**
T50A **Nancy** **61.15 344** P **P** **06 40 31.3 -0.2**
baz=162
T50A P **P** **06 40 31.3 -0.2**
baz=162
SNAA **Sanae** **61.19 161** P **P** **06 40 32.1 +0.6**
SNAA **Sanae** **61.19 161** P **P** **06 40 32.2 +0.8**
SNAA lAmb lAmb 06 40 33.4
comp=Z,126nm,1.0s
SNAA **Sanae** **61.19 161** *eP* **P** **06 40 31.6 +0.1**
SNAA **Sanae** **61.19 161** *c iP* **P** **06 40 31.6 +0.1**
SNAA pmax pmax
comp=Z,115nm,1.1s
X40A **Basin Creek Fa** **61.29 336** P **P** **06 40 32.8 +0.4**
baz=154,SNR=12
X40A P **P** **06 40 32.8 +0.4**
baz=154,SNR=12
R55A **Marlinton** **61.36 349** P **P** **06 40 34.3 +1.3**
baz=167,SNR=46
R55A P **P** **06 40 34.3 +1.3**
baz=167,SNR=46
SLBS **Sierra La Lagu** **61.41 315** P **P** **06 40 35.1 +1.4**
SLBS lAmb lAmb 06 40 36.9
comp=Z,136nm,1.6s
SLBS **Sierra La Lagu** **61.41 315** P **P** **06 40 35.6 +2.0**
SLBS pP **PcP** **06 41 15.7 +1.5**
SLBS sP **sP** **06 41 36.3 +4.4**
S51A **Beattyville** **61.44 346** P **P** **06 40 33.1 -0.3**
S51A lAmb lAmb 06 40 35.1
comp=Z,86nm,1.0s
S51A **Beattyville** **61.44 346** P **P** **06 40 33.9 +0.4**
baz=163,SNR=17
S51A P **P** **06 40 33.9 +0.4**
baz=163,SNR=17
RKT **Rikitea** **61.48 255** *eP* **P** **06 40 35.5 +1.4**
comp=Z,95nm,1.4s
RKT *eS* **S** **06 48 44.2 +1.5**
comp=Z,72µm,29.8s
RKT **Rikitea** **61.48 255** *eLR* LR 06 59 02.6
comp=Z,378µm,26.8s
HBAR **Harrisburg** **61.48 339** P **P** **06 40 33.0 -0.7**
HBAR lAmb lAmb 06 40 34.7
comp=Z,129nm,1.3s
LNXT **Lenox** **61.61 340** P **P** **06 40 34.9 +0.3**
baz=157
MIAR **Mount Ida** **61.62 336** P **P** **06 40 34.8 +0.1**
MIAR lAmb lAmb 06 40 36.0
comp=Z,153nm,1.2s
MIAR **Mount Ida** **61.62 336** P **P** **06 40 35.1 +0.4**
baz=153,SNR=58
MIAR **Mount Ida** **61.62 336** P **P** **06 40 35.1 +0.4**
baz=153,SNR=58
MIAR **Mount Ida** **61.62 336** P **P** **06 40 34.8 +0.1**
MIAR pmax pmax
comp=Z,153nm,1.2s
GNAR **Gosnell** **61.65 340** P **P** **06 40 34.5 -0.4**
MBO **M'Bour** **61.71 59** P **P** **06 40 35.8 +0.2**
MBO **M'Bour** **61.71 59** P **P** **06 40 35.9 +0.3**
T47A **Sharon Grove** **61.72 342** P **P** **06 40 34.7 -0.7**
baz=160,SNR=79
R53A **Hurricane** **61.75 347** P **P** **06 40 36.4 +0.8**
baz=165,SNR=19
R53A P **P** **06 40 36.4 +0.8**
baz=165,SNR=19
WHAR **Wooly Hollow** **61.81 337** P **P** **06 40 35.8 -0.2**
WHAR lAmb lAmb 06 40 37.0
comp=Z,60nm,0.9s
TXAR **Lajitas Array** **61.88 325** P **P** **06 40 37.0 +0.2**
TXAR pP **pP** **06 41 17.1 +0.4**
TX31 **Lajitas Ar. Si** **61.88 325** P **P** **06 40 37.3 +0.5**
baz=142
LPIG **La Paz** **61.94 316** P **P** **06 40 38.7 +1.7**
comp=Z,35nm,0.8s,baz=121,slow=5.9,SNR=9.5
LPIG S **S** **06 48 51.3 +3.1**
comp=Z,3.5nm,0.3s,baz=165,slow=12,SNR=1.1
comp=Z,35nm,0.8s
Q56A **Snyder Ridge,** **61.94 350** P **P** **06 40 37.3 +0.5**
Q56A **Snyder Ridge,** **61.94 350** P **P** **06 40 38.4 +1.6**
baz=168,SNR=51
Q56A P **P** **06 40 38.4 +1.6**
baz=168,SNR=51
SDMD **Soldier's Deli** **61.96 352** P **P** **06 40 37.7 +0.8**
baz=171,SNR=17
P61A **Hammonton** **61.99 354** P **P** **06 40 37.4 +0.3**
baz=173
P61A P **P** **06 40 37.4 +0.3**
baz=173
Z35A **Perchaven, San** **62.05 332** P **P** **06 40 38.6 +1.0**
baz=149,SNR=15
LCAR **Lake Charles** **62.12 339** P **P** **06 40 37.4 -0.6**
LCAR lAmb lAmb 06 40 38.8
comp=Z,79nm,1.0s
LCAR pP **pP** **06 41 17.6 -0.4**
LCAR **Lake Charles** **62.12 339** P **P** **06 40 37.9 -0.1**
baz=156,SNR=40
Q54A **Coxs Mills** **62.17 349** P **P** **06 40 39.0 +0.7**
baz=166,SNR=29
Q54A P **P** **06 40 39.0 +0.7**
baz=166,SNR=29
T45B **Paducah** **62.19 341** P **P** **06 40 38.5 +0.1**
baz=158,SNR=51
P57A **Homestead Farm** **62.19 351** P **P** **06 40 39.0 +0.5**
P57A **Homestead Farm** **62.19 351** P **P** **06 40 39.6 +1.2**
baz=169,SNR=45
P57A P **P** **06 40 39.6 +1.2**
baz=169,SNR=45
BBTS **Babate** **62.20 59** LR LR 07 08 04.3
comp=Z,2µm,18.4s,baz=244,slow=36
GEDE **Greenville** **62.21 353** P **P** **06 40 39.2 +0.6**
baz=172,SNR=15
R50A **Paris** **62.23 345** P **P** **06 40 38.7 0.0**
baz=163,SNR=15
R50A P **P** **06 40 38.7 0.0**
baz=163,SNR=15
PSUB **Penn St. - Bra** **62.31 353** P **P** **06 40 39.9 +0.8**
baz=172
X37A **Clayton** **62.35 334** P **P** **06 40 40.0 +0.4**
X37A lAmb lAmb 06 40 41.5
comp=Z,80nm,0.8s
X37A **Clayton** **62.35 334** P **P** **06 40 40.6 +1.0**
baz=151,SNR=27
Q52A **Bidwell** **62.43 347** P **P** **06 40 40.3 +0.3**
baz=165,SNR=19
Q52A P **P** **06 40 40.3 +0.3**
baz=165,SNR=19
R49A **Shelbyville** **62.44 345** P **P** **06 40 40.1 0.0**
baz=162,SNR=17
R49A P **P** **06 40 40.1 0.0**
baz=162,SNR=17
MVL **Millersville** **62.48 353** P **P** **06 40 40.9 +0.5**
MVL lAmb lAmb 06 40 42.5
comp=Z,115nm,1.0s
PBMO **Poplar Bluff** **62.53 340** P **P** **06 40 40.0 -0.7**
PBMO lAmb lAmb 06 40 42.2
comp=Z,139nm,0.9s
PBMO **Poplar Bluff** **62.53 340** P **P** **06 40 40.5 -0.2**
baz=156,SNR=11
ABTX **Abilene, Hawle** **62.53 330** P **P** **06 40 41.4 +0.5**
baz=147,SNR=22
ABTX **Abilene, Hawle** **62.53 330** P **P** **06 40 41.4 +0.5**
baz=147,SNR=22
MCWV **Mont Chateau** **62.65 350** P **P** **06 40 41.9 +0.4**
MCWV **Mont Chateau** **62.65 350** P **P** **06 40 42.5 +1.0**
baz=168,SNR=40
MCWV **Mont Chateau** **62.65 350** P **P** **06 40 42.3 +0.8**
baz=168,SNR=40
WCI **Wyandotte Cave** **62.66 344** P **P** **06 40 41.2 -0.4**
baz=161,SNR=27
WCI **Wyandotte Cave** **62.66 344** P **P** **06 40 41.1 -0.5**
baz=161
WCI **Wyandotte Cave** **62.66 344** P **P** **06 40 40.8 -0.8**
WCI pP **pP** **06 41 20.7 -1.0**
PANJ **Princeton** **62.68 354** P **P** **06 40 42.7 +1.1**
baz=173,SNR=8.5
Q51A **Peebles** **62.72 346** P **P** **06 40 41.9 -0.1**
baz=164,SNR=14
Q51A P **P** **06 40 41.9 -0.1**
baz=164,SNR=14
CGM3 **Cape Girardeau** **62.76 340** P **P** **06 40 41.5 -0.7**
CGM3 lAmb lAmb 06 40 43.1
comp=Z,155nm,1.2s
P53A **Whipple** **62.76 348** P **P** **06 40 42.9 +0.7**
baz=166,SNR=59
P53A P **P** **06 40 42.9 +0.7**
baz=166,SNR=59
TROLL **Troll, Antarti** **62.90 161** P **P** **06 40 43.8 +0.8**
U40A **Yellville** **62.97 337** P **P** **06 40 43.8 +0.2**
baz=154,SNR=45
U40A P **P** **06 40 43.8 +0.2**
baz=154,SNR=45
BRNJ **Basking Ridge** **62.97 354** P **P** **06 40 44.2 +0.7**
BRNJ lAmb lAmb 06 40 45.8
comp=Z,70nm,0.8s
BRNJ **Basking Ridge** **62.97 354** P **P** **06 40 44.6 +1.1**
baz=173,SNR=12
T42A **Van Buren** **62.97 339** P **P** **06 40 43.1 -0.5**
T42A **Van Buren** **62.97 339** P **P** **06 40 43.2 -0.5**
baz=156
S44A **Carbondale** **63.00 341** P **P** **06 40 43.1 -0.7**
S44A lAmb lAmb 06 40 44.5
comp=Z,90nm,0.9s
S44A **Carbondale** **63.00 341** P **P** **06 40 43.5 -0.3**
baz=158,SNR=28
PABK **Blue Knob Stat** **63.05 351** P **P** **06 40 45.3 +1.2**
baz=169
P52A **Corning** **63.05 348** P **P** **06 40 43.8 -0.3**
P52A **Corning** **63.05 348** P **P** **06 40 44.2 +0.1**
baz=165,SNR=30
FOR **Fordham** **63.09 355** P **P** **06 40 45.2 +0.9**
baz=174,SNR=6.3

P51A **Williamsport** 63.09 347 P P 06 40 44.4 0.0
baz=164,SNR=18
P51A P P 06 40 44.4 0.0
baz=164,SNR=18
N62A **Caumsett State** 63.12 355 P P 06 40 45.3 +0.8
baz=174
N62A P P 06 40 45.3 +0.8
baz=174
PAL **Palisades** 63.23 355 P P 06 40 45.5 +0.3
PAL IAmb IAmb 06 40 47.2
comp=Z,96nm,1.1s
PAL **Palisades** 63.23 355 P P 06 40 46.2 +1.0
baz=174,SNR=7.6
PAL **Palisades** 63.23 355 P P 06 40 45.6 +0.3
baz=174,SNR=7.6
PAL **Palisades** 63.23 355 P P 06 40 45.5 +0.3
PAL pmax pmax
comp=Z,96nm,1.2s
O54A **Avella** 63.25 349 P P 06 40 46.1 +0.7
baz=167,SNR=17
O54A P P 06 40 46.1 +0.7
baz=167,SNR=17
SSPA **Standing Stone** 63.31 351 P P 06 40 46.3 +0.5
SSPA IAmb IAmb 06 40 47.6
comp=Z,69nm,0.8s
SSPA **Standing Stone** 63.31 351 P P 06 40 46.6 +0.8
baz=170,SNR=21
SSPA **Standing Stone** 63.31 351 P P 06 40 46.6 +0.8
baz=170
SSPA **Standing Stone** 63.31 351 P P 06 40 46.4 +0.6
SSPA pP pP 06 41 27.6 +1.6
N58A **Sunbury** 63.35 352 P P 06 40 47.2 +1.1
baz=171,SNR=30
N58A P P 06 40 47.2 +1.1
baz=171,SNR=30
ODNJ **Ogdensburg** 63.37 354 P P 06 40 47.0 +0.8
baz=173,SNR=11
O52A **Adamsville** 63.45 348 P P 06 40 47.0 +0.2
baz=166,SNR=16
O52A P P 06 40 47.0 +0.2
baz=166,SNR=16
O53A **New Philadelph** 63.47 349 P P 06 40 47.2 +0.3
baz=166,SNR=16
UPAO **U. Pittsburgh** 63.48 350 P P 06 40 47.7 +0.8
baz=167
P49A **Miami Univ. Ec** 63.51 345 P P 06 40 46.5 -0.7
baz=162,SNR=20
P49A **Miami Univ. Ec** 63.51 345 P P 06 40 46.7 -0.5
baz=162,SNR=20
U38A **Gravette** 63.60 336 P P 06 40 48.0 +0.2
baz=152,SNR=20
P48A **Milroy** 63.61 345 P P 06 40 47.1 -0.7
baz=162,SNR=11
P48A P P 06 40 47.1 -0.7
baz=162,SNR=11
OLIL **Olney** 63.63 342 P P 06 40 47.5 -0.4
baz=159,SNR=12
BRNY **Black Rk. Fore** 63.64 355 P P 06 40 48.6 +0.6
baz=174
TUL1 **Leonard** 63.67 335 P P 06 40 48.8 +0.4
baz=151,SNR=26
TUL1 **Leonard** 63.67 335 P P 06 40 48.3 0.0
baz=151,SNR=26
ACSO **Alum Creek Sta** 63.80 347 P P 06 40 48.6 -0.4
ACSO **Alum Creek Sta** 63.80 347 P P 06 40 49.1 +0.1
baz=164,SNR=28
ACSO **Alum Creek Sta** 63.80 347 P P 06 40 49.1 +0.1
baz=164,SNR=28
M57A **Sunshine Farm,** 63.90 352 P P 06 40 50.0 +0.4
M57A IAmb IAmb 06 40 51.7
comp=Z,89nm,0.8s
M57A **Sunshine Farm,** 63.90 352 P P 06 40 50.7 +1.0
baz=170,SNR=20
M57A P P 06 40 50.7 +1.0
baz=170,SNR=20
WMOK **Wichita Mounta** 63.91 332 P P 06 40 49.8 -0.1
baz=148,SNR=17
WMOK **Wichita Mounta** 63.91 332 P P 06 40 49.6 -0.3
baz=148,SNR=17
PSDB **Penn State Uni** 63.91 351 P P 06 40 50.4 +0.6
baz=169
N53A **Lisbon** 63.94 349 P P 06 40 50.1 +0.1
N53A IAmb IAmb 06 40 52.2
comp=Z,122nm,1.1s
N53A **Lisbon** 63.94 349 P P 06 40 50.8 +0.9
baz=167,SNR=12
N53A P P 06 40 50.8 +0.9
baz=167,SNR=12
PAMR **Moraine State** 63.94 350 P P 06 40 50.8 +0.8
baz=167
CCM **Cathedral Cave** 63.95 340 P P 06 40 49.8 -0.3
CCM **Cathedral Cave** 63.95 340 P P 06 40 50.0 -0.1
baz=156,SNR=109
CCM **Cathedral Cave** 63.95 340 P P 06 40 50.2 +0.1
baz=156
CCM **Cathedral Cave** 63.95 340 P P 06 40 49.8 -0.3
CCM pmax pmax
comp=Z,166nm,0.8s
CCM **Cathedral Cave** 63.95 340 P P 06 40 49.8 -0.3
CCM pP pP 06 41 30.3 -0.1
L64A **Middleborough** 63.96 357 P P 06 40 50.8 +0.8
baz=177
L64A P P 06 40 50.8 +0.8
baz=177
NPNY **Mohonk Preserv** 63.99 355 P P 06 40 51.3 +1.1
baz=174,SNR=11
OK025 **Westminster Rd** 64.02 333 P P 06 40 50.0 -0.6
OK025 IAmb IAmb 06 40 51.4
comp=Z,108nm,0.8s
O49A **Covington** 64.05 346 P P 06 40 50.0 -0.7
O49A IAmb IAmb 06 40 51.9
comp=Z,128nm,1.2s
O49A PcP PcP 06 41 24.9 +0.5
O49A pP pP 06 41 30.1 -0.9
O49A **Covington** 64.05 346 P P 06 40 50.5 -0.2
baz=163,SNR=17
O49A P P 06 40 50.5 -0.2
baz=163,SNR=17
Q44A **Meyer Farm, Va** 64.05 342 P P 06 40 49.8 -0.9
Q44A IAmb IAmb 06 40 51.4
comp=Z,104nm,1.0s
Q44A pP pP 06 41 29.9 -1.0
Q44A **Meyer Farm, Va** 64.05 342 P P 06 40 50.3 -0.4
baz=158,SNR=19
OK030 **Cody Creek RV** 64.09 334 P P 06 40 51.3 +0.3
OK030 IAmb IAmb 06 40 52.2
comp=Z,118nm,0.8s
SLM **Saint Louis** 64.17 341 P P 06 40 51.5 0.0
baz=157,SNR=6.1
BCOK **Bluff Creek, N** 64.19 333 P P 06 40 51.1 -0.6
BCOK IAmb IAmb 06 40 52.7
comp=Z,38nm,0.7s
P46A **Rosedale** 64.21 343 P P 06 40 50.4 -1.3
P46A IAmb IAmb 06 40 52.6
comp=Z,163nm,1.6s
P46A PcP PcP 06 41 23.9 -1.3
P46A pP pP 06 41 30.9 -1.2
P46A **Rosedale** 64.21 343 P P 06 40 51.0 -0.7
baz=160,SNR=9.3
M55A **Ridgway** 64.25 351 P P 06 40 52.9 +0.9
baz=169,SNR=22
M55A P P 06 40 52.9 +0.9
baz=169,SNR=22
O48B **Farmland** 64.30 345 P P 06 40 52.0 -0.3
baz=162,SNR=17
O48B **Farmland** 64.30 345 P P 06 40 52.0 -0.3
baz=162,SNR=17
S39A **Bolivar** 64.33 338 P P 06 40 52.8 +0.3
baz=154,SNR=73
N51A **Ashland** 64.33 348 P P 06 40 52.6 +0.1
baz=165,SNR=9.8
N51A P P 06 40 52.6 +0.1
baz=165,SNR=9.8
PAOC **Oil Creek Stat** 64.44 350 P P 06 40 53.7 +0.5
baz=168
R40A **Maddies Statio** 64.50 339 P P 06 40 53.4 -0.3
baz=155,SNR=57
L59A **Walton** 64.51 354 P P 06 40 54.4 +0.8
L59A **Walton** 64.51 354 P P 06 40 55.5 +1.9
baz=173,SNR=25
L59A P P 06 40 55.5 +1.9
baz=173,SNR=25
GDL2 **Guadalupe Moun** 64.51 326 P P 06 40 54.5 +0.5
M53A **WI Miller and** 64.53 349 P P 06 40 54.2 +0.4
baz=167,SNR=9.8
HRV **Adam Dziewonsk** 64.57 357 P P 06 40 55.6 +1.6
baz=176,SNR=5.7
HRV **Adam Dziewonsk** 64.57 357 P P 06 40 54.8 +0.8
baz=176
HRV **Adam Dziewonsk** 64.57 357 P P 06 40 55.1 +1.1
HRV **Adam Dziewonsk** 64.57 357 P P 06 40 54.5 +0.5
HRV pP pP 06 41 35.2 +0.8
L61B **Northampton** 64.57 356 P P 06 40 54.5 +0.5
baz=175
L61B **Northampton** 64.57 356 P P 06 40 54.3 +0.3
baz=175
BINY **Binghamton** 64.61 353 P P 06 40 55.2 +0.9
baz=172,SNR=30
BINY **Binghamton** 64.61 353 P P 06 40 54.9 +0.6
baz=172,SNR=30
ALLY **Alegheny Colle** 64.64 350 P P 06 40 55.2 +0.7
baz=167,SNR=14
MNTX **Cornudas Mount** 64.65 325 P P 06 40 54.9 +0.1
MNTX **Cornudas Mount** 64.65 325 P P 06 40 54.9 +0.1
baz=142,SNR=70
MNTX **Cornudas Mount** 64.65 325 P P 06 40 54.7 -0.1
baz=142,SNR=70
N49A **Columbus Grove** 64.72 346 P P 06 40 54.3 -0.6
N49A PcP PcP 06 41 27.6 +0.4
N49A pP pP 06 41 34.5 -0.9
N49A **Columbus Grove** 64.72 346 P P 06 40 55.0 0.0
baz=163,SNR=19
N49A P P 06 40 55.0 0.0
baz=163,SNR=19
L56A **Greenwood** 64.74 352 P P 06 40 56.1 +0.9
baz=170,SNR=19
L56A P P 06 40 56.1 +0.9
baz=170,SNR=19
M52A **Chesterland** 64.75 349 P P 06 40 55.7 +0.6
baz=166
M52A P P 06 40 55.7 +0.6
baz=166
T35B **Sooner Cattle** 64.83 335 P P 06 40 56.5 +0.6
baz=151,SNR=27
P43A **Skaggs, Pawnee** 64.88 342 P P 06 40 55.7 -0.3
baz=158,SNR=10
SFIN **Lafayette** 64.90 344 P P 06 40 54.7 -1.4
SFIN IAmb IAmb 06 40 56.1
comp=Z,63nm,0.8s
SFIN pP pP 06 41 35.5 -1.2
SFIN **Lafayette** 64.90 344 P P 06 40 55.4 -0.8
baz=160,SNR=10.0
SFIN **Lafayette** 64.90 344 P P 06 40 55.1 -1.0
baz=160,SNR=10.0
M50A **Fremont** 64.94 347 P P 06 40 55.9 -0.5
M50A IAmb IAmb 06 40 58.0
comp=Z,238nm,1.6s
M50A pP pP 06 41 36.4 -0.4
M50A **Fremont** 64.94 347 P P 06 40 56.5 +0.1
baz=164,SNR=8.1
M50A P P 06 40 56.5 +0.1
baz=164,SNR=8.1
HCNY **Howe Caverns** 64.95 355 P P 06 40 58.0 +1.5
baz=173,SNR=20
N47A **Urbana** 65.02 345 P P 06 40 56.4 -0.5
baz=162,SNR=14
N47A P P 06 40 56.4 -0.5
baz=162,SNR=14
O44A **Mansfield** 65.05 343 P P 06 40 55.2 -1.9
O44A PcP PcP 06 41 29.6 +1.0
O44A pP pP 06 41 36.0 -1.6
O44A **Mansfield** 65.05 343 P P 06 40 56.2 -1.0
baz=159,SNR=12
ERPA **Erie** 65.07 350 P P 06 40 57.8 +0.6
baz=168,SNR=7.2
ERPA **Erie** 65.07 350 P P 06 40 57.8 +0.6
baz=168,SNR=7.2
MSTX **Muleshoe** 65.12 328 P P 06 40 58.5 +0.6
baz=144,SNR=58
MSTX **Muleshoe** 65.12 328 P P 06 40 58.1 +0.2
baz=144,SNR=58
WVNY **West Valley, N** 65.15 351 P P 06 40 58.8 +1.0
baz=169,SNR=13
K57A **Scipio Center** 65.20 353 P P 06 40 58.8 +0.7
baz=171,SNR=12
KIDD **KIDD Seismic O** 65.31 324 P P 06 40 59.5 +0.3
baz=141
AMTX **Amarillo** 65.34 330 P P 06 40 59.6 +0.3
baz=146,SNR=18
AMTX **Amarillo** 65.34 330 P P 06 40 59.2 -0.1
baz=146
MMNY **Mt. Morris Dam** 65.37 352 P P 06 40 59.4 +0.2
MMNY IAmb IAmb 06 41 01.3
comp=Z,136nm,1.0s
MMNY PcP PcP 06 41 30.8 +1.0
U32A **Winter Ranch,** 65.40 333 P P 06 41 00.1 +0.6
baz=148,SNR=6.2
J61A **Chester** 65.46 356 P P 06 41 01.6 +1.9
baz=175,SNR=7.4
J61A P P 06 41 01.6 +1.9
baz=175,SNR=7.4
P40A **Paris** 65.55 340 P P 06 41 00.5 +0.1
baz=155,SNR=39
ACCN **Adirondack Com** 65.57 355 P P 06 41 01.9 +1.4
baz=174,SNR=5.6
HDIL **Hopedale** 65.66 342 P P 06 40 59.9 -1.1
HDIL IAmb IAmb 06 41 01.2
comp=Z,77nm,0.9s
HDIL PcP PcP 06 41 31.8 +0.7
HDIL pP pP 06 41 40.6 -0.9
HDIL **Hopedale** 65.66 342 P P 06 41 00.5 -0.6
baz=158,SNR=16
HDIL **Hopedale** 65.66 342 P P 06 41 00.4 -0.6
baz=158,SNR=16
J58A **Remsen** 65.69 354 P P 06 41 02.2 +1.0
baz=172,SNR=12
J58A P P 06 41 02.2 +1.0
baz=172,SNR=12
NVL **N'lazarevskaya** 65.72 159 *e*P P 06 40 59.9 -1.2
NVL *e*S S 06 49 30.6 -3.0
NVL pmax pmax
comp=Z,147nm,1.0s
J59A **Piesco** 65.72 355 P P 06 41 02.4 +0.9
J59A **Piesco** 65.72 355 P P 06 41 02.6 +1.1
baz=173,SNR=49
J59A P P 06 41 02.6 +1.1
baz=173,SNR=49
L48A **N Adams** 65.75 346 P P 06 41 00.5 -1.1
L48A IAmb IAmb 06 41 02.1
comp=Z,90nm,0.7s
L48A **N Adams** 65.75 346 P P 06 41 01.3 -0.3
baz=163,SNR=16
L48A P P 06 41 01.3 -0.3
baz=163,SNR=16
J56A **Wolcott** 65.78 353 P P 06 41 02.4 +0.7
baz=171,SNR=7.6
J56A P P 06 41 02.4 +0.7
baz=171,SNR=7.6
J57A **Williamstown** 65.81 353 P P 06 41 03.1 +1.1
baz=172,SNR=8.7
J57A P P 06 41 03.1 +1.1
baz=172,SNR=8.7
J55A **Hilton** 65.88 352 P P 06 41 03.0 +0.6
baz=170
J55A P P 06 41 03.0 +0.6
baz=170
I62A **Tamworth** 65.92 357 P P 06 41 04.2 +1.5
baz=176
I62A P P 06 41 04.2 +1.5
baz=176
AAM **Ann Arbor** 65.92 347 P P 06 41 02.5 -0.2
baz=164
J54A **Appleton** 66.00 351 P P 06 41 03.6 +0.5
baz=169
J54A P P 06 41 03.6 +0.5
baz=169
I63A **Otisfield** 66.06 358 P P 06 41 05.2 +1.7
baz=177
I63A P P 06 41 05.2 +1.7
baz=177
M44A **Midewin, Midew** 66.09 343 P P 06 41 03.0 -0.8
baz=160
MCVT **Middlebury Col** 66.09 356 P P 06 41 05.4 +1.7
baz=175,SNR=9.9
P38A **Dawn** 66.13 338 P P 06 41 04.2 0.0
baz=154,SNR=67
K50A **Casco** 66.17 348 P P 06 41 04.2 -0.1
baz=165,SNR=15
K50A P P 06 41 04.2 -0.1
baz=165,SNR=15
NCB **Newcomb** 66.20 355 P P 06 41 05.4 +0.9
baz=174,SNR=16
L46A **Eue Claire** 66.24 345 P P 06 41 04.0 -0.7
baz=161
L46A P P 06 41 04.0 -0.7
baz=161
N41A **Harden Midland** 66.26 341 P P 06 41 04.0 -0.9
N41A IAmb IAmb 06 41 05.9
comp=Z,115nm,0.9s
N41A pP pP 06 41 44.9 -0.6
N41A **Harden Midland** 66.26 341 P P 06 41 04.5 -0.4
baz=157,SNR=26
WCNY **West Carthage** 66.34 354 P P 06 41 06.3 +1.0
baz=172,SNR=17
VT1 **Waterbury** 66.45 356 P P 06 41 06.8 +0.7
baz=175,SNR=5.8
121A **Cookes Peak, D** 66.59 324 P P 06 41 09.5 +2.1
baz=140,SNR=51
121A **Cookes Peak, D** 66.59 324 P P 06 41 09.3 +1.9
baz=140,SNR=51
H62A **Milan** 66.61 357 P P 06 41 08.2 +1.2
baz=177
H62A P P 06 41 08.2 +1.2
baz=177
EMMW **East Machias** 66.67 0 P P 06 41 07.8 +0.4
EMMW **East Machias** 66.67 0 P P 06 41 08.4 +1.1
baz=180
HAL **Halifax** 66.71 3 P P 06 41 07.9 +0.3
HAL IAmb IAmb 06 41 09.7
comp=Z,112nm,1.1s
HAL **Halifax** 66.71 3 P P 06 41 07.9 +0.3
HAL pmax pmax
comp=Z,112nm,1.1s
KSU1 **Kansas State U** 66.78 336 P P 06 41 08.4 +0.2
baz=151,SNR=22
KSU1 **Kansas State U** 66.78 336 P P 06 41 08.1 -0.1
baz=151,SNR=22
L44A **Lake County Fo** 66.80 344 P P 06 41 07.7 -0.6
baz=160
L44A **Lake County Fo** 66.80 344 P P 06 41 07.6 -0.6
baz=160
LONY **Lake Ozonia** 66.88 355 P P 06 41 09.3 +0.6
LONY IAmb IAmb 06 41 11.2
comp=Z,150nm,1.1s
LONY pP pP 06 41 50.7 +1.2
LONY **Lake Ozonia** 66.88 355 P P 06 41 09.4 +0.6
baz=173,SNR=26
FRNY **Flat Rock** 67.01 356 P P 06 41 10.7 +1.1
baz=174,SNR=16
R32A **Long Quarter,** 67.01 334 P P 06 41 10.7 +0.9
baz=149,SNR=47
J47A **Sunmer** 67.07 347 P P 06 41 09.8 -0.1
baz=163,SNR=12
J47A P P 06 41 09.8 -0.1
baz=163,SNR=12
N38A **Joes South For** 67.08 339 P P 06 41 09.0 -1.1
N38A IAmb IAmb 06 41 10.9
comp=Z,121nm,0.9s
N38A **Joes South For** 67.08 339 P P 06 41 10.1 0.0
baz=154,SNR=28
L42A **Oliver, Polo** 67.11 342 P P 06 41 10.0 -0.2
L42A **Oliver, Polo** 67.11 342 P P 06 41 10.0 -0.2
baz=158,SNR=11
G65A **Princeton** 67.16 0 P P 06 41 11.5 +1.0
baz=180,SNR=9.8
G65A P P 06 41 11.5 +1.0
baz=180,SNR=9.8
Y22A **Socorro** 67.22 325 P P 06 41 12.8 +1.4
baz=141,SNR=23
G62A **West of Eustis** 67.23 358 P P 06 41 11.6 +0.6
G62A IAmb IAmb 06 41 13.7
comp=Z,191nm,0.9s
G62A **West of Eustis** 67.23 358 P P 06 41 11.9 +1.0
baz=177,SNR=24
G62A P P 06 41 11.9 +1.0
baz=177,SNR=24
PKME **Peaks-Kenny Pk** 67.24 359 P P 06 41 12.1 +1.1
baz=178,SNR=11
PKME **Peaks-Kenny Pk** 67.24 359 P P 06 41 11.9 +0.9
baz=178,SNR=11
Y22D **IRIS PASSCAL I** 67.31 325 P P 06 41 14.1 +2.2
baz=141
Y22D **IRIS PASSCAL I** 67.31 325 P P 06 41 13.6 +1.7
baz=141
Y22F **Passcal Instru** 67.31 325 P P 06 41 13.6 +1.7
baz=141
I49A **Point Hope** 67.34 348 P P 06 41 11.2 -0.5
baz=165
I49A P P 06 41 11.2 -0.5
baz=165
K43A **Burlington** 67.40 344 P P 06 41 12.0 -0.1
baz=160,SNR=11
SADO **Sadowa** 67.54 351 LR LR 07 12 49.1
comp=Z,334nm,20.1s,baz=140,slow=38
LIC **Lamto** 67.59 73 ⇑*e*P P 06 41 12.3 -1.6
comp=Z,157nm,0.6s
L40A **Anamosa** 67.61 341 P P 06 41 13.2 -0.2
baz=157,SNR=37
F63A **Nahmakanta, Br** 67.68 359 P P 06 41 15.2 +1.5
baz=179,SNR=6.1
F63A P P 06 41 15.2 +1.5
baz=179,SNR=6.1
ANMO **Albuquerque** 67.74 326 P P 06 41 16.3 +1.6
baz=141,SNR=90
ANMO **Albuquerque** 67.74 326 P P 06 41 16.1 +1.5
baz=141
ANMO **Albuquerque** 67.74 326 *ce*P P 06 41 16.0 +1.4
ANMO pmax pmax
comp=Z,91nm,1.3s
ANMO **Albuquerque** 67.74 326 ⇓P P 06 41 16.1 +1.5
ANMO pP pP 06 41 57.5 +2.3
CBKS **Cedar Bluff** 67.77 333 P P 06 41 15.8 +1.2
baz=148,SNR=70
CBKS **Cedar Bluff** 67.77 333 P P 06 41 15.8 +1.2
baz=148,SNR=70
TIC **Toumodi** 67.79 73 *e*P P 06 41 12.7 -2.5
comp=Z,39nm,0.5s
F64A **Sherman** 67.83 360 P P 06 41 15.5 +0.9
baz=179,SNR=11
F64A P P 06 41 15.5 +0.9
baz=179,SNR=11
F62A **Pittston Farm,** 67.89 358 P P 06 41 16.4 +1.4
baz=178,SNR=9.1
F62A P P 06 41 16.4 +1.4
baz=178,SNR=9.1
QSPA **South Pole Qui** 67.91 180 P P 06 41 16.4 +1.2
comp=Z,73nm,0.7s,baz=138,slow=4.0,SNR=151
QSPA S S 06 49 57.1 -3.2
comp=Z,5.0nm,1.2s,baz=146,slow=15,SNR=3.6
QSPA LR LR 07 13 42.7
comp=Z,300nm,19.0s,baz=138,slow=38
comp=Z,73nm,0.7s
QSPA **South Pole Qui** 67.91 180 P P 06 41 16.1 +0.9
QSPA IAmb IAmb 06 41 17.6
comp=Z,137nm,1.1s
QSPA **South Pole Qui** 67.91 180 P P 06 41 16.3 +1.2
QSPA pP pP 06 41 57.5 +1.6
KIC **Kosan Boka** 67.91 73 *e*P P 06 41 14.4 -1.5
comp=Z,154nm,0.5s
DBIC **Dimbokro** 67.95 73 P P 06 41 15.8 -0.3
comp=Z,67nm,0.5s,baz=247,slow=6.4,SNR=140
DBIC S S 06 50 02.8 +0.6
comp=Z,4.1nm,0.9s,baz=214,slow=7.3,SNR=5.8
DBIC PKP2bc 07 09 41.8
comp=Z,5.2nm,1.1s,baz=37,slow=5.1,SNR=3.2
DBIC LR LR 07 11 19.1
comp=Z,422nm,19.8s,baz=252,slow=36
comp=Z,67nm,0.5s
DBIC **Dimbokro** 67.95 73 P P 06 41 15.4 -0.7
DBIC **Dimbokro** 67.95 73 ⇑P P 06 41 15.9 -0.2
N35A **Tabor** 67.97 338 P P 06 41 15.6 0.0
baz=152,SNR=42
SCIA **State Center** 68.08 340 P P 06 41 16.2 -0.1
SCIA IAmb IAmb 06 41 17.4
comp=Z,144nm,0.8s
SCIA pP pP 06 41 57.0 -0.1
SCIA **State Center** 68.08 340 P P 06 41 16.8 +0.4
baz=158,SNR=13
SCIA **State Center** 68.08 340 P P 06 41 16.4 0.0
baz=155,SNR=13
JFWS **Jewell Farm** 68.11 342 P P 06 41 15.8 -0.7
JFWS IAmb IAmb 06 41 17.6
comp=Z,125nm,0.8s
JFWS **Jewell Farm** 68.11 342 P P 06 41 17.1 +0.5
baz=158,SNR=25
JFWS **Jewell Farm** 68.11 342 P P 06 41 16.7 +0.2
baz=158,SNR=25
JFWS **Jewell Farm** 68.11 342 P P 06 41 15.8 -0.7
JFWS pmax pmax
comp=Z,125nm,0.8s
TUC **Tucson** 68.11 321 P P 06 41 18.4 +1.6

baz=137
E63A Oxbow 68.39 360 P **P** **06 41 19.5 +1.4**
baz=179,SNR=10
E63A P **P** **06 41 19.5 +1.4**
baz=179,SNR=10
T25A Trinidad 68.46 329 P **P** **06 41 20.8 +1.7**
baz=144,SNR=36
N33B J Bar K Exete 68.52 336 P **P** **06 41 19.9 +0.7**
baz=151,SNR=17
N33A J Bar K, Exete 68.52 336 P **P** **06 41 19.1 0.0**
GLMI Grayling 68.54 347 P **P** **06 41 19.9 +0.8**
baz=163,SNR=5.8
GLMI Grayling 68.54 347 P **P** **06 41 19.2 0.0**
baz=163,SNR=5.8
E62A Clayton Lake 68.60 359 P **P**
E62A IAmb IAmb 06 41 22.1
comp=Z,144nm,1.1s
E62A Clayton Lake 68.60 359 P **P** **06 41 20.6 +1.1**
baz=178,SNR=22
E62A P **P** **06 41 20.6 +1.1**
baz=178,SNR=22
K38A Parkersburg 68.61 340 P **P** **06 41 19.7 +0.1**
baz=155,SNR=18
I42A Draeger Farm, 68.66 344 P **P** **06 41 19.5 -0.3**
I42A IAmb IAmb 06 41 21.0
comp=Z,90nm,0.8s
I42A Draeger Farm, 68.66 344 P **P** **06 41 20.2 +0.4**
baz=159,SNR=12
H43A Windswept, Lux 68.91 345 P **P** **06 41 20.7 -0.8**
H43A IAmb IAmb 06 41 22.3
comp=Z,89nm,0.8s
H43A Windswept, Lux 68.91 345 P **P** **06 41 21.5 +0.1**
baz=160,SNR=6.5
G45A Suttons Bay 68.97 347 P **P** **06 41 21.9 +0.2**
baz=162
G45A P **P** **06 41 21.9 +0.2**
baz=162
214A Organ Pipe Nat 69.05 320 P **P** **06 41 24.6 +2.0**
baz=136,SNR=70
D62A Allapoint, All 69.06 359 P **P** **06 41 23.1 +0.8**
baz=179,SNR=18
D62A P **P** **06 41 23.1 +0.8**
baz=179,SNR=18
I40A Norwalk 69.12 343 P **P** **06 41 22.2 -0.5**
I40A IAmb IAmb 06 41 23.6
comp=Z,59nm,0.7s
I40A Norwalk 69.12 343 P **P** **06 41 22.8 +0.1**
baz=158,SNR=14
KSCO Kaye Shedlock' 69.17 332 P **P** **06 41 24.9 +1.5**
baz=146,SNR=28
KSCO Kaye Shedlock' 69.17 332 P **P** **06 41 24.7 +1.3**
baz=146,SNR=28
L34A Svendsen Farm, 69.20 338 P **P** **06 41 22.8 -0.5**
L34A Svendsen Farm, 69.20 338 P **P** **06 41 23.5 +0.2**
baz=152,SNR=34
BATG Bathurst New B 69.26 1 P **P** **06 41 23.8 +0.3**
BATG IAmb IAmb 06 41 25.8
comp=Z,192nm,1.4s
ELIB Princess Elisa 69.35 161 *d*P **P** **06 41 23.2 -0.8**
BGNE Belgrade 69.36 336 P **P** **06 41 25.1 +0.8**
baz=150,SNR=66
BGNE Belgrade 69.36 336 P **P** **06 41 25.1 +0.8**
baz=150,SNR=66
SDCO Great Sand Dun 69.47 329 P **P** **06 41 27.2 +1.8**
baz=143
SDCO Great Sand Dun 69.47 329 P **P** **06 41 27.0 +1.6**
baz=143
LATQ La Tuque 69.50 356 P **P** **06 41 25.1 +0.1**
LATQ IAmb IAmb 06 41 26.6
comp=Z,84nm,0.8s
W18A Petrified Fore 69.60 324 P **P** **06 41 28.0 +1.9**
baz=139,SNR=11
E46A Sault Ste Mari 69.96 348 P **P** **06 41 28.0 +0.2**
baz=164,SNR=7.0
I37A Lemond, Waseca 70.04 341 P **P** **06 41 28.2 -0.2**
I37A IAmb IAmb 06 41 29.5
comp=Z,129nm,0.8s
I37B Waseca 70.04 341 P **P** **06 41 28.7 +0.3**
baz=155,SNR=32
S22A 4UR Ranch, Cre 70.11 328 P **P** **06 41 31.0 +1.6**
baz=142,SNR=27
F42A Maple Grove Fa 70.21 345 P **P** **06 41 29.4 +0.1**
baz=160
Q24A Divide 70.27 330 P **P** **06 41 31.9 +1.6**
baz=144,SNR=92
G40A Rib Lake 70.28 343 P **P** **06 41 29.3 -0.5**
G40A Rib Lake 70.28 343 P **P** **06 41 30.1 +0.2**
baz=158,SNR=11
TAOE Nuku Hiva Isla 70.45 268 *e*S **S** **06 50 32.9 +1.2**
comp=Z,250nm,27.8s
TAOE Nuku Hiva Isla 70.45 268 *e*LR LR 07 03 12.6
comp=Z,665nm,26.9s
OGNE Ogallala 70.51 333 P **P** **06 41 32.6 +1.2**
baz=147,SNR=14
OGNE Ogallala 70.51 333 P **P** **06 41 32.6 +1.2**
baz=147,SNR=14
E43A Lone Tree Farm 70.53 346 P **P** **06 41 30.9 -0.4**
E43A Lone Tree Farm 70.53 346 P **P** **06 41 31.4 +0.1**
baz=161
MVCO Mesa Verde 70.54 326 P **P** **06 41 33.5 +1.6**
baz=140,SNR=59
K31A O'Neill 70.64 336 P **P** **06 41 32.5 +0.4**
K31A O'Neill 70.64 336 P **P** **06 41 33.1 +1.0**
baz=150,SNR=17
COWI Conover 70.78 344 P **P** **06 41 32.9 +0.1**
baz=159
WUAZ Wupatki 70.80 323 P **P** **06 41 35.5 +2.2**
baz=138,SNR=22
ECSD EROS Data Cent 70.84 338 P **P** **06 41 33.3 0.0**
ECSD IAmb IAmb 06 41 35.2
comp=Z,88nm,1.0s
ECSD EROS Data Cent 70.84 338 P **P** **06 41 33.5 +0.2**
baz=152,SNR=65
ECSD EROS Data Cent 70.84 338 P **P** **06 41 33.5 +0.2**
baz=152,SNR=65
SPMN Marine on St. 70.96 342 P **P** **06 41 34.1 +0.1**
baz=156,SNR=24
GLA Glamis 71.03 319 P **P** **06 41 36.5 +1.9**
baz=134,SNR=9.0
ISCO Idaho Springs 71.16 330 P **P** **06 41 37.3 +1.6**
ISCO Idaho Springs 71.16 330 P **P** **06 41 37.2 +1.6**
baz=143
ISCO Idaho Springs 71.16 330 P **P** **06 41 37.4 +1.7**
baz=143
ISCO Idaho Springs 71.16 330 P **P** **06 41 37.3 +1.6**
ISCO pmax pmax
comp=Z,40nm,0.8s
PV01 Paradox Valley 71.28 327 P **P** **06 41 37.8 +1.5**
IKP In-Ko-Pah, Jac 71.53 318 P **P** **06 41 39.9 +2.2**
baz=133,SNR=11
D41A Chassel 71.54 345 P **P** **06 41 38.2 +0.9**
baz=160,SNR=7.2
PV12 Saucer Basin, 71.54 327 P **P** **06 41 39.2 +1.4**
SWSC Sam W. Stewart 71.54 319 P **P** **06 41 39.6 +1.9**
baz=134
F36A Milaca 71.75 341 P **P** **06 41 38.5 -0.2**
F36A IAmb IAmb 06 41 39.7
comp=Z,121nm,0.8s
F36A Milaca 71.75 341 P **P** **06 41 38.9 +0.2**
baz=155,SNR=65
DRLN Deer Lake 71.81 7 P **P** **06 41 39.1 +0.2**
DRLN IAmb IAmb 06 41 40.4
comp=Z,148nm,1.1s
BC3 Big Chuckawall 71.82 320 P **P** **06 41 41.4 +1.9**
baz=134,SNR=29
E38A The Farm, Brul 71.87 343 P **P** **06 41 39.0 -0.3**
E38A The Farm, Brul 71.87 343 P **P** **06 41 39.7 +0.3**
baz=157,SNR=10
MONP2 Monument Peak 71.89 318 P **P** **06 42 1.1 +2.0**
baz=133,SNR=12
BAR Barrett 71.90 318 P **P** **06 41 41.0 +1.1**
BAR PcP **PcP** **06 41 58.9 +1.3**
BAR pP **pP** **06 42 20.2 -0.8**
IRM Iron Mountain 71.98 320 P **P** **06 41 42.5 +2.1**
baz=134,SNR=23
NEE2 Needles Airpor 72.10 321 P **P** **06 41 42.9 +1.9**
baz=135
N23A Red Feather La 72.18 331 P **P** **06 41 43.4 +1.7**
baz=143,SNR=58
SUSD Miller 72.28 337 P **P** **06 41 42.0 +0.2**
SUSD IAmb IAmb 06 41 43.7
comp=Z,160nm,0.8s
SUSD Miller 72.28 337 P **P** **06 41 42.5 +0.7**
baz=150,SNR=10
SUSD Miller 72.28 337 P **P** **06 41 42.2 +0.4**
baz=150,SNR=10
109C Camp Elliot, M 72.31 318 P **P** **06 41 43.9 +1.6**
baz=133
BELC Belle Mtn. Jos 72.39 319 P **P** **06 41 44.8 +1.9**
baz=134,SNR=5.6
TPFO Pinon Flats 72.39 319 P **P** **06 41 45.3 +2.3**
baz=133,SNR=10.0
PFO Pinyon Flats O 72.40 319 P **P** **06 41 44.9 +1.9**
baz=133
PFO Pinyon Flats O 72.40 319 *d*P **P** **06 41 44.7 +1.7**
PFO pmax pmax
comp=Z,45nm,1.0s
F33A 5 Mile Ranch, 72.59 340 P **P** **06 41 43.8 +0.2**
baz=152,SNR=28
O20A White River Ci 72.66 329 P **P** **06 41 45.9 +1.4**
O20A IAmb IAmb 06 41 47.4
comp=Z,139nm,0.8s
O20A White River Ci 72.66 329 P **P** **06 41 46.4 +1.9**
baz=141,SNR=79
GMRC Granite Mounta 72.73 320 P **P** **06 41 47.1 +2.2**
baz=134,SNR=30
MURC Murrieta 72.84 318 P **P** **06 41 47.6 +2.1**
baz=133,SNR=13
V12A Nelson 72.91 321 P **P** **06 41 47.6 +1.7**
ELS Elsinore Mount 73.02 318 P **P** **06 41 47.7 +1.1**
MTPU Mount Pierson 73.09 325 P **P** **06 41 48.8 +1.6**
EYMN Ely 73.09 344 P **P** **06 41 46.2 -0.3**
BBRC Big Bear Solar 73.12 319 P **P** **06 41 49.5 +2.2**
baz=133
HEC Hector,Ludlow 73.16 320 P **P** **06 41 49.7 +2.3**
baz=134,SNR=9.9
P18A Preston Nutter 73.27 327 P **P** **06 41 49.7 +1.6**
P18A IAmb IAmb 06 41 51.2
comp=Z,126nm,0.7s
TUQ Turquoise Moun 73.33 321 P **P** **06 41 50.4 +1.9**
baz=134
RWWY Rawlins 73.39 330 P **P** **06 41 50.2 +1.4**
RWWY IAmb IAmb 06 41 51.6
comp=Z,98nm,0.9s
MSU Marysvale 73.43 325 P **P** **06 41 51.0 +1.9**
MSU PcP **PcP** **06 42 05.9 +1.5**
MSU Marysvale 73.43 325 P **P** **06 41 51.0 +1.9**
CIS Catalina Islan 73.47 318 P **P** **06 41 50.9 +1.7**
baz=132
BFSC Mount Baldy Ra 73.56 319 P **P** **06 41 51.7 +1.9**
baz=133,SNR=16
RRX Edison Barstow 73.59 320 P **P** **06 41 52.1 +2.3**
baz=133
FMP Fort Macarthur 73.60 318 P **P** **06 41 51.8 +2.0**
baz=132
SHPR Sheep Range 73.64 322 P **P** **06 41 51.7 +1.5**
RDMU Red Mountain 73.65 328 P **P** **06 41 51.1 +0.8**
RDMU IAmb IAmb 06 41 52.8
comp=Z,88nm,0.8s
GSC Goldstone, Bar 73.76 320 P **P** **06 41 53.0 +2.1**
baz=133,SNR=28
K22A Casper 73.85 331 P **P** **06 41 53.0 +1.7**
baz=143,SNR=32
K22A Casper 73.85 331 P **P** **06 41 53.0 +1.7**
baz=143,SNR=32
SHOC Shoshone, Teco 73.86 321 P **P** **06 41 53.3 +1.9**
baz=134
RSSD Black Hills 73.97 334 P **P** **06 41 53.3 +1.2**
RSSD IAmb IAmb 06 41 54.5
comp=Z,105nm,0.9s
RSSD Black Hills 73.97 334 P **P** **06 41 53.9 +1.8**
baz=145,SNR=90
RSSD Black Hills 73.97 334 P **P** **06 41 53.5 +1.4**
baz=145
RSSD Black Hills 73.97 334 P **P** **06 41 53.3 +1.2**
RSSD pmax pmax
comp=Z,105nm,0.9s
D32B Dogwood Acres, 73.97 340 P **P** **06 41 52.4 +0.7**
baz=152,SNR=7.7
DECC Green Verdugo 73.98 318 P **P** **06 41 54.2 +2.1**
baz=132,SNR=7.1
SNCC San Nicolas Is 74.06 317 P **P** **06 41 54.3 +1.7**
baz=131
EDW2 Edwards Air Fo 74.19 319 P **P** **06 41 55.0 +1.6**
baz=132,SNR=25
TBI Tubuai 74.24 251 *e*P **P** **06 41 55.0 +1.1**
TBI *e*S **S** **06 51 16.2 +1.7**
comp=Z,231nm,1.4s
TBI *e*LR LR 07 04 57.1
comp=Z,1μm,30.0s
TBI Tubuai 74.24 251 *e*LR LR 07 04 57.3
comp=Z,15μm,23.5s
TBI *e*LR LR 07 04 57.3
comp=Z,3μm,24.8s
GWY Greenwater Val 74.29 321 P **P** **06 41 54.6 +0.6**
CCAC Calif City Air 74.39 319 P **P** **06 41 56.0 +1.5**
CCAC IAmb IAmb 06 41 57.4
comp=Z,81nm,0.7s
CCAC PcP **PcP** **06 42 09.8 +1.5**
LRMC Laurel Mtn Rad 74.41 320 P **P** **06 41 56.7 +2.0**
baz=133,SNR=30
OSI Osito Audit: C 74.46 318 P **P** **06 41 56.7 +1.8**
baz=132
TPNV Topopah Spring 74.57 322 P **P** **06 41 57.9 +2.3**
baz=134,SNR=62
FURC Furnace Creek, 74.59 321 P **P** **06 41 58.0 +2.5**
baz=134,SNR=22
SCZ2 Santa Cruz Isl 74.62 317 P **P** **06 41 57.7 +1.9**
baz=131
AGMN Agassiz Nation 74.64 341 P **P** **06 41 55.6 0.0**
MPMC Manual Prospec 74.68 320 P **P** **06 41 58.1 +1.8**
baz=133,SNR=39
E28A Huff 74.74 337 P **P** **06 41 57.3 +1.1**
E28A Huff 74.74 337 P **P** **06 41 57.6 +1.4**
baz=149,SNR=34
ARVC Arvin 74.87 319 P **P** **06 41 59.3 +2.1**
baz=132,SNR=7.0
SPR3 Spring Creek 3 74.94 324 P **P** **06 41 59.2 +1.3**
SPR3 IAmb IAmb 06 42 00.7
comp=Z,48nm,0.8s
TCUT Toone Canyon 74.97 327 P **P** **06 41 59.5 +1.6**
DUG Dugway, Tooele 75.00 326 P **P** **06 41 59.5 +1.5**
DUG Dugway, Tooele 75.00 326 P **P** **06 42 00.1 +2.1**
baz=137,SNR=48
DUG Dugway, Tooele 75.00 326 P **P** **06 41 59.5 +1.5**
DUG pmax pmax
comp=Z,59nm,0.9s
ISA Isabella, Lake 75.01 319 P **P** **06 41 59.2 +1.1**
ISA Isabella, Lake 75.01 319 P **P** **06 42 00.4 +2.3**
baz=132,SNR=45
ISA Isabella, Lake 75.01 319 P **P** **06 41 59.2 +1.1**
ISA pmax pmax
comp=Z,69nm,0.9s
R11A Troy Canyon, C 75.17 323 P **P** **06 42 01.4 +2.4**
baz=135,SNR=67
SBA Scott Base 75.24 190 P **P** **06 41 55.9 -2.8**
SBA Scott Base 75.24 190 P **P** **06 41 55.9 -2.8**
SBA pmax pmax
comp=Z,68nm,1.6s
AUSN Aus 75.25 113 *e*P **P** **06 42 01.5 +1.6**
AUSN IAmb IAmb 06 42 01.8
comp=Z,208nm,1.7s
GRAC Grapevine Rang 75.25 321 P **P** **06 42 01.5 +2.2**
baz=133
CWC Cottonwood Cre 75.29 320 P **P** **06 42 01.9 +2.1**
baz=133
PKM Mcpherson Peak 75.32 318 P **P** **06 42 02.2 +2.2**
baz=131,SNR=27
BW06 Boulder Array 75.33 330 P **P** **06 42 00.8 +0.9**
PD31 Pinedale Array 75.33 330 P **P** **06 42 00.5 +0.6**
PDAR Pinedale Array 75.33 330 P **P** **06 42 00.9 +1.0**
comp=Z,19nm,0.7s,baz=131,slow=8.1,SNR=81
PDAR LR LR 07 18 09.1
comp=Z,121nm,21.6s,baz=148,slow=38
comp=Z,19nm,0.7s
MDND Maddock 75.45 338 P **P** **06 42 01.5 +1.3**
baz=150,SNR=45
MDND Maddock 75.45 338 P **P** **06 42 01.5 +1.3**
baz=150,SNR=45
VES Vestal, Richgr 75.50 319 P **P** **06 42 02.8 +2.1**
baz=132,SNR=49
BGU Big Grassy Mou 75.65 326 P **P** **06 42 02.8 +1.0**
SMMC Simmler 75.71 318 P **P** **06 42 04.3 +2.3**
baz=131,SNR=30
ELIM Elim 75.74 122 *e*P **P** **06 42 03.3 +0.9**
ELIM IAmb IAmb 06 42 04.1
comp=Z,263nm,1.7s
CER Ceres 75.75 120 *e*P **P** **06 42 01.7 -0.8**
CER IAmb IAmb 06 42 04.2
comp=Z,101nm,1.9s
TIN Tinemaha, Big 75.80 320 P **P** **06 42 04.6 +2.1**
baz=133
TVO Taravao 75.81 256 *e*P **P** **06 42 03.9 +0.8**
comp=Z,40nm,1.3s
TVO *e*pP **pP** **06 42 46.8 +2.7**
comp=Z,15nm,1.1s
TIAR Tiarei 75.97 257 *e*P **P** **06 42 04.7 +0.8**
comp=Z,3.1nm,1.0s
VOG Valley Oaks Go 76.00 319 P **P** **06 42 04.5 +0.9**
baz=132
AHID Auburn Hatcher 76.06 329 P **P** **06 42 05.6 +1.5**
AHID IAmb IAmb 06 42 06.6
comp=Z,150nm,0.8s
PAE Paea 76.15 256 *e*P **P** **06 42 06.0 +1.1**
comp=Z,21nm,1.2s
PAE *e*pP **pP** **06 42 41.6 -4.3**
comp=Z,16nm,1.1s
PPT2 Papeete2 76.17 256 *e*P **P** **06 42 05.8 +0.7**
comp=Z,76nm,1.4s
PPT2 *e*pP **pP** **06 42 41.6 -4.5**
comp=Z,46nm,1.1s
PPT2 *e*S **S** **06 51 36.6 +0.6**
comp=Z,162nm,23.5s
PPT2 Papeete2 76.17 256 *e*LR LR 07 05 50.8
comp=Z,1μm,27.2s
PPT2 *e*LR LR 07 05 51.0
comp=Z,1μm,30.5s
PPT Papeete 76.17 257 P **P** **06 42 07.7 +2.6**
comp=Z,144nm,1.4s,baz=96,slow=7.5,SNR=11
PPT LR LR 07 09 46.8
comp=Z,208nm,19.4s,baz=109,slow=31
comp=Z,144nm,1.4s
VNDA Vanda 76.26 190 P **P** **06 42 06.2 +1.8**
comp=Z,8.0nm,0.9s,baz=128,slow=6.0,SNR=15
VNDA S **S** **06 51 42.9 +8.0**
comp=Z,1.5nm,0.6s,baz=80,slow=17,SNR=10
VNDA PKKPbc **PKKPbc** **07 01 13.7 -5.3**
comp=Z,1.0nm,0.8s,baz=282,slow=0.5,SNR=7.1
VNDA LR LR 07 14 50.5
comp=Z,134nm,19.4s,baz=144,slow=35
comp=Z,8.0nm,0.9s
VNDA Vanda 76.26 190 P **P** **06 42 05.5 +1.1**
VNDA Vanda 76.26 190 P **P** **06 42 05.6 +1.1**
VNDA pmax pmax
comp=Z,26nm,1.4s
ULM Lac du Bonnet 76.39 342 P **P** **06 42 05.8 +0.3**
comp=Z,132nm,0.6s,baz=154,slow=5.8,SNR=226
ULM LR LR 07 19 28.2
comp=Z,252nm,20.0s,baz=154,slow=38
comp=Z,132nm,0.6s
ULM Lac du Bonnet 76.39 342 *d*P **P** **06 42 05.6 +0.2**
Q09A Carvers 76.41 322 P **P** **06 42 07.8 +1.7**
Q09A IAmb IAmb 06 42 09.2
comp=Z,131nm,0.8s
SNOW Snow King Moun 76.42 329 P **P** **06 42 07.4 +1.2**
SNOW IAmb IAmb 06 42 09.0
comp=Z,96nm,0.8s
MLAC Mammoth, Mammo 76.54 321 P **P** **06 42 09.1 +2.2**
baz=132,SNR=6.4
ELK Elko 76.68 325 P **P** **06 42 09.2 +1.6**
ELK Elko 76.68 325 P **P** **06 42 09.2 +1.6**
ELK pmax pmax
comp=Z,45nm,0.9s
NVAR Mina Array Bea 76.77 321 P **P** **06 42 10.0 +1.8**
comp=Z,20nm,0.8s,baz=153,slow=6.7,SNR=102
NVAR S **S** **06 51 44.5 +2.5**
comp=Z,0.4nm,0.4s,baz=58,slow=11,SNR=2.6
comp=Z,20nm,0.8s
MATJ Matjiesfontein 76.80 121 *e*P **P** **06 42 09.8 +1.3**
MATJ IAmb IAmb 06 42 10.1
comp=Z,209nm,1.3s
SCHQ Schefferville 76.81 1 P **P** **06 42 07.8 +0.1**
comp=Z,51nm,0.8s,baz=186,slow=3.9,SNR=35
comp=Z,51nm,0.8s
SCHQ Schefferville 76.81 1 P **P** **06 42 07.8 +0.1**
SCHQ pP **pP** **06 42 49.8 +0.4**
LAO LASA Array 76.95 334 P **P** **06 42 10.3 +1.5**
baz=144,SNR=40
LAO LASA Array 76.95 334 P **P** **06 42 10.3 +1.5**
baz=144,SNR=40
RLMT Red Lodge 77.01 331 P **P** **06 42 11.3 +1.9**
baz=141,SNR=78
H17A Grant Village 77.05 330 P **P** **06 42 11.9 +2.2**
baz=140,SNR=40
KVN Kaiserville 77.08 322 P **P** **06 42 10.9 +1.1**
KVN IAmb IAmb 06 42 12.5
comp=Z,84nm,0.9s
KVN Kaiserville 77.08 322 P **P** **06 42 10.9 +1.1**
KVN pmax pmax
comp=Z,84nm,0.9s
WIN Windhoek 77.26 109 *e*P **P** **06 42 11.5 +0.2**
WIN IAmb IAmb 06 42 12.8
comp=Z,97nm,2.1s
SUR Sutherland 77.26 120 LR LR 07 14 13.9
comp=Z,258nm,18.0s,baz=251,slow=34
SUR Sutherland 77.26 120 P **P** **06 42 12.5 +1.3**
DGMT Dagmar 77.62 336 P **P** **06 42 13.8 +1.4**
DGMT Dagmar 77.62 336 P **P** **06 42 14.2 +1.8**
baz=146,SNR=87
DGMT Dagmar 77.62 336 P **P** **06 42 14.2 +1.8**
baz=146,SNR=87
MERW Merweville 77.74 120 *e*P **P** **06 42 13.9 +0.2**
MERW IAmb IAmb 06 42 15.6
comp=Z,49nm,0.9s
ARMS Ukamas 77.76 115 *e*P **P** **06 42 14.6 +0.7**
ARMS IAmb IAmb 06 42 15.8
comp=Z,207nm,1.6s
FRAZ Fraserburg 77.89 120 *e*P **P** **06 42 15.6 +1.0**
FRAZ IAmb IAmb 06 42 16.8
comp=Z,77nm,0.8s
OUK Oukaimeden 78.25 49 P **P** **06 42 19.0 +2.2**
HLID Hailey 78.28 327 P **P** **06 42 18.5 +2.2**
baz=137,SNR=266
BCYI Bear Canyon 78.33 328 P **P** **06 42 18.1 +1.4**
GRAN Grantham 78.38 120 *e*P **P** **06 42 17.9 +0.6**
GRAN IAmb IAmb 06 42 19.4
comp=Z,48nm,0.7s
MCMT McKenzie Canyo 78.44 329 P **P** **06 42 19.0 +1.7**
BOZ Bozeman (W) 78.45 330 P **P** **06 42 18.6 +1.4**
baz=139,SNR=39
KEIM Keimoes 78.57 116 *e*P **P** **06 42 18.9 +0.5**
KEIM IAmb IAmb 06 42 20.3
comp=Z,74nm,0.6s
TSUM Tsumeb 78.80 106 P **P** **06 42 20.5 +0.7**
comp=Z,53nm,1.0s,baz=238,slow=5.8,SNR=49
TSUM LR LR 07 13 36.1
comp=Z,659nm,21.8s,baz=266,slow=33
comp=Z,53nm,1.0s
TSUM Tsumeb 78.80 106 P **P** **06 42 19.7 -0.1**
TSUM IAmb IAmb 06 42 22.0
comp=Z,358nm,1.6s
TSUM Tsumeb 78.80 106 *e*P **P** **06 42 19.4 -0.4**
OUZM OUZ 78.87 50 P **P** **06 42 21.0 +1.2**
UPI Upington 78.92 116 *e*P **P** **06 42 20.9 +0.6**
UPI IAmb IAmb 06 42 22.1
comp=Z,710nm,2.2s
BRAK Brakfontein 79.13 120 *e*P **P** **06 42 22.2 +0.9**
BRAK IAmb IAmb 06 42 23.4
comp=Z,363nm,2.4s
ZGR Zagora 79.24 51 P **P** **06 42 24.0 +2.1**
HRY Holter Researc 79.38 331 P **P** **06 42 23.7 +1.5**
ROOI Rooidraai Farm 79.42 121 *e*P **P** **06 42 22.6 -0.2**
ROOI IAmb IAmb 06 42 24.2
comp=Z,33nm,0.7s
EGMT Eagleton 79.48 333 P **P** **06 42 23.9 +1.2**
baz=141,SNR=27
TZRR Tazzarine 79.65 51 P **P** **06 42 26.0 +2.0**
ROSN Rosenhof 79.66 123 *e*P **P** **06 42 24.4 +0.4**
ROSN IAmb IAmb 06 42 27.0
comp=Z,42nm,0.8s
WVOR Wild Horse Val 79.68 324 P **P** **06 42 25.3 +1.3**
BFON Badsfontein, M 79.76 120 *e*P **P** **06 42 25.6 +0.8**
BFON IAML 06 42 27.5
comp=Z,17nm,0.5s
AVE Averroes 79.77 48 P **P** **06 42 25.5 +1.0**
AVE Averroes 79.77 48 P **P** **06 42 26.4 +2.0**
BUFB Buffelsbos 79.80 123 *e*P **P** **06 42 25.0 +0.2**
BUFB IAmb IAmb 06 42 28.1
comp=Z,72nm,1.3s
J08A Circle Bar Ran 80.22 325 P **P** **06 42 28.3 +1.5**
J08A IAmb IAmb 06 42 29.9
comp=Z,151nm,1.5s
GRAF Camdeboo Natio 80.24 121 *e*P **P** **06 42 27.3 0.0**
GRAF IAmb IAmb 06 42 29.3
comp=Z,99nm,1.2s
MSO Missoula 80.44 330 P **P** **06 42 29.5 +1.6**
baz=138,SNR=24
GOLM Goulmima 80.59 50 P **P** **06 42 32.0 +2.9**
SOE Somerset East 80.94 122 P **P** **06 42 31.4 +0.4**
SOE IAmb IAmb 06 42 33.3
comp=Z,346nm,1.7s

SOE Somerset East 80.94 122 *e*P **P 06 42 31.4 +0.4**
SOE IAmb IAmb 06 42 32.9
comp=Z,374nm,1.8s
ARF Arif 80.97 51 P **P 06 42 33.0 +1.9**
PFVI Vila Bisbo 81.07 44 *e*P **P 06 42 32.9 +1.6**
comp=Z,137nm,1.3s
PFVI Vila Bisbo 81.07 44 P **P 06 42 32.0 +0.7**
I07A Izee 81.27 325 P **P 06 42 34.1 +1.7**
MORF Marmelete 81.28 44 *e*P **P 06 42 33.4 +0.8**
MORF IAmb IAmb 06 42 35.0
comp=Z,91nm,1.2s
MORF *e*S **S 06 52 32.6 +3.2**
MORF Marmelete 81.28 44 *e*P **P 06 42 33.8 +1.3**
comp=Z,132nm,1.5s
MORF Marmelete 81.28 44 P **P 06 42 33.2 +0.7**
MORF Marmelete 81.28 44 *e*P **P 06 42 33.3 +0.8**
MORF *e*S **S 06 52 32.6 +3.2**
GRHM Grahamstown, E 81.38 122 P **P 06 42 33.8 +0.5**
GRHM IAmb IAmb 06 42 35.5
comp=Z,180nm,1.5s
PTEO Sao Teotonio 81.38 44 *e*P **P 06 42 34.6 +1.7**
comp=Z,250nm,1.4s
MDT Midelt 81.44 49 P **P 06 42 35.5 +1.9**
YBH Yreka Blue Hor 81.49 322 S **S 06 52 30.2 -1.3**
comp=Z,0.8nm,1.0s,baz=164,slow=18,SNR=1.2
YBH LR LR 07 18 26.5
comp=Z,115nm,21.1s,baz=136,slow=35
YBH Yreka Blue Hor 81.49 322 P **P 06 42 33.2 -0.4**
YBH pP **pP 06 43 13.2 -2.5**
YBH Yreka Blue Hor 81.49 322 P **P 06 42 33.2 -0.4**
YBH *PP **pP 06 43 13.2 -2.5**
YBH pmax pmax
comp=Z,27nm,0.9s
HVD Gariep Dam 81.63 120 *e*P **P 06 42 34.8 0.0**
HVD IAmb IAmb 06 42 36.5
comp=Z,160nm,1.5s
LIS Lisbon 81.81 42 *e*S **S 06 52 37.9 +3.2**
PINE Pine Mountain 81.84 324 P **P 06 42 36.9 +1.4**
PINE IAmb IAmb 06 42 38.7
comp=Z,131nm,0.8s
PNCL Nicolau / Gran 81.84 43 *e*P **P 06 42 36.6 +1.3**
comp=Z,53nm,1.5s
PCVE Castro Verde 81.87 44 *e*P **P 06 42 36.6 +1.1**
comp=Z,59nm,1.3s
PMAFR Mafra 81.87 42 *e*P **P 06 42 37.3 +1.8**
comp=Z,140nm,1.5s
PVAQ Vaqueiros 81.94 44 *e*P **P 06 42 36.2 +0.3**
comp=Z,69nm,1.6s
PVAQ Vaqueiros 81.94 44 *e*S **S 06 52 36.9 +0.8**
PVAQ Vaqueiros 81.94 44 P **P 06 42 37.2 +1.3**
PVAQ Vaqueiros 81.94 44 P **P 06 42 37.1 +1.3**
WALA Waterton Lakes 82.07 331 P **P 06 42 37.2 +0.7**
FFC Flin Flon 82.12 341 P **P 06 42 36.6 +0.2**
FFC Flin Flon 82.12 341 P **P 06 42 36.6 +0.2**
FFC pmax pmax
comp=Z,52nm,1.1s
BOSA Boshof 82.14 118 P **P 06 42 37.6 +0.1**
comp=Z,18nm,0.4s,baz=256,slow=3.8,SNR=110
BOSA S S 06 52 29.0 -10
comp=Z,4.5nm,1.2s,baz=287,slow=7.7,SNR=1.6
BOSA PKKPbc **PKKPbc 07 01 04.3 -0.3**
comp=Z,2.6nm,0.7s,baz=17,slow=3.0,SNR=4.7
BOSA LR LR 07 18 41.8
comp=Z,212nm,18.2s,baz=255,slow=35
comp=Z,18nm,0.4s
BOSA Boshof 82.14 118 P **P 06 42 37.1 -0.4**
BOSA pP **pP 06 43 21.8 +2.1**
BOSA Boshof 82.14 118 *i* P **P 06 42 37.4 -0.1**
BOSA Boshof 82.14 118 *e*P **P 06 42 36.9 -0.5**
BOSA IAmb IAmb 06 42 38.3
comp=Z,32nm,0.6s
CHEFC Chefchaouen 82.21 47 P **P 06 42 40.0 +2.5**
PBEJ Beja 82.21 44 *e*P **P 06 42 39.1 +1.8**
comp=Z,55nm,1.2s
EVO Evora 82.42 43 *e*P **P 06 42 39.2 +0.9**
comp=Z,61nm,1.7s
PSBE So Bento 82.51 42 *e*P **P 06 42 40.2 +1.3**
comp=Z,165nm,1.9s
PMTG Montargil 82.60 43 *e*P **P 06 42 40.1 +0.8**
comp=Z,131nm,1.7s
E08A Dider Farm, El 82.68 327 P **P 06 42 39.9 +0.4**
E08A pP **pP 06 43 22.0 +0.3**
DBO Dodson Butte 82.68 323 P **P 06 42 40.7 +1.0**
DBO IAmb IAmb 06 42 42.4
comp=Z,76nm,0.9s
DBO pP **pP 06 43 22.7 +0.8**
SWZ Schweizer 82.72 116 *e*P **P 06 42 40.4 -0.1**
SWZ IAmb IAmb 06 42 41.4
comp=Z,1µm,3.4s
PBAR Barrancos 82.83 44 *e*P **P 06 42 41.4 +0.9**
comp=Z,45nm,1.7s
HAWA Hanford 82.85 327 P **P 06 42 41.2 +0.9**
HAWA IAmb IAmb 06 42 43.1
comp=Z,77nm,1.0s
HAWA pP **pP 06 43 23.7 +1.1**
PESTR Estremoz 82.88 43 *e*P **P 06 42 42.5 +1.7**
comp=Z,92nm,1.8s
PESTR Estremoz 82.88 43 P **P 06 42 41.8 +1.0**
PESTR Estremoz 82.88 43 P **P 06 42 42.4 +1.7**
NEW Newport 82.96 329 S **S 06 52 43.0 -3.1**
comp=Z,0.2nm,0.3s,baz=110,slow=16,SNR=1.1
D08A Wollman Farm, 83.00 328 P **P 06 42 41.7 +0.6**
D08A IAmb IAmb 06 42 43.8
comp=Z,107nm,1.4s
D08A **pP 06 43 24.0 +0.6**
PCAS Casmilo, Conde 83.02 42 *e*P **P 06 42 42.6 +1.2**
comp=Z,84nm,1.4s
COI Coimbra 83.16 42 *e*P **P 06 42 44.0 +1.9**
comp=Z,136nm,1.6s
COI Coimbra 83.16 42 P **P 06 42 43.2 +1.1**
COI IAmb IAmb 06 42 44.7
comp=Z,98nm,1.1s
COI Coimbra 83.16 42 P **P 06 42 43.3 +1.1**
COI pmax pmax
comp=Z,98nm,1.1s
C09A Chrisman Ranch 83.19 328 P **P 06 42 43.1 +0.9**
C09A pP **pP 06 43 24.1 -0.3**
MAW Mawson 83.27 163 P **P 06 42 43.6 +1.3**
comp=Z,30nm,0.5s,baz=208,slow=5.8,SNR=30
MAW S **S 06 52 45.0 -3.6**
comp=Z,2.0nm,0.8s,baz=229,slow=20,SNR=0.8
comp=Z,30nm,0.5s
MAW Mawson 83.27 163 P **P 06 42 43.1 +0.8**
MAW Mawson 83.27 163 P **P 06 42 43.1 +0.8**
MAW pmax pmax
comp=Z,9.0nm,0.7s
PMRV Marv??o 83.33 43 *e*P **P 06 42 44.1 +1.0**
comp=Z,43nm,1.4s
PMRV Marv??o 83.33 43 *e*S **S 06 52 51.2 +1.0**
FIGM Figuig 83.47 52 P **P 06 42 46.1 +2.0**
PCBR Castelo Branco 83.52 42 *e*P **P 06 42 44.0 0.0**
comp=Z,53nm,1.6s
PTO Porto 83.60 41 *e*P **P 06 42 45.4 +1.1**
comp=Z,165nm,1.6s
FCC Fort Churchill 83.64 347 P **P 06 42 44.5 +0.4**
FCC IAmb IAmb 06 42 46.0
comp=Z,83nm,0.8s
FCC Fort Churchill 83.64 347 P **P 06 42 44.5 +0.4**
FCC pmax pmax
comp=Z,83nm,0.8s
COR Corvallis 83.65 324 P **P 06 42 45.7 +1.2**
COR IAmb IAmb 06 42 47.5
comp=Z,92nm,0.9s
COR Corvallis 83.65 324 P **P 06 42 45.7 +1.2**
COR pmax pmax
comp=Z,92nm,1.0s
JBK JBK 83.70 49 P **P 06 42 47.0 +1.7**
LBTB Lobatse 83.72 114 LR LR 07 17 52.4
comp=Z,337nm,18.9s,baz=211,slow=34
LBTB Lobatse 83.72 114 P **P 06 42 45.5 -0.1**
LBTB pP **pP 06 43 30.7 +2.7**
LBTB Lobatse 83.72 114 *i* P **P 06 42 44.3 -1.4**
LBTB Lobatse 83.72 114 *i* P **P 06 42 45.9 +0.2**
LBTB IAmb IAmb 06 42 46.5
comp=Z,92nm,1.2s
PVIS Viseu 83.78 41 *e*P **P 06 42 46.5 +1.1**
comp=Z,84nm,1.6s
MTE Manteigas 83.81 42 *e*P **P 06 42 46.0 +0.5**
comp=Z,82nm,1.5s
MTE Manteigas 83.81 42 *e*S **S 06 52 57.9 +2.9**
MTE Manteigas 83.81 42 P **P 06 42 45.6 +0.1**
LTY Liberty 84.01 327 P **P 06 42 47.4 +1.0**
TAF Taforalt 84.06 49 P **P 06 42 50.0 +3.0**
PVRL Vila Real 84.22 41 *e*P **P 06 42 48.3 +0.7**
comp=Z,115nm,1.7s

POLO Lamas de Olo 84.23 41 *e*P **P 06 42 48.8 +1.1**
comp=Z,45nm,1.5s
LON Longmire 84.25 326 P **P 06 42 47.5 -0.1**
LON Longmire 84.25 326 P **P 06 42 47.5 -0.1**
LON pmax pmax
comp=Z,19nm,1.0s
PCAB Cabril 84.29 41 *e*P **P 06 42 48.2 +0.3**
comp=Z,72nm,1.7s
PGAV Gavieira, Arco 84.30 40 *e*P **P 06 42 48.7 +0.7**
comp=Z,85nm,1.6s
PGAV Gavieira, Arco 84.30 40 *e*S **S 06 53 01.5 +1.7**
SNKL Senekal, Frees 84.32 118 *e*P **P 06 42 48.7 0.0**
SNKL IAmb IAmb 06 42 50.0
comp=Z,169nm,1.4s
PRYS Parys 84.49 117 *e*P **P 06 42 50.0 +0.5**
PRYS IAmb IAmb 06 42 50.5
comp=Z,104nm,1.4s
MVO Moncorvo 84.58 41 *e*P **P 06 42 50.2 +0.8**
comp=Z,121nm,1.7s
MVO Moncorvo 84.58 41 *e*S **S 06 53 03.7 +1.1**
IVI Ivigtut 84.69 9 P **P 06 42 50.6 +1.3**
IVI IAmb IAmb 06 42 51.9
comp=Z,151nm,1.0s
IVI Ivigtut 84.69 9 *i* P **P 06 42 50.6 +1.3**
IVI IAmb IAmb 06 42 51.5
comp=Z,188nm,1.1s
EDM Edmonton 84.93 334 P **P 06 42 50.1 -0.7**
EDM IAmb IAmb 06 42 51.8
comp=Z,128nm,1.3s
EDM pP **pP 06 43 32.7 -0.6**
E03A Lebam 85.04 325 P **P 06 42 52.3 +0.8**
NRS Narsarsuaq 85.09 11 *i* P **P 06 42 51.8 +0.5**
NRS IAmb IAmb 06 42 53.1
comp=Z,86nm,1.0s
NRS Narsarsuaq 85.09 11 P **P 06 42 52.7 +1.3**
NRS pmax pmax
comp=Z,92nm,1.0s
PBRG Braganca 85.12 41 *e*P **P 06 42 53.1 +1.0**
comp=Z,81nm,1.7s
B06A Marblemount 85.26 327 P **P 06 42 52.4 -0.1**
B06A IAmb IAmb 06 42 54.0
comp=Z,77nm,0.8s
PAB San Pablo 85.34 44 P **P 06 42 54.2 +0.9**
PAB IAmb IAmb 06 42 55.6
comp=Z,92nm,1.0s
PAB San Pablo 85.34 44 P **P 06 42 54.9 +1.6**
PAB San Pablo 85.34 44 P **P 06 42 53.0 -0.2**
PAB pmax pmax
comp=Z,92nm,1.0s
WISH Wishkah 85.52 325 P **P 06 42 55.4 +1.6**
ESDC Sonseca Array 85.66 44 P **P 06 42 55.4 +0.6**
comp=Z,28nm,1.0s,baz=239,slow=4.4,SNR=89
ESDC S S 06 53 01.9 -11
comp=Z,0.5nm,0.7s,baz=251,slow=31,SNR=1.9
ESDC LR LR 07 20 26.4
comp=Z,419nm,18.5s,baz=222,slow=35
comp=Z,28nm,1.0s
ESDC Sonseca Array 85.66 44 P **P 06 42 55.4 +0.6**
LEPH Lephalale, Lim 86.01 114 *e*P **P 06 42 57.0 0.0**
LEPH IAmb IAmb 06 42 59.7
comp=Z,104nm,1.3s
NWCL Newcastle 86.26 118 *e*P **P 06 42 58.8 +0.5**
NWCL IAmb IAmb 06 43 01.1
comp=Z,34nm,1.2s
PGC Sidney 86.33 327 P **P 06 42 58.6 +0.8**
PGC IAmb IAmb 06 43 00.2
comp=Z,169nm,1.4s
PGC pP **pP 06 43 40.8 +0.6**
NUUK Nuuk 87.09 7 *i* P **P 06 43 02.9 +1.8**
NUUK IAmb IAmb 06 43 03.5
comp=Z,117nm,0.9s
BRLDA Berland Lookou 87.22 333 P **P 06 43 01.5 -0.6**
BRLDA IAmb IAmb 06 43 03.1
comp=Z,67nm,0.9s
MUSN Musina, Limpop 88.37 113 *e*P **P 06 43 10.3 +1.9**
MUSN IAmb IAmb 06 43 11.6
comp=Z,58nm,1.4s
CNG Changalane 88.71 118 *e*P **P 06 43 10.8 +1.0**
CNG IAmb IAmb 06 43 11.9
comp=Z,67nm,2.0s
WAPA Wapiti River 88.75 333 P **P 06 43 09.3 +0.1**
MOPA Mopani 89.18 115 *i* P **P 06 43 14.4 +2.2**
MOPA Mopani 89.18 115 *e*P **P 06 43 12.7 +0.6**
MOPA IAmb IAmb 06 43 14.3
comp=Z,22nm,1.0s
LSZ Lusaka 89.65 106 LR LR 07 20 04.2
comp=Z,493nm,21.2s,baz=282,slow=33
LSZ Lusaka 89.65 106 P **P 06 43 16.1 +1.5**
LSZ IAmb IAmb 06 43 19.0
comp=Z,89nm,1.5s
LSZ pP **pP 06 44 00.5 +3.0**
LSZ Lusaka 89.65 106 *e*P **P 06 43 16.5 +2.0**
LSZ IAmb IAmb 06 43 18.6
comp=Z,562nm,1.3s
SFJD Kangerlussuaq 89.94 7 LR LR 07 23 45.8
comp=Z,133nm,22.0s,baz=202,slow=36
DY2G Dye2 89.97 8 *i* P **P 06 43 15.4 +0.5**
ISOG Isortoq, Green 90.29 12 *i* P **P 06 43 16.0 0.0**
ANGG Ammassalik, Gr 90.60 12 *i* P **P 06 43 16.9 -0.6**
LFF La Frestale 91.40 41 *e*P **P 06 43 21.8 0.0**
LFF pmax pmax
comp=Z,27nm,0.9s
MTLF Montolieu 91.53 43 *e*P **P 06 43 22.4 0.0**
MTLF pmax pmax
comp=Z,32nm,1.1s
MFF Saint Martin d 91.72 40 *e*P **P 06 43 23.1 -0.1**
MFF pmax pmax
comp=Z,48nm,1.3s
ILULI Ilulissat 92.03 6 *i* P **P 06 43 24.7 +0.6**
RJF Les Rejaudoux 92.06 41 *e*P **P 06 43 24.6 -0.2**
RJF pmax pmax
comp=Z,69nm,1.6s
CAF Calviac 92.21 42 *e*P **P 06 43 25.5 -0.1**
CAF pmax pmax
comp=Z,39nm,1.4s
GRR Gorron 92.23 38 *e*P **P 06 43 25.0 -0.5**
GRR pmax pmax
comp=Z,25nm,1.1s
YKA Yellowknife Ar 92.28 340 P **P 06 43 25.8 +0.4**
comp=Z,62nm,0.7s,baz=134,slow=4.3,SNR=806
comp=Z,62nm,0.7s
FLN La Foliniere 92.64 38 *e*P **P 06 43 27.1 -0.3**
FLN pmax pmax
comp=Z,33nm,1.3s
LDF La Druitiere 92.76 38 *e*P **P 06 43 27.5 -0.5**
LDF pmax pmax
comp=Z,24nm,1.2s
KEST Kesra 92.93 53 LR LR 07 27 23.0
comp=Z,377nm,19.2s,baz=213,slow=37
TCF Toulx Ste Croi 92.97 41 *e*P **P 06 43 28.7 -0.3**
TCF pmax pmax
comp=Z,50nm,1.8s
ICESG Greenland Ices 93.37 10 *i* P **P 06 43 30.7 0.0**
BGF Bois d'Agland 93.48 41 *e*P **P 06 43 28.5 -2.9**
BGF pmax pmax
comp=Z,67nm,1.5s
BORG Borgarnes 93.83 18 LR LR 07 22 39.8
comp=Z,198nm,18.9s,baz=233,slow=33
AVF Avril sur Loir 93.90 41 *e*P **P 06 43 32.9 -0.4**
AVF pmax pmax
comp=Z,65nm,1.7s
KOTAN Kotaneelee Air 93.97 335 P **P 06 43 34.9 +1.6**
baz=130
SSF Saint Saulge 94.12 40 *e*P **P 06 43 34.8 +0.5**
SSF pmax pmax
comp=Z,22nm,1.4s
SMF Signal de Mont 94.13 41 *e*P **P 06 43 34.2 -0.1**
SMF pmax pmax
comp=Z,47nm,1.3s
LMR La Mourre 94.28 45 *e*P **P 06 43 35.4 +0.3**
LMR pmax pmax
comp=Z,152nm,1.6s
URZ Urewera 94.42 226 LR LR 07 17 03.0
comp=Z,352nm,21.4s,baz=210,slow=30
LOR Lormes 94.43 40 *e*P **P 06 43 36.3 +0.6**
LOR pmax pmax
comp=Z,29nm,1.5s
ORIF Oris-en-Rattie 94.59 43 *e*P **P 06 43 37.3 +0.7**
ORIF pmax pmax
comp=Z,27nm,1.2s
T35M Bob Quinn 94.67 331 P **P 06 43 37.7 +1.1**
baz=125
EKA Eskdalemuir Ar 94.73 31 LR LR 07 22 50.4
comp=Z,531nm,21.4s,baz=214,slow=33
RPZ Rata Peaks 95.05 219 LR LR 07 18 11.1
comp=Z,357nm,21.3s,baz=107,slow=30
UPNV Upernavik 95.16 3 *i* P **P 06 43 38.5 +0.1**
WRAK Wrangell Islan 95.31 330 P **P 06 43 40.2 +0.7**
baz=123
DLBC Dease Lake 95.39 332 LR LR 07 32 21.6
comp=Z,221nm,21.3s,baz=104,slow=39
LPL La Plagne 95.40 43 *e*P **P 06 43 41.4 +0.9**
LPL pmax pmax
comp=Z,10.0nm,0.9s
S34M Telegraph Cree 95.58 331 P **P 06 43 41.9 +1.2**
baz=124
WRGLY Wrigley 95.73 338 P **P 06 43 42.8 +1.6**
baz=130
WTLY Watson Lake, Y 95.84 334 P **P 06 43 43.2 +1.3**
baz=126
DOU Dourbes 96.19 38 *d*P **P 06 43 44.0 +0.4**
comp=Z,9.5nm,1.2s
GIVF Givet 96.32 38 *e*P **P 06 43 44.0 -0.2**
GIVF pmax pmax
comp=Z,100nm,1.7s
R33M Jennings River 96.34 333 P **P 06 43 45.5 +1.3**
baz=124
BMRD Maredsous 96.38 38 *d*P **P 06 43 44.4 -0.1**
comp=Z,7.8nm,1.2s
RCHB Rochefort 96.58 38 *d*P **P 06 43 45.5 +0.2**
Q32M Nakina River 96.66 332 P **P 06 43 46.7 +0.9**
baz=123
SUMG Summit 96.68 9 *i* P **P 06 43 46.0 +0.1**
WLF Walferdange 96.89 39 *d*P **P 06 43 47.5 +0.7**
comp=Z,8.1nm,1.4s
CDF Champ du Feu 97.00 40 *e*P **P 06 43 47.1 -0.4**
CDF pmax pmax
comp=Z,23nm,1.5s
BHOU Houvegnez 97.11 38 *d*P Pdif 06 43 48.2 +0.4
R32K Eaglecrest 97.30 331 P Pdif 06 43 49.8 +1.3
baz=121
P33M Teslin, Yukon 97.57 333 P Pdif 06 43 50.4 +0.6
P33M Teslin, Yukon 97.57 333 P Pdif 06 43 50.9 +1.2
baz=122
P32M Atlin 97.62 332 P Pdif 06 43 51.1 +1.1
baz=122
MBAR Mbarara 97.64 94 LR LR 07 24 58.6
comp=Z,306nm,21.4s,baz=286,slow=34
DAVOX Davos/Dischmat 97.92 43 LR LR 07 27 52.3
comp=Z,182nm,19.7s,baz=242,slow=35
DAVA Damuels 98.12 42 *e*Pdiff Pdif 06 43 53.2 +0.5
comp=Z,17nm,1.4s
DAVA *e*PP **PP 06 47 50.4 -4.0**
comp=Z,22nm,1.3s
RES Resolute Bay 98.31 353 LR LR 07 33 34.2
comp=Z,167nm,18.1s,baz=141,slow=38
FETA Feichten 98.55 43 *e*Pdiff Pdif 06 43 55.8 +1.2
comp=Z,18nm,1.3s,SNR=5.0
FETA *e*PP **PP 06 47 55.8 -1.8**
comp=Z,16nm,1.7s
PLBC Pleasant Camp 98.72 331 P Pdif 06 43 56.8 +2.0
baz=119
CTI Castel Tesino 98.75 44 P Pdif 06 43 55.6 +0.2
CTI IAmb IAmb 06 43 57.1
comp=Z,29nm,1.4s
CTI Castel Tesino 98.75 44 P Pdif 06 43 55.6 +0.2
CTI pmax pmax
comp=Z,29nm,1.4s
RETA Reutte 98.75 42 *e*Pdiff Pdif 06 43 56.3 +0.9
comp=Z,16nm,1.3s
RETA *e*PP **PP 06 47 54.7 -4.4**
comp=Z,16nm,1.3s
FARO Faro, Yukon 98.85 334 P Pdif 06 43 57.1 +1.7
baz=122
MOTA Moosalm 98.91 42 *e*Pdiff Pdif 06 43 56.7 +0.6
comp=Z,27nm,1.4s
MOTA *e*PP **PP 06 47 55.7 -4.7**
comp=Z,18nm,1.8s
SQTA Sankt Quirin 98.93 43 *e*Pdiff Pdif 06 43 56.8 +0.6
comp=Z,16nm,0.8s,SNR=12
SQTA *e*PP **PP 06 47 56.0 -4.5**
comp=Z,11nm,1.4s
WATA Walderalm 99.20 43 *e*Pdiff **Pdif 06 43 58.5 +1.1**
comp=Z,33nm,1.8s,SNR=5.4
WTTA Wattenberg 99.21 43 *i* Pdiff **Pdif 06 43 58.7 +1.2**
comp=Z,16nm,0.9s,SNR=9.1
WTTA *e*PP **PP 06 47 59.7 -3.0**
comp=Z,18nm,1.3s
O30N Mendenhall 99.25 332 P **Pdif 06 43 59.0 +1.8**
baz=119
M31M Drury Creek, Y 99.26 334 P **Pdif 06 43 58.7 +1.5**
baz=121
N31M Braeburn, Yuko 99.47 333 P **Pdif 06 43 59.7 +1.6**
baz=120
ABTA Abfaltersbach 99.57 43 *e*Pdiff **Pdif 06 43 59.9 +0.9**
comp=Z,6.0nm,0.8s
ABTA *e*PP **PP 06 48 03.0 -2.3**
comp=Z,17nm,1.3s
HYT Haines Junctio 99.88 332 P **Pdif 06 44 01.9 +1.8**
baz=118
NEEM North Greenlan 100.02 4 *i* P **Pdif 06 44 00.6 0.0**
KBA Koelnbreinsper 100.22 43 *e*Pdiff **Pdif 06 44 02.1 +0.1**
comp=Z,5.4nm,0.7s
KBA *e*PP **PP 06 48 07.3 -3.1**
comp=Z,24nm,1.4s
MYKA Terra Mystica 100.25 44 *e*Pdiff **Pdif 06 44 03.0 +1.0**
comp=Z,10nm,0.7s
MYKA *e*PP **PP 06 48 07.9 -2.5**
comp=Z,19nm,1.2s
M30M Minto, Yukon 100.42 334 P **Pdif 06 44 03.6 +1.3**
baz=118
YUK4 Talbot Arm 100.61 332 P **Pdif 06 44 05.1 +1.6**
baz=117
BIOA Bad Ischl, Aus 100.63 43 *e*Pdiff **Pdif 06 44 04.5 +0.8**
comp=Z,9.5nm,1.6s
BIOA *e*PP **PP 06 48 10.5 -2.7**
comp=Z,22nm,2.1s
OBKA Obir 100.79 44 *e*Pdiff **Pdif 06 44 05.5 +1.1**
comp=Z,0.5nm,0.4s
O28M Mount Upton 101.03 332 P **Pdif 06 44 06.3 +0.9**
baz=116
M29M Somme Creek 101.04 333 P **Pdif 06 44 06.5 +1.3**
baz=117
YUK8 Steele Glacier 101.07 332 P **Pdif 06 44 06.8 +1.2**
baz=116
MOA Molln 101.08 43 *e*Pdiff **Pdif 06 44 06.5 +0.8**
comp=Z,12nm,1.5s
MOA *e*PP **PP 06 48 14.5 -2.2**
comp=Z,10.0nm,1.1s
GERES GERESS Array B 101.09 42 P **Pdif 06 44 05.7 -0.1**
comp=Z,0.7nm,0.8s,baz=249,slow=2.7,SNR=6.0
GERES PP **PP 06 48 15.0 -1.7**
comp=Z,1.1nm,0.8s,baz=245,slow=8.6,SNR=4.8
KHC Kasperske Hory 101.12 41 *e*PP **PP 06 48 13.0 -3.9**
SOKA Soboth 101.16 44 *e*Pdiff **Pdif 06 44 07.0 +0.9**
comp=Z,16nm,1.6s
L29M L29M 101.21 334 P **Pdif 06 44 07.2 +1.3**
baz=117
K29M Barlow Dome 101.31 335 P **Pdif 06 44 07.3 +1.0**
baz=118
CLL Collm 101.55 39 *e*Pdif **Pdif 06 44 09.0 +1.4**
CLL *e*PP **PP 06 48 16.0 -4.0**
CLL *e*SKSac **SKSac 06 54 35.0 +4.0**
CLL *e*Sdif **Sdif 06 55 36.0 +2.3**
CLL *es*Sdif sSdif 06 56 45.0 -3.5
CLL *e*SP **SP 06 57 02.0 -4.8**
CLL *e*SPP SPP 06 57 58.0
CLL *e*PPS PPS 06 58 22.0
CLL *ex* x 06 59 13.0
CLL *e*SS **SS 07 02 30.0 -10**
CLL *ex* x 07 04 24.0
CLL *es*SSS 07 07 48.0
CLL Lm MLR 07 27 00.0
comp=Z,400nm,21.4s
CLL Collm 101.55 39 *e*P **Pdif 06 44 09.0 +1.4**
CLL *e* 06 48 16.0
CLL *e* 06 54 38.0
CLL *e*S **Sdif 06 55 36.0 +2.3**
YUK3 Moose Creek 101.58 332 P **Pdif 06 44 08.9 +1.2**
baz=116
ARSA Arzberg 101.67 44 *e*Pdiff **Pdif 06 44 09.2 +0.9**
comp=Z,10nm,1.8s
ARSA *e*PP **PP 06 48 19.8 -1.3**
comp=Z,13nm,1.9s
A36M Sachs Harbour 101.74 344 P **Pdif 06 44 09.1 +1.1**
baz=127
BRG Berggiesshubel 101.95 40 SP SP 06 57 15.0 +3.9
INK Inuvik 102.05 340 PP **PP 06 48 19.3 -3.9**
comp=Z,2.4nm,0.8s,baz=110,slow=9.3,SNR=4.9
INK Inuvik 102.05 340 P **Pdif 06 44 10.6 +1.2**
baz=120
CONA Conrad Observa 102.12 43 *e*Pdiff **Pdif 06 44 11.1 +0.8**

comp=Z,2.7nm,0.9s
CONA *e*PP **PP** 06 48 20.9 -3.6
comp=Z,11nm,1.5s
DAWY Dawson 102.14 335 P **Pdif** 06 44 10.9 +0.9
baz=116
EPYK Eagle Plains 102.19 337 P **Pdif** 06 44 11.4 +1.3
baz=118
I29M Ogilvie Camp, 102.30 336 P **Pdif** 06 44 11.4 +0.8
baz=117
RONA Rosalia, Austr 102.32 43 *e*PP **PP** 06 48 23.2 -2.8
comp=Z,5.4nm,0.7s
M27K Edge Creek, AK 102.44 333 P **Pdif** 06 44 12.5 +1.0
baz=114
MCARA McCarthy VSAT 102.54 332 P **Pdif** 06 44 12.9 +1.1
baz=114
L27K Beaver Creek, 102.70 333 P **Pdif** 06 44 13.8 +1.3
baz=114
KRUC Moravsky 102.83 42 *e*PP **PKiKP** 06 48 25.3 -7.6
VRAC Vranov 103.03 42 *e*PP **PKiKP** 06 48 27.5 -5.8
EGAK Eagle 103.14 335 P **Pdif** 06 44 15.5 +1.2
baz=114
MODS Modra-Piesok 103.16 43 *e*PP **PKiKP** 06 48 27.8 -5.8
K27K Chicken 103.20 334 P **Pdif** 06 44 16.0 +1.4
baz=114
KLU Klutina 103.87 331 P **Pdif** 06 44 18.8 +1.0
baz=111
SCRK Sand Creek 103.95 334 P **Pdif** 06 44 18.8 +0.6
baz=112
J26L Joseph Creek 103.98 334 P **Pdif** 06 44 18.9 +0.7
baz=112
NOA NORSAR Array B 104.08 30 Pdiff **Pdif** 06 44 14.1 -4.6
comp=Z,0.7nm,0.9s,baz=248,slow=4.2,SNR=1.2
G27K Doyon Strip 104.15 337 P **Pdif** 06 44 19.1 +0.3
baz=114
PAX Paxson 104.20 333 P **Pdif** 06 44 19.6 +0.4
baz=111
ILAR Eielson Array 105.42 334 Pdiff **Pdif** 06 44 24.7 +0.2
comp=Z,0.9nm,0.7s,baz=127,slow=2.8,SNR=12
BPAW Bear Paw Mtn. 106.91 333 P **PKiKP** 06 48 40.9 +0.9
baz=106
PPLA Purkeypile 107.10 332 P **PKiKP** 06 48 41.3 +0.7
baz=105
CAST Castle Rocks 107.19 332 P **PKiKP** 06 48 41.5 +0.9
baz=105
M20K Styx River 107.26 330 P **PKiKP** 06 48 41.5 +0.7
baz=105
O19K Port Alsworth 107.39 328 P **PKiKP** 06 48 42.7 +1.7
baz=104
D23K Nanushuk River 108.09 338 P **PKiKP** 06 48 43.9 +1.9
baz=105
R16K Pilot Point 108.42 325 P **PKiKP** 06 48 44.3 +1.4
baz=103
F21K Alatna River 108.69 336 P **PKiKP** 06 48 45.2 +1.9
baz=103
TTA Tatalina 108.81 331 P **PKiKP** 06 48 45.6 +1.9
baz=102
O16K Kokwok River B 109.11 327 P **PKiKP** 06 48 45.7 +1.5
baz=102
GCSA Galena City Sc 109.54 333 P **PKiKP** 06 48 46.7 +1.8
baz=101
MNK Minsk 111.07 38 *i* P **Pdif** 06 44 59.3 +9.5
comp=E,3.0nm,1.0s,baz=261
MNK *i* P **Pdif** 06 44 59.3 +9.5
comp=N,41nm,1.0s
MNK *i* P **Pdif** 06 44 59.3 +9.5
comp=Z,11nm,1.0s
MNK *i* pP **pPdif** 06 45 29.0 -3.7
MNK *i* sP **sPdif** 06 45 34.8 -16
MNK *i* PP **PP** 06 49 30.8 +1.1
MNK *i* PPP PPP 06 52 00.5
MNK *i* SKP 06 52 28.9
MNK *i* PKS PKSdf 06 52 50.8 +26
MNK *i* SKS SKSac 06 55 25.0 +12
MNK *i* SKKS 06 57 29.6
MNK *i* SP SP 06 59 08.8 +26
MNK *i* PS PKKPbc 06 59 37.8 -9.1
MNK *i* SS **SS** **07 04 54.3 +5.5**
MNK *i* SSS SSS 07 07 38.3
MNK *i* LR LR 07 31 31.3
MNK *i* LRM MLR 07 37 12.2
comp=Z,243nm,19.6s
MNK *i* LRM MLR 07 38 09.6
comp=E,52nm,19.6s
MNK *i* LRM MLR 07 38 09.6
comp=N,627nm,19.7s
MNK Minsk 111.07 38 *i* P **Pdif** **06 44 59.3 +9.5**
MNK *i* 06 49 30.7
MNK *i* PPP PPP 06 52 00.5
MNK *i* SS SS 07 04 54.2 +5.4
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,11nm,1.0s
MNK pmax pmax
comp=N,41nm,1.0s
MNK MLR MLR
comp=Z,243nm,20.0s
MNK MLR MLR
comp=N,627nm,20.0s
MNK MLR MLR
comp=E,52nm,20.0s
FINES FINESS Array B 111.13 31 PP **PP** 06 49 25.2 -4.7
comp=E,7.7nm,1.2s,baz=212,slow=18,SNR=4.1
DZM Mont Dzumac 111.19 234 *e*LR LR 07 22 03.9
comp=E,540nm,25.7s
AKASG Malin Array Be 111.27 43 PKiKP **PKiKP** 06 48 47.4 -1.2
comp=E,0.6nm,0.4s,baz=269,slow=2.6,SNR=7.7
AKASG PP **PP** 06 49 28.5 -2.8
comp=E,4.4nm,1.0s,baz=259,slow=7.5,SNR=9.5
AKASG Malin Array Be 111.27 43*c* *i*PKIKP **PKiKP** 06 48 48.7 +0.1
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 111.27 43⇑*i*PKIKP **PKiKP** 06 48 48.9 +0.3
BR131 Keskin Array S 112.41 55⇑*i*PKIKP **PKiKP** 06 48 52.5 +1.2
BRTR Keskin Array B 112.41 55 PKiKP **PKiKP** 06 48 50.9 -0.5
comp=Z,2.2nm,0.8s,baz=279,slow=2.1,SNR=7.6
BRTR PP **PP** 06 49 36.2 -3.7
comp=Z,9.8nm,1.2s,baz=237,slow=6.7,SNR=9.0
BRTR Keskin Array B 112.41 55*c* *i*PKIKP **PKiKP** 06 48 52.5 +1.2
BRTR pmax pmax
comp=Z,2.0nm,0.9s
APA Apatity 114.65 24⇓*i*PKIKP PKPdf 06 48 47.3 -7.2
APA pmax pmax
comp=Z,9.0nm,1.1s
OBN Obninsk 116.13 38 PP **PP** 06 50 01.9 -3.5
comp=Z,2.3nm,0.3s,baz=220,slow=17,SNR=6.6
OBN Obninsk 116.13 38 *i* PKIKP **PKiKP** 06 48 57.8 +0.1
OBN *e* 06 49 31.6
OBN *e*PPP PPP 06 52 30.8
OBN pmax pmax
comp=Z,7.0nm,0.9s
LPSR Galich'ya Gora 117.46 41 *e*PKIKP **PKiKP** 06 49 00.4 0.0
LPSR *e* 06 50 11.4
LPSR pmax pmax
comp=Z,10.0nm,0.7s
SOC Sochi 117.47 51 *i* PKIKP **PKiKP** 06 49 02.0 +1.3
SOC *e* 06 50 16.2
SOC *e*PPP PPP 06 52 41.6
SOC *e*PS **PKKPdf** **06 59 55.3 +2.9**
VSR Storozhevoye 117.57 43 *e*PKIKP **PKPdf** 06 48 59.5 -1.1
VSR *e* 06 50 12.3
VSR pmax pmax
comp=Z,10.0nm,1.1s
VRH Novokhopyorsk 119.18 43 *e*PKIKP **PKPdf** 06 49 02.7 -1.0
VRH pmax pmax
comp=Z,20nm,0.8s
STKA Stephens Creek 119.25 209 PKP **PKiKP** 06 49 05.4 +0.7
comp=Z,2.2nm,0.7s,baz=202,slow=19,SNR=5.8
STKA PKKPbc **PKKPbc** 06 59 17.6 -0.8
comp=Z,4.1nm,0.8s,baz=333,slow=3.6,SNR=11
KIV Kislovodsk 119.64 51 *i* PKIKP **PKiKP** 06 49 06.1 +1.0
KIV *e* 06 49 41.5
KIV *e* 06 50 31.9
KIV *e*PPP PPP 06 53 05.2
KIV pmax pmax
comp=Z,8.0nm,1.3s
KBZ Khabaz 119.78 51 PKP **PKiKP** 06 49 05.8 +0.6
comp=Z,9.5nm,0.9s,baz=250,slow=3.6,SNR=14
KBZ Khabaz 119.78 51*d* *i*PKIKP **PKiKP** 06 49 06.4 +1.2
PRGR Permogore 120.46 31 *e*PKIKP **PKiKP** 06 49 07.2 +1.2
PRGR pmax pmax
comp=Z,12nm,0.6s
BELG Belogornoye 122.78 41⇑*i*PKIKP **PKPdf** 06 49 10.4 -0.2
KIRV Kirov 122.88 34 PP **PP** 06 50 48.6 -2.9
comp=Z,11nm,0.4s,baz=268,slow=18,SNR=4.5
KIRV Kirov 122.88 34*d* *i*PKIKP **PKiKP** 06 49 11.7 +0.9

BILL Bilibino 123.64 339*c* *i*PKIKP **PKiKP** 06 49 12.5 +0.4
BILL *e* 06 49 50.3
BILL *e*PPP PPP 06 53 35.9
BILL pmax pmax
comp=Z,13nm,1.3s
ARU Arti 128.20 35 SKPbc SKPbc 06 52 25.7
comp=Z,1.5nm,0.3s,baz=277,slow=2.6,SNR=4.1
ARU Arti 128.20 35 *i* PKIKP **PKiKP** **06 49 22.6 +1.1**
ARU 06 51 29.1
ARU 06 56 20.9
SVE Sverdlovsk 129.15 34 *e*PKHKP PKPpre 06 49 03.3
AKTO Aktyubinsk 129.51 42 SKPbc SKPbc 06 52 31.7 +1.5
comp=Z,6.4nm,0.9s,baz=311,slow=5.0,SNR=7.8
ASAR Alice Springs 129.69 206 PKP **PKPdf** **06 49 25.2 +0.3**
comp=Z,9.6nm,0.8s,baz=148,slow=2.2,SNR=67
ASAR PP **PP** **06 51 38.2 +2.1**
comp=Z,1.8nm,1.1s,baz=151,slow=6.1,SNR=4.0
ASAR SKPbc SKPbc 06 52 31.9 +0.1
comp=Z,5.5nm,0.8s,baz=148,slow=3.9,SNR=11
TIXI Tiksi 129.70 353*c* *i*PKIKP **PKiKP** **06 49 24.0 -0.1**
NRIK Noril'sk 130.64 11 PKP **PKiKP** **06 49 26.3 +0.3**
comp=Z,8.9nm,0.9s,baz=31,slow=4.0,SNR=14
NRIK SKPbc **SKPab** **06 52 34.0 +0.2**
comp=Z,14nm,1.0s,baz=26,slow=2.2,SNR=11
NRIK Noril'sk 130.64 11*d* *i*PKIKP **PKiKP** **06 49 26.9 +0.9**
SEY Seymchan 131.24 337 PKP **PKiKP** **06 49 27.9 +0.5**
comp=Z,35nm,0.9s,baz=86,slow=19,SNR=33
SEY SKPbc **SKPab** **06 52 36.6 0.0**
comp=Z,12nm,1.2s,baz=57,slow=4.4,SNR=6.7
SEY Seymchan 131.24 337⇓*i*PKIKP **PKiKP** **06 49 28.1 +0.7**
SEY pmax pmax
comp=Z,61nm,1.3s
GEYT Alibeck 131.31 59 PKP **PKiKP** **06 49 28.9 +0.4**
comp=Z,3.7nm,0.7s,baz=265,slow=7.3,SNR=6.1
GEYT PP **PP** **06 51 47.2 -0.7**
comp=Z,2.6nm,0.5s,baz=243,slow=6.5,SNR=4.9
GEYT SKPbc **SKPab** **06 52 38.2 +0.4**
comp=Z,1.7nm,0.5s,baz=284,slow=6.0,SNR=4.9
WRA Warramunga Arr 132.80 209 PKP **PKPdf** **06 49 31.3 +0.5**
comp=Z,7.7nm,0.7s,baz=162,slow=1.7,SNR=44
WRA PP **PP** **06 51 55.0 -1.1**
comp=Z,2.1nm,1.1s,baz=148,slow=5.9,SNR=5.2
WRA SKPbc **SKPbc** **06 52 43.9 +0.9**
comp=Z,11nm,0.9s,baz=149,slow=3.3,SNR=18
WRAB Tennant Creek 132.80 209⇑*i*PKIKP **PKiKP** **06 49 32.1 +0.1**
KRVT Keravat (AS076 132.96 241 PKP **PKiKP** **06 49 33.3 +0.9**
comp=Z,22nm,0.5s,baz=168,slow=19,SNR=3.6
KRVT SKPbc **SKPab** **06 52 45.0 -0.6**
comp=Z,22nm,0.4s,baz=50,slow=8.4,SNR=4.3
PETK Petropavlovsk- 133.83 323 PKP **PKiKP** **06 49 32.6 -0.3**
comp=Z,7.3nm,0.6s,baz=82,slow=1.3,SNR=19
PETK SKPbc **SKPbc** **06 52 46.5 +1.2**
comp=Z,10.0nm,1.0s,baz=140,slow=4.9,SNR=3.9
MA2 Magadan 133.90 334 PKP **PKiKP** **06 49 32.8 -0.1**
comp=Z,7.6nm,0.7s,baz=90,slow=6.1,SNR=3.3
BRVK Borovoye 135.76 35⇑*i*PKIKP **PKiKP** **06 49 36.7 -0.2**
BRVK pmax pmax
comp=Z,28nm,2.5s
BVAR Borovoye Array 135.83 35 SKPbc **SKPbc** **06 52 53.2 +1.5**
comp=Z,1.1nm,0.6s,baz=276,slow=1.3,SNR=4.0
YAK Yakutsk 138.52 348*c* *i*PKIKP **PKiKP** **06 49 41.2 -1.0**
YAK pmax pmax
comp=Z,53nm,1.3s
IUG Iuzhnay 139.67 51 *e*PKiKP **PKPdf** **06 49 41.5 -1.5**
baz=51
IUG Iuzhnay 139.67 51 *i* PKIKP **PKPdf** **06 49 41.4 -1.5**
DZA Taraz 140.37 49 *e*PKiKP **PKPdf** **06 49 43.0 -1.2**
baz=49
DZA Taraz 140.37 49 *i* PKIKP **PKPdf** **06 49 42.9 -1.2**
KURK Kurchatov 141.39 34*c* *e*PKIKP **PKiKP** **06 49 47.5 -0.9**
KURBB Kurchatov Arra 141.40 35 SKPbc **SKPbc** **06 53 06.1 -1.3**
comp=Z,3.7nm,0.9s,baz=296,slow=3.5,SNR=6.2
BTLS Baital 141.45 45 *e*PKP **PKPdf** **06 49 42.0 -4.0**
baz=45
BTLS *e*PKiKP **PKiKP** **06 49 45.5 -3.3**
baz=45
BTLS Baital 141.45 45 *e*PKHKP PKPpre 06 49 41.9
BTLS *i* 06 49 45.4
ZALV Zalesovo Beam 142.20 26 PKhKP PKPpre 06 49 43.1
comp=Z,13nm,0.6s,baz=328,slow=4.2,SNR=49
ZALV SKPbc **SKPbc** **06 53 09.0 -0.3**
comp=Z,22nm,1.0s,baz=347,slow=3.1,SNR=8.2
SEM Semipalatinsk 142.42 34 *e*PKP **PKPdf** **06 49 43.5 -4.3**
baz=34
SEM Semipalatinsk 142.42 34 *e*PKHKP PKPpre 06 49 43.4
AAK Ala-Archa 142.65 48 P **PKPdf** **06 49 46.7 -1.6**
SNR=9.2
AAK Ala-Archa 142.65 48*c* *e*PKIKP **PKPdf** **06 49 47.1 -1.3**
UCH Uchtor 142.81 49 P **PKPdf** **06 49 48.1 -1.0**
SNR=7.3
KBK Karagaybulak 142.96 48 P **PKPdf** **06 49 48.1 -0.9**
SNR=8.2
TKM2 Tokmak 2 143.30 47 P PKPbc 06 49 48.0 +0.8
SNR=12
KUU Kurty 143.41 45 *e*PKiKP **PKPdf** **06 49 48.4 -1.1**
baz=45
KUU Kurty 143.41 45 *i* PKIKP PKPbc 06 49 48.3 +1.1
PCHI Peechi 143.74 103 *e*P PKPbc 06 49 48.6 -0.3
PCHI *ex* x 07 11 39.4
CHKK Chushkaly 143.86 45 *e*PKiKP **PKPdf** **06 49 49.6 -0.7**
baz=45
CHKK Chushkaly 143.86 45 *i* PKIKP **PKPdf** **06 49 49.6 -0.7**
POO Poona 143.89 89 *e*P PKPab 06 49 48.3 -0.3
POO IAmb IAmb 06 49 51.7
comp=Z,25nm,0.6s
ULHL Ulahol 144.00 48 P **PKPdf** **06 49 51.6 +0.8**
SNR=5.5
AAA Alma-Ata 144.08 46 *e*PKiKP **PKPdf** **06 49 50.1 -0.6**
baz=46
AAA Alma-Ata 144.08 46 *i* PKIKP **PKPdf** **06 49 50.1 -0.6**
TNSS Tian-Shan 144.17 46 *e*PKiKP PKPbc 06 49 50.6 +0.7
baz=46
TNSS Tian-Shan 144.17 46 *i* PKIKP PKPbc 06 49 50.5 +0.6
MDOK Medeo 144.18 46 *e*PKiKP **PKPdf** **06 49 50.4 -0.7**
baz=46
MDOK Medeo 144.18 46 *i* PKIKP PKPbc 06 49 50.3 +0.7
UGL Uglegorsk 144.33 326 *e*PKIKP **PKPdf** **06 49 50.7 -0.1**
UGL pmax pmax
comp=Z,730nm,0.9s
KOD Kodaikanal 144.63 104 *e*P PKPbc 06 49 52.4 +0.4
KOD *i* x 06 50 38.7
KSH Kashi 144.75 52 PKP PKPbc 06 49 51.6 +0.1
KSH AMB AMB
comp=Z,590nm,6.2s
ZHN Zhinishke 145.10 45 *e*PKiKP **PKPbc** **06 49 51.5 -1.0**
baz=45
ZHN Zhinishke 145.10 45 *i* PKIKP **PKPbc** **06 49 51.4 -1.0**
KPKS Kokpek 145.13 45 *e*PKiKP **PKPbc** **06 49 51.9 -0.7**
baz=45
KPKS Kokpek 145.13 45 *i* PKIKP **PKPbc** **06 49 51.8 -0.7**
YSS Yuzh-Sakhalins 145.22 322 *i* PKIKP **PKPab** **06 49 53.9 +1.2**
YSS *e* 06 53 15.0
YSS pmax pmax
comp=Z,320μm,0.8s
JMU Jammu 145.45 64 *e*P **PKPdf** **06 49 53.1 -0.2**
UZB Uzynbulak 145.50 45 *e*PKiKP **PKPdf** **06 49 53.2 -0.2**
baz=45
UZB Uzynbulak 145.50 45 *i* PKP2 **PKPdf** **06 49 53.1 -0.2**
AJM Ajmer 145.59 75 *e*P **PKPbc** **06 49 54.2 -0.1**
MK31 Makanchi Array 145.63 37 PKPbc **PKPbc** **06 49 53.7 -0.1**
MK31 pPKPab **pPKPdf** **06 50 38.4 +0.2**
MK31 Makanchi Array 145.63 37*c* *i*PKP2 **PKPbc** **06 49 53.7 -0.1**
MKAR Makanchi Array 145.63 37 PKPbc **PKPdf** **06 49 53.5 +0.3**
comp=Z,68nm,0.9s,baz=315,slow=2.9,SNR=300
MKAR SKPbc **SKiKP** **06 53 18.5 +0.4**
comp=Z,7.1nm,0.9s,baz=348,slow=1.3,SNR=4.3
MKAR Makanchi Array 145.63 37 PKPdf **PKPdf** **06 49 53.1 -0.1**
MKAR Makanchi Array 145.63 37 PKIKP **PKPdf** **06 49 53.2 -0.1**
SHLS Shalkode 145.78 45 *e*PKiKP **PKPbc** **06 49 54.8 +0.3**
baz=45
SHLS Shalkode 145.78 45 *i* PKIKP **PKPbc** **06 49 54.8 +0.3**
SALM Salem 145.85 102 *e*P **PKPab** **06 49 55.9 -0.2**
SALM *i* x x 06 50 42.5
GRNR Gornyy 145.88 332⇓*i*PKP2 **PKPab** **06 49 55.3 +0.2**
GRNR pmax pmax
comp=N,10.0nm,0.6s
GRNR pmax pmax
comp=E,10.0nm,0.6s
GRNR pmax pmax
comp=Z,100nm,0.7s
SOEI Soe 146.04 202 PKP **PKiKP** **06 49 59.9 +0.6**
DGZ Jazzator, Alta 146.38 29*c* *e*PKP2 **PKPbc** **06 49 55.7 -0.4**
ZEA Zeya 146.59 344 *e*PKP2 **PKPbc** **06 49 56.1 -0.3**
ZEA pmax pmax
comp=Z,90nm,0.9s

ZSN Zaisan 146.63 35 *e*PKiKP **PKPdf** **06 49 55.7 +0.7**
baz=35
ZSN Zaisan 146.63 35 *i* PKIKP **PKPdf** **06 49 55.6 +0.7**
BHK Bhakra 146.90 66 *e*P **PKPdf** **06 49 56.8 +0.9**
BHK IAmb IAmb 06 50 01.4
comp=Z,49nm,0.8s
KUDL Kundal 147.22 72 *e*P **PKPbc** **06 49 58.1 -0.9**
AKL Akola 147.23 86 *e*P **PKPbc** **06 49 59.7 +0.5**
AKL IAmb IAmb 06 50 03.3
comp=Z,55nm,0.8s
AKL *i* x x 06 50 46.2
ERM Erimo 147.52 315*c* *e*PKIKP **PKPdf** **06 49 57.5 +1.0**
SMLA Simla 147.57 67 IAmb IAmb 06 50 04.1
comp=Z,148nm,0.3s
NDI New Delhi 147.83 71 *e*P **PKPbc** **06 50 00.5 -0.1**
NDI *i* x x 06 50 47.1
BHPL Bhopal 147.93 81 *e*P **PKPbc** **06 50 01.6 +0.6**
BHPL IAmb IAmb 06 50 02.9
comp=Z,33nm,1.2s
BHPL *i* x x 06 50 44.4
HYB Hyderabad 147.99 93 *e*PKPbc **PKPbc** **06 50 00.1 -1.3**
HYB Hyderabad 147.99 93 *e*P **PKPbc** **06 49 59.9 -1.5**
HYB IAmb IAmb 06 50 06.0
HYB *i* x x 06 50 44.4
DDI Dehra Dun 148.42 68 *e*P **PKPbc** **06 50 01.8 -0.4**
DDI IAmb IAmb 06 50 08.4
comp=Z,794nm,1.8s
PLAI Plampang 148.60 191 PKP **PKPbc** **06 50 03.1 +0.1**
PLAI PKP **PKiKP** **06 50 03.7 -0.7**
PLAI PKP **PKPab** **06 50 04.2 -2.6**
TWSI Taliwang, Sumb 148.83 189 PKP **PKPbc** **06 50 02.3 -1.3**
TWSI PKP **PKiKP** **06 50 05.3 +0.4**
TWSI PKP **PKPab** **06 50 07.0 -0.7**
KLR Kul'dur 148.99 335⇑*e*PKIKP **PKPdf** **06 49 59.9 +1.2**
JAGI Jajag, Banyuwa 149.37 184 PKP **PKPdf** **06 50 01.5 +1.1**
MOY Mondy 149.41 14 *e*PKP2 **PKiKP** **06 50 05.4 +0.3**
MOY pmax pmax
comp=Z,129nm,1.7s
IRK Irkutsk 149.47 10 *e*PKHKP PKPpre 06 50 01.8
IRK pmax pmax
comp=Z,150nm,2.4s
GMJI Gumukmas 149.60 182 PKP **PKPbc** **06 50 04.5 -1.0**
GMJI PKP **PKPab** **06 50 13.0 +2.1**
HEH HeiHe 149.65 341 *e*PKPbc **PKPdf** **06 49 59.8 +0.1**
VJD Vijayawada 149.70 95 *e*P **PKiKP** **06 50 06.4 -0.1**
VJD *i* x x 06 50 53.2
TEY Ternei 149.78 324⇓*e*PKP2 **PKiKP** **06 50 06.2 +0.3**
TEY pmax pmax
comp=Z,90nm,0.6s
PWJI Pagerwojo 149.87 179 PKP **PKPbc** **06 50 03.7 -2.4**
PWJI PKP **PKiKP** **06 50 04.8 -2.2**
PWJI PKP **PKPab** **06 50 07.0 -5.0**
CMJI Cimerak 149.88 173 PKP **PKPbc** **06 50 03.9 -2.3**
CIT Chita 150.30 358 *e*PKIKP **PKiKP** **06 50 07.6 +0.8**
CIT *e* 06 50 11.0
CIT *e* 06 51 01.8
CIT pmax pmax
comp=Z,221nm,1.1s
KPJI Karang Pucung 150.38 173 PKP **PKPdf** **06 50 03.9 +1.9**
KPJI PKP **PKPbc** **06 50 05.3 -2.1**
KPJI PKP **PKiKP** **06 50 08.2 +0.1**
LGTI Lohaghat 150.41 69 *e*P **PKPdf** **06 50 03.6 +2.0**
WMQ Urumqi 150.46 38 *e*PKPbc **PKPdf** **06 50 02.1 +0.8**
NLAI Namlea 150.76 212 PKP **PKiKP** **06 50 10.2 +1.3**
ZAK Zakamensk 151.09 12 *e*PKIKP **PKPdf** **06 50 00.7 -1.4**
ZAK pmax pmax
comp=Z,10.0nm,0.9s
KASI Kota Agung 151.34 164 PKP **PKiKP** **06 50 11.0 +0.9**
HIA Hailar 152.43 349⇑*e*PKIKP **PKPdf** **06 50 05.3 +1.2**
USRK Ussuriysk Ar. 152.74 328 PKPbc **PKiKP** **06 50 12.7 +0.7**
comp=Z,51nm,0.9s,baz=22,slow=2.0,SNR=35
USRK PKPab **PKPab** **06 50 23.2 0.0**
comp=Z,9.3nm,0.7s,baz=21,slow=3.5,SNR=6.1
USRK Ussuriysk Ar. 152.74 328 PKPdf **PKPdf** **06 50 04.4 -0.2**
USRK PKPbc **PKiKP** **06 50 12.3 +0.3**
USRK Ussuriysk Ar. 152.74 328 PKiKP **PKPdf** **06 50 04.4 -0.2**
MJAR Matsushiro Arr 153.39 308 PKP **PKPdf** **06 50 07.2 +1.4**
comp=Z,2.2nm,0.7s,baz=33,slow=2.4,SNR=5.7
MJAR PKPbc **PKPbc** **06 50 13.1 -0.5**
comp=Z,16nm,0.7s,baz=87,slow=2.2,SNR=25
MJAR PKPab **PKPab** **06 50 27.1 +0.7**
comp=Z,12nm,0.8s,baz=56,slow=2.5,SNR=6.0
BNX BinXian 153.54 336 PKPbc **PKPdf** **06 50 06.2 +0.5**
BNX AMB AMB
comp=Z,150nm,4.8s
SONM Songino Array 154.09 9 PKP **PKPdf** **06 50 07.9 +1.3**
comp=Z,16nm,0.9s,baz=335,slow=2.1,SNR=60
SONM PKPbc **PKiKP** **06 50 15.7 +0.8**
comp=Z,17nm,0.6s,baz=318,slow=1.9,SNR=28
SONM PKPab **PKPab** **06 50 30.6 +1.6**
comp=Z,23nm,0.7s,baz=326,slow=3.4,SNR=16
SONM PP **PP** **06 54 04.4 +0.8**
comp=Z,2.0nm,1.0s,baz=336,slow=3.2,SNR=2.9
CN2 Changchun 155.92 336 *e*PKP **PKPdf** **06 50 06.8 -2.3**
CN2 *e*pPKP pPKPdf 06 50 49.4 -4.9
CN2 *e*PP **PP** **06 54 16.7 +2.8**
XLT XiLinHaoTe 158.21 352 *e*P **PKPab** **06 50 48.0 +1.2**
XLT pmax pmax
comp=Z,45nm,0.9s
XLT pmax pmax
comp=Z,110nm,5.0s
KSRS Korea Array 159.71 322 PKP **PKPdf** **06 50 14.7 +0.8**
comp=Z,8.5nm,0.8s,baz=69,slow=1.5,SNR=30
KSRS PKPab **PKPab** **06 50 54.8 +1.4**
comp=Z,9.8nm,0.6s,baz=56,slow=4.5,SNR=20
GTA Gaotai 159.91 29⇓PKP **PKPdf** **06 50 15.7 +1.4**
GTA PKPab **PKPab** **06 50 55.7 +1.3**
GTA SKKS 07 01 10.4
GTA AMB AMB
comp=Z,160nm,7.3s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,200nm,21.8s
GTA LR LR
comp=Z,130nm,18.5s
HHC Hu-ho-hao-te 161.49 2 *e*PKP **PKPdf** **06 50 18.3 +2.4**
HHC LR LR
comp=Z,270nm,17.8s
HHC LR LR
comp=Z,320nm,16.5s
HHC LR LR
comp=Z,450nm,17.1s
LZH Lanzhou 164.43 26 *e*PKP **PKPdf** **06 50 18.5 -0.5**
LZH SKKS 07 01 32.9
LZH AMB AMB
comp=Z,370nm,4.8s
LZH LR LR
comp=Z,220nm,14.4s
LZH LR LR
comp=Z,310nm,13.2s
LZH LR LR
comp=Z,320nm,17.4s
HNS HongShan 164.79 352 ⇓P **PKPab** **06 51 16.2 +0.7**
HNS pmax pmax
comp=Z,50nm,1.1s
TIA Tai'an 165.49 344 PKP **PKPdf** **06 50 20.8 +1.1**
CMAR Chiang Mai Arr 166.97 105 PKP **PKPdf** **06 50 22.1 +0.8**
comp=Z,1.4nm,0.3s,baz=281,slow=2.4,SNR=9.3
CMAR PKPab **PKPab** **06 51 25.2 -0.7**
comp=Z,1.7nm,0.4s,baz=252,slow=4.7,SNR=7.6
CMAR PP **PP** **06 55 13.2 -1.4**
comp=Z,0.9nm,0.3s,baz=255,slow=5.6,SNR=7.1
TNCH TengChong 167.14 75 *e*PKP **PKPdf** **06 50 22.0 +0.5**
XAN Xi'an 167.94 13 PKP **PKPdf** **06 50 22.4 +0.8**
CD2 Chengdu 168.55 40 PKP **PKPdf** **06 50 23.3 +1.2**
CD2 PP **PP** **06 55 25.7 +4.2**
CD2 SKKS 07 01 53.5
CD2 SS **SS** **07 16 01.3 +1.4**
NJ2 Nanjing 168.64 330 *e*PKP **PKPdf** **06 50 22.7 +0.6**
PZH PanZhiHua 169.56 64 PKP **PKPdf** **06 50 24.8 +1.8**
PZH PKPab **PKPab** **06 51 38.0 +0.6**
PZH PP **PP** **06 55 27.2 -0.4**
PZH SKKS 07 01 58.5
PZH AMB AMB
comp=Z,270nm,10.0s
PZH LR LR
comp=Z,490nm,22.1s
PZH LR LR
comp=Z,340nm,23.0s
PZH LR LR
comp=Z,430nm,23.0s
WHN Wuhan 171.56 347 ⇑PKP **PKPdf** **06 50 22.7 -1.1**
WHN pPKP **pPKPdf** **06 51 10.1 +1.2**

WHN			PKPab	**PKPab**	**06 51 46.0**	**+0.3**
WHN			LR	LR		
	comp=Z,860nm,24.4s					
QIZ	**Qiongzhong**	**176.06 145**	PKP	**PKPdf**	**06 50 25.2**	**-0.5**
QIZ			pPKP	**pPKPdf**	**06 51 03.5**	**-7.4**
QIZ			sPKP		06 51 18.3	

*ISK **06** 06:37:27.9, 39.˙24N×28.˙05E, h5km, ML3.4/33*
*DDA **06** 06:37:28.6±0.0, 39.˙21N×28.˙11E, h8km±4km, ML3.0*

ISC 06 06:37:28.8±1.0, **39.˙23N**±0.˙02×**28.˙12E**±0.˙03, **h13**km±10km, **n49**, σ**0$77**/60, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STEP	**BALIKESIR_Sava**	**0.34**	**296**	P	**Pg**	**06 37 35.3**	**-0.5**
STEP				S	**Sb**	**06 37 40.9**	**-1.2**
AKS	**Akhisar**	**0.42**	**214**	Pg	**Pg**	**06 37 37.2**	**0.0**
AKS				Sg	**Sb**	**06 37 43.7**	**-0.6**
BALB	**Balikesir**	**0.45**	**336**	Pg	**Pg**	**06 37 37.9**	**+0.2**
BALB				Sg	**Sb**	**06 37 44.6**	**-0.6**
DST	**Dursunbey**	**0.54**	**46**	Pg	**Pg**	**06 37 39.2**	**-0.2**
GOMA	**Golmarmara-Man**	**0.54**	**197**	Pg	**Pg**	**06 37 39.5**	**+0.1**
SIMA	**Simav-Kutahya**	**0.69**	**102**	Pg	**Pb**	**06 37 43.3**	**+0.6**
KULA	**Kula-Manisa**	**0.83**	**149**	Pg	**Pb**	**06 37 45.3**	**+0.2**
BUHA	**Balikesir, Bur**	**0.85**	**289**	P	**Pn**	**06 37 46.6**	**+0.1**
BUHA				S	**Sb**	**06 37 57.4**	**+0.7**
BUHA				*i* AML	AML	06 38 00.0	
	comp=E,510nm,0.5s						
ZEDA	**zmir-Bergama**	**0.85**	**252**	P	**Pb**	**06 37 45.3**	**-0.1**
ZEDA				S	**Sb**	**06 37 57.1**	**+0.4**
USAK	**Uak-Merkez**	**0.87**	**126**	P	**Pb**	**06 37 46.2**	**+0.4**
USAK				S	**Sg**	**06 37 56.9**	**-0.1**
GONE	**Gonen-Balikesi**	**0.88**	**338**	Pg	**Pg**	**06 37 45.7**	**-0.2**
ORLT	**Orhaneli**	**1.01**	**36**	Pg	**Pb**	**06 37 48.7**	**+0.5**
GEDZ	**Gediz**	**1.02**	**100**	Pg	**Pn**	**06 37 49.7**	**+0.8**
KCTX	**Karacabey (Bur**	**1.05**	**10**	Pg	**Pb**	**06 37 49.2**	**+0.3**
TVSB	**Tavsanli**	**1.07**	**78**	Pn	**Pn**	**06 37 50.2**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**27**	Pn	**Pg**	**06 37 53.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.29**	**188**	Pn	**Pg**	**06 37 53.8**	**+0.2**
ANDZ	**Kutahya, Merke**	**1.41**	**78**	P	**Pb**	**06 37 55.3**	**+0.3**
ANDZ				S	**Sg**	**06 38 14.2**	**0.0**
ANDZ				*i* AML	AML	06 38 17.0	
	comp=E,191nm,0.3s						
ARMT	**Armutlu**	**1.45**	**23**	Pn	**Pb**	**06 37 56.2**	**+0.5**
GEMT	**Gemlik**	**1.46**	**34**	Pn	**Pg**	**06 37 57.1**	**+0.2**
AUBOZ	**BOZOYUK**	**1.63**	**65**	Pn	**Pg**	**06 37 59.9**	**-0.2**
BILE	**Bilecik/Merkez**	**1.65**	**55**	P	**Pb**	**06 37 59.3**	**+0.3**
BILE				S	**Sg**	**06 38 21.9**	**+0.1**
BILE				*i* AML	AML	06 38 24.0	
	comp=E,168nm,0.2s						
BILE				*i* AML	AML	06 38 27.0	
	comp=N,243nm,0.7s						
CAVI	**Cavuskoy**	**1.65**	**53**	Pn	**Pb**	**06 37 59.7**	**+0.7**
ADVT	**Abdulvahap**	**1.73**	**46**	Pn	**Pb**	**06 38 01.0**	**+0.5**
YLVH	**Yalova**	**1.75**	**33**	Pn	**Pb**	**06 38 01.2**	**+0.4**
LAFA	**Gebze-Kocaeli**	**1.80**	**32**	Pn	**Pb**	**06 38 01.8**	**+0.2**
BRGA	**Burgazada-Ista**	**1.81**	**23**	Pn	**Pb**	**06 38 02.5**	**+0.8**
TUZL	**Tuzla-Istanbul**	**1.81**	**29**	Pn	**Pb**	**06 38 02.1**	**+0.3**
BUYA	**Buyukada-Istan**	**1.81**	**25**	Pn	**Pb**	**06 38 01.8**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.87**	**160**	P	**Pn**	**06 38 01.3**	**+0.8**
TAVA				S	**Sn**	**06 38 22.7**	**-1.3**
BORA	**Eskisehir**	**1.92**	**69**	Pn	**Pb**	**06 38 03.7**	**0.0**
MLSB	**Milas**	**1.95**	**188**	Pn	**Pb**	**06 38 03.7**	**-0.4**
APMY	**Acipayam-Deniz**	**1.99**	**152**	Pn	**Pb**	**06 38 04.6**	**-0.2**
HRT	**Hereke**	**1.99**	**36**	Pn	**Pb**	**06 38 04.5**	**-0.3**
GPA	**Golpazari**	**2.00**	**57**	Pn	**Pb**	**06 38 04.9**	**0.0**
BASM	**Basmaki-Afyon**	**2.00**	**130**	Pn	**Pb**	**06 38 04.5**	**-0.6**
SHUT	**Suhut-Afyon**	**2.02**	**109**	Pn	**Pb**	**06 38 05.5**	**+0.2**
YER	**Yerkesik**	**2.09**	**176**	Pn	**Pb**	**06 38 05.7**	**-0.9**
SRCK	**Saricakaya, Es**	**2.10**	**66**	Pn	**Pb**	**06 38 06.5**	**-0.2**
SGAZ	**Eskisehir, Sey**	**2.13**	**81**	P	**Pg**	**06 38 09.1**	**-0.5**
SGAZ				S	**Sg**	**06 38 37.8**	**+0.5**
ESKT	**Eskisehir**	**2.14**	**81**	Pn	**Pb**	**06 38 06.8**	**-0.6**
GULT	**Gulveren**	**2.20**	**56**	Pn	**Pb**	**06 38 07.6**	**-0.9**
SILT	**Sile**	**2.25**	**31**	Pn	**Pb**	**06 38 08.0**	**-1.2**
SAUV	**Serdivan-Sakar**	**2.27**	**48**	Pn	**Pb**	**06 38 08.6**	**-1.0**
CIFT	**Ciftceler, Eski**	**2.29**	**86**	Pn	**Pb**	**06 38 09.2**	**-0.8**
KAYN	**Sakarya, Kayna**	**2.43**	**44**	P	**Pb**	**06 38 13.9**	**+1.5**
KAYN				S	**Sg**	**06 38 46.5**	**-0.4**
SVRH	**Sivrihisar-ESK**	**2.65**	**84**	Pn	**Pb**	**06 38 14.2**	**-1.9**
MDUB	**Mudurnu**	**2.68**	**61**	Pn	**Pb**	**06 38 14.7**	**-1.9**
FETY	**Fethiye**	**2.70**	**163**	Pn	**Pn**	**06 38 14.5**	**+2.6**

*IDC **06** 06:39:23.9±3.0, 6.˚66N×72.˚83W, h169km±46km, mb2.9/2, mbtmp3.6/4, Error ellipse: s-maj=166.5km s-min=8.0km az=133.0*
*RSNC **06** 06:39:25.6±1.2, 6.˚84N×73.˚14W, h149km±5km, ML3.1*

ISC 06 06:39:24.9±0.8, **6.˚85N**±0.˚03×**73.˚12W**±0.˚03, **h153**km±6km, **n36**, σ1**$68**/64, **2C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**194**	⇑*iP*	**Pn**	**06 39 45.9**	**-0.2**
BARC				*eS*	**Sn**	**06 40 01.1**	**-1.0**
BARC				*i*		06 40 09.8	
	comp=Z,353nm,0.4s						
PAMC	**Pamplona, Colo**	**0.64**	**41**	*eP*	**Pn**	**06 39 48.5**	**+0.5**
PAMC				*eS*	**Sn**	**06 40 05.4**	**-0.1**
PAMC				*i*		06 40 08.0	
	comp=Z,305nm,0.5s						
BRRC	**Barranca, Sant**	**0.64**	**294**	⇑*iP*	**Pn**	**06 39 47.5**	**+0.2**
BRRC				*eS*	**Sn**	**06 40 04.6**	**+0.1**
BRRC				*i*		06 40 09.0	
	comp=Z,270nm,0.1s						
RUSC	**La Rusia**	**0.95**	**178**	*eP*	**Pn**	**06 39 49.9**	**-0.3**
RUSC				*eS*	**Sn**	**06 40 08.5**	**-0.9**
RUSC				*i*		06 40 10.7	
	comp=Z,175nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	*eP*	**Pn**	**06 39 52.4**	**-1.0**
PTBC				*eS*	**Sn**	**06 40 13.7**	**-1.4**
PTBC				*i*		06 40 16.5	
	comp=Z,192nm,0.1s						
TAMC	**Tame, Arauca**	**1.38**	**107**	⇓*iP*	**Pn**	**06 39 54.3**	**+0.7**
TAMC				*eS*	**Sn**	**06 40 14.8**	**-0.6**
TAMC				*i*		06 40 16.5	
	comp=Z,103nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*eP*	**Pn**	**06 39 58.3**	**-0.1**
ZARC				*eS*	**Sn**	**06 40 23.7**	**-0.4**
ZARC				*i*		06 40 32.9	
	comp=Z,138nm,0.1s						
NORC	**Norcasia**	**2.16**	**234**	*eP*	**Pn**	**06 40 01.8**	**-0.3**
NORC				*eS*	**Sn**	**06 40 30.5**	**-0.3**
NORC				*i*		06 40 36.7	
	comp=Z,138nm,0.3s						
CHIC	**Chingaza**	**2.29**	**195**	*eP*	**Pn**	**06 40 04.3**	**+0.2**
CHIC				*eS*	**Sn**	**06 40 33.0**	**-1.2**
CHIC				*i*		06 40 40.3	
	comp=Z,75nm,0.3s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**06 40 06.2**	**+1.7**
	comp=Z,81nm,0.3s,baz=75,slow=20,SNR=65						
ROSC				S	**Sn**	**06 40 36.0**	**+1.0**
	comp=Z,152nm,0.5s,baz=358,slow=21,SNR=11						
ROSC	**El Rosal**	**2.33**	**211**	*eP*	**Pn**	**06 40 05.8**	**+1.3**
ROSC				*eS*	**Sn**	**06 40 37.3**	**+2.4**
ROSC				*i*		06 40 43.2	
	comp=Z,135nm,0.4s						
UREC	**San Jos de Ur**	**2.56**	**291**	*eP*	**Pn**	**06 40 06.5**	**-0.4**
UREC				*eS*	**Sn**	**06 40 36.8**	**-2.5**
UREC				*i*		06 40 45.9	
	comp=Z,126nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.71**	**351**	*eP*	**Pn**	**06 40 11.2**	**+2.3**
LL1C				*eS*	**Sn**	**06 40 44.7**	**+1.9**
LL1C				*i*		06 40 59.0	
	comp=Z,192nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*eP*	**Pn**	**06 40 10.3**	**+0.4**
GUY2C				*eS*	**Sn**	**06 40 46.5**	**+2.0**
GUY2C				*i*		06 40 54.1	
	comp=Z,146nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.81**	**160**	*eP*	**Pn**	**06 40 09.3**	**-0.8**
PTGC				*eS*	**Sn**	**06 40 42.9**	**-2.1**
PTGC				*i*		06 40 47.8	
	comp=Z,41nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.04**	**251**	*eP*	**Pn**	**06 40 13.8**	**+0.7**
CBOC				*eS*	**Sn**	**06 40 48.9**	**-1.4**
CBOC				*i*		06 41 02.1	
	comp=Z,28nm,0.3s						
DBBC	**Dabeiba**	**3.07**	**273**	*eP*	**Pn**	**06 40 13.4**	**0.0**
DBBC				*eS*	**Sn**	**06 40 48.7**	**-2.3**
DBBC				*i*		06 40 54.1	
	comp=Z,52nm,0.2s						

SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**06 40 15.3**	**+0.3**
	comp=Z,39nm,0.3s,baz=238,slow=13,SNR=31						
SDV				S	**Sn**	**06 40 51.9**	**-1.9**
	comp=Z,25nm,0.4s,baz=128,slow=21,SNR=12						
ARGC	**Ariguani, Magd**	**3.19**	**340**	*eP*	**Pn**	**06 40 16.1**	**+1.2**
ARGC				*eS*	**Sn**	**06 40 54.1**	**+0.5**
ARGC				*i*		06 40 56.8	
	comp=Z,13nm,0.3s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	*eP*	**Pn**	**06 40 20.4**	**+0.2**
ORTC				*eS*	**Sn**	**06 41 04.5**	**+1.3**
ORTC				*i*		06 41 10.3	
	comp=Z,59nm,0.5s						
SJCC	**San Jacinto, C**	**3.65**	**326**	*eP*	**Pn**	**06 40 19.5**	**-1.3**
SJCC				*eP*		06 40 19.7	
SJCC				*eS*	**Sn**	**06 41 00.8**	**-3.4**
SJCC				*i*		06 41 02.0	
	comp=Z,15nm,0.3s						
PLMC	**San Jos del P**	**3.69**	**239**	*eP*	**Pn**	**06 40 21.7**	**+0.3**
PLMC				*eS*	**Sn**	**06 41 04.8**	**-0.4**
PLMC				*i*		06 41 10.1	
	comp=Z,27nm,0.2s						
LCBC	**Los crdobas,**	**3.79**	**302**	*eP*	**Pn**	**06 40 22.4**	**-0.1**
LCBC				*eS*	**Sn**	**06 41 06.9**	**-0.3**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	*eP*	**Pn**	**06 40 25.6**	**-1.8**
CRJC				*eS*	**Sn**	**06 41 12.7**	**-3.2**
CRJC				*i*		06 41 17.9	
	comp=Z,24nm,0.4s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	⇓*eP*	**Pn**	**06 40 28.9**	**-0.3**
YOTC				*eS*	**Sn**	**06 41 21.7**	**+2.4**
YOTC				*i*		06 41 30.8	
	comp=Z,6.6nm,0.5s						
SMRC	**Santa Marta, M**	**4.42**	**346**	*eP*	**Pn**	**06 40 30.8**	**-0.1**
SMRC				*eS*	**Sn**	**06 41 18.9**	**-3.3**
SMRC				*i*		06 41 24.2	
	comp=Z,11nm,0.2s						
PTAC	**Punta Ardita,**	**4.66**	**274**	*eP*	**Pn**	**06 40 33.6**	**-0.4**
PTAC				*eS*	**Sn**	**06 41 27.9**	**+0.1**
MACC	**Macarena, Meta**	**4.73**	**189**	*eP*	**Pn**	**06 40 33.2**	**-1.7**
MACC				*eS*	**Sn**	**06 41 25.1**	**-4.4**
MACC				*i*		06 41 55.3	
	comp=Z,21nm,0.8s						
GARC	**Garzon, Huila**	**5.20**	**207**	*eP*	**Pn**	**06 40 40.8**	**-0.6**
GARC				*eS*	**Sn**	**06 41 36.7**	**-4.3**
FLOC	**Florencia**	**5.81**	**206**	*eP*	**Pn**	**06 40 49.2**	**0.0**
FLOC				*eS*	**Sn**	**06 41 57.2**	**+2.1**
GRGR	**Grenville**	**12.46**	**64**	*e*	**P**	**06 42 23.4**	**+0.5**
SLBI	**Saint Lucia, B**	**13.90**	**58**	*e*	P	06 42 47.1	+8.2
CBE	**Ff, Capester**	**14.53**	**50**	*e*	**P**	06 42 54.2	+8.4
BBGH	**Gun Hill**	**14.74**	**64**	*e*	**P**	**06 42 52.1**	**+3.9**
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**06 47 50.2**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=127,slow=7.2,SNR=1.7						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**06 49 34.5**	**-2.3**
	comp=Z,0.2nm,0.5s,baz=134,slow=6.1,SNR=4.1						
	comp=Z,0.2nm,0.5s						

*ECX **06** 06:55:06.2±0.4, 32.˚44N×115.˚24W, h3km, MD2.7, ML3.3*
*NEIC **06** 06:55:07.5±2.3, 32.˚30N±0.˚02×115.˚20W±0.˚03, h10km±1km, Error ellipse: s-maj=4.9km s-min=3.0km az=311.0*
*MEX **06** 06:55:07.0±0.3, 32.˚40N×115.˚41W, h3km, MD3.2*
*PAS **06** 06:55:09.3±2.2, 32.˚38N±0.˚02×115.˚27W±0.˚02, h8km±4km, ML3.2/197, ML3.4/16(NEIC), Error ellipse: s-maj=3.8km s-min=0.8km az=140.0*
*ANF **06** 06:55:09.5±1.6, 32.˚47N×115.˚28W, h8km, ML3.1/5, Error ellipse: s-maj=13.3km s-min=5.2km az=162.0*

ISC 06 06:55:08.1±0.8, **32.˚39N**±0.˚03×**115.˚27W**±0.˚02, **h15**km±4km, **n57**, σ1**$09**/80, **8C-3D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.04**	**316**		**Pg**	**06 55 10.9**	**+0.1**
CPBX	**Cerro Prieto**	**0.04**	**316**		**Sg**	**06 55 15.2**	**+2.6**
CPBX	**Cerro Prieto**	**0.04**	**316**	IAML		06 55 11.9	
	comp=N,50μm,0.2s						
CPBX				IAML		06 55 13.6	
	comp=E,99μm,0.3s						
CPBX	**Cerro Prieto**	**0.04**	**316**	*eP*	**Pg**	**06 55 09.1**	**-1.7**
CPBX				*eS*	**Sg**	**06 55 11.2**	**-1.4**
CPBX				IAML		06 55 11.9	
	comp=N,66μm,0.2s						
CPBX				⇓*e*		06 55 11.9	
CPBX				IAML		06 55 13.7	
	comp=E,130μm,0.3s						
CPBX				⇓*e*		06 55 13.7	
MBIG	**Mexicali**	**0.06**	**73**	⇑*eP*	**Pg**	**06 55 08.5**	**-2.4**
MBIG				*eS*	**Pg**	**06 55 10.3**	**-0.6**
MBIG	**Mexicali**	**0.06**	**73**	⇑*iP*	**Pg**	**06 55 10.3**	**-0.6**
	baz=266,slow=1.9						
MBIG				*i* S	**Sg**	**06 55 12.9**	**+0.1**
GUVIX	**Guadalupe Vict**	**0.18**	**117**		Pg	06 55 17.4	+5.0
GUVIX	**Guadalupe Vict**	**0.18**	**117**	IAML		06 55 17.7	
	comp=N,17μm,0.4s						
GUVIX				IAML		06 55 17.9	
	comp=E,22μm,0.4s						
GUVIX	**Guadalupe Vict**	**0.18**	**117**	*eP*	**Pg**	**06 55 12.5**	**+0.1**
GUVIX				*eS*	**Sg**	**06 55 17.4**	**+2.1**
RHX	**Rio Hardy**	**0.25**	**183**	*eP*	**Pb**	**06 55 14.7**	**+0.4**
UABX	**UABC, Campus M**	**0.28**	**329**		**Pb**	**06 55 15.7**	**+0.8**
UABX					**Sb**	**06 55 21.4**	**+1.9**
UABX	**UABC, Campus M**	**0.28**	**329**	IAML		06 55 21.7	
	comp=N,14μm,0.6s						
UABX				IAML		06 55 21.9	
	comp=E,13μm,0.5s						
RITX	**Riito Sonora**	**0.34**	**130**	⇑*eP*	**Pb**	**06 55 16.5**	**+0.6**
EMSC	**East Mesa**	**0.42**	**34**		**Pb**	**06 55 17.8**	**+0.5**
EMSC					**Sb**	**06 55 24.9**	**+1.4**
DREC	**Desert Rsrch C**	**0.44**	**340**		**Pn**	**06 55 18.8**	**-1.1**
DREC					**Sb**	**06 55 26.8**	**+2.8**
DREC	**Desert Rsrch C**	**0.44**	**340**	⇑*eP*	**Pb**	**06 55 17.0**	**-0.6**
SGL	**Mount Signal**	**0.46**	**304**		**Pb**	**06 55 17.9**	**0.0**
SGL					**Sb**	**06 55 25.1**	**+0.4**
SGL	**Mount Signal**	**0.46**	**304**	*eP*	**Pb**	**06 55 17.9**	**0.0**
COA	**Coachella**	**0.49**	**15**		**Pb**	**06 55 19.1**	**+0.7**
COA					**Sb**	**06 55 27.1**	**+1.7**
SNR	**Schaffner Ranc**	**0.49**	**343**		**Pb**	**06 55 19.3**	**+0.9**
SNR					**Sb**	**06 55 28.0**	**+2.5**
WESC	**Westside Schoo**	**0.54**	**314**		**Pb**	**06 55 19.7**	**+0.5**
WESC					**Sn**	**06 55 29.4**	**-0.6**
WESC	**Westside Schoo**	**0.54**	**314**	⇑*eP*	**Pb**	**06 55 18.9**	**-0.4**
IMPE	**Imperial**	**0.57**	**334**		**Pb**	**06 55 20.6**	**+0.9**
IMPE					**Sn**	**06 55 30.0**	**-0.7**
COK2	**Cook Ranch 2**	**0.60**	**320**		**Pb**	**06 55 20.8**	**+0.4**
COK2					**Sb**	**06 55 30.3**	**+1.7**
YUH	**Yuha Desert**	**0.61**	**295**		**Pb**	**06 55 20.6**	**+0.1**
YUH					**Sb**	**06 55 29.1**	**+0.2**
YUH2	**Yuha Desert**	**0.61**	**295**	*eP*	**Pb**	**06 55 20.6**	**+0.2**
RUN	**Ruthven**	**0.63**	**23**		**Pb**	**06 55 20.6**	**-0.2**
RUN					**Sb**	**06 55 29.8**	**+0.2**
ESJX	**Sierra Juarez**	**0.69**	**237**		**Pg**	**06 55 21.2**	**-0.4**
ESJX					**Sb**	**06 55 31.8**	**+0.4**
WEMD	**Westmorland, C**	**0.70**	**338**		**Pb**	**06 55 22.1**	**+0.1**
WEMD					**Sn**	**06 55 34.2**	**+0.2**
SWSC	**Sam W. Stewart**	**0.71**	**321**		**Pb**	**06 55 22.3**	**+0.1**
SWSC					**Sb**	**06 55 32.5**	**+0.6**
SWSC	**Sam W. Stewart**	**0.71**	**321**	S	**Sb**	**06 55 32.5**	**+0.6**
	baz=142						
IKP	**In-Ko-Pah, Jac**	**0.76**	**290**		**Pb**	**06 55 23.3**	**+0.3**
IKP					**Sb**	**06 55 34.0**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**0.76**	**290**	P	**Pb**	**06 55 23.3**	**+0.3**
	baz=110						
IKP				S	**Sb**	**06 55 34.0**	**+0.9**
	baz=110						
IKP	**In-Ko-Pah, Jac**	**0.76**	**290**	*eP*	**Pb**	**06 55 23.3**	**+0.3**
GLA	**Glamis**	**0.76**	**29**	IAML		06 55 35.0	
	comp=E,1μm,0.4s						
GLA				IAML		06 55 35.2	
	comp=N,1μm,0.5s						
GLA	**Glamis**	**0.76**	**29**		**Pb**	**06 55 22.6**	**-0.4**
GLA					**Sb**	**06 55 33.3**	**+0.1**
GLA	**Glamis**	**0.76**	**29**	P	**Pb**	**06 55 23.0**	**0.0**
	baz=209						
GLA				S	**Sb**	**06 55 33.3**	**+0.1**
	baz=209						
GLA	**Glamis**	**0.76**	**29**	⇑*eP*	**Pg**	**06 55 21.3**	**-1.5**
CRR	**Carrizo Plain**	**0.77**	**310**		**Pb**	**06 55 23.4**	**+0.2**
CRR					**Sb**	**06 55 34.8**	**+1.3**
SJX	**San Joaquin**	**0.85**	**223**	*eP*	**Pg**	**06 55 21.3**	**-3.4**
SJX				⇓*e*		06 55 33.8	
SJX				IAML		06 55 33.8	
	comp=N,703nm,0.2s						
SJX				IAML		06 55 34.0	
	comp=E,701nm,0.2s						
ERRC	**Elmore Ranch**	**0.86**	**327**		**Pb**	**06 55 24.9**	**+0.1**
ERRC					**Sn**	**06 55 38.0**	**-0.1**
ECBX	**El Chinero**	**0.93**	**168**	*eP*	**Pg**	**06 55 25.1**	**-1.0**
ECBX				⇑*e*		06 55 40.5	
ECBX				IAML		06 55 40.5	
	comp=E,665nm,0.4s						
ECBX				⇑*e*		06 55 41.2	
ECBX				IAML		06 55 41.2	
	comp=N,462nm,0.6s						
MONP2	**Monument Peak**	**1.09**	**298**	*eP*	**Pn**	**06 55 30.1**	**+1.0**
BAR	**Barrett**	**1.22**	**284**		**Pn**	**06 55 31.7**	**+1.0**
BAR					**Sn**	**06 55 47.7**	**+0.8**
BAR	**Barrett**	**1.22**	**284**	IAML		06 55 49.8	
	comp=N,318nm,0.5s						
BAR				IAML		06 56 15.3	
	comp=E,330nm,0.8s						
DUZA	**Dulzura**	**1.29**	**280**		**Pg**	**06 55 32.9**	**0.0**
DUZA					**Sn**	**06 55 50.1**	**+1.4**
BORC	**Borrego Spring**	**1.30**	**313**		**Pn**	**06 55 30.9**	**-0.9**
JUEM	**Julian Eagle M**	**1.31**	**302**		**Pg**	**06 55 34.4**	**+1.0**
MATG	**Mataguay Scout**	**1.41**	**305**		**Pn**	**06 55 33.1**	**-0.3**
EML	**El Monte Cty P**	**1.42**	**291**		**Pg**	**06 55 35.1**	**-0.3**
SDRC	**San Diego Road**	**1.45**	**284**		**Pg**	**06 55 35.6**	**-0.4**
SDRC					**Sg**	**06 55 54.6**	**-0.4**
TJX	**Tijuana**	**1.51**	**275**		**Pg**	**06 55 36.7**	**-0.4**
TJX				IAML		06 56 07.4	
	comp=E,935nm,0.7s						
TJX				IAML		06 56 07.7	
	comp=N,710nm,0.7s						
DPP	**Dos Picos Cty**	**1.54**	**294**		**Pg**	**06 55 37.1**	**-0.4**
DPP					**Sg**	**06 55 57.2**	**-0.4**
PFO	**Pinyon Flats O**	**1.58**	**321**	S	**Sn**	**06 55 54.7**	**-1.2**
	baz=141						
109C	**Camp Elliot, M**	**1.63**	**288**	P	**Pg**	**06 55 38.4**	**-0.9**
	baz=108						
109C				S	**Sg**	**06 55 59.9**	**-0.5**
	baz=108						
CPE	**Camp Elliot**	**1.63**	**288**		**Sg**	**06 55 60.0**	**-0.5**
FLSC	**Flash Two Peak**	**2.97**	**331**		**Pb**	**06 55 58.2**	**-2.5**

*MEX **06** 06:55:46.3±0.3, 32.˚35N×115.˚35W, h3km, MD3.8*
*ECX **06** 06:55:46.1±0.4, 32.˚36N×115.˚29W, h7km±2km, MD3.2, ML3.4*
*PAS **06** 06:55:47.8±2.1, 32.˚40N±0.˚01×115.˚25W±0.˚02, h3km±6km, ML3.3/218, ML3.5/14(NEIC), Error ellipse: s-maj=2.1km s-min=1.7km az=222.0*
*NEIC **06** 06:55:47.7±2.2, 32.˚35N±0.˚01×115.˚28W±0.˚01, h7km±6km, Error ellipse: s-maj=2.4km s-min=0.7km az=147.0*

ISC 06 06:55:47.5±0.9, **32.˚36N**±0.˚02×**115.˚29W**±0.˚02, **h9**km±6km, **n52**, σ0**$74**/64, **6C, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.06**	**349**		**Pg**	**06 55 49.3**	**-0.3**
CPBX	**Cerro Prieto**	**0.06**	**349**	IAML		06 55 50.5	
	comp=E,69μm,0.3s						
CPBX				IAML		06 55 50.5	
	comp=N,50μm,0.3s						
CPBX	**Cerro Prieto**	**0.06**	**349**	⇑*iP*	**Pg**	**06 55 49.3**	**-0.3**
MBIG	**Mexicali**	**0.09**	**58**	⇑*iP*	**Pg**	**06 55 48.9**	**-1.0**
MBIG				*eS*	**Sg**	**06 55 51.5**	**0.0**
MBIG	**Mexicali**	**0.09**	**58**	⇑*iP*	**Pg**	**06 55 48.9**	**-1.0**
	baz=246,slow=3.8						
MBIG				*eS*	**Sg**	**06 55 50.9**	**-0.6**
CTLX	**Tlaxcala, TLX**	**0.17**	**47**	*eP*	**Pg**	**06 55 52.1**	**+1.1**
GUVIX	**Guadalupe Vict**	**0.19**	**107**		**Pg**	**06 55 52.1**	**+0.7**
GUVIX					**Sg**	**06 55 55.9**	**+1.9**
GUVIX	**Guadalupe Vict**	**0.19**	**107**	IAML		06 55 56.2	
	comp=N,33μm,0.5s						
GUVIX				IAML		06 55 56.4	
	comp=E,51μm,0.4s						
GUVIX	**Guadalupe Vict**	**0.19**	**107**	*eP*	**Pg**	**06 55 52.1**	**+0.7**
GUVIX				*eS*	**Sg**	**06 55 56.0**	**+1.9**
RHX	**Rio Hardy**	**0.22**	**179**	*eP*	**Pg**	**06 55 52.5**	**+0.5**
YUCAX	**Ej. Yucatn**	**0.30**	**34**	*eP*	**Pg**	**06 55 53.9**	**+0.4**
UABX	**UABC, Campus M**	**0.30**	**335**	IAML		06 56 00.3	
	comp=E,17μm,0.6s						
UABX	**UABC, Campus M**	**0.30**	**335**		**Pg**

ML2.8(NAO), Confirmed Earthquake
IEPN ***06*** *07:00:04.0, 79.32N×3.74E, h10km*
KOLA ***06*** *07:00:04.3, 79.26N×4.37E, h0km, ML2.3, Error ellipse: s-maj=17.7km s-min=10.7km az=10.0, Greenland sea, Knipovich ridge, north*
ISC 06 06:59:57.3±1.7, 79.05N±0.07×3.04E±0.04, h15km±12km, n27, σ2s00/47, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.71**	**90**	Pn		**Pg**	**07 00 30.0**	**-0.1**
KBS				Sn		**Sb**	**07 00 49.8**	**+0.1**
KBS	**Kingsbay**	**1.71**	**90**	*i* P		**Pg**	**07 00 30.0**	**-0.1**
KBS				*i* S		**Sn**	**07 00 49.0**	**+0.9**
KBS	**Kingsbay**	**1.71**	**90**	*e*P		**Pg**	**07 00 30.1**	**-0.1**
KBS				*e*S		**Sb**	**07 00 50.1**	**+0.4**
KBS				IAML			07 00 53.1	
	comp=Z,25nm,0.3s							
KBS	**Kingsbay**	**1.71**	**90**	P		**Pg**	**07 00 29.8**	**-0.3**
KBS				S		**Sb**	**07 00 49.7**	**0.0**
BRBB	**Barentsburg B**	**2.42**	**108**	Pn		**Pg**	**07 00 43.2**	**-0.4**
BRBB				Sn		**Sb**	**07 01 10.5**	**+0.4**
BRBB	**Barentsburg B**	**2.42**	**108**	*e*P		**Pb**	**07 00 41.8**	**+1.3**
BRBB				*e*S		**Sb**	**07 01 09.9**	**-0.2**
BRBB	**Barentsburg B**	**2.42**	**108**	P		**Pg**	**07 00 42.4**	**-1.3**
BRBB				S		**Sb**	**07 01 10.5**	**+0.4**
BRBA	**Barentsburg A**	**2.44**	**109**	Pn		**Pg**	**07 00 43.3**	**-0.7**
BRBA				Sn		**Sb**	**07 01 11.0**	**+0.4**
BRBA	**Barentsburg A**	**2.44**	**109**	*e*P		**Pg**	**07 00 42.3**	**-1.7**
BRBA				*e*S		**Sb**	**07 01 11.0**	**+0.4**
BRBA				IAML			07 01 17.6	
	comp=Z,23nm,0.3s							
SPA0	**Spitsbergen Ar**	**2.79**	**102**	Pn		**Pb**	**07 00 46.6**	**-0.1**
	baz=312,slow=12							
SPA0				Sn		**Sb**	**07 01 18.3**	**-2.2**
	baz=315,slow=22							
SPA0	**Spitsbergen Ar**	**2.79**	**102**	⇑*i*P		**Pb**	**07 00 46.6**	**-0.1**
SPA0				*i* S		**Sb**	**07 01 18.2**	**-2.2**
SPA0	**Spitsbergen Ar**	**2.79**	**102**	Pn		**Pb**	**07 00 46.6**	**-0.1**
SPA0				Sn		**Sb**	**07 01 18.3**	**-2.2**
SPA0				IAML			07 01 26.3	
	comp=Z,18nm,0.3s							
SPITS	**Spitsbergen Ar**	**2.79**	**102**	P		**Pb**	**07 00 46.4**	**-0.3**
SPITS				S		**Sb**	**07 01 18.4**	**-2.1**
HSPB	**Hornsund (broa**	**3.32**	**122**	Pn		**Pb**	**07 00 55.0**	**-0.6**
HSPB				Sn		**Sb**	**07 01 33.3**	**-2.4**
HSPB	**Hornsund (broa**	**3.32**	**122**	*e*P		**Pb**	**07 00 54.8**	**-0.9**
HSPB				*e*S		**Sb**	**07 01 33.2**	**-2.5**
HSPB	**Hornsund (broa**	**3.32**	**122**	*e*P		**Pb**	**07 00 55.1**	**-0.6**
HSPB				*e*S		**Sb**	**07 01 33.7**	**-2.0**
HSPB				IAML			07 01 35.6	
	comp=Z,10nm,0.3s							
HSPB	**Hornsund (broa**	**3.32**	**122**	P		**Pb**	**07 00 55.1**	**-0.5**
HSPB				S		**Sb**	**07 01 33.5**	**-2.2**
NOR	**Nord**	**4.17**	**317**	Pn		**Pn**	**07 00 58.4**	**-1.9**
NOR	**Nord**	**4.17**	**317**	*i* P		**Pn**	**07 00 58.5**	**-1.7**
NOR	**Nord**	**4.17**	**317**	*e*P		**Pn**	**07 00 58.5**	**-1.7**
NOR				*e*S		Sn	07 01 39.6	-8.9
HOPEN	**Hopen**	**5.29**	**108**	*e*S		**Sn**	**07 02 18.5**	**+2.4**
HOPEN				IAML			07 02 30.5	
	comp=Z,21nm,1.2s							
DBG	**Daneborg**	**7.11**	**240**	Pn		**Pn**	**07 01 45.2**	**+4.7**
DBG				Sn		**Sn**	**07 03 00.6**	**-0.4**
DBG	**Daneborg**	**7.11**	**240**	*i* P		**Pn**	**07 01 45.2**	**+4.7**
DBG				*i* S		**Sn**	**07 02 58.5**	**-2.4**
DBG				IAML			07 03 03.3	
	comp=Z,1.3nm,0.4s							
DBG	**Daneborg**	**7.11**	**240**	*e*P		**Pn**	**07 01 44.6**	**+4.1**
DBG				*e*S		**Sn**	**07 03 00.8**	**-0.2**
ZFI	**Zemlya Franca-**	**7.83**	**56**	*e*P		**Pn**	**07 01 50.9**	**+0.5**
ZFI				*e*S		Sn	07 03 09.8	-8.8
	comp=Z,43nm,2.0s							
NEEM	**North Greenlan**	**10.79**	**289**	*i* P		Pn	07 02 28.6	-2.6
NEEM				*i* S		Sn	07 04 20.3	-11
SUMG	**Summit**	**11.74**	**259**	*e*P		**Pn**	**07 02 46.0**	**+1.9**
SUMG				*i* S		**Sn**	**07 04 48.8**	**-6.0**
SUMG				IAML			07 04 57.4	
	comp=Z,1.0nm,0.4s							

DDA ***06*** *07:07:13.5±0.0, 39.56N×26.16E, h7km±1km, ML2.0*
ISK ***06*** *07:07:13.2, 39.54N×26.09E, h7km, ML2.6/13*
ISC 06 07:07:13.5±0.9, 39.55N±0.03×26.13E±0.03, h10km±6km, n22, σ0s41/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**166**	P		**Pg**	**07 07 15.6**	**+0.2**
KOCA				S		**Sg**	**07 07 17.0**	**+0.1**
KOCA				*i* AML		AML	07 07 17.0	
	comp=N,4μm,0.2s							
KOCA				*i* AML		AML	07 07 17.0	
	comp=E,3μm,0.3s							
GPNR	**Gulpinar-Canak**	**0.09**	**176**	Pg		**Pg**	**07 07 15.6**	**-0.3**
GPNR				Sg		**Sg**	**07 07 17.3**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.38**	**59**	P		**Pg**	**07 07 20.9**	**-0.1**
BAYC				S		**Sg**	**07 07 25.8**	**-0.3**
BAYC				*i* AML		AML	07 07 26.0	
	comp=N,110nm,0.1s							
BAYC				*i* AML		AML	07 07 26.0	
	comp=E,141nm,0.3s							
SIGR	**SIGRI**	**0.39**	**212**	Pg		**Pg**	**07 07 20.9**	**-0.4**
SIGR				Sg		**Sg**	**07 07 26.6**	**+0.1**
GOKA	**anakkale-Gk**	**0.67**	**346**	P		**Pg**	**07 07 25.9**	**-0.5**
GOKA				S		**Sb**	**07 07 35.8**	**-0.8**
GOKA				*i* AML		AML	07 07 36.0	
	comp=N,77nm,0.4s							
GOKA				*i* AML		AML	07 07 36.0	
	comp=E,107nm,0.5s							
GADA	**Gvkgeada**	**0.67**	**345**	Pg		**Pg**	**07 07 26.6**	**+0.1**
BUHA	**Balikesir, Bur**	**0.74**	**93**	P		**Pg**	**07 07 27.4**	**-0.4**
BUHA				S		**Sg**	**07 07 37.4**	**0.0**
BUHA				*i* AML		AML	07 07 38.0	
	comp=E,56nm,0.3s							
BUHA				*i* AML		AML	07 07 39.0	
	comp=N,47nm,0.3s							
DKL	**Dikili**	**0.77**	**128**	Pg		**Pb**	**07 07 28.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.89**	**17**	Pg		**Pb**	**07 07 31.0**	**-0.2**
GELI				Sg		**Sb**	**07 07 44.1**	**+1.0**
ZEDA	**zmir-Bergama**	**0.94**	**128**	P		**Pg**	**07 07 31.1**	**-0.5**
ZEDA				S		**Sb**	**07 07 44.6**	**+0.2**
ZEDA				*i* AML		AML	07 07 45.0	
	comp=N,63nm,1.4s							
LPK	**Lapseki**	**0.96**	**30**	Pg		**Pb**	**07 07 32.5**	**+0.2**
CHOS	**Chios island**	**1.16**	**183**	Pn		**Pb**	**07 07 35.8**	**+0.1**
ERIK	**Erikli-Kesan**	**1.16**	**15**	Pn		**Pn**	**07 07 35.9**	**0.0**
BALY	**Balya**	**1.17**	**80**	P		**Pg**	**07 07 35.9**	**-0.2**
BALY				S		**Sg**	**07 07 50.2**	**-1.0**
BALY				*i* AML		AML	07 07 52.0	
	comp=N,41nm,0.7s							
BALY				*i* AML		AML	07 07 52.0	
	comp=E,31nm,0.2s							
ENEZ	**Enez**	**1.19**	**1**	Pn		**Pn**	**07 07 36.5**	**+0.2**
URLA	**Izmir**	**1.24**	**163**	Pn		**Pn**	**07 07 37.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.30**	**67**	Pn		**Pg**	**07 07 38.5**	**-0.1**
KESN	**Edirne-Kesan**	**1.35**	**18**	P		**Pn**	**07 07 38.9**	**+0.1**
KESN				S		**Sn**	**07 07 57.3**	**+0.3**
KESN				*i* AML		AML	07 08 00.0	
	comp=N,24nm,0.4s							
ALN	**Alexandroupoli**	**1.35**	**357**	Pn		**Pb**	**07 07 38.8**	**-0.2**
BALB	**Balikesir**	**1.36**	**85**	Pn		**Pb**	**07 07 39.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.40**	**35**	Pn		**Pb**	**07 07 39.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.86**	**67**	Pn		**Pn**	**07 07 46.2**	**+0.6**

SOME ***06*** *07:12:56.8, 49.63N×81.47E, h0km*
NNC ***06*** *07:12:58.2±1.9, 49.67N×81.82E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=27.1km s-min=4.8km az=56.0, Suspected Mining explosion.*
ISC 06 07:12:55.9±1.4, 49.6N±0.1×81.7E±0.1, h0km, n6, σ0s69/9, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.18**	**311**	*e*P		**Pn**	**07 13 20.0**	**0.0**
	6.6nm,0.1s							
SEM				*e*S		**Sg**	**07 13 34.2**	**+0.4**
	15nm,0.2s							
KURK	**Kurchatov**	**2.22**	**300**	⇓Pn		**Pg**	**07 13 37.9**	**-0.6**
	2.4nm,0.5s							
KURK				⇓Sn		**Sg**	**07 14 06.6**	**-0.6**
	13nm,0.5s							
KURBB	**Kurchatov Arra**	**2.23**	**297**	⇓Pn		**Pb**	**07 13 37.4**	**+0.4**
	5.5nm,0.9s							
KURBB				⇓Sn		**Sg**	**07 14 08.2**	**+0.7**
	28nm,0.7s							
MAKZ	**Makanchi**	**2.84**	**175**	⇑Pg		**Pg**	**07 13 50.9**	**+0.5**
	0.9nm,0.7s							
MAKZ				⇑Lg		Lg	07 14 29.7	
	8.8nm,1.0s							
MK31	**Makanchi Array**	**2.88**	**171**	⇑Pg		**Pg**	**07 13 50.0**	**-1.1**
	0.3nm,0.3s,baz=346,slow=8.9,SNR=24							
MK31				⇑Lg		Lg	07 14 31.0	
	2.9nm,0.5s,baz=356,slow=26,SNR=9.6							
ZSN	**Zaisan**	**3.06**	**135**	*e*Pg		**Pg**	**07 13 54.4**	**-0.2**
	5.8nm,0.4s							
ZSN				*e*Lg		Lg	07 14 34.2	
	12nm,0.3s							

IDC 06 07:29:42.6±81.0, 19.18S×172.13E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1375.0km s-min=145.7km az=75.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.20**	**239**	P		P	07 35 55.0	+0.1
	0.3nm,0.3s,baz=119,slow=10,SNR=3.0							
	0.3nm,0.3s							
WRA	**Warramunga Arr**	**35.57**	**262**	P		P	07 36 40.8	-1.1
	0.7nm,0.8s,baz=95,slow=8.7,SNR=1.8							
	0.7nm,0.8s							
ASAR	**Alice Springs**	**35.79**	**256**	P		P	07 36 44.4	+0.5
	1.1nm,0.7s,baz=87,slow=9.1,SNR=18							
	1.1nm,0.7s							

IDC 06 07:32:08.0±1.6, 28.04N×129.16E, h0km, mb3.3/3, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=51.2km s-min=33.0km az=98.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**11.42**	**40**	Pn		Pn	07 34 52.1	-0.2
	baz=223,slow=8.3,SNR=1.3							
	0.6nm,0.4s							
BVAR	**Boroyoye Array**	**49.49**	**317**	P		P	07 40 59.9	-0.2
	0.5nm,0.7s,baz=76,slow=6.1,SNR=1.7							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**51.61**	**174**	P		P	07 41 16.1	-0.1
	0.3nm,0.8s,baz=336,slow=8.5,SNR=1.6							
	0.3nm,0.8s							
ILAR	**Eielson Array**	**62.46**	**29**	P		P	07 42 32.8	+0.1
	0.2nm,0.7s,baz=267,slow=6.0,SNR=4.1							
	0.2nm,0.7s							

WEL ***06*** *07:32:19.3±0.3, 42.75S×173.45E, h15km±2km, M3.6/22, ML3.9/22, MLv3.6/22, Error ellipse: s-maj=0.0km s-min=0.0km az=154.5, confirmed*
NOU ***06*** *07:32:20.1, 41.93S×174.10E, h12km, MLv4.0/9, Cook Strait, New Zealand*
ISC 06 07:32:19.0±1.3, 41.86S±0.03×174.04E±0.02, h14km±11km, n104, σ1s26/120, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**50**	P		**Pb**	**07 32 24.7**	**+0.7**
CMWZ				S		**Sb**	**07 32 29.5**	**+2.3**
BSWZ	**Blackbirch Sta**	**0.19**	**319**	P		**Pb**	**07 32 23.8**	**-0.5**
BSWZ				S		**Sb**	**07 32 27.1**	**-0.7**
TUWZ	**Tuamarina**	**0.43**	**350**	P		**Pb**	**07 32 27.9**	**-0.6**
TUWZ				S		**Sb**	**07 32 34.0**	**-0.8**
KHZ	**Kahutara**	**0.67**	**214**	P		**Pn**	**07 32 34.0**	**-0.1**
KHZ	**Kahutara**	**0.67**	**214**	P		**Pb**	**07 32 33.9**	**+1.3**
KHZ				S		**Sn**	**07 32 44.8**	**+0.4**
TCW	**Tory Channel**	**0.67**	**15**	P		**Pg**	**07 32 31.8**	**-0.3**
TCW				S		**Sb**	**07 32 41.5**	**-0.2**
SNZO	**South Karori**	**0.74**	**43**	P		**Pb**	**07 32 34.2**	**+0.5**
WEL	**Wellington**	**0.79**	**44**	P		**Pb**	**07 32 35.0**	**+0.4**
NNZ	**Nelson**	**0.81**	**322**	P		**Pb**	**07 32 34.4**	**-0.5**
NNZ				S		**Sb**	**07 32 45.1**	**-0.5**
THZ	**Tophouse**	**0.85**	**276**	P		**Pb**	**07 32 35.7**	**0.0**
THZ				S		**Sb**	**07 32 46.9**	**-0.1**
PLWZ	**Palliser**	**0.95**	**73**	P		**Pb**	**07 32 37.3**	**-0.1**
PLWZ				S		**Sn**	**07 32 51.8**	**+0.3**
DUWZ	**D'Urville Isla**	**1.06**	**355**	P		**Pb**	**07 32 38.5**	**-0.7**
DUWZ				S		**Sn**	**07 32 53.0**	**-1.1**
MRNZ	**Matariki Terra**	**1.06**	**295**	P		**Pn**	**07 32 39.4**	**-0.1**
MRNZ				S		**Sn**	**07 32 54.1**	**0.0**
CAW	**Cannon Point**	**1.08**	**46**	P		**Pb**	**07 32 39.4**	**0.0**
CAW				S		**Sn**	**07 32 54.3**	**-0.2**
PAWZ	**Paruwai Farm**	**1.14**	**66**	P		**Pb**	**07 32 39.7**	**-0.9**
TKNZ	**Takaka Hill**	**1.16**	**315**	P		**Pb**	**07 32 40.2**	**-0.6**
TKNZ				S		**Sn**	**07 32 55.9**	**-0.5**
KIW	**Kapiti Island**	**1.19**	**34**	P		**Pn**	**07 32 41.0**	**-0.3**
KIW				S		**Sg**	**07 32 57.6**	**+0.1**
MTW	**Mount Morrison**	**1.30**	**58**	P		**Pn**	**07 32 41.8**	**-1.0**
TRWZ	**Traveller**	**1.32**	**70**	P		**Pn**	**07 32 41.9**	**-1.1**
GVZ	**Greta Valley S**	**1.34**	**214**	P		**Pn**	**07 32 43.3**	**0.0**
GVZ				S		**Sn**	**07 33 01.5**	**+0.7**
OGWZ	**Otaki Gorge**	**1.34**	**40**	P		**Pn**	**07 32 43.1**	**-0.3**
OGWZ				S		**Sn**	**07 33 01.1**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.47**	**50**	P		**Pn**	**07 32 44.1**	**-1.0**
QRZ	**Quartz Range**	**1.54**	**312**	P		**Pb**	**07 32 47.2**	**-0.1**
QRZ	**Quartz Range**	**1.54**	**312**	P		**Pb**	**07 32 46.8**	**-0.5**
TMWZ	**Te Maipa**	**1.58**	**62**	P		**Pn**	**07 32 45.3**	**-1.4**
LTZ	**Lake Taylor**	**1.60**	**234**	P		**Pn**	**07 32 47.1**	**+0.1**
MRZ	**Mangatainoka R**	**1.67**	**45**	P		**Pn**	**07 32 47.1**	**-0.8**
AMCZ	**Amberley**	**1.67**	**217**	P		**Pn**	**07 32 47.5**	**-0.3**
DSZ	**Denniston Nort**	**1.67**	**273**	P		**Pb**	**07 32 49.2**	**-0.5**
TIWZ	**Tintock**	**1.76**	**53**	P		**Pn**	**07 32 48.5**	**-0.6**
OHWZ	**Ohakea**	**1.91**	**31**	P		**Pb**	**07 32 53.9**	**+0.2**
PRWZ	**Pori Road**	**1.95**	**49**	P		**Pn**	**07 32 50.6**	**-1.1**
POWZ	**Post Office Ro**	**1.96**	**42**	P		**Pn**	**07 32 51.2**	**-0.7**
OKCZ	**Okains Bay**	**2.00**	**201**	P		**Pn**	**07 32 51.6**	**-0.9**
BFZ	**Birch Farm**	**2.04**	**56**	P		**Pg**	**07 32 58.8**	**+0.8**
OXZ	**Oxford**	**2.08**	**225**	P		**Pn**	**07 32 52.6**	**-0.9**
MQZ	**McQueen's Vall**	**2.11**	**208**	P		**Pn**	**07 32 52.3**	**-1.6**
INZ	**Inchbonnie**	**2.11**	**245**	P		**Pn**	**07 32 54.8**	**+0.9**
AKCZ	**Akaroa Harbour**	**2.18**	**202**	P		**Pn**	**07 32 53.8**	**-1.1**
WAZ	**Wanganui**	**2.22**	**19**	P		**Pb**	**07 32 57.4**	**-1.6**
DVHZ	**Dannevirke**	**2.24**	**47**	P		**Pn**	**07 32 54.0**	**-1.7**
TSZ	**Takapari Road**	**2.31**	**40**	P		**Pn**	**07 32 55.7**	**-1.1**
RACZ	**Rakaia**	**2.33**	**216**	P		**Pn**	**07 32 55.6**	**-1.3**
LREZ	**Lake Rotokare**	**2.41**	**7**	P		**Pb**	**07 32 60.0**	**-2.2**
NMEZ	**Namu Road**	**2.44**	**357**	P		**Pb**	**07 33 02.8**	**0.0**
MHCZ	**Mount Hutt**	**2.47**	**227**	P		**Pn**	**07 32 58.6**	**-0.4**
PNHZ	**Pukenui**	**2.54**	**41**	P		**Pn**	**07 32 58.6**	**-1.3**
KHEZ	**Kahui Hut**	**2.56**	**360**	P		**Pb**	**07 33 03.6**	**-1.2**
KHEZ	**Kahui Hut**	**2.56**	**360**	P		**Pb**	**07 33 03.7**	**-1.2**
NEZ	**North Egmont**	**2.58**	**1**	P		**Pb**	**07 33 03.4**	**-1.8**
NBEZ	**Newall Road No**	**2.59**	**357**	P		**Pb**	**07 33 02.7**	**-2.6**
WACZ	**Wakanui South**	**2.64**	**217**	P		**Pn**	**07 33 00.6**	**-0.5**
PKE	**Pukeiti**	**2.66**	**359**	P		**Pb**	**07 33 05.1**	**-1.4**
DREZ	**Durham Road**	**2.67**	**3**	P		**Pb**	**07 33 06.0**	**-0.6**
MTVZ	**Mangateitei**	**2.70**	**24**	P		**Pb**	**07 33 06.6**	**-0.5**
WVZ	**Waitaha Valley**	**2.73**	**242**	P		**Pn**	**07 33 03.1**	**+0.7**
PKVZ	**Pokaka**	**2.75**	**22**	P		**Pn**	**07 33 04.6**	**+1.8**
MOVZ	**Moawhango**	**2.77**	**29**	P		**Pn**	**07 33 03.6**	**+0.4**
VRZ	**Vera Road**	**2.79**	**12**	P		**Pn**	**07 33 05.2**	**+2.0**
WNVZ	**Wahianoa**	**2.79**	**26**	P		**Pn**	**07 33 04.4**	**+0.9**
TRVZ	**Turoa**	**2.80**	**25**	P		**Pn**	**07 33 05.5**	**+1.9**
PXZ	**Pawanui**	**2.81**	**50**	P		**Pb**	**07 33 10.0**	**+0.9**
BHHZ	**Black Hill Sta**	**2.82**	**34**	P		**Pn**	**07 33 05.1**	**+1.3**
DRZ	**Dome Shelter**	**2.83**	**25**	P		**Pb**	**07 33 09.8**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.83**	**25**	P		**Pb**	**07 33 07.2**	**-2.3**
KRHZ	**Kereru**	**2.83**	**39**	P		**Pn**	**07 33 02.3**	**-1.6**
KRHZ				P		**Pn**	**07 33 02.3**	**-1.6**
FWVZ	**Far West T-bar**	**2.84**	**24**	P		**Pn**	**07 33 06.5**	**+2.3**
TUVZ	**Tukino**	**2.86**	**26**	P		**Pn**	**07 33 05.1**	**+0.6**
RPZ	**Rata Peaks**	**2.88**	**229**	P		**Pn**	**07 33 04.6**	**+0.1**
RPZ	**Rata Peaks**	**2.88**	**229**	P		**Pn**	**07 33 04.0**	**-0.5**
NGZ	**Ngauruhoe**	**2.93**	**24**	P		**Pn**	**07 33 07.1**	**+1.8**
SNVZ	**South Ngauruho**	**2.93**	**25**	P		**Pb**	**07 33 09.2**	**-2.0**
OTVZ	**Oturere**	**2.96**	**25**	P		**Pb**	**07 33 09.4**	**-2.3**
ARCZ	**Arundel**	**2.96**	**224**	P		**Pn**	**07 33 05.2**	**-0.5**
NNVZ	**North Ngauruho**	**2.98**	**24**	P		**Pn**	**07 33 07.1**	**+1.1**
KAHZ	**Kahuranaki**	**2.98**	**47**	P		**Pn**	**07 33 04.1**	**-1.8**
TWVZ	**Taurewa**	**2.98**	**21**	P		**Pn**	**07 33 07.9**	**+1.9**
WTVZ	**West Tongariro**	**2.98**	**24**	P		**Pn**	**07 33 08.1**	**+2.1**
ETVZ	**East Tongariro**	**3.00**	**26**	P		**Pn**	**07 33 08.0**	**+1.7**
KRVZ	**Karewarewa**	**3.02**	**24**	P		**Pb**	**07 33 12.3**	**-0.3**
TMVZ	**Te Maari**	**3.02**	**25**	P		**Pn**	**07 33 07.1**	**+0.6**
NTVZ	**North Tongarir**	**3.02**	**25**	P		**Pb**	**07 33 11.5**	**-1.2**
KWHZ	**Kaweka Forest**	**3.03**	**38**	P		**Pb**	**07 33 13.6**	**+0.8**
GCSZ	**Gaunt Creek Bo**	**3.10**	**241**	P		**Pn**	**07 33 09.5**	**+1.9**
RITZ	**Rihia Road**	**3.19**	**26**	P		**Pb**	**07 33 14.0**	**-1.6**
RATZ	**Rangitukua**	**3.27**	**24**	P		**Pb**	**07 33 16.3**	**-0.5**
BKZ	**Black Stump Fm**	**3.27**	**36**	P		**Pn**	**07 33 12.6**	**+2.6**
BKZ	**Black Stump Fm**	**3.27**	**36**	P		**Pb**	**07 33 16.8**	**-0.2**
TMZ	**Timaru**	**3.36**	**220**	P		**Pn**	**07 33 10.4**	**-0.7**
HIZ	**Hauiti**	**3.40**	**11**	P		**Pn**	**07 33 13.2**	**+1.6**
HIZ	**Hauiti**	**3.40**	**11**	P		**Pn**	**07 33 13.3**	**+1.6**
WATZ	**Wairara**	**3.40**	**23**	P		**Pb**	**07 33 18.7**	**-0.5**
FOZ	**Fox Glacier**	**3.54**	**240**	P		**Pn**	**07 33 14.4**	**+0.9**
LBZ	**Lake Benmore**	**3.79**	**227**	P		**Pn**	**07 33 17.5**	**+0.5**
LBZ				P		Pb	07 33 17.5	-8.2
ODZ	**Otahua Downs**	**4.03**	**217**	P		**Pn**	**07 33 19.7**	**-0.6**
ODZ	**Otahua Downs**	**4.03**	**217**	P		**Pn**	**07 33 18.8**	**-1.5**
TOZ	**Tahuroa Road**	**4.27**	**16**	P		**Pn**	**07 33 26.0**	**+2.3**
JCZ	**Jackson Bay**	**4.45**	**238**	P		**Pn**	**07 33 28.6**	**+2.5**
JCZ	**Jackson Bay**	**4.45**	**238**	P		**Pn**	**07 33 27.4**	**+1.3**
AWAZ	**Awhitu Peninsu**	**4.81**	**6**	P		**Pn**	**07 33 33.5**	**+2.5**
MKAZ	**Moumakai**	**4.83**	**11**	P		**Pn**	**07 33 33.0**	**+1.8**
ETAZ	**East Tamaki Re**	**4.95**	**8**	P		**Pn**	**07 33 35.0**	**+2.1**
WIAZ	**Waiheke Island**	**5.13**	**10**	P		**Pn**	**07 33 38.6**	**+3.2**
CTZ	**Chatham Island**	**7.12**	**108**	P		**Pn**	**07 34 00.9**	**-1.9**

IDC 06 07:42:54.9±2.9, 19.00S×175.81W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=165.8km s-min=45.0km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.30**	**243**	P		P	07 50 35.9	+1.7
	0.4nm,0.3s,baz=141,slow=19,SNR=1.6							
	0.4nm,0.3s							
WRA	**Warramunga Arr**	**46.87**	**260**	P		P	07 51 26.4	-0.9
	0.2nm,0.3s,baz=97,slow=6.8,SNR=6.2							
WRA				PcP		PcP	07 52 58.4	-1.9
	0.2nm,0.7s,baz=93,slow=4.2,SNR=1.1							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**46.89**	**255**	P		P	07 51 27.5	+0.1
	4.3nm,0.6s,baz=89,slow=8.1,SNR=96							
ASAR				PcP		PcP	07 52 58.9	-1.5
	0.4nm,0.4s,baz=106,slow=3.8,SNR=7.2							
	4.3nm,0.6s							
GERES	**GERESS Array B**	**149.25**	**348**	PKPbc		PKiKP	08 02 46.5	-0.4
	0.7nm,0.6s,baz=5.7,slow=2.0,SNR=5.9							

INET ***06*** *07:51:21.1±1.3, 12.06N×87.90W, h19km±16km, MW3.4*
SNET ***06*** *07:51:22.2±0.9, 12.10N×87.88W, h21km±7km, ML3.1*
ISC 06 07:51:19.4±2.5, 12.0N±0.1×87.86W±0.06, h12km±14km, n17, σ0s69/26, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.05**	**48**	*e*P		**Pg**	**07 51 39.8**	**0.0**
CRIN				*e*S		**Sb**	**07 51 54.5**	**+1.0**
CNGN	**Cerro Negro**	**1.24**	**66**	*e*P		**Pb**	**07 51 42.8**	**0.0**
CNGN				*e*S		**Sg**	**07 51 59.4**	**0.0**
LCND	**La Caada**	**1.30**	**359**	*e*P		**Pn**	**07 51 43.2**	**-0.2**
LCND				*e*S		**Sb**	**07 52 00.3**	**-0.3**
LCND				IAML			07 52 02.1	
	comp=Z,734nm,0.3s							
MOMN	**Momotombo**	**1.35**	**72**	*e*P		**Pn**	**07 51 43.7**	**-0.4**
ALJI	**Alcalda de J**	**1.49**	**332**	*e*P		**Pn**	**07 51 45.7**	**-0.3**
ALJI				*e*S		**Sn**	**07 52 05.7**	**+0.2**
ALJI				IAML			07 52 07.0	
	comp=

0.4nm,0.4s,baz=105,slow=8.7,SNR=2.2
0.4nm,0.4s
NVAR Mina Array Bea 91.59 52 P **P 08 06 32.8 +0.8**
1.8nm,0.8s,baz=255,slow=6.1,SNR=8.5
1.8nm,0.8s
PDAR Pinedale Array 98.51 48 P **P 08 07 02.9 -0.5**
0.3nm,0.6s,baz=132,slow=2.2,SNR=3.6
0.3nm,0.6s
BOSA Boshof 120.15 232 PKP **PKiKP 08 12 16.1 0.0**
2.1nm,0.7s,baz=116,slow=2.2,SNR=5.1

IDC 06 07:54:57.0±3.1, 53°43N×87°56E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=28.6km s-min=16.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**289**	I	I	08 06 50.0	
	0.2nm,1.0s,baz=102,slow=341,SNR=10.0						
ZALV	**Zalesovo Beam**	**1.71**	**289**	Pg	Pb	07 55 28.8	-0.5
	0.4nm,0.3s,baz=110,slow=13,SNR=11						
ZALV				Lg	Lg	07 55 50.3	
	0.5nm,0.3s,baz=108,slow=25,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.24**	**247**	Pn	Pn	07 56 31.7	+1.4
KURBB	0.1nm,0.3s,baz=60,slow=14,SNR=2.8			Lg	Lg	07 58 12.8	
	baz=61,slow=31,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.46**	**209**	Pn	Pn	07 56 47.7	+0.7
	0.4nm,0.3s,baz=25,slow=3.8,SNR=5.8						
	0.3nm,0.3s						

*CUPWA **06** 08:20:07.7±8.9, 30°67S×118°38E, h2km±40km, Region: WESTERN AUSTRALIA*
*AUST **06** 08:20:08.0±1.4, 30°67S×118°22E, h10km, Error ellipse: s-maj=13.6km s-min=10.8km az=91.0*
ISC 06 08:20:05.4±1.4, 30°62S±0°04×118°42E±0°03, h8km±11km, n23,σ1°48/34, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CADX	**Cadoux**	**1.11**	**262**	P	**Pb**	**08 20 27.2**	**+0.4**
CADX	**Cadoux**	**1.11**	**262**	S	**Sb**	**08 20 41.5**	**0.0**
KLBR	**Kellerberrin**	**1.12**	**210**	P	**Pg**	**08 20 26.9**	**0.0**
	baz=1.0						
KLBR				S	**Sg**	**08 20 40.8**	**-0.6**
	baz=1.0						
KLBR	**Kellerberrin**	**1.12**	**210**	P	**Pg**	**08 20 26.9**	**0.0**
KLBR	**Kellerberrin**	**1.12**	**210**	S	**Sg**	**08 20 40.8**	**-0.6**
BLDU	**Ballidu**	**1.47**	**270**	P	**Pn**	**08 20 33.2**	**+1.0**
	baz=1.3						
BLDU				S	**Sg**	**08 20 52.1**	**-0.6**
	baz=1.3						
BLDU	**Ballidu**	**1.47**	**270**	P	**Pn**	**08 20 33.2**	**+1.0**
BLDU				S	**Sg**	**08 20 52.1**	**-0.6**
MECK	**Meckering**	**1.57**	**230**	P	**Pn**	**08 20 30.9**	**-2.6**
MECK				S	**Sn**	**08 20 55.0**	**+0.8**
PING	**Pingelly**	**2.24**	**212**	S	**Sn**	**08 21 11.4**	**+0.9**
MUN	**Mundaring**	**2.32**	**234**	P	**Pn**	**08 20 44.8**	**+0.9**
	baz=2.2						
MUN				S	**Sn**	**08 21 10.5**	**-2.2**
	baz=2.2						
MUN	**Mundaring**	**2.32**	**234**	P	**Pn**	**08 20 44.8**	**+0.9**
MUN	**Mundaring**	**2.32**	**234**	S	**Sn**	**08 21 10.4**	**-2.2**
NWAO	**Narrogin (SRO)**	**2.51**	**203**	P	**Pn**	**08 20 47.5**	**+1.0**
	baz=2.4						
NWAO				P	**Pn**	**08 20 47.5**	**+1.0**
	baz=2.4						
NWAO	**Narrogin (SRO)**	**2.51**	**203**	P	**Pn**	**08 20 47.5**	**+1.0**
MORW	**Morawa**	**2.58**	**306**	P	**Pn**	**08 20 48.9**	**+1.5**
	baz=2.5						
MORW				S	**Sn**	**08 21 17.9**	**-1.1**
	baz=2.5						
MORW	**Morawa**	**2.58**	**306**	P	**Pn**	**08 20 48.9**	**+1.5**
MORW	**Morawa**	**2.58**	**306**	S	**Sn**	**08 21 17.9**	**-1.1**
KMBL	**Kambalda**	**3.07**	**105**	P	**Pb**	**08 20 59.4**	**-0.8**
	baz=3.2						
KMBL				S	**Sn**	**08 21 30.7**	**-0.4**
	baz=3.2						
KMBL	**Kambalda**	**3.07**	**105**	P	**Pb**	**08 20 59.5**	**-0.8**
KMBL				S	**Sn**	**08 21 30.7**	**-0.4**
MEEK	**Meekatharra**	**3.97**	**3**	P	**Pn**	**08 21 09.1**	**+2.5**
	baz=4.0						
MEEK				S	**Sn**	**08 21 50.5**	**-2.9**
	baz=4.0						
MEEK	**Meekatharra**	**3.97**	**3**	P	**Pn**	**08 21 09.1**	**+2.5**
MEEK				S	**Sn**	**08 21 50.5**	**-2.9**
FORT	**Forrest**	**8.31**	**94**	P	**Pn**	**08 22 07.5**	**+1.4**
	baz=8.5						
WRKA	**Warakurna**	**10.36**	**60**	P	**Pn**	**08 22 34.9**	**+0.5**
	baz=10						

IDC 06 08:20:23.0±68.0, 16°44S×179°96W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1240.0km s-min=168.0km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.07**	**239**	P	P	08 27 44.1	+0.5
	2.5nm,1.0s,baz=90,slow=8.1,SNR=3.4						
	2.5nm,1.0s						
WRA	**Warramunga Arr**	**43.46**	**258**	P	P	08 28 27.6	-0.7
	0.3nm,0.3s,baz=95,slow=8.0,SNR=6.1						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**43.78**	**253**	P	P	08 28 30.8	-0.1
	1.9nm,0.5s,baz=88,slow=7.3,SNR=31						
	1.9nm,0.5s						

*TEH **06** 08:21:59.8, 31°99N×50°89E, h5km, ML3.1*
*IDC **06** 08:21:59.5±2.1, 31°89N×50°65E, h0km, mb3.4/3, mbtmp3.7/6, ML3.3/3, MS2.9/1, Error ellipse: s-maj=44.3km s-min=25.7km az=13.0*
ISC 06 08:22:02.2±0.8, 31°99N±0°03×50°90E±0°03, h10km, n48, σ1°83/48, mb3.4/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBRJ	**Brojen**	**0.32**	**105**	Pg	**Pg**	**08 22 06.7**	**-2.0**
IBRJ				Sg	**Sg**	**08 22 12.4**	**-0.6**
SHK1	**Shahrekord**	**0.34**	**358**	Pg	**Pg**	**08 22 07.3**	**-1.8**
IPIR	**Pirpir**	**0.69**	**359**	Pg	**Pg**	**08 22 14.2**	**-1.4**
IPIR				Sg	**Sg**	**08 22 24.8**	**0.0**
IGAR	**Gharneh**	**1.05**	**67**	Pg	**Pg**	**08 22 20.7**	**-1.8**
KLNJ	**Kolanjah**	**1.15**	**149**	Pg	**Pg**	**08 22 23.0**	**-1.3**
IRAM	**Rameshеh**	**1.27**	**98**	Pg	**Pn**	**08 22 24.5**	**-1.8**
AMIS	**Naft Sefid**	**1.41**	**257**	Pg	**Pn**	**08 22 28.0**	**0.0**
IKLH	**Kolahrood**	**1.44**	**23**	Pg	**Pn**	**08 22 27.8**	**-0.9**
ABEH	**Behbahan**	**1.50**	**202**	Sg	**Sg**	**08 22 54.2**	**+3.9**
IZEF	**Zefreh**	**1.51**	**53**	Pg	**Pn**	**08 22 29.6**	**0.0**
QAMS	**Qamsar**	**1.79**	**13**	Pg	**Pn**	**08 22 33.9**	**+0.5**
NASN	**Na'in**	**1.80**	**63**	Pn	**Pb**	**08 22 36.3**	**+0.8**
KHMZ	**Khomeyn**	**1.91**	**336**	Pn	**Pb**	**08 22 37.8**	**+0.4**
KRSH	**Karshahi**	**2.23**	**27**	Pn	**Pn**	**08 22 41.6**	**+2.1**
ISAD	**Sadrabad**	**2.37**	**91**	Pn	**Pn**	**08 22 42.7**	**+1.2**
GHVR	**GHOM**	**2.50**	**7**	Pn	**Pb**	**08 22 46.6**	**-0.8**
ISFB	**Sefidab**	**2.61**	**25**	Pn	**Pn**	**08 22 46.0**	**+1.4**
ASAO	**Ashtian**	**2.65**	**344**	Pn	**Pn**	**08 22 48.4**	**+3.1**
ANAR	**Anarak**	**2.67**	**63**	Pn	**Pn**	**08 22 47.3**	**+1.9**
IQOM	**Qom**	**2.85**	**3**	Pn	**Pn**	**08 22 49.3**	**+1.3**
IDOB	**Doab**	**2.91**	**309**	Pn	**Pn**	**08 22 49.6**	**+0.8**
HSAM	**Samen**	**2.94**	**320**	Pn	**Pn**	**08 22 50.0**	**+0.7**
IKFM	**Kafar-mosalman**	**2.99**	**302**	Pn	**Pn**	**08 22 50.5**	**+0.8**
IVRN	**Varamin**	**3.07**	**13**	Pn	**Pn**	**08 22 52.6**	**+1.6**
YZKH	**Yazd**	**3.15**	**82**	Pn	**Pn**	**08 22 55.4**	**+3.3**
HAGD	**Aghdareh**	**3.18**	**333**	Pn	**Pn**	**08 22 53.6**	**+1.0**
IMEH	**Mehriz**	**3.22**	**100**	Pn	**Pn**	**08 22 54.7**	**+1.6**
IRAZ	**Razeghan**	**3.50**	**347**	Pn	**Pn**	**08 22 58.4**	**+1.4**
IBZA	**Bozab**	**3.55**	**315**	Pn	**Pn**	**08 22 58.4**	**+0.7**
IKOM	**Komasi**	**3.58**	**308**	Pn	**Pn**	**08 22 58.4**	**+0.4**
IMHD	**Mahdasht**	**3.69**	**357**	Pn	**Pn**	**08 23 00.6**	**+1.2**
DAMV	**Damavand**	**3.74**	**13**	Pn	**Pn**	**08 23 03.3**	**+3.1**
CHTH	**Charan**	**3.91**	**3**	Pn	**Pn**	**08 23 07.2**	**+4.6**
ILBA	**Ilam Banvizeh**	**4.27**	**294**	Pn	**Pn**	**08 23 07.0**	**-0.5**
SNGE	**Sanandaj**	**4.29**	**317**	Pn	**Pn**	**08 23 10.4**	**+2.6**
IGHG	**Ghaleghazi**	**4.32**	**304**	Pn	**Pn**	**08 23 09.3**	**+1.1**
ILIN	**Lien**	**4.40**	**313**	Pn	**Pn**	**08 23 09.7**	**+0.4**
IDHR	**Dehrash**	**4.64**	**307**	Pn	**Pn**	**08 23 12.3**	**-0.3**
ZNJK	**Zanjan**	**5.01**	**339**	Pn	**Pn**	**08 23 21.0**	**+3.2**
TKDS	**Koohdasht(Taba**	**5.48**	**71**	Pn	**Pn**	**08 23 25.6**	**+1.5**
TABS	**Tabas**	**5.49**	**71**	Pn	**Pn**	**08 23 27.7**	**+3.5**
WSAR	**Wadi Sarin**	**11.09**	**140**	Pn	**Pn**	**08 24 40.4**	**-0.5**
	0.2nm,0.3s,baz=320,slow=16,SNR=5.4						
	19nm,1.2s						
ASF	**Jabal al Asfar**	**11.88**	**275**	Pn	Pn	08 24 47.3	-4.5
	0.3nm,0.3s,baz=23,slow=17,SNR=1.8						
	2.0nm,0.5s						
BRTR	**Keskin Array B**	**15.97**	**304**	Pn	**Pn**	**08 25 45.4**	**-1.7**
	0.1nm,0.3s,baz=110,slow=11,SNR=3.3						
	0.3nm,0.6s						
AAK	**Ala-Archa**	**21.50**	**54**	P	**P**	**08 26 52.8**	**+1.4**
	0.8nm,0.4s,baz=225,slow=19,SNR=1.8						
	0.8nm,0.4s						
AKASG	**Malin Array Be**	**24.63**	**326**	P	**P**	**08 27 21.7**	**-1.0**
	0.3nm,0.3s,baz=122,slow=7.3,SNR=6.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**28.18**	**49**	P	**P**	**08 27 55.2**	**+0.3**
	0.2nm,0.5s,baz=241,slow=8.7,SNR=4.3						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**45.16**	**95**	LR	LR	08 52 13.6	
	comp=Z,14nm,19.6s,baz=205,slow=40						

*WEL **06** 08:45:00, 41°64S×174°28E, h14km, ML4.7, Mw4.4, Moment Tensor Solution. s6 Moment tensor: Scale 10^15 Nm; Mrr2.76; Mθθ3.28; Mϕϕ-6.04; Mrθ-0.31; Mθϕ-3.20; Mϕr-0.67; Fault plane solution: M0 5.69000×10^15 NP1: ϕs62.00000°, δ90.00000°, λ-174.00000°. Principal axes: T -708.9700, Plg4.0000°, Azm197.0000°; N 428.5400, Plg84.0000°, Azm62.0000°; P 280.4300, Plg4.0000°, Azm288.0000°;*
*IDC **06** 08:45:15.0±0.9, 41°57S×174°17E, h0km, mb4.0/8, mbtmp4.1/10, ML4.0/2, MS3.7/10 Error ellipse: s-maj=25.1km s-min=19.3km az=93.0*
*NOU **06** 08:45:16.2, 41°88S×174°61E, h13km, MLv5.1/14, Cook Strait, New Zealand*
*WEL **06** 08:45:17.8±0.4, 42°S±3°×17°4E±°, h9km±3km, M4.8/16, ML5.1/16, MLv4.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=156.1, conformed*
*NEIC **06** 08:45:17.4±0.8, 41°69S±0°03×174°33E±0°03, h18km±5km, mb4.3/10, Error ellipse: s-maj=5.3km s-min=1.8km az=138.0*
ISC 06 08:45:16.9±0.8, 41°70S±0°03×174°34E±0°02, h15km±5km, n232, σ1°50/242, mb4.3/10, MS3.6/10, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**241**		**Pb**	**08 45 20.4**	**-0.2**
CMWZ				Sg	**Sb**	**08 45 23.7**	**+0.5**
CMWZ	**Cape Campbell**	**0.11**	**241**	P	**Pb**	**08 45 20.7**	**0.0**
CMWZ				S	**Sb**	**08 45 24.0**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.35**	**267**		**Pb**	**08 45 24.5**	**-0.2**
BSWZ				Sg	**Sb**	**08 45 30.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.35**	**267**	P	**Pb**	**08 45 24.5**	**-0.2**
BSWZ				S	**Sb**	**08 45 30.4**	**+0.3**
TUWZ	**Tuamarina**	**0.40**	**311**		**Pb**	**08 45 24.9**	**-0.8**
TUWZ				Sg	**Sb**	**08 45 30.7**	**-0.8**
TUWZ	**Tuamarina**	**0.40**	**311**	P	**Pb**	**08 45 25.3**	**-0.3**
TUWZ				S	**Sb**	**08 45 31.1**	**-0.4**
SNZO	**South Karori**	**0.47**	**35**		**Pb**	**08 45 26.7**	**-0.1**
SNZO					**Sb**	**08 45 34.1**	**+0.6**
SNZO	**South Karori**	**0.47**	**35**	P	**Pb**	**08 45 27.3**	**+0.5**
TCW	**Tory Channel**	**0.49**	**354**		**Pb**	**08 45 26.4**	**-0.6**
TCW				Sg	**Sb**	**08 45 33.5**	**-0.5**
TCW	**Tory Channel**	**0.49**	**354**	P	**Pb**	**08 45 26.8**	**-0.3**
BHW	**Baring Head**	**0.49**	**54**		**Pb**	**08 45 27.4**	**+0.3**
WEL	**Wellington**	**0.52**	**38**	P	**Pb**	**08 45 28.1**	**+0.5**
WEL				S	**Sb**	**08 45 35.8**	**+0.8**
PLWZ	**Palliser**	**0.69**	**80**		**Pn**	**08 45 31.9**	**-0.3**
PLWZ	**Palliser**	**0.69**	**80**	P	**Pn**	**08 45 32.2**	**+0.1**
PLWZ				S	**Sn**	**08 45 44.3**	**+1.6**
MSWZ	**Moikau Station**	**0.73**	**68**		**Pn**	**08 45 33.3**	**+0.6**
MSWZ	**Moikau Station**	**0.73**	**68**	P	**Pn**	**08 45 32.7**	**0.0**
MSWZ				S	**Sn**	**08 45 43.6**	**0.0**
CAW	**Cannon Point**	**0.80**	**43**	P	**Pn**	**08 45 32.9**	**-0.6**
CAW				S	**Sn**	**08 45 44.2**	**-0.9**
NNZ	**Nelson**	**0.87**	**303**		**Pb**	**08 45 33.3**	**-0.2**
NNZ	**Nelson**	**0.87**	**303**	P	**Pn**	**08 45 33.5**	**-0.9**
PAWZ	**Paruwai Farm**	**0.87**	**69**	P	**Pn**	**08 45 34.9**	**+0.3**
KHZ	**Kahutara**	**0.94**	**219**		**Pn**	**08 45 35.8**	**+0.4**
KHZ	**Kahutara**	**0.94**	**219**	P	**Pn**	**08 45 36.1**	**+0.7**
KHZ	**Kahutara**	**0.94**	**219**	P	**Pn**	**08 45 36.0**	**+0.7**
KHZ				S	**Sn**	**08 45 50.0**	**+1.5**
KIW	**Kapiti Island**	**0.94**	**27**	P	**Pn**	**08 45 35.1**	**-0.4**
DUWZ	**D'Urville Isla**	**0.95**	**340**	P	**Pn**	**08 45 35.0**	**-0.6**
MTW	**Mount Morrison**	**1.02**	**59**	P	**Pn**	**08 45 37.1**	**+0.5**
TRWZ	**Traveller**	**1.05**	**74**	P	**Pn**	**08 45 37.2**	**+0.2**
OGWZ	**Otaki Gorge**	**1.08**	**36**	P	**Pn**	**08 45 37.5**	**+0.2**
OGWZ				S	**Sn**	**08 45 53.5**	**+1.5**
THZ	**Tophouse**	**1.08**	**266**		**Pn**	**08 45 37.4**	**0.0**
THZ	**Tophouse**	**1.08**	**266**	P	**Pn**	**08 45 37.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.19**	**48**	P	**Pg**	**08 45 39.5**	**-0.3**
HOWZ				S	**Sn**	**08 45 56.7**	**+1.9**
MRNZ	**Matariki Terra**	**1.23**	**283**		**Pg**	**08 45 39.4**	**-1.1**
MRNZ	**Matariki Terra**	**1.23**	**283**	P	**Pg**	**08 45 40.3**	**-0.2**
TKNZ	**Takaka Hill**	**1.23**	**302**		**Pg**	**08 45 39.4**	**-1.2**
TKNZ	**Takaka Hill**	**1.23**	**302**	P	**Pg**	**08 45 39.9**	**-0.7**
TKNZ				S	**Sg**	**08 45 56.3**	**-0.4**
TMWZ	**Te Maipa**	**1.30**	**64**	P	**Pb**	**08 45 40.7**	**-0.4**
MRZ	**Mangatainoka R**	**1.39**	**42**	Pn	**Pb**	**08 45 42.1**	**-0.4**
MRZ	**Mangatainoka R**	**1.39**	**42**	P	**Pg**	**08 45 42.5**	**-1.2**
TIWZ	**Tintock**	**1.48**	**52**	P	**Pb**	**08 45 43.4**	**-0.7**
GVZ	**Greta Valley S**	**1.60**	**217**	Pn	**Pn**	**08 45 44.6**	**0.0**
GVZ	**Greta Valley S**	**1.60**	**217**	P	**Pn**	**08 45 44.9**	**+0.3**
CPWZ	**Castlepoint**	**1.60**	**61**	P	**Pb**	**08 45 45.0**	**-1.1**
QRZ	**Quartz Range**	**1.62**	**302**		**Pb**	**08 45 45.9**	**-0.5**
QRZ	**Quartz Range**	**1.62**	**302**	P	**Pg**	**08 45 46.6**	**-1.4**
QRZ	**Quartz Range**	**1.62**	**302**	P	**Pg**	**08 45 46.5**	**-1.4**
OHWZ	**Ohakea**	**1.66**	**27**	P	**Pg**	**08 45 47.9**	**-0.8**
PRWZ	**Pori Road**	**1.68**	**48**	P	**Pn**	**08 45 46.0**	**+0.4**
POWZ	**Post Office Ro**	**1.69**	**40**	P	**Pb**	**08 45 46.4**	**-1.2**
BFZ	**Birch Farm**	**1.76**	**55**	P	**Pn**	**08 45 46.4**	**-0.3**
LTZ	**Lake Taylor**	**1.88**	**234**	Pn	**Pn**	**08 45 48.8**	**+0.3**
LTZ	**Lake Taylor**	**1.88**	**234**	P	**Pn**	**08 45 49.1**	**+0.6**
DSZ	**Denniston Nort**	**1.90**	**268**	P	**Pb**	**08 45 50.4**	**-0.8**
AMCZ	**Amberley**	**1.94**	**220**		**Pn**	**08 45 49.1**	**-0.1**
AMCZ	**Amberley**	**1.94**	**220**	P	**Pn**	**08 45 49.1**	**-0.1**
WAZ	**Wanganui**	**2.00**	**14**	P	**Pn**	**08 45 53.2**	**+0.3**
TSZ	**Takapari Road**	**2.04**	**37**	P	**Pn**	**08 45 51.2**	**+0.5**
LREZ	**Lake Rotokare**	**2.23**	**1**	P	**Pn**	**08 45 57.2**	**+0.3**
OKCZ	**Okains Bay**	**2.24**	**205**	P	**Pn**	**08 45 52.7**	**-0.7**
PRHZ	**Porangahau**	**2.25**	**51**	P	**Pn**	**08 45 52.9**	**-0.5**
WPHZ	**Waipukurau**	**2.28**	**45**	P	**Pn**	**08 45 53.8**	**0.0**
NMEZ	**Namu Road**	**2.31**	**351**	P	**Pn**	**08 45 58.0**	**-0.1**
OXZ	**Oxford**	**2.36**	**226**		**Pn**	**08 45 53.9**	**-1.0**
OXZ	**Oxford**	**2.36**	**226**	P	**Pn**	**08 45 54.2**	**-0.8**
MQZ	**McQueen's Vall**	**2.36**	**211**		**Pn**	**08 45 53.6**	**-1.4**
MQZ	**McQueen's Vall**	**2.36**	**211**	P	**Pn**	**08 45 53.7**	**-1.3**
INZ	**Inchbonnie**	**2.39**	**244**	Pn	**Pn**	**08 45 55.6**	**+0.3**
INZ	**Inchbonnie**	**2.39**	**244**	P	**Pn**	**08 45 56.0**	**+0.7**
KHEZ	**Kahui Hut**	**2.41**	**354**	P	**Pb**	**08 45 59.7**	**-0.3**
KHEZ	**Kahui Hut**	**2.41**	**354**	P	**Pb**	**08 45 58.6**	**-1.3**
AKCZ	**Akaroa Harbour**	**2.42**	**205**	P	**Pn**	**08 45 54.9**	**-0.9**
NEZ	**North Egmont**	**2.43**	**355**	P	**Pb**	**08 45 59.0**	**-1.3**
NBEZ	**Newall Road No**	**2.45**	**351**	P	**Pb**	**08 45 58.9**	**-1.7**
MTVZ	**Mangateitei**	**2.46**	**21**	P	**Pb**	**08 45 59.1**	**-1.7**
DREZ	**Durham Road**	**2.51**	**357**	P	**Pb**	**08 46 00.1**	**-1.4**
PKE	**Pukeiti**	**2.51**	**354**	P	**Pb**	**08 46 00.1**	**-1.6**
PKVZ	**Pokaka**	**2.52**	**18**	P	**Pb**	**08 46 00.2**	**-1.6**
MOVZ	**Moawhango**	**2.53**	**26**	P	**Pn**	**08 45 58.7**	**+1.4**
PXZ	**Pawanui**	**2.53**	**50**	P	**Pn**	**08 45 56.2**	**-1.1**
WNVZ	**Wahianoa**	**2.55**	**22**	P	**Pb**	**08 45 59.8**	**-2.6**
BHHZ	**Black Hill Sta**	**2.56**	**31**	P	**Pn**	**08 45 58.8**	**+0.9**
TRVZ	**Turoa**	**2.56**	**21**	P	**Pb**	**08 46 01.3**	**-1.3**
KRHZ	**Kereru**	**2.56**	**38**	P	**Pn**	**08 45 57.8**	**0.0**
VRZ	**Vera Road**	**2.59**	**7**	P	**Pb**	**08 46 00.8**	**-2.1**
DRZ	**Dome Shelter**	**2.59**	**21**	P	**Pb**	**08 46 03.6**	**+0.5**
WHVZ	**Whangaehu Hut**	**2.59**	**22**	P	**Pb**	**08 46 00.9**	**-2.2**
RACZ	**Rakaia**	**2.60**	**218**	P	**Pn**	**08 45 57.3**	**-1.0**
FWVZ	**Far West T-bar**	**2.61**	**21**	P	**Pb**	**08 46 00.9**	**-2.5**
MHEZ	**Mangahewa**	**2.62**	**360**	P	**Pb**	**08 46 02.7**	**-0.6**
TUVZ	**Tukino**	**2.62**	**23**	P	**Pb**	**08 46 00.8**	**-2.8**
NGZ	**Ngauruhoe**	**2.69**	**21**	P	**Pb**	**08 46 01.9**	**-2.9**
SNVZ	**South Ngauruho**	**2.69**	**22**	P	**Pb**	**08 46 01.9**	**-2.9**
KAHZ	**Kahuranaki**	**2.70**	**46**	P	**Pn**	**08 45 59.0**	**-0.7**
OTVZ	**Oturere**	**2.72**	**22**	P	**Pb**	**08 46 02.6**	**-2.7**
NNVZ	**North Ngauruho**	**2.74**	**21**	P	**Pb**	**08 46 02.5**	**-3.1**
WTVZ	**West Tongariro**	**2.75**	**21**	P	**Pb**	**08 46 02.9**	**-2.8**
MHCZ	**Mount Hutt**	**2.75**	**227**	P	**Pn**	**08 45 59.5**	**-0.9**
TWVZ	**Taurewa**	**2.75**	**18**	P	**Pb**	**08 46 03.2**	**-2.6**
ETVZ	**East Tongariro**	**2.76**	**23**	P	**Pn**	**08 46 02.7**	**+2.1**
KWHZ	**Kaweka Forest**	**2.77**	**36**	P	**Pb**	**08 46 06.8**	**+0.8**
TMVZ	**Te Maari**	**2.78**	**22**	P	**Pn**	**08 46 02.6**	**+1.7**
KRVZ	**Karewarewa**	**2.78**	**21**	P	**Pb**	**08 46 03.8**	**-2.5**
NTVZ	**North Tongariro**	**2.79**	**22**	P	**Pn**	**08 46 03.1**	**+2.1**
MCHZ	**McNeill Hill**	**2.88**	**39**	P	**Pn**	**08 46 02.0**	**-0.1**
WACZ	**Wakanui South**	**2.91**	**219**	P	**Pn**	**08 46 01.4**	**-1.0**
KATZ	**Kakaramea**	**2.91**	**21**	P	**Pb**	**08 46 09.8**	**+1.4**
CKHZ	**Cape Kidnapper**	**2.91**	**47**	P	**Pn**	**08 46 03.4**	**+0.8**
RITZ	**Rihia Road**	**2.95**	**24**	P	**Pb**	**08 46 05.8**	**-3.3**
WVZ	**Waitaha Valley**	**3.01**	**242**	P	**Pn**	**08 46 04.2**	**+0.4**
BKZ	**Black Stump Fm**	**3.01**	**34**	P	**Pn**	**08 46 04.5**	**+0.5**
BKZ	**Black Stump Fm**	**3.01**	**34**	P	**Pn**	**08 46 03.8**	**-0.3**
RATZ	**Rangitukua**	**3.03**	**22**	P	**Pb**	**08 46 08.6**	**-1.9**
HATZ	**Hinemaiaia**	**3.10**	**26**	P	**Pb**	**08 46 11.6**	**-0.1**
RPZ	**Rata Peaks**	**3.15**	**229**	Pn	**Pn**	**08 46 05.5**	**-0.4**
	39nm,0.3s,baz=45,slow=17,SNR=141						
RPZ				Sn	**Sn**	**08 46 41.5**	**-1.8**
	56nm,0.3s,baz=37,slow=20,SNR=3.3						
	96nm,0.4s						
RPZ	**Rata Peaks**	**3.15**	**229**	Pn	**Pn**	**08 46 05.7**	**-0.2**
RPZ	**Rata Peaks**	**3.15**	**229**	P	**Pn**	**08 46 05.3**	**-0.6**
RPZ	**Rata Peaks**	**3.15**	**229**	P	**Pn**	**08 46 05.5**	**-0.4**
WATZ	**Wairara**	**3.17**	**20**	P	**Pb**	**08 46 11.0**	**-1.8**
HIZ	**Hauiti**	**3.20**	**7**	P	**Pn**	**08 46 09.2**	**+2.6**
HIZ	**Hauiti**	**3.20**	**7**	P	**Pn**	**08 46 09.3**	**+2.7**
NMHZ	**Naumai**	**3.21**	**37**	P	**Pn**	**08 46 07.0**	**+0.3**
ARCZ	**Arumael**	**3.24**	**225**	P	**Pn**	**08 46 06.3**	**-0.8**
MRHZ	**Matea Rd**	**3.27**	**30**	P	**Pn**	**08 46 07.4**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**3.38**	**240**	P	**Pn**	**08 46 10.1**	**+1.0**
KUTZ	**Kaahu Road**	**3.40**	**20**	P	**Pb**	**08 46 16.7**	**-0.1**
MTHZ	**Maungataniwha**	**3.42**	**35**	P	**Pn**	**08 46 09.3**	**-0.4**
WHHZ	**Waihua**	**3.42**	**41**	P	**Pn**	**08 46 11.6**	**+1.9**
WPRZ	**Whakapapatarin**	**3.46**	**24**	P	**Pb**	**08 46 16.8**	**-1.1**
RAHZ	**Arahi**	**3.48**	**38**	P	**Pn**	**08 46 09.8**	**-0.6**
ALRZ	**Allen Road**	**3.48**	**27**	P	**Pn**	**08 46 11.2**	**+0.7**
TLZ	**Tolley Road**	**3.48**	**16**	P	**Pn**	**08 46 13.6**	**+3.1**
PRRZ	**Plateau Road**	**3.56**	**27**	P	**Pn**	**08 46 11.9**	**+0.4**
HRRZ	**Handcock Road**	**3.62**	**25**	P	**Pn**	**08 46 16.6**	**-3.9**
TMZ	**Timaru**	**3.63**	**221**	P	**Pn**	**08 46 11.7**	**-0.9**
RTZ	**Ruatahuna**	**3.68**	**34**		**Pn**	**08 46 12.8**	**-0.4**
HSRZ	**Hossack Road**	**3.68**	**24**	P	**Pn**	**08 46 16.3**	**+3.1**
KNZ	**Kokohu**	**3.69**	**45**	P	**Pn**	**08 46 12.0**	**-1.2**
SNGZ	**Shannon Statio**	**3.71**	**39**	P	**Pn**	**08 46 12.1**	**-1.5**
MUGZ	**Murupara**	**3.71**	**31**	P	**Pn**	**08 46 14.0**	**+0.3**
MHGZ	**Mahia Peninsul**	**3.72**	**48**	P	**Pn**	**08 46 12.8**	**-0.9**
RRRZ	**Republican Roa**	**3.74**	**27**	P	**Pb**	**08 46 20.4**	**-2.3**
UTU	**Utuhina**	**3.79**	**23**	P	**Pb**	**08 46 23.1**	**-0.3**
FOZ	**Fox Glacier**	**

MAW				IAmb	IAmb	08 55 54.6	
	comp=E,2.6,8nm,1.4s						
RPN	**Rapa Nui**	**62.72**	**103**	LR	LR	09 19 01.6	
	comp=E,34nm,18.3s,baz=300,slow=32						
VNA3	**Neumayer Olymp**	**67.33**	**179**	P	**P**	**08 56 12.1**	**+1.5**
VNA2	**Neumayer--Watz**	**67.68**	**179**	P	**P**	**08 56 14.4**	**+1.7**
	baz=170,slow=7.0						
VNA1	**Neumayer--Stat**	**67.95**	**179**	P	**P**	**08 56 16.5**	**+2.1**
KSRS	**Korea Array**	**89.45**	**325**	P	**P**	**08 58 13.4**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=168,slow=5.9,SNR=4.2						
	comp=Z,0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.68**	**293**	P	**P**	**08 58 24.2**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=159,slow=2.6,SNR=4.6						
	comp=Z,0.8nm,0.3s						
LPIG	**La Paz**	**95.51**	**63**	LR	LR	09 34 32.6	
	comp=Z,33nm,18.2s,baz=264,slow=31						
NNA	**Nana**	**95.72**	**111**	LR	LR	09 33 16.9	
	comp=Z,32nm,19.1s,baz=214,slow=30						
ATAH	**Atahualpa**	**97.98**	**107**	LR	LR	09 32 11.4	
	comp=Z,27nm,21.7s,baz=257,slow=29						
KBZ	**Khabaz**	**144.67**	**290**	PKP	**PKPab**	**09 04 50.8**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=114,slow=10.0,SNR=2.0						
DBIC	**Dimbokro**	**145.11**	**181**	PKPbc	**PKPdf**	**09 04 54.5**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=182,slow=3.2,SNR=2.1						
ARCES	**ARCESS Array B**	**147.75**	**340**	PKPbc	**PKPbc**	**09 04 58.9**	**-0.8**
	comp=Z,7.1nm,1.0s,baz=39,slow=1.9,SNR=6.0						
BRTR	**Keskin Array B**	**150.32**	**279**	PKPbc	**PKiKP**	**09 05 08.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=110,slow=11,SNR=2.0						
FINES	**FINESS Array B**	**152.53**	**327**	PKPbc	**PKPbc**	**09 05 10.3**	**-1.1**
	comp=Z,2.8nm,0.9s,baz=48,slow=2.1,SNR=5.8						

*NEIC **06** 08:48:34.7±2.5, 42.°44N±0.°07×126.°7W±0.°1, h10km±2km, ML3.2/58, Error ellipse: s-maj=17.0km s-min=11.5km az=261.0*

*IDC **06** 08:48:35.6±2.2, 42.°48N×126.°45W, h0km, mb3.4/3, mbtmp3.5/9, ML3.3/6, MS3.3/8, Error ellipse: s-maj=33.5km s-min=14.5km az=47.0*

ISC 06 08:48:36.4±1.5, 42.°44N±0.°07×126.°6W±0.°1, h12km, n76, σ1s20/68, mb3.6/3, MS3.3/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.73**	**75**			**Pn**	**08 49 04.2**	**-2.2**
KEBM					IAML		08 49 29.5	
	comp=E,312nm,1.4s							
KBO	**Bosley Butte**	**1.78**	**96**			**Pn**	**08 49 05.1**	**-1.9**
KBO					IAML		08 49 32.1	
	comp=N,162nm,1.4s							
KBO					IAML		08 49 39.9	
	comp=E,178nm,1.5s							
KRPM	**Rodgers**	**2.31**	**123**	Pn		**Pn**	**08 49 12.5**	**-2.0**
KRPM					IAML		08 49 43.4	
	comp=N,85nm,1.7s							
KRPM					IAML		08 49 45.7	
	comp=E,81nm,1.5s							
JCC	**Jacoby Creek,**	**2.52**	**129**	Pn		**Pn**	**08 49 15.1**	**-2.1**
DBO	**Dodson Butte**	**2.57**	**73**			**Pn**	**08 49 16.5**	**-1.4**
DBO					IAML		08 50 01.2	
	comp=N,96nm,1.6s							
KHMM	**Horse Mountain**	**2.66**	**125**			**Pn**	**08 49 17.6**	**-1.6**
KHMM					IAML		08 50 18.7	
	comp=E,58nm,1.6s							
HUMO	**Hull Mountain**	**2.70**	**85**	Pn		**Pn**	**08 49 18.0**	**-1.8**
KMPM	**Mount Pierce**	**2.75**	**136**			**Pn**	**08 49 18.8**	**-1.6**
YBH	**Yreka Blue Hor**	**2.98**	**102**	Pn		**Pn**	**08 49 23.3**	**-0.3**
	comp=E,9.7nm,0.3s,baz=319,slow=12,SNR=302							
YBH					LR	LR	08 49 52.3	
	comp=E,94nm,20.0s,baz=2.5,slow=27							
YBH					Sn	**Sn**	**08 49 58.9**	**-0.5**
	comp=E,1.7nm,0.3s,baz=242,slow=15,SNR=3.6							
	comp=E,19nm,0.3s							
YBH	**Yreka Blue Hor**	**2.98**	**102**	Pn		**Pn**	**08 49 22.9**	**-0.8**
KMRM	**Mail Ridge**	**3.11**	**134**			**Pn**	**08 49 24.4**	**-0.9**
BUCK	**Buck Mountain**	**3.18**	**55**			**Pn**	**08 49 25.2**	**-1.0**
COR	**Corvallis**	**3.23**	**47**			**Pn**	**08 49 25.9**	**-1.0**
HEBO	**Mount Hebo**	**3.46**	**36**	Pn		**Pn**	**08 49 28.5**	**-1.6**
HEBO					IAML		08 50 20.2	
	comp=E,76nm,1.2s							
KCPM	**Cahto Peak**	**3.57**	**139**	Pn		**Pn**	**08 49 30.4**	**-1.3**
KCPM					IAML		08 50 15.6	
	comp=E,50nm,1.8s							
KCPM					IAML		08 50 35.7	
	comp=N,47nm,3.1s							
H04A	**Detroit Lake**	**3.92**	**54**			**Pn**	**08 49 35.7**	**-0.8**
H04A					IAML		08 50 27.1	
	comp=E,52nm,0.5s							
F03A	**Seaside**	**4.12**	**31**			**Pn**	**08 49 38.2**	**-1.1**
K05A	**Summer Lake**	**4.23**	**84**	Pn		**Pn**	**08 49 39.9**	**-0.9**
K05A					IAML		08 50 14.7	
	comp=E,24nm,4.9s							
K05A					IAML		08 51 08.5	
	comp=N,22nm,1.9s							
HOPS	**Hopland Field**	**4.36**	**141**	Pn		**Pn**	**08 49 41.0**	**-1.5**
HOPS					IAML		08 50 54.4	
	comp=E,28nm,3.6s							
HOPS					IAML		08 51 00.9	
	comp=N,27nm,2.5s							
PINE	**Pine Mountain**	**4.36**	**70**	Pn		**Pn**	**08 49 41.9**	**-0.8**
PINE					IAML		08 50 36.6	
	comp=E,33nm,0.5s							
PINE					IAML		08 51 12.3	
	comp=N,22nm,1.5s							
RADR	**Rader Ridge**	**4.46**	**26**	Pn		**Pn**	**08 49 42.9**	**-1.0**
RADR					IAML		08 50 53.5	
	comp=N,29nm,4.2s							
RADR					IAML		08 52 24.1	
	comp=E,27nm,4.5s							
E03A	**Lebam**	**4.65**	**27**	Pn		**Pn**	**08 49 45.7**	**-0.7**
MOD	**Modoc Plateau**	**4.72**	**94**			**Pn**	**08 49 45.8**	**-1.7**
MOD					IAML		08 51 38.5	
	comp=E,14nm,4.4s							
ORV	**Oroville**	**4.82**	**125**	Pn		**Pn**	**08 49 48.7**	**0.0**
WISH	**Wishkah**	**5.10**	**22**	Pn		**Pn**	**08 49 51.4**	**-1.2**
G06A	**Carlson Farm,**	**5.15**	**55**			**Pn**	**08 49 52.5**	**-0.8**
G06A					IAML		08 50 52.3	
	comp=N,15nm,4.3s							
G06A					IAML		08 51 34.9	
	comp=E,14nm,4.9s							
NLWA	**Neilton Lookou**	**5.32**	**20**	Pn		**Pn**	**08 49 54.1**	**-1.6**
NLWA					IAML		08 50 42.4	
	comp=E,15nm,4.6s							
NLWA					IAML		08 50 55.4	
	comp=E,11nm,3.0s							
BEKR	**Beckworth**	**5.37**	**116**	Pn		**Pn**	**08 49 56.9**	**+0.4**
I07A	**Izee**	**5.44**	**70**			**Pn**	**08 49 57.0**	**-0.4**
LON	**Longmire**	**5.51**	**37**			**Pn**	**08 49 58.5**	**+0.2**
AFDM	**Forest Hills D**	**5.52**	**127**	Pn		**Pn**	**08 49 58.7**	**+0.3**
C03A	**Quillayute Air**	**5.70**	**14**	Pn		**Pn**	**08 50 00.2**	**-0.6**
D05A	**Enumclaw**	**5.78**	**33**			**Pn**	**08 50 02.2**	**+0.3**
MPK	**Martis Peak**	**5.89**	**120**	Pn		**Pn**	**08 50 05.5**	**+1.7**
WVOR	**Wild Horse Val**	**5.90**	**87**	Pn		**Pn**	**08 50 02.1**	**-1.6**
B04A	**Port Angeles**	**6.03**	**20**	Pn		**Pn**	**08 50 04.7**	**-0.7**
J08A	**Circle Bar Ran**	**6.04**	**78**			**Pn**	**08 50 04.7**	**-1.0**
G08A	**Pilot Rock**	**6.22**	**60**			**Pn**	**08 50 08.1**	**-0.1**
PNTR	**Pine Nut**	**6.28**	**120**			**Pn**	**08 50 09.9**	**+0.8**
LTY	**Liberty**	**6.41**	**39**			**Pn**	**08 50 11.1**	**+0.4**
HAWA	**Hanford**	**6.43**	**50**	Pn		**Pn**	**08 50 10.7**	**-0.2**
YERR	**Yerington**	**6.57**	**119**			**Pn**	**08 50 14.0**	**+1.0**
PGC	**Sidney**	**6.60**	**19**	Pn		**Pn**	**08 50 11.8**	**-1.4**
WAKR	**Walker**	**6.73**	**123**			**Pn**	**08 50 16.9**	**+1.7**
BMO	**Blue Mountains**	**7.17**	**67**	Pn		**Pn**	**08 50 21.0**	**-0.1**
KVN	**Kaiserville**	**7.29**	**115**			**Pn**	**08 50 24.1**	**+1.2**
LHV	**Little Huntoon**	**7.47**	**121**			**Pn**	**08 50 26.3**	**+1.2**
NVAR	**Mina Array Bea**	**7.49**	**120**	Pn		**Pn**	**08 50 26.3**	**+0.6**
	comp=E,0.4nm,0.3s,baz=297,slow=14,SNR=8.6							
	comp=E,1.4nm,0.6s							
NVAR	**Mina Array Bea**	**7.49**	**120**	Pn		**Pn**	**08 50 26.6**	**+1.0**
F10A	**Beach Ranch, E**	**7.61**	**59**			**Pn**	**08 50 26.4**	**-0.8**
B08A	**Colville Reser**	**7.83**	**38**	Pn		**Pn**	**08 50 30.3**	**+0.2**
MFID	**Camas Ranch**	**7.97**	**79**			**Pn**	**08 50 33.1**	**+0.9**
PLID	**Pearl Lake**	**8.12**	**67**			**Pn**	**08 50 35.5**	**+1.2**
ELK	**Elko**	**8.69**	**97**	Pn		**Pn**	**08 50 44.4**	**+2.4**
	comp=E,0.1nm,0.3s,baz=282,slow=11,SNR=3.2							
ELK					LR	LR	08 54 12.9	
	comp=E,235nm,20.4s,baz=306,slow=39							
	comp=E,1.3nm,0.6s							
NEW	**Newport**	**8.86**	**46**	Pn		**Pn**	**08 50 45.6**	**+1.4**
	comp=E,0.1nm,0.3s,baz=229,slow=20,SNR=3.2							
	comp=E,1.8nm,0.9s							
HLID	**Hailey**	**9.01**	**79**			**Pn**	**08 50 48.0**	**+1.5**
BCYI	**Bear Canyon**	**9.80**	**74**			**Pn**	**08 50 58.5**	**+1.3**
MSO	**Missoula**	**10.04**	**60**	Pn		**Pn**	**08 51 00.3**	**-0.2**
MCMT	**McKenzie Canyo**	**10.26**	**72**			**Pn**	**08 51 03.4**	**-0.2**
BGU	**Big Grassy Mou**	**10.27**	**94**			**Pn**	**08 51 05.4**	**+1.7**
BOZ	**Bozeman (W)**	**11.24**	**69**			**Pn**	**08 51 18.0**	**+1.0**
PDAR	**Pinedale Array**	**12.57**	**83**	Pn		**Pn**	**08 51 37.4**	**+2.1**
	comp=E,0.1nm,0.3s,baz=267,slow=14,SNR=7.0							
PDAR					LR	LR	08 56 41.6	
	comp=E,147nm,19.8s,baz=273,slow=39							
	comp=E,1.7nm,1.1s							
DLBC	**Dease Lake**	**16.16**	**354**	Pn		**P**	**08 52 25.6**	**-0.9**
	comp=E,0.4nm,0.3s,baz=185,slow=11,SNR=5.8							
ANMO	**Albuquerque**	**17.39**	**109**	P		**P**	**08 52 40.4**	**0.0**
	baz=299,slow=11,SNR=5.8							
ANMO					LR	LR	08 59 57.7	
	comp=E,214nm,18.5s,baz=44,slow=39							
	comp=E,2.7nm,1.0s							
YKA	**Yellowknife Ar**	**21.31**	**15**	P		**P**	**08 53 23.0**	**+0.3**
	comp=E,2.1nm,0.8s,baz=206,slow=11,SNR=16							
	comp=E,2.1nm,0.8s							
KDAK	**Kodiak Island**	**22.45**	**322**	LR		LR	09 00 11.6	
	comp=E,105nm,19.5s,baz=88,slow=31							
ULM	**Lac du Bonnet**	**22.49**	**59**	P		**P**	**08 53 35.5**	**0.0**
	comp=E,1.1nm,0.4s,baz=265,slow=12,SNR=2.8							
ULM					LR	LR	09 02 44.0	
	comp=E,122nm,18.6s,baz=178,slow=38							
	comp=E,1.1nm,0.4s							
ILAR	**Eielson Array**	**25.17**	**340**	P		**P**	**08 54 02.2**	**+0.9**
	comp=E,0.4nm,0.8s,baz=150,slow=9.9,SNR=4.5							
	comp=E,0.4nm,0.8s							
TKL	**Tuckaleechee C**	**33.67**	**87**	LR		LR	09 09 37.8	
	comp=E,66nm,18.1s,baz=340,slow=38							
JTS	**Las Juntas de**	**48.42**	**119**	LR		LR	09 18 22.8	
	comp=E,19nm,18.6s,slow=37							
H11N3	**WAKE ISLAND Hy**	**59.75**	**270**	T		T	10 03 21.2	
	baz=51,slow=75,SNR=68							
H11N2	**WAKE ISLAND Hy**	**59.75**	**270**	T		T	10 03 21.3	
	baz=51,slow=75,SNR=62							
H11N1	**WAKE ISLAND Hy**	**59.77**	**270**	T		T	10 03 22.6	
	baz=51,slow=75,SNR=64							
H11S1	**WAKE ISLAND Hy**	**60.66**	**269**	T		T	10 04 27.6	
	baz=50,slow=75,SNR=56							
H11S2	**WAKE ISLAND Hy**	**60.66**	**269**	T		T	10 04 28.1	
	baz=50,slow=75,SNR=40							
H11S3	**WAKE ISLAND Hy**	**60.67**	**269**	T		T	10 04 29.0	
	baz=50,slow=75,SNR=36							

*IDC **06** 09:00:33.0±0.8, 34.°51N×139.°61E, h132km±6km, mb3.1/5, mbtmp3.5/6, MS3.6/2, Error ellipse: s-maj=30.7km s-min=6.6km az=73.0*

*JMA **06** 09:00:33.0±0.2, 34.°6N±0.°7×139.°9E±0.°9, h119km±1km, MV2.8/40, SE OFF BOSO PENINSULA*

ISC 06 09:00:32.6±0.8, 34.°60N±0.°04×139.°90E±0.°06, h126km±6km, n28, σ0s88/34, mb3.4/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.40**	**287**	P	P	**Pn**	**09 00 50.0**	**-0.7**
JIM2					*e*S	**Sn**	**09 01 03.2**	**-1.2**
TATJ	**Tateyama 2**	**0.43**	**359**	P	P	**Pn**	**09 00 51.4**	**+0.6**
JTHY	**Toshimahigashi**	**0.51**	**261**	P	P	**Pn**	**09 00 51.5**	**+0.3**
JTHY					*e*S	**Sn**	**09 01 05.5**	**+0.2**
BSO3	**Boso 3**	**0.54**	**68**	P	P	**Pn**	**09 00 51.8**	**+0.7**
BSO3					X		09 01 06.6	
JMYK	**Miyake Tsubota**	**0.61**	**208**	P	P	**Pn**	**09 00 51.9**	**0.0**
JMYK					S	**Sn**	**09 01 06.7**	**+0.2**
JMKN	**Mikurajimanish**	**0.75**	**200**	P	P	**Pn**	**09 00 52.8**	**-0.2**
JMKN					S	**Sn**	**09 01 08.1**	**-0.2**
JIZS	**Izushimoda**	**0.85**	**278**	P	P	**Pn**	**09 00 54.0**	**+0.2**
JIZS					S	**Sn**	**09 01 09.8**	**+0.1**
BSO1	**Boso 1**	**0.89**	**86**	P	P	**Pn**	**09 00 54.2**	**+0.7**
JOD2	**Odawara 2**	**0.94**	**315**	P	P	**Pn**	**09 00 54.6**	**0.0**
JOD2					*S*	**Sn**	**09 01 10.6**	**-0.6**
JFNN	**Fujinakano**	**1.16**	**301**	*e*P	P	**Pn**	**09 00 57.0**	**+0.4**
JYN	**Shimob**	**1.43**	**309**	P	P	**Pn**	**09 00 59.9**	**+0.3**
SHZ3	**Shizuoka 3**	**1.46**	**289**	*e*P	P	**Pn**	**09 01 00.8**	**+0.8**
JHJ	**Hachijo jima 2**	**1.48**	**184**	P	P	**Pn**	**09 01 00.5**	**+0.3**
	101nm,0.4s,baz=353,slow=16,SNR=1.8							
JHJ					S	**Sn**	**09 01 20.6**	**-0.6**
	144nm,0.2s,baz=73,slow=19,SNR=10.0							
JHJ2	**Mitsune**	**1.49**	**183**	P	P	**Pn**	**09 01 00.4**	**+0.1**
JHJ2					*e*S	**Sn**	**09 01 20.7**	**-0.6**
JRY	**Ryogami san**	**1.63**	**330**	P	P	**Pn**	**09 01 02.2**	**+0.3**
JRY					*e*S	**Sn**	**09 01 23.6**	**-0.8**
JAG	**Ashikaga**	**1.85**	**349**	P	P	**Pn**	**09 01 04.1**	**-0.5**
TK02	**Tokai 2**	**1.89**	**250**	P	P	**Pn**	**09 01 05.7**	**+0.9**
TK02					S	**Sn**	**09 01 31.5**	**+2.1**
MJAR	**Matsushiro Arr**	**2.37**	**325**	P	P	**Pn**	**09 01 10.5**	**-0.5**
	2.9nm,0.3s,baz=162,slow=12,SNR=14							
MJAR					S	**Sn**	**09 01 40.3**	**-0.3**
	4.4nm,0.4s,baz=142,slow=18,SNR=9.2							
PETK	**Petropavlovsk-**	**22.41**	**29**	P	P	**P**	**09 05 23.0**	**+2.4**
	3.3nm,0.8s,baz=226,slow=11,SNR=1.8							
	3.3nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.11**	**115**	T		T	09 36 01.8	
	baz=307,slow=74							
H11N1	**WAKE ISLAND Hy**	**28.11**	**115**	T		T	09 35 40.8	
	baz=307,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.12**	**115**	T		T	09 35 59.4	
	baz=307							
BRDH	**Bariadhala**	**43.62**	**267**	LR		LR	09 29 43.0	
	comp=Z,158nm,18.5s,baz=121,slow=40							
KAPI	**Kappang**	**43.74**	**210**	LR		LR	09 26 07.3	
	comp=Z,42nm,21.0s,baz=68,slow=35							
MKAR	**Makanchi Array**	**44.41**	**304**	P		**P**	**09 08 30.1**	**-0.6**
	0.2nm,0.7s,baz=74,slow=8.8,SNR=1.5							
	0.2nm,0.7s							
ILAR	**Eielson Array**	**52.21**	**31**	P		**P**	**09 09 30.9**	**+0.7**
	0.5nm,1.0s,baz=244,slow=7.9,SNR=3.0							
	0.5nm,1.0s							
WRA	**Warramunga Arr**	**54.50**	**186**	P		**P**	**09 09 45.7**	**-1.7**
	0.8nm,0.5s,baz=0.6,slow=7.5,SNR=11							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**58.23**	**186**	P		**P**	**09 10 12.6**	**-1.2**
	0.2nm,0.4s,baz=2.7,slow=6.3,SNR=6.9							
	0.2nm,0.4s							

*DDA **06** 09:01:43.8±0.0, 38.°99N×27.°63E, h7km±1km, ML1.4*

*ISK **06** 09:01:44.7, 38.°96N×27.°66E, h4km, ML2.6/8*

ISC 06 09:01:44.7±1.0, 38.°99N±0.°03×27.°65E±0.°05, h7km±13km, n11, σ0s69/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.17**	**131**		Pg	**Pg**	**09 01 48.2**	**-0.1**
AKS					Sg	**Sg**	**09 01 51.1**	**+0.5**
AKHS	**Akhisar**	**0.17**	**131**		P	**Pg**	**09 01 47.8**	**-0.5**
AKHS					S	**Sg**	**09 01 51.0**	**+0.3**
AKHS					*i* AML	AML	09 01 51.0	
	comp=E,102nm,0.3s							
BALB	**Balikesir**	**0.67**	**16**		Pg	**Pb**	**09 01 58.9**	**+0.1**
BALY	**Balya**	**0.75**	**359**		P	**Pg**	**09 01 57.6**	**-1.5**
BALY					S	**Sg**	**09 02 09.2**	**+0.4**
BALY					*i* AML	AML	09 02 10.0	
	comp=E,38nm,1.5s							
BALY					*i* AML	AML	09 02 14.0	
	comp=N,15nm,0.3s							
BLCB	**Balcova**	**0.77**	**218**		Pg	**Pb**	**09 01 59.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**169**		Pg	**Pn**	**09 02 05.2**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**1.13**	**312**		P	**Pg**	**09 02 06.3**	**-0.1**
BAYC					S	**Sb**	**09 02 21.6**	**0.0**
CHOS	**Chios island**	**1.38**	**245**		Pn	**Pg**	**09 02 11.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.39**	**23**		Pn	**Pg**	**09 02 11.9**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.67**	**328**		Pn	**Pb**	**09 02 16.0**	**+0.2**
DAT	**Datca**	**2.26**	**181**		Pn	**Pn**	**09 02 23.5**	**+0.9**

*CNRM **06** 09:04:25.6, 37.°20N×2.°44W, h0km, ml2.3*

*SFS **06** 09:04:30.2, 37.°33N×2.°39W, h4km, ML2.7/11, MLv2.7/11*

*MDD **06** 09:04:30.3±0.3, 37.°31N×2.°34W, h11km, mb_Lg2.6/21, Error ellipse: s-maj=2.8km s-min=1.5km az=163.0*

*INMG **06** 09:04:30.7±1.5, 37.°29N×2.°33W, h14km±3km, ML2.1, Error ellipse: s-maj=2.5km s-min=1.7km az=162.0*

ISC 06 09:04:28.8±1.0, 37.°33N±0.°02×2.°35W±0.°02, h18km±8km, n48, σ1s27/97, 1C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.37**	**162**		S	**Sg**	**09 04 42.8**	**+1.0**
ENIJ					P	**Pb**	**09 04 37.5**	**+0.6**
ENIJ	**Nijar**	**0.37**	**162**	↓	Pg	**Pb**	**09 04 37.5**	**+0.6**
ENIJ					Sg	**Sg**	**09 04 42.2**	**+0.4**
ENIJ					*i* Vmb_Lg		09 04 42.9	
ELOR	**Lorca, Murcia**	**0.57**	**57**		Pg	**Pb**	**09 04 40.8**	**+0.4**
ELOR					Sg	**Sb**	**09 04 49.1**	**+0.8**
ELOR					*i* Vmb_Lg		09 04 53.0	
TLOR	**Lorca, Murcia**	**0.62**	**58**		P	**Pn**	**09 04 41.9**	**-0.9**
TLOR	**Lorca, Murcia**	**0.62**	**58**		Pg	**Pb**	**09 04 41.4**	**+0.2**
TLOR					Sg	**Sn**	**09 04 51.2**	**-1.2**
EQES	**Quesada**	**0.74**	**310**		Pg	**Pn**	**09 04 45.2**	**+0.6**
EQES					Sg	**Sn**	**09 04 55.6**	**+0.1**
EQES					*i* Vmb_Lg		09 05 00.6	
EZAR	**Zarzadilla de**	**0.76**	**43**		Pg	**Pb**	**09 04 43.6**	**+0.1**
EZAR					Sg	**Sn**	**09 04 54.8**	**-1.1**
EZAR					*i* Vmb_Lg		09 04 59.0	
EQUE	**Quentar**	**0.88**	**262**	↑	Pg	**Pg**	**09 04 45.6**	**-0.3**
EQUE					Sg	**Sg**	**09 04 56.6**	**-0.8**
EQUE					*i* Vmb_Lg		09 05 02.4	
EMUR	**La Murta**	**1.02**	**59**		P	**Pn**	**09 04 49.4**	**+1.0**
EMUR	**La Murta**	**1.02**	**59**		Pg	**Pn**	**09 04 49.2**	**+0.8**
EMUR					Sg	**Sn**	**09 05 03.1**	**+0.8**
EMUR					*i* Vmb_Lg		09 05 05.4	
CART	**Cartagena**	**1.11**	**76**		P	**Pb**	**09 04 49.2**	**-0.2**
CART					S	**Sn**	**09 05 04.6**	**+0.3**
CART	**Cartagena**	**1.11**	**76**		P	**Pn**	**09 04 49.6**	**+0.1**
ELGU	**Los Guajares,**	**1.12**	**246**		P	**Pb**	**09 04 49.7**	**+0.1**
ELGU	**Los Guajares,**	**1.12**	**246**		Pg	**Pb**	**09 04 49.8**	**+0.1**
ELGU					Sg	**Sb**	**09 05 02.4**	**-1.5**
ELGU					*i* Vmb_Lg		09 05 12.9	
EGOR	**Sierra Gorda,**	**1.42**	**262**		P	**Pb**	**09 04 55.9**	**+1.1**
EGOR	**Sierra Gorda,**	**1.42**	**262**		Pn	**Pb**	**09 04 56.0**	**+1.1**
EGOR					Pg	**Pg**	**09 04 57.6**	**+1.5**
EGOR					Sg	**Sg**	**09 05 16.5**	**+1.8**
EGOR					*i* Vmb_Lg		09 05 22.3	
ETOB	**Tobarra**	**1.46**	**26**		P	**Pg**	**09 04 56.2**	**-0.8**
ETOB					S	**Sg**	**09 05 16.2**	**+0.1**
ETOB	**Tobarra**	**1.46**	**26**		Pn	**Pg**	**09 04 56.1**	**-0.8**
ETOB					Pg	**Pb**	**09 04 57.8**	**+2.3**
ETOB					Sg	**Sg**	**09 05 16.1**	**+0.1**
ETOB					*i* Vmb_Lg		09 05 22.7	
EADA	**Adamuz**	**1.95**	**296**		P	**Pn**	**09 05 02.6**	**+1.4**
EADA	**Adamuz**	**1.95**	**296**		Pn	**Pn**	**09 05 02.7**	**+1.5**
EADA					Sn	**Sn**	**09 05 25.3**	**0.0**
EADA					Sg	**Sg**	**09 05 30.7**	**-1.0**
EADA					*i* Vmb_Lg		09 05 34.3	
AFON	**Font Roja**	**1.96**	**46**		Pg	**Pb**	**09 05 03.6**	**-0.4**
AFON					Sg	**Sg**	**09 05 30.9**	**-1.0**
ECHE	**Chera**	**2.51**	**25**		Pg	**Pg**	**09 05 16.9**	**0.0**
ECHE					Sn	**Sn**	**09 05 40.6**	**+1.6**
ECHE					Sg	**Sg**	**09 05 49.4**	**-0.1**
ECAB	**El Cabril**	**2.54**	**288**		P	**Pn**	**09 05 10.6**	**+1.3**
ECAB					S	**Sn**	**09 05 41.1**	**+1.2**
ECAB	**El Cabril**	**2.54**	**288**		Pn	**Pn**	**09 05 10.6**	**+1.3**
ECAB					Sn	**Sn**	**09 05 41.2**	**+1.4**
ECAB					Sg	**Sg**	**09 05 49.5**	**-1.1**
ECAB					*i* Vmb_Lg		09 05 53.0	
ESDC	**Sonseca Array**	**2.66**	**332**		Pg	**Pg**	**09 05 19.0**	**-0.9**
ESDC					Sn	**Sn**	**09 05 43.0**	**+0.2**
ESDC					Sg	**Sg**	**09 05 54.6**	**+0.2**
ESDC					*i* Vmb_Lg		09 05 59.8	
PAB	**San Pablo**	**2.71**	**325**		Pn	**Pn**	**09 05 13.0**	**+1.3**
PAB					Pg	**Pg**	**09 05 19.5**	**-1.4**
PAB					Sn	**Sn**	**09 05 43.6**	**-0.5**
PAB					Sg	**Sg**	**09 05 55.0**	**-1.1**
PAB					*i* Vmb_Lg		09 05 58.9	
JBK	**JBK**	**2.99**	**183**		P	**Pn**	**09 05 15.7**	**+0.1**
JBK					S	**Sn**	**09 05 49.0**	**-2.0**
EMIN	**Mina Concepcio**	**3.46**	**279**		S	**Sn**	**09 06 02.3**	**-0.1**
EMIN	**Mina Concepcio**	**3.46**	**279**		Pn	**Pn**	**09 05 23.2**	**+1.4**
EMIN					Sn	**Sn**	**09 06 02.5**	**+0.1**
EMIN					Sg	**Sg**	**09 06 16.4**	**-3.6**
EMIN					*i* Vmb_Lg		09 06 22.5	
ETOR	**Tor

comp=E,12nm,1.0s,comp=E,16nm,1.2s
JMTN Minamitane 1.30 19 P **Pn 09 04 54.8 -0.8**
JMTN *eS* **Sn 09 05 12.0 +0.2**
JMTN Minamitane 1.30 19 A A 09 04 54.8
comp=E,28nm,1.9s,comp=E,14nm,2.7s
JKC Kuchinoerabu 1.31 351 *i* P **Pn 09 04 55.6 -0.1**
JKC S **Sn 09 05 12.9 +0.9**
JKC Kuchinoerabu 1.31 351 A A 09 04 55.6
comp=E,10.0nm,1.8s,comp=E,11nm,1.5s
JAMN Amaminishikomi 1.43 230 P **Pn 09 04 58.3 +1.0**
JTN Tanegashima 3 1.56 18 P **Pn 09 04 58.5 -0.7**
JTN Tanegashima 3 1.56 18 A A 09 04 58.5
comp=E,11nm,1.6s,comp=E,13nm,1.7s
JTK Tokunoshima 1.89 224 *eP* **Pn 09 05 04.9 +1.2**
JTK Tokunoshima 1.89 224 A A 09 05 04.9
comp=E,4.0nm,2.2s,comp=E,4.0nm,3.0s
JTSR Tashiro 2 2.04 12 P **Pn 09 05 05.4 -0.4**
JTSR Tashiro 2 2.04 12 A A 09 05 05.4
comp=E,5.0nm,1.8s,comp=E,6.0nm,1.5s
JSU Suzuyama 2.33 1 Pn **Pn 09 05 09.3 -0.6**
JSU Suzuyama 2.33 1 P **Pn 09 05 09.6 -0.3**
JSU Suzuyama 2.33 1 P **Pn 09 05 09.2 -0.6**
JNAR Kushima--Naru 2.47 17 P **Pn 09 05 12.0 +0.3**
JNAR Kushima--Naru 2.47 17 A A 09 05 12.0
comp=E,6.0nm,2.8s,comp=E,9.0nm,1.6s
JSJ Shimokoshiki 2.58 347 P **Pn 09 05 12.5 -0.7**
JNKG Nichinankitago 2.62 18 A A 09 05 13.4
comp=E,5.0nm,3.6s,comp=E,5.0nm,3.7s
JOW Kunigami 3.00 220 P **Pn 09 05 19.9 +0.9**
4.0nm,0.3s,baz=122,slow=24,SNR=24
JOW S **Sn 09 05 56.1 +2.4**
76nm,0.2s,baz=36,slow=13,SNR=4.5
JOW LR LR 09 06 51.3
comp=Z,1µm,18.2s,baz=100,slow=45
20nm,0.3s
JOW Kunigami 3.00 220 Pn **Pn 09 05 18.1 -0.9**
JMZ Minamidaito 2 3.41 168 Pn **Pn 09 05 24.0 -0.6**
JNU Nakatsue 3.96 6 P **Pn 09 05 32.3 0.0**
5.6nm,0.3s,baz=187,slow=14,SNR=204
JNU S **Sn 09 06 17.1 -0.5**
66nm,0.7s,baz=73,slow=16,SNR=1.1
96nm,0.7s
JNU Nakatsue 3.96 6 Pn **Pn 09 05 31.7 -0.6**
JNU Nakatsue 3.96 6 P **Pn 09 05 32.8 +0.5**
JTU Tsushima 5.41 351 Pn **Pn 09 05 51.0 -1.2**
JTU Tsushima 5.41 351 P **Pn 09 05 54.0 +1.9**
JMN Monobe 5.42 32 Pn **Pn 09 05 51.5 -0.9**
JMN Monobe 5.42 32 P **Pn 09 05 52.4 0.0**
JHS Saijyo 6.25 21 Pn **Pn 09 06 03.1 -0.6**
JHS Saijyo 6.25 21 P **Pn 09 06 03.2 -0.5**
TJN Taejon 7.64 341 Pn **Pn 09 06 22.0 -0.6**
YOJ Yonaguni jima 8.11 236 Pn **Pn 09 06 27.1 -2.0**
SSE Sheshan 8.22 286 P **Pn 09 06 28.6 -2.1**
SSE S **Sn 09 08 01.0 -1.4**
SSE pmax pmax
comp=Z,23nm,0.7s
SSE pmax pmax
comp=Z,230nm,4.9s
SSE LR LR
comp=N,210nm,16.7s
SSE LR LR
comp=E,420nm,16.6s
INU Inuyama 8.32 40 **Pn 09 06 31.7 -0.3**
INU Inuyama 8.32 40 P **Pn 09 06 33.7 +1.7**
KSAR Wonju Array Be 8.52 346 Pn **Pn 09 06 31.9 -2.9**
KSRS Korea Array 8.53 346 P **Pn 09 06 36.6 +1.8**
7.3nm,0.8s,baz=156,slow=15,SNR=25
KSRS LR LR 09 10 07.3
comp=Z,528nm,19.8s,baz=165,slow=40
KS19 Wonju Array Si 8.58 346 **Pn 09 06 33.7 -1.9**
JGF Kuroka 8.69 41 **Pn 09 06 36.2 -1.0**
JGF Kuroka 8.69 41 P **Pn 09 06 36.7 -0.5**
JHJ Hachijo jima 2 8.94 61 LR LR 09 09 46.7
comp=Z,254nm,19.4s,baz=270,slow=35
JHJ2 Mitsune 8.96 62 Pn **Pn 09 06 37.1 -3.7**
MAJO Matsushiro 9.85 40 Pn **Pn 09 06 51.6 -1.3**
MJAR Matsushiro Arr 9.85 40 P **Pn 09 06 53.2 +0.2**
0.1nm,0.3s,baz=84,slow=9.9,SNR=2.8
0.7nm,0.5s
MJB9 Matsu-Tunnel 9.85 40 Pn **Pn 09 06 50.9 -2.1**
YULB Yu-li 10.00 237 Pn **Pn 09 06 52.0 -3.1**
SSLB Suanglung 10.03 240 Pn **Pn 09 06 52.4 -3.1**
NJ2 Nanjing 10.37 289 *eP* **Pn 09 06 59.4 -0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=N,550nm,15.2s
NJ2 LR LR
comp=E,1µm,14.2s
NJ2 LR LR
comp=Z,1µm,13.7s
JCJ Chichijima 10.59 98 LR LR 09 10 34.9
comp=Z,285nm,20.2s,baz=73,slow=34
TIA Tai'an 13.21 306 *eP* **Pn 09 07 41.3 +2.3**
TIA S **Sn 09 10 09.9 +5.3**
TIA pmax pmax
comp=Z,5.0nm,0.8s
TIA LR LR
comp=N,580nm,11.4s
TIA LR LR
comp=E,810nm,12.8s
TIA LR LR
comp=Z,1µm,14.2s
USRK Ussuriysk Ar. 15.06 4 P **Pn 09 08 03.6 -0.3**
0.3nm,0.3s,baz=137,slow=22,SNR=3.3
1.0nm,0.6s
HNS HongShan 15.48 306 ⇓P **P 09 08 14.6 +1.3**
HNS *eS* **S 09 11 06.8 -7.4**
HNS pmax pmax
comp=Z,19nm,0.9s
HNS LR LR
comp=N,440nm,15.7s
HNS LR LR
comp=E,880nm,13.3s
HNS LR LR
comp=Z,850nm,14.7s
BJT Baijiatuau 15.95 317 P **P 09 08 17.5 -1.0**
ASAJ Asahikawa 17.81 30 P **Pn 09 08 38.0 -0.6**
0.3nm,0.3s,baz=227,slow=16,SNR=4.3
ASAJ LR LR 09 15 29.3
comp=Z,234nm,20.9s,baz=250,slow=37
4.1nm,0.7s
JKA Kamikawa-asahi 17.81 30 P **Pn 09 08 38.0 -0.7**
ENH Enshi 18.22 279 P **P 09 08 43.7 0.0**
XLT XiLinHaoTe 18.64 326 *i* P **Pn 09 08 50.0 +1.1**
XLT pP pP 09 08 53.1 -4.9
XLT sP sP 09 08 58.2 -4.8
XLT PP **PnPn 09 09 09.6 +8.2**
XLT S **S 09 12 21.1 +2.5**
XLT sS Sn 09 12 23.2 +6.8
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,150nm,6.6s
XLT LR LR
comp=N,61nm,16.3s
XLT LR LR
comp=E,500nm,15.6s
XLT LR LR
comp=Z,800nm,17.0s
XAN Xi'an 18.94 290 P **P 09 08 51.7 +0.1**
XAN S **Sn 09 12 20.7 -2.9**
XAN pmax pmax
comp=Z,17nm,0.6s
XAN pmax pmax
comp=Z,210nm,4.3s
XAN LR LR
comp=N,340nm,9.8s
XAN LR LR
comp=E,530nm,13.1s
XAN LR LR
comp=Z,550nm,10.8s
HHC Hu-ho-hao-te 19.31 312 *eP* **P 09 08 51.8 -3.9**
HHC S **S 09 12 26.2 -5.9**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,180nm,4.7s
HHC LR LR
comp=N,610nm,13.3s
HHC LR LR
comp=E,790nm,12.7s
HHC LR LR
comp=Z,1µm,13.3s
KLR Kul'dur 20.06 3 P **P 09 09 02.5 -1.2**
comp=Z,0.3nm,0.3s,baz=185,slow=6.8,SNR=44
KLR LR LR 09 17 17.3
comp=Z,188nm,18.7s,baz=178,slow=38
comp=Z,9.1nm,0.8s
YSS Yuzh-Sakhalins 20.20 25 P **P 09 09 04.2 -0.9**
GUMO Guam 20.49 136 LR LR 09 16 16.0
comp=Z,111nm,18.2s,baz=332,slow=34
HEH HeiHe 21.19 355 *eP* **P 09 09 16.0 +0.2**
HEH pmax pmax
comp=Z,4.0nm,0.8s
HEH LR LR
comp=Z,170nm,13.1s
HEH LR LR
comp=Z,400nm,14.4s
HEH LR LR
comp=Z,340nm,17.2s
QIZ Qiongzhong 21.29 246 P **P 09 09 16.1 -1.1**
QIZ IAmb IAmb 09 09 17.2
comp=Z,35nm,1.3s
HIA Hailar 21.67 341 P **P 09 09 20.8 -0.3**
CD2 Chengdu 23.13 281 P **P 09 09 37.0 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.9s
LZH Lanzhou 23.38 294 *eP* **P 09 09 41.0 +1.7**
LZH pP pP 09 09 44.5 -4.9
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=Z,270nm,12.2s
LZH LR LR
comp=Z,650nm,14.1s
LZH LR LR
comp=Z,700nm,14.8s
KMI Kunming 24.93 267 ⇑P **P 09 09 54.9 +1.1**
KMI pmax pmax
comp=Z,22nm,1.0s
KMI LR LR
comp=Z,280nm,14.7s
KMI LR LR
comp=Z,560nm,13.8s
KMI LR LR
comp=Z,560nm,13.1s
PZH PanZhiHua 25.47 271 P **P 09 09 58.8 +0.2**
PZH S **S 09 14 25.1 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.5s
PZH LR LR
comp=Z,810nm,19.6s
PZH LR LR
comp=Z,800nm,18.6s
PZH LR LR
comp=Z,820nm,17.2s
ULN Ulaanbaatar 25.96 322 P **P 09 10 02.0 -0.9**
SONM Songino Array 26.30 322 P **P 09 10 04.0 -1.9**
comp=Z,1.4nm,0.7s,baz=141,slow=9.5,SNR=9.6
SONM LR LR 09 21 51.6
comp=Z,528nm,18.0s,baz=170,slow=40
comp=Z,1.4nm,0.7s
SONM Songino Array 26.30 322 P **P 09 10 04.2 -1.6**
GTA Gaotai 27.16 300 *eP* **P 09 10 15.4 +1.7**
GTA sP pP 09 10 26.0 +1.6
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,6.9s
GTA LR LR
comp=Z,290nm,16.4s
GTA LR LR
comp=Z,520nm,16.0s
GTA LR LR
comp=Z,570nm,17.4s
TNCH TengChong 28.65 269 P **P 09 10 28.7 +1.5**
TNCH pmax pmax
comp=Z,160nm,4.9s
SIJI Sorong 29.88 178 LR LR 09 21 18.5
comp=Z,132nm,20.3s,baz=224,slow=34
CMAR Chiang Mai Arr 30.62 257 P **P 09 10 43.9 -0.6**
comp=Z,1.3nm,0.3s,baz=50,slow=8.4,SNR=4.7
comp=Z,1.3nm,0.3s
PETK Petropavlovsk- 31.19 32 LR LR 09 23 44.9
comp=Z,86nm,19.3s,baz=220,slow=37
MA2 Magadan 33.42 19 LR LR 09 25 42.2
comp=Z,103nm,19.5s,baz=258,slow=38
LSA Lhasa 34.09 281 P **P 09 11 14.8 -0.6**
LSA IAmb IAmb 09 11 17.7
comp=Z,7.9nm,0.9s
SHL Shillong 34.31 273 P **P 09 11 16.2 -0.8**
SHL IAmb IAmb 09 11 17.4
comp=Z,14nm,0.8s
H11S3 WAKE ISLAND Hy 34.71 100 T T 09 49 30.5
baz=294
H11S1 WAKE ISLAND Hy 34.71 100 T T 09 49 31.4
baz=294
H11S2 WAKE ISLAND Hy 34.73 100 T T 09 49 34.0
baz=294
SEY Seymchan 36.66 17 P **P 09 11 36.3 -0.2**
comp=Z,2.6nm,0.8s,baz=271,slow=5.3,SNR=5.8
comp=Z,2.6nm,0.8s
WMQ Urumqi 36.91 305 *eP* **P 09 11 40.7 +1.8**
WMQ PcP **PcP 09 14 01.9 +2.1**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ LR LR
comp=Z,160nm,19.5s
BATI Baumata 39.68 190 LR LR 09 28 10.4
comp=Z,34nm,21.7s,baz=12,slow=36
MK31 Makanchi Array 41.12 309 P **P 09 12 14.3 +0.2**
MKAR Makanchi Array 41.12 309 P **P 09 12 14.2 +0.1**
comp=Z,2.3nm,0.7s,baz=95,slow=9.6,SNR=24
MKAR PcP **PcP 09 14 12.3 -0.7**
comp=Z,0.9nm,0.8s,baz=116,slow=1.3,SNR=5.0
MKAR LR LR 09 31 09.5
comp=Z,138nm,18.1s,baz=131,slow=39
comp=Z,2.3nm,0.7s
ZAA0 Zalesovo Array 41.17 320 P **P 09 12 13.7 -0.6**
ZALV Zalesovo Beam 41.17 320 P **P 09 12 13.8 -0.5**
comp=Z,2.1nm,0.6s,baz=108,slow=7.7,SNR=9.7
ZALV LR LR 09 30 44.3
comp=Z,169nm,18.9s,baz=122,slow=38
comp=Z,2.1nm,0.6s
ZALV Zalesovo Beam 41.17 320 P **P 09 12 13.7 -0.6**
MAKZ Makanchi 41.33 309 P **P 09 12 15.4 -0.4**
PMG Port Moresby 41.61 155 LR LR 09 27 05.7
comp=Z,66nm,21.6s,baz=322,slow=32
TIXI Tiksi 42.54 359 LR LR 09 32 38.2
comp=Z,149nm,18.5s,baz=22,slow=40
TARG Taragay, Kyrgy 44.03 301 P **P 09 12 38.6 +0.3**
KURK Kurchatov 44.10 314 P **P 09 12 37.3 -0.9**
COEN Coen 44.60 162 P **P 09 12 41.7 -0.8**
COEN IAmb IAmb 09 12 48.8
comp=Z,12nm,1.1s
AAK Ala-Archa 46.47 303 LR LR 09 34 59.4
comp=Z,176nm,19.1s,baz=96,slow=39
NRIK Noril'sk 47.09 341 P **P 09 13 00.2 -1.3**
comp=Z,9.4nm,0.7s,baz=118,slow=8.9,SNR=15
comp=Z,9.4nm,0.7s
NRIK Noril'sk 47.09 341 P **P 09 13 00.4 -1.2**
FITZ Fitzroy Crossi 47.21 186 P **P 09 13 04.1 +1.1**
NIL Nilore 48.48 291 P **P 09 13 11.9 -0.9**
WRAB Tennant Creek 48.96 175 P **P 09 13 16.7 +0.3**
WRAB IAmb IAmb 09 13 43.1
comp=Z,6.8nm,1.1s
WRA Warramunga Arr 48.97 175 P **P 09 13 19.0 +2.5**
comp=Z,0.6nm,0.8s,baz=354,slow=8.0,SNR=2.8
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 48.97 175 P **P 09 13 17.5 +1.0**
WB2 Warramunga Arr 48.97 175 P **P 09 13 16.7 +0.2**
WB2 IAmb IAmb 09 13 33.7
comp=Z,5.6nm,0.8s
WR0 Warramunga Arr 49.00 175 P **P 09 13 16.6 -0.1**
WR0 IAmb IAmb 09 13 33.5
comp=Z,9.7nm,1.1s
KK31 Karatay Array 49.36 303 P **P 09 13 19.2 -0.2**
KK31 IAmb IAmb 09 13 21.3
comp=Z,4.5nm,0.8s
KKAR Karatay Array 49.36 303 P **P 09 13 19.6 +0.2**
BVAR Borovoye Array 49.44 316 LR LR 09 37 20.1
comp=Z,88nm,18.6s,baz=91,slow=40
BRVK Borovoye 49.50 317 P **P 09 13 20.3 0.0**
GAR Garm 49.94 298 P **P 09 13 23.5 -0.5**
CTA Charters Tower 51.29 161 LR LR 09 33 59.6
comp=Z,58nm,19.9s,baz=284,slow=34
KBL Kabul 51.72 293 P **P 09 13 37.9 +0.2**
KBL IAmb IAmb 09 13 39.5
comp=Z,8.0nm,0.9s
ASAR Alice Springs 52.63 176 P **P 09 13 44.9 +0.8**
comp=Z,0.6nm,0.8s,baz=7.5,slow=12,SNR=8.5
comp=Z,0.6nm,0.8s
ABKAR Akbulak array 56.10 312 P **P 09 14 09.4 +0.3**
ABKAR Akbulak array 56.10 312 P **P 09 14 09.6 +0.5**
ABKAR IAmb IAmb 09 14 10.2
comp=Z,22nm,0.7s
ARU Arti 56.33 321 LR LR 09 40 52.2
comp=Z,229nm,18.0s,baz=81,slow=39
ARU Arti 56.33 321 P **P 09 14 10.9 +0.3**
AKTO Aktyubinsk 57.19 314 LR LR 09 40 55.3
comp=Z,358nm,18.7s,baz=49,slow=38
J20K Nowinta River 57.85 30 P **P 09 14 22.7 +1.5**
J20K IAmb IAmb 09 14 36.7
comp=Z,10nm,1.4s
IMAR Indian Mountai 58.00 28 P **P 09 14 22.8 +0.6**
I21K Tanana 58.75 29 P **P 09 14 28.6 +1.1**
I21K IAmb IAmb 09 14 29.9
comp=Z,3.3nm,0.8s
PPLA Purkeypile 58.77 32 P **P 09 14 28.4 +0.6**
CAST Castle Rocks 58.79 31 P **P 09 14 28.6 +0.7**
CAST IAmb IAmb 09 14 53.3
comp=Z,8.9nm,1.4s
MLY Manley 59.28 29 P **P 09 14 32.4 +1.1**
MLY IAmb IAmb 09 14 52.6
comp=Z,4.4nm,1.1s
GEYT Alibeck 59.53 299 LR LR 09 45 54.6
comp=Z,96nm,19.0s,baz=54,slow=42
GEYT Alibeck 59.53 299 P **P 09 14 34.0 +0.5**
GEYT IAmb IAmb 09 14 51.9
comp=Z,7.0nm,1.4s
GYA0B ALIBECK ARRAY 59.53 299 P **P 09 14 31.8 -1.6**
GYA0B IAmb IAmb 09 14 55.8
comp=Z,3.2nm,0.7s
H23K Yukon River 59.73 28 P **P 09 14 35.7 +1.4**
H23K IAmb IAmb 09 14 36.4
comp=Z,4.4nm,0.9s
NEA2 Nenana 60.03 29 P **P 09 14 37.0 +0.7**
NEA2 IAmb IAmb 09 14 38.0
comp=Z,6.9nm,1.0s
FUNA Funafuti 60.09 121 P **P 09 14 36.4 -1.0**
MDM Murphy Dome 60.35 29 P **P 09 14 39.6 +1.0**
MDM IAmb IAmb 09 14 40.8
comp=Z,8.6nm,0.9s
POKR Poker Plat Res 60.67 29 P **P 09 14 41.1 +0.4**
POKR IAmb IAmb 09 14 42.7
comp=Z,6.9nm,0.8s
IL31 60.94 29 P **P 09 14 41.9 -0.7**
IL31 IAmb IAmb 09 14 45.7
comp=Z,7.2nm,1.4s
ILAR Eielson Array 60.94 29 P **P 09 14 42.0 -0.5**
comp=Z,1.2nm,0.7s,baz=268,slow=5.2,SNR=17
comp=Z,1.2nm,0.7s
ILAR Eielson Array 60.94 29 P **P 09 14 41.3 -1.3**
HDA Harding Lake 60.96 30 P **P 09 14 42.4 -0.3**
HDA IAmb IAmb 09 14 43.7
comp=Z,5.3nm,1.0s
KIRV Kirov 61.01 324 LR LR 09 43 52.0
comp=Z,130nm,19.2s,baz=38,slow=39
PRP Porcupine Dome 61.41 28 P **P 09 14 46.3 +0.4**
PRP IAmb IAmb 09 14 48.3
comp=Z,3.0nm,0.8s
BMAR Burnt Mountain 61.53 26 P **P 09 14 47.9 +1.3**
DZM Mont Dumac 61.64 142 LR LR 09 38 55.3
comp=Z,35nm,21.4s,baz=89,slow=33
M26K Nabesna, AK 63.04 31 P **P 09 14 56.7 -0.1**
M26K IAmb IAmb 09 14 58.5
comp=Z,5.8nm,0.8s
K27K Chicken 63.12 30 P **P 09 14 58.2 +1.0**
K27K IAmb IAmb 09 15 02.4
comp=Z,7.3nm,1.4s
BELG Belogornoye 63.23 317 LR LR 09 43 37.5
comp=Z,90nm,18.6s,baz=32,slow=37
EGAK Eagle 63.36 29 P **P 09 14 59.0 +0.3**
EGAK IAmb IAmb 09 14 59.4
comp=Z,8.7nm,1.5s
L27K Beaver Creek, 63.43 31 P **P 09 15 00.8 +1.4**
L27K IAmb IAmb 09 15 19.5
comp=Z,8.0nm,1.5s
BCAR Beaver Creek A 63.45 31 P **P 09 14 59.6 +0.2**
EPYK Eagle Plains 64.78 26 P **P 09 15 09.1 +1.0**
INK Inuvik 65.43 24 P **P 09 15 12.1 -0.1**
comp=Z,1.4nm,0.7s,baz=258,slow=2.7,SNR=3.1
INK LR LR 09 46 39.9
comp=Z,72nm,18.3s,baz=276,slow=39
comp=Z,1.4nm,0.7s
M30M Minto, Yukon 65.79 30 P **P 09 15 15.1 +0.4**
A36M Sachs Harbour 66.83 19 P **P 09 15 21.8 +0.6**
A36M IAmb IAmb 09 15 27.2
comp=Z,7.1nm,0.8s
ARCES ARCESS Array B 68.00 338 LR LR 09 49 58.5
comp=Z,197nm,18.1s,baz=82,slow=40
ARCES ARCESS Array B 68.00 338 **P 09 15 28.2 -0.4**
KBZ Khabaz 68.82 309 P **P 09 15 34.9 +0.7**
comp=Z,11nm,0.9s,baz=154,slow=1.1,SNR=16
comp=Z,11nm,0.9s
ONI Oni 68.83 308 P **P 09 15 35.7 +1.3**
ONI IAmb IAmb 09 15 36.9
comp=Z,7.2nm,0.9s
KIV Kislovodsk 68.88 309 P **P 09 15 35.2 +0.6**
EUNU Eureka 69.16 6 P **P 09 15 36.1 +0.3**
EUNU IAmb IAmb 09 15 36.7
comp=Z,3.0nm,0.8s
AKH Akhalkalaki 69.22 307 P **P 09 15 37.3 +0.3**
FIA1 FINESS Array S 71.27 331 P **P 09 15 48.9 +0.1**
FINES FINESS Array B 71.27 331 P **P 09 15 47.3 -1.5**
comp=Z,2.7nm,0.7s,baz=69,slow=5.3,SNR=8.4
FINES LR LR 09 51 01.6
comp=Z,147nm,18.5s,baz=58,slow=39
comp=Z,2.7nm,0.7s
FINES FINESS Array B 71.27 331 P **P 09 15 47.9 -1.0**
GURO Guroymak-BITLI 71.33 304 P **P 09 15 51.0 +1.2**
GURO IAmb IAmb 09 15 52.2
comp=Z,7.7nm,0.8s
RES Resolute Bay 72.30 11 LR LR 09 51 02.3
comp=Z,44nm,18.1s,baz=3.0,slow=39
RES Resolute Bay 72.30 11 P **P 09 15 55.9 +1.0**
RES IAmb IAmb 09 16 06.5
comp=Z,8.6nm,1.0s
MARD Mardin 72.72 303 P **P 09 15 59.2 +1.0**
NACGM Naroch 73.94 324 *eP* **P 09 16 04.6 -0.3**
comp=Z,16nm,1.1s,baz=62
AKASG Malin Array Be 74.56 320 P **P 09 16 08.1 -0.5**
comp=Z,3.7nm,0.6s,baz=55,slow=6.3,SNR=25
AKASG LR LR 09 50 59.8
comp=Z,171nm,18.7s,baz=60,slow=37
comp=Z,3.7nm,0.6s
AKASG Malin Array Be 74.56 320 P **P 09 16 08.6 +0.1**
AKBB Malin Array Si 74.56 320 P **P 09 16 08.3 -0.3**
AKBB IAmb IAmb 09 16 27.3
comp=Z,17nm,1.4s
RAYN Ar Rayn 74.72 289 P **P 09 16 10.5 +0.4**
RAYN IAmb IAmb 09 16 11.4
comp=Z,5.5nm,0.9s
YKA Yellowknife Ar 75.05 26 P **P 09 16 11.6 +0.4**
comp=Z,1.2nm,0.8s,baz=304,slow=6.0,SNR=9.3
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 75.05 26 P **P 09 16 10.2 -1.0**
PABE Paberze 75.06 326 P **P 09 16 10.9 -0.4**
BR131 Keskin Array S 76.76 308 P **P 09 16 21.4 -0.2**
BR131 IAmb IAmb 09 16 23.6
comp=Z,8.1nm,0.7s
BRTR Keskin Array B 76.76 308 P **P 09 16 22.2 +0.7**
comp=Z,4.9nm,0.7s,baz=106,slow=5.2,SNR=22
BRTR LR LR 09 55 14.7
comp=Z,59nm,18.9s,baz=122,slow=40
comp=Z,4.9nm,0.7s
BRTR Keskin Array B 76.76 308 P **P 09 16 22.6 +1.0**
NOA NORSAR Array B 77.54 334 P **P 09 16 24.1 -1.3**
comp=Z,1.0nm,0.7s,baz=30,slow=5.2,SNR=2.2
NOA LR LR 09 54 17.0
comp=Z,51nm,18.7s,baz=335,slow=38
comp=Z,1.0nm,0.7s
OJC Ojcow 80.00 322 P **P 09 16 39.3 +0.3**
OJC IAmb IAmb 09 16 41.3
comp=Z,7.5nm,0.7s
VYHS Vyhne 81.49 321 *eP* **P 09 16 48.1 +1.0**
VRAC Vranov 82.22 323 LR LR 09 56 55.5
comp=Z,97nm,20.6s,baz=80,slow=38
MODS Modra-Piesok 82.41 322 *eP* **P 09 16 53.7 +1.8**
CLL Collm 82.84 326 *eP* **P 09 16 55.0 +0.9**
comp=Z,6.0nm,1.0s
CLL Collm 82.84 326 *eP* **P 09 16 55.0 +0.9**
GERES GERESS Array B 84.02 324 P **P 09 17 00.0 -0.3**
comp=Z,1.0nm,0.8s,baz=95,slow=1.6,SNR=4.9
comp=Z,1.0nm,0.8s
FRB Frobisher Bay 86.19 8 LR LR 09 59 07.7

comp=Z,66nm,18.2s,baz=18,slow=38
NVAR Mina Array Bea 87.09 47 P **P** **09 17 16.9 +0.9**
comp=Z,0.6nm,0.8s,baz=294,slow=8.0,SNR=3.7
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 89.67 40 P **P** **09 17 28.6 +0.5**
comp=Z,0.6nm,0.9s,baz=240,slow=1.2,SNR=4.1
comp=Z,0.6nm,0.9s
KEST Kesra 94.90 316 LR LR 10 04 10.3
comp=Z,75nm,18.4s,baz=238,slow=38
SCHQ Schefferville 95.04 10 LR LR 10 04 19.0
comp=Z,66nm,19.2s,baz=242,slow=38
ESDC Sonseca Array 99.43 326 LR LR 10 06 57.0
comp=Z,81nm,20.4s,baz=52,slow=38

*CNRM **06** 09:15:44.5,37˚.26N×2˚.43W, h0km*
*INMG **06** 09:15:48.8±1.9,37˚.26N×2˚.33W, h12km±5km, ML2.2, Error ellipse: s-maj=4.2km s-min=4.1km az=172.0*
*MDD **06** 09:15:48.7±0.3,37˚.31N×2˚.34W, h11km, mb_Lg2.5/19, Error ellipse: s-maj=3.0km s-min=1.6km az=161.0*
*SFS **06** 09:15:48.6,37˚.34N×2˚.40W, h0km, ML2.7/10, MLv2.7/10*
ISC 06 09:15:47.3±1.0,37˚30N±0˚.02×2˚33W±0˚.02,h15km±9km, n39,σ1°27/76,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.35**	**163**	P	**Pb**	**09 15 55.9**	**+0.7**
ENIJ				S	**Sb**	**09 16 01.6**	**+1.1**
ENIJ	**Nijar**	**0.35**	**163**	Pg	**Pb**	**09 15 55.0**	**-0.2**
ENIJ				Sg	**Sb**	**09 16 00.7**	**+0.2**
ENIJ				*i* Vmb_Lg		09 16 03.8	
ELOR	**Lorca, Murcia**	**0.57**	**54**	Pg	**Pb**	**09 15 59.1**	**0.0**
ELOR				Sg	**Sb**	**09 16 06.7**	**-0.4**
ELOR				*i* Vmb_Lg		09 16 11.4	
TLOR	**Lorca, Murcia**	**0.62**	**55**	Pg	**Pn**	**09 16 02.3**	**+0.6**
TLOR				Sg	**Sn**	**09 16 10.2**	**-1.2**
EZAR	**Zarzadilla de**	**0.76**	**42**	Pg	**Pg**	**09 16 01.9**	**-0.4**
EZAR				Sg	**Sb**	**09 16 13.7**	**+1.1**
EZAR				*i* Vmb_Lg		09 16 15.8	
EQES	**Quesada**	**0.77**	**311**	Pg	**Pn**	**09 16 04.4**	**+0.6**
EQES				Sg	**Sg**	**09 16 12.8**	**+0.3**
EQES				*i* Vmb_Lg		09 16 19.3	
EQUE	**Quentar**	**0.89**	**264**	Pg	**Pg**	**09 16 04.1**	**-0.5**
EQUE				Sg	**Sg**	**09 16 16.3**	**+0.1**
EQUE				*i* Vmb_Lg		09 16 20.8	
EMUR	**La Murta**	**1.02**	**58**	P	**Pn**	**09 16 07.7**	**+0.5**
EMUR	**La Murta**	**1.02**	**58**	Pg	**Pn**	**09 16 07.5**	**+0.3**
EMUR				Sg	**Sg**	**09 16 20.6**	**+0.1**
EMUR				*i* Vmb_Lg		09 16 23.9	
CART	**Cartagena**	**1.10**	**75**	P	**Pb**	**09 16 07.5**	**-0.5**
CART				S	**Sg**	**09 16 22.5**	**-0.3**
CART	**Cartagena**	**1.10**	**75**	P	**Pg**	**09 16 08.1**	**-0.4**
ELGU	**Los Guajares,**	**1.12**	**248**	P	**Pb**	**09 16 08.3**	**-0.2**
ELGU	**Los Guajares,**	**1.12**	**248**	Pg	**Pb**	**09 16 08.2**	**-0.2**
ELGU				Sg	**Sb**	**09 16 21.4**	**-1.5**
ELGU				*i* Vmb_Lg		09 16 31.3	
EGOR	**Sierra Gorda,**	**1.43**	**263**	P	**Pb**	**09 16 14.4**	**+0.6**
EGOR	**Sierra Gorda,**	**1.43**	**263**	Pg	**Pb**	**09 16 14.4**	**+0.6**
EGOR				Sg	**Sg**	**09 16 34.9**	**+1.4**
EGOR				*i* Vmb_Lg		09 16 40.7	
ETOB	**Tobarra**	**1.48**	**25**	P	**Pb**	**09 16 14.7**	**+0.2**
ETOB				S	**Sg**	**09 16 35.8**	**+0.9**
ETOB	**Tobarra**	**1.48**	**25**	Pg	**Pb**	**09 16 14.5**	**-0.1**
ETOB				Sg	**Sg**	**09 16 34.5**	**-0.4**
ETOB				*i* Vmb_Lg		09 16 41.1	
EADA	**Adamuz**	**1.98**	**297**	P	**Pn**	**09 16 21.1**	**+0.8**
EADA	**Adamuz**	**1.98**	**297**	Pn	**Pn**	**09 16 21.1**	**+0.8**
EADA				Sn	**Sn**	**09 16 43.3**	**-1.5**
EADA				Sg	**Sb**	**09 16 49.3**	**+1.8**
EADA				*i* Vmb_Lg		09 16 52.7	
ECHE	**Chera**	**2.52**	**25**	Pg	**Pg**	**09 16 35.3**	**-0.4**
ECHE				Sg	**Sg**	**09 17 07.4**	**-1.0**
ECAB	**El Cabril**	**2.56**	**288**	P	**Pn**	**09 16 29.2**	**+0.8**
ECAB				S	**Sn**	**09 16 59.3**	**-0.1**
ECAB	**El Cabril**	**2.56**	**288**	Pn	**Pn**	**09 16 29.1**	**+0.7**
ECAB				Sn	**Sn**	**09 16 59.9**	**+0.5**
ECAB				Sg	**Sb**	**09 17 07.8**	**+3.4**
ECAB				*i* Vmb_Lg		09 17 12.0	
ESDC	**Sonseca Array**	**2.69**	**332**	Pg	**Pg**	**09 16 38.0**	**-0.9**
ESDC				Sn	**Sn**	**09 17 01.1**	**-1.4**
ESDC				Sg	**Sb**	**09 17 10.3**	**+2.3**
ESDC				*i* Vmb_Lg		09 17 14.4	
PAB	**San Pablo**	**2.74**	**325**	Pn	**Pn**	**09 16 32.1**	**+1.2**
PAB				Pg	**Pg**	**09 16 39.0**	**-0.9**
PAB				Sn	**Sn**	**09 17 02.3**	**-1.5**
PAB				*i* Vmb_Lg		09 17 03.7	
PAB				Sg	**Sb**	**09 17 12.4**	**+2.9**
JBK	**JBK**	**2.97**	**184**	P	**Pn**	**09 16 36.0**	**+1.9**
JBK				S	**Sn**	**09 17 09.1**	**-0.5**
EMIN	**Mina Concepcio**	**3.48**	**279**	P	**Pn**	**09 16 42.3**	**+1.4**
EMIN	**Mina Concepcio**	**3.48**	**279**	Pn	**Pn**	**09 16 41.6**	**+0.7**
EMIN				Sn	**Sn**	**09 17 21.3**	**-0.5**
EMIN				Sg	**Sg**	**09 17 35.8**	**-3.2**
EMIN				*i* Vmb_Lg		09 17 40.7	
ETOR	**Torete**	**3.52**	**3**	Pn	**Pn**	**09 16 43.5**	**+2.0**
ETOR				Pg	**Pg**	**09 16 54.7**	**0.0**
ETOR				Sn	**Sn**	**09 17 21.0**	**-1.9**
ETOR				Sg	**Sg**	**09 17 39.8**	**-0.5**
ETOR				*i* Vmb_Lg		09 17 46.0	
PBAR	**Barrancos**	**3.83**	**285**	*e*Pn	**Pn**	**09 16 46.9**	**+1.2**
PBAR				*e*Sn	**Sn**	**09 17 29.7**	**-0.8**
PBAR				A	A	09 17 54.5	
	4.4nm,0.3s						
EBAD	**Badajoz**	**3.97**	**293**	P	**Pn**	**09 16 47.4**	**-0.2**
EBAD	**Badajoz**	**3.97**	**293**	Pn	**Pn**	**09 16 47.6**	**0.0**
EBAD				Sn	**Sn**	**09 17 31.5**	**-2.4**
EBAD				*i* Vmb_Lg		09 17 35.2	
PVAQ	**Vaqueiros**	**4.29**	**273**	*e*Pn	**Pn**	**09 16 53.3**	**+1.2**
PVAQ				*e*Sn	**Sn**	**09 17 41.4**	**-0.4**
PVAQ				A	A	09 17 43.6	
	3.0nm,0.7s						
PVAQ	**Vaqueiros**	**4.29**	**273**	P	**Pn**	**09 16 51.5**	**-0.6**
PVAQ				S	**Sn**	**09 17 39.0**	**-2.8**
PVAQ	**Vaqueiros**	**4.29**	**273**	P	**Pn**	**09 16 52.5**	**+0.4**
PESTR	**Estremoz**	**4.43**	**292**	*e*Sn	**Sn**	**09 17 44.7**	**-0.6**
PMRV	**Marv??o**	**4.50**	**300**	*e*Pn	**Pn**	**09 16 55.9**	**+0.9**
PMRV				*e*Sn	**Sn**	**09 17 46.0**	**-1.2**
PMRV				*e*Sg	**Sg**	**09 18 08.8**	**-3.1**
PMRV				A	A	09 18 16.8	
	4.8nm,0.4s						
PCBR	**Castelo Branco**	**4.76**	**304**	*e*Pn	**Pn**	**09 16 59.9**	**+1.4**
PCBR				*e*Sn	**Sn**	**09 17 53.0**	**-0.4**
PCBR				A	A	09 17 54.4	
	1.8nm,0.4s						
PMTG	**Montargil**	**4.96**	**293**	*e*Sn	**Sn**	**09 17 57.0**	**-1.4**
PCAS	**Casmilo, Conde**	**5.55**	**302**	*e*Sn	**Sn**	**09 18 11.1**	**-1.8**

*KRNET **06** 09:31:20.1±0.1,40˚.80N×69˚.76E, h14km, mb2.8*
*ISU **06** 09:31:20.1,40˚.87N×69˚.71E, h5km*
ISC 06 09:31:19.8±1.3,40˚82N±0˚.03×69˚74E±0˚.04,h7km±13km, n10,σ0°63/20,11C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.60**	**326**	⇑*i*P	**Pb**	**09 31 32.6**	**-0.1**
	baz=27						
TAS				⇑*i*S	**Sb**	**09 31 41.7**	**+0.2**
	baz=27						
CHMG	**Chimgan**	**0.76**	**16**	P	**Pb**	**09 31 35.5**	**+0.1**
CHMG				S	**Sb**	**09 31 45.6**	**-0.3**
BTK	**Batken**	**1.12**	**132**	⇓*i*P	**Pg**	**09 31 41.3**	**0.0**
	baz=32						
BTK				⇓*i*S	**Sb**	**09 31 56.8**	**+0.4**
	baz=32						
TRKS	**Terek-Say**	**1.27**	**56**	⇑*i*P	**Pn**	**09 31 43.8**	**-0.3**
	baz=57						
TRKS				⇑*i*S	**Sn**	**09 32 01.4**	**-0.1**
	baz=57						
KRSA	**Karasay**	**1.68**	**246**	P	**Pb**	**09 31 51.2**	**+0.2**
KRSA				S	**Sg**	**09 32 14.3**	**+0.5**
GAR	**Garm**	**1.87**	**166**	⇑*i*P	**Pb**	**09 31 54.4**	**0.0**
	baz=66						
GAR				⇑*i*S	**Sg**	**09 32 19.5**	**-0.5**
	baz=66						
ARK	**Arkit**	**1.94**	**59**	⇓*i*P	**Pb**	**09 31 56.1**	**+0.6**
	baz=58						
ARK				⇓*i*S	**Sg**	**09 32 23.0**	**+0.9**
	baz=58						
OHH	**Osh**	**2.33**	**96**	⇑*i*P	**Pb**	**09 32 01.7**	**-0.5**
	baz=96						
OHH				⇑*i*S	**Sb**	**09 32 31.8**	**+0.5**
	baz=96						
KK31	**Karatay Array**	**2.35**	**14**	⇑P	**Pb**	**09 32 03.2**	**+0.7**
	0.6nm,0.2s,baz=192,slow=17,SNR=31						
KK31				S	**Sg**	**09 32 35.7**	**+0.3**
	0.7nm,0.2s,baz=192,slow=29,SNR=8.3						
KKAR	**Karatay Array**	**2.35**	**14**	⇑*i*P	**Pb**	**09 32 02.9**	**+0.4**
	baz=13						
KKAR				⇑*i*S	**Sg**	**09 32 33.7**	**-1.7**
	baz=13						

*IDC **06** 09:37:09.2±4.8,20˚.98S×178˚.42W, h563km±48km, mb3.1/9, mbtmp4.0/10, Error ellipse: s-maj=54.1km s-min=23.0km az=140.0*
ISC 06 09:37:10.8±1.3,21˚0S±0˚.3×178˚.5W±0˚.2,h579km,n16, σ0°70/17,mb3.6/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.03**	**263**	P	**P**	**09 40 09.3**	**-1.0**
	2.3nm,0.6s,baz=81,slow=17,SNR=2.3						
STKA	**Stephens Creek**	**37.15**	**245**	P	**P**	**09 43 34.2**	**+0.6**
	1.3nm,0.5s,baz=73,slow=12,SNR=4.3						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**43.94**	**257**	P	**P**	**09 44 27.9**	**+0.2**
	2.1nm,0.5s,baz=98,slow=7.6,SNR=50						
ASAR				PcP	**PcP**	**09 46 00.9**	**+0.3**
	0.7nm,0.6s,baz=104,slow=3.6,SNR=9.0						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**44.05**	**263**	P	**P**	**09 44 27.8**	**-0.7**
	0.6nm,0.3s,baz=97,slow=7.5,SNR=22						
WRA				PcP	**PcP**	**09 46 00.4**	**-0.7**
	0.2nm,0.4s,baz=97,slow=3.5,SNR=1.2						
	0.6nm,0.3s						
MJAR	**Matsushiro Arr**	**70.28**	**324**	P	**P**	**09 47 26.5**	**-0.2**
	0.8nm,0.5s,baz=122,slow=7.2,SNR=2.1						
	0.8nm,0.5s						
PETK	**Petropavlovsk-**	**76.58**	**346**	P	**P**	**09 48 02.8**	**+0.7**
	2.4nm,0.8s,baz=151,slow=7.4,SNR=1.3						
	2.4nm,0.8s						
NVAR	**Mina Array Bea**	**81.69**	**44**	P	**P**	**09 48 29.2**	**-0.5**
	0.1nm,0.5s,baz=260,slow=5.4,SNR=1.7						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**88.86**	**13**	P	**P**	**09 49 03.0**	**-0.5**
	0.4nm,0.5s,baz=218,slow=5.0,SNR=12						
	0.4nm,0.5s						
PDAR	**Pinedale Array**	**89.63**	**43**	P	**P**	**09 49 07.9**	**+0.1**
	0.3nm,0.7s,baz=215,slow=1.8,SNR=3.5						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P	**P**	**09 49 10.6**	**+1.7**
	0.9nm,0.3s,baz=122,slow=5.5,SNR=4.1						
	0.9nm,0.3s						
BVAR	**Borovoye Array**	**119.11**	**320**	PKP	**PKPdf**	**09 54 53.6**	**-0.6**
	0.8nm,0.3s,baz=91,slow=3.2,SNR=5.2						
ARCES	**ARCESS Array B**	**129.27**	**349**	PKP	**PKPdf**	**09 55 13.3**	**0.0**
	8.4nm,1.1s,baz=24,slow=6.9,SNR=3.7						
FINES	**FINESS Array B**	**136.06**	**343**	PKP	**PKPdf**	**09 55 26.1**	**0.0**
	3.2nm,1.0s,baz=48,slow=2.1,SNR=4.4						
AKASG	**Malin Array Be**	**143.16**	**330**	PKP	PKPab	09 55 37.0	-0.4
	3.0nm,0.5s,baz=36,slow=4.2,SNR=23						
BRTR	**Keskin Array B**	**146.77**	**311**	PKPbc	**PKPbc**	**09 55 48.9**	**0.0**
	1.2nm,0.7s,baz=82,slow=3.2,SNR=5.2						
GERES	**GERESS Array B**	**150.50**	**343**	PKPbc	**PKPbc**	**09 55 57.5**	**-0.2**
	0.3nm,0.5s,baz=15,slow=4.1,SNR=4.5						

*UCR **06** 09:37:34.4±1.3,9˚.72N×82˚.43W, h21km±6km, MW3.8*
*UPA **06** 09:37:37.1±1.8,9˚.51N×82˚.71W, h13km±7km, MW3.8*
ISC 06 09:37:36.1±1.0,9˚64N±0˚.04×82˚50W±0˚.03,h32km±6km, n46,σ1°25/60,2C-2D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGM0	**Gandoca**	**0.12**	**248**	*e*P	**Pb**	**09 37 41.4**	**-0.5**
RGM0				*e*S	**Sb**	**09 37 47.4**	**+1.6**
CNI2	**El Empalme, Bo**	**0.21**	**173**	⇓*i*P	**Pb**	**09 37 41.5**	**-1.2**
CNI2				*e*S	**Sb**	**09 37 46.4**	**-0.9**
BRIBI	**Bribri**	**0.35**	**268**	*e*P	**Pb**	**09 37 44.1**	**-0.3**
BRIBI				*e*S	**Sn**	**09 37 52.1**	**+1.3**
BC3P	**Paso Ancho**	**0.82**	**188**	⇓*i*P	**Pb**	**09 37 50.1**	**-2.0**
BC3P				*e*S	**Sb**	**09 38 02.4**	**-0.6**
POTG	**Potrero Grande**	**0.84**	**227**	*e*P	**Pb**	**09 37 50.9**	**-1.6**
POTG				*e*S	**Sn**	**09 38 03.3**	**+0.2**
BRU2	**Volcan**	**0.86**	**193**	*e*P	**Pn**	**09 37 50.8**	**-1.3**
BRU2				*i* S	**Sb**	**09 38 03.6**	**-0.4**
EDBA	**Buenos Aires**	**0.90**	**239**	*e*P	**Pn**	**09 37 52.7**	**+0.1**
EDBA				*e*S	**Sn**	**09 38 06.6**	**+2.1**
EDP2	**Potrero Grande**	**0.91**	**228**	*e*P	**Pn**	**09 37 52.2**	**-0.5**
EDSV	**San Vito**	**0.94**	**210**	*e*P	**Pn**	**09 37 52.9**	**-0.2**
SRBA	**San Rafael, Bu**	**0.94**	**245**	*e*P	**Pn**	**09 37 52.6**	**-0.6**
BURE	**Buenos Aires**	**0.95**	**241**	*e*P	**Pn**	**09 37 53.0**	**-0.3**
TAAN	**Batan**	**0.95**	**298**	*e*P	**Pn**	**09 37 52.6**	**-0.6**
BATAN	**Batan**	**0.98**	**298**	*e*P	**Pn**	**09 37 53.0**	**-0.6**
BATAN				*e*S	**Sn**	**09 38 06.3**	**-0.2**
BATAN	**Batan**	**0.98**	**298**	*e*P	**Pn**	**09 37 53.1**	**-0.5**
CDITO	**Canoas**	**1.12**	**199**	*e*P	**Pn**	**09 37 55.8**	**+0.2**
LPPC	**Paso Canoas**	**1.15**	**197**	*e*P	**Pn**	**09 37 56.1**	**+0.2**
EDPN	**Palmar Norte**	**1.16**	**235**	*e*P	**Pn**	**09 37 57.0**	**-0.7**
EDAD	**Golfito**	**1.18**	**214**	*e*P	**Pn**	**09 37 56.4**	**0.0**
DVD	**David**	**1.19**	**178**	*e*P	**Pn**	**09 37 56.3**	**-0.2**
DVD				*i* S	**Sn**	**09 38 12.4**	**+0.8**
PEZE	**Perez Zeledon,**	**1.19**	**258**	*e*P	**Pn**	**09 37 56.2**	**-0.4**
VERB	**Verbena**	**1.22**	**285**	*e*P	**Pn**	**09 37 57.1**	**+0.1**
ZELE	**Perez Zeledon**	**1.22**	**258**	*e*P	**Pn**	**09 37 57.4**	**+0.3**
CHIR3	**Chiriqui UPA,**	**1.24**	**172**	⇑*e*P	**Pn**	**09 37 56.9**	**-0.3**
CHIR3				*e*S	**Sn**	**09 38 13.6**	**+0.7**
CDM	**Cerro de Muert**	**1.25**	**266**	*e*P	**Pn**	**09 37 57.4**	**-0.4**
VINA	**Juan Vinas**	**1.26**	**282**	*e*P	**Pn**	**09 37 57.4**	**-0.2**
VTCV	**VTCV, Calle Va**	**1.26**	**286**	*e*P	**Pn**	**09 37 57.3**	**-0.4**
CVTV	**Tajo**	**1.29**	**287**	*e*P	**Pn**	**09 37 57.6**	**-0.6**
CCOL	**Caracol de Cor**	**1.31**	**201**	*e*P	**Pn**	**09 37 58.6**	**+0.4**
RAFA	**San Farael, Vo**	**1.33**	**284**	*e*P	**Pn**	**09 37 59.5**	**+0.7**
RIMA	**Rio Macho**	**1.35**	**276**	*e*P	**Pn**	**09 37 58.6**	**-0.4**
JIME	**Puerto Jimenez**	**1.36**	**217**	*e*P	**Pn**	**09 37 59.7**	**+0.8**
VICA	**Volcano Irazu**	**1.37**	**285**	*e*P	**Pn**	**09 37 59.8**	**+0.4**
RAZU	**San Marcos de**	**1.51**	**271**	*e*P	**Pn**	**09 38 01.8**	**+0.8**
ABE2	**San Pablo**	**1.54**	**273**	*e*P	**Pn**	**09 38 01.8**	**+0.2**
LLNJ	**Naranjito**	**1.59**	**264**	*e*P	**Pn**	**09 38 03.0**	**+1.0**
HDC	**Heredia**	**1.64**	**283**	*e*P	**Pn**	**09 38 03.3**	**+0.5**
ACOS	**Acosta**	**1.65**	**276**	*e*P	**Pn**	**09 38 03.6**	**+0.6**
SANTA	**Santa Ana**	**1.69**	**280**	*e*P	**Pn**	**09 38 04.2**	**+0.7**
TCS1	**Tacares**	**1.82**	**283**	*e*P	**Pn**	**09 38 06.3**	**+1.0**
TRB2	**Turrubares**	**1.94**	**278**	*e*P	**Pn**	**09 38 07.8**	**+0.9**
JTS	**Las Juntas de**	**2.51**	**285**	*e*P	**Pn**	**09 38 15.8**	**+1.2**
JTS				*i* S	**Sb**	**09 38 49.0**	**-2.0**
JTS	**Las Juntas de**	**2.51**	**285**	*e*P	**Pn**	**09 38 15.6**	**+0.9**
VTON	**El Valle, Cocl**	**2.56**	**113**	*e*P	**Pb**	**09 38 20.6**	**-0.9**
VTON				*e*S	**Sb**	**09 38 52.0**	**-0.6**
BCIP	**Isla Barro Col**	**2.67**	**100**	⇑*e*P	**Pn**	**09 38 14.4**	**-2.4**
BCIP				*e*S	**Sb**	**09 38 53.8**	**-1.7**
POPE	**POPE, Guanacas**	**2.76**	**279**	*e*P	**Pn**	**09 38 19.8**	**+1.7**
AZU	**Azuero**	**2.86**	**130**	*e*P	**Pn**	**09 38 22.6**	**+3.1**
AZU				*e*S	**Sn**	**09 38 58.2**	**+5.4**

*BJI **06** 10:24:57.1±0.0,1˚.43N×98˚.19E, h54km, mb5.1/71, mB5.2/50, Ms4.8/65, Ms7 4.6/62*
*MOS **06** 10:24:57.7±1.0,1˚.47N×98˚.10E, h55km, mb5.5/69, MS4.6/4, Error ellipse: s-maj=6.4km s-min=3.7km az=112.5*
*GCMT **06** 10:24:59.2±0.2,1˚.51N±0˚.01×98˚.05E±0˚.01, h72km±2km, MW5.0/90, Moment Tensor Solution. s66,c92; s90,c128; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.28±.14; Mθθ1.18±.14; Mθφ 1.10±.17; Mrθ2.69±.08; Mφφ-0.31±.13; Mφr-2.72±.08; Best double couple: Mw4.25600×10^16 NP1:φs315.0000°,δ77.00000°,λ-89.00000°. NP2: φs132.00000°,δ13.00000°,λ-93.00000°. Principal axes: T 3.8400, Plg32.0000°, Azm44.0000°; N 0.8310, Plg1.0000°, Azm135.0000°; P -4.6710, Plg58.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **06** 10:24:59.9±0.2,1˚N±2˚×9˚8E±˚, h61km±2km, M5.1/79, mB5.6/34, mb5.3/79, MLv5.7/23, Mw(mB)5.1/34, MwMwp4.7/4, Mwp5.0/4*
*NEIC **06** 10:24:59.2±2.0,1˚.53N±0˚.06×98˚.14E±0˚.05, h42km±4km, mb5.4/170, Mww5.1, Error ellipse: s-maj=8.3km s-min=6.9km az=192.0*
*KLM **06** 10:25:00,1˚.45N×98˚.05E, h29km, mb5.5*
*IDC **06** 10:25:00.3±1.1,1˚.42N×98˚.16E, h66km±9km, mb4.6/47, mbtmp4.9/49, MS4.3/51, Error ellipse: s-maj=10.1km s-min=6.6km az=49.0*
*NEIC **06** 10:25:01,1˚.47N×97˚.98E, h46km, Moment Tensor Solution. Duration: 2±0 Moment tensor: Scale 10^16Nm; Mrr-3.42; Mθθ1.15; Mφφ2.27; Mrθ3.05; Mθφ0.04; Mφr-3.53; Fault plane solution: M0 5.56000×10^16 NP1: φs169.00000°,δ16.00000°,λ-66.00000°. NP2: φs324.00000°,δ75.00000°,λ-96.00000°. Principal axes: T 4.5837, Plg30.0000°, Azm60.0000°; N 1.5970, Plg7.0000°, Azm326.0000°; P -6.1807, Plg59.0000°, Azm225.0000°;*
ISC 06 10:24:59.0±0.2,1°46N±0˚.03×98˚11E±0˚.03,h50km±1km, h50km:pP-P,n841,σ1°29/907,mb5.2/221,MS4.5/82, 47C-22D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.55**	**254**		**Pn**	**10 25 11.3**	**+0.4**
GSI					**Sn**	**10 25 20.6**	**+1.1**
GSI	**Gunungsitoli**	**0.55**	**254**	P	**Pn**	**10 25 11.4**	**+0.5**
GSI	**Gunungsitoli**	**0.55**	**254**	P	**Pn**	**10 25 11.1**	**+0.2**
RPSI	**Rantau Prapat**	**1.48**	**33**	Pn	**Pn**	**10 25 25.1**	**+2.0**
PBSI	**Pulau Batu**	**1.51**	**173**	P	**Pn**	**10 25 23.9**	**+0.3**
PSI	**Prapat**	**1.56**	**31**	P	**Pn**	**10 25 25.7**	**+1.2**
PSI	**Prapat**	**1.56**	**31**	P	**Pn**	**10 25 25.1**	**+0.6**
MNSI	**Mandailing Nat**	**1.61**	**114**	P	**Pn**	**10 25 26.0**	**+1.0**
SNSI	**Sinabang, Aceh**	**2.02**	**298**	P	**Pn**	**10 25 31.3**	**+0.7**
KCSI	**Kotacane, Aceh**	**2.08**	**351**	P	**Pn**	**10 25 32.5**	**+1.0**
TSI	**Tuntungan**	**2.08**	**13**	P	**Pn**	**10 25 34.3**	**+2.8**
BKNI	**Bangkinang**	**3.14**	**111**	Pn	**Pn**	**10 25 48.1**	**+2.1**
BKNI	**Bangkinang**	**3.14**	**111**	P	**Pn**	**10 25 46.2**	**+0.3**
BKNI	**Bangkinang**	**3.14**	**111**	P	**Pn**	**10 25 48.0**	**+2.1**
MLSI	**Meulaboh, Aceh**	**3.27**	**329**	P	**Pn**	**10 25 49.0**	**+1.2**
PDSI	**Padang**	**3.33**	**135**	P	**Pn**	**10 25 49.6**	**+1.0**
LHMI	**Lhok Sumawe**	**3.92**	**343**	Pn	**Pn**	**10 25 57.3**	**+0.6**
LHMI	**Lhok Sumawe**	**3.92**	**343**	P	**Pn**	**10 25 59.2**	**+2.5**
LHMI	**Lhok Sumawe**	**3.92**	**343**	P	**Pn**	**10 25 58.0**	**+1.3**
SDSI	**Sungai Dareh**	**4.08**	**126**	P	**Pn**	**10 26 00.5**	**+1.6**
IPM	**Ipoh**	**4.18**	**44**	Pn	**Pn**	**10 26 03.5**	**+3.1**
IPM	**Ipoh**	**4.18**	**44**	P	**Pn**	**10 26 03.9**	**+3.6**
KULM	**Kulim**	**4.58**	**34**	Pn	**Pn**	**10 26 07.7**	**+2.0**
KULM	**Kulim**	**4.58**	**34**	P	**Pn**	**10 26 08.0**	**+2.3**
PPSI	**Pulau Pagai**	**4.60**	**156**	P	**Pn**	**10 26 07.2**	**+1.2**
JRMM	**Jerantut**	**4.99**	**61**	P	**Pn**	**10 26 14.0**	**+2.7**
MYKOM	**Kota Tinggi**	**5.75**	**87**			**10 26 23.7**	**+1.9**
MYKOM	**Kota Tinggi**	**5.75**	**87**	P	**Pn**	**10 26 25.0**	**+3.2**
MASI	**Maura Aman, Be**	**6.16**	**138**	P	**Pn**	**10 26 28.7**	**+1.3**
	440nm,1.5s,6μm5.4nm						
TPRI	**Tanjung Pinang**	**6.44**	**95**	P	**Pn**	**10 26 32.5**	**+1.3**
	411nm,0.5s,2.4nm						
DSRI	**Dabo**	**6.75**	**107**	P	**Pn**	**10 26 36.4**	**+0.9**
	154nm,0.8s,4μm2.1nm						
KSI	**Kapahiang**	**6.77**	**139**	P	**Pn**	**10 26 37.9**	**+2.0**
KSI				pmax	pmax		
	comp=Z,792nm,0.9s						
KSI	**Kapahiang**	**6.77**	**139**	P	**Pn**	**10 26 38.2**	**+2.3**
	comp=Z,792nm,0.8s,comp=Z,13μmcomp=Z,3.6nm						
SRIT	**Nakonsritamara**	**7.25**	**12**	Pn	**Pn**	**10 26 42.1**	**-0.2**
MNAI	**Manna**	**7.54**	**140**	Pn	**Pn**	**10 26 47.0**	**+0.7**
MNAI	**Manna**	**7.54**	**140**	P	**Pn**	**10 26 47.1**	**+0.7**
MNAI	**Manna**	**7.54**	**140**	P	**Pn**	**10 26 46.2**	**-0.2**
	comp=Z,655nm,0.7s,comp=Z,4.0nm						
PMBI	**Palembang**	**7.96**	**123**	Pn	**Pn**	**10 26 52.1**	**0.0**
MDSI	**Maura Dua**	**8.46**	**134**	P	**Pn**	**10 26 58.6**	**-0.4**
	comp=Z,226nm,0.8s,comp=Z,2μmcomp=Z,1μm						
LWLI	**Liwa**	**8.76**	**137**	P	**Pn**	**10 27 02.7**	**-0.5**
	comp=Z,435nm,0.7s,comp=Z,10μm						
PPBI	**Pangkal Pinang**	**8.79**	**114**	P	**Pn**	**10 27 06.2**	**+2.6**
	comp=Z,28nm,0.5s						
KASI	**Kota Agung**	**9.42**	**137**	P	**Pn**	**10 27 10.6**	**-1.6**
	comp=Z,231nm,0.9s,comp=Z,3μm						
CGJI	**Cibinong**	**11.03**	**137**	P	Pn	10 27 28.6	-5.5
PBA	**Port Blair**	**11.45**	**333**	Pn	**Pn**	**

QIZ LR LR
comp=Z,1µm,26.3s
MDRS Chennai 21.12 304 eP P 10 29 42.0 +2.3
MDRS IAmb IAmb 10 29 43.8
comp=Z,108nm,0.7s
TWSI Taliwang, Sumb 21.27 119 P P 10 29 41.8 +0.4
comp=Z,68nm,0.7s
SAIH SAIHA 21.49 347 eP P 10 29 42.9 -0.9
VIS Vishakhapatnam 21.73 319 eP P 10 29 47.9 +1.7
MPSI Mapaga 21.81 93 P P 10 29 47.2 0.0
comp=Z,123nm,0.9s,comp=Z,1µm
BRDH Bariadhala 22.01 344 P P 10 29 48.4 -0.7
comp=Z,70nm,0.3s,baz=276,slow=13,SNR=1.3
BRDH LR LR 10 40 18.8
comp=Z,703nm,19.3s,baz=162,slow=42
comp=Z,70nm,0.3s
PLAI Plampang 22.10 118 P P 10 29 49.0 -1.3
PLAI Plampang 22.10 118 P P 10 29 46.4 -3.9
comp=Z,110nm,1.1s
TRD Trivandrum 22.19 289 eP P 10 29 52.8 +1.6
TRD IAmb IAmb 10 29 54.4
comp=Z,131nm,0.2s
KOD Kodaikanal 22.29 294 eP P 10 29 54.3 +1.7
SPSI Sidrap Palu 22.31 104 P P 10 29 53.1 +0.6
comp=Z,47nm,0.8s,comp=Z,1µm
KAPI Kappang 22.56 107 P P 10 29 55.1 0.0
comp=Z,10nm,0.4s,baz=45,slow=6.1,SNR=1.8
KAPI LR LR 10 39 38.7
comp=Z,945nm,20.1s,baz=286,slow=39
comp=Z,10nm,0.4s
KAPI Kappang 22.56 107 P P 10 29 55.0 -0.1
KAPI IAmb IAmb 10 30 17.1
comp=Z,116nm,1.2s
KAPI Kappang 22.56 107 P P 10 29 55.3 +0.2
KAPI Kappang 22.56 107⇓ eP P 10 29 55.6 +0.5
KAPI pmax pmax
comp=Z,47nm,1.7s
TOLI2 Tolitoli 22.67 91 P P 10 29 56.2 -0.2
TOLI2 IAmb IAmb 10 30 15.0
comp=Z,69nm,0.8s
TOLI2 Tolitoli 22.67 91 P P 10 29 56.9 +0.5
BNSI Bone 22.74 105 P P 10 29 56.4 -0.7
comp=Z,65nm,1.3s
RAGD RAYAGADA 22.77 322 eP P 10 29 59.3 +1.9
BKSI Bulukumba 23.00 107 P P 10 30 01.5 +1.8
comp=Z,110nm,1.0s,comp=Z,1µm
PCHI Peechi 23.43 293⇓ eP P 10 30 05.6 +1.7
PCHI eS S 10 34 16.7 +2.9
IMP Imphal 23.58 351 eP P 10 30 05.2 -0.1
BSSI Bau Bau, Buton 23.59 109 P P 10 30 06.1 +0.7
comp=Z,205nm,0.8s
APSI Ampana 23.66 96 P P 10 30 06.7 +0.6
comp=Z,642nm,1.3s,comp=Z,5µm
MRSI Marisa 23.85 92 P P 10 30 07.3 -0.6
comp=Z,272nm,0.6s,comp=Z,2µm
KMI Kunming 23.95 10 ⇑P P 10 30 09.5 +0.6
KMI sP sP 10 30 29.7 +2.0
KMI S S **10 34 21.7 -0.7**
KMI pmax pmax
comp=Z,36nm,1.5s
KMI pmax pmax
comp=Z,440nm,4.8s
KMI LR LR
comp=Z,2µm,17.6s
KMI LR LR
comp=Z,450nm,12.7s
KMI LR LR
comp=Z,2µm,15.7s
SHL Shillong 24.71 346 P P 10 30 15.1 -0.7
SHL IAmb IAmb 10 30 16.8
comp=Z,181nm,1.1s
SHL Shillong 24.71 346 eP P 10 30 15.8 0.0
SHL Shillong 24.71 346 P P 10 30 15.1 -0.7
SHL pmax pmax
comp=Z,181nm,1.1s
LUWI Luwuk 24.79 96 P P 10 30 16.1 -0.3
LUWI Luwuk 24.79 96 P P 10 30 16.5 +0.1
comp=Z,634nm,0.8s,comp=Z,8µm
GTOI Gorontalo 24.91 92 P P 10 30 13.8 -3.8
comp=Z,76nm,1.1s,comp=Z,622nm
HYB Hyderabad 24.92 311 eP P 10 30 18.3 +0.7
HYB eS S **10 34 40.4 +2.5**
HYB Hyderabad 24.92 311 eP P 10 30 18.6 +1.0
HYB IAmb IAmb 10 30 28.4
comp=Z,40nm,0.5s
MOKO MOKOCHONG 24.96 352 eP P 10 30 18.2 +0.1
KAAM Kaadhehdhoo 25.13 268 P P 10 30 21.4 +1.9
PZH PanZhiHua 25.15 8 P P 10 30 19.3 -0.4
PZH pP pP 10 30 31.7 -0.8
PZH sP sP **10 30 38.3 -0.2**
PZH S S **10 34 42.7 +1.3**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,180nm,4.5s
PZH LR LR
comp=Z,1µm,16.1s
PZH LR LR
comp=Z,700nm,15.1s
PZH LR LR
comp=Z,2µm,16.6s
BOK Bokaro 25.17 333 eP P 10 30 22.0 +2.2
BOK IAmb IAmb 10 30 23.5
comp=Z,102nm,0.5s
HMDM Hanimaadhoo 25.41 283 P P 10 30 21.7 -0.3
HMDM IAmb IAmb 10 30 25.5
comp=Z,90nm,0.8s
TEZP TEZPUR 25.53 349 eP P 10 30 22.4 -0.6
MNCI Minicoy 25.85 286 P P 10 30 25.2 -0.8
MMRI Maumere 26.06 113 P P 10 30 26.2 -1.7
GYA Guiyang 26.18 18 ⇑P P 10 30 28.4 -0.7
GYA pP sP 10 30 46.0 -1.9
GYA S S **10 34 59.4 +1.6**
GYA pmax pmax
comp=Z,27nm,1.0s
GYA pmax pmax
comp=Z,240nm,5.4s
GYA LR LR
comp=Z,1µm,24.0s
GYA LR LR
comp=Z,960nm,21.6s
GYA LR LR
comp=Z,1µm,23.8s
ZIRO ZIRO 26.24 351 eP P 10 30 28.9 -0.8
CTBH Cotabato--PC H 26.67 77⇓ eP P 10 30 34.1 +0.6
DGAR Diego Garcia 27.07 251 P P 10 30 35.8 -1.3
DGAR IAmb IAmb 10 30 39.7
comp=Z,176nm,1.2s
DGAR Diego Garcia 27.07 251 P P 10 30 35.8 -1.3
DGAR pmax pmax
comp=Z,176nm,1.2s
H08S2 Diego Garcia H 27.10 250 T T 10 58 09.3
baz=72,slow=75,SNR=9214
H08S3 Diego Garcia H 27.11 250 T T 10 58 09.5
baz=72,slow=75,SNR=8269
H08S1 Diego Carcia H 27.12 250 T T 10 58 10.6
baz=72,slow=75,SNR=7923
LLP Lapu-Lapu 27.16 70 eP P 10 30 38.5 +0.6
CGP Cagayan de Oro 27.37 74⇓ eP P 10 30 43.6 +3.8
KCP Kidapawan 27.46 78⇑ eP P 10 30 41.3 +0.6
TAPN Taplejung 27.61 340 eP P 10 30 43.0 +0.9
comp=Z,55nm,0.7s
RAMN Ramite 27.65 337 eP P 10 30 43.3 +0.9
comp=Z,34nm,0.6s
DAV Davao City (W) 27.95 78 P P 10 30 44.0 -1.0
comp=Z,111nm,0.4s,baz=298,slow=7.1,SNR=4.1
DAV S S **10 35 28.8 +3.2**
comp=Z,183nm,0.3s,baz=256,slow=17,SNR=3.6
DAV LR LR 10 42 35.8
comp=Z,1µm,18.4s,baz=261,slow=38
DAV Davao City (W) 27.95 78 P P 10 30 44.2 -0.7
BATI Baumata 27.95 115 P P 10 30 45.5 +0.5
comp=Z,42nm,0.5s,baz=297,slow=19,SNR=2.8
comp=Z,42nm,0.5s
BATI Baumata 27.95 115 P P 10 30 45.8 +0.8
comp=Z,96nm,0.6s
SANI Sanana 28.09 97 P P 10 30 44.3 -1.9
comp=Z,35nm,1.2s
SOEI Soe 28.33 114 P P 10 30 48.0 -0.5
SOEI IAmb IAmb 10 31 22.6
comp=Z,98nm,1.0s
SOEI Soe 28.33 114 P P 10 30 49.8 +1.3
JIRN Jiri 28.45 337 eP P 10 30 50.4 +0.7
comp=Z,46nm,0.6s
PKI Pulchoki 28.68 336 eP P 10 30 52.0 +0.3
comp=Z,24nm,0.6s
PKIN Phulchoki 28.69 336 eP P 10 30 51.8 +0.1
DMN Daman 28.84 336 eP P 10 30 53.6 +0.6
comp=Z,15nm,0.5s
LSA Lhasa 28.86 347 P P 10 30 54.2 +0.8
LSA IAmb IAmb 10 30 55.8
comp=Z,66nm,0.8s
LSA Lhasa 28.86 347 P P 10 30 54.1 +0.7
LSA Lhasa 28.86 347 P P 10 30 54.2 +0.8
LSA pmax pmax
comp=Z,65nm,0.8s
NLAI Namlea 29.35 99 P P 10 30 57.2 -0.3
comp=Z,62nm,0.9s
GKN Gorkha 29.38 335 eP P 10 30 58.3 +0.6
comp=Z,19nm,0.3s
BHPL Bhopal 29.52 319 eP P 10 30 59.6 +0.7
BHPL IAmb IAmb 10 31 01.3
comp=Z,14nm,0.8s
CD2 Chengdu 29.78 10 P P 10 30 59.6 -1.5
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 LR LR
comp=Z,870nm,11.3s
CD2 LR LR
comp=Z,760nm,11.8s
CD2 LR LR
comp=Z,2µm,16.2s
DANN Dangsing 30.05 334 eP P 10 31 04.5 +0.7
JHNI Jhansi 30.43 323 eP P 10 31 06.7 -0.1
ENH Enshi 30.63 20 P P 10 31 07.4 -1.2
ENH IAmb IAmb 10 31 25.8
comp=Z,58nm,0.9s
ENH Enshi 30.63 20 P P 10 31 07.1 -1.5
ENH pP pP **10 31 19.5 -2.1**
ENH sP sP **10 31 24.2 -3.3**
TWG Pinlang 30.80 45 P P 10 31 08.4 -1.7
TWGBT Beinan 30.80 45 P P 10 31 10.4 +0.3
TPUB Ta-pu 30.80 43 P P 10 31 09.5 -0.7
TPUB IAmb IAmb 10 31 23.6
comp=Z,53nm,1.0s
TPUB Ta-pu 30.80 43 P P 10 31 11.2 +1.0
TPUB Ta-pu 30.80 43 eP P 10 31 11.0 +0.9
baz=245
MBWA Marble Bar 30.86 138 P P 10 31 11.4 +0.7
MBWA IAmb IAmb 10 31 25.8
comp=Z,134nm,1.9s
MBWA Marble Bar 30.86 138 P P 10 31 11.6 +0.9
MSAI Masohi 31.17 99 P P 10 31 12.0 -1.6
comp=Z,12nm,0.6s,comp=Z,582nm
SSLB Suanglung 31.35 43 P P 10 31 15.7 +0.7
BHV Bhavnagar 32.34 310 eP P 10 31 25.4 +1.7
LGTI Lohaghat 32.62 330 eP P 10 31 26.6 +0.6
WHN Wuhan 32.77 26 ⇓P P 10 31 25.7 -1.7
WHN LR LR
comp=Z,4µm,17.7s
WHN LR LR
comp=Z,3µm,22.3s
WHN LR LR
comp=Z,3µm,14.2s
SIJI Sorong 33.23 94 P P 10 31 31.1 -0.6
comp=Z,19nm,0.7s,baz=87,slow=2.3,SNR=6.6
comp=Z,19nm,0.7s
FITZ Fitzroy Crossi 33.35 127 P P 10 31 31.7 -0.8
AJM Ajmer 33.58 320 eP P 10 31 35.3 +0.8
XAN Xi'an 33.96 16 P P 10 31 36.3 -1.4
XAN pP pP 10 31 47.2 -3.6
XAN sP sP 10 32 00.6 +3.9
XAN S S **10 36 56.0 -3.3**
XAN pmax pmax
comp=Z,71nm,0.9s
XAN pmax pmax
comp=Z,180nm,4.8s
XAN LR LR
comp=Z,830nm,16.2s
XAN LR LR
comp=Z,590nm,14.7s
XAN LR LR
comp=Z,2µm,19.2s
XAN Xi'an 33.96 16 P P 10 31 36.5 -1.2
XAN pP **pP 10 31 47.8 -3.0**
XAN sP **sP 10 31 53.2 -3.5**
MEEK Meekatharra 34.23 146 P P 10 31 41.2 +1.1
baz=34,SNR=13
MEEK Meekatharra 34.23 146 P P 10 31 40.8 +0.7
FAKI Fak Fak 34.40 97 P P 10 31 41.1 -0.7
FAKI IAmb IAmb 10 31 51.6
comp=Z,74nm,1.1s
FAKI Fak Fak 34.40 97 P P 10 31 42.2 +0.4
GOMU GeErMu 34.70 355 P P 10 31 44.6 +0.1
GOMU S S **10 37 09.2 -2.2**
GOMU pmax pmax
comp=Z,10.0nm,1.2s
GOMU pmax pmax
comp=Z,52nm,4.0s
GOMU LR LR
comp=Z,290nm,9.6s
GOMU LR LR
comp=Z,110nm,9.7s
GOMU LR LR
comp=Z,280nm,9.4s
KNRA Kununurra 34.75 121 P P 10 31 44.5 -0.2
baz=35,SNR=12
KNRA Kununurra 34.75 121 P P 10 31 45.0 +0.2
KNRA IAmb IAmb 10 31 50.8
comp=Z,37nm,1.1s
LZH Lanzhou 34.87 8 eP P 10 31 45.2 -0.5
LZH pP sP 10 32 03.9 -0.8
LZH PP **PP 10 33 07.6 +2.0**
LZH PcP **PcP 10 34 19.0 +1.1**
LZH S S **10 37 16.2 +2.7**
LZH SS **SnSn 10 39 32.5 +0.9**
LZH pmax pmax
comp=Z,62nm,1.2s
LZH pmax pmax
comp=Z,180nm,4.6s
LZH LR LR
comp=Z,920nm,15.8s
LZH LR LR
comp=Z,730nm,17.4s
LZH LR LR
comp=Z,1µm,17.5s
MORW Morawa 34.87 152 P P 10 31 46.9 +1.3
baz=35,SNR=4.9
MORW Morawa 34.87 152 P P 10 31 45.9 +0.3
MORW IAmb IAmb 10 32 05.1
comp=Z,63nm,1.4s
SMLA Simla 35.55 328 eP P 10 31 52.4 +1.0
SMLA IAmb IAmb 10 32 04.8
comp=Z,54nm,0.8s
LYN LuoYang 35.55 21 ⇑iP P 10 31 51.3 -0.1
LYN S S **10 37 26.7 +3.0**
LYN pmax pmax
comp=Z,20nm,0.6s
LYN LR LR
comp=Z,870nm,14.2s
LYN LR LR
comp=Z,390nm,12.7s
LYN LR LR
comp=Z,790nm,15.7s
MTN Manton Dam 35.72 114 P P 10 31 50.3 -2.8
baz=36,SNR=3.4
MTN Manton Dam 35.72 114 P P 10 31 51.2 -1.9
MTN IAmb IAmb 10 32 03.8
comp=Z,60nm,1.6s
MTN Manton Dam 35.72 114 P P 10 31 50.5 -2.6
NJ2 Nanjing 36.18 31 eP P 10 31 59.2 +2.4
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 LR LR
comp=Z,910nm,18.0s
NJ2 LR LR
comp=Z,560nm,21.8s
NJ2 LR LR
comp=Z,1µm,23.5s
SSE Sheshan 36.69 34 P P 10 32 02.2 +1.0
SSE S S **10 37 43.2 +2.0**
SSE pmax pmax
comp=Z,23nm,0.7s
SSE pmax pmax
comp=Z,130nm,3.7s
SSE LR LR
comp=Z,430nm,19.1s
SSE LR LR
comp=Z,270nm,19.2s
KDU Kakadu 36.89 113 P P 10 32 00.5 -2.5
baz=37,SNR=14
KDU Kakadu 36.89 113 P P 10 32 01.2 -1.9
MUN Mundaring 37.42 154 P P 10 32 09.9 +2.6
baz=38,SNR=12
KLBR Kellerberrin 37.79 152 P P 10 32 12.3 +1.8
baz=38,SNR=6.5
KLBR Kellerberrin 37.79 152 P P 10 32 12.1 +1.6
GTA Gaotai 37.81 2 ⇑P P 10 32 10.5 -0.2
GTA pP pP 10 32 23.3 -0.6
GTA sP sP 10 32 30.3 +0.5
GTA pmax pmax
comp=Z,44nm,1.0s
GTA pmax pmax
comp=Z,250nm,6.9s
GTA LR LR
comp=Z,260nm,17.4s
GTA LR LR
comp=Z,320nm,18.2s
GTA LR LR
comp=Z,300nm,18.2s
JOW Kunigami 38.41 46 P P 10 32 13.2 -2.6
JOW Kunigami 38.41 46 P P 10 32 18.2 +2.4
comp=Z,75nm,1.0s
NWAO Narrogin (SRO) 38.67 154 LR LR 10 46 57.2
comp=Z,426nm,21.1s,slow=34
NWAO Narrogin (SRO) 38.67 154 P P 10 32 20.0 +2.1
baz=39,SNR=5.3
NWAO P P **10 32 20.0 +2.1**
baz=39,SNR=5.3
NWAO Narrogin (SRO) 38.67 154 P P 10 32 19.0 +1.0
NWAO IAmb IAmb 10 32 37.7
comp=Z,126nm,1.4s
NWAO Narrogin (SRO) 38.67 154 P P 10 32 18.8 +0.9
NWAO IAmb IAmb 10 32 37.7
comp=Z,92nm,1.4s
NWAO Narrogin (SRO) 38.67 154 P P 10 32 19.8 +1.9
NWAO Narrogin (SRO) 38.67 154 P P 10 32 19.0 +1.0
NWAO pmax pmax
comp=Z,126nm,1.4s
NWAO Narrogin (SRO) 38.67 154 P P 10 32 19.7 +1.7
NWAO pP **pP 10 32 33.2 +2.2**
TIA Tai'an 38.81 25 eP P 10 32 18.0 -1.1
TIA S S **10 38 13.0 -0.3**
TIA pmax pmax
comp=Z,6.0nm,0.7s
TIA pmax pmax
comp=Z,76nm,2.9s
TIA LR LR
comp=Z,820nm,15.0s
TIA LR LR
comp=Z,520nm,13.5s
HNS HongShan 38.90 21 ⇑P P 10 32 19.8 +0.1
HNS S S **10 38 12.0 -2.5**
HNS pmax pmax
comp=Z,30nm,0.9s
HNS LR LR
comp=Z,480nm,13.3s
HNS LR LR
comp=Z,560nm,17.7s
WRKA Warakurna 39.35 134 P P 10 32 22.9 -0.9
baz=39,SNR=21
WRKA Warakurna 39.35 134 P P 10 32 23.1 -0.7
NIL Nilore 39.60 327 P P 10 32 25.7 0.0
NIL Nilore 39.60 327 P P 10 32 25.7 0.0
NIL pmax pmax
comp=Z,113nm,0.9s
NIL Nilore 39.60 327 P P 10 32 25.6 -0.1
NIL pP **pP 10 32 38.3 -0.6**
NIL sP **sP 10 32 43.2 -1.6**
KMBL Kambalda 39.69 147 P P 10 32 27.7 +1.3
baz=40,SNR=32
KMBL Kambalda 39.69 147 P P 10 32 28.1 +1.6
JMZ Minamidaito 2 40.04 50 P P 10 32 30.2 +0.8
ROCAM Rodrigues Isla 40.07 236 P P 10 32 30.9 +1.1
BTO Baotou 40.44 14 eP P 10 32 33.4 +0.7
BTO S S **10 38 43.6 +5.8**
BTO LR LR
comp=Z,2µm,13.5s
BTO LR LR
comp=Z,3µm,16.3s
SMPI Sarmi 40.74 95 P P 10 32 33.4 -2.0
comp=Z,59nm,1.6s
HHC Hu-ho-hao-te 41.06 16 eP P 10 32 38.5 +0.7
HHC S S **10 38 44.9 -2.2**
HHC pmax pmax
comp=Z,43nm,1.3s
HHC pmax pmax
comp=Z,460nm,5.1s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,810nm,17.8s
HHC LR LR
comp=Z,2µm,16.5s
WB0 Warramunga Arr 41.37 123 P P 10 32 38.9 -1.7
WB0 IAmb IAmb 10 32 48.5
comp=Z,36nm,0.6s
WRA Warramunga Arr 41.40 123 P P 10 32 39.3 -1.5
comp=Z,10nm,0.7s,baz=302,slow=9.0,SNR=32
WRA PcP **PcP 10 34 38.1 -0.2**
comp=Z,1.8nm,0.5s,baz=320,slow=2.6,SNR=0.8
WRA ScP **ScP 10 38 23.6 -0.8**
comp=Z,0.6nm,0.6s,baz=322,slow=2.6,SNR=2.1
WRA S S **10 38 45.3 -7.2**
comp=Z,3.4nm,0.9s,baz=295,slow=16,SNR=4.9
comp=Z,10nm,0.7s
WRA Warramunga Arr 41.40 123 P P 10 32 39.1 -1.7
WRA Warramunga Arr 41.40 123 P P 10 32 39.1 -1.7
WRA pmax pmax
comp=Z,3.0nm,1.4s
WRAB Tennant Creek 41.41 123 P P 10 32 38.9 -2.0
WRAB IAmb IAmb 10 32 49.0
comp=Z,48nm,0.7s
WRAB Tennant Creek 41.41 123 P P 10 32 39.8 -1.0
WRAB Tennant Creek 41.41 123 P P 10 32 38.9 -2.0
WRAB pmax pmax
comp=Z,49nm,0.7s
WRAB Tennant Creek 41.41 123 P P 10 32 39.1 -1.7
WRAB pP **pP 10 32 52.0 -2.1**
WB2 Warramunga Arr 41.41 123 P P 10 32 39.4 -1.5
WB2 IAmb IAmb 10 32 49.0
comp=Z,43nm,0.7s
WR0 Warramunga Arr 41.58 123 P P 10 32 40.8 -1.4
WR0 IAmb IAmb 10 32 50.5
comp=Z,62nm,0.8s
BJT Baijiatuau 41.75 21 P P 10 32 44.1 +0.8
BJT Baijiatuau 41.75 21 P P 10 32 44.1 +0.8
BJT pmax pmax
comp=Z,19nm,0.6s
BJT Baijiatuau 41.75 21 P P 10 32 44.0 +0.7
BJT pP **pP 10 32 56.4 -0.2**
KBL Kabul 42.65 324 P P 10 32 49.6 -1.3
KBL Kabul 42.65 324 P P 10 32 49.6 -1.3
KBL pmax pmax
comp=Z,15nm,0.7s
AS31 Alice Springs 42.83 128 P P 10 32 50.7 -1.7
ASAR Alice Springs 42.83 128 P P 10 32 51.0 -1.5
comp=Z,9.7nm,0.8s,baz=301,slow=7.4,SNR=93
ASAR PcP **PcP 10 34 42.9 -0.1**
comp=Z,5.7nm,0.8s,baz=299,slow=4.4,SNR=6.0
ASAR ScP **ScP 10 38 29.5 -0.5**
comp=Z,1.8nm,0.9s,baz=316,slow=3.9,SNR=3.9
ASAR S S **10 39 07.1 -6.4**
comp=Z,4.2nm,0.8s,baz=295,slow=14,SNR=12
comp=Z,9.7nm,0.8s
ASAR Alice Springs 42.83 128 P P 10 32 51.1 -1.3
FORT Forrest 42.89 141 P P 10 32 53.6 +0.9
baz=43,SNR=31
FORT Forrest 42.89 141 P P 10 32 53.7 +0.9
FORT Forrest 42.89 141 P P 10 32 53.7 +1.0
KSH Kashi 42.92 335 P P 10 32 52.2 -0.8
KSH sP sP 10 33 14.1 +2.0
KSH pmax pmax
comp=Z,8.0nm,0.5s
MSEY Mahe Island 43.02 262 P P 10 32 52.7 -1.4
MSEY IAmb IAmb 10 32 57.4
comp=Z,112nm,1.4s
MSEY Mahe Island 43.02 262 P P 10 32 52.7 -1.4
MSEY pmax pmax
comp=Z,112nm,1.4s
DL2 Dalian 43.03 27 P P 10 32 54.3 +0.6
DL2 S S **10 39 19.1 +3.2**
DL2 pmax pmax
comp=Z,30nm,0.6s
DL2 pmax pmax
comp=Z,190nm,5.2s

DL2 LR LR
comp=Z,390nm,22.6s
DL2 LR LR
comp=Z,530nm,17.9s
DL2 LR LR
comp=Z,560nm,25.3s
WUS Wushi 43.09 339 P **P** **10 32 55.0 +0.7**
WMQ Urumqi 43.19 349 ⇑P **P** **10 32 55.8 +0.8**
WMQ pP pP 10 33 09.2 +0.8
WMQ sP sP 10 33 16.7 +2.5
WMQ pmax pmax
comp=Z,54nm,1.1s
WMQ pmax pmax
comp=Z,150nm,5.9s
WMQ LR LR
comp=Z,340nm,16.7s
WMQ LR LR
comp=Z,410nm,13.3s
WMQ LR LR
comp=Z,260nm,20.5s
WMQ Urumqi 43.19 349 P **P** **10 32 56.1 +1.1**
WMQ pP **pP** **10 33 09.4 +1.0**
WSAR Wadi Sarin 43.97 303 P **P** **10 33 02.6 +1.0**
comp=Z,5.6nm,0.6s,baz=147,slow=6.3,SNR=5.9
WSAR LR LR 10 52 17.4
comp=Z,107nm,18.1s,baz=122,slow=37
comp=Z,5.6nm,0.6s
JNU Nakatsue 44.02 41 P **P** **10 33 00.6 -1.3**
JNU IAmb IAmb 10 33 03.7
comp=Z,92nm,1.4s
TJN Taejon 44.05 35 P **P** **10 33 01.3 -0.6**
TJN Taejon 44.05 35‖ *e*P **P** **10 33 01.8 -0.1**
TARG Taragay, Kyrgy 44.07 338 P **P** **10 33 03.6 +1.1**
TARG IAmb IAmb 10 33 07.8
comp=Z,46nm,0.9s
TARG Taragay, Kyrgy 44.07 338 P **P** **10 33 03.6 +1.1**
TARG pmax pmax
comp=Z,46nm,0.9s
SHLS Shalkode 44.74 341 *e*P **P** **10 33 07.5 0.0**
baz=341
SHLS *i* S **S** **10 39 40.3 -0.6**
baz=341
SHLS *e*S **S** **10 39 40.4 -0.6**
baz=341
SHLS Shalkode 44.74 341 *e*P **P** **10 33 07.5 0.0**
SHLS *e*S **S** **10 39 40.3 -0.6**
UZB Uzynbulak 44.88 340 *e*P **P** **10 33 09.6 +0.9**
comp=Z,18nm,0.6s,baz=340
UZB *e*S **S** **10 39 43.7 +0.7**
baz=340
UZB Uzynbulak 44.88 340 *e*P **P** **10 33 09.5 +0.9**
UZB *e*S **S** **10 39 43.7 +0.7**
UZB pmax pmax
comp=Z,18nm,0.6s
SATY Saty 45.01 340 *e*P **P** **10 33 10.6 +0.9**
comp=Z,35nm,1.1s,baz=340
SATY Saty 45.01 340 *e*P **P** **10 33 10.6 +0.9**
SATY pmax pmax
comp=Z,35nm,1.1s
KSAR Wonju Array Be 45.10 34 P **P** **10 33 10.4 +0.1**
KSAR Wonju Array Be 45.10 34 P **P** **10 33 10.4 +0.1**
ZHN Zhinishke 45.10 340 *e*P **P** **10 33 10.8 +0.4**
baz=340
ZHN Zhinishke 45.10 340 *e*P **P** **10 33 10.8 +0.4**
KSRS Korea Array 45.13 34 P **P** **10 33 10.6 0.0**
comp=Z,7.0nm,0.7s,baz=213,slow=9.3,SNR=23
KSRS ScP **ScP** **10 38 38.5 -0.6**
comp=Z,1.0nm,1.0s,baz=188,slow=3.8,SNR=4.6
comp=Z,7.0nm,0.7s
KS19 Wonju Array Si 45.13 34 P **P** **10 33 09.9 -0.7**
KS19 IAmb IAmb 10 33 23.1
comp=Z,32nm,0.8s
GAR Garm 45.18 329 P **P** **10 33 11.0 -0.1**
GAR IAmb IAmb 10 34 07.9
comp=Z,40nm,0.8s
XLT XiLinHaoTe 45.19 18 *e*P **P** **10 33 11.7 +0.7**
XLT pP pP 10 33 23.8 -0.7
XLT sP sP 10 33 32.0 +1.7
XLT PP **PP** **10 35 00.6 +3.1**
XLT ScP **ScP** **10 38 37.7 -1.6**
XLT S **S** **10 39 48.2 +0.9**
XLT sS sS 10 40 14.5 +4.7
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,210nm,4.8s
XLT LR LR
comp=Z,470nm,21.2s
XLT LR LR
comp=Z,540nm,20.8s
KPKS Kokpek 45.27 340 *e*P **P** **10 33 12.1 +0.4**
comp=Z,20nm,1.2s,baz=340
KPKS Kokpek 45.27 340 *e*P **P** **10 33 12.1 +0.4**
KPKS pmax pmax
comp=Z,20nm,1.2s
TNSS Tian-Shan 45.52 338 *e*P **P** **10 33 14.5 +0.4**
baz=338
TNSS Tian-Shan 45.52 338 *e*P **P** **10 33 14.4 +0.4**
CHGR Chuyangaron 45.53 328 P **P** **10 33 13.1 -0.8**
CHGR IAmb IAmb 10 33 45.5
comp=Z,63nm,0.8s
CHGR Chuyangaron 45.53 328 P **P** **10 33 13.1 -0.8**
CHGR pmax pmax
comp=Z,63nm,0.8s
MDOK Medeo 45.59 338 P **P** **10 33 14.6 +0.3**
SIMJ Simiganj 45.61 328 P **P** **10 33 14.2 -0.3**
AAA Alma-Ata 45.68 338 *e*P **P** **10 33 15.4 +0.5**
baz=338
AAA Alma-Ata 45.68 338 *e*P **P** **10 33 15.4 +0.5**
UCH Uchtor 45.79 335 P **P** **10 33 17.2 +0.9**
SNR=13
TKM2 Tokmak 2 45.93 337 P **P** **10 33 18.1 +1.0**
SNR=22
TKM2 Tokmak 2 45.93 337 P **P** **10 33 16.8 -0.3**
KBK Karagaybulak 45.97 336 P **P** **10 33 19.1 +1.8**
SNR=19
AML Almayashu 46.05 335 P **P** **10 33 18.9 +0.6**
SNR=16
AAK Ala-Archa 46.14 336 P **P** **10 33 21.0 +2.3**
SNR=8.0
AAK Ala-Archa 46.14 336 P **P** **10 33 18.1 -0.6**
comp=Z,2.8nm,0.3s,baz=163,slow=9.2,SNR=14
AAK LR LR 10 55 41.4
comp=Z,203nm,19.6s,baz=149,slow=40
comp=Z,2.8nm,0.3s
AAK Ala-Archa 46.14 336 P **P** **10 33 18.0 -0.6**
AAK IAmb IAmb 10 33 35.5
comp=Z,103nm,1.6s
AAK Ala-Archa 46.14 336 *de*P **P** **10 33 20.2 +1.5**
AAK pmax pmax
comp=Z,23nm,1.7s
AAK Ala-Archa 46.14 336 P **P** **10 33 20.0 +1.3**
AAK pP **pP** **10 33 32.8 +0.6**
QIS Mount Isa 46.14 121 P **P** **10 33 17.9 -1.0**
baz=46,SNR=9.9
QIS Mount Isa 46.14 121 P **P** **10 33 17.7 -1.2**
CHKK Chushkaly 46.21 339 *e*P **P** **10 33 18.8 -0.2**
baz=339
CHKK Chushkaly 46.21 339 *e*P **P** **10 33 18.8 -0.2**
SNY Shenyang 46.27 26 ⇓P **P** **10 33 19.2 -0.3**
SNY S **S** **10 40 00.8 -1.9**
SNY pmax pmax
comp=Z,42nm,1.0s
SNY pmax pmax
comp=Z,210nm,3.7s
SNY LR LR
comp=Z,730nm,19.6s
SNY LR LR
comp=Z,360nm,14.7s
SNY LR LR
comp=Z,810nm,18.6s
CHMS Chumysh 46.33 336 P **P** **10 33 20.5 +0.5**
SNR=6.3
CHMS Chumysh 46.33 336 P **P** **10 33 20.2 +0.1**
OOD Oodnadatta 46.36 132 P **P** **10 33 19.8 -0.6**
JMN Monobe 46.38 42 P **P** **10 33 18.8 -1.8**
JMN Monobe 46.38 42 P **P** **10 33 21.3 +0.8**
EKS2 Erkin-Say 46.45 335 P **P** **10 33 22.2 +1.1**
SNR=6.9
KUU Kurty 46.48 338 *e*P **P** **10 33 21.1 0.0**
comp=Z,37nm,1.2s,baz=338
KUU Kurty 46.48 338 *e*P **P** **10 33 21.1 0.0**
KUU pmax pmax
comp=Z,37nm,1.2s
MULG Mulgathing 46.58 136 P **P** **10 33 21.7 -0.4**
JHS Saijyo 46.64 40 P **P** **10 33 21.6 -0.9**
JHS Saijyo 46.64 40 P **P** **10 33 23.3 +0.8**
USP Ospenovka 46.66 336 P **P** **10 33 23.4 +0.8**
SNR=16
UOSS Minazif 46.69 304 P **P** **10 33 22.2 -0.9**
UOSS IAmb IAmb 10 34 14.5
comp=Z,55nm,1.6s
SONM Songino Array 46.75 8 P **P** **10 33 23.3 0.0**
comp=Z,17nm,0.7s,baz=191,slow=9.7,SNR=136
SONM PcP **PcP** **10 34 56.3 +0.2**
comp=Z,3.2nm,0.5s,baz=187,slow=4.9,SNR=4.1
SONM ScP **ScP** **10 38 45.3 -0.4**
comp=Z,0.2nm,0.3s,baz=184,slow=4.2,SNR=4.0
SONM LR LR 10 55 01.2
comp=Z,810nm,20.6s,baz=190,slow=38
comp=Z,17nm,0.7s
SONM Songino Array 46.75 8 P **P** **10 33 23.1 -0.3**
SONM IAmb IAmb 10 33 36.7
comp=Z,31nm,1.0s
SGDS Sogindy 46.76 337 *e*P **P** **10 33 23.5 +0.1**
baz=336
SGDS Sogindy 46.76 337 *e*P **P** **10 33 23.5 +0.1**
HRA Herat 46.83 318 P **P** **10 33 23.9 -0.4**
ULN Ulaanbaatar 46.87 8 P **P** **10 33 23.4 -0.9**
ULN IAmb IAmb 10 33 26.1
comp=Z,60nm,1.6s
ULN Ulaanbaatar 46.87 8*c i*P **P** **10 33 24.6 +0.3**
ULN pmax pmax
comp=Z,30nm,1.3s
ULN Ulaanbaatar 46.87 8 P **P** **10 33 24.7 +0.4**
RER Riviere de l'E 47.12 239 P **P** **10 33 28.6 +1.9**
RER sP **sP** **10 33 46.5 +0.6**
COEN Coen 47.20 110 P **P** **10 33 26.1 -1.1**
baz=47,SNR=12
COEN Coen 47.20 110 P **P** **10 33 26.1 -1.1**
COEN Coen 47.20 110 P **P** **10 33 26.1 -1.1**
MK31 Makanchi Array 47.22 345 P **P** **10 33 27.0 +0.1**
MK31 IAmb IAmb 10 33 44.4
comp=Z,66nm,1.0s
MK31 Makanchi Array 47.22 345*c i*P **P** **10 33 27.2 +0.3**
MKAR Makanchi Array 47.22 345 P **P** **10 33 27.1 +0.2**
comp=Z,36nm,0.6s,baz=159,slow=7.6,SNR=214
MKAR S **S** **10 40 16.4 0.0**
comp=Z,1.2nm,0.9s,baz=182,slow=12,SNR=3.6
MKAR LR LR 10 56 05.0
comp=Z,147nm,20.0s,baz=159,slow=39
comp=Z,36nm,0.6s
MKAR Makanchi Array 47.22 345 P **P** **10 33 27.0 0.0**
ZSN Zaisan 47.24 348 *e*P **P** **10 33 27.7 +0.7**
comp=Z,26nm,1.1s,baz=348
ZSN Zaisan 47.24 348 *e*P **P** **10 33 27.7 +0.7**
ZSN pmax pmax
comp=Z,26nm,1.1s
MAKZ Makanchi 47.31 345 P **P** **10 33 27.5 -0.1**
MAKZ Makanchi 47.31 345 P **P** **10 33 27.5 -0.1**
MAKZ pmax pmax
comp=Z,60nm,0.7s
MAKZ Makanchi 47.31 345 P **P** **10 33 27.8 +0.2**
IUG luzhnay 47.72 332 *e*P **P** **10 33 31.5 +0.6**
baz=332
IUG luzhnay 47.72 332 *e*P **P** **10 33 31.5 +0.6**
KK31 Karatay Array 48.24 333 P **P** **10 33 34.5 -0.3**
KK31 Karatay Array 48.24 333 P **P** **10 33 34.8 0.0**
KKAR Karatay Array 48.24 333 P **P** **10 33 34.5 -0.3**
KKAR Karatay Array 48.24 333 P **P** **10 33 34.9 +0.1**
KKAR Karatay Array 48.24 333 P **P** **10 33 34.9 +0.1**
BTLS Baital 48.32 337 *e*P **P** **10 33 35.2 -0.2**
baz=337
BTLS Baital 48.32 337 *e*P **P** **10 33 35.2 -0.2**
CN2 Changchun 48.67 26 *e*P **P** **10 33 38.2 +0.1**
CN2 *e*pP pP 10 33 52.2 +0.5
CN2 *e*S **S** **10 40 36.9 0.0**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,14.0s
DGZ Jazzator, Alta 48.92 351*c i*P **P** **10 33 40.8 +0.6**
DGZ pmax pmax
comp=Z,39nm,1.1s
ZAK Zakamensk 48.95 4 *e*P **P** **10 33 40.2 -0.1**
ZAK pmax pmax
comp=Z,19nm,1.2s
JCJ Chichijima 49.33 55 LR LR 10 51 56.7
comp=Z,156nm,21.6s,baz=312,slow=33
MANU Manus Island 49.37 94 P **P** **10 33 43.4 -0.7**
MANU IAmb IAmb 10 33 44.4
comp=Z,54nm,0.9s
INU Inuyama 49.42 43 P **P** **10 33 42.8 -1.3**
INU Inuyama 49.42 43 P **P** **10 33 43.5 -0.6**
INU Inuyama 49.42 43 P **P** **10 33 43.5 -0.6**
BBOO Buckleboo 49.44 137 P **P** **10 33 43.6 -0.6**
baz=50,SNR=56
BBOO Buckleboo 49.44 137 P **P** **10 33 43.3 -0.9**
BBOO IAmb IAmb 10 33 44.6
comp=Z,29nm,1.1s
BBOO Buckleboo 49.44 137 P **P** **10 33 43.6 -0.6**
MTSU Mount Surprise 49.45 115 P **P** **10 33 44.4 -0.2**
LCRK Leigh Creek 49.64 133 P **P** **10 33 45.1 -0.7**
JGF Kuroka 49.80 42 P **P** **10 33 46.7 -0.2**
JGF IAmb IAmb 10 33 47.5
comp=Z,56nm,0.9s
JGF Kuroka 49.80 42 P **P** **10 33 46.5 -0.4**
PMG Port Moresby 50.03 103 P **P** **10 33 48.6 -0.3**
comp=Z,111nm,0.5s,baz=325,slow=12,SNR=3.3
comp=Z,111nm,0.5s
PMG Port Moresby 50.03 103 P **P** **10 33 47.9 -1.1**
PMG IAmb IAmb 10 33 49.1
comp=Z,18nm,0.8s
MOY Mondy 50.09 2 *e*P **P** **10 33 49.1 +0.1**
MOY pmax pmax
comp=Z,52nm,3.1s
JHJ Hachijo jima 2 50.18 47 LR LR 10 55 02.8
comp=Z,182nm,18.1s,baz=282,slow=36
INKA Innaminka 50.20 129 P **P** **10 33 49.7 -0.3**
JHJ2 Mitsune 50.20 47 P **P** **10 33 48.1 -1.8**
IRK Irkutsk 50.87 5 *e*P **P** **10 33 55.2 +0.5**
IRK pmax pmax
comp=Z,63nm,1.9s
MJB9 Matsu-Tunnel 50.89 42 P **P** **10 33 55.1 -0.1**
MJB9 IAmb IAmb 10 33 60.0
comp=Z,31nm,0.9s
MAJO Matsushiro 50.89 42 P **P** **10 33 54.4 -0.8**
MAJO IAmb IAmb 10 33 59.0
comp=Z,31nm,0.9s
MAJO Matsushiro 50.89 42 P **P** **10 33 55.4 +0.2**
MAJO Matsushiro 50.89 42*d i*P **P** **10 33 54.8 -0.4**
MAJO pmax pmax
comp=Z,24nm,0.9s
MAJO Matsushiro 50.89 42 P **P** **10 33 55.2 0.0**
MJAR Matsushiro Arr 50.89 42 P **P** **10 33 54.6 -0.6**
comp=Z,32nm,1.0s,baz=222,slow=6.6,SNR=37
MJAR LR LR 10 56 37.0
comp=Z,435nm,18.4s,baz=244,slow=37
comp=Z,32nm,1.0s
BNX BinXian 51.05 26 ⇓P **P** **10 33 56.5 +0.3**
BNX pmax pmax
comp=Z,58nm,0.7s
BNX pmax pmax
comp=Z,130nm,11.8s
HIA Hailar 51.11 18 P **P** **10 33 56.7 +0.1**
HIA Hailar 51.11 18 P **P** **10 33 56.7 +0.1**
HIA pmax pmax
comp=Z,24nm,1.0s
MDJ Mudanjiang 51.21 29 P **P** **10 33 57.0 -0.3**
MDJ IAmb IAmb 10 33 59.3
comp=Z,33nm,1.1s
MDJ Mudanjiang 51.21 29 P **P** **10 33 58.4 +1.0**
MDJ S **S** **10 41 15.4 +3.2**
MDJ pmax pmax
comp=Z,32nm,1.2s
MDJ pmax pmax
comp=Z,220nm,5.9s
MDJ LR LR
comp=Z,1μm,17.6s
MDJ LR LR
comp=Z,500nm,17.4s
MDJ LR LR
comp=Z,1μm,17.3s
MDJ Mudanjiang 51.21 29 P **P** **10 33 58.1 +0.7**
MDJ pP **pP** **10 34 12.0 +1.0**
GEYT Alibeck 51.60 320 P **P** **10 34 00.5 0.0**
comp=Z,11nm,0.7s,baz=134,slow=8.3,SNR=14
GEYT LR LR 10 57 25.1
comp=Z,192nm,21.7s,baz=168,slow=38
comp=Z,11nm,0.7s
GEYT Alibeck 51.60 320 P **P** **10 34 00.9 +0.4**
GEYT IAmb IAmb 10 34 20.1
comp=Z,29nm,0.9s
GYA0 ALIBECK ARRAY 51.60 320 P **P** **10 33 59.0 -1.5**
GYA0B ALIBECK ARRAY 51.60 320 P **P** **10 34 00.8 +0.2**
GYA0B IAmb IAmb 10 34 25.7
comp=Z,31nm,0.8s
KURBB Kurchatov Arra 51.73 344 P **P** **10 34 01.2 +0.1**
comp=Z,8.6nm,0.6s,baz=163,slow=7.1,SNR=63
KURBB S **S** **10 41 22.0 +2.8**
comp=Z,4.1nm,1.0s,baz=159,slow=13,SNR=6.7
comp=Z,8.6nm,0.6s
HTT Hallett 51.77 136 P **P** **10 34 01.8 -0.1**
baz=52,SNR=11
HTT Hallett 51.77 136 P **P** **10 34 01.4 -0.4**
comp=Z,27nm,1.0s
JSD Sado 51.77 40 P **P** **10 34 00.6 -1.1**
JSD IAmb IAmb 10 34 01.9
comp=Z,39nm,0.8s
JSD Sado 51.77 40 P **P** **10 34 01.2 -0.5**
KURK Kurchatov 51.79 344 P **P** **10 34 02.0 +0.4**
KURK Kurchatov 51.79 344 P **P** **10 34 02.0 +0.4**
KURK pmax pmax
comp=Z,97nm,1.2s
KURK Kurchatov 51.79 344 P **P** **10 34 01.9 +0.4**
CTA Charters Tower 51.81 117 LR LR 10 59 02.3
comp=Z,276nm,18.2s,baz=272,slow=40
CTAO Charters Tower 51.81 117 P **P** **10 34 02.0 -0.3**
CTAO IAmb IAmb 10 35 31.5
comp=Z,46nm,1.3s
CTAO Charters Tower 51.81 117 P **P** **10 34 02.2 -0.1**
CTAO Charters Tower 51.81 117 P **P** **10 34 02.0 -0.3**
CTAO pmax pmax
comp=Z,46nm,1.3s
CTAO Charters Tower 51.81 117 P **P** **10 34 01.6 -0.6**
CTAO sP **sP** **10 34 20.5 -1.2**
USA0B Ussuriysk Arra 52.09 31 P **P** **10 34 04.2 +0.2**
USA0B Ussuriysk Arra 52.09 31*c i*P **P** **10 34 04.1 +0.2**
USRK Ussuriysk Ar. 52.09 31 P **P** **10 34 04.4 +0.4**
comp=Z,75nm,0.9s,baz=226,slow=5.2,SNR=94
comp=Z,75nm,0.9s
QLP Quilpie 52.47 126 P **P** **10 34 07.0 -0.1**
baz=52,SNR=14
QLP Quilpie 52.47 126 P **P** **10 34 06.9 -0.1**
STKA Stephens Creek 52.86 133 P **P** **10 34 09.1 -0.8**
comp=Z,18nm,0.8s,baz=308,slow=7.5,SNR=38
comp=Z,18nm,0.8s
STKA Stephens Creek 52.86 133 P **P** **10 34 09.6 -0.3**
baz=53,SNR=18
STKA Stephens Creek 52.86 133 P **P** **10 34 09.8 -0.1**
STKA Stephens Creek 52.86 133 P **P** **10 34 09.7 -0.2**
JMM Marumori 53.34 42 P **P** **10 34 12.8 -0.5**
ZAA0 Zalesovo Array 53.46 350 P **P** **10 34 13.9 0.0**
ZALV Zalesovo Beam 53.46 350 P **P** **10 34 13.9 0.0**
comp=Z,34nm,0.6s,baz=171,slow=6.9,SNR=154
ZALV S **S** **10 41 42.7 +0.1**
comp=Z,2.2nm,0.9s,baz=168,slow=15,SNR=6.5
ZALV LR LR 10 59 47.6
comp=Z,219nm,19.1s,baz=166,slow=39
comp=Z,34nm,0.6s
ZALV Zalesovo Beam 53.46 350 P **P** **10 34 14.0 +0.1**
OPO Ambohidratompo 53.86 246 P **P** **10 34 18.5 +0.9**
comp=Z,24nm,1.0s,baz=73,slow=8.9,SNR=14
comp=Z,24nm,1.0s
ABPO Ambohimpanom 53.95 245 P **P** **10 34 18.1 -0.2**
ABPO IAmb IAmb 10 34 20.9
comp=Z,111nm,1.9s
ABPO Ambohimpanom 53.95 245 P **P** **10 34 18.1 -0.2**
ABPO pmax pmax
comp=Z,111nm,1.9s
ABPO Ambohimpanom 53.95 245 P **P** **10 34 19.7 +1.4**
ABPO pP **pP** **10 34 32.4 +0.5**
ABPO sP **sP** **10 34 37.5 -0.1**
HEH HeiHe 54.62 23 *e*P **P** **10 34 22.7 +0.3**
HEH pmax pmax
comp=Z,53nm,1.3s
HEH pmax pmax
comp=Z,190nm,6.6s
HEH LR LR
comp=Z,620nm,20.7s
HEH LR LR
comp=Z,430nm,14.6s
JTM Tenmabayashi 55.12 39 P **P** **10 34 26.1 -0.1**
JTM Tenmabayashi 55.12 39 P **P** **10 34 26.8 +0.6**
VOI Vohitsoka 55.19 242 P **P** **10 34 27.6 +0.4**
VOI IAmb IAmb 10 34 29.2
comp=Z,51nm,1.6s
VOI Vohitsoka 55.19 242 P **P** **10 34 29.1 +2.0**
RAYN Ar Rayn 55.44 298 P **P** **10 34 28.6 -0.3**
RAYN Ar Rayn 55.44 298 ⇑P **P** **10 34 29.4 +0.5**
RAYN Ar Rayn 55.44 298 P **P** **10 34 29.4 +0.5**
RAYN pP **pP** **10 34 43.2 +0.7**
RAYN sP **sP** **10 34 48.7 +0.5**
ARPS Mount Arapiles 55.60 138 P **P** **10 34 31.0 +1.3**
KLR Kul'dur 55.62 26*c i*P **P** **10 34 30.3 +0.6**
KLR pmax pmax
comp=Z,212nm,1.7s
ATD Arta Tunnel 55.72 283 P **P** **10 34 30.5 -0.5**
ATD IAmb IAmb 10 34 33.7
comp=Z,83nm,1.8s
ATD Arta Tunnel 55.72 283 P **P** **10 34 32.4 +1.3**
ATD sP **sP** **10 34 50.5 +0.2**
CMSA Cobar Meteorol 55.76 130 P **P** **10 34 31.0 0.0**
baz=56,SNR=83
CMSA Cobar Meteorol 55.76 130 P **P** **10 34 30.7 -0.3**
RMQ Roma 56.16 123 P **P** **10 34 34.7 +0.7**
baz=56,SNR=6.7
RMQ Roma 56.16 123 P **P** **10 34 34.5 +0.5**
BVA0 Borovoye Array 56.31 340 *i*P **P** **10 34 33.6 -1.0**
BVAR Borovoye Array 56.31 340 P **P** **10 34 34.0 -0.6**
comp=Z,19nm,0.5s,baz=142,slow=9.3,SNR=117
BVAR S **S** **10 42 18.6 -2.5**
comp=Z,2.4nm,0.9s,baz=144,slow=18,SNR=5.5
BVAR LR LR 11 02 11.3
comp=Z,336nm,20.7s,baz=148,slow=40
comp=Z,19nm,0.5s
BRVK Borovoye 56.38 340 P **P** **10 34 34.5 -0.5**
BRVK IAmb IAmb 10 34 52.5
comp=Z,35nm,1.1s
BRVK Borovoye 56.38 340 P **P** **10 34 34.5 -0.5**
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 56.38 340 P **P** **10 34 34.6 -0.4**
ERM Erimo 57.10 39 P **P** **10 34 43.9 +3.6**
ERM Erimo 57.10 39⇑ *e*P **P** **10 34 41.7 +1.4**
ERM pmax pmax
comp=Z,48nm,1.4s
JEM Erimo 57.10 39 P **P** **10 34 44.6 +4.3**
ZEA Zeya 57.38 20 *e*P **P** **10 34 42.8 +0.7**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,300nm,16.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
BOD Bodaibo 57.60 10 *e*P **P** **10 34 43.8 +0.3**
BOD pmax pmax
comp=Z,56nm,1.6s
AB31 Akbulak array 57.72 331 *e*P **P** **10 34 43.4 -1.2**
ABKAR Akbulak array 57.72 331 P **P** **10 34 43.9 -0.6**
ABKAR IAmb IAmb 10 35 05.1
comp=Z,28nm,0.8s
ABKAR Akbulak array 57.72 331 P **P** **10 34 44.0 -0.6**
EIDS Eidsvold 57.73 121 P **P** **10 34 44.9 -0.2**
baz=58,SNR=18
EIDS Eidsvold 57.73 121 P **P** **10 34 45.0 -0.1**
EIDS IAmb IAmb 10 34 45.8
comp=Z,39nm,1.1s
EIDS Eidsvold 57.73 121 P **P** **10 34 44.4 -0.7**
comp=Z,34nm,1.1s
ASAJ Asahikawa 57.91 37 P **P** **10 34 46.5 +0.4**
comp=Z,63nm,1.2s,baz=258,slow=9.4,SNR=7.7
comp=Z,63nm,1.2s
JKA Kamikawa-asahi 57.92 37 P **P** **10 34 46.4 +0.4**
LKRN Lenkeran, Azer 58.30 316 P **P** **10 34 49.7 +0.9**

TOO Toolangi 58.50 137 P **P** **10 34 50.9 +0.6**
baz=59,SNR=3.9
TOO Toolangi 58.50 137 P **P** **10 34 51.9 +1.6**
TOO IAmb IAmb 10 34 52.7
comp=Z,26nm,1.1s
TOO Toolangi 58.50 137 P **P** **10 34 51.2 +0.9**
TOO Toolangi 58.50 137 P **P** **10 34 51.9 +1.6**
TOO pmax pmax
comp=Z,26nm,1.2s
GRNR Gornyy 58.83 27⇑*iP* **P** **10 34 53.0 +0.7**
GRNR *eS* **S** **10 42 57.8 +3.6**
GRNR pmax pmax
comp=E,7.0nm,1.2s
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR smax smax
comp=N,3.0nm,0.9s
GRNR MLR MLR
comp=E,300nm,16.0s
GRNR MLR MLR
comp=Z,340nm,15.0s
AKTO Aktyubinsk 59.44 331 P **P** **10 34 55.8 -0.8**
comp=Z,4.2nm,0.5s,baz=119,slow=6.8,SNR=21
AKTO LR LR 11 02 59.0
comp=Z,213nm,18.6s,baz=108,slow=38
comp=Z,4.2nm,0.5s
YSS Yuzh-Sakhalins 59.63 34 P **P** **10 34 58.4 +0.5**
YSS Yuzh-Sakhalins 59.63 34 *eP* **P** **10 34 58.5 +0.6**
YSS pmax pmax
comp=Z,100nm,0.9s
YSS Yuzh-Sakhalins 59.63 34 P **P** **10 34 58.2 +0.4**
YSS pP **pP** **10 35 11.9 +0.1**
CAN Canberra 59.92 133 P **P** **10 35 00.8 +0.6**
CAN IAmb IAmb 10 35 02.6
comp=Z,37nm,1.2s
CAN Canberra 59.92 133 P **P** **10 35 00.8 +0.6**
CAN Canberra 59.92 133 P **P** **10 35 00.8 +0.6**
CAN pmax pmax
comp=Z,37nm,1.2s
CAN Canberra 59.92 133 P **P** **10 35 00.4 +0.2**
ARMA Armidale 59.95 127 P **P** **10 35 00.5 0.0**
baz=60,SNR=5.8
ARMA Armidale 59.95 127 P **P** **10 35 01.5 +1.0**
ARMA IAmb IAmb 10 35 02.8
comp=Z,34nm,1.0s
ARMA Armidale 59.95 127 P **P** **10 35 01.6 +1.0**
KIBK Kibwezi 60.17 266 P **P** **10 35 01.6 -0.7**
SEKA Sheki 60.52 318 P **P** **10 35 04.5 +0.3**
NAX Nakhchivan 60.81 315 P **P** **10 35 07.0 +0.7**
GANJ Ganja 60.86 317 P **P** **10 35 07.3 +0.8**
KMBO Kilima Mbogo 60.91 268 P **P** **10 35 07.1 -0.5**
comp=Z,4.1nm,0.8s,baz=81,slow=6.4,SNR=11
KMBO LR LR 10 56 45.7
comp=Z,279nm,21.0s,baz=95,slow=31
comp=Z,4.1nm,0.8s
KMBO Kilima Mbogo 60.91 268 P **P** **10 35 08.2 +0.7**
KMBO Kilima Mbogo 60.91 268*deP* **P** **10 35 06.6 -0.9**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 60.91 268 P **P** **10 35 09.1 +1.6**
KMBO pP **pP** **10 35 23.0 +1.6**
GNI Garni 61.74 316 LR LR 11 03 56.3
comp=Z,107nm,21.2s,baz=119,slow=38
GNI Garni 61.74 316 P **P** **10 35 13.3 +0.7**
GNI IAmb IAmb 10 35 38.2
comp=Z,52nm,1.2s
GNI Garni 61.74 316 P **P** **10 35 13.3 +0.7**
GNI pmax pmax
comp=Z,52nm,1.2s
GNI Garni 61.74 316 P **P** **10 35 13.3 +0.7**
GNI pP **pP** **10 35 27.6 +1.1**
GNI sP **sP** **10 35 33.2 +1.0**
TYV Tymovskoe 61.90 30 *eP* **P** **10 35 14.6 +1.4**
TYV *eS* **S** **10 43 37.2 +3.8**
TYV pmax pmax
comp=Z,16nm,1.2s
TYV pmax pmax
comp=Z,300nm,3.3s
TYV smax smax
comp=E,200nm,4.9s
MOO Moorlands 62.11 141 P **P** **10 35 15.6 +0.7**
GEVA Gevas 62.22 313 P **P** **10 35 15.5 -0.4**
GROC Groznyy 62.35 319 *eP* **P** **10 35 16.1 -0.3**
GROC *e**PP **pP** **10 35 28.6 -1.7**
GROC *e**SP **sP** **10 35 33.5 -2.4**
GROC *e* 10 35 55.3
GROC *e* 10 37 34.3
GROC pmax pmax
comp=Z,58nm,0.8s
LODK Lodwar 62.71 273 P **P** **10 35 20.6 +1.1**
SVE Sverdlovsk 62.79 338 *eP* **P** **10 35 19.0 -0.1**
SVE pmax pmax
comp=Z,72nm,1.3s
GURO Guroymak-BITLI 63.06 313 P **P** **10 35 21.6 +0.2**
AKH Akhalkalaki 63.12 317 P **P** **10 35 22.4 +0.6**
AKH Akhalkalaki 63.12 317 P **P** **10 35 22.5 +0.6**
ARU Arti 63.31 337 P **P** **10 35 21.7 -0.8**
comp=Z,4.1nm,0.4s,baz=156,slow=5.3,SNR=7.9
ARU LR LR 11 04 45.9
comp=Z,314nm,22.0s,baz=134,slow=38
comp=Z,4.1nm,0.4s
ARU Arti 63.31 337 P **P** **10 35 21.8 -0.8**
ARU IAmb IAmb 10 35 41.0
comp=Z,54nm,1.3s
ARU Arti 63.31 337⇑*eP* **P** **10 35 21.9 -0.6**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 63.31 337 P **P** **10 35 22.1 -0.4**
MARD Mardin 63.55 311 P **P** **10 35 25.0 +0.3**
MARD IAmb IAmb 10 35 46.6
comp=Z,23nm,0.6s
ONI Oni 63.64 318 P **P** **10 35 25.3 +0.2**
ONI IAmb IAmb 10 36 03.4
comp=Z,36nm,1.5s
ONI Oni 63.64 318 P **P** **10 35 25.3 +0.2**
ONI pmax pmax
comp=Z,36nm,1.5s
KBZ Khabaz 64.48 319 P **P** **10 35 30.4 -0.1**
comp=Z,12nm,1.0s,baz=123,slow=6.0,SNR=14
comp=Z,12nm,1.0s
KBZ Khabaz 64.48 319⇑*eP* **P** **10 35 30.3 -0.1**
KBZ pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 64.71 319 ⇑P **P** **10 35 32.4 +0.2**
KIV Kislovodsk 64.71 319 P **P** **10 35 31.8 -0.4**
KIV IAmb IAmb 10 35 50.1
comp=Z,41nm,1.0s
KIV Kislovodsk 64.71 319*ceP* **P** **10 35 31.7 -0.4**
KIV *e* 10 36 03.5
KIV *e* 10 37 51.5
KIV *e*PPP PPP 10 39 26.8
KIV pmax pmax
comp=Z,26nm,1.0s
KIV Kislovodsk 64.71 319 P **P** **10 35 32.1 -0.1**
KIV pP **pP** **10 35 47.4 +1.3**
YAK Yakutsk 64.93 16 P **P** **10 35 31.9 -1.1**
comp=Z,15nm,0.5s,baz=336,slow=1.2,SNR=10
YAK LR LR 11 06 26.9
comp=Z,755nm,18.2s,baz=264,slow=38
comp=Z,15nm,0.5s
YAK Yakutsk 64.93 16 P **P** **10 35 32.2 -0.8**
YAK Yakutsk 64.93 16*c iP* **P** **10 35 32.5 -0.5**
YAK *eS* **S** **10 44 05.6 -5.1**
YAK *e**PP 11 35 43.1
YAK *e* 11 35 55.0
YAK *e**SS 11 44 51.3
YAK pmax pmax
comp=Z,36nm,1.0s
YAK pmax pmax
comp=N,18nm,1.4s
YAK pmax pmax
comp=E,424nm,15.4s
YAK pmax pmax
comp=Z,135nm,3.8s
YAK smax smax
comp=E,66nm,2.7s
YAK MLR MLR
comp=Z,826nm,16.0s
YAK MLR MLR
comp=E,424nm,15.0s
YAK MLR MLR
comp=N,514nm,20.0s
YAK Yakutsk 64.93 16 P **P** **10 35 32.6 -0.4**

YAK pP **pP** **10 35 46.2 -0.9**
BELG Belogornoye 65.81 329 P **P** **10 35 37.3 -1.6**
comp=N,15nm,0.7s,baz=358,slow=2.3,SNR=6.8
BELG LR LR 11 09 15.3
comp=N,159nm,19.4s,baz=138,slow=40
comp=N,15nm,0.7s
BELG Belogornoye 65.81 329*deP* **P** **10 35 38.5 -0.4**
BELG pmax pmax
comp=Z,4.0nm,0.9s
EIL Elat 66.09 302 LR LR 11 04 57.7
comp=Z,263nm,18.6s,baz=100,slow=36
GAZ Gaziantep 66.20 310 P **P** **10 35 41.7 -0.1**
GAZ IAmb IAmb 10 35 59.1
comp=Z,32nm,1.0s
MMAI Mount Meron Ar 66.49 305 LR LR 11 07 41.4
comp=Z,172nm,18.2s,baz=180,slow=38
SOC Sochi 66.54 318 *eP* **P** **10 35 39.5 -4.3**
SOC *e* 10 38 11.5
SOC *e*PPP PPP 10 39 43.4
SOC *eS* **S** **10 44 25.3 -5.8**
SOC *eSS* **SS** **10 48 51.1 +2.0**
SOC MLR MLR
comp=Z,129nm,18.0s
MBAR Mbarara 67.40 269 P **P** **10 35 50.1 0.0**
MBAR IAmb IAmb 10 35 52.6
comp=Z,27nm,1.2s
MBAR Mbarara 67.40 269*ceP* **P** **10 35 51.7 +1.7**
MBAR pmax pmax
comp=Z,26nm,1.1s
MBAR Mbarara 67.40 269 P **P** **10 35 51.5 +1.5**
MBAR pP **pP** **10 36 04.5 +0.5**
MBAR sP **sP** **10 36 10.9 +1.3**
BNN Bunyan 67.72 312 P **P** **10 35 51.7 +0.1**
NRIK Noril'sk 68.14 356 P **P** **10 35 53.1 -0.4**
comp=Z,17nm,0.9s,baz=159,slow=6.0,SNR=11
NRIK LR LR 11 09 09.7
comp=Z,323nm,19.6s,baz=162,slow=39
comp=Z,17nm,0.9s
NRIK Noril'sk 68.14 356 P **P** **10 35 53.0 -0.4**
NRIK IAmb IAmb 10 36 11.0
comp=Z,47nm,0.9s
NRIK Noril'sk 68.14 356*deP* **P** **10 35 52.6 -0.8**
KOUNC **Koumac, New Ca 68.31 113** P **P** **10 35 55.1 -0.3**
KOUNC IAmb IAmb 10 36 12.8
comp=Z,32nm,0.8s
VRH Novokhopyorsk 68.42 326 *eP* **P** **10 35 53.2 -2.3**
VRH pmax pmax
comp=Z,40nm,1.2s
KIRV Kirov 68.46 335 P **P** **10 35 55.2 -0.4**
comp=Z,12nm,0.8s,baz=288,slow=2.9,SNR=5.8
comp=Z,12nm,0.8s
ANN Anapa 68.51 318 *eP* **P** **10 35 55.1 -1.1**
ANN *eS* **S** **10 44 54.8 +0.1**
ANN pmax pmax
comp=Z,69nm,0.8s
BR131 Keskin Array S 69.61 312 P **P** **10 36 02.4 -1.0**
BR131 IAmb IAmb 10 36 19.5
comp=Z,33nm,1.2s
BR131 Keskin Array S 69.61 312 P **P** **10 36 02.4 -1.0**
BR131 pmax pmax
comp=Z,33nm,1.2s
BRTR Keskin Array B 69.61 312 P **P** **10 36 02.5 -0.9**
comp=Z,4.5nm,0.6s,baz=136,slow=7.1,SNR=23
BRTR LR LR 11 08 16.4
comp=Z,110nm,20.8s,baz=118,slow=37
comp=Z,4.5nm,0.6s
BRTR Keskin Array B 69.61 312 P **P** **10 36 02.6 -0.7**
BRTR Keskin Array B 69.61 312 P **P** **10 36 02.7 -0.7**
VSR Storozhevoye 69.88 325 *eP* **P** **10 36 01.4 -3.2**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 70.04 325 *eP* **P** **10 36 04.5 -1.1**
VORR pmax pmax
comp=Z,20nm,1.3s
ANTO Ankara 70.28 312 P **P** **10 36 07.0 -0.4**
ANTO Ankara 70.28 312 P **P** **10 36 07.0 -0.4**
ANTO pmax pmax
comp=Z,18nm,0.9s
ANTO Ankara 70.28 312 P **P** **10 36 07.2 -0.2**
ANTO pP **pP** **10 36 21.6 +0.2**
BR231 Keskin MP Arra 70.29 312 P **P** **10 36 07.2 -0.3**
NOUC Port Laguerre 70.43 114 P **P** **10 36 08.4 -0.1**
NOUC pP **pP** **10 36 22.5 -0.3**
DZM Mont Dzumac 70.56 114 *eP* **P** **10 36 09.3 -0.1**
comp=Z,51nm,1.2s
DZM Mont Dzumac 70.56 114 *e*LR LR 10 57 42.4
comp=Z,290nm,26.1s
DZM Mont Dzumac 70.56 114 P **P** **10 36 10.1 +0.7**
DZM IAmb IAmb 10 36 11.3
comp=Z,39nm,1.4s
DZM Mont Dzumac 70.56 114 P **P** **10 36 09.8 +0.4**
DZM pP **pP** **10 36 24.4 +0.8**
LPSR Galich'ya Gora 70.59 326 *eP* **P** **10 36 07.9 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 70.71 25 P **P** **10 36 09.8 +0.3**
comp=Z,13nm,0.6s,baz=221,slow=5.9,SNR=7.6
comp=Z,13nm,0.6s
MA2 Magadan 70.71 25 P **P** **10 36 09.4 -0.1**
MA2 Magadan 70.71 25⇑*eP* **P** **10 36 09.7 +0.2**
MA2 pmax pmax
comp=Z,26nm,1.3s
MA2 Magadan 70.71 25 P **P** **10 36 11.2 +1.7**
MA2 pP **pP** **10 36 24.4 +0.7**
SIM Simferopol' 70.79 317 P **P** **10 36 08.0 -2.3**
SIM pmax pmax
comp=Z,63nm,1.1s
YATNC Mamie plateau, 70.96 114 P **P** **10 36 12.3 +0.5**
OUENC Ouen Island, N 70.98 114 P **P** **10 36 12.1 +0.2**
OUENC Ouen Island, N 70.98 114 P **P** **10 36 12.0 +0.2**
PETK Petropavlovsk- 71.02 33 P **P** **10 36 11.8 +0.3**
comp=Z,7.3nm,0.9s,baz=327,slow=2.4,SNR=6.8
PETK LR LR 11 11 28.0
comp=Z,264nm,18.2s,baz=234,slow=39
comp=Z,7.3nm,0.9s
LSZ Lusaka 71.06 253 LR LR 11 02 03.3
comp=Z,539nm,21.8s,baz=112,slow=31
LSZ Lusaka 71.06 253 P **P** **10 36 13.0 +0.4**
LSZ Lusaka 71.06 253 P **P** **10 36 13.0 +0.4**
LSZ pmax pmax
comp=Z,25nm,1.1s
LSZ Lusaka 71.06 253 P **P** **10 36 13.7 +1.1**
LSZ pP **pP** **10 36 28.3 +1.6**
LIFNC LIFOU 71.08 112 P **P** **10 36 12.2 -0.2**
LIFNC IAmb IAmb 10 36 35.2
comp=Z,63nm,0.9s
PET Petropavlovsk 71.51 34 *eP* **P** **10 36 15.0 +0.6**
PET *eS* **S** **10 45 36.0 +6.5**
PET pmax pmax
comp=Z,34nm,0.7s
PET MLR MLR
comp=Z,300nm,20.0s
PET Petropavlovsk 71.51 34 P **P** **10 36 14.5 0.0**
MDUB Mudurnu 71.62 312 P **P** **10 36 15.1 -0.4**
PRGR Permogore 71.77 336 *eP* **P** **10 36 14.1 -1.7**
PRGR *e* 10 39 00.1
PRGR pmax pmax
comp=Z,24nm,0.7s
MOS Moscow 72.58 329 *eP* **P** **10 36 19.7 -1.1**
MOS *e* 10 36 37.8
MOS *e* 10 39 02.7
MOS pmax pmax
comp=Z,58nm,1.4s
TIXI Tiksi 72.78 10 P **P** **10 36 20.9 -0.8**
comp=Z,5.8nm,0.3s,baz=270,slow=22,SNR=17
TIXI LR LR 11 11 36.8
comp=Z,435nm,18.3s,baz=181,slow=38
comp=Z,5.8nm,0.3s
TIXI Tiksi 72.78 10 P **P** **10 36 20.9 -0.8**
TIXI IAmb IAmb 10 36 39.4
comp=Z,52nm,1.0s
TIXI Tiksi 72.78 10*ceP* **P** **10 36 20.7 -1.0**
TIXI pmax pmax
comp=Z,22nm,1.3s
OBN Obninsk 72.88 328 P **P** **10 36 22.4 -0.2**
comp=Z,2.6nm,0.4s,baz=34,slow=10,SNR=3.5
comp=Z,2.6nm,0.4s
OBN Obninsk 72.88 328 *eP* **P** **10 36 22.8 +0.2**
OBN *e* 10 36 38.4
OBN *e* 10 39 05.0
OBN *e*PPP PPP 10 40 48.2
OBN pmax pmax
comp=Z,55nm,2.5s
MAW Mawson 73.17 193 P **P** **10 36 25.2 +1.2**
comp=Z,7.9nm,0.6s,baz=126,slow=6.4,SNR=8.4

MAW LR LR 11 01 25.8
comp=Z,399nm,21.5s,baz=20,slow=30
comp=Z,7.9nm,0.6s
SEY Seymchan 73.17 23 P **P** **10 36 24.2 0.0**
comp=Z,14nm,0.9s,baz=225,slow=7.4,SNR=16
comp=Z,14nm,0.9s
SEY Seymchan 73.17 23⇑*eP* **P** **10 36 24.1 0.0**
SEY pmax pmax
comp=Z,37nm,1.7s
KLMR Klimovskoe 73.92 334 *eP* **P** **10 36 31.7 +3.1**
KLMR AMP 10 36 47.3
comp=Z,60nm,1.4s
KLMR Klimovskoe 73.92 334 *eP* **P** **10 36 31.6 +3.0**
KLMR pmax pmax
comp=Z,60nm,1.4s
LBTB Lobatse 74.81 244 LR LR 11 04 08.3
comp=Z,346nm,21.5s,baz=74,slow=31
LBTB Lobatse 74.81 244 P **P** **10 36 35.4 +0.7**
LBTB Lobatse 74.81 244 P **P** **10 36 35.4 +0.7**
LBTB pmax pmax
comp=Z,25nm,1.0s
IDI Anoyia 75.48 306 LR LR 11 14 48.6
comp=Z,49nm,19.6s,baz=99,slow=40
SORM Soroca 75.50 320⇑P **P** **10 36 37.2 -0.8**
SORM Soroca 75.50 320⇑P **P** **10 36 37.2 -0.8**
AKASG Malin Array Be 75.61 322 P **P** **10 36 37.0 -1.6**
comp=Z,1.8nm,0.6s,baz=84,slow=4.3,SNR=19
AKASG LR LR 11 13 10.7
comp=Z,82nm,21.6s,baz=78,slow=38
comp=Z,1.8nm,0.6s
AKASG Malin Array Be 75.61 322 P **P** **10 36 37.6 -0.9**
AKASG Malin Array Be 75.61 322 P **P** **10 36 37.7 -0.9**
AKASG pmax pmax
comp=Z,31nm,1.7s
AKBB Malin Array Si 75.61 322 P **P** **10 36 37.6 -1.0**
AKBB IAmb IAmb 10 36 57.5
comp=Z,86nm,1.9s
AKBB Malin Array Si 75.61 322*deP* **P** **10 36 38.1 -0.5**
BOSA Boshof 75.69 240 P **P** **10 36 40.2 +0.5**
comp=Z,8.7nm,0.6s,baz=75,slow=6.3,SNR=9.7
BOSA LR LR 11 05 47.3
comp=Z,285nm,18.9s,baz=64,slow=32
comp=Z,8.7nm,0.6s
BOSA Boshof 75.69 240 P **P** **10 36 40.1 +0.4**
BOSA IAmb IAmb 10 36 41.4
comp=Z,120nm,2.0s
ADZR Andozero 75.84 337 *eP* **P** **10 36 38.9 -0.7**
ADZR pmax pmax
comp=Z,14nm,0.6s
VRI Vrincioaia 76.05 317⇑P **P** **10 36 41.1 -0.2**
VRI Vrincioaia 76.05 317⇑P **P** **10 36 41.1 -0.2**
PLOR Plostina 76.10 317⇓P **P** **10 36 41.1 -0.5**
PLOR Plostina 76.10 317⇓P **P** **10 36 41.1 -0.5**
COVR Voineasa-Covas 76.40 317⇑P **P** **10 36 42.7 -0.6**
MLR Muntele Rosu 76.51 316 LR LR 11 15 15.7
comp=Z,101nm,20.9s,baz=76,slow=39
MLR Muntele Rosu 76.51 316⇓P **P** **10 36 44.9 +0.9**
MLR Muntele Rosu 76.51 316⇓P **P** **10 36 44.9 +0.9**
PLVB Pleven 77.03 314⇓P **P** **10 36 46.9 +0.1**
VOIR 77.11 316⇑P **P** **10 36 47.2 -0.1**
VOIR 77.11 316⇑P **P** **10 36 47.2 -0.1**
JCZ Jackson Bay 77.24 136 P **P** **10 36 48.5 +0.4**
comp=Z,32nm,0.9s
ARR Arges 77.39 316⇑P **P** **10 36 49.1 +0.3**
BURAR Bucovina Array 77.44 319⇑P **P** **10 36 50.0 +0.9**
BURAR Bucovina Array 77.44 319 P **P** **10 36 50.0 +0.9**
BURAR Bucovina Array 77.44 319⇑P **P** **10 36 50.0 +0.9**
BUR08 Bucovina Ar. S 77.45 319 P **P** **10 36 50.0 +0.7**
VTS Vitosha 77.90 313⇑P **P** **10 36 51.1 -0.8**
VTS Vitosha 77.90 313 P **P** **10 36 51.8 -0.1**
VTS Vitosha 77.90 313 P **P** **10 36 51.8 -0.1**
VTS pmax pmax
comp=Z,15nm,0.8s
AGG Agios Georgios 78.05 309 P **P** **10 36 51.3 -1.3**
AGG Agios Georgios 78.05 309 P **P** **10 36 51.3 -1.3**
AGG pmax pmax
comp=Z,3.0nm,0.8s
LIT Litokhoron 78.07 311 P **P** **10 36 51.0 -1.8**
LIT Litokhoron 78.07 311 P **P** **10 36 51.0 -1.8**
LIT pmax pmax
comp=Z,137nm,1.9s
NACGM Naroch 78.14 326 *eP* P 10 36 59.8 +7.0
comp=Z,39nm,0.9s,baz=105
IDID Didziasalis 78.27 326 *eP* **P** **10 36 53.5 +0.1**
IIGN Ignalina 78.57 326 *eP* **P** **10 36 54.8 -0.3**
MARR Marisel-Cluj 78.66 317⇑P **P** **10 36 56.0 0.0**
DEV Deva 78.67 316⇑P **P** **10 36 56.6 +0.7**
DEV Deva 78.67 316⇑P **P** **10 36 56.6 +0.7**
ISAL Salakas 78.67 327 *eP* **P** **10 36 55.5 -0.1**
RPZ Rata Peaks 78.74 135 LR LR 11 12 14.4
comp=Z,187nm,20.6s,baz=303,slow=36
RPZ Rata Peaks 78.74 135 P **P** **10 36 56.4 +0.1**
RPZ Rata Peaks 78.74 135 P **P** **10 36 56.7 +0.4**
SURR Surduc 79.19 316⇑P **P** **10 36 59.6 +0.9**
QRZ Quartz Range 79.20 132 P **P** **10 37 00.0 +1.1**
APA Apatity 79.21 339⇓*iP* P 10 37 05.3 +6.9
APA pmax pmax
comp=Z,15nm,1.1s
APA MLR MLR
comp=Z,1μm,16.0s
BZS Buzias 79.52 316⇑P **P** **10 36 59.7 -0.9**
BZS Buzias 79.52 316⇑P **P** **10 36 59.7 -0.9**
THZ Tophouse 79.67 133 P **P** **10 37 00.2 -1.3**
THZ IAmb IAmb 10 37 22.7
comp=Z,43nm,0.8s
PABE Paberze 79.85 326 P **P** **10 37 01.3 -0.8**
PABE IAmb IAmb 10 37 22.6
comp=Z,37nm,0.9s
PABE Paberze 79.85 326 *eP* **P** **10 37 02.1 0.0**
SUR Sutherland 80.06 237 LR LR 11 04 42.5
comp=Z,305nm,21.6s,baz=80,slow=30
FINES FINESS Array B 80.19 332 P **P** **10 37 03.4 -0.4**
comp=Z,3.0nm,0.5s,baz=104,slow=6.5,SNR=32
FINES LR LR 11 17 44.4
comp=Z,118nm,18.4s,baz=92,slow=39
comp=Z,3.0nm,0.5s
FINES FINESS Array B 80.19 332 P **P** **10 37 03.5 -0.3**
KHZ Kahutara 80.25 133 P **P** **10 37 03.7 -0.9**
STHS Stebnicka Huta 80.36 320 *eP* **P** **10 37 06.3 +1.3**
STHS Stebnicka Huta 80.36 320 *eP* **P** **10 37 06.3 +1.3**
SHEM Shemya Is, Ala 80.37 37 LR LR 11 16 21.4
comp=Z,90nm,18.9s,baz=14,slow=38
HIZ Hauiti 80.55 129 P **P** **10 37 10.7 +4.4**
BILL Bilibino 80.60 21⇑*eP* **P** **10 37 05.2 -0.7**
BILL *e* 10 40 08.1
BILL *e*PPP PPP 10 42 00.6
BILL pmax pmax
comp=Z,19nm,2.1s
BILL MLR MLR
comp=Z,192nm,20.0s
PDG Podgorica 80.79 313⇑P **P** **10 37 06.9 -0.6**
PDG Podgorica 80.79 313 P **P** **10 37 06.8 -0.6**
PDG IAmb IAmb 10 37 24.6
comp=Z,42nm,1.1s
SNZO South Karori 80.91 132 P **P** **10 37 09.6 +1.5**
comp=Z,148nm,1.5s
WEL Wellington 80.95 132 P **P** 10 37 14.6 +6.3
TLZ Tolley Road 81.05 129 P **P** 10 37 14.0 +5.0
WTVZ West Tongariro 81.22 130 P **P** **10 37 10.4 +0.5**
NGZ Ngauruhoe 81.23 130 P **P** **10 37 10.7 +0.7**
NNVZ North Ngauruho 81.24 130 P **P** **10 37 10.5 +0.4**
OJC Ojcow 81.41 320 P **P** **10 37 09.5 -1.1**
OJC Ojcow 81.41 320 P **P** **10 37 09.5 -1.1**
OJC pmax pmax
comp=Z,12nm,1.0s
MRZ Mangatainoka R 81.45 131 P **P** **10 37 11.9 +0.9**
MTW Mount Morrison 81.48 132 P **P** **10 37 11.2 0.0**
TSUM Tsumeb 81.53 250 LR LR 11 08 43.7
comp=Z,204nm,21.9s,baz=44,slow=32
TSUM Tsumeb 81.53 250 P **P** **10 37 10.8 -1.2**
BHHZ Black Hill Sta 81.64 130 P **P** **10 37 10.7 -1.3**
TSZ Takapari Road 81.65 131 P **P** **10 37 11.9 -0.2**
TRWZ Traveller 81.65 132 P **P** **10 37 12.9 +0.8**
MORH Mrgy, Hungar 81.66 316⇑P **P** **10 37 11.8 -0.1**
VYHS Vyhne 81.80 319 *eP* **P** **10 37 12.7 0.0**
VYHS Vyhne 81.80 319 *eP* **P** **10 37 12.7 0.0**
MRHZ Matea Rd 81.81 129 P **P** **10 37 12.5 -0.5**
BKZ Black Stump Fm 81.92 130 P **P** **10 37 13.3 -0.3**
BKZ Black Stump Fm 81.92 130 P **P** **10 37 13.3 -0.3**
BKZ Black Stump Fm 81.92 130 P **P** **10 37 13.4 -0.1**
RTZ Ruatahuna 82.21 129 P **P** **10 37 13.6 -1.5**
RTZ IAmb IAmb 10 37 29.1
comp=Z,34nm,0.8s
URZ Urewera 82.27 129 P **P** **10 37 16.6 +1.3**

URZ	Urewera	82.27	129	P	P	10 37 14.2	-1.1
MWZ	Matawai	82.60	129	P	P	10 37 16.4	-0.7
ARCES	ARCESS Array B	82.60	340	P	P	10 37 16.2	-0.3
	comp=Z,3.6nm,0.6s,baz=96,slow=3.7,SNR=20						
ARCES				LR	LR	11 16 43.7	
	comp=Z,242nm,22.0s,baz=106,slow=38						
	comp=Z,3.6nm,0.6s						
JAVC	Velka Javorina	82.61	319	*e*P	P	10 37 17.9	+0.9
MORC	Moravsky Berou	82.79	320	⇑P	P	10 37 18.7	+0.8
MORC	Moravsky Berou	82.79	320	P	P	10 37 17.8	-0.1
MORC	Moravsky Berou	82.79	320	*e*P	P	10 37 18.5	+0.6
MORC	Moravsky Berou	82.79	320	⇑P	P	10 37 18.7	+0.8
TWGZ	Tauwhareparae	82.93	129	P	P	10 37 18.7	-0.2
KRLC	Kraliky	83.31	320	*e*P	P	10 37 21.6	+1.0
KRLC				*ex*	x	10 37 29.4	
KRLC	Kraliky	83.31	320	*e*P	P	10 37 21.6	+1.0
VRAC	Vranov	83.36	319	*e*P	P	10 37 21.1	+0.3
RONA	Rosalia, Austr	83.41	318	*e*pP	pP	10 37 36.1	+0.5
	comp=Z,0.5nm,0.4s						
DPC	Dobruska-Polom	83.64	320	*e*P	P	10 37 22.8	+0.6
DPC				*ex*	x	10 37 30.9	
DPC	Dobruska-Polom	83.64	320	*e*P	P	10 37 22.8	+0.6
CONA	Conrad Observa	83.72	318	*e*P	P	10 37 22.5	-0.3
	comp=Z,6.3nm,1.2s						
ARSA	Arzberg	83.89	317	*i* P	P	10 37 24.7	+1.1
	comp=Z,13nm,1.5s						
SOKA	Soboth	84.19	317	*e*P	P	10 37 26.0	+0.8
	comp=Z,26nm,1.8s						
OBKA	Obir	84.51	316	*i* P	P	10 37 27.7	+0.9
	comp=Z,14nm,1.6s						
MOA	Molln	84.79	318	*e*P	P	10 37 28.0	-0.1
	comp=Z,2.3nm,0.8s						
CKRC	Cesky Krumlov	84.82	319	*e*P	P	10 37 29.7	+1.5
CKRC				*ex*	x	10 37 36.5	
CKRC				*ex*	x	10 37 45.0	
MYKA	Terra Mystica	85.14	316	*e*P	P	10 37 31.0	+1.1
	comp=Z,10nm,1.0s						
BIOA	Bad Ischl, Aus	85.20	318	*e*PcP	PcP	10 37 32.2	-1.0
	comp=Z,4.4nm,0.7s						
GEC2	GERESS Array S	85.22	319	P	P	10 37 31.0	+0.6
GEC2				IAmb	IAmb	10 37 49.1	
	comp=Z,28nm,1.4s						
GERES	GERESS Array B	85.22	319	P	P	10 37 30.3	0.0
	comp=Z,1.7nm,0.8s,baz=93,slow=5.3,SNR=15						
	comp=Z,1.7nm,0.8s						
GERES	GERESS Array B	85.22	319	P	P	10 37 30.1	-0.2
KHC	Kasperske Hory	85.32	319	*e*P	P	10 37 31.7	+0.9
KHC				*ex*	x	10 37 38.8	
KHC	Kasperske Hory	85.32	319	*e*P	P	10 37 31.7	+0.9
KBA	Koelnbreinsper	85.37	317	*e*P	P	10 37 31.1	-0.1
	comp=Z,3.9nm,0.9s						
CLUD	Cludinico	85.66	316	P	P	10 37 32.6	+0.1
CLUD				IAmb	IAmb	10 38 10.6	
	comp=Z,23nm,0.9s						
CLL	Collm	85.80	321	*e*P	P	10 37 33.0	-0.1
CLL				*e*pP	pP	10 37 45.0	-2.6
CLL				*e*(PP)		10 40 45.0	
CLL	Collm	85.80	321	*e*P	P	10 37 33.0	-0.1
CLL				*e**PP	pP	10 37 45.0	-2.6
VNDA	Vanda	85.90	169	P	P	10 37 33.6	+0.6
	comp=Z,5.8nm,1.0s,baz=306,slow=5.2,SNR=17						
VNDA				LR	LR	11 10 15.0	
	comp=Z,176nm,21.7s,baz=310,slow=32						
	comp=Z,5.8nm,1.0s						
VNDA	Vanda	85.90	169	P	P	10 37 34.0	+1.0
VNDA				IAmb	IAmb	10 37 50.7	
	comp=Z,32nm,1.6s						
VNDA	Vanda	85.90	169	P	P	10 37 34.0	+1.0
VNDA				pmax	pmax		
	comp=Z,32nm,1.6s						
ABTA	Abfaltersbach	85.92	317	*e*P	P	10 37 31.9	-2.0
	comp=Z,13nm,1.5s						
CIMO	Cimolais	85.96	316	P	P	10 37 34.2	+0.2
CIMO				IAmb	IAmb	10 37 51.6	
	comp=Z,15nm,0.7s						
CTI	Castel Tesino	86.50	316	P	P	10 37 37.2	+0.4
CTI				IAmb	IAmb	10 38 11.0	
	comp=Z,48nm,1.6s						
CTI	Castel Tesino	86.50	316	P	P	10 37 37.2	+0.4
CTI				pmax	pmax		
	comp=Z,48nm,1.6s						
WTTA	Wattenberg	86.54	317	*e*P	P	10 37 36.4	-0.6
	comp=Z,0.4nm,0.4s						
WATA	Walderalm	86.58	317	*e*P	P	10 37 36.7	-0.5
	comp=Z,11nm,1.7s						
ELIB	Princess Elisa	86.68	198	*d*P	P	10 37 38.9	+1.8
	comp=Z,17nm,0.9s						
SQTA	Sankt Quirin	86.83	317	*e*P	P	10 37 38.1	-0.3
	comp=Z,4.8nm,0.7s						
SPITS	Spitsbergen Ar	86.89	348	P	P	10 37 37.0	-0.9
	comp=Z,8.4nm,0.6s,baz=85,slow=10,SNR=9.2						
SPITS				LR	LR	11 22 58.0	
	comp=Z,183nm,20.4s,baz=69,slow=40						
	comp=Z,8.4nm,0.6s						
MOTA	Moosalm	86.90	317	*i* P	P	10 37 38.8	0.0
	comp=Z,7.3nm,1.0s						
SBA	Scott Base	86.99	169	P	P	10 37 40.2	+1.9
SBA	Scott Base	86.99	169	P	P	10 37 40.2	+1.9
SBA				pmax	pmax		
	comp=Z,83nm,1.7s						
NORES	NORESS Array B	87.05	331	P	P	10 37 39.2	+0.2
RETA	Reutte	87.14	317	*i* P	P	10 37 39.8	0.0
	comp=Z,0.1nm,0.3s						
FETA	Feichten	87.15	317	*e*P	P	10 37 39.8	-0.2
	comp=Z,5.9nm,1.4s						
NC303	NORSAR Array S	87.16	331	P	P	10 37 40.2	+0.7
NB2	NORSAR Subarra	87.22	331	P	P	10 37 40.0	+0.1
	comp=Z,23nm,1.2s,baz=86,slow=6.2						
NB2	NORSAR Subarra	87.22	331	P	P	10 37 40.0	+0.1
	baz=86,slow=6.2						
NOA	NORSAR Array B	87.22	331	P	P	10 37 39.4	-0.5
	comp=Z,1.9nm,0.6s,baz=94,slow=6.1,SNR=8.3						
NOA				LR	LR	11 20 10.1	
	comp=Z,144nm,21.3s,baz=85,slow=38						
	comp=Z,1.9nm,0.6s						
FUORN	Ofenpass-Fuorn	87.47	316	P	P	10 37 42.0	+0.3
DAVOX	Davos/Dischmat	87.73	317	LR	LR	11 20 46.1	
	comp=Z,40nm,21.9s,baz=80,slow=38						
DAVA	Damuels	87.73	317	*e*PcP	PcP	10 37 43.7	-0.9
	comp=Z,4.5nm,0.6s						
KEST	Kesra	88.15	306	P	P	10 37 44.5	-0.5
	comp=Z,6.1nm,0.8s,baz=21,slow=1.5,SNR=6.1						
	comp=Z,6.1nm,0.8s						
NVL	N'lazarevskaya	90.13	199	⇑*i* P	P	10 37 56.5	+3.2
NVL				pmax	pmax		
	comp=Z,26nm,0.8s						
QSPA	South Pole Qui	91.40	180	LR	LR	11 14 52.0	
	comp=Z,337nm,20.7s,baz=310,slow=33						
QSPA	South Pole Qui	91.40	180	P	P	10 38 00.1	+0.6
QSPA				IAmb	IAmb	10 38 20.4	
	comp=Z,17nm,1.1s						
SNAA	Sanae	94.82	198	LR	LR	11 12 27.5	
	comp=Z,144nm,20.6s,baz=39,slow=30						
N16K	Nishlik Lake	95.19	29	P	P	10 38 18.2	+1.2
	baz=282						
F21K	Alatna River	95.72	22	P	P	10 38 19.8	+0.5
	baz=288						
G21K	Allakaket	95.93	22	P	P	10 38 20.6	+0.4
	baz=288						
IMAR	Indian Mountai	95.99	23	P	P	10 38 20.5	0.0
F22K	John River	96.11	21	P	P	10 38 21.7	+0.7
	baz=289						
D23K	Nanushuk River	96.14	20	P	P	10 38 22.6	+1.5
	baz=290						
J20K	Nowinta River	96.36	25	P	P	10 38 22.0	-0.1
J20K				IAmb	IAmb	10 38 41.3	
	comp=Z,20nm,1.4s						
J20K	Nowinta River	96.36	25	P	P	10 38 23.9	+1.7
	baz=287						
VNA2	Neumayer--Watz	96.41	199	P	P	10 38 32.9	+11
	baz=309,slow=14						
H21K	Melozitna Rive	96.46	23	P	P	10 38 23.3	+0.7
H21K	Melozitna Rive	96.46	23	P	P	10 38 23.4	+0.7
	baz=288						
K20K	Telida	96.63	26	P	P	10 38 24.2	+0.8
K20K	Telida	96.63	26	P	P	10 38 24.4	+1.0
	baz=287						
TOLK	Toolik Lake Re	96.64	20	P	P	10 38 23.5	+0.1
TOLK				IAmb	IAmb	10 38 40.8	
	comp=Z,17nm,1.4s						
VNA1	Neumayer--Stat	96.76	199	P	P	10 38 28.3	+4.6
I21K	Tanana	96.94	24	P	P	10 38 25.8	+1.1
I21K				IAmb	IAmb	10 38 42.1	
	comp=Z,26nm,1.7s						
H22K	Ishtalitna Cre	96.94	23	P	P	10 38 26.2	+1.4
	baz=290						
VNA3	Neumayer Olymp	97.04	198	P	Pdif	10 38 29.3	+4.1
CAST	Castle Rocks	97.46	25	P	Pdif	10 38 27.3	0.0
CAST				IAmb	IAmb	10 38 45.3	
	comp=Z,30nm,1.6s						
CAST	Castle Rocks	97.46	25	P	Pdif	10 38 27.5	+0.3
	baz=288						
ESDC	Sonseca Array	98.36	310	P	P	10 38 30.8	-1.1
	comp=Z,0.5nm,0.7s,baz=57,slow=4.7,SNR=4.0						
	comp=Z,0.5nm,0.7s						
POKR	Poker Plat Res	98.76	23	P	P	10 38 32.8	-0.2
	baz=293						
KDAK	Kodiak Island	98.96	31	LR	LR	11 27 16.4	
	comp=Z,114nm,19.2s,baz=302,slow=38						
ILAR	Eielson Array	99.11	23	P	Pdif	10 38 32.2	-2.4
	comp=Z,0.2nm,0.8s,baz=251,slow=8.5,SNR=1.4						
ILAR				PP	PP	10 42 33.7	-3.3
	comp=Z,1.6nm,1.1s,baz=291,slow=7.1,SNR=6.3						
ILAR				PKKPbc	PKKPbc	10 55 01.2	-1.3
	comp=Z,0.3nm,0.9s,baz=134,slow=2.8,SNR=4.4						
ILAR				LR	LR	11 27 32.3	
	comp=Z,89nm,20.4s,baz=287,slow=38						
	comp=Z,0.2nm,0.8s						
MDT	Midelt	99.89	304	LR	LR	11 28 33.6	
	comp=Z,68nm,19.1s,baz=120,slow=38						
TBI	Tubuai	111.13	114	*e*LR	LR	11 16 29.7	
	comp=Z,395nm,22.5s						
YKA	Yellowknife Ar	111.60	16	PKiKP	PKiKP	10 43 27.1	-0.5
	comp=Z,0.2nm,0.5s,baz=350,slow=1.8,SNR=5.0						
YKA				PP	PP	10 44 03.2	-5.8
	comp=Z,0.8nm,0.8s,baz=331,slow=7.5,SNR=5.5						
YKA				PKKPbc	PKKPbc	10 54 21.9	-2.4
	comp=Z,0.2nm,0.6s,baz=149,slow=3.2,SNR=4.9						
PPT2	Papeete2	111.69	108	*e*LR	LR	11 16 45.8	
	comp=Z,244nm,25.8s						
TAOE	Nuku Hiva Isla	121.58	99	*e*LR	LR	11 21 19.7	
	comp=Z,319nm,27.0s						
NEW	Newport	121.79	27	PKP	PKPdf	10 43 47.4	-0.3
	comp=Z,1.4nm,0.6s,baz=189,slow=2.3,SNR=5.3						
E08A	Dider Farm, El	122.15	30		PKiKP	10 43 48.9	+0.4
F10A	Beach Ranch, E	123.41	29		PKiKP	10 43 51.3	+0.1
MSO	Missoula	124.29	26	PKPdf	PKPdf	10 43 51.8	-0.8
MSO	Missoula	124.29	26	P	PKPdf	10 43 52.5	-0.2
	baz=320						
PLID	Pearl Lake	124.65	29	PKPdf	PKiKP	10 43 53.7	-0.2
EGMT	Eagleton	125.07	23	P	PKiKP	10 43 54.3	-0.1
	baz=325						
BOZ	Bozeman (W)	126.26	26	P	PKiKP	10 43 57.0	0.0
	baz=322						
HLID	Hailey	126.54	29		PKiKP	10 43 58.2	+0.6
HLID	Hailey	126.54	29	P	PKiKP	10 43 58.4	+0.8
	baz=318						
VCNR	Virginia City	126.68	36	PKPdf	PKPdf	10 43 57.8	+0.2
ULM	Lac du Bonnet	127.11	11	PKP	PKPdf	10 43 57.3	-0.5
	comp=Z,3.7nm,0.5s,baz=341,slow=1.6,SNR=7.4						
LAO	LASA Array	127.50	21	PKPdf	PKPdf	10 43 58.9	+0.2
KVN	Kaiserville	127.75	36		PKiKP	10 44 00.1	-0.1
KVN	Kaiserville	127.75	36	PKiKP	PKiKP	10 44 00.1	-0.1
NVAR	Mina Array Bea	128.04	36	PKP	PKiKP	10 44 01.1	+0.3
	comp=Z,3.1nm,0.9s,baz=260,slow=1.9,SNR=15						
MDND	Maddock	128.52	15	P	PKiKP	10 44 01.1	-0.1
	baz=337						
PD31	Pinedale Array	129.41	26		PKPdf	10 44 01.5	-1.2
PDAR	Pinedale Array	129.41	26	PKP	PKPdf	10 44 02.7	0.0
	comp=Z,0.9nm,0.5s,baz=321,slow=1.2,SNR=14						
PDAR				PP	PP	10 46 10.7	-0.8
	comp=Z,1.2nm,1.1s,baz=312,slow=3.1,SNR=2.9						
PDAR				SKP		10 47 31.1	
	comp=Z,0.2nm,0.3s,baz=325,slow=1.1,SNR=6.5						
PDAR	Pinedale Array	129.41	26	PKPdf	PKPdf	10 44 01.7	-1.0
CWC	Cottonwood Cre	129.47	38	P	PKiKP	10 44 04.8	+1.2
	baz=310						
R11A	Troy Canyon, C	129.67	35	P	PKiKP	10 44 05.1	+1.0
	baz=314						
DUG	Dugway, Tooele	129.84	31	P	PKiKP	10 44 05.3	+1.0
	baz=318						
MPMC	Manual Prospec	130.08	38	P	PKiKP	10 44 06.6	+1.6
	baz=311						
RSSD	Black Hills	130.49	21	PKPdf	PKPdf	10 44 04.3	-0.3
RSSD	Black Hills	130.49	21	P	PKiKP	10 44 05.5	0.0
	baz=330						
RSSD	Black Hills	130.49	21	PKIKP	PKPdf	10 44 04.4	-0.3
GSC	Goldstone, Bar	130.99	38	P	PKiKP	10 44 08.2	+1.5
	baz=311						
HEC	Hector,Ludlow	131.59	38	P	PKiKP	10 44 09.6	+1.7
	baz=311						
O20A	White River Ci	132.11	27	P	PKiKP	10 44 09.0	0.0
	baz=323						
N23A	Red Feather La	132.50	25	P	PKiKP	10 44 10.5	+0.7
	baz=327						
ECSD	EROS Data Cent	133.12	15	PKPdf	PKPdf	10 44 09.3	-0.1
ECSD	EROS Data Cent	133.12	15	P	PKiKP	10 44 10.0	-0.6
	baz=340						
ISCO	Idaho Springs	133.55	25	P	PKiKP	10 44 12.6	+0.6
	baz=326						
W18A	Petrified Fore	135.25	33	P	PKiKP	10 44 16.3	+0.8
	baz=319						
ANMO	Albuquerque	137.10	30	⇓*i*PKIKP	PKiKP	10 44 18.5	-0.7
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
R40A	Maddies Statio	139.31	13		PKPdf	10 44 21.2	+0.2
PLCA	Paso Flores	139.57	193	PKP	PKPdf	10 44 22.4	+0.8
	comp=Z,4.5nm,1.2s,baz=177,slow=3.7,SNR=3.2						
MSTX	Muleshoe	139.66	27	P	PKPdf	10 44 23.1	+1.1
	baz=327						
MIAR	Mount Ida	142.55	16	P	PKPdf	10 44 23.5	-3.5
	baz=341						
TX31	Lajitas Ar. Si	142.97	33		PKPdf	10 44 25.8	-2.2
TX32	Lajitas Array	142.97	33		PKPdf	10 44 27.0	-1.1
TXAR	Lajitas Array	142.97	33	PKPdf	PKPdf	10 44 25.5	-2.6
TXAR	Lajitas Array	142.97	33	PKIKP	PKPdf	10 44 25.5	-2.6
PLAL	Pickwick Lake	143.29	9	PKPdf	PKPbc	10 44 26.2	+0.8
OXF	Oxford	143.53	10	PKPdf	PKPdf	10 44 28.2	-0.5
OXF	Oxford	143.53	10	PKIKP	PKPdf	10 44 28.2	-0.5
BDFB	Brasilia	143.74	245	PKP	PKPbc	10 44 27.5	+0.1
	comp=Z,6.4nm,0.5s,baz=102,slow=5.0,SNR=11						
BDFB	Brasilia	143.74	245	PKPdf	PKPbc	10 44 28.1	+0.7
JCT	Junction City	143.94	27	P	PKPbc	10 44 27.6	+0.2
	baz=329						
ML02	Panimavida	144.51	195		PKPdf	10 44 29.7	-0.7
Y49A	Blount Mountai	144.62	7		PKPab	10 44 28.9	-0.4
143A	Socs Landing,	144.85	14		PKPdf	10 44 30.8	-0.3
Z47A	Carrollton	145.04	9		PKPbc	10 44 30.4	-0.4
BO02	Sierra Bellavi	145.25	196		PKPab	10 44 31.6	0.0
GO05	Huala	145.35	194	PKPdf	PKPdf	10 44 32.2	+0.3
LRAL	Lakeview Retre	145.36	8		PKPbc	10 44 30.9	-0.9
LRAL	Lakeview Retre	145.36	8	P	PKPbc	10 44 31.3	-0.4
	baz=351						
146A	Union	145.42	11	PKPbc	PKPab	10 44 32.5	+0.3
VBMS	Vicksburg	145.53	13	PKPdf	PKPab	10 44 32.6	+0.1
VBMS	Vicksburg	145.53	13	P	PKPab	10 44 33.2	+0.6
	baz=345						
NHSC	New Hope	145.59	357	P	PKPab	10 44 32.9	+0.2
	baz=3.1						
CPUP	Villa Florida	145.80	222	PKPbc	PKPab	10 44 33.6	-0.2
	comp=Z,40nm,0.8s,baz=113,slow=2.0,SNR=83						
CPUP	Villa Florida	145.80	222	PKPbc	PKPab	10 44 33.8	0.0
CPUP	Villa Florida	145.80	222	PKP2	PKPab	10 44 33.8	0.0
342A	Flagon Creek P	145.88	16	PKPbc	PKPab	10 44 34.5	+0.6
152A	Waverly Hall	145.96	4	PKPbc	PKPbc	10 44 33.6	0.0
833A	Chaparral WMA,	145.96	28	PKPbc	PKPab	10 44 34.3	0.0
833A	Chaparral WMA,	145.96	28	P	PKPab	10 44 34.8	+0.4
	baz=328						
BO04	La Punta	145.96	197	PKPbc	PKPab	10 44 34.2	-0.1
LMEL	Las Melosas	145.97	198	PKPbc	PKPab	10 44 35.6	+1.1
154A	Montrose	146.10	2	PKPbc	PKPab	10 44 34.4	-0.3
344A	Westbrook Farm	146.21	14	PKPbc	PKPab	10 44 36.4	+1.2
MT01	Popeta	146.25	196		PKPab	10 44 35.0	-0.4
MT09	Talagante	146.26	196	PKPbc	PKPbc	10 44 34.7	-0.1
250A	Grady	146.49	7	PKPbc	PKPbc	10 44 35.5	+0.2
VA06	Catapilco	147.49	197		PKPbc	10 44 38.1	0.0
ZON	Zonda	147.57	201		PKPbc	10 44 39.5	+1.0
ZON	Zonda	147.57	201	PKP2	PKPbc	10 44 39.5	+1.0
ZAIG	Zacatecas	148.60	39	PKPbc	PKPdf	10 44 39.9	+1.8
CO03	El Pedregal	148.91	199	PKPbc	PKPbc	10 44 42.3	+0.3
GO04	Tololo Observa	149.56	199		PKPbc	10 44 44.0	+0.1
AC05	El Transito	150.60	201	PKPbc	PKiKP	10 44 46.8	-0.2
AC05				PKPab	PKPab	10 44 53.2	+0.2
AC04	Llanos de Chal	151.46	200	PKPbc	PKiKP	10 44 48.7	0.0
AC02	Maricunga	151.95	205	PKPbc	PKiKP	10 44 50.5	+0.2
AC06	Mina Casimiro	151.97	202		PKiKP	10 44 49.9	+0.2
PTLB	Pontes e Lacer	153.59	237	PKPdf	PKPdf	10 44 44.4	-1.0
PTLB					PKPbc	10 44 52.9	-0.2
PTLB				PKPab	sPKPdf	10 45 06.1	+0.2
PB11	IPOC Station P	158.22	213	PKPdf	PKPdf	10 44 50.1	-1.6
PB11				PKPab	PKPab	10 45 26.3	+0.7
BOAV	Boa Vista	158.30	280	PKPdf	PKPdf	10 44 52.5	+0.7
BOAV				PKPab	PKPab	10 45 26.6	+0.4
MNMC	Minye Minye	158.70	214	PKPdf	PKPdf	10 44 50.3	-2.1
MNMC				PKPab	PKPab	10 45 28.9	+1.1
LPAZ	La Paz	159.97	222	PKPdf	PKPdf	10 44 54.5	+0.1
LPAZ				PKPab	PKPab	10 45 35.0	+1.1
LPAZ	La Paz	159.97	222	PKP2	PKPab	10 45 35.0	+1.1
PETF	Flores	160.12	23	PKPab	PKPab	10 45 32.9	-0.8
ETMB	Extrema	162.34	241	PKPdf	PKPdf	10 44 56.0	-0.2
ETMB				PKPab	PKPab	10 45 43.8	+0.1

TAP ***06*** *10:30:40.4,23.86N×122.51E,h39km±1km,ML2.9,D*
JMA ***06*** *10:30:41.2±0.1,24.0N±0.7×122.4E±0.2,h46km,MV2.2/9,*
NW OFF ISHIGAKIJIMA IS
ISC 06 10:30:39.5±1.1,23.80N±0.02×122.48E±0.02,h23km±13km,
n74,σ0.69/126,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonagunijimaku	0.77	33	P	Pb	10 30 54.0	-0.2
JYNG				S	Sb	10 31 03.3	-1.0
YOJ	Yonaguni jima	0.82	36	P	Pb	10 30 54.8	-0.2
YOJ				S	Sb	10 31 04.5	-1.1
YOJ	Yonaguni jima	0.82	36	*i* P	Pb	10 30 54.8	-0.2
	baz=36						
YOJ				S	Sb	10 31 04.2	-1.4
	baz=36						
TWD	Chiawan	0.86	289	*e*P	Pb	10 30 55.4	-0.2
	baz=285						
TWD				*e*S	Sb	10 31 06.9	+0.2
	baz=285						
ETL	Fush Village	0.86	295	*e*S	Sn	10 31 07.6	-0.5
	baz=290						
NACB	Ninganchiao	0.89	295	*e*P	Pb	10 30 55.9	-0.4
	baz=290						
NACB				*e*S	Sb	10 31 07.7	-0.1
	baz=290						
EWUT	Wuta	0.91	315	*e*P	Pn	10 30 56.7	-0.1
	baz=321						
ENA	Nanau	0.92	313	*e*P	Pn	10 30 57.0	0.0
	baz=319						
ENA				*e*S	Sb	10 31 08.7	+0.1
	baz=319						
EGFH	Guangfu	0.97	263	*e*S	Sn	10 31 10.7	-0.1
	baz=259						
TWC	Suao	0.99	324	*e*P	Pn	10 30 57.7	-0.3
	baz=321						
TWC				*e*S	Sb	10 31 09.8	-0.9
	baz=321						
ETLH	Xiulin Townshi	1.00	294	P	Pn	10 30 57.7	-0.5
	baz=290						
ETLH				*e*S	Sb	10 31 10.3	-0.6
	baz=290						
HGSD	Ruisui	1.02	253	P	Pn	10 30 58.2	-0.1
	baz=249						
HGSD				*e*S	Sb	10 31 11.1	-0.3
	baz=249						
NDS	Dongshan	1.08	320	*e*P	Pb	10 30 59.7	+0.1
	baz=316						
NDS				*e*S	Sn	10 31 14.5	+1.0
	baz=316						
EHY	Hungye	1.10	255	P	Pb	10 30 59.8	-0.1
	baz=251						
EHY				*e*S	Sn	10 31 13.2	-0.8
	baz=251						
LATG	Datong	1.14	310	P	Pb	10 31 00.3	-0.2
	baz=306						
LATG				*e*S	Sb	10 31 15.1	+0.1
	baz=306						
EYUL	Yuli	1.16	247	*e*P	Pb	10 31 00.7	-0.1
	baz=244						
EYUL				*e*S	Sb	10 31 15.6	+0.2
	baz=244						
YULB	Yu-li	1.16	250	P	Pb	10 31 00.7	-0.1
	baz=247						
YULB				*e*S	Sn	10 31 15.4	0.0
	baz=247						
WHF	Hehuan Shan	1.17	287	*e*P	Pn	10 31 00.6	-0.1
	baz=273						
TWE	Neicheng	1.18	321	*e*P	Pb	10 31 01.4	+0.3
	baz=318						
TWE				*e*S	Sb	10 31 16.6	+0.5
	baz=318						
ENTT	Nioudou	1.18	315	*e*P	Pb	10 31 01.3	0.0
	baz=312						
ENTT				*e*S	Sn	10 31 15.7	-0.2
	baz=312						
NDT	Datong Townshi	1.19	312	*e*P	Pn	10 30 59.0	-1.8
	baz=309						
NNS	Nan Shan	1.20	302	*e*P	Pb	10 31 01.2	-0.4
	baz=299						
OWD	Renai	1.21	278	P	Pn	10 31 01.1	+0.1
	baz=274						
OWD				*e*S	Sn	10 31 15.8	-0.9
	baz=274						
FUSS	Fushou	1.22	292	*e*P	Pn	10 31 01.4	+0.2
	baz=279						
CHGB	Renai	1.23	282	P	Pn	10 31 01.6	+0.2
	baz=271						
CHGB				*e*S	Sn	10 31 17.0	-0.3
	baz=271						
VWDT	VWDT	1.23	268	*e*P	Pb	10 31 01.7	-0.3
	baz=264						
VWDT				*e*S	Sn	10 31 17.0	0.0
	baz=264						
HATJ	Hateruma jima	1.24	78	P	Pb	10 31 02.9	+0.8
HATJ				*e*S	Sb	10 31

	baz=243						
ELDTW				*e*S	**Sn**	**10 31 22.1**	**-1.2**
	baz=243						
WHP	**Taichung City**	**1.48**	**289**	*e*P	**Pb**	**10 31 06.0**	**-0.4**
	baz=278						
TYC	**Yuchr**	**1.49**	**274**	*e*P	**Pb**	**10 31 07.7**	**+1.3**
	baz=271						
NFF	**Wufeng Townshi**	**1.50**	**304**	*e*P	**Pb**	**10 31 06.6**	**0.0**
	baz=300						
NFF				*e*S	**Sb**	**10 31 26.1**	**+0.9**
	baz=300						
WHYT	**Xinyi Township**	**1.50**	**266**	*e*P	**Pb**	**10 31 07.3**	**+0.7**
	baz=263						
LONT	**Longtian**	**1.53**	**235**	*e*S	**Sn**	**10 31 25.4**	**+0.9**
	baz=226						
ALS	**Alishan**	**1.56**	**260**	*e*P	**Pb**	**10 31 07.4**	**-0.5**
	baz=256						
ALS				*e*S	**Sb**	**10 31 26.7**	**-0.7**
	baz=256						
YM01	**YM01**	**1.58**	**328**	*e*P	**Pb**	**10 31 07.7**	**-0.2**
	baz=340						
YM01				*e*S	**Sb**	**10 31 27.7**	**+0.2**
	baz=340						
LIOB	**Emei**	**1.58**	**302**	*e*P	**Pb**	**10 31 08.2**	**+0.2**
	baz=290						
LIOB				*e*S	**Sb**	**10 31 28.1**	**+0.5**
	baz=290						
NSTT	**Nanjuang**	**1.58**	**302**	P	**Pb**	**10 31 08.1**	**0.0**
	baz=289						
NSTT				*e*S	**Sb**	**10 31 28.0**	**+0.3**
	baz=289						
JIJ	**Ishigaki jima**	**1.62**	**69**	P	**Pb**	**10 31 08.1**	**-0.5**
JIJ				*e*S	**Sb**	**10 31 28.0**	**-0.6**
TWGBT	**Beinan**	**1.62**	**233**	*e*P	**Pn**	**10 31 06.9**	**+0.4**
	baz=223						
TWGBT				*e*S	**Sn**	**10 31 27.1**	**+0.4**
	baz=223						
TWG	**Pinlang**	**1.62**	**233**	*e*P	**Pn**	**10 31 06.9**	**+0.3**
	baz=223						
TWG				*e*S	**Sn**	**10 31 27.2**	**+0.4**
	baz=223						
TWQ1	**Liyutan**	**1.66**	**290**	*e*P	**Pb**	**10 31 09.3**	**0.0**
	baz=286						
TWQ1				*e*S	**Sb**	**10 31 30.5**	**+0.8**
	baz=286						
CHN5	**Tsauling**	**1.67**	**263**	*e*P	**Pb**	**10 31 09.1**	**-0.4**
	baz=260						
CHN5				*e*S	**Sb**	**10 31 30.2**	**+0.1**
	baz=260						
WCKO	**Fanlu**	**1.76**	**259**	*e*P	**Pb**	**10 31 11.2**	**+0.1**
	baz=255						
WCKO				*e*S	**Sb**	**10 31 32.8**	**0.0**
	baz=255						
TPUB	**Ta-pu**	**1.77**	**254**	*e*S	**Sb**	**10 31 33.3**	**+0.2**
	baz=245						
WDLH	**Douliu**	**1.79**	**267**	*e*S	**Sb**	**10 31 34.8**	**+1.4**
	baz=263						
WTP	**Ta-pu**	**1.80**	**253**	*e*S	**Sb**	**10 31 34.3**	**+0.3**
	baz=243						
JISG	**Ishigakijimahi**	**1.84**	**64**	P	**Pn**	**10 31 10.2**	**+0.5**
JISG				*e*S	**Sn**	**10 31 32.8**	**+0.5**
ECL	**Taimali**	**1.85**	**230**	*e*S	**Sn**	**10 31 30.1**	**-2.2**
	baz=238						
SGST	**Jiashian**	**1.89**	**248**	*e*S	**Sb**	**10 31 35.6**	**-0.7**
	baz=237						
CHN1	**Nanshi**	**1.90**	**252**	*e*S	**Sb**	**10 31 37.2**	**+0.6**
	baz=248						
TWK	**Hsinying**	**1.91**	**254**	*e*P	**Pb**	**10 31 15.1**	**+1.5**
	baz=251						
TWK				*e*S	**Sb**	**10 31 37.1**	**+0.2**
	baz=251						
WRL	**Guolierlin Hig**	**1.93**	**273**	*e*S	**Sb**	**10 31 38.6**	**+1.0**
	baz=261						
LAY	**Lan-yu**	**1.95**	**206**	*e*P	**Pn**	**10 31 10.5**	**-0.7**
	baz=204						
LAY				*e*S	**Sn**	**10 31 32.9**	**-2.1**
	baz=204						
MASBT	**Mashibuluo**	**2.07**	**236**	*e*P	**Pn**	**10 31 14.2**	**+1.3**
	baz=228						
MASBT				*e*S	**Sn**	**10 31 37.9**	**0.0**
	baz=228						
SMST	**Manzhou Townsh**	**2.33**	**221**	*e*P	**Pn**	**10 31 17.5**	**+1.1**
	baz=226						
SMST				*e*S	**Sn**	**10 31 45.1**	**+0.8**
	baz=226						
PHUB	**P'eng-hu**	**2.68**	**264**	*e*S	**Sn**	**10 31 53.7**	**+0.7**
	baz=275						
VWUC	**VWUC**	**3.01**	**294**	*e*P	**Pn**	**10 31 26.2**	**+0.6**
	baz=291						
VWUC				*e*S	**Sn**	**10 31 59.6**	**-1.4**
	baz=291						

BJI ***06*** *10:33:39.9±0.0, 3°.39N×128°.69E, h34km, mb4.5/32, mB5.0/15, Ms4.6/4, Ms7 4.4/5*

MAN ***06*** *10:33:39.5, 3°.59N×128°.79E, h32km, mb4.4, ML3.3, MS3.0*

IDC ***06*** *10:33:39.2±0.5, 3°.71N×128°.30E, h0km, mb4.3/27, mbtmp4.3/28, ML4.0/1, MS3.8/4, Error ellipse: s-maj=21.0km s-min=11.3km az=69.0*

NEIC ***06*** *10:33:40.7±1.7, 3°.72N±0°.06×128°.54E±0°.06, h10km±1km, mb4.8/53, Error ellipse: s-maj=10.9km s-min=10.1km az=220.0*

DJA ***06*** *10:33:43.8±0.6, 4°.1N±5°×12°.9E±°, h10km, M4.7/12, mb4.8/12, mB5.2/9, MLv4.6/12, Mw(mB)4.6/9, MwMwp5.1/1, Mwp5.3/1*

ISC 06 10:33:44.1±0.4,**3°.73N**±0°.05×**128°.59E**±0°.06,**h35km**,**n141**, σ1§**65**/138,**mb4.6**/56,**MS4.0**/6,**9C-3D**,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.06**	**269**	P	**Pn**	**10 34 30.9**	**+0.9**
TNTI	**Ternate**	**3.18**	**203**		**Pn**	**10 34 30.9**	**-0.8**
TNTI	**Ternate**	**3.18**	**203**	P	**Pn**	**10 34 33.7**	**+2.0**
DDMP	**Don Marcelino,**	**3.72**	**310**	⇑*e*P	**Pn**	**10 34 38.0**	**-1.1**
MATI	**Mati**	**3.95**	**324**	⇑*e*P	Pn	10 34 35.0	-7.3
GSPH	**General Santos**	**4.32**	**303**	⇓*e*P	**Pn**	**10 34 45.6**	**-1.9**
GSPH	**General Santos**	**4.32**	**303**	*i* S	Sn	10 35 45.8	+9.0
DAV	**Davao City (W)**	**4.48**	**318**	Pn	**Pn**	**10 34 50.4**	**+0.9**
	29nm,0.3s,baz=67,slow=20,SNR=1.3						
DAV				Sn	**Sn**	**10 35 39.3**	**-1.1**
	55nm,0.3s,baz=327,slow=12,SNR=2.2						
DAV	**Davao City (W)**	**4.48**	**318**	Pn	**Pn**	**10 34 49.5**	**0.0**
KCP	**Kidapawan**	**4.78**	**313**	⇑*i*P	**Pn**	**10 34 54.6**	**+1.0**
KCP				*i* S	**Sn**	**10 35 53.7**	**+5.8**
SKMP	**Bagumbayan, Su**	**4.90**	**305**	⇑*e*P	**Pn**	**10 34 57.0**	**+1.7**
SKMP				*e*S	**Sn**	**10 35 55.0**	**+4.3**
BIPH	**Bislig**	**4.95**	**333**	⇓*e*P	Pn	10 35 05.7	+10
BIPH				*e*S	Sn	10 35 42.5	-10
SIJI	**Sorong**	**5.29**	**150**	Pn	**Pn**	**10 35 01.1**	**+0.4**
	5.1nm,0.3s,baz=226,slow=22,SNR=14						
SIJI				Sn	**Sn**	**10 36 01.9**	**+1.4**
	8.7nm,0.3s,baz=195,slow=23,SNR=11						
SIJI				LR	LR	10 37 12.4	
	comp=Z,508nm,19.0s,baz=296,slow=39 10nm,0.3s						
BUKP	**Musuan**	**5.42**	**320**	⇑*e*P	Pn	10 35 12.0	+9.4
CTBH	**Cotabato--PC H**	**5.55**	**309**	⇑*i*P	**Pn**	**10 35 05.6**	**+1.3**
CGP	**Cagayan de Oro**	**6.09**	**321**	⇓*e*P	Pn	10 35 18.2	+6.5
SANI	**Sanana**	**6.30**	**204**	P	**Pn**	**10 35 15.7**	**+1.1**
	40nm,0.6s,1μm0.2nm						
GTOI	**Gorontalo**	**6.37**	**241**	P	**Pn**	**10 35 17.3**	**+1.8**
	42nm,1.0s,784nm0.2nm						
PAGZ	**Pagadian**	**6.61**	**309**	⇑*e*P	**Pn**	**10 35 14.7**	**-4.1**
PAGZ				*e*S	**Sn**	**10 36 33.4**	**+0.4**
MSAI	**Masohi**	**7.03**	**177**	P	**Pn**	**10 35 27.5**	**+2.8**
	7.9nm,0.5s,0.1nm						
NLAI	**Namlea**	**7.08**	**192**	P	Pn	**10 35 27.3**	**+2.0**
	16nm,0.5s,7μm0.1nm						
DCPH	**Dipolog City**	**7.10**	**313**	⇑*e*P	**Pn**	**10 35 26.9**	**+1.4**
MRSI	**Marisa**	**7.39**	**244**	P	**Pn**	**10 35 32.3**	**+2.7**
	895nm,0.6s,9μm3.3nm						
LUWI	**Luwuk**	**7.50**	**231**		**Pn**	**10 35 30.2**	**-0.9**
LUWI	**Luwuk**	**7.50**	**231**	P	**Pn**	**10 35 32.3**	**+1.2**
	95nm,0.7s,0.6nm						
FAKI	**Fak Fak**	**7.54**	**151**	Pn	**Pn**	**10 35 32.1**	**+0.4**
FAKI	**Fak Fak**	**7.54**	**151**	P	**Pn**	**10 35 33.9**	**+2.2**
	55nm,1.2s,0.2nm						
TBP	**Tagbilaran**	**7.56**	**322**	*e*P	**Pn**	**10 35 34.8**	**+2.9**
TOLI2	**Tolitoli**	**8.23**	**252**	Pn	**Pn**	**10 35 40.8**	**-0.3**
BNDI	**Bandanaira**	**8.30**	**171**	P	Pn	**10 35 44.0**	**+2.0**
	610nm,1.5s						
APSI	**Ampana**	**8.33**	**237**	P	**Pn**	**10 35 44.6**	**+2.1**
	172nm,0.7s,2μm						
MPSI	**Mapaga**	**9.32**	**249**	P	**Pn**	**10 35 57.9**	**+1.8**
	31nm,0.8s,731nm						
MYLDM	**Lahad Datu**	**10.17**	**279**	Pn	**Pn**	**10 36 05.9**	**-1.8**
SAUI	**Saumlaki**	**11.94**	**167**	Pn	**Pn**	**10 36 32.0**	**0.0**
KAPI	**Kappang**	**12.39**	**226**	Pn	**Pn**	**10 36 37.5**	**-0.6**
KKM	**Kota Kinabalu**	**12.55**	**281**	Pn	**Pn**	**10 36 38.5**	**-1.9**
GENI	**Genyem**	**13.16**	**118**	P	P	10 37 08.4	+10
SBUM	**Sibu**	**16.40**	**266**	Pn	**Pn**	**10 37 29.7**	**-2.1**
MTN	**Manton Dam**	**16.66**	**171**	Pn	**Pn**	**10 37 32.5**	**-2.5**
KSM	**Kuching**	**18.40**	**263**		**P**	**10 37 53.0**	**-3.4**
JAGI	**Jajag, Banyuwa**	**18.82**	**230**	P	**P**	**10 38 00.5**	**-0.5**
JAGI				IAmb	IAmb	10 38 25.2	
	comp=Z,74nm,1.3s						
KNRA	**Kununurra**	**19.28**	**180**		**P**	**10 38 04.5**	**-1.4**
KNRA				IAmb	IAmb	10 38 20.5	
	comp=Z,26nm,0.7s						
MANU	**Manus Island**	**19.62**	**107**	P	**P**	**10 38 09.6**	**-0.2**
SSLB	**Suanglung**	**21.26**	**340**	P	**P**	**10 38 26.2**	**-1.3**
YOJ	**Yonaguni jima**	**21.30**	**346**	P	**P**	**10 38 25.3**	**-2.6**
KPJI	**Karang Pucung**	**22.49**	**241**	P	**P**	**10 38 44.4**	**+3.6**
PMG	**Port Moresby**	**22.64**	**125**	P	**P**	**10 38 44.2**	**+1.9**
	comp=Z,20nm,1.1s,baz=306,slow=7.9,SNR=5.8 comp=Z,20nm,1.1s						
PMG	**Port Moresby**	**22.64**	**125**	P	**P**	**10 38 40.2**	**-2.1**
PMG				IAmb	IAmb	10 38 48.7	
	comp=Z,65nm,1.4s						
COEN	**Coen**	**22.76**	**141**	P	**P**	**10 38 43.2**	**-0.4**
COEN				IAmb	IAmb	10 38 55.8	
	comp=Z,29nm,1.3s						
LEM	**Lembang**	**23.42**	**243**	P	**P**	**10 38 46.0**	**-4.5**
	comp=Z,7.4nm,0.3s,baz=313,slow=23,SNR=1.3						
LEM				LR	LR	10 48 27.7	
	comp=Z,315nm,18.3s,baz=308,slow=38 comp=Z,7.4nm,0.3s						
WB0	**Warramunga Arr**	**24.03**	**166**	P	**P**	**10 38 55.6**	**-0.5**
WB0				IAmb	IAmb	10 39 00.2	
	comp=Z,42nm,1.4s						
WRAB	**Tennant Creek**	**24.18**	**167**	P	**P**	**10 38 55.3**	**-2.1**
WRA	**Warramunga Arr**	**24.19**	**167**	P	**P**	**10 38 57.8**	**+0.3**
	comp=Z,4.8nm,0.8s,baz=342,slow=10,SNR=6.2 comp=Z,4.8nm,0.8s						
WRA	**Warramunga Arr**	**24.19**	**167**	P	**P**	**10 38 55.2**	**-2.3**
WB2	**Warramunga Arr**	**24.19**	**167**	P	**P**	**10 38 54.6**	**-2.9**
WB2				IAmb	IAmb	10 39 15.4	
	comp=Z,20nm,1.1s						
WR0	**Warramunga Arr**	**24.25**	**166**	P	**P**	**10 38 55.4**	**-2.7**
WR0				IAmb	IAmb	10 39 02.5	
	comp=Z,36nm,1.4s						
KRVT	**Keravat (AS076**	**24.73**	**109**	P	**P**	**10 39 05.2**	**+2.6**
	comp=Z,13nm,0.5s,baz=235,slow=12,SNR=2.0 comp=Z,13nm,0.5s						
AS31	**Alice Springs**	**27.71**	**169**	P	**P**	**10 39 28.3**	**-1.1**
ASAR	**Alice Springs**	**27.72**	**169**	P	**P**	**10 39 30.5**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=356,slow=7.8,SNR=18						
ASAR				PcP	**PcP**	**10 42 47.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=352,slow=2.2,SNR=2.1 comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**27.72**	**169**	P	**P**	**10 39 27.2**	**-2.2**
NJ2	**Nanjing**	**29.62**	**343**	*e*P	**P**	**10 39 47.6**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PHRA	**Phrae**	**31.39**	**300**	P	**P**	**10 40 00.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**32.49**	**299**	P	**P**	**10 40 11.2**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=110,slow=6.5,SNR=6.8						
CMAR				LR	LR	10 53 04.8	
	comp=Z,112nm,20.7s,baz=110,slow=36 comp=Z,0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**32.49**	**299**	P	**P**	**10 40 12.3**	**+0.6**
KMI	**Kunming**	**32.72**	**313**	⇑P	**P**	**10 40 14.3**	**+0.4**
KMI				pP	pP	10 40 22.2	-0.4
KMI				pmax	pmax		
	comp=Z,8.0nm,1.8s						
KSRS	**Korea Array**	**33.57**	**359**	P	**P**	**10 40 21.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=174,slow=9.0,SNR=4.4						
KSRS				PcP	**PcP**	**10 42 59.7**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=214,slow=4.1,SNR=1.7 comp=Z,0.9nm,0.7s						
MJAR	**Matsushiro Arr**	**33.84**	**14**	P	**P**	**10 40 23.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=181,slow=9.5,SNR=6.1 comp=Z,2.3nm,0.6s						
MJB9	**Matsu-Tunnel**	**33.84**	**14**	P	**P**	**10 40 23.3**	**0.0**
MJB9				IAmb	IAmb	10 40 25.6	
	comp=Z,16nm,1.3s						
PZH	**PanZhiHua**	**34.26**	**314**	P	**P**	**10 40 29.4**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,6.7s						
FORT	**Forrest**	**34.32**	**181**	P	**P**	**10 40 26.7**	**-0.7**
XAN	**Xi'an**	**35.29**	**331**	P	**P**	**10 40 34.6**	**-1.3**
XAN				pmax	pmax		
	comp=Z,18nm,1.1s						
JMM	**Marumori**	**35.76**	**17**	P	**P**	**10 40 39.2**	**-0.6**
BBOO	**Buckleboo**	**37.02**	**170**	P	**P**	**10 40 50.8**	**+0.2**
BBOO				IAmb	IAmb	10 41 01.0	
	comp=Z,19nm,1.3s						
STKA	**Stephens Creek**	**37.51**	**162**	P	**P**	**10 40 55.7**	**+0.9**
	comp=Z,5.8nm,0.4s,baz=341,slow=8.8,SNR=10 comp=Z,5.8nm,0.4s						
STKA	**Stephens Creek**	**37.51**	**162**	P	**P**	**10 40 54.2**	**-0.5**
LZH	**Lanzhou**	**39.47**	**328**	*e*P	**P**	**10 41 12.7**	**+1.3**
LZH				pP	sP	10 41 24.1	+0.7
LZH				sP	pwP	10 41 27.4	-0.2
LZH				PcP	**PcP**	**10 43 21.3**	**+2.4**
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
HHC	**Hu-ho-hao-te**	**40.01**	**340**	*e*P	**P**	**10 41 15.7**	**-0.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				LR	LR		
	comp=Z,460nm,14.0s						
HHC				LR	LR		
	comp=Z,370nm,12.7s						
HHC				LR	LR		
	comp=Z,460nm,12.7s						
H11S3	**WAKE ISLAND Hy**	**40.03**	**66**	T	T	11 24 21.6	
	baz=253,slow=74,SNR=33						
H11S1	**WAKE ISLAND Hy**	**40.05**	**66**	T	T	11 24 23.2	
	baz=253,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**40.05**	**66**	T	T	11 24 26.1	
	baz=253,slow=74,SNR=27						
USRK	**Ussuriysk Ar.**	**40.42**	**4**	P	**P**	**10 41 20.3**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=156,slow=7.3,SNR=2.7 comp=Z,0.9nm,0.5s						
ARMA	**Armidale**	**40.47**	**149**	P	**P**	**10 41 18.8**	**-0.9**
H11N1	**WAKE ISLAND Hy**	**40.58**	**64**	T	T	11 25 01.6	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**40.59**	**64**	T	T	11 25 11.8	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**40.60**	**64**	T	T	11 24 59.8	
	baz=250						
SHL	**Shillong**	**41.39**	**305**	P	**P**	**10 41 27.2**	**-0.3**
SHL				IAmb	IAmb	10 41 34.1	
	comp=Z,41nm,1.5s						
XLT	**XiLinHaoTe**	**41.51**	**346**	*e*P	**P**	**10 41 29.1**	**+1.0**
XLT				pP	pP	10 41 36.1	-0.6
XLT				sP	pwP	10 41 42.5	-1.2
XLT				PcP	**PcP**	**10 43 26.3**	**+1.1**
XLT				S	**S**	**10 47 35.6**	**-5.8**
XLT				SS	**SS**	**10 50 45.5**	**-1.4**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,83nm,5.1s						
XLT				LR	LR		
	comp=Z,460nm,21.0s						
XLT				LR	LR		
	comp=Z,540nm,20.4s						
GTA	**Gaotai**	**44.08**	**328**	*e*P	**P**	**10 41 49.6**	**+0.6**
GTA				pP	sP	10 41 59.9	-1.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KLR	**Kul'dur**	**45.42**	**3**	P	**P**	**10 41 59.9**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=160,slow=7.0,SNR=5.6 comp=Z,1.8nm,0.7s						
ULN	**Ulaanbaatar**	**47.72**	**340**	P	**P**	**10 42 17.4**	**-0.3**
ULN				IAmb	IAmb	10 42 43.5	
	comp=Z,8.6nm,1.1s						
PALK	**Pallekele**	**47.78**	**276**	P	**P**	**10 42 18.4**	**-0.2**
PALK				IAmb	IAmb	10 42 22.9	
	comp=Z,8.9nm,0.9s						
SONM	**Songino Array**	**47.92**	**340**	P	**P**	**10 42 19.0**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=159,slow=7.6,SNR=8.4 comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**47.92**	**340**	P	**P**	**10 42 18.7**	**-0.4**
SONM				IAmb	IAmb	10 42 21.6	
	comp=Z,8.6nm,1.4s						
WMQ	**Urumqi**	**53.81**	**324**	*e*P	**P**	**10 43 03.4**	**-0.1**
WMQ				pP	pwP	10 43 17.8	-2.3
WMQ				pmax	pmax		
	comp=Z,13nm,1.3s						
WMQ				LR	LR		
	comp=Z,93nm,18.1s						
PETK	**Petropavlovsk-**	**54.75**	**21**	P	**P**	**10 43 12.7**	**+2.6**
	comp=Z,1.7nm,0.6s,baz=165,slow=4.0,SNR=7.1 comp=Z,1.7nm,0.6s						
YAK	**Yakutsk**	**58.17**	**1**	P	**P**	**10 43 34.5**	**+0.2**
MK31	**Makanchi Array**	**58.63**	**324**	P	**P**	**10 43 37.7**	**-0.1**
MK31				IAmb	IAmb	10 43 38.2	
	comp=Z,7.6nm,1.4s						
MKAR	**Makanchi Array**	**58.63**	**324**	P	**P**	**10 43 37.6**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=115,slow=8.2,SNR=61 comp=Z,2.9nm,0.4s						
MKAR	**Makanchi Array**	**58.63**	**324**	P	**P**	**10 43 37.5**	**-0.4**
MAKZ	**Makanchi**	**58.82**	**324**	P	**P**	**10 43 39.2**	**+0.1**
MAKZ				IAmb	IAmb	10 43 39.6	
	comp=Z,10nm,1.4s						
KSH	**Kashi**	**59.37**	**314**	P	**P**	**10 43 44.6**	**+1.4**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BSWZ	**Blackbirch Sta**	**61.13**	**143**	P	**P**	**10 43 54.8**	**-0.2**
RTZ	**Ruatahuna**	**61.38**	**138**	P	**P**	**10 43 56.2**	**-0.7**
ZALV	**Zalesovo Beam**	**61.45**	**332**	P	**P**	**10 43 55.8**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=119,slow=7.1,SNR=3.2 comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**61.45**	**332**	P	**P**	**10 43 54.7**	**-2.2**
KURK	**Kurchatov**	**62.75**	**327**	P	**P**	**10 44 05.8**	**0.0**
KURK				IAmb	IAmb	10 44 15.6	
	comp=Z,6.0nm,0.6s						
KURBB	**Kurchatov Arra**	**62.75**	**327**	P	**P**	**10 44 05.3**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=128,slow=6.3,SNR=19 comp=Z,1.8nm,0.5s						
KBL	**Kabul**	**63.01**	**307**	P	**P**	**10 44 06.6**	**-1.5**
KBL				IAmb	IAmb	10 44 32.5	
	comp=Z,3.6nm,0.7s						
GAR	**Garm**	**63.30**	**312**	P	**P**	**10 44 09.2**	**-0.7**
CHGR	**Chuyangaron**	**64.06**	**311**	P	**P**	**10 44 14.2**	**-0.6**
KK31	**Karatay Array**	**64.51**	**316**	P	**P**	**10 44 16.9**	**-0.7**
KKAR	**Karatay Array**	**64.51**	**316**	P	**P**	**10 44 16.8**	**-0.8**
KKAR	**Karatay Array**	**64.51**	**316**	P	**P**	**10 44 16.9**	**-0.7**
KKAR				IAmb	IAmb	10 44 33.9	
	comp=Z,2.9nm,0.9s						
TIXI	**Tiksi**	**67.83**	**0**	P	**P**	**10 44 38.2**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=90,slow=23,SNR=8.9 comp=Z,2.2nm,0.5s						
TIXI	**Tiksi**	**67.83**	**0**	P	**P**	**10 44 38.0**	**-0.3**
TIXI				IAmb	IAmb	10 44 40.4	
	comp=Z,5.9nm,1.1s						
BVAR	**Borovoye Array**	**68.34**	**326**	P	**P**	**10 44 41.6**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=98,slow=4.1,SNR=7.2 comp=Z,1.4nm,0.5s						
BRVK	**Borovoye**	**68.41**	**326**	P	**P**	**10 44 41.4**	**-0.9**
BRVK				IAmb	IAmb	10 44 54.0	
	comp=Z,4.2nm,0.8s						
GEYT	**Alibeck**	**72.35**	**309**	P	**P**	**10 45 07.1**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=131,slow=4.0,SNR=1.5 comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**73.33**	**320**	P	**P**	**10 45 11.6**	**-0.7**
AKTO	**Aktyubinsk**	**74.82**	**321**	P	**P**	**10 45 20.6**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=96,slow=3.1,SNR=3.6 comp=Z,1.7nm,0.8s						
ARU	**Arti**	**75.94**	**327**	P	**P**	**10 45 26.3**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=97,slow=4.9,SNR=3.2 comp=Z,1.4nm,0.3s						
J20K	**Nowinta River**	**81.11**	**26**	P	**P**	**10 45 56.9**	**+1.3**
J20K				IAmb	IAmb	10 46 00.7	
	comp=Z,8.8nm,1.1s						
IMAR	**Indian Mountai**	**81.59**	**24**	P	**P**	**10 45 58.7**	**+0.5**
H21K	**Melozitna Rive**	**81.92**	**24**	P	**P**	**10 45 58.7**	**-1.2**
H21K				IAmb	IAmb	10 46 03.4	
	comp=Z,15nm,1.4s						
I21K	**Tanana**	**82.19**	**25**	P	**P**	**10 46 01.1**	**-0.1**
I21K				IAmb	IAmb	10 46 16.4	
	comp=Z,14nm,1.2s						
BPAW	**Bear Paw Mtn.**	**82.47**	**26**	P	**P**	**10 46 02.6**	**-0.2**
BPAW				IAmb	IAmb	10 46 07.4	
	comp=Z,10nm,1.2s						
MLY	**Manley**	**82.69**	**25**	P	**P**	**10 46 03.6**	**-0.4**
COLD	**Coldfoot**	**83.17**	**23**	P	**P**	**10 46 06.0**	**-0.4**
COLD				IAmb	IAmb	10 46 11.3	
	comp=Z,6.4nm,1.0s						
VNDA	**Vanda**	**83.19**	**173**	P	**P**	**10 46 07.4**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=340,slow=7.0,SNR=5.7 comp=Z,1.2nm,0.8s						
H23K	**Yukon River**	**83.28**	**24**	P	**P**	**10 46 06.5**	**-0.5**
I23K	**Minto, Yukon-K**	**83.29**	**25**	P	**P**	**10 46 07.7**	**+0.7**
MCK	**McKinley**	**83.34**	**26**	P	**P**	**10 46 07.5**	**+0.2**
CCB	**Clear Creek Bu**	**83.91**	**25**	P	**P**	**10 46 10.5**	**+0.4**
CCB				IAmb	IAmb	10 46 22.2	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**84.31**	**25**	P	**P**	**10 46 13.6**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=252,slow=4.8,SNR=4.0 comp=Z,0.5nm,0.8s						
BMAR	**Burnt Mountain**	**85.36**	**23**	P	**P**	**10 46 16.4**	**-1.2**
SPITS	**Spitsbergen Ar**	**90.84**	**349**	P	**P**	**10 46 44.3**	**+0.8**
	comp=Z,15nm,0.9s,baz=44,slow=8.5,SNR=2.5 comp=Z,15nm,0.9s						
ARCES	**ARCESS Array B**	**91.09**	**340**	P	**P**	**10 46 43.7**	**-1.1**
	comp=Z,4.8nm,1.0s,baz=95,slow=7.3,SNR=3.6 comp=Z,4.8nm,1.0s						
FINES	**FINESS Array B**	**92.71**	**332**	P	**

MK31				⇓Pg		**Pb**	**10 49 43.4**	**+1.5**
	0.5nm,0.5s,baz=279,slow=15,SNR=6.2								
MK31				⇓Lg		Lg	10 51 20.1		
	4.6nm,0.7s,baz=303,slow=26,SNR=9.2								
MKAR	**Makanchi Array**	**6.96**	**125**	Pn		**Pn**	**10 49 22.9**	**-0.4**
	0.1nm,0.3s,baz=309,slow=9.1,SNR=2.6								
MKAR				Sn		**Sn**	**10 50 42.4**	**-0.7**
	0.1nm,0.3s,baz=314,slow=22,SNR=2.6								
MKAR				Lg		Lg	10 51 16.3		
	0.4nm,0.3s,baz=308,slow=26,SNR=11								
	0.3nm,0.7s								
ZALV	**Zalesovo Beam**	**7.19**	**63**	Pn		**Pn**	**10 49 26.7**	**+0.4**
	0.1nm,0.3s,baz=243,slow=16,SNR=2.7								
ZALV				Sn		**Sn**	**10 50 49.8**	**+1.2**
	0.1nm,0.3s,baz=246,slow=24,SNR=2.3								
	0.4nm,0.4s								
I46RU	**ZALESOVO INFRA**	**7.19**	**62**	I		I	11 31 10.0		
	baz=249,slow=318,SNR=4.5								
TKM2	**Tokmak 2**	**8.26**	**172**	⇑Lg		Lg	10 51 57.9		
	13nm,0.8s								

*UCR **06** 10:58:56.8±1.0, 10°.44N×86°.24W, h25km±4km, MW4.3*
*INET **06** 10:59:00.9±1.4, 10°.55N×86°.12W, h60km±39km, ML4.4*
ISC 06 10:58:57.0±1.4**, 10°.41N**±0°.04×**86°.24W**±0°.06**, h22**km±11km**, n51**, σ0°60/65**, 5C-4D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATIL	**Hatillo**	**0.54**	**102**	*e*P	**Pb**	**10 59 07.5**	**-0.4**
HATIL				*e*S	**Sb**	**10 59 15.7**	**+0.4**
SAJU	**San Juanillo,**	**0.62**	**123**	*e*P	**Pb**	**10 59 09.1**	**-0.2**
SAJU				*e*S	**Sb**	**10 59 18.0**	**+0.4**
SACU	**Santa Cruz**	**0.66**	**103**	*e*P	**Pn**	**10 59 10.6**	**-0.4**
DELF	**Filadelfia**	**0.68**	**87**	*e*P	**Pn**	**10 59 10.9**	**-0.3**
DELF				*e*S	**Sn**	**10 59 20.9**	**-0.2**
HZTE	**Horizontes, Gu**	**0.70**	**65**	*e*P	**Pb**	**10 59 10.6**	**0.0**
ELI1	**Hacienda Flor**	**0.71**	**71**	*e*P	**Pn**	**10 59 11.9**	**+0.1**
ELI1				*e*S	**Sn**	**10 59 23.3**	**+1.2**
JUD3	**Juan Diaz 3**	**0.73**	**110**	*e*P	**Pb**	**10 59 10.7**	**-0.4**
ORTG	**Ortega, Santa**	**0.77**	**94**	*e*P	**Pb**	**10 59 11.5**	**-0.3**
ORTG				*e*S	**Sb**	**10 59 22.5**	**+0.7**
NARJA	**Naranjal**	**0.81**	**123**	*e*P	**Pb**	**10 59 11.8**	**-0.7**
ERIA	**Liberia**	**0.82**	**74**	*e*P	**Pn**	**10 59 12.8**	**-0.4**
NICO	**Nicoya**	**0.83**	**110**	*e*P	**Pb**	**10 59 12.8**	**+0.1**
NICO				*e*S	**Sn**	**10 59 25.3**	**+0.4**
LCRUZ	**La Cruz**	**0.89**	**42**	*e*P	**Pn**	**10 59 14.7**	**+0.4**
CMARA	**Lajas Hojancha**	**0.89**	**116**	*e*P	**Pb**	**10 59 13.2**	**-0.7**
CMARA				*e*S	**Sb**	**10 59 25.1**	**-0.3**
GB1A	**Borinquen Arri**	**0.92**	**64**	⇓*i*P	**Pb**	**10 59 13.8**	**-0.6**
GB1A				*i* S	**Sn**	**10 59 27.2**	**-0.1**
GPS3	**Bodega del ICE**	**0.92**	**68**	⇓*i*P	**Pb**	**10 59 14.0**	**-0.4**
GPS3				*e*S	**Sn**	**10 59 26.9**	**-0.5**
GPS2	**Hotel Rincn d**	**0.94**	**69**	⇓*i*P	**Pb**	**10 59 14.2**	**-0.4**
GPS2				*e*S	**Sn**	**10 59 27.2**	**-0.5**
VRLE	**La Escondida,**	**0.94**	**66**	*e*P	**Pb**	**10 59 14.0**	**-0.7**
VORI	**VORI**	**0.96**	**65**	⇓*i*P	**Pb**	**10 59 14.5**	**-0.7**
POPE	**POPE, Guanacas**	**1.02**	**110**	*e*P	**Pn**	**10 59 15.0**	**-1.0**
GUAB	**Guayabo de Bag**	**1.03**	**74**	⇑*i*P	**Pn**	**10 59 15.6**	**-0.7**
GUAB				*e*S	**Sn**	**10 59 29.8**	**-0.3**
COLC	**Colonia**	**1.05**	**76**	⇑*i*P	**Pn**	**10 59 15.8**	**-0.6**
COLC				*e*S	**Sn**	**10 59 30.5**	**+0.1**
CUI	**Cuipilapa**	**1.08**	**77**	⇑*i*P	**Pn**	**10 59 16.5**	**-0.5**
CUI				*e*S	**Sn**	**10 59 31.3**	**0.0**
CNAS	**Canas**	**1.13**	**89**	*e*P	**Pn**	**10 59 17.2**	**-0.3**
CNAS				*e*S	**Sb**	**10 59 33.7**	**+1.6**
VMAR	**Armenia, Volca**	**1.18**	**70**	*e*P	**Pn**	**10 59 17.9**	**-0.3**
JTS	**Las Juntas de**	**1.27**	**95**	*e*P	**Pn**	**10 59 18.9**	**-0.6**
CONN	**Concepcion**	**1.29**	**28**	*e*P	**Pb**	**10 59 19.8**	**-0.8**
CBL1	**Cabuya**	**1.40**	**126**	*e*P	**Pn**	**10 59 20.9**	**-0.2**
VERA	**Finca Concepci**	**1.42**	**72**	⇑*i*P	**Pn**	**10 59 21.6**	**+0.1**
LAFE	**Finca La Fe, P**	**1.44**	**115**	*e*P	**Pn**	**10 59 20.4**	**-1.4**
TABAC	**Tabacon**	**1.45**	**87**	⇑*i*P	**Pn**	**10 59 22.4**	**+0.3**
SGBR	**La Fortuna**	**1.46**	**87**	*e*P	**Pb**	**10 59 23.5**	**0.0**
VACR	**Volcan Arenal**	**1.54**	**88**	*e*P	**Pb**	**10 59 24.1**	**-0.8**
SOCE	**Pocosol**	**1.59**	**91**	*e*P	**Pn**	**10 59 24.2**	**+0.3**
LCHIL	**Los Chiles**	**1.62**	**67**	*e*P	**Pb**	**10 59 25.1**	**-1.1**
TISN	**Laguna Tiscapa**	**1.72**	**359**	*e*P	**Pn**	**10 59 24.7**	**-0.9**
MGAN	**Managua**	**1.72**	**360**	*e*P	**Pn**	**10 59 26.0**	**+0.3**
JACO	**JACO, Garabito**	**1.73**	**115**	*e*P	**Pb**	**10 59 28.3**	**+0.3**
JACO	**JACO, Garabito**	**1.73**	**115**	*e*P	**Pn**	**10 59 28.1**	**+0.1**
WILN	**Americas 2**	**1.74**	**2**	*e*P	**Pn**	**10 59 26.2**	**+0.4**
CPMI	**Catarata Coope**	**1.83**	**94**	*e*P	**Pn**	**10 59 27.8**	**+0.4**
ACON	**Acoyapa**	**1.86**	**34**	*e*P	**Pn**	**10 59 27.8**	**+0.1**
ACON	**Acoyapa**	**1.86**	**34**	*e*P	**Pn**	**10 59 27.7**	**+0.1**
HUEN		**1.91**	**2**	*e*P	**Pn**	**10 59 28.8**	**+0.5**
MOMN	**Momotombo**	**2.00**	**352**	*e*P	**Pn**	**10 59 30.2**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.10**	**15**	*e*P	**Pn**	**10 59 31.0**	**+0.1**
CNGN	**Cerro Negro**	**2.12**	**348**	*e*P	**Pb**	**10 59 33.7**	**-1.1**
ABE2	**San Pablo**	**2.27**	**108**	*e*P	**Pn**	**10 59 33.6**	**+0.2**
CRIN	**San Cristobal**	**2.41**	**341**	*e*P	**Pn**	**10 59 36.2**	**+1.0**
CRIN				IAML		11 00 13.1	
	comp=N,678nm,0.5s						
CRIN				IAML		11 00 16.9	
	comp=E,791nm,0.4s						
RIMA	**Rio Macho**	**2.43**	**105**	*e*P	**Pn**	**10 59 36.6**	**+1.1**
ESPN	**Las Esperanzas**	**2.60**	**47**	*e*P	**Pn**	**10 59 37.7**	**0.0**
BUS1	**Rivas**	**2.60**	**109**	*e*P	**Pn**	**10 59 38.6**	**+0.4**

*IDC **06** 11:03:23.8±0.6, 1°.34N×97°.98E, h0km, mb4.3/21, mbtmp4.3/22, MS3.3/5, Error ellipse: s-maj=21.7km s-min=12.7km az=60.0*
*BJI **06** 11:03:27.5±0.0, 0°.96N×98°.01E, h66km, mb4.6/40, mB5.0/18, Ms4.3/3, Ms7 3.8/3*
*DJA **06** 11:03:32.2±0.2, 1°.N±2°×9°.8E±°, h49km±5km, M4.7/18, mB5.6/3, mb4.7/6, MLv4.7/18, Mw(mB)5.1/3, MwMwp5.7/1, Mwp5.8/1*
*NEIC **06** 11:03:32.5±1.5, 1°.42N±0°.06×98°.07E±0°.05, h57km±6km, mb4.8/52, Error ellipse: s-maj=8.6km s-min=6.7km az=158.0*
ISC 06 11:03:31.2±0.3**, 1°.41N**±0°.04×**98°.08E**±0°.04**, h50**km**, n147,** σ1♀**17**/148**, mb4.6**/51**, MS3.5**/5**, 2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.52**	**258**	Pn	**Pn**	**11 03 44.0**	**+1.2**
GSI				Sn	**Sn**	**11 03 53.6**	**+2.7**
GSI	**Gunungsitoli**	**0.52**	**258**	P	**Pn**	**11 03 43.9**	**+1.2**
GSI				S	**Sn**	**11 03 53.0**	**+2.1**
PBSI	**Pulau Batu**	**1.47**	**172**	P	**Pn**	**11 03 57.2**	**+1.8**
RPSI	**Rantau Prapat**	**1.53**	**33**	Pn	**Pn**	**11 03 58.0**	**+1.8**
MNSI	**Mandailing Nat**	**1.62**	**112**	P	**Pn**	**11 03 59.1**	**+1.7**
SNSI	**Sinabang, Aceh**	**2.01**	**299**	P	**Pn**	**11 04 03.8**	**+1.0**
KCSI	**Kotacane, Aceh**	**2.12**	**352**	P	**Pn**	**11 04 04.9**	**+0.6**
TSI	**Tuntungan**	**2.13**	**13**	P	**Pn**	**11 04 06.0**	**+1.6**
BKNI	**Bangkinang**	**3.15**	**110**	Pn	**Pn**	**11 04 19.7**	**+1.3**
BKNI	**Bangkinang**	**3.15**	**110**	P	**Pn**	**11 04 20.8**	**+2.4**
MLSI	**Meulaboh, Aceh**	**3.29**	**329**	P	**Pn**	**11 04 21.0**	**+0.7**
PDSI	**Padang**	**3.32**	**134**	P	**Pn**	**11 04 21.9**	**+1.2**
LHMI	**Lhok Sumawe**	**3.96**	**343**	Pn	**Pn**	**11 04 29.7**	**+0.2**
LHMI	**Lhok Sumawe**	**3.96**	**343**	P	**Pn**	**11 04 30.6**	**+1.1**
SDSI	**Sungai Dareh**	**4.08**	**125**	P	**Pn**	**11 04 33.5**	**+2.4**
IPM	**Ipoh**	**4.23**	**44**	Pn	**Pn**	**11 04 36.4**	**+3.1**
PPSI	**Pulau Pagai**	**4.57**	**155**	P	**Pn**	**11 04 39.6**	**+1.7**
KULM	**Kulim**	**4.63**	**34**	Pn	**Pn**	**11 04 40.8**	**+2.2**
MYKOM	**Kota Tinggi**	**5.78**	**86**		**Pn**	**11 04 56.0**	**+1.5**
MASI	**Maura Aman, Be**	**6.14**	**137**	P	**Pn**	**11 05 00.8**	**+1.3**
	43nm,1.0s,0.5nm						
KSI	**Kapahiang**	**6.76**	**138**	P	**Pn**	**11 05 09.1**	**+1.1**
DSRI	**Dabo**	**6.76**	**106**	P	**Pn**	**11 05 09.9**	**+1.9**
MNAI	**Manna**	**7.53**	**140**	Pn	**Pn**	**11 05 19.8**	**+1.4**
MDSI	**Maura Dua**	**8.45**	**134**	P	**Pn**	**11 05 31.6**	**+0.4**
	19nm,0.7s,2µm						
CM31	**Chiang Mai Arr**	**16.96**	**3**	Pn	**Pn**	**11 07 25.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.96**	**3**	Pn	**Pn**	**11 07 23.9**	**-1.3**
	1.2nm,0.7s,baz=197,slow=12,SNR=10.0						
CMAR				LR	LR	11 14 01.1	
	comp=Z,70nm,20.7s,baz=175,slow=37						
CMAR	**Chiang Mai Arr**	**16.96**	**3**	Pn	**Pn**	**11 07 25.2**	**0.0**
PHRA	**Phrae**	**17.11**	**7**	P	**Pn**	**11 07 27.3**	**+0.3**
PHRA				IAmb	IAmb	11 07 32.8	
	comp=Z,37nm,1.0s						
MYLDM	**Lahad Datu**	**20.72**	**79**	P	**P**	**11 08 06.5**	**-1.2**
BRDH	**Bariadhala**	**22.04**	**344**	P	**P**	**11 08 20.8**	**-1.1**
	comp=Z,68nm,0.3s,baz=276,slow=23,SNR=1.3						
BRDH				LR	LR	11 18 03.3	
	comp=Z,49nm,18.4s,baz=240,slow=40						
KAPI	**Kappang**	**22.57**	**107**	LR	LR	11 17 25.6	
	comp=Z,32nm,19.5s,baz=293,slow=37						
TNCH	**TengChong**	**23.48**	**1**	*e*P	**P**	**11 08 38.2**	**+1.4**
TNCH				pmax	pmax		
	comp=Z,82nm,5.4s						
KMI	**Kunming**	**24.00**	**10**	⇓P	**P**	**11 08 42.7**	**+1.0**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
SHL	**Shillong**	**24.75**	**347**	P	**P**	**11 08 48.2**	**-0.3**
SHL				IAmb	IAmb	11 08 49.8	
	comp=Z,26nm,1.1s						
LUWI	**Luwuk**	**24.81**	**96**	P	**P**	**11 08 49.1**	**+0.1**
LUWI				IAmb	IAmb	11 09 19.1	
	comp=Z,34nm,0.8s						
PZH	**PanZhiHua**	**25.19**	**8**	P	**P**	**11 08 53.3**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
H08S2	**Diego Garcia H**	**27.06**	**250**	T	T	11 36 27.5	
	baz=72,slow=75,SNR=368						
H08S3	**Diego Garcia H**	**27.07**	**250**	T	T	11 36 53.2	
	baz=72,slow=75,SNR=88						
H08S1	**Diego Garcia H**	**27.08**	**250**	T	T	11 36 54.6	
	baz=72,slow=75,SNR=89						
LSA	**Lhasa**	**28.89**	**347**	P	**P**	**11 09 25.3**	**-0.7**
LSA				IAmb	IAmb	11 09 28.8	
	comp=Z,25nm,1.3s						
XAN	**Xi'an**	**34.01**	**16**	P	**P**	**11 10 09.3**	**-1.2**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**34.01**	**16**	P	**P**	**11 10 09.4**	**-1.0**
XAN				pP	**pP**	**11 10 25.1**	**+1.6**
LZH	**Lanzhou**	**34.91**	**8**	*e*P	**P**	**11 10 15.3**	**-3.1**
LZH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MTN	**Manton Dam**	**35.73**	**114**	P	**P**	**11 10 22.8**	**-2.7**
	baz=35,SNR=3.1						
NJ2	**Nanjing**	**36.23**	**31**	*e*P	**P**	**11 10 31.4**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**37.85**	**2**	⇓P	**P**	**11 10 43.5**	**+0.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,150nm,5.8s						
GTA				LR	LR		
	comp=Z,89nm,14.9s						
GTA				LR	LR		
	comp=Z,110nm,14.5s						
GTA				LR	LR		
	comp=Z,120nm,14.5s						
H01W3	**Cape Leeuwin H**	**39.12**	**159**	T	T	11 52 32.8	
	baz=335						
H01W2	**Cape Leeuwin H**	**39.13**	**159**	T	T	11 52 46.3	
	baz=335						
H01W1	**Cape Leeuwin H**	**39.13**	**159**	T	T	11 52 38.5	
	baz=335						
WRKA	**Warakurna**	**39.35**	**134**	P	**P**	**11 10 55.9**	**-0.1**
	baz=39,SNR=8.1						
NIL	**Nilore**	**39.62**	**327**	P	**P**	**11 10 57.1**	**-1.1**
NIL				IAmb	IAmb	11 11 16.8	
	comp=Z,11nm,0.7s						
NIL	**Nilore**	**39.62**	**327**	P	**P**	**11 10 58.4**	**+0.2**
NIL				pP	**sP**	**11 11 15.5**	**-1.6**
KMBL	**Kambalda**	**39.67**	**147**	P	**P**	**11 11 00.7**	**+2.0**
	baz=40,SNR=4.7						
HHC	**Hu-ho-hao-te**	**41.11**	**16**	*e*P	**P**	**11 11 12.4**	**+1.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,290nm,5.0s						
WB0	**Warramunga Arr**	**41.37**	**122**	P	**P**	**11 11 11.1**	**-1.8**
WRA	**Warramunga Arr**	**41.40**	**123**	P	**P**	**11 11 11.8**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=301,slow=9.1,SNR=17						
WRA				PcP	**PcP**	**11 13 10.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=313,slow=2.5,SNR=3.7						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**41.40**	**123**	P	**P**	**11 11 12.4**	**-0.7**
WRAB	**Tennant Creek**	**41.41**	**123**	P	**P**	**11 11 12.8**	**-0.3**
WRAB				IAmb	IAmb	11 11 41.7	
	comp=Z,22nm,1.5s						
WRAB	**Tennant Creek**	**41.41**	**123**	P	**P**	**11 11 12.3**	**-0.8**
WRAB				pP	**sP**	**11 11 29.9**	**-2.4**
WB2	**Warramunga Arr**	**41.41**	**123**	P	**P**	**11 11 12.0**	**-1.2**
WR0	**Warramunga Arr**	**41.58**	**123**	P	**P**	**11 11 13.6**	**-1.0**
WR0				IAmb	IAmb	11 11 27.6	
	comp=Z,8.0nm,0.8s						
AS31	**Alice Springs**	**42.83**	**128**	P	**P**	**11 11 24.1**	**-0.6**
ASAR	**Alice Springs**	**42.83**	**128**	P	**P**	**11 11 23.4**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=300,slow=7.9,SNR=29						
ASAR				PcP	**PcP**	**11 13 15.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=302,slow=3.0,SNR=7.3						
	comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**42.83**	**128**	P	**P**	**11 11 23.9**	**-0.8**
FORT	**Forrest**	**42.88**	**141**	P	**P**	**11 11 26.5**	**+1.5**
	baz=43,SNR=11						
FORT	**Forrest**	**42.88**	**141**	P	**P**	**11 11 25.5**	**+0.5**
FORT				IAmb	IAmb	11 11 28.1	
	comp=Z,36nm,0.9s						
WMQ	**Urumqi**	**43.23**	**349**	*e*P	**P**	**11 11 27.6**	**0.0**
WMQ				pP	pP	11 11 41.4	+0.5
WMQ				sP	sP	11 11 49.6	+2.9
WMQ				PcP	**PcP**	**11 13 18.2**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
AIS	**Amsterdam Isla**	**43.38**	**204**	P	**P**	**11 11 28.3**	**-0.5**
TARG	**Taragay, Kyrgy**	**44.10**	**338**	P	**P**	**11 11 33.9**	**-1.2**
KSAR	**Wonju Array Be**	**45.15**	**34**	P	**P**	**11 11 41.9**	**-1.2**
KSRS	**Korea Array**	**45.18**	**34**	P	**P**	**11 11 42.9**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=218,slow=9.7,SNR=7.4						
	comp=Z,1.6nm,0.8s						
GAR	**Garm**	**45.20**	**329**	P	**P**	**11 11 41.8**	**-1.8**
GAR				IAmb	IAmb	11 11 47.9	
	comp=Z,7.1nm,1.0s						
CHGR	**Chuyangaron**	**45.55**	**328**	P	**P**	**11 11 46.0**	**-0.3**
CHGR				IAmb	IAmb	11 11 48.3	
	comp=Z,8.6nm,0.7s						
SIMJ	**Simiganj**	**45.63**	**328**	P	**P**	**11 11 47.0**	**0.0**
SIMJ				pP	**sP**	**11 12 05.2**	**-0.8**
QIS	**Mount Isa**	**46.15**	**121**	P	**P**	**11 11 50.7**	**-0.5**
	baz=46,SNR=5.0						
JHS	**Saijyo**	**46.69**	**40**	P	**P**	**11 11 55.5**	**+0.2**
SONM	**Songino Array**	**46.80**	**8**	P	**P**	**11 11 55.9**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=190,slow=9.9,SNR=19						
SONM				PcP	**PcP**	**11 13 29.1**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=190,slow=3.7,SNR=5.7						
	comp=Z,3.2nm,0.9s						
SONM	**Songino Array**	**46.80**	**8**	P	**P**	**11 11 57.0**	**+0.9**
COEN	**Coen**	**47.21**	**110**	P	**P**	**11 11 59.1**	**-0.6**
COEN				IAmb	IAmb	11 13 02.9	
	comp=Z,20nm,1.4s						
MK31	**Makanchi Array**	**47.26**	**345**	P	**P**	**11 12 00.0**	**+0.5**
MK31				IAmb	IAmb	11 12 02.7	
	comp=Z,8.5nm,1.1s						
MKAR	**Makanchi Array**	**47.26**	**345**	P	**P**	**11 11 59.9**	**+0.4**
	comp=Z,6.9nm,0.8s,baz=158,slow=8.3,SNR=64						
	comp=Z,6.9nm,0.8s						
MAKZ	**Makanchi**	**47.35**	**345**	P	**P**	**11 11 60.0**	**-0.2**
MAKZ				IAmb	IAmb	11 12 03.2	
	comp=Z,8.0nm,0.8s						
MAKZ	**Makanchi**	**47.35**	**345**	P	**P**	**11 12 00.6**	**+0.4**
GUMO	**Guam**	**47.83**	**73**	LR	LR	11 32 08.7	
	comp=Z,50nm,21.4s,baz=120,slow=36						
KK31	**Karatay Array**	**48.26**	**333**	P	**P**	**11 12 08.9**	**+1.6**
KK31				IAmb	IAmb	11 13 00.3	
	comp=Z,8.3nm,1.8s						
KKAR	**Karatay Array**	**48.26**	**333**	P	**P**	**11 12 07.4**	**+0.1**
BBOO	**Buckleboo**	**49.43**	**137**	P	**P**	**11 12 16.6**	**+0.2**
	baz=49,SNR=16						
BBOO	**Buckleboo**	**49.43**	**137**	P	**P**	**11 12 16.7**	**+0.3**
PMG	**Port Moresby**	**50.05**	**103**	P	**P**	**11 12 19.1**	**-2.3**
PMG				IAmb	IAmb	11 14 11.1	
	comp=Z,17nm,0.9s						
JHJ2	**Mitsune**	**50.25**	**47**	P	**P**	**11 12 21.4**	**-1.3**
MJAR	**Matsushiro Arr**	**50.94**	**42**	P	**P**	**11 12 27.8**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=246,slow=6.0,SNR=3.0						
	comp=Z,1.6nm,0.8s						
GEYT	**Alibeck**	**51.62**	**320**	P	**P**	**11 12 31.6**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=106,slow=5.2,SNR=2.6						
	comp=Z,1.8nm,0.5s						
GEYT	**Alibeck**	**51.62**	**320**	P	**P**	**11 12 33.3**	**+0.4**
GYA0B	**ALIBECK ARRAY**	**51.62**	**320**	P	**P**	**11 12 33.3**	**+0.4**
GYA0B				IAmb	IAmb	11 13 04.6	
	comp=Z,4.4nm,0.6s						
HTT	**Hallett**	**51.76**	**136**	P	**P**	**11 12 31.6**	**-2.5**
	baz=51,SNR=4.3						
CTAO	**Charters Tower**	**51.81**	**117**	P	**P**	**11 12 34.5**	**-0.1**
KURK	**Kurchatov**	**51.82**	**344**	P	**P**	**11 12 34.6**	**+0.5**
KURK				IAmb	IAmb	11 12 50.8	
	comp=Z,4.8nm,0.9s						
KURK	**Kurchatov**	**51.82**	**344**	P	**P**	**11 12 34.5**	**+0.4**
KURK				pP	**pP**	**11 12 50.5**	**+2.8**
USRK	**Ussuriysk Ar.**	**52.14**	**31**	P	**P**	**11 12 36.7**	**+0.1**
	comp=Z,4.0nm,0.7s,baz=202,slow=3.8,SNR=6.2						
	comp=Z,4.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.14**	**31**	P	**P**	**11 12 37.6**	**+1.0**
QLP	**Quilpie**	**52.47**	**125**	P	**P**	**11 12 38.0**	**-1.3**
	baz=52,SNR=7.3						
STKA	**Stephens Creek**	**52.85**	**133**	P	**P**	**11 12 42.2**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=308,slow=6.7,SNR=17						
	comp=Z,4.6nm,0.6s						
STKA	**Stephens Creek**	**52.85**	**133**	P	**P**	**11 12 42.3**	**+0.2**
	baz=52,SNR=11						
STKA	**Stephens Creek**	**52.85**	**133**	P	**P**	**11 12 42.3**	**+0.2**
ZAA0	**Zalesovo Array**	**53.49**	**350**	P	**P**	**11 12 46.6**	**+0.2**
ZAA0				IAmb	IAmb	11 12 53.1	
	comp=Z,12nm,1.1s						
ZALV	**Zalesovo Beam**	**53.49**	**350**	P	**P**	**11 12 46.6**	**+0.2**
	comp=Z,7.7nm,0.4s,baz=164,slow=6.2,SNR=44						
	comp=Z,7.7nm,0.4s						
ZALV	**Zalesovo Beam**	**53.49**	**350**	P	**P**	**11 12 46.8**	**+0.4**
HEH	**HeiHe**	**54.67**	**23**	*e*P	**P**	**11 12 55.6**	**+0.5**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,160nm,4.9s						
RAYN	**Ar Rayn**	**55.44**	**298**	P	**P**	**11 13 01.5**	**+0.3**
RAYN	**Ar Rayn**	**55.44**	**298**	P	**P**	**11 13 02.0**	**+0.8**
CMSA	**Cobar Meteorol**	**55.76**	**130**	P	**P**	**11 13 02.7**	**-0.6**
	baz=55,SNR=8.7						
BRVK	**Borovoye**	**56.41**	**340**	P	**P**	**11 13 07.5**	**0.0**
BRVK				IAmb	IAmb	11 13 07.8	
	comp=Z,5.3nm,0.5s						
BRVK	**Borovoye**	**56.41**	**340**	P	**P**	**11 13 07.3**	**-0.2**
EIDS	**Eidsvold**	**57.73**	**121**	P	**P**	**11 13 16.2**	**-1.3**
	baz=57,SNR=5.3						
EIDS	**Eidsvold**	**57.73**	**121**	P	**P**	**11 13 18.1**	**+0.7**
ABKAR	**Akbulak array**	**57.74**	**331**	P	**P**	**11 13 17.1**	**+0.1**
KBZ	**Khabaz**	**64.49**	**319**	P	**P**	**11 14 01.5**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=210,slow=15,SNR=1.9						
	comp=Z,1.7nm,0.9s						
YAK	**Yakutsk**	**64.97**	**16**	P	**P**	**11 14 05.3**	**-0.3**
	comp=Z,3.8nm,0.4s,baz=210,slow=2.9,SNR=1.7						
	comp=Z,3.8nm,0.4s						
NRIK	**Noril'sk**	**68.18**	**356**	P	**P**	**11 14 25.4**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=170,slow=3.8,SNR=4.4						
	comp=Z,2.5nm,0.3s						
BR131	**Keskin Array S**	**69.62**	**312**	P	**P**	**11 14 35.3**	**-0.5**
BR131				IAmb	IAmb	11 15 32.0	
	comp=Z,34nm,1.9s						
BRTR	**Keskin Array B**	**69.62**	**312**	P	**P**	**11 14 34.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=148,slow=7.2,SNR=3.9						
	comp=Z,0.8nm,0.7s						
BRTR	**Keskin Array B**	**69.62**	**312**	P	**P**	**11 14 34.8**	**-1.0**
NOUC	**Port Laguerre**	**70.44**	**114**	P	**P**	**11 14 41.2**	**+0.3**
DZM	**Mont Dzumac**	**70.56**	**114**	P	**P**	**11 14 42.2**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=245,slow=12,SNR=2.0						
	comp=Z,2.8nm,0.8s						
OUENC	**Ouen Island, N**	**70.98**	**114**	P	**P**	**11 14 43.6**	**-0.6**
TIXI	**Tiksi**	**72.83**	**10**	P	**P**	**11 14 53.4**	**-0.9**
TIXI				IAmb	IAmb	11 15 10.1	
	comp=Z,11nm,1.5s						
SEY	**Seymchan**	**73.22**	**23**	P	**P**	**11 14 57.4**	**+0.6**
	comp=Z,0.7nm

STKA	**Stephens Creek**	**35.02 238**	P		**P**		**11 13 16.1**	**-0.9**
	7.1nm,0.9s,baz=64,slow=9.3,SNR=8.2							
STKA			LR		LR		11 26 34.9	
	comp=Z,228nm,19.2s,baz=46,slow=34							
	7.1nm,0.9s							
STKA	**Stephens Creek**	**35.02 238**	P		**P**		**11 13 16.7**	**-0.4**
STKA			IAmb		IAmb		11 13 20.6	
	comp=Z,1.9nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**36.27 344**	T		T		11 51 37.7	
	baz=174,slow=77,SNR=17							
H11S3	**WAKE ISLAND Hy**	**36.27 344**	T		T		11 51 44.6	
	baz=174,slow=77,SNR=12							
H11S1	**WAKE ISLAND Hy**	**36.28 344**	T		T		11 51 39.2	
	baz=174,slow=77,SNR=9.0							
H11N3	**WAKE ISLAND Hy**	**37.39 345**	T		T		11 52 54.2	
	baz=165,slow=76,SNR=17							
H11N1	**WAKE ISLAND Hy**	**37.39 345**	T		T		11 53 03.4	
	baz=165,slow=76,SNR=7.1							
H11N2	**WAKE ISLAND Hy**	**37.41 345**	T		T		11 53 06.4	
	baz=165,slow=76,SNR=5.5							
WB0	**Warramunga Arr**	**40.01 259**	P		**P**		**11 14 01.0**	**+1.5**
WB0			IAmb		IAmb		11 14 01.8	
	comp=Z,10nm,1.2s							
WRA	**Warramunga Arr**	**40.05 259**	P		**P**		**11 13 56.5**	**-3.3**
	comp=Z,1.4nm,0.7s,baz=90,slow=8.7,SNR=6.9							
	comp=Z,1.4nm,0.7s							
WRA	**Warramunga Arr**	**40.05 259**	P		**P**		**11 14 00.4**	**+0.5**
AS31	**Alice Springs**	**40.43 253**	P		**P**		**11 14 04.8**	**+1.8**
ASAR	**Alice Springs**	**40.43 253**	P		**P**		**11 13 59.4**	**-3.6**
	comp=Z,1.6nm,0.7s,baz=82,slow=8.6,SNR=14							
ASAR			PcP		**PcP**		**11 16 02.7**	**-3.0**
	comp=Z,1.2nm,1.1s,baz=76,slow=3.9,SNR=3.1							
	comp=Z,1.6nm,0.7s							
ASAR	**Alice Springs**	**40.43 253**	P		**P**		**11 14 04.8**	**+1.8**
TAOE	**Nuku Hiva Isla**	**42.95 85**	*e*LR		LR		11 26 31.7	
	comp=Z,250nm,25.0s							
RKT	**Rikitea**	**45.93 106**	*e*LR		LR		11 27 32.3	
	comp=Z,67µm,31.2s							
SIJI	**Sorong**	**47.20 285**	LR		LR		11 34 25.3	
	comp=Z,105nm,19.7s,baz=122,slow=36							
BATI	**Baumata**	**51.64 270**	LR		LR		11 36 58.5	
	comp=Z,88nm,18.5s,baz=98,slow=36							
JCJ	**Chichijima**	**54.80 322**	LR		LR		11 34 06.8	
	comp=Z,104nm,21.0s,baz=98,slow=31							
NWAO	**Narrogin (SRO)**	**55.48 241**	LR		LR		11 38 43.7	
	comp=Z,229nm,19.8s,slow=35							
DAV	**Davao City (W)**	**55.59 291**	LR		LR		11 38 39.7	
	comp=Z,60nm,18.7s,baz=84,slow=35							
JHJ	**Hachijo jima 2**	**60.68 325**	LR		LR		11 43 15.8	
	comp=Z,13nm,18.4s,baz=105,slow=37							
VNDA	**Vanda**	**61.28 184**	LR		LR		11 38 05.3	
	comp=Z,50nm,21.2s,baz=322,slow=31							
VNDA	**Vanda**	**61.28 184**	P		**P**		**11 16 39.0**	**0.0**
VNDA			IAmb		IAmb		11 17 03.4	
	comp=Z,5.7nm,1.4s							
SBA	**Scott Base**	**61.37 182**	P		**P**		**11 16 40.3**	**+0.7**
MJAR	**Matsushiro Arr**	**64.11 326**	P		P		11 16 51.4	-7.1
	comp=Z,1.8nm,0.9s,baz=134,slow=6.9,SNR=2.3							
MJAR			LR		LR		11 38 52.7	
	comp=Z,52nm,21.3s,baz=134,slow=31							
	comp=Z,1.8nm,0.9s							
MAJO	**Matsushiro**	**64.11 326**	P		**P**		**11 16 59.6**	**+1.2**
MAJO			IAmb		IAmb		11 17 02.1	
	comp=Z,7.6nm,1.1s							
JNU	**Nakatsue**	**65.95 319**	LR		LR		11 40 25.5	
	comp=Z,27nm,21.9s,baz=130,slow=31							
ASAJ	**Asahikawa**	**67.98 334**	LR		LR		11 41 05.7	
	comp=Z,88nm,21.0s,baz=154,slow=31							
RPN	**Rapa Nui**	**68.77 113**	LR		LR		11 39 20.0	
	comp=Z,128nm,21.3s,baz=285,slow=29							
KSRS	**Korea Array**	**70.61 321**	LR		LR		11 43 33.5	
	comp=Z,43nm,22.0s,baz=130,slow=32							
KSAR	**Wonju Array Be**	**70.63 321**	P		**P**		**11 17 41.3**	**+1.7**
PETK	**Petropavlovsk-**	**71.39 348**	LR		LR		11 43 11.7	
	comp=Z,83nm,20.1s,baz=150,slow=31							
USRK	**Ussuriysk Ar.**	**72.94 328**	P		**P**		**11 17 54.9**	**+1.5**
QSPA	**South Pole Qui**	**73.34 180**	LR		LR		11 45 57.2	
	comp=Z,69nm,20.0s,baz=228,slow=32							
QSPA	**South Pole Qui**	**73.34 180**	P		**P**		**11 17 54.9**	**-0.8**
KLR	**Kul'dur**	**76.66 332**	LR		LR		11 47 26.8	
	comp=Z,47nm,19.5s,baz=128,slow=32							
YBH	**Yreka Blue Hor**	**80.77 41**	LR		LR		11 50 09.0	
	comp=Z,71nm,18.2s,baz=300,slow=33							
NVAR	**Mina Array Bea**	**82.03 46**	P		P		11 18 39.1	-5.6
	comp=Z,0.5nm,0.8s,baz=238,slow=8.4,SNR=1.9							
	comp=Z,0.5nm,0.8s							
NVAR	**Mina Array Bea**	**82.03 46**	P		**P**		**11 18 43.6**	**-1.0**
LPIG	**La Paz**	**82.14 62**	LR		LR		11 49 11.6	
	comp=Z,79nm,18.0s,baz=254,slow=31							
MAW	**Mawson**	**83.29 201**	LR		LR		11 54 06.9	
	comp=Z,73nm,18.5s,baz=92,slow=34							
BBB	**Bella Bella**	**83.69 31**	LR		LR		11 47 54.6	
	comp=Z,59nm,21.0s,baz=180,slow=30							
CMAR	**Chiang Mai Arr**	**83.88 291**	P		P		11 18 49.2	-5.2
	comp=Z,1.2nm,0.3s,baz=169,slow=1.8,SNR=1.9							
CMAR			LR		LR		11 52 32.9	
	comp=Z,33nm,21.9s,baz=110,slow=33							
	comp=Z,1.2nm,0.3s							
ILAR	**Eielson Array**	**85.90 15**	P		P		11 18 57.9	-5.5
	comp=Z,0.5nm,0.7s,baz=240,slow=5.3,SNR=9.8							
	comp=Z,0.5nm,0.7s							
YAK	**Yakutsk**	**86.70 340**	LR		LR		11 50 46.0	
	comp=Z,71nm,21.1s,baz=98,slow=31							
PMSA	**Palmer Station**	**86.79 158**	LR		LR		11 52 43.2	
	comp=Z,72nm,18.7s,baz=254,slow=32							
ANMO	**Albuquerque**	**89.24 53**	LR		LR		11 51 10.8	
	comp=Z,118nm,21.3s,baz=66,slow=30							
PDAR	**Pinedale Array**	**89.91 45**	P		**P**		**11 19 20.3**	**-3.2**
	comp=Z,0.4nm,0.9s,baz=242,slow=7.7,SNR=2.6							
	comp=Z,0.4nm,0.9s							
BRDH	**Bariadhala**	**91.70 293**	LR		LR		12 03 18.6	
	comp=Z,26nm,18.1s,baz=88,slow=38							
TIXI	**Tiksi**	**93.80 346**	LR		LR		11 56 45.3	
	comp=Z,75nm,21.4s,baz=6.0,slow=32							
ULM	**Lac du Bonnet**	**101.17 41**	P		**Pdif**		**11 20 09.4**	**-4.9**
	comp=Z,1.0nm,0.3s,baz=340,slow=20,SNR=2.0							
GERES	**GERESS Array B**	**144.99 340**	PKP		**PKPbc**		**11 25 56.7**	**-3.9**
	comp=Z,1.6nm,0.9s,baz=35,slow=2.4,SNR=4.1							
CONA	**Conrad Observa**	**145.02 337**	*e*PKP		**PKPbc**		**11 25 59.3**	**-1.4**
	comp=Z,4.8nm,0.9s							
RONA	**Rosalia, Aust**	**145.04 336**	*e*PKiKP		**PKiKP**		**11 26 04.7**	**-0.5**
	comp=Z,13nm,1.9s							
MOA	**Molln**	**145.66 339**	*e*PKiKP		**PKiKP**		**11 26 07.0**	**+0.5**
	comp=Z,4.3nm,0.9s							
ARSA	**Arzberg**	**145.71 337**	*e*PKP		**PKPbc**		**11 26 03.5**	**+0.6**
	comp=Z,4.6nm,1.2s							
BIOA	**Bad Ischl, Aus**	**146.01 339**	*e*PKiKP		**PKiKP**		**11 26 08.5**	**+1.2**
	comp=Z,4.3nm,1.2s							
OBKA	**Obir**	**146.69 337**	*e*PKP		**PKPdf**		**11 26 05.2**	**+0.9**
	comp=Z,0.1nm,0.3s							
MYKA	**Terra Mystica**	**146.93 338**	*e*PKP		**PKPbc**		**11 26 07.4**	**+0.9**
	comp=Z,12nm,1.5s							
WATA	**Walderalm**	**147.00 341**	*e*PKP		**PKPdf**		**11 26 05.0**	**+0.2**
	comp=Z,8.7nm,1.4s							
WTTA	**Wattenberg**	**147.04 341**	*e*PKiKP		**PKiKP**		**11 26 11.5**	**+2.0**
	comp=Z,11nm,1.6s							
RETA	**Reutte**	**147.11 342**	*e*PKP		**PKPab**		**11 26 09.3**	**+0.6**
	comp=Z,5.7nm,0.8s							
ABTA	**Abfaltersbach**	**147.22 339**	*e*PKiKP		**PKiKP**		**11 26 13.6**	**+3.8**
	comp=Z,11nm,1.4s							
SQTA	**Sankt Quirin**	**147.22 341**	*e*PKP		**PKPdf**		**11 26 06.7**	**+1.5**
	comp=Z,2.9nm,0.7s							
FETA	**Feichten**	**147.54 342**	*e*PKP		**PKPdf**		**11 26 03.1**	**-2.7**
	comp=Z,7.1nm,1.2s							
DAVA	**Damuels**	**147.55 343**	*e*PKP		**PKPbc**		**11 26 09.3**	**+0.9**
	comp=Z,5.8nm,1.1s							

IDC 06 11:14:15.5±2.7, 19°02S×176°96W, h0km, mb3.8/5, mbtmp3.8/5, MS3.7/5, Error ellipse: s-maj=149.5km s-min=28.1km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.84**	**256**	LR	LR	11 23 10.4	
	comp=Z,222nm,20.4s,baz=108,slow=34						
HNR	**Honiara**	**24.30**	**290**	LR			
	comp=Z,998nm,20.9s,baz=192,slow=33						
PPT	**Papeete**	**26.03**	**91**	LR	LR	11 27 53.5	
	comp=Z,58nm,21.5s,baz=279,slow=31						
CTA	**Charters Tower**	**34.64**	**262**	LR	LR	11 33 35.0	
	comp=Z,71nm,21.2s,baz=78,slow=34						
STKA	**Stephens Creek**	**39.32**	**243**	P	P	11 21 47.1	+0.6
	2.8nm,0.8s,baz=108,slow=7.7,SNR=6.7						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**45.79**	**260**	P	P	11 22 38.5	-0.8
	0.6nm,0.8s,baz=97,slow=7.0,SNR=5.5						
WRA				LR	LR	11 41 41.4	
	comp=Z,99nm,18.1s,baz=129,slow=36						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**45.82**	**255**	P	P	11 22 39.3	-0.3
	1.2nm,0.6s,baz=94,slow=8.3,SNR=29						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**86.67**	**12**	P	P	11 27 00.8	+0.2
	0.6nm,0.9s,baz=214,slow=5.9,SNR=4.1						
	0.6nm,0.9s						
PDAR	**Pinedale Array**	**87.22**	**43**	P	P	11 27 03.9	-0.2
	0.2nm,0.5s,baz=223,slow=3.6,SNR=2.4						
	0.2nm,0.5s						

*MOS **06** 11:37:17.7±1.9, 46°.45N×142°.01E, h11km, mb4.1/7, Error ellipse: s-maj=11.8km s-min=7.4km az=93.7*
MOS Felt (III-IV) at Gornozavodsk; (II-III) at Nevel'sk; (II) at Shebunino.
*JMA **06** 11:37:18.9±0.2, 46°.7N±0°.9×14°2E±°, h24km, MV3.9/31, SOUTH SAKHALIN*
*SKHL **06** 11:37:19.2±0.9, 46°.40N×141°.90E, h11km±3km, mb4.7/9*
*IDC **06** 11:37:25.6±2.4, 46°.43N×141°.91E, h64km±26km, mb3.4/11, mbtmp3.7/13, ML3.0/2, MS3.4/2, Error ellipse: s-maj=19.5km s-min=16.1km az=31.0*

ISC 06 11:37:20.9±1.1, 46°.47N±0°.02×142°.07E±0°.05, h24km±9km, n50, σ1ş51/59, mb3.7/17, MS3.2/3, 8C-4D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHLM	**Kholmsk**	**0.58**	**359**	*i* Pg	**Pb**	**11 37 31.2**	**-1.3**
KHLM				*e*Sg	**Sb**	**11 37 39.6**	**-0.7**
YSS	**Yuzh-Sakhalins**	**0.67**	**44**	*i* PN	**Pb**	**11 37 33.9**	**-0.1**
YSS				*e*		11 37 44.6	
YSS				pmax	pmax		
	comp=Z,140nm,0.6s						
YSS				smax	smax		
	comp=N,2µm,0.4s						
YSS				smax	smax		
	comp=E,1µm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.67**	**44**	*i* Pg	**Pb**	**11 37 33.9**	**-0.1**
YSS				AMB	AMB	11 37 34.5	
	comp=E,310nm,0.4s						
YSS				*e*Sg	**Sn**	**11 37 44.8**	**+0.1**
YSS				A	A	11 37 46.2	
	comp=E,2µm,0.3s						
YSS				A	A	11 37 46.2	
	comp=E,1µm,0.3s						
YSS				AMS	AMS	11 38 03.0	
	comp=E,2µm,8.0s						
JWK2	**Keihoku**	**1.16**	**186**	*e*P	**Pb**	**11 37 42.9**	**+0.6**
JWK2				*e*S	**Sb**	**11 38 00.6**	**+3.6**
JRBN	**Rebuntou**	**1.26**	**214**	*e*P	**Pn**	**11 37 42.4**	**-0.7**
JRBN				*e*S	**Sn**	**11 37 58.9**	**-0.4**
JRR	**Rishiri**	**1.44**	**202**	*e*P	**Pb**	**11 37 46.5**	**-0.5**
JRR				*e*S	**Sb**	**11 38 07.2**	**+2.3**
JSE	**Soyaes**	**1.56**	**167**	*e*P	**Pb**	**11 37 49.6**	**+0.6**
JSE				*e*S	**Sb**	**11 38 11.8**	**+3.5**
JYG	**Yagishiri**	**2.10**	**193**	*e*S	**Sb**	**11 38 23.6**	**-0.2**
ASAJ	**Asahikawa**	**2.39**	**171**	P	**Pb**	**11 38 01.3**	**-1.9**
	comp=E,3.6nm,0.3s,baz=335,slow=11,SNR=25						
ASAJ				S	**Sb**	**11 38 30.6**	**-1.5**
	comp=E,34nm,0.5s,baz=66,slow=22,SNR=4.6						
	comp=E,28nm,0.6s						
ASAJ	**Asahikawa**	**2.39**	**171**	*e*P	**Pb**	**11 38 01.2**	**-1.9**
ASAJ				*e*S	**Sb**	**11 38 32.1**	**0.0**
UGL	**Uglegorsk**	**2.61**	**360**	*e*PN	**Pb**	**11 38 05.3**	**-1.6**
UGL				*e*S	**Sb**	**11 38 40.9**	**+2.5**
UGL				pmax	pmax		
	comp=Z,52nm,0.8s						
UGL				smax	smax		
	comp=E,127nm,0.8s						
UGL				smax	smax		
	comp=N,208nm,0.8s						
UGL	**Uglegorsk**	**2.61**	**360**	*e*P	**Pb**	**11 38 07.0**	**+0.1**
UGL				P	Pn	11 38 09.0	+7.5
	comp=N,100nm,0.8s						
UGL				*e*Pg		11 38 12.1	
UGL				AMB	AMB	11 38 13.2	
	comp=N,40nm,0.6s						
UGL				*e*S	**Sb**	**11 38 37.8**	**-0.6**
UGL				*e*Sg	Sn	11 38 46.9	+15
UGL				A	A	11 38 47.0	
	comp=N,210nm,0.8s						
UGL				A	A	11 38 47.0	
	comp=N,130nm,0.8s						
JMP	**Maruseppu**	**2.63**	**159**	*e*P	**Pn**	**11 38 03.7**	**+1.8**
JKK2	**Kamakawa 2**	**2.64**	**169**	*e*P	**Pb**	**11 38 04.8**	**-2.7**
JKK2				*e*S	**Sb**	**11 38 39.2**	**-0.4**
JTKR	**Abashiri--Toko**	**2.82**	**152**	*e*P	**Pn**	**11 38 06.7**	**+2.3**
JTKR				*e*S	**Sb**	**11 38 42.2**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**3.62**	**131**	*i* PN	**Pn**	**11 38 13.4**	**-2.0**
AKK	**Akkeshi**	**3.98**	**149**	*e*Pg	Pb	11 38 38.3	+8.0
AKK				*e*Sg	Sb	11 39 33.4	+15
TEY	**Ternei**	**4.09**	**251**	*e*PN	**Pn**	**11 38 24.9**	**+3.0**
KUR	**Kuril'sk**	**4.23**	**105**	*e*PN	**Pn**	**11 38 23.1**	**-0.8**
TYV	**Tymovskoe**	**4.41**	**5**	*e*Pg	Pb	11 38 48.6	+11
TYV				AMB	AMB	11 38 53.1	
	comp=N,10.0nm,0.9s						
TYV				*e*Sg	Sb	11 39 48.8	+18
TYV				A	A	11 39 52.4	
	comp=N,20nm,0.5s						
ERM	**Erimo**	**4.53**	**170**	*e*PN	**Pn**	**11 38 29.4**	**+1.5**
GRNR	**Gornyy**	**5.70**	**321**	*e*PN	**Pn**	**11 38 42.2**	**-1.9**
GRNR				pmax	pmax		
	comp=N,3.0nm,0.2s						
GRNR				pmax	pmax		
	comp=E,3.0nm,0.2s						
GRNR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GRNR				MLR	MLR		
	comp=E,100nm,10.0s						
GRNR				MLR	MLR		
	comp=N,180nm,15.0s						
GRNR	**Gornyy**	**5.70**	**321**	*e*Sg	Sb	11 40 29.1	+22
GRNR				A	A	11 40 31.4	
	comp=N,10.0nm,0.8s						
GRNR				A	A	11 40 31.4	
	comp=N,20nm,0.8s						
USRK	**Ussuriysk Ar.**	**7.46**	**256**	P	**Pn**	**11 39 10.5**	**+2.3**
	comp=N,0.1nm,0.3s,baz=78,slow=13,SNR=1.8						
	comp=N,1.0nm,0.5s						
MAJO	**Matsushiro**	**10.34**	**198**	*e*PN	**Pn**	**11 39 46.3**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SEY	**Seymchan**	**17.50**	**16**	*e*P	**P**	**11 41 23.6**	**-0.4**
SEY				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SEY	**Seymchan**	**17.50**	**16**	*e*P	**P**	**11 41 23.6**	**-0.4**
ULN	**Ulaanbaatar**	**23.73**	**286**	*e*P	**P**	**11 42 30.7**	**-0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULN	**Ulaanbaatar**	**23.73**	**286**	*e*P	**P**	**11 42 30.7**	**-0.5**
SONM	**Songino Array**	**24.17**	**286**	P	**P**	**11 42 35.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=83,slow=8.5,SNR=11						
	comp=Z,1.2nm,0.7s						
BILL	**Bilibino**	**24.93**	**21**	*e*P	**P**	**11 42 43.2**	**+1.3**
BILL				*e*PPP	PPP	11 43 21.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BILL				MLR	MLR		
	comp=Z,42nm,15.0s						
BILL	**Bilibino**	**24.93**	**21**	*e*P	**P**	**11 42 43.2**	**+1.3**
ZALV	**Zalesovo Beam**	**36.49**	**303**	P	**P**	**11 44 23.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=66,slow=7.0,SNR=2.3						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**36.49**	**303**	P	**P**	**11 44 23.0**	**-0.9**
MK31	**Makanchi Array**	**40.17**	**293**	*e*P	**P**	**11 44 54.7**	**-0.3**
MKAR	**Makanchi Array**	**40.17**	**293**	P	**P**	**11 44 53.9**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=79,slow=8.5,SNR=7.4						
MKAR				LR	LR	12 03 44.6	
	comp=Z,56nm,20.4s,baz=64,slow=39						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**40.17**	**293**	*i* P	**P**	**11 44 55.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**41.04**	**300**	*e*P	**P**	**11 45 00.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
COLA	**College**	**41.05**	**38**	*e*P	**P**	**11 45 03.4**	**+1.4**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**41.48**	**38**	P	**P**	**11 45 06.7**	**+1.2**
	comp=Z,2.3nm,0.6s,baz=280,slow=8.8,SNR=50						
ILAR				LR	LR	12 04 50.6	
	comp=Z,34nm,18.4s,baz=236,slow=40						
	comp=Z,2.3nm,0.6s						
BRVK	**Borovoye**	**45.04**	**306**	*e*P	**P**	**11 45 33.7**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ARU	**Arti**	**49.88**	**314**	*e*P	**P**	**11 46 09.6**	**-2.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
YKA	**Yellowknife Ar**	**55.52**	**33**	P	**P**	**11 46 54.5**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=302,slow=6.8,SNR=7.2						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**60.77**	**330**	P	**P**	**11 47 30.1**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=35,slow=7.0,SNR=5.4						
	comp=Z,2.3nm,0.8s						
FINES	**FINESS Array B**	**60.77**	**330**	*i* P	**P**	**11 47 30.8**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**66.47**	**188**	P	**P**	**11 48 06.6**	**-1.7**
	comp=Z,0.6nm,1.0s,baz=8.7,slow=6.1,SNR=2.0						
	comp=Z,0.6nm,1.0s						
NVAR	**Mina Array Bea**	**69.11**	**56**	P	**P**	**11 48 25.8**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=305,slow=5.2,SNR=5.3						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**70.20**	**188**	P	**P**	**11 48 32.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=4.3,slow=5.9,SNR=3.5						
	comp=Z,0.4nm,0.8s						
PDAR	**Pinedale Array**	**70.82**	**48**	P	**P**	**11 48 35.0**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=354,slow=1.0,SNR=3.9						
	comp=Z,0.4nm,0.8s						
GERES	**GERESS Array B**	**74.98**	**328**	P	**P**	**11 49 00.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=52,slow=6.4,SNR=2.0						
	comp=Z,0.3nm,0.5s						

*DJA **06** 11:46:40.4±0.4, 0°.5±4°×12°4E±°, h118km±11km, M4.3/13, mb4.4/4, mB4.8/1, MLv4.3/13, Mw(mB)4.1/1*
*NEIC **06** 11:46:40.1±1.8, 0°.03S±0°.10×123°.4E±0°.1, h141km±6km, mb4.3/21, Error ellipse: s-maj=21.5km s-min=11.3km az=63.0*
*IDC **06** 11:46:41.9±3.4, 0°.02N×123°.58E, h174km±35km, mb3.6/13, mbtmp4.0/14, Error ellipse: s-maj=27.6km s-min=12.2km az=64.0*

ISC 06 11:46:40.3±0.5, 0°.04S±0°.05×123°.49E±0°.06, h157km, n61, σ1ş56/64, mb4.1/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.23**	**216**		**Pn**	**11 47 05.6**	**-2.1**
LUWI	**Luwuk**	**1.23**	**216**	P	**Pn**	**11 47 05.1**	**-2.6**
MRSI	**Marisa**	**1.63**	**288**	P	**Pn**	**11 47 09.4**	**-2.4**
APSI	**Ampana**	**2.04**	**245**	P	**Pn**	**11 47 14.6**	**-1.6**
TOLI2	**Tolitoli**	**2.94**	**293**		**Pn**	**11 47 26.5**	**-0.7**
SANI	**Sanana**	**3.20**	**129**	P	**Pn**	**11 47 27.2**	**-3.2**
MPSI	**Mapaga**	**3.61**	**276**	P	**Pn**	**11 47 36.4**	**+0.7**
TNTI	**Ternate**	**3.96**	**78**	P	**Pn**	**11 47 38.0**	**-2.2**
SGSI	**Sangihe**	**4.22**	**29**	P	**Pn**	**11 47 42.7**	**-1.0**
NLAI	**Namlea**	**4.81**	**131**	P	**Pn**	**11 47 50.3**	**-1.0**
SPSI	**Sidrap Palu**	**5.39**	**224**	P	**Pn**	**11 47 59.3**	**+0.3**
	45nm,0.7s,1µm0.3nm						
BNSI	**Bone**	**5.50**	**218**	P	**Pn**	**11 48 00.4**	**0.0**
	30nm,1.3s,0.1nm						
KAPI	**Kappang**	**6.20**	**217**	P	**Pn**	**11 48 11.6**	**+2.0**
	14nm,0.4s,baz=115,slow=5.9,SNR=5.8						
KAPI				S	**Sn**	**11 49 14.6**	**-5.1**
	7.2nm,0.4s,baz=126,slow=22,SNR=1.7						
KAPI	**Kappang**	**6.20**	**217**	Pn	**Pn**	**11 48 09.8**	**+0.1**
MTN	**Manton Dam**	**14.81**	**150**	Pn	**Pn**	**11 50 02.3**	**+0.2**
MTN	**Manton Dam**	**14.81**	**150**	P	P	**11 50 06.0**	**+2.0**
KNRA	**Kununurra**	**16.39**	**162**		**Pn**	**11 50 22.8**	**+1.3**
KNRA				IAmb	IAmb	11 50 24.9	
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	**16.39**	**162**	P	**Pn**	**11 50 22.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**18.07**	**173**	P	**Pn**	**11 50 41.0**	**-0.5**
MBWA	**Marble Bar**	**21.31**	**190**	P	P	**11 51 13.8**	**-1.0**
WB0	**Warramunga Arr**	**22.33**	**152**	P	P	**11 51 25.1**	**-0.2**
WB0				IAmb	IAmb	11 52 00.2	
	comp=Z,9.3nm,1.1s						
WRAB	**Tennant Creek**	**22.45**	**152**	P	**P**	**11 51 26.5**	**0.0**
WRAB				IAmb	IAmb	11 51 28.7	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**22.45**	**152**	P	**P**	**11 51 26.9**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=332,slow=10,SNR=80						
	comp=Z,3.9nm,0.6s						
WRA	**Warramunga Arr**	**22.45**	**152**	P	**P**	**11 51 26.0**	**-0.5**
WB2	**Warramunga Arr**	**22.46**	**152**	P	**P**	**11 51 26.9**	**+0.4**
WB2				IAmb	IAmb	11 51 28.6	
	comp=Z,14nm,1.2s						
WR0	**Warramunga Arr**	**22.56**	**152**	P	**P**	**11 51 27.6**	**+0.1**
WR0				IAmb	IAmb	11 51 36.5	
	comp=Z,4.4nm,0.7s						
**IP

*AUST **06** 11:51:42.8±0.3,30°.63S×118°.39E,h10km,Error ellipse: s-maj=3.5km s-min=3.0km az=157.0*
*NOU **06** 11:51:43.0,30°.73S×118°.47E,h1km,MLv3.5/7, Western Australia*
*CUPWA **06** 11:51:44.0±3.5,30°.65S×118°.39E,h2km±13km,Region: WESTERN AUSTRALIA*

ISC 06 11:51:41.3±1.4,30°.63S±0°.03×118°.47E±0°.03,h7km±11km, n38,σ1§79/54,1D,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.14**	**212**	⇓P	**Pg**	**11 52 03.4**	**+0.3**
	baz=1.1,SNR=64						
KLBR				S	**Sb**	**11 52 17.1**	**-1.3**
	baz=1.1,SNR=9.5						
KLBR	**Kellerberrin**	**1.14**	**212**	P	**Pg**	**11 52 03.4**	**+0.3**
KLBR	**Kellerberrin**	**1.14**	**212**	P	**Pg**	**11 52 03.4**	**+0.3**
KLBR	**Kellerberrin**	**1.14**	**212**	S	**Sb**	**11 52 17.0**	**-1.3**
CADX	**Cadoux**	**1.16**	**263**	P	**Pg**	**11 52 03.7**	**+0.2**
CADX	**Cadoux**	**1.16**	**263**	S	**Sg**	**11 52 18.4**	**-0.2**
BLDU	**Ballidu**	**1.52**	**270**	P	**Pg**	**11 52 09.8**	**-0.6**
	baz=1.4,SNR=51						
BLDU				S	**Sb**	**11 52 28.6**	**-0.6**
	baz=1.4,SNR=7.8						
BLDU	**Ballidu**	**1.52**	**270**	P	**Pb**	**11 52 09.7**	**0.0**
BLDU	**Ballidu**	**1.52**	**270**	P	**Pg**	**11 52 09.8**	**-0.6**
BLDU				S	**Sb**	**11 52 28.6**	**-0.6**
MECK	**Meckering**	**1.60**	**231**	P	**Pb**	**11 52 11.2**	**0.0**
MECK	**Meckering**	**1.60**	**231**	S	**Sb**	**11 52 30.5**	**-1.1**
QUAI	**Quairading**	**1.66**	**213**	P	**Pb**	**11 52 12.2**	**+0.1**
QUAI	**Quairading**	**1.66**	**213**	S	**Sn**	**11 52 28.5**	**-3.8**
AUKUL	**Kulin High Sch**	**2.05**	**188**	P	**Pb**	**11 52 18.6**	**-0.2**
AUKUL				S	**Sb**	**11 52 43.2**	**-1.4**
PING	**Pingelly**	**2.26**	**214**	P	**Pb**	**11 52 21.3**	**-1.0**
PING				SG	**Sb**	**11 52 51.6**	**+1.1**
MUN	**Mundaring**	**2.36**	**235**	P	**Pn**	**11 52 21.4**	**+1.0**
	baz=2.3,SNR=3.9						
MUN				S	**Sn**	**11 52 50.4**	**+0.8**
	baz=2.3						
MUN	**Mundaring**	**2.36**	**235**	P	**Pn**	**11 52 21.6**	**+1.2**
MUN	**Mundaring**	**2.36**	**235**	P	**Pn**	**11 52 21.4**	**+1.0**
MUN	**Mundaring**	**2.36**	**235**	S	**Sn**	**11 52 50.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**2.52**	**204**	P	**Pn**	**11 52 23.8**	**+1.2**
	baz=2.5,SNR=13						
NWAO				P	**Pn**	**11 52 23.8**	**+1.2**
	baz=2.5,SNR=13						
NWAO	**Narrogin (SRO)**	**2.52**	**204**	P	**Pn**	**11 52 24.2**	**+1.6**
NWAO	**Narrogin (SRO)**	**2.52**	**204**	P	**Pn**	**11 52 23.8**	**+1.2**
AUKAL	**John Paul Coll**	**2.59**	**94**	P	**Pb**	**11 52 27.4**	**-0.7**
	baz=2.7						
AUKAL				S	**Sb**	**11 53 00.6**	**+0.4**
	baz=2.7						
MORW	**Morawa**	**2.62**	**306**	P	**Pn**	**11 52 24.9**	**+0.9**
	baz=2.6,SNR=4.6						
MORW				S	**Sn**	**11 52 55.9**	**-0.2**
	baz=2.6						
MORW	**Morawa**	**2.62**	**306**	P	**Pb**	**11 52 28.1**	**-0.5**
MORW	**Morawa**	**2.62**	**306**	P	**Pn**	**11 52 24.9**	**+0.9**
MORW	**Morawa**	**2.62**	**306**	S	**Sn**	**11 52 55.9**	**-0.2**
KMBL	**Kambalda**	**3.02**	**105**	P	**Pn**	**11 52 31.8**	**+2.3**
	baz=3.1,SNR=7.6						
KMBL				S	**Sn**	**11 53 08.1**	**+2.1**
	baz=3.1						
KMBL	**Kambalda**	**3.02**	**105**	P	**Pn**	**11 52 31.2**	**+1.7**
KMBL	**Kambalda**	**3.02**	**105**	P	**Pn**	**11 52 31.8**	**+2.3**
KMBL				S	**Sn**	**11 53 08.1**	**+2.1**
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**11 52 44.9**	**+2.3**
	baz=4.0,SNR=3.8						
MEEK				S	**Sn**	**11 53 31.8**	**+2.3**
	baz=4.0						
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**11 52 46.6**	**+3.9**
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**11 52 44.9**	**+2.3**
MEEK				S	**Sn**	**11 53 31.8**	**+2.3**
RKGY	**Rocky Gully**	**4.17**	**197**	P	**Pn**	**11 52 47.0**	**+1.8**
	baz=4.2						
RKGY				S	**Sn**	**11 53 35.2**	**+1.1**
	baz=4.2						
FORT	**Forrest**	**8.26**	**93**	P	**Pn**	**11 53 43.5**	**+2.1**
	baz=8.3						
FORT				S	**Sn**	**11 55 12.7**	**-2.2**
	baz=8.3						
WRKA	**Warakurna**	**10.32**	**60**	P	**Pn**	**11 54 11.0**	**+1.1**
	baz=10						
WRKA				S	**Sn**	**11 55 59.5**	**-6.4**
	baz=10						
MULG	**Mulgathing**	**13.45**	**92**	P	**Pn**	**11 54 51.9**	**-0.7**
	baz=14						
OOD	**Oodnadatta**	**15.30**	**84**	P	**Pn**	**11 55 15.1**	**-2.5**
	baz=15						

*KRNET **06** 11:55:58.4±0.1,42°.90N×79°.06E,h16km,mb3.0*
*SOME **06** 11:55:58.4,42°.88N×79°.05E,h10km*
*NNC **06** 11:55:58.4±0.4,42°.92N×79°.07E,h1km±1km,mb3.2, mpv3.2,Error ellipse: s-maj=3.7km s-min=1.8km az=166.0*

ISC 06 11:55:58.9±1.2,42°.89N±0°.03×79°.02E±0°.03,h5km±9km, n53,σ0§99/94,13C-9D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.25**	**1**	P	**Pg**	**11 56 03.7**	**-0.2**
	66nm,0.2s						
UZB				S	**Sg**	**11 56 07.4**	**+0.1**
	199nm,0.1s						
UZB	**Uzynbulak**	**0.25**	**1**	*e*P	**Pg**	**11 56 03.7**	**-0.2**
	baz=53						
UZB				*e*S	**Sg**	**11 56 07.4**	**+0.1**
	baz=53						
UZB	**Uzynbulak**	**0.25**	**1**	*e*P	**Pg**	**11 56 03.7**	**-0.2**
	66nm,0.1s						
UZB				*e*S	**Sg**	**11 56 07.4**	**+0.1**
	199nm,0.1s						
SHLS	**Shalkode**	**0.42**	**51**	P	**Pn**	**11 56 10.9**	**-0.9**
	48nm,0.1s						
SHLS				S	**Sb**	**11 56 19.7**	**+4.0**
	37nm,0.4s						
SHLS	**Shalkode**	**0.42**	**51**	*e*P	**Pn**	**11 56 10.9**	**-0.9**
	baz=67						
SHLS				*e*S	**Sb**	**11 56 19.7**	**+4.0**
	baz=67						
SHLS	**Shalkode**	**0.42**	**51**	*e*P	**Pn**	**11 56 10.9**	**-0.9**
	48nm,0.1s						
SHLS				*e*S	**Sb**	**11 56 19.7**	**+4.0**
	37nm,0.4s						
SATY	**Saty**	**0.48**	**291**	P	**Pg**	**11 56 08.5**	**+0.4**
	3.3nm,0.1s						
SATY				S	**Sg**	**11 56 15.3**	**+0.9**
	271nm,0.1s						
SATY	**Saty**	**0.48**	**291**	*e*P	**Pg**	**11 56 08.5**	**+0.4**
	baz=88						
SATY				*e*S	**Sg**	**11 56 15.3**	**+0.9**
	baz=88						
SATY	**Saty**	**0.48**	**291**	*e*P	**Pg**	**11 56 08.5**	**+0.4**
	3.3nm,0.1s						
SATY				*e*S	**Sg**	**11 56 15.3**	**+0.9**
	300nm,0.1s						
ZHN	**Zhinishke**	**0.51**	**303**	P	**Pg**	**11 56 09.1**	**+0.4**
	11nm,0.1s						
ZHN				S	**Sg**	**11 56 16.2**	**+0.9**
	331nm,0.2s						
ZHN	**Zhinishke**	**0.51**	**303**	*e*P	**Pg**	**11 56 09.0**	**+0.4**
	baz=0.0						
ZHN				*e*S	**Sg**	**11 56 16.2**	**+0.9**
	baz=0.0						
ZHN	**Zhinishke**	**0.51**	**303**	*e*P	**Pg**	**11 56 09.0**	**+0.4**
	11nm,0.1s						
ZHN				*e*S	**Sg**	**11 56 16.2**	**+0.9**
	331nm,0.2s						
PRZ	**Przheval'sk**	**0.61**	**228**	⇓*i*P	**Pg**	**11 56 10.5**	**-0.2**
	baz=31						
PRZ				⇓*i*S	**Sg**	**11 56 18.8**	**+0.2**
	baz=31						
KPKS	**Kokpek**	**0.62**	**337**	P	**Pg**	**11 56 10.6**	**-0.3**
	39nm,0.1s						
KPKS				S	**Sg**	**11 56 18.9**	**-0.1**
	129nm,0.3s						
KPKS	**Kokpek**	**0.62**	**337**	*e*P	**Pg**	**11 56 10.6**	**-0.3**
	baz=34						
KPKS				*e*S	**Sg**	**11 56 18.9**	**-0.1**
	baz=34						
KPKS	**Kokpek**	**0.62**	**337**	*e*P	**Pg**	**11 56 10.6**	**-0.3**
	39nm,0.1s						
KPKS				*e*S	**Sg**	**11 56 18.9**	**-0.1**
	129nm,0.3s						
KURS	**Kuram**	**0.86**	**314**	P	**Pg**	**11 56 15.2**	**-0.2**
	2.5nm,0.1s						
KURS				S	**Sg**	**11 56 26.8**	**+0.3**
	13nm,0.2s						
KURS	**Kuram**	**0.86**	**314**	*e*P	**Pg**	**11 56 15.2**	**-0.2**
	baz=12						
KURS				*e*S	**Sg**	**11 56 26.8**	**+0.3**
	baz=12						
KURS	**Kuram**	**0.86**	**314**	*e*P	**Pg**	**11 56 15.2**	**-0.2**
	2.5nm,0.1s						
KURS				*e*S	**Sg**	**11 56 26.8**	**+0.3**
	13nm,0.2s						
ANVS	**Anan'yevo**	**1.00**	**264**	⇑*i*P	**Pg**	**11 56 18.3**	**+0.2**
	baz=64						
ANVS				⇑*i*S	**Sb**	**11 56 32.2**	**-0.1**
	baz=64						
MDOK	**Medeo**	**1.47**	**281**	⇑P	**Pb**	**11 56 26.2**	**-0.6**
	2.6nm,0.3s						
MDOK				Pg	**Pb**	**11 56 26.3**	**-0.6**
	9.7nm,0.2s						
MDOK				Lg	Lg	11 56 45.8	
	41nm,0.7s						
MDOK				S	**Sb**	**11 56 45.9**	**0.0**
	27nm,0.5s						
MDOK	**Medeo**	**1.47**	**281**	*e*P	**Pb**	**11 56 26.2**	**-0.6**
	baz=81						
MDOK				*e*S	**Sb**	**11 56 45.8**	**0.0**
	baz=81						
MDOK	**Medeo**	**1.47**	**281**	*e*P	**Pb**	**11 56 26.2**	**-0.6**
	9.7nm,0.2s						
MDOK				*e*S	**Sb**	**11 56 45.8**	**0.0**
	41nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.47**	**218**	⇑*i*P	**Pn**	**11 56 26.0**	**-0.5**
	baz=19						
TARG				⇑*i*S	**Sb**	**11 56 46.0**	**-0.1**
	baz=19						
TNSS	**Tian-Shan**	**1.52**	**276**	P	**Pb**	**11 56 27.8**	**-0.2**
	2.9nm,0.1s						
TNSS				S	**Sg**	**11 56 48.4**	**+0.5**
	16nm,0.2s						
TNSS	**Tian-Shan**	**1.52**	**276**	*e*P	**Pb**	**11 56 27.7**	**-0.2**
	baz=76						
TNSS				*e*S	**Sg**	**11 56 48.4**	**+0.5**
	baz=76						
TNSS	**Tian-Shan**	**1.52**	**276**	*e*P	**Pb**	**11 56 27.7**	**-0.2**
	2.9nm,0.1s						
TNSS				*e*S	**Sg**	**11 56 48.4**	**+0.5**
	16nm,0.2s						
DJR	**Jarkent**	**1.54**	**21**	P	**Pb**	**11 56 26.6**	**-1.5**
	5.4nm,0.1s						
DJR				S	**Sb**	**11 56 46.4**	**-1.7**
	80nm,0.3s						
DJR	**Jarkent**	**1.54**	**21**	*e*P	**Pb**	**11 56 26.6**	**-1.5**
	5.4nm,0.1s						
DJR				*e*S	**Sb**	**11 56 46.4**	**-1.7**
	80nm,0.3s						
KDJ	**Kajisay**	**1.56**	**241**	⇓*i*P	**Pb**	**11 56 27.7**	**-0.6**
	baz=41						
KDJ				⇓*i*S	**Sb**	**11 56 48.8**	**+0.4**
	baz=41						
CHKK	**Chushkaly**	**1.76**	**304**	P	**Pb**	**11 56 31.2**	**-0.6**
	5.9nm,0.2s						
CHKK				S	**Sb**	**11 56 54.6**	**+0.4**
	37nm,0.3s						
CHKK	**Chushkaly**	**1.76**	**304**	*e*P	**Pb**	**11 56 31.2**	**-0.6**
	baz=3.0						
CHKK				*e*S	**Sb**	**11 56 54.6**	**+0.4**
	baz=3.0						
CHKK	**Chushkaly**	**1.76**	**304**	*e*P	**Pb**	**11 56 31.2**	**-0.6**
	6.0nm,0.1s						
CHKK				*e*S	**Sb**	**11 56 54.6**	**+0.4**
	44nm,0.1s						
KTBS	**Karatobe**	**1.89**	**296**	P	**Pb**	**11 56 33.8**	**-0.2**
	4.5nm,0.1s						
KTBS				S	**Sb**	**11 56 58.7**	**+0.8**
	90nm,0.4s						
KTBS	**Karatobe**	**1.89**	**296**	*e*P	**Pb**	**11 56 33.7**	**-0.2**
	baz=96						
KTBS				*e*S	**Sb**	**11 56 58.7**	**+0.8**
	baz=96						
KTBS	**Karatobe**	**1.89**	**296**	*e*P	**Pb**	**11 56 33.7**	**-0.2**
	4.5nm,0.1s						
KTBS				*e*S	**Sb**	**11 56 58.7**	**+0.8**
	89nm,0.1s						
MTBS	**Maitube**	**1.91**	**278**	Pg	**Pg**	**11 56 34.8**	**-0.7**
	6.7nm,0.3s						
MTBS				Lg	Lg	11 57 00.6	
	21nm,0.5s						
MTBS	**Maitube**	**1.91**	**278**	*e*P	**Pg**	**11 56 34.8**	**-0.7**
	6.7nm,0.3s						
MTBS				*e*S	**Sg**	**11 57 00.6**	**+0.3**
	21nm,0.5s						
ULHL	**Ulahol**	**2.15**	**253**	⇑*i*P	**Pb**	**11 56 37.1**	**-1.3**
	baz=54						
ULHL				⇑*i*S	**Sb**	**11 57 04.7**	**-0.8**
	baz=54						
KUU	**Kurty**	**2.19**	**298**	Pg	**Pb**	**11 56 38.8**	**-0.3**
	2.5nm,0.3s						
KUU				Lg	Lg	11 57 07.3	
	46nm,0.4s						
KUU	**Kurty**	**2.19**	**298**	*e*Pg	**Pb**	**11 56 38.8**	**-0.3**
	2.5nm,0.3s						
KUU				*e*Lg	Lg	11 57 07.3	
	46nm,0.4s						
KST	**Kastek**	**2.25**	**275**	Pg	**Pb**	**11 56 40.6**	**+0.5**
	2.9nm,0.2s						
KST				Lg	Lg	11 57 10.8	
	28nm,0.5s						
KST	**Kastek**	**2.25**	**275**	*e*Pg	**Pb**	**11 56 40.6**	**+0.5**
	2.9nm,0.2s						
KST				*e*Lg	Lg	11 57 10.8	
	28nm,0.5s						
DGS	**Degeres**	**2.40**	**279**	Pg	**Pb**	**11 56 42.7**	**0.0**
	2.8nm,0.3s						
DGS				Lg	Lg	11 57 14.3	
	52nm,0.4s						
DGS	**Degeres**	**2.40**	**279**	*e*Pg	**Pb**	**11 56 42.7**	**0.0**
	2.8nm,0.3s						
DGS				*e*Lg	Lg	11 57 14.3	
	52nm,0.4s						
TKM2	**Tokmak 2**	**2.51**	**272**	⇑Pg	**Pb**	**11 56 44.5**	**-0.1**
	1.8nm,0.3s						
TKM2				⇓Lg	Lg	11 57 18.8	
	16nm,0.5s						
TKM2	**Tokmak 2**	**2.51**	**272**	⇓*e*P	**Pb**	**11 56 42.4**	**-2.2**
	baz=72						
TKM2				⇓*i*S	**Sn**	**11 57 13.3**	**+1.6**
	baz=72						
KRBS	**Karabastau**	**2.57**	**289**	Pg	**Pb**	**11 56 45.3**	**-0.2**
	2.5nm,0.2s						
KRBS				Lg	Lg	11 57 18.5	
	28nm,0.3s						
KRBS	**Karabastau**	**2.57**	**289**	*e*Pg	**Pb**	**11 56 45.3**	**-0.2**
	2.5nm,0.2s						
KRBS				*e*Lg	Lg	11 57 18.5	
	28nm,0.3s						
BTLS	**Baital**	**4.18**	**303**	*e*Pg	**Pb**	**11 57 14.4**	**+1.5**
	1.0nm,0.3s						
BTLS				*e*Lg	Lg	11 58 08.4	
	1.6nm,0.3s						
MAKZ	**Makanchi**	**4.45**	**27**	⇑Pn	**Pn**	**11 57 06.9**	**-0.1**
	0.4nm,0.5s						
MAKZ				⇓Sn	**Sn**	**11 57 59.2**	**0.0**
	0.7nm,0.7s						
MAKZ				⇑Lg	Lg	11 58 15.5	
	0.8nm,0.6s						
MK31	**Makanchi Array**	**4.54**	**30**	⇑Pn	**Pn**	**11 57 08.1**	**-0.3**
	0.3nm,0.4s,baz=119,slow=4.0,SNR=4.2						
MK31				⇑Sn	**Sn**	**11 58 01.0**	**-0.6**
	0.5nm,0.4s						
MK31				⇑Lg	Lg	11 58 18.7	
	0.2nm,0.2s,baz=210,slow=28,SNR=6.4						
KK31	**Karatay Array**	**6.24**	**275**	⇓Lg	Lg	11 59 17.2	
	0.3nm,0.3s,baz=83,slow=30,SNR=3.6						

*IDC **06** 12:09:24.2±3.0,2°.30N×128°.78E,h251km±30km,mb3.4/7, mbtmp4.0/7,Error ellipse: s-maj=51.8km s-min=11.5km az=76.0*

ISC 06 12:09:24.0±0.9,2°.3N±0°.2×128°.8E±0°.4,h250km,n7, σ0§52/9,mb3.9/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.77**	**167**	P	**P**	**12 14 05.0**	**-0.2**
	1.2nm,0.3s,baz=336,slow=12,SNR=52						
WRA				S	S	12 18 14.5	+19
	0.6nm,1.1s,baz=356,slow=23,SNR=2.0						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**26.29**	**169**	P	**P**	**12 14 37.0**	**+0.1**
	1.8nm,0.6s,baz=353,slow=7.6,SNR=80						
ASAR				PcP	**PcP**	**12 17 56.8**	**+0.4**
	0.2nm,0.4s,baz=2.9,slow=1.9,SNR=4.2						
ASAR				ScP	**ScP**	**12 21 11.3**	**-1.0**
	0.5nm,0.9s,baz=353,slow=3.7,SNR=3.1						
	1.8nm,0.6s						
KSRS	**Korea Array**	**34.98**	**359**	P	**P**	**12 15 53.0**	**+0.3**
	0.8nm,0.5s,baz=170,slow=8.5,SNR=4.2						
	0.8nm,0.5s						
MJAR	**Matsushiro Arr**	**35.14**	**13**	P	**P**	**12 15 53.9**	**-0.2**
	0.8nm,0.4s,baz=195,slow=9.2,SNR=1.9						
	0.8nm,0.4s						
STKA	**Stephens Creek**	**36.10**	**161**	P	**P**	**12 16 02.6**	**+0.2**
	2.2nm,0.4s,baz=340,slow=7.9,SNR=15						
	2.2nm,0.4s						
SONM	**Songino Array**	**49.32**	**340**	P	**P**	**12 17 48.4**	**+0.3**
	0.7nm,0.6s,baz=152,slow=7.8,SNR=2.6						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**59.91**	**325**	P	**P**	**12 19 03.6**	**-0.3**
	1.6nm,0.4s,baz=114,slow=8.1,SNR=38						
	1.6nm,0.4s						

*IDC **06** 12:09:32.6±1.7,44°.12N×128°.88W,h0km,mb3.8/6, mbtmp3.7/13,ML3.8/5,MS3.5/22,Error ellipse: s-maj=32.4km s-min=13.9km az=46.0*
*NEIC **06** 12:09:33.3±2.0,43°.97N±0°.07×129°.16W±0°.09,h10km±2km, mb4.2/33,ML3.4/38,Error ellipse: s-maj=16.5km s-min=3.1km az=222.0*
*PGC **06** 12:09:37.2±0.1,44°.18N×128°.96W,h10km,MLSn3.7/7, Mw4.3/7,591km southwest of Ucluelet, Bc Off Coast Of Oregon*

ISC 06 12:09:35.2±0.9,44°.07N±0°.06×128°.98W±0°.08,h15km, n225,σ1§48/236,mb4.1/12,MS3.6/16,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.59**	**108**	Pn	**Pn**	**12 10 28.1**	**-2.3**
NC27	**ODP1027**	**3.79**	**13**	Pn	**Pn**	**12 10 32.0**	**-0.7**
NC27				Sn	**Sn**	**12 11 14.9**	**-2.0**
HEBO	**Mount Hebo**	**3.90**	**71**	Pn	**Pn**	**12 10 34.5**	**-0.2**
HEBO				IAML		12 11 56.3	
	comp=N,46nm,1.4s						
HEBO				IAML		12 12 21.4	
	comp=E,44nm,1.9s						
KBO	**Bosley Butte**	**3.94**	**116**	Pn	**Pn**	**12 10 33.9**	**-1.4**
KBO				IAML		12 11 38.9	
	comp=N,51nm,1.8s						
KBO				IAML		12 12 58.8	
	comp=E,46nm,3.8s						
COR	**Corvallis**	**4.11**	**81**		**Pn**	**12 10 38.1**	**+0.7**
COR				IAML		12 11 37.4	
	comp=E,38nm,1.5s						
F03A	**Seaside**	**4.27**	**62**		**Pn**	**12 10 40.7**	**+1.0**
DBO	**Dodson Butte**	**4.27**	**101**		**Pn**	**12 10 39.4**	**-0.4**
DBO				IAML		12 11 32.6	
	comp=E,31nm,1.3s						
BUCK	**Buck Mountain**	**4.32**	**86**		**Pn**	**12 10 40.8**	**+0.4**
BUCK				IAML		12 11 35.0	
	comp=E,40nm,2.2s						
BUCK				IAML		12 11 37.2	
	comp=N,40nm,1.3s						
RADR	**Rader Ridge**	**4.35**	**55**		**Pn**	**12 10 40.9**	**+0.1**
RADR				IAML		12 11 37.9	
	comp=E,33nm,1.9s						
RADR				IAML		12 12 30.6	
	comp=N,30nm,1.6s						
E03A	**Lebam**	**4.55**	**55**	Pn	**Pn**	**12 10 44.1**	**+0.6**
E03A				IAML		12 11 39.8	
	comp=N,38nm,0.9s						
E03A				IAML		12 13 04.4	
	comp=E,33nm,2.3s						
E03A	**Lebam**	**4.55**	**55**	Pn	**Pn**	**12 10 44.2**	**+0.6**
E03A				Sn	**Sn**	**12 11 35.6**	**-0.6**
HUMO	**Hull Mountain**	**4.63**	**106**	Pn	**Pn**	**12 10 44.8**	**+0.2**
HUMO				IAML		12 11 40.5	
	comp=N,27nm,0.6s						
KRPM	**Rodgers**	**4.67**	**127**	Pn	**Pn**	**12 10 44.2**	**-1.1**
KRPM				IAML		12 13 32.6	
	comp=N,32nm,4.5s						
KRPM				IAML		12 13 49.5	
	comp=E,39nm,2.5s						
WISH	**Wishkah**	**4.76**	**48**		**Pn**	**12 10 47.7**	**+1.4**
WISH	**Wishkah**	**4.76**	**48**	Pn	**Pn**	**12 10 47.7**	**+1.4**
WISH				Sn	**Sn**	**12 11 41.5**	**+0.3**
NCBC	**Barkley Canyon**	**4.77**	**23**	Pn	**Pn**	**12 10 47.3**	**+0.8**
NCBC				Sn	**Sn**	**12 11 40.8**	**-0.6**
NC89	**ODP889**	**4.83**	**17**	Pn	**Pn**	**12 10 48.4**	**+1.2**
NC89				Sn	**Sn**	**12 11 41.9**	**-0.8**
NLWA	**Neilton Lookou**	**4.88**	**45**		**Pn**	**12 10 48.8**	**+0.7**
NLWA				IAML		12 11 49.1	
	comp=E,24nm,0.5s						
NLWA				IAML		12 12 38.4	
	comp=E,24nm,2.5s						
JCC	**Jacoby Creek,**	**4.90**	**130**	Pn	**Pn**	**12 10 47.8**	**-0.5**
H04A	**Detroit Lake**	**4.91**	**80**		**Pn**	**12 10 49.0**	**+0.5**
H04A				IAML		12 11 50.4	
	comp=N,38nm,0.4s						
H04A				IAML		12 11 53.8	
	comp=E,23nm,0.4s						
C03A	**Quillayute Air**	**4.95**	**37**	Pn	**Pn**	**12 10 49.6**	**+0.6**
CPW	**Capitol Peak**	**5.03**	**53**	Pn	**Pn**	**12 10 50.9**	**+0.7**
YBH	**Yreka Blue Hor**	**5.16**	**115**	Pn	**Pn**	**12 10 51.9**	**-0.2**
	comp=E,1.2nm,0.3s,baz=313,slow=11,SNR=11						
YBH				Sn	**Sn**	**12 11 51.4**	**0.0**
	comp=E,0.6nm,0.3s,baz=163,slow=19,SNR=2.0						
YBH				LR	LR	12 12 36.0	
	comp=E,220nm,21.4s,baz=299,slow=36						
	comp=E,2.4nm,0.3s						
YBH	**Yreka Blue Hor**	**5.16**	**115**	Pn	**Pn**	**12 10 52.3**	**+0.3**
OCP	**Olym-Cheeka Pk**	**5.20**	**34**	Pn	**Pn**	**12 10 53.3**	**+0.9**
OBC	**Olympics--Boni**	**5.23**	**39**	Pn	**Pn**	**12 10 53.2**	**+0.3**
OSD	**Olympics--Snow**	**5.25**	**43**	Pn	**Pn**	**12 10 53.8**	**+0.4**
HOOD	**Mount Hood Mea**	**5.37**	**74**		**Pn**	**12 10 55.1**	**+0.2**
B012	**Ucluelet**	**5.40**	**25**	Pn	**Pn**	**12 10 56.3**	**+1.1**
B012				Sn	**Sn**	**12 11 54.8**	**-2.2**
OZB	**Mount Ozzard**	**5.45**	**25**	Pn	**Pn**	**12 10 57.1**	**+1.2**
OZB				Sn	**Sn**	**12 11 56.0**	**-2.3**
BFSB	**Bamfield**	**5.45**	**28**	Pn	**Pn**	**12 10 57.1**	**+1.2**
BFSB				Sn	**Sn**	**12 11 55.8**	**-2.5**
B928	**Bamfield**	**5.45**	**28**	Pn	**Pn**	**12 10 57.1**	**+1.2**
B928				Sn	**Sn**	**12 11 55.6**	**-2.6**
HDW	**Hoodsport**	**5.47**	**47**	Pn	**Pn**	**12 10 57.7**	**+1.4**
KMRM	**Mail Ridge**	**5.49**	**133**	Pn	**Pn**	**12 10 56.6**	**+0.1**
PFB	**Port Renfrew**	**5.49**	**33**	Pn	**Pn**	**12 10 56.7**	**+0.3**
PFB				Sn	**Sn**	**12 11 57.1**	**-2.2**
STW	**Striped Peak**	**5.50**	**40**	Pn	**Pn**	**12 10 57.1**	**+0.5**
B04A	**Port Angeles**	**5.51**	**42**	Pn	**Pn**	**12 10 57.6**	**+0.9**
GNW	**Green Mountain**	**5.54**	**49**	Pn	**Pn**	**12 10 57.6**	**+0.5**
GNW				Sn	**Sn**	**12 11 59.2**	**-1.3**
ETB	**Estevan Point**	**5.57**	**17**	Pn	**Pn**	**12 10

PA01	PA01 North	5.97	38	Sn	Sn	12 12 09.4	-1.6		
K05A	Summer Lake	6.04	100		Pn	12 11 04.8	+0.5		
SVOH	Skagit Valley	6.10	44	Pn	Pn	12 11 07.0	+2.2		
GOBB	Galiano Island	6.17	36	Pn	Pn	12 11 07.0	+1.3		
GHNB	Nanoose	6.17	30	Pn	Pn	12 11 07.1	+1.4		
GHNB				Sn	Sn	12 12 15.1	-0.8		
SNB	Saturna Island	6.18	38	Pn	Pn	12 11 06.9	+1.0		
SNB				Sn	Sn	12 12 15.4	-1.0		
NLLB	Nanaimo Lost L	6.20	32	Pn	Pn	12 11 07.2	+1.1		
NLLB				Sn	Sn	12 12 15.6	-1.0		
C05A	Tolt Reservoir	6.25	52	Pn	Pn	12 11 07.9	+1.0		
SPLB	Strathcona Par	6.25	20	Pn	Pn	12 11 08.8	+2.0		
SPLB				Sn	Sn	12 12 17.2	-0.8		
MCW	Mount Constitu	6.27	41	Pn	Pn	12 11 08.3	+1.1		
JCW	Jim Creek	6.40	47	Pn	Pn	12 11 10.9	+2.0		
TXB	Texada	6.43	27	Pn	Pn	12 11 11.5	+2.1		
TXB				Sn	Sn	12 12 22.7	+0.2		
CMW	Cultus Mountai	6.45	45	Pn	Pn	12 11 11.3	+1.6		
MAYB	Maynard	6.45	10	Pn	Pn	12 11 12.1	+2.4		
SHB	Sechelt	6.54	31	Pn	Pn	12 11 12.7	+1.7		
SHB				Sn	Sn	12 12 23.9	-1.4		
HOLB	Holberg	6.60	5	Pn	Pn	12 11 13.7	+2.1		
BIB	Bowen Island	6.61	34	Pn	Pn	12 11 12.8	+1.1		
BIB				Sn	Sn	12 12 25.2	-1.5		
LTY	Liberty	6.64	58		Pn	12 11 13.6	+1.4		
LTY	Liberty	6.64	58	Pn	Pn	12 11 13.7	+1.5		
NCRB	Newcastle Ridg	6.64	16	Pn	Pn	12 11 15.3	+3.0		
F07A	Phinny Hill Vi	6.67	71		Pn	12 11 13.8	+1.1		
HOPS	Hopland Field	6.73	137	Pn	Pn	12 11 13.8	+0.3		
RPW	Rockport	6.78	47	Pn	Pn	12 11 16.0	+1.8		
GPW	Glacier Peak	6.79	51	Pn	Pn	12 11 17.0	+2.5		
MBW	Mount Baker	6.79	44	Pn	Pn	12 11 16.4	+2.0		
I07A	Izee	6.83	87		Pn	12 11 14.9	+0.1		
HNBB	Haney	6.83	38	Pn	Pn	12 11 16.0	+1.2		
HNBB				Sn	Sn	12 12 31.6	-0.6		
B06A	Marblemount	6.83	47		Pn	12 11 15.2	+0.3		
B06A	Marblemount	6.83	47	Pn	Pn	12 11 16.7	+1.8		
WPB	Watts Point	6.84	33	Pn	Pn	12 11 16.1	+1.1		
WPB				Sn	Sn	12 12 33.0	+0.4		
VDB	Vedder Mountai	6.86	41	Pn	Pn	12 11 16.6	+1.4		
HAWA	Hanford	7.06	68		Pn	12 11 19.1	+1.1		
ORV	Oroville	7.18	126	Pn	Pn	12 11 18.0	-1.6		
G08A	Pilot Rock	7.25	77		Pn	12 11 21.8	+1.2		
E08A	Dider Farm, El	7.40	67		Pn	12 11 23.1	+0.5		
J08A	Circle Bar Ran	7.64	92		Pn	12 11 26.6	+0.4		
D08A	Wollman Farm,	7.66	64	Pn	Pn	12 11 27.6	+1.4		
WVOR	Wild Horse Val	7.73	99		Pn	12 11 27.4	+0.1		
AFDM	Forest Hills D	7.89	128		Pn	12 11 29.8	+0.4		
B08A	Colville Reser	7.94	54	Pn	Pn	12 11 29.6	-0.6		
B08A	Colville Reser	7.94	54	Pn	Pn	12 11 29.5	-0.6		
E09A	Wood Farm, Sta	8.02	68	Pn	Pn	12 11 32.6	+1.5		
BBB	Bella Bella	8.14	4	Pn	Pn	12 11 32.8	+0.1		
	comp=E,0.5nm,0.3s,baz=320,slow=11,SNR=1.3								
	comp=E,13nm,0.8s								
PNT	Penticton	8.30	48	Pn	Pn	12 11 33.7	-1.3		
C09A	Chrisman Ranch	8.34	60		Pn	12 11 36.4	+0.8		
C09A	Chrisman Ranch	8.34	60	Pn	Pn	12 11 36.6	+1.1		
BMO	Blue Mountains	8.39	81		Pn	12 11 38.3	+2.0		
VCNR	Virginia City	8.45	121	Pn	Pn	12 11 38.4	+1.1		
F10A	Beach Ranch, E	8.54	73	Pn	Pn	12 11 39.4	+1.0		
PNTR	Pine Nut	8.61	122	Pn	Pn	12 11 37.8	-1.7		
CMB	Columbia Colle	8.86	130	Pn	Pn	12 11 42.3	-0.4		
YERR	Yerington	8.89	122	Pn	Pn	12 11 42.5	-0.9		
WAKR	Walker	9.08	124	Pn	Pn	12 11 44.8	-1.1		
NEW	Newport	9.23	59	Pn	Pn	12 11 46.8	-1.0		
	comp=E,0.4nm,0.3s,baz=221,slow=11,SNR=6.0								
NEW				LR	LR	12 15 15.7			
	comp=E,339nm,21.4s,baz=250,slow=38								
	comp=E,1.9nm,0.5s								
NEW	Newport	9.23	59	Pn	Pn	12 11 47.0	-0.8		
PLID	Pearl Lake	9.32	79	Pn	Pn	12 11 50.4	+1.1		
KVN	Kaiserville	9.57	118	Pn	Pn	12 11 52.1	-0.5		
LHV	Little Huntoon	9.80	123	Pn	Pn	12 11 56.0	+0.4		
NVAR	Mina Array Bea	9.81	121	Pn	Pn	12 11 56.0	0.0		
	comp=E,1.3nm,0.8s,baz=307,slow=14,SNR=3.1								
NVAR	Mina Array Bea	9.81	121	Pn	Pn	12 11 54.3	-1.7		
MDPB	Devils Postpil	9.88	127	Pn	Pn	12 11 57.8	+0.9		
Q09A	Carvers	10.28	117	Pn	Pn	12 12 05.3	+2.9		
BLBC	Blue River	10.29	36	Pn	Pn	12 12 04.0	+1.5		
HLID	Hailey	10.54	88	Pn	Pn	12 12 08.5	+2.6		
ELK	Elko	10.69	103	Pn	Pn	12 12 09.4	+1.4		
	comp=E,2.7nm,0.8s,baz=297,slow=10,SNR=7.2								
ELK				LR	LR	12 16 22.4			
	comp=E,142nm,18.8s,baz=286,slow=38								
ELK	Elko	10.69	103	Pn	Pn	12 12 09.3	+1.3		
FSB	Fort Saint Jam	10.85	15	Pn	Pn	12 12 14.0	+4.1		
MSO	Missoula	10.92	70	Pn	Pn	12 12 10.9	-0.1		
BCYI	Bear Canyon	11.19	83	Pn	Pn	12 12 20.3	+1.7		
WALA	Waterton Lakes	11.50	59	Pn	Pn	12 12 20.3	+1.3		
WALA	Waterton Lakes	11.50	59	Pn	Pn	12 12 20.5	+1.5		
MCMT	McKenzie Canyo	11.56	81	Pn	Pn	12 12 21.8	+2.0		
ISA	Isabella, Lake	11.64	133	Pn	Pn	12 12 18.2	-2.6		
WCT	Wildcat Mounta	11.88	123	Pn	Pn	12 12 24.4	+0.2		
TPNV	Topopah Spring	12.01	122	Pn	Pn	12 12 25.5	-0.5		
SPR3	Spring Creek 3	12.09	110	Pn	Pn	12 12 26.6	-0.6		
CCAC	Calif City Air	12.27	133	Pn	Pn	12 12 27.9	-1.5		
GWY	Greenwater Val	12.27	126	Pn	Pn	12 12 27.0	-2.5		
QSM	Queen of Sheba	12.31	127	Pn	Pn	12 12 28.9	-1.0		
BOZ	Bozeman (W)	12.41	77	Pn	Pn	12 12 29.2	-2.3		
PRN	Pahroc Range	12.48	117	Pn	Pn	12 12 30.2	-2.2		
QLMT	Earthquake Lak	12.57	80	Pn	Pn	12 12 31.8	-1.8		
DUG	Dugway, Tooele	12.61	102	Pn	Pn	12 12 32.8	-1.4		
GSC	Goldstone, Bar	12.82	129	Pn	Pn	12 12 35.8	-1.1		
MKRVA	Milk River, Al	12.86	61	Pn	Pn	12 12 38.7	+1.2		
YMR	Madison River	12.91	81	Pn	Pn	12 12 36.0	-2.2		
SHPR	Sheep Range	12.97	121	Pn	Pn	12 12 37.8	-1.3		
EDM	Edmonton	13.78	43	Pn	Pn	12 12 52.8	+2.9		
LCMT	Little Creek M	13.88	115	Pn	Pn	12 12 50.3	-1.1		
EGMT	Eagleton	13.92	67	Pn	Pn	12 12 55.5	+3.6		
KNB	Kanab	14.15	114	Pn	Pn	12 12 53.5	-1.7		
PD31	Pinedale Array	14.18	89	Pn	Pn	12 12 55.9	+0.3		
PDAR	Pinedale Array	14.18	89	Pn	Pn	12 12 56.2	+0.5		
	baz=280,slow=10.0,SNR=3.5								
PDAR				LR	LR	12 18 33.1			
	comp=E,234nm,19.4s,baz=254,slow=38								
	comp=E,0.3nm,0.5s								
PFO	Pinyon Flats O	14.27	133	Pn	Pn	12 12 58.6	+1.7		
	comp=E,0.4nm,0.3s,baz=213,slow=10,SNR=1.9								
PFO				LR	LR	12 17 53.5			
	comp=E,110nm,20.7s,baz=342,slow=35								
	comp=E,0.8nm,0.3s								
U15A	North Rim	14.84	115	Pn	Pn	12 13 06.5	+1.7		
BLYC	Blythe	15.23	128	Pn	Pn	12 13 11.1	+1.3		
BLYC				IAmb	IAmb	12 13 18.2			
	comp=Z,18nm,1.4s								
FNBB	Fort Nelson	15.29	12	P	P	12 13 17.6	+2.5		
YUH	Yuha Desert	15.30	134	Pn	Pn	12 13 11.2	+0.5		
YUH				IAmb	IAmb	12 13 19.0			
	comp=Z,14nm,1.3s								
ESJX	Sierra Juarez	15.80	135		Pn	12 13 19.1	+1.8		
O20A	White River Ci	15.88	97		P	12 13 20.6	-1.3		
O20A				IAmb	IAmb	12 13 27.8			
	comp=Z,22nm,1.1s								
WUAZ	Wupatki	15.98	116	Pn	Pn	12 13 18.3	-1.3		
WUAZ				IAmb	IAmb	12 13 31.3			
	comp=Z,17nm,1.1s								
Y14A	Wickenburg	15.99	124	Pn	Pn	12 13 20.2	+0.6		
PV23	Carpenter Ridg	16.02	104	Pn	Pn	12 13 19.6	-0.6		
PV23				IAmb	IAmb	12 13 32.0			
	comp=Z,23nm,1.1s								
PV11	David Mesa, Pa	16.18	104	Pn	Pn	12 13 21.2	-1.1		
LAO	LASA Array	16.19	73	Pn	Pn	12 13 21.1	-1.1		
LAO				IAmb	IAmb	12 13 30.3			
	comp=Z,13nm,1.0s								
PV07	Paradox Valley	16.28	103	Pn	Pn	12 13 21.5	-1.9		
PV13	Radium Mtn., P	16.28	104		Pn	12 13 25.3	+1.7		
PV13				IAmb	IAmb	12 13 32.9			
	comp=Z,22nm,1.5s								
PV02	Paradox Valley	16.32	104	Pn	Pn	12 13 22.8	-1.2		
MVCO	Mesa Verde	16.97	107	P	P	12 13 35.0	+0.9		
N23A	Red Feather La	17.27	93	P	P	12 13 37.7	+0.2		
N23A				IAmb	IAmb	12 13 52.0			
	comp=Z,16nm,1.2s								
DGMT	Dagmar	17.66	67	P	P	12 13 41.6	+0.2		
S22A	4UR Ranch, Cre	17.87	103	P	P	12 13 46.1	+2.0		
ANMO	Albuquerque	19.57	110	P	Pn	12 14 07.2	+3.1		
	comp=Z,4.0nm,1.0s,baz=35,slow=12,SNR=11								
ANMO				LR	LR	12 22 05.5			
	comp=Z,118nm,18.7s,baz=322,slow=39								
T25A	Trinidad	19.86	102	P	P	12 14 04.9	-0.9		
T25A				IAmb	IAmb	12 14 16.6			
	comp=Z,16nm,1.1s								
KDAK	Kodiak Island	20.10	321	LR	LR	12 19 44.0			
	comp=Z,165nm,21.5s,baz=145,slow=30								
YKA	Yellowknife Ar	20.27	19	P	P	12 14 09.4	-0.4		
	comp=Z,2.2nm,0.8s,baz=211,slow=10,SNR=7.5								
	comp=Z,2.2nm,0.8s								
K29M	Barlow Dome	20.40	349	P	Pn	12 14 15.2	+1.6		
FFC	Flin Flon	20.42	49	P	P	12 14 11.5	-0.2		
FFC				IAmb	IAmb	12 14 21.0			
	comp=Z,15nm,1.0s								
DAWY	Dawson	20.89	347	P	P	12 14 19.1	+2.4		
K27K	Chicken	21.34	344	P	P	12 14 24.3	+2.8		
SCRK	Sand Creek	21.69	342	P	P	12 14 23.3	-2.1		
SCRK				IAmb	IAmb	12 14 28.9			
	comp=Z,20nm,1.4s								
J26L	Joseph Creek	22.06	343	P	P	12 14 27.1	-2.2		
J26L				IAmb	IAmb	12 14 32.9			
	comp=Z,9.3nm,1.2s								
I27K	Kandik River	22.68	346	P	P	12 14 37.9	+2.0		
EPYK	Eagle Plains	22.75	352	P	P	12 14 39.2	+2.7		
AMTX	Amarillo	22.90	104	P	P	12 14 38.0	-0.4		
AMTX				IAmb	IAmb	12 14 47.0			
	comp=Z,9.9nm,0.9s								
IL31		23.04	340	P	P	12 14 36.9	-2.7		
IL31				IAmb	IAmb	12 14 42.0			
	comp=Z,6.0nm,1.2s								
ILAR	Eielson Array	23.04	340	P	P	12 14 38.1	-1.5		
	comp=Z,1.7nm,1.0s,baz=154,slow=8.3,SNR=12								
ILAR				LR	LR	12 21 58.0			
	comp=Z,149nm,21.6s,baz=141,slow=32								
	comp=Z,1.7nm,1.0s								
ILAR	Eielson Array	23.04	340	P	P	12 14 37.6	-2.0		
SDPT	Sand Point	23.07	310	P	P	12 14 38.1	-1.9		
WRH	Wood River Hil	23.10	339	P	P	12 14 39.7	-0.5		
F33A	5 Mile Ranch,	23.11	74	P	P	12 14 39.8	-0.7		
CCB	Clear Creek Bu	23.17	339	P	P	12 14 39.3	-1.6		
CCB				IAmb	IAmb	12 14 45.7			
	comp=Z,12nm,1.3s								
ULM	Lac du Bonnet	23.21	63	P	P	12 14 40.6	-0.8		
	comp=Z,6.9nm,0.9s,baz=264,slow=10,SNR=8.1								
ULM				LR	LR	12 23 41.1			
	comp=Z,131nm,18.8s,baz=241,slow=37								
	comp=Z,6.9nm,0.9s								
ULM	Lac du Bonnet	23.21	63	P	P	12 14 41.9	+0.5		
H27K	Steamboat Moun	23.25	347	P	P	12 14 43.0	+1.4		
G27K	Doyon Strip	23.80	348	P	P	12 14 48.3	+1.2		
I23K	Minto, Yukon-K	23.97	339	P	P	12 14 50.3	+1.6		
K20K	Telida	24.08	332	P	P	12 14 51.0	+1.3		
K20K				IAmb	IAmb	12 14 51.8			
	comp=Z,9.7nm,1.1s								
MLY	Manley	24.25	337	P	P	12 14 50.8	-0.6		
MLY				IAmb	IAmb	12 14 53.7			
	comp=Z,6.0nm,1.0s								
INK	Inuvik	24.41	356	P	P	12 14 51.5	-1.2		
	comp=Z,2.2nm,1.0s,baz=133,slow=12,SNR=3.2								
INK				LR	LR	12 24 04.0			
	comp=Z,186nm,18.1s,baz=184,slow=36								
	comp=Z,2.2nm,1.0s								
INK	Inuvik	24.41	356	P	P	12 14 54.0	+1.3		
BMAR	Burnt Mountain	24.85	346	P	P	12 14 56.0	-0.8		
TXAR	Lajitas Array	24.93	118	P	P	12 14 55.8	-2.1		
F36A	Milaca	25.03	73	P	P	12 14 59.0	+0.4		
SOLO	Sioux Lookout	25.65	63	P	P	12 15 07.2	+3.1		
FCC	Fort Churchill	25.88	43	P	P	12 15 05.8	-0.3		
FCC	Fort Churchill	25.88	43	P	P	12 15 09.5	+3.3		
RES	Resolute Bay	34.22	15	P	P	12 16 18.5	-1.3		
	comp=Z,2.2nm,0.9s,baz=238,slow=11,SNR=6.9								
	comp=Z,2.2nm,0.9s								
SADO	Sadowa	35.15	71	LR	LR	12 30 52.7			
	comp=Z,155nm,18.9s,baz=296,slow=36								
TKL	Tuckaleechee C	35.33	88	LR	LR	12 31 30.2			
	comp=Z,196nm,18.9s,baz=303,slow=37								
FRB	Frobisher Bay	38.83	38	LR	LR	12 32 36.7			
	comp=Z,50nm,18.5s,baz=264,slow=36								
CMIG	Matias Romero	39.35	122	LR	LR	12 33 33.2			
	comp=Z,49nm,18.3s,baz=7.5,slow=37								
SCHQ	Schefferville	40.52	52	LR	LR	12 33 57.0			
	comp=Z,104nm,19.0s,baz=156,slow=36								
MA2	Magadan	48.80	318	LR	LR	12 36 30.3			
	comp=Z,58nm,19.5s,baz=105,slow=33								
JTS	Las Juntas de	50.72	118	LR	LR	12 42 50.0			
	comp=Z,24nm,18.4s,slow=39								
H11N3	WAKE ISLAND Hy	58.06	267	T	T	13 22 06.1			
	baz=49,slow=75,SNR=2719								
H11N2	WAKE ISLAND Hy	58.06	267	T	T	13 22 05.6			
	baz=49,slow=75,SNR=1554								
H11N1	WAKE ISLAND Hy	58.08	267	T	T	13 22 06.8			
	baz=49,slow=75,SNR=1698								
H11S1	WAKE ISLAND Hy	59.00	266	T	T	13 23 18.2			
	baz=50,slow=75,SNR=268								
H11S2	WAKE ISLAND Hy	59.00	266	T	T	13 23 20.6			
	baz=50,slow=75,SNR=107								
H11S3	WAKE ISLAND Hy	59.01	266	T	T	13 23 16.2			
	baz=50,slow=75,SNR=112								
SONM	Songino Array	76.33	325	P	P	12 21 23.6	0.0		
	comp=Z,0.5nm,0.8s,baz=57,slow=5.3,SNR=3.1								
	comp=Z,0.5nm,0.8s								
MDP	Montagnes des	76.66	96	LR	LR	12 58 13.8			
	comp=Z,32nm,18.9s,baz=346,slow=38								
KIRV	Kirov	77.70	1	LR	LR	13 00 00.5			
	comp=Z,38nm,18.5s,baz=320,slow=39								
ZALV	Zalesovo Beam	78.17	340	LR	LR	13 01 12.2			
	comp=Z,24nm,18.7s,baz=1.5,slow=40								
MKAR	Makanchi Array	85.39	339	LR	LR	13 04 28.5			
	comp=Z,13nm,21.0s,baz=304,slow=39								
CPUP	Villa Florida	95.86	121	LR	LR	13 09 30.6			
	comp=Z,21nm,19.3s,baz=146,slow=38								

MDD 06 12:21:06.6±1.5, 32°39N×7°59W, h0km, Mb4.0/5, M_mb3.3/5, 5C, Error ellipse: s-maj=17.3km s-min=12.2km az=106.0, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGRO	El Granado	5.13	1	⇑iVmb_V		12 22 22.9	
	75nm,SNR=1.1						
EGRO				P	Pn	12 22 23.4	-1.3
EGRO				S	Sn	12 23 19.3	-5.4
EMIN	Mina Concepcio	5.42	8	P	Pn	12 22 26.9	-1.7
EMIN				⇑iVmb_V		12 22 33.0	
	94nm,SNR=1.7						
EMIN				S	Sn	12 23 27.1	-4.6
ECAB	El Cabril	5.94	17	P	Pn	12 22 34.5	-1.3
ECAB				⇑iVmb_V		12 22 41.9	
	52nm,SNR=0.8						
ECAB				S	Sn	12 23 39.1	-5.6
EADA	Adamuz	6.27	22	P	Pn	12 22 39.9	-0.5
EADA				⇑iVmb_V		12 22 45.9	
	113nm,SNR=1.7						
EADA				S	Sn	12 23 47.0	-5.7
EBAD	Badajoz	6.37	4	P	Pn	12 22 40.3	-1.4
EBAD				⇑iVmb_V		12 22 44.6	
	86nm,SNR=1.7						

IDC 06 12:50:38.0±1.5, 3°42N×127°64E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=137.7km s-min=22.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.13	164	P	P	12 55 55.9	0.0
	0.7nm,0.7s,baz=344,slow=10,SNR=2.9						
	0.7nm,0.7s						
ASAR	Alice Springs	27.61	168	P	P	12 56 27.2	-0.1
	0.2nm,0.5s,baz=357,slow=7.8,SNR=1.7						
	0.2nm,0.5s						
STKA	Stephens Creek	37.53	160	P	P	12 57 53.6	-0.3
	0.4nm,0.4s,baz=354,slow=9.2,SNR=1.8						
	0.4nm,0.4s						
SONM	Songino Array	47.88	341	P	P	12 59 17.9	-0.1
	0.2nm,0.4s,baz=139,slow=9.5,SNR=2.1						
	0.2nm,0.4s						
MKAR	Makanchi Array	58.33	325	P	P	13 00 35.0	0.0
	0.2nm,0.4s,baz=115,slow=7.8,SNR=3.5						
	0.2nm,0.4s						

*BJI **06** 12:59:27.8±0.0, 19°.34S×175°.20W, h196km, mb4.8/24, mB5.2/14*
*IDC **06** 12:59:28.9±1.9, 19°.44S×175°.77W, h185km±17km, mb4.3/24, mbtmp4.8/25, Error ellipse: s-maj=12.9km s-min=10.7km az=145.0*
*NEIC **06** 12:59:29.3±1.0, 19°.4S±0°.1×175°.72W±0°.10, h184km±7km, mb4.6/112, Error ellipse: s-maj=14.8km s-min=13.0km az=192.0*
*BGR **06** 12:59:30.6, 19°.92S×175°.10W, h200km*

ISC 06 12:59:32.8±0.3, 19°.53S±0°.06×175°.70W±0°.05, h223km, n266, σ1°20/273, mb4.7/90, 2C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	5.47	86	Pn	Pn	13 00 49.6	-4.1
AFI	Afiamalu	6.73	34	Pn	Pn	13 01 03.7	-6.2
RAR	Rarotonga	15.03	99	P	P	13 02 57.0	+2.4
	16nm,0.8s,baz=338,slow=19,SNR=2.9						
RAR				S	S	13 05 39.4	-1.2
	12nm,0.6s,baz=141,slow=17,SNR=2.4						
RAR	Rarotonga	15.03	99	Pn	Pn	13 02 51.9	-2.6
RAR				IAmb	IAmb	13 03 06.0	
	comp=Z,42nm,1.1s						
MARNC	Mare, Loyalty	15.37	260		P	13 02 56.8	-1.5
LIFNC	LIFOU	16.07	263		P	13 03 03.5	-2.6
OUENC	Ouen Island, N	16.56	257		P	13 03 10.3	-1.1
DZM	Mont Dzumac	16.89	258	eP	Pn	13 03 16.7	-0.1
	comp=Z,150nm,1.1s						
DZM				eLR	LR	13 07 21.2	
	comp=Z,120nm,23.9s						
DZM	Mont Dzumac	16.89	258	P	Pn	13 03 18.0	+1.2
	comp=Z,46nm,0.6s,baz=83,slow=16,SNR=112						
DZM				S	S	13 06 25.6	+5.5
	comp=Z,6.3nm,0.9s,baz=178,slow=16,SNR=2.6						
DZM	Mont Dzumac	16.89	258		P	13 03 13.8	-1.3
MXZ	Matakaoa Point	18.71	195	P	P	13 03 35.0	+0.2
MXZ	Matakaoa Point	18.71	195	P	Pn	13 03 37.1	-0.8
KOUNC	Koumac, New Ca	18.84	263	P	P	13 03 34.7	-1.5
WMGZ	Waiomatatini S	18.93	194	P	Pn	13 03 39.7	-0.8
HAZ	Te Kaha	19.03	196	P	P	13 03 39.4	+1.3
PKGZ	Pakihiroa	19.08	195	P	P	13 03 39.5	+0.7
PUZ	Puketiti	19.21	195	P	P	13 03 40.3	+0.2
RUGZ	Raukumara Rang	19.25	196	P	P	13 03 41.7	+1.0
TWGZ	Tauwhareparae	19.38	195	P	Pn	13 03 44.1	-1.7
CNGZ	Carnagh Statio	19.62	194	P	Pn	13 03 46.7	-1.9
MWZ	Matawai	19.64	196	P	P	13 03 45.3	+0.6
TKGZ	Te Karaka	19.66	195	P	Pn	13 03 47.3	-1.8
URZ	Urewera	19.68	197	P	P	13 03 43.5	-1.6
	comp=Z,50nm,0.5s,baz=332,slow=4.0,SNR=36						
URZ				S	S	13 07 08.0	-6.8
	comp=Z,9.5nm,0.7s,baz=21,slow=1.0,SNR=3.2						
URZ	Urewera	19.68	197	P	P	13 03 44.8	-0.3
OMRZ	Omania	19.76	199	P	P	13 03 48.0	+2.0
RAGZ	Rawiri	19.82	196	P	P	13 03 47.9	+1.1
UTU	Utuhina	19.88	199	P	Pn	13 03 50.3	-1.5
RRRZ	Republican Roa	19.93	198	P	Pn	13 03 50.3	-2.2
MUGZ	Murupara	19.98	198	P	P	13 03 48.8	+0.4
RTZ	Ruatahuna	20.05	197	P	P	13 03 49.1	-0.1
RTZ				IAmb	IAmb	13 03 51.0	
	comp=Z,36nm,0.8s						
RTZ	Ruatahuna	20.05	197	P	P	13 03 49.8	+0.6
PRRZ	Plateau Road	20.11	198	P	P	13 03 50.1	+0.3
SNGZ	Shannon Statio	20.11	196	P	P	13 03 50.4	+0.7
ALRZ	Allen Road	20.18	198	P	P	13 03 51.7	+1.2
KNZ	Kokohu	20.25	195	P	P	13 03 53.0	+1.8
RAHZ	Arahi	20.31	196	P	P	13 03 52.0	+0.2
MRHZ	Matea Rd	20.41	198	P	P	13 03 53.9	+0.8
NMHZ	Naumai	20.55	197	P	P	13 03 55.3	+0.8
HIZ	Hauiti	20.62	201	P	P	13 03 55.8	+0.6
BKZ	Black Stump Fm	20.70	197	P	P	13 03 55.0	-1.1
QRZ	Quartz Range	23.50	203	P	P	13 04 23.5	+0.9
PPT	Papeete	24.84	90	P	P	13 04 35.0	0.0
	comp=Z,33nm,0.9s,baz=108,slow=16,SNR=5.5						
	comp=Z,33nm,0.9s						
RPZ	Rata Peaks	26.55	202	P	P	13 04 49.5	-0.6
	comp=Z,17nm,0.6s,baz=8.3,slow=14,SNR=3.0						
	comp=Z,17nm,0.6s						
DCZ	Deep Cove	29.50	205	P	P	13 05 17.2	+1.0
E

comp=Z,4.2nm,0.8s
VNDA Vanda 59.07 186 P P 13 09 11.2 +2.1
VNDA IAmb IAmb 13 09 14.5
comp=Z,7.7nm,1.1s
MBWA Marble Bar 60.18 256 P P 13 09 17.1 -0.5
MBWA IAmb IAmb 13 09 49.4
comp=Z,24nm,1.3s
NWAO Narrogin (SRO) 60.74 243 P P 13 09 20.9 -0.3
comp=Z,12nm,0.9s
comp=Z,12nm,0.9s
NWAO Narrogin (SRO) 60.74 243 P P 13 09 21.1 -0.1
MORW Morawa 62.20 247 P P 13 09 30.8 -0.2
MORW IAmb IAmb 13 09 52.6
comp=Z,28nm,1.4s
LUWI Luwuk 62.90 279 P P 13 09 35.7 -0.2
GIRL Giralia 64.90 254 P P 13 09 49.5 +0.8
PLAI Plampang 65.04 269 P P 13 09 49.2 -0.6
comp=Z,38nm,1.0s
TWSI Taliwang, Sumb 65.91 269 P P 13 09 54.6 -0.8
comp=Z,29nm,1.0s
MPSI Mapaga 66.08 279 P P 13 09 56.1 -0.3
comp=Z,21nm,1.0s
JAGI Jajag, Banyuwa 68.56 268 P P 13 10 11.3 -0.8
JAGI IAmb IAmb 13 10 13.0
comp=Z,25nm,1.0s
JMM Marumori 70.23 325 P P 13 10 20.5 -1.1
QSPA South Pole Qui 70.54 180 P P 13 10 25.2 +1.8
JGF Kuroka 70.60 321 P P 13 10 22.8 -1.2
JGF IAmb IAmb 13 10 24.9
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 70.75 322 P P 13 10 24.4 -0.5
comp=Z,8.4nm,0.8s,baz=158,slow=5.9,SNR=21
comp=Z,8.4nm,0.8s
MAJO Matsushiro 70.75 322 P P 13 10 24.1 -0.7
MAJO IAmb IAmb 13 10 25.6
comp=Z,15nm,0.9s
MJB9 Matsu-Tunnel 70.75 322 P P 13 10 23.6 -1.3
MJB9 IAmb IAmb 13 10 26.5
comp=Z,15nm,0.9s
JSD Sado 71.76 323 P P 13 10 30.6 -0.3
JSD IAmb IAmb 13 10 32.0
comp=Z,20nm,0.8s
ERM Erimo 72.08 329 P P 13 10 31.2 -1.4
UGM Wanagama 72.16 268 P P 13 10 31.7 -2.1
JTM Tenmabayashi 72.21 327 P P 13 10 33.1 -0.4
JHS Saijyo 72.81 318 P P 13 10 37.8 +0.6
JHS IAmb IAmb 13 10 45.8
comp=Z,36nm,1.3s
KPJI Karang Pucung 73.83 268 P P 13 10 43.9 +0.3
comp=Z,16nm,1.0s
YOJ Yonaguni jima 73.98 304 P P 13 10 44.4 +0.2
YULB Yu-li 74.80 302 P P 13 10 48.3 -0.7
YULB IAmb IAmb 13 10 55.9
comp=Z,26nm,1.5s
NACB Ninganchiao 74.95 303 P P 13 10 47.8 -2.0
LEM Lembang 75.23 268 P P 13 10 51.5 -0.3
comp=Z,30nm,0.6s,baz=122,slow=9.2,SNR=7.6
comp=Z,30nm,0.6s
SSLB Suanglung 75.27 302 P P 13 10 50.8 -0.8
SSLB IAmb IAmb 13 11 21.3
comp=Z,39nm,1.5s
TPUB Ta-pu 75.29 302 P P 13 10 50.8 -1.0
YHNB Yeheng 75.37 303 P P 13 10 52.6 +0.3
KSM Kuching 75.43 277 P P 13 10 53.0 +0.2
KSM IAmb IAmb 13 10 54.3
comp=Z,10nm,0.9s
SDPT Sand Point 75.70 9 P P 13 10 52.8 -0.4
SAO San Andreas Ge 75.85 42 P P 13 10 54.0 -0.6
SAO IAmb IAmb 13 11 05.5
comp=Z,11nm,1.0s
PETK Petropavlovsk- 75.92 344 P P 13 10 54.5 -0.1
comp=Z,8.0nm,0.8s,baz=174,slow=7.4,SNR=4.6
comp=Z,8.0nm,0.8s
KMRM Mail Ridge 76.64 38 P P 13 11 00.4 +1.3
KMRM IAmb IAmb 13 11 07.1
comp=Z,17nm,1.1s
KSRS Korea Array 77.62 317 P P 13 11 04.1 -0.4
comp=Z,1.3nm,0.7s,baz=145,slow=6.6,SNR=7.5
comp=Z,1.3nm,0.7s
BEKR Beckworth 78.42 40 P P 13 11 08.0 -1.1
VCNR Virginia City 78.51 41 P P 13 11 10.0 +0.4
LCH Last Change Ra 78.57 44 P P 13 11 10.7 +0.7
KASI Kota Agung 78.58 268 P P 13 11 09.9 -0.4
SMAI San Martin Ant 78.73 159 P P 13 11 11.9 +1.8
SMAI IAmb IAmb 13 11 12.8
comp=Z,13nm,0.8s
NVAR Mina Array Bea 78.84 42 P P 13 11 12.0 +0.6
comp=Z,2.5nm,0.7s,baz=224,slow=9.0,SNR=20
comp=Z,2.5nm,0.7s
NVAR Mina Array Bea 78.84 42 P P 13 11 11.0 -0.5
WCT Wildcat Mounta 78.99 45 P P 13 11 12.9 +0.7
TPNV Topopah Spring 79.33 45 P P 13 11 13.7 -0.4
KVN Kaiserville 79.34 42 P P 13 11 12.8 -1.3
USRK Ussuriysk Ar. 79.41 325 P P 13 11 14.2 +0.1
comp=Z,5.7nm,1.0s,baz=103,slow=4.1,SNR=8.2
comp=Z,5.7nm,1.0s
USRK Ussuriysk Ar. 79.41 325 P P 13 11 13.6 -0.5
PLTX Planet X, Gerl 79.47 40 P P 13 11 14.7 0.0
PLTX IAmb IAmb 13 11 28.0
comp=Z,9.6nm,0.5s
K05A Summer Lake 79.87 38 P P 13 11 16.8 0.0
K05A IAmb IAmb 13 11 18.9
comp=Z,7.3nm,1.1s
BELA Belgrano 2 80.23 172 P P 13 11 18.9 +0.8
BELA IAmb IAmb 13 11 19.3
comp=Z,11nm,0.9s
Q19K Cape Douglas, 80.25 11 P P 13 11 18.0 -0.3
P18K Big Mountain, 80.41 10 P P 13 11 17.9 -1.3
P18K IAmb IAmb 13 11 21.1
comp=Z,38nm,1.5s
PINE Pine Mountain 80.50 37 P P 13 11 19.8 -0.5
R11A Troy Canyon, C 80.55 44 P P 13 11 21.4 +0.8
NJ2 Nanjing 80.95 309 *e*P P 13 11 23.2 +0.6
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
F04A Amboy 81.05 34 P P 13 11 24.0 +1.2
C03A Quillayute Air 81.26 32 P P 13 11 24.2 +0.4
N19K Bonanza Creek 81.87 10 P P 13 11 26.8 -0.1
N19K IAmb IAmb 13 12 04.8
comp=Z,21nm,1.4s
SPU Mount Spurr 82.65 11 P P 13 11 30.8 0.0
BNX BinXian 82.90 324 ⇑P P 13 11 33.3 +0.9
BNX pmax pmax
comp=Z,25nm,0.9s
BNX pmax pmax
comp=Z,170nm,6.5s
MAW Mawson 83.20 199 P P 13 11 34.2 +0.6
comp=Z,6.9nm,0.8s,baz=130,slow=11,SNR=4.9
comp=Z,6.9nm,0.8s
PMR Palmer 83.59 12 P P 13 11 35.6 +0.1
PMR IAmb IAmb 13 12 15.3
comp=Z,27nm,1.5s
TTA Tatalina 83.64 9 P P 13 11 36.0 +0.1
NLU North Lily Min 83.71 44 P P 13 11 36.3 -0.7
F10A Beach Ranch, E 83.92 37 P P 13 11 37.8 0.0
F10A IAmb IAmb 13 11 38.6
comp=Z,3.7nm,0.7s
TMUT Trail Mountain 83.94 45 P P 13 11 38.3 0.0
TMUT IAmb IAmb 13 11 40.7
comp=Z,5.5nm,0.8s
PLID Pearl Lake 84.11 38 P P 13 11 39.6 +0.7
SCM Sheep Creek Mo 84.19 13 P P 13 11 38.2 -0.5
SCM IAmb IAmb 13 12 13.7
comp=Z,25nm,1.3s
B08A Colville Reser 84.21 34 P P 13 11 39.0 -0.1
PPLA Purkeypile 84.22 11 P P 13 11 39.1 +0.2
PPLA IAmb IAmb 13 11 47.5
comp=Z,14nm,1.2s
HVU Hansel Valley 84.23 42 P P 13 11 39.4 -0.1
SRU San Rafael Swe 84.30 45 P P 13 11 41.3 +1.3
K20K Telida 84.34 10 P P 13 11 40.4 +1.0
K20K IAmb IAmb 13 12 17.7
comp=Z,12nm,1.5s
TABL Table Mountain 84.46 16 P P 13 11 40.6 +0.3
GLB Gilahina Butte 84.64 15 P P 13 11 41.2 +0.2
GLB IAmb IAmb 13 11 53.7
comp=Z,17nm,1.5s
CAST Castle Rocks 84.72 10 P P 13 11 39.8 -1.5
TRF Thorofare Moun 85.07 11 P P 13 11 42.9 -0.3
TRF IAmb IAmb 13 11 43.7
comp=Z,11nm,0.9s
J20K Nowinta River 85.10 9 P P 13 11 43.7 +0.6
ANMO Albuquerque 85.11 50 P P 13 11 43.5 -0.6
BCYI Bear Canyon 85.21 40 P P 13 11 44.6 +0.2
BPAW Bear Paw Mtn. 85.54 11 P P 13 11 44.8 -0.5

MCK McKinley 85.58 12 P P 13 11 45.1 -0.4
MCK IAmb IAmb 13 11 46.9
comp=Z,10nm,0.9s
HEH HeiHe 85.64 327 *e*P P 13 11 46.8 +0.7
HEH pmax pmax
comp=Z,9.0nm,1.2s
HEH pmax pmax
comp=Z,250nm,4.6s
M27K Edge Creek, AK 85.90 15 P P 13 11 47.9 +0.7
M27K IAmb IAmb 13 11 51.6
comp=Z,9.4nm,1.1s
NEA2 Nenana 86.33 11 P P 13 11 50.0 +0.8
I21K Tanana 86.37 10 P P 13 11 50.1 +0.8
I21K IAmb IAmb 13 12 29.1
comp=Z,5.4nm,1.2s
WRH Wood River Hil 86.41 12 P P 13 11 49.5 0.0
WRH IAmb IAmb 13 11 50.4
comp=Z,7.2nm,0.9s
MLY Manley 86.44 10 P P 13 11 49.6 -0.2
MLY IAmb IAmb 13 12 20.9
comp=Z,7.5nm,1.5s
L27K Beaver Creek, 86.51 15 P P 13 11 51.1 +1.0
BCAR Beaver Creek A 86.53 15 P P 13 11 50.6 +0.4
CCB Clear Creek Bu 86.62 12 P P 13 11 50.4 -0.1
CCB IAmb IAmb 13 11 50.8
comp=Z,3.2nm,0.8s
H21K Melozitna Rive 86.69 9 P P 13 11 51.3 +0.4
H21K IAmb IAmb 13 12 05.4
comp=Z,6.9nm,1.4s
SMCO Snowmass 86.73 47 P P 13 11 51.9 -0.3
PDAR Pinedale Array 86.78 42 P P 13 11 51.6 -0.6
comp=Z,0.4nm,0.6s,baz=215,slow=2.8,SNR=5.3
comp=Z,0.4nm,0.6s
I23K Minto, Yukon-K 86.79 11 P P 13 11 51.1 -0.2
I23K IAmb IAmb 13 12 18.0
comp=Z,4.9nm,1.3s
MDM Murphy Dome 86.82 11 P P 13 11 51.4 -0.1
MDM IAmb IAmb 13 11 54.5
comp=Z,4.3nm,1.0s
LYN LuoYang 86.84 308⇑ *i*P P 13 11 53.9 +1.6
LYN pmax pmax
comp=Z,10.0nm,0.5s
IMAR Indian Mountai 86.86 9 P P 13 11 51.4 -0.3
IL31 86.91 12 P P 13 11 52.1 +0.3
ILAR Eielson Array 86.91 12 P P 13 11 51.4 -0.5
comp=Z,0.6nm,0.8s,baz=230,slow=5.7,SNR=8.5
comp=Z,0.6nm,0.8s
ILAR Eielson Array 86.91 12 P P 13 11 52.6 +0.6
ELIB Princess Elisa 87.84 186 *d*P P 13 11 57.3 +0.6
comp=Z,10nm,0.8s
PLCA Paso Flores 88.36 133 P P 13 12 01.0 +1.3
comp=Z,2.6nm,0.8s,baz=240,slow=5.8,SNR=5.8
comp=Z,2.6nm,0.8s
PLCA Paso Flores 88.36 133 P P 13 12 00.9 +1.3
PLCA IAmb IAmb 13 12 02.1
comp=Z,4.3nm,0.9s
COLD Coldfoot 88.55 10 P P 13 12 00.3 +0.7
XLT XiLinHaoTe 88.66 318 *e*P P 13 12 01.8 +1.0
XLT pP pP 13 12 45.6 -8.9
XLT S S **13 22 30.1 +1.8**
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,68nm,4.4s
TROLL Troll, Antarti 88.69 179 P P 13 12 01.3 +0.7
SNAA Sanae 88.90 178 P P 13 12 02.0 +0.5
SNAA Sanae 88.90 178 P P 13 12 02.5 +1.0
SNAA IAmb IAmb 13 12 02.9
comp=Z,4.9nm,0.8s
VNA3 Neumayer Olymp 88.95 176 P P 13 12 02.4 +0.7
XAN Xi'an 89.28 307 P P 13 12 05.4 +1.5
XAN pP pP 13 12 53.4 -4.2
XAN S S **13 22 37.1 +2.7**
XAN pmax pmax
comp=Z,18nm,1.0s
XAN pmax pmax
comp=Z,150nm,4.6s
VNA2 Neumayer--Watz 89.42 176 P P 13 12 04.9 +1.0
baz=167,slow=3.0
VNA1 Neumayer--Stat 89.63 176 P P 13 12 06.0 +1.2
BMAR Burnt Mountain 89.70 12 P P 13 12 05.3 +0.3
HHC Hu-ho-hao-te 90.24 314 *e*P P 13 12 08.9 +0.6
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,290nm,5.2s
CMAR Chiang Mai Arr 91.84 289 P P 13 12 16.4 +0.3
comp=Z,2.7nm,0.8s,baz=109,slow=3.1,SNR=19
comp=Z,2.7nm,0.8s
PZH PanZhiHua 92.18 297 P P 13 12 18.6 +1.0
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,3.7s
LZH Lanzhou 93.91 307 *e*P P 13 12 27.9 +2.4
LZH pP pP 13 13 14.0 -5.3
LZH sP sP 13 13 32.7 -10
LZH pmax pmax
comp=Z,17nm,1.1s
YKA Yellowknife Ar 94.74 24 P P 13 12 27.8 -0.6
comp=Z,0.8nm,0.9s,baz=239,slow=4.3,SNR=8.3
comp=Z,0.8nm,0.9s
SONM Songino Array 96.45 318 P P 13 12 35.4 -1.3
comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=5.4
comp=Z,0.4nm,0.4s
ZALV Zalesovo Beam 111.09 321 PKiKP **PKiKP** 13 17 38.9 -0.5
comp=Z,0.9nm,0.6s,baz=78,slow=0.6,SNR=5.4
MKAR Makanchi Array 112.11 314 PKiKP **PKiKP** 13 17 40.9 -0.8
comp=Z,0.9nm,0.7s,baz=104,slow=1.0,SNR=11
ARCES ARCESS Array B 128.34 351 PKP **PKPdf** 13 18 12.0 -0.1
comp=Z,2.7nm,0.5s,baz=14,slow=1.4,SNR=17
FINES FINESS Array B 135.42 345 PKhKP PKPpre 13 18 22.3
comp=Z,3.0nm,0.8s,baz=72,slow=0.6,SNR=7.3
NOA NORSAR Array B 138.24 355 PKP **PKPdf** 13 18 30.6 -0.4
comp=Z,0.8nm,0.7s,baz=343,slow=1.0,SNR=1.7
AKASG Malin Array Be 143.17 333 PKhKP PKPpre 13 18 36.5
comp=Z,2.1nm,0.5s,baz=37,slow=3.9,SNR=18
BSEG Bad Segeberg 145.34 354 *e*PKPbc **PKPab** 13 18 45.1 +0.7
baz=10,slow=2.6
RETH Rethem/Aller, 146.62 354 *e*PKPbc **PKPab** 13 18 49.0 -0.4
baz=10,slow=2.6
NRDL Niedersach Rie 146.79 354 *e*PKPbc **PKPab** 13 18 49.4 -0.6
baz=10,slow=2.6
FLTG Flechtingen 146.82 352 *e*PKPbc **PKPbc** 13 18 49.2 +0.8
baz=10,slow=2.6
CLZ Clausthal 147.40 353 *e*PKPbc **PKiKP** 13 18 51.5 -0.7
baz=10,slow=2.6
CLL Collm 147.55 350 *e*PKSbc PKSbc 13 22 30.0 +0.4
CLL Collm 147.55 350 *e*PKPbc **PKiKP** 13 18 51.6 -0.8
baz=10,slow=2.6
CLL Collm 147.55 350 *e*PKPbc **PKPbc** 13 18 51.0 +0.5
comp=Z,17nm,0.9s
CLL Collm 147.55 350 *e*PKPab **PKPab** 13 18 54.0 +0.8
CLL Collm 147.55 350 *ep*PKPbc pPKPbc 13 19 38.0 -8.4
CLL Collm 147.55 350 *ex* x 13 19 47.0 -
CLL Collm 147.55 350 *e*SKPdf **SKPbc** 13 22 06.0 -1.1
CLL Collm 147.55 350 *e*PKSdf PKSdf 13 22 23.0 +0.5
OSTC Ostas 147.63 346 *e*PKP **PKiKP** 13 18 51.7 -0.9
BRTR Keskin Array B 147.74 315 PKPbc **PKPbc** 13 18 51.9 +0.3
comp=Z,6.1nm,0.9s,baz=136,slow=3.9,SNR=18
GTTG Gottingen 147.74 353 *e*PKPbc **PKiKP** 13 18 52.2 -0.6
baz=10,slow=2.6
DPC Dobruska-Polom 147.79 346 *e*PKP **PKPbc** 13 18 51.9 +0.7
DPC *ex* x 13 18 55.4
BRG Berggiesshubel 147.80 349 Amp 13 18 53.2
comp=Z,6.3nm,0.9s
BRG Berggiesshubel 147.80 349 *e*PKPbc **PKiKP** 13 18 52.4 -0.5
baz=10,slow=2.6
BRG Berggiesshubel 147.80 349 *e*PKP **PKPbc** 13 18 52.0 +0.8
NEUB Neuenburg 147.84 351 *e*PKPbc **PKiKP** 13 18 52.5 -0.5
baz=10,slow=2.6
FBE Freiberg 147.87 349 *e*PKPbc **PKiKP** 13 18 52.8 -0.2
baz=10,slow=2.6
KRLC Kraliky 147.94 345 *e*PKP **PKiKP** 13 18 52.6 -0.7
MORC Moravsky Berou 148.02 344 *e*PKP **PKPdf** 13 18 47.8 -0.6
BUG Bochum--Univer 148.07 356 *e*PKPbc **PKiKP** 13 18 52.7 -0.7
baz=10,slow=2.6
MAUC Maruska 148.31 343 *e*PKP **PKiKP** 13 18 53.8 -0.3
PLN Plauen 148.49 350 *e*PKPbc **PKiKP** 13 18 54.3 -0.1
baz=10,slow=2.6
WERD Werda 148.50 350 *e*PKPbc **PKiKP** 13 18 54.3 -0.1
baz=10,slow=2.6
TANN Tannenbergstha 148.50 350 *e*PKPbc **PKiKP** 13 18 54.3 -0.2
baz=10,slow=2.6
GUNZ Gunzen 148.58 350 *e*PKPbc **PKiKP** 13 18 54.7 +0.1
baz=10,slow=2.6

WERN Wernitzgruen 148.64 350 *e*PKPbc **PKiKP** 13 18 54.9 +0.2
baz=10,slow=2.6
VRAC Vranov 148.69 344 *e*PKP **PKPdf** 13 18 49.4 -0.1
VYHS Vyhne 148.81 341 *e*PKP **PKiKP** 13 18 55.0 -0.1
KRUC Moravsky 148.97 344 *e*PKP **PKPdf** 13 18 50.1 +0.2
MANZ Manzenberg 148.98 350 *e*PKPbc **PKiKP** 13 18 55.6 +0.1
baz=10,slow=2.6
ROTZ Rotzenmuhle 149.17 350 *e*PKPbc **PKiKP** 13 18 56.0 +0.2
baz=10,slow=2.6
TNS Taunus Mts 149.20 355 *e*PKPbc **PKiKP** 13 18 55.9 0.0
baz=10,slow=2.6
BMRD Maredsous 149.29 359 *d*PKiKP **PKPbc** 13 18 55.5 +0.5
MODS Modra-Piesok 149.37 343 *e*PKP **PKiKP** 13 18 56.7 +0.4
KHC Kasperske Hory 149.54 348 *e*PKP **PKPdf** 13 18 51.4 +0.5
KHC *ex* x 13 18 56.5
CKRC Cesky Krumlov 149.68 347 *e*PKP **PKPdf** 13 18 52.6 +1.5
CKRC *ex* x 13 18 57.8
GEC2 GERESS Array S 149.79 348 *e*PKPbc **PKiKP** 13 18 57.5 +0.3
baz=10,slow=2.6
GERES GERESS Array B 149.79 348 PKPbc **PKiKP** 13 18 57.0 -0.3
comp=Z,3.5nm,0.8s,baz=29,slow=3.0,SNR=22
WLF Walferdange 149.90 358 *d*PKiKP **PKiKP** 13 18 56.9 -0.4
WLF Walferdange 149.90 358 *e*PKPbc **PKiKP** 13 18 58.3 +1.0
baz=10,slow=2.6
CONA Conrad Observa 150.15 344 *i* PKiKP **PKiKP** 13 18 58.1 +0.1
comp=Z,11nm,1.1s
RONA Rosalia, Austr 150.25 344 *i* PKP **PKiKP** 13 18 58.2 0.0
comp=Z,12nm,0.8s
STU Stuttgart 150.56 353 *e*PKPbc **PKiKP** 13 18 59.3 +0.6
baz=10,slow=2.6
FUR Furstenfeldbru 150.88 350 *e*PKPbc **PKiKP** 13 19 00.1 +0.7
baz=10,slow=2.6
BIOA Bad Ischl, Aus 150.90 347 *i* PKP **PKPbc** 13 18 59.1 +0.2
comp=Z,5.2nm,0.7s
BFO Black Forest 151.08 354 *e*PKPbc **PKiKP** 13 19 00.5 +0.6
baz=10,slow=2.6
UBR Ueberruh 151.52 352 *e*PKPbc **PKiKP** 13 19 01.4 +0.6
baz=10,slow=2.6
SOKA Soboth 151.53 344 *i* PKP **PKiKP** 13 19 00.9 0.0
comp=Z,9.1nm,1.1s,SNR=4.6
KBA Koelnbreinsper 151.54 347 *i* PKP **PKiKP** 13 19 01.0 0.0
comp=Z,12nm,1.0s
WATA Walderalm 151.63 350 *i* PKP **PKPbc** 13 19 01.0 +0.2
comp=Z,5.8nm,0.5s,SNR=7.0
WTTA Wattenberg 151.69 349 *i* PKP **PKiKP** 13 19 01.3 0.0
comp=Z,19nm,0.6s,SNR=19
MOTA Moosalm 151.70 350 *i* PKP **PKPbc** 13 19 01.0 +0.1
comp=Z,11nm,0.8s
SQTA Sankt Quirin 151.81 350 *i* PKP **PKiKP** 13 19 01.6 +0.1
comp=Z,1.1nm,0.8s,SNR=5.5
MYKA Terra Mystica 151.90 346 *i* PKP **PKPbc** 13 19 00.9 -0.4
comp=Z,6.4nm,0.7s
DAVA Damuels 151.94 352 *i* PKP **PKiKP** 13 19 01.8 0.0
comp=Z,13nm,0.9s
ABTA Abfaltersbach 152.03 348 *i* PKP **PKPbc** 13 19 01.1 -0.6
comp=Z,11nm,0.6s
FETA Feichten 152.08 351 *i* PKP **PKiKP** 13 19 02.2 +0.1
comp=Z,11nm,0.9s,SNR=6.0
ESDC Sonseca Array 158.70 18 PKP **PKPdf** 13 19 04.8 +0.7
comp=Z,0.6nm,0.9s,baz=152,slow=23,SNR=4.8
ESDC PKPab **PKPab** 13 19 40.0 -0.5
comp=Z,0.5nm,0.8s,baz=351,slow=3.5,SNR=2.3

*IDC **06** 13:00:43.2±1.1, 1°.20S×126°.77E, h0km, mb3.9/5, mbtmp4.0/7, ML4.1/2, MS3.0/3, Error ellipse: s-maj=32.2km s-min=19.4km az=69.0*
*DJA **06** 13:00:47.2±0.2, 1°.S±3°×12°.7E±°, h10km, M4.4/18, mb4.7/7, mB5.2/5, MLv4.1/18, Mw(mB)4.7/5*
*NEIC **06** 13:00:49.0±0.9, 1°.11S±0°.07×126°.91E±0°.08, h42km±9km, mb4.2/13, Error ellipse: s-maj=11.7km s-min=9.0km az=65.0*

ISC 06 13:00:47.9±0.7, 1°.11S±0°.06×126°.87E±0°.07, h34km, n42, σ1§68/41, mb4.1/6, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.29**	**223**	P	**Pn**	**13 01 09.8**	**+0.2**
TNTI	**Ternate**	**1.93**	**15**		**Pn**	**13 01 18.9**	**+0.5**
TNTI	**Ternate**	**1.93**	**15**	P	**Pn**	**13 01 18.9**	**+0.5**
NLAI	**Namlea**	**2.13**	**174**	P	**Pn**	**13 01 21.7**	**+0.5**
AAI	**Ambon**	**2.88**	**153**	P	**Pn**	**13 01 33.1**	**+1.6**
MSAI	**Masohi**	**3.03**	**137**	P	**Pn**	**13 01 35.6**	**+2.1**
LUWI	**Luwuk**	**4.10**	**271**		**Pn**	**13 01 49.5**	**+1.2**
LUWI	**Luwuk**	**4.10**	**271**	P	**Pn**	**13 01 49.4**	**+1.1**
SIJI	**Sorong**	**4.40**	**87**	Pn	**Pn**	**13 01 54.6**	**+2.3**
	11nm,0.3s,baz=89,slow=14,SNR=30						
SIJI				Sn	**Sn**	**13 02 44.4**	**+1.9**
	baz=228,slow=23						
SIJI				LR	LR	13 03 53.2	
	comp=Z,82nm,20.9s,baz=234,slow=42						
	29nm,0.3s						
MRSI	**Marisa**	**5.18**	**288**	P	**Pn**	**13 02 06.4**	**+3.3**
	33nm,0.7s,920nm0.2nm						
APSI	**Ampana**	**5.23**	**272**	P	**Pn**	**13 02 05.8**	**+2.0**
	359nm,0.4s,12μm2.5nm						
FAKI	**Fak Fak**	**5.67**	**109**	Pn	**Pn**	**13 02 10.9**	**+1.1**
FAKI	**Fak Fak**	**5.67**	**109**	P	**Pn**	**13 02 09.6**	**-0.2**
	42nm,1.1s,0.3nm						
TOLI2	**Tolitoli**	**6.48**	**290**		**Pn**	**13 02 22.6**	**+1.6**
MPSI	**Mapaga**	**7.12**	**282**	P	**Pn**	**13 02 32.3**	**+2.5**
BNSI	**Bone**	**7.51**	**244**	P	**Pn**	**13 02 37.6**	**+2.5**
	17nm,0.6s,0.1nm						
SPSI	**Sidrap Palu**	**7.64**	**248**	P	**Pn**	**13 02 40.1**	**+3.1**
BKSI	**Bulukumba**	**7.94**	**238**	P	**Pn**	**13 02 44.9**	**+3.9**
	83nm,0.5s,1μm0.4nm						
BSSI	**Bau Bau, Buton**	**8.10**	**232**	P	**Pn**	**13 02 46.5**	**+3.3**
	98nm,1.3s						
KAPI	**Kappang**	**8.10**	**241**	Pn	**Pn**	**13 02 41.0**	**-2.3**
	2.2nm,0.3s,baz=71,slow=14,SNR=1.7						
	6.1nm,0.3s						
MTN	**Manton Dam**	**12.40**	**160**	Pn	**Pn**	**13 03 42.2**	**0.0**
WB0	**Warramunga Arr**	**19.95**	**159**	P	**P**	**13 05 16.2**	**-1.2**
WB0				IAmb	IAmb	13 05 31.2	
	comp=Z,8.6nm,1.2s						
WRAB	**Tennant Creek**	**20.09**	**159**	P	**P**	**13 05 17.9**	**-0.9**
WRAB				IAmb	IAmb	13 05 20.5	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**20.10**	**159**	P	**P**	**13 05 17.1**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=340,slow=11,SNR=14						
	comp=Z,1.1nm,0.4s						
WRA	**Warramunga Arr**	**20.10**	**159**	P	**P**	**13 05 18.6**	**-0.3**
WB2	**Warramunga Arr**	**20.10**	**159**	P	**P**	**13 05 18.2**	**-0.7**
WB2				IAmb	IAmb	13 05 21.2	
	comp=Z,9.0nm,1.2s						
WR0	**Warramunga Arr**	**20.18**	**159**	P	**P**	**13 05 19.3**	**-0.5**
WR0				IAmb	IAmb	13 05 46.7	
	comp=Z,11nm,1.4s						
COEN	**Coen**	**20.57**	**129**	P	**P**	**13 05 23.9**	**-0.1**
COEN				IAmb	IAmb	13 05 25.1	
	comp=Z,15nm,0.7s						
AS31	**Alice Springs**	**23.44**	**164**	P	**P**	**13 05 53.9**	**-0.5**
ASAR	**Alice Springs**	**23.44**	**164**	P	**P**	**13 05 53.5**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=346,slow=12,SNR=44						
	comp=Z,3.2nm,0.7s						
GIRL	**Giralia**	**24.69**	**209**	P	**P**	**13 06 03.9**	**-2.0**
CTA	**Charters Tower**	**26.74**	**136**	LR	LR	13 17 31.6	
	comp=Z,20nm,20.9s,baz=84,slow=38						
BBOO	**Buckleboo**	**32.70**	**166**	P	**P**	**13 07 17.9**	**+0.6**
STKA	**Stephens Creek**	**33.62**	**157**	P	**P**	**13 07 25.6**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=327,slow=8.1,SNR=6.2						
	comp=Z,5.8nm,0.8s						
STKA	**Stephens Creek**	**33.62**	**157**	P	**P**	**13 07 25.2**	**-0.1**
KSRS	**Korea Array**	**38.38**	**1**	P	**P**	**13 08 06.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=172,slow=10,SNR=2.3						
	comp=Z,0.4nm,0.5s						
JMM	**Marumori**	**40.86**	**17**	P	**P**	**13 08 25.8**	**-0.8**
MK31	**Makanchi Array**	**61.62**	**327**	P	**P**	**13 11 02.0**	**-0.2**
MK31				IAmb	IAmb	13 11 05.4	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**61.62**	**327**	P	**P**	**13 11 02.9**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=118,slow=8.0,SNR=12						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**61.62**	**327**	P	**P**	**13 11 02.2**	**0.0**
KURBB	**Kurchatov Arra**	**65.89**	**329**	LR	LR	13 41 41.2	
	comp=Z,36nm,20.0s,baz=182,slow=37						
QSPA	**South Pole Qui**	**88.83**	**180**	P	**P**	**13 13 37.0**	**-1.5**
QSPA				IAmb	IAmb	13 14 04.4	
	comp=Z,7.4nm,1.4s						

IDC 06 13:02:44.5±2.4, 18°.36S×175°.11E, h0km, mb4.0/4, mbtmp4.0/4, MS3.5/3, Error ellipse: s-maj=128.5km s-min=33.4km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**17.18**	**299**	LR	LR	13 12 57.5	
	comp=Z,727nm,19.8s,baz=188,slow=36						
RAR	**Rarotonga**	**23.79**	**101**	LR	LR	13 14 56.9	
	comp=Z,34nm,20.2s,baz=237,slow=31						
ASAR	**Alice Springs**	**38.73**	**255**	P	P	13 10 10.8	-0.1
	3.6nm,0.8s,baz=86,slow=8.5,SNR=4.7						
ASAR				PcP	PcP	13 12 21.9	-0.8
	0.9nm,0.8s,baz=101,slow=3.2,SNR=4.1						
	3.6nm,0.8s						
VNDA	**Vanda**	**59.56**	**183**	LR	LR	13 36 05.1	
	comp=Z,33nm,18.4s,baz=256,slow=34						
CMAR	**Chiang Mai Arr**	**83.28**	**292**	P	P	13 15 13.3	-0.4
	0.3nm,0.3s,baz=90,slow=3.9,SNR=1.5						
	0.3nm,0.3s						
NVAR	**Mina Array Bea**	**84.11**	**46**	P	P	13 15 17.7	-0.1
	0.7nm,0.7s,baz=226,slow=7.9,SNR=5.1						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**87.83**	**15**	P	P	13 15 35.1	-0.1
	0.8nm,0.9s,baz=225,slow=5.7,SNR=5.6						
	0.8nm,0.9s						
GERES	**GERESS Array B**	**146.07**	**338**	PKPbc	PKPab	13 22 26.9	-0.3
	0.4nm,0.6s,baz=29,slow=4.8,SNR=2.1						

*IDC **06** 13:03:35.5±13.0, 37.39N×68.02E, h0km, mb3.7/1, mbtmp3.7/3, ML3.2/2, MS3.7/2, Error ellipse: s-maj=274.7km s-min=26.1km az=163.0*
*NNC **06** 13:03:35.3±2.1, 36.55N×68.49E, h104km±29km, mb3.5, mpv4.0, Error ellipse: s-maj=18.6km s-min=16.3km az=82.0*
ISC 06 13:03:33.7±2.3, 36.5N±0.2×68.34E±0.10, h100km, n22, σ0s77/22, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.82**	**14**	⇓P	**Pn**	**13 05 12.0**	**+0.9**
	1.2nm,0.3s,baz=208,slow=17,SNR=15						
KK31				⇓S	**Sn**	**13 06 27.3**	**+0.1**
	2.6nm,0.4s,baz=203,slow=22,SNR=6.6						
AML	**Almayashu**	**7.00**	**35**	P	**Pn**	**13 05 14.2**	**+0.3**
	SNR=34						
UCH	**Uchtor**	**7.47**	**38**	P	**Pn**	**13 05 20.7**	**+0.4**
	SNR=27						
AAK	**Ala-Archa**	**7.77**	**36**	P	**Pn**	**13 05 24.0**	**-0.1**
	SNR=16						
KBK	**Karagaybulak**	**8.00**	**38**	P	**Pn**	**13 05 28.9**	**+1.6**
	SNR=19						
CHMS	**Chumysh**	**8.17**	**35**	P	**Pn**	**13 05 29.8**	**+0.4**
	SNR=14						
CHMS	**Chumysh**	**8.17**	**35**	⇑P	**Pn**	**13 05 29.5**	**+0.1**
	15nm,0.6s						
CHMS				⇓S	**Sn**	**13 06 58.8**	**-1.2**
	4.2nm,0.6s						
USP	**Ospenovka**	**8.26**	**33**	P	**Pn**	**13 05 30.8**	**0.0**
	SNR=5.6						
GEYT	**Alibeck**	**8.28**	**283**	Pn	**Pn**	**13 05 31.7**	**+0.7**
	0.3nm,0.3s,baz=109,slow=8.5,SNR=1.7						
GEYT				Sn	**Sn**	**13 07 01.5**	**-1.4**
	0.3nm,0.3s,baz=155,slow=21,SNR=1.8						
	1.1nm,0.5s						
ULHL	**Ulahol**	**8.40**	**44**	P	**Pn**	**13 05 32.8**	**+0.1**
	SNR=6.9						
TKM2	**Tokmak 2**	**8.52**	**39**	P	**Pn**	**13 05 34.1**	**-0.3**
	SNR=11						
TKM2	**Tokmak 2**	**8.52**	**39**	⇓P	**Pn**	**13 05 33.7**	**-0.7**
	3.8nm,0.5s						
MDOK	**Medeo**	**9.45**	**42**	⇓P	**Pn**	**13 05 46.7**	**-0.2**
	1.9nm,0.5s						
AB31	**Akbulak array**	**14.16**	**337**	⇑P	**Pn**	**13 06 49.3**	**-0.2**
	0.6nm,0.4s						
MK31	**Makanchi Array**	**14.64**	**41**	⇓P	**Pn**	**13 06 55.0**	**-0.7**
	2.1nm,0.9s,baz=227,slow=14,SNR=8.7						
MKAR	**Makanchi Array**	**14.64**	**41**	Pn	**Pn**	**13 06 54.7**	**-1.0**
	0.1nm,0.3s,baz=228,slow=14,SNR=12						
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**15.92**	**24**	⇑P	**P**	**13 07 13.6**	**+0.1**
	4.1nm,0.8s						
BVA0	**Borovoye Array**	**16.60**	**4**	⇑P	**Pn**	**13 07 21.3**	**+1.1**
	4.4nm,0.9s,baz=0.0,slow=0.1,SNR=11						
BRVK	**Borovoye**	**16.63**	**4**	⇑P	**Pn**	**13 07 21.0**	**+0.5**
	3.6nm,1.0s						
ZALV	**Zalesovo Beam**	**20.88**	**28**	P	Pn	13 08 11.5	+0.5
	2.7nm,0.6s,baz=221,slow=11,SNR=9.9						
	2.7nm,0.6s						
HFS	**Hagfors**	**41.76**	**322**	LR	LR	13 30 19.1	
	comp=Z,161nm,18.4s,baz=326,slow=39						
ESDC	**Sonseca Array**	**55.56**	**297**	LR	LR	13 40 43.4	
	comp=Z,34nm,19.3s,baz=76,slow=41						

*IDC **06** 13:07:11.0±1.2, 19.62S×176.15E, h0km, mb4.1/5, mbtmp4.1/5, MS3.1/2, Error ellipse: s-maj=50.4km s-min=27.0km az=136.0*
ISC 06 13:07:16.4±1.2, 19.6S±0.3×176.1E±0.3, h35km, n9, σ1s26/7, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.37**	**253**	LR	LR	13 12 25.0	
	comp=Z,75nm,22.0s,baz=115,slow=33						
STKA	**Stephens Creek**	**33.26**	**242**	P	**P**	**13 13 50.6**	**0.0**
	1.4nm,0.7s,baz=48,slow=11,SNR=3.1						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**39.34**	**256**	P	**P**	**13 14 41.5**	**-1.1**
	2.9nm,0.8s,baz=86,slow=9.1,SNR=16						
	2.9nm,0.8s						
JCJ	**Chichijima**	**56.91**	**324**	LR	LR	13 37 33.7	
	comp=Z,35nm,21.9s,baz=86,slow=32						
JHJ	**Hachijo jima 2**	**62.88**	**326**	P	**P**	**13 17 40.7**	**+1.6**
	178nm,0.7s,baz=92,slow=21,SNR=2.1						
MAW	**Mawson**	**80.46**	**201**	P	**P**	**13 19 25.4**	**+1.1**
	5.3nm,0.8s,baz=102,slow=4.7,SNR=4.6						
	5.3nm,0.8s						
NVAR	**Mina Array Bea**	**84.29**	**46**	P	**P**	**13 19 44.8**	**-0.3**
	0.5nm,0.7s,baz=234,slow=7.7,SNR=3.7						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**88.79**	**15**	P	**P**	**13 20 05.5**	**-0.7**
	0.4nm,0.8s,baz=224,slow=4.4,SNR=6.2						
	0.4nm,0.8s						
GERES	**GERESS Array B**	**147.59**	**338**	PKPbc	**PKPbc**	**13 26 56.3**	**-0.8**
	0.3nm,0.5s,baz=57,slow=3.6,SNR=2.6						

*MAN **06** 13:14:49.0, 6.45N×126.15E, h26km, mb4.8, ML3.7, MS3.7*
*IDC **06** 13:14:50.6±0.9, 6.53N×126.20E, h58km±9km, mb4.1/25, mbtmp4.4/27, MS3.2/7, Error ellipse: s-maj=17.4km s-min=9.0km az=72.0*
*NEIC **06** 13:14:51.8±1.5, 6.50N±0.07×125.9E±0.1, h59km±6km, mb4.6/30, Error ellipse: s-maj=18.2km s-min=8.5km az=68.0*
ISC 06 13:14:49.6±0.8, 6.45N±0.03×126.15E±0.04, h48km±7km, n97, σ1s97/109, mb4.4/39, MS3.5/5, 12C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.51**	**12**	⇑*e*P	**Pn**	**13 14 59.5**	**-1.2**
MATI				*e*S	**Sn**	**13 15 06.9**	**-1.9**
DDMP	**Don Marcelino,**	**0.56**	**232**	⇑*e*P	**Pn**	**13 15 01.5**	**+0.1**
DDMP				*e*S	**Sn**	**13 15 10.7**	**+0.8**
DAV	**Davao City (W)**	**0.84**	**317**	P	**Pn**	**13 15 06.0**	**+0.9**
	6μm,0.4s,baz=120,slow=0.8,SNR=86						
DAV				S	**Sn**	**13 15 18.9**	**+2.4**
	4μm,0.5s,baz=168,slow=21,SNR=6.6						
DAV				LR	LR	13 15 28.7	
	comp=Z,528nm,18.7s,baz=278,slow=47						
DAV	**Davao City (W)**	**0.84**	**317**		**Pn**	**13 15 05.8**	**+0.7**
KCP	**Kidapawan**	**1.19**	**298**	⇑*i*P	**Pn**	**13 15 10.2**	**+0.3**
KCP				*i*S	**Sn**	**13 15 25.9**	**+0.8**
GSPH	**General Santos**	**1.25**	**253**	⇓*e*P	**Pn**	**13 15 10.0**	**-0.7**
GSPH				*i*S	**Sn**	**13 15 24.7**	**-1.8**
SKMP	**Bagumbayan, Su**	**1.60**	**273**	⇑*e*P	**Pn**	**13 15 15.6**	**+0.2**
SKMP				*e*S	**Sn**	**13 15 36.5**	**+1.5**
BIPH	**Bislig**	**1.74**	**7**	⇑*i*P	**Pn**	**13 15 17.7**	**+0.4**
BIPH				*i*S	**Sn**	**13 15 38.6**	**+0.3**
BUKP	**Musuan**	**1.79**	**323**	⇓*e*P	**Pn**	**13 15 18.5**	**+0.4**
BUKP				*e*S	**Sn**	**13 15 42.8**	**+3.2**
CTBH	**Cotabato--PC H**	**2.04**	**292**	⇑*i*P	**Pn**	**13 15 22.0**	**+0.5**
CGP	**Cagayan de Oro**	**2.46**	**324**	⇓*e*P	**Pn**	**13 15 28.9**	**+1.7**
CGP				*e*S	**Sn**	**13 15 57.6**	**+1.5**
PAGZ	**Pagadian**	**3.08**	**297**	⇓*e*P	**Pn**	**13 15 36.6**	**+0.8**
GLSP	**General Luna,**	**3.31**	**360**	⇑*e*P	**Pn**	**13 15 40.5**	**+1.5**
GLSP				*e*S	**Sn**	**13 16 23.9**	**+6.7**
DCPH	**Dipolog City**	**3.50**	**308**	⇑*e*P	**Pn**	**13 15 39.5**	**-1.9**
IPIL	**Ipil**	**3.80**	**291**	⇑*e*P	**Pn**	**13 15 48.0**	**+2.5**
IPIL				*e*S	**Sn**	**13 16 28.9**	**-0.1**
MSLP	**Maasin**	**3.88**	**341**	⇓*e*P	**Pn**	**13 15 47.3**	**+0.6**
TBP	**Tagbilaran**	**3.94**	**325**	*e*P	**Pn**	**13 15 47.9**	**+0.3**
TBP				*i*S	**Sn**	**13 16 27.1**	**-5.4**
SNPH	**Sibulan**	**4.08**	**315**	*e*P	**Pn**	**13 15 51.5**	**+2.0**
SNPH				*e*S	**Sn**	**13 16 27.6**	**-8.4**
LLP	**Lapu-Lapu**	**4.41**	**331**	⇑*e*P	**Pn**	**13 15 55.0**	**+0.9**
LLP				*e*S	**Sn**	**13 16 49.8**	**+5.6**
CNOP	**Candoni, Negro**	**4.83**	**314**	⇑*e*P	**Pn**	**13 16 01.1**	**+1.3**
CNOP				*e*S	**Sn**	**13 17 02.9**	**+8.3**
TNTI	**Ternate**	**5.77**	**168**	Pn	**Pn**	**13 16 16.5**	**+3.8**
RCP	**Roxas**	**6.09**	**327**	⇑*e*P	**Pn**	**13 16 19.3**	**+2.2**
TOLI2	**Tolitoli**	**7.54**	**226**	Pn	**Pn**	**13 16 36.0**	**-0.9**
SIJI	**Sorong**	**8.88**	**145**	P	**Pn**	**13 16 55.8**	**+0.4**
	6.8nm,0.4s,baz=327,slow=23,SNR=4.8						
SIJI				S	**Sn**	**13 18 31.4**	**-2.8**
	3.0nm,0.3s,baz=320,slow=24,SNR=1.3						
SIJI				LR	LR	13 19 39.2	
	comp=Z,83nm,21.0s,baz=14,slow=32						
BATI	**Baumata**	**16.73**	**189**	P	**P**	**13 18 42.9**	**+0.5**
	17nm,0.4s,baz=296,slow=20,SNR=2.0						
TPUB	**Ta-pu**	**17.58**	**343**	P	**Pn**	**13 18 49.3**	**-1.9**
TPUB				IAmb	IAmb	13 19 17.7	
	comp=Z,47nm,1.3s						
GUMO	**Guam**	**19.74**	**67**	LR	LR	13 26 07.2	
	comp=Z,43nm,20.5s,baz=87,slow=34						
MTN	**Manton Dam**	**19.79**	**166**		**Pn**	**13 19 18.0**	**+0.1**
MTN				IAmb	IAmb	13 20 02.5	
	comp=Z,50nm,1.4s						
KNRA	**Kununurra**	**22.13**	**173**	P	**P**	**13 19 43.1**	**+1.8**
KNRA				IAmb	IAmb	13 19 54.3	
	comp=Z,27nm,0.6s						
LEM	**Lembang**	**22.71**	**235**	P	**P**	**13 19 49.1**	**+1.3**
	comp=Z,13nm,0.4s,baz=282,slow=24,SNR=2.3						
	comp=Z,13nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.39**	**181**	P	**P**	**13 20 06.0**	**+2.4**
JSU	**Suzuyama**	**25.25**	**9**	P	**P**	**13 20 11.1**	**-0.2**
JSU				IAmb	IAmb	13 20 11.1	
	comp=Z,47nm,1.3s						
JCJ	**Chichijima**	**25.58**	**35**	P	**P**	**13 20 14.8**	**+0.5**
	comp=Z,54nm,0.4s,baz=312,slow=13,SNR=5.9						
JCJ	**Chichijima**	**25.58**	**35**	P	**P**	**13 20 11.6**	**-2.6**
COEN	**Coen**	**26.39**	**140**	P	**P**	**13 20 23.4**	**+1.6**
WB0	**Warramunga Arr**	**27.28**	**163**	P	**P**	**13 20 30.1**	**+0.3**
WB0				IAmb	IAmb	13 21 04.5	
	comp=Z,6.4nm,0.8s						
WRAB	**Tennant Creek**	**27.43**	**163**	P	**P**	**13 20 32.0**	**+1.0**
WRAB				IAmb	IAmb	13 20 60.0	
	comp=Z,9.3nm,1.0s						
WRA	**Warramunga Arr**	**27.43**	**163**	P	**P**	**13 20 31.3**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=342,slow=10,SNR=15						
WRA				PcP	**PcP**	**13 23 48.5**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=341,slow=2.8,SNR=3.8						
	comp=Z,2.2nm,0.6s						
WRA	**Warramunga Arr**	**27.43**	**163**	P	**P**	**13 20 32.0**	**+1.0**
WB2	**Warramunga Arr**	**27.44**	**163**	P	**P**	**13 20 31.4**	**+0.3**
WB2				IAmb	IAmb	13 21 12.6	
	comp=Z,7.7nm,0.9s						
WR0	**Warramunga Arr**	**27.51**	**163**	P	**P**	**13 20 32.1**	**+0.3**
WR0				IAmb	IAmb	13 20 57.8	
	comp=Z,7.2nm,1.0s						
KRVT	**Keravat (AS076**	**27.95**	**112**	LR	LR	13 30 41.0	
	comp=Z,34nm,21.8s,baz=120,slow=34						
CMAR	**Chiang Mai Arr**	**29.07**	**297**	P	**P**	**13 20 46.5**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=124,slow=7.0,SNR=5.5						
	comp=Z,2.0nm,0.3s						
AS31	**Alice Springs**	**30.87**	**166**	P	**P**	**13 21 02.4**	**+0.8**
ASAR	**Alice Springs**	**30.87**	**166**	P	**P**	**13 21 02.1**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=347,slow=7.0,SNR=39						
ASAR				PcP	**PcP**	**13 23 58.2**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=358,slow=2.2,SNR=11						
ASAR				ScP	**ScP**	**13 27 36.9**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=348,slow=4.1,SNR=6.4						
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**30.87**	**166**	P	**P**	**13 21 02.0**	**+0.4**
KSRS	**Korea Array**	**30.91**	**3**	P	**P**	**13 21 00.5**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=188,slow=10.0,SNR=6.1						
KSRS				PcP	**PcP**	**13 23 56.6**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=170,slow=2.5,SNR=5.0						
KSRS				LR	LR	13 32 48.6	
	comp=Z,12nm,21.8s,baz=215,slow=35						
	comp=Z,0.7nm,0.5s						
MJAR	**Matsushiro Arr**	**31.92**	**19**	P	**P**	**13 21 09.7**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=187,slow=9.2,SNR=2.8						
	comp=Z,0.8nm,0.4s						
CTA	**Charters Tower**	**32.96**	**144**	P	**P**	**13 21 20.0**	**+0.1**
	comp=Z,8.9nm,1.1s,baz=297,slow=4.5,SNR=2.7						
	comp=Z,8.9nm,1.1s						
FORT	**Forrest**	**37.06**	**177**	P	**P**	**13 21 56.6**	**+1.5**
USA0B	**Ussuriysk Arra**	**37.95**	**7**	P	**P**	**13 22 02.6**	**+0.1**
USA0B				IAmb	IAmb	13 22 44.0	
	comp=Z,4.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**37.95**	**7**	P	**P**	**13 22 01.6**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=180,slow=8.3,SNR=8.2						
	comp=Z,2.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**37.95**	**7**	P	**P**	**13 22 02.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**40.06**	**192**	P	**P**	**13 22 21.4**	**+1.1**
BBOO	**Buckleboo**	**40.16**	**167**	P	**P**	**13 22 22.5**	**+1.4**
BBOO				IAmb	IAmb	13 22 33.9	
	comp=Z,13nm,0.8s						
ASAJ	**Asahikawa**	**40.19**	**18**	P	**P**	**13 22 20.4**	**-0.8**
	comp=Z,2.2nm,0.4s,baz=210,slow=10,SNR=8.3						
	comp=Z,2.2nm,0.4s						
STKA	**Stephens Creek**	**40.86**	**160**	P	**P**	**13 22 27.7**	**+0.8**
	comp=Z,5.2nm,0.7s,baz=320,slow=12,SNR=15						
	comp=Z,5.2nm,0.7s						
STKA	**Stephens Creek**	**40.86**	**160**	P	**P**	**13 22 28.0**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**41.24**	**69**	T	T	14 06 28.6	
	baz=257,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**41.26**	**69**	T	T	14 06 27.4	
	baz=257,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**41.26**	**69**	T	T	14 06 30.9	
	baz=257,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**41.69**	**68**	T	T	14 07 23.5	
	baz=265,slow=74,SNR=31						
H11N2	**WAKE ISLAND Hy**	**41.70**	**68**	T	T	14 07 23.0	
	baz=265,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**41.71**	**68**	T	T	14 07 20.9	
	baz=265,slow=74,SNR=28						
KLR	**Kul'dur**	**42.90**	**5**	P	**P**	**13 22 42.3**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=189,slow=7.5,SNR=8.8						
	comp=Z,1.1nm,0.4s						
SONM	**Songino Array**	**44.56**	**341**	P	**P**	**13 22 56.4**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=161,slow=8.6,SNR=16						
SONM				PcP	**PcP**	**13 24 39.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=162,slow=3.2,SNR=3.7						
	comp=Z,3.2nm,0.9s						
SONM	**Songino Array**	**44.56**	**341**	P	**P**	**13 22 56.4**	**-0.5**
CAN	**Canberra**	**46.79**	**154**	P	**P**	**13 23 16.2**	**+1.7**
CAN				IAmb	IAmb	13 23 54.1	
	comp=Z,23nm,1.5s						
LIFNC	**LIFOU**	**48.58**	**125**	P	**P**	**13 23 30.5**	**+1.9**
DZM	**Mont Dzumac**	**48.59**	**127**	P	**P**	**13 23 30.0**	**+1.2**
	comp=Z,6.8nm,0.7s,baz=247,slow=9.9,SNR=18						
	comp=Z,6.8nm,0.7s						
DZM	**Mont Dzumac**	**48.59**	**127**	P	**P**	**13 23 30.2**	**+1.4**
DZM				IAmb	IAmb	13 23 36.0	
	comp=Z,9.4nm,1.1s						
PETK	**Petropavlovsk-**	**53.16**	**23**	P	**P**	**13 24 01.2**	**-1.4**
	comp=Z,10nm,1.1s,baz=204,slow=5.2,SNR=7.7						
	comp=Z,10nm,1.1s						
MK31	**Makanchi Array**	**55.02**	**324**	P	**P**	**13 24 16.1**	**-0.2**
MK31				IAmb	IAmb	13 24 20.0	
	comp=Z,2.5nm,0.5s						
MKAR	**Makanchi Array**	**55.02**	**324**	P	**P**	**13 24 16.0**	**-0.3**
	comp=Z,3.5nm,0.4s,baz=114,slow=6.6,SNR=37						
MKAR				PcP	**PcP**	**13 25 17.0**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=115,slow=5.2,SNR=1.4						
MKAR				LR	LR	13 50 43.4	
	comp=Z,42nm,18.4s,baz=290,slow=39						
	comp=Z,3.5nm,0.4s						
MAKZ	**Makanchi**	**55.21**	**324**	P	**P**	**13 24 17.9**	**+0.3**
MAKZ				IAmb	IAmb	13 24 21.4	
	comp=Z,3.6nm,0.5s						
ZAA0	**Zalesovo Array**	**57.92**	**333**	P	**P**	**13 24 37.5**	**+0.7**
ZAA0				IAmb	IAmb	13 24 38.9	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**57.92**	**333**	P	**P**	**13 24 35.8**	**-1.0**
	comp=Z,3.0nm,0.5s,baz=83,slow=15,SNR=16						
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**57.92**	**333**	P	**P**	**13 24 37.0**	**+0.3**
KURK	**Kurchatov**	**59.16**	**327**	P	**P**	**13 24 44.3**	**-1.1**
GAR	**Garm**	**59.69**	**312**	P	**P**	**13 24 48.2**	**-1.2**
KKAR	**Karatay Array**	**60.88**	**316**	P	**P**	**13 24 57.6**	**+0.2**
RPZ	**Rata Peaks**	**64.30**	**145**	P	**P**	**13 25 20.2**	**0.0**
	comp=Z,10nm,1.0s,baz=174,slow=8.2,SNR=1.6						
	comp=Z,10nm,1.0s						
BRVK	**Borovoye**	**64.82**	**326**	P	**P**	**13 25 24.3**	**+0.9**
BRVK				IAmb	IAmb	13 25 26.5	
	comp=Z,10nm,1.2s						
BKZ	**Black Stump Fm**	**64.98**	**139**	P	**P**	**13 25 26.7**	**+1.9**
NRIK	**Noril'sk**	**67.67**	**346**	P	**P**	**13 25 42.0**	**+0.7**
	comp=Z,2.6nm,0.4s,baz=191,slow=2.9,SNR=3.0						
	comp=Z,2.6nm,0.4s						
ABKAR	**Akbulak array**	**69.70**	**320**	P	**P**	**13 25 53.2**	**-1.2**
AKTO	**Aktyubinsk**	**71.19**	**321**	LR	LR	13 58 12.6	
	comp=Z,44nm,19.1s,baz=224,slow=37						
ILAR	**Eielson Array**	**82.91**	**26**	P	**P**	**13 27 07.9**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=241,slow=5.7,SNR=12						
	comp=Z,0.7nm,0.6s						
VNDA	**Vanda**	**86.18**	**173**	P	**P**	**13 27 23.9**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=300,slow=8.9,SNR=3.8						
	comp=Z,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**87.72**	**340**	P	**P**	**13 27 32.4**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=74,slow=6.0,SNR=12						
	comp=Z,2.9nm,0.6s						
BRTR	**Keskin Array B**	**87.86**	**310**	P	**P**	**13 27 32.6**	**-1.8**
	comp=Z,1.1nm,0.9s,baz=76,slow=7.0,SNR=4.0						
	comp=Z,1.1nm,0.9s						
INK	**Inuvik**	**87.86**	**21**	P	**P**	**13 27 32.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=260,slow=7.7,SNR=2.0						
	comp=Z,0.6nm,0.5s						
FINES	**FINESS Array B**	**89.18**	**332**	P	**P**	**13 27 38.7**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=79,slow=5.4,SNR=7.3						
	comp=Z,2.3nm,0.9s						
NOA	**NORSAR Array B**	**96.11**	**334**	LR	LR	14 15 09.5	
	comp=Z,30nm,18.5s,baz=10.0,slow=38						
YKA	**Yellowknife Ar**	**97.27**	**24**	P	**P**	**13 28 16.4**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=298,slow=4.8,SNR=7.3						
	comp=Z,0.8nm,0.8s						
PLCA	**Paso Flores**	**142.73**	**159**	PKP	**PKPdf**	**13 34 16.3**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=290,slow=4.1,SNR=5.8						
CFA	**Coronel Fontan**	**151.58**	**154**	PKPbc	**PKiKP**	**13 34 39.8**	**+0.1**
	comp=Z,9.6nm,0.5s,baz=259,slow=4.1,SNR=3.6						

ROM 06 13:16:41.1±0.1, 42.908N±0.004×13.022E±0.006, h12km±1km, ML0.9/4, Error ellipse: s-maj=0.4km s-min=0.4km az=248.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1216	**Preci, Frazion**	**0.02**	**187**	AML	AML		
	comp=E,148μm,0.1s						
T1216				AML	AML		
	comp=N,157μm,0.1s						
MC2	**Monte Cornacci**	**0.12**	**88**	P	Pg	13 16 44.8	+0.3
MC2				S	Sg	13 16 47.5	+0.6
CESI	**CESI - Serrava**	**0.13**	**318**	P	Pg	13 16 44.9	+0.5
CESI				S	Sg	13 16 47.4	+0.5
T1219	**Muccia, Frazio**	**0.15**	**356**	P	Pg	13 16 45.1	+0.4
T1219				S	Sg	13 16 47.8	+0.5
T1219				AML	AML		
	comp=N,90μm,0.9s						
T1215	**Vallo di Nera,**	**0.15**	**227**	P	Pg	13 16 45.4	+0.6
T1215				S	Sg	13 16 48.2	+0.8
T1215				AML	AML		
	comp=N,61μm,0.6s						
T1212	**Cascia, Frazio**	**0.16**	**174**	P	Pg	13 16 45.3	+0.5
T1212				S	Sg	13 16 48.1	+0.7
T1212				AML	AML		
	comp=N,49μm,0.1s						
T1214	**Arquata del Tr**	**0.20**	**137**	P	Pg	13 16 46.0	+0.4
T1214				S	Sg	13 16 49.3	+0.6
MMO1	**Montemonaco**	**0.22**	**92**	P	Pg	13 16 46.3	+0.3
MMO1				S	Sg	13 16 50.0	+0.7

*JMA **06** 13:25:48.0±0.1, 24.3N±0.4×121.9E±0.4, h36km±1km, MV2.4/10, TAIWAN REGION*
*TAP **06** 13:25:48.3, 24.43N×121.93E, h20km, ML3.0, C*
ISC 06 13:25:48.1±0.8, 24.42N±0.01×121.98E±0.02, h16km±5km, n106, σ0s75/187, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.18**	**277**	P	**Pg**	**13 25 52.6**	**0.0**
	baz=279						
EWUT				S	**Sg**	**13 25 55.8**	**+0.2**
	baz=279						
ENA	**Nanau**	**0.22**	**272**	*i* P	**Pg**	**13 25 52.9**	**-0.2**
	baz=270						
ENA				*i* S	**Sg**	**13 25 56.2**	**

NSK	**Sanguang**	**0.62**	**294**	*i* P	**Pg**	**13 25 59.8**	**-0.6**
	baz=299							
NSK				*i* S	**Sg**	**13 26 07.5**	**-1.1**
	baz=299							
ETM	**Tongmen**	**0.64**	**224**	*i* P	**Pg**	**13 26 00.5**	**-0.2**
	baz=222							
TEYL	**Yanliau Villag**	**0.65**	**212**	P	**Pg**	**13 26 01.3**	**+0.4**
	baz=210							
TWA	**Mucha**	**0.66**	**327**	*i* P	**Pb**	**13 26 01.7**	**+0.3**
	baz=320							
TWA				*i* S	**Sb**	**13 26 10.7**	**+0.4**
	baz=320							
NWF	**Wu-fen Shan**	**0.67**	**345**	*i* P	**Pb**	**13 26 01.8**	**+0.2**
	baz=339							
NWF				*i* S	**Sb**	**13 26 11.3**	**+0.6**
	baz=339							
WFSB	**Wu-fen Shan**	**0.67**	**345**	P	**Pb**	**13 26 01.5**	**0.0**
	baz=341							
WFSB				S	**Sb**	**13 26 11.3**	**+0.7**
	baz=341							
SXI1	**Grass Mountain**	**0.68**	**352**	P	**Pb**	**13 26 01.8**	**+0.1**
	baz=359							
SXI1				S	**Sb**	**13 26 11.2**	**+0.4**
	baz=359							
NHDH	**Xindian Distri**	**0.68**	**323**	*i* P	**Pb**	**13 26 01.7**	**+0.1**
	baz=317							
NHDH				*i* S	**Sb**	**13 26 10.9**	**+0.2**
	baz=317							
FUSS	**Fushou**	**0.69**	**256**	*i* P	**Pg**	**13 26 01.1**	**-0.6**
	baz=260							
FUSS				*i* S	**Sg**	**13 26 11.3**	**+0.3**
	baz=260							
WHF	**Hehuan Shan**	**0.71**	**247**	*i* P	**Pg**	**13 26 01.2**	**-0.9**
	baz=253							
WHF				*i* S	**Sb**	**13 26 12.6**	**+0.5**
	baz=253							
TAP	**Taipei**	**0.75**	**325**	P	**Pn**	**13 26 03.7**	**-0.4**
	baz=328							
TWT	**Tachien**	**0.75**	**257**	*i* P	**Pb**	**13 26 03.2**	**+0.2**
	baz=258							
TWT				*i* S	**Sn**	**13 26 14.4**	**-1.1**
	baz=258							
TDCB	**Techi**	**0.77**	**257**	P	**Pb**	**13 26 03.0**	**-0.2**
	baz=258							
TDCB				S	**Sg**	**13 26 13.8**	**+0.5**
	baz=258							
ESL	**Shilin**	**0.78**	**220**	*i* P	**Pb**	**13 26 03.0**	**-0.5**
	baz=232							
ESL				*i* S	**Sn**	**13 26 15.7**	**-0.3**
	baz=232							
NFF	**Wufeng Townshi**	**0.81**	**285**	P	**Pb**	**13 26 04.0**	**+0.1**
	baz=292							
NFF				S	**Sg**	**13 26 15.2**	**+0.5**
	baz=292							
YM01	**YM01**	**0.81**	**333**	P	**Pg**	**13 26 04.1**	**+0.2**
	baz=340							
YM01				S	**Sn**	**13 26 16.2**	**-0.6**
	baz=340							
CHGB	**Renai**	**0.82**	**244**	P	**Pb**	**13 26 03.4**	**-0.7**
	baz=250							
CHGB				S	**Sg**	**13 26 16.0**	**+1.1**
	baz=250							
TWS1	**Kuangyinshan**	**0.85**	**323**	*i* P	**Pn**	**13 26 05.1**	**-0.4**
	baz=320							
TWS1				*i* S	**Sn**	**13 26 17.6**	**0.0**
	baz=320							
ANP	**Anpu**	**0.87**	**331**	*i* P	**Pg**	**13 26 05.1**	**0.0**
	baz=334							
OWD	**Renai**	**0.87**	**238**	*i* P	**Pb**	**13 26 04.2**	**-0.8**
	baz=242							
OWD				*i* S	**Sg**	**13 26 17.2**	**+0.7**
	baz=242							
NTST	**Danshui**	**0.88**	**327**	*i* P	**Pb**	**13 26 04.5**	**-0.6**
	baz=329							
NTST				*i* S	**Sn**	**13 26 18.7**	**+0.3**
	baz=329							
JYNG	**Yonagunijimaku**	**0.88**	**88**	P	**Pb**	**13 26 05.2**	**+0.1**
JYNG				*e*S	**Sg**	**13 26 17.5**	**+0.6**
WUSB	**Renai**	**0.90**	**242**	P	**Pb**	**13 26 05.0**	**-0.5**
	baz=247							
WUSB				S	**Sg**	**13 26 18.2**	**+0.8**
	baz=247							
EGFH	**Guangfu**	**0.90**	**214**	*i* P	**Pb**	**13 26 05.3**	**-0.1**
	baz=228							
EGFH				S	**Sg**	**13 26 18.6**	**+1.0**
	baz=228							
NCU	**National Centr**	**0.90**	**307**	P	**Pn**	**13 26 06.1**	**-0.2**
	baz=309							
NCUH	**Zhongli**	**0.90**	**307**	*i* P	**Pg**	**13 26 05.6**	**-0.1**
	baz=294							
NCUH				*i* S	**Sn**	**13 26 19.7**	**+0.7**
	baz=294							
LIOB	**Emei**	**0.90**	**284**	*i* P	**Pn**	**13 26 06.1**	**-0.2**
	baz=285							
NSTT	**Nanjuang**	**0.91**	**283**	*i* P	**Pg**	**13 26 06.2**	**+0.3**
	baz=285							
NSTT				*i* S	**Sn**	**13 26 18.8**	**-0.5**
	baz=285							
TWY	**Chenhua**	**0.92**	**338**	*i* P	**Pg**	**13 26 05.9**	**-0.1**
	baz=340							
TWY				S	**Sn**	**13 26 18.6**	**-0.7**
	baz=340							
YOJ	**Yonaguni jima**	**0.94**	**87**	P	**Pb**	**13 26 06.2**	**+0.1**
YOJ				S	**Sg**	**13 26 19.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.94**	**87**	P	**Pb**	**13 26 06.2**	**+0.1**
	baz=78							
YOJ				S	**Sg**	**13 26 19.5**	**+0.7**
	baz=78							
WHP	**Taichung City**	**0.95**	**262**	*i* P	**Pg**	**13 26 06.8**	**+0.1**
	baz=269							
WHP				*i* S	**Sn**	**13 26 20.3**	**0.0**
	baz=269							
SBCB	**Hsinchu**	**0.98**	**292**	P	**Pn**	**13 26 08.0**	**+0.8**
	baz=293							
VWDT	**VWDT**	**1.01**	**229**	P	**Pb**	**13 26 07.2**	**-0.1**
	baz=230							
VWDT				S	**Sg**	**13 26 21.6**	**+0.5**
	baz=230							
WCS	**Beigang Elemen**	**1.04**	**250**	P	**Pb**	**13 26 07.6**	**-0.2**
	baz=251							
WCS				S	**Sn**	**13 26 22.7**	**+0.4**
	baz=251							
HGSD	**Ruisui**	**1.06**	**209**	P	**Pb**	**13 26 08.1**	**0.0**
	baz=209							
HGSD				*e*S	**Sg**	**13 26 23.3**	**+0.9**
	baz=209							
NMLH	**Miaoli**	**1.09**	**276**	*i* P	**Pn**	**13 26 09.0**	**+0.2**
	baz=276							
EHY	**Hungye**	**1.09**	**213**	*i* P	**Pb**	**13 26 07.7**	**-1.0**
	baz=213							
EHY				S	**Sg**	**13 26 24.5**	**+0.9**
	baz=213							
TWQ1	**Liyutan**	**1.10**	**266**	P	**Pg**	**13 26 10.5**	**+1.0**
	baz=268							
TWQ1				S	**Sg**	**13 26 26.6**	**+2.8**
	baz=268							
NSY	**Sanyi**	**1.11**	**270**	*i* P	**Pg**	**13 26 10.1**	**+0.5**
	baz=270							
SSLB	**Suanglung**	**1.13**	**236**	P	**Pn**	**13 26 08.9**	**-0.5**
	baz=237							
SSLB				S	**Sb**	**13 26 23.6**	**-0.2**
	baz=237							
TYC	**Yuchr**	**1.15**	**243**	*i* P	**Pn**	**13 26 09.3**	**-0.2**
	baz=254							
TYC				*i* S	**Sg**	**13 26 25.5**	**+0.2**
	baz=254							
YULB	**Yu-li**	**1.20**	**211**	P	**Pn**	**13 26 08.7**	**-1.6**
	baz=212							
YULB				S	**Sb**	**13 26 25.7**	**-0.1**
	baz=212							
TCU	**Taichung**	**1.22**	**257**	*i* S	**Sg**	**13 26 30.2**	**+2.6**
	baz=259							
WDJ	**Dajia District**	**1.22**	**267**	S	**Sg**	**13 26 29.2**	**+1.5**
	baz=269							
EYUL	**Yuli**	**1.23**	**210**	P	**Pn**	**13 26 10.5**	**-0.2**
	baz=223							
WHYT	**Xinyi Township**	**1.26**	**235**	*i* P	**Pb**	**13 26 11.6**	**+0.1**
	baz=237							
WHYT				S	**Sn**	**13 26 28.4**	**+0.6**
	baz=237							
WJS	**Zhushan**	**1.29**	**243**	*i* P	**Pb**	**13 26 12.4**	**+0.3**
	baz=244							
WJS				*i* S	**Sg**	**13 26 31.9**	**+2.1**
	baz=244							
WNT	**Mingjian**	**1.30**	**246**	P	**Pg**	**13 26 13.4**	**+0.2**
	baz=247							
WNT				S	**Sg**	**13 26 32.4**	**+2.2**
	baz=247							
ALS	**Alishan**	**1.41**	**230**	P	**Pg**	**13 26 15.2**	**-0.1**
	baz=218							
ALS				S	**Sg**	**13 26 34.4**	**+0.8**
	baz=218							
CHKT	**Chengkung**	**1.43**	**203**	S	**Sb**	**13 26 33.5**	**+1.0**
	baz=185							
CHN5	**Tsauling**	**1.45**	**236**	*i* P	**Pb**	**13 26 15.1**	**+0.3**
	baz=237							
CHN5				*i* S	**Sg**	**13 26 35.9**	**+1.0**
	baz=237							
EHD	**Haiduan**	**1.45**	**209**	P	**Pn**	**13 26 13.7**	**-0.1**
	baz=208							
WDLH	**Douliu**	**1.50**	**241**	*i* P	**Pg**	**13 26 16.8**	**-0.4**
	baz=243							
WDLH				*i* S	**Sg**	**13 26 37.2**	**+0.5**
	baz=243							
ELDTW	**Lidau**	**1.51**	**216**	*i* P	**Pn**	**13 26 14.3**	**-0.3**
	baz=217							
ELDTW				S	**Sn**	**13 26 34.5**	**+0.4**
	baz=217							
WRL	**Guolierlin Hig**	**1.55**	**251**	P	**Pn**	**13 26 14.9**	**-0.3**
	baz=253							
WRL				S	**Sg**	**13 26 37.6**	**-0.6**
	baz=253							
EDH	**Donghe**	**1.57**	**203**	*i* P	**Pn**	**13 26 13.4**	**-2.0**
	baz=190							
EDH				S	**Sn**	**13 26 34.0**	**-1.4**
	baz=190							
WCKO	**Fanlu**	**1.59**	**232**	P	**Pb**	**13 26 17.3**	**0.0**
	baz=234							
WCKO				*i* S	**Sg**	**13 26 39.0**	**-0.6**
	baz=234							
IRIF	**Iriomote-Funau**	**1.60**	**93**	P	**Pn**	**13 26 15.5**	**-0.3**
IRIF				S	**Sn**	**13 26 35.8**	**-0.4**
WTK	**Tuku**	**1.63**	**244**	S	**Sg**	**13 26 39.8**	**-0.8**
	baz=246							
CHN4	**Tsaushan**	**1.66**	**230**	*i* P	**Pb**	**13 26 18.1**	**-0.2**
	baz=232							
CHN4				*i* S	**Sg**	**13 26 41.2**	**-0.4**
	baz=232							
STYH	**Taoyuan**	**1.66**	**222**	P	**Pn**	**13 26 16.6**	**-0.1**
	baz=210							
STYH				S	**Sb**	**13 26 39.8**	**+0.7**
	baz=210							
TPUB	**Ta-pu**	**1.67**	**228**	P	**Pn**	**13 26 17.5**	**+0.8**
	baz=230							
TPUB				S	**Sg**	**13 26 41.1**	**-0.7**
	baz=230							
CHY	**Chiayi**	**1.69**	**237**	S	**Sg**	**13 26 42.4**	**-0.4**
	baz=239							
LONT	**Longtian**	**1.70**	**207**	P	**Pn**	**13 26 18.4**	**+1.2**
	baz=207							
WTP	**Ta-pu**	**1.71**	**227**	*i* P	**Pb**	**13 26 19.0**	**-0.3**
	baz=229							
WTP				*i* S	**Sb**	**13 26 42.1**	**+1.5**
	baz=229							
TWK	**Hsinying**	**1.79**	**230**	*i* P	**Pb**	**13 26 20.0**	**-0.5**
	baz=232							
TWK				S	**Sg**	**13 26 45.5**	**-0.2**
	baz=232							
TWGBT	**Beinan**	**1.80**	**207**	P	**Pn**	**13 26 18.4**	**-0.2**
	baz=194							
TWG	**Pinlang**	**1.80**	**208**	*i* P	**Pn**	**13 26 18.4**	**-0.2**
	baz=194							
LDUT	**Ludao**	**1.80**	**195**	S	**Sn**	**13 26 38.0**	**-3.1**
	baz=184							
CHN1	**Nanshi**	**1.81**	**227**	*i* P	**Pb**	**13 26 20.9**	**-0.1**
	baz=229							
CHN1				*i* S	**Sg**	**13 26 45.5**	**-1.0**
	baz=229							
WSL	**Shuilin Townsh**	**1.83**	**241**	P	**Pb**	**13 26 20.6**	**-0.7**
	baz=244							
WSL				S	**Sb**	**13 26 45.4**	**+1.3**
	baz=244							
SGST	**Jiashian**	**1.85**	**224**	*i* P	**Pn**	**13 26 19.9**	**+0.7**
	baz=211							
SGST				S	**Sb**	**13 26 45.2**	**+0.8**
	baz=211							
JKRS	**Kuro-shima**	**1.86**	**95**	P	**Pn**	**13 26 19.6**	**+0.2**
JKRS				S	**Sn**	**13 26 42.5**	**-0.1**
JIJ	**Ishigaki jima**	**1.98**	**91**	P	**Pn**	**13 26 21.0**	**0.0**
JIJ				*e*S	**Sn**	**13 26 44.2**	**-1.2**
SCST	**Cishan**	**2.05**	**222**	P	**Pn**	**13 26 22.6**	**+0.6**
	baz=221							
TSMG	**Majia**	**2.10**	**216**	P	**Pb**	**13 26 24.6**	**-1.3**
	baz=216							
JISG	**Ishigakijimahi**	**2.13**	**85**	P	**Pn**	**13 26 22.6**	**-0.5**
JISG				*e*S	**Sn**	**13 26 47.9**	**-1.4**
TSCK	**Chigu Township**	**2.15**	**234**	P	**Pn**	**13 26 23.9**	**+0.6**
	baz=233							
MASBT	**Mashibuluo**	**2.19**	**215**	P	**Pn**	**13 26 24.5**	**+0.6**
	baz=216							
MASBT				S	**Sb**	**13 26 55.4**	**+1.2**
	baz=216							
EAST	**Anshuo**	**2.28**	**207**	P	**Pn**	**13 26 25.4**	**+0.1**
	baz=196							
VWUC	**VWUC**	**2.37**	**284**	P	**Pn**	**13 26 25.6**	**-0.8**
	baz=287							
VWUC				S	**Sn**	**13 26 55.0**	**-0.1**
	baz=287							
PHUB	**P'eng-hu**	**2.38**	**248**	P	**Pn**	**13 26 26.8**	**+0.3**
	baz=250							
PHUB				S	**Sn**	**13 26 56.0**	**+0.6**
	baz=250							
JTJ	**Tarama**	**2.49**	**84**	S	**Sn**	**13 26 58.5**	**+0.3**

*NEIC **06** 13:38:41.3±1.2,30.˚8S±0.˚1×178.˚4W±0.˚2, h153km±12km, mb4.0/10, Error ellipse: s-maj=27.6km s-min=15.1km az=97.0*
*IDC **06** 13:38:46.6±12.0,30.˚95S×178.˚76W, h180km±130km, mb3.4/4, mbtmp3.9/5, Error ellipse: s-maj=115.2km s-min=33.4km az=172.0*

ISC 06 13:38:42.0±0.9,**30.74S**±0.˚09×**178.˚7W**±0.˚2,**h150**km,**n36,** σ2s**15**/33,**mb3.8**/10,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.61**	**23**	Pn	**Pn**	**13 39 12.1**	**-0.6**
MXZ	**Matakaoa Point**	**7.26**	**200**	Pn	**Pn**	**13 40 25.6**	**+0.2**
MXZ				Sn	**Sn**	**13 41 45.7**	**-0.9**
HAZ	**Te Kaha**	**7.60**	**202**	P	Pn	13 40 35.0	+5.1
PKGZ	**Pakihiroa**	**7.63**	**200**	P	Pn	13 40 34.9	+4.5
PUZ	**Puketiti**	**7.75**	**198**	P	Pn	13 40 38.1	+6.1
RUGZ	**Raukumara Rang**	**7.82**	**202**	P	Pn	13 40 37.8	+4.7
CNGZ	**Carnagh Statio**	**8.15**	**198**	P	**Pn**	**13 40 41.3**	**+4.0**
MWZ	**Matawai**	**8.21**	**202**	P	**Pn**	**13 40 41.3**	**+3.2**
TKGZ	**Te Karaka**	**8.21**	**200**	P	**Pn**	**13 40 41.0**	**+3.0**
URZ	**Urewera**	**8.28**	**204**	P	**Pn**	**13 40 41.6**	**+2.6**
	16nm,1.0s,baz=335,slow=8.7,SNR=3.2						
URZ				S	**Sn**	**13 42 09.4**	**-1.7**
	5.3nm,0.3s,baz=113,slow=19,SNR=9.4						
URZ	**Urewera**	**8.28**	**204**	P	**Pn**	**13 40 43.2**	**+4.2**
RIGZ	**Rimuhau**	**8.48**	**199**	P	**Pn**	**13 40 45.9**	**+4.1**
MUGZ	**Murupara**	**8.59**	**205**	P	Pn	13 40 49.5	+6.2
RTZ	**Ruatahuna**	**8.64**	**203**	Pn	**Pn**	**13 40 44.4**	**+0.4**
RTZ				Sn	**Sn**	**13 42 18.2**	**-1.9**
SNGZ	**Shannon Statio**	**8.68**	**201**	P	**Pn**	**13 40 47.5**	**+3.1**
BKZ	**Black Stump Fm**	**9.30**	**204**	P	**Pn**	**13 40 56.3**	**+3.5**
KRVZ	**Karewarewa**	**9.56**	**208**	P	Pn	13 41 06.1	+10
BHHZ	**Black Hill Sta**	**9.74**	**205**	P	**Pn**	**13 41 01.9**	**+3.3**
MRZ	**Mangatainoka R**	**10.96**	**204**	Pn	**Pn**	**13 41 13.8**	**-0.7**
PLWZ	**Palliser**	**11.88**	**203**	Pn	**Pn**	**13 41 26.6**	**0.0**
EIDS	**Eidsvold**	**27.20**	**274**	P	**P**	**13 44 10.5**	**-1.3**
STKA	**Stephens Creek**	**33.86**	**258**	P	**P**	**13 45 11.9**	**+1.6**
	2.3nm,0.4s,baz=103,slow=12,SNR=14						
	2.3nm,0.4s						
STKA	**Stephens Creek**	**33.86**	**258**	P	**P**	**13 45 12.2**	**+1.9**
BBOO	**Buckleboo**	**38.34**	**255**	P	**P**	**13 45 48.4**	**-0.1**
AS31	**Alice Springs**	**42.53**	**268**	P	**P**	**13 46 22.2**	**-0.8**
AS31				IAmb	IAmb	13 46 38.6	
	comp=Z,1.3nm,1.1s						
ASAR	**Alice Springs**	**42.53**	**268**	P	**P**	**13 46 23.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=106,slow=7.2,SNR=15						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**42.53**	**268**	P	**P**	**13 46 22.2**	**-0.8**
WR0	**Warramunga Arr**	**43.37**	**273**	P	**P**	**13 46 29.6**	**-0.1**
WR0				IAmb	IAmb	13 47 06.3	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**43.54**	**273**	P	**P**	**13 46 30.5**	**-0.6**
WB2				IAmb	IAmb	13 47 03.8	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**43.55**	**273**	P	**P**	**13 46 31.5**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=112,slow=8.1,SNR=10						
	comp=Z,0.6nm,0.3s						
WRA	**Warramunga Arr**	**43.55**	**273**	P	**P**	**13 46 31.1**	**-0.1**
WB0	**Warramunga Arr**	**43.58**	**273**	P	**P**	**13 46 30.8**	**-0.6**
WB0				IAmb	IAmb	13 47 03.6	
	comp=Z,3.0nm,1.1s						
VNDA	**Vanda**	**47.71**	**186**	P	**P**	**13 47 00.9**	**-2.0**
VNDA				IAmb	IAmb	13 47 10.8	
	comp=Z,2.5nm,1.4s						
SNAA	**Sanae**	**77.83**	**179**	P	**P**	**13 50 21.0**	**-1.5**
SNAA				IAmb	IAmb	13 50 59.0	
	comp=Z,9.8nm,1.5s						
NVAR	**Mina Array Bea**	**88.86**	**43**	P	**P**	**13 51 21.5**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=228,slow=1.1,SNR=2.2						
	comp=Z,0.1nm,0.3s						
CLL	**Collm**	**157.70**	**340**	*e*PKPab	**PKPab**	**13 58 54.0**	**+0.8**

*ISK **06** 13:39:02.4, 39.˚93N×32.˚82E, h3km, ML2.5/17*
*DDA **06** 13:39:03.3±0.0, 39.˚91N×32.˚84E, h7km±3km, ML1.9*

ISC 06 13:39:02.8±1.0,**39.˚91N**±0.˚03×**32.˚83E**±0.˚03,**h3**km±8km, **n25,** σ0s**54**/34,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.05**	**209**	Pg	**Pg**	**13 39 04.4**	**+0.4**
LOD	**Lodumlu**	**0.05**	**243**	Pg	**Pg**	**13 39 03.9**	**-0.2**
LOD				Sg	**Sg**	**13 39 04.9**	**0.0**
BBAL	**Bala**	**0.43**	**148**	P	**Pg**	**13 39 12.0**	**+0.8**
BBAL				S	**Sb**	**13 39 19.0**	**-1.2**
AFSR	**Afar-Bala (An**	**0.50**	**158**	Pg	**Pg**	**13 39 13.3**	**+0.8**
AFSR				Sg	**Sb**	**13 39 21.5**	**-0.6**
CMDR	**Camlidere-ANKA**	**0.64**	**335**	P	**Pg**	**13 39 15.6**	**+0.5**
CMDR				S	**Sb**	**13 39 26.0**	**-0.1**
CMDR				*i* AML	AML	13 39 31.0	
	comp=N,51nm,0.3s						
KKUL	**Konya-Kulu**	**0.74**	**175**	P	**Pg**	**13 39 17.7**	**+0.6**
KKUL				S	**Sb**	**13 39 29.1**	**+0.1**
KKUL				*i* AML	AML	13 39 33.0	
	comp=N,36nm,0.3s						
DELI	**KIRIKKALE**	**0.84**	**84**	P	**Pg**	**13 39 19.2**	**+0.1**
KAMT	**Kaman**	**0.87**	**128**	Pg	**Pb**	**13 39 20.3**	**-0.4**
KULU	**Kulu**	**0.88**	**171**	Pg	**Pg**	**13 39 20.3**	**+0.6**
KIBS	**BOLU**	**0.90**	**304**	P	**Pb**	**13 39 20.8**	**-0.4**
KIBS				S	**Sb**	**13 39 33.4**	**-0.2**
CANT	**Cankiri**	**0.92**	**41**	Pg	**Pg**	**13 39 20.6**	**+0.1**
BCAM	**Yenicaga**	**1.07**	**327**	P	**Pg**	**13 39 23.0**	**-0.4**
BCAM				S	**Sn**	**13 39 39.6**	**-0.7**
BCAM				*i* AML	AML	13 39 43.0	
	comp=E,31nm,0.4s						
SVRH	**Sivrihisar-ESK**	**1.11**	**246**	Pn	**Pg**	**13 39 24.4**	**+0.3**
SERE	**Sereflikochisa**	**1.12**	**149**	Pn	**Pb**	**13 39 24.9**	**0.0**
CDAG	**Cicekdag**	**1.23**	**103**	P	**Pg**	**13 39 25.9**	**-0.5**
CDAG				S	**Sn**	**13 39 43.6**	**-0.5**
CDAG				*i* AML	AML	13 39 46.0	
	comp=N,25nm,0.2s						
YAYX	**Yaylak**	**1.24**	**142**	Pn	**Pg**	**13 39 26.0**	**-0.5**
MDUB	**Mudurnu**	**1.37**	**295**	Pn	**Pg**	**13 39 29.0**	**0.0**
CORM	**Corum**	**1.41**	**79**	Pn	**Pg**	**13 39 29.9**	**0.0**
PELI	**Kastamonı-Ara**	**1.43**	**15**	P	**Pg**	**13 39 31.2**	**+0.9**
PELI				S	**Sn**	**13 39 49.8**	**+0.6**
CIFT	**Cifteler, Eski**	**1.47**	**249**	Pn	**Pb**	**13 39 30.7**	**-0.1**
KOZK	**Kozakli-Nevseh**	**1.73**	**113**	Pn	**Pn**	**13 39 34.3**	**+0.5**
LADK	**Ladik-KONYA**	**1.75**	**192**	Pn	**Pb**	**13 39 35.1**	**-0.5**
GULT	**Gulveren**	**1.84**	**287**	Pn	**Pn**	**13 39 35.7**	**+0.3**
GULA	**Gulagac**	**1.91**	**145**	Pn	**Pn**	**13 39 37.2**	**+0.8**
YOZ	**Yozgat**	**1.94**	**97**	Pn	**Pn**	**13 39 37.4**	**+0.6**

*IDC **06** 14:00:21.2±3.0,5.˚83S×154.˚58E, h104km±30km, mb3.1/3, mbtmp3.8/6, MS3.7/1, Error ellipse: s-maj=30.4km s-min=23.3km az=73.0*
*NEIC **06** 14:00:22.2±1.2,5.˚9S±0.˚2×154.˚6E±0.˚1, h110km±17km, mb4.4/9, Error ellipse: s-maj=24.4km s-min=13.9km az=168.0*

ISC 06 14:00:20.8±0.9,**5.˚86S**±0.˚10×**154.˚6E**±0.˚1,**h100**km,**n22,** σ0s**86**/19,**mb3.3**/5,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.97**	**304**	Pn	**Pn**	**14 01 07.8**	**+1.6**
KRVT	**Keravat (AS076**	**3.02**	**301**	P	**Pn**	**14 01 06.1**	**-0.8**
	29nm,0.5s,baz=268,slow=5.0,SNR=11						
KRVT				S	**Sn**	**14 01 42.0**	**-0.5**
	71nm,0.3s,baz=136,slow=23,SNR=7.7						
HNR	**Honiara**	**6.35**	**124**	LR	LR	14 04 47.0	
	comp=Z,597nm,19.3s,baz=9.0,slow=41						
PMG	**Port Moresby**	**8.21**	**244**	P	**Pn**	**14 02 17.8**	**+0.6**
	41nm,0.8s,baz=37,slow=7.8,SNR=13						
PMG	**Port Moresby**	**8.21**	**244**	Pn	**Pn**	**14 02 18.1**	**+0.9**
COEN	**Coen**	**13.86**	**234**	P	**P**	**14 03 39.0**	**+1.0**
EIDS	**Eidsvold**	**19.70**	**190**	P	**P**	**14 04 41.5**	**-0.8**
EIDS				IAmb	IAmb	14 04 48.3	
	comp=Z,37nm,1.5s						
DZM	**Mont Dzumac**	**19.75**	**146**	P	**P**	**14 04 43.4**	**+0.4**
	comp=Z,6.5nm,0.9s,baz=309,slow=12,SNR=5.8						
DZM	**Mont Dzumac**	**19.75**	**146**	P	**P**	**14 04 43.4**	**+0.4**
DZM				IAmb	IAmb	14 04 46.8	
	comp=Z,24nm,1.4s						
OUENC	**Ouen Island, N**	**20.25**	**146**	P	**P**	**14 04 49.0**	**+0.7**
OUENC				IAmb	IAmb	14 05 03.4	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**24.04**	**233**	P	**P**	**14 05 25.6**	**-1.3**
WB0	**Warramunga Arr**	**24.06**	**233**	P	**P**	**14 05 26.3**	**-0.6**
WRA	**Warramunga Arr**	**24.19**	**233**	P	**P**	**14 05 27.8**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=55,slow=9.7,SNR=6.4						
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**26.68**	**226**	P	**P**	**14 05 50.5**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=57,slow=9.7,SNR=4.6						
	comp=Z,0.5nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.96**	**26**	T	T	14 34 29.2	
	baz=207						
H11S2	**WAKE ISLAND Hy**	**26.96**	**26**	T	T	14 34 03.9	
	baz=207						
H11S1	**WAKE ISLAND Hy**	**26.98**	**26**	T	T	14 34 35.0	
	baz=207						
RTZ	**Ruatahuna**	**38.38**	**151**	P	**P**	**14 07 31.6**	**-0.9**
RTZ				IAmb	IAmb	14 07 54.2	
	comp=Z,18nm,1.3s						
BKZ	**Black Stump Fm**	**38.59**	**152**	P	**P**	**14 07 33.5**	**-0.7**
GIRL	**Giralia**	**42.38**	**243**	P	**P**	**14 08 04.8**	**-0.8**
ILAR	**Eielson Array**	**82.45**	**22**	P	**P**	**14 12 32.2**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=227,slow=4.8,SNR=2.7

ISR	**Istrita**	**0.59**	**187**	⇓P	**Pn**	**14 01 31.9**	**+0.5**
ISR				⇑S	**Sn**	**14 01 47.9**	**+0.5**
ISR	**Istrita**	**0.59**	**187**	⇓P	**Pn**	**14 01 31.9**	**+0.5**
ISR				⇑S	**Sn**	**14 01 47.9**	**+0.5**
GHRR		**0.64**	**56**	⇑P	**Pn**	**14 01 32.1**	**+0.5**
GHRR				⇓S	**Sn**	**14 01 48.4**	**+0.7**
GHRR		**0.64**	**56**	⇑P	**Pn**	**14 01 32.1**	**+0.5**
GHRR				⇓S	**Sn**	**14 01 48.4**	**+0.7**
TUDR		**0.72**	**99**	⇓P	**Pn**	**14 01 32.3**	**+0.2**
TUDR				⇑S	**Sn**	**14 01 49.0**	**+0.3**
TUDR		**0.72**	**99**	⇓P	**Pn**	**14 01 32.3**	**+0.2**
TUDR				⇑S	**Sn**	**14 01 49.0**	**+0.3**
SECR		**0.79**	**212**	⇑P	**Pn**	**14 01 33.0**	**+0.3**
SECR				⇓S	**Sn**	**14 01 50.2**	**+0.6**
SECR		**0.79**	**212**	⇑P	**Pn**	**14 01 33.0**	**+0.3**
SECR				⇓S	**Sn**	**14 01 50.2**	**+0.6**
SLCR	**Slobozia Conac**	**0.80**	**98**	⇑P	**Pn**	**14 01 32.8**	**+0.2**
SLCR				⇓S	**Sn**	**14 01 49.6**	**-0.1**
SLCR	**Slobozia Conac**	**0.80**	**98**	⇑P	**Pn**	**14 01 32.8**	**+0.2**
SLCR				⇓S	**Sn**	**14 01 49.6**	**-0.1**
IZVR	**Izvoarele**	**0.80**	**101**	⇑S	**Sn**	**14 01 49.3**	**-0.4**
IZVR	**Izvoarele**	**0.80**	**101**	⇑S	**Sn**	**14 01 49.3**	**-0.4**
TESR	**Tescani**	**0.81**	**0**	⇑P	**Pn**	**14 01 32.4**	**-0.4**
TESR	**Tescani**	**0.81**	**0**	⇑P	**Pn**	**14 01 32.4**	**-0.4**
TESR	**Tescani**	**0.81**	**0**	P	**Pn**	**14 01 32.3**	**-0.4**
PGOR	**Pogoanele**	**0.83**	**163**	⇓P	**Pn**	**14 01 33.3**	**+0.3**
PGOR				⇓S	**Sn**	**14 01 50.3**	**+0.1**
PGOR	**Pogoanele**	**0.83**	**163**	⇓P	**Pn**	**14 01 33.3**	**+0.3**
PGOR				⇓S	**Sn**	**14 01 50.3**	**+0.1**
SCHL	**Schela**	**0.85**	**104**	⇓P	**Pn**	**14 01 33.4**	**+0.3**
SCHL				⇑S	**Sn**	**14 01 50.3**	**-0.2**
SCHL	**Schela**	**0.85**	**104**	⇓P	**Pn**	**14 01 33.4**	**+0.3**
SCHL				⇑S	**Sn**	**14 01 50.3**	**-0.2**
BIR	**Birlad**	**0.88**	**50**	⇑P	**Pn**	**14 01 33.7**	**+0.4**
BIR				⇓S	**Sn**	**14 01 51.0**	**+0.1**
BIR	**Birlad**	**0.88**	**50**	⇑P	**Pn**	**14 01 33.7**	**+0.4**
BIR				⇓S	**Sn**	**14 01 51.0**	**+0.1**
DOPR	**Dopca**	**0.92**	**287**	⇓P	**Pn**	**14 01 33.4**	**-0.3**
DOPR				⇑S	**Sn**	**14 01 51.3**	**-0.1**
DOPR	**Dopca**	**0.92**	**287**	⇓P	**Pn**	**14 01 33.4**	**-0.3**
DOPR				⇑S	**Sn**	**14 01 51.3**	**-0.1**
TATR	**Tatarca**	**0.99**	**96**	⇓P	**Pn**	**14 01 34.7**	**+0.5**
TATR				⇑S	**Sn**	**14 01 52.8**	**+0.4**
TATR	**Tatarca**	**0.99**	**96**	⇓P	**Pn**	**14 01 34.7**	**+0.5**
TATR				⇑S	**Sn**	**14 01 52.8**	**+0.4**
VLDR	**Vladesti**	**1.01**	**82**	⇑S	**Sn**	**14 01 52.8**	**0.0**
VLDR	**Vladesti**	**1.01**	**82**	⇓S	**Sn**	**14 01 52.8**	**0.0**
GISR	**Galati**	**1.02**	**105**	⇓S	**Sn**	**14 01 52.1**	**-0.9**
GISR	**Galati**	**1.02**	**105**	⇓S	**Sn**	**14 01 52.1**	**-0.9**
SULR		**1.06**	**195**	⇑P	**Pn**	**14 01 35.3**	**+0.3**
SULR				⇑S	**Sn**	**14 01 54.4**	**+0.7**
SULR		**1.06**	**195**	⇑P	**Pn**	**14 01 35.3**	**+0.3**
SULR				⇑S	**Sn**	**14 01 54.4**	**+0.7**
GIUM	**Giurgiulesti**	**1.12**	**101**	⇑S	**Sn**	**14 01 54.8**	**+0.3**
GIUM	**Giurgiulesti**	**1.12**	**101**	⇑S	**Sn**	**14 01 54.8**	**+0.3**
VOIR		**1.16**	**257**	⇑P	**Pn**	**14 01 35.3**	**-0.6**
VOIR		**1.16**	**257**	⇑P	**Pn**	**14 01 35.3**	**-0.6**
VOIR		**1.16**	**257**	P	**Pn**	**14 01 35.2**	**-0.6**
CFR	**Carcaliu**	**1.17**	**116**	⇑P	**Pn**	**14 01 35.9**	**0.0**
CFR				⇑S	**Sn**	**14 01 55.0**	**-0.4**
CFR	**Carcaliu**	**1.17**	**116**	⇑P	**Pn**	**14 01 35.9**	**0.0**
CFR				⇑S	**Sn**	**14 01 55.0**	**-0.4**
AMRR	**Amara**	**1.20**	**156**	⇑P	**Pn**	**14 01 35.3**	**-0.9**
AMRR				⇑S	**Sn**	**14 01 55.8**	**0.0**
AMRR	**Amara**	**1.20**	**156**	⇑P	**Pn**	**14 01 35.3**	**-0.9**
AMRR				⇑S	**Sn**	**14 01 55.8**	**0.0**
VASR	**Vaslui**	**1.23**	**40**	⇑P	**Pn**	**14 01 36.8**	**+0.3**
VASR				⇑S	**Sn**	**14 01 56.1**	**-0.3**
VASR	**Vaslui**	**1.23**	**40**	⇑P	**Pn**	**14 01 36.8**	**+0.3**
VASR				⇑S	**Sn**	**14 01 56.1**	**-0.3**
LEHL	**Lehliu**	**1.24**	**174**	⇑P	**Pn**	**14 01 36.9**	**+0.3**
LEHL				⇑S	**Sn**	**14 01 56.7**	**+0.1**
LEHL	**Lehliu**	**1.24**	**174**	⇑P	**Pn**	**14 01 36.9**	**+0.3**
LEHL				⇑S	**Sn**	**14 01 56.7**	**+0.1**
BIZ	**Bicaz**	**1.29**	**343**	⇓S	**Sn**	**14 01 57.7**	**+0.1**
BIZ	**Bicaz**	**1.29**	**343**	⇓S	**Sn**	**14 01 57.7**	**+0.1**
INCR	**INCERC-Sediu C**	**1.31**	**195**	⇑S	**Sn**	**14 01 57.1**	**-0.8**
INCR	**INCERC-Sediu C**	**1.31**	**195**	⇑S	**Sn**	**14 01 57.1**	**-0.8**
LEOM	**Leova**	**1.35**	**55**	⇓P	**Pn**	**14 01 38.3**	**+0.6**
LEOM				⇓S	**Sn**	**14 01 58.8**	**+0.2**
LEOM	**Leova**	**1.35**	**55**	⇓P	**Pn**	**14 01 38.3**	**+0.6**
LEOM				⇓S	**Sn**	**14 01 58.8**	**+0.2**
HARR	**Harsova**	**1.36**	**138**	⇓P	**Pn**	**14 01 38.0**	**+0.2**
HARR	**Harsova**	**1.36**	**138**	⇓P	**Pn**	**14 01 38.0**	**+0.2**
BUC1	**Bucharest**	**1.43**	**198**	⇓S	**Sn**	**14 01 59.4**	**-0.6**
BUC1	**Bucharest**	**1.43**	**198**	⇓S	**Sn**	**14 01 59.4**	**-0.6**
ARR	**Arges**	**1.46**	**257**	⇑P	**Pn**	**14 01 38.5**	**-0.4**
ARR				⇓S	**Sn**	**14 02 01.1**	**+0.4**
ARR	**Arges**	**1.46**	**257**	⇑P	**Pn**	**14 01 38.5**	**-0.4**
ARR				⇓S	**Sn**	**14 02 01.1**	**+0.4**
ARR	**Arges**	**1.46**	**257**	P	**Pn**	**14 01 39.0**	**+0.1**
STFAR	**Stefanesti-Arg**	**1.46**	**235**	⇓S	**Sn**	**14 02 01.2**	**+0.6**
STFAR	**Stefanesti-Arg**	**1.46**	**235**	⇓S	**Sn**	**14 02 01.2**	**+0.6**
TPGR	**Topolog**	**1.51**	**124**	⇓P	**Pn**	**14 01 39.3**	**-0.1**
TPGR	**Topolog**	**1.51**	**124**	⇓P	**Pn**	**14 01 39.3**	**-0.1**
TLBR	**Topalu**	**1.53**	**139**	⇓P	**Pn**	**14 01 39.6**	**+0.1**
TLBR				⇑S	**Sn**	**14 02 01.6**	**-0.3**
TLBR	**Topalu**	**1.53**	**139**	⇓P	**Pn**	**14 01 39.6**	**+0.1**
TLBR				⇑S	**Sn**	**14 02 01.6**	**-0.3**
TLCR		**1.61**	**108**	⇓P	**Pn**	**14 01 40.8**	**+0.4**
TLCR				⇑S	**Sn**	**14 02 03.4**	**-0.2**
TLCR		**1.61**	**108**	⇓P	**Pn**	**14 01 40.8**	**+0.4**
TLCR				⇑S	**Sn**	**14 02 03.4**	**-0.2**
IAS	**Iasi**	**1.61**	**22**	⇑S	**Sn**	**14 02 03.2**	**-0.5**
IAS	**Iasi**	**1.61**	**22**	⇑S	**Sn**	**14 02 03.2**	**-0.5**
HUMR	**Humele**	**1.67**	**226**	P	**Pn**	**14 01 40.5**	**-0.6**
CVDA	**Cernavoda**	**1.69**	**144**	⇑P	**Pn**	**14 01 41.5**	**+0.2**
CVDA	**Cernavoda**	**1.69**	**144**	⇑P	**Pn**	**14 01 41.5**	**+0.2**
TIRR	**Tirgusor**	**1.77**	**134**	⇓P	**Pn**	**14 01 42.2**	**0.0**
TIRR				⇓S	**Sn**	**14 02 05.9**	**-0.7**
TIRR	**Tirgusor**	**1.77**	**134**	⇓P	**Pn**	**14 01 42.2**	**0.0**
TIRR				⇓S	**Sn**	**14 02 05.9**	**-0.7**
MILM	**Milestii Mici**	**1.93**	**50**	⇓P	**Pn**	**14 01 44.9**	**+0.9**
MILM				⇓S	**Sn**	**14 02 10.0**	**0.0**
MILM	**Milestii Mici**	**1.93**	**50**	⇓P	**Pn**	**14 01 44.9**	**+0.9**
MILM				⇓S	**Sn**	**14 02 10.0**	**0.0**
MILM	**Milestii Mici**	**1.93**	**50**	P	**Pn**	**14 01 45.3**	**+1.3**
MILM				S	**Sn**	**14 02 10.2**	**+0.2**
MFTR	**Murfatlar**	**1.98**	**140**	⇑P	**Pn**	**14 01 44.7**	**0.0**
MFTR	**Murfatlar**	**1.98**	**140**	⇑P	**Pn**	**14 01 44.7**	**0.0**
BURAR	**Bucovina Array**	**2.15**	**333**	⇑P	**Pn**	**14 01 48.1**	**+1.3**
BURAR	**Bucovina Array**	**2.15**	**333**	⇑P	**Pn**	**14 01 48.1**	**+1.3**
BURAR	**Bucovina Array**	**2.15**	**333**	P	**Pn**	**14 01 47.8**	**+1.0**
MARR	**Marisel-Cluj**	**2.64**	**293**	⇑P	**Pn**	**14 01 52.9**	**+0.1**
MARR	**Marisel-Cluj**	**2.64**	**293**	⇑P	**Pn**	**14 01 52.9**	**+0.1**
SORM	**Soroca**	**2.69**	**25**	P	**Pn**	**14 01 53.1**	**-0.3**
GZR	**Gura Zlata**	**2.74**	**265**	⇓P	**Pn**	**14 01 53.9**	**-0.1**
GZR				⇑S	**Sn**	**14 02 28.7**	**+0.9**
GZR	**Gura Zlata**	**2.74**	**265**	⇓P	**Pn**	**14 01 53.9**	**-0.1**
GZR				⇑S	**Sn**	**14 02 28.7**	**+0.9**
GZR	**Gura Zlata**	**2.74**	**265**	P	**Pn**	**14 01 55.3**	**+1.3**
KMPD	**K-Podol'skiy**	**2.86**	**357**	P	**Pn**	**14 01 54.3**	**-1.2**
AK10	**Malin Array Si**	**5.20**	**19**	P	**Pn**	**14 02 25.8**	**-0.2**
AK09	**Malin Array Si**	**5.22**	**19**	P	**Pn**	**14 02 26.2**	**-0.1**
AK08	**Malin Array Si**	**5.23**	**19**	P	**Pn**	**14 02 26.5**	**0.0**
AK17	**Malin Array Si**	**5.24**	**17**	P	**Pn**	**14 02 26.1**	**-0.4**
AK11	**Malin Array Si**	**5.25**	**18**	P	**Pn**	**14 02 26.2**	**-0.6**
AKBB	**Malin Array Si**	**5.29**	**18**	P	**Pn**	**14 02 27.5**	**+0.3**
RNPP9	**Sopachiv**	**5.73**	**355**	P	**Pn**	**14 02 32.0**	**-1.2**

*LDG **06** 14:08:53.2±0.1, 43°.55N×0°.62W, h10km, Md2.4/2, Ml2.9/17, Error ellipse: s-maj=1.9km s-min=1.4km az=115.0*
*STR **06** 14:08:55.3±0.5, 44°.N±3°×±°, h5km, MLv2.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=36.2, preliminary*
*MDD **06** 14:08:55.1±0.3, 43°.50N×0°.65W, h12km, mb_Lg2.6/12, Error ellipse: s-maj=1.9km s-min=1.5km az=179.0*

ISC 06 14:08:53.6±0.7, 43°.49N±0°.02×0°.64W±0°.02, h10km, n46, σ2.963/83, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TERF	**Tercis-les-Bai**	**0.39**	**299**	Pg	**Pg**	**14 09 02.4**	**+1.1**
TERF				Sg	**Sb**	**14 09 09.0**	**+0.3**
ATE	**Arette**	**0.41**	**186**	Pg	**Pb**	**14 09 03.4**	**+0.5**
ATE				Sg	**Sb**	**14 09 09.3**	**+0.1**
OSSF	**Osses**	**0.51**	**243**	Pg	**Pb**	**14 09 05.5**	**+0.9**
OSSF				Sg	**Sb**	**14 09 12.6**	**+0.4**
SJPF	**Ste Jean**	**0.57**	**229**	*e*Pg	**Pg**	**14 09 04.5**	**-0.2**
SJPF				*e*Sg	**Sg**	**14 09 13.4**	**+1.2**
	83nm,0.4s						
PYLO	**Lourdes**	**0.58**	**132**	Pg	**Pb**	**14 09 07.3**	**+1.4**
PYLO				Sg	**Sb**	**14 09 16.0**	**+1.8**
ETSF	**Etsaut**	**0.60**	**174**	*e*Pg	**Pg**	**14 09 05.0**	**-0.1**
ETSF				*e*Sg	**Sg**	**14 09 13.4**	**+0.4**
	36nm,0.2s						
EALK	**Alkurruntz**	**0.69**	**247**	Pg	**Pg**	**14 09 07.5**	**+0.6**
EALK				Sg	**Sg**	**14 09 16.2**	**+0.3**
EALK				*i* Vmb_Lg		14 09 20.4	
EALK	**Alkurruntz**	**0.69**	**247**	Pg	**Pg**	**14 09 07.6**	**+0.7**
EALK	**Alkurruntz**	**0.69**	**247**	Sg	**Sb**	**14 09 17.8**	**+0.4**
CANF	**Canfranc**	**0.73**	**173**	Pg	**Pb**	**14 09 08.7**	**+0.2**
EORO	**Oroz-Betelu**	**0.78**	**220**	Pg	**Pg**	**14 09 08.5**	**0.0**
EORO				Sg	**Sg**	**14 09 18.9**	**+0.3**
EORO				*i* Vmb_Lg		14 09 20.9	
VIEF	**Viey**	**0.78**	**141**	Pg	**Pb**	**14 09 10.0**	**+0.8**
VIEF				Sg	**Sb**	**14 09 20.5**	**+0.6**
EPF	**Esparros**	**0.85**	**122**	*e*P	**Pg**	**14 09 10.3**	**+0.3**
EPF				*e*Sg	**Sg**	**14 09 20.9**	**-0.2**
	51nm,0.2s						
EARA	**Aranguren**	**1.00**	**224**	Pg	**Pg**	**14 09 12.8**	**0.0**
EARA				Sg	**Sb**	**14 09 27.0**	**+0.9**
EARA				*i* Vmb_Lg		14 09 30.8	
ECHI	**Chisagues Biel**	**1.03**	**143**	Pg	**Pg**	**14 09 13.2**	**-0.1**
ECHI				Sg	**Sg**	**14 09 26.8**	**+0.1**
ECHI				*i* Vmb_Lg		14 09 34.4	
ECHI	**Chisagues Biel**	**1.03**	**143**	Pg	**Pn**	**14 09 14.8**	**+0.6**
MLS	**Moulis**	**1.38**	**112**	Pn	**Pb**	**14 09 20.1**	**+0.7**
LRVF	**chteau la Riv**	**1.47**	**9**	Pn	**Pb**	**14 09 21.5**	**+0.5**
LRVF				Sn	**Sg**	**14 09 41.4**	**+0.4**
LFF	**La Frestale**	**1.75**	**34**	*e*Pg	**Pn**	**14 09 24.9**	**+0.9**
LFF				*e*Sn	**Sn**	**14 09 41.6**	**-4.8**
LFF				*e*Sg	**Sb**	**14 09 47.2**	**-0.7**
	34nm,0.2s						
ESAC	**San Caprasio**	**1.77**	**176**	Pg	**Pb**	**14 09 27.4**	**+1.2**
ESAC				Sg	**Sg**	**14 09 50.5**	**-0.1**
ELAN	**Lanestosa**	**2.06**	**264**	Pg	**Pb**	**14 09 32.3**	**+1.3**
ELAN				Sg	**Sb**	**14 09 58.7**	**+2.1**
ELAN				*i* Vmb_Lg		14 10 02.8	
MTLF	**Montolieu**	**2.09**	**93**	*e*P	**Pn**	**14 09 28.5**	**-0.1**
MTLF	**Montolieu**	**2.09**	**93**	*e*Pg	**Pb**	**14 09 32.1**	**+0.6**
	4.0nm,0.2s						
MTLF				*e*Sn	**Sn**	**14 09 50.7**	**-3.9**
MTLF				*e*Sg	**Sb**	**14 09 58.7**	**+1.2**
	16nm,0.3s						
EMIR	**Miracle**	**2.24**	**134**	Pg	**Pb**	**14 09 35.7**	**+1.5**
EMIR				Sg	**Sg**	**14 10 04.9**	**-0.8**
EMIR				*i* Vmb_Lg		14 10 10.2	
RJF	**Les Rejaudoux**	**2.38**	**40**	*e*Pg	**Pb**	**14 09 36.6**	**+0.1**
RJF				*e*Sg	**Sb**	**14 10 07.1**	**+1.1**
	19nm,0.2s						
CAF	**Calviac**	**2.42**	**53**	*e*Pg	**Pb**	**14 09 38.0**	**+0.9**
CAF				*e*Sn	**Sn**	**14 09 57.2**	**-5.6**
CAF				*e*Sg	**Sb**	**14 10 08.2**	**+1.2**
	9.9nm,0.2s						
EPOB	**Poblet**	**2.49**	**149**	Pg	**Pb**	**14 09 38.5**	**+0.1**
EPOB				Sn	**Sn**	**14 10 04.3**	**-0.4**
EPOB				Sg	**Sb**	**14 10 11.3**	**+2.2**
EPOB				*i* Vmb_Lg		14 10 19.4	
EJON	**La Jonquera**	**2.79**	**111**	Sn	**Sn**	**14 10 12.2**	**+0.1**
ETOR	**Torete**	**2.87**	**202**	Pn	**Pn**	**14 09 39.1**	**-0.4**
ETOR				Pg	**Pb**	**14 09 47.0**	**+2.0**
ETOR				Sn	**Sn**	**14 10 11.2**	**-2.9**
ETOR				Sg	**Sb**	**14 10 22.7**	**+2.6**
ETOR				*i* Vmb_Lg		14 10 30.0	
EMOS	**Mosqueruela**	**3.13**	**178**	Sn	**Sn**	**14 10 19.8**	**-0.8**
EMOS				*i* Vmb_Lg		14 10 34.5	
MFF	**Saint Martin d**	**3.13**	**6**	*e*Pn	**Pn**	**14 09 39.3**	**-3.6**
MFF	**Saint Martin d**	**3.13**	**6**	*e*Pg	**Pb**	**14 09 51.2**	**+1.9**
MFF				*e*Sn	**Sn**	**14 10 14.3**	**-6.1**
MFF				*e*Sg	**Sb**	**14 10 29.8**	**+2.3**
	9.7nm,0.2s						
LASF	**Ste Croix**	**3.31**	**78**	*e*Pg	**Pb**	**14 09 54.0**	**+1.7**
LASF				*e*Sg	**Sb**	**14 10 36.5**	**+3.9**
	5.4nm,0.2s						
EARI	**Arriondas**	**3.34**	**268**	Pn	**Pn**	**14 09 46.1**	**+0.3**
EARI				Sn	**Sn**	**14 10 22.8**	**-2.8**
TCF	**Toulx Ste Croi**	**3.45**	**35**	*e*Pn	**Pn**	**14 09 44.2**	**-3.2**
TCF				*e*Sn	**Sn**	**14 10 22.5**	**-5.9**
TCF				*e*Sg	**Sb**	**14 10 39.9**	**+3.1**
	4.0nm,0.3s						
GUD	**Guadarrama**	**3.87**	**224**	Sn	**Sn**	**14 10 36.9**	**-1.9**
VIVF	**Saint-Julien-l**	**4.06**	**69**	*e*Pn	**Pn**	**14 09 52.6**	**-3.1**
VIVF	**Saint-Julien-l**	**4.06**	**69**	*e*Pg	**Pb**	**14 10 07.9**	**+2.8**
VIVF				*e*Sg	**Sb**	**14 10 59.5**	**+5.3**
	2.8nm,0.3s						
AVF	**Avril sur Loir**	**4.34**	**39**	*e*Pn	**Pn**	**14 09 56.4**	**-3.2**
AVF				*e*Sg	**Sb**	**14 11 08.0**	**+5.7**
	8.0nm,0.3s						
SMF	**Signal de Mont**	**4.47**	**44**	*e*Pn	**Pn**	**14 09 57.8**	**-3.6**
SMF				*e*Sg	**Sb**	**14 11 11.7**	**+5.6**
	2.9nm,0.3s						
SSF	**Saint Saulge**	**4.61**	**38**	*e*Sg	**Sb**	**14 11 16.4**	**+6.2**
	5.6nm,0.4s						
EPON	**Pontenova**	**4.75**	**270**	Sn	**Sn**	**14 10 57.1**	**-3.2**
GRR	**Gorron**	**4.90**	**358**	*e*Sg	**Sb**	**14 11 24.3**	**+5.9**
	4.0nm,0.5s						
SGMF	**Saint Gilles**	**4.95**	**345**	*e*Pn	**Pn**	**14 10 04.4**	**-3.5**
SGMF	**Saint Gilles**	**4.95**	**345**	*e*Pg	**Pb**	**14 10 23.4**	**+3.2**
LDF	**La Druitiere**	**5.12**	**4**	*e*Sg	**Sb**	**14 11 31.6**	**+7.0**
	10nm,0.7s						

IDC 06 14:22:22.1±2.5, 10°.39S×123°.77E, h0km, mb3.2/1, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=218.3km s-min=35.4km az=53.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.93**	**134**	Pn	Pn	14 25 40.6	-0.3
	0.1nm,0.3s,baz=310,slow=14,SNR=1.5						
WRA				Sn	Sn	14 28 06.2	-10
	baz=82,slow=28,SNR=1.6						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**16.36**	**145**	Pn	Pn	14 26 13.8	+0.3
	baz=319,slow=12,SNR=1.9						
ASAR				Sn	Sn	14 29 08.2	-7.6
	baz=318,slow=24,SNR=2.1						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**67.90**	**331**	P	P	14 33 22.6	0.0
	0.2nm,0.8s,baz=154,slow=6.7,SNR=1.3						
	0.2nm,0.8s						

*SOME **06** 14:23:14.8, 44°.75N×79°.72E, h15km*
*NNC **06** 14:23:14.5±0.5, 44°.77N×79°.57E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=5.4km s-min=3.1km az=118.0*

ISC 06 14:23:12.9±1.2, 44°.80N±0°.03×79°.69E±0°.04, h9km±15km, n16, σ0°.74/31, 2C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.47**	**171**	P	**Pb**	**14 23 23.8**	**+0.4**
	10nm,0.1s						
DJR				P	**Pb**	**14 23 23.8**	**+0.4**
	10nm,0.1s						
DJR				S	**Sb**	**14 23 30.1**	**-0.4**
	20nm,0.1s						
DJR				S	**Sg**	**14 23 30.2**	**+2.0**
	29nm,0.1s						
DJR	**Jarkent**	**0.47**	**171**	*e*P	**Pb**	**14 23 23.8**	**+0.4**
	9.9nm,0.1s						
DJR				*e*S	**Sb**	**14 23 30.1**	**-0.4**
	29nm,0.1s						
TDK	**Taldyqorghan**	**0.94**	**283**	*e*P	**Pg**	**14 23 31.3**	**+0.4**
	7.9nm,0.1s						
TDK				*e*S	**Sg**	**14 23 42.7**	**-0.4**
	19nm,0.1s						
KPKS	**Kokpek**	**1.52**	**209**	P	**Pb**	**14 23 41.4**	**+0.2**
	5.1nm,0.1s						
KPKS				S	**Sb**	**14 24 00.2**	**-0.4**
	25nm,0.5s						
KPKS	**Kokpek**	**1.52**	**209**	*e*P	**Pb**	**14 23 41.6**	**+0.3**
	4.9nm,0.1s						
KPKS				*e*S	**Sb**	**14 24 00.4**	**-0.2**
	18nm,0.3s						
KURS	**Kuram**	**1.71**	**220**	P	**Pg**	**14 23 45.5**	**-0.1**
	0.9nm,0.3s						
KURS				S	**Sg**	**14 24 07.3**	**-0.3**
	8.7nm,0.4s						
KURS	**Kuram**	**1.71**	**220**	*e*P	**Pg**	**14 23 45.6**	**0.0**
	0.7nm,0.1s						
KURS				*e*S	**Sg**	**14 24 07.4**	**-0.3**
	8.7nm,0.3s						
UZB	**Uzynbulak**	**1.72**	**197**	P	**Pg**	**14 23 45.5**	**-0.4**
	2.0nm,0.1s						
UZB				S	**Sg**	**14 24 07.1**	**-1.0**
	0.6nm,0.3s						
UZB	**Uzynbulak**	**1.72**	**197**	*e*P	**Pg**	**14 23 45.5**	**-0.4**
	3.0nm,0.2s						
UZB				*e*S	**Sg**	**14 24 07.1**	**-1.0**
	5.6nm,0.2s						
ZHN	**Zhinishke**	**1.86**	**210**	P	**Pb**	**14 23 47.6**	**+0.4**
ZHN				S	**Sb**	**14 24 10.8**	**+0.2**
SATY	**Saty**	**1.97**	**209**	P	**Pg**	**14 23 50.0**	**-0.6**
	3.8nm,0.2s						
SATY				S	**Sb**	**14 24 14.8**	**+1.1**
	25nm,0.2s						
KTBS	**Karatobe**	**2.42**	**244**	Pg	**Pb**	**14 23 56.2**	**-0.4**
	0.5nm,0.4s						
KTBS				Lg	Lg	14 24 25.7	
	9.5nm,0.4s						
KOTS	**Kotyrbulak**	**2.43**	**231**	Pg	**Pb**	**14 23 57.5**	**+0.7**
	0.5nm,0.2s						
KOTS				Lg	Lg	14 24 27.9	
	7.8nm,0.5s						
MAKZ	**Makanchi**	**2.57**	**38**	⇑Pg	**Pg**	**14 24 01.6**	**-0.5**
	1.3nm,1.2s						
MAKZ				⇑Sn	**Sb**	**14 24 32.7**	**+1.9**
	1.1nm,0.5s						
MK31	**Makanchi Array**	**2.70**	**41**	⇓Pn	**Pb**	**14 24 00.7**	**-0.7**
	0.2nm,0.1s,baz=217,slow=14,SNR=7.3						
MK31				⇓Sn	**Sb**	**14 24 34.7**	**0.0**
	0.3nm,0.3s,baz=219,slow=26,SNR=7.5						
MTBS	**Maitube**	**2.88**	**236**	Pg	**Pb**	**14 24 05.0**	**+0.4**
	1.6nm,0.1s						
MTBS				Lg	Lg	14 24 41.0	
	7.7nm,0.3s						

JMA 06 14:45:12.0±0.0, 36°.71N±0°.08×140°.6E±0°.2, h9km, MV0.6/31, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.10**	**196**	*i* P	Pg	14 45 14.4	-0.1
JHO				*e*S	Sg	14 45 16.0	-0.1
JHYU	**Hitachinakayam**	**0.36**	**182**	*e*S	Sg	14 45 24.2	+0.2
JFFD	**Fukushimafurud**	**0.39**	**355**	P	Pg	14 45 19.6	0.0
JFFD				*e*S	Sg	14 45 24.8	+0.1
ONAJ	**Iwakimizuishiy**	**0.42**	**22**	*e*P	Pg	14 45 20.6	+0.2
JAG	**Ashikaga**	**0.97**	**253**	*e*S	Sg	14 45 42.8	-0.4

*TRN **06** 15:01:37.8, 10°.97N×61°.98W, h107km, MD3.7*
*FUNV **06** 15:01:39.6, 11°.02N×61°.96W, h90km, MW3.8*

ISC 06 15:01:36.5±1.5, 10°.98N±0°.05×62°.00W±0°.05, h118km±14km, n31, σ1.950/47, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.67**	**119**	*e*P	**Pn**	**15 01 55.9**	**+0.5**
TRN				*e*S	**Sn**	**15 02 07.8**	**-1.9**
TPP	**Pointe-a-Pierr**	**0.85**	**141**	*e*P	**Pn**	**15 01 58.0**	**+1.0**
TPP				*e*S	**Sn**	**15 02 12.1**	**-0.2**
TBH	**Brigand Hill**	**1.04**	**118**	*e*P	**Pn**	**15 01 59.8**	**+1.1**
GRGR	**Grenville**	**1.20**	**16**	*e*P	**Pn**	**15 02 00.9**	**+0.5**

comp=N,736nm,0.4s
ZIRO **ZIRO** 3.81 27 *e*P Pn 15 04 47.6 -0.7
ZIRO *e*S Sn 15 05 30.2 -1.8
BOK **Bokaro** 5.51 268 *e*P Pn 15 05 08.5 -3.0
BOK *ex* Sn 15 06 01.4 -12
CMAR **Chiang Mai Arr** 8.65 129 Pn Pn 15 05 51.9 -2.7
comp=N,0.5nm,0.3s,baz=310,slow=13,SNR=11
comp=N,0.9nm,0.4s
LGTI **Lohaghat** 11.68 300 *e*P Pn 15 06 27.8 -8.1
BHPL **Bhopal** 13.30 269 *e*P Pn 15 06 54.4 -3.6
MKAR **Makanchi Array** 23.90 344 P P 15 09 02.9 +2.3
comp=N,0.6nm,0.6s,baz=158,slow=10,SNR=7.7
comp=N,0.6nm,0.6s
SONM **Songino Array** 26.32 22 P P 15 09 23.4 +0.8
comp=N,0.2nm,0.4s,baz=230,slow=11,SNR=2.3
comp=N,0.2nm,0.4s
ZALV **Zalesovo Beam** 30.25 352 P P 15 09 58.8 +1.4
comp=N,0.5nm,0.6s,baz=169,slow=8.8,SNR=2.5
comp=N,0.5nm,0.6s
WRA **Warramunga Arr** 60.23 133 P P 15 13 55.7 +0.9
comp=N,0.5nm,0.5s,baz=323,slow=7.3,SNR=12
comp=N,0.5nm,0.5s
ASAR **Alice Springs** 62.59 136 P P 15 14 11.8 +1.0
comp=N,0.8nm,0.8s,baz=326,slow=7.5,SNR=11
comp=N,0.8nm,0.8s

UPA ***06*** *15:09:28.5±1.1, 8.44N×83.68W, h0km±8km, MW3.8*
UCR ***06*** *15:09:29.1±0.8, 8.44N×83.75W, h9km±11km, MW4.0*
ISC 06 15:09:27.7±1.8, 8.40N±0.07×83.77W±0.04, h8km±10km, n40, σ0 73/53, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JIME	**Puerto Jimenez**	**0.46**	**73**	*e*P		**Pb**		**15 09 38.2**	**+0.2**
JIME				*e*S		**Sb**		**15 09 45.6**	**+0.7**
EDPN	**Palmar Norte**	**0.63**	**29**	*e*P		**Pg**		**15 09 40.3**	**+0.3**
EDPN				*e*S		**Sg**		**15 09 48.4**	**+0.1**
CCOL	**Caracol de Cor**	**0.79**	**90**	*e*P		**Pg**		**15 09 43.7**	**+0.1**
CCOL				*e*S		**Sb**		**15 09 55.5**	**+1.0**
EDP2	**Potrero Grande**	**0.84**	**44**	*e*P		**Pg**		**15 09 44.0**	**+0.1**
EDDO	**Dominical**	**0.85**	**354**	*e*P		**Pg**		**15 09 44.2**	**+0.1**
EDDO				*e*S		**Sg**		**15 09 55.3**	**+0.2**
EDSV	**San Vito**	**0.89**	**62**	*e*P		**Pg**		**15 09 45.1**	**+0.3**
VITO	**San Vito**	**0.89**	**62**	*e*P		**Pg**		**15 09 45.2**	**+0.3**
CDITO	**Canoas**	**0.90**	**79**	*e*P		**Pg**		**15 09 44.9**	**-0.2**
POTG	**Potrero Grande**	**0.91**	**45**	*e*P		**Pg**		**15 09 45.0**	**-0.2**
SRBA	**San Rafael, Bu**	**0.92**	**26**	*e*P		**Pg**		**15 09 44.9**	**-0.5**
PEZE	**Perez Zeledon,**	**0.98**	**5**	*e*P		**Pg**		**15 09 46.1**	**-0.5**
BRU2	**Volcan**	**1.13**	**70**	*e*P		**Pg**		**15 09 48.9**	**-0.6**
BRU2				*e*S		**Sb**		**15 10 05.1**	**+0.5**
BRU2	**Volcan**	**1.13**	**70**	*e*P		**Pg**		**15 09 48.9**	**-0.6**
CDM	**Cerro de Muert**	**1.14**	**0**	*e*P		**Pg**		**15 09 48.9**	**-0.8**
BUS1	**Rivas**	**1.14**	**1**	*e*P		**Pg**		**15 09 48.8**	**-0.9**
BC3P	**Paso Ancho**	**1.22**	**70**	*i*P		**Pg**		**15 09 50.1**	**-1.0**
BC3P				*e*S		**Sn**		**15 10 09.2**	**+1.2**
DVD	**David**	**1.30**	**89**	*e*P		**Pg**		**15 09 51.8**	**-1.0**
DVD				*e*S		**Sb**		**15 10 09.4**	**+0.1**
ABE2	**San Pablo**	**1.32**	**348**	*e*P		**Pg**		**15 09 52.3**	**-0.9**
RIMA	**Rio Macho**	**1.36**	**356**	*e*P		**Pn**		**15 09 52.3**	**-0.9**
CHIR3	**Chiriqui UPA,**	**1.42**	**90**	*e*P		**Pn**		**15 09 54.0**	**+0.1**
CHIR3				*e*S		**Sb**		**15 10 12.4**	**-0.4**
MRVA	**Moravia de Chi**	**1.45**	**13**	*e*P		**Pn**		**15 09 53.7**	**-0.6**
OCM	**Ochomogo**	**1.49**	**353**	*e*P		**Pn**		**15 09 55.0**	**-0.1**
VERB	**Verbena**	**1.53**	**3**	*e*P		**Pn**		**15 09 55.4**	**-0.1**
HAYA	**Volcan Irazu**	**1.57**	**357**	*e*P		**Pn**		**15 09 56.3**	**0.0**
VTCV	**VTCV, Calle Va**	**1.57**	**1**	*e*P		**Pn**		**15 09 56.0**	**-0.1**
VICA	**Volcano Irazu**	**1.57**	**357**	*e*P		**Pn**		**15 09 56.4**	**+0.1**
VTLA	**Turrialba Volc**	**1.59**	**360**	*e*P		**Pn**		**15 09 57.3**	**+0.8**
CVTV	**Tajo**	**1.59**	**1**	*e*P		**Pn**		**15 09 56.6**	**+0.1**
HDC	**Heredia**	**1.62**	**348**	*e*P		**Pn**		**15 09 57.8**	**+1.0**
HDC				*e*S		**Sn**		**15 10 16.3**	**-1.6**
VTLO	**VTLO**	**1.63**	**1**	*e*P		**Pn**		**15 09 57.3**	**+0.3**
CNI2	**El Empalme, Bo**	**1.63**	**52**	*e*P		**Pn**		**15 09 56.1**	**-0.7**
CNI2				*e*S		**Sn**		**15 10 17.5**	**-0.4**
CHGR2	**Aguacate**	**1.69**	**72**	*e*P		**Pn**		**15 09 57.0**	**-0.6**
CHGR2				*e*S		**Sn**		**15 10 19.4**	**-0.1**
BATAN	**Batan**	**1.73**	**13**	*i*P		**Pn**		**15 09 58.6**	**+0.6**
BATAN				*e*S		**Sn**		**15 10 21.0**	**+0.7**
BATAN	**Batan**	**1.73**	**13**	*e*P		**Pn**		**15 09 58.7**	**+0.6**
VPTE	**Poasito**	**1.81**	**346**	*e*P		**Pn**		**15 10 00.0**	**+0.6**
JTS	**Las Juntas de**	**2.21**	**328**	*e*P		**Pn**		**15 10 06.8**	**+2.0**
JTS				*e*S		**Sn**		**15 10 30.6**	**-1.7**
POPE	**POPE, Guanacas**	**2.21**	**318**	*e*P		**Pn**		**15 10 05.2**	**+0.4**
NARJA	**Naranjal**	**2.35**	**312**	*e*P		**Pn**		**15 10 07.0**	**+0.4**
JUD3	**Juan Diaz 3**	**2.47**	**315**	*e*P		**Pn**		**15 10 09.6**	**+1.2**
SAJU	**San Juanillo,**	**2.53**	**311**	*e*P		**Pn**		**15 10 09.3**	**+0.1**

IDC 06 15:35:43.6±71.0, 17.73S×171.67E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1208.0km s-min=138.0km az=74.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
STKA	**Stephens Creek**	**30.59**	**237**	P		P		15 41 59.7	+0.3
	2.6nm,0.9s,baz=61,slow=10,SNR=3.0								
	2.6nm,0.9s								
WRA	**Warramunga Arr**	**35.35**	**260**	P		P		15 42 40.6	-0.5
	0.7nm,0.7s,baz=93,slow=8.7,SNR=4.5								
	0.7nm,0.7s								
ASAR	**Alice Springs**	**35.74**	**254**	P		P		15 42 44.4	0.0
	0.6nm,0.7s,baz=82,slow=8.7,SNR=2.8								
	0.6nm,0.7s								

BJI ***06*** *15:48:57.0±0.0, 50.30N×130.00W, h10km, mb4.7/29, mB5.3/20, Ms5.2/20, Ms7 5.0/20*
IDC ***06*** *15:48:57.5±0.6, 50.01N×130.18W, h0km, mb4.3/25, mbtmp4.3/35, ML4.1/7, MS4.6/87, Error ellipse: s-maj=13.9km s-min=8.9km az=46.0*
NEIC ***06*** *15:48:59.1±2.6, 50.16N±0.02×130.08W±0.06, h10km±1km, mb5.0/140, ML4.1/28, Mww5.3, Mwr5.3(OTT), Error ellipse: s-maj=6.6km s-min=3.8km az=282.0*
PGC ***06*** *15:48:59.7±0.7, 50.11N×130.06W, h10km, mb5.1, MLSn4.0/36, Mw4.6/36, Mw5.3/15, 198km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
NEIC ***06*** *15:49:00, 50.24N×130.21W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=6.26; $M_{\theta\theta}$2.93; $M_{\phi\phi}$7.49; $M_{r\theta}$-2.10; $M_{r\phi}$3.43; $M_{\theta\phi}$-4.42; Fault plane solution: $M_0$9.40000×10^{16} NP1:ϕ_s27.00000°, δ61.00000°, λ-92.00000°. NP2:ϕ_s210.00000°, δ29.00000°, λ-87.00000°. Principal axes: T 9.3490, Plg16.0000°, Azm118.0000°; N -0.2908, Plg1.0000°, Azm27.0000°; P -9.0582, Plg74.0000°, Azm293.0000°;*
GCMT ***06*** *15:49:03.1±0.1, 49.98N±0.01×130.27W±0.01, h12km, MW5.2/132, Moment Tensor Solution. s83,c118; s132,c246; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.79±.12; $M_{\theta\theta}$-4.35±.11; $M_{\phi\phi}$6.14±.12; $M_{r\theta}$0.62±.28; $M_{\theta\phi}$5.51±.11; $M_{r\phi}$-2.01±.29; Best double couple: $M_0$7.91100×10^{16} NP1:ϕ_s339.00000°, δ86.00000°, λ-163.00000°. NP2:ϕ_s248.00000°, δ73.00000°, λ-4.00000°. Principal axes: T 8.7490, Plg9.0000°, Azm112.0000°; N -1.6760, Plg73.0000°, Azm353.0000°; P -7.0740, Plg15.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***06*** *15:49:06, 50.08N×130.12W, h18km, Moment Tensor Solution. Duration: 13s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.39; $M_{\theta\theta}$-0.51; $M_{\phi\phi}$0.90; $M_{r\theta}$0.04; $M_{r\phi}$0.65; $M_{\theta\phi}$-0.03; Fault plane solution: $M_0$1.02000×10^{17} NP1: ϕ_s246.00000°, δ84.00000°, λ-5.00000°. NP2:ϕ_s337.00000°, δ85.00000°, λ-174.00000°. Principal axes: T 1.1576, Plg0.0000°, Azm111.0000°; N -0.3871, Plg82.0000°, Azm18.0000°; P -0.7705, Plg8.0000°, Azm201.0000°;*
OTT ***06*** *15:49:59.7±0.0, 50.11N×130.06W, h10km Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
ISC 06 15:49:00.5±0.7, 50.16N±0.03×130.02W±0.03, h15km±3km, n808, σ1§46/828, mb4.9/85, MS4.6/93, 1C-2D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
HOLB	**Holberg**	**1.30**	**67**	Pn		**Pn**		**15 49 22.0**	**-2.2**
HOLB				Sn		**Sb**		**15 49 36.3**	**-4.9**
HOLB				IAML				15 49 46.4	
	comp=N,3μm,1.3s								
HOLB				IAML				15 49 55.7	
	comp=E,3μm,1.4s								
HOLB	**Holberg**	**1.30**	**67**	P		**Pn**		**15 49 21.9**	**-2.2**
HOLB				S		**Sb**		**15 49 38.8**	**-2.4**
PACB	**Port Alice, BC**	**1.65**	**79**	Pn		**Pn**		**15 49 26.4**	**-2.4**
PACB				Sn		**Sn**		**15 49 47.1**	**-2.5**
PACB	**Port Alice, BC**	**1.65**	**79**	Pn		**Pn**		**15 49 26.4**	**-2.4**
PACB				Sn		**Sn**		**15 49 47.1**	**-2.5**
MAYB	**Maynard**	**1.84**	**81**	Pn		**Pn**		**15 49 29.2**	**-2.5**
MAYB	**Maynard**	**1.84**	**81**	Pn		**Pn**		**15 49 29.2**	**-2.5**
EDB	**Eliza Dome**	**1.89**	**97**	Pn		**Pn**		**15 49 29.4**	**-2.8**
EDB				Sn		**Sn**		**15 49 52.7**	**-3.1**
HG4B	**Hotspring**	**2.27**	**341**			**Pn**		**15 49 34.5**	**-2.8**
HG4B						**Sn**		**15 49 59.8**	**-5.2**
HG4B				IAML				15 50 06.4	
	comp=E,794nm,1.4s								
HG4B				IAML				15 50 21.7	
	comp=N,746nm,2.3s								
HG4B	**Hotspring**	**2.27**	**341**	Pn		**Pn**		**15 49 34.6**	**-2.8**
HG4B				Sn		**Sn**		**15 50 01.5**	**-3.5**
NCHR	**NEPTUNE Canada**	**2.27**	**164**	Pn		Pn		15 49 32.1	-5.0
NCHR	**NEPTUNE Canada**	**2.27**	**164**	Pn		Pn		15 49 32.1	-5.0
KEMF	**NEPTUNE Canada**	**2.29**	**164**	Pn		**Pn**		**15 49 34.1**	**-3.3**
KEMF				Sn		**Sn**		**15 50 00.8**	**-4.4**
KEMF	**NEPTUNE Canada**	**2.29**	**164**	Pn		**Pn**		**15 49 34.1**	**-3.3**
KEMF				Sn		**Sn**		**15 50 00.8**	**-4.4**
BBB	**Bella Bella**	**2.36**	**30**	Pn		**Pn**		**15 49 38.0**	**-0.7**
	comp=N,789nm,0.3s,baz=233,slow=7.8,SNR=831								
BBB				Sn		**Sn**		**15 50 06.3**	**-0.9**
	comp=N,226nm,0.3s,baz=311,slow=22,SNR=4.5								
BBB				LR		LR		15 50 41.0	
	comp=N,8μm,21.6s,baz=294,slow=41								
BBB	**Bella Bella**	**2.36**	**30**			**Pn**		**15 49 38.0**	**-0.7**
BBB	**Bella Bella**	**2.36**	**30**	Pn		**Pn**		**15 49 37.6**	**-1.0**
BBB				Sn		**Sn**		**15 50 05.7**	**-1.6**
ETB	**Estevan Point**	**2.39**	**108**	Pn		**Pn**		**15 49 37.8**	**-1.2**
NC89	**ODP889**	**2.55**	**124**	Pn		**Pn**		**15 49 39.8**	**-1.3**
NC89	**ODP889**	**2.55**	**124**	Pn		**Pn**		**15 49 39.8**	**-1.3**
NCRB	**Newcastle Ridg**	**2.56**	**83**	Pn		**Pn**		**15 49 40.1**	**-1.5**
NCRB	**Newcastle Ridg**	**2.56**	**83**	Pn		**Pn**		**15 49 40.0**	**-1.5**
BNB	**Barry Inlet**	**2.66**	**337**	Pn		**Pn**		**15 49 39.6**	**-3.1**
SPLB	**Strathcona Par**	**2.83**	**94**	Pn		**Pn**		**15 49 43.9**	**-1.2**
SPLB				Sn		**Sn**		**15 50 16.5**	**-2.4**
SPLB	**Strathcona Par**	**2.83**	**94**	Pn		**Pn**		**15 49 43.9**	**-1.2**
SPLB				Sn		**Sn**		**15 50 16.5**	**-2.4**
NCBC	**Barkley Canyon**	**3.06**	**123**	Pn		**Pn**		**15 49 46.7**	**-1.4**
NCBC	**Barkley Canyon**	**3.06**	**123**	Pn		**Pn**		**15 49 46.7**	**-1.4**
HG1B	**Mitchell Dam**	**3.08**	**335**	Pn		**Pn**		**15 49 46.2**	**-2.3**
B012	**Ucluelet**	**3.17**	**111**	Pn		**Pn**		**15 49 49.2**	**-0.5**
B012				Sn		**Sn**		**15 50 23.4**	**-3.8**
B012	**Ucluelet**	**3.17**	**111**	Pn		**Pn**		**15 49 49.2**	**-0.5**
B012				Sn		**Sn**		**15 50 23.4**	**-3.8**
BNKB	**Banks Island**	**3.18**	**1**	Pn		**Pn**		**15 49 48.4**	**-1.5**
BNKB				Sn		**Sn**		**15 50 25.0**	**-2.6**
BNKB	**Banks Island**	**3.18**	**1**	Pn		**Pn**		**15 49 48.4**	**-1.5**
BNKB				Sn		**Sn**		**15 50 25.0**	**-2.6**
OZB	**Mount Ozzard**	**3.18**	**110**			**Pn**		**15 49 49.5**	**-0.5**
OZB	**Mount Ozzard**	**3.18**	**110**	Pn		**Pn**		**15 49 49.2**	**-0.8**
OZB				Sn		**Sn**		**15 50 24.5**	**-3.1**
MOBC	**Moresby Island**	**3.23**	**339**			**Pn**		**15 49 48.5**	**-2.2**
MOBC				IAML				15 50 56.3	
	comp=E,520nm,3.6s								
MOBC				IAML				15 51 20.5	
	comp=N,365nm,2.9s								
MOBC	**Moresby Island**	**3.23**	**339**	Pn		**Pn**		**15 49 48.2**	**-2.4**
BNAB	**Bonilla**	**3.37**	**354**	Pn		**Pn**		**15 49 50.8**	**-1.6**
BNAB	**Bonilla**	**3.37**	**354**	Pn		**Pn**		**15 49 50.8**	**-1.6**
DIB	**Dawson Inlet,**	**3.41**	**334**	Pn		**Pn**		**15 49 49.1**	**-4.0**
DIB				IAML				15 51 15.0	
	comp=E,365nm,4.2s								
DIB				IAML				15 51 36.1	
	comp=N,270nm,4.9s								
DIB	**Dawson Inlet,**	**3.41**	**334**	Pn		**Pn**		**15 49 50.8**	**-2.3**
H02S1	**DAWSON INLET T**	**3.41**	**334**	Pn		**Pn**		**15 49 51.8**	**-1.3**
BFSB	**Bamfield**	**3.45**	**111**	Pn		**Pn**		**15 49 53.4**	**-0.2**
BFSB	**Bamfield**	**3.45**	**111**	Pn		**Pn**		**15 49 53.4**	**-0.2**
B928	**Bamfield**	**3.45**	**111**	Pn		**Pn**		**15 49 53.5**	**0.0**
B928	**Bamfield**	**3.45**	**111**	Pn		**Pn**		**15 49 53.5**	**0.0**
HWKB	**Hawksbury Isla**	**3.49**	**9**	Pn		**Pn**		**15 49 53.2**	**-1.0**
HWKB				Sn		**Sn**		**15 50 34.1**	**-1.2**
HWKB	**Hawksbury Isla**	**3.49**	**9**	Pn		**Pn**		**15 49 53.2**	**-1.0**
HWKB				Sn		**Sn**		**15 50 34.1**	**-1.2**
B927	**Port Alberni**	**3.51**	**103**	Pn		**Pn**		**15 49 54.2**	**-0.3**
B927	**Port Alberni**	**3.51**	**103**	Pn		**Pn**		**15 49 54.2**	**-0.3**
TXB	**Texada**	**3.64**	**95**	Pn		**Pn**		**15 49 55.8**	**-0.5**
GRNB	**Grenville Isla**	**3.70**	**1**			**Pn**		**15 49 56.0**	**-1.0**
GRNB	**Grenville Isla**	**3.70**	**1**	Pn		**Pn**		**15 49 55.9**	**-1.1**
GRNB				Sn		**Sn**		**15 50 38.4**	**-2.0**
GHNB	**Nanoose**	**3.85**	**101**	Pn		**Pn**		**15 49 58.6**	**-0.4**
GHNB	**Nanoose**	**3.85**	**101**	Pn		**Pn**		**15 49 58.6**	**-0.4**
PFB	**Port Renfrew**	**3.98**	**111**	Pn		**Pn**		**15 50 00.5**	**-0.4**
MBLB	**Minette Bay Lo**	**3.98**	**12**	Pn		**Pn**		**15 50 01.2**	**+0.4**
MBLB	**Minette Bay Lo**	**3.98**	**12**	Pn		**Pn**		**15 50 01.2**	**+0.4**
OCP	**Olym-Cheeka Pk**	**4.00**	**116**	Pn		**Pn**		**15 50 01.4**	**+0.3**
SHB	**Sechelt**	**4.01**	**96**	Pn		**Pn**		**15 50 01.7**	**+0.2**
SHB				Sn		**Sn**		**15 50 46.9**	**-1.4**
KITB	**Kitimat**	**4.02**	**12**	Pn		**Pn**		**15 50 01.2**	**-0.2**
KITB	**Kitimat**	**4.02**	**12**	Pn		**Pn**		**15 50 01.2**	**-0.2**
NLLB	**Nanaimo Lost L**	**4.03**	**101**	Pn		**Pn**		**15 50 01.6**	**0.0**
NLLB	**Nanaimo Lost L**	**4.03**	**101**	Pn		**Pn**		**15 50 01.6**	**0.0**
B926	**Mesachie Lake**	**4.07**	**107**	Pn		**Pn**		**15 50 02.4**	**+0.3**
B926				Sn		**Sn**		**15 50 46.6**	**-2.7**
B926	**Mesachie Lake**	**4.07**	**107**	Pn		**Pn**		**15 50 02.4**	**+0.3**
B926				Sn		**Sn**		**15 50 46.6**	**-2.7**
CLRS	**Cowichan Lake**	**4.07**	**107**			**Pn**		**15 50 02.5**	**+0.4**
CLRS				IAML				15 51 56.4	
	comp=N,258nm,1.9s								
CLRS	**Cowichan Lake**	**4.07**	**107**	Pn		**Pn**		**15 50 01.9**	**-0.2**
RUBB	**Prince Rupert**	**4.18**	**358**			**Pn**		**15 50 02.9**	**-0.7**
RUBB				IAML				15 52 09.5	
	comp=N,196nm,3.1s								
RUBB	**Prince Rupert**	**4.18**	**358**	Pn		**Pn**		**15 50 02.8**	**-0.8**
RUBB				Sn		**Sn**		**15 50 50.7**	**-1.4**
C03A	**Quillayute Air**	**4.21**	**120**	Pn		**Pn**		**15 50 04.0**	**-0.1**
C03A				IAML				15 52 23.7	
	comp=E,285nm,3.7s								
SYMB	**Survey Mountai**	**4.37**	**109**	Pn		**Pn**		**15 50 05.5**	**-0.8**
SYMB				Sn		**Sn**		**15 50 54.7**	**-2.3**
SYMB	**Survey Mountai**	**4.37**	**109**	Pn		**Pn**		**15 50 05.5**	**-0.8**
SYMB				Sn		**Sn**		**15 50 54.7**	**-2.3**
GOBB	**Galiano Island**	**4.41**	**103**	Pn		**Pn**		**15 50 07.1**	**+0.3**
GOBB	**Galiano Island**	**4.41**	**103**	Pn		**Pn**		**15 50 07.1**	**+0.3**
BIB	**Bowen Island**	**4.42**	**97**	Pn		**Pn**		**15 50 07.1**	**+0.2**
WPB	**Watts Point**	**4.43**	**94**	Pn		**Pn**		**15 50 07.4**	**+0.3**
OBC	**Olympics--Boni**	**4.44**	**116**	Pn		**Pn**		**15 50 07.8**	**+0.4**
B010	**North Saanich**	**4.55**	**107**	Pn		**Pn**		**15 50 09.5**	**+0.8**
B010				Sn		**Sn**		**15 50 59.8**	**-1.4**
B010	**North Saanich**	**4.55**	**107**	Pn		**Pn**		**15 50 09.5**	**+0.8**
B010				Sn		**Sn**		**15 50 59.8**	**-1.4**
PGC	**Sidney**	**4.55**	**107**	Pn		**Pn**		**15 50 09.8**	**+1.1**
PGC				IAML				15 52 22.6	
	comp=E,170nm,2.5s								
PGC	**Sidney**	**4.55**	**107**	Pn		**Pn**		**15 50 09.2**	**+0.6**
PGC				Sn		**Sn**		**15 50 58.9**	**-2.3**
B009	**North Saanich**	**4.55**	**107**	Sn		**Sn**		**15 51 00.0**	**-1.2**
B009	**North Saanich**	**4.55**	**107**	Sn		**Sn**		**15 51 00.0**	**-1.2**
STW	**Striped Peak**	**4.63**	**113**	Pn		**Pn**		**15 50 09.8**	**0.0**
SNB	**Saturna Island**	**4.68**	**105**	Pn		**Pn**		**15 50 11.1**	**+0.6**
SNB				Sn		**Sn**		**15 51 02.6**	**-1.8**
B04A	**Port Angeles**	**4.77**	**114**	Pn		**Pn**		**15 50 12.3**	**+0.6**
B04A				IAML				15 52 48.8	
	comp=N,106nm,2.2s								
OSD	**Olympics--Snow**	**4.77**	**117**	Pn		**Pn**		**15 50 12.3**	**+0.3**
HNBB	**Haney**	**4.91**	**97**	Pn		**Pn**		**15 50 14.3**	**+0.6**
HNBB	**Haney**	**4.91**	**97**	Pn		**Pn**		**15 50 14.3**	**+0.6**
NLWA	**Neilton Lookou**	**4.92**	**122**			**Pn**		**15 50 15.5**	**+1.7**
WISH	**Wishkah**	**5.14**	**124**			**Pn**		**15 50 17.3**	**+0.5**
WISH				IAML				15 52 55.0	
	comp=E,155nm,2.4s								
WISH	**Wishkah**	**5.14**	**124**	Pn		**Pn**		**15 50 17.4**	**+0.5**
HDW	**Hoodsport**	**5.24**	**116**	Pn		**Pn**		**15 50 18.7**	**+0.5**
V35K	**Ketchikan**	**5.27**	**350**	P		**Pn**		**15 50 18.1**	**-0.5**
	baz=169								
VDB	**Vedder Mountai**	**5.27**	**99**	Pn		**Pn**		**15 50 19.4**	**+0.7**
GNW	**Green Mountain**	**5.41**	**116**	Pn		**Pn**		**15 50 21.3**	**+0.7**
CMW	**Cultus Mountai**	**5.45**	**106**	Pn		**Pn**		**15 50 22.0**	**+0.8**
MBW	**Mount Baker**	**5.47**	**101**	Pn		**Pn**		**15 50 22.0**	**+0.4**
FSJB	**Fort St James**	**5.56**	**37**	Pn		**Pn**		**15 50 23.4**	**+0.8**
FSJB				Sn		**Sn**		**15 51 25.9**	**-0.4**
FSJB	**Fort St James**	**5.56**	**37**	Pn		**Pn**		**15 50 23.4**	**+0.8**
FSJB				Sn		**Sn**		**15 51 25.9**	**-0.4**
FSB	**Fort Saint Jam**	**5.56**	**37**	Pn		**Pn**		**15 50 23.7**	**+1.0**
CPW	**Capitol Peak**	**5.57**	**122**	Pn		**Pn**		**15 50 23.6**	**+0.8**
E03A	**Lebam**	**5.62**	**128**	Pn		**Pn**		**15 50 22.9**	**-0.5**
E03A	**Lebam**	**5.62**	**128**	Pn		**Pn**		**15 50 23.2**	**-0.1**
CRAG	**Craig**	**5.64**	**342**			**Pn**		**15 50 23.0**	**-0.8**
CRAG	**Craig**	**5.64**	**342**	P		**Pn**		**15 50 24.3**	**+0.6**
	baz=160								
JCW	**Jim Creek**	**5.66**	**107**	Pn		**Pn**		**15 50 24.7**	**+0.7**
B06A	**Marblemount**	**5.82**	**103**			**Pn**		**15 50 26.1**	**-0.1**
B06A	**Marblemount**	**5.82**	**103**	Pn		**Pn**		**15 50 25.9**	**-0.2**
RPW	**Rockport**	**5.82**	**104**	Pn		**Pn**		**15 50 26.2**	**0.0**
C05A	**Tolt Reservoir**	**6.02**	**111**	Pn		**Pn**		**15 50 28.8**	**-0.1**
C05A	**Tolt Reservoir**	**6.02**	**111**	Pn		**Pn**		**15 50 28.8**	**-0.1**
D05A	**Enumclaw**	**6.09**	**116**			**Pn**		**15 50 29.8**	**-0.1**
D05A	**Enumclaw**	**6.09**	**116**	Pn		**Pn**		**15 50 29.8**	**-0.1**
GPW	**Glacier Peak**	**6.18**	**106**	Pn		**Pn**		**15 50 32.5**	**+1.2**
U33K	**Whale Pass**	**6.25**	**344**	P		**Pn**		**15 50 32.4**	**+0.3**
	baz=162								
FMW	**Mount Fremont**	**6.41**	**117**	Pn		**Pn**		**15 50 35.2**	**+0.7**
WRAK	**Wrangell Islan**	**6.43**	**348**			**Pn**		**15 50 34.1**	**-0.4**
WRAK	**Wrangell Islan**	**6.43**	**348**	P		**Pn**		**15 50 35.2**	**+0.8**
	baz=167								
LON	**Longmire**	**6.44**	**119**			**Pn**		**15 50 35.1**	**+0.4**
LON	**Longmire**	**6.44**	**119**	Pn		**Pn**		**15 50 35.6**	**+0.8**
PNT	**Penticton**	**6.80**	**93**	Pn		**Pn**		**15 50 40.6**	**+1.0**
LTY	**Liberty**	**6.83**	**112**			**Pn**		**15 50 41.0**	**+0.8**
T35M	**Bob Quinn**	**6.84**	**359**	Pn		**Pn**		**15 50 40.9**	**+0.8**
T35M	**Bob Quinn**	**6.84**	**359**	Pn		**Pn**		**15 50 40.9**	**+0.8**
T35M	**Bob Quinn**	**6.84**	**359**	P		**Pn**		**15 50 41.8**	**+1.6**
	baz=179,SNR=26								
BLBC	**Blue River**	**7.05**	**70**	Pn		**Pn**		**15 50 44.7**	**+1.4**
BLBC	**Blue River**	**7.05**	**70**	Pn		**Pn**		**15 50 44.7**	**+1.4**
B08A	**Colville Reser**	**7.22**	**100**	Pn		**Pn**		**15 50 45.8**	**+0.3**
HOOD	**Mount Hood Mea**	**7.43**	**127**			**Pn**		**15 50 50.7**	**+2.3**
MNB	**Mounoet Dainar**	**7.60**	**70**	Pn		**Pn**		**15 50 51.8**	**+1.0**
SLEB	**Sale Mountain**	**7.63**	**78**	Pn		**Pn**		**15 50 51.3**	**+0.1**
SLEB	**Sale Mountain**	**7.63**	**78**	Pn		**Pn**		**15 50 51.3**	**+0.1**
H04A	**Detroit Lake**	**7.63**	**133**			**Pn**		**15 50 51.6**	**+0.6**
BUCK	**Buck Mountain**	**7.65**	**139**			**Pn**		**15 50 53.2**	**+1.9**
S34M	**Telegraph Cree**	**7.80**	**356**	Pn		**Pn**		**15 50 55.0**	**+1.7**
S34M	**Telegraph C

baz=156
RLMT Red Lodge 14.85 102 P P 15 52 33.3 -2.5
baz=297,SNR=19
AHID Auburn Hatcher 14.96 112 Pn Pn 15 52 26.9 -4.6
YKA Yellowknife Ar 14.97 29 Pn Pn 15 52 30.7 -0.7
comp=E,0.7nm,0.3s,baz=224,slow=12,SNR=63
YKA LR LR 15 58 34.7
comp=E,3µm,20.5s,baz=220,slow=38
comp=E,22nm,1.0s
YKA Yellowknife Ar 14.97 29 Pn Pn 15 52 30.1 -1.3
BGU Big Grassy Mou 15.03 121 Pn 15 52 30.6 -1.8
BBGB Big Mountain B 15.04 151 Pn Pn 15 52 32.5 -0.1
BBGB IAmb IAmb 15 52 36.3
comp=Z,47nm,1.4s
TPH Tonopah 15.15 138 Pn Pn 15 52 30.7 -3.3
TPH IAmb IAmb 15 52 40.4
comp=Z,178nm,1.5s
KNK Knik Glacier 15.25 325 P P 15 52 39.8 -0.1
baz=130,SNR=5.9
KDAK Kodiak Island 15.26 309 LR LR 15 56 59.1
comp=Z,7µm,21.3s,baz=171,slow=32
MZP Montezuma Peak 15.39 139 Pn Pn 15 52 34.9 -2.4
HWUT Hardware Ranch 15.40 117 Pn Pn 15 52 35.2 -2.1
HWUT IAmb IAmb 15 52 43.5
comp=Z,215nm,1.9s
DSP Deep Springs 15.44 141 Pn 15 52 37.9 +0.3
SML Sawmill 15.46 326 P P 15 52 41.5 -0.8
baz=131
TIN Tinemaha, Big 15.61 143 P P 15 52 45.3 +1.2
baz=331
PMR Palmer 15.61 324 P P 15 52 44.0 +0.2
baz=129
R11A Troy Canyon, C 15.66 133 Pn Pn 15 52 41.1 +0.4
R11A Troy Canyon, C 15.66 133 P Pn 15 52 41.4 +0.8
baz=324,SNR=21
DUG Dugway, Tooele 15.66 123 Pn Pn 15 52 38.5 -2.1
DUG Dugway, Tooele 15.66 123 P Pn 15 52 42.3 +1.7
baz=315,SNR=39
LCH Last Change Ra 15.69 141 Pn 15 52 42.0 +1.0
WAT6 Susitna Watana 15.78 329 P P 15 52 46.3 +0.5
baz=134
EGAK Eagle 15.79 342 P Pn 15 52 42.7 +0.7
baz=153
PD31 Pinedale Array 15.89 110 P P 15 52 46.6 -0.7
PD31 IAmb IAmb 15 52 50.3
comp=Z,251nm,1.9s
PDAR Pinedale Array 15.89 110 Pn P 15 52 46.3 -1.0
comp=Z,0.3nm,0.3s,baz=308,slow=9.5,SNR=53
PDAR LR LR 15 58 59.8
comp=Z,3µm,20.4s,baz=318,slow=38
comp=Z,18nm,1.0s
PDAR Pinedale Array 15.89 110 P P 15 52 47.1 -0.2
CTU Camp Tracy 15.90 120 Pn Pn 15 52 43.5 -0.3
DHY Denali Highway 16.01 331 Pn Pn 15 52 39.1 -5.8
DHY Denali Highway 16.01 331 P Pn 15 52 46.2 +1.2
baz=136
LAO LASA Array 16.16 93 Pn 15 52 45.8 -1.1
LAO IAmb IAmb 15 52 51.9
comp=Z,91nm,1.2s
LAO LASA Array 16.16 93 P Pn 15 52 46.7 -0.1
baz=292,SNR=12
LAO LASA Array 16.16 93 P Pn 15 52 48.0 +1.1
baz=291,SNR=12
S11A Rachel 16.16 135 Pn Pn 15 52 44.6 -2.4
S11A IAmb IAmb 15 52 53.8
comp=Z,132nm,1.5s
SUA Susitna One 16.16 322 P P 15 52 51.1 +1.1
baz=125
CWC Cottonwood Cre 16.20 143 P P 15 52 50.4 -0.4
baz=331
NLU North Lily Min 16.23 122 Pn 15 52 48.4 +0.3
MPU Maple Canyon 16.43 121 P P 15 52 52.4 -0.9
WCT Wildcat Mounta 16.48 139 Pn Pn 15 52 50.1 -1.0
TPNV Topopah Spring 16.51 138 P P 15 52 52.9 -1.2
TPNV IAmb IAmb 15 52 58.9
comp=Z,169nm,1.8s
TPNV Topopah Spring 16.51 138 P P 15 52 53.5 -0.7
baz=327,SNR=29
SPU Mount Spurr 16.53 320 P P 15 52 53.0 -1.0
SPCR Spurr Chakacha 16.60 320 P P 15 52 54.2 -0.7
baz=122
EPYK Eagle Plains 16.62 351 P 15 52 56.3 +1.3
EPYK Eagle Plains 16.62 351 Pn P 15 52 56.3 +1.3
EPYK Eagle Plains 16.62 351 P P 15 52 54.8 -0.3
baz=165,SNR=9.3
I27K Kandik River 16.62 343 P P 15 52 54.3 -0.7
baz=153
FURC Furnace Creek, 16.66 140 P P 15 52 56.6 +1.0
baz=329
PRN Pahroc Range 16.67 134 P Pn 15 52 54.1 +0.6
PRN IAmb IAmb 15 53 01.7
comp=Z,163nm,1.9s
ISA Isabella, Lake 16.74 146 P P 15 52 56.5 -0.1
baz=333,SNR=7.7
MPMC Manual Prospec 16.77 142 P P 15 52 57.2 +0.2
baz=331,SNR=24
DGMT Dagmar 16.90 86 Pn Pn 15 52 55.2 -1.1
DGMT IAmb IAmb 15 53 01.6
comp=Z,314nm,1.5s
DGMT Dagmar 16.90 86 P Pn 15 52 56.4 +0.1
baz=286,SNR=14
DGMT Dagmar 16.90 86 P P 15 52 57.5 -0.8
baz=285,SNR=14
MCK McKinley 16.97 330 P Pn 15 52 57.6 +0.6
baz=135
GWY Greenwater Val 16.98 140 P 15 52 58.7 -0.7
PKM Mcpherson Peak 16.98 150 P P 15 53 02.1 +2.6
baz=337
TCRU Three Creeks R 17.01 126 Pn Pn 15 52 55.8 -2.2
O19K Port Alsworth 17.03 315 P P 15 52 58.7 -0.9
baz=116
QSM Queen of Sheba 17.09 141 P Pn 15 52 59.1 +0.3
QSM IAmb IAmb 15 53 06.1
comp=Z,138nm,1.8s
ARVC Arvin 17.10 147 P P 15 53 02.1 +1.6
baz=335
P18K Big Mountain, 17.13 312 P P 15 53 00.5 -0.2
baz=112
ILAR Eielson Array 17.14 335 P P 15 53 00.9 +0.2
comp=Z,3.7nm,0.8s,baz=205,slow=28,SNR=0.6
ILAR LR LR 15 59 05.5
comp=Z,2µm,18.7s,baz=130,slow=35
G30M tAoh Zraii Nji 17.17 352 P Pn 15 52 59.5 0.0
baz=166
H27K Steamboat Moun 17.17 344 P Pn 15 52 59.4 -0.2
baz=154
LRMC Laurel Mtn Rad 17.20 144 P P 15 53 02.7 +1.0
baz=332
TRF Thorofare Moun 17.22 328 P P 15 53 02.6 +0.8
baz=131
O18K Koktuh Hills 17.30 314 P P 15 53 02.0 -0.5
baz=113
CCUT Cedar City 17.36 130 P P 15 53 03.2 -0.5
SHPR Sheep Range 17.36 136 Pn Pn 15 53 00.3 -2.0
N19K Bonanza Creek 17.38 317 Pn Pn 15 52 59.5 -2.7
N19K IAmb IAmb 15 53 08.3
comp=Z,162nm,1.4s
N19K Bonanza Creek 17.38 317 P Pn 15 53 01.9 -0.3
baz=117
SHOC Shoshone, Teco 17.39 140 P P 15 53 05.8 +2.0
baz=329
F31M Tsiigehtchic 17.44 355 P P 15 53 03.7 -0.3
baz=172,SNR=15
PPLA Purkeypile 17.55 325 P Pn 15 53 04.1 -0.2
baz=127
POKR Poker Plat Res 17.55 335 P Pn 15 53 04.3 0.0
baz=140
Q16K King Salmon 17.59 309 P P 15 53 05.7 0.0
baz=108
EDW2 Edwards Air Fo 17.62 146 P P 15 53 06.7 +0.4
baz=334
NEA2 Nenana 17.63 332 P P 15 53 06.3 +0.2
baz=136
FFC Flin Flon 17.64 64 Pn 15 53 04.3 -1.1
FFC IAmb IAmb 15 53 11.7
comp=Z,215nm,1.4s
GSC Goldstone, Bar 17.70 142 Pn Pn 15 53 03.3 -3.0
GSC Goldstone, Bar 17.70 142 P P 15 53 09.9 +2.7
baz=331,SNR=13
G27K Doyon Strip 17.72 345 Pn 15 53 06.5 +0.2
G27K Doyon Strip 17.72 345 Pn Pn 15 53 06.5 +0.2
G27K Doyon Strip 17.72 345 P P 15 53 09.1 +1.9
baz=155
R16K Pilot Point 17.77 305 P P 15 53 08.3 +0.6
baz=103
K22A Casper 17.81 106 P P 15 53 09.8 +1.3
baz=304,SNR=18
K22A Casper 17.81 106 P P 15 53 09.3 +0.8
baz=303,SNR=18
CAST Castle Rocks 17.82 326 P Pn 15 53 07.3 -0.4
baz=128,SNR=6.9
LCMT Little Creek M 17.84 131 P 15 53 08.9 +0.1
BPAW Bear Paw Mtn. 17.89 329 P P 15 53 08.8 -0.3
baz=132,SNR=10
TUQ Turquoise Moun 17.94 140 P P 15 53 11.0 +1.1
baz=329
L20K Farewell, AK 17.95 322 P P 15 53 09.7 -0.1
baz=123
SVW2 Sparrevohn 17.98 317 Pn Pn 15 53 05.9 -3.7
SVW2 IAmb IAmb 15 53 11.8
comp=Z,75nm,1.0s
CHGN Chignik 17.99 301 Pn Pn 15 53 07.1 -2.7
CHGN IAmb IAmb 15 53 14.4
comp=Z,117nm,1.3s
KNB Kanab 18.05 130 Pn 15 53 10.4 -0.3
I23K Minto, Yukon-K 18.12 333 P P 15 53 12.3 +0.8
baz=137
O17K Koliganek Bris 18.15 312 P P 15 53 12.4 +0.4
baz=110
L19K White Mountain 18.19 321 P P 15 53 13.1 +0.8
baz=120,SNR=5.6
CHUM Lake Minchumin 18.19 327 P P 15 53 13.9 +1.5
baz=129,SNR=12
H24K Noodor Dome 18.23 336 P P 15 53 13.7 +0.8
baz=141
O20A White River Ci 18.28 115 P P 15 53 15.9 +2.2
O20A IAmb IAmb 15 53 22.8
comp=Z,132nm,1.4s
O20A White River Ci 18.28 115 P P 15 53 15.4 +1.7
baz=310,SNR=29
INK Inuvik 18.29 356 P P 15 53 15.1 +1.7
comp=Z,0.2nm,0.3s,baz=154,slow=13,SNR=22
INK LR LR 15 59 46.3
comp=Z,2µm,19.4s,baz=171,slow=35
comp=Z,19nm,1.0s
INK Inuvik 18.29 356 Pn 15 53 12.0 -1.3
INK Inuvik 18.29 356 Pn P 15 53 14.6 +1.2
INK Inuvik 18.29 356 P P 15 53 14.2 +0.8
baz=173,SNR=20
HEC Hector,Ludlow 18.30 142 P P 15 53 15.4 +1.7
baz=331,SNR=28
BFSC Mount Baldy Ra 18.31 146 P P 15 53 16.6 +2.5
baz=334
P16K Nushagak River 18.36 310 P Pn 15 53 13.6 -0.6
baz=107
MLY Manley 18.44 332 P 15 53 13.0 -2.2
MLY IAmb IAmb 15 53 21.5
comp=Z,88nm,1.1s
MLY Manley 18.44 332 P Pn 15 53 17.9 +2.6
baz=134,SNR=23
K20K Telida 18.51 325 P Pn 15 53 16.8 +0.7
baz=124
BBRC Big Bear Solar 18.57 144 P Pn 15 53 19.6 +2.4
baz=333
O16K Kokwok River B 18.57 311 P Pn 15 53 17.5 +0.6
baz=108
SNCC San Nicolas Is 18.59 151 P Pn 15 53 19.0 +1.8
baz=338
GMRC Granite Mounta 18.61 140 P Pn 15 53 20.4 +2.9
baz=330,SNR=9.8
RSSD Black Hills 18.63 99 P P 15 53 15.9 -1.6
RSSD IAmb IAmb 15 53 25.0
comp=Z,148nm,1.8s
RSSD Black Hills 18.63 99 P Pn 15 53 19.5 +1.7
baz=299,SNR=14
RSSD Black Hills 18.63 99 P P 15 53 17.0 -0.6
baz=298
H23K Yukon River 18.67 335 P Pn 15 53 19.1 +1.2
baz=138
U15A North Rim 18.77 130 P Pn 15 53 20.1 +0.4
G24K Hadweenzic Riv 18.81 338 P Pn 15 53 21.0 +1.2
baz=143
ELS Elsinore Mount 18.93 146 P P 15 53 18.3 -2.4
I21K Tanana 18.93 331 P Pn 15 53 21.3 +0.2
baz=132
F26K Sheenjek River 18.95 343 P P 15 53 20.8 +0.1
baz=151
E27K Coleen River 18.97 347 P Pn 15 53 21.5 -0.1
baz=157
PV23 Carpenter Ridg 18.98 120 P P 15 53 21.1 -0.4
J20K Nowinta River 19.01 327 P P 15 53 17.4 -4.0
J20K IAmb IAmb 15 53 26.8
comp=Z,197nm,1.8s
J20K Nowinta River 19.01 327 P Pn 15 53 21.7 -0.4
baz=126
TTA Tatalina 19.03 322 P Pn 15 53 23.3 +0.9
baz=120,SNR=12
MURC Murrieta 19.05 145 P Pn 15 53 24.2 +1.3
baz=334
SDPT Sand Point 19.06 298 P P 15 53 21.8 -0.1
baz=93
NEE2 Needles Airpor 19.06 138 P Pn 15 53 25.1 +2.1
baz=328
F25K Christian Rive 19.15 342 P Pn 15 53 26.4 +2.6
baz=148
BELC Belle Mtn. Jos 19.15 142 P Pn 15 53 25.2 +1.0
baz=332,SNR=12
N23A Red Feather La 19.17 110 P Pn 15 53 24.9 +0.4
baz=307
N16K Nishlik Lake 19.18 314 P Pn 15 53 24.6 +0.4
baz=110
KUKN Kugluktuk,NWT 19.21 17 Pn 15 53 25.3 +0.8
KUKN Kugluktuk,NWT 19.21 17 Pn Pn 15 53 25.3 +0.8
PHWY Pilot Hill 19.23 108 P P 15 53 24.3 +0.1
PV13 Radium Mtn., P 19.29 120 P P 15 53 24.6 -0.3
PV13 IAmb IAmb 15 53 33.8
comp=Z,160nm,1.3s
PFO Pinyon Flats O 19.32 144 P P 15 53 25.2 +0.1
comp=Z,0.2nm,0.3s,baz=348,slow=13,SNR=10
PFO LR LR 16 01 12.2
comp=Z,2µm,18.9s,baz=318,slow=38
comp=Z,7.9nm,0.9s
PFO Pinyon Flats O 19.32 144 P Pn 15 53 26.5 +0.4
baz=333,SNR=5.4
TPFO Pinon Flats 19.32 144 P Pn 15 53 26.1 -0.1
baz=333
IRM Iron Mountain 19.36 140 P Pn 15 53 29.5 +2.9
baz=330,SNR=5.3
G23K Bananza Creek 19.46 336 P P 15 53 23.6 -2.7
baz=139
C36M Paulatuk 19.47 6 Pn 15 53 27.8 +0.3
C36M Paulatuk 19.47 6 Pn Pn 15 53 27.8 +0.3
C36M Paulatuk 19.47 6 P P 15 53 26.0 -0.3
baz=192,SNR=19
H21K Melozitna Rive 19.50 331 P P 15 53 23.9 -2.9
baz=132
F24K Squaw Lake 19.57 339 P P 15 53 27.6 +0.1
baz=144
E25K Arctic Village 19.59 343 P P 15 53 28.1 +0.4
baz=149,SNR=6.0
SMCO Snowmass 19.64 115 P Pn 15 53 29.7 -0.6
SMCO IAmb IAmb 15 53 39.1
comp=Z,58nm,1.1s
BC3 Big Chuckawall 19.67 141 P Pn 15 53 31.4 +1.0
baz=331,SNR=7.2
109C Camp Elliot, M 19.73 146 P Pn 15 53 30.8 -0.1
baz=335
E28A Huff 19.75 89 P Pn 15 53 30.9 -0.2
baz=292
COLD Coldfoot 19.90 337 P Pn 15 53 32.8 +0.1
baz=139
WUAZ Wupatki 19.94 130 P P 15 53 31.7 -0.3
WUAZ Wupatki 19.94 130 P P 15 53 32.6 +0.7
baz=323,SNR=18
BLYC Blythe 19.97 139 P Pn 15 53 33.1 -0.7
BLYC IAmb IAmb 15 53 42.1
comp=Z,180nm,1.9s
MONP2 Monument Peak 19.97 145 P Pn 15 53 33.5 -0.6
baz=334,SNR=8.7
S12K Black Hills 19.98 298 P P 15 53 32.5 +0.5
baz=93,SNR=5.1
IMAR Indian Mountai 20.01 331 P P 15 53 31.5 -0.8
MDND Maddock 20.02 85 P P 15 53 33.1 +0.5
baz=288,SNR=7.0
ISCO Idaho Springs 20.05 112 P Pn 15 53 34.7 -0.3
baz=310
ISCO Idaho Springs 20.05 112 P P 15 53 32.5 -0.7
baz=309
BAR Barrett 20.07 145 P P 15 53 31.0 -2.2
BAR IAmb IAmb 15 53 45.1
comp=Z,108nm,1.9s
MVCO Mesa Verde 20.15 122 P 15 53 33.5 -0.7
MVCO Mesa Verde 20.15 122 P Pn 15 53 35.3 -0.8
baz=317,SNR=60
SWSC Sam W. Stewart 20.16 143 P Pn 15 53 35.2 -0.8
baz=333
G21K Allakaket 20.30 333 P P 15 53 35.3 0.0
baz=132,SNR=20
IKP In-Ko-Pah, Jac 20.31 144 P P 15 53 35.5 -0.3
baz=334
GCSA Galena City Sc 20.31 326 P P 15 53 34.9 -0.7
baz=123
RMX La Rumorosa 20.36 144 P Pn 15 53 37.8 -0.7
RMX IAmb IAmb 15 53 51.4
comp=Z,89nm,1.6s
YUH Yuha Desert 20.38 144 P P 15 53 36.3 -0.2
YUH IAmb IAmb 15 53 50.6
comp=Z,119nm,1.8s
GLA Glamis 20.45 141 P P 15 53 36.7 -0.6
GLA Glamis 20.45 141 P P 15 53 38.3 +1.0
baz=331
Y14A Wickenburg 20.47 136 P P 15 53 37.6 +0.1
C27K Jago River 20.60 346 P Pn 15 53 41.4 +0.4
baz=154
S22A 4UR Ranch, Cre 20.70 118 P P 15 53 39.9 -0.4
S22A IAmb IAmb 15 53 49.1
comp=Z,166nm,1.5s
S22A 4UR Ranch, Cre 20.70 118 P P 15 53 40.9 +0.6
baz=314,SNR=79
F21K Alatna River 20.77 334 P P 15 53 38.9 -1.6
baz=134
Q24A Divide 20.86 113 P P 15 53 42.1 +0.1
baz=310,SNR=21
ESJX Sierra Juarez 20.94 145 P P 15 53 42.2 -0.6
C26K Camden Bay 21.05 346 P P 15 53 43.1 -0.4
baz=153
W18A Petrified Fore 21.08 128 P P 15 53 45.6 +1.4
W18A Petrified Fore 21.08 128 P P 15 53 46.3 +2.0
baz=322,SNR=64
113A Mohawk Valley, 21.14 139 P P 15 53 44.5 -0.2
D23K Nanushuk River 21.36 340 P P 15 53 44.1 -2.7
baz=142
X18A Snowflake 21.43 129 P P 15 53 48.5 +0.4
X18A IAmb IAmb 15 53 57.6
comp=Z,73nm,0.8s
SDCO Great Sand Dun 21.46 116 P P 15 53 49.2 +0.8
SDCO IAmb IAmb 15 53 59.9
comp=Z,93nm,1.4s
SDCO Great Sand Dun 21.46 116 P P 15 53 50.0 +1.5
baz=314,SNR=48
SDCO Great Sand Dun 21.46 116 P P 15 53 50.0 +1.5
baz=313,SNR=48
OGNE Ogallala 21.55 105 P P 15 53 48.4 -0.8
OGNE IAmb IAmb 15 53 57.0
comp=Z,169nm,1.2s
OGNE Ogallala 21.55 105 P P 15 53 51.2 +2.0
baz=305,SNR=24
OGNE Ogallala 21.55 105 P P 15 53 49.5 +0.3
baz=305,SNR=24
C24K Franklin Bluff 21.55 342 P P 15 53 49.0 +0.2
baz=146
SUSD Miller 21.73 93 P P 15 53 50.7 -0.3
SUSD IAmb IAmb 15 54 01.0
comp=Z,112nm,1.2s
SUSD Miller 21.73 93 P P 15 53 51.6 +0.5
baz=297
SUSD Miller 21.73 93 P P 15 53 51.5 +0.5
baz=296
ULM Lac du Bonnet 21.75 77 P P 15 53 51.8 +0.7
comp=Z,37nm,0.7s,baz=291,slow=9.0,SNR=20
ULM LR LR 16 02 21.9
comp=Z,3µm,18.9s,baz=282,slow=37
comp=Z,37nm,0.7s
ULM Lac du Bonnet 21.75 77 P P 15 53 51.3 +0.2
ULM Lac du Bonnet 21.75 77 P P 15 53 51.6 +0.4
A36M Sachs Harbour 22.01 4 P P 15 53 54.0 +0.2
A36M IAmb IAmb 15 54 03.2
comp=Z,93nm,1.2s
A36M Sachs Harbour 22.01 4 P P 15 53 54.5 +0.7
A36M Sachs Harbour 22.01 4 P P 15 53 53.5 -0.3
baz=188,SNR=10
214A Organ Pipe Nat 22.24 138 P P 15 53 55.4 -1.2
214A Organ Pipe Nat 22.24 138 P P 15 53 57.5 +0.9
baz=330,SNR=6.5
AGMN Agassiz Nation 22.28 82 P P 15 53 57.5 +0.7
baz=288
AGMN Agassiz Nation 22.28 82 P P 15 53 57.7 +0.9
baz=288
PIX Pinacate 22.32 140 P P 15 53 57.1 -0.2
PIX IAmb IAmb 15 54 07.7
comp=Z,35nm,1.1s
KSCO Kaye Shedlock' 22.34 109 P P 15 53 58.0 +0.3
KSCO Kaye Shedlock' 22.34 109 P P 15 53 59.4 +1.6
baz=308,SNR=28
KSCO Kaye Shedlock' 22.34 109 P P 15 53 58.6 +0.9
baz=309,SNR=28
FCC Fort Churchill 22.35 54 P P 15 53 57.9 +0.4
FCC IAmb IAmb 15 54 06.7
comp=Z,179nm,1.5s
FCC Fort Churchill 22.35 54 P P 15 53 58.3 +0.9
T25A Trinidad 22.51 116 P P 15 54 00.2 +0.6
T25A IAmb IAmb 15 54 09.2
comp=Z,115nm,1.2s
T25A Trinidad 22.51 116 P P 15 54 01.7 +2.1
baz=313,SNR=31
UNV Unalaska Valle 22.60 294 P P 15 53 59.5 -0.7
baz=85
F33A 5 Mile Ranch, 22.86 88 P P 15 54 03.0 -0.1
baz=294,SNR=22
ANMO Albuquerque 22.93 123 P P 15 54 03.5 -0.6
comp=Z,6.9nm,0.9s,baz=48,slow=11,SNR=17
ANMO LR LR 16 03 24.7
comp=Z,1µm,19.4s,baz=48,slow=38
comp=Z,6.9nm,0.9s
ANMO Albuquerque 22.93 123 P P 15 54 03.1 -1.0
ANMO IAmb IAmb 15 54 15.4
comp=Z,42nm,1.2s
ANMO Albuquerque 22.93 123 P P 15 54 05.0 +0.9
baz=319,SNR=25
ANMO Albuquerque 22.93 123 P P 15 54 03.9 -0.2
baz=319
Y22D IRIS PASSCAL I 23.35 125 P P 15 54 09.4 +1.1
baz=320
Y22F Passcal Instru 23.35 125 P P 15 54 08.9 +0.6
baz=320
Y22A Socorro 23.43 125 P P 15 54 10.7 +1.5
baz=321
DUN6 Lazy B Ranch 23.45 131 P P 15 54 08.8 -0.4
DUN6 IAmb IAmb 15 54 17.8
comp=Z,304nm,1.7s
ANM Nome 23.49 321 P P 15 54 07.5 -1.8
baz=111
CRNM Carthage 23.54 125 P P 15 54 10.8 +0.6
ECSD EROS Data Cent 23.55 93 P P 15 54 10.8 +0.7
ECSD IAmb IAmb 15 54 21.1
comp=Z,111nm,1.4s
ECSD EROS Data Cent 23.55 93 P P 15 54 10.9 +0.8
baz=298,SNR=25
ECSD EROS Data Cent 23.55 93 P P 15 54 10.3 +0.2
baz=298,SNR=25
BGNE Belgrade 23.73 99 P P 15 54 10.4 -1.5
BGNE Belgrade 23.73 99 P P 15 54 13.1 +1.2
baz=303,SNR=6.3
BGNE Belgrade 23.73 99 P P 15 54 11.8 -0.1
baz=302,SNR=6.3
NIKH Nikolski High 24.10 292 P P 15 54 16.0 +0.8
baz=81
121A Cookes Peak, D 24.11 129 P P 15 54 14.6 -1.1
121A IAmb IAmb 15 54 24.8
comp=Z,40nm,1.2s
121A Cookes Peak, D 24.11 129 P P 15 54 17.2 +1.5
baz=324
121A Cookes Peak, D 24.11 129 P P 15 54 16.0 +0.3
baz=323
RDOG Red Dog Mine 24.14 330 P P 15 54 12.5 -2.9
baz=122
SOLO Sioux Lookout 24.17 76 P P 15 54 15.4 -0.5
CBKS Cedar Bluff 24.23 106 P P 15 54 18.4 +1.8
baz=308,SNR=6.4
CBKS Cedar Bluff 24.23 106 P P 15 54 17.6 +1.0
baz=308,SNR=6.4
A21K Barrow 24.47 340 P P 15 54 18.1 -0.4
baz=136,SNR=7.1
L34A Svendsen Farm, 24.57 96 P P 15 54 19.2 -0.5
L34A Svendsen Farm, 24.57 96 P P 15 54 20.8 +1.1
baz=301
ATKO Atikokan Iron 24.81 78 P P 15 54 21.9 +0.2
PKLO Pickle Lake 24.89 71 P P 15 54 24.4 +2.0
R32A Long Quarter, 25.11 106 P P 15 54 25.9 +1.3
baz=308
EYMN Ely 25.16 80 P P 15 54 25.7 +0.7

baz=290
EYMN Ely 25.16 80 P **P** **15 54 23.6 -1.3**
baz=290
SPMN Marine on St. 25.35 87 P **P** **15 54 26.9 +0.2**
SPMN IAmb IAmb 15 54 36.1
comp=Z,36nm,0.8s
SPMN Marine on St. 25.35 87 P **P** **15 54 26.6 0.0**
baz=295,SNR=7.1
SPMN Marine on St. 25.35 87 P **P** **15 54 27.9 +1.3**
baz=295,SNR=7.1
I37B Waseca 25.49 90 P **P** **15 54 28.7 +0.8**
baz=297
E38A The Farm, Brul 25.60 83 P **P** **15 54 30.1 +1.2**
baz=292
N35A Tabor 25.62 98 P **P** **15 54 29.2 0.0**
N35A Tabor 25.62 98 P **P** **15 54 30.0 +0.9**
baz=303,SNR=14
AMTX Amarillo 25.66 116 P **P** **15 54 28.6 -1.1**
AMTX Amarillo 25.66 116 P **P** **15 54 30.5 +0.8**
baz=316,SNR=29
AMTX Amarillo 25.66 116 P **P** **15 54 28.9 -0.8**
baz=315
MSTX Muleshoe 25.70 119 P **P** **15 54 27.8 -2.2**
MSTX IAmb IAmb 15 54 40.8
comp=Z,41nm,1.1s
MSTX Muleshoe 25.70 119 P **P** **15 54 31.0 +1.0**
baz=318
MSTX Muleshoe 25.70 119 P **P** **15 54 31.4 +1.4**
baz=317
GAMB Gambell 25.92 317 P **P** **15 54 33.8 +2.2**
baz=102
MNTX Cornudas Mount 26.01 126 P **P** **15 54 34.3 +1.6**
MNTX IAmb IAmb 15 54 42.8
comp=Z,111nm,1.8s
MNTX Cornudas Mount 26.01 126 P **P** **15 54 33.9 +1.2**
baz=323,SNR=22
MNTX Cornudas Mount 26.01 126 P **P** **15 54 35.1 +2.4**
baz=322,SNR=22
KSU1 Kansas State U 26.01 102 P **P** **15 54 32.6 0.0**
KSU1 Kansas State U 26.01 102 P **P** **15 54 32.7 0.0**
baz=306
KSU1 Kansas State U 26.01 102 P **P** **15 54 33.8 +1.2**
baz=306
ELIS Ellis County 26.19 111 P **P** **15 54 31.6 -2.8**
ELIS IAmb IAmb 15 54 45.4
comp=Z,56nm,1.0s
U32A Winter Ranch, 26.23 110 **P** **15 54 32.7 -2.0**
CLNB Carlsbad 26.37 123 P **P** **15 54 36.7 +0.7**
OK032 Salt Plains WL 26.43 108 **P** **15 54 34.7 -1.9**
KAN14 Manchester OK 26.49 108 P **P** **15 54 34.5 -2.6**
KAN14 IAmb IAmb 15 54 45.1
comp=Z,60nm,1.4s
K38A Parkersburg 26.54 92 P **P** **15 54 37.8 +0.3**
baz=300,SNR=5.7
SCIA State Center 26.63 94 P **P** **15 54 39.4 +1.2**
baz=301
BLOK Blackwell 27.07 107 P **P** **15 54 40.5 -1.8**
BLOK IAmb IAmb 15 54 50.3
comp=Z,32nm,1.0s
I40A Norwalk 27.34 88 P **P** **15 54 45.5 +0.9**
baz=298
T35A Sooner Cattle 27.41 106 P **P** **15 54 45.8 +0.5**
T35B Sooner Cattle 27.41 106 P **P** **15 54 46.3 +1.0**
baz=310,SNR=20
GTO Geraldton 27.43 74 P **P** **15 54 45.9 +0.5**
OK050 Pawnee Station 27.45 107 P **P** **15 54 45.8 +0.1**
WMOK Wichita Mounta 27.47 112 **P** **15 54 43.4 -2.5**
WMOK Wichita Mounta 27.47 112 P **P** **15 54 47.1 +1.2**
baz=314,SNR=25
WMOK Wichita Mounta 27.47 112 P **P** **15 54 47.8 +1.8**
baz=314,SNR=25
OK046 Pawnee Station 27.50 107 P **P** **15 54 43.8 -2.3**
P38A Dawn 27.65 98 P **P** **15 54 46.0 -1.5**
P38A Dawn 27.65 98 P **P** **15 54 47.6 +0.1**
baz=305,SNR=12
L40A Anamosa 27.83 92 P **P** **15 54 46.9 -2.1**
L40A IAmb IAmb 15 55 02.5
comp=Z,42nm,1.1s
L40A Anamosa 27.83 92 P **P** **15 54 50.2 +1.1**
baz=301
JFWS Jewell Farm 28.04 90 P **P** **15 54 51.4 +0.6**
baz=299
JFWS Jewell Farm 28.04 90 P **P** **15 54 53.4 +2.6**
baz=299
X34A Smith Ranch, M 28.13 111 **P** **15 54 51.3 -0.5**
X34A IAmb IAmb 15 55 00.1
comp=Z,60nm,1.4s
I42A Draeger Farm, 28.43 87 P **P** **15 54 54.6 +0.3**
baz=298
ABTX Abilene, Hawle 28.47 116 P **P** **15 54 55.3 +0.5**
baz=317
ABTX Abilene, Hawle 28.47 116 P **P** **15 54 55.7 +0.9**
baz=317
TUL1 Leonard 28.50 107 P **P** **15 54 55.6 +0.5**
baz=311
TUL1 Leonard 28.50 107 P **P** **15 54 56.1 +1.1**
baz=311
RES Resolute Bay 28.60 19 P **P** **15 54 57.0 +1.4**
comp=Z,1.2nm,0.8s,baz=229,slow=10,SNR=4.2
comp=Z,1.2nm,0.8s
RES Resolute Bay 28.60 19 P **P** **15 54 54.9 -0.7**
RES IAmb IAmb 15 55 43.9
comp=Z,66nm,1.8s
RES Resolute Bay 28.60 19 P **P** **15 54 52.4 -3.2**
P40A Paris 28.65 97 P **P** **15 54 56.6 +0.3**
baz=305,SNR=9.0
N41A Harden Midland 28.77 94 P **P** **15 54 57.8 +0.4**
baz=303,SNR=8.4
TX31 Lajitas Ar. Si 28.78 126 P **P** **15 54 56.1 -1.6**
TX31 IAmb IAmb 15 55 26.4
comp=Z,84nm,1.4s
TX31 Lajitas Ar. Si 28.78 126 P **P** **15 54 58.6 +0.9**
baz=324,SNR=10
TX32 Lajitas Array 28.78 126 P **P** **15 54 55.3 -2.4**
TX32 IAmb IAmb 15 55 26.4
comp=Z,29nm,1.4s
L42A Oliver, Polo 28.86 91 P **P** **15 54 58.1 0.0**
baz=301,SNR=7.6
U38A Gravette 29.03 104 P **P** **15 55 00.4 +0.7**
baz=316
R40A Maddies Statio 29.23 99 P **P** **15 55 02.0 +0.5**
baz=307
Z35A Perchaven, San 29.36 112 P **P** **15 55 04.4 +1.7**
baz=315
K43A Burlington 29.37 88 P **P** **15 55 02.9 +0.2**
baz=300
X37A Clayton 29.63 108 P **P** **15 55 03.8 -1.3**
X37A Clayton 29.63 108 P **P** **15 55 06.8 +1.7**
baz=313
MGMO Mountain Grove 29.91 101 P **P** **15 55 07.6 0.0**
JCT Junction City 29.97 120 P **P** **15 55 07.4 -0.8**
JCT IAmb IAmb 15 55 15.3
comp=Z,56nm,1.4s
JCT Junction City 29.97 120 P **P** **15 55 09.5 +1.4**
baz=320
JCT Junction City 29.97 120 P **P** **15 55 07.9 -0.3**
baz=320
CCM Cathedral Cave 30.02 99 P **P** **15 55 08.3 -0.1**
CCM IAmb IAmb 15 55 15.8
comp=Z,58nm,1.6s
CCM Cathedral Cave 30.02 99 P **P** **15 55 09.0 +0.5**
baz=307
CCM Cathedral Cave 30.02 99 P **P** **15 55 09.0 +0.5**
baz=306
WHTX Lake Whitney, 30.20 115 P **P** **15 55 09.1 -1.0**
baz=316
LPIG La Paz 30.20 142 LR LR 16 08 07.2
comp=Z,708nm,18.6s,baz=330,slow=38
P43A Skaggs, Pawnee 30.21 95 P **P** **15 55 10.1 0.0**
baz=304
M44A Midewin, Midew 30.22 91 P **P** **15 55 11.7 +1.5**
baz=302
KAPO Kapuskasing 30.27 73 P **P** **15 55 11.4 +0.8**
T42A Van Buren 30.73 100 P **P** **15 55 15.1 +0.3**
baz=308
MIAR Mount Ida 30.76 107 P **P** **15 55 15.7 +0.7**
MIAR Mount Ida 30.76 107 P **P** **15 55 16.6 +1.6**
baz=312,SNR=19
MIAR Mount Ida 30.76 107 P **P** **15 55 17.8 +2.7**
baz=312,SNR=19
FCAR Ozark Folk Cen 30.79 103 P **P** **15 55 15.9 +0.6**
FCAR IAmb IAmb 15 55 21.3
comp=Z,46nm,1.1s
435B Jarrell 31.00 116 P **P** **15 55 18.2 +0.9**
baz=318
WHAR Wooly Hollow 31.07 104 P **P** **15 55 16.6 -1.3**
LCAR Lake Charles 31.29 102 P **P** **15 55 18.3 -1.3**
LCAR IAmb IAmb 15 55 26.6
comp=Z,25nm,1.0s
LCAR Lake Charles 31.29 102 P **P** **15 55 19.6 -0.1**
baz=309,SNR=15
S44A Carbondale 31.50 98 P **P** **15 55 19.8 -1.8**
S44A Carbondale 31.50 98 P **P** **15 55 23.0 +1.4**
baz=307
OLIL Olney 31.63 95 P **P** **15 55 24.4 +1.7**
baz=305
P46A Rosedale 31.71 93 P **P** **15 55 23.6 +0.3**
baz=304
833A Chaparral WMA, 31.86 122 P **P** **15 55 26.5 +1.7**
baz=322
833A Chaparral WMA, 31.86 122 P **P** **15 55 26.4 +1.7**
baz=322
N47A Urbana 32.00 90 P **P** **15 55 25.8 -0.1**
baz=302
N47A P **P** **15 55 25.8 -0.1**
baz=302
L48A N Adams 32.26 87 P **P** **15 55 28.2 0.0**
baz=301
L48A P **P** **15 55 28.2 0.0**
baz=301
KILO Kirkland Lake 32.32 73 P **P** **15 55 29.0 +0.3**
HKT Hockley 32.63 115 P **P** **15 55 31.4 0.0**
HKT IAmb IAmb 15 55 40.1
comp=Z,51nm,1.3s
O48B Farmland 32.67 90 P **P** **15 55 31.9 +0.1**
baz=303,SNR=10
O48B Farmland 32.67 90 P **P** **15 55 32.6 +0.7**
baz=303,SNR=10
P48A Milroy 32.94 92 P **P** **15 55 33.5 -0.7**
P48A Milroy 32.94 92 P **P** **15 55 34.6 +0.4**
baz=304
P48A P **P** **15 55 34.6 +0.4**
baz=304
N49A Columbus Grove 32.95 88 P **P** **15 55 34.1 -0.2**
baz=302
N49A P **P** **15 55 34.1 -0.2**
baz=302
WCI Wyandotte Cave 33.08 94 P **P** **15 55 35.8 +0.3**
baz=306
WCI Wyandotte Cave 33.08 94 P **P** **15 55 35.7 +0.3**
baz=306
W45A Hickory Valley 33.10 101 P **P** **15 55 34.6 -1.0**
W45A Hickory Valley 33.10 101 P **P** **15 55 36.7 +1.0**
baz=310
O49A Covington 33.24 90 P **P** **15 55 36.7 -0.1**
baz=303
O49A P **P** **15 55 36.7 -0.1**
baz=303
T47A Sharon Grove 33.29 97 P **P** **15 55 38.6 +1.3**
baz=307
P49A Miami Univ. Ec 33.35 91 P **P** **15 55 38.6 +0.8**
baz=304
P49A Miami Univ. Ec 33.35 91 P **P** **15 55 38.0 +0.2**
baz=304
WVT Waverly 33.35 99 P **P** **15 55 37.5 -0.4**
WVT IAmb IAmb 15 55 44.2
comp=Z,44nm,1.4s
WVT Waverly 33.35 99 P **P** **15 55 38.9 +1.1**
baz=309,SNR=8.3
WVT Waverly 33.35 99 P **P** **15 55 38.8 +1.0**
baz=308
OXF Oxford 33.38 102 P **P** **15 55 38.1 +0.1**
OXF Oxford 33.38 102 P **P** **15 55 39.5 +1.5**
baz=311,SNR=16
OXF Oxford 33.38 102 P **P** **15 55 40.0 +1.9**
baz=310,SNR=16
EUNU Eureka 33.39 13 P **P** **15 55 34.9 -2.8**
EUNU IAmb IAmb 15 55 42.4
comp=Z,50nm,1.8s
EUNU Eureka 33.39 13 P **P** **15 55 38.3 +0.6**
342B Flagon Creek P 33.69 109 P **P** **15 55 42.2 +1.4**
baz=315
Y45A Yeager Farm, C 33.72 103 P **P** **15 55 42.6 +1.6**
baz=312
R49A Shelbyville 33.76 93 P **P** **15 55 42.1 +0.7**
baz=306
R49A P **P** **15 55 42.1 +0.7**
baz=306
ACSO Alum Creek Sta 34.09 89 P **P** **15 55 44.3 +0.2**
baz=303
ACSO Alum Creek Sta 34.09 89 P **P** **15 55 44.8 +0.6**
baz=303
N51A Ashland 34.11 87 P **P** **15 55 44.1 -0.2**
baz=302
N51A P **P** **15 55 44.1 -0.2**
baz=302
SHEM Shemya Is, Ala 34.18 296 LR LR 16 06 27.5
comp=Z,1µm,20.4s,baz=102,slow=31
V48A Smith Brothers 34.24 98 P **P** **15 55 45.7 +0.1**
baz=309
SADO Sadowa 34.26 79 LR LR 16 10 13.8
comp=Z,3µm,21.6s,baz=312,slow=37
R50A Paris 34.31 92 P **P** **15 55 45.3 -0.9**
baz=306,SNR=7.6
R50A P **P** **15 55 45.3 -0.9**
baz=306,SNR=7.6
U49A Red Boiling Sp 34.43 96 P **P** **15 55 48.1 +0.9**
baz=308
P51A Williamsport 34.45 90 P **P** **15 55 46.9 -0.4**
P51A IAmb IAmb 15 55 53.4
comp=Z,47nm,1.1s
P51A Williamsport 34.45 90 P **P** **15 55 47.3 0.0**
baz=304
P51A P **P** **15 55 47.3 0.0**
baz=304
Q51A Peebles 34.52 91 P **P** **15 55 48.0 0.0**
baz=305,SNR=6.9
Q51A P **P** **15 55 48.0 0.0**
baz=305,SNR=6.9
FRB Frobisher Bay 34.68 43 P **P** **15 55 49.1 +0.1**
comp=Z,4.0nm,0.9s,baz=276,slow=8.8,SNR=2.6
FRB LR LR 16 09 51.0
comp=Z,829nm,18.3s,baz=277,slow=36
comp=Z,4.0nm,0.9s
T50A Nancy 34.73 95 P **P** **15 55 50.7 +1.0**
baz=307
T50A P **P** **15 55 50.7 +1.0**
baz=307
O52A Adamsville 34.89 88 P **P** **15 55 52.3 +1.2**
baz=303
O52A P **P** **15 55 52.3 +1.2**
baz=303
X48A Hartselle 34.91 100 P **P** **15 55 51.9 +0.6**
baz=310
P52A Corning 34.96 89 P **P** **15 55 51.5 -0.2**
baz=304
S51A Beattyville 35.16 93 P **P** **15 55 53.7 +0.3**
baz=306
S51A P **P** **15 55 53.7 +0.3**
baz=306
O53A New Philadelph 35.22 87 P **P** **15 55 53.4 -0.5**
baz=303
Q52A Bidwell 35.25 90 P **P** **15 55 54.8 +0.6**
baz=305
Q52A P **P** **15 55 54.8 +0.6**
baz=305
BILL Bilibino 35.25 324 P **P** **15 55 52.5 -1.4**
BILL IAmb IAmb 15 56 05.9
comp=Z,31nm,1.5s
P53A Whipple 35.52 88 P **P** **15 55 56.0 -0.6**
baz=304
P53A P **P** **15 55 56.0 -0.6**
baz=304
W50A Signal Mountai 35.54 98 P **P** **15 55 58.0 +1.3**
baz=309
Y49A Blount Mountai 35.69 100 P **P** **15 55 60.0 +1.9**
baz=311
WVNY West Valley, N 35.75 82 P **P** **15 55 59.8 +1.3**
baz=301
V51A Loudon 35.77 96 P **P** **15 55 59.4 +0.6**
baz=308
TZTN Tazewell 35.84 94 P **P** **15 56 00.3 +1.0**
baz=308,SNR=5.6
TZTN Tazewell 35.84 94 P **P** **15 56 00.6 +1.3**
baz=307,SNR=5.6
LRAL Lakeview Retre 35.86 102 P **P** **15 55 59.4 -0.1**
baz=312
LRAL Lakeview Retre 35.86 102 P **P** **15 55 59.5 0.0**
baz=312
GAC Glen Almond 36.13 75 P **P** **15 56 01.3 -0.3**
M55A Ridgway 36.13 84 P **P** **15 56 01.4 -0.4**
baz=302
M55A P **P** **15 56 01.4 -0.4**
baz=302
Q54A Coxs Mills 36.16 89 P **P** **15 56 02.1 0.0**
Q54A Coxs Mills 36.16 89 P **P** **15 56 01.4 -0.6**
baz=305,SNR=7.5
Q54A P **P** **15 56 01.4 -0.6**
baz=305,SNR=7.5
X51A Calhoun 36.23 98 P **P** **15 56 03.4 +0.7**
baz=310,SNR=5.5
X51A P **P** **15 56 03.4 +0.7**
baz=310,SNR=5.5
TKL Tuckaleechee C 36.23 96 P **P** **15 56 02.9 +0.2**
comp=Z,3.8nm,0.7s,baz=135,slow=2.7,SNR=4.4
TKL LR LR 16 11 21.5
comp=Z,4µm,18.5s,baz=312,slow=37
comp=Z,3.8nm,0.7s
TKL Tuckaleechee C 36.23 96 P **P** **15 56 01.5 -1.2**
TKL IAmb IAmb 15 56 09.0
comp=Z,66nm,1.6s
TKL Tuckaleechee C 36.23 96 P **P** **15 56 03.2 +0.5**
baz=308
V52A Sevierville 36.23 95 P **P** **15 56 01.2 -1.6**
V52A Sevierville 36.23 95 P **P** **15 56 02.0 -0.7**
baz=308,SNR=8.9
MCWV Mont Chateau 36.42 87 P **P** **15 56 05.0 +0.8**
baz=304
TRQ Mont Tremblant 36.47 74 P **P** **15 56 02.2 -2.4**
TRQ IAmb IAmb 15 56 11.4
comp=Z,74nm,1.6s
W52A Murphy 36.49 96 P **P** **15 56 05.9 +1.0**
baz=309
S54A Dingess, Beckl 36.53 91 P **P** **15 56 06.0 +0.8**
baz=306
S54A P **P** **15 56 06.0 +0.8**
baz=306
Z51A Franklin 36.83 100 P **P** **15 56 06.3 -1.5**
Z51A IAmb IAmb 15 56 15.1
comp=Z,92nm,1.6s
Z51A Franklin 36.83 100 P **P** **15 56 08.4 +0.7**
baz=311
V53A Saluda 36.84 95 P **P** **15 56 06.9 -1.0**
V53A IAmb IAmb 15 56 15.6
comp=Z,84nm,1.4s
V53A Saluda 36.84 95 P **P** **15 56 08.2 +0.2**
baz=308,SNR=8.4
V53A P **P** **15 56 08.2 +0.2**
baz=308,SNR=8.4
R55A Marlinton 37.02 89 P **P** **15 56 08.3 -1.2**
R55A Marlinton 37.02 89 P **P** **15 56 09.3 -0.1**
baz=306,SNR=5.8
R55A P **P** **15 56 09.3 -0.1**
baz=306,SNR=5.8
250A Grady 37.02 103 P **P** **15 56 09.0 -0.5**
250A Grady 37.02 103 P **P** **15 56 09.6 +0.1**
baz=313,SNR=7.2
Y52A Lilburn 37.18 98 P **P** **15 56 10.8 0.0**
baz=310
Y52A P **P** **15 56 10.8 0.0**
baz=310
Q56A Snyder Ridge, 37.19 87 P **P** **15 56 12.0 +1.2**
baz=305
Q56A P **P** **15 56 12.0 +1.2**
baz=305
CASEE Lake Jocassee 37.19 96 P **P** **15 56 11.6 +0.7**
baz=309
M57A Sunshine Farm, 37.25 83 P **P** **15 56 13.1 +1.8**
baz=302
M57A P **P** **15 56 13.1 +1.8**
baz=302
BLA Blacksburg 37.45 91 P **P** **15 56 15.5 +2.4**
baz=306
152A Waverly Hall 37.54 100 P **P** **15 56 13.8 0.0**
152A Waverly Hall 37.54 100 P **P** **15 56 14.8 +0.9**
baz=312,SNR=9.5
SCHQ Schefferville 37.59 58 LR LR 16 11 52.3
comp=Z,3µm,19.0s,baz=290,slow=36
P57A Homestead Farm 37.69 86 P **P** **15 56 15.9 +0.9**
baz=304
P57A P **P** **15 56 15.9 +0.9**
baz=304
FRNY Flat Rock 37.72 76 P **P** **15 56 14.8 -0.4**
baz=299
V55A Taylorsville 37.76 93 P **P** **15 56 17.1 +1.5**
baz=308
V55A P **P** **15 56 17.1 +1.5**
baz=308
N58A Sunbury 37.78 83 P **P** **15 56 16.2 +0.4**
baz=303
N58A P **P** **15 56 16.2 +0.4**
baz=303
J59A Piesco 37.81 78 P **P** **15 56 16.8 +0.7**
baz=300
J59A P **P** **15 56 16.8 +0.7**
baz=300
PAULI Pauline 38.01 95 P **P** **15 56 18.4 +0.6**
baz=309
S57A Dark Hollow, R 38.07 89 P **P** **15 56 18.3 0.0**
S57A IAmb IAmb 15 56 25.4
comp=Z,87nm,1.4s
S57A Dark Hollow, R 38.07 89 P **P** **15 56 18.8 +0.5**
baz=306
S57A P **P** **15 56 18.8 +0.5**
baz=306
HODGE Hodges 38.10 96 P **P** **15 56 19.7 +1.1**
baz=310
KMSC Kings Mountain 38.12 94 P **P** **15 56 19.8 +1.0**
baz=309
KMSC Kings Mountain 38.12 94 P **P** **15 56 19.2 +0.5**
baz=308
L59A Walton 38.13 80 P **P** **15 56 20.0 +1.3**
baz=302
L59A P **P** **15 56 20.0 +1.3**
baz=302
352A Blakely 38.20 102 P **P** **15 56 20.4 +1.0**
baz=313
R58B Mineral 38.64 88 P **P** **15 56 23.4 +0.4**
baz=306,SNR=8.1
R58B P **P** **15 56 23.4 +0.4**
baz=306,SNR=8.1
JSC Jenkinsville 38.70 95 P **P** **15 56 24.7 +1.1**
baz=310
NPNY Mohonk Preserv 38.93 80 P **P** **15 56 27.1 +1.7**
baz=302
ODNJ Ogdensburg 38.99 82 P **P** **15 56 27.1 +1.1**
baz=303
TRNY Table Rock, Ra 39.20 81 P **P** **15 56 25.9 -1.9**
TRNY IAmb IAmb 15 56 35.8
comp=Z,28nm,1.1s
NEEM North Greenlan 39.28 20 *i* P **P** **15 56 30.0 +1.7**
NEEM IAmb IAmb 15 56 51.5
comp=Z,6.0nm,0.7s
T59A Double "B" Far 39.44 89 P **P** **15 56 30.1 +0.4**
baz=307
T59A P **P** **15 56 30.1 +0.4**
baz=307
SFJD Kangerlussuaq 41.36 36 LR LR 16 14 11.8
comp=Z,1µm,19.5s,baz=293,slow=36
SEY Seymchan 41.92 318 P **P** **15 56 50.8 +0.9**
comp=Z,5.2nm,0.8s,baz=98,slow=8.5,SNR=24
SEY LR LR 16 14 46.2
comp=Z,2µm,18.3s,baz=68,slow=37
comp=Z,5.2nm,0.8s
DY2G Dye2 43.17 36 *i* P **P** **15 57 00.7 +0.4**
DY2G IAmb IAmb 15 57 05.1
comp=Z,16nm,1.3s
PETK Petropavlovsk- 43.20 303 P **P** **15 57 00.9 +0.4**
comp=Z,5.0nm,0.8s,baz=71,slow=10.0,SNR=7.7
PETK LR LR 16 12 17.3
comp=Z,812nm,21.0s,baz=56,slow=32
comp=Z,5.0nm,0.8s
CMIG Matias Romero 43.39 127 LR LR 16 17 38.0
comp=Z,415nm,18.4s,baz=341,slow=40
SUMG Summit 43.55 26 *i* P **P** **15 57 04.9 +1.4**
SUMG IAmb IAmb 15 57 27.7
comp=Z,8.7nm,1.2s
MA2 Magadan 43.91 314 LR LR 16 14 32.5
comp=Z,928nm,21.5s,baz=68,slow=35
ICESG Greenland Ices 44.51 31 *i* P **P** **15 57 12.4 +1.2**
ICESG IAmb IAmb 15 57 14.4
comp=Z,11nm,1.2s
TIXI Tiksi 46.61 335 LR LR 16 20 25.7
comp=Z,448nm,18.0s,baz=1.0,slow=40
DBG Daneborg 47.35 20 *i* P **P** **15 57 35.0 +1.8**
DBG IAmb IAmb 15 57 42.3
comp=Z,8.5nm,1.1s
SPITS Spitsbergen Ar 50.30 9 LR LR 16 20 21.9
comp=Z,559nm,18.4s,baz=305,slow=37
YAK Yakutsk 51.61 324 LR LR 16 21 35.2
comp=Z,1µm,18.7s,baz=68,slow=38
BOAB BOACO BROADBA 52.17 120 P **P** **15 58 09.2 -1.3**
BORG Borgarnes 52.90 31 LR LR 16 20 47.6

comp=Z,601nm,18.6s,baz=316,slow=36
JTS Las Juntas de 54.34 121 LR LR 16 26 39.6
comp=Z,280nm,18.5s,slow=42
ASAJ Asahikawa 56.47 300 LR LR 16 19 35.8
comp=Z,404nm,21.8s,baz=50,slow=33
NRIK Noril'sk 57.66 345 P **P** **15 58 49.7 +0.2**
comp=Z,3.7nm,0.8s,baz=35,slow=6.5,SNR=5.2
NRIK LR LR 16 24 55.8
comp=Z,324nm,20.1s,baz=48,slow=37
comp=Z,3.7nm,0.8s
H11N2 WAKE ISLAND Hy 57.91 262 T T 17 01 31.7
baz=42,slow=76,SNR=1344
H11N3 WAKE ISLAND Hy 57.91 262 T T 17 01 34.1
baz=42,slow=76,SNR=1438
H11N1 WAKE ISLAND Hy 57.92 262 T T 17 01 32.8
baz=42,slow=76,SNR=1398
KLR Kul'dur 58.81 311 LR LR 16 23 18.3
comp=Z,952nm,20.9s,baz=42,slow=35
H11S1 WAKE ISLAND Hy 58.93 262 T T 17 02 59.4
baz=39,slow=75,SNR=78
H11S2 WAKE ISLAND Hy 58.94 262 T T 17 02 56.4
baz=39,slow=75,SNR=87
H11S3 WAKE ISLAND Hy 58.95 262 T T 17 02 59.6
baz=39,slow=75,SNR=54
ARCES ARCESS Array B 59.28 10 P **P** **15 59 01.6 +0.8**
comp=Z,3.1nm,0.8s,baz=350,slow=9.4,SNR=3.6
ARCES LR LR 16 24 23.5
comp=Z,346nm,21.9s,baz=334,slow=36
comp=Z,3.1nm,0.8s
TAOE Nuku Hiva Isla 59.42 192 *e*S **S** **16 07 14.1 +3.1**
comp=Z,153nm,30.0s
TAOE *e*LR LR 16 16 36.2
comp=Z,896nm,25.7s
SJG San Juan 59.60 98 LR LR 16 27 33.1
comp=Z,362nm,18.1s,baz=323,slow=39
HEH HeiHe 60.18 314 *e*P **P** **15 59 06.9 -0.4**
HEH pP **pP** **15 59 09.3 -2.1**
HEH S **S** **16 07 20.4 +0.4**
HEH sS **sS** **16 07 29.8 +3.1**
HEH pmax pmax
comp=Z,13nm,0.8s
HEH pmax pmax
comp=Z,210nm,4.5s
HEH LR LR
comp=Z,470nm,14.7s
HEH LR LR
comp=Z,760nm,20.7s
HEH LR LR
comp=Z,1μm,20.3s
USRK Ussuriysk Ar. 62.12 306 P **P** **15 59 20.1 -0.3**
comp=Z,2.6nm,0.9s,baz=99,slow=8.0,SNR=2.0
USRK LR LR 16 26 00.4
comp=Z,438nm,20.5s,baz=33,slow=36
comp=Z,2.6nm,0.9s
SDV Santo Domingo 63.82 109 LR LR 16 30 38.1
comp=Z,319nm,20.7s,baz=337,slow=39
MJAR Matsushiro Arr 64.03 296 P **P** **15 59 32.8 -0.6**
comp=Z,1.2nm,0.7s,baz=42,slow=4.9,SNR=2.9
MJAR LR LR 16 23 24.0
comp=Z,315nm,21.6s,baz=48,slow=32
comp=Z,1.2nm,0.7s
RUSC La Rusia 64.71 113 P **P** **15 59 37.2 -1.3**
ROSC El Rosal 64.83 115 P **P** **15 59 40.4 +1.2**
comp=Z,8.0nm,0.3s,baz=340,slow=18,SNR=5.1
ROSC LR LR 16 32 48.7
comp=Z,259nm,18.5s,baz=269,slow=41
comp=Z,8.0nm,0.3s
NB2 NORSAR Subarra 64.86 20 P **P** **15 59 39.6 +1.1**
comp=Z,7.1nm,1.0s,baz=335,slow=6.5
NOA NORSAR Array B 64.86 20 P **P** **15 59 39.3 +0.8**
comp=Z,3.2nm,1.1s,baz=338,slow=6.2,SNR=2.1
NOA LR LR 16 26 55.3
comp=Z,400nm,19.2s,baz=340,slow=35
comp=Z,3.2nm,1.1s
JHJ Hachijo jima 2 65.51 293 LR LR 16 25 46.2
comp=Z,83nm,19.8s,baz=81,slow=34
CN2 Changchun 65.72 310 *e*P **P** **15 59 44.7 +0.5**
CN2 sP pwP 15 59 51.0 -0.3
CN2 S **S** **16 08 26.5 -3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,700nm,19.0s
EKA Eskdalemuir Ar 65.93 30 LR LR 16 28 04.0
comp=Z,867nm,18.8s,baz=331,slow=36
HFS Hagfors 66.21 19 LR LR 16 28 49.7
comp=Z,643nm,18.1s,baz=334,slow=36
FINES FINESS Array B 67.11 12 P **P** **15 59 53.3 +0.5**
comp=Z,4.8nm,0.9s,baz=350,slow=7.3,SNR=7.1
FINES LR LR 16 30 18.7
comp=Z,481nm,18.6s,baz=347,slow=37
comp=Z,4.8nm,0.9s
JCJ Chichijima 68.35 287 LR LR 16 23 42.8
comp=Z,411nm,21.5s,baz=74,slow=30
KSRS Korea Array 69.10 304 P **P** **16 00 03.6 -2.1**
comp=Z,1.0nm,0.8s,baz=53,slow=9.0,SNR=5.7
KSRS LR LR 16 28 28.6
comp=Z,161nm,21.3s,baz=50,slow=34
comp=Z,1.0nm,0.8s
KSAR Wonju Array Be 69.13 304 P **P** **16 00 04.7 -1.1**
PPT Papeete 69.60 200 LR LR 16 22 53.9
comp=Z,331nm,20.2s,baz=326,slow=29
PPT2 Papeete2 69.62 200 *e*S **S** **16 09 20.2 +3.4**
comp=Z,80nm,30.8s
PPT2 *e*SS **SS** **16 13 49.8 +4.4**
comp=Z,96nm,38.2s
PPT2 *e*LR LR 16 21 18.7
comp=Z,354nm,22.5s
PPT2 *e*LR LR 16 21 18.8
comp=Z,377nm,22.0s
JNU Nakatsue 70.67 299 LR LR 16 27 28.5
comp=Z,422nm,21.9s,baz=53,slow=33
SONM Songino Array 70.97 324 P **P** **16 00 17.6 +0.4**
comp=Z,0.8nm,0.9s,baz=52,slow=5.7,SNR=4.5
SONM LR LR 16 31 47.0
comp=Z,934nm,21.0s,baz=25,slow=36
comp=Z,0.8nm,0.9s
SONM Songino Array 70.97 324 P **P** **16 00 17.0 -0.1**
SONM lAmb lAmb 16 00 24.9
comp=Z,12nm,1.6s
KIRV Kirov 71.62 0 LR LR 16 34 51.0
comp=Z,295nm,20.1s,baz=0.4,slow=38
ZAA0 Zalesovo Array 72.21 339 P **P** **16 00 23.6 -0.8**
ZAA0 lAmb lAmb 16 00 40.5
comp=Z,17nm,1.5s
ZALV Zalesovo Beam 72.21 339 P **P** **16 00 24.8 +0.4**
comp=Z,1.8nm,0.6s,baz=22,slow=5.9,SNR=6.7
ZALV LR LR 16 36 49.7
comp=Z,391nm,18.1s,baz=14,slow=40
comp=Z,1.8nm,0.6s
ZALV Zalesovo Beam 72.21 339 P **P** **16 00 23.1 -1.3**
ATAH Atahualpa 72.44 125 LR LR 16 32 54.5
comp=Z,299nm,20.4s,baz=343,slow=36
RKT Rikitea 73.08 185 *e*LR LR 16 22 54.9
comp=Z,129μm,26.0s
NACGM Naroch 73.53 14 *e*P P 16 00 26.8 -5.3
comp=Z,16nm,1.0s,baz=344
ARU Arti 73.54 355 LR LR 16 36 17.5
comp=Z,179nm,18.7s,baz=7.0,slow=38
MNK Minsk 74.08 13 *i* P **P** **16 00 35.1 -0.2**
comp=E,2.0nm,0.9s
MNK *i* P **P** **16 00 35.1 -0.2**
comp=N,19nm,0.9s
MNK *i* P **P** **16 00 35.1 -0.2**
comp=Z,11nm,0.9s,baz=345
MNK *i* PcP **PcP** **16 00 50.1 -0.4**
MNK *i* PP **PP** **16 03 20.1 +0.2**
MNK *i* PPP PPP 16 05 05.2
MNK *i* S **S** **16 10 08.6 +1.3**
MNK *i* SS **SS** **16 14 54.3 +3.5**
MNK *i* LQ LQ 16 27 23.9
MNK *i* LR LR 16 29 53.7
MNK *i* LRM MLR 16 33 28.1
comp=Z,473nm,18.5s
MNK *i* LRM MLR 16 35 18.9
comp=N,742nm,18.5s
MNK *i* LRM MLR 16 35 23.9
comp=E,57nm,18.5s
CLL Collm 74.13 23 *e*P **P** **16 00 37.0 +1.3**
CLL *e*PcP **PcP** **16 00 49.0 -1.8**
CLL *ex* x 16 01 04.0
CLL *e*PP **PP** **16 03 23.0 +2.5**
CLL *ex* x 16 03 59.0
CLL *e*PS **PnS** **16 10 48.0 +6.8**
CLL *e*SS SS 16 15 06.0 +14
CLL *ex* x 16 16 06.0
CLL *e*SSSS 16 19 54.0
CLL Lm MLR 16 32 00.0
comp=Z,400nm,21.2s
OBN Obninsk 74.50 8 LR LR 16 35 22.6
comp=Z,62nm,18.6s,baz=356,slow=37
HHC Hu-ho-hao-te 74.53 316 *e*P **P** **16 00 37.7 -0.7**
HHC S **S** **16 10 11.1 -2.0**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,310nm,5.8s
HHC LR LR
comp=Z,900nm,17.8s
HHC LR LR
comp=Z,1μm,17.1s
HHC LR LR
comp=Z,820nm,19.0s
BRG Berggiesshubel 74.76 23 *e*P **P** **16 00 42.2 +2.8**
BRG Amp 16 00 48.7
comp=Z,10nm,1.4s
BRG Amp 16 38 14.0
comp=Z,0.3nm,17.6s
TBI Tubuai 75.18 198 *e*S **S** **16 10 23.5 +3.5**
comp=Z,331nm,27.0s
TBI *e*SS **SS** **16 15 13.7 +3.5**
comp=Z,362nm,38.2s
TBI *e*LR LR 16 23 52.6
comp=Z,7μm,21.8s
TBI *e*LR LR 16 23 52.9
comp=Z,1μm,24.0s
TBI Tubuai 75.18 198 *e*T T 17 24 45.1
comp=Z,9.0nm,0.3s
BRVK Borovoye 75.74 348 P **P** **16 00 44.0 -1.1**
HNS HongShan 75.86 312 ⇑P **P** **16 00 46.1 +0.2**
HNS S **S** **16 10 25.2 -2.3**
HNS pmax pmax
comp=Z,8.0nm,1.1s
HNS LR LR
comp=Z,390nm,20.2s
HNS LR LR
comp=Z,630nm,20.6s
HNS LR LR
comp=Z,770nm,19.6s
KHC Kasperske Hory 76.28 24 P **P** **16 00 47.3 -0.9**
KHC lAmb lAmb 16 00 51.7
comp=Z,22nm,1.7s
GERES GERESS Array B 76.57 24 P **P** **16 00 50.5 +0.6**
comp=Z,0.9nm,0.9s,baz=331,slow=4.9,SNR=6.2
GERES LR LR 16 36 27.4
comp=Z,354nm,18.1s,baz=340,slow=37
comp=Z,0.9nm,0.9s
GERES GERESS Array B 76.57 24 P **P** **16 00 49.5 -0.5**
KURK Kurchatov 76.58 342 P **P** **16 00 49.0 -0.8**
GUMO Guam 76.58 275 LR LR 16 27 37.3
comp=Z,290nm,20.4s,baz=91,slow=30
MORC Moravsky Berou 76.64 21 *e*P **P** **16 00 49.8 -0.5**
VRAC Vranov 76.86 22 LR LR 16 37 38.0
comp=Z,430nm,18.5s,baz=330,slow=38
VRAC Vranov 76.86 22 *e*P **P** **16 00 52.6 +1.1**
JOW Kunigami 76.87 296 LR LR 16 34 54.6
comp=Z,100nm,19.8s,baz=130,slow=36
DAVA Damuels 76.95 27 *e*P **P** **16 00 50.8 -1.4**
comp=Z,12nm,1.7s
KRUC Moravsky 77.04 22 *e*P **P** **16 00 54.6 +2.1**
MOTA Moosalm 77.24 26 *e*pP **P** **16 00 55.2 +1.4**
comp=Z,9.1nm,1.6s
NNA Nana 77.34 127 LR LR 16 34 40.6
comp=Z,160nm,19.5s,baz=341,slow=36
WATA Walderalm 77.38 26 *e*pP **P** **16 00 56.7 +2.1**
comp=Z,8.6nm,1.4s
DAVOX Davos/Dischmat 77.41 27 LR LR 16 35 42.8
comp=Z,669nm,18.5s,baz=323,slow=36
AKASG Malin Array Be 77.97 13 P **P** **16 00 57.4 -0.3**
comp=Z,2.4nm,0.7s,baz=347,slow=4.6,SNR=12
AKASG LR LR 16 36 08.3
comp=Z,617nm,19.4s,baz=8.0,slow=36
comp=Z,2.4nm,0.7s
AKASG Malin Array Be 77.97 13 P **P** **16 00 55.2 -2.5**
AKASG lAmb lAmb 16 01 20.5
comp=Z,9.9nm,1.2s
MDP Montagnes des 78.02 96 LR LR 16 39 00.1
comp=Z,222nm,19.2s,baz=290,slow=38
NJ2 Nanjing 78.02 306 *e*P **P** **16 00 56.8 -1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
VYHS Vyhne 78.14 21 *e*P **P** **16 01 03.3 +4.6**
ESDC Sonseca Array 78.78 40 P **P** **16 01 02.4 0.0**
comp=Z,0.5nm,0.7s,baz=310,slow=3.9,SNR=2.6
ESDC LR LR 16 33 26.5
comp=Z,377nm,18.8s,baz=326,slow=34
comp=Z,0.5nm,0.7s
SOKA Soboth 78.92 24 *e*pP **P** **16 01 04.8 +1.8**
comp=Z,9.8nm,1.7s
RPN Rapa Nui 79.10 161 LR LR 16 28 08.6
comp=Z,124nm,21.4s,baz=334,slow=30
MK31 Makanchi Array 79.47 338 P **P** **16 01 05.3 -0.7**
MKAR Makanchi Array 79.47 338 P **P** **16 01 05.2 -0.8**
comp=Z,1.1nm,0.6s,baz=26,slow=4.5,SNR=15
MKAR LR LR 16 40 34.5
comp=Z,469nm,18.2s,baz=318,slow=39
comp=Z,1.1nm,0.6s
MKAR Makanchi Array 79.47 338 P **P** **16 01 04.8 -1.1**
MAKZ Makanchi 79.53 338 P **P** **16 01 05.9 -0.5**
MAKZ lAmb lAmb 16 01 22.1
comp=Z,9.7nm,1.0s
AKTO Aktyubinsk 79.55 355 LR LR 16 41 00.3
comp=Z,191nm,18.0s,baz=2.0,slow=39
ABKAR Akbulak array 80.60 353 P **P** **16 01 12.7 +0.7**
GTA Gaotai 80.63 323 *e*P **P** **16 01 11.9 -0.7**
GTA sP pwP 16 01 20.5 +0.8
GTA pmax pmax
comp=Z,94nm,5.1s
GTA LR LR
comp=Z,310nm,15.3s
GTA LR LR
comp=Z,440nm,17.4s
GTA LR LR
comp=Z,740nm,17.8s
WMQ Urumqi 80.79 333 *e*P **P** **16 01 14.5 +1.2**
WMQ sP pwP 16 01 23.0 +2.6
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ pmax pmax
comp=Z,160nm,5.3s
WMQ LR LR
comp=Z,360nm,18.7s
WMQ LR LR
comp=Z,270nm,17.1s
WMQ LR LR
comp=Z,630nm,21.9s
XAN Xi'an 81.31 314 P **P** **16 01 12.1 -4.1**
XAN pP pP 16 01 18.5 -2.0
XAN pmax pmax
comp=Z,5.0nm,1.3s
ETMB Extrema 81.37 117 P **P** **16 01 15.7 -0.8**
ETMB lAmb lAmb 16 01 25.7
comp=Z,8.6nm,1.1s
LZH Lanzhou 81.85 319 *e*P **P** **16 01 21.6 +2.5**
LZH pP sP 16 01 25.0 0.0
LZH sP pwP 16 01 28.8 +2.5
LZH pmax pmax
comp=Z,18nm,1.0s
LZH LR LR
comp=Z,880nm,16.3s
LZH LR LR
comp=Z,540nm,16.3s
LZH LR LR
comp=Z,980nm,17.0s
MLR Muntele Rosu 82.47 17 LR LR 16 38 46.2
comp=Z,818nm,19.9s,baz=50,slow=36
MDT Midelt 84.31 44 LR LR 16 38 00.4
comp=Z,106nm,18.1s,baz=350,slow=35
AAK Ala-Archa 85.13 342 LR LR 16 43 57.3
comp=Z,144nm,18.2s,baz=18,slow=39
KRVT Keravat (AS076 85.60 258 LR LR 16 36 25.5
comp=Z,94nm,18.5s,baz=180,slow=33
KBZ Khabaz 86.29 5 P **P** **16 01 42.8 +1.4**
comp=Z,5.4nm,0.9s,baz=243,slow=2.7,SNR=9.2
KBZ LR LR 16 41 36.0
comp=Z,220nm,21.9s,baz=352,slow=36
comp=Z,5.4nm,0.9s
KEST Kesra 87.25 32 LR LR 16 42 12.4
comp=Z,203nm,18.3s,baz=295,slow=36
VAE Valguarnera 87.27 28 LR LR 16 42 27.5
comp=Z,309nm,19.1s,baz=334,slow=37
KSH Kashi 87.82 340 P P 16 01 57.8 +8.7
KSH pmax pmax
comp=Z,5.0nm,1.9s
GYA Guiyang 88.70 311 *e*P **P** **16 01 55.8 +2.3**
GYA sP pwP 16 02 00.2 -0.5
GYA SKS **SKSac** **16 12 22.5 +0.1**
GYA S **S** **16 12 41.3 +1.4**
GYA SS **SS** **16 18 31.2 +1.1**
GYA pmax pmax
comp=Z,9.0nm,1.0s
GYA LR LR
comp=Z,380nm,21.8s
GYA LR LR
comp=Z,350nm,18.5s
GYA LR LR
comp=Z,520nm,26.0s
SIV San Ignacio 89.28 116 LR LR 16 47 02.8
comp=Z,309nm,18.1s,baz=284,slow=39
BRTR Keskin Array B 89.35 13 P **P** **16 01 55.9 -0.4**
comp=Z,1.0nm,0.8s,baz=18,slow=5.2,SNR=2.8
BRTR LR LR 16 46 33.7
comp=Z,169nm,18.1s,baz=343,slow=39
comp=Z,1.0nm,0.8s
GAR Garm 89.43 344 P **P** **16 01 56.4 -0.3**
GAR lAmb lAmb 16 02 08.9
comp=Z,23nm,1.2s
GNI Garni 89.96 4 LR LR 16 48 32.9
comp=Z,107nm,18.1s,baz=2.5,slow=40
PZH PanZhiHua 90.97 315 P **P** **16 02 04.3 +0.2**
PZH S **S** **16 12 57.1 -3.8**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.1s
PZH LR LR
comp=Z,240nm,22.5s
PZH LR LR
comp=Z,410nm,20.5s
PZH LR LR
comp=Z,320nm,19.6s
GEYT Alibeck 92.00 354 P **P** **16 02 09.9 +1.4**
comp=Z,0.8nm,0.5s,baz=0.0,slow=1.4,SNR=1.8
GEYT LR LR 16 46 23.2
comp=Z,122nm,20.0s,baz=24,slow=37
comp=Z,0.8nm,0.5s
IDI Anoyia 92.08 20 LR LR 16 46 21.4
comp=Z,214nm,19.1s,baz=332,slow=37
BBTS Babate 93.19 63 LR LR 16 40 02.1
comp=Z,500nm,20.4s,baz=322,slow=33
QIZ Qiongzhong 93.29 305 P **P** **16 02 14.2 -0.5**
QIZ S **S** **16 13 20.4 -1.2**
QIZ SS **SS** **16 19 37.8 +1.4**
QIZ LR LR
comp=Z,290nm,23.0s
QIZ LR LR
comp=Z,310nm,18.2s
QIZ LR LR
comp=Z,350nm,20.7s
TNCH TengChong 93.68 317 P **P** **16 02 17.2 +0.5**
TNCH sP sP 16 02 21.8 -0.8
TNCH S **S** **16 13 19.8 -5.6**
TNCH sS ScS 16 13 27.8 +0.9
TNCH pmax pmax
comp=Z,140nm,4.6s
DAV Davao City (W) 93.73 286 LR LR 16 36 39.5
comp=Z,500nm,21.8s,baz=54,slow=31
MMAI Mount Meron Ar 96.19 12 LR LR 16 49 41.1
comp=Z,106nm,20.7s,baz=244,slow=38
SIJI Sorong 96.25 276 LR LR 16 38 42.8
comp=Z,386nm,20.4s,baz=66,slow=31
BDFB Brasilia 96.83 106 LR LR 16 49 23.2
comp=Z,211nm,21.7s,baz=319,slow=37
RCBR Riachuelo 97.08 91 LR LR 16 43 15.7
comp=Z,439nm,20.5s,baz=113,slow=34
CFA Coronel Fontan 98.04 131 LR LR 16 44 17.1
comp=Z,93nm,18.8s,baz=353,slow=34
BRDH Bariadhala 98.65 322 LR LR 16 48 46.6
comp=Z,244nm,21.2s,baz=48,slow=36
CMAR Chiang Mai Arr 99.20 314 P **Pdif** **16 02 39.9 -1.6**
comp=Z,0.5nm,0.3s,baz=12,slow=4.8,SNR=2.1
CMAR LR LR 16 50 45.3
comp=Z,252nm,19.1s,baz=45,slow=37
comp=Z,0.5nm,0.3s
EIL Elat 99.42 13 LR LR 16 50 41.5
comp=Z,62nm,21.9s,baz=48,slow=37
CPUP Villa Florida 99.56 120 LR LR 16 51 39.0
comp=Z,157nm,21.7s,baz=359,slow=38
SNAA Sanae 148.14 151 PKPbc **PKPdf** **16 08 41.9 +1.1**
comp=Z,1.5nm,0.7s,baz=153,slow=11,SNR=1.8
SNAA Sanae 148.14 151 PKPdf **PKPdf** **16 08 41.3 +0.4**
BOSA Boshof 151.46 50 PKPbc **PKPbc** **16 08 52.1 -1.5**
comp=Z,3.3nm,0.9s,baz=282,slow=4.0,SNR=5.6
ELIB Princess Elisa 155.06 161 *d*PKPdf **PKPdf** **16 08 53.0 +1.6**
ELIB *d*PKP **pPKPab** **16 09 19.6 -0.9**

*PGC **06** 16:05:25.3±1.7, 50.04N×130.19W, h10km, MLSn3.0/11, Mw3.7/11, 209km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **06** 16:05:25.5±2.7, 50.06N×129.80W, h0km, mbtmp3.1/6, ML3.2/6, Error ellipse: s-maj=41.4km s-min=18.0km az=80.0*
ISC 06 16:05:25.0±2.8, 50.16N±0.07×130.07W±0.06, h8km±19km, n26, σ1s23/32, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.33**	**68**	P	**Pn**	**16 05 49.5**	**-0.4**
HOLB				S	**Sg**	**16 06 07.3**	**-0.5**
PACB	**Port Alice, BC**	**1.68**	**79**	Pn	**Pn**	**16 05 53.5**	**-1.1**
PACB				Sn	**Sn**	**16 06 14.0**	**-2.2**
MAYB	**Maynard**	**1.87**	**81**	Pn	**Pn**	**16 05 56.2**	**-1.3**
EDB	**Eliza Dome**	**1.92**	**97**	Pn	**Pn**	**16 05 56.4**	**-1.7**
HG4B	**Hotspring**	**2.26**	**342**	Pn	**Pn**	**16 06 01.3**	**-1.4**
HG4B				Sn	**Sn**	**16 06 29.1**	**-1.6**
BBB	**Bella Bella**	**2.38**	**30**	Pn	**Pn**	**16 06 05.1**	**+0.8**
	14nm,0.3s,baz=227,slow=5.5,SNR=32						
BBB				Sn	**Sn**	**16 06 33.3**	**-0.2**
	17nm,0.3s,baz=319,slow=21,SNR=28						
	31nm,0.3s						
BBB	**Bella Bella**	**2.38**	**30**	Pn	**Pn**	**16 06 05.1**	**+0.8**
BBB				Sn	**Sn**	**16 06 33.1**	**-0.5**
NCRB	**Newcastle Ridg**	**2.58**	**83**	Pn	**Pn**	**16 06 07.5**	**+0.2**
BNB	**Barry Inlet**	**2.65**	**337**	Pn	**Pn**	**16 06 06.4**	**-1.7**
SPLB	**Strathcona Par**	**2.86**	**94**	Pn	**Pn**	**16 06 11.4**	**+0.5**
BNKB	**Banks Island**	**3.18**	**2**	Pn	**Pn**	**16 06 15.5**	**+0.1**
BNKB				Sn	**Sn**	**16 06 52.6**	**-1.0**
MOBC	**Moresby Island**	**3.22**	**339**	Pn	**Pn**	**16 06 15.3**	**-0.6**
BNAB	**Bonilla**	**3.36**	**354**	Pn	**Pn**	**16 06 17.6**	**-0.2**
DIB	**Dawson Inlet,**	**3.40**	**335**	Pn	**Pn**	**16 06 17.8**	**-0.6**
H02S1	**DAWSON INLET T**	**3.40**	**335**	Pn	**Pn**	**16 06 17.6**	**-0.8**
HWKB	**Hawksbury Isla**	**3.50**	**9**	Pn	**Pn**	**16 06 20.2**	**+0.5**
HWKB				Sn	**Sn**	**16 07 01.4**	**+0.1**
GRNB	**Grenville Isla**	**3.70**	**1**	Pn	**Pn**	**16 06 22.7**	**+0.2**
GRNB				Sn	**Sn**	**16 07 05.9**	**-0.3**
KITB	**Kitimat**	**4.03**	**12**	Pn	**Pn**	**16 06 28.4**	**+1.5**
KITB				Sn	**Sn**	**16 07 14.2**	**-0.1**
NVAR	**Mina Array Bea**	**14.41**	**140**	Pn	**Pn**	**16 08 51.6**	**+2.1**
	0.1nm,0.3s,baz=312,slow=11,SNR=1.2						
	0.1nm,0.3s						
YKA	**Yellowknife Ar**	**14.99**	**29**	Pn	**Pn**	**16 08 54.9**	**-2.1**
	baz=225,slow=10,SNR=2.6						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**15.91**	**110**	Pn	**Pn**	**16 09 10.2**	**+0.7**
	baz=323,slow=10,SNR=2.9						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**17.13**	**335**	P	**P**	**16 09 27.2**	**+1.0**
	baz=157,slow=11,SNR=2.8						
	0.4nm,0.8s						
INK	**Inuvik**	**18.29**	**356**	P	**P**	**16 09 41.5**	**+2.6**
	0.2nm,0.3s,baz=162,slow=6.4,SNR=2.1						
	0.8nm,0.6s						
H11N2	**WAKE ISLAND Hy 57.88 262**			T	T	17 17 55.8	
	baz=42,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy 57.88 262**			T	T	17 17 55.7	
	baz=42,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy 57.90 262**			T	T	17 18 01.0	
	baz=42,slow=75,SNR=14						

*IDC **06** 16:24:25.3±3.1, 49.88N×130.38W, h0km, mb3.5/1, mbtmp3.3/9, ML3.3/7, MS3.2/1, Error ellipse: s-maj=47.5km s-min=15.6km az=64.0*

*PGC **06** 16:24:28.0±4.5,50.01N×130.11W,h10km,MLSn3.1/14, Mw3.7/14,206km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

ISC 06 16:24:28.0±1.2,50.06N±0.06×130.06W±0.07,h10km,n48, σ2s08/54,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.37**	**64**	P	**Pn**	**16 24 52.3**	**-0.9**
PACB	**Port Alice, BC**	**1.69**	**76**	Pn	**Pn**	**16 24 56.4**	**-1.2**
PACB				Sn	**Sn**	**16 25 16.3**	**-3.0**
MAYB	**Maynard**	**1.89**	**78**	Pn	**Pn**	**16 24 59.4**	**-1.1**
EDB	**Eliza Dome**	**1.91**	**95**	Pn	**Pn**	**16 24 58.8**	**-1.8**
EDB				Sn	**Sn**	**16 25 20.5**	**-4.2**
HG4B	**Hotspring**	**2.34**	**343**	Pn	**Pn**	**16 25 04.6**	**-2.0**
HG4B				Sn	**Sn**	**16 25 33.0**	**-2.4**
BBB	**Bella Bella**	**2.46**	**29**	Pn	**Pn**	**16 25 08.3**	**+0.2**
	25nm,0.3s,baz=225,slow=13,SNR=79						
BBB				Sn	**Sn**	**16 25 36.0**	**-2.2**
	37nm,0.3s,baz=321,slow=21,SNR=13						
	101nm,0.3s						
BBB	**Bella Bella**	**2.46**	**29**	Pn	**Pn**	**16 25 08.1**	**0.0**
BBB				Sn	**Sn**	**16 25 35.4**	**-2.7**
NCRB	**Newcastle Ridg**	**2.60**	**81**	Pn	**Pn**	**16 25 10.2**	**+0.1**
BNB	**Barry Inlet**	**2.73**	**338**	Pn	**Pn**	**16 25 10.7**	**-1.3**
SPLB	**Strathcona Par**	**2.85**	**92**	Pn	**Pn**	**16 25 12.6**	**-1.0**
OZB	**Mount Ozzard**	**3.18**	**109**	Sn	**Sn**	**16 25 52.0**	**-4.0**
BNKB	**Banks Island**	**3.28**	**2**	Pn	**Pn**	**16 25 18.8**	**-0.6**
BNKB				Sn	**Sn**	**16 25 55.1**	**-3.3**
MOBC	**Moresby Island**	**3.31**	**340**	Pn	**Pn**	**16 25 18.7**	**-1.2**
BNAB	**Bonilla**	**3.46**	**354**	Pn	**Pn**	**16 25 21.2**	**-0.6**
BNAB				Sn	**Sn**	**16 25 59.1**	**-3.7**
DIB	**Dawson Inlet,**	**3.49**	**335**	Pn	**Pn**	**16 25 21.6**	**-0.6**
H02S1	**DAWSON INLET T**	**3.49**	**335**	Pn	**Pn**	**16 25 20.7**	**-1.5**
HWKB	**Hawksbury Isla**	**3.59**	**9**	Pn	**Pn**	**16 25 23.4**	**-0.3**
HWKB				Sn	**Sn**	**16 26 02.9**	**-3.2**
GRNB	**Grenville Isla**	**3.79**	**1**	Pn	**Pn**	**16 25 26.1**	**-0.4**
GRNB				Sn	**Sn**	**16 26 07.5**	**-3.6**
SHB	**Sechelt**	**4.03**	**94**	Pn	**Pn**	**16 25 30.7**	**+0.8**
SHB				Sn	**Sn**	**16 26 15.4**	**-1.8**
KITB	**Kitimat**	**4.12**	**12**	Pn	**Pn**	**16 25 29.9**	**-1.0**
RUBB	**Prince Rupert**	**4.27**	**359**	Pn	**Pn**	**16 25 33.7**	**+0.6**
HNBB	**Haney**	**4.92**	**96**	Pn	**Pn**	**16 25 43.2**	**+1.2**
MBW	**Mount Baker**	**5.48**	**100**	Pn	**Pn**	**16 25 50.4**	**+0.5**
FSJB	**Fort St James**	**5.65**	**37**	Pn	**Pn**	**16 25 53.2**	**+1.2**
FSJB				Sn	**Sn**	**16 26 53.9**	**-3.0**
FSB	**Fort Saint Jam**	**5.65**	**36**	Pn	**Pn**	**16 25 53.9**	**+1.9**
FMW	**Mount Fremont**	**6.39**	**116**	Pn	**Pn**	**16 26 04.6**	**+2.1**
T35M	**Bob Quinn**	**6.93**	**359**	Pn	**Pn**	**16 26 11.2**	**+1.6**
B08A	**Colville Reser**	**7.23**	**100**	Pn	**Pn**	**16 26 14.9**	**+1.1**
NBC4	**NorthernBC 4**	**8.00**	**42**	Pn	**Pn**	**16 26 26.4**	**+2.1**
DLBC	**Dease Lake**	**8.39**	**0**	Pn	**Pn**	**16 26 31.2**	**+1.5**
	0.3nm,0.3s,baz=179,slow=16,SNR=1.7						
	1.2nm,0.6s						
NBC5	**NorthernBC 5**	**8.65**	**27**	Pn	**Pn**	**16 26 35.4**	**+2.1**
NBC5				Sn	**Sn**	**16 28 10.5**	**-0.4**
NEW	**Newport**	**8.67**	**97**	Pn	**Pn**	**16 26 35.2**	**+1.7**
	0.1nm,0.3s,baz=288,slow=19,SNR=2.2						
	1.9nm,0.6s						
NBC6	**NorthernBC 6**	**9.94**	**27**	Sn	**Sn**	**16 28 42.1**	**-0.1**
STPRA	**Salt Prairie L**	**10.26**	**51**	Sn	**Sn**	**16 28 47.0**	**-3.3**
HYT	**Haines Junctio**	**11.57**	**342**	Sn	**Sn**	**16 29 18.1**	**-4.4**
ELK	**Elko**	**13.95**	**126**	Pn	**Pn**	**16 27 48.7**	**+2.8**
	baz=296,slow=14,SNR=3.2						
ELK				LR	LR	16 33 00.7	
	comp=Z,110nm,20.5s,baz=12,slow=37						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**14.34**	**140**	Pn	**Pn**	**16 27 52.7**	**+1.5**
	0.1nm,0.4s,baz=338,slow=6.8,SNR=1.2						
YKA	**Yellowknife Ar**	**15.07**	**28**	Pn	**Pn**	**16 28 00.8**	**+0.1**
	0.1nm,0.3s,baz=225,slow=12,SNR=8.8						
	1.0nm,1.0s						
PDAR	**Pinedale Array**	**15.88**	**110**	Pn	**Pn**	**16 28 13.0**	**+1.2**
	baz=308,slow=7.4,SNR=5.2						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**17.21**	**335**	P	**Pn**	**16 28 28.6**	**+0.3**
	baz=149,slow=9.4,SNR=1.0						
	0.1nm,0.4s						
KUKN	**Kugluktuk,NWT**	**19.31**	**17**	P	**Pn**	**16 28 56.6**	**+2.7**
ULM	**Lac du Bonnet**	**21.80**	**76**	P	**P**	**16 29 21.1**	**+1.1**
	0.8nm,0.3s,baz=273,slow=10,SNR=1.5						
	0.8nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**57.87**	**263**	T	T	17 37 03.3	
	baz=42,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**57.87**	**262**	T	T	17 37 04.3	
	baz=42,slow=75,SNR=96						
H11N1	**WAKE ISLAND Hy**	**57.89**	**263**	T	T	17 37 05.3	
	baz=42,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**58.89**	**262**	T	T	17 38 24.4	
	baz=41						
H11S2	**WAKE ISLAND Hy**	**58.90**	**262**	T	T	17 38 23.1	
	baz=41						
H11S3	**WAKE ISLAND Hy**	**58.91**	**262**	T	T	17 38 29.7	
	baz=41						

*AUST **06** 16:34:12.8±0.3,30.65S×118.36E,h10km,Error ellipse: s-maj=4.1km s-min=3.0km az=125.0*

*CUPWA **06** 16:34:14.6±3.0,30.70S×118.40E,h2km±32km,Region: WESTERN AUSTRALIA*

ISC 06 16:34:11.7±1.5,30.63S±0.04×118.43E±0.04,h7km±12km, n24,σ1s40/37,1D,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADX	**Cadoux**	**1.12**	**262**	P	**Pn**	**16 34 34.1**	**+0.2**
CADX				S	**Sb**	**16 34 48.2**	**0.0**
KLBR	**Kellerberrin**	**1.12**	**211**	⇓P	**Pg**	**16 34 33.4**	**+0.1**
	baz=1.1						
KLBR				S	**Sg**	**16 34 47.4**	**-0.5**
	baz=1.1						
KLBR	**Kellerberrin**	**1.12**	**211**	P	**Pg**	**16 34 33.4**	**+0.1**
KLBR	**Kellerberrin**	**1.12**	**211**	S	**Sg**	**16 34 47.4**	**-0.5**
BLDU	**Ballidu**	**1.48**	**270**	P	**Pb**	**16 34 39.3**	**-0.3**
	baz=1.4						
BLDU				S	**Sb**	**16 34 58.7**	**+0.1**
	baz=1.4						
BLDU	**Ballidu**	**1.48**	**270**	P	**Pb**	**16 34 39.3**	**-0.3**
BLDU				S	**Sb**	**16 34 58.7**	**+0.1**
MECK	**Meckering**	**1.58**	**230**	P	**Pb**	**16 34 41.6**	**+0.3**
MECK	**Meckering**	**1.58**	**230**	S	**Sg**	**16 35 02.0**	**-0.5**
AUKUL	**Kulin High Sch**	**2.05**	**187**	P	**Pb**	**16 34 48.8**	**-0.5**
AUKUL				SG	**Sg**	**16 35 17.0**	**-0.7**
PING	**Pingelly**	**2.24**	**213**	SG	**Sb**	**16 35 21.6**	**+1.1**
MUN	**Mundaring**	**2.33**	**234**	P	**Pn**	**16 34 50.3**	**-0.1**
	baz=2.3						
MUN				S	**Sn**	**16 35 19.8**	**+0.5**
	baz=2.3						
MUN	**Mundaring**	**2.33**	**234**	P	**Pn**	**16 34 50.3**	**-0.1**
MUN				S	**Sn**	**16 35 19.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**2.51**	**204**	P	**Pn**	**16 34 53.6**	**+0.7**
	baz=2.5						
NWAO				P	**Pn**	**16 34 53.6**	**+0.7**
	baz=2.5						
NWAO	**Narrogin (SRO)**	**2.51**	**204**	P	**Pn**	**16 34 53.6**	**+0.7**
MORW	**Morawa**	**2.59**	**306**	P	**Pb**	**16 34 56.9**	**-1.6**
	baz=2.6						
MORW				S	**Sn**	**16 35 25.9**	**+0.2**
	baz=2.6						
MORW	**Morawa**	**2.59**	**306**	P	**Pb**	**16 34 56.9**	**-1.6**
MORW				S	**Sn**	**16 35 25.9**	**+0.2**
KMBL	**Kambalda**	**3.06**	**105**	P	**Pn**	**16 35 02.4**	**+2.0**
	baz=3.1						
KMBL				S	**Sn**	**16 35 36.5**	**-0.7**
	baz=3.1						
KMBL	**Kambalda**	**3.06**	**105**	P	**Pn**	**16 35 02.4**	**+2.0**
KMBL	**Kambalda**	**3.06**	**105**	S	**Sn**	**16 35 36.5**	**-0.7**
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**16 35 15.6**	**+2.5**
	baz=4.0						
MEEK				S	**Sn**	**16 36 01.5**	**+1.5**
	baz=4.0						
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**16 35 15.6**	**+2.5**
MEEK	**Meekatharra**	**3.98**	**2**	S	**Sn**	**16 36 01.5**	**+1.5**
FORT	**Forrest**	**8.29**	**94**	P	**Pn**	**16 36 14.0**	**+1.6**
	baz=8.3						
FORT				S	**Sn**	**16 37 41.2**	**-5.0**
	baz=8.3						
WRKA	**Warakurna**	**10.35**	**60**	P	**Pn**	**16 36 41.0**	**+0.4**
	baz=10						

*REN **06** 16:36:15.5±1.4,38.42N±0.02×118.90W±0.02,h8km±6km, ML3.0/17,ML2.7/42(NEIC),Error ellipse: s-maj=2.3km s-min=1.6km az=209.0*

NEIC 06 16:36:15.8±1.6,38.417N±0.007×118.90W±0.02, h11km±6km,Error ellipse: s-maj=2.2km s-min=0.9km az=108.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.11**	**69**		Pg	16 36 18.8	-0.3
TVH1					Sg	16 36 20.9	-0.5
LHV	**Little Huntoon**	**0.35**	**118**		Pg	16 36 23.2	+0.4
LHV					Sb	16 36 28.6	-1.0
LHV	**Little Huntoon**	**0.35**	**118**	IAML		16 36 29.0	
	comp=N,3μm,0.5s						
LHV				IAML		16 36 30.4	
	comp=E,2μm,0.8s						
RYN	**Ryan**	**0.36**	**54**		Pg	16 36 23.2	+0.1
RYN					Sg	16 36 28.5	+0.5
RYN	**Ryan**	**0.36**	**54**	IAML		16 36 28.6	
	comp=N,3μm,0.2s						
RYN				IAML		16 36 28.9	
	comp=E,3μm,0.2s						
HCK	**Huntoon Valley**	**0.42**	**145**		Pb	16 36 24.6	-0.5
WAKR	**Walker**	**0.43**	**282**		Pg	16 36 24.4	0.0
WAKR					Sg	16 36 30.6	+0.4
WAKR	**Walker**	**0.43**	**282**	IAML		16 36 30.9	
	comp=E,665nm,0.8s						
WAKR				IAML		16 36 34.9	
	comp=N,484nm,0.9s						
NV09	**Mina Array Sit**	**0.44**	**88**		Pg	16 36 24.6	0.0
NV08	**Mina Array Sit**	**0.46**	**91**		Pg	16 36 24.7	-0.1
NV08					Sg	16 36 31.5	+0.6
NVAR	**Mina Array Bea**	**0.47**	**88**		Pg	16 36 24.7	-0.3
NV11	**Mina Array Sit**	**0.58**	**88**		Pb	16 36 28.1	0.0
NV11	**Mina Array Sit**	**0.58**	**88**	IAML		16 36 36.5	
	comp=E,276nm,0.6s						
NV11				IAML		16 36 37.2	
	comp=N,359nm,0.3s						
YERR	**Yerington**	**0.63**	**335**		Pg	16 36 27.8	-0.3
YERR					Sb	16 36 37.3	-0.4
YERR	**Yerington**	**0.63**	**335**	IAML		16 36 38.0	
	comp=E,454nm,0.4s						
YERR				IAML		16 36 38.4	
	comp=N,290nm,0.3s						
MDYM	**Dry Creek**	**0.76**	**187**		Sb	16 36 41.8	0.0
MCBM	**Casa Benchmark**	**0.77**	**180**		Pg	16 36 30.7	0.0
MLAC	**Mammoth, Mammo**	**0.79**	**176**		Pb	16 36 31.5	-0.1
MDPB	**Devils Postpil**	**0.80**	**190**		Pg	16 36 30.9	-0.3
MDPB					Sg	16 36 42.0	+0.3
PNTR	**Pine Nut**	**0.87**	**321**		Pg	16 36 32.2	-0.4
PNTR					Sg	16 36 44.1	+0.2
PNTR	**Pine Nut**	**0.87**	**321**	IAML		16 36 50.5	
	comp=E,206nm,0.8s						
KVN	**Kaiserville**	**0.89**	**44**		Pg	16 36 32.6	-0.4
KVN					Sg	16 36 44.9	+0.3
KVN	**Kaiserville**	**0.89**	**44**	IAML		16 36 48.9	
	comp=E,203nm,0.7s						
VCNR	**Virginia City**	**1.05**	**326**		Pg	16 36 35.6	-0.5
VCNR					Sb	16 36 50.3	+0.2
VCNR	**Virginia City**	**1.05**	**326**	IAML		16 36 53.9	
	comp=E,225nm,0.6s						
KCC	**Kaiser Creek**	**1.14**	**197**		Pb	16 36 37.1	-0.4
KCC					Sb	16 36 52.1	-0.2
CMB	**Columbia Colle**	**1.23**	**252**		Sb	16 36 54.5	-0.4
CMB	**Columbia Colle**	**1.23**	**252**	Pn	Pn	16 36 38.8	-0.1
CMB	**Columbia Colle**	**1.23**	**252**	IAML		16 36 54.8	
	comp=N,240nm,0.3s						
CMB				IAML		16 36 55.0	
	comp=E,233nm,0.2s						
MPK	**Martis Peak**	**1.25**	**315**		Pn	16 36 39.2	-0.1
MPK					Sn	16 36 56.8	+0.5
MPK	**Martis Peak**	**1.25**	**315**	IAML		16 36 59.7	
	comp=N,236nm,0.8s						
MPK				IAML		16 36 60.0	
	comp=E,171nm,0.6s						
DSP	**Deep Springs**	**1.28**	**145**		Pb	16 36 40.0	+0.2
DSP					Sg	16 36 57.2	+0.3
TPH	**Tonopah**	**1.36**	**104**		Pn	16 36 41.0	+0.1
MZP	**Montezuma Peak**	**1.39**	**120**		Pb	16 36 42.2	+0.2
MZP	**Montezuma Peak**	**1.39**	**120**	IAML		16 37 04.7	
	comp=N,86nm,0.5s						
MZP				IAML		16 37 04.8	
	comp=E,78nm,0.4s						
Q09A	**Carvers**	**1.41**	**72**		Pb	16 36 42.1	-0.1
PEAR	**Peavine Mounta**	**1.45**	**325**		Pb	16 36 42.6	-0.3
DONR	**Donner Summit**	**1.45**	**310**		Pn	16 36 42.2	0.0
LCH	**Last Change Ra**	**1.54**	**140**		Pb	16 36 44.5	+0.1
WVA	**Winnemucca Val**	**1.69**	**335**		Pn	16 36 45.8	+0.5
AFDM	**Forest Hills D**	**1.71**	**289**		Pn	16 36 45.9	+0.5
BEKR	**Beckworth**	**1.84**	**322**		Pn	16 36 47.9	+0.5
ORV	**Oroville**	**2.32**	**300**		Pn	16 36 54.5	+0.6
ORV	**Oroville**	**2.32**	**300**	Pn	Pn	16 36 53.0	-1.0
ORV	**Oroville**	**2.32**	**300**	IAML		16 37 28.4	
	comp=N,34nm,0.7s						
ORV				IAML		16 37 28.7	
	comp=E,44nm,0.7s						
PLTX	**Planet X, Gerl**	**2.33**	**349**	Pn	Pn	16 36 53.9	-0.2
BMN	**Battle Mountai**	**2.39**	**32**		Pn	16 36 54.7	-0.3
BBGB	**Big Mountain B**	**2.50**	**224**		Pn	16 36 56.3	-0.2
TPNV	**Topopah Spring**	**2.56**	**124**		Pn	16 36 57.0	-0.3
TPNV				IAML		16 37 46.1	
	comp=E,54nm,0.6s						
TPNV				IAML		16 37 48.7	
	comp=E,56nm,0.7s						
R11A	**Troy Canyon, C**	**2.60**	**90**		Pn	16 36 57.5	-0.5
R11A				IAML		16 37 40.2	
	comp=E,46nm,0.5s						
SAO	**San Andreas Ge**	**2.61**	**232**		Pn	16 36 57.1	-0.8
PMPB	**Monarch Peak**	**2.67**	**215**		Pn	16 36 59.7	+0.9
QSM	**Queen of Sheba**	**2.94**	**146**		Pn	16 36 58.8	-3.5
PRN	**Pahroc Range**	**3.21**	**107**	Pn	Pn	16 37 04.6	-1.5
Q12A	**Willow Creek R**	**3.24**	**78**		Pn	16 37 08.0	+1.3
SHPR	**Sheep Range**	**3.53**	**122**	Pn	Pn	16 37 09.2	-1.5
SPR3	**Spring Creek 3**	**3.62**	**79**		Pn	16 37 11.2	-0.8
ELK	**Elko**	**3.66**	**49**	Pn	Pn	16 37 11.9	-0.6
ELK				IAML		16 38 14.2	
	comp=E,9.9nm,0.5s						
ELK				IAML		16 38 14.3	
	comp=E,9.2nm,0.4s						

PGC 06 16:40:59.6±1.0,50.02N×130.21W,h10km,MLSn3.2/13, Mw3.8/13,212km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.47**	**64**	P	Pn	16 41 24.2	-2.0
HOLB				S	Sn	16 41 41.3	-4.2
PACB	**Port Alice, BC**	**1.79**	**75**	Pn	Pn	16 41 28.7	-1.9
PACB				Sn	Sn	16 41 48.6	-4.8
MAYB	**Maynard**	**1.99**	**78**	Pn	Pn	16 41 31.5	-1.9
EDB	**Eliza Dome**	**2.00**	**93**	Pn	Pn	16 41 32.2	-1.2
EDB				Sn	Sn	16 41 54.9	-3.6
HG4B	**Hotspring**	**2.36**	**345**	Pn	Pn	16 41 36.6	-1.8
BBB	**Bella Bella**	**2.54**	**30**	Pn	Pn	16 41 40.1	-0.8
BBB				Sn	Sn	16 42 07.8	-4.0
NCRB	**Newcastle Ridg**	**2.69**	**80**	Pn	Pn	16 41 41.8	-1.3
BNB	**Barry Inlet**	**2.74**	**340**	Pn	Pn	16 41 41.8	-1.9
OZB	**Mount Ozzard**	**3.25**	**107**	Sn	Sn	16 42 27.1	-2.3
MOBC	**Moresby Island**	**3.32**	**341**	Pn	Pn	16 41 50.5	-1.2
MOBC				Sn	Sn	16 42 28.9	-2.2
BNKB	**Banks Island**	**3.33**	**3**	Pn	Pn	16 41 50.6	-1.1
BNAB	**Bonilla**	**3.49**	**356**	Pn	Pn	16 41 52.9	-1.1
BFSB	**Bamfield**	**3.52**	**108**	Pn	Pn	16 41 53.0	-1.3
B928	**Bamfield**	**3.52**	**108**	Pn	Pn	16 41 52.9	-1.3
B928				Sn	Sn	16 42 32.7	-3.1
HWKB	**Hawksbury Isla**	**3.65**	**10**	Pn	Pn	16 41 54.9	-1.3
HWKB				Sn	Sn	16 42 37.0	-2.2
GRNB	**Grenville Isla**	**3.84**	**2**	Pn	Pn	16 41 57.9	-0.9
GRNB				Sn	Sn	16 42 42.3	-1.6
SHB	**Sechelt**	**4.12**	**93**	Pn	Pn	16 42 02.2	-0.5
FSJB	**Fort St James**	**5.74**	**37**	Pn	Pn	16 42 25.2	+0.4
FSB	**Fort Saint Jam**	**5.74**	**37**	Pn	Pn	16 42 25.8	+0.9
NBC4	**NorthernBC 4**	**8.10**	**42**	Pn	Pn	16 42 58.9	+1.6
NBC5	**NorthernBC 5**	**8.74**	**28**	Pn	Pn	16 43 08.1	+2.1

*IDC **06** 16:42:13.6±0.9,50.08N×130.11W,h0km,mb4.1/12, mbtmp3.9/21,ML3.5/9,MS3.4/9,Error ellipse: s-maj=17.5km s-min=11.6km az=54.0*

*OTT **06** 16:42:14±4.0,50.11N±0.09×130.1W±0.1,h10km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=135.0*

*PGC **06** 16:42:15.0±1.0,50.11N×130.09W,h10km,mb4.3, MLSn3.3/20,Mw3.9/20,200km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

*NEIC **06** 16:42:15.2±2.8,50.39N±0.09×129.9W±0.1,h10km±2km, mb4.3/80,ML3.2/18,Mwr3.9(OTT),Error ellipse: s-maj=20.3km s-min=6.9km az=226.0*

ISC 06 16:42:15.2±1.4,50.17N±0.05×129.97W±0.04,h8km±8km, n322,σ1s74/313,mb4.4/24,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.26**	**68**		**Pn**	**16 42 36.4**	**-2.8**
HOLB				IAML		16 42 59.7	
	comp=E,540nm,0.8s						
HOLB	**Holberg**	**1.26**	**68**	P	**Pn**	**16 42 36.9**	**-2.2**
HOLB				S	**Sb**	**16 42 54.1**	**-1.6**
PACB	**Port Alice, BC**	**1.61**	**80**	Pn	**Pn**	**16 42 42.2**	**-1.6**
PACB				Sn	**Sn**	**16 43 02.5**	**-2.2**
MAYB	**Maynard**	**1.81**	**82**	Pn	**Pn**	**16 42 44.9**	**-1.8**
EDB	**Eliza Dome**	**1.86**	**98**	Pn	**Pn**	**16 42 46.3**	**-1.0**
EDB				Sn	**Sn**	**16 43 07.4**	**-3.6**
HG4B	**Hotspring**	**2.26**	**340**		**Pn**	**16 42 49.3**	**-3.5**
HG4B	**Hotspring**	**2.26**	**340**	Pn	**Pn**	**16 42 50.7**	**-2.1**
HG4B				Sn	**Sn**	**16 43 18.9**	**-2.0**
BBB	**Bella Bella**	**2.33**	**29**	Pn	**Pn**	**16 42 53.8**	**0.0**
	comp=E,56nm,0.3s,baz=234,slow=6.9,SNR=24						
BBB				Sn	**Sn**	**16 43 22.7**	**+0.2**
	comp=E,18nm,0.3s,baz=138,slow=10,SNR=5.6						
BBB				LR	LR	16 43 55.9	
	comp=E,506nm,18.8s,baz=168,slow=42						
	comp=E,153nm,0.3s						
BBB	**Bella Bella**	**2.33**	**29**		**Pn**	**16 42 50.8**	**-2.9**
BBB				IAML		16 43 49.9	
	comp=E,148nm,2.0s						
BBB	**Bella Bella**	**2.33**	**29**	Pn	**Pn**	**16 42 53.7**	**0.0**
BBB				Sn	**Sn**	**16 43 20.3**	**-2.2**
NCRB	**Newcastle Ridg**	**2.52**	**83**	Pn	**Pn**	**16 42 56.0**	**-0.5**
NC89	**ODP889**	**2.53**	**125**	Sn	**Sn**	**16 43 23.7**	**-3.5**
BNB	**Barry Inlet**	**2.65**	**336**	Pn	**Pn**	**16 42 56.0**	**-2.2**
SPLB	**Strathcona Par**	**2.79**	**94**	Sn	**Sn**	**16 43 33.2**	**-0.8**
B012	**Ucluelet**	**3.14**	**112**	Sn	**Sn**	**16 43 40.2**	**-2.2**
OZB	**Mount Ozzard**	**3.15**	**111**	Pn	**Pn**	**16 43 05.5**	**+0.4**
OZB				IAML		16 44 48.7	
	comp=E,91nm,2.4s						
OZB	**Mount Ozzard**	**3.15**	**111**	Sn	**Sn**	**16 43 41.2**	**-1.8**
BNKB	**Banks Island**	**3.17**	**1**	Pn	**Pn**	**16 43 04.4**	**-0.8**
BNKB				Sn	**Sn**	**16 43 42.7**	**-0.4**
MOBC	**Moresby Island**	**3.23**	**338**	Pn	**Pn**	**16 43 02.6**	**-3.5**
MOBC				IAML		16 44 02.5	
	comp=E,66nm,1.6s						
MOBC				IAML		16 44 28.6	
	comp=N,68nm,3.1s						
MOBC	**Moresby Island**	**3.23**	**338**	Pn	**Pn**	**16 43 04.3**	**-1.8**
MOBC				Sn	**Sn**	**16 43 42.9**	**-1.9**
BNAB	**Bonilla**	**3.35**	**353**	Pn	**Pn**	**16 43 06.7**	**-1.1**
DIB	**Dawson Inlet,**	**3.41**	**334**		**Pn**	**16 43 06.7**	**-1.9**
DIB				IAML		16 43 54.5	
	comp=E,47nm,3.8s						
DIB	**Dawson Inlet,**	**3.41**	**334**	Pn	**Pn**	**16 43 07.2**	**-1.4**
H02S1	**DAWSON INLET T**	**3.41**	**334**	Pn	**Pn**	**16 43 06.8**	**-1.8**
BFSB	**Bamfield**	**3.42**	**111**	Sn	**Sn**	**16 43 46.8**	**-2.6**
B928	**Bamfield**	**3.42**	**111**	Sn	**Sn**	**16 43 46.9**	**-2.5**
HWKB	**Hawksbury Isla**	**3.47**	**8**	Pn	**Pn**	**16 43 09.5**	**0.0**
HWKB				Sn	**Sn**	**16 43 47.8**	**-2.9**
GRNB	**Grenville Isla**	**3.68**	**0**	Pn	**Pn**	**16 43 11.6**	**-0.7**
GRNB				IAML		16 44 41.8	
	comp=N,56nm,2.2s						
GRNB	**Grenville Isla**	**3.68**	**0**	Pn	**Pn**	**16 43 11.8**	**-0.5**
PFB	**Port Renfrew**	**3.95**	**112**	Sn	**Sn**	**16 43 59.8**	**-2.7**
SHB	**Sechelt**	**3.98**	**96**	Sn	**Sn**	**16 44 00.7**	**-2.7**
KITB	**Kitimat**	**4.00**	**11**	Pn	**Pn**	**16 43 17.5**	**+0.9**
B926	**Mesachie Lake**	**4.04**	**107**	Sn	**Sn**	**16 44 01.9**	**-2.7**
CLRS	**Cowichan Lake**	**4.04**	**107**	Pn	**Pn**	**16 43 17.9**	**+0.7**
CLRS				IAML		16 43 46.2	
	comp=E,38nm,2.5s						
CLRS				IAML		16 45 38.5	
	comp=N,41nm,2.3s						
RUBB	**Prince Rupert**	**4.16**	**358**	Pn	**Pn**	**16 43 16.3**	**-2.6**
RUBB				IAML		16 44 18.5	
	comp=N,30nm,2.4s						
RUBB	**Prince Rupert**	**4.16**	**358**	Pn	**Pn**	**16 43 18.9**	**0.0**
FSJB	**Fort St James**	**5.52**	**37**	Pn	**Pn**	**16 43 38.3**	**+0.6**
FSB	**Fort Saint Jam**	**5.53**	**37**	Pn	**Pn**	**16 43 39.1**	**+1.4**
FMW	**Mount Fremont**	**6.39**	**117**	Pn	**Pn**	**16 43 51.0**	**+1.3**
LON	**Longmire**	**6.41**	**119**		**Pn**	**16 43 52.8**	**+2.9**
LON	**Longmire**	**6.41**	**119**	Pn	**Pn**	**16 43 50.6**	**+0.7**
PNT	**Penticton**	**6.76**	**93**	Pn	**Pn**	**16 43 55.6**	**+1.0**
LTY	**Liberty**	**6.81**	**112**		**Pn**	**16 43 56.6**	**+1.3**
LTY	**Liberty**	**6.81**

KDAK **Kodiak Island** 15.28 309 LR LR 16 50 03.9
comp=N,400nm,21.8s,baz=175,slow=31
HWUT **Hardware Ranch** 15.38 117 Pn **Pn** 16 45 49.7 -2.8
MZP **Montezuma Peak** 15.38 139 **Pn** 16 45 50.9 -1.8
MZP IAmb IAmb 16 46 05.2
comp=Z,18nm,0.9s
DSP **Deep Springs** 15.43 142 **P** 16 45 55.6 -2.0
DSP IAmb IAmb 16 46 05.4
comp=Z,17nm,1.0s
DOT **Dot Lake** 15.49 336 Pn **Pn** 16 45 48.8 -4.9
DOT IAmb IAmb 16 46 09.5
comp=Z,35nm,1.2s
Q20K **Shuyak Island** 15.49 312 P **Pn** 16 45 53.0 -0.7
baz=114
TIN **Tinemaha, Big** 15.60 143 P **P** 16 45 57.9 -1.8
baz=331,SNR=6.5
DUG **Dugway, Tooele** 15.64 123 Pn **Pn** 16 45 55.9 0.0
DUG IAmb IAmb 16 46 07.9
comp=Z,20nm,1.2s
DUG **Dugway, Tooele** 15.64 123 P **P** 16 45 58.1 -2.0
baz=315,SNR=5.5
R11A **Troy Canyon, C** 15.64 134 P **P** 16 45 58.0 -2.3
baz=323
SCRK **Sand Creek** 15.74 337 P **Pn** 16 45 55.5 -1.6
baz=145
SPR3 **Spring Creek 3** 15.74 129 **Pn** 16 45 57.9 +0.5
SPR3 IAmb IAmb 16 46 09.2
comp=Z,14nm,1.3s
RIDG **Independent Ri** 15.77 335 P **Pn** 16 45 56.9 -0.5
baz=143
TCUT **Toone Canyon** 15.79 118 Pn **Pn** 16 45 54.6 -3.3
I29M **Ogilvie Camp,** 15.84 347 P **Pn** 16 45 57.0 -1.3
baz=160,SNR=5.6
PD31 **Pinedale Array** 15.86 110 **Pn** 16 45 59.2 +0.4
PDAR **Pinedale Array** 15.86 110 Pn **P** 16 46 01.2 -1.5
baz=301,slow=10,SNR=7.9
PDAR LR LR 16 52 14.3
comp=Z,88nm,19.1s,baz=326,slow=38
comp=Z,1.3nm,0.8s
PDAR **Pinedale Array** 15.86 110 **Pn** 16 45 59.4 +0.5
DHY **Denali Highway** 16.01 330 Pn **Pn** 16 45 59.5 -1.1
DHY IAmb IAmb 16 46 17.1
comp=Z,16nm,1.1s
DHY **Denali Highway** 16.01 330 P **Pn** 16 45 59.1 -1.5
baz=136
J26L **Joseph Creek** 16.07 338 P **Pn** 16 45 60.0 -1.3
baz=147
JLU **Jordanelle** 16.11 119 Pn **Pn** 16 46 02.3 +0.2
LAO **LASA Array** 16.12 93 Pn **Pn** 16 46 00.3 -1.7
LAO **LASA Array** 16.12 93 P **Pn** 16 46 04.0 +2.0
baz=291
S11A **Rachel** 16.14 135 P **P** 16 46 05.9 +0.1
S11A IAmb IAmb 16 46 13.5
comp=Z,69nm,1.3s
SUA **Susitna One** 16.16 322 **Pn** 16 46 02.5 0.0
SUA **Susitna One** 16.16 322 P **P** 16 46 04.2 -1.6
baz=125,SNR=10
CWC **Cottonwood Cre** 16.19 143 P **P** 16 46 08.3 +2.0
baz=331
NLU **North Lily Min** 16.21 122 **P** 16 46 05.8 -0.7
WCT **Wildcat Mounta** 16.47 139 P **P** 16 46 10.5 +1.2
WCT IAmb IAmb 16 46 17.5
comp=Z,26nm,1.0s
TPNV **Topopah Spring** 16.50 138 **P** 16 46 10.0 +0.2
TPNV IAmb IAmb 16 46 17.4
comp=Z,35nm,1.2s
TPNV **Topopah Spring** 16.50 138 P **P** 16 46 11.5 +1.7
baz=327,SNR=21
FURC **Furnace Creek,** 16.65 140 P **P** 16 46 13.6 +2.4
baz=329
PRN **Pahroc Range** 16.66 134 **P** 16 46 11.6 +0.2
PRN IAmb IAmb 16 46 19.1
comp=Z,17nm,1.1s
ISA **Isabella, Lake** 16.74 146 **P** 16 46 13.1 +0.9
ISA IAmb IAmb 16 46 19.6
comp=Z,25nm,1.2s
ISA **Isabella, Lake** 16.74 146 P **P** 16 46 14.7 +2.4
baz=333,SNR=8.2
MPMC **Manual Prospec** 16.76 143 P **P** 16 46 15.0 +2.4
baz=331,SNR=18
MCK **McKinley** 16.97 330 P **P** 16 46 13.8 -0.9
baz=135
GWY **Greenwater Val** 16.98 140 **P** 16 46 15.2 +0.2
PKM **Mcpherson Peak** 16.98 150 P **P** 16 46 19.0 +3.9
baz=337
BCW **Bitter Crk WRg** 17.07 149 Pn **P** 16 46 14.6 -1.4
QSM **Queen of Sheba** 17.09 141 P **P** 16 46 17.3 +1.2
QSM IAmb IAmb 16 46 24.5
comp=Z,23nm,1.0s
ILAR **Eielson Array** 17.14 335 P **P** 16 46 16.2 -0.2
baz=154,slow=11,SNR=7.9
ILAR LR LR 16 52 12.6
comp=Z,138nm,21.0s,baz=90,slow=35
comp=Z,0.9nm,0.8s
P18K **Big Mountain,** 17.15 312 P **P** 16 46 16.5 -0.1
baz=112
H27K **Steamboat Moun** 17.16 344 Pn **P** 16 46 16.8 +0.1
LRMC **Laurel Mtn Rad** 17.19 144 P **P** 16 46 20.8 +3.4
baz=332
MSU **Marysvale** 17.20 126 P **P** 16 46 17.6 0.0
SHPR **Sheep Range** 17.35 136 Pn **P** 16 46 18.5 -0.6
N19K **Bonanza Creek** 17.39 317 P **P** 16 46 19.8 +0.5
baz=117
F31M **Tsiigehtchic** 17.43 355 P **P** 16 46 19.2 -0.3
baz=172
Q16A **Castle Valley** 17.44 123 P **P** 16 46 19.9 -0.3
Q16A IAmb IAmb 16 46 31.3
comp=Z,19nm,1.3s
SZCU **Shurtz Canyon** 17.44 130 **Pn** 16 46 17.8 -1.1
SZCU IAmb IAmb 16 46 27.7
comp=Z,31nm,1.5s
FFC **Flin Flon** 17.60 64 **Pn** 16 46 20.1 -0.4
FFC IAmb IAmb 16 46 39.3
comp=Z,21nm,0.9s
FFC **Flin Flon** 17.60 64 Pn **Pn** 16 46 20.7 +0.2
Q16K **King Salmon** 17.61 309 P **P** 16 46 23.0 +1.5
baz=108,SNR=5.2
EDW2 **Edwards Air Fo** 17.61 146 P **P** 16 46 25.0 +3.1
baz=334
NEA2 **Nenana** 17.63 332 P **Pn** 16 46 20.5 -0.3
baz=136
SRU **San Rafael Swe** 17.66 121 **P** 16 46 22.5 0.0
SRU IAmb IAmb 16 46 39.3
comp=Z,17nm,1.1s
GSC **Goldstone, Bar** 17.69 142 **P** 16 46 22.5 -0.3
GSC **Goldstone, Bar** 17.69 142 P **P** 16 46 26.5 +3.7
baz=331
G27K **Doyon Strip** 17.71 345 Pn **P** 16 46 23.3 +0.5
G27K **Doyon Strip** 17.71 345 P **P** 16 46 22.7 0.0
baz=155
K22A **Casper** 17.78 106 Pn **Pn** 16 46 20.7 -2.3
K22A **Casper** 17.78 106 P **P** 16 46 24.9 +1.0
baz=303
LCMT **Little Creek M** 17.83 131 P **P** 16 46 24.4 0.0
CAST **Castle Rocks** 17.83 326 P **P** 16 46 23.9 -0.2
baz=128
BPAW **Bear Paw Mtn.** 17.89 329 P **P** 16 46 25.3 +0.6
baz=132
TUQ **Turquoise Moun** 17.93 140 P **P** 16 46 28.0 +2.6
baz=329,SNR=5.1
L20K **Farewell, AK** 17.96 322 P **P** 16 46 24.9 -0.6
baz=123
I23K **Minto, Yukon-K** 18.12 333 P **P** 16 46 26.8 -0.3
baz=137
FYU **Fort Yukon** 18.19 340 **Pn** 16 46 24.6 -3.1
FYU IAmb IAmb 16 46 38.1
comp=Z,42nm,1.4s
H24K **Noodor Dome** 18.23 336 P **P** 16 46 28.6 +0.1
baz=141
O20A **White River Ci** 18.25 115 P **P** 16 46 31.3 +2.1
baz=310
INK **Inuvik** 18.27 356 P **P** 16 46 30.8 +1.9
baz=149,slow=13,SNR=7.5
comp=Z,4.0nm,1.0s
INK **Inuvik** 18.27 356 P **Pn** 16 46 30.5 +1.6
INK **Inuvik** 18.27 356 P **Pn** 16 46 27.5 -1.2
baz=173
HEC **Hector,Ludlow** 18.29 142 P **P** 16 46 32.3 +2.9
baz=331,SNR=7.2
BFSC **Mount Baldy Ra** 18.31 146 P **P** 16 46 33.2 +3.5
baz=334
MLY **Manley** 18.44 332 P **P** 16 46 27.6 -3.2
MLY **Manley** 18.44 332 P **Pn** 16 46 31.0 +0.1
baz=134,SNR=6.9
K20K **Telida** 18.52 325 P **Pn** 16 46 32.0 +0.2
baz=125

O16K **Kokwok River B** 18.59 311 P **Pn** 16 46 32.2 -0.4
baz=108
RSSD **Black Hills** 18.59 99 P **Pn** 16 46 33.9 +0.9
baz=298
GMRC **Granite Mounta** 18.60 140 P **Pn** 16 46 36.7 +3.6
baz=330
U15A **North Rim** 18.75 130 P **Pn** 16 46 36.5 +1.4
BMAR **Burnt Mountain** 18.79 342 P **P** 16 46 34.1 -0.6
CIS **Catalina Islan** 18.80 149 P **Pn** 16 46 39.3 +3.9
baz=336
I21K **Tanana** 18.93 331 P **P** 16 46 35.9 -0.3
I21K IAmb IAmb 16 46 49.8
comp=Z,22nm,1.4s
I21K **Tanana** 18.93 331 P **Pn** 16 46 36.6 -0.2
baz=132
F26K **Sheenjek River** 18.94 343 P **Pn** 16 46 37.0 0.0
baz=151
PV23 **Carpenter Ridg** 18.96 120 P **Pn** 16 46 38.3 +0.7
PV23 IAmb IAmb 16 47 04.3
comp=Z,28nm,1.4s
E27K **Coleen River** 18.96 347 P **P** 16 46 36.0 -0.5
baz=157
J20K **Nowinta River** 19.02 327 P **Pn** 16 46 37.4 -0.4
baz=126
TTA **Tatalina** 19.04 322 P **Pn** 16 46 37.9 -0.2
baz=120
W13A **Hualapai Mount** 19.09 136 P **Pn** 16 46 39.6 +0.5
PV11 **David Mesa, Pa** 19.14 120 P **P** 16 46 38.7 -0.2
PV11 IAmb IAmb 16 46 47.6
comp=Z,20nm,1.0s
N23A **Red Feather La** 19.14 110 P **P** 16 46 39.2 +0.2
N23A IAmb IAmb 16 46 54.0
comp=Z,17nm,1.4s
N23A **Red Feather La** 19.14 110 P **Pn** 16 46 41.3 +1.5
baz=307
BELC **Belle Mtn. Jos** 19.14 142 P **Pn** 16 46 43.9 +4.2
baz=332
F25K **Christian Rive** 19.15 342 P **P** 16 46 38.9 +0.3
baz=148
KUKN **Kuguktuk,NWT** 19.19 17 P **Pn** 16 46 42.0 +2.2
PV13 **Radium Mtn., P** 19.27 120 P **Pn** 16 46 41.7 +0.4
PV13 IAmb IAmb 16 46 50.1
comp=Z,48nm,1.4s
PFO **Pinyon Flats O** 19.31 144 LR LR 16 54 16.4
comp=Z,196nm,18.4s,baz=331,slow=38
PFO **Pinyon Flats O** 19.31 144 P **Pn** 16 46 44.1 +2.4
baz=333
IRM **Iron Mountain** 19.35 140 P **Pn** 16 46 44.6 +2.5
baz=330
C36M **Paulatuk** 19.45 6 P **P** 16 46 38.9 -2.9
C36M IAmb IAmb 16 46 56.3
comp=Z,20nm,1.3s
C36M **Paulatuk** 19.45 6 P **Pn** 16 46 42.9 +0.1
C36M **Paulatuk** 19.45 6 P **P** 16 46 42.6 +0.9
baz=192
G23K **Bananza Creek** 19.46 336 P **Pn** 16 46 43.3 +0.2
baz=139
H21K **Melozitna Rive** 19.51 331 P **Pn** 16 46 43.6 -0.1
baz=132
F24K **Squaw Lake** 19.57 339 P **Pn** 16 46 43.9 -0.6
baz=144
E25K **Arctic Village** 19.58 342 P **P** 16 46 43.6 +0.3
baz=149
SMCO **Snowmass** 19.62 115 P **Pn** 16 46 45.6 0.0
SMCO IAmb IAmb 16 46 54.8
comp=Z,15nm,1.2s
BC3 **Big Chuckawall** 19.66 142 P **Pn** 16 46 47.9 +2.0
baz=331
COLD **Coldfoot** 19.90 337 P **Pn** 16 46 47.9 -0.4
COLD **Coldfoot** 19.90 337 P **P** 16 46 46.7 0.0
baz=140
WUAZ **Wupatki** 19.93 130 P **Pn** 16 46 49.1 0.0
WUAZ IAmb IAmb 16 46 58.6
comp=Z,10.0nm,1.0s
WUAZ **Wupatki** 19.93 130 P **Pn** 16 46 50.5 +1.4
baz=323
BLYC **Blythe** 19.96 139 P **Pn** 16 46 49.3 0.0
MONP2 **Monument Peak** 19.97 145 P **Pn** 16 46 51.3 +1.7
baz=334
MDND **Maddock** 19.99 85 P **P** 16 46 48.8 +0.9
baz=288
IMAR **Indian Mountai** 20.02 331 P **P** 16 46 46.2 -1.8
ISCO **Idaho Springs** 20.02 112 P Pn 16 46 50.1 -0.1
baz=309
BAR **Barrett** 20.07 146 P **P** 16 46 45.5 -3.3
MVCO **Mesa Verde** 20.13 122 P **P** 16 46 50.3 +0.6
MVCO IAmb IAmb 16 46 59.6
comp=Z,12nm,0.9s
MVCO **Mesa Verde** 20.13 122 P Pn 16 46 51.5 0.0
baz=317
G21K **Allakaket** 20.30 333 P **P** 16 46 51.6 +0.6
baz=133
IKP **In-Ko-Pah, Jac** 20.30 144 P Pn 16 46 55.1 +1.7
baz=334,SNR=5.5
RMX **La Rumorosa** 20.35 144 P Pn 16 46 52.9 -1.2
RMX IAmb IAmb 16 46 59.1
comp=Z,14nm,1.2s
Y14A **Wickenburg** 20.46 136 P **P** 16 46 50.2 -2.8
S22A **4UR Ranch, Cre** 20.68 118 P Pn 16 46 57.1 -0.9
S22A IAmb IAmb 16 47 03.6
comp=Z,19nm,1.1s
S22A **4UR Ranch, Cre** 20.68 118 P Pn 16 46 58.1 +0.1
baz=314,SNR=18
F21K **Alatna River** 20.77 334 P **P** 16 46 56.0 -0.2
baz=134
Q24A **Divide** 20.83 113 P Pn 16 46 59.5 -0.3
baz=310
C26K **Camden Bay** 21.04 346 P **P** 16 46 58.8 -0.3
baz=153
W18A **Petrified Fore** 21.06 128 P **P** 16 47 00.7 +0.9
W18A **Petrified Fore** 21.06 128 P **P** 16 47 01.8 +2.0
baz=322,SNR=18
D23K **Nanushuk River** 21.36 339 P **P** 16 47 00.3 -2.1
baz=142
X18A **Snowflake** 21.42 129 P **P** 16 47 03.4 -0.2
X18A **pP** 16 47 04.2 -1.0
SDCO **Great Sand Dun** 21.44 116 P **P** 16 47 05.2 +1.3
baz=313
OGNE **Ogallala** 21.52 105 P **P** 16 47 03.6 -1.0
OGNE **Ogallala** 21.52 105 P **P** 16 47 06.3 +1.8
baz=305
C24K **Franklin Bluff** 21.55 342 P **P** 16 47 02.7 -1.8
baz=146
ULM **Lac du Bonnet** 21.71 77 P **P** 16 47 07.3 +0.9
comp=Z,31nm,1.1s,baz=286,slow=11,SNR=13
comp=Z,31nm,1.1s
ULM **Lac du Bonnet** 21.71 77 P **P** 16 47 05.3 -1.2
ULM **Lac du Bonnet** 21.71 77 P **P** 16 47 07.3 +0.9
A36M **Sachs Harbour** 22.00 4 P **P** 16 47 11.7 +2.4
A36M **Sachs Harbour** 22.00 4 P **P** 16 47 08.7 -0.6
baz=188
214A **Organ Pipe Nat** 22.23 138 P **P** 16 47 15.0 +2.8
baz=330
AGMN **Agassiz Nation** 22.24 82 P **P** 16 47 09.8 -2.4
AGMN IAmb IAmb 16 47 19.2
comp=Z,12nm,1.1s
AGMN **Agassiz Nation** 22.24 82 P **P** 16 47 12.8 +0.7
baz=288
FCC **Fort Churchill** 22.31 54 P **P** 16 47 12.7 -0.1
FCC **Fort Churchill** 22.31 54 P **P** 16 47 14.3 +1.6
KSCO **Kaye Shedlock'** 22.31 110 P **P** 16 47 11.4 -1.7
KSCO **Kaye Shedlock'** 22.31 110 P **P** 16 47 14.3 +1.2
T25A **Trinidad** 22.48 116 P **P** 16 47 15.8 +0.7
T25A IAmb IAmb 16 47 34.4
comp=Z,21nm,1.4s
T25A **Trinidad** 22.48 116 P **P** 16 47 16.1 +1.0
baz=313
F33A **5 Mile Ranch,** 22.82 88 P **P** 16 47 17.6 -0.7
F33A IAmb IAmb 16 47 21.8
comp=Z,23nm,1.1s
ANMO **Albuquerque** 22.91 123 P **P** 16 47 21.2 +1.7
comp=Z,2.6nm,0.9s,baz=322,slow=6.3,SNR=6.2
comp=Z,2.6nm,0.9s
ANMO **Albuquerque** 22.91 123 P **P** 16 47 20.9 +1.3
baz=319
ECSD **EROS Data Cent** 23.52 93 P **P** 16 47 27.5 +2.0
ECSD IAmb IAmb 16 47 29.1
comp=Z,11nm,0.8s
ECSD **EROS Data Cent** 23.52 93 P **P** 16 47 25.9 +0.4
baz=298,SNR=7.5
121A **Cookes Peak, D** 24.10 129 P **P** 16 47 29.9 -1.4
121A IAmb IAmb 16 48 06.1
comp=Z,13nm,1.2s
121A **Cookes Peak, D** 24.10 129 P **P** 16 47 33.1 +1.8
baz=323

319A **Douglas** 24.31 133 P **P** 16 47 32.8 -0.5
319A IAmb IAmb 16 47 41.8
comp=Z,8.9nm,1.0s
L34A **Svendsen Farm,** 24.54 97 P **P** 16 47 34.4 -0.7
PKLO **Pickle Lake** 24.85 72 P **P** 16 47 38.8 +1.0
EYMN **Ely** 25.12 80 P **P** 16 47 40.6 +0.3
baz=290,SNR=7.0
SPMN **Marine on St.** 25.31 87 **P** 16 47 41.2 -0.9
SPMN IAmb IAmb 16 47 44.9
comp=Z,13nm,0.8s
SPMN **Marine on St.** 25.31 87 P **P** 16 47 41.9 -0.1
baz=295
N35A **Tabor** 25.59 98 P **P** 16 47 42.8 -1.8
AMTX **Amarillo** 25.64 116 P **P** 16 47 45.5 +0.4
AMTX **Amarillo** 25.64 116 P **P** 16 47 45.7 +0.5
baz=315
GAMB **Gambell** 25.93 317 P **P** 16 47 46.9 -0.6
baz=102
MNTX **Cornudas Mount** 25.99 126 P **P** 16 47 47.2 -1.1
MNTX IAmb IAmb 16 47 55.0
comp=Z,11nm,1.2s
MNTX **Cornudas Mount** 25.99 126 P **P** 16 47 50.2 +1.9
baz=322
ELIS **Ellis County** 26.16 111 P **P** 16 47 48.9 -1.0
ELIS IAmb IAmb 16 47 56.8
comp=Z,24nm,1.1s
T35A **Sooner Cattle** 27.38 106 P **P** 16 47 58.2 -2.5
GTO **Geraldton** 27.39 74 P **P** 16 48 00.2 -0.5
OK050 **Pawnee Station** 27.42 107 P **P** 16 47 59.3 -1.9
WMOK **Wichita Mounta** 27.45 112 P **P** 16 48 02.1 +0.7
WMOK IAmb IAmb 16 48 08.1
comp=Z,17nm,1.2s
WMOK **Wichita Mounta** 27.45 112 P **P** 16 48 02.5 +1.0
baz=314,SNR=11
OK052 **Battle Ridge R** 27.79 108 P **P** 16 48 02.8 -1.7
OK031 **S. Brethren Rd** 27.80 108 P **P** 16 48 02.4 -2.1
TUL1 **Leonard** 28.47 107 P **P** 16 48 10.6 0.0
baz=311
TX31 **Lajitas Ar. Si** 28.76 126 P **P** 16 48 11.2 -2.0
ILON **Igloolik, Nuna** 29.75 32 P **P** 16 48 23.7 +2.2
MIAR **Mount Ida** 30.73 107 P **P** 16 48 30.9 +0.3
MIAR **Mount Ida** 30.73 107 P **P** 16 48 31.4 +0.8
baz=312
FCAR **Ozark Folk Cen** 30.76 103 P **P** 16 48 31.5 +0.7
LCAR **Lake Charles** 31.25 102 P **P** 16 48 33.8 -1.4
LCAR IAmb IAmb 16 48 36.0
comp=Z,7.6nm,0.8s
833A **Chaparral WMA,** 31.84 122 P **P** 16 48 42.6 +2.2
baz=322
O48B **Farmland** 32.64 90 P **P** 16 48 46.9 -0.4
baz=303
WVT **Waverly** 33.32 99 P **P** 16 48 53.7 +0.4
baz=308
OXF **Oxford** 33.35 102 P **P** 16 48 52.8 -0.7
OXF **Oxford** 33.35 102 P **P** 16 48 53.5 0.0
baz=310,SNR=6.4
ACSO **Alum Creek Sta** 34.05 89 P **P** 16 48 58.3 -1.3
baz=303
M53A **WI Miller and** 34.89 85 P **P** 16 49 05.0 -1.9
baz=302
P52A **Corning** 34.92 89 P **P** 16 49 05.9 -1.2
baz=304
TZTN **Tazewell** 35.80 94 P **P** 16 49 13.3 -1.5
baz=307
LRAL **Lakeview Retre** 35.83 102 P **P** 16 49 14.3 -0.7
baz=312
SEY **Seymchan** 41.93 318 P **P** 16 50 06.0 +0.3
comp=Z,1.0nm,0.6s,baz=88,slow=9.7,SNR=6.5
comp=Z,1.0nm,0.6s
NRIK **Noril'sk** 57.66 345 P **P** 16 52 05.2 -0.1
comp=Z,1.1nm,0.2s,baz=33,slow=5.8,SNR=4.1
comp=Z,1.1nm,0.2s
H11N2 **WAKE ISLAND Hy** 57.95 263 T T 17 54 44.5
baz=42,slow=76
H11N3 **WAKE ISLAND Hy** 57.95 263 T T 17 54 43.4
baz=42,slow=76
H11N1 **WAKE ISLAND Hy** 57.96 263 T T 17 54 47.1
baz=42,slow=76
H11S1 **WAKE ISLAND Hy** 58.97 262 T T 17 56 02.2
baz=44,slow=17,SNR=5.3
H11S2 **WAKE ISLAND Hy** 58.98 262 T T 17 56 02.2
baz=44,slow=17,SNR=3.4
H11S3 **WAKE ISLAND Hy** 58.99 262 T T 17 56 04.5
baz=44,slow=17,SNR=5.5
HEH **HeiHe** 60.20 314 *e*P **P** 16 52 22.1 -1.1
HEH pmax pmax
comp=Z,3.0nm,0.7s
HEH pmax pmax
comp=Z,300nm,5.0s
FINES **FINESS Array B** 67.09 12 P **P** 16 53 09.2 +0.7
comp=Z,4.5nm,0.8s,baz=329,slow=6.7,SNR=6.2
comp=Z,4.5nm,0.8s
ZALV **Zalesovo Beam** 72.21 339 P **P** 16 53 39.9 -0.3
comp=Z,0.5nm,0.6s,baz=21,slow=4.9,SNR=4.6
comp=Z,0.5nm,0.6s
OBN **Obninsk** 74.48 8 LR LR 17 27 20.3
comp=Z,17nm,21.0s,baz=12,slow=36
HHC **Hu-ho-hao-te** 74.55 316 *e*P **P** 16 53 54.1 -0.2
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.7s
GERES **GERESS Array B** 76.54 24 P **P** 16 54 05.9 +0.3
comp=Z,0.2nm,0.5s,baz=345,slow=7.1,SNR=1.8
comp=Z,0.2nm,0.5s
AKASG **Malin Array Be** 77.95 13 P **P** 16 54 12.5 -0.8
comp=Z,1.4nm,0.8s,baz=355,slow=4.6,SNR=7.5
comp=Z,1.4nm,0.8s
ESDC **Sonseca Array** 78.74 40 P **P** 16 54 17.5 -0.5
comp=Z,0.6nm,0.7s,baz=316,slow=5.5,SNR=3.4
comp=Z,0.6nm,0.7s
MKAR **Makanchi Array** 79.46 338 P **P** 16 54 21.5 -0.3
comp=Z,0.5nm,0.6s,baz=16,slow=3.8,SNR=5.6
comp=Z,0.5nm,0.6s
WMQ **Urumqi** 80.80 333 *e*P **P** 16 54 30.3 +1.2
KBZ **Khabaz** 86.27 5 P **P** 16 54 57.2 +0.1
comp=Z,2.6nm,0.9s,baz=28,slow=3.9,SNR=4.0
comp=Z,2.6nm,0.9s
PZH **PanZhiHua** 90.98 315 P **P** 16 55 20.7 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,5.6s
CMAR **Chiang Mai Arr** 99.22 314 P **Pdif** 16 55 57.4 -0.1
comp=Z,0.2nm,0.3s,baz=15,slow=3.7,SNR=1.5
comp=Z,0.2nm,0.3s

WEL ***06*** *16:46:00.0, 37.72S×177.53E, h60km, ML4.8, Mw4.9, Moment Tensor Solution. s9 Moment tensor: Scale 10^{16} Nm; M_{rr}1.80; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-1.99; $M_{r\theta}$-0.59; $M_{\theta\phi}$-0.66; $M_{\phi r}$2.05; Fault plane solution: M_o2.93000×10^{16} NP1: ϕ_s218.00000°, δ28.00000°, λ132.00000°. NP2: ϕ_s353.00000°, δ70.00000°, λ71.00000°. Principal axes: T 2931.4600, Plg61.0000°, Azm235.0000°; N 0.6700, Plg18.0000°, Azm359.0000°; P -2932.1400, Plg22.0000°, Azm98.0000°;*

BJI ***06*** *16:46:08.0, 0.0, 37.80S×177.50E, h40km, mb5.1/12, mB5.6/6, Ms5.0/1, Ms7 4.7/1*

IDC ***06*** *16:46:10.7, 1.2, 37.86S×177.78E, h64km±8km, mb4.6/13, mbtmp4.8/14, MS3.9/27, Error ellipse: s-maj=19.0km s-min=17.8km az=19.0*

NOU ***06*** *16:46:11.1, 38.00S×177.94E, h62km, mb5.1/57, Off E. Coast of N. Island, N.Z.*

NEIC ***06*** *16:46:11.1±2.5, 37.89S±0.06×177.68E±0.08, h53km±4km, mb5.0/31, Mwr4.9/38, Mww4.9, Error ellipse: s-maj=10.2km s-min=6.5km az=132.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.54; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-2.31; $M_{r\theta}$-0.46; $M_{\theta\phi}$-1.40; $M_{\phi r}$1.47; Fault plane solution: M_o3.20000×10^{16} NP1:ϕ_s227.34000°, δ37.93000°, λ124.35000°. NP2:ϕ_s6.43000°, δ59.50000°, λ66.26000°. Principal axes: T 3.1615, Plg66.0000°, Azm231.0000°; N 0.0745, Plg20.0000°, Azm19.0000°; P -3.2360, Plg11.0000°, Azm113.0000°;*

WEL ***06*** *16:46:12.2±0.5, 38°S±4×17°8E±°, h28km±5km, M4.8/14, ML5.2/14, MLv4.8/14 Error ellipse: s-maj=0.0km s-min=0.0km az=3.6, confirmed*

NEIC ***06*** *16:46:12, 37.87S×177.71E, h50km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.82; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-2.78; $M_{r\theta}$-0.25; $M_{\theta\phi}$-0.39; $M_{\phi r}$1.69; Fault plane solution: M_o3.30000×10^{16} NP1:*

ϕ_s196.00000°, δ30.00000°, λ104.00000°. NP2: ϕ_s360.00000°, δ61.00000°, λ82.00000°. Principal axes: T 3.3229, Plg73.0000°, Azm249.0000°; N -0.0471, Plg7.0000°, Azm4.0000°; P -3.2758, Plg15.0000°, Azm96.0000°;

*GCMT **06** 16:46:15.1±0.3, 37.82S±0.02×177.91E±0.03, h63km±1km, MW5.0/75, Moment Tensor Solution. s43, c52; s75, c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.00±.19; $M_{\theta\theta}$0.85±.16; $M_{\phi\phi}$-3.85±.12; $M_{r\theta}$-0.48±.10; $M_{r\phi}$-1.40±.12; $M_{\theta\phi}$1.08±.10; Best double couple: M_o3.86100×10^{16} NP1:ϕ_s358.00000°, δ55.00000°, λ67.00000°. NP2: ϕ_s215.00000°, δ41.00000°, λ119.00000°. Principal axes: T 3.3700, Plg70.0000°, Azm214.0000°; N 0.9800, Plg19.0000°, Azm12.0000°; P -4.3510, Plg7.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*

ISC 06 16:46:11.8±0.4, 37.79S±0.03×177.60E±0.03, h63km±2km, h63km:pP-P, n399, σ1§68/410, mb5.1/45, 4C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.15**	**76**	P	**Pn**	**16 46 19.6**	**-1.8**
HAZ				S	**Sn**	**16 46 25.7**	**-2.6**
RUGZ	**Raukumara Rang**	**0.18**	**159**	P	**Pn**	**16 46 19.6**	**-2.1**
RUGZ				S	**Sn**	**16 46 25.9**	**-3.0**
PKGZ	**Pakihiroa**	**0.39**	**104**	P	**Pn**	**16 46 21.8**	**-1.3**
WIZ	**White Island**	**0.42**	**310**	P	**Pn**	**16 46 21.7**	**-1.6**
WSRZ	**White Island S**	**0.43**	**310**	P	**Pn**	**16 46 22.1**	**-1.2**
TWGZ	**Tauwhareparae**	**0.49**	**142**	P	**Pn**	**16 46 24.0**	**+0.1**
WHRZ	**Whale Island**	**0.49**	**263**	P	**Pn**	**16 46 23.4**	**-0.6**
MWZ	**Matawai**	**0.54**	**186**	P	**Pn**	**16 46 23.9**	**-0.6**
MWZ				S	**Sn**	**16 46 33.0**	**-0.8**
PUZ	**Puketiti**	**0.59**	**118**	P	**Pn**	**16 46 25.1**	**+0.1**
PUZ				S	**Sn**	**16 46 36.4**	**+1.6**
URZ	**Urewera**	**0.60**	**219**	P	**Pn**	**16 46 24.4**	**-0.7**
	7μm,0.3s,baz=337,slow=3.6,SNR=8665						
URZ				S	**Sn**	**16 46 33.8**	**-1.1**
	14μm,0.4s,baz=207,slow=23,SNR=23						
URZ				LR	LR	16 46 57.7	
	comp=Z,5μm,20.2s,baz=318,slow=71						
URZ	**Urewera**	**0.60**	**219**	P	**Pn**	**16 46 24.6**	**-0.5**
URZ	**Urewera**	**0.60**	**219**	P	**Pn**	**16 46 24.6**	**-0.5**
URZ				S	**Sn**	**16 46 34.4**	**-0.4**
MXZ	**Matakaoa Point**	**0.61**	**68**	Pn	**Pn**	**16 46 24.4**	**-0.8**
MXZ	**Matakaoa Point**	**0.61**	**68**	P	**Pn**	**16 46 24.8**	**-0.4**
MXZ	**Matakaoa Point**	**0.61**	**68**	P	**Pn**	**16 46 24.4**	**-0.8**
WMGZ	**Waiomatatini S**	**0.65**	**92**	P	**Pn**	**16 46 25.9**	**+0.3**
WMGZ				S	**Sn**	**16 46 37.8**	**+2.0**
TKGZ	**Te Karaka**	**0.67**	**163**	P	**Pn**	**16 46 26.7**	**+0.8**
TKGZ				S	**Sn**	**16 46 39.3**	**+3.0**
RAGZ	**Rawiri**	**0.71**	**191**	P	**Pn**	**16 46 26.7**	**+0.2**
RAGZ				S	**Sn**	**16 46 38.2**	**+0.9**
EDRZ	**Edgecumbe**	**0.74**	**245**	P	**Pn**	**16 46 26.6**	**-0.2**
EDRZ				S	**Sn**	**16 46 38.2**	**+0.3**
MARZ	**Manawahe**	**0.75**	**255**	P	**Pn**	**16 46 26.3**	**-0.6**
MARZ				S	**Sn**	**16 46 37.9**	**-0.1**
OPRZ	**Ohinepanea**	**0.82**	**266**	P	**Pn**	**16 46 27.1**	**-0.7**
OPRZ				S	**Sn**	**16 46 38.8**	**-0.7**
CNGZ	**Carnagh Statio**	**0.84**	**145**	P	**Pn**	**16 46 28.6**	**+0.6**
CNGZ				S	**Sn**	**16 46 43.1**	**+3.3**
RIGZ	**Rimuhau**	**0.92**	**172**	P	**Pn**	**16 46 29.5**	**+0.5**
MUGZ	**Murupara**	**0.94**	**223**	P	**Pn**	**16 46 29.0**	**-0.3**
RTZ	**Ruatahuna**	**0.95**	**210**	Pn	**Pn**	**16 46 29.0**	**-0.4**
RTZ				Sn	**Sn**	**16 46 42.2**	**-0.3**
RTZ	**Ruatahuna**	**0.95**	**210**	P	**Pn**	**16 46 29.2**	**-0.3**
MKRZ	**Makatiti**	**0.95**	**249**	P	**Pn**	**16 46 29.9**	**+0.4**
TARZ	**Mount Tarawera**	**0.97**	**243**	P	**Pn**	**16 46 29.8**	**+0.1**
LIRZ	**Lichensteins R**	**0.98**	**257**	P	**Pn**	**16 46 29.7**	**0.0**
SNGZ	**Shannon Statio**	**1.01**	**191**	P	**Pn**	**16 46 31.2**	**+1.1**
RRRZ	**Republican Roa**	**1.01**	**237**	P	**Pn**	**16 46 30.1**	**0.0**
OMRZ	**Omania**	**1.02**	**252**	P	**Pn**	**16 46 30.1**	**-0.1**
TGRZ	**Tauranga**	**1.06**	**273**	P	**Pn**	**16 46 30.1**	**-0.6**
HLRZ	**Highlands Stat**	**1.08**	**245**	P	**Pn**	**16 46 31.3**	**+0.2**
KARZ	**Kaharoa**	**1.09**	**258**	P	**Pn**	**16 46 31.0**	**-0.1**
NGRZ	**Ngongotaha**	**1.15**	**254**	P	**Pn**	**16 46 32.3**	**+0.2**
UTU	**Utuhina**	**1.17**	**251**	P	**Pn**	**16 46 33.0**	**+0.7**
PRRZ	**Plateau Road**	**1.18**	**233**	P	**Pn**	**16 46 32.4**	**0.0**
HSRZ	**Hossack Road**	**1.18**	**244**	P	**Pn**	**16 46 32.8**	**+0.4**
RAHZ	**Arahi**	**1.19**	**200**	P	**Pn**	**16 46 33.2**	**+0.7**
MYRZ	**Mayor Island**	**1.19**	**295**	P	**Pn**	**16 46 31.8**	**-0.7**
HRRZ	**Handcock Road**	**1.19**	**240**	P	**Pn**	**16 46 32.8**	**+0.2**
MTHZ	**Maungataniwha**	**1.21**	**209**	P	**Pn**	**16 46 32.7**	**-0.1**
KNZ	**Kokohu**	**1.23**	**177**	P	**Pn**	**16 46 32.9**	**0.0**
ALRZ	**Allen Road**	**1.25**	**232**	P	**Pn**	**16 46 33.3**	**+0.1**
GRRZ	**Galatos Road**	**1.30**	**244**	P	**Pn**	**16 46 34.4**	**+0.5**
KMRZ	**Kaimai**	**1.31**	**267**	P	**Pn**	**16 46 33.7**	**-0.4**
WHHZ	**Waihua**	**1.31**	**192**	P	**Pn**	**16 46 35.1**	**+1.1**
WPRZ	**Whakapapatarin**	**1.34**	**237**	P	**Pn**	**16 46 34.9**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.38**	**170**	P	**Pn**	**16 46 35.1**	**+0.2**
MRHZ	**Matea Rd**	**1.39**	**221**	P	**Pn**	**16 46 35.2**	**+0.1**
ARHZ	**Aropaoanui**	**1.54**	**198**	P	**Pn**	**16 46 38.2**	**+1.1**
WHTZ	**Whakaora**	**1.56**	**235**	P	**Pn**	**16 46 38.2**	**+0.9**
KUTZ	**Kaahu Road**	**1.56**	**243**	P	**Pn**	**16 46 37.8**	**+0.4**
HATZ	**Hinemaiaia**	**1.61**	**227**	P	**Pn**	**16 46 38.2**	**+0.1**
BKZ	**Black Stump Fm**	**1.62**	**212**	Pn	**Pn**	**16 46 38.0**	**-0.2**
BKZ	**Black Stump Fm**	**1.62**	**212**	P	**Pn**	**16 46 38.9**	**+0.7**
BKZ	**Black Stump Fm**	**1.62**	**212**	P	**Pn**	**16 46 38.3**	**+0.1**
TOZ	**Tahuroa Road**	**1.66**	**272**	P	**Pn**	**16 46 38.4**	**-0.3**
TLZ	**Tolley Road**	**1.71**	**251**	P	**Pn**	**16 46 39.5**	**+0.1**
WATZ	**Wairara**	**1.73**	**238**	P	**Pn**	**16 46 40.1**	**+0.5**
RATZ	**Rangitukua**	**1.79**	**233**	P	**Pn**	**16 46 41.1**	**+0.6**
MCHZ	**McNeill Hill**	**1.79**	**203**	P	**Pn**	**16 46 41.4**	**+0.9**
RITZ	**Rihia Road**	**1.81**	**229**	P	**Pn**	**16 46 41.4**	**+0.7**
KUZ	**Kuaotunu**	**1.82**	**304**	P	**Pn**	**16 46 40.0**	**-0.9**
KWHZ	**Kaweka Forest**	**1.87**	**209**	P	**Pn**	**16 46 42.5**	**+0.9**
KATZ	**Kakaramea**	**1.90**	**231**	P	**Pn**	**16 46 43.2**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.90**	**192**	P	**Pn**	**16 46 41.8**	**-0.2**
TMVZ	**Te Maari**	**1.99**	**228**	P	**Pn**	**16 46 43.8**	**+0.6**
NTVZ	**North Tongarir**	**1.99**	**229**	P	**Pn**	**16 46 44.0**	**+0.7**
ETVZ	**East Tongariro**	**2.00**	**227**	P	**Pn**	**16 46 43.9**	**+0.5**
KRVZ	**Karewarewa**	**2.01**	**229**	P	**Pn**	**16 46 44.3**	**+0.8**
OTVZ	**Oturere**	**2.04**	**227**	P	**Pn**	**16 46 44.6**	**+0.6**
NNVZ	**North Ngauruho**	**2.05**	**229**	P	**Pn**	**16 46 45.0**	**+0.9**
WTVZ	**West Tongariro**	**2.05**	**229**	P	**Pn**	**16 46 45.0**	**+0.8**
MKVZ	**Moumakai**	**2.06**	**289**	P	**Pn**	**16 46 43.9**	**-0.2**
SNVZ	**South Ngauruho**	**2.07**	**227**	P	**Pn**	**16 46 45.0**	**+0.6**
BHHZ	**Black Hill Sta**	**2.07**	**215**	P	**Pn**	**16 46 44.6**	**+0.2**
KAHZ	**Kahuranaki**	**2.07**	**195**	P	**Pn**	**16 46 44.3**	**-0.1**
KRHZ	**Kereru**	**2.08**	**207**	P	**Pn**	**16 46 44.6**	**+0.1**
NGZ	**Ngauruhoe**	**2.09**	**228**	P	**Pn**	**16 46 45.4**	**+0.8**
TUVZ	**Tukino**	**2.12**	**225**	P	**Pn**	**16 46 45.6**	**+0.6**
TWVZ	**Taurewa**	**2.12**	**232**	P	**Pn**	**16 46 45.6**	**+0.6**
MOVZ	**Moawhango**	**2.16**	**221**	P	**Pn**	**16 46 45.7**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.16**	**226**	P	**Pn**	**16 46 46.3**	**+0.5**
FWVZ	**Far West T-bar**	**2.17**	**227**	P	**Pn**	**16 46 46.7**	**+0.9**
DRZ	**Dome Shelter**	**2.17**	**227**	P	**Pn**	**16 46 47.1**	**+1.1**
WNVZ	**Wahianoa**	**2.19**	**225**	P	**Pn**	**16 46 46.5**	**+0.5**
TRVZ	**Turoa**	**2.20**	**226**	P	**Pn**	**16 46 46.7**	**+0.5**
WIAZ	**Waiheke Island**	**2.20**	**296**	P	**Pn**	**16 46 45.9**	**-0.2**
HIZ	**Hauiti**	**2.28**	**251**	Pn	**Pn**	**16 46 47.8**	**+0.7**
HIZ	**Hauiti**	**2.28**	**251**	P	**Pn**	**16 46 48.0**	**+1.0**
HIZ	**Hauiti**	**2.28**	**251**	P	**Pn**	**16 46 48.1**	**+1.0**
ETAZ	**East Tamaki Re**	**2.29**	**291**	P	**Pn**	**16 46 47.4**	**+0.2**
MTVZ	**Mangateitei**	**2.30**	**226**	P	**Pn**	**16 46 48.1**	**+0.6**
GRZ	**Great Barrier**	**2.30**	**311**	P	**Pn**	**16 46 46.9**	**-0.5**
PXZ	**Pawanui**	**2.31**	**194**	P	**Pn**	**16 46 46.3**	**-1.1**
PKVZ	**Pokaka**	**2.31**	**229**	P	**Pn**	**16 46 48.5**	**+0.9**
PNHZ	**Pukenui**	**2.38**	**207**	P	**Pn**	**16 46 48.1**	**-0.4**
MBAZ	**Motutapu North**	**2.38**	**295**	P	**Pn**	**16 46 48.7**	**+0.2**
WPHZ	**Waipukurau**	**2.44**	**201**	P	**Pn**	**16 46 48.7**	**-0.6**
EPAZ	**Eden Park BICE**	**2.45**	**291**	P	**Pn**	**16 46 50.1**	**+0.7**
AWAZ	**Awhitu Peninsu**	**2.46**	**286**	P	**Pn**	**16 46 50.1**	**+0.5**
HBAZ	**Herne Bay Bore**	**2.47**	**292**	P	**Pn**	**16 46 50.4**	**+0.7**
WTAZ	**Waiatarua**	**2.56**	**289**	P	**Pn**	**16 46 51.6**	**+0.7**
PRHZ	**Porangahau**	**2.58**	**197**	P	**Pn**	**16 46 50.1**	**-1.1**
VRZ	**Vera Road**	**2.59**	**238**	P	**Pn**	**16 46 52.8**	**+1.5**
TSZ	**Takapari Road**	**2.59**	**209**	P	**Pn**	**16 46 50.7**	**-0.7**
RVAZ	**Riverhead Bore**	**2.61**	**292**	P	**Pn**	**16 46 52.2**	**+0.6**
DVHZ	**Dannevirke**	**2.74**	**204**	P	**Pn**	**16 46 52.1**	**-1.3**
WAZ	**Wanganui**	**2.83**	**225**	P	**Pn**	**16 46 53.0**	**+1.5**
MHEZ	**Mangahewa**	**2.87**	**243**	P	**Pn**	**16 46 58.5**	**+3.3**
POWZ	**Post Office Ro**	**2.96**	**208**	P	**Pn**	**16 46 55.7**	**-0.7**
OHWZ	**Ohakea**	**2.99**	**216**	P	**Pn**	**16 46 57.4**	**+0.6**
LREZ	**Lake Rotokare**	**3.00**	**235**	P	**Pn**	**16 46 59.6**	**+2.7**
DREZ	**Durham Road**	**3.00**	**241**	P	**Pn**	**16 47 00.1**	**+3.1**
PRWZ	**Pori Road**	**3.03**	**204**	P	**Pn**	**16 46 56.3**	**-1.0**
BFZ	**Birch Farm**	**3.07**	**200**	P	**Pn**	**16 46 55.6**	**-2.2**
BFZ	**Birch Farm**	**3.07**	**200**	P	**Pn**	**16 46 57.5**	**-0.4**
BFZ	**Birch Farm**	**3.07**	**200**	P	**Pn**	**16 46 56.3**	**-1.6**
NEZ	**North Egmont**	**3.12**	**241**	P	**Pn**	**16 47 01.4**	**+2.9**
PKE	**Pukeiti**	**3.16**	**243**	P	**Pn**	**16 47 02.4**	**+3.3**
KHEZ	**Kahui Hut**	**3.18**	**241**	P	**Pn**	**16 47 02.2**	**+2.7**
KHEZ	**Kahui Hut**	**3.18**	**241**	P	**Pn**	**16 47 02.2**	**+2.7**
WCZ	**Waipu Caves**	**3.20**	**304**	P	**Pn**	**16 46 59.8**	**+0.2**
TIWZ	**Tintock**	**3.26**	**203**	P	**Pn**	**16 46 59.0**	**-1.5**
MRZ	**Mangatainoka R**	**3.26**	**208**	Pn	**Pn**	**16 46 59.0**	**-1.5**
MRZ	**Mangatainoka R**	**3.26**	**208**	P	**Pn**	**16 46 58.6**	**-1.9**
NBEZ	**Newall Road No**	**3.27**	**242**	P	**Pn**	**16 47 03.2**	**+2.6**
CPWZ	**Castlepoint**	**3.29**	**199**	P	**Pn**	**16 46 59.7**	**-1.2**
NMEZ	**Nama Road**	**3.33**	**240**	P	**Pn**	**16 47 04.3**	**+2.9**
HOWZ	**Holdsworth Sta**	**3.49**	**207**	P	**Pn**	**16 47 01.4**	**-2.3**
OGWZ	**Otaki Gorge**	**3.56**	**211**	P	**Pn**	**16 47 02.7**	**-1.8**
TMWZ	**Te Maipa**	**3.56**	**201**	P	**Pn**	**16 47 02.3**	**-2.3**
KIW	**Kapiti Island**	**3.70**	**213**	P	**Pn**	**16 47 04.9**	**-1.7**
MTW	**Mount Morrison**	**3.73**	**205**	P	**Pn**	**16 47 04.4**	**-2.5**
CAW	**Cannon Point**	**3.84**	**210**	P	**Pn**	**16 47 06.0**	**-2.5**
TRWZ	**Traveller**	**3.89**	**202**	P	**Pn**	**16 47 06.5**	**-2.6**
PAWZ	**Paruwai Farm**	**3.96**	**204**	P	**Pn**	**16 47 07.4**	**-2.6**
WEL	**Wellington**	**4.11**	**211**	P	**Pn**	**16 47 09.8**	**-2.3**
OUZ	**Omahuta**	**4.12**	**307**	Pn	**Pn**	**16 47 12.7**	**+0.5**
OUZ	**Omahuta**	**4.12**	**307**	P	**Pn**	**16 47 13.2**	**+0.9**
DUWZ	**D'Urville Isla**	**4.14**	**222**	P	**Pn**	**16 47 11.0**	**-1.5**
SNZO	**South Karori**	**4.16**	**212**	Pn	**Pn**	**16 47 10.6**	**-2.2**
SNZO	**South Karori**	**4.16**	**212**	P	**Pn**	**16 47 11.3**	**-1.5**
BHW	**Baring Head**	**4.18**	**209**		**Pn**	**16 47 09.6**	**-3.4**
PLWZ	**Palliser**	**4.18**	**205**	Pn	**Pn**	**16 47 10.0**	**-3.1**
TCW	**Tory Channel**	**4.27**	**216**		**Pn**	**16 47 12.1**	**-2.2**
TCW	**Tory Channel**	**4.27**	**216**	P	**Pn**	**16 47 11.8**	**-2.4**
TUWZ	**Tumarina**	**4.60**	**217**		**Pn**	**16 47 15.8**	**-3.0**
NNZ	**Nelson**	**4.72**	**222**		**Pn**	**16 47 18.0**	**-2.5**
NNZ	**Nelson**	**4.72**	**222**	P	**Pn**	**16 47 18.3**	**-2.1**
CMWZ	**Cape Campbell**	**4.73**	**212**		**Pn**	**16 47 18.2**	**-2.3**
CMWZ	**Cape Campbell**	**4.73**	**212**	P	**Pn**	**16 47 19.4**	**-1.2**
TKNZ	**Takaka Hill**	**4.83**	**227**		**Pn**	**16 47 20.3**	**-1.7**
TKNZ	**Takaka Hill**	**4.83**	**227**	P	**Pn**	**16 47 19.8**	**-2.2**
BSWZ	**Blackbirch Sta**	**4.85**	**215**		**Pn**	**16 47 20.0**	**-2.2**
BSWZ	**Blackbirch Sta**	**4.85**	**215**	P	**Pn**	**16 47 19.7**	**-2.5**
QRZ	**Quartz Range**	**4.96**	**231**		**Pn**	**16 47 22.8**	**-1.0**
QRZ	**Quartz Range**	**4.96**	**231**	P	**Pn**	**16 47 22.9**	**-0.8**
QRZ	**Quartz Range**	**4.96**	**231**	P	**Pn**	**16 47 21.9**	**-1.8**
MRNZ	**Matariki Terra**	**5.19**	**225**	Pn	**Pn**	**16 47 24.9**	**-1.9**
MRNZ	**Matariki Terra**	**5.19**	**225**	P	**Pn**	**16 47 24.6**	**-2.3**
THZ	**Tophouse**	**5.36**	**221**		**Pn**	**16 47 26.8**	**-2.5**
KHZ	**Kahutara**	**5.56**	**213**	Pn	**Pn**	**16 47 28.9**	**-3.1**
DSZ	**Denniston Nort**	**5.95**	**227**	Pn	**Pn**	**16 47 34.2**	**-3.2**
GVZ	**Greta Valley S**	**6.23**	**213**		**Pn**	**16 47 38.1**	**-3.0**
LTZ	**Lake Taylor**	**6.43**	**218**		**Pn**	**16 47 39.9**	**-4.0**
AMCZ	**Amberley**	**6.56**	**213**	Pn	**Pn**	**16 47 42.0**	**-3.7**
INZ	**Inchbonnie**	**6.81**	**222**	Pn	**Pn**	**16 47 45.3**	**-3.7**
OXZ	**Oxford**	**6.96**	**216**		**Pn**	16 47 46.0	-5.1
MQZ	**McQueen's Vall**	**7.00**	**211**		**Pn**	**16 47 47.2**	**-4.3**
CTZ	**Chatham Island**	**7.38**	**145**	P	**Pn**	**16 47 52.6**	**-4.2**
CTZ	**Chatham Island**	**7.38**	**145**	P	**Pn**	**16 47 55.2**	**-1.6**
RPZ	**Rata Peaks**	**7.72**	**218**	P	**Pn**	**16 47 58.2**	**-3.3**
	36nm,0.3s,baz=272,slow=2.5,SNR=60						
RPZ				S	**Sn**	**16 49 19.6**	**-7.8**
	150nm,0.3s,baz=122,slow=22,SNR=24						
FOZ	**Fox Glacier**	**8.23**	**223**	Pn	**Pn**	**16 48 04.3**	**-4.1**
LBZ	**Lake Benmore**	**8.64**	**218**	Pn	**Pn**	**16 48 10.4**	**-3.7**
ODZ	**Otahua Downs**	**8.93**	**214**	Pn	**Pn**	**16 48 13.8**	**-4.1**
JCZ	**Jackson Bay**	**9.15**	**224**	P	**Pn**	**16 48 20.0**	**-1.1**
WKZ	**Wanaka**	**9.54**	**220**	Pn	**Pn**	**16 48 22.4**	**-3.9**
MSZ	**Milford Sound**	**10.01**	**224**	P	**Pn**	**16 48 31.3**	**-1.4**
WHZ	**Wether Hill Ro**	**10.82**	**219**	Pn	**Pn**	16 48 38.9	-5.0
DCZ	**Deep Cove**	**10.94**	**222**	Pn	**Pn**	**16 48 41.7**	**-3.7**
DCZ	**Deep Cove**	**10.94**	**222**	P	**Pn**	**16 48 44.2**	**-1.2**
YATNC	**Mamie plateau,**	**18.20**	**327**	P	**Pn**	**16 50 22.2**	**+2.1**
DZM	**Mont Dzumac**	**18.39**	**325**	*e*Pn	**Pn**	**16 50 22.9**	**+0.5**
	45nm,1.2s						
DZM				*e*S	**Sn**	**16 53 45.4**	**-1.8**
	182nm,24.6s						
DZM				*e*LR	LR	16 54 45.0	
	comp=Z,862nm,27.7s						
DZM	**Mont Dzumac**	**18.39**	**325**	P	**Pn**	**16 50 23.1**	**+0.7**
	12nm,1.0s,baz=115,slow=15,SNR=6.6						
DZM				LR	LR	16 56 29.4	
	comp=Z,321nm,19.7s,baz=170,slow=33						
DZM	**Mont Dzumac**	**18.39**	**325**	P	**Pn**	**16 50 25.0**	**+2.6**
KOUNC	**Koumac, New Ca**	**20.70**	**322**	P	Pn	16 50 50.2	+0.4
MCQ	**Macquarie Isla**	**21.01**	**211**	P	**P**	**16 50 50.1**	**+0.2**
	baz=21						
DGTI	**Dogotuki**	**21.49**	**6**	P	**P**	**16 50 57.5**	**+2.1**
ARMA	**Armidale**	**22.68**	**281**	P	**P**	**16 51 09.5**	**+1.3**
	baz=23,SNR=4.7						
ARMA	**Armidale**	**22.68**	**281**	P	**P**	**16 51 11.3**	**+3.1**
AUPHS	**Peel High Scho**	**22.97**	**279**	P	**P**	**16 51 13.5**	**+2.5**
CAN	**Canberra**	**23.07**	**267**	P	**P**	**16 51 13.2**	**+1.2**
CAN	**Canberra**	**23.07**	**267**	P	**P**	**16 51 14.9**	**+2.9**
AUSMG	**Snowy Mountain**	**23.12**	**264**	P	**P**	**16 51 14.6**	**+2.0**
TAU	**Tasmania Unive**	**23.56**	**248**	P	**P**	**16 51 17.4**	**+0.9**
TAU				IAmb	IAmb	16 51 22.4	
	comp=Z,55nm,1.5s						
MOO	**Moorlands**	**23.64**	**249**	P	**P**	**16 51 18.5**	**+1.2**
	baz=24,SNR=4.1						
MOO	**Moorlands**	**23.64**	**249**	P	**P**	**16 51 18.9**	**+1.6**
AUDCS	**Dubbo College**	**24.31**	**274**	P	**P**	**16 51 27.4**	**+4.0**
TOO	**Toolangi**	**25.35**	**261**	P	**P**	**16 51 33.6**	**+0.7**
	baz=25,SNR=4.4						
RAR	**Rarotonga**	**25.61**	**56**	LR	LR	17 00 06.8	
	comp=Z,192nm,19.8s,baz=229,slow=33						
EIDS	**Eidsvold**	**25.66**	**291**	P	**P**	**16 51 36.5**	**+0.7**
AULRC	**Lightning Ridg**	**25.95**	**280**	P	**P**	**16 51 41.2**	**+2.8**
BRAT	**Ballarat**	**26.57**	**260**	P	**P**	**16 51 46.2**	**+2.4**
RMQ	**Roma**	**26.79**	**286**	P	**P**	**16 51 47.6**	**+1.7**
	baz=27,SNR=5.2						
CMSA	**Cobar Meteorol**	**26.89**	**274**	P	**P**	**16 51 48.9**	**+2.1**
	baz=27,SNR=10						
CMSA	**Cobar Meteorol**	**26.89**	**274**	P	**P**	**16 51 49.9**	**+3.1**
STKA	**Stephens Creek**	**30.00**	**270**	P	**P**	**16 52 15.0**	**+0.5**
	comp=Z,7.6nm,0.7s,baz=110,slow=8.0,SNR=36						
STKA				ScP	**ScP**	**16 58 49.4**	**-2.6**
	comp=Z,1.6nm,0.7s,baz=0.0,slow=0.0,SNR=3.3						
STKA				LR	LR	17 03 00.3	
	comp=Z,439nm,21.4s,baz=77,slow=34						
	comp=Z,7.6nm,0.7s						
STKA	**Stephens Creek**	**30.00**	**270**	P	**P**	**16 52 16.3**	**+1.8**
	baz=30,SNR=19						
STKA	**Stephens Creek**	**30.00**	**270**	P	**P**	**16 52 16.8**	**+2.3**
QLP	**Quilpie**	**30.22**	**282**	P	**P**	**16 52 17.9**	**+1.5**
	baz=30,SNR=13						
QLP	**Quilpie**	**30.22**	**282**	P	**P**	**16 52 18.8**	**+2.4**
HTT	**Hallett**	**31.59**	**266**	P	**P**	**16 52 28.5**	**-0.1**
	baz=32,SNR=7.6						
HTT	**Hallett**	**31.59**	**266**	P	**P**	**16 52 31.1**	**+2.6**
TBI	**Tubuai**	**31.62**	**72**	*e*LR	LR	17 00 48.2	
	comp=Z,4μm,29.8s						
TBI				*e*LR	LR	17 00 48.4	
	comp=Z,10μm,24.5s						
INKA	**Innaminka**	**32.39**	**277**	P	**P**	**16 52 38.2**	**+2.7**
CTA	**Charters Tower**	**32.40**	**294**	LR	LR	17 05 07.0	
	comp=Z,178nm,19.8s,baz=98,slow=35						
CTA	**Charters Tower**	**32.40**	**294**	P	**P**	**16 52 39.0**	**+3.2**
CTAO	**Charters Tower**	**32.40**	**294**	P	**P**	**16 52 36.7**	**+1.0**
CTAO				IAmb	IAmb	16 52 39.8	
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**32.40**	**294**	P	**P**	**16 52 38.9**	**+3.2**
CTAO				pP	**pP**	**16 52 51.4**	**+0.3**
CTAO				sP	**sP**	**16 52 56.4**	**-2.0**
HNR	**Honiara**	**32.41**	**326**	LR	LR	17 03 18.8	
	comp=Z,2μm,20.0s,baz=143,slow=32						
WHYH	**Whyalla**	**32.78**	**266**	P	**P**	**16 52 41.1**	**+2.2**
LCRK	**Leigh Creek**	**33.23**	**271**	P	**P**	**16 52 45.2**	**+2.4**
BBOO	**Buckleboo**	**34.06**	**266**	P	**P**	**16 52 50.8**	**+0.7**
	baz=34,SNR=18						
BBOO	**Buckleboo**	**34.06**	**266**	P	**P**	**16 52 50.5**	**+0.5**
BBOO				IAmb	IAmb	16 52 53.5	
	comp=Z,12nm,0.8s						
BBOO				PcP	**PcP**	**16 55 25.6**	**-0.8**
BBOO	**Buckleboo**	**34.06**	**266**	P	**P**	**16 52 51.6**	**+1.5**
MTSU	**Mount Surprise**	**35.06**	**295**	P	**P**	**16 53 00.9**	**+2.1**
	baz=35,SNR=6.0						
PPT2	**Papeete2**	**35.09**	**64**	*e*S	**S**	**16 58 27.0**	**-0.4**
	comp=Z,122nm,29.5s						
PPT2				*e*LR	LR	17 02 25.2	
	comp=Z,975nm,26.5s						
PPT2				*e*LR	LR	17 02 25.5	
	comp=Z,699nm,28.2s						
PPT	**Papeete**	**35.10**	**64**	LR	LR	17 03 38.9	
	comp=Z,306nm,21.2s,baz=254,slow=30						
DRV	**Dumont d'Urvil**	**35.92**	**204**	P	**P**	**16 53 07.1**	**+1.4**
DRV				pP	**pP**	**16 53 19.9**	**-1.4**
DRV				sP	**sP**	**16 53 25.2**	**-3.5**
OOD	**Oodnadatta**	**36.35**	**273**	P	**P**	**16 53 11.9**	**+2.1**
MULG	**Mulgathing**	**36.59**	**269**	P	**P**	**16 53 13.2**	**+1.4**
QIS	**Mount Isa**	**37.05**	**287**	P	**P**	**16 53 18.3**	**+2.4**
	baz=37,SNR=7.8						
QIS	**Mount Isa**	**37.05**	**287**	P	**P**	**16 53 18.6**	**+2.8**
VAH	**Vaihoa**	**38.05**	**63**	*e*T	T	17 32 58.6	
	comp=Z,4.7nm,0.2s						
COEN	**Coen**	**38.67**	**299**	P	**P**	**16 53 30.8**	**+1.3**
	baz=39,SNR=12						
COEN	**Coen**	**38.67**	**299**	P	**P**	**16 53 30.7**	**+1.2**
COEN				IAmb	IAmb	16 53 33.4	
	comp=Z,32nm,1.1s						
COEN	**Coen**	**38.67**	**299**	P	**P**	**16 53 31.0**	**+1.5**
PMG	**Port Moresby**	**39.37**	**308**	LR	LR	17 07 50.9	
	comp=Z,86nm,21.1s,baz=130,slow=33						
PMG	**Port Moresby**	**39.37**	**308**	P	**P**	**16 53 36.5**	**+1.2**
AS31	**Alice Springs**	**39.75**	**278**	P	**P**	**16 53 39.0**	**+0.5**
ASAR	**Alice Springs**	**39.75**	**278**	P	**P**	**16 53 38.5**	**0.0**
	comp=Z,12nm,0.8s,baz=116,slow=6.3,SNR=266						
ASAR				PcP	**PcP**	**16 55 41.3

MPSI Mapaga 65.18 291 P **P** **16 56 46.9 +0.3**
comp=Z,18nm,0.9s
DAV Davao City (W) 65.84 301 LR LR 17 26 24.5
comp=Z,47nm,19.3s,baz=98,slow=37
PWJI Pagerwojo 66.03 279 P **P** **16 56 52.3 +0.2**
comp=Z,43nm,0.9s
BBKI Banjar Baru 66.51 285 P **P** **16 56 56.5 +1.3**
comp=Z,50nm,0.8s
UGM Wanagama 67.10 278 P **P** **16 56 59.7 +0.7**
LEM Lembang 70.04 277 LR LR 17 27 23.0
comp=Z,142nm,21.5s,baz=160,slow=35
TROLL Troll, Antarti 70.44 182 P **P** **16 57 20.6 +1.6**
SNAA Sanae 70.84 180 P **P** **16 57 22.8 +1.5**
SNAA Sanae 70.84 180 P **P** **16 57 20.5 -0.8**
SNAA IAmb IAmb 16 57 23.7
comp=Z,13nm,1.1s
VNA3 Neumayer Olymp 71.14 178 P **P** **16 57 24.5 +1.3**
VNA2 Neumayer--Watz 71.53 178 P **P** **16 57 27.1 +1.7**
baz=172,slow=6.0
KKM Kota Kinabalu 71.73 293 P **P** **16 57 26.0 -1.6**
KKM IAmb IAmb 16 57 37.1
comp=Z,45nm,1.2s
VNA1 Neumayer--Stat 71.78 178 P **P** **16 57 28.7 +1.7**
SBUM Sibu 72.31 288 P **P** **16 57 30.7 -0.2**
SBUM IAmb IAmb 16 57 32.2
comp=Z,14nm,1.1s
KSM Kuching 73.13 286 P **P** **16 57 33.8 -2.1**
KSM IAmb IAmb 16 57 36.5
comp=Z,19nm,0.8s
KSM Kuching 73.13 286 P **P** **16 57 35.7 -0.2**
PPBI Pangkal Pinang 74.06 280 P **P** **16 57 41.0 -0.3**
comp=Z,23nm,1.1s
H03S2 Juan Fernandez 79.36 125 T T 18 24 39.9
baz=229
H03S1 Juan Fernandez 79.38 125 T T 18 24 41.7
baz=229
H03S3 Juan Fernandez 79.38 125 T T 18 24 40.3
baz=229
H03N3 Juan Fernandez 79.60 124 T T 18 24 45.2
baz=234,slow=72,SNR=16
H03N2 Juan Fernandez 79.61 124 T T 18 24 48.6
baz=234,slow=72,SNR=14
H03N1 Juan Fernandez 79.62 124 T T 18 24 45.0
baz=234,slow=72,SNR=17
PLCA Paso Flores 80.06 134 LR LR 17 25 18.2
comp=Z,58nm,19.8s,baz=187,slow=29
INU Inuyama 81.93 328 P **P** **16 58 24.8 +0.4**
MJAR Matsushiro Arr 82.45 329 P **P** **16 58 26.4 -0.7**
comp=Z,5.7nm,1.0s,baz=162,slow=5.8,SNR=7.3
comp=Z,5.7nm,1.0s
PSI Prapat 82.77 279 P **P** **16 58 28.2 -1.3**
JNU Nakatsue 82.88 322 P **P** **16 58 28.9 -0.5**
comp=Z,27nm,1.0s,baz=45,slow=4.3,SNR=8.6
comp=Z,27nm,1.0s
JNU Nakatsue 82.88 322 P **P** **16 58 29.6 +0.1**
GSI Gunungsitoli 82.91 277 P **P** **16 58 30.7 +0.6**
GSI Gunungsitoli 82.91 277 P **P** **16 58 30.4 +0.3**
JHS Saijyo 83.36 325 P **P** **16 58 32.3 +0.5**
JHS IAmb IAmb 16 58 33.1
comp=Z,31nm,1.0s
JHS Saijyo 83.36 325 P **P** **16 58 32.7 +0.8**
TJN Taejon 87.21 322 P **P** **16 58 52.0 +1.0**
KSRS Korea Array 87.80 323 P **P** **16 58 54.2 +0.5**
comp=Z,12nm,0.8s,baz=143,slow=5.7,SNR=26
comp=Z,12nm,0.8s
KSAR Wonju Array Be 87.81 323 P **P** **16 58 55.3 +1.5**
NJ2 Nanjing 88.47 313 ⇑P **P** **16 58 58.4 +1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NONG Nongkai 89.20 294 P **P** **16 59 01.2 +0.3**
YSS Yuzh-Sakhalins 89.95 337 P **P** **16 59 05.4 +1.8**
YSS Yuzh-Sakhalins 89.95 337 P **P** **16 59 04.3 +0.7**
LPIG La Paz 91.45 60 LR LR 17 31 17.8
comp=Z,71nm,20.4s,baz=218,slow=30
USRK Ussuriysk Ar. 91.45 329 P **P** **16 59 11.2 +0.4**
comp=Z,7.9nm,1.0s,baz=139,slow=5.6,SNR=8.3
comp=Z,7.9nm,1.0s
PETK Petropavlovsk- 92.17 348 P **P** **16 59 12.7 -1.1**
comp=Z,4.4nm,0.8s,baz=137,slow=4.4,SNR=6.6
comp=Z,4.4nm,0.8s
GYA Guiyang 92.20 302 *eP* **P** **16 59 14.8 0.0**
GYA pmax pmax
comp=Z,11nm,1.3s
CMAR Chiang Mai Arr 92.53 291 P **P** **16 59 16.8 +0.4**
comp=Z,12nm,0.7s,baz=147,slow=3.4,SNR=93
CMAR LR LR 17 43 01.2
comp=Z,40nm,21.1s,baz=110,slow=37
comp=Z,12nm,0.7s
CHTO Chiang Mai 92.75 292 P **P** **16 59 16.5 -0.9**
MDJ Mudanjiang 92.79 328 P **P** **16 59 19.2 +2.3**
comp=Z,10nm,1.6s
LVC Limon Verde 93.36 122 LR LR 17 32 47.5
comp=Z,87nm,20.9s,baz=224,slow=30
PFO Pinyon Flats O 93.83 50 LR LR 17 33 09.8
comp=Z,72nm,20.5s,baz=216,slow=30
NNA Nana 94.70 109 LR LR 17 34 33.5
comp=Z,41nm,19.5s,baz=217,slow=31
PZH PanZhiHua 95.59 299 P P 16 59 35.7 +5.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.1s
NVAR Mina Array Bea 96.08 45 P **P** **16 59 32.1 -0.4**
comp=Z,0.2nm,0.4s,baz=231,slow=5.7,SNR=2.8
comp=Z,0.2nm,0.4s
TNCH TengChong 96.92 296 P **P** **16 59 39.1 +2.5**
TNCH pmax pmax
comp=Z,5.0nm,0.5s
TNCH pmax pmax
comp=Z,88nm,5.1s
CPUP Villa Florida 98.01 132 LR LR 17 38 04.0
comp=Z,70nm,18.6s,baz=194,slow=32
CMIG Matias Romero 98.36 75 LR LR 17 34 08.6
comp=Z,46nm,21.5s,baz=197,slow=29
HHC Hu-ho-hao-te 98.83 315 *eP* Pdif 16 59 47.5 +2.8
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.0s
MA2 Magadan 99.53 347 LR LR 17 36 17.9
comp=Z,31nm,21.5s,baz=158,slow=30
YKA Yellowknife Ar 113.67 28 PKiKP **PKiKP** **17 04 39.9 -2.1**
comp=Z,0.6nm,0.7s,baz=250,slow=2.0,SNR=6.5
WMQ Urumqi 114.84 307 *eP* **PKiKP** **17 04 46.5 +1.5**
ULM Lac du Bonnet 115.92 45 PKP **PKPdf** **17 04 44.5 -2.2**
comp=Z,0.8nm,0.4s,baz=315,slow=1.4,SNR=3.2
MKAR Makanchi Array 119.59 308 PKP **PKPdf** **17 04 51.2 -2.8**
comp=Z,1.9nm,0.9s,baz=113,slow=1.2,SNR=5.8
KSH Kashi 120.68 298 PKP **PKPdf** **17 04 56.4 0.0**
NRIK Noril'sk 124.80 334 PKP **PKPdf** **17 05 01.2 -2.1**
comp=Z,0.9nm,0.3s,baz=153,slow=6.8,SNR=1.8
GEYT Alibeck 132.99 290 PKP **PKPdf** **17 05 18.3 -1.5**
comp=Z,1.4nm,0.5s,baz=200,slow=26,SNR=2.6
GEYT SKPbc **SKPbc** **17 08 39.1 -3.0**
comp=Z,1.9nm,0.6s,baz=182,slow=4.3,SNR=4.2
AKTO Aktyubinsk 135.99 307 PKP **PKPdf** **17 05 23.0 -2.0**
comp=Z,2.7nm,0.8s,baz=93,slow=1.5,SNR=4.6
GEVA Gevas 144.47 285 PKPdf PKPbc 17 05 39.7 -0.1
ARCES ARCESS Array B 144.83 343 PKP **PKPab** **17 05 38.2 -1.4**
comp=Z,7.9nm,0.7s,baz=65,slow=3.2,SNR=10
ARCES ARCESS Array B 144.83 343 **PKPab** **17 05 38.8 -0.9**
ONI Oni 144.98 293 **PKPab** **17 05 41.2 +0.1**
KBZ Khabaz 145.52 294 PKPbc **PKPdf** **17 05 41.1 -1.2**
comp=Z,17nm,0.9s,baz=140,slow=5.0,SNR=12
MARD Mardin 145.99 283 PKPdf **PKPbc** **17 05 44.1 -0.3**
ASF Jabal al Asfar 147.49 272 PKPbc **PKPbc** **17 05 48.3 -0.5**
comp=Z,5.0nm,0.9s,baz=243,slow=2.3,SNR=4.6
EIL Elat 148.06 267 PKPbc **PKPbc** **17 05 48.9 -1.5**
comp=Z,6.1nm,0.7s,baz=347,slow=2.5,SNR=8.4
LIC Lamto 148.48 175⇑ *eP* **PKiKP** **17 05 54.3 +0.9**
comp=Z,27nm,0.7s
KIC Kosan Boka 148.64 176⇑ *eP* **PKPbc** **17 05 52.1 -0.2**
comp=Z,9.6nm,0.6s
TIC Toumodi 148.90 175⇑ *eP* **PKPdf** **17 05 50.0 +1.0**
comp=Z,14nm,0.7s
DBIC Dimbokro 148.94 175 **PKiKP** **17 05 54.4 +0.1**
MMAI Mount Meron Ar 148.96 273 PKPbc **PKPbc** **17 05 52.2 -0.5**
comp=Z,6.1nm,0.6s,baz=96,slow=5.1,SNR=11
FIA1 FINESS Array S 150.47 332 PKPab **PKPab** **17 06 01.3 -0.6**
FINES FINESS Array B 150.43 332 PKPbc **PKPbc** **17 05 53.5 -1.7**
comp=Z,5.5nm,0.7s,baz=96,slow=3.8,SNR=7.0
FINES PKPab **PKPab** **17 06 00.5 -1.4**
comp=Z,11nm,0.7s,baz=63,slow=4.1,SNR=14
FINES FINESS Array B 150.43 332 PKPbc **PKiKP** **17 05 55.8 -0.1**
FINES PKPab **PKPab** **17 06 01.3 -0.7**
BRTR Keskin Array B 151.94 285 PKPbc **PKPbc** **17 05 58.0 -1.7**
comp=Z,3.3nm,0.7s,baz=142,slow=4.9,SNR=16
BRTR PKPab **PKPab** **17 06 07.8 -1.3**
comp=Z,4.7nm,0.8s,baz=135,slow=3.4,SNR=7.0
BRTR Keskin Array B 151.94 285 PKPbc **PKPbc** **17 05 58.7 -0.9**
MNK Minsk 153.47 319 *i* PKiKP **PKPab** **17 06 14.3 -0.6**
MNK *i* PKiKP **PKPab** **17 06 14.3 -0.6**
comp=N,24nm,0.9s
MNK *i* PKiKP **PKPab** **17 06 14.3 -0.6**
comp=Z,25nm,0.9s,baz=64
MNK *i* SKP 17 09 36.2
MNK *i* PKS PP 17 09 40.2 -9.1
MNK *i* PP PP 17 10 00.3 +11
MNK *i* SKS SKSdf 17 13 44.2 +48
MNK *i* PPP PPP 17 14 51.4
MNK *i* SKKS 17 18 43.3
MNK *i* SS SS 17 29 34.3 +15
AKASG Malin Array Be 154.15 310 PKPbc **PKPbc** **17 06 02.0 -1.9**
comp=Z,0.7nm,0.5s,baz=61,slow=2.3,SNR=11
AKASG PKPab **PKPab** **17 06 15.8 -2.0**
comp=Z,2.6nm,0.7s,baz=55,slow=4.5,SNR=8.2
NB2 NORSAR Subarra155.21 344 P **PKPab** **17 06 20.5 -1.6**
comp=Z,1.4nm,0.8s,baz=42,slow=4.6
NOA NORSAR Array B 155.21 344 PKPab **PKPab** **17 06 20.1 -2.0**
comp=Z,1.9nm,0.8s,baz=28,slow=3.4,SNR=4.3
HFS Hagfors 155.41 341 PKPab **PKPab** **17 06 21.5 -1.4**
comp=Z,2.6nm,0.6s,baz=145,slow=3.5,SNR=2.4
BRG Berggiesshubel 162.51 324 P **pPKPab** **17 07 09.4 -2.5**
BRG Amp 17 07 11.1
comp=Z,13nm,1.4s
CLL Collm 162.64 326 *i* PKPab **PKPab** **17 06 54.1 -0.5**
comp=Z,9.0nm,0.9s
CLL *ep*PKPab **pPKPab** **17 07 10.0 -2.4**
GERES GERESS Array B 163.93 319 PKPab **PKPab** **17 07 00.1 -0.5**
comp=Z,0.8nm,0.8s,baz=56,slow=3.8,SNR=5.3
GRF Grafenberg Arr 164.59 325 *e*PKPab **PKPab** **17 07 03.7 +0.4**
baz=45,slow=4.2
DAVOX Davos/Dischmat 167.23 319 PKPab **PKPab** **17 07 15.3 +0.1**
comp=Z,1.7nm,0.9s,baz=11,slow=10,SNR=3.9

IDC ***06*** *16:52:20.5±0.9, 50.08N×130.22W, h0km, mb3.9/12, mbtmp3.8/23, ML3.5/9, MS3.9/44, Error ellipse: s-maj=18.0km s-min=10.8km az=58.0*

OTT ***06*** *16:52:21.9±2.3, 50.09N±0.10×130.1W±0.2, h10km±8km, Error ellipse: s-maj=20.5km s-min=11.7km az=67.0*

PGC ***06*** *16:52:21.9±3.3, 50.09N×130.09W, h10km, mb4.6, MLSn3.5/20, Mw4.6, 201km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

NEIC ***06*** *16:52:21.9, 50.09N×130.09W, h8km, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr=0.05; Mθθ-0.26; Mφφ0.72; Mrθ-0.40; Mrφ0.69; Mθφ0.30; Fault plane solution: M0 1.00000×1016 NP1:φs166.00000°, δ73.00000°, λ-154.00000°. NP2:φs68.00000°, δ65.00000°, λ-19.00000°. Principal axes: T 0.9482, Plg5.0000°, Azm296.0000°; N 0.0954, Plg59.0000°, Azm198.0000°; P -1.0436, Plg30.0000°, Azm29.0000°;*

GCMT ***06*** *16:52:22.8±0.4, 50.02N±0.03×130.35W±0.04, h16km±2km, MW4.7/72, Moment Tensor Solution. s14,c14; s72,c90; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.04±.09; Mθθ-0.97±.08; Mφφ1.01±.08; Mrθ0.09±.22; Mθφ1.13±.08; Mφr-0.02±.20; Best double couple: M0 1.50400×1016 NP1:φs249.00000°, δ88.00000°, λ-3.00000°. NP2: φs339.00000°, δ87.00000°, λ-178.00000°. Principal axes: T 1.5230, Plg1.0000°, Azm294.0000°; N -0.0400, Plg86.0000°, Azm37.0000°; P -1.4850, Plg4.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***06*** *16:52:22.8±2.7, 50.25N±0.06×129.88W±0.09, h10km±1km, mb4.6/118, ML3.5/20, Mwr4.6(OTT) Error ellipse: s-maj=12.7km s-min=6.5km az=218.0*

ISC 06 16:52:22.6±0.5, 50.20N±0.04×129.98W±0.04, h10km, n544, σ1 s99/509, mb4.7/38, MS4.0/37, 1C, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.26**	**69**		**Pb**	**16 52 44.5**	**-2.0**
HOLB				IAML		16 53 19.5	
	comp=E,836nm,1.7s						
HOLB				IAML		16 53 26.8	
	comp=N,1μm,1.3s						
HOLB	**Holberg**	**1.26**	**69**	P	**Pb**	**16 52 44.9**	**-1.5**
PACB	**Port Alice, BC**	**1.61**	**81**	Pn	**Pn**	**16 52 49.1**	**-1.9**
PACB				Sn	**Sn**	**16 53 09.8**	**-2.1**
PACB	**Port Alice, BC**	**1.61**	**81**	Pn	**Pn**	**16 52 49.1**	**-1.9**
PACB				Sn	**Sn**	**16 53 09.8**	**-2.1**
MAYB	**Maynard**	**1.81**	**82**	Pn	**Pn**	**16 52 52.0**	**-1.9**
MAYB	**Maynard**	**1.81**	**82**	Pn	**Pn**	**16 52 52.0**	**-1.9**
EDB	**Eliza Dome**	**1.87**	**99**	Pn	**Pn**	**16 52 51.9**	**-2.7**
EDB				Sn	**Sn**	**16 53 14.8**	**-3.5**
HG4B	**Hotspring**	**2.23**	**340**		**Pn**	**16 52 57.9**	**-1.8**
HG4B	**Hotspring**	**2.23**	**340**	Pn	**Pn**	**16 52 57.8**	**-1.8**
HG4B	**Hotspring**	**2.23**	**340**	Pn	**Pn**	**16 52 57.8**	**-1.8**
BBB	**Bella Bella**	**2.31**	**30**	Pn	**Pn**	**16 53 01.1**	**+0.5**
	comp=N,158nm,0.3s,baz=235,slow=6.9,SNR=268						
BBB				Sn	**Sb**	**16 53 30.1**	**-2.7**
	comp=N,54nm,0.3s,baz=314,slow=21,SNR=8.3						
BBB				LR	LR	16 54 02.3	
	comp=N,2μm,19.5s,baz=263,slow=41						
BBB	**Bella Bella**	**2.31**	**30**		**Pn**	**16 52 59.1**	**-1.5**
BBB				IAML		16 53 31.9	
	comp=N,262nm,1.3s						
BBB				IAML		16 53 56.5	
	comp=E,334nm,1.9s						
BBB	**Bella Bella**	**2.31**	**30**	Pn	**Pn**	**16 53 01.1**	**+0.5**
BBB				Sn	**Sn**	**16 53 28.5**	**-0.5**
NCRB	**Newcastle Ridg**	**2.53**	**84**	Pn	**Pn**	**16 53 03.1**	**-0.6**
NCRB	**Newcastle Ridg**	**2.53**	**84**	Pn	**Pn**	**16 53 03.1**	**-0.6**
NC89	**ODP889**	**2.55**	**126**	Sn	**Sn**	**16 53 31.2**	**-3.6**
NC89	**ODP889**	**2.55**	**126**	Sn	**Sn**	**16 53 31.2**	**-3.6**
BNB	**Barry Inlet**	**2.63**	**336**	Pn	**Pn**	**16 53 02.8**	**-2.2**
SPLB	**Strathcona Par**	**2.81**	**95**	Pn	**Pn**	**16 53 06.6**	**-0.9**
SPLB	**Strathcona Par**	**2.81**	**95**	Pn	**Pn**	**16 53 06.6**	**-0.9**
HG1B	**Mitchell Dam**	**3.05**	**335**	Pn	**Pn**	**16 53 09.8**	**-1.0**
HG1B	**Mitchell Dam**	**3.05**	**335**	Pn	**Pn**	**16 53 09.8**	**-1.0**
BNKB	**Banks Island**	**3.14**	**1**	Pn	**Pn**	**16 53 11.8**	**-0.3**
BNKB				Sn	**Sn**	**16 53 48.8**	**-0.7**
BNKB	**Banks Island**	**3.14**	**1**	Pn	**Pn**	**16 53 11.8**	**-0.3**
BNKB				Sn	**Sn**	**16 53 48.8**	**-0.7**
OZB	**Mount Ozzard**	**3.17**	**111**	Pn	**Pn**	**16 53 12.8**	**+0.3**
OZB				IAML		16 54 44.5	
	comp=E,124nm,4.0s						
OZB				IAML		16 54 48.9	
	comp=N,118nm,2.0s						
OZB	**Mount Ozzard**	**3.17**	**111**	Pn	**Pn**	**16 53 11.5**	**-1.1**
OZB				Sn	**Sn**	**16 53 46.4**	**-4.1**
MOBC	**Moresby Island**	**3.20**	**338**	Pn	**Pn**	**16 53 12.3**	**-0.6**
MOBC				IAML		16 54 27.0	
	comp=E,102nm,2.6s						
MOBC	**Moresby Island**	**3.20**	**338**	Pn	**Pn**	**16 53 11.4**	**-1.5**
MOBC	**Moresby Island**	**3.20**	**338**	Pn	**Pn**	**16 53 11.4**	**-1.5**
BNAB	**Bonilla**	**3.32**	**353**	Pn	**Pn**	**16 53 14.0**	**-0.5**
BNAB	**Bonilla**	**3.32**	**353**	Pn	**Pn**	**16 53 14.0**	**-0.5**
DIB	**Dawson Inlet,**	**3.38**	**334**		**Pn**	**16 53 13.6**	**-1.8**
DIB	**Dawson Inlet,**	**3.38**	**334**	Pn	**Pn**	**16 53 13.3**	**-2.1**
H02S1	**DAWSON INLET T**	**3.38**	**334**	Pn	**Pn**	**16 53 13.8**	**-1.6**
HWKB	**Hawksbury Isla**	**3.44**	**8**	Pn	**Pn**	**16 53 16.5**	**+0.3**
HWKB	**Hawksbury Isla**	**3.44**	**8**	Pn	**Pn**	**16 53 16.5**	**+0.3**
GRNB	**Grenville Isla**	**3.65**	**0**		**Pn**	**16 53 17.3**	**-1.8**
GRNB	**Grenville Isla**	**3.65**	**0**	Pn	**Pn**	**16 53 19.2**	**+0.1**
GRNB	**Grenville Isla**	**3.65**	**0**	Pn	**Pn**	**16 53 19.2**	**+0.1**
PFB	**Port Renfrew**	**3.97**	**112**	Pn	**Pn**	**16 53 23.1**	**-0.4**
SHB	**Sechelt**	**3.99**	**96**	Pn	**Pn**	**16 53 23.9**	**0.0**
B926	**Mesachie Lake**	**4.05**	**108**	Pn	**Pn**	**16 53 24.4**	**-0.2**
B926	**Mesachie Lake**	**4.05**	**108**	Pn	**Pn**	**16 53 24.4**	**-0.2**
CLRS	**Cowichan Lake**	**4.05**	**108**	Pn	**Pn**	**16 53 25.1**	**+0.5**
CLRS	**Cowichan Lake**	**4.05**	**108**	Pn	**Pn**	**16 53 23.4**	**-1.2**
CLRS				IAML		16 54 47.1	
	comp=N,77nm,1.9s						
CLRS				IAML		16 55 04.0	
	comp=E,58nm,2.6s						
CLRS	**Cowichan Lake**	**4.05**	**108**	Pn	**Pn**	**16 53 25.1**	**+0.5**
RUBB	**Prince Rupert**	**4.14**	**358**	Pn	**Pn**	**16 53 22.8**	**-2.9**
RUBB				IAML		16 55 23.5	
	comp=N,52nm,3.2s						
RUBB	**Prince Rupert**	**4.14**	**358**	Pn	**Pn**	**16 53 26.0**	**+0.3**
RUBB	**Prince Rupert**	**4.14**	**358**	Pn	**Pn**	**16 53 26.0**	**+0.3**
NDB	**Naden**	**4.18**	**335**	Pn	**Pn**	**16 53 25.8**	**-0.6**
SYMB	**Survey Mountai**	**4.36**	**110**	Pn	**Pn**	**16 53 28.2**	**-0.7**
SYMB	**Survey Mountai**	**4.36**	**110**	Pn	**Pn**	**16 53 28.2**	**-0.7**
OSD	**Olympics--Snow**	**4.77**	**118**	Pn	**Pn**	**16 53 33.4**	**-1.2**
HNBB	**Haney**	**4.89**	**98**	Pn	**Pn**	**16 53 35.2**	**-0.9**
HNBB	**Haney**	**4.89**	**98**	Pn	**Pn**	**16 53 35.2**	**-0.9**
NLWA	**Neilton Lookou**	**4.92**	**122**	Pn	**Pn**	**16 53 36.1**	**-0.4**
HDW	**Hoodsport**	**5.23**	**117**	Pn	**Pn**	**16 53 39.6**	**-1.3**
V35K	**Ketchikan**	**5.23**	**350**	P	**Pn**	**16 53 42.1**	**+1.3**
	baz=169						
FSB	**Fort Saint Jam**	**5.51**	**37**	Pn	**Pn**	**16 53 46.6**	**+1.9**
FSJB	**Fort St James**	**5.51**	**37**	Pn	**Pn**	**16 53 46.4**	**+1.8**
FSJB	**Fort St James**	**5.51**	**37**	Pn	**Pn**	**16 53 46.4**	**+1.8**
CRAG	**Craig**	**5.61**	**341**	P	**Pn**	**16 53 47.0**	**+1.0**
	baz=160						
D05A	**Enumclaw**	**6.09**	**117**		**Pn**	**16 53 53.2**	**+0.7**
WRAK	**Wrangell Islan**	**6.39**	**348**	P	**Pn**	**16 53 57.7**	**+1.0**
	baz=167						
FMW	**Mount Fremont**	**6.41**	**117**	Pn	**Pn**	**16 53 58.0**	**+0.8**
LON	**Longmire**	**6.43**	**119**		**Pn**	**16 53 58.9**	**+1.5**
LON	**Longmire**	**6.43**	**119**	Pn	**Pn**	**16 53 57.8**	**+0.4**
T35M	**Bob Quinn**	**6.80**	**359**	Pn	**Pn**	**16 54 04.1**	**+1.8**
T35M	**Bob Quinn**	**6.80**	**359**	Pn	**Pn**	**16 54 04.1**	**+1.8**
T35M	**Bob Quinn**	**6.80**	**359**	P	**Pn**	**16 54 05.0**	**+2.8**
	baz=179						
LTY	**Liberty**	**6.83**	**112**		**Pn**	**16 54 03.7**	**+1.0**
B08A	**Colville Reser**	**7.21**	**101**	Pn	**Pn**	**16 54 08.1**	**+0.2**
HOOD	**Mount Hood Mea**	**7.43**	**128**		**Pn**	**16 54 12.2**	**+1.0**
BUCK	**Buck Mountain**	**7.66**	**139**		**Pn**	**16 54 17.3**	**+3.1**
S34M	**Telegraph Cree**	**7.76**	**355**	Pn	**Pn**	**16 54 17.8**	**+2.4**
S34M	**Telegraph Cree**	**7.76**	**355**	Pn	**Pn**	**16 54 17.8**	**+2.4**
S34M	**Telegraph Cree**	**7.76**	**355**	P	**Pn**	**16 54 18.1**	**+2.6**
	baz=175						
HAWA	**Hanford**	**7.94**	**115**	Pn	**Pn**	**16 54 18.1**	**+0.2**
D08A	**Wollman Farm,**	**7.97**	**109**	Pn	**Pn**	**16 54 18.6**	**+0.2**
F07A	**Phinny Hill Vi**	**7.99**	**119**		**Pn**	**16 54 19.0**	**+0.4**
C09A	**Chrisman Ranch**	**8.06**	**103**		**Pn**	**16 54 20.5**	**+0.9**
WAPA	**Wapiti River**	**8.21**	**48**	Pn	**Pn**	**16 54 22.3**	**+0.7**
DLBC	**Dease Lake**	**8.26**	**360**	Pn	**Pn**	**16 54 24.0**	**+1.7**
	comp=N,0.5nm,0.3s,baz=184,slow=14,SNR=2.8						
DLBC				LR	LR	16 57 23.9	
	comp=N,548nm,21.7s,baz=261,slow=36						
	comp=N,1.6nm,0.3s						
DLBC	**Dease Lake**	**8.26**	**360**	P	**Pn**	**16 54 23.2**	**+0.9**
	baz=180						
DBO	**Dodson Butte**	**8.46**	**144**	Pn	**Pn**	**16 54 24.4**	**-0.8**
NBC5	**NorthernBC 5**	**8.51**	**28**	Pn	**Pn**	**16 54 28.5**	**+2.7**
NBC5	**NorthernBC 5**	**8.51**	**28**	Pn	**Pn**	**16 54 28.5**	**+2.7**
NEW	**Newport**	**8.64**	**98**	Pn	**Pn**	**16 54 29.8**	**+2.2**
	comp=N,0.2nm,0.3s,baz=299,slow=12,SNR=6.3						
	comp=N,4.4nm,0.9s						
E09A	**Wood Farm, Sta**	**8.70**	**111**		**Pn**	**16 54 28.9**	**+0.5**
G08A	**Pilot Rock**	**8.90**	**119**		**Pn**	**16 54 33.1**	**+1.9**
HUMO	**Hull Mountain**	**9.01**	**145**	Pn	**Pn**	**16 54 35.0**	**+2.4**
R33M	**Jennings River**	**9.23**	**357**	P	**Pn**	**16 54 37.2**	**+1.4**
	baz=176						
I07A	**Izee**	**9.40**	**127**		**Pn**	**16 54 39.1**	**+1.1**
YBH	**Yreka Blue Hor**	**9.86**	**146**	Pn	**Pn**	**16 54 45.7**	**+1.4**
	comp=N,2.7nm,1.0s,baz=333,slow=14,SNR=4.1						
YBH				LR	LR	16 58 02.8	
	comp=N,1μm,19.8s,baz=332,slow=35						
YBH	**Yreka Blue Hor**	**9.86**	**146**	Pn	**Pn**	**16 54 43.6**	**-0.8**
PLBC	**Pleasant Camp**	**9.97**	**341**	P	**Pn**	**16 54 47.7**	**+2.0**
	baz=156						
BMO	**Blue Mountains**	**10.10**	**117**	Pn	**Pn**	**16 54 47.0**	**-0.6**
P33M	**Teslin, Yukon**	**10.16**	**352**	P	**Pn**	**16 54 50.5**	**+2.1**
	baz=170						
J08A	**Circle Bar Ran**	**10.44**	**127**	Pn	**Pn**	**16 54 54.0**	**+1.7**
WALA	**Waterton Lakes**	**10.49**	**90**	Pn	**Pn**	**16 54 53.7**	**+0.7**
MOD	**Modoc Plateau**	**10.67**	**137**	Pn	**Pn**	**16 54 56.6**	**+1.0**
P30M	**Million Dollar**	**10.71**	**341**	P	**Pn**	**16 54 56.8**	**+1.0**
	baz=156						
PLID	**Pearl Lake**	**10.72**	**113**	Pn	**Pn**	**16 54 58.1**	**+1.8**
EDM	**Edmonton**	**10.75**	**67**	Pn	**Pn**	**16 54 55.8**	**-0.7**
WHY	**Whitehorse**	**10.84**	**347**	P	**Pn**	**16 54 58.6**	**+0.8**
	baz=164						
WVOR	**Wild Horse Val**	**11.03**	**130**	Pn	**Pn**	**16 55 01.2**	**+0.8**
MSO	**Missoula**	**11.16**	**101**	Pn	**Pn**	**16 55 01.9**	**-0.3**
MSO	**Missoula**	**11.16**	**101**	P	**Pn**	**16 55 04.7**	**+2.5**
	baz=293						
MFID	**Camas Ranch**	**11.82**	**120**	Pn	**Pn**	**16 55 12.6**	**+1.3**
PLTX	**Planet X, Gerl**	**12.01**	**138**	Pn	**Pn**	**16 55 16.1**	**+2.3**
ORV	**Oroville**	**12.21**	**147**	Pn	**Pn**	**16 55 17.3**	**+0.8**
BEKR	**Beckworth**	**12.36**	**143**	Pn	**Pn**	**16 55 20.1**	**+1.5**
HLID	**Hailey**	**12.54**	**116**	Pn	**Pn**	**16 55 19.4**	**-1.7**
HLID	**Hailey**	**12.54**	**116**	P	**Pn**	**16 55 23.3**	**+2.2**
	baz=307,SNR=7.5						
BCYI	**Bear Canyon**	**12.70**	**111**	Pn	**Pn**	**16 55 23.5**	**+0.2**
MCMT	**McKenzie Canyo**	**12.76**	**108**	Pn	**Pn**	**16 55 23.8**	**-0.3**
AFDM	**Forest Hills D**	**12.94**	**147**	Pn	**Pn**	**16 55 27.1**	**+0.7**
YUK3	**Moose Creek**	**12.98**	**337**	P	**Pn**	**16 55 30.4**	**+3.4**
	baz=149						
MPK	**Martis Peak**	**12.98**	**143**	Pn	**Pn**	**16 55 26.3**	**-0.9**
M29M	**Somme Creek**	**13.13**	**342**	P	**Pn**	**16 55 31.1**	**+2.1**
	baz=156						
VCNR	**Virginia City**	**13.13**	**142**	Pn	**Pn**	**16 55 30.4**	**+1.3**
BMN	**Battle Mountai**	**13.25**	**133**	Pn	**Pn**	**16 55 32.0**	**+1.3**
PNTR	**Pine Nut**	**13.33**	**143**	Pn	**Pn**	**16 55 33.8**	**+2.0**
MCARA	**McCarthy VSAT**	**13.36**	**332**	P	**Pn**	**16 55 33.6**	**+1.5**
	baz=142						
EGMT	**Eagleton**	**13.43**	**92**	Pn	**Pn**	**16 55 32.8**	**-0.3**
EGMT	**Eagleton**	**13.43**	**92**	P	**Pn**	**16 55 36.7**	**+3.6**
	baz=286						
YERR	**Yerington**	**13.56**	**142**	Pn	**Pn**	**16 55 33.9**	**-1.1**
QLMT	**Earthquake Lak**	**13.63**	**106**	Pn	**Pn**	**16 55 32.1**	**-3.8**
WAKR	**Walker**	**13.90**	**143**	Pn	**Pn**	**16 55 39.4**	**-0.3**
CMB	**Columbia Colle**	**13.96**	**147**		**Pn**	**16 55 39.5**	**-0.9**
KVN	**Kaiserville**	**13.97**	**138**

OHAK Old Harbor 15.43 306 P P 16 56 07.0 +2.4
baz=108
SML Sawmill 15.44 326 P Pn 16 56 01.4 +1.2
baz=131
DSP Deep Springs 15.46 142 Pn 16 56 01.6 +1.1
DSP IAmb IAmb 16 56 12.5
comp=Z,32nm,1.0s
DOT Dot Lake 15.46 336 Pn Pn 16 55 57.8 -2.7
DOT IAmb IAmb 16 56 01.5
comp=Z,39nm,1.4s
RC01 Rabbit Creek A 15.52 322 P Pn 16 56 02.9 +1.6
baz=126
TIN Tinemaha, Big 15.63 143 P P 16 56 09.2 +2.1
baz=331,SNR=12
DUG Dugway, Tooele 15.66 123 Pn 16 56 04.3 +0.9
DUG IAmb IAmb 16 56 14.9
comp=Z,39nm,1.1s
DUG Dugway, Tooele 15.66 123 P P 16 56 09.0 +1.5
baz=315,SNR=21
R11A Troy Canyon, C 15.67 134 Pn 16 56 02.9 -0.6
R11A Troy Canyon, C 15.67 134 P Pn 16 56 04.4 +0.9
baz=323,SNR=16
LCH Last Change Ra 15.70 141 P Pn 16 56 06.0 +2.1
LCH IAmb IAmb 16 56 15.1
comp=Z,59nm,1.0s
SCRK Sand Creek 15.71 337 P P 16 56 09.0 +1.2
baz=145
RIDG Independent Ri 15.74 335 P P 16 56 09.4 +1.3
baz=143
WAT6 Susitna Watana 15.75 329 P Pn 16 56 03.5 -0.9
baz=134
EGAK Eagle 15.76 342 P P 16 56 06.2 -2.1
baz=153
SPR3 Spring Creek 3 15.76 129 P P 16 56 07.0 -1.8
SPR3 IAmb IAmb 16 56 20.8
comp=Z,24nm,1.3s
I29M Ogilvie Camp, 15.81 347 P P 16 56 11.3 +2.4
baz=160,SNR=7.7
BW06 Boulder Array 15.88 110 Pn Pn 16 56 00.1 -6.2
BW06 IAmb IAmb 16 56 21.0
comp=Z,36nm,1.4s
PD31 Pinedale Array 15.88 110 Pn 16 56 06.0 -0.3
PDAR Pinedale Array 15.88 110 Pn P 16 56 09.3 -0.6
comp=Z,0.1nm,0.3s,baz=305,slow=11,SNR=27
PDAR LR LR 17 02 21.8
comp=Z,363nm,19.2s,baz=314,slow=38
comp=Z,8.5nm,1.0s
PDAR Pinedale Array 15.88 110 P P 16 56 08.3 -1.6
DHY Denali Highway 15.98 330 P Pn 16 56 08.9 +1.6
baz=136
GRAC Grapevine Rang 16.02 141 Pn 16 56 09.5 +1.6
GRAC IAmb IAmb 16 56 18.9
comp=Z,88nm,1.1s
GRAC Grapevine Rang 16.02 141 P P 16 56 13.7 +2.3
baz=329
J26L Joseph Creek 16.04 338 P Pn 16 56 09.4 +1.4
baz=147
JLU Jordanelle 16.13 119 Pn Pn 16 56 09.9 +0.4
LAO LASA Array 16.13 93 Pn Pn 16 56 09.6 +0.3
LAO IAmb IAmb 16 56 35.0
comp=Z,35nm,1.2s
LAO LASA Array 16.13 93 P P 16 56 11.7 -0.9
baz=292
LAO LASA Array 16.13 93 P P 16 56 13.1 +0.5
baz=291
S11A Rachel 16.17 136 P P 16 56 13.7 +0.5
WAT1 Susitna Watana 16.20 328 P P 16 56 16.6 +3.4
baz=133
CWC Cottonwood Cre 16.22 143 P P 16 56 18.0 +4.3
baz=331
NLU North Lily Min 16.23 122 Pn 16 56 11.2 +0.4
WCT Wildcat Mounta 16.50 139 Pn Pn 16 56 14.1 0.0
WCT IAmb IAmb 16 56 24.6
comp=Z,68nm,1.1s
TPNV Topopah Spring 16.53 138 Pn Pn 16 56 13.0 -1.5
TPNV IAmb IAmb 16 56 27.7
comp=Z,58nm,1.1s
TPNV Topopah Spring 16.53 138 P P 16 56 18.6 +1.4
baz=327,SNR=25
EPYK Eagle Plains 16.58 350 P P 16 56 17.2 -0.3
baz=165
I27K Kandik River 16.59 343 P P 16 56 19.5 +2.0
baz=153
FURC Furnace Creek, 16.68 140 P P 16 56 20.6 +2.0
baz=329
ISA Isabella, Lake 16.76 146 Pn Pn 16 56 17.0 -0.5
ISA IAmb IAmb 16 56 26.7
comp=Z,38nm,1.1s
ISA Isabella, Lake 16.76 146 P P 16 56 22.7 +3.1
baz=333,SNR=13
MPMC Manual Prospec 16.79 143 P P 16 56 21.2 +1.2
baz=331,SNR=12
HDA Harding Lake 16.85 334 P P 16 56 22.4 +2.1
baz=140
DGMT Dagmar 16.87 86 Pn Pn 16 56 17.9 -0.7
DGMT IAmb IAmb 16 56 22.8
comp=Z,94nm,1.4s
DGMT Dagmar 16.87 86 P P 16 56 21.2 +0.5
baz=286
DGMT Dagmar 16.87 86 P P 16 56 20.9 +0.2
baz=285
MCK McKinley 16.95 330 P P 16 56 21.8 +0.4
baz=135
GWY Greenwater Val 17.00 140 Pn Pn 16 56 20.7 +0.2
GWY IAmb IAmb 16 56 40.5
comp=Z,39nm,1.4s
PKM Mcpherson Peak 17.01 150 P P 16 56 26.6 +4.1
baz=337
O19K Port Alsworth 17.02 315 Pn Pn 16 56 18.2 -2.1
O19K Port Alsworth 17.02 315 P Pn 16 56 20.4 0.0
baz=116
BCW Bitter Crk WRg 17.09 149 Pn Pn 16 56 21.9 +0.3
BCW IAmb IAmb 16 56 35.6
comp=Z,39nm,1.3s
IL31 17.11 335 Pn Pn 16 56 20.5 -1.0
ILAR Eielson Array 17.11 335 P Pn 16 56 21.9 +0.4
baz=152,slow=9.9,SNR=6.7
ILAR LR LR 17 02 20.1
comp=Z,389nm,20.5s,baz=134,slow=35
comp=Z,0.4nm,1.0s
ILAR Eielson Array 17.11 335 Pn Pn 16 56 21.4 -0.1
QSM Queen of Sheba 17.11 141 Pn Pn 16 56 19.5 -2.2
QSM IAmb IAmb 16 56 31.5
comp=Z,56nm,1.1s
ARVC Arvin 17.12 147 P P 16 56 25.1 +1.6
baz=335
G30M tAoh Zraii Nji 17.13 352 P P 16 56 24.0 +0.6
baz=167
H27K Steamboat Moun 17.14 344 P 16 56 22.7 -0.8
H27K Steamboat Moun 17.14 344 Pn P 16 56 22.7 -0.8
H27K Steamboat Moun 17.14 344 P P 16 56 25.0 +1.4
baz=154
R17K Ugashik Creek 17.16 306 P Pn 16 56 21.3 -0.9
baz=105
TRF Thorofare Moun 17.20 328 P Pn 16 56 23.6 +0.8
baz=132
MVU Marysvale 17.22 126 P P 16 56 24.8 0.0
MVU IAmb IAmb 16 56 33.2
comp=Z,132nm,1.4s
LRMC Laurel Mtn Rad 17.22 144 P P 16 56 27.7 +3.0
baz=332,SNR=7.1
MSU Marysvale 17.23 126 Pn 16 56 18.7 -4.7
P17A Butcher Ranch, 17.30 121 Pn Pn 16 56 21.5 -2.8
P17A IAmb IAmb 16 56 34.0
comp=Z,40nm,1.2s
N19K Bonanza Creek 17.36 317 P Pn 16 56 25.2 +0.5
baz=117
CCUT Cedar City 17.37 130 P P 16 56 26.8 +0.3
SHPR Sheep Range 17.38 136 P P 16 56 26.1 -0.5
CCAC Calif City Air 17.39 145 P P 16 56 26.9 +0.4
F31M Tsiigehtchic 17.40 355 P P 16 56 27.7 +1.4
baz=172
Q16A Castle Valley 17.46 123 P P 16 56 28.3 +0.8
SZCU Shurtz Canyon 17.47 130 Pn 16 56 26.8 +0.4
SZCU IAmb IAmb 16 56 34.8
comp=Z,62nm,1.3s
P18A Preston Nutter 17.47 120 P P 16 56 27.2 -0.5
POKR Poker Plat Res 17.52 335 P Pn 16 56 26.7 0.0
PPLA Purkeypile 17.52 325 P Pn 16 56 25.5 -1.3
baz=127
MTPU Mount Pierson 17.58 127 Pn 16 56 27.6 -0.3
FFC Flin Flon 17.59 64 Pn 16 56 24.8 -2.8
FFC IAmb IAmb 16 56 43.7
comp=Z,45nm,1.1s
NEA2 Nenana 17.60 332 P P 16 56 29.9 +1.3
baz=136

EDW2 Edwards Air Fo 17.64 146 P P 16 56 32.2 +2.9
baz=334
SRU San Rafael Swe 17.68 121 P P 16 56 29.6 -0.2
SRU IAmb IAmb 16 56 46.5
comp=Z,55nm,1.3s
G27K Doyon Strip 17.68 345 P 16 56 29.3 -0.3
G27K Doyon Strip 17.68 345 Pn P 16 56 29.3 -0.3
G27K Doyon Strip 17.68 345 P P 16 56 31.5 +2.0
baz=155
GSC Goldstone, Bar 17.71 142 P Pn 16 56 28.8 -0.5
GSC Goldstone, Bar 17.71 142 P P 16 56 33.1 +3.0
baz=331,SNR=7.0
K22A Casper 17.80 106 Pn Pn 16 56 27.9 -2.5
K22A IAmb IAmb 16 56 38.5
comp=Z,36nm,1.2s
K22A Casper 17.80 106 P P 16 56 33.4 +2.3
baz=304,SNR=7.9
K22A Casper 17.80 106 P P 16 56 33.0 +1.9
baz=303,SNR=7.9
CAST Castle Rocks 17.80 326 P P 16 56 33.1 +2.2
baz=128
LCMT Little Creek M 17.85 131 P Pn 16 56 30.7 -0.4
BPAW Bear Paw Mtn. 17.86 329 P P 16 56 32.2 +0.7
baz=132
L20K Farewell, AK 17.93 322 P Pn 16 56 31.3 -0.5
baz=123
TUQ Turquoise Moun 17.95 140 P P 16 56 35.0 +2.1
baz=329,SNR=8.8
KNB Kanab 18.05 130 Pn 16 56 33.6 0.0
KNB IAmb IAmb 16 56 45.7
comp=Z,37nm,1.3s
I23K Minto, Yukon-K 18.09 333 P P 16 56 35.2 +1.2
baz=137
O17K Koliganek Bris 18.14 312 P P 16 56 35.7 +1.1
baz=110
L19K White Mountain 18.17 321 P P 16 56 36.3 +1.3
baz=120
H24K Noodor Dome 18.20 336 Pn Pn 16 56 31.7 -3.3
H24K Noodor Dome 18.20 336 P P 16 56 36.5 +1.2
baz=141
INK Inuvik 18.25 356 P P 16 56 36.0 +0.3
comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=6.9
INK LR LR 17 03 59.2
comp=Z,265nm,18.1s,baz=272,slow=38
comp=Z,3.6nm,1.0s
INK Inuvik 18.25 356 P Pn 16 56 35.0 -0.5
INK Inuvik 18.25 356 P P 16 56 36.6 +0.9
baz=173
O20A White River Ci 18.27 115 P Pn 16 56 35.0 -1.3
O20A IAmb IAmb 16 57 05.6
comp=Z,54nm,1.2s
O20A White River Ci 18.27 115 P P 16 56 39.5 +3.0
baz=310,SNR=13
HEC Hector,Ludlow 18.31 142 P P 16 56 40.1 +3.3
baz=331,SNR=10
BFSC Mount Baldy Ra 18.33 146 P P 16 56 41.1 +4.0
baz=334
MLY Manley 18.42 332 P P 16 56 39.1 +1.4
baz=134
K20K Telida 18.49 325 P Pn 16 56 38.8 +0.2
baz=125
O16K Kokwok River B 18.57 311 P Pn 16 56 41.8 +2.3
baz=108
RSSD Black Hills 18.61 99 P P 16 56 38.3 -1.9
RSSD Black Hills 18.61 99 P Pn 16 56 42.6 +2.2
baz=299
RSSD Black Hills 18.61 99 P Pn 16 56 43.8 +3.4
baz=298
GMRC Granite Mounta 18.62 140 P Pn 16 56 41.8 +1.3
baz=330,SNR=10
H23K Yukon River 18.64 334 P Pn 16 56 44.5 +4.1
baz=138
BMAR Burnt Mountain 18.77 342 P P 16 56 40.4 -1.1
U15A North Rim 18.78 130 P P 16 56 40.6 -1.5
G24K Hadweenzic Riv 18.78 338 P Pn 16 56 45.4 +3.3
baz=144
CIS Catalina Islan 18.83 149 P Pn 16 56 45.5 +2.6
baz=336
I21K Tanana 18.90 331 Pn 16 56 46.5 +3.0
I21K IAmb IAmb 16 57 02.3
comp=Z,32nm,1.4s
I21K Tanana 18.90 331 P Pn 16 56 46.2 +2.6
baz=132
F26K Sheenjek River 18.91 343 P Pn 16 56 46.2 +2.5
baz=151
E27K Coleen River 18.93 347 P Pn 16 56 46.1 +2.2
baz=157
ELS Elsinore Mount 18.95 146 P P 16 56 41.5 -2.2
PV23 Carpenter Ridg 18.98 120 P Pn 16 56 44.8 -0.1
PV23 IAmb IAmb 16 57 04.1
comp=Z,46nm,1.2s
J20K Nowinta River 18.99 327 P P 16 56 44.1 +0.2
J20K Nowinta River 18.99 327 P P 16 56 44.1 +0.2
baz=126
TTA Tatalina 19.01 322 P P 16 56 42.1 -2.2
TTA Tatalina 19.01 322 P P 16 56 43.9 -0.3
baz=120
PV10 Paradox Valley 19.02 120 P Pn 16 56 45.9 +0.5
PV10 IAmb IAmb 16 56 53.0
comp=Z,76nm,1.1s
W13A Hualapai Mount 19.12 136 P P 16 56 45.3 -0.5
F25K Christian Rive 19.12 342 P Pn 16 56 48.9 +2.7
baz=148
N23A Red Feather La 19.16 110 P Pn 16 56 51.1 +3.9
baz=307
KUKN Kugluktuk,NWT 19.16 17 Pn 16 56 49.2 +2.5
KUKN Kugluktuk,NWT 19.16 17 Pn Pn 16 56 49.2 +2.5
N16K Nishlik Lake 19.17 313 P P 16 56 44.6 -1.4
baz=110
BELC Bell Mtn. Jos 19.17 142 P Pn 16 56 50.6 +3.4
baz=332,SNR=9.7
PHWY Pilot Hill 19.22 108 P P 16 56 45.5 -1.4
PFO Pinyon Flats O 19.34 144 P P 16 56 47.2 -0.9
comp=Z,0.1nm,0.3s,baz=256,slow=11,SNR=2.5
PFO LR LR 17 04 15.2
comp=Z,360nm,18.3s,baz=329,slow=37
comp=Z,1.0nm,0.6s
PFO Pinyon Flats O 19.34 144 P P 16 56 47.9 -0.2
PFO Pinyon Flats O 19.34 144 P Pn 16 56 50.3 +1.2
baz=333
TPFO Pinon Flats 19.34 144 P Pn 16 56 51.8 +2.6
baz=333
IRM Iron Mountain 19.38 140 P Pn 16 56 52.5 +2.9
baz=330,SNR=7.8
C36M Paulatuk 19.42 6 P P 16 56 48.6 0.0
C36M IAmb IAmb 16 56 54.9
comp=Z,40nm,1.4s
C36M Paulatuk 19.42 6 P Pn 16 56 50.7 +1.0
baz=192,SNR=6.1
G23K Bananza Creek 19.43 336 P Pn 16 56 51.7 +1.8
baz=139
H21K Melozitna Rive 19.48 331 P Pn 16 56 51.7 +1.2
baz=132
F24K Squaw Lake 19.54 339 P Pn 16 56 52.2 +1.0
baz=144
E25K Arctic Village 19.55 342 P Pn 16 56 51.5 +0.1
baz=149
SMCO Snowmass 19.64 115 P Pn 16 56 52.5 -0.6
SMCO IAmb IAmb 16 57 00.7
comp=Z,48nm,1.4s
BC3 Big Chuckawall 19.69 142 P Pn 16 56 56.3 +2.9
baz=331
E28A Huff 19.72 89 P Pn 16 56 55.4 +1.8
baz=292
COLD Coldfoot 19.87 337 P Pn 16 56 56.4 +1.3
COLD Coldfoot 19.87 337 P Pn 16 56 55.2 +0.1
COLD Coldfoot 19.87 337 P Pn 16 56 55.9 +0.8
baz=140
WUAZ Wupatki 19.95 130 P Pn 16 56 59.3 +2.8
baz=323,SNR=6.6
IMAR Indian Mountai 19.99 331 P P 16 56 55.5 +0.7
MONP2 Monument Peak 19.99 145 P Pn 16 57 00.4 +3.3
baz=334
MDND Maddock 20.00 85 P P 16 56 50.6 -4.4
MDND Maddock 20.00 85 P Pn 16 56 57.5 +0.7
baz=288
MDND Maddock 20.00 85 P Pn 16 56 57.2 +0.4
baz=288
ISCO Idaho Springs 20.04 112 P Pn 16 56 58.9 +1.3
baz=310
ISCO Idaho Springs 20.04 112 P Pn 16 56 59.8 +2.1
baz=309
BAR Barrett 20.09 146 P 16 56 52.5 -3.7
BAR IAmb IAmb 16 57 09.1
comp=Z,42nm,1.5s
MVCO Mesa Verde 20.15 122 P P 16 56 55.6 -1.4
MVCO Mesa Verde 20.15 122 P Pn 16 57 00.3 +1.4
baz=317,SNR=15
SWSC Sam W. Stewart 20.18 143 P Pn 16 57 02.6 +3.6
baz=333
G21K Allakaket 20.27 332 P Pn 16 57 00.1 +0.3
baz=133
IKP In-Ko-Pah, Jac 20.33 144 P Pn 16 57 03.2 +2.4
baz=333,SNR=16
YUH Yuha Desert 20.40 144 P P 16 56 58.9 -0.6
YUH IAmb IAmb 16 57 08.3
comp=Z,29nm,1.2s
GLA Glamis 20.47 141 P Pn 16 57 04.4 +1.9
baz=331
Y14A Wickenburg 20.48 136 P P 16 56 59.7 -0.8
Y14A IAmb IAmb 16 57 10.1
comp=Z,23nm,1.4s
C27K Jago River 20.57 346 P Pn 16 57 04.7 +1.4
baz=155
S22A 4UR Ranch, Cre 20.70 118 P Pn 16 57 02.2 -0.9
S22A IAmb IAmb 16 57 18.1
comp=Z,55nm,1.2s
S22A 4UR Ranch, Cre 20.70 118 P Pn 16 57 05.7 +0.3
baz=314,SNR=44
F21K Alatna River 20.75 334 P Pn 16 57 04.3 -1.2
baz=134
Q24A Divide 20.85 113 P P 16 57 04.6 -0.1
Q24A IAmb IAmb 16 57 23.5
comp=Z,42nm,1.4s
Q24A Divide 20.85 113 P Pn 16 57 07.6 +0.4
baz=310,SNR=7.1
C26K Camden Bay 21.02 346 P 16 57 09.2
baz=153
W18A Petrified Fore 21.09 128 P P 16 57 08.4 +1.3
W18A Petrified Fore 21.09 128 P P 16 57 09.2 +2.0
baz=322,SNR=55
113A Mohawk Valley, 21.15 139 P P 16 57 06.7 -0.9
D23K Nanushuk River 21.33 339 P P 16 57 11.8 +2.5
baz=142
X18A Snowflake 21.44 129 P P 16 57 11.9 +0.9
SDCO Great Sand Dun 21.46 116 P P 16 57 12.0 +0.7
SDCO IAmb IAmb 16 57 21.4
comp=Z,44nm,1.2s
SDCO Great Sand Dun 21.46 116 P P 16 57 13.3 +2.1
baz=314,SNR=21
SDCO Great Sand Dun 21.46 116 P P 16 57 13.3 +2.1
baz=313,SNR=21
C24K Franklin Bluff 21.52 342 P P 16 57 13.7 +2.4
baz=146
OGNE Ogallala 21.53 105 P P 16 57 11.0 -0.8
OGNE Ogallala 21.53 105 P P 16 57 14.5 +2.7
baz=305
OGNE Ogallala 21.53 105 P P 16 57 16.1 +4.3
baz=305
SUSD Miller 21.71 93 P P 16 57 16.2 +2.7
baz=296
ULM Lac du Bonnet 21.71 77 P P 16 57 14.5 +0.9
comp=Z,28nm,1.0s,baz=283,slow=11,SNR=21
ULM LR LR 17 05 44.7
comp=Z,323nm,20.4s,baz=301,slow=37
comp=Z,28nm,1.0s
ULM Lac du Bonnet 21.71 77 P P 16 57 12.1 -1.5
ULM Lac du Bonnet 21.71 77 P P 16 57 14.9 +1.3
A36M Sachs Harbour 21.97 4 P P 16 57 17.1 +1.0
baz=188
AGMN Agassiz Nation 22.24 82 P P 16 57 22.3 +3.0
baz=288
214A Organ Pipe Nat 22.26 139 P P 16 57 17.6 -2.0
214A IAmb IAmb 16 57 29.1
comp=Z,25nm,1.3s
214A Organ Pipe Nat 22.26 139 P P 16 57 22.5 +3.0
baz=330,SNR=8.8
FCC Fort Churchill 22.30 54 P P 16 57 19.7 -0.1
FCC IAmb IAmb 16 57 23.8
comp=Z,58nm,1.4s
FCC Fort Churchill 22.30 54 P P 16 57 21.6 +1.9
KSCO Kaye Shedlock' 22.33 110 P P 16 57 22.3 +1.9
KSCO Kaye Shedlock' 22.33 110 P P 16 57 22.9 +2.5
baz=309
KSCO Kaye Shedlock' 22.33 110 P P 16 57 24.3 +3.9
baz=309
PIX Pinacate 22.33 140 P P 16 57 20.4 +0.1
PIX IAmb IAmb 16 57 27.5
comp=Z,28nm,1.1s
T25A Trinidad 22.50 116 P P 16 57 23.0 +0.6
T25A IAmb IAmb 16 57 32.0
comp=Z,27nm,1.1s
T25A Trinidad 22.50 116 P P 16 57 25.2 +2.8
baz=313,SNR=14
K31A O'Neill 22.70 97 P P 16 57 26.6 +2.4
baz=301
F33A 5 Mile Ranch, 22.83 88 P P 16 57 27.4 +1.9
baz=294,SNR=8.6
ANMO Albuquerque 22.94 123 P P 16 57 27.2 +0.3
comp=Z,2.7nm,0.8s,baz=46,slow=10.0,SNR=19
ANMO LR LR 17 06 53.4
comp=Z,174nm,18.2s,baz=49,slow=38
comp=Z,2.7nm,0.8s
ANMO Albuquerque 22.94 123 P P 16 57 27.7 +0.8
ANMO IAmb IAmb 16 57 37.6
comp=Z,22nm,1.1s
ANMO Albuquerque 22.94 123 P P 16 57 29.9 +3.0
baz=319,SNR=12
ANMO Albuquerque 22.94 123 P P 16 57 30.1 +3.2
baz=319
Y22A Socorro 23.43 125 P P 16 57 35.0 +3.0
baz=321
DUN6 Lazy B Ranch 23.46 131 P P 16 57 27.8 -4.4
DUN6 IAmb IAmb 16 57 46.6
comp=Z,40nm,1.0s
ECSD EROS Data Cent 23.53 93 P P 16 57 28.6 -4.1
ECSD IAmb IAmb 16 57 40.9
comp=Z,18nm,0.9s
ECSD EROS Data Cent 23.53 93 P P 16 57 34.8 +2.1
baz=298,SNR=15
ECSD EROS Data Cent 23.53 93 P P 16 57 34.5 +1.8
baz=298,SNR=15
BGNE Belgrade 23.72 99 P P 16 57 31.5 -3.0
BGNE Belgrade 23.72 99 P P 16 57 36.6 +2.0
baz=303
BGNE Belgrade 23.72 99 P P 16 57 36.3 +1.7
baz=302
121A Cookes Peak, D 24.12 129 P P 16 57 36.6 -2.0
121A IAmb IAmb 16 57 44.6
comp=Z,19nm,1.0s
121A Cookes Peak, D 24.12 129 P P 16 57 41.9 +3.3
baz=324,SNR=8.7
121A Cookes Peak, D 24.12 129 P P 16 57 42.1 +3.5
baz=323,SNR=8.7
SOLO Sioux Lookout 24.14 76 P P 16 57 38.4 -0.1
CBKS Cedar Bluff 24.22 106 P P 16 57 41.8 +2.5
baz=308
CBKS Cedar Bluff 24.22 106 P P 16 57 42.8 +3.5
baz=308
319A Douglas 24.34 133 P P 16 57 37.3 -3.3
319A IAmb IAmb 16 57 57.5
comp=Z,33nm,1.2s
A21K Barrow 24.44 340 P P 16 57 38.8 -2.2
A21K IAmb IAmb 16 57 57.3
comp=Z,24nm,1.1s
PKLO Pickle Lake 24.85 72 P P 16 57 46.1 +1.2
EYMN Ely 25.13 80 P P 16 57 49.1 +1.6
baz=290,SNR=6.3
EYMN Ely 25.13 80 P P 16 57 48.8 +1.3
EYMN Ely 25.13 80 P P 16 57 49.0 +1.6
baz=290,SNR=6.3
SPMN Marine on St. 25.32 87 P P 16 57 50.0 +0.8
SPMN IAmb IAmb 16 57 56.7
comp=Z,22nm,1.0s
SPMN Marine on St. 25.32 87 P P 16 57 51.3 +2.1
baz=295
SPMN Marine on St. 25.32 87 P P 16 57 52.1 +2.9
baz=295
N35A Tabor 25.61 98 P P 16 57 47.6 -4.2
N35A Tabor 25.61 98 P P 16 57 53.9 +2.0
baz=303,SNR=7.6
AMTX Amarillo 25.66 116 P P 16 57 51.7 -0.8
AMTX Amarillo 25.66 116 P P 16 57 54.6 +2.1
baz=316,SNR=20
AMTX Amarillo 25.66 116 P P 16 57 56.5 +4.1
baz=315
MSTX Muleshoe 25.70 119 P P 16 57 48.8 -4.0
MSTX Muleshoe 25.70 119 P P 16 57 56.1 +3.3
baz=318,SNR=7.4
MSTX Muleshoe 25.70 119 P P 16 57 56.6 +3.8
baz=317,SNR=7.4
GAMB Gambell 25.91 317 P P 16 57 54.2 -0.1
baz=102
KSU1 Kansas State U 25.99 102 P P 16 57 58.2 +2.8

baz=306
KSU1 Kansas State U 25.99 102 P P 16 57 58.5 +3.1
baz=306
MNTX Cornudas Mount 26.01 126 P P
MNTX IAmb IAmb 16 58 02.2
comp=Z,25nm,1.1s
MNTX Cornudas Mount 26.01 126 P P 16 57 58.4 +2.8
baz=323,SNR=13
MNTX Cornudas Mount 26.01 126 P P 16 57 60.0 +4.4
baz=322,SNR=13
GDL2 Guadalupe Moun 26.16 124 P P 16 58 00.5 +3.5
HTMS Hat Mesa 26.34 122 P P 16 57 58.6 -0.1
CLNB Carlsbad 26.37 123 P P 16 58 01.1 +2.2
OK032 Salt Plains WL 26.42 108 P 16 57 57.7 -1.6
CROK Carrier 26.76 109 P P 16 58 00.2 -2.1
CROK IAmb IAmb 16 58 08.9
comp=Z,77nm,1.3s
N38A Joes South For 27.18 96 P P 16 58 05.1 -1.0
N38A Joes South For 27.18 96 P P 16 58 07.6 +1.5
baz=303
I40A Norwalk 27.31 88 P P 16 58 09.2 +1.9
baz=298
GTO Geraldton 27.39 74 P P 16 58 08.9 +1.1
T35A Sooner Cattle 27.39 106 P P 16 58 06.6 -1.4
T35B Sooner Cattle 27.39 106 P P 16 58 09.8 +1.8
baz=310,SNR=10.0
OK050 Pawnee Station 27.44 108 P P 16 58 06.0 -2.4
WMOK Wichita Mounta 27.46 112 P P 16 58 11.1 +2.4
baz=314,SNR=13
WMOK Wichita Mounta 27.46 112 P P 16 58 12.0 +3.3
baz=314,SNR=13
P38A Dawn 27.63 98 P P 16 58 11.9 +1.7
baz=305,SNR=7.5
JFWS Jewell Farm 28.01 90 P P 16 58 17.6 +4.1
baz=299
ABTX Abilene, Hawle 28.46 117 P P 16 58 16.5 -1.1
ABTX Abilene, Hawle 28.46 117 P P 16 58 20.5 +2.9
baz=317
ABTX Abilene, Hawle 28.46 117 P P 16 58 22.1 +4.5
baz=317
TUL1 Leonard 28.49 107 P 16 58 16.6 -1.1
TUL1 Leonard 28.49 107 P P 16 58 20.5 +2.7
baz=311,SNR=5.6
TUL1 Leonard 28.49 107 P P 16 58 21.3 +3.6
baz=311,SNR=5.6
RES Resolute Bay 28.55 19 P P 16 58 19.9 +2.0
comp=Z,1.2nm,0.9s,baz=239,slow=12,SNR=1.7
RES LR LR 17 09 37.3
comp=Z,259nm,19.1s,baz=189,slow=36
comp=Z,1.2nm,0.9s
N41A Harden Midland 28.75 94 P P 16 58 21.4 +1.4
baz=303
TX31 Lajitas Ar. Si 28.79 127 P P 16 58 20.1 -0.5
TX31 Lajitas Ar. Si 28.79 127 P P 16 58 24.9 +4.3
baz=324,SNR=9.5
TX32 Lajitas Array 28.79 127 P P 16 58 20.2 -0.3
TX32 IAmb IAmb 16 58 28.6
comp=Z,8.7nm,1.1s
S39A Bolivar 28.90 101 P P 16 58 23.5 +2.0
baz=308
U38A Gravette 29.02 105 P P 16 58 24.3 +1.8
baz=310
L44A Lake County Fo 29.87 89 P P 16 58 30.1 +0.1
baz=300
MGMO Mountain Grove 29.89 101 P P 16 58 29.1 -1.2
MGMO IAmb IAmb 16 58 37.4
comp=Z,13nm,1.1s
JCT Junction City 29.97 120 P P 16 58 31.2 +0.2
JCT Junction City 29.97 120 P P 16 58 33.4 +2.3
baz=320,SNR=7.0
JCT Junction City 29.97 120 P P 16 58 34.2 +3.1
baz=320,SNR=7.0
CCM Cathedral Cave 30.00 99 P P 16 58 29.1 -2.1
CCM IAmb IAmb 16 58 37.1
comp=Z,19nm,1.4s
CCM Cathedral Cave 30.00 99 P P 16 58 31.7 +0.5
baz=306
P43A Skaggs, Pawnee 30.19 95 P P 16 58 34.8 +2.0
baz=304
WHTX Lake Whitney, 30.19 115 P P 16 58 36.0 +3.1
baz=316
LPIG La Paz 30.22 142 LR LR 17 11 18.2
comp=Z,121nm,19.8s,baz=334,slow=38
MIAR Mount Ida 30.75 107 P P 16 58 41.2 +3.4
baz=312,SNR=9.1
MIAR Mount Ida 30.75 107 P P 16 58 41.7 +3.9
baz=312,SNR=9.1
FCAR Ozark Folk Cen 30.77 103 P P 16 58 34.9 -3.1
LCAR Lake Charles 31.27 102 P P 16 58 40.0 -2.4
LCAR IAmb IAmb 16 58 47.4
comp=Z,12nm,0.9s
SFIN Lafayette 31.34 92 P P 16 58 46.4 +3.5
baz=303
833A Chaparral WMA, 31.86 122 P P 16 58 51.7 +4.1
baz=322,SNR=5.2
833A Chaparral WMA, 31.86 122 P P 16 58 51.6 +4.0
baz=322,SNR=5.2
HKT Hockley 32.63 115 P P 16 58 52.6 -1.7
HKT IAmb IAmb 16 59 00.8
comp=Z,17nm,1.3s
O48B Farmland 32.65 90 P P 16 58 58.8 +4.3
baz=303,SNR=5.5
O48B Farmland 32.65 90 P P 16 58 54.7 +0.2
baz=303,SNR=5.5
P48A Milroy 32.91 92 P P 16 58 54.9 -2.0
P48A IAmb IAmb 16 59 02.4
comp=Z,15nm,1.0s
O49A Covington 33.21 90 P P 16 58 58.8 -0.6
O49A Covington 33.21 90 P P 16 59 00.3 +0.9
baz=303
O49A P P **16 59 00.3 +0.9**
baz=303
P49A Miami Univ. Ec 33.33 91 P P 16 59 01.0 +0.5
baz=304
WVT Waverly 33.34 99 P P 16 59 00.3 -0.2
WVT IAmb IAmb 16 59 06.5
comp=Z,14nm,1.1s
WVT Waverly 33.34 99 P P 16 59 02.9 +2.3
baz=309
WVT Waverly 33.34 99 P P 16 59 03.0 +2.5
baz=308
OXF Oxford 33.36 102 P P 16 58 58.7 -2.0
OXF Oxford 33.36 102 P P 16 59 05.4 +4.6
baz=311,SNR=11
OXF Oxford 33.36 102 P P 16 59 03.4 +2.7
baz=310,SNR=11
PLAL Pickwick Lake 33.90 100 P P 16 59 04.9 -0.5
ACSO Alum Creek Sta 34.06 89 P P 16 59 07.9 +1.1
baz=303
V48A Smith Brothers 34.22 98 P P 16 59 11.2 +3.0
baz=309
SADO Sadowa 34.23 79 LR LR 17 13 08.7
comp=Z,266nm,20.4s,baz=308,slow=36
R50A Paris 34.29 93 P P 16 59 11.8 +3.0
baz=306
R50A P P **16 59 11.8 +3.0**
baz=306
Q51A Peebles 34.49 91 P P 16 59 12.4 +1.8
baz=305
Q51A P P **16 59 12.4 +1.8**
baz=305
FRB Frobisher Bay 34.63 43 LR LR 17 13 48.8
comp=Z,291nm,19.2s,baz=300,slow=37
ZAIG Zacatecas 34.78 132 P P 16 59 10.7 -2.8
ZAIG IAmb IAmb 16 59 23.0
comp=Z,15nm,1.2s
P52A Corning 34.93 89 P P 16 59 16.9 +2.5
baz=304
Q52A Bidwell 35.22 90 P P 16 59 18.9 +2.0
baz=305
Q52A P P **16 59 18.9 +2.0**
baz=305
LRAL Lakeview Retre 35.84 102 P P 16 59 25.5 +3.3
baz=312
Q54A Coxs Mills 36.13 89 P P 16 59 27.4 +2.7
baz=305,SNR=5.0
Q54A P P **16 59 27.4 +2.7**
baz=305,SNR=5.0
TKL Tuckaleechee C 36.21 96 LR LR 17 14 33.6
comp=Z,483nm,18.4s,baz=314,slow=37
V52A Sevierville 36.21 95 P P 16 59 27.7 +2.3
baz=308
V53A Saluda 36.82 95 P P 16 59 32.7 +2.1
baz=308,SNR=5.3
V53A P P **16 59 32.7 +2.1**
baz=308,SNR=5.3
R55A Marlinton 36.99 89 P P 16 59 33.4 +1.3
baz=306
R55A P P **16 59 33.4 +1.3**
baz=306
250A Grady 37.01 103 P P 16 59 34.9 +2.8
baz=313
CASEE Lake Jocassee 37.16 96 P P 16 59 35.5 +2.0
baz=309
152A Waverly Hall 37.52 100 P P 16 59 39.0 +2.5
baz=312,SNR=5.4
SCHQ Schefferville 37.55 58 LR LR 17 15 31.3
comp=Z,347nm,19.6s,baz=264,slow=37
KMSC Kings Mountain 38.09 94 P P 16 59 44.0 +2.6
baz=308
SFJD Kangerlussuaq 41.31 36 LR LR 17 17 33.6
comp=Z,403nm,18.9s,baz=297,slow=36
SEY Seymchan 41.91 318 P P 17 00 13.3 +0.7
comp=Z,1.3nm,0.7s,baz=85,slow=9.6,SNR=5.9
comp=Z,1.3nm,0.7s
PETK Petropavlovsk- 43.20 303 LR LR 17 16 41.0
comp=Z,82nm,19.0s,baz=80,slow=34
MA2 Magadan 43.90 314 LR LR 17 17 45.2
comp=Z,139nm,21.2s,baz=96,slow=35
TIXI Tiksi 46.58 335 LR LR 17 21 48.6
comp=Z,69nm,18.6s,baz=181,slow=38
SPITS Spitsbergen Ar 50.25 9 LR LR 17 22 59.2
comp=Z,158nm,18.4s,baz=314,slow=36
YAK Yakutsk 51.59 324 LR LR 17 23 14.2
comp=Z,123nm,18.7s,baz=92,slow=36
BORG Borgarnes 52.85 31 LR LR 17 25 13.4
comp=Z,186nm,19.5s,baz=344,slow=37
ASAJ Asahikawa 56.48 300 LR LR 17 22 48.4
comp=Z,40nm,21.5s,baz=100,slow=32
H11N2 WAKE ISLAND Hy 57.94 263 T T 18 04 51.0
baz=42,slow=75,SNR=94
H11N3 WAKE ISLAND Hy 57.94 262 T T 18 04 49.9
baz=42,slow=75,SNR=121
H11N1 WAKE ISLAND Hy 57.96 262 T T 18 04 51.1
baz=42,slow=75,SNR=128
KLR Kul'dur 58.80 311 LR LR 17 27 01.9
comp=Z,103nm,20.5s,baz=37,slow=35
H11S1 WAKE ISLAND Hy 58.96 262 T T 18 06 07.0
baz=40
H11S2 WAKE ISLAND Hy 58.97 262 T T 18 06 07.7
baz=40,slow=76
H11S3 WAKE ISLAND Hy 58.98 262 T T 18 06 08.3
baz=40,slow=76
ARCES ARCESS Array B 59.23 10 LR LR 17 28 40.7
comp=Z,68nm,19.5s,baz=10.0,slow=37
TAOE Nuku Hiva Isla 59.47 192 eLR LR 17 19 58.9
comp=Z,225nm,25.1s
SJG San Juan 59.58 98 LR LR 17 28 27.1
comp=Z,24nm,20.5s,baz=202,slow=36
HEH HeiHe 60.17 314 eP P 17 02 29.7 -0.4
HEH pmax pmax
comp=Z,3.0nm,0.9s
HEH pmax pmax
comp=Z,220nm,5.4s
SDV Santo Domingo 63.81 109 LR LR 17 33 37.6
comp=Z,43nm,20.6s,baz=298,slow=39
MJAR Matsushiro Arr 64.03 296 LR LR 17 26 23.3
comp=Z,39nm,21.6s,baz=105,slow=32
NOA NORSAR Array B 64.81 20 LR LR 17 31 19.6
comp=Z,85nm,18.6s,baz=10.0,slow=36
EKA Eskdalemuir Ar 65.88 30 LR LR 17 31 54.9
comp=Z,163nm,18.7s,baz=344,slow=36
HFS Hagfors 66.16 19 LR LR 17 34 08.4
comp=Z,152nm,18.1s,baz=344,slow=38
FINES FINESS Array B 67.06 12 P P 17 03 15.5 +0.1
comp=Z,3.2nm,0.9s,baz=321,slow=8.1,SNR=2.3
FINES LR LR 17 33 55.6
comp=Z,103nm,18.3s,baz=306,slow=37
comp=Z,3.2nm,0.9s
PPT Papeete 69.65 200 LR LR 17 29 22.9
comp=Z,36nm,19.1s,baz=305,slow=32
PPT2 Papeete2 69.67 200 eLR LR 17 24 41.9
comp=Z,89nm,24.5s
PPT2 eLR LR 17 24 43.3
comp=Z,72nm,22.0s
XLT XiLinHaoTe 70.07 315⇑ iP P 17 03 34.8 +0.2
XLT pP pwP 17 03 39.4 -0.5
XLT sP sP 17 03 41.7 +3.6
XLT S **S 17 12 40.8 -4.4**
XLT sS sS 17 12 51.2 +1.7
XLT pmax pmax
comp=Z,4.0nm,0.8s
XLT pmax pmax
comp=Z,46nm,4.8s
SONM Songino Array 70.95 324 P P 17 03 40.3 +0.4
comp=Z,0.4nm,1.0s,baz=57,slow=5.3,SNR=2.5
SONM LR LR 17 35 10.6
comp=Z,127nm,19.3s,baz=28,slow=36
comp=Z,0.4nm,1.0s
ZALV Zalesovo Beam 72.18 339 P P 17 03 46.7 -0.4
comp=Z,0.2nm,0.3s,baz=14,slow=6.5,SNR=1.5
comp=Z,0.2nm,0.3s
CLL Collm 74.08 23 ePx Px 17 04 01.0
comp=Z,48nm,2.1s
HHC Hu-ho-hao-te 74.52 316 eP P 17 04 00.0 -1.3
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.0s
TBI Tubuai 75.23 198 eLR LR 17 27 15.0
comp=Z,260nm,24.5s
TBI eLR LR 17 27 18.0
comp=Z,2μm,24.8s
GERES GERESS Array B 76.52 24 P P 17 04 12.8 +0.2
comp=Z,0.1nm,0.4s,baz=336,slow=2.2,SNR=2.2
GERES LR LR 17 42 31.5
comp=Z,40nm,18.1s,baz=322,slow=39
comp=Z,0.1nm,0.4s
VRAC Vranov 76.81 22 LR LR 17 39 46.4
comp=Z,75nm,18.1s,baz=352,slow=37
DAVOX Davos/Dischmat 77.35 27 LR LR 17 38 53.6
comp=Z,120nm,18.3s,baz=332,slow=36
AKASG Malin Array Be 77.92 13 P P 17 04 19.0 -1.3
comp=Z,0.1nm,0.3s,baz=336,slow=5.1,SNR=5.2
AKASG LR LR 17 39 59.3
comp=Z,96nm,18.4s,baz=58,slow=37
comp=Z,0.1nm,0.3s
NJ2 Nanjing 78.02 306 eP P 17 04 19.6 -1.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ESDC Sonseca Array 78.72 40 P P 17 04 24.2 -0.8
comp=Z,0.5nm,1.0s,baz=345,slow=4.0,SNR=2.6
comp=Z,0.5nm,1.0s
MK31 Makanchi Array 79.44 338 P P 17 04 29.4 +0.7
MKAR Makanchi Array 79.44 338 LR LR 17 42 01.2
comp=Z,85nm,18.1s,baz=106,slow=38
MKAR Makanchi Array 79.44 338 P P 17 04 28.3 -0.4
MAKZ Makanchi 79.50 338 P P 17 04 28.4 -0.6
MAKZ IAmb IAmb 17 04 41.1
comp=Z,14nm,1.4s
WMQ Urumqi 80.77 333 eP P 17 04 37.3 +1.3
XAN Xi'an 81.30 314 P P 17 04 46.2 +7.2
XAN pP PcP 17 04 57.3 +12
XAN pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 81.83 319 eP P 17 04 38.6 -3.4
LZH pP pP 17 04 42.9 -1.7
LZH sP sP 17 04 45.7 +0.2
LZH pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 86.25 5 P P 17 05 04.9 +0.9
comp=Z,1.2nm,0.9s,baz=295,slow=3.8,SNR=2.3
comp=Z,1.2nm,0.9s
PZH PanZhiHua 90.95 315 P P 17 05 25.5 -1.4
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,6.3s
DAV Davao City (W) 93.75 286 LR LR 17 39 16.9
comp=Z,35nm,20.7s,baz=20,slow=30
SIJI Sorong 96.28 276 LR LR 17 41 01.9
comp=Z,43nm,21.7s,baz=70,slow=30
CMAR Chiang Mai Arr 99.19 314 P Pdif 17 06 03.0 -1.4
comp=Z,0.4nm,0.3s,baz=79,slow=4.7,SNR=1.5
comp=Z,0.4nm,0.3s

*IDC **06** 16:52:55.8±0.7,21°.31N×144°.32E,h0km,mb4.2/21, mbtmp4.2/22,ML3.9/1,MS3.1/4,Error ellipse: s-maj=22.7km s-min=15.8km az=85.0*
*NEIC **06** 16:52:58.4±2.6,21°.41N±0°.08×144°.9E±0°.2,h35km±2km, mb4.7/27,Error ellipse: s-maj=29.4km s-min=12.9km az=79.0*

ISC 06 16:52:59.2±0.7,21°.28N±0°.06×144°.6E±0°.1,h35km,n68, σ1ᵖ43/59,mb4.5/36,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.20**	**340**	Pn	**Pn**	**16 54 27.1**	**-1.1**
	3.0nm,0.3s,baz=292,slow=21,SNR=1.9						
JCJ				Sn	**Sn**	**16 55 37.9**	**0.0**
	11nm,0.3s,baz=221,slow=23,SNR=1.4						
	79nm,0.9s						
JCJ	**Chichijima**	**6.20**	**340**	Pn	**Pn**	**16 54 24.6**	**-3.6**
GUMO	**Guam**	**7.65**	**178**	LR	LR	16 57 29.5	
	comp=Z,105nm,18.3s,baz=106,slow=36						
GUMO	**Guam**	**7.65**	**178**	Pn	**Pn**	**16 54 48.1**	**-0.2**
JHJ	**Hachijo jima 2**	**12.55**	**341**	LR	LR	17 00 37.7	
	comp=Z,58nm,19.8s,baz=125,slow=37						
MJAR	**Matsushiro Arr**	**16.20**	**341**	Pn	**P**	**16 56 48.0**	**+1.0**
	0.1nm,0.3s,baz=164,slow=9.5,SNR=4.7						
MJAR				LR	LR	17 02 15.1	
	comp=Z,71nm,20.9s,baz=207,slow=35						
MAJO	**Matsushiro**	**16.20**	**341**		**Pn**	**16 56 40.1**	**-4.0**
MJB9	**Matsu-Tunnel**	**16.20**	**341**	P	**P**	**16 56 45.3**	**-1.7**
H11N1	**WAKE ISLAND Hy**	**20.93**	**90**	T	T	17 19 34.2	
	baz=277,slow=75,SNR=39						
H11N2	**WAKE ISLAND Hy**	**20.93**	**90**	T	T	17 19 37.4	
	baz=277,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**20.95**	**94**	T	T	17 19 33.7	
	baz=281,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**20.95**	**90**	T	T	17 19 34.2	
	baz=277,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**20.95**	**94**	T	T	17 19 33.3	
	baz=281,slow=75,SNR=34						
H11S2	**WAKE ISLAND Hy**	**20.96**	**94**	T	T	17 19 38.3	
	baz=281,slow=75,SNR=29						
YHNB	**Yeheng**	**21.65**	**283**	P	**P**	**16 57 46.4**	**-0.4**
YHNB				IAmb	IAmb	16 57 56.3	
	comp=Z,78nm,1.4s						
KSRS	**Korea Array**	**21.65**	**322**	P	**P**	**16 57 46.6**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=140,slow=9.9,SNR=5.0						
	comp=Z,1.8nm,0.8s						
YULB	**Yu-li**	**21.66**	**280**	P	**P**	**16 57 47.4**	**+0.6**
YULB				IAmb	IAmb	16 57 54.0	
	comp=Z,24nm,1.3s						
SSLB	**Suanglung**	**21.99**	**281**	P	**P**	**16 57 51.3**	**+0.9**
SSLB				IAmb	IAmb	16 57 53.8	
	comp=Z,32nm,0.8s						
DAV	**Davao City (W)**	**23.20**	**235**	LR	LR	17 05 01.0	
	comp=Z,83nm,21.5s,baz=323,slow=32						
USRK	**Ussuriysk Ar.**	**25.14**	**338**	P	**P**	**16 58 22.1**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=137,slow=8.9,SNR=3.5						
	comp=Z,2.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**25.14**	**338**	P	**P**	**16 58 18.9**	**-2.1**
TIA	**Tai'an**	**28.19**	**308**	eP	**P**	**16 58 49.4**	**+0.8**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KLR	**Kul'dur**	**29.71**	**343**	P	**P**	**16 59 04.3**	**+2.5**
	comp=Z,5.4nm,0.6s,baz=164,slow=6.9,SNR=24						
	comp=Z,5.4nm,0.6s						
HEH	**HeiHe**	**31.94**	**339**	eP	**P**	**16 59 23.8**	**+2.3**
HEH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HEH				pmax	pmax		
	comp=Z,160nm,5.5s						
MTN	**Manton Dam**	**36.40**	**203**	P	**P**	**17 00 00.8**	**+0.3**
MTN				IAmb	IAmb	17 00 39.7	
	comp=Z,25nm,1.2s						
SBUM	**Sibu**	**36.66**	**244**	P	**P**	**17 00 04.0**	**+1.1**
KNRA	**Kununurra**	**39.88**	**204**	P	**P**	**17 00 30.5**	**+0.7**
SONM	**Songino Array**	**40.51**	**320**	P	**P**	**17 00 33.0**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=138,slow=8.3,SNR=4.2						
	comp=Z,0.5nm,0.5s						
WB0	**Warramunga Arr**	**42.00**	**194**	P	**P**	**17 00 45.6**	**-1.7**
WB0				IAmb	IAmb	17 02 13.3	
	comp=Z,25nm,1.7s						
WR0	**Warramunga Arr**	**42.15**	**194**	P	**P**	**17 00 44.9**	**-3.6**
WR0				IAmb	IAmb	17 01 59.3	
	comp=Z,30nm,1.8s						
WB2	**Warramunga Arr**	**42.18**	**194**	P	**P**	**17 00 48.6**	**-0.1**
WB2				IAmb	IAmb	17 00 52.0	
	comp=Z,7.4nm,0.8s						
WRA	**Warramunga Arr**	**42.18**	**194**	P	**P**	**17 00 49.9**	**+1.2**
	comp=Z,5.1nm,0.6s,baz=13,slow=8.7,SNR=26						
	comp=Z,5.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.93**	**275**	P	**P**	**17 00 55.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=67,slow=7.4,SNR=2.6						
	comp=Z,0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.32**	**207**	P	**P**	**17 00 57.0**	**-1.0**
KULM	**Kulim**	**45.45**	**256**	P	**P**	**17 01 14.7**	**-0.4**
IPM	**Ipoh**	**45.45**	**255**	P	**P**	**17 01 14.8**	**-0.4**
AS31	**Alice Springs**	**45.88**	**194**	P	**P**	**17 01 18.5**	**+0.1**
ASAR	**Alice Springs**	**45.88**	**194**	P	**P**	**17 01 19.9**	**+1.5**
	comp=Z,2.7nm,0.6s,baz=16,slow=8.7,SNR=51						
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**45.88**	**194**	P	**P**	**17 01 18.4**	**+0.1**
FORT	**Forrest**	**54.15**	**198**	P	**P**	**17 02 19.7**	**-1.3**
BBOO	**Buckleboo**	**54.40**	**189**	P	**P**	**17 02 19.9**	**-2.9**
ZAA0	**Zalesovo Array**	**55.36**	**322**	P	**P**	**17 02 30.2**	**+0.7**
ZAA0				IAmb	IAmb	17 04 08.3	
	comp=Z,15nm,1.9s						
ZALV	**Zalesovo Beam**	**55.36**	**322**	P	**P**	**17 02 30.3**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=108,slow=8.2,SNR=12						
ZALV				PcP	**PcP**	**17 03 31.0**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=108,slow=4.7,SNR=1.4						
	comp=Z,1.5nm,0.4s						
ZALV	**Zalesovo Beam**	**55.36**	**322**	P	**P**	**17 02 28.4**	**-1.1**
MK31	**Makanchi Array**	**55.95**	**313**	P	**P**	**17 02 34.0**	**-0.1**
MKAR	**Makanchi Array**	**55.95**	**313**	P	**P**	**17 02 35.4**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=90,slow=9.4,SNR=28						
MKAR				PcP	**PcP**	**17 03 33.7**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=84,slow=4.1,SNR=6.2						
	comp=Z,2.7nm,0.8s						
MKAR	**Makanchi Array**	**55.95**	**313**	P	**P**	**17 02 34.4**	**+0.3**
MAKZ	**Makanchi**	**56.17**	**313**	P	**P**	**17 02 35.8**	**+0.3**
MAKZ				IAmb	IAmb	17 02 37.8	
	comp=Z,5.2nm,0.9s						
KURK	**Kurchatov**	**58.68**	**317**	P	**P**	**17 02 53.5**	**+0.3**
KURK				IAmb	IAmb	17 02 55.0	
	comp=Z,7.8nm,0.8s						
ILAR	**Eielson Array**	**61.80**	**27**	P	**P**	**17 03 15.7**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=268,slow=5.9,SNR=6.5						
	comp=Z,0.8nm,0.9s						
BRVK	**Borovoye**	**63.91**	**320**	P	**P**	**17 03 27.7**	**-0.8**
BRVK				IAmb	IAmb	17 03 30.9	
	comp=Z,4.7nm,0.9s						
KK31	**Karatay Array**	**64.35**	**309**	P	**P**	**17 03 32.1**	**+0.5**
KK31				IAmb	IAmb	17 03 33.8	
	comp=Z,4.4nm,0.8s						
KKAR	**Karatay Array**	**64.35**	**309**	P	**P**	**17 03 32.4**	**+0.8**
GAR	**Garm**	**64.98**	**304**	P	**P**	**17 03 36.7**	**+0.7**
CHGR	**Chuyangaron**	**65.93**	**304**	P	**P**	**17 03 42.6**	**+0.6**
CHGR				IAmb	IAmb	17 03 44.6	
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**70.77**	**316**	P	**P**	**17 04 11.9**	**0.0**
GEYT	**Alibeck**	**74.57**	**305**	P	**P**	**17 04 35.8**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=217,slow=0.7,SNR=4.8						
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**76.20**	**28**	P	P	17 04 47.4	+3.8
	comp=Z,0.8nm,0.7s,baz=290,slow=5.9,SNR=7.3						
	comp=Z,0.8nm,0.7s						
RES	**Resolute Bay**	**77.17**	**14**	P	**P**	**17 04 50.3**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=351,slow=3.6,SNR=6.4						
	comp=Z,1.9nm,0.8s						
BELG	**Belogornoye**	**77.55**	**321**	P	**P**	**17 04 51.6**	**+0.2**
	comp=Z,8.0nm,0.7s,baz=58,slow=9.5,SNR=4.7						
	comp=Z,8.0nm,0.7s						
ARCES	**ARCESS Array B**	**79.73**	**342**	P	**P**	**17 05 04.6**	**+1.4**
	comp=Z,6.3nm,1.1s,baz=67,slow=6.9,SNR=4.9						
	comp=Z,6.3nm,1.1s						
NVAR	**Mina Array Bea**	**82.36**	**52**	P	P	17 05 22.3	+4.2
	comp=Z,0.3nm,0.5s,baz=266,slow=5.9,SNR=5.0						
	comp=Z,0.3nm,0.5s						
KBZ	**Khabaz**	**83.61**	**314**	P	**P**	**17 05 25.4**	**+1.3**
	comp=Z,7.5nm,0.9s,baz=103,slow=3.4,SNR=10						
	comp=Z,7.5nm,0.9s						
FINES	**FINESS Array B**	**84.12**	**335**	P	**P**	**17 05 27.2**	**+0.8**
	comp=Z,3.5nm,0.5s,baz=70,slow=5.2,SNR=36						
	comp=Z,3.5nm,0.5s						
PDAR	**Pinedale Array**	**86.75**	**45**	P	P	17 05 44.0	+3.9
	comp=Z,0.4nm,0.7s,baz=273,slow=3.5,SNR=3.5						
	comp=Z,0.4nm,0.7s						
AKASG	**Malin Array Be**	**88.61**	**325**	P	**P**	**17 05 48.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=52,slow=4.8,SNR=5.2						
	comp=Z,0.5nm,0.5s						
HFS	**Hagfors**	**89.62**	**338**	P	**P**	**17 05 53.1**	**0.0**
	comp=Z,2.3nm,0.7s,baz=178,slow=8.8,SNR=6.6						
	comp=Z,2.3nm,0.7s						
PLCA	**Paso Flores**	**144.49**	**131**	PKP	**PKiKP**	**17 12 33.7**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=257,slow=4.1,SNR=4.9						

IDC ***06*** *17:03:57.0±2.6,49.°62N×130.°09W,h0km,mb3.4/2, mbtmp3.1/6,ML3.2/4,MS3.3/4,Error ellipse: s-maj=39.0km s-min=26.5km az=51.0*
PGC ***06*** *17:04:04.2±1.4,50.°10N×129.°99W,h10km,MLSn3.1/16, Mw3.7/16, 194km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
ISC 06 17:04:02.0±1.2,50°11N±0°07×129°96W±0°06,h12km,n36, σ1§**45**/41**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.28**	**65**	P	**Pn**	**17 04 26.4**	**+0.6**
HOLB				S	**Sn**	**17 04 41.8**	**-1.2**
PACB	**Port Alice, BC**	**1.62**	**77**	Pn	**Pn**	**17 04 30.5**	**+0.2**
PACB				Sn	**Sn**	**17 04 49.5**	**-1.5**
MAYB	**Maynard**	**1.81**	**80**	Pn	**Pn**	**17 04 33.3**	**+0.2**
EDB	**Eliza Dome**	**1.85**	**96**	Pn	**Pn**	**17 04 34.3**	**+0.8**
HG4B	**Hotspring**	**2.32**	**341**	Pn	**Pn**	**17 04 40.6**	**+0.6**
HG4B				Sn	**Sn**	**17 05 07.0**	**-1.5**
BBB	**Bella Bella**	**2.38**	**29**	Pn	**Pn**	**17 04 42.8**	**+1.9**
	19nm,0.3s,baz=222,slow=13,SNR=31						
BBB				Sn	**Sn**	**17 05 10.1**	**+0.2**
	23nm,0.3s,baz=313,slow=22,SNR=15 39nm,0.3s						
BBB	**Bella Bella**	**2.38**	**29**	Pn	**Pn**	**17 04 42.8**	**+1.9**
BBB				Sn	**Sn**	**17 05 09.4**	**-0.5**
NCRB	**Newcastle Ridg**	**2.52**	**82**	Pn	**Pn**	**17 04 44.5**	**+1.6**
BNB	**Barry Inlet**	**2.71**	**336**	Pn	**Pn**	**17 04 46.4**	**+1.0**
SPLB	**Strathcona Par**	**2.79**	**93**	Pn	**Pn**	**17 04 48.0**	**+1.5**
OZB	**Mount Ozzard**	**3.13**	**110**	Pn	**Pn**	**17 04 53.0**	**+1.9**
OZB				Sn	**Sn**	**17 05 27.5**	**-0.9**
BNKB	**Banks Island**	**3.23**	**1**	Pn	**Pn**	**17 04 53.4**	**+0.9**
BNKB				Sn	**Sn**	**17 05 31.0**	**+0.1**
MOBC	**Moresby Island**	**3.29**	**338**	Pn	**Pn**	**17 04 55.1**	**+1.8**
BNAB	**Bonilla**	**3.42**	**353**	Pn	**Pn**	**17 04 56.9**	**+1.9**
DIB	**Dawson Inlet,**	**3.47**	**334**	Pn	**Pn**	**17 04 57.5**	**+1.7**
H02S1	**DAWSON INLET T**	**3.47**	**334**	Pn	**Pn**	**17 04 55.9**	**+0.1**
HWKB	**Hawksbury Isla**	**3.53**	**8**	Pn	**Pn**	**17 04 58.2**	**+1.5**
HWKB				Sn	**Sn**	**17 05 38.7**	**+0.4**
TXB	**Texada**	**3.59**	**94**	Pn	**Pn**	**17 04 59.4**	**+1.9**
GRNB	**Grenville Isla**	**3.74**	**0**	Pn	**Pn**	**17 05 00.7**	**+1.1**
GRNB				Sn	**Sn**	**17 05 43.5**	**-0.1**
PFB	**Port Renfrew**	**3.92**	**111**	Pn	**Pn**	**17 05 02.9**	**+0.8**
OCP	**Olym-Cheeka Pk**	**3.94**	**115**	Pn	**Pn**	**17 05 04.3**	**+2.1**
SHB	**Sechelt**	**3.97**	**95**	Pn	**Pn**	**17 05 05.0**	**+2.2**
SHB				Sn	**Sn**	**17 05 50.6**	**+1.4**
CLRS	**Cowichan Lake**	**4.01**	**107**	Pn	**Pn**	**17 05 05.3**	**+2.1**
RUBB	**Prince Rupert**	**4.23**	**358**	Pn	**Pn**	**17 05 07.8**	**+1.6**
SYMB	**Survey Mountai**	**4.32**	**109**	Pn	**Pn**	**17 05 09.3**	**+1.8**
OBC	**Olympics--Boni**	**4.39**	**116**	Pn	**Pn**	**17 05 10.2**	**+1.7**
NEW	**Newport**	**8.61**	**97**	LR	LR	17 09 28.0	
	comp=Z,159nm,18.2s,baz=262,slow=38						
YKA	**Yellowknife Ar**	**15.00**	**28**	Pn	**Pn**	**17 07 32.7**	**-0.8**
	0.1nm,0.3s,baz=222,slow=11,SNR=2.3 0.1nm,0.5s						
KDAK	**Kodiak Island**	**15.32**	**309**	LR	LR	17 11 41.2	
	comp=Z,94nm,21.8s,baz=203,slow=30						
PDAR	**Pinedale Array**	**15.83**	**110**	Pn	**Pn**	**17 07 42.4**	**-2.5**
	baz=306,slow=7.7,SNR=2.1						
PDAR				LR	LR	17 14 03.7	
	comp=Z,101nm,18.4s,baz=325,slow=38 0.1nm,0.4s						
ILAR	**Eielson Array**	**17.20**	**335**	P	**P**	**17 08 05.0**	**+1.7**
	baz=151,slow=9.8,SNR=1.7 0.1nm,0.7s						
ULM	**Lac du Bonnet**	**21.72**	**76**	P	**P**	**17 08 53.4**	**+0.5**
	2.0nm,0.8s,baz=278,slow=13,SNR=1.9						
ULM				LR	LR	17 16 35.8	
	comp=Z,103nm,19.6s,baz=338,slow=35 2.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**57.94**	**263**	T	T	18 16 35.8	
	baz=42,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**57.94**	**263**	T	T	18 16 35.9	
	baz=42,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**57.96**	**263**	T	T	18 16 37.0	
	baz=42,slow=76,SNR=11						
MKAR	**Makanchi Array**	**79.52**	**338**	P	**P**	**17 16 07.0**	**-1.4**
	0.2nm,0.7s,baz=3.2,slow=7.7,SNR=1.7 0.2nm,0.7s						

NCEDC ***06*** *17:27:11.1±1.8,40.°44N±0.°05×126.°4W±0.°1,h16km±9km, Error ellipse: s-maj=13.6km s-min=5.2km az=68.0*
NEIC 06 17:27:10.4±2.0,40°49N±0°05×126°3W±0°2,h9km±13km, ML2.7/40**,ML2.8**/7(NCEDC)**, Error ellipse: s-maj=17.8km s-min=7.2km az=77.0, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.46**	**90**		Pn	17 27 37.0	+0.1
KCTM					Sg	17 27 57.7	+0.4
KSMM	**Slide Mountain**	**1.61**	**100**		Pn	17 27 38.1	-1.0
KMPM	**Mount Pierce**	**1.62**	**92**		Pn	17 27 39.1	-0.2
KMPM				Sn	Sb	17 28 01.0	-0.3
KMPM				IAML		17 28 03.0	
	comp=E,104nm,0.6s						
KMPM				IAML		17 28 03.1	
	comp=N,92nm,0.4s						
JCC	**Jacoby Creek,**	**1.72**	**78**		Pn	17 27 39.9	-0.6
JCC	**Jacoby Creek,**	**1.72**	**78**	Pn	Pn	17 27 39.7	-0.8
JCC	**Jacoby Creek,**	**1.72**	**78**	Sn	Sn	17 28 01.6	-1.0
KRPM	**Rodgers**	**1.82**	**68**	Pn	Pn	17 27 41.6	-0.3
KRPM				IAML		17 27 58.4	
	comp=E,57nm,2.4s						
KRPM				Sn	Sn	17 28 03.9	-1.2
KRPM				IAML		17 28 49.7	
	comp=N,40nm,2.0s						
KCRM	**Chalk Rock**	**1.85**	**91**		Pn	17 27 42.5	0.0
KHMM	**Horse Mountain**	**1.95**	**78**		Pn	17 27 43.6	-0.2
KHMM	**Horse Mountain**	**1.95**	**78**	Sn	Sn	17 28 08.1	-0.4
KMRM	**Mail Ridge**	**1.96**	**97**		Pn	17 27 43.1	-0.8
KMRM				Sn	Sb	17 28 10.0	-0.9
KMRM				IAML		17 28 12.2	
	comp=E,59nm,0.6s						
KMRM				IAML		17 28 12.8	
	comp=N,70nm,0.8s						
KCPM	**Cahto Peak**	**2.20**	**111**	Pn	Pn	17 27 46.8	-0.4
KCPM				Sn	Sn	17 28 12.9	-1.6
KCPM				IAML		17 28 14.5	
	comp=N,34nm,0.3s						
KCPM				IAML		17 28 15.1	
	comp=E,63nm,0.3s						
KPPM	**Pickett Peak**	**2.21**	**93**		Pn	17 27 47.9	+0.5
KIPM	**Iron Peak**	**2.23**	**107**		Pn	17 27 48.0	+0.4
KBO	**Bosley Butte**	**2.30**	**41**		Pn	17 27 47.8	-0.8
KBO				Sn	Sn	17 28 15.3	-1.7
KBO				IAML		17 28 18.1	
	comp=E,48nm,2.4s						
KBO				IAML		17 28 47.0	
	comp=N,40nm,2.6s						
KHBM	**Hayfork Bally**	**2.31**	**85**		Pn	17 27 48.7	-0.2
KFPM	**Farley Peak**	**2.33**	**110**		Pn	17 27 48.7	-0.2
KBNM	**Bluenose Ridge**	**2.41**	**103**		Pn	17 27 50.4	+0.2
KTRM	**Thompson Ridge**	**2.59**	**56**		Pn	17 27 53.2	+0.5
LGPM	**Granite Peak**	**2.63**	**80**		Pn	17 27 53.0	-0.2
KEBM	**Edson Butte**	**2.78**	**30**	Pn	Pn	17 27 55.1	0.0
KEBM				IAML		17 28 41.5	
	comp=N,33nm,1.6s						
LBKM	**Bonanza King**	**2.79**	**77**		Pn	17 27 55.2	-0.1
GVV	**Valley View**	**2.83**	**103**		Pn	17 27 56.5	+0.5
HOPS	**Hopland Field**	**2.87**	**120**		Pn	17 27 56.5	+0.2
HOPS	**Hopland Field**	**2.87**	**120**	Pn	Pn	17 27 55.8	-0.6
HOPS	**Hopland Field**	**2.87**	**120**	Sn	Sn	17 28 31.9	+1.0
HOPS				IAML		17 29 02.1	
	comp=N,34nm,2.6s						
HOPS				IAML		17 29 19.3	
	comp=E,30nm,3.6s						
GHLM	**Highland Sprin**	**2.88**	**119**		Pn	17 27 56.5	-0.1
YBH	**Yreka Blue Hor**	**2.95**	**64**		Pn	17 27 58.0	+0.5
YBH				Sn	Sn	17 28 33.9	+0.8
HUMO	**Hull Mountain**	**3.25**	**48**		Pn	17 28 02.5	+0.9
HUMO				Sn	Sn	17 28 40.8	+0.3
DBO	**Dodson Butte**	**3.46**	**40**	Pn	Pn	17 28 05.7	+1.2
DBO				IAML		17 29 16.3	
	comp=E,13nm,3.2s						
DBO				IAML		17 29 57.7	
	comp=N,9.6nm,3.6s						
MCCM	**Marconi Confer**	**3.51**	**131**	Pn	Pn	17 28 03.9	-1.2
ORV	**Oroville**	**3.76**	**103**	Pn	Pn	17 28 08.8	+0.2
AFDM	**Forest Hills D**	**4.35**	**109**	Pn	Pn	17 28 18.5	+1.8
AFDM				IAML		17 29 30.3	
	comp=E,8.5nm,4.5s						
AFDM				IAML		17 30 49.5	
	comp=N,5.9nm,4.4s						
BEKR	**Beckworth**	**4.55**	**96**		Pn	17 28 19.6	-0.1
BEKR				IAML		17 29 27.4	
	comp=E,4.7nm,4.5s						
BEKR				IAML		17 29 57.8	
	comp=N,6.1nm,4.7s						
K05A	**Summer Lake**	**4.59**	**59**		Pn	17 28 20.5	+0.3
PINE	**Pine Mountain**	**5.14**	**48**	Pn	Pn	17 28 29.8	+2.0
H04A	**Detroit Lake**	**5.15**	**34**	Pn	Pn	17 28 29.4	+1.6
H04A				IAML		17 29 28.8	
	comp=E,7.8nm,3.8s						
I07A	**Izee**	**6.16**	**52**	Pn	Pn	17 28 42.4	+0.8
RYN	**Ryan**	**6.25**	**105**		Pn	17 28 43.8	+0.9

IDC ***06*** *17:50:32.6±1.9,5.°79S×154.°27E,h81km±17km,mb3.4/10, mbtmp3.9/13,MS2.8/2,Error ellipse: s-maj=20.8km s-min=12.7km az=62.0*
NEIC ***06*** *17:50:33.2±1.4,5.°74S±0.°09×154.°28E±0.°05,h83km±10km, mb4.2/13,Error ellipse: s-maj=13.6km s-min=3.2km az=206.0*
ISC 06 17:50:34.1±0.6,5°76S±0°07×154°25E±0°06,h100km,n37, σ1§**12**/38**,mb3.7**/14**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.60**	**307**		Pn	**17 51 14.1**	**-0.5**
RABL				Sn	**Sn**	**17 51 43.6**	**-2.0**
KRVT	**Keravat (AS076**	**2.64**	**303**	P	**Pn**	**17 51 13.7**	**-1.4**
	67nm,0.7s,baz=321,slow=4.6,SNR=11						
KRVT				S	**Sn**	**17 51 45.7**	**-1.0**
	109nm,0.3s,baz=130,slow=23,SNR=4.7						
HNR	**Honiara**	**6.72**	**123**	P	**Pn**	**17 52 08.5**	**-1.8**
	138nm,0.3s,baz=126,slow=22,SNR=2.0						
HNR				S	**Sn**	**17 53 27.3**	**+1.9**
	219nm,0.4s,baz=195,slow=21,SNR=1.8						
HNR	**Honiara**	**6.72**	**123**	Pn	**Pn**	**17 52 08.4**	**-1.8**
HNR				Sn	**Sn**	**17 53 24.7**	**-0.7**
PMG	**Port Moresby**	**7.90**	**242**	P	**Pn**	**17 52 25.2**	**-1.1**
	16nm,0.4s,baz=49,slow=10,SNR=12						
PMG				S	**Sn**	**17 53 56.5**	**+2.4**
	8.9nm,0.3s,baz=133,slow=21,SNR=4.7						
PMG				LR	LR	17 55 29.1	
	comp=Z,37nm,19.7s,baz=294,slow=38						
PMG	**Port Moresby**	**7.90**	**242**		**Pn**	**17 52 25.2**	**-1.1**
PMG				Sn	**Sn**	**17 53 54.0**	**-0.2**
PATS	**Pohnpei**	**13.16**	**18**	Pn	Pn	17 53 32.7	-4.5
LIFNC	**LIFOU**	**19.54**	**141**	P	**P**	**17 54 53.0**	**-0.8**
DZM	**Mont Dzumac**	**20.05**	**145**	P	**P**	**17 54 59.4**	**-0.2**
	5.2nm,0.5s,baz=256,slow=4.6,SNR=23 5.2nm,0.5s						
DZM	**Mont Dzumac**	**20.05**	**145**	P	**P**	**17 54 58.9**	**-0.7**
DZM				IAmb	IAmb	17 54 60.0	
	comp=Z,17nm,1.3s						
OUENC	**Ouen Island, N**	**20.55**	**145**	P	**P**	**17 55 05.5**	**+0.7**
OUENC				IAmb	IAmb	17 55 41.4	
	comp=E,11nm,1.1s						
WR0	**Warramunga Arr**	**23.80**	**232**	P	**P**	**17 55 38.8**	**+0.9**
WB0	**Warramunga Arr**	**23.80**	**232**	P	**P**	**17 55 38.4**	**+0.4**
WB0				IAmb	IAmb	17 56 11.0	
	comp=E,11nm,1.4s						
MTN	**Manton Dam**	**23.86**	**251**	P	**P**	**17 55 38.7**	**+0.3**
MTN				IAmb	IAmb	17 55 41.4	
	comp=E,17nm,1.1s						
WRAB	**Tennant Creek**	**23.93**	**232**	P	**P**	**17 55 39.2**	**+0.1**
WRAB				IAmb	IAmb	17 56 16.8	
	comp=Z,14nm,1.5s						
WB2	**Warramunga Arr**	**23.93**	**232**	P	**P**	**17 55 40.0**	**+0.9**
WB2				IAmb	IAmb	17 56 19.2	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**23.94**	**232**	P	**P**	**17 55 40.1**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=55,slow=9.6,SNR=9.7 comp=Z,0.7nm,0.4s						
ARMA	**Armidale**	**24.65**	**185**	P	**P**	**17 55 45.9**	**+0.3**
ARMA				IAmb	IAmb	17 55 47.0	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**26.46**	**226**	P	**P**	**17 56 02.5**	**+0.4**
ASAR	**Alice Springs**	**26.46**	**226**	P	**P**	**17 56 02.7**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=56,slow=9.1,SNR=60 comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**26.46**	**226**	P	**P**	**17 56 00.8**	**-1.2**
KNRA	**Kununurra**	**26.88**	**246**	P	**P**	**17 56 05.6**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**27.05**	**27**	T	T	18 24 03.6	
	baz=206,slow=73,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**27.05**	**27**	T	T	18 24 05.4	
	baz=206,slow=73,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**27.06**	**27**	T	T	18 24 02.5	
	baz=206,slow=73,SNR=3.6						
STKA	**Stephens Creek**	**28.55**	**203**	P	**P**	**17 56 20.2**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=360,slow=12,SNR=9.3 comp=Z,2.3nm,0.7s						
STKA	**Stephens Creek**	**28.55**	**203**	P	**P**	**17 56 20.0**	**-0.6**
BBOO	**Buckleboo**	**31.81**	**210**	P	**P**	**17 56 48.3**	**-1.0**
KAPI	**Kappang**	**34.35**	**270**	LR	LR	18 13 32.6	
	comp=Z,23nm,19.4s,baz=200,slow=40						
TUWZ	**Tuamarina**	**39.63**	**157**	P	**P**	**17 57 56.1**	**+0.2**
KSRS	**Korea Array**	**49.51**	**332**	P	**P**	**17 59 14.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=146,slow=8.0,SNR=2.4 comp=Z,0.5nm,0.7s						
CMAR	**Chng Mai Arr**	**59.59**	**295**	P	**P**	**18 00 28.4**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=112,slow=6.2,SNR=1.9 comp=Z,0.4nm,0.9s						
SONM	**Songino Array**	**67.90**	**327**	P	**P**	**18 01 23.1**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=141,slow=6.3,SNR=8.2 comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**71.83**	**178**	P	**P**	**18 01 45.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=331,slow=6.9,SNR=5.2 comp=Z,0.6nm,0.7s						
IMAR	**Indian Mountai**	**80.81**	**19**	P	**P**	**18 02 38.3**	**+1.9**
MKAR	**Makanchi Array**	**81.99**	**319**	P	**P**	**18 02 45.0**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=111,slow=7.9,SNR=2.7 comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**82.51**	**22**	P	**P**	**18 02 46.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=248,slow=5.7,SNR=9.3 comp=Z,0.4nm,0.6s						

IDC ***06*** *17:55:58.1±2.2,50.°00N×130.°06W,h0km,mb3.3/2, mbtmp3.3/11,ML3.3/8,MS3.5/6,Error ellipse: s-maj=33.0km s-min=13.1km az=71.0*
PGC ***06*** *17:55:59.3±4.9,49.°98N×130.°17W,h10km,MLSn3.2/13, Mw3.8/13,211km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
ISC 06 17:55:57.2±1.1,49°97N±0°07×130°11W±0°07,h10km,n39, σ1§**28**/37**,MS3.4**/4**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.43**	**61**	P	**Pn**	**17 56 23.2**	**0.0**
HOLB				S	**Sb**	**17 56 41.9**	**-0.4**
PACB	**Port Alice, BC**	**1.74**	**73**	Pn	**Pn**	**17 56 27.9**	**+0.4**
PACB				Sn	**Sn**	**17 56 48.7**	**-1.0**
EDB	**Eliza Dome**	**1.93**	**92**	Pn	**Pn**	**17 56 31.5**	**+1.4**
MAYB	**Maynard**	**1.94**	**76**	Pn	**Pn**	**17 56 30.8**	**+0.5**
HG4B	**Hotspring**	**2.43**	**344**	Pn	**Pn**	**17 56 36.9**	**0.0**
BBB	**Bella Bella**	**2.55**	**29**	Pn	**Pn**	**17 56 40.1**	**+1.6**
	25nm,0.3s,baz=228,slow=11,SNR=54						
BBB				Sn	**Sn**	**17 57 08.5**	**-1.1**
	18nm,0.3s,baz=132,slow=20,SNR=5.1 45nm,0.3s						
BBB	**Bella Bella**	**2.55**	**29**	Pn	**Pn**	**17 56 39.8**	**+1.2**
BBB				Sn	**Sn**	**17 57 08.2**	**-1.4**
NCRB	**Newcastle Ridg**	**2.64**	**79**	Pn	**Pn**	**17 56 41.8**	**+1.9**
BNB	**Barry Inlet**	**2.81**	**339**	Pn	**Pn**	**17 56 42.3**	**+0.1**
BNB				Sn	**Sn**	**17 57 14.5**	**-1.6**
SPLB	**Strathcona Par**	**2.88**	**90**	Pn	**Pn**	**17 56 45.0**	**+2.0**
BNKB	**Banks Island**	**3.37**	**2**	Pn	**Pn**	**17 56 50.9**	**+1.0**
MOBC	**Moresby Island**	**3.39**	**341**	Pn	**Pn**	**17 56 50.6**	**+0.5**
BNAB	**Bonilla**	**3.55**	**355**	Pn	**Pn**	**17 56 52.9**	**+0.7**
DIB	**Dawson Inlet,**	**3.56**	**336**	Pn	**Pn**	**17 56 53.3**	**+0.9**
H02S1	**DAWSON INLET T**	**3.56**	**336**	Pn	**Pn**	**17 56 54.6**	**+2.1**
HWKB	**Hawksbury Isla**	**3.68**	**9**	Pn	**Pn**	**17 56 56.3**	**+2.1**
HWKB				Sn	**Sn**	**17 57 37.7**	**0.0**
GRNB	**Grenville Isla**	**3.89**	**1**	Pn	**Pn**	**17 56 58.0**	**+1.1**
GRNB				Sn	**Sn**	**17 57 42.7**	**+0.1**
SHB	**Sechelt**	**4.05**	**93**	Pn	**Pn**	**17 57 01.4**	**+2.0**
KITB	**Kitimat**	**4.22**	**12**	Pn	**Pn**	**17 57 02.2**	**+0.8**
RUBB	**Prince Rupert**	**4.37**	**359**	Pn	**Pn**	**17 57 04.4**	**+0.9**
DLBC	**Dease Lake**	**8.49**	**0**	Pn	**Pn**	**17 58 01.8**	**+1.7**
	1.5nm,0.3s,baz=180,slow=20,SNR=1.1						
NEW	**Newport**	**8.69**	**96**	Pn	**Pn**	**17 58 04.3**	**+1.5**
	0.1nm,0.3s,baz=289,slow=19,SNR=1.9						
NEW				LR	LR	18 01 25.3	
	comp=Z,321nm,19.1s,baz=284,slow=38 1.4nm,0.7s						
ELK	**Elko**	**13.92**	**126**	Pn	**P**	**17 59 20.8**	**-2.1**
	0.1nm,0.3s,baz=326,slow=15,SNR=1.6 0.2nm,0.3s						
NVAR	**Mina Array Bea**	**14.29**	**139**	Pn	**P**	**17 59 25.9**	**-1.1**
	0.3nm,0.3s,baz=311,slow=11,SNR=1.5 0.3nm,0.4s						
YKA	**Yellowknife Ar**	**15.16**	**28**	Pn	**Pn**	**17 59 29.6**	**-1.6**
	baz=218,slow=13,SNR=5.0 0.1nm,0.3s						
PDAR	**Pinedale Array**	**15.88**	**109**	Pn	**P**	**17 59 45.2**	**+0.6**
	baz=305,slow=11,SNR=3.3						
PDAR				LR	LR	18 06 07.5	
	comp=Z,80nm,19.1s,baz=301,slow=38 0.7nm,0.7s						
ILAR	**Eielson Array**	**17.29**	**335**	P	**P**	**18 00 00.1**	**+0.3**
	baz=154,slow=11,SNR=2.1 0.3nm,0.9s						
INK	**Inuvik**	**18.47**	**356**	P	**Pn**	**18 00 14.5**	**+1.6**
	baz=162,slow=6.4,SNR=1.6 0.8nm,0.9s						
ULM	**Lac du Bonnet**	**21.85**	**76**	P	**P**	**18 00 49.6**	**0.0**
	0.8nm,0.4s,baz=286,slow=13,SNR=1.5						
ULM				LR	LR	18 08 50.9	
	comp=Z,108nm,18.1s,baz=299,slow=35 0.8nm,0.4s						
ANMO	**Albuquerque**	**22.88**	**122**	P	**P**	**18 01 01.6**	**+0.7**
	0.5nm,0.6s,baz=263,slow=8.1,SNR=1.8 0.5nm,0.6s						
SADO	**Sadowa**	**34.35**	**79**	LR	LR	18 15 34.8	
	comp=Z,95nm,18.1s,baz=320,slow=34						
TKL	**Tuckaleechee C**	**36.27**	**95**	LR	LR	18 18 24.7	
	comp=Z,116nm,19.1s,baz=351,slow=37						
ASAJ	**Asahikawa**	**56.52**	**300**	LR	LR	18 30 19.6	
	comp=Z,20nm,18.1s,baz=158,slow=36						
H11N2	**WAKE ISLAND Hy**	**57.83**	**263**	T	T	19 08 36.4	
	baz=42,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**57.83**	**263**	T	T	19 08 36.5	
	baz=42,slow=75,SNR=73						
H11N1	**WAKE ISLAND Hy**	**57.85**	**263**	T	T	19 08 37.6	
	baz=42,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy**	**58.86**	**262**	T	T	19 09 48.2	
	baz=53,slow=76,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**58.86**	**262**	T	T	19 09 49.6	
	baz=53,slow=76,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**58.87**	**262**	T	T	19 09 51.7	
	baz=53,slow=76,SNR=3.1						

IDC ***06*** *18:00:13.5±4.6,49.°79N×130.°11W,h0km,mb3.5/1, mbtmp3.2/6,ML3.3/4,Error ellipse: s-maj=64.4km s-min=23.6km az=55.0*
PGC ***06*** *18:00:18.1±4.9,50.°06N×130.°01W,h10km,MLSn3.1/14, Mw3.7/14, 197km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
ISC 06 18:00:16.0±1.5,50°03N±0°08×130°04W±0°07,h12km,n29, σ1§**51**/35**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.36**	**63**	P	**Pn**	**18 00 40.6**	**-0.4**
HOLB				S	**Sn**	**18 00 56.9**	**-2.0**
PACB	**Port Alice, BC**	**1.68**	**75**	Pn	**Pn**	**18 00 44.7**	**-0.6**
PACB				Sn	**Sn**	**18 01 04.6**	**-2.1**
MAYB	**Maynard**	**1.88**	**78**	Pn	**Pn**	**18 00 47.5**	**-0.5**
EDB	**Eliza Dome**	**1.89**	**94**	Pn	**Pn**	**18 00 47.8**	**-0.4**
EDB				Sn	**Sn**	**18 01 09.2**	**-2.6**
HG4B	**Hotspring**	**2.38**	**343**	Pn	**Pn**	**18 00 53.7**	**-1.1**
HG4B				Sn	**Sn**	**18 01 22.5**	**-1.4**
BBB	**Bella Bella**	**2.47**	**29**	Pn	**Pn**	**18 00 56.8**	**+0.7**
	12nm,0.3s,baz=224,slow=13,SNR=14						
BBB				Sn	**Sn**	**18 01 25.1**	**-1.1**
	26nm,0.3s,baz=138,slow=23,SNR=12 54nm,0.4s						
BBB	**Bella Bella**	**2.47**	**29**	Pn	**Pn**	**18 00 56.5**	**+0.4**
BBB				Sn	**Sn**	**18 01 23.3**	**-2.9**
NCRB	**Newcastle Ridg**	**2.59**	**80**	Pn	**Pn**	**18 00 58.5**	**+0.7**
BNB	**Barry Inlet**	**2.77**	**338**	Pn	**Pn**	**18 00 58.4**	**-1.7**
SPLB	**Strathcona Par**	**2.84**	**91**	Pn	**Pn**	**18 01 02.5**	**+1.4**
BNKB	**Banks Island**	**3.31**	**1**	Pn	**Pn**	**18 01 07.5**	**0.0**
BNKB				Sn	**Sn**	**18 01 45.7**	**-1.1**
BNAB	**Bonilla**	**3.49**	**354**	Pn	**Pn**	**18 01 09.5**	**-0.5**
DIB	**Dawson Inlet,**	**3.52**	**335**	Pn	**Pn**	**18 01 10.2**	**-0.3**
H02S1	**DAWSON INLET T**	**3.52**	**335**	Pn	**Pn**	**18 01 11.5**	**+1.0**
HWKB	**Hawksbury Isla**	**3.61**	**8**	Pn	**Pn**	**18 01 12.8**	**+1.0**
HWKB				Sn	**Sn**	**18 01 52.7**	**-1.7**
GRNB	**Grenville Isla**	**3.82**	**1**	Pn	**Pn**	**18 01 14.5**	**-0.1**
GRNB				Sn	**Sn**	**18 01 58.2**	**-1.3**
SHB	**Sechelt**	**4.01**	**94**	Pn	**Pn**	**18 02 01.8**	**-2.6**
CLRS	**Cowichan Lake**	**4.04**	**105**	Pn	**Pn**	**18 01 19.2**	**+1.5**
KITB	**Kitimat**	**4.14**	**12**	Pn	**Pn**	**18 01 20.4**	**+1.3**
FSJB	**Fort St James**	**5.67**	**36**	Pn	**Pn**	**18

baz=73
EKS2 Erkin-Say 1.77 360 ⇓P Pb 18 14 17.8 +0.3
12nm,0.2s,SNR=10
EKS2 ⇓S Sg 18 14 41.7 +0.6
35nm,0.2s
EKS2 Erkin-Say 1.77 360 ⇑*i*P Pb 18 14 17.5 0.0
baz=4.0
EKS2 ⇑*i*S Sg 18 14 40.7 -0.3
baz=4.0
AAK Ala-Archa 1.83 17 ⇓P Pg 18 14 19.4 +0.3
18nm,0.2s,SNR=28
AAK ⇓S Sg 18 14 43.2 +0.3
63nm,0.3s
AAK Ala-Archa 1.83 17 ⇑*i*P Pg 18 14 19.1 0.0
baz=21
AAK ⇑*i*S Sg 18 14 43.7 +0.9
baz=21
MRKS Merke 1.90 348 P Pb 18 14 19.7 0.0
42nm,0.4s
MRKS S Sb 18 14 44.2 +0.2
193nm,0.5s
MRKS Merke 1.90 348 *e*P Pb 18 14 19.7 0.0
42nm,0.4s
MRKS *e*S Sb 18 14 44.2 +0.2
193nm,0.5s
KBK Karagaybulak 1.97 26 ⇑P Pg 18 14 22.1 +0.3
23nm,0.2s,SNR=38
KBK ⇑S Sg 18 14 48.2 +0.7
128nm,0.2s
KBK Karagaybulak 1.97 26 ⇑*i*P Pg 18 14 21.7 -0.2
baz=29
KBK ⇑*i*S Sg 18 14 48.3 +0.9
baz=29
FRU1 Bishkek 2.02 18 ⇑*i*P Pb 18 14 22.3 +0.6
baz=21
FRU1 ⇑*i*S Sg 18 14 49.4 +0.3
baz=21
DRK Karamyk 2.07 228 ⇑*i*P Pb 18 14 21.8 -0.8
baz=25
DRK ⇑*i*S Sb 18 14 48.5 -0.4
baz=25
TRKS Terek-Say 2.09 289 ⇓*i*P Pn 18 14 20.4 -0.1
baz=87
TRKS ⇓*i*S Sn 18 14 46.3 -0.9
baz=87
CHMS Chumysh 2.23 19 ⇑P Pg 18 14 26.3 -0.5
19nm,0.3s,SNR=28
CHMS ⇑S Sg 18 14 55.6 -0.2
52nm,0.4s
CHMS Chumysh 2.23 19 ⇓Pg Pb 18 14 26.1 +0.8
27nm,0.8s
CHMS ⇑Lg Lg 18 14 56.0
33nm,0.5s
CHMS Chumysh 2.23 19 ⇓*i*P Pb 18 14 24.9 -0.3
baz=22
CHMS ⇓*i*S Sb 18 14 53.6 +0.2
baz=22
ULHL Ulahol 2.29 53 ⇑P Pg 18 14 27.6 -0.5
17nm,0.2s,SNR=46
ULHL ⇑S Sg 18 14 58.7 +1.0
34nm,0.2s
ULHL Ulahol 2.29 53 ⇑*i*P Pb 18 14 26.7 +0.3
baz=55
ULHL ⇑*i*S Sg 18 14 57.1 -0.7
baz=55
BTK Batken 2.41 251 ⇓*i*P Pn 18 14 26.1 +1.4
baz=49
BTK ⇓*i*S Sn 18 14 55.6 +0.7
baz=49
USP Ospenovka 2.44 12 ⇑P Pb 18 14 29.3 +0.6
18nm,0.3s,SNR=13
USP Ospenovka 2.44 12 ⇑*i*P Pb 18 14 27.6 -1.2
baz=15
USP ⇑*i*S Sb 18 14 58.3 -1.1
baz=15
TKM2 Tokmak 2 2.44 33 ⇑P Pb 18 14 29.9 +1.0
10nm,0.2s,SNR=21
TKM2 ⇓S Sg 18 15 02.8 +0.2
85nm,0.3s
TKM2 Tokmak 2 2.44 33 ⇓Pg Pb 18 14 30.0 +1.0
11nm,0.5s
TKM2 ⇓Lg Lg 18 15 03.2
65nm,0.5s
TKM2 Tokmak 2 2.44 33 ⇓*i*P Pb 18 14 28.5 -0.5
baz=36
TKM2 ⇓*i*S Sb 18 15 00.0 +0.3
baz=36
SGDS Sogindy 2.64 14 Pg Pg 18 14 33.9 -0.8
8.7nm,0.4s
SGDS Lg Lg 18 15 08.6
35nm,0.3s
KST Kastek 2.70 36 Pg Pg 18 14 36.0 +0.2
6.3nm,0.4s
KST Lg Lg 18 15 11.8
58nm,0.5s
KST Kastek 2.70 36 *e*Pg Pg 18 14 36.0 +0.2
6.3nm,0.4s
KST *e*Lg Lg 18 15 11.8
58nm,0.5s
DZA Taraz 2.71 318 Pg Pb 18 14 33.8 +0.4
53nm,0.4s
DZA Lg Lg 18 15 08.4
324nm,0.6s
DZA Taraz 2.71 318 *e*Pg Pb 18 14 33.8 +0.4
53nm,0.4s
DZA *e*Lg Lg 18 15 08.4
324nm,0.6s
DGS Degeres 2.78 32 Pg Pg 18 14 37.5 +0.1
22nm,0.7s
DGS Lg Lg 18 15 14.5
96nm,0.8s
DGS Degeres 2.78 32 *e*Pg Pg 18 14 37.5 +0.1
22nm,0.7s
DGS *e*Lg Lg 18 15 14.5
96nm,0.8s
KDJ Kajisay 2.84 63 ⇑*i*P Pb 18 14 34.8 -0.9
baz=65
KDJ ⇑*i*S Sb 18 15 11.0 -0.1
baz=65
CHMG Chimgan 2.92 284 P Sb 18 15 14.2 +0.9
CHRV Charvak 2.98 286 P Sb 18 15 17.7 +2.7
MTBS Maitube 2.99 41 Pg Pg 18 14 40.9 -0.4
8.2nm,0.3s
MTBS Lg Lg 18 15 21.0
69nm,0.5s
MTBS Maitube 2.99 41 *e*Pg Pg 18 14 40.9 -0.4
8.2nm,0.3s
MTBS *e*Lg Lg 18 15 21.0
69nm,0.5s
IUG Iuzhnay 3.08 295 Pg Pb 18 14 40.2 +0.5
25nm,0.2s
IUG Lg Lg 18 15 19.3
208nm,0.6s
IUG Iuzhnay 3.08 295 *e*Pg Pb 18 14 40.2 +0.5
25nm,0.2s
IUG *e*Lg Lg 18 15 19.3
208nm,0.6s
KRBS Karabastau 3.14 26 Pg Pg 18 14 43.3 -0.9
1.9nm,0.2s
KRBS Lg Lg 18 15 24.5
42nm,0.6s
KRBS Karabastau 3.14 26 *e*Pg Pg 18 14 43.3 -0.9
1.9nm,0.2s
KRBS *e*Lg Lg 18 15 24.5
42nm,0.6s
TNSS Tian-Shan 3.19 47 Pg Pg 18 14 45.1 -0.2
7.5nm,0.4s
TNSS Lg Lg 18 15 27.7
14nm,0.4s
TNSS Tian-Shan 3.19 47 *e*Pg Pg 18 14 45.1 -0.2
7.5nm,0.4s
TNSS *e*Lg Lg 18 15 27.8
14nm,0.4s
YBZ Yangibazar 3.20 279 P Sn 18 15 12.0 -2.3
TGS TashGRES 3.26 281 P Sn 18 15 16.5 +0.7
GAR Garm 3.26 236 ⇑*i*P Pn 18 14 38.1 +1.6
baz=34
GAR ⇑*i*S Sn 18 15 16.6 +0.6
baz=34
KK31 Karatay Array 3.29 313 ⇑Pn Pn 18 14 36.6 -0.2
0.4nm,0.2s,baz=128,slow=13,SNR=38
KK31 ⇑Pg Pb 18 14 42.5 -0.8
5.1nm,0.4s,baz=131,slow=16,SNR=9.1
KK31 ⇓Lg Lg 18 15 25.2
15nm,0.4s,baz=137,slow=29,SNR=13
KKAR Karatay Array 3.29 313 ⇑*i*P Pn 18 14 37.9 +1.1
baz=14
KKAR ⇑*i*S Sn 18 15 16.7 +0.1
baz=14
AAA Alma-Ata 3.29 44 Pg Pg 18 14 47.6 +0.4
14nm,0.1s
AAA Lg Lg 18 15 31.8
70nm,0.3s
AAA Alma-Ata 3.29 44 *e*Pg Pg 18 14 47.6 +0.4
14nm,0.1s
AAA *e*Lg Lg 18 15 31.8
70nm,0.3s
MDOK Medeo 3.33 46 ⇓Pg Pg 18 14 47.4 -0.5
9.2nm,0.8s
MDOK Pg Pg 18 14 47.4 -0.5
5.7nm,0.6s
MDOK Lg Lg 18 15 31.8
28nm,0.8s
MDOK ⇑Lg Lg 18 15 32.4
31nm,0.8s
MDOK Medeo 3.33 46 *e*Pg Pg 18 14 47.4 -0.5
5.7nm,0.6s
MDOK *e*Lg Lg 18 15 31.8
28nm,0.8s
KOTS Kotyrbulak 3.42 46 Pg Pg 18 14 49.8 +0.3
4.4nm,0.3s
KOTS Lg Lg 18 15 35.5
41nm,0.6s
KOTS Kotyrbulak 3.42 46 *e*Pg Pg 18 14 49.8 +0.3
4.4nm,0.3s
KOTS *e*Lg Lg 18 15 35.5
41nm,0.6s
KUMR Kumaryk 3.43 277 P Sb 18 15 30.5 +2.5
ANVS Anan'yevo 3.47 56 ⇑*i*P Pb 18 14 43.1 -3.3
baz=57
ANVS ⇑*i*S Sb 18 15 25.6 -3.6
baz=57
NZBK Nazarbek 3.54 277 P Sg 18 15 37.0 -0.8
KTBS Karatobe 3.55 36 Pg Pg 18 14 51.2 -0.9
1.9nm,0.4s
KTBS Lg Lg 18 15 38.1
58nm,0.4s
KTBS Karatobe 3.55 36 *e*Pg Pg 18 14 51.2 -0.9
1.9nm,0.4s
KTBS *e*Lg Lg 18 15 38.1
58nm,0.4s
KUU Kurty 3.55 31 Pg Pg 18 14 50.9 -1.2
3.7nm,0.3s
KUU Lg Lg 18 15 37.5
22nm,0.6s
KUU Kurty 3.55 31 *e*Pg Pg 18 14 50.9 -1.2
3.7nm,0.3s
KUU *e*Lg Lg 18 15 37.5
22nm,0.6s
CHKK Chushkaly 3.80 38 Pg Pg 18 14 55.7 -1.2
0.8nm,0.1s
CHKK Lg Lg 18 15 45.8
25nm,0.5s
CHKK Chushkaly 3.80 38 *e*Pg Pg 18 14 55.7 -1.2
0.8nm,0.1s
CHKK *e*Lg Lg 18 15 45.8
25nm,0.5s
SATY Saty 4.08 56 Pg Pg 18 15 01.3 -0.9
5.0nm,0.7s
SATY Lg Lg 18 15 55.4
22nm,0.7s
SATY Saty 4.08 56 *e*Pg Pg 18 15 01.3 -0.9
5.0nm,0.7s
SATY *e*Lg Lg 18 15 55.4
22nm,0.7s
ZHN Zhinishke 4.15 55 Pg Pg 18 15 02.8 -0.8
ZHN Lg Lg 18 15 57.6
ZHN Zhinishke 4.15 55 *e*P Pg 18 15 02.8 -0.8
ZHN *e*S Sg 18 15 57.6 +0.2
BTLS Baital 4.16 3 Pg Pb 18 14 60.0 +1.9
0.9nm,0.2s
BTLS Lg Lg 18 15 53.3
15nm,0.6s
BTLS Baital 4.16 3 *e*Pg Pb 18 14 60.0 +1.9
0.9nm,0.2s
BTLS *e*Lg Lg 18 15 53.3
15nm,0.6s
KURS Kuram 4.17 50 Pg Pg 18 15 02.1 -1.9
1.5nm,0.4s
KURS Lg Lg 18 15 56.6
4.2nm,0.5s
KURS Kuram 4.17 50 *e*Pg Pg 18 15 02.1 -1.9
1.5nm,0.4s
KURS *e*Lg Lg 18 15 56.6
4.2nm,0.5s
CHGR Chuyangaron 4.20 239 ⇑*i*P Pn 18 14 50.7 +1.3
baz=38
CHGR ⇑*i*S Sn 18 15 38.7 -0.4
baz=38
KPKS Kokpek 4.46 53 Pg Pg 18 15 08.5 -1.1
3.5nm,0.4s
KPKS Lg Lg 18 16 08.0
22nm,0.5s
KPKS Kokpek 4.46 53 *e*Pg Pg 18 15 08.5 -1.1
3.5nm,0.4s
KPKS *e*Lg Lg 18 16 08.0
22nm,0.5s
UZB Uzynbulak 4.51 58 Pg Pg 18 15 08.6 -1.9
5.1nm,0.4s
UZB Lg Lg 18 16 07.8
11nm,0.4s
UZB Uzynbulak 4.51 58 *e*Pg Pg 18 15 08.6 -1.9
5.1nm,0.4s
UZB *e*Lg Lg 18 16 07.8
11nm,0.4s
KRSA Karasay 4.67 262 P Sg 18 16 12.0 -2.0
SHLS Shalkode 4.80 60 Pg Pg 18 15 18.7 +2.6
2.6nm,0.3s
SHLS Lg Lg 18 16 25.3
15nm,0.7s
SHLS Shalkode 4.80 60 *e*Pg Pg 18 15 18.7 +2.6
2.6nm,0.3s
SHLS *e*Lg Lg 18 16 25.3
15nm,0.7s
TDK Taldyqorghan 5.33 38 Pg Pg 18 15 24.6 -1.6
TDK Lg Lg 18 16 35.4
TDK Taldyqorghan 5.33 38 *e*P Pg 18 15 24.6 -1.6
TDK *e*S Sg 18 16 35.4 0.0
KURBB Kurchatov Arra 10.28 17 ⇓Lg Lg 18 19 11.3
7.8nm,0.8s
KURK Kurchatov 10.39 17 ⇑Lg Lg 18 19 15.1
5.7nm,0.8s

*AUST **06** 18:23:56.8±0.4,30.°65S×118.°41E,h10km, Error ellipse: s-maj=5.1km s-min=3.6km az=176.0*
*NOU **06** 18:23:57.7,30.°64S×118.°41E,h0km, MLv3.5/8, Western Australia*
*CUPWA **06** 18:23:58.5±3.4,30.°66S×118.°41E,h2km±14km, Region: WESTERN AUSTRALIA*

ISC 06 18:23:57.4±3.2,30.°64S±0.°04×118.°43E±0.°04,h12km±24km, n32,σ0°95/44,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.11**	**211**	P	**Pb**	**18 24 18.0**	**-0.6**
KLBR	baz=1.1,SNR=388			S	**Sb**	**18 24 31.9**	**-1.1**
	baz=1.1,SNR=10.0						
KLBR	**Kellerberrin**	**1.11**	**211**	P	**Pb**	**18 24 18.1**	**-0.5**
KLBR	**Kellerberrin**	**1.11**	**211**	P	**Pb**	**18 24 18.0**	**-0.6**
KLBR				S	**Sb**	**18 24 31.9**	**-1.1**
CADX	**Cadoux**	**1.12**	**263**	P	**Pb**	**18 24 18.5**	**-0.3**
CADX	**Cadoux**	**1.12**	**263**	S	**Sb**	**18 24 32.8**	**-0.6**
BLDU	**Ballidu**	**1.48**	**271**	P	**Pn**	**18 24 24.3**	**+0.3**
BLDU	baz=1.5,SNR=74			S	**Sn**	**18 24 43.2**	**-0.1**
	baz=1.5,SNR=9.8						
BLDU	**Ballidu**	**1.48**	**271**	P	**Pn**	**18 24 24.4**	**+0.5**
BLDU	**Ballidu**	**1.48**	**271**	P	**Pn**	**18 24 24.3**	**+0.3**
BLDU	**Ballidu**	**1.48**	**271**	S	**Sn**	**18 24 43.2**	**-0.1**
MECK	**Meckering**	**1.57**	**231**	P	**Pn**	**18 24 25.9**	**+0.8**
MECK				S	**Sn**	**18 24 46.0**	**+0.6**
AUKUL	**Kulin High Sch**	**2.04**	**187**	P	**Pn**	**18 24 33.3**	**+1.7**
PING	**Pingelly**	**2.23**	**213**	P	**Pb**	**18 24 36.8**	**-0.9**
PING				SG	**Sb**	**18 25 06.0**	**+0.8**
MUN	**Mundaring**	**2.32**	**234**	P	**Pn**	**18 24 35.8**	**+0.3**
MUN	baz=2.3,SNR=4.1			S	**Sn**	**18 25 03.6**	**-0.4**
	baz=2.3						
MUN	**Mundaring**	**2.32**	**234**	P	**Pn**	**18 24 36.3**	**+0.8**
MUN	**Mundaring**	**2.32**	**234**	P	**Pn**	**18 24 35.8**	**+0.3**
MUN				S	**Sn**	**18 25 03.6**	**-0.4**
NWAO	**Narrogin (SRO)**	**2.50**	**204**	P	**Pn**	**18 24 38.3**	**+0.4**
NWAO	baz=2.5,SNR=19			P	**Pn**	**18 24 38.3**	**+0.4**
	baz=2.5,SNR=19						
NWAO	**Narrogin (SRO)**	**2.50**	**204**	P	**Pn**	**18 24 40.4**	**+2.5**
NWAO	**Narrogin (SRO)**	**2.50**	**204**	P	**Pn**	**18 24 40.1**	**+2.2**
NWAO	**Narrogin (SRO)**	**2.50**	**204**	P	**Pn**	**18 24 38.3**	**+0.4**
MORW	**Morawa**	**2.60**	**306**	P	**Pn**	**18 24 39.2**	**-0.1**
MORW	baz=2.6,SNR=3.4			S	**Sn**	**18 25 10.2**	**-0.6**
	baz=2.6						
MORW	**Morawa**	**2.60**	**306**	P	**Pn**	**18 24 39.8**	**+0.5**
MORW	**Morawa**	**2.60**	**306**	P	**Pn**	**18 24 39.2**	**-0.1**
MORW				S	**Sn**	**18 25 10.2**	**-0.6**
KMBL	**Kambalda**	**3.05**	**105**	P	**Pn**	**18 24 46.1**	**+0.6**
KMBL	baz=3.1,SNR=8.2			S	**Sn**	**18 25 21.2**	**-0.7**
	baz=3.1						
KMBL	**Kambalda**	**3.05**	**105**	P	**Pn**	**18 24 46.4**	**+0.9**
KMBL	**Kambalda**	**3.05**	**105**	P	**Pn**	**18 24 46.1**	**+0.6**
KMBL				S	**Sn**	**18 25 21.2**	**-0.7**
MEEK	**Meekatharra**	**3.99**	**2**	P	**Pn**	**18 24 59.5**	**+1.0**
MEEK	baz=4.0,SNR=6.3 **Meekatharra**	**3.99**	**2**	P	**Pn**	**18 25 01.1**	**+2.7**
MEEK	**Meekatharra**	**3.99**	**2**	P	**Pn**	**18 24 59.5**	**+1.0**
RKGY	**Rocky Gully**	**4.14**	**197**	P	**Pn**	**18 25 00.8**	**+0.4**
	baz=4.1						
RKGY	**Rocky Gully**	**4.14**	**197**	P	**Pn**	**18 25 00.8**	**+0.4**
FORT	**Forrest**	**8.29**	**93**	P	**Pn**	**18 25 58.1**	**+0.6**
	baz=8.3						
WRKA	**Warakurna**	**10.36**	**60**	P	**Pn**	**18 26 25.7**	**-0.2**
	baz=10						

*IDC **06** 18:36:12.9±1.0,18.°66N×121.°31E,h0km,mb3.5/8, mbtmp3.5/9,ML3.5/1,MS2.6/2, Error ellipse: s-maj=34.0km s-min=20.2km az=77.0*
*MAN **06** 18:36:16.8,18.°88N×121.°00E,h16km,mb4.6,ML3.5, MS3.4*

ISC 06 18:36:15.5±0.7,18.°78N±0.°05×121.°02E±0.°09,h10km,n15, σ1°82/19,mb3.2/7,4C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Gonzaga**	**1.11**	**118**	⇑*e*P	**Pn**	**18 36 39.0**	**+1.8**
SGCP				*e*S	**Sn**	**18 36 54.7**	**+2.1**
SAMP	**Sagada Mountai**	**1.69**	**184**	⇑*e*P	**Pn**	**18 36 46.1**	**+0.9**
SAMP				*e*S	**Sn**	**18 37 10.1**	**+3.2**
BALP	**Baler**	**3.07**	**170**	⇓*e*P	**Pb**	**18 37 09.4**	**-0.9**
BALP				*e*S	**Sb**	**18 37 48.0**	**+0.3**
TGY	**Tagaytay City**	**4.65**	**181**	⇓*e*P	**Pn**	**18 37 26.3**	**+0.4**
LQP	**Lukban**	**4.67**	**174**	⇓*e*P	**Pb**	**18 37 36.6**	**-1.0**
GQP	**Guinayangan**	**5.04**	**164**	⇓*e*P	**Pn**	**18 37 33.4**	**+2.2**
GQP				*e*S	**Sn**	**18 38 28.8**	**-0.7**
KSRS	**Korea Array**	**19.57**	**17**	P	**P**	**18 40 43.0**	**-0.6**
	0.1nm,0.3s,baz=199,slow=11,SNR=4.6						
KSRS				LR	LR	18 48 59.1	
	comp=Z,20nm,18.4s,baz=350,slow=39 0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.92**	**273**	P	**P**	**18 41 00.7**	**+2.2**
	1.2nm,0.7s,baz=78,slow=8.7,SNR=9.9						
CMAR				LR	LR	18 50 07.5	
	comp=Z,14nm,18.7s,baz=65,slow=39 1.2nm,0.7s						
SONM	**Songino Array**	**31.34**	**341**	P	**P**	**18 42 37.9**	**+1.6**
	0.2nm,0.5s,baz=163,slow=10,SNR=1.6 0.2nm,0.5s						
KLR	**Kul'dur**	**31.59**	**13**	P	**P**	**18 42 38.4**	**+0.1**
	0.5nm,0.5s,baz=200,slow=12,SNR=2.3 0.5nm,0.5s						
WRA	**Warramunga Arr**	**40.64**	**161**	P	**P**	**18 43 52.9**	**-3.1**
	0.3nm,0.8s,baz=341,slow=9.2,SNR=5.2 0.3nm,0.8s						
MKAR	**Makanchi Array**	**42.24**	**320**	P	**P**	**18 44 09.8**	**+0.9**
	0.3nm,0.6s,baz=113,slow=9.5,SNR=3.5 0.3nm,0.6s						
ASAR	**Alice Springs**	**44.02**	**163**	P	**P**	**18 44 21.2**	**-2.3**
	0.1nm,0.4s,baz=345,slow=7.3,SNR=1.9 0.1nm,0.4s						
NRIK	**Noril'sk**	**54.58**	**346**	P	**P**	**18 45 42.2**	**-1.4**
	2.1nm,0.6s,baz=164,slow=7.4,SNR=3.6 2.1nm,0.6s						
YKA	**Yellowknife Ar**	**88.00**	**23**	P	**P**	**18 49 04.4**	**-1.2**
	0.3nm,0.7s,baz=304,slow=4.9,SNR=3.9 0.3nm,0.7s						

*SOME **06** 18:44:10.5,42.°67N×70.°28E*
*KRNET **06** 18:44:10.5±0.1,42.°72N×70.°09E,h20km,mb2.8*
*NNC **06** 18:44:11.2±0.3,42.°68N×70.°79E,h0km,mpv2.2, Error ellipse: s-maj=8.5km s-min=1.4km az=64.0, Suspected Mining explosion.*

ISC 06 18:44:09.6±1.8,42.°76N±0.°04×70.°1E±0.°1,h0km,n16, σ0°50/32,30C-2D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK07	**Karatay Array**	**0.43**	**40**	⇑P	**Pb**	**18 44 20.3**	**+0.1**
KK07				⇑S	**Sb**	**18 44 26.8**	**-0.5**
KK08	**Karatay Array**	**0.44**	**38**	⇑P	**Pb**	**18 44 20.4**	**+0.1**
KK08				⇑S	**Sb**	**18 44 27.0**	**-0.4**
KK03	**Karatay Array**	**0.44**	**39**	⇑P	**Pb**	**18 44 20.5**	**+0.1**
KK03				⇓S	**Sb**	**18 44 27.0**	**-0.6**
KK01	**Karatay Array**	**0.45**	**39**	⇑P	**Pb**	**18 44 20.5**	**+0.1**
KK01				⇑S	**Sb**	**18 44 27.2**	**-0.5**
KK02	**Karatay Array**	**0.45**	**40**	⇑P	**Pb**	**18 44 20.6**	**+0.1**
KK02				⇑S	**Sb**	**18 44 27.2**	**-0.5**
KK06	**Karatay Array**	**0.45**	**41**	⇑P	**Pb**	**18 44 20.4**	**0.0**
KK06				⇑S	**Sb**	**18 44 27.1**	**-0.6**
KK31	**Karatay Array**	**0.45**	**40**	⇑P	**Pb**	**18 44 20.6**	**+0.1**
	2.1nm,0.2s,baz=151,slow=10,SNR=117						
KK31				⇓S	**Sb**	**18 44 27.2**	**-0.5**
	6.8nm,0.3s,baz=209,slow=32,SNR=21						
KKAR	**Karatay Array**	**0.45**	**40**	⇑*i*P	**Pb**	**18 44 20.5**	**0.0**
	baz=39						
KKAR				⇑*i*S	**Sb**	**18 44 27.3**	**-0.4**
	baz=39						
KK04	**Karatay Array**	**0.45**	**39**	⇑P	**Pb**	**18 44 20.6**	**+0.1**
KK04				⇑S	**Sb**	**18 44 27.3**	**-0.5**
KK09	**Karatay Array**	**0.46**	**37**	⇑P	**Pb**	**18 44 20.8**	**+0.2**
KK09				⇑S	**Sb**	**18 44 27.6**	**-0.4**
KK05	**Karatay Array**	**0.47**	**39**	⇑P	**Pb**	**18 44 20.9**	**+0.1**
KK05				⇑S	**Sb**	**18 44 27.6**	**-0.5**
TRKS	**Terek-Say**	**1.44**	**148**	⇑*i*P	**Pb**	**18 44 37.7**	**+0.2**
	baz=47						
TRKS				⇑*i*S	**Sn**	**18 44 57.7**	**+0.8**
	baz=47						
ARK	**Arkit**	**1.67**	**124**	⇑*i*P	**Pb**	**18 44 40.8**	**-0.5**
	baz=23						
ARK				⇑*i*S	**Sb**	**18 45 02.8**	**-0.1**
	baz=23						
AML	**Almayashu**	**2.72**	**102**	⇑*i*P	**Pn**	**18 44 55.7**	**+0.8**
	baz=1.0						
AML				⇑*i*S	**Sn**	**18 45 28.8**	**+0.1**
	baz=1.0						
BTK	**Batken**	**2.75**	**169**	⇑*i*P	**Pn**	**18 44 55.2**	**+0.2**
	baz=68						
BTK				⇑*i*S	**Sn**	**18 45 28.1**	**-0.9**
	baz=68						
OHH	**Osh**	**3.00**	**137**	⇑*i*P	**Pn**	**18 44 59.3**	**+0.9**
	baz=36						
OHH				⇑*i*S	**Sn**	**18 45 34.0**	**-1.1**
	baz=36						

IDC 06 18:45:14.3±3.0,5.°94S×154.°07E,h0km,mb3.2/3, mbtmp3.3/4,ML3.7/1,Error ellipse: s-maj=57.0km s-min=31.1km az=80.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.60**	**309**	Pn	Pn	18 45 55.7	-1.9
	15nm,0.3s,baz=282,slow=0.8,SNR=27						
KRVT				Sn	Sn	18 46 31.1	+1.2
	12nm,0.3s,baz=152,slow=23,SNR=5.9 48nm,0.4s						
WRA	**Warramunga Arr**	**23.69**	**232**	P	P	18 50 27.3	-0.7
	0.3nm,0.7s,baz=65,slow=9.2,SNR=1.4 0.3nm,0.7s						
ASAR	**Alice Springs**	**26.21**	**226**	P	P	18 50 51.2	+0.2
	0.5nm,0.9s,baz=59,slow=9.2,SNR=2.9 0.5nm,0.9s						
MKAR	**Makanchi Array**	**82.01**	**319**	P	P	18 57 37.5	+1.1
	0.2nm,0.5s,baz=98,slow=6.6,SNR=4.7 0.2nm,0.5s						

*ISK **06** 18:48:08.3, 35°.26N×29°.42E, h14km, ML3.1/13*
*GII **06** 18:48:13.8±0.0.3, 34°.89N×29°.58E, h10km, Mm3.1/2*
*NIC **06** 18:48:14.3±0.0.3, 35°.49N×29°.74E, h88km±9km, Ml3.0/3*
*DDA **06** 18:48:16.0±0.0.3, 35°.90N×29°.40E, h10km±8km, ML2.6*

ISC 06 18:48:10.2±1.6, 35°.37N±0°.04×29°.40E±0°.06, h29km±15km, n40, σ1§47/58, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.88**	**11**	Pn	**Pn**	**18 48 27.7**	**+1.0**
AKAS	**Kas**	**0.88**	**11**	P	**Pn**	**18 48 27.8**	**+1.0**
AKAS				S	**Sb**	**18 48 37.0**	**-1.4**
AKUM	**Antalya-Kumluc**	**1.22**	**38**	P	**Pn**	**18 48 31.3**	**0.0**
AKUM				S	**Sn**	**18 48 46.1**	**-0.8**
FETY	**Fethiye**	**1.29**	**349**	Pn	**Pn**	**18 48 32.8**	**+0.5**
ELL	**Elmali**	**1.44**	**16**	Pn	**Pb**	**18 48 35.9**	**-0.5**
ELL				Sn	**Sb**	**18 48 56.3**	**+1.9**
DALY	**Dalyan (Mula)**	**1.57**	**337**	Pn	**Pb**	**18 48 38.5**	**0.0**
KORT	**Korkueli**	**1.80**	**25**	Pn	**Pb**	**18 48 41.6**	**-1.0**
KORT	**Korkueli**	**1.80**	**25**	P	**Pb**	**18 48 41.8**	**-0.8**
KORT				S	**Sn**	**18 48 59.3**	**-2.1**
GOLH	**Golhisar**	**1.87**	**4**	P	**Pb**	**18 48 42.9**	**-0.9**
GOLH				*i* AML	AML	18 49 00.0	
	comp=E,97nm,2.7s						
GOLH				S	**Sn**	**18 49 00.3**	**-2.8**
YER	**Yerkesik**	**1.98**	**333**	Pn	**Pn**	**18 48 43.7**	**+1.9**
APMY	**Acipayam-Deniz**	**2.10**	**358**	Pn	**Pn**	**18 48 45.4**	**+1.9**
TAVA	**DENIZLI_Tavas**	**2.13**	**349**	P	**Pn**	**18 48 45.6**	**+1.6**
TAVA				S	**Sn**	**18 49 08.8**	**-0.7**
BODT	**Bodrum**	**2.39**	**316**	Pn	**Pn**	**18 48 49.6**	**+2.2**
AKMS	**Akamas**	**2.43**	**97**	P	**Pn**	**18 48 49.2**	**+1.3**
AKMS				AML	AML	18 49 16.3	
	1.5nm,2.8s						
AKMS				AML	AML	18 49 16.3	
	1.5nm,2.8s						
AKMS				S	**Sn**	**18 49 16.5**	**-0.2**
AKMS				AML	AML	18 49 18.9	
	0.4nm,0.8s						
AKMS				AML	AML	18 49 18.9	
	0.4nm,0.8s						
SUTC	**Sutluce-Ispart**	**2.47**	**31**	Pn	**Pn**	**18 48 50.9**	**+2.3**
ALFC	**Alefka**	**2.62**	**94**	P	**Pn**	**18 48 51.8**	**+1.2**
ALFC				AML	AML	18 49 15.5	
	0.2nm,0.5s						
ALFC				AML	AML	18 49 18.9	
	0.2nm,0.6s						
NATA	**Nata**	**2.66**	**102**	P	**Pn**	**18 48 52.7**	**+1.5**
NATA				S	**Sn**	**18 49 22.4**	**-0.1**
NATA				AML	AML	18 49 25.6	
	0.7nm,0.7s						
NATA				AML	AML	18 49 25.6	
	0.7nm,0.7s						
SEDI	**Konya, Seydise**	**2.81**	**42**	P	Pn	18 48 43.6	-10
SEDI				S	**Sn**	**18 49 27.2**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.85**	**335**	Pn	**Pn**	**18 48 55.9**	**+2.1**
LEF	**Lefka**	**2.87**	**94**	Pn	**Pn**	**18 48 54.3**	**+0.4**
TROD	**Troodos**	**2.87**	**97**	P	**Pn**	**18 48 55.0**	**+0.8**
SZAC	**Souni**	**2.92**	**101**	P	**Pn**	**18 48 55.9**	**+1.2**
SZAC				S	**Sn**	**18 49 28.7**	**-0.1**
ASGA	**Asgata**	**3.21**	**99**	P	**Pn**	**18 49 00.1**	**+1.5**
CSS	**Mathiatis**	**3.24**	**96**	Pn	**Pn**	**18 49 00.1**	**+0.9**
CSS	**Mathiatis**	**3.24**	**96**	P	**Pn**	**18 49 00.4**	**+1.2**
BERE	**Bereket-Mersin**	**3.25**	**71**	Pn	**Pn**	**18 49 00.3**	**+0.9**
MVOU	**Mavrovouni**	**3.48**	**95**	P	**Pn**	**18 49 00.4**	**+1.0**
IKL	**Isikli**	**3.59**	**75**	Pn	**Pn**	**18 49 05.3**	**+1.4**
KERG	**Konya-Eregli**	**4.32**	**60**	P	**Pn**	**18 49 15.6**	**+1.5**
KERG				*i* AML	AML	18 50 02.0	
	comp=E,14nm,2.3s						
KERG				S	**Sn**	**18 50 02.1**	**-1.5**
HNTI	**Hanita**	**5.30**	**114**	Pn	**Pn**	**18 49 29.7**	**+2.3**
MMA0B	**Mount Meron ar**	**5.50**	**114**	Pn	**Pn**	**18 49 31.3**	**+1.1**
MMLI	**Mount Malkishu**	**5.80**	**119**	Pn	**Pn**	**18 49 35.4**	**+1.2**
HMDT	**Nahal Hemdat**	**5.97**	**120**	Pn	**Pn**	**18 49 38.0**	**+1.4**
HMDT				Sn	**Sn**	**18 50 44.2**	**+0.2**
DSI	**Dead Sea**	**6.27**	**125**	Pn	**Pn**	**18 49 42.6**	**+1.9**
DSI				Sn	**Sn**	**18 50 50.9**	**-0.5**
MSBI	**Mazada**	**6.42**	**127**	Pn	**Pn**	**18 49 43.6**	**+0.9**
MSBI				Sn	**Sn**	**18 50 54.2**	**-0.8**
GHAJ	**Ghor Haditha**	**6.56**	**126**	Pn	**Pn**	**18 49 46.4**	**+1.7**
GHAJ				Sn	**Sn**	**18 50 57.8**	**-0.7**
PRNI	**Paran**	**6.87**	**135**	Pn	**Pn**	**18 49 50.4**	**+1.4**
PRNI				Sn	**Sn**	**18 51 04.5**	**-1.8**
KRMI	**Paran Flat**	**6.89**	**138**	Pn	**Pn**	**18 49 50.0**	**+0.7**
KRMI				Sn	**Sn**	**18 51 04.0**	**-2.8**
HRFI	**Mount Harif**	**7.13**	**137**	Pn	**Pn**	**18 49 53.5**	**+1.0**
HRFI				Sn	**Sn**	**18 51 10.0**	**-2.6**
MBRI	**Mt Berech**	**7.25**	**139**	Pn	**Pn**	**18 49 54.7**	**+0.5**
MBRI				Sn	**Sn**	**18 51 12.9**	**-2.7**

IDC 06 19:04:39.2±1.9, 7°.06S×128°.01E, h0km, mb3.2/1, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=60.7km s-min=30.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.96**	**28**	Pn	Pn	19 06 23.8	+1.3
	0.3nm,0.3s,baz=110,slow=23,SNR=1.2						
SIJI				Sn	Sn	19 07 33.4	-9.0
	0.8nm,0.3s,baz=220,slow=22,SNR=9.6 1.4nm,0.4s						
WRA	**Warramunga Arr**	**14.20**	**155**	Pn	Pn	19 08 01.1	-0.7
	baz=336,slow=12,SNR=1.8						
WRA				Sn	Sn	19 10 26.6	-14
	0.1nm,0.3s,baz=333,slow=23,SNR=2.7 0.6nm,0.9s						
ASAR	**Alice Springs**	**17.46**	**162**	P	Pn	19 08 44.9	+0.6
	0.1nm,0.3s,baz=339,slow=9.1,SNR=14 0.4nm,0.5s						
MKAR	**Makanchi Array**	**67.21**	**328**	P	P	19 15 34.9	-0.4
	0.2nm,0.8s,baz=134,slow=7.4,SNR=1.6 0.2nm,0.8s						

*NEIC **06** 19:06:23.7±2.2, 18°.5S±0°.1×177°.68W±0°.06, h575km±8km, mb4.7/78, Error ellipse: s-maj=17.7km s-min=4.2km az=155.0*
*IDC **06** 19:06:25.9±2.9, 18°.39S×177°.71W, h605km±34km, mb3.4/17, mbtmp4.4/18, Error ellipse: s-maj=18.5km s-min=14.7km az=68.0*
*NOU **06** 19:06:27.5, 18°.48S×177°.68W, h635km, mb4.4/41, Fiji Islands Region*

ISC 06 19:06:25.0±0.4, 18°.50S±0°.08×177°.68W±0°.07, h600km, n164, σ1§26/168, mb4.6/52, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.11**	**284**	P	P	19 07 43.1	+6.6
TAVE	**Taveuni**	**2.78**	**310**	P	P	19 07 48.9	+5.9
FUTU	**Fugatoga**	**4.19**	**354**	P	**P**	**19 07 56.1**	**+4.1**
AFI	**Afiamalu**	**7.28**	**52**	P	**P**	**19 08 15.5**	**-2.2**
NIUE	**Niue**	**7.36**	**96**	P	**P**	**19 08 16.8**	**-1.5**
RTV	**Rentapao**	**13.23**	**271**	P	**P**	**19 09 18.9**	**+2.6**
DVP	**Devils Point**	**13.46**	**271**	P	**P**	**19 09 20.2**	**+1.6**
MARNC	**Mare, Loyalty**	**13.76**	**255**	P	**P**	**19 09 20.8**	**-0.7**
LIFNC	**LIFOU**	**14.39**	**258**	P	**P**	**19 09 26.3**	**-1.4**
YATNC	**Mamie plateau,**	**14.91**	**254**	P	**P**	**19 09 33.0**	**+0.6**
OUENC	**Ouen Island, N**	**15.02**	**252**	P	**P**	**19 09 33.1**	**-0.3**
OUENC	**Ouen Island, N**	**15.02**	**252**	P	**P**	**19 09 35.7**	**+2.3**
DZM	**Mont Dzumac**	**15.32**	**254**	P	**P**	**19 09 37.5**	**+1.3**
	5.1nm,0.5s,baz=84,slow=6.3,SNR=32						
DZM	**Mont Dzumac**	**15.32**	**254**	P	**P**	**19 09 37.9**	**+1.6**
DZM				IAmb	IAmb	19 09 49.9	
	comp=Z,18nm,1.4s						
DZM	**Mont Dzumac**	**15.32**	**254**	P	**P**	**19 09 37.9**	**+1.6**
KOUNC	**Koumac, New Ca**	**17.13**	**260**	P	**P**	**19 09 53.8**	**+1.0**
KOUNC				IAmb	IAmb	19 09 56.0	
	comp=Z,9.2nm,0.8s						
OUZ	**Omahuta**	**18.36**	**203**	P	**P**	**19 10 07.8**	**+4.0**
OUZ				IAmb	IAmb	19 10 08.9	
	comp=Z,26nm,0.7s						
MXZ	**Matakaoa Point**	**19.31**	**190**	P	**P**	**19 10 12.7**	**+0.3**
URZ	**Urewera**	**20.20**	**192**	P	**P**	**19 10 20.0**	**-0.4**
	comp=Z,13nm,0.3s,baz=3.8,slow=1.5,SNR=7.5 comp=Z,13nm,0.3s						
RTZ	**Ruatahuna**	**20.57**	**192**	P	**P**	**19 10 23.5**	**-0.4**
RTZ				IAmb	IAmb	19 10 25.0	
	comp=Z,25nm,1.2s						
BKZ	**Black Stump Fm**	**21.20**	**193**	P	**P**	**19 10 28.8**	**-0.7**
BKZ				IAmb	IAmb	19 10 43.0	
	comp=Z,44nm,1.5s						
BKZ	**Black Stump Fm**	**21.20**	**193**	P	**P**	**19 10 29.3**	**-0.2**
BFZ	**Birch Farm**	**22.71**	**192**	P	**P**	**19 10 43.4**	**+0.6**
BFZ				IAmb	IAmb	19 10 51.5	
	comp=Z,32nm,1.0s						
MRZ	**Mangatainoka R**	**22.83**	**193**	P	**P**	**19 10 43.3**	**-0.6**
SNZO	**South Karori**	**23.65**	**194**	P	**P**	**19 10 51.3**	**+0.2**
SNZO	**South Karori**	**23.65**	**194**	P	**P**	**19 10 51.9**	**+0.8**
TCW	**Tory Channel**	**23.66**	**195**	P	**P**	**19 10 49.8**	**-1.4**
BHW	**Baring Head**	**23.70**	**194**	P	**P**	**19 10 51.5**	**0.0**
PLWZ	**Palliser**	**23.77**	**193**	P	**P**	**19 10 52.0**	**-0.3**
QRZ	**Quartz Range**	**23.79**	**199**	P	**P**	**19 10 53.3**	**+1.0**
QRZ	**Quartz Range**	**23.79**	**199**	P	**P**	**19 10 54.1**	**+1.8**
TKNZ	**Takaka Hill**	**23.85**	**198**	P	**P**	**19 10 53.0**	**+0.1**
NNZ	**Nelson**	**23.90**	**197**	P	**P**	**19 10 53.5**	**+0.2**
TUWZ	**Tuamarina**	**23.95**	**196**	P	**P**	**19 10 53.5**	**-0.3**
BSWZ	**Blackbirch Sta**	**24.24**	**196**	P	**P**	**19 10 56.3**	**0.0**
MRNZ	**Matariki Terra**	**24.25**	**198**	P	**P**	**19 10 56.7**	**+0.3**
THZ	**Tophouse**	**24.54**	**197**	P	**P**	**19 10 60.0**	**+0.9**
THZ				IAmb	IAmb	19 11 00.8	
	comp=Z,37nm,1.2s						
DSZ	**Denniston Nort**	**24.85**	**199**	P	**P**	**19 11 02.7**	**+0.9**
KHZ	**Kahutara**	**24.98**	**196**	P	**P**	**19 11 03.0**	**+0.1**
KHZ				IAmb	IAmb	19 11 03.8	
	comp=Z,37nm,1.2s						
GVZ	**Greta Valley S**	**25.63**	**196**	P	**P**	**19 11 08.4**	**-0.2**
LTZ	**Lake Taylor**	**25.66**	**197**	P	**P**	**19 11 08.2**	**-0.7**
LTZ				IAmb	IAmb	19 11 12.5	
	comp=Z,27nm,0.8s						
INZ	**Inchbonnie**	**25.85**	**199**	P	**P**	**19 11 10.3**	**-0.1**
AMCZ	**Amberley**	**25.92**	**196**	P	**P**	**19 11 11.1**	**0.0**
OXZ	**Oxford**	**26.23**	**197**	P	**P**	**19 11 13.5**	**-0.3**
MQZ	**McQueen's Vall**	**26.41**	**196**	P	**P**	**19 11 14.8**	**-0.6**
MQZ				IAmb	IAmb	19 11 17.2	
	comp=Z,44nm,1.3s						
RPZ	**Rata Peaks**	**26.87**	**198**	P	**P**	**19 11 20.8**	**+1.4**
	comp=Z,6.1nm,0.5s,baz=339,slow=12,SNR=1.9 comp=Z,6.1nm,0.5s						
RPZ	**Rata Peaks**	**26.87**	**198**	P	**P**	**19 11 19.8**	**+0.4**
RPZ	**Rata Peaks**	**26.87**	**198**	P	**P**	**19 11 21.5**	**+2.0**
FOZ	**Fox Glacier**	**27.09**	**200**	P	**P**	**19 11 21.3**	**-0.1**
LBZ	**Lake Benmore**	**27.74**	**199**	P	**P**	**19 11 25.8**	**-1.2**
LBZ				IAmb	IAmb	19 11 51.0	
	comp=Z,48nm,1.5s						
JCZ	**Jackson Bay**	**27.92**	**201**	P	**P**	**19 11 29.7**	**+1.0**
ODZ	**Otahua Downs**	**28.20**	**198**	P	**P**	**19 11 31.1**	**0.0**
ODZ	**Otahua Downs**	**28.20**	**198**	P	**P**	**19 11 31.5**	**+0.5**
WKZ	**Wanaka**	**28.51**	**200**	P	**P**	**19 11 33.3**	**-0.4**
MLZ	**Mavora Lakes**	**29.28**	**201**	P	**P**	**19 11 42.3**	**+1.9**
MLZ				IAmb	IAmb	19 11 43.1	
	comp=Z,19nm,0.8s						
DCZ	**Deep Cove**	**29.70**	**202**	P	**P**	**19 11 44.2**	**+0.3**
DCZ				IAmb	IAmb	19 11 58.4	
	comp=Z,35nm,1.2s						
EIDS	**Eidsvold**	**29.73**	**251**	P	**P**	**19 11 44.6**	**+0.1**
EIDS				IAmb	IAmb	19 12 21.0	
	comp=Z,22nm,1.4s						
WHZ	**Wether Hill Ro**	**29.80**	**200**	P	**P**	**19 11 45.2**	**+0.4**
ARMA	**Armidale**	**30.25**	**241**	P	**P**	**19 11 50.8**	**+1.7**
ARMA				IAmb	IAmb	19 11 51.7	
	comp=Z,8.3nm,0.7s						
ARMA	**Armidale**	**30.25**	**241**	P	**P**	**19 11 47.8**	**-1.3**
CNB	**Canberra Magne**	**33.63**	**233**	P	**P**	**19 12 19.5**	**+2.0**
CAN	**Canberra**	**33.91**	**234**	P	**P**	**19 12 21.0**	**+1.2**
CAN				IAmb	IAmb	19 12 22.1	
	comp=Z,12nm,0.6s						
CAN	**Canberra**	**33.91**	**234**	P	**P**	**19 12 21.6**	**+1.8**
CTA	**Charters Tower**	**34.04**	**261**	P	**P**	**19 12 21.6**	**+0.4**
	comp=Z,6.7nm,0.5s,baz=96,slow=9.6,SNR=14 comp=Z,6.7nm,0.5s						
CTAO	**Charters Tower**	**34.04**	**261**	P	**P**	**19 12 21.6**	**+0.4**
CTAO				IAmb	IAmb	19 12 23.4	
	comp=Z,44nm,1.4s						
CTAO	**Charters Tower**	**34.04**	**261**	P	**P**	**19 12 21.9**	**+0.8**
PMG	**Port Moresby**	**35.25**	**280**	P	**P**	**19 12 32.1**	**+1.0**
	comp=Z,15nm,0.8s,baz=74,slow=3.1,SNR=7.1 comp=Z,15nm,0.8s						
PMG	**Port Moresby**	**35.25**	**280**	P	**P**	**19 12 32.2**	**+1.0**
PMG				IAmb	IAmb	19 12 33.6	
	comp=Z,18nm,0.8s						
CMSA	**Cobar Meteorol**	**35.47**	**241**	P	**P**	**19 12 34.3**	**+1.5**
QLP	**Quilpie**	**35.98**	**250**	P	**P**	**19 12 38.2**	**+1.1**
TOO	**Toolangi**	**37.34**	**232**	P	**P**	**19 12 49.6**	**+1.5**
TOO				IAmb	IAmb	19 12 51.0	
	comp=Z,36nm,1.4s						
TOO	**Toolangi**	**37.34**	**232**	P	**P**	**19 12 50.2**	**+2.1**
COEN	**Coen**	**37.81**	**271**	P	**P**	**19 12 52.9**	**+0.7**
COEN				IAmb	IAmb	19 12 53.8	
	comp=Z,17nm,0.8s						
COEN	**Coen**	**37.81**	**271**	P	**P**	**19 12 53.2**	**+1.0**
MANU	**Manus Island**	**37.96**	**291**	P	**P**	**19 12 53.6**	**+0.2**
MANU				IAmb	IAmb	19 12 55.8	
	comp=Z,30nm,1.1s						
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**19 13 02.6**	**+1.4**
	comp=Z,3.7nm,0.5s,baz=80,slow=9.5,SNR=15 comp=Z,3.7nm,0.5s						
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**19 13 01.8**	**+0.6**
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**19 13 02.9**	**+1.7**
INKA	**Innaminka**	**39.17**	**249**	P	**P**	**19 13 04.7**	**+1.7**
HTT	**Hallett**	**41.45**	**240**	P	**P**	**19 13 22.2**	**+1.1**
LCRK	**Leigh Creek**	**41.63**	**245**	P	**P**	**19 13 23.4**	**+1.0**
AIN	**Ainahou**	**43.50**	**31**	P	**P**	**19 13 37.4**	**+0.1**
OOD	**Oodnadatta**	**43.65**	**249**	P	**P**	**19 13 39.4**	**+1.2**
BBOO	**Buckleboo**	**43.73**	**242**	P	**P**	**19 13 39.2**	**+0.4**
BBOO				IAmb	IAmb	19 14 17.3	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**43.73**	**242**	P	**P**	**19 13 39.4**	**+0.6**
WR0	**Warramunga Arr**	**45.02**	**260**	P	**P**	**19 13 48.6**	**-0.3**
WB0	**Warramunga Arr**	**45.18**	**260**	P	**P**	**19 13 49.4**	**-0.7**
WB0				IAmb	IAmb	19 13 50.3	
	comp=Z,6.0nm,0.5s						
MULG	**Mulgathing**	**45.20**	**245**	P	**P**	**19 13 50.3**	**+0.3**
WB2	**Warramunga Arr**	**45.20**	**260**	P	**P**	**19 13 49.6**	**-0.6**
WRAB	**Tennant Creek**	**45.20**	**260**	P	**P**	**19 13 48.5**	**-1.8**
WRAB	**Tennant Creek**	**45.20**	**260**	P	**P**	**19 13 50.1**	**-0.1**
WRA	**Warramunga Arr**	**45.21**	**260**	P	**P**	**19 13 50.1**	**-0.2**
	comp=Z,3.4nm,0.4s,baz=98,slow=7.0,SNR=113						
WRA				PcP	**PcP**	**19 15 17.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=96,slow=3.1,SNR=3.0						
WRA				S	**S**	**19 19 41.7**	**-6.2**
	comp=Z,0.6nm,0.6s,baz=98,slow=12,SNR=6.4 comp=Z,3.4nm,0.4s						
WRA	**Warramunga Arr**	**45.21**	**260**	P	**P**	**19 13 48.8**	**-1.5**
WRA				PcP	**PcP**	**19 15 16.8**	**-0.6**
AS31	**Alice Springs**	**45.30**	**255**	P	**P**	**19 13 50.4**	**-0.6**
AS31					**S**	**19 19 46.1**	**-3.0**
ASAR	**Alice Springs**	**45.30**	**255**	P	**P**	**19 13 51.1**	**+0.1**
	comp=Z,4.2nm,0.5s,baz=92,slow=7.7,SNR=139						
ASAR				PcP	**PcP**	**19 15 17.2**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=101,slow=4.0,SNR=6.5						
ASAR				S	**S**	**19 19 44.7**	**-4.4**
	comp=Z,3.9nm,0.7s,baz=91,slow=16,SNR=30 comp=Z,4.2nm,0.5s						
ASAR	**Alice Springs**	**45.30**	**255**	P	**P**	**19 13 50.1**	**-0.9**
ASAR				PcP	**PcP**	**19 15 16.4**	**-1.3**
KDU	**Kakadu**	**48.25**	**269**	P	**P**	**19 14 12.2**	**-0.9**
	comp=Z,19nm,1.5s						
MTN	**Manton Dam**	**49.48**	**269**	P	**P**	**19 14 21.5**	**-0.7**
MTN				IAmb	IAmb	19 14 24.4	
	comp=Z,33nm,1.4s						
WRKA	**Warakurna**	**50.33**	**253**	P	**P**	**19 14 28.5**	**+0.2**
FORT	**Forrest**	**50.39**	**245**	P	**P**	**19 14 28.1**	**-0.5**
FORT				IAmb	IAmb	19 14 43.4	
	comp=Z,20nm,0.9s						
FORT	**Forrest**	**50.39**	**245**	P	**P**	**19 14 27.9**	**-0.7**
KNRA	**Kununurra**	**51.12**	**265**	P	**P**	**19 14 34.6**	**+0.5**
KNRA				IAmb	IAmb	19 14 58.7	
	comp=Z,41nm,1.5s						
KNRA	**Kununurra**	**51.12**	**265**	P	**P**	**19 14 34.4**	**+0.3**
	comp=Z,23nm,1.5s						
FAKI	**Fak Fak**	**51.38**	**281**	P	**P**	**19 14 35.9**	**-0.1**
FAKI				IAmb	IAmb	19 15 18.1	
	comp=Z,63nm,1.5s						
SOEI	**Soe**	**56.77**	**270**	P	**P**	**19 15 14.8**	**+0.9**
SOEI				IAmb	IAmb	19 15 31.5	
	comp=Z,36nm,1.2s						
VNDA	**Vanda**	**59.91**	**185**	P	**P**	**19 15 36.0**	**+2.2**
	comp=Z,1.5nm,0.6s,baz=348,slow=7.1,SNR=15 comp=Z,1.5nm,0.6s						
VNDA	**Vanda**	**59.91**	**185**	P	**P**	**19 15 35.7**	**+1.8**
TOLI2	**Tolitoli**	**63.51**	**281**	P	**P**	**19 15 57.9**	**-0.3**
MJAR	**Matsushiro Arr**	**68.80**	**323**	P	**P**	**19 16 29.8**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=155,slow=7.3,SNR=4.7 comp=Z,1.6nm,0.6s						
MAJO	**Matsushiro**	**68.80**	**323**	P	**P**	**19 16 29.6**	**-0.9**
JMN	**Monobe**	**69.50**	**318**	P	**P**	**19 16 34.5**	**-0.3**
JMN				IAmb	IAmb	19 17 16.2	
	comp=Z,43nm,1.4s						
KKM	**Kota Kinabalu**	**69.56**	**284**	P	**P**	**19 16 34.8**	**-0.8**
KKM				IAmb	IAmb	19 16 35.5	
	comp=Z,38nm,1.2s						
ADK	**Adak**	**70.09**	**1**	P	**P**	**19 16 37.3**	**-0.5**
JHS	**Saijyo**	**70.80**	**319**	P	**P**	**19 16 41.9**	**-0.5**
JHS				IAmb	IAmb	19 17 16.8	
	comp=Z,38nm,1.4s						
QSPA	**South Pole Qui**	**71.56**	**180**	P	**P**	**19 16 46.7**	**+0.3**
QSPA				IAmb	IAmb	19 16 48.8	
	comp=Z,7.9nm,0.7s						
JKA	**Kamikawa-asahi**	**72.13**	**331**	P	**P**	**19 16 51.3**	**+1.4**
JKA				IAmb	IAmb	19 17 17.4	
	comp=Z,53nm,1.5s						
ASAJ	**Asahikawa**	**72.13**	**331**	P	**P**	**19 16 50.4**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=98,slow=25,SNR=1.2 comp=Z,1.7nm,0.4s						
UNV	**Unalaska Valle**	**72.69**	**7**	P	**P**	**19 16 52.2**	**-0.6**
SSLB	**Suanglung**	**73.14**	**303**	P	**P**	**19 16 54.6**	**-1.6**
SSLB				IAmb	IAmb	19 17 10.7	
	comp=Z,28nm,1.4s						
TPUB	**Ta-pu**	**73.17**	**302**	P	**P**	**19 16 55.0**	**-1.3**
TPUB				IAmb	IAmb	19 16 55.4	
	comp=Z,17nm,0.8s						
YHNB	**Yeheng**	**73.24**	**304**	P	**P**	**19 16 55.5**	**-1.3**
PEA0B	**Petropavlovsk-**	**74.43**	**345**	P	**P**	**19 17 02.3**	**-0.4**
PEA0B				IAmb	IAmb	19 17 04.1	
	comp=Z,48nm,1.4s						
PETK	**Petropavlovsk-**	**74.43**	**345**	P	**P**	**19 17 02.1**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=112,slow=7.5,SNR=14 comp=Z,2.2nm,0.6s						
KSRS	**Korea Array**	**75.61**	**318**	P	**P**	**19 17 10.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=133,slow=7.0,SNR=4.6 comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	**79.37**	**43**	P	**P**	**19 17 31.6**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=226,slow=9.3,SNR=7.0 comp=Z,0.7nm,0.6s						
KLR	**Kul'dur**	**80.98**	**329**	P	**P**	**19 17 40.8**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=128,slow=0.5,SNR=2.6						
PRN	**Pahroc Range**	**80.99**	**46**	P	**P**	**19 17 39.5**	**+0.9**
U15A	**North Rim**	**82.40**	**48**	P	**P**	**19 17 46.5**	**+0.6**
KNK	**Knik Glacier**	**83.00**	**14**	P	**P**	**19 17 47.8**	**-0.2**
KNK				IAmb	IAmb	19 18 02.1	
	comp=Z,20nm,1.2s						
SCM	**Sheep Creek Mo**	**83.63**	**14**	P	**P**	**19 17 51.1**	**0.0**
SCM				IAmb	IAmb	19 18 19.8	
	comp=Z,34nm,1.5s						
K20K	**Telida**	**83.66**	**10**	P	**P**	**19 17 51.0**	**-0.2**
CAST	**Castle Rocks**	**84.07**	**11**	P	**P**	**19 17 51.8**	**-1.5**
GLB	**Gilahina Butte**	**84.15**	**16**	P	**P**	**19 17 53.2**	**-0.5**
GLB				IAmb	IAmb	19 17 55.8	
	comp=Z,18nm,1.4s						
J20K	**Nowinta River**	**84.41**	**10**	P	**P**	**19 17 54.9**	**+0.1**
KTH	**Kantishna Hill**	**84.41**	**12**	P	**P**	**19 17 53.9**	**-1.1**
TRF	**Thorofare Moun**	**84.44**	**12**	P	**P**	**19 17 54.2**	**-1.1**
TRF				IAmb	IAmb	19 17 54.9	
	comp=Z,8.4nm,0.8s						
PLID	**Pearl Lake**	**84.47**	**39**	P	**P**	**19 17 55.5**	**-0.5**
DHY	**Denali Highway**	**84.71**	**13**	P	**P**	**19 17 56.2**	**-0.4**
IL31		**86.31**	**13**	P	**P**	**19 18 02.5**	**-1.3**
ILAR	**Eielson Array**	**86.31**	**13**	P	**P**	**19 18 03.0**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=220,slow=4.8,SNR=34 comp=Z,1.1nm,0.4s						
PDAR	**Pinedale Array**	**87.30**	**43**	P	**P**	**19 18 10.1**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=221,slow=3.5,SNR=9.4 comp=Z,0.9nm,0.6s						
TROLL	**Troll, Antarti**	**89.72**	**180**	P	**P**	**19 18 20.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**89.74**	**289**	P	**P**	**19 18 21.8**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=117,slow=2.6,SNR=6.3 comp=Z,0.5nm,0.3s						
SNAA	**Sanae**	**89.99**	**178**	P	**P**	**19 18 21.3**	**+0.1**
VNA3	**Neumayer Olymp**	**90.10**	**176**	P	**P**	**19 18 22.2**	**+0.5**
VNA2	**Neumayer--Wkdz**	**90.55**	**177**	P	**P**	**19 18 24.6**	**+0.9**
	baz=175,slow=3.0						
YKA	**Yellowknife Ar**	**94.58**	**25**	P	**P**	**19 18 41.5**

PBAR	**Barrancos**	**5.05**	**77**	*e*Sn	**Sn**	**19 15 34.3**	**-1.1**
PBAR				A	A	19 15 37.7	
	1.7nm,0.7s						
PMRV	**Marv??o**	**5.14**	**62**	*e*Sn	**Sn**	**19 15 37.5**	**-0.3**
PMRV				A	A	19 15 40.4	
	1.0nm,0.2s						
EBAD	**Badajoz**	**5.20**	**71**	Pn	**Pn**	**19 14 40.1**	**+1.1**
EBAD				⇑*i*Vmb_V		19 14 43.9	
	62nm,SNR=1.0						
EBAD				Sn	**Sn**	**19 15 37.4**	**-1.7**
EMIN	**Mina Concepcio**	**5.29**	**82**	⇑*i*Vmb_V		19 14 42.9	
	72nm,SNR=1.3						
EMIN				Sn	**Sn**	**19 15 40.2**	**-1.1**
PGAV	**Gavieira, Arco**	**6.14**	**38**	*e*Sn	**Sn**	**19 16 01.0**	**-1.6**
PGAV				A	A	19 16 07.8	
	1.4nm,0.7s						
ELOB	**Lobios**	**6.17**	**39**	⇑*i*Vmb_V		19 14 56.3	
	105nm,SNR=0.7						
ELOB				Sn	**Sn**	**19 16 02.0**	**-1.2**
ECAB	**El Cabril**	**6.30**	**80**	Pn	**Pn**	**19 14 55.4**	**+1.1**
ECAB				⇑*i*Vmb_V		19 14 58.6	
	25nm,SNR=0.4						
ECAB				Sn	**Sn**	**19 16 04.4**	**-2.0**
EPLA	**Plasencia**	**6.33**	**61**	⇑*i*Vmb_V		19 14 58.6	
	110nm,SNR=1.1						
EPLA				Sn	**Sn**	**19 16 05.6**	**-1.4**
EMAZ	**Mazaricos**	**6.63**	**29**	Pn	**Pn**	**19 15 00.4**	**+1.5**
EMAZ				⇑*i*Vmb_V		19 15 04.2	
	172nm,SNR=0.6						
EMAZ				Sn	**Sn**	**19 16 10.1**	**-4.4**
EAGO	**Agolada(Pontev**	**6.88**	**34**	Pn	**Pn**	**19 15 03.7**	**+1.5**
EAGO				⇑*i*Vmb_V		19 15 05.7	
	115nm,SNR=0.7						
EAGO				Sn	**Sn**	**19 16 17.2**	**-3.3**
OUK	**Oukaimeden**	**7.46**	**141**	P	**Pn**	**19 15 09.2**	**-1.4**
OUK				S	Sn	19 16 17.3	-18
MD31	**MD31**	**8.21**	**119**	P	**Pn**	**19 15 16.4**	**-4.2**
MD31				S	Sn	19 16 30.1	-23
MDT	**Midelt**	**8.35**	**119**	P	Pn	19 15 16.7	-5.7
MDT				S	Sn	19 16 35.0	-22

*IDC **06** 19:19:31.3±1.0, 13°.24N×145°.97E, h0km, mb3.5/9, mbtmp3.5/9, Error ellipse: s-maj=22.0km s-min=20.9km az=16.0*

ISC 06 19:19:38.2±1.0, 13°.2N±0°.1×145°.9E±0°.1, h50km, n18, σ0s88/13, mb3.6/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.02**	**291**	Pn	**Pn**	**19 19 55.8**	**-0.4**
	148nm,0.3s,baz=304,slow=6.9,SNR=178						
GUMO				Sn	**Sn**	**19 20 10.3**	**+0.8**
	248nm,0.3s,baz=324,slow=21,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**20.72**	**73**	T	T	19 45 48.8	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**20.73**	**73**	T	T	19 45 46.5	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**20.73**	**73**	T	T	19 45 44.3	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**21.18**	**69**	T	T	19 46 21.0	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**21.19**	**69**	T	T	19 46 19.9	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**21.20**	**69**	T	T	19 46 21.5	
	baz=255						
MJAR	**Matsushiro Arr**	**24.21**	**345**	P	**P**	**19 24 48.3**	**-2.0**
	1.3nm,0.7s,baz=168,slow=10,SNR=2.6						
	1.3nm,0.7s						
KSRS	**Korea Array**	**28.96**	**330**	P	**P**	**19 25 32.3**	**-0.7**
	0.4nm,0.6s,baz=139,slow=9.5,SNR=2.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**34.85**	**199**	P	**P**	**19 26 25.0**	**+0.2**
	0.4nm,0.7s,baz=25,slow=9.8,SNR=2.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**38.48**	**198**	P	**P**	**19 26 55.0**	**-0.7**
	0.3nm,0.8s,baz=14,slow=12,SNR=2.2						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.33**	**283**	P	**P**	**19 27 51.9**	**+0.1**
	0.3nm,0.6s,baz=83,slow=7.1,SNR=2.5						
	0.3nm,0.6s						
SONM	**Songino Array**	**47.58**	**325**	P	**P**	**19 28 09.2**	**+0.1**
	0.4nm,0.6s,baz=140,slow=8.7,SNR=5.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**62.41**	**316**	P	**P**	**19 29 56.7**	**+0.5**
	0.8nm,0.5s,baz=92,slow=8.7,SNR=22						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**68.49**	**25**	P	**P**	**19 30 35.1**	**+0.1**
	0.3nm,0.4s,baz=244,slow=6.4,SNR=10						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**82.75**	**27**	P	**P**	**19 31 57.9**	**+1.2**
	0.2nm,0.4s,baz=285,slow=5.3,SNR=3.0						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**87.72**	**342**	P	**P**	**19 32 21.4**	**0.0**
	26nm,1.2s,baz=60,slow=5.3,SNR=2.9						
FINES	**FINESS Array B**	**91.89**	**335**	P	**P**	**19 32 40.6**	**-0.4**
	1.6nm,0.4s,baz=71,slow=4.0,SNR=16						

*VAO **06** 19:20:08.2±1.2, 23°.09S×67°.38W, h352km±16km, mb4.1*
*GUC **06** 19:20:12.0±0.5, 22°.80S×66°.64W, h262km±7km, ML3.8*

ISC 06 19:20:10.4±0.9, 22°.77S±0°.08×66°.8W±0°.1, h282km±20km, n23, σ1s11/36, 10C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.99**	**274**	⇑*e*P	**Pn**	**19 20 56.2**	**+0.2**
LVC				*e*S	**S**	**19 21 31.0**	**-1.2**
LVC	**Limon Verde**	**1.99**	**274**	*e*P	**Pn**	**19 20 56.6**	**+0.6**
PB09	**IPOC Station P**	**2.50**	**292**	⇑*e*P	**Pn**	**19 21 01.4**	**+1.2**
PB09				⇓*e*S	**S**	**19 21 39.2**	**-0.7**
PB09				IAML		19 21 44.0	
	comp=E,98nm,0.4s						
PB15	**IPOC Station P**	**2.54**	**260**	⇑*e*P	**Pn**	**19 21 01.9**	**+1.3**
PB15				*e*S	**S**	**19 21 40.2**	**-0.3**
PB06	**IPOC Station P**	**2.60**	**271**	*e*P	**Pn**	**19 21 02.4**	**+1.2**
PB06				*e*S	**S**	**19 21 40.8**	**-0.7**
PB06				IAML		19 21 42.6	
	comp=N,161nm,0.7s						
PB03	**IPOC Station P**	**2.86**	**284**	⇑*e*P	**Pn**	**19 21 04.7**	**+0.9**
PB03				*e*S	**S**	**19 21 45.2**	**-1.0**
PB01	**IPOC Station P**	**3.06**	**304**	⇑*e*P	**Pn**	**19 21 06.7**	**+0.9**
PB01				*i* S	**S**	**19 21 48.8**	**-1.0**
PB07	**IPOC Station P**	**3.08**	**289**	⇑*e*P	**Pn**	**19 21 07.3**	**+1.4**
PB07				*e*S	**S**	**19 21 49.0**	**-1.2**
PB04	**IPOC Station P**	**3.17**	**277**	⇑*e*P	**Pn**	**19 21 08.2**	**+1.3**
PB04				*e*S	**S**	**19 21 50.7**	**-1.1**
PB02	**IPOC Station P**	**3.25**	**296**	⇑*e*P	**Pn**	**19 21 08.8**	**+1.1**
PB02				*e*S	**S**	**19 21 52.2**	**-1.2**
PB08	**IPOC Station P**	**3.44**	**319**	⇑*e*P	**Pn**	**19 21 11.7**	**+1.6**
PB08				*e*S	**S**	**19 21 57.3**	**-0.3**
PB10	**IPOC Station P**	**3.57**	**257**	*e*P	**Pn**	**19 21 12.6**	**+1.7**
PB10				*e*S	**S**	**19 21 58.2**	**-1.1**
PATCX	**Punta Patache**	**3.71**	**301**	*e*P	**Pn**	**19 21 13.9**	**+1.3**
PATCX				*e*S	**S**	**19 22 01.3**	**-0.9**
GO01	**Chusmiza**	**3.83**	**323**	⇑*e*P	**Pn**	**19 21 15.7**	**+1.2**
GO01				*e*S	**S**	**19 22 04.8**	**-0.7**
LPAZ	**La Paz**	**6.58**	**348**	*e*P	**Pn**	**19 21 48.3**	**+1.2**
MCR1	**Marechal Candi**	**11.78**	**101**	*e*P	**P**	**19 22 52.9**	**0.0**
CRSM	**Crissiumal (Br**	**12.44**	**115**	*e*P	**Pn**	**19 22 59.6**	**+0.9**
FRBT	**Francisco Belt**	**12.88**	**107**	*e*P	**Pn**	**19 23 04.6**	**+0.5**
FRTB	**Fartura**	**15.84**	**95**	*e*P	**P**	**19 23 37.3**	**-0.5**
JANB	**Januaria**	**22.56**	**74**	*e*P	**P**	**19 24 46.5**	**-0.7**
SDBA	**SAO DESIDERIO**	**23.21**	**67**	*e*P	**P**	**19 24 52.5**	**-0.6**
NAN01	**Guarapari, ES**	**25.44**	**84**	*e*P	**P**	**19 25 11.7**	**-1.4**
GDU01	**Guandu, BA**	**27.30**	**75**	*e*P	**P**	**19 25 28.1**	**-1.6**

*IDC **06** 19:31:21.8±2.8, 24°.70S×179°.68W, h490km±28km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=30.7km s-min=25.6km az=130.0*
*NEIC **06** 19:31:26.6±1.9, 24°.8S±0°.2×180°.0W±0°.2, h533km±10km, mb4.7/6, Error ellipse: s-maj=24.7km s-min=21.8km az=143.0*

ISC 06 19:31:22.7±0.8, 24°.6S±0°.1×179°.7W±0°.1, h500km, n36, σ1s07/36, mb4.2/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.87**	**161**	P	P	19 32 54.1	+5.7
MARNC	**Mare, Loyalty**	**11.72**	**283**	P	P	**19 33 59.7**	**+1.4**
OUENC	**Ouen Island, N**	**12.54**	**277**	P	P	**19 34 09.5**	**+2.6**
DZM	**Mont Dzumac**	**12.97**	**279**	P	**P**	**19 34 11.9**	**+0.1**
	8.7nm,0.9s,baz=86,slow=18,SNR=9.5						
DZM	**Mont Dzumac**	**12.97**	**279**	P	**P**	**19 34 12.2**	**+0.4**
URZ	**Urewera**	**13.85**	**191**	P	**P**	**19 34 19.9**	**-0.7**
	10nm,1.0s,baz=118,slow=21,SNR=2.4						
RTZ	**Ruatahuna**	**14.22**	**191**	P	**P**	**19 34 26.5**	**+1.9**
BKZ	**Black Stump Fm**	**14.84**	**192**	P	**P**	**19 34 31.9**	**+0.7**
MRZ	**Mangatainoka R**	**16.46**	**193**	P	**P**	**19 34 47.5**	**-0.5**
QRZ	**Quartz Range**	**17.41**	**200**	P	**P**	**19 34 58.3**	**+0.9**
TKNZ	**Takaka Hill**	**17.47**	**199**	P	**P**	**19 34 59.0**	**+1.1**
MRNZ	**Matariki Terra**	**17.86**	**199**	P	**P**	**19 35 02.6**	**+1.0**
INZ	**Inchbonnie**	**19.47**	**200**	P	**P**	**19 35 16.4**	**+0.1**
AMCZ	**Amberley**	**19.54**	**197**	P	**P**	**19 35 17.3**	**+0.5**
RPZ	**Rata Peaks**	**20.49**	**199**	P	**P**	**19 35 24.9**	**-0.7**
	5.5nm,0.5s,baz=4.8,slow=12,SNR=1.6						
	5.5nm,0.5s						
RPZ	**Rata Peaks**	**20.49**	**199**	P	**P**	**19 35 25.2**	**-0.4**
CTAO	**Charters Tower**	**31.75**	**271**	P	**P**	**19 37 03.6**	**-1.7**
ASAR	**Alice Springs**	**42.19**	**261**	P	**P**	**19 38 31.5**	**+0.3**
	0.1nm,0.4s,baz=91,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**19 40 14.2**	**0.0**
	0.2nm,0.4s,baz=91,slow=7.1,SNR=4.2						
	0.1nm,0.4s						
WR0	**Warramunga Arr**	**42.44**	**267**	P	**P**	**19 38 31.7**	**-1.5**
WR0				IAmb	IAmb	19 38 35.2	
	comp=Z,34nm,1.8s						
WB0	**Warramunga Arr**	**42.62**	**267**	P	**P**	**19 38 33.8**	**-0.9**
WB0				IAmb	IAmb	19 39 05.6	
	comp=Z,30nm,2.0s						
WRA	**Warramunga Arr**	**42.63**	**267**	P	**P**	**19 38 33.6**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=101,slow=6.6,SNR=8.0						
WRA				ScP	**ScP**	**19 43 19.8**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=91,slow=4.2,SNR=5.4						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**42.63**	**267**	P	**P**	**19 38 33.7**	**-1.1**
KNRA	**Kununurra**	**48.95**	**270**	P	**P**	**19 39 23.2**	**+0.2**
KNRA				IAmb	IAmb	19 40 36.8	
	comp=Z,51nm,1.4s						
PEA0B	**Petropavlovsk-**	**79.87**	**346**	P	**P**	**19 42 39.7**	**+1.2**
PEA0B				IAmb	IAmb	19 45 29.6	
	comp=Z,84nm,1.4s						
PETK	**Petropavlovsk-**	**79.87**	**346**	P	**P**	**19 42 39.5**	**+0.9**
	comp=Z,4.5nm,1.0s,baz=151,slow=3.4,SNR=4.8						
	comp=Z,4.5nm,1.0s						
ILAR	**Eielson Array**	**92.68**	**13**	P	**P**	**19 43 39.9**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=211,slow=5.5,SNR=2.1						
	comp=Z,0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**115.96**	**316**	PKP	**PKPdf**	**19 49 07.3**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=84,slow=1.4,SNR=2.4						
BVAR	**Borovoye Array**	**121.16**	**318**	PKP	**PKiKP**	**19 49 18.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=121,slow=2.4,SNR=4.3						
ARU	**Arti**	**127.63**	**323**	PKP	**PKiKP**	**19 49 31.1**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=98,slow=3.7,SNR=5.7						
ARCES	**ARCESS Array B**	**132.65**	**348**	PKP	**PKPdf**	**19 49 39.2**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=28,slow=2.1,SNR=1.5						
NOA	**NORSAR Array B**	**142.84**	**351**	PKP	**PKPdf**	**19 49 55.8**	**-2.5**
	comp=Z,1.1nm,0.8s,baz=8.3,slow=2.5,SNR=2.2						
HFS	**Hagfors**	**143.31**	**349**	PKP	PKPbc	19 49 57.6	+0.3
	comp=Z,4.5nm,0.4s,baz=66,slow=3.7,SNR=39						
AKASG	**Malin Array Be**	**145.73**	**327**	PKPbc	**PKPbc**	**19 50 05.2**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=47,slow=3.7,SNR=8.9						
BRTR	**Keskin Array B**	**148.23**	**306**	PKPbc	**PKPbc**	**19 50 12.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=92,slow=3.3,SNR=2.2						
EKA	**Eskdalemuir Ar**	**149.23**	**4**	PKPbc	**PKPbc**	**19 50 14.2**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=355,slow=2.9,SNR=7.4						
CLL	**Collm**	**151.63**	**343**	*i* PKPbc	**PKiKP**	**19 50 21.3**	**+1.3**
	comp=Z,5.0nm,0.7s						

*CUPWA **06** 20:13:30.8±2.7, 30°.63S×118°.41E, h2km±22km, Region: WESTERN AUSTRALIA*
*AUST **06** 20:13:30.1±0.4, 30°.68S×118°.34E, h10km, Error ellipse: s-maj=4.0km s-min=3.6km az=114.0*

ISC 06 20:13:29.0±1.6, 30°.64S±0°.04×118°.43E±0°.04, h7km±12km, n26, σ1s03/38, 1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.11**	**211**	⇓P	**Pg**	**20 13 50.2**	**-0.2**
	baz=1.0						
KLBR				S	**Sg**	**20 14 04.1**	**-0.9**
	baz=1.0						
KLBR	**Kellerberrin**	**1.11**	**211**	S	**Sg**	**20 14 04.8**	**-0.1**
KLBR	**Kellerberrin**	**1.11**	**211**	P	**Pg**	**20 13 50.2**	**-0.2**
CADX	**Cadoux**	**1.12**	**263**	S	**Sb**	**20 14 05.5**	**0.0**
BLDU	**Ballidu**	**1.48**	**270**	P	**Pb**	**20 13 56.8**	**-0.1**
	baz=1.4						
BLDU				S	**Sn**	**20 14 15.5**	**-0.2**
	baz=1.4						
BLDU	**Ballidu**	**1.48**	**270**	P	**Pb**	**20 13 56.8**	**-0.1**
BLDU				S	**Sn**	**20 14 15.5**	**-0.2**
MECK	**Meckering**	**1.57**	**230**	P	**Pb**	**20 13 58.3**	**-0.1**
MECK				S	**Sb**	**20 14 18.4**	**-0.1**
QUAI	**Quairading**	**1.63**	**213**	P	**Pb**	**20 13 59.2**	**-0.3**
QUAI				S	**Sb**	**20 14 20.4**	**+0.1**
AUKUL	**Kulin High Sch**	**2.04**	**187**	P	**Pn**	**20 14 05.5**	**+1.7**
AUKUL				S	**Sn**	**20 14 30.4**	**+0.8**
PING	**Pingelly**	**2.23**	**213**	SG	**Sb**	**20 14 38.2**	**+0.7**
MUN	**Mundaring**	**2.33**	**234**	P	**Pn**	**20 14 08.5**	**+0.8**
	baz=2.2						
MUN				S	**Sn**	**20 14 34.3**	**-2.2**
	baz=2.2						
MUN	**Mundaring**	**2.33**	**234**	P	**Pn**	**20 14 08.5**	**+0.8**
MUN	**Mundaring**	**2.33**	**234**	S	**Sn**	**20 14 34.3**	**-2.2**
NWAO	**Narrogin (SRO)**	**2.50**	**204**	P	**Pn**	**20 14 10.1**	**0.0**
	baz=2.4						
NWAO				P	**Pn**	**20 14 10.1**	**0.0**
	baz=2.4						
NWAO	**Narrogin (SRO)**	**2.50**	**204**	P	**Pn**	**20 14 10.1**	**0.0**
MORW	**Morawa**	**2.60**	**306**	P	**Pn**	**20 14 11.8**	**+0.3**
	baz=2.6						
MORW				S	**Sn**	**20 14 43.2**	**0.0**
	baz=2.6						
MORW	**Morawa**	**2.60**	**306**	P	**Pn**	**20 14 11.8**	**+0.3**
MORW	**Morawa**	**2.60**	**306**	S	**Sn**	**20 14 43.2**	**0.0**
KMBL	**Kambalda**	**3.05**	**105**	P	**Pn**	**20 14 18.6**	**+0.9**
	baz=3.1						
KMBL				S	**Sn**	**20 14 53.4**	**-1.2**
	baz=3.1						
KMBL	**Kambalda**	**3.05**	**105**	P	**Pn**	**20 14 18.6**	**+0.9**
KMBL	**Kambalda**	**3.05**	**105**	S	**Sn**	**20 14 53.4**	**-1.2**
MEEK	**Meekatharra**	**3.99**	**2**	P	**Pn**	**20 14 31.8**	**+1.2**
	baz=4.1						
MEEK				S	**Sn**	**20 15 15.5**	**-2.1**
	baz=4.1						
MEEK	**Meekatharra**	**3.99**	**2**	P	**Pn**	**20 14 31.8**	**+1.2**
MEEK				S	**Sn**	**20 15 15.5**	**-2.1**
RKGY	**Rocky Gully**	**4.15**	**197**	P	**Pn**	**20 14 33.2**	**+0.5**
	baz=4.1						
FORT	**Forrest**	**8.29**	**93**	P	**Pn**	**20 15 31.6**	**+1.9**
	baz=8.4						
WRKA	**Warakurna**	**10.36**	**60**	P	**Pn**	**20 15 58.5**	**+0.3**
	baz=10						

*MAN **06** 20:20:01.2, 9°.93N×125°.98E, h16km, mb4.8, ML3.7, MS3.6*
*IDC **06** 20:20:02.9±3.0, 9°.88N×125°.80E, h82km±28km, mb3.6/14, mbtmp3.9/16, MS2.9/9, Error ellipse: s-maj=31.4km s-min=14.1km az=67.0*
*NEIC **06** 20:20:05.2±2.3, 9°.9N±0°.1×125°.9E±0°.1, h102km±8km, mb4.2/23, Error ellipse: s-maj=20.7km s-min=13.8km az=65.0*

ISC 06 20:20:01.0±0.8, 9°.98N±0°.03×126°.11E±0°.05, h60km±7km, n90, σ2s04/88, mb4.1/24, MS2.6/7, 21C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.20**	**176**	⇑*e*P	Pn	20 20 07.0	-3.5
GLSP				*e*S	**Sn**	**20 20 12.1**	**-5.1**
MSLP	**Maasin**	**1.24**	**277**	⇑*e*P	**Pn**	**20 20 20.8**	**-1.4**
MSLP				*e*S	**Sn**	**20 20 37.3**	**-0.8**
BESP	**Borongan**	**1.74**	**338**	⇑*e*P	**Pn**	**20 20 30.7**	**+1.8**
BESP				*e*S	**Sn**	**20 20 53.6**	**+3.6**
BIPH	**Bislig**	**1.80**	**172**	⇓*e*P	**Pn**	**20 20 29.0**	**-0.9**
BIPH				*i* S	**Sn**	**20 20 52.7**	**+1.0**
CGP	**Cagayan de Oro**	**2.06**	**223**	⇑*i*P	**Pn**	**20 20 33.6**	**+0.2**
CGP				*i* S	**Sn**	**20 20 58.1**	**+0.1**
LLP	**Lapu-Lapu**	**2.14**	**279**	⇓*e*P	**Pn**	**20 20 35.0**	**+0.7**
LLP				*e*S	**Sn**	**20 21 00.7**	**+0.8**
TBP	**Tagbilaran**	**2.24**	**263**	⇓*e*P	**Pn**	**20 20 36.6**	**+0.9**
TBP				*i* S	**Sn**	**20 21 03.6**	**+1.4**
BUKP	**Musuan**	**2.33**	**206**	⇑*e*P	**Pn**	**20 20 38.6**	**+1.5**
BUKP				*e*S	**Sn**	**20 21 07.5**	**+2.9**
CNP	**Catarman**	**2.89**	**331**	⇑*e*P	**Pn**	**20 20 44.7**	**+0.1**
CNP				*e*S	**Sn**	**20 21 20.5**	**+2.4**
SNPH	**Sibulan**	**2.91**	**258**	*e*P	**Pn**	**20 20 45.6**	**+0.7**
SNPH				*e*S	**Sn**	**20 21 19.5**	**+0.8**
DAV	**Davao City (W)**	**2.94**	**190**	P	**Pn**	**20 20 46.0**	**+0.6**
	107nm,0.3s,baz=16,slow=17,SNR=1.6						
DAV				S	**Sn**	**20 21 15.5**	**-4.0**
	184nm,0.4s,baz=346,slow=20,SNR=4.1						
DAV				LR	LR	20 22 15.6	
	comp=Z,320nm,21.4s,baz=342,slow=47						
MATI	**Mati**	**3.02**	**177**	⇑*e*P	**Pn**	**20 20 48.8**	**+2.3**
MATI				*e*S	**Sn**	**20 21 28.8**	**+7.4**
DCPH	**Dipolog City**	**3.06**	**243**	⇓*i*P	**Pn**	**20 20 47.2**	**+0.2**
DCPH				*i* S	**Sn**	**20 21 22.9**	**+0.5**
KCP	**Kidapawan**	**3.12**	**199**	⇑*i*P	**Pn**	**20 20 49.7**	**+1.8**
KCP				*i* S	**Sn**	**20 21 25.0**	**+1.0**
CTBH	**Cotabato--PC H**	**3.31**	**214**	⇑*e*P	**Pn**	**20 20 51.3**	**+1.0**
CNOP	**Candoni, Negro**	**3.42**	**268**	⇑*e*P	**Pn**	**20 20 53.1**	**+1.2**
CNOP				*e*S	**Sn**	**20 21 32.6**	**+1.3**
PAGZ	**Pagadian**	**3.43**	**232**	⇑*e*P	**Pn**	**20 20 53.2**	**+1.2**
PAGZ				*e*S	**Sn**	**20 21 33.2**	**+1.7**
PAGZ	**Pagadian**	**3.43**	**232**	⇑*e*P	**Pn**	**20 20 53.3**	**+1.2**
PAGZ				*e*S	**Sn**	**20 21 32.9**	**+1.4**
GUIM	**Jordan**	**3.52**	**281**	⇑*e*P	**Pn**	**20 20 53.6**	**+0.3**
GUIM				*e*S	**Sn**	**20 21 35.6**	**+1.8**
RCP	**Roxas**	**3.66**	**296**	⇑*e*P	**Pn**	**20 20 56.2**	**+1.0**
SKMP	**Bagumbayan, Su**	**3.77**	**204**	⇑*e*P	**Pn**	**20 20 57.8**	**+1.0**
SKMP				*e*S	Sn	20 21 53.1	+13
DDMP	**Don Marcelino,**	**3.87**	**186**	⇑*e*P	**Pn**	**20 20 59.2**	**+1.0**
DDMP				*e*S	**Sn**	**20 21 50.0**	**+7.6**
GSPH	**General Santos**	**4.04**	**197**	⇑*e*P	Pn	20 20 56.2	-4.2
PVCP	**Virac**	**4.07**	**332**	⇑*e*P	**Pn**	**20 21 02.2**	**+1.4**
PVCP				*e*S	Sn	20 22 02.9	+16
IPIL	**Ipil**	**4.12**	**238**	⇑*e*P	**Pn**	**20 21 03.9**	**+2.4**
IPIL				*e*S	**Sn**	**20 21 52.4**	**+3.9**
JAP	**San Jose, Anti**	**4.17**	**281**	⇑*e*P	**Pn**	**20 21 05.4**	**+3.3**
LQP	**Lukban**	**6.07**	**313**	⇑*e*P	**Pn**	**20 21 27.7**	**-0.6**
MYLDM	**Lahad Datu**	**8.93**	**238**	Pn	**Pn**	**20 22 09.1**	**+1.8**
LUWI	**Luwuk**	**11.45**	**197**	Pn	**Pn**	**20 22 45.0**	**+3.2**
SIJI	**Sorong**	**11.94**	**154**	P	**Pn**	**20 22 51.5**	**+3.0**
	3.8nm,0.7s,baz=92,slow=6.3,SNR=1.7						
TPUB	**Ta-pu**	**14.24**	**339**	P	**Pn**	**20 23 23.9**	**+4.2**
KAPI	**Kappang**	**16.19**	**203**	LR	LR	20 30 01.1	
	comp=Z,54nm,21.7s,baz=32,slow=37						
GUMO	**Guam**	**18.71**	**77**	LR	LR	20 29 57.5	
	comp=Z,30nm,21.4s,baz=80,slow=31						
MTN	**Manton Dam**	**23.22**	**167**	P	**P**	**20 25 02.5**	**-0.6**
MTN				IAmb	IAmb	20 25 42.3	
	comp=Z,20nm,1.1s						
JNU	**Nakatsue**	**23.44**	**10**	LR	LR	20 35 23.2	
	comp=Z,13nm,18.2s,baz=286,slow=39						
KNRA	**Kununurra**	**25.63**	**174**	P	**P**	**20 25 24.2**	**-0.9**
JHJ	**Hachijo jima 2**	**26.25**	**27**	LR	LR	20 37 35.6	
	comp=Z,16nm,18.1s,baz=113,slow=40						
KSRS	**Korea Array**	**27.40**	**3**	LR	LR	20 37 14.8	
	comp=Z,12nm,18.8s,baz=95,slow=38						
CMAR	**Chiang Mai Arr**	**27.62**	**291**	P	**P**	**20 25 40.5**	**-2.6**
	comp=Z,0.4nm,0.5s,baz=90,slow=7.6,SNR=6.9						
	comp=Z,0.4nm,0.5s						
MJAR	**Matsushiro Arr**	**28.62**	**21**	LR	LR	20 39 20.3	
	comp=Z,16nm,18.1s,baz=212,slow=40						
WB0	**Warramunga Ar**	**30.67**	**165**	P	P	20 26 08.2	-1.9
WRAB	**Tennant Creek**	**30.82**	**165**	P	P	20 26 09.2	-2.2
WRAB				IAmb	IAmb	20 26 26.5	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**30.82**	**165**	P	**P**	**20 26 10.0**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=343,slow=9.0,SNR=8.1						
	comp=Z,0.5nm,0.6s						
WB2	**Warramunga Ar**	**30.82**	**165**	P	**P**	**20 26 10.5**	**-1.0**
WB2				IAmb	IAmb	20 26 23.9	
	comp=Z,14nm,1.5s						
AS31	**Alice Springs**	**34.30**	**167**	P	**P**	**20 26 41.0**	**-0.8**
ASAR	**Alice Springs**	**34.30**	**167**	P	**P**	**20 26 41.5**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=345,slow=7.0,SNR=21						
	comp=Z,0.8nm,0.3s			

comp=Z,1.5nm,0.7s,baz=248,slow=5.4,SNR=1.4

*NOU **06** 20:21:43.6, 30.˚68S×118.˚43E, h0km, MLv3.5/7, Western Australia*
*AUST **06** 20:21:43.1±1.1, 30.˚66S×118.˚40E, h10km, Error ellipse: s-maj=11.7km s-min=9.6km az=152.0*
ISC 06 20:21:40.7±1.7, **30.˚72S**±0.˚05×**118.˚52E**±0.˚04, **h9**km±14km, **n15**, **σ1§82/22**, **1D**, **Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KLBR	**Kellerberrin**	**1.09**	**217**	⇓P	**Pn**		**20 22 03.9**	**+1.7**
	baz=1.1,SNR=46							
KLBR				S	**Sn**		**20 22 17.7**	**+0.3**
	baz=1.1							
KLBR	**Kellerberrin**	**1.09**	**217**	P	**Pn**		**20 22 03.9**	**+1.7**
BLDU	**Ballidu**	**1.56**	**273**	P	**Pg**		**20 22 10.4**	**-0.2**
	baz=1.5,SNR=30							
BLDU				S	**Sb**		**20 22 28.8**	**-0.9**
	baz=1.5							
BLDU	**Ballidu**	**1.56**	**273**	P	**Pg**		**20 22 10.5**	**-0.2**
MUN	**Mundaring**	**2.34**	**237**	P	**Pb**		**20 22 21.6**	**-1.5**
	baz=2.3							
MUN				S	**Sb**		**20 22 51.0**	**-1.2**
	baz=2.3							
MUN	**Mundaring**	**2.34**	**237**	P	**Pb**		**20 22 22.5**	**-0.6**
NWAO	**Narrogin (SRO)**	**2.46**	**206**	P	**Pb**		**20 22 24.1**	**-1.0**
	baz=2.5,SNR=6.0							
NWAO				P	**Pb**		**20 22 24.1**	**-1.0**
	baz=2.5,SNR=6.0							
MTKN	**Mount Kenneth**	**2.64**	**242**	P	**Pb**		**20 22 27.2**	**-1.0**
MORW	**Morawa**	**2.71**	**307**	P	**Pn**		**20 22 25.3**	**+0.8**
	baz=2.6							
MORW				S	**Sn**		**20 22 56.8**	**-0.6**
	baz=2.6							
MORW	**Morawa**	**2.71**	**307**	P	**Pb**		**20 22 27.7**	**-1.7**
KMBL	**Kambalda**	**2.96**	**103**	P	**Pb**		**20 22 32.1**	**-1.5**
	baz=3.1							
KMBL				S	**Sn**		**20 22 59.6**	**-4.0**
	baz=3.1							
KMBL	**Kambalda**	**2.96**	**103**	P	**Pb**		**20 22 33.1**	**-0.6**
MEEK	**Meekatharra**	**4.07**	**1**	P	**Pn**		**20 22 46.0**	**+2.8**
FORT	**Forrest**	**8.21**	**93**	P	**Pn**		**20 23 43.2**	**+3.1**
	baz=8.3							
FORT				S	**Sn**		**20 25 11.8**	**-1.2**
	baz=8.3							
WRKA	**Warakurna**	**10.34**	**59**	P	**Pn**		**20 24 11.4**	**+2.1**
	baz=10							

*PGC **06** 20:37:56.6±0.0, 50.˚27N×114.˚79W, h0km, ML3.2/8, 101km southwest of Calgary, Alberta Alberta, Canada Mining explosion.*
*IDC **06** 20:37:58.4±1.7, 50.˚27N×114.˚88W, h0km, mb2.6/1, mbtmp2.9/3, ML3.2/2, Error ellipse: s-maj=50.5km s-min=14.1km az=74.0*
ISC 06 20:37:55.0±0.7, **50.˚30N**±0.˚04×**114.˚84W**±0.˚04, **h0**km, **n22**, **σ1§53/31**, **Alberta**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HSPGA	**Hill Springs,**	**1.21**	**140**	P	**Pg**		**20 38 17.7**	**-0.6**
HSPGA				S	**Sg**		**20 38 33.2**	**-0.7**
WALA	**Waterton Lakes**	**1.38**	**154**	P	**Pg**		**20 38 21.0**	**-0.5**
WALA				Sn	**Sg**		**20 38 38.0**	**-1.3**
SLEB	**Sale Mountain**	**2.27**	**294**	Pn	**Pn**		**20 38 34.8**	**+0.9**
SLEB				Pg	**Pb**		**20 38 37.5**	**+0.6**
SLEB				Sg	**Sg**		**20 39 08.2**	**+0.4**
MKRVA	**Milk River, Al**	**2.30**	**119**	Pn	**Pn**		**20 38 35.4**	**+1.2**
MKRVA				Pg	**Pb**		**20 38 36.7**	**-0.7**
MKRVA				Sn	**Sn**		**20 39 03.9**	**+0.7**
BSMT	**Bassoo Peak**	**2.45**	**179**	Pn	**Pn**		**20 38 37.3**	**+0.9**
BSMT				Pg	**Pb**		**20 38 39.8**	**-0.3**
YBMT	**Yellow Bay**	**2.50**	**167**	Pn	**Pn**		**20 38 38.2**	**+1.1**
I56US	**NEWPORT INFRAS**	**2.53**	**217**	I	I		20 58 11.4	
	baz=38,slow=333,SNR=1.2							
JTMT	**Jette**	**2.58**	**172**	Pn	**Pn**		**20 38 38.9**	**+0.7**
MNB	**Mounoet Dainar**	**2.93**	**312**	Pn	**Pb**		**20 38 47.3**	**-1.0**
PNT	**Penticton**	**3.25**	**254**	Pn	**Pn**		**20 38 48.9**	**+1.6**
PNT				Sn	**Sn**		**20 39 26.7**	**+0.1**
BLBC	**Blue River**	**3.28**	**304**	Pn	**Pn**		**20 38 49.5**	**+1.6**
OVMT	**Ovando**	**3.46**	**159**	Pn	**Pn**		**20 38 51.3**	**+1.0**
B08A	**Colville Reser**	**3.52**	**238**	Pn	**Pn**		**20 38 51.1**	**+0.1**
B08A				Sn	**Sn**		**20 39 33.2**	**-0.2**
BRLDA	**Berland Lookou**	**4.11**	**338**	Sn	**Sn**		**20 39 49.4**	**+1.3**
BRLDA				Sg	**Sg**		**20 40 06.2**	**-0.9**
SWHSA	**Sweathouse Loo**	**4.75**	**347**	Sn	**Sn**		**20 40 03.0**	**-0.8**
LTY	**Liberty**	**4.91**	**234**	Pn	**Pn**		**20 39 10.7**	**+0.5**
LTY				Sn	**Sn**		**20 40 06.5**	**-1.2**
HNBB	**Haney**	**5.11**	**262**	Pn	**Pn**		**20 39 13.4**	**+0.6**
PDAR	**Pinedale Array**	**8.37**	**152**	Pn	**Pn**		**20 40 02.3**	**+4.6**
	baz=350,slow=15,SNR=3.6							
	0.3nm,0.6s							
I10CA	**LAC DU BONNET**	**12.04**	**83**	I	I		21 49 10.0	
	baz=273,slow=314,SNR=2.5							
ULM	**Lac du Bonnet**	**12.13**	**83**	Lg	Lg		20 44 13.0	
	0.2nm,0.3s,baz=161,slow=18,SNR=1.9							
YKA	**Yellowknife Ar**	**12.23**	**1**	Pn	**Pn**		**20 40 49.9**	**-0.3**
	0.2nm,0.3s,baz=183,slow=13,SNR=8.8							
YKA				Sn	**Sn**		**20 43 03.0**	**-4.1**
	0.1nm,0.3s,baz=175,slow=23,SNR=4.0							
YKA				Lg	Lg		20 44 22.2	
	baz=174,slow=26,SNR=2.7							
	0.6nm,0.6s							
ILAR	**Eielson Array**	**22.15**	**323**	P	**P**		**20 42 54.5**	**+2.5**
	0.2nm,0.8s,baz=123,slow=13,SNR=2.4							
	0.2nm,0.8s							

*IDC **06** 20:39:48.8±0.7, 17.˚84S×13.˚51W, h0km, mb4.2/13, mbtmp4.2/13, MS4.0/50, Error ellipse: s-maj=21.9km s-min=19.4km az=141.0*
*NEIC **06** 20:39:50.6±2.0, 17.˚92S±0.˚09×13.˚41W±0.˚08, h10km±1km, mb4.9/24, Error ellipse: s-maj=17.0km s-min=10.4km az=208.0*
*GCMT **06** 20:39:54.6±0.2, 17.˚72S±0.˚02×13.˚54W±0.˚01, h12km, MW4.9/99, Moment Tensor Solution. s32,c35; s99,c134; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.38±.08; Mθθ1.08±.09; Mϕϕ-0.70±.08; Mrθ1.48±.21; Mθϕ-2.26±.06; Mϕr0.44±.22; Best double couple: M₀2.83900×10¹⁶ NP1:ϕs170.00000°, δ58.00000°, λ-3.00000°. Principal axes: T 3.0560, Plg20.0000°, Azm31.0000°; N -0.4360, Plg58.0000°, Azm265.0000°; P -2.6220, Plg24.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 20:39:51.4±0.4, **17.˚85S**±0.˚09×**13.˚48W**±0.˚08, **h17**km, **n90**, **σ0§90/46**, **mb4.6/23**, **MS4.0/50**, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SHEL	**Horse Pasture**	**7.64**	**77**		**Pn**		**20 41 40.5**	**-1.5**
H10S2	**ASCENSION HYDR**	**8.91**	**353**	T	T		20 51 09.3	
	baz=172,slow=74,SNR=170							
H10S3	**ASCENSION HYDR**	**8.92**	**352**	T	T		20 51 10.0	
	baz=48,slow=74,SNR=561							
H10N1	**ASCENSION HYDR**	**10.00**	**354**	T	T		20 52 26.6	
	baz=175,slow=79,SNR=19							
H10N3	**ASCENSION HYDR**	**10.00**	**354**	T	T		20 52 27.3	
	baz=175,slow=79,SNR=46							
H10N2	**ASCENSION HYDR**	**10.01**	**354**	T	T		20 52 27.4	
	baz=175,slow=79,SNR=15							
RCBR	**Riachuelo**	**24.95**	**296**	LR	LR		20 52 24.2	
	comp=Z,206nm,21.8s,baz=264,slow=30							
RCBR	**Riachuelo**	**24.95**	**296**	P	**P**		**20 45 15.7**	**+1.6**
RCBR				IAmb	IAmb		20 45 15.8	
	comp=Z,28nm,1.3s							
DBIC	**Dimbokro**	**25.81**	**20**	P	**P**		**20 45 21.1**	**-0.8**
TSUM	**Tsumeb**	**29.46**	**98**	P	**P**		**20 45 54.7**	**-0.1**
	comp=Z,11nm,1.3s,baz=239,slow=6.2,SNR=3.8							
TSUM				LR	LR		20 55 31.9	
	comp=Z,212nm,20.4s,baz=297,slow=32							
	comp=Z,11nm,1.3s							
BBTS	**Babate**	**32.45**	**354**	LR	LR		20 56 53.6	
	comp=Z,329nm,19.2s,baz=194,slow=32							
BDFB	**Brasilia**	**33.12**	**269**	LR	LR		20 57 12.8	
	comp=Z,251nm,21.3s,baz=127,slow=32							
SUR	**Sutherland**	**34.08**	**122**	LR	LR		20 58 15.5	
	comp=Z,147nm,21.4s,baz=308,slow=32							

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LBTB	**Lobatse**	**36.97**	**108**	P	**P**		**20 46 59.8**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=276,slow=5.1,SNR=4.2							
LBTB				LR	LR		21 00 07.1	
	comp=Z,285nm,19.1s,baz=270,slow=33							
	comp=Z,3.1nm,0.8s							
LBTB	**Lobatse**	**36.97**	**108**	P	**P**		**20 46 59.6**	**-0.5**
LBTB				IAmb	IAmb		20 47 14.0	
	comp=Z,20nm,1.4s							
BOSA	**Boshof**	**37.02**	**114**	LR	LR		20 59 30.3	
	comp=Z,241nm,20.3s,baz=284,slow=32							
LSZ	**Lusaka**	**39.96**	**93**	P	**P**		**20 47 26.5**	**+1.1**
	comp=Z,4.4nm,0.5s,baz=260,slow=6.4,SNR=18							
LSZ				LR	LR		21 02 15.4	
	comp=Z,160nm,18.9s,baz=268,slow=34							
	comp=Z,4.4nm,0.5s							
CPUP	**Villa Florida**	**41.34**	**250**	P	**P**		**20 47 35.8**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=95,slow=9.8,SNR=5.0							
CPUP				LR	LR		21 02 28.1	
	comp=Z,86nm,18.4s,baz=94,slow=33							
	comp=Z,2.7nm,0.8s							
CPUP	**Villa Florida**	**41.34**	**250**	P	**P**		**20 47 35.5**	**-1.0**
SIV	**San Ignacio**	**45.48**	**265**	P	**P**		**20 48 10.7**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=106,slow=12,SNR=3.8							
SIV				LR	LR		21 04 55.2	
	comp=Z,84nm,21.3s,baz=100,slow=33							
	comp=Z,0.8nm,0.5s							
MBAR	**Mbarara**	**46.70**	**73**	LR	LR		21 05 43.4	
	comp=Z,157nm,20.3s,baz=226,slow=33							
TRQA	**Tornquist**	**46.75**	**234**	P	**P**		**20 48 20.0**	**+0.2**
TRQA				IAmb	IAmb		20 48 21.3	
	comp=Z,25nm,1.4s							
MDT	**Midelt**	**51.09**	**10**	LR	LR		21 08 40.3	
	comp=Z,198nm,18.2s,baz=202,slow=34							
CFA	**Coronel Fontan**	**51.11**	**244**	LR	LR		21 07 42.0	
	comp=Z,100nm,20.2s,baz=88,slow=33							
LVC	**Limon Verde**	**51.99**	**255**	LR	LR		21 10 41.1	
	comp=Z,62nm,18.6s,baz=60,slow=36							
PB08	**IPOC Station P**	**52.49**	**258**	P	**P**		**20 49 03.4**	**-1.0**
PB08				IAmb	IAmb		20 49 07.2	
	comp=Z,22nm,1.4s							
PB07	**IPOC Station P**	**52.98**	**256**	P	**P**		**20 49 06.4**	**-1.3**
PB07				IAmb	IAmb		20 49 16.8	
	comp=Z,13nm,0.9s							
VNA2	**Neumayer--Watz**	**53.19**	**178**	P	**P**		**20 49 09.2**	**+0.9**
	baz=344,slow=9.0							
MT09	**Talagante**	**53.51**	**241**	P	**P**		**20 49 09.5**	**-1.9**
PLCA	**Paso Flores**	**53.74**	**232**	LR	LR		21 08 42.7	
	comp=Z,205nm,20.7s,baz=94,slow=32							
SNAA	**Sanae**	**54.18**	**176**	P	**P**		**20 49 16.8**	**+1.2**
SNAA	**Sanae**	**54.18**	**176**	P	**P**		**20 49 15.0**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=3.4,slow=17,SNR=2.4							
SNAA				LR	LR		21 07 33.1	
	comp=Z,64nm,18.2s,baz=6.0,slow=31							
	comp=Z,1.0nm,0.6s							
SNAA	**Sanae**	**54.18**	**176**	P	**P**		**20 49 15.2**	**-0.4**
SNAA				IAmb	IAmb		20 49 54.9	
	comp=Z,16nm,1.6s							
TROLL	**Troll, Antarti**	**54.96**	**174**	P	**P**		**20 49 22.2**	**+0.9**
PVAQ	**Vaqueiros**	**55.23**	**6**	P	**P**		**20 49 24.5**	**+1.1**
PVAQ				IAmb	IAmb		20 51 01.5	
	comp=Z,24nm,1.8s							
GO09	**Cerro Castillo**	**56.87**	**220**	P	**P**		**20 49 35.0**	**-0.2**
ABPO	**Ambohimpanom**	**57.34**	**101**	P	**P**		**20 49 39.0**	**-0.2**
KEST	**Kesra**	**57.52**	**22**	LR	LR		21 13 07.7	
	comp=Z,190nm,19.8s,baz=226,slow=35							
KEST	**Kesra**	**57.52**	**22**	P	**P**		**20 49 40.4**	**+0.5**
PMSA	**Palmer Station**	**57.69**	**203**	LR	LR		21 10 28.3	
	comp=Z,135nm,18.6s,baz=90,slow=32							
GDSD	**La Dsirade Is**	**57.88**	**303**	P	**P**		**20 49 43.0**	**+0.2**
ESDC	**Sonseca Array**	**57.91**	**9**	P	**P**		**20 49 43.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=185,slow=7.1,SNR=12							
ESDC				LR	LR		21 12 42.4	
	comp=Z,172nm,21.1s,baz=174,slow=34							
	comp=Z,1.3nm,0.8s							
ESDC	**Sonseca Array**	**57.91**	**9**	P	**P**		**20 49 42.6**	**0.0**
ESBB	**Sonseca Array**	**57.91**	**9**	P	**P**		**20 49 43.1**	**+0.5**
ESBB				IAmb	IAmb		20 51 04.2	
	comp=Z,12nm,1.6s							
BELA	**Belgrano 2**	**60.95**	**185**	P	**P**		**20 50 02.6**	**-0.4**
BELA				IAmb	IAmb		20 51 06.1	
	comp=Z,27nm,1.7s							
VAE	**Valguarnera**	**60.98**	**25**	LR	LR		21 15 06.3	
	comp=Z,290nm,18.8s,baz=155,slow=35							
NNA	**Nana**	**61.27**	**266**	LR	LR		21 15 48.9	
	comp=Z,88nm,19.0s,baz=84,slow=35							
SDV	**Santo Domingo**	**62.38**	**290**	LR	LR		21 16 44.5	
	comp=Z,70nm,19.0s,baz=108,slow=36							
SJG	**San Juan**	**62.93**	**302**	LR	LR		21 12 28.6	
	comp=Z,65nm,20.8s,baz=102,slow=31							
ATAH	**Atahualpa**	**64.01**	**271**	LR	LR		21 16 05.7	
	comp=Z,130nm,21.8s,baz=115,slow=34							
BNI	**Bardonecchia**	**65.24**	**16**	P	**P**		**20 50 32.0**	**-0.1**
COHC	**Cochancay**	**66.21**	**275**	P	**P**		**20 50 38.6**	**-0.3**
EIL	**Elat**	**66.42**	**45**	LR	LR		21 17 08.1	
	comp=Z,83nm,19.8s,baz=268,slow=34							
DAVOX	**Davos/Dischmat**	**67.69**	**17**	LR	LR		21 18 46.6	
	comp=Z,122nm,21.9s,baz=248,slow=34							
MAW	**Mawson**	**68.43**	**156**	LR	LR		21 16 03.1	
	comp=Z,109nm,19.0s,baz=270,slow=32							
MMAI	**Mount Meron Ar**	**68.84**	**43**	LR	LR		21 19 46.3	
	comp=Z,87nm,19.0s,baz=144,slow=35							
GERES	**GERESS Array B**	**70.67**	**19**	P	**P**		**20 51 05.8**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=191,slow=4.1,SNR=6.2							
GERES				LR	LR		21 20 49.2	
	comp=Z,101nm,21.4s,baz=211,slow=35							
	comp=Z,0.8nm,0.8s							
MODS	**Modra-Piesok**	**71.42**	**21**	*e*	**P**		**20 51 10.7**	**+0.1**
VRAC	**Vranov**	**72.00**	**20**	LR	LR		21 21 58.3	
	comp=Z,183nm,20.4s,baz=198,slow=35							
VYHS	**Vyhne**	**72.07**	**22**	*e*	**P**		**20 51 14.6**	**+0.1**
BR131	**Keskin Array S**	**72.19**	**36**	P	**P**		**20 51 16.1**	**+0.6**
BR131				IAmb	IAmb		20 53 17.3	
	comp=Z,36nm,1.9s							
BRTR	**Keskin Array B**	**72.19**	**36**	P	**P**		**20 51 16.6**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=193,slow=6.7,SNR=9.2							
BRTR				LR	LR		21 23 11.8	
	comp=Z,57nm,18.9s,baz=244,slow=36							
	comp=Z,1.9nm,0.8s							
BRTR	**Keskin Array B**	**72.19**	**36**	P	**P**		**20 51 16.5**	**+0.9**
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**		**20 51 17.0**	**+0.9**
QSPA				IAmb	IAmb		20 51 18.8	
	comp=Z,13nm,1.3s							
MLR	**Muntele Rosu**	**72.49**	**28**	P	**P**		**20 51 15.8**	**-1.4**
MLR				IAmb	IAmb		20 51 18.0	
	comp=Z,16nm,1.1s							
JTS	**Las Juntas de**	**75.89**	**286**	LR	LR		21 24 09.7	
	comp=Z,105nm,21.6s,slow=35							
AKASG	**Malin Array Be**	**77.88**	**26**	P	**P**		**20 51 47.4**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=225,slow=5.4,SNR=33							
AKASG				LR	LR		21 27 24.4	
	comp=Z,37nm,18.4s,baz=248,slow=37							
	comp=Z,3.9nm,0.7s							
AKASG	**Malin Array Be**	**77.88**	**26**	P	**P**		**20 51 46.7**	**-1.3**
AKBB	**Malin Array Si**	**77.88**	**26**	P	**P**		**20 51 46.2**	**-1.7**
AKBB				IAmb	IAmb		20 51 48.3	
	comp=Z,8.6nm,0.8s							
GNI	**Garni**	**79.12**	**42**	LR	LR		21 25 38.7	
	comp=Z,45nm,21.0s,baz=258,slow=35							
KBZ	**Khabaz**	**80.07**	**38**	P	**P**		**20 52 01.3**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=250,slow=2.3,SNR=4.6							
	comp=Z,2.4nm,0.9s							
HFS	**Hagfors**	**80.78**	**13**	LR	LR		21 30 19.4	
	comp=Z,54nm,20.2s,baz=239,slow=38							
NOA	**NORSAR Array B**	**81.08**	**12**	LR	LR		21 27 56.1	
	comp=Z,72nm,19.0s,baz=200,slow=36							
WSAR	**Wadi Sarin**	**81.40**	**62**	LR	LR		21 27 40.3	
	comp=Z,170nm,18.9s,baz=258,slow=35							
OBN	**Obninsk**	**84.15**	**26**	LR	LR		21 31 46.0	
	comp=Z,27nm,18.5s,baz=308,slow=37							
VNDA	**Vanda**	**84.78**	**179**	P	**P**		**20 52 25.5**	**+1.2**
	comp=Z,3.8nm,1.1s,baz=203,slow=8.7,SNR=4.3							
VNDA				LR	LR		21 25 10.9	
	comp=Z,86nm,20.1s,baz=180,slow=32							
	comp=Z,3.8nm,1.1s							
FINES	**FINESS Array B**	**85.09**	**18**	P	**P**		**20 52 25.5**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=174,slow=5.7,SNR=5.3							
	comp=Z,2.8nm,0.8s							
SCHQ	**Schefferville**	**85.39**	**332**	LR	LR		21 25 14.2	
	comp=Z,163nm,18.1s,baz=247,slow=32							
SADO	**Sadowa**	**86.23**	**319**	LR	LR		21 26 23.8	
	comp=Z,84nm,18.3s,baz=114,slow=32							
GEYT	**Allbeck**	**87.06**	**49**	LR	LR		21 29 15.8	
	comp=Z,90nm,21.6s,baz=318,slow=34							
CMIG	**Matias Romero**	**87.30**	**289**	LR	LR		21 32 10.8	
	comp=Z,47nm,20.4s,baz=42,slow=36							
BELG	**Belogornoye**	**87.64**	**32**	LR	LR		21 32 57.8	
	comp=Z,59nm,19.3s,baz=164,slow=36							
ARCES	**ARCESS Array B**	**91.42**	**13**	LR	LR		21 33 23.2	
	comp=Z,86nm,20.1s,baz=212,slow=35							
KIRV	**Kirov**	**91.85**	**28**	LR	LR		21 36 40.0	
	comp=Z,102nm,18.6s,baz=313,slow=37							
AKTO	**Aktyubinsk**	**92.35**	**37**	LR	LR		21 35 11.4	
	comp=Z,48nm,20.5s,baz=150,slow=36							
ARU	**Arti**	**95.18**	**32**	LR	LR		21 38 18.4	
	comp=Z,71nm,18.2s,baz=295,slow=37							
SPITS	**Spitsbergen Ar**	**97.34**	**6**	LR	LR		21 36 51.0	
	comp=Z,64nm,18.3s,baz=230,slow=35							
ULM	**Lac du Bonnet**	**98.79**	**320**	LR	LR		21 30 21.1	
	comp=Z,67nm,18.4s,baz=80,slow=31							
PMG	**Port Moresby**	**146.84**	**143**	PKPbc	**PKPdf**		**20 59 32.8**	**+0.9**
	comp=Z,17nm,1.0s,baz=107,slow=5.3,SNR=3.7							
MJAR	**Matsushiro Arr**	**148.86**	**48**	PKPbc	**PKPbc**		**20 59 38.1**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=273,slow=2.8,SNR=2.0							

*NEIC **06** 20:55:39.5±2.0, 11.˚10S±0.˚08×162.˚99E±0.˚09, h37km±8km, mb4.6/31, Error ellipse: s-maj=15.6km s-min=9.2km az=50.0*
*NOU **06** 20:55:39.7, 11.˚01S×163.˚02E, h134km, mb4.5/12, Solomon Islands*
*IDC **06** 20:55:40.6±2.9, 11.˚18S×162.˚85E, h49km±23km, mb4.0/15, mbtmp4.3/18, ML4.3/2, MS3.4/14, Error ellipse: s-maj=25.9km s-min=15.4km az=84.0*
ISC 06 20:55:38.5±0.5, **11.˚15S**±0.˚06×**162.˚99E**±0.˚08, **h35**km, **n89**, **σ1§22/79**, **mb4.5/27**, **MS3.3/11**, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HNR	**Honiara**	**3.44**	**299**	P	**Pn**		**20 56 30.7**	**+1.0**
	5μm,0.4s,baz=149,slow=5.2,SNR=54							
HNR				S	**Sn**		**20 57 09.0**	**-0.3**
	3μm,0.3s,baz=116,slow=23,SNR=1.5							
HNR				LR	LR		20 57 59.7	
	comp=Z,11μm,20.7s,baz=52,slow=42							
HNR	**Honiara**	**3.44**	**299**	Pn	**Pn**		**20 56 30.5**	**+0.7**
HNR	**Honiara**	**3.44**	**299**	P	**Pn**		**20 56 31.7**	**+2.0**
DVP	**Devils Point**	**8.25**	**143**	P	**Pn**		**20 57 37.2**	**+1.4**
RTV	**Rentapao**	**8.45**	**142**	P	**Pn**		**20 57 41.6**	**+3.1**
KOUNC	**Koumac, New Ca**	**9.43**	**173**	Pn	**Pn**		**20 57 54.0**	**+2.0**
KOUNC	**Koumac, New Ca**	**9.43**	**173**	P	**Pn**		**20 57 54.4**	**+2.4**
LIFNC	**LIFOU**	**10.41**	**157**	Pn	**Pn**		**20 58 05.0**	**-0.4**
LIFNC	**LIFOU**	**10.41**	**157**	P	**Pn**		**20 58 05.7**	**+0.3**
DZM	**Mont Dzumac**	**11.36**	**164**	P	**Pn**		**20 58 19.7**	**+1.3**
	1.4nm,0.3s,baz=313,slow=16,SNR=40							
DZM				S	**Sn**		**21 00 19.5**	**-4.7**
	1.9nm,0.4s,baz=7.9,slow=20,SNR=1.5							
DZM				LR	LR		21 01 39.4	
	comp=Z,164nm,19.6s,baz=10.0,slow=32							
	3.0nm,0.3s							
DZM	**Mont Dzumac**	**11.36**	**164**				**20 58 19.5**	**+1.1**
DZM	**Mont Dzumac**	**11.36**	**164**	P	**Pn**		**20 58 20.1**	**+1.7**
	16nm,1.2s							
MARNC	**Mare, Loyalty**	**11.36**	**155**	Pn	**Pn**		**20 58 18.3**	**-0.1**
MARNC	**Mare, Loyalty**	**11.36**	**155**	P	**Pn**		**20 58 19.5**	**+1.2**
	0.4nm,0.5s							
YATNC	**Mamie plateau,**	**11.47**	**161**	P	**Pn**		**20 58 19.9**	**-0.1**
OUENC	**Ouen Island, N**	**11.80**	**162**	Pn	**Pn**		**20 58 26.3**	**+1.9**
OUENC	**Ouen Island, N**	**11.80**	**162**	P	**Pn**		**20 58 26.6**	**+2.2**
RABL	**Rabaul**	**12.76**	**302**	Pn	**Pn**		**20 58 37.3**	**-0.3**
PMG	**Port Moresby**	**15.67**	**275**	P	**Pn**		**20 59 18.3**	**+1.4**
	41nm,1.0s,baz=97,slow=2.8,SNR=8.0							
PMG				LR	LR		21 05 15.9	
	comp=Z,373nm,19.2s,baz=102,slow=37							
PMG	**Port Moresby**	**15.67**	**275**		**Pn**		**20 59 18.0**	**+1.1**
PMG				IAmb	IAmb		20 59 24.2	
	comp=Z,42nm,1.0s							
TARA	**Tarawa**	**15.87**	**39**	P	**P**		**20 59 22.3**	**-0.4**
TARA				IAmb	IAmb		20 59 26.7	
	comp=Z,88nm,0.8s							
MANU	**Manus Island**	**17.95**	**299**	P	**Pn**		**20 59 44.7**	**-0.8**
MANU				IAmb	IAmb		21 00 12.0	
	comp=Z,35nm,1.1s							
EIDS	**Eidsvold**	**18.09**	**217**	P	**P**		**20 59 49.5**	**+2.2**
CTA	**Charters Tower**	**18.39**	**239**	P	**Pn**		**20 59 51.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=66,slow=12,SNR=11							
CTA				LR	LR		21 05 35.2	
	comp=Z,44nm,18.3s,baz=80,slow=33							
	comp=Z,12nm,0.7s							
CTAO	**Charters Tower**	**18.39**	**239**	P	**Pn**		**20 59 51.6**	**+0

comp=Z,2.1nm,0.8s
USA0B Ussuriysk Arra 61.86 335 P P 21 05 53.8 -0.5
USA0B IAmb IAmb 21 05 57.5
comp=Z,8.1nm,1.0s
USRK Ussuriysk Ar. 61.86 335 P P 21 05 53.8 -0.4
comp=Z,5.4nm,0.9s,baz=146,slow=5.9,SNR=7.2
comp=Z,5.4nm,0.9s
USRK Ussuriysk Ar. 61.86 335 P P 21 05 53.5 -0.7
KLR Kul'dur 66.11 338 P P 21 06 22.1 0.0
comp=Z,2.3nm,0.8s,baz=113,slow=1.9,SNR=7.5
comp=Z,2.3nm,0.8s
VNDA Vanda 66.36 180 P P 21 06 24.4 +1.0
VNDA IAmb IAmb 21 06 41.0
comp=Z,6.6nm,1.5s
CRAI Chiangrai 69.03 297 P P 21 06 40.7 -0.5
CRAI IAmb IAmb 21 06 42.2
comp=Z,3.6nm,0.9s
CMAR Chiang Mai Arr 69.68 294 P P 21 06 44.6 -0.6
comp=Z,1.9nm,1.1s,baz=117,slow=4.3,SNR=8.7
CMAR LR LR 21 40 38.9
comp=Z,9.7nm,18.1s,baz=260,slow=39
comp=Z,1.9nm,1.1s
CMAR Chiang Mai Arr 69.68 294 P P 21 06 44.7 -0.5
HIA Hailar 71.15 332 P P 21 06 54.0 +0.4
HIA IAmb IAmb 21 06 55.7
comp=Z,4.3nm,0.7s
MA2 Magadan 71.17 353 P P 21 06 53.3 -0.1
MA2 IAmb IAmb 21 07 22.9
comp=Z,14nm,1.3s
SONM Songino Array 77.17 325 P P 21 07 30.4 +1.5
comp=Z,6.9nm,0.9s,baz=130,slow=6.3,SNR=39
comp=Z,6.9nm,0.9s
SONM Songino Array 77.17 325 P P 21 07 29.8 +1.0
SONM IAmb IAmb 21 07 31.3
comp=Z,9.8nm,0.9s
I21K Tanana 83.19 18 P P 21 08 00.5 -0.2
I21K IAmb IAmb 21 08 17.9
comp=Z,7.7nm,1.3s
IMAR Indian Mountai 83.27 16 P P 21 08 02.3 +1.1
PKI Pulchoki 84.32 299 eP P 21 08 07.4 -0.5
comp=Z,15nm,0.8s
PKIN Phulchoki 84.33 299 eP P 21 08 06.9 -0.9
comp=Z,11nm,0.7s
H23K Yukon River 84.37 18 P P 21 08 08.6 +1.8
H23K IAmb IAmb 21 08 27.2
comp=Z,4.5nm,1.1s
ILAR Eielson Array 84.48 19 P P 21 08 08.1 +0.7
comp=Z,0.2nm,0.6s,baz=244,slow=4.6,SNR=2.0
comp=Z,0.2nm,0.6s
DMN Daman 84.59 299 eP P 21 08 09.3 +0.2
GKN Gorkha 85.10 300 eP P 21 08 10.7 -0.8
comp=Z,9.5nm,0.6s
DANN Dangsing 85.93 300 eP P 21 08 14.3 -1.6
DLBC Dease Lake 87.80 29 LR LR 21 42 50.2
comp=Z,85nm,18.4s,baz=73,slow=32
MKAR Makanchi Array 91.75 317 P P 21 08 42.6 -0.1
comp=Z,1.2nm,0.7s,baz=92,slow=6.3,SNR=12
comp=Z,1.2nm,0.7s
MKAR Makanchi Array 91.75 317 PcP P 21 08 42.9 +0.2
ZALV Zalesovo Beam 92.06 325 P P 21 08 43.3 -0.6
comp=Z,0.9nm,0.7s,baz=84,slow=6.1,SNR=5.4
comp=Z,0.9nm,0.7s
KURBB Kurchatov Array 95.03 320 P P 21 08 56.7 -0.9
comp=Z,0.5nm,1.0s,baz=128,slow=2.8,SNR=4.1
comp=Z,0.5nm,1.0s

IDC ***06*** *20:58:21.7±3.0,0˝.74N×123˝.85E,h255km±30km, mb3.2/7, mbtmp3.8/7, Error ellipse: s-maj=79.6km s-min=12.2km az=62.0*
NEIC ***06*** *20:58:22.4±2.4,0˝.59N±0˝.09×123˝.65E±0˝.07, h247km±10km,mb4.1/12, Error ellipse: s-maj=13.3km s-min=10.5km az=190.0*
DJA ***06*** *20:58:24.5±0.5,0˝N±5˝×12˝4E±˝, h232km±5km, M3.7/10, mb3.5/2, MLv3.8/10*
ISC 06 20:58:22.4±0.6, 0˝.55N±0˝.06×123˝.66E±0˝.05, h264km, n32, σ1§68/38, mb3.7/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.72**	**268**	P	**Pn**	**20 59 03.2**	**-0.5**
MRSI				S	**S**	**20 59 33.7**	**-2.6**
LUWI	**Luwuk**	**1.81**	**209**	Pn	**Pn**	**20 59 03.7**	**-0.8**
LUWI				Sn	**S**	**20 59 34.2**	**-3.6**
LUWI	**Luwuk**	**1.81**	**209**	P	**Pn**	**20 59 03.7**	**-0.8**
LUWI				S	**S**	**20 59 33.8**	**-4.0**
APSI	**Ampana**	**2.48**	**234**	S	**S**	**20 59 45.3**	**-3.3**
TOLI2	**Tolitoli**	**2.93**	**281**		**Pn**	**20 59 15.0**	**-0.1**
TOLI2				Sn	**S**	**20 59 54.1**	**-2.7**
SANI	**Sanana**	**3.48**	**138**	P	**Pn**	**20 59 19.4**	**-1.6**
TNTI	**Ternate**	**3.72**	**87**	Pn	**Pn**	**20 59 23.8**	**+0.2**
TNTI				Sn	**S**	**21 00 09.1**	**-3.2**
TNTI	**Ternate**	**3.72**	**87**	P	**Pn**	**20 59 24.0**	**+0.4**
MPSI	**Mapaga**	**3.76**	**267**	P	**Pn**	**20 59 24.6**	**+0.4**
NLAI	**Namlea**	**5.10**	**138**	P	**Pn**	**20 59 40.2**	**+0.3**
	9.9nm,0.7s,0.1nm						
BNSI	**Bone**	**6.06**	**216**	P	**Pn**	**20 59 53.9**	**+2.2**
DAV	**Davao City (W)**	**6.75**	**16**	Pn	**Pn**	**20 59 57.5**	**-2.8**
MTN	**Manton Dam**	**15.23**	**151**		**Pn**	**21 01 45.6**	**+0.6**
MTN				IAmb	IAmb	21 02 08.3	
comp=Z,46nm,1.4s							
KNRA	**Kununurra**	**16.90**	**163**	P	**Pn**	**21 02 03.8**	**-0.7**
WB0	**Warramunga Arr**	**22.77**	**153**	P	**P**	**21 03 02.5**	**0.0**
WB0				IAmb	IAmb	21 03 06.7	
comp=Z,8.5nm,1.0s							
TPUB	**Ta-pu**	**22.80**	**353**	P	**P**	**21 03 03.9**	**+1.2**
WRAB	**Tennant Creek**	**22.90**	**153**	P	**P**	**21 03 04.2**	**+0.6**
WRAB				IAmb	IAmb	21 03 06.6	
comp=Z,11nm,1.2s							
WRA	**Warramunga Arr**	**22.90**	**153**	P	**P**	**21 03 04.3**	**+0.7**
comp=Z,3.2nm,0.6s,baz=335,slow=10,SNR=20							
comp=Z,3.2nm,0.6s							
WRA	**Warramunga Arr**	**22.90**	**153**	P	**P**	**21 03 02.9**	**-0.8**
WR0	**Warramunga Arr**	**23.01**	**153**	P	**P**	**21 03 05.2**	**+0.6**
WR0				IAmb	IAmb	21 03 25.0	
comp=Z,7.6nm,1.1s							
ASAR	**Alice Springs**	**26.05**	**158**	P	**P**	**21 03 33.4**	**+1.3**
comp=Z,0.3nm,0.3s,baz=348,slow=14,SNR=6.9							
ASAR				ScP	**ScP**	**21 10 08.1**	**+1.0**
comp=Z,0.2nm,0.5s,baz=346,slow=2.6,SNR=4.8							
comp=Z,0.3nm,0.3s							
CMAR	**Chiang Mai Arr**	**30.09**	**308**	P	**P**	**21 04 08.2**	**+0.3**
comp=Z,2.2nm,0.6s,baz=140,slow=7.1,SNR=2.3							
comp=Z,2.2nm,0.6s							
STKA	**Stephens Creek**	**36.45**	**154**	P	**P**	**21 05 03.0**	**+0.5**
comp=Z,1.3nm,0.5s,baz=330,slow=10,SNR=4.0							
comp=Z,1.3nm,0.5s							
STKA	**Stephens Creek**	**36.45**	**154**	P	**P**	**21 05 03.6**	**+1.1**
CAN	**Canberra**	**42.82**	**149**	P	**P**	**21 05 57.0**	**+2.1**
CAN				IAmb	IAmb	21 06 21.8	
comp=Z,15nm,1.2s							
SONM	**Songino Array**	**49.42**	**345**	P	**P**	**21 06 45.1**	**-0.9**
comp=Z,0.8nm,0.8s,baz=153,slow=8.2,SNR=4.6							
comp=Z,0.8nm,0.8s							
MK31	**Makanchi Array**	**58.49**	**328**	P	**P**	**21 07 51.6**	**+0.3**
MK31				IAmb	IAmb	21 07 54.0	
comp=Z,1.1nm,0.8s							
MKAR	**Makanchi Array**	**58.49**	**328**	P	**P**	**21 07 51.1**	**-0.1**
comp=Z,1.0nm,0.6s,baz=128,slow=8.3,SNR=12							
comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**58.49**	**328**	P	**P**	**21 07 51.0**	**-0.3**
MAKZ	**Makanchi**	**58.67**	**328**	P	**P**	**21 07 52.7**	**+0.2**
KURBB	**Kurchatov Arra**	**62.82**	**330**	P	**P**	**21 08 19.9**	**-0.3**
comp=Z,1.1nm,0.9s,baz=125,slow=6.0,SNR=12							
comp=Z,1.1nm,0.9s							
TIXI	**Tiksi**	**71.06**	**2**	P	**P**	**21 09 13.2**	**+1.6**
TIXI				IAmb	IAmb	21 09 18.6	
comp=Z,5.2nm,0.7s							

JMA 06 21:00:24.4±0.1, 39˝.2N±0˝.4×141˝.5E±0˝.7, h73km, MV0.7/10, SOUTHERN IWATE PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.18**	**140**	P	Pn	21 00 35.3	-0.1
OFUJ				S	Sn	21 00 43.4	0.0
JKMT	**Kesennumamotoy**	**0.41**	**185**	P	Pn	21 00 36.7	-0.1

IDC ***06*** *21:05:27.9±1.1,50˝.05N×130˝.03W,h0km, mb3.9/7, mbtmp3.9/16, ML3.6/9, MS3.6/21, Error ellipse: s-maj=18.9km s-min=11.5km az=60.0*
OTT ***06*** *21:05:27.0±4.8,49˝.91N±0˝.05×130˝.21W±0˝.09, h10km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=177.0*
PGC ***06*** *21:05:27.0±0.9,49˝.91N×130˝.21W,h10km,mb4.1, MLSn3.4/19,Mw4.4,217km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
NEIC ***06*** *21:05:27,49˝.90N×130˝.20W,h7km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.02; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$0.31; $M_{r\theta}$0.17; $M_{\theta\phi}$0.07; $M_{\phi r}$-0.34; Fault plane solution: $M_{\odot}$4.60000×10^{15} NP1:ϕ_s330.00000°, δ87.00000°,λ-121.00000°. NP2:ϕ_s234.00000°, δ31.00000°,λ-7.00000°. Principal axes: T 0.4814, Plg34.0000°, Azm86.0000°; N -0.0630, Plg31.0000°, Azm332.0000°; P -0.4184, Plg41.0000°, Azm212.0000°;*
NEIC ***06*** *21:05:31.0±1.8,50˝.28N±0˝.05×129˝.78W±0˝.09, h10km±2km, mb4.1/76, ML3.4/22, Mwr4.4(OTT) Error ellipse: s-maj=12.3km s-min=2.9km az=230.0*
ISC 06 21:05:29.9±1.1, 50˝.08N±0˝.05×129˝.97W±0˝.05, h13km±6km, n311, σ1§45/296, mb4.3/15, MS3.8/13, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.30**	**64**		**Pn**	**21 05 52.6**	**-1.2**
HOLB				Sn	**Sb**	**21 06 09.9**	**-1.0**
HOLB	**Holberg**	**1.30**	**64**		**Pn**	**21 05 52.1**	**-1.7**
HOLB				IAML		21 06 18.3	
comp=E,969nm,0.8s							
HOLB				IAML		21 06 18.3	
comp=N,1μm,0.6s							
HOLB	**Holberg**	**1.30**	**64**	P	**Pn**	**21 05 52.3**	**-1.5**
HOLB				Sn	**Sb**	**21 06 09.9**	**-1.0**
PACB	**Port Alice, BC**	**1.63**	**76**	Pn	**Pn**	**21 05 56.2**	**-2.0**
PACB				Sn	**Sn**	**21 06 17.4**	**-1.6**
PACB	**Port Alice, BC**	**1.63**	**76**	Pn	**Pn**	**21 05 56.2**	**-2.0**
PACB				Sn	**Sn**	**21 06 17.4**	**-1.6**
MAYB	**Maynard**	**1.82**	**79**	Pn	**Pn**	**21 05 59.1**	**-1.9**
MAYB	**Maynard**	**1.82**	**79**	Pn	**Pn**	**21 05 59.1**	**-1.9**
EDB	**Eliza Dome**	**1.85**	**95**	Pn	**Pn**	**21 05 58.6**	**-2.7**
EDB				Sn	**Sn**	**21 06 21.5**	**-2.9**
EDB	**Eliza Dome**	**1.85**	**95**	Pn	**Pn**	**21 05 58.6**	**-2.7**
EDB				Sn	**Sn**	**21 06 21.5**	**-2.9**
KEMF	**NEPTUNE Canada**	**2.21**	**165**		Sn	21 06 23.0	-10
KEMF	**NEPTUNE Canada**	**2.21**	**165**	Sn	Sn	21 06 23.0	-10
ETB	**Estevan Point**	**2.33**	**106**	Pn	**Pn**	**21 06 05.8**	**-2.1**
HG4B	**Hotspring**	**2.35**	**341**		**Pn**	**21 06 05.1**	**-3.1**
HG4B	**Hotspring**	**2.35**	**341**	Pn	**Pn**	**21 06 04.9**	**-3.3**
HG4B				Sn	**Sn**	**21 06 34.5**	**-2.4**
BBB	**Bella Bella**	**2.41**	**28**	Pn	**Pn**	**21 06 08.4**	**-0.5**
comp=N,70nm,0.3s,baz=225,slow=13,SNR=225							
BBB				Sn	**Sn**	**21 06 36.5**	**-1.8**
comp=N,82nm,0.3s,baz=318,slow=22,SNR=13							
BBB				LR	LR	21 07 09.1	
comp=N,755nm,20.0s,baz=279,slow=41							
comp=N,337nm,0.5s							
BBB	**Bella Bella**	**2.41**	**28**		**Pn**	**21 06 07.1**	**-1.9**
BBB	**Bella Bella**	**2.41**	**28**	Pn	**Pn**	**21 06 08.3**	**-0.6**
BBB				Sn	**Sn**	**21 06 37.7**	**-0.6**
NCRB	**Newcastle Ridg**	**2.53**	**81**	Pn	**Pn**	**21 06 09.4**	**-1.4**
NC27	**ODP1027**	**2.74**	**147**	Pn	Pn	21 06 04.7	-8.4
BNB	**Barry Inlet**	**2.74**	**337**	Pn	**Pn**	**21 06 10.3**	**-3.3**
SPLB	**Strathcona Par**	**2.79**	**92**	Sn	**Sn**	**21 06 45.2**	**-2.5**
B012	**Ucluelet**	**3.11**	**110**	Sn	**Sn**	**21 06 52.5**	**-3.0**
OZB	**Mount Ozzard**	**3.12**	**109**	Pn	**Pn**	**21 06 19.4**	**+0.6**
OZB				IAML		21 06 59.9	
comp=E,106nm,2.6s							
OZB				IAML		21 08 02.9	
comp=N,106nm,2.7s							
OZB	**Mount Ozzard**	**3.12**	**109**	Pn	**Pn**	**21 06 16.7**	**-2.1**
OZB				Sn	**Sn**	**21 06 52.9**	**-3.1**
BNKB	**Banks Island**	**3.26**	**1**	Pn	**Pn**	**21 06 19.0**	**-1.7**
BNKB				Sn	**Sn**	**21 06 58.5**	**-0.8**
MOBC	**Moresby Island**	**3.31**	**339**	Pn	**Pn**	**21 06 18.5**	**-3.0**
MOBC				IAML		21 07 30.0	
comp=E,77nm,4.1s							
MOBC	**Moresby Island**	**3.31**	**339**	Pn	**Pn**	**21 06 18.7**	**-2.7**
MOBC				Sn	**Sn**	**21 06 58.0**	**-2.7**
B928	**Bamfield**	**3.39**	**110**	Sn	**Sn**	**21 06 59.8**	**-2.6**
BNAB	**Bonilla**	**3.44**	**353**	Pn	**Pn**	**21 06 21.1**	**-2.1**
DIB	**Dawson Inlet,**	**3.50**	**334**		**Pn**	**21 06 20.9**	**-3.0**
DIB	**Dawson Inlet,**	**3.50**	**334**	Pn	**Pn**	**21 06 20.9**	**-3.0**
HWKB	**Hawksbury Isla**	**3.56**	**8**	Pn	**Pn**	**21 06 23.7**	**-1.1**
HWKB				Sn	**Sn**	**21 07 06.1**	**-0.7**
GRNB	**Grenville Isla**	**3.77**	**0**	Pn	**Pn**	**21 06 25.7**	**-2.1**
GRNB				IAML		21 07 13.0	
comp=E,63nm,0.4s							
GRNB				IAML		21 07 17.1	
comp=N,77nm,0.7s							
GRNB	**Grenville Isla**	**3.77**	**0**	Pn	**Pn**	**21 06 26.3**	**-1.4**
GRNB				Sn	**Sn**	**21 07 11.0**	**-1.0**
OCP	**Olym-Cheeka Pk**	**3.93**	**115**	Pn	**Pn**	**21 06 27.2**	**-2.7**
SHB	**Sechelt**	**3.97**	**95**	Pn	**Pn**	**21 06 29.7**	**-0.9**
CLRS	**Cowichan Lake**	**4.01**	**106**	Pn	**Pn**	**21 06 31.7**	**+0.8**
CLRS				IAML		21 07 32.7	
comp=N,54nm,2.3s							
CLRS				IAML		21 07 36.1	
comp=E,48nm,2.8s							
KITB	**Kitimat**	**4.09**	**11**	Pn	**Pn**	**21 06 31.6**	**-0.4**
RUBB	**Prince Rupert**	**4.26**	**358**	Pn	**Pn**	**21 06 33.1**	**-1.3**
RUBB				IAML		21 07 56.3	
comp=N,38nm,2.1s							
RUBB				IAML		21 08 55.4	
comp=E,60nm,4.3s							
RUBB	**Prince Rupert**	**4.26**	**358**	Pn	**Pn**	**21 06 33.4**	**-0.9**
SYMB	**Survey Mountai**	**4.31**	**108**	Pn	**Pn**	**21 06 34.8**	**-0.4**
NLWA	**Neilton Lookou**	**4.85**	**121**	Pn	**Pn**	**21 06 44.3**	**+1.8**
NLWA				IAML		21 08 41.8	
comp=E,49nm,2.8s							
WISH	**Wishkah**	**5.07**	**123**	Pn	**Pn**	**21 06 47.9**	**+2.4**
V35K	**Ketchikan**	**5.35**	**350**	P	**Pn**	**21 06 47.6**	**-1.8**
baz=170							
FSJB	**Fort St James**	**5.60**	**36**	Pn	**Pn**	**21 06 53.9**	**+1.0**
FSB	**Fort Saint Jam**	**5.60**	**36**	Pn	**Pn**	**21 06 53.9**	**+1.0**
CRAG	**Craig**	**5.73**	**342**	P	**Pn**	**21 06 53.3**	**-1.3**
baz=161							
LON	**Longmire**	**6.37**	**118**		**Pn**	**21 07 05.2**	**+1.7**
LTY	**Liberty**	**6.77**	**111**	Pn	**Pn**	**21 07 10.6**	**+1.6**
T35M	**Bob Quinn**	**6.92**	**359**	P	**Pn**	**21 07 09.8**	**-1.1**
baz=180							
HOOD	**Mount Hood Mea**	**7.35**	**127**		**Pn**	**21 07 18.7**	**+1.7**
HAWA	**Hanford**	**7.88**	**114**	Pn	**Pn**	**21 07 25.2**	**+1.1**
NBC4	**NorthernBC 4**	**7.95**	**41**	Pn	**Pn**	**21 07 26.4**	**+1.3**
WAPA	**Wapiti River**	**8.28**	**48**	Pn	**Pn**	**21 07 30.1**	**+0.5**
DLBC	**Dease Lake**	**8.38**	**360**	Pn	**Pn**	**21 07 30.6**	**-0.4**
comp=E,0.9nm,0.3s,baz=192,slow=14,SNR=7.6							
DLBC				LR	LR	21 10 32.4	
comp=E,404nm,20.3s,baz=279,slow=36							
comp=E,5.8nm,0.6s							
DLBC	**Dease Lake**	**8.38**	**360**	P	**Pn**	**21 07 30.7**	**-0.3**
baz=181							
NBC5	**NorthernBC 5**	**8.61**	**27**	Pn	**Pn**	**21 07 35.5**	**+1.4**
NEW	**Newport**	**8.61**	**97**	Pn	**Pn**	**21 07 33.8**	**-0.3**
comp=E,0.1nm,0.3s,baz=304,slow=8.0,SNR=5.7							
comp=E,2.6nm,0.7s							
NEW	**Newport**	**8.61**	**97**	Pn	**Pn**	**21 07 35.3**	**+1.1**
E09A	**Wood Farm, Sta**	**8.65**	**110**		**Pn**	**21 07 32.6**	**-2.0**
PINE	**Pine Mountain**	**8.81**	**132**	Pn	**Pn**	**21 07 40.6**	**+3.5**
G08A	**Pilot Rock**	**8.83**	**119**	Pn	**Pn**	**21 07 36.2**	**-1.1**
R33M	**Jennings River**	**9.35**	**357**	P	**Pn**	**21 07 42.8**	**-1.6**
baz=177							
YBH	**Yreka Blue Hor**	**9.76**	**146**	Pn	**Pn**	**21 07 51.1**	**+1.2**
comp=E,0.1nm,0.3s,baz=356,slow=12,SNR=2.7							
comp=E,1.9nm,0.9s							
BMO	**Blue Mountains**	**10.04**	**117**	Pn	**Pn**	**21 07 55.0**	**+1.3**
P33M	**Teslin, Yukon**	**10.29**	**352**	P	**Pn**	**21 07 53.9**	**-3.1**
baz=171							
WVOR	**Wild Horse Val**	**10.94**	**130**	Pn	**Pn**	**21 08 08.3**	**+2.1**
WHY	**Whitehorse**	**10.96**	**347**	P	**Pn**	**21 08 04.7**	**-1.7**
baz=164							
PNL	**Peninsula**	**11.03**	**334**	P	**Pn**	**21 08 06.3**	**-0.9**
baz=148							
MSO	**Missoula**	**11.13**	**101**	P	**Pn**	**21 08 09.6**	**+0.9**
baz=292							
HILA	**High Level**	**11.35**	**37**	Pn	**Pn**	**21 08 11.0**	**-0.6**
ORV	**Oroville**	**12.11**	**147**	Pn	**Pn**	**21 08 23.3**	**+1.3**
HLID	**Hailey**	**12.48**	**116**	Pn	**Pn**	**21 08 27.5**	**+0.3**
HLID	**Hailey**	**12.48**	**116**	P	**Pn**	**21 08 29.4**	**+2.2**
baz=306							
MMPY	**Sheldon Lake,**	**12.59**	**357**	P	**Pn**	**21 08 26.7**	**-1.9**
baz=177							
BCYI	**Bear Canyon**	**12.64**	**111**	Pn	**Pn**	**21 08 29.1**	**-0.5**
MCMT	**McKenzie Canyo**	**12.71**	**108**	Pn	**Pn**	**21 08 30.4**	**-0.1**
AFDM	**Forest Hills D**	**12.83**	**147**	Pn	**Pn**	**21 08 33.3**	**+1.3**
VCNR	**Virginia City**	**13.03**	**142**	Pn	**Pn**	**21 08 35.3**	**+0.5**
YUK3	**Moose Creek**	**13.09**	**338**	P	**Pn**	**21 08 33.1**	**-2.5**
baz=150							
BOZ	**Bozeman (W)**	**13.10**	**103**	P	**Pn**	**21 08 33.9**	**-1.8**
baz=296							
EGMT	**Eagleton**	**13.41**	**91**	P	**Pn**	**21 08 40.7**	**+0.8**
baz=286							
QLMT	**Earthquake Lak**	**13.59**	**106**	Pn	**Pn**	**21 08 43.7**	**+1.4**
KVN	**Kaiserville**	**13.88**	**138**	Pn	**Pn**	**21 08 48.6**	**+2.3**
ELK	**Elko**	**13.91**	**127**	Pn	**Pn**	**21 08 47.8**	**+1.0**
comp=E,0.1nm,0.3s,baz=270,slow=2.0,SNR=3.1							
comp=E,0.3nm,0.3s							
YMR	**Madison River**	**13.95**	**106**	Pn	**Pn**	**21 08 46.9**	**-0.5**
H17A	**Grant Village**	**14.33**	**106**	Pn	**Pn**	**21 08 54.1**	**+1.5**
H17A	**Grant Village**	**14.33**	**106**	P	**Pn**	**21 08 53.7**	**+1.1**
baz=300							
MOOW	**Moose Ponds**	**14.56**	**108**	Pn	**Pn**	**21 08 57.8**	**+2.0**
TPAW	**Teton Pass**	**14.58**	**110**	Pn	**Pn**	**21 08 58.3**	**+2.3**
SNOW	**Snow King Moun**	**14.71**	**109**	Pn	**Pn**	**21 08 58.9**	**+1.1**
RLMT	**Red Lodge**	**14.80**	**102**	P	**Pn**	**21 08 59.5**	**+0.5**
baz=296,SNR=5.2							
AHID	**Auburn Hatcher**	**14.90**	**112**	Pn	**Pn**	**21 09 02.0**	**+1.7**
DAWY	**Dawson**	**14.90**	**344**	P	**Pn**	**21 08 59.2**	**-0.8**
baz=157							
BGU	**Big Grassy Mou**	**14.96**	**121**	Pn	**Pn**	**21 09 02.3**	**+1.2**
YKA	**Yellowknife Ar**	**15.03**	**28**	Pn	**Pn**	**21 09 00.1**	**-1.6**
comp=E,0.2nm,0.3s,baz=221,slow=12,SNR=22							
YKA				LR	LR	21 15 02.3	
comp=E,342nm,18.1s,baz=300,slow=38							
comp=E,1.3nm,0.6s							
SPUT	**South Promonto**	**15.03**	**119**	Pn	**Pn**	**21 09 03.4**	**+1.4**
SPUT				IAmb	IAmb	21 09 16.1	
comp=Z,10nm,1.0s							
TPH	**Tonopah**	**15.07**	**138**		**Pn**	**21 09 03.4**	**+0.8**
KDAK	**Kodiak Island**	**15.34**	**309**	LR	LR	21 13 29.2	
comp=Z,289nm,21.9s,baz=164,slow=31							
HWUT	**Hardware Ranch**	**15.34**	**117**	Pn	**Pn**	**21 09 08.2**	**+2.1**
HWUT				IAmb	IAmb	21 09 26.4	
comp=Z,11nm,1.2s							
DSP	**Deep Springs**	**15.35**	**141**		**P**	**21 09 09.3**	**-1.5**
DSP				IAmb	IAmb	21 09 18.8	
comp=Z,9.4nm,1.2s							
Q20K	**Shuyak Island**	**15.55**	**312**	P	**Pn**	**21 09 08.1**	**-0.5**
baz=114							
R11A	**Troy Canyon, C**	**15.58**	**133**	Pn	**Pn**	**21 09 10.4**	**+1.1**
R11A	**Troy Canyon, C**	**15.58**	**133**	P	**Pn**	**21 09 10.0**	**+0.7**
baz=323							
DUG	**Dugway, Tooele**	**15.59**	**123**	P	**P**	**21 09 13.1**	**-0.5**
DUG				IAmb	IAmb	21 09 17.9	
comp=Z,17nm,1.2s							
DUG	**Dugway, Tooele**	**15.59**	**123**	P	**Pn**	**21 09 09.2**	**-0.2**
baz=314,SNR=9.8							
LCH	**Last Change Ra**	**15.60**	**141**	P	**P**	**21 09 13.9**	**+0.1**
LCH				IAmb	IAmb	21 09 22.0	
comp=Z,17nm,1.1s							
SPR3	**Spring Creek 3**	**15.68**	**129**	Pn	**Pn**	**21 09 12.7**	**+2.0**
SPR3				IAmb	IAmb	21 09 19.1	
comp=Z,11nm,1.3s							
SCRK	**Sand Creek**	**15.82**	**337**	P	**Pn**	**21 09 11.5**	**-0.8**
baz=146							
PD31	**Pinedale Array**	**15.83**	**110**	Pn	**Pn**	**21 09 13.4**	**+0.9**
PD31				IAmb	IAmb	21 09 22.4	
comp=Z,12nm,1.4s							
PDAR	**Pinedale Array**	**15.83**	**110**	Pn	**Pn**	**21 09 14.7**	**+2.2**
comp=Z,0.1nm,0.3s,baz=311,slow=11,SNR=24							
PDAR				LR	LR	21 15 28.6	
comp=Z,154nm,18.1s,baz=322,slow=38							
comp=Z,2.4nm,0.7s							
PDAR	**Pinedale Array**	**15.83**	**110**	Pn	**Pn**	**21 09 13.7**	**+1.1**
DHY	**Denali Highway**	**16.09**	**331**	P	**Pn**	**21 09 15.4**	**-0.4**
baz=137							
CWC	**Cottonwood Cre**	**16.12**	**143**	P	**Pn**	**21 09 17.9**	**+1.7**
baz=331							
J26L	**Joseph Creek**	**16.16**	**339**	P	**Pn**	**21 09 15.3**	**-1.2**
baz=148							
K24K	**Donnelly Dome**	**16.16**	**334**	P	**Pn**	**21 09 16.3**	**-0.3**
baz=142							
TPNV	**Topopah Spring**	**16.43**	**138**	Pn	**Pn**	**21 09 21.0**	**+0.8**
TPNV				IAmb	IAmb	21 09 36.2	
comp=Z,30nm,1.4s							
TPNV	**Topopah Spring**	**16.43**	**138**	P	**P**	**21 09 22.2**	**-0.8**
baz=327,SNR=6.4							
PRN	**Pahroc Range**	**16.59**	**134**	Pn	**Pn**	**21 09 23.2**	**+0.9**
ISA	**Isabella, Lake**	**16.66**	**146**		**P**	**21 09 27.1**	**+1.6**
ISA	**Isabella, Lake**	**16.66**	**146**	P	**P**	**21 09 25.3**	**-0.1**
baz=333							
SPCR	**Spurr Chakacha**	**16.68**	**320**	P	**Pn**	**21 09 22.7**	**-0.4**
baz=123							
MPMC	**Manual Prospec**	**16.68**	**142**	P	**P**	**21 09 26.1**	**+0.3**
baz=330,SNR=8.0							
EPYK	**Eagle Plains**	**16.70**	**351**	P	**Pn**	**21 09 23.0**	**-0.4**
baz=165							
I27K	**Kandik River**	**16.70**	**343**	P	**Pn**	**21 09 23.3**	**-0.1**
baz=154							
SKT	**Skwentna**	**16.84**	**323**	P	**Pn**	**21 09 25.1**	**-0.1**
baz=126							
DGMT	**Dagmar**	**16.87**	**86**	P

CAST	Castle Rocks	17.91	327	P	Pn	21 09 35.6	-2.8
	baz=129						
KNB	Kanab	17.97	130		P	21 09 42.0	+2.0
BPAW	Bear Paw Mtn.	17.97	329	P	Pn	21 09 39.7	+0.5
	baz=132,SNR=6.4						
L20K	Farewell, AK	18.04	323	P	Pn	21 09 39.6	-0.4
	baz=123						
I23K	Minto, Yukon-K	18.20	333	P	P	21 09 43.8	+1.7
	baz=138						
HEC	Hector,Ludlow	18.21	142	P	P	21 09 43.7	+1.1
	baz=330						
O20A	White River Ci	18.21	115	P	P	21 09 43.4	+0.7
O20A	White River Ci	18.21	115	P	P	21 09 44.3	+1.6
	baz=310						
BFSC	Mount Baldy Ra	18.23	146	P	P	21 09 44.7	+1.9
	baz=333						
L19K	White Mountain	18.27	321	P	Pn	21 09 43.1	+0.2
	baz=121						
CHUM	Lake Minchumin	18.28	328	P	P	21 09 45.1	+2.1
	baz=129						
G26K	Porcupine Rive	18.31	343	P	P	21 09 44.7	+1.3
	baz=151						
H24K	Noodor Dome	18.32	336	P	P	21 09 46.0	+2.5
	baz=142						
INK	Inuvik	18.37	356	P	Pn	21 09 43.5	-0.5
	comp=Z,0.1nm,0.3s,baz=156,slow=11,SNR=12						
INK				LR	LR	21 16 46.7	
	comp=Z,158nm,18.9s,baz=252,slow=37						
	comp=Z,7.0nm,1.0s						
INK	Inuvik	18.37	356	P	Pn	21 09 43.6	-0.3
INK	Inuvik	18.37	356	P	P	21 09 45.3	+1.4
INK	Inuvik	18.37	356	P	P	21 09 45.3	+1.4
	baz=173						
GMRC	Granite Mounta	18.52	140	P	Pn	21 09 47.5	+1.2
	baz=329						
MLY	Manley	18.53	332	P	P	21 09 44.8	-1.0
MLY				IAmb	IAmb	21 09 52.3	
	comp=Z,20nm,1.3s						
MLY	Manley	18.53	332	P	Pn	21 09 46.8	+0.8
	baz=135,SNR=18						
RSSD	Black Hills	18.58	99	P	Pn	21 09 48.7	+1.7
	baz=297						
K20K	Telida	18.59	325	P	Pn	21 09 47.0	+0.2
	baz=125						
O16K	Kokwok River B	18.65	311	P	Pn	21 09 48.8	+1.4
	baz=109						
G24K	Hadweenzic Riv	18.90	338	P	Pn	21 09 51.3	+0.8
	baz=144						
PV23	Carpenter Ridg	18.91	120	P	Pn	21 09 51.6	+0.6
PV23				IAmb	IAmb	21 10 02.3	
	comp=Z,13nm,0.9s						
PV10	Paradox Valley	18.95	120	P	Pn	21 09 53.3	+1.8
PV10				IAmb	IAmb	21 09 55.4	
	comp=Z,25nm,1.0s						
PV04	Paradox Valley	19.01	120	P	Pn	21 09 53.1	+0.9
PV04				IAmb	IAmb	21 10 00.1	
	comp=Z,15nm,1.1s						
PV20	West Nyswonger	19.01	120	P	Pn	21 09 52.4	+0.2
PV20				IAmb	IAmb	21 09 59.9	
	comp=Z,25nm,1.1s						
I21K	Tanana	19.01	331	P	P	21 09 50.0	-1.0
I21K				IAmb	IAmb	21 10 05.7	
	comp=Z,16nm,1.2s						
I21K	Tanana	19.01	331	P	P	21 09 51.3	+0.2
	baz=133						
W13A	Hualapai Mount	19.02	136	P	Pn	21 09 53.7	+1.3
PV19	Morning Glory	19.02	120	P	Pn	21 09 53.4	+1.0
PV19				IAmb	IAmb	21 09 57.1	
	comp=Z,12nm,0.8s						
F26K	Sheenjek River	19.03	343	P	Pn	21 09 53.4	+1.3
	baz=152						
E27K	Coleen River	19.05	347	P	Pn	21 09 53.0	+0.8
	baz=157						
BELC	Belle Mtn. Jos	19.07	142	P	Pn	21 09 54.3	+1.4
	baz=331						
J20K	Nowinta River	19.10	327	P	P	21 09 50.4	-1.6
	baz=127						
PV18	Skein Mesa, Pa	19.11	120	P	Pn	21 09 54.6	+1.2
TTA	Tatalina	19.11	322	P	Pn	21 09 53.8	+0.7
	baz=121						
N23A	Red Feather La	19.11	110	P	Pn	21 09 55.1	+1.6
	baz=306						
PFO	Pinyon Flats O	19.23	144	LR	LR	21 17 40.3	
	comp=Z,90nm,20.0s,baz=348,slow=38						
PFO	Pinyon Flats O	19.23	144	P	Pn	21 09 55.5	+0.6
	baz=332						
F25K	Christian Rive	19.24	342	P	P	21 09 53.7	+0.2
	baz=149						
KUKN	Kugluktuk,NWT	19.28	17	P	Pn	21 09 56.6	+1.7
IRM	Iron Mountain	19.28	140	P	Pn	21 09 55.8	+0.5
	baz=330						
H22K	Ishtalitna Cre	19.32	333	P	P	21 09 53.8	-0.7
	baz=135						
C36M	Paulatuk	19.54	6		P	21 09 55.9	-0.9
C36M				IAmb	IAmb	21 10 01.3	
	comp=Z,8.3nm,1.0s						
C36M	Paulatuk	19.54	6	P	P	21 09 56.3	-0.5
	baz=192						
G23K	Bananza Creek	19.55	336	P	P	21 09 57.1	+0.2
	baz=139						
SMCO	Snowmass	19.58	115	P	P	21 09 58.5	+0.6
SMCO				IAmb	IAmb	21 10 06.9	
	comp=Z,8.4nm,1.1s						
H21K	Melozitna Rive	19.59	331	P	P	21 09 54.5	-2.9
H21K				IAmb	IAmb	21 10 21.7	
	comp=Z,15nm,1.3s						
H21K	Melozitna Rive	19.59	331	P	P	21 09 57.3	-0.1
	baz=132						
BC3	Big Chuckawall	19.59	141	P	Pn	21 09 59.3	+0.2
	baz=331						
F24K	Squaw Lake	19.66	339	P	P	21 09 58.6	+0.5
	baz=144						
WUAZ	Wupatki	19.87	130	P	P	21 10 01.9	+1.1
	baz=322						
BLYC	Blythe	19.89	139		Pn	21 10 02.9	+0.4
BLYC				IAmb	IAmb	21 10 07.2	
	comp=Z,14nm,1.4s						
COLD	Coldfoot	19.98	337	P	P	21 10 00.0	-1.6
	baz=140						
ISCO	Idaho Springs	19.98	112	P	Pn	21 10 04.3	+0.4
ISCO	Idaho Springs	19.98	112	P	Pn	21 10 04.2	+0.3
	baz=308						
MVCO	Mesa Verde	20.08	122	P	Pn	21 10 04.5	-0.5
MVCO				IAmb	IAmb	21 10 12.3	
	comp=Z,11nm,0.9s						
MVCO	Mesa Verde	20.08	122	P	Pn	21 10 05.1	+0.1
	baz=316						
SWSC	Sam W. Stewart	20.08	143	P	Pn	21 10 04.7	-0.1
	baz=332						
IMAR	Indian Mountai	20.10	331	P	P	21 10 02.1	-0.8
IKP	In-Ko-Pah, Jac	20.22	144	P	P	21 10 05.4	+0.8
	baz=333						
E24K	Your Creek	20.24	340	P	P	21 10 04.4	-0.2
	baz=144						
G21K	Allakaket	20.38	333	P	P	21 10 06.8	+0.8
	baz=133						
S22A	4UR Ranch, Cre	20.63	118	P	Pn	21 10 10.7	-0.8
S22A				IAmb	IAmb	21 10 12.9	
	comp=Z,13nm,1.1s						
S22A	4UR Ranch, Cre	20.63	118	P	Pn	21 10 12.2	+0.6
	baz=314,SNR=13						
C27K	Jago River	20.69	346	P	P	21 10 09.8	+0.5
	baz=155						
F22K	John River	20.70	336	P	P	21 10 10.8	+1.3
	baz=137						
Q24A	Divide	20.79	113	P	P	21 10 11.4	+0.4
Q24A				IAmb	IAmb	21 10 33.4	
	comp=Z,17nm,1.4s						
Q24A	Divide	20.79	113	P	P	21 10 12.4	+1.4
	baz=310						
F21K	Alatna River	20.86	334	P	Pn	21 10 13.3	-0.4
	baz=134						
W18A	Petrified Fore	21.00	128	P	P	21 10 14.3	+1.2
W18A	Petrified Fore	21.00	128	P	P	21 10 15.4	+2.3
	baz=321						
113A	Mohawk Valley,	21.06	139	P	P	21 10 14.1	+0.6
C26K	Camden Bay	21.13	346	P	P	21 10 16.7	+2.6
	baz=153						
X18A	Snowflake	21.36	129	P	P	21 10 18.6	+1.6
SDCO	Great Sand Dun	21.40	116	P	P	21 10 17.9	+0.4
SDCO				IAmb	IAmb	21 10 28.4	
	comp=Z,14nm,1.2s						
SDCO	Great Sand Dun	21.40	116	P	P	21 10 19.6	+2.1
	baz=312,SNR=7.1						
D23K	Nanushuk River	21.44	340	P	P	21 10 17.0	-0.4
	baz=142						
OGNE	Ogallala	21.49	104	P	P	21 10 17.9	-0.4

OGNE	Ogallala	21.49	104	P	P	21 10 19.0	+0.7
	baz=304						
C24K	Franklin Bluff	21.64	342	P	P	21 10 19.7	+0.2
	baz=146						
ULM	Lac du Bonnet	21.73	76	P	P	21 10 21.9	+1.2
	comp=Z,3.0nm,0.5s,baz=286,slow=12,SNR=11						
	comp=Z,3.0nm,0.5s						
ULM	Lac du Bonnet	21.73	76		P	21 10 21.2	+0.6
ULM	Lac du Bonnet	21.73	76	P	P	21 10 24.2	+3.6
A36M	Sachs Harbour	22.09	4	P	P	21 10 26.1	+1.9
A36M	Sachs Harbour	22.09	4	P	P	21 10 26.4	+2.2
	baz=188,SNR=5.4						
214A	Organ Pipe Nat	22.16	138	P	P	21 10 26.1	+0.7
	baz=329						
AGMN	Agassiz Nation	22.25	81	P	P	21 10 26.9	+0.6
	baz=287						
KSCO	Kaye Shedlock'	22.28	109	P	P	21 10 28.1	+1.3
KSCO	Kaye Shedlock'	22.28	109	P	P	21 10 27.3	+0.5
	baz=308						
FCC	Fort Churchill	22.36	53		P	21 10 27.8	+0.4
FCC				IAmb	IAmb	21 10 36.1	
	comp=Z,14nm,1.1s						
FCC	Fort Churchill	22.36	53	P	P	21 10 28.2	+0.8
T25A	Trinidad	22.44	115	P	P	21 10 29.8	+1.1
T25A	Trinidad	22.44	115	P	P	21 10 29.7	+1.1
	baz=313						
F33A	5 Mile Ranch,	22.82	88	P	P	21 10 32.0	-0.4
ANMO	Albuquerque	22.86	123	P	P	21 10 34.3	+1.3
	comp=Z,2.0nm,0.9s,baz=342,slow=13,SNR=5.6						
ANMO				LR	LR	21 20 02.2	
	comp=Z,78nm,19.1s,baz=60,slow=38						
	comp=Z,2.0nm,0.9s						
ANMO	Albuquerque	22.86	123		P	21 10 34.2	+1.1
ANMO				IAmb	IAmb	21 10 43.8	
	comp=Z,10nm,1.2s						
ANMO	Albuquerque	22.86	123	P	P	21 10 34.0	+0.9
	baz=318						
LENM	Lemitar	23.18	125	P	P	21 10 37.2	+0.9
ECSD	EROS Data Cent	23.52	93	P	P	21 10 39.3	-0.2
ECSD				IAmb	IAmb	21 11 01.3	
	comp=Z,11nm,1.0s						
ECSD	EROS Data Cent	23.52	93	P	P	21 10 40.6	+1.2
	baz=297						
121A	Cookes Peak, D	24.04	128		P	21 10 46.1	+1.4
121A				IAmb	IAmb	21 11 11.9	
	comp=Z,12nm,1.4s						
121A	Cookes Peak, D	24.04	128	P	P	21 10 45.6	+0.9
	baz=323						
SOLO	Sioux Lookout	24.16	75	P	P	21 10 45.6	+0.1
CBKS	Cedar Bluff	24.18	106	P	P	21 10 44.9	-0.9
CBKS	Cedar Bluff	24.18	106	P	P	21 10 47.3	+1.5
	baz=307						
A21K	Barrow	24.56	340	P	P	21 10 47.6	-1.3
	baz=136						
EYMN	Ely	25.14	80	P	P	21 10 56.4	+2.0
EYMN	Ely	25.14	80	P	P	21 10 55.6	+1.2
	baz=289						
N35A	Tabor	25.58	98		P	21 10 58.7	+0.2
AMTX	Amarillo	25.60	116		P	21 10 59.0	+0.2
AMTX	Amarillo	25.60	116	P	P	21 11 00.6	+1.8
	baz=315						
MSTX	Muleshoe	25.63	119	P	P	21 10 59.6	+0.5
MSTX	Muleshoe	25.63	119	P	P	21 10 60.0	+0.9
	baz=317						
MNTX	Cornudas Mount	25.93	126		P	21 11 04.3	+2.5
MNTX				IAmb	IAmb	21 11 08.2	
	comp=Z,6.3nm,1.2s						
MNTX	Cornudas Mount	25.93	126	P	P	21 11 02.0	+0.3
	baz=322						
GAMB	Gambell	26.00	318	P	P	21 11 01.6	-0.4
	baz=102						
T35A	Soner Cattle	27.35	106		P	21 11 15.1	+0.6
OK048	Pawnee Station	27.41	107	P	P	21 11 15.5	+0.5
WMOK	Wichita Mounta	27.41	112	P	P	21 11 15.2	+0.1
WMOK				IAmb	IAmb	21 11 22.2	
	comp=Z,6.0nm,1.0s						
WMOK	Wichita Mounta	27.41	112	P	P	21 11 15.3	+0.2
	baz=313						
RES	Resolute Bay	28.66	19	LR	LR	21 23 06.8	
	comp=Z,154nm,18.0s,baz=231,slow=37						
FCAR	Ozark Folk Cen	30.74	103	P	P	21 11 45.2	+0.6
SEY	Seymchan	42.00	318	P	P	21 13 21.0	+0.7
	comp=Z,0.9nm,0.6s,baz=103,slow=7.1,SNR=3.7						
	comp=Z,0.9nm,0.6s						
MA2	Magadan	43.99	314	LR	LR	21 32 29.5	
	comp=Z,67nm,18.6s,baz=90,slow=37						
BORG	Borgarnes	52.95	31	LR	LR	21 37 36.1	
	comp=Z,165nm,20.6s,baz=191,slow=36						
H11N2	WAKE ISLAND Hy	57.93	263	T	T	22 17 60.0	
	baz=42,slow=75,SNR=82						
H11N3	WAKE ISLAND Hy	57.94	263	T	T	22 18 02.0	
	baz=42,slow=75,SNR=63						
H11N1	WAKE ISLAND Hy	57.95	263	T	T	22 18 01.2	
	baz=42,slow=75,SNR=55						
H11S1	WAKE ISLAND Hy	58.96	262	T	T	22 19 14.3	
	baz=46,slow=74,SNR=3.4						
H11S2	WAKE ISLAND Hy	58.97	262	T	T	22 19 16.7	
	baz=46,slow=74,SNR=4.0						
H11S3	WAKE ISLAND Hy	58.98	262	T	T	22 19 21.1	
	baz=46						
ARCES	ARCESS Array B	59.35	10	P	P	21 15 30.2	-0.9
	comp=Z,5.6nm,1.0s,baz=327,slow=6.5,SNR=1.5						
	comp=Z,5.6nm,1.0s						
FINES	FINESS Array B	67.18	12	P	P	21 16 22.7	-0.2
	comp=Z,2.7nm,0.9s,baz=0.0,slow=8.6,SNR=1.7						
	comp=Z,2.7nm,0.9s						
ZALV	Zalesovo Beam	72.30	339	P	P	21 16 54.7	+0.1
	comp=Z,0.4nm,0.4s,baz=29,slow=4.1,SNR=2.9						
	comp=Z,0.4nm,0.4s						
HHC	Hu-ho-hao-te	74.61	316	eP	P	21 17 06.9	-1.8
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,5.3s						
RAR	Rarotonga	75.73	209	LR	LR	21 45 28.1	
	comp=Z,50nm,19.6s,baz=142,slow=32						
DAVOX	Davos/Dischmat	77.46	27	LR	LR	21 55 53.0	
	comp=Z,27nm,19.6s,baz=4.5,slow=39						
MDP	Montagnes des	77.97	96	LR	LR	21 58 44.5	
	comp=Z,20nm,18.0s,baz=94,slow=41						
AKASG	Malin Array Be	78.04	13	LR	LR	21 51 22.6	
	comp=Z,26nm,21.4s,baz=338,slow=35						
MKAR	Makanchi Array	79.55	338	P	P	21 17 36.1	-0.2
	comp=Z,0.2nm,0.6s,baz=23,slow=4.6,SNR=2.7						
	comp=Z,0.2nm,0.6s						
WMQ	Urumqi	80.88	333	eP	P	21 17 46.2	+2.7
WMQ				pP	sP	21 17 48.3	-0.1
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MLR	Muntele Rosu	82.54	17	LR	LR	21 57 04.1	
	comp=Z,76nm,18.2s,baz=48,slow=38						
VAE	Valguarnera	87.32	28	LR	LR	21 57 17.0	
	comp=Z,49nm,18.0s,baz=336,slow=36						
DZM	Mont Dzumac	91.14	236	LR	LR	21 52 09.0	
	comp=Z,55nm,19.7s,baz=313,slow=31						
DAV	Davao City (W)	99.79	286	LR	LR	21 53 40.8	
	comp=Z,37nm,21.2s,baz=344,slow=31						
CMAR	Chiang Mai Arr	99.28	314	LR	LR	22 07 33.1	
	comp=Z,7.6nm,18.7s,baz=215,slow=38						

*AUST **06** 21:19:45.8±1.3,30°.73S×118°.39E,h10km,Error ellipse: s-maj=17.0km s-min=11.2km az=145.0*
*CUPWA **06** 21:19:46.2±4.9,30°.68S×118°.45E,h2km±25km, Region: WESTERN AUSTRALIA*
ISC 06 21:19:45.3±1.6,**30°.66S**±0°.04×**118°.44E**±0°.04,**h20**km±9km, **n28,σ1§58/40,2D,Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	Kellerberrin	1.09	212	⇓P	Pn	21 20 05.9	+0.4
	baz=1.2						
KLBR				del		21 20 18.9	
	baz=1.2						
KLBR	Kellerberrin	1.09	212	⇓P	Pn	21 20 05.9	+0.4
	baz=1.0						
KLBR				S	Sb	21 20 18.8	-0.6
	baz=1.0						
KLBR	Kellerberrin	1.09	212	P	Pn	21 20 05.9	+0.4
KLBR				S	Sb	21 20 19.6	+0.2
CADX	Cadoux	1.12	264	P	Pg	21 20 06.8	-0.4
CADX				S	Sb	21 20 20.9	+0.7
BLDU	Ballidu	1.49	271	P	Pb	21 20 12.5	+0.2
	baz=1.4						
BLDU	Ballidu	1.49	271	P	Pb	21 20 12.5	+0.2
	baz=1.4						
BLDU				S	Sb	21 20 31.3	+0.5
MECK	Meckering	1.56	231	P	Pb	21 20 14.1	+0.6
MECK				S	Sg	21 20 34.6	-1.1
QUAI	Quairading	1.61	213	P	Pb	21 20 14.8	+0.5
AUKUL	Kulin High Sch	2.02	187	P	Pn	21 20 19.4	+1.3
PING	Pingelly	2.21	213	P	Pb	21 20 23.9	-0.7
MUN	Mundaring	2.31	235	P	Pn	21 20 24.2	+1.9
	baz=2.3						
MUN	Mundaring	2.31	235	P	Pn	21 20 24.2	+1.9
	baz=2.2						
MUN				S	Sn	21 20 52.0	+1.8
	baz=2.2						
MUN	Mundaring	2.31	235	P	Pn	21 20 24.2	+1.9
NWAO	Narrogin (SRO)	2.48	204	P	Pb	21 20 28.1	-1.1
	baz=2.6						
NWAO				P	Pb	21 20 28.1	-1.1
	baz=2.6						
NWAO	Narrogin (SRO)	2.48	204	P	Pb	21 20 28.1	-1.1
	baz=2.4						
NWAO				P	Pb	21 20 28.1	-1.1
	baz=2.4						
NWAO	Narrogin (SRO)	2.48	204	P	Pb	21 20 28.1	-1.1
MORW	Morawa	2.62	307	del		21 20 15.5	
	baz=2.4						
MORW	Morawa	2.62	307	P	Pn	21 20 15.5	-11
KMBL	Kambalda	3.04	104	P	Pn	21 20 33.9	+1.6
	baz=3.2						
KMBL				S	Sn	21 21 09.5	+1.3
	baz=3.2						
KMBL	Kambalda	3.04	104	P	Pn	21 20 33.9	+1.6
	baz=3.1						
KMBL	Kambalda	3.04	104	P	Pn	21 20 33.9	+1.6
KMBL				S	Sn	21 21 09.5	+1.3
MEEK	Meekatharra	4.01	2	P	Pn	21 20 48.0	+2.3
	baz=3.9						
MEEK				S	Sn	21 21 31.1	-1.1
	baz=3.9						
MEEK	Meekatharra	4.01	2	P	Pn	21 20 48.0	+2.3
	baz=4.1						
MEEK	Meekatharra	4.01	2	P	Pn	21 20 48.0	+2.3
MEEK				S	Sn	21 21 31.1	-1.1
FORT	Forrest	8.29	93	P	Pn	21 21 46.5	+2.1
	baz=8.4						
FORT				S	Sn	21 23 14.1	-3.3
	baz=8.4						
FORT	Forrest	8.29	93	P	Pn	21 21 46.5	+2.1
	baz=8.3						
FORT	Forrest	8.29	93	P	Pn	21 21 46.5	+2.1
FORT				S	Sn	21 23 14.1	-3.3

*NEIC **06** 21:24:54.7±2.0, 11°.1S±0°.1×162°.0E±0°.2,h10km±7km, mb4.3/11,Error ellipse: s-maj=24.6km s-min=9.7km az=58.0*
*IDC **06** 21:24:54.4±1.1, 11°.10S×161°.76E,h0km,mb3.8/8, mbtmp3.8/10,ML4.1/2,Error ellipse: s-maj=30.3km s-min=26.4km az=138.0*
ISC 06 21:24:58.6±0.6,**11°.19S**±0°.07×**161°.8E**±0°.1,**h36**km,**n32, σ1§87/28,mb4.0/14,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.55	313	Pn	Pn	21 25 36.9	-0.4
	287nm,0.3s,baz=169,slow=11,SNR=2.6						
HNR				Sn	Sn	21 26 02.5	-4.5
	709nm,0.3s,baz=18,slow=9.3,SNR=4.0						
	645nm,0.3s						
HNR	Honiara	2.55	313	Pn	Pn	21 25 34.6	-2.8
KOUNC	Koumac, New Ca	9.60	166	Pn	Pn	21 27 11.7	-2.6
LIFNC	LIFOU	10.86	152	Pn	Pn	21 27 29.8	-1.7
DZM	Mont Dzumac	11.69	158	Pn	Pn	21 27 45.6	+2.7
	0.2nm,0.3s,baz=43,slow=9.4,SNR=13						
DZM				Sn	Sn	21 29 49.6	-2.6
	0.1nm,0.3s,baz=84,slow=22,SNR=1.5						
	5.3nm,1.1s						
DZM	Mont Dzumac	11.69	158	Pn	Pn	21 27 43.1	+0.2
EIDS	Eidsvold	17.39	214	P	P	21 29 00.4	+0.9
EIDS				IAmb	IAmb	21 29 06.0	
	comp=Z,27nm,1.4s						
PATS	Pohnpei	18.25	349		Pn	21 29 08.7	-0.3
COEN	Coen	18.41	259		Pn	21 29 14.2	+3.0
ARMA	Armidale	21.35	205	P	P	21 29 43.7	+0.8
WR0	Warramunga Arr	27.66	248	P	P	21 30 44.6	+1.3
WR0				IAmb	IAmb	21 30 57.5	
	comp=Z,5.8nm,1.2s						
WB0	Warramunga Arr	27.75	249	P	P	21 30 45.1	+1.0
WB0				IAmb	IAmb	21 31 03.5	
	comp=Z,4.8nm,1.1s						
WRA	Warramunga Arr	27.84	248	P	P	21 30 45.5	+0.6
	comp=Z,2.0nm,0.3s,baz=77,slow=10.0,SNR=1.9						
	comp=Z,2.0nm,0.3s						
ASAR	Alice Springs	29.32	241	P	P	21 30 58.5	+0.5
	comp=Z,0.6nm,0.8s,baz=69,slow=9.5,SNR=6.3						
	comp=Z,0.6nm,0.8s						
H11S2	WAKE ISLAND Hy	29.88	9	T	T	22 01 58.5	
	baz=189,slow=75,SNR=14						
H11S3	WAKE ISLAND Hy	29.88	9	T	T	22 02 03.4	
	baz=189,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	29.90	9	T	T	22 02 01.8	
	baz=189,slow=75,SNR=13						
TOO	Toolangi	30.09	206	P	P	21 31 06.4	+1.7
TOO				IAmb	IAmb	21 31 08.2	
	comp=Z,5.2nm,1.0s						
RTZ	Ruatahuna	30.48	156	P	P	21 31 05.0	-3.2
RTZ				IAmb	IAmb	21 31 13.0	
	comp=Z,8.9nm,1.1s						
H11N1	WAKE ISLAND Hy	31.11	9	T	T	22 03 33.5	
	baz=188,slow=76,SNR=10						
H11N3	WAKE ISLAND Hy	31.12	9	T	T	22 03 32.4	
	baz=188,slow=76,SNR=8.8						
H11N2	WAKE ISLAND Hy	31.13	9	T	T	22 03 31.1	
	baz=188,slow=76,SNR=5.2						
BBOO	Buckleboo	31.99	224	P	P	21 31 21.6	+0.1
BBOO				IAmb	IAmb	21 31 34.0	
	comp=Z,21nm,1.4s						
USA0B	Ussuriysk Arra	61.43	336	P	P	21 35 10.8	-0.4
VNDA	Vanda	66.32	180	P	P	21 35 43.5	+0.6
VNDA				IAmb	IAmb	21 36 01.9	
	comp=Z,2.2nm,1.1s						
CMAR	Chiang Mai Arr	68.67	295	P	P	21 35 59.5	+0.7
	comp=Z,0.5nm,0.3s,baz=95,slow=3.9,SNR=1.9						
	comp=Z,0.5nm,0.3s						
SONM	Songino Array	76.55	325	P	P	21 36 46.5	+1.2
	comp=Z,0.9nm,0.7s,baz=141,slow=5.7,SNR=8.2						
	comp=Z,0.9nm,0.7s						
ILAR	Eielson Array	84.90	20	P	P	21 37 30.4	+0.9
	comp=Z,0.2nm,0.6s,baz=264,slow=5.5,SNR=4.8						
	comp=Z,0.2nm,0.6s						
NVAR	Mina Array Bea	89.07	51	P	P	21 37 52.6	+2.1
	comp=Z,0.3nm,0.6s,baz=236,slow=6.3,SNR=2.5						
	comp=Z,0.3nm,0.6s						
MKAR	Makanchi Array	91.01	317	P	P	21 37 59.5	+0.4
	comp=Z,0.2nm,0.5s,baz=106,slow=4.3,SNR=2.5						
	comp=Z,0.2nm,0.5s						
MKAR	Makanchi Array	91.01	317	P	P	21 37 59.0	-0.2
YKA	Yellowknife Ar	96.88	28	P	P	21 38 25.9	+0.3
	comp=Z,0.2nm,0.5s,baz=272,slow=4.4,SNR=4.8						
	comp=Z,0.2nm,0.5s						

*DJA **06** 21:26:30.9±0.7

BBKI	Banjar Baru	3.74	19	P	Pn	21 27 28.1	+0.4
PLAI	Plampang	4.52	114	P	Pn	21 27 38.6	+0.1
KPJI	Karang Pucung	4.64	266	P	Pn	21 27 40.9	+0.8
MTKI	Muara Teweh, K	6.17	12	P	Pn	21 28 01.6	+0.5
WRA	Warramunga Arr	23.88	125	P	P	21 31 43.6	-0.3
	0.4nm,0.6s,baz=309,slow=9.4,SNR=1.3						
	0.4nm,0.6s						
ASAR	Alice Springs	25.59	133	P	P	21 31 59.9	+0.4
	0.2nm,0.5s,baz=305,slow=8.3,SNR=4.7						
	0.2nm,0.5s						
STKA	Stephens Creek	35.97	137	P	P	21 33 30.4	-0.7
	0.8nm,0.5s,baz=310,slow=7.8,SNR=3.9						
	0.8nm,0.5s						
MKAR	Makanchi Array	60.35	336	P	P	21 36 48.2	+9.0
	0.2nm,0.7s,baz=141,slow=5.2,SNR=2.1						
	0.2nm,0.7s						

BUL ***06*** *21:38:00.6±8.7, 23°.20S×31°.21E, h10km, MD4.9*

PRE 06 21:37:19.8±1.1, 21°.08S×33°.67E, h10km, ML2.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	Mopani	3.21	220	*i* P	Pn	21 38 11.4	+1.0
MOPA				*i* S	Sn	21 38 29.2	-19
MOPA	Mopani	3.21	220	*e*P	Pn	21 38 11.3	+1.0
MOPA				*e*S	Sn	21 38 49.1	+0.4
MOPA				IAML		21 38 53.6	
	comp=Z,22nm,0.2s						
MUSN	Musina, Limpop	3.74	251	*i* P	Pn	21 38 20.1	+2.5
MUSN				*i* S	Sn	21 38 54.6	-7.2
MUSN	Musina, Limpop	3.74	251	*e*P	Pn	21 38 19.2	+1.5
MUSN				*e*S	Sn	21 39 00.8	-1.0
MUSN				IAML		21 39 23.4	
	comp=Z,11nm,0.4s						
LEPH	Lephalale, Lim	6.09	242	*e*P	Pn	21 38 51.4	+1.4
LEPH				*e*S	Sn	21 39 57.5	-2.4
LEPH				IAML		21 40 31.6	
	comp=Z,11nm,0.5s						
LBTB	Lobatse	8.40	241	*i* P	Pn	21 39 21.2	-0.5
LBTB				*i* S	Sn	21 40 18.6	-38
LBTB	Lobatse	8.40	241	*e*P	Pn	21 39 21.6	-0.2
LBTB				*e*S	Sn	21 40 53.5	-3.3
LBTB				IAML		21 41 40.9	
	comp=Z,2.5nm,0.5s						
BOSA	Boshof	10.70	224	*i* P	Pn	21 39 51.4	-1.9
BOSA				*i* S	Sn	21 41 08.7	-45
BOSA	Boshof	10.70	224	*e*P	Pn	21 39 53.6	+0.3
BOSA				*e*S	Sn	21 41 47.4	-5.9
BOSA				IAML		21 43 19.1	
	comp=Z,1.2nm,0.7s						

IDC 06 21:57:55.2±2.8, 4°.35S×135°.88E, h0km, mb3.6/1, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=76.2km s-min=26.7km az=67.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	5.76	307	Pn	Pn	21 59 22.9	+0.8
	2.4nm,0.3s,baz=131,slow=20,SNR=6.1						
SIJI				Sn	Sn	22 00 31.2	+2.2
	baz=266,slow=23						
	4.4nm,0.3s						
WRA	Warramunga Arr	15.57	185	Pn	Pn	22 01 34.2	-2.1
	0.1nm,0.3s,baz=5.6,slow=13,SNR=1.8						
WRA				Sn	Sn	22 04 19.4	-10
	0.2nm,0.3s,baz=8.4,slow=23,SNR=3.3						
	0.2nm,0.3s						
ASAR	Alice Springs	19.30	185	P	Pn	22 02 22.9	0.0
	0.4nm,0.3s,baz=10,slow=10,SNR=25						
ASAR				S	Sn	22 05 47.7	-12
	0.6nm,1.0s,baz=9.9,slow=28,SNR=2.4						
	1.4nm,0.6s						
MKAR	Makanchi Array	69.40	324	P	P	22 09 04.7	-0.4
	0.3nm,0.4s,baz=108,slow=7.9,SNR=3.1						
	0.3nm,0.4s						

NEIC ***06*** *22:31:10.9±1.3, 11°.34S±0°.10×161°.6E±0°.1, h10km±2km, mb4.0/12, Error ellipse: s-maj=22.8km s-min=11.1km az=51.0*

IDC ***06*** *22:31:12.2±3.0, 11°.17S×161°.67E, h42km±26km, mb3.5/5, mbtmp3.8/6, ML4.2/2, MS3.3/3, Error ellipse: s-maj=29.9km s-min=18.5km az=68.0*

ISC 06 22:31:11.9±0.8, 11°.19S±0°.09×161°.7E±0°.1, h35km, n27, σ1s02/26, mb3.7/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	2.47	315	P	Pn	22 31 50.0	+0.3
	384nm,0.3s,baz=209,slow=13,SNR=5.0						
HNR				S	Sn	22 32 18.0	-0.7
	2μm,0.4s,baz=10.0,slow=22,SNR=5.1						
HNR	Honiara	2.47	315	Pn	Pn	22 31 50.7	+1.0
KOUNC	Koumac, New Ca	9.63	165	Pn	Pn	22 33 27.1	-0.9
LIFNC	LIFOU	10.90	152	Pn	Pn	22 33 44.4	-1.1
DZM	Mont Dzumac	11.72	158	P	Pn	22 33 57.2	+0.4
	0.3nm,0.3s,baz=348,slow=19,SNR=9.5						
	2.3nm,0.6s						
DZM	Mont Dzumac	11.72	158	Pn	Pn	22 33 57.8	+0.9
OUENC	Ouen Island, N	12.19	157	Pn	Pn	22 34 02.8	-0.3
CTA	Charters Tower	17.31	237	LR	LR	22 40 33.8	
	comp=Z,51nm,20.0s,baz=82,slow=32						
CTAO	Charters Tower	17.31	237	Pn	Pn	22 35 09.1	-1.9
CTAO				IAmb	IAmb	22 35 17.1	
	comp=Z,20nm,1.1s						
EIDS	Eidsvold	17.33	214	Pn	Pn	22 35 08.8	-2.4
EIDS				IAmb	IAmb	22 35 26.8	
	comp=Z,11nm,1.1s						
COEN	Coen	18.31	259		Pn	22 35 23.9	+0.6
ARMA	Armidale	21.31	205	P	P	22 35 55.5	-0.3
WR0	Warramunga Arr	27.56	248	P	P	22 36 56.4	+0.6
WR0				IAmb	IAmb	22 37 08.5	
	comp=Z,3.8nm,1.0s						
WB0	Warramunga Arr	27.65	249	P	P	22 36 57.0	+0.4
WB0				IAmb	IAmb	22 36 57.8	
	comp=Z,1.5nm,0.8s						
STKA	Stephens Creek	27.73	219	LR	LR	22 47 32.5	
	comp=Z,88nm,18.6s,baz=27,slow=35						
WB2	Warramunga Arr	27.73	248	P	P	22 36 58.0	+0.6
WB2				IAmb	IAmb	22 37 01.8	
	comp=Z,4.7nm,1.1s						
WRA	Warramunga Arr	27.74	248	P	P	22 36 56.6	-0.9
	comp=Z,1.0nm,0.9s,baz=76,slow=9.4,SNR=4.7						
WRA				LR	LR	22 47 17.8	
	comp=Z,58nm,18.5s,baz=298,slow=35						
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	27.74	248	P	P	22 36 57.4	-0.1
ASAR	Alice Springs	29.23	241	P	P	22 37 09.8	-0.9
	comp=Z,0.9nm,0.8s,baz=72,slow=9.7,SNR=7.7						
	comp=Z,0.9nm,0.8s						
TOO	Toolangi	30.04	206	P	P	22 37 17.2	-0.5
TCW	Tory Channel	31.88	162	P	P	22 37 34.7	+0.9
BBOO	Buckleboo	31.92	224	P	P	22 37 35.2	+0.9
KNRA	Kununurra	32.34	258	P	P	22 37 38.8	+0.6
VNDA	Vanda	66.32	180	P	P	22 41 58.3	+1.9
VNDA				IAmb	IAmb	22 41 58.5	
	comp=Z,0.9nm,1.0s						
SONM	Songino Array	76.49	325	P	P	22 42 58.4	0.0
	comp=Z,0.4nm,0.6s,baz=136,slow=6.4,SNR=2.9						
	comp=Z,0.4nm,0.6s						
ILAR	Eielson Array	84.94	20	P	P	22 43 42.1	-0.9
	comp=Z,0.3nm,0.7s,baz=238,slow=5.5,SNR=4.1						
	comp=Z,0.3nm,0.7s						
YKA	Yellowknife Ar	96.92	28	P	P	22 44 38.5	-0.8
	comp=Z,0.3nm,0.8s,baz=255,slow=4.7,SNR=2.2						
	comp=Z,0.3nm,0.8s						

IDC ***06*** *22:37:14.1±2.5, 2°.84S×139°.12E, h0km, mb3.5/3, mbtmp3.6/4, ML3.9/1, MS2.7/2, Error ellipse: s-maj=108.1km s-min=31.1km az=84.0*

NEIC ***06*** *22:37:16.0±1.5, 2°.6S±0°.1×139°.49E±0°.10, h48km±11km, mb4.0/11, Error ellipse: s-maj=21.4km s-min=11.8km az=204.0*

DJA ***06*** *22:37:17.7±0.5, 3°S±6°×14°0E±°, h10km, M4.1/5, mb4.0/3, MLv4.2/5*

ISC 06 22:37:15.2±0.8, 2°.55S±0°.07×139°.44E±0°.07, h27km, n25, σ2s23/23, mb3.9/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	Genyem	0.73	94	P	Pn	22 37 31.0	+1.2
SMPI	Sarmi	0.91	307	P	Pb	22 37 36.0	+3.5
WAMI	Wamena	1.51	209	P	Pb	22 37 46.1	+3.4
SRPI	Serui, Papua	3.27	282	P	Pb	22 38 09.8	-2.8
FAKI	Fak Fak	7.19	267	Pn	Pn	22 38 59.0	+0.3
FAKI	Fak Fak	7.19	267	P	Pn	22 39 02.4	+3.7
	26nm,1.7s,0.1nm						
SIJI	Sorong	8.34	281	LR	LR	22 43 19.8	
	comp=Z,39nm,21.1s,baz=24,slow=45						
MTN	Manton Dam	13.12	218	Pn	Pn	22 40 19.7	-0.3
LUWI	Luwuk	16.73	275	Pn	Pn	22 41 07.0	-0.9
KNRA	Kununurra	16.76	218		Pn	22 41 08.4	+0.2
KNRA				IAmb	IAmb	22 41 11.6	
	comp=Z,20nm,1.0s						
WB0	Warramunga Arr	17.81	196		Pn	22 41 19.5	-1.9
WB0				IAmb	IAmb	22 41 23.3	
	comp=Z,6.2nm,1.1s						
WR0	Warramunga Arr	17.95	195		Pn	22 41 22.0	-1.1
WR0				IAmb	IAmb	22 41 37.7	
	comp=Z,3.9nm,0.9s						
WB2	Warramunga Arr	17.99	196		Pn	22 41 22.0	-1.5
WB2				IAmb	IAmb	22 41 39.9	
	comp=Z,3.9nm,0.8s						
WRA	Warramunga Arr	17.99	196	P	Pn	22 41 21.3	-2.3
	comp=Z,0.4nm,0.3s,baz=16,slow=13,SNR=18						
	comp=Z,1.1nm,0.4s						
WRA	Warramunga Arr	17.99	196		Pn	22 41 21.5	-2.1
AS31	Alice Springs	21.66	194	P	P	22 42 05.0	+1.1
ASAR	Alice Springs	21.67	194	P	P	22 42 02.7	-1.3
	comp=Z,0.7nm,0.4s,baz=15,slow=10,SNR=17						
	comp=Z,0.7nm,0.4s						
ASAR	Alice Springs	21.67	194	P	P	22 42 04.4	+0.4
SBUM	Sibu	27.66	280	P	P	22 42 58.5	-2.6
SBUM				IAmb	IAmb	22 42 59.3	
	comp=Z,13nm,0.7s						
JCJ	Chichijima	29.59	5	LR	LR	22 54 29.0	
	comp=Z,18nm,19.8s,baz=112,slow=35						
BBOO	Buckleboo	30.27	186	P	P	22 43 21.5	-2.7
BBOO				IAmb	IAmb	22 43 26.8	
	comp=Z,6.3nm,1.0s						
MKAR	Makanchi Array	70.11	322	P	P	22 48 28.6	+3.4
	comp=Z,0.3nm,0.7s,baz=124,slow=7.2,SNR=2.5						
	comp=Z,0.3nm,0.7s						
VNDA	Vanda	75.88	175	P	P	22 49 00.4	+1.6
	comp=Z,0.7nm,0.9s,baz=322,slow=7.2,SNR=1.7						
	comp=Z,0.7nm,0.9s						
PCA	Pinnacle	87.36	30	P	P	22 49 58.2	-1.6
QSPA	South Pole Qui	87.40	180	P	P	22 49 58.8	-1.2
QSPA				IAmb	IAmb	22 50 07.9	
	comp=Z,1.7nm,1.1s						

IDC ***06*** *22:54:25.7±1.0, 5°.61S×153°.58E, h0km, mb4.0/9, mbtmp4.1/11, ML2.4/1, MS3.3/10, Error ellipse: s-maj=26.0km s-min=17.2km az=74.0*

NEIC ***06*** *22:54:29.2±1.6, 5°.44S±0°.08×153°.8E±0°.1, h23km±7km, mb4.4/14, Error ellipse: s-maj=16.2km s-min=11.2km az=68.0*

ISC 06 22:54:31.9±0.8, 5°.56S±0°.07×153°.6E±0°.1, h43km, n37, σ1s29/34, mb4.2/14, MS3.3/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.95	314	Pn	Pn	22 55 02.0	-0.6
KRVT	Keravat (AS076	1.98	309	Pn	Pn	22 55 02.8	-0.2
	198nm,0.7s,baz=202,slow=1.8,SNR=33						
KRVT				Sn	Sn	22 55 27.4	+0.8
	69nm,0.3s,baz=180,slow=24,SNR=9.1						
KRVT				LR	LR	22 55 46.3	
	comp=Z,656nm,20.5s,baz=204,slow=40						
PMG	Port Moresby	7.41	239	Pn	Pn	22 56 16.6	-1.0
	3.3nm,0.3s,baz=50,slow=3.5,SNR=5.9						
PMG				Sn	Sn	22 57 41.0	+0.5
	3.1nm,0.3s,baz=78,slow=16,SNR=3.9						
PMG				LR	LR	22 59 04.1	
	comp=Z,183nm,20.8s,baz=65,slow=38						
	8.7nm,0.3s						
PMG	Port Moresby	7.41	239	Pn	Pn	22 56 19.2	+1.7
PATS	Pohnpei	13.20	21	Pn	Pn	22 57 32.2	-4.7
COEN	Coen	13.20	230	Pn	P	22 57 41.6	-4.3
CTA	Charters Tower	16.09	206	LR	LR	23 03 37.2	
	comp=Z,94nm,21.3s,baz=80,slow=34						
CTAO	Charters Tower	16.09	206	Pn	P	22 58 17.2	-0.9
CTAO				IAmb	IAmb	22 58 49.5	
	comp=Z,30nm,1.4s						
DZM	Mont Dzumac	20.60	144	P	P	22 59 07.2	-0.5
	comp=Z,5.9nm,1.0s,baz=234,slow=11,SNR=8.1						
	comp=Z,5.9nm,1.0s						
MTN	Manton Dam	23.28	250	P	P	22 59 39.8	+3.8
WR0	Warramunga Arr	23.39	231	P	P	22 59 38.7	+1.6
WR0				IAmb	IAmb	22 59 47.5	
	comp=Z,13nm,1.3s						
WB0	Warramunga Arr	23.39	231	P	P	22 59 36.5	-0.7
WB0				IAmb	IAmb	22 59 57.5	
	comp=Z,10nm,1.1s						
WB2	Warramunga Arr	23.53	231	P	P	22 59 38.2	-0.2
WB2				IAmb	IAmb	22 59 57.9	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	23.54	231	P	P	22 59 36.7	-1.8
	comp=Z,1.8nm,0.9s,baz=61,slow=9.8,SNR=10						
WRA				PcP	PcP	23 03 23.5	+0.2
	comp=Z,0.6nm,0.8s,baz=58,slow=3.1,SNR=3.0						
WRA				LR	LR	23 08 16.0	
	comp=Z,73nm,19.5s,baz=116,slow=35						
	comp=Z,1.8nm,0.9s						
WRA	Warramunga Arr	23.54	231	P	P	22 59 39.1	+0.6
ARMA	Armidale	24.79	184	P	P	22 59 51.0	+1.0
ARMA				IAmb	IAmb	22 59 52.4	
	comp=Z,16nm,1.4s						
AS31	Alice Springs	26.12	224	P	P	23 00 02.4	+0.3
ASAR	Alice Springs	26.12	224	P	P	23 00 00.8	-1.3
	comp=Z,3.3nm,0.8s,baz=59,slow=8.5,SNR=27						
ASAR				PcP	PcP	23 03 29.3	+0.4
	comp=Z,0.5nm,0.9s,baz=43,slow=1.0,SNR=5.2						
ASAR				LR	LR	23 10 25.7	
	comp=Z,94nm,18.5s,baz=14,slow=37						
	comp=Z,3.3nm,0.8s						
ASAR	Alice Springs	26.12	224	P	P	23 00 02.2	+0.1
STKA	Stephens Creek	28.48	202	LR	LR	23 11 48.1	
	comp=Z,71nm,19.4s,baz=25,slow=37						
DAV	Davao City (W)	30.62	294	LR	LR	23 12 43.6	
	comp=Z,62nm,18.3s,baz=316,slow=36						
KAPI	Kappang	33.67	269	LR	LR	23 17 40.0	
	comp=Z,20nm,18.0s,baz=76,slow=41						
NWAO	Narrogin (SRO)	43.41	226	LR	LR	23 21 13.1	
	comp=Z,115nm,18.5s,slow=37						
KSRS	Korea Array	49.02	333	P	P	23 03 14.2	-0.3
	comp=Z,1.1nm,0.8s,baz=144,slow=8.7,SNR=4.9						
	comp=Z,1.1nm,0.8s						
CRAI	Chiangrai	58.20	298	P	P	23 04 21.9	-0.3
CRAI				IAmb	IAmb	23 04 24.0	
	comp=Z,6.1nm,1.0s						
CMAR	Chiang Mai Arr	58.89	295	P	P	23 04 28.1	+1.1
	comp=Z,2.0nm,0.9s,baz=104,slow=4.5,SNR=14						
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	58.89	295	P	P	23 04 26.3	-0.7
SHEM	Shemya Is, Ala	60.63	14	LR	LR	23 26 30.2	
	comp=Z,38nm,21.1s,baz=340,slow=32						
SONM	Songino Array	67.38	328	P	P	23 05 23.4	+0.5
	comp=Z,0.9nm,0.6s,baz=146,slow=6.5,SNR=6.7						
	comp=Z,0.9nm,0.6s						
VNDA	Vanda	72.05	178	P	P	23 05 51.1	+0.1
	comp=Z,1.3nm,1.0s,baz=349,slow=6.7,SNR=3.8						
	comp=Z,1.3nm,1.0s						
VNDA	Vanda	72.05	178	P	P	23 05 51.4	+0.4
VNDA				IAmb	IAmb	23 05 52.2	
	comp=Z,7.5nm,1.5s						
MK31	Makanchi Array	81.40	319	P	P	23 06 44.8	+0.4
MKAR	Makanchi Array	81.40	319	P	P	23 06 44.8	+0.4
	comp=Z,1.7nm,0.6s,baz=95,slow=7.4,SNR=22						
	comp=Z,1.7nm,0.6s						
MAKZ	Makanchi	81.61	319	P	P	23 06 45.8	+0.3
MAKZ				IAmb	IAmb	23 06 46.8	
	comp=Z,6.3nm,1.2s						
ZALV	Zalesovo Beam	82.21	326	P	P	23 06 47.9	-0.5
	comp=Z,2.7nm,0.6s,baz=112,slow=5.5,SNR=17						
	comp=Z,2.7nm,0.6s						
QSPA	South Pole Qui	84.40	180	P	P	23 07 00.2	+0.5
KURK	Kurchatov	84.84	322	P	P	23 07 01.4	-0.6

IDC ***06*** *22:55:27.3±0.7, 11°.21S×78°.22W, h0km, mb4.4/15, mbtmp4.5/16, ML3.5/1, MS4.1/37, Error ellipse: s-maj=27.2km s-min=11.8km az=53.0*

BJI ***06*** *22:55:33.6±0.0, 11°.86S×77°.51W, h54km, mB5.3/2, Ms5.3/1, Ms7 5.2/3*

NEIC ***06*** *22:55:33.5±1.9, 11°.32S±0°.07×78°.19W±0°.09, h38km±5km, mb5.1/346, Error ellipse: s-maj=13.6km s-min=8.0km az=57.0*

GCMT ***06*** *22:55:35.5±0.5, 11°.31S±0°.03×78°.31W±0°.03, h30km, MW4.9/61, Moment Tensor Solution. s37,c38; s61,c77; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.79±.17; Mθθ-1.21±.12; Mφφ-1.57±.12; Mrθ0.68±.13; Mrφ1.47±.08; Mθφ1.02±.14; Best double couple: Mo3.07000×10^16 NP1:φs338.00000°, δ52.00000°, λ116.00000°. NP2: φs120.00000°, δ45.00000°, λ61.00000°. Principal axes: T 3.2510, Plg69.0000°, Azm311.0000°; N -0.3510, Plg20.0000°, Azm141.0000°; P -2.8900, Plg3.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

VAO ***06*** *22:55:36.0±1.7, 11°.23S×77°.97W, h58km±11km, mb4.7*

ISC 06 22:55:33.0±0.4, 11°.31S±0°.05×78°.14W±0°.06, h40km±3km, h40km:pP-P, n799, σ0s93/731, mb5.1/187, MS4.1/40, 4C-2D, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	1.44	118	Pn	Pn	22 55 57.0	+0.4
	515nm,0.3s,baz=304,slow=13,SNR=326						
NNA				Sn	Sn	22 56 17.8	+3.4
	4μm,0.3s,baz=212,slow=18,SNR=15						
NNA				LR	LR	22 56 48.3	
	comp=Z,6μm,18.9s,baz=313,slow=52						
NNA	Nana	1.44	118		Pn	22 55 56.8	+0.2
NNA					Sn	22 56 16.7	+2.3
ATAH	Atahualpa	4.16	357	Pn	Pn	22 56 36.8	+2.5
	99nm,0.3s,baz=174,slow=6.5,SNR=409						
ATAH				Sn	Sn	22 57 19.7	-2.2
	42nm,0.3s,baz=109,slow=2.7,SNR=5.5						
ATAH				LR	LR	22 58 17.2	
	comp=Z,3μm,19.6s,baz=221,slow=42						
CZSB	Cruzeiro do Su	6.44	57	Pn	Pn	22 57 06.2	+0.9
CZSB	Cruzeiro do Su	6.44	57	*e*P	Pn	22 57 06.8	+1.5
MCRA	Macar, Loja	7.13	345		Pn	22 57 13.1	-1.7
ARNL	Arenillas	7.95	346		Pn	22 57 25.5	-0.5
COHC	Cochancay	8.86	353		Pn	22 57 39.3	+0.8
CHSH	Refugio Sur-Vo	9.78	356		Pn	22 57 52.6	+0.9
PORT	Chimborazo Vol	9.80	356	Pn	Pn	22 57 52.5	+0.5
PB12	IPOC Station P	10.47	135	Pn	Pn	22 58 02.7	+2.0
SLOR	San Lorenzo -	10.52	358		Pn	22 58 01.2	-0.6
TBTG	Tabatinga, AM	10.80	50	Pn	Pn	22 58 04.8	-0.3
TBTG	Tabatinga, AM	10.80	50	*e*P	Pn	22 58 06.7	+1.5
PB16	IPOC Station P	10.88	131	Pn	Pn	22 58 04.4	-2.4
PULU	Pululahua	11.27	358	Pn	Pn	22 58 12.3	+0.4
PSGCX	Pisagua	11.29	138	Pn	Pn	22 58 12.9	+0.9
MNMC	Minye Minye	11.33	134	Pn	Pn	22 58 11.9	-0.7
IMBA	Imbabura, San	11.51	360	Pn	Pn	22 58 16.6	+1.3
PAC1	Pacto, Paraso	11.52	357	*e*P	Pn	22 58 15.4	+0.3
PB11	IPOC Station P	11.72	137	Pn	Pn	22 58 15.3	-2.6
ETMB	Extrema	11.82	84		Pn	22 58 17.9	-1.3
ETMB	Extrema	11.82	84	*e*P	Pn	22 58 18.1	-1.0
TULM	Tulcn-Chalpat	11.95	2		Pn	22 58 21.9	+0.5
TULM	Tulcn-Chalpat	11.95	2	*e*P	Pn	22 58 20.5	-0.9
GO01	Chusmiza	11.97	135		Pn	22 58 20.4	-1.2
PB02	IPOC Station P	12.71	143		Pn	22 58 31.2	-0.1
FLOC	Florencia	13.05	11	*e*P	Pn	22 58 34.4	-1.6
PB03	IPOC Station P	13.36	144	Pn	Pn	22 58 39.9	-0.4
PB09	IPOC Station P	13.47	142	Pn	Pn	22 58 43.4	+1.7
GARC	Garzon, Huila	13.67	11	*e*P	Pn	22 58 43.6	-1.0
MACC	Macarena, Meta	14.03	18	*e*P	Pn	22 58 48.9	-0.5
LVC	Limon Verde	14.28	143	Pn	P	22 58 59.5	0.0
	0.9nm,0.3s,baz=303,slow=9.3,SNR=11						
LVC				Sn	Sn	23 01 27.0	-3.4
	0.3nm,0.3s,baz=71,slow=18,SNR=1.7						
LVC				LR	LR	23 04 07.0	
	comp=Z,625nm,21.6s,baz=325,slow=36						
LVC	Limon Verde	14.28	143		Pn	22 58 54.5	+1.4
PB14	IPOC Station P	15.14	152	Pn	Pn	22 59 04.4	-0.1
YOTC	Yotoco, Valle	15.30	7	*e*P	P	22 59 11.2	+0.6
ORTC	Ortega, Tolima	15.39	11	*e*P	Pn	22 59 08.3	+0.8
TEFE	Tefe	15.47	61	*e*P	Pn	22 59 08.4	-0.1
SGCB	SΣo Gabriel d	15.67	46	*e*P	Pn	22 59 09.2	-1.8
PLMC	San Jos del P	16.22	7	*e*P	P	22 59 21.1	+0.3
CHIC	Chingaza	16.43	16	*e*P	Pn	22 59 22.1	+0.9
ROSC	El Rosal	16.49	14	Pn	P	22 59 25.7	+1.5
	baz=173,slow=3.8						
ROSC				Sn	Sn	23 02 27.6	+3.4
	1.8nm,0.3s,baz=33,slow=22,SNR=1.1						
ROSC				LR	LR	23 06 57.1	
	comp=Z,2μm,19.8s,baz=210,slow=42						
ROSC	El Rosal	16.49	14		P	22 59 23.2	-1.0
ROSC	El Rosal	16.49	14	*e*P	P	22 59 24.7	+0.5
PTGC	Puerto Gaitan,	16.53	22	*e*P	Pn	22 59 17.0	-5.0
GUY2C	Guyana, Caldas	16.66	10	*e*P	P	22 59 28.1	+2.0
NORC	Norcasia	17.08	11	*e*P	P	22 59 31.0	+0.7
CBOC	Ciudad Bolivar	17.19	7	*e*P	P	22 59 35.1	+3.4
SIV	San Ignacio	17.23	108	P	P	22 59 31.7	-0.3
	baz=283,slow=12,SNR=19						
SIV				LR	LR	23 06 45.8	
	comp=Z,1μm,18.8s,baz=302,slow=39						
	6.7nm,1.0s						
AC06	Mina Casimiro	17.56	156	P	P	22 59 36.1	+0.6
VILB	Vilhena	17.62	97	P	P	22 59 36.8	+0.4
VILB				IAmb	IAmb	22 59 45.5	
	comp=Z,63nm,1.5s						
VILB	Vilhena	17.62	97	*e*P	P	22 59 36.6	+0.3
AC02	Maricunga	17.62	152	P	P	22 59 36.6	-0.1
RUSC	La Rusia	17.82	17		P	22 59 40.0	+1.0
RUSC	La Rusia	17.82	17	*e*P	P	22 59 41.1	+2.2
GO03	Copiap	17.82	156		Pn	22 59 38.2	+0.1
BBSD	Serra de San D	17.96	111	*e*P	Pn	22 59 38.7	-1.2
PTBC	PUERTO BERRIO,	18.11	12	*e*P	P	22 59 43.0	+1.4

SALV Santo Antonio 22.29 104 *eP* **P 23 00 28.0 +1.0**
BAUV El Baul 22.49 27 P **P 23 00 29.4 +0.1**
JTS Las Juntas de 22.50 342 P **P 23 00 28.0 -1.4**
comp=Z,2.0nm,0.5s
JTS LR LR 23 08 12.7
comp=Z,540nm,21.4s,slow=34
comp=Z,2.0nm,0.5s
JTS Las Juntas de 22.50 342 P **P 23 00 29.9 +0.5**
ORTG Ortega, Santa 22.73 341 P **P 23 00 32.5 +0.7**
NPGB Novo Progresso 22.88 81 *eP* **P 23 00 32.4 -1.1**
ITTB Itaituba 23.23 74 *eP* **P 23 00 36.0 -0.9**
PP1B Ponte de Pedra 23.36 108 *eP* **P 23 00 38.7 +0.4**
AQDB Aquidauana 23.41 116 P **P 23 00 39.5 +0.9**
AQDB Aquidauana 23.41 116 *eP* **P 23 00 38.9 +0.3**
LMEL Las Melosas 23.58 163 P **P 23 00 41.2 +0.9**
BO04 La Punta 23.60 164 P **P 23 00 41.3 +0.9**
CPUP Villa Florida 24.67 130 P **P 23 00 51.1 +0.9**
comp=Z,4.7nm,1.0s,baz=314,slow=10,SNR=5.2
CPUP LR LR 23 12 28.3
comp=Z,428nm,18.9s,baz=316,slow=41
comp=Z,4.7nm,1.0s
CPUP Villa Florida 24.67 130 P **P 23 00 52.1 +1.9**
AMBA Amambai (Brazi 24.92 121 *eP* **P 23 00 52.6 +0.1**
MALB Monte Alegre 25.49 70 *eP* **P 23 00 57.5 -0.3**
ARAG Araguaiana, MT 25.96 103 *eP* **P 23 01 02.0 -0.1**
TGUH Tegucigalpa,Un 26.78 340 P **P 23 01 09.7 +0.1**
ITQB Itaqui 27.11 136 P **P 23 01 12.6 +0.2**
ITQB Itaqui 27.11 136 *eP* **P 23 01 12.5 +0.2**
MTO3 Montecristo 27.86 336 P **P 23 01 19.4 +0.1**
MCPB Macapa, AP 28.10 69 *eP* **P 23 01 21.0 -0.4**
PRPB Parauapebas 28.45 82 *eP* **P 23 01 24.7 +0.2**
BDFB Brasilia 29.60 102 P **P 23 01 34.9 +0.1**
comp=Z,4.2nm,1.0s,baz=266,slow=10,SNR=4.3
BDFB LR LR 23 14 17.5
comp=Z,800nm,20.6s,baz=305,slow=38
comp=Z,4.2nm,1.0s
PLCA Paso Flores 30.06 168 P **P 23 01 39.2 +0.8**
comp=Z,6.6nm,1.1s,baz=332,slow=10,SNR=3.8
comp=Z,6.6nm,1.1s
PLCA Paso Flores 30.06 168 P **P 23 01 39.3 +0.8**
PLCA pP **pP 23 01 50.7 +1.4**
MDP Montagnes des 30.16 59 LR LR 23 14 13.5
comp=Z,616nm,18.4s,baz=260,slow=37
SMTB Santa Maria do 30.17 88 *eP* **P 23 01 39.7 -0.1**
PLTB Pedras Altas 30.45 136 P **P 23 01 41.1 -0.9**
SJG San Juan 31.54 22 LR LR 23 16 07.6
comp=Z,178nm,20.7s,baz=223,slow=39
CMIG Matias Romero 32.71 329 LR LR 23 13 14.3
comp=Z,103nm,20.9s,baz=190,slow=33
JANB Januaria 33.13 100 *eP* **P 23 02 05.0 -0.8**
RPN Rapa Nui 33.26 237 LR LR 23 11 44.5
comp=Z,427nm,21.1s,baz=40,slow=29
RIB01 Linhares ES 37.20 107 *eP* **P 23 02 40.2 -0.6**
GDU01 Guandu, BA 37.70 98 *eP* **P 23 02 44.1 -1.0**
RCBR Riachuelo 42.09 86 LR LR 23 21 25.9
comp=Z,634nm,18.3s,baz=48,slow=37
TIGA Tifton 42.83 353 P **P 23 03 27.5 +0.3**
baz=172
KVTX Kingsville 43.11 334 P **P 23 03 31.8 +2.3**
baz=151
250A Grady 43.74 350 P **P 23 03 34.9 +0.4**
baz=168
154A Montrose 43.93 354 P **P 23 03 36.1 0.0**
baz=173
152A Waverly Hall 44.18 352 P **P 23 03 37.8 -0.3**
baz=171
344A Westbrook Farm 44.20 345 P **P 23 03 39.2 +0.9**
344A Westbrook Farm 44.20 345 P **P 23 03 39.7 +1.4**
baz=162,SNR=9.8
NHSC New Hope 44.21 358 P **P 23 03 38.3 0.0**
baz=177
HKT Hockley 44.42 338 P **P 23 03 41.3 +1.3**
HKT IAmb IAmb 23 03 42.2
comp=Z,52nm,1.6s
HKT Hockley 44.42 338 P **P 23 03 41.2 +1.3**
baz=155
HKT Hockley 44.42 338 P **P 23 03 40.9 +0.9**
HKT pP **pP 23 03 52.2 +1.1**
833A Chaparral WMA, 44.44 333 P **P 23 03 41.1 +0.9**
833A Chaparral WMA, 44.44 333 P **P 23 03 42.0 +1.8**
baz=150
833A Chaparral WMA, 44.44 333 P **P 23 03 40.8 +0.5**
baz=150
HAW Hawthorne Fire 44.54 356 P **P 23 03 41.0 0.0**
baz=175,SNR=7.7
342A Flagon Creek P 44.57 343 P **P 23 03 40.2 -1.0**
342A IAmb IAmb 23 03 43.5
comp=Z,38nm,0.9s
342B Flagon Creek P 44.57 343 P **P 23 03 42.9 +1.7**
baz=160
Z51A Franklin 44.88 352 IAmb IAmb 23 03 44.0
comp=Z,20nm,1.0s
Z51A Franklin 44.88 352 P **P 23 03 43.2 -0.4**
baz=170
LRAL Lakeview Retre 44.90 349 P **P 23 03 43.1 -0.7**
LRAL IAmb IAmb 23 03 44.3
comp=Z,18nm,0.8s
LRAL Lakeview Retre 44.90 349 P **P 23 03 43.2 -0.6**
baz=168,SNR=6.6
LRAL Lakeview Retre 44.90 349 P **P 23 03 43.5 -0.3**
baz=168,SNR=6.6
146A Union 44.93 347 P **P 23 03 44.6 +0.5**
baz=165
Y58A Scranton 44.99 358 P **P 23 03 44.6 +0.1**
baz=178
Y58A P **P 23 03 44.6 +0.1**
baz=178
Z47A Carrollton 45.26 348 P **P 23 03 46.2 -0.5**
baz=166,SNR=6.7
JSC Jenkinsville 45.44 356 P **P 23 03 47.3 -0.7**
baz=176
HODGE Hodges 45.46 355 P **P 23 03 47.2 -1.0**
baz=174
Y49A Blount Mountai 45.60 350 P **P 23 03 48.9 -0.5**
baz=169
X58A Rowland 45.63 359 P **P 23 03 49.2 -0.4**
baz=178
X58A P **P 23 03 49.2 -0.4**
baz=178
NATX Nacogdoches 45.66 340 P **P 23 03 51.3 +1.4**
baz=157
NATX Nacogdoches 45.66 340 P **P 23 03 50.5 +0.6**
baz=157
BIRD Birdtown, Kers 45.76 357 P **P 23 03 49.6 -1.0**
BIRD Birdtown, Kers 45.76 357 P **P 23 03 49.9 -0.6**
baz=177
435B Jarrell 45.83 336 P **P 23 03 51.2 -0.1**
435B IAmb IAmb 23 03 53.0
comp=Z,29nm,1.2s
PAULI Pauline 46.01 356 P **P 23 03 51.3 -1.3**
PAULI IAmb IAmb 23 03 52.9
comp=Z,17nm,0.8s
PAULI Pauline 46.01 356 P **P 23 03 52.3 -0.3**
baz=175,SNR=6.8
X51A Calhoun 46.07 352 P **P 23 03 53.0 0.0**
baz=171
X51A P **P 23 03 53.0 0.0**
baz=171
FPAL Fort Paine 46.15 351 IAmb IAmb 23 03 53.5
comp=Z,27nm,1.0s
Y45A Yeager Farm, C 46.22 347 P **P 23 03 54.5 +0.3**
Y45A Yeager Farm, C 46.22 347 P **P 23 03 54.7 +0.5**
baz=164
W57A Gilead 46.24 358 P **P 23 03 53.5 -0.8**
W57A IAmb IAmb 23 03 54.6
comp=Z,16nm,0.8s
W57A Gilead 46.24 358 P **P 23 03 53.9 -0.4**
baz=178
W57A P **P 23 03 53.9 -0.4**
baz=178
CASEE Lake Jocassee 46.27 355 P **P 23 03 54.3 -0.4**
baz=174
X48A Hartselle 46.29 350 IAmb IAmb 23 03 54.8
comp=Z,21nm,1.1s
X48A Hartselle 46.29 350 P **P 23 03 53.9 -0.9**
baz=168,SNR=5.4
KMSC Kings Mountain 46.30 356 IAmb IAmb 23 03 54.6
comp=Z,23nm,1.0s
KMSC Kings Mountain 46.30 356 P **P 23 03 54.3 -0.6**
baz=176,SNR=7.7
KMSC Kings Mountain 46.30 356 P **P 23 03 54.8 -0.1**
baz=176,SNR=7.7
HPIG 46.47 325 P **P 23 03 56.9 +0.3**
HPIG IAmb IAmb 23 03 58.7
comp=Z,18nm,0.9s
W52A Murphy 46.48 353 IAmb IAmb 23 03 56.6
comp=Z,17nm,0.9s
W52A Murphy 46.48 353 P **P 23 03 55.6 -0.7**
baz=172
JCT Junction City 46.48 334 P **P 23 03 56.5 +0.1**
JCT Junction City 46.48 334 P **P 23 03 56.9 +0.4**
baz=150
JCT Junction City 46.48 334 P **P 23 03 56.8 +0.4**
baz=150
SLBS Sierra La Lagu 46.66 318 P **P 23 03 58.1 +0.2**
SLBS IAmb IAmb 23 04 00.2
comp=Z,27nm,1.1s
SLBS Sierra La Lagu 46.66 318 P **P 23 03 59.0 +1.0**
SLBS pP **pP 23 04 10.0 +0.9**
W50A Signal Mountai 46.75 352 P **P 23 03 57.9 -0.6**
baz=170,SNR=7.1
CCAR Cane Creek 46.81 344 P **P 23 03 57.4 -1.5**
baz=162
OXF Oxford 46.81 347 P **P 23 03 58.4 -0.4**
baz=165
OXF Oxford 46.81 347 P **P 23 03 57.8 -1.0**
baz=165
SWET Sewanee 46.86 351 P **P 23 03 58.1 -1.2**
SWET IAmb IAmb 23 03 58.6
comp=Z,17nm,1.0s
V58A Windy Hill, Pi 46.86 359 IAmb IAmb 23 04 00.3
comp=Z,19nm,1.1s
V58A Windy Hill, Pi 46.86 359 P **P 23 03 58.5 -0.7**
baz=179
V58A P **P 23 03 58.5 -0.7**
baz=179
WHTX Lake Whitney, 46.86 337 P **P 23 04 00.1 +0.8**
baz=154
WHTX Lake Whitney, 46.86 337 P **P 23 03 59.1 -0.2**
baz=154
V53A Saluda 46.93 355 P **P 23 03 59.2 -0.6**
baz=174
V53A P **P 23 03 59.2 -0.6**
baz=174
PLAL Pickwick Lake 46.99 349 IAmb IAmb 23 03 59.9
comp=Z,23nm,1.1s
V55A Taylorsville 47.00 357 P **P 23 03 59.8 -0.5**
baz=176
V55A P **P 23 03 59.8 -0.5**
baz=176
TKL Tuckaleechee C 47.02 354 P **P 23 03 59.6 -0.8**
comp=Z,12nm,1.0s,baz=166,slow=9.6,SNR=8.1
TKL LR LR 23 23 56.9
comp=Z,183nm,18.6s,baz=163,slow=36
comp=Z,12nm,1.0s
TKL Tuckaleechee C 47.02 354 IAmb IAmb 23 04 01.0
comp=Z,29nm,1.3s
TKL Tuckaleechee C 47.02 354 P **P 23 03 59.8 -0.7**
baz=172
V52A Sevierville 47.18 354 IAmb IAmb 23 04 01.7
comp=Z,23nm,1.0s
V52A Sevierville 47.18 354 P **P 23 04 00.6 -1.2**
baz=173,SNR=8.3
LPIG La Paz 47.19 318 LR LR 23 19 27.9
comp=Z,112nm,20.0s,baz=330,slow=31
V51A Loudon 47.22 353 IAmb IAmb 23 04 02.1
comp=Z,14nm,0.9s
V51A Loudon 47.22 353 P **P 23 04 00.8 -1.3**
baz=172
TXAR Lajitas Array 47.32 329 P **P 23 04 03.0 -0.1**
TX31 Lajitas Ar. Si 47.32 329 P **P 23 04 02.9 -0.2**
TX31 IAmb IAmb 23 04 04.5
comp=Z,25nm,0.9s
TX31 Lajitas Ar. Si 47.32 329 P **P 23 04 03.5 +0.4**
baz=145,SNR=14
TX32 Lajitas Array 47.32 329 P **P 23 04 03.2 +0.1**
W45A Hickory Valley 47.38 348 P **P 23 04 02.4 -0.9**
baz=165
U59A Littleton 47.41 0 P **P 23 04 03.7 +0.2**
baz=180
U59A P **P 23 04 03.7 +0.2**
baz=180
U56A King 47.45 358 IAmb IAmb 23 04 04.5
comp=Z,12nm,0.8s
U56A King 47.45 358 P **P 23 04 03.5 -0.3**
baz=177
U56A P **P 23 04 03.5 -0.3**
baz=177
V48A Smith Brothers 47.51 350 P **P 23 04 03.2 -1.0**
V48A IAmb IAmb 23 04 04.2
comp=Z,25nm,0.8s
V48A Smith Brothers 47.51 350 P **P 23 04 03.3 -1.0**
baz=168,SNR=13
U54A Nelsons Funny 47.70 356 IAmb IAmb 23 04 06.0
comp=Z,19nm,1.0s
U54A Nelsons Funny 47.70 356 P **P 23 04 05.0 -0.8**
baz=175
U54A P **P 23 04 05.0 -0.8**
baz=175
UALR University of 47.77 344 IAmb IAmb 23 04 07.4
comp=Z,29nm,0.9s
MIAR Mount Ida 47.90 343 IAmb IAmb 23 04 08.5
comp=Z,16nm,0.8s
MIAR Mount Ida 47.90 343 P **P 23 04 07.5 +0.2**
baz=160,SNR=9.6
MIAR Mount Ida 47.90 343 P **P 23 04 07.5 +0.2**
baz=160,SNR=9.6
Z35A Perchaven, San 47.98 338 P **P 23 04 08.7 +0.7**
Z35A Perchaven, San 47.98 338 P **P 23 04 08.7 +0.7**
baz=154
T59A Double "B" Far 48.03 1 IAmb IAmb 23 04 09.1
comp=Z,14nm,1.0s
T59A Double "B" Far 48.03 1 P **P 23 04 07.9 -0.3**
baz=181
T59A P **P 23 04 07.9 -0.3**
baz=181
T57A Hurt 48.06 359 P **P 23 04 08.1 -0.5**
baz=178,SNR=6.9
T57A P **P 23 04 08.1 -0.5**
baz=178,SNR=6.9
WVT Waverly 48.06 349 P **P 23 04 06.9 -1.7**
WVT IAmb IAmb 23 04 07.8
comp=Z,13nm,0.9s
WVT Waverly 48.06 349 P **P 23 04 06.9 -1.6**
baz=167,SNR=7.1
WVT Waverly 48.06 349 P **P 23 04 06.7 -1.9**
baz=167
WVT Waverly 48.06 349 P **P 23 04 06.8 -1.7**
U49A Red Boiling Sp 48.11 352 P **P 23 04 07.4 -1.6**
baz=170
ABTX Abilene, Hawle 48.28 336 P **P 23 04 10.4 +0.1**
ABTX Abilene, Hawle 48.28 336 P **P 23 04 10.7 +0.3**
baz=151,SNR=8.6
ABTX Abilene, Hawle 48.28 336 P **P 23 04 09.9 -0.4**
baz=151,SNR=8.6
BLA Blacksburg 48.31 358 P **P 23 04 09.8 -0.8**
baz=177
BLA Blacksburg 48.31 358 P **P 23 04 09.7 -0.8**
baz=177
T50A Nancy 48.48 353 P **P 23 04 10.3 -1.5**
baz=171
T50A P **P 23 04 10.3 -1.5**
baz=171
X37A Clayton 48.49 341 P **P 23 04 12.5 +0.6**
baz=157,SNR=12
LOOK Love County 48.55 339 **P 23 04 12.5 +0.1**
LOOK IAmb IAmb 23 04 14.0
comp=Z,46nm,1.3s
LCAR Lake Charles 48.70 346 P **P 23 04 12.3 -1.2**
LCAR IAmb IAmb 23 04 13.9
comp=Z,24nm,1.1s
LCAR Lake Charles 48.70 346 P **P 23 04 13.0 -0.5**
baz=163,SNR=6.7
T47A Sharon Grove 48.77 350 IAmb IAmb 23 05 38.6
comp=Z,22nm,1.1s
T47A Sharon Grove 48.77 350 P **P 23 04 12.8 -1.2**
baz=168,SNR=5.7
S57A Dark Hollow, R 48.82 359 IAmb IAmb 23 04 14.9
comp=Z,21nm,1.1s
S57A Dark Hollow, R 48.82 359 P **P 23 04 14.1 -0.3**
baz=179
S57A P **P 23 04 14.1 -0.3**
baz=179
S54A Dingess, Beckl 48.94 357 P **P 23 04 14.6 -0.8**
S54A IAmb IAmb 23 04 15.6
comp=Z,17nm,0.9s
S54A Dingess, Beckl 48.94 357 P **P 23 04 14.9 -0.5**
baz=176
S54A P **P 23 04 14.9 -0.5**
baz=176
PARMO Parma 48.95 348 P **P 23 04 14.9 -0.5**
S51A Beattyville 48.96 354 P **P 23 04 14.3 -1.2**
S51A Beattyville 48.96 354 P **P 23 04 14.9 -0.6**
baz=173
S51A P **P 23 04 14.9 -0.6**
baz=173
R58B Mineral 49.02 0 P **P 23 04 15.9 0.0**
R58B IAmb IAmb 23 04 16.9
comp=Z,28nm,0.9s
R58B Mineral 49.02 0 P **P 23 04 16.3 +0.4**
baz=180,SNR=7.4
R58B P **P 23 04 16.3 +0.4**
baz=180,SNR=7.4
X34A Smith Ranch, M 49.34 339 **P 23 04 18.9 +0.5**
R55A Marlinton 49.37 358 P **P 23 04 18.2 -0.4**
baz=177
R55A P **P 23 04 18.2 -0.4**
baz=177
U40A Yellville 49.40 344 P **P 23 04 18.8 0.0**
baz=161,SNR=29
U40A P **P 23 04 18.8 0.0**
baz=161,SNR=29
CGM3 Cape Girardeau 49.55 348 IAmb IAmb 23 04 20.0
comp=Z,30nm,1.0s
R50A Paris 49.67 354 P **P 23 04 19.8 -1.1**
R50A IAmb IAmb 23 04 20.3
comp=Z,16nm,1.1s
R50A Paris 49.67 354 P **P 23 04 19.6 -1.3**
baz=172
R50A P **P 23 04 19.6 -1.3**
baz=172
FNO Franklin 49.77 339 **P 23 04 21.7 0.0**
FNO IAmb IAmb 23 04 22.3
comp=Z,22nm,0.8s
R49A Shelbyville 49.78 353 P **P 23 04 20.6 -1.1**
baz=171
R49A P **P 23 04 20.6 -1.1**
baz=171
WMOK Wichita Mounta 49.80 338 P **P 23 04 21.2 -0.8**
baz=153,SNR=5.5
WMOK Wichita Mounta 49.80 338 P **P 23 04 21.2 -0.8**
baz=153,SNR=5.5
USIN University of 49.82 350 P **P 23 04 20.8 -1.2**
RLO Rose Lookout 49.84 342 P **P 23 04 21.6 -0.6**
RLO IAmb IAmb 23 04 22.6
comp=Z,17nm,1.1s
TUL1 Leonard 49.84 341 P **P 23 04 22.1 -0.2**
baz=157,SNR=8.5
TUL1 Leonard 49.84 341 P **P 23 04 21.5 -0.7**
baz=157,SNR=8.5
S44A Carbondale 49.85 348 P **P 23 04 21.3 -0.9**
baz=166,SNR=9.9
WCI Wyandotte Cave 49.87 352 P **P 23 04 21.2 -1.2**
WCI IAmb IAmb 23 04 21.9
comp=Z,12nm,0.8s
WCI Wyandotte Cave 49.87 352 P **P 23 04 21.1 -1.3**
baz=170
WCI Wyandotte Cave 49.87 352 P **P 23 04 21.1 -1.3**
baz=170
WCI Wyandotte Cave 49.87 352 P **P 23 04 21.0 -1.3**
U38A Gravette 49.90 343 IAmb IAmb 23 04 23.5
comp=Z,22nm,1.0s
U38A Gravette 49.90 343 P **P 23 04 22.6 -0.1**
baz=159,SNR=9.1
GDL2 Guadalupe Moun 50.01 331 P **P 23 04 24.3 +0.6**
Q54A Coxs Mills 50.10 357 P **P 23 04 22.8 -1.3**
baz=177
Q54A P **P 23 04 22.8 -1.3**
baz=177
Q56A Snyder Ridge, 50.10 359 P **P 23 04 24.3 +0.2**
baz=179
Q56A P **P 23 04 24.3 +0.2**
baz=179
MNTX Cornudas Mount 50.10 329 IAmb IAmb 23 04 25.4
comp=Z,22nm,1.1s
MNTX Cornudas Mount 50.10 329 P **P 23 04 24.6 +0.3**
baz=144,SNR=11
MNTX Cornudas Mount 50.10 329 P **P 23 04 23.9 -0.4**
baz=144,SNR=11
Q52A Bidwell 50.16 356 P **P 23 04 24.2 -0.3**
baz=175
Q52A P **P 23 04 24.2 -0.3**
baz=175
BCOK Bluff Creek, N 50.21 339 P **P 23 04 24.7 -0.3**
BCOK IAmb IAmb 23 04 25.4
comp=Z,39nm,1.6s
OK031 S. Brethren Rd 50.22 340 P **P 23 04 24.4 -0.7**
OK031 IAmb IAmb 23 05 45.0
comp=Z,25nm,0.9s
OK052 Battle Ridge R 50.24 340 P **P 23 04 24.4 -0.8**
OK052 IAmb IAmb 23 05 45.1
comp=Z,33nm,1.1s
OK053 SW of W Deep R 50.25 340 IAmb IAmb 23 05 45.2
comp=Z,25nm,1.0s
Q51A Peebles 50.31 355 P **P 23 04 24.9 -0.8**
Q51A PcP **PcP 23 05 43.8 -0.3**
Q51A Peebles 50.31 355 P **P 23 04 24.6 -1.1**
baz=173
Q51A P **P 23 04 24.6 -1.1**
baz=173
OK033 Mehan 50.33 340 P **P 23 04 24.3 -1.6**
OK033 PcP **PcP 23 05 44.9 +0.7**
SDMD Soldier's Deli 50.47 1 P **P 23 04 27.1 +0.1**
baz=182
P57A Homestead Farm 50.53 0 P **P 23 04 27.5 +0.1**
baz=180
P57A P **P 23 04 27.5 +0.1**
baz=180
CSTR Hydro, Custer 50.58 338 IAmb IAmb 23 04 28.9
comp=Z,3.2nm,0.8s
CCM Cathedral Cave 50.62 347 P **P 23 04 27.1 -0.9**
CCM PcP **PcP 23 05 45.1 -0.2**
CCM IAmb IAmb 23 05 45.8
comp=Z,16nm,0.8s
CCM Cathedral Cave 50.62 347 P **P 23 04 27.1 -0.9**
baz=163,SNR=8.0
CCM Cathedral Cave 50.62 347 P **P 23 04 27.4 -0.7**
baz=163
CCM Cathedral Cave 50.62 347 P **P 23 04 27.4 -0.7**
P53A Whipple 50.63 357 P **P 23 04 27.8 -0.3**
baz=176
P53A P **P 23 04 27.8 -0.3**
baz=176
OK046 Pawnee Station 50.64 340 IAmb IAmb 23 04 30.4
comp=Z,16nm,1.0s
OLIL Olney 50.65 350 P **P 23 04 27.2 -1.1**
OLIL IAmb IAmb 23 05 45.9
comp=Z,18nm,0.9s
OLIL Olney 50.65 350 P **P 23 04 27.1 -1.1**
baz=167
OK050 Pawnee Station 50.66 340 P **P 23 04 28.0 -0.4**
OK050 IAmb IAmb 23 04 30.0
comp=Z,24nm,1.0s
OK048 Pawnee Station 50.67 340 P **P 23 04 28.1 -0.4**
OK048 IAmb IAmb 23 04 29.0
comp=Z,15nm,0.8s
MCWV Mont Chateau 50.73 358 P **P 23 04 28.4 -0.5**
baz=178
P51A Williamsport 50.74 355 P **P 23 04 27.8 -1.2**
baz=174
P51A P **P 23 04 27.8 -1.2**
baz=174
MSTX Muleshoe 50.76 333 IAmb IAmb 23 04 31.6
comp=Z,31nm,1.1s
MSTX Muleshoe 50.76 333 P **P 23 04 29.7 +0.3**
baz=148,SNR=5.5
MSTX Muleshoe 50.76 333 P **P 23 04 28.6 -0.8**
baz=148,SNR=5.5
S39A Bolivar 50.78 344 IAmb IAmb 23 04 29.9
comp=Z,26nm,0.9s
S39A Bolivar 50.78 344 P **P 23 04 28.9 -0.4**
baz=161,SNR=12
P52A Corning 50.82 356 IAmb IAmb 23 04 29.4
comp=Z,21nm,1.0s
P52A Corning 50.82 356 P **P 23 04 28.5 -1.1**
baz=175
P49A Miami Univ. Ec 50.95 353 IAmb IAmb 23 04 29.9
comp=Z,28nm,1.1s
P49A Miami Univ. Ec 50.95 353 P **P 23 04 28.7 -1.9**
baz=172
P49A Miami Univ. Ec 50.95 353 P **P 23 04 29.1 -1.4**
baz=172
P48A Milroy 50.96 353 IAmb IAmb 23 04 30.0
comp=Z,22nm,1.1s
P48A Milroy 50.96 353 P **P 23 04 28.7 -1.9**
baz=171
P48A P **P 23 04 28.7 -1.9**
baz=171
Q44A Meyer Farm, Va 50.97 349 P **P 23 04 29.9 -0.8**
baz=166,SNR=7.4
T35A Sooner Cattle 50.99 341 P **P 23 04 30.2 -0.7**

T35A IAmb IAmb 23 04 32.4
comp=Z,37nm,1.1s
T35B Sooner Cattle 50.99 341 P P 23 04 30.7 -0.2
baz=157,SNR=11
MVL Millersville 51.08 2 P P 23 04 31.2 -0.2
MVL IAmb IAmb 23 04 32.7
comp=Z,24nm,1.3s
R40A Maddies Statio 51.08 346 P P 23 04 30.8 -0.8
baz=162,SNR=20
HSIG 51.10 322 P P 23 04 31.3 -0.5
CROK Carrier 51.10 339 P P 23 04 30.9 -0.9
CROK IAmb IAmb 23 05 48.4
comp=Z,27nm,1.1s
ELIS Ellis County 51.22 338 P P 23 04 32.9 +0.2
ELIS IAmb IAmb 23 04 33.8
comp=Z,21nm,1.0s
O52A Adamsville 51.28 356 P P 23 04 31.8 -1.2
baz=175
O52A P P 23 04 31.8 -1.2
baz=175
PAGS Pennsylvania G 51.29 1 P P 23 04 33.0 -0.1
PAGS IAmb IAmb 23 05 36.4
comp=Z,51nm,1.5s
U32A Winter Ranch, 51.35 338 P P 23 04 32.9 -0.7
U32A IAmb IAmb 23 04 34.4
comp=Z,34nm,1.1s
U32A Winter Ranch, 51.35 338 P P 23 04 33.7 +0.1
baz=154
P46A Rosedale 51.36 351 P P 23 04 32.6 -1.0
baz=169,SNR=7.8
O53A New Philadelph 51.38 357 P P 23 04 31.5 -2.2
baz=176
KAN13 South Haven SW 51.39 340 PcP PcP 23 05 48.2 0.0
KAN13 IAmb IAmb 23 05 49.3
comp=Z,18nm,1.0s
OK032 Salt Plains WL 51.45 339 IAmb IAmb 23 04 34.7
comp=Z,17nm,1.0s
ACSO Alum Creek Sta 51.48 355 IAmb IAmb 23 04 34.4
comp=Z,33nm,1.0s
ACSO Alum Creek Sta 51.48 355 P P 23 04 33.5 -0.9
baz=174,SNR=7.7
ACSO Alum Creek Sta 51.48 355 P P 23 04 33.5 -0.9
baz=174,SNR=7.7
PANJ Princeton 51.52 3 P P 23 04 33.9 -0.9
baz=184
KAN09 Caldwell North 51.55 340 P P 23 04 34.5 -0.6
KAN09 PcP PcP 23 05 48.2 -0.6
KAN09 IAmb IAmb 23 05 49.9
comp=Z,13nm,0.9s
O49A Covington 51.56 354 IAmb IAmb 23 04 34.8
comp=Z,22nm,1.0s
O49A Covington 51.56 354 P P 23 04 33.6 -1.4
baz=172
O49A P P 23 04 33.6 -1.4
baz=172
UPAO U. Pittsburgh 51.56 358 P P 23 04 34.1 -1.0
baz=178
KAN01 Argonia South 51.61 340 P P 23 04 35.4 -0.2
KAN01 PcP PcP 23 05 49.4 +0.4
KAN01 IAmb IAmb 23 05 50.2
comp=Z,16nm,1.1s
SSPA Standing Stone 51.68 0 P P 23 04 35.9 -0.1
SSPA IAmb IAmb 23 04 36.8
comp=Z,37nm,1.6s
SSPA Standing Stone 51.68 0 P P 23 04 35.4 -0.6
baz=180
SSPA Standing Stone 51.68 0 P P 23 04 34.5 -1.5
baz=180
SSPA Standing Stone 51.68 0 P P 23 04 35.7 -0.3
SSPA sP sP 23 04 51.3 -0.8
O48B Farmland 51.72 353 P P 23 04 35.1 -1.2
baz=171,SNR=20
O48B Farmland 51.72 353 P P 23 04 35.1 -1.2
baz=171,SNR=20
P43A Skaggs, Pawnee 51.78 349 P P 23 04 36.0 -0.8
baz=166,SNR=7.8
N58A Sunbury 51.90 1 P P 23 04 37.3 -0.4
N58A IAmb IAmb 23 04 38.6
comp=Z,20nm,0.9s
N58A Sunbury 51.90 1 P P 23 04 37.5 -0.1
baz=182
N58A P P 23 04 37.5 -0.1
baz=182
CPNY Central Park 51.98 4 P P 23 04 38.4 +0.2
121A Cookes Peak, D 51.99 328 P P 23 04 39.2 +0.5
121A IAmb IAmb 23 04 41.0
comp=Z,27nm,1.1s
121A Cookes Peak, D 51.99 328 P P 23 04 39.8 +1.1
baz=142,SNR=11
121A Cookes Peak, D 51.99 328 P P 23 04 38.8 +0.1
baz=142,SNR=11
PAMR Moraine State 52.02 358 P P 23 04 37.8 -0.7
baz=178
O44A Mansfield 52.09 350 P P 23 04 37.9 -1.2
SFIN Lafayette 52.09 351 P P 23 04 37.5 -1.5
baz=169
SFIN Lafayette 52.09 351 P P 23 04 37.1 -2.0
baz=169
N51A Ashland 52.11 356 P P 23 04 38.0 -1.2
baz=175
N51A P P 23 04 38.0 -1.2
baz=175
PSDB Penn State Uni 52.18 359 P P 23 04 39.0 -0.7
baz=179
P40A Paris 52.21 346 IAmb IAmb 23 04 40.1
comp=Z,17nm,0.8s
P40A Paris 52.21 346 P P 23 04 39.1 -0.8
baz=163,SNR=7.7
ODNJ Ogdensburg 52.23 3 P P 23 04 39.9 -0.2
baz=184
N49A Columbus Grove 52.27 354 IAmb IAmb 23 04 40.2
comp=Z,26nm,1.0s
N49A Columbus Grove 52.27 354 P P 23 04 39.5 -0.8
baz=172,SNR=6.3
N49A P P 23 04 39.5 -0.8
baz=172,SNR=6.3
M57A Sunshine Farm, 52.39 1 P P 23 04 41.4 +0.1
baz=181
M57A P P 23 04 41.4 +0.1
baz=181
N47A Urbana 52.40 353 P P 23 04 40.0 -1.4
baz=171,SNR=5.7
N47A P P 23 04 40.0 -1.4
baz=171,SNR=5.7
CRNM Carthage 52.59 330 P P 23 04 44.2 +1.1
HDIL Hopedale 52.63 349 IAmb IAmb 23 04 42.5
comp=Z,28nm,0.9s
HDIL Hopedale 52.63 349 P P 23 04 41.8 -1.2
baz=166
HDIL Hopedale 52.63 349 P P 23 04 41.4 -1.7
baz=166
M50A Fremont 52.65 355 IAmb IAmb 23 04 42.9
comp=Z,30nm,0.9s
M50A Fremont 52.65 355 P P 23 04 42.1 -1.0
baz=174
M50A P P 23 04 42.1 -1.0
baz=174
KSPA Keystone Colle 52.65 2 P P 23 04 44.0 +0.8
baz=183
P38A Dawn 52.66 345 IAmb IAmb 23 04 43.6
comp=Z,24nm,1.0s
P38A Dawn 52.66 345 P P 23 04 42.8 -0.5
baz=161,SNR=11
Y22A Socorro 52.69 330 P P 23 04 45.1 +1.2
baz=144,SNR=5.1
DUN6 Lazy B Ranch 52.70 327 P P 23 04 44.8 +1.0
DUN6 IAmb IAmb 23 04 46.1
comp=Z,96nm,1.2s
LENM Lemitar 52.88 330 P P 23 04 46.2 +0.9
NPNY Mohonk Preserv 52.93 4 P P 23 04 45.4 +0.1
baz=185
KSU1 Kansas State U 53.02 342 P P 23 04 46.1 +0.1
baz=157
N41A Harden Midland 53.08 348 P P 23 04 45.5 -0.8
baz=164
R32A Long Quarter, 53.08 340 IAmb IAmb 23 04 47.2
comp=Z,24nm,0.8s
R32A Long Quarter, 53.08 340 P P 23 04 46.2 -0.2
baz=154
L56A Greenwood 53.19 1 P P 23 04 47.0 -0.2
baz=181
L56A P P 23 04 47.0 -0.2
baz=181
ANMO Albuquerque 53.26 331 P P 23 04 48.2 +0.1
comp=Z,15nm,1.0s,baz=239,slow=9.4,SNR=22
ANMO LR LR 23 26 27.0
comp=Z,90nm,18.6s,baz=222,slow=35
comp=Z,15nm,1.0s
ANMO Albuquerque 53.26 331 P P 23 04 48.5 +0.5
ANMO IAmb IAmb 23 04 49.8
comp=Z,26nm,1.1s
ANMO Albuquerque 53.26 331 P P 23 04 48.6 +0.5
baz=145,SNR=27
ANMO Albuquerque 53.26 331 P P 23 04 48.6 +0.5
baz=145
ANMO Albuquerque 53.26 331 P P 23 04 48.1 +0.1
ANMO pP pP 23 04 58.6 -0.8
ANMO sP sP 23 05 04.0 0.0
BINY Binghamton 53.28 2 P P 23 04 48.0 +0.1
BINY IAmb IAmb 23 04 48.5
comp=Z,18nm,0.9s
BINY Binghamton 53.28 2 P P 23 04 48.0 +0.1
baz=183
BINY Binghamton 53.28 2 P P 23 04 47.8 0.0
baz=183
L59A Walton 53.31 3 P P 23 04 48.5 +0.4
L59A IAmb IAmb 23 04 49.3
comp=Z,37nm,1.1s
L59A Walton 53.31 3 P P 23 04 48.8 +0.7
baz=184
L59A P P 23 04 48.8 +0.7
baz=184
L64A Middleborough 53.41 7 P P 23 04 49.5 +0.8
baz=189
L64A P P 23 04 49.5 +0.8
baz=189
TUC Tucson 53.44 325 P P 23 04 49.6 +0.4
TUC IAmb IAmb 23 04 51.1
comp=Z,20nm,1.3s
TUC Tucson 53.44 325 P P 23 04 49.5 +0.2
baz=139
TUC Tucson 53.44 325 P P 23 04 49.8 +0.6
TUC pP pP 23 05 00.3 -0.4
TUC sP sP 23 05 05.7 +0.5
N38A Joes South For 53.69 346 P P 23 04 50.3 -0.5
baz=162
CBKS Cedar Bluff 53.78 339 P P 23 04 51.2 -0.5
CBKS IAmb IAmb 23 04 52.4
comp=Z,20nm,0.9s
CBKS Cedar Bluff 53.78 339 P P 23 04 51.5 -0.2
baz=154
CBKS Cedar Bluff 53.78 339 P P 23 04 51.0 -0.7
baz=154
WES Weston 53.80 6 P P 23 04 51.8 +0.2
WES PcP PcP 23 05 56.4 -0.7
K57A Scipio Center 53.80 1 P P 23 04 51.5 -0.1
K57A IAmb IAmb 23 04 52.1
comp=Z,29nm,1.0s
K57A PcP PcP 23 06 00.0 +2.9
K57A Scipio Center 53.80 1 P P 23 04 51.5 -0.1
baz=182
HCNY Howe Caverns 53.85 3 P P 23 04 52.6 +0.6
baz=184
T25A Trinidad 54.15 334 IAmb IAmb 23 04 56.0
comp=Z,24nm,1.2s
T25A Trinidad 54.15 334 P P 23 04 55.2 +0.7
baz=148,SNR=7.3
PMSA Palmer Station 54.29 173 LR LR 23 25 02.0
comp=Z,126nm,18.3s,baz=322,slow=33
214A Organ Pipe Nat 54.33 323 IAmb IAmb 23 04 57.9
comp=Z,29nm,1.3s
214A Organ Pipe Nat 54.33 323 P P 23 04 56.6 +0.9
baz=137,SNR=7.4
N35A Tabor 54.37 344 P P 23 04 54.7 -1.2
N35A IAmb IAmb 23 06 00.4
comp=Z,25nm,0.9s
PIX Pinacate 54.43 323 P P 23 04 57.0 +0.6
PIX IAmb IAmb 23 04 59.1
comp=Z,23nm,1.6s
L40A Anamosa 54.45 348 P P 23 04 55.5 -0.9
baz=164,SNR=5.7
ACCN Adirondack Com 54.58 4 P P 23 04 57.6 +0.3
ACCN IAmb IAmb 23 05 00.7
comp=Z,40nm,1.6s
J59A Piesco 54.61 3 P P 23 04 57.8 +0.2
baz=184
J59A P P 23 04 57.8 +0.2
baz=184
J47A Sunmer 54.63 354 P P 23 04 56.4 -1.2
baz=172
J47A P P 23 04 56.4 -1.2
baz=172
X18A Snowflake 54.67 328 IAmb IAmb 23 05 00.5
comp=Z,18nm,1.1s
SCIA State Center 54.74 346 P P 23 04 58.4 -0.1
SCIA State Center 54.74 346 P P 23 04 58.0 -0.5
baz=162
SCIA State Center 54.74 346 P P 23 04 57.8 -0.7
baz=162
SFX San Felipe 54.90 321 P P 23 04 59.4 -0.5
SFX IAmb IAmb 23 05 17.3
comp=Z,13nm,0.9s
W18A Petrified Fore 55.02 328 P P 23 05 01.5 +0.6
W18A Petrified Fore 55.02 328 P P 23 05 01.9 +1.0
baz=141,SNR=9.7
KSCO Kaye Shedlock' 55.02 337 P P 23 05 00.2 -0.6
KSCO IAmb IAmb 23 05 01.6
comp=Z,17nm,1.0s
KSCO Kaye Shedlock' 55.02 337 P P 23 05 01.0 +0.2
baz=150
KSCO Kaye Shedlock' 55.02 337 P P 23 05 00.6 -0.2
baz=150
SDCO Great Sand Dun 55.13 334 IAmb IAmb 23 05 03.0
comp=Z,15nm,1.1s
SDCO Great Sand Dun 55.13 334 P P 23 05 01.9 +0.2
baz=147,SNR=15
SDCO Great Sand Dun 55.13 334 P P 23 05 01.9 +0.2
baz=147,SNR=15
MCVT Middlebury Col 55.20 5 P P 23 05 02.7 +0.9
baz=186
RKT Rikitea 55.24 250 *e*LR LR 23 21 09.5
comp=Z,47µm,35.0s
RKT Rikitea 55.24 250 *e*T T 00 04 21.8
comp=Z,8.1nm,0.2s
K38A Parkersburg 55.34 347 IAmb IAmb 23 05 02.4
comp=Z,22nm,0.9s
K38A Parkersburg 55.34 347 P P 23 05 01.4 -1.4
baz=162
113A Mohawk Valley, 55.48 323 P P 23 05 03.4 -0.6
L34A Svendsen Farm, 55.60 344 P P 23 05 03.6 -1.2
L34A Svendsen Farm, 55.60 344 P P 23 05 04.1 -0.7
baz=158
BGNE Belgrade 55.61 342 P P 23 05 03.9 -0.9
BGNE Belgrade 55.61 342 P P 23 05 03.5 -1.3
baz=156
S22A 4UR Ranch, Cre 55.72 333 P P 23 05 06.2 +0.2
S22A 4UR Ranch, Cre 55.72 333 P P 23 05 06.0 0.0
baz=145,SNR=7.9
LONY Lake Ozonia 55.76 3 P P 23 05 05.6 -0.1
baz=184
I42A Draeger Farm, 55.81 351 P P 23 05 04.7 -1.4
I42A IAmb IAmb 23 05 05.5
comp=Z,23nm,1.0s
I42A Draeger Farm, 55.81 351 P P 23 05 05.1 -1.0
baz=167
SADO Sadowa 55.82 359 P P 23 05 04.7 -1.6
comp=Z,12nm,0.9s,baz=187,slow=8.8,SNR=4.0
SADO LR LR 23 29 35.0
comp=Z,112nm,19.6s,baz=124,slow=37
comp=Z,12nm,0.9s
Y14A Wickenburg 55.89 325 P P 23 05 07.5 +0.5
Q24A Divide 56.00 335 P P 23 05 08.3 +0.3
baz=148
FRNY Flat Rock 56.03 4 P P 23 05 07.8 +0.1
baz=185
MVCO Mesa Verde 56.06 331 P P 23 05 08.5 +0.1
baz=144
I40A Norwalk 56.10 349 IAmb IAmb 23 06 25.6
comp=Z,53nm,1.8s
WUAZ Wupatki 56.18 327 IAmb IAmb 23 05 11.4
comp=Z,33nm,1.2s
WUAZ Wupatki 56.18 327 P P 23 05 10.1 +0.9
baz=140,SNR=14
OGNE Ogallala 56.49 338 P P 23 05 11.0 -0.1
baz=152
OGNE Ogallala 56.49 338 P P 23 05 10.9 -0.3
baz=152
BLYC Blythe 56.62 324 P P 23 05 13.0 +0.9
G62A West of Eustis 56.68 6 P P 23 05 12.4 +0.1
G62A West of Eustis 56.68 6 P P 23 05 13.6 +1.2
baz=189,SNR=5.1
G62A P P 23 05 13.6 +1.2
baz=189,SNR=5.1
IKP In-Ko-Pah, Jac 56.79 322 P P 23 05 14.4 +0.9
baz=134
SWSC Sam W. Stewart 56.81 322 P P 23 05 13.1 -0.4
baz=134
PKME Peaks-Kenny Pk 56.88 7 P P 23 05 14.5 +0.8
baz=190
PKME Peaks-Kenny Pk 56.88 7 P P 23 05 14.0 +0.3
baz=190
ISCO Idaho Springs 56.89 335 P P 23 05 14.6 +0.2
baz=147
ISCO Idaho Springs 56.89 335 P P 23 05 14.4 0.0
baz=148
K31A O'Neill 56.90 342 P P 23 05 13.6 -0.4
baz=156,SNR=7.4
PV13 Radium Mtn., P 56.97 331 IAmb IAmb 23 05 16.3
comp=Z,31nm,1.0s
BC3 Big Chuckawall 57.10 323 P P 23 05 15.9 +0.2
baz=135,SNR=5.4
PV11 David Mesa, Pa 57.11 331 P P 23 05 15.9 +0.1
PV11 IAmb IAmb 23 05 17.2
comp=Z,21nm,1.2s
PV07 Paradox Valley 57.11 332 P P 23 05 16.2 +0.4
PV07 IAmb IAmb 23 05 17.4
comp=Z,23nm,1.2s
MONP2 Monument Peak 57.15 322 P P 23 05 16.5 +0.3
baz=134
BAR Barrett 57.16 321 P P 23 05 16.2 +0.2
BAR IAmb IAmb 23 05 17.9
comp=Z,26nm,1.5s
W13A Hualapai Mount 57.23 325 P P 23 05 17.7 +0.9
W13A IAmb IAmb 23 05 19.1
comp=Z,26nm,1.1s
PV10 Paradox Valley 57.25 331 P P 23 05 15.8 -1.0
PV10 IAmb IAmb 23 05 17.5
comp=Z,17nm,1.0s
IRM Iron Mountain 57.27 324 P P 23 05 17.8 +1.0
baz=136,SNR=14
PV23 Carpenter Ridg 57.29 331 P P 23 05 16.8 -0.4
ECSD EROS Data Cent 57.31 344 IAmb IAmb 23 06 11.2
comp=Z,15nm,1.0s
ECSD EROS Data Cent 57.31 344 P P 23 05 15.6 -1.3
baz=158,SNR=6.4
ECSD EROS Data Cent 57.31 344 P P 23 05 15.6 -1.3
baz=158,SNR=6.4
U15A North Rim 57.35 327 P P 23 05 18.6 +0.9
109C Camp Elliot, M 57.56 321 P P 23 05 19.3 +0.5
109C IAmb IAmb 23 05 23.0
comp=Z,42nm,1.8s
PMD Palm Desert 57.64 322 P P 23 05 19.4 0.0
PMD IAmb IAmb 23 05 20.8
comp=Z,6.2nm,1.0s
TPFO Pinon Flats 57.66 322 P P 23 05 20.5 +0.9
baz=134
BELC Belle Mtn. Jos 57.66 323 P P 23 05 20.0 +0.3
baz=135
PFO Pinyon Flats O 57.67 322 LR LR 23 25 52.3
comp=Z,121nm,20.8s,baz=139,slow=32
PFO Pinyon Flats O 57.67 322 P P 23 05 20.9 +1.2
PFO Pinyon Flats O 57.67 322 P P 23 05 20.8 +1.1
baz=134
PFO Pinyon Flats O 57.67 322 P P 23 05 20.3 +0.6
SPMN Marine on St. 57.81 348 P P 23 05 18.8 -1.5
baz=163,SNR=5.1
SPMN Marine on St. 57.81 348 P P 23 05 19.2 -1.1
baz=163,SNR=5.1
N23A Red Feather La 57.95 335 P P 23 05 20.9 -0.9
N23A Red Feather La 57.95 335 P P 23 05 20.7 -1.0
baz=148
GMRC Granite Mounta 58.02 324 P P 23 05 22.6 +0.5
baz=135,SNR=7.6
MURC Murrieta 58.10 322 P P 23 05 23.4 +0.7
baz=134
PKCU Pink Cliffs 58.13 328 P P 23 05 24.0 +0.9
E62A Clayton Lake 58.18 7 P P 23 05 23.3 +0.4
E62A IAmb IAmb 23 05 24.8
comp=Z,16nm,0.8s
E62A Clayton Lake 58.18 7 P P 23 05 23.9 +1.0
baz=190
E62A P P 23 05 23.9 +1.0
baz=190
V12A Nelson 58.23 325 P P 23 05 24.0 +0.4
V12A IAmb IAmb 23 05 25.6
comp=Z,35nm,1.4s
ELS Elsinore Mount 58.28 322 P P 23 05 24.5 +0.6
ELS IAmb IAmb 23 05 26.2
comp=Z,28nm,1.7s
LCMT Little Creek M 58.30 327 P P 23 05 24.2 +0.1
LCMT IAmb IAmb 23 05 26.2
comp=Z,21nm,1.3s
O20A White River Ci 58.30 333 P P 23 05 24.3 +0.1
O20A IAmb IAmb 23 05 25.5
comp=Z,16nm,1.1s
O20A White River Ci 58.30 333 P P 23 05 24.0 -0.1
baz=145,SNR=6.0
HEC Hector,Ludlow 58.44 323 P P 23 05 25.9 +0.9
baz=135
MTPU Mount Pierson 58.52 329 P P 23 05 26.2 +0.3
MTPU IAmb IAmb 23 06 31.2
comp=Z,25nm,1.9s
SRU San Rafael Swe 58.53 331 P P 23 05 25.9 +0.1
SRU IAmb IAmb 23 05 27.1
comp=Z,14nm,1.2s
F36A Milaca 58.57 347 IAmb IAmb 23 05 25.7
comp=Z,18nm,0.9s
F36A Milaca 58.57 347 P P 23 05 24.9 -0.7
baz=162,SNR=9.5
SUSD Miller 58.62 343 P P 23 05 25.6 -0.4
baz=156
SUSD Miller 58.62 343 P P 23 05 24.5 -1.6
baz=156
TUQ Turquoise Moun 58.63 324 P P 23 05 26.8 +0.4
baz=135,SNR=6.1
SZCU Shurtz Canyon 58.65 328 IAmb IAmb 23 07 15.9
comp=Z,21nm,1.4s
WTNK Soaring Height 58.66 325 P P 23 05 27.0 +0.5
WTNK IAmb IAmb 23 05 27.6
comp=Z,3.2nm,1.0s
D62A Allapoint, All 58.69 7 IAmb IAmb 23 05 28.1
comp=Z,21nm,1.0s
D62A Allapoint, All 58.69 7 P P 23 05 27.4 +1.0
baz=190
D62A P P 23 05 27.4 +1.0
baz=190
Q16A Castle Valley 58.70 330 P P 23 05 27.7 +0.8
Q16A IAmb IAmb 23 05 29.6
comp=Z,15nm,1.2s
CCUT Cedar City 58.76 328 P P 23 05 28.4 +1.0
CCUT IAmb IAmb 23 05 30.1
comp=Z,21nm,1.4s
P18A Preston Nutter 58.81 331 P P 23 05 28.2 +0.4
BFSC Mount Baldy Ra 58.82 322 P P 23 05 27.7 -0.1
baz=133,SNR=6.1
D41A Chassel 58.85 352 P P 23 05 27.6 0.0
baz=168
MVU Marysvale 58.89 329 P P 23 05 28.6 +0.3
P17A Butcher Ranch, 58.92 331 IAmb IAmb 23 05 29.8
comp=Z,20nm,1.1s
SHPR Sheep Range 58.97 326 IAmb IAmb 23 05 31.0
comp=Z,14nm,1.2s
GSC Goldstone, Bar 59.05 323 IAmb IAmb 23 05 31.5
comp=Z,35nm,1.6s
GSC Goldstone, Bar 59.05 323 P P 23 05 30.4 +1.1
baz=135,SNR=7.6
SHOC Shoshone, Teco 59.16 324 P P 23 05 30.7 +0.7
baz=135
F33A 5 Mile Ranch, 59.19 345 P P 23 05 28.9 -1.1
baz=159
RDMU Red Mountain 59.25 332 IAmb IAmb 23 05 31.7
comp=Z,15nm,1.0s
EDW2 Edwards Air Fo 59.46 322 P P 23 05 32.4 +0.3
baz=133,SNR=14
QSM Queen of Sheba 59.55 324 IAmb IAmb 23 05 34.4
comp=Z,11nm,1.1s
PRN Pahroc Range 59.56 326 IAmb IAmb 23 05 35.1
comp=Z,15nm,1.2s
CCAC Calif City Air 59.66 323 IAmb IAmb 23 05 35.5
comp=Z,19nm,0.9s
K22A Casper 59.66 336 P P 23 05 33.0 -0.5
baz=147
K22A Casper 59.66 336 P P 23 05 34.0 +0.5
baz=147
LRMC Laurel Mtn Rad 59.69 323 P P 23 05 34.8 +1.0
baz=134,SNR=7.2
TPNV Topopah Spring 59.89 325 P P 23 05 36.0 +0.9
baz=136,SNR=11
MPMC Manual Prospec 59.97 324 P P 23 05 36.4 +0.6
baz=134,SNR=7.8
RSSD Black Hills 59.98 339 P P 23 05 35.8 +0.1

RSSD	**Black Hills**	**59.98**	**339**	P	**P**	**23**	**05**	**35.3**	**-0.4**
	baz=150								
RSSD	**Black Hills**	**59.98**	**339**	P	**P**	**23**	**05**	**35.5**	**-0.2**
	baz=150								
RSSD	**Black Hills**	**59.98**	**339**	P	**P**	**23**	**05**	**35.1**	**-0.6**
JLU	**Jordanelle**	**60.15**	**331**	IAmb	IAmb	23	05	38.5	
	comp=Z,12nn,1.0s								
EYMN	**Ely**	**60.18**	**350**	P	**P**	**23**	**05**	**36.6**	**-0.1**
	baz=165								
EYMN	**Ely**	**60.18**	**350**	P	**P**	**23**	**05**	**36.6**	**-0.1**
	baz=165								
ISA	**Isabella, Lake**	**60.28**	**323**	IAmb	IAmb	23	05	39.9	
	comp=Z,13nm,1.2s								
ISA	**Isabella, Lake**	**60.28**	**323**	P	**P**	**23**	**05**	**38.7**	**+1.0**
	baz=133,SNR=6.0								
SPR3	**Spring Creek 3**	**60.35**	**328**	IAmb	IAmb	23	05	40.0	
	comp=Z,17nm,1.2s								
DUG	**Dugway, Tooele**	**60.49**	**330**	IAmb	IAmb	23	05	41.1	
	comp=Z,17nm,1.1s								
DUG	**Dugway, Tooele**	**60.49**	**330**	P	**P**	**23**	**05**	**39.7**	**+0.5**
	baz=140,SNR=13								
TCUT	**Toone Canyon**	**60.53**	**332**	IAmb	IAmb	23	05	41.1	
	comp=Z,18nm,1.2s								
R11A	**Troy Canyon, C**	**60.53**	**327**	IAmb	IAmb	23	05	41.8	
	comp=Z,15nm,1.3s								
R11A	**Troy Canyon, C**	**60.53**	**327**	P	**P**	**23**	**05**	**40.7**	**+1.1**
	baz=137,SNR=13								
PKM	**Mcpherson Peak**	**60.57**	**321**	P	**P**	**23**	**05**	**40.7**	**+0.8**
	baz=132								
CWC	**Cottonwood Cre**	**60.58**	**324**	P	**P**	**23**	**05**	**40.7**	**+0.8**
	baz=134								
VES	**Vestal, Richgr**	**60.77**	**322**	P	**P**	**23**	**05**	**41.9**	**+0.9**
	baz=133								
LCH	**Last Change Ra**	**60.88**	**324**	IAmb	IAmb	23	05	43.8	
	comp=Z,24nm,1.7s								
TAOE	**Nuku Hiva Isla**	**61.00**	**266**	*e*LR	LR	23	23	50.3	
	comp=Z,151nm,22.8s								
PDAR	**Pinedale Array**	**61.02**	**334**	P	**P**	**23**	**05**	**42.1**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=146,slow=8.4,SNR=17								
PDAR				PcP	**PcP**	**23**	**06**	**25.3**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=131,slow=4.9,SNR=4.5								
PDAR				LR	LR	23	32	12.0	
	comp=Z,68nm,18.1s,baz=145,slow=36								
	comp=Z,2.4nm,0.9s								
E28A	**Huff**	**61.07**	**342**	P	**P**	**23**	**05**	**43.0**	**+0.2**
	baz=155								
TIN	**Tinemaha, Big**	**61.09**	**324**	P	**P**	**23**	**05**	**44.1**	**+0.8**
	baz=134								
DSP	**Deep Springs**	**61.16**	**324**	IAmb	IAmb	23	05	45.8	
	comp=Z,12nm,1.0s								
HVU	**Hansel Valley**	**61.69**	**331**	IAmb	IAmb	23	05	48.2	
	comp=Z,12nm,1.0s								
MLAC	**Mammoth, Mammo**	**61.84**	**324**	P	**P**	**23**	**05**	**49.1**	**+0.6**
	baz=134								
MDND	**Maddock**	**61.91**	**344**	P	**P**	**23**	**05**	**48.7**	**+0.3**
	baz=156								
MDND	**Maddock**	**61.91**	**344**	P	**P**	**23**	**05**	**48.1**	**-0.4**
	baz=156								
MDPB	**Devils Postpil**	**61.98**	**324**	IAmb	IAmb	23	05	51.2	
	comp=Z,20nm,1.2s								
NV11	**Mina Array Sit**	**62.01**	**325**	IAmb	IAmb	23	05	52.5	
	comp=Z,15nm,1.1s								
REDW	**Red Top Meadow**	**62.06**	**334**	IAmb	IAmb	23	05	52.2	
	comp=Z,15nm,1.3s								
LHV	**Little Huntoon**	**62.08**	**325**	IAmb	IAmb	23	05	52.2	
	comp=Z,17nm,0.9s								
NVAR	**Mina Array Bea**	**62.09**	**325**	P	**P**	**23**	**05**	**50.3**	**+0.2**
	comp=Z,6.3nm,0.8s,baz=143,slow=6.8,SNR=42								
NVAR				PcP	**PcP**	**23**	**06**	**30.2**	**0.0**
	comp=Z,3.6nm,0.9s,baz=164,slow=4.4,SNR=4.7								
	comp=Z,6.3nm,0.8s								
ELK	**Elko**	**62.11**	**329**	LR	LR	23	30	41.7	
	comp=Z,150nm,20.6s,baz=136,slow=34								
TPAW	**Teton Pass**	**62.20**	**334**	IAmb	IAmb	23	05	51.3	
	comp=Z,26nm,1.9s								
H17A	**Grant Village**	**62.77**	**334**	P	**P**	**23**	**05**	**55.4**	**+0.8**
	baz=144								
WAKR	**Walker**	**62.78**	**324**	IAmb	IAmb	23	05	57.1	
	comp=Z,18nm,1.1s								
RLMT	**Red Lodge**	**62.82**	**336**	IAmb	IAmb	23	07	45.2	
	comp=Z,8.4nm,0.6s								
RLMT	**Red Lodge**	**62.82**	**336**	P	**P**	**23**	**05**	**54.2**	**-0.6**
	baz=145								
LAO	**LASA Array**	**62.98**	**339**	P	**P**	**23**	**05**	**55.4**	**-0.3**
	baz=149								
LAO	**LASA Array**	**62.98**	**339**	P	**P**	**23**	**05**	**55.6**	**-0.1**
	baz=149								
ULM	**Lac du Bonnet**	**63.23**	**347**	P	**P**	**23**	**05**	**56.4**	**-0.8**
	comp=Z,27nm,1.0s,baz=164,slow=6.3,SNR=23								
	comp=Z,27nm,1.0s								
MPK	**Martis Peak**	**63.66**	**325**	IAmb	IAmb	23	06	03.1	
	comp=Z,31nm,1.5s								
HLID	**Hailey**	**63.83**	**331**	P	**P**	**23**	**06**	**02.1**	**+0.6**
	baz=140,SNR=6.5								
BOZ	**Bozeman (W)**	**64.18**	**335**	P	**P**	**23**	**06**	**03.9**	**+0.1**
	baz=143								
PLTX	**Planet X, Gerl**	**64.32**	**326**	P	**P**	**23**	**06**	**05.7**	**+1.0**
PLTX				IAmb	IAmb	23	06	06.7	
	comp=Z,49nm,1.1s								
MFID	**Camas Ranch**	**64.39**	**330**	IAmb	IAmb	23	06	07.0	
	comp=Z,22nm,1.1s								
EGMT	**Eagleton**	**65.40**	**337**	P	**P**	**23**	**06**	**11.3**	**-0.3**
	baz=146								
MOD	**Modoc Plateau**	**65.60**	**327**	IAmb	IAmb	23	06	14.9	
	comp=Z,28nm,1.3s								
PLID	**Pearl Lake**	**65.73**	**332**	P	**P**	**23**	**06**	**13.8**	**-0.2**
MSO	**Missoula**	**66.14**	**334**	IAmb	IAmb	23	06	18.0	
	comp=Z,22nm,1.2s								
MSO	**Missoula**	**66.14**	**334**	P	**P**	**23**	**06**	**17.3**	**+0.9**
	baz=141,SNR=7.5								
BMO	**Blue Mountains**	**66.17**	**331**	IAmb	IAmb	23	06	17.5	
	comp=Z,30nm,2.0s								
BBTS	**Babate**	**66.28**	**68**	LR	LR	23	34	06.3	
	comp=Z,180nm,19.8s,baz=250,slow=35								
K05A	**Summer Lake**	**66.48**	**327**	P	**P**	**23**	**06**	**19.0**	**+0.2**
SCHQ	**Schefferville**	**66.58**	**7**	LR	LR	23	35	53.9	
	comp=Z,78nm,21.0s,baz=255,slow=36								
YBH	**Yreka Blue Hor**	**66.81**	**325**	LR		23	34	02.7	
	comp=Z,118nm,20.5s,baz=130,slow=35								
YBH	**Yreka Blue Hor**	**66.81**	**325**	P	**P**	**23**	**06**	**20.4**	**-0.4**
KHMM	**Horse Mountain**	**66.83**	**324**	IAmb	IAmb	23	06	23.6	
	comp=Z,17nm,1.1s								
E09A	**Wood Farm, Sta**	**67.79**	**331**	P	**P**	**23**	**06**	**26.6**	**-0.2**
E09A				IAmb	IAmb	23	06	27.6	
	comp=Z,16nm,1.3s								
WALA	**Waterton Lakes**	**67.87**	**335**	IAmb	IAmb	23	06	54.0	
	comp=Z,22nm,1.4s								
H04A	**Detroit Lake**	**68.51**	**328**	P	**P**	**23**	**06**	**31.0**	**-0.4**
H04A				IAmb	IAmb	23	06	59.9	
	comp=Z,31nm,1.8s								
TBI	**Tubuai**	**68.56**	**249**	*e*LR	LR	23	27	10.1	
	comp=Z,2µm,24.2s								
TBI				*e*LR	LR	23	27	19.8	
	comp=Z,814nm,42.5s								
TBI	**Tubuai**	**68.56**	**249**	*e*T	T	00	21	15.5	
	comp=Z,10nm,0.3s								
BUCK	**Buck Mountain**	**68.60**	**327**	P	**P**	**23**	**06**	**31.9**	**-0.1**
NEW	**Newport**	**68.62**	**333**	LR	LR	23	35	59.4	
	comp=Z,79nm,21.9s,baz=138,slow=36								
NEW	**Newport**	**68.62**	**333**	P	**P**	**23**	**06**	**32.5**	**+0.5**
NEW				IAmb	IAmb	23	06	44.3	
	comp=Z,28nm,1.6s								
FFC	**Flin Flon**	**68.80**	**345**	P	**P**	**23**	**06**	**32.0**	**-0.8**
FFC				sP	**sP**	**23**	**06**	**48.7**	**-0.4**
PPT2	**Papeete2**	**69.12**	**255**	*e*LR	LR	23	27	35.6	
	comp=Z,200nm,25.0s								
PPT2				*e*LR	LR	23	27	35.7	
	comp=Z,288nm,25.2s								
BELA	**Belgrano 2**	**70.07**	**171**	P	**P**	**23**	**06**	**41.3**	**+0.8**
EDM	**Edmonton**	**70.96**	**338**	IAmb	IAmb	23	06	46.5	
	comp=Z,25nm,1.0s								
FCC	**Fort Churchill**	**71.02**	**351**	IAmb	IAmb	23	06	47.0	
	comp=Z,16nm,1.1s								
VNA3	**Neumayer Olymp**	**72.49**	**162**	P	**P**	**23**	**06**	**56.0**	**+0.7**
VNA1	**Neumayer--Stat**	**72.77**	**161**	P	**P**	**23**	**06**	**57.9**	**+1.0**
VNA2	**Neumayer--Watz**	**73.12**	**161**	P	**P**	**23**	**06**	**59.4**	**+0.4**
	baz=294,slow=6.0								
SNAA	**Sanae**	**74.72**	**162**	P	**P**	**23**	**07**	**08.9**	**+0.5**
SNAA	**Sanae**	**74.72**	**162**	P	**P**	**23**	**07**	**08.2**	**-0.2**
LIC	**Lamto**	**74.80**	**80⇗**	*e*P	**P**	**23**	**07**	**10.7**	**+0.9**
	comp=Z,19nm,0.8s								
TIC	**Toumodi**	**74.90**	**80⇗**	*e*P	**P**	**23**	**07**	**10.4**	**-0.1**
	comp=Z,22nm,1.0s								
DBIC	**Dimbokro**	**75.07**	**80**	P	**P**	**23**	**07**	**10.9**	**-0.5**
DBIC				pP	**pP**	**23**	**07**	**22.2**	**-1.0**
DBIC				IAmb	IAmb	23	07	23.2	
	comp=Z,16nm,0.9s								
KIC	**Kosan Boka**	**75.11**	**80⇗**	*e*P	**P**	**23**	**07**	**11.9**	**+0.3**
	comp=Z,7.3nm,0.8s								
FRB	**Frobisher Bay**	**75.19**	**4**	LR	LR	23	41	34.1	
	comp=Z,167nm,20.5s,baz=203,slow=37								
TROLL	**Troll, Antarti**	**76.43**	**162**	P	**P**	**23**	**07**	**19.0**	**+0.7**
HILA	**High Level**	**76.45**	**340**	P	**P**	**23**	**07**	**18.0**	**-0.3**
NUUK	**Nuuk**	**77.91**	**11**	*e*P	**P**	**23**	**07**	**22.1**	**-4.2**
QSPA	**South Pole Qui**	**78.81**	**180**	P	**P**	**23**	**07**	**32.4**	**+0.7**
QSPA				IAmb	IAmb	23	07	33.8	
	comp=Z,19nm,1.1s								
YKA	**Yellowknife Ar**	**78.83**	**344**	P	**P**	**23**	**07**	**30.9**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=141,slow=5.7,SNR=55								
YKA				PP	**PP**	**23**	**10**	**31.1**	**+0.5**
	comp=Z,1.0nm,1.1s,baz=136,slow=8.3,SNR=3.8								
	comp=Z,4.8nm,0.8s								
T35M	**Bob Quinn**	**80.40**	**334**	P	**P**	**23**	**07**	**41.3**	**+1.1**
	baz=128								
SFJD	**Kangerlussuaq**	**80.64**	**11**	LR	LR	23	43	08.2	
	comp=Z,170nm,21.0s,baz=178,slow=36								
DY2G	**Dye2**	**81.03**	**12**	*i* P	**P**	**23**	**07**	**43.0**	**-0.6**
DY2G				IAmb	IAmb	23	07	44.0	
	comp=Z,17nm,1.0s								
DLBC	**Dease Lake**	**81.22**	**335**	IAmb	IAmb	23	07	46.2	
	comp=Z,22nm,1.2s								
DLBC	**Dease Lake**	**81.22**	**335**	P	**P**	**23**	**07**	**45.3**	**+0.7**
	baz=129								
R33M	**Jennings River**	**82.19**	**336**	P	**P**	**23**	**07**	**50.6**	**+0.8**
	baz=128								
Q32M	**Nahsina River**	**82.46**	**335**	P	**P**	**23**	**07**	**52.1**	**+0.8**
	baz=127								
ILULI	**Ilulissat**	**82.54**	**9**	*e*P	**P**	**23**	**07**	**49.5**	**-1.7**
MDT	**Midelt**	**82.59**	**55**	LR	LR	23	41	48.3	
	comp=Z,124nm,20.6s,baz=316,slow=34								
ELIB	**Princess Elisa**	**82.86**	**162**	*d*P	**P**	**23**	**07**	**53.4**	**+0.2**
	comp=Z,3.3nm,1.1s								
P32M	**Atlin**	**83.44**	**335**	P	**P**	**23**	**07**	**56.9**	**+0.8**
	baz=126								
P33M	**Teslin, Yukon**	**83.44**	**336**	P	**P**	**23**	**07**	**56.3**	**+0.1**
	baz=126								
ICESG	**Greenland Ices**	**84.62**	**13**	*i* P	**P**	**23**	**08**	**01.7**	**-0.7**
ICESG				IAmb	IAmb	23	08	02.9	
	comp=Z,27nm,1.2s								
FARO	**Faro, Yukon**	**84.84**	**337**	IAmb	IAmb	23	08	04.6	
	comp=Z,15nm,1.0s								
FARO	**Faro, Yukon**	**84.84**	**337**	P	**P**	**23**	**08**	**03.9**	**+0.7**
	baz=126,SNR=5.1								
O30N	**Mendenhall**	**85.08**	**335**	P	**P**	**23**	**08**	**05.2**	**+0.8**
	baz=124								
P30M	**Million Dollar**	**85.09**	**335**	P	**P**	**23**	**08**	**05.1**	**+0.6**
	baz=123								
M31M	**Drury Creek, Y**	**85.22**	**337**	P	**P**	**23**	**08**	**05.8**	**+0.7**
	baz=125								
ESDC	**Sonseca Array**	**85.27**	**48**	P	**P**	**23**	**08**	**06.2**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=267,slow=4.2,SNR=10								
ESDC				LR	LR	23	42	42.1	
	comp=Z,63nm,20.2s,baz=272,slow=33								
	comp=Z,1.7nm,0.9s								
ESDC	**Sonseca Array**	**85.27**	**48**	P	**P**	**23**	**08**	**05.5**	**-0.4**
ESBB	**Sonseca Array**	**85.27**	**48**	P	**P**	**23**	**08**	**06.6**	**+0.7**
ESBB				IAmb	IAmb	23	08	10.4	
	comp=Z,13nm,1.4s								
N31M	**Braeburn, Yuko**	**85.36**	**336**	P	**P**	**23**	**08**	**06.9**	**+1.1**
	baz=124								
O29M	**Mount Kennedy**	**85.87**	**334**	P	**P**	**23**	**08**	**08.8**	**+0.3**
	baz=121								
YUK6	**Outpost Mounta**	**86.12**	**335**	P	**P**	**23**	**08**	**09.6**	**-0.2**
	baz=122								
M30M	**Minto, Yukon**	**86.36**	**337**	IAmb	IAmb	23	08	11.6	
	comp=Z,10nm,1.1s								
M30M	**Minto, Yukon**	**86.36**	**337**	P	**P**	**23**	**08**	**10.9**	**+0.2**
	baz=123								
YUK4	**Talbot Arm**	**86.44**	**335**	P	**P**	**23**	**08**	**11.6**	**+0.2**
	baz=121								
RES	**Resolute Bay**	**86.46**	**356**	LR	LR	23	47	28.9	
	comp=Z,76nm,21.8s,baz=121,slow=36								
RES	**Resolute Bay**	**86.46**	**356**	IAmb	IAmb	23	09	20.4	
	comp=Z,27nm,2.0s								
YUK8	**Steele Glacier**	**86.88**	**335**	P	**P**	**23**	**08**	**13.2**	**-0.4**
	baz=120								
M29M	**Somme Creek**	**86.94**	**336**	P	**P**	**23**	**08**	**14.2**	**+0.5**
	baz=122								
L29M	**L29M**	**87.16**	**337**	P	**P**	**23**	**08**	**14.9**	**+0.3**
	baz=122,SNR=13								
K29M	**Barlow Dome**	**87.32**	**338**	P	**P**	**23**	**08**	**15.1**	**-0.4**
	baz=122								
YUK3	**Moose Creek**	**87.41**	**335**	P	**P**	**23**	**08**	**16.3**	**+0.2**
	baz=120								
SUMG	**Summit**	**87.62**	**11**	*i* P	**P**	**23**	**08**	**17.6**	**+0.5**
SUMG				IAmb	IAmb	23	08	18.5	
	comp=Z,42nm,1.2s								
BGLC	**Bering Glacier**	**87.84**	**333**	P	**P**	**23**	**08**	**18.4**	**+0.6**
	baz=117								
TULEG	**Thule**	**87.86**	**2**	P	**P**	**23**	**08**	**17.8**	**+0.1**
BVCY	**Beaver Creek**	**87.89**	**336**	P	**P**	**23**	**08**	**18.0**	**-0.1**
	baz=119								
J29M	**Klondike Camp**	**87.90**	**338**	P	**P**	**23**	**08**	**18.4**	**+0.1**
J29M	**Klondike Camp**	**87.90**	**338**	P	**P**	**23**	**08**	**18.8**	**+0.6**
	baz=122								
F31M	**Tsiigehtchic**	**88.05**	**341**	P	**P**	**23**	**08**	**18.5**	**-0.2**
	baz=126,SNR=11								
DAWY	**Dawson**	**88.14**	**337**	IAmb	IAmb	23	08	20.1	
	comp=Z,15nm,1.0s								
DAWY	**Dawson**	**88.14**	**337**	P	**P**	**23**	**08**	**19.0**	**-0.3**
	baz=121,SNR=9.3								
M27K	**Edge Creek, AK**	**88.28**	**335**	P	**P**	**23**	**08**	**20.0**	**-0.2**
	baz=118								
MCARA	**McCarthy VSAT**	**88.30**	**334**	P	**P**	**23**	**08**	**20.3**	**+0.2**
	baz=117								
EPYK	**Eagle Plains**	**88.41**	**340**	P	**P**	**23**	**08**	**20.1**	**-0.5**
EPYK				IAmb	IAmb	23	08	21.1	
	comp=Z,14nm,1.1s								
EPYK	**Eagle Plains**	**88.41**	**340**	P	**P**	**23**	**08**	**20.6**	**0.0**
	baz=123,SNR=7.4								
VRDI	**Verde Repeater**	**88.41**	**334**	P	**P**	**23**	**08**	**19.8**	**-1.0**
I29M	**Ogilvie Camp,**	**88.42**	**339**	P	**P**	**23**	**08**	**18.9**	**-1.7**
I29M	**Ogilvie Camp,**	**88.42**	**339**	P	**P**	**23**	**08**	**20.5**	**-0.1**
	baz=122,SNR=11								
INK	**Inuvik**	**88.50**	**342**	P	**P**	**23**	**08**	**20.8**	**-0.1**
	baz=126,SNR=29								
G30M	**tAoh Zrail Nji**	**88.58**	**340**	P	**P**	**23**	**08**	**21.9**	**+0.5**
	baz=124								
L27K	**Beaver Creek,**	**88.59**	**336**	P	**P**	**23**	**08**	**21.4**	**0.0**
	baz=118								
GLB	**Gilahina Butte**	**88.67**	**334**	P	**P**	**23**	**08**	**21.8**	**0.0**
A36M	**Sachs Harbour**	**88.71**	**347**	P	**P**	**23**	**08**	**20.9**	**-0.8**
	baz=134,SNR=20								
M26K	**Nabesna, AK**	**88.76**	**335**	P	**P**	**23**	**08**	**21.6**	**-0.7**
	baz=118								
N25K	**Chitina, Valde**	**89.08**	**334**	P	**P**	**23**	**08**	**24.3**	**+0.5**
	baz=116								
K27K	**Chicken**	**89.15**	**337**	P	**P**	**23**	**08**	**24.3**	**+0.2**
	baz=118								
EGAK	**Eagle**	**89.16**	**338**	P	**P**	**23**	**08**	**24.2**	**+0.2**
	baz=119,SNR=8.4								
L26K	**Log Cabin Wild**	**89.19**	**336**	P	**P**	**23**	**08**	**24.2**	**0.0**
	baz=117								
KLU	**Klutina**	**89.60**	**334**	P	**P**	**23**	**08**	**26.0**	**-0.3**
	baz=115								
I27K	**Kandik River**	**89.73**	**338**	P	**P**	**23**	**08**	**26.4**	**-0.4**
	baz=119								
DOT	**Dot Lake**	**89.76**	**336**	IAmb	IAmb	23	08	28.1	
	comp=Z,16nm,1.1s								
SCRK	**Sand Creek**	**89.88**	**336**	IAmb	IAmb	23	08	28.3	
	comp=Z,9.3nm,1.0s								
SCRK	**Sand Creek**	**89.88**	**336**	P	**P**	**23**	**08**	**27.0**	**-0.6**
	baz=117,SNR=5.9								
J26L	**Joseph Creek**	**89.95**	**337**	P	**P**	**23**	**08**	**27.6**	**-0.2**
	baz=117								
NEEM	**North Greenlan**	**89.95**	**6**	*i* P	**P**	**23**	**08**	**28.5**	**+0.6**
NEEM				IAmb	IAmb	23	08	29.6	
	comp=Z,33nm,0.9s								
M24K	**Tolsona, Glenn**	**89.97**	**334**	P	**P**	**23**	**08**	**28.1**	**+0.1**
	baz=115								
H27K	**Steamboat Moun**	**90.00**	**339**	P	**P**	**23**	**08**	**27.3**	**-0.7**
	baz=119,SNR=6.9								
PAX	**Paxson**	**90.03**	**335**	P	**P**	**23**	**08**	**27.6**	**-0.7**
	baz=115,SNR=6.8								
RIDG	**Independent Ri**	**90.11**	**336**	P	**P**	**23**	**08**	**28.2**	**-0.4**
	baz=116,SNR=5.2								
G27K	**Doyon Strip**	**90.33**	**339**	P	**P**	**23**	**08**	**29.4**	**-0.1**
	baz=119								
SCM	**Sheep Creek Mo**	**90.35**	**334**	P	**P**	**23**	**08**	**30.0**	**+0.2**
	baz=114								
SEW	**Seward**	**90.64**	**332**	P	**P**	**23**	**08**	**31.1**	**0.0**
	baz=112								
SML	**Sawmill**	**90.78**	**333**	P	**P**	**23**	**08**	**31.6**	**-0.2**
	baz=113								
WAT6	**Susitna Watana**	**90.83**	**334**	P	**P**	**23**	**08**	**31.8**	**-0.3**
	baz=113,SNR=6.4								
EKA	**Eskdalemuir Ar**	**90.84**	**34**	LR	LR	23	44	43.6	
	comp=Z,59nm,18.9s,baz=308,slow=33								
DHY	**Denali Highway**	**90.87**	**335**	P	**P**	**23**	**08**	**32.3**	**+0.1**
	baz=114								
E27K	**Coleen River**	**90.97**	**340**	P	**P**	**23**	**08**	**32.2**	**-0.2**
	baz=119								
G26K	**Porcupine Rive**	**91.14**	**339**	P	**P**	**23**	**08**	**32.9**	**-0.3**
	baz=117								
PRP	**Porcupine Dome**	**91.14**	**337**	IAmb	IAmb	23	08	34.4	
	comp=Z,12nm,1.2s								
PRP	**Porcupine Dome**	**91.14**	**337**	P	**P**	**23**	**08**	**33.3**	**-0.2**
	baz=115,SNR=5.2								
HDA	**Harding Lake**	**91.23**	**336**	P	**P**	**23**	**08**	**33.7**	**-0.1**
	baz=114								
WAT1	**Susitna Watana**	**91.27**	**334**	P	**P**	**23**	**08**	**33.2**	**-0.8**
	baz=112								
ILAR	**Eielson Array**	**91.36**	**336**	P	**P**	**23**	**08**	**33.8**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=143,slow=2.8,SNR=18								
ILAR				PP	**PP**	**23**	**12**	**10.6**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=107,slow=4.8,SNR=2.8								
	comp=Z,2.5nm,0.9s								
SUR	**Sutherland**	**91.45**	**123**	LR	LR	23	46	40.8	
	comp=Z,125nm,18.8s,baz=242,slow=34								
F26K	**Sheenjek River**	**91.60**	**340**	P	**P**	**23**	**08**	**35.8**	**+0.4**
	baz=116,SNR=6.9								
RND	**Reindeer**	**91.61**	**335**	P	**P**	**23**	**08**	**35.3**	**-0.3**
RND				IAmb	IAmb	23	08	36.6	
	comp=Z,14nm,1.2s								
TSUM	**Tsumeb**	**91.65**	**110**	LR	LR	23	46	24.6	
	comp=Z,143nm,21.5s,baz=151,slow=33								
CCB	**Clear Creek Bu**	**91.67**	**336**	IAmb	IAmb	23	08	36.8	
	comp=Z,14nm,1.2s								
POKR	**Poker Plat Res**	**91.71**	**337**	P	**P**	**23**	**08**	**35.9**	**-0.1**
POKR	**Poker Plat Res**	**91.71**	**337**	P	**P**	**23**	**08**	**35.9**	**-0.1**
	baz=114								
WRH	**Wood River Hil**	**91.71**	**336**	IAmb	IAmb	23	08	36.5	
	comp=Z,7.0nm,0.9s								
MCK	**McKinley**	**91.77**	**335**	P	**P**	**23**	**08**	**35.8**	**-0.5**
	baz=112								
COLA	**College**	**91.78**	**336**	P	**P**	**23**	**08**	**35.3**	**-0.9**
COLA	**College**	**91.78**	**336**	P	**P**	**23**	**08**	**36.0**	**-0.2**
	baz=113								
TCOL	**CIGO, UAF Yank**	**91.78**	**336**	P	**P**	**23**	**08**	**35.4**	**-0.8**
TCOL	**CIGO, UAF Yank**	**91.78**	**336**	P	**P**	**23**	**08**	**35.6**	**-0.6**
	baz=113								
F25K	**Christian Rive**	**92.07**	**339**	P	**P**	**23**	**08**	**38.0**	**+0.4**
	baz=115								
NEA2	**Nenana**	**92.15**	**336**	P	**P**	**23**	**08**	**37.4**	**-0.6**
	baz=112,SNR=8.4								
H24K	**Noodor Dome**	**92.16**	**337**	P	**P**	**23**	**08**	**37.9**	**-0.2**
H24K				IAmb	IAmb	23	08	39.0	
	comp=Z,10nm,1.1s								
H24K	**Noodor Dome**	**92.16**	**337**	P	**P**	**23**	**08**	**37.8**	**-0.2**
	baz=113								
TRF	**Thorofare Moun**	**92.23**	**335**	P	**P**	**23**	**08**	**38.6**	**0.0**
	baz=111								
SKT	**Skwentna**	**92.26**	**333**	P	**P**	**23**	**08**	**38.0**	**-0.5**
	baz=110								
E25K	**Arctic Village**	**92.27**	**340**	P	**P**	**23**	**08**	**38.7**	**+0.2**
	baz=115,SNR=8.3								
SPCR	**Spurr Chakacha**	**92.30**	**332**	P	**P**	**23**	**08**	**39.0**	**+0.2**
	baz=109								
C27K	**Jago River**	**92.32**	**341**	P	**P**	**23**	**08**	**38.9**	**+0.2**
	baz=117								
G24K	**Hadweenzic Riv**	**92.36**	**338**	P	**P**	**23**	**08**	**39.1**	**+0.2**
	baz=113,SNR=6.6								
I23K	**Minto, Yukon-K**	**92.47**	**336**	P	**P**	**23**	**08**	**38.7**	**-0.7**
	baz=112								
BPAW	**Bear Paw Mtn.**	**92.75**	**335**	IAmb	IAmb	23	08	41.1	
	comp=Z,11nm,1.0s								
BPAW	**Bear Paw Mtn.**	**92.75**	**335**	P	**P**	**23**	**08**	**40.4**	**-0.4**
	baz=110,SNR=5.4								
H23K	**Yukon River**	**92.79**	**337**	P	**P**	**23**	**08**	**41.2**	**+0.2**
	baz=112								
C26K	**Camden Bay**	**92.82**	**341**	P	**P**	**23**	**08**	**41.7**	**+0.7**
	baz=116								
F24K	**Squaw Lake**	**92.83**	**339**	P

WMQ	**Urumqi**	**145.37**	**18**	*e*PKPbc	**PKPab**	**23 15 07.2**	**+0.2**
WMQ				LR	LR		
	comp=Z,110nm,22.9s						
TJN	**Taejon**	**146.04**	**322**	PKPdf	**PKPdf**	**23 15 08.5**	**+0.2**
BJT	**Baijiatuan**	**148.72**	**339**		**PKPbc**	**23 15 15.8**	**-0.6**
HHC	**Hu-ho-hao-te**	**149.36**	**345**	*e*PKPbc	**PKPbc**	**23 15 18.0**	**-0.1**
HNS	**HongShan**	**151.57**	**338**	⇑P	**PKPbc**	**23 15 23.1**	**-0.2**
HNS				pmax	pmax		
	comp=Z,28nm,1.1s						
TIA	**Tai'an**	**151.62**	**333**	⇓P	**PKPbc**	**23 15 22.8**	**-0.7**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GTA	**Gaotai**	**151.96**	**3**	*e*PKPbc	**PKPdf**	**23 15 18.1**	**+0.2**
GTA				PKPab	**sPKPdf**	**23 15 35.2**	**+0.5**
GTA				PP	PP	23 19 12.5	+8.5
GTA				AMB	AMB		
	comp=Z,230nm,6.6s						
GTA				LR	LR		
	comp=Z,210nm,17.1s						
GTA				LR	LR		
	comp=Z,200nm,18.9s						
GTA				LR	LR		
	comp=Z,350nm,19.3s						
TIY	**Taiyuan**	**152.05**	**342**	*e*P	**PKPbc**	**23 15 24.0**	**-0.5**
NJ2	**Nanjing**	**154.08**	**325**	*e*PKPbc	**PKPdf**	**23 15 20.4**	**-0.6**
LZH	**Lanzhou**	**155.27**	**356**	*e*PKP	**PKPdf**	**23 15 23.1**	**+0.4**
LZH				pPKP	pPKPdf	23 15 34.6	-0.7
LZH				sPKP		23 15 38.8	
XAN	**Xi'an**	**156.47**	**345**	P	PKPdf	23 15 32.7	+8.5
XAN				pP	pPKPdf	23 15 36.4	-0.4
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PZH	**PanZhiHua**	**164.89**	**0**	PKP	**PKPdf**	**23 15 32.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**172.36**	**21**	PKP	**PKPdf**	**23 15 39.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=320,slow=1.9,SNR=6.4						
CMAR				PKPab	**PKPab**	**23 17 02.0**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=327,slow=5.4,SNR=5.8						

IDC 06 23:02:03.4±1.5, 25°.31N×141°.69E, h0km, mb3.5/2, mbtmp3.5/3, Error ellipse: s-maj=68.7km s-min=21.6km az=101.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.83**	**14**	Pn	Pb	23 02 37.3	-0.5
	21nm,0.3s,baz=284,slow=19,SNR=11						
JCJ				Sn	Sn	23 02 59.6	-0.5
	21nm,0.3s,baz=273,slow=23,SNR=16						
KSRS	**Korea Array**	**16.85**	**319**	Pn	Pn	23 06 01.1	+0.5
	0.6nm,0.4s,baz=139,slow=11,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**23.92**	**98**	T	T	23 32 45.7	
	baz=289						
H11N2	**WAKE ISLAND Hy**	**23.92**	**98**	T	T	23 32 37.7	
	baz=289						
H11N3	**WAKE ISLAND Hy**	**23.93**	**98**	T	T	23 32 41.2	
	baz=289						
H11S3	**WAKE ISLAND Hy**	**24.14**	**101**	T	T	23 32 49.4	
	baz=291,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**24.15**	**101**	T	T	23 32 49.9	
	baz=291,slow=75,SNR=43						
H11S2	**WAKE ISLAND Hy**	**24.16**	**101**	T	T	23 32 50.7	
	baz=291,slow=75,SNR=71						
WRA	**Warramunga Arr**	**45.54**	**190**	P	P	23 10 25.0	0.0
	0.5nm,0.6s,baz=8.7,slow=8.7,SNR=7.4						
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**73.92**	**28**	P	P	23 13 39.6	-0.4
	0.3nm,0.8s,baz=294,slow=5.9,SNR=4.3						
	0.3nm,0.8s						

*IDC **06** 23:11:29.9±3.3, 42°.83S×75°.17W, h0km, mb4.2/2, mbtmp4.1/3, ML3.9/1, MS3.4/6, Error ellipse: s-maj=84.9km s-min=28.6km az=117.0*

*NEIC **06** 23:11:34.7, 43°.31S×74°.27W, h18km*

*NEIC **06** 23:11:36.3±1.9, 43°.27S±0°.04×74°.2W±0°.1, h25km±4km, mb4.4/6, Mwr4.1/18, ML4.2(GUC), Error ellipse: s-maj=11.1km s-min=6.2km az=90.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.52; $M_{\theta\theta}$-1.02; $M_{r\theta}$-0.50; $M_{\phi\phi}$0.36; $M_{\theta r}$-1.59; Fault plane solution: M_o1.92000×10^{15} NP1:ϕ_s308.86000°, δ24.21000°, λ23.37000°. NP2:ϕ_s197.35000°, δ80.64000°, λ112.42000°. Principal axes: T 1.7955, Plg49.0000°, Azm132.0000°; N 0.2266, Plg22.0000°, Azm14.0000°; P -2.0221, Plg32.0000°, Azm269.0000°;*

*GUC **06** 23:11:37.0±0.7, 43°.24S×74°.11W, h28km±3km, ML4.2*

ISC 06 23:11:37.3±1.1, 43°.22S±0°.04×74°.06W±0°.07, h32km±3km, n54, σ1§52/53, mb4.3/5, MS3.5/4, 6C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO07	**Milladeo Hill,**	**0.31**	**71**		**Pb**	**23 11 45.4**	**+0.3**
GO07					**Sn**	**23 11 51.6**	**+0.6**
GO07	**Milladeo Hill,**	**0.31**	**71**	*e*P	**Pb**	**23 11 44.7**	**-0.4**
GO07				*e*S	**Sb**	**23 11 50.8**	**+0.5**
GO07				IAML		23 11 58.5	
	comp=E,34μm,0.6s						
LL07	**Hotel Espejo d**	**0.58**	**48**		**Pb**	**23 11 49.5**	**+0.5**
LL06	**Loncomilla**	**1.05**	**18**		**Pn**	**23 11 56.1**	**+0.3**
LL06				Sn	**Sb**	**23 12 11.5**	**+1.1**
LL06	**Loncomilla**	**1.05**	**18⇑**	*e*P	**Pn**	**23 11 56.0**	**+0.3**
LL06				*e*S	**Sb**	**23 12 11.3**	**+0.9**
LL06				IAML		23 12 15.5	
	comp=N,8μm,0.5s						
LL01	**San Ignacio de**	**1.48**	**56**		**Pn**	**23 12 02.9**	**+1.3**
AY01	**Puyuhuapi**	**1.58**	**140**		**Pn**	**23 12 03.0**	**0.0**
AY01	**Puyuhuapi**	**1.58**	**140⇑**	*e*P	**Pn**	**23 12 04.1**	**+1.0**
AY01				*e*S	**Sb**	**23 12 24.7**	**-0.8**
AY01				IAML		23 12 30.6	
	comp=N,5μm,0.3s						
LL05	**Los Muermos**	**1.86**	**14**		**Pn**	**23 12 08.6**	**+1.6**
LL05	**Los Muermos**	**1.86**	**14⇑**	*e*P	**Pn**	**23 12 08.6**	**+1.6**
LL05				*e*S	**Sb**	**23 12 33.3**	**-0.2**
LL03	**Petrohue**	**2.42**	**31**		**Pn**	**23 12 15.0**	**+0.5**
LL03	**Petrohue**	**2.42**	**31⇑**	*e*P	**Pn**	**23 12 15.9**	**+1.4**
LL03				*e*S	**Sn**	**23 12 46.8**	**+3.8**
LL03				IAML		23 12 56.0	
	comp=N,3μm,0.5s						
LL04	**Puerto Octay**	**2.61**	**29**		**Pn**	**23 12 18.0**	**+0.7**
LL04	**Puerto Octay**	**2.61**	**29⇑**	*e*P	**Pn**	**23 12 18.0**	**+0.7**
LL04				*e*S	**Sn**	**23 12 50.0**	**+2.1**
LL04				IAML		23 12 53.9	
	comp=N,580nm,0.3s						
COYC	**Coyhaique**	**2.75**	**150**		**Pn**	**23 12 19.4**	**+0.3**
COYC	**Coyhaique**	**2.75**	**150⇑**	*e*P	**Pn**	**23 12 20.8**	**+1.6**
COYC				*e*S	**Sn**	**23 12 53.9**	**+2.6**
COYC				IAML		23 13 02.6	
	comp=E,453nm,0.5s						
LR04	**Corral**	**3.37**	**8**		**Pn**	**23 12 29.9**	**+2.3**
LR04	**Corral**	**3.37**	**8**	IAML		23 13 20.9	
	comp=E,672nm,0.5s						
PLCA	**Paso Flores**	**3.61**	**48**	Pn	**Pn**	**23 12 33.9**	**+2.9**
	comp=E,1.9nm,0.3s,baz=238,slow=12,SNR=52						
PLCA				Sn	**Sb**	**23 13 20.7**	**-3.1**
	comp=E,5.0nm,0.3s,baz=267,slow=6.2,SNR=4.0						
PLCA				LR	LR	23 14 18.3	
	comp=E,269nm,19.0s,baz=339,slow=42						
	comp=E,12nm,0.6s						
PLCA	**Paso Flores**	**3.61**	**48**		**Pn**	**23 12 33.1**	**+2.1**
LR03	**Panguipulli**	**3.81**	**20**		**Pn**	**23 12 34.4**	**+0.8**
GO06	**Curarrehue**	**4.12**	**29**		**Pn**	**23 12 39.4**	**+1.3**
BO02	**Sierra Bellavi**	**8.79**	**18**	Pn	**Pn**	**23 13 42.4**	**+0.2**
BO01	**Tunca**	**9.11**	**16**	Pn	**Pn**	**23 13 47.2**	**+0.7**
MT01	**Popeta**	**9.59**	**14**	Pn	**Pn**	**23 13 52.4**	**-0.7**
MT09	**Talagante**	**9.73**	**15**	Pn	**Pn**	**23 13 53.9**	**-1.2**
H03S1	**Juan Fernandez**	**10.10**	**336**	T	T	23 24 17.2	
	baz=160,slow=75,SNR=23						
H03S2	**Juan Fernandez**	**10.11**	**336**	T	T	23 24 16.2	
	baz=160,slow=75,SNR=22						
H03S3	**Juan Fernandez**	**10.11**	**336**	T	T	23 24 17.6	
	baz=160,slow=75,SNR=23						
MT02	**Curacav**	**10.20**	**14**	Pn	**Pn**	**23 13 58.5**	**-2.9**
VA04	**Juan Fernndez**	**10.26**	**337**	Pn	**Pn**	**23 14 00.4**	**-1.9**
H03N3	**Juan Fernandez**	**10.46**	**337**	Pn	**Pn**	**23 14 06.0**	**+1.2**
	baz=200,slow=9.3						
H03N1	**Juan Fernandez**	**10.47**	**337**	Pn	**Pn**	**23 14 04.4**	**-0.5**
	baz=200,slow=9.3						
H03N2	**Juan Fernandez**	**10.48**	**337**	Pn	**Pn**	**23 14 05.0**	**0.0**
	baz=200,slow=9.3						
ROC1	**El Roble**	**10.50**	**14**	Pn	**Pn**	**23 14 03.9**	**-1.9**
TRQA	**Tornquist**	**10.53**	**65**	Pn	**Pn**	**23 14 05.4**	**-0.5**
CO02	**Combarbal**	**12.23**	**12**	Pn	**Pn**	**23 14 27.8**	**-1.6**
CFA	**Coronel Fontan**	**12.48**	**24**	LR	LR	23 19 39.8	
	comp=E,106nm,18.7s,baz=126,slow=39						
CPUP	**Villa Florida**	**21.67**	**44**	P	**P**	**23 16 25.6**	**+0.4**
	comp=E,6.8nm,0.6s,baz=227,slow=8.4,SNR=18						
CPUP				LR	LR	23 25 30.3	
	comp=E,93nm,18.8s,baz=230,slow=38						
	comp=E,6.8nm,0.6s						
CPUP	**Villa Florida**	**21.67**	**44**	P	**P**	**23 16 23.9**	**-1.3**
SIV	**San Ignacio**	**29.32**	**26**	LR	LR	23 28 57.0	
	comp=E,54nm,19.4s,baz=213,slow=36						
PTLB	**Pontes e Lacer**	**30.48**	**29**	P	**P**	**23 17 46.5**	**-0.7**
PTLB				IAmb	IAmb	23 17 51.7	
	comp=Z,5.8nm,1.1s						
BDFB	**Brasilia**	**35.35**	**47**	LR	LR	23 33 11.6	
	comp=Z,131nm,20.3s,baz=129,slow=36						
BELA	**Belgrano 2**	**38.16**	**167**	P	**P**	**23 18 52.8**	**-0.3**
BELA				IAmb	IAmb	23 19 16.1	
	comp=Z,6.8nm,1.4s						
SNAA	**Sanae**	**43.80**	**154**	P	**P**	**23 19 42.6**	**+2.9**
	comp=Z,2.7nm,0.9s,baz=255,slow=9.8,SNR=8.1						
	comp=Z,2.7nm,0.9s						
SNAA	**Sanae**	**43.80**	**154**	P	**P**	**23 19 39.4**	**-0.3**
SNAA				IAmb	IAmb	23 19 41.6	
	comp=Z,6.1nm,1.2s						
BOSA	**Boshof**	**77.23**	**117**	P	**P**	**23 23 27.5**	**-1.0**
DBIC	**Dimbokro**	**79.69**	**71**	P	**P**	**23 23 41.9**	**0.0**
DBIC				IAmb	IAmb	23 23 48.4	
	comp=Z,12nm,1.2s						
MDT	**Midelt**	**98.74**	**53**	LR	LR	00 09 34.7	
	comp=Z,34nm,18.4s,baz=358,slow=35						
H11S2	**WAKE ISLAND Hy**	**23.63**	**264**	T	T	01 45 35.2	
	baz=130,slow=74,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**23.65**	**264**	T	T	01 45 48.8	
	baz=130						
H11S3	**WAKE ISLAND Hy**	**23.65**	**264**	T	T	01 45 36.4	
	baz=130,slow=74,SNR=5.4						
MKAR	**Makanchi Array**	**162.92**	**70**	PKPab	**PKPab**	**23 32 25.2**	**0.0**
	comp=Z,1.4nm,0.8s,baz=276,slow=4.1,SNR=11						
PZH	**PanZhiHua**	**162.98**	**167**	PKP	**PKPdf**	**23 31 34.3**	**-2.1**

*NEIC **06** 23:25:54.8±2.7, 15°.30S±0°.08×174°.03W±0°.06, h10km±1km, mb4.5/9, Error ellipse: s-maj=15.7km s-min=6.5km az=325.0*

*IDC **06** 23:25:56.0±0.8, 15°.45S×174°.35W, h0km, mb4.0/10, mbtmp4.0/10, MS3.6/2, Error ellipse: s-maj=34.2km s-min=19.1km az=128.0*

ISC 06 23:25:55.7±0.6, 15°.36S±0°.09×174°.2W±0°.1, h10km, n33, σ1§80/25, mb4.3/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.73**	**59**	Pn	**Pn**	**23 26 35.5**	**-4.3**
NIUE	**Niue**	**5.49**	**133**		**Pn**	**23 27 15.2**	**-2.5**
FUNA	**Funafuti**	**9.39**	**316**	Pn	**Pn**	**23 28 09.7**	**-1.5**
RAR	**Rarotonga**	**14.86**	**115**	LR	LR	23 33 53.8	
	comp=Z,187nm,21.7s,baz=312,slow=32						
DZM	**Mont Dzumac**	**19.52**	**247**	LR	LR	23 36 40.8	
	comp=Z,280nm,19.5s,baz=214,slow=33						
URZ	**Urewera**	**24.07**	**197**	P	**P**	**23 31 11.1**	**-0.2**
	11nm,0.8s,baz=60,slow=9.1,SNR=4.7						
	11nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**38.55**	**330**	T	T	00 14 00.5	
	baz=149,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**38.56**	**330**	T	T	00 14 03.7	
	baz=149,slow=76,SNR=57						
H11S1	**WAKE ISLAND Hy**	**38.56**	**330**	T	T	00 14 02.5	
	baz=149,slow=76,SNR=47						
H11N3	**WAKE ISLAND Hy**	**39.51**	**331**	T	T	00 15 23.9	
	baz=150,slow=76,SNR=76						
H11N1	**WAKE ISLAND Hy**	**39.51**	**331**	T	T	00 15 27.4	
	baz=150,slow=76,SNR=84						
H11N2	**WAKE ISLAND Hy**	**39.53**	**331**	T	T	00 15 25.0	
	baz=150,slow=76,SNR=79						
COEN	**Coen**	**41.23**	**266**	P	**P**	**23 33 40.4**	**-0.9**
COEN				IAmb	IAmb	23 33 58.2	
	comp=Z,8.1nm,1.1s						
TOO	**Toolangi**	**41.91**	**230**	P	**P**	**23 33 44.7**	**-1.9**
TOO				IAmb	IAmb	23 33 60.0	
	comp=Z,8.6nm,1.1s						
STKA	**Stephens Creek**	**43.41**	**240**	P	**P**	**23 33 59.5**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=91,slow=10,SNR=4.8						
	comp=Z,2.8nm,0.7s						
BBOO	**Buckleboo**	**48.19**	**240**	P	**P**	**23 34 34.1**	**-2.5**
BBOO				IAmb	IAmb	23 34 40.4	
	comp=Z,7.6nm,1.1s						
WB0	**Warramunga Arr**	**49.08**	**257**	P	**P**	**23 34 41.6**	**-2.0**
WB0				IAmb	IAmb	23 34 49.1	
	comp=Z,6.0nm,1.0s						
WB2	**Warramunga Arr**	**49.11**	**257**	P	**P**	**23 34 43.6**	**-0.3**
WRA	**Warramunga Arr**	**49.12**	**257**	P	**P**	**23 34 43.9**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=90,slow=7.5,SNR=11						
	comp=Z,2.6nm,0.9s						
WRA	**Warramunga Arr**	**49.12**	**257**	P	**P**	**23 34 43.7**	**-0.3**
AS31	**Alice Springs**	**49.41**	**252**		**P**	**23 34 45.7**	**-0.4**
ASAR	**Alice Springs**	**49.41**	**252**	P	**P**	**23 34 45.4**	**-0.8**
	comp=Z,4.5nm,0.7s,baz=85,slow=8.0,SNR=49						
	comp=Z,4.5nm,0.7s						
ASAR	**Alice Springs**	**49.41**	**252**	P	**P**	**23 34 45.6**	**-0.6**
VNDA	**Vanda**	**63.34**	**186**	P	**P**	**23 36 26.4**	**+1.8**
	comp=Z,1.9nm,1.0s,baz=22,slow=5.4,SNR=5.1						
	comp=Z,1.9nm,1.0s						
VNDA	**Vanda**	**63.34**	**186**	P	**P**	**23 36 25.0**	**+0.4**
VNDA				IAmb	IAmb	23 36 27.2	
	comp=Z,4.7nm,1.1s						
MJAR	**Matsushiro Arr**	**68.42**	**320**	P	**P**	**23 36 59.7**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=112,slow=6.0,SNR=4.1						
	comp=Z,0.6nm,0.3s						
QSPA	**South Pole Qui**	**74.69**	**180**	P	**P**	**23 37 36.0**	**+0.6**
NVAR	**Mina Array Bea**	**74.80**	**42**	P	**P**	**23 37 39.2**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=236,slow=9.1,SNR=4.3						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**82.55**	**11**	P	**P**	**23 38 19.9**	**+1.5**
	comp=Z,1.1nm,1.0s,baz=228,slow=4.9,SNR=5.3						
	comp=Z,1.1nm,1.0s						
PDAR	**Pinedale Array**	**82.74**	**42**	P	**P**	**23 38 22.2**	**+2.0**
	comp=Z,0.9nm,1.0s,baz=190,slow=4.6,SNR=3.6						
	comp=Z,0.9nm,1.0s						
YKA	**Yellowknife Ar**	**90.36**	**24**	P	**P**	**23 38 59.3**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=251,slow=5.7,SNR=4.1						
	comp=Z,0.3nm,0.7s						
BRTR	**Keskin Array B**	**145.65**	**320**	PKPbc	**PKiKP**	**23 45 37.7**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=129,slow=1.8,SNR=4.7						
GERES	**GERESS Array B**	**145.99**	**351**	PKPbc	**PKiKP**	**23 45 39.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=357,slow=2.7,SNR=5.0						

*IDC **06** 23:36:15.3±0.8, 15°.39S×174°.12W, h0km, mb4.1/12, mbtmp4.1/13, ML3.5/1, MS4.3/57, Error ellipse: s-maj=31.5km s-min=17.8km az=131.0*

*NEIC **06** 23:36:16.0±2.7, 15°.18S±0°.06×174°.1W±0°.1, h10km±1km, mb4.6/18, Error ellipse: s-maj=19.4km s-min=4.2km az=119.0*

*NOU **06** 23:36:16.7, 15°.08S×173°.70W, h170km, MLv4.2/8, Tonga Islands*

*GCMT **06** 23:36:21.0±0.2, 15°.11S±0°.01×174°.09W±0°.01, h21km±1km, MW5.1/110, Moment Tensor Solution. s47,c62; s110,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.17; $M_{\theta\theta}$-0.08±.20; $M_{\phi\phi}$0.24±.17; $M_{r\theta}$0.10±.27; $M_{\theta\phi}$5.93±.15; $M_{\phi r}$-0.03±.23; Best double couple: M_o5.93300×10^{16} NP1:ϕ_s269.00000°, δ90.00000°, λ-1.00000°. NP2:ϕ_s359.00000°, δ89.00000°, λ-180.00000°. Principal axes: T 6.0150, Plg0.0000°, Azm314.0000°; N -0.1640, Plg89.0000°, Azm71.0000°; P -5.8510, Plg1.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 23:36:17.1±0.6, 15°.4S±0°.1×174°.2W±0°.1, h10km, n101, σ1§32/35, mb4.4/20, MS4.4/60, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.74**	**59**	Pn	Pn	23 36 54.9	-6.2
LKBA	**Tubou, Lakemba**	**5.28**	**236**	P	Pn	23 37 41.7	+5.7
	1.8nm,0.9s						
NIUE	**Niue**	**5.50**	**133**		Pn	23 37 34.4	-4.7
NIUE	**Niue**	**5.50**	**133**	P	Pn	23 37 34.3	-4.8
RAR	**Rarotonga**	**14.87**	**115**	LR	LR	23 43 36.9	
	comp=Z,805nm,20.9s,baz=288,slow=30						
MARNC	**Mare, Loyalty**	**17.93**	**247**	Pn	**Pn**	**23 40 22.3**	**-4.4**
LIFNC	**LIFOU**	**18.46**	**250**	P	**Pn**	**23 40 32.1**	**-1.0**
LIFNC				IAmb	IAmb	23 40 40.7	
	comp=Z,92nm,1.0s						
OUENC	**Ouen Island, N**	**19.27**	**246**	P	**P**	**23 40 41.1**	**-0.9**
OUENC				IAmb	IAmb	23 40 55.3	
	comp=Z,43nm,1.1s						
DZM	**Mont Dzumac**	**19.52**	**247**	*e*LR	LR	23 46 18.8	
	comp=Z,1μm,23.4s						
DZM	**Mont Dzumac**	**19.52**	**247**	P	**Pn**	**23 40 46.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=78,slow=16,SNR=3.9						
DZM				LR	LR	23 47 01.9	
	comp=Z,945nm,19.6s,baz=44,slow=33						
	comp=Z,6.1nm,1.1s						
DZM	**Mont Dzumac**	**19.52**	**247**	P	**Pn**	**23 40 46.9**	**+0.9**
PPT	**Papeete**	**23.70**	**99**	LR	LR	23 48 54.2	
	comp=Z,233nm,18.1s,baz=310,slow=32						
PPT2	**Papeete2**	**23.70**	**99**	*e*S	**S**	**23 45 43.2**	**-1.5**
	comp=Z,296nm,25.2s						
PPT2				*e*LR	LR	23 47 02.0	
	comp=Z,468nm,28.8s						
PPT2				*e*LR	LR	23 47 02.8	
	comp=Z,588nm,26.5s						
URZ	**Urewera**	**24.08**	**197**	P	**P**	**23 41 32.3**	**-0.3**
	comp=Z,23nm,1.1s,baz=91,slow=8.4,SNR=4.7						
	comp=Z,23nm,1.1s						
RTZ	**Ruatahuna**	**24.44**	**197**	P	**P**	**23 41 37.1**	**+0.9**
RTZ				IAmb	IAmb	23 41 44.0	
	comp=Z,18nm,1.1s						
TBI	**Tubuai**	**24.62**	**113**	*e*LR	LR	23 47 28.8	
	comp=Z,19μm,26.5s						
TBI				*e*LR	LR	23 47 29.0	
	comp=Z,7μm,28.0s						
BKZ	**Black Stump Fm**	**25.09**	**197**	P	**P**	**23 41 44.2**	**+2.2**
BKZ				IAmb	IAmb	23 42 02.7	
	comp=Z,17nm,1.1s						
HNR	**Honiara**	**25.93**	**280**	LR	LR	23 50 49.8	
	comp=Z,6μm,18.6s,baz=126,slow=34						
DSZ	**Denniston Nort**	**28.95**	**202**	P	**P**	**23 42 16.1**	**-0.6**
RPZ	**Rata Peaks**	**30.94**	**201**	LR	LR	23 54 39.8	
	comp=Z,737nm,18.2s,baz=22,slow=36						
TAOE	**Nuku Hiva Isla**	**33.87**	**83**	*e*LR	LR	23 51 46.8	
	comp=Z,364nm,21.9s						
WHZ	**Wether Hill Ro**	**33.94**	**203**	P	**P**	**23 43 01.7**	**+1.3**
KRVT	**Keravat (AS076**	**34.99**	**285**	LR	LR	23 55 53.6	
	comp=Z,289nm,21.3s,baz=255,slow=34						
RKT	**Rikitea**	**37.73**	**108**	*e*LR	LR	23 53 32.7	
	comp=Z,101μm,26.2s						
CTA	**Charters Tower**	**37.91**	**257**	LR	LR	23 55 53.4	
	comp=Z,198nm,20.5s,baz=86,slow=31						
H11S2	**WAKE ISLAND Hy**	**38.54**	**330**	T	T	00 24 18.4	
	baz=149,slow=76,SNR=61						
H11S3	**WAKE ISLAND Hy**	**38.55**	**330**	T	T	00 24 19.3	
	baz=149,slow=76,SNR=67						
H11S1	**WAKE ISLAND Hy**	**38.56**	**330**	T	T	00 24 25.8	
	baz=149,slow=76,SNR=63						
H11N3	**WAKE ISLAND Hy**	**39.50**	**331**	T	T	00 25 35.6	
	baz=150,slow=76,SNR=63						
H11N1	**WAKE ISLAND Hy**	**39.51**	**331**	T	T	00 25 54.1	
	baz=150,slow=76,SNR=82						
H11N2	**WAKE ISLAND Hy**	**39.52**	**331**	T	T	00 25 37.1	
	baz=150,slow=76,SNR=128						
COEN	**Coen**	**41.23**	**266**	P	**P**	**23 44 04.3**	**+1.7**
COEN				IAmb	IAmb	23 44 11.7	
	comp=Z,8.0nm,0.9s						
TOO	**Toolangi**	**41.91**	**230**	P	**P**	**23 44 07.7**	**-0.2**
STKA	**Stephens Creek**	**43.40**	**240**	P	**P**	**23 44 19.9**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=96,slow=7.1,SNR=4.2						
	comp=Z,1.7nm,0.7s						
BBOO	**Buckleboo**	**48.18**	**240**	P	**P**	**23 44 58.0**	**+0.1**
WR0	**Warramunga Arr**	**48.92**	**257**	P	**P**	**23 45 02.3**	**-1.5**
WR0				IAmb	IAmb	23 45 18.5	
	comp=Z,4.6nm,1.1s						
WB0	**Warramunga Arr**	**49.08**	**257**	P	**P**	**23 45 03.5**	**-1.5**
WB0				IAmb	IAmb	23 45 11.0	
	comp=Z,9.4nm,1.0s						
WB2	**Warramunga Arr**	**49.10**	**257**	P	**P**	**23 45 03.7**	**-1.5**
WB2				IAmb	IAmb	23 45 19.8	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**49.12**	**257**	P	**P**	**23 45 04.5**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=92,slow=7.6,SNR=14						
WRA				LR	LR	00 04 30.9	
	comp=Z,558nm,19.3s,baz=88,slow=34						
	comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**49.12**	**257**	P	**P**	**23 45 03.2**	**-2.0**
AS31	**Alice Springs**	**49.40**	**252**	P	**P**	**23 45 07.1**	**-0.3**
AS31				IAmb	IAmb	23 45 14.8	
	comp=Z,4.2nm,0.9s						
ASAR	**Alice Springs**	**49.40**	**252**	P	**P**	**23 45 06.5**	**-0.9**
	comp=Z,5.7nm,0.7s,baz=85,slow=8.5,SNR=33						
ASAR				LR	LR	00 04 18.8	
	comp=Z,343nm,21.6s,baz=98,slow=34						
	comp=Z,5.7nm,0.7s						
ASAR	**Alice Springs**	**49.40**	**252**	P	**P**	**23 45 07.1**	**-0.3**
GUMO	**Guam**	**49.67**	**303**	LR	LR	00 02 48.4	
	comp=Z,269nm,20.2s,baz=120,slow=32						
KNRA	**Kununurra**	**54.82**	**261**	P	**P**	**23 45 47.1**	**-0.7**
SIJI	**Sorong**	**55.70**	**280**	LR	LR	00 08 48.9	
	comp=Z,276nm,20.9s,baz

PDAR	**Pinedale Array**	**82.74**	**42**	P	**P**	**23 48 41.0**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=206,slow=5.7,SNR=2.7						
PDAR				LR	LR	00 18 48.3	
	comp=Z,218nm,19.8s,baz=253,slow=31						
	comp=Z,0.4nm,0.9s						
PMSA	**Palmer Station**	**84.53**	**156**	LR	LR	00 17 56.4	
	comp=Z,162nm,21.9s,baz=294,slow=30						
CMIG	**Matias Romero**	**84.58**	**71**	LR	LR	00 19 41.9	
	comp=Z,134nm,18.5s,baz=240,slow=31						
H03S2	**Juan Fernandez**	**85.86**	**124**	T	T	01 24 05.9	
	baz=251,slow=75,SNR=8.6						
H03S1	**Juan Fernandez**	**85.87**	**124**	T	T	01 24 01.3	
	baz=251,slow=75,SNR=9.1						
H03S3	**Juan Fernandez**	**85.88**	**124**	T	T	01 24 00.1	
	baz=251,slow=75,SNR=8.7						
MAW	**Mawson**	**87.59**	**199**	LR	LR	00 27 25.9	
	comp=Z,284nm,18.3s,baz=117,slow=35						
INK	**Inuvik**	**88.41**	**14**	LR	LR	00 27 33.1	
	comp=Z,95nm,19.1s,baz=292,slow=35						
YAK	**Yakutsk**	**88.77**	**337**	LR	LR	00 25 54.1	
	comp=Z,55nm,19.8s,baz=85,slow=34						
PLCA	**Paso Flores**	**90.10**	**132**	LR	LR	00 20 47.6	
	comp=Z,222nm,21.4s,baz=226,slow=30						
YKA	**Yellowknife Ar**	**90.36**	**24**	P	**P**	**23 49 18.1**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=239,slow=5.7,SNR=4.2						
	comp=Z,0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.88**	**289**	P	**P**	**23 49 27.4**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=106,slow=2.9,SNR=1.1						
CMAR				LR	LR	00 25 12.4	
	comp=Z,114nm,21.8s,baz=80,slow=32						
	comp=Z,0.5nm,0.4s						
JTS	**Las Juntas de**	**91.95**	**80**	LR	LR	00 21 22.6	
	comp=Z,115nm,20.3s,slow=30						
SNAA	**Sanae**	**92.99**	**177**	LR	LR	00 27 38.6	
	comp=Z,106nm,19.2s,baz=183,slow=33						
ATAH	**Atahualpa**	**93.68**	**98**	LR	LR	00 23 50.5	
	comp=Z,96nm,18.3s,baz=274,slow=30						
NNA	**Nana**	**93.81**	**103**	LR	LR	00 22 57.0	
	comp=Z,44nm,19.9s,baz=250,slow=30						
SONM	**Songino Array**	**94.31**	**318**	LR	LR	00 26 55.9	
	comp=Z,78nm,20.1s,baz=144,slow=32						
ULM	**Lac du Bonnet**	**94.37**	**39**	LR	LR	00 25 34.5	
	comp=Z,346nm,18.7s,baz=245,slow=31						
TIXI	**Tiksi**	**94.76**	**345**	LR	LR	00 28 52.0	
	comp=Z,82nm,19.3s,baz=0.0,slow=33						
CFA	**Coronel Fontan**	**95.11**	**125**	LR	LR	00 22 55.7	
	comp=Z,202nm,20.6s,baz=262,slow=30						
LVC	**Limon Verde**	**97.72**	**116**	LR	LR	00 26 07.3	
	comp=Z,87nm,18.6s,baz=242,slow=31						
TKL	**Tuckaleechee C**	**99.11**	**56**	LR	LR	00 28 51.5	
	comp=Z,192nm,18.2s,baz=276,slow=32						
BRDH	**Bariadhala**	**99.54**	**291**	LR	LR	00 33 14.9	
	comp=Z,103nm,18.4s,baz=98,slow=34						
BRTR	**Keskin Array B**	**145.64**	**320**	PKPbc	**PKPdf**	**23 55 56.0**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=48,slow=1.8,SNR=5.0						
GERES	**GERESS Array B**	**145.98**	**351**	PKPbc	**PKPdf**	**23 55 56.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=10,slow=2.2,SNR=3.1						

*KRNET **06** 23:42:58.3±0.1, 39.16N×75.25E, mb2.9*
*SOME **06** 23:42:59.6, 39.25N×75.53E, h5km*
*NNC **06** 23:43:01.7±0.9, 39.39N×75.08E, h0km±4km, mb3.6, mpv3.3, Error ellipse: s-maj=8.1km s-min=5.4km az=130.0*

ISC 06 23:43:02.3±2.2, 39.34N±0.08×75.06E±0.04, h3km±13km, n40, σ1§44/56, 27C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**2.11**	**305**	⇑*e*P	**Pb**	**23 43 40.1**	**-1.1**
	baz=6.0						
OHH				⇑*i*S	**Sg**	**23 44 10.6**	**+0.5**
	baz=6.0						
NRN	**Naryn**	**2.21**	**19**	⇑*e*P	**Pn**	**23 43 40.0**	**-0.2**
	baz=14						
NRN				⇑*i*S	**Sb**	**23 44 10.5**	**-0.6**
	baz=14						
DRK	**Karamyk**	**2.53**	**274**	⇑*e*P	**Pn**	**23 43 45.1**	**+0.6**
	baz=78						
DRK				⇑*i*S	**Sb**	**23 44 19.3**	**-0.8**
	baz=78						
ARLS	**Aral**	**2.58**	**348**	⇑*i*P	**Pn**	**23 43 46.2**	**+1.1**
	baz=46						
ARLS				⇑*i*S	**Sb**	**23 44 21.4**	**-0.1**
	baz=46						
UCH	**Uchtor**	**2.92**	**352**	⇑*e*P	**Pn**	**23 43 51.3**	**+1.3**
	baz=50						
UCH				⇑*i*S	**Sb**	**23 44 29.7**	**-1.7**
	baz=50						
AML	**Almayashu**	**2.98**	**340**	⇓*e*P	**Pn**	**23 43 52.4**	**+1.6**
	baz=39						
AML				⇓*i*S	**Sb**	**23 44 31.7**	**-1.4**
	baz=39						
TARG	**Taragay, Kyrgy**	**3.18**	**40**	⇑*e*P	**Pn**	**23 43 52.7**	**-0.8**
	baz=36						
TARG				⇑*i*S	**Sn**	**23 44 32.4**	**+0.3**
	baz=36						
BOOM	**Boomskoye usch**	**3.22**	**12**	⇑*i*P	**Pn**	**23 43 54.3**	**+0.4**
	baz=9.0						
BOOM				⇑*i*S	**Sb**	**23 44 36.0**	**-3.9**
	baz=9.0						
KDJ	**Kajisay**	**3.22**	**29**	⇑*i*P	**Pn**	**23 43 53.9**	**-0.1**
	baz=26						
KDJ				⇑*i*S	**Sn**	**23 44 33.9**	**+1.0**
	baz=26						
KBK	**Karagaybulak**	**3.32**	**359**	⇑*i*P	**Pn**	**23 43 56.3**	**+1.0**
	baz=56						
KBK				⇑*i*S	**Sb**	**23 44 38.8**	**-3.9**
	baz=56						
BTK	**Batken**	**3.35**	**284**	⇓*i*P	**Pn**	**23 43 56.8**	**+1.2**
	baz=86						
BTK				⇓*i*S	**Sb**	**23 44 39.9**	**-3.6**
	baz=86						
ARK	**Arkit**	**3.40**	**317**	⇑*i*P	**Pn**	**23 43 58.1**	**+1.7**
	baz=18						
ARK				⇑*i*S	**Sb**	**23 44 41.8**	**-3.3**
	baz=18						
TKM2	**Tokmak 2**	**3.60**	**6**	⇑Pn	**Pn**	**23 43 58.7**	**-0.6**
	5.5nm,0.5s						
TKM2				⇑Sn	**Sn**	**23 44 42.2**	**-0.2**
	4.1nm,0.5s						
TKM2				⇑Lg	Lg	23 44 55.5	
	12nm,0.7s						
MRKS	**Merke**	**3.67**	**338**	Pg	**Pg**	**23 44 12.8**	**+0.1**
	1.2nm,0.3s						
MRKS				Lg	Lg	23 45 05.6	
	6.9nm,0.8s						
MRKS	**Merke**	**3.67**	**338**	*e*Pg	**Pg**	**23 44 12.8**	**+0.1**
	1.2nm,0.3s						
MRKS				*e*Lg	Lg	23 45 05.6	
	6.9nm,0.8s						
TRKS	**Terek-Say**	**3.71**	**307**	⇑*i*P	**Pn**	**23 44 01.7**	**+1.1**
	baz=8.0						
TRKS				⇑*i*S	**Sn**	**23 44 48.0**	**+3.2**
	baz=8.0						
KST	**Kastek**	**3.77**	**10**	Pg	**Pb**	**23 44 09.1**	**-0.4**
	3.2nm,0.3s						
KST				Lg	Lg	23 44 59.1	
	7.2nm,0.5s						
KST	**Kastek**	**3.77**	**10**	*e*Pg	**Pb**	**23 44 09.1**	**-0.4**
	3.2nm,0.3s						
KST				*e*Lg	Lg	23 44 59.1	
	7.2nm,0.5s						
MTBS	**Maitube**	**3.93**	**15**	Pg	**Pb**	**23 44 12.4**	**+0.1**
	1.4nm,0.1s						
MTBS				Lg	Lg	23 45 04.7	
	4.9nm,0.4s						
MTBS	**Maitube**	**3.93**	**15**	*e*Pg	**Pb**	**23 44 12.4**	**+0.1**
	1.7nm,0.2s						
MTBS				*e*Lg	Lg	23 45 04.7	
	6.4nm,0.3s						
DGS	**Degeres**	**3.94**	**8**	Pg	**Pb**	**23 44 14.2**	**+1.8**
	3.7nm,0.4s						
DGS				Lg	Lg	23 45 08.1	
	9.2nm,0.7s						
DGS	**Degeres**	**3.94**	**8**	*e*Pg	**Pb**	**23 44 14.2**	**+1.8**
	3.7nm,0.4s						
DGS				*e*Lg	Lg	23 45 08.1	
	9.2nm,0.7s						
TNSS	**Tian-Shan**	**3.96**	**20**	Pg	**Pb**	**23 44 12.6**	**-0.4**
	2.3nm,0.3s						
TNSS				Lg	Lg	23 45 05.3	
	5.8nm,0.6s						
TNSS	**Tian-Shan**	**3.96**	**20**	*e*Pg	**Pb**	**23 44 12.6**	**-0.4**
	2.3nm,0.3s						
TNSS				*e*Lg	Lg	23 45 05.3	
	5.8nm,0.6s						
MDOK	**Medeo**	**4.11**	**21**	Pg	**Pb**	**23 44 15.1**	**-0.2**
	3.0nm,0.4s						
MDOK				Pg	Pg	23 44 15.9	-5.1
	4.9nm,1.1s						
MDOK				Lg	Lg	23 45 09.5	
	10.0nm,0.9s						
MDOK				Lg	Lg	23 45 11.5	
	14nm,1.1s						
MDOK	**Medeo**	**4.11**	**21**	*e*Pg	**Pb**	**23 44 15.2**	**-0.2**
	3.0nm,0.4s						
MDOK				*e*Lg	Lg	23 45 09.5	
	10.0nm,0.9s						
KOTS	**Kotyrbulak**	**4.19**	**21**	Pg	**Pb**	**23 44 17.6**	**+0.8**
	1.8nm,0.3s						
KOTS				Lg	Lg	23 45 13.7	
	19nm,0.6s						
KOTS	**Kotyrbulak**	**4.19**	**21**	*e*Pg	**Pb**	**23 44 17.6**	**+0.8**
	1.8nm,0.3s						
KOTS				*e*Lg	Lg	23 45 13.7	
	19nm,0.6s						
KRBS	**Karabastau**	**4.38**	**6**	Pg	**Pb**	**23 44 20.8**	**+0.9**
	1.5nm,0.3s						
KRBS				Lg	Lg	23 45 19.3	
	6.3nm,0.8s						
KRBS	**Karabastau**	**4.38**	**6**	*e*Pg	**Pb**	**23 44 20.8**	**+0.9**
	1.5nm,0.3s						
KRBS				*e*Lg	Lg	23 45 19.3	
	6.3nm,0.8s						
KTBS	**Karatobe**	**4.54**	**15**	Pg	**Pb**	**23 44 23.1**	**+0.5**
	1.6nm,0.3s						
KTBS				Lg	Lg	23 45 23.0	
	7.7nm,0.6s						
KTBS	**Karatobe**	**4.54**	**15**	*e*Pg	**Pb**	**23 44 23.1**	**+0.5**
	1.6nm,0.3s						
KTBS				*e*Lg	Lg	23 45 23.0	
	7.7nm,0.6s						
KUU	**Kurty**	**4.65**	**12**	Pg	**Pb**	**23 44 25.2**	**+0.7**
	2.0nm,0.6s						
KUU				Lg	Lg	23 45 26.9	
	11nm,0.7s						
KUU	**Kurty**	**4.65**	**12**	*e*Pg	**Pb**	**23 44 25.2**	**+0.7**
	2.0nm,0.6s						
KUU				*e*Lg	Lg	23 45 26.9	
	11nm,0.7s						
CHKK	**Chushkaly**	**4.74**	**17**	Pg	**Pb**	**23 44 26.9**	**+0.9**
	1.8nm,0.2s						
CHKK				Lg	Lg	23 45 30.3	
	3.2nm,0.3s						
CHKK	**Chushkaly**	**4.74**	**17**	*e*Pg	**Pb**	**23 44 26.9**	**+0.9**
	1.8nm,0.2s						
CHKK				*e*Lg	Lg	23 45 29.8	
	3.2nm,0.3s						
KURS	**Kuram**	**4.76**	**28**	*e*P	**Pb**	**23 44 25.0**	**-1.4**
KURS				*e*S	**Sb**	**23 45 26.3**	**+2.2**
	4.3nm,0.4s						
KPKS	**Kokpek**	**4.95**	**32**	Pg	**Pb**	**23 44 29.9**	**+0.4**
	3.1nm,0.3s						
KPKS				Lg	Lg	23 45 35.0	
	13nm,0.6s						
KPKS	**Kokpek**	**4.95**	**32**	*e*Pg	**Pb**	**23 44 29.9**	**+0.4**
	3.1nm,0.3s						
KPKS				*e*Lg	Lg	23 45 35.0	
	13nm,0.6s						
KK31	**Karatay Array**	**5.09**	**319**	⇓Pn	**Pn**	**23 44 18.7**	**-0.8**
	0.3nm,0.3s,baz=118,slow=12,SNR=4.2						
KK31				⇑Sn	**Sn**	**23 45 18.8**	**+0.1**
	0.4nm,0.3s,baz=91,slow=19,SNR=4.4						
KK31				⇑Lg	Lg	23 45 41.8	
	0.6nm,0.3s,baz=143,slow=26,SNR=3.6						

IDC 07 00:16:12.8±2.0, 52.63N×36.71W, h0km, mb3.4/3, mbtmp3.4/3, MS3.1/1, Error ellipse: s-maj=81.7km s-min=32.8km az=14.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.87**	**107**	P	P	00 21 46.0	0.0
	0.9nm,1.0s,baz=316,slow=8.9,SNR=4.2						
	0.9nm,1.0s						
GERES	**GERESS Array B**	**31.60**	**76**	LR	LR	00 33 08.0	
	comp=Z,31nm,20.3s,baz=8.0,slow=32						
PDAR	**Pinedale Array**	**48.03**	**289**	P	P	00 24 53.6	-0.2
	0.3nm,0.6s,baz=66,slow=7.0,SNR=3.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.10**	**40**	P	P	00 27 14.1	+0.1
	0.3nm,0.9s,baz=324,slow=7.1,SNR=2.2						
	0.3nm,0.9s						

*IDC **07** 00:26:30.6±2.8, 18.15S×178.05W, h522km±30km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=28.7km s-min=17.8km az=158.0*
*NEIC **07** 00:26:30.3±1.3, 18.12S±0.1×177.78W±0.1, h533km±12km, mb4.1/20, Error ellipse: s-maj=20.9km s-min=19.5km az=143.0*

ISC 07 00:26:31.1±0.6, 18.11S±0.1×177.87W±0.09, h550km, n37, σ1§70/39, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.18**	**56**	P	**P**	**00 28 19.2**	**-1.8**
NIUE	**Niue**	**7.60**	**99**	P	**P**	**00 28 22.6**	**-2.3**
FUNA	**Funafuti**	**9.92**	**343**	P	**P**	**00 28 47.3**	**-1.0**
MARNC	**Mare, Loyalty**	**13.69**	**253**	P	**P**	**00 29 22.9**	**-4.2**
LIFNC	**LIFOU**	**14.29**	**257**	P	**P**	**00 29 29.9**	**-3.5**
OUENC	**Ouen Island, N**	**14.97**	**251**	P	**P**	**00 29 38.0**	**-2.3**
OUENC				IAmb	IAmb	00 29 39.7	
	comp=Z,5.0nm,1.0s						
DZM	**Mont Dzumac**	**15.25**	**252**	P	**P**	**00 29 39.5**	**-3.9**
	comp=Z,1.8nm,0.5s,baz=102,slow=22,SNR=5.9						
DZM	**Mont Dzumac**	**15.25**	**252**	P	**P**	**00 29 41.3**	**-2.0**
DZM				IAmb	IAmb	00 29 57.0	
	comp=Z,5.5nm,0.9s						
KOUNC	**Koumac, New Ca**	**17.02**	**259**	P	**P**	**00 30 04.4**	**+4.3**
HIZ	**Hauiti**	**21.32**	**196**	P	**P**	**00 30 39.0**	**+0.1**
MLZ	**Mavora Lakes**	**29.60**	**200**	P	**P**	**00 31 51.5**	**-0.4**
ARMA	**Armidale**	**30.29**	**240**	P	**P**	**00 31 58.2**	**-0.1**
ARMA				IAmb	IAmb	00 32 03.7	
	comp=Z,8.4nm,1.1s						
CTA	**Charters Tower**	**33.92**	**261**	P	**P**	**00 32 29.1**	**0.0**
	comp=Z,3.0nm,0.7s,baz=35,slow=11,SNR=1.6						
	comp=Z,3.0nm,0.7s						
CTAO	**Charters Tower**	**33.92**	**261**	P	**P**	**00 32 29.2**	**+0.1**
CTAO				IAmb	IAmb	00 32 45.4	
	comp=Z,2.8nm,0.9s						
TOO	**Toolangi**	**37.45**	**231**	P	**P**	**00 32 58.7**	**+0.5**
TOO				IAmb	IAmb	00 32 59.4	
	comp=Z,3.6nm,0.8s						
COEN	**Coen**	**37.62**	**270**	P	**P**	**00 33 00.8**	**+1.1**
COEN				IAmb	IAmb	00 33 03.0	
	comp=Z,5.7nm,1.0s						
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**00 33 11.3**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=81,slow=7.8,SNR=6.7						
	comp=Z,4.3nm,0.8s						
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**00 33 11.8**	**+1.1**
BBOO	**Buckleboo**	**43.77**	**241**	P	**P**	**00 33 48.7**	**+0.3**
BBOO				IAmb	IAmb	00 33 56.7	
	comp=Z,6.3nm,1.0s						
WR0	**Warramunga Arr**	**44.91**	**260**	P	**P**	**00 33 57.7**	**+0.3**
WB0	**Warramunga Arr**	**45.07**	**260**	P	**P**	**00 33 58.9**	**+0.3**
WB0				IAmb	IAmb	00 33 59.2	
	comp=Z,5.2nm,0.9s						
WB2	**Warramunga Arr**	**45.09**	**260**	P	**P**	**00 33 59.0**	**+0.2**
WB2				IAmb	IAmb	00 33 59.1	
	comp=Z,5.4nm,1.0s						
WRA	**Warramunga Arr**	**45.10**	**260**	P	**P**	**00 33 58.4**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=97,slow=6.8,SNR=76						
WRA				PcP	**PcP**	**00 35 29.2**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=90,slow=3.7,SNR=10						
	comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**45.10**	**260**	P	**P**	**00 33 58.5**	**-0.4**
AS31	**Alice Springs**	**45.23**	**254**	P	**P**	**00 34 00.2**	**+0.4**
ASAR	**Alice Springs**	**45.23**	**254**	P	**P**	**00 34 00.2**	**+0.3**
	comp=Z,14nm,0.6s,baz=88,slow=8.6,SNR=280						
ASAR				PcP	**PcP**	**00 35 29.6**	**+1.3**
	comp=Z,2.1nm,0.5s,baz=104,slow=3.7,SNR=19						
ASAR				S	**S**	**00 40 00.5**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=96,slow=15,SNR=5.6						
	comp=Z,14nm,0.6s						
ASAR	**Alice Springs**	**45.23**	**254**	P	**P**	**00 34 00.5**	**+0.6**
VNDA	**Vanda**	**60.31**	**185**	P	**P**	**00 35 47.4**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=1.6,slow=5.7,SNR=7.8						
	comp=Z,0.7nm,0.6s						
VNDA	**Vanda**	**60.31**	**185**	P	**P**	**00 35 47.1**	**+0.7**
QSPA	**South Pole Qui**	**71.97**	**180**	P	**P**	**00 36 59.6**	**+0.5**
NVAR	**Mina Array Bea**	**79.20**	**44**	P	**P**	**00 37 42.0**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=286,slow=6.5,SNR=1.5						
	comp=Z,0.1nm,0.3s						

PPLA	**Purkeypile**	**83.21**	**12**	P	P	00 37 52.3	-7.3
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**00 38 31.8**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=104,slow=3.8,SNR=5.3						
	comp=Z,0.5nm,0.3s						
SNAA	**Sanae**	**90.40**	**178**	P	**P**	**00 38 33.6**	**-0.2**
SNAA				IAmb	IAmb	00 38 42.3	
	comp=Z,2.5nm,1.1s						
BRTR	**Keskin Array B**	**145.27**	**315**	PKPbc	**PKiKP**	**00 45 09.6**	**-1.5**
	comp=Z,1.6nm,0.8s,baz=135,slow=4.7,SNR=7.0						
CLL	**Collm**	**145.75**	**348**	*e*PKPbc	**PKPab**	**00 45 10.0**	**-0.4**
GERES	**GERESS Array B**	**147.91**	**346**	PKPbc	**PKiKP**	**00 45 16.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=37,slow=3.8,SNR=8.1						

*HEL **07** 00:51:55.9±0.2, 67.83N×20.21E, h0km, ML1.2, Explosion*
UPP 07 00:51:55.2±0.0, 67.83N×20.19E, h0km, ML2.7, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**24**	P	Pg	00 51 58.0	+0.2
KUA				S	Sg	00 52 00.1	+0.5
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 51 59.7	+0.2
RATU				S	Sg	00 52 03.0	+0.6
KOVU	**Salmi**	**0.40**	**359**	P	Pg	00 52 02.8	+0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 52 03.7	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 52 08.8	0.0
LANU	**Lannavaara**	**0.71**	**71**	PG	Pg	00 52 08.8	-0.1
LANU				SG	Sg	00 52 17.9	-0.2
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 52 08.7	-0.4
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 52 10.1	-0.1
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 52 09.9	-0.3
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pb	00 52 18.5	-0.3
KIF	**Kilpisjarvi**	**1.20**	**11**	PG	Pg	00 52 18.5	+0.3
KIF				MSG		00 52 33.5	
	comp=Z,2.0nm,0.2s						
KIF				SB	Sb	00 52 34.4	-0.4
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	00 52 21.6	-0.7
HEF	**Hetta**	**1.43**	**64**	MSG		00 52 38.7	
	comp=Z,1.9nm,0.2s						
HEF				SG	Sg	00 52 40.2	-0.7
KLF	**Kolari**	**1.57**	**111**	PG	Pn	00 52 24.1	-0.2
KLF				MSG		00 52 42.6	
	comp=Z,1.4nm,0.2s						
KLF				SN	Sn	00 52 45.1	-0.2
KTK1	**Kautokeino**	**1.64**	**42**	PG	Pn	00 52 25.3	+0.1
KTK1				SN	Sn	00 52 47.0	+0.1
KALU	**Kalix**	**2.34**	**146**	PG	Pb	00 52 37.4	-0.8
TOF	**Tornio**	**2.40**	**135**	MSG		00 53 06.6	
	comp=Z,0.5nm,0.2s						
TOF				SG	Sb	00 53 09.9	+0.8
SGF	**Sodankyl**	**2.46**	**96**	SG	Sb	00 53 11.4	+0.6
RNF	**Rovaniemi**	**2.58**	**116**	PG	Pb	00 52 40.4	-1.8
RNF				SG	Sb	00 53 13.6	-0.8
KEV	**Kevo**	**3.14**	**49**	SB	Sn	00 53 25.9	+1.9
KEV				MSG		00 53 28.1	
	comp=Z,0.6nm,0.2s						
BURU	**Burvik**	**3.30**	**171**	PN	Pn	00 52 48.1	+0.1
	baz=353						
VRF	**Varrio**	**3.58**	**87**	PN	Pn	00 52 50.7	-1.2

*IDC **07** 00:56:46.7±3.1, 5.43S×153.35E, h42km±26km, mb3.5/8, mbtmp3.7/8, MS2.8/1, Error ellipse: s-maj=32.6km s-min=16.7km az=60.0*

ISC 07 00:56:46.6±1.3, 5.4S±0.1×153.4E±0.1, h43km, n10, σ1§05/10, mb3.5/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.75**	**307**	P	**Pn**	**00 57 14.5**	**-0.1**
	132nm,0.3s,baz=173,slow=1.7,SNR=19						
KRVT				S	**Sn**	**00 57 35.2**	**-0.5**
	244nm,0.5s,baz=33,slow=19,SNR=5.8						
PMG	**Port Moresby**	**7.40**	**237**	S	**Sn**	**00 59 55.7**	**+0.8**
	9.5nm,0.3s,baz=44,slow=22,SNR=1.8						
PMG				LR	LR	01 01 16.4	
	comp=Z,76nm,19.6s,baz=281,slow=37						
DZM	**Mont Dzumac**	**20.84**	**144**	P	Pn	01 01 25.4	-2.4
	5.5nm,0.6s,baz=288,slow=11,SNR=16						
	5.5nm,0.6s						
WRA	**Warramunga Arr**	**23.55**	**230**	P	**P**	**01 01 52.4**	**-1.0**
	0.7nm,0.8s,baz=54,slow=9.6,SNR=3.4						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**26.17**	**224**	P	**P**	**01 02 15.5**	**-1.8**
	0.2nm,0.5s,baz=53,slow=9.4,SNR=1.8						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.68**	**295**	P	**P**	**01 06 41.8**	**+1.5**
	1.2nm,0.3s,baz=101,slow=4.7,SNR=5.7						
	1.2nm,0.3s						
SONM	**Songino Array**	**67.14**	**328**	P	**P**	**01 07 36.1**	**0.0**
	0.6nm,0.6s,baz=152,slow=6.9,SNR=3.9						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**81.16**	**319**	P	**P**	**01 08 57.7**	**-0.2**
	0.3nm,0.5s,baz=95,slow=7.8,SNR=8.7						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**81.97**	**326**	P	**P**	**01 09 01.4**	**-0.5**
	0.3nm,0.3s,baz=134,slow=4.2,SNR=3.7						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**82.45**	**22**	P	**P**	**01 09 04.6**	**+0.4**
	0.4nm,1.0s,baz=201,slow=7.4,SNR=1.7						
	0.4nm,1.0s						

*IDC **07** 01:15:53.2±1.4, 28.97S×69.57W, h93km±12km, mb3.7/4, mbtmp3.9/7, Error ellipse: s-maj=25.3km s-min=10.8km az=81.0*
*GUC **07** 01:15:54.9±0.8, 28.99S×69.71W, h128km±5km, ML4.0*
*NEIC **07** 01:15:54.2±1.9, 29.01S±0.05×69.64W±0.1, h125km±6km, mb4.2/3, ML4.1(GUC), Error ellipse: s-maj=12.5km s-min=7.7km az=98.0*

ISC 07 01:15:53.7±0.7, 29.01S±0.03×69.59W±0.06, h116km±6km, n63, σ1§17/78, mb4.2/6, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC05	**El Transito**	**0.63**	**286**

comp=E,52nm,0.3s,baz=345,slow=14,SNR=344
CFA S **Sn** **01 17 11.3 -0.4**
comp=E,94nm,0.3s,baz=195,slow=10,SNR=16
AC01 Pan de Azucar 2.99 342 Pn **Pn** **01 16 40.4 +0.6**
VA03 San Esteban 3.83 192 **Pn** **01 16 51.9 +0.8**
VA06 Catapilco 3.83 202 Pn **Pn** **01 16 50.6 -0.4**
ROCH El Roble 4.13 197 *eP* **Pn** **01 16 54.1 -1.0**
ROCH *i S* **Sn** **01 17 42.3 -0.6**
PEL Peldehue 4.23 193 *eP* **Pn** **01 16 56.3 0.0**
PEL *i S* **Sn** **01 17 44.3 -0.5**
PB14 IPOC Station P 4.43 350 Pn **Pn** **01 16 58.6 -0.6**
MT02 Curacav 4.44 197 **Pn** **01 16 58.0 -1.1**
MT09 Talagante 4.90 194 **Pn** **01 17 04.3 -1.1**
VA05 Santo Domingo 4.95 200 **Pn** **01 17 03.9 -2.0**
BO04 La Punta 5.04 190 **Pn** **01 17 06.8 -0.3**
BO01 Tunca 5.52 193 Pn **Pn** **01 17 12.0 -1.6**
PB15 IPOC Station P 5.78 1 **Pn** **01 17 16.8 -0.5**
BO02 Sierra Bellavi 5.86 190 **Pn** **01 17 17.2 -1.0**
LVC Limon Verde 6.40 6 P **Pn** **01 17 24.8 -1.1**
comp=E,3.6nm,0.3s,baz=163,slow=5.9,SNR=24
LVC S **Sn** **01 18 34.7 -3.2**
comp=E,9.2nm,0.3s,baz=284,slow=4.4,SNR=3.8
LVC Limon Verde 6.40 6 Pn **Pn** **01 17 25.0 -1.0**
PB03 IPOC Station P 6.93 359 **Pn** **01 17 32.0 -0.9**
H03N1 Juan Fernandez 9.12 239 P **Pn** **01 18 02.0 0.0**
baz=251,slow=24,SNR=7.9
H03N1 T T 01 26 09.5
baz=64,slow=72,SNR=237
H03N2 Juan Fernandez 9.14 239 P **Pn** **01 18 02.1 -0.1**
baz=251,slow=24,SNR=8.7
H03N2 T T 01 26 13.0
baz=64,slow=72,SNR=163
H03N3 Juan Fernandez 9.14 239 P **Pn** **01 18 02.0 -0.4**
baz=251,slow=24,SNR=7.2
H03N3 T T 01 26 08.7
baz=64,slow=72,SNR=34
TRQA Tornquist 11.03 147 Pn **Pn** **01 18 27.1 -1.0**
CPUP Villa Florida 11.19 79 P Pn 01 18 26.1 -4.1
comp=E,1.6nm,0.5s,baz=256,slow=12,SNR=5.4
CPUP Villa Florida 11.19 79 Pn **Pn** **01 18 29.1 -1.1**
ITQB Itaqui 11.33 96 Pn **Pn** **01 18 30.3 -1.8**
SIV San Ignacio 15.15 33 P **P** **01 19 23.3 -0.7**
comp=E,0.5nm,0.5s,baz=207,slow=4.3,SNR=3.8
BDFB Brasilia 23.93 61 P **P** **01 20 58.3 +1.0**
comp=E,1.3nm,0.4s,baz=198,slow=13,SNR=3.3
comp=E,1.3nm,0.4s
BELA Belgrano 2 51.44 171 P **P** **01 24 45.2 -1.2**
BELA IAmb IAmb 01 24 49.3
comp=Z,2.8nm,0.8s
SNAA Sanae 55.45 159 P **P** **01 25 17.7 +1.8**
comp=Z,1.0nm,0.5s,baz=304,slow=11,SNR=9.9
comp=Z,1.0nm,0.5s
SNAA Sanae 55.45 159 P **P** **01 25 15.4 -0.4**
SNAA IAmb IAmb 01 25 34.8
comp=Z,7.0nm,1.4s
QSPA South Pole Qui 61.21 180 P **P** **01 25 54.6 -1.5**
QSPA IAmb IAmb 01 26 28.8
comp=Z,2.8nm,1.1s
PDAR Pinedale Array 80.33 331 P **P** **01 27 54.5 +2.4**
comp=Z,0.2nm,0.6s,baz=101,slow=8.0,SNR=3.7
comp=Z,0.2nm,0.6s
BOSA Boshof 80.51 117 P **P** **01 27 54.9 +1.6**
comp=Z,2.7nm,0.5s,baz=239,slow=2.7,SNR=9.6
comp=Z,2.7nm,0.5s
ASAR Alice Springs 122.95 206 PKP **PKiKP** **01 34 38.4 +1.3**
comp=Z,0.4nm,0.5s,baz=136,slow=1.8,SNR=5.4
WRA Warramunga Arr 126.13 208 PKP **PKiKP** **01 34 45.0 +1.5**
comp=Z,0.8nm,0.8s,baz=153,slow=1.7,SNR=25
SIMJ Simiganj 144.54 63 PKPdf **PKPab** **01 35 14.1 -1.3**
CHGR Chuyangaron 144.66 63 **PKPab** **01 35 14.6 -1.2**
AAK Ala-Archa 148.11 55 PKPbc **PKPbc** **01 35 24.4 -1.6**
ZALV Zalesovo Beam 148.88 30 PKPbc **PKPab** **01 35 29.9 -1.7**
comp=Z,8.0nm,0.6s,baz=311,slow=3.5,SNR=39
ZALV Zalesovo Beam 148.88 30 PKPbc **PKiKP** **01 35 28.0 -0.6**
MKAR Makanchi Array 151.80 43 PKPbc **PKiKP** **01 35 36.6 +1.7**
comp=Z,1.7nm,0.6s,baz=289,slow=1.9,SNR=25
MKAR PKPab **PKPab** **01 35 46.4 +2.4**
comp=Z,1.2nm,0.7s,baz=287,slow=4.0,SNR=8.5

*WEL **07** 01:36:00,42.57S×173.27E,h11km,ML4.6,Mw4.4, Moment Tensor Solution. s9 Moment tensor: Scale 10^15 Nm; Mrr4.03; Mθθ0.30; Mϕϕ-4.33; Mrθ-2.15; Mθϕ-1.42; Mϕr0.58; Fault plane solution: Mo4.94000×10^15 NP1: ϕs352.00000°,δ51.00000°,λ55.00000°. NP2: ϕs220.00000°,δ51.00000°,λ125.00000°. Principal axes: T 514.5900, Plg63.0000°, Azm196.0000°; N -41.6400, Plg27.0000°, Azm16.0000°; P -472.9500, Plg0.0000°, Azm106.0000°;*
*NOU **07** 01:36:06.3,42.77S×173.56E,h9km,MLv4.8/14, South Island, New Zealand*
*NEIC **07** 01:36:06.5±2.4,42.67S±0.03×173.45E±0.06,h10km±1km, mb4.2/6, Error ellipse: s-maj=9.5km s-min=2.1km az=125.0*
*IDC **07** 01:36:07.5±0.7,42.39S×173.29E,h13km±3km, mb4.3/6, mbtmp4.4/8, ML4.5/2, MS3.6/12, Error ellipse: s-maj=22.3km s-min=20.9km az=140.0*
*WEL **07** 01:36:08.7±0.6,43.3S×17.3E±, h19km±6km, M4.5/15, ML4.8/15, MLv4.5/15, Error ellipse: s-maj=0.0km s-min=0.0km az=121.6, confirmed*

ISC 07 01:36:06.6±0.5, 42.66S±0.02×173.41E±0.03, h10km±3km, n211, σ1$34/223, mb4.3/10, MS3.6/11, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**21**		**Pb**	**01 36 13.6**	**+0.2**
KHZ				Sg	**Sb**	**01 36 17.5**	**-0.4**
KHZ	**Kahutara**	**0.26**	**21**	P	**Pb**	**01 36 14.0**	**+0.6**
KHZ	**Kahutara**	**0.26**	**21**	P	**Pb**	**01 36 13.6**	**+0.2**
KHZ				S	**Sb**	**01 36 17.6**	**-0.3**
GVZ	**Greta Valley S**	**0.41**	**222**		**Pn**	**01 36 17.9**	**-0.8**
GVZ				Sg	**Sb**	**01 36 24.6**	**+2.2**
GVZ	**Greta Valley S**	**0.41**	**222**	P	**Pn**	**01 36 17.9**	**-0.8**
GVZ				S	**Sb**	**01 36 24.7**	**+2.2**
AMCZ	**Amberley**	**0.76**	**227**		**Pn**	**01 36 23.6**	**+0.2**
AMCZ	**Amberley**	**0.76**	**227**	P	**Pn**	**01 36 23.8**	**+0.3**
LTZ	**Lake Taylor**	**0.85**	**261**	Pg	**Pg**	**01 36 23.4**	**+0.4**
LTZ	**Lake Taylor**	**0.85**	**261**	P	**Pg**	**01 36 23.4**	**+0.4**
LTZ				S	**Sg**	**01 36 34.3**	**+0.3**
THZ	**Tophouse**	**0.97**	**337**		**Pg**	**01 36 24.6**	**-0.7**
THZ	**Tophouse**	**0.97**	**337**	P	**Pg**	**01 36 24.7**	**-0.7**
THZ				S	**Sg**	**01 36 35.3**	**-2.6**
BSWZ	**Blackbirch Sta**	**1.00**	**20**		**Pn**	**01 36 26.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.00**	**20**	P	**Pn**	**01 36 27.2**	**+0.4**
BSWZ				S	**Sn**	**01 36 42.8**	**+1.8**
CMWZ	**Cape Campbell**	**1.09**	**34**		**Pn**	**01 36 29.0**	**+1.1**
CMWZ	**Cape Campbell**	**1.09**	**34**	P	**Pn**	**01 36 29.4**	**+1.4**
CMWZ				S	**Sn**	**01 36 45.8**	**+2.8**
MQZ	**McQueen's Vall**	**1.18**	**208**	P	**Pg**	**01 36 29.4**	**0.0**
MQZ				S	**Sg**	**01 36 45.1**	**+0.3**
OXZ	**Oxford**	**1.21**	**236**	P	**Pn**	**01 36 29.1**	**-0.5**
OXZ				S	**Sg**	**01 36 46.0**	**+0.5**
AKCZ	**Akaroa Harbour**	**1.27**	**197**	P	**Pg**	**01 36 30.8**	**-0.1**
TUWZ	**Tuamarina**	**1.29**	**18**		**Pg**	**01 36 31.4**	**0.0**
TUWZ	**Tuamarina**	**1.29**	**18**	P	**Pg**	**01 36 31.5**	**+0.2**
TUWZ				S	**Sg**	**01 36 49.5**	**+1.3**
MRNZ	**Matariki Terra**	**1.35**	**339**	P	**Pn**	**01 36 31.3**	**-0.3**
RACZ	**Rakaia**	**1.42**	**221**	P	**Pn**	**01 36 32.3**	**-0.1**
NNZ	**Nelson**	**1.44**	**359**	P	**Pb**	**01 36 33.4**	**-0.2**
NNZ				S	**Sb**	**01 36 52.4**	**+0.5**
INZ	**Inchbonnie**	**1.45**	**267**	P	**Pn**	**01 36 32.5**	**-0.5**
DSZ	**Denniston Nort**	**1.50**	**307**	P	**Pn**	**01 36 33.2**	**-0.5**
DSZ				S	**Sn**	**01 36 53.2**	**-0.2**
TCW	**Tory Channel**	**1.58**	**24**	P	**Pb**	**01 36 35.4**	**-0.6**
MHCZ	**Mount Hutt**	**1.61**	**237**	P	**Pn**	**01 36 34.6**	**-0.5**
SNZO	**South Karori**	**1.66**	**36**	P	**Pb**	**01 36 36.8**	**-0.4**
TKNZ	**Takaka Hill**	**1.66**	**348**	P	**Pn**	**01 36 36.4**	**+0.6**
WEL	**Wellington**	**1.71**	**37**	P	**Pb**	**01 36 37.1**	**-1.0**
WACZ	**Wakanui South**	**1.72**	**221**	P	**Pn**	**01 36 36.6**	**-0.1**
PLWZ	**Palliser**	**1.75**	**52**	P	**Pn**	**01 36 37.3**	**+0.2**
MSWZ	**Moikau Station**	**1.85**	**48**		**Pn**	**01 36 37.2**	**-1.2**
DUWZ	**D'Urville Isla**	**1.90**	**12**	P	**Pn**	**01 36 39.8**	**+0.7**
QRZ	**Quartz Range**	**1.95**	**340**		**Pn**	**01 36 40.3**	**+0.5**
QRZ	**Quartz Range**	**1.95**	**340**	P	**Pn**	**01 36 40.9**	**+1.1**
QRZ	**Quartz Range**	**1.95**	**340**	P	**Pn**	**01 36 40.5**	**+0.7**
PAWZ	**Paruwai Farm**	**1.97**	**50**	P	**Pn**	**01 36 40.0**	**-0.1**
CAW	**Cannon Point**	**1.98**	**39**	P	**Pn**	**01 36 40.5**	**+0.3**
WVZ	**Waitaha Valley**	**2.01**	**257**	P	**Pn**	**01 36 40.5**	**-0.1**
RPZ	**Rata Peaks**	**2.02**	**238**	Pn	**Pn**	**01 36 40.2**	**-0.6**
RPZ	464nm,0.3s,baz=84,slow=1.8,SNR=1906			Sn	**Sn**	**01 37 04.4**	**-1.8**
RPZ	178nm,0.3s,baz=159,slow=24,SNR=19			LR	LR	01 37 12.6	
RPZ	comp=Z,475nm,20.2s,baz=46,slow=31 2μm,0.4s						
RPZ	**Rata Peaks**	**2.02**	**238**	P	**Pn**	**01 36 40.7**	**-0.1**
RPZ	**Rata Peaks**	**2.02**	**238**	P	**Pn**	**01 36 40.3**	**-0.6**
ARCZ	**Arundel**	**2.08**	**231**	P	**Pn**	**01 36 41.0**	**-0.6**
TRWZ	**Traveller**	**2.11**	**54**	P	**Pn**	**01 36 42.1**	**0.0**
KIW	**Kapiti Island**	**2.12**	**32**	P	**Pn**	**01 36 42.7**	**+0.6**
MTW	**Mount Morrison**	**2.16**	**47**	P	**Pn**	**01 36 42.6**	**-0.2**
OGWZ	**Otaki Gorge**	**2.26**	**36**	P	**Pn**	**01 36 44.3**	**+0.2**
GCSZ	**Gaunt Creek Bo**	**2.36**	**253**	P	**Pn**	**01 36 45.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.36**	**42**	P	**Pn**	**01 36 45.2**	**-0.2**
TMWZ	**Te Maipa**	**2.42**	**51**	P	**Pn**	**01 36 45.9**	**-0.3**
TMZ	**Timaru**	**2.46**	**225**	P	**Pn**	**01 36 46.4**	**-0.4**
MRZ	**Mangatainoka R**	**2.57**	**40**	P	**Pn**	**01 36 48.2**	**-0.2**
TIWZ	**Tintock**	**2.64**	**45**	P	**Pn**	**01 36 48.8**	**-0.5**
CPWZ	**Castlepoint**	**2.72**	**51**	P	**Pn**	**01 36 50.9**	**+0.5**
FOZ	**Fox Glacier**	**2.77**	**250**		**Pn**	**01 36 51.7**	**+0.6**
FOZ	**Fox Glacier**	**2.77**	**250**	P	**Pn**	**01 36 51.6**	**+0.5**
OHWZ	**Ohakea**	**2.84**	**31**	P	**Pn**	**01 36 53.9**	**+1.9**
PRWZ	**Pori Road**	**2.85**	**43**	P	**Pn**	**01 36 51.7**	**-0.4**
POWZ	**Post Office Ro**	**2.88**	**39**	P	**Pn**	**01 36 52.5**	**0.0**
BFZ	**Birch Farm**	**2.90**	**48**		**Pn**	**01 36 51.9**	**-1.0**
BFZ	**Birch Farm**	**2.90**	**48**	P	**Pn**	**01 36 52.4**	**-0.5**
BFZ	**Birch Farm**	**2.90**	**48**	P	**Pn**	**01 36 52.1**	**-0.8**
LBZ	**Lake Benmore**	**2.91**	**233**	P	**Pn**	**01 36 52.9**	**-0.2**
ODZ	**Otahua Downs**	**3.11**	**219**	P	**Pn**	**01 36 55.5**	**-0.3**
ODZ	**Otahua Downs**	**3.11**	**219**	P	**Pn**	**01 36 55.4**	**-0.4**
WAZ	**Wanganui**	**3.14**	**23**	P	**Pn**	**01 36 58.5**	**+2.4**
DVHZ	**Dannevirke**	**3.14**	**42**	P	**Pn**	**01 36 55.1**	**-1.1**
ANWZ	**Angora Road**	**3.18**	**47**	P	**Pn**	**01 36 56.3**	**-0.4**
TSZ	**Takapari Road**	**3.23**	**37**	P	**Pn**	**01 36 57.0**	**-0.4**
NMEZ	**Namu Road**	**3.26**	**6**	P	**Pb**	**01 37 02.7**	**-1.9**
LREZ	**Lake Rotokare**	**3.28**	**14**	P	**Pn**	**01 37 00.9**	**+2.8**
KHEZ	**Kahui Hut**	**3.39**	**8**	P	**Pn**	**01 37 02.0**	**+2.3**
KHEZ	**Kahui Hut**	**3.39**	**8**	P	**Pn**	**01 37 02.4**	**+2.7**
PRHZ	**Porangahau**	**3.40**	**46**	P	**Pn**	**01 36 60.0**	**+0.2**
NBEZ	**Newall Road No**	**3.41**	**6**	P	**Pn**	**01 37 02.4**	**+2.6**
NEZ	**North Egmont**	**3.42**	**9**	P	**Pb**	**01 37 04.3**	**-3.2**
WPHZ	**Waipukurau**	**3.45**	**42**	P	**Pn**	**01 37 01.2**	**+0.7**
PNHZ	**Pukenui**	**3.46**	**38**	P	**Pn**	**01 36 59.7**	**-0.8**
PKE	**Pukeiti**	**3.49**	**7**	P	**Pn**	**01 37 03.6**	**+2.6**
DRHZ	**Durham Road**	**3.50**	**10**	P	**Pn**	**01 37 05.5**	**-3.4**
JCZ	**Jackson Bay**	**3.66**	**246**		**Pn**	**01 37 03.0**	**-0.4**
JCZ	**Jackson Bay**	**3.66**	**246**	P	**Pn**	**01 37 02.8**	**-0.6**
PKVZ	**Pokaka**	**3.67**	**24**	P	**Pn**	**01 37 05.1**	**+1.6**
VRZ	**Vera Road**	**3.68**	**17**	P	**Pn**	**01 37 05.8**	**+2.2**
PXZ	**Pawanui**	**3.69**	**46**	P	**Pn**	**01 37 03.4**	**-0.4**
MOVZ	**Moawhango**	**3.70**	**29**	P	**Pn**	**01 37 04.3**	**+0.4**
WNVZ	**Wahianoa**	**3.72**	**27**	P	**Pn**	**01 37 05.6**	**+1.3**
TRVZ	**Turoa**	**3.73**	**26**	P	**Pn**	**01 37 05.6**	**+1.1**
BHHZ	**Black Hill Sta**	**3.75**	**33**	P	**Pn**	**01 37 04.5**	**0.0**
KRHZ	**Kereru**	**3.75**	**38**	P	**Pn**	**01 37 03.6**	**-1.0**
DRZ	**Dome Shelter**	**3.75**	**26**	P	**Pn**	**01 37 07.4**	**+2.5**
WHVZ	**Whangaehu Hut**	**3.75**	**27**	P	**Pn**	**01 37 06.1**	**+1.3**
FWVZ	**Far West T-bar**	**3.77**	**26**	P	**Pn**	**01 37 06.1**	**+1.1**
TUVZ	**Tukino**	**3.79**	**27**	P	**Pn**	**01 37 06.6**	**+1.4**
HHSZ	**Highcliff Hill**	**3.81**	**211**	P	**Pn**	**01 37 05.1**	**-0.2**
WKZ	**Wanaka**	**3.85**	**234**	P	**Pn**	**01 37 05.1**	**-0.9**
NGZ	**Ngauruhoe**	**3.85**	**26**	P	**Pn**	**01 37 07.3**	**+1.1**
SNVZ	**South Ngauruho**	**3.86**	**27**	P	**Pn**	**01 37 07.4**	**+1.2**
KAHZ	**Kahuranaki**	**3.88**	**44**	P	**Pn**	**01 37 05.2**	**-1.1**
OTVZ	**Oturere**	**3.89**	**27**	P	**Pn**	**01 37 09.0**	**+2.4**
NNVZ	**North Ngauruho**	**3.90**	**26**	P	**Pn**	**01 37 07.8**	**+1.0**
TWVZ	**Taurewa**	**3.90**	**24**	P	**Pn**	**01 37 07.7**	**+1.0**
WTVZ	**West Tongariro**	**3.91**	**26**	P	**Pn**	**01 37 07.8**	**+0.9**
EAZ	**Earnscleugh**	**3.92**	**228**	P	**Pn**	**01 37 06.4**	**-0.5**
ETVZ	**East Tongariro**	**3.93**	**27**	P	**Pn**	**01 37 08.2**	**+1.1**
KRVZ	**Karewarewa**	**3.94**	**26**	P	**Pn**	**01 37 09.3**	**+2.0**
TMVZ	**Te Maari**	**3.94**	**27**	P	**Pn**	**01 37 08.5**	**+1.1**
NTVZ	**North Tongarir**	**3.95**	**27**	P	**Pn**	**01 37 08.9**	**+1.5**
KWHZ	**Kaweka Forest**	**3.95**	**36**	P	**Pn**	**01 37 06.4**	**-1.0**
MCHZ	**McNeill Hill**	**4.06**	**39**	P	**Pn**	**01 37 07.9**	**-0.9**
KATZ	**Kakaramea**	**4.07**	**26**	P	**Pn**	**01 37 12.6**	**+3.6**
RITZ	**Rihia Road**	**4.12**	**28**	P	Pb	01 37 14.3	-4.9
RATZ	**Rangitukua**	**4.19**	**26**	P	**Pb**	**01 37 15.7**	**-4.8**
BKZ	**Black Stump Fm**	**4.20**	**35**		**Pn**	**01 37 09.3**	**-1.4**
BKZ	**Black Stump Fm**	**4.20**	**35**	P	**Pn**	**01 37 09.7**	**-1.1**
BKZ	**Black Stump Fm**	**4.20**	**35**	P	**Pn**	**01 37 08.5**	**-1.3**
TUZ	**Tuapeka**	**4.27**	**218**	P	**Pn**	**01 37 11.4**	**-0.2**
HIZ	**Hauiti**	**4.29**	**15**		**Pn**	**01 37 12.9**	**+1.0**
HIZ	**Hauiti**	**4.29**	**15**	P	**Pn**	**01 37 13.9**	**+2.0**
HIZ	**Hauiti**	**4.29**	**15**	P	**Pn**	**01 37 13.3**	**+1.4**
WATZ	**Wairara**	**4.32**	**25**	P	**Pn**	**01 37 14.8**	**+2.3**
ARHZ	**Aropaoanui**	**4.34**	**40**	P	**Pn**	**01 37 13.4**	**+0.7**
NMHZ	**Naumai**	**4.39**	**37**	P	**Pn**	**01 37 12.2**	**-1.2**
MRHZ	**Matea Rd**	**4.45**	**32**	P	**Pn**	**01 37 13.1**	**-1.1**
MTHZ	**Maungataniwha**	**4.61**	**36**	P	**Pn**	**01 37 15.6**	**-0.8**
TLZ	**Tolley Road**	**4.62**	**21**	P	**Pn**	**01 37 20.0**	**+3.4**
ALRZ	**Allen Road**	**4.66**	**30**	P	**Pn**	**01 37 16.9**	**-0.2**
RAHZ	**Arahi**	**4.67**	**38**	P	**Pn**	**01 37 18.6**	**+1.4**
MLZ	**Mavora Lakes**	**4.68**	**233**	P	**Pn**	**01 37 16.1**	**-1.3**
PRRZ	**Plateau Road**	**4.74**	**30**	P	**Pn**	**01 37 18.6**	**+0.5**
KNZ	**Kokohu**	**4.86**	**43**	P	**Pn**	**01 37 18.9**	**-0.9**
RTZ	**Ruatahuna**	**4.87**	**35**		**Pn**	**01 37 18.3**	**-1.7**
MHGZ	**Maria Peninsul**	**4.89**	**46**	P	**Pn**	**01 37 20.4**	**+0.3**
SNGZ	**Shannon Statio**	**4.89**	**39**	P	**Pn**	**01 37 20.1**	**-0.1**
MUGZ	**Murupara**	**4.90**	**33**	P	**Pn**	**01 37 20.2**	**-0.2**
SYZ	**Scrubby Hill**	**4.93**	**217**	P	**Pn**	**01 37 21.1**	**+0.3**
SYZ	**Scrubby Hill**	**4.93**	**217**	P	**Pn**	**01 37 20.8**	**+0.1**
TARZ	**Mount Tarawera**	**5.01**	**29**	P	**Pn**	**01 37 22.5**	**+0.6**
OMRZ	**Omania**	**5.08**	**27**	P	**Pn**	**01 37 25.8**	**+3.0**
WHZ	**Wether Hill Ro**	**5.08**	**229**		**Pn**	**01 37 21.2**	**-1.6**
WHZ	**Wether Hill Ro**	**5.08**	**229**	P	**Pn**	**01 37 21.6**	**-1.3**
RIGZ	**Rimuhau**	**5.15**	**41**	P	**Pn**	**01 37 22.3**	**-1.5**
RAGZ	**Rawiri**	**5.16**	**38**	P	**Pn**	**01 37 22.4**	**-1.6**
TOZ	**Tahuroa Road**	**5.18**	**19**	P	**Pn**	**01 37 24.9**	**+0.8**
URZ	**Urewera**	**5.22**	**34**	Pn	**Pn**	**01 37 22.5**	**-2.3**
URZ	5.5nm,0.3s,baz=316,slow=7.5,SNR=32			Sn	**Sn**	**01 38 21.8**	**-3.2**
	29nm,0.3s,baz=162,slow=14,SNR=13 12nm,0.3s						
URZ	**Urewera**	**5.22**	**34**	P	**Pn**	**01 37 24.4**	**-0.4**
URZ	**Urewera**	**5.22**	**34**	P	**Pn**	**01 37 24.1**	**-0.6**
DCZ	**Deep Cove**	**5.31**	**236**	P	**Pn**	**01 37 24.9**	**-1.0**
OPRZ	**Ohinepanea**	**5.38**	**28**	P	**Pn**	**01 37 26.8**	**-0.1**
TGRZ	**Tauranga**	**5.39**	**25**	P	**Pn**	**01 37 28.5**	**+1.5**
CNGZ	**Carnagh Statio**	**5.54**	**43**	P	**Pn**	**01 37 28.2**	**-1.0**
AWAZ	**Awhitu Peninsu**	**5.67**	**10**	P	**Pn**	**01 37 32.5**	**+1.6**
TWGZ	**Tauwhareparae**	**5.67**	**39**	P	**Pn**	**01 37 29.7**	**-1.3**
APZ	**The Paps**	**5.68**	**221**	P	**Pn**	**01 37 30.6**	**-0.5**
MKAZ	**Moumakai**	**5.71**	**14**	P	**Pn**	**01 37 32.2**	**+0.8**
RUGZ	**Raukumara Rang**	**5.71**	**36**	P	**Pn**	**01 37 29.6**	**-2.0**
WTAZ	**Waiatarua**	**5.79**	**9**	P	**Pn**	**01 37 34.8**	**+2.2**
MYRZ	**Mayor Island**	**5.79**	**23**	P	Pn	01 37 38.7	+6.1
ETAZ	**East Tamaki Re**	**5.82**	**12**	P	**Pn**	**01 37 34.3**	**+1.4**
EPAZ	**Edoth Park BICE**	**5.87**	**11**	P	**Pn**	**01 37 35.8**	**+2.2**
HBAZ	**Herne Bay Bore**	**5.89**	**10**	P	Pn	01 37 38.6	+4.7
HAZ	**Te Kaha**	**5.93**	**36**	P	**Pn**	**01 37 34.0**	**-0.4**
RVAZ	**Riverhead Bore**	**5.95**	**9**	P	**Pn**	**01 37 36.2**	**+1.5**
PKGZ	**Pakihiroa**	**5.95**	**38**	P	**Pn**	**01 37 33.1**	**-1.8**
MBAZ	**Motutapu North**	**5.99**	**12**	P	**Pn**	**01 37 38.0**	**+2.7**
WIAZ	**Waiheke Island**	**6.01**	**13**	P	**Pn**	**01 37 36.1**	**+0.5**
KUZ	**Kuaotunu**	**6.17**	**18**	P	**Pn**	**01 37 38.8**	**+1.0**
KUZ	**Kuaotunu**	**6.17**	**18**	P	**Pn**	**01 37 38.5**	**+0.7**
MXZ	**Matakaoa Point**	**6.32**	**38**	Pn	**Pn**	**01 37 39.5**	**-0.3**
MXZ	**Matakaoa Point**	**6.32**	**38**	P	**Pn**	**01 37 39.6**	**-0.3**
MXZ	**Matakaoa Point**	**6.32**	**38**	P	**Pn**	**01 37 39.3**	**-0.6**
GRZ	**Great Barrier**	**6.59**	**15**	P	**Pn**	**01 37 45.9**	**+2.4**
WCZ	**Waipu Caves**	**6.75**	**6**	P	**Pn**	**01 37 48.1**	**+2.4**
CTZ	**Chatham Island**	**7.37**	**102**	P	**Pn**	**01 37 54.6**	**+0.4**
DZM	**Mont Dzumac**	**21.34**	**342**	P	**P**	**01 40 55.4**	**+1.4**
DZM	19nm,1.1s,baz=170,slow=10,SNR=4.5			LR	LR	01 48 32.3	
DZM	comp=Z,94nm,18.6s,baz=204,slow=35			LR	LR	01 48 32.3	
DZM	**Mont Dzumac**	**21.34**	**342**	P	**P**	**01 40 52.1**	**-1.9**
DZM				IAmb	IAmb	01 41 02.5	
	comp=Z,22nm,1.1s						
STKA	**Stephens Creek**	**27.36**	**283**	LR	LR	01 51 19.9	
	comp=Z,47nm,21.2s,baz=123,slow=34						
CTA	**Charters Tower**	**32.07**	**306**	LR	LR	01 54 49.5	
	comp=Z,114nm,18.8s,baz=85,slow=35						
HNR	**Honiara**	**35.14**	**336**	LR	LR	01 55 51.3	
	comp=Z,742nm,19.4s,baz=146,slow=34						
VNDA	**Vanda**	**35.29**	**184**	LR	LR	01 54 59.1	
	comp=Z,50nm,19.9s,baz=28,slow=32						
AS31	**Alice Springs**	**37.69**	**287**	P	**P**	**01 43 21.5**	**-0.8**
AS31				IAmb	IAmb	01 43 39.6	
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**37.69**	**287**	P	**P**	**01 43 21.0**	**-1.3**
ASAR	comp=Z,1.4nm,0.5s,baz=128,slow=6.8,SNR=47			PcP	**PcP**	**01 45 38.2**	**-1.3**
ASAR	comp=Z,0.6nm,0.6s,baz=116,slow=4.2,SNR=3.0			pPcP		01 45 42.8	
ASAR	comp=Z,0.5nm,0.8s,baz=129,slow=3.6,SNR=5.5			LR	LR	01 58 37.4	
	comp=Z,100nm,18.2s,baz=125,slow=36 comp=Z,1.4nm,0.5s						
WR0	**Warramunga Arr**	**39.70**	**292**	P	**P**	**01 43 38.4**	**-0.9**
WR0				IAmb	IAmb	01 44 06.6	
	comp=Z,4.6nm,1.0s						
WRA	**Warramunga Arr**	**39.85**	**292**	P	**P**	**01 43 39.4**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=127,slow=8.3,SNR=24						
WRA				LR	LR	02 00 28.3	
	comp=Z,106nm,18.0s,baz=156,slow=37 comp=Z,3.1nm,0.9s						
WRA	**Warramunga Arr**	**39.85**	**292**	P	**P**	**01 43 39.3**	**-1.1**
QSPA	**South Pole Qui**	**47.47**	**180**	P	**P**	**01 44 44.7**	**+3.3**
	comp=Z,8.1nm,0.8s,baz=28,slow=3.5,SNR=21 comp=Z,8.1nm,0.8s						
MAW	**Mawson**	**58.37**	**205**	LR	LR	02 09 53.1	
	comp=Z,148nm,19.1s,baz=89,slow=35						
BELA	**Belgrano 2**	**58.52**	**173**	P	**P**	**01 46 02.0**	**-0.5**
BELA				IAmb	IAmb	01 46 05.5	
	comp=Z,3.6nm,0.8s						
KAPI	**Kappang**	**60.39**	**293**	LR	LR	02 13 21.0	
	comp=Z,29nm,18.5s,baz=173,slow=37						
PMSA	**Palmer Station**	**63.90**	**156**	LR	LR	02 11 07.8	
	comp=Z,68nm,18.8s,baz=228,slow=33						
TROLL	**Troll, Antarti**	**65.45**	**183**	P	**P**	**01 46 51.1**	**+1.8**
SNAA	**Sanae**	**65.95**	**181**	P	**P**	**01 46 53.9**	**+1.4**
SNAA	**Sanae**	**65.95**	**181**	P	**P**	**01 46 52.4**	**-0.1**
VNA3	**Neumayer Olymp**	**66.39**	**179**	P	**P**	**01 46 57.1**	**+1.9**
VNA2	**Neumayer--Watz**	**66.72**	**180**	P	**P**	**01 46 59.2**	**+1.8**
	baz=168,slow=7.0						
VNA1	**Neumayer--Stat**	**67.00**	**179**	P	**P**	**01 47 00.8**	**+1.7**
PLCA	**Paso Flores**	**78.88**	**136**	P	**P**	**01 48 12.6**	**+2.5**
	comp=Z,2.0nm,0.8s,baz=252,slow=3.2,SNR=3.6 comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**89.85**	**325**	P	**P**	**01 49 05.7**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=141,slow=5.3,SNR=5.9						
KSRS				pP	**sP**	**01 49 09.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=15,slow=40,SNR=1.9 comp=Z,2.0nm,0.7s						
KSAR	**Wonju Array Be**	**89.85**	**325**	P	**P**	**01 49 04.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**91.43**	**294**	P	**P**	**01 49 13.7**	**+0.

n200,σ1ᵍ77/201,**mb4.7**/65,**10C-9D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.99**	**296**⇓	*e*P	**Pn**	**02 38 48.3**	**-2.5**
DDMP				*e*S	**Sn**	**02 39 01.9**	**-2.6**
MATI	**Mati**	**1.32**	**345**⇓	*e*P	**Pn**	**02 38 53.8**	**-1.2**
MATI				*e*S	**Sn**	**02 39 11.3**	**-0.7**
DAV	**Davao City (W)**	**1.73**	**324**	P	**Pn**	**02 38 59.6**	**-0.7**
	1µm,0.4s,baz=130,slow=1.1,SNR=61						
KCP	**Kidapawan**	**2.01**	**312**⇓	*i*P	**Pn**	**02 39 02.2**	**-1.9**
KCP				*i* S	**Sn**	**02 39 32.9**	**+4.4**
SKMP	**Bagumbayan, Su**	**2.22**	**293**⇓	*e*P	**Pn**	**02 39 05.2**	**-1.7**
SKMP				*e*S	**Sn**	**02 39 31.6**	**-1.8**
SGSI	**Sangihe**	**2.24**	**209**	P	**Pn**	**02 39 06.3**	**-0.8**
BIPH	**Bislig**	**2.52**	**355**⇑	*e*P	Pn	02 39 24.0	+13
BIPH				*e*S	**Sn**	**02 39 37.5**	**-3.1**
BUKP	**Musuan**	**2.68**	**325**⇑	*e*P	**Pn**	**02 39 12.6**	**-0.6**
BUKP				*e*S	**Sn**	**02 39 49.0**	**+4.3**
CTBH	**Cotabato--PC H**	**2.81**	**304**⇑	*i*P	**Pn**	**02 39 13.7**	**-1.1**
CGP	**Cagayan de Oro**	**3.36**	**326**⇓	*i*P	**Pn**	**02 39 21.4**	**-0.9**
CGP				*i* S	**Sn**	**02 40 04.7**	**+3.6**
PAGZ	**Pagadian**	**3.87**	**304**⇓	*e*P	**Pn**	**02 39 28.1**	**-1.2**
PAGZ				*e*S	**Sn**	**02 40 07.4**	**-6.1**
GLSP	**General Luna,**	**4.12**	**353**⇑	*e*P	**Pn**	**02 39 31.0**	**-1.8**
GLSP				*e*S	**Sn**	**02 40 24.3**	**+4.5**
SCPH	**Surigao**	**4.24**	**345**	*e*P	**Pn**	**02 39 35.3**	**+0.9**
SCPH				*e*S	**Sn**	**02 40 19.3**	**-3.3**
DCPH	**Dipolog City**	**4.34**	**312**⇓	*e*P	Pn	02 39 29.8	-6.0
ZCP	**Zamboanga City**	**4.67**	**286**⇓	*e*P	**Pn**	**02 39 40.1**	**-0.2**
ZCP				*e*S	**Pn**	**02 39 40.9**	**+0.6**
MSLP	**Maasin**	**4.77**	**339**⇑	*e*P	**Pn**	**02 39 39.9**	**-1.6**
MSLP				*e*S	**Sn**	**02 40 42.4**	**+6.8**
TBP	**Tagbilaran**	**4.84**	**326**	*e*P	**Pn**	**02 39 41.6**	**-0.9**
TBP				*i* S	**Sn**	**02 40 37.8**	**+0.5**
TNTI	**Ternate**	**4.92**	**171**	Pn	**Pn**	**02 39 43.8**	**+0.1**
TNTI	**Ternate**	**4.92**	**171**	P	**Pn**	**02 39 43.5**	**-0.1**
TNTI	**Ternate**	**4.92**	**171**	P	**Pn**	**02 39 44.3**	**+0.7**
LLP	**Lapu-Lapu**	**5.31**	**331**⇑	*e*P	**Pn**	**02 39 48.9**	**-0.1**
LLP				*e*S	**Sn**	**02 40 40.2**	**-8.7**
GTOI	**Gorontalo**	**6.15**	**216**	P	**Pn**	**02 39 59.5**	**-1.0**
	332nm,0.9s,3µm1.0nm						
MRSI	**Marisa**	**6.94**	**222**	P	**Pn**	**02 40 11.1**	**-0.2**
	1µm,0.6s,18µm6.2nm						
RCP	**Roxas**	**6.99**	**327**⇑	*e*P	**Pn**	**02 40 12.5**	**+0.5**
TOLI2	**Tolitoli**	**7.36**	**232**	Pn	**Pn**	**02 40 14.7**	**-2.4**
LUWI	**Luwuk**	**7.68**	**210**	Pn	**Pn**	**02 40 23.8**	**+2.4**
LUWI	**Luwuk**	**7.68**	**210**	P	**Pn**	**02 40 23.0**	**+1.6**
	622nm,1.0s,9µm2.4nm						
SANI	**Sanana**	**7.69**	**185**	P	**Pn**	**02 40 18.3**	**-3.2**
SIJI	**Sorong**	**7.99**	**144**	P	**Pn**	**02 40 24.8**	**-0.8**
	48nm,0.4s,baz=338,slow=13,SNR=21						
SIJI				S	**Sn**	**02 41 53.6**	**-0.9**
	10nm,0.2s,baz=162,slow=23,SNR=2.0						
MYLDM	**Lahad Datu**	**8.08**	**267**	Pn	**Pn**	**02 40 27.6**	**+0.7**
APSI	**Ampana**	**8.19**	**217**	P	**Pn**	**02 40 30.7**	**+2.3**
	723nm,1.3s,6µm						
MPSI	**Mapaga**	**8.53**	**232**	P	**Pn**	**02 40 31.7**	**-1.4**
	84nm,0.6s,2µm						
NLAI	**Namlea**	**8.86**	**177**	P	**Pn**	**02 40 35.9**	**-1.6**
MSAI	**Masohi**	**9.24**	**165**	P	**Pn**	**02 40 44.9**	**+2.1**
	20nm,0.8s						
AAI	**Ambon**	**9.42**	**170**	P	**Pn**	**02 40 45.2**	**0.0**
	109nm,0.7s,2µm						
LQP	**Lukban**	**9.77**	**330**⇑	*e*P	**Pn**	**02 40 54.0**	**+3.9**
FAKI	**Fak Fak**	**10.22**	**146**	Pn	**Pn**	**02 40 55.6**	**-0.5**
FAKI	**Fak Fak**	**10.22**	**146**	P	**Pn**	**02 40 56.5**	**+0.4**
FAKI	**Fak Fak**	**10.22**	**146**	P	**Pn**	**02 40 56.6**	**+0.4**
	76nm,0.9s,1µm						
RKPI	**Ransiki, Papua**	**10.39**	**133**	P	**Pn**	**02 40 59.7**	**+1.2**
SPSI	**Sidrap Palu**	**11.75**	**216**	P	**Pn**	**02 41 17.9**	**+0.9**
	64nm,0.7s						
BNSI	**Bone**	**11.92**	**213**	P	**Pn**	**02 41 20.5**	**+1.2**
	44nm,0.9s,515nm						
KAPI	**Kappang**	**12.62**	**213**	P	**Pn**	**02 41 29.4**	**+0.5**
	54nm,0.9s,baz=16,slow=9.2,SNR=18						
KAPI				LR	LR	02 46 48.2	
	comp=Z,258nm,20.7s,baz=38,slow=39						
KAPI	**Kappang**	**12.62**	**213**		**Pn**	**02 41 28.0**	**-0.8**
BKSI	**Bulukumba**	**12.69**	**211**	P	**Pn**	**02 41 29.3**	**-0.5**
	23nm,0.9s						
SMPI	**Sarmi**	**14.28**	**122**	P	**P**	**02 41 54.0**	**-2.0**
	115nm,1.2s						
SBUM	**Sibu**	**14.70**	**258**	Pn	**Pn**	**02 41 57.2**	**+0.9**
BBKI	**Banjar Baru**	**14.84**	**233**	P	**P**	**02 42 02.3**	**+0.1**
	103nm,1.2s						
MMRI	**Maumere**	**14.86**	**197**	Pn	**Pn**	**02 41 58.8**	**+0.4**
SOEI	**Soe**	**15.49**	**189**	Pn	**Pn**	**02 42 06.1**	**-0.5**
SOEI				IAmb	IAmb	02 42 16.1	
	comp=Z,84nm,0.8s						
SOEI	**Soe**	**15.49**	**189**	P	**Pn**	**02 42 07.6**	**+1.0**
SOEI	**Soe**	**15.49**	**189**	P	**P**	**02 42 08.2**	**-1.4**
	comp=Z,139nm,0.9s,comp=Z,2µm						
BATI	**Baumata**	**16.03**	**191**	P	**Pn**	**02 42 13.7**	**+0.3**
	comp=Z,78nm,0.3s,baz=52,slow=0.7,SNR=10						
BATI				LR	LR	02 48 33.9	
	comp=Z,183nm,20.1s,baz=29,slow=38						
BATI	**Baumata**	**16.03**	**191**	P	**Pn**	**02 42 13.7**	**+0.3**
	comp=Z,156nm,0.9s,comp=Z,2µm						
KSM	**Kuching**	**16.78**	**256**		**Pn**	**02 42 21.9**	**-0.8**
PLAI	**Plampang**	**16.87**	**212**	P	**P**	**02 42 25.9**	**+1.1**
PLAI	**Plampang**	**16.87**	**212**	P	**Pn**	**02 42 23.5**	**-0.3**
	comp=Z,113nm,0.9s,comp=Z,2µm						
TWSI	**Taliwang, Sumb**	**17.28**	**214**	P	**P**	**02 42 29.9**	**+0.6**
	comp=Z,78nm,1.4s,comp=Z,4µm						
JAGI	**Jajag, Banyuwa**	**18.74**	**222**	P	**Pn**	**02 42 48.4**	**+1.8**
MTN	**Manton Dam**	**18.93**	**166**	P	**P**	**02 42 47.1**	**-0.2**
MTN				IAmb	IAmb	02 42 47.9	
	comp=Z,56nm,0.9s						
MTN	**Manton Dam**	**18.93**	**166**	P	**P**	**02 42 47.2**	**-0.2**
UWJI	**Ujung Watu**	**19.70**	**233**	P	**Pn**	**02 42 59.2**	**+1.3**
	comp=Z,150nm,1.1s						
NGJI	**Ngawi**	**19.89**	**230**	P	**Pn**	**02 43 03.0**	**+2.8**
PWJI	**Pagerwojo**	**20.07**	**227**	P	Pn	02 43 02.4	+0.2
	comp=Z,40nm,1.2s						
QIZ	**Qiongzhong**	**21.05**	**311**	P	**P**	**02 43 10.4**	**0.0**
QIZ				S	**S**	**02 47 01.4**	**+0.5**
KNRA	**Kununurra**	**21.31**	**174**	P	**P**	**02 43 13.5**	**+0.3**
KNRA	**Kununurra**	**21.31**	**174**	P	**P**	**02 43 14.2**	**+1.1**
KPJI	**Karang Pucung**	**21.85**	**234**	P	**P**	**02 43 19.8**	**+0.8**
	comp=Z,47nm,1.0s						
PPBI	**Pangkal Pinang**	**21.87**	**250**	P	**P**	**02 43 19.1**	**-0.1**
	comp=Z,23nm,0.6s,comp=Z,22µm						
LEM	**Lembang**	**22.65**	**237**	P	**P**	**02 43 29.4**	**+1.7**
	comp=Z,31nm,0.5s,baz=83,slow=9.7,SNR=6.0						
	comp=Z,31nm,0.5s						
DSRI	**Dabo**	**22.82**	**255**	P	**P**	**02 43 30.2**	**+0.8**
	comp=Z,31nm,1.0s,comp=Z,1µm						
UBPT	**Khong Chiam**	**22.85**	**296**	P	**P**	**02 43 27.3**	**-2.3**
MYKOM	**Kota Tinggi**	**23.02**	**261**	P	**P**	**02 43 29.6**	**-1.8**
MYKOM				IAmb	IAmb	02 43 48.7	
	comp=Z,22nm,0.8s						
MDSI	**Maura Dua**	**24.56**	**246**	P	**P**	**02 43 47.0**	**+1.6**
	comp=Z,24nm,0.9s						
COEN	**Coen**	**25.50**	**140**	P	**P**	**02 43 54.2**	**+0.2**
SDSI	**Sungai Dareh**	**25.98**	**256**	P	**P**	**02 43 59.9**	**+1.5**
	comp=Z,27nm,1.2s						
WB0	**Warramunga Arr**	**26.41**	**163**	P	**P**	**02 44 01.1**	**-1.0**
WB0				IAmb	IAmb	02 44 17.8	
	comp=Z,56nm,1.1s						
WRAB	**Tennant Creek**	**26.55**	**164**	P	**P**	**02 44 03.9**	**+0.4**
WRA	**Warramunga Arr**	**26.56**	**164**	P	**P**	**02 44 02.9**	**-0.6**
	comp=Z,8.5nm,0.7s,baz=340,slow=10,SNR=100						
WRA				LR	LR	02 56 03.7	
	comp=Z,74nm,19.8s,baz=328,slow=40						
	comp=Z,8.5nm,0.7s						
WRA	**Warramunga Arr**	**26.56**	**164**	P	**P**	**02 44 03.0**	**-0.5**
WR0	**Warramunga Arr**	**26.63**	**163**	IAmb	IAmb	02 44 22.5	
	comp=Z,25nm,0.9s						
PDSI	**Padang**	**26.91**	**257**	P	**P**	**02 44 09.1**	**+2.3**
	comp=Z,39nm,1.1s,comp=Z,4µm						
NJ2	**Nanjing**	**27.24**	**346**	*e*P	**P**	**02 44 10.4**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KRVT	**Keravat (AS076**	**27.25**	**111**	LR	LR	02 53 43.0	
	comp=Z,64nm,21.6s,baz=19,slow=33						
WHN	**Wuhan**	**27.30**	**336**	⇓P	P	02 44 17.9	+7.8
MBWA	**Marble Bar**	**27.49**	**194**	P	**P**	**02 44 10.9**	**-0.9**
QIS	**Mount Isa**	**29.02**	**154**	P	**P**	**02 44 26.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**29.83**	**298**	P	**P**	**02 44 32.1**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=111,slow=6.8,SNR=6.0						
CMAR				LR	LR	02 58 49.0	
	comp=Z,39nm,18.0s,baz=105,slow=41						
	comp=Z,1.1nm,0.3s						
JHJ	**Hachijo jima 2**	**29.95**	**23**	LR	LR	02 56 04.0	
	comp=Z,39nm,21.1s,baz=114,slow=35						
KMI	**Kunming**	**29.96**	**313**	⇑P	**P**	**02 44 34.8**	**+0.8**
KMI				pP	pP	02 44 50.8	-0.2
KMI				sP	sP	02 44 59.1	-0.4
KMI				S	**S**	**02 49 27.2**	**+0.4**
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
KMI				LR	LR		
	comp=Z,110nm,13.1s						
KMI				LR	LR		
	comp=Z,130nm,16.7s						
KMI				LR	LR		
	comp=Z,220nm,23.8s						
CHTO	**Chiang Mai**	**29.96**	**298**	P	**P**	**02 44 33.1**	**-0.7**
CHTO				IAmb	IAmb	02 44 35.9	
	comp=Z,33nm,2.0s						
AS31	**Alice Springs**	**30.01**	**167**	P	**P**	**02 44 32.7**	**-1.5**
ASAR	**Alice Springs**	**30.01**	**167**	P	**P**	**02 44 34.3**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=344,slow=6.9,SNR=55						
ASAR				ScP	**ScP**	**02 51 13.4**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=345,slow=2.8,SNR=2.7						
	comp=Z,5.0nm,0.6s						
ASAR	**Alice Springs**	**30.01**	**167**	P	**P**	**02 44 33.7**	**-0.5**
WRKA	**Warakurna**	**30.56**	**177**	P	**P**	**02 44 39.9**	**+0.8**
GIRL	**Giralia**	**30.62**	**203**	P	**P**	**02 44 40.9**	**+1.3**
PZH	**PanZhiHua**	**31.50**	**314**	P	**P**	**02 44 50.8**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
KSRS	**Korea Array**	**31.67**	**2**	LR	LR	02 59 54.1	
	comp=Z,27nm,18.2s,baz=190,slow=40						
MJAR	**Matsushiro Arr**	**32.52**	**18**	LR	LR	02 57 36.4	
	comp=Z,58nm,21.4s,baz=225,slow=35						
XAN	**Xi'an**	**32.65**	**332**	P	**P**	**02 44 59.8**	**+2.4**
XAN				pP	pP	02 45 19.8	+5.2
XAN				sP	sP	02 45 26.3	+3.2
XAN				S	**S**	**02 50 10.8**	**+2.4**
XAN				sS	sS	02 50 41.2	+4.1
XAN				pmax	pmax		
	comp=Z,22nm,1.1s						
XAN				pmax	pmax		
	comp=Z,210nm,5.3s						
XAN	**Xi'an**	**32.65**	**332**	P	**P**	**02 44 59.4**	**+2.0**
MEEK	**Meekatharra**	**33.03**	**193**	P	**P**	**02 44 59.9**	**-0.8**
TNCH	**TengChong**	**33.10**	**309**	*e*P	**P**	**02 45 03.2**	**+1.6**
HNS	**HongShan**	**33.40**	**343**	⇑P	**P**	**02 45 04.0**	**+0.2**
HNS				pmax	pmax		
	comp=Z,12nm,1.0s						
OOD	**Oodnadatta**	**34.40**	**166**	P	**P**	**02 45 13.2**	**+0.7**
BJT	**Baijiatuao**	**35.47**	**346**	P	**P**	**02 45 21.8**	**+0.1**
BJT				IAmb	IAmb	02 45 27.4	
	comp=Z,12nm,0.8s						
BJT	**Baijiatuao**	**35.47**	**346**	P	**P**	**02 45 23.0**	**+1.3**
INKA	**Innaminka**	**35.91**	**158**	P	**P**	**02 45 26.1**	**+0.6**
MORW	**Morawa**	**35.99**	**196**	P	**P**	**02 45 27.6**	**+1.3**
FORT	**Forrest**	**36.26**	**178**	P	**P**	**02 45 28.4**	**-0.1**
FORT	**Forrest**	**36.26**	**178**	P	**P**	**02 45 29.5**	**+1.0**
MULG	**Mulgathing**	**36.45**	**169**	P	**P**	**02 45 31.0**	**+0.9**
LZH	**Lanzhou**	**36.79**	**328**	*e*P	**P**	**02 45 35.9**	**+2.7**
LZH				pP	pP	02 45 50.0	-0.7
LZH				PcP	**PcP**	**02 47 57.8**	**+3.7**
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
BLDU	**Ballidu**	**37.30**	**194**	P	**P**	**02 45 37.3**	**0.0**
HHC	**Hu-ho-hao-te**	**37.54**	**341**	*e*P	**P**	**02 45 40.8**	**+1.4**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,6.5s						
CN2	**Changchun**	**38.00**	**359**	*e*P	**P**	**02 45 45.8**	**+2.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SHL	**Shillong**	**38.66**	**305**	P	**P**	**02 45 48.2**	**-1.0**
SHL				IAmb	IAmb	02 45 59.5	
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**38.67**	**6**	P	**P**	**02 45 48.7**	**0.0**
	comp=Z,2.8nm,0.7s,baz=192,slow=9.9,SNR=2.2						
	comp=Z,2.8nm,0.7s						
XLT	**XiLinHaoTe**	**39.19**	**348**	*e*P	**P**	**02 45 53.4**	**+0.2**
XLT				pP	pP	02 46 11.6	+1.7
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,140nm,5.2s						
BBOO	**Buckleboo**	**39.30**	**167**	P	**P**	**02 45 54.1**	**-0.1**
STKA	**Stephens Creek**	**39.97**	**160**	P	**P**	**02 46 00.2**	**+0.4**
	comp=Z,9.8nm,0.6s,baz=351,slow=8.5,SNR=18						
	comp=Z,9.8nm,0.6s						
STKA	**Stephens Creek**	**39.97**	**160**	P	**P**	**02 45 59.5**	**-0.3**
ASAJ	**Asahikawa**	**40.80**	**18**	LR	LR	03 03 17.8	
	comp=Z,41nm,20.9s,baz=33,slow=36						
H11S3	**WAKE ISLAND Hy**	**41.11**	**68**	T	T	03 30 12.3	
	baz=253,slow=77,SNR=21						
H11S1	**WAKE ISLAND Hy**	**41.12**	**68**	T	T	03 30 17.6	
	baz=253,slow=77,SNR=13						
H11S2	**WAKE ISLAND Hy**	**41.12**	**68**	T	T	03 30 14.1	
	baz=253,slow=77,SNR=25						
GTA	**Gaotai**	**41.39**	**328**	*e*P	**P**	**02 46 11.2**	**-0.3**
GTA				pP	pP	02 46 28.5	-0.8
GTA				sP	sP	02 46 38.1	+0.5
GTA				pmax	pmax		
	comp=Z,11nm,0.9s						
GTA				pmax	pmax		
	comp=Z,110nm,5.8s						
GTA				LR	LR		
	comp=Z,200nm,19.3s						
GTA				LR	LR		
	comp=Z,180nm,17.8s						
GTA				LR	LR		
	comp=Z,130nm,18.2s						
H11N1	**WAKE ISLAND Hy**	**41.58**	**67**	T	T	03 30 49.3	
	baz=248,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy**	**41.59**	**67**	T	T	03 30 51.1	
	baz=248,slow=74,SNR=15						
H11N3	**WAKE ISLAND Hy**	**41.60**	**67**	T	T	03 30 53.7	
	baz=248						
ARMA	**Armidale**	**43.15**	**148**	P	**P**	**02 46 25.6**	**-0.3**
ARMA				IAmb	IAmb	02 46 28.9	
	comp=Z,21nm,1.0s						
KLR	**Kul'dur**	**43.63**	**5**	LR	LR	03 05 26.9	
	comp=Z,34nm,18.4s,baz=248,slow=37						
HEH	**HeiHe**	**44.45**	**1**	*e*P	P	02 46 41.8	+6.0
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,260nm,6.4s						
ULN	**Ulaanbaatar**	**45.26**	**342**	P	**P**	**02 46 42.0**	**-0.5**
ULN	**Ulaanbaatar**	**45.26**	**342**	P	**P**	**02 46 43.3**	**+0.7**
SONM	**Songino Array**	**45.44**	**341**	P	**P**	**02 46 43.8**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=154,slow=7.9,SNR=19						
SONM				LR	LR	03 09 34.5	
	comp=Z,96nm,18.1s,baz=178,slow=41						
	comp=Z,3.1nm,0.8s						
SONM	**Songino Array**	**45.44**	**341**	P	**P**	**02 46 43.7**	**-0.2**
CAN	**Canberra**	**45.89**	**154**	P	**P**	**02 46 49.6**	**+2.0**
DZM	**Mont Dzumac**	**47.76**	**127**	P	**P**	**02 47 03.4**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=313,slow=19,SNR=1.6						
DZM				LR	LR	03 05 48.0	
	comp=Z,41nm,20.9s,baz=36,slow=34						
	comp=Z,2.1nm,0.7s						
WMQ	**Urumqi**	**51.09**	**324**	*e*P	**P**	**02 47 29.5**	**+2.1**
WMQ				LR	LR		
	comp=Z,110nm,29.0s						
PETK	**Petropavlovsk-**	**53.70**	**23**	P	**P**	**02 47 47.4**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=225,slow=5.9,SNR=1.8						
	comp=Z,2.3nm,0.7s						
MK31	**Makanchi Array**	**55.91**	**325**	P	**P**	**02 48 02.2**	**-0.5**
MK31				IAmb	IAmb	02 48 09.2	
	comp=Z,5.4nm,0.8s						
MKAR	**Makanchi Array**	**55.91**	**325**	P	**P**	**02 48 01.9**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=123,slow=7.9,SNR=21						
MKAR				LR	LR	03 12 21.1	
	comp=Z,76nm,19.0s,baz=81,slow=36						
	comp=Z,3.6nm,0.6s						
MAKZ	**Makanchi**	**56.10**	**324**	P	**P**	**02 48 03.3**	**-0.7**
MAKZ				IAmb	IAmb	02 48 15.5	
	comp=Z,6.9nm,0.8s						
MAKZ	**Makanchi**	**56.10**	**324**	P	**P**	**02 48 03.0**	**-1.0**
YAK	**Yakutsk**	**56.29**	**2**	P	**P**	**02 48 05.4**	**+0.4**
	comp=Z,3.3nm,0.3s,baz=20,slow=1.6,SNR=4.6						
	comp=Z,3.3nm,0.3s						
YAK	**Yakutsk**	**56.29**	**2**	P	**P**	**02 48 05.1**	**0.0**
KSH	**Kashi**	**56.60**	**314**	P	**P**	**02 48 08.9**	**+1.0**
NIL	**Nilore**	**56.66**	**307**	P	**P**	**02 48 07.0**	**-1.2**
NIL				IAmb	IAmb	02 48 12.9	
	comp=Z,14nm,0.9s						
MA2	**Magadan**	**56.88**	**14**	P	**P**	**02 48 08.5**	**-0.8**
MA2				IAmb	IAmb	02 48 10.3	
	comp=Z,6.0nm,1.0s						
ZAA0	**Zalesovo Array**	**58.82**	**333**	P	**P**	**02 48 23.4**	**+0.5**
ZAA0				IAmb	IAmb	02 48 29.1	
	comp=Z,8.2nm,0.9s						
ZALV	**Zalesovo Beam**	**58.82**	**333**	P	**P**	**02 48 22.3**	**-0.6**
	comp=Z,3.7nm,0.5s,baz=121,slow=6.5,SNR=18						
	comp=Z,3.7nm,0.5s						
AAK	**Ala-Archa**	**58.86**	**317**	P	**P**	**02 48 24.4**	**+0.7**
AAK				IAmb	IAmb	02 48 27.3	
	comp=Z,16nm,1.8s						
KURK	**Kurchatov**	**60.06**	**327**	P	**P**	**02 48 30.6**	**-0.9**
KURK	**Kurchatov**	**60.06**	**327**	P	**P**	**02 48 30.7**	**-0.9**
SEY	**Seymchan**	**60.19**	**13**	P	**P**	**02 48 33.4**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=62,slow=8.6,SNR=4.9						
	comp=Z,1.3nm,0.7s						
KBL	**Kabul**	**60.26**	**307**	P	**P**	**02 48 32.4**	**-1.2**
KBL				IAmb	IAmb	02 48 45.7	
	comp=Z,5.5nm,0.6s						
KK31	**Karatay Array**	**61.75**	**316**	P	**P**	**02 48 42.0**	**-1.2**
KKAR	**Karatay Array**	**61.75**	**316**	P	**P**	**02 48 41.7**	**-1.5**
BVAR	**Borovoye Array**	**65.64**	**327**	LR	LR	03 22 16.0	
	comp=Z,78nm,18.5s,baz=61,slow=40						
BRVK	**Borovoye**	**65.72**	**327**	P	**P**	**02 49 08.4**	**-0.6**
BRVK	**Borovoye**	**65.72**	**327**	P	**P**	**02 49 08.2**	**-0.8**
TIXI	**Tiksi**	**65.92**	**1**	P	**P**	**02 49 09.5**	**-0.6**
TIXI				IAmb	IAmb	02 49 23.8	
	comp=Z,9.7nm,0.8s						
TIXI	**Tiksi**	**65.92**	**1**	P	**P**	**02 49 10.3**	**+0.2**
NRIK	**Noril'sk**	**68.53**	**346**	P	**P**	**02 49 27.0**	**+0.4**
	comp=Z,6.5nm,0.8s,baz=120,slow=3.7,SNR=7.1						
	comp=Z,6.5nm,0.8s						
NRIK	**Noril'sk**	**68.53**	**346**	P	**P**	**02 49 26.6**	**-0.1**
NRIK				IAmb	IAmb	02 49 37.3	
	comp=Z,11nm,0.7s						
GEYT	**Alibeck**	**69.60**	**308**	P	**P**	**02 49 33.3**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=127,slow=6.5,SNR=5.2						
	comp=Z,2.5nm,0.7s						
ABKAR	**Akbulak array**	**70.59**	**320**	P	**P**	**02 49 38.8**	**-0.8**
AKTO	**Aktyubinsk**	**72.08**	**321**	LR	LR	03 23 51.1	
	comp=Z,93nm,19.8s,baz=154,slow=38						
GNI	**Garni**	**80.16**	**310**	P	**P**	**02 50 33.4**	**-1.6**
GNI				IAmb	IAmb	02 50 52.9	
	comp=Z,12nm,1.2s						
IMAR	**Indian Mountai**	**80.64**	**24**	P	**P**	**02 50 37.5**	**+0.7**
CAST	**Castle Rocks**	**81.07**	**27**	P	**P**	**02 50 39.3**	**+0.1**
CAST				IAmb	IAmb	02 50 42.5	
	comp=Z,8.2nm,0.9s						
KBZ	**Khabaz**	**81.57**	**313**	P	**P**	**02 50 42.2**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=220,slow=3.1,SNR=5.4						
	comp=Z,3.5nm,0.9s						
MLY	**Manley**	**81.79**	**25**	IAmb	IAmb	02 50 47.0	
	comp=Z,6.5nm,0.8s						
COLD	**Coldfoot**	**82.17**	**23**	P	**P**	**02 50 45.6**	**+0.8**
COLD				IAmb	IAmb	02 50 49.8	
	comp=Z,7.7nm,0.8s						
GURO	**Guroymak-BITLI**	**82.26**	**308**	P	**P**	**02 50 45.9**	**-0.3**
I23K	**Minto, Yukon-K**	**82.39**	**25**	IAmb	IAmb	02 51 06.3	
	comp=Z,21nm,1.6s						
NEA2	**Nenana**	**82.48**	**26**	IAmb	IAmb	02 51 07.5	
	comp=Z,8.5nm,1.1s						
MCK	**McKinley**	**82.50**	**27**	P	**P**	**02 50 46.5**	**-0.2**
MCK				IAmb	IAmb	02 50 50.0	
	comp=Z,11nm,0.8s						
H24K	**Noodor Dome**	**83.03**	**24**	IAmb	IAmb	02 50 54.0	
	comp=Z,6.4nm,0.8s						
HDA	**Harding Lake**	**83.39**	**26**	P	**P**	**02 50 50.7**	**-0.5**
IL31		**83.42**	**26**	IAmb	IAmb	02 51 07.1	
	comp=Z,11nm,1.6s						
ILAR	**Eielson Array**	**83.42**	**26**	P	**P**	**02 50 50.9**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=3.7,slow=22,SNR=17						
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**83.42**	**26**	P	**P**	**02 50 51.4**	**0.0**
KLMR	**Klimovskoe**	**83.67**	**331**	*e*P	**P**	**02 50 51.6**	**-1.1

RMQ Roma 21.69 230 P P 02 51 19.7 +1.1
ARMA Armidale 22.29 218 P P 02 51 25.2 +0.7
ARMA IAmb IAmb 02 51 26.6
comp=Z,15nm,0.9s
MTSU Mount Surprise 22.52 255 P P 02 51 27.6 +0.9
NIUE Niue 22.72 108 P P 02 51 25.0 -3.5
COEN Coen 23.33 266 P P 02 51 34.4 +0.3
COEN Coen 23.33 266 P P 02 51 35.9 +1.8
BKZ Black Stump Fm 27.06 164 P P 02 52 07.9 +0.4
BKZ Black Stump Fm 27.06 164 P P 02 52 08.8 +1.2
CAN Canberra 27.39 214 P P 02 52 10.2 -0.3
CAN IAmb IAmb 02 52 24.5
comp=Z,13nm,1.4s
STKA Stephens Creek 29.87 228 P P 02 52 33.2 +0.7
comp=Z,4.8nm,0.3s,baz=47,slow=8.2,SNR=12
STKA PcP PcP 02 55 32.0 +0.9
comp=Z,5.0nm,0.6s,baz=36,slow=1.2,SNR=7.4
STKA ScP ScP 02 59 00.2 +3.8
comp=Z,0.7nm,0.3s,baz=38,slow=10,SNR=3.9
comp=Z,4.8nm,0.3s
STKA Stephens Creek 29.87 228 P P 02 52 32.2 -0.4
WR0 Warramunga Arr 31.92 254 P P 02 52 49.4 -1.3
WR0 IAmb IAmb 02 52 53.9
comp=Z,15nm,1.3s
WB2 Warramunga Arr 32.10 254 P P 02 52 51.5 -0.8
WB2 IAmb IAmb 02 52 51.7
comp=Z,7.4nm,0.8s
WRA Warramunga Arr 32.11 254 P P 02 52 51.3 -1.1
comp=Z,4.4nm,0.6s,baz=84,slow=9.3,SNR=34
WRA pP pP 02 53 25.5 -3.4
comp=Z,4.5nm,0.9s,baz=85,slow=8.8,SNR=4.2
WRA PcP PcP 02 55 37.7 +0.3
comp=Z,1.5nm,0.9s,baz=73,slow=3.0,SNR=5.1
WRA ScP ScP 02 59 06.8 +2.7
comp=Z,2.7nm,0.9s,baz=78,slow=3.7,SNR=11
comp=Z,4.4nm,0.6s
AS31 Alice Springs 33.12 247 P P 02 53 00.1 -1.0
AS31 IAmb IAmb 02 53 01.3
comp=Z,4.3nm,0.5s
ASAR Alice Springs 33.12 247 P P 02 53 00.1 -1.0
comp=Z,9.7nm,0.5s,baz=76,slow=9.1,SNR=165
ASAR PcP PcP 02 55 38.7 -1.4
comp=Z,2.2nm,0.8s,baz=82,slow=4.3,SNR=8.6
ASAR ScP ScP 02 59 09.8 +2.2
comp=Z,4.2nm,0.9s,baz=80,slow=3.3,SNR=14
comp=Z,9.7nm,0.5s
ASAR Alice Springs 33.12 247 P P 02 52 59.3 -1.9
BBOO Buckleboo 34.40 230 P P 02 53 11.0 -1.0
BBOO IAmb IAmb 02 53 29.3
comp=Z,18nm,1.3s
MTN Manton Dam 35.09 267 P P 02 53 18.2 0.0
KNRA Kununurra 37.23 262 P P 02 53 35.7 -0.6
FORT Forrest 39.97 238 P P 02 53 58.9 0.0
MBWA Marble Bar 45.85 253 P P 02 54 46.7 +0.4
MBWA IAmb IAmb 02 54 48.1
comp=Z,24nm,1.1s
POHA Pohakuloa 49.25 49 pP 02 55 50.3 -1.8
MJAR Matsushiro Arr 56.59 332 P P 02 56 06.1 +0.2
comp=Z,2.8nm,0.9s,baz=155,slow=6.2,SNR=4.7
comp=Z,2.8nm,0.9s
VNDA Vanda 64.29 181 P P 02 56 58.4 +1.0
comp=Z,1.8nm,0.7s,baz=319,slow=6.6,SNR=13
comp=Z,1.8nm,0.7s
VNDA Vanda 64.29 181 P P 02 56 57.8 +0.4
USA0B Ussuriysk Arra 65.57 333 P P 02 57 08.2 +2.2
USA0B IAmb IAmb 02 57 08.8
comp=Z,7.7nm,0.8s
USRK Ussuriysk Ar. 65.57 333 P P 02 57 07.7 +1.6
comp=Z,2.7nm,0.7s,baz=67,slow=15,SNR=4.9
comp=Z,2.7nm,0.7s
USRK Ussuriysk Ar. 65.57 333 P P 02 57 07.2 +1.1
PETK Petropavlovsk- 66.63 354 P P 02 57 14.1 +1.4
comp=Z,5.2nm,0.7s,baz=188,slow=16,SNR=3.9
comp=Z,5.2nm,0.7s
MA2 Magadan 73.82 351 P P 02 57 56.4 +0.2
CMAR Chiang Mai Arr 74.28 294 P P 02 58 01.1 +1.3
comp=Z,1.3nm,0.3s,baz=121,slow=4.1,SNR=7.9
comp=Z,1.3nm,0.3s
CMAR Chiang Mai Arr 74.28 294 P P 02 58 00.3 +0.5
HIA Hailar 75.00 330 P P 02 58 03.3 0.0
QSPA South Pole Qui 76.73 180 P P 02 58 12.9 -0.2
QSPA IAmb IAmb 02 58 15.0
comp=Z,18nm,0.9s
YAK Yakutsk 80.63 343 P P 02 58 34.6 +0.6
ULN Ulaanbaatar 80.92 324 P P 02 58 36.1 -0.1
BILL Bilibino 81.11 360 P P 02 58 36.0 -0.5
SONM Songino Array 81.29 323 P P 02 58 39.0 +0.9
comp=Z,0.9nm,0.8s,baz=144,slow=6.9,SNR=5.9
comp=Z,0.9nm,0.8s
SONM Songino Array 81.29 323 P P 02 58 38.8 +0.7
RC01 Rabbit Creek A 81.61 20 P P 02 58 40.1 +0.8
RC01 IAmb IAmb 02 58 42.3
comp=Z,17nm,1.3s
CAST Castle Rocks 82.66 17 P P 02 58 45.1 +0.4
CAST IAmb IAmb 02 58 47.2
comp=Z,5.9nm,0.7s
SHL Shillong 82.80 298 P P 02 58 46.2 -0.3
SHL IAmb IAmb 02 58 47.9
comp=Z,7.2nm,0.7s
MCK McKinley 83.82 18 P P 02 58 52.0 +1.3
MCK IAmb IAmb 02 58 52.7
comp=Z,16nm,1.2s
I21K Tanana 84.04 16 IAmb IAmb 02 58 54.1
comp=Z,22nm,1.4s
IMAR Indian Mountai 84.21 15 P P 02 58 53.4 +0.9
BARN Barnard Glacie 84.41 22 P P 02 58 53.9 -0.1
BARN IAmb IAmb 02 58 57.1
comp=Z,15nm,1.1s
WRH Wood River Hil 84.62 18 IAmb IAmb 02 58 56.5
comp=Z,6.9nm,0.7s
CCB Clear Creek Bu 84.83 18 IAmb IAmb 02 58 56.7
comp=Z,5.4nm,0.7s
MDM Murphy Dome 84.93 17 IAmb IAmb 02 58 57.4
comp=Z,22nm,1.5s
IL31 85.19 18 IAmb IAmb 02 58 58.7
comp=Z,6.5nm,0.7s
ILAR Eielson Array 85.19 18 P P 02 58 57.4 -0.1
comp=Z,4.9nm,0.5s,baz=242,slow=5.0,SNR=134
ILAR pP pP 02 59 39.2 -2.1
comp=Z,2.0nm,0.7s,baz=241,slow=5.5,SNR=3.8
comp=Z,4.9nm,0.5s
SCRK Sand Creek 85.55 19 P P 02 59 00.1 +0.7
MOD Modoc Plateau 86.20 46 P P 02 59 04.3 +1.2
NVAR Mina Array Bea 86.41 49 P P 02 59 06.3 +2.0
comp=Z,0.7nm,0.8s,baz=247,slow=5.8,SNR=3.8
NVAR pP pwP 02 59 48.0 -3.8
comp=Z,1.2nm,0.9s,baz=238,slow=8.4,SNR=2.3
comp=Z,0.7nm,0.8s
BELA Belgrano 2 88.16 175 P P 02 59 11.7 0.0
MK31 Makanchi Array 96.10 317 P P 02 59 48.9 -0.1
MKAR Makanchi Array 96.10 317 P P 02 59 49.1 +0.1
comp=Z,1.5nm,0.7s,baz=94,slow=6.3,SNR=18
MKAR pP pP 03 00 32.0 -1.6
comp=Z,0.8nm,0.6s,baz=95,slow=6.2,SNR=4.1
comp=Z,1.5nm,0.7s
ZAA0 Zalesovo Array 96.18 324 P P 02 59 48.0 -1.1
ZAA0 IAmb IAmb 02 59 51.4
comp=Z,5.4nm,1.5s
ZALV Zalesovo Beam 96.18 324 P P 02 59 48.4 -0.7
comp=Z,0.9nm,0.6s,baz=87,slow=3.1,SNR=5.3
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 96.18 324 P P 02 59 47.1 -1.9
ARCES ARCESS Array B 118.84 346 PKP PKiKP 03 05 08.7 +0.4
comp=Z,3.1nm,0.4s,baz=83,slow=2.3,SNR=50
ARCES PKKPbc PKKPbc 03 15 24.3 -2.2
comp=Z,10nm,1.2s,baz=221,slow=1.1,SNR=5.0
FINES FINESS Array B 124.36 339 PKP PKiKP 03 05 19.6 +0.4
comp=Z,2.2nm,0.4s,baz=44,slow=1.7,SNR=25
BOSA Boshof 124.40 221 PKP PKiKP 03 05 21.3 +0.7
comp=Z,3.9nm,0.7s,baz=165,slow=3.9,SNR=7.6
NB2 NORSAR Subarra 129.22 345 PKP PKiKP 03 05 29.2 +0.2
comp=Z,0.9nm,0.5s,baz=42,slow=2.6
NOA NORSAR Array B 129.22 345 PKP PKiKP 03 05 29.3 +0.3
comp=Z,2.6nm,0.8s,baz=31,slow=2.0,SNR=5.0
AKASG Malin Array Be 129.49 326 PKP PKiKP 03 05 29.7 -0.1
comp=Z,0.4nm,0.4s,baz=58,slow=2.1,SNR=6.4
CLL Collm 136.71 336 *i* PKPdf PKiKP 03 05 45.5 +1.1
GERES GERESS Array B 138.32 334 PKP PKiKP 03 05 45.9 -2.1
comp=Z,0.9nm,0.6s,baz=112,slow=1.4,SNR=8.5
GERES SKP 03 09 07.3
comp=Z,1.0nm,0.6s,baz=29,slow=2.2,SNR=9.2
WTTA Wattenberg 140.43 334 *e*PKP PKiKP 03 05 49.3 -3.1
comp=Z,6.9nm,1.3s
MOTA Moosalm 140.59 334 *i* PKP PKPdf 03 05 48.8 -1.3
comp=Z,9.0nm,1.7s
FETA Feichten 141.00 334 *i* PKP PKPdf 03 05 49.4 -1.4
comp=Z,7.4nm,1.7s

BNI Bardonecchia 144.25 336 PKPdf PKiKP 03 05 56.1 -4.2
SSB Saint Sauveur 144.86 339 PKPdf PKiKP 03 05 58.1 -3.3
KEST Kesra 150.03 322 PKPbc PKiKP 03 06 12.7 +0.3
comp=Z,9.5nm,0.7s,baz=156,slow=0.9,SNR=9.7
PBRG Braganca 151.10 351 *e*PKPbc PKiKP 03 06 14.9 +0.5
PGAV Gavieira, Arco 151.16 353 *e*PKPbc PKiKP 03 06 15.2 +0.7
PCAB Cabril 151.38 352 *e*PKPbc PKiKP 03 06 15.7 +0.8
POLO Lamas de Olo 151.68 352 *e*PKPbc PKiKP 03 06 16.7 +1.1
PVRL Vila Real 151.76 352 *e*PKPbc PKiKP 03 06 16.8 +1.1
MVO Moncorvo 151.77 351 *e*PKPbc PKiKP 03 06 17.0 +1.2
PTO Porto 152.01 353 *e*PKPbc PKiKP 03 06 17.2 +1.0
PVIS Viseu 152.34 352 *e*PKPbc PKiKP 03 06 17.9 +0.9
ESDC Sonseca Array 152.58 345 PKPbc PKiKP 03 06 18.4 +0.9
comp=Z,3.9nm,0.8s,baz=3.0,slow=4.2,SNR=32
ESDC PKPab PKPab 03 06 29.8 +1.5
comp=Z,1.9nm,0.7s,baz=17,slow=4.3,SNR=8.7
MTE Manteigas 152.60 351 *e*PKPbc PKiKP 03 06 18.6 +1.1
COI Coimbra 152.91 353 *e*PKPbc PKiKP 03 06 18.2 +0.2
PCAS Casmilo, Conde 153.07 353 *e*PKPbc PKiKP 03 06 19.6 +1.2
PCBR Castelo Branco 153.13 351 *e*PKPdf PKPdf 03 06 12.0 +1.1
PCBR Castelo Branco 153.13 351 *e*PKPbc PKiKP 03 06 19.3 +0.8
PMRV Marv??o 153.52 351 *e*PKPbc PKiKP 03 06 20.3 +0.9
PESTR Estremoz 154.10 351 *e*PKPbc PKiKP 03 06 22.6 +2.0

JMA 07 02:56:37.8±0.1, 33°.7N±0°.5×135°.0E±0°.2, h10km±2km, MV0.7/15, S PART OF KII CHANNEL, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWM	Minabe	0.30	66	*e*S	Sg	02 56 48.0	+0.2
JAI	Aioi	0.48	278	*i* P	Pg	02 56 47.3	+0.1
JAI				*e*S	Sg	02 56 53.8	+0.2
JTNC	Tanabenakahech	0.50	79	*e*S	Sg	02 56 53.9	-0.1

SOME 07 02:59:43.1, 41°.70N×78°.15E, h15km
KRNET 07 02:59:43.2±0.1, 41°.73N×78°.17E, h15km, mb3.9
NNC 07 02:59:44.0±0.7, 41°.75N×78°.13E, h0km, mb4.0, mpv4.1, Error ellipse: s-maj=4.8km s-min=2.8km az=169.0
KNET 07 03:00:02.2±2.0, 42°.29N×76°.92E, h32km±4km, ml2.5, Error ellipse: s-maj=17.3km s-min=6.6km az=111.0

ISC 07 02:59:45.1±1.3, 41°.79N±0°.04×78°.07E±0°.03, h3km±10km, n79, σ1s26/123, 33C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	Taragay, Kyrgy	0.21	253	⇓*i*P	Pg	02 59 48.7	-0.5
	baz=70						
TARG				⇓*i*S	Sg	02 59 53.0	+1.0
	baz=70						
PRZ	Przheval'sk	0.73	19	⇑*i*P	Pg	02 59 58.0	-1.2
	baz=13						
PRZ				⇑*i*S	Sg	03 00 08.8	+0.1
	baz=13						
KDJ	Kajisay	0.75	297	⇑*i*P	Pg	02 59 58.8	-0.6
	baz=99						
KDJ				⇑*i*S	Sg	03 00 10.4	+1.3
	baz=99						
ANVS	Anan'yevo	1.04	343	⇓*i*P	Pb	03 00 04.2	-1.6
	baz=41						
ANVS				⇓*i*S	Sg	03 00 19.4	+1.0
	baz=41						
SATY	Saty	1.29	11	P	Pb	03 00 08.5	-1.6
	59nm,0.1s						
SATY				S	Sg	03 00 26.8	+0.2
	412nm,0.2s						
SATY	Saty	1.29	11	*e*P	Pb	03 00 08.5	-1.6
	baz=7.0						
SATY				*e*S	Sg	03 00 26.8	+0.2
	baz=7.0						
SATY	Saty	1.29	11	*e*P	Pb	03 00 08.5	-1.6
	59nm,0.1s						
SATY				*e*S	Sg	03 00 26.8	+0.2
	412nm,0.2s						
ZHN	Zhinishke	1.40	11	P	Pb	03 00 10.2	-1.7
	80nm,0.1s						
ZHN				S	Sg	03 00 29.8	-0.3
	430nm,0.1s						
ZHN	Zhinishke	1.40	11	*e*P	Pb	03 00 10.3	-1.7
	baz=8.0						
ZHN				*e*S	Sg	03 00 29.9	-0.2
	baz=8.0						
ZHN	Zhinishke	1.40	11	*e*P	Pb	03 00 10.2	-1.7
	80nm,0.1s						
ZHN				*e*S	Sg	03 00 29.8	-0.3
	430nm,0.1s						
ULHL	Ulahol	1.44	289	⇓*i*P	Pb	03 00 11.5	-1.2
	baz=90						
ULHL				⇓*i*S	Sg	03 00 32.0	+0.7
	baz=90						
TNSS	Tian-Shan	1.50	327	P	Pb	03 00 12.8	-1.0
	35nm,0.1s						
TNSS				S	Sg	03 00 34.0	+0.8
	169nm,0.2s						
TNSS	Tian-Shan	1.50	327	⇑*i*P	Pb	03 00 12.8	-1.0
	baz=26						
TNSS				⇑*e*S	Sg	03 00 34.0	+0.8
	baz=26						
TNSS	Tian-Shan	1.50	327	⇑*i*P	Pb	03 00 12.8	-1.0
	35nm,0.1s						
TNSS				*e*S	Sg	03 00 34.0	+0.8
	169nm,0.2s						
UZB	Uzynbulak	1.53	27	P	Pb	03 00 11.8	-2.3
	38nm,0.1s						
UZB				S	Sb	03 00 32.5	-1.5
	207nm,0.2s						
UZB	Uzynbulak	1.53	27	*e*P	Pb	03 00 11.8	-2.3
	baz=24						
UZB				*e*S	Sb	03 00 32.5	-1.5
	baz=24						
UZB	Uzynbulak	1.53	27	*e*P	Pb	03 00 11.8	-2.3
	38nm,0.1s						
UZB				*e*S	Sb	03 00 32.5	-1.5
	207nm,0.2s						
MDOK	Medeo	1.57	331	⇑P	Pb	03 00 14.0	-0.8
	39nm,0.2s						
MDOK				Pg	Pb	03 00 14.2	-0.7
	184nm,0.1s						
MDOK				⇑S	Sg	03 00 35.8	+0.4
	157nm,0.6s						
MDOK				Lg	Lg	03 00 36.5	
	184nm,0.3s						
MDOK	Medeo	1.57	331	*e*P	Pb	03 00 14.2	-0.7
	baz=30						
MDOK				*e*S	Sg	03 00 36.5	+1.1
	baz=30						
MDOK	Medeo	1.57	331	*e*P	Pb	03 00 14.2	-0.7
	184nm,0.1s						
MDOK				*e*S	Sg	03 00 36.5	+1.1
	184nm,0.3s						
NRN	Naryn	1.59	258	⇑*e*P	Pb	03 00 14.3	-1.1
	baz=60						
NRN				⇑*i*S	Sg	03 00 36.8	+0.5
	baz=60						
KOTS	Kotyrbulak	1.61	334	P	Pb	03 00 14.8	-0.7
	144nm,0.2s						
KOTS				S	Sg	03 00 37.8	+1.0
	253nm,0.2s						
KOTS	Kotyrbulak	1.61	334	*e*P	Pb	03 00 14.8	-0.7
	baz=33						
KOTS				*e*S	Sg	03 00 37.7	+1.0
	baz=33						
KOTS	Kotyrbulak	1.61	334	*e*P	Pb	03 00 14.8	-0.7
	144nm,0.2s						
KOTS				*e*S	Sg	03 00 37.8	+1.0
	253nm,0.2s						
AAA	Alma-Ata	1.66	329	P	Pb	03 00 16.1	-0.2
	708nm,0.2s						
AAA				S	Sg	03 00 39.7	+1.5
	875nm,0.3s						
AAA	Alma-Ata	1.66	329	*e*P	Pb	03 00 16.1	-0.2
	baz=28						
AAA				*e*S	Sg	03 00 39.8	+1.5
	baz=28						
AAA	Alma-Ata	1.66	329	*e*P	Pb	03 00 16.1	-0.2
	708nm,0.2s						
AAA				*e*S	Sg	03 00 39.7	+1.5
	875nm,0.3s						
KURS	Kuram	1.70	2	P	Pb	03 00 16.1	-0.9
	23nm,0.2s						
KURS				S	Sg	03 00 39.8	+0.2
	80nm,0.2s						
KURS	Kuram	1.70	2	*e*P	Pb	03 00 16.1	-0.9
	baz=0.0						
KURS				*e*S	Sg	03 00 39.8	+0.2
	baz=0.0						
KURS	Kuram	1.70	2	*e*P	Pb	03 00 16.1	-0.9
	23nm,0.2s						
KURS				*e*S	Sg	03 00 39.8	+0.2
	80nm,0.2s						
SHLS	Shalkode	1.71	37	Pg	Pg	03 00 18.6	+0.8
	65nm,0.1s						
SHLS				Lg	Lg	03 00 44.1	
	158nm,0.2s						
SHLS	Shalkode	1.71	37	*e*P	Pg	03 00 18.6	+0.8
	baz=41						
SHLS				*e*S	Sg	03 00 44.1	+4.1
	baz=41						
SHLS	Shalkode	1.71	37	*e*P	Pg	03 00 18.6	+0.8
	65nm,0.1s						
SHLS				*e*S	Sg	03 00 44.1	+4.1
	158nm,0.2s						
BOOM	Boomskoye usch	1.73	294	⇑*i*P	Pb	03 00 16.5	-1.2
	baz=96						
BOOM				⇑*i*S	Sg	03 00 41.2	+0.4
	baz=96						
KPKS	Kokpek	1.73	15	P	Pb	03 00 16.0	-1.6
	103nm,0.2s						
KPKS				S	Sg	03 00 39.6	-1.2
	155nm,0.2s						
KPKS	Kokpek	1.73	15	*e*P	Pb	03 00 16.0	-1.6
	baz=12						
KPKS				*e*S	Sg	03 00 39.6	-1.2
	baz=12						
KPKS	Kokpek	1.73	15	*e*P	Pb	03 00 16.0	-1.6
	103nm,0.2s						
KPKS				*e*S	Sg	03 00 39.6	-1.2
	155nm,0.2s						
MTBS	Maitube	1.81	318	P	Pb	03 00 18.1	-0.8
	38nm,0.2s						
MTBS				S	Sg	03 00 43.3	+0.1
	208nm,0.2s						
MTBS	Maitube	1.81	318	*e*P	Pb	03 00 18.1	-0.8
	baz=18						
MTBS				*e*S	Sg	03 00 43.3	+0.1
	baz=18						
MTBS	Maitube	1.81	318	*e*P	Pb	03 00 18.1	-0.8
	38nm,0.2s						
MTBS				*e*S	Sg	03 00 43.3	+0.1
	208nm,0.2s						
KST	Kastek	2.00	309	Pg	Pb	03 00 21.4	-0.8
	23nm,0.2s						
KST				Lg	Lg	03 00 48.9	
	341nm,0.5s						
KST	Kastek	2.00	309	*e*P	Pb	03 00 21.4	-0.8
	baz=10.0						
KST				*e*S	Sg	03 00 48.9	-0.5
	baz=10.0						
KST	Kastek	2.00	309	*e*Pg	Pb	03 00 21.4	-0.8
	23nm,0.2s						
KST				*e*Lg	Lg	03 00 48.9	
	341nm,0.5s						
TKM2	Tokmak 2	2.15	302	⇑P	Pb	03 00 24.0	-0.9
	45nm,0.3s,SNR=37						
TKM2	Tokmak 2	2.15	302	⇑Pg	Pb	03 00 23.9	-1.0
	21nm,0.4s						
TKM2				⇓Lg	Lg	03 00 54.1	
	194nm,0.5s						
TKM2	Tokmak 2	2.15	302	⇓*i*P	Pb	03 00 22.8	-2.1
	baz=3.0						
TKM2				⇓*i*S	Sb	03 00 51.9	-0.2
	baz=3.0						
KTBS	Karatobe	2.18	332	Pg	Pb	03 00 24.5	-0.6
	48nm,0.2s						
KTBS				Lg	Lg	03 00 54.2	
	406nm,0.2s						
KTBS	Karatobe	2.18	332	*e*Pg	Pb	03 00 24.5	-0.6
	48nm,0.2s						
KTBS				*e*Lg	Lg	03 00 54.2	
	406nm,0.2s						
CHKK	Chushkaly	2.21	339	Pg	Pb	03 00 25.3	-0.4
	40nm,0.3s						
CHKK				Lg	Lg	03 00 55.6	
	285nm,0.3s						
CHKK	Chushkaly	2.21	339	*e*Pg	Pb	03 00 25.3	-0.4
	40nm,0.3s						
CHKK				*e*Lg	Lg	03 00 55.6	
	285nm,0.3s						
DGS	Degeres	2.23	311	Pg	Pb	03 00 25.7	-0.5
	17nm,0.1s						
DGS				Lg	Lg	03 00 56.2	
	156nm,0.3s						
DGS	Degeres	2.23	311	*e*Pg	Pb	03 00 25.7	-0.5
	17nm,0.1s						
DGS				*e*Lg	Lg	03 00 56.2	
	156nm,0.3s						
KUU	Kurty	2.46	329	Pg	Pb	03 00 29.4	-0.6
	21nm,0.4s						
KUU				Lg	Lg	03 01 02.7	
	256nm,0.2s						
KUU	Kurty	2.46	329	*e*Pg	Pb	03 00 29.4	-0.6
	21nm,0.4s						
KUU				*e*Lg	Lg	03 01 02.7	
	256nm,0.2s						
KBK	Karagaybulak	2.48	291	⇑P	Pb	03 00 29.8	-0.6
	9.5nm,0.2s,SNR=39						
KBK	Karagaybulak	2.48	291	⇑*i*P	Pn	03 00 27.2	+0.7
	baz=92						
KBK				⇑*i*S	Sb	03 00 59.4	-1.9
	baz=92						
KRBS	Karabastau	2.60	318	Pg	Pb	03 00 32.1	-0.2
	27nm,0.2s						
KRBS				Lg	Lg	03 01 07.2	
	78nm,0.1s						
KRBS	Karabastau	2.60	318	*e*Pg	Pb	03 00 32.1	-0.2
	27nm,0.2s						
KRBS				*e*Lg	Lg	03 01 07.2	
	78nm,0.1s						
UCH	Uchtor	2.69	281	⇑P	Pb	03 00 34.2	+0.1
	9.8nm,0.3s,SNR=11						
UCH	Uchtor	2.69	281	⇑*e*P	Pn	03 00 30.3	+0.6
	baz=82						
UCH				⇑*i*S	Sb	03 01 04.5	-3.2
	baz=82						
CHMS	Chumysh	2.74	297	⇑P	Pb	03 00 33.4	-1.4
	9.6nm,0.4s,SNR=6.7						
CHMS	Chumysh	2.74	297	⇑Pg	Pb	03 00 33.4	-1.4
	3.3nm,0.4s						
CHMS				⇑Lg	Lg	03 01 10.8	
	13nm,0.3s						
AAK	Ala-Archa	2.79	289	⇓P	Pb	03 00 34.2	-1.4
	13nm,0.3s,SNR=8.5						
ARLS	Aral	2.80	273	⇑*e*P	Pn	03 00 31.9	+0.9
	baz=74						
ARLS				⇑*i*S	Sn	03 01 06.5	+1.1
	baz=74						
DJR	Jarkent	2.83	26	Pg	Pb	03 00 35.1	-1.3
	24nm,0.1s						
DJR				Lg	Lg	03 01 12.3	
	170nm,0.3s						
DJR	Jarkent	2.83	26	*e*Pg	Pb	03 00 35.1	-1.3
	24nm,0.1s						
DJR				*e*Lg	Lg	03 01 12.3	
	170nm,0.3s						
USP	Ospenovka	3.02	300	⇑P	Pb	03 00 36.3	-3.3
	5.2nm,0.2s,SNR=6.9						
SGDS	Sogindy	3.03	304	Pg	Pb	03 00 39.9	+0.1
	5.8nm,0.2s						
SGDS				Lg	Lg	03 01 20.6	
	70nm,0.4s						
TDK	Taldyqorghan	3.22	4	Pg	Pb	03 00 42.8	-0.1
	73nm,0.6s						
TDK				Lg	Lg	03 01 25.7	
	115nm,0.3s						
TDK	Taldyqorghan	3.22	4	*e*Pg	Pb	03 00 42.8	-0.1
	73nm,0.6s						
TDK				*e*Lg	Lg	03 01 25.7	
	115nm,0.3s						
MRKS	Merke	3.72	286	Pg	Pb	03 00 51.7	+0.2
	2.4nm,0.2s						
MRKS				Lg	Lg	03 01 41.0	
	27nm,0.2s						
MRKS	Merke	3.72	286	*e*Pg	Pb	03 00 51.7	+0.2
	2.4nm,0.2s						
MRKS				*e*Lg	Lg	03 01 41.0	
	27nm,0.2s						
BTLS	Baital	4.38	319	Pg	Pb	03 01 04.6	+2.0
	2.6nm,0.3s						
BTLS				Lg	Lg	03 02 03.2	
	15nm,0.3s						
BTLS	Baital	4.38	319	*e*Pg	Pb	03 01 04.6	+2.0
	2.6nm,0.3s						

BTLS				eLg	Lg	03 02 03.2			
	15nm,0.3s								
MAKZ	**Makanchi**	**5.74**	**28**	⇑Pn	**Pn**	**03 01 12.7**	**+1.5**		
	1.7nm,0.8s								
MAKZ				⇑Sn	**Sn**	**03 02 19.1**	**+1.4**		
	1.3nm,0.9s								
MAKZ				⇑Lg	Lg	03 02 47.6			
	4.5nm,0.8s								
KK31	**Karatay Array**	**5.75**	**286**	⇑Pg	Pg	03 01 30.3	-4.9		
	0.7nm,0.3s,baz=174,slow=21,SNR=3.6								
KK31				Lg	Lg	03 02 44.8			
	3.1nm,0.5s,baz=101,slow=28,SNR=7.7								
MK31	**Makanchi Array**	**5.84**	**30**	⇓Pn	**Pn**	**03 01 13.7**	**+1.1**		
	0.5nm,0.3s,baz=60,slow=23,SNR=34								
MK31				⇑Pg	Pg	03 01 32.0	-5.0		
	1.8nm,0.6s,baz=216,slow=16,SNR=2.6								
MK31				Sn	**Sn**	**03 02 20.2**	**0.0**		
	1.8nm,0.5s,baz=208,slow=23,SNR=7.2								
MK31				⇓Lg	Lg	03 02 48.6			
	1.9nm,0.5s,baz=215,slow=28,SNR=3.8								
KURBB	**Kurchatov Arra**	**8.84**	**2**	⇑Lg	Lg	03 04 26.4			
	10.0nm,0.6s								
KURK	**Kurchatov**	**8.93**	**2**	⇓Lg	Lg	03 04 28.9			
	7.9nm,1.1s								

JMA 07 03:00:53.1±0.2,38°.5N±0°.9×14°.5E±°,h44km,MV3.5/25, FAR E OFF NORTH HONSHU,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.32**	**285**	P	Pn	03 01 30.1	+1.3
OFUJ				eS	Sn	03 01 57.6	+1.6
MIYJ	**Miyakonagasawa**	**2.37**	**297**	P	Pn	03 01 30.3	+0.8
MIYJ				eS	Sn	03 01 58.1	+0.7
JKMT	**Kesennumamotoy**	**2.42**	**278**	P	Pn	03 01 31.7	+1.5
JIKH	**Ishinomakikobu**	**2.43**	**266**	P	Pn	03 01 31.5	+1.2
JIKH				eS	Sn	03 02 00.2	+1.5
JMK	**Ichinoseki**	**2.64**	**280**	P	Pn	03 01 34.9	+1.7
JOM	**Ohasama**	**2.71**	**292**	eP	Pn	03 01 35.7	+1.6
JYK	**Kaneyama**	**3.30**	**278**	eP	Pn	03 01 44.6	+2.4
JOT	**Ohata**	**3.92**	**318**	S	Sn	03 02 35.2	-0.3
JCH	**Churui**	**4.18**	**348**	eP	Pn	03 01 54.5	+0.1
JCH				eS	Sn	03 02 39.6	-2.4
NEM2	**Nemuro 2**	**4.92**	**10**	eP	Pn	03 02 01.4	-3.1
NEM2				eS	Sn	03 02 54.2	-5.9
JRY	**Ryogami san**	**5.15**	**243**	eP	Pn	03 02 09.1	+1.3
JRY				eS	Sn	03 03 05.1	-0.8
JTKR	**Abashiri--Toko**	**5.46**	**355**	eS	Sn	03 03 08.7	-4.8

*OTT **07** 03:11:54.6±5.8,50°.05N±0°.09×130°.2W±0°.1,h10km±2km, Error ellipse: s-maj=18.4km s-min=11.7km az=226.0*
*PGC **07** 03:11:54.6±2.8,50°.05N×130°.23W,h10km,MLSn3.5/15, Mw4.1/15,Mw4.2/15,212km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*NEIC **07** 03:11:57.6±1.7,50°.52N±0°.07×129°.92W±0°.07,h10km±2km, mb4.0/21,ML3.1/6,Mwr4.2(OTT),Error ellipse: s-maj=12.4km s-min=7.2km az=177.0*
*IDC **07** 03:11:57.8±2.1,50°.22N×129°.87W,h0km,mb3.8/2, mbtmp3.6/9,ML3.3/7,Error ellipse: s-maj=32.0km s-min=14.5km az=75.0*

ISC 07 03:11:55.3±3.1,50°.23N±0°.05×130°.04W±0°.05,h8km±22km, n80,σ2°.26/87,mb4.0/6,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.29**	**70**	Pn	**Pb**	**03 12 19.0**	**-0.9**
HOLB				IAML		03 12 37.4	
	comp=N,503nm,0.8s						
HOLB				IAML		03 12 42.1	
	comp=E,372nm,1.0s						
HOLB	**Holberg**	**1.29**	**70**	Pn	**Pb**	**03 12 18.9**	**-0.9**
HOLB				Sn	**Sn**	**03 12 36.5**	**-0.7**
PACB	**Port Alice, BC**	**1.65**	**82**	Pn	**Pn**	**03 12 23.1**	**-1.4**
PACB				Sn	**Sn**	**03 12 43.4**	**-2.5**
PHC	**Port Hardy**	**1.74**	**73**	Pn	**Pn**	**03 12 25.4**	**-0.4**
PHC				Sn	**Sn**	**03 12 46.7**	**-1.5**
MAYB	**Maynard**	**1.85**	**83**	Pn	**Pn**	**03 12 26.9**	**-0.6**
MAYB				Sn	**Sn**	**03 12 49.3**	**-1.8**
EDB	**Eliza Dome**	**1.92**	**99**	Sn	**Sn**	**03 12 47.9**	**-4.6**
HG4B	**Hotspring**	**2.19**	**341**	Pn	**Pn**	**03 12 29.9**	**-2.2**
HG4B				IAML		03 13 03.4	
	comp=N,70nm,2.4s						
HG4B	**Hotspring**	**2.19**	**341**	Pn	**Pn**	**03 12 30.8**	**-1.4**
BBB	**Bella Bella**	**2.31**	**31**	Pn	**Pb**	**03 12 34.8**	**-2.4**
	comp=N,20nm,0.3s,baz=221,slow=14,SNR=127						
BBB				Sn	**Sb**	**03 13 02.5**	**-3.4**
	comp=N,90nm,0.3s,baz=320,slow=20,SNR=26						
	comp=N,98nm,0.5s						
BBB	**Bella Bella**	**2.31**	**31**		**Pn**	**03 12 33.0**	**-0.6**
BBB				IAML		03 13 03.8	
	comp=N,315nm,0.5s						
BBB	**Bella Bella**	**2.31**	**31**	Pn	**Pb**	**03 12 34.6**	**-2.5**
BBB				Sn	**Sb**	**03 13 02.5**	**-3.4**
NCRB	**Newcastle Ridg**	**2.56**	**84**	Pn	**Pn**	**03 12 36.9**	**-0.4**
BNB	**Barry Inlet**	**2.59**	**336**	Pn	**Pn**	**03 12 36.2**	**-1.3**
BNB				Sn	**Sn**	**03 13 08.0**	**-1.2**
CBB	**Campbell River**	**3.02**	**92**	Pn	**Pn**	**03 12 43.1**	**-0.3**
CBB				Sn	**Sn**	**03 13 18.7**	**-1.1**
BNKB	**Banks Island**	**3.11**	**2**	Pn	**Pn**	**03 12 45.2**	**+0.4**
BNKB				Sn	**Sn**	**03 13 22.5**	**+0.4**
MOBC	**Moresby Island**	**3.16**	**338**	Pn	**Pn**	**03 12 45.2**	**-0.2**
OZB	**Mount Ozzard**	**3.22**	**111**	Sn	**Sn**	**03 13 21.8**	**-3.4**
BNAB	**Bonilla**	**3.29**	**354**	Pn	**Pn**	**03 12 48.3**	**+1.1**
DIB	**Dawson Inlet,**	**3.34**	**334**	Pn	**Pn**	**03 12 47.0**	**-0.9**
DIB	**Dawson Inlet,**	**3.34**	**334**	Pn	**Pn**	**03 12 47.5**	**-0.4**
H02S1	**DAWSON INLET T**	**3.34**	**334**	Pn	**Pn**	**03 12 47.4**	**-0.5**
HWKB	**Hawksbury Isla**	**3.42**	**9**	Pn	**Pn**	**03 12 50.5**	**+1.4**
HWKB				Sn	**Sn**	**03 13 30.2**	**+0.4**
GRNB	**Grenville Isla**	**3.63**	**1**	Pn	**Pn**	**03 12 52.6**	**+0.8**
GRNB				Sn	**Sn**	**03 13 35.5**	**+0.7**
KITB	**Kitimat**	**3.96**	**12**	Pn	**Pn**	**03 12 57.9**	**+1.6**
KITB				Sn	**Sn**	**03 13 45.1**	**+2.3**
SHB	**Sechelt**	**4.04**	**97**	Pn	**Pn**	**03 12 57.9**	**+0.4**
SHB				Sn	**Sn**	**03 13 42.4**	**-2.6**
RUBB	**Prince Rupert**	**4.11**	**358**	Pn	**Pn**	**03 12 59.8**	**+1.4**
HNBB	**Haney**	**4.93**	**98**	Pn	**Pn**	**03 13 11.6**	**+1.8**
HDW	**Hoodsport**	**5.28**	**117**	Pn	**Pn**	**03 13 15.7**	**+1.1**
VDB	**Vedder Mountai**	**5.30**	**100**	Pn	**Pn**	**03 13 15.9**	**+1.1**
MBW	**Mount Baker**	**5.50**	**102**	Pn	**Pn**	**03 13 18.6**	**+1.0**
FSB	**Fort Saint Jam**	**5.51**	**37**	P	**Pn**	**03 13 18.9**	**+2.1**
FMW	**Mount Fremont**	**6.46**	**117**	P	**Pn**	**03 13 32.5**	**+1.7**
LON	**Longmire**	**6.48**	**119**		**Pn**	**03 13 33.9**	**+2.8**
LON	**Longmire**	**6.48**	**119**	P	**Pn**	**03 13 33.3**	**+2.2**
T35M	**Bob Quinn**	**6.77**	**359**	P	**Pn**	**03 13 37.1**	**+2.1**
LTY	**Liberty**	**6.87**	**112**	Pn	**Pn**	**03 13 39.1**	**+2.7**
LTY	**Liberty**	**6.87**	**112**	P	**Pn**	**03 13 37.6**	**+1.2**
HOOD	**Mount Hood Mea**	**7.48**	**128**	Pn	**Pn**	**03 13 48.3**	**+3.5**
NBC4	**NorthernBC 4**	**7.87**	**42**	P	**Pn**	**03 13 53.4**	**+3.4**
DLBC	**Dease Lake**	**8.23**	**0**	Pn	**Pn**	**03 13 59.0**	**+4.0**
	comp=N,0.2nm,0.3s,baz=187,slow=15,SNR=4.4						
	comp=N,3.0nm,0.8s						
BMO	**Blue Mountains**	**10.15**	**117**	Pn	**Pn**	**03 14 23.5**	**+2.1**
J08A	**Circle Bar Ran**	**10.48**	**127**	Pn	**Pn**	**03 14 29.4**	**+3.4**
PLID	**Pearl Lake**	**10.77**	**113**		**Pn**	**03 14 32.8**	**+2.8**
WVOR	**Wild Horse Val**	**11.08**	**130**		**Pn**	**03 14 38.3**	**+4.2**
BCYI	**Bear Canyon**	**12.74**	**111**		**Pn**	**03 14 59.9**	**+2.9**
KVN	**Kaiserville**	**14.02**	**138**	Pn	**P**	**03 15 19.0**	**-3.4**
YMR	**Madison River**	**14.04**	**106**	Pn	**Pn**	**03 15 15.4**	**+0.7**
RYN	**Ryan**	**14.20**	**140**	Pn	**Pn**	**03 15 20.3**	**+3.5**
NVAR	**Mina Array Bea**	**14.46**	**140**	Pn	**P**	**03 15 24.3**	**-3.0**
	comp=N,0.2nm,0.3s,baz=330,slow=5.2,SNR=1.7						
	comp=N,0.1nm,0.4s						
YKA	**Yellowknife Ar**	**14.92**	**29**	Pn	**Pn**	**03 15 27.0**	**+0.6**
	comp=N,0.1nm,0.3s,baz=222,slow=12,SNR=12						
	comp=N,0.9nm,0.9s						
AHID	**Auburn Hatcher**	**15.00**	**113**	Pn	**Pn**	**03 15 29.2**	**+1.4**
AHID				IAmb	IAmb	03 15 39.6	
	comp=Z,9.1nm,1.1s						
BGU	**Big Grassy Mou**	**15.08**	**122**	Pn	**Pn**	**03 15 31.0**	**+2.3**
BGU				IAmb	IAmb	03 15 47.2	
	comp=Z,6.6nm,1.4s						
TPH	**Tonopah**	**15.21**	**138**	Pn	**Pn**	**03 15 32.7**	**+2.2**
PD31	**Pinedale Array**	**15.93**	**110**	Pn	**Pn**	**03 15 41.4**	**+1.5**
PDAR	**Pinedale Array**	**15.93**	**110**	Pn	**P**	**03 15 44.8**	**+1.2**
	baz=310,slow=9.5,SNR=5.1						
	comp=Z,1.1nm,0.9s						
PRN	**Pahroc Range**	**16.73**	**134**	Pn	**P**	**03 15 52.0**	**-0.4**
PRN				IAmb	IAmb	03 16 00.7	
	comp=Z,7.0nm,1.2s						
ILAR	**Eielson Array**	**17.07**	**335**	P	**P**	**03 15 57.3**	**+1.4**
	baz=153,slow=9.5,SNR=7.4						
	comp=Z,0.5nm,0.8s						
QSM	**Queen of Sheba**	**17.16**	**141**	Pn	**P**	**03 15 58.2**	**+1.2**
MSU	**Marysvale**	**17.28**	**126**	Pn	**P**	**03 15 58.0**	**-0.6**
INK	**Inuvik**	**18.22**	**356**	P	**P**	**03 16 11.9**	**+3.4**
	baz=135,slow=13,SNR=4.5						
	comp=Z,24nm,0.9s						
MLY	**Manley**	**18.38**	**332**	Pn	**Pn**	**03 16 04.4**	**-5.8**
PV10	**Paradox Valley**	**19.06**	**120**	P	**Pn**	**03 16 22.0**	**+3.0**
PV10				IAmb	IAmb	03 16 24.5	
	comp=Z,11nm,1.0s						
SMCO	**Snowmass**	**19.69**	**115**	P	**Pn**	**03 16 26.4**	**-0.2**
IMAR	**Indian Mountai**	**19.95**	**331**	P	**P**	**03 16 25.7**	**-1.8**
MVCO	**Mesa Verde**	**20.20**	**122**	P	Pn	03 16 33.6	+1.1
MVCO				IAmb	IAmb	03 16 37.4	
	comp=Z,20nm,1.5s						
Y14A	**Wickenburg**	**20.53**	**136**	P	Pn	03 16 37.8	+1.5
S22A	**4UR Ranch, Cre**	**20.75**	**118**	P	Pn	03 16 39.2	+0.2
S22A				IAmb	IAmb	03 16 45.3	
	comp=Z,6.6nm,1.1s						
W18A	**Petrified Fore**	**21.13**	**128**	P	**P**	**03 16 43.5**	**+2.8**
X18A	**Snowflake**	**21.49**	**129**	P	**P**	**03 16 47.8**	**+3.2**
X18A				IAmb	IAmb	03 16 53.3	
	comp=Z,21nm,1.5s						
SDCO	**Great Sand Dun**	**21.50**	**116**	P	**P**	**03 16 48.6**	**+3.7**
SDCO				IAmb	IAmb	03 16 55.3	
	comp=Z,4.8nm,1.3s						
ULM	**Lac du Bonnet**	**21.75**	**77**	P	**P**	**03 16 49.3**	**+2.3**
	comp=Z,14nm,1.1s,baz=286,slow=10,SNR=5.6						
	comp=Z,14nm,1.1s						
TUC	**Tucson**	**22.90**	**134**	P	**P**	**03 17 02.8**	**+3.2**
TUC				IAmb	IAmb	03 17 07.6	
	comp=Z,4.5nm,1.1s						
ANMO	**Albuquerque**	**22.98**	**123**	P	**P**	**03 17 03.1**	**+2.6**
	comp=Z,1.3nm,0.8s,baz=31,slow=7.6,SNR=3.0						
	comp=Z,1.3nm,0.8s						
ECSD	**EROS Data Cent**	**23.57**	**93**	P	**P**	**03 17 07.1**	**+0.8**
ECSD				IAmb	IAmb	03 17 12.3	
	comp=Z,10nm,1.4s						
CRNM	**Carthage**	**23.59**	**125**	P	**P**	**03 17 09.2**	**+2.5**
I37A	**Lemond, Waseca**	**25.51**	**90**	P	**P**	**03 17 24.9**	**+0.8**
AMTX	**Amarillo**	**25.71**	**116**	P	**P**	**03 17 28.5**	**+2.5**
H11N2	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	04 24 11.8	
	baz=47						
H11N3	**WAKE ISLAND Hy**	**57.91**	**262**	T	T	04 24 12.3	
	baz=47						
H11N1	**WAKE ISLAND Hy**	**57.92**	**262**	T	T	04 24 10.8	
	baz=47						

*BJI **07** 03:13:50.5±0.0,50°.20N×130°.10W,h10km,mb4.8/58, mB5.4/39,Ms5.4/52,Ms7 5.1/52*
*IDC **07** 03:13:52.5±0.5,50°.05N×130°.20W,h0km,mb4.8/27, mbtmp4.8/38,ML4.4/7,MS5.0/44,Error ellipse: s-maj=12.2km s-min=8.4km az=46.0*
*MOS **07** 03:13:53.6±0.8,50°.08N×130°.26W,h17km,mb5.4/83, MS4.9/17,Error ellipse: s-maj=8.7km s-min=3.9km az=98.1*
*PGC **07** 03:13:54.6±0.7,50°.17N×130°.11W,h10km,MLSn4.3/36, Mw4.9/36,Mw5.5/13, 199km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*NEIC **07** 03:13:54.3±1.4,50°.21N±0°.06×130°.15W±0°.10,h10km±1km, mb5.2/492,ML4.3/28,Mwb5.4/16,Mww5.4,Mwr5.5(OTT), Error ellipse: s-maj=12.4km s-min=8.5km az=224.0. Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.05; Mθθ=-1.16; Mφφ 1.12; Mrθ=0.26; Mθφ 1.14; Mφr=-0.30; Fault plane solution: M0 1.66000×10^17^ NP1: φs246.99000°,δ77.13000°,λ-3.55000°. NP2:φs337.78000°, δ86.54000°,λ-167.11000°. Principal axes: T 1.6054, Plg7.0000°, Azm112.0000°; N 0.1011, Plg77.0000°, Azm353.0000°; P -1.7066, Plg12.0000°, Azm203.0000°;*
*NEIC **07** 03:13:54,50°.17N×130°.11W,h10km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-1.39; Mθθ0.47; Mφφ1.62; Mrθ-0.13; Mθφ0.75; Mφr-0.82; Fault plane solution: M0 1.90000×10^17^ NP1:φs18.00000°, δ58.00000°,λ-99.00000°. NP2:φs215.00000°,δ33.00000°, λ-76.00000°. Principal axes: T 1.9343, Plg13.0000°, Azm115.0000°; N -0.1034, Plg7.0000°, Azm23.0000°; P -1.8309, Plg75.0000°, Azm263.0000°;*
*OTT **07** 03:13:54.9±1.4,50°.26N±0°.06×130°.07W±0°.09,h10km±1km Error ellipse: s-maj=12.5km s-min=7.9km az=221.0*
*GCMT **07** 03:13:55.3±0.1,49°.98N±0°.01×130°.27W±0°.01,h12km, MW5.4/138,Moment Tensor Solution. s110,c191; s138,c290; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr-0.59±.02; Mθθ-0.75±.02; Mφφ1.34±.02; Mrθ-0.06±.05; Mθφ1.15±.02; Mφr-0.45±.04; Best double couple: M0 1.60200×10^17^ NP1:φs340.00000°,δ89.00000°, λ-165.00000°. NP2:φs249.00000°,δ75.00000°, λ-1.00000°. Principal axes: T 1.9240, Plg10.0000°, Azm113.0000°; N -0.6380, Plg75.0000°, Azm343.0000°; P -1.2810, Plg11.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **07** 03:13:57.3,50°.44N×131°.58W,h15km,mb5.2,Ms4.9*
*NEIC **07** 03:13:59,50°.16N×130°.07W,h12km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^17^Nm; Mrr-0.82; Mθθ-0.67; Mφφ1.48; Mrθ-0.16; Mθφ1.12; Mφr0.31; Fault plane solution: M0 1.74000×10^17^ NP1:φs65.00000°, δ66.00000°,λ-18.00000°. NP2:φs163.00000°,δ73.00000°, λ-154.00000°. Principal axes: T 1.9828, Plg5.0000°, Azm293.0000°; N -0.6841, Plg60.0000°, Azm195.0000°; P -1.2988, Plg30.0000°, Azm25.0000°;*

ISC 07 03:13:55.1±0.5,50°.15N±0°.04×130°.05W±0°.04,h16km±2km, h16km:pP-P,n1326,σ1s36/1173,mb5.2/369,MS5.1/72, 36C-48D,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.32**	**67**	Pn	**Pn**	**03 14 17.2**	**-1.7**
HOLB				IAML		03 14 50.9	
	comp=E,5μm,1.2s						
HOLB	**Holberg**	**1.32**	**67**	P	**Pn**	**03 14 17.1**	**-1.8**
HOLB				S	**Sn**	**03 14 34.0**	**-2.2**
PACB	**Port Alice, BC**	**1.66**	**79**	Pn	**Pn**	**03 14 21.5**	**-2.0**
PACB				Sn	**Sn**	**03 14 42.0**	**-2.5**
PHC	**Port Hardy**	**1.76**	**71**	Pn	**Pn**	**03 14 23.3**	**-1.6**
PHC				Sn	**Sn**	**03 14 45.7**	**-1.3**
MAYB	**Maynard**	**1.86**	**81**	Pn	**Pn**	**03 14 24.3**	**-2.1**
EDB	**Eliza Dome**	**1.91**	**97**	Pn	**Pn**	**03 14 24.1**	**-2.8**
EDB				Sn	**Sn**	**03 14 47.5**	**-3.1**
HG4B	**Hotspring**	**2.27**	**342**		**Pn**	**03 14 29.1**	**-2.7**
HG4B	**Hotspring**	**2.27**	**342**	Pn	**Pn**	**03 14 28.9**	**-2.9**
NCHR	**NEPTUNE Canada**	**2.27**	**163**	Pn	**Pn**	**03 14 32.7**	**+1.1**
KEMF	**NEPTUNE Canada**	**2.29**	**164**	Pn	**Pn**	**03 14 33.0**	**+1.1**
BBB	**Bella Bella**	**2.37**	**30**	Pn	**Pn**	**03 14 32.9**	**-0.5**
	comp=E,2μm,0.5s,baz=236,slow=5.9,SNR=200						
BBB				Sn	**Sn**	**03 15 00.4**	**-1.6**
	comp=E,713nm,0.3s,baz=308,slow=22,SNR=28						
BBB				LR	LR	03 15 36.7	
	comp=E,17μm,20.3s,baz=280,slow=42						
BBB	**Bella Bella**	**2.37**	**30**		**Pn**	**03 14 32.9**	**-0.5**
BBB	**Bella Bella**	**2.37**	**30**	Pn	**Pn**	**03 14 32.8**	**-0.5**
BBB				Sn	**Sn**	**03 15 00.8**	**-1.3**
NCRB	**Newcastle Ridg**	**2.57**	**83**	Pn	**Pn**	**03 14 34.9**	**-1.3**
BNB	**Barry Inlet**	**2.65**	**337**	Pn	**Pn**	**03 14 34.1**	**-3.1**
CBB	**Campbell River**	**3.02**	**90**	Pn	**Pn**	**03 14 41.1**	**-1.1**
CBB				Sn	**Sn**	**03 15 16.2**	**-1.8**
HG1B	**Mitchell Dam**	**3.08**	**336**	Pn	**Pn**	**03 14 39.9**	**-3.1**
B012	**Uculelet**	**3.18**	**111**	Pn	**Pn**	**03 14 44.8**	**+0.4**
B012				Sn	**Sn**	**03 15 20.9**	**-1.0**
BNKB	**Banks Island**	**3.19**	**2**	Pn	**Pn**	**03 14 43.2**	**-1.3**
BNKB				Sn	**Sn**	**03 15 22.2**	**-0.1**
OZB	**Mount Ozzard**	**3.19**	**110**	Pn	**Pn**	**03 14 44.4**	**-0.3**
OZB				IAML		03 16 07.9	
	comp=E,462nm,2.8s						
OZB	**Mount Ozzard**	**3.19**	**110**	Pn	**Pn**	**03 14 44.6**	**0.0**
OZB				Sn	**Sn**	**03 15 21.5**	**-0.9**
MOBC	**Moresby Island**	**3.23**	**339**		**Pn**	**03 14 43.3**	**-1.9**
MOBC				IAML		03 16 02.7	
	comp=E,624nm,1.2s						
MOBC				IAML		03 16 15.5	
	comp=N,532nm,1.4s						
MOBC	**Moresby Island**	**3.23**	**339**	Pn	**Pn**	**03 14 43.0**	**-2.2**
BNAB	**Bonilla**	**3.37**	**354**	Pn	**Pn**	**03 14 45.7**	**-1.3**
DIB	**Dawson Inlet,**	**3.41**	**335**	Pn	**Pn**	**03 14 45.2**	**-2.4**
DIB				IAML		03 16 29.8	
	comp=E,435nm,3.5s						
DIB	**Dawson Inlet,**	**3.41**	**335**	Pn	**Pn**	**03 14 44.9**	**-2.6**
H02S1	**DAWSON INLET T**	**3.41**	**335**	Pn	**Pn**	**03 14 44.5**	**-3.1**
BFSB	**Bamfield**	**3.46**	**111**	Pn	**Pn**	**03 14 47.9**	**-0.4**
B928	**Bamfield**	**3.46**	**111**	Pn	**Pn**	**03 14 47.2**	**-1.1**
B928				Sn	**Sn**	**03 15 27.3**	**-1.6**
HWKB	**Hawksbury Isla**	**3.50**	**9**	Pn	**Pn**	**03 14 48.0**	**-0.8**
HWKB				Sn	**Sn**	**03 15 28.8**	**-1.1**
B927	**Port Alberni**	**3.52**	**103**	Pn	**Pn**	**03 14 49.6**	**+0.5**
TXB	**Texada**	**3.65**	**95**	Pn	**Pn**	**03 14 50.8**	**-0.2**
GRNB	**Grenville Isla**	**3.70**	**1**	Pn	**Pn**	**03 14 50.4**	**-1.3**
GRNB				IAML		03 15 36.4	
	comp=N,620nm,0.6s						
GRNB				IAML		03 16 20.2	
	comp=E,712nm,3.4s						
GRNB	**Grenville Isla**	**3.70**	**1**	Pn	**Pn**	**03 14 50.6**	**-1.0**
GHNB	**Nanoose**	**3.86**	**100**	Pn	**Pn**	**03 14 55.0**	**+1.2**
MBLB	**Minette Bay Lo**	**3.99**	**12**	Pn	**Pn**	**03 14 55.1**	**-0.4**
PFB	**Port Renfrew**	**3.99**	**111**	Pn	**Pn**	**03 14 55.1**	**-0.5**
OCP	**Olym-Cheeka Pk**	**4.01**	**115**	Pn	**Pn**	**03 14 56.0**	**+0.2**
KITB	**Kitimat**	**4.03**	**12**	Pn	**Pn**	**03 14 55.6**	**-0.4**
SHB	**Sechelt**	**4.03**	**96**	Pn	**Pn**	**03 14 56.2**	**0.0**
NLLB	**Nanaimo Lost L**	**4.04**	**101**	Pn	**Pn**	**03 14 57.0**	**+0.8**
B926	**Mesachie Lake**	**4.08**	**107**	Pn	**Pn**	**03 14 57.2**	**+0.5**
CLRS	**Cowichan Lake**	**4.08**	**107**		**Pn**	**03 14 57.3**	**+0.6**
CLRS				IAML		03 16 56.7	
	comp=E,360nm,4.0s						
CLRS				IAML		03 17 16.6	
	comp=N,332nm,3.3s						
CLRS	**Cowichan Lake**	**4.08**	**107**	Pn	**Pn**	**03 14 56.5**	**-0.3**
RUBB	**Prince Rupert**	**4.18**	**358**	Pn	**Pn**	**03 14 56.8**	**-1.4**
RUBB				IAML		03 17 07.0	
	comp=N,289nm,3.4s						
RUBB				IAML		03 17 17.0	
	comp=E,539nm,4.6s						
RUBB	**Prince Rupert**	**4.18**	**358**	Pn	**Pn**	**03 14 57.4**	**-0.8**
NDB	**Naden**	**4.21**	**336**	Pn	**Pn**	**03 14 56.5**	**-2.1**
C03A	**Quillayute Air**	**4.22**	**119**		**Pn**	**03 14 59.8**	**+1.1**
SYMB	**Survey Mountai**	**4.38**	**109**	Pn	**Pn**	**03 15 00.9**	**-0.1**
GOBB	**Galiano Island**	**4.42**	**103**	Pn	**Pn**	**03 15 02.1**	**+0.6**
BIB	**Bowen Island**	**4.43**	**97**	Pn	**Pn**	**03 15 01.8**	**+0.2**
WPB	**Watts Point**	**4.45**	**94**	Pn	**Pn**	**03 15 02.1**	**+0.3**
OBC	**Olympics--Boni**	**4.46**	**116**	Pn	**Pn**	**03 15 02.1**	**0.0**
B009	**North Saanich**	**4.56**	**107**	Pn	**Pn**	**03 15 04.2**	**+0.8**
B010	**North Saanich**	**4.56**	**107**	Pn	**Pn**	**03 15 03.8**	**+0.5**
PGC	**Sidney**	**4.56**	**107**	Pn	**Pn**	**03 15 03.8**	**+0.4**
PGC				IAML		03 18 05.5	
	comp=E,317nm,4.8s						
PGC	**Sidney**	**4.56**	**107**	Pn	**Pn**	**03 15 03.4**	**+0.1**
B011	**North Saanich**	**4.56**	**107**	Pn	**Pn**	**03 15 03.7**	**+0.3**
PA01	**PA01 North**	**4.56**	**107**	Pn	**Pn**	**03 15 03.6**	**+0.2**
STW	**Striped Peak**	**4.64**	**113**	Pn	**Pn**	**03 15 04.8**	**+0.3**
SNB	**Saturna Island**	**4.69**	**104**	Pn	**Pn**	**03 15 05.1**	**-0.1**
VGZ	**Gonzales**	**4.73**	**109**	Pn	**Pn**	**03 15 06.3**	**+0.6**
B04A	**Port Angeles**	**4.78**	**113**		**Pn**	**03 15 06.4**	**0.0**
B04A				IAML		03 17 38.8	
	comp=E,179nm,2.6s						
B04A				IAML		03 17 40.3	
	comp=N,183nm,4.8s						
OSD	**Olympics--Snow**	**4.78**	**117**	Pn	**Pn**	**03 15 07.2**	**+0.5**
HNBB	**Haney**	**4.92**	**97**	Pn	**Pn**	**03 15 09.2**	**+0.8**
NLWA	**Neilton Lookou**	**4.93**	**122**		**Pn**	**03 15 08.9**	**+0.4**
MCW	**Mount Constitu**	**4.93**	**105**	Pn	**Pn**	**03 15 09.5**	**+0.9**
WISH	**Wishkah**	**5.15**	**124**		**Pn**	**03 15 11.7**	**+0.2**
V35K	**Ketchikan**	**5.27**	**350**	P	**Pn**	**03 15 12.5**	**-0.7**
	baz=169,SNR=12						
VDB	**Vedder Mountai**	**5.29**	**99**	Pn	**Pn**	**03 15 13.9**	**+0.6**
FSB	**Fort Saint Jam**	**5.57**	**37**	Pn	**Pn**	**03 15 18.4**	**+1.1**
FSJB	**Fort St James**	**5.57**	**37**	Pn	**Pn**	**03 15 18.3**	**+1.0**
RADR	**Rader Ridge**	**5.59**	**129**		**Pn**	**03 15 20.5**	**+2.8**
E03A	**Lebam**	**5.63**	**127**	Pn	**Pn**	**03 15 18.1**	**+0.1**
CRAG	**Craig**	**5.64**	**342**		**Pn**	**03 15 16.6**	**-1.6**
CRAG	**Craig**	**5.64**	**342**	P	**Pn**	**03 15 18.0**	**-0.2**
	baz=

baz=307,SNR=34
M30M Minto, Yukon 12.99 346 P Pn 03 17 00.7 +1.8
baz=160
YUK3 Moose Creek 13.01 338 P Pn 03 17 02.3 +3.0
baz=149,SNR=7.6
M29M Somme Creek 13.16 343 P Pn 03 17 03.4 +2.1
baz=156
BOZ Bozeman (W) 13.17 103 P Pn 03 17 02.2 +0.8
baz=297
MCARA McCarthy VSAT 13.38 332 P Pn 03 17 06.3 +2.1
baz=142
EGMT Eagleton 13.46 91 Pn 03 17 05.3 -0.2
EGMT Eagleton 13.46 91 P Pn 03 17 06.6 +1.1
baz=287,SNR=23
BMRM Bremner River 13.57 328 P Pn 03 17 08.6 +1.8
baz=137
WRGLY Wrigley 13.59 13 P Pn 03 17 09.7 +2.8
baz=198,SNR=23
BVCY Beaver Creek 13.65 338 P Pn 03 17 10.5 +2.6
baz=149
L29M L29M 13.71 344 P Pn 03 17 11.6 +2.9
baz=158,SNR=9.9
MAYO Mayo, Yukon 13.84 349 P Pn 03 17 13.1 +2.6
baz=164
M27K Edge Creek, AK 13.86 336 P Pn 03 17 13.6 +2.9
baz=147,SNR=10
P23K Montague Islan 13.96 322 P Pn 03 17 15.2 +3.2
baz=127
ELK Elko 13.99 127 Pn Pn 03 17 14.3 +1.5
comp=Z,4.0nm,1.1s,baz=318,slow=12,SNR=19
ELK LR LR 03 22 39.3
comp=Z,7µm,18.1s,baz=318,slow=38
ELK Elko 13.99 127 P Pn 03 17 14.2 +1.4
N25K Chitina, Valde 14.04 330 P Pn 03 17 15.7 +2.5
baz=138
RYN Ryan 14.14 140 Pn 03 17 15.2 +0.5
M26K Nabesna, AK 14.19 335 P Pn 03 17 16.5 +1.3
baz=144
K29M Barlow Dome 14.30 347 P Pn 03 17 18.5 +1.7
baz=160
KLU Klutina 14.40 328 P Pn 03 17 19.6 +1.5
baz=135
H17A Grant Village 14.40 106 P Pn 03 17 20.5 +2.1
baz=301,SNR=32
NVAR Mina Array Bea 14.40 140 Pn Pn 03 17 20.0 +1.6
comp=Z,21nm,1.1s,baz=316,slow=13,SNR=22
NVAR Mina Array Bea 14.40 140 Pn 03 17 18.7 +0.3
L27K Beaver Creek, 14.44 338 P Pn 03 17 20.2 +1.6
baz=148
SAO San Andreas Ge 14.75 152 Pn 03 17 23.3 +0.3
SAO San Andreas Ge 14.75 152 P Pn 03 17 23.3 +0.3
L26K Log Cabin Wild 14.79 336 P Pn 03 17 25.8 +2.4
baz=145,SNR=9.1
HARP HAARP 14.81 332 P Pn 03 17 24.9 +1.2
baz=139
DAWY Dawson 14.82 344 P Pn 03 17 26.0 +2.2
baz=156,SNR=18
PWL Port Wells 14.85 323 P Pn 03 17 26.2 +2.0
baz=128
SEW Seward 14.86 320 P Pn 03 17 26.8 +2.5
baz=124
RLMT Red Lodge 14.87 102 P Pn 03 17 27.0 +2.3
baz=297,SNR=27
MLAC Mammoth, Mammo 14.88 143 P Pn 03 17 27.4 +2.5
baz=331
M24K Tolsona, Glenn 14.92 330 P P 03 17 28.9 -1.8
baz=136,SNR=9.2
J29M Klondike Camp 14.98 346 P Pn 03 17 27.2 +1.1
baz=159
YKA Yellowknife Ar 14.99 29 Pn Pn 03 17 23.8 -2.1
comp=Z,1.6nm,0.3s,baz=222,slow=12,SNR=101
YKA Sn Sn 03 20 02.9 -8.6
comp=Z,1.0nm,0.3s,baz=255,slow=30,SNR=9.8
YKA LR LR 03 23 30.7
comp=Z,5µm,21.6s,baz=222,slow=38
comp=Z,80nm,1.1s
BGU Big Grassy Mou 15.04 121 IAmb IAmb 03 17 35.2
comp=Z,122nm,1.7s
SPUT South Promonto 15.11 119 IAmb IAmb 03 17 36.2
comp=Z,224nm,1.6s
SCM Sheep Creek Mo 15.12 327 P Pn 03 17 28.7 +0.9
baz=133
O22K Cooper Landing 15.18 320 P Pn 03 17 29.8 +1.3
baz=124
BRSE Bradley Lake S 15.22 317 P Pn 03 17 30.8 +1.7
baz=120
M23K Glacier View 15.23 327 P Pn 03 17 31.6 +2.3
baz=132,SNR=10
KNK Knik Glacier 15.25 325 IAmb IAmb 03 17 36.1
comp=Z,136nm,1.8s
KNK Knik Glacier 15.25 325 P Pn 03 17 31.5 +2.1
baz=130,SNR=11
KDAK Kodiak Island 15.25 309 LR LR 03 21 54.4
comp=Z,13µm,21.1s,baz=166,slow=32
KDAK Kodiak Island 15.25 309 Pn Pn 03 17 27.8 -1.7
KDAK IAmb IAmb 03 17 33.1
comp=Z,201nm,1.9s
KDAK Kodiak Island 15.25 309 P P 03 17 32.1 -2.3
baz=110
KDAK Kodiak Island 15.25 309*ce* P Pn 03 17 26.8 -2.7
KDAK pmax pmax
comp=Z,13nm,1.4s
PAX Paxson 15.34 333 P Pn 03 17 32.4 +1.6
baz=140
HWUT Hardware Ranch 15.42 117 Pn 03 17 31.4 -0.6
HWUT IAmb IAmb 03 17 37.2
comp=Z,397nm,2.0s
OHAK Old Harbor 15.43 306 IAmb IAmb 03 17 35.4
comp=Z,164nm,1.6s
SML Sawmill 15.45 326 P P 03 17 35.8 -0.9
baz=131,SNR=11
RC01 Rabbit Creek A 15.54 322 P P 03 17 35.9 -1.6
baz=126,SNR=7.6
HOM Homer 15.58 316 P P 03 17 37.2 -0.8
baz=118
PMR Palmer 15.61 324 P P 03 17 38.6 +0.3
baz=129,SNR=11
TIN Tinemaha, Big 15.61 143 P P 03 17 37.0 -1.6
baz=331,SNR=21
R11A Troy Canyon, C 15.67 133 IAmb IAmb 03 17 39.0
comp=Z,205nm,1.9s
R11A Troy Canyon, C 15.67 133 P Pn 03 17 36.1 +0.9
baz=324,SNR=63
DUG Dugway, Tooele 15.67 123 IAmb IAmb 03 17 42.9
comp=Z,149nm,1.4s
DUG Dugway, Tooele 15.67 123 P Pn 03 17 36.6 +1.3
baz=315,SNR=83
DUG Dugway, Tooele 15.67 123 P Pn 03 17 36.7 +1.4
DUG pmax pmax
comp=Z,125nm,1.3s
SCRK Sand Creek 15.74 337 P Pn 03 17 37.8 +1.9
baz=145,SNR=18
SPR3 Spring Creek 3 15.76 129 IAmb IAmb 03 17 44.2
comp=Z,57nm,1.3s
RIDG Independent Ri 15.77 335 P P 03 17 38.8 -1.4
baz=143,SNR=13
WAT6 Susitna Watana 15.77 329 P P 03 17 38.9 -1.4
baz=134,SNR=15
EGAK Eagle 15.79 342 P P 03 17 38.8 -1.6
baz=153,SNR=20
TCUT Toone Canyon 15.82 118 Pn Pn 03 17 37.3 -0.1
VOG Valley Oaks Go 15.83 147 P P 03 17 39.4 -1.5
baz=334
I29M Ogilvie Camp, 15.85 347 P P 03 17 40.8 -0.2
baz=160,SNR=34
PDAR Pinedale Array 15.90 110 Pn P 03 17 40.5 -1.4
comp=Z,0.5nm,0.3s,baz=305,slow=8.2,SNR=80
PDAR LR LR 03 23 54.8
comp=Z,5µm,19.4s,baz=316,slow=38
comp=Z,15nm,0.8s
CAPN Captain Cook N 15.93 320 P P 03 17 40.9 -0.9
baz=122
DHY Denali Highway 16.00 331 P P 03 17 41.6 -1.3
baz=136,SNR=28
J26L Joseph Creek 16.07 339 P P 03 17 42.9 -0.7
baz=147,SNR=13
K24K Donnelly Dome 16.08 334 P P 03 17 42.3 -1.3
baz=141,SNR=11
M22K Willow 16.08 324 P P 03 17 44.0 +0.5
baz=127,SNR=10.0
SUA Susitna One 16.15 322 P Pn 03 17 42.6 +1.3
baz=125,SNR=9.1
LAO LASA Array 16.17 93 P P 03 17 43.8 -1.0
baz=291,SNR=36
LAO LASA Array 16.17 93 P Pn 03 17 42.1 +0.5
baz=291,SNR=36
Q19K Cape Douglas, 16.19 312 Pn Pn 03 17 38.6 -3.2
Q19K IAmb IAmb 03 17 40.3
comp=Z,421nm,2.0s
Q19K Cape Douglas, 16.19 312 P P 03 17 44.7 -0.1
baz=113
CWC Cottonwood Cre 16.21 143 P P 03 17 44.5 -0.8
baz=332
WAT1 Susitna Watana 16.21 329 P P 03 17 44.7 -0.4
baz=133
NLU North Lily Min 16.24 122 IAmb IAmb 03 17 51.3
comp=Z,369nm,1.9s
P19K Oil Pt 16.29 315 P P 03 17 45.5 -0.5
baz=116
CHIR Chirikof Islan 16.36 300 P P 03 17 47.3 +0.6
baz=100
VES Vestal, Richgr 16.37 147 P Pn 03 17 45.2 +1.2
baz=334,SNR=16
ILSW Iliamna Southw 16.40 316 IAmb IAmb 03 17 47.3
comp=Z,45nm,1.0s
WCT Wildcat Mounta 16.49 139 IAmb IAmb 03 17 54.2
comp=Z,257nm,1.6s
TPNV Topopah Spring 16.52 138 Pn Pn 03 17 45.8 -0.4
TPNV IAmb IAmb 03 17 54.6
comp=Z,610nm,1.9s
TPNV Topopah Spring 16.52 138 P P 03 17 47.9 -0.9
baz=327,SNR=64
TPNV Topopah Spring 16.52 138 P Pn 03 17 45.8 -0.4
TPNV pmax pmax
comp=Z,610nm,2.0s
SPU Mount Spurr 16.52 320 Pn Pn 03 17 44.6 -1.4
CUT Chulitna 16.54 326 IAmb IAmb 03 17 53.9
comp=Z,384nm,1.8s
CUT Chulitna 16.54 326 P P 03 17 48.2 -0.4
baz=129
SMMC Simmler 16.54 150 P Pn 03 17 47.4 +1.1
baz=337
SPCR Spurr Chakacha 16.59 320 P Pn 03 17 47.9 +1.0
baz=122
I27K Kandik River 16.62 343 P P 03 17 49.7 +0.1
baz=153,SNR=16
EPYK Eagle Plains 16.62 351 P P 03 17 50.0 +0.4
baz=165,SNR=22
PRN Pahroc Range 16.68 134 IAmb IAmb 03 17 56.5
comp=Z,231nm,1.3s
ISA Isabella, Lake 16.75 145 P Pn 03 17 49.8 +0.8
baz=333,SNR=28
SKT Skwentna 16.76 323 P P 03 17 50.2 -0.9
baz=125,SNR=7.3
MPMC Manual Prospec 16.77 142 P P 03 17 51.2 -0.4
baz=331,SNR=72
HDA Harding Lake 16.87 334 P P 03 17 52.2 -0.2
baz=140,SNR=13
DGMT Dagmar 16.91 86 IAmb IAmb 03 17 55.1
comp=Z,316nm,1.3s
DGMT Dagmar 16.91 86 P P 03 17 53.1 +0.2
baz=286,SNR=32
DGMT Dagmar 16.91 86 P Pn 03 17 51.4 +0.4
baz=286,SNR=32
MCK McKinley 16.97 330 Pn Pn 03 17 50.3 -1.2
MCK McKinley 16.97 330 P P 03 17 53.0 -0.4
baz=135,SNR=15
MCK McKinley 16.97 330 P Pn 03 17 50.3 -1.2
MCK pmax pmax
comp=Z,44nm,1.0s
PKM Mcpherson Peak 16.99 150 P Pn 03 17 53.0 +0.9
baz=337,SNR=8.4
O19K Port Ailsworth 17.02 315 P Pn 03 17 52.2 0.0
baz=116,SNR=5.8
QSM Queen of Sheba 17.10 141 Pn Pn 03 17 52.5 -0.8
QSM IAmb IAmb 03 18 01.8
comp=Z,286nm,1.6s
ARVC Arvin 17.10 147 P Pn 03 17 53.7 +0.3
baz=335
P18K Big Mountain, 17.12 312 Pn Pn 03 17 50.7 -2.8
P18K Big Mountain, 17.12 312 P P 03 17 56.1 +0.9
baz=112,SNR=5.3
ILAR Eielson Array 17.14 335 P Pn 03 17 54.4 +0.8
comp=Z,0.3nm,0.3s,baz=151,slow=9.1,SNR=32
ILAR PcP PcP 03 22 36.2 -1.0
comp=Z,1.8nm,0.9s,baz=186,slow=2.2,SNR=4.8
ILAR LR LR 03 24 00.7
comp=Z,4µm,18.0s,baz=130,slow=35
comp=Z,6.4nm,0.8s
R17K Ugashik Creek 17.16 306 P P 03 17 56.2 +0.7
baz=105
G30M tAzaii Nji 17.17 352 P P 03 17 55.0 -0.6
baz=167
H27K Steamboat Moun 17.17 344 P P 03 17 55.9 +0.2
baz=154
LRMC Laurel Mtn Rad 17.20 144 P P 03 17 56.6 +0.3
baz=332,SNR=31
TRF Thorofare Moun 17.22 328 P P 03 17 56.5 +0.1
baz=131,SNR=16
RDMU Red Mountain 17.24 116 Pn Pn 03 17 53.9 -1.4
P17A Butcher Ranch, 17.31 121 IAmb IAmb 03 18 05.7
comp=Z,194nm,1.3s
M20K Styx River 17.33 321 P P 03 17 57.7 +0.2
baz=122
CCUT Cedar City 17.37 130 IAmb IAmb 03 18 04.2
comp=Z,269nm,1.8s
SHPR Sheep Range 17.37 136 Pn Pn 03 17 56.6 -0.3
N19K Bonanza Creek 17.37 317 IAmb IAmb 03 18 02.5
comp=Z,199nm,1.4s
N19K Bonanza Creek 17.37 317 P Pn 03 17 57.2 +0.5
baz=117,SNR=21
PRP Porcupine Dome 17.39 338 P P 03 17 58.9 +0.7
baz=145,SNR=34
SHOC Shoshone, Teco 17.40 140 P P 03 17 59.2 +0.8
baz=329,SNR=25
SBC Santa Barbara 17.43 150 P P 03 18 00.7 +2.1
baz=337
F31M Tsiigehtchic 17.44 355 P P 03 17 58.3 -0.3
baz=172,SNR=72
BWN Browne 17.44 331 IAmb IAmb 03 18 04.1
comp=Z,249nm,1.6s
SZCU Shurtz Canyon 17.47 129 IAmb IAmb 03 18 07.2
comp=Z,481nm,1.9s
Q16A Castle Valley 17.47 123 IAmb IAmb 03 18 07.8
comp=Z,166nm,1.3s
COLA College 17.48 334 Pn Pn 03 17 55.8 -2.1
COLA College 17.48 334 P P 03 18 00.9 +2.0
baz=139
COLA College 17.48 334*ce* P P 03 18 01.0 +2.0
COLA pmax pmax
comp=Z,94nm,2.2s
P18A Preston Nutter 17.48 119 IAmb IAmb 03 18 08.1
comp=Z,181nm,1.4s
TCOL CIGO, UAF Yank 17.48 334 P P 03 18 01.0 +2.0
baz=139
PPLA Purkeypile 17.54 325 P P 03 17 59.9 0.0
baz=126,SNR=8.5
POKR Poker Plat Res 17.55 335 P P 03 18 00.2 +0.4
baz=140
Q16K King Salmon 17.58 309 P P 03 18 00.0 -0.1
baz=108,SNR=8.1
MTPU Mount Pierson 17.58 127 IAmb IAmb 03 18 05.3
comp=Z,286nm,1.7s
OSI Osito Audit: C 17.60 148 P P 03 18 00.7 0.0
baz=335
EDW2 Edwards Air Fo 17.62 145 P P 03 18 01.2 +0.3
baz=334,SNR=29
NEA2 Nenana 17.62 332 P P 03 18 00.9 +0.3
baz=136,SNR=24
FFC Flin Flon 17.65 64 Pn Pn 03 17 57.6 -2.5
FFC IAmb IAmb 03 18 05.9
comp=Z,282nm,1.3s
FFC Flin Flon 17.65 64 P Pn 03 17 57.6 -2.5
FFC pmax pmax
comp=Z,282nm,1.3s
SRU San Rafael Swe 17.69 121 IAmb IAmb 03 18 10.3
comp=Z,340nm,1.7s
GSC Goldstone, Bar 17.70 142 IAmb IAmb 03 18 07.8
comp=Z,234nm,1.6s
GSC Goldstone, Bar 17.70 142 P P 03 18 02.5 +0.7
baz=331,SNR=46
G27K Doyon Strip 17.72 345 P P 03 18 01.8 +0.2
baz=155
R16K Pilot Point 17.76 305 P P 03 18 03.0 +0.9
baz=103
CAST Castle Rocks 17.82 327 P P 03 18 03.0 +0.1
baz=128,SNR=18
K22A Casper 17.82 106 IAmb IAmb 03 18 08.2
comp=Z,273nm,1.5s
K22A Casper 17.82 106 P P 03 18 03.8 +0.6
baz=303,SNR=27
K22A Casper 17.82 106 P Pn 03 18 01.8 -0.7
baz=303,SNR=27
LCMT Little Creek M 17.85 131 IAmb IAmb 03 18 09.4
comp=Z,231nm,1.7s
SCZ2 Santa Cruz Isl 17.87 151 P P 03 18 04.7 +1.2
baz=338
BPAW Bear Paw Mtn. 17.88 329 P P 03 18 04.2 +0.7
baz=132,SNR=29
TUQ Turquoise Moun 17.94 140 P P 03 18 05.8 +1.3
baz=329,SNR=32
RWWY Rawlins 17.95 109 Pn Pn 03 18 03.5 -0.6
L20K Farewell, AK 17.95 322 P P 03 18 04.1 -0.1
baz=123,SNR=20
PKCU Pink Cliffs 17.98 128 Pn Pn 03 18 04.1 -0.4
CHGN Chignik 17.98 301 P Pn 03 18 04.0 -0.1
baz=98
RRX Edison Barstow 18.00 143 P P 03 18 06.3 +1.3
baz=332
DECC Green Verdugo 18.06 147 P P 03 18 06.9 +1.2
baz=335
I23K Minto, Yukon-K 18.11 333 Pn 03 18 04.9 -0.8
I23K IAmb IAmb 03 18 10.5
comp=Z,205nm,1.6s
I23K Minto, Yukon-K 18.11 333 P P 03 18 07.5 +1.5
baz=137,SNR=40
O17K Koliganek Bris 18.15 312 P P 03 18 06.6 +0.2
baz=110
L19K White Mountain 18.18 321 P P 03 18 07.5 +0.7
baz=120
CHUM Lake Minchumin 18.19 327 P P 03 18 08.3 +1.4
baz=129,SNR=32
FYU Fort Yukon 18.19 340 IAmb IAmb 03 18 16.3
comp=Z,329nm,1.6s
G26K Porcupine Rive 18.23 343 P P 03 18 09.7 +2.4
baz=151
H24K Noodor Dome 18.23 336 P P 03 18 09.4 +2.1
baz=141
O20A White River Ci 18.29 115 P 03 18 08.5 +0.1
O20A IAmb IAmb 03 18 16.1
comp=Z,393nm,1.8s
O20A White River Ci 18.29 115 P P 03 18 09.8 +1.4
baz=310,SNR=56
INK Inuvik 18.29 356 P P 03 18 09.7 +1.8
comp=Z,0.5nm,0.3s,baz=162,slow=12,SNR=25
INK LR LR 03 24 40.6
comp=Z,3µm,18.4s,baz=172,slow=35
comp=Z,39nm,0.9s
INK Inuvik 18.29 356 Pn 03 18 07.0 -0.9
INK Inuvik 18.29 356 P P 03 18 08.0 +0.1
baz=173,SNR=41
INK Inuvik 18.29 356 P Pn 03 18 07.0 -0.9
INK pmax pmax
comp=Z,37nm,0.9s
HEC Hector,Ludlow 18.30 142 P P 03 18 09.9 +1.5
baz=331,SNR=19
BFSC Mount Baldy Ra 18.32 146 P P 03 18 09.9 +1.3
baz=334
P16K Nushagak River 18.35 310 P P 03 18 09.4 +0.9
baz=107,SNR=24
MLY Manley 18.44 332 IAmb IAmb 03 18 19.4
comp=Z,123nm,1.1s
MLY Manley 18.44 332 P Pn 03 18 12.2 +2.4
baz=134,SNR=79
K20K Telida 18.51 325 IAmb IAmb 03 18 19.3
comp=Z,126nm,1.1s
K20K Telida 18.51 325 P Pn 03 18 11.8 +1.3
baz=124,SNR=40
G25K Bearman Lake 18.55 340 P Pn 03 18 12.2 +1.2
baz=146
O16K Kokuvok River B 18.57 311 P Pn 03 18 11.9 +0.6
baz=108,SNR=25
FMP Fort Macarthur 18.57 148 P Pn 03 18 12.2 +0.8
baz=336
BBRC Big Bear Solar 18.57 144 P Pn 03 18 12.9 +1.1
baz=333
SNCC San Nicolas Is 18.59 151 P Pn 03 18 12.8 +1.0
baz=338
GMRC Granite Mounta 18.61 140 P Pn 03 18 13.4 +1.3
baz=330,SNR=45
RSSD Black Hills 18.64 99 P P 03 18 11.8 -0.4
RSSD Black Hills 18.64 99 P Pn 03 18 13.7 +1.2
baz=298,SNR=17
RSSD Black Hills 18.64 99 P P 03 18 12.0 -0.2
baz=298
RSSD Black Hills 18.64 99 P P 03 18 11.8 -0.4
RSSD pmax pmax
comp=Z,143nm,1.8s
H23K Yukon River 18.66 335 P Pn 03 18 12.5 +0.1
baz=138
BMAR Burnt Mountain 18.80 343 P Pn 03 18 14.8 +0.7
CIS Catalina Islan 18.81 148 P Pn 03 18 14.6 +0.2
baz=336,SNR=6.1
G24K Hadweenzic Riv 18.81 338 P Pn 03 18 14.9 +0.7
baz=143
I21K Tanana 18.93 331 P Pn 03 18 16.9 +1.3
baz=132,SNR=33
F26K Sheenjek River 18.95 343 P Pn 03 18 17.4 +1.5
baz=151
E27K Coleen River 18.97 347 P Pn 03 18 16.9 +0.8
baz=157,SNR=38
J20K Nowinta River 19.01 327 P Pn 03 18 17.6 +1.0
baz=126
TTA Tatalina 19.02 322 P Pn 03 18 16.7 -0.1
TTA IAmb IAmb 03 18 20.4
comp=Z,130nm,1.2s
TTA Tatalina 19.02 322 P Pn 03 18 17.6 +0.8
baz=120,SNR=36
TTA Tatalina 19.02 322 P Pn 03 18 16.7 -0.1
TTA pmax pmax
comp=Z,130nm,1.2s
SDPT Sand Point 19.05 298 P P 03 18 16.5 +0.2
SDPT IAmb IAmb 03 18 28.2
comp=Z,352nm,1.4s
SDPT Sand Point 19.05 298 P Pn 03 18 16.7 -0.4
baz=93,SNR=6.8
MURC Murrieta 19.06 145 P Pn 03 18 17.6 +0.2
baz=334,SNR=14
NEE2 Needles Airpor 19.07 138 P Pn 03 18 18.5 +1.0
baz=328
F25K Christian Rive 19.15 342 P Pn 03 18 20.9 +2.6
baz=148
BELC Belle Mtn. Jos 19.16 142 P Pn 03 18 19.9 +1.1
baz=332,SNR=66
N16K Nishlik Lake 19.17 314 P Pn 03 18 20.0 +1.4
baz=110
PV11 David Mesa, Pa 19.17 120 P P 03 18 17.9 -0.2
N23A Red Feather La 19.18 110 IAmb IAmb 03 18 27.4
comp=Z,333nm,1.8s
N23A Red Feather La 19.18 110 P Pn 03 18 20.0 +0.8
baz=307,SNR=21
PV13 Radium Mtn., P 19.30 120 IAmb IAmb 03 18 28.4
comp=Z,284nm,1.3s
PMD Palm Desert 19.32 143 IAmb IAmb 03 18 27.9
comp=Z,132nm,1.6s
PFO Pinyon Flats O 19.32 144 P Pn 03 18 20.6 -0.1
comp=Z,0.1nm,0.3s,baz=330,slow=12,SNR=21
PFO LR LR 03 25 49.3
comp=Z,4µm,18.2s,baz=320,slow=37
comp=Z,9.3nm,0.9s
PFO Pinyon Flats O 19.32 144 P P 03 18 20.2 +0.5
PFO Pinyon Flats O 19.32 144 P Pn 03 18 21.1 +0.4
baz=333,SNR=24
PFO Pinyon Flats O 19.32 144*ce* P Pn 03 18 20.6 -0.1
PFO pmax pmax
comp=Z,121nm,1.8s
TPFO Pinon Flats 19.33 144 P Pn 03 18 21.4 +0.6
baz=333,SNR=14
PV15 Paradox Valley 19.36 119 P Pn 03 18 20.9 -0.5
IRM Iron Mountain 19.37 140 P Pn 03 18 22.2 +1.0
baz=330,SNR=35
G23K Bananza Creek 19.46 336 P Pn 03 18 23.3 +1.3
baz=139
C36M Paulatuk 19.47 6 P P 03 18 20.6 -0.3
C36M IAmb IAmb 03 18 26.3
comp=Z,141nm,1.1s
C36M Paulatuk 19.47 6 P Pn 03 18 22.0 0.0
baz=192,SNR=70
H21K Meloztna Rive 19.50 331 P Pn 03 18 23.4 +0.8
baz=132
F24K Squaw Lake 19.57 339 P Pn 03 18 24.8 +1.4
baz=144
E25K Arctic Village 19.59 343 P Pn 03 18 25.7 +2.1
baz=149,SNR=16
BC3 Big Chuckawall 19.68 141 P Pn 03 18 25.0 0.0
baz=331,SNR=43
109C Camp Elliot, M 19.73 146 P Pn 03 18 25.0 -0.4
baz=335
E28A Huff 19.77 89 P Pn 03 18 26.5 +0.7
baz=291,SNR=14
COLD Coldfoot 19.90 337 P Pn 03 18 28.9 +1.7
baz=140,SNR=21
WUAZ Wupatki 19.95 130 P Pn 03 18 28.6 +0.3
baz=323,SNR=29

S12K Black Hills 19.96 298 P **P** 03 18 27.0 +0.7
baz=93,SNR=9.0
BLYC Blythe 19.98 139 P **Pn** 03 18 28.7 +0.3
BLYC IAmb IAmb 03 18 35.8
comp=Z,289nm,1.6s
MONP2 Monument Peak 19.98 145 P **Pn** 03 18 28.6 0.0
baz=334,SNR=35
G22K Bettles 20.01 335 P Pn 03 18 29.2 +0.7
baz=137
MDND Maddock 20.04 85 P Pn 03 18 30.0 +1.0
baz=288,SNR=28
MDND Maddock 20.04 85 P Pn 03 18 29.4 +0.4
baz=288,SNR=28
ISCO Idaho Springs 20.06 112 P Pn 03 18 29.5 -0.1
baz=309
BAR Barrett 20.08 145 IAmb IAmb 03 18 37.4
comp=Z,207nm,1.8s
E24K Your Creek 20.16 340 P Pn 03 18 30.6 +0.3
baz=144
MVCO Mesa Verde 20.16 122 P Pn 03 18 30.1 -0.7
baz=317,SNR=118
SWSC Sam W. Stewart 20.17 143 P Pn 03 18 30.0 -0.6
baz=333,SNR=14
TKX Tecate 20.20 145 P Pn 03 18 31.3 +0.3
TKX IAmb IAmb 03 18 37.8
comp=Z,98nm,1.3s
G21K Allakaket 20.29 333 P Pn 03 18 31.0 -0.9
baz=132
GCSA Galena City Sc 20.31 326 P Pn 03 18 32.1 0.0
baz=123,SNR=13
IKP In-Ko-Pah, Jac 20.31 144 P Pn 03 18 32.2 -0.2
baz=334,SNR=33
YUH Yuha Desert 20.38 144 IAmb IAmb 03 18 41.9
comp=Z,287nm,1.9s
GLA Glamis 20.46 141 IAmb IAmb 03 18 37.2
comp=Z,110nm,1.4s
GLA Glamis 20.46 141 P Pn 03 18 33.3 -0.8
baz=331
C27K Jago River 20.60 346 P Pn 03 18 35.8 +0.4
baz=154
F22K John River 20.62 336 P Pn 03 18 36.5 +0.8
baz=137,SNR=72
S22A 4UR Ranch, Cre 20.71 118 P Pn 03 18 36.9 -0.4
baz=314,SNR=84
F21K Alatna River 20.77 334 P Pn 03 18 37.9 +0.5
baz=134
D25K Kavik River 20.78 344 P Pn 03 18 37.7 +0.1
baz=150
CCX Cicese 20.81 146 P **P** 03 18 36.4 +0.7
CCX IAmb IAmb 03 18 49.0
comp=Z,187nm,1.6s
Q24A Divide 20.87 113 P Pn 03 18 38.4 -0.8
baz=311,SNR=41
ESJX Sierra Juarez 20.95 145 IAmb IAmb 03 18 46.2
comp=Z,97nm,1.2s
E22K Anaktuvuk Pass 20.99 337 P Pn 03 18 39.3 -0.8
baz=138
C26K Camden Bay 21.05 346 P **P** 03 18 41.4 +3.4
baz=153,SNR=79
W18A Petrified Fore 21.09 128 P **P** 03 18 41.0 +2.1
baz=322,SNR=75
113A Mohawk Valley, 21.14 139 IAmb IAmb 03 18 47.4
comp=Z,179nm,1.9s
D23K Nanushuk River 21.36 340 P **P** 03 18 43.7 +2.4
baz=142
X18A Snowflake 21.44 129 IAmb IAmb 03 18 51.4
comp=Z,116nm,0.8s
SDCO Great Sand Dun 21.47 116 IAmb IAmb 03 18 53.0
comp=Z,125nm,1.2s
SDCO Great Sand Dun 21.47 116 P **P** 03 18 45.1 +2.0
baz=313,SNR=102
SDCO Great Sand Dun 21.47 116 P **P** 03 18 44.4 +1.2
baz=313,SNR=102
C24K Franklin Bluff 21.55 342 P **P** 03 18 45.4 +2.0
baz=146
OGNE Ogallala 21.56 105 P **P** 03 18 44.5 +0.6
OGNE Ogallala 21.56 105 P **P** 03 18 45.8 +2.0
baz=305,SNR=12
OGNE Ogallala 21.56 105 P **P** 03 18 45.0 +1.2
baz=305,SNR=12
SUSD Miller 21.74 93 IAmb IAmb 03 18 54.7
comp=Z,71nm,0.8s
SUSD Miller 21.74 93 P **P** 03 18 46.0 +0.3
baz=296
ULM Lac du Bonnet 21.77 76 P **P** 03 18 45.7 -0.2
comp=Z,39nm,0.9s,baz=284,slow=10,SNR=39
ULM LR LR 03 27 16.7
comp=Z,6µm,19.5s,baz=282,slow=37
comp=Z,39nm,0.9s
ULM Lac du Bonnet 21.77 76 P **P** 03 18 46.7 +0.9
ULM Lac du Bonnet 21.77 76 P **P** 03 18 46.7 +0.9
ULM pmax pmax
comp=Z,526nm,1.2s
D32A Dogwood Acres, 21.93 85 IAmb IAmb 03 18 59.5
comp=Z,134nm,1.4s
A36M Sachs Harbour 22.02 4 P **P** 03 18 49.2 +0.8
A36M Sachs Harbour 22.02 4 P **P** 03 18 50.1 +1.8
baz=188,SNR=20
AKUT Akutan 22.13 294 P **P** 03 18 50.3 +0.6
SFX San Felipe 22.23 144 IAmb IAmb 03 18 55.7
comp=Z,121nm,1.8s
214A Organ Pipe Nat 22.25 138 P **P** 03 18 52.7 +1.5
baz=330
PIX Pinacate 22.32 140 IAmb IAmb 03 18 57.9
comp=Z,95nm,1.5s
KSCO Kaye Shedlock' 22.35 109 P **P** 03 18 54.6 +2.2
baz=309,SNR=13
KSCO Kaye Shedlock' 22.35 109 P **P** 03 18 53.2 +0.9
baz=309,SNR=13
FCC Fort Churchill 22.36 54 P **P** 03 18 52.4 +0.3
FCC Fort Churchill 22.36 54 P **P** 03 18 52.4 +0.3
FCC pmax pmax
comp=Z,199nm,1.1s
T25A Trinidad 22.52 115 P **P** 03 18 56.1 +1.8
baz=314,SNR=36
UNV Unalaska Valle 22.59 294 P **P** 03 18 55.2 +0.6
UNV IAmb IAmb 03 19 03.0
comp=Z,92nm,1.1s
UNV Unalaska Valle 22.59 294 P **P** 03 18 57.2 +2.6
baz=84
K31A O'Neill 22.73 97 P **P** 03 18 58.9 +2.6
baz=300,SNR=13
TUC Tucson 22.85 134 P **P** 03 18 58.7 +1.1
TUC IAmb IAmb 03 19 05.9
comp=Z,61nm,1.1s
TUC Tucson 22.85 134 P **P** 03 18 59.1 +1.4
baz=327
TUC Tucson 22.85 134 P **P** 03 18 58.7 +1.1
TUC pmax pmax
comp=Z,61nm,1.2s
F33A 5 Mile Ranch, 22.87 88 IAmb IAmb 03 19 01.6
comp=Z,133nm,1.1s
F33A 5 Mile Ranch, 22.87 88 P **P** 03 18 58.0 +0.3
baz=293,SNR=46
ANMO Albuquerque 22.95 123 P **P** 03 18 59.7 +1.0
comp=Z,15nm,0.9s,baz=46,slow=9.3,SNR=32
ANMO LR LR 03 28 44.8
comp=Z,2µm,18.2s,baz=46,slow=39
comp=Z,15nm,0.9s
ANMO Albuquerque 22.95 123 P **P** 03 18 59.9 +1.2
ANMO IAmb IAmb 03 19 06.0
comp=Z,166nm,1.6s
ANMO Albuquerque 22.95 123 P **P** 03 18 60.0 +1.2
baz=319,SNR=66
ANMO Albuquerque 22.95 123 P **P** 03 18 59.9 +1.2
baz=319
ANMO Albuquerque 22.95 123 *ce*P **P** 03 18 59.8 +1.0
ANMO pmax pmax
comp=Z,131nm,1.7s
Y22D IRIS PASSCAL I 23.36 125 P **P** 03 19 04.1 +1.2
baz=320
Y22F Pascal Instru 23.36 125 P **P** 03 19 04.3 +1.4
baz=320
Y22A Socorro 23.44 125 P **P** 03 19 05.5 +1.8
baz=321,SNR=34
DUN6 Lazy B Ranch 23.46 131 IAmb IAmb 03 19 23.9
comp=Z,216nm,1.2s
ANM Nome 23.48 321 P **P** 03 19 05.1 +1.4
ANM Nome 23.48 321 P **P** 03 19 05.3 +1.6
baz=111
ANM Nome 23.48 321 P **P** 03 19 05.1 +1.4
ANM pmax pmax
comp=Z,34nm,1.0s
ECSD EROS Data Cent 23.57 93 P **P** 03 19 05.1 +0.4
ECSD EROS Data Cent 23.57 93 P **P** 03 19 06.3 +1.5
baz=298,SNR=76
ECSD EROS Data Cent 23.57 93 P **P** 03 19 05.4 +0.6
baz=298,SNR=76

BGNE Belgrade 23.75 99 P **P** 03 19 08.0 +1.5
baz=303,SNR=7.1
BGNE Belgrade 23.75 99 P **P** 03 19 07.6 +1.1
baz=303,SNR=7.1
121A Cookes Peak, D 24.12 128 P **P** 03 19 11.9 +1.7
baz=324,SNR=22
121A Cookes Peak, D 24.12 128 P **P** 03 19 11.9 +1.7
baz=324,SNR=22
RDOG Red Dog Mine 24.14 330 P **P** 03 19 10.5 +0.6
baz=122
CBKS Cedar Bluff 24.24 106 P **P** 03 19 13.9 +2.6
baz=308,SNR=15
CBKS Cedar Bluff 24.24 106 P **P** 03 19 12.9 +1.7
baz=308,SNR=15
319A Douglas 24.33 133 IAmb IAmb 03 19 21.4
comp=Z,113nm,1.2s
A21K Barrow 24.47 340 P **P** 03 19 14.5 +1.6
A21K IAmb IAmb 03 19 16.3
comp=Z,63nm,0.8s
A21K Barrow 24.47 340 P **P** 03 19 14.9 +2.0
baz=136,SNR=5.8
SPIA Saint Paul Isl 24.54 302 P **P** 03 19 17.2 +3.5
baz=89
F36A Milaca 24.64 86 IAmb IAmb 03 19 17.2
comp=Z,80nm,0.9s
F36A Milaca 24.64 86 P **P** 03 19 16.1 +1.4
baz=294,SNR=41
TNA Tin City 24.84 323 P **P** 03 19 17.1 +0.8
baz=110
R32A Long Quarter, 25.12 106 IAmb IAmb 03 19 28.7
comp=Z,96nm,1.4s
R32A Long Quarter, 25.12 106 P **P** 03 19 21.1 +1.9
baz=308,SNR=8.9
SPMN Marine on St. 25.36 87 IAmb IAmb 03 19 24.6
comp=Z,67nm,0.9s
SPMN Marine on St. 25.36 87 P **P** 03 19 23.1 +1.8
baz=295,SNR=23
SPMN Marine on St. 25.36 87 P **P** 03 19 22.6 +1.4
baz=295,SNR=23
KIDD KIDD Seismic O 25.38 127 P P 03 19 29.1 +7.5
baz=323,SNR=5.1
I37A Lemond, Waseca 25.51 90 IAmb IAmb 03 19 32.5
comp=Z,147nm,1.8s
I37B Waseca 25.51 90 P **P** 03 19 24.4 +1.8
baz=297,SNR=6.2
HSIG 25.59 138 P **P** 03 19 24.6 +1.2
E38A The Farm, Brul 25.62 83 IAmb IAmb 03 19 26.9
comp=Z,71nm,1.1s
E38A The Farm, Brul 25.62 83 P **P** 03 19 25.9 +2.4
baz=292,SNR=7.5
N35A Tabor 25.64 98 P **P** 03 19 25.5 +1.7
baz=303,SNR=30
AMTX Amarillo 25.68 116 P **P** 03 19 25.6 +1.3
baz=315,SNR=76
AMTX Amarillo 25.68 116 P **P** 03 19 25.0 +0.7
baz=315
MSTX Muleshoe 25.71 119 P **P** 03 19 24.5 -0.1
MSTX IAmb IAmb 03 19 32.1
comp=Z,75nm,1.3s
MSTX Muleshoe 25.71 119 P **P** 03 19 25.8 +1.2
baz=317,SNR=17
MSTX Muleshoe 25.71 119 P **P** 03 19 25.8 +1.2
baz=317,SNR=17
GAMB Gambell 25.92 317 P **P** 03 19 27.8 +1.7
baz=199
MNTX Cornudas Mount 26.02 126 IAmb IAmb 03 19 36.5
comp=Z,103nm,1.3s
MNTX Cornudas Mount 26.02 126 P **P** 03 19 28.8 +1.5
baz=322,SNR=35
MNTX Cornudas Mount 26.02 126 P **P** 03 19 28.5 +1.2
baz=322,SNR=35
KSU1 Kansas State U 26.02 102 P **P** 03 19 29.1 +1.8
baz=306,SNR=15
KSU1 Kansas State U 26.02 102 P **P** 03 19 28.7 +1.4
baz=306,SNR=15
NOKA Waynoka 26.12 109 IAmb IAmb 03 19 35.3
comp=Z,122nm,1.3s
ELIS Ellis County 26.20 111 P **P** 03 19 29.4 +0.4
ELIS IAmb IAmb 03 19 37.2
comp=Z,94nm,1.1s
U32A Winter Ranch, 26.24 110 IAmb IAmb 03 19 36.6
comp=Z,86nm,1.2s
U32A Winter Ranch, 26.24 110 P **P** 03 19 31.3 +1.9
baz=312,SNR=11
KAN14 Manchester OK 26.50 108 IAmb IAmb 03 19 52.6
comp=Z,60nm,1.4s
K38A Parkersburg 26.56 92 IAmb IAmb 03 19 41.5
comp=Z,97nm,1.1s
K38A Parkersburg 26.56 92 P **P** 03 19 34.0 +1.9
baz=300,SNR=10
KAN17 Caldwell West 26.57 107 IAmb IAmb 03 19 53.2
comp=Z,70nm,1.5s
KS20 Mayfield South 26.58 107 **P** 03 19 33.0 +0.6
KS20 IAmb IAmb 03 19 39.4
comp=Z,65nm,1.2s
KAN09 Caldwell North 26.60 107 IAmb IAmb 03 19 42.3
comp=Z,90nm,1.6s
SCIA State Center 26.64 94 P **P** 03 19 33.2 +0.4
baz=301
KAN13 South Haven SW 26.76 107 IAmb IAmb 03 19 40.9
comp=Z,78nm,1.4s
CROK Carrier 26.78 108 IAmb IAmb 03 19 39.9
comp=Z,139nm,1.3s
CSTR Hydro, Custer 26.92 111 IAmb IAmb 03 19 44.5
comp=Z,7.1nm,1.2s
G40A Rib Lake 27.02 85 IAmb IAmb 03 20 04.0
comp=Z,55nm,1.4s
BLOK Blackwell 27.09 107 IAmb IAmb 03 19 43.8
comp=Z,124nm,1.6s
N38A Joes South For 27.21 96 P **P** 03 19 39.5 +1.4
baz=303,SNR=12
I40A Norwalk 27.35 88 P **P** 03 19 40.8 +1.5
baz=297,SNR=20
COWI Conover 27.36 83 P **P** 03 19 39.6 +0.3
COWI IAmb IAmb 03 19 42.7
comp=Z,123nm,1.6s
T35B Sooner Cattle 27.42 106 P **P** 03 19 41.3 +1.3
baz=310,SNR=44
OK048 Pawnee Station 27.47 107 IAmb IAmb 03 19 48.0
comp=Z,64nm,1.0s
WMOK Wichita Mounta 27.48 112 IAmb IAmb 03 19 47.6
comp=Z,77nm,1.3s
WMOK Wichita Mounta 27.48 112 P **P** 03 19 41.7 +1.2
baz=314,SNR=60
WMOK Wichita Mounta 27.48 112 P **P** 03 19 41.3 +0.7
baz=314,SNR=60
WMOK Wichita Mounta 27.48 112 P **P** 03 19 41.8 +1.2
WMOK pmax pmax
comp=Z,66nm,1.2s
BCOK Bluff Creek, N 27.57 109 IAmb IAmb 03 19 48.8
comp=Z,53nm,0.9s
P38A Dawn 27.67 98 IAmb IAmb 03 19 49.6
comp=Z,64nm,0.9s
P38A Dawn 27.67 98 P **P** 03 19 43.3 +1.2
baz=305,SNR=25
L40A Anamosa 27.84 92 P **P** 03 19 44.0 +0.4
L40A IAmb IAmb 03 20 03.8
comp=Z,88nm,1.4s
L40A Anamosa 27.84 92 P **P** 03 19 45.5 +1.9
baz=300,SNR=6.8
JFWS Jewell Farm 28.05 89 IAmb IAmb 03 19 47.5
comp=Z,38nm,1.0s
JFWS Jewell Farm 28.05 89 P **P** 03 19 46.8 +1.3
baz=299,SNR=7.6
JFWS Jewell Farm 28.05 89 P **P** 03 19 46.2 +0.7
baz=299,SNR=7.6
DEOK Depew 28.12 108 IAmb IAmb 03 19 53.1
comp=Z,108nm,1.1s
F42A Maple Grove Fa 28.13 83 P **P** 03 19 48.0 +1.8
baz=294,SNR=5.9
I42A Draeger Farm, 28.45 87 IAmb IAmb 03 19 51.3
comp=Z,50nm,0.8s
I42A Draeger Farm, 28.45 87 P **P** 03 19 50.6 +1.5
baz=298,SNR=12
ABTX Abilene, Hawle 28.48 116 IAmb IAmb 03 19 55.9
comp=Z,41nm,1.1s
ABTX Abilene, Hawle 28.48 116 P **P** 03 19 50.5 +1.1
baz=317,SNR=17
ABTX Abilene, Hawle 28.48 116 P **P** 03 19 49.8 +0.4
baz=317,SNR=17
TUL1 Leonard 28.51 107 P **P** 03 19 51.0 +1.3
baz=311,SNR=29
TUL1 Leonard 28.51 107 P **P** 03 19 50.6 +0.9
baz=311,SNR=29
E43A Lone Tree Farm 28.61 81 IAmb IAmb 03 19 52.5
comp=Z,57nm,1.1s
RES Resolute Bay 28.61 19 P **P** 03 19 51.4 +1.2
comp=Z,4.7nm,0.8s,baz=230,slow=10,SNR=18

RES LR LR 03 31 34.6
comp=Z,3µm,22.0s,baz=210,slow=37
comp=Z,4.7nm,0.8s
RES Resolute Bay 28.61 19 P **P** 03 19 50.6 +0.5
RES IAmb IAmb 03 20 22.1
comp=Z,35nm,1.2s
RES Resolute Bay 28.61 19 P **P** 03 19 50.6 +0.5
RES pmax pmax
comp=Z,35nm,1.2s
P40A Paris 28.67 97 IAmb IAmb 03 19 57.7
comp=Z,65nm,1.3s
P40A Paris 28.67 97 P **P** 03 19 52.0 +1.0
baz=305,SNR=8.8
TX31 Lajitas Ar. Si 28.79 126 P **P** 03 19 53.6 +1.4
baz=324,SNR=22
TX32 Lajitas Array 28.79 126 IAmb IAmb 03 19 59.5
comp=Z,32nm,1.1s
TXAR Lajitas Array 28.79 126 P **P** 03 19 52.9 +0.6
TXAR Lajitas Array 28.79 126 P **P** 03 19 52.9 +0.6
RLO Rose Lookout 28.82 106 IAmb IAmb 03 19 59.5
comp=Z,143nm,1.5s
L42A Oliver, Polo 28.87 91 P **P** 03 19 53.7 +0.9
baz=301,SNR=8.1
LOOK Love County 28.95 111 IAmb IAmb 03 20 00.7
comp=Z,62nm,1.1s
U38A Gravette 29.04 104 IAmb IAmb 03 20 02.7
comp=Z,42nm,1.1s
U38A Gravette 29.04 104 P **P** 03 19 55.5 +1.1
baz=310,SNR=20
R40A Maddies Statio 29.24 99 IAmb IAmb 03 20 42.6
comp=Z,54nm,1.5s
R40A Maddies Statio 29.24 99 P **P** 03 19 56.6 +0.5
baz=306,SNR=7.4
Z35A Perchaven, San 29.37 112 P **P** 03 19 58.4 +1.0
baz=315,SNR=16
K43A Burlington 29.38 88 P **P** 03 19 58.4 +1.1
baz=300,SNR=5.8
HHAR Hobbs 29.42 104 P **P** 03 19 57.6 -0.1
HHAR IAmb IAmb 03 20 05.8
comp=Z,30nm,1.1s
FW06 Azle 29.44 113 IAmb IAmb 03 20 05.7
comp=Z,40nm,0.9s
X37A Clayton 29.64 108 IAmb IAmb 03 20 07.2
comp=Z,58nm,1.3s
X37A Clayton 29.64 108 P **P** 03 20 01.6 +1.9
baz=312,SNR=13
HPIG 29.77 132 P **P** 03 20 03.1 +2.0
HDIL Hopedale 29.87 93 IAmb IAmb 03 20 03.3
comp=Z,75nm,1.3s
HDIL Hopedale 29.87 93 P **P** 03 20 02.6 +1.0
baz=303,SNR=6.5
HDIL Hopedale 29.87 93 P **P** 03 20 02.1 +0.5
baz=303,SNR=6.5
L44A Lake County Fo 29.91 89 IAmb IAmb 03 20 03.8
comp=Z,70nm,1.1s
L44A Lake County Fo 29.91 89 P **P** 03 20 01.0 -1.0
baz=300
MGMO Mountain Grove 29.93 101 IAmb IAmb 03 20 06.6
comp=Z,59nm,1.3s
JCT Junction City 29.98 120 IAmb IAmb 03 20 09.0
comp=Z,60nm,1.1s
JCT Junction City 29.98 120 P **P** 03 20 03.4 +0.6
baz=320,SNR=17
JCT Junction City 29.98 120 P **P** 03 20 03.1 +0.3
baz=320,SNR=17
CCM Cathedral Cave 30.03 99 P **P** 03 20 03.6 +0.5
CCM Cathedral Cave 30.03 99 P **P** 03 20 03.4 +0.3
baz=307,SNR=11
CCM Cathedral Cave 30.03 99 P **P** 03 20 02.5 -0.6
baz=306
CCM Cathedral Cave 30.03 99 P **P** 03 20 03.6 +0.5
CCM pmax pmax
comp=Z,146nm,2.0s
U40A Yellville 30.05 103 P **P** 03 20 04.2 +0.9
baz=309,SNR=22
U40A P **P** 03 20 04.2 +0.9
baz=309,SNR=22
WHTX Lake Whitney, 30.21 115 IAmb IAmb 03 20 11.7
comp=Z,41nm,0.9s
WHTX Lake Whitney, 30.21 115 P **P** 03 20 04.7 0.0
baz=317
P43A Skaggs, Pawnee 30.22 95 IAmb IAmb 03 20 06.6
comp=Z,53nm,0.9s
P43A Skaggs, Pawnee 30.22 95 P **P** 03 20 06.0 +1.2
baz=304,SNR=6.7
M44A Midewin, Midew 30.23 90 P **P** 03 20 06.2 +1.4
baz=302,SNR=6.4
E46A Sault Ste Mari 30.32 79 P **P** 03 20 05.1 -0.5
E46A IAmb IAmb 03 20 07.6
comp=Z,33nm,0.9s
O44A Mansfield 30.62 93 IAmb IAmb 03 20 09.9
comp=Z,29nm,1.1s
O44A Mansfield 30.62 93 P **P** 03 20 09.3 +1.0
baz=303,SNR=5.2
MIAR Mouna 30.77 106 P **P** 03 20 11.6 +1.9
baz=312,SNR=28
MIAR Mount Ida 30.77 106 P **P** 03 20 10.8 +1.1
baz=312,SNR=28
MIAR Mount Ida 30.77 106 P **P** 03 20 11.1 +1.4
MIAR pmax pmax
comp=Z,69nm,1.5s
GLMI Grayling 30.78 82 IAmb IAmb 03 20 12.3
comp=Z,59nm,1.1s
GLMI Grayling 30.78 82 P **P** 03 20 08.6 -1.1
baz=297
435B Jarrell 31.02 116 IAmb IAmb 03 20 19.2
comp=Z,34nm,0.8s
435B Jarrell 31.02 116 P **P** 03 20 12.3 +0.4
baz=318
L46A Eue Claire 31.04 88 P **P** 03 20 13.3 +1.4
baz=301,SNR=6.1
L46A P **P** 03 20 13.3 +1.4
baz=301,SNR=6.1
WHAR Wooly Hollow 31.09 104 IAmb IAmb 03 20 19.1
comp=Z,42nm,1.1s
X40A Basin Creek Fa 31.27 106 IAmb IAmb 03 20 22.3
comp=Z,28nm,1.2s
LCAR Lake Charles 31.30 102 P **P** 03 20 14.3 +0.1
LCAR IAmb IAmb 03 20 20.8
comp=Z,29nm,0.8s
LCAR Lake Charles 31.30 102 P **P** 03 20 14.4 +0.1
baz=309,SNR=24
SFIN Lafayette 31.38 91 IAmb IAmb 03 20 17.1
comp=Z,31nm,1.1s
SFIN Lafayette 31.38 91 P **P** 03 20 14.3 -0.6
baz=303
J47A Sunmer 31.38 85 IAmb IAmb 03 20 16.9
comp=Z,52nm,0.9s
J47A Sunmer 31.38 85 P **P** 03 20 16.3 +1.4
baz=299,SNR=5.9
J47A P **P** 03 20 16.3 +1.4
baz=299,SNR=5.9
UALR University of 31.39 105 IAmb IAmb 03 20 29.9
comp=Z,20nm,1.0s
CGM3 Cape Girardeau 31.49 98 IAmb IAmb 03 20 23.1
comp=Z,34nm,1.1s
S44A Carbondale 31.51 97 IAmb IAmb 03 20 17.5
comp=Z,39nm,1.1s
S44A Carbondale 31.51 97 P **P** 03 20 16.7 +0.5
baz=307,SNR=8.5
OLIL Olney 31.65 95 P **P** 03 20 17.9 +0.5
baz=305,SNR=10
P46A Rosedale 31.72 93 IAmb IAmb 03 20 20.3
comp=Z,32nm,1.0s
P46A Rosedale 31.72 93 P **P** 03 20 18.9 +0.9
baz=304,SNR=6.4
833A Chaparral WMA, 31.87 122 P **P** 03 20 20.6 +1.2
baz=322,SNR=14
833A Chaparral WMA, 31.87 122 P **P** 03 20 19.9 +0.6
baz=322,SNR=14
N47A Urbana 32.01 90 P **P** 03 20 21.0 +0.5
baz=302,SNR=10
N47A P **P** 03 20 21.0 +0.5
baz=302,SNR=10
NATX Nacogdoches 32.03 112 P **P** 03 20 21.3 +0.5
baz=316
L48A N Adams 32.27 87 IAmb IAmb 03 20 24.2
comp=Z,34nm,0.9s
BLO Bloomington 32.41 93 IAmb IAmb 03 20 25.7
comp=Z,29nm,0.8s
AAM Ann Arbor 32.59 86 P **P** 03 20 25.3 -0.2
baz=300
HKT Hockley 32.65 115 P **P** 03 20 27.1 +1.1
HKT Hockley 32.65 115 P **P** 03 20 27.2 +1.1
HKT pmax pmax
comp=Z,95nm,1.6s
O48B Farmland 32.69 90 P **P** 03 20 26.9 +0.3
baz=303,SNR=34

O48B Farmland 32.69 90 P P 03 20 26.9 +0.3
baz=303,SNR=34
P48A Milroy 32.95 92 P P 03 20 29.3 +0.5
baz=304,SNR=13
P48A P P 03 20 29.3 +0.5
baz=304,SNR=13
N49A Columbus Grove 32.96 88 IAmb IAmb 03 20 30.1
comp=Z,50nm,1.1s
N49A Columbus Grove 32.96 88 P P 03 20 28.8 0.0
baz=302,SNR=13
N49A P P 03 20 28.8 0.0
baz=302,SNR=13
WCI Wyandotte Cave 33.09 94 P P 03 20 30.7 +0.6
WCI Wyandotte Cave 33.09 94 P P 03 20 29.8 -0.3
baz=306
WCI Wyandotte Cave 33.09 94 P P 03 20 30.7 +0.6
WCI pmax pmax
comp=Z,17nm,0.9s
W45A Hickory Valley 33.12 101 P P 03 20 31.3 +1.0
baz=310,SNR=7.8
O49A Covington 33.26 90 P P 03 20 31.6 +0.2
baz=303,SNR=14
O49A P P 03 20 31.6 +0.2
baz=303,SNR=14
T47A Sharon Grove 33.31 97 P P 03 20 32.1 +0.2
baz=307,SNR=5.6
P49A Miami Univ. Ec 33.37 91 IAmb IAmb 03 20 33.5
comp=Z,50nm,1.1s
P49A Miami Univ. Ec 33.37 91 P P 03 20 32.4 0.0
baz=304,SNR=14
P49A Miami Univ. Ec 33.37 91 P P 03 20 32.1 -0.4
baz=304,SNR=14
WVT Waverly 33.37 99 P P 03 20 32.6 +0.2
WVT IAmb IAmb 03 20 40.1
comp=Z,28nm,1.1s
WVT Waverly 33.37 99 P P 03 20 32.7 +0.2
baz=308,SNR=11
WVT Waverly 33.37 99 P P 03 20 32.2 -0.2
baz=308
WVT Waverly 33.37 99 P P 03 20 32.6 +0.2
WVT pmax pmax
comp=Z,28nm,1.1s
OXF Oxford 33.39 102 P P 03 20 33.8 +1.1
baz=311,SNR=18
OXF Oxford 33.39 102 P P 03 20 32.9 +0.3
baz=311,SNR=18
EUNU Eureka 33.39 13 P P 03 20 33.7 +1.4
EUNU IAmb IAmb 03 20 36.6
comp=Z,31nm,1.1s
R49A Shelbyville 33.78 93 IAmb IAmb 03 20 46.0
comp=Z,25nm,1.2s
PLAL Pickwick Lake 33.93 100 IAmb IAmb 03 20 44.9
comp=Z,43nm,1.1s
ACSO Alum Creek Sta 34.10 89 P P 03 20 39.6 +0.8
baz=303,SNR=7.7
ACSO Alum Creek Sta 34.10 89 P P 03 20 38.8 0.0
baz=303,SNR=7.7
N51A Ashland 34.12 87 IAmb IAmb 03 20 40.2
comp=Z,62nm,1.2s
SHEM Shemya Is, Ala 34.17 296 LR LR 03 31 57.6
comp=Z,2µm,20.5s,baz=117,slow=32
VBMS Vicksburg 34.23 106 P P 03 20 41.7 +1.7
VBMS Vicksburg 34.23 106 P P 03 20 40.8 +0.9
baz=313
V48A Smith Brothers 34.25 98 IAmb IAmb 03 20 43.1
comp=Z,31nm,1.4s
V48A Smith Brothers 34.25 98 P P 03 20 40.6 +0.5
baz=309,SNR=5.5
SADO Sadowa 34.28 79 LR LR 03 35 06.2
comp=Z,8µm,18.1s,baz=312,slow=37
R50A Paris 34.33 92 P P 03 20 41.7 +0.9
baz=306,SNR=16
R50A P P 03 20 41.7 +0.9
baz=306,SNR=16
P51A Williamsport 34.46 90 P P 03 20 42.1 +0.2
baz=304,SNR=19
P51A P P 03 20 42.1 +0.2
baz=304,SNR=19
Q51A Peebles 34.53 91 P P 03 20 43.1 +0.5
baz=304,SNR=10
Q51A P P 03 20 43.1 +0.5
baz=304,SNR=10
FRB Frobisher Bay 34.69 43 LR LR 03 34 35.7
comp=Z,2µm,18.6s,baz=274,slow=36
ZAIG Zacatecas 34.77 132 P P 03 20 45.2 +0.1
ZAIG IAmb IAmb 03 20 52.7
comp=Z,24nm,1.1s
O52A Adamsville 34.90 88 IAmb IAmb 03 20 47.5
comp=Z,31nm,1.2s
X48A Hartselle 34.92 100 IAmb IAmb 03 20 51.7
comp=Z,70nm,1.5s
X48A Hartselle 34.92 100 P P 03 20 46.3 +0.4
baz=310,SNR=8.4
M53A Wi Miller and 34.94 85 P P 03 20 46.3 +0.2
baz=302
P52A Corning 34.98 89 IAmb IAmb 03 20 47.7
comp=Z,41nm,1.0s
P52A Corning 34.98 89 P P 03 20 46.1 -0.2
baz=304,SNR=11
Z47A Carrollton 35.09 103 IAmb IAmb 03 20 55.8
comp=Z,51nm,1.3s
S51A Beattyville 35.17 93 IAmb IAmb 03 20 49.5
comp=Z,43nm,0.8s
S51A Beattyville 35.17 93 P P 03 20 48.5 +0.4
baz=306,SNR=18
S51A P P 03 20 48.5 +0.4
baz=306,SNR=18
TULEG Thule 35.23 21 P P 03 20 48.8 +0.6
TULEG IAmb IAmb 03 20 51.5
comp=Z,38nm,1.4s
TULEG Thule 35.23 21 *i* P P 03 20 49.8 +1.6
TULEG IAmb IAmb 03 20 51.0
comp=Z,29nm,1.3s
O53A New Philadelph 35.23 87 IAmb IAmb 03 20 56.0
comp=Z,30nm,1.1s
O53A New Philadelph 35.23 87 P P 03 20 47.8 -0.7
baz=303
BILL Bilibino 35.25 324 P P 03 20 48.4 0.0
BILL IAmb IAmb 03 20 56.7
comp=Z,28nm,1.2s
BILL Bilibino 35.25 324 *c i* P P 03 20 49.1 +0.7
BILL *e* 03 22 04.9
BILL *i* SS SS 03 28 43.7 -10
BILL pmax pmax
comp=Z,28nm,1.2s
BILL MLR MLR
comp=Z,697nm,15.0s
Q52A Bidwell 35.26 90 IAmb IAmb 03 20 49.8
comp=Z,39nm,1.0s
Q52A Bidwell 35.26 90 P P 03 20 49.1 +0.2
baz=305,SNR=7.3
Q52A P P 03 20 49.1 +0.2
baz=305,SNR=7.3
DELO Deloro Mine 35.35 78 P P 03 20 49.9 +0.3
P53A Whipple 35.53 88 IAmb IAmb 03 20 52.3
comp=Z,49nm,1.1s
P53A Whipple 35.53 88 P P 03 20 51.7 +0.5
baz=304,SNR=8.3
P53A P P 03 20 51.7 +0.5
baz=304,SNR=8.3
W50A Signal Mountai 35.55 98 IAmb IAmb 03 20 52.6
comp=Z,27nm,1.1s
W50A Signal Mountai 35.55 98 P P 03 20 51.9 +0.5
baz=309,SNR=6.3
Y49A Blount Mountai 35.70 100 IAmb IAmb 03 20 58.8
comp=Z,42nm,1.2s
WVNY West Valley, N 35.77 82 P P 03 20 53.4 +0.2
WVNY IAmb IAmb 03 20 55.0
comp=Z,43nm,1.1s
WVNY West Valley, N 35.77 82 P P 03 20 53.9 +0.7
baz=301,SNR=5.7
FPAL Fort Paine 35.77 99 IAmb IAmb 03 21 01.5
comp=Z,59nm,1.0s
V51A Loudon 35.79 96 IAmb IAmb 03 21 01.0
comp=Z,25nm,1.0s
V51A Loudon 35.79 96 P P 03 20 53.9 +0.5
baz=308,SNR=7.6
O54A Avella 35.80 87 IAmb IAmb 03 20 54.6
comp=Z,89nm,1.6s
TZTN Tazewell 35.85 94 IAmb IAmb 03 21 02.6
comp=Z,41nm,1.2s
TZTN Tazewell 35.85 94 P P 03 20 54.9 +0.9
baz=307,SNR=6.3
TZTN Tazewell 35.85 94 P P 03 20 53.9 -0.1
baz=307,SNR=6.3
LRAL Lakeview Retre 35.87 102 IAmb IAmb 03 21 03.7
comp=Z,43nm,1.1s
LRAL Lakeview Retre 35.87 102 P P 03 20 54.4 +0.3
baz=312,SNR=12
LRAL Lakeview Retre 35.87 102 P P 03 20 53.3 -0.8
baz=312,SNR=12
CPCT Cooper Cave 35.90 97 IAmb IAmb 03 21 00.1
comp=Z,28nm,1.3s
MMNY Mt. Morris Dam 36.05 81 P P 03 20 55.1 -0.4
MMNY IAmb IAmb 03 20 56.3
comp=Z,30nm,0.9s
Q54A Coxs Mills 36.17 89 P P 03 20 57.2 +0.5
baz=305,SNR=17
Q54A P P 03 20 57.2 +0.5
baz=305,SNR=17
X51A Calhoun 36.24 98 IAmb IAmb 03 21 05.2
comp=Z,55nm,0.9s
X51A Calhoun 36.24 98 P P 03 20 58.0 +0.8
baz=310,SNR=12
X51A P P 03 20 58.0 +0.8
baz=310,SNR=12
TKL Tuckaleechee C 36.25 96 LR LR 03 36 07.1
comp=Z,8µm,18.0s,baz=312,slow=37
V52A Sevierville 36.25 95 IAmb IAmb 03 20 58.7
comp=Z,49nm,0.8s
V52A Sevierville 36.25 95 P P 03 20 57.9 +0.5
baz=308,SNR=18
MCWV Mont Chateau 36.43 87 P P 03 20 59.0 +0.2
MCWV IAmb IAmb 03 21 04.4
comp=Z,96nm,1.9s
MCWV Mont Chateau 36.43 87 P P 03 20 58.2 -0.6
baz=304
TRQ Mont Tremblant 36.48 74 IAmb IAmb 03 21 01.0
comp=Z,113nm,1.9s
W52A Murphy 36.50 96 IAmb IAmb 03 21 01.3
comp=Z,32nm,1.0s
W52A Murphy 36.50 96 P P 03 21 00.1 +0.6
baz=309,SNR=6.6
S54A Dingess, Beckl 36.55 91 IAmb IAmb 03 21 01.2
comp=Z,34nm,1.1s
L56A Greenwood 36.57 82 IAmb IAmb 03 21 01.2
comp=Z,40nm,1.1s
Z51A Franklin 36.84 100 IAmb IAmb 03 21 03.9
comp=Z,44nm,1.1s
Z51A Franklin 36.84 100 P P 03 21 03.1 +0.7
baz=311,SNR=8.2
V53A Saluda 36.86 95 IAmb IAmb 03 21 04.4
comp=Z,56nm,0.9s
V53A Saluda 36.86 95 P P 03 21 03.4 +0.8
baz=308,SNR=16
V53A P P 03 21 03.4 +0.8
baz=308,SNR=16
U54A Nelsons Funny 36.98 93 IAmb IAmb 03 21 18.7
comp=Z,28nm,0.9s
R55A Marlinton 37.03 89 P P 03 21 05.0 +0.9
baz=305,SNR=18
R55A P P 03 21 05.0 +0.9
baz=305,SNR=18
250A Grady 37.04 103 P P 03 21 05.5 +1.4
baz=313,SNR=15
BRAL Brewton 37.10 104 P P 03 21 04.7 +0.1
baz=314
SSPA Standing Stone 37.15 84 P P 03 21 04.5 -0.5
baz=303
Y52A Lilburn 37.19 98 IAmb IAmb 03 21 07.1
comp=Z,36nm,0.9s
Y52A Lilburn 37.19 98 P P 03 21 06.1 +0.7
baz=310,SNR=12
Y52A P P 03 21 06.1 +0.7
baz=310,SNR=12
BG3 Lake Jocassee 37.20 96 IAmb IAmb 03 21 07.1
comp=Z,43nm,1.0s
CASEE Lake Jocassee 37.20 96 P P 03 21 07.0 +1.6
baz=309,SNR=11
Q56A Snyder Ridge, 37.20 87 IAmb IAmb 03 21 13.2
comp=Z,25nm,0.9s
LONY Lake Ozonia 37.21 77 P P 03 21 05.7 +0.2
baz=299
M57A Sunshine Farm, 37.26 83 IAmb IAmb 03 21 07.0
comp=Z,31nm,1.1s
M57A Sunshine Farm, 37.26 83 P P 03 21 06.3 +0.3
baz=302,SNR=6.0
M57A P P 03 21 06.3 +0.3
baz=302,SNR=6.0
BLA Blacksburg 37.46 91 P P 03 21 07.9 +0.1
BLA IAmb IAmb 03 21 11.3
comp=Z,36nm,0.9s
BLA Blacksburg 37.46 91 P P 03 21 07.8 +0.1
baz=306
BLA Blacksburg 37.46 91 P P 03 21 07.9 +0.1
BLA pmax pmax
comp=Z,36nm,1.0s
BINY Binghamton 37.54 81 IAmb IAmb 03 21 14.2
comp=Z,121nm,1.9s
BINY Binghamton 37.54 81 P P 03 21 07.9 -0.4
baz=301
152A Waverly Hall 37.55 100 IAmb IAmb 03 21 15.6
comp=Z,49nm,0.9s
152A Waverly Hall 37.55 100 P P 03 21 08.8 +0.3
baz=312,SNR=16
SCHQ Schefferville 37.61 58 P P 03 21 10.0 +1.3
comp=Z,24nm,1.1s,baz=287,slow=8.7,SNR=6.8
SCHQ LR LR 03 36 58.0
comp=Z,6µm,20.7s,baz=291,slow=37
comp=Z,24nm,1.1s
SCHQ Schefferville 37.61 58 IAmb IAmb 03 21 11.3
comp=Z,58nm,1.4s
P57A Homestead Farm 37.71 86 P P 03 21 10.0 +0.3
baz=304,SNR=8.2
P57A P P 03 21 10.0 +0.3
baz=304,SNR=8.2
FRNY Flat Rock 37.73 76 IAmb IAmb 03 21 11.1
comp=Z,31nm,1.0s
FRNY Flat Rock 37.73 76 P P 03 21 10.4 +0.6
baz=299,SNR=7.4
N58A Sunbury 37.79 83 IAmb IAmb 03 21 11.4
comp=Z,32nm,1.0s
N58A Sunbury 37.79 83 P P 03 21 10.7 +0.3
baz=303,SNR=6.3
N58A P P 03 21 10.7 +0.3
baz=303,SNR=6.3
J59A Piesco 37.83 78 IAmb IAmb 03 21 12.2
comp=Z,31nm,1.0s
J59A Piesco 37.83 78 P P 03 21 11.5 +0.7
baz=300,SNR=6.2
J59A P P 03 21 11.5 +0.7
baz=300,SNR=6.2
KULLO Kullorsuaq 37.95 25 *i* P P 03 21 14.2 +2.9
KULLO IAmb IAmb 03 21 15.4
comp=Z,33nm,1.3s
PAULI Pauline 38.02 95 IAmb IAmb 03 21 19.2
comp=Z,39nm,1.1s
PAULI Pauline 38.02 95 P P 03 21 12.8 +0.4
baz=309,SNR=8.8
S57A Dark Hollow, R 38.09 89 IAmb IAmb 03 21 14.9
comp=Z,54nm,1.1s
S57A Dark Hollow, R 38.09 89 P P 03 21 13.9 +1.0
baz=306,SNR=11
S57A P P 03 21 13.9 +1.0
baz=306,SNR=11
HODGE Hodges 38.11 96 P P 03 21 13.8 +0.6
baz=310,SNR=5.7
PAGS Pennsylvania G 38.12 84 IAmb IAmb 03 21 13.9
comp=Z,46nm,1.1s
KMSC Kings Mountain 38.13 94 P P 03 21 13.4 +0.1
KMSC IAmb IAmb 03 21 15.2
comp=Z,42nm,1.4s
KMSC Kings Mountain 38.13 94 P P 03 21 13.0 -0.3
baz=309
L59A Walton 38.14 80 IAmb IAmb 03 21 20.2
comp=Z,39nm,1.2s
UPNV Upernavik 38.37 27 *i* P P 03 21 17.3 +2.4
UPNV IAmb IAmb 03 21 17.9
comp=Z,12nm,0.5s
MVL Millersville 38.48 84 IAmb IAmb 03 21 17.6
comp=Z,74nm,1.9s
154A Montrose 38.61 99 IAmb IAmb 03 21 24.4
comp=Z,84nm,1.2s
R58B Mineral 38.66 88 IAmb IAmb 03 21 19.8
comp=Z,58nm,1.0s
R58B Mineral 38.66 88 P P 03 21 18.8 +1.1
baz=306,SNR=14
R58B P P 03 21 18.8 +1.1
baz=306,SNR=14
JSC Jenkinsville 38.72 95 IAmb IAmb 03 21 24.3
comp=Z,74nm,1.4s
CBN Corbin Frederi 38.84 87 IAmb IAmb 03 21 20.7
comp=Z,32nm,0.9s
CBN Corbin Frederi 38.84 87 P P 03 21 18.9 -0.4
baz=306
ODNJ Ogdensburg 39.01 82 P P 03 21 20.9 +0.3
ODNJ IAmb IAmb 03 21 21.6
comp=Z,36nm,1.0s
ODNJ Ogdensburg 39.01 82 P P 03 21 20.9 +0.3
baz=303,SNR=8.9
TIGA Tifton 39.09 101 P P 03 21 20.5 -0.8
baz=312
V58A Windy Hill, Pi 39.16 92 IAmb IAmb 03 21 31.0
comp=Z,45nm,1.3s
BRNJ Basking Ridge 39.25 82 IAmb IAmb 03 21 24.4
comp=Z,52nm,1.2s
NEEM North Greenlan 39.29 20 *i* P P 03 21 24.4 +1.5
NEEM IAmb IAmb 03 21 25.8
comp=Z,56nm,0.9s
NUUG Nuugaatsiaq 39.43 29 *i* P P 03 21 26.1 +2.3
T59A Double "B" Far 39.45 89 IAmb IAmb 03 21 26.1
comp=Z,51nm,1.0s
T59A Double "B" Far 39.45 89 P P 03 21 25.5 +1.2
baz=307,SNR=8.4
T59A P P 03 21 25.5 +1.2
baz=307,SNR=8.4
PAL Palisades 39.49 81 P P 03 21 24.3 -0.3
baz=303
U59A Littleton 39.67 90 IAmb IAmb 03 21 27.8
comp=Z,42nm,1.1s
U59A Littleton 39.67 90 P P 03 21 27.2 +1.0
baz=307,SNR=6.5
U59A P P 03 21 27.2 +1.0
baz=307,SNR=6.5
X58A Rowland 39.78 93 IAmb IAmb 03 21 28.8
comp=Z,30nm,0.8s
NHSC New Hope 40.16 96 P P 03 21 31.0 +0.7
baz=310
HRV Adam Dziewonsk 40.18 78 P P 03 21 31.2 +0.9
baz=302
CNNC Cliffs of the 40.28 91 P P 03 21 31.4 +0.1
CNNC IAmb IAmb 03 21 33.1
comp=Z,48nm,1.0s
CNNC Cliffs of the 40.28 91 P P 03 21 31.8 +0.6
baz=308
WVL Waterville 40.30 74 P P 03 21 31.9 +0.6
WVL IAmb IAmb 03 21 33.8
comp=Z,50nm,1.4s
ILULI Ilulissat 40.60 33 *e* P P 03 21 35.8 +2.3
TLIG Tlapa 41.15 131 P P 03 21 40.0 +1.3
BATG Bathurst New B 41.16 68 P P 03 21 39.4 +0.9
BATG IAmb IAmb 03 21 41.3
comp=Z,51nm,1.3s
SFJD Kangerlussuaq 41.37 36 P P 03 21 42.1 +2.2
comp=Z,64nm,1.2s,baz=293,slow=7.6,SNR=8.0
SFJD LR LR 03 39 27.6
comp=Z,2µm,19.4s,baz=290,slow=37
comp=Z,64nm,1.2s
SFJD Kangerlussuaq 41.37 36 P P 03 21 39.9 0.0
SFJD Kangerlussuaq 41.37 36 *i* P P 03 21 41.6 +1.8
SFJD IAmb IAmb 03 21 42.9
comp=Z,136nm,1.4s
SFJD Kangerlussuaq 41.37 36 P P 03 21 39.9 0.0
SFJD pmax pmax
comp=Z,117nm,1.3s
NUUK Nuuk 41.81 40 *i* P P 03 21 45.5 +2.0
SEY Seymchan 41.92 318 P P 03 21 45.3 +0.9
comp=Z,14nm,0.9s,baz=90,slow=7.4,SNR=34
SEY LR LR 03 39 31.7
comp=Z,3µm,18.9s,baz=50,slow=37
comp=Z,14nm,0.9s
SEY Seymchan 41.92 318 ‖ *e* P P 03 21 45.2 +0.9
SEY pmax pmax
comp=Z,24nm,1.0s
LMN Caledonia Moun 42.62 70 IAmb IAmb 03 21 52.5
comp=Z,56nm,1.2s
PET Petropavlovsk 42.72 302 *e* P P 03 21 51.9 +0.9
PET *e* 03 23 43.9
PET *e* S S 03 28 15.1 +1.4
PET pmax pmax
comp=Z,96nm,1.0s
PET pmax pmax
comp=Z,200nm,11.9s
PET MLR MLR
comp=Z,800nm,16.0s
DWPF Disney Wildern 42.73 102 P P 03 21 52.6 +1.2
baz=315
DY2G Dye2 43.18 36 *i* P P 03 21 55.7 +0.8
DY2G IAmb IAmb 03 21 58.2
comp=Z,300nm,1.5s
PEA0B Petropavlovsk- 43.20 303 ⇑ *e* P P 03 21 54.2 -0.7
PETK Petropavlovsk- 43.20 303 P P 03 21 54.1 -0.9
comp=Z,23nm,0.9s,baz=106,slow=10.0,SNR=12
comp=Z,23nm,0.9s
SUMG Summit 43.56 26 *i* P P 03 21 59.0 +0.9
SUMG IAmb IAmb 03 22 00.8
comp=Z,85nm,1.2s
MA2 Magadan 43.91 314 P P 03 22 01.7 +1.1
comp=Z,11nm,1.1s,baz=83,slow=5.6,SNR=5.6
MA2 LR LR 03 41 03.2
comp=Z,1µm,18.1s,baz=68,slow=37
comp=Z,11nm,1.1s
MA2 Magadan 43.91 314 P P 03 22 00.1 -0.5
MA2 Magadan 43.91 314 ⇑ *e* P P 03 22 01.9 +1.3
MA2 pmax pmax
comp=Z,28nm,1.3s
NOR Nord 43.96 11 *i* P P 03 22 02.0 +1.2
ICESG Greenland Ices 44.52 31 *i* P P 03 22 07.2 +1.4
ICESG IAmb IAmb 03 22 08.3
comp=Z,125nm,1.2s
CCIG Comitan 45.51 124 P P 03 22 14.6 +0.6
CCIG IAmb IAmb 03 22 22.6
comp=Z,40nm,1.5s
PETF Flores 46.22 121 P P 03 22 18.8 -0.6
PETF IAmb IAmb 03 22 26.9
comp=Z,17nm,1.0s
ISOG Isortoq, Green 46.28 35 *i* P P 03 22 20.8 +1.5
ISOG IAmb IAmb 03 22 22.4
comp=Z,150nm,1.4s
TIXI Tiksi 46.61 335 P P 03 22 22.5 +0.7
comp=Z,9.9nm,1.0s,baz=270,slow=23,SNR=16
TIXI LR LR 03 45 02.1
comp=Z,669nm,18.9s,baz=102,slow=40
comp=Z,9.9nm,1.0s
TIXI Tiksi 46.61 335 P P 03 22 21.5 -0.3
TIXI IAmb IAmb 03 22 26.4
comp=Z,23nm,1.3s
TIXI Tiksi 46.61 335 ‖ *e* P P 03 22 22.3 +0.5
TIXI pmax pmax
comp=Z,24nm,1.5s
TIXI MLR MLR
comp=Z,740nm,17.0s
ANGG Ammassalik, Gr 46.74 35 *i* P P 03 22 23.5 +0.6
ANGG IAmb IAmb 03 22 24.6
comp=Z,178nm,1.3s
DBG Daneborg 47.37 20 *i* P P 03 22 28.8 +1.1
DBG IAmb IAmb 03 22 30.7
comp=Z,110nm,1.1s
MTO3 Montecristo 48.56 123 P P 03 22 38.8 +1.0
MTO3 IAmb IAmb 03 22 55.0
comp=Z,28nm,1.3s
KBS Kingsbay 49.22 9 P P 03 22 43.6 +1.7
KBS Kingsbay 49.22 9 *i* P P 03 22 43.7 +1.8
KBS Kingsbay 49.22 9 ‖ *e* P P 03 22 43.8 +1.8
KBS pmax pmax
comp=Z,179nm,1.8s
KBS Kingsbay 49.22 9 *e* P P 03 22 44.1 +2.2
TGUH Tegucigalpa,Un 49.98 121 P P 03 22 48.6 0.0
TGUH IAmb IAmb 03 22 58.6
comp=Z,30nm,0.9s
TGUH Tegucigalpa,Un 49.98 121 *e* P P 03 22 51.4 +2.7
SPA0 Spitsbergen Ar 50.31 9 *e* P P 03 22 51.2 +0.9
SPITS Spitsbergen Ar 50.31 9 LR LR 03 45 16.5
comp=Z,891nm,18.4s,baz=306,slow=37
SPITS Spitsbergen Ar 50.31 9 P P 03 22 50.0 -0.3
SPITS pmax pmax
comp=Z,81nm,1.1s
YAK Yakutsk 51.60 324 LR LR 03 46 29.9
comp=Z,2µm,18.0s,baz=69,slow=38
YAK Yakutsk 51.60 324 P P 03 22 59.7 -0.4
YAK IAmb IAmb 03 23 01.4
comp=Z,28nm,0.7s
YAK Yakutsk 51.60 324 *e* P P 03 22 59.8 -0.4
YAK *e* * PP **pwP** 03 23 09.4 +2.1
YAK *e* 03 24 15.3
YAK *e* 03 24 55.6
YAK *e* S S 03 30 20.9 +0.9
YAK *e* 03 32 48.4
YAK *e* SS SS 03 33 58.8 +3.3
YAK *e* SSS SSS 03 35 36.9
YAK pmax pmax
comp=Z,34nm,1.1s

YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,11nm,1.0s
YAK pmax pmax
comp=Z,69nm,2.7s
YAK pmax pmax
comp=N,49nm,3.3s
YAK pmax pmax
comp=E,119nm,4.2s
YAK smax smax
comp=E,485nm,8.7s
YAK smax smax
comp=N,263nm,6.2s
YAK MLR MLR
comp=N,1μm,22.0s
YAK MLR MLR
comp=E,837nm,19.0s
BOAB BOACO BROADBAN 32.19 120 P **P** **03 23 05.6 +0.5**
BOAB IAmb IAmb 03 23 11.3
comp=Z,54nm,1.1s
TYV Tymovskoe 52.30 307 *e*P **P** **03 23 05.6 0.0**
TYV *e*S **S** **03 30 32.1 +2.1**
TYV pmax pmax
comp=Z,200nm,2.6s
TYV pmax pmax
comp=Z,14nm,1.1s
TYV smax smax
comp=E,400nm,5.9s
BORG Borgarnes 52.91 31 LR LR 03 46 13.0
comp=E,1μm,18.4s,baz=319,slow=37
ESPN Las Esperanzas 53.16 119 P **P** **03 23 13.2 +0.9**
DUNO Dulce Nombre, 54.23 122 IAmb IAmb 03 23 24.9
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 54.60 303 P **P** **03 23 21.7 -0.7**
YSS Yuzh-Sakhalins 54.60 303⇓ *e*P **P** **03 23 22.5 +0.1**
YSS pmax pmax
comp=Z,36nm,1.3s
GRNR Gornyy 55.51 310⇑ *i*P P 03 23 23.2 -5.8
GRNR *e* 03 25 39.2
GRNR pmax pmax
comp=N,4.0nm,1.2s
GRNR pmax pmax
comp=Z,4.0nm,1.1s
NRIK Noril'sk 57.66 345 P **P** **03 23 44.4 +0.4**
comp=Z,23nm,0.9s,baz=43,slow=5.5,SNR=22
NRIK LR LR 03 51 01.4
comp=Z,487nm,18.1s,baz=43,slow=39
comp=Z,23nm,0.9s
NRIK Noril'sk 57.66 345 P **P** **03 23 43.7 -0.3**
NRIK IAmb IAmb 03 23 45.2
comp=Z,29nm,0.9s
NRIK Noril'sk 57.66 345 *d i*P **P** **03 23 43.9 -0.1**
NRIK pmax pmax
comp=Z,35nm,1.0s
ZEA Zeya 57.87 317 *e*P **P** **03 23 44.8 -0.9**
ZEA *e*S **S** **03 31 45.2 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA smax smax
comp=N,200nm,9.4s
ZEA MLR MLR
comp=Z,700nm,13.0s
H11N2 WAKE ISLAND Hy 57.89 262 T T 04 26 22.8
baz=42,slow=75,SNR=387
H11N3 WAKE ISLAND Hy 57.89 262 T T 04 26 23.3
baz=42,slow=75,SNR=509
H11N1 WAKE ISLAND Hy 57.91 262 T T 04 26 23.3
baz=42,slow=75,SNR=364
HAMF Hammerfest 58.03 10 *e*P **P** **03 23 47.4 +0.8**
TRO Tromso 58.39 12 *e*P **P** **03 23 50.4 +1.4**
JETT Jettan, Norway 58.66 12 *e*P **P** **03 23 52.2 +1.2**
KLR Kul'dur 58.80 311 LR LR 03 48 13.1
comp=Z,2μm,20.8s,baz=41,slow=35
KLR Kul'dur 58.80 311⇑ *e*P **P** **03 23 51.7 -0.6**
KLR pmax pmax
comp=Z,11nm,1.4s
H11S1 WAKE ISLAND Hy 58.92 262 T T 04 27 51.6
baz=33,slow=76,SNR=72
H11S2 WAKE ISLAND Hy 58.93 262 T T 04 27 53.1
baz=33,slow=76,SNR=55
H11S3 WAKE ISLAND Hy 58.94 262 T T 04 27 48.2
baz=33,slow=76,SNR=47
VADS Vadso 59.11 8 *e*P **P** **03 23 54.9 +0.9**
ARA0 ARCESS Array S 59.29 10 *e*P **P** **03 23 56.1 +0.7**
ARCES ARCESS Array B 59.29 10 P **P** **03 23 55.9 +0.5**
comp=Z,14nm,0.8s,baz=355,slow=7.8,SNR=11
comp=Z,14nm,0.8s
OBIP Obispado Ponce 59.38 99 P **P** **03 23 56.2 -0.4**
STEI Steigen 59.40 14 *e*P **P** **03 23 56.4 +0.3**
KTK1 Kautokeino 59.52 11 *e*P **P** **03 23 57.7 +0.7**
HEH HeiHe 60.17 314 *e*P **P** **03 24 00.7 -1.0**
HEH pP **pP** **03 24 03.2 -2.9**
HEH PcP **PcP** **03 24 44.0 -3.2**
HEH S **S** **03 32 15.7 +1.3**
HEH pmax pmax
comp=Z,21nm,0.9s
HEH pmax pmax
comp=Z,340nm,4.6s
HEH LR LR
comp=Z,780nm,17.4s
HEH LR LR
comp=Z,1μm,22.2s
HEH LR LR
comp=Z,2μm,18.6s
MOR8 Moi Rana 60.87 16 *e*P **P** **03 24 06.5 +0.2**
APAC Apartado, Choc 61.06 115 *e*P **P** **03 24 07.5 -0.7**
JMM Marumori 61.61 296 P **P** **03 24 11.6 -0.1**
LVZ Lovozero 61.72 7 P **P** **03 24 12.0 0.0**
LVZ Lovozero 61.72 7 *de*P **P** **03 24 12.1 +0.1**
LVZ pmax pmax
comp=Z,76nm,1.0s
UREC San Jos de Ur 61.79 114 *e*P **P** **03 24 11.4 -1.8**
APA Apatity 61.94 7⇓ *i*P **P** **03 24 11.5 -2.0**
APA pmax pmax
comp=Z,21nm,1.0s
APA MLR MLR
comp=Z,2μm,13.0s
USA0B Ussuriysk Arra 62.11 306 P **P** **03 24 15.0 +0.1**
USA0B IAmb IAmb 03 24 18.2
comp=Z,18nm,1.2s
USA0B Ussuriysk Arra 62.11 306⇓ *e*P **P** **03 24 15.0 +0.1**
USRK Ussuriysk Ar. 62.11 306 P **P** **03 24 14.5 -0.5**
comp=Z,8.1nm,1.0s,baz=44,slow=5.8,SNR=11
comp=Z,8.1nm,1.0s
ZARC Zaragoza, Cauc 62.40 113 *e*P **P** **03 24 16.2 -1.0**
TBLU Trondheim 62.69 19 *e*P **P** **03 24 18.2 -0.4**
AKN Aaknes 62.92 21 *e*P **P** **03 24 21.1 +1.0**
CBOC Ciudad Bolivar 63.03 115 *e*P **P** **03 24 21.9 +0.3**
BNX BinXian 63.34 310 ⇑P **P** **03 24 22.5 -0.7**
BNX pP **pP** **03 24 24.7 -2.8**
BNX PP **PP** **03 26 41.6 -0.4**
BNX S **S** **03 32 52.6 -2.1**
BNX pmax pmax
comp=Z,7.0nm,1.2s
BNX pmax pmax
comp=Z,250nm,4.8s
BNX LR LR
comp=Z,500nm,15.9s
BNX LR LR
comp=Z,690nm,17.8s
BNX LR LR
comp=Z,1μm,20.3s
PTBC PUERTO BERRIO, 63.40 114 *e*P **P** **03 24 22.9 -1.0**
DOMB Dombas 63.51 20 *e*P **P** **03 24 24.9 +0.9**
PLMC San Jos del P 63.64 116 *e*P **P** **03 24 24.8 -0.8**
SDV Santo Domingo 63.83 109 P **P** **03 24 27.3 +0.3**
SDV IAmb IAmb 03 24 34.3
comp=Z,17nm,1.2s
SDV Santo Domingo 63.83 109 *e*P **P** **03 24 26.9 -0.1**
GUY2C Guyana, Caldas 63.92 115 *e*P **P** **03 24 26.8 -1.1**
NORC Norcasia 63.94 115 *e*P **P** **03 24 27.7 +0.2**
MJAR Matsushiro Arr 64.02 296 P **P** **03 24 26.7 -1.1**
comp=Z,4.0nm,1.1s,baz=35,slow=6.9,SNR=6.8
comp=Z,4.0nm,1.1s
MAJO Matsushiro 64.02 296 P **P** **03 24 26.6 -1.2**
MAJO IAmb IAmb 03 24 38.1
comp=Z,29nm,1.4s
MAJO Matsushiro 64.02 296⇑ *e*P **P** **03 24 26.8 -1.0**
MAJO pmax pmax
comp=Z,22nm,1.4s
BARC Barichara 64.11 112 *e*P **P** **03 24 26.8 -2.1**
HIA Hailar 64.35 317 P **P** **03 24 29.4 -0.4**
HIA Hailar 64.35 317⇓ *e*P **P** **03 24 29.0 -0.8**
HIA pmax pmax
comp=Z,8.0nm,1.0s

YOTC Yotoco, Valle 64.36 117 *e*P **P** **03 24 30.2 -0.2**
SKAR Skarslia 64.54 21 *e*P **P** **03 24 31.9 +1.0**
RUSC La Rusia 64.72 113 P **P** **03 24 33.0 -0.2**
RUSC IAmb IAmb 03 24 39.0
comp=Z,34nm,1.2s
RUSC La Rusia 64.72 113 *e*P **P** **03 24 30.6 -2.6**
ODD1 Odda 64.81 22 *e*P **P** **03 24 34.2 +1.5**
ROSC El Rosal 64.84 115 P **P** **03 24 35.1 +1.3**
comp=Z,7.6nm,0.3s,baz=318,slow=9.8,SNR=6.0
comp=Z,7.6nm,0.3s
ROSC El Rosal 64.84 115 P **P** **03 24 34.1 +0.3**
ROSC El Rosal 64.84 115 P **P** **03 24 34.1 +0.3**
ROSC pmax pmax
comp=Z,44nm,1.4s
NB2 NORSAR Subarra 64.87 20 P **P** **03 24 33.6 +0.6**
comp=Z,3.6nm,0.7s,baz=335,slow=6.9
NB2 NORSAR Subarra 64.87 20 P **P** **03 24 33.6 +0.6**
slow=6.9
NOA NORSAR Array B 64.87 20 P **P** **03 24 33.8 +0.8**
comp=Z,13nm,1.0s,baz=337,slow=6.3,SNR=14
comp=Z,13nm,1.0s
ORTC Ortega, Tolima 65.05 116 *e*P **P** **03 24 34.5 -0.3**
TAMC Tame, Arauca 65.06 111 *e*P **P** **03 24 37.4 +2.5**
CHIC Chingaza 65.35 114 *e*P **P** **03 24 35.4 -1.7**
BAUV El Baul 65.38 106 P **P** **03 24 36.3 -0.5**
JHJ Hachijo jima 2 65.50 293 LR LR 03 50 31.0
comp=Z,147nm,20.0s,baz=72,slow=34
CN2 Changchun 65.71 310 *e*P **P** **03 24 38.1 -0.5**
CN2 sP sP 03 24 45.0 +0.4
CN2 S **S** **03 33 19.9 -4.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,700nm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,1μm,21.0s
ADZR Andozero 65.89 6 *e*P **P** **03 24 37.2 -2.3**
ADZR pmax pmax
comp=Z,25nm,0.9s
EKA Eskdalemuir Ar 65.94 30 LR LR 03 52 58.7
comp=Z,1μm,19.1s,baz=330,slow=36
EKA Eskdalemuir Ar 65.94 30 P **P** **03 24 40.2 +0.3**
PAC1 Pacto, Paraso 66.04 121 *e*P P 03 24 34.5 -6.8
GCUF Volcan Galeras 66.05 120 *e*P **P** **03 24 42.2 +0.4**
HFS Hagfors 66.22 19 LR LR 03 53 16.0
comp=Z,949nm,18.3s,baz=342,slow=36
GARC Garzon, Huila 66.31 117 *e*P **P** **03 24 42.2 -1.0**
PULU Pululahua 66.40 121 P **P** **03 24 45.0 +1.2**
PTGC Puerto Gaitan, 66.64 113 *e*P **P** **03 24 43.1 -1.8**
FLOC Florencia 66.71 118 *e*P **P** **03 24 43.1 -2.3**
FIA1 FINESS Array S 67.12 12 P **P** **03 24 47.3 -0.1**
FINES FINESS Array B 67.12 12 P **P** **03 24 48.0 +0.6**
comp=Z,35nm,0.8s,baz=1.4,slow=7.6,SNR=39
comp=Z,35nm,0.8s
FINES FINESS Array B 67.12 12 P **P** **03 24 48.0 +0.6**
FINES FINESS Array B 67.12 12 *i* P **P** **03 24 48.0 +0.6**
FINES pmax pmax
comp=Z,35nm,0.8s
MACC Macarena, Meta 67.29 116 *e*P P 03 24 44.1 -5.0
CHSH Refugio Sur-Vo 67.46 123 IAmb IAmb 03 25 08.2
comp=Z,44nm,1.4s
PORT Chimborazo Vol 67.48 122 IAmb IAmb 03 25 00.4
comp=Z,31nm,1.2s
PRGR Permogore 68.51 2 *e*P **P** **03 24 56.4 +0.3**
PRGR pmax pmax
comp=Z,52nm,1.2s
KLMR Klimovskoe 69.03 5 *e*P **P** **03 24 57.1 -2.2**
KLMR AMP 03 25 01.4
comp=Z,123nm,1.2s
KLMR Klimovskoe 69.03 5 *e*P **P** **03 24 57.1 -2.2**
KLMR pmax pmax
comp=Z,123nm,1.2s
KSRS Korea Array 69.09 304 P **P** **03 24 59.9 -0.2**
comp=Z,2.5nm,0.9s,baz=56,slow=6.6,SNR=7.7
comp=Z,2.5nm,0.9s
KSAR Wonju Array Be 69.12 304 P **P** **03 24 59.6 -0.7**
KSAR Wonju Array Be 69.12 304 P **P** **03 24 59.6 -0.7**
PUL Pulkovo 69.28 10⇑ *e*P **P** **03 25 02.3 +1.4**
PUL pmax pmax
comp=Z,113nm,1.0s
MCRA Macar, Loja 69.29 125 P **P** **03 25 02.0 +0.3**
MCRA IAmb IAmb 03 25 09.1
comp=Z,23nm,1.2s
PPTF Pamatai, Papee 69.61 200 P **P** **03 25 04.1 +0.6**
MOY Mondy 69.69 329 *e*P **P** **03 25 04.4 +0.6**
MOY pmax pmax
comp=Z,39nm,1.9s
ZAK Zakamensk 69.99 327 *e*P **P** **03 25 05.4 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
COP Copenhagen 70.00 22 *i* P P 03 24 58.6 -6.8
XLT XiLinHaoTe 70.07 315⇑ *i*P **P** **03 25 06.5 +0.3**
XLT pP pP 03 25 11.5 +0.9
XLT sP pwP 03 25 13.8 +0.3
XLT S **S** **03 34 24.0 +7.7**
XLT sS SKiKP 03 34 45.1 -6.2
XLT ScS SKSac 03 34 55.5 -11
XLT XiLinHaoTe 70.07 315 SS SS 03 38 58.6 +14
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,210nm,4.8s
XLT LR LR
comp=N,100nm,18.5s
XLT LR LR
comp=E,640nm,21.3s
XLT LR LR
comp=Z,1μm,18.6s
XLT XiLinHaoTe 70.07 315 *e*P **P** **03 25 08.7 +2.5**
XLT pP pwP 03 25 13.0 -0.5
XLT sP sP 03 25 16.5 +4.3
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,270nm,6.1s
XLT LR LR
comp=Z,100nm,18.6s
XLT LR LR
comp=Z,640nm,21.2s
XLT LR LR
comp=Z,1μm,18.6s
VSU Vasula 70.09 13 *de*P **P** **03 25 06.2 +0.3**
VSU pmax pmax
comp=Z,211nm,1.0s
VSU Vasula 70.09 13 *e*P **P** **03 25 06.2 +0.3**
ULN Ulaanbaatar 70.69 323 P **P** **03 25 10.2 +0.2**
ULN Ulaanbaatar 70.69 323 *ce*P **P** **03 25 09.5 -0.5**
ULN pmax pmax
comp=Z,8.0nm,1.6s
SONM Songino Array 70.97 324 P **P** **03 25 12.1 +0.4**
comp=Z,3.4nm,1.1s,baz=60,slow=4.7,SNR=13
SONM LR LR 03 56 31.7
comp=Z,2μm,21.1s,baz=28,slow=36
comp=Z,3.4nm,1.1s
SONM Songino Array 70.97 324 P **P** **03 25 11.1 -0.6**
SONM IAmb IAmb 03 25 19.2
comp=Z,33nm,2.0s
SONM Songino Array 70.97 324 P **P** **03 25 11.1 -0.6**
SONM pmax pmax
comp=Z,33nm,2.0s
BSEG Bad Segeberg 71.06 24 *e*P **P** **03 25 13.9 +2.0**
comp=Z,70nm,1.4s,baz=336,slow=5.8
KIRV Kirov 71.62 0⇓ *e*P **P** **03 25 15.4 +0.2**
IBBN Ibbenburen 71.84 26 *e*P **P** **03 25 18.9 +2.2**
comp=Z,68nm,1.2s,baz=336,slow=5.8
RETH Rethem/Aller, 71.89 25 *e*P **P** **03 25 19.1 +2.2**
comp=Z,57nm,1.1s,baz=336,slow=5.8
VSVD Vaisvydziai 72.04 15 *e*P **P** **03 25 19.2 +1.4**
ZAA0 Zalesovo Array 72.21 339 P **P** **03 25 18.7 -0.1**
ZAA0 IAmb IAmb 03 25 19.9
comp=Z,48nm,1.6s
ZALV Zalesovo Beam 72.21 339 P **P** **03 25 18.7 -0.1**
comp=Z,7.5nm,0.7s,baz=21,slow=5.7,SNR=35
comp=Z,7.5nm,0.7s
NRDL Niedersach Rie 72.31 24 *e*P **P** **03 25 21.3 +2.0**
comp=Z,40nm,1.0s,baz=336,slow=5.8
FLN La Foliniere 72.37 32 *e*P **P** **03 25 20.2 +0.3**
FLN pmax pmax
comp=Z,18nm,0.9s
ATAH Atahualpa 72.44 125 LR LR 03 57 49.7
comp=Z,584nm,20.6s,baz=342,slow=36

BUG Bochum--Univer 72.47 26 *e*P **P** **03 25 22.0 +1.6**
comp=Z,53nm,1.4s,baz=336,slow=5.8
PABE Paberze 72.50 15 *e*P **P** **03 25 21.8 +1.2**
GRR Gorron 72.56 33 *e*P **P** **03 25 21.7 +0.7**
GRR pmax pmax
comp=Z,87nm,1.4s
LDF La Druitiere 72.64 32 *e*P **P** **03 25 21.8 +0.3**
LDF pmax pmax
comp=Z,31nm,1.0s
BSTI Sart Tilman 72.73 28 *d*P **P** **03 25 23.4 +1.4**
comp=Z,5.4nm,1.0s
BMRD Maredsous 72.74 28 *d*P **P** **03 25 23.2 +1.1**
comp=Z,22nm,1.0s
FLTG Flechtingen 72.75 24 *e*P **P** **03 25 23.4 +1.3**
comp=Z,31nm,1.0s,baz=336,slow=5.8
BGES Gesves 72.77 28 *d*P **P** **03 25 23.6 +1.4**
comp=Z,22nm,1.1s
ISAL Salakas 72.79 14 *e*P **P** **03 25 23.2 +0.9**
ASSE Asse, Remlinge 72.79 24 *e*P **P** **03 25 24.1 +1.9**
comp=Z,27nm,1.3s,baz=336,slow=5.8
BCLA Clavier 72.80 28 *d*P **P** **03 25 23.8 +1.4**
comp=Z,23nm,1.1s
MEM Membach 72.84 28 *d*P **P** **03 25 24.2 +1.5**
comp=Z,19nm,1.1s
DOU Dourbes 72.87 29 *d*P **P** **03 25 24.0 +1.2**
comp=Z,16nm,1.2s
BTNL Ternell 72.90 28 *d*P **P** **03 25 24.6 +1.6**
comp=Z,12nm,1.3s
GIVF Givet 72.93 29 *e*P **P** **03 25 23.8 +0.6**
GIVF pmax pmax
comp=Z,55nm,1.3s
CLZ Clausthal 72.97 24 *e*P **P** **03 25 25.6 +2.1**
comp=Z,48nm,1.1s,baz=336,slow=5.8
RCHB Rochefort 73.01 28 *d*P **P** **03 25 24.6 +0.9**
comp=Z,21nm,1.1s
KASTN Kahler Asten 73.01 26 *e*P **P** **03 25 25.3 +1.6**
comp=Z,52nm,1.6s,baz=336,slow=5.8
IIGN Ignalina 73.02 14 *e*P P 03 25 18.5 -5.1
SVE Sverdlovsk 73.02 354 *e*P **P** **03 25 23.1 -0.5**
SVE pmax pmax
comp=Z,26nm,1.1s
BHOU Houvegnez 73.07 28 *d*P **P** **03 25 25.7 +1.7**
SGCB SEo Gabriel d 73.12 111 *e*P **P** **03 25 24.1 -0.8**
GTTG Gottingen 73.13 25 *e*P **P** **03 25 26.4 +2.0**
comp=Z,44nm,1.2s,baz=336,slow=5.8
IDID Didziasalis 73.13 14 *e*P **P** **03 25 20.0 -4.3**
AHRW Bad Neuenahr-A 73.22 27 *e*P **P** **03 25 27.0 +2.1**
comp=Z,39nm,1.1s,baz=336,slow=5.8
RUE Ruedersdorf 73.25 22 *e*P **P** **03 25 26.3 +1.2**
RUE Ruedersdorf 73.25 22 *e*P **P** **03 25 26.8 +1.7**
comp=Z,59nm,1.3s,baz=336,slow=5.8
GKP Gorka Klasztor 73.32 20 P **P** **03 25 27.1 +1.7**
GKP Gorka Klasztor 73.32 20 *e*P **P** **03 25 26.7 +1.2**
NACGM Naroch 73.53 14⇑ *i*P **P** **03 25 27.6 +1.0**
comp=Z,83nm,1.1s,baz=345
ARU Arti 73.55 355 P **P** **03 25 26.6 -0.2**
ARU IAmb IAmb 03 25 27.8
comp=Z,19nm,0.9s
ARU Arti 73.55 355⇓ *e*P **P** **03 25 26.6 -0.2**
ARU pmax pmax
comp=Z,22nm,0.9s
WLF Walferdange 73.72 28 *e*P **P** **03 25 30.2 +2.2**
comp=Z,23nm,1.4s,baz=336,slow=5.8
UBBA Unterbreizbach 73.80 25 *e*P **P** **03 25 30.2 +2.1**
comp=Z,50nm,1.7s,baz=336,slow=5.8
TNS Taunus Mts 73.90 26 *e*P **P** **03 25 30.7 +1.7**
comp=Z,21nm,1.1s,baz=336,slow=5.8
NEUB Neuenburg 73.92 24 *e*P **P** **03 25 30.6 +1.6**
comp=Z,25nm,0.9s,baz=336,slow=5.8
MOS Moscow 73.98 7 *e*P **P** **03 25 28.7 -0.6**
MOS pmax pmax
comp=Z,88nm,1.3s
MOS MLR MLR
comp=Z,900nm,19.0s
MNK Minsk 74.09 13 *i* P **P** **03 25 30.3 +0.4**
comp=E,6.0nm,1.6s
MNK *i* P **P** **03 25 30.3 +0.4**
comp=N,42nm,1.0s
MNK *i* P **P** **03 25 30.3 +0.4**
comp=Z,74nm,1.2s,baz=345
MNK *i* PP PP 03 27 44.7 -30
MNK *i* PPP PPP 03 30 00.1
MNK *i* S **S** **03 35 02.3 +0.5**
MNK *i* SS **SS** **03 39 48.8 +3.4**
MNK *i* SSS SSS 03 43 10.2
MNK *i* LQ LQ 03 52 29.2
MNK *i* LR LR 03 55 59.1
MNK *i* LRM MLR 03 58 11.4
comp=N,741nm,18.7s
MNK *i* LRM MLR 03 58 13.9
comp=E,60nm,21.0s
MNK *i* LRM MLR 03 58 27.9
comp=Z,691nm,17.4s
MNK Minsk 74.09 13 *i* P **P** **03 25 30.3 +0.4**
MNK *i* PPP PPP 03 30 00.1
MNK *i* S **S** **03 35 02.2 +0.5**
MNK *i* SS **SS** **03 39 48.7 +3.4**
MNK pmax pmax
comp=Z,74nm,1.2s
MNK pmax pmax
comp=E,6.0nm,1.6s
MNK pmax pmax
comp=N,42nm,1.0s
MNK MLR MLR
comp=N,741nm,19.0s
MNK MLR MLR
comp=E,60nm,21.0s
MNK MLR MLR
comp=Z,691nm,17.0s
CLL Collm 74.14 23 *i* P **P** **03 25 30.7 +0.4**
comp=Z,18nm,1.1s
CLL *e*PP **PP** **03 28 16.0 +0.9**
CLL *e*S **S** **03 35 02.0 -0.5**
CLL *e*SS SS 03 40 06.0 +20
CLL *ex* x 03 42 00.0
CLL Lm MLR 03 57 00.0
comp=N,700nm,19.9s
CLL Lm MLR 03 57 00.0
comp=E,400nm,20.2s
CLL Collm 74.14 23 *i* P **P** **03 25 30.7 +0.4**
CLL *e*S **S** **03 35 02.0 -0.5**
CLL pmax pmax
comp=Z,18nm,1.1s
CLL Collm 74.14 23 *e*P **P** **03 25 31.6 +1.3**
comp=Z,18nm,1.1s,baz=336,slow=5.8
MOX Moxa 74.39 24 *e*P **P** **03 25 33.3 +1.5**
comp=Z,20nm,0.9s,baz=336,slow=5.8
MOX *e*L L 03 59 28.6
comp=Z,539nm,18.4s
OBN Obninsk 74.51 8 ⇑P **P** **03 25 33.3 +1.0**
OBN Obninsk 74.51 8 P **P** **03 25 32.0 -0.3**
OBN Obninsk 74.51 8 *d i*P **P** **03 25 32.9 +0.5**
OBN *e* 03 25 46.0
OBN *e* 03 28 16.8
OBN *e*S **SKiKP** **03 34 57.5 +0.1**
OBN pmax pmax
comp=Z,136nm,1.3s
OBN MLR MLR
comp=Z,545nm,15.0s
HHC Hu-ho-hao-te 74.53 316 *e*P **P** **03 25 32.8 -0.1**
HHC S **S** **03 35 03.3 -4.1**
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,250nm,6.1s
HHC LR LR
comp=Z,1μm,17.5s
HHC LR LR
comp=Z,2μm,16.3s
HHC LR LR
comp=Z,1μm,20.1s
FBE Freiberg 74.58 23 *e*P **P** **03 25 34.7 +1.8**
comp=Z,26nm,1.0s,baz=336,slow=5.8
PLN Plauen 74.67 24 *e*P **P** **03 25 34.8 +1.3**
comp=Z,14nm,1.2s,baz=336,slow=5.8
TBTG Tabatinga, AM 74.69 116 IAmb IAmb 03 25 41.5
comp=Z,75nm,1.2s
TBTG Tabatinga, AM 74.69 116 *e*P **P** **03 25 32.5 -1.5**
WERD Werda 74.75 24 *e*P **P** **03 25 35.2 +1.3**
comp=Z,14nm,1.4s,baz=336,slow=5.8
BRG Berggiesshubel 74.77 23⇓ *i*P **P** **03 25 35.2 +1.2**
BRG Amp 03 25 36.5
comp=Z,27nm,1.1s
BRG pP **pwP** **03 25 41.0 -0.2**
BRG Amp 03 25 43.1
comp=Z,8.4nm,1.0s

BRG Amp 04 02 47.0
comp=N,0.5nm,18.2s
BRG Amp 04 02 50.0
comp=Z,0.8nm,16.3s
BRG Amp 04 02 51.0
comp=E,0.5nm,17.1s
BRG Berggiesshubel 74.77 23⇓ *iP* **P 03 25 35.2 +1.2**
BRG 03 25 41.0
BRG pmax pmax
comp=Z,27nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=N,487nm,18.2s
BRG MLR MLR
comp=Z,847nm,16.3s
BRG MLR MLR
comp=E,490nm,17.1s
BRG Berggiesshubel 74.77 23 *eP* **P 03 25 35.6 +1.6**
comp=E,27nm,1.1s,baz=336,slow=5.8
TANN Tannenbergstha 74.82 24 *eP* **P 03 25 35.6 +1.2**
comp=E,20nm,1.4s,baz=336,slow=5.8
TANN *epP* **sP 03 25 39.9 -0.5**
GUNZ Gunzen 74.83 24 *eP* **P 03 25 35.7 +1.3**
comp=E,16nm,1.2s,baz=336,slow=5.8
WERN Wernitzgruen 74.91 24 *eP* **P 03 25 36.4 +1.5**
comp=E,18nm,1.1s,baz=336,slow=5.8
NKC Novy Kostel 74.98 24 *eP* **P 03 25 36.2 +0.9**
NKC Novy Kostel 74.98 24 *eP* **P 03 25 36.2 +0.9**
PGAV Gavieira, Arco 75.08 41 *eLR* LR 03 50 43.2
comp=E,377nm,18.0s
LOR Lormes 75.12 31 *eP* **P 03 25 36.6 +0.5**
LOR pmax pmax
comp=Z,42nm,1.1s
MANZ Manzenberg 75.12 24 *eP* **P 03 25 37.5 +1.4**
comp=Z,4.1nm,1.2s,baz=336,slow=5.8
BOAV Boa Vista 75.13 104 P **P 03 25 36.6 +0.1**
BOAV IAmb IAmb 03 25 42.4
comp=Z,17nm,1.1s
BOAV Boa Vista 75.13 104 *eP* **P 03 25 35.7 -0.8**
GRF Grafenberg Arr 75.15 25 *eP* **P 03 25 38.1 +1.9**
comp=Z,89nm,1.7s,baz=336,slow=5.8
GRF *eL* L 03 59 46.9
comp=Z,650nm,19.9s
GRFO Grafenberg 75.15 25 P **P 03 25 36.8 +0.6**
GRFO Grafenberg 75.15 25 P **P 03 25 36.8 +0.6**
GRFO pmax pmax
comp=Z,79nm,1.6s
SSF Saint Saulge 75.18 31 *eP* **P 03 25 37.0 +0.5**
SSF pmax pmax
comp=Z,46nm,1.2s
PVCC Panska Ves 75.25 22 *eP* **P 03 25 38.1 +1.4**
PVCC Panska Ves 75.25 22 *eP* **P 03 25 38.1 +1.4**
HAU Haudompre 75.26 29 *eP* **P 03 25 37.2 +0.3**
HAU pmax pmax
comp=Z,27nm,1.3s
ECH Echery 75.32 28 IAmb IAmb 03 25 39.7
comp=Z,24nm,1.2s
ECH Echery 75.32 28 P **P 03 25 38.5 +1.3**
ROTZ Rotzenmuhle 75.34 24 *eP* **P 03 25 38.8 +1.5**
comp=Z,4.8nm,1.2s,baz=336,slow=5.8
KSP Ksiaz 75.37 21 *eP* **P 03 25 38.1 +0.7**
KSP *eL* L 04 00 34.7
comp=Z,822nm,18.9s
KSP Ksiaz 75.37 21 P **P 03 25 38.8 +1.4**
AVF Avril sur Loir 75.37 31 *eP* **P 03 25 37.7 +0.2**
AVF pmax pmax
comp=Z,34nm,1.2s
STU Stuttgart 75.42 27 P **P 03 25 39.5 +1.7**
STU Stuttgart 75.42 27 *eP* **P 03 25 39.5 +1.7**
comp=Z,46nm,1.1s,baz=336,slow=5.8
TCF Toulx Ste Croi 75.42 32 *eP* **P 03 25 38.2 +0.3**
TCF pmax pmax
comp=Z,36nm,1.2s
DGZ Jazzator, Alta 75.48 336*d iP* **P 03 25 38.9 +0.6**
DGZ pmax pmax
comp=Z,33nm,1.6s
DGZ MLR MLR
comp=Z,2µm,19.0s
BFO Black Forest 75.56 27 P **P 03 25 39.5 +0.8**
BFO IAmb IAmb 03 25 41.2
comp=Z,40nm,1.1s
BFO Black Forest 75.56 27 P **P 03 25 39.5 +0.8**
BFO pmax pmax
comp=Z,40nm,1.1s
BFO Black Forest 75.56 27 *eP* **P 03 25 40.3 +1.7**
comp=Z,44nm,1.1s,baz=336,slow=5.8
HINF Hinteralfeld 75.58 28 *eP* **P 03 25 39.1 +0.3**
HINF pmax pmax
comp=Z,34nm,1.3s
UPC Upice 75.61 22 *eP* **P 03 25 40.0 +1.1**
UPC AMS AMS 04 00 10.0
comp=Z,1µm,18.4s
UPC Upice 75.61 22 *eP* **P 03 25 40.0 +1.1**
UPC MLR MLR
comp=Z,1µm,18.4s
OSTC Östas 75.62 21 *eP* **P 03 25 40.1 +1.2**
PRU Pruhonice 75.74 23 *eP* **P 03 25 40.7 +1.1**
PRU Pruhonice 75.74 23 *eP* **P 03 25 40.7 +1.1**
BRVK Borovoye 75.74 348 P **P 03 25 39.6 +0.1**
BRVK IAmb IAmb 03 25 41.0
comp=Z,16nm,1.0s
BRVK Borovoye 75.74 348*de*P **P 03 25 39.5 0.0**
BRVK pmax pmax
comp=Z,19nm,1.1s
BVA0 Borovoye Array 75.76 347 *i* P **P 03 25 39.8 +0.1**
POLO Lamas de Olo 75.77 41 *eP* **P 03 25 41.2 +1.1**
comp=Z,30nm,1.6s
DPC Dobruska-Polom 75.83 21 *eP* **P 03 25 41.5 +1.3**
DPC AMS AMS 04 00 10.0
comp=Z,1µm,21.8s
DPC Dobruska-Polom 75.83 21 *eP* **P 03 25 41.5 +1.3**
DPC MLR MLR
comp=Z,1µm,21.8s
HNS HongShan 75.85 312 ⇑P **P 03 25 40.7 +0.3**
HNS S **S 03 35 26.3 +4.4**
HNS pmax pmax
comp=Z,16nm,1.2s
HNS LR LR
comp=Z,1µm,22.4s
HNS LR LR
comp=Z,740nm,23.0s
HNS LR LR
comp=Z,1µm,21.1s
PBRG Braganca 75.86 40 *eP* **P 03 25 41.9 +1.4**
comp=Z,45nm,1.7s
GOPC GO Pecny, Ondr 75.87 23 *eP* **P 03 25 41.2 +0.8**
GOPC GO Pecny, Ondr 75.87 23 *eP* **P 03 25 41.2 +0.8**
PVRL Vila Real 75.89 41 *eP* **P 03 25 41.7 +1.1**
comp=Z,62nm,1.6s
CZSB Cruzeiro do Su 76.01 121 P **P 03 25 41.5 0.0**
CZSB IAmb IAmb 03 25 47.7
comp=Z,32nm,1.1s
CZSB Cruzeiro do Su 76.01 121 *eP* **P 03 25 40.1 -1.4**
KRLC Kraliky 76.20 21 *eP* **P 03 25 43.5 +1.2**
KRLC AMS AMS 04 00 40.0
comp=Z,1µm,20.6s
KRLC Kraliky 76.20 21 *eP* **P 03 25 43.5 +1.2**
KRLC MLR MLR
comp=Z,1µm,20.6s
MVO Moncorvo 76.27 41 *eP* **P 03 25 43.9 +1.0**
comp=Z,35nm,1.6s
MVO Moncorvo 76.27 41 *eLR* LR 03 50 35.3
comp=Z,398nm,20.0s
PVIS Viseu 76.27 41 *eP* **P 03 25 44.2 +1.3**
comp=Z,34nm,1.6s
KHC Kasperske Hory 76.29 24 IAmb IAmb 03 25 45.5
comp=Z,35nm,1.4s
KHC Kasperske Hory 76.29 24 *eP* **P 03 25 43.9 +1.1**
KHC Kasperske Hory 76.29 24*d iP* **P 03 25 43.6 +0.8**
KHC pmax pmax
comp=Z,68nm,1.6s
COI Coimbra 76.47 42 *eP* **P 03 25 45.4 +1.5**
comp=Z,88nm,1.6s
COI Coimbra 76.47 42 P **P 03 25 44.5 +0.6**
COI Coimbra 76.47 42 P **P 03 25 44.5 +0.6**
COI pmax pmax
comp=Z,87nm,1.5s
SEM Semipalatinsk 76.53 341 *eP* **P 03 25 42.5 -1.9**
baz=340
SEM Semipalatinsk 76.53 341 *eP* **P 03 25 42.4 -1.9**
FUR Furstenfeldbru 76.55 25 *eP* **P 03 25 46.1 +1.8**
comp=Z,36nm,1.3s,baz=336,slow=5.8
PCAS Casmilo, Conde 76.56 42 *eP* **P 03 25 45.8 +1.3**
comp=Z,82nm,1.4s
KURK Kurchatov 76.58 342 P **P 03 25 44.2 -0.1**
KURK IAmb IAmb 03 25 45.3
comp=Z,15nm,1.0s
KURK Kurchatov 76.58 342*d iP* **P 03 25 43.9 -0.4**
KURK pmax pmax
comp=Z,18nm,1.1s
GEC2 GERESS Array S 76.58 24 IAmb IAmb 03 25 46.6
comp=Z,19nm,1.2s
GEC2 GERESS Array S 76.58 24 *eP* **P 03 25 45.9 +1.4**
comp=Z,29nm,1.4s,baz=336,slow=5.8
GERES GERESS Array B 76.58 24 P **P 03 25 45.4 +0.9**
comp=E,6.5nm,0.9s,baz=343,slow=4.2,SNR=39
GERES PP **PP 03 28 39.6 +3.7**
comp=Z,0.7nm,0.9s,baz=318,slow=7.2,SNR=4.0
comp=Z,6.5nm,0.9s
GERES GERESS Array B 76.58 24 P **P 03 25 44.6 +0.1**
GERES GERESS Array B 76.58 24 P **P 03 25 44.6 +0.1**
TREC Trest 76.61 22 *eP* **P 03 25 45.9 +1.3**
TREC Trest 76.61 22 *eP* **P 03 25 45.9 +1.3**
MORC Moravsky Berou 76.65 21 ⇑P **P 03 25 46.2 +1.3**
MORC Moravsky Berou 76.65 21 *eP* **P 03 25 45.6 +0.7**
MORC Moravsky Berou 76.65 21 P **P 03 25 46.1 +1.3**
UBR Ueberruh 76.67 26 *eP* **P 03 25 46.9 +1.9**
comp=Z,36nm,1.3s,baz=336,slow=5.8
KURBB Kurchatov Arra 76.68 342 P **P 03 25 44.1 -0.8**
MTE Manteigas 76.69 41 *eP* **P 03 25 45.8 +0.6**
comp=Z,40nm,1.5s
MTE Manteigas 76.69 41 *eLR* LR 03 48 04.5
comp=Z,426nm,18.0s
OKC Ostrava-Krasne 76.73 21 *eP* **P 03 25 46.3 +1.1**
OKC Ostrava-Krasne 76.73 21 *eP* **P 03 25 46.3 +1.1**
OJC Ojcow 76.74 19 *eP* **P 03 25 45.9 +0.6**
OJC *eL* L 04 00 44.8
comp=Z,918nm,19.4s
OJC Ojcow 76.74 19 IAmb IAmb 03 25 47.4
comp=Z,37nm,1.2s
OJC Ojcow 76.74 19 P **P 03 25 46.5 +1.2**
CKRC Cesky Krumlov 76.76 23 *eP* **P 03 25 47.6 +2.2**
VRAC Vranov 76.87 22 ⇑P **P 03 25 47.2 +1.2**
VRAC Vranov 76.87 22 *eP* **P 03 25 47.2 +1.2**
VRAC Vranov 76.87 22 P **P 03 25 47.5 +1.5**
PSBE So Bento 76.88 43 *eP* **P 03 25 45.9 -0.4**
comp=Z,40nm,1.5s
DAVA Damuels 76.96 27 *epP* **P 03 25 48.3 +1.5**
comp=Z,37nm,1.2s,SNR=11
SENIN Lac Senin/Sane 77.02 29 P **P 03 25 47.7 +0.6**
RETA Reutte 77.03 26 *i pP* **P 03 25 48.3 +1.2**
comp=Z,8.5nm,1.0s
KRUC Moravsky 77.05 22 *eP* **P 03 25 47.9 +0.9**
MAUC Maruska 77.10 21 *eP* **P 03 25 49.2 +1.8**
PMAFR Mafra 77.12 43 *eP* **P 03 25 48.3 +0.7**
PCBR Castelo Branco 77.18 42 *eP* **P 03 25 49.5 +1.6**
comp=Z,22nm,1.9s
LPSR Galich'ya Gora 77.20 7 *eP* **P 03 25 47.3 -0.5**
LPSR pmax pmax
comp=Z,60nm,0.9s
TEFE Tefe 77.25 111 *eP* **P 03 25 47.7 -0.9**
MOTA Moosalm 77.25 26 *i pP* **P 03 25 49.8 +1.4**
comp=Z,19nm,1.1s
WATA Walderalm 77.39 26 *epP* **P 03 25 50.6 +1.4**
comp=Z,34nm,1.3s,SNR=9.9
SQTA Sankt Quirin 77.40 26 *epP* **P 03 25 50.5 +1.3**
comp=Z,29nm,1.2s,SNR=11
DAVOX Davos/Dischmat 77.42 27 LR LR 04 00 28.0
comp=Z,971nm,19.2s,baz=322,slow=36
FETA Fethiye 77.44 26 *epP* **P 03 25 51.3 +1.8**
comp=Z,18nm,1.0s,SNR=6.3
WTTA Wattenberg 77.48 26 *epP* **P 03 25 51.2 +1.5**
comp=Z,38nm,1.7s,SNR=6.8
PMTG Montargil 77.49 43 *eP* **P 03 25 49.3 -0.4**
comp=Z,33nm,1.5s
VIVF Saint-Julien-l 77.51 31 *eP* **P 03 25 50.3 +0.5**
VIVF pmax pmax
comp=Z,18nm,1.3s
JAVC Velka Javorina 77.54 21 *eP* **P 03 25 51.7 +1.8**
PMRV Marv??o 77.56 42 *eP* **P 03 25 50.5 +0.4**
comp=Z,25nm,1.8s
PMRV Marv??o 77.56 42 *eLR* LR 03 51 11.7
comp=Z,693nm,18.0s
LPL La Plagne 77.59 30 *eP* **P 03 25 51.5 +1.1**
LPL pmax pmax
comp=Z,24nm,1.1s
NIE Niedzica 77.60 19 *eP* **P 03 25 51.2 +1.1**
NIE *eL* L 04 01 13.7
comp=Z,549nm,20.4s
NIE Niedzica 77.60 19 P **P 03 25 51.7 +1.5**
BIOA Bad Ischl, Aus 77.63 24 *epP* **P 03 25 51.3 +0.9**
comp=Z,7.6nm,1.1s
MOA Molln 77.64 24 *epP* **P 03 25 51.4 +0.9**
comp=Z,6.7nm,1.2s
FUORN Ofenpass-Fuorn 77.67 27 IAmb IAmb 03 25 54.3
comp=Z,24nm,1.1s
STHS Stebnicka Huta 77.80 19 *eP* **P 03 25 52.1 +0.8**
STHS pmax pmax
comp=Z,13nm,0.9s
STHS Stebnicka Huta 77.80 19 *eP* **P 03 25 52.1 +0.8**
SMOL Smolenice 77.81 21 *eP* **P 03 25 53.2 +1.9**
SMOL pmax pmax
comp=Z,15nm,1.3s
BELG Belogornoye 77.81 1*d iP* **P 03 25 51.1 -0.1**
BELG pmax pmax
comp=Z,14nm,1.3s
MODS Modra-Piesok 77.90 22 *eP* **P 03 25 53.7 +1.8**
MODS pmax pmax
comp=Z,97nm,1.3s
MODS Modra-Piesok 77.90 22 *eP* **P 03 25 53.7 +1.8**
PESTR Estremoz 77.94 42 *eP* **P 03 25 52.6 +0.4**
comp=Z,32nm,1.5s
LVV L'vov 77.96 17 *eP* **P 03 25 52.7 +0.6**
CONA Conrad Observa 77.98 23 *epP* **P 03 25 53.7 +1.4**
comp=Z,15nm,1.0s,SNR=5.5
AKASG Malin Array Be 77.98 13 P **P 03 25 52.2 0.0**
comp=Z,23nm,0.9s,baz=349,slow=4.6,SNR=72
AKASG LR LR 04 01 03.2
comp=Z,892nm,19.7s,baz=2.5,slow=36
comp=Z,23nm,0.9s
AKASG Malin Array Be 77.98 13 IAmb IAmb 03 25 53.8
comp=Z,35nm,1.3s
AKASG Malin Array Be 77.98 13*ce*P **P 03 25 52.4 +0.2**
AKASG pmax pmax
comp=Z,23nm,0.9s
AKBB Malin Array Si 77.98 13*d iP* **P 03 25 52.2 0.0**
BNI Bardonecchia 77.99 30 IAmb IAmb 03 25 55.9
comp=Z,27nm,1.3s
MTLF Montolieu 78.00 34 *eP* **P 03 25 52.8 +0.4**
MTLF pmax pmax
comp=Z,29nm,1.3s
NJ2 Nanjing 78.01 306 *eP* **P 03 25 50.2 -2.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,330nm,4.2s
NJ2 LR LR
comp=Z,480nm,12.8s
NJ2 LR LR
comp=Z,460nm,12.8s
NJ2 LR LR
comp=Z,520nm,18.9s
ZST Bratislava 78.03 22 *eP* **P 03 25 54.0 +1.5**
ZST Bratislava 78.03 22 *eP* **P 03 25 54.0 +1.5**
EVO Evora 78.03 43 *eP* **P 03 25 53.9 +1.2**
comp=Z,47nm,1.7s
AK05 Malin Array Si 78.06 13 P **P 03 25 52.4 -0.2**
KBA Koelnbreinsper 78.11 25 *epP* **P 03 25 54.7 +1.5**
comp=Z,26nm,1.2s
VORR Voronezh 78.14 7 *eP* **P 03 25 54.1 +1.0**
VORR pmax pmax
comp=Z,70nm,1.5s
VYHS Vyhne 78.15 21 *eP* **P 03 25 54.5 +1.3**
VYHS pmax pmax
comp=Z,22nm,1.3s
VYHS Vyhne 78.15 21 *eP* **P 03 25 54.5 +1.3**
PNCL Nicolau / Gran 78.15 43 *eP* **P 03 25 54.7 +1.3**
comp=Z,46nm,1.5s
ABTA Abfaltersbach 78.19 25 *i pP* **P 03 25 54.9 +1.3**
comp=Z,16nm,1.1s
ZSN Zaisan 78.22 337 *eP* **P 03 25 52.7 -1.0**
baz=336
ZSN Zaisan 78.22 337 *eP* **P 03 25 52.6 -1.0**
RONA Rosalia, Austr 78.30 22 *i pP* **P 03 25 55.3 +1.2**
comp=Z,9.5nm,1.3s
PMOZ Porto Moniz, M 78.31 52 *eLR* LR 03 53 36.8
comp=Z,591nm,16.0s
MBDF Montbardon 78.31 30 *eP* **P 03 25 55.5 +1.1**
MBDF pmax pmax
comp=Z,19nm,1.1s
CRVS Cervenica-Dubn 78.33 19 *eP* **P 03 25 55.6 +1.4**
CRVS Cervenica-Dubn 78.33 19 *eP* **P 03 25 55.6 +1.4**
PBEJ Beja 78.52 43 *eP* **P 03 25 56.1 +0.7**
comp=Z,36nm,1.7s
ARSA Arzberg 78.52 23 *epP* **P 03 25 56.8 +1.5**
comp=Z,20nm,1.4s,SNR=5.1
CTI Castel Tesino 78.59 26 IAmb IAmb 03 25 58.0
comp=Z,28nm,1.3s
VSR Storozhevoye 78.59 7 *eP* **P 03 25 55.1 -0.5**
VSR pmax pmax
comp=Z,50nm,1.5s
MYKA Terra Mystica 78.61 25 *epP* **P 03 25 56.2 +0.4**
comp=Z,17nm,1.5s
PAB San Pablo 78.74 40 P **P 03 25 56.4 -0.3**
PAB San Pablo 78.74 40 P **P 03 25 57.1 +0.4**
PBAR Barrancos 78.75 42 *eP* **P 03 25 57.1 +0.4**
comp=Z,25nm,1.3s
UZH Uzhgorod 78.76 18 *eP* **P 03 25 56.3 -0.2**
UZH *i* 03 25 57.8
UZH *e* 03 26 02.4
MORF Marmelete 78.77 44 *eP* **P 03 25 57.6 +0.8**
comp=Z,75nm,1.5s
VRH Novokhopyorsk 78.78 5 *eP* **P 03 25 55.9 -0.7**
VRH pmax pmax
comp=Z,30nm,0.9s
ESBB Sonseca Array 78.79 39 IAmb IAmb 03 25 59.0
comp=Z,40nm,1.8s
ESDC Sonseca Array 78.79 39 P **P 03 25 57.6 +0.7**
comp=Z,6.8nm,0.9s,baz=317,slow=4.2,SNR=34
comp=Z,6.8nm,0.9s
SOKA Soboth 78.93 24 *epP* **P 03 25 58.6 +1.0**
comp=Z,37nm,1.3s,SNR=7.5
PSZ Piszkesteto 78.93 20 P **P 03 25 58.4 +0.7**
PSZ Piszkesteto 78.93 20 IAmb IAmb 03 26 00.4
comp=Z,38nm,1.1s
PSZ Piszkesteto 78.93 20 P **P 03 25 58.3 +0.7**
OBKA Obir 78.96 24 *epP* **P 03 25 58.7 +0.9**
comp=Z,26nm,0.9s
HORU Horodok 78.97 15 P **P 03 25 57.9 +0.2**
PVAQ Vaqueiros 79.10 43 *eLR* LR 03 53 53.2
comp=Z,909nm,18.0s
BUD Budapest 79.15 21 P **P 03 26 01.0 +2.3**
LYN LuoYang 79.21 312⇑ *iP* **P 03 25 59.3 0.0**
LYN pP pP 03 26 04.0 +0.3
LYN sP pwP 03 26 06.9 +0.3
LYN S **S 03 35 58.7 +0.2**
LYN pmax pmax
comp=Z,10.0nm,0.9s
LYN pmax pmax
comp=Z,140nm,3.5s
LYN LR LR
comp=Z,630nm,19.7s
LYN LR LR
comp=Z,820nm,21.6s
MACA Manacapuru-AM 79.37 108 *eP* **P 03 25 60.0 -0.3**
TRSU Trosnyk 79.41 18 P **P 03 26 01.2 +1.1**
MK31 Makanchi Array 79.47 338 P **P 03 26 00.1 -0.4**
MK31 Makanchi Array 79.47 338*d iP* **P 03 25 59.8 -0.7**
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 79.47 338 P **P 03 26 00.1 -0.4**
comp=Z,3.4nm,0.6s,baz=28,slow=4.5,SNR=37
MKAR LR LR 04 05 00.1
comp=Z,900nm,19.8s,baz=24,slow=39
comp=Z,3.4nm,0.6s
MAKZ Makanchi 79.53 338 P **P 03 26 00.6 -0.2**
MAKZ IAmb IAmb 03 26 01.8
comp=Z,51nm,1.4s
MAKZ Makanchi 79.53 338 P **P 03 26 00.9 +0.1**
AKTO Aktyubinsk 79.56 355 P **P 03 26 00.3 -0.6**
KSV Kosov 79.60 17 P **P 03 26 01.7 +0.5**
MORH Mrgy, Hungar 80.25 21⇑P **P 03 26 06.0 +1.3**
BUR08 Bucovina Ar. S 80.27 17 IAmb IAmb 03 26 27.7
comp=Z,46nm,1.9s
BURAR Bucovina Array 80.30 17⇓P **P 03 26 05.7 +0.6**
BURAR Bucovina Array 80.30 17 P **P 03 26 05.7 +0.6**
MESR Meseseni 80.31 18⇑P **P 03 26 06.6 +1.6**
SORM Soroca 80.34 14⇓P **P 03 26 05.5 +0.4**
SORM Soroca 80.34 14 P **P 03 26 05.5 +0.4**
DRGR 80.60 19 P **P 03 26 07.9 +1.2**
AB31 Akbulak array 80.60 353 *i* P **P 03 26 06.3 -0.2**
ABKAR Akbulak array 80.60 353 P **P 03 26 05.7 -0.8**
GTA Gaotai 80.63 323 *eP* **P 03 26 06.1 -0.9**
GTA pP pP 03 26 10.2 -1.3
GTA sP pwP 03 26 14.3 -0.1
GTA S **S 03 36 10.7 -2.9**
GTA SS **SS 03 41 28.1 +3.1**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,160nm,5.1s
GTA LR LR
comp=Z,560nm,19.3s
GTA LR LR
comp=Z,700nm,18.5s
GTA LR LR
comp=Z,1µm,19.6s
ARCR ARCALIA 80.65 17⇓P **P 03 26 08.5 +1.6**
WMQ Urumqi 80.79 333⇑ *iP* **P 03 26 08.8 +1.0**
WMQ sP pwP 03 26 18.8 +3.7
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ LR LR
comp=Z,490nm,11.7s
WMQ LR LR
comp=Z,390nm,10.5s
WMQ LR LR
comp=Z,580nm,19.7s
MARR Marisel-Cluj 80.80 18⇓P **P 03 26 08.7 +0.9**
PGF Pioggiola 80.98 29 *eP* **P 03 26 09.2 +0.4**
PGF pmax pmax
comp=Z,45nm,1.4s
XAN Xi'an 81.31 314 P **P 03 26 10.0 -0.6**
XAN pP sP 03 26 16.9 +0.2
XAN S **S 03 36 16.4 -4.2**
XAN pmax pmax
comp=Z,11nm,0.9s
XAN pmax pmax
comp=Z,360nm,5.1s
XAN LR LR
comp=Z,900nm,20.1s
XAN LR LR
comp=Z,750nm,15.2s
XAN LR LR
comp=Z,890nm,16.7s
ETMB Extrema 81.38 117 IAmb IAmb 03 26 16.9
comp=Z,19nm,1.1s
ETMB Extrema 81.38 117 *eP* **P 03 26 08.7 -2.3**
SURR Surduc 81.47 19⇓P **P 03 26 12.1 +0.9**
BZS Buzias 81.49 20⇓P **P 03 26 11.6 +0.3**
BZS Buzias 81.49 20 P **P 03 26 12.1 +0.8**
FRGS Fruska Gora 81.52 21⇓P **P 03 26 13.2 +1.6**
WHN Wuhan 81.53 308⇓P P 03 25 56.8 -15
WHN Wuhan 81.53 308 SKS **S 03 36 18.0 -4.9**
WHN LR LR
comp=Z,5µm,39.1s
TESR Tescani 81.62 16⇑P **P 03 26 13.0 +0.9**
LZH Lanzhou 81.84 319 *eP* **P 03 26 13.3 -0.3**
LZH pP pP 03 26 18.2 +0.2
LZH sP pwP 03 26 21.3 +0.3
LZH S **S 03 36 22.7 -3.7**
LZH sS pS 03 36 30.9 -1.2
LZH SS **SS 03 41 38.5 -4.8**
LZH pmax pmax
comp=Z,15nm,1.3s
LZH pmax pmax
comp=Z,380nm,4.8s
LZH LR LR
comp=Z,2µm,16.0s
LZH LR LR
comp=Z,940nm,16.5s
LZH LR LR
comp=Z,2µm,16.8s
GZR Gura Zlata 81.95 19⇓P **P 03 26 14.6 +0.8**
GZR Gura Zlata 81.95 19 P **P 03 26 14.6 +0.8**
TDK Taldyqorghan 82.05 340 *eP* **P 03 26 14.2 -0.2**
baz=340
TDK Taldyqorghan 82.05 340 *eP* **P 03 26 14.1 -0.2**
COVR Voineasa-Covas 82.19 17⇑P **P 03 26 16.6 +1.5**
PLOR Plostina 82.26 16⇑P **P 03 26 16.6 +1.1**
PLOR Plostina 82.26 16 P **P 03 26 16.5 +1.1**
VRI Vrincioaia 82.26 16⇓P **P 03 26 16.7 +1.3**
VRI Vrincioaia 82.26 16 P **P 03 26 16.7 +1.3**
MDVR Moldovita 82.31 20⇑P **P 03 26 15.8 0.0**
MALB Monte Alegre 82.34 102 *eP* **P 03 26 16.1 -0.1**

ARR	Arges	82.35	18	⇑P		P		03 26 17.1	+1.1	
HERR	Herculane	82.36	19	⇑P		P		03 26 16.4	+0.5	
VOIR		82.36	17	⇑P		P		03 26 17.0	+1.0	
VOIR		82.36	17	P		P		03 26 17.0	+1.0	
MLR	Muntele Rosu	82.48	17	LR	LR		04 03 41.0			
	comp=Z,1μm,19.9s,baz=8.5,slow=36									
DIVS	Divibare	82.56	21	IAmb	IAmb		03 26 22.8			
	comp=Z,19nm,1.2s									
MCPB	Macapa, AP	82.58	99	*e*P	P		03 26 16.4	-1.1		
BTLS	Baital	82.90	343	*e*P	P		03 26 17.1	-1.6		
	baz=343									
BTLS	Baital	82.90	343	*e*P	P		03 26 17.1	-1.6		
CFR	Carcaliu	83.18	15	⇑P	P		03 26 20.3	+0.1		
CFR	Carcaliu	83.18	15	P	P		03 26 20.2	+0.1		
HUMR	Humele	83.23	18	⇓P	P		03 26 20.5	+0.1		
ITTB	Itaituba	83.36	105	*e*P	P		03 26 20.6	-0.9		
BOVS	Bovan	83.40	20	⇓P	P		03 26 21.7	+0.4		
KPKS	Kokpek	83.45	339	*e*P	P		03 26 20.4	-1.4		
	baz=339									
KPKS	Kokpek	83.45	339	*e*P	P		03 26 20.3	-1.4		
CHKK	Chushkaly	83.45	341	*e*P	P		03 26 19.9	-1.8		
	baz=341									
CHKK	Chushkaly	83.45	341	*e*P	P		03 26 19.8	-1.8		
KUU	Kurty	83.55	341	*e*P	P		03 26 20.3	-1.9		
	baz=341									
KUU	Kurty	83.55	341	*e*P	P		03 26 20.2	-1.9		
SHLS	Shalkode	83.56	339	*e*P	P		03 26 20.9	-1.5		
	baz=338									
SHLS	Shalkode	83.56	339	*e*P	P		03 26 20.8	-1.5		
ZHN	Zhinishke	83.79	339	*e*P	P		03 26 22.4	-1.1		
	baz=339									
ZHN	Zhinishke	83.79	339	*e*P	P		03 26 22.4	-1.1		
SATY	Saty	83.90	339	*e*P	P		03 26 22.5	-1.6		
	baz=339									
SATY	Saty	83.90	339	*e*P	P		03 26 22.5	-1.6		
PDG	Podgorica	83.97	22	P	P		03 26 24.7	+0.5		
AAA	Alma-Ata	84.08	341	*e*P	P		03 26 23.6	-1.4		
	baz=340									
AAA	Alma-Ata	84.08	341	*e*P	P		03 26 23.6	-1.4		
MDOK	Medeo	84.10	340	*e*P	P		03 26 23.4	-1.7		
	baz=340									
MDOK	Medeo	84.10	340	*e*P	P		03 26 23.4	-1.7		
ENH	Enshi	84.16	311	P	P		03 26 24.1	-1.4		
ENH				IAmb	IAmb		03 26 27.3			
	comp=Z,9.4nm,0.6s									
TNSS	Tian-Shan	84.24	340	*e*P	P		03 26 23.1	-3.1		
	baz=340									
TNSS	Tian-Shan	84.24	340	*e*P	P		03 26 23.9	-2.3		
SGDS	Sogindy	84.32	342	*e*P	P		03 26 24.9	-1.3		
	baz=342									
SGDS	Sogindy	84.32	342	*e*P	P		03 26 24.8	-1.3		
MDT	Midelt	84.33	44	LR	LR		04 00 26.9			
	comp=Z,210nm,20.0s,baz=344,slow=33									
VTS	Vitosha	84.70	19	IAmb	IAmb		03 26 29.7			
	comp=Z,24nm,1.1s									
HNR	Honiara	84.70	249	LR	LR		03 57 35.9			
	comp=Z,3μm,20.2s,baz=355,slow=31									
AAK	Ala-Archa	85.13	342	P	P		03 26 29.8	-0.6		
AAK				IAmb	IAmb		03 26 36.5			
	comp=Z,22nm,1.8s									
AAK	Ala-Archa	85.13	342	⇓*e*P	P		03 26 30.3	-0.1		
AAK				pmax	pmax					
	comp=Z,13nm,1.8s									
KK31	Karatay Array	85.41	345	P	P		03 26 31.4	-0.2		
KK31	Karatay Array	85.41	345	P	P		03 26 31.4	-0.2		
KK31				pmax	pmax					
	comp=Z,8.0nm,1.2s									
KKAR	Karatay Array	85.41	345	P	P		03 26 31.4	-0.2		
KKAR	Karatay Array	85.41	345	P	P		03 26 31.4	-0.2		
KKAR				pmax	pmax					
	comp=Z,8.0nm,1.2s									
DZA	Taraz	85.47	344	*e*P	P		03 26 30.9	-1.1		
	baz=344									
DZA	Taraz	85.47	344	*e*P	P		03 26 30.8	-1.1		
NPGB	Novo Progresso	85.68	106	*e*P	P		03 26 31.9	-1.3		
KIV	Kislovodsk	86.06	5	⇓P	P		03 26 35.9	+1.0		
KIV	Kislovodsk	86.06	5	P	P		03 26 35.2	+0.3		
KIV	Kislovodsk	86.06	5	*e*P	P		03 26 35.3	+0.4		
KIV				pmax	pmax					
	comp=Z,31nm,1.1s									
KIV				MLR	MLR					
	comp=Z,298nm,20.0s									
SOC	Sochi	86.22	7	*e*P	P		03 26 34.0	-1.5		
SOC				*e*			03 29 57.1			
SOC				*e*S	SKSac		03 36 59.5	-1.4		
SOC				*e*SS	SS		03 42 46.5	-0.4		
SOC				*e*SSS	SSS		03 46 15.4			
SOC				pmax	pmax					
	comp=Z,40nm,0.8s									
SOC				MLR	MLR					
	comp=Z,291nm,14.0s									
KBZ	Khabaz	86.30	5	P	P		03 26 36.9	+1.0		
	comp=Z,16nm,0.9s,baz=332,slow=4.1,SNR=28									
	comp=Z,16nm,0.9s									
KBZ	Khabaz	86.30	5	*d*P	P		03 26 36.5	+0.6		
KBZ				pmax	pmax					
	comp=Z,24nm,0.9s									
KBZ				MLR	MLR					
	comp=Z,340nm,17.0s									
IUG	Iuzhnay	86.42	345	*e*P	P		03 26 35.9	-0.9		
	baz=345									
IUG	Iuzhnay	86.42	345	*e*P	P		03 26 35.8	-0.9		
GROC	Groznyy	86.96	3	*e*P	P		03 26 38.2	-1.0		
GROC				*e*			03 30 00.0			
GROC				pmax	pmax					
	comp=Z,14nm,0.8s									
MAK	Makhachkala	87.25	2	*e*P	P		03 26 34.8	-5.7		
MAK				*e*			03 36 58.7			
MAK				pmax	pmax					
	comp=Z,237nm,1.4s									
VAE	Valguarnera	87.28	28	LR	LR		04 07 21.1			
	comp=Z,494nm,19.3s,baz=338,slow=37									
ZEI	Tsey	87.29	4	*e*P	P		03 26 40.1	-1.0		
ZEI				pmax	pmax					
	comp=Z,9.0nm,1.1s									
VILB	Vilhena	87.39	114	IAmb	IAmb		03 26 48.0			
	comp=Z,31nm,1.0s									
VILB	Vilhena	87.39	114	*e*P	P		03 26 41.4	-0.2		
ONI	Oni	87.47	5	IAmb	IAmb		03 26 44.0			
	comp=Z,21nm,1.1s									
PB11	IPOC Station P	87.59	125	P	P		03 26 41.2	-1.4		
PB11				IAmb	IAmb		03 26 56.5			
	comp=Z,20nm,1.1s									
DIKM	Dikmen	87.68	11	P	P		03 26 44.3	+1.6		
KSH	Kashi	87.82	340	P	P		03 26 46.1	+2.5		
KSH				pP	sP		03 26 50.2	+0.5		
KSH				pmax	pmax					
	comp=Z,7.0nm,1.1s									
KSH				LR	LR					
	comp=Z,660nm,15.8s									
KSH				LR	LR					
	comp=Z,960nm,15.1s									
KSH				LR	LR					
	comp=Z,550nm,16.1s									
CLDB	Colider	88.39	109	*e*P	P		03 26 45.9	-0.5		
PDRB	Porto dos Gac	88.40	110	*e*P	P		03 26 45.9	-0.5		
PRPB	Parauapebas	88.47	101	*e*P	P		03 26 46.1	-0.7		
ZKTA	Zakatala	88.55	2	P	P		03 26 48.0	+1.2		
GYA	Guiyang	88.70	311	⇑P	P		03 26 47.5	-0.4		
GYA				pP	PcP		03 26 50.9	+1.4		
GYA				SKS	SKSac		03 37 14.5	-2.3		
GYA				S	S		03 37 35.9	+1.6		
GYA				pmax	pmax					
	comp=Z,22nm,1.0s									
GYA				LR	LR					
	comp=Z,690nm,20.9s									
GYA				LR	LR					
	comp=Z,620nm,22.0s									
GYA				LR	LR					
	comp=Z,770nm,24.4s									
VBST	Vila Bela da S	88.75	114	*e*P	P		03 26 47.5	-0.4		
SEKA	Sheki	88.99	2	P	P		03 26 49.9	+0.9		
BR131	Keskin Array S	89.36	13	*de*P	P		03 26 50.9	+0.1		
BRTR	Keskin Array B	89.36	13	P	P		03 26 50.9	+0.1		
	comp=Z,4.2nm,0.9s,baz=344,slow=2.2,SNR=12									
	comp=Z,4.2nm,0.9s									
BRTR	Keskin Array B	89.36	13	P	P		03 26 50.5	-0.4		
BRTR	Keskin Array B	89.36	13	*ce*P	P		03 26 51.2	+0.3		
BRTR				pmax	pmax					
	comp=Z,4.0nm,0.9s									
MNGR	Mingechevir, A	89.42	2	P	P		03 26 52.0	+1.1		
GANJ	Ganja	89.53	3	P	P		03 26 52.7	+1.2		
GNI	Garni	89.96	4	P	P		03 26 53.4	+0.6		
GNI				IAmb	IAmb		03 27 08.1			
	comp=Z,20nm,1.1s									
GNI	Garni	89.96	4	P	P		03 26 54.3	+0.6		
GNI				pmax	pmax					
	comp=Z,20nm,1.1s									
PTLB	Pontes e Lacer	89.99	114	IAmb	IAmb		03 26 59.9			
	comp=Z,16nm,1.1s									
PTLB	Pontes e Lacer	89.99	114	*e*P	P		03 26 53.4	-0.4		
LVC	Limon Verde	90.33	126	LR	LR		04 08 57.0			
	comp=Z,117nm,18.5s,baz=335,slow=37									
BBSD	Serra de San D	90.51	116	*e*P	P		03 26 55.1	-1.1		
PZH	PanZhiHua	90.96	315	P	P		03 26 57.9	-0.6		
PZH				sP	pP		03 27 03.3	+0.3		
PZH				SKS	SKSac		03 37 26.5	-3.6		
PZH				S	S		03 37 55.2	-0.1		
PZH				pmax	pmax					
	comp=Z,10.0nm,1.0s									
PZH				pmax	pmax					
	comp=Z,120nm,6.3s									
PZH				LR	LR					
	comp=Z,430nm,20.2s									
PZH				LR	LR					
	comp=Z,580nm,18.6s									
PZH				LR	LR					
	comp=Z,490nm,19.1s									
NAX	Nakhchivan	90.97	3	P	P		03 26 59.3	+1.0		
PTET	Porto Estrela	91.10	113	*e*P	P		03 26 58.6	-0.3		
GURO	Guroymak-BITLI	91.40	6	IAmb	IAmb		03 27 03.1			
	comp=Z,16nm,1.6s									
LKRN	Lenkeran, Azer	91.51	1	P	P		03 27 01.8	+1.1		
KMI	Kunming	91.69	314	⇑P	P		03 27 01.1	-0.9		
KMI				SKS	SKSac		03 37 32.1	-2.3		
KMI				S	ScS		03 38 03.6	-1.3		
KMI				pmax	pmax					
	comp=Z,6.0nm,0.8s									
KMI				LR	LR					
	comp=Z,440nm,21.5s									
KMI				LR	LR					
	comp=Z,680nm,23.9s									
KMI				LR	LR					
	comp=Z,810nm,19.6s									
GEVA	Gevas	91.70	5	P	P		03 27 03.0	+1.1		
GEVA				IAmb	IAmb		03 27 04.3			
	comp=Z,19nm,1.1s									
GEYT	Alibeck	92.00	354	P	P		03 27 04.0	+1.0		
	comp=Z,6.0nm,1.1s,baz=335,slow=6.6,SNR=7.1									
GEYT				LR	LR		04 11 18.1			
	comp=Z,233nm,19.9s,baz=26,slow=37									
	comp=Z,6.0nm,1.1s									
GEYT	Alibeck	92.00	354	IAmb	IAmb		03 27 12.4			
	comp=Z,7.5nm,1.1s									
GYA0B	ALIBECK ARRAY	92.00	354	P	P		03 27 02.7	-0.3		
GYA0B				IAmb	IAmb		03 27 12.4			
	comp=Z,6.2nm,0.8s									
LSA	Lhasa	92.51	325	P	P		03 27 05.6	-0.5		
LSA				IAmb	IAmb		03 27 07.8			
	comp=Z,10.0nm,1.2s									
LSA	Lhasa	92.51	325	P	P		03 27 05.6	-0.5		
LSA				pmax	pmax					
	comp=Z,10.0nm,1.2s									
BBTS	Babate	93.20	63	LR	LR		04 04 56.8			
	comp=Z,724nm,20.0s,baz=322,slow=33									
QIZ	Qiongzhong	93.28	305	P	P		03 27 07.7	-1.5		
QIZ				PP	PP		03 30 50.8	-1.5		
QIZ				S	S		03 38 15.7	-0.3		
QIZ				LR	LR					
	comp=Z,300nm,22.5s									
QIZ				LR	LR					
	comp=Z,300nm,21.1s									
QIZ				LR	LR					
	comp=Z,460nm,16.1s									
TNCH	TengChong	93.67	317	*e*P	P		03 27 10.5	-0.6		
DAV	Davao City (W)	93.72	286	LR	LR		04 01 23.7			
	comp=Z,855nm,22.0s,baz=52,slow=30									
KBL	Kabul	94.00	344	P	P		03 27 11.7	-0.9		
KBL	Kabul	94.00	344	P	P		03 27 11.7	-0.9		
KBL				pmax	pmax					
	comp=Z,5.0nm,1.0s									
NIL	Nilore	94.05	341	P	P		03 27 12.4	-0.1		
NIL				IAmb	IAmb		03 27 41.9			
	comp=Z,10nm,1.1s									
NIL	Nilore	94.05	341	P	P		03 27 12.4	-0.1		
NIL				pmax	pmax					
	comp=Z,10.0nm,1.1s									
SIJI	Sorong	96.24	276	LR	LR		04 03 27.4			
	comp=Z,639nm,20.4s,baz=24,slow=31									
RCBR	Riachuelo	97.09	91	LR	LR		04 09 51.1			
	comp=Z,745nm,18.2s,baz=104,slow=35									
CMAR	Chiang Mai Arr	99.19	313	P	Pdif		03 27 36.1	0.0		
	comp=Z,1.4nm,0.3s,baz=20,slow=4.4,SNR=6.7									
	comp=Z,1.4nm,0.3s									
CMAR	Chiang Mai Arr	99.19	313	P	Pdif		03 27 35.0	-1.1		
CMAR	Chiang Mai Arr	99.19	313	*ce*P	Pdif		03 27 36.0	0.0		
CMAR				pmax	pmax					
	comp=Z,2.0nm,0.3s									
PCHI	Peechi	115.32	331	*e*P	PKPdf		03 32 40.6	+4.5		
PCHI				*ex*	x		03 42 51.4			
KMBO	Kilima Mbogo	129.97	17	PKP	PKPdf		03 33 03.7	-0.9		
	comp=Z,2.4nm,1.0s,baz=30,slow=8.1,SNR=3.8									
VNDA	Vanda	134.03	196	PKP	PKPdf		03 33 10.1	+0.2		
	comp=Z,1.3nm,0.9s,baz=16,slow=2.5,SNR=5.1									
VNA3	Neumayer Olymp	146.06	150	P	PKPdf		03 33 31.9	0.0		
VNA1	Neumayer--Stat	146.59	149	P	PKPdf		03 33 32.8	+0.2		
VNA2	Neumayer--Watz	146.84	150	P	PKPdf		03 33 33.8	+0.6		
	baz=292,slow=4.0									
SNAA	Sanae	148.14	151	P	PKPbc		03 33 37.2	-1.4		
SNAA	Sanae	148.14	151	PKPbc	PKPbc		03 33 38.2	-0.5		
SNAA	Sanae	148.14	151	PKP2	PKPbc		03 33 38.2	-0.5		
LBTB	Lobatse	148.61	46		PKPbc		03 33 40.3	-1.0		
LBTB	Lobatse	148.61	46	PKP2	PKPbc		03 33 40.3	-1.0		
ABPO	Ambohimpanom	148.86	5	PKPbc	PKPbc		03 33 41.7	-0.5		
ABPO	Ambohimpanom	148.86	5	PKP2	PKPbc		03 33 41.7	-0.5		
TROLL	Troll, Antarti	149.65	153	P	PKPbc		03 33 41.4	-1.2		
BOSA	Boshof	151.48	50	PKPbc	PKPbc		03 33 47.8	-0.4		
	comp=Z,12nm,0.8s,baz=321,slow=2.0,SNR=17									
BOSA	Boshof	151.48	50		PKPbc		03 33 46.9	-1.3		
BOSA	Boshof	151.48	50	PKIKP	PKPbc		03 33 46.9	-1.3		
ELIB	Princess Elisa	155.06	161	*d*PKPdf	PKPdf		03 33 44.4	-1.5		

NEIC ***07*** *03:17:39.5,50.02N×130.12W,h9km,Moment Tensor Solution. Moment tensor: Scale 10^{9}Nm; M_{rr}0.26; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$ 1.29; $M_{r\theta}$0.13; $M_{\theta\phi}$1.21; $M_{\phi r}$-0.16; Fault plane solution: $M_0$1.70000×10^{9} NP1:ϕ_s338.00000°, δ88.00000°,λ-174.00000°. NP2:ϕ_s248.00000°, δ84.00000°,λ-2.00000°. Principal axes: T 1.6440, Plg3.0000°, Azm113.0000°; N 0.1053, Plg83.0000°, Azm352.0000°; P -1.7493, Plg6.0000°, Azm203.0000°;*

OTT ***07*** *03:17:39.5±3.3,50.03N±0.08×130.1W±0.1,h10km±2km Error ellipse: s-maj=15.6km s-min=10.6km az=220.0*

PGC ***07*** *03:17:40.6±2.3,50.07N±0.09×130.3W±0.1,h10km±2km, mb4.3/23,ML3.8/12,Mwr4.8(OTT),Error ellipse: s-maj=19.9km s-min=3.1km az=219.0*

NEIC ***07*** *03:17:40.6±2.4,50.02N×130.12W,h10km,MLSn3.8/10, Mw4.8,206km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***07*** *03:17:41.6±2.5,50.11N×129.79W,h0km,mb3.8/1, mbtmp4.1/5,ML3.7/4,Error ellipse: s-maj=32.8km s-min=17.1km az=63.0*

GCMT ***07*** *03:17:43.3±0.4,49.96N±0.03×130.24W±0.04,h12km, MW4.9/73,Moment Tensor Solution. s7,c7; s73,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.06±.16; $M_{\theta\theta}$-1.81±.13; $M_{\phi\phi}$ 1.75±.12; $M_{r\theta}$-0.39±.43; $M_{\theta\phi}$1.85±.12; $M_{\phi r}$-0.65±.36; Best double couple: $M_0$2.67500×10^{16} NP1:ϕ_s249.00000°, δ81.00000°,λ13.00000°. NP2: ϕ_s157.00000°,δ77.00000°,λ170.00000°. Principal axes: T 2.7480, Plg16.0000°, Azm113.0000°; N -0.1500, Plg74.0000°, Azm284.0000°; P -2.6020, Plg2.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 03:17:40.5±0.9,50.08N±0.06×130.08W±0.06,h12km,n92, σ1**8**71/106**,Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
HOLB	Holberg	1.37	65	Pn	Pn	03	18	04.7	-0.7
HOLB				IAML		03	18	24.9	
	comp=E,965nm,3.0s								
HOLB	Holberg	1.37	65	Pn	Pn	03	18	03.7	-1.7
HOLB				Sn	Sn	03	18	19.6	-3.9
PACB	Port Alice, BC	1.70	77	Pn	Pn	03	18	07.3	-2.6
PACB				Sn	Sn	03	18	27.2	-4.3
PHC	Port Hardy	1.81	69	Pn	Pn	03	18	09.1	-2.3
PHC				Sn	Sn	03	18	30.9	-3.3
MAYB	Maynard	1.89	79	Pn	Pn	03	18	10.3	-2.4
EDB	Eliza Dome	1.92	95	Pn	Pn	03	18	09.8	-3.2
HG4B	Hotspring	2.33	343	Pn	Pn	03	18	15.8	-2.8
HG4B	Hotspring	2.33	343	Pn	Pn	03	18	16.6	-2.0
HG4B				Sn	Sn	03	18	44.0	-3.2
BBB	Bella Bella	2.45	30	Pn	Pn	03	18	19.6	-0.6
	comp=E,56nm,0.3s,baz=226,slow=15,SNR=12								
BBB				Sn	Sn	03	18	47.9	-2.1
	comp=E,80nm,0.3s,baz=309,slow=20,SNR=6.5								
	comp=E,120nm,0.3s								
BBB	Bella Bella	2.45	30	Pn	Pn	03	18	19.3	-0.9
BBB				IAML		03	18	49.6	
	comp=N,534nm,1.7s								
BBB				IAML		03	18	50.0	
	comp=E,443nm,1.1s								
BBB	Bella Bella	2.45	30	Pn	Pn	03	18	19.1	-1.2
BBB				Sn	Sn	03	18	47.4	-2.6
NCRB	Newcastle Ridg	2.60	81	Pn	Pn	03	18	20.8	-1.7
BNB	Barry Inlet	2.71	338	Pn	Pn	03	18	21.6	-2.4
BNB				Sn	Sn	03	18	52.7	-4.0
SPLB	Strathcona Par	2.86	92	Pn	Pn	03	18	24.7	-1.2
CBB	Campbell River	3.04	89	Pn	Pn	03	18	27.0	-1.4
CBB				Sn	Sn	03	19	02.6	-2.0
OZB	Mount Ozzard	3.19	109	Pn	Pn	03	18	29.9	-0.6
BNKB	Banks Island	3.26	2	Pn	Pn	03	18	30.3	-1.2
BNKB				Sn	Sn	03	19	08.0	-2.2
MOBC	Moresby Island	3.29	340	Pn	Pn	03	18	30.6	-1.2
BNAB	Bonilla	3.44	354	Pn	Pn	03	18	32.7	-1.2
BNAB				Sn	Sn	03	19	11.3	-3.2
DIB	Dawson Inlet,	3.47	335	Pn	Pn	03	18	34.3	0.0
DIB				IAML		03	19	12.8	
	comp=E,152nm,4.6s								
DIB				IAML		03	19	20.0	
	comp=N,171nm,4.8s								
H02S1	DAWSON INLET T	3.47	335	Pn	Pn	03	18	35.4	+1.1
HWKB	Hawksbury Isla	3.57	9	Pn	Pn	03	18	34.8	-0.9
HWKB				Sn	Sn	03	19	16.6	-1.3
TXB	Texada	3.67	94	Pn	Pn	03	18	36.6	-0.5
GRNB	Grenville Isla	3.78	1	Pn	Pn	03	18	39.3	+0.8
GRNB	Grenville Isla	3.78	1	Pn	Pn	03	18	37.5	-1.1
GRNB				Sn	Sn	03	19	21.4	-1.4
OCP	Olym-Cheeka Pk	3.99	114	Pn	Pn	03	18	41.6	+0.1
SHB	Sechelt	4.04	94	Pn	Pn	03	18	42.3	0.0
SHB				Sn	Sn	03	19	28.1	-1.5
MBLB	Minette Bay Lo	4.07	12	Pn	Pn	03	18	43.4	+0.9
MBLB				Sn	Sn	03	19	29.4	-0.5
KITB	Kitimat	4.11	12	Pn	Pn	03	18	43.4	+0.4
KITB				Sn	Sn	03	19	30.0	-0.8
RUBB	Prince Rupert	4.26	359	Pn	Pn	03	18	44.7	-0.4
OBC	Olympics--Boni	4.44	115	Pn	Pn	03	18	47.7	0.0
WPB	Watts Point	4.46	93	Pn	Pn	03	18	49.2	+1.3
B010	North Saanich	4.56	106	Pn	Pn	03	18	49.6	+0.3
B011	North Saanich	4.56	106	Pn	Pn	03	18	49.0	+0.3
NLWA	Neilton Lookou	4.91	121	Pn	Pn	03	18	56.6	+2.5
NLWA				IAML		03	19	51.9	
	comp=N,96nm,4.4s								
HNBB	Haney	4.94	96	Pn	Pn	03	18	54.9	+0.4
HNBB				Sn	Sn	03	19	49.5	-1.9
HDW	Hoodsport	5.23	115	Pn	Pn	03	18	59.4	+0.8
VDB	Vedder Mountai	5.30	98	Pn	Pn	03	18	59.3	-0.1
CMW	Cultus Mountai	5.47	105	Pn	Pn	03	19	01.9	0.0
MBW	Mount Baker	5.49	101	Pn	Pn	03	19	02.2	0.0
FSB	Fort Saint Jam	5.64	36	P	Pn	03	19	05.3	+1.1
FSJB	Fort St James	5.64	37	P	Pn	03	19	03.4	-0.8
B06A	Marblemount	5.83	102	Pn	Pn	03	19	10.9	+4.1
FMW	Mount Fremont	6.41	116	P	Pn	03	19	16.1	+1.2
LON	Longmire	6.43	118	Pn	Pn	03	19	17.9	+2.8
LON	Longmire	6.43	118	P	Pn	03	19	15.4	+0.4
LTY	Liberty	6.84	111	Pn	Pn	03	19	22.2	+1.6
LTY	Liberty	6.84	111	P	Pn	03	19	21.4	+0.8
H04A	Detroit Lake	7.60	132	Pn	Pn	03	19	32.2	+1.1
DLBC	Dease Lake	8.38	0	Pn	Pn	03	19	44.7	+2.9
	comp=N,0.1nm,0.3s,baz=179,slow=18,SNR=1.8								
DLBC				Sn	Sn	03	21	19.7	+3.5
	comp=N,0.4nm,0.3s,baz=90,slow=18,SNR=1.3								
	comp=N,90nm,1.3s								
F10A	Beach Ranch, E	9.54	111	Pn	Pn	03	19	58.4	+0.7
WHY	Whitehorse	10.95	347	Pn	Pn	03	20	17.7	+0.8
BCPM	Bancas Point	11.30	335	Pn	Pn	03	20	20.1	-1.5
PCA	Pinnacle	11.59	334	Pn	Pn	03	20	26.2	+0.5
M31M	Drury Creek, Y	12.39	351		Pn	03	20	38.0	+1.5
HRY	Holter Researc	12.58	99	Pn	Pn	03	20	41.1	+1.7
BCYI	Bear Canyon	12.71	111	Pn	Pn	03	20	42.9	+1.7
QLMT	Earthquake Lak	13

Island, Canada Region

*NEIC **07** 03:23:58.4, 50.04N×130.27W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.04; $M_{\theta\theta}$=0.68; $M_{\phi\phi}$ 1.13; $M_{r\theta}$=0.01; $M_{r\phi}$=0.16; $M_{\theta\phi}$=0.05; Fault plane solution: $M_0$9.50000×10^{15} NP1:$\phi_1$140.00000°, δ89.00000°, λ178.00000°. NP2:$\phi_2$230.00000°, δ88.00000°, λ1.00000°. Principal axes: T 1.0067, Plg2.0000°, Azm95.0000°; N -0.1730, Plg87.0000°, Azm306.00000°; P -0.8337, Plg1.0000°, Azm185.0000°;*

*OTT **07** 03:23:58.4±2.2, 50.04N±0.08×130.3W±0.1, h10km±2km Error ellipse: s-maj=15.9km s-min=11.4km az=222.0*

*IDC **07** 03:24:03.6±2.3, 50.24N×129.61W, h0km, mb3.7/2, mbtmp3.5/9, ML3.5/7, Error ellipse: s-maj=33.2km s-min=12.9km az=72.0*

ISC 07 03:23:57.2±0.9, 50.04N±0.06×130.20W±0.07, h12km, n76, σ1f91/83, mb3.9/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.45**	**65**		**Pn**	**03 24 22.7**	**-0.6**
HOLB				IAML		03 24 45.6	
	comp=E,395nm,1.0s						
HOLB	**Holberg**	**1.45**	**65**	Pn	**Pn**	**03 24 19.2**	**-4.1**
PACB	**Port Alice, BC**	**1.78**	**76**	Pn	**Pn**	**03 24 27.0**	**-0.7**
PACB				Sn	**Sn**	**03 24 47.9**	**-2.4**
PHC	**Port Hardy**	**1.89**	**68**	Pn	**Pn**	**03 24 29.4**	**+0.1**
PHC				Sn	**Sn**	**03 24 51.1**	**-1.9**
MAYB	**Maynard**	**1.97**	**78**	Pn	**Pn**	**03 24 30.2**	**-0.4**
EDB	**Eliza Dome**	**1.99**	**94**	Pn	**Pn**	**03 24 30.8**	**+0.1**
HG4B	**Hotspring**	**2.34**	**345**	Pn	**Pn**	**03 24 34.9**	**-0.6**
HG4B	**Hotspring**	**2.34**	**345**	Pn	**Pn**	**03 24 34.8**	**-0.7**
HG4B				Sn	**Sn**	**03 25 02.5**	**-1.6**
BBB	**Bella Bella**	**2.51**	**31**	Pn	**Pn**	**03 24 38.8**	**+0.9**
	comp=E,23nm,0.3s,baz=215,slow=14,SNR=48						
BBB				Sn	**Sn**	**03 25 06.8**	**-1.6**
	comp=E,52nm,0.3s,baz=316,slow=21,SNR=29						
	comp=E,52nm,0.3s						
BBB	**Bella Bella**	**2.51**	**31**		**Pn**	**03 24 38.7**	**+0.9**
BBB				IAML		03 25 08.3	
	comp=E,223nm,0.5s						
BBB				IAML		03 25 08.5	
	comp=N,197nm,0.5s						
BBB	**Bella Bella**	**2.51**	**31**	Pn	**Pn**	**03 24 38.5**	**+0.7**
BBB				Sn	**Sn**	**03 25 05.9**	**-2.5**
NCRB	**Newcastle Ridg**	**2.68**	**81**	Pn	**Pn**	**03 24 41.3**	**+1.0**
BNB	**Barry Inlet**	**2.72**	**340**	Pn	**Pn**	**03 24 39.9**	**-0.8**
SPLB	**Strathcona Par**	**2.94**	**91**	Pn	**Pn**	**03 24 44.3**	**+0.6**
CBB	**Campbell River**	**3.11**	**88**	Pn	**Pn**	**03 24 47.0**	**+0.9**
MOBC	**Moresby Island**	**3.30**	**341**	Pn	**Pn**	**03 24 49.7**	**+1.0**
MOBC				IAML		03 25 19.7	
	comp=E,118nm,4.5s						
MOBC	**Moresby Island**	**3.30**	**341**	Pn	**Pn**	**03 24 48.6**	**-0.1**
BNKB	**Banks Island**	**3.30**	**3**	Pn	**Pn**	**03 24 49.0**	**+0.3**
BNKB				Sn	**Sn**	**03 25 25.3**	**-2.5**
BNAB	**Bonilla**	**3.46**	**356**	Pn	**Pn**	**03 24 51.6**	**+0.7**
DIB	**Dawson Inlet,**	**3.47**	**337**		**Pn**	**03 24 51.0**	**0.0**
DIB				IAML		03 26 12.9	
	comp=N,55nm,4.8s						
DIB				IAML		03 27 05.3	
	comp=E,66nm,4.8s						
DIB	**Dawson Inlet,**	**3.47**	**337**	Pn	**Pn**	**03 24 50.3**	**-0.7**
H02S1	**DAWSON INLET T**	**3.47**	**337**	Pn	**Pn**	**03 24 50.3**	**-0.6**
HWKB	**Hawksbury Isla**	**3.62**	**10**	Pn	**Pn**	**03 24 54.6**	**+1.5**
HWKB				Sn	**Sn**	**03 25 48.2**	**-1.6**
GRNB	**Grenville Isla**	**3.81**	**2**	Pn	**Pn**	**03 24 56.8**	**+1.0**
GRNB				IAML		03 25 51.0	
	comp=N,77nm,4.0s						
GRNB	**Grenville Isla**	**3.81**	**2**	Pn	**Pn**	**03 24 56.4**	**+0.7**
GRNB				Sn	**Sn**	**03 25 38.8**	**-1.7**
SHB	**Sechelt**	**4.12**	**94**	Pn	**Pn**	**03 25 02.0**	**+2.0**
KITB	**Kitimat**	**4.15**	**13**	Pn	**Pn**	**03 25 01.8**	**+1.4**
KITB				Sn	**Sn**	**03 25 48.2**	**-0.6**
RUBB	**Prince Rupert**	**4.29**	**360**	Pn	**Pn**	**03 25 03.3**	**+1.1**
RUBB				IAML		03 26 35.8	
	comp=N,58nm,4.4s						
RUBB	**Prince Rupert**	**4.29**	**360**	Pn	**Pn**	**03 25 03.4**	**+1.1**
HNBB	**Haney**	**5.01**	**96**	Pn	**Pn**	**03 25 14.4**	**+2.2**
VDB	**Vedder Mountai**	**5.37**	**98**	Pn	**Pn**	**03 25 18.0**	**+0.9**
MBW	**Mount Baker**	**5.56**	**100**	Pn	**Pn**	**03 25 22.3**	**+2.4**
FSB	**Fort Saint Jam**	**5.72**	**37**	P	**Pn**	**03 25 24.8**	**+2.9**
JCW	**Jim Creek**	**5.73**	**106**	Pn	**Pn**	**03 25 24.0**	**+1.8**
FMW	**Mount Fremont**	**6.46**	**116**	P	**Pn**	**03 25 36.7**	**+4.4**
LON	**Longmire**	**6.48**	**117**		**Pn**	**03 25 33.0**	**+0.5**
LON	**Longmire**	**6.48**	**117**	P	Pn	03 25 37.5	+5.1
LTY	**Liberty**	**6.90**	**110**	P	**Pn**	**03 25 41.9**	**+3.7**
B08A	**Colville Reser**	**7.31**	**99**	P	**Pn**	**03 25 47.2**	**+3.3**
HOOD	**Mount Hood Mea**	**7.45**	**126**	Pn	**Pn**	**03 25 45.6**	**-0.2**
NBC4	**NorthernBC 4**	**8.07**	**42**	P	**Pn**	**03 25 57.5**	**+3.3**
DLBC	**Dease Lake**	**8.41**	**1**	Pn	Pn	03 26 05.0	+6.1
	comp=N,0.4nm,0.3s,baz=184,slow=16,SNR=2.0						
	comp=N,1.3nm,0.4s						
NEW	**Newport**	**8.75**	**97**	Pn	**Pn**	**03 26 05.9**	**+2.3**
	comp=N,0.2nm,0.3s,baz=297,slow=14,SNR=3.3						
	comp=N,2.5nm,0.8s						
BEKR	**Beckworth**	**12.32**	**142**		**Pn**	**03 26 53.1**	**+0.6**
NVAR	**Mina Array Bea**	**14.38**	**139**	Pn	**P**	**03 27 29.2**	**+1.4**
	comp=N,0.1nm,0.3s,baz=315,slow=10,SNR=2.2						
	comp=N,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**14.38**	**139**	Pn	**Pn**	**03 27 19.7**	**-1.0**
OMMB	**Old Mammoth Mi**	**14.80**	**143**	Pn	**Pn**	**03 27 25.5**	**-1.0**
AHID	**Auburn Hatcher**	**15.03**	**112**	Pn	**Pn**	**03 27 29.0**	**-0.5**
YKA	**Yellowknife Ar**	**15.12**	**29**	Pn	**Pn**	**03 27 31.1**	**+0.6**
	comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=4.2						
	comp=N,0.3nm,0.6s						
TPH	**Tonopah**	**15.14**	**137**	Pn	**Pn**	**03 27 29.6**	**-1.5**
PD31	**Pinedale Array**	**15.96**	**109**	Pn	**Pn**	**03 27 39.2**	**-2.5**
PDAR	**Pinedale Array**	**15.96**	**109**	Pn	**P**	**03 27 48.4**	**+3.1**
	baz=299,slow=9.8,SNR=9.0						
	comp=N,1.6nm,0.9s						
WCT	**Wildcat Mounta**	**16.47**	**138**	Pn	**Pn**	**03 27 46.8**	**-1.4**
WCT				IAmb	IAmb	03 28 00.3	
	comp=Z,7.0nm,1.1s						
TPNV	**Topopah Spring**	**16.51**	**137**	Pn	**Pn**	**03 27 46.8**	**-1.8**
TPNV				IAmb	IAmb	03 28 02.4	
	comp=Z,4.1nm,0.9s						
QSM	**Queen of Sheba**	**17.08**	**140**	Pn	**Pn**	**03 27 54.3**	**-1.5**
QSM				IAmb	IAmb	03 28 10.4	
	comp=Z,8.3nm,1.3s						
ILAR	**Eielson Array**	**17.19**	**335**	P	**P**	**03 28 03.5**	**+5.0**
	baz=147,slow=12,SNR=4.4						
	comp=Z,0.5nm,0.9s						
GSC	**Goldstone, Ba**	**17.68**	**141**	Pn	**Pn**	**03 28 02.0**	**-1.3**
SRU	**San Rafael Swe**	**17.71**	**121**	Pn	**Pn**	**03 28 01.9**	**-1.9**
SRU				IAmb	IAmb	03 28 12.3	
	comp=Z,5.3nm,1.1s						
LCMT	**Little Creek M**	**17.85**	**130**		**Pn**	**03 28 04.2**	**-1.3**
PV14	**Lion Creek, Pa**	**19.07**	**120**	P	**P**	**03 28 19.0**	**-0.6**
PV14				IAmb	IAmb	03 28 32.6	
	comp=Z,4.8nm,0.9s						
W13A	**Hualapai Mount**	**19.10**	**135**	P	**P**	**03 28 18.9**	**-1.1**
PV16	**Nyswonger Mesa**	**19.17**	**120**	P	**P**	**03 28 20.9**	**+0.2**
PV16				IAmb	IAmb	03 28 27.8	
	comp=Z,6.1nm,1.1s						
PHWY	**Pilot Hill**	**19.30**	**107**	P	**P**	**03 28 21.8**	**-0.4**
PV13	**Radium Mtn., P**	**19.33**	**120**	P	**P**	**03 28 21.1**	**-1.4**
PV13				IAmb	IAmb	03 28 29.7	
	comp=Z,7.5nm,1.0s						
SMCO	**Snowmass**	**19.70**	**115**	P	**P**	**03 28 24.6**	**-2.1**
SMCO				IAmb	IAmb	03 28 34.0	
	comp=Z,6.7nm,1.2s						
WUAZ	**Wupatki**	**19.96**	**130**	P	**P**	**03 28 29.3**	**0.0**
WUAZ				IAmb	IAmb	03 28 37.9	
	comp=Z,3.1nm,1.0s						
BLYC	**Blythe**	**19.96**	**139**	P	**P**	**03 28 29.9**	**+0.8**
BLYC				IAmb	IAmb	03 28 44.2	
	comp=Z,11nm,1.4s						
IMAR	**Indian Mountai**	**20.06**	**332**	P	**P**	**03 28 30.6**	**+0.6**
MVCO	**Mesa Verde**	**20.19**	**121**	P	**P**	**03 28 30.6**	**-1.3**
W18A	**Petrified Fore**	**21.10**	**127**	P	**P**	**03 28 41.2**	**-0.5**
W18A				IAmb	IAmb	03 28 52.0	
	comp=Z,5.4nm,0.8s						
X18A	**Snowflake**	**21.45**	**129**	P	**P**	**03 28 43.9**	**-1.6**
ULM	**Lac du Bonnet**	**21.89**	**76**	P	**P**	**03 28 53.4**	**+3.6**
	comp=Z,6.3nm,0.6s,baz=272,slow=7.5,SNR=9.9						
	comp=Z,6.3nm,0.6s						
ULM	**Lac du Bonnet**	**21.89**	**76**	P	**P**	**03 28 49.7**	**-0.1**
ANMO	**Albuquerque**	**22.97**	**122**	P	**P**	**03 29 08.6**	**+6.9**
	comp=Z,1.2nm,0.9s,baz=16,slow=15,SNR=4.3						
	comp=Z,1.2nm,0.9s						
MNTX	**Cornudas Mount**	**26.03**	**125**	P	**P**	**03 29 29.2**	**-1.0**
MNTX				IAmb	IAmb	03 29 41.6	
	comp=Z,2.3nm,1.2s						
T35A	**Sooner Cattle**	**27.48**	**106**	P	**P**	**03 29 42.6**	**-0.6**

*NEIC **07** 03:30:50.4±1.6, 37.987N±0.006×118.23W±0.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=284.0*

*REN **07** 03:30:50.0±1.3, 37.99N±0.01×118.23W±0.02, h9km±4km, ML2.9/27, ML2.8/74(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=105.0*

*ANF **07** 03:30:50.2±0.4, 37.98N×118.20W, h4km±3km, ML3.0/12, Error ellipse: s-maj=3.9km s-min=2.2km az=145.0*

ISC 07 03:30:50.3±0.9, 37.99N±0.02×118.22W±0.02, h13km±9km, n101, σ0f87/101, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHV	**Little Huntoon**	**0.34**	**319**		**Pg**	**03 30 57.2**	**-0.1**
LHV					**Sg**	**03 31 02.4**	**+0.5**
LHV	**Little Huntoon**	**0.34**	**319**	IAML		03 31 04.5	
	comp=E,2μm,0.7s						
LHV				IAML		03 31 05.1	
	comp=N,2μm,0.5s						
BENR	**Benton**	**0.39**	**225**		**Pg**	**03 30 57.8**	**-0.5**
MLNR	**Milner Canyon**	**0.41**	**194**		**Pg**	**03 30 58.3**	**-0.3**
NV08	**Mina Array Sit**	**0.42**	**349**		**Pg**	**03 30 58.5**	**-0.3**
NV08					**Sg**	**03 31 04.7**	**+0.3**
NVAR	**Mina Array Bea**	**0.44**	**351**		**Pg**	**03 30 58.4**	**-0.8**
NV11	**Mina Array Sit**	**0.44**	**7**		**Pg**	**03 30 59.8**	**+0.6**
NV11				IAML		03 31 06.8	
	comp=N,543nm,0.6s						
NV11				IAML		03 31 08.1	
	comp=E,486nm,0.6s						
NV09	**Mina Array Sit**	**0.45**	**348**		**Pg**	**03 30 59.1**	**-0.3**
ORC	**Owens River**	**0.50**	**224**		**Pg**	**03 30 59.8**	**-0.4**
MLAC	**Mammoth, Mammo**	**0.61**	**234**		**Pg**	**03 31 02.0**	**-0.2**
MLAC	**Mammoth, Mammo**	**0.61**	**234**	P	**Pg**	**03 31 02.0**	**-0.2**
	baz=53,SNR=18						
MLAC				S	**Sg**	**03 31 10.6**	**+0.3**
	baz=53						
POCCA	**Poleta Canyon**	**0.63**	**184**		**Pg**	**03 31 02.4**	**-0.3**
MCBM	**Casa Benchmark**	**0.64**	**237**		**Pg**	**03 31 02.6**	**-0.3**
RCCR	**Rock Creek Can**	**0.64**	**218**		**Pg**	**03 31 02.5**	**-0.4**
DSP	**Deep Springs**	**0.65**	**162**		**Pg**	**03 31 02.9**	**-0.1**
DSP					**Sb**	**03 31 12.4**	**-0.1**
DSP	**Deep Springs**	**0.65**	**162**	IAML		03 31 14.7	
	comp=E,292nm,0.7s						
RYN	**Ryan**	**0.68**	**340**		**Pg**	**03 31 03.3**	**-0.3**
RYN					**Sg**	**03 31 13.0**	**+0.5**
RYN	**Ryan**	**0.68**	**340**	IAML		03 31 13.2	
	comp=N,446nm,0.2s						
RYN				IAML		03 31 14.0	
	comp=E,369nm,0.3s						
MDYM	**Dry Creek**	**0.71**	**242**		**Pg**	**03 31 04.0**	**-0.2**
MZP	**Montezuma Peak**	**0.72**	**113**		**Pg**	**03 31 04.2**	**-0.3**
OMMB	**Old Mammoth Mi**	**0.72**	**239**		**Pg**	**03 31 03.9**	**-0.5**
OMMB	**Old Mammoth Mi**	**0.72**	**239**		**Sg**	**03 31 13.8**	**-0.3**
LUL	**Lundy Lake**	**0.76**	**275**		**Pg**	**03 31 04.7**	**-0.4**
MDPB	**Devils Postpil**	**0.77**	**242**		**Pg**	**03 31 04.8**	**-0.5**
MDPB	**Devils Postpil**	**0.77**	**242**	IAML		03 31 15.6	
	comp=E,311nm,0.3s						
MDPB				IAML		03 31 15.7	
	comp=N,271nm,0.3s						
TPH	**Tonopah**	**0.79**	**84**		**Pg**	**03 31 05.5**	**-0.2**
LCH	**Last Change Ra**	**0.88**	**149**		**Pg**	**03 31 07.3**	**-0.2**
LCH					**Sb**	**03 31 19.6**	**+0.2**
LCH	**Last Change Ra**	**0.88**	**149**	IAML		03 31 24.6	
	comp=N,298nm,0.6s						
LCH				IAML		03 31 24.8	
	comp=E,264nm,0.4s						
TIN	**Tinemaha, Big**	**0.94**	**180**		**Pg**	**03 31 08.2**	**-0.3**
TIN	**Tinemaha, Big**	**0.94**	**180**	P	**Pg**	**03 31 08.1**	**-0.3**
	baz=360,SNR=8.3						
TIN				S	**Sb**	**03 31 21.2**	**+0.3**
	baz=360						
KVN	**Kaiserville**	**1.06**	**5**		**Pg**	**03 31 10.0**	**-0.8**
WAKR	**Walker**	**1.09**	**298**		**Pg**	**03 31 10.8**	**-0.5**
WAKR	**Walker**	**1.09**	**298**		**Sb**	**03 31 26.0**	**+0.7**
WAKR	**Walker**	**1.09**	**298**	IAML		03 31 14.9	
	comp=E,75nm,0.7s						
KCC	**Kaiser Creek**	**1.10**	**233**		**Pg**	**03 31 10.6**	**-0.9**
Q09A	**Carvers**	**1.17**	**44**		**Pb**	**03 31 12.4**	**-0.1**
YERR	**Yerington**	**1.27**	**321**		**Pn**	**03 31 14.0**	**-0.1**
YERR					**Sn**	**03 31 31.6**	**+0.4**
YERR	**Yerington**	**1.27**	**321**	IAML		03 31 35.5	
	comp=N,245nm,0.5s						
SGV	**South Grapevin**	**1.38**	**137**		**Pb**	**03 31 16.3**	**+0.2**
PNTR	**Pine Nut**	**1.54**	**316**		**Pn**	**03 31 18.5**	**+0.8**
PNTR	**Pine Nut**	**1.54**	**316**	IAML		03 31 42.5	
	comp=E,135nm,1.0s						
PNTR				IAML		03 31 43.0	
	comp=N,139nm,0.8s						
CWC	**Cottonwood Cre**	**1.55**	**176**		**Pb**	**03 31 19.1**	**0.0**
CWC	**Cottonwood Cre**	**1.55**	**176**	Pb	**Pb**	**03 31 19.1**	**0.0**
	baz=356						
CWC				S	**Sg**	**03 31 39.9**	**-0.5**
	baz=356						
CMB	**Columbia Colle**	**1.71**	**272**		**Pn**	**03 31 20.6**	**+0.7**
CMB	**Columbia Colle**	**1.71**	**272**	Pn	**Pn**	**03 31 20.0**	**+0.1**
CMB	**Columbia Colle**	**1.71**	**272**	IAML		03 31 45.4	
	comp=N,76nm,0.4s						
VCNR	**Virginia City**	**1.72**	**320**		**Pn**	**03 31 20.9**	**+0.7**
VCNR	**Virginia City**	**1.72**	**320**	IAML		03 31 49.8	
	comp=N,161nm,0.4s						
WCT	**Wildcat Mounta**	**1.75**	**133**		**Pn**	**03 31 21.6**	**+1.2**
WCT	**Wildcat Mounta**	**1.75**	**133**	IAML		03 31 49.3	
	comp=N,156nm,0.4s						
TPNV	**Topopah Spring**	**1.88**	**123**		**Pn**	**03 31 23.7**	**+1.3**
TPNV	**Topopah Spring**	**1.88**	**123**	IAML		03 31 56.8	
	comp=N,97nm,0.5s						
TPNV				IAML		03 32 02.5	
	comp=N,99nm,1.1s						
TPNV	**Topopah Spring**	**1.88**	**123**	P	**Pn**	**03 31 23.3**	**+1.0**
	baz=304,SNR=82						
VOG	**Valley Oaks Go**	**1.91**	**209**	Pb	**Pb**	**03 31 25.4**	**+0.4**
	baz=28,SNR=5.9						
VOG				Sb	**Sg**	**03 31 51.6**	**-0.1**
	baz=28						
MPK	**Martis Peak**	**1.93**	**313**		**Pn**	**03 31 24.2**	**+1.2**
MPK	**Martis Peak**	**1.93**	**313**	IAML		03 31 55.1	
	comp=E,68nm,0.7s						
MPK				IAML		03 31 57.8	
	comp=N,68nm,0.5s						
S11A	**Rachel**	**1.99**	**99**	Pn	**Pn**	**03 31 24.1**	**+0.2**
SDH	**Striped Hills**	**2.01**	**131**		**Pb**	**03 31 27.6**	**+0.7**
MPMC	**Manual Prospec**	**2.02**	**163**	P	**Pn**	**03 31 24.8**	**+0.6**
	baz=343,SNR=52						
MPMC				Sb	**Sg**	**03 31 54.4**	**-0.8**
	baz=343						
CPY	**CP-1**	**2.02**	**121**		**Pn**	**03 31 25.2**	**+0.9**
R11A	**Troy Canyon, C**	**2.11**	**79**		**Pn**	**03 31 25.9**	**+0.4**
R11A	**Troy Canyon, C**	**2.11**	**79**	P	**Pn**	**03 31 25.9**	**+0.4**
	baz=261,SNR=37						
R11A				Sb	**Sg**	**03 31 57.0**	**-1.1**
	baz=261						
PEAR	**Peavine Mounta**	**2.11**	**320**		**Pb**	**03 31 28.2**	**-0.4**
DONR	**Donner Summit**	**2.13**	**310**		**Pb**	**03 31 28.4**	**-0.6**
AMDNV	**Amargosa**	**2.18**	**134**		**Pn**	**03 31 27.8**	**+1.5**
GWY	**Greenwater Val**	**2.19**	**145**		**Pn**	**03 31 26.7**	**+0.2**
GWY				IAML		03 32 06.4	
	comp=E,41nm,1.0s						
GWY				IAML		03 32 13.6	
	comp=N,31nm,0.8s						
VES	**Vestal, Richgr**	**2.26**	**198**	Pb	**Pb**	**03 31 31.6**	**+0.7**
	baz=17						
QSM	**Queen of Sheba**	**2.29**	**151**		**Pn**	**03 31 29.0**	**+1.1**
WVA	**Winnemucca Val**	**2.32**	**328**		**Pb**	**03 31 31.7**	**-0.4**
ISA	**Isabella, Lake**	**2.33**	**185**	Pb	**Pb**	**03 31 33.0**	**+0.7**
	baz=4.7						
ISA				Sb	**Sg**	**03 32 03.7**	**-1.7**
	baz=4.7						
AFDM	**Forest Hills D**	**2.36**	**295**	Pn	**Pn**	**03 31 29.4**	**+0.6**
AFDM				IAML		03 32 07.0	
	comp=N,35nm,0.4s						
AFDM				IAML		03 32 08.7	
	comp=E,35nm,0.3s						
BEKR	**Beckworth**	**2.51**	**319**		**Pn**	**03 31 32.2**	**+1.2**
LRMC	**Laurel Mtn Rad**	**2.54**	**170**	Pb	**Pb**	**03 31 37.4**	**+1.4**
	baz=350						
BMN	**Battle Mountai**	**2.56**	**17**		**Pn**	**03 31 32.6**	**+1.0**
BMN	**Battle Mountai**	**2.56**	**17**	IAML		03 32 13.9	
	comp=E,60nm,0.3s						
PRN	**Pahroc Range**	**2.58**	**102**		**Pn**	**03 31 33.1**	**+1.1**
PRN	**Pahroc Range**	**2.58**	**102**	IAML		03 32 21.8	
	comp=E,54nm,0.6s						
SHOC	**Shoshone, Teco**	**2.60**	**143**	Pg	**Pg**	**03 31 39.5**	**-0.8**
	baz=324						
BBGB	**Big Mountain B**	**2.65**	**239**	Pn	**Pn**	**03 31 34.3**	**+1.4**
CCAC	**Calif City Air**	**2.84**	**177**	Pn	**Pn**	**03 31 35.1**	**-0.3**
CCAC				IAML		03 32 30.7	
	comp=N,28nm,4.5s						
CCAC				IAML		03 32 36.3	
	comp=E,25nm,4.4s						
SAO	**San Andreas Ge**	**2.85**	**245**	Pn	**Pn**	**03 31 35.1**	**-0.4**
SHPR	**Sheep Range**	**2.86**	**120**	Pn	**Pn**	**03 31 36.0**	**+0.2**
ARVC	**Arvin**	**2.90**	**190**	Pb	**Pb**	**03 31 43.0**	**+1.0**
	baz=9.3						
ARVC				Sb	**Sg**	**03 32 21.2**	**-2.4**
	baz=9.3						
GSC	**Goldstone, Bar**	**2.92**	**157**		**Pn**	**03 31 36.2**	**-0.3**
GSC				IAML		03 32 32.2	
	comp=E,22nm,2.2s						
GSC				IAML		03 32 35.6	
	comp=N,16nm,3.1s						
GSC	**Goldstone, Bar**	**2.92**	**157**	P	**Pn**	**03 31 37.3**	**+0.8**
	baz=337,SNR=8.2						
ORV	**Oroville**	**3.00**	**302**	Pn	**Pn**	**03 31 37.0**	**-0.7**
SMMC	**Simmler**	**3.03**	**209**	Sb	**Sg**	**03 32 24.6**	**-3.1**
	baz=27						
EDW2	**Edwards Air Fo**	**3.11**	**177**	Pg	**Pg**	**03 31 47.9**	**-2.0**
	baz=357						
TUQ	**Turquoise Moun**	**3.15**	**143**	Pg	**Pg**	**03 31 49.5**	**-1.2**
	baz=325						
TUQ				Sg	**Sg**	**03 32 32.8**	**+1.4**
	baz=325						
BCW	**Bitter Crk WRg**	**3.19**	**198**	Pn	**Pn**	**03 31 41.0**	**+0.6**
BCW				IAML		03 32 50.4	
	comp=N,27nm,2.5s						
BCW				IAML		03 33 01.1	
	comp=E,34nm,4.7s						
SPR3	**Spring Creek 3**	**3.21**	**71**	Pn	**Pn**	**03 31 40.6**	**-0.2**
PKM	**Mcpherson Peak**	**3.35**	**203**	Sg	**Sg**	**03 32 41.5**	**+3.4**
	baz=22						
HEC	**Hector,Ludlow**	**3.50**	**154**	Pg	**Pg**	**03 31 57.3**	**-0.2**
	baz=335						
V12A	**Nelson**	**3.52**	**129**	Pn	**Pn**	**03 31 44.6**	**-0.3**
ELK	**Elko**	**3.59**	**39**	Pn	**Pn**	**03 31 46.0**	**+0.1**
SZCU	**Shurtz Canyon**	**4.08**	**94**	Pn	**Pn**	**03 31 52.1**	**-0.6**
KNB	**Kanab**	**4.40**	**101**	Pn	**Pn**	**03 31 57.8**	**+0.7**
WVOR	**Wild Horse Val**	**4.45**	**356**	Pn	**Pn**	**03 31 57.2**	**-0.4**
WVOR				IAML		03 32 36.2	
	comp=E,14nm,4.6s						
DUG	**Dugway, Tooele**	**4.75**	**61**	Pn	**Pn**	**03 32 02.2**	**+0.5**
DUG				IAML		03 33 54.4	
	comp=E,9.7nm,4.8s						
BGU	**Big Grassy Mou**	**4.97**	**52**	Pn	**Pn**	**03 32 04.2**	**-0.6**
U15A	**North Rim**	**4.98**	**106**	Pn	**Pn**	**03 32 04.4**	**-0.7**

*BJI **07** 03:38:07.0±0.0, 6.40S×103.90E, h42km, mb4.8/34, mB5.2/13, Ms4.9/6, Ms7 4.8/6*

*DJA **07** 03:38:07.9±0.3, 6.5S±3.3×107.4E±*, h43km±4km, M4.8/25, mB5.3/6, mb4.9/25, MLv4.7/25, Mw(mB)4.7/6, MwMwp6.3/1, Mwp6.3/1*

*NEIC **07** 03:38:08.6±1.6, 6.36S±0.07×103.86E±0.07, h42km±6km, mb4.7/31, Error ellipse: s-maj=11.9km s-min=9.5km az=221.0*

*IDC **07** 03:38:09.9±0.9, 6.17S×104.07E, h48km±6km, mb4.3/19, mbtmp4.6/20, MS4.1/3, Error ellipse: s-maj=26.2km s-min=11.2km az=49.0*

ISC 07 03:38:08.3±0.4, 6.48S±0.07×103.87E±0.06, h48km, n140, σ1f119/136, mb4.7/40, MS4.6/5, 3D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.13**	**33**	P	**Pn**	**03 38 25.8**	**-1.9**
LWLI	**Liwa**	**1.46**	**7**	P	**Pn**	**03 38 31.9**	**-0.4**
BLSI	**Bandar Lampung**	**1.75**	**51**	P	**Pn**	**03 38 35.3**	**-1.0**
CGJI	**Cibinong**	**1.81**	**94**	P	**Pn**	**03 38 35.7**	**-1.4**
KLI	**Kotabumi**	**1.88**	**32**	P	**Pn**	**03 38 37.6**	**-0.3**
MDSI	**Maura Dua**	**2.00**	**9**	P	**Pn**	**03 38 39.3**	**-0.3**
SBJI	**Serang**	**2.27**	**81**	P	**Pn**	**03 38 43.0**	**-0.3**
MNAI	**Manna**	**2.29**	**336**	Pn	**Pn**	**03 38 42.2**	**-1.4**
MNAI	**Manna**	**2.29**	**336**	P	**Pn**	**03 38 44.3**	**+0.7**
MNAI	**Manna**	**2.29**	**336**	P	**Pn**	**03 38 43.7**	**+0.1**
SKJI	**Sukabumi**	**2.72**	**101**	P	**Pn**	**03 38 49.1**	**-0.4**
TNG	**Tangerang**	**2.77**	**84**	P	**Pn**	**03 38 51.3**	**+1.1**
CBJI	**Citeko**	**2.96**	**89**	P	**Pn**	**03 38 53.9**	**+1.1**
KSI	**Kapahiang**	**3.08**	**336**	P

H08S2 Diego Garcia H 31.16 266 T T 04 16 58.6
baz=90,slow=75,SNR=11
H08S3 Diego Garcia H 31.17 266 T T 04 17 01.3
baz=90,slow=75,SNR=13
H08S1 Diego Garcia H 31.18 266 T T 04 17 02.9
baz=90,slow=75,SNR=13
TNCH TengChong 31.74 351 *e*P **P 03 44 30.7 +2.6**
WRA Warramunga Arr 32.46 117 P P **03 44 34.6 +0.2**
comp=Z,4.3nm,0.7s,baz=296,slow=11,SNR=35
WRA PcP **PcP 03 47 22.3 +1.5**
comp=Z,1.1nm,0.4s,baz=309,slow=1.8,SNR=11
comp=Z,4.3nm,0.7s
WR0 Warramunga Arr 32.65 117 P **P 03 44 35.2 -0.8**
WR0 IAmb IAmb 03 44 37.2
comp=Z,5.7nm,0.7s
PZH PanZhiHua 32.85 356 P **P 03 44 40.1 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
ASAR Alice Springs 33.54 124 P **P 03 44 44.7 +1.0**
comp=Z,1.5nm,0.4s,baz=308,slow=8.6,SNR=59
ASAR PcP **PcP 03 47 25.4 +1.6**
comp=Z,0.9nm,0.7s,baz=301,slow=2.8,SNR=6.8
comp=Z,1.5nm,0.4s
XAN Xi'an 40.58 6 P **P 03 45 41.5 -1.8**
XAN pmax pmax
comp=Z,9.0nm,0.6s
NJ2 Nanjing 40.89 20 *e*P **P 03 45 47.4 +1.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
CTA Charters Tower 43.27 112 LR LR 04 06 01.0
comp=Z,452nm,20.3s,baz=62,slow=39
STKA Stephens Creek 43.32 131 P **P 03 46 07.3 +1.6**
comp=Z,4.0nm,0.5s,baz=303,slow=7.6,SNR=11
STKA pP **pwP 03 46 21.9 +1.3**
comp=Z,10nm,0.6s,baz=304,slow=8.9,SNR=12
comp=Z,4.0nm,0.5s
STKA Stephens Creek 43.32 131 P **P 03 46 06.4 +0.6**
HHC Hu-ho-hao-te 47.62 8 *e*P **P 03 46 42.9 +3.2**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,410nm,7.6s
BJT Baijiatuan 47.63 13 P **P 03 46 38.8 -0.8**
KSAR Wonju Array Be 49.11 25 P **P 03 46 50.9 -0.1**
KSRS Korea Array 49.13 25 P **P 03 46 50.7 -0.5**
comp=Z,5.2nm,0.7s,baz=220,slow=7.5,SNR=28
comp=Z,5.2nm,0.7s
KS19 Wonju Array Si 49.15 25 P **P 03 46 51.0 -0.4**
KS19 IAmb IAmb 03 46 51.9
comp=Z,6.4nm,0.8s
NIL Nilore 49.34 326 P **P 03 46 52.8 -0.2**
JHS Saijyo 49.62 32 P **P 03 46 54.2 -0.8**
XLT XiLinHaoTe 51.34 11 ⇓*i*P **P 03 47 07.7 -0.3**
XLT pmax pmax
comp=Z,16nm,0.6s
XLT pmax pmax
comp=Z,140nm,7.5s
WMQ Urumqi 52.16 345 ⇓*i*P **P 03 47 15.0 +0.9**
WMQ sP sP 03 47 35.3 +3.3
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ LR LR
comp=Z,610nm,21.3s
WMQ LR LR
comp=Z,590nm,17.7s
KBL Kabul 52.40 323 P **P 03 47 16.0 -0.2**
KBL IAmb IAmb 03 47 32.6
comp=Z,3.4nm,0.6s
KSH Kashi 52.53 333 P **P 03 47 16.4 -0.6**
KSH pP pP 03 47 31.0 +1.4
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH LR LR
comp=Z,660nm,15.8s
KSH LR LR
comp=Z,980nm,16.5s
KSH LR LR
comp=Z,830nm,17.2s
MJAR Matsushiro Arr 53.53 34 P **P 03 47 22.3 -2.0**
comp=Z,1.2nm,0.4s,baz=192,slow=8.4,SNR=5.5
comp=Z,1.2nm,0.4s
SONM Songino Array 54.12 2 P **P 03 47 28.9 +0.4**
comp=Z,12nm,0.7s,baz=177,slow=9.0,SNR=59
SONM PcP **PcP 03 48 33.3 +0.5**
comp=Z,1.0nm,0.7s,baz=186,slow=5.3,SNR=1.8
comp=Z,12nm,0.7s
SONM Songino Array 54.12 2 P **P 03 47 27.8 -0.7**
SONM IAmb IAmb 03 47 29.7
comp=Z,12nm,0.8s
ULN Ulaanbaatar 54.18 3 P **P 03 47 28.5 -0.4**
ULN IAmb IAmb 03 47 29.9
comp=Z,6.7nm,0.7s
BNX BinXian 56.08 20 ⇓P **P 03 47 42.4 -0.1**
BNX pmax pmax
comp=Z,25nm,1.0s
MK31 Makanchi Array 56.39 342 P **P 03 47 44.1 -0.6**
MK31 IAmb IAmb 03 47 45.5
comp=Z,3.9nm,0.7s
MKAR Makanchi Array 56.39 342 P **P 03 47 44.6 -0.1**
comp=Z,5.2nm,0.6s,baz=153,slow=8.4,SNR=67
MKAR pP **pP 03 47 57.9 +0.4**
comp=Z,2.8nm,0.7s,baz=140,slow=7.8,SNR=5.5
comp=Z,5.2nm,0.6s
USA0B Ussuriysk Arra 56.46 24 IAmb IAmb 03 47 45.4
comp=Z,11nm,0.7s
USRK Ussuriysk Ar. 56.46 24 P **P 03 47 44.4 -0.8**
comp=Z,8.9nm,0.5s,baz=204,slow=5.1,SNR=37
USRK pP **pP 03 47 56.3 -1.6**
comp=Z,1.9nm,0.6s,baz=214,slow=5.3,SNR=3.1
comp=Z,8.9nm,0.5s
USRK Ussuriysk Ar. 56.46 24 P **P 03 47 44.1 -1.1**
MAKZ Makanchi 56.50 342 P **P 03 47 44.9 -0.6**
KK31 Karatay Array 57.89 332 P **P 03 47 55.2 -0.1**
KK31 IAmb IAmb 03 47 56.3
comp=Z,2.4nm,0.5s
KKAR Karatay Array 57.89 332 P **P 03 47 54.0 -1.4**
KKAR IAmb IAmb 03 47 56.3
comp=Z,2.4nm,0.5s
KURBB Kurchatov Arra 60.94 342 P **P 03 48 16.2 -0.1**
comp=Z,3.4nm,0.8s,baz=158,slow=6.4,SNR=28
KURBB pP **pP 03 48 29.8 +0.7**
comp=Z,0.2nm,0.4s,baz=225,slow=30,SNR=2.3
comp=Z,3.4nm,0.8s
KURK Kurchatov 60.99 342 P **P 03 48 15.9 -0.7**
KURK IAmb IAmb 03 48 17.6
comp=Z,6.2nm,0.8s
GEYT Alibeck 61.33 320 P **P 03 48 20.4 +1.2**
comp=Z,2.7nm,0.5s,baz=167,slow=7.2,SNR=4.9
comp=Z,2.7nm,0.5s
ZAA0 Zalesovo Array 62.30 347 P **P 03 48 24.1 -1.2**
ZALV Zalesovo Beam 62.30 347 P **P 03 48 24.8 -0.5**
comp=Z,8.5nm,0.4s,baz=155,slow=5.5,SNR=56
comp=Z,8.5nm,0.4s
BVAR Borovoye Array 65.71 339 P **P 03 48 47.6 -0.2**
comp=Z,9.0nm,0.5s,baz=144,slow=9.0,SNR=53
comp=Z,9.0nm,0.5s
BRVK Borovoye 65.78 339 P **P 03 48 47.9 -0.3**
BRVK IAmb IAmb 03 48 49.6
comp=Z,5.8nm,0.6s
ABKAR Akbulak array 67.40 331 P **P 03 48 59.1 +0.4**
LODK Lodwar 69.10 276 P **P 03 49 08.0 -2.1**
AKTO Aktyubinsk 69.12 331 P **P 03 49 09.9 +0.5**
comp=Z,2.0nm,0.3s,baz=164,slow=2.8,SNR=9.5
comp=Z,2.0nm,0.3s
GURO Guroymak-BITLI 72.65 314 P **P 03 49 31.5 +0.2**
GURO IAmb IAmb 03 49 33.8
comp=Z,3.5nm,0.6s
ARU Arti 72.84 336 P **P 03 49 32.5 +0.7**
comp=Z,5.6nm,0.5s,baz=55,slow=0.9,SNR=12
comp=Z,5.6nm,0.5s
ARU Arti 72.84 336 P **P 03 49 31.8 0.0**
ARU IAmb IAmb 03 49 39.6
comp=Z,9.7nm,1.5s
MARD Mardin 73.09 312 P **P 03 49 32.3 -1.6**
MARD IAmb IAmb 03 49 37.1
comp=Z,7.1nm,0.7s
KBZ Khabaz 74.19 319 P **P 03 49 42.1 +2.0**
comp=Z,4.2nm,1.0s,baz=181,slow=5.4,SNR=6.2
comp=Z,4.2nm,1.0s
VNDA Vanda 77.06 169 LR LR 04 22 13.2
comp=Z,251nm,18.2s,baz=44,slow=34
BR131 Keskin Array S 79.17 312 P **P 03 50 08.0 -0.5**
BRTR Keskin Array B 79.17 312 P **P 03 50 09.4 +0.9**
comp=Z,9.9nm,0.7s,baz=139,slow=6.5,SNR=14
comp=Z,2.9nm,0.7s
AKASG Malin Array Be 85.36 322 P **P 03 50 41.3 +1.0**
comp=Z,1.5nm,0.6s,baz=82,slow=4.1,SNR=16
comp=Z,1.5nm,0.6s
AKASG Malin Array Be 85.36 322 P **P 03 50 39.8 -0.6**
BURAR Bucovina Array 87.15 318 P **P 03 50 50.4 +1.0**
BURAR IAmb IAmb 03 50 53.3
comp=Z,6.9nm,0.7s
FINES FINESS Array B 89.84 332 P **P 03 51 02.4 +0.8**
comp=Z,3.8nm,0.8s,baz=104,slow=8.0,SNR=8.1
comp=Z,3.8nm,0.8s
YKA Yellowknife Ar 117.41 19 PKP **PKiKP 03 56 48.7 +0.4**
comp=Z,0.4nm,0.8s,baz=301,slow=2.2,SNR=4.0
OK050 Pawnee Station 144.63 30 PKPdf PKPbc 03 57 39.4 +0.5
R40A Maddies Statio 145.11 22 PKPbc **PKPbc 03 57 39.5 -0.9**
FNO Franklin 145.31 31 PKPbc **PKPbc 03 57 39.9 -1.2**
TXAR Lajitas Array 145.48 45 PKPbc **PKPdf 03 57 42.1 +0.2**
CCM Cathedral Cave 145.70 21 **PKPdf 03 57 40.9 -1.1**
ABTX Abilene, Hawle 146.00 37 PKPbc **PKPdf 03 57 42.7 +0.1**
MGMO Mountain Grove 146.10 23 PKPbc **PKPdf 03 57 41.8 -0.9**
HHAR Hobbs 146.14 26 PKPbc **PKPdf 03 57 42.2 -0.6**
FCAR Ozark Folk Cen 147.25 24 PKPbc **PKPdf 03 57 45.3 +0.7**
JCT Junction City 147.37 40 PKPbc **PKPdf 03 57 45.9 +0.8**
LCAR Lake Charles 147.48 23 PKPbc **PKPbc 03 57 46.8 -0.7**
MIAR Mount Ida 147.75 28 PKPbc **PKPbc 03 57 47.1 -1.2**
WVT Waverly 148.59 18 PKPbc **PKPbc 03 57 49.8 -0.7**
V52A Sevierville 149.98 12 PKPbc **PKPbc 03 57 52.3 -1.7**

*NNC **07** 03:40:48.0±0.2,44°.25N×77°.34E,h0km,mb3.2,mpv3.5,*
Error ellipse: s-maj=2.0km s-min=1.3km az=155.0
*SOME **07** 03:40:49.0,44°.25N×77°.32E,h15km*
ISC 07 03:40:48.2±1.1,44°.27N±0°.03×77°.31E±0°.02,h7km±9km,
n51,σ0s84/86,10C-6D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKK	**Chushkaly**	**0.48**	**209**	P	**Pg**	**03 40 57.7**	**+0.2**
	26nm,0.0s						
CHKK				S	**Sg**	**03 41 03.9**	**+0.3**
	91nm,0.2s						
CHKK	**Chushkaly**	**0.48**	**209**	*e*P	**Pg**	**03 40 57.7**	**+0.2**
	26nm,0.0s						
CHKK				*e*S	**Sg**	**03 41 03.9**	**+0.3**
	91nm,0.2s						
KTBS	**Karatobe**	**0.72**	**219**	P	**Pg**	**03 41 02.2**	**+0.1**
	29nm,0.1s						
KTBS				S	**Sg**	**03 41 11.8**	**+0.5**
	83nm,0.2s						
KTBS	**Karatobe**	**0.72**	**219**	*e*P	**Pg**	**03 41 02.2**	**+0.1**
	29nm,0.1s						
KTBS				*e*S	**Sg**	**03 41 11.8**	**+0.5**
	83nm,0.2s						
KUU	**Kurty**	**0.79**	**242**	P	**Pg**	**03 41 03.6**	**+0.1**
	16nm,0.1s						
KUU				S	**Sg**	**03 41 14.2**	**+0.4**
	200nm,0.2s						
KUU	**Kurty**	**0.79**	**242**	⇑*i*P	**Pg**	**03 41 03.6**	**+0.1**
	16nm,0.1s						
KUU				⇓*i*S	**Sg**	**03 41 14.2**	**+0.4**
	200nm,0.2s						
BLB	**Baldybastay**	**0.86**	**101**	P	**Pg**	**03 41 04.3**	**-0.5**
	30nm,0.1s						
BLB				S	**Sg**	**03 41 15.3**	**-0.6**
	34nm,0.1s						
KURS	**Kuram**	**1.00**	**141**	P	**Pg**	**03 41 07.3**	**-0.1**
	16nm,0.1s						
KURS				S	**Sb**	**03 41 20.5**	**-0.8**
	55nm,0.3s						
KURS	**Kuram**	**1.00**	**141**	*e*P	**Pg**	**03 41 07.3**	**-0.1**
	16nm,0.1s						
KURS				*e*S	**Sb**	**03 41 20.5**	**-0.8**
	55nm,0.3s						
KOTS	**Kotyrbulak**	**1.05**	**188**	P	**Pg**	**03 41 08.1**	**-0.2**
	14nm,0.1s						
KOTS				S	**Sg**	**03 41 21.8**	**-0.1**
	68nm,0.1s						
KOTS	**Kotyrbulak**	**1.05**	**188**	*e*P	**Pg**	**03 41 08.1**	**-0.2**
	14nm,0.1s						
KOTS				*e*S	**Sg**	**03 41 21.8**	**-0.1**
	68nm,0.1s						
TDK	**Taldyqorghan**	**1.07**	**47**	P	**Pg**	**03 41 08.3**	**-0.5**
	94nm,0.3s						
TDK				S	**Sg**	**03 41 22.1**	**-0.6**
	88nm,0.2s						
TDK	**Taldyqorghan**	**1.07**	**47**	*e*P	**Pg**	**03 41 08.3**	**-0.5**
	94nm,0.3s						
TDK				*e*S	**Sg**	**03 41 22.1**	**-0.6**
	88nm,0.2s						
MDOK	**Medeo**	**1.12**	**190**	Pg	**Pg**	**03 41 09.3**	**-0.5**
	9.6nm,0.1s						
MDOK				P	**Pg**	**03 41 09.3**	**-0.5**
	6.0nm,0.5s						
MDOK				Lg	Lg	03 41 23.9	
	22nm,0.1s						
MDOK				⇑S	**Sb**	**03 41 24.5**	**-0.5**
	5.1nm,0.3s						
MDOK	**Medeo**	**1.12**	**190**	*e*P	**Pg**	**03 41 09.3**	**-0.5**
	9.6nm,0.1s						
MDOK				*e*S	**Sg**	**03 41 23.9**	**-0.4**
	22nm,0.1s						
TNSS	**Tian-Shan**	**1.26**	**192**	P	**Pg**	**03 41 12.0**	**-0.4**
	23nm,0.2s						
TNSS				S	**Sb**	**03 41 28.7**	**-0.4**
	17nm,0.1s						
TNSS	**Tian-Shan**	**1.26**	**192**	⇑*i*P	**Pg**	**03 41 12.0**	**-0.4**
	23nm,0.2s						
TNSS				*e*S	**Sb**	**03 41 28.7**	**-0.4**
	17nm,0.1s						
KPKS	**Kokpek**	**1.28**	**128**	P	**Pn**	**03 41 12.0**	**-0.6**
	5.3nm,0.1s						
KPKS				S	**Sg**	**03 41 28.6**	**-0.7**
	33nm,0.1s						
KPKS	**Kokpek**	**1.28**	**128**	*e*P	**Pn**	**03 41 12.1**	**-0.6**
	5.3nm,0.1s						
KPKS				*e*S	**Sg**	**03 41 28.6**	**-0.7**
	33nm,0.1s						
MTBS	**Maitube**	**1.31**	**210**	P	**Pn**	**03 41 12.7**	**-0.3**
	12nm,0.1s						
MTBS				S	**Sb**	**03 41 29.7**	**-0.5**
	80nm,0.2s						
MTBS	**Maitube**	**1.31**	**210**	*e*P	**Pn**	**03 41 12.7**	**-0.3**
	12nm,0.1s						
MTBS				*e*S	**Sb**	**03 41 29.7**	**-0.5**
	80nm,0.2s						
KRBS	**Karabastau**	**1.31**	**245**	P	**Pn**	**03 41 12.7**	**-0.3**
	16nm,0.1s						
KRBS				S	**Sb**	**03 41 29.7**	**-0.5**
	65nm,0.2s						
KRBS	**Karabastau**	**1.31**	**245**	*e*P	**Pn**	**03 41 12.7**	**-0.3**
	16nm,0.1s						
KRBS				*e*S	**Sb**	**03 41 29.7**	**-0.5**
	65nm,0.2s						
ZHN	**Zhinishke**	**1.37**	**143**	P	**Pn**	**03 41 13.3**	**-0.6**
	11nm,0.1s						
ZHN				S	**Sb**	**03 41 30.9**	**-1.2**
	48nm,0.1s						
ZHN	**Zhinishke**	**1.37**	**143**	*e*P	**Pn**	**03 41 13.3**	**-0.6**
	11nm,0.1s						
ZHN				*e*S	**Sb**	**03 41 30.9**	**-1.2**
	48nm,0.1s						
SATY	**Saty**	**1.45**	**146**	P	**Pn**	**03 41 14.9**	**-0.1**
	6.3nm,0.1s						
SATY				S	**Sb**	**03 41 33.6**	**-0.7**
	85nm,0.1s						
SATY	**Saty**	**1.45**	**146**	⇑*i*P	**Pn**	**03 41 14.9**	**-0.1**
	6.3nm,0.1s						
SATY				*e*S	**Sb**	**03 41 33.6**	**-0.7**
	85nm,0.1s						
DGS	**Degeres**	**1.52**	**228**	P	**Pn**	**03 41 16.2**	**+0.3**
	10nm,0.2s						
DGS				S	**Sn**	**03 41 35.8**	**-0.1**
	72nm,0.2s						
DGS	**Degeres**	**1.52**	**228**	*e*P	**Pn**	**03 41 16.2**	**+0.3**
	10nm,0.2s						
DGS				*e*S	**Sn**	**03 41 35.8**	**-0.1**
	72nm,0.2s						
KST	**Kastek**	**1.57**	**219**	P	**Pn**	**03 41 17.2**	**+0.5**
	5.2nm,0.1s						
KST				S	**Sn**	**03 41 37.4**	**+0.2**
	39nm,0.2s						
KST	**Kastek**	**1.57**	**219**	*e*P	**Pn**	**03 41 17.2**	**+0.5**
	5.2nm,0.1s						
KST				*e*S	**Sn**	**03 41 37.4**	**+0.2**
	39nm,0.2s						
UZB	**Uzynbulak**	**1.68**	**131**	P	**Pn**	**03 41 18.6**	**+0.5**
	4.2nm,0.1s						
UZB				S	**Sn**	**03 41 39.9**	**0.0**
	21nm,0.1s						
UZB	**Uzynbulak**	**1.68**	**131**	*e*P	**Pn**	**03 41 18.6**	**+0.5**
	4.2nm,0.1s						
UZB				*e*S	**Sn**	**03 41 39.9**	**0.0**
	21nm,0.1s						
DJR	**Jarkent**	**1.78**	**87**	P	**Pb**	**03 41 21.0**	**-0.3**
	11nm,0.2s						
DJR				S	**Sb**	**03 41 43.9**	**0.0**
	31nm,0.2s						
DJR	**Jarkent**	**1.78**	**87**	*e*P	**Pb**	**03 41 21.0**	**-0.3**
	11nm,0.2s						
DJR				*e*S	**Sb**	**03 41 43.9**	**0.0**
	31nm,0.2s						
TKM2	**Tokmak 2**	**1.83**	**223**	⇑P	**Pb**	**03 41 21.9**	**-0.4**
	2.1nm,0.6s						
TKM2				⇓S	**Sb**	**03 41 45.9**	**+0.4**
	10nm,0.3s						
SHLS	**Shalkode**	**1.92**	**125**	Pg	**Pg**	**03 41 27.9**	**+3.0**
	11nm,0.2s						
SHLS				Lg	Lg	03 41 56.0	
	213nm,0.2s						
SHLS	**Shalkode**	**1.92**	**125**	*e*Pg	**Pg**	**03 41 27.9**	**+3.0**
	11nm,0.2s						
SHLS				*e*Lg	Lg	03 41 56.0	
	213nm,0.2s						
SGDS	**Sogindy**	**2.10**	**248**	Pg	**Pb**	**03 41 26.8**	**0.0**
	3.2nm,0.1s						
SGDS				Lg	Lg	03 41 53.9	
	38nm,0.1s						
CHMS	**Chumysh**	**2.25**	**236**	⇓Pg	**Pb**	**03 41 30.5**	**+1.3**
	3.6nm,0.7s						
CHMS				⇓Lg	Lg	03 41 58.5	
	4.3nm,0.2s						
KTMS	**Ketmen**	**2.35**	**109**	Pg	**Pb**	**03 41 31.0**	**0.0**
	1.6nm,0.2s						
KTMS				Lg	Lg	03 42 01.3	
	6.8nm,0.1s						
KTMS	**Ketmen**	**2.35**	**109**	*e*Pg	**Pb**	**03 41 31.0**	**0.0**
	1.6nm,0.2s						
KTMS				*e*Lg	Lg	03 42 01.3	
	6.8nm,0.1s						
BTLS	**Baital**	**2.45**	**289**	Pg	**Pb**	**03 41 33.9**	**+1.2**
	2.8nm,0.1s						
BTLS				Lg	Lg	03 42 06.1	
	2.3nm,0.1s						
BTLS	**Baital**	**2.45**	**289**	*e*Pg	**Pb**	**03 41 33.9**	**+1.2**
	2.8nm,0.1s						
BTLS				*e*Lg	Lg	03 42 06.1	
	2.3nm,0.1s						
MRKS	**Merke**	**3.34**	**244**	Pg	**Pb**	**03 41 49.3**	**+1.5**
	2.7nm,0.3s						
MRKS				Lg	Lg	03 42 32.4	
	9.1nm,0.4s						
MRKS	**Merke**	**3.34**	**244**	*e*Pg	**Pb**	**03 41 49.3**	**+1.5**
	2.7nm,0.3s						
MRKS				*e*Lg	Lg	03 42 32.4	
	9.1nm,0.4s						
MAKZ	**Makanchi**	**4.15**	**51**	⇑Lg	Lg	03 42 58.0	
	1.7nm,0.5s						
MK31	**Makanchi Array**	**4.32**	**52**	Pn	**Pn**	**03 41 55.7**	**+1.4**
	0.1nm,0.2s,baz=232,slow=14,SNR=11						
MK31				⇑Sn	**Sn**	**03 42 46.2**	**+1.3**
	0.1nm,0.2s,baz=224,slow=21,SNR=3.6						
MK31				⇑Lg	Lg	03 43 03.7	
	1.3nm,0.5s,baz=235,slow=28,SNR=5.5						
KK31	**Karatay Array**	**5.07**	**259**	⇑Pg	**Pg**	**03 42 21.8**	**-3.4**
	2.1nm,1.1s,baz=70,slow=16,SNR=7.1						
KK31				⇑Lg	Lg	03 43 27.8	
	2.1nm,0.7s,baz=76,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**6.41**	**7**	⇓Lg	Lg	03 44 12.6	
	4.6nm,0.8s						
KURK	**Kurchatov**	**6.51**	**7**	⇓Lg	Lg	03 44 14.0	
	2.9nm,1.0s						

NNC 07 03:52:58.7±4.7,38°.03N×71°.58E,h0km,mb3.8,mpv3.4,
5C-1D,Error ellipse: s-maj=35.8km s-min=26.3km
az=177.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.13**	**351**	⇑Pn	Pn	03 54 18.1	+1.3
	2.3nm,0.3s,baz=174,slow=12,SNR=122						
KK31				⇑Sn	Sn	03 55 18.0	+1.2
	0.9nm,0.2s,baz=173,slow=23,SNR=7.0						
CHMS	**Chumysh**	**5.52**	**25**	⇓Pn	Pn	03 54 21.5	-0.6
	2.5nm,0.6s						
CHMS				⇑Sn	Sn	03 55 27.7	+1.4
	2.7nm,0.6s						
TKM2	**Tokmak 2**	**5.77**	**31**	⇑Pn	Pn	03 54 25.5	-0.2
	4.1nm,1.2s						
TKM2				⇑Sn	Sn	03 55 33.0	+0.3
	2.0nm,0.7s						

IDC 07 04:19:27.8±1.9,3°.08N×123°.72E,h0km,mb3.4/3,
mbtmp3.4/3,Error ellipse: s-maj=204.7km
s-min=27.2km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.15**	**156**	P	P	04 24 54.6	-0.2
	0.6nm,0.3s,baz=334,slow=10,SNR=12						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**28.38**	**160**	P	P	04 25 24.2	+0.2
	0.3nm,0.8s,baz=344,slow=7.0,SNR=4.5						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**56.41**	**327**	P	P	04 29 11.2	0.0
	0.1nm,0.4s,baz=130,slow=7.4,SNR=4.5						
	0.1nm,0.4s						

*SJA **07** 04:21:54.1±1.9,21°.57S×66°.83W,h249km±20km,ML4.0,*
MW3.8
*NEIC **07** 04:21:54.8±1.2,21°.60S±0°.04×66°.9W±0°.1,h257km±9km,*
mb4.3/1,Error ellipse: s-maj=16.4km s-min=5.2km
az=87.0
*VAO **07** 04:21:56.5±0.4,21°.38S×66°.71W,h217km±5km,mb4.1*
*SCB **07** 04:21:58.1±1.4,21°.48S×66°.88W,h195km±13km,ML4.1/1,*
MW3.7,Error ellipse: s-maj=6.3km s-min=5.8km az=0.0
ISC 07 04:21:54.9±0.6,21°.55S±0°.05×66°.80W±0°.04,h231km±8km,
n148,σ1s26/177,5D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.12**	**75**	Pg	**Pn**	**04 22 29.3**	**+0.2**
MOCB				Sg	**S**	**04 22 53.5**	**-2.3**
MOCB				IAML		04 22 54.8	
	1μm,0.4s						
AF01	**San Pedro de A**	**1.90**	**222**		**Pn**	**04 22 36.9**	**+1.8**
AF01	**San Pedro de A**	**1.90**	**222**	Pg	**Pn**	**04 22 36.9**	**+1.8**
LVC	**Limon Verde**	**2.23**	**241**		**Pn**	**04 22 39.4**	**+1.0**
LVC				Sn	**S**	**04 23 11.2**	**-1.2**
LVC	**Limon Verde**	**2.23**	**241**	*i* P	**Pn**	**04 22 39.5**	**+1.2**
LVC				*e*S	**S**	**04 23 12.3**	**-0.1**
LVC				IAML		04 23 16.8	
	comp=Z,125nm,0.5s						
LVC	**Limon Verde**	**2.23**	**241**	*i* P	**Pn**	**04 22 39.5**	**+1.2**
LVC				*e*S	**S**	**04 23 12.3**	**-0.1**
LVC				IAML		04 23 16.8	
	comp=Z,125nm,0.5s						
LVC	**Limon Verde**	**2.23**	**241**	Pg	**Pn**	**04 22 39.1**	**+0.7**
LVC	**Limon Verde**	**2.23**	**241**	*e*P	**Pn**	**04 22 39.6**	**+1.2**
PB09	**IPOC Station P**	**2.29**	**263**		**Pn**	**04 22 39.4**	**+0.6**
PB09				Sn	**S**	**04 23 12.3**	**-0.7**
PB09	**IPOC Station P**	**2.29**	**263**	⇓*i*P	**Pn**	**04 22 39.8**	**+1.0**
PB09				*e*S	**S**	**04 23 12.6**	**-0.5**
PB09				IAML		04 23 16.2	
	comp=E,292nm,0.3s						
PB09	**IPOC Station P**	**2.29**	**263**	*i* P	**Pn**	**04 22 40.0**	**+1.2**
PB09				*e*S	**S**	**04 23 13.4**	**+0.4**
PB09				IAML		04 23 15.8	
	comp=Z,342nm,0.5s						
PB09	**IPOC Station P**	**2.29**	**263**	*i* P	**Pn**	**04 22 40.0**	**+1.2**
PB09				*e*S	**S**	**04 23 13.4**	**+0.4**
PB09				IAML		04 23 15.8	
	comp=Z,342nm,0.5s						
PB01	**IPOC Station P**	**2.56**	**281**		**Pn**	**04 22 42.2**	**+0.7**
PB01	**IPOC Station P**	**2.56**	**281**	*e*P	**Pn**	**04 22 42.4**	**+0.8**
PB01				*e*S	**S**	**04 23 17.6**	**-0.4**
PB01				IAML		04 23 18.6	
	comp=N,676nm,0.3s						
PB01	**IPOC Station P**	**2.56**	**281**	⇓*i*P	**Pn**	**04 22 42.5**	**+1.0**
PB01				IAML		04 23 20.1	
	comp=Z,178nm,0.2s						
PB01	**IPOC Station P**	**2.56**	**281**	⇓*i*P	**Pn**	**04 22 42.5**	**+1.0**
PB01				IAML		04 23 20.1	
	comp=Z,178nm,0.2s						

PB08 IPOC Station P 2.61 302 Pn 04 22 43.5 +1.1
PB08 IPOC Station P 2.61 302 ⇓*i*P Pn 04 22 43.6 +1.2
PB08 IPOC Station P 2.61 302 *i*P Pn 04 22 43.8 +1.4
PB08 IAML 04 23 24.4
comp=Z,46nm,0.3s
PB08 IPOC Station P 2.61 302 *i*P Pn 04 22 43.8 +1.4
PB08 IAML 04 23 24.4
comp=Z,46nm,0.3s
PB03 IPOC Station P 2.79 259 Pn 04 22 44.8 +0.8
PB03 Sn **S** 04 23 20.8 -1.8
PB03 IPOC Station P 2.79 259 *e*P Pn 04 22 45.0 +0.8
PB03 *e*S **S** 04 23 20.6 -2.0
PB03 IAML 04 23 21.8
comp=E,1μm,0.2s
PB03 IPOC Station P 2.79 259 *i*P Pn 04 22 44.9 +0.8
PB03 *e*S **S** 04 23 20.6 -2.0
PB03 IAML 04 23 21.8
comp=Z,728nm,0.2s
PB03 IPOC Station P 2.79 259 *i*P Pn 04 22 44.9 +0.8
PB03 *e*S **S** 04 23 20.6 -2.0
PB03 IAML 04 23 21.8
comp=Z,728nm,0.2s
PB06 IPOC Station P 2.82 245 Pn 04 22 45.2 +0.8
PB06 IPOC Station P 2.82 245 *e*P Pn 04 22 45.6 +1.3
PB06 *e*S **S** 04 23 21.8 -1.4
PB06 IAML 04 23 23.4
comp=E,813nm,0.2s
PB06 IPOC Station P 2.82 245 *i*P Pn 04 22 45.4 +1.0
PB06 *e*S **S** 04 23 22.9 -0.3
PB06 IAML 04 23 25.1
comp=Z,314nm,0.3s
PB06 IPOC Station P 2.82 245 *i*P Pn 04 22 45.4 +1.0
PB06 *e*S **S** 04 23 22.9 -0.3
PB06 IAML 04 23 25.1
comp=Z,314nm,0.3s
PB06 IPOC Station P 2.82 245 Pg Pn 04 22 45.9 +1.5
PB07 IPOC Station P 2.88 266 Pn 04 22 45.1 +0.1
PB07 Sn **S** 04 23 22.5 -1.8
PB07 IPOC Station P 2.88 266 *i*P Pn 04 22 45.9 +0.8
PB07 *e*S **S** 04 23 22.5 -1.8
PB07 IAML 04 23 23.8
comp=Z,789nm,0.2s
PB07 IPOC Station P 2.88 266 *i*P Pn 04 22 45.9 +0.8
PB07 *e*S **S** 04 23 22.5 -1.8
PB07 IAML 04 23 23.8
comp=Z,789nm,0.2s
PB02 IPOC Station P 2.90 274 Pn 04 22 45.6 +0.5
PB02 Sn **S** 04 23 22.8 -1.7
PB02 IPOC Station P 2.90 274 *i*P Pn 04 22 45.7 +0.5
PB02 *e*S **S** 04 23 22.9 -1.7
PB02 IAML 04 23 23.2
comp=Z,1μm,0.3s
PB02 IPOC Station P 2.90 274 *i*P Pn 04 22 45.7 +0.5
PB02 *e*S **S** 04 23 22.9 -1.7
PB02 IAML 04 23 23.2
comp=Z,1μm,0.3s
PB02 IPOC Station P 2.90 274 Pg Pn 04 22 45.6 +0.5
PB02 Sg **S** 04 23 22.2 -2.4
GO01 Chusmiza 2.92 309 Pn 04 22 46.8 +0.9
GO01 Chusmiza 2.92 309 *i*P Pn 04 22 47.0 +1.1
GO01 Chusmiza 2.92 309 *i*P Pn 04 22 47.0 +1.1
GO01 Chusmiza 2.92 309 Pg Pn 04 22 46.8 +0.9
PB15 IPOC Station P 2.98 236 Pn 04 22 46.5 +0.4
PB15 IPOC Station P 2.98 236 *i*P Pn 04 22 47.0 +0.8
PB15 IAML 04 23 31.8
comp=Z,2μm,0.1s
PB15 IPOC Station P 2.98 236 *i*P Pn 04 22 47.0 +0.8
PB15 IAML 04 23 31.8
comp=Z,2μm,0.1s
PB15 IPOC Station P 2.98 236 Pg Pn 04 22 47.6 +1.4
AZAP Zapla 3.11 149 *i*P Pn 04 22 48.0 +0.4
AZAP IAML 04 23 30.2
comp=Z,135nm,0.7s
AZAP Zapla 3.11 149 *i*P Pn 04 22 48.0 +0.4
AZAP IAML 04 23 30.2
comp=Z,135nm,0.7s
PB04 IPOC Station P 3.21 255 Pn 04 22 49.2 +0.5
PB04 IPOC Station P 3.21 255 *i*P Pn 04 22 49.5 +0.8
PB04 *e*S **S** 04 23 28.6 -2.4
PB04 IAML 04 23 31.1
comp=Z,617nm,0.1s
PB04 IPOC Station P 3.21 255 *i*P Pn 04 22 49.5 +0.8
PB04 *e*S **S** 04 23 28.6 -2.4
PB04 IAML 04 23 31.1
comp=Z,617nm,0.1s
PB04 IPOC Station P 3.21 255 Pg Pn 04 22 49.8 +1.0
PB11 IPOC Station P 3.21 303 Pn 04 22 49.2 +0.4
PB11 IPOC Station P 3.21 303 ⇓*i*P Pn 04 22 49.3 +0.4
PB11 *e*S **S** 04 23 29.4 -1.7
PB11 IAML 04 23 32.1
comp=N,358nm,0.1s
PB11 IPOC Station P 3.21 303 *i*P Pn 04 22 49.2 +0.4
PB11 IAML 04 23 32.5
comp=Z,149nm,0.2s
PB11 IPOC Station P 3.21 303 *i*P Pn 04 22 49.2 +0.4
PB11 IAML 04 23 32.5
comp=Z,149nm,0.2s
PATCX Punta Patache 3.21 282 Pn 04 22 49.0 +0.3
PATCX Punta Patache 3.21 282 *i*P Pn 04 22 49.0 +0.3
PATCX IAML 04 23 31.8
comp=Z,180nm,0.2s
PATCX Punta Patache 3.21 282 *i*P Pn 04 22 49.0 +0.3
PATCX IAML 04 23 31.8
comp=Z,180nm,0.2s
ASTB Santa Barbara 3.22 138 *i*P Pn 04 22 49.4 +0.5
ASTB IAML 04 23 33.8
comp=Z,6.6nm,0.3s
ASTB Santa Barbara 3.22 138 *i*P Pn 04 22 49.4 +0.5
ASTB IAML 04 23 33.8
comp=Z,6.6nm,0.3s
TA01 Diego Aracena 3.31 287 Pn 04 22 49.6 -0.1
TA01 Diego Aracena 3.31 287 *i*P Pn 04 22 49.0 -0.7
TA01 IAML 04 23 34.0
comp=Z,92nm,0.6s
TA01 Diego Aracena 3.31 287 *i*P Pn 04 22 49.0 -0.7
TA01 IAML 04 23 34.0
comp=Z,92nm,0.6s
TA02 Huaiquique 3.37 292 *i*P Pn 04 22 50.0 -0.4
TA02 IAML 04 23 35.4
comp=Z,257nm,0.1s
TA02 Huaiquique 3.37 292 *i*P Pn 04 22 50.0 -0.4
TA02 IAML 04 23 35.4
comp=Z,257nm,0.1s
TA02 Huaiquique 3.37 292 Pg Pn 04 22 50.9 +0.5
SLA San Lorenzo 3.38 160 *i*P Pn 04 22 52.0 +1.4
SLA San Lorenzo 3.38 160 *i*P Pn 04 22 52.0 +1.4
ALOL LOMAS DE OLMED 3.44 132 *i*P Pn 04 22 51.0 -0.3
ALOL LOMAS DE OLMED 3.44 132 *i*P Pn 04 22 51.0 -0.3
SOET ToroToro 3.54 15 Pg Pn 04 22 53.7 +0.9
SOET Sg **S** 04 23 36.3 -2.0
MNMCX Minye Minye 3.56 312 *i*P Pn 04 22 54.0 +1.0
MNMCX *e*S **S** 04 23 38.3 -0.3
MNMCX IAML 04 23 40.9
comp=Z,299nm,0.2s
MNMCX Minye Minye 3.56 312 *i*P Pn 04 22 54.0 +1.0
MNMCX *e*S **S** 04 23 38.3 -0.3
MNMCX IAML 04 23 40.9
comp=Z,299nm,0.2s
PSGCX Pisagua 3.67 301 Pn 04 22 53.8 -0.2
PSGCX Pisagua 3.67 301 *i*P Pn 04 22 53.0 -1.1
PSGCX IAML 04 23 39.7
comp=Z,124nm,0.3s
PSGCX Pisagua 3.67 301 *i*P Pn 04 22 53.0 -1.1
PSGCX IAML 04 23 39.7
comp=Z,124nm,0.3s
PB10 IPOC Station P 3.99 240 *i*P Pn 04 22 58.0 +0.3
PB10 IAML 04 23 47.6
comp=Z,174nm,0.5s
PB10 IPOC Station P 3.99 240 *i*P Pn 04 22 58.0 +0.3
PB10 IAML 04 23 47.6
comp=Z,174nm,0.5s
PB16 IPOC Station P 4.09 321 Pn 04 23 01.3 +1.7
PB16 IPOC Station P 4.09 321 *i*P Pn 04 23 01.3 +1.7
PB16 IAML 04 23 54.8
comp=Z,117nm,0.5s
PB16 IPOC Station P 4.09 321 *i*P Pn 04 23 01.3 +1.7
PB16 IAML 04 23 54.8
comp=Z,117nm,0.5s
PB12 IPOC Station P 4.42 311 Pn Pn 04 23 02.2 -0.9
PB12 IPOC Station P 4.42 311 *i*P Pn 04 23 02.0 -1.1
PB12 IAML 04 23 57.2
comp=Z,107nm,0.3s
PB12 IPOC Station P 4.42 311 *i*P Pn 04 23 02.0 -1.1
PB12 IAML 04 23 57.2
comp=Z,107nm,0.3s
PB14 IPOC Station P 4.52 227 Pn Pn 04 23 04.7 +0.2
PB14 IPOC Station P 4.52 227 *i*P Pn 04 23 05.0 +0.5
PB14 IAML 04 23 59.6
comp=Z,247nm,0.2s
PB14 IPOC Station P 4.52 227 *i*P Pn 04 23 05.0 +0.5
PB14 IAML 04 23 59.6
comp=Z,247nm,0.2s
PB18 Visviri 4.68 327 Pn 04 23 09.1 +2.4
SOEJ Jacaque 4.73 344 Pg Pn 04 23 09.7 +2.3
BBOE La Paz, Chanca 4.84 346 Pg Pn 04 23 11.3 +2.6
BBOD La Paz, Gloria 5.17 340 Pg Pn 04 23 14.8 +2.0
AC02 Maricunga 5.68 202 Pn Pn 04 23 19.4 +0.4
AC01 Pan de Azucar 5.75 216 Pn Pn 04 23 18.8 -0.7
AC06 Mina Casimiro 6.63 209 Pn 04 23 29.6 -1.0
GO03 Copiap 6.79 207 Pn 04 23 31.6 -1.1
BBSD Serra de San D 7.27 54 *e*P Pn 04 23 38.1 -0.8
BBRB Robore, Bolivi 7.33 65 *e*P Pn 04 23 37.2 -2.5
LCO Las Campanas 8.23 205 Pn 04 23 49.7 -1.6
CO01 Juntas del Tor 8.91 199 Pn 04 23 59.5 -0.5
PTLB Pontes e Lacer 9.46 51 Pn 04 24 06.7 -0.2
PTLB Pontes e Lacer 9.46 51 *e*P Pn 04 24 06.0 -1.0
CPUP Villa Florida 9.88 121 *e*P Pn 04 24 14.2 +2.0
CO03 El Pedregal 9.89 200 Pn 04 24 10.8 -1.6
CO02 Combarbal 10.33 201 Pn Pn 04 24 11.5 -2.4
AQDB Aguadauana 10.42 86 *e*P Pn 04 24 20.4 +1.3
VILB Vilhena 10.61 37 Pn 04 24 21.6 0.0
VILB Vilhena 10.61 37 *e*P Pn 04 24 23.0 +1.3
VA03 San Esteban 11.66 196 Pn Pn 04 24 31.7 -3.1
ETMB Extrema 11.68 3 Pn 04 24 34.2 -0.8
ETMB Extrema 11.68 3 *e*P Pn 04 24 34.8 -0.3
MCR1 Marechal Candi 12.10 106 *e*P P 04 24 43.0 -0.8
MT02 Curacav 12.29 197 Pn Pn 04 24 40.5 -2.0
MT09 Talagante 12.73 196 Pn 04 24 47.6 -0.6
MT01 Popeta 12.89 197 Pn Pn 04 24 48.0 -2.0
CRSM Crissiumal (Br 13.03 120 *e*P P 04 24 54.2 +0.2
TRCB Terra Rica 13.18 98 Pn 04 24 54.8 +1.0
TRCB Terra Rica 13.18 98 *e*P P 04 24 55.0 -0.8
FRBT Francisco Belt 13.32 112 *e*P P 04 24 58.9 +1.5
RODS Rosario do Sul 13.62 132 *e*P P 04 25 02.3 +1.7
BO02 Sierra Bellavi 13.65 194 Pn 04 24 59.4 -0.1
PDRB Porto dos Gac 13.80 46 *e*P P 04 25 01.4 -1.3
PTGB Pitanga 13.91 106 *e*P P 04 25 05.0 +1.0
ALGR Alto Alegre (B 14.40 123 *e*P P 04 25 11.6 +2.3
PCMB Pacaembu 14.45 93 *e*P P 04 25 11.6 +1.7
ITAB Concordia 14.51 116 *e*P P 04 25 12.3 +1.9
CZSB Cruzeiro do Su 14.87 337 P P 04 25 14.4 -0.2
CZSB Cruzeiro do Su 14.87 337 *e*P P 04 25 15.6 +1.0
CPSB Cacapava Do Su 14.89 129 *e*P Pn 04 25 17.3 +2.8
ARAG Araguaiana, MT 15.34 70 *e*P P 04 25 18.7 -1.0
ITRB Iturama 15.50 86 *e*P Pn 04 25 22.0 0.0
PLTB Pedras Altas 15.56 134 *e*P Pn 04 25 23.8 +1.2
FRTB Fartura 16.03 100 *e*P Pn 04 25 27.9 -0.4
TER01 Tubaro-SC 17.45 117 *e*P Pn 04 25 44.7 -0.2
SNDB Serra Nova Dou 17.62 60 *e*P Pn 04 25 46.1 -1.0
IPMB Ipameri, GO 17.84 82 *e*P Pn 04 25 49.6 -0.1
RCLB Rio Claro- Sao 17.89 96 *e*P Pn 04 25 49.1 -1.1
NPGB Novo Progresso 18.16 39 *e*P P 04 25 51.2 +0.5
PET01 Itanhaem-SP 18.19 102 *e*P Pn 04 25 53.5 -0.2
VAO Valinhos 18.41 98 *e*P P 04 25 54.8 +1.4
MACA Manacapuru-AM 19.22 19 *e*P P 04 26 01.9 -0.1
PARB Parabiuna 19.65 99 *e*P P 04 26 08.0 +1.4
ITTB Itaituba 20.17 34 *e*P P 04 26 12.5 +0.3
SGCB SÃo Gabriel d 21.29 359 *e*P P 04 26 26.0 +2.1
DIAM Diamantina, MG 21.98 86 *e*P P 04 26 31.8 +1.2
JANB Januaria 22.29 77 *e*P P 04 26 34.6 +1.2
MALB Monte Alegre 23.07 34 *e*P P 04 26 41.7 +1.3
NAN01 Guarapari, ES 25.37 86 *e*P P 04 27 02.3 +1.1
GUA01 Guaratinga, BA 25.96 84 *e*P P 04 27 07.6 +1.0
435B Jarrell 59.84 329 P P 04 31 32.9 -3.4
435B IAmb IAmb 04 31 35.4
comp=Z,8.2nm,1.1s

*NEIC **07** 04:34:20.6±0.9, 18°.65N±0°.08×145°.6E±0°.1, h194km±6km, mb4.5/52, Error ellipse: s-maj=18.2km s-min=11.8km az=94.0*
*IDC **07** 04:34:21.0±1.7, 18°.60N×145°.54E, h207km±17km, mb3.8/17, mbtmp4.3/19, Error ellipse: s-maj=17.2km s-min=9.4km az=80.0*
ISC 07 04:34:20.5±0.4, 18°.62N±0°.05×145°.60E±0°.10, h200km, n88, σ0s87/78, mb4.4/43, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.05**	**188**	P	**Pn**	**04 35 37.5**	**+1.9**
	61nm,0.3s,baz=165,slow=8.5,SNR=11						
GUMO				S	**Sn**	**04 36 33.3**	**-1.5**
	210nm,0.3s,baz=353,slow=23,SNR=9.8						
GUMO	**Guam**	**5.05**	**188**	Pn	**Pn**	**04 35 35.0**	**-0.5**
JGF	**Kuroka**	**18.42**	**338**		**P**	**04 38 21.6**	**+0.7**
MJAR	**Matsushiro Arr**	**19.00**	**341**	P	**P**	**04 38 27.9**	**+0.7**
	1.6nm,0.3s,baz=166,slow=9.8,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**20.00**	**87**	T	T	05 00 06.1	
	baz=275,slow=74,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**20.01**	**87**	T	T	05 00 04.1	
	baz=275,slow=74,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**20.02**	**87**	T	T	05 00 07.5	
	baz=275,slow=74,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**20.15**	**83**	T	T	05 00 05.9	
	baz=276,slow=74,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**20.15**	**83**	T	T	05 00 24.3	
	baz=276						
H11N3	**WAKE ISLAND Hy**	**20.16**	**83**	T	T	05 00 04.2	
	baz=276,slow=74,SNR=3.5						
KSRS	**Korea Array**	**24.32**	**324**	P	**P**	**04 39 19.6**	**-0.2**
	1.2nm,0.7s,baz=143,slow=9.2,SNR=5.9						
	1.2nm,0.7s						
FAKI	**Fak Fak**	**25.11**	**213**	P	**P**	**04 39 27.7**	**+0.5**
ASAJ	**Asahikawa**	**25.55**	**355**	P	**P**	**04 39 32.5**	**+1.8**
	7.8nm,0.7s,baz=178,slow=9.9,SNR=5.0						
	7.8nm,0.7s						
TOLI2	**Tolitoli**	**29.92**	**237**	P	**P**	**04 40 10.5**	**+0.6**
TOLI2				IAmb	IAmb	04 40 11.2	
	comp=Z,5.3nm,0.6s						
KKM	**Kota Kinabalu**	**31.24**	**250**	P	**P**	**04 40 21.6**	**-0.1**
COEN	**Coen**	**32.46**	**184**	P	**P**	**04 40 31.6**	**-0.6**
MTN	**Manton Dam**	**34.36**	**206**	P	**P**	**04 40 48.5**	**-0.1**
MTN				IAmb	IAmb	04 40 48.9	
	comp=Z,17nm,1.0s						
PETK	**Petropavlovsk-**	**35.69**	**13**	P	**P**	**04 41 00.4**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=334,slow=5.4,SNR=4.2						
	comp=Z,2.1nm,0.7s						
SBUM	**Sibu**	**36.42**	**248**	P	**P**	**04 41 07.6**	**+1.3**
KNRA	**Kununurra**	**37.90**	**207**	P	**P**	**04 41 18.8**	**+0.2**
KNRA				IAmb	IAmb	04 41 30.1	
	comp=Z,16nm,1.0s						
CTAO	**Charters Tower**	**38.47**	**179**	P	**P**	**04 41 23.8**	**+0.4**
WRAB	**Tennant Creek**	**39.87**	**197**	P	**P**	**04 41 35.1**	**+0.2**
WRAB				IAmb	IAmb	04 41 35.7	
	comp=Z,10nm,0.5s						
WRA	**Warramunga Arr**	**39.88**	**197**	P	**P**	**04 41 35.1**	**+0.1**
	comp=Z,6.2nm,0.3s,baz=32,slow=9.2,SNR=130						
	comp=Z,6.2nm,0.3s						
WRA	**Warramunga Arr**	**39.88**	**197**	P	**P**	**04 41 34.7**	**-0.3**
SONM	**Songino Array**	**43.15**	**321**	P	**P**	**04 42 01.2**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=137,slow=8.4,SNR=15						
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**43.15**	**321**	P	**P**	**04 42 01.6**	**+0.2**
AS31	**Alice Springs**	**43.55**	**196**	P	**P**	**04 42 04.8**	**+0.1**
ASAR	**Alice Springs**	**43.55**	**196**	P	**P**	**04 42 04.1**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=15,slow=6.4,SNR=32						
	comp=Z,1.6nm,0.4s						
ASAR	**Alice Springs**	**43.55**	**196**	P	**P**	**04 42 05.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**44.13**	**278**	P	**P**	**04 42 11.6**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=70,slow=8.3,SNR=4.4						
DZM	**Mont Dzumac**	**45.29**	**152**	P	**P**	**04 42 18.8**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=276,slow=4.6,SNR=10						
	comp=Z,4.8nm,0.5s						
DZM	**Mont Dzumac**	**45.29**	**152**	P	**P**	**04 42 18.4**	**-0.2**
DZM				IAmb	IAmb	04 42 25.1	
	comp=Z,25nm,1.5s						
OUENC	**Ouen Island, N**	**45.77**	**152**	P	**P**	**04 42 22.2**	**0.0**
GSI	**Gunungsitoli**	**50.11**	**256**	P	**P**	**04 42 55.8**	**+0.1**
UNV	**Unalaska Valle**	**50.78**	**35**	P	**P**	**04 43 00.0**	**-0.1**
BILL	**Bilibino**	**51.11**	**10**		**P**	**04 43 03.0**	**+0.6**
BILL				IAmb	IAmb	04 43 04.5	
	comp=Z,11nm,0.9s						
AKUT	**Akutan**	**51.29**	**34**	P	**P**	**04 43 03.0**	**-0.8**
FORT	**Forrest**	**51.93**	**199**	P	**P**	**04 43 09.6**	**+0.8**
BBOO	**Buckleboo**	**51.95**	**190**	P	**P**	**04 43 08.9**	**0.0**
BBOO				IAmb	IAmb	04 43 14.9	
	comp=Z,18nm,1.2s						
TOO	**Toolangi**	**55.89**	**180**	P	**P**	**04 43 37.7**	**+0.2**
TOO				IAmb	IAmb	04 43 55.2	
	comp=Z,14nm,1.2s						
ZALV	**Zalesovo Beam**	**58.02**	**323**	P	**P**	**04 43 50.9**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=91,slow=5.9,SNR=5.9						
ZALV				PcP	**pwP**	**04 44 40.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=111,slow=3.2,SNR=3.7						
	comp=Z,0.6nm,0.3s						
MK31	**Makanchi Array**	**58.45**	**314**	P	**P**	**04 43 55.8**	**+0.4**
MKAR	**Makanchi Array**	**58.45**	**314**	P	**P**	**04 43 55.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=92,slow=7.0,SNR=15						
	comp=Z,0.5nm,0.5s						
MAKZ	**Makanchi**	**58.66**	**314**	P	**P**	**04 43 57.4**	**+0.5**
SVW2	**Sparrevohn**	**58.94**	**29**	P	**P**	**04 43 58.5**	**-0.1**
SVW2				IAmb	IAmb	04 44 04.8	
	comp=Z,16nm,1.4s						
OHAK	**Old Harbor**	**58.97**	**34**	P	**P**	**04 44 00.4**	**+1.6**
N19K	**Bonanza Creek**	**59.36**	**30**	P	**P**	**04 44 02.0**	**+0.5**
N19K				IAmb	IAmb	04 44 04.0	
	comp=Z,9.9nm,0.8s						
K20K	**Telida**	**60.34**	**27**	P	**P**	**04 44 08.4**	**+0.4**
K20K				IAmb	IAmb	04 44 10.1	
	comp=Z,10nm,1.1s						
CNPM	**China Poot**	**60.58**	**31**	P	**P**	**04 44 09.5**	**-0.3**
BRLK	**Bradley Lake**	**60.81**	**31**	P	**P**	**04 44 10.9**	**-0.3**
BRLK				IAmb	IAmb	04 44 17.4	
	comp=Z,18nm,1.4s						
CAST	**Castle Rocks**	**61.21**	**27**		**P**	**04 44 14.2**	**+0.3**
CAST				IAmb	IAmb	04 44 15.4	
	comp=Z,10nm,0.8s						
IMAR	**Indian Mountai**	**61.33**	**24**	P	**P**	**04 44 15.1**	**+0.4**
H21K	**Melozitna Rive**	**61.59**	**24**	P	**P**	**04 44 16.8**	**+0.4**
H21K				IAmb	IAmb	04 44 18.1	
	comp=Z,5.8nm,0.9s						
NRIK	**Noril'sk**	**61.65**	**340**	P	**P**	**04 44 16.5**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=127,slow=7.2,SNR=5.0						
	comp=Z,2.5nm,0.4s						
I21K	**Tanana**	**61.77**	**25**	P	**P**	**04 44 17.2**	**-0.4**
I21K				IAmb	IAmb	04 44 19.4	
	comp=Z,7.6nm,0.9s						
BPAW	**Bear Paw Mtn.**	**61.87**	**26**		**P**	**04 44 17.7**	**-0.6**
SCM	**Sheep Creek Mo**	**62.96**	**29**	P	**P**	**04 44 25.9**	**+0.2**
MDM	**Murphy Dome**	**63.24**	**26**	P	**P**	**04 44 27.8**	**+0.4**
MDM				IAmb	IAmb	04 44 29.1	
	comp=Z,6.6nm,0.7s						
H24K	**Noodor Dome**	**63.60**	**25**	P	**P**	**04 44 30.3**	**+0.6**
H24K				IAmb	IAmb	04 44 36.6	
	comp=Z,4.4nm,0.9s						
IL31		**63.76**	**26**	IAmb	IAmb	04 44 30.4	
	comp=Z,9.0nm,1.0s						
ILAR	**Eielson Array**	**63.76**	**26**	P	**P**	**04 44 29.5**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=254,slow=4.8,SNR=45						
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**63.76**	**26**	P	**P**	**04 44 29.8**	**-0.9**
SCRK	**Sand Creek**	**64.85**	**27**	IAmb	IAmb	04 44 38.8	
	comp=Z,7.3nm,1.1s						
J26L	**Joseph Creek**	**65.11**	**27**	IAmb	IAmb	04 44 40.0	
	comp=Z,4.4nm,0.7s						
BMAR	**Burnt Mountain**	**65.23**	**24**	P	**P**	**04 44 41.2**	**+0.9**
KK31	**Karatay Array**	**66.74**	**310**	P	**P**	**04 44 49.5**	**-0.9**
KKAR	**Karatay Array**	**66.74**	**310**	P	**P**	**04 44 50.3**	**-0.1**
INK	**Inuvik**	**69.48**	**23**	P	**P**	**04 45 06.6**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=270,slow=7.0,SNR=14						
	comp=Z,4.6nm,0.7s						
C36M	**Paulatuk**	**72.86**	**22**	IAmb	IAmb	04 45 27.6	
	comp=Z,6.8nm,1.0s						
ABKAR	**Akbulak array**	**73.33**	**317**	P	**P**	**04 45 30.1**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**76.86**	**306**	P	**P**	**04 45 47.6**	**-3.1**
GYA0B				IAmb	IAmb	04 45 48.7	
	comp=Z,3.7nm,0.6s						
YKA	**Yellowknife Ar**	**78.10**	**28**	P	**P**	**04 45 56.6**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=289,slow=5.7,SNR=33						
	comp=Z,2.7nm,0.6s						
YKA	**Yellowknife Ar**	**78.10**	**28**	P	**P**	**04 45 56.4**	**-0.6**
B08A	**Colville Reser**	**79.60**	**42**	IAmb	IAmb	04 46 06.5	
	comp=Z,7.9nm,1.0s						
PINE	**Pine Mountain**	**79.78**	**47**	IAmb	IAmb	04 46 08.6	
	comp=Z,12nm,0.9s						
HAWA	**Hanford**	**80.02**	**44**		**P**	**04 46 07.6**	**-0.1**
HAWA				IAmb	IAmb	04 46 09.3	
	comp=Z,6.7nm,1.1s						
ORV	**Oroville**	**80.55**	**52**		**P**	**04 46 10.5**	**-0.3**
BEKR	**Beckworth**	**81.31**	**51**	IAmb	IAmb	04 46 15.9	
	comp=Z,7.8nm,0.9s						
CMB	**Columbia Colle**	**81.82**	**53**	P	**P**	**04 46 17.4**	**-0.1**
ARCES	**ARCESS Array B**	**82.54**	**342**	P	**P**	**04 46 20.4**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=82,slow=6.5,SNR=5.5						
	comp=Z,2.9nm,0.9s						
NVAR	**Mina Array Bea**	**83.27**	**52**	P	**P**	**04 46 25.7**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=264,slow=6.2,SNR=39						
NVAR				pP	**pwP**	**04 47 19.1**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=289,slow=4.5,SNR=3.1						
	comp=Z,5.1nm,0.7s						
NVAR	**Mina Array Bea**	**83.27**	**52**	P	**P**	**04 46 25.2**	**+0.1**
FINES	**FINESS Array B**	**86.92**	**335**	P	**P**	**04 46 40.2**	**-2.3**
	comp=Z,3.5nm,0.9s,baz=49,slow=4.5,SNR=16						
	comp=Z,3.5nm,0.9s						
FFC	**Flin Flon**	**87.21**	**32**	P	**P**	**04 46 44.1**	**0.0**
PDAR	**Pinedale Array**	**87.95**	**45**	P	**P**	**04 46 47.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=176,slow=1.2,SNR=9.6						
	comp=Z,0.3nm,0.3s						
CFA	**Coronel Fontan**	**146.89**	**120**	PKPbc	**PKPbc**	**04 53 38.8**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=202,slow=5.0,SNR=7.2						
LVC	**Limon Verde**	**147.50**	**103**	PKPbc	**PKPbc**	**04 53 43.0**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=259,slow=5.2,SNR=3.6						
ETMB	**Extrema**	**147.99**	**79**	PKPbc	**PKPbc**	**04 53 41.7**	**-1.5**

*SOME **07** 04:51:44.7, 39°.42N×71°.83E, h5km*
*KRNET **07** 04:51:45.9±0.1, 39°.24N×71°.42E, h14km, mb3.5*
*NNC **07** 04:51:49.0±2.4, 39°.23N×71°.40E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=18.1km s-min=12.4km az=13.0*
ISC 07 04:51:44.3±1.1, 39°.34N±0°.04×71°.46E±0°.03, h14km±8km, n33, σ2s23/51, 27C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.30**	**63**	⇑*i*P	**Pn**	**04 51 53.6**	**-0.8**
DRK	baz=51			⇑*i*S	**Sn**	**04 51 59.0**	**-1.8**
	baz=51						
BTK	**Batken**	**0.87**	**325**	⇑*i*P	**Pn**	**04 52 04.1**	**+2.0**
BTK	baz=31			⇑*i*S	**Sn**	**04 52 17.4**	**+2.8**
	baz=31						
GAR	**Garm**	**0.95**	**249**	⇓*i*P	**Pb**	**04 52 02.9**	**+0.3**
GAR	baz=55			⇓*i*S	**Sb**	**04 52 15.1**	**0.0**
	baz=55						
OHH	**Osh**	**1.56**	**40**	⇑*i*P	**Pg**	**04 52 16.7**	**+2.5**
OHH	baz=39			⇑*i*S	**Sg**	**04 52 39.1**	**+4.6**
	baz=39						
CHGR	**Chuyangaron**	**1.92**	**250**	⇑*i*P	**Pb**	**04 52 20.3**	**+1.2**
CHGR	baz=53			⇑*i*S	**Sg**	**04 52 45.4**	**-0.6**
	baz=53						
TRKS	**Terek-Say**	**2.20**	**354**	⇓*i*P	**Pg**	**04 52 26.0**	**-0.4**
TRKS	baz=55			⇓*i*S	**Sg**	**04 52 55.2**	**+0.3**
	baz=55						
ARK	**Arkit**	**2.48**	**9**	⇑*e*P	**Pg**	**04 52 30.8**	**-1.0**

104nm,0.2s
MRKS Merke 3.65 21 *e*Pg **Pb 04 52 49.1 +0.5**
9.5nm,0.2s
MRKS *e*Lg Lg 04 53 35.4
12nm,0.3s
UCH Uchtor 3.70 38 P **Pb 04 52 50.2 +0.7**
SNR=15
UCH Uchtor 3.70 38⇑ *e*P **Pb 04 52 48.3 -1.3**
baz=37
UCH ⇑*i*S **Sb 04 53 33.7 -0.7**
baz=37
EKS2 Erkin-Say 3.75 27 P **Pb 04 52 50.5 +0.2**
SNR=17
EKS2 Erkin-Say 3.75 27⇑ *e*P **Pb 04 52 48.7 -1.6**
baz=27
EKS2 ⇑*i*S **Sb 04 53 34.4 -1.2**
baz=27
KK31 Karatay Array 3.82 350 ⇑Pn **Pb 04 52 50.8 -0.7**
2.0nm,0.2s,baz=166,slow=12,SNR=86
KK31 ⇓Sn **Sb 04 53 39.2 +1.6**
4.4nm,0.3s,baz=166,slow=23,SNR=4.4
KK31 ⇑Lg Lg 04 53 51.4
11nm,0.5s,baz=171,slow=29,SNR=7.0
KKAR Karatay Array 3.82 350⇑ *i*P **Pb 04 52 49.4 -2.1**
baz=50
KKAR ⇑*i*S **Sb 04 53 35.4 -2.2**
baz=50
AAK Ala-Archa 4.01 34 P **Pb 04 52 54.1 -0.6**
SNR=22
NRN Naryn 4.05 58⇓ *i*P **Pb 04 52 51.9 -3.6**
baz=56
NRN ⇓*i*S **Sb 04 53 40.4 -4.0**
baz=56
KBK Karagaybulak 4.23 37 P **Pb 04 52 57.6 -1.0**
SNR=11
CHMS Chumysh 4.42 33 P **Pb 04 52 59.5 -2.1**
SNR=17
CHMS Chumysh 4.42 33 ⇑Pn **Pb 04 52 59.2 -2.3**
11nm,0.5s
CHMS ⇑Sn **Sb 04 53 54.1 -0.5**
6.4nm,0.7s
CHMS ⇑Lg Lg 04 54 11.3
6.1nm,0.6s
USP Ospenovka 4.54 29 P **Pb 04 53 00.9 -2.8**
SNR=25
TKM2 Tokmak 2 4.75 40 P **Pb 04 53 04.7 -2.6**
SNR=12
TKM2 Tokmak 2 4.75 40 ⇑Pn **Pb 04 53 03.7 -3.6**
5.8nm,0.6s
TKM2 ⇓Pg **Pg 04 53 15.7 +0.6**
5.4nm,0.8s
TKM2 ⇑Lg Lg 04 54 21.3
11nm,1.2s
KST Kastek 5.02 41 *e*Pg **Pb 04 53 12.6 +0.7**
3.1nm,0.4s
KST *e*Lg Lg 04 54 16.0
6.2nm,0.3s
MTBS Maitube 5.32 43 *e*Pg **Pb 04 53 18.9 +1.9**
3.6nm,0.4s
MTBS *e*Lg Lg 04 54 26.9
3.1nm,0.2s
KRBS Karabastau 5.38 35 *e*Pg **Pb 04 53 19.9 +2.0**
3.1nm,0.3s
KRBS *e*Lg Lg 04 54 28.4
4.6nm,0.4s
TNSS Tian-Shan 5.54 47 *e*Pg **Pb 04 53 23.1 +2.1**
2.5nm,0.4s
TNSS *e*Lg Lg 04 54 34.1
3.0nm,0.7s
AB31 Akbulak array 12.88 324 ⇓Pn **P 04 54 53.1 -4.4**
0.4nm,0.5s,baz=175,slow=8.8,SNR=5.1
AB31 Sn **Sn 04 57 16.7 +7.1**
1.0nm,0.5s,baz=151,slow=22,SNR=6.3

*VAO **07** 04:55:55.5±0.9,29.˚19S×68.˚01W,h10km,mb4.6*
*SJA **07** 04:56:09.0±2.9,28.˚87S×67.˚43W,h152km±16km,ML4.5, MW4.2*
*NEIC **07** 04:56:09.9±1.4,28.˚82S±0.˚06×67.˚37W±0.˚09,h124km±7km, mb4.5/66,Error ellipse: s-maj=11.7km s-min=9.3km az=80.0*
*IDC **07** 04:56:12.2±0.6,28.˚79S×67.˚30W,h132km±5km,mb3.9/6, mbtmp4.3/9,MS3.3/2,Error ellipse: s-maj=21.5km s-min=14.7km az=95.0*
ISC 07 04:56:10.9±0.5,**28.˚81S**±0.˚03×**67.˚49W**±0.˚03,**h137**km±4km, **n195,**σ1§**58**/239,**mb4.4**/34,**2C,La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TINO	**Tinogasta**	**0.74**	**354**	*e*P		**Pn**	**04 56 32.8**	**+0.2**
TINO				*e*S		**Sn**	**04 56 50.9**	**+1.9**
TINO	**Tinogasta**	**0.74**	**354**	*e*P		**Pn**	**04 56 32.8**	**+0.2**
TINO				*e*S		**Sn**	**04 56 50.9**	**+1.9**
CYA	**Choya**	**1.52**	**77**	*e*P		**Pn**	**04 56 40.3**	**+0.4**
CYA				*e*S		**Sn**	**04 57 01.9**	**-0.1**
CYA				IAML			04 57 02.5	
	comp=Z,2μm,0.7s							
CYA	**Choya**	**1.52**	**77**	*e*P		**Pn**	**04 56 40.3**	**+0.4**
CYA				*e*S		**Sn**	**04 57 01.9**	**-0.1**
CYA				IAML			04 57 02.5	
	comp=Z,2μm,0.7s							
APLL	**PUNTA DE LOS L**	**1.79**	**152**	*e*P		**Pn**	**04 56 43.0**	**+0.1**
APLL	**PUNTA DE LOS L**	**1.79**	**152**	*e*P		**Pn**	**04 56 43.0**	**+0.1**
ACDV	**Cuesta del Vie**	**1.97**	**226**	*e*P		**Pn**	**04 56 45.6**	**+0.5**
ACDV				*e*S		**Sn**	**04 57 11.3**	**0.0**
ACDV				IAML			04 57 12.4	
	comp=Z,2μm,0.7s							
ACDV	**Cuesta del Vie**	**1.97**	**226**	*e*P		**Pn**	**04 56 45.6**	**+0.5**
ACDV				*e*S		**Sn**	**04 57 11.3**	**0.0**
ACDV				IAML			04 57 12.4	
	comp=Z,2μm,0.7s							
AROD	**Rodeo**	**2.20**	**231**	*e*P		**Pn**	**04 56 48.5**	**+0.4**
AROD				*e*P		**Pn**	**04 56 48.8**	**+0.7**
AROD				*e*S		**Sn**	**04 57 17.6**	**+1.0**
AROD	**Rodeo**	**2.20**	**231**	*e*P		**Pn**	**04 56 48.5**	**+0.4**
AROD				*e*P		**Pn**	**04 56 48.8**	**+0.7**
AROD				*e*S		**Sn**	**04 57 17.6**	**+1.0**
ACCO	**Cerro Coronel**	**2.25**	**217**	*e*P		**Pn**	**04 56 48.8**	**+0.1**
ACCO				*e*S		**Sn**	**04 57 17.8**	**+0.2**
ACCO	**Cerro Coronel**	**2.25**	**217**	*e*P		**Pn**	**04 56 48.8**	**+0.1**
ACCO				*e*S		**Sn**	**04 57 17.8**	**+0.2**
AC02	**Maricunga**	**2.44**	**323**	*e*P		**Pn**	**04 56 52.5**	**+1.2**
AC02	**Maricunga**	**2.44**	**323**	*e*P		**Pn**	**04 56 51.7**	**+0.4**
AC02				*e*S		**Sn**	**04 57 25.0**	**+2.9**
AC02	**Maricunga**	**2.44**	**323**	*e*P		**Pn**	**04 56 51.7**	**+0.4**
AC02				*e*S		**Sn**	**04 57 25.0**	**+2.9**
AC05	**El Transito**	**2.45**	**269**			**Pn**	**04 56 51.6**	**+0.8**
AC05	**El Transito**	**2.45**	**269**⇑	*i*P		**Pn**	**04 56 51.7**	**+0.8**
AC05				*e*S		**Sn**	**04 57 22.0**	**+0.4**
AC05				IAML			04 57 24.2	
	comp=N,2μm,0.3s							
AC05	**El Transito**	**2.45**	**269**	*e*P		**Pn**	**04 56 51.0**	**+0.1**
AC05				*e*S		**Sn**	**04 57 22.3**	**+0.7**
AC05				IAML			04 57 27.9	
	comp=Z,1μm,0.5s							
AC05	**El Transito**	**2.45**	**269**	*e*P		**Pn**	**04 56 51.0**	**+0.1**
AC05				*e*S		**Sn**	**04 57 22.3**	**+0.7**
AC05				IAML			04 57 27.9	
	comp=Z,1μm,0.5s							
CO01	**Juntas del Tor**	**2.56**	**242**			**Pn**	**04 56 53.8**	**+1.3**
CO01	**Juntas del Tor**	**2.56**	**242**⇑	*i*P		**Pn**	**04 56 53.8**	**+1.3**
CO01				*e*S		**Sn**	**04 57 25.9**	**+1.6**
CO01				IAML			04 57 27.1	
	comp=E,1μm,0.3s							
CO01	**Juntas del Tor**	**2.56**	**242**	*e*P		**Pn**	**04 56 51.9**	**-0.6**
CO01	**Juntas del Tor**	**2.56**	**242**	*e*P		**Pn**	**04 56 51.9**	**-0.6**
RTLL	**Cerro Villicun**	**2.66**	**199**	*e*P		**Pn**	**04 56 53.3**	**-0.2**
RTLL				*e*S		**Sn**	**04 57 20.0**	**-6.3**
RTLL				*e*S		**Sn**	**04 57 25.7**	**-0.6**
RTLL	**Cerro Villicun**	**2.66**	**199**	*e*P		**Pn**	**04 56 53.3**	**-0.2**
RTLL				*e*S		**Sn**	**04 57 20.0**	**-6.3**
RTLL				*e*S		**Sn**	**04 57 25.7**	**-0.6**
GO03	**Copiap**	**2.71**	**296**			**Pn**	**04 56 54.2**	**0.0**
GO03	**Copiap**	**2.71**	**296**	*e*P		**Pn**	**04 56 54.0**	**-0.2**
GO03				*e*S		**Sn**	**04 57 26.0**	**-1.5**
GO03	**Copiap**	**2.71**	**296**	*e*P		**Pn**	**04 56 54.0**	**-0.2**
GO03				*e*S		**Sn**	**04 57 26.0**	**-1.5**
AHML	**Horco Molle**	**2.77**	**44**	*e*P		**Pn**	**04 56 55.0**	**0.0**
AHML				*e*S		**Sn**	**04 57 25.9**	**-3.0**
AHML	**Horco Molle**	**2.77**	**44**	*e*P		**Pn**	**04 56 55.0**	**0.0**
AHML				*e*S		**Sn**	**04 57 25.9**	**-3.0**
LCO	**Las Campanas**	**2.83**	**265**			**Pn**	**04 56 55.7**	**-0.1**
CFA	**Coronel Fontan**	**2.86**	**193**	P		**Pn**	**04 56 56.0**	**-0.2**
	comp=E,93nm,0.2s,baz=48,slow=21,SNR=285							
CFA				S		**Sn**	**04 57 29.2**	**-1.8**
	comp=E,657nm,0.4s,baz=9.7,slow=15,SNR=34							
CFA				LR		LR	04 58 04.7	
	comp=E,187nm,21.3s,baz=81,slow=39							
AC06	**Mina Casimiro**	**2.92**	**299**			**Pn**	**04 56 56.4**	**-0.4**
AC06	**Mina Casimiro**	**2.92**	**299**	*i* P		**Pn**	**04 56 56.4**	**-0.4**
AC06				*e*S		**Sn**	**04 57 29.7**	**-2.5**
AC06				IAML			04 57 29.8	
	comp=N,2μm,0.2s							
ZON	**Zonda**	**2.92**	**200**	Pn		**Pn**	**04 56 56.7**	**-0.1**
ZON	**Zonda**	**2.92**	**200**	*e*P		**Pn**	**04 56 56.8**	**0.0**
ZON				*e*S		**Sn**	**04 57 31.4**	**-0.9**
ZON				IAML			04 57 32.7	
	comp=Z,1μm,0.5s							
ZON	**Zonda**	**2.92**	**200**	*e*P		**Pn**	**04 56 56.8**	**0.0**
ZON				*e*S		**Sn**	**04 57 31.4**	**-0.9**
ZON				IAML			04 57 32.7	
	comp=Z,1μm,0.5s							
GO04	**Tololo Observa**	**3.19**	**244**			**Pn**	**04 57 00.3**	**-0.2**
GO04	**Tololo Observa**	**3.19**	**244**	*e*P		**Pn**	**04 57 00.3**	**-0.2**
GO04				*e*S		**Sn**	**04 57 38.2**	**-0.6**
GO04	**Tololo Observa**	**3.19**	**244**	*e*P		**Pn**	**04 57 00.3**	**-0.2**
GO04				*e*S		**Sn**	**04 57 38.2**	**-0.6**
AC04	**Llanos de Chal**	**3.21**	**280**	Pn		**Pn**	**04 56 59.8**	**-0.8**
AC04	**Llanos de Chal**	**3.21**	**280**	*e*P		**Pn**	**04 57 00.3**	**-0.3**
AC04				*e*S		**Sn**	**04 57 35.9**	**-3.1**
AC04	**Llanos de Chal**	**3.21**	**280**	*e*P		**Pn**	**04 57 00.3**	**-0.3**
AC04				*e*S		**Sn**	**04 57 35.9**	**-3.1**
RTLS	**Leoncito**	**3.37**	**207**	*e*P		**Pn**	**04 57 03.0**	**+0.1**
RTLS				*e*S		**Sn**	**04 57 43.6**	**+0.5**
RTLS				IAML			04 57 44.7	
	comp=Z,1μm,0.4s							
RTLS	**Leoncito**	**3.37**	**207**	*e*P		**Pn**	**04 57 03.0**	**+0.1**
RTLS				*e*S		**Sn**	**04 57 43.6**	**+0.5**
RTLS				IAML			04 57 44.7	
	comp=Z,1μm,0.4s							
CO03	**El Pedregal**	**3.44**	**233**	Pn		**Pn**	**04 57 03.4**	**-0.2**
CO03	**El Pedregal**	**3.44**	**233**	*i* P		**Pn**	**04 57 03.4**	**-0.2**
CO03				*e*S		**Sn**	**04 57 44.8**	**+0.4**
CO03				IAML			04 57 48.8	
	comp=E,2μm,0.3s							
CO03	**El Pedregal**	**3.44**	**233**	*e*P		**Pn**	**04 57 03.4**	**-0.2**
CO03				*e*S		**Sn**	**04 57 40.1**	**-4.3**
CO03				IAML			04 57 46.6	
	comp=Z,854nm,0.3s							
CO03	**El Pedregal**	**3.44**	**233**	*e*P		**Pn**	**04 57 03.4**	**-0.2**
CO03				*e*S		**Sn**	**04 57 40.1**	**-4.3**
CO03				IAML			04 57 46.6	
	comp=Z,854nm,0.3s							
CO05	**La Serena**	**3.46**	**250**			**Pn**	**04 57 02.3**	**-1.4**
AC01	**Pan de Azucar**	**3.83**	**313**	Pn		**Pn**	**04 57 08.1**	**-0.6**
AC01	**Pan de Azucar**	**3.83**	**313**	*e*P		**Pn**	**04 57 08.0**	**-0.6**
AC01				*e*S		**Sn**	**04 57 50.1**	**-3.2**
AC01				IAML			04 57 51.1	
	comp=Z,406nm,0.3s							
AC01	**Pan de Azucar**	**3.83**	**313**	*e*P		**Pn**	**04 57 08.0**	**-0.6**
AC01				*e*S		**Sn**	**04 57 50.1**	**-3.2**
AC01				IAML			04 57 51.1	
	comp=Z,406nm,0.3s							
CO02	**Combarbal**	**3.87**	**231**			**Pn**	**04 57 08.2**	**-1.1**
CO02	**Combarbal**	**3.87**	**231**	*e*P		**Pn**	**04 57 08.4**	**-0.9**
CO02				*e*S		**Sn**	**04 57 54.0**	**-0.5**
CO02				IAML			04 57 58.0	
	comp=Z,611nm,0.6s							
CO02	**Combarbal**	**3.87**	**231**	*e*P		**Pn**	**04 57 08.4**	**-0.9**
CO02				*e*S		**Sn**	**04 57 54.0**	**-0.5**
CO02				IAML			04 57 58.0	
	comp=Z,611nm,0.6s							
MRA	**San Martin**	**3.91**	**157**	*e*P		**Pn**	**04 57 09.0**	**-0.8**
MRA				*e*S		Sn	04 57 45.6	-10
MRA				IAML			04 57 54.3	
	comp=Z,2μm,0.5s							
MRA	**San Martin**	**3.91**	**157**	*e*P		**Pn**	**04 57 09.0**	**-0.8**
MRA				*e*S		Sn	04 57 45.6	-10
MRA				IAML			04 57 54.3	
	comp=Z,2μm,0.5s							
SLA	**San Lorenzo**	**4.44**	**24**	*e*P		**Pn**	**04 57 17.2**	**+0.3**
SLA	**San Lorenzo**	**4.44**	**24**	*e*P		**Pn**	**04 57 17.2**	**+0.3**
VA03	**San Esteban**	**4.75**	**213**			**Pn**	**04 57 19.9**	**-0.9**
VA03	**San Esteban**	**4.75**	**213**	*e*P		**Pn**	**04 57 20.6**	**-0.3**
VA03				*e*S		**Sn**	**04 58 16.9**	**+1.7**
VA03				IAML			04 58 57.5	
	comp=Z,439nm,0.7s							
VA03	**San Esteban**	**4.75**	**213**	*e*P		**Pn**	**04 57 20.6**	**-0.3**
VA03				*e*S		**Sn**	**04 58 16.9**	**+1.7**
VA03				IAML			04 58 57.5	
	comp=Z,439nm,0.7s							
PB14	**IPOC Station P**	**4.91**	**327**	Pn		**Pn**	**04 57 23.2**	**-0.1**
PB14	**IPOC Station P**	**4.91**	**327**	*e*P		**Pn**	**04 57 23.4**	**+0.1**
PB14				*e*S		**Sn**	**04 58 16.6**	**-3.0**
PB14				IAML			04 58 20.8	
	comp=Z,287nm,0.6s							
PB14	**IPOC Station P**	**4.91**	**327**	*e*P		**Pn**	**04 57 23.4**	**+0.1**
PB14				*e*S		**Sn**	**04 58 16.6**	**-3.0**
PB14				IAML			04 58 20.8	
	comp=Z,287nm,0.6s							
VA06	**Catapilco**	**4.98**	**220**	Pn		**Pn**	**04 57 21.8**	**-2.0**
ROC1	**El Roble**	**5.14**	**215**	*e*P		**Pn**	**04 57 24.3**	**-2.0**
ROC1	**El Roble**	**5.14**	**215**	*e*P		**Pn**	**04 57 24.3**	**-2.0**
MT03	**Universidad Ad**	**5.34**	**208**			**Pn**	**04 57 28.1**	**-0.7**
MT03	**Universidad Ad**	**5.34**	**208**	*e*P		**Pn**	**04 57 28.0**	**-0.8**
MT03				*e*S		**Sn**	**04 58 24.5**	**-5.0**
MT03				IAML			04 58 32.4	
	comp=Z,313nm,0.3s							
MT03	**Universidad Ad**	**5.34**	**208**	*e*P		**Pn**	**04 57 28.0**	**-0.8**
MT03				*e*S		**Sn**	**04 58 24.5**	**-5.0**
MT03				IAML			04 58 32.4	
	comp=Z,313nm,0.3s							
MT05	**Renca**	**5.35**	**211**	Pn		**Pn**	**04 57 27.4**	**-1.5**
MT05	**Renca**	**5.35**	**211**	*e*P		**Pn**	**04 57 28.5**	**-0.4**
MT05				*e*S		**Sn**	**04 58 28.6**	**-1.1**
MT05				IAML			04 58 30.2	
	comp=Z,293nm,0.3s							
MT05	**Renca**	**5.35**	**211**	*e*P		**Pn**	**04 57 28.5**	**-0.4**
MT05				*e*S		**Sn**	**04 58 28.6**	**-1.1**
MT05				IAML			04 58 30.2	
	comp=Z,293nm,0.3s							
MT02	**Curacav**	**5.43**	**214**	*e*P		**Pn**	**04 57 28.1**	**-1.8**
MT02				*e*S		**Sn**	**04 58 29.6**	**-2.0**
MT02				IAML			04 59 21.0	
	comp=Z,113nm,0.8s							
MT02	**Curacav**	**5.43**	**214**	*e*P		**Pn**	**04 57 28.1**	**-1.8**
MT02				*e*S		**Sn**	**04 58 29.6**	**-2.0**
MT02				IAML			04 59 21.0	
	comp=Z,113nm,0.8s							
PB10	**IPOC Station P**	**5.95**	**332**	Pn		**Pn**	**04 57 35.4**	**-1.5**
LVC	**Limon Verde**	**6.30**	**348**	P		**Pn**	**04 57 42.2**	**+0.2**
	comp=Z,13nm,0.5s,baz=158,slow=11,SNR=35							
LVC				S		**Sn**	**04 58 49.4**	**-3.6**
	comp=Z,22nm,0.3s,baz=302,slow=9.0,SNR=8.0							
LVC	**Limon Verde**	**6.30**	**348**	Pn		**Pn**	**04 57 41.0**	**-0.9**
BO01	**Tunca**	**6.36**	**208**	Pn		**Pn**	**04 57 39.7**	**-2.6**
CPUP	**Villa Florida**	**9.34**	**77**	P		**Pn**	**04 58 19.9**	**-2.4**
	comp=Z,6.1nm,0.5s,baz=252,slow=12,SNR=33							
CPUP	**Villa Florida**	**9.34**	**77**	Pn		**Pn**	**04 58 20.0**	**-2.4**
ITQB	**Itaqui**	**9.53**	**98**	Pn		**Pn**	**04 58 22.4**	**-2.5**
MNMC	**Minye Minye**	**9.82**	**348**	Pn		**Pn**	**04 58 27.1**	**-2.0**
TRQA	**Tornquist**	**10.31**	**155**	Pn		**Pn**	**04 58 34.0**	**-1.2**
H03N1	**Juan Fernandez**	**10.82**	**242**	P		**Pn**	**04 58 39.8**	**-2.0**
	baz=114,slow=18,SNR=9.7							
H03N1				T		T	05 06 19.9	
	baz=50,SNR=108							
H03N3	**Juan Fernandez**	**10.84**	**242**	P		**Pn**	**04 58 39.9**	**-2.2**
	baz=114,slow=18,SNR=7.1							
H03N3				T		T	05 05 34.5	
	baz=50,slow=74,SNR=123							
H03N2	**Juan Fernandez**	**10.84**	**242**	P		**Pn**	**04 58 40.0**	**-2.1**
	baz=114,slow=18,SNR=6.4							
H03N2				T		T	05 05 35.8	
	baz=50,slow=74,SNR=121							
CRSM	**Crissiumal (Br**	**11.94**	**87**	*e*P		**Pn**	**04 58 54.5**	**-2.3**
PLTB	**Pedras Altas**	**12.36**	**107**	Pn		**Pn**	**04 58 59.9**	**-2.4**
BBRB	**Robore, Bolivi**	**12.62**	**36**	*e*P		**Pn**	**04 59 03.7**	**-2.1**
MCR1	**Marechal Candi**	**12.78**	**73**	*e*P		**Pn**	**04 59 05.5**	**-2.3**
AQDB	**Aquidauana**	**13.54**	**55**	Pn		**Pn**	**04 59 15.5**	**-2.1**
AQDB	**Aquidauana**	**13.54**	**55**	*e*P		**Pn**	**04 59 16.5**	**-1.2**
ITAB	**Concordia**	**13.65**	**87**	Pn		**Pn**	**04 59 16.9**	**-2.1**
ITAB	**Concordia**	**13.65**	**87**	*e*P		**Pn**	**04 59 16.7**	**-2.3**
SIV	**San Ignacio**	**14.06**	**26**	P		**Pn**	**04 59 22.3**	**-2.0**
	comp=Z,2.7nm,0.7s,baz=198,slow=14,SNR=14							
PTGB	**Pitanga**	**14.37**	**77**	*e*P		**Pn**	**04 59 27.2**	**-0.9**
CNLB	**Canela**	**14.56**	**96**	*e*P		**Pn**	**04 59 28.5**	**-2.0**
TRCB	**Terra Rica**	**14.65**	**69**			**Pn**	**04 59 29.9**	**-1.8**
TRCB	**Terra Rica**	**14.65**	**69**	*e*P		**Pn**	**04 59 30.2**	**-1.5**
PTLB	**Pontes e Lacer**	**15.37**	**32**	Pn		**Pn**	**04 59 39.0**	**-1.6**
PTLB				IAmb		IAmb	04 59 42.4	
	comp=Z,7.1nm,1.1s							
PTLB	**Pontes e Lacer**	**15.37**	**32**	*e*P		**Pn**	**04 59 40.5**	**-0.1**
PP1B	**Ponte de Pedra**	**16.07**	**49**	*e*P		**Pn**	**04 59 48.1**	**-1.2**
PCMB	**Pacaembu**	**16.33**	**68**	*e*P		**P**	**04 59 52.4**	**-0.5**
C2SB	**Chapadao do Su**	**16.70**	**56**	*e*P		**Pn**	**04 59 57.4**	**+0.4**
TIJ01	**Guaruva-PR**	**16.82**	**82**	*e*P		**Pn**	**04 59 58.7**	**+0.2**
FRTB	**Fartura**	**16.99**	**75**	*e*P		**P**	**04 59 59.7**	**-0.4**
VILB	**Vilhena**	**17.17**	**25**			**P**	**05 00 00.8**	**-1.3**
VILB				IAmb		IAmb	05 00 02.5	
	comp=Z,26nm,0.7s							
VILB	**Vilhena**	**17.17**	**25**	*e*P		**P**	**05 00 01.7**	**-0.4**
ITRB	**Iturama**	**18.04**	**64**	*e*P		**P**	**05 00 11.9**	**+0.2**
PET01	**Itanhaem-SP**	**18.63**	**81**	*e*P		**P**	**05 00 18.2**	**+0.2**
SPB	**Sao Paulo**	**18.72**	**79**	P		**P**	**05 00 18.7**	**-0.3**
SPB				IAmb		IAmb	05 00 22.9	
	comp=Z,25nm,1.0s							
SPB	**Sao Paulo**	**18.72**	**79**	*e*P		**P**	**05 00 19.5**	**+0.4**
ETMB	**Extrema**	**18.93**	**4**	P		**P**	**05 00 21.4**	**0.0**
ETMB				IAmb		IAmb	05 00 26.5	
	comp=Z,6.6nm,0.7s							
ETMB	**Extrema**	**18.93**	**4**	*e*P		**P**	**05 00 21.6**	**+0.3**
RCLB	**Rio Claro- Sao**	**19.08**	**75**	*e*P		**P**	**05 00 22.9**	**0.0**
VAO	**Valinhos**	**19.33**	**77**	*e*P		**P**	**05 00 25.7**	**-0.1**
PARB	**Paraibuna**	**20.37**	**80**	*e*P		**P**	**05 00 36.3**	**-0.6**
CLDB	**Colider**	**20.93**	**34**	*e*P		**P**	**05 00 43.1**	**+0.2**
CZSB	**Cruzeiro do Su**	**21.54**	**346**	P		**P**	**05 00 49.5**	**+0.1**
CZSB				IAmb		IAmb	05 00 53.3	
	comp=Z,55nm,1.3s							
CZSB	**Cruzeiro do Su**	**21.54**	**346**	*e*P		**P**	**05 00 48.4**	**-1.0**
BDFB	**Brasilia**	**22.24**	**58**	P		**P**	**05 00 55.4**	**-1.4**
	comp=Z,6.9nm,0.5s,baz=221,slow=10,SNR=20							
	comp=Z,6.9nm,0.5s							
BDFB	**Brasilia**	**22.24**	**58**	P		**P**	**05 00 54.8**	**-2.0**
BDFB				IAmb		IAmb	05 00 56.5	
	comp=Z,9.6nm,0.6s							
DUB01	**Friburgo-RJ**	**23.62**	**79**	*e*P		**P**	**05 01 11.7**	**+2.0**
TEFE	**Tefe**	**25.30**	**7**	*e*P		**P**	**05 01 27.1**	**+2.2**
ITTB	**Itaituba**	**26.75**	**27**	*e*P		**P**	**05 01 40.8**	**+2.9**
SGCB	**SΣo Gabriel d**	**28.53**	**1**	*e*P		**P**	**05 01 55.8**	**+2.1**
BOAV	**Boa Vista**	**31.73**	**13**	*e*P		**P**	**05 02 23.9**	**+1.9**
TMAB	**Tom-Au,PA,Br**	**32.13**	**39**	*e*P		**P**	**05 02 28.8**	**+3.3**
CHIC	**Chingaza**	**33.78**	**349**	*e*P		**P**	**05 02 40.6**	**+0.3**
RUSC	**La Rusia**	**34.92**	**350**	P		**P**	**05 02 49.2**	**-1.0**
RUSC	**La Rusia**	**34.92**	**350**	*e*P		**P**	**05 02 51.2**	**+1.1**
CBOC	**Ciudad Bolivar**	**35.43**	**345**	*e*P		**P**	**05 02 55.0**	**+0.8**
PTBC	**PUERTO BERRIO,**	**35.78**	**348**	*e*P		**P**	**05 02 55.8**	**-1.2**
MDP	**Montagnes des**	**36.61**	**25**	LR		LR	05 18 42.9	
	comp=Z,119nm,18.8s,baz=248,slow=37							
ZARC	**Zaragoza, Cauc**	**36.78**	**348**	*e*P		**P**	**05 03 01.6**	**-3.8**
BAUV	**El Baul**	**37.53**	**359**	P		**P**	**05 03 10.6**	**-1.2**
SDV	**Santo Domingo**	**37.59**	**355**	P		**P**	**05 03 11.7**	**-0.8**
SDV				IAmb		IAmb	05 03 13.7	
	comp=Z,11nm,1.1s							
SDV	**Santo Domingo**	**37.59**	**355**	*e*P		**P**	**05 03 12.4**	**-0.2**
TGUH	**Tegucigalpa,Ún**	**46.71**	**333**	P		**P**	**05 04 26.1**	**-0.3**
TGUH				IAmb		IAmb	05 04 28.5	
	comp=Z,14nm,0.9s							
MTO3	**Montecristo**	**47.88**	**331**	P		**P**	**05 04 35.4**	**-0.1**
MTO3				IAmb		IAmb	05 04 38.2	
	comp=Z,6.8nm,1.0s							
VNA3	**Neumayer Olymp**	**52.79**	**160**	P		**P**	**05 05 13.0**	**+1.5**
VNA2	**Neumayer--Watz**	**53.38**	**159**	P		**P**	**05 05 17.4**	**+1.6**
	baz=282,slow=8.0							
SNAA	**Sanae**	**55.00**	**160**	P		**P**	**05 05 29.0**	**+1.4**
SNAA	**Sanae**	**55.00**	**160**	P		**P**	**05 05 29.1**	**+1.5**
	comp=Z,3.4nm,0.6s,baz=277,slow=7.7,SNR=21							
	comp=Z,3.4nm,0.6s							
SNAA	**Sanae**	**55.00**	**160**	P		**P**	**05 05 27.4**	**-0.2**
SNAA				IAmb		IAmb	05 05 29.9	
	comp=Z,15nm,1.3s							
TROLL	**Troll, Antarti**	**56.71**	**160**	P		**P**	**05 05 41.6**	**+1.6**
QSPA	**South Pole Qui**	**61.42**	**180**	P		**P**	**05 06 13.2**	**+0.8**
PAULI	**Pauline**	**64.72**	**347**	P		**P**	**05 06 34.5**	**+0.2**
PAULI				IAmb		IAmb	05 06 38.4	
	comp=Z,14nm,1.2s							
HPIG		**66.43**	**323**	P		**P**	**05 06 45.5**	**-0.2**
HPIG				IAmb		IAmb	05 06 48.4	
	comp=Z,3.4nm,1.0s							
WLAR	**White Oak Lake**	**66.73**	**337**	P		**P**	**05 06 47.4**	**+0.2**
TX31	**Lajitas Ar. Si**	**67.36**	**326**	P		**P**	**05 06 50.9**	**-0.6**
WVT	**Waverly**	**67.37**	**342**	P		**P**	**05 06 50.9**	**-0.3**
LCAR	**Lake Charles**	**68.27**	**340**	IAmb		IAmb	05 06 58.6	
	comp=

ASAR				pPKP	**pPKPdf**	**05 15 29.3**	**-1.3**	
	comp=Z,0.6nm,0.7s,baz=140,slow=1.8,SNR=3.1							
WRA	**Warramunga Arr**	**127.15**	**206**	PKP	**PKiKP**	**05 15 00.5**	**+0.4**	
	comp=Z,4.5nm,0.5s,baz=158,slow=1.8,SNR=108							
WRA				pPKP	**pPKPdf**	**05 15 35.7**	**-1.2**	
	comp=Z,1.2nm,0.6s,baz=160,slow=1.6,SNR=5.1							
KAPI	**Kappang**	**145.66**	**193**	PKPbc	**PKPab**	**05 15 36.1**	**+1.4**	
	comp=Z,8.1nm,0.6s,baz=222,slow=3.3,SNR=5.6							
ZALV	**Zalesovo Beam**	**147.78**	**31**	PKP	**PKPbc**	**05 15 38.2**	**-0.9**	
	comp=Z,4.4nm,0.5s,baz=324,slow=2.0,SNR=24							
ZALV				PKPbc	**PKiKP**	**05 15 41.0**	**0.0**	
	comp=Z,3.9nm,0.5s,baz=313,slow=3.8,SNR=21							
ZALV				pPKPbc	**pPKPbc**	**05 16 15.8**	**-0.1**	
	comp=Z,3.7nm,0.5s,baz=300,slow=3.3,SNR=6.2							
MKAR	**Makanchi Array**	**150.38**	**44**	PKPbc	**PKiKP**	**05 15 47.5**	**+0.8**	
	comp=Z,4.3nm,0.8s,baz=309,slow=2.2,SNR=29							
MKAR				PKPab	**PKPab**	**05 15 54.5**	**+1.7**	
	comp=Z,1.1nm,0.6s,baz=293,slow=3.9,SNR=5.7							
MKAR				pPKPbc	**pPKPbc**	**05 16 22.9**	**-0.1**	
	comp=Z,4.4nm,0.9s,baz=304,slow=2.2,SNR=6.1							
SONM	**Songino Array**	**160.42**	**12**	PKPab	**PKPab**	**05 16 37.6**	**+1.9**	
	comp=Z,0.8nm,0.7s,baz=302,slow=3.4,SNR=5.5							

*IDC **07** 04:56:21.1±6.3, 19°.37S×175°.77E, h53km±52km, mb3.9/9, mbtmp4.1/10, ML2.8/1, MS3.6/7, Error ellipse: s-maj=61.1km s-min=27.8km az=142.0*

ISC 07 04:56:19.0±1.5, 19°.3S±0°.3×175°.9E±0°.2, h35km, n18, σ1§18/12, mb4.2/9, MS3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DZM	**Mont Dzumac**	**9.25**	**251**	P			**Pn**	**04 58 31.2**	**+1.3**
	0.1nm,0.3s,baz=70,slow=18,SNR=3.6								
	6.8nm,0.9s								
HNR	**Honiara**	**18.27**	**300**	LR			LR	05 06 25.5	
	comp=Z,1μm,18.4s,baz=137,slow=33								
PMG	**Port Moresby**	**29.46**	**285**	LR			LR	05 12 01.5	
	comp=Z,53nm,18.6s,baz=56,slow=32								
STKA	**Stephens Creek**	**33.21**	**241**	P			**P**	**05 02 52.7**	**0.0**
	2.5nm,0.6s,baz=76,slow=9.9,SNR=4.9								
	2.5nm,0.6s								
WRA	**Warramunga Arr**	**39.06**	**262**	P			**P**	**05 03 40.7**	**-2.2**
	1.3nm,1.0s,baz=96,slow=8.5,SNR=6.3								
	1.3nm,1.0s								
ASAR	**Alice Springs**	**39.20**	**256**	P			**P**	**05 03 43.0**	**-1.0**
	7.1nm,0.8s,baz=88,slow=9.2,SNR=68								
ASAR				PcP			**PcP**	**05 05 52.2**	**-0.7**
	1.1nm,0.8s,baz=83,slow=3.3,SNR=5.6								
	7.1nm,0.8s								
GUMO	**Guam**	**44.73**	**315**	LR			LR	05 20 59.9	
	comp=Z,62nm,21.7s,baz=115,slow=33								
JOW	**Kunigami**	**65.07**	**313**	LR			LR	05 31 45.7	
	comp=Z,47nm,20.4s,baz=28,slow=33								
MJAR	**Matsushiro Arr**	**65.97**	**327**	P			**P**	**05 07 02.0**	**+0.2**
	2.6nm,0.8s,baz=164,slow=5.6,SNR=5.5								
	2.6nm,0.8s								
ASAJ	**Asahikawa**	**70.08**	**335**	LR			LR	05 33 25.5	
	comp=Z,43nm,19.3s,baz=160,slow=32								
KSRS	**Korea Array**	**72.28**	**322**	LR			LR	05 38 03.8	
	comp=Z,17nm,18.1s,baz=355,slow=35								
NVAR	**Mina Array Bea**	**84.24**	**46**	P			**P**	**05 08 48.8**	**+1.5**
	1.3nm,0.8s,baz=225,slow=8.9,SNR=1.7								
	1.3nm,0.8s								
CMAR	**Chiang Mai Arr**	**84.30**	**292**	P			**P**	**05 08 48.8**	**+0.9**
	1.0nm,0.4s,baz=112,slow=2.7,SNR=6.3								
	1.0nm,0.4s								
ILAR	**Eielson Array**	**88.55**	**15**	P			**P**	**05 09 07.0**	**-0.5**
	1.2nm,0.9s,baz=246,slow=5.0,SNR=11								
	1.2nm,0.9s								
SONM	**Songino Array**	**91.13**	**321**	P			**P**	**05 09 20.4**	**+0.2**
	1.0nm,1.1s,baz=129,slow=4.0,SNR=4.2								
	1.0nm,1.1s								
TIXI	**Tiksi**	**96.18**	**347**	LR			LR	05 49 38.0	
	comp=Z,33nm,18.7s,baz=181,slow=33								
YKA	**Yellowknife Ar**	**97.91**	**26**	P			**P**	**05 09 49.7**	**-1.0**
	0.2nm,0.7s,baz=253,slow=4.6,SNR=4.0								
	0.2nm,0.7s								
GERES	**GERESS Array B**	**147.21**	**338**	PKPbc			**PKPbc**	**05 15 58.8**	**+0.1**
	0.6nm,0.7s,baz=25,slow=4.4,SNR=5.2								

IDC 07 04:58:07.0±3.0, 32°.38S×179°.33W, h0km, mb3.7/2, mbtmp3.8/3, ML3.8/1, MS3.4/3, Error ellipse: s-maj=66.6km s-min=35.9km az=106.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
URZ	**Urewera**	**6.54**	**205**	Pn			Pn	04 59 44.9	+0.4
	2.0nm,0.3s,baz=339,slow=8.6,SNR=12								
URZ				Sn			Sn	05 00 58.9	-1.0
	0.2nm,0.3s,baz=89,slow=23,SNR=1.9								
URZ				LR			LR	05 01 57.6	
	comp=Z,337nm,20.2s,baz=90,slow=35								
	6.7nm,0.5s								
DZM	**Mont Dzumac**	**16.28**	**306**	LR			LR	05 06 52.3	
	comp=Z,185nm,18.8s,baz=130,slow=32								
RAR	**Rarotonga**	**20.67**	**62**	LR			LR	05 08 20.4	
	comp=Z,80nm,21.6s,baz=274,slow=30								
ASAR	**Alice Springs**	**41.91**	**270**	P			P	05 05 59.5	0.0
	1.3nm,0.8s,baz=106,slow=7.4,SNR=6.9								
	1.3nm,0.8s								
WRA	**Warramunga Arr**	**43.08**	**275**	P			P	05 06 08.9	-0.1
	0.9nm,0.9s,baz=114,slow=7.8,SNR=7.4								
	0.9nm,0.9s								
FINES	**FINESS Array B**	**146.58**	**338**	PKPbc			PKPdf	05 17 48.8	+0.6
	6.0nm,1.0s,baz=64,slow=3.2,SNR=5.4								

*IDC **07** 04:58:37.9±1.1, 39°.06N×73°.97E, h0km, mb3.7/6, mbtmp3.7/11, ML3.1/5, MS3.3/2, Error ellipse: s-maj=24.8km s-min=15.5km az=72.0*
*KRNET **07** 04:58:40.3±0.1, 39°.35N×73°.85E, mb4.0*
*SOME **07** 04:58:42.5, 39°.67N×73°.57E, h5km*
*NNC **07** 04:58:46.2±1.9, 39°.55N×74°.08E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=15.6km s-min=8.7km az=167.0*

ISC 07 04:58:41.7±1.6, 39°.35N±0°.05×73°.81E±0°.03, h7km±11km, n106, σ2§32/125, mb3.8/7, 40C-25D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
OHH	**Osh**	**1.42**	**326**	⇓*i*P			**Pn**	**04 59 07.1**	**-0.9**
	baz=25								
OHH				⇓*i*S			**Sn**	**04 59 26.8**	**-0.2**
	baz=25								
DRK	**Karamyk**	**1.57**	**275**	⇑*i*P			**Pn**	**04 59 10.0**	**-0.3**
	baz=75								
DRK				⇑*i*S			**Sn**	**04 59 32.3**	**+1.3**
	baz=75								
BTK	**Batken**	**2.42**	**288**	⇑*i*P			**Pn**	**04 59 23.5**	**+1.7**
	baz=88								
BTK				⇑*i*S			**Sn**	**04 59 54.7**	**+3.0**
	baz=88								
ARLS	**Aral**	**2.54**	**9**	⇑*i*P			**Pn**	**04 59 24.4**	**+0.9**
	baz=8.0								
ARLS				⇑*i*S			**Sn**	**04 59 57.3**	**+2.5**
	baz=8.0								
NRN	**Naryn**	**2.67**	**38**	⇓*i*P			**Pn**	**04 59 26.2**	**+0.7**
	baz=37								
NRN				⇓*i*S			**Sn**	**04 59 59.6**	**+1.4**
	baz=37								
GAR	**Garm**	**2.74**	**264**	⇑*i*P			**Pn**	**04 59 28.1**	**+1.8**
	baz=64								
GAR				⇑*i*S			**Sn**	**05 00 03.1**	**+3.4**
	baz=64								
AML	**Almayashu**	**2.78**	**358**	P			**Pn**	**04 59 30.5**	**+3.5**
	SNR=71								
AML	**Almayashu**	**2.78**	**358**	⇓*i*P			**Pn**	**04 59 28.6**	**+1.5**
	baz=58								
AML				⇓*i*S			**Sn**	**05 00 03.4**	**+2.3**
	baz=58								
ARK	**Arkit**	**2.82**	**331**	⇑*i*P			**Pn**	**04 59 28.9**	**+1.5**
	baz=30								
ARK				⇑*i*S			**Sn**	**05 00 04.5**	**+2.7**
	baz=30								
UCH	**Uchtor**	**2.92**	**10**	P			**Pn**	**04 59 31.5**	**+2.4**
	SNR=107								
UCH	**Uchtor**	**2.92**	**10**	⇑*i*P			**Pn**	**04 59 30.4**	**+1.3**
	baz=10.0								
UCH				⇑*i*S			**Sn**	**05 00 06.6**	**+1.9**
	baz=10.0								
TRKS	**Terek-Say**	**2.98**	**318**	⇑*i*P			**Pn**	**04 59 30.4**	**+0.7**
	baz=17								
TRKS				⇑*i*S			**Sn**	**05 00 06.9**	**+1.1**
	baz=17								
EKS2	**Erkin-Say**	**3.31**	**360**	P			**Pn**	**04 59 38.3**	**+4.2**
	SNR=40								
EKS2	**Erkin-Say**	**3.31**	**360**	⇑*e*P			**Pn**	**04 59 35.4**	**+1.3**
	baz=59								
EKS2				⇑*i*S			**Sn**	**05 00 15.7**	**+1.9**
	baz=59								
AAK	**Ala-Archa**	**3.33**	**9**	P			**Pn**	**04 59 37.0**	**+2.7**
	SNR=19								
AAK	**Ala-Archa**	**3.33**	**9**	Pn			**Pn**	**04 59 37.4**	**+3.1**
	5.0nm,0.3s,baz=173,slow=9.9,SNR=34								
AAK				Sn			**Sb**	**05 00 22.4**	**+0.5**
	4.9nm,0.3s,baz=167,slow=22,SNR=3.6								
AAK				LR			LR	05 01 11.4	
	comp=Z,204nm,19.7s,baz=202,slow=43								
	29nm,0.5s								
AAK	**Ala-Archa**	**3.33**	**9**	⇑*e*P			**Pn**	**04 59 35.6**	**+1.3**
	baz=8.0								
AAK				⇑*e*S			**Sn**	**05 00 16.3**	**+2.1**
	baz=8.0								
KBK	**Karagaybulak**	**3.41**	**14**	P			**Pn**	**04 59 38.5**	**+3.0**
	SNR=56								
KBK	**Karagaybulak**	**3.41**	**14**	⇑*i*P			**Pn**	**04 59 36.9**	**+1.3**
	baz=14								
KBK				⇑*i*S			**Sn**	**05 00 18.1**	**+1.7**
	baz=14								
MRKS	**Merke**	**3.42**	**353**	Pg			**Pn**	**04 59 38.4**	**+2.8**
	48nm,0.3s								
MRKS				Lg			Lg	05 00 18.2	
	70nm,0.8s								
MRKS	**Merke**	**3.42**	**353**	*e*Pg			**Pn**	**04 59 38.4**	**+2.8**
	48nm,0.3s								
MRKS				*e*Lg			Lg	05 00 18.2	
	70nm,0.8s								
ULHL	**Ulahol**	**3.43**	**32**	P			**Pb**	**04 59 42.5**	**-0.4**
	SNR=14								
ULHL	**Ulahol**	**3.43**	**32**	⇑*i*P			**Pn**	**04 59 37.1**	**+1.3**
	baz=31								
ULHL				⇑*i*S			**Sn**	**05 00 18.3**	**+1.4**
	baz=31								
FRU1	**Bishkek**	**3.51**	**10**	⇑*i*P			**Pn**	**04 59 38.6**	**+1.8**
	baz=9.0								
FRU1				⇑*i*S			**Sn**	**05 00 20.9**	**+2.2**
	baz=9.0								
BOOM	**Boomskoye usch**	**3.53**	**26**	⇓*i*P			**Pn**	**04 59 38.3**	**+1.2**
	baz=26								
BOOM				⇓*i*S			**Sn**	**05 00 20.9**	**+1.7**
	baz=26								
CHGR	**Chuyangaron**	**3.69**	**261**	⇑*i*P			**Pn**	**04 59 40.7**	**+1.4**
	baz=61								
CHGR				⇑*i*S			**Sn**	**05 00 25.5**	**+2.4**
	baz=61								
CHMS	**Chumysh**	**3.71**	**11**	P			**Pn**	**04 59 43.1**	**+3.5**
	SNR=15								
CHMS	**Chumysh**	**3.71**	**11**	⇓Pn			**Pn**	**04 59 42.0**	**+2.4**
	8.1nm,0.5s								
CHMS				⇓Pg			**Pb**	**04 59 49.5**	**+1.8**
	9.3nm,0.4s								
CHMS				⇑Lg			Lg	05 00 38.0	
	122nm,0.8s								
CHMS	**Chumysh**	**3.71**	**11**	⇓*i*P			**Pn**	**04 59 40.8**	**+1.2**
	baz=10.0								
CHMS				⇓*i*S			**Sn**	**05 00 24.9**	**+1.3**
	baz=10.0								
KDJ	**Kajisay**	**3.78**	**42**	⇑*e*P			**Pn**	**04 59 41.8**	**+1.3**
	baz=41								
KDJ				⇑*i*S			**Sn**	**05 00 26.7**	**+1.4**
	baz=41								
TKM2	**Tokmak 2**	**3.81**	**20**	P			**Pn**	**04 59 43.4**	**+2.3**
	SNR=26								
TKM2	**Tokmak 2**	**3.81**	**20**	⇓Pn			**Pn**	**04 59 43.0**	**+1.9**
	13nm,0.4s								
TKM2				⇑Pg			**Pb**	**04 59 50.6**	**+1.1**
	34nm,0.5s								
TKM2				⇓Lg			Lg	05 00 40.4	
	46nm,0.6s								
TKM2	**Tokmak 2**	**3.81**	**20**	⇓*i*P			**Pn**	**04 59 42.4**	**+1.3**
	baz=20								
TKM2				⇓*i*S			**Sn**	**05 00 27.8**	**+1.5**
	baz=20								
USP	**Ospenovka**	**3.95**	**7**	P			**Pn**	**04 59 45.8**	**+3.0**
	SNR=9.4								
USP	**Ospenovka**	**3.95**	**7**	⇑*i*P			**Pn**	**04 59 44.2**	**+1.4**
	baz=7.0								
USP				⇑*i*S			**Sn**	**05 00 30.8**	**+1.4**
	baz=7.0								
TAS	**Tashkent**	**3.98**	**301**	⇓*e*P			**Pn**	**04 59 44.9**	**+1.7**
	baz=1.0								
TAS				⇓*i*S			**Sn**	**05 00 31.9**	**+1.8**
	baz=1.0								
DZA	**Taraz**	**4.01**	**333**	Pg			**Pn**	**04 59 46.0**	**+2.5**
	91nm,0.1s								
DZA				Lg			Lg	05 00 31.3	
	94nm,0.3s								
DZA	**Taraz**	**4.01**	**333**	*e*Pg			**Pn**	**04 59 46.0**	**+2.5**
	91nm,0.1s								
DZA				*e*Lg			Lg	05 00 31.3	
	94nm,0.3s								
IUG	**Iuzhnay**	**4.01**	**315**	Pg			**Pn**	**04 59 46.6**	**+2.9**
	82nm,0.5s								
IUG				Lg			Lg	05 00 31.9	
	164nm,0.3s								
IUG	**Iuzhnay**	**4.01**	**315**	*e*Pg			**Pn**	**04 59 46.6**	**+2.9**
	82nm,0.5s								
IUG				*e*Lg			Lg	05 00 31.9	
	164nm,0.3s								
KST	**Kastek**	**4.03**	**23**	*e*Pg			**Pb**	**04 59 52.5**	**-0.6**
	28nm,0.3s								
KST				*e*Lg			Lg	05 00 42.1	
	135nm,0.7s								
SGDS	**Sogindy**	**4.14**	**8**	Pg			**Pb**	**04 59 53.8**	**-1.3**
	23nm,0.3s								
SGDS				Lg			Lg	05 00 44.2	
	40nm,0.4s								
DGS	**Degeres**	**4.16**	**20**	Pg			**Pb**	**04 59 56.1**	**+0.8**
	59nm,0.3s								
DGS				Lg			Lg	05 00 48.6	
	97nm,0.7s								
DGS	**Degeres**	**4.16**	**20**	*e*Pg			**Pb**	**04 59 56.1**	**+0.8**
	59nm,0.3s								
DGS				*e*Lg			Lg	05 00 48.6	
	97nm,0.7s								
MTBS	**Maitube**	**4.26**	**27**	Pg			**Pb**	**04 59 57.9**	**+0.9**
	15nm,0.4s								
MTBS				Lg			Lg	05 00 51.1	
	87nm,0.5s								
MTBS	**Maitube**	**4.26**	**27**	*e*Pg			**Pb**	**04 59 57.9**	**+0.9**
	15nm,0.4s								
MTBS				*e*Lg			Lg	05 00 51.1	
	87nm,0.5s								
CHM	**Chimkent**	**4.36**	**314**	*e*Pg			**Pn**	**04 59 53.0**	**+4.6**
	188nm,0.1s								
CHM				*e*Lg			Lg	05 00 42.8	
	188nm,0.3s								
TNSS	**Tian-Shan**	**4.38**	**32**	Pg			**Pb**	**05 00 00.1**	**+0.9**
	37nm,0.2s								
TNSS				Lg			Lg	05 00 55.1	
	29nm,0.7s								
TNSS	**Tian-Shan**	**4.38**	**32**	*e*Pg			**Pb**	**05 00 00.1**	**+0.9**
	37nm,0.2s								
TNSS				*e*Lg			Lg	05 00 55.1	
	29nm,0.7s								
ANVS	**Anan'yevo**	**4.50**	**39**	⇓*i*P			**Pn**	**04 59 51.9**	**+1.4**
	baz=39								
ANVS				⇓*i*S			**Sn**	**05 00 43.8**	**+0.6**
	baz=39								
KK31	**Karatay Array**	**4.50**	**327**	⇑Pn			**Pn**	**04 59 52.6**	**+2.2**
	3.6nm,0.3s,baz=132,slow=13,SNR=81								
KK31				⇑Pg			**Pg**	**05 00 06.7**	**-1.3**
	7.2nm,0.5s,baz=143,slow=16,SNR=5.3								
KK31				Sn			**Sb**	**05 00 50.9**	**-4.7**
	11nm,0.4s,baz=139,slow=26,SNR=4.0								
KK31				⇓Lg			Lg	05 01 07.1	
	20nm,0.6s,baz=135,slow=28,SNR=4.3								
KKAR	**Karatay Array**	**4.50**	**327**	⇑*i*P			**Pn**	**04 59 52.1**	**+1.7**
	baz=27								
KKAR				⇑*i*S			**Sn**	**05 00 44.6**	**+1.6**
	baz=27								
AAA	**Alma-Ata**	**4.51**	**30**	Pg			**Pb**	**05 00 05.2**	**+3.9**
	44nm,0.1s								
AAA				Lg			Lg	05 01 04.1	
	101nm,0.6s								
AAA	**Alma-Ata**	**4.51**	**30**	*e*Pg			**Pb**	**05 00 05.2**	**+3.9**
	44nm,0.1s								
AAA				*e*Lg			Lg	05 01 04.1	
	101nm,0.6s								
MDOK	**Medeo**	**4.52**	**32**	⇑Pg			**Pb**	**05 00 02.0**	**+0.5**
	32nm,0.6s								
MDOK				Pg			**Pb**	**05 00 04.5**	**+2.9**
	32nm,0.5s								
MDOK				⇑Lg			Lg	05 01 02.6	
	97nm,1.3s								
MDOK				Lg			Lg	05 01 03.1	
	46nm,1.1s								
MDOK	**Medeo**	**4.52**	**32**	*e*Pg			**Pb**	**05 00 04.5**	**+2.9**
	32nm,0.5s								
MDOK				*e*Lg			Lg	05 01 03.1	
	46nm,1.1s								
KRBS	**Karabastau**	**4.56**	**17**	Pg			**Pb**	**05 00 02.9**	**+0.7**
	19nm,0.3s								
KRBS				Lg			Lg	05 00 59.8	
	60nm,0.8s								
KRBS	**Karabastau**	**4.56**	**17**	*e*Pg			**Pb**	**05 00 02.9**	**+0.7**
	19nm,0.3s								
KRBS				*e*Lg			Lg	05 00 59.8	
	60nm,0.8s								
KOTS	**Kotyrbulak**	**4.61**	**32**	Pg			**Pb**	**05 00 04.4**	**+1.4**
	32nm,0.7s								
KOTS				Lg			Lg	05 01 03.0	
	162nm,0.6s								
KOTS	**Kotyrbulak**	**4.61**	**32**	*e*Pg			**Pb**	**05 00 04.4**	**+1.4**
	32nm,0.7s								
KOTS				*e*Lg			Lg	05 01 03.0	
	162nm,0.6s								
KTBS	**Karatobe**	**4.86**	**25**	Pg			**Pb**	**05 00 10.6**	**+3.4**
	29nm,0.4s								
KTBS				Lg			Lg	05 01 13.4	
	106nm,1.1s								
KTBS	**Karatobe**	**4.86**	**25**	*e*Pg			**Pb**	**05 00 10.6**	**+3.4**
	29nm,0.4s								
KTBS				*e*Lg			Lg	05 01 13.4	
	106nm,1.1s								
KUU	**Kurty**	**4.92**	**22**	Pg			**Pb**	**05 00 11.2**	**+3.0**
	20nm,0.7s								
KUU				Lg			Lg	05 01 14.4	
	92nm,0.7s								
KUU	**Kurty**	**4.92**	**22**	*e*Pg			**Pb**	**05 00 11.2**	**+3.0**
	20nm,0.7s								
KUU				*e*Lg			Lg	05 01 14.4	
	92nm,0.7s								
SATY	**Saty**	**5.07**	**42**	*e*Pg			**Pg**	**05 00 17.2**	**-1.7**
	22nm,1.0s								
SATY				*e*Lg			Lg	05 01 24.5	
	74nm,1.4s								
CHKK	**Chushkaly**	**5.09**	**27**	Pg			**Pb**	**05 00 15.0**	**+3.9**
	23nm,0.5s								
CHKK				Lg			Lg	05 01 20.8	
	59nm,0.6s								
CHKK	**Chushkaly**	**5.09**	**27**	*e*Pg			**Pb**	**05 00 15.0**	**+3.9**
	23nm,0.5s								
CHKK				*e*Lg			Lg	05 01 20.8	
	59nm,0.6s								
KURS	**Kuram**	**5.27**	**37**	Pg			**Pb**	**05 00 18.8**	**+4.5**
	18nm,0.3s								
KURS				Lg			Lg	05 01 27.3	
	28nm,0.5s								
KURS	**Kuram**	**5.27**	**37**	*e*Pg			**Pb**	**05 00 18.8**	**+4.5**
	18nm,0.3s								
KURS				*e*Lg			Lg	05 01 27.3	
	28nm,0.5s								
UZB	**Uzynbulak**	**5.46**	**44**	Pg			**Pb**	**05 00 22.1**	**+4.6**
	21nm,0.3s								
UZB				Lg			Lg	05 01 33.2	
	21nm,0.8s								
UZB	**Uzynbulak**	**5.46**	**44**	*e*Pg			**Pb**	**05 00 22.1**	**+4.6**
	21nm,0.3s								
UZB				*e*Lg			Lg	05 01 33.2	
	21nm,0.8s								
BTLS	**Baital**	**5.69**	**2**	*e*Pg			**Pb**	**05 00 20.4**	**-1.0**
	4.9nm,0.4s								
BTLS				*e*Lg			Lg	05 01 30.5	
	14nm,0.7s								
CHCP	**Chirah Chowk**	**5.70**	**185**	P			**Pn**	**05 00 07.8**	**+1.0**
SHLS	**Shalkode**	**5.71**	**46**	Pg			**Pg**	**05 00 32.0**	**+0.9**
	23nm,0.3s								
SHLS				Lg			Lg	05 01 49.7	
	255nm,0.4s								
SHLS	**Shalkode**	**5.71**	**46**	*e*Pg			**Pg**	**05 00 32.0**	**+0.9**
	23nm,0.3s								
SHLS				*e*Lg			Lg	05 01 49.7	
	255nm,0.4s								
CEP	**Cherat**	**5.72**	**196**	P			**Pn**	**05 00 08.6**	**+1.3**
BLB	**Baldybastay**	**5.89**	**35**	Pg			**Pb**	**05 00 29.1**	**+4.3**
	30nm,0.4s								
BLB				Lg			Lg	05 01 45.1	
	52nm,0.8s								
KTMS	**Ketmen**	**6.40**	**48**	Pg			**Pg**	**05 00 40.6**	**-3.6**
	6.7nm,0.4s								
KTMS				Lg			Lg	05 02 04.2	
	8.8nm,0.3s								
KTMS	**Ketmen**	**6.40**	**48**	*e*Pg			**Pg**	**05 00 40.6**	**-3.6**
	6.7nm,0.4s								
KTMS				*e*Lg			Lg	05 02 04.2	
	8.8nm,0.3s								
TDK	**Taldyqorghan**	**6.60**	**30**	Pg			Pb	05 00 43.1	+6.3
	132nm,0.2s								
TDK				Lg			Lg	05 02 09.9	
	124nm,0.7s								
TDK	**Taldyqorghan**	**6.60**	**30**	*e*Pg			Pb	05 00 43.1	+6.3
	132nm,0.2s								
TDK				*e*Lg			Lg	05 02 09.9	
	124nm,0.7s								
DJR	**Jarkent**	**6.69**	**40**	Pg			Pg	05 00 45.6	-4.1
	4.9nm,0.2s								
DJR				Lg			Lg	05 02 13.8	
	12nm,0.5s								
DJR	**Jarkent**	**6.69**	**40**	*e*Pg			Pg	05 00 45.6	-4.1
	4.9nm,0.2s								
DJR				*e*Lg			Lg	05 02 13.8	
	12nm,0.5s								
THW	**Thamme Wali**	**6.75**	**195**	P			**Pn**	**05 00 22.6**	**+1.3**
MAKZ	**Makanchi**	**9.55**	**36**	⇓Lg			Lg	05 03 37.2	
	8.5nm,1.2s								
MK31	**Makanchi Array**	**9.68**	**37**	⇓Pn			**Pn**	**05 01 00.9**	**-0.5**
	0.8nm,0.

comp=Z,63nm,19.8s,baz=166,slow=35
YKA Yellowknife Ar 78.28 4 P P 05 10 41.1 -0.8
comp=Z,0.3nm,0.7s,baz=347,slow=5.6,SNR=4.7
comp=Z,0.3nm,0.7s
WRA Warramunga Arr 81.67 124 P P 05 10 56.7 -4.2
comp=Z,0.5nm,0.6s,baz=328,slow=4.9,SNR=9.8
comp=Z,0.5nm,0.6s
ASAR Alice Springs 84.12 127 P P 05 11 09.2 -4.3
comp=Z,0.3nm,0.6s,baz=320,slow=5.4,SNR=5.7
comp=Z,0.3nm,0.6s

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*IDC **07** 05:12:28.7±5.2,5.83S×154.27E,h88km±40km,mb3.2/5, mbtmp3.7/7, Error ellipse: s-maj=46.7km s-min=20.7km az=98.0*
ISC 07 05:12:25.3±1.3,5.38S±0.1×154.66E±0.1,h61km,n7,σ1§10/9, mb3.3/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.92**	**300**	P			**Pn**	**05 13 10.0**	**+0.7**
	121nm,0.7s,baz=156,slow=10.0,SNR=1.8								
KRVT				S			**Sn**	**05 13 42.5**	**-0.7**
	192nm,0.6s,baz=264,slow=18,SNR=8.0								
PMG	**Port Moresby**	**8.15**	**243**	P			**Pn**	**05 14 21.9**	**+0.9**
	20nm,0.3s,baz=30,slow=19,SNR=7.3								
PMG				S			**Sn**	**05 15 52.4**	**+0.6**
	18nm,0.6s,baz=139,slow=21,SNR=2.5								
WRA	**Warramunga Arr**	**24.16**	**233**	P			**P**	**05 17 34.9**	**-1.1**
	0.4nm,0.5s,baz=57,slow=8.9,SNR=3.1								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**26.65**	**226**	P			**P**	**05 17 56.9**	**-1.8**
	0.4nm,0.5s,baz=58,slow=7.9,SNR=6.4								
	0.4nm,0.5s								
SONM	**Songino Array**	**68.10**	**327**	P			**P**	**05 23 18.8**	**-0.1**
	0.6nm,0.5s,baz=144,slow=3.4,SNR=4.9								
	0.6nm,0.5s								
MKAR	**Makanchi Array**	**82.22**	**319**	P			**P**	**05 24 39.8**	**-0.2**
	0.2nm,0.7s,baz=94,slow=7.4,SNR=2.4								
	0.2nm,0.7s								
ILAR	**Eielson Array**	**82.43**	**22**	P			**P**	**05 24 41.5**	**+0.8**
	0.4nm,0.6s,baz=240,slow=5.6,SNR=11								
	0.4nm,0.6s								

NNC 07 05:13:46.0±7.8,37.06N×71.09E,h0km,mb4.0,mpv3.6, 4C-2D,Error ellipse: s-maj=60.4km s-min=53.1km az=166.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.45**	**21**	P			Pn	05 15 10.1	+1.2
	SNR=121								
UCH	**Uchtor**	**5.80**	**26**	P			Pn	05 15 14.3	+0.6
	SNR=19								
EKS2	**Erkin-Say**	**5.97**	**19**	P			Pn	05 15 17.3	+1.6
	SNR=16								
KK31	**Karatay Array**	**6.06**	**356**	⇓Pn			Pn	05 15 18.0	+1.1
	1.0nm,0.3s,baz=178,slow=12,SNR=34								
KK31				⇑Sn			Sn	05 16 29.0	+2.1
	9.8nm,0.4s,baz=181,slow=22,SNR=20								
AAK	**Ala-Archa**	**6.16**	**24**	P			Pn	05 15 19.4	+1.1
	SNR=11								
CHMS	**Chumysh**	**6.56**	**24**	⇑Pn			Pn	05 15 24.3	+0.5
	1.9nm,0.3s								
CHMS				⇓Sn			Sn	05 16 38.9	-0.5
	5.2nm,0.8s								
TKM2	**Tokmak 2**	**6.80**	**29**	P			Pn	05 15 26.7	-0.6
	SNR=10.0								
TKM2	**Tokmak 2**	**6.80**	**29**	⇑Pn			Pn	05 15 26.2	-1.1
	4.1nm,0.4s								
TKM2				⇑Sn			Sn	05 16 46.8	+1.3
	9.9nm,1.4s								

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*IDC **07** 05:14:35.0±4.3,16.58S×69.48W,h155km±40km,mb3.4/3, mbtmp3.9/6, Error ellipse: s-maj=46.6km s-min=24.0km az=124.0*
ISC 07 05:14:38.5±1.0,16.93S±0.09×69.5W±0.1,h200km,n12, σ2§06/17,3C,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.66**	**179**	*i* P			**Pn**	**05 15 06.5**	**-0.5**
PB18				*e*S			**Sn**	**05 15 29.0**	**-0.2**
PB16	**IPOC Station P**	**1.40**	**181**	⇑*i*P			**Pn**	**05 15 11.9**	**-0.2**
PB16				*e*S			**Sn**	**05 15 38.6**	**+0.5**
PB16				IAML				05 15 42.8	
	comp=N,62nm,0.3s								
PB12	**IPOC Station P**	**1.86**	**205**	⇑*i*P			**Pn**	**05 15 13.5**	**-2.2**
PB12				*e*S			**Sn**	**05 15 41.0**	**-3.7**
PB12				IAML				05 15 42.1	
	comp=N,519nm,0.1s								
PB11	**IPOC Station P**	**2.82**	**183**	⇑*i*P			**Pn**	**05 15 25.4**	**-0.8**
PB11				*e*S			**Sn**	**05 16 01.8**	**-1.9**
PB11				IAML				05 16 05.1	
	comp=N,224nm,0.3s								
LVC	**Limon Verde**	**5.68**	**175**	P			**Pn**	**05 16 02.1**	**+0.1**
	comp=N,6.1nm,0.2s,baz=359,slow=11,SNR=41								
LVC				S			**Sn**	**05 17 05.3**	**-2.7**
	comp=N,13nm,0.4s,baz=189,slow=22,SNR=12								
SIV	**San Ignacio**	**8.13**	**85**	P			**Pn**	**05 16 30.2**	**-3.3**
	comp=N,4.4nm,0.5s,baz=272,slow=11,SNR=23								
CFA	**Coronel Fontan**	**14.66**	**176**	P			**P**	**05 17 59.7**	**+2.1**
	comp=N,0.7nm,0.3s,baz=348,slow=13,SNR=5.9								
BDFB	**Brasilia**	**20.66**	**90**	P			**P**	**05 19 02.4**	**-0.8**
	comp=N,1.3nm,0.4s,baz=279,slow=9.9,SNR=3.2								
	comp=N,1.3nm,0.4s								
PLCA	**Paso Flores**	**23.74**	**182**	P			**P**	**05 19 36.1**	**+3.6**
	comp=N,3.7nm,1.0s,baz=355,slow=8.9,SNR=4.2								
	comp=N,3.7nm,1.0s								
YKA	**Yellowknife Ar**	**86.71**	**341**	P			**P**	**05 26 59.1**	**-0.2**
	comp=N,0.2nm,0.5s,baz=132,slow=4.6,SNR=8.5								
	comp=N,0.2nm,0.5s								
WRA	**Warramunga Arr**	**136.52**	**214**	PKP			**PKiKP**	**05 33 39.8**	**+0.4**
	comp=N,0.3nm,0.6s,baz=163,slow=1.8,SNR=1.8								
SONM	**Songino Array**	**148.99**	**5**	PKPbc			**PKiKP**	**05 34 04.1**	**-0.1**
	comp=N,0.4nm,0.5s,baz=346,slow=4.6,SNR=2.5								

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*UCR **07** 05:24:31.3±0.7,8.13N×82.80W,h15km±8km,MW4.0*
*UPA **07** 05:24:35.3±2.2,8.32N×82.81W,h19km±16km,MW4.0*
ISC 07 05:24:30.5±1.8,8.18N±0.06×82.84W±0.03,h3km±14km, n29,σ0§97/38,1C-7D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.46**	**56**	⇑*i*P			**Pn**	**05 24 42.9**	**-1.1**
DVD				*i* S			**Sb**	**05 24 49.9**	**+1.4**
JIME	**Puerto Jimenez**	**0.60**	**306**	*e*P			**Pb**	**05 24 43.9**	**+0.2**
BRU2	**Volcan**	**0.63**	**13**	⇓*i*P			**Pb**	**05 24 44.9**	**+0.6**
BRU2				*i* S			**Sb**	**05 24 54.8**	**+1.3**
EDSV	**San Vito**	**0.65**	**348**	*e*P			**Pb**	**05 24 45.3**	**+0.7**
BC3P	**Paso Ancho**	**0.67**	**19**	⇓*i*P			**Pb**	**05 24 45.4**	**+0.4**
BC3P				*i* S			**Sb**	**05 24 54.3**	**-0.5**
EDPN	**Palmar Norte**	**0.99**	**322**	*e*P			**Pg**	**05 24 49.7**	**+0.1**
EDPN				*e*S			**Sb**	**05 25 03.7**	**-0.1**
REME3	**Remedios, Chir**	**0.99**	**87**	⇓*e*P			**Pn**	**05 24 51.6**	**+0.3**
REME3				*i* S			**Sb**	**05 25 05.0**	**+1.1**
CHGR2	**Aguacate**	**1.02**	**42**	⇓*e*P			**Pb**	**05 24 50.4**	**-0.4**
CHGR2				*i* S			**Sb**	**05 25 03.6**	**-1.0**
CNI2	**El Empalme, Bo**	**1.29**	**16**	⇓*e*P			**Pg**	**05 24 55.1**	**-0.2**
CNI2				*i* S			**Sn**	**05 25 12.7**	**-0.4**
BRIBI	**Bribri**	**1.44**	**359**	*e*P			**Pg**	**05 24 58.4**	**+0.3**
EDDO	**Dominical**	**1.47**	**316**	*e*P			**Pn**	**05 24 57.3**	**-0.6**
BUS1	**Rivas**	**1.64**	**327**	*e*P			**Pn**	**05 24 59.6**	**-1.0**
LLNJ	**Naranjito**	**1.79**	**316**	*e*P			**Pn**	**05 25 02.3**	**0.0**
ABE2	**San Pablo**	**1.94**	**322**	*e*P			**Pb**	**05 25 05.6**	**-1.0**
VERB	**Verbena**	**1.95**	**334**	*e*P			**Pn**	**05 25 04.8**	**+0.2**
BATAN	**Batan**	**1.98**	**344**	*e*P			**Pg**	**05 25 08.0**	**-0.5**
LCOCO	**El Coco**	**2.02**	**339**	*e*P			**Pn**	**05 25 06.2**	**+0.7**
SANTA	**Santa Ana**	**2.19**	**323**	*e*P			**Pn**	**05 25 08.0**	**0.0**
HDC	**Heredia**	**2.21**	**325**	⇓*e*P			**Pn**	**05 25 08.6**	**+0.5**
HDC				*e*S			**Sn**	**05 25 36.0**	**0.0**
HDC	**Heredia**	**2.21**	**325**	*e*P			**Pn**	**05 25 08.7**	**+0.5**
PESE3	**Pese, Herrera**	**2.22**	**97**	*e*P			**Pb**	**05 25 10.7**	**-0.6**
CHIT3	**Chitre**	**2.41**	**95**	*e*P			**Pb**	**05 25 13.0**	**+2.2**
PNME	**Penonome**	**2.50**	**83**	*e*P			**Pb**	**05 25 14.6**	**-1.5**
AZU	**Azuero**	**2.57**	**98**	*e*P			**Pb**	**05 25 16.7**	**-0.5**
VTON	**El Valle, Cocl**	**2.73**	**81**	*e*P			**Pb**	**05 25 18.4**	**-1.6**
SOCE	**Pocosol**	**2.81**	**321**	*e*P			**Pn**	**05 25 18.0**	**+1.6**
JTS	**Las Juntas de**	**2.96**	**315**	⇓*e*P			**Pn**	**05 25 20.0**	**+1.6**
JTS				*e*S			**Sn**	**05 25 53.0**	**-1.5**
JTS	**Las Juntas de**	**2.96**	**315**	*e*P			**Pn**	**05 25 19.0**	**+0.5**
BCIP	**Isla Barro Col**	**3.12**	**71**	*e*P			**Pn**	**05 25 21.7**	**+1.1**

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*NOU **07** 05:31:22.4,37.10S×179.70E,h0km,MLv4.3/10, Off E. Coast of N. Island, N.Z.*
*IDC **07** 05:31:29.4±1.9,36.86S×178.82E,h0km,mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=41.2km s-min=31.8km az=59.0*
*WEL **07** 05:31:29.9±2.5,37.S±11.×17.9E±1.3,h3km±9km,M3.9/15, ML4.3/15,MLv3.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=55.1, confirmed*
*NEIC **07** 05:31:29.1±1.0,37.30S±0.09×179.1E±0.1,h10km±2km, mb4.5/9, Error ellipse: s-maj=16.9km s-min=15.2km az=96.0*
ISC 07 05:31:29.6±2.1,37.17S±0.05×179.18E±0.08,h17km±11km, n135,σ1§25/141,mb4.3/8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**241**				**Pb**	**05 31 44.2**	**-0.8**
MXZ	**Matakaoa Point**	**0.80**	**241**	P			**Pb**	**05 31 44.5**	**-0.6**
MXZ	**Matakaoa Point**	**0.80**	**241**	P			**Pb**	**05 31 44.4**	**-0.6**
MXZ				S			**Sb**	**05 31 52.8**	**-2.7**
WMGZ	**Waiomatatini S**	**0.89**	**223**	P			**Pn**	**05 31 48.6**	**+1.2**
WMGZ				S			**Sn**	**05 32 00.8**	**+1.0**
PKGZ	**Pakihiroa**	**1.13**	**231**	P			**Pn**	**05 31 50.9**	**+0.1**
PKGZ				S			**Sb**	**05 32 05.6**	**+0.4**
PUZ	**Puketiti**	**1.16**	**219**	P			**Pg**	**05 31 52.3**	**+0.3**
PUZ				S			**Sn**	**05 32 07.1**	**+0.5**
HAZ	**Te Kaha**	**1.25**	**242**	P			**Pn**	**05 31 51.2**	**-1.1**
HAZ				S			**Sb**	**05 32 08.5**	**-0.2**
TWGZ	**Tauwhareparae**	**1.38**	**223**	P			**Pb**	**05 31 55.5**	**+0.5**
RUGZ	**Raukumara Rang**	**1.43**	**236**	P			**Pn**	**05 31 55.3**	**+0.3**
RUGZ				S			**Sb**	**05 32 14.5**	**+0.5**
CNGZ	**Carnagh Statio**	**1.52**	**210**	P			**Pb**	**05 31 58.1**	**+0.7**
CNGZ				S			**Sg**	**05 32 19.1**	**+0.5**
WIZ	**White Island**	**1.62**	**257**	P			**Pn**	**05 31 56.4**	**-1.1**
WSRZ	**White Island S**	**1.63**	**257**	P			**Pn**	**05 31 58.1**	**+0.5**
TKGZ	**Te Karaka**	**1.65**	**219**	P			**Pn**	**05 31 58.6**	**+0.8**
MWZ	**Matawai**	**1.75**	**228**	P			**Pn**	**05 32 00.2**	**+0.9**
WHRZ	**Whale Island**	**1.88**	**248**	P			**Pb**	**05 32 02.9**	**-0.6**
RIGZ	**Rimuhau**	**1.90**	**216**	P			**Pn**	**05 32 02.0**	**+0.7**
RAGZ	**Rawiri**	**1.92**	**226**	P			**Pn**	**05 32 02.9**	**+1.2**
URZ	**Urewera**	**1.97**	**236**	Pn			**Pn**	**05 32 03.1**	**+0.9**
	58nm,0.3s,baz=73,slow=1.2,SNR=207								
URZ				Sn			**Sn**	**05 32 25.2**	**-1.3**
	50nm,0.3s,baz=88,slow=11,SNR=6.3								
URZ	**Urewera**	**1.97**	**236**	P			**Pn**	**05 32 03.2**	**+1.0**
URZ	**Urewera**	**1.97**	**236**	P			**Pn**	**05 32 03.0**	**+0.9**
MARZ	**Manawahe**	**2.15**	**247**	P			**Pn**	**05 32 05.9**	**+1.2**
EDRZ	**Edgecumbe**	**2.15**	**244**	P			**Pn**	**05 32 05.4**	**+0.7**
SNGZ	**Shannon Statio**	**2.17**	**222**	P			**Pn**	**05 32 05.7**	**+0.8**
OPRZ	**Ohinepanea**	**2.19**	**251**	P			**Pn**	**05 32 05.4**	**+0.1**
KNZ	**Kokohu**	**2.19**	**212**	P			**Pn**	**05 32 05.5**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.22**	**207**	P			**Pn**	**05 32 06.7**	**+1.1**
RTZ	**Ruatahuna**	**2.26**	**230**				**Pn**	**05 32 07.1**	**+0.8**
RTZ	**Ruatahuna**	**2.26**	**230**	P			**Pn**	**05 32 07.2**	**+0.9**
MUGZ	**Muriwai**	**2.31**	**235**	P			**Pn**	**05 32 07.5**	**+0.6**
MYRZ	**Mayor Island**	**2.35**	**267**	P			**Pn**	**05 32 07.9**	**+0.5**
LIRZ	**Lichensteins R**	**2.37**	**249**	P			**Pn**	**05 32 09.4**	**+1.6**
TARZ	**Mount Tarawera**	**2.37**	**243**	P			**Pn**	**05 32 08.9**	**+1.0**
RAHZ	**Arahi**	**2.40**	**223**	P			**Pn**	**05 32 09.0**	**+0.8**
RRRZ	**Republican Roa**	**2.41**	**240**	P			**Pn**	**05 32 09.7**	**+1.3**
OMRZ	**Omania**	**2.42**	**246**	P			**Pn**	**05 32 10.0**	**+1.6**
WHHZ	**Waihua**	**2.44**	**218**	P			**Pn**	**05 32 09.4**	**+0.7**
KARZ	**Kaharoa**	**2.48**	**249**	P			**Pn**	**05 32 09.7**	**+0.4**
HLRZ	**Highlands Stat**	**2.49**	**243**	P			**Pn**	**05 32 11.0**	**+1.6**
MTHZ	**Maungataniwha**	**2.49**	**227**	P			**Pn**	**05 32 10.5**	**+1.0**
PRRZ	**Plateau Road**	**2.57**	**238**	P			**Pn**	**05 32 11.4**	**+0.9**
HRRZ	**Handcock Road**	**2.60**	**241**	P			**Pn**	**05 32 13.1**	**+2.2**
ALRZ	**Allen Road**	**2.64**	**237**	P			**Pn**	**05 32 12.2**	**+0.7**
NMHZ	**Naumai**	**2.68**	**224**	P			**Pn**	**05 32 13.2**	**+1.1**
MRHZ	**Matea Rd**	**2.74**	**232**	P			**Pn**	**05 32 13.9**	**+1.0**
KUZ	**Kuaotunu**	**2.80**	**278**	P			**Pn**	**05 32 12.2**	**-1.5**
KUZ	**Kuaotunu**	**2.80**	**278**	P			**Pn**	**05 32 12.3**	**-1.5**
BKZ	**Black Stump Fm**	**2.91**	**226**				**Pn**	**05 32 15.5**	**+0.4**
BKZ	**Black Stump Fm**	**2.91**	**226**	P			**Pn**	**05 32 15.7**	**+0.5**
BKZ	**Black Stump Fm**	**2.91**	**226**	P			**Pn**	**05 32 15.6**	**+0.4**
CKHZ	**Cape Kidnapper**	**2.98**	**213**	P			**Pn**	**05 32 15.8**	**-0.3**
MCHZ	**McNeill Hill**	**2.99**	**220**	P			**Pn**	**05 32 16.5**	**+0.2**
KWHZ	**Kaweka Forest**	**3.12**	**223**	P			**Pn**	**05 32 18.1**	**-0.1**
GRZ	**Great Barrier**	**3.13**	**286**	P			**Pn**	**05 32 17.7**	**-0.5**
KAHZ	**Kahuranaki**	**3.18**	**214**	P			**Pn**	**05 32 18.3**	**-0.6**
RITZ	**Rihia Road**	**3.18**	**234**	P			**Pn**	**05 32 20.0**	**+1.1**
MKAZ	**Moumakai**	**3.21**	**270**	P			**Pn**	**05 32 18.4**	**-0.9**
WIAZ	**Waiheke Island**	**3.26**	**275**	P			**Pn**	**05 32 19.2**	**-0.8**
KRHZ	**Kereru**	**3.31**	**221**	P			**Pn**	**05 32 20.0**	**-0.7**
TMVZ	**Te Maari**	**3.36**	**234**	P			**Pn**	**05 32 21.9**	**+0.4**
ETVZ	**East Tongariro**	**3.36**	**233**	P			**Pn**	**05 32 21.9**	**+0.4**
NTVZ	**North Tongarir**	**3.37**	**234**	P			**Pn**	**05 32 22.4**	**+0.9**
BHHZ	**Black Hill Sta**	**3.37**	**226**	P			**Pn**	**05 32 21.6**	**0.0**
PXZ	**Pawanui**	**3.38**	**212**	P			**Pn**	**05 32 20.8**	**-0.9**
KRVZ	**Karewarewa**	**3.39**	**234**	P			**Pn**	**05 32 22.6**	**+0.8**
ETAZ	**East Tamaki Re**	**3.41**	**272**	P			**Pn**	**05 32 21.4**	**-0.6**
OTVZ	**Oturere**	**3.41**	**233**	P			**Pn**	**05 32 23.1**	**+0.9**
NNVZ	**North Ngauruho**	**3.42**	**234**	P			**Pn**	**05 32 23.3**	**+0.9**
WTVZ	**West Tongariro**	**3.43**	**234**	P			**Pn**	**05 32 23.7**	**+1.2**
SNVZ	**South Ngauruho**	**3.44**	**233**	P			**Pn**	**05 32 22.9**	**+0.3**
MBAZ	**Motutapu North**	**3.45**	**275**	P			**Pn**	**05 32 23.0**	**+0.4**
NGZ	**Ngauruhoe**	**3.46**	**234**	P			**Pn**	**05 32 23.2**	**+0.4**
MOVZ	**Moawhango**	**3.50**	**229**	P			**Pn**	**05 32 23.3**	**-0.1**
TWVZ	**Taurewa**	**3.51**	**236**	P			**Pn**	**05 32 24.7**	**+1.3**
WHVZ	**Whangaehu Hut**	**3.53**	**232**	P			**Pn**	**05 32 24.4**	**+0.5**
FWVZ	**Far West T-bar**	**3.53**	**233**	P			**Pn**	**05 32 24.5**	**+0.5**
DRZ	**Dome Shelter**	**3.54**	**233**	P			**Pn**	**05 32 24.9**	**+0.8**
WNVZ	**Wahianoa**	**3.55**	**232**	P			**Pn**	**05 32 24.1**	**0.0**
TRVZ	**Turoa**	**3.56**	**232**	P			**Pn**	**05 32 24.7**	**+0.4**
EPAZ	**Eden Park BICE**	**3.56**	**273**	P			**Pn**	**05 32 25.6**	**+1.5**
WPHZ	**Waipukurau**	**3.60**	**216**	P			**Pn**	**05 32 23.9**	**-0.7**
PNHZ	**Pukenui**	**3.60**	**220**	P			**Pn**	**05 32 23.3**	**-1.3**
AWAZ	**Awhitu Peninsu**	**3.63**	**270**	P			**Pn**	**05 32 24.8**	**-0.2**
PRHZ	**Porangahau**	**3.67**	**212**	P			**Pn**	**05 32 24.7**	**-0.9**
HIZ	**Hauiti**	**3.67**	**247**				**Pn**	**05 32 27.0**	**+1.3**
HIZ	**Hauiti**	**3.67**	**247**	P			**Pn**	**05 32 27.3**	**+1.6**
HIZ	**Hauiti**	**3.67**	**247**	P			**Pn**	**05 32 27.1**	**+1.4**
PKVZ	**Pokaka**	**3.68**	**234**	P			**Pn**	**05 32 26.7**	**+0.9**
WTAZ	**Waiatarua**	**3.69**	**272**	P			**Pn**	**05 32 25.9**	**0.0**
RVAZ	**Riverhead Bore**	**3.71**	**275**	P			**Pn**	**05 32 26.0**	**-0.1**
TSZ	**Takapari Road**	**3.83**	**220**	P			**Pn**	**05 32 26.2**	**-1.6**
ANWZ	**Angora Road**	**3.90**	**212**	P			**Pn**	**05 32 27.9**	**-0.9**
VRZ	**Vera Road**	**3.99**	**239**	P			**Pn**	**05 32 31.3**	**+1.3**
WCZ	**Waipu Caves**	**4.08**	**286**	P			**Pn**	**05 32 31.6**	**+0.3**
POWZ	**Post Office Ro**	**4.17**	**219**	P			**Pn**	**05 32 31.9**	**-0.6**
WAZ	**Wanganui**	**4.18**	**231**	P			**Pn**	**05 32 33.4**	**+0.8**
BFZ	**Birch Farm**	**4.18**	**212**				**Pn**	**05 32 30.2**	**-2.5**
BFZ	**Birch Farm**	**4.18**	**212**	P			**Pn**	**05 32 30.2**	**-2.5**
PRWZ	**Pori Road**	**4.20**	**216**	P			**Pn**	**05 32 31.8**	**-1.2**
MRZ	**Mangatainoka R**	**4.47**	**218**	Pn			**Pn**	**05 32 34.7**	**-1.9**
NEZ	**North Egmont**	**4.52**	**241**	P			**Pn**	**05 32 40.1**	**+2.8**
KHEZ	**Kahui Hut**	**4.58**	**241**	P			**Pn**	**05 32 39.0**	**+0.7**
KHEZ	**Kahui Hut**	**4.58**	**241**	P			**Pn**	**05 32 41.7**	**+3.4**
OUZ	**Omahuta**	**4.92**	**292**				**Pn**	**05 32 42.2**	**-0.5**
OUZ	**Omahuta**	**4.92**	**292**	P			**Pn**	**05 32 43.3**	**+0.5**
OUZ	**Omahuta**	**4.92**	**292**	P			**Pn**	**05 32 43.5**	**+0.8**
PLWZ	**Palliser**	**5.34**	**213**	Pn			**Pn**	**05 32 45.2**	**-3.4**
BHW	**Baring Head**	**5.39**	**217**	Pn			**Pn**	**05 32 45.9**	**-3.4**
SNZO	**South Karori**	**5.40**	**219**	Pn			**Pn**	**05 32 48.4**	**-0.9**
SNZO	**South Karori**	**5.40**	**219**	P			**Pn**	**05 32 49.1**	**-0.2**
TCW	**Tory Channel**	**5.55**	**222**	Pn			**Pn**	**05 32 49.4**	**-2.0**
TCW	**Tory Channel**	**5.55**	**222**	P			**Pn**	**05 32 49.8**	**-1.6**
TUWZ	**Tuamarina**	**5.88**	**222**	Pn			**Pn**	**05 32 53.1**	**-2.8**
BSWZ	**Blackbirch Sta**	**6.12**	**221**	Pn			**Pn**	**05 32 58.3**	**-0.9**
QRZ	**Quartz Range**	**6.33**	**233**	Pn			**Pn**	**05 32 59.9**	**-2.3**
QRZ	**Quartz Range**	**6.33**	**233**	P			**Pn**	**05 33 00.8**	**-1.4**
MRNZ	**Matariki Terra**	**6.53**	**228**	Pn			**Pn**	**05 33 00.9**	**-2.0**
KHZ	**Kahutara**	**6.80**	**218**	Pn			**Pn**	**05 33 06.5**	**-2.1**
CTZ	**Chatham Island**	**7.29**	**155**	P			**Pn**	05 33 19.0	+3.6
MQZ	**McQueen's Vall**	**8.20**	**215**	Pn			**Pn**	**05 33 25.0**	**-2.9**
ODZ	**Otahua Downs**	**10.16**	**217**	Pn			**Pn**	**05 33 53.1**	**-1.6**
STKA	**Stephens Creek**	**31.27**	**268**	P			**P**	**05 37 49.5**	**+0.9**
	2.6nm,0.8s,baz=96,slow=14,SNR=5.3								
	2.6nm,0.8s								
STKA	**Stephens Creek**	**31.27**	**268**	P			**P**	**05 37 49.1**	**+0.4**
BBOO	**Buckleboo**	**35.37**	**264**	P			**P**	**05 38 23.0**	**-1.4**
COEN	**Coen**	**39.51**	**296**	P			**P**	**05 38 59.3**	**-0.3**
COEN						IAmb	IAmb	05 39 26.8	
	comp=Z,24nm,1.4s								
AS31	**Alice Springs**	**40.93**	**276**	P			**P**	**05 39 10.1**	**-1.3**
AS31						IAmb	IAmb	05 39 11.6	
	comp=Z,1.9nm,0.8s								
ASAR	**Alice Springs**	**40.93**	**276**	P			**P**	**05 39 10.7**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=118,slow=7.9,SNR=64								
	comp=Z,3.3nm,0.6s								
ASAR	**Alice Springs**	**40.93**	**276**	P			**P**	**05 39 10.5**	**-0.9**
WR0	**Warramunga Arr**	**42.37**	**281**	P			**P**	**05 39 22.0**	**-1.2**
WR0						IAmb	IAmb	05 39 23.2	
	comp=Z,5.2nm,0.6s								
FORT	**Forrest**	**42.45**	**263**	P			**P**	**05 39 22.8**	**-0.9**
WRAB	**Tennant Creek**	**42.53**	**281**	P			**P**	**05 39 23.6**	**-0.9**
WRAB						IAmb	IAmb	05 39 24.5	
	comp=Z,10.0nm,0.6s								
WRA	**Warramunga Arr**	**42.54**	**281**	P			**P**	**05 39 24.1**	**-0.4**
	comp=Z,8.8nm,0.5s,baz=121,slow=7.9,SNR=230								
	comp=Z,8.8nm,0.5s								
WRA	**Warramunga Arr**	**42.54**	**281**	P			**P**	**05 39 23.5**	**-1.0**
QSPA	**South Pole Qui**	**52.95**	**180**	P			P	05 40 49.5	+4.6
	comp=Z,1.3nm,0.8s,baz=50,slow=1.4,SNR=5.9								
	comp=Z,1.3nm,0.8s								
QSPA	**South Pole Qui**	**52.95**	**180**	P			**P**	**05 40 48.3**	**+3.4**
QSPA						IAmb	IAmb	05 40 50.5	
	comp=Z,10nm,1.4s								
FINES	**FINESS Array B**	**150.45**	**334**	PKPbc			**PKiKP**	**05 51 20.6**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=54,slow=7.1,SNR=4.9								

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*PGC **07** 05:31:39.8±5.3,49.97N×130.15W,h10km,MLSn3.3/18, Mw3.9/18,Mw3.9/18,210km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **07** 05:31:45.2±1.3,50.16N×129.51W,h0km,mb4.2/4, mbtmp3.9/13,ML3.5/9,MS3.5/12,Error ellipse: s-maj=21.4km s-min=10.9km az=67.0*
ISC 07 05:31:42.0±1.1,50.11N±0.06×129.98W±0.07,h10km,n63, σ1§81/56,mb4.2/4,MS3.8/8,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.30**	**65**	Pn			**Pn**	**05 32 04.1**	**-2.1**
PACB	**Port Alice, BC**	**1.63**	**77**	Pn			**Pn**	**05 32 08.4**	**-2.3**
PACB	

ISC 07 05:35:44.5±1.8, 42°.75N±0°.06×80°.23E±0°.05, h0km±11km, n54, σ1s11/82, 22C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.69**	**306**	P	**Pg**	**05 35 55.7**	**-2.1**
	1μm,0.1s						
SHLS				S	**Sg**	**05 36 04.5**	**-2.3**
	23μm,0.1s						
SHLS	**Shalkode**	**0.69**	**306**	*e*P	**Pg**	**05 35 55.7**	**-2.1**
	baz=23						
SHLS				*e*S	**Sg**	**05 36 04.5**	**-2.3**
	baz=23						
SHLS	**Shalkode**	**0.69**	**306**	*e*P	**Pg**	**05 35 55.7**	**-2.1**
	1μm,0.1s						
SHLS				*e*S	**Sg**	**05 36 04.5**	**-2.3**
	23μm,0.1s						
KTMS	**Ketmen**	**0.70**	**8**	P	**Pg**	**05 35 58.4**	**+0.5**
	60nm,0.1s						
KTMS				S	**Sb**	**05 36 08.8**	**-1.1**
	428nm,0.4s						
KTMS	**Ketmen**	**0.70**	**8**	*e*P	**Pg**	**05 35 58.4**	**+0.5**
	baz=58						
KTMS				*e*S	**Sb**	**05 36 08.8**	**-1.1**
	baz=58						
KTMS	**Ketmen**	**0.70**	**8**	*e*P	**Pg**	**05 35 58.4**	**+0.5**
	60nm,0.1s						
KTMS				*e*S	**Sb**	**05 36 08.8**	**-1.1**
	428nm,0.4s						
UZB	**Uzynbulak**	**0.97**	**294**	P	**Pg**	**05 36 03.6**	**+0.5**
	39nm,0.3s						
UZB				S	**Sn**	**05 36 18.3**	**-1.7**
	4.3nm,0.1s						
UZB	**Uzynbulak**	**0.97**	**294**	*e*P	**Pg**	**05 36 03.6**	**+0.5**
	39nm,0.3s						
UZB				*e*S	**Sn**	**05 36 18.3**	**-1.7**
	4.3nm,0.1s						
KPKS	**Kokpek**	**1.34**	**303**	P	**Pg**	**05 36 10.2**	**+0.1**
	185nm,0.1s						
KPKS				S	**Sn**	**05 36 29.1**	**+0.1**
	721nm,0.2s						
KPKS	**Kokpek**	**1.34**	**303**	*e*P	**Pg**	**05 36 10.2**	**+0.1**
	185nm,0.1s						
KPKS				*e*S	**Sn**	**05 36 29.1**	**+0.1**
	721nm,0.2s						
SATY	**Saty**	**1.37**	**284**	P	**Pn**	**05 36 10.9**	**-0.1**
	213nm,0.1s						
SATY				S	**Sn**	**05 36 30.8**	**+0.9**
	1μm,0.1s						
SATY	**Saty**	**1.37**	**284**	*e*P	**Pn**	**05 36 10.9**	**-0.1**
	baz=85						
SATY				*e*S	**Sn**	**05 36 30.9**	**+0.9**
	baz=85						
SATY	**Saty**	**1.37**	**284**	*e*P	**Pn**	**05 36 10.9**	**-0.1**
	213nm,0.1s						
SATY				*e*S	**Sn**	**05 36 30.8**	**+0.9**
	1μm,0.1s						
PRZ	**Przheval'sk**	**1.38**	**259⇑**	*e*P	**Pn**	**05 36 10.6**	**-0.5**
	baz=64						
PRZ				⇑*i*S	**Sn**	**05 36 30.5**	**+0.4**
	baz=64						
DJR	**Jarkent**	**1.61**	**349**	P	**Pb**	**05 36 15.1**	**0.0**
	40nm,0.1s						
DJR				S	**Sg**	**05 36 37.5**	**+1.2**
	286nm,0.3s						
DJR	**Jarkent**	**1.61**	**349**	*e*P	**Pb**	**05 36 15.2**	**0.0**
	40nm,0.1s						
DJR				*e*S	**Sg**	**05 36 37.5**	**+1.2**
	286nm,0.3s						
KURS	**Kuram**	**1.68**	**297**	P	**Pb**	**05 36 16.3**	**0.0**
	102nm,0.3s						
KURS				S	**Sg**	**05 36 39.7**	**+1.4**
	125nm,0.3s						
KURS	**Kuram**	**1.68**	**297**	*e*P	**Pb**	**05 36 16.3**	**0.0**
	baz=97						
KURS				*e*S	**Sg**	**05 36 39.7**	**+1.4**
	baz=97						
KURS	**Kuram**	**1.68**	**297**	*e*P	**Pb**	**05 36 16.3**	**0.0**
	102nm,0.3s						
KURS				*e*S	**Sg**	**05 36 39.7**	**+1.4**
	125nm,0.3s						
ANVS	**Anan'yevo**	**1.89**	**272⇓**	*i*P	**Pn**	**05 36 18.6**	**+0.5**
	baz=74						
ANVS				⇓*i*S	**Sb**	**05 36 43.9**	**-0.2**
	baz=74						
TARG	**Taragay, Kyrgy**	**2.07**	**241⇑**	*i*P	**Pn**	**05 36 20.5**	**-0.3**
	baz=45						
TARG				⇑*i*S	**Sn**	**05 36 46.6**	**-0.9**
	baz=45						
KOTS	**Kotyrbulak**	**2.33**	**283**	Pg	**Pb**	**05 36 28.1**	**+0.6**
	48nm,0.1s						
KOTS				Lg	Lg	05 36 59.9	
	1μm,0.5s						
KOTS	**Kotyrbulak**	**2.33**	**283**	*e*Pg	**Pb**	**05 36 28.1**	**+0.6**
	48nm,0.1s						
KOTS				*e*Lg	Lg	05 36 59.9	
	1μm,0.5s						
KDJ	**Kajisay**	**2.34**	**256⇑**	*i*P	**Pn**	**05 36 24.6**	**+0.2**
	baz=58						
KDJ				⇑*i*S	**Sn**	**05 36 53.7**	**-0.2**
	baz=58						
MDOK	**Medeo**	**2.37**	**281**	⇓Pg	**Pn**	**05 36 26.5**	**+1.8**
	29nm,0.5s						
MDOK				Pg	**Pb**	**05 36 27.7**	**-0.4**
	65nm,0.2s						
MDOK				Lg	Lg	05 36 59.3	
	166nm,0.5s						
MDOK				⇑Lg	Lg	05 36 59.4	
	121nm,0.6s						
MDOK	**Medeo**	**2.37**	**281**	*e*Pg	**Pb**	**05 36 27.7**	**-0.4**
	65nm,0.2s						
MDOK				*e*Lg	Lg	05 36 59.3	
	166nm,0.5s						
TNSS	**Tian-Shan**	**2.43**	**278**	Pg	**Pb**	**05 36 29.3**	**0.0**
	79nm,0.2s						
TNSS				Lg	Lg	05 37 02.4	
	79nm,0.3s						
TNSS	**Tian-Shan**	**2.43**	**278**	*e*Pg	**Pb**	**05 36 29.3**	**0.0**
	79nm,0.2s						
TNSS				*e*Lg	Lg	05 37 02.4	
	79nm,0.3s						
CHKK	**Chushkaly**	**2.61**	**296**	Pg	**Pb**	**05 36 32.2**	**+0.1**
	11nm,0.2s						
CHKK				Lg	Lg	05 37 06.7	
	252nm,0.3s						
CHKK	**Chushkaly**	**2.61**	**296**	*e*Pg	**Pb**	**05 36 32.2**	**+0.1**
	11nm,0.2s						
CHKK				*e*Lg	Lg	05 37 06.7	
	252nm,0.3s						
KTBS	**Karatobe**	**2.76**	**292**	Pg	**Pb**	**05 36 34.9**	**+0.2**
	15nm,0.2s						
KTBS				Lg	Lg	05 37 11.5	
	341nm,0.3s						
KTBS	**Karatobe**	**2.76**	**292**	*e*Pg	**Pb**	**05 36 34.9**	**+0.2**
	15nm,0.2s						
KTBS				*e*Lg	Lg	05 37 11.5	
	341nm,0.3s						
MTBS	**Maitube**	**2.81**	**279**	Pg	**Pb**	**05 36 35.9**	**+0.2**
	34nm,0.3s						
MTBS				Lg	Lg	05 37 13.3	
	120nm,0.3s						
MTBS	**Maitube**	**2.81**	**279**	*e*Pg	**Pb**	**05 36 35.9**	**+0.2**
	34nm,0.3s						
MTBS				*e*Lg	Lg	05 37 13.3	
	120nm,0.3s						
ULHL	**Ulahol**	**2.99**	**262⇑**	*e*P	**Pn**	**05 36 33.8**	**+0.5**
	baz=63						
ULHL				⇑*i*S	**Sn**	**05 37 09.8**	**-0.2**
	baz=63						
KUU	**Kurty**	**3.06**	**293**	Pg	**Pb**	**05 36 40.9**	**+1.1**
	3.4nm,0.2s						
KUU				Lg	Lg	05 37 21.5	
	125nm,0.3s						
KUU	**Kurty**	**3.06**	**293**	*e*Pg	**Pb**	**05 36 40.9**	**+1.1**
	3.4nm,0.2s						
KUU				*e*Lg	Lg	05 37 21.5	
	125nm,0.3s						
KST	**Kastek**	**3.15**	**277**	Pg	**Pb**	**05 36 42.6**	**+1.3**
	12nm,0.3s						
KST				Lg	Lg	05 37 24.7	
	120nm,0.5s						
KST	**Kastek**	**3.15**	**277**	*e*Pg	**Pb**	**05 36 42.6**	**+1.3**
	12nm,0.3s						
KST				*e*Lg	Lg	05 37 24.7	
	120nm,0.5s						
BOOM	**Boomskoye usch**	**3.17**	**267⇓**	*i*P	**Pn**	**05 36 36.4**	**+0.6**
	baz=68						
BOOM				⇓*i*S	**Sn**	**05 37 14.4**	**-0.1**
	baz=68						
DGS	**Degeres**	**3.30**	**280**	Pg	**Pb**	**05 36 44.5**	**+0.4**
	35nm,0.2s						
DGS				Lg	Lg	05 37 27.7	
	123nm,0.4s						
DGS	**Degeres**	**3.30**	**280**	*e*Pg	**Pb**	**05 36 44.5**	**+0.4**
	35nm,0.2s						
DGS				*e*Lg	Lg	05 37 27.7	
	123nm,0.4s						
TKM2	**Tokmak 2**	**3.41**	**274**	⇑Pn	**Pn**	**05 36 40.2**	**+1.1**
	11nm,0.5s						
TKM2				⇑Lg	Lg	05 37 30.6	
	81nm,0.7s						
TKM2	**Tokmak 2**	**3.41**	**274⇑**	*e*P	**Pn**	**05 36 39.8**	**+0.7**
	baz=76						
TKM2				⇑*i*S	**Sn**	**05 37 20.3**	**0.0**
	baz=76						
KRBS	**Karabastau**	**3.46**	**287**	Pg	**Pb**	**05 36 47.2**	**+0.6**
	8.3nm,0.3s						
KRBS				Lg	Lg	05 37 32.6	
	55nm,0.2s						
KRBS	**Karabastau**	**3.46**	**287**	*e*Pg	**Pb**	**05 36 47.2**	**+0.6**
	8.3nm,0.3s						
KRBS				*e*Lg	Lg	05 37 32.6	
	55nm,0.2s						
CHMS	**Chumysh**	**4.03**	**275**	⇑Pg	**Pb**	**05 36 56.2**	**-0.2**
	9.6nm,0.6s						
CHMS				⇓Lg	Lg	05 37 51.1	
	19nm,0.5s						
MAKZ	**Makanchi**	**4.24**	**16**	⇑Pn	**Pn**	**05 36 50.3**	**-0.1**
	1.6nm,0.2s						
MAKZ				⇑Pg	**Pb**	**05 36 58.0**	**-2.0**
	7.8nm,0.3s						
MAKZ				⇓Lg	Lg	05 37 55.3	
	6.4nm,0.3s						
MK31	**Makanchi Array**	**4.30**	**19**	⇑Pn	**Pn**	**05 36 50.9**	**-0.2**
	1.9nm,0.2s,baz=226,slow=12,SNR=723						
MK31				⇑Pg	**Pb**	**05 36 58.8**	**-2.1**
	1.2nm,0.2s,baz=203,slow=13,SNR=9.4						
MK31				⇑Sn	**Sn**	**05 37 41.6**	**-0.4**
	6.4nm,0.5s						
MK31				⇑Lg	Lg	05 37 57.4	
	2.3nm,0.2s,baz=181,slow=28,SNR=5.0						
BTLS	**Baital**	**5.02**	**299**	*e*Pg	**Pb**	**05 37 15.5**	**+2.4**
	1.3nm,0.2s						
BTLS				*e*Lg	Lg	05 38 21.0	
	8.0nm,0.2s						
ZSN	**Zaisan**	**5.73**	**33**	*e*Pg	**Pb**	**05 37 26.9**	**+1.6**
	2.3nm,0.1s						
ZSN				*e*Lg	Lg	05 38 40.2	
	8.9nm,0.4s						
KK31	**Karatay Array**	**7.14**	**276**	⇑Pg	Pb	05 37 55.2	+5.9
	0.9nm,0.5s,baz=88,slow=15,SNR=14						
KK31				⇓Lg	Lg	05 39 27.9	
	4.5nm,0.5s,baz=92,slow=30,SNR=6.4						
KURBB	**Kurchatov Arra**	**7.96**	**352**	⇑Pg	**Pb**	**05 38 06.2**	**+3.0**
	3.6nm,1.1s						
KURBB				⇓Lg	Lg	05 40 03.0	
	21nm,0.8s						
KURK	**Kurchatov**	**8.04**	**353**	⇓Pg	**Pb**	**05 38 06.8**	**+2.2**
	4.1nm,1.1s						
KURK				⇓Lg	Lg	05 40 06.2	
	8.7nm,0.7s						

*DDA **07** 05:51:43.9±0.0, 38°.34N×38°.96E, h7km±1km, ML1.8*
*ISK **07** 05:51:44.5, 38°.46N×39°.00E, h14km, ML2.5/6*

ISC 07 05:51:44.6±0.9, 38°.42N±0°.04×38°.98E±0°.03, h13km±6km, n13, σ0s67/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.08**	**4**	P	**Pg**	**05 51 47.6**	**+0.1**
ELZG				*i* AML	AML	05 51 50.0	
	comp=E,2μm,0.3s						
ELZG				S	**Sg**	**05 51 50.0**	**+0.3**
ELZG				*i* AML	AML	05 51 51.0	
	comp=N,867nm,0.2s						
MAYA	**Malatya/Merkez**	**0.44**	**258**	P	**Pg**	**05 51 52.4**	**-1.0**
MAYA				*i* AML	AML	05 51 59.0	
	comp=N,434nm,0.2s						
MAYA				*i* AML	AML	05 51 59.0	
	comp=E,225nm,0.1s						
MAYA				S	**Sg**	**05 51 59.1**	**-0.2**
KOVA	**Elazig, Kovanc**	**0.72**	**66**	P	**Pb**	**05 51 59.3**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.82**	**32**	P	**Pb**	**05 52 01.1**	**+0.2**
TNCL				S	**Sn**	**05 52 13.8**	**-0.5**
TNCL				*i* AML	AML	05 52 16.0	
	comp=N,13nm,0.4s						
TNCL				*i* AML	AML	05 52 16.0	
	comp=E,16nm,0.4s						
AKCD	**Akcadag**	**0.84**	**262**	P	**Pg**	**05 51 59.7**	**-1.1**
AKCD				S	**Sb**	**05 52 11.9**	**-0.5**
AKCD				*i* AML	AML	05 52 12.0	
	comp=N,145nm,0.2s						
AKCD				*i* AML	AML	05 52 13.0	
	comp=E,147nm,0.5s						
ARPR	**Arapgir-MALATY**	**0.84**	**324**	Pg	**Pg**	**05 52 00.8**	**-0.1**
KEMA	**Kemaliye**	**0.93**	**336**	P	**Pb**	**05 52 03.0**	**+0.2**
KEMA				S	**Sn**	**05 52 17.0**	**+0.2**
KEMA				*i* AML	AML	05 52 18.0	
	comp=E,18nm,0.7s						
KEMA				*i* AML	AML	05 52 19.0	
	comp=N,21nm,0.4s						
URFA	**Urfa**	**0.98**	**187**	Pg	**Pn**	**05 52 04.7**	**+0.5**
URFA				Sg	**Sn**	**05 52 19.3**	**+1.3**
DYBB	**Diyarbakir**	**1.03**	**116**	Pg	**Pn**	**05 52 04.7**	**-0.1**
DYBB				Sg	**Sn**	**05 52 19.6**	**+0.5**
HANI	**Diyarbakir_Han**	**1.12**	**90**	P	**Pb**	**05 52 05.6**	**-0.2**
HANI				S	**Sn**	**05 52 21.7**	**+0.3**
HANI				*i* AML	AML	05 52 24.0	
	comp=N,9.6nm,0.4s						
HANI				*i* AML	AML	05 52 27.0	
	comp=E,9.9nm,0.3s						
AKCA	**Adyaman/G¶**	**1.19**	**239**	P	**Pg**	**05 52 07.6**	**+0.1**
AKCA				S	**Sn**	**05 52 24.7**	**+1.5**
BNGB	**Bingl**	**1.45**	**66**	Pn	**Pn**	**05 52 10.6**	**-0.1**
MAZI	**Mazidag**	**1.50**	**129**	Pn	**Pb**	**05 52 11.9**	**-0.6**

MEX 07 06:16:07.1±0.6, 15°.96N×98°.89W, h16km±14km, MD4.4, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.85**	**60**	*i* P	Pb	06 16 20.0	-3.5
PNIG				*e*S	Sb	06 16 30.7	-3.9
DAIG	**Los Arroyos**	**1.28**	**325**	*i* P	Pn	06 16 26.4	-4.0
DAIG				*i* S	Sb	06 16 41.2	-6.0
MGIG	**Malinaltepec**	**1.29**	**11**	*e*P	Pn	06 16 26.8	-3.9
MGIG				*i* S	Sb	06 16 42.8	-4.7
YOIG	**Yosondua**	**1.57**	**55**	*e*P	Pn	06 16 31.1	-3.5
YOIG				*e*S	Sn	06 16 48.8	-5.8
TLIG	**Tlapa**	**1.62**	**11**	*e*P	Pn	06 16 31.9	-3.3
TLIG				*i* S	Sn	06 16 50.1	-5.7
PEIG	**Puerto Escondi**	**1.68**	**89**	*e*P	Pn	06 16 32.2	-3.6
TXIG	**Tlaxiaco**	**1.68**	**40**	*e*P	Pn	06 16 32.7	-3.3
VHO	**Vista Hermosa**	**2.34**	**62**	*e*P	Pn	06 16 42.6	-2.6
VHO				*e*S	Sn	06 17 09.3	-4.5
TOIG	**Toxpalan**	**2.75**	**39**	*e*P	Pn	06 16 47.9	-2.7
TPIG	**Tehuac#an**	**2.85**	**31**	*e*S	Sn	06 17 17.2	-8.9
YAIG	**Yautepec**	**2.89**	**357**	*e*S	Sn	06 17 19.2	-7.9

*MEX **07** 06:16:33.6±0.6, 15°.86N×98°.87W, h16km±30km, MD4.8*
*IDC **07** 06:16:37.9±7.3, 16°.16N×98°.66W, h33km±55km, mb4.0/15, mbtmp4.2/17, ML3.8/2, MS3.8/28, Error ellipse: s-maj=28.8km s-min=13.9km az=45.0*
*NEIC **07** 06:16:38.3±2.4, 16°.21N±0°.06×98°.70W±0°.04, h27km±6km, mb4.7/151, Md4.8/146(MEX), Error ellipse: s-maj=8.3km s-min=5.9km az=185.0*

ISC 07 06:16:33.0±2.6, 15°.92N±0°.04×98°.84W±0°.03, h12km±16km, n559, σ2s12/605, mb4.8/69, MS3.8/29, 1C, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.83**	**56**		**Pb**	**06 16 47.3**	**-2.0**
PNIG					**Sb**	**06 16 58.3**	**-2.1**
PNIG	**Pinotepa**	**0.83**	**56**	*e*P	**Pb**	**06 16 47.3**	**-2.0**
PNIG				*i* S	**Sb**	**06 16 58.3**	**-2.1**
MGIG	**Malinaltepec**	**1.32**	**8**	*e*P	**Pn**	**06 16 54.2**	**-3.1**
MGIG				*e*S	**Sn**	**06 17 09.9**	**-5.0**
DAIG	**Los Arroyos**	**1.34**	**325**	*e*P	**Pn**	**06 16 53.7**	**-3.9**
DAIG				*e*S	**Sn**	**06 17 11.2**	**-4.1**

YOIG	**Yosondua**	**1.55**	**53**		**Pn**	**06 16 58.0**	**-2.6**
YOIG					**Sn**	**06 17 17.2**	**-3.6**
YOIG	**Yosondua**	**1.55**	**53**	*e*P	**Pn**	**06 16 58.0**	**-2.6**
YOIG				*e*S	**Sn**	**06 17 17.2**	**-3.6**
PEIG	**Puerto Escondi**	**1.63**	**87**	*e*P	**Pn**	**06 16 58.6**	**-2.8**
PEIG				*e*S	**Sn**	**06 17 18.1**	**-4.3**
TLIG	**Tlapa**	**1.65**	**9**	Pn	**Pn**	**06 16 59.7**	**-2.2**
TLIG	**Tlapa**	**1.65**	**9**	*e*P	**Pn**	**06 16 59.5**	**-2.4**
TLIG				*e*S	**Sn**	**06 17 20.0**	**-3.2**
TXIG	**Tlaxiaco**	**1.67**	**38**		**Sn**	**06 17 20.4**	**-3.5**
TXIG	**Tlaxiaco**	**1.67**	**38**	*e*P	**Pn**	**06 17 00.0**	**-2.4**
TXIG				*e*S	**Sn**	**06 17 20.4**	**-3.5**
TXIG	**Tlaxiaco**	**1.67**	**38**	*e*S	**Pn**	**06 16 60.0**	**-2.4**
CAIG	**El Cayaco**	**1.77**	**309**	*i* P	**Pn**	**06 17 00.4**	**-3.0**
FTIG	**Fresnillo de T**	**2.09**	**19**		**Pn**	**06 17 06.4**	**-1.5**
FTIG	**Fresnillo de T**	**2.09**	**19**	*e*P	**Pn**	**06 17 06.4**	**-1.5**
MEIG	**Mezcala**	**2.13**	**340**		**Pn**	**06 17 06.0**	**-2.4**
MEIG					**Sn**	**06 17 31.4**	**-3.5**
MEIG	**Mezcala**	**2.13**	**340**	*e*P	**Pn**	**06 17 06.0**	**-2.4**
MEIG				*e*S	**Sn**	**06 17 31.4**	**-3.5**
HLIG	**Huajuapan de L**	**2.14**	**27**		**Pn**	**06 17 06.6**	**-2.1**
HLIG					**Sn**	**06 17 31.7**	**-3.6**
HLIG	**Huajuapan de L**	**2.14**	**27**	*e*P	**Pn**	**06 17 06.6**	**-2.1**
HLIG				*e*S	**Sn**	**06 17 31.7**	**-3.6**
OXIG	**Oaxaca**	**2.32**	**60**		**Sn**	**06 17 36.7**	**-3.1**
VHO	**Vista Hermosa**	**2.32**	**60**	*e*P	**Pn**	**06 17 09.8**	**-1.4**
VHO				*i* S	**Sn**	**06 17 36.7**	**-3.1**
PLIG	**Platanillo**	**2.54**	**346**		**Sn**	**06 17 43.0**	**-2.0**
PLIG	**Platanillo**	**2.54**	**346**	*e*S	**Pn**	**06 17 12.2**	**-1.9**
PLIG	**Platanillo**	**2.54**	**346**	*e*P	**Pn**	**06 17 12.1**	**-1.9**
PLIG				*e*S	**Sn**	**06 17 43.0**	**-2.0**
HUIG	**Huatulco**	**2.63**	**93**	*e*P	**Pn**	**06 17 13.7**	**-1.6**
HUIG				*e*S	**Sn**	**06 17 41.6**	**-5.6**
TOIG	**Toxpalan**	**2.75**	**38**	*e*P	**Pn**	**06 17 15.0**	**-2.0**
TOIG	**Toxpalan**	**2.75**	**38**	*e*S	**Pn**	**06 17 14.9**	**-2.0**
ARIG	**Puente Sto Nin**	**2.75**	**329**		**Pn**	**06 17 15.3**	**-1.7**
ARIG					**Sn**	**06 17 46.3**	**-3.9**
ARIG	**Puente Sto Nin**	**2.75**	**329**	*e*P	**Pn**	**06 17 15.3**	**-1.7**
ARIG				*e*S	**Sn**	**06 17 46.3**	**-3.9**
TPIG	**Tehuac#an**	**2.86**	**29**		**Sn**	**06 17 51.1**	**-1.9**
TPIG	**Tehuac#an**	**2.86**	**29**	*e*P	**Pn**	**06 17 15.3**	**-3.3**
TPIG				*e*S	**Sn**	**06 17 51.1**	**-1.9**
YAIG	**Yautepec**	**2.93**	**356**		**Sn**	**06 17 53.2**	**-1.5**
YAIG	**Yautepec**	**2.93**	**356**	*e*P	**Pn**	**06 17 17.9**	**-1.6**
YAIG				*e*S	**Sn**	**06 17 53.2**	**-1.5**
ZIIG	**Zihuatanejo**	**3.02**	**304**		**Sn**	**06 17 54.2**	**-2.6**
ZIIG	**Zihuatanejo**	**3.02**	**304**	*e*P	**Pn**	**06 17 18.8**	**-1.9**
ZIIG				*e*S	**Sn**	**06 17 54.2**	**-2.6**
MAVM	**Malinalco, Edo**	**3.08**	**348**		**Pn**	**06 17 25.0**	**-2.0**
MAVM					**Sn**	**06 18 56.3**	**-2.3**
MAVM	**Malinalco, Edo**	**3.08**	**348**	*e*P	**Pn**	**06 17 25.9**	**-2.0**
MAVM				*e*S	**Sn**	**06 17 56.3**	**-2.3**
PPIG	**Popocatepetl**	**3.13**	**4**		**Pn**	**06 17 21.3**	**-1.3**
PPIG					**Sn**	**06 17 58.5**	**-1.8**
PPM	**Popocatepetl**	**3.13**	**4**	*e*P	**Pn**	**06 17 21.3**	**-1.3**
PPM				*e*S	**Sn**	**06 17 58.5**	**-1.8**
AMVM	**AMECAMECA**	**3.19**	**1**		**Pn**	**06 17 25.7**	**+2.4**
AMVM					**Sn**	**06 18 03.2**	**+1.8**
AMVM	**AMECAMECA**	**3.19**	**1**	*e*P	**Pn**	**06 17 25.7**	**+2.4**
AMVM				*e*S	**Sn**	**06 18 03.2**	**+1.8**
MPVM	**San Francisco**	**3.27**	**357**	*e*P	**Pn**	**06 17 25.4**	**+1.2**
MPVM				*e*S	**Sn**	**06 17 55.6**	**-7.5**
TLVM	**San Miguel Top**	**3.28**	**355**	*e*P	**Pn**	**06 17 22.8**	**-1.8**
TLVM				*e*S	**Sn**	**06 18 00.4**	**-3.3**
XCVM	**Xochimilco**	**3.32**	**355**	*e*P	**Pn**	**06 17 21.9**	**-3.2**
XCVM				*e*S	**Sn**	**06 17 59.7**	**-4.9**
AOVM	**Tlapan**	**3.36**	**352**	*e*P	**Pn**	**06 17 27.0**	**+1.3**
AOVM				*e*S	**Sn**	**06 18 02.8**	**-3.0**
THVM	**De Xico**	**3.37**	**358**	*e*P	**Pn**	**06 17 26.3**	**+0.6**
THVM				*e*S	**Sn**	**06 17 59.4**	**-6.4**
INVM	**La Marquesa**	**3.39**	**351**	*e*P	**Pn**	**06 17 25.1**	**-0.9**
INVM				*e*S	**Sn**	**06 18 03.5**	**-2.9**
UNM	**Universidad Na**	**3.40**	**355**		**Pn**	**06 17 28.3**	**+2.1**
UNM	**Universidad Na**	**3.40**	**355**	*e*P	**Pn**	**06 17 26.1**	**0.0**
UNM				*e*S	**Sn**	**06 18 04.0**	**-2.6**
NEUV	**Arroyo Zacate**	**3.41**	**58**	*e*P	**Pn**	**06 17 24.4**	**-1.5**
NEUV				*e*S	**Sn**	**06 18 03.9**	**-2.4**
COVM	**Coyoacan**	**3.42**	**355**	*e*P	**Pn**	**06 17 27.7**	**+1.3**
COVM				*e*S	**Sn**	**06 18 05.0**	**-2.1**
TOVM	**TOLUCA**	**3.44**	**347**		**Pn**	**06 17 24.9**	**-1.7**
TOVM					**Sn**	**06 18 02.6**	**-4.8**
TOVM	**TOLUCA**	**3.44**	**347**	*e*P	**Pn**	**06 17 24.9**	**-1.7**
TOVM				*e*S	**Sn**	**06 18 02.6**	**-4.8**
CJVM	**Cuajimalpa**	**3.45**	**353**	*e*P	**Pn**	**06 17 23.5**	**-3.2**
CJVM				*e*S	**Sn**	**06 18 05.2**	**-2.4**
BJVM	**Benito Juarez**	**3.45**	**355**	*e*P	**Pn**	**06 17 30.0**	**+3.2**
BJVM				*e*S	**Sn**	**06 18 02.6**	**-5.1**
MHVM	**Bosque de Chap**	**3.48**	**354**	*e*P	**Pn**	**06 17 28.3**	**+1.0**
MHVM				*e*S	**Sn**	**06 18 01.8**	**-6.8**
VRVM	**Mexico City**	**3.49**	**356**	*e*S	**Sn**	**06 18 08.2**	**-0.4**
PBVM	**Pinon**	**3.51**	**356**		**Pn**	**06 17 26.9**	**-0.4**
PBVM	**Pinon**	**3.51**	**356**	*e*P	**Pn**	**06 17 26.9**	**-0.4**
PBVM				*e*S	**Sn**	**06 18 00.5**	**-8.2**
CTVM	**Cuauhtemoc**	**3.52**	**355**	*e*P	**Pn**	**06 17 28.9**	**+1.2**
CTVM				*e*S	**Sn**	**06 18 06.0**	**-3.3**
GMVM	**Gustavo A Made**	**3.56**	**356**	*e*P	**Pn**	**06 17 27.1**	**-1.2**
GMVM				*e*S	**Sn**	**06 18 02.1**	**-8.3**
AZVM	**Cuida Lopez Ma**	**3.67**	**353**		**Pn**	**06 17 33.1**	**+3.3**
AZVM					**Sn**	**06 18 10.5**	**-2.6**
AZVM	**Cuida Lopez Ma**	**3.67**	**353**	*e*P	**Pn**	**06 17 33.1**	**+3.3**
AZVM				*e*S	**Sn**	**06 18 10.5**	**-2.6**
ZUVM	**ZUMPANGO**	**3.89**	**357**		**Pn**	**06 17 33.9**	**+0.2**
ZUVM					**Sn**	**06 18 12.3**	**-6.2**
ZUVM	**ZUMPANGO**	**3.89**	**357**	*e*P	**Pn**	**06 17 33.0

CDAR Ciudad de Arme 5.78 302 eP Pn 06 17 59.3 +0.7
CDAR eS Sn 06 18 58.0 -6.8
INCO Volcan de Coli 5.79 309 eP Pn 06 18 00.0 +1.0
INCO eS Sn 06 18 57.3 -8.2
R15V 5.88 304 Pn 06 18 00.6 +0.6
R15V 5.88 304 eP Pn 06 18 00.6 +0.6
R15V eS Sn 06 19 05.6 -1.7
RPIG Rio Verde 6.03 350 Pn 06 18 05.0 +2.9
RPIG Rio Verde 6.03 350 eP Pn 06 18 05.0 +2.9
RPIG eS Sn 06 19 12.6 +1.5
PATR El Naranjo 6.42 96 eP Pn 06 18 08.1 +0.5
PATR eS Sn 06 19 16.8 -4.0
THIG 6.42 98 Pn 06 18 07.3 -0.1
THIG 6.42 98 eP Pn 06 18 07.3 -0.1
THIG eS Sn 06 19 14.5 -6.1
CCIG Comitan 6.45 86 Pn 06 18 09.5 +1.5
CCIG Comitan 6.45 86 eP Pn 06 18 09.6 +1.7
CCIG eS Sn 06 19 20.0 -1.7
PAVE Pavencul 6.46 96 eP Pn 06 18 08.5 +0.4
PAVE eS Sn 06 19 15.3 -6.7
CHUJ Union Juarez 6.54 96 eP Pn 06 18 10.2 +0.9
CHUJ eS Sn 06 19 19.6 -4.4
AAIG Aguscalientes 6.88 331 Pn 06 18 15.0 +1.0
AAIG Aguscalientes 6.88 331 eP Pn 06 18 15.0 +1.0
AAIG eS Sn 06 19 37.7 +5.3
CJM Chamela 6.90 302 eP Pn 06 18 13.2 -0.8
CJM eS Sn 06 19 32.0 -0.5
HUEH Huehuetenango 7.09 94 Pn 06 18 19.4 +2.6
GTIG Gomez Farias 7.11 358 Pn 06 18 17.9 +1.0
GTIG Gomez Farias 7.11 358 eP Pn 06 18 17.9 +1.0
GTIG eS Sn 06 19 40.2 +2.4
ANIG Ahuacatlan 7.42 314 Pn 06 18 23.4 +2.1
ANIG Ahuacatlan 7.42 314 eP Pn 06 18 23.4 +2.1
ANIG eS Sn 06 19 49.3 +3.8
ZAIG Zacatecas 7.67 333 Pn Pn 06 18 26.4 +1.6
ZAIG Zacatecas 7.67 333 eP Pn 06 18 25.1 +0.3
ZAIG eS Sn 06 19 50.7 -1.0
PETF Flores 8.66 82 Pn 06 18 37.1 -1.1
LNIG Linares 8.95 356 eP Pn 06 18 42.2 +0.1
LNIG eS Sn 06 20 26.9 +4.0
ESQI Esquipulas 9.27 97 Pn 06 18 50.6 +4.1
MTO3 Montecristo 9.28 98 Pn 06 18 49.2 +2.4
TEIG Tepich 10.92 65 Pn Pn 06 19 07.6 -1.5
PDIG Papasquiaro 10.95 327 Pn 06 19 11.4 +1.6
PDIG Papasquiaro 10.95 327 eP Pn 06 19 11.4 +1.6
PDIG eS Sn 06 20 47.4 -25
TGUH Tegucigalpa,Un 11.33 98 Pn 06 19 16.4 +1.5
CRIN San Cristobal 11.86 104 Pn 06 19 25.6 +3.5
H06E1 SOCORRO T-PHAS 11.89 286 T T 06 31 32.4
SNR=1459
H06S1 SOCORRO T 11.91 285 T T 06 31 38.0
SNR=88
H06N1 SOCORRO T-PHAS 11.96 286 T T 06 31 37.7
SNR=25
CNGN Cerro Negro 12.25 105 Pn Pn 06 19 30.8 +3.4
833A Chaparral WMA, 12.35 358 Pn Pn 06 19 28.9 +0.2
833A Chaparral WMA, 12.35 358 P Pn 06 19 28.3 -0.4
baz=177
HPIG 12.66 331 Pn Pn 06 19 34.4 +1.2
BOAB BOACO BROADBAN 13.23 103 Pn 06 19 43.6 +2.9
LPIG La Paz 13.50 309 LR LR 06 24 50.3
comp=Z,253nm,21.9s,baz=74,slow=36
ACON Acoyapa 13.83 105 Pn 06 19 51.4 +2.4
HZTE Horizontes, Gu 13.88 110 P 06 19 55.6 -2.4
CSIG Choix 14.01 322 Pn 06 19 50.1 -1.4
TX31 Lajitas Ar. Si 14.07 342 Pn 06 19 52.9 +0.7
TX32 Lajitas Array 14.07 342 Pn 06 19 52.5 +0.2
TXAR Lajitas Array 14.07 342 Pn 06 19 52.9 +0.7
ORTG Ortega, Santa 14.15 111 P 06 19 58.4 -2.6
DUNO Dulce Nombre, 14.24 112 P 06 20 00.5 -1.4
JCT Junction City 14.52 357 Pn Pn 06 19 56.9 -1.4
JCT Junction City 14.52 357 P Pn 06 19 58.3 -0.1
baz=176,SNR=5.1
ESPN Las Esperanzas 14.58 103 Pn 06 20 02.4 +3.1
JTS Las Juntas de 14.63 111 Pn P 06 20 05.2 -1.1
JTS Las Juntas de 14.63 111 Pn P 06 20 05.7 -0.7
435B Jarrell 14.84 4 P Pn 06 20 02.2 -0.5
baz=184
COVE Coope Vega, Sa 14.97 108 P 06 20 09.1 -0.9
HDC Heredia 15.50 111 P P 06 20 16.9 +0.7
HDC IAmb IAmb 06 20 34.5
comp=Z,64nm,1.0s
RIMA Rio Macho 15.82 111 P P 06 20 19.6 -0.2
RIMA IAmb IAmb 06 20 28.5
comp=Z,106nm,1.5s
WHTX Lake Whitney, 16.05 4 P P 06 20 20.8 -1.1
WHTX IAmb IAmb 06 20 23.4
comp=Z,89nm,1.0s
WHTX Lake Whitney, 16.05 4 P Pn 06 20 18.2 -0.3
baz=184,SNR=10
PEZE Perez Zeledon, 16.15 112 P P 06 20 25.9 +2.6
NATX Nacogdoches 16.22 13 P P 06 20 23.0 -0.8
NATX IAmb IAmb 06 20 23.9
comp=Z,43nm,0.9s
NATX Nacogdoches 16.22 13 P Pn 06 20 20.0 -0.7
baz=194
SRBA San Rafael, Bu 16.50 112 P 06 20 30.1 +3.0
CGIG 16.64 331 P P 06 20 27.9 -0.8
CGIG 16.64 331 eP P 06 20 27.9 -0.8
ABTX Abilene, Hawle 16.64 358 P 06 20 27.8 -0.8
ABTX IAmb IAmb 06 20 30.3
comp=Z,48nm,0.9s
ABTX Abilene, Hawle 16.64 358 P Pn 06 20 26.0 -0.1
baz=177,SNR=28
FW07 Weatherford 16.73 3 P Pn 06 20 27.3 0.0
FW07 IAmb IAmb 06 20 30.4
comp=Z,112nm,1.4s
MNTX Cornudas Mount 16.80 340 Pn 06 20 28.6 +0.5
MNTX Cornudas Mount 16.80 340 P Pn 06 20 27.9 -0.2
baz=157,SNR=28
CLNB Carlsbad 16.90 345 P Pn 06 20 30.1 +0.5
GDL2 Guadalupe Moun 16.97 344 Pn Pn 06 20 30.8 +0.4
FW06 Azle 17.02 4 P Pn 06 20 31.3 +0.4
FW06 IAmb IAmb 06 20 46.2
comp=Z,53nm,1.1s
HTMS Hat Mesa 17.04 346 P Pn 06 20 31.4 +0.1
FW03 Perrin-Whitt E 17.06 2 P Pn 06 20 31.8 +0.4
FW03 IAmb IAmb 06 20 37.6
comp=Z,66nm,1.1s
HSIG 17.16 321 P 06 20 35.5 +1.2
CDITO Canoas 17.22 113 P P 06 20 39.6 +4.6
BRU2 Volcan 17.28 112 P P 06 20 40.3 +4.4
BRU2 IAmb IAmb 06 20 49.6
comp=Z,61nm,1.2s
Z35A Perchaven, San 17.39 4 P Pn 06 20 33.7 -1.8
Z35A IAmb IAmb 06 20 37.7
comp=Z,50nm,0.9s
Z38A Mt. Pleasant 17.61 11 Pn 06 20 38.2 0.0
CPRX Cap Rock 17.63 346 P P 06 20 40.0 +0.4
LOOK Love County 18.05 4 Pn 06 20 41.7 -2.0
LOOK IAmb IAmb 06 21 17.0
comp=Z,26nm,1.0s
319A Douglas 18.10 330 P P 06 20 45.9 +1.2
MSTX Muleshoe 18.32 350 Pn 06 20 46.7 -0.3
MSTX IAmb IAmb 06 20 51.6
comp=Z,73nm,1.2s
MSTX Muleshoe 18.32 350 P Pn 06 20 46.4 -0.7
baz=167,SNR=23
121A Cookes Peak, D 18.42 335 P Pn 06 20 49.3 +0.8
121A Cookes Peak, D 18.42 335 P Pn 06 20 49.0 +0.6
baz=151,SNR=10
WLAR White Oak Lake 18.43 15 P P 06 20 45.8 -2.4
WLAR IAmb IAmb 06 21 13.1
comp=Z,42nm,1.0s
X34A Smith Ranch, M 18.62 3 P 06 20 48.9 -1.5
WMOK Wichita Mounta 18.74 0 P 06 20 50.2 -1.5
WMOK Wichita Mounta 18.74 0 P P 06 20 51.2 -0.4
baz=180
X37A Clayton 18.85 9 P 06 20 51.9 -0.9
DUN6 Lazy B Ranch 18.99 332 P Pn 06 20 56.8 +1.5
DUN6 IAmb IAmb 06 21 05.5
comp=Z,50nm,1.1s
AMTX Amarillo 19.05 353 P P 06 20 54.3 -0.9
AMTX Amarillo 19.05 353 P P 06 20 55.0 -0.2
baz=171
MIAR Mount Ida 19.14 13 P P 06 20 54.5 -1.5
MIAR Mount Ida 19.14 13 P P 06 20 54.9 -1.1
baz=195
X40A Basin Creek Fa 19.26 15 P P 06 20 57.3 0.0
FNO Franklin 19.30 4 P 06 20 56.9 -1.0
CRNM Carthage 19.31 340 P Pn 06 20 59.5 +0.3
Y22D IRIS PASSCAL I 19.49 340 P P 06 21 00.5 +0.5
baz=156
Y22F Passcal Instru 19.49 340 P Pn 06 21 01.3 +0.1
baz=156
TUC Tucson 19.59 328 Pn 06 21 03.5 +1.0
TUC Tucson 19.59 328 P Pn 06 21 03.6 +1.1
baz=143
OK025 Westminster Rd 19.62 4 P 06 21 00.4 -1.0
OK025 IAmb IAmb 06 21 01.5
comp=Z,29nm,0.9s
CSTR Hydro, Custer 19.64 0 P P 06 21 00.9 -0.7
CSTR IAmb IAmb 06 21 08.9
comp=Z,3.0nm,0.8s
BCOK Bluff Creek, N 19.68 3 P 06 21 01.1 -0.9
BCOK IAmb IAmb 06 21 16.4
comp=Z,21nm,0.9s
Z47A Carrollton 19.77 28 P P 06 21 01.2 -1.7
Z47A IAmb IAmb 06 21 23.7
comp=Z,47nm,1.3s
DEOK Depew 19.95 6 P 06 21 03.7 -1.2
DEOK IAmb IAmb 06 21 05.2
comp=Z,38nm,1.0s
OK031 S. Brethren Rd 20.03 5 P 06 21 04.3 -1.4
OK031 IAmb IAmb 06 21 06.1
comp=Z,56nm,1.1s
TUL1 Leonard 20.09 7 P 06 21 04.8 -1.7
TUL1 IAmb IAmb 06 21 13.9
comp=Z,24nm,0.8s
TUL1 Leonard 20.09 7 P P 06 21 05.0 -1.4
baz=188,SNR=8.3
OK053 SW of W Deep R 20.09 5 P 06 21 05.0 -1.4
OK053 IAmb IAmb 06 21 06.2
comp=Z,43nm,1.0s
OK033 Mehan 20.11 4 P 06 21 04.8 -1.8
OK033 IAmb IAmb 06 21 06.5
comp=Z,50nm,1.0s
LRAL Lakeview Retre 20.13 30 P 06 21 07.0 +0.1
LRAL Lakeview Retre 20.13 30 P P 06 21 05.9 -1.0
baz=215
ANMO Albuquerque 20.14 342 P P 06 21 08.3 +1.0
comp=Z,0.2nm,0.3s,baz=240,slow=11,SNR=34
ANMO Lg Lg 06 27 12.7
comp=Z,0.1nm,0.3s,baz=313,slow=23,SNR=3.2
ANMO LR LR 06 29 39.5
comp=Z,524nm,19.3s,baz=248,slow=39
comp=Z,12nm,1.0s
ANMO Albuquerque 20.14 342 P P 06 21 08.2 +1.0
ANMO Albuquerque 20.14 342 P P 06 21 07.9 +0.6
baz=158
QUOK Quay 20.26 5 P 06 21 06.7 -1.6
QUOK IAmb IAmb 06 21 16.3
comp=Z,33nm,0.9s
OXF Oxford 20.36 23 P P 06 21 08.7 -0.6
baz=207
U32A Winter Ranch, 20.38 360 P 06 21 08.8 -0.7
U32A IAmb IAmb 06 21 10.2
comp=Z,49nm,1.0s
214A Organ Pipe Nat 20.41 324 P Pn 06 21 12.5 +0.4
214A Organ Pipe Nat 20.41 324 P Pn 06 21 12.4 +0.3
baz=138,SNR=7.1
OK050 Pawnee Station 20.46 4 P P 06 21 09.0 -1.4
OK046 Pawnee Station 20.46 4 P 06 21 09.4 -1.1
OK048 Pawnee Station 20.48 4 P P 06 21 09.0 -1.7
PIX Pinacate 20.49 322 P Pn 06 21 13.1 +0.1
NOKA Waynoka 20.63 360 P 06 21 11.6 -0.7
NOKA IAmb IAmb 06 21 16.5
comp=Z,64nm,1.3s
TIGA Tifton 20.78 39 P P 06 21 12.8 -1.2
baz=226
BLOK Blackwell 20.80 4 P 06 21 12.4 -1.8
BLOK IAmb IAmb 06 21 19.6
comp=Z,88nm,1.2s
KAN14 Manchester OK 20.96 2 P P 06 21 14.5 -1.4
KAN14 IAmb IAmb 06 21 20.4
comp=Z,23nm,0.9s
T35A Sooner Cattle 21.01 5 P P 06 21 14.3 -2.2
T35A IAmb IAmb 06 21 18.5
comp=Z,65nm,1.1s
W45A Hickory Valley 21.02 23 P P 06 21 14.1 -2.4
152A Waverly Hall 21.02 35 P P 06 21 15.8 -0.8
KAN13 South Haven SW 21.04 3 P P 06 21 15.0 -1.8
W18A Petrified Fore 21.47 335 P P 06 21 22.8 +1.2
baz=150
T25A Trinidad 21.70 348 P P 06 21 24.7 +0.6
baz=165,SNR=12
Y14A Wickenburg 22.02 327 P P 06 21 29.2 +1.8
S39A Bolivar 22.23 12 P P 06 21 28.9 -0.6
S39A IAmb IAmb 06 21 31.8
comp=Z,33nm,1.2s
Y52A Lilburn 22.28 34 P P 06 21 28.8 -1.4
Y52A IAmb IAmb 06 21 30.5
comp=Z,39nm,1.1s
GLA Glamis 22.37 323 P P 06 21 33.0 +1.9
GLA Glamis 22.37 323 P P 06 21 33.9 +2.8
baz=135
WVT Waverly 22.39 24 P P 06 21 30.1 -1.2
WVT IAmb IAmb 06 21 33.0
comp=Z,43nm,1.0s
WVT Waverly 22.39 24 P P 06 21 30.7 -0.5
baz=209
WUAZ Wupatki 22.50 332 P P 06 21 34.7 +2.0
WUAZ Wupatki 22.50 332 P P 06 21 34.2 +1.5
baz=146,SNR=30
SDCO Great Sand Dun 22.52 346 P P 06 21 33.5 +0.5
baz=163,SNR=24
YUH Yuha Desert 22.74 320 P P 06 21 37.1 +2.1
YUH IAmb IAmb 06 21 59.3
comp=Z,31nm,1.4s
CGM3 Cape Girardeau 22.79 19 P P 06 21 35.0 -0.5
CGM3 IAmb IAmb 06 21 36.9
comp=Z,35nm,1.1s
RMX La Rumorosa 22.81 320 P P 06 21 37.3 +1.4
CBKS Cedar Bluff 22.82 358 P P 06 21 35.3 -0.5
CBKS IAmb IAmb 06 21 49.3
comp=Z,35nm,1.2s
CBKS Cedar Bluff 22.82 358 P P 06 21 36.5 +0.7
baz=177
S22A 4UR Ranch, Cre 22.86 344 P P 06 21 37.0 +0.5
S22A IAmb IAmb 06 21 47.4
comp=Z,41nm,1.1s
S22A 4UR Ranch, Cre 22.86 344 P P 06 21 37.6 +1.1
baz=159,SNR=18
IKP In-Ko-Pah, Jac 22.86 320 P P 06 21 38.5 +2.1
baz=132
MVCO Mesa Verde 22.87 340 P P 06 21 37.9 +1.4
baz=155,SNR=47
SWSC Sam W. Stewart 22.87 321 P P 06 21 38.2 +1.8
baz=133
GTBY Guantanamo Bay 22.92 76 P P 06 21 37.5 +0.6
CLTN Cedars of Leba 22.97 27 P P 06 21 36.5 -0.9
CLTN IAmb IAmb 06 21 46.6
comp=Z,60nm,1.4s
R40A Maddies Statio 23.02 13 P P 06 21 36.2 -1.7
CCM Cathedral Cave 23.04 15 P P 06 21 37.4 -0.7
baz=199
BC3 Big Chuckawall 23.16 323 P P 06 21 41.5 +1.9
baz=135,SNR=7.3
KSU1 Kansas State U 23.17 4 P P 06 21 37.9 -1.6
KSU1 IAmb IAmb 06 21 41.5
comp=Z,23nm,1.1s
KSU1 Kansas State U 23.17 4 P P 06 21 39.0 -0.4
baz=185
MONP2 Monument Peak 23.22 320 P P 06 21 42.5 +2.3
baz=132
BAR Barrett 23.23 319 P P 06 21 42.7 +2.5
KSCO Kaye Shedlock' 23.24 353 P P 06 21 40.0 -0.3
KSCO Kaye Shedlock' 23.24 353 P P 06 21 40.5 +0.2
baz=170,SNR=9.8
CPCT Cooper Cave 23.28 31 P P 06 21 39.8 -0.8
IRM Iron Mountain 23.35 324 P P 06 21 43.0 +1.7
baz=136,SNR=14
W13A Hualapai Mount 23.38 328 P P 06 21 44.2 +2.4
W13A IAmb IAmb 06 21 51.2
comp=Z,27nm,1.4s
T47A Sharon Grove 23.42 24 P P 06 21 41.2 -0.8
NEE2 Needles Airpor 23.51 326 P P 06 21 44.4 +1.5
baz=138
HODGE Hodges 23.56 36 P P 06 21 41.6 -1.7
HODGE IAmb IAmb 06 21 44.0
comp=Z,25nm,0.9s
Q24A Divide 23.61 348 P P 06 21 44.6 +0.4
baz=164,SNR=5.1
109C Camp Elliot, M 23.64 319 P P 06 21 45.7 +1.5
baz=131
U15A North Rim 23.67 332 P P 06 21 45.5 +0.7
U15A IAmb IAmb 06 21 59.1
comp=Z,39nm,1.3s
TPFO Pinon Flats 23.72 321 P P 06 21 46.9 +1.7
baz=133
BELC Belle Mtn. Jos 23.73 322 P P 06 21 47.1 +1.9
baz=135,SNR=13
PFO Pinyon Flats O 23.73 321 P P 06 21 46.9 +1.7
comp=Z,2.2nm,0.7s,baz=114,slow=6.3,SNR=5.7
PFO LR LR 06 30 23.9
comp=Z,128nm,20.0s,baz=125,slow=35
comp=Z,2.2nm,0.7s
PFO Pinyon Flats O 23.73 321 P P 06 21 47.0 +1.8
baz=133
TKL Tuckaleechee C 23.82 32 P P 06 21 45.4 -0.4
comp=Z,6.8nm,0.9s,baz=240,slow=7.1,SNR=6.8
comp=Z,6.8nm,0.9s
TKL Tuckaleechee C 23.82 32 P P 06 21 44.9 -1.0
TKL IAmb IAmb 06 21 52.7
comp=Z,57nm,1.5s
PV13 Radium Mtn., P 23.84 340 P P 06 21 46.6 +0.4
PV13 IAmb IAmb 06 21 57.3
comp=Z,28nm,1.1s
PV15 Paradox Valley 23.89 341 P P 06 21 48.0 +1.1
PV15 IAmb IAmb 06 21 49.6
comp=Z,39nm,1.0s
PV11 David Mesa, Pa 23.98 340 P P 06 21 47.8 +0.2
PV11 IAmb IAmb 06 21 53.5
comp=Z,22nm,1.0s
PV07 Paradox Valley 24.03 341 P P 06 21 49.1 +1.0
PV07 IAmb IAmb 06 21 53.6
comp=Z,39nm,1.1s
NHSC New Hope 24.04 41 P P 06 21 46.0 -1.9
baz=229
P38A Dawn 24.07 10 P P 06 21 47.2 -0.9
P38A IAmb IAmb 06 21 51.2
comp=Z,23nm,1.1s
USIN University of 24.07 22 P P 06 21 47.8 -0.3
GMRC Granite Mounta 24.10 324 P P 06 21 50.5 +1.8
baz=136,SNR=21
PV23 Carpenter Ridg 24.16 340 P P 06 21 50.2 +0.8
PV23 IAmb IAmb 06 21 59.3
comp=Z,27nm,0.9s
MURC Murrieta 24.17 320 P P 06 21 51.7 +2.4
baz=132
T50A Nancy 24.41 28 P P 06 21 50.2 -1.2
BBRC Big Bear Solar 24.46 322 P P 06 21 54.0 +1.9
baz=133
Q44A Meyer Farm, Va 24.46 19 P P 06 21 50.4 -1.4
Q44A IAmb IAmb 06 22 04.4
comp=Z,27nm,0.8s
HEC Hector,Ludlow 24.51 323 P P 06 21 54.2 +1.8
baz=135,SNR=11
ISCO Idaho Springs 24.51 347 P P 06 21 53.0 +0.4
ISCO Idaho Springs 24.51 347 P P 06 21 53.5 +0.8
baz=164
TZTN Tazewell 24.63 31 P P 06 21 52.6 -0.8
baz=218,SNR=5.4
TUQ Turquoise Moun 24.72 325 P P 06 21 56.5 +2.1
baz=137,SNR=24
KMSC Kings Mountain 24.74 36 P P 06 21 53.6 -0.8
baz=224
N33A J Bar K, Exete 24.76 3 P P 06 21 54.0 -0.5
CIS Catalina Islan 24.81 318 P P 06 21 57.3 +2.2
baz=129
WCI Wyandotte Cave 24.82 24 P P 06 21 54.4 -0.6
baz=210
BFSC Mount Baldy Ra 24.89 321 P P 06 21 58.2 +2.3
baz=132
MTPU Mount Pierson 24.98 334 P P 06 21 58.5 +1.6
P43A Skaggs, Pawnee 24.99 17 P P 06 21 56.0 -0.6
CCUT Cedar City 25.08 332 P P 06 21 59.6 +1.9
OGNE Ogallala 25.09 354 P P 06 21 58.7 +1.1
baz=172,SNR=9.0
GSC Goldstone, Bar 25.12 324 P P 06 22 00.3 +2.4
baz=135,SNR=13
N38A Joes South For 25.25 10 P P 06 21 57.7 -1.3
SHOC Shoshone, Teco 25.26 325 P P 06 22 01.0 +2.0
baz=137
SRU San Rafael Swe 25.27 338 P P 06 22 00.6 +1.2
DECC Green Verdugo 25.31 320 P P 06 22 01.5 +1.9
baz=131
Q16A Castle Valley 25.34 337 P P 06 22 01.1 +1.1
Q16A IAmb IAmb 06 22 07.6
comp=Z,35nm,1.2s
MVU Marysvale 25.39 335 P P 06 22 01.6 +1.1
BGNE Belgrade 25.40 1 P P 06 22 00.3 0.0
baz=181
O20A White River Ci 25.48 343 P P 06 22 02.5 +1.2
baz=158,SNR=24
S51A Beattyville 25.48 29 P P 06 21 60.0 -1.1
W57A Gilead 25.52 38 P P 06 22 01.5 +0.1
EDW2 Edwards Air Fo 25.52 321 P P 06 22 03.0 +1.5
baz=132,SNR=8.7
QSM Queen of Sheba 25.63 325 P P 06 22 04.1 +1.6
QSM IAmb IAmb 06 22 13.7
comp=Z,47nm,1.4s
N23A Red Feather La 25.64 347 P P 06 22 03.7 +0.9
baz=164,SNR=5.7
P18A Preston Nutter 25.64 339 P P 06 22 03.8 +1.0
N41A Harden Midland 25.65 14 P P 06 22 01.3 -1.2
N41A IAmb IAmb 06 22 02.4
comp=Z,24nm,1.0s
TMUT Trail Mountain 25.68 337 P P 06 22 04.4 +1.2
TMUT IAmb IAmb 06 22 11.9
comp=Z,36nm,1.3s
CCAC Calif City Air 25.72 322 P P 06 22 05.5 +2.1
CCAC IAmb IAmb 06 22 14.6
comp=Z,40nm,1.3s
LRMC Laurel Mtn Rad 25.75 323 P P 06 22 05.9 +2.2
baz=134,SNR=10
PRN Pahroc Range 25.77 329 P P 06 22 06.8 +3.0
PRN IAmb IAmb 06 22 18.7
comp=Z,40nm,1.3s
HDIL Hopedale 25.91 17 P P 06 22 04.0 -0.9
baz=201,SNR=6.5
TPNV Topopah Spring 26.02 327 P P 06 22 08.4 +2.3
baz=138,SNR=16
MPMC Manual Prospec 26.05 324 P P 06 22 08.4 +1.9
baz=135,SNR=7.0
WCT Wildcat Mounta 26.11 326 P P 06 22 08.8 +2.0
WCT IAmb IAmb 06 22 18.8
comp=Z,22nm,1.3s
ARVC Arvin 26.20 321 P P 06 22 10.4 +2.8
baz=131
ISA Isabella, Lake 26.34 322 P P 06 22 11.9 +2.9
baz=133
SCIA State Center 26.34 9 P P 06 22 08.4 -0.4
SCIA State Center 26.34 9 P P 06 22 08.8 -0.1
baz=192,SNR=7.4
SFIN Lafayette 26.42 20 P P 06 22 09.5 0.0
baz=206
V58A Windy Hill, Pi 26.48 38 P P 06 22 09.2 -0.9
P49A Miami Univ. Ec 26.57 25 P P 06 22 10.5 -0.3
baz=212,SNR=6.2
PKM Mcpherson Peak 26.65 319 P P 06 22 14.0 +2.1
baz=129
CWC Cottonwood Cre 26.66 324 P P 06 22 14.3 +2.4
baz=134
BLA Blacksburg 26.75 34 P P 06 22 12.2 -0.4
baz=222
R11A Troy Canyon, C 26.77 330 P P 06 22 14.9 +2.0
baz=142,SNR=6.6
VES Vestal, Richgr 26.83 321 P P 06 22 15.7 +2.4
baz=132
O48B Farmland 27.01 23 P P 06 22 14.4 -0.5
baz=210,SNR=7.2
SMMC Simmler 27.04 320 P P 06 22 17.7 +2.5
baz=130
DUG Dugway, Tooele 27.07 336 P P 06 22 16.9 +1.3
baz=149,SNR=6.3
TIN Tinemaha, Big 27.18 324 P P 06 22 18.6 +2.1
baz=135
VOG Valley Oaks Go 27.33 322 P P 06 22 19.7 +2.0
baz=132
TCUT Toone Canyon 27.36 339 P P 06 22 19.1 +0.8
TPH Tonopah 27.38 327 P P 06 22 19.9 +1.4
K22A Casper 27.44 348 P P 06 22 19.9 +1.0
baz=163
P52A Corning 27.77 28 P P 06 22 20.6 -1.0
P52A Corning 27.77 28 P P 06 22 21.7 0.0
baz=216
ECSD EROS Data Cent 27.79 3 P P 06 22 21.8 0.0
baz=184,SNR=6.7
BGU Big Grassy Mou 27.79 337 P P 06 22 22.6 +0.6
BGU IAmb IAmb 06 22 31.5
comp=Z,20nm,1.3s
L44A Lake County Fo 27.80 18 P P 06 22 21.6 -0.3
baz=203
ACSO Alum Creek Sta 27.88 27 P P 06 22 20.5 -2.2
ACSO IAmb IAmb 06 22 30.9

	comp=Z,26nm,1.2s						
ACSO	**Alum Creek Sta**	**27.88**	**27**	P	**P**	**06 22 22.1**	**-0.5**
	baz=214						
JFWS	**Jewell Farm**	**27.89**	**14**	P	**P**	**06 22 22.3**	**-0.4**
	baz=198						
SPUT	**South Promonto**	**27.90**	**338**	P	**P**	**06 22 23.9**	**+0.9**
MLAC	**Mammoth, Mammo**	**27.92**	**325**	P	**P**	**06 22 24.4**	**+1.0**
	baz=135						
OMMB	**Old Mammoth Mi**	**28.00**	**324**	P	**P**	**06 22 25.4**	**+1.2**
OMMB				IAmb	IAmb	06 22 33.6	
	comp=Z,20nm,1.4s						
MDPB	**Devils Postpil**	**28.06**	**324**	P	**P**	**06 22 26.5**	**+1.9**
MDPB				IAmb	IAmb	06 22 34.7	
	comp=Z,14nm,1.2s						
NV11	**Mina Array Sit**	**28.13**	**327**	P	**P**	**06 22 26.8**	**+1.7**
NV11				IAmb	IAmb	06 22 29.8	
	comp=Z,18nm,1.2s						
LHV	**Little Huntoon**	**28.19**	**326**	P	**P**	**06 22 27.2**	**+1.8**
LHV				IAmb	IAmb	06 22 43.5	
	comp=Z,25nm,1.3s						
NVAR	**Mina Array Bea**	**28.21**	**326**	P	**P**	**06 22 28.2**	**+2.3**
	comp=Z,5.1nm,0.9s,baz=152,slow=9.9,SNR=31						
	comp=Z,5.1nm,0.9s						
NVAR	**Mina Array Bea**	**28.21**	**326**	P	**P**	**06 22 27.7**	**+1.8**
PD31	**Pinedale Array**	**28.29**	**343**	P	**P**	**06 22 26.8**	**+0.3**
PD31				IAmb	IAmb	06 22 33.0	
	comp=Z,13nm,0.9s						
PDAR	**Pinedale Array**	**28.29**	**343**	P	**P**	**06 22 27.2**	**+0.7**
	comp=Z,8.2nm,0.9s,baz=145,slow=6.7,SNR=37						
	comp=Z,8.2nm,0.9s						
SDV	**Santo Domingo**	**28.40**	**101**	P	**P**	**06 22 30.1**	**+2.3**
	comp=Z,5.3nm,0.7s,baz=300,slow=4.1,SNR=7.1						
SDV				LR	LR	06 34 07.4	
	comp=Z,154nm,19.7s,baz=329,slow=37						
	comp=Z,5.3nm,0.7s						
SDV	**Santo Domingo**	**28.40**	**101**	P	**P**	**06 22 29.6**	**+1.8**
SDV				IAmb	IAmb	06 22 49.3	
	comp=Z,12nm,1.1s						
HVU	**Hansel Valley**	**28.43**	**338**	P	**P**	**06 22 28.9**	**+1.2**
HVU				IAmb	IAmb	06 22 37.7	
	comp=Z,9.8nm,0.8s						
RSSD	**Black Hills**	**28.45**	**352**	P	**P**	**06 22 28.6**	**+0.6**
	baz=169						
ELK	**Elko**	**28.54**	**333**	P	**P**	**06 22 30.4**	**+1.6**
	comp=Z,2.3nm,1.1s,baz=156,slow=8.0,SNR=5.2						
	comp=Z,2.3nm,1.1s						
ELK	**Elko**	**28.54**	**333**	P	**P**	**06 22 30.0**	**+1.2**
KVN	**Kaiserville**	**28.56**	**328**	P	**P**	**06 22 30.7**	**+1.7**
O53A	**New Philadelph**	**28.68**	**29**	P	**P**	**06 22 28.8**	**-1.0**
	baz=217						
WAKR	**Walker**	**28.88**	**325**	P	**P**	**06 22 34.7**	**+2.9**
MCWV	**Mont Chateau**	**28.88**	**31**	P	**P**	**06 22 30.3**	**-1.3**
	baz=220						
BMN	**Battle Mountai**	**29.18**	**330**	P	**P**	**06 22 36.3**	**+1.8**
SPMN	**Marine on St.**	**29.65**	**9**	P	**P**	**06 22 38.6**	**+0.3**
	baz=192						
MPK	**Martis Peak**	**29.77**	**326**	P	**P**	**06 22 42.0**	**+2.2**
MPK				IAmb	IAmb	06 22 49.4	
	comp=Z,23nm,1.1s						
M53A	**WI Miller and**	**29.88**	**28**	P	**P**	**06 22 39.7**	**-0.7**
	baz=217						
H17A	**Grant Village**	**30.07**	**343**	P	**P**	**06 22 43.6**	**+1.2**
	baz=157						
BEKR	**Beckworth**	**30.35**	**326**	P	**P**	**06 22 45.9**	**+1.0**
YNR	**Norris Junctio**	**30.40**	**343**	P	**P**	**06 22 45.7**	**+0.4**
YNR				IAmb	IAmb	06 23 01.2	
	comp=Z,14nm,1.4s						
RLMT	**Red Lodge**	**30.41**	**345**	P	**P**	**06 22 45.6**	**+0.3**
RLMT				IAmb	IAmb	06 22 49.2	
	comp=Z,14nm,1.0s						
RLMT	**Red Lodge**	**30.41**	**345**	P	**P**	**06 22 46.1**	**+0.8**
	baz=160,SNR=8.9						
ATAH	**Atahualpa**	**30.57**	**137**	LR	LR	06 32 51.3	
	comp=Z,139nm,18.7s,baz=302,slow=32						
HLID	**Hailey**	**30.58**	**337**	P	**P**	**06 22 47.4**	**+0.6**
HLID	**Hailey**	**30.58**	**337**	P	**P**	**06 22 48.1**	**+1.3**
	baz=149,SNR=12						
SSPA	**Standing Stone**	**30.61**	**32**	P	**P**	**06 22 46.0**	**-0.9**
	baz=222						
ERPA	**Erie**	**30.73**	**28**	P	**P**	**06 22 47.2**	**-0.7**
	baz=217						
ORV	**Oroville**	**30.76**	**324**	P	**P**	**06 22 50.1**	**+1.9**
ORV				IAmb	IAmb	06 22 59.5	
	comp=Z,12nm,1.4s						
MCMT	**McKenzie Canyo**	**31.15**	**341**	P	**P**	**06 22 52.8**	**+0.9**
SJG	**San Juan**	**31.31**	**81**	LR	LR	06 37 00.8	
	comp=Z,98nm,18.1s,baz=260,slow=39						
WVOR	**Wild Horse Val**	**31.41**	**331**	P	**P**	**06 22 55.2**	**+1.1**
WVOR				IAmb	IAmb	06 23 03.5	
	comp=Z,28nm,1.4s						
MOD	**Modoc Plateau**	**31.81**	**329**	P	**P**	**06 22 59.0**	**+1.4**
MOD				IAmb	IAmb	06 23 07.1	
	comp=Z,13nm,1.1s						
MDND	**Maddock**	**31.84**	**359**	P	**P**	**06 22 57.5**	**-0.1**
MDND	**Maddock**	**31.84**	**359**	P	**P**	**06 22 58.0**	**+0.3**
	baz=178,SNR=8.5						
J08A	**Circle Bar Ran**	**32.06**	**333**	P	**P**	**06 23 01.0**	**+1.2**
HRY	**Holter Researc**	**32.55**	**343**	P	**P**	**06 23 05.2**	**+1.2**
DGMT	**Dagmar**	**32.76**	**353**	P	**P**	**06 23 06.2**	**+0.5**
	baz=170						
YBH	**Yreka Blue Hor**	**32.93**	**326**	P	**P**	**06 23 07.2**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=119,slow=8.6,SNR=4.6						
	comp=Z,1.6nm,0.8s						
SADO	**Sadowa**	**33.22**	**26**	LR	LR	06 38 51.6	
	comp=Z,87nm,20.4s,baz=298,slow=40						
MSO	**Missoula**	**33.28**	**341**	P	**P**	**06 23 12.0**	**+1.6**
	baz=152						
F10A	**Beach Ranch, E**	**33.68**	**337**	P	**P**	**06 23 14.4**	**+0.5**
F10A				IAmb	IAmb	06 23 18.7	
	comp=Z,16nm,0.9s						
ULM	**Lac du Bonnet**	**34.32**	**3**	P	**P**	**06 23 18.2**	**-1.1**
	comp=Z,6.5nm,0.9s,baz=204,slow=5.1,SNR=5.7						
	comp=Z,6.5nm,0.9s						
E09A	**Wood Farm, Sta**	**34.49**	**336**	P	**P**	**06 23 21.5**	**+0.7**
E09A				IAmb	IAmb	06 23 29.1	
	comp=Z,9.9nm,1.0s						
NNA	**Nana**	**35.25**	**141**	LR	LR	06 34 53.6	
	comp=Z,133nm,21.7s,baz=328,slow=31						
LTY	**Liberty**	**36.10**	**335**	P	**P**	**06 23 35.9**	**+1.1**
LTY				IAmb	IAmb	06 23 47.5	
	comp=Z,16nm,1.1s						
FFC	**Flin Flon**	**38.80**	**357**	P	**P**	**06 23 57.2**	**-0.2**
FFC				IAmb	IAmb	06 24 05.3	
	comp=Z,11nm,1.1s						
RPN	**Rapa Nui**	**43.99**	**194**	LR	LR	06 38 10.2	
	comp=Z,81nm,20.7s,baz=357,slow=29						
SCHQ	**Schefferville**	**46.02**	**25**	P	**P**	**06 24 56.0**	**-0.2**
	comp=Z,11nm,0.9s,baz=243,slow=6.2,SNR=7.6						
	comp=Z,11nm,0.9s						
MDP	**Montagnes des**	**46.57**	**98**	LR	LR	06 44 38.0	
	comp=Z,71nm,21.4s,baz=294,slow=36						
V35K	**Ketchikan**	**46.69**	**335**	P	**P**	**06 25 02.0**	**+0.6**
	baz=134						
T35M	**Bob Quinn**	**47.34**	**337**	P	**P**	**06 25 06.8**	**+0.3**
	baz=137						
TAOE	**Nuku Hiva Isla**	**47.74**	**242**	*e*LR	LR	06 38 46.4	
	comp=Z,60nm,22.6s						
TAOE	**Nuku Hiva Isla**	**47.74**	**242**	*e*T	T	07 16 24.6	
	comp=Z,22nm,0.2s						
KOTAN	**Kotaneelee Air**	**47.80**	**343**	P	**P**	**06 25 10.9**	**+0.9**
	baz=146						
YKA	**Yellowknife Ar**	**47.83**	**350**	P	**P**	**06 25 09.9**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=161,slow=7.3,SNR=24						
YKA				PP	**PP**	**06 27 02.9**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=155,slow=9.4,SNR=4.9						
	comp=Z,2.8nm,0.9s						
LVC	**Limon Verde**	**48.22**	**142**	LR	LR	06 43 39.9	
	comp=Z,52nm,18.9s,baz=327,slow=34						
DLBC	**Dease Lake**	**48.33**	**339**	P	**P**	**06 25 15.8**	**+1.6**
	baz=138						
SIV	**San Ignacio**	**48.94**	**129**	P	**P**	**06 25 19.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=283,slow=9.6,SNR=2.2						
SIV				LR	LR	06 43 57.7	
	comp=Z,68nm,18.6s,baz=312,slow=34						
	comp=Z,0.4nm,0.4s						
WTLY	**Watson Lake, Y**	**49.20**	**341**	P	**P**	**06 25 21.8**	**+1.0**
	baz=140						
R33M	**Jennings River**	**49.37**	**339**	P	**P**	**06 25 23.3**	**+1.0**
	baz=137						
P30M	**Million Dollar**	**52.05**	**337**	P	**P**	**06 25 43.6**	**+1.2**
	baz=131						
FRB	**Frobisher Bay**	**52.15**	**17**	LR	LR	06 48 35.8	
	comp=Z,115nm,19.4s,baz=233,slow=37						
O30N	**Mendenhall**	**52.16**	**338**	P	**P**	**06 25 44.7**	**+1.5**
	baz=132						
RKT	**Rikitea**	**52.49**	**223**	*e*T	T	07 22 23.8	
	comp=Z,12nm,0.3s						
N31M	**Braeburn, Yuko**	**52.54**	**339**	P	**P**	**06 25 48.0**	**+2.0**
	baz=133						
M31M	**Drury Creek, Y**	**52.57**	**340**	P	**P**	**06 25 48.0**	**+1.8**
	baz=135						
H03N2	**Juan Fernandez**	**52.63**	**159**	T	T	07 22 46.1	
	baz=337,slow=77,SNR=1125						
H03N1	**Juan Fernandez**	**52.64**	**159**	T	T	07 22 47.3	
	baz=337,slow=77,SNR=1051						
H03N3	**Juan Fernandez**	**52.65**	**159**	T	T	07 22 46.2	
	baz=337,slow=77,SNR=1468						
O28M	**Mount Upton**	**53.70**	**336**	P	**P**	**06 25 56.5**	**+1.6**
	baz=128						
M29M	**Somme Creek**	**54.13**	**339**	P	**P**	**06 25 59.7**	**+1.9**
	baz=130						
YUK3	**Moose Creek**	**54.42**	**337**	P	**P**	**06 26 02.0**	**+2.0**
	baz=128						
L29M	**L29M**	**54.45**	**339**	P	**P**	**06 26 02.0**	**+2.0**
	baz=131						
BGLC	**Bering Glacier**	**54.56**	**335**	P	**P**	**06 26 02.3**	**+1.6**
	baz=124						
K29M	**Barlow Dome**	**54.74**	**340**	P	**P**	**06 26 03.6**	**+1.4**
	baz=132						
BVCY	**Beaver Creek**	**54.97**	**338**	P	**P**	**06 26 04.8**	**+1.0**
	baz=128						
MCARA	**McCarthy VSAT**	**55.17**	**336**	P	**P**	**06 26 06.8**	**+1.6**
	baz=125						
M27K	**Edge Creek, AK**	**55.31**	**337**	P	**P**	**06 26 08.0**	**+1.6**
	baz=127						
DAWY	**Dawson**	**55.51**	**340**	P	**P**	**06 26 09.1**	**+1.5**
	baz=130						
CFA	**Coronel Fontan**	**55.64**	**148**	P	**P**	**06 26 11.9**	**+2.9**
	comp=Z,2.7nm,0.9s,baz=299,slow=2.8,SNR=6.5						
CFA				LR	LR	06 44 46.7	
	comp=Z,97nm,19.4s,baz=338,slow=30						
	comp=Z,2.7nm,0.9s						
L27K	**Beaver Creek,**	**55.72**	**338**	P	**P**	**06 26 10.1**	**+0.9**
	baz=127						
M26K	**Nabesna, AK**	**55.76**	**337**	P	**P**	**06 26 09.8**	**+0.3**
	baz=126						
I29M	**Ogilvie Camp,**	**56.02**	**341**	P	**P**	**06 26 12.3**	**+1.0**
	baz=132						
F31M	**Tsiigehtchic**	**56.22**	**345**	P	**P**	**06 26 12.8**	**+0.2**
	baz=138						
EPYK	**Eagle Plains**	**56.25**	**343**	P	**P**	**06 26 13.4**	**+0.5**
	baz=134						
L26K	**Log Cabin Wild**	**56.25**	**337**	P	**P**	**06 26 14.1**	**+1.1**
	baz=126						
KLU	**Klutina**	**56.39**	**335**	P	**P**	**06 26 14.5**	**+0.5**
	baz=122						
G30M	**tAoh Zraii Nji**	**56.54**	**343**	P	**P**	**06 26 15.5**	**+0.5**
	baz=135						
EGAK	**Eagle**	**56.55**	**340**	P	**P**	**06 26 15.8**	**+0.8**
	baz=129						
INK	**Inuvik**	**56.82**	**345**	P	**P**	**06 26 17.8**	**+0.9**
INK				IAmb	IAmb	06 26 18.7	
	comp=Z,11nm,1.1s						
INK	**Inuvik**	**56.82**	**345**	P	**P**	**06 26 17.4**	**+0.5**
	baz=139,SNR=6.0						
PAX	**Paxson**	**57.02**	**337**	P	**P**	**06 26 19.4**	**+0.9**
	baz=123						
SCRK	**Sand Creek**	**57.04**	**338**	P	**P**	**06 26 20.2**	**+1.5**
SCRK				IAmb	IAmb	06 26 27.4	
	comp=Z,12nm,1.3s						
SCRK	**Sand Creek**	**57.04**	**338**	P	**P**	**06 26 20.1**	**+1.3**
	baz=125						
J26L	**Joseph Creek**	**57.20**	**339**	P	**P**	**06 26 21.3**	**+1.5**
J26L	**Joseph Creek**	**57.20**	**339**	P	**P**	**06 26 21.5**	**+1.7**
	baz=126,SNR=16						
RIDG	**Independent Ri**	**57.22**	**338**	P	**P**	**06 26 21.6**	**+1.7**
RIDG	**Independent Ri**	**57.22**	**338**	P	**P**	**06 26 21.2**	**+1.3**
	baz=124						
I27K	**Kandik River**	**57.23**	**340**	P	**P**	**06 26 20.9**	**+1.0**
	baz=129						
H27K	**Steamboat Moun**	**57.60**	**341**	P	**P**	**06 26 23.8**	**+1.3**
	baz=129						
K24K	**Donnelly Dome**	**57.60**	**337**	P	**P**	**06 26 24.0**	**+1.5**
	baz=123						
BRSE	**Bradley Lake S**	**57.61**	**332**	P	**P**	**06 26 24.3**	**+1.7**
	baz=116						
WAT6	**Susitna Watana**	**57.69**	**336**	P	**P**	**06 26 24.3**	**+0.9**
	baz=121						
DHY	**Denali Highway**	**57.81**	**336**	P	**P**	**06 26 25.5**	**+1.4**
	baz=121						
J25K	**Salcha River,**	**57.90**	**338**	P	**P**	**06 26 26.2**	**+1.5**
	baz=124						
G27K	**Doyon Strip**	**58.01**	**341**	P	**P**	**06 26 26.8**	**+1.4**
	baz=129						
A36M	**Sachs Harbour**	**58.18**	**351**	P	**P**	**06 26 27.0**	**+0.5**
	baz=150						
CPUP	**Villa Florida**	**58.24**	**136**	LR	LR	06 51 34.6	
	comp=Z,35nm,20.5s,baz=350,slow=36						
M22K	**Willow**	**58.26**	**334**	P	**P**	**06 26 28.1**	**+1.0**
	baz=118						
HDA	**Harding Lake**	**58.36**	**338**	P	**P**	**06 26 28.5**	**+0.7**
	baz=122,SNR=5.2						
PRP	**Porcupine Dome**	**58.48**	**339**	P	**P**	**06 26 29.9**	**+1.2**
PRP	**Porcupine Dome**	**58.48**	**339**	P	**P**	**06 26 29.9**	**+1.2**
	baz=125,SNR=9.0						
CHIR	**Chirikof Islan**	**58.50**	**326**	P	**P**	**06 26 30.5**	**+1.6**
	baz=109						
ILAR	**Eielson Array**	**58.53**	**338**	P	**P**	**06 26 29.5**	**+0.4**
	comp=Z,5.0nm,1.0s,baz=141,slow=5.0,SNR=33						
	comp=Z,5.0nm,1.0s						
CUT	**Chulitna**	**58.63**	**335**	P	**P**	**06 26 31.2**	**+1.5**
	baz=118						
MCK	**McKinley**	**58.75**	**336**	P	**P**	**06 26 31.1**	**+0.5**
	baz=120,SNR=5.0						
G26K	**Porcupine Rive**	**58.75**	**341**	P	**P**	**06 26 31.5**	**+1.1**
	baz=127						
RES	**Resolute Bay**	**58.81**	**1**	P	**P**	**06 26 30.5**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=223,slow=5.3,SNR=4.1						
	comp=Z,1.6nm,0.9s						
E27K	**Coleen River**	**58.88**	**343**	P	**P**	**06 26 32.2**	**+0.8**
	baz=130,SNR=7.5						
SPCR	**Spurr Chakacha**	**58.90**	**333**	P	**P**	**06 26 32.7**	**+1.0**
	baz=115						
POKR	**Poker Plat Res**	**58.92**	**338**	P	**P**	**06 26 32.1**	**+0.4**
	baz=122						
COLA	**College**	**58.94**	**338**	P	**P**	**06 26 33.0**	**+1.2**
	baz=122						
TCOL	**CIGO, UAF Yank**	**58.94**	**338**	P	**P**	**06 26 32.8**	**+1.0**
	baz=122						
SKT	**Skwentna**	**58.96**	**334**	P	**P**	**06 26 33.3**	**+1.3**
SKT	**Skwentna**	**58.96**	**334**	P	**P**	**06 26 32.9**	**+0.9**
	baz=116						
TRF	**Thorofare Moun**	**59.14**	**336**	P	**P**	**06 26 34.7**	**+1.2**
	baz=118,SNR=7.0						
BWN	**Browne**	**59.17**	**337**	P	**P**	**06 26 34.6**	**+1.2**
NEA2	**Nenana**	**59.24**	**337**	P	**P**	**06 26 34.9**	**+0.9**
	baz=120						
F26K	**Sheenjek River**	**59.32**	**342**	P	**P**	**06 26 35.5**	**+1.1**
	baz=127						
G25K	**Bearman Lake**	**59.38**	**340**	P	**P**	**06 26 36.2**	**+1.3**
	baz=125						
H24K	**Noodor Dome**	**59.46**	**339**	P	**P**	**06 26 36.3**	**+0.8**
	baz=122						
R17K	**Ugashik Creek**	**59.50**	**328**	P	**P**	**06 26 36.3**	**+0.5**
	baz=109						
M20K	**Styx River**	**59.59**	**334**	P	**P**	**06 26 36.8**	**+0.3**
	baz=115						
I23K	**Minto, Yukon-K**	**59.63**	**338**	P	**P**	**06 26 37.0**	**+0.4**
	baz=120,SNR=8.8						
PPLA	**Purkeypile**	**59.64**	**335**	P	**P**	**06 26 37.3**	**+0.4**
	baz=116						
F25K	**Christian Rive**	**59.72**	**341**	P	**P**	**06 26 37.9**	**+0.6**
	baz=126						
BPAW	**Bear Paw Mtn.**	**59.72**	**336**	P	**P**	**06 26 38.7**	**+1.4**
	baz=118						
N19K	**Bonanza Creek**	**59.75**	**332**	P	**P**	**06 26 38.6**	**+1.0**
	baz=113						
G24K	**Hadweenzic Riv**	**59.80**	**340**	P	**P**	**06 26 38.8**	**+1.1**
	baz=123						
SFJD	**Kangerlussuaq**	**59.82**	**20**	LR	LR	06 56 31.7	
	comp=Z,162nm,18.3s,baz=201,slow=40						
SFJD	**Kangerlussuaq**	**59.82**	**20**	*i* P	**P**	**06 26 37.3**	**-0.5**
SFJD				IAmb	IAmb	06 26 39.2	
	comp=Z,9.6nm,0.8s						
CAST	**Castle Rocks**	**59.84**	**335**	P	**P**	**06 26 39.1**	**+1.0**
	baz=117,SNR=6.9						
H23K	**Yukon River**	**60.04**	**338**	P	**P**	**06 26 40.4**	**+1.0**
	baz=120						
PPT2	**Papeete2**	**60.07**	**238**	*e*LR	LR	06 44 29.2	
	comp=Z,67nm,22.8s						
MLY	**Manley**	**60.08**	**337**	P	**P**	**06 26 40.9**	**+1.1**
	baz=119,SNR=11						
CHUM	**Lake Minchumin**	**60.14**	**336**	P	**P**	**06 26 40.8**	**+0.7**
	baz=117						
L20K	**Farewell, AK**	**60.16**	**334**	P	**P**	**06 26 41.0**	**+0.7**
	baz=114,SNR=6.1						
F24K	**Squaw Lake**	**60.38**	**340**	P	**P**	**06 26 42.6**	**+0.8**
	baz=123						
C27K	**Jago River**	**60.39**	**343**	P	**P**	**06 26 42.1**	**+0.4**
	baz=128						
L19K	**White Mountain**	**60.46**	**333**	P	**P**	**06 26 43.6**	**+1.2**
	baz=113						
O17K	**Koliganek Bris**	**60.58**	**330**	P	**P**	**06 26 43.8**	**+0.6**
	baz=110						
I21K	**Tanana**	**60.61**	**337**	P	**P**	**06 26 43.8**	**+0.5**
	baz=118						
K20K	**Telida**	**60.61**	**335**	P	**P**	**06 26 44.0**	**+0.6**
	baz=115						
G23K	**Bananza Creek**	**60.66**	**339**	P	**P**	**06 26 44.3**	**+0.6**
	baz=120						
H22K	**Ishtalitna Cre**	**60.73**	**338**	P	**P**	**06 26 44.9**	**+0.8**
	baz=119						
E24K	**Your Creek**	**60.88**	**341**	P	**P**	**06 26 45.4**	**+0.2**
	baz=123						
C26K	**Camden Bay**	**60.90**	**343**	P	**P**	**06 26 45.7**	**+0.5**
	baz=127						
D25K	**Kavik River**	**60.95**	**343**	P	**P**	**06 26 46.5**	**+0.8**
	baz=126						
COLD	**Coldfoot**	**60.99**	**340**	P	**P**	**06 26 46.9**	**+1.0**
	baz=120						
J20K	**Nowinta River**	**60.99**	**336**	P	**P**	**06 26 46.7**	**+0.8**
	baz=115						
O16K	**Kokwok River B**	**60.99**	**330**	P	**P**	**06 26 46.8**	**+0.8**
	baz=109						
SDPT	**Sand Point**	**61.00**	**325**	P	**P**	**06 26 47.4**	**+1.3**
	baz=104						
DY2G	**Dye2**	**61.02**	**21**	*i* P	**P**	**06 26 46.3**	**-0.2**
DY2G				IAmb	IAmb	06 26 47.2	
	comp=Z,8.8nm,1.0s						
H21K	**Melozitna Rive**	**61.14**	**337**	P	**P**	**06 26 47.5**	**+0.6**
	baz=117						
TTA	**Tatalina**	**61.25**	**334**	P	**P**	**06 26 48.0**	**+0.3**
	baz=112						
G22K	**Bettles**	**61.28**	**339**	P	**P**	**06 26 47.8**	**0.0**
	baz=119						
N16K	**Nishlik Lake**	**61.60**	**331**	P	**P**	**06 26 51.2**	**+1.0**
	baz=109						
G21K	**Allakaket**	**61.79**	**338**	P	**P**	**06 26 51.9**	**+0.7**
	baz=117						
C24K	**Franklin Bluff**	**61.85**	**342**	P	**P**	**06 26 51.9**	**+0.2**
	baz=123						
E22K	**Anaktuvuk Pass**	**61.98**	**340**	P	**P**	**06 26 53.5**	**+0.9**
	baz=119						
D23K	**Nanushuk River**	**62.04**	**341**	P	**P**	**06 26 54.3**	**+1.4**
	baz=121						
F21K	**Alatna River**	**62.10**	**339**	P	**P**	**06 26 54.7**	**+1.3**
	baz=117						
PLCA	**Paso Flores**	**62.19**	**156**	LR	LR	06 48 16.8	
	comp=Z,64nm,18.4s,baz=338,slow=30						
TULEG	**Thule**	**62.60**	**8**	*i* P	**P**	**06 26 55.8**	**-0.8**
TULEG				IAmb	IAmb	06 26 57.1	
	comp=Z,6.0nm,1.1s						
KULLO	**Kullorsuaq**	**62.93**	**12**	*i* P	**P**	**06 26 59.4**	**+0.6**
KULLO				IAmb	IAmb	06 27 05.1	
	comp=Z,16nm,0.9s						
TBI	**Tubuai**	**63.03**	**233**	*e*LR	LR	06 46 04.8	
	comp=Z,263nm,22.2s						
TBI	**Tubuai**	**63.03**	**233**	*e*T	T	07 35 37.4	
	comp=Z,23nm,0.3s						
ICESG	**Greenland Ices**	**64.44**	**20**	*i* P	**P**	**06 27 09.1**	**-0.2**
ICESG				IAmb	IAmb	06 27 10.4	
	comp=Z,15nm,0.5s						
RCBR	**Riachuelo**	**65.92**	**104**	LR	LR	06 57 32.8	
	comp=Z,80nm,18.8s,baz=104,slow=37						
NEEM	**North Greenlan**	**65.95**	**10**	*i* P	**P**	**06 27 19.2**	**+0.2**
NEEM				IAmb	IAmb	06 27 20.5	
	comp=Z,12nm,1.0s						
SUMG	**Summit**	**66.22**	**17**	*i* P	**P**	**06 27 20.0**	**-0.8**
SUMG				IAmb	IAmb	06 27 21.9	
	comp=Z,4.3nm,1.0s						
BORG	**Borgarnes**	**70.39**	**26**	LR	LR	06 59 08.3	
	comp=Z,76nm,20.2s,baz=323,slow=36						
NOR	**Nord**	**73.20**	**9**	*i* P	**P**	**06 28 03.5**	**+0.3**
NOR				IAmb	IAmb	06 28 10.1	
	comp=Z,2.2nm,1.1s						
BBTS	**Babate**	**78.86**	**78**	LR	LR	07 03 21.6	
	comp=Z,53nm,18.6s,baz=286,slow=36						
ESDC	**Sonseca Array**	**83.67**	**51**	P	**P**	**06 29 02.6**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=293,slow=5.3,SNR=5.1						
	comp=Z,0.7nm,0.9s						
MDT	**Midelt**	**84.99**	**57**	LR	LR	07 07 17.0	
	comp=Z,46nm,18.0s,baz=360,slow=36						
NOA	**NORSAR Array B**	**85.55**	**27**	LR	LR	07 09 26.1	
	comp=Z,53nm,18.3s,baz=340,slow=37						
ARCES	**ARCESS Array B**	**86.31**	**17**	LR	LR	07 10 21.9	
	comp=Z,156nm,18.1s,baz=306,slow=38						
HFS	**Hagfors**	**87.05**	**28**	LR	LR	07 10 33.8	
	comp=Z,79nm,18.1s,baz=340,slow=37						
YAK	**Yakutsk**	**93.44**	**339**	LR	LR	07 15 50.5	
	comp=Z,58nm,18.5s,baz=84,slow=38						
KEST	**Kesra**	**94.92**	**51**	LR	LR	07 10 38.5	
	comp=Z,62nm,18.6s,baz=286,slow=34						
OBN	**Obninsk**	**99.81**	**24**	LR	LR	07 16 26.5	
	comp=Z,19nm,18.4s,baz=322,slow=36						
WHN	**Wuhan**	**123.83**	**325**	⇑PKP	**PKPdf**	**06 35 24.9**	**-6.6**
WRA	**Warramunga Arr**	**129.41**	**257**	PKP	**PKiKP**	**06 35 44.0**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=87,slow=2.9,SNR=7.2						
ASAR	**Alice Springs**	**130.01**	**252**	PKP	**PKiKP**	**06 35 44.9**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=119,slow=1.7,SNR=5.2						
PZH	**PanZhiHua**	**133.32**	**334**	PKP	**PKiKP**	**06 35 51.5**	**+0.4**

NEIC ***07*** *06:32:36.5±2.2, 50°.08N±0°.08×130°.2W±0°.1, h10km±2km, mb4.1/8, ML3.5/28, Mwr4.6(OTT), Error ellipse: s-maj=13.7km s-min=10.5km az=215.0*

OTT ***07*** *06:32:37.2±2.7, 50°.03N±0°.09×130°.1W±0°.2, h10km±2km, Error ellipse: s-maj=20.4km s-min=10.8km az=229.0*

NEIC ***07*** *06:32:37.2, 50°.03N×130°.08W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.41; $M_{\theta\theta}$-0.68; $M_{\phi\phi}$0.67; $M_{r\theta}$-0.06; $M_{\theta\phi}$0.38; $M_{\phi r}$-0.43; Fault plane solution: $M_0$9.40000×10^{15} NP1:ϕ_s145.00000°, δ69.00000°, λ153.00000°. NP2:ϕ_s245.00000°, δ65.00000°, λ23.00000°. Principal axes: T 0.9242, Plg34.0000°, Azm104.0000°; N -0.0056, Plg56.0000°, Azm290.0000°; P -0.9187, Plg3.0000°, Azm196.0000°;*

PGC ***07*** *06:32:37.2±7.7, 50°.03N×130°.08W, h10km, MLSn3.3/21, Mw3.9/21, Mw4.6, 203km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***07*** *06:32:39.4±2.1, 50°.10N×129°.76W, h0km, mb4.0/2, mbtmp3.8/9, ML3.5/7, MS3.7/41, Error ellipse: s-maj=33.2km s-min=13.5km az=73.0*

ISC 07 06:32:37.6±0.9**, 50°.03N**±0°.06×**130°.06W**±0°.07**, h12**km**,**
n141, σ1s.66/111**, MS3.8**/33**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.38**	**63**		**Pn**	**06 33 00.3**	**-2.4**
HOLB				IAML		06 33 42.5	
	comp=N,503nm,1.8s						
HOLB	**Holberg**	**1.38**	**63**	Pn	**Pn**	**06 33 00.5**	**-2.1**
PACB	**Port Alice, BC**	**1.69**	**75**	Pn	**Pn**	**06 33 04.2**	**-2.8**
PACB				Sn	**Sn**	**06 33 24.7**	**-3.8**
PHC	**Port Hardy**	**1.81**	**67**	Pn	**Pn**	**06 33 06.4**	**-2.2**
PHC				Sn	**Sn**	**06 33 28.1**	**-3.3**
MAYB	**Maynard**	**1.89**	**78**	Pn	**Pn**	**06 33 07.1**	**-2.6**
EDB	**Eliza Dome**	**1.90**	**94**	Pn	**Pn**	**06 33 06.9**	**-2.9**
HG4B	**Hotspring**	**2.38**	**343**		**Pn**	**06 33 13.5**	**-2.8**
HG4B	**Hotspring**	**2.38**	**343**	Pn	**Pn**	**06 33 13.6**	**-2.8**
BBB	**Bella Bella**	**2.48**	**29**	Pn	**Pn**	**06 33 16.9**	**-0.8**
	comp=N,51nm,0.3s,baz=220,slow=14,SNR=154						
BBB				Sn	**Sn**	**06 33 46.1**	**-1.8**
	comp=N,28nm,0.3s,baz=122,slow=24,SNR=9.8						
BBB				LR	LR	06 34 17.2	
	comp=N,1μm,18.6s,baz=244,slow=42						
	comp=N,112nm,0.3s						
BBB	**Bella Bella**	**2.48**	**29**		**Pn**	**06 33 16.1**	**-1.6**
BBB				IAML		06 33 47.1	
	comp=E,233nm,0.9s						
BBB				IAML		06 33 49.3	
	comp=N,234nm,1.0s						
BBB	**Bella Bella**	**2.48**	**29**	Pn	**Pn**	**06 33 16.6**	**-1.1**
BBB				Sn	**Sn**	**06 33 45.1**	**-2.8**
NCRB	**Newcastle Ridg**	**2.60**	**80**	Pn	**Pn**	**06 33 18.1**	**-1.3**
BNB	**Barry Inlet**	**2.76**	**338**	Pn	**Pn**	**06 33 18.9**	**-2.8**
SPLB	**Strathcona Par**	**2.85**	**91**	Pn	**Pn**	**06 33 21.8**	**-1.0**
CBB	**Campbell River**	**3.02**	**88**	Pn	**Pn**	**06 33 23.2**	**-2.0**
OZB	**Mount Ozzard**	**3.16**	**108**	Pn	**Pn**	**06 33 25.8**	**-1.3**
OZB				IAML		06 35 29.5	
	comp=N,134nm,3.0s						

OZB	Mount Ozzard	3.16	108	Pn	Pn	06 33 27.2	0.0		
BNKB	Banks Island	3.31	2	Pn	Pn	06 33 27.7	-1.5		
BNKB				Sn	Sn	06 34 05.7	-2.7		
MOBC	Moresby Island	3.34	340	Pn	Pn	06 33 26.7	-2.9		
MOBC				IAML		06 36 34.4			
	comp=E,78nm,2.9s								
MOBC	Moresby Island	3.34	340	Pn	Pn	06 33 28.2	-1.4		
BNAB	Bonilla	3.49	354	Pn	Pn	06 33 30.5	-1.1		
DIB	Dawson Inlet,	3.52	336	Pn	Pn	06 33 29.4	-2.6		
DIB	Dawson Inlet,	3.52	336	Pn	Pn	06 33 30.8	-1.1		
H02S1	DAWSON INLET T	3.52	336	Pn	Pn	06 33 30.8	-1.2		
HWKB	Hawksbury Isla	3.62	9	Pn	Pn	06 33 33.1	-0.4		
HWKB				Sn	Sn	06 34 14.7	-1.3		
TXB	Texada	3.65	93	Pn	Pn	06 33 33.4	-0.4		
GRNB	Grenville Isla	3.82	1	Pn	Pn	06 33 34.2	-2.0		
GRNB				IAML		06 34 45.2			
	comp=N,74nm,2.5s								
GRNB				IAML		06 35 32.4			
	comp=E,68nm,3.1s								
GRNB	Grenville Isla	3.82	1	Pn	Pn	06 33 35.0	-1.3		
GRNB				Sn	Sn	06 34 18.5	-2.6		
PFB	Port Renfrew	3.95	110	Pn	Pn	06 33 37.5	-0.5		
OCP	Olym-Cheeka Pk	3.96	114	Pn	Pn	06 33 38.0	-0.2		
SHB	Sechelt	4.03	94	Pn	Pn	06 33 39.0	-0.1		
CLRS	Cowichan Lake	4.05	105	Pn	Pn	06 33 39.1	-0.2		
CLRS				IAML		06 35 18.8			
	comp=E,53nm,3.4s								
CLRS				IAML		06 35 32.2			
	comp=N,46nm,2.4s								
CLRS	Cowichan Lake	4.05	105	Pn	Pn	06 33 39.3	0.0		
KITB	Kitimat	4.15	12	Pn	Pn	06 33 40.5	-0.1		
C03A	Quillayute Air	4.17	118	Pn	Pn	06 33 41.2	+0.2		
RUBB	Prince Rupert	4.30	358	Pn	Pn	06 33 41.9	-0.9		
RUBB				IAML		06 35 11.3			
	comp=E,50nm,3.2s								
RUBB				IAML		06 35 35.3			
	comp=N,40nm,3.6s								
RUBB	Prince Rupert	4.30	358	Pn	Pn	06 33 42.2	-0.6		
SYMB	Survey Mountai	4.35	107	Pn	Pn	06 33 42.9	-0.6		
GOBB	Galiano Island	4.40	102	Pn	Pn	06 33 42.5	-1.7		
WPB	Watts Point	4.45	92	Pn	Pn	06 33 44.9	+0.1		
PGC	Sidney	4.53	105	Pn	Pn	06 33 46.0	+0.1		
B04A	Port Angeles	4.74	112	Pn	Pn	06 33 49.6	+0.8		
B04A				IAML		06 35 43.8			
	comp=N,41nm,3.7s								
B04A				IAML		06 37 02.4			
	comp=E,37nm,2.8s								
NLWA	Neilton Lookou	4.87	120	Pn	Pn	06 33 50.6	-0.1		
NLWA				IAML		06 36 07.8			
	comp=E,32nm,3.2s								
HNBB	Haney	4.92	96	Pn	Pn	06 33 50.2	-1.1		
WISH	Wishkah	5.09	123	Pn	Pn	06 33 54.4	+0.8		
HDW	Hoodsport	5.20	115	Pn	Pn	06 33 55.6	+0.4		
VDB	Vedder Mountai	5.28	98	Pn	Pn	06 33 56.9	+0.7		
MBW	Mount Baker	5.47	100	Pn	Pn	06 33 59.5	+0.5		
JCW	Jim Creek	5.64	106	Pn	Pn	06 34 02.0	+0.7		
FMW	Mount Fremont	6.38	116	Pn	Pn	06 34 12.8	+1.3		
LON	Longmire	6.40	118		Pn	06 34 12.7	+1.1		
LON	Longmire	6.40	118	Pn	Pn	06 34 13.7	+2.0		
LTY	Liberty	6.81	110		Pn	06 34 18.0	+0.7		
LTY	Liberty	6.81	110	P	Pn	06 34 18.6	+1.3		
PNT	Penticton	6.81	92	P	Pn	06 34 18.1	+0.8		
T35M	Bob Quinn	6.97	359	P	Pn	06 34 20.4	+1.0		
B08A	Colville Reser	7.22	99	Pn	Pn	06 34 23.6	+0.6		
B08A	Colville Reser	7.22	99	P	Pn	06 34 23.1	+0.1		
HOOD	Mount Hood Mea	7.37	127	Pn	Pn	06 34 26.2	+1.1		
H04A	Detroit Lake	7.56	132	Pn	Pn	06 34 28.1	+0.5		
HAWA	Hanford	7.91	113	Pn	Pn	06 34 32.9	+0.5		
D08A	Wollman Farm,	7.96	108	Pn	Pn	06 34 32.9	-0.2		
NBC4	NorthernBC 4	8.02	41	P	Pn	06 34 35.4	+1.5		
C09A	Chrisman Ranch	8.08	102		Pn	06 34 35.4	+0.8		
DLBC	Dease Lake	8.43	0	Pn	Pn	06 34 42.1	+2.7		
	comp=E,0.4nm,0.3s,baz=196,slow=15,SNR=5.3								
DLBC				LR	LR	06 37 42.2			
	comp=E,661nm,21.0s,baz=278,slow=36								
	comp=E,2.2nm,0.5s								
NBC5	NorthernBC 5	8.68	27	P	Pn	06 34 45.1	+2.2		
YBH	Yreka Blue Hor	9.75	146	LR	LR	06 37 31.9			
	comp=E,127nm,19.5s,baz=318,slow=30								
YBH	Yreka Blue Hor	9.75	146	Pn	Pn	06 34 56.9	-0.7		
BMO	Blue Mountains	10.07	116		Pn	06 35 02.8	+0.8		
P33M	Teslin, Yukon	10.32	352	Pn	Pn	06 35 04.5	-0.9		
WALA	Waterton Lakes	10.54	89	P	Pn	06 35 09.2	+0.8		
PLID	Pearl Lake	10.70	112	Pn	Pn	06 35 10.7	-0.2		
MESA	MESA	12.21	331	Pn	Pn	06 35 29.0	-2.3		
BEKR	Beckworth	12.25	142	Pn	Pn	06 35 33.2	+1.2		
M31M	Drury Creek, Y	12.44	351	Pn	Pn	06 35 34.5	+0.3		
KVN	Kaiserville	13.88	138		Pn	06 35 53.9	-0.3		
ELK	Elko	13.93	126	LR	LR	06 41 28.7			
	comp=E,197nm,18.5s,baz=318,slow=38								
YMR	Madison River	14.00	105	Pn	Pn	06 35 56.1	+0.3		
RYN	Ryan	14.05	140		Pn	06 35 56.9	+0.4		
YNR	Norris Junctio	14.15	105	Pn	Pn	06 35 58.9	+1.0		
NVAR	Mina Array Bea	14.31	140	Pn	P	06 36 05.0	-2.4		
	comp=E,0.1nm,0.3s,baz=321,slow=12,SNR=7.5								
	comp=E,1.7nm,1.0s								
NVAR	Mina Array Bea	14.31	140	Pn	Pn	06 36 00.1	-0.1		
NV11	Mina Array Sit	14.37	139		Pn	06 35 59.5	-1.4		
HVU	Hansel Valley	14.56	118		Pn	06 36 03.1	-0.4		
BGU	Big Grassy Mou	14.99	121		Pn	06 36 08.4	-0.9		
BGU				IAmb	IAmb	06 36 22.4			
	comp=Z,13nm,1.4s								
SPUT	South Promonto	15.05	119	Pn	Pn	06 36 08.2	-1.9		
SPUT				IAmb	IAmb	06 36 49.5			
	comp=Z,5.9nm,0.9s								
TPH	Tonopah	15.07	138		Pn	06 36 08.5	-1.9		
YKA	Yellowknife Ar	15.10	28	Pn	Pn	06 36 09.9	-0.5		
	comp=Z,0.1nm,0.3s,baz=222,slow=12,SNR=12								
YKA				LR	LR	06 41 48.5			
	comp=Z,147nm,19.9s,baz=136,slow=37								
	comp=Z,0.7nm,0.8s								
YKA	Yellowknife Ar	15.10	28	Pn	Pn	06 36 09.8	-0.6		
KDAK	Kodiak Island	15.32	306	LR	LR	06 40 38.3			
	comp=Z,487nm,20.9s,baz=159,slow=31								
BRLK	Bradley Lake	15.38	317	Pn	Pn	06 36 13.6	-0.5		
BW06	Boulder Array	15.87	109	Pn	Pn	06 36 19.2	-1.6		
PD31	Pinedale Array	15.87	109	Pn	Pn	06 36 19.8	-1.0		
PDAR	Pinedale Array	15.87	109	Pn	P	06 36 24.4	-0.2		
	baz=312,slow=12,SNR=13								
PDAR				LR	LR	06 41 41.9			
	comp=Z,247nm,19.7s,baz=302,slow=34								
	comp=Z,4.5nm,1.1s								
PDAR	Pinedale Array	15.87	109	Pn	Pn	06 36 18.7	-2.2		
S11A	Rachel	16.08	135		Pn	06 36 20.2	-3.4		
S11A				IAmb	IAmb	06 36 35.7			
	comp=Z,34nm,1.2s								
JLU	Jordanelle	16.09	119	Pn	Pn	06 36 24.1	+0.4		
JLU				IAmb	IAmb	06 36 49.9			
	comp=Z,10nm,1.5s								
ILAR	Eielson Array	17.24	335	P	P	06 36 41.3	+1.8		
	baz=158,slow=12,SNR=12								
	comp=Z,1.1nm,0.8s								
H27K	Steamboat Moun	17.29	344	P	P	06 36 42.6	+2.7		
G27K	Doyon Strip	17.83	345	P	P	06 36 48.9	+2.9		
INK	Inuvik	18.41	356	P	P	06 36 56.2	+4.0		
	comp=Z,0.1nm,0.3s,baz=160,slow=12,SNR=5.4								
INK				LR	LR	06 44 25.6			
	comp=Z,233nm,21.2s,baz=102,slow=38								
	comp=Z,2.5nm,0.8s								
KUKN	Kugluktuk,NWT	19.34	17	P	Pn	06 37 05.3	+1.7		
ULM	Lac du Bonnet	21.80	76	P	P	06 37 31.2	+2.0		
	comp=Z,13nm,0.8s,baz=301,slow=12,SNR=4.7								
ULM				LR	LR	06 46 00.0			
	comp=Z,402nm,19.8s,baz=274,slow=37								
	comp=Z,13nm,0.8s								
ULM	Lac du Bonnet	21.80	76	P	P	06 37 30.9	+1.7		
FCC	Fort Churchill	22.44	53	P	P	06 37 38.0	+2.0		
ANMO	Albuquerque	22.89	122	P	P	06 37 43.2	+2.1		
	comp=Z,2.0nm,0.8s,baz=46,slow=12,SNR=8.2								
ANMO				LR	LR	06 47 10.5			
	comp=Z,88nm,19.9s,baz=48,slow=38								
	comp=Z,2.0nm,0.8s								
EYMN	Ely	25.20	80	P	P	06 38 04.2	+1.3		
RES	Resolute Bay	28.73	19	LR	LR	06 50 46.6			
	comp=Z,133nm,19.4s,baz=192,slow=38								
LPIG	La Paz	30.11	142	LR	LR	06 50 03.3			
	comp=Z,123nm,18.8s,baz=8.0,slow=35								
SADO	Sadowa	34.31	79	LR	LR	06 53 23.7			
	comp=Z,277nm,20.0s,baz=306,slow=36								
TKL	Tuckaleechee C	36.24	95	LR	LR	06 54 12.7			
	comp=Z,216nm,20.7s,baz=320,slow=36								
SCHQ	Schefferville	37.68	58	LR	LR	06 54 15.6			
	comp=Z,277nm,18.9s,baz=264,slow=35								
PETK	Petropavlovsk-	43.26	303	LR	LR	06 55 33.2			
	comp=Z,110nm,20.5s,baz=71,slow=32								
MA2	Magadan	43.99	314	LR	LR	06 57 37.6			
	comp=Z,104nm,18.9s,baz=68,slow=34								
JTS	Las Juntas de	54.29	121	LR	LR	07 07 36.0			
	comp=Z,50nm,18.2s,slow=39								
ASAJ	Asahikawa	56.52	300	LR	LR	07 02 41.7			
	comp=Z,27nm,21.2s,baz=31,slow=32								
H11N2	WAKE ISLAND Hy	57.87	263	T	T	07 45 08.0			
	baz=42,slow=76,SNR=97								
H11N3	WAKE ISLAND Hy	57.87	263	T	T	07 45 09.0			
	baz=42,slow=76,SNR=101								
H11N1	WAKE ISLAND Hy	57.89	263	T	T	07 45 14.8			
	baz=42,slow=76,SNR=110								
KLR	Kul'dur	58.88	311	LR	LR	07 06 57.7			
	comp=Z,69nm,21.4s,baz=50,slow=35								
SJG	San Juan	59.61	98	LR	LR	07 11 01.6			
	comp=Z,37nm,18.2s,baz=244,slow=39								
SDV	Santo Domingo	63.80	109	LR	LR	07 14 34.1			
	comp=Z,46nm,18.1s,baz=306,slow=40								
JHJ	Hachijo jima 2	65.54	293	LR	LR	07 09 52.3			
	comp=Z,20nm,18.8s,baz=84,slow=34								
EKA	Eskdalemuir Ar	66.05	30	LR	LR	07 14 40.9			
	comp=Z,199nm,18.5s,baz=348,slow=38								
JCJ	Chichijima	68.36	287	LR	LR	07 06 02.9			
	comp=Z,40nm,21.8s,baz=90,slow=29								
KSRS	Korea Array	69.15	304	LR	LR	07 14 11.9			
	comp=Z,18nm,18.1s,baz=65,slow=36								
JNU	Nakatsue	70.71	299	LR	LR	07 13 35.1			
	comp=Z,28nm,19.6s,baz=19,slow=35								
SONM	Songino Array	71.06	324	LR	LR	07 15 15.0			
	comp=Z,119nm,18.3s,baz=9.0,slow=36								
ZALV	Zalesovo Beam	72.32	339	LR	LR	07 20 01.5			
	comp=Z,86nm,18.0s,baz=336,slow=39								
ARU	Arti	73.67	355	LR	LR	07 18 59.6			
	comp=Z,66nm,19.4s,baz=323,slow=38								
GUMO	Gum	76.57	275	LR	LR	07 14 15.6			
	comp=Z,36nm,20.1s,baz=97,slow=32								
VRAC	Vranov	76.98	22	LR	LR	07 20 56.3			
	comp=Z,66nm,19.4s,baz=345,slow=38								
DAVOX	Davos/Dischmat	77.53	27	LR	LR	07 18 57.4			
	comp=Z,117nm,18.3s,baz=342,slow=36								
BELG	Belogornoye	77.93	1	LR	LR	07 23 48.9			
	comp=Z,68nm,19.4s,baz=299,slow=39								
MDP	Montagnes des	78.03	96	LR	LR	07 22 36.1			
	comp=Z,42nm,18.9s,baz=53,slow=38								
AKTO	Aktyubinsk	79.68	355	LR	LR	07 24 45.8			
	comp=Z,62nm,18.2s,baz=211,slow=39								
HNR	Honiara	84.65	249	LR	LR	07 14 36.8			
	comp=Z,345nm,21.7s,baz=150,slow=30								
LVC	Limon Verde	90.26	126	LR	LR	07 28 23.4			
	comp=Z,22nm,19.2s,baz=348,slow=37								
DAV	Davao City (W)	93.75	286	LR	LR	07 19 57.1			
	comp=Z,38nm,21.9s,baz=74,slow=30								
RCBR	Riachuelo	97.10	91	LR	LR	07 24 52.3			
	comp=Z,31nm,19.1s,baz=135,slow=32								
URZ	Urewera	99.47	219	LR	LR	07 23 11.9			
	comp=Z,25nm,20.1s,baz=80,slow=30								

STR ***07*** *06:35:05.8±0.2,48°N±2″×⅄±°, h5km, MLv3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=65.9, preliminary*
BGS ***07*** *06:35:07.6±1.1,47°.98N×2°.62W, h8km±17km, ML3.2, ML3.2*
LDG ***07*** *06:35:07.1±0.1,48°.02N×2°.51W, h2km, Md3.4/3, Ml3.5/55, Error ellipse: s-maj=1.2km s-min=1.0km az=46.0*
ISC 07 06:35:05.5±0.9,**48°.00N**±0°.02×**2°.47W**±0°.02,**h19**km±2km,
n143,σ1ⅈ69/213,**10D,France**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SGMF	Saint Gilles	0.26	347	*e*Pg		Pb	06 35 11.7	+0.2
SGMF	Saint Gilles	0.26	347	*e*P		Pb	06 35 12.0	+0.5
SGMF				*e*Sg		Sb	06 35 15.0	-0.4
	3μm,0.2s							
QUIF	Quistinic	0.48	260	*e*Pg		Pb	06 35 15.7	+0.4
QUIF	Quistinic	0.48	260	*e*P		Pb	06 35 16.5	+1.2
QUIF				*e*Sg		Sg	06 35 21.1	-0.5
	318nm,0.1s							
ROSF	Rostrenen	0.64	302	*e*Pg		Pb	06 35 18.5	+0.6
ROSF	Rostrenen	0.64	302	*e*Pn		Pn	06 35 20.7	+1.2
ROSF				*e*Sg		Sb	06 35 26.0	-0.4
	334nm,0.1s							
ROSF	Rostrenen	0.64	302	*e*P		Pb	06 35 18.5	+0.6
ROSF	Rostrenen	0.64	302	Pg		Pb	06 35 18.6	+0.6
ROSF				Sg		Sb	06 35 26.4	0.0
GRR	Gorron	1.15	70	*e*Pg		Pg	06 35 29.0	+1.4
GRR				*e*Sg		Sg	06 35 44.2	+1.6
	413nm,0.2s							
JSA	Saint Aubin	1.21	9	*e*P		Pb	06 35 28.8	+1.1
JSA				*e*S		Sb	06 35 44.0	+1.1
JSA				IAML			06 35 46.2	
	comp=N,170nm,0.3s							
JSA				IAML			06 35 46.4	
	comp=E,172nm,0.2s							
JSA	Saint Aubin	1.21	9	Pn		Pb	06 35 28.9	+1.3
JSA	Saint Aubin	1.21	9	Sn		Sn	06 35 44.5	+1.4
JDC	Jersey Dam (Cr	1.22	13	*e*P		Pb	06 35 29.2	+1.3
JDC				IAML			06 35 50.1	
	comp=E,530nm,0.2s							
JDC				IAML			06 35 51.1	
	comp=N,834nm,0.2s							
JRS	Jersey	1.22	12	*e*P		Pb	06 35 29.3	+1.4
JDG	Jersey Dam (Ga	1.23	13	*e*P		Pb	06 35 29.2	+1.2
JDG				IAML			06 35 47.2	
	comp=E,131nm,0.2s							
JDG				IAML			06 35 50.9	
	comp=N,144nm,0.3s							
JVM	Valle D.L. Mar	1.23	8	*e*P		Pn	06 35 29.0	+1.3
JQE	Queens East	1.23	13	*e*P		Pb	06 35 29.2	+1.0
JLP	Les Platons	1.27	11	*e*P		Pb	06 35 29.8	+1.1
CAMF	Camaret-sur-Me	1.46	281	P		Pb	06 35 31.9	-0.2
CAMF				Pn		Pg	06 35 33.7	0.0
CAMF				Sn		Sg	06 35 53.0	+0.3
FLN	La Foliniere	1.53	59	*e*Pn		Pb	06 35 33.9	+0.7
	baz=241							
FLN	La Foliniere	1.53	59	*e*Pg		Pg	06 35 35.8	+0.9
	baz=242							
FLN				*e*Sg		Sg	06 35 55.5	+0.7
	comp=N,395nm,0.2s,baz=240							
LDF	La Druitiere	1.68	68	*e*Pn		Pb	06 35 36.1	+0.4
LDF	La Druitiere	1.68	68	*e*Pg		Pg	06 35 38.7	+1.0
LDF				*e*Sn		Sn	06 35 57.0	+2.3
LDF				*e*Sg		Sg	06 36 00.2	+0.7
	comp=N,501nm,0.3s							
MFF	Saint Martin d	2.11	131	*e*Pn		Pn	06 35 42.2	+2.4
MFF	Saint Martin d	2.11	131	*e*P		Pb	06 35 43.5	+0.4
MFF	Saint Martin d	2.11	131	*e*Pg		Pg	06 35 46.9	+0.9
MFF				*e*Sg		Sg	06 36 14.6	+1.2
	comp=N,185nm,0.2s							
MFF	Saint Martin d	2.11	131	P		Pn	06 35 42.1	+2.4
MFF				Pn		Pb	06 35 42.5	-0.6
MFF	Saint Martin d	2.11	131	Sn		Sn	06 36 08.0	+2.6
CHIF	Chize	2.34	142	P		Pn	06 35 45.2	+2.3
CHIF				Pn		Pb	06 35 46.1	-0.9
CHIF				Sn		Sn	06 36 14.0	+3.0
DYA	Yadsworthy	2.62	339	*e*P		Pn	06 35 47.4	+0.7
DYA	Yadsworthy	2.62	339	P		Pn	06 35 47.5	+0.7
DYA				Pn		Pb	06 35 48.1	-3.7
DYA	Yadsworthy	2.62	339	Sn		Sn	06 36 18.3	+0.3
HTL	Hartland	3.27	337	*e*P		Pn	06 35 57.4	+1.7
HTL				IAML			06 36 53.0	
	comp=N,58nm,0.4s							
HTL				IAML			06 36 58.2	
	comp=E,75nm,0.5s							
HTL	Hartland	3.27	337	Sn		Sn	06 36 33.9	-0.2
HTL	Hartland	3.27	337	P		Pn	06 35 56.4	+0.7
HTL				Pn		Pb	06 35 57.4	-5.6
LRVF	chteau la Riv	3.40	153	Pn		Pn	06 36 01.1	+3.6
HMNX	Herstmonceux	3.40	31	*e*P		Pn	06 35 59.5	+2.0
HMNX				IAML			06 36 58.7	
	comp=E,130nm,0.5s							
HMNX				IAML			06 36 58.8	
	comp=N,112nm,0.5s							
HMNX	Herstmonceux	3.40	31	Pn		Pn	06 35 59.2	+1.7
HMNX	Herstmonceux	3.40	31	Sn		Sn	06 36 37.6	+0.3
HYF	Humbligny	3.53	100	*e*Pn		Pn	06 36 02.1	+2.8
HYF	Humbligny	3.53	100	*e*Pg		Pg	06 36 13.4	+0.3
HYF				*e*Sg		Sg	06 36 58.5	-0.3
SWN1	Swindon	3.54	7	*e*P		Pn	06 36 00.8	+1.4
SWN1	Swindon	3.54	7	Pn		Pn	06 36 00.7	+1.2
SWN1	Swindon	3.54	7	Sn		Sn	06 36 40.1	-0.7
TCF	Toulx Ste Croi	3.62	116	*e*Pn		Pn	06 36 03.0	+2.4
TCF	Toulx Ste Croi	3.62	116	*e*Pg		Pg	06 36 14.7	-0.1
TCF				*e*Sn		Sn	06 36 44.1	+1.3
	comp=N,13nm,0.3s							
TCF				*e*Sg		Sg	06 37 02.0	+0.2
	comp=N,37nm,0.3s							
LFF	La Frestale	3.78	143	*e*Pn		Pn	06 36 05.1	+2.4
LFF	La Frestale	3.78	143	*e*Pg		Pg	06 36 17.6	-0.2
LFF				*e*Sg		Sg	06 37 07.1	+0.3
	comp=N,187nm,0.4s							
STRD	Stroud	3.79	3	*e*P		Pn	06 36 03.7	+0.9
RJF	Les Rejaudoux	3.85	133	*e*Pn		Pn	06 36 05.9	+2.3
RJF	Les Rejaudoux	3.85	133	*e*Pg		Pg	06 36 18.7	-0.4
RJF				*e*Sg		Sg	06 37 08.6	-0.3
	comp=N,175nm,0.3s							
MONM	Monmouth	3.85	357	*e*P		Pn	06 36 04.3	+0.7
MONM				IAML			06 37 11.4	
	comp=N,29nm,0.5s							
MONM				IAML			06 37 15.9	
	comp=E,28nm,0.5s							
BGF	Bois d'Agland	3.89	110	*e*Pn		Pn	06 36 06.5	+2.2
BGF	Bois d'Agland	3.89	110	*e*Pg		Pg	06 36 19.7	-0.3
BGF				*e*Sg		Sg	06 37 10.2	-0.3
	comp=E,94nm,0.4s							
ELSH	Elham, Standar	3.93	35	Pn		Pn	06 36 06.3	+1.6
ELSH	Elham, Standar	3.93	35	Sn		Sn	06 36 48.6	-1.7
MCH1	Michaelchurch	4.02	355	*e*P		Pn	06 36 06.5	+0.6
MCH1				IAML			06 37 14.0	
	comp=E,42nm,0.5s							
MCH1				IAML			06 37 22.8	
	comp=N,53nm,0.8s							
MCH1	Michaelchurch	4.02	355	P		Pn	06 36 06.6	+0.7
MCH1				Pn		Pn	06 36 07.2	+1.3
AVF	Avril sur Loir	4.13	105	*e*Pn		Pn	06 36 09.7	+2.1
AVF	Avril sur Loir	4.13	105	*e*Pg		Pg	06 36 24.5	-0.1
AVF				*e*Sn		Sn	06 36 56.2	+0.8
	comp=N,3.9nm,0.2s							
AVF				*e*Sg		Sg	06 37 18.1	0.0
	comp=N,32nm,0.6s							
SSF	Saint Saulge	4.15	101	*e*Pn		Pn	06 36 10.0	+2.1
SSF	Saint Saulge	4.15	101	*e*Pg		Pg	06 36 24.7	-0.3
SSF				*e*Sg		Sg	06 37 18.2	-0.6
	comp=N,59nm,0.6s							
LPW	Lampeter	4.25	347	*e*P		Pn	06 36 10.3	+1.3
AGO	Saint Agoulin	4.30	115	Pn		Pn	06 36 11.9	+2.0
LOR	Lormes	4.34	97	*e*Pn		Pn	06 36 12.4	+2.0
	baz=277							
LOR	Lormes	4.34	97	*e*P		Pn	06 36 16.0	+5.6
	baz=279							
LOR	Lormes	4.34	97	*e*Pg		Pg	06 36 28.0	-0.5
	baz=275							
LOR				*e*Sn		Sn	06 37 01.1	+0.6
	comp=N,7.9nm,0.2s,baz=275							
LOR				*e*Sg		Sg	06 37 24.1	-0.6
	comp=N,19nm,0.3s,baz=271							
LOR	Lormes	4.34	97	Pn		Pn	06 36 12.4	+2.0
PYM	Petit Puy Mans	4.38	119	Pn		Pn	06 36 13.1	+2.1
CAF	Calviac	4.39	133	*e*Pn		Pn	06 36 13.2	+2.1
CAF	Calviac	4.39	133	*e*P		Pn	06 36 16.8	+5.7
CAF	Calviac	4.39	133	*e*Pg		Pg	06 36 28.7	-0.8
CAF				*e*Sn		Sn	06 37 02.4	+0.7
CAF				*e*Sg		Sg	06 37 25.9	-0.4
	comp=N,76nm,0.4s							
TERF	Tercis-les-Bai	4.42	167	Pn		Pn	06 36 13.9	+2.4
MONQ	Montcuq	4.43	144	Pn		Pn	06 36 14.1	+2.4
SMF	Signal de Mont	4.50	105	*e*Pn		Pn	06 36 14.6	+2.0
SMF	Signal de Mont	4.50	105	*e*Pg		Pg	06 36 30.9	-0.7
SMF				*e*Sn		Sn	06 37 05.0	+0.6
	comp=N,5.0nm,0.2s							
SMF				*e*Sg		Sg	06 37 29.2	-0.6
	comp=N,13nm,0.2s							
HLM1	Long Mynd	4.53	357	*e*P		Pn	06 36 14.0	+0.9
HLM1				IAML			06 37 36.6	
	comp=E,12nm,0.5s							
HLM1				IAML			06 37 37.8	
	comp=N,12nm,0.5s							
OSSF	Osses	4.82	169	Pn		Pn	06 36 19.9	+2.9
OSS

MTLF	**Montolieu**	**5.70**	**143**	Pn	**Pn**	06 36 31.2	**+2.1**
OG35	**Corcelles**	**5.83**	**107**	Pn	**Pn**	06 36 33.3	**+2.3**
SALF	**Salau**	**5.84**	**152**	Pn	**Pn**	06 36 33.4	**+2.4**
SALF				Sn	**Sn**	06 37 35.8	**-1.7**
VIVF	**Saint-Julien-l**	**5.85**	**120**	*e*Pn	**Pn**	06 36 33.1	**+1.9**
VIVF	**Saint-Julien-l**	**5.85**	**120**	*e*Pg	**Pg**	06 36 57.1	**-0.3**
VIVF				*e*Sn	**Sn**	06 37 37.3	**-0.5**
VIVF				*e*Sg	**Sg**	06 38 11.5	**-1.7**
	comp=N,11nm,0.3s						
LASF	**Ste Croix**	**5.90**	**129**	*e*Pn	**Pn**	06 36 33.9	**+2.1**
LASF	**Ste Croix**	**5.90**	**129**	*e*Pg	**Pg**	06 36 57.0	**-1.3**
LASF				*e*Sn	**Sn**	06 37 38.4	**-0.5**
LASF				*e*Sg	**Sg**	06 38 12.8	**-1.8**
	comp=N,18nm,0.4s						
HAU	**Haudompre**	**5.92**	**87**	*e*Pn	**Pn**	06 36 33.8	**+1.7**
HAU				*e*Sn	**Sn**	06 37 35.8	**-3.6**
	comp=N,11nm,0.3s						
HAU				*e*Sg	**Sg**	06 38 13.3	**-1.9**
	comp=N,14nm,0.3s						
WLF	**Walferdange**	**5.93**	**70**	Sn	**Sn**	06 37 36.5	**-3.2**
WLF	**Walferdange**	**5.93**	**70**	Pn	**Pn**	06 36 34.9	**+2.7**
CABF	**La Chapelle**	**5.98**	**100**	*e*Pn	**Pn**	06 36 35.2	**+2.1**
CABF	**La Chapelle**	**5.98**	**100**	*e*Pg	**Pg**	06 36 58.4	**-1.5**
CABF				*e*Sn	**Sn**	06 37 40.4	**-0.7**
	comp=N,2.2nm,0.4s						
CABF				*e*Sg	**Sg**	06 38 15.6	**-1.7**
	comp=N,4.4nm,0.4s						
FNEB	**Nbias**	**6.03**	**146**	Pn	**Pn**	06 36 37.0	**+3.4**
BHOU	**Houvegnez**	**6.03**	**64**	*d*P	**Pn**	06 36 33.8	**+0.1**
BHOU				*d*S	**Sn**	06 37 42.1	**-0.1**
OGSM	**Saint Maurice**	**6.09**	**110**	Pn	**Pn**	06 36 37.2	**+2.7**
GIMEL	**St. Georges /**	**6.12**	**101**	Pn	**Pn**	06 36 37.7	**+2.7**
MEM	**Membach**	**6.13**	**62**	*d*P	**Pn**	06 36 36.4	**+1.4**
MEM				*d*S	**Sn**	06 37 40.8	**-3.6**
BRANT	**Les Verrieres**	**6.16**	**97**	Pn	**Pn**	06 36 37.4	**+2.0**
CARF	**Carcanieres**	**6.19**	**147**	Pn	**Pn**	06 36 38.4	**+2.5**
HINF	**Hinteralfeld**	**6.27**	**88**	*e*Pn	**Pn**	06 36 38.8	**+1.8**
HINF				*e*Sn	**Sn**	06 37 45.1	**-3.0**
	comp=N,2.9nm,0.2s						
HINF				*e*Sg	**Sg**	06 38 24.3	**-2.2**
	comp=N,7.3nm,0.3s						
CDF	**Champ du Feu**	**6.53**	**83**	*e*Pn	**Pn**	06 36 42.5	**+2.0**
CDF				*e*Sn	**Sn**	06 37 51.0	**-3.5**
	comp=N,3.5nm,0.3s						
CDF				*e*Sg	**Sg**	06 38 32.4	**-2.4**
	comp=N,5.3nm,0.3s						
ORIF	**Oris-en-Rattie**	**6.54**	**115**	*e*Pn	**Pn**	06 36 42.8	**+2.1**
ORIF				*e*Sg	**Sg**	06 38 33.1	**-2.0**
	comp=N,1.9nm,0.3s						
LPL	**La Plagne**	**6.79**	**108**	*e*Pn	**Pn**	06 36 46.2	**+1.9**
LPL				*e*Sg	**Sg**	06 38 41.1	**-2.1**
	comp=N,2.0nm,0.4s						
SMRF	**Simiane la Rot**	**6.90**	**123**	*e*Pn	**Pn**	06 36 48.1	**+2.5**
SMRF				*e*Sg	**Sg**	06 38 44.4	**-2.2**
	comp=N,3.8nm,0.4s						
MBDF	**Montbardon**	**7.18**	**114**	*e*Sg	**Sg**	06 38 53.3	**-2.4**
	comp=N,1.6nm,0.4s						
LMR	**La Mourre**	**7.83**	**123**	*e*Sg	Sb	06 39 13.2	+20
	comp=N,1.3nm,0.3s						

PGC 07 06:37:11.3±13.0, 50°00'N×130°07'W, h10km, MLSn3.1/8, Mw3.7/8, 203km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.40**	**62**	Pn	Pn	06 37 33.0	-3.9
PACB	**Port Alice, BC**	**1.71**	**74**	Pn	Pn	06 37 38.3	-2.8
PACB				Sn	Sn	06 37 58.8	-4.3
PHC	**Port Hardy**	**1.83**	**66**	Pn	Pn	06 37 40.9	-1.9
PHC				Sn	Sn	06 38 02.3	-3.7
MAYB	**Maynard**	**1.90**	**77**	Pn	Pn	06 37 40.8	-3.2
HG4B	**Hotspring**	**2.41**	**343**	Pn	Pn	06 37 47.5	-3.2
BBB	**Bella Bella**	**2.51**	**29**	Pn	Pn	06 37 51.2	-1.0
NCRB	**Newcastle Ridg**	**2.61**	**80**	Pn	Pn	06 37 52.4	-1.2
BNB	**Barry Inlet**	**2.79**	**338**	Pn	Pn	06 37 53.3	-2.8
CBB	**Campbell River**	**3.03**	**88**	Pn	Pn	06 37 57.2	-2.2
BNKB	**Banks Island**	**3.34**	**2**	Pn	Pn	06 38 02.5	-1.1
HWKB	**Hawksbury Isla**	**3.65**	**9**	Pn	Pn	06 38 07.8	0.0
HWKB				Sn	Sn	06 38 47.9	-3.1
GRNB	**Grenville Isla**	**3.85**	**1**	Pn	Pn	06 38 09.1	-1.5
LTY	**Liberty**	**6.80**	**110**	P	Pn	06 38 51.9	+0.6

*NOU **07** 07:14:06.7, 42°.73S×173°.52E, h8km, MLv3.8/9, South Island, New Zealand*
*WEL **07** 07:14:08.3±0.3, 43°.5±3°×17°.3E±°, h14km±3km, M3.4/22, ML3.6/22, MLv3.4/22, Error ellipse: s-maj=0.0km s-min=0.0km az=124.2, confirmed*
ISC 07 07:14:07.2±1.0, 42°.64S±0°.03×173°.41E±0°.04, h10km±8km, n82, σ1§19/91, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**23**	P	**Pb**	07 14 13.7	**+1.6**
KHZ	**Kahutara**	**0.24**	**23**	P	**Pb**	07 14 13.8	**+1.7**
KHZ				S	**Sb**	07 14 17.6	**+2.3**
GVZ	**Greta Valley S**	**0.43**	**220**	P	**Pn**	07 14 18.8	**-0.8**
GVZ				S	**Sb**	07 14 26.6	**+3.0**
AMCZ	**Amberley**	**0.78**	**226**	P	**Pn**	07 14 24.5	**+0.2**
LTZ	**Lake Taylor**	**0.85**	**260**	P	**Pg**	07 14 23.9	**+0.2**
LTZ				S	**Sg**	07 14 34.1	**-0.3**
THZ	**Tophouse**	**0.95**	**337**	P	**Pg**	07 14 24.6	**-1.0**
THZ				S	**Sg**	07 14 34.8	**-3.1**
BSWZ	**Blackbirch Sta**	**0.98**	**21**	P	**Pb**	07 14 26.8	**+0.4**
BSWZ				S	**Sn**	07 14 41.0	**-0.1**
CMWZ	**Cape Campbell**	**1.07**	**34**	P	**Pn**	07 14 29.5	**+1.1**
OKCZ	**Okains Bay**	**1.12**	**193**	P	**Pn**	07 14 30.2	**+1.2**
MQZ	**McQueen's Vall**	**1.20**	**207**	P	**Pb**	07 14 30.0	**-0.2**
OXZ	**Oxford**	**1.22**	**235**	P	**Pn**	07 14 29.9	**-0.5**
TUWZ	**Tuamarina**	**1.27**	**18**	P	**Pn**	07 14 31.3	**+0.3**
AKCZ	**Akaroa Harbour**	**1.29**	**196**	P	**Pg**	07 14 31.8	**-0.1**
MRNZ	**Matariki Terra**	**1.33**	**338**	P	**Pn**	07 14 31.2	**-0.7**
MRNZ				S	**Sb**	07 14 49.3	**-0.1**
NNZ	**Nelson**	**1.42**	**359**	P	**Pn**	07 14 33.1	**0.0**
NNZ				S	**Sn**	07 14 51.5	**-0.4**
RACZ	**Rakaia**	**1.43**	**220**	P	**Pn**	07 14 33.0	**-0.3**
INZ	**Inchbonnie**	**1.45**	**266**	P	**Pn**	07 14 33.0	**-0.6**
INZ				S	**Sn**	07 14 52.2	**-0.5**
DSZ	**Denniston Nort**	**1.49**	**306**	P	**Pn**	07 14 33.3	**-0.9**
TCW	**Tory Channel**	**1.56**	**25**	P	**Pn**	07 14 35.1	**0.0**
MHCZ	**Mount Hutt**	**1.62**	**236**	P	**Pn**	07 14 35.4	**-0.6**
TKNZ	**Takaka Hill**	**1.64**	**348**	P	**Pn**	07 14 36.5	**+0.3**
TKNZ				S	**Sn**	07 14 57.0	**-0.3**
SNZO	**South Karori**	**1.64**	**37**	P	**Pn**	07 14 36.4	**+0.3**
WEL	**Wellington**	**1.69**	**37**	P	**Pn**	07 14 37.1	**+0.3**
PLWZ	**Palliser**	**1.74**	**53**	P	**Pn**	07 14 37.4	**-0.1**
WACZ	**Wakanui South**	**1.74**	**221**	P	**Pn**	07 14 37.3	**-0.2**
DUWZ	**D'Urville Isla**	**1.87**	**12**	P	**Pn**	07 14 40.1	**+0.7**
QRZ	**Quartz Range**	**1.93**	**340**	P	**Pn**	07 14 40.5	**+0.4**
QRZ	**Quartz Range**	**1.93**	**340**	P	**Pn**	07 14 40.3	**+0.2**
PAWZ	**Paruwai Farm**	**1.96**	**51**	P	**Pn**	07 14 40.2	**-0.4**
CAW	**Cannon Point**	**1.97**	**40**	P	**Pn**	07 14 40.6	**0.0**
WVZ	**Waitaha Valley**	**2.01**	**257**	P	**Pn**	07 14 41.2	**0.0**
RPZ	**Rata Peaks**	**2.03**	**237**	P	**Pn**	07 14 41.2	**-0.4**
RPZ	**Rata Peaks**	**2.03**	**237**	P	**Pn**	07 14 41.2	**-0.4**
ARCZ	**Arundel**	**2.09**	**230**	P	**Pn**	07 14 41.7	**-0.7**
KIW	**Kapiti Island**	**2.10**	**33**	P	**Pn**	07 14 42.7	**+0.2**
TRWZ	**Traveller**	**2.10**	**55**	P	**Pn**	07 14 42.0	**-0.5**
MTW	**Mount Morrison**	**2.15**	**47**	P	**Pn**	07 14 42.7	**-0.5**
OGWZ	**Otaki Gorge**	**2.25**	**37**	P	**Pn**	07 14 44.4	**0.0**
HOWZ	**Holdsworth Sta**	**2.34**	**43**	P	**Pn**	07 14 45.4	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.36**	**252**	P	**Pn**	07 14 46.6	**+0.5**
TMZ	**Timaru**	**2.47**	**224**	P	**Pn**	07 14 47.2	**-0.4**
MRZ	**Mangatainoka R**	**2.56**	**40**	P	**Pn**	07 14 48.3	**-0.5**
FOZ	**Fox Glacier**	**2.78**	**250**	P	**Pn**	07 14 52.9	**+1.1**
PRWZ	**Pori Road**	**2.83**	**44**	P	**Pn**	07 14 55.0	**+2.5**
BFZ	**Birch Farm**	**2.89**	**48**	P	**Pn**	07 14 52.4	**-0.9**
LBZ	**Lake Benmore**	**2.93**	**232**	P	**Pn**	07 14 53.9	**+0.1**
WAZ	**Wanganui**	**3.12**	**23**	P	**Pn**	07 14 59.0	**+2.5**
DVHZ	**Dannevirke**	**3.12**	**42**	P	**Pn**	07 14 55.2	**-1.4**
ODZ	**Otahua Downs**	**3.13**	**219**	P	**Pn**	07 14 56.0	**-0.7**
ODZ	**Otahua Downs**	**3.13**	**219**	P	**Pn**	07 14 56.1	**-0.5**
TSZ	**Takapari Road**	**3.21**	**38**	P	**Pn**	07 14 57.0	**-0.8**
KHEZ	**Kahui Hut**	**3.37**	**8**	P	**Pn**	07 15 01.9	**+1.9**
KHEZ	**Kahui Hut**	**3.37**	**8**	P	**Pn**	07 15 01.9	**+1.9**
NBEZ	**Newall Road No**	**3.38**	**6**	P	**Pn**	07 15 03.1	**+2.9**
NEZ	**North Egmont**	**3.40**	**9**	P	**Pn**	07 15 03.1	**+2.6**
PNHZ	**Pukenui**	**3.44**	**39**	P	**Pn**	07 14 59.8	**-1.1**
PKE	**Pukeiti**	**3.47**	**7**	P	**Pn**	07 15 03.0	**+1.7**
PKVZ	**Pokaka**	**3.65**	**24**	P	**Pn**	07 15 05.0	**+1.1**
VRZ	**Vera Road**	**3.66**	**17**	P	**Pn**	07 15 05.6	**+1.7**
JCZ	**Jackson Bay**	**3.67**	**245**	P	**Pn**	07 15 04.6	**+0.5**
JCZ	**Jackson Bay**	**3.67**	**245**	P	**Pn**	07 15 04.4	**+0.3**
MOVZ	**Moawhango**	**3.68**	**30**	P	**Pn**	07 15 04.4	**+0.1**
WNVZ	**Wahianoa**	**3.70**	**27**	P	**Pn**	07 15 05.5	**+0.9**
TRVZ	**Turoa**	**3.71**	**27**	P	**Pn**	07 15 05.5	**+0.7**
BHHZ	**Black Hill Sta**	**3.73**	**33**	P	**Pn**	07 15 04.7	**-0.2**
DRZ	**Dome Shelter**	**3.73**	**27**	P	**Pn**	07 15 08.1	**+2.8**
KRHZ	**Kereru**	**3.73**	**38**	P	**Pn**	07 15 03.7	**-1.3**
FWVZ	**Far West T-bar**	**3.75**	**26**	P	**Pn**	07 15 06.5	**+1.2**
NGZ	**Ngauruhoe**	**3.83**	**26**	P	**Pn**	07 15 07.2	**+0.7**
OTVZ	**Oturere**	**3.87**	**27**	P	**Pn**	07 15 09.3	**+2.4**
NNVZ	**North Ngauruho**	**3.88**	**26**	P	**Pn**	07 15 07.6	**+0.5**
WTVZ	**West Tongariro**	**3.89**	**26**	P	**Pn**	07 15 07.9	**+0.7**
TMVZ	**Te Maari**	**3.92**	**27**	P	**Pn**	07 15 08.2	**+0.5**
KWHZ	**Kaweka Forest**	**3.94**	**36**	P	**Pn**	07 15 05.2	**-2.6**
BKZ	**Black Stump Fm**	**4.18**	**35**	P	**Pn**	07 15 10.1	**-1.1**
HIZ	**Hauiti**	**4.26**	**15**	P	**Pn**	07 15 13.3	**+1.1**
HIZ	**Hauiti**	**4.26**	**15**	P	**Pn**	07 15 13.5	**+1.2**
MWZ	**Matawai**	**5.32**	**38**	P	**Pn**	07 15 25.4	**-1.4**
AWAZ	**Awhitu Peninsu**	**5.65**	**10**	P	**Pn**	07 15 32.3	**+1.1**
MKAZ	**Moumakai**	**5.69**	**14**	P	**Pn**	07 15 32.4	**+0.6**
ETAZ	**East Tamaki Re**	**5.79**	**12**	P	**Pn**	07 15 34.1	**+0.8**
WIAZ	**Waiheke Island**	**5.99**	**13**	P	**Pn**	07 15 36.9	**+1.0**

*PGC **07** 07:19:49.1±9.4, 49°.95N×130°.12W, h10km, MLSn3.1/9, Mw3.7/9, 209km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **07** 07:19:53.1±3.4, 50°.15N×129°.72W, h0km, mb3.7/1, mbtmp3.4/5, ML3.2/3, MS3.4/6, Error ellipse: s-maj=45.7km s-min=20.6km az=76.0*
ISC 07 07:19:52.1±1.5, 50°.17N±0°.09×129°.86W±0°.08, h10km, n25, σ1§48/22, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.54**	**79**	Pn	**Pn**	07 20 17.1	**-2.5**
PACB				Sn	**Sn**	07 20 37.5	**-2.2**
PHC	**Port Hardy**	**1.65**	**70**	Pn	**Pn**	07 20 19.3	**-1.7**
PHC				Sn	**Sn**	07 20 41.4	**-0.9**
MAYB	**Maynard**	**1.74**	**81**	Pn	**Pn**	07 20 21.8	**-0.7**
HG4B	**Hotspring**	**2.29**	**339**	Sn	**Sn**	07 20 56.2	**-1.9**
BBB	**Bella Bella**	**2.30**	**28**	Pn	**Pn**	07 20 29.5	**-0.5**
	5.6nm,0.3s,baz=208,slow=6.7,SNR=94						
BBB				Sn	**Sn**	07 20 58.8	**+0.4**
	4.3nm,0.3s,baz=314,slow=18,SNR=21						
	33nm,0.5s						
BBB	**Bella Bella**	**2.30**	**28**	Pn	**Pn**	07 20 29.3	**-0.7**
BBB				Sn	**Sn**	07 20 58.5	**+0.1**
BNB	**Barry Inlet**	**2.69**	**335**	Pn	**Pn**	07 20 33.1	**-2.3**
CBB	**Campbell River**	**2.90**	**91**	Pn	**Pn**	07 20 37.4	**-0.9**
BNKB	**Banks Island**	**3.17**	**360**	Sn	**Sn**	07 21 19.4	**-0.4**
HWKB	**Hawksbury Isla**	**3.46**	**7**	Pn	**Pn**	07 20 46.4	**+0.3**
HWKB				Sn	**Sn**	07 21 26.0	**-1.2**
GRNB	**Grenville Isla**	**3.69**	**359**	Pn	**Pn**	07 20 47.7	**-1.3**
KITB	**Kitimat**	**3.99**	**10**	Pn	**Pn**	07 20 54.4	**+1.2**
LTY	**Liberty**	**6.74**	**112**	P	**Pn**	07 21 31.9	**+0.8**
DLBC	**Dease Lake**	**8.29**	**359**	LR	LR	07 25 04.5	
	comp=Z,177nm,18.6s,baz=160,slow=38						
NEW	**Newport**	**8.56**	**98**	LR		07 25 14.0	
	comp=Z,191nm,18.1s,baz=316,slow=38						
ELK	**Elko**	**13.91**	**127**	LR	LR	07 28 13.3	
	comp=Z,72nm,20.7s,baz=348,slow=36						
YKA	**Yellowknife Ar**	**14.91**	**28**	Pn	**Pn**	07 23 22.7	**-0.1**
	baz=221,slow=12,SNR=6.3						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**15.80**	**110**	Pn	**P**	07 23 37.7	**-0.9**
	0.1nm,0.3s,baz=321,slow=9.5,SNR=6.4						
PDAR				LR	LR	07 29 05.0	
	comp=Z,77nm,19.4s,baz=354,slow=35						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**17.17**	**335**	P	**P**	07 23 55.4	**+2.0**
	0.4nm,0.8s,baz=147,slow=12,SNR=4.4						
ULM	**Lac du Bonnet**	**21.65**	**77**	P	**P**	07 24 44.8	**+2.4**
	3.7nm,0.9s,baz=289,slow=9.2,SNR=3.6						
	3.7nm,0.9s						
SADO	**Sadowa**	**34.16**	**79**	LR	LR	07 42 13.2	
	comp=Z,92nm,18.1s,baz=296,slow=39						
TKL	**Tuckaleechee C**	**36.13**	**96**	LR	LR	07 42 03.6	
	comp=Z,182nm,18.0s,baz=0.5,slow=37						
H11N2	**WAKE ISLAND Hy**	**58.01**	**263**	T	T	08 32 06.8	
	baz=42,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**58.01**	**263**	T	T	08 32 12.4	
	baz=42,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**58.03**	**263**	T	T	08 32 12.9	
	baz=42,slow=75,SNR=14						

*IDC **07** 07:24:41.4±0.9, 10°.72S×66°.74E, h0km, mb4.0/11, mbtmp4.0/11, MS3.4/12, Error ellipse: s-maj=26.2km s-min=20.3km az=29.0*
*NEIC **07** 07:24:43.1±0.8, 10°.7S±0°.1×66°.82E±0°.10, h10km±1km, mb4.6/13, Error ellipse: s-maj=18.4km s-min=14.7km az=214.0*
ISC 07 07:24:42.7±0.6, 10°.7S±0°.1×66°.8E±0°.1, h10km, n47, σ0§76/33, mb4.3/15, MS3.5/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.39**	**62**	Pn	**Pn**	07 26 16.1	**-0.6**
	baz=266,slow=13						
H08S1				T	T	07 33 09.1	
	baz=233,slow=78						
H08S2	**Diego Garcia H**	**6.40**	**62**	Pn	**Pn**	07 26 16.6	**-0.3**
	baz=266,slow=13						
H08S2				T	T	07 33 02.9	
	baz=233,slow=78						
H08S3	**Diego Garcia H**	**6.40**	**62**	Pn	**Pn**	07 26 16.3	**-0.6**
	baz=266,slow=13						
H08S3				T	T	07 33 05.5	
	baz=233,slow=78						
DGAR	**Diego Garcia**	**6.48**	**60**	Pn	**Pn**	07 26 18.0	**-0.2**
KAAM	**Kaadhehdhoo**	**12.72**	**29**	Pn	**Pn**	07 27 42.3	**-1.5**
KMBO	**Kilima Mbogo**	**30.84**	**286**	LR	LR	07 40 27.9	
	comp=Z,52nm,21.7s,baz=93,slow=31						
LSZ	**Lusaka**	**37.84**	**259**	P	**P**	07 31 59.9	**-0.2**
	2.1nm,0.3s,baz=84,slow=7.4,SNR=5.4						
	2.1nm,0.3s						
LSZ	**Lusaka**	**37.84**	**259**	P	**P**	07 31 59.8	**-0.3**
LSZ				IAmb	IAmb	07 32 01.0	
	comp=Z,8.8nm,1.1s						
LBTB	**Lobatse**	**41.52**	**244**	LR	LR	07 46 43.9	
	comp=Z,86nm,20.4s,baz=96,slow=32						
BOSA	**Boshof**	**42.71**	**239**	LR	LR	07 46 15.9	
	comp=Z,48nm,20.6s,baz=30,slow=30						
CMAR	**Chiang Mai Arr**	**42.97**	**48**	LR	LR	07 47 38.5	
	comp=Z,24nm,20.7s,baz=215,slow=32						
GRHM	**Grahamstown, E**	**43.31**	**232**	P	**P**	07 32 44.6	**-0.4**
SUR	**Sutherland**	**47.44**	**236**	LR	LR	07 50 46.3	
	comp=Z,56nm,19.6s,baz=46,slow=33						
TSUM	**Tsumeb**	**48.15**	**254**	LR	LR	07 53 00.9	
	comp=Z,47nm,18.2s,baz=154,slow=35						
H01W3	**Cape Leeuwin H**	**49.27**	**127**	T	T	08 26 18.3	
	baz=287,slow=75,SNR=10						
H01W2	**Cape Leeuwin H**	**49.28**	**127**	T	T	08 26 18.2	
	baz=287,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**49.29**	**127**	T	T	08 26 20.4	
	baz=287,slow=75,SNR=12						
KAPI	**Kappang**	**52.72**	**88**	LR	LR	07 54 26.2	
	comp=Z,34nm,19.5s,baz=263,slow=34						
MMAI	**Mount Meron Ar**	**52.78**	**327**	LR	LR	07 53 47.9	
	comp=Z,35nm,18.3s,baz=135,slow=33						
BATI	**Baumata**	**55.87**	**95**	LR	LR	07 54 42.6	
	comp=Z,51nm,21.2s,baz=2.5,slow=32						
MK31	**Makanchi Array**	**58.89**	**12**	P	**P**	07 34 42.0	**+0.1**
MKAR	**Makanchi Array**	**58.89**	**12**	P	**P**	07 34 41.6	**-0.3**
	comp=Z,0.4nm,0.6s,baz=191,slow=7.6,SNR=5.8						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.89**	**12**	P	**P**	07 34 41.8	**0.0**
ABKAR	**Akbulak array**	**60.00**	**355**	P	**P**	07 34 49.5	**+0.1**
AKTO	**Aktyubinsk**	**61.36**	**354**	P	**P**	07 34 59.0	**+0.4**
	comp=Z,1.6nm,0.8s,baz=172,slow=7.7,SNR=4.9						
	comp=Z,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**61.92**	**8**	P	**P**	07 35 02.8	**+0.4**
	comp=Z,0.5nm,0.2s,baz=207,slow=7.3,SNR=6.2						
	comp=Z,0.5nm,0.2s						
KURK	**Kurchatov**	**62.02**	**8**	P	**P**	07 35 03.2	**+0.2**
KURK				IAmb	IAmb	07 35 04.0	
	comp=Z,4.4nm,1.2s						
BVAR	**Borovoye Array**	**63.55**	**2**	P	**P**	07 35 13.8	**+0.6**
	comp=Z,0.9nm,0.8s,baz=140,slow=3.3,SNR=4.4						
	comp=Z,0.9nm,0.8s						
BRVK	**Borovoye**	**63.58**	**2**	P	**P**	07 35 12.7	**-0.7**
BRVK				IAmb	IAmb	07 35 12.9	
	comp=Z,7.1nm,1.4s						
ASAR	**Alice Springs**	**64.91**	**111**	P	**P**	07 35 22.8	**-0.1**
	comp=Z,1.1nm,0.7s,baz=276,slow=5.6,SNR=16						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**64.91**	**111**	P	**P**	07 35 21.8	**-1.1**
AS31	**Alice Springs**	**64.91**	**111**	P	**P**	07 35 21.7	**-1.3**
WRA	**Warramunga Arr**	**65.44**	**107**	P	**P**	07 35 27.2	**+0.9**
	comp=Z,1.9nm,0.7s,baz=276,slow=5.6,SNR=16						
WRA				LR	LR	07 59 53.1	
	comp=Z,57nm,21.7s,baz=287,slow=32						
	comp=Z,1.9nm,0.7s						
WRA	**Warramunga Arr**	**65.44**	**107**	P	**P**	07 35 26.3	**-0.1**
WB0	**Warramunga Arr**	**65.50**	**107**	P	**P**	07 35 26.6	**-0.1**
WR0	**Warramunga Arr**	**65.63**	**107**	P	**P**	07 35 28.2	**+0.6**
ZALV	**Zalesovo Beam**	**66.20**	**12**	P	**P**	07 35 30.9	**+0.5**
	comp=Z,0.5nm,0.5s,baz=29,slow=3.4,SNR=3.5						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**68.05**	**28**	P	**P**	07 35 44.3	**+1.8**
	comp=Z,2.5nm,0.7s,baz=218,slow=6.5,SNR=13						
	comp=Z,2.5nm,0.7s						
SONM	**Songino Array**	**68.05**	**28**	P	**P**	07 35 44.1	**+1.5**
SONM				IAmb	IAmb	07 35 45.2	
	comp=Z,3.7nm,1.0s						
AKASG	**Malin Array Be**	**69.33**	**336**	P	**P**	07 35 49.5	**-0.7**
	comp=Z,0.2nm,0.3s,baz=143,slow=4.5,SNR=4.6						
	comp=Z,0.2nm,0.3s						
STKA	**Stephens Creek**	**71.58**	**120**	LR	LR	08 03 46.8	
	comp=Z,40nm,19.5s,baz=204,slow=33						
KSRS	**Korea Array**	**74.59**	**46**	LR	LR	08 08 40.4	
	comp=Z,22nm,20.5s,baz=340,slow=35						
TOO	**Toolangi**	**74.64**	**126**	P	**P**	07 36 21.6	**-0.9**
TOO				IAmb	IAmb	07 36 49.4	
	comp=Z,4.5nm,0.9s						
QSPA	**South Pole Qui**	**79.35**	**180**	P	**P**	07 36 49.1	**+0.4**
QSPA				IAmb	IAmb	07 36 49.9	
	comp=Z,8.5nm,1.4s						
ESDC	**Sonseca Array**	**82.37**	**313**	P	**P**	07 37 05.5	**+0.3**
	comp=Z,2.1nm,0.9s,baz=100,slow=3.6,SNR=10						
	comp=Z,2.1nm,0.9s						
PDAR	**Pinedale Array**	**147.90**	**355**	PKPbc	**PKPbc**	07 44 28.7	**0.0**
	comp=Z,1.4nm,0.9s,baz=48,slow=2.2,SNR=8.1						
NVAR	**Mina Array Bea**	**152.02**	**9**	PKPbc	**PKiKP**	07 44 40.4	**+1.1**
	comp=Z,0.8nm,0.6s,baz=311,slow=1.4,SNR=6.6						

IDC 07 07:36:02.2±6.8, 5°.32S×154°.37E, h0km, mb3.7/3, mbtmp3.7/3, MS3.0/2, Error ellipse: s-maj=178.6km s-min=48.1km az=101.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.88**	**127**	LR	LR	07 40 23.2	
	comp=Z,376nm,18.2s,baz=130,slow=38						
PMG	**Port Moresby**	**8.22**	**240**	LR	LR	07 40 53.5	
	comp=Z,32nm,21.1s,baz=12,slow=35						
H11S3	**WAKE ISLAND Hy**	**26.60**	**27**	T	T	08 10 08.4	
	baz=208,slow=76,SNR=28						
**H11

TKM2	**Tokmak 2**	**7.48**	**199**	⇓Lg	Lg	07 41 23.6
	3.6nm,0.6s					
KK31	**Karatay Array**	**9.01**	**223**	⇓Lg	Lg	07 42 11.6
	1.8nm,0.6s,baz=33,slow=27,SNR=4.9					

ATH ***07*** *07:59:04.3, 41.35N × 19.96E, h10km ± 31km, ML2.9/2, Error ellipse: s-maj=31.6km s-min=3.2km az=0.0*
PDG ***07*** *07:59:04.7 ± 0.4, 41.17N × 19.93E, h24km ± 1km, ML3.1/10, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
TIR ***07*** *07:59:04.8, 41.18N × 20.03E, h11km ± 1km, Md3.4, Ml3.2*
THE ***07*** *07:59:05.8, 41.18N × 19.90E, h12km ± 1km, ML2.8/9, Error ellipse: s-maj=2.0km s-min=0.9km az=310.0*
BEO ***07*** *07:59:05.0 ± 0.4, 41.18N × 19.93E, h15km ± 1km, ML2.7/12*
SKO ***07*** *07:59:06.7, 41.27N × 20.00E, h11km, ML2.9*

ISC 07 07:59:05.4 ± 0.9, **41.19N** ± 0.02 × **19.93E** ± 0.02, **h16** km ± 7km, **n79**, σ **0.68**/130, **17C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.16**	**342**	⇑S	**Sb**	**07 59 13.4**	**+0.2**
TIR	**Tirane**	**0.16**	**342**	P	**Pg**	**07 59 09.2**	**-0.4**
TIR				S	**Sb**	**07 59 13.4**	**+0.2**
	5μm,0.2s						
TIR	**Tirane**	**0.16**	**342**	P	**Pg**	**07 59 09.4**	**-0.2**
	baz=324						
TIR				S	**Sb**	**07 59 13.0**	**-0.2**
	baz=324						
TIR				AMP			
	comp=E,27nm,0.2s,baz=324						
TIR	**Tirane**	**0.16**	**342**	*e*Pg	**Pg**	**07 59 09.5**	**-0.1**
TIR				*e*Sg	**Sb**	**07 59 13.4**	**+0.2**
TIR	**Tirane**	**0.16**	**342**	*i* Pg	**Pg**	**07 59 09.3**	**-0.2**
TIR				*i* Sg	**Sb**	**07 59 13.6**	**+0.4**
OHR	**Ohrid**	**0.66**	**97**	*e*Pg	**Pg**	**07 59 17.6**	**-0.8**
OHR				*e*Sg	**Sb**	**07 59 27.5**	**-0.1**
OHR	**Ohrid**	**0.66**	**97**	*i* Pg	**Pg**	**07 59 17.9**	**-0.4**
OHR				*i* Sg	**Sb**	**07 59 28.6**	**+1.0**
OHR				*e*Lg	Lg	07 59 29.0	
	comp=N,353nm,0.5s						
OHR				*e*Lg	Lg	07 59 30.4	
	comp=E,528nm,0.6s						
VLO	**Vlora**	**0.80**	**205**	P	**Pb**	**07 59 20.5**	**-0.3**
VLO				S	**Sg**	**07 59 32.4**	**+1.1**
	comp=E,2μm,0.5s						
VLO	**Vlora**	**0.80**	**205**	P	**Pn**	**07 59 22.5**	**+0.6**
	baz=210						
VLO				S	**Sn**	**07 59 33.7**	**+0.2**
	baz=210						
VLO				AMP			
	comp=E,6.8nm,0.5s,baz=210						
KBN	**Korca**	**0.86**	**131**	P	**Pb**	**07 59 21.2**	**-0.9**
KBN				S	**Sn**	**07 59 35.3**	**0.0**
	comp=E,430nm,0.8s						
KBN	**Korca**	**0.86**	**131**	P	**Pb**	**07 59 20.9**	**-1.2**
	baz=133						
KBN				S	**Sb**	**07 59 32.6**	**-0.8**
	baz=133						
KBN				AMP			
	comp=E,1.1nm,0.7s,baz=133						
ULC	**Ulcinj**	**0.93**	**326**	*i* Pg	**Pb**	**07 59 22.5**	**-0.7**
ULC	**Ulcinj**	**0.93**	**326**	⇓*i* Pg	**Pb**	**07 59 22.4**	**-0.7**
ULC				*i* Sg	**Sn**	**07 59 37.6**	**+0.8**
NEST	**Nestorio**	**1.15**	**132**	P	**Pn**	**07 59 26.8**	**-0.2**
NEST				S	**Sg**	**07 59 43.9**	**+1.2**
	comp=E,365nm,0.5s						
NEST	**Nestorio**	**1.15**	**132**	P	**Pn**	**07 59 26.6**	**-0.3**
NEST				AML	AML	07 59 47.1	
	comp=N,753μm,0.6s						
NEST				AML	AML	07 59 50.0	
	comp=E,830μm,0.5s						
LSK	**Leskovik**	**1.16**	**154**	P	**Pn**	**07 59 26.3**	**-0.8**
LSK				S	**Sg**	**07 59 43.0**	**+0.1**
	comp=E,518nm,0.7s						
LSK	**Leskovik**	**1.16**	**154**	P	**Pn**	**07 59 25.9**	**-1.1**
	baz=156						
LSK				S	**Sb**	**07 59 41.8**	**-0.2**
	baz=156						
LSK				AMP			
	comp=N,1.6nm,0.5s,baz=156						
FNA	**Florina**	**1.17**	**110**	P	**Pn**	**07 59 26.6**	**-0.6**
FNA				S	**Sg**	**07 59 45.2**	**+2.0**
	comp=N,602nm,0.5s						
FNA	**Florina**	**1.17**	**110**	*e*Pg	**Pn**	**07 59 26.4**	**-0.7**
FNA				*e*Sg	**Sg**	**07 59 43.2**	**0.0**
FNA	**Florina**	**1.17**	**110**	*i* Pg	**Pn**	**07 59 26.5**	**-0.7**
FNA				*i* Sg	**Sg**	**07 59 45.8**	**+2.6**
FNA	**Florina**	**1.17**	**110**	P	**Pn**	**07 59 26.0**	**-1.1**
FNA				AML	AML	07 59 46.6	
	comp=N,1039μm,0.6s						
FNA				AML	AML	07 59 49.0	
	comp=E,1366μm,0.3s						
BCI	**Bajram Curri**	**1.18**	**5**	P	**Pn**	**07 59 27.1**	**-0.2**
	baz=1.0						
BCI				S	**Sg**	**07 59 43.7**	**+0.2**
	baz=1.0						
BCI				AMP			
	comp=N,2.9nm,0.8s,baz=1.0						
SRN	**Sarande**	**1.31**	**178**	P	**Pn**	**07 59 28.3**	**-0.8**
SRN				S	**Sg**	**07 59 47.3**	**-0.5**
	comp=N,185nm,0.7s						
SRN	**Sarande**	**1.31**	**178**	P	**Pn**	**07 59 28.7**	**-0.4**
	baz=181						
SRN				S	**Sg**	**07 59 47.3**	**-0.5**
	baz=181						
SRN				AMP			
	comp=N,0.6nm,0.5s,baz=181						
PDG	**Podgorica**	**1.33**	**338**	⇓P	**Pn**	**07 59 29.4**	**-0.1**
PDG				⇑S	**Sg**	**07 59 48.9**	**+0.4**
PDG	**Podgorica**	**1.33**	**338**	*e*Pg	**Pn**	**07 59 29.3**	**-0.1**
PDG				*e*Sg	**Sb**	**07 59 47.7**	**+0.8**
PDG	**Podgorica**	**1.33**	**338**	⇓*i* Pg	**Pn**	**07 59 29.1**	**-0.3**
PDG				*i* Sg	**Sg**	**07 59 48.4**	**-0.1**
PENT	**Pentalofos**	**1.35**	**137**	P	**Pb**	**07 59 30.4**	**-0.1**
PENT				S	**Sg**	**07 59 48.5**	**-0.6**
PENT	**Pentalofos**	**1.35**	**137**	P	**Pb**	**07 59 30.2**	**-0.2**
SKO	**Skopje**	**1.37**	**55**	*e*Pg	**Pn**	**07 59 29.5**	**-0.4**
SKO				*e*Sg	**Sb**	**07 59 48.6**	**+0.5**
SKO	**Skopje**	**1.37**	**55**	*i* Pg	**Pb**	**07 59 30.6**	**-0.2**
SKO				*i* Sg	**Sg**	**07 59 49.9**	**+0.1**
PVY	**Plav**	**1.40**	**1**	⇑*i* Pn	**Pn**	**07 59 30.7**	**+0.3**
PVY				*i* Sg	**Sg**	**07 59 50.4**	**-0.2**
KASA	**Kassiopi**	**1.45**	**180**	P	**Pg**	**07 59 32.8**	**-0.4**
KEK	**Kerkira**	**1.48**	**184**	P	**Pn**	**07 59 31.6**	**+0.2**
KEK				S	**Sb**	**07 59 50.8**	**-0.3**
	comp=N,225nm,0.8s						
KEK	**Kerkira**	**1.48**	**184**	P	**Pb**	**07 59 32.4**	**-0.1**
KEK				S	**Sg**	**07 59 53.7**	**+0.5**
CEME	**Cevo**	**1.55**	**331**	⇓*i* Pg	**Pn**	**07 59 32.2**	**-0.2**
CEME				*i* Sg	**Sb**	**07 59 53.5**	**+0.3**
HCY	**Herceg Novi**	**1.65**	**320**	⇑*i* Pn	**Pn**	**07 59 32.9**	**-0.8**
HCY				*i* Sn	**Sb**	**07 59 55.9**	**-0.1**
KZN	**Kozani**	**1.66**	**122**	P	**Pn**	**07 59 34.3**	**+0.4**
BEY	**Berane**	**1.68**	**359**	*e*Pg	**Pn**	**07 59 35.0**	**+0.8**
BEY				*e*Sg	**Sg**	**07 59 59.2**	**-0.3**
BEY	**Berane**	**1.68**	**359**	*e*Pg	**Pn**	**07 59 35.8**	**-0.1**
IVA	**Berane**	**1.68**	**359**	⇑*i* Pn	**Pb**	**07 59 35.9**	**-0.1**
IVA				*i* Sn	**Sb**	**07 59 56.9**	**0.0**
KOME	**Kolasin**	**1.69**	**350**	*e*Pg	**Pb**	**07 59 35.4**	**-0.7**
KOME				*e*Sg	**Sg**	**07 59 59.5**	**-0.2**
KOME	**Kolasin**	**1.69**	**350**	⇓*i* Pn	**Pn**	**07 59 35.1**	**+0.8**
KOME				*i* Sn	**Sb**	**07 59 58.3**	**+1.2**
IGT	**Igoumenitsa**	**1.69**	**169**	P	**Pn**	**07 59 34.3**	**+0.1**
IGT				S	**Sn**	**07 59 55.8**	**+0.3**
	comp=N,175nm,0.5s						
IGT	**Igoumenitsa**	**1.69**	**169**	P	**Pn**	**07 59 34.5**	**+0.3**
IGT				S	**Sb**	**07 59 57.9**	**+0.9**
JAN	**Janina**	**1.69**	**155**	P	**Pb**	**07 59 36.0**	**-0.1**
NKME	**Niksic**	**1.73**	**335**	⇑*i* Pn	**Pn**	**07 59 34.8**	**-0.1**
NKME				*i* Sn	**Sb**	**07 59 58.0**	**-0.5**
GRG	**Griva**	**1.88**	**96**	*e*Sg	**Sb**	**08 00 03.2**	**+0.5**
GRG	**Griva**	**1.88**	**96**	P	**Pn**	**07 59 36.7**	**-0.3**
TREB	**Trebinje**	**1.93**	**323**	*e*Pn	**Pn**	**07 59 36.6**	**-0.9**
TREB				*e*Sn	**Sn**	**08 00 01.9**	**+0.5**
VAY	**Valandovo**	**1.99**	**85**	*e*Pn	**Pn**	**07 59 37.5**	**-0.9**
VAY				*e*Sn	**Sn**	**08 00 03.7**	**+0.6**
VAY	**Valandovo**	**1.99**	**85**	*i* Pn	**Pn**	**07 59 38.3**	**-0.2**
VAY				*e*Sg	**Sb**	**08 00 06.7**	**+0.8**
VAY				*e*Lg	Lg	08 00 10.5	
	comp=N,99nm,0.9s						
BRY	**Bratogost**	**2.00**	**329**	⇑*i* Pn	**Pn**	**07 59 39.3**	**+0.7**
BRY				*i* Sn	**Sn**	**08 00 04.6**	**+1.2**
SJES	**Sjenica**	**2.07**	**1**	*e*Pn	**Pn**	**07 59 41.0**	**+1.4**
SJES				*e*Sn	**Sn**	**08 00 05.3**	**+0.2**
BARS	**Barje**	**2.15**	**40**	*e*Pn	**Pn**	**07 59 40.3**	**-0.3**
BARS				*e*Sn	**Sn**	**08 00 07.1**	**+0.2**
BARS	**Barje**	**2.15**	**40**	*i* Pn	**Pb**	**07 59 42.8**	**-1.1**
BARS				*e*Sg	**Sb**	**08 00 10.2**	**-0.1**
PLE	**Pljevlja**	**2.17**	**350**	⇑*i* Pn	**Pn**	**07 59 42.0**	**+1.0**
PLE				*i* Sn	**Sn**	**08 00 08.9**	**+1.2**
SELS	**Selova**	**2.21**	**23**	*e*Pn	**Pn**	**07 59 40.9**	**-0.6**
SELS				*e*Sn	**Sn**	**08 00 08.6**	**+0.1**
THL	**Klokotos Trika**	**2.28**	**135**	P	**Pn**	**07 59 43.3**	**+1.0**
TYRN	**Tyrnavos**	**2.30**	**129**	P	**Pn**	**07 59 43.4**	**+0.8**
IVAS	**Ivanjica**	**2.39**	**4**	*e*Pn	**Pn**	**07 59 43.5**	**-0.4**
IVAS				*e*Sn	**Sn**	**08 00 13.1**	**+0.2**
MATE	**Matera**	**2.50**	**259**	⇓P	**Pn**	**07 59 44.9**	**-0.5**
GRUS	**Gruza**	**2.76**	**12**	*e*Pn	**Pn**	**07 59 49.1**	**+0.2**
SRS	**Serrai**	**2.77**	**90**	*e*Pn	**Pn**	**07 59 48.3**	**-0.8**
SRS				*e*Sn	**Sn**	**08 00 20.6**	**-1.6**
VTS	**Vitosha**	**2.85**	**59**	⇑P	**Pn**	**07 59 49.1**	**-1.2**
VTS				⇑S	**Sn**	**08 00 25.1**	**+0.7**
ZAPS	**Zavoj**	**2.89**	**43**	*e*Pn	**Pn**	**07 59 51.3**	**+0.5**
ZAPS				*e*Sn	**Sn**	**08 00 24.3**	**-1.0**
DIVS	**Divibare**	**2.90**	**1**	*e*Pn	**Pn**	**07 59 51.0**	**-0.1**
TIP	**Timpagrande**	**3.15**	**231**	⇑P	**Pn**	**07 59 53.5**	**-0.9**
TEKS	**Tekeris**	**3.37**	**355**	*e*Pn	**Pn**	**07 59 57.3**	**-0.1**
MDVR	**Moldovita**	**3.82**	**19**	⇑P	**Pn**	**08 00 04.0**	**+0.5**
FRGS	**Fruska Gora**	**3.96**	**359**	⇓P	**Pn**	**08 00 05.5**	**-0.1**
HERR	**Herculane**	**4.11**	**25**	⇑P	**Pn**	**08 00 07.6**	**0.0**
BZS	**Buzias**	**4.59**	**15**	⇑P	**Pn**	**08 00 13.9**	**-0.2**
GZR	**Gura Zlata**	**4.68**	**25**	⇑P	**Pn**	**08 00 15.8**	**+0.3**
SURR	**Surduc**	**4.83**	**19**	⇑P	**Pn**	**08 00 18.1**	**+0.7**
MORH	**Mrgy, Hungar**	**5.11**	**350**	⇑P	**Pn**	**08 00 22.5**	**+1.3**
WTTA	**Wattenberg**	**8.50**	**318**	*i* Pn	**Pn**	**08 01 08.2**	**+0.2**
	comp=N,0.6nm,0.2s						
WATA	**Walderalm**	**8.58**	**319**	*i* Pn	**Pn**	**08 01 08.6**	**-0.4**
	comp=N,1.4nm,0.2s						
SQTA	**Sankt Quirin**	**8.69**	**317**	*i* Pn	**Pn**	**08 01 11.2**	**+0.7**
	comp=N,1.4nm,0.3s						

ROM 07 08:00:28.5 ± 0.1, **42.751N** ± 0.003 × **13.225E** ± 0.004, **h8km, Md0.7/3, 2C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=139.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1214	**Arquata del Tr**	**0.01**	**304**	P	Pg	08 00 30.1	0.0
T1214				S	Sg	08 00 31.1	-0.1
T1214				AML	AML		
	comp=E,1090μm,0.3s						
T1214				AML	AML		
	comp=N,702μm,0.2s						
T1214				AML	AML		
	comp=E,1004μm,0.3s						
T1214				AML	AML		
	comp=N,704μm,0.2s						
T1214				END			
T1218	**Civita (PG)**	**0.12**	**225**	⇑P	Pg	08 00 31.4	+0.3
T1218				S	Sg	08 00 33.7	+0.8
T1218				AML	AML		
	comp=E,513μm,0.2s						
T1218				AML	AML		
	comp=N,794μm,1.5s						
T1218				END			
T1212	**Cascia, Frazio**	**0.13**	**270**	⇑P	Pg	08 00 31.8	+0.4
T1212				S	Sg	08 00 34.2	+0.8
T1212				END			
MMO1	**Montemonaco**	**0.17**	**27**	P	Pg	08 00 32.4	+0.5
MMO1				S	Sg	08 00 35.7	+1.3
T1243	**Rocca Santa Ma**	**0.17**	**108**	⇓P	Pg	08 00 32.4	+0.3
T1243				S	Sg	08 00 35.4	+0.9
T1216	**Preci, Frazion**	**0.21**	**313**	⇓P	Pg	08 00 31.5	-1.2
RM33	**Pellescritta (**	**0.24**	**182**	P	Pg	08 00 33.9	+0.6

IDC ***07*** *08:05:37.8 ± 1.7, 14.54N × 92.89W, h0km, mb3.8/7, mbtmp3.9/8, ML3.9/1, MS2.9/3, Error ellipse: s-maj=77.5km s-min=18.6km az=45.0*
MEX ***07*** *08:05:41.9 ± 0.7, 14.47N × 93.29W, h6km ± 14km, MD4.5*
GCG ***07*** *08:05:41.5 ± 0.5, 14.74N × 93.29W, h50km, MD4.4*
NEIC ***07*** *08:05:43.5 ± 2.9, 14.43N ± 0.07 × 93.20W ± 0.05, h37km ± 14km, mb4.2/19, Md4.4/78(MEX), Error ellipse: s-maj=10.0km s-min=6.4km az=188.0*

ISC 07 08:05:38.7 ± 1.6, **14.41N** ± 0.05 × **93.26W** ± 0.03, **h8** km ± 10km, **n121**, σ **2.31**/151, **mb4.2**/13, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.09**	**63**		**Pg**	**08 05 59.6**	**0.0**
THIG					**Sb**	**08 06 11.8**	**-2.3**
THIG		**1.09**	**63**	*e*P	**Pg**	**08 05 59.5**	**0.0**
THIG				*e*S	**Sn**	**08 06 13.0**	**-2.5**
PATR	**El Naranjo**	**1.22**	**55**	*e*P	**Pb**	**08 06 01.2**	**-0.9**
PATR				*e*S	**Sn**	**08 06 16.2**	**-2.9**
PCIG		**1.29**	**2**		**Pn**	**08 06 02.2**	**-0.8**
PCIG		**1.29**	**2**	*i* P	**Pn**	**08 06 02.2**	**-0.8**
PCIG				*e*S	**Sb**	**08 06 17.1**	**-2.8**
CHUJ	**Union Juarez**	**1.31**	**59**	*e*P	**Pb**	**08 06 02.7**	**-1.0**
CHUJ				*e*S	**Sg**	**08 06 19.7**	**-1.2**
PAVE	**Pavencul**	**1.31**	**53**	*e*P	**Pb**	**08 06 02.8**	**-0.9**
PAVE				*e*S	**Sg**	**08 06 19.7**	**-1.1**
RTAL	**Retalhuleu**	**1.52**	**86**		**Pb**	**08 06 06.2**	**-1.0**
SULM	**Suchitepequez,**	**1.65**	**93**	*e*P	**Pb**	**08 06 09.1**	**-0.2**
STG3	**Santiaguito 3,**	**1.67**	**79**	*e*P	**Pb**	**08 06 08.8**	**-1.0**
HUEH	**Huehuetenango**	**1.93**	**62**		**Pb**	**08 06 13.1**	**-1.2**
CCIG	**Comitan**	**2.15**	**30**		**Pb**	**08 06 16.7**	**-1.3**
CCIG	**Comitan**	**2.15**	**30**	*e*P	**Pb**	**08 06 17.4**	**-0.7**
CCIG				*i* S	**Sb**	**08 06 42.7**	**-2.4**
FUG	**Fuego 3**	**2.35**	**89**	*e*P	**Pn**	**08 06 18.8**	**+1.0**
FUG				*e*S	**Sb**	**08 06 48.1**	**-2.5**
TGIG		**2.36**	**3**		**Pb**	**08 06 19.5**	**-2.0**
TGIG		**2.36**	**3**	*i* P	**Pb**	**08 06 19.5**	**-2.0**
TGIG				*e*S	**Sn**	**08 06 46.3**	**-0.7**
NBG	**Las Nubes**	**2.83**	**86**	*e*P	**Pn**	**08 06 26.3**	**+1.8**
UXUV	**UXUV**	**3.01**	**344**	*e*P	**Pn**	**08 06 28.6**	**+1.8**
UXUV				*e*S	**Sn**	**08 07 02.4**	**-0.7**
HUIG	**Huatulco**	**3.06**	**297**		**Pn**	**08 06 27.0**	**-0.4**
HUIG	**Huatulco**	**3.06**	**297**	*e*P	**Pn**	**08 06 26.8**	**-0.6**
HUIG				*e*S	**Sn**	**08 06 58.1**	**-6.2**
CMIG	**Matias Romero**	**3.09**	**330**	Pn	**Pn**	**08 06 28.3**	**+0.6**
	13nm,0.3s,baz=147,slow=11,SNR=270						
CMIG				Sn	**Sn**	**08 07 05.0**	**+0.1**
	45nm,0.3s,baz=236,slow=18,SNR=9.3						
CMIG				LR	LR	08 07 21.9	
	comp=Z,96nm,21.6s,baz=90,slow=33 40nm,0.3s						
CMIG	**Matias Romero**	**3.09**	**330**		**Pn**	**08 06 28.1**	**+0.3**
CMIG	**Matias Romero**	**3.09**	**330**	*e*P	**Pn**	**08 06 28.1**	**+0.3**
CMIG				*e*S	**Sn**	**08 07 03.3**	**-1.6**
MTO3	**Montecristo**	**3.78**	**90**		**Pn**	**08 06 35.3**	**-2.0**
ESQI	**Esquipulas**	**3.80**	**87**		**Pn**	**08 06 37.3**	**-0.4**
SNET	**Serv Nac Est T**	**3.98**	**100**	Pn	**Pn**	**08 06 41.0**	**+0.9**
PEIG	**Puerto Escondi**	**4.07**	**293**		**Pn**	**08 06 41.1**	**-0.2**
PEIG	**Puerto Escondi**	**4.07**	**293**	*e*P	**Pn**	**08 06 41.1**	**-0.2**
PEIG				*e*S	**Sn**	**08 07 21.4**	**-7.7**
NEUV	**Arroyo Zacate**	**4.09**	**324**	*e*P	**Pn**	**08 06 41.1**	**-0.4**
NEUV				*e*S	**Sn**	**08 07 28.8**	**-0.8**
PETF	**Flores**	**4.11**	**52**		**Pn**	**08 06 42.8**	**+0.9**
OXIG	**Oaxaca**	**4.26**	**309**		**Pn**	**08 06 46.1**	**+2.0**
VHO	**Vista Hermosa**	**4.26**	**309**	*e*P	**Pn**	**08 06 43.6**	**-0.5**
VHO				*e*S	**Sn**	**08 07 31.8**	**-2.3**
PMUV	**Sontecomapan**	**4.48**	**337**	*e*P	**Pn**	**08 06 46.3**	**-0.7**
PMUV				*e*S	**Sn**	**08 07 35.2**	**-4.2**
YOIG	**Yosondua**	**4.79**	**301**		**Pn**	**08 06 55.0**	**+3.6**
YOIG					**Sn**	**08 07 47.3**	**0.0**
YOIG	**Yosondua**	**4.79**	**301**	*e*P	**Pn**	**08 06 54.4**	**+3.0**
YOIG				*e*S	**Sn**	**08 07 47.3**	**0.0**
PNIG	**Pinotepa**	**5.09**	**293**	*e*P	**Pn**	**08 06 56.0**	**+0.7**
PNIG				*e*S	**Sn**	**08 07 47.2**	**-7.1**
TOIG	**Toxpalan**	**5.17**	**316**		**Pn**	**08 06 58.4**	**+1.8**
TOIG	**Toxpalan**	**5.17**	**316**	*e*P	**Pn**	**08 06 58.3**	**+1.8**
TOIG				*e*S	**Sn**	**08 07 52.2**	**-4.3**
TXIG	**Tlaxiaco**	**5.17**	**304**		**Pn**	**08 06 59.8**	**+3.1**
TXIG	**Tlaxiaco**	**5.17**	**304**	*e*P	**Pn**	**08 06 59.6**	**+2.8**
TXIG				*e*S	**Sn**	**08 07 54.2**	**-2.6**
HLIG	**Huajuapan de L**	**5.53**	**309**		**Pn**	**08 07 03.0**	**+1.5**
HLIG	**Huajuapan de L**	**5.53**	**309**	*e*P	**Pn**	**08 07 03.0**	**+1.5**
HLIG				*e*S	**Sn**	**08 08 00.5**	**-5.1**
TPIG	**Tehuac#an**	**5.60**	**316**		**Pn**	**08 07 04.2**	**+1.7**
TPIG	**Tehuac#an**	**5.60**	**316**	*e*P	**Pn**	**08 07 04.2**	**+1.7**
TPIG				*e*S	**Sn**	**08 08 04.6**	**-2.5**
TGUH	**Tegucigalpa,Un**	**5.82**	**93**		**Pn**	**08 07 07.3**	**+1.8**
FTIG	**Fresnillo de T**	**5.83**	**307**		**Pn**	**08 07 08.3**	**+2.7**
FTIG	**Fresnillo de T**	**5.83**	**307**	*e*P	**Pn**	**08 07 07.5**	**+1.9**
FTIG				*e*S	**Sn**	**08 08 09.8**	**-2.9**
MGIG	**Malinaltepec**	**5.88**	**299**		**Pn**	**08 07 08.3**	**+1.9**
MGIG	**Malinaltepec**	**5.88**	**299**	*e*P	**Pn**	**08 07 08.3**	**+1.9**
MGIG				*e*S	**Sn**	**08 08 11.0**	**-3.1**
JAUV	**Jalcomulco**	**5.98**	**326**	*e*P	**Pn**	**08 07 06.6**	**-1.0**
JAUV				*e*S	**Sn**	**08 08 13.3**	**-3.0**
TLIG	**Tlapa**	**5.99**	**302**		**Pn**	**08 07 09.8**	**+2.1**
TLIG	**Tlapa**	**5.99**	**302**	*e*P	**Pn**	**08 07 09.6**	**+1.8**
TLIG				*e*S	**Sn**	**08 08 14.5**	**-2.1**
CNGN	**Cerro Negro**	**6.66**	**106**	Pn	**Pn**	**08 07 18.5**	**+1.5**
DAIG	**Los Arroyos**	**6.68**	**294**		**Pn**	**08 07 18.3**	**+1.2**
DAIG	**Los Arroyos**	**6.68**	**294**	*e*P	**Pn**	**08 07 16.6**	**-0.5**
DAIG				*e*S	**Sn**	**08 08 26.3**	**-7.1**
PPM	**Popocatepetl**	**6.92**	**313**		**Pn**	08 07 25.9	+5.0
PPM				*e*S	**Sn**	**08 08 42.8**	**+2.8**
PPIG	**Popocatepetl**	**6.92**	**313**		**Sn**	**08 08 42.8**	**+2.7**
MEIG	**Mezcala**	**7.04**	**301**		**Pn**	**08 07 22.4**	**+0.3**
MEIG					**Sn**	**08 08 41.2**	**-1.2**
MEIG	**Mezcala**	**7.04**	**301**	*e*P	**Pn**	**08 07 21.6**	**-0.5**
MEIG				*e*S	**Sn**	**08 08 41.2**	**-1.2**
CXUV	**Coxquihui**	**7.07**	**325**	*e*P	**Pn**	**08 07 22.1**	**-0.4**
CXUV				*e*S	**Sn**	**08 08 42.0**	**-1.0**
YAIG	**Yautepec**	**7.11**	**309**		**Pn**	**08 07 26.0**	**+2.8**
YAIG	**Yautepec**	**7.11**	**309**	*e*P	**Pn**	**08 07 25.8**	**+2.6**
YAIG				*e*S	Sn	08 08 29.7	-15
PLIG	**Platanillo**	**7.18**	**304**		**Pn**	**08 07 27.1**	**+3.0**
PLIG	**Platanillo**	**7.18**	**304**	*e*P	**Pn**	**08 07 27.1**	**+3.0**
PLIG				*e*S	**Sn**	**08 08 42.7**	**-3.2**
CAIG	**El Cayaco**	**7.24**	**292**		**Pn**	**08 07 26.9**	**+2.1**
CAIG	**El Cayaco**	**7.24**	**292**	*e*P	**Pn**	**08 07 26.8**	**+2.1**
MAVM	**Malinalco, Edo**	**7.49**	**308**		**Pn**	**08 07 28.3**	**-0.2**
MAVM					**Sn**	**08 08 51.6**	**-2.1**
MAVM	**Malinalco, Edo**	**7.49**	**308**	*e*P	Pb	08 07 41.7	-7.4
MAVM				*e*S	**Sn**	**08 08 58.2**	**+4.4**
TEIG	**Tepich**	**7.49**	**39**	Pn	**Pn**	**08 07 29.0**	**+0.7**
AOVM	**Tlapan**	**7.55**	**311**	*e*P	**Pn**	**08 07 29.3**	**-0.2**
AOVM				*i* S	**Sn**	**08 08 51.8**	**-3.7**
BOAB	**BOACO BROADBAN**	**7.64**	**104**		**Pn**	**08 07 32.0**	**+1.5**
ARIG	**Puente Sto Nin**	**7.81**	**300**		**Pn**	**08 07 35.6**	**+2.9**
ARIG	**Puente Sto Nin**	**7.81**	**300**	*e*P	**Pn**	**08 07 36.5**	**+3.8**
ARIG				*e*S	**Sn**	**08 08 57.1**	**-4.3**
DHIG	**Demacu**	**8.04**	**318**		**Pn**	**08 07 38.7**	**+2.6**
ORTG	**Ortega, Santa**	**8.62**	**117**		**Pn**	**08 07 44.8**	**+0.9**
DUNO	**Dulce Nombre,**	**8.73**	**119**		**Pn**	**08 07 47.6**	**+2.3**
RIMA	**Rio Macho**	**10.29**	**116**		**Pn**	**08 08 07.7**	**+0.8**
SRBA	**San Rafael, Bu**	**10.97**	**117**	Pn	**Pn**	**08 08 17.7**	**+1.5**
COIG	**Colima**	**11.05**	**297**	*e*P	**Pn**	**08 08 19.5**	**+2.3**
JUBC	**Volcan de Coli**	**11.09**	**299**	*e*P	**Pn**	**08 08 21.1**	**+3.1**
EZ5V		**11.10**	**298**		**Pn**	**08 08 18.1**	**+0.1**
EZ5V		**11.10**	**298**	*e*P	**Pn**	**08 08 18.1**	**+0.1**
MNGA	**Volcan de Coli**	**11.11**	**298**	*e*P	**Pn**	**08 08 21.3**	**+3.1**
INCO	**Volcan de Coli**	**11.12**	**299**	*e*P	**Pn**	**08 08 20.6**	**+2.1**
CDAR	**Ciudad de Arme**	**11.24**	**295**	*e*P	**Pn**	**08 08 20.9**	**+1.2**
R15V		**11.30**	**296**		**Pn**	**08 08 22.3**	**+1.6**
R15V		**11.30**	**296**	*e*P	**Pn**	**08 08 22.3**	**+1.6**
SOR	**Soroa**	**12.80**	**48**	Pn	**Pn**	**08 08 39.8**	**-1.3**
833A	**Chaparral WMA,**	**14.97**	**339**	Pn	**Pn**	**08 09 13.2**	**+2.5**
H06E1	**SOCORRO T-PHAS**	**17.47**	**287**	T

PCVE	**Castro Verde**	**1.78**	**51**	*e*Pn	**Pb**	**08 09 58.7**	**-0.4**
PCVE				*e*Sn	**Sn**	**08 10 19.6**	**+0.9**
PCVE				A	A	08 10 20.4	
	comp=E,5.9nm,0.2s						
PCVE	**Castro Verde**	**1.78**	**51**	S	**Sn**	**08 10 18.5**	**-0.2**
PCVE				P	**Pb**	**08 09 58.3**	**-0.8**
PVAQ	**Vaqueiros**	**1.87**	**61⇑**	*e*Pn	**Pb**	**08 09 59.8**	**-0.9**
PVAQ				*e*Sn	**Sn**	**08 10 21.2**	**+0.2**
PVAQ				A	A	08 10 22.8	
	comp=E,11nm,0.1s						
PVAQ	**Vaqueiros**	**1.87**	**61**	P	**Pb**	**08 09 59.9**	**-0.9**
PVAQ				S	**Sb**	**08 10 25.1**	**+1.5**
PVAQ	**Vaqueiros**	**1.87**	**61**	P	**Pb**	**08 09 59.4**	**-1.3**
PNCL	**Nicolau / Gran**	**1.87**	**32**	*e*Pn	**Pb**	**08 09 59.6**	**-1.1**
PNCL				*e*Sn	**Sn**	**08 10 21.2**	**+0.2**
PNCL				A	A	08 10 25.9	
	comp=E,6.2nm,0.1s						
PNCL	**Nicolau / Gran**	**1.87**	**32**	P	**Pn**	**08 09 58.8**	**+0.7**
PNCL				S	**Sn**	**08 10 21.3**	**+0.3**
EGRO	**El Granado**	**2.10**	**61**	P	**Pn**	**08 10 02.6**	**+1.5**
EGRO	**El Granado**	**2.10**	**61**	P	**Pb**	**08 10 03.1**	**-1.5**
EGRO				S	**Sn**	**08 10 27.0**	**+0.4**
EGRO				*i* Vmb_Lg		08 10 29.5	
PBEJ	**Beja**	**2.14**	**45**	*e*Sn	**Sn**	**08 10 27.5**	**-0.1**
PBEJ				A	A	08 10 38.6	
	comp=E,5.4nm,0.2s						
EVO	**Evora**	**2.45**	**34**	*e*Pn	**Pn**	**08 10 07.3**	**+1.4**
EVO				*e*Sn	**Sn**	**08 10 34.9**	**-0.3**
EVO				A	A	08 10 36.8	
	comp=E,9.0nm,0.1s						
PMAFR	**Mafra**	**2.46**	**9**	*e*Pn	**Pn**	**08 10 07.9**	**+1.8**
PMAFR				*e*Sn	**Sn**	**08 10 35.4**	**-0.1**
PMAFR				A	A	08 10 38.2	
	comp=E,26nm,0.2s						
PBAR	**Barrancos**	**2.74**	**52⇓**	*e*Pn	**Pn**	**08 10 11.5**	**+1.6**
PBAR				*e*Sn	**Sn**	**08 10 42.5**	**+0.2**
PBAR				A	A	08 10 44.8	
	comp=E,3.7nm,0.2s						
PBAR	**Barrancos**	**2.74**	**52**	P	**Pn**	**08 10 11.5**	**+1.6**
EMIN	**Mina Concepcio**	**2.78**	**62**	P	**Pn**	**08 10 12.0**	**+1.5**
EMIN				S	**Sn**	**08 10 43.2**	**-0.1**
EMIN				*i* Vmb_Lg		08 10 45.0	
PMTG	**Montargil**	**2.82**	**25**	*e*Pn	**Pn**	**08 10 12.8**	**+1.7**
PMTG				*e*Sn	**Sn**	**08 10 44.2**	**-0.3**
PMTG				A	A	08 10 45.7	
	comp=E,5.2nm,0.3s						
PESTR	**Estremoz**	**2.91**	**36**	*e*Pn	**Pn**	**08 10 14.2**	**+1.8**
PESTR				*e*Sn	**Sn**	**08 10 46.1**	**-0.6**
PESTR				A	A	08 10 52.9	
	comp=E,3.5nm,0.6s						
PESTR	**Estremoz**	**2.91**	**36**	P	**Pb**	**08 10 18.5**	**0.0**
PESTR				S	**Sb**	**08 10 53.2**	**-0.5**
PSBE	**So Bento**	**3.08**	**14**	*e*Pn	**Pn**	**08 10 16.2**	**+1.5**
PSBE				*e*Sn	**Sn**	**08 10 50.5**	**-0.5**
PSBE				A	A	08 10 58.0	
	comp=E,4.9nm,0.7s						
EBAD	**Badajoz**	**3.13**	**44**	P	**Pn**	**08 10 15.9**	**+0.6**
EBAD				S	**Sn**	**08 10 50.6**	**-1.4**
EBAD	**Badajoz**	**3.13**	**44**	P	**Pn**	**08 10 16.3**	**+1.0**
EBAD				S	**Sn**	**08 10 51.2**	**-0.8**
EBAD				*i* Vmb_Lg		08 10 53.8	
ESPR	**Espera**	**3.17**	**83**	P	**Pn**	**08 10 17.5**	**+1.6**
ESPR				S	**Sn**	**08 10 52.8**	**-0.2**
ESPR				*i* Vmb_Lg		08 10 54.3	
PMRV	**Marv??o**	**3.46**	**32⇓**	*e*Pn	**Pn**	**08 10 21.2**	**+1.3**
PMRV				*e*Sn	**Sn**	**08 10 58.9**	**-1.3**
PMRV				A	A	08 11 01.0	
	comp=E,3.7nm,0.5s						
PCAS	**Casmilo, Conde**	**3.67**	**16**	*e*Sn	**Sn**	**08 11 04.3**	**-1.0**
PCAS				A	A	08 11 07.7	
	comp=E,3.2nm,0.3s						
PCBR	**Castelo Branco**	**3.77**	**28**	*e*Pn	**Pn**	**08 10 26.4**	**+2.2**
PCBR				*e*Sn	**Sn**	**08 11 06.6**	**-1.4**
PCBR				A	A	08 11 09.8	
	comp=E,1.7nm,0.5s						
ECAB	**El Cabril**	**3.81**	**65**	P	**Pn**	**08 10 25.9**	**+1.3**
ECAB				S	**Sn**	**08 11 05.8**	**-2.9**
ECAB	**El Cabril**	**3.81**	**65**	P	**Pn**	**08 10 26.1**	**+1.5**
ECAB				S	**Sn**	**08 11 06.9**	**-1.9**
ECAB				*i* Vmb_Lg		08 11 08.4	
EMIJ	**Mijas**	**4.03**	**88**	S	**Sn**	**08 11 14.9**	**+0.6**
EMIJ				*i* Vmb_Lg		08 11 15.1	
PVIS	**Viseu**	**4.44**	**19**	*e*Sn	**Sn**	**08 11 22.7**	**-1.7**
PVIS				A	A	08 11 25.1	
	comp=E,4.0nm,0.2s						
EADA	**Adamuz**	**4.46**	**67**	P	**Pn**	**08 10 35.5**	**+1.9**
EADA				S	**Sn**	**08 11 22.2**	**-2.7**
EADA				*i* Vmb_Lg		08 11 22.8	
EPLA	**Plasencia**	**4.58**	**38**	P	**Pn**	**08 10 37.0**	**+1.7**
EPLA				S	**Sn**	**08 11 26.7**	**-1.1**
EPLA				*i* Vmb_Lg		08 11 28.2	
EGOR	**Sierra Gorda,**	**4.59**	**81**	S	**Sn**	**08 11 29.4**	**+1.2**
ELGU	**Los Guajares,**	**4.96**	**84**	P	**Pn**	**08 10 42.8**	**+2.3**
ELGU				*i* Vmb_Lg		08 13 18.2	
PVRL	**Vila Real**	**5.01**	**18**	*e*Sn	**Sn**	**08 11 36.1**	**-2.4**
PVRL				A	A	08 11 39.2	
	comp=E,5.8nm,0.2s						
POLO	**Lamas de Olo**	**5.08**	**17**	*e*Pn	**Pn**	**08 10 43.5**	**+1.2**
POLO				*e*Sn	**Sn**	**08 11 37.6**	**-2.8**
POLO				A	A	08 11 42.0	
	comp=E,0.7nm,0.3s						
MVO	**Moncorvo**	**5.11**	**24**	*e*Sn	**Sn**	**08 11 38.8**	**-2.1**
MVO				A	A	08 11 44.8	
	comp=E,1.4nm,0.4s						
EQUE	**Quentar**	**5.13**	**80**	P	**Pn**	**08 10 43.8**	**+0.9**
EQUE				S	**Sn**	**08 11 39.4**	**-2.1**
EQUE				*i* Vmb_Lg		08 14 26.3	
PAB	**San Pablo**	**5.24**	**53**	P	**Pn**	**08 10 45.9**	**+1.5**
PAB				S	**Sn**	**08 11 42.0**	**-2.3**
PAB				*i* Vmb_Lg		08 11 43.4	
PSIM	**Granatula de C**	**5.30**	**63**	P	**Pn**	**08 10 45.4**	**+0.2**
PSIM				S	**Sn**	**08 11 40.4**	**-5.2**
PCAB	**Cabril**	**5.36**	**14**	*e*Sn	**Sn**	**08 11 44.4**	**-2.6**
PCAB				A	A	08 11 46.1	
	comp=E,2.7nm,0.1s						
ELOB	**Lobios**	**5.50**	**14**	P	**Pn**	**08 10 49.7**	**+1.7**
ELOB				S	**Sn**	**08 11 47.9**	**-2.7**
ELOB				*i* Vmb_Lg		08 11 50.3	
OUK	**Oukaimeden**	**5.54**	**163**	P	**Pn**	**08 10 47.8**	**-0.9**
OUK				S	**Sn**	**08 11 48.7**	**-3.2**
PGAV	**Gavieira, Arco**	**5.56**	**12**	*e*Pn	**Pn**	**08 10 50.0**	**+1.2**
PGAV				*e*Sn	**Sn**	**08 11 49.4**	**-2.7**
PGAV				A	A	08 11 52.4	
	comp=E,2.2nm,0.3s						
MDT	**Midelt**	**5.64**	**129**	P	**Pn**	**08 10 50.3**	**+0.3**
MDT				S	**Sn**	**08 11 51.7**	**-2.5**
EZAM	**Zamans**	**5.68**	**8**	S	**Sn**	**08 11 53.5**	**-1.5**
PBRG	**Braganca**	**5.78**	**23**	*e*Sn	**Sn**	**08 11 54.6**	**-2.8**
PBRG				A	A	08 11 58.8	
	comp=E,1.5nm,0.5s						
ECAL	**Calabor**	**5.90**	**23**	P	**Pn**	**08 10 55.6**	**+2.1**
ECAL				S	**Sn**	**08 11 59.0**	**-1.5**
ECAL				*i* Vmb_Lg		08 12 01.1	
GUD	**Guadarrama**	**6.03**	**45**	P	**Pn**	**08 10 55.7**	**+0.4**
GUD				S	**Sn**	**08 12 01.9**	**-1.8**
GUD				*i* Vmb_Lg		08 12 03.2	
OUZM	**OUZ**	**6.14**	**155**	P	**Pn**	**08 10 56.7**	**-0.1**
OUZM				S	**Sn**	**08 12 04.2**	**-2.3**
EMAZ	**Mazaricos**	**6.45**	**5**	P	**Pn**	**08 11 01.1**	**+0.2**
EMAZ				S	**Sn**	**08 12 09.5**	**-4.4**
EMAZ				*i* Vmb_Lg		08 12 11.8	

*IDC **07** 08:11:18.0±1.5, 30.°41S×178.°39W, h0km, mb4.3/4, mbtmp4.3/5, ML3.7/1, Error ellipse: s-maj=37.1km s-min=31.5km az=56.0*

ISC 07 08:11:19.7±1.6, 30.°5S±0.°1×178.°4W±0.°3, h10km, n13, σ1°39/8, mb4.3/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.54**	**204**	Pn	**Pn**	**08 13 24.4**	**+1.0**
	0.9nm,0.3s,baz=61,slow=11,SNR=3.0						
URZ				Sn	**Sn**	**08 14 57.9**	**-1.9**
	0.3nm,0.3s,baz=120,slow=21,SNR=2.1						
	8.2nm,0.5s						
STKA	**Stephens Creek**	**34.09**	**257**	P	**P**	**08 18 05.8**	**+1.3**
	8.8nm,0.8s,baz=90,slow=11,SNR=17						
	8.8nm,0.8s						
ASAR	**Alice Springs**	**42.74**	**267**	P	**P**	**08 19 17.0**	**-0.4**
	2.5nm,0.7s,baz=102,slow=7.4,SNR=31						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**43.74**	**273**	P	**P**	**08 19 24.9**	**-0.6**
	3.7nm,0.8s,baz=113,slow=7.5,SNR=33						
	3.7nm,0.8s						
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P**	**08 21 24.1**	**+0.7**
	2.9nm,0.9s,baz=32,slow=9.4,SNR=10						
	2.9nm,0.9s						
H03S2	**Juan Fernandez**	**80.69**	**124**	T	T	09 52 18.7	
	baz=238,slow=74,SNR=23						
H03S1	**Juan Fernandez**	**80.70**	**124**	T	T	09 52 19.9	
	baz=238,slow=74,SNR=26						
H03S3	**Juan Fernandez**	**80.71**	**124**	T	T	09 52 18.7	
	baz=238,slow=74,SNR=19						
H03N3	**Juan Fernandez**	**80.89**	**123**	T	T	09 52 30.9	
	baz=241,slow=72,SNR=6.7						
H03N2	**Juan Fernandez**	**80.89**	**123**	T	T	09 52 37.3	
	baz=241,slow=72,SNR=9.4						
H03N1	**Juan Fernandez**	**80.90**	**123**	T	T	09 52 33.5	
	baz=241,slow=72,SNR=10						
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	**PKPdf**	**08 30 55.8**	**-0.9**
	4.2nm,0.8s,baz=34,slow=0.5,SNR=7.9						
AKASG	**Malin Array Be**	**151.19**	**322**	PKPbc	**PKiKP**	**08 31 12.1**	**-1.3**
	0.7nm,0.6s,baz=46,slow=3.0,SNR=6.6						

IDC 07 08:15:57.8±2.9, 42.°26N×129.°23E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=46.2km s-min=15.7km az=119.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**2.79**	**45**	I	I	08 33 00.0	
	baz=223,slow=334,SNR=7.1						
USRK	**Ussuriysk Ar.**	**2.80**	**45**	Pn	Pn	08 16 43.4	-0.4
	0.3nm,0.3s,baz=230,slow=13,SNR=4.1						
USRK				Pg	Pb	08 16 48.8	+0.2
	1.4nm,0.3s,baz=228,slow=14,SNR=21						
USRK				Lg	Lg	08 17 26.7	
	1.1nm,0.3s,baz=235,slow=23,SNR=5.0						
	1.0nm,0.4s						
KSRS	**Korea Array**	**4.91**	**192**	Pn	Pn	08 17 13.5	+0.8
	0.2nm,0.3s,baz=12,slow=15,SNR=2.6						
KSRS				Lg	Lg	08 18 34.1	
	0.2nm,0.3s,baz=4.8,slow=30,SNR=4.7						
	0.6nm,0.5s						

*IDC **07** 08:17:15.4±2.6, 20.°59S×178.°07W, h569km±29km, mb3.3/10, mbtmp4.3/12, Error ellipse: s-maj=19.4km s-min=14.4km az=145.0*

ISC 07 08:17:12.1±0.8, 20.°5S±0.°2×178.°0W±0.°1, h534km, n20, σ1°32/22, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.59**	**261**	P	**P**	**08 20 18.6**	**+0.9**
	5.0nm,0.8s,baz=97,slow=17,SNR=2.3						
URZ	**Urewera**	**18.16**	**192**	P	**P**	**08 20 51.7**	**-0.3**
	7.0nm,0.3s,baz=8.6,slow=2.4,SNR=8.0						
ASAR	**Alice Springs**	**44.52**	**257**	P	**P**	**08 24 36.9**	**+0.3**
	2.9nm,0.6s,baz=96,slow=7.6,SNR=48						
ASAR				PcP	**PcP**	**08 26 08.1**	**-0.2**
	0.8nm,0.5s,baz=109,slow=3.7,SNR=11						
ASAR				S	**S**	**08 30 31.0**	**-2.2**
	1.4nm,1.0s,baz=93,slow=16,SNR=7.2						
	2.9nm,0.6s						
WRA	**Warramunga Arr**	**44.60**	**262**	P	**P**	**08 24 37.1**	**0.0**
	1.3nm,0.5s,baz=98,slow=8.0,SNR=23						
	1.3nm,0.5s						
QSPA	**South Pole Qui**	**69.53**	**180**	P	**P**	**08 27 28.4**	**+1.3**
	1.4nm,0.7s,baz=1.8,slow=0.1,SNR=7.0						
	1.4nm,0.7s						
MJAR	**Matsushiro Arr**	**70.25**	**324**	P	**P**	**08 27 31.3**	**-0.3**
	2.2nm,0.6s,baz=160,slow=6.3,SNR=9.1						
	2.2nm,0.6s						
ASAJ	**Asahikawa**	**73.77**	**332**	P	**P**	**08 27 53.6**	**+1.7**
	7.0nm,0.9s,baz=196,slow=2.8,SNR=4.6						
	7.0nm,0.9s						
KSRS	**Korea Array**	**76.92**	**319**	P	**P**	**08 28 10.6**	**+1.0**
	1.1nm,0.7s,baz=126,slow=5.9,SNR=4.7						
	1.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**79.00**	**326**	P	**P**	**08 28 21.9**	**+1.3**
	3.4nm,0.7s,baz=82,slow=5.0,SNR=4.6						
	3.4nm,0.7s						
NVAR	**Mina Array Bea**	**81.05**	**43**	P	**P**	**08 28 32.8**	**+1.0**
	0.8nm,0.7s,baz=223,slow=8.9,SNR=5.6						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**88.35**	**13**	P	**P**	**08 29 05.6**	**-0.9**
	0.7nm,0.5s,baz=214,slow=5.5,SNR=21						
	0.7nm,0.5s						
PDAR	**Pinedale Array**	**88.99**	**43**	P	**P**	**08 29 10.5**	**+0.2**
	0.5nm,0.6s,baz=217,slow=4.0,SNR=7.4						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.14**	**290**	P	**P**	**08 29 17.8**	**+1.9**
	1.1nm,0.3s,baz=118,slow=2.9,SNR=5.6						
MKAR	**Makanchi Array**	**111.23**	**313**	PKiKP	**PKiKP**	**08 34 43.9**	**-1.3**
	0.4nm,0.6s,baz=194,slow=1.0,SNR=5.7						
KURBB	**Kurchatov Arra**	**114.08**	**317**	PKP	**PKiKP**	**08 34 49.1**	**-1.3**
	0.5nm,0.7s,baz=103,slow=2.3,SNR=6.2						
BVAR	**Borovoye Array**	**119.11**	**320**	PKP	**PKPdf**	**08 34 59.2**	**-0.9**
	1.2nm,0.3s,baz=109,slow=2.3,SNR=8.1						
ARCES	**ARCESS Array B**	**128.96**	**350**	PKP	**PKPdf**	**08 35 18.1**	**-0.4**
	7.4nm,1.0s,baz=355,slow=2.2,SNR=3.6						
AKASG	**Malin Array Be**	**143.05**	**331**	PKP	**PKPdf**	**08 35 42.0**	**-3.0**
	4.8nm,0.6s,baz=39,slow=4.3,SNR=40						
BRTR	**Keskin Array B**	**146.87**	**312**	PKPbc	**PKPbc**	**08 35 54.3**	**-0.7**
	1.6nm,0.6s,baz=137,slow=3.9,SNR=6.1						
GERES	**GERESS Array B**	**150.24**	**344**	PKPbc	**PKPbc**	**08 36 02.7**	**-0.2**
	0.8nm,0.6s,baz=38,slow=2.4,SNR=7.3						

*IDC **07** 08:21:24.9±1.6, 32.°92S×178.°29W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=50.3km s-min=39.0km az=42.0*

ISC 07 08:21:25.3±1.6, 32.°8S±0.°3×178.°2W±0.°3, h10km, n6, σ0°33/6, mb3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.91**	**270**	P	**P**	**08 29 24.7**	**+0.3**
	0.3nm,0.5s,baz=105,slow=7.6,SNR=3.2						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.12**	**275**	P	**P**	**08 29 33.9**	**-0.3**
	0.5nm,0.5s,baz=114,slow=7.5,SNR=10						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**57.33**	**180**	P	**P**	**08 31 13.2**	**-0.1**
	2.1nm,1.0s,baz=24,slow=4.9,SNR=4.5						
	2.1nm,1.0s						
FINES	**FINESS Array B**	**147.33**	**339**	PKPbc	**PKPab**	**08 41 10.1**	**-0.2**
	3.6nm,0.9s,baz=48,slow=2.3,SNR=4.0						
NB2	**NORSAR Subarra**	**151.08**	**351**	PKP	**PKiKP**	**08 41 18.5**	**0.0**
	comp=Z,1.4nm,0.9s,baz=12,slow=4.1						
NOA	**NORSAR Array B**	**151.08**	**351**	PKPbc	**PKiKP**	**08 41 18.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=14,slow=4.1,SNR=3.8						

*WEL **07** 08:23:00, 42.°48S×174.°00E, h9km, ML4.5, Mw4.3, Moment Tensor Solution. s8 Moment tensor: Scale 10^15 Nm; Mrr0.54; Mθθ-0.14; Mϕϕ-0.40; Mrθ 1.92; Mθϕ-3.55; Mϕr-0.12; Fault plane solution: M0 4.07000×10^15 NP1: ϕs180.00000°, δ61.00000°, λ7.00000°. NP2:ϕs87.00000°, δ84.00000°, λ151.00000°. Principal axes: T -417.9500, Plg25.0000°, Azm40.0000°; N 395.4400, Plg60.0000°, Azm256.0000°; P 22.5200, Plg16.0000°, Azm137.0000°;*

*NOU **07** 08:23:22.8, 42.°50S×173.°99E, h1km, MLv4.7/15, South Island, New Zealand*

*NEIC **07** 08:23:22.9±1.0, 42.°45S±0.°04×173.°94E±0.°05, h7km±6km, mb4.5/7, Error ellipse: s-maj=5.8km s-min=5.2km az=164.0*

*IDC **07** 08:23:22.2±1.4, 42.°41S×173.°86E, h0km, mb4.2/3, mbtmp4.2/5, ML4.1/2, MS3.6/11, Error ellipse: s-maj=50.1km s-min=22.4km az=149.0*

*WEL **07** 08:23:23.4±0.3, 42.°5S±2.°×17.°4E±.°, h3km±3km, M4.4/18, ML4.6/18, MLv4.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=123.5, confirmed*

ISC 07 08:23:22.2±1.3, 42.47S±0.°03×173.°98E±0.°03, h2km±8km, n200, σ1°07/202, mb4.5/10, MS3.5/10, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.33**	**279**	Pg	**Pg**	**08 23 29.1**	**+0.5**
KHZ				Sg	**Sg**	**08 23 32.7**	**-0.2**
KHZ	**Kahutara**	**0.33**	**279**	P	**Pg**	**08 23 29.4**	**+0.8**
KHZ	**Kahutara**	**0.33**	**279**	P	**Pg**	**08 23 29.1**	**+0.5**
KHZ				S	**Sg**	**08 23 33.1**	**+0.2**
CMWZ	**Cape Campbell**	**0.74**	**14**		**Pb**	**08 23 38.7**	**+0.9**
CMWZ	**Cape Campbell**	**0.74**	**14**	P	**Pn**	**08 23 39.7**	**0.0**
BSWZ	**Blackbirch Sta**	**0.76**	**354**		**Pg**	**08 23 37.2**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.76**	**354**	P	**Pb**	**08 23 37.6**	**-0.6**
GVZ	**Greta Valley S**	**0.86**	**234**		**Pn**	**08 23 41.6**	**+0.2**
GVZ	**Greta Valley S**	**0.86**	**234**	P	**Pn**	**08 23 41.9**	**+0.5**
GVZ				S	**Sn**	**08 23 55.9**	**+1.4**
TUWZ	**Tuamarina**	**1.04**	**358**		**Pg**	**08 23 42.5**	**+0.3**
TUWZ	**Tuamarina**	**1.04**	**358**	P	**Pb**	**08 23 43.1**	**+0.1**
THZ	**Tophouse**	**1.07**	**311**		**Pg**	**08 23 42.1**	**-0.6**
THZ	**Tophouse**	**1.07**	**311**	P	**Pg**	**08 23 42.1**	**-0.6**
AMCZ	**Amberley**	**1.21**	**234**		**Pb**	**08 23 46.4**	**+0.6**
AMCZ	**Amberley**	**1.21**	**234**	P	**Pn**	**08 23 46.6**	**+0.4**
BHW	**Baring Head**	**1.25**	**32**		**Pb**	**08 23 46.9**	**+0.4**
TCW	**Tory Channel**	**1.28**	**10**		**Pg**	**08 23 46.5**	**-0.3**
TCW	**Tory Channel**	**1.28**	**10**	P	**Pg**	**08 23 46.9**	**+0.2**
TCW				S	**Sb**	**08 24 04.5**	**+0.6**
SNZO	**South Karori**	**1.28**	**25**		**Pg**	**08 23 47.0**	**+0.2**
SNZO	**South Karori**	**1.28**	**25**	P	**Pb**	**08 23 47.5**	**+0.5**
LTZ	**Lake Taylor**	**1.30**	**256**	Pn	**Pg**	**08 23 47.1**	**0.0**
LTZ	**Lake Taylor**	**1.30**	**256**	P	**Pg**	**08 23 47.4**	**+0.3**
LTZ				S	**Sn**	**08 24 05.6**	**+0.2**
PLWZ	**Palliser**	**1.31**	**47**		**Pg**	**08 23 47.7**	**+0.3**
PLWZ	**Palliser**	**1.31**	**47**	P	**Pg**	**08 23 48.1**	**+0.8**
WEL	**Wellington**	**1.32**	**27**	P	**Pb**	**08 23 48.2**	**+0.4**
NNZ	**Nelson**	**1.33**	**340**		**Pg**	**08 23 47.2**	**-0.6**
NNZ	**Nelson**	**1.33**	**340**	P	**Pg**	**08 23 47.1**	**-0.6**
NNZ				S	**Sb**	**08 24 05.4**	**0.0**
MRNZ	**Matariki Terra**	**1.41**	**319**	Pn	**Pg**	**08 23 48.3**	**-0.9**
MRNZ	**Matariki Terra**	**1.41**	**319**	P	**Pg**	**08 23 48.5**	**-0.7**
MRNZ				S	**Sn**	**08 24 08.9**	**+0.8**
MSWZ	**Moikau Station**	**1.42**	**42**		**Pn**	**08 23 49.4**	**+0.3**
MSWZ	**Moikau Station**	**1.42**	**42**	P	**Pn**	**08 23 49.8**	**+0.6**
OKCZ	**Okains Bay**	**1.42**	**208**	P	**Pn**	**08 23 50.0**	**+0.9**
PAWZ	**Paruwai Farm**	**1.53**	**45**	P	**Pn**	**08 23 50.9**	**+0.2**
MQZ	**McQueen's Vall**	**1.57**	**218**		**Pn**	**08 23 51.0**	**-0.2**
MQZ	**McQueen's Vall**	**1.57**	**218**	P	**Pn**	**08 23 51.0**	**-0.2**
CAW	**Cannon Point**	**1.59**	**31**	P	**Pn**	**08 23 51.6**	**+0.3**
AKCZ	**Akaroa Harbour**	**1.60**	**209**	P	**Pn**	**08 23 52.4**	**+0.8**
AKCZ				S	**Sg**	**08 24 14.5**	**+0.8**
TKNZ	**Takaka Hill**	**1.63**	**332**		**Pn**	**08 23 51.5**	**-0.4**
TKNZ	**Takaka Hill**	**1.63**	**332**	P	**Pn**	**08 23 52.0**	**+0.1**
OXZ	**Oxford**	**1.66**	**238**		**Pn**	**08 23 52.0**	**-0.5**
OXZ	**Oxford**	**1.66**	**238**	P	**Pn**	**08 23 52.1**	**-0.3**
TRWZ	**Traveller**	**1.67**	**50**	P	**Pn**	**08 23 52.7**	**+0.2**
DUWZ	**D'Urville Isla**	**1.67**	**358**	P	**Pn**	**08 23 52.3**	**-0.2**
MTW	**Mount Morrison**	**1.74**	**41**	P	**Pn**	**08 23 53.5**	**0.0**
KIW	**Kapiti Island**	**1.75**	**24**	P	**Pn**	**08 23 54.1**	**+0.4**
DSZ	**Denniston Nort**	**1.77**	**293**		**Pn**	**08 23 54.2**	**+0.2**
DSZ	**Denniston Nort**	**1.77**	**293**	P	**Pn**	**08 23 53.9**	**-0.1**
RACZ	**Rakaia**	**1.84**	**226**	P	**Pn**	**08 23 54.9**	**0.0**
OGWZ	**Otaki Gorge**	**1.88**	**29**	P	**Pn**	**08 23 55.6**	**+0.2**
INZ	**Inchbonnie**	**1.89**	**261**	Pn	**Pn**	**08 23 55.4**	**-0.2**
INZ	**Inchbonnie**	**1.89**	**261**	P	**Pn**	**08 23 55.8**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.95**	**37**	P	**Pn**	**08 23 56.3**	**0.0**
QRZ	**Quartz Range**	**1.97**	**326**		**Pn**	**08 23 56.6**	**0.0**
QRZ	**Quartz Range**	**1.97**	**326**	P	**Pn**	**08 23 57.7**	**+1.0**
QRZ	**Quartz Range**	**1.97**	**326**	P	**Pn**	**08 23 57.1**	**+0.5**
TMWZ	**Te Maipa**	**1.97**	**47**	P	**Pn**	**08 23 56.7**	**0.0**
MHCZ	**Mount Hutt**	**2.06**	**238**	P	**Pn**	**08 23 57.4**	**-0.6**
WACZ	**Wakanui South**	**2.15**	**226**	P	**Pn**	**08 23 59.2**	**+0.1**
MRZ	**Mangatainoka R**	**2.17**	**34**	Pn	**Pn**	**08 23 58.6**	**-0.8**
MRZ	**Mangatainoka R**	**2.17**	**34**	P	**Pn**	**08 23 59.4**	**0.0**
TIWZ	**Tintock**	**2.21**	**41**	P	**Pn**	**08 23 59.5**	**-0.6**
CPWZ	**Castlepoint**	**2.28**	**48**	P	**Pn**	**08 24 01.1**	**+0.3**
PRWZ	**Pori Road**	**2.43**	**39**	P	**Pn**	**08 24 02.8**	**-0.2**
WVZ	**Waitaha Valley**	**2.46**	**255**	P	**Pn**	**08 24 03.9**	**+0.5**
BFZ	**Birch Farm**	**2.47**	**44**		**Pn**	**08 24 03.0**	**-0.5**
BFZ	**Birch Farm**	**2.47**	**44**	P	**Pn**	**08 24 03.4**	**-0.1**
BFZ	**Birch Farm**	**2.47**	**44**	P	**Pn**	**08 24 02.9**	**-0.6**
POWZ	**Post Office Ro**	**2.47**	**33**	P	**Pn**	**08 24 04.3**	**+0.7**
OHWZ	**Ohakea**	**2.48**	**24**	P	**Pn**	**08 24 05.0**	**+1.4**
RPZ	**Rata

MWZ	Matawai	4.94	34	P	Pn	08 24 36.9	-0.6
MLZ	Mavora Lakes	5.13	234		Pn	08 24 40.0	0.0
MLZ	Mavora Lakes	5.13	234	P	Pn	08 24 39.4	-0.7
SYZ	Scrubby Hill	5.34	219	P	Pn	08 24 43.4	+0.5
SYZ	Scrubby Hill	5.34	219	P	Pn	08 24 43.4	+0.5
AWAZ	Awhitu Peninsu	5.42	6	P	Pn	08 24 45.4	+1.3
MKAZ	Moumakai	5.44	10	P	Pn	08 24 44.7	+0.4
WHZ	Wether Hill Ro	5.52	230		Pn	08 24 45.4	-0.1
WHZ	Wether Hill Ro	5.52	230	P	Pn	08 24 45.5	0.0
WTAZ	Waiatarua	5.55	5	P	Pn	08 24 47.4	+1.5
ETAZ	East Tamaki Re	5.56	8	P	Pn	08 24 47.0	+1.0
EPAZ	Eden Park BICE	5.62	6	P	Pn	08 24 48.3	+1.5
RVAZ	Riverhead Bore	5.71	5	P	Pn	08 24 50.5	+2.4
MBAZ	Motutapu North	5.74	7	P	Pn	08 24 49.9	+1.4
DCZ	Deep Cove	5.76	236		Pn	08 24 47.9	-0.8
KUZ	Kuaotunu	5.87	14	P	Pn	08 24 49.9	-0.4
KUZ	Kuaotunu	5.87	14	P	Pn	08 24 50.1	-0.2
MXZ	Matakaoa Point	5.92	36		Pn	08 24 50.6	-0.4
MXZ	Matakaoa Point	5.92	36	P	Pn	08 24 51.0	+0.1
APZ	The Paps	6.10	222	P	Pn	08 24 53.8	+0.3
CTZ	Chatham Island	7.00	104	P	Pn	08 25 06.9	+1.2
CTZ	Chatham Island	7.00	104	P	Pn	08 25 07.6	+1.9
OUZ	Omahuta	7.25	358	Pn	Pn	08 25 11.1	+1.9
OUZ	Omahuta	7.25	358	P	Pn	08 25 11.2	+2.1
OUZ	Omahuta	7.25	358	P	Pn	08 25 13.1	+4.0
DZM	Mont Dzumac	21.30	340	LR	LR	08 36 21.0	
	comp=Z,126nm,18.0s,baz=207,slow=37						
EIDS	Eidsvold	25.41	305	P	P	08 28 50.9	-0.2
EIDS				IAmb	IAmb	08 28 54.2	
	comp=Z,26nm,1.4s						
STKA	Stephens Creek	27.73	282	LR	LR	08 38 48.0	
	comp=Z,58nm,19.5s,baz=205,slow=34						
RAR	Rarotonga	30.55	54	LR	LR	08 39 32.4	
	comp=Z,107nm,19.8s,baz=124,slow=32						
CTA	Charters Tower	32.30	305	LR	LR	08 41 37.4	
	comp=Z,97nm,18.1s,baz=104,slow=34						
HNR	Honiara	35.14	335	LR	LR	08 42 16.8	
	comp=Z,675nm,18.5s,baz=154,slow=32						
SBA	Scott Base	35.61	183	P	P	08 30 18.4	-2.4
SBA				IAmb	IAmb	08 30 47.3	
	comp=Z,7.7nm,1.4s						
AS31	Alice Springs	38.04	287	P	P	08 30 42.5	+0.4
AS31				IAmb	IAmb	08 30 46.7	
	comp=Z,1.1nm,1.0s						
ASAR	Alice Springs	38.04	287	P	P	08 30 41.6	-0.5
	comp=Z,1.0nm,0.5s,baz=127,slow=6.3,SNR=16						
ASAR				PcP	PcP	08 32 56.5	-1.0
	comp=Z,0.5nm,0.6s,baz=127,slow=3.7,SNR=8.0						
ASAR				LR	LR	08 46 13.8	
	comp=Z,75nm,18.5s,baz=144,slow=36						
	comp=Z,1.0nm,0.5s						
WB2	Warramunga Arr	40.16	292	P	P	08 30 58.4	-1.5
WB2				IAmb	IAmb	08 31 02.7	
	comp=Z,21nm,1.4s						
WRAB	Tennant Creek	40.17	292	P	P	08 30 59.0	-1.0
WRAB				IAmb	IAmb	08 31 01.8	
	comp=Z,18nm,1.4s						
WRA	Warramunga Arr	40.17	292	P	P	08 30 58.8	-1.2
	comp=Z,3.4nm,0.8s,baz=128,slow=8.4,SNR=24						
WRA				LR	LR	08 47 37.5	
	comp=Z,51nm,18.1s,baz=105,slow=36						
	comp=Z,3.4nm,0.8s						
WRA	Warramunga Arr	40.17	292	P	P	08 30 58.9	-1.0
NWAO	Narrogin (SRO)	45.16	263	LR	LR	08 47 49.6	
	comp=Z,42nm,18.3s,slow=33						
MTN	Manton Dam	47.34	296	P	P	08 31 57.3	-0.3
RPN	Rapa Nui	62.81	103	LR	LR	08 55 59.6	
	comp=Z,43nm,19.1s,baz=1.5,slow=31						
PLCA	Paso Flores	78.72	136	LR	LR	09 05 33.2	
	comp=Z,34nm,18.3s,baz=180,slow=32						
NJ2	Nanjing	89.78	316	eP	P	08 36 23.7	+1.7
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
CMAR	Chiang Mai Arr	91.74	293	P	P	08 36 32.5	+0.9
	comp=Z,0.8nm,0.3s,baz=155,slow=3.4,SNR=6.6						
	comp=Z,0.8nm,0.3s						
PZH	PanZhiHua	95.53	301	P	P	08 36 51.4	+2.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,5.3s						
HHC	Hu-ho-hao-te	100.28	317	eP	Pdif	08 37 11.7	+1.7
YKA	Yellowknife Ar	119.10	30	PKP	PKPdf	08 42 11.8	+0.3
	comp=Z,1.1nm,0.8s,baz=257,slow=1.9,SNR=13						
SFJD	Kangerlussuaq	145.65	29	PKPbc	PKPdf	08 43 00.3	-0.6
	comp=Z,10nm,0.7s,baz=235,slow=4.1,SNR=5.0						
ARCES	ARCESS Array B	148.38	339	PKPbc	PKPbc	08 43 08.6	-0.5
	comp=Z,6.7nm,0.9s,baz=28,slow=3.4,SNR=6.4						
BRTR	Keskin Array B	150.17	278	PKPbc	PKPbc	08 43 14.4	-0.2
	comp=Z,3.1nm,0.9s,baz=134,slow=4.6,SNR=5.8						

*KRNET **07** 08:36:05.8±0.1, 39°.31N×73°.47E, mb4.6*
*SOME **07** 08:36:06.2, 39°.50N×73°.28E, h5km, MS3.9*
*NNC **07** 08:36:11.7±1.2, 39°.56N×73°.52E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=10.5km s-min=6.1km az=166.0*
*MOS **07** 08:36:12.3±1.1, 39°.48N×73°.42E, h40km, mb4.5/17, Error ellipse: s-maj=5.6km s-min=3.4km az=77.9*
*IDC **07** 08:36:13.2±2.1, 39°.43N×73°.55E, h40km±18km, mb4.0/20, mbtmp4.2/27, ML3.1/7, MS3.5/12, Error ellipse: s-maj=18.3km s-min=11.1km az=3.0*
*NEIC **07** 08:36:14.7±2.8, 39°.49N±0°.05×73°.41E±0°.08, h36km±7km, mb4.5/19, Error ellipse: s-maj=8.5km s-min=7.5km az=91.0*
ISC 07 08:36:10.6±1.6**, 39°.40N**±0°.03×**73°.46E**±0°.02**, h15**km±10km**, n260, σ1ˢ82**/313**, mb4.3**/39**, MS3.7**/6**, 51C-39D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	Osh	1.24	336	⇑iP	Pn	08 36 30.6	-2.9
	baz=37						
OHH				⇑iS	Sb	08 36 48.9	-0.7
	baz=37						
OHH	Osh	1.24	336	iP	Pn	08 36 30.6	-2.9
OHH				iS	Sb	08 36 48.9	-0.7
DRK	Karamyk	1.29	274	⇓iP	Pn	08 36 30.3	-4.0
	baz=78						
DRK				⇓iS	Sb	08 36 48.1	-3.0
	baz=78						
KSH	Kashi	1.95	86	Pg	Pn	08 36 37.4	-5.9
KSH				Sg	Sn	08 37 00.7	-7.0
KSH				pmax	pmax		
	comp=Z,120nm,0.8s						
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=E,1μm,1.0s						
BTK	Batken	2.14	289	⇑iP	Pn	08 36 45.2	-0.7
	baz=91						
BTK				⇑iS	Sb	08 37 13.7	-1.8
	baz=91						
GAR	Garm	2.47	262		Pn	08 36 52.3	+1.9
GAR	Garm	2.47	262	⇑eP	Pn	08 36 48.9	-1.6
	baz=64						
GAR				⇑iS	Sn	08 37 20.4	-0.1
	baz=64						
GAR	Garm	2.47	262	ePN	Pn	08 36 48.9	-1.6
GAR				iS	Sn	08 37 20.4	-0.1
ARK	Arkit	2.66	335	⇓iP	Pn	08 36 52.8	-0.2
	baz=36						
ARK				⇓iS	Sn	08 37 27.0	+2.0
	baz=36						
ARK	Arkit	2.66	335	⇓iPN	Pn	08 36 52.8	-0.2
ARK				iS	Sn	08 37 27.0	+2.0
AML	Almayashu	2.74	4	P	Pn	08 36 55.3	+0.9
	SNR=221						
AML	Almayashu	2.74	4	⇑eP	Pn	08 36 54.5	+0.1
	baz=3.0						
AML				⇑iS	Sn	08 37 29.3	+1.9
	baz=3.0						
AML	Almayashu	2.74	4	ePN	Pn	08 36 54.5	+0.1
AML				iS	Sn	08 37 29.3	+1.9
TRKS	Terek-Say	2.77	321	⇓iP	Pn	08 36 53.2	-1.4
	baz=22						
TRKS				⇓iS	Sn	08 37 27.7	-0.2
	baz=22						
TRKS	Terek-Say	2.77	321	⇓iPN	Pn	08 36 53.2	-1.4
TRKS				iS	Sn	08 37 27.7	-0.2
NRN	Naryn	2.81	43	⇑iP	Pn	08 36 54.3	-1.0
	baz=41						
NRN				⇑iS	Sn	08 37 29.8	+0.6
	baz=41						
NRN	Naryn	2.81	43	iPN	Pn	08 36 54.3	-1.0
NRN				iS	Sn	08 37 29.8	+0.6
UCH	Uchtor	2.94	15	P	Pn	08 36 58.6	+1.4
	SNR=21						
UCH	Uchtor	2.94	15	⇓iP	Pn	08 36 57.0	-0.2
	baz=15						
UCH				⇓iS	Sn	08 37 34.3	+1.8
	baz=15						
UCH	Uchtor	2.94	15	⇓iPN	Pn	08 36 57.0	-0.2
UCH				iS	Sn	08 37 34.3	+1.8
EKS2	Erkin-Say	3.27	4	P	Pn	08 37 03.5	+2.0
	SNR=44						
EKS2	Erkin-Say	3.27	4	⇓eP	Pn	08 37 01.2	-0.3
	baz=4.0						
EKS2				⇓iS	Sn	08 37 41.8	+1.6
	baz=4.0						
EKS2	Erkin-Say	3.27	4	⇓ePN	Pn	08 37 01.2	-0.3
EKS2				iS	Sn	08 37 41.8	+1.6
AAK	Ala-Archa	3.33	13	P	Pn	08 37 04.4	+2.1
	SNR=110						
AAK	Ala-Archa	3.33	13	Pn	Pn	08 37 04.3	+2.1
	comp=E,8.1nm,0.3s,baz=182,slow=8.9,SNR=167						
AAK				Lg	Lg	08 37 52.3	
	comp=E,21nm,0.3s,baz=318,slow=21,SNR=14						
AAK				LR	LR	08 38 30.7	
	comp=E,574nm,19.6s,baz=206,slow=42						
	comp=E,91nm,0.7s						
AAK	Ala-Archa	3.33	13		Pn	08 37 04.6	+2.3
AAK	Ala-Archa	3.33	13	⇓iP	Pn	08 37 01.8	-0.5
	baz=13						
AAK				⇓iS	Sn	08 37 43.3	+1.6
	baz=13						
AAK	Ala-Archa	3.33	13	iPN	Pn	08 37 04.1	+1.8
MRKS	Merke	3.35	357	ePg	Pn	08 37 04.4	+1.9
	comp=E,30nm,0.3s						
MRKS				eLg	Lg	08 37 45.2	
	comp=E,140nm,0.5s						
CHGR	Chuyangaron	3.43	259		Pn	08 37 05.0	+1.4
CHGR	Chuyangaron	3.43	259	⇓eP	Pn	08 37 02.3	-1.3
	baz=60						
CHGR				⇓iS	Sn	08 37 43.1	-0.9
	baz=60						
CHGR	Chuyangaron	3.43	259	PN	Pn	08 37 05.0	+1.4
KBK	Karagaybulak	3.45	19	P	Pn	08 37 06.5	+2.6
	SNR=8.4						
KBK	Karagaybulak	3.45	19	⇑eP	Pn	08 37 03.8	-0.1
	baz=18						
KBK				⇑iS	Sn	08 37 45.9	+1.3
	baz=18						
KBK	Karagaybulak	3.45	19	ePN	Pn	08 37 03.8	-0.1
KBK				iS	Sn	08 37 45.9	+1.3
FRU1	Bishkek	3.52	14	⇓iP	Pn	08 37 05.1	+0.2
	baz=14						
FRU1				⇓iS	Sn	08 37 48.3	+1.9
	baz=14						
FRU1	Bishkek	3.52	14	⇓iPN	Pn	08 37 05.1	+0.2
FRU1				iS	Sn	08 37 48.3	+1.9
SIMJ	Simiganj	3.54	259		Pn	08 37 06.6	+1.4
ULHL	Ulahol	3.54	36	P	Pn	08 37 08.4	+3.1
	SNR=5.8						
ULHL	Ulahol	3.54	36	⇓eP	Pn	08 37 04.9	-0.4
	baz=35						
ULHL				⇓iS	Sn	08 37 47.9	+0.8
	baz=35						
ULHL	Ulahol	3.54	36	⇓ePN	Pn	08 37 04.9	-0.4
ULHL				iS	Sn	08 37 47.9	+0.8
BOOM	Boomskoye usch	3.62	31	⇑iP	Pn	08 37 05.6	-0.7
	baz=30						
BOOM				⇑iS	Sn	08 37 49.9	+1.1
	baz=30						
BOOM	Boomskoye usch	3.62	31	iPN	Pn	08 37 05.6	-0.7
BOOM				iS	Sn	08 37 49.9	+1.1
TAS	Tashkent	3.72	303		Pn	08 37 08.4	+0.9
TAS	Tashkent	3.72	303	⇑iP	Pn	08 37 07.1	-0.4
	baz=4.0						
TAS				⇑iS	Sn	08 37 51.7	+0.7
	baz=4.0						
TAS	Tashkent	3.72	303	PN	Pn	08 37 08.4	+0.9
CHMS	Chumysh	3.73	15	P	Pn	08 37 09.5	+1.9
	SNR=37						
CHMS	Chumysh	3.73	15	⇓Pn	Pn	08 37 08.9	+1.3
	comp=E,87nm,0.8s						
CHMS				⇑Lg	Lg	08 38 07.2	
	comp=E,444nm,1.2s						
CHMS	Chumysh	3.73	15	⇑eP	Pn	08 37 07.6	-0.1
	baz=14						
CHMS				⇑iS	Sn	08 37 52.4	+1.0
	baz=14						
CHMS	Chumysh	3.73	15	ePN	Pn	08 37 07.6	-0.1
CHMS				iS	Sn	08 37 52.4	+1.0
IUG	Iuzhnay	3.78	318	Pg	Pn	08 37 10.2	+1.7
	comp=E,118nm,0.3s						
IUG				Lg	Lg	08 37 56.4	
	comp=E,276nm,0.3s						
IUG	Iuzhnay	3.78	318	iPn	Pn	08 37 10.3	+1.7
	baz=317						
IUG				ePg	Pb	08 37 15.3	-1.8
	baz=317						
IUG	Iuzhnay	3.78	318	ePg	Pn	08 37 10.2	+1.7
	comp=E,118nm,0.3s						
IUG				eLg	Lg	08 37 55.1	
	comp=E,504nm,0.3s						
IUG	Iuzhnay	3.78	318	iPN	Pn	08 37 10.2	+1.7
DZA	Taraz	3.84	336	ePg	Pn	08 37 13.5	+4.2
	comp=E,98nm,0.1s						
DZA				eLg	Lg	08 38 00.5	
	comp=E,637nm,1.1s						
TKM2	Tokmak 2	3.87	24	P	Pn	08 37 11.5	+1.7
	SNR=18						
TKM2	Tokmak 2	3.87	24	⇓Pn	Pn	08 37 11.8	+1.9
	comp=E,104nm,0.9s						
TKM2				⇓Lg	Lg	08 38 11.9	
	comp=E,210nm,1.0s						
TKM2	Tokmak 2	3.87	24	⇑iP	Pn	08 37 09.5	-0.3
	baz=23						
TKM2				⇑iS	Sn	08 37 56.3	+1.1
	baz=23						
TKM2	Tokmak 2	3.87	24	iPN	Pn	08 37 09.5	-0.3
TKM2				iS	Sn	08 37 56.3	+1.1
KDJ	Kajisay	3.93	45	⇑eP	Pn	08 37 09.8	-0.8
	baz=44						
KDJ				⇑iS	Sn	08 37 57.1	+0.6
	baz=44						
KDJ	Kajisay	3.93	45	PN	Pn	08 37 09.8	-0.8
KDJ				iS	Sn	08 37 57.1	+0.6
USP	Ospenovka	3.95	11	P	Pn	08 37 12.1	+1.5
	SNR=31						
USP	Ospenovka	3.95	11	⇑eP	Pn	08 37 10.2	-0.5
	baz=11						
USP				⇑iS	Sn	08 37 57.8	+1.1
	baz=11						
USP	Ospenovka	3.95	11	ePN	Pn	08 37 10.2	-0.5
USP				iS	Sn	08 37 57.8	+1.1
TARG	Taragay, Kyrgy	4.05	53		Pn	08 37 15.3	+2.9
TARG	Taragay, Kyrgy	4.05	53	⇑iP	Pn	08 37 11.5	-0.9
	baz=52						
TARG				⇑eS	Sn	08 37 59.9	+0.1
	baz=52						
TARG	Taragay, Kyrgy	4.05	53	iPN	Pn	08 37 11.5	-0.9
TARG				iS	Sn	08 37 59.9	+0.1
KST	Kastek	4.10	27	Pg	Pb	08 37 21.3	-1.3
	comp=E,34nm,0.5s						
KST				Lg	Lg	08 38 14.5	
	comp=E,204nm,0.6s						
KST	Kastek	4.10	27	ePg	Pb	08 37 21.4	-1.3
	comp=E,34nm,0.5s						
KST				eLg	Lg	08 38 14.5	
	comp=E,204nm,0.6s						
SGDS	Sogindy	4.15	12	Pg	Pb	08 37 22.8	-0.5
	comp=E,39nm,0.7s						
SGDS				Lg	Lg	08 38 17.0	
	comp=E,235nm,1.0s						
SGDS	Sogindy	4.15	12	ePn	Pn	08 37 15.2	+1.7
	baz=13						
SGDS				ePg	Pb	08 37 22.6	-0.7
	baz=13						
SGDS	Sogindy	4.15	12	ePN	Pn	08 37 15.1	+1.7
DGS	Degeres	4.22	24	Pg	Pb	08 37 25.7	+1.2
	comp=E,100nm,0.5s						
DGS				Lg	Lg	08 38 21.6	
	comp=E,353nm,0.6s						
DGS	Degeres	4.22	24	ePg	Pb	08 37 25.7	+1.2
	comp=E,100nm,0.5s						
DGS				eLg	Lg	08 38 21.6	
	comp=E,353nm,0.6s						
KK31	Karatay Array	4.32	330		Pn	08 37 17.6	+1.9
KK31	Karatay Array	4.32	330	⇑Pn	Pn	08 37 16.7	+1.0
	comp=E,5.7nm,0.3s,baz=138,slow=12,SNR=206						
KK31				⇓Pg	Pb	08 37 28.0	+1.9
	comp=E,57nm,0.8s,baz=156,slow=16,SNR=12						
KK31				⇑Sn	Sn	08 38 09.4	+3.6
	comp=E,70nm,0.5s						
KK31				⇓Lg	Lg	08 38 25.6	
	comp=E,149nm,0.6s,baz=130,slow=28,SNR=4.7						
KK31	Karatay Array	4.32	330	ePN	Pn	08 37 17.3	+1.6
KKAR	Karatay Array	4.32	330		Pn	08 37 16.9	+1.2
KKAR	Karatay Array	4.32	330	Pn	Pn	08 37 16.9	+1.2
KKAR	Karatay Array	4.32	330	⇑iP	Pn	08 37 16.0	+0.3
	baz=31						
KKAR				⇑iS	Sn	08 38 06.5	+0.7
	baz=31						
KKAR	Karatay Array	4.32	330	PN	Pn	08 37 16.9	+1.2
MTBS	Maitube	4.35	30	Pg	Pb	08 37 26.5	-0.3
	comp=E,78nm,0.6s						
MTBS				Lg	Lg	08 38 23.4	
	comp=E,196nm,0.8s						
MTBS	Maitube	4.35	30	ePg	Pb	08 37 26.5	-0.3
	comp=E,78nm,0.6s						
MTBS				eLg	Lg	08 38 23.4	
	comp=E,196nm,0.8s						
TNSS	Tian-Shan	4.49	35	Pg	Pb	08 37 31.5	+2.1
	comp=E,47nm,0.4s						
TNSS				Lg	Lg	08 38 31.8	
	comp=E,108nm,0.8s						
TNSS	Tian-Shan	4.49	35	ePn	Pn	08 37 20.4	+2.0
	baz=37						
TNSS				ePg	Pb	08 37 29.2	-0.1
	baz=37						
TNSS	Tian-Shan	4.49	35	ePg	Pb	08 37 31.5	+2.1
	comp=E,47nm,0.4s						
TNSS				eLg	Lg	08 38 31.8	
	comp=E,108nm,0.8s						
TNSS	Tian-Shan	4.49	35	ePN	Pn	08 37 20.4	+2.0
KRBS	Karabastau	4.61	20	Pg	Pb	08 37 31.3	+0.2
	comp=E,34nm,0.6s						
KRBS				Lg	Lg	08 38 31.8	
	comp=E,156nm,0.8s						
KRBS	Karabastau	4.61	20	ePg	Pb	08 37 31.4	+0.2
	comp=E,34nm,0.6s						
KRBS				eLg	Lg	08 38 31.8	
	comp=E,156nm,0.8s						
MDOK	Medeo	4.63	35	⇑Pn	Pn	08 37 22.6	+2.4
	comp=E,139nm,1.2s						
MDOK				Pg	Pb	08 37 32.2	+0.5
	comp=E,57nm,0.6s						
MDOK				Lg	Lg	08 38 33.1	
	comp=E,240nm,1.8s						
MDOK				⇓Lg	Lg	08 38 35.2	
	comp=E,503nm,1.2s						
MDOK	Medeo	4.63	35	ePn	Pn	08 37 23.6	+3.3
	baz=36						
MDOK				iPg	Pb	08 37 32.1	+0.4
	baz=36						
MDOK	Medeo	4.63	35	ePN	Pn	08 37 23.5	+3.3
ANVS	Anan'yevo	4.64	42	⇓eP	Pn	08 37 19.9	-0.5
	baz=41						
ANVS				⇓iS	Sn	08 38 14.5	+0.4
	baz=41						
ANVS	Anan'yevo	4.64	42	⇓ePN	Pn	08 37 19.9	-0.5
ANVS				iS	Sn	08 38 14.5	+0.4
KOTS	Kotyrbulak	4.72	34	Pg	Pb	08 37 34.9	+1.8
	comp=E,65nm,0.9s						
KOTS				Lg	Lg	08 38 37.7	
	comp=E,359nm,0.9s						
KOTS	Kotyrbulak	4.72	34	ePg	Pb	08 37 34.9	+1.8
	comp=E,65nm,0.9s						
KOTS				eLg	Lg	08 38 37.7	
	comp=E,359nm,0.9s						
KTBS	Karatobe	4.94	28	Pg	Pb	08 37 37.7	+0.8
	comp=E,25nm,1.1s						
KTBS				Lg	Lg	08 38 42.5	
	comp=E,333nm,0.6s						
KTBS	Karatobe	4.94	28	ePg	Pb	08 37 37.7	+0.8
	comp=E,25nm,1.1s						
KTBS				eLg	Lg	08 38 42.5	
	comp=E,333nm,0.6s						
KUU	Kurty	4.98	25	Pg	Pb	08 37 39.3	+1.8
	comp=E,66nm,0.9s						
KUU				Lg	Lg	08 38 45.2	
	comp=E,289nm,0.7s						
KUU	Kurty	4.98	25	ePn	Pn	08 37 28.0	+3.0
	baz=26						
KUU				ePg	Pb	08 37 38.3	+0.8
	baz=26						
KUU				eLg	Lg	08 38 44.4	
	baz=26						
KUU	Kurty	4.98	25	ePg	Pb	08 37 39.3	+1.8
	comp=E,66nm,0.9s						
KUU				eLg	Lg	08 38 45.2	
	comp=E,289nm,0.7s						
KUU	Kurty	4.98	25	ePN	Pn	08 37 27.9	+3.0
CHKK	Chushkaly	5.18	30	Pg	Pb	08 37 42.0	+1.1
	comp=E,20nm,0.6s						
CHKK				Lg	Lg	08 38 49.5	
	comp=E,83nm,0.9s						
CHKK	Chushkaly	5.18	30	ePg	Pb	08 37 42.6	+1.7
	baz=31						
CHKK	Chushkaly	5.18	30	ePg	Pb	08 37 42.0	+1.1
	comp=E,20nm,0.6s						
CHKK				eLg	Lg	08 38 49.5	
	comp=E,83nm,0.9s						
SATY	Saty	5.23	44	Pg	Pb	08 37 42.6	+0.9
	comp=E,73nm,0.9s						
SATY				Lg	Lg	08 38 50.9	
	comp=E,139nm,1.4s						
SATY	Saty	5.23	44	ePn	Pn	08 37 31.8	+3.5
	baz=46						
SATY				iPg	Pb	08 37 43.6	+1.9
	baz=46						
SATY	Saty	5.23	44	ePg	Pb	08 37 42.6	+0.9
	comp=E,73nm,0.9s						
SATY				eLg	Lg	08 38 50.9	
	comp=E,139nm,1.4s						
SATY	Saty	5.23	44	ePN	Pn	08 37 31.8	+3.5
ZHN	Zhinishke	5.32	43	Pg	Pb	08 37 44.7	+1.5
	comp=E,30nm,0.4s						
ZHN				Lg	Lg	08 38 54.5	
	comp=E,114nm,1.4s						
ZHN	Zhinishke	5.32	43	ePn	Pn	08 37 33.2	+3.7
	baz=45						
ZHN				ePg	Pb	08 37 45.3	+2.1
	baz=45						
ZHN	Zhinishke	5.32	43	ePg	Pb	08 37 44.7	+1.5
	comp=E,30nm,0.4s						
ZHN				eLg	Lg	08 38 54.5	
	comp=E,114nm,1.4s						
ZHN	Zhinishke	5.32	43	ePN	Pn	08 37 33.2	+3.7
KURS	Kuram	5.41	39	Pg	Pb	08 37 47.3	+2.5
	comp=E,41nm,0.9s						
KURS				Lg	Lg	08 38 58.9	
	comp=E,95nm,1.5s						
KURS	Kuram	5.41	39	ePg	Pb	08 37 47.3	+2.5
	comp=E,41nm,0.9s						
KURS				eLg	Lg	08 38 58.9	
	comp=E,95nm,1.5s						
UZB	Uzynbulak	5.62	46	ePn	Pn	08 37 37.3	+3.5
	baz=48						
UZB				ePg	Pb	08 37 51.2	+2.7
	baz=48						
UZB	Uzynbulak	5.62	46	ePg	Pb	08 37 53.0	+4.5
	comp=E,24nm,0.7s						
UZB				eLg	Lg	08 39 08.7	
	comp=E,57nm,1.4s						
UZB	Uzynbulak	5.62	46	ePN	Pn	08 37 37.2	+3.5
KPKS	Kokpek	5.65	42	ePn	Pn	08 37 37.0	+2.8
	baz=44						
KPKS				ePg	Pb	08 37 50.8	+1.8
	baz=44						
KPKS				eLg	Lg	08 39 06.2	
	baz=44						
KPKS	Kokpek	5.65	42	ePg	Pb	08 37 49.5	+0.5
	comp=E,23nm,0.5s						
KPKS				eLg	Lg	08 39 02.6	
	comp=E,72nm,0.5s						
KPKS	Kokpek	5.65	42	ePN	Pn	08 37 36.9	+2.8
BTLS	Baital	5.66	4	Pg	Pb	08 37 48.6	-0.4
	comp=E,39nm,0.6s						
BTLS				Lg	Lg	08 39 00.8	
	comp=E,13nm,0.8s						
BTLS	Baital	5.66	4	ePn	Pn	08 37 35.6	+1.4
	baz=5.1						
BTLS				iPg	Pb	08 37 50.4	+1.4
	baz=5.1						
BTLS	Baital	5.66	4	ePg	Pb	08 37 48.6	-0.4
	comp=E,39nm,0.6s						
BTLS				eLg	Lg	08 39 00.8	

comp=E,13nm,0.8s
BTLS Baital 5.66 4 *e*PN **Pn** **08 37 35.5 +1.4**
CEP Cherat 5.70 193 P **Pn** **08 37 39.0 +4.1**
CHCP Chirah Chowk 5.73 182 P **Pn** **08 37 39.8 +4.6**
NIL Nilore 5.74 182 Pn **Pn** **08 37 38.5 +3.2**
NIL Nilore 5.74 182 PN **Pn** **08 37 38.5 +3.2**
SHLS Shalkode 5.88 48 Pg **Pg** **08 38 01.4 -1.7**
comp=E,15nm,0.5s
SHLS Lg Lg 08 39 23.2
comp=E,51nm,1.7s
SHLS Shalkode 5.88 48 *e*Pn Pn 08 37 43.6 +6.3
baz=52
SHLS *e*Pg **Pg** **08 38 00.7 -2.5**
baz=52
SHLS Shalkode 5.88 48 *e*Pg **Pg** **08 38 01.4 -1.7**
comp=E,15nm,0.5s
SHLS *e*Lg Lg 08 39 23.2
comp=E,51nm,1.7s
SHLS Shalkode 5.88 48 *e*PN Pn 08 37 43.5 +6.2
KBL Kabul 6.00 217 Pn **Pn** **08 37 42.6 +3.6**
KBL Kabul 6.00 217 PN **Pn** **08 37 42.6 +3.6**
TDK Taldyqorghan 6.70 32 *e*Pg **Pb** **08 38 10.6 +3.9**
baz=33
THW Thamme Wali 6.73 192 P **Pn** **08 37 52.0 +3.0**
DJR Jarkent 6.83 42 Pg **Pb** **08 38 11.7 +2.7**
comp=E,15nm,1.6s
DJR Lg Lg 08 39 40.4
comp=E,39nm,0.9s
DJR Jarkent 6.83 42 *e*Pg **Pb** **08 38 11.7 +2.7**
comp=E,15nm,1.6s
DJR *e*Lg Lg 08 39 40.4
comp=E,39nm,0.9s
MAKZ Makanchi 9.67 37 Pn **Pn** **08 38 33.1 +3.9**
MAKZ Makanchi 9.67 37 ⇓Pn Pn 08 38 34.1 +4.8
comp=E,10nm,1.1s
MAKZ ⇑Lg Lg 08 41 12.6
comp=E,14nm,1.1s
MAKZ Makanchi 9.67 37 P **Pn** **08 38 33.1 +3.9**
MK31 Makanchi Array 9.81 38 **Pn** **08 38 33.9 +2.8**
MK31 Makanchi Array 9.81 38 Pn **Pn** **08 38 33.4 +2.3**
comp=E,4.3nm,0.7s,baz=213,slow=12,SNR=12
MK31 ⇑Lg Lg 08 41 17.9
comp=E,31nm,1.4s,baz=226,slow=28,SNR=3.8
MK31 Makanchi Array 9.81 38 *i*P **Pn** **08 38 33.4 +2.3**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 9.81 38 Pn **Pn** **08 38 33.3 +2.1**
comp=Z,0.1nm,0.3s,baz=217,slow=11,SNR=10
MKAR Lg Lg 08 41 17.7
comp=Z,0.2nm,0.3s,baz=224,slow=28,SNR=3.2
MKAR LR LR 08 42 46.4
comp=Z,125nm,20.3s,baz=241,slow=40
comp=Z,1.3nm,0.8s
MKAR Makanchi Array 9.81 38 *i*P Pn 08 38 36.5 +5.4
MKAR pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 11.54 63 *e*P **Pn** **08 38 55.2 +0.4**
WMQ PP **PnPn** **08 39 08.5 +6.1**
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ smax smax
comp=N,13nm,0.7s
WMQ smax smax
comp=E,13nm,0.7s
WMQ LR LR
comp=N,17nm,29.3s
ZSN Zaisan 11.55 42 *e*Pn **Pn** **08 38 57.3 +2.3**
baz=43
ZSN Zaisan 11.55 42 *e*P **Pn** **08 38 57.2 +2.3**
KURBB Kurchatov Arra 11.78 16 Pn **Pn** **08 38 56.6 -1.4**
comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=9.2
KURBB Lg Lg 08 42 14.5
comp=N,0.1nm,0.3s,baz=208,slow=30,SNR=4.0
comp=N,0.5nm,0.6s
KURBB Kurchatov Arra 11.78 16 ⇑Pn **Pn** **08 38 57.4 -0.6**
comp=N,5.8nm,1.2s
KURBB ⇓Lg Lg 08 42 24.8
comp=N,97nm,1.2s
KURBB Kurchatov Arra 11.78 16 P **Pn** **08 38 57.4 -0.6**
KURK Kurchatov 11.89 16 ⇑Lg Lg 08 42 25.5
comp=N,112nm,1.3s
KURK Kurchatov 11.89 16 *i*P **Pn** **08 39 00.1 +0.6**
SEM Semipalatinsk 12.01 21 *e*Pn **Pn** **08 39 01.3 -0.1**
baz=22
SEM Semipalatinsk 12.01 21 *e*P **Pn** **08 39 01.3 -0.1**
GEYT Alibeck 12.08 268 Pn **Pn** **08 38 59.7 -2.6**
comp=N,0.5nm,0.3s,baz=106,slow=9.4,SNR=4.0
GEYT Sn **Sn** **08 41 17.0 +0.2**
comp=N,0.7nm,0.3s,baz=109,slow=18,SNR=3.7
GEYT LR LR 08 44 38.9
comp=N,156nm,18.6s,baz=0.5,slow=42
GEYT Alibeck 12.08 268 Pn **Pn** **08 39 04.6 +2.3**
GYA0 ALIBECK ARRAY 12.08 268 P **Pn** **08 39 04.7 +2.4**
GYA0B ALIBECK ARRAY 12.08 268 **Pn** **08 39 04.7 +2.5**
GYA0B ALIBECK ARRAY 12.08 268 ⇑Pn **Pn** **08 39 04.2 +2.0**
GYA0B ⇓Sn **Sn** **08 41 20.5 +3.7**
AB31 Akbulak array 13.79 320 ⇑Pn **Pn** **08 39 24.9 -0.5**
comp=N,2.1nm,0.5s,baz=131,slow=12,SNR=52
AB31 ⇑Sn **Sn** **08 41 57.9 -0.3**
comp=N,6.4nm,0.8s,baz=124,slow=22,SNR=3.5
AB31 ⇑Lg Lg 08 43 27.6
comp=N,12nm,1.2s
AB31 Akbulak array 13.79 320 P **Pn** **08 39 22.5 -2.9**
ABKAR Akbulak array 13.79 320 Pn **Pn** **08 39 23.1 -2.4**
BVA0 Borovoye Array 13.79 352 ⇑Pn **Pn** **08 39 25.6 +0.1**
comp=N,13nm,0.9s,baz=162,slow=12,SNR=37
BVA0 ⇑Lg Lg 08 43 25.6
comp=N,38nm,1.1s,baz=163,slow=25,SNR=3.9
BVAR Borovoye Array 13.79 352 Pn **Pn** **08 39 23.2 -2.3**
comp=N,0.1nm,0.3s,baz=164,slow=12,SNR=35
BVAR LR LR 08 44 57.4
comp=N,207nm,21.0s,baz=176,slow=38
comp=N,9.8nm,0.8s
BRVK Borovoye 13.84 352 Pn **Pn** **08 39 23.8 -2.3**
BRVK Borovoye 13.84 352 ⇓Pn **Pn** **08 39 26.3 +0.2**
comp=N,13nm,0.9s
BRVK ⇓Lg Lg 08 43 27.8
comp=N,37nm,1.1s
BRVK Borovoye 13.84 352 *ce*P **Pn** **08 39 24.1 -2.0**
BRVK pmax pmax
comp=Z,19nm,1.3s
DGZ Jazzator, Alta 14.31 39 *i*P **Pn** **08 39 31.6 -1.1**
AKTO Aktyubinsk 15.50 320 Pn **Pn** **08 39 46.8 -1.8**
comp=Z,0.3nm,0.3s,baz=135,slow=12,SNR=11
AKTO LR LR 08 46 03.9
comp=Z,161nm,18.9s,baz=24,slow=38
comp=Z,5.9nm,0.9s
AKTO Aktyubinsk 15.50 320 ⇑Pn **Pn** **08 39 49.9 +1.3**
comp=Z,16nm,0.8s
AKTO ⇑Sn **Sn** **08 42 42.5 +2.6**
comp=Z,5.4nm,0.9s
ZAA0 Zalesovo Array 16.48 24 Pn **Pn** **08 40 01.6 +0.5**
ZALV Zalesovo Beam 16.48 24 Pn **Pn** **08 39 59.0 -2.1**
comp=Z,0.3nm,0.3s,baz=207,slow=11,SNR=15
ZALV LR LR 08 46 59.5
comp=Z,63nm,20.1s,baz=231,slow=39
comp=Z,3.5nm,0.7s
ZALV Zalesovo Beam 16.48 24 Pn **Pn** **08 40 00.3 -0.8**
ZALV Zalesovo Beam 16.48 24 *i*P **Pn** **08 40 00.6 -0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
GOMU GeErMu 17.18 94 P **P** **08 40 12.5 +0.5**
GOMU pP pP 08 40 16.6 -0.7
GOMU sP sP 08 40 19.4 -0.4
GOMU pmax pmax
comp=Z,2.0nm,0.7s
GOMU pmax pmax
comp=Z,63nm,3.6s
BOK Bokaro 18.78 142 *e*P **P** **08 40 24.8 -4.6**
SVE Sverdlovsk 19.37 338 *e*P **P** **08 40 35.5 0.0**
SVE pmax pmax
comp=Z,23nm,1.6s
ARU Arti 19.68 335 P **P** **08 40 38.6 -0.3**
baz=154,slow=7.7,SNR=11
ARU LR LR 08 48 34.6
comp=Z,232nm,20.4s,baz=162,slow=38
comp=Z,5.7nm,0.6s
ARU Arti 19.68 335 P **P** **08 40 38.8 0.0**
ARU IAmb IAmb 08 40 43.5
comp=Z,24nm,1.2s
ARU Arti 19.68 335 *d*P **P** **08 40 38.3 -0.6**
ARU pmax pmax
comp=Z,82nm,3.6s
GTA Gaotai 20.35 82 *e*P **P** **08 40 47.7 +1.2**
GTA sP sP 08 40 59.6 +5.2
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,200nm,5.2s
GTA LR LR
comp=N,200nm,14.7s
GTA LR LR
comp=E,310nm,16.7s
GTA LR LR
comp=Z,190nm,15.9s
WSAR Wadi Sarin 20.44 222 P **P** **08 40 48.3 +0.8**
comp=Z,5.1nm,0.7s,baz=35,slow=14,SNR=4.0
comp=Z,5.1nm,0.7s
BELG Belogornoye 22.04 315 P **P** **08 41 02.8 -1.6**
comp=Z,35nm,0.9s,baz=116,slow=1.6,SNR=11
comp=Z,35nm,0.9s
BELG Belogornoye 22.04 315 *i*P **P** **08 41 03.1 -1.3**
BELG pmax pmax
comp=Z,15nm,1.0s
GNI Garni 22.05 281 P **P** **08 41 05.7 +0.8**
comp=Z,12nm,1.0s,baz=162,slow=3.0,SNR=4.3
comp=Z,12nm,1.0s
GNI Garni 22.05 281 P **P** **08 41 04.8 -0.1**
GNI IAmb IAmb 08 41 17.1
comp=Z,27nm,1.1s
NCK Nalchik 22.69 290 *i*P **P** **08 41 11.4 -0.2**
NCK pmax pmax
comp=Z,11nm,0.7s
ONI Oni 22.81 288 P **P** **08 41 13.9 +1.0**
ONI Oni 22.81 288 P **P** **08 41 13.9 +1.0**
ONI pmax pmax
comp=Z,47nm,1.0s
KBZ Khabaz 23.20 291 P **P** **08 41 17.5 +0.7**
comp=Z,3.2nm,0.8s,baz=133,slow=2.8,SNR=4.2
comp=Z,3.2nm,0.8s
KBZ Khabaz 23.20 291 *ce*P **P** **08 41 16.7 -0.1**
KBZ pmax pmax
comp=Z,13nm,1.1s
NEY Neytrino 23.33 289 *i*P **P** **08 41 18.9 +0.6**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 23.36 291 P **P** **08 41 17.9 -0.6**
KIV IAmb IAmb 08 41 34.4
comp=Z,15nm,0.9s
KIV Kislovodsk 23.36 291 *e*P **P** **08 41 17.5 -1.0**
KIV pmax pmax
comp=Z,14nm,1.1s
GEVA Gevas 23.65 277 P **P** **08 41 22.3 +0.8**
GEVA IAmb IAmb 08 41 33.0
comp=Z,6.0nm,0.8s
ZAK Zakamensk 23.66 53 *e*P **P** **08 41 21.0 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
LZH Lanzhou 24.20 88 *e*P **P** **08 41 27.9 +1.2**
LZH pP pP 08 41 32.4 -0.1
LZH sP sP 08 41 34.8 -0.1
LZH pmax pmax
comp=Z,17nm,1.1s
KIRV Kirov 24.61 329 LR LR 08 51 52.0
comp=Z,225nm,18.6s,baz=347,slow=38
KIRV Kirov 24.61 329 *ce*P **P** **08 41 30.1 +0.1**
VRH Novokhopyorsk 25.05 309 *e*P **P** **08 41 31.6 -2.4**
VRH pmax pmax
comp=Z,30nm,1.6s
SONM Songino Array 25.14 60 P **P** **08 41 34.9 -0.2**
comp=Z,2.1nm,0.7s,baz=268,slow=9.4,SNR=13
comp=Z,2.1nm,0.7s
TNCH TengChong 25.48 117 *e*P **P** **08 41 42.6 +4.1**
ULN Ulaanbaatar 25.59 60 P **P** **08 41 39.0 -0.1**
ULN Ulaanbaatar 25.59 60 *ce*P **P** **08 41 39.6 +0.4**
ULN pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 26.61 308 *e*P **P** **08 41 44.5 -3.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
PZH PanZhiHua 26.87 110 P **P** **08 41 53.4 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.6s
LPSR Galich'ya Gora 27.09 311 *e*P **P** **08 41 50.8 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
RAYN Ar Rayn 28.46 245 P **P** **08 42 04.9 -0.3**
RAYN Ar Rayn 28.46 245 P **P** **08 42 04.9 -0.3**
RAYN pmax pmax
comp=Z,4.0nm,1.1s
HHC Hu-ho-hao-te 29.03 75 *e*P **P** **08 42 12.8 +2.7**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,310nm,5.9s
CMAR Chiang Mai Arr 30.36 126 LR LR 08 54 57.3
comp=Z,28nm,19.9s,baz=330,slow=37
BR131 Keskin Array S 30.53 284 *i*P **P** **08 42 23.5 +0.1**
BRTR Keskin Array B 30.53 284 P **P** **08 42 23.8 +0.4**
comp=Z,2.8nm,0.8s,baz=92,slow=8.1,SNR=12
comp=Z,2.8nm,0.8s
BRTR Keskin Array B 30.53 284 P **P** **08 42 24.0 +0.6**
NRIK Noril'sk 30.94 10 P **P** **08 42 26.1 -0.5**
comp=Z,1.1nm,0.4s,baz=198,slow=7.2,SNR=2.4
NRIK LR LR 08 56 42.4
comp=Z,140nm,19.9s,baz=326,slow=40
comp=Z,1.1nm,0.4s
NRIK Noril'sk 30.94 10 *ce*P **P** **08 42 25.5 -1.1**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 32.76 305 P **P** **08 42 42.2 -0.6**
comp=Z,0.8nm,0.5s,baz=76,slow=7.1,SNR=16
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 32.76 305 *i*P **P** **08 42 42.2 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 32.76 305 P **P** **08 42 42.0 -0.8**
AKBB IAmb IAmb 08 42 42.8
comp=Z,8.2nm,0.9s
AKBB Malin Array Si 32.76 305 *ce*P **P** **08 42 42.7 -0.1**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AK05 Malin Array Si 32.77 305 P **P** **08 42 42.2 -0.7**
AK05 IAmb IAmb 08 42 48.2
comp=Z,7.2nm,1.1s
MLR Muntele Rosu 35.17 296 P **P** **08 43 04.9 +1.0**
MLR Muntele Rosu 35.17 296 P **P** **08 43 04.9 +1.0**
MLR pmax pmax
comp=Z,14nm,1.0s
BURAR Bucovina Array 35.45 300 P **P** **08 43 05.9 -0.4**
BURAR Bucovina Array 35.45 300 P **P** **08 43 05.9 -0.4**
BURAR pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 36.24 323 P **P** **08 43 12.5 -0.2**
comp=Z,3.4nm,0.9s,baz=113,slow=8.9,SNR=11
comp=Z,3.4nm,0.9s
NJ2 Nanjing 37.26 87 *e*P **P** **08 43 22.5 +0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ARCES ARCESS Array B 39.26 336 P **P** **08 43 38.0 -0.2**
comp=Z,4.4nm,0.8s,baz=114,slow=5.9,SNR=5.5
comp=Z,4.4nm,0.8s
ARCES ARCESS Array B 39.26 336 P **P** **08 43 37.9 -0.2**
ARCES ARCESS Array B 39.26 336 P **P** **08 43 38.0 -0.2**
DIVS Divibare 39.58 295 P **P** **08 43 42.3 +1.1**
DIVS IAmb IAmb 08 43 50.4
comp=Z,8.1nm,1.0s
VYHS Vyhne 39.61 302 *e*P **P** **08 43 41.5 +0.1**
VYHS Vyhne 39.61 302 *e*P **P** **08 43 41.5 +0.1**
KRLC Kraliky 40.74 304 *e*P **P** **08 43 51.4 +0.7**
KRLC Kraliky 40.74 304 *e*P **P** **08 43 51.4 +0.7**
DPC Dobruska-Polom 40.99 305 *e*P **P** **08 43 53.6 +0.7**
DPC Dobruska-Polom 40.99 305 *e*P **P** **08 43 53.6 +0.7**
KLR Kul'dur 41.90 57 P **P** **08 43 58.8 -1.4**
comp=Z,1.6nm,0.6s,baz=267,slow=7.8,SNR=10.0
comp=Z,1.6nm,0.6s
HFS Hagfors 42.05 320 LR LR 09 02 36.1
comp=Z,366nm,18.8s,baz=334,slow=38
TIXI Tiksi 42.36 23 P **P** **08 44 04.1 +0.5**
TIXI IAmb IAmb 08 44 46.0
comp=Z,5.8nm,0.5s
TIXI Tiksi 42.36 23 *ce*P **P** **08 44 02.8 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
CKRC Cesky Krumlov 42.52 303 *e*P **P** **08 44 09.0 +3.7**
GERES GERESS Array B 42.91 303 P **P** **08 44 08.8 +0.2**
comp=Z,1.7nm,0.9s,baz=78,slow=7.0,SNR=9.3
comp=Z,1.7nm,0.9s
GERES GERESS Array B 42.91 303 P **P** **08 44 09.2 +0.7**
GERES GERESS Array B 42.91 303 P **P** **08 44 09.3 +0.7**
KHC Kasperske Hory 42.94 303 *e*P **P** **08 44 09.5 +0.7**
KHC Kasperske Hory 42.94 303 *e*P **P** **08 44 09.5 +0.7**
NB2 NORSAR Subarra 43.29 321 P **P** **08 44 10.5 -0.9**
comp=Z,2.3nm,0.7s,baz=91,slow=8.6
NOA NORSAR Array B 43.29 321 P **P** **08 44 10.1 -1.3**
comp=Z,3.3nm,0.7s,baz=91,slow=7.9,SNR=8.8
NOA LR LR 09 02 38.0
comp=Z,148nm,19.3s,baz=290,slow=37
comp=Z,3.3nm,0.7s
MJAR Matsushiro Arr 50.14 72 P **P** **08 45 03.9 -1.5**
comp=Z,3.0nm,0.8s,baz=298,slow=8.7,SNR=5.1
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 52.21 228 *i*P **P** **08 45 22.2 +0.9**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
ESDC Sonseca Array 57.84 297 P **P** **08 46 00.9 -0.8**
comp=Z,1.3nm,0.8s,baz=61,slow=7.3,SNR=9.2
comp=Z,1.3nm,0.8s
ILAR Eielson Array 71.46 17 P **P** **08 47 28.1 -1.9**
comp=Z,1.3nm,0.9s,baz=314,slow=5.6,SNR=14
comp=Z,1.3nm,0.9s
YKA Yellowknife Ar 78.25 4 P **P** **08 48 07.9 -1.4**
comp=Z,2.3nm,0.9s,baz=348,slow=5.8,SNR=35
comp=Z,2.3nm,0.9s
BOSA Boshof 81.20 222 P **P** **08 48 25.2 -0.7**
comp=Z,3.2nm,0.8s,baz=45,slow=4.3,SNR=3.7
comp=Z,3.2nm,0.8s
WRA Warramunga Arr 81.93 124 P **P** **08 48 27.9 -1.9**
comp=Z,2.5nm,0.7s,baz=326,slow=5.2,SNR=22
comp=Z,2.5nm,0.7s
ASAR Alice Springs 84.37 127 P **P** **08 48 40.5 -1.8**
comp=Z,1.6nm,0.7s,baz=312,slow=5.0,SNR=18
comp=Z,1.6nm,0.7s

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*IDC **07** 08:49:37.2±2.8,29°.21S×61°.14E,h0km,mb3.6/4,*
mbtmp3.7/5,ML4.0/1,Error ellipse: s-maj=115.7km
s-min=31.3km az=39.0
ISC 07 08:49:38.3±2.5,29°.3S±0°.6×61°.0E±0°.4,h10km,n9,σ0s24/6,
mb3.8/4,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.55**	**307**	Pn	**Pn**	**Pn**	**08 53 30.7**	**+0.1**
	0.1nm,0.3s,baz=105,slow=16,SNR=1.7							
	0.9nm,0.3s							
H08S1	**Diego Carcia H**	**24.09**	**29**	T	T		09 19 50.4	
	baz=205							
H08S2	**Diego Garcia H**	**24.09**	**29**	T	T		09 19 45.3	
	baz=205,slow=74							
H08S3	**Diego Garcia H**	**24.11**	**29**	T	T		09 19 53.0	
	baz=205,slow=74							
ASAR	**Alice Springs**	**64.52**	**104**	P	**P**		**09 00 15.6**	**-0.2**
	0.7nm,0.8s,baz=239,slow=6.1,SNR=6.8							
	0.7nm,0.8s							
WRA	**Warramunga Arr**	**66.35**	**100**	P	**P**		**09 00 27.9**	**+0.3**
	0.3nm,0.5s,baz=247,slow=5.7,SNR=6.2							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**78.14**	**15**	P	**P**		**09 01 37.5**	**+0.1**
	0.3nm,0.8s,baz=180,slow=4.3,SNR=4.0							
	0.3nm,0.8s							
ZALV	**Zalesovo Beam**	**85.43**	**14**	P	**P**		**09 02 15.4**	**-0.2**
	0.4nm,0.4s,baz=205,slow=6.4,SNR=2.3							
	0.4nm,0.4s							
YKA	**Yellowknife Ar**	**146.68**	**356**	PKPbc	**PKPbc**		**09 09 19.4**	**-0.1**
	0.2nm,0.6s,baz=344,slow=3.7,SNR=7.0							

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*NOU **07** 08:53:15.6,42°.55S×173°.93E,h0km,MLv4.1/10,South*
Island, New Zealand
*WEL **07** 08:53:17.1±0.6,42°.5±3°.×17°.4E±°,h3km±3km,M3.7/13,*
ML4.0/13,MLv3.7/13,Error ellipse: s-maj=0.0km
s-min=0.0km az=118.2,confirmed
ISC 07 08:53:16.4±1.2,42°.45S±0°.03×173°.89E±0°.03,h4km±10km,
n103,σ1s31/112,South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**278**	P		**Pg**	**08 53 21.7**	**+0.3**
KHZ	**Kahutara**	**0.26**	**278**	P		**Pg**	**08 53 21.5**	**+0.1**
KHZ				S		**Sg**	**08 53 24.8**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.74**	**359**	P		**Pg**	**08 53 30.3**	**-0.1**
BSWZ				S		**Sg**	**08 53 40.4**	**+0.4**
CMWZ	**Cape Campbell**	**0.74**	**19**	P		**Pb**	**08 53 32.4**	**+0.6**
GVZ	**Greta Valley S**	**0.81**	**230**	P		**Pb**	**08 53 34.1**	**+1.0**
GVZ				S		**Sn**	**08 53 46.9**	**-0.2**
THZ	**Tophouse**	**1.00**	**313**	P		**Pg**	**08 53 34.7**	**-1.0**
THZ				S		**Sg**	**08 53 48.0**	**-0.6**
TUWZ	**Tuamarina**	**1.02**	**2**	P		**Pg**	**08 53 35.8**	**-0.2**
TUWZ				S		**Sb**	**08 53 51.0**	**+0.6**
AMCZ	**Amberley**	**1.16**	**231**	P		**Pg**	**08 53 38.3**	**+0.2**
LTZ	**Lake Taylor**	**1.24**	**254**	P		**Pg**	**08 53 39.6**	**-0.5**
LTZ				S		**Sg**	**08 53 56.4**	**+0.2**
TCW	**Tory Channel**	**1.27**	**13**	P		**Pg**	**08 53 39.5**	**-1.2**
NNZ	**Nelson**	**1.29**	**343**	P		**Pg**	**08 53 39.7**	**-1.4**
NNZ				S		**Sn**	**08 53 58.6**	**-0.2**
SNZO	**South Karori**	**1.29**	**28**	P		**Pg**	**08 53 40.2**	**-0.9**
WEL	**Wellington**	**1.34**	**30**	P		**Pn**	**08 53 40.9**	**-0.9**
WEL				S		**Sg**	**08 53 59.2**	**-0.2**
PLWZ	**Palliser**	**1.35**	**50**	P		**Pn**	**08 53 40.8**	**-1.2**
MRNZ	**Matariki Terra**	**1.35**	**321**	P		**Pg**	**08 53 41.2**	**-1.0**
OKCZ	**Okains Bay**	**1.41**	**205**	P		**Pn**	**08 53 42.3**	**-0.5**
OKCZ				S		**Sg**	**08 54 02.5**	**+0.8**
MQZ	**McQueen's Vall**	**1.55**	**215**	P		**Pn**	**08 53 43.3**	**-1.3**
PAWZ	**Paruwai Farm**	**1.57**	**48**	P		**Pn**	**08 53 43.5**	**-1.5**
TKNZ	**Takaka Hill**	**1.58**	**334**	P		**Pn**	**08 53 44.7**	**-0.5**
TKNZ				S		**Sn**	**08 54 06.1**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.59**	**206**	P		**Pn**	**08 53 44.7**	**-0.6**
CAW	**Cannon Point**	**1.61**	**34**	P		**Pn**	**08 53 44.3**	**-1.1**
OXZ	**Oxford**	**1.62**	**237**	P		**Pn**	**08 53 44.3**	**-1.4**
DUWZ	**D'Urville Isla**	**1.65**	**1**	P		**Pn**	**08 53 45.5**	**-0.6**
DUWZ				S		**Sg**	**08 54 09.0**	**-0.3**
DSZ	**Denniston Nort**	**1.70**	**294**	P		**Pn**	**08 53 47.3**	**+0.4**
KIW	**Kapiti Island**	**1.76**	**26**	P		**Pn**	**08 53 46.9**	**-0.8**
MTW	**Mount Morrison**	**1.77**	**44**	P		**Pn**	**08 53 46.1**	**-1.6**
RACZ	**Rakaia**	**1.81**	**225**	P		**Pn**	**08 53 47.1**	**-1.2**
INZ	**Inchbonnie**	**1.83**	**261**	P		**Pn**	**08 53 48.0**	**-0.5**
OGWZ	**Otaki Gorge**	**1.89**	**31**	P		**Pn**	**08 53 48.3**	**-1.1**
QRZ	**Quartz Range**	**1.92**	**327**	P		**Pn**	**08 53 50.3**	**+0.5**
QRZ	**Quartz Range**	**1.92**	**327**	P		**Pn**	**08 53 50.0**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.97**	**39**	P		**Pn**	**08 53 49.2**	**-1.4**
TMWZ	**Te Maipa**	**2.01**	**49**	P		**Pn**	**08 53 49.5**	**-1.6**
MHCZ	**Mount Hutt**	**2.02**	**237**	P		**Pn**	**08 53 49.8**	**-1.4**
WACZ	**Wakanui South**	**2.11**	**224**	P		**Pn**	**08 53 51.5**	**-1.0**
MRZ	**Mangatainoka R**	**2.19**	**36**	P		**Pn**	**08 53 52.1**	**-1.5**
WVZ	**Waitaha Valley**	**2.40**	**254**	P		**Pn**	**08 53 56.2**	**-0.3**
RPZ	**Rata Peaks**	**2.43**	**238**	P		**Pn**	**08 53 55.7**	**-1.2**
RPZ	**Rata Peaks**	**2.43**	**238**	P		**Pn**	**08 53 55.6**	**-1.2**
ARCZ	**Arundel**	**2.48**	**232**	P		**Pn**	**08 53 56.3**	**-1.3**
DVHZ	**Dannevirke**	**2.75**	**39**	P		**Pb**	**08 54 06.3**	**+0.2**
GCSZ	**Gaunt Creek Bo**	**2.76**	**251**	P		**Pn**	**08 54 01.5**	**+0.1**
WAZ	**Wanganui**	**2.82**	**17**	P		**Pn**	**08 54 03.1**	**+1.0**
TMZ	**Timaru**	**2.85**	**226**	P		**Pn**	**08 54 01.8**	**-0.8**
TSZ	**Takapari Road**	**2.85**	**34**	P		**Pn**	**08 54 01.4**	**-1.3**
PRHZ	**Porangahau**	**3.01**	**44**	P		Pg	08 54 21.1	+7.1
LREZ	**Lake Rotokare**	**3.01**	**8**	P		**Pn**	**08 54 08.0**	**+3.2**
NMEZ	**Namu Road**	**3.04**	**360**	P		**Pb**	**08 54 11.1**	**+0.2**
WPHZ	**Waipukurau**	**3.06**	**40**	P		**Pg**	**08 54 17.6**	**+2.5**
PNHZ	**Pukenui**	**3.08**	**35**	P		**Pn**	**08 54 03.8**	**-2.0**
PNHZ	**Pukenui**	**3.08**	**35**	P		**Pg**	**08 54 15.0**	**-0.3**
KHEZ	**Kahui Hut**	**3.15**	**2**	P		**Pn**	**08 54 09.2**	**+2.3**
KHEZ	**Kahui Hut**	**3.15**	**2**	P		**Pn**	**08 54 09.9**	**+3.1**
FOZ	**Fox Glacier**	**3.18**	**249**	P		**Pn**	**08 54 07.7**	**+0.6**
NBEZ	**Newall Road No**	**3.18**	**360**	P		**Pb**	**08 54 11.1**	**-2.3**
NEZ	**North Egmont**	**3.18**	**3**	P		**Pb**	**08 54 12.5**	**-0.9**
PKE	**Pukeiti**	**3.25**	**1**	P		**Pb**	**08 54 13.8**	**-0.9**
DREZ	**Durham Road**	**3.27**	**4**	P		**Pb**	**08 54 13.5**	**-1.4**
MTVZ	**Mangateitei**	**3.29**	**22**	P		**Pg**	**08 54 18.9**	**-0.5**
PXZ	**Pawanui**	**3.30**	**44**	P		Pg	08 54 24.5	+5.0
LBZ	**Lake Benmore**	**3.32**	**233**	P		**Pn**	**08 54 08.1**	**-0.9**
PKVZ	**Pokaka**	**3.35**	**20**	P		**Pn**	**08 54 09.6**	**+0.1**
MOVZ	**Moawhango**	**3.35**	**26**	P		**Pn**	**08 54 09.5**	**-0.1**
WNVZ	**Wahianoa**	**3.38**	**23**	P		**Pn**	**08 54 09.8**	**-0.3**
BHHZ	**Black Hill Sta**	**3.38**	**30**	P		**Pn**	**08 54 09.3**	**-0.7**
VRZ	**Vera Road**	**3.39**	**12**	P		**Pn**	**08 54 10.7**	**+0.7**
TRVZ	**Turoa**	**3.39**	**22**	P		**Pn**	**08 54 10.5**	**+0.3**
DRZ	**Dome Shelter**	**3.42**	**22**	P		**Pb**	**08 54 14.8**	**-2.8**
FWVZ	**Far West T-bar**	**3.43**	**22**	P		**Pn**	**08 54 12.2**	**+1.3**
TUVZ	**Tukino**	**3.45**	**23**	P		**Pn**	**08 54 11.8**	**+0.8**
KAHZ	**Kahuranaki**	**3.48**	**41**	P		**Pg**	**08 54 25.9**	**+2.8**
ODZ	**Otahua Downs**	**3.50**	**221**	P		**Pn**	**08 54 10.4**	**-1.1**
ODZ	**Otahua Downs**	**3.50**	**221**	P		**Pn**	**08 54 10.4**	**-1.1**
NGZ	**Ngauruhoe**	**3.52**	**22**	P		**Pn**	**08 54 13.2**	**+1.3**

SNVZ	South Ngauruho	3.52	23	P		Pb	08 54 22.1	+2.8
OTVZ	Oturere	3.55	23	P		Pn	08 54 14.6	+2.2
NNVZ	North Ngauruho	3.56	22	P		Pn	08 54 12.3	-0.2
WTVZ	West Tongariro	3.57	22	P		Pn	08 54 13.5	+0.8
KWHZ	Kaweka Forest	3.58	33	P		Pb	08 54 22.1	+1.8
ETVZ	East Tongariro	3.59	23	P		Pn	08 54 13.7	+0.8
TMVZ	Te Maari	3.60	23	P		Pn	08 54 13.1	0.0
KRVZ	Karewarewa	3.61	22	P		Pb	08 54 20.1	-0.7
NTVZ	North Tongariro	3.61	23	P		Pn	08 54 14.2	+1.0
MCHZ	McNeill Hill	3.68	36	P		Pg	08 54 27.1	+0.2
RITZ	Rihia Road	3.78	24	P		Pg	08 54 28.7	-0.1
BKZ	Black Stump Fm	3.83	32	P		Pn	08 54 14.1	-2.1
RATZ	Rangitukua	3.86	22	P		Pg	08 54 29.0	-1.2
HIZ	Hauiti	4.00	11	P		Pn	08 54 18.5	+0.1
HIZ	Hauiti	4.00	11	P		Pn	08 54 18.9	+0.4
JCZ	Jackson Bay	4.07	245	P		Pn	08 54 19.4	0.0
JCZ	Jackson Bay	4.07	245	P		Pn	08 54 19.3	0.0
EAZ	Earnscleugh	4.33	228	P		Pn	08 54 21.8	-1.1
TUZ	Tuapeka	4.65	220	P		Pn	08 54 26.4	-0.9
MLZ	Mavora Lakes	5.09	233	P		Pn	08 54 32.2	-1.2
SYZ	Scrubby Hill	5.31	218	P		Pn	08 54 35.4	-1.0
SYZ	Scrubby Hill	5.31	218	P		Pn	08 54 35.7	-0.7
AWAZ	Awhitu Peninsu	5.41	6	P		Pn	08 54 38.1	+0.3
MKAZ	Moumakai	5.43	11	P		Pn	08 54 37.5	-0.5
PUZ	Puketiti	5.50	39	P		Pn	08 54 43.2	+4.2
ETAZ	East Tamaki Re	5.55	9	P		Pn	08 54 40.0	+0.3
WIAZ	Waiheke Island	5.73	10	P		Pn	08 54 42.2	0.0
WCZ	Waipu Caves	6.51	3	P		Pn	08 54 57.6	+4.7
OUZ	Omahuta	7.22	358	P		Pn	08 55 03.9	+1.2

*IDC **07** 08:57:39.8±4.6,5°.33S×153°.28E, h57km±32km, mb3.5/9, mbtmp3.9/10, ML1.9/1, Error ellipse: s-maj=48.2km s-min=18.3km az=108.0*

ISC 07 08:57:37.7±1.2,5°.3S±0°.1×153°.5E±0°.2, h43km, n15, σ1§16/14, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.75**	**305**	P		Pn	**08 58 05.6**	**+0.1**
	996nm,0.6s,baz=124,slow=2.5,SNR=28							
KRVT				LR		LR	08 58 46.4	
	comp=Z,611nm,20.2s,baz=219,slow=41							
PMG	**Port Moresby**	**7.44**	**237**	P		Pn	**08 59 23.9**	**0.0**
	1.2nm,0.3s,baz=45,slow=10.0,SNR=1.7							
PMG				S		Sn	**09 00 48.4**	**+1.3**
	29nm,0.6s,baz=262,slow=22,SNR=6.6							
	18nm,0.8s							
WRA	**Warramunga Arr**	**23.60**	**230**	P		P	**09 02 43.6**	**-1.3**
	1.3nm,0.9s,baz=55,slow=10,SNR=6.4							
	1.3nm,0.9s							
ASAR	**Alice Springs**	**26.21**	**224**	P		P	**09 03 07.1**	**-1.7**
	0.7nm,0.9s,baz=62,slow=9.1,SNR=5.0							
ASAR				PcP		PcP	**09 06 35.3**	**+0.3**
	0.7nm,0.9s,baz=54,slow=4.7,SNR=4.2							
	0.7nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**27.03**	**29**	T		T	09 31 36.9	
	baz=212,slow=74,SNR=6.4							
H11S2	**WAKE ISLAND Hy**	**27.03**	**29**	T		T	09 31 42.3	
	baz=212,slow=74,SNR=5.1							
H11S1	**WAKE ISLAND Hy**	**27.05**	**29**	T		T	09 31 38.9	
	baz=212							
KSRS	**Korea Array**	**48.76**	**333**	P		P	**09 06 17.9**	**-0.5**
	1.4nm,0.8s,baz=145,slow=8.2,SNR=5.8							
	1.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**58.69**	**295**	P		P	**09 07 32.5**	**+1.0**
	0.8nm,0.3s,baz=119,slow=5.7,SNR=5.1							
	0.8nm,0.3s							
SONM	**Songino Array**	**67.11**	**328**	P		P	**09 08 25.8**	**-1.3**
	0.8nm,0.7s,baz=157,slow=6.3,SNR=5.2							
	0.8nm,0.7s							
MKAR	**Makanchi Array**	**81.15**	**319**	P		P	**09 09 48.9**	**0.0**
	0.7nm,0.7s,baz=120,slow=4.3,SNR=6.1							
	0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**81.95**	**326**	P		P	**09 09 51.7**	**-1.2**
	0.7nm,0.6s,baz=86,slow=6.4,SNR=3.7							
	0.7nm,0.6s							
ILAR	**Eielson Array**	**82.40**	**22**	P		P	**09 09 57.0**	**+2.0**
	0.4nm,0.6s,baz=240,slow=5.4,SNR=8.2							
	0.4nm,0.6s							
AAK	**Ala-Archa**	**85.50**	**313**	P		P	**09 10 11.6**	**+0.1**
	1.1nm,0.7s,baz=108,slow=5.6,SNR=3.5							
	1.1nm,0.7s							
GERES	**GERESS Array B**	**124.84**	**329**	PKP		**PKPdf**	**09 16 33.2**	**0.0**
	0.4nm,0.6s,baz=74,slow=4.2,SNR=4.5							

*NEIC **07** 08:57:57.9±1.0, 11°.7S±0°.1×165°.4E±0°.2, h38km±10km, mb4.4/13, Error ellipse: s-maj=24.3km s-min=12.2km az=65.0*

*IDC **07** 08:57:57.6±1.0, 11°.67S×165°.45E, h42km±7km, mb4.1/11, mbtmp4.3/11, ML6.0/1, MS3.6/5, Error ellipse: s-maj=19.0km s-min=18.0km az=165.0*

ISC 07 08:57:55.4±0.7, 11°.68S±0°.09×165°.5E±0°.1, h24km, n33, σ1§03/33, mb4.3/16, MS3.4/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.86**	**292**	P		**Pn**	**08 59 21.7**	**+0.9**
	394nm,0.3s,baz=182,slow=4.0,SNR=8.5							
HNR				S		**Sn**	**09 00 27.0**	**-0.2**
	2µm,0.5s,baz=309,slow=22,SNR=5.6							
KOUNC	**Koumac, New Ca**	**8.90**	**187**	Pn		**Pn**	**09 00 02.9**	**+0.4**
KRVT	**Keravat (AS076**	**15.17**	**298**	LR		LR	09 07 37.3	
	comp=Z,175nm,18.9s,baz=265,slow=38							
PMG	**Port Moresby**	**18.13**	**275**	LR		LR	09 08 25.6	
	comp=Z,184nm,18.2s,baz=120,slow=35							
CTA	**Charters Tower**	**20.26**	**243**	LR		LR	09 09 11.3	
	comp=Z,143nm,18.4s,baz=62,slow=33							
ARMA	**Armidale**	**22.64**	**212**	P		**P**	**09 02 55.3**	**+0.4**
ARMA				IAmb		IAmb	09 02 58.1	
	comp=Z,30nm,1.1s							
BKZ	**Black Stump Fm**	**29.08**	**162**	P		**P**	**09 03 54.0**	**-0.2**
BKZ				IAmb		IAmb	09 04 36.0	
	comp=Z,36nm,1.5s							
STKA	**Stephens Creek**	**29.79**	**224**	P		**P**	**09 04 00.8**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=30,slow=7.6,SNR=9.0							
	comp=Z,4.0nm,0.7s							
STKA	**Stephens Creek**	**29.79**	**224**	P		**P**	**09 04 00.5**	**0.0**
WB2	**Warramunga Arr**	**30.99**	**251**	P		**P**	**09 04 10.6**	**-0.7**
WB2				IAmb		IAmb	09 04 12.0	
	comp=Z,22nm,1.4s							
WRA	**Warramunga Arr**	**31.00**	**251**	P		**P**	**09 04 11.1**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=78,slow=7.8,SNR=8.9							
	comp=Z,2.9nm,0.9s							
WRA	**Warramunga Arr**	**31.00**	**251**	P		**P**	**09 04 09.7**	**-1.7**
AS31	**Alice Springs**	**32.26**	**244**	P		**P**	**09 04 21.6**	**-0.8**
AS31				IAmb		IAmb	09 04 22.6	
	comp=Z,1.7nm,1.0s							
ASAR	**Alice Springs**	**32.26**	**244**	P		**P**	**09 04 21.4**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=73,slow=9.6,SNR=10							
	comp=Z,2.9nm,0.8s							
RPZ	**Rata Peaks**	**32.29**	**172**	P		**P**	**09 04 23.5**	**+1.1**
BBOO	**Buckleboo**	**34.19**	**227**	P		**P**	**09 04 38.8**	**-0.3**
RAR	**Rarotonga**	**34.60**	**110**	LR		LR	09 15 28.3	
	comp=Z,175nm,21.7s,baz=288,slow=30							
FITZ	**Fitzroy Crossi**	**38.95**	**256**	P		**P**	**09 05 19.4**	**-0.4**
PPT	**Papeete**	**43.83**	**103**	LR		LR	09 19 56.8	
	comp=Z,41nm,20.6s,baz=290,slow=30							
JMN	**Monobe**	**54.24**	**327**	P		**P**	**09 07 19.8**	**+0.3**
KSRS	**Korea Array**	**60.24**	**326**	P		**P**	**09 08 01.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=146,slow=7.6,SNR=4.3							
	comp=Z,1.1nm,0.7s							
USRK	**Ussuriysk Ar.**	**63.38**	**334**	P		**P**	**09 08 22.8**	**0.0**
	comp=Z,2.6nm,0.7s,baz=83,slow=8.6,SNR=4.1							
	comp=Z,2.6nm,0.7s							
VNDA	**Vanda**	**65.86**	**181**	P		**P**	**09 08 38.5**	**-0.1**
VNDA				IAmb		IAmb	09 08 50.9	
	comp=Z,2.5nm,1.2s							
CMAR	**Chiang Mai Arr**	**72.10**	**294**	P		**P**	**09 09 19.2**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=121,slow=4.7,SNR=6.9							
CMAR				pP		**pwP**	**09 09 31.5**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=114,slow=4.1,SNR=2.8							
	comp=Z,0.8nm,0.3s							
QSPA	**South Pole Qui**	**78.33**	**180**	P		**P**	**09 09 53.4**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=8.1,slow=3.6,SNR=18							
	comp=Z,5.1nm,0.8s							
QSPA	**South Pole Qui**	**78.33**	**180**	P		**P**	**09 09 53.2**	**-0.4**
QSPA				IAmb		IAmb	09 09 54.2	
	comp=Z,5.8nm,0.8s							
SONM	**Songino Array**	**79.00**	**324**	P		**P**	**09 09 57.7**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=139,slow=7.1,SNR=6.6							
	comp=Z,1.4nm,0.9s							
SONM	**Songino Array**	**79.00**	**324**	P		**P**	**09 09 58.3**	**+0.8**
SONM				IAmb		IAmb	09 09 58.7	
	comp=Z,2.7nm,1.1s							

ILAR	**Eielson Array**	**84.20**	**19**	P		**P**	**09 10 22.2**	**-2.2**
	comp=Z,1.3nm,0.7s,baz=234,slow=5.1,SNR=16							
ILAR				pP		**sP**	**09 10 36.1**	**+3.7**
	comp=Z,1.1nm,0.6s,baz=251,slow=4.9,SNR=4.8							
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**93.78**	**317**	P		**P**	**09 11 10.4**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=74,slow=10,SNR=12							
MKAR				pP		**pwP**	**09 11 23.5**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=103,slow=5.4,SNR=3.1							
	comp=Z,2.2nm,0.7s							
ZALV	**Zalesovo Beam**	**93.90**	**324**	P		**P**	**09 11 09.6**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=106,slow=5.3,SNR=8.0							
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**116.87**	**345**	PKP		**PKPdf**	**09 16 37.7**	**+0.2**
	comp=Z,5.6nm,1.1s,baz=54,slow=3.1,SNR=5.7							
ESDC	**Sonseca Array**	**150.58**	**343**	PKPbc		**PKPbc**	**09 17 45.6**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=2.8,slow=1.6,SNR=9.6							
ESDC				PKPab		**PKPab**	**09 17 53.0**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=6.9,slow=3.9,SNR=8.0							

*GII **07** 09:10:45.9±0.0, 30°.34N×32°.05E, h1km, Mm2.7/3*
*HLW **07** 09:10:45.5, 30°.27N×31°.93E, h2km±2km, Md2.4*

ISC 07 09:10:45.2±1.6, 30°.32N±0°.06×31°.92E±0°.04, h6km±13km, n23, σ0§60/32, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HHAG	**Hagoal**	**0.39**	**157**	P		**Pg**	**09 10 52.7**	**0.0**
	baz=155							
KOT	**Kottamia**	**0.40**	**192**	P		**Pg**	**09 10 52.9**	**+0.1**
	baz=195							
KOT				S		**Sg**	**09 10 58.4**	**+0.4**
	baz=195							
HLW	**Helwan**	**0.68**	**228**	S		**Sg**	**09 11 07.3**	**+0.3**
	baz=232							
GLL	**Jalalah**	**0.76**	**194**	P		**Pg**	**09 10 59.3**	**-0.4**
	baz=196							
HSAF	**As Saff**	**0.77**	**205**	P		**Pg**	**09 10 59.4**	**-0.4**
	baz=208							
ZNM	**Zenema**	**1.25**	**138**	P		**Pg**	**09 11 08.7**	**-0.4**
	baz=136							
HNAT	**Natroun**	**1.32**	**239**	P		**Pg**	**09 11 10.2**	**-0.3**
	baz=242							
HNAT				S		**Sg**	**09 11 28.0**	**+0.4**
	baz=242							
NBNS	**Bani Suef**	**1.77**	**198**	P		**Pn**	**09 11 16.1**	**-0.4**
	baz=199							
RYAN	**Fayoum**	**1.89**	**230**	P		**Pn**	**09 11 18.2**	**+0.2**
	baz=232							
GRB	**Gharib**	**2.17**	**159**	P		**Pn**	**09 11 21.1**	**-0.9**
	baz=159							
KZIT	**Kziot**	**2.21**	**74**	Pn		**Pn**	**09 11 22.5**	**0.0**
KZIT				Sn		**Sn**	**09 11 50.6**	**+0.4**
HKAT	**Jabal Katrina**	**2.54**	**134**	P		**Pn**	**09 11 26.2**	**-1.0**
	baz=133							
MBRI	**Mt Berech**	**2.64**	**101**	Pn		**Pn**	**09 11 29.1**	**+0.6**
PRNI	**Paran**	**2.66**	**88**	Pn		**Pn**	**09 11 27.0**	**-1.7**
PRNI				Sn		**Sn**	**09 12 01.3**	**-0.1**
EIL	**Elat**	**2.70**	**103**	Pn		**Pn**	**09 11 29.4**	**+0.2**
EIL				Sn		**Sn**	**09 12 02.4**	**+0.1**
HRFI	**Mount Harif**	**2.71**	**95**	Pn		**Pn**	**09 11 29.7**	**+0.3**
HRFI				Sn		**Sn**	**09 12 03.1**	**+0.6**
TAMRE	**El Minia**	**2.77**	**199**	P		**Pn**	**09 11 30.0**	**-0.1**
	baz=200							
ZFRI	**Zfri**	**2.82**	**84**	Pn		**Pn**	**09 11 30.6**	**-0.2**
ZFRI				Sn		**Sn**	**09 12 04.9**	**-0.3**
HDHB	**Dhahab**	**2.84**	**123**	P		**Pn**	**09 11 31.4**	**+0.3**
	baz=122							
ASUT		**2.93**	**186**	P		**Pn**	**09 11 31.8**	**-0.5**
	baz=187							
MSBI	**Mazada**	**3.12**	**71**	Pn		**Pn**	**09 11 34.4**	**-0.5**
MSBI				Sn		**Sn**	**09 12 12.7**	**+0.2**
HHRG	**Al Ghardaqah**	**3.41**	**155**	P		**Pn**	**09 11 40.4**	**+1.5**
	baz=154							
HMDT	**Nahal Hemdat**	**3.64**	**57**	Pn		**Pn**	**09 11 42.5**	**+0.4**
HMDT				Sn		**Sn**	**09 12 25.4**	**0.0**

*VAO **07** 09:11:48.4±1.5, 2°.77S×80°.59W, h10km, mb4.4*
*IGQ **07** 09:11:53±0.5, 3°.5±2°×8°.0W±°, h10km*

*IDC **07** 09:11:53.6±0.8, 2°.64S×80°.05W, h27km±5km, mb3.7/9, mbtmp3.9/12, ML3.4/3, MS3.5/10, Error ellipse: s-maj=39.0km s-min=13.3km az=65.0*

*NEIC **07** 09:11:54.0±1.5, 2°.94S±0°.04×80°.34W±0°.08, h26km±10km, mb4.1/10, Error ellipse: s-maj=11.9km s-min=6.1km az=104.0*

ISC 07 09:11:52.8±0.7, 2°.89S±0°.03×80°.46W±0°.06, h28km±5km, n137, σ1§70/140, mb4.0/10, MS3.4/6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARNL	**Arenillas**	**0.76**	**149**			**Pb**	**09 12 07.3**	**-0.2**
ARNL				Sn		**Sn**	**09 12 17.8**	**-0.5**
ARNL	**Arenillas**	**0.76**	**149**	P		**Pb**	**09 12 07.0**	**-0.5**
ARNL				S		**Sn**	**09 12 17.0**	**-1.3**
GYE3	**Ecuador-Guayaq**	**0.92**	**37**	P		**Pb**	**09 12 08.0**	**-2.1**
GYE3				S		**Sb**	**09 12 21.0**	**-1.0**
MILO	**Milagro-Astudi**	**1.08**	**56**	P		**Pn**	**09 12 12.0**	**-0.2**
MILO				S		**Sn**	**09 12 29.0**	**+2.7**
AMIL	**Milagro (Trans**	**1.14**	**49**	P		**Pn**	**09 12 13.0**	**0.0**
COHC	**Cochancay**	**1.27**	**71**			**Pn**	**09 12 14.5**	**-0.3**
COHC				Sn		**Sb**	**09 12 34.1**	**+2.0**
PPLP	**Puerto Lpez**	**1.37**	**347**	P		**Pn**	**09 12 15.0**	**-1.2**
MCRA	**Macar, Loja**	**1.55**	**161**			**Pn**	**09 12 19.0**	**+0.3**
CHSH	**Refugio Sur-Vo**	**2.11**	**49**			**Pn**	**09 12 27.4**	**+0.6**
CHSH	**Refugio Sur-Vo**	**2.11**	**49**	P		**Pn**	**09 12 27.0**	**+0.2**
TAMH	**Tambohuasha Ch**	**2.14**	**51**	P		**Pn**	**09 12 27.0**	**-0.2**
PORT	**Chimborazo Vol**	**2.20**	**50**			**Pn**	**09 12 28.8**	**+0.7**
PORT	**Chimborazo Vol**	**2.20**	**50**	P		**Pn**	**09 12 28.0**	**-0.1**
IGUA	**Igualata**	**2.29**	**53**	P		**Pn**	**09 12 30.0**	**+0.7**
ZUMB	**Zumba**	**2.36**	**146**	P		**Pb**	**09 12 32.0**	**-2.7**
BMAS	**Trigal station**	**2.41**	**55**	P		**Pn**	**09 12 32.0**	**+1.2**
BIL2	**Estacion Bilba**	**2.42**	**54**	P		**Pn**	**09 12 32.0**	**+1.2**
TUYU	**Q. Yuibug Volc**	**2.42**	**55**	P		**Pn**	**09 12 32.0**	**+1.0**
ARRY	**Arrayan**	**2.43**	**56**	P		**Pn**	**09 12 31.0**	**0.0**
BBIL	**Ulba Tungurahu**	**2.43**	**54**	P		**Pn**	**09 12 33.0**	**+2.0**
BPAT	**Tungurahua Vol**	**2.44**	**56**	P		**Pn**	**09 12 32.0**	**+0.6**
RETU	**Refugio**	**2.46**	**55**	P		**Pn**	**09 12 33.0**	**+1.3**
POND	**Pondoa**	**2.48**	**54**	P		**Pn**	**09 12 33.0**	**+1.3**
BRUN	**Tungurahua Vol**	**2.50**	**54**	P		**Pn**	**09 12 33.0**	**+1.0**
FLF1	**Flavio Alfaro-**	**2.59**	**14**	P		**Pn**	**09 12 33.0**	**+0.1**
ILLI	**Illinizas Sur**	**2.77**	**39**	P		**Pn**	**09 12 37.0**	**+1.2**
PUYO	**Puyo, Santa Ro**	**2.80**	**60**	P		**Pn**	**09 12 39.0**	**+3.1**
PAST	**Pastocalle**	**2.84**	**40**	P		**Pn**	**09 12 39.0**	**+2.3**
SRAM	**San Ramn-Vol**	**2.84**	**42**	P		**Pn**	**09 12 39.0**	**+2.3**
MAG1	**Magdalena**	**2.88**	**14**	P		**Pn**	**09 12 37.0**	**+0.1**
PIAT	**Ana Tenorio**	**2.89**	**49**	P		**Pn**	**09 12 40.0**	**+2.6**
SLOR	**San Lorenzo -**	**2.90**	**42**			**Pn**	**09 12 39.8**	**+2.2**
SLOR	**San Lorenzo -**	**2.90**	**42**	P		**Pn**	**09 12 40.0**	**+2.3**
VCES	**Cotopaxi**	**2.92**	**45**	P		**Pn**	**09 12 40.0**	**+2.0**
BMOR	**Cotopaxi Volca**	**2.93**	**43**	P		**Pn**	**09 12 40.0**	**+1.9**
CAMI	**Rancho Maria**	**2.94**	**42**	P		**Pn**	**09 12 41.0**	**+2.9**
BNAS	**Cotopaxi Volca**	**2.96**	**42**	P		**Pn**	**09 12 42.0**	**+3.6**
BREF	**Cotopaxi Volca**	**2.99**	**42**	P		**Pn**	**09 12 41.0**	**+2.1**
NAS2	**Nasa**	**2.99**	**42**	P		**Pn**	**09 12 42.0**	**+3.2**
BTAM	**Cotopaxi Volca**	**3.01**	**43**	P		**Pn**	**09 12 42.0**	**+2.8**
BVC2	**Cotopaxi Volca**	**3.02**	**43**	P		**Pn**	**09 12 42.0**	**+2.7**
TAMB	**Tambo**	**3.02**	**44**	P		**Pn**	**09 12 42.0**	**+2.7**
VC1	**Cotopaxi 1**	**3.03**	**43**	P		**Pn**	**09 12 42.0**	**+2.5**
PITA	**Cotopaxi Volc**	**3.07**	**41**	P		**Pb**	**09 12 48.0**	**+0.9**
TOMA	**Boca Toma-Volc**	**3.12**	**40**	P		**Pn**	**09 12 43.0**	**+2.4**
ANTM	**Antisana-La Mi**	**3.23**	**44**	P		**Pn**	**09 12 44.0**	**+1.8**
ARDO	**Archidona, Ten**	**3.25**	**55**	P		**Pn**	**09 12 44.0**	**+1.9**
BV15	**Puerto Quito-O**	**3.27**	**22**	P		**Pn**	**09 12 41.0**	**-1.3**
GGPC	**Guagua Pichinc**	**3.27**	**35**	P		**Pn**	**09 12 45.0**	**+2.2**
TERV	**Terraza Guagua**	**3.27**	**34**	P		**Pn**	**09 12 44.0**	**+1.2**
PINO	**Pino**	**3.28**	**34**	P		**Pn**	**09 12 44.0**	**+1.0**
ANTS	**Antisana-Sarah**	**3.30**	**44**	P		**Pn**	**09 12 45.0**	**+1.8**
YANA	**Yana**	**3.33**	**34**	P		**Pn**	**09 12 45.0**	**+1.4**
ANTI	**Antisana**	**3.34**	**43**	P		**Pn**	**09 12 46.0**	**+2.3**
APR1	**Acelerografo,**	**3.37**	**33**	P		**Pn**	**09 12 45.0**	**+1.0**
PULU	**Pululahua**	**3.49**	**34**			**Pn**	**09 12 47.5**	**+1.8**
PULU	**Pululahua**	**3.49**	**34**	P		**Pn**	**09 12 47.0**	**+1.3**
PAC1	**Pacto, Paraso**	**3.55**	**28**	P		**Pn**	**09 12 46.0**	**-0.2**
CUSE	**Cuicocha Este**	**3.78**	**33**	P		**Pn**	**09 12 51.0**	**+1.3**
CAYR	**Refugio Cayamb**	**3.78**	**40**	P		**Pn**	**09 12 52.0**	**+2.1**
CUSW	**Cuicocha Oeste**	**3.79**	**34**	P		**Pn**	**09 12 52.0**	**+2.2**
CUIC	**Cuicocha-Domo**	**3.80**	**33**	P		**Pn**	**09 12 52.0**	**+2.0**
ANGU	**Angureal**	**3.81**	**40**	P		**Pn**	**09 12 52.0**	**+1.8**
CAYA	**Cayambe**	**3.84**	**40**	P		**Pn**	**09 12 52.0**	**+1.4**
COTA	**Cotacachi**	**3.84**	**34**	P		**Pn**	**09 12 53.0**	**+2.4**
IMBA	**Imbabura, San**	**3.87**	**36**			**Pn**	**09 12 52.2**	**+1.3**
IMBA	**Imbabura, San**	**3.87**	**36**	P		**Pn**	**09 12 53.0**	**+2.1**
REVS	**Reventador Sur**	**3.96**	**46**	P		**Pn**	**09 12 55.0**	**+3.0**
URCU	**Urcuqui**	**3.97**	**34**	P		**Pn**	**09 12 54.0**	**+1.7**
REVN	**San Rafael**	**3.98**	**45**	P		**Pn**	**09 12 54.0**	**+1.7**
CASC	**Dorado de Casc**	**4.33**	**46**	P		**Pn**	**09 12 59.0**	**+2.0**
LNGL	**El Angel-Carch**	**4.36**	**34**	P		**Pn**	**09 12 58.0**	**+0.3**
BONI	**La Bonita**	**4.42**	**41**	P		**Pn**	**09 13 00.0**	**+1.6**
CHMA	**Chilma**	**4.43**	**33**	P		**Pn**	**09 13 00.0**	**+1.5**
CHL1	**Volcn Chiles**	**4.43**	**34**	P		**Pn**	**09 13 00.0**	**+1.2**
ECEN	**Cerro Negro**	**4.45**	**34**	P		**Pn**	**09 13 00.0**	**+1.0**
SNLR	**San Lorenzo-Es**	**4.45**	**21**	P		**Pn**	**09 12 59.0**	**+0.4**
CHL2	**Volcn Chiles**	**4.46**	**35**	P		**Pn**	**09 13 03.0**	**+3.9**
TULM	**Tulcn-Chalpat**	**4.47**	**37**			**Pn**	**09 13 01.1**	**+2.0**
ATAH	**Atahualpa**	**4.69**	**154**	Pn		**Pn**	**09 13 05.3**	**+3.1**
	2.4nm,0.3s,baz=345,slow=6.1,SNR=18							
ATAH				Sn		**Sn**	**09 14 01.3**	**+5.3**
	4.6nm,0.3s,baz=338,slow=10,SNR=4.0							
ATAH				LR		LR	09 15 13.4	
	comp=Z,384nm,18.4s,baz=307,slow=42							
	13nm,0.5s							
TUMC	**Tumaco**	**4.99**	**20**	Pn		**Pn**	**09 13 07.2**	**+1.3**
FLOC	**Florencia**	**6.54**	**47**	P		**Pn**	**09 13 26.0**	**-1.3**
CZSB	**Cruzeiro do Su**	**9.09**	**122**			**Pn**	**09 14 01.8**	**-0.5**
CZSB	**Cruzeiro do Su**	**9.09**	**122**	eP		**Pn**	**09 14 01.9**	**-0.4**
NNA	**Nana**	**9.72**	**159**	Pn		**Pn**	**09 14 11.7**	**+0.7**
	2.4nm,0.3s,baz=310,slow=13,SNR=4.1							
NNA				Sn		**Sn**	**09 16 02.9**	**+3.5**
	0.8nm,0.3s,baz=202,slow=10.0,SNR=1.7							
	5.3nm,0.3s							
NNA	**Nana**	**9.72**	**159**	Pn		**Pn**	**09 14 10.1**	**-0.9**
ROSC	**El Rosal**	**9.82**	**39**	Pn		Pn	09 14 07.5	-5.3
	1.6nm,0.3s,baz=86,slow=22,SNR=1.7							
ROSC				LR		LR	09 18 36.2	
	comp=Z,344nm,18.2s,baz=238,slow=43							
	5.3nm,0.5s							
ROSC	**El Rosal**	**9.82**	**39**	Pn		**Pn**	**09 14 13.2**	**+0.5**
PAYG	**Puerto Ayora**	**10.07**	**282**	Pn		**Pn**	**09 14 18.4**	**+2.7**
TBTG	**Tabatinga, AM**	**10.61**	**97**			**Pn**	**09 14 22.8**	**-0.3**
TBTG	**Tabatinga, AM**	**10.61**	**97**	eP		**Pn**	**09 14 22.6**	**-0.4**
RUSC	**La Rusia**	**11.41**	**40**	Pn		**Pn**	**09 14 33.5**	**-1.1**
SGCB	**So Gabriel d**	**13.70**	**79**	eP		**Pn**	**09 15 05.4**	**0.0**
JTS	**Las Juntas de**	**13.84**	**341**	LR		LR	09 19 34.6	
	comp=Z,127nm,20.4s,slow=34							
SDV	**Santo Domingo**	**15.26**	**40**	LR		LR	09 22 19.3	
	comp=Z,202nm,19.8s,baz=

s-min=8.1km az=206.0
*DJA **07** 09:11:59.6±0.1, 10°S±1°, 12°0E±°, h82km±2km, M5.5/105, mb5.7/105, mB5.9/80, MLv5.9/20, Mw(mB)5.5/80, MwMwp4.9/7, Mwp5.2/7*
*MOS **07** 09:12:01.0±1.0, 9.20S×120.21E, h111km, mb5.5/68, Error ellipse: s-maj=8.7km s-min=4.5km az=119.0*
*NEIC **07** 09:12:04, 9.346S×120.20E, h60km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^16 Nm; Mrr=5.19; Mθθ=3.52; Mφφ=1.67; Mrθ=4.92; Mθφ=2.97; Mφr=2.17; Fault plane solution: M0=7.67000×10^16 NP1:φs=43.00000°, δ=24.00000°, λ=-107.00000°. NP2:φs=243.00000°, δ=67.00000°, λ=-82.00000°. Principal axes: T 7.8452, Plg22.0000°, Azm327.0000°; N -0.3692, Plg7.0000°, Azm60.0000°; P -7.4759, Plg67.0000°, Azm167.0000°;*

ISC 07 09:11:59.6±0.3, 9.355S±0.03×120.14E±0.03, h83km±2km, h83km:pP-P, n1014, σ1s56/1073, mb5.5/177, 60C-18D, Sumba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.96**	**153**	P		**Pn**	**09 12 16.7**	**-1.7**
MMRI	**Maumere**	**2.19**	**71**			**Pn**	**09 12 34.1**	**0.0**
MMRI	**Maumere**	**2.19**	**71**	P		**Pn**	**09 12 34.7**	**+0.5**
MMRI	**Maumere**	**2.19**	**71**	P		**Pn**	**09 12 34.4**	**+0.2**
PLAI	**Plampang**	**2.39**	**282**	P		**Pn**	**09 12 38.9**	**+2.1**
BSSI	**Bau Bau, Buton**	**3.21**	**6**	P		**Pn**	**09 12 49.7**	**+1.8**
TWSI	**Taliwang, Sumb**	**3.27**	**281**	P		**Pn**	**09 12 51.7**	**+3.0**
BATI	**Baumata**	**3.58**	**104**	Pn		**Pn**	**09 12 52.8**	**0.0**
	2μm,0.3s,baz=300,slow=2.4,SNR=544							
BATI				Sn		**Sn**	**09 13 31.1**	**-3.0**
	855nm,0.3s,baz=72,slow=22,SNR=20							
BATI	**Baumata**	**3.58**	**104**	P		**Pn**	**09 12 52.7**	**-0.1**
BKSI	**Bulukumba**	**4.01**	**360**	P		**Pn**	**09 13 01.2**	**+2.5**
SOEI	**Soe**	**4.09**	**96**			**Pn**	**09 13 00.2**	**+0.3**
SOEI	**Soe**	**4.09**	**96**	P		**Pn**	**09 13 00.3**	**+0.3**
SOEI	**Soe**	**4.09**	**96**	P		**Pn**	**09 13 00.4**	**+0.5**
KAPI	**Kappang**	**4.33**	**355**	Pn		**Pn**	**09 13 05.8**	**+2.8**
	410nm,0.3s,baz=174,slow=9.1,SNR=739							
KAPI				Sn		**Sn**	**09 13 54.3**	**+2.0**
	152nm,0.3s,baz=45,slow=21,SNR=11							
KAPI				LR		LR	09 15 00.8	
	comp=Z,10μm,18.4s,baz=153,slow=46							
KAPI	**Kappang**	**4.33**	**355**	Pn		**Pn**	**09 13 05.4**	**+2.3**
KAPI	**Kappang**	**4.33**	**355**	P		**Pn**	**09 13 06.2**	**+3.1**
KAPI	**Kappang**	**4.33**	**355**	⇑*i*P		**Pn**	**09 13 06.0**	**+2.9**
BBSI	**Bau Bau**	**4.54**	**32**	P		**Pn**	**09 13 08.3**	**+2.4**
BNSI	**Bone**	**4.92**	**360**	P		**Pn**	**09 13 15.5**	**+4.4**
	2μm,0.7s,19μm4μm8.2nm							
IGBI	**Denpasar**	**4.96**	**276**	P		**Pn**	**09 13 12.2**	**+0.6**
SRBI	**Singaraja**	**5.03**	**284**	P		**Pn**	**09 13 13.7**	**+1.1**
	1μm,0.8s,11μm7.0nm							
SPSI	**Sidrap Palu**	**5.37**	**356**	P		**Pn**	**09 13 20.5**	**+3.3**
	2μm,0.9s,18μm6.6nm							
JAGI	**Jajag, Banyuwa**	**5.98**	**278**	Pn		**Pn**	**09 13 25.9**	**+0.3**
JAGI	**Jajag, Banyuwa**	**5.98**	**278**	P		**Pn**	**09 13 26.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**5.98**	**278**	P		**Pn**	**09 13 26.1**	**+0.6**
	1μm,0.4s,23μm7.4nm							
ABJI	**Asem Bagus**	**6.04**	**284**	P		**Pn**	**09 13 28.1**	**+1.7**
	840nm,0.8s,9μm4.5nm							
BLJI	**Banyuglugur**	**6.67**	**283**	P		**Pn**	**09 13 36.0**	**+1.1**
	1μm,0.5s,16μm5.4nm							
GMJI	**Gumukmas**	**6.70**	**279**	P		**Pn**	**09 13 35.0**	**-0.4**
	648nm,0.9s,7μm3.9nm							
BBKI	**Banjar Baru**	**7.87**	**318**	P		**Pn**	**09 13 55.5**	**+4.1**
	1μm,1.2s,14μm4.4nm							
GRJI	**Gresik**	**7.96**	**287**	P		**Pn**	**09 13 54.2**	**+1.6**
	398nm,0.6s,4μm1.5nm							
BWJI	**Bawean**	**8.19**	**295**	P		**Pn**	**09 13 57.9**	**+2.2**
	1μm,0.8s,16μm							
PWJI	**Pagerwojo**	**8.34**	**278**	P		**Pn**	**09 13 58.0**	**+0.2**
	399nm,0.6s,6μm18μm							
APSI	**Ampana**	**8.52**	**10**	P		**Pn**	**09 14 02.7**	**+2.4**
	477nm,0.9s,5μm							
TBJI	**Tambak Boyo**	**8.59**	**286**	P		**Pn**	**09 14 03.2**	**+2.1**
	613nm,1.1s,7μm							
BKB	**Balikpapan**	**8.66**	**338**	P		Pn	09 14 09.5	+7.3
	1μm,1.0s,11μm							
LUWI	**Luwuk**	**8.66**	**18**	Pn		**Pn**	**09 14 03.7**	**+1.5**
LUWI	**Luwuk**	**8.66**	**18**	P		**Pn**	**09 14 05.2**	**+3.0**
	2μm,0.8s,12μm							
NGJI	**Ngawi**	**8.81**	**282**	P		**Pn**	**09 14 05.3**	**+1.1**
	417nm,0.8s,5μm							
NLAI	**Namlea**	**9.21**	**49**	P		**Pn**	**09 14 13.9**	**+4.3**
	344nm,1.0s,14μm							
SANI	**Sanana**	**9.30**	**39**	P		**Pn**	**09 14 14.5**	**+3.6**
SANI	**Sanana**	**9.30**	**39**	P		**Pn**	**09 14 13.2**	**+2.3**
	224nm,0.9s,2μm							
UWJI	**Ujung Watu**	**9.56**	**287**	P		**Pn**	**09 14 16.3**	**+1.9**
	357nm,1.1s,7μm							
UGM	**Wanagama**	**9.61**	**278**	Pn		**Pn**	**09 14 15.8**	**+0.6**
UGM	**Wanagama**	**9.61**	**278**	P		**Pn**	**09 14 14.9**	**-0.3**
UGM	**Wanagama**	**9.61**	**278**	P		**Pn**	**09 14 14.2**	**-1.0**
	634nm,0.9s,6μm							
MTKI	**Muara Teweh, K**	**9.85**	**328**	P		**Pn**	**09 14 22.0**	**+3.6**
	561nm,0.8s,15μm							
YOGI	**Yogyakarta**	**9.85**	**278**	P		**Pn**	**09 14 18.4**	**0.0**
	359nm,0.6s,4μm							
SMRI	**Semarang**	**9.87**	**283**	Pn		**Pn**	**09 14 18.3**	**-0.4**
SMRI	**Semarang**	**9.87**	**283**	P		**Pn**	**09 14 20.4**	**+1.8**
SMRI	**Semarang**	**9.87**	**283**	P		**Pn**	**09 14 19.9**	**+1.3**
	377nm,0.7s,6μm							
MRSI	**Marisa**	**9.93**	**11**	P		**Pn**	**09 14 22.0**	**+2.5**
	332nm,0.9s,3μm							
FITZ	**Fitzroy Crossi**	**10.20**	**149**	P		Pn	09 14 18.0	-5.2
GTOI	**Gorontalo**	**10.33**	**16**	P		**Pn**	**09 14 29.1**	**+4.2**
	84nm,0.8s,938nm							
TOLI2	**Tolitoli**	**10.42**	**4**	Pn		**Pn**	**09 14 28.4**	**+2.3**
TOLI2	**Tolitoli**	**10.42**	**4**	P		**Pn**	**09 14 30.2**	**+4.1**
KNRA	**Kununurra**	**10.51**	**128**	P		**Pn**	**09 14 23.1**	**-4.2**
	baz=10,SNR=420							
KNRA	**Kununurra**	**10.51**	**128**			**Pn**	**09 14 23.5**	**-3.8**
KNRA	**Kununurra**	**10.51**	**128**	P		**Pn**	**09 14 23.6**	**-3.8**
PBKI	**Pangkalan Bun**	**10.70**	**308**	P		**Pn**	**09 14 34.0**	**+4.0**
	776nm,1.0s,8μm							
BNDI	**Bandanaira**	**10.82**	**64**	P		**Pn**	**09 14 32.7**	**+1.1**
SAUI	**Saumlaki**	**11.12**	**84**	Pn		**Pn**	**09 14 34.1**	**-1.6**
SAUI	**Saumlaki**	**11.12**	**84**	P		**Pn**	**09 14 35.9**	**+0.2**
SAUI	**Saumlaki**	**11.12**	**84**	P		**Pn**	**09 14 34.1**	**-1.6**
	1μm,1.0s,15μm							
KPJI	**Karang Pucung**	**11.27**	**279**	P		**Pn**	**09 14 36.9**	**-0.8**
	328nm,0.5s,4μm							
MTN	**Manton Dam**	**11.33**	**109**	P		Pn	09 14 33.4	-5.2
	baz=11,SNR=87							
MTN	**Manton Dam**	**11.33**	**109**			**Pn**	**09 14 34.2**	**-4.5**
MTN	**Manton Dam**	**11.33**	**109**	P		**Pn**	**09 14 34.3**	**-4.3**
CMJI	**Cimerak**	**11.66**	**277**	P		**Pn**	**09 14 39.4**	**-3.7**
	237nm,0.6s,3μm							
MBWA	**Marble Bar**	**11.74**	**182**			**Pn**	**09 14 39.4**	**-4.7**
MBWA	**Marble Bar**	**11.74**	**182**	P		Pn	09 14 38.9	-5.2
JCJI	**Jatiwangi**	**12.09**	**283**	P		**Pn**	**09 14 48.6**	**-0.3**
	379nm,0.8s							
TNTI	**Ternate**	**12.37**	**36**			**Pn**	**09 14 50.5**	**-2.2**
TNTI	**Ternate**	**12.37**	**36**	P		**Pn**	**09 14 54.4**	**+1.7**
	163nm,0.9s,2μm							
BBJI	**Bungbulang**	**12.50**	**278**	P		**Pn**	**09 14 52.3**	**-2.1**
KDU	**Kakadu**	**12.55**	**106**	P		**Pn**	**09 14 51.2**	**-3.9**
	baz=12,SNR=102							
KDU	**Kakadu**	**12.55**	**106**	P		**Pn**	**09 14 51.8**	**-3.3**
LEM	**Lembang**	**12.65**	**281**	Pn		**Pn**	**09 14 56.5**	**0.0**
	34nm,0.3s,baz=42,slow=12,SNR=30							
LEM				Sn		**Sn**	**09 17 17.8**	**+2.1**
	6.7nm,0.3s,baz=278,slow=12,SNR=3.7							
LEM				LR		LR	09 20 21.8	
	comp=Z,610nm,18.7s,baz=229,slow=40							
LEM	**Lembang**	**12.65**	**281**	P		**Pn**	**09 14 56.6**	**0.0**
LEM				pmax		pmax		
	comp=Z,295nm,0.7s							
CNJI	**Cibinong**	**13.03**	**278**	P		**Pn**	**09 14 58.1**	**-3.4**
	comp=Z,353nm,0.9s,comp=Z,4μm							
CBJI	**Citeko**	**13.48**	**282**	P		**Pn**	**09 15 03.7**	**-3.8**
	comp=Z,2μm,0.8s,comp=Z,17μm							
FAKI	**Fak Fak**	**13.63**	**63**			**Pn**	**09 15 07.6**	**-1.8**
FAKI	**Fak Fak**	**13.63**	**63**	P		**Pn**	**09 15 08.3**	**-1.1**
FAKI	**Fak Fak**	**13.63**	**63**	P		**Pn**	**09 15 07.6**	**-1.8**
	comp=Z,234nm,0.7s,comp=Z,2μm							
SKJI	**Sukabumi**	**13.64**	**279**	P		**Pn**	**09 15 09.0**	**-0.6**
	comp=Z,640nm,0.9s,comp=Z,7μm							
SWI	**Sorong**	**13.92**	**53**	P		**Pn**	**09 15 14.3**	**+1.1**
	comp=Z,287nm,0.6s,comp=Z,2μm							
SIJI	**Sorong**	**13.92**	**53**	Pn		**Pn**	**09 15 12.3**	**-0.9**
	comp=Z,16nm,0.3s,baz=214,slow=7.5,SNR=61							
SIJI				Sn		**Sn**	**09 17 51.6**	**+5.3**
	comp=Z,2.8nm,0.3s,baz=206,slow=22,SNR=1.3							
SBJI	**Serang**	**14.25**	**282**	P		**Pn**	**09 15 16.5**	**-0.9**
	comp=Z,426nm,0.8s,comp=Z,8μm							
XMI	**Christmas Isla**	**14.28**	**264**	P		**Pn**	**09 15 18.0**	**+0.1**
GIRL	**Giralia**	**14.38**	**202**	P		**Pn**	**09 15 15.8**	**-3.3**
	baz=14,SNR=149							
GIRL	**Giralia**	**14.38**	**202**			**Pn**	**09 15 16.1**	**-2.9**
GIRL	**Giralia**	**14.38**	**202**	P		**Pn**	**09 15 16.0**	**-3.1**
CGJI	**Cibinong**	**14.56**	**280**	P		**Pn**	**09 15 17.9**	**-3.6**
	comp=Z,768nm,0.8s,comp=Z,8μm							
BLSI	**Bandar Lampung**	**15.29**	**284**	P		**Pn**	**09 15 30.6**	**-0.3**
	comp=Z,499nm,1.0s,comp=Z,6μm							
PPBI	**Pangkal Pinang**	**15.65**	**296**	P		**Pn**	**09 15 36.3**	**+0.9**
	comp=Z,183nm,1.0s							
KKM	**Kota Kinabalu**	**15.79**	**346**	P		**P**	**09 15 39.1**	**-0.4**
KKM	**Kota Kinabalu**	**15.79**	**346**	P		**P**	**09 15 41.0**	**+1.5**
KLI	**Kotabumi**	**15.80**	**285**	P		**P**	**09 15 40.5**	**+0.9**
KLI				pmax		pmax		
	comp=Z,1μm,1.1s							
KLI	**Kotabumi**	**15.80**	**285**	P		**Pn**	**09 15 36.9**	**-0.5**
	comp=Z,1μm,1.1s,comp=Z,10μm							
KASI	**Kota Agung**	**15.97**	**283**	P		**Pn**	**09 15 37.4**	**-2.0**
	comp=Z,1μm,0.5s,comp=Z,15μm							
RKPI	**Ransiki, Papua**	**15.99**	**62**	P		**Pn**	**09 15 38.1**	**-1.7**
	comp=Z,260nm,0.7s,comp=Z,13μm							
LWLI	**Liwa**	**16.52**	**284**	P		**P**	**09 15 47.2**	**-0.4**
	comp=Z,827nm,0.8s,comp=Z,13μm							
PMBI	**Palembang**	**16.55**	**292**			**P**	**09 15 47.8**	**0.0**
MDSI	**Maura Dua**	**16.56**	**286**	P		**Pn**	**09 15 45.9**	**-0.9**
	comp=Z,148nm,1.0s,comp=Z,2μm							
DAV	**Davao City (W)**	**17.19**	**19**	P		**P**	**09 15 56.0**	**+1.0**
	comp=Z,107nm,0.4s,baz=92,slow=13,SNR=3.6							
WB0	**Warramunga Arr**	**17.23**	**128**	P		**Pn**	**09 15 51.9**	**-3.2**
MEEK	**Meekatharra**	**17.25**	**185**	P		**Pn**	**09 15 53.1**	**-2.1**
	baz=17,SNR=91							
MEEK	**Meekatharra**	**17.25**	**185**	P		**Pn**	**09 15 53.1**	**-2.1**
WRA	**Warramunga Arr**	**17.29**	**129**	P		**Pn**	**09 15 51.8**	**-4.0**
	comp=Z,20nm,0.3s,baz=306,slow=14,SNR=168							
WRA				S		Sn	09 18 50.4	-18
	comp=Z,178nm,0.8s,baz=305,slow=24,SNR=9.2							
	comp=Z,119nm,0.6s							
WRA	**Warramunga Arr**	**17.29**	**129**	P		**Pn**	**09 15 53.4**	**-2.4**
WRA	**Warramunga Arr**	**17.29**	**129**	P		**Pn**	**09 15 53.4**	**-2.4**
WRAB	**Tennant Creek**	**17.30**	**129**	P		**Pn**	**09 15 52.4**	**-3.5**
WRAB	**Tennant Creek**	**17.30**	**129**	*ce*P		**Pn**	**09 15 52.7**	**-3.2**
WRAB				pmax		pmax		
	comp=Z,466nm,1.7s							
WB2	**Warramunga Arr**	**17.30**	**129**	P		**Pn**	**09 15 53.3**	**-2.6**
WRKA	**Warakunra**	**17.43**	**155**	P		**Pn**	**09 15 53.4**	**-4.0**
	baz=17,SNR=308							
WRKA	**Warakunra**	**17.43**	**155**	P		**Pn**	**09 15 53.9**	**-3.5**
MNAI	**Manna**	**17.76**	**285**	P		**P**	**09 16 00.8**	**-0.4**
MNAI	**Manna**	**17.76**	**285**	P		**P**	**09 16 00.1**	**-1.1**
	comp=Z,1μm,0.8s,comp=Z,16μm							
DSRI	**Dabo**	**17.82**	**299**	P		**Pn**	**09 16 03.3**	**+1.0**
	comp=Z,111nm,0.6s,comp=Z,3μm							
TPRI	**Tanjung Pinang**	**18.60**	**302**	P		**Pn**	**09 16 12.4**	**+0.8**
	comp=Z,138nm,1.0s							
MASI	**Maura Aman, Be**	**18.82**	**288**	P		**P**	**09 16 13.5**	**+0.6**
	comp=Z,842nm,0.8s,comp=Z,6μm							
AS31	**Alice Springs**	**19.39**	**139**	P		**P**	**09 16 17.9**	**-1.1**
ASAR	**Alice Springs**	**19.39**	**139**	P		**P**	**09 16 18.2**	**-0.8**
	comp=Z,21nm,0.3s,baz=318,slow=11,SNR=909							
ASAR				S		S	09 19 42.8	-11
	comp=Z,139nm,0.8s,baz=315,slow=23,SNR=9.2							
ASAR				LR		LR	09 24 13.6	
	comp=Z,849nm,21.0s,baz=316,slow=38							
	comp=Z,139nm,0.7s							
ASAR	**Alice Springs**	**19.39**	**139**	P		**P**	**09 16 18.4**	**-0.6**
ASAR	**Alice Springs**	**19.39**	**139**	P		**P**	**09 16 18.4**	**-0.6**
MYKOM	**Kota Tinggi**	**19.64**	**304**	P		**Pn**	**09 16 23.1**	**-0.9**
SMPI	**Sarmi**	**19.86**	**70**	P		**P**	**09 16 23.6**	**-0.6**
	comp=Z,146nm,1.2s,comp=Z,5μm							
MORW	**Morawa**	**19.99**	**191**	P		**P**	**09 16 25.6**	**+0.1**
	baz=20,SNR=22							
MORW	**Morawa**	**19.99**	**191**	P		**P**	**09 16 24.6**	**-0.8**
MORW	**Morawa**	**19.99**	**191**	P		**P**	**09 16 25.5**	**+0.1**
SDSI	**Sungai Dareh**	**20.41**	**293**	P		**P**	**09 16 29.9**	**-0.2**
	comp=Z,95nm,0.8s							
GENI	**Genyem**	**21.01**	**73**	P		**P**	**09 16 35.0**	**-1.6**
	comp=Z,181nm,1.2s							
PDSI	**Padang**	**21.30**	**292**	P		**P**	**09 16 36.5**	**-3.2**
	comp=Z,59nm,0.6s							
BKNI	**Bangkinang**	**21.31**	**296**	P		**P**	**09 16 40.6**	**+0.8**
BKNI	**Bangkinang**	**21.31**	**296**	P		**P**	**09 16 41.4**	**+1.6**
	comp=Z,394nm,0.9s,comp=Z,4μm							
BLDU	**Ballidu**	**21.39**	**188**	P		**P**	**09 16 39.9**	**-0.7**
	baz=21,SNR=64							
BLDU	**Ballidu**	**21.39**	**188**	P		**P**	**09 16 39.9**	**-0.7**
QIS	**Mount Isa**	**21.83**	**123**	P		**P**	**09 16 44.9**	**-0.4**
	baz=22,SNR=488							
QIS	**Mount Isa**	**21.83**	**123**	P		**P**	**09 16 44.8**	**-0.5**
KMBL	**Kambalda**	**21.96**	**176**	P		**P**	**09 16 45.4**	**-1.3**
	baz=22,SNR=39							
KMBL	**Kambalda**	**21.96**	**176**	P		**P**	**09 16 45.3**	**-1.3**
KLBR	**Kellerberrin**	**22.24**	**185**	P		**P**	**09 16 48.6**	**-1.0**
	baz=22,SNR=61							
KLBR	**Kellerberrin**	**22.24**	**185**	P		**P**	**09 16 48.5**	**-1.1**
FORT	**Forrest**	**22.56**	**162**	P		**P**	**09 16 51.9**	**-1.1**
	baz=22,SNR=16							
FORT	**Forrest**	**22.56**	**162**	P		**P**	**09 16 51.0**	**-2.0**
FORT				IAmb		IAmb	09 16 53.8	
	comp=Z,377nm,1.1s							
FORT	**Forrest**	**22.56**	**162**	P		**P**	**09 16 51.9**	**-1.1**
MUN	**Mundaring**	**22.81**	**189**	P		**P**	**09 16 53.9**	**-1.7**
	baz=23,SNR=22							
MUN	**Mundaring**	**22.81**	**189**	P		**P**	**09 16 54.2**	**-1.3**
COEN	**Coen**	**23.02**	**104**	P		**P**	**09 16 56.9**	**-0.9**
	baz=23,SNR=100							
COEN	**Coen**	**23.02**	**104**	P		**P**	**09 16 56.8**	**-1.1**
COEN				IAmb		IAmb	09 16 59.2	
	comp=Z,200nm,0.8s							
COEN	**Coen**	**23.02**	**104**	P		**P**	**09 16 56.6**	**-1.2**
OOD	**Oodnadatta**	**23.48**	**143**	P		**P**	**09 17 01.2**	**-0.8**
IPM	**Ipoh**	**23.49**	**305**	P		**P**	**09 17 02.6**	**+0.3**
IPM				IAmb		IAmb	09 17 05.5	
	comp=Z,181nm,0.8s							
IPM	**Ipoh**	**23.49**	**305**	P		**P**	**09 17 04.0**	**+1.8**
NWAO	**Narrogin (SRO)**	**23.61**	**186**	P		**P**	**09 17 02.1**	**-1.0**
	comp=Z,211nm,0.6s							
NWAO				S		**S**	**09 21 10.5**	**-0.9**
	comp=Z,211nm,0.6s							
NWAO	**Narrogin (SRO)**	**23.61**	**186**	P		**P**	**09 17 02.5**	**-0.7**
	baz=24,SNR=69							
NWAO				P		**P**	**09 17 02.5**	**-0.7**
	baz=24,SNR=69							
NWAO	**Narrogin (SRO)**	**23.61**	**186**	P		**P**	**09 17 01.9**	**-1.2**
NWAO				IAmb		IAmb	09 17 03.5	
	comp=Z,261nm,0.8s							
NWAO	**Narrogin (SRO)**	**23.61**	**186**	P		**P**	**09 17 01.5**	**-1.6**
NWAO				IAmb		IAmb	09 17 03.5	
	comp=Z,203nm,0.8s							
NWAO	**Narrogin (SRO)**	**23.61**	**186**	P		**P**	**09 17 02.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**23.61**	**186**	P		**P**	**09 17 02.4**	**-0.7**
KULM	**Kulim**	**24.27**	**306**	P		**P**	**09 17 09.1**	**-0.1**
KULM				IAmb		IAmb	09 17 11.6	
	comp=Z,292nm,1.4s							
RPSI	**Rantau Prapat**	**24.29**	**299**	P		**P**	**09 17 09.8**	**+0.3**
RPSI				IAmb		IAmb	09 17 11.3	
	comp=Z,210nm,0.8s							
PSI	**Prapat**	**24.34**	**299**	P		**P**	**09 17 09.8**	**-0.2**
PSI				pmax		pmax		
	comp=Z,210nm,0.8s							
MULG	**Mulgathing**	**24.55**	**150**	P		**P**	**09 17 11.3**	**-0.3**
GSI	**Gunungsitoli**	**24.84**	**294**	P		**P**	**09 17 12.8**	**-1.6**
GSI	**Gunungsitoli**	**24.84**	**294**	P		**P**	**09 17 18.3**	**+3.8**
TSI	**Tuntungan**	**25.01**	**300**	P		**P**	**09 17 16.3**	**+0.4**
	comp=Z,346nm,0.7s,comp=Z,18μm							
MTSU	**Mount Surprise**	**25.03**	**113**	P		**P**	**09 17 16.6**	**+0.4**
	baz=25,SNR=1000							
MTSU	**Mount Surprise**	**25.03**	**113**	P		**P**	**09 17 16.8**	**+0.6**
RKGY	**Rocky Gully**	**25.30**	**186**	P		**P**	**09 17 19.5**	**+1.0**
	baz=25,SNR=45							
RKGY	**Rocky Gully**	**25.30**	**186**	P		**P**	**09 17 19.3**	**+0.9**
PMG	**Port Moresby**	**26.66**	**92**	P		**P**	**09 17 30.3**	**-0.6**
	comp=Z,21nm,0.7s,baz=248,slow=1.8,SNR=8.7							
PMG				ScP		**ScP**	**09 24 27.1**	**+1.3**
	comp=Z,26nm,0.7s,baz=312,slow=2.2,SNR=6.1							
	comp=Z,21nm,0.7s							
PMG	**Port Moresby**	**26.66**	**92**	P		**P**	**09 17 31.2**	**+0.3**
PMG	**Port Moresby**	**26.66**	**92**	P		**P**	**09 17 33.5**	**+2.6**
PMG	**Port Moresby**	**26.66**	**92**	P		**P**	**09 17 33.1**	**+2.2**
PMG	**Port Moresby**	**26.66**	**92**	*ce*P		**P**	**09 17 32.1**	**+1.2**
PMG				pmax		pmax		
	comp=Z,43nm,0.9s							
INKA	**Innaminka**	**26.68**	**136**	P		**P**	**09 17 31.1**	**+0.1**
LCRK	**Leigh Creek**	**26.93**	**144**	P		**P**	**09 17 32.8**	**-0.3**
MLSI	**Meulaboh, Aceh**	**27.25**	**299**	P		**P**	**09 17 35.5**	**-0.7**
	comp=Z,269nm,0.7s							
CTA	**Charters Tower**	**27.38**	**116**	P		**P**	**09 17 37.6**	**+0.3**
	comp=Z,251nm,0.7s,baz=290,slow=10,SNR=184							
	comp=Z,251nm,0.7s							
CTAO	**Charters Tower**	**27.38**	**116**	P		**P**	**09 17 37.3**	**0.0**
CTAO	**Charters Tower**	**27.38**	**116**	P		**P**	**09 17 37.8**	**+0.5**
CTAO	**Charters Tower**	**27.38**	**116**	P		**P**	**09 17 37.3**	**0.0**
CTAO				pmax		pmax		
	comp=Z,274nm,0.8s							
BBOO	**Buckleboo**	**27.59**	**150**	P		**P**	**09 17 38.5**	**-0.5**
	baz=28,SNR=352							
BBOO	**Buckleboo**	**27.59**	**150**	P		**P**	**09 17 37.6**	**-1.5**
BBOO	**Buckleboo**	**27.59**	**150**	P		**P**	**09 17 38.3**	**-0.8**
TV1H	**Townsville Har**	**27.61**	**114**	P		**P**	**09 17 39.9**	**+0.6**
UBPT	**Khong Chiam**	**28.46**	**329**	P		**P**	**09 17 48.0**	**+1.1**
UBPT				IAmb		IAmb	09 17 50.6	
	comp=Z,165nm,1.3s							
QLP	**Quilpie**	**28.53**	**130**	P		**P**	**09 17 48.1**	**+0.7**
	baz=28,SNR=34							
QLP	**Quilpie**	**28.53**	**130**	P		**P**	**09 17 48.2**	**+0.7**
WHYH	**Whyalla**	**28.54**	**148**	P		**P**	**09 17 47.5**	**+0.1**
PTPS	**Port Pirie**	**28.86**	**148**	P		**P**	**09 17 50.4**	**0.0**
HTT	**Hallett**	**29.56**	**147**	P		**P**	**09 17 56.9**	**+0.3**
	baz=30,SNR=85							
HTT	**Hallett**	**29.56**	**147**	P		**P**	**09 17 56.6**	**0.0**
STKA	**Stephens Creek**	**29.97**	**141**	P		**P**	**09 18 00.1**	**-0.2**
	comp=Z,154nm,0.5s,baz=317,slow=9.1,SNR=411							
	comp=Z,154nm,0.5s							
STKA	**Stephens Creek**	**29.97**	**141**	P		**P**	**09 18 00.5**	**+0.3**
	baz=30,SNR=197							
STKA	**Stephens Creek**	**29.97**	**141**	P		**P**	**09 17 59.8**	**-0.4**
STKA	**Stephens Creek**	**29.97**	**141**	P		**P**	**09 18 00.2**	**0.0**
STKA	**Stephens Creek**	**29.97**	**141**	‖*i*P		**P**	**09 18 00.5**	**+0.3**
QIZ	**Qiongzhong**	**29.97**	**340**	P		**P**	**09 18 01.8**	**+1.5**
QIZ				IAmb		IAmb	09 18 02.5	
	comp=Z,90nm,0.9s							
QIZ	**Qiongzhong**	**29.97**	**340**	‖*i*P		**P**	**09 18 01.9**	**+1.6**
QIZ				pP		**pP**	**09 18 19.3**	**0.0**
QIZ				S		**S**	**09 22 58.2**	**+5.9**
QIZ				pmax		pmax		
	comp=Z,110nm,0.9s							
QIZ				LR		LR		
	comp=Z,270nm,12.0s							
QIZ				LR		LR		
	comp=Z,310nm,17.6s							
QIZ				LR		LR		
	comp=Z,490nm,31.0s							
RMQ	**Roma**	**32.00**	**126**	P		**P**	**09 18 19.4**	**+1.2**
	baz=32,SNR=44							
RMQ	**Roma**	**32.00**	**126**	P		**P**	**09 18 19.7**	**+1.5**
KRVT	**Keravat (AS076**	**32.04**	**83**	P		**P**	**09 18 18.4**	**-0.3**
	comp=Z,26nm,0.4s,baz=280,slow=17,SNR=1.8							
KRVT				LR		LR

KMI S **S** 09 25 01.4 +1.4
KMI ScP **ScP** 09 25 06.7 +1.3
KMI pmax pmax
comp=Z,110nm,1.2s
KMI LR LR
comp=Z,290nm,23.1s
KMI LR LR
comp=Z,250nm,14.8s
KMI LR LR
comp=Z,340nm,27.1s
KMI Kunming 38.23 334 P **P** 09 19 14.5 +2.5
KMI pP **pP** 09 19 32.9 +1.5
HNR Honiara 39.26 93 P **P** 09 19 20.2 -0.3
comp=Z,2µm,0.6s,baz=307,slow=2.3,SNR=2.6
HNR LR LR 09 37 26.3
comp=Z,2µm,20.1s,baz=278,slow=39
PZH PanZhiHua 39.87 334 P **P** 09 19 26.6 +1.1
PZH PP **PnPn** 09 21 03.9 +1.1
PZH ScP **ScP** 09 25 11.9 +0.4
PZH ScS **ScS** 09 29 25.1 +0.2
PZH pmax pmax
comp=Z,140nm,1.0s
PZH pmax pmax
comp=Z,290nm,3.5s
PZH LR LR
comp=Z,570nm,20.1s
PZH LR LR
comp=Z,560nm,20.6s
PZH LR LR
comp=Z,900nm,22.1s
WHN Wuhan 40.06 352 ⇓P **P** 09 19 27.7 +1.0
WHN S **S** 09 25 29.2 +2.5
WHN pmax pmax
comp=Z,66nm,0.6s
WHN LR LR
comp=Z,760nm,19.2s
TNCH TengChong 40.15 329 ⇓*i*P **P** 09 19 30.2 +2.3
TNCH pP pP 09 19 49.7 +2.3
TNCH sP sP 09 19 58.4 +1.6
TNCH S **S** 09 25 31.2 +2.5
TNCH pmax pmax
comp=Z,130nm,0.8s
TNCH pmax pmax
comp=Z,230nm,2.6s
MOO Moorlands 40.61 149 P **P** 09 19 33.0 +1.8
baz=41,SNR=24
MOO Moorlands 40.61 149 P **P** 09 19 32.8 +1.5
ENH Enshi 40.71 346 P **P** 09 19 32.6 +0.4
ENH Enshi 40.71 346 P **P** 09 19 32.5 +0.4
ENH PcP **PcP** 09 21 35.4 +3.1
TAU Tasmania Unive 41.02 149 P **P** 09 19 35.0 +0.4
TAU IAmb IAmb 09 19 37.0
comp=Z,113nm,0.9s
TAU Tasmania Unive 41.02 149 P **P** 09 19 35.9 +1.3
TAU Tasmania Unive 41.02 149 P **P** 09 19 35.0 +0.4
TAU pmax pmax
comp=Z,113nm,0.9s
TAU Tasmania Unive 41.02 149 P **P** 09 19 35.6 +1.1
TAU pP **pP** 09 19 52.3 -2.3
TAU PcP **PcP** 09 21 34.9 +1.7
NJ2 Nanjing 41.19 358 ⇑P **P** 09 19 37.6 +1.5
NJ2 pP **pP** 09 19 54.4 -1.4
NJ2 sP **sP** 09 20 05.8 +0.6
NJ2 pmax pmax
comp=Z,85nm,0.5s
JCJ Chichijima 42.07 30 P **P** 09 19 43.4 0.0
comp=Z,160nm,0.8s,baz=212,slow=19,SNR=5.5
JCJ LR LR 09 37 25.6
comp=Z,44nm,21.4s,baz=100,slow=37
comp=Z,160nm,0.8s
LHI Lord Howe Isla 42.30 127 P **P** 09 19 46.8 +1.6
baz=42,SNR=5.3
LHI Lord Howe Isla 42.30 127 P **P** 09 19 46.1 +0.8
LHI IAmb IAmb 09 20 36.3
comp=Z,187nm,1.1s
LHI Lord Howe Isla 42.30 127 P **P** 09 19 46.9 +1.6
BRDH Bariadhala 42.34 319 P **P** 09 19 45.9 +0.2
comp=Z,102nm,0.4s,baz=86,slow=9.2,SNR=9.3
BRDH LR LR 09 40 29.3
comp=Z,103nm,18.2s,baz=118,slow=41
comp=Z,102nm,0.4s
PALK Pallekele 42.62 291 P **P** 09 19 47.8 -0.3
PALK Pallekele 42.62 291 P **P** 09 19 47.8 -0.3
PALK pmax pmax
comp=Z,92nm,1.8s
PALK Pallekele 42.62 291 P **P** 09 19 47.9 -0.3
PALK ScP **ScP** 09 25 24.2 +1.6
CD2 Chengdu 43.01 339 ⇑P **P** 09 19 51.3 +0.3
CD2 S **S** 09 26 06.8 -3.7
CD2 pmax pmax
comp=Z,430nm,0.8s
CD2 pmax pmax
comp=Z,320nm,3.9s
JNU Nakatsue 43.46 13 P **P** 09 19 51.7 -2.9
comp=Z,8.5nm,0.9s,baz=355,slow=7.5,SNR=4.6
JNU LR LR 09 37 45.3
comp=Z,78nm,21.8s,baz=210,slow=36
comp=Z,8.5nm,0.9s
KOUNC Koumac, New Ca 43.95 110 P **P** 09 19 58.6 -0.1
KOUNC IAmb IAmb 09 20 00.5
comp=Z,60nm,0.8s
KOUNC Koumac, New Ca 43.95 110 P **P** 09 19 59.5 +0.8
LYN LuoYang 44.27 351 *e*P **P** 09 20 00.2 -0.7
LYN PcP **PP** 09 21 45.8 0.0
LYN S **S** 09 26 34.1 +5.5
LYN pmax pmax
comp=Z,110nm,8.1s
LYN LR LR
comp=Z,560nm,10.4s
LYN LR LR
comp=Z,750nm,13.5s
LYN LR LR
comp=Z,800nm,15.4s
SHL Shillong 44.29 322 P **P** 09 20 01.5 0.0
SHL IAmb IAmb 09 20 05.7
comp=Z,87nm,0.7s
SHL Shillong 44.29 322 P **P** 09 20 01.5 0.0
SHL pmax pmax
comp=Z,87nm,0.7s
XAN Xi'an 44.45 347 P **P** 09 20 02.5 0.0
XAN pmax pmax
comp=Z,140nm,0.8s
XAN pmax pmax
comp=Z,180nm,3.9s
XAN LR LR
comp=Z,550nm,16.5s
XAN LR LR
comp=Z,240nm,10.3s
XAN LR LR
comp=Z,530nm,17.2s
XAN Xi'an 44.45 347 P **P** 09 20 02.2 -0.2
XAN sP **sP** 09 20 30.7 -1.2
XAN ScP **ScP** 09 25 30.8 +1.2
TIA Tai'an 45.41 357 P **P** 09 20 08.8 -1.2
TIA pmax pmax
comp=Z,17nm,1.2s
TJN Taejon 45.99 8*ce*P **P** 09 20 16.9 +2.3
NOUC Port Laguerre 46.03 112 P **P** 09 20 15.4 +0.2
NOUC pP **pP** 09 20 34.0 -1.3
DZM Mont Dzumac 46.16 112 *e*P **P** 09 20 14.8 -1.5
comp=Z,102nm,1.2s
DZM Mont Dzumac 46.16 112 *e*LR LR 09 33 20.8
comp=Z,574nm,24.9s
DZM Mont Dzumac 46.16 112 P **P** 09 20 16.3 0.0
comp=Z,31nm,1.0s,baz=270,slow=3.4,SNR=18
DZM LR LR 09 41 04.0
comp=Z,212nm,18.5s,baz=238,slow=38
comp=Z,31nm,1.0s
DZM Mont Dzumac 46.16 112 P **P** 09 20 16.3 0.0
DZM IAmb IAmb 09 20 40.2
comp=Z,57nm,1.2s
DZM Mont Dzumac 46.16 112 P **P** 09 20 16.9 +0.6
DZM Mont Dzumac 46.16 112 P **P** 09 20 16.8 +0.5
DZM pP **pP** 09 20 35.0 -1.5
ONTNC Ouen Toro 46.20 112 P **P** 09 20 17.2 +0.6
ONTNC IAmb IAmb 09 20 18.4
comp=Z,70nm,0.9s
ONTNC Ouen Toro 46.20 112 P **P** 09 20 18.4 +1.9
YATNC Mamie plateau, 46.56 111 P **P** 09 20 21.1 +1.7
OUENC Ouen Island, N 46.57 112 P **P** 09 20 19.3 -0.1
OUENC IAmb IAmb 09 20 21.9
comp=Z,55nm,1.1s
OUENC Ouen Island, N 46.57 112 P **P** 09 20 21.2 +1.8
LIFNC LIFOU 46.72 110 P **P** 09 20 20.2 -0.4
LIFNC LIFOU 46.72 110 P **P** 09 20 22.1 +1.5

HNS HongShan 46.78 354 ⇑P **P** 09 20 21.8 +1.1
HNS pmax pmax
comp=Z,15nm,0.6s
KSAR Wonju Array Be 47.11 8 P **P** 09 20 22.9 -0.4
KSAR Wonju Array Be 47.11 8 P **P** 09 20 22.9 -0.4
H08S2 Diego Garcia H 47.12 268 T T 10 11 03.5
baz=96,slow=74
KSRS Korea Array 47.13 8 P **P** 09 20 21.8 -1.6
comp=Z,10nm,0.9s,baz=185,slow=8.4,SNR=24
KSRS PcP **PcP** 09 21 55.0 +1.1
KSRS comp=Z,16nm,0.7s,baz=181,slow=3.3,SNR=22 ScP **ScP** 09 25 41.2 +0.6
comp=Z,0.6nm,0.6s,baz=176,slow=3.7,SNR=4.7
comp=Z,10nm,0.9s
H08S3 Diego Garcia H 47.14 268 T T 10 11 04.2
baz=96,slow=74
H08S1 Diego Carcia H 47.14 268 T T 10 11 04.8
baz=96
DGAR Diego Garcia 47.19 269 P P 09 20 31.0 +6.7
DGAR pP sP 09 20 50.0 -4.0
DVP Devils Point 47.34 105 P **P** 09 20 27.4 +1.9
MARNC Mare, Loyalty 47.54 111 P **P** 09 20 27.5 +0.5
MARNC Mare, Loyalty 47.54 111 P **P** 09 20 28.6 +1.6
RTV Rentapao 47.57 106 P **P** 09 20 29.2 +1.9
LZH Lanzhou 47.73 342 *e*P **P** 09 20 29.5 +1.1
LZH pP pP 09 20 51.6 +3.2
LZH sP sP 09 21 00.4 +2.7
LZH S **S** 09 27 24.5 +5.8
LZH sS sS 09 27 57.3 +4.0
LZH ScS **ScS** 09 30 14.0 -0.1
LZH pmax pmax
comp=Z,170nm,1.1s
LZH LR LR
comp=Z,900nm,13.1s
LZH LR LR
comp=Z,390nm,14.1s
LZH LR LR
comp=Z,1µm,15.1s
LSA Lhasa 47.82 325 P **P** 09 20 29.2 -0.3
LSA pmax pmax
comp=Z,64nm,1.0s
LSA Lhasa 47.82 325 P **P** 09 20 30.7 +1.2
LSA Lhasa 47.82 325 P **P** 09 20 30.4 +0.9
PCHI Peechi 47.84 293 ⇑*e*P **P** 09 20 29.0 -0.4
PCHI eS **S** 09 27 16.1 -4.4
KAAM Kaadhehdhoo 47.94 279 P **P** 09 20 31.9 +1.7
ODAN Odare 48.02 319 *e*Pg **P** 09 20 30.9 +0.1
TAPN Taplejung 48.15 320 *e*P **P** 09 20 31.9 -0.1
comp=Z,269nm,0.7s
RAMN Ramite 48.59 319 *e*P **P** 09 20 35.2 0.0
comp=Z,292nm,0.5s
MAJO Matsushiro 48.71 19 P **P** 09 20 33.5 -2.3
MAJO Matsushiro 48.71 19 ⇓*e*P **P** 09 20 33.3 -2.4
MAJO pmax pmax
comp=Z,18nm,0.9s
MAJO Matsushiro 48.71 19 P **P** 09 20 33.1 -2.7
MAJO pP **pP** 09 20 53.5 -2.4
MAJO sP **sP** 09 21 02.7 -2.5
MAJO PcP **PcP** 09 22 00.4 +0.6
MAJO ScP **ScP** 09 25 47.2 -0.1
MJAR Matsushiro Arr 48.71 19 P **P** 09 20 32.6 -3.2
comp=Z,15nm,0.9s,baz=282,slow=31,SNR=22
MJAR PcP **PcP** 09 22 00.6 +0.8
comp=Z,9.1nm,0.9s,baz=187,slow=4.0,SNR=4.2
MJAR ScP **ScP** 09 25 47.0 -0.4
comp=Z,5.8nm,0.9s,baz=171,slow=3.6,SNR=7.7
comp=Z,15nm,0.9s
HYB Hyderabad 48.95 303 *e*P **P** 09 20 36.6 -1.3
HYB IVmB_BB 09 20 37.3
comp=Z,184nm,0.7s
BJT Baijiatuan 49.26 356 P **P** 09 20 39.1 -0.7
BJT IAmb IAmb 09 20 41.7
comp=Z,34nm,0.6s
BJT Baijiatuan 49.26 356 P **P** 09 20 39.1 -0.7
BJT pmax pmax
comp=Z,34nm,0.6s
BJT Baijiatuan 49.26 356 P **P** 09 20 38.9 -1.0
BJT pP **pP** 09 21 00.5 +0.3
BJT PcP **PcP** 09 22 02.0 +0.4
BJT ScP **ScP** 09 25 50.1 +0.6
JIRN Jiri 49.34 319 *e*P **P** 09 20 40.9 -0.2
comp=Z,405nm,0.6s
PKI Pulchoki 49.78 319 *e*P **P** 09 20 44.2 -0.3
comp=Z,201nm,0.6s
PKIN Phulchoki 49.80 319 *e*P **P** 09 20 43.7 -0.8
comp=Z,213nm,0.5s
DMN Daman 50.01 318 *e*P **P** 09 20 45.6 -0.5
comp=Z,176nm,0.6s
KKN Kakani 50.02 319 *e*Pg **P** 09 20 45.7 -0.4
comp=Z,20nm,0.6s
MNCI Minicoy 50.05 289 P **P** 09 20 46.8 +0.4
HHC Hu-ho-hao-te 50.58 352 *e*P **P** 09 20 50.4 +0.5
HHC pmax pmax
comp=Z,49nm,1.1s
HHC pmax pmax
comp=Z,170nm,5.5s
BTO Baotou 50.58 350 *e*P **P** 09 20 51.2 +1.2
GKN Gorkha 50.58 318 *e*P **P** 09 20 49.8 -0.5
comp=Z,199nm,0.6s
SNY Shenyang 51.03 3 ⇑P **P** 09 20 51.2 -1.9
SNY S **S** 09 28 02.2 -1.9
SNY pmax pmax
comp=Z,43nm,1.7s
SNY pmax pmax
comp=Z,180nm,5.1s
SNY LR LR
comp=Z,190nm,5.7s
SNY LR LR
comp=Z,270nm,13.9s
SNY LR LR
comp=Z,510nm,21.4s
KOLN Koldanda 51.11 317 *e*Pg **P** 09 20 53.3 -1.0
comp=Z,14nm,0.6s
GOMU GeErMu 51.20 334 P **P** 09 20 55.6 +0.6
GOMU S **S** 09 28 09.6 +2.0
GOMU pmax pmax
comp=Z,21nm,0.8s
GOMU pmax pmax
comp=Z,110nm,5.4s
GOMU LR LR
comp=Z,200nm,19.4s
GOMU LR LR
comp=Z,79nm,18.6s
GOMU LR LR
comp=Z,240nm,18.6s
DANN Dangsing 51.39 318 *e*P **P** 09 20 56.0 -0.5
comp=Z,729nm,0.6s
GTA Gaotai 52.06 340 ⇑P **P** 09 21 01.8 +0.7
GTA pP pP 09 21 21.5 +0.1
GTA sP sP 09 21 29.2 -1.4
GTA PcP **PcP** 09 22 13.8 +1.6
GTA ScP **ScP** 09 26 03.0 +1.2
GTA PcS **PcS** 09 26 09.9 -0.6
GTA S **S** 09 28 18.8 0.0
GTA pmax pmax
comp=Z,38nm,0.5s
GTA pmax pmax
comp=Z,190nm,7.2s
GTA LR LR
comp=Z,200nm,20.7s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,290nm,22.3s
CN2 Changchun 53.12 5 *e*P **P** 09 21 06.7 -1.9
CN2 pP pP 09 21 28.7 -0.5
CN2 S **S** 09 28 30.2 -2.6
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,4.0s
XLT XiLinHaoTe 53.13 356 ⇓*i*P **P** 09 21 09.4 +0.6
XLT pP pP 09 21 30.3 +1.1
XLT S **S** 09 28 29.4 -3.7
XLT pmax pmax
comp=Z,57nm,0.7s
XLT pmax pmax
comp=Z,120nm,9.5s
DCZ Deep Cove 53.97 140 P **P** 09 21 15.7 +0.8
DCZ IAmb IAmb 09 21 17.1
comp=Z,68nm,1.1s
PYZ Puysegur Point 54.00 141 P **P** 09 21 16.5 +1.4
USA0B Ussuriysk Arra 54.37 10 P **P** 09 21 15.9 -1.9
USA0B Ussuriysk Arra 54.37 10 ⇓*i*P **P** 09 21 16.5 -1.3
USRK Ussuriysk Ar. 54.37 10 P **P** 09 21 15.9 -1.9
comp=Z,10nm,0.5s,baz=194,slow=5.9,SNR=30
comp=Z,10nm,0.5s
USRK Ussuriysk Ar. 54.37 10 P **P** 09 21 16.3 -1.5
USRK Ussuriysk Ar. 54.37 10 P **P** 09 21 16.3 -1.5
MDJ Mudanjiang 54.39 8 P **P** 09 21 16.6 -1.3
MDJ Mudanjiang 54.39 8 P **P** 09 21 16.5 -1.4
MDJ pmax pmax
comp=Z,32nm,1.1s
MDJ pmax pmax
comp=Z,120nm,3.6s
MDJ Mudanjiang 54.39 8 P **P** 09 21 16.3 -1.6
MDJ pP **pP** 09 21 36.9 -1.6
JCZ Jackson Bay 54.42 138 P **P** 09 21 19.6 +1.2
MLZ Mavora Lakes 54.53 140 P **P** 09 21 19.2 +0.1
MCQ Macquarie Isla 54.57 153 P **P** 09 21 19.9 +0.7
baz=54,SNR=4.8
MCQ Macquarie Isla 54.57 153 P **P** 09 21 20.9 +1.8
MCQ Macquarie Isla 54.57 153 P **P** 09 21 20.1 +1.0
MCQ Macquarie Isla 54.57 153 P **P** 09 21 20.9 +1.8
MCQ pmax pmax
comp=Z,236nm,0.9s
WHZ Wether Hill Ro 54.66 141 P **P** 09 21 20.0 0.0
WKZ Wanaka 54.88 139 P **P** 09 21 21.8 +0.1
WKZ IAmb IAmb 09 21 24.4
comp=Z,56nm,0.7s
FOZ Fox Glacier 54.88 137 P **P** 09 21 21.1 -0.5
FOZ IAmb IAmb 09 21 22.5
comp=Z,60nm,0.6s
OUZ Omahuta 54.98 127 P **P** 09 21 23.9 +1.5
OUZ IAmb IAmb 09 21 25.6
comp=Z,94nm,1.3s
OUZ Omahuta 54.98 127 P **P** 09 21 25.1 +2.6
BNX BinXian 55.23 6 ⇓P **P** 09 21 22.0 -1.9
BNX pmax pmax
comp=Z,110nm,8.0s
LBZ Lake Benmore 55.46 138 P **P** 09 21 25.4 -0.4
LBZ IAmb IAmb 09 21 26.3
comp=Z,50nm,0.6s
DSZ Denniston Nort 55.59 135 P **P** 09 21 27.2 +0.4
INZ Inchbonnie 55.68 136 P **P** 09 21 27.3 -0.1
SYZ Scrubby Hill 55.68 141 P **P** 09 21 28.1 +0.8
RPZ Rata Peaks 55.78 137 P **P** 09 21 28.0 -0.1
comp=Z,211nm,0.8s,baz=270,slow=3.5,SNR=61
RPZ LR LR 09 45 23.2
comp=Z,342nm,21.1s,baz=274,slow=36
comp=Z,211nm,0.8s
RPZ Rata Peaks 55.78 137 P **P** 09 21 28.0 -0.1
RPZ Rata Peaks 55.78 137 P **P** 09 21 28.8 +0.7
QRZ Quartz Range 55.79 133 P **P** 09 21 29.2 +1.0
QRZ Quartz Range 55.79 133 P **P** 09 21 30.4 +2.2
ODZ Otahua Downs 56.02 139 P **P** 09 21 29.8 +0.1
ODZ IAmb IAmb 09 21 30.9
comp=Z,70nm,1.3s
ODZ Otahua Downs 56.02 139 P **P** 09 21 30.6 +0.8
MRNZ Matariki Terra 56.14 134 P **P** 09 21 30.9 +0.2
KHEZ Kahui Hut 56.41 131 P **P** 09 21 34.1 +1.4
HIZ Hauiti 56.82 130 P **P** 09 21 38.4 +2.9
ASAJ Asahikawa 56.98 19 P **P** 09 21 35.4 -1.1
comp=Z,9.2nm,0.4s,baz=218,slow=6.6,SNR=19
ASAJ LR LR 09 47 54.8
comp=Z,64nm,19.6s,baz=61,slow=38
comp=Z,9.2nm,0.4s
KUZ Kuaotunu 57.03 128 P **P** 09 21 38.6 +1.6
SNZO South Karori 57.51 133 P **P** 09 21 40.4 +0.1
SNZO South Karori 57.51 133 P **P** 09 21 39.8 -0.5
ULN Ulaanbaatar 58.14 350 P **P** 09 21 45.2 +0.5
ULN IAmb IAmb 09 21 46.3
comp=Z,63nm,0.9s
ULN Ulaanbaatar 58.14 350*ce*P **P** 09 21 45.5 +0.8
ULN pmax pmax
comp=Z,80nm,1.0s
ULN Ulaanbaatar 58.14 350 P **P** 09 21 45.1 +0.4
ULN sP **sP** 09 22 13.6 -1.0
BKZ Black Stump Fm 58.22 130 P **P** 09 21 46.1 +0.6
SONM Songino Array 58.23 349 P **P** 09 21 45.3 0.0
comp=Z,84nm,0.9s,baz=165,slow=8.6,SNR=327
SONM ScP **ScP** 09 26 29.2 +0.5
comp=Z,2.7nm,0.8s,baz=148,slow=3.6,SNR=3.8
SONM S **S** 09 29 37.4 -3.5
comp=Z,1.8nm,1.2s,baz=178,slow=11,SNR=3.9
SONM PKPPKP **P'P'df** 09 51 19.4 -4.0
comp=Z,0.5nm,0.9s,baz=318,slow=1.9,SNR=3.7
comp=Z,84nm,0.9s
FUNA Funafuti 58.29 94 P **P** 09 21 47.4 +1.1
HIA Hailar 58.37 360 P **P** 09 21 46.9 +0.8
BFZ Birch Farm 58.44 132 P **P** 09 21 46.4 -0.5
URZ Urewera 58.47 129 LR LR 09 48 38.2
comp=Z,146nm,19.0s,baz=36,slow=38
URZ Urewera 58.47 129 P **P** 09 21 47.2 +0.1
DRV Dumont d'Urvil 58.81 171 P **P** 09 21 49.6 +0.7
KLR Kul'dur 59.22 9 P **P** 09 21 50.4 -1.6
comp=Z,2.8nm,0.4s,baz=185,slow=7.4,SNR=13
KLR LR LR 09 48 37.7
comp=Z,57nm,18.7s,baz=202,slow=37
KLR PKPPKP **P'P'df** 09 51 25.6 +3.9
comp=Z,1.2nm,0.6s,baz=10,slow=5.6,SNR=4.7
comp=Z,2.8nm,0.4s
KLR Kul'dur 59.22 9*ce*P **P** 09 21 50.6 -1.4
KLR pmax pmax
comp=Z,8.0nm,1.1s
MXZ Matakaoa Point 59.23 128 P **P** 09 21 53.8 +1.4
YSS Yuzh-Sakhalins 59.58 18 *e*P **P** 09 21 55.3 +0.8
YSS pmax pmax
comp=Z,20nm,0.5s
HEH HeiHe 59.70 5 *e*P **P** 09 21 53.7 -1.5
HEH pmax pmax
comp=Z,43nm,0.8s
HEH pmax pmax
comp=Z,180nm,5.5s
WMQ Urumqi 60.56 334 ⇓*i*P **P** 09 22 02.0 +0.6
WMQ pP pP 09 22 24.4 +2.2
WMQ PcP **PcP** 09 22 46.8 +1.7
WMQ sS sS 09 30 54.9 +10
WMQ pmax pmax
comp=Z,92nm,0.9s
WMQ LR LR
comp=Z,400nm,29.0s
WMQ LR LR
comp=Z,140nm,29.1s
WMQ Urumqi 60.56 334 P **P** 09 22 03.1 +1.7
WMQ pP **pP** 09 22 24.1 +1.8
ZAK Zakamensk 61.27 348 *e*P **P** 09 22 05.8 -0.3
ZAK *e* 09 22 34.4
ZAK pmax pmax
comp=Z,73nm,1.0s
ZAK pmax pmax
comp=Z,33nm,1.0s
GRNR Gornyy 61.52 12 ⇑*i*P **P** 09 22 06.9 -0.8
GRNR *e*S **S** 09 30 22.2 -0.7
GRNR pmax pmax
comp=E,4.0nm,1.2s
GRNR pmax pmax
comp=N,8.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR smax smax
comp=N,2.0nm,1.2s
NIL Nilore 61.73 316 P **P** 09 22 08.0 -1.5
NIL Nilore 61.73 316 P **P** 09 22 08.0 -1.5
NIL pmax pmax
comp=Z,58nm,0.6s
NIL Nilore 61.73 316 P **P** 09 22 08.3 -1.2
WUS Wushi 62.82 326 P **P** 09 22 16.9 +0.2
IRK Irkutsk 62.85 349 *e*P **P** 09 22 16.2 -0.3
IRK pmax pmax
comp=Z,120nm,2.0s
RER Riviere de l'E 62.87 251 P **P** 09 22 20.7 +3.3
RER pP **pP** 09 22 39.7 +1.0
RER sP **sP** 09 22 49.6 +1.6
MOY Mondy 62.98 347 *e*P **P** 09 22 17.5 0.0
MOY pmax pmax
comp=Z,150nm,1.7s
TYV Tymovskoe 63.08 16 *e*P **P** 09 22 18.4 +0.4
TYV *e*S **S** 09 30 42.7 +0.4
TYV pmax pmax
comp=Z,13nm,0.9s
TYV pmax pmax
comp=Z,100nm,3.4s
TYV smax smax
comp=N,200nm,5.7s
ZEA Zeya 63.14 5 *e*P **P** 09 22 17.9 -0.5
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=E,10.0nm,0.6s

ZEA pmax pmax
comp=Z,30nm,1.0s
KSH Kashi 63.56 323 P **P** **09 22 21.5 -0.1**
KSH pP pP 09 22 41.4 -1.2
KSH S **S** **09 30 47.3 -1.8**
KSH pmax pmax
comp=Z,78nm,0.6s
TARG Taragay, Kyrgy 63.96 326 P **P** **09 22 24.5 -0.1**
TARG Taragay, Kyrgy 63.96 326 P **P** **09 22 24.5 -0.1**
TARG pmax pmax
comp=Z,25nm,0.8s
SHLS Shalkode 64.05 328 *e*P **P** **09 22 23.5 -1.3**
comp=Z,16nm,0.7s,baz=328
SHLS Shalkode 64.05 328 *e*P **P** **09 22 23.5 -1.3**
SHLS pmax pmax
comp=Z,16nm,0.7s
UZB Uzynbulak 64.27 328 *e*P **P** **09 22 26.3 0.0**
baz=328
UZB Uzynbulak 64.27 328 *e*P **P** **09 22 26.2 0.0**
SATY Saty 64.54 327⇑*i*P **P** **09 22 27.8 -0.2**
comp=Z,27nm,0.9s,baz=327
SATY Saty 64.54 327*c i*P **P** **09 22 27.8 -0.2**
SATY pmax pmax
comp=Z,27nm,0.9s
ZHN Zhinishke 64.59 327 *e*P **P** **09 22 28.4 0.0**
baz=327
ZHN Zhinishke 64.59 327 *e*P **P** **09 22 28.3 0.0**
ZSN Zaisan 64.64 334 *e*P **P** **09 22 28.7 +0.3**
comp=Z,30nm,1.2s,baz=334
ZSN Zaisan 64.64 334 *e*P **P** **09 22 28.7 +0.3**
ZSN pmax pmax
comp=Z,30nm,1.2s
KPKS Kokpek 64.67 328 *e*P **P** **09 22 28.4 -0.4**
comp=Z,33nm,0.9s,baz=328
KPKS Kokpek 64.67 328 *e*P **P** **09 22 28.4 -0.4**
KPKS pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 65.13 315 P **P** **09 22 31.3 -0.8**
KBL lAmb lAmb 09 22 34.6
comp=Z,53nm,0.6s
KBL Kabul 65.13 315 P **P** **09 22 31.3 -0.8**
KBL pmax pmax
comp=Z,53nm,0.6s
MK31 Makanchi Array 65.28 332 P **P** **09 22 32.5 -0.1**
MK31 lAmb lAmb 09 22 34.7
comp=Z,60nm,0.7s
MK31 Makanchi Array 65.28 332 *i* P **P** **09 22 32.1 -0.5**
MK31 pmax pmax
comp=Z,76nm,0.4s
MKAR Makanchi Array 65.28 332 P **P** **09 22 32.2 -0.4**
comp=Z,76nm,0.5s,baz=151,slow=5.5,SNR=344
MKAR S **S** **09 31 07.4 -2.4**
comp=Z,3.1nm,0.9s,baz=128,slow=13,SNR=8.2
MKAR PKPPKP **P'P'df** **09 51 14.9 +2.1**
comp=Z,3.1nm,1.0s,baz=306,slow=2.0,SNR=5.0
comp=Z,76nm,0.5s
MKAR Makanchi Array 65.28 332 P **P** **09 22 32.9 +0.2**
MKAR Makanchi Array 65.28 332 *i* P **P** **09 22 32.2 -0.4**
MKAR pmax pmax
comp=Z,74nm,0.5s
TNSS Tian-Shan 65.31 326 *e*P **P** **09 22 33.0 -0.3**
baz=326
TNSS Tian-Shan 65.31 326 *e*P **P** **09 22 33.0 -0.3**
MDOK Medeo 65.34 327 P **P** **09 22 33.0 -0.2**
DGZ Jazzator, Alta 65.39 337⇓*e*P **P** **09 22 33.8 +0.4**
DGZ pmax pmax
comp=Z,194nm,1.1s
MAKZ Makanchi 65.44 332 P **P** **09 22 33.8 +0.2**
MAKZ lAmb lAmb 09 22 35.5
comp=Z,37nm,0.7s
MAKZ Makanchi 65.44 332 P **P** **09 22 33.8 +0.2**
MAKZ pmax pmax
comp=Z,37nm,0.7s
MAKZ Makanchi 65.44 332 P **P** **09 22 33.2 -0.4**
CCD Concordia, Ant 65.74 179 ⇓P **P** **09 22 37.2 +1.5**
CCD pP **pP** **09 22 57.4 +0.2**
CCD sP **sP** **09 23 08.1 +1.7**
CHKK Chushkaly 65.83 327 *e*P **P** **09 22 35.3 -0.9**
baz=327
CHKK Chushkaly 65.83 327 *e*P **P** **09 22 35.3 -0.9**
TDK Taldyqorghan 65.88 329 *e*P **P** **09 22 36.1 -0.3**
baz=329
TDK Taldyqorghan 65.88 329 *e*P **P** **09 22 36.1 -0.3**
TKM2 Tokmak 2 65.97 326 P **P** **09 22 37.5 +0.1**
SNR=22
TKM2 Tokmak 2 65.97 326 *i* P **P** **09 22 36.8 -0.6**
TKM2 pmax pmax
comp=Z,17nm,0.7s
UCH Uchtor 66.14 325 P **P** **09 22 38.9 +0.2**
SNR=16
KBK Karagaybulak 66.17 325 P **P** **09 22 38.8 +0.2**
SNR=17
KUU Kurty 66.21 327⇑*i*P **P** **09 22 38.0 -0.7**
comp=Z,48nm,0.8s,baz=327
KUU Kurty 66.21 327*c i*P **P** **09 22 37.9 -0.7**
KUU pmax pmax
comp=Z,48nm,0.8s
AAK Ala-Archa 66.41 325 P **P** **09 22 40.7 +0.5**
SNR=30
AAK Ala-Archa 66.41 325 P **P** **09 22 40.2 0.0**
comp=Z,19nm,0.5s,baz=142,slow=5.7,SNR=48
comp=Z,19nm,0.5s
AAK Ala-Archa 66.41 325 P **P** **09 22 40.6 +0.5**
AAK Ala-Archa 66.41 325*ce*P **P** **09 22 40.4 +0.3**
AAK pmax pmax
comp=Z,35nm,0.8s
AAK Ala-Archa 66.41 325 *i* P **P** **09 22 40.4 +0.3**
SNR=36
AAK Ala-Archa 66.41 325 P **P** **09 22 40.5 +0.3**
CHMS Chumysh 66.50 325 *i* P **P** **09 22 39.4 -1.1**
CHMS pmax pmax
comp=Z,9.0nm,0.7s
AML Almayashu 66.55 324 P **P** **09 22 41.2 -0.1**
SNR=49
AFI Afiamalu 66.66 101 P **P** **09 22 42.8 +0.7**
AFI lAmb lAmb 09 22 44.5
comp=Z,38nm,0.8s
AFI Afiamalu 66.66 101 P **P** **09 22 42.8 +0.7**
AFI pmax pmax
comp=Z,38nm,0.8s
GAR Garm 66.74 320 P **P** **09 22 42.0 -0.2**
USP Ospenovka 66.81 325 P **P** **09 22 42.1 -0.5**
SNR=18
EKS2 Erkin-Say 66.84 325 P **P** **09 22 43.4 +0.6**
SNR=23
SGDS Sogindy 66.86 326 *e*P **P** **09 22 42.2 -0.6**
baz=326
SGDS Sogindy 66.86 326 *e*P **P** **09 22 42.2 -0.6**
CHGR Chuyangaron 67.29 319 P **P** **09 22 44.7 -1.0**
CHGR Chuyangaron 67.29 319 P **P** **09 22 44.7 -1.0**
CHGR pmax pmax
comp=Z,159nm,0.6s
SIMJ Simiganj 67.39 319 P **P** **09 22 45.5 -0.9**
BTLS Baital 68.20 327⇑*i*P **P** **09 22 50.3 -0.9**
baz=327
BTLS Baital 68.20 327*c i*P **P** **09 22 50.3 -0.9**
WSAR Wadi Sarin 68.30 300 LR LR 09 54 56.5
comp=Z,48nm,18.5s,baz=125,slow=38
DZA Taraz 68.40 324 *e*P **P** **09 22 51.4 -1.2**
baz=324
DZA Taraz 68.40 324 *e*P **P** **09 22 51.3 -1.2**
TAS Tashkent 68.71 321 P **P** **09 22 54.1 -0.3**
TAS Tashkent 68.71 321 P **P** **09 22 54.1 -0.3**
TAS pmax pmax
comp=Z,112nm,0.6s
IUG luzhnay 68.73 322⇑*i*P **P** **09 22 54.6 -0.1**
baz=322
IUG *e*S **S** **09 31 50.4 -1.3**
baz=322
IUG luzhnay 68.73 322*c i*P **P** **09 22 54.6 -0.1**
IUG *e*S **S** **09 31 50.4 -1.3**
SEM Semipalatinsk 68.87 334 *e*P **P** **09 22 54.4 -1.1**
comp=Z,64nm,1.1s,baz=334
SEM Semipalatinsk 68.87 334 *e*P **P** **09 22 54.4 -1.1**
SEM pmax pmax
comp=Z,64nm,1.1s
KK31 Karatay Array 69.01 323 P **P** **09 22 55.0 -1.3**
KK31 Karatay Array 69.01 323 *i* P **P** **09 22 55.1 -1.2**
KKAR Karatay Array 69.01 323 P **P** **09 22 55.4 -0.8**
KKAR Karatay Array 69.01 323 P **P** **09 22 55.5 -0.8**
KKAR Karatay Array 69.01 323 P **P** **09 22 55.5 -0.8**
KKAR pmax pmax
comp=Z,11nm,0.7s
MAW Mawson 69.29 200 P **P** **09 22 58.9 +1.4**
comp=Z,50nm,0.9s,baz=71,slow=5.6,SNR=38
MAW LR LR 09 48 29.4
comp=Z,62nm,18.8s,baz=48,slow=32
comp=Z,50nm,0.9s
MAW Mawson 69.29 200 P **P** **09 22 59.4 +1.9**
baz=69,SNR=17
MAW Mawson 69.29 200 P **P** **09 22 58.8 +1.3**
ZAA0 Zalesovo Array 69.77 339 P **P** **09 22 59.7 -1.0**
ZALV Zalesovo Beam 69.77 339 P **P** **09 22 59.9 -0.8**
comp=Z,201nm,0.6s,baz=138,slow=4.9,SNR=557
ZALV S **S** **09 31 58.7 -4.5**
comp=Z,0.4nm,0.3s,baz=141,slow=15,SNR=1.8
ZALV PKPPKP **P'P'df** **09 51 01.5 -3.3**
comp=Z,0.5nm,0.5s,baz=307,slow=5.2,SNR=2.4
comp=Z,201nm,0.6s
ZALV Zalesovo Beam 69.77 339 P **P** **09 23 00.3 -0.4**
ZALV Zalesovo Beam 69.77 339 *i* P **P** **09 22 59.5 -1.2**
ZALV pmax pmax
comp=Z,203nm,0.6s
KURBB Kurchatov Arra 69.78 333 P **P** **09 23 00.3 -0.5**
comp=Z,49nm,0.7s,baz=140,slow=5.7,SNR=117
KURBB PP **PP** **09 25 31.8 -4.6**
comp=Z,4.3nm,1.1s,baz=138,slow=10,SNR=2.6
KURBB PKP2bc **P'P'bc** **09 51 03.2 -0.9**
comp=Z,2.1nm,1.0s,baz=310,slow=3.8,SNR=9.5
comp=Z,49nm,0.7s
KURBB Kurchatov Arra 69.78 333 P **P** **09 23 00.1 -0.7**
KURK Kurchatov 69.81 333 P **P** **09 23 00.5 -0.5**
KURK lAmb lAmb 09 23 03.5
comp=Z,132nm,1.1s
KURK Kurchatov 69.81 333*ce*P **P** **09 22 59.8 -1.2**
KURK pmax pmax
comp=Z,130nm,1.0s
KURK Kurchatov 69.81 333 P **P** **09 23 00.8 -0.2**
PEA0B Petropavlovsk- 69.95 23*ce*P **P** **09 23 02.6 +0.8**
PETK Petropavlovsk- 69.95 23 P **P** **09 23 01.7 -0.2**
comp=Z,71nm,0.9s,baz=197,slow=0.9,SNR=88
PETK LR LR 09 54 40.3
comp=Z,16nm,19.9s,baz=199,slow=37
comp=Z,71nm,0.9s
PET Petropavlovsk 70.26 24 *e*P **P** **09 23 03.4 -0.3**
PET pmax pmax
comp=Z,88nm,1.1s
PET Petropavlovsk 70.26 24 P **P** **09 23 04.0 +0.3**
SOHO SOHO 70.42 300 P **P** **09 23 05.2 -0.1**
ABPO Ambohimpanom 70.93 253 P **P** **09 23 09.7 +0.9**
ABPO Ambohimpanom 70.93 253 P **P** **09 23 09.7 +0.9**
ABPO pmax pmax
comp=Z,58nm,1.5s
ABPO Ambohimpanom 70.93 253 P **P** **09 23 11.1 +2.3**
UOSS Minazif 70.98 300 P **P** **09 23 08.3 -0.4**
UOSS Minazif 70.98 300 P **P** **09 23 08.0 -0.7**
HATD Hatta, Dubai 71.00 300 *i* P **P** **09 23 08.8 0.0**
SNR=8.2
OPO Ambohidratompo 71.00 254 P **P** **09 23 11.1 +1.9**
comp=Z,15nm,0.8s,baz=87,slow=5.5,SNR=15
comp=Z,15nm,0.8s
ASHO Ashiyiah 71.01 300 *i* P **P** **09 23 09.1 +0.1**
SNR=6.6
MDH Madha 71.02 301 P **P** **09 23 09.0 +0.1**
MSFE Esma-Masafi 71.16 301 P **P** **09 23 09.5 -0.4**
VOI Vohitsoka 71.18 250 P **P** **09 23 11.8 +1.6**
VOI Vohitsoka 71.18 250 P **P** **09 23 13.4 +3.2**
FAQ Al Faqa, Dubai 71.43 300 *i* P **P** **09 23 11.3 -0.1**
SNR=10
VNDA Vanda 71.47 171 P **P** **09 23 11.2 +0.5**
comp=Z,17nm,0.6s,baz=316,slow=6.6,SNR=200
VNDA LR LR 09 52 03.9
comp=Z,96nm,20.7s,baz=332,slow=34
comp=Z,17nm,0.6s
VNDA Vanda 71.47 171 P **P** **09 23 11.6 +0.9**
VNDA Vanda 71.47 171 P **P** **09 23 11.6 +0.9**
VNDA pmax pmax
comp=Z,26nm,0.8s
VNDA Vanda 71.47 171 P **P** **09 23 11.7 +1.0**
VNDA pP **pP** **09 23 32.2 -0.2**
YAK Yakutsk 71.55 5 P **P** **09 23 09.2 -2.1**
comp=Z,22nm,0.6s,baz=189,slow=3.1,SNR=20
comp=Z,22nm,0.6s
YAK Yakutsk 71.55 5 *e*P **P** **09 23 10.3 -1.0**
YAK *e* 09 23 29.3
YAK *e* 09 25 50.3
YAK *e*PPP PPP 09 27 33.9
YAK *e*S **S** **09 32 21.8 -1.7**
YAK *e*'SS **sS** **09 33 02.4 +1.8**
YAK *e*SS **SS** **09 36 50.5 -10**
YAK pmax pmax
comp=Z,64nm,1.2s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,203nm,5.6s
YAK pmax pmax
comp=N,117nm,5.6s
YAK pmax pmax
comp=E,64nm,3.8s
YAK smax smax
comp=N,62nm,4.3s
YAK smax smax
comp=E,25nm,2.3s
YAK Yakutsk 71.55 5 P **P** **09 23 10.1 -1.2**
YAK pP **pP** **09 23 31.5 -1.2**
ASUD Al Ashush, Dub 71.61 300 P **P** **09 23 12.7 +0.1**
BRZS Berezniki 72.10 330 *e*P P 09 23 23.7 +8.8
BRZS pmax pmax
comp=Z,30nm,1.0s
SBA Scott Base 72.46 171 P **P** **09 23 17.9 +1.3**
SBA Scott Base 72.46 171 P **P** **09 23 18.0 +1.3**
SBA pmax pmax
comp=Z,24nm,0.8s
MZR Muzera 72.69 298 *i* P **P** **09 23 19.1 +0.1**
SNR=6.4
MA2 Magadan 72.95 16 P **P** **09 23 19.8 +0.1**
comp=Z,93nm,0.8s,baz=194,slow=5.0,SNR=97
comp=Z,93nm,0.8s
MA2 Magadan 72.95 16 P **P** **09 23 20.2 +0.4**
MA2 lAmb lAmb 09 23 21.3
comp=Z,112nm,0.9s
MA2 Magadan 72.95 16*ce*P **P** **09 23 20.1 +0.4**
MA2 pmax pmax
comp=Z,261nm,1.7s
GEYT Alibeck 74.50 314 P **P** **09 23 29.3 0.0**
comp=Z,16nm,0.7s,baz=160,slow=4.6,SNR=30
GEYT LR LR 09 59 48.9
comp=Z,56nm,21.2s,baz=132,slow=39
comp=Z,16nm,0.7s
GEYT Alibeck 74.50 314 P **P** **09 23 29.7 +0.4**
GEYT lAmb lAmb 09 23 30.7
comp=Z,124nm,1.8s
GEYT Alibeck 74.50 314 P **P** **09 23 29.7 +0.4**
GEYT pmax pmax
comp=Z,124nm,1.8s
GYA0B ALIBECK ARRAY 74.50 314 P **P** **09 23 29.9 +0.6**
GYA0B lAmb lAmb 09 23 30.7
comp=Z,87nm,1.6s
BVA0 Borovoye Array 75.14 332 *i* P **P** **09 23 31.6 -1.0**
BVAR Borovoye Array 75.14 332 P **P** **09 23 32.3 -0.3**
comp=Z,63nm,0.7s,baz=140,slow=7.2,SNR=124
comp=Z,63nm,0.7s
BRVK Borovoye 75.21 331 P **P** **09 23 32.5 -0.5**
BRVK lAmb lAmb 09 23 35.6
comp=Z,78nm,1.1s
BRVK Borovoye 75.21 331*ce*P **P** **09 23 32.8 -0.2**
BRVK pmax pmax
comp=Z,88nm,1.3s
SEY Seymchan 76.22 15 P **P** **09 23 38.7 +0.2**
comp=Z,73nm,0.8s,baz=216,slow=5.1,SNR=248
comp=Z,73nm,0.8s
SEY Seymchan 76.22 15*ce*P **P** **09 23 38.8 +0.2**
SEY pmax pmax
comp=Z,85nm,0.8s
RAR Rarotonga 77.49 110 LR LR 09 57 45.5
comp=Z,192nm,19.1s,baz=294,slow=36
AB31 Akbulak array 78.50 325 *i* P **P** **09 23 51.0 -0.6**
ABKAR Akbulak array 78.50 325 P **P** **09 23 51.0 -0.6**
ABKAR lAmb lAmb 09 23 54.0
comp=Z,42nm,0.7s
RAYN Ar Rayn 79.87 296 P **P** **09 23 59.7 0.0**
RAYN Ar Rayn 79.87 296 P **P** **09 23 59.7 0.0**
RAYN pmax pmax
comp=Z,21nm,0.8s
RAYN Ar Rayn 79.87 296 *i* P **P** **09 23 60.0 +0.3**
SNR=14
AKTO Aktyubinsk 80.16 325 P **P** **09 24 00.2 -0.4**
comp=Z,69nm,0.6s,baz=105,slow=5.2,SNR=73
AKTO LR LR 10 06 30.3
comp=Z,132nm,18.6s,baz=111,slow=41
comp=Z,69nm,0.6s
QSPA South Pole Qui 80.64 180 P **P** **09 24 04.0 +0.8**
comp=Z,113nm,0.9s,baz=313,slow=1.4,SNR=420
comp=Z,113nm,0.9s
QSPA South Pole Qui 80.64 180 P **P** **09 24 04.4 +1.3**
TIXI Tiksi 81.04 3 P **P** **09 24 03.8 -1.0**
comp=Z,34nm,0.9s,baz=90,slow=23,SNR=70
comp=Z,34nm,0.9s
TIXI Tiksi 81.04 3 P **P** **09 24 04.1 -0.7**
TIXI lAmb lAmb 09 24 05.0
comp=Z,60nm,1.1s
TIXI Tiksi 81.04 3*ce*P **P** **09 24 03.6 -1.2**
TIXI pmax pmax
comp=Z,56nm,1.0s
NRIK Noril'sk 81.71 349 P **P** **09 24 07.9 -0.5**
comp=Z,7.5nm,0.6s,baz=154,slow=5.2,SNR=16
comp=Z,7.5nm,0.6s
NRIK Noril'sk 81.71 349 P **P** **09 24 08.4 -0.1**
NRIK Noril'sk 81.71 349*ce*P **P** **09 24 08.7 +0.2**
NRIK pmax pmax
comp=Z,17nm,1.5s
SVE Sverdlovsk 81.92 331 *e*P **P** **09 24 09.1 -0.8**
SVE *e*S **S** **09 34 16.0 -0.8**
SVE pmax pmax
comp=Z,113nm,1.1s
ARU Arti 82.72 330 P **P** **09 24 12.6 -1.4**
comp=Z,20nm,0.6s,baz=142,slow=3.8,SNR=29
ARU LR LR 10 07 20.5
comp=Z,115nm,21.1s,baz=115,slow=40
comp=Z,20nm,0.6s
ARU Arti 82.72 330 P **P** **09 24 12.9 -1.1**
ARU lAmb lAmb 09 24 16.1
comp=Z,67nm,1.2s
ARU Arti 82.72 330*ce*P **P** **09 24 13.1 -0.9**
ARU pmax pmax
comp=Z,68nm,1.3s
KMBO Kilima Mbogo 82.80 270 P **P** **09 24 15.0 -0.7**
comp=Z,2.4nm,0.5s,baz=67,slow=9.3,SNR=10.0
KMBO LR LR 09 57 09.6
comp=Z,68nm,20.1s,baz=88,slow=33
comp=Z,2.4nm,0.5s
KMBO Kilima Mbogo 82.80 270 P **P** **09 24 17.1 +1.4**
KMBO Kilima Mbogo 82.80 270⇑*e*P **P** **09 24 15.9 +0.2**
ELIB Princess Elisa 83.28 198 *d*P **P** **09 24 19.2 +2.3**
comp=Z,69nm,1.2s
BILL Bilibino 83.82 16 P **P** **09 24 19.2 -0.2**
BILL Bilibino 83.82 16⇑*e*P **P** **09 24 18.7 -0.7**
BILL *e* 09 27 32.1
BILL *e*SS SS 09 40 08.4 +3.4
BILL pmax pmax
comp=Z,23nm,2.5s
GNI Garni 85.01 312 P **P** **09 24 24.2 -2.1**
comp=Z,17nm,0.7s,baz=163,slow=17,SNR=5.1
GNI LR LR 10 07 01.6
comp=Z,71nm,20.8s,baz=112,slow=39
GNI Garni 85.01 312 P **P** **09 24 24.6 -1.7**
GNI lAmb lAmb 09 24 45.1
comp=Z,36nm,0.8s
GNI Garni 85.01 312 P **P** **09 24 24.6 -1.7**
GNI pmax pmax
comp=Z,36nm,0.9s
GNI Garni 85.01 312 P **P** **09 24 28.2 +1.9**
GROC Groznyy 85.14 315 *e*P **P** **09 24 23.9 -2.8**
GROC pmax pmax
comp=Z,39nm,0.6s
MOPA Mopani 85.18 247 *i* P **P** **09 24 29.8 +2.4**
NIKH Nikolski High 86.24 35 P **P** **09 24 32.0 +0.2**
baz=249
ZEI Tsey 86.36 314 *e*P **P** **09 24 33.0 0.0**
ZEI pmax pmax
comp=Z,82nm,1.3s
GURO Guroymak-BITLI 86.60 310 lAmb lAmb 09 24 40.7
comp=Z,45nm,0.8s
TBI Tubuai 86.72 113 *e*LR LR 09 52 06.9
comp=Z,2μm,26.0s
TBI *e*LR LR 09 52 07.3
comp=Z,668nm,27.0s
MUSN Musina, Limpop 86.76 248 *i* P **P** **09 24 38.0 +2.8**
BELG Belogornoye 86.90 324 P **P** **09 24 33.9 -1.1**
comp=Z,104nm,0.8s,baz=121,slow=0.5,SNR=34
BELG S **SKSac** **09 34 50.5 -4.0**
comp=Z,8.5nm,1.0s,baz=169,slow=19,SNR=3.7
comp=Z,104nm,0.8s
BELG Belogornoye 86.90 324⇑*e*P **P** **09 24 34.7 -0.3**
BELG pmax pmax
comp=Z,32nm,1.1s
NVL N'lazarevskaya 87.16 198⇑*i*P **P** **09 24 37.8 +1.7**
NVL pmax pmax
comp=Z,74nm,1.2s
MARD Mardin 87.26 308 lAmb lAmb 09 24 44.7
comp=Z,36nm,0.6s
NEY Neytrino 87.31 314 *i* P **P** **09 24 39.2 +1.6**
NEY pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 87.32 315 P **P** **09 24 37.7 +0.4**
comp=Z,50nm,0.8s,baz=108,slow=6.2,SNR=21
KBZ S **S** **09 35 09.1 -1.8**
comp=Z,1.4nm,0.9s,baz=48,slow=23,SNR=6.7
comp=Z,50nm,0.8s
KBZ Khabaz 87.32 315*ce*P **P** **09 24 36.5 -0.8**
KBZ pmax pmax
comp=Z,60nm,0.9s
PPT2 Papeete2 87.49 107 *e*PKIKP **P** **09 24 40.4 +1.6**
comp=Z,54nm,1.3s
PPT2 Papeete2 87.49 107 *e*LR LR 09 52 28.8
comp=Z,327nm,30.2s
PPT2 *e*LR LR 09 52 29.6
comp=Z,210nm,31.0s
PPT Papeete 87.49 107 P **P** **09 24 38.7 -0.1**
comp=Z,30nm,0.9s,baz=63,slow=4.9,SNR=3.6
PPT LR LR 10 03 13.4
comp=Z,47nm,18.8s,baz=272,slow=35
comp=Z,30nm,0.9s
KVAR Kislovodsk Arr 87.52 315 P **P** **09 24 38.2 -0.2**
comp=Z,5.7nm,0.7s,baz=90,slow=20,SNR=3.4
comp=Z,5.7nm,0.7s
KIV Kislovodsk 87.53 315 P **P** **09 24 38.1 -0.3**
KIV Kislovodsk 87.53 315 *e*P **P** **09 24 37.7 -0.8**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV Kislovodsk 87.53 315 *i* P **P** **09 24 40.1 +1.6**
SNR=5.7
TIAR Tiarei 87.71 107 *e*PKIKP **P** **09 24 41.6 +1.8**
comp=Z,6.7nm,0.8s
TVO Taravao 87.77 108 *e*PKIKP **P** **09 24 41.0 +0.9**
comp=Z,31nm,1.2s
UNV Unalaska Valle 87.86 35 P **P** **09 24 39.8 +0.2**
baz=251
GRHM Grahamstown, E 88.05 237 lAmb lAmb 09 24 45.4
comp=Z,25nm,0.8s
KIRV Kirov 88.10 330 P **P** **09 24 41.9 +1.2**
comp=Z,28nm,0.7s,baz=104,slow=4.3,SNR=8.8
comp=Z,28nm,0.7s
KIRV Kirov 88.10 330*ce*P **P** **09 24 41.6 +0.9**
MEH Mehetia 88.87 108 *e*PKIKP **P** **09 24 41.7 -3.6**
comp=Z,34nm,0.8s
GAMB Gambell 88.94 24 P **P** **09 24 44.3 -0.2**
baz=246
TROLL Troll, Antarti 89.35 196 P **P** **09 24 48.8 +2.2**
SOC Sochi 89.52 314 *e*P **P** **09 24 45.6 -2.1**
SOC *e* 09 28 17.0
SOC *e*PPP PPP 09 30 14.3
SOC *e*S **SKSac** **09 35 06.0 -4.7**
SOC *e*SS **SS** **09 41 27.3 -2.1**
BOSA Boshof 89.82 241 P **P** **09 24 51.3 +1.6**
comp=Z,8.3nm,0.5s,baz=106,slow=3.7,SNR=35
BOSA LR LR 09 59 42.1
comp=Z,39nm,18.2s,baz=40,slow=32
comp=Z,8.3nm,0.5s
BOSA Boshof 89.82 241 *i* P **P** **09 24 50.7 +0.9**
VRH Novokhopyorsk 90.05 322 *e*P **P** **09 24 48.6 -1.4**
VRH pmax pmax
comp=Z,30nm,0.6s
LBTB Lobatse 90.17 245 LR LR 09 59 30.5
comp=Z,64nm,20.9s,baz=109,slow=32
LBTB Lobatse 90.17 245 *i* P **P** **09 24 53.1 +1.7**
EIL Elat 90.43 300 LR LR 10 06 18.1
comp=Z,67nm,21.8s,baz=58,slow=36
MMAI Mount Meron Ar 90.66 303 P **P** **09 24 55.0 +1.6**
comp=Z,16nm,0.7s,baz=92,slow=7.5,SNR=17
MMAI LR LR 10 10 45.3
comp=Z,68nm,18.3s,baz=162,slow=39
comp=Z,16nm,0.7s
PRGR Permogore 90.92 333 *e*P **P** **09 24 54.0 +0.2**
PRGR pmax pmax

comp=Z,23nm,0.8s
SNAA Sanae 90.96 195 P P 09 24 56.1 +2.0
SNAA Sanae 90.96 195 P P 09 24 55.7 +1.6
comp=Z,59nm,0.8s,baz=147,slow=4.3,SNR=107
comp=Z,59nm,0.8s
SNAA Sanae 90.96 195 P P 09 24 55.8 +1.8
SNAA Sanae 90.96 195 *ce*P **P 09 24 55.9 +1.8**
SNAA pmax pmax
comp=Z,76nm,0.8s
ANN Anapa 91.39 315 *e*P **P 09 24 55.1 -1.3**
ANN *e* 09 35 17.2
ANN pmax pmax
comp=Z,64nm,0.7s
VSR Storozhevoye 91.61 322 *e*P **P 09 24 55.9 -1.4**
VSR pmax pmax
comp=Z,20nm,0.6s
SDPT Sand Point 91.65 34 P **P 09 24 56.6 -0.7**
baz=256
VORR Voronezh 91.69 322 *e*P **P 09 24 57.3 -0.3**
VORR pmax pmax
comp=Z,20nm,0.7s
LPSR Galich'ya Gora 92.06 323 *e*P **P 09 24 57.1 -2.2**
LPSR pmax pmax
comp=Z,20nm,1.2s
VNA2 Neumayer--Watz 92.59 195 P **P 09 25 03.4 +1.9**
baz=117,slow=5.0
SUR Sutherland 92.82 237 LR LR 10 03 21.1
comp=Z,51nm,18.0s,baz=126,slow=33
VNA3 Neumayer Olymp 92.96 194 P **P 09 25 04.8 +1.5**
VNA1 Neumayer--Stat 92.99 195 P **P 09 25 05.2 +1.9**
BR131 Keskin Array S 93.23 310 P **P 09 25 04.0 -1.2**
BR131 IAmb IAmb 09 25 09.9
comp=Z,24nm,1.1s
BR131 Keskin Array S 93.23 310 P **P 09 25 04.0 -1.2**
BR131 pmax pmax
comp=Z,24nm,1.1s
BRTR Keskin Array B 93.23 310 P **P 09 25 04.3 -0.9**
comp=Z,9.6nm,0.9s,baz=124,slow=5.3,SNR=3.9
BRTR LR LR 10 12 00.9
comp=Z,63nm,18.5s,baz=112,slow=39
comp=Z,9.6nm,0.9s
KLMR Klimovskoe 93.56 331 *e*P **P 09 25 03.4 -2.6**
KLMR AMP 09 25 07.8
comp=Z,52nm,1.4s
KLMR Klimovskoe 93.56 331 *e*P **P 09 25 03.4 -2.6**
KLMR pmax pmax
comp=Z,52nm,1.4s
N16K Nishlik Lake 93.70 29 P **P 09 25 07.1 +0.3**
baz=258
RDOG Red Dog Mine 93.78 22 P **P 09 25 08.3 +1.4**
baz=254
P16K Nushagak River 93.79 31 P **P 09 25 07.6 +0.5**
baz=258
O16K Kokwok River B 93.85 30 P **P 09 25 07.7 +0.3**
baz=258
OBN Obninsk 93.94 325⇑ *e*P **P 09 25 08.0 +0.1**
OBN *e* 09 28 54.3
OBN pmax pmax
comp=Z,35nm,1.0s
R17K Ugashik Creek 94.35 32 P **P 09 25 10.9 +1.2**
baz=260
O17K Koliganek Bris 94.38 30 P **P 09 25 11.0 +1.1**
baz=259
ADZR Andozero 94.76 334 *e*P **P 09 25 10.7 -0.8**
ADZR pmax pmax
comp=Z,10.0nm,0.5s
TTA Tatalina 95.46 27 P **P 09 25 15.9 +1.0**
baz=260
N19K Bonanza Creek 95.84 29 P **P 09 25 17.2 +0.5**
baz=261
OHAK Old Harbor 95.94 33 P **P 09 25 17.3 +0.3**
baz=262
KDAK Kodiak Island 96.39 33 LR LR 10 10 09.2
comp=Z,40nm,18.9s,baz=263,slow=36
K20K Telida 96.40 27 IAmb IAmb 09 25 41.0
comp=Z,40nm,1.9s
K20K Telida 96.40 27 P **P 09 25 19.4 +0.4**
baz=262
J20K Nowinta River 96.48 26 P **P 09 25 19.7 +0.3**
baz=262
Q20K Shuyak Island 96.59 32 P **P 09 25 20.5 +0.6**
baz=263
M20K Styx River 96.64 28 IAmb IAmb 09 25 41.7
comp=Z,13nm,0.9s
M20K Styx River 96.64 28 P **P 09 25 21.2 +1.0**
baz=263
G21K Allakaket 97.05 24 P Pdif 09 25 22.7 +0.7
baz=263
F21K Alatna River 97.15 23 P Pdif 09 25 23.2 +0.8
baz=263
H21K Melozitna Rive 97.24 25 P Pdif 09 25 23.1 +0.3
baz=263
CAST Castle Rocks 97.30 27 P Pdif 09 25 23.9 +0.8
baz=264
I21K Tanana 97.53 25 P Pdif 09 25 24.7 +0.6
baz=264
MILM Milestii Mici 97.66 316⇑P **P 09 25 21.0 -4.0**
MILM Milestii Mici 97.66 316⇑P **P 09 25 21.0 -4.0**
AKASG Malin Array Be 97.74 320 P **PP 09 29 20.3 -4.0**
comp=Z,4.1nm,0.6s,baz=75,slow=4.2,SNR=20
AKASG PP PP 09 29 20.3 -4.0
comp=Z,0.8nm,0.6s,baz=80,slow=6.2,SNR=4.0
AKASG PKKPbc **PKKPbc 09 42 01.6 -0.9**
comp=Z,0.1nm,0.2s,baz=279,slow=2.9,SNR=4.4
comp=Z,4.1nm,0.6s
AKASG Malin Array Be 97.74 320 *i* P Pdif 09 25 27.0 +1.7
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 97.74 320 IAmb IAmb 09 25 27.5
comp=Z,9.5nm,0.7s
AKBB Malin Array Si 97.74 320 *ce*P **P 09 25 25.0 -0.3**
H22K Ishtalitna Cre 97.85 24 P Pdif 09 25 26.8 +1.3
baz=265
BPAW Bear Paw Mtn. 97.85 26 P Pdif 09 25 26.6 +1.0
baz=265
G22K Bettles 97.89 23 P Pdif 09 25 26.3 +0.7
baz=265
CUT Chulitna 98.03 28 P Pdif 09 25 26.9 +0.6
baz=265
MLY Manley 98.04 25 P **P 09 25 26.1 -0.3**
MLY Manley 98.04 25 P Pdif 09 25 26.8 +0.3
baz=265,SNR=6.2
TAOE Nuku Hiva Isla 98.04 100 *e*LR LR 09 57 22.8
comp=Z,100nm,27.1s
M22K Willow 98.04 29 P Pdif 09 25 27.0 +0.6
baz=265
TRF Thorofare Moun 98.10 27 P Pdif 09 25 27.2 +0.3
baz=265
SEW Seward 98.24 30 P Pdif 09 25 27.4 0.0
baz=266
D23K Nanushuk River 98.37 21 P Pdif 09 25 28.6 +0.8
baz=266
COLD Coldfoot 98.42 23 P Pdif 09 25 28.3 +0.2
COLD Coldfoot 98.42 23 P Pdif 09 25 28.6 +0.6
baz=266
G23K Bananza Creek 98.46 24 P Pdif 09 25 29.2 +1.0
baz=266
PMR Palmer 98.50 29 P Pdif 09 25 29.0 +0.5
baz=266
H23K Yukon River 98.59 25 P Pdif 09 25 29.4 +0.5
baz=266
I23K Minto, Yukon-K 98.63 25 P **P 09 25 28.9 -0.1**
I23K IAmb IAmb 09 25 50.2
comp=Z,28nm,1.3s
I23K Minto, Yukon-K 98.63 25 P Pdif 09 25 29.6 +0.6
baz=266,SNR=5.4
MCK McKinley 98.73 27 P **P 09 25 28.1 -1.4**
MCK IAmb IAmb 09 25 49.7
comp=Z,18nm,1.0s
MCK McKinley 98.73 27 P Pdif 09 25 30.0 +0.4
baz=267
MCK McKinley 98.73 27 P **P 09 25 28.1 -1.4**
MCK pmax pmax
comp=Z,18nm,1.0s
PWL Port Wells 98.84 30 P **P 09 25 30.0 0.0**
baz=267
MNK Minsk 98.85 324 *i* P **P 09 25 27.4 -2.8**
MNK *i* P **P 09 25 27.4 -2.8**
MNK *i* P **P 09 25 27.4 -2.8**
comp=Z,18nm,0.9s,baz=93
MNK *i* pP **pP 09 25 53.8 +1.4**
MNK *i* PP **PP 09 29 29.0 -3.7**
MNK *i* PPP PPP 09 31 36.5
MNK *i* S **SKSac 09 35 56.0 -4.8**
MNK *i* sS S 09 36 44.0 -9.2
MNK *i* SS **SS 09 43 39.3 -2.4**
MNK *i* SSS SSS 09 48 38.7
MNK *i* LQ LQ 10 04 10.2
MNK *i* LR LR 10 07 34.3
MNK *i* LRM MLR 10 10 44.0
comp=Z,158nm,13.4s
MNK *i* LRM MLR 10 10 56.8
comp=E,26nm,13.6s
MNK *i* LRM MLR 10 11 18.5
comp=N,2μm,27.0s
MNK Minsk 98.85 324 *i* P **P 09 25 27.3 -2.8**
MNK *i* *PP **pP 09 25 53.8 +1.4**
MNK *i* 09 29 29.0
MNK *i* PPP PPP 09 31 36.5
MNK *i* S **SKSac 09 35 55.9 -4.8**
MNK *i* *SS S 09 36 44.0 -9.3
MNK *i* SS **SS 09 43 39.3 -2.4**
MNK pmax pmax
comp=Z,18nm,0.9s
MNK MLR MLR
comp=Z,158nm,13.0s
MNK MLR MLR
comp=E,26nm,14.0s
MNK MLR MLR
comp=N,2μm,27.0s
WAT1 Susitna Watana 98.85 28 P Pdif 09 25 30.4 +0.3
baz=267
VRI Vrincioaia 99.00 315⇑P **Pdif 09 25 27.8 -3.4**
VRI Vrincioaia 99.00 315⇑P **Pdif 09 25 27.8 -3.4**
PLOR Plostina 99.06 315⇓P **Pdif 09 25 26.8 -4.6**
PLOR Plostina 99.06 315⇓P **Pdif 09 25 26.8 -4.6**
ISR Istrita 99.08 314⇓P **Pdif 09 25 23.9 -7.6**
ISR Istrita 99.08 314⇓P **Pdif 09 25 23.9 -7.6**
MDM Murphy Dome 99.10 26 P **Pdif 09 25 28.7 -2.4**
MDM IAmb IAmb 09 28 07.1
comp=Z,23nm,1.7s
C24K Franklin Bluff 99.11 21 P **Pdif 09 25 31.7 +0.7**
baz=268
E24K Your Creek 99.12 22 P **Pdif 09 25 31.8 +0.6**
baz=268
WRH Wood River Hil 99.14 26 P **Pdif 09 25 29.9 -1.4**
WRH IAmb IAmb 09 25 51.4
comp=Z,21nm,1.3s
WAT6 Susitna Watana 99.21 28 P **Pdif 09 25 32.1 +0.2**
baz=268
H24K Noodle Dome 99.28 25 P **Pdif 09 25 32.7 +0.8**
baz=268
F24K Squaw Lake 99.33 23 P **Pdif 09 25 32.7 +0.5**
baz=268
DHY Denali Highway 99.40 27 IAmb IAmb 09 26 11.4
comp=Z,13nm,0.8s
DHY Denali Highway 99.40 27 P **Pdif 09 25 33.4 +0.8**
baz=268
G24K Hadweenzic Riv 99.47 24 P **Pdif 09 25 33.6 +0.8**
baz=268
NACGM Naroch 99.51 324 *e*P **Pdif 09 25 29.1 -4.0**
comp=Z,19nm,1.0s,baz=93
MLR Muntele Rosu 99.53 315⇑P **Pdif 09 25 29.8 -3.8**
MLR Muntele Rosu 99.53 315⇑P **Pdif 09 25 29.8 -3.8**
IDI Anoyia 99.60 304 LR LR 10 15 50.4
comp=Z,30nm,21.1s,baz=84,slow=39
ILAR Eielson Array 99.66 26 P **Pdif 09 25 31.9 -1.7**
comp=Z,1.2nm,0.6s,baz=248,slow=4.4,SNR=39
ILAR PKiKP **PKiKP 09 30 02.4 +0.3**
comp=Z,1.4nm,1.0s,baz=264,slow=4.1,SNR=3.7
ILAR PKKPbc **PKKPbc 09 41 56.7 -0.9**
comp=Z,3.6nm,0.8s,baz=84,slow=1.6,SNR=4.3
ILAR LR LR 10 07 56.6
comp=Z,24nm,20.4s,baz=268,slow=34
comp=Z,1.2nm,0.6s
OZUR 99.67 315⇑P **Pdif 09 25 29.3 -4.9**
Q23K Middleton Isla 99.77 31 P **Pdif 09 25 34.2 +0.1**
baz=268
RKT Rikitea 99.81 115 *e*LR LR 09 58 11.8
comp=Z,59μm,39.2s
DOPR Dopca 99.94 315⇑P **Pdif 09 25 34.0 -1.4**
FINES FINESS Array B 100.09 331 P **Pdif 09 25 35.9 +0.4**
comp=Z,2.1nm,0.6s,baz=82,slow=4.2,SNR=9.5
FINES PKiKP **PKiKP 09 30 04.8 +2.0**
comp=Z,2.7nm,0.7s,baz=123,slow=5.1,SNR=4.4
comp=Z,2.1nm,0.6s
FINES FINESS Array B 100.09 331 *i* P **Pdif 09 25 37.0 +1.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
K24K Donnelly Dome 100.13 27 P **Pdif 09 25 36.3 +0.5**
baz=269
BURAR Bucovina Array 100.15 317⇑P **Pdif 09 25 37.1 +0.8**
BURAR Bucovina Array 100.15 317⇑P **Pdif 09 25 37.1 +0.8**
BUR08 Bucovina Ar. S 100.16 317 Pdif **Pdif 09 25 35.4 -1.0**
F25K Christian Rive 100.19 23 P **Pdif 09 25 36.7 +0.7**
baz=270
E25K Arctic Village 100.22 22 P **Pdif 09 25 36.9 +0.8**
baz=270
J25K Salcha River, 100.31 26 P **Pdif 09 25 36.3 -0.3**
baz=270
ARCES ARCESS Array B 100.32 339 P **Pdif 09 25 37.5 +1.0**
comp=Z,3.1nm,0.7s,baz=74,slow=3.9,SNR=7.2
ARCES PKiKP **PKiKP 09 30 04.7 +1.6**
comp=Z,3.0nm,0.8s,baz=56,slow=0.3,SNR=4.9
BMRM Bremner River 100.67 30 P **Pdif 09 25 38.5 +0.3**
baz=270
F26K Sheenjek River 100.77 23 P **Pdif 09 25 39.0 +0.5**
baz=272
C27K Jago River 100.85 21 P **Pdif 09 25 39.3 +0.5**
baz=272
SCRK Sand Creek 100.92 27 P **Pdif 09 25 39.9 +0.5**
baz=271
G26K Porcupine Rive 100.93 24 P **Pdif 09 25 39.7 +0.5**
baz=272
J26L Joseph Creek 101.09 26 P **Pdif 09 25 40.3 +0.2**
baz=272
MARR Marisel-Cluj 101.54 316⇑P **Pdif 09 25 42.5 -0.1**
E27K Coleen River 101.70 22 P **Pdif 09 25 43.3 +0.7**
baz=274
G27K Doyon Strip 101.78 24 P **Pdif 09 25 43.7 +0.7**
baz=274
H27K Steamboat Moun 101.86 24 P **Pdif 09 25 44.4 +0.9**
baz=274
I27K Kandik River 101.87 25 P **Pdif 09 25 44.1 +0.6**
baz=274
L27K Beaver Creek, 101.92 27 P **Pdif 09 25 44.8 +1.1**
baz=273
HERR Heulane 101.99 314⇑P **Pdif 09 25 45.9 +1.5**
SURR Surduc 102.22 315⇑P **Pdif 09 25 47.6 +2.2**
SIRR Siria 102.55 315⇑P **Pdif 09 25 51.1 +4.2**
BZS Buzias 102.57 315⇑P **Pdif 09 25 47.7 +0.7**
BZS Buzias 102.57 315⇑P **Pdif 09 25 47.7 +0.7**
DAWY Dawson 102.94 26 P **Pdif 09 25 49.3 +1.1**
baz=275
I29M Ogilvie Camp, 103.27 25 P **Pdif 09 25 50.7 +1.0**
baz=277
EPYK Eagle Plains 103.78 24 P **Pdif 09 25 52.9 +0.9**
baz=278
K29M Barlow Dome 103.78 26 P **Pdif 09 25 52.7 +0.6**
baz=277
INK Inuvik 104.66 22 PKKPbc PKKPbc 09 41 41.5 -1.5
comp=Z,7.6nm,0.8s,baz=72,slow=2.0,SNR=12
GERES GERESS Array B 107.80 318 PKiKP **PKiKP 09 30 18.2 +0.7**
comp=Z,0.6nm,0.6s,baz=94,slow=4.0,SNR=4.7
GERES PKKPbc **PKKPbc 09 41 32.0 -0.8**
comp=Z,0.2nm,0.6s,baz=197,slow=3.1,SNR=3.4
GERES PKKPab **PKKPab 09 41 45.5 +0.4**
comp=Z,0.3nm,0.5s,baz=242,slow=2.9,SNR=3.8
CLL Collm 107.95 321 *e*PP **PP 09 30 36.0 -4.7**
CLL *e*PPP PPP 09 32 59.0
NEEM North Greenlan 111.77 358 *i* P **PKiKP 09 30 25.6 +1.1**
YKA Yellowknife Ar 114.05 25 Pdiff **Pdif 09 26 39.0 +1.4**
comp=Z,0.1nm,0.6s,baz=297,slow=5.1,SNR=2.5
YKA PKiKP **PKiKP 09 30 29.2 +0.4**
comp=Z,1.6nm,0.5s,baz=302,slow=2.1,SNR=54
YKA SKP **SKPdf 09 33 56.2 -0.7**
comp=Z,1.1nm,0.7s,baz=306,slow=2.0,SNR=6.2
UPNV Upernavik 116.58 359 *i* P **PKiKP 09 30 33.7 +0.3**
NEW Newport 118.47 40 PKKPab PKKPab 09 40 58.9 +1.1
comp=Z,1.6nm,0.5s,baz=108,slow=5.5,SNR=6.7
SCZ2 Santa Cruz Isl 120.17 56 P **PKPdf 09 30 41.1 -0.4**
baz=280
VES Vestal, Richgr 120.30 54 P **PKPdf 09 30 41.6 0.0**
baz=281
NVAR Mina Array Bea 120.37 51 PKP **PKiKP 09 30 43.9 +1.8**
comp=Z,2.7nm,0.7s,baz=257,slow=2.1,SNR=18
NVAR SKP **SKPdf 09 34 11.2 +1.0**
comp=Z,1.9nm,0.7s,baz=277,slow=1.1,SNR=6.0
CWC Cottonwood Cre 120.97 53 P **PKPdf 09 30 43.2 +0.1**
baz=282
MSO Missoula 120.99 40 PKPdf 09 30 42.7 -0.1
MSO Missoula 120.99 40 P **PKiKP 09 30 42.9 0.0**
baz=291
CIS Catalina Islan 121.28 57 P **PKPdf 09 30 43.5 -0.1**
baz=280
EDW2 Edwards Air Fo 121.35 55 P **PKiKP 09 30 44.8 +0.9**
baz=281
LRMC Laurel Mtn Rad 121.48 54 P **PKiKP 09 30 45.1 +0.9**
baz=282
MPMC Manual Prospec 121.52 53 P **PKiKP 09 30 45.2 +0.9**
baz=282
BFSC Mount Baldy Ra 121.75 56 P **PKiKP 09 30 45.5 +0.7**
baz=281
HLID Hailey 121.80 44 P **PKiKP 09 30 45.8 +1.1**
baz=289
ESDC Sonseca Array 121.98 311 PKP **PKiKP 09 30 45.8 +0.8**
comp=Z,1.6nm,0.7s,baz=25,slow=3.2,SNR=13
ESDC PKKPbc **PKKPbc 09 40 44.2 +0.8**
comp=Z,1.1nm,0.7s,baz=277,slow=3.7,SNR=8.8
ELK Elko 122.07 48 PKKPab PKKPab 09 40 45.1 +2.6
comp=Z,1.0nm,0.7s,baz=117,slow=4.8,SNR=6.0
SFJD Kangerlussuaq 122.09 356 *i* P **PKPdf 09 30 44.0 -0.1**
DY2G Dye2 122.20 354 *i* P **PKiKP 09 30 45.4 +0.5**
GSC Goldstone, Bar 122.22 54 P **PKiKP 09 30 46.6 +0.9**
baz=282
MURC Murrieta 122.24 56 P **PKiKP 09 30 47.0 +1.4**
baz=281
TPNV Topopah Spring 122.30 52 P **PKiKP 09 30 46.3 +0.4**
baz=284
R11A Troy Canyon, C 122.47 50 P **PKiKP 09 30 47.3 +1.1**
baz=285
SHOC Shoshone, Teco 122.52 53 P **PKiKP 09 30 47.3 +1.1**
baz=283
HEC Hector,Ludlow 122.70 55 P **PKiKP 09 30 47.4 +0.8**
baz=282
PFO Pinyon Flats O 122.84 56 P **PKiKP 09 30 47.8 +0.8**
baz=281
TPFO Pinon Flats 122.85 56 P **PKiKP 09 30 47.8 +0.8**
baz=281
TUQ Turquoise Moun 122.90 54 P **PKiKP 09 30 48.0 +1.0**
baz=283
BOZ Bozeman (W) 122.94 41 P **PKiKP 09 30 47.4 +0.5**
baz=293
MONP2 Monument Peak 123.01 57 P **PKPdf 09 30 47.3 +0.1**
baz=281
EGMT Eagleton 123.13 38 P **PKiKP 09 30 47.5 +0.5**
baz=296
BELC Belle Mtn. Jos 123.14 55 P **PKiKP 09 30 48.6 +1.0**
baz=282,SNR=7.2
GMRC Granite Mounta 123.25 54 P **PKiKP 09 30 49.1 +1.3**
baz=283,SNR=11
IKP In-Ko-Pah, Jac 123.32 57 P **PKiKP 09 30 49.0 +1.1**
baz=281
SWSC Sam W. Stewart 123.52 57 P **PKiKP 09 30 49.7 +1.6**
baz=281
BC3 Big Chuckawall 123.66 56 P **PKiKP 09 30 49.7 +1.1**
baz=282
FFC Flin Flon 123.79 28 PKPdf **PKiKP 09 30 49.3 +1.3**
FFC Flin Flon 123.79 28 PKIKP **PKiKP 09 30 49.3 +1.3**
IRM Iron Mountain 123.80 55 P **PKiKP 09 30 49.7 +1.0**
baz=283
DUG Dugway, Tooele 124.00 48 P **PKiKP 09 30 49.7 +0.6**
baz=288
POLO Lamas de Olo 124.26 314 *e*PKP **PKPdf 09 30 48.6 -0.6**
FCC Fort Churchill 124.27 21 PKPdf **PKiKP 09 30 49.2 +0.4**
FCC Fort Churchill 124.27 21 PKIKP **PKiKP 09 30 49.2 +0.4**
PGAV Gavieira, Arco 124.39 315 *e*PKP **PKiKP 09 30 51.2 +1.5**
PCBR Castelo Branco 124.53 312 *e*PKP **PKiKP 09 30 51.6 +1.7**
PMRV Marv??o 124.59 312 *e*PKP **PKiKP 09 30 51.5 +1.4**
PCAS Casmilo, Conde 125.20 313 *e*PKP **PKiKP 09 30 52.8 +1.5**
KIC Kosan Boka 125.36 271⇓ *e*PKP1 **PKiKP 09 30 53.5 +1.2**
comp=Z,3.1nm,0.4s
PDAR Pinedale Array 125.40 44 PKP **PKiKP 09 30 51.9 -0.1**
comp=Z,0.6nm,0.4s,baz=108,slow=0.9,SNR=12
PDAR PKKPab **PKKPbc 09 40 30.2 -0.2**
comp=Z,1.2nm,0.6s,baz=113,slow=5.6,SNR=14
LIC Lamto 125.62 271⇑ *e*PKP1 **PKiKP 09 30 54.2 +1.4**
comp=Z,22nm,0.6s
TIC Toumodi 125.67 271⇓ *e*PKP1 **PKiKP 09 30 54.0 +1.1**
comp=Z,9.7nm,0.6s
LAO LASA Array 125.87 38 P **PKiKP 09 30 53.4 +0.9**
baz=298
LAO LASA Array 125.87 38 P **PKiKP 09 30 53.8 +1.3**
baz=298
DGMT Dagmar 126.18 35 P **PKiKP 09 30 55.0 +1.9**
baz=301
WUAZ Wupatki 126.47 53 P **PKiKP 09 30 55.3 +1.2**
baz=286,SNR=7.1
O20A White River Ci 127.32 46 P **PKiKP 09 30 56.9 +1.1**
baz=292
K22A Casper 127.50 43 P **PKiKP 09 30 56.5 +0.5**
baz=295
K22A Casper 127.50 43 P **PKiKP 09 30 56.7 +0.7**
baz=295
TUC Tucson 127.78 56 P **PKiKP 09 30 57.6 +0.8**
baz=284
W18A Petrified Fore 127.87 53 P **PKiKP 09 30 58.2 +1.2**
baz=287
MVCO Mesa Verde 128.16 50 P **PKiKP 09 30 58.5 +0.9**
baz=290
RSSD Black Hills 128.45 40 P **PKiKP 09 30 58.0 +0.1**
baz=299
RSSD Black Hills 128.45 40 P **PKiKP 09 30 58.3 +0.4**
baz=299
PLCA Paso Flores 129.20 170 PKP **PKiKP 09 31 00.6 +1.2**
comp=Z,13nm,0.6s,baz=222,slow=2.4,SNR=36
PLCA SKPbc SKPbc 09 34 14.5 +1.6
comp=Z,5.0nm,1.0s,baz=206,slow=11,SNR=2.8
PLCA Paso Flores 129.20 170 *e*P **PKiKP 09 30 59.7 +0.2**
E28A Huff 129.20 36 P **PKiKP 09 31 00.8 +1.7**
baz=304
S22A 4UR Ranch, Cre 129.22 48 P **PKiKP 09 31 00.7 +1.0**
baz=291
ISCO Idaho Springs 129.31 45 P **PKiKP 09 31 00.4 +0.5**
baz=294
ULM Lac du Bonnet 129.51 29 PKP **PKiKP 09 30 59.4 -0.1**
comp=Z,2.6nm,0.6s,baz=289,slow=1.2,SNR=6.2
ULM SKPbc SKPab 09 34 11.9 -0.8
comp=Z,5.9nm,0.5s,baz=301,slow=4.4,SNR=10
121A Cookes Peak, D 130.17 55 P **PKiKP 09 31 03.1 +1.5**
baz=287
121A Cookes Peak, D 130.17 55 P **PKiKP 09 31 03.3 +1.6**
baz=287
SDCO Great Sand Dun 130.20 48 P **PKiKP 09 31 02.4 +0.7**
baz=293
SDCO Great Sand Dun 130.20 48 P **PKiKP 09 31 02.6 +0.8**
baz=293
Y22A Socorro 130.41 53 P **PKiKP 09 31 03.7 +1.6**
baz=288
ANMO Albuquerque 130.48 52 P **PKiKP 09 31 03.3 +1.0**
baz=290
ANMO Albuquerque 130.48 52 P **PKiKP 09 31 03.1 +0.9**
baz=290
T25A Trinidad 131.23 48 P **PKiKP 09 31 04.8 +1.0**
baz=293
KSCO Kaye Shedlock' 131.74 45 P **PKiKP 09 31 04.5 -0.1**
baz=296
KSCO Kaye Shedlock' 131.74 45 P **PKiKP 09 31 05.2 +0.6**
baz=296
F33A 5 Mile Ranch, 132.11 34 P **PKPdf 09 31 04.2 +0.4**
baz=308
MNTX Cornudas Mount 132.36 55 P **PKiKP 09 31 06.2 +0.3**
baz=288,SNR=9.6
MNTX Cornudas Mount 132.36 55 P **PKiKP 09 31 07.5 +1.6**
baz=288
K31A O'Neill 132.52 39 P **PKiKP 09 31 06.4 +0.5**
baz=303
TRQA Tornquist 132.80 178 PKPdf **PKiKP 09 31 07.3 +0.7**
TRQA Tornquist 132.80 178 PKIKP **PKiKP 09 31 07.4 +0.7**
TRQA Tornquist 132.80 178 *e*P **PKiKP 09 31 08.3 +1.6**
ECSD EROS Data Cent 133.19 37 P **PKiKP 09 31 07.2 0.0**
baz=306
ECSD EROS Data Cent 133.19 37 P **PKiKP 09 31 07.0 -0.2**
baz=306
BGNE Belgrade 133.56 40 P **PKiKP 09 31 07.7 -0.3**
baz=302
BGNE Belgrade 133.56 40 P **PKiKP 09 31 07.8 -0.3**
baz=302
F36A Milaca 133.59 32 P **PKiKP 09 31 08.2 +0.3**
baz=311
MSTX Muleshoe 133.67 51 P **PKiKP 09 31 08.1 -0.5**
baz=292
MSTX Muleshoe 133.67 51 P **PKPdf 09 31 07.8 +0.5**
baz=292
SCHQ Schefferville 134.30 6 PKP **PKiKP 09 31 09.1 0.0**
comp=Z,6.7nm,0.7s,baz=331,slow=2.1,SNR=13
SCHQ SKPbc **SKPbc 09 34 30.8 +0.7**
comp=Z,19nm,1.0s,baz=339,slow=5.8,SNR=7.9
R32A Long Quarter, 134.72 44 P **PKiKP 09 31 11.9 +1.4**
baz=299
I37B Waseca 134.85 34 P **PKiKP 09 31 10.9 +0.3**

	baz=310								
U32A	**Winter Ranch,**	**135.49**	**47**	P		**PKiKP**	**09 31 12.3**	**+0.1**
	baz=297								
KSU1	**Kansas State U**	**135.78**	**42**	P		**PKiKP**	**09 31 13.9**	**+1.3**
	baz=302								
KSU1	**Kansas State U**	**135.78**	**42**	P		**PKiKP**	**09 31 11.9**	**-0.7**
	baz=302								
JCT	**Junction City**	**137.28**	**55**	P		**PKPdf**	**09 31 15.0**	**+0.9**
	baz=291								
PLTB	**Pedras Altas**	**138.68**	**188**	*eP*		**PKiKP**	**09 31 18.8**	**0.0**
CPSB	**Cacapava Do Su**	**139.99**	**189**	*eP*		**PKiKP**	**09 31 21.1**	**-0.4**
RODS	**Rosario do Sul**	**140.27**	**186**	*eP*		**PKiKP**	**09 31 21.3**	**-0.7**
CNLB	**Canela**	**140.59**	**192**	*eP*		**PKiKP**	**09 31 22.8**	**-0.1**
ITQB	**Itaqui**	**141.08**	**184**	*eP*		**PKiKP**	**09 31 23.0**	**-0.7**
ALGR	**Alto Alegre (B**	**141.50**	**190**	*eP*		**PKiKP**	**09 31 24.2**	**-0.6**
AZCA	**Azaras, Árgent**	**142.60**	**186**	*eP*		**PKiKP**	**09 31 26.3**	**-0.6**
WCI	**Wyandotte Cave**	**142.70**	**35**		PKPdf	**PKPdf**	**09 31 20.3**	**-3.3**
WCI	**Wyandotte Cave**	**142.70**	**35**	P		**PKPdf**	**09 31 20.3**	**-3.3**
	baz=314,SNR=9.8								
WCI	**Wyandotte Cave**	**142.70**	**35**	PKIKP		**PKPdf**	**09 31 20.3**	**-3.3**
W45A	**Hickory Valley**	**142.90**	**42**			**PKPdf**	**09 31 21.7**	**-2.4**
OXF	**Oxford**	**143.13**	**43**	P		PKPbc	09 31 22.9	+1.3
	baz=306								
WVT	**Waverly**	**143.17**	**39**		PKPdf	PKPbc	09 31 22.0	+0.3
WVT	**Waverly**	**143.17**	**39**	P		PKPbc	09 31 21.8	+0.2
	baz=310,SNR=8.4								
WVT	**Waverly**	**143.17**	**39**	PKIKP		PKPbc	09 31 22.0	+0.4
WVNY	**West Valley, N**	**143.19**	**23**	P		PKPbc	09 31 21.6	+0.1
	baz=328								
R49A	**Shelbyville**	**143.29**	**34**	P		PKPbc	09 31 23.2	+1.3
	baz=315								
R49A				P		PKPbc	09 31 23.2	+1.3
	baz=315								
NCB	**Newcomb**	**143.32**	**17**	P		PKPbc	09 31 21.6	-0.2
	baz=336								
VT1	**Waterbury**	**143.40**	**16**	P		PKPbc	09 31 22.7	+0.7
	baz=338								
Y45A	**Yeager Farm, C**	**143.42**	**44**	P		**PKPdf**	**09 31 23.9**	**-1.1**
	baz=305								
P51A	**Williamsport**	**143.54**	**31**	P		PKPbc	09 31 22.4	-0.1
	baz=319,SNR=6.7								
P51A				P		PKPbc	09 31 22.4	-0.1
	baz=319,SNR=6.7								
J58A	**Remsen**	**143.54**	**19**	P		PKPbc	09 31 23.3	+0.8
	baz=334								
J58A				P		PKPbc	09 31 23.3	+0.8
	baz=334								
H62A	**Milan**	**143.57**	**14**	P		PKPbc	09 31 22.8	+0.4
	baz=341								
H62A				P		PKPbc	09 31 22.8	+0.4
	baz=341								
N53A	**Lisbon**	**143.57**	**27**	P		PKPbc	09 31 23.2	+0.6
	baz=324								
N53A				P		PKPbc	09 31 23.2	+0.6
	baz=324								
VBMS	**Vicksburg**	**143.64**	**47**	P		**PKPdf**	**09 31 24.7**	**-0.7**
	baz=302								
O52A	**Adamsville**	**143.66**	**29**	P		PKPbc	09 31 23.4	+0.5
	baz=322,SNR=6.6								
O52A				P		PKPbc	09 31 23.4	+0.5
	baz=322,SNR=6.6								
G65A	**Princeton**	**143.67**	**9**	P		PKPbc	09 31 23.3	+0.6
	baz=347								
G65A				P		PKPbc	09 31 23.3	+0.6
	baz=347								
MCVT	**Middlebury Col**	**143.69**	**16**	P		PKPbc	09 31 23.8	+1.0
	baz=338								
K57A	**Scipio Center**	**143.69**	**21**	P		PKPbc	09 31 24.0	+1.1
	baz=332								
J59A	**Piesco**	**143.70**	**18**	P		PKPbc	09 31 23.2	+0.3
	baz=335								
J59A				P		PKPbc	09 31 23.2	+0.3
	baz=335								
Q51A	**Peebles**	**143.74**	**32**	P		PKPbc	09 31 23.2	+0.1
	baz=318,SNR=13								
Q51A				P		PKPbc	09 31 23.2	+0.1
	baz=318,SNR=13								
R50A	**Paris**	**143.76**	**33**	P		PKPbc	09 31 23.5	+0.2
	baz=316,SNR=11								
R50A				P		PKPbc	09 31 23.5	+0.2
	baz=316,SNR=11								
PAMR	**Moraine State**	**143.79**	**26**	P		PKPbc	09 31 23.2	0.0
	baz=325								
L56A	**Greenwood**	**143.82**	**23**	P		PKPbc	09 31 23.4	+0.1
	baz=329								
L56A				P		PKPbc	09 31 23.4	+0.1
	baz=329								
344A	**Westbrook Farm**	**143.88**	**48**	P		**PKPdf**	**09 31 27.3**	**+1.4**
	baz=301								
TIJ01	**Guaruva-PR**	**143.95**	**197**	*eP*		**PKiKP**	**09 31 28.8**	**-1.1**
ACCN	**Adirondack Com**	**144.02**	**17**	P		PKPbc	09 31 24.6	+0.7
	baz=336								
V48A	**Smith Brothers**	**144.05**	**39**	P		PKPbc	09 31 24.4	+0.2
	baz=310,SNR=6.2								
EMMW	**East Machias**	**144.17**	**9**	P		PKPbc	09 31 24.2	0.0
	baz=347								
U49A	**Red Boiling Sp**	**144.17**	**37**	P		**PKPdf**	**09 31 25.5**	**-0.7**
	baz=313,SNR=12								
I62A	**Tamworth**	**144.19**	**14**	P		PKPbc	09 31 25.0	+0.7
	baz=340								
I62A				P		PKPbc	09 31 25.0	+0.7
	baz=340								
UPAO	**U. Pittsburgh**	**144.20**	**27**	P		**PKPdf**	**09 31 25.7**	**-0.5**
	baz=324								
I63A	**Otisfield**	**144.20**	**13**	P		**PKPdf**	**09 31 25.5**	**-0.6**
	baz=342								
I63A				P		**PKPdf**	**09 31 25.5**	**-0.6**
	baz=342								
PSDB	**Penn State Uni**	**144.21**	**25**	P		PKPbc	09 31 25.2	+0.7
	baz=327								
FRBT	**Francisco Belt**	**144.27**	**191**	*eP*		**PKPdf**	**09 31 27.1**	**+0.2**
O54A	**Avella**	**144.28**	**27**	P		PKPbc	09 31 25.5	+0.7
	baz=324,SNR=8.3								
O54A				P		PKPbc	09 31 25.5	+0.7
	baz=324,SNR=8.3								
Q52A	**Bidwell**	**144.34**	**31**	P		PKPbc	09 31 25.0	0.0
	baz=320								
Q52A				P		PKPbc	09 31 25.0	0.0
	baz=320								
BINY	**Binghamton**	**144.34**	**21**	P		PKPbc	09 31 25.1	+0.2
	baz=332								
BINY	**Binghamton**	**144.34**	**21**	P		PKPbc	09 31 25.6	+0.6
	baz=332								
DUB01	**Friburgo-RJ**	**144.36**	**209**	*eP*		**PKPdf**	**09 31 28.1**	**+1.1**
P53A	**Whipple**	**144.36**	**29**	P		**PKPdf**	**09 31 25.8**	**-0.7**
	baz=322,SNR=9.8								
P53A				P		**PKPdf**	**09 31 25.8**	**-0.7**
	baz=322,SNR=9.8								
J61A	**Chester**	**144.37**	**16**	P		PKPbc	09 31 25.6	+0.7
	baz=338								
J61A				P		PKPbc	09 31 25.6	+0.7
	baz=338								
T50A	**Nancy**	**144.37**	**35**	P		PKPbc	09 31 25.5	+0.3
	baz=314								
T50A				P		PKPbc	09 31 25.5	+0.3
	baz=314								
PET01	**Itanhaem-SP**	**144.37**	**200**	*eP*		**PKiKP**	**09 31 29.9**	**-0.7**
HCNY	**Howe Caverns**	**144.43**	**19**	P		**PKPdf**	**09 31 26.7**	**+0.1**
	baz=335,SNR=7.1								
CPUP	**Villa Florida**	**144.44**	**184**		PKP	**PKPdf**	**09 31 27.4**	**+0.3**
	comp=Z,88nm,0.9s,baz=182,slow=2.5,SNR=138								
CPUP	**Villa Florida**	**144.44**	**184**		PKPdf	**PKPdf**	**09 31 27.8**	**+0.7**
CPUP	**Villa Florida**	**144.44**	**184**	*eP*		**PKPdf**	**09 31 27.9**	**+0.9**
146A	**Union**	**144.45**	**45**	P		**PKPdf**	**09 31 27.4**	**+0.6**
	baz=304,SNR=8.0								
TICA	**Tres Isletas**	**144.47**	**179**	*eP*		**PKPdf**	**09 31 27.8**	**+0.7**
FFD	**Franklin Falls**	**144.49**	**15**	P		**PKPdf**	**09 31 26.7**	**+0.1**
	baz=340,SNR=5.3								
S51A	**Beattyville**	**144.62**	**33**	P		PKPbc	09 31 26.3	+0.4
	baz=317,SNR=18								
S51A				P		PKPbc	09 31 26.3	+0.4
	baz=317,SNR=18								
PARB	**Paraibuna**	**144.65**	**203**	*eP*		**PKiKP**	**09 31 29.8**	**-1.5**
L59A	**Walton**	**144.67**	**20**	P		**PKPab**	**09 31 25.7**	**-0.1**
	baz=333								
L59A				P		**PKPab**	**09 31 25.7**	**-0.1**
	baz=333								
M57A	**Sunshine Farm,**	**144.68**	**23**	P		PKPbc	09 31 26.2	+0.3
	baz=330,SNR=12								
M57A				P		PKPbc	09 31 26.2	+0.3
	baz=330,SNR=12								
VAS01	**Vassouras-RJ**	**144.68**	**207**	*eP*		**PKPdf**	**09 31 28.4**	**+0.8**
X48A	**Hartselle**	**144.72**	**41**	P		**PKPab**	**09 31 26.0**	**-0.2**
	baz=309,SNR=9.4								
ALF01	**Guarapari-ES**	**144.77**	**212**	*eP*		**PKPdf**	**09 31 27.8**	**0.0**
Z47A	**Carrollton**	**144.80**	**43**	P		**PKPdf**	**09 31 27.4**	**0.0**
	baz=306,SNR=11								
346A	**Big Creek Wild**	**144.84**	**47**	P		**PKPdf**	**09 31 27.8**	**+0.2**
	baz=302								
MCWV	**Mont Chateau**	**144.95**	**27**	P		**PKPdf**	**09 31 27.7**	**+0.2**
	baz=324,SNR=28								
MCWV	**Mont Chateau**	**144.95**	**27**	P		**PKPdf**	**09 31 27.3**	**-0.2**
	baz=324								
R53A	**Hurricane**	**144.98**	**31**	P		**PKPdf**	**09 31 27.5**	**-0.1**
	baz=320,SNR=13								
R53A				P		**PKPdf**	**09 31 27.5**	**-0.1**
	baz=320,SNR=13								
SSPA	**Standing Stone**	**144.98**	**24**	P		**PKPdf**	**09 31 27.6**	**+0.1**
	baz=328,SNR=14								
SSPA	**Standing Stone**	**144.98**	**24**	P		**PKPdf**	**09 31 27.3**	**-0.2**
	baz=328								
KSPA	**Keystone Colle**	**144.99**	**21**	P		**PKPab**	**09 31 27.1**	**+0.1**
	baz=332								
PABK	**Blue Knob Stat**	**145.00**	**25**	P		**PKPbc**	**09 31 26.8**	**-0.2**
	baz=326								
Q54A	**Coxs Mills**	**145.02**	**29**	P		**PKPdf**	**09 31 28.0**	**+0.4**
	baz=322,SNR=18								
Q54A				P		**PKPdf**	**09 31 28.0**	**+0.4**
	baz=322,SNR=18								
UNH	**University of**	**145.04**	**14**	P		**PKPdf**	**09 31 28.2**	**+0.6**
	baz=341,SNR=17								
SPB	**Sao Paulo**	**145.07**	**200**	*eP*		**PKPdf**	**09 31 28.3**	**+0.1**
K62A	**Royalston**	**145.09**	**16**	P		**PKPdf**	**09 31 28.5**	**+0.8**
	baz=338,SNR=11								
K62A				P		**PKPdf**	**09 31 28.5**	**+0.8**
	baz=338,SNR=11								
CMIG	**Matias Romero**	**145.10**	**74**		PKPbc	**PKPdf**	**09 31 29.3**	**+1.0**
	comp=Z,12nm,0.8s,baz=286,slow=2.6,SNR=18								
L61B	**Northampton**	**145.16**	**17**	P		**PKPdf**	**09 31 28.2**	**+0.4**
	baz=337,SNR=11								
L61B	**Northampton**	**145.16**	**17**	P		**PKPdf**	**09 31 28.5**	**+0.7**
	baz=337								
N58A	**Sunbury**	**145.26**	**23**	P		**PKPdf**	**09 31 28.3**	**+0.3**
	baz=330,SNR=12								
N58A				P		**PKPdf**	**09 31 28.3**	**+0.3**
	baz=330,SNR=12								
W50A	**Signal Mountai**	**145.33**	**38**	P		**PKPab**	**09 31 28.8**	**+0.3**
	baz=312,SNR=12								
NPNY	**Mohonk Preserv**	**145.36**	**19**	P		**PKPab**	**09 31 29.0**	**+0.7**
	baz=335,SNR=18								
QUA2	**Belchertown**	**145.41**	**16**	P		**PKPab**	**09 31 30.3**	**+1.8**
	baz=338,SNR=11								
HRV	**Adam Dziewonsk**	**145.42**	**15**			**PKPab**	**09 31 28.6**	**+0.1**
HRV	**Adam Dziewonsk**	**145.42**	**15**	P		**PKPab**	**09 31 29.5**	**+1.0**
	baz=339,SNR=17								
HRV	**Adam Dziewonsk**	**145.42**	**15**	P		**PKPab**	**09 31 29.2**	**+0.7**
	baz=339								
HRV	**Adam Dziewonsk**	**145.42**	**15**	PKIKP		**PKPab**	**09 31 28.6**	**+0.1**
TZTN	**Tazewell**	**145.44**	**35**	P		**PKPab**	**09 31 29.4**	**+0.5**
	baz=316,SNR=17								
TZTN	**Tazewell**	**145.44**	**35**	P		**PKPab**	**09 31 29.6**	**+0.8**
	baz=316								
V51A	**Loudon**	**145.50**	**37**	P		**PKPab**	**09 31 29.5**	**+0.4**
	baz=314,SNR=11								
Y49A	**Blount Mountai**	**145.50**	**41**	P		**PKPab**	**09 31 29.4**	**+0.2**
	baz=309,SNR=13								
WES	**Weston**	**145.59**	**15**	P		**PKPab**	**09 31 29.9**	**+0.8**
	baz=340,SNR=16								
LRAL	**Lakeview Retre**	**145.62**	**43**	P		**PKPab**	**09 31 30.2**	**+0.6**
	baz=307,SNR=25								
LRAL	**Lakeview Retre**	**145.62**	**43**	P		**PKPab**	**09 31 30.6**	**+1.0**
	baz=307								
BRNY	**Black Rk. Fore**	**145.71**	**19**	P		**PKPab**	**09 31 29.9**	**+0.3**
	baz=335,SNR=6.9								
S54A	**Dingess, Beckl**	**145.71**	**31**	P		**PKPab**	**09 31 30.0**	**+0.2**
	baz=320,SNR=20								
S54A				P		**PKPab**	**09 31 30.0**	**+0.2**
	baz=320,SNR=20								
Q56A	**Snyder Ridge,**	**145.75**	**27**	P		**PKPab**	**09 31 29.9**	**0.0**
	baz=324,SNR=18								
Q56A				P		**PKPab**	**09 31 29.9**	**0.0**
	baz=324,SNR=18								
ODNJ	**Ogdensburg**	**145.81**	**20**	P		**PKPab**	**09 31 30.3**	**+0.3**
	baz=333,SNR=12								
P57A	**Homestead Farm**	**145.89**	**25**	P		**PKPab**	**09 31 30.5**	**+0.1**
	baz=327,SNR=13								
P57A				P		**PKPab**	**09 31 30.5**	**+0.1**
	baz=327,SNR=13								
V52A	**Sevierville**	**145.91**	**36**	P		**PKPab**	**09 31 30.9**	**+0.3**
	baz=315,SNR=18								
R55A	**Marlinton**	**145.92**	**29**	P		**PKPab**	**09 31 31.3**	**+0.7**
	baz=322,SNR=22								
R55A				P		**PKPab**	**09 31 31.3**	**+0.7**
	baz=322,SNR=22								
TKL	**Tuckaleechee C**	**145.94**	**36**	P		**PKPab**	**09 31 30.9**	**+0.2**
	baz=314,SNR=8.3								
X51A	**Calhoun**	**146.03**	**39**	P		**PKPab**	**09 31 31.2**	**+0.1**
	baz=312,SNR=6.1								
X51A				P		**PKPab**	**09 31 31.2**	**+0.1**
	baz=312,SNR=6.1								
PAL	**Palisades**	**146.11**	**19**	P		**PKPab**	**09 31 31.6**	**+0.5**
	baz=334,SNR=30								
PAL	**Palisades**	**146.11**	**19**	P		**PKPab**	**09 31 32.4**	**+1.2**
	baz=335,SNR=30								
L64A	**Middleborough**	**146.14**	**15**	P		**PKPab**	**09 31 31.1**	**-0.1**
	baz=340,SNR=9.7								
L64A				P		**PKPab**	**09 31 31.1**	**-0.1**
	baz=340,SNR=9.7								
BRNJ	**Basking Ridge**	**146.18**	**20**	P		**PKPab**	**09 31 31.5**	**+0.1**
	baz=333,SNR=34								
W52A	**Murphy**	**146.24**	**37**	P		**PKPbc**	**09 31 31.3**	**+0.2**
	baz=314,SNR=5.5								
FOR	**Fordham**	**146.25**	**19**	P		**PKPab**	**09 31 31.9**	**+0.3**
	baz=334,SNR=13								
M63A	**Gales Ferry**	**146.31**	**17**	P		**PKPab**	**09 31 32.0**	**+0.1**
	baz=338,SNR=6.4								
M63A				P		**PKPab**	**09 31 32.0**	**+0.1**
	baz=338,SNR=6.4								
PANJ	**Princeton**	**146.40**	**21**	P		**PKPab**	**09 31 32.0**	**-0.3**
	baz=333,SNR=30								
U54A	**Nelsons Funny**	**146.41**	**33**	P		**PKPab**	**09 31 32.3**	**-0.3**
	baz=318,SNR=17								
U54A				P		**PKPab**	**09 31 32.3**	**-0.3**
	baz=318,SNR=17								
SDMD	**Soldier's Deli**	**146.44**	**24**	P		**PKPbc**	**09 31 31.1**	**-0.3**
	baz=329,SNR=14								
V53A	**Salida**	**146.48**	**35**	P		**PKPab**	**09 31 33.0**	**+0.2**
	baz=316,SNR=25								
V53A				P		**PKPab**	**09 31 33.0**	**+0.2**
	baz=316,SNR=25								
PSUB	**Penn St. - Bra**	**146.53**	**22**	P		**PKPbc**	**09 31 32.2**	**+0.5**
	baz=331								
GEDE	**Greenville**	**146.56**	**22**	P		**PKPbc**	**09 31 31.8**	**0.0**
	baz=331,SNR=18								
BLA	**Blacksburg**	**146.61**	**31**	P		**PKPdf**	**09 31 31.3**	**+0.8**
	baz=321,SNR=8.4								
BLA	**Blacksburg**	**146.61**	**31**	P		**PKPab**	**09 31 33.2**	**-0.1**
	baz=321,SNR=8.4								
Z51A	**Franklin**	**146.65**	**41**	P		**PKPab**	**09 31 33.6**	**+0.1**
	baz=310,SNR=8.6								
BRAL	**Brewton**	**146.68**	**45**	P		**PKPab**	**09 31 34.2**	**+0.5**
	baz=305								
BRAL	**Brewton**	**146.68**	**45**	P		**PKiKP**	**09 31 34.6**	**-0.5**
	baz=305								
250A	**Grady**	**146.75**	**44**	P		**PKPab**	**09 31 33.4**	**-0.5**
	baz=307								
S57A	**Dark Hollow, R**	**146.89**	**28**	P		**PKPbc**	**09 31 32.2**	**-0.6**
	baz=324								
S57A				P		**PKPbc**	**09 31 32.2**	**-0.6**
	baz=324								
Y52A	**Lilburn**	**146.99**	**39**	P		**PKPbc**	**09 31 33.5**	**+0.2**
	baz=312,SNR=12								
Y52A				P		**PKPbc**	**09 31 33.5**	**+0.2**
	baz=312,SNR=12								
P61A	**Hammonton**	**147.00**	**21**	P		**PKPbc**	**09 31 32.8**	**-0.2**
	baz=332								
P61A				P		**PKPbc**	**09 31 32.8**	**-0.2**
	baz=332								
LVC	**Limon Verde**	**147.02**	**165**	*eP*		**PKPbc**	**09 31 34.4**	**+0.3**
R58B	**Mineral**	**147.21**	**27**	P		**PKPbc**	**09 31 33.5**	**-0.2**
	baz=326,SNR=5.7								
R58B				P		**PKPbc**	**09 31 33.5**	**-0.2**
	baz=326,SNR=5.7								
V55A	**Taylorsville**	**147.23**	**33**	P		**PKPbc**	**09 31 34.2**	**+0.3**
	baz=318,SNR=8.8								
V55A				P		**PKPbc**	**09 31 34.2**	**+0.3**
	baz=318,SNR=8.8								
CBN	**Corbin Frederi**	**147.24**	**26**	P		**PKPbc**	**09 31 34.0**	**+0.3**
	baz=327								
CBN	**Corbin Frederi**	**147.24**	**26**	P		**PKPab**	**09 31 35.3**	**-0.3**
	baz=327								
U56A	**King**	**147.30**	**32**	P		**PKPbc**	**09 31 34.1**	**+0.1**
	baz=320,SNR=8.9								
U56A				P		**PKPbc**	**09 31 34.1**	**+0.1**
	baz=320,SNR=8.9								
152A	**Waverly Hall**	**147.35**	**41**	P		**PKPbc**	**09 31 33.5**	**-0.8**
	baz=310								
T57A	**Hurt**	**147.35**	**30**	P		**PKPbc**	**09 31 33.9**	**-0.2**
	baz=323,SNR=7.3								
T57A				P		**PKPbc**	**09 31 33.9**	**-0.2**
	baz=323,SNR=7.3								
PAULI	**Pauline**	**147.66**	**35**	P		**PKiKP**	**09 31 36.1**	**-0.9**
	baz=316,SNR=10								
KMSC	**Kings Mountain**	**147.69**	**34**	P		**PKPbc**	**09 31 35.6**	**+0.4**
	baz=318,SNR=17								
KMSC	**Kings Mountain**	**147.69**	**34**	P		**PKPbc**	**09 31 35.8**	**+0.7**
	baz=318								
HODGE	**Hodges**	**147.82**	**36**	P		**PKPbc**	**09 31 36.4**	**+0.9**
	baz=315,SNR=11								
352A	**Blakely**	**147.96**	**43**	P		**PKPbc**	**09 31 36.5**	**+0.5**
	baz=308								
PCMB	**Pacaembu**	**148.09**	**195**	*eP*		**PKPbc**	**09 31 37.2**	**+0.6**
T59A	**Double "B" Far**	**148.18**	**27**		PKPab	**PKiKP**	**09 31 37.8**	**-0.3**
T59A	**Double "B" Far**	**148.18**	**27**	P		**PKPbc**	**09 31 37.0**	**+0.6**
	baz=325,SNR=17								
T59A				P		**PKPbc**	**09 31 37.0**	**+0.6**
	baz=325,SNR=17								
V58A	**Windy Hill, Pi**	**148.37**	**31**	P		**PKPbc**	**09 31 37.4**	**+0.5**
	baz=322,SNR=7.0								
V58A				P		**PKPbc**	**09 31 37.4**	**+0.5**
	baz=322,SNR=7.0								
W57A	**Gilead**	**148.41**	**33**	P		**PKiKP**	**09 31 38.1**	**-0.4**
	baz=320,SNR=7.4								
W57A				P		**PKiKP**	**09 31 38.1**	**-0.4**
	baz=320,SNR=7.4								
154A	**Montrose**	**148.42**	**39**	P		**PKiKP**	**09 31 38.3**	**-0.4**
	baz=312								
BIRD	**Birdtown, Kers**	**148.54**	**34**	P		**PKiKP**	**09 31 38.6**	**-0.2**
	baz=318,SNR=5.7								
U59A	**Littleton**	**148.57**	**28**	P		**PKiKP**	**09 31 39.0**	**+0.1**
	baz=324								
U59A				P		**PKiKP**	**09 31 39.0**	**+0.1**
	baz=324								
HAW	**Hawthorne Fire**	**148.82**	**37**	P		**PKiKP**	**09 31 39.4**	**-0.1**
	baz=315								
TIGA	**Tifton**	**148.88**	**42**	P		**PKiKP**	**09 31 39.4**	**-0.3**
	baz=310								
TIGA	**Tifton**	**148.88**	**42**	P		**PKiKP**	**09 31 39.2**	**-0.5**
	baz=310								
Y57A	**Sumter**	**149.04**	**34**	P		**PKPbc**	**09 31 39.1**	**+0.5**
	baz=318								
Y57A				P		**PKPbc**	**09 31 39.1**	**+0.5**
	baz=318								
X58A	**Rowland**	**149.21**	**33**	P		**PKiKP**	**09 31 39.9**	**-0.4**
	baz=320								
X58A				P		**PKiKP**	**09 31 39.9**	**-0.4**
	baz=320								
255A	**Hazlehurst**	**149.27**	**40**	P		**PKiKP**	**09 31 40.8**	**+0.3**
	baz=312								
CNNC	**Cliffs of the**	**149.42**	**30**	P		**PKiKP**	**09 31 41.1**	**+0.5**
	baz=323								
CNNC	**Cliffs of the**	**149.42**	**30**	P		**PKPbc**	**09 31 40.0**	**+0.5**
	baz=323								
PB11	**IPOC Station P**	**149.50**	**162**			**PKPbc**	**09 31 38.7**	**-1.8**
PB11					PKPab	**PKiKP**	**09 31 42.8**	**+1.2**
Y58A	**Scranton**	**149.53**	**34**	P		**PKiKP**	**09 31 41.3**	**+0.4**
	baz=319								
Y58A				P		**PKiKP**	**09 31 41.3**	**+0.4**
	baz=319								
V61A	**Roper**	**149.59**	**28**	P		**PKiKP**	**09 31 41.2**	**+0.2**
	baz=326								
V61A				P		**PKiKP**	**09 31 41.2**	**+0.2**
	baz=326								
PB12	**IPOC Station P**	**150.35**	**160**			**PKPbc**	**09 31 40.1**	**-2.3**
PB12					PKPab	**PKiKP**	**09 31 44.6**	**+1.4**
456A	**Hilliard**	**150.36**	**41**	P		**PKiKP**	**09 31 42.8**	**0.0**
	baz=311								
TEIG	**Tepich**	**150.53**	**65**	*eP*		**PKPab**	**09 31 48.8**	**-0.8**
DWPF	**Disney Wildern**	**152.42**	**45**	P		**PKiKP**	**09 31 47.5**	**+0.4**
	baz=308								
BDFB	**Brasília**	**152.53**	**205**		PKP	**PKPdf**	**09 31 42.5**	**+2.0**
	comp=Z,12nm,0.7s,baz=234,slow=2.1,SNR=19								
BDFB					PKPbc	**PKiKP**	**09 31 49.0**	**+1.2**
	comp=Z,60nm,1.0s,baz=158,slow=3.2,SNR=34								
NNA	**Nana**	**152.90**	**141**	*eP*		**PKPdf**	**09 31 42.2**	**+1.1**
CRIN	**San Cristobal**	**153.12**	**80**	*eP*		**PKPbc**	**09 31 48.8**	**0.0**
ACON	**Acoyapa**	**154.99**	**82**	*eP*		**PKPab**	**09 32 07.0**	**-1.5**
FLF1	**Flavio Alfaro-**	**157.89**	**115**	*eP*		PKPdf	09 31 38.1	-10
AZU	**Azuero**	**159.76**	**93**	*eP*		PKPdf	09 31 40.0	-10
BCIP	**Isla Barro Col**	**160.28**	**89**	*eP*		PKPdf	09 31 41.0	-10
YOTC	**Yotoco, Valle**	**162.79**	**107**	*eP*		**PKPab**	**09 32 43.6**	**+1.0**
TBTG	**Tabatinga, AM**	**163.23**	**143**	*eP*		**PKPdf**	**09 31 54.6**	**+1.0**
GUY2C	**Guyana, Caldas**	**164.09**	**104**	*eP*		**PKPab**	**09 32 50.8**	**+2.1**
ROSC	**El Rosal**	**164.97**	**106**		PKP	**PKPdf**	**09 31 57.2**	**+1.6**
	comp=Z,6.0nm,0.4s,baz=280

JOMM **Oshimamatsumae** 2.33 194 *e*P Pn 09 35 58.5 +0.4
JOMM eS S 09 36 30.9 -0.6
MYR Moyori 2.39 128 *e*P Pn 09 35 58.5 -0.2
JTHR Tokachihiroo 2.40 128 *e*S S 09 36 31.5 -1.3
JOT Ohata 2.42 174 *e*P Pn 09 35 58.7 -0.3
JOT eS S 09 36 30.7 -2.5
JOB Onbets 2.42 110 *e*S S 09 36 33.4 +0.1
ERM Erimo 2.51 134 Pn 09 36 00.5 +0.5
ERM Erimo 2.51 134 PN Pn 09 36 00.5 +0.5
ERM Erimo 2.51 134 *e*P Pn 09 36 00.5 +0.5
JAK Akkeshi 2.99 104 *e*P Pn 09 36 04.5 -0.8
JAK eS S 09 36 42.5 -2.0
JTM Tenmabayashi 3.01 175 Pn 09 36 04.7 -0.9
AKK Akkeshi 3.09 103 *e*P Pn 09 36 05.3 -1.1
AKK eS S 09 36 44.3 -2.2
TEY Ternei 3.22 294⇑ *e*PN Pn 09 36 07.1 -0.7
TEY pmax pmax
comp=E,100nm,0.8s
TEY pmax pmax
comp=N,20nm,0.8s
TEY pmax pmax
comp=E,60nm,0.8s
TEY pmax pmax
comp=Z,60nm,0.8s
TEY Ternei 3.22 294 *e*P Pn 09 36 07.1 -0.7
TEY AMB AMB 09 36 07.8
comp=Z,100nm,0.8s
TEY AMB AMB 09 36 07.8
comp=Z,60nm,0.8s
RUSJ Misakicho 3.27 83⇓ *i*PN Pn 09 36 09.6 +1.1
RUSJ eS S 09 36 50.7 +0.4
YSS Yuzh-Sakhalins 3.47 23 Pn 09 36 10.8 0.0
YSS Yuzh-Sakhalins 3.47 23α *i*PN Pn 09 36 10.8 0.0
YSS eS S 09 36 53.3 -1.3
YSS pmax pmax
comp=Z,330nm,0.7s
YSS smax smax
comp=N,230nm,0.8s
YSS smax smax
comp=E,140nm,0.7s
YSS Yuzh-Sakhalins 3.47 23 *i* P Pn 09 36 10.8 0.0
YSS AMB AMB 09 36 11.3
comp=E,330nm,0.7s
YSS eS S 09 36 53.3 -1.3
YSS A A 09 36 54.1
comp=E,230nm,0.7s
YSS A A 09 36 54.1
comp=E,140nm,0.7s
YSS A A 09 36 54.7
comp=E,200nm,3.0s
YSS A A 09 36 54.7
comp=E,300nm,3.0s
NMR Nemuro--Hokkai 3.65 95 *e*PN Pn 09 36 11.3 -1.7
NMR eS S 09 36 54.4 -4.0
NMR Nemuro--Hokkai 3.65 95 *e*P Pn 09 36 11.5 -1.5
NMR eS S 09 36 54.5 -4.0
YUK Yuzh-Kuril'sk 3.71 84⇑ *i*PN Pn 09 36 14.2 +0.5
YUK *i* S S 09 37 00.0 +0.3
YUK pmax pmax
comp=N,57nm,0.4s
YUK pmax pmax
comp=E,33nm,0.4s
YUK pmax pmax
comp=Z,218nm,0.4s
YUK smax smax
comp=N,210nm,0.3s
YUK smax smax
comp=E,238nm,0.6s
YUK Yuzh-Kuril'sk 3.71 84 *i* P Pn 09 36 14.2 +0.5
YUK AMB AMB 09 36 14.6
comp=E,1μm,1.5s
YUK AMB AMB 09 36 14.7
comp=E,220nm,0.4s
YUK *i* S S 09 37 00.0 +0.3
YUK A A 09 37 02.2
comp=E,2μm,3.0s
YUK A A 09 37 02.2
comp=E,980nm,3.0s
YUK A A 09 37 09.5
comp=E,210nm,0.5s
YUK A A 09 37 09.5
comp=E,240nm,0.5s
KUR Kuril'sk 5.30 72⇓ *i*PN Pn 09 36 34.2 +0.8
KUR eS S 09 37 40.4 +5.0
KUR pmax pmax
comp=Z,113nm,0.5s
KUR smax smax
comp=E,54nm,0.6s
KUR Kuril'sk 5.30 72 *i* P Pn 09 36 33.7 +0.3
KUR AMB AMB 09 36 35.1
comp=E,110nm,0.5s
KUR eS S 09 37 35.0 -0.4
KUR A A 09 37 47.1
comp=E,50nm,0.6s
UGL Uglegorsk 5.37 9 *e*PN Pn 09 36 34.4 +0.2
UGL pmax pmax
comp=N,50nm,0.7s
UGL pmax pmax
comp=E,110nm,1.1s
UGL pmax pmax
comp=Z,110nm,1.1s
UGL Uglegorsk 5.37 9 *e*P Pn 09 36 34.2 0.0
UGL AMB AMB 09 36 35.7
comp=Z,110nm,0.9s
JMM Marumori 5.92 180 Pn 09 36 39.8 -1.6
JSD Sado 6.04 199 Pn 09 36 42.9 -0.1
USA0B Ussuriysk Arra 6.33 277 Pn 09 36 46.0 -0.5
USA0B Ussuriysk Arra 6.33 277 *i* PN Pn 09 36 45.7 -0.8
USRK Ussuriysk Ar. 6.33 277 P Pn 09 36 46.5 0.0
comp=Z,60nm,0.7s,baz=90,slow=13,SNR=51
USRK Ussuriysk Ar. 6.33 277
TYV Tymovskoe 7.20 10 *e*PN Pn 09 36 58.8 +1.2
TYV eS S 09 38 21.7 +2.2
TYV pmax pmax
comp=Z,100nm,1.9s
TYV pmax pmax
comp=Z,76nm,0.7s
TYV smax smax
comp=N,12nm,1.8s
TYV smax smax
comp=N,200nm,3.4s
TYV Tymovskoe 7.20 10 *e*P Pn 09 36 58.5 +0.9
TYV AMB AMB 09 36 59.4
comp=N,100nm,1.9s
TYV AMB AMB 09 36 59.6
comp=N,80nm,0.7s
TYV eS S 09 38 20.0 +0.5
MJB9 Matsu-Tunnel 7.49 196 Pn 09 37 01.5 -0.1
MAJO Matsushiro 7.49 196 Pn Pn 09 37 00.7 -0.9
MAJO Matsushiro 7.49 196 PN Pn 09 37 00.7 -0.9
MJAR Matsushiro Arr 7.49 196 P Pn 09 37 01.0 -0.6
comp=N,4.9nm,0.3s,baz=6.2,slow=12,SNR=26
MDJ Mudanjiang 8.05 280 Pn 09 37 08.8 0.0
MDJ Mudanjiang 8.05 280 P Pn 09 37 09.0 +0.3
MDJ pmax pmax
comp=Z,52nm,0.8s
MDJ pmax pmax
comp=Z,60nm,3.6s
MDJ LR LR
comp=N,420nm,11.8s
MDJ LR LR
comp=E,600nm,11.8s
MDJ LR LR
comp=Z,530nm,16.2s
KLR Kul'dur 8.25 314 P Pn 09 37 11.1 -0.1
comp=Z,2.4nm,0.7s,baz=127,slow=14,SNR=10
KLR Kul'dur 8.25 314 *i* PN Pn 09 37 10.9 -0.3
KLR pmax pmax
comp=E,6.0nm,1.2s
KLR Kul'dur 8.25 314 *e*P Pn 09 37 10.9 -0.3
JGF Kuroka 8.58 199 Pn Pn 09 37 14.5 -1.2
INU Inuyama 8.90 200 Pn 09 37 18.2 -1.5
BNX BinXian 9.69 286 ⇓ P Pn 09 37 29.8 +0.1
BNX pmax pmax
comp=Z,37nm,0.8s
BNX pmax pmax
comp=Z,130nm,5.9s
JHS Saijyo 10.57 216 Pn 09 37 42.2 +1.0
HEH HeiHe 11.15 310 *e*P Pn 09 37 47.2 -1.2
HEH pmax pmax
comp=Z,4.0nm,0.6s
HEH pmax pmax
comp=Z,230nm,7.0s
JMN Monobe 11.38 210 Pn Pn 09 37 51.1 -0.4
KSRS Korea Array 11.61 241 P Pn 09 37 54.4 +0.1
comp=Z,10nm,0.7s,baz=54,slow=12,SNR=44
KSRS Korea Array 11.61 241 *e*P Pn 09 37 54.4 +0.1
KS19 Wonju Array Si 11.62 242 Pn 09 37 54.3 -0.1
KSAR Wonju Array Be 11.64 241 Pn Pn 09 37 54.0 -0.6
KSAR Wonju Array Be 11.64 241 PN Pn 09 37 54.1 -0.6
SKR Severo-Kuril's 12.51 51 *e*P Pn 09 38 03.5 -1.9
SKR AMB AMB 09 38 09.0
comp=Z,30nm,0.8s
JTU Tsushima 12.76 227 Pn Pn 09 38 07.8 -1.0
JNU Nakatsue 13.15 219 P Pn 09 38 13.1 -0.6
comp=Z,5.4nm,0.6s,baz=120,slow=8.1,SNR=3.6
JNU Nakatsue 13.15 219 Pn Pn 09 38 13.0 -0.6
ZEA Zeya 13.33 323 *e*PN Pn 09 38 14.6 -1.0
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA Zeya 13.33 323 *e*P P 09 38 18.0 +0.1
PEA0B Petropavlovsk- 14.58 44 P Pn 09 38 31.2 +0.1
PEA0B Petropavlovsk- 14.58 44 P Pn 09 38 31.2 +0.1
PETK Petropavlovsk- 14.58 44 P Pn 09 38 31.1 0.0
comp=Z,24nm,0.8s,baz=224,slow=9.8,SNR=24
PET Petropavlovsk 15.03 46 Pn 09 38 36.0 -0.4
MA2 Magadan 16.95 18 P P 09 38 55.9 -1.9
comp=Z,1.7nm,0.4s,baz=168,slow=17,SNR=2.7
MA2 Magadan 16.95 18 P P 09 38 57.3 -0.6
MA2 Magadan 16.95 18 P P 09 38 57.3 -0.6
MA2 pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 19.40 344 P P 09 39 21.3 -3.0
comp=Z,6.2nm,0.3s,baz=143,slow=0.8,SNR=9.4
YAK Yakutsk 19.40 344 P P 09 39 21.4 -2.8
YAK Yakutsk 19.40 344 *e*P P 09 39 21.6 -2.6
YAK eS S 09 42 50.2 -1.3
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK smax smax
comp=N,167nm,6.5s
YAK smax smax
comp=E,149nm,6.5s
SEY Seymchan 20.34 15 P P 09 39 32.6 -1.7
comp=E,1.9nm,0.6s,baz=193,slow=8.3,SNR=8.9
comp=E,1.9nm,0.6s
SEY Seymchan 20.34 15 *e*P P 09 39 32.6 -1.7
HHC Hu-ho-hao-te 21.72 272 *e*P P 09 39 49.1 +0.1
HHC pmax pmax
comp=Z,30nm,0.7s
HHC pmax pmax
comp=Z,290nm,5.5s
ULN Ulaanbaatar 23.71 292 *i* P P 09 40 07.7 +0.5
ULN pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 23.71 292 *e*P P 09 40 07.7 +0.5
SONM Songino Array 24.16 292 P P 09 40 10.6 -0.6
comp=Z,7.9nm,0.7s,baz=88,slow=8.6,SNR=50
SONM PcP PcP 09 43 45.8 +0.2
comp=Z,0.4nm,0.4s,baz=125,slow=2.7,SNR=3.6
comp=Z,7.9nm,0.7s
SONM Songino Array 24.16 292 P P 09 40 11.2 0.0
SONM IAmb IAmb 09 40 12.1
comp=Z,13nm,1.0s
SONM Songino Array 24.16 292 P P 09 40 11.2 0.0
SONM pmax pmax
comp=Z,13nm,1.0s
WHN Wuhan 24.72 247 ⇑ P P 09 40 14.8 -1.4
BILL Bilibino 27.78 20 *ce*P P 09 40 43.8 +0.6
BILL *e**PP pP 09 41 27.4 +0.7
BILL *e* 09 41 46.0
BILL pmax pmax
comp=Z,1.0nm,0.3s
BILL Bilibino 27.78 20 *e*P P 09 40 43.8 +0.6
PZH PanZhiHua 35.86 254 P P 09 41 54.7 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,7.1s
DGZ Jazzator, Alta 36.35 299 *i* P P 09 41 58.7 +0.6
DGZ pmax pmax
comp=Z,6.0nm,0.6s
ZAA0 Zalesovo Array 37.24 306 P P 09 42 05.5 +0.1
ZAA0 IAmb IAmb 09 42 06.0
comp=Z,8.7nm,0.8s
ZALV Zalesovo Beam 37.24 306 P P 09 42 04.9 -0.4
comp=Z,7.2nm,0.6s,baz=85,slow=8.1,SNR=35
ZALV PcP PcP 09 44 20.0 +0.1
comp=Z,3.1nm,0.5s,baz=83,slow=1.8,SNR=11
comp=Z,7.2nm,0.6s
ZALV Zalesovo Beam 37.24 306 P P 09 42 05.3 0.0
ZALV Zalesovo Beam 37.24 306 P P 09 42 05.3 0.0
WMQ Urumqi 37.73 289 *e*P P 09 42 11.5 +1.9
MK31 Makanchi Array 40.41 295 P P 09 42 31.8 0.0
MK31 Makanchi Array 40.41 295 *i* P P 09 42 31.3 -0.4
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 40.41 295 P P 09 42 31.6 -0.2
comp=Z,5.2nm,0.7s,baz=82,slow=9.8,SNR=48
MKAR PcP PcP 09 44 30.1 -0.1
comp=Z,0.6nm,0.6s,baz=77,slow=4.9,SNR=4.1
comp=Z,5.2nm,0.7s
MKAR Makanchi Array 40.41 295 P P 09 42 32.0 +0.3
MKAR Makanchi Array 40.41 295 *i* P P 09 42 31.7 -0.1
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 40.41 295 *e*P P 09 42 31.7 -0.1
MAKZ Makanchi 40.61 296 P P 09 42 33.7 +0.3
MAKZ Makanchi 40.61 296 P P 09 42 33.7 +0.3
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 41.62 302 P P 09 42 41.6 +0.2
KURK Kurchatov 41.62 302 *i* P P 09 42 41.4 0.0
KURK pmax pmax
comp=Z,10.0nm,0.4s
KURK Kurchatov 41.62 302 *e*P P 09 42 41.4 0.0
KURBB Kurchatov Arra 41.70 302 P P 09 42 41.9 -0.2
CMAR Chiang Mai Arr 43.16 248 P P 09 42 55.1 +0.9
comp=Z,0.9nm,0.3s,baz=35,slow=7.7,SNR=8.0
comp=Z,0.9nm,0.3s
ILAR Eielson Array 44.19 36 P P 09 43 03.1 +1.2
comp=Z,1.5nm,0.7s,baz=276,slow=8.7,SNR=7.0
comp=Z,1.5nm,0.7s
DHY Denali Highway 44.23 38 P P 09 43 02.9 +0.5
PRP Porcupine Dome 44.65 35 P P 09 43 06.8 +1.1
MDOK Medeo 45.18 292 P P 09 43 10.2 0.0
SCRK Sand Creek 45.57 37 P P 09 43 12.6 -0.3
BVA0 Borovoye Array 45.84 308 *i* P P 09 43 15.1 +0.1
BRVK Borovoye 45.89 308 P P 09 43 15.8 +0.5
BRVK IAmb IAmb 09 43 16.1
comp=Z,7.0nm,0.4s
BRVK Borovoye 45.89 308 *i* P P 09 43 15.4 0.0
BRVK pmax pmax
comp=Z,6.0nm,0.4s
BRVK Borovoye 45.89 308 *e*P P 09 43 15.4 0.0
TKM2 Tokmak 2 46.25 293 *i* P P 09 43 19.3 +0.7
TKM2 pmax pmax
comp=Z,13nm,0.5s
AAK Ala-Archa 47.10 293 P P 09 43 25.7 +0.5
AAK Ala-Archa 47.10 293 *i* P P 09 43 25.6 +0.5
AAK pmax pmax
comp=Z,3.0nm,0.4s
AAK Ala-Archa 47.10 293 *e*P P 09 43 25.6 +0.5
ISLE Juniper Island 47.10 41 P P 09 43 25.6 +0.8
ISLE IAmb IAmb 09 43 36.9
comp=Z,34nm,1.3s
FAKI Fak Fak 47.12 192 P P 09 43 25.9 +0.6
FAKI IAmb IAmb 09 43 52.5
comp=Z,13nm,1.0s
KSH Kashi 47.48 288 P P 09 43 32.4 +4.3
KSH pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 48.69 30 P P 09 43 36.9 +0.2
comp=Z,2.2nm,0.3s,baz=288,slow=5.6,SNR=9.9
comp=Z,2.2nm,0.3s
INK Inuvik 48.69 30 P P 09 43 36.8 +0.2
HYT Haines Junctio 49.31 40 P P 09 43 44.2 +2.5
HYT IAmb IAmb 09 43 57.4
comp=Z,18nm,1.4s
KK31 Karatay Array 49.54 295 P P 09 43 43.8 +0.3
KK31 IAmb IAmb 09 43 44.2
comp=Z,7.0nm,0.7s
KK31 Karatay Array 49.54 295 *i* P P 09 43 43.2 -0.3
KKAR Karatay Array 49.54 295 P P 09 43 43.8 +0.3
KKAR IAmb IAmb 09 43 44.2
comp=Z,7.0nm,0.7s
KKAR Karatay Array 49.54 295 P P 09 43 43.7 +0.2
KKAR Karatay Array 49.54 295 P P 09 43 43.8 +0.3
KKAR pmax pmax
comp=Z,7.0nm,0.7s
A36M Sachs Harbour 50.24 24 P P 09 43 49.6 +1.3
A36M IAmb IAmb 09 43 50.4
comp=Z,9.0nm,0.9s
ARU Arti 51.09 315 P P 09 43 55.2 +0.3
ARU IAmb IAmb 09 43 56.6
comp=Z,8.2nm,0.9s
ARU Arti 51.09 315 *c i*P P 09 43 55.4 +0.6
ARU S S 09 50 57.1 +1.9
ARU SS SS 09 54 32.0 -0.6
ARU pmax pmax
comp=Z,20nm,1.4s
ARU Arti 51.09 315 *e*P P 09 43 55.5 +0.6
AB31 Akbulak array 53.36 306 *i* P P 09 44 11.8 +0.2
ABKAR Akbulak array 53.36 306 P P 09 44 12.0 +0.3
ABKAR IAmb IAmb 09 44 12.8
comp=Z,11nm,0.7s
EUNU Eureka 53.60 9 P P 09 44 12.7 -0.4
SPITS Spitsbergen Ar 53.81 348 P P 09 44 13.9 -0.7
comp=Z,5.3nm,0.7s,baz=70,slow=8.1,SNR=6.0
comp=Z,5.3nm,0.7s
AKTO Aktyubinsk 53.93 308 P P 09 44 14.8 -1.0
NOR Nord 54.29 356 *i* P P 09 44 16.7 -1.2
RES Resolute Bay 56.21 15 P P 09 44 31.3 -0.4
comp=Z,6.7nm,0.5s,baz=302,slow=7.1,SNR=17
comp=Z,6.7nm,0.5s
RES Resolute Bay 56.21 15 P P 09 44 31.9 +0.2
RES IAmb IAmb 09 44 32.1
comp=Z,8.1nm,0.6s
RES Resolute Bay 56.21 15 P P 09 44 31.9 +0.2
RES pmax pmax
comp=Z,8.0nm,0.6s
KEV Kevo 56.98 338 P P 09 44 36.5 -0.6
KEV Kevo 56.98 338 P P 09 44 36.5 -0.6
KEV pmax pmax
comp=Z,39nm,1.1s
ARCES ARCESS Array B 57.52 338 P P 09 44 39.8 -1.3
comp=Z,6.6nm,1.0s,baz=59,slow=7.2,SNR=13
comp=Z,6.6nm,1.0s
ARCES ARCESS Array B 57.52 338 P P 09 44 40.6 -0.4
ARCES IAmb IAmb 09 45 03.2
comp=Z,14nm,1.2s
ARCES ARCESS Array B 57.52 338 P P 09 44 40.6 -0.4
ARCES pmax pmax
comp=Z,14nm,1.3s
YKA Yellowknife Ar 58.29 32 P P 09 44 46.5 +0.1
comp=Z,1.3nm,0.8s,baz=304,slow=6.7,SNR=13
YKA PcP pP 09 45 35.6 +0.3
comp=Z,1.0nm,0.7s,baz=308,slow=3.7,SNR=11
comp=Z,1.3nm,0.8s
BELG Belogornoye 58.61 314 *i* P P 09 44 48.9 +0.2
BELG pmax pmax
comp=Z,4.0nm,0.8s
KNRA Kununurra 60.18 193 P P 09 45 00.8 +1.0
KNRA IAmb IAmb 09 45 10.4
comp=Z,17nm,1.1s
GEYT Alibeck 60.29 295 P P 09 45 00.5 0.0
comp=Z,5.1nm,0.5s,baz=40,slow=4.8,SNR=7.1
comp=Z,5.1nm,0.5s
GEYT Alibeck 60.29 295 P P 09 45 00.8 +0.3
GEYT IAmb IAmb 09 45 01.3
comp=Z,7.1nm,0.9s
GEYT Alibeck 60.29 295 P P 09 45 00.8 +0.3
GEYT pmax pmax
comp=Z,7.0nm,0.9s
GYA0 ALIBECK ARRAY 60.29 295 P P 09 45 00.9 +0.4
GYA0 pmax pmax
comp=Z,6.0nm,0.9s
GYA0B ALIBECK ARRAY 60.29 295 P P 09 45 00.9 +0.4
GYA0B IAmb IAmb 09 45 01.2
comp=Z,6.0nm,0.9s
VRH Novokhopyorsk 62.32 315 *e*P P 09 45 12.0 -1.8
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 62.45 321 *ce*P P 09 45 14.5 -0.1
OBN *e**PP pP 09 45 58.8 -5.1
OBN *e* 09 47 37.3
OBN *e*PPP PPP 09 49 08.1
OBN eS S 09 53 17.2 -6.5
OBN pmax pmax
comp=Z,15nm,0.9s
OBN Obninsk 62.45 321 *e*P P 09 45 14.5 -0.1
FIA1 FINESS Array S 62.64 331 P P 09 45 15.5 -0.2
FINES FINESS Array B 62.64 331 P P 09 45 15.2 -0.6
comp=Z,6.9nm,0.5s,baz=55,slow=7.2,SNR=91
comp=Z,6.9nm,0.5s
FINES FINESS Array B 62.64 331 P P 09 45 15.4 -0.4
FINES FINESS Array B 62.64 331 P P 09 45 15.4 -0.4
LPSR Galich'ya Gora 62.87 318 *e*P P 09 45 16.2 -1.2
LPSR pmax pmax
comp=Z,20nm,0.7s
WB0 Warramunga Arr 63.51 187 P P 09 45 21.8 -0.2
WB0 IAmb IAmb 09 45 25.9
comp=Z,11nm,1.4s
VSR Storozhevoye 63.59 317 *e*P P 09 45 20.4 -1.8
VSR pmax pmax
comp=Z,10.0nm,0.6s
WRAB Tennant Creek 63.68 187 P P 09 45 23.1 +0.1
WRAB IAmb IAmb 09 45 42.3
comp=Z,10nm,1.4s
WRAB Tennant Creek 63.68 187 P P 09 45 23.1 +0.1
WRAB pmax pmax
comp=Z,10.0nm,1.4s
WB2 Warramunga Arr 63.69 187 P P 09 45 22.9 -0.2
WB2 IAmb IAmb 09 45 23.4
comp=Z,4.1nm,0.7s
WR0 Warramunga Arr 63.69 187 P P 09 45 22.9 -0.2
WR0 IAmb IAmb 09 45 32.9
comp=Z,6.0nm,1.4s
WRA Warramunga Arr 63.69 187 P P 09 45 22.4 -0.8
comp=Z,2.5nm,0.6s,baz=2.3,slow=6.9,SNR=40
WRA PcP PcP 09 45 57.9 +0.7
comp=Z,0.8nm,0.6s,baz=1.5,slow=4.5,SNR=5.5
comp=Z,2.5nm,0.6s
WRA Warramunga Arr 63.69 187 P P 09 45 23.1 0.0
WRA Warramunga Arr 63.69 187 P P 09 45 23.1 0.0
SUMG Summit 63.94 360 *i* P P 09 45 25.3 +0.7
SUMG IAmb IAmb 09 45 25.6
comp=Z,17nm,0.8s
LON Longmire 64.14 49 P P 09 45 27.4 +1.4
LON Longmire 64.14 49 P P 09 45 27.4 +1.4
LON pmax pmax
comp=Z,6.0nm,1.4s
LTY Liberty 64.46 48 P P 09 45 28.6 +0.6
LTY IAmb IAmb 09 45 32.2
comp=Z,8.2nm,1.4s
B08A Colville Reser 64.50 47 P P 09 45 29.0 +0.8
KIV Kislovodsk 66.19 309 P P 09 45 40.4 +1.2
KIV Kislovodsk 66.19 309 *e*P P 09 45 40.0 +0.8
KIV pmax pmax
comp=Z,22nm,1.1s
KIV Kislovodsk 66.19 309 *e*P P 09 45 40.0 +0.8
KBZ Khabaz 66.21 308 P P 09 45 39.9 +0.8
comp=Z,5.2nm,0.6s,baz=74,slow=3.5,SNR=14
comp=Z,5.2nm,0.6s
KBZ Khabaz 66.21 308 *i* P P 09 45 40.4 +1.2
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 66.21 308 *e*P P 09 45 40.4 +1.2
ZEI Tsey 66.22 307 *e*P P 09 45 38.6 -0.9
ZEI pmax pmax
comp=Z,7.0nm,0.8s
NACGM Naroch 66.85 325 *e*P P 09 45 43.0 0.0
comp=Z,17nm,0.8s,baz=46
AS31 Alice Springs 67.41 187 P P 09 45 47.7 +0.8
ASAR Alice Springs 67.42 187 P P 09 45 47.6 +0.7
comp=Z,1.9nm,0.5s,baz=356,slow=4.2,SNR=40
comp=Z,1.9nm,0.5s
ICESG Greenland Ices 67.44 0 *i* P P 09 45 47.5 +0.6
ICESG IAmb IAmb 09 45 48.7
comp=Z,10nm,0.9s
NC405 NORSAR Array S 67.58 336 P P 09 45 46.4 -1.1
NB201 NORSAR Array S 67.75 336 P P 09 45 48.6 -0.1
NB2 NORSAR Subarra 67.78 336 P P 09 45 47.8 -1.1
comp=Z,5.3nm,0.6s,baz=37,slow=6.5
NOA NORSAR Array B 67.78 336 P P 09 45 47.9 -0.9
comp=Z,2.6nm,0.5s,baz=34,slow=7.1,SNR=22
comp=Z,2.6nm,0.5s
NORES NORESS Array B 67.93 336 P P 09 45 49.3 -0.4
FCC Fort Churchill 68.22 27 P P 09 45 51.6 +0.2
FCC Fort Churchill 68.22 27 P P 09 45 51.7 +0.2
FCC pmax pmax

comp=Z,1.0nm,0.8s
AKASG Malin Array Be 68.70 321 P P 09 45 54.1 -0.5
comp=Z,5.8nm,0.4s,baz=43,slow=6.6,SNR=76
comp=Z,5.8nm,0.4s
AKASG Malin Array Be 68.70 321 P P 09 45 54.8 +0.2
AKASG IAmb IAmb 09 45 55.4
comp=Z,5.1nm,0.9s
AKASG Malin Array Be 68.70 321 *i* P **P 09 45 54.2 -0.4**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKBB Malin Array Si 68.70 321 P P 09 45 54.4 -0.2
AKBB Malin Array Si 68.70 321 P P 09 45 54.4 -0.2
AKBB pmax pmax
comp=Z,14nm,0.7s
DY2G Dye2 69.94 3 *i* Pg **P 09 46 01.4 -0.9**
DY2G *i* P **P 09 46 01.4 -0.9**
DY2G IAmb IAmb 09 46 03.2
comp=Z,14nm,0.6s
GURO Guroymak-BITLI 70.00 304 P P 09 46 03.5 +0.5
GURO IAmb IAmb 09 46 04.9
comp=Z,5.2nm,0.7s
SORM Soroca 70.90 319 ⇓P **P 09 46 07.4 -0.6**
SORM Soroca 70.90 319 ⇓P **P 09 46 07.4 -0.6**
KVN Kaiserville 71.12 54 P P 09 46 10.9 +1.0
KVN Kaiserville 71.12 54 P P 09 46 10.9 +1.0
KVN pmax pmax
comp=Z,3.0nm,0.6s
GCMT Greycliff 71.17 44 P P 09 46 11.6 +1.7
NVAR Mina Array Bea 71.41 54 P P 09 46 12.5 +0.8
comp=Z,0.9nm,0.6s,baz=299,slow=4.6,SNR=7.1
comp=Z,0.9nm,0.6s
BEL Belsk 71.55 325 *eP* **P 09 46 12.7 +0.8**
ELK Elko 71.64 51 P P 09 46 14.0 +1.0
comp=Z,0.6nm,0.7s,baz=259,slow=10,SNR=2.4
comp=Z,0.6nm,0.7s
ELK Elko 71.64 51 P P 09 46 14.0 +1.0
VLDR Vladesti 72.66 317 ⇑P P 09 46 26.1 +7.5
BUR08 Bucovina Ar. S 72.73 320 P P 09 46 19.5 +0.4
BUR08 IAmb IAmb 09 46 20.3
comp=Z,6.5nm,0.7s
BURAR Bucovina Array 72.74 320 ⇓P **P 09 46 19.4 +0.2**
BURAR Bucovina Array 72.74 320 P P 09 46 19.4 +0.2
BURAR IAmb IAmb 09 46 20.6
comp=Z,8.1nm,0.8s
BURAR Bucovina Array 72.74 320 ⇓P **P 09 46 19.4 +0.2**
TESR Tescani 72.87 319 ⇓P **P 09 46 19.9 +0.1**
CFR Carcaliu 73.11 317 ⇓P **P 09 46 21.0 -0.2**
CFR Carcaliu 73.11 317 ⇓P **P 09 46 21.0 -0.2**
STHS Stebnicka Huta 73.18 324 *eP* **P 09 46 21.6 0.0**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 73.18 324 *eP* **P 09 46 21.6 0.0**
OJC Ojcow 73.19 325 *eP* **P 09 46 22.1 +0.5**
OJC Ojcow 73.19 325 P P 09 46 22.4 +0.9
OJC Ojcow 73.19 325 P P 09 46 22.5 +0.9
OJC pmax pmax
comp=Z,13nm,70.7s
VRI Vrincioaia 73.30 318 ⇓P **P 09 46 20.6 -1.8**
VRI Vrincioaia 73.30 318 ⇓P **P 09 46 20.6 -1.8**
PDAR Pinedale Array 73.34 46 P P 09 46 23.2 +0.3
comp=Z,2.7nm,0.6s,baz=297,slow=0.2,SNR=7.5
comp=Z,2.7nm,0.6s
CRVS Cervenica-Dubn 73.47 323 *eP* **P 09 46 24.0 +0.7**
CRVS Cervenica-Dubn 73.47 323 *eP* **P 09 46 24.0 +0.7**
TRPA Tarpa 73.58 322 ⇑P **P 09 46 25.2 +1.3**
OZUR 73.58 319 ⇓P **P 09 46 25.4 +1.3**
DOPR Dopca 73.87 319 ⇓P **P 09 46 25.7 0.0**
BRTR Keskin Array B 74.06 310 P P 09 46 27.2 +0.2
comp=Z,2.4nm,0.7s,baz=66,slow=3.1,SNR=7.8
comp=Z,2.4nm,0.7s
ULM Lac du Bonnet 74.17 34 P P 09 46 26.5 -0.8
comp=Z,2.9nm,0.4s,baz=325,slow=7.0,SNR=6.5
comp=Z,2.9nm,0.4s
ULM Lac du Bonnet 74.17 34 P P 09 46 27.3 0.0
ULM IAmb IAmb 09 46 27.7
comp=Z,4.9nm,0.8s
ULM Lac du Bonnet 74.17 34 P P 09 46 27.3 0.0
ULM pmax pmax
comp=Z,5.0nm,0.8s
OSTC Ostas 74.38 327 *eP* **P 09 46 29.4 +0.8**
MARR Marisel-Cluj 74.40 321 ⇓P **P 09 46 29.2 +0.3**
VOIR 74.42 319 ⇑P **P 09 46 29.6 +0.7**
VOIR 74.42 319 ⇑P **P 09 46 29.6 +0.7**
MORC Moravsky Berou 74.46 326 ⇓P **P 09 46 29.7 +0.7**
MORC Moravsky Berou 74.46 326 P P 09 46 29.7 +0.7
MORC IAmb IAmb 09 46 30.5
comp=Z,9.9nm,0.9s
MORC Moravsky Berou 74.46 326 *eP* **P 09 46 29.7 +0.7**
MORC Moravsky Berou 74.46 326 P P 09 46 29.7 +0.7
MORC pmax pmax
comp=Z,10.0nm,0.9s
DPC Dobruska-Polom 74.50 327 *eP* **P 09 46 30.1 +0.8**
DPC Dobruska-Polom 74.50 327 *eP* **P 09 46 30.1 +0.8**
KRLC Kraliky 74.53 326 *eP* **P 09 46 30.0 +0.5**
KRLC Kraliky 74.53 326 *eP* **P 09 46 30.0 +0.5**
ARR Arges 74.67 319 ⇓P **P 09 46 30.5 +0.1**
PSZ Piszkesteto 74.90 323 ⇓P **P 09 46 32.3 +0.6**
PSZ Piszkesteto 74.90 323 ⇓P **P 09 46 32.3 +0.6**
VYHS Vyhne 74.91 324 *eP* **P 09 46 32.6 +0.9**
VYHS Vyhne 74.91 324 *eP* **P 09 46 32.5 +0.9**
CLL Collm 75.01 329 P P 09 46 32.5 +0.4
CLL IAmb IAmb 09 46 32.6
comp=Z,7.5nm,0.6s
CLL Collm 75.01 329 *i* P **P 09 46 31.9 -0.2**
comp=Z,9.0nm,0.6s
CLL Collm 75.01 329 *i* P **P 09 46 31.9 -0.2**
CLL pmax pmax
comp=Z,9.0nm,0.6s
FORT Forrest 75.11 191 P P 09 46 33.5 +0.8
JAVC Velka Javorina 75.12 325 *eP* **P 09 46 34.5 +1.6**
VRAC Vranov 75.21 326 ⇑P **P 09 46 34.0 +0.7**
VRAC Vranov 75.21 326 *eP* **P 09 46 34.1 +0.8**
VRAC Vranov 75.21 326 ⇑P **P 09 46 34.0 +0.7**
STKA Stephens Creek 75.31 179 P P 09 46 35.0 +1.1
comp=Z,1.7nm,0.6s,baz=347,slow=5.3,SNR=5.1
comp=Z,1.7nm,0.6s
STKA Stephens Creek 75.31 179 P P 09 46 35.0 +1.1
GOPC GO Pecny, Ondr 75.45 327 *eP* **P 09 46 35.4 +0.7**
GOPC GO Pecny, Ondr 75.45 327 *eP* **P 09 46 35.4 +0.7**
KRUC Moravsky 75.48 326 *eP* **P 09 46 35.6 +0.7**
PRU Pruhonice 75.49 327 *eP* **P 09 46 35.4 +0.6**
PRU Pruhonice 75.49 327 *eP* **P 09 46 35.4 +0.6**
SURR Surduc 75.55 321 ⇑P **P 09 46 36.1 +0.8**
PFO Pinyon Flats O 75.76 57 P P 09 46 37.4 +0.6
comp=Z,0.7nm,0.5s,baz=284,slow=4.2,SNR=4.5
comp=Z,0.7nm,0.5s
BZS Buzias 75.89 321 ⇑P **P 09 46 36.2 -1.0**
BZS Buzias 75.89 321 ⇑P **P 09 46 36.2 -1.0**
BBOO Buckleboo 76.35 184 P P 09 46 40.8 +1.1
CKRC Cesky Krumlov 76.51 327 *eP* **P 09 46 42.3 +1.6**
KHC Kasperske Hory 76.55 327 P P 09 46 41.4 +0.4
KHC IAmb IAmb 09 46 42.4
comp=Z,10.0nm,1.1s
KHC Kasperske Hory 76.55 327 *eP* **P 09 46 41.5 +0.6**
KHC Kasperske Hory 76.55 327 *eP* **P 09 46 41.5 +0.6**
CONA Conrad Observa 76.60 325 *eP* **P 09 46 41.9 +0.6**
comp=Z,3.9nm,0.7s
RONA Rosalia, Austr 76.60 325 *eP* **P 09 46 40.7 -0.5**
comp=Z,5.8nm,0.6s
EKA Eskdalemuir Ar 76.61 340 P P 09 46 40.8 -0.3
ESK Eskdalemuir 76.64 340 P P 09 46 41.6 +0.4
ESK Eskdalemuir 76.64 340 P P 09 46 41.6 +0.4
ESK pmax pmax
comp=Z,28nm,1.5s
GERES GERESS Array B 76.73 327 P P 09 46 42.0 0.0
comp=Z,1.2nm,0.4s,baz=42,slow=5.9,SNR=13
comp=Z,1.2nm,0.4s
GERES GERESS Array B 76.73 327 P P 09 46 42.5 +0.5
GERES GERESS Array B 76.73 327 P P 09 46 42.5 +0.5
GRF Grafenberg Arr 76.99 329 *eP* **P 09 46 43.9 +0.6**
comp=Z,9.5nm,0.9s,baz=33,slow=4.7
ARSA Arzberg 77.27 325 *i* P **P 09 46 45.9 +0.9**
comp=Z,1.7nm,0.5s
BIOA Bad Ischl, Aus 77.69 327 *eP* **P 09 46 48.2 +0.9**
comp=Z,7.5nm,1.2s
DIVS Divibare 77.79 321 P P 09 46 48.1 +0.1
DIVS IAmb IAmb 09 46 50.4
comp=Z,16nm,1.4s
SOKA Soboth 77.93 325 *i* P **P 09 46 49.1 +0.4**
comp=Z,4.5nm,0.8s
KBA Koelnbreinsper 78.30 326 *i* P **P 09 46 50.9 +0.1**
comp=Z,8.7nm,1.0s
MYKA Terra Mystica 78.54 326 *i* P **P 09 46 52.3 +0.3**
comp=Z,5.6nm,0.7s
WATA Walderalm 78.79 327 *i* P **P 09 46 54.1 +0.6**
comp=Z,7.7nm,1.1s
WTTA Wattenberg 78.83 327 *i* P **P 09 46 54.4 +0.7**
comp=Z,8.8nm,0.9s
MOTA Moosalm 78.97 328 *i* P **P 09 46 54.4 0.0**
comp=Z,7.1nm,0.8s
RETA Reutte 78.98 328 *i* P **P 09 46 55.3 +0.9**
comp=Z,4.6nm,0.9s
SCHQ Schefferville 78.99 16 P P 09 46 54.1 -0.1
comp=Z,2.2nm,0.5s,baz=352,slow=5.6,SNR=7.6
comp=Z,2.2nm,0.5s
SQTA Sankt Quirin 79.03 328 *eP* **P 09 46 55.3 +0.6**
comp=Z,10nm,1.2s
NWAO Narrogin (SRO) 79.31 200 P P 09 46 56.9 +0.9
NWAO Narrogin (SRO) 79.31 200 P P 09 46 56.9 +0.9
NWAO pmax pmax
comp=Z,23nm,1.2s
DAVA Damuels 79.48 328 *i* P **P 09 46 57.1 -0.1**
comp=Z,4.1nm,0.5s
ANMO Albuquerque 80.64 50 P P 09 47 04.8 +1.1
comp=Z,0.5nm,0.5s,baz=339,slow=1.5,SNR=3.1
comp=Z,0.5nm,0.5s
ANMO Albuquerque 80.64 50 *ceP* **P 09 47 06.2 +2.5**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
ESDC Sonseca Array 91.01 334 P P 09 47 54.0 -0.4
comp=Z,0.9nm,0.7s,baz=7.4,slow=4.7,SNR=6.8
comp=Z,0.9nm,0.7s
VNA2 Neumayer--Watz 148.59 199 PKPdf PKPbc 09 54 34.8 +0.1
baz=117,slow=3.0
VNA3 Neumayer Olymp 148.90 198 PKPdf PKPbc 09 54 35.4 -0.1
VNA1 Neumayer--Stat 148.99 199 PKPdf PKPbc 09 54 35.7 +0.1

IDC ***07*** *09:37:37.9±1.4,59.°71N×153.°55W,h83km±18km,mb3.7/6, mbtmp4.0/10,MS3.8/5,Error ellipse: s-maj=20.1km s-min=10.9km az=101.0*
ANF ***07*** *09:37:40.4±0.1,59.°63N×153.°39W,h113km±2km,ML4.0/60, Error ellipse: s-maj=1.6km s-min=1.3km az=138.0*
NEIC ***07*** *09:37:40.1±1.4,59.°60N±0.°04×153.°40W±0.°06, h115km±7km,Error ellipse: s-maj=7.1km s-min=1.5km az=141.0*
AEIC ***07*** *09:37:41.3±1.4,59.°60N±0.°05×153.°33W±0.°09, h115km±5km,ML3.7,ML4.0/100(NEIC),Error ellipse: s-maj=7.5km s-min=6.5km az=197.0*

ISC 07 09:37:40.5±0.6,59.°63N±0.°03×153.°33W±0.°03, h118km±6km,n292,σ0=89/315,mb4.1/6,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.06**	**62**			**Pn**	**09 37 56.5**	**-0.1**
P19K	**Oil Pt**	**0.06**	**62**	P		**Pn**	**09 37 56.5**	**-0.1**
	baz=224							
P19K				S		**Sn**	**09 38 08.6**	**-0.3**
	baz=224							
ILSW	**Iliamna Southw**	**0.37**	**15**			**Pn**	**09 37 57.2**	**-0.4**
ILSW				Sn		**Sn**	**09 38 09.6**	**-1.0**
ILSW				IAML			09 38 10.5	
	comp=N,4μm,0.8s							
ILSW				IAML			09 38 10.6	
	comp=E,3μm,0.9s							
O20K	**Slope Mountain**	**0.58**	**38**	P		**Pn**	**09 37 58.8**	**-0.1**
	baz=217,SNR=72							
O20K				S		**Sn**	**09 38 12.4**	**-0.3**
	baz=217							
Q19K	**Cape Douglas,**	**0.72**	**193**			**Pn**	**09 37 59.8**	**-0.1**
Q19K				IAML			09 38 22.5	
	comp=E,4μm,1.0s							
Q19K	**Cape Douglas,**	**0.72**	**193**	P		**Pn**	**09 37 59.7**	**-0.1**
	baz=13							
Q19K				S		**Sn**	**09 38 14.0**	**-0.4**
	baz=13							
O19K	**Port Alsworth**	**0.76**	**319**			**Pn**	**09 37 59.5**	**-0.5**
O19K				Sn		**Sn**	**09 38 13.7**	**-1.1**
O19K	**Port Alsworth**	**0.76**	**319**	P		**Pn**	**09 37 59.6**	**-0.5**
	baz=140,SNR=252							
O19K				S		**Sn**	**09 38 13.6**	**-1.3**
	baz=140							
HOM	**Homer**	**0.86**	**87**			**Pn**	**09 38 01.3**	**+0.4**
HOM				IAML			09 38 19.3	
	comp=N,4μm,0.4s							
HOM	**Homer**	**0.86**	**87**	P		**Pn**	**09 38 01.5**	**+0.5**
	baz=267,SNR=40							
HOM				S		**Sn**	**09 38 16.8**	**+0.4**
	baz=267							
RSO	**Redoubt South**	**0.89**	**19**			**Pn**	**09 38 01.4**	**0.0**
P18K	**Big Mountain,**	**0.99**	**257**			**Pn**	**09 38 01.4**	**-0.9**
P18K	**Big Mountain,**	**0.99**	**257**	P		**Pn**	**09 38 01.6**	**-0.7**
	baz=77,SNR=5.9							
P18K				S		**Sn**	**09 38 16.9**	**-2.0**
	baz=77							
CNPM	**China Poot**	**1.07**	**94**	Pn		**Pn**	**09 38 03.1**	**0.0**
CNPM				IAML			09 38 22.0	
	comp=E,1μm,0.6s							
CNPM				IAML			09 38 23.3	
	comp=N,4μm,0.4s							
Q20K	**Shuyak Island**	**1.13**	**154**	P		**Pn**	**09 38 03.7**	**+0.1**
	baz=334,SNR=11							
Q20K				S		**Sn**	**09 38 20.6**	**-0.5**
	baz=334							
BRLK	**Bradley Lake**	**1.25**	**83**			**Pn**	**09 38 04.8**	**-0.2**
BRLK				IAML			09 38 26.0	
	comp=N,1μm,0.3s							
BRLK				IAML			09 38 26.5	
	comp=E,1μm,0.3s							
BRSE	**Bradley Lake S**	**1.32**	**84**			**Pn**	**09 38 05.5**	**-0.2**
BRSE						**Sn**	**09 38 24.6**	**-0.3**
BRSE	**Bradley Lake S**	**1.32**	**84**	P		**Pn**	**09 38 05.7**	**-0.1**
	baz=265,SNR=32							
BRSE				S		**Sn**	**09 38 24.5**	**-0.3**
	baz=265							
N19K	**Bonanza Creek**	**1.32**	**335**			**Pn**	**09 38 05.5**	**-0.3**
N19K	**Bonanza Creek**	**1.32**	**335**	P		**Pn**	**09 38 05.5**	**-0.3**
	baz=154							
N19K				S		**Sn**	**09 38 23.8**	**-1.3**
	baz=154							
CAPN	**Captain Cook N**	**1.58**	**43**			**Pn**	**09 38 10.8**	**+2.1**
CAPN	**Captain Cook N**	**1.58**	**43**	P		**Pn**	**09 38 10.6**	**+2.0**
	baz=224							
CAPN				S		**Sn**	**09 38 32.8**	**+2.7**
	baz=224							
SPCR	**Spurr Chakacha**	**1.68**	**19**	P		**Pn**	**09 38 10.0**	**+0.1**
	baz=200,SNR=41							
SPCR				S		**Sn**	**09 38 31.9**	**-0.4**
	baz=200							
SPU	**Mount Spurr**	**1.69**	**22**			**Pn**	**09 38 10.0**	**0.0**
SLKM	**Skilak Lake**	**1.79**	**59**			**Pn**	**09 38 11.4**	**+0.1**
SVW2	**Sparrevohn**	**1.85**	**324**			**Pn**	**09 38 11.3**	**-0.7**
KDAK	**Kodiak Island**	**1.89**	**168**	P		**Pn**	**09 38 11.7**	**-0.8**
	comp=E,171nm,0.3s,baz=48,slow=8.9,SNR=998							
KDAK				S		**Sn**	**09 38 34.4**	**-2.4**
	comp=E,549nm,0.5s,baz=148,slow=23,SNR=36							
KDAK	**Kodiak Island**	**1.89**	**168**			**Pn**	**09 38 11.7**	**-0.8**
KDAK				IAML			09 38 36.8	
	comp=E,1μm,0.5s							
KDAK				IAML			09 38 37.4	
	comp=E,1μm,0.4s							
KDAK	**Kodiak Island**	**1.89**	**168**	P		**Pn**	**09 38 11.6**	**-0.8**
	baz=348							
KDAK				S		**Sn**	**09 38 34.8**	**-2.0**
	baz=348							
O17K	**Koliganek Bris**	**1.91**	**276**	P		**Pn**	**09 38 12.6**	**-0.1**
	baz=84,SNR=16							
Q16K	**King Salmon**	**1.96**	**242**	P		**Pn**	**09 38 13.3**	**0.0**
	baz=60,SNR=9.2							
Q16K				S		**Sn**	**09 38 38.6**	**+0.3**
	baz=60							
O22K	**Cooper Landing**	**2.00**	**63**			**Pn**	**09 38 14.2**	**+0.4**
O22K	**Cooper Landing**	**2.00**	**63**	P		**Pn**	**09 38 14.2**	**+0.4**
	baz=246,SNR=27							
SEW	**Seward**	**2.02**	**75**			**Pn**	**09 38 14.0**	**0.0**
SEW	**Seward**	**2.02**	**75**	P		**Pn**	**09 38 13.9**	**0.0**
	baz=257,SNR=16							
SEW				S		**Sn**	**09 38 38.4**	**-1.2**
	baz=257							
SUA	**Susitna One**	**2.24**	**34**			**Pn**	**09 38 17.8**	**+0.8**
SUA				IAML			09 38 46.4	
	comp=E,1μm,0.9s							
SUA				IAML			09 38 47.3	
	comp=N,981nm,0.7s							
SUA	**Susitna One**	**2.24**	**34**	P		**Pn**	**09 38 17.3**	**+0.4**
	baz=215,SNR=81							
SUA				S		**Sn**	**09 38 44.7**	**-0.3**
	baz=215							
M20K	**Styx River**	**2.27**	**2**			**Pn**	**09 38 17.5**	**+0.3**
	baz=183							
RC01	**Rabbit Creek A**	**2.31**	**49**			**Pn**	**09 38 18.1**	**+0.3**
RC01	**Rabbit Creek A**	**2.31**	**49**	P		**Pn**	**09 38 18.2**	**+0.4**
	baz=232,SNR=28							
RC01				S		**Sn**	**09 38 45.6**	**-0.7**
	baz=232							
OHAK	**Old Harbor**	**2.41**	**179**			**Pn**	**09 38 17.8**	**-1.1**
OHAK				IAML			09 38 47.3	
	comp=E,354nm,0.3s							
OHAK				IAML			09 38 47.9	
	comp=N,420nm,0.2s							
OHAK	**Old Harbor**	**2.41**	**179**	P		**Pn**	**09 38 17.9**	**-1.1**
	baz=359,SNR=15							
OHAK				S		**Sn**	**09 38 45.7**	**-2.8**
	baz=359							
O16K	**Kokwok River B**	**2.42**	**271**	P		**Pn**	**09 38 19.2**	**+0.1**
	baz=88							
P16K	**Nushagak River**	**2.46**	**258**	P		**Pn**	**09 38 18.9**	**-0.7**
	baz=75,SNR=10.0							
P16K				S		**Sn**	**09 38 49.8**	**+0.1**
	baz=75							
SKT	**Skwentna**	**2.52**	**20**			**Pn**	**09 38 20.6**	**+0.1**
SKT				IAML			09 38 55.4	
	comp=N,242nm,0.4s							
SKT	**Skwentna**	**2.52**	**20**	P		**Pn**	**09 38 20.7**	**+0.3**
	baz=201,SNR=44							
R17K	**Ugashik Creek**	**2.55**	**220**	P		**Pn**	**09 38 21.3**	**+0.4**
	baz=38,SNR=26							
R17K				S		**Sn**	**09 38 52.8**	**+1.0**
	baz=38							
M22K	**Willow**	**2.66**	**35**			**Pn**	**09 38 22.5**	**+0.4**
M22K	**Willow**	**2.66**	**35**	P		**Pn**	**09 38 22.5**	**+0.4**
	baz=218							
M22K				S		**Sn**	**09 38 54.5**	**+0.3**
	baz=218							
L19K	**White Mountain**	**2.67**	**344**			**Pn**	**09 38 22.0**	**-0.4**
L19K	**White Mountain**	**2.67**	**344**	P		**Pn**	**09 38 21.9**	**-0.4**
	baz=163,SNR=85							
PWL	**Port Wells**	**2.78**	**61**	Pn		**Pn**	**09 38 23.2**	**-0.6**
PWL	**Port Wells**	**2.78**	**61**	P		**Pn**	**09 38 23.3**	**-0.5**
	baz=245,SNR=13							
PWL				S		**Sn**	**09 38 55.4**	**-1.8**
	baz=245							
N16K	**Nishlik Lake**	**2.86**	**290**	P		**Pn**	**09 38 25.2**	**+0.4**
	baz=106,SNR=14							
PMR	**Palmer**	**2.86**	**45**	Pn		**Pn**	**09 38 24.2**	**-0.6**
PMR				IAML			09 38 58.2	
	comp=E,390nm,0.4s							
PMR				IAML			09 38 59.4	
	comp=N,566nm,0.4s							
PMR	**Palmer**	**2.86**	**45**	P		**Pn**	**09 38 24.0**	**-0.8**
	baz=228,SNR=24							
L20K	**Farewell, AK**	**2.88**	**355**	P		**Pn**	**09 38 25.2**	**+0.2**
	baz=174,SNR=91							
KNK	**Knik Glacier**	**3.00**	**51**			**Pn**	**09 38 26.2**	**-0.5**
KNK	**Knik Glacier**	**3.00**	**51**	P		**Pn**	**09 38 26.2**	**-0.5**
	baz=235,SNR=9.7							
P23K	**Montague Islan**	**3.02**	**80**	P		**Pn**	**09 38 27.2**	**+0.3**
	baz=265,SNR=10							
R16K	**Pilot Point**	**3.03**	**229**	P		**Pn**	**09 38 27.0**	**0.0**
	baz=46							
GHO	**Glory Hole Cre**	**3.06**	**43**			**Pn**	**09 38 26.9**	**-0.6**
GHO				IAML			09 39 04.6	
	comp=N,691nm,0.4s							
SII	**Sitkinak Islan**	**3.11**	**189**			**Pn**	**09 38 27.0**	**-1.1**
SII				IAML			09 39 04.0	
	comp=N,504nm,0.6s							
SII				IAML			09 39 06.2	
	comp=E,374nm,0.5s							
SII	**Sitkinak Islan**	**3.11**	**189**	P		**Pn**	**09 38 27.0**	**-1.1**
	baz=8.1,SNR=5.4							
CUT	**Chulitna**	**3.16**	**27**			**Pn**	**09 38 29.0**	**+0.2**
CUT				IAML			09 39 09.3	
	comp=N,443nm,0.5s							
CUT				IAML			09 39 11.2	
	comp=E,562nm,0.4s							
CUT	**Chulitna**	**3.16**	**27**	P		**Pn**	**09 38 29.7**	**+0.9**
	baz=209,SNR=26							
SML	**Sawmill**	**3.29**	**46**			**Pn**	**09 38 29.7**	**-0.8**
SML				IAML			09 39 08.9	
	comp=N,434nm,0.9s							
SML				IAML			09 39 09.1	
	comp=E,359nm,0.4s							
SML	**Sawmill**	**3.29**	**46**	P		**Pn**	**09 38 29.7**	**-0.8**
	baz=230,SNR=12							
PPLA	**Purkeypile**	**3.33**	**9**	Pn		**Pn**	**09 38 31.6**	**+0.5**
PPLA	**Purkeypile**	**3.33**	**9**	P		**Pn**	**09 38 32.0**	**+0.9**
	baz=190,SNR=23							
M23K	**Glacier View**	**3.51**	**49**	P		**Pn**	**09 38 32.9**	**-0.5**
	baz=234,SNR=16							
TTA	**Tatalina**	**3.56**	**340**	Pn		**Pn**	**09 38 33.4**	**-0.7**
TTA	**Tatalina**	**3.56**	**340**	P		**Pn**	**09 38 33.4**	**-0.7**
	baz=158,SNR=64							
Q23K	**Middleton Isla**	**3.56**	**90**	Pn		**Pn**	**09 38 34.1**	**+0.1**
Q23K				IAML			09 39 19.9	
	comp=N,341nm,1.3s							
Q23K				IAML			09 39 44.0	
	comp=E,406nm,2.6s							
Q23K	**Middleton Isla**	**3.56**	**90**	P		**Pn**	**09 38 34.2**	**+0.1**
	baz=276							
MID	**Middleton Isla**	**3.57**	**90**	Pn		**Pn**	**09 38 34.4**	**+0.3**
MID				IAML			09 39 26.4	
	comp=N,324nm,2.3s							
MID				IAML			09 39 44.0	
	comp=E,445nm,2.6s							
SCM	**Sheep Creek Mo**	**3.69**	**51**			**Pn**	**09 38 35.5**	**-0.4**
SCM				IAML			09 39 18.1	
	comp=N,332nm,0.6s							
SCM				IAML			09 39 21.8	
	comp=E,373nm,0.6s							
SCM	**Sheep Creek Mo**	**3.69**	**51**	P		**Pn**	**09 38 35.3**	**-0.5**
	baz=235,SNR=8.4							
K20K	**Telida**	**3.76**	**355**			**Pn**	**09 38 36.5**	**-0.2**
K20K	**Telida**	**3.76**	**355**	P		**Pn**	**09 38 36.5**	**-0.2**
	baz=174							
CAST	**Castle Rocks**	**3.85**	**8**	Pn		**Pn**	**09 38 38.4**	**+0.5**
CAST	**Castle Rocks**	**3.85**	**8**	P		**Pn**	**09 38 38.2**	**+0.2**
	baz=189,SNR=90							
WAT7	**Susitna Watana**	**3.88**	**32**			**Pn**	**09 38 38.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.91**	**73**			**Pn**	**09 38 37.7**	**-1.0**
EYAK	**Cordova Ski Ar**	**3.91**	**73**	P		**Pn**	**09 38 38.2**	**-0.5**
	baz=259							
WAT1	**Susitna Watana**	**3.96**	**34**			**Pn**	**09 38 39.0**	**-0.4**
WAT1	**Susitna Watana**	**3.96**	**34**	P		**Pn**	**09 38 39.0**	**-0.4**
	baz=218							
CHIR	**Chirikof Islan**	**4.01**	**199**	Pn		**Pn**	**09 38 38.7**	**-1.4**
CHIR				IAML			09 39 31.9	
	comp=N,154nm,2.7s							
CHIR				IAML			09 41 25.6	
	comp=E,130nm,2.9s							
CHIR	**Chirikof Islan**	**4.01**	**199**	P		**Pn**	**09 38 38.6**	**-1.4**
	baz=17							
WAT6	**Susitna Watana**	**4.02**	**40**			**Pn**	**09 38 39.6**	**-0.7**
WAT6	**Susitna Watana**	**4.02**	**40**	P		**Pn**	**09 38 39.7**	**-0.6**
	baz=225,SNR=35							
DIV	**Divide**	**4.04**	**65**			**Pn**	**09 38 40.4**	**-0.2**
TRF	**Thorofare Moun**	**4.11**	**19**			**Pn**	**09 38 41.3**	**-0.2**
TRF				IAML			09 39 28.8	
	comp=E,91nm,0.5s							
TRF				IAML			09 39 52.7	
	comp=N,128nm,0.6s							
TRF	**Thorofare Moun**	**4.11**	**19**	P		**Pn**	**09 38 41.0**	**-0.5**
	baz=202,SNR=25							
KTH	**Kantishna Hill**	**4.11**	**15**			**Pn**	**09 38 41.0**	**-0.4**
KTH				IAML			09 39 30.3	
	comp=N,86nm,0.8s							
KTH				IAML			09 39 31.1	
	comp=E,79nm,0.6s							
KLU	**Klutina**	**4.11**	**60**			**Pn**	**09 38 41.2**	**-0.2**
KLU	**Klutina**	**4.11**	**60**	P		**Pn**	**09 38 40.9**	**-0.5**
	baz=246,SNR=24							
CHGN	**Chignik**	**4.29**	**221**	Pn		**Pn**	**09 38 43.7**	**-0.1**
CHGN				IAML			09 39 32.3	
	comp=N,72nm,0.9s							
CHGN				IAML			09 39 34.6	
	comp=E,57nm,0.5s							
CHGN	**Chignik**	**4.29**	**221**	P		**Pn**	**09 38 43.4**	**-0.4**
	baz=37							
M24K	**Tolsona, Glenn**	**4.29**	**52**			**Pn**	**09 38 44.1**	**+

RND	Reindeer	4.36	28			Pn	09 38 44.4	-0.4	
DHY	Denali Highway	4.49	37			Pn	09 38 46.2	-0.4	
DHY				IAML			09 39 38.2		
	comp=E,152nm,0.4s								
DHY				IAML			09 39 39.6		
	comp=N,130nm,0.5s								
DHY	Denali Highway	4.49	37	P		Pn	09 38 46.1	-0.6	
	baz=222,SNR=21								
BMRM	Bremner River	4.55	69	Pn		Pn	09 38 46.4	-0.9	
BMRM	Bremner River	4.55	69	P		Pn	09 38 47.0	-0.3	
	baz=256								
J20K	Nowinta River	4.58	356	Pn		Pn	09 38 47.4	-0.3	
J20K	Nowinta River	4.58	356	P		Pn	09 38 47.4	-0.3	
	baz=175								
HMT	Hamilton	4.61	77			Pn	09 38 48.4	+0.2	
MCK	McKinley	4.62	25			Pn	09 38 48.3	+0.1	
MCK				IAML			09 39 43.0		
	comp=N,65nm,0.5s								
MCK				IAML			09 39 48.6		
	comp=E,55nm,0.4s								
MCK	McKinley	4.62	25	P		Pn	09 38 48.1	-0.1	
	baz=209,SNR=25								
BPAW	Bear Paw Mtn.	4.62	13	Pn		Pn	09 38 47.7	-0.5	
BPAW	Bear Paw Mtn.	4.62	13	P		Pn	09 38 47.7	-0.5	
	baz=195,SNR=30								
N25K	Chitina, Valde	4.74	61			Pn	09 38 50.1	+0.2	
N25K				IAML			09 39 43.9		
	comp=E,128nm,0.6s								
N25K				IAML			09 39 45.2		
	comp=N,140nm,0.6s								
N25K	Chitina, Valde	4.74	61	P		Pn	09 38 49.5	-0.3	
	baz=249,SNR=20								
NICHA	Nichawak Mount	4.75	79			Pn	09 38 49.8	-0.2	
HARP	HAARP	4.85	52	P		Pn	09 38 51.2	-0.2	
	baz=238								
BWN	Browne	4.91	20			Pn	09 38 52.2	+0.1	
BWN				IAML			09 40 18.6		
	comp=N,73nm,1.0s								
BWN				IAML			09 40 26.7		
	comp=E,62nm,1.1s								
GLB	Gilahina Butte	5.04	65			Pn	09 38 53.5	-0.4	
GLB				IAML			09 39 52.2		
	comp=E,119nm,0.6s								
PAX	Paxson	5.06	45			Pn	09 38 54.1	-0.1	
PAX	Paxson	5.06	45	P		Pn	09 38 53.8	-0.4	
	baz=232,SNR=12								
GRIN	Grindle Hills	5.08	78			Pn	09 38 54.4	0.0	
BGLC	Bering Glacier	5.09	80	P		Pn	09 38 54.6	+0.1	
	baz=268								
KHIT	Khitrov Hills	5.12	76			Pn	09 38 55.1	0.0	
VRDI	Verde Repeater	5.15	68			Pn	09 38 55.7	+0.2	
VRDI				IAML			09 39 52.9		
	comp=E,113nm,0.5s								
VRDI				IAML			09 39 53.1		
	comp=N,143nm,0.6s								
NEA2	Nenana	5.37	20			Pn	09 38 57.5	-0.8	
NEA2	Nenana	5.37	20	P		Pn	09 38 57.5	-0.8	
	baz=204,SNR=20								
MCARA	McCarthy VSAT	5.39	66			Pn	09 38 59.3	+0.7	
MCARA	McCarthy VSAT	5.39	66	P		Pn	09 38 58.9	+0.4	
	baz=255								
GCSA	Galena City Sc	5.40	344			Pn	09 38 58.1	-0.5	
GCSA	Galena City Sc	5.40	344	P		Pn	09 38 58.1	-0.5	
	baz=161,SNR=13								
WRH	Wood River Hil	5.45	25			Pn	09 38 58.6	-0.7	
K24K	Donnelly Dome	5.52	37	P		Pn	09 39 00.7	+0.4	
	baz=224,SNR=30								
MLY	Manley	5.56	11			Pn	09 39 00.1	-0.8	
MLY	Manley	5.56	11	P		Pn	09 38 59.9	-0.9	
	baz=194,SNR=36								
ISLE	Juniper Island	5.58	75			Pn	09 39 01.6	+0.3	
I21K	Tanana	5.61	6			Pn	09 39 01.2	-0.3	
I21K	Tanana	5.61	6	P		Pn	09 39 01.2	-0.3	
	baz=187,SNR=13								
KIAG	Kiagna River	5.62	72			Pn	09 39 02.0	+0.3	
BALM	Baldy	5.64	71			Pn	09 39 01.9	-0.2	
HDA	Harding Lake	5.66	29			Pn	09 39 01.6	-0.7	
HDA	Harding Lake	5.66	29	P		Pn	09 39 01.5	-0.7	
	baz=215,SNR=38								
CCB	Clear Creek Bu	5.67	25	Pn		Pn	09 39 01.3	-0.9	
MENT	Mentasta	5.70	50			Pn	09 39 03.7	+0.9	
M26K	Nabesna, AK	5.75	57			Pn	09 39 04.5	+1.1	
M26K	Nabesna, AK	5.75	57	P		Pn	09 39 03.2	-0.2	
	baz=245								
MESA	MESA	5.76	80			Pn	09 39 04.3	+0.6	
MESA	MESA	5.76	80	P		Pn	09 39 04.0	+0.3	
	baz=269,SNR=9.3								
SDPT	Sand Point	5.76	225	P		Pn	09 39 02.3	-1.3	
	baz=39								
RIDG	Independent Ri	5.77	41	Pn		Pn	09 39 03.5	-0.2	
RIDG	Independent Ri	5.77	41	P		Pn	09 39 03.4	-0.4	
	baz=228,SNR=16								
I23K	Minto, Yukon-K	5.84	17			Pn	09 39 04.1	-0.4	
I23K	Minto, Yukon-K	5.84	17	P		Pn	09 39 04.2	-0.4	
	baz=200,SNR=32								
TCOL	CIGO, UAF Yank	5.85	24			Pn	09 39 04.0	-0.8	
TCOL	CIGO, UAF Yank	5.85	24	P		Pn	09 39 04.0	-0.8	
	baz=208,SNR=20								
COLA	College	5.86	24			Pn	09 39 04.1	-0.7	
COLA	College	5.86	24	P		Pn	09 39 04.1	-0.7	
	baz=208								
MDM	Murphy Dome	5.86	22			Pn	09 39 04.1	-0.7	
L26K	Log Cabin Wild	5.89	50			Pn	09 39 06.3	+1.0	
L26K	Log Cabin Wild	5.89	50	P		Pn	09 39 05.2	-0.2	
	baz=239,SNR=5.9								
BARN	Barnard Glacie	5.97	71			Pn	09 39 07.3	+0.7	
IL31		5.98	28			Pn	09 39 05.8	-0.6	
ILAR	Eielson Array	5.98	28	P		Pn	09 39 05.2	-1.2	
	comp=N,21nm,0.4s,baz=216,slow=13,SNR=435								
ILAR				S		Sn	09 40 08.3	-5.2	
	comp=N,5.7nm,0.5s,baz=213,slow=25,SNR=5.4								
ILAR	Eielson Array	5.98	28			Pn	09 39 05.9	-0.6	
DOT	Dot Lake	5.98	44			Pn	09 39 06.3	-0.3	
H21K	Melozitna Rive	6.06	2			Pn	09 39 07.8	+0.2	
H21K	Melozitna Rive	6.06	2	P		Pn	09 39 07.4	-0.2	
	baz=182								
POKR	Poker Plat Res	6.15	24			Pn	09 39 08.3	-0.6	
POKR	Poker Plat Res	6.15	24	P		Pn	09 39 08.1	-0.8	
	baz=209,SNR=20								
TABL	Table Mountain	6.17	77			Pn	09 39 09.9	+0.6	
M27K	Edge Creek, AK	6.21	59			Pn	09 39 10.6	+0.8	
M27K	Edge Creek, AK	6.21	59	P		Pn	09 39 10.5	+0.7	
	baz=249								
SCRK	Sand Creek	6.22	41	Pn		Pn	09 39 08.9	-0.9	
SCRK	Sand Creek	6.22	41	P		Pn	09 39 08.7	-1.1	
	baz=229,SNR=14								
J25K	Salcha River,	6.24	33			Pn	09 39 09.7	-0.4	
J25K	Salcha River,	6.24	33	P		Pn	09 39 09.4	-0.7	
	baz=220								
SAMH	Samovar Hills	6.34	80			Pn	09 39 12.4	+0.9	
H22K	Ishtalitna Cre	6.36	7	P		Pn	09 39 10.9	-0.7	
	baz=189								
IMAR	Indian Mountai	6.38	358			Pn	09 39 12.6	+0.6	
H23K	Yukon River	6.46	14			Pn	09 39 12.4	-0.5	
H23K	Yukon River	6.46	14	P		Pn	09 39 12.5	-0.5	
	baz=197								
L27K	Beaver Creek,	6.52	53			Pn	09 39 14.4	+0.6	
L27K	Beaver Creek,	6.52	53	P		Pn	09 39 14.0	+0.2	
	baz=243								
BCAR	Beaver Creek A	6.54	53			Pn	09 39 14.6	+0.5	
PCA	Pinnacle	6.60	80			Pn	09 39 15.7	+0.7	
PINM	Pinnacle	6.61	80	P		Pn	09 39 15.5	+0.5	
	baz=271								
O28M	Mount Upton	6.65	74	P		Pn	09 39 16.4	+0.6	
	baz=266								
BVCY	Beaver Creek	6.67	60	P		Pn	09 39 16.7	+0.8	
	baz=251,SNR=6.4								
YUK3	Moose Creek	6.68	66	P		Pn	09 39 16.8	+0.7	
	baz=257,SNR=7.0								
J26L	Joseph Creek	6.70	39			Pn	09 39 15.9	-0.5	
J26L	Joseph Creek	6.70	39	P		Pn	09 39 15.6	-0.8	
	baz=227								
H24K	Noodor Dome	6.72	20			Pn	09 39 16.1	-0.4	
H24K	Noodor Dome	6.72	20	P		Pn	09 39 15.7	-0.7	
	baz=204								
YUK8	Steele Glacier	6.91	70	P		Pn	09 39 20.7	+1.3	
	baz=262								
G21K	Allakaket	6.92	359	P		Pn	09 39 19.4	+0.3	
	baz=179								
PRP	Porcupine Dome	6.92	28			Pn	09 39 19.1	-0.3	
PRP	Porcupine Dome	6.92	28	P		Pn	09 39 18.5	-0.8	
	baz=215,SNR=49								
PNL	Peninsula	7.06	84			Pn	09 39 21.0	-0.2	
PNL	Peninsula	7.06	84	P		Pn	09 39 21.2	0.0	
	baz=276,SNR=7.4								
G23K	Bananza Creek	7.27	10	P		Pn	09 39 23.7	-0.2	
	baz=193								
G22K	Bettles	7.37	6	P		Pn	09 39 25.2	-0.1	
	baz=187								
O29M	Mount Kennedy	7.44	78	P		Pn	09 39 27.2	+0.8	
	baz=271								
YUK4	Talbot Arm	7.46	70	P		Pn	09 39 28.0	+1.4	
	baz=262								
ANM	Nome	7.51	316	P		Pn	09 39 27.4	+0.3	
	baz=126								
YUK6	Outpost Mounta	7.56	74	P		Pn	09 39 28.7	+0.7	
	baz=266,SNR=96								
G24K	Hadweenzic Riv	7.58	18	P		Pn	09 39 26.9	-1.1	
	baz=203								
F21K	Alatna River	7.63	360	P		Pn	09 39 28.7	-0.1	
	baz=179								
EGAK	Eagle	7.68	43			Pn	09 39 28.6	-0.8	
EGAK	Eagle	7.68	43	P		Pn	09 39 28.6	-0.8	
	baz=233								
M29M	Somme Creek	7.75	62	P		Pn	09 39 30.9	+0.4	
	baz=255								
COLD	Coldfoot	7.76	9	Pn		Pn	09 39 30.3	-0.2	
COLD	Coldfoot	7.76	9	P		Pn	09 39 30.1	-0.4	
	baz=192								
FYU	Fort Yukon	7.87	24			Pn	09 39 31.1	-0.9	
G25K	Bearman Lake	7.87	21	P		Pn	09 39 31.2	-0.7	
	baz=208,SNR=5.9								
DAWY	Dawson	7.95	50			Pn	09 39 33.4	+0.3	
DAWY	Dawson	7.95	50	P		Pn	09 39 33.2	+0.1	
	baz=242								
HYT	Haines Junctio	7.97	75			Pn	09 39 34.3	+0.8	
HYT	Haines Junctio	7.97	75	P		Pn	09 39 33.6	+0.1	
	baz=268,SNR=35								
I27K	Kandik River	8.06	37	P		Pn	09 39 34.2	-0.4	
	baz=227								
L29M	L29M	8.09	58	P		Pn	09 39 35.1	+0.1	
	baz=251								
P30M	Million Dollar	8.25	79	P		Pn	09 39 39.0	+1.7	
	baz=274								
F24K	Squaw Lake	8.28	15	P		Pn	09 39 36.8	-0.8	
	baz=200								
G26K	Porcupine Rive	8.51	26	P		Pn	09 39 39.6	-0.9	
	baz=215								
H27K	Steamboat Moun	8.52	34	P		Pn	09 39 39.5	-1.4	
	baz=224								
M30M	Minto, Yukon	8.53	63	Pn		Pn	09 39 41.9	+0.9	
M30M	Minto, Yukon	8.53	63	P		Pn	09 39 42.1	+1.1	
	baz=257								
J29M	Klondike Camp	8.58	49			Pn	09 39 42.6	+0.9	
J29M	Klondike Camp	8.58	49	P		Pn	09 39 42.2	+0.5	
	baz=242								
K29M	Barlow Dome	8.60	54	P		Pn	09 39 42.7	+0.7	
	baz=248								
PLBC	Pleasant Camp	8.62	84	P		Pn	09 39 42.8	+0.6	
	baz=278,SNR=22								
O30N	Mendenhall	8.66	75	P		Pn	09 39 42.8	0.0	
	baz=270,SNR=34								
F25K	Christian Rive	8.69	20	P		Pn	09 39 41.5	-1.6	
	baz=207								
BMAR	Burnt Mountain	8.74	23	Pn		Pn	09 39 42.0	-1.9	
E24K	Your Creek	8.74	12	P		Pn	09 39 43.2	-0.7	
	baz=196								
N31M	Braeburn, Yuko	8.84	70	Pn		Pn	09 39 46.3	+1.1	
N31M	Braeburn, Yuko	8.84	70	P		Pn	09 39 45.2	0.0	
	baz=265,SNR=8.1								
G27K	Doyon Strip	8.91	31	P		Pn	09 39 44.8	-1.3	
	baz=222								
I29M	Ogilvie Camp,	9.01	44			Pn	09 39 47.9	+0.5	
I29M	Ogilvie Camp,	9.01	44	P		Pn	09 39 47.1	-0.3	
	baz=237								
F26K	Sheenjek River	9.06	23	P		Pn	09 39 46.2	-1.8	
	baz=211								
E25K	Arctic Village	9.18	19	P		Pn	09 39 48.3	-1.4	
	baz=205,SNR=10.0								
WHY	Whitehorse	9.26	76			Pn	09 39 51.7	+0.8	
WHY	Whitehorse	9.26	76	P		Pn	09 39 51.4	+0.5	
	baz=272,SNR=6.9								
UNV	Unalaska Valle	9.26	237	Pn		Pn	09 39 50.8	0.0	
UNV	Unalaska Valle	9.26	237	P		Pn	09 39 50.4	-0.4	
	baz=46								
D23K	Nanushuk River	9.45	6	P		Pn	09 39 53.0	-0.3	
	baz=188								
M31M	Drury Creek, Y	9.57	66	P		Pn	09 39 55.1	+0.1	
	baz=263								
SIT	Sitka	9.81	97	Pn		Pn	09 39 58.2	0.0	
SIT	Sitka	9.81	97	P		Pn	09 39 58.3	+0.2	
	baz=293								
P32M	Atlin	9.94	82	P		Pn	09 40 00.3	+0.3	
	baz=278,SNR=14								
E27K	Coleen River	10.00	26	P		Pn	09 39 59.3	-1.5	
	baz=216								
FARO	Faro, Yukon	10.06	66	Pn		Pn	09 40 02.7	+1.1	
FARO	Faro, Yukon	10.06	66	P		Pn	09 40 02.0	+0.4	
	baz=264								
EPYK	Eagle Plains	10.11	41	P		Pn	09 40 02.2	0.0	
	baz=236								
D25K	Kavik River	10.18	14	P		Pn	09 40 02.3	-0.9	
	baz=200								
P33M	Teslin, Yukon	10.31	78			Pn	09 40 06.7	+1.7	
P33M	Teslin, Yukon	10.31	78	P		Pn	09 40 05.5	+0.5	
	baz=276,SNR=10								
G30M	tAoh Zraii Nji	10.62	39	P		Pn	09 40 08.3	-0.9	
	baz=234								
Q32M	Nakina River	10.79	84	P		Pn	09 40 11.1	-0.5	
	baz=282,SNR=18								
C27K	Jago River	10.83	18	P		Pn	09 40 11.2	-0.8	
	baz=207								
C26K	Camden Bay	10.92	15	P		Pn	09 40 12.0	-1.1	
	baz=203								
U33K	Whale Pass	11.31	99	P		Pn	09 40 19.3	+1.0	
	baz=296								
R33M	Jennings River	11.35	81	P		Pn	09 40 20.1	+1.0	
	baz=281								
CRAG	Craig	11.61	102	Pn		Pn	09 40 23.5	+1.2	
S34M	Telegraph Cree	11.64	89	P		Pn	09 40 20.6	-2.1	
	baz=288								
F31M	Tsiigehtchic	11.68	40	P		Pn	09 40 21.7	-1.5	
	baz=237								
DLBC	Dease Lake	12.05	86	P		Pn	09 40 31.4	+3.2	
	comp=N,4.0nm,0.3s,baz=233,slow=9.1,SNR=16								
DLBC				S		Sn	09 42 40.2	-0.4	
	comp=N,1.2nm,0.4s,baz=206,slow=17,SNR=1.5								
DLBC	Dease Lake	12.05	86			Pn	09 40 30.9	+2.7	
DLBC	Dease Lake	12.05	86	P		Pn	09 40 28.9	+0.7	
	baz=286,SNR=14								
INK	Inuk	12.24	36	P		Pn	09 40 29.9	-0.6	
	comp=N,1.5nm,0.4s,baz=240,slow=14,SNR=7.1								
INK	Inuvik	12.24	36	Pn		Pn	09 40 30.3	-0.2	
INK	Inuvik	12.24	36	P		Pn	09 40 30.2	-0.4	
	baz=234								
V35K	Ketchikan	12.43	101	P		Pn	09 40 34.9	+1.8	
	baz=299								
DIB	Dawson Inlet,	13.18	110	Pn		Pn	09 40 44.5	+1.6	
MOBC	Moresby Island	13.46	109	Pn		Pn	09 40 47.2	+0.6	
C36M	Paulatuk	15.74	40	P		Pn	09 41 12.1	-3.0	
	baz=246								
A36M	Sachs Harbour	16.66	31	P		Pn	09 41 25.8	-0.8	
	baz=236,SNR=8.8								
YKA	Yellowknife Ar	18.76	65	P		Pn	09 41 51.4	-0.4	
	comp=N,0.6nm,0.7s,baz=291,slow=10,SNR=4.7								
YKA				PcP		PcP	09 46 12.5	+0.6	
	comp=N,0.3nm,0.5s,baz=270,slow=1.5,SNR=7.3								
PETK	Petropavlovsk-	27.34	278	P		P	09 43 13.6	-0.4	
	comp=N,4.9nm,1.0s,baz=72,slow=13,SNR=8.1								
	comp=N,4.9nm,1.0s								
NVAR	Mina Array Bea	30.69	118	P		P	09 43 47.1	+3.0	
	comp=N,0.4nm,0.5s,baz=316,slow=10,SNR=3.2								
	comp=N,0.4nm,0.5s								
TIXI	Tiksi	31.69	324	LR		LR	09 58 03.8		
	comp=N,91nm,19.4s,baz=242,slow=39								
KSRS	Korea Array	53.10	283	P		P	09 46 45.9	+0.5	
	comp=N,1.4nm,0.5s,baz=40,slow=7.7,SNR=7.3								
	comp=N,1.4nm,0.5s								
SONM	Songino Array	54.87	306	P		P	09 46 59.1	+0.7	
	comp=N,3.2nm,0.6s,baz=47,slow=6.3,SNR=23								
	comp=N,3.2nm,0.6s								
ZALV	Zalesovo Beam	57.58	323	P		P	09 47 16.9	-0.4	
	comp=N,1.7nm,0.5s,baz=28,slow=6.9,SNR=7.5								
	comp=N,1.7nm,0.5s								
MKAR	Makanchi Array	64.62	321	P		P	09 48 03.8	-1.2	
	comp=N,0.2nm,0.5s,baz=54,slow=8.2,SNR=2.4								
	comp=N,0.2nm,0.5s								
GERES	GERESS Array B	71.37	9	LR		LR	10 22 12.3		
	comp=N,100nm,19.9s,baz=70,slow=38								
DAVOX	Davos/Dischmat	73.06	12	LR		LR	10 24 17.8		
	comp=N,86nm,18.2s,baz=76,slow=38								
ATAH	Atahualpa	88.58	107	LR		LR	10 32 16.1		
	comp=N,32nm,19.6s,baz=231,slow=37								
NNA	Nana	93.53	108	LR		LR	10 34 15.7		
	comp=N,58nm,18.5s,baz=200,slow=36								

JMA ***07*** *09:49:27.2±0.3,27.9N±0.4×127.9E±0.5, h6km±2km, MV3.3/14, NW OFF OKINAWAJIMA IS*
IDC ***07*** *09:49:32.8±1.8,27.72N×127.90E, h55km±32km, mb3.4/6, mbtmp3.7/7, ML2.9/1, Error ellipse: s-maj=39.5km s-min=26.5km az=82.0*

ISC 07 09:49:29.2±1.5,27.88N±0.04×127.96E±0.05, h19km±4km, n19,σ0.69/26, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOKE	Okinoerabujima	0.75	134	P		Pb	09 49 43.1	-0.5
JOKE				eS		Sg	09 49 54.5	+0.6
JIH	Iheya	0.84	180	P		Pb	09 49 44.6	-0.7
JIH				S		Sg	09 49 56.5	-0.3
JTK	Tokunoshima	0.88	96	P		Pb	09 49 45.2	-0.7
JTK				eS		Sb	09 49 58.1	+0.8
JYRO	Yoronjima	0.96	153	P		Pb	09 49 46.8	-0.4
JYRO				eS		Sn	09 50 01.2	+0.3
JOW	Kunigami	1.08	165	P		Pb	09 49 49.0	-0.4
	467nm,0.4s,baz=70,slow=13,SNR=108							
JOW				S		Sb	09 50 03.2	+0.1
	560nm,0.5s,baz=178,slow=26,SNR=13							
JOW	Kunigami	1.08	165	P		Pb	09 49 48.8	-0.5
JOW				eS		Sg	09 50 04.3	-0.1
JAMN	Amaminishikomi	1.13	71	P		Pn	09 49 49.2	-0.8
JAMN				eS		Sb	09 50 05.1	+0.6
JNTH	Nagotoyohara	1.36	178	P		Pb	09 49 53.5	-0.6
JNTH				S		Sb	09 50 11.0	-0.1
JAGN	Aguni-jima	1.44	207	P		Pb	09 49 54.5	-1.0
JAM	Amami Oshima	1.54	70	P		Pn	09 49 55.8	0.0
JJT3	Tamagusuku3	1.74	185	eP		Pb	09 50 00.3	-0.3
JKE	Kume jima 2	1.87	214	eP		Pn	09 50 00.9	+0.6
JNU	Nakatsue	5.80	25	P		Pn	09 50 59.4	+5.1
	0.3nm,0.3s,baz=270,slow=19,SNR=2.8							
	4.1nm,0.6s							
SONM	Songino Array	26.05	326	P		P	09 55 02.5	+1.0
	3.2nm,0.9s,baz=148,slow=9.7,SNR=15							
	3.2nm,0.9s							
MKAR	Makanchi Array	40.27	311	P		P	09 57 04.4	-0.6
	0.5nm,0.7s,baz=95,slow=10.0,SNR=5.1							
	0.5nm,0.7s							
ZALV	Zalesovo Beam	40.80	322	P		P	09 57 07.8	-1.4
	0.5nm,0.5s,baz=127,slow=9.5,SNR=4.2							
	0.5nm,0.5s							
KURBB	Kurchatov Arra	43.51	315	P		P	09 57 31.6	+0.2
	0.6nm,0.7s,baz=101,slow=7.8,SNR=6.5							
	0.6nm,0.7s							
BVAR	Borovoye Array	48.89	317	P		P	09 58 14.7	+1.0
	0.7nm,0.5s,baz=91,slow=13,SNR=3.4							
	0.7nm,0.5s							
YKA	Yellowknife Ar	77.13	25	P		P	10 01 20.9	-0.4
	0.4nm,0.9s,baz=305,slow=5.5,SNR=4.0							
	0.4nm,0.9s							

IDC ***07*** *09:50:13.6±0.6,28.00N×128.09E, h0km, mb4.0/16, mbtmp4.0/16, MS4.0/21, Error ellipse: s-maj=24.4km s-min=12.8km az=73.0*
JMA ***07*** *09:50:15.7±0.2,27.9N±0.5×127.9E±0.6, h17km±2km, MV3.7/14, NW OFF OKINAWAJIMA IS*
NIED ***07*** *09:50:15.7,27.94N×127.92E, h17km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr-6.28; Mθθ3.76; Mϕϕ2.52; Mrθ-2.93; Mθϕ2.45; Mϕr-1.72; Fault plane solution: Mw6.87000×1015 NP1:ϕs56.00000°, δ60.00000°,λ-87.00000°. NP2:ϕs229.00000°,δ30.00000°, λ-96.00000°.*
NEIC ***07*** *09:50:19.5±1.6,27.89N±0.05×128.03E±0.09, h35km±7km, mb4.6/23 Error ellipse: s-maj=11.4km s-min=6.8km az=81.0*

ISC 07 09:50:16.3±1.5,27.91N±0.04×128.04E±0.05, h16km±10km, n82,σ0.96/73, mb4.3/24, MS4.3/18, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOKE	Okinoerabujima	0.71	139	P		Pn	09 50 31.1	-0.7
JOKE				eS		Sn	09 50 41.8	-0.7
JTK	Tokunoshima	0.81	98	P		Pn	09 50 32.7	-0.4
JTK				eS		Sn	09 50 44.8	-0.1
JIH	Iheya	0.87	185	P		Pb	09 50 32.5	-0.6
JIH				S		Sb	09 50 44.2	-0.2
JYRO	Yoronjima	0.95	158	P		Pn	09 50 34.6	-0.4
JYRO				eS		Sn	09 50 48.1	-0.1
JAMN	Amaminishikomi	1.05	71	P		Pg	09 50 36.8	+0.1
JOW	Kunigami	1.09	169	Pn		Pn	09 50 36.6	-0.3
	278nm,0.3s,baz=339,slow=18,SNR=18							
JOW				Sn		Sn	09 50 51.4	-0.3
	412nm,0.3s,baz=146,slow=30,SNR=9.6							
JOW	Kunigami	1.09	169	Pn		Pg	09 50 37.4	+0.1
JOW				Sn		Sn	09 50 51.8	+0.1
JOW	Kunigami	1.09	169	P		Pn	09 50 36.5	-0.5
JOW				eS		Sn	09 50 51.4	-0.3
JNTH	Nagotoyohara	1.38	181	P		Pn	09 50 40.9	0.0
JNTH				S		Sb	09 50 59.5	+0.3
JAM	Amami Oshima	1.47	70	eP		Pg	09 50 43.8	-0.7
JAGN	Aguni-jima	1.49

WB0 **Warramunga Arr** **47.79 172** P **P** **09 58 53.6 +0.5**
WB0 IAmb IAmb 09 58 53.8
comp=Z,4.4nm,0.9s
WRA **Warramunga Arr** **47.95 172** P **P** **09 58 54.0 -0.3**
comp=Z,3.0nm,1.0s,baz=353,slow=8.3,SNR=12
comp=Z,3.0nm,1.0s
WRA **Warramunga Arr** **47.95 172** P **P** **09 58 55.0 +0.7**
WB2 **Warramunga Arr** **47.96 172** P **P** **09 58 54.9 +0.6**
WR0 **Warramunga Arr** **48.00 172** P **P** **09 58 55.1 +0.4**
WR0 IAmb IAmb 09 59 10.4
comp=Z,11nm,1.3s
KK31 **Karatay Array** **48.32 304** P **P** **09 58 57.0 -0.1**
KK31 IAmb IAmb 09 59 04.7
comp=Z,4.3nm,1.2s
KKAR **Karatay Array** **48.32 304** P **P** **09 58 57.2 +0.2**
GAR **Garm** **48.70 299** P **P** **09 59 00.8 +0.6**
BVAR **Borovoye Array** **48.93 317** P **P** **09 59 01.6 +0.1**
comp=Z,5.2nm,0.8s,baz=82,slow=10,SNR=11
BVAR LR LR 10 21 19.5
comp=Z,516nm,18.6s,baz=85,slow=38
comp=Z,5.2nm,0.8s
BRVK **Borovoye** **48.99 317** P **P** **09 59 02.0 0.0**
BRVK IAmb IAmb 09 59 03.2
comp=Z,6.3nm,0.8s
KBL **Kabul** **50.28 293** P **P** **09 59 11.4 -1.0**
ASAR **Alice Springs** **51.58 173** P **P** **09 59 22.9 +0.9**
comp=Z,1.4nm,0.8s,baz=347,slow=6.1,SNR=11
ASAR PcP **PcP** **10 00 36.2 +0.5**
comp=Z,0.3nm,0.6s,baz=352,slow=2.5,SNR=4.1
comp=Z,1.4nm,0.8s
ASAR **Alice Springs** **51.58 173** P **P** **09 59 22.5 +0.5**
ABKAR **Akbulak array** **55.39 312** P **P** **09 59 49.5 -0.1**
ABKAR IAmb IAmb 09 59 50.3
comp=Z,5.8nm,0.8s
ABKAR **Akbulak array** **55.39 312** P **P** **09 59 49.4 -0.3**
GEYT **Alibeck** **58.32 299** P **P** **10 00 10.3 -0.4**
comp=Z,1.3nm,0.4s,baz=34,slow=5.4,SNR=2.8
comp=Z,1.3nm,0.4s
KIRV **Kirov** **60.79 324** LR LR 10 29 46.5
comp=Z,310nm,18.8s,baz=75,slow=39
STKA **Stephens Creek** **60.84 167** P **P** **10 00 28.4 +0.6**
comp=Z,1.8nm,0.7s,baz=334,slow=12,SNR=4.0
comp=Z,1.8nm,0.7s
WSAR **Wadi Sarin** **62.04 283** LR LR 10 29 50.7
comp=Z,49nm,19.6s,baz=77,slow=38
BELG **Belogornoye** **62.73 317** LR LR 10 29 51.6
comp=Z,386nm,19.5s,baz=93,slow=38
ILAR **Eielson Array** **63.05 29** P **P** **10 00 40.7 -1.7**
comp=Z,0.5nm,0.8s,baz=282,slow=4.5,SNR=3.6
comp=Z,0.5nm,0.8s
ARCES **ARCESS Array B** **68.39 338** LR LR 10 35 27.3
comp=Z,119nm,18.9s,baz=86,slow=40
FINES **FINESS Array B** **71.33 330** P **P** **10 01 33.9 -1.0**
comp=Z,7.3nm,1.1s,baz=67,slow=11,SNR=2.3
FINES LR LR 10 36 38.2
comp=Z,454nm,19.9s,baz=62,slow=39
comp=Z,7.3nm,1.1s
AKASG **Malin Array Be** **74.16 319** P **P** **10 01 50.2 -1.8**
comp=Z,0.1nm,0.3s,baz=57,slow=6.7,SNR=1.8
AKASG LR LR 10 37 00.9
comp=Z,334nm,20.1s,baz=69,slow=38
comp=Z,0.1nm,0.3s
BRTR **Keskin Array B** **75.88 308** LR LR 10 39 12.4
comp=Z,95nm,18.8s,baz=25,slow=39
YKA **Yellowknife Ar** **77.08 25** P **P** **10 02 08.4 -0.2**
comp=Z,0.9nm,0.8s,baz=306,slow=6.1,SNR=9.0
comp=Z,0.9nm,0.8s
HFS **Hagfors** **77.27 332** LR LR 10 40 57.0
comp=Z,276nm,19.8s,baz=32,slow=39
MMAI **Mount Meron Ar** **77.40 301** LR LR 10 41 11.5
comp=Z,73nm,18.1s,baz=143,slow=40
EIL **Elat** **79.18 298** LR LR 10 41 51.4
comp=Z,36nm,19.2s,baz=54,slow=39
URZ **Urewera** **80.25 143** LR LR 10 32 10.6
comp=Z,48nm,19.8s,baz=48,slow=31
RPZ **Rata Peaks** **81.45 150** LR LR 10 32 42.9
comp=Z,52nm,21.9s,baz=312,slow=31
VRAC **Vranov** **81.94 322** LR LR 10 42 19.1
comp=Z,339nm,18.3s,baz=32,slow=38
CLL **Collm** **82.69 325** *eP* **P** **10 02 41.0 +1.9**
DAVOX **Davos/Dischmat** **87.07 323** LR LR 10 46 04.3
comp=Z,193nm,18.4s,baz=63,slow=38
NVAR **Mina Array Bea** **89.47 46** P **P** **10 03 14.3 +1.2**
comp=Z,0.3nm,0.5s,baz=311,slow=5.8,SNR=2.2
comp=Z,0.3nm,0.5s
PPT **Papeete** **91.59 109** LR LR 10 36 09.4
comp=Z,29nm,19.7s,baz=332,slow=30
PDAR **Pinedale Array** **91.96 38** P **P** **10 03 23.3 -1.4**
comp=Z,0.2nm,0.5s,baz=339,slow=2.2,SNR=2.1
comp=Z,0.2nm,0.5s
ESDC **Sonseca Array** **99.27 324** LR LR 10 52 39.6
comp=Z,132nm,18.3s,baz=64,slow=38

*IDC **07** 09:57:57.0±1.2,32°.99S×179°.92E,h0km,mb4.6/5, mbtmp4.5/6,ML3.9/1,MS3.6/22,Error ellipse: s-maj=29.6km s-min=26.0km az=79.0*
*NEIC **07** 09:58:18.0±1.1,34°.00S±0°.09×178°.8E±0°.2,h120km±6km, mb4.5/23,Error ellipse: s-maj=19.8km s-min=11.0km az=69.0*
*WEL **07** 09:59:11.2,38°S±28°×17°8E±1°6,h55km±21km,M2.4/13, ML2.3/10,MLv2.4/13,Error ellipse: s-maj=0.0km s-min=0.0km az=169.1*
ISC 07 09:58:02.4±0.8,33°.13S±0°.08×179°.9E±0°.1,h35km,n86, σ1§82/54,mb4.5/14,MS3.6/24,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**5.12**	**195**	P	**Pn**	**09 59 17.7**	**+1.2**
RUGZ	**Raukumara Rang**	**5.17**	**200**	P	**Pn**	**09 59 20.4**	**+3.1**
TWGZ	**Tauwhareparae**	**5.28**	**197**	P	**Pn**	**09 59 21.4**	**+2.6**
OPRZ	**Ohinepanea**	**5.46**	**209**	P	Pn	09 59 26.5	+5.3
CNGZ	**Carnagh Statio**	**5.53**	**194**	P	**Pn**	**09 59 23.0**	**+0.9**
MWZ	**Matawai**	**5.55**	**200**	P	**Pn**	**09 59 23.6**	**+1.1**
TKGZ	**Te Karaka**	**5.56**	**197**	P	**Pn**	**09 59 23.5**	**+0.8**
URZ	**Urewera**	**5.61**	**203**	Pn	**Pn**	**09 59 24.0**	**+0.7**
	3.4nm,0.3s,baz=19,slow=2.1,SNR=16						
URZ				Sn	**Sn**	**10 00 29.9**	**+3.3**
	4.6nm,0.3s,baz=194,slow=20,SNR=6.4						
	8.9nm,0.4s						
URZ	**Urewera**	**5.61**	**203**	P	**Pn**	**09 59 25.4**	**+2.1**
OUZ	**Omahuta**	**5.66**	**247**		**Pn**	**09 59 22.8**	**-1.1**
RIGZ	**Rimuhau**	**5.84**	**197**	P	**Pn**	**09 59 24.2**	**-2.2**
RRRZ	**Republican Roa**	**5.90**	**207**	P	**Pn**	**09 59 31.3**	**+4.1**
MUGZ	**Murupara**	**5.93**	**205**	P	**Pn**	**09 59 29.6**	**+2.0**
RTZ	**Ruatahuna**	**5.98**	**203**	Pn	**Pn**	**09 59 28.8**	**+0.3**
SNGZ	**Shannon Statio**	**6.02**	**200**	P	**Pn**	**09 59 30.4**	**+1.4**
RAHZ	**Arahi**	**6.22**	**201**	P	**Pn**	**09 59 32.7**	**+1.0**
NMHZ	**Naumai**	**6.47**	**202**	P	**Pn**	**09 59 36.4**	**+1.1**
BKZ	**Black Stump Fm**	**6.64**	**204**	Pn	**Pn**	**09 59 37.1**	**-0.4**
BKZ	**Black Stump Fm**	**6.64**	**204**	P	**Pn**	**09 59 38.1**	**+0.7**
KRVZ	**Karewarewa**	**6.89**	**209**	P	Pn	09 59 48.9	+7.9
ETVZ	**East Tongariro**	**6.90**	**209**	P	**Pn**	**09 59 43.4**	**+2.2**
KAHZ	**Kahuranaki**	**7.09**	**199**	P	**Pn**	**09 59 44.7**	**+1.0**
WNVZ	**Wahianoa**	**7.11**	**208**	P	**Pn**	**09 59 45.7**	**+1.6**
TSZ	**Takapari Road**	**7.62**	**204**	P	Pn	10 00 01.5	+11
ONTNC	**Ouen Toro**	**16.07**	**309**		P	**10 01 55.3**	**+6.6**
ONTNC				IAmb	IAmb	10 02 05.3	
	comp=Z,27nm,1.0s						
DZM	**Mont Dzumac**	**16.24**	**309**	*eP*	**Pn**	**10 01 48.4**	**+0.4**
	comp=Z,132nm,28.0s						
DZM				*eLR*	LR	10 05 38.9	
	comp=Z,1μm,26.1s						
DZM	**Mont Dzumac**	**16.24**	**309**	LR	LR	10 06 59.9	
	comp=Z,698nm,18.1s,baz=136,slow=34						
LIFNC	**LIFOU**	**16.70**	**314**	P	P	10 02 04.3	+8.6
LIFNC				IAmb	IAmb	10 02 28.7	
	comp=Z,24nm,0.9s						
RAR	**Rarotonga**	**21.56**	**62**	LR	LR	10 12 50.3	
	comp=Z,81nm,18.0s,baz=290,slow=42						
TOO	**Toolangi**	**28.35**	**251**	P	**P**	**10 03 49.7**	**-3.4**
TOO				IAmb	IAmb	10 04 04.6	
	comp=Z,6.4nm,1.1s						
TBI	**Tubuai**	**28.57**	**78**	*eLR*	LR	10 10 38.9	
TBI				*eLR*	LR	10 10 39.4	
	comp=Z,1μm,32.0s						
HNR	**Honiara**	**29.94**	**317**	LR	LR	10 14 00.3	
	comp=Z,677nm,20.9s,baz=204,slow=32						
PPT2	**Papeete2**	**31.45**	**68**	*eLR*	LR	10 11 57.4	
	comp=Z,157nm,33.0s						
PPT2				*eLR*	LR	10 11 57.8	
	comp=Z,274nm,29.2s						
STKA	**Stephens Creek**	**32.25**	**262**	LR	LR	10 16 52.8	
	comp=Z,184nm,18.4s,baz=45,slow=35						

CTA **Charters Tower** **32.65** **285** P **P** **10 04 32.2 +1.0**
comp=Z,5.9nm,1.0s,baz=139,slow=11,SNR=1.9
CTA LR LR 10 16 03.7
comp=Z,140nm,21.6s,baz=73,slow=33
comp=Z,5.9nm,1.0s
CTAO **Charters Tower** **32.65** **285** P **P** **10 04 33.4 +2.2**
CTAO IAmb IAmb 10 04 36.9
comp=Z,5.4nm,0.9s
BBOO **Buckleboo** **36.62** **258** P **P** **10 05 03.0 -2.3**
BBOO IAmb IAmb 10 05 07.8
comp=Z,7.1nm,1.0s
KRVT **Keravat (AS076** **38.74** **312** LR LR 10 19 48.1
comp=Z,74nm,19.8s,baz=250,slow=34
RABL **Rabaul** **38.74** **312** P P 10 05 29.7 +6.2
AS31 **Alice Springs** **41.30** **271** P **P** **10 05 44.7 -0.1**
AS31 IAmb IAmb 10 05 47.4
comp=Z,4.5nm,0.8s
ASAR **Alice Springs** **41.30** **271** P **P** **10 05 44.3 -0.4**
comp=Z,12nm,0.8s,baz=109,slow=7.8,SNR=62
comp=Z,12nm,0.8s
ASAR **Alice Springs** **41.30** **271** P **P** **10 05 44.5 -0.2**
WR0 **Warramunga Arr** **42.37** **276** P **P** **10 05 53.2 -0.3**
WR0 IAmb IAmb 10 05 55.7
comp=Z,13nm,1.1s
WB2 **Warramunga Arr** **42.54** **276** P **P** **10 05 54.6 -0.2**
WB2 IAmb IAmb 10 05 57.0
comp=Z,16nm,0.9s
WRAB **Tennant Creek** **42.54** **276** P **P** **10 05 55.0 +0.1**
WRAB IAmb IAmb 10 05 56.9
comp=Z,14nm,0.9s
WRA **Warramunga Arr** **42.55** **276** P **P** **10 05 53.6 -1.3**
comp=Z,10.0nm,0.9s,baz=117,slow=7.5,SNR=22
WRA LR LR 10 21 57.8
comp=Z,81nm,19.6s,baz=60,slow=34
comp=Z,10.0nm,0.9s
WRA **Warramunga Arr** **42.55** **276** P **P** **10 05 54.9 0.0**
WB0 **Warramunga Arr** **42.58** **277** P **P** **10 05 54.8 -0.4**
WB0 IAmb IAmb 10 05 57.8
comp=Z,17nm,1.0s
FORT **Forrest** **43.72** **258** P **P** **10 06 02.1 -2.1**
TAOE **Nuku Hiva Isla** **44.01** **66** *e*LR LR 10 17 46.5
comp=Z,113nm,29.0s
SBA **Scott Base** **45.20** **184** P **P** **10 06 15.1 -0.3**
VNDA **Vanda** **45.22** **185** LR LR 10 23 19.4
comp=Z,43nm,18.6s,baz=356,slow=34
VNDA **Vanda** **45.22** **185** P **P** **10 06 14.7 -0.9**
MTN **Manton Dam** **48.77** **283** P **P** **10 06 43.6 -0.4**
KNRA **Kununurra** **49.25** **278** P **P** **10 06 48.3 +0.5**
FITZ **Fitzroy Crossi** **50.68** **273** P **P** **10 06 58.5 -0.1**
CASY **Casey** **51.91** **209** P **P** **10 07 03.3 -3.8**
SIJI **Sorong** **55.79** **295** LR LR 10 29 49.5
comp=Z,82nm,21.6s,baz=143,slow=34
QSPA **South Pole Qui** **56.99** **180** P **P** **10 07 45.2 +0.9**
comp=Z,12nm,0.7s,baz=18,slow=0.8,SNR=105
QSPA LR LR 10 29 10.6
comp=Z,61nm,18.2s,baz=71,slow=33
comp=Z,12nm,0.7s
QSPA **South Pole Qui** **56.99** **180** P **P** **10 07 44.6 +0.4**
GUMO **Guam** **57.26** **318** LR LR 10 30 43.1
comp=Z,23nm,18.8s,baz=93,slow=34
RPN **Rapa Nui** **60.42** **105** LR LR 10 31 14.1
comp=Z,38nm,18.0s,baz=273,slow=33
DAV **Davao City (W)** **65.25** **297** LR LR 10 35 03.3
comp=Z,30nm,21.8s,baz=100,slow=34
MAW **Mawson** **69.14** **201** P **P** **10 09 03.9 -0.7**
SBUM **Sibu** **72.86** **285** P **P** **10 09 28.5 +0.5**
SBUM IAmb IAmb 10 09 37.1
comp=Z,5.2nm,1.1s
SNAA **Sanae** **75.47** **179** P **P** **10 09 42.5 0.0**
SNAA IAmb IAmb 10 09 49.3
comp=Z,6.9nm,1.1s
VNA3 **Neumayer Olymp** **75.70** **177** P **P** **10 09 43.5 -0.2**
JHJ **Hachijo jima 2** **75.97** **326** LR LR 10 42 51.9
comp=Z,26nm,19.5s,baz=28,slow=36
VNA2 **Neumayer--Watz** **76.11** **178** P **P** **10 09 46.1 0.0**
baz=170,slow=5.0
VNA1 **Neumayer--Stat** **76.35** **177** P **P** **10 09 47.5 +0.2**
MJAR **Matsushiro Arr** **79.52** **327** LR LR 10 39 42.1
comp=Z,26nm,21.1s,baz=148,slow=32
H03S2 **Juan Fernandez** **80.41** **124** T T 11 38 56.5
baz=235,slow=74,SNR=53
H03S1 **Juan Fernandez** **80.42** **124** T T 11 38 57.0
baz=235,slow=74,SNR=45
H03S3 **Juan Fernandez** **80.43** **124** T T 11 38 51.1
baz=235,slow=74,SNR=33
JNU **Nakatsue** **80.47** **320** LR LR 10 41 17.9
comp=Z,23nm,18.6s,baz=22,slow=32
H03N3 **Juan Fernandez** **80.62** **124** T T 11 39 05.1
baz=239,slow=72,SNR=738
H03N2 **Juan Fernandez** **80.62** **124** T T 11 39 01.8
baz=239,slow=72,SNR=529
H03N1 **Juan Fernandez** **80.64** **124** T T 11 39 02.2
baz=239,slow=72,SNR=1174
ASAJ **Asahikawa** **84.08** **334** LR LR 10 41 19.8
comp=Z,70nm,19.4s,baz=298,slow=31
KSRS **Korea Array** **85.32** **321** LR LR 10 46 42.5
comp=Z,11nm,19.1s,baz=345,slow=34
NVAR **Mina Array Bea** **91.42** **44** P **P** **10 11 05.8 +0.8**
comp=Z,0.8nm,0.7s,baz=222,slow=8.2,SNR=5.8
comp=Z,0.8nm,0.7s
KLR **Kul'dur** **92.53** **331** LR LR 10 47 53.5
comp=Z,32nm,19.3s,baz=114,slow=32
CMAR **Chiang Mai Arr** **92.67** **290** LR LR 10 56 05.9
comp=Z,11nm,19.0s,baz=105,slow=38
NNA **Nana** **94.33** **107** LR LR 10 43 48.2
comp=Z,42nm,21.3s,baz=201,slow=29
MA2 **Magadan** **95.47** **346** LR LR 10 47 43.3
comp=Z,32nm,20.4s,baz=122,slow=31
FINES **FINESS Array B** **147.04** **337** PKPbc **PKPdf** **10 17 37.8 -0.8**
comp=Z,2.4nm,0.8s,baz=74,slow=5.9,SNR=5.8

*IDC **07** 10:41:13.9±1.3,5°.99S×128°.77E,h303km±14km,mb3.4/7, mbtmp4.2/11,Error ellipse: s-maj=17.6km s-min=11.1km az=72.0*
*DJA **07** 10:41:15.2±0.2,6°S±3°×12°9E±°,h290km±6km,M4.5/10, mb4.4/9,mB5.1/5,MLv4.6/10,Mw(mB)4.4/5*
*NEIC **07** 10:41:15.1±0.9,6°.06S±0°.07×128°.76E±0°.09,h316km±9km, mb4.4/10,Error ellipse: s-maj=13.0km s-min=9.3km az=65.0*
ISC 07 10:41:13.8±0.5,6°.07S±0°.05×128°.73E±0°.06,h300km,n48, σ1§68/51,mb4.0/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.94**	**37**	P	**Pn**	**10 42 02.1**	**+2.0**
MSAI	**Masohi**	**2.72**	**4**	P	**S**	**10 42 47.4**	**-1.9**
SAUI	**Saumlaki**	**3.18**	**127**		**Pn**	**10 42 14.2**	**+2.8**
SAUI				Sn	**S**	**10 42 60.0**	**+2.5**
SAUI	**Saumlaki**	**3.18**	**127**	P	**Pn**	**10 42 12.7**	**+1.3**
NLAI	**Namlea**	**3.25**	**330**	P	**Pn**	**10 42 15.9**	**+3.8**
FAKI	**Fak Fak**	**4.71**	**48**		**Pn**	**10 42 29.3**	**+1.2**
FAKI	**Fak Fak**	**4.71**	**48**	P	**Pn**	**10 42 28.8**	**+0.8**
SANI	**Sanana**	**4.84**	**326**	P	**Pn**	**10 42 30.8**	**+1.2**
SOEI	**Soe**	**5.74**	**230**		**Pn**	**10 42 41.8**	**+1.6**
SOEI	**Soe**	**5.74**	**230**	P	Pn	10 42 32.7	-7.5
SIJI	**Sorong**	**5.76**	**26**	P	**Pn**	**10 42 40.8**	**+0.4**
	14nm,0.4s,baz=214,slow=11,SNR=61						
SIJI				S	**S**	**10 43 46.4**	**-3.6**
	75nm,0.2s,baz=78,slow=23,SNR=40						
BATI	**Baumata**	**6.48**	**230**	P	**Pn**	**10 42 50.5**	**+1.6**
	634nm,0.3s,baz=77,slow=3.1,SNR=114						
BATI				S	**S**	**10 44 01.6**	**-4.1**
	67nm,0.5s,baz=121,slow=1.1,SNR=1.5						
BATI	**Baumata**	**6.48**	**230**	P	Pn	10 42 42.0	-7.0
RKPI	**Ransiki, Papua**	**7.08**	**50**	P	**Pn**	**10 42 58.9**	**+2.7**
	103nm,0.8s,7μm2.0nm						
MTN	**Manton Dam**	**7.13**	**161**		**Pn**	**10 42 57.8**	**+0.9**
KNRA	**Kununurra**	**9.54**	**180**		**Pn**	**10 43 27.5**	**+1.1**
PLAI	**Plampang**	**11.20**	**255**	P	**Pn**	**10 43 47.3**	**+0.6**
	25nm,1.2s						
TWSI	**Taliwang, Sumb**	**12.04**	**257**	P	**Pn**	**10 43 57.8**	**+0.8**
	23nm,1.3s						
FITZ	**Fitzroy Crossi**	**12.33**	**194**		**Pn**	**10 44 00.1**	**-0.3**
BBKI	**Banjar Baru**	**14.08**	**280**	P	**Pn**	**10 44 25.5**	**+4.0**
	82nm,0.8s,5μm						
JAGI	**Jajag, Banyuwa**	**14.65**	**260**	P	**P**	**10 44 27.8**	**+0.6**
WB0	**Warramunga Arr**	**14.69**	**158**	P	**Pn**	**10 44 28.0**	**-0.6**
WRAB	**Tennant Creek**	**14.82**	**159**	P	**Pn**	**10 44 29.7**	**-0.6**
WRA	**Warramunga Arr**	**14.83**	**159**	P	**P**	**10 44 29.0**	**-0.1**
	2.0nm,0.3s,baz=332,slow=13,SNR=36						
WRA				S	S	10 47 20.0	+8.8
	3.9nm,0.7s,baz=328,slow=23,SNR=5.2						
WRA	**Warramunga Arr**	**14.83**	**159**	P	**P**	**10 44 28.3**	**-0.8**
WR0	**Warramunga Arr**	**14.92**	**158**	P	**P**	**10 44 30.2**	**+0.2**

COEN **Coen** **16.23** **120** P **P** **10 44 44.4 -0.2**
KKM **Kota Kinabalu** **17.34** **314** P **P** **10 44 56.8 0.0**
KKM IAmb IAmb 10 45 07.2
comp=Z,20nm,1.1s
MBWA **Marble Bar** **17.35** **209** P **P** **10 44 57.5 +1.0**
MBWA IAmb IAmb 10 45 01.7
comp=Z,12nm,0.9s
AS31 **Alice Springs** **18.19** **165** P **P** **10 45 05.7 +0.1**
AS31 IAmb IAmb 10 45 07.1
comp=Z,7.2nm,0.2s
ASAR **Alice Springs** **18.19** **165** P **P** **10 45 06.2 +0.5**
comp=Z,4.9nm,0.3s,baz=345,slow=12,SNR=170
ASAR S **S** **10 48 13.2 -4.9**
comp=Z,2.3nm,0.6s,baz=350,slow=20,SNR=11
ASAR **Alice Springs** **18.19** **165** P **P** **10 45 05.1 -0.5**
SBUM **Sibu** **18.53** **297** P **P** **10 45 09.3 0.0**
SBUM IAmb IAmb 10 45 13.6
comp=Z,9.2nm,0.9s
PMG **Port Moresby** **18.56** **101** P **P** **10 45 10.8 +1.2**
comp=Z,18nm,0.8s,baz=272,slow=8.7,SNR=3.6
PMG **Port Moresby** **18.56** **101** P **P** **10 45 08.9 -0.7**
PMG IAmb IAmb 10 45 12.9
comp=Z,18nm,0.7s
CTA **Charters Tower** **22.00** **131** P **P** **10 45 44.0 0.0**
comp=Z,4.9nm,0.7s,baz=308,slow=10,SNR=6.2
comp=Z,4.9nm,0.7s
STKA **Stephens Creek** **28.35** **156** P **P** **10 46 40.9 +0.1**
comp=Z,1.7nm,0.6s,baz=335,slow=6.9,SNR=3.4
comp=Z,1.7nm,0.6s
CMAR **Chiang Mai Arr** **38.17** **310** P **P** **10 48 05.0 -0.4**
comp=Z,3.4nm,0.6s,baz=138,slow=7.2,SNR=16
comp=Z,3.4nm,0.6s
CHTO **Chiang Mai** **38.38** **311** P **P** **10 48 07.2 +0.1**
CHTO IAmb IAmb 10 48 08.1
comp=Z,7.6nm,0.8s
SONM **Songino Array** **57.17** **342** P **P** **10 50 30.5 +0.4**
comp=Z,0.4nm,0.6s,baz=155,slow=6.0,SNR=3.3
comp=Z,0.4nm,0.6s
PETK **Petropavlovsk-** **63.85** **19** P **P** **10 51 14.3 -0.4**
comp=Z,3.0nm,1.0s,baz=170,slow=4.2,SNR=5.1
comp=Z,3.0nm,1.0s
MK31 **Makanchi Array** **66.76** **327** P **P** **10 51 32.8 -0.7**
MKAR **Makanchi Array** **66.76** **327** P **P** **10 51 33.2 -0.3**
comp=Z,1.6nm,0.5s,baz=117,slow=8.2,SNR=28
comp=Z,1.6nm,0.5s
MKAR **Makanchi Array** **66.76** **327** P **P** **10 51 32.5 -0.9**
MKAR PcP **PcP** **10 51 59.7 -0.2**
ZALV **Zalesovo Beam** **70.20** **334** P **P** **10 51 53.0 -1.4**
comp=Z,0.7nm,0.5s,baz=123,slow=5.5,SNR=3.9
comp=Z,0.7nm,0.5s
VNDA **Vanda** **73.52** **173** P **P** **10 52 13.2 -0.4**
SDPT **Sand Point** **84.23** **33** P **P** **10 53 11.4 -0.4**
CPUP **Villa Florida** **147.26** **170** PKPbc **PKPdf** **11 00 20.4 +0.3**
comp=Z,1.5nm,0.7s,baz=191,slow=16,SNR=3.7

IDC 07 11:33:43.3±1.3,13°.20N×145°.71E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=66.2km s-min=26.4km az=104.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.79**	**199**	P	P	11 40 35.9	+0.1
	0.3nm,0.6s,baz=22,slow=9.4,SNR=2.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**38.42**	**198**	P	P	11 41 06.5	-0.3
	0.2nm,0.7s,baz=18,slow=9.9,SNR=2.0						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**62.34**	**316**	P	P	11 44 07.7	0.0
	0.2nm,0.6s,baz=94,slow=7.0,SNR=3.0						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**68.56**	**25**	P	P	11 44 47.6	0.0
	0.2nm,0.4s,baz=250,slow=5.9,SNR=9.4						
	0.2nm,0.4s						

*IDC **07** 11:42:21.5±1.3,48°.88S×123°.22E,h0km,mb3.8/7, mbtmp3.8/7,MS3.7/11,Error ellipse: s-maj=43.7km s-min=25.3km az=84.0*
*NEIC **07** 11:42:22.1±2.0,49°.00S±0°.08×123°.0E±0°.2,h10km±1km, mb4.4/15,Error ellipse: s-maj=27.7km s-min=10.9km az=287.0*
ISC 07 11:42:22.1±0.6,48°.98S±0°.08×123°.0E±0°.1,h10km,n35, σ1§81/24,mb4.3/13,MS3.6/10,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.54**	**332**	T	T	12 02 12.6	
	baz=156,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**15.54**	**332**	T	T	12 02 15.5	
	baz=156,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**15.55**	**332**	T	T	12 02 08.0	
	baz=156,slow=75,SNR=13						
NWAO	**Narrogin (SRO)**	**16.62**	**343**	LR	LR	11 51 16.2	
	comp=Z,291nm,19.4s,slow=32						
NWAO	**Narrogin (SRO)**	**16.62**	**343**		**Pn**	**11 46 16.3**	**+1.1**
NWAO				IAmb	IAmb	11 46 21.7	
	comp=Z,38nm,1.2s						
MORW	**Morawa**	**20.60**	**342**	P	**P**	**11 46 58.3**	**-3.1**
MORW				IAmb	IAmb	11 47 04.4	
	comp=Z,28nm,1.3s						
STKA	**Stephens Creek**	**22.07**	**46**	P	**P**	**11 47 16.4**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=222,slow=15,SNR=2.1						
STKA				LR	LR	11 54 22.0	
	comp=Z,74nm,20.0s,baz=207,slow=33						
	comp=Z,1.5nm,0.8s						
STKA	**Stephens Creek**	**22.07**	**46**	P	**P**	**11 47 16.5**	**-0.6**
ASAR	**Alice Springs**	**26.68**	**23**	P	**P**	**11 48 00.6**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=197,slow=9.9,SNR=9.8						
ASAR				LR	LR	11 57 29.2	
	comp=Z,174nm,20.8s,baz=225,slow=34						
	comp=Z,1.5nm,0.9s						
ASAR	**Alice Springs**	**26.68**	**23**	P	**P**	**11 48 02.2**	**+0.9**
GIRL	**Giralia**	**27.20**	**342**	P	**P**	**11 48 07.4**	**+1.5**
ARMA	**Armidale**	**28.51**	**60**	P	**P**	**11 48 13.0**	**-4.8**
ARMA				IAmb	IAmb	11 48 38.7	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**30.36**	**21**	P	**P**	**11 48 32.3**	**-1.8**
	comp=Z,0.7nm,1.0s,baz=200,slow=9.4,SNR=1.8						
WRA				LR	LR	11 59 44.3	
	comp=Z,167nm,20.2s,baz=186,slow=34						
	comp=Z,0.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.88**	**5**	P	**P**	**11 48 40.7**	**+2.1**
VNDA	**Vanda**	**32.22**	**165**	P	**P**	**11 48 50.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=307,slow=11,SNR=3.8						
VNDA				LR	LR	12 01 00.4	
	comp=Z,114nm,18.2s,baz=319,slow=35						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**32.22**	**165**	P	**P**	**11 48 50.1**	**+0.1**
VNDA				IAmb	IAmb	11 48 55.0	
	comp=Z,4.4nm,1.4s						
SBA	**Scott Base**	**33.27**	**165**	P	**P**	**11 48 59.5**	**+0.4**
SBA				IAmb	IAmb	11 49 27.0	
	comp=Z,6.0nm,1.4s						
KNRA	**Kununurra**	**33.55**	**10**	P	**P**	**11 49 02.1**	**+0.1**
CTA	**Charters Tower**	**34.31**	**41**	LR	LR	12 03 08.5	
	comp=Z,64nm,18.2s,baz=256,slow=36						
MAW	**Mawson**	**34.87**	**216**	P	**P**	**11 49 12.6**	**-0.4**
NNZ	**Nelson**	**35.80**	**97**	P	**P**	**11 49 25.1**	**+3.8**
BATI	**Baumata**	**38.66**	**1**	LR	LR	12 06 13.0	
	comp=Z,129nm,18.2s,baz=222,slow=37						
RTZ	**Ruatahuna**	**39.52**	**96**	P	**P**	**11 49 52.2**	**-0.8**
RTZ				IAmb	IAmb	11 50 28.2	
	comp=Z,20nm,1.3s						
QSPA	**South Pole Qui**	**41.14**	**180**	LR	LR	12 06 26.9	
	comp=Z,251nm,18.3s,baz=330,slow=35					

comp=Z,1.0nm,0.8s
PLCA Paso Flores 89.86 170 LR LR 12 33 02.7
comp=Z,28nm,19.8s,baz=178,slow=34
SONM Songino Array 97.51 349 P Pdif 11 55 58.0 +2.1
comp=Z,0.2nm,0.5s,baz=145,slow=3.5,SNR=1.8
comp=Z,0.2nm,0.5s
YKA Yellowknife Ar 146.10 45 PKPbc **PKPdf 12 02 00.1 0.0**
comp=Z,0.8nm,0.8s,baz=270,slow=3.0,SNR=13

IDC 07 11:46:52.6±4.2, 48°.65S×124°.44E, h0km, mb3.3/2, mbtmp3.4/2, Error ellipse: s-maj=153.8km s-min=77.9km az=119.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.72**	**327**	T	T	12 06 54.0	
	baz=156,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**15.73**	**327**	T	T	12 06 50.9	
	baz=156,slow=76,SNR=8.5						
H01W3	**Cape Leeuwin H**	**15.74**	**327**	T	T	12 06 51.9	
	baz=156,slow=76,SNR=11						
STKA	**Stephens Creek**	**21.18**	**44**	P	P	11 51 39.5	0.0
	0.6nm,0.2s,baz=212,slow=15,SNR=1.9						
	0.6nm,0.2s						
ASAR	**Alice Springs**	**26.04**	**20**	P	P	11 52 27.6	+0.1
	0.3nm,0.8s,baz=198,slow=9.5,SNR=2.1						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**145.21**	**44**	PKPbc	PKPbc	12 06 29.7	-0.9
	0.2nm,0.6s,baz=269,slow=3.2,SNR=4.1						

*INET **07** 11:50:28.5±0.7, 12°.41N×88°.27W, h1km±2km, MW3.2*
*SNET **07** 11:50:32.2±0.7, 12°.53N×88°.22W, h30km±4km, ML3.2*
ISC 07 11:50:32.5±1.9, 12°.5N±0°.1×88°.23W±0°.07, h50km, n13, σ1§10/17, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.88**	**22**	*eP*	**Pn**	**11 50 47.6**	**-1.0**
LCND				*eS*	**Sn**	**11 50 60.0**	**-0.4**
ALJI	**Alcalda de J**	**0.89**	**338**	*eP*	**Pn**	**11 50 48.4**	**-0.4**
COEB	**Comit de Eme**	**1.04**	**344**	*eP*	**Pn**	**11 50 50.3**	**-0.6**
COEB				IAML		11 51 06.7	
	comp=Z,757nm,0.2s						
PQSS	**Presa 15 de Se**	**1.17**	**344**	*eP*	**Pn**	**11 50 52.3**	**-0.2**
PQSS				*eS*	**Sn**	**11 51 07.3**	**0.0**
CRIN	**San Cristobal**	**1.17**	**80**	*eP*	**Pn**	**11 50 51.8**	**-0.9**
CRIN				*eS*	**Sn**	**11 51 10.3**	**+2.6**
FAGO	**Alcalda de S**	**1.20**	**6**	*eP*	**Pn**	**11 50 52.6**	**-0.3**
FAGO				IAML		11 51 11.1	
	comp=Z,171nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.29**	**338**	*eP*	**Pn**	**11 50 54.4**	**+0.2**
SJTE	**Alcalda de S**	**1.34**	**326**	*eP*	**Pn**	**11 50 54.9**	**-0.1**
TELN	**Telica**	**1.37**	**85**	*eP*	**Pn**	**11 50 54.9**	**-0.5**
CNGN	**Cerro Negro**	**1.50**	**90**	*eP*	**Pn**	**11 50 55.7**	**-1.3**
CNGN				*eS*	**Sn**	**11 51 17.2**	**+1.6**
JAYA	**Jayaque - finc**	**1.65**	**314**	*eP*	**Pn**	**11 50 58.4**	**-0.9**
JAYA				IAML		11 51 21.6	
	comp=Z,553nm,0.2s						
MOMN	**Momotombo**	**1.66**	**93**	*eP*	**Pn**	**11 50 57.9**	**-1.3**
NUBE	**Las Nubes**	**2.06**	**313**	*eP*	**Pn**	**11 51 04.6**	**-0.2**

*IDC **07** 12:10:30.7±1.0, 6°.31N×126°.25E, h143km±11km, mb3.2/6, mbtmp3.7/7, Error ellipse: s-maj=57.3km s-min=14.4km az=71.0*
*MAN **07** 12:10:31.2, 6°.25N×126°.19E, h115km, mb4.2, ML3.0, MS2.7*
ISC 07 12:10:30.2±0.8, 6°.29N±0°.07×126°.22E±0°.08, h137km±7km, n16, σ0§89/24, mb3.3/6, 6C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.53**	**250**	*eP*	**Pn**	**12 10 50.3**	**+0.1**
DDMP				*eS*	**Sn**	**12 11 05.2**	**-0.2**
MATI	**Mati**	**0.66**	**4**	*eP*	**Pn**	**12 10 51.0**	**-0.1**
MATI				*eS*	**Sn**	**12 11 06.1**	**-0.8**
DAV	**Davao City (W)**	**1.00**	**321**	P	**Pn**	**12 10 54.2**	**+0.4**
	689nm,0.5s,baz=180,slow=4.0,SNR=23						
DAV				S	**Sn**	**12 11 14.0**	**+2.3**
	218nm,0.3s,baz=108,slow=20,SNR=3.8						
KCP	**Kidapawan**	**1.33**	**303**	*iP*	**Pn**	**12 10 57.1**	**+0.1**
KCP				*i* S	**Sn**	**12 11 16.6**	**-0.9**
SKMP	**Bagumbayan, Su**	**1.68**	**278**	*iP*	**Pn**	**12 11 00.3**	**-0.5**
SKMP				*i* S	**Sn**	**12 11 22.5**	**-1.6**
BIPH	**Bislig**	**1.89**	**4**	*eP*	**Pn**	**12 11 03.0**	**-0.3**
BIPH				*eS*	**Sn**	**12 11 27.4**	**-1.2**
BUKP	**Musuan**	**1.95**	**324**	*eP*	**Pn**	**12 11 04.7**	**+0.6**
BUKP				*eS*	**Sn**	**12 11 30.3**	**+0.3**
CTBH	**Cotabato--PC H**	**2.16**	**295**	*iP*	**Pn**	**12 11 06.8**	**+0.3**
CGP	**Cagayan de Oro**	**2.63**	**325**	*eP*	**Pn**	**12 11 1.9**	**-0.4**
CGP				*eS*	**Sn**	**12 11 45.8**	**+1.0**
SIJI	**Sorong**	**8.72**	**144**	P	**Pn**	**12 12 33.6**	**+0.3**
	4.6nm,0.3s,baz=342,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**27.26**	**163**	P	**P**	**12 16 01.3**	**-0.6**
	0.4nm,0.4s,baz=346,slow=10,SNR=13						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**30.70**	**166**	P	**P**	**12 16 32.7**	**+0.4**
	0.8nm,0.3s,baz=342,slow=7.3,SNR=24						
	0.8nm,0.3s						
STKA	**Stephens Creek**	**40.69**	**160**	P	**P**	**12 17 58.0**	**+0.7**
	1.8nm,0.7s,baz=345,slow=12,SNR=3.6						
	1.8nm,0.7s						
SONM	**Songino Array**	**44.73**	**341**	P	**P**	**12 18 30.5**	**+0.7**
	0.7nm,1.1s,baz=159,slow=4.3,SNR=1.4						
	0.7nm,1.1s						
MKAR	**Makanchi Array**	**55.18**	**325**	P	**P**	**12 19 47.8**	**-0.9**
	0.1nm,0.5s,baz=116,slow=7.3,SNR=1.7						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**83.03**	**26**	P	**P**	**12 22 39.6**	**-0.4**
	0.2nm,0.5s,baz=236,slow=5.2,SNR=9.6						
	0.2nm,0.5s						

*TRN **07** 12:14:23.2, 17°.93N×63°.73W, h107km, M3.1(RSPR)*
*NEIC **07** 12:14:24.6±1.0, 18°.5N±0°.2×63°.61W±0°.05, h65km±22km, ML3.0/21, Md3.1/10(RSPR), Error ellipse: s-maj=24.5km s-min=6.1km az=184.0*
*RSPR **07** 12:14:25.6, 18°.25N×63°.61W, h68km±4km, MD3.1/5*
ISC 07 12:14:24.6±1.5, 18°.04N±0°.10×63°.68W±0°.04, h101km±10km, n34, σ1§14/42, 3C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**0.57**	**89**	Pn	**Pn**	**12 14 38.5**	**-2.5**
SMRT	**St. Maarten**	**0.57**	**89**	*eP*	**Pn**	**12 14 42.4**	**+1.3**
SMRT				*eS*	**Sn**	**12 14 55.9**	**+2.5**
SABA	**Saba**	**0.59**	**135**	Pn	**Pn**	**12 14 40.6**	**-0.6**
SABA				IAML		12 14 59.8	
	comp=N,254nm,0.5s						
SABA				IAML		12 15 18.1	
	comp=E,335nm,0.9s						
SABA	**Saba**	**0.59**	**135**	*eS*	**Sn**	**12 14 54.8**	**+1.1**
CDVI	**St. Croix**	**1.08**	**255**	*eP*	**Pn**	**12 14 45.8**	**-0.1**
CDVI	**St. Croix**	**1.08**	**255**		**Pn**	**12 14 45.8**	**-0.1**
CDVI					**Sn**	**12 15 01.7**	**-0.3**
CDVI	**St. Croix**	**1.08**	**255**	IAML		12 15 02.3	
	comp=N,272nm,0.3s						
CDVI				IAML		12 15 03.1	
	comp=E,394nm,0.7s						
CDVI	**St. Croix**	**1.08**	**255**	*eP*	**Pn**	**12 14 45.6**	**-0.3**
CDVI				*eS*	**Sn**	**12 15 01.4**	**-0.6**
CUPR	**Culebra, Puert**	**1.55**	**280**	*eP*	**Pn**	**12 14 51.2**	**-0.3**
CUPR	**Culebra, Puert**	**1.55**	**280**	*eS*	**Sn**	**12 15 10.7**	**-1.3**
CUPR	**Culebra, Puert**	**1.55**	**280**		**Pn**	**12 14 51.2**	**-0.3**
CUPR					**Sn**	**12 15 10.7**	**-1.3**
ANWB	**Willy Bob**	**1.84**	**101**	Pn	**Pn**	**12 14 54.9**	**-0.2**
ANWB				IAML		12 15 31.4	
	comp=E,91nm,1.5s						
ANWB				IAML		12 15 50.3	
	comp=E,93nm,1.6s						
ANWB	**Willy Bob**	**1.84**	**101**	*eP*	**Pn**	**12 14 55.4**	**+0.2**
ANWB				*eS*	**Sn**	**12 15 18.8**	**+0.4**
HUMP	**Col San Antoni**	**2.07**	**273**	Pn	**Pn**	**12 14 57.5**	**-0.6**
HUMP				IAML		12 15 26.8	
	comp=N,53nm,0.2s						
ANBD	**Bethesda, Anti**	**2.07**	**118**	*eP*	**Pn**	**12 14 58.4**	**+0.2**
ANBD				*eS*	**Sn**	**12 15 23.8**	**0.0**
CBYP	**Canovanas**	**2.09**	**277**	*eP*	**Pn**	**12 14 58.4**	**0.0**
CBYP	**Canovanas**	**2.09**	**277**	*eS*	**Sn**	**12 15 24.0**	**-0.3**
CBYP	**Canovanas**	**2.09**	**277**		**Pn**	**12 14 58.4**	**0.0**
CBYP					**Sn**	**12 15 24.0**	**-0.3**
GCPR	**Guaynabo City**	**2.31**	**277**	Pn	**Pn**	**12 15 01.1**	**0.0**
IGPR	**InterUniversit**	**2.31**	**269**	*eP*	**Pn**	**12 15 02.1**	**+0.8**
IGPR	**InterUniversit**	**2.31**	**269**	*eS*	**Sn**	**12 15 30.7**	**+1.3**
ABD	**La Joyeuse, An**	**2.61**	**126**	*eP*	**Pn**	**12 15 04.6**	**-0.5**
ABD				*eS*	**Sn**	**12 15 36.5**	**+0.2**
CELP	**Cerrillos**	**2.76**	**271**	*eP*	**Pn**	**12 15 07.8**	**+0.6**
CELP	**Cerrillos**	**2.76**	**271**	*eS*	**Sn**	**12 15 41.0**	**+0.9**
CELP	**Cerrillos**	**2.76**	**271**		**Pn**	**12 15 07.8**	**+0.6**
CELP	**Cerrillos**	**2.76**	**271**		**Sn**	**12 15 41.0**	**+0.9**
CELP	**Cerrillos**	**2.76**	**271**	IAML		12 15 33.8	
	comp=N,27nm,2.6s						
CELP				IAML		12 15 40.1	
	comp=E,22nm,1.6s						
CBE	**Ff, Capester**	**2.79**	**134**	*eP*	**Pn**	**12 15 08.7**	**+1.1**
CBE				*eS*	**Sn**	**12 15 38.2**	**-2.4**
UUPR	**Utuado, UPR, P**	**2.90**	**275**		**Pn**	**12 15 08.1**	**-1.0**
AOPR	**Arecibo Observ**	**2.94**	**276**		**Pn**	**12 15 08.9**	**-0.7**
AOPR				IAML		12 15 45.6	
	comp=N,92nm,0.5s						
MAGL	**Barre de l'ile**	**3.09**	**132**	*eP*	**Pn**	**12 15 10.6**	**-1.0**
MAGL				*eS*	**Sn**	**12 15 46.8**	**-1.1**
CRPR	**Cabo Rojo, PR**	**3.27**	**270**	Pn	**Pn**	**12 15 15.0**	**+1.0**
CRPR				IAML		12 16 00.6	
	comp=E,41nm,2.5s						
CRPR				IAML		12 16 59.5	
	comp=N,40nm,3.4s						
BIM	**Bigot**	**4.30**	**144**	*e*	**Pn**	**12 15 31.0**	**+3.0**
MPOM	**Morne Pois Mar**	**4.48**	**142**	*e*	**Pn**	**12 15 28.6**	**-1.7**

*JMA **07** 12:18:38.7±0.5, 45°.7N×2°.14°6E±°, h30km, MV2.7/20, NEAR KUNASHIRI ISLAND*
*SKHL **07** 12:18:38.8±0.1, 44°.60N×146°.00E, h33km±3km, mb3.8/2*
ISC 07 12:18:38.0±1.8, 44°.53N±0°.08×146°.05E±0°.07, h23km±15km, n11, σ0§93/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.51**	**195**	*eP*	**Pb**	**12 18 48.2**	**-0.1**
YUK				AMB	AMB	12 18 48.5	
	110nm,0.4s						
YUK				*eS*	**Sb**	**12 18 55.2**	**0.0**
YUK				A	A	12 18 56.1	
	130nm,0.2s						
YUK				A	A	12 18 56.1	
	130nm,0.2s						
JRA	**Rausu**	**0.89**	**229**	*eP*	**Pn**	**12 18 54.0**	**-1.0**
JRA				*eS*	**Sn**	**12 19 05.6**	**-1.6**
JNSB	**Nemuroshibetsu**	**1.06**	**225**	*eS*	**Sn**	**12 19 11.0**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.18**	**191**	*eP*	**Pn**	**12 18 59.6**	**+0.5**
NMR				*eS*	**Sn**	**12 19 13.6**	**-0.8**
NEM2	**Nemuro 2**	**1.18**	**191**	*eS*	**Sn**	**12 19 14.7**	**+0.3**
JNK	**Nakash**	**1.34**	**226**	*eS*	**Sn**	**12 19 18.5**	**+0.1**
KUR	**Kuril'sk**	**1.47**	**61**	*eP*	**Pn**	**12 19 03.4**	**+0.3**
KUR				AMB	AMB	12 19 04.7	
	50nm,0.6s						
KUR				*eS*	**Sn**	**12 19 21.1**	**-0.6**
KUR				A	A	12 19 23.3	
	30nm,0.2s						
KUR				A	A	12 19 23.3	
	30nm,0.2s						
JKHN	**Kushirohamanak**	**1.58**	**204**	*eS*	**Sn**	**12 19 26.0**	**+1.8**
JTKR	**Abashiri--Toko**	**1.63**	**251**	*eP*	**Pn**	**12 19 06.2**	**+0.9**
JTKR				*eS*	**Sn**	**12 19 26.2**	**+0.6**
AKK	**Akkeshi**	**1.74**	**210**	*eP*	**Pn**	**12 19 07.0**	**+0.2**
AKK				*eS*	**Sn**	**12 19 27.1**	**-1.2**
JAK	**Akkeshi**	**1.81**	**213**	*eP*	**Pn**	**12 19 08.4**	**+0.6**

IDC 07 12:24:05.2±2.1, 2°.33N×126°.36E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=195.1km s-min=25.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.48**	**161**	P	P	12 29 15.4	-1.3
	0.6nm,0.7s,baz=339,slow=11,SNR=8.6						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**26.86**	**165**	P	P	12 29 49.6	+1.8
	0.2nm,0.7s,baz=345,slow=9.6,SNR=2.3						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.50**	**326**	P	P	12 34 03.1	-0.2
	0.3nm,0.4s,baz=117,slow=7.6,SNR=9.2						
	0.3nm,0.4s						

*DJA **07** 12:25:23.4±0.7, 2°.N±3°×12°.7E±°, h21km±8km, M4.6/14, mb4.8/12, mB5.1/6, MLv4.5/14, Mw(mB)4.5/6*
*IDC **07** 12:25:23.8±1.6, 1°.76N×127°.11E, h80km±15km, mb4.1/21, mbtmp4.4/24, MS3.6/10, Error ellipse: s-maj=18.1km s-min=8.6km az=80.0*
*BJI **07** 12:25:24.2±0.0, 1°.84N×126°.99E, h81km, mb4.6/30, mB5.0/13, Ms4.3/2, Ms7 4.0/3*
*NEIC **07** 12:25:24.1±1.5, 1°.80N±0°.07×127°.12E±0°.08, h71km±7km, mb4.6/45, Error ellipse: s-maj=14.2km s-min=7.6km az=50.0*
ISC 07 12:25:22.9±0.3, 1°.83N±0°.04×127°.10E±0°.06, h63km, n135, σ1§63/138, mb4.6/50, 4C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.08**	**166**	Pn	**Pn**	**12 25 43.1**	**+0.9**
TNTI	**Ternate**	**1.08**	**166**	P	**Pn**	**12 25 43.1**	**+0.9**
TNTI				S	**Sn**	**12 25 57.9**	**+1.4**
SGSI	**Sangihe**	**2.42**	**320**	P	**Pn**	**12 25 59.7**	**-0.5**
SGSI				S	**Sn**	**12 26 28.6**	**-0.1**
SANI	**Sanana**	**4.01**	**196**	P	**Pn**	**12 26 22.3**	**+0.3**
SANI				S	**Sn**	**12 27 02.2**	**-5.5**
GTOI	**Gorontalo**	**4.26**	**254**	P	**Pn**	**12 26 27.2**	**+1.9**
SIJI	**Sorong**	**4.95**	**123**	P	**Pn**	**12 26 36.8**	**+2.0**
	13nm,0.2s,baz=260,slow=22,SNR=13						
NLAI	**Namlea**	**5.04**	**180**	P	**Pn**	**12 26 38.1**	**+2.1**
	35nm,0.7s,6µm0.4nm						
LUWI	**Luwuk**	**5.19**	**237**	Pn	**Pn**	**12 26 41.3**	**+3.3**
LUWI	**Luwuk**	**5.19**	**237**	P	**Pn**	**12 26 42.0**	**+4.0**
	119nm,0.5s,8µm1.6nm						
MRSI	**Marisa**	**5.33**	**255**	P	**Pn**	**12 26 41.8**	**+1.8**
	128nm,0.6s,2µm0.5nm						
DAV	**Davao City (W)**	**5.42**	**344**	P	**Pn**	**12 26 45.0**	**+3.8**
	172nm,0.4s,baz=73,slow=7.7,SNR=1.8						
DAV				S	**Sn**	**12 27 45.6**	**+3.2**
	136nm,0.4s,baz=261,slow=18,SNR=1.4						
KCP	**Kidapawan**	**5.52**	**339**	*iP*	**Pn**	**12 26 44.3**	**+1.7**
KCP				*i* S	**Sn**	**12 27 39.9**	**-5.0**
CTBH	**Cotabato--PC H**	**6.06**	**332**	*iP*	**Pn**	**12 26 49.9**	**-0.2**
APSI	**Ampana**	**6.10**	**243**	P	**Pn**	**12 26 54.2**	**+3.7**
	156nm,0.7s,2µm0.9nm						
BIPH	**Bislig**	**6.35**	**353**	*eP*	**Pn**	**12 26 55.7**	**+1.7**
BIPH				*eS*	**Sn**	**12 28 02.9**	**-2.3**
TOLI2	**Tolitoli**	**6.36**	**264**	Pn	**Pn**	**12 26 54.1**	**0.0**
FAKI	**Fak Fak**	**6.98**	**133**	Pn	**Pn**	**12 27 05.9**	**+3.3**
FAKI	**Fak Fak**	**6.98**	**133**	P	Pn	12 27 09.7	+7.1
	23nm,0.9s,0.1nm						
CGP	**Cagayan de Oro**	**7.00**	**340**	*eP*	**Pn**	**12 27 06.1**	**+3.2**
MPSI	**Mapaga**	**7.35**	**258**	P	**Pn**	**12 27 10.0**	**+2.3**
	49nm,0.8s,0.1nm						
MYLDM	**Lahad Datu**	**9.21**	**291**	Pn	**Pn**	**12 27 36.1**	**+3.0**
BNSI	**Bone**	**9.34**	**228**	P	Pn	12 27 52.7	+18
KAPI	**Kappang**	**10.01**	**227**	P	**Pn**	**12 27 45.6**	**+1.6**
	12nm,0.3s,baz=101,slow=18,SNR=1.9						
KAPI				S	**Sn**	**12 29 35.3**	**+0.5**
	11nm,0.4s,baz=103,slow=15,SNR=1.4						
KKM	**Kota Kinabalu**	**11.64**	**291**	Pn	**Pn**	**12 28 08.9**	**+2.5**
SBUM	**Sibu**	**14.88**	**273**	Pn	**Pn**	**12 28 51.5**	**+1.6**
MTN	**Manton Dam**	**15.12**	**165**	Pn	**Pn**	**12 28 54.3**	**+1.4**
MTN	**Manton Dam**	**15.12**	**165**	P	**P**	**12 28 54.7**	**-2.1**
KDU	**Kakadu**	**15.38**	**160**	P	**P**	**12 29 01.4**	**+1.8**
KNRA	**Kununurra**	**17.47**	**175**	P	**P**	**12 29 22.5**	**-0.4**
KNRA	**Kununurra**	**17.47**	**175**	P	**P**	**12 29 22.6**	**-0.2**
UGM	**Wanagama**	**19.16**	**239**	P	**Pn**	**12 29 42.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.86**	**184**	P	**P**	**12 29 48.0**	**-1.0**
LEM	**Lembang**	**21.27**	**246**	LR	LR	12 39 30.5	
	comp=Z,75nm,19.2s,baz=69,slow=40						
TPUB	**Ta-pu**	**22.25**	**344**	P	**P**	**12 30 12.3**	**-2.4**
SSLB	**Suanglung**	**22.62**	**345**	P	**P**	**12 30 19.1**	**+0.3**
SSLB				IAmb	IAmb	12 30 31.6	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**22.63**	**162**	P	**P**	**12 30 17.4**	**-1.4**
WB0				IAmb	IAmb	12 30 19.0	
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**22.77**	**162**	P	**P**	**12 30 18.8**	**-1.5**
WRAB				IAmb	IAmb	12 30 20.5	
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**22.77**	**162**	P	**P**	**12 30 18.8**	**-1.5**
WRA	**Warramunga Arr**	**22.77**	**162**	P	**P**	**12 30 18.9**	**-1.5**
	comp=Z,10nm,0.5s,baz=339,slow=11,SNR=52						
WRA				PcP	**PcP**	**12 34 09.5**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=337,slow=2.2,SNR=1.5						
	comp=Z,10nm,0.5s						
WRA	**Warramunga Arr**	**22.77**	**162**	P	**P**	**12 30 18.0**	**-2.4**
WB2	**Warramunga Arr**	**22.78**	**162**	P	**P**	**12 30 19.0**	**-1.4**
WB2				IAmb	IAmb	12 30 21.0	
	comp=Z,24nm,1.0s						
WR0	**Warramunga Arr**	**22.85**	**162**	P	**P**	**12 30 19.8**	**-1.4**
PMG	**Port Moresby**	**22.89**	**120**	LR	LR	12 40 07.3	
	comp=Z,120nm,21.0s,baz=298,slow=39						
PMG	**Port Moresby**	**22.89**	**120**	P	P	12 30 30.9	+9.3
PMG	**Port Moresby**	**22.89**	**120**	P	P	12 30 32.8	+11
YHNB	**Yeheng**	**23.37**	**347**	P	**P**	**12 30 25.5**	**-0.7**
YHNB				IAmb	IAmb	12 31 00.5	
	comp=Z,38nm,1.1s						
MBWA	**Marble Bar**	**23.96**	**197**	P	**P**	**12 30 30.4**	**-1.1**
MBWA				IAmb	IAmb	12 30 59.3	
	comp=Z,18nm,1.1s						
UBPT	**Khong Chiam**	**25.18**	**303**	P	**P**	**12 30 42.4**	**-0.3**
QIS	**Mount Isa**	**25.40**	**152**	P	**P**	**12 30 44.6**	**-0.1**
KRVT	**Keravat (AS076**	**25.64**	**104**	LR	LR	12 39 10.4	
	comp=Z,122nm,20.1s,baz=21,slow=32						
ASAR	**Alice Springs**	**26.20**	**166**	P	**P**	**12 30 48.6**	**-3.3**
	comp=Z,1.8nm,0.6s,baz=356,slow=7.3,SNR=29						
ASAR				PcP	**PcP**	**12 34 16.8**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=350,slow=3.4,SNR=2.1						
ASAR				S	**S**	**12 35 23.2**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=294,slow=23,SNR=1.5						
ASAR				ScP	**ScP**	**12 37 50.0**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=338,slow=2.3,SNR=1.8						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**26.20**	**166**	P	**P**	**12 30 51.2**	**-0.6**
WRKA	**Warakurna**	**26.73**	**178**	P	**P**	**12 30 55.3**	**-1.4**
CTA	**Charters Tower**	**28.77**	**140**	LR	LR	12 44 21.6	
	comp=Z,64nm,21.1s,baz=263,slow=40						
MEEK	**Meekatharra**	**29.47**	**196**	P	**P**	**12 31 20.8**	**-0.3**
OOD	**Oodnadatta**	**30.59**	**165**	P	**P**	**12 31 29.6**	**-1.4**
NJ2	**Nanjing**	**31.05**	**346**	*eP*	**P**	**12 31 35.6**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
JNU	**Nakatsue**	**31.33**	**6**	P	**P**	**12 31 37.4**	**-0.1**
	comp=Z,7.8nm,0.9s,baz=231,slow=17,SNR=2.5						
	comp=Z,7.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.18**	**303**	P	**P**	**12 31 43.5**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=142,slow=7.6,SNR=5.0						
CMAR				PcP	**PcP**	**12 34 32.1**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=129,slow=5.1,SNR=2.0						
	comp=Z,0.6nm,0.3s						
INKA	**Innaminka**	**32.20**	**157**	P	**P**	**12 31 44.7**	**-0.4**
FORT	**Forrest**	**32.44**	**178**	P	**P**	**12 31 45.5**	**-1.7**
FORT	**Forrest**	**32.44**	**178**	P	**P**	**12 31 46.0**	**-1.2**
MORW	**Morawa**	**32.50**	**198**	P	**P**	**12 31 47.0**	**-0.7**
MULG	**Mulgathing**	**32.62**	**169**	P	**P**	**12 31 47.6**	**-1.1**
KMI	**Kunming**	**32.99**	**317**	*iP*	**P**	**12 31 51.5**	**-0.9**
KMI				pP	pwP	12 32 09.3	-0.9
KMI				sP	sP	12 32 18.9	+4.6
KMI				pmax	pmax		
	comp=Z,11nm,1.1s						
BLDU	**Ballidu**	**33.75**	**196**	P	**P**	**12 32 00.3**	**+1.6**
KLBR	**Kellerberrin**	**34.41**	**194**	P	**P**	**12 32 04.1**	**-0.2**
PZH	**PanZhiHua**	**34.57**	**317**	P	**P**	**12 32 04.8**	**-1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,8.4s						
HNR	**Honiara**	**34.58**	**109**	LR	LR	12 47 23.1	
	comp=Z,693nm,18.3s,baz=316,slow=38						
MUN	**Mundaring**	**35.18**	**196**	P	**P**	**12 32 10.9**	**0.0**
KSRS	**Korea Array**	**35.46**	**1**	P	**P**	**12 32 11.1**	**-2.1**
	comp=Z,1.8nm,0.8s,baz=178,slow=9.8,SNR=9.2						
KSRS				PcP	**PcP**	**12 34 41.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=202,slow=3.7,SNR=2.5						
	comp=Z,1.8nm,0.8s						
BBOO	**Buckleboo**	**35.48**	**167**	P	**P**	**12 32 12.5**	**-1.0**
BBOO				IAmb	IAmb	12 32 37.0	
	comp=Z,24nm,1.4s						
BBOO	**Buckleboo**	**35.48**	**167**	P	**P**	**12 32 12.4**	**-1.1**
NWAO	**Narrogin (SRO)**	**35.81**	**194**	P	**P**	**12 32 14.9**	**-1.4**
	comp=Z,10nm,0.9s						
	comp=Z,10nm,0.9s						
NWAO	**Narrogin (SRO)**	**35.81**	**194**	P	**P**	**12 32 15.4**	**-1.0**
TNCH	**TengChong**	**35.95**	**312**	*eP*	**P**	**12 32 19.6**	**+1.7**
MJAR	**Matsushiro Arr**	**36.03**	**15**	P	**P**	**12 32 16.2**	**-2.1**
	comp=Z,3.7nm,0.7s,baz=180,slow=9.7,SNR=16						
MJAR				PcP	**PcP**	**12 34 43.0**	**-0.6**

comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 62.44 333 P P 12 35 38.5 -0.9
GAR Garm 63.48 313 P P 12 35 46.7 -0.1
GAR IAmb IAmb 12 36 09.4
comp=Z,13nm,1.2s
KURK Kurchatov 63.53 328 P P 12 35 46.9 +0.2
KK31 Karatay Array 64.87 318 P P 12 35 55.7 0.0
KKAR Karatay Array 64.87 318 P P 12 35 56.1 +0.4
BRVK Borovoye 69.18 327 P P 12 36 22.7 0.0
BRVK IAmb IAmb 12 36 47.8
comp=Z,15nm,1.1s
NRIK Noril'sk 72.35 346 P P 12 36 41.0 -0.7
comp=Z,3.6nm,0.8s,baz=136,slow=4.9,SNR=5.1
comp=Z,3.6nm,0.8s
GEYT Alibeck 72.37 309 P P 12 36 40.5 -2.0
comp=Z,1.3nm,0.6s,baz=45,slow=8.6,SNR=2.0
comp=Z,1.3nm,0.6s
ABKAR Akbulak array 73.85 321 P P 12 36 50.8 -0.1
ABKAR IAmb IAmb 12 37 14.0
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 73.85 321 P P 12 36 51.0 +0.1
RAR Rarotonga 74.97 112 LR LR 13 10 43.6
comp=Z,128nm,18.4s,baz=284,slow=36
SDPT Sand Point 78.55 34 P P 12 37 17.7 +0.2
VNDA Vanda 81.51 173 P P 12 37 31.9 -1.1
comp=Z,1.3nm,0.8s,baz=292,slow=5.4,SNR=6.2
VNDA LR LR 13 14 28.4
comp=Z,31nm,18.3s,baz=294,slow=36
comp=Z,1.3nm,0.8s
VNDA Vanda 81.51 173 P P 12 37 31.4 -1.6
K20K Telida 83.36 26 P P 12 37 44.1 +1.2
K20K IAmb IAmb 12 37 45.4
comp=Z,7.6nm,1.0s
J20K Nowinta River 83.46 26 P P 12 37 45.2 +1.8
J20K IAmb IAmb 12 38 12.9
comp=Z,4.5nm,0.8s
M20K Styx River 83.56 28 P P 12 37 45.7 +1.6
M20K IAmb IAmb 12 37 46.5
comp=Z,10nm,0.8s
IMAR Indian Mountai 83.92 24 P P 12 37 47.2 +1.5
PPLA Purkeypile 84.14 27 P P 12 37 47.5 +0.3
PPLA IAmb IAmb 12 38 26.2
comp=Z,17nm,1.4s
H23K Yukon River 85.61 24 P P 12 37 55.1 +0.8
I23K Minto, Yukon-K 85.62 25 P P 12 37 54.9 +0.6
I23K IAmb IAmb 12 38 34.7
comp=Z,11nm,1.5s
ILAR Eielson Array 86.65 25 P P 12 37 57.5 -1.9
comp=Z,0.7nm,0.9s,baz=246,slow=5.0,SNR=6.5
comp=Z,0.7nm,0.9s
BMAR Burnt Mountain 87.67 23 P P 12 38 04.9 +0.6
J26L Joseph Creek 88.07 26 P P 12 38 06.0 -0.4
J26L IAmb IAmb 12 38 07.1
comp=Z,3.3nm,0.9s
BCAR Beaver Creek A 88.89 27 P P 12 38 10.2 0.0
QSPA South Pole Qui 91.75 180 P P 12 38 23.2 -0.4
QSPA IAmb IAmb 12 38 57.3
comp=Z,5.6nm,1.4s
FINES FINESS Array B 93.67 332 P P 12 38 32.1 -0.3
comp=Z,6.1nm,1.1s,baz=80,slow=4.5,SNR=1.7
comp=Z,6.1nm,1.1s
CFA Coronel Fontan 147.03 155 PKPbc PKPdf 12 44 57.6 +0.3
comp=Z,2.3nm,0.7s,baz=175,slow=1.8,SNR=5.2

*TEH **07** 12:27:21.3, 35°.92N × 53°.34E, h8km ± 28km, ML3.3*
*AZER **07** 12:27:24.5 ± 1.6, 34°.09N × 48°.57E, h10km, Error ellipse: s-maj=84.0km s-min=11.5km az=87.0*
ISC 07 12:27:21.8 ± 1.1, 35°.92N ± 0°.03 × 53°.34E ± 0°.02, h9km ± 9km, n36, σ 1s 98/45, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHM	**Shahmirzad**	**0.12**	**198**	Pg	**Pg**	**12 27 24.4**	**-0.3**
IFIR	**Firoozkooh**	**0.55**	**240**	Pg	**Pg**	**12 27 32.6**	**+0.1**
IFIR				Sg	**Sg**	**12 27 40.2**	**+0.5**
ILAS	**Lasjerd**	**0.62**	**210**	Pg	**Pg**	**12 27 33.8**	**+0.1**
ILAS				Sg	**Sb**	**12 27 43.0**	**-0.8**
IANJ	**Anjilo**	**0.65**	**134**	Pg	**Pg**	**12 27 34.2**	**-0.2**
IANJ				Sg	**Sg**	**12 27 43.5**	**+0.5**
IGLO	**Ghaloghah**	**0.71**	**34**	Pg	**Pg**	**12 27 34.8**	**-0.6**
IPRN	**Peran**	**0.87**	**292**	Pg	**Pg**	**12 27 38.2**	**-0.4**
IPRN				Sg	**Sb**	**12 27 51.3**	**+0.3**
IDMV	**Damavand**	**1.11**	**253**	Pg	**Pn**	**12 27 43.4**	**-0.5**
MZPU	**Pul - Mazandar**	**1.52**	**291**	Pg	**Pg**	**12 27 50.4**	**-0.6**
MZPU				Sg	**Sg**	**12 28 12.9**	**+2.1**
IVRN	**Varamin**	**1.60**	**235**	Pg	**Pb**	**12 27 51.7**	**0.0**
IVRN				Sg	**Sg**	**12 28 15.0**	**+1.7**
IHSB	**Hasanabad**	**1.75**	**255**	Pg	**Pg**	**12 27 54.2**	**-1.0**
ISFB	**Sefidab**	**1.80**	**210**	Pn	**Pb**	**12 27 55.1**	**0.0**
KLST	**Kelardasht - M**	**1.94**	**289**	Pn	**Pb**	**12 27 57.1**	**-0.4**
IMND	**Minoodasht**	**2.14**	**51**	Pn	**Pb**	**12 27 59.1**	**-1.6**
IQOM	**Qom**	**2.14**	**241**	Pn	**Pb**	**12 27 59.9**	**-1.0**
KRSH	**Karshahi**	**2.18**	**207**	Pn	**Pb**	**12 28 00.7**	**-0.9**
IMHD	**Mahdasht**	**2.18**	**265**	Pn	**Pb**	**12 28 00.8**	**-0.7**
QALM	**Alamut, Qazvin**	**2.24**	**284**	Pn	**Pb**	**12 28 01.8**	**-0.8**
QAMS	**Qamsar**	**2.70**	**217**	Pn	**Pb**	**12 28 07.7**	**-2.8**
ANAR	**Anarak**	**2.74**	**173**	Pn	**Pn**	**12 28 07.8**	**+1.6**
MRVT	**Maraveh tapeh**	**2.81**	**51**	Pn	**Pb**	**12 28 09.3**	**-2.9**
IRAZ	**Razeghan**	**2.82**	**261**	Pn	**Pb**	**12 28 10.1**	**-2.4**
JIR1	**Jirandeh**	**2.96**	**286**	Pn	**Pn**	**12 28 10.7**	**+1.5**
IKLH	**Kolahrood**	**2.97**	**210**	Pn	**Pb**	**12 28 12.4**	**-2.7**
QABG	**Abgarm-Qazvin**	**3.06**	**267**	Pn	**Pn**	**12 28 12.6**	**+2.0**
IZEF	**Zefreh**	**3.13**	**196**	Pn	**Pb**	**12 28 14.8**	**-2.9**
TNSJ	**Nastanj**	**3.32**	**125**	Pn	**Pn**	**12 28 16.4**	**+2.4**
HAGD	**Aghdareh**	**3.60**	**254**	Pn	**Pn**	**12 28 20.3**	**+2.3**
IPIR	**Pirpir**	**3.81**	**213**	Pn	**Pb**	**12 28 24.8**	**-4.6**
TKDS	**Koohdasht(Taba**	**3.87**	**125**	Pn	**Pn**	**12 28 24.2**	**+2.5**
ISFR	**Sfrayin**	**3.92**	**72**	Pn	**Pn**	**12 28 25.4**	**+2.9**
TPRV	**Parvadeh(Tabas**	**4.00**	**135**	Pn	**Pn**	**12 28 26.3**	**+3.0**
HSAM	**Samen**	**4.24**	**248**	Pn	**Pn**	**12 28 28.9**	**+2.1**
ASTR	**Astara**	**4.48**	**307**	P	**Pn**	**12 28 32.1**	**+2.1**
ASTR				S	**Sn**	**12 29 26.1**	**+3.9**
IEMG	**Emamgholi**	**4.53**	**69**	Pn	**Pn**	**12 28 32.6**	**+1.8**
LRK	**Lerik**	**4.82**	**306**	P	**Pn**	**12 28 34.7**	**-0.1**
LRK				S	**Sn**	**12 29 27.2**	**-3.7**
YRD	**Yardimli**	**5.04**	**308**	P	**Pn**	**12 28 37.7**	**-0.1**
YRD				S	**Sn**	**12 29 34.8**	**-1.4**

*NEIC **07** 12:41:04.6 ± 1.1, 20°.5S ± 0°.2 × 177°.7W ± 0°.2, h391km ± 15km, mb4.1/13, Error ellipse: s-maj=25.6km s-min=22.2km az=216.0*
*IDC **07** 12:41:10.2 ± 3.9, 20°.98S × 177°.88W, h448km ± 41km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=24.7km s-min=20.9km az=97.0*
ISC 07 12:41:05.5 ± 0.7, 20°.8S ± 0°.1 × 177°.7W ± 0°.2, h400km, n27, σ 1s 56/28, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.85**	**41**	P	**Pn**	**12 43 08.0**	**-2.5**
LIFNC	**LIFOU**	**14.08**	**267**	P	**P**	**12 44 08.7**	**+0.7**
DZM	**Mont Dzumac**	**14.82**	**262**	P	**P**	**12 44 18.2**	**+2.0**
	4.7nm,0.7s,baz=76,slow=19,SNR=2.2						
DZM	**Mont Dzumac**	**14.82**	**262**	P	**P**	**12 44 17.5**	**+1.3**
URZ	**Urewera**	**18.01**	**193**	P	**P**	**12 44 50.5**	**+0.5**
	6.8nm,0.8s,baz=347,slow=4.4,SNR=8.5						
URZ				S	**S**	**12 47 52.2**	**-3.5**
	7.3nm,0.9s,baz=38,slow=17,SNR=1.8						
BKZ	**Black Stump Fm**	**19.02**	**194**	P	**P**	**12 44 59.5**	**-1.1**
MRZ	**Mangatainoka R**	**20.65**	**195**	P	**P**	**12 45 14.9**	**-0.9**
BBOO	**Buckleboo**	**42.68**	**244**	P	**P**	**12 48 23.9**	**-1.1**
BBOO				IAmb	IAmb	12 48 36.5	
	comp=Z,30nm,1.4s						
WR0	**Warramunga Arr**	**44.65**	**262**	P	**P**	**12 48 39.4**	**-1.4**
WR0				IAmb	IAmb	12 48 45.5	
	comp=Z,6.7nm,1.2s						
AS31	**Alice Springs**	**44.73**	**257**	P	**P**	**12 48 40.5**	**-0.9**
ASAR	**Alice Springs**	**44.73**	**257**	P	**P**	**12 48 40.9**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=96,slow=8.2,SNR=62						
ASAR				PcP	**PcP**	**12 50 16.3**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=105,slow=3.7,SNR=5.0						
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**44.73**	**257**	P	**P**	**12 48 40.7**	**-0.7**
WB0	**Warramunga Arr**	**44.82**	**262**	P	**P**	**12 48 41.1**	**-0.9**
WB0				IAmb	IAmb	12 49 13.5	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**44.83**	**262**	P	**P**	**12 48 41.4**	**-0.7**
WB2				IAmb	IAmb	12 48 48.7	
	comp=Z,16nm,1.5s						
WRAB	**Tennant Creek**	**44.83**	**262**	P	**P**	**12 48 40.7**	**-1.4**
WRAB				IAmb	IAmb	12 48 54.7	
	comp=Z,8.5nm,1.3s						
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**12 48 41.0**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=97,slow=7.7,SNR=34						
	comp=Z,0.9nm,0.3s						
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**12 48 40.8**	**-1.4**
KNRA	**Kununurra**	**50.91**	**266**	P	**P**	**12 49 27.0**	**-1.2**
VNDA	**Vanda**	**57.69**	**185**	P	**P**	**12 50 13.3**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=11,slow=7.0,SNR=2.2						
	comp=Z,0.2nm,0.5s						
VNDA	**Vanda**	**57.69**	**185**	P	**P**	**12 50 17.1**	**+1.8**
QSPA	**South Pole Qui**	**69.32**	**180**	P	**P**	**12 51 33.0**	**+2.1**
QSPA				IAmb	IAmb	12 51 34.1	
	comp=Z,5.6nm,0.8s						
BELA	**Belgrano 2**	**79.28**	**173**	P	**P**	**12 52 28.8**	**+1.5**
BELA				IAmb	IAmb	12 52 29.5	
	comp=Z,3.4nm,0.7s						
NVAR	**Mina Array Bea**	**81.02**	**43**	P	**P**	**12 52 38.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=212,slow=3.2,SNR=1.7						
	comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**88.96**	**43**	P	**P**	**12 53 18.6**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=211,slow=5.1,SNR=3.6						
	comp=Z,0.3nm,0.7s						
AKASG	**Malin Array Be**	**143.36**	**331**	PKP	PKPbc	12 59 49.8	-0.9
	comp=Z,1.4nm,0.6s,baz=37,slow=4.6,SNR=9.2						
CLL	**Collm**	**148.37**	**347**	*e*PKPbc	**PKiKP**	**13 00 06.0**	**-0.6**
GERES	**GERESS Array B**	**150.51**	**345**	PKPbc	**PKiKP**	**13 00 11.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=112,slow=1.4,SNR=7.1						

*KRNET **07** 12:50:36.9 ± 0.1, 41°.61N × 73°.17E, h23km, mb3.7*
*NNC **07** 12:50:36.7 ± 0.8, 41°.65N × 73°.09E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=7.6km s-min=3.5km az=171.0*
*SOME **07** 12:50:36.5, 41°.58N × 73°.17E, h15km*
*KNET **07** 12:50:39.0 ± 0.5, 41°.69N × 73°.33E, h7km ± 2km, ml3.1, Error ellipse: s-maj=3.9km s-min=2.8km az=127.0*
ISC 07 12:50:36.6 ± 1.2, 41°.64N ± 0°.03 × 73°.17E ± 0°.02, h7km ± 10km, n78, σ 1s 47/105, 45C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.62**	**39**	⇑P	**Pb**	**12 50 49.7**	**-0.4**
	151nm,0.1s,SNR=344						
AML				⇑S	**Sb**	**12 50 58.6**	**-0.6**
	1μm,0.5s						
AML	**Almayashu**	**0.62**	**39**	⇓*i*P	**Pb**	**12 50 49.5**	**-0.6**
	baz=37						
AML				⇓*i*S	**Sb**	**12 50 58.6**	**-0.6**
	baz=37						
ARLS	**Aral**	**0.89**	**75**	⇑*i*P	**Pb**	**12 50 53.8**	**-0.7**
	baz=74						
ARLS				⇑*i*S	**Sb**	**12 51 06.0**	**-0.6**
	baz=74						
ARK	**Arkit**	**0.92**	**280**	⇑*i*P	**Pb**	**12 50 54.3**	**-0.6**
	baz=82						
ARK				⇑*i*S	**Sg**	**12 51 06.8**	**+0.7**
	baz=82						
MRKS	**Merke**	**1.10**	**2**	P	**Pg**	**12 50 58.3**	**+0.5**
	52nm,0.2s						
MRKS				S	**Sn**	**12 51 13.5**	**-0.6**
	338nm,0.4s						
MRKS	**Merke**	**1.10**	**2**	*e*P	**Pg**	**12 50 58.3**	**+0.5**
	52nm,0.2s						
MRKS				*e*S	**Sn**	**12 51 13.5**	**-0.6**
	338nm,0.4s						
EKS2	**Erkin-Say**	**1.11**	**24**	⇑P	**Pg**	**12 50 58.4**	**+0.4**
	28nm,0.1s,SNR=19						
EKS2				⇑S	**Sn**	**12 51 13.5**	**-1.0**
	80nm,0.2s						
EKS2	**Erkin-Say**	**1.11**	**24**	⇑*i*P	**Pg**	**12 50 58.1**	**+0.2**
	baz=23						
EKS2				⇑*i*S	**Sn**	**12 51 13.4**	**-1.0**
	baz=23						
OHH	**Osh**	**1.16**	**195**	⇑*i*P	**Pn**	**12 50 57.5**	**-1.8**
	baz=95						
OHH				⇑*i*S	**Sb**	**12 51 12.6**	**-1.6**
	baz=95						
UCH	**Uchtor**	**1.16**	**59**	⇑P	**Pg**	**12 50 59.1**	**+0.2**
	79nm,0.2s,SNR=163						
UCH				⇑S	**Sg**	**12 51 14.5**	**+0.5**
	113nm,0.2s						
UCH	**Uchtor**	**1.16**	**59**	⇓*i*P	**Pn**	**12 50 58.9**	**-0.8**
	baz=58						
UCH				⇓*i*S	**Sn**	**12 51 14.6**	**-1.4**
	baz=58						
AAK	**Ala-Archa**	**1.40**	**44**	⇑P	**Pg**	**12 51 03.4**	**0.0**
	25nm,0.1s,SNR=80						
AAK				⇓S	**Sg**	**12 51 22.1**	**+0.5**
	171nm,0.3s						
AAK	**Ala-Archa**	**1.40**	**44**	⇑*i*P	**Pb**	**12 51 02.9**	**-0.2**
	baz=43						
AAK				⇑*i*S	**Sg**	**12 51 21.9**	**+0.3**
	baz=43						
TRKS	**Terek-Say**	**1.53**	**266**	⇑*i*P	**Pn**	**12 51 04.3**	**-0.2**
	baz=65						
TRKS				⇑*i*S	**Sb**	**12 51 24.5**	**-0.5**
	baz=65						
FRU1	**Bishkek**	**1.59**	**42**	⇓*i*P	**Pb**	**12 51 06.5**	**+0.1**
	baz=42						
FRU1				⇓*i*S	**Sg**	**12 51 27.9**	**+0.2**
	baz=42						
KBK	**Karagaybulak**	**1.67**	**52**	⇑P	**Pg**	**12 51 08.4**	**-0.1**
	103nm,0.2s,SNR=74						
KBK				⇓S	**Sg**	**12 51 31.0**	**+0.9**
	155nm,0.2s						
KBK	**Karagaybulak**	**1.67**	**52**	⇑*i*P	**Pb**	**12 51 07.6**	**-0.1**
	baz=51						
KBK				⇑*i*S	**Sg**	**12 51 29.7**	**-0.4**
	baz=51						
CHMS	**Chumysh**	**1.79**	**40**	⇑P	**Pg**	**12 51 10.6**	**-0.3**
	16nm,0.1s,SNR=25						
CHMS				⇑S	**Sg**	**12 51 34.7**	**+0.5**
	82nm,0.2s						
CHMS	**Chumysh**	**1.79**	**40**	⇑P	**Pg**	**12 51 10.3**	**-0.6**
	14nm,0.4s						
CHMS				⇓S	**Sg**	**12 51 34.3**	**+0.2**
	197nm,0.8s						
CHMS	**Chumysh**	**1.79**	**40**	⇓*i*P	**Pb**	**12 51 09.6**	**-0.2**
	baz=40						
CHMS				⇓*i*S	**Sg**	**12 51 33.3**	**-0.8**
	baz=40						
DZA	**Taraz**	**1.85**	**313**	P	**Pg**	**12 51 11.9**	**-0.1**
	90nm,0.2s						
DZA				S	**Sg**	**12 51 36.6**	**+0.6**
	402nm,0.3s						
DZA	**Taraz**	**1.85**	**313**	*e*P	**Pg**	**12 51 11.9**	**-0.1**
	90nm,0.2s						
DZA				*e*S	**Sg**	**12 51 36.6**	**+0.6**
	402nm,0.3s						
USP	**Ospenovka**	**1.90**	**31**	⇓P	**Pg**	**12 51 12.1**	**-0.8**
	48nm,0.4s,SNR=21						
USP				⇓S	**Sg**	**12 51 38.1**	**+0.6**
	208nm,0.3s						
USP	**Ospenovka**	**1.90**	**31**	⇑*i*P	**Pb**	**12 51 11.2**	**-0.4**
	baz=30						
USP				⇑*i*S	**Sg**	**12 51 36.1**	**-1.4**
	baz=30						
SGDS	**Sogindy**	**2.10**	**30**	Pg	**Pb**	**12 51 15.6**	**+0.4**
	20nm,0.2s						
SGDS				Lg	Lg	12 51 43.9	
	188nm,0.3s						
TKM2	**Tokmak 2**	**2.21**	**54**	⇓P	**Pb**	**12 51 17.1**	**+0.2**
	59nm,0.2s,SNR=51						
TKM2	**Tokmak 2**	**2.21**	**54**	⇓Pn	**Pb**	**12 51 17.2**	**+0.2**
	50nm,0.5s						
TKM2				⇑Lg	Lg	12 51 47.3	
	79nm,0.4s						
TKM2	**Tokmak 2**	**2.21**	**54**	⇑*i*P	**Pb**	**12 51 15.3**	**-1.7**
	baz=53						
TKM2				⇑*i*S	**Sb**	**12 51 43.4**	**-1.2**
	baz=53						
ULHL	**Ulahol**	**2.37**	**74**	⇑P	**Pb**	**12 51 19.5**	**-0.3**
	21nm,0.2s,SNR=9.7						
ULHL	**Ulahol**	**2.37**	**74**	⇓*i*P	**Pb**	**12 51 17.4**	**-2.3**
	baz=73						
ULHL				⇓*i*S	**Sb**	**12 51 47.0**	**-2.2**
	baz=73						
BTK	**Batken**	**2.39**	**229**	⇑*i*P	**Pn**	**12 51 17.4**	**+1.2**
	baz=30						
BTK				⇑*i*S	**Sn**	**12 51 46.8**	**+1.1**
	baz=30						
IUG	**Iuzhnay**	**2.40**	**283**	Pg	**Pb**	**12 51 20.0**	**-0.2**
	38nm,0.2s						
IUG				Lg	Lg	12 51 50.6	
	266nm,0.3s						
IUG	**Iuzhnay**	**2.40**	**283**	*e*Pg	**Pb**	**12 51 20.0**	**-0.2**
	38nm,0.2s						
IUG				*e*Lg	Lg	12 51 50.6	
	266nm,0.3s						
DRK	**Karamyk**	**2.40**	**206**	⇓*i*P	**Pn**	**12 51 17.4**	**+0.8**
	baz=7.0						
DRK				⇓*i*S	**Sn**	**12 51 46.8**	**+0.4**
	baz=7.0						
KK31	**Karatay Array**	**2.45**	**307**	⇑Pg	**Pb**	**12 51 21.4**	**+0.4**
	6.7nm,0.3s,baz=126,slow=16,SNR=281						
KK31				⇑Lg	Lg	12 51 54.4	
	32nm,0.3s,baz=127,slow=27,SNR=14						
KKAR	**Karatay Array**	**2.45**	**307**	⇑*i*P	**Pb**	**12 51 18.7**	**-2.3**
	baz=8.0						
KKAR				⇑*i*S	**Sb**	**12 51 49.2**	**-2.2**
	baz=8.0						
KST	**Kastek**	**2.50**	**55**	Pg	**Pg**	**12 51 23.3**	**-1.2**
	51nm,0.4s						
KST				Lg	Lg	12 51 56.2	
	147nm,0.3s						
KST	**Kastek**	**2.50**	**55**	*e*Pg	**Pg**	**12 51 23.3**	**-1.2**
	51nm,0.4s						
KST				*e*Lg	Lg	12 51 56.2	
	147nm,0.3s						
DGS	**Degeres**	**2.50**	**49**	Pg	**Pg**	**12 51 23.2**	**-1.3**
	19nm,0.2s						
DGS				Lg	Lg	12 51 55.9	
	128nm,0.6s						
DGS	**Degeres**	**2.50**	**49**	*e*Pg	**Pg**	**12 51 23.2**	**-1.3**
	19nm,0.2s						
DGS				*e*Lg	Lg	12 51 55.9	
	128nm,0.6s						
KRBS	**Karabastau**	**2.76**	**41**	Pg	**Pg**	**12 51 27.9**	**-1.6**
	22nm,0.4s						
KRBS				Lg	Lg	12 52 03.9	
	88nm,0.7s						
KRBS	**Karabastau**	**2.76**	**41**	*e*Pg	**Pg**	**12 51 27.9**	**-1.6**
	22nm,0.4s						
KRBS				*e*Lg	Lg	12 52 03.9	
	88nm,0.7s						
MTBS	**Maitube**	**2.83**	**57**	Pg	**Pg**	**12 51 29.2**	**-1.7**
	18nm,0.3s						
MTBS				Lg	Lg	12 52 06.1	
	57nm,0.3s						
MTBS	**Maitube**	**2.83**	**57**	*e*Pg	**Pg**	**12 51 29.2**	**-1.7**
	18nm,0.3s						
MTBS				*e*Lg	Lg	12 52 06.1	
	57nm,0.3s						
KDJ	**Kajisay**	**3.03**	**79**	⇑*i*P	**Pn**	**12 51 26.7**	**+1.5**
	baz=79						
KDJ				⇑*i*S	**Sn**	**12 52 03.2**	**+1.3**
	baz=79						
TNSS	**Tian-Shan**	**3.13**	**62**	Pg	**Pb**	**12 51 34.4**	**+1.7**
	20nm,0.4s						
TNSS				Lg	Lg	12 52 15.1	
	21nm,0.5s						
TNSS	**Tian-Shan**	**3.13**	**62**	*e*Pg	**Pb**	**12 51 34.4**	**+1.7**
	20nm,0.4s						
TNSS				*e*Lg	Lg	12 52 15.1	
	21nm,0.5s						
AAA	**Alma-Ata**	**3.18**	**59**	Pg	**Pg**	**12 51 36.2**	**-1.3**
	34nm,0.2s						
AAA				Lg	Lg	12 52 18.3	
	92nm,0.5s						
AAA	**Alma-Ata**	**3.18**	**59**	*e*Pg	**Pg**	**12 51 36.2**	**-1.3**
	34nm,0.2s						
AAA				*e*Lg	Lg	12 52 18.3	
	92nm,0.5s						
KUU	**Kurty**	**3.24**	**45**	Pg	**Pb**	**12 51 36.3**	**+1.8**
	12nm,0.3s						
KUU				Lg	Lg	12 52 18.5	
	90nm,0.5s						
KUU	**Kurty**	**3.24**	**45**	*e*Pg	**Pb**	**12 51 36.2**	**+1.8**
	12nm,0.3s						
KUU				*e*Lg	Lg	12 52 18.5	
	90nm,0.5s						
MDOK	**Medeo**	**3.25**	**61**	⇑Pg	**Pb**	**12 51 36.4**	**+1.7**
	9.8nm,0.3s						
MDOK				Pg	**Pb**	**12 51 36.4**	**+1.7**
	9.6nm,0.3s						
MDOK				Lg	Lg	12 52 18.8	
	40nm,0.4s						
MDOK				⇑Lg	Lg	12 52 19.6	
	42nm,0.7s						
MDOK	**Medeo**	**3.25**	**61**	*e*Pg	**Pb**	**12 51 36.4**	**+1.7**
	9.6nm,0.3s						
MDOK				*e*Lg	Lg	12 52 18.8	
	40nm,0.4s						
KTBS	**Karatobe**	**3.31**	**50**	Pg	**Pb**	**12 51 37.2**	**+1.5**
	8.4nm,0.4s						
KTBS				Lg	Lg	12 52 20.6	
	116nm,0.4s						
KTBS	**Karatobe**	**3.31**	**50**	*e*Pg	**Pb**	**12 51 37.2**	**+1.5**
	8.4nm,0.4s						
KTBS				*e*Lg	Lg	12 52 20.6	
	116nm,0.4s						
KOTS	**Kotyrbulak**	**3.32**	**60**	Pg	**Pg**	**12 51 38.5**	**-1.7**
	34nm,0.3s						
KOTS				Lg	Lg	12 52 22.2	
	48nm,0.6s						
KOTS	**Kotyrbulak**	**3.32**	**60**	*e*Pg	**Pg**	**12 51 38.5**	**-1.7**
	34nm,0.3s						
KOTS				*e*Lg	Lg	12 52 22.2	
	48nm,0.6s						
GAR	**Garm**	**3.42**	**220**	⇓*i*P	**Pn**	**12 51 31.6**	**+1.1**
	baz=21						
GAR				⇓*i*S	**Sn**	**12 52 11.3**	**-0.1**
	baz=21						
CHKK	**Chushkaly**	**3.58**	**51**	Pg	**Pg**	**12 51 42.5**	**-2.5**
	3.3nm,0.3s						
CHKK				Lg	Lg	12 52 29.1	
	80nm,0.2s						
CHKK	**Chushkaly**	**3.58**	**51**	*e*Pg	**Pg**	**12 51 42.5**	**-2.5**
	3.3nm,0.3s						
CHKK				*e*Lg	Lg	12 52 29.1	
	80nm,0.2s						
KURS	**Kuram**	**4.13**	**62**	Pg	**Pb**	**12 51 52.5**	**+2.9**
	8.1nm,0.6s						
KURS				Lg	Lg	12 52 46.5	
	7.3nm,0.8s						
KURS	**Kuram**	**4.13**	**62**	*e*Pg	**Pb**	**12 51 52.5**	**+2.9**
	8.1nm,0.6s						
KURS				*e*Lg	Lg	12 52 46.5	
	7.3nm,0.8s						
SATY	**Saty**	**4.13**	**68**	Pg	**Pg**	**12 51 53.1**	**-2.6**
	6.8nm,0.3s						
SATY				Lg	Lg	12 52 47.1	
	17nm,0.6s						
SATY	**Saty**	**4.13**	**68**	*e*Pg	**Pg**	**12 51 53.1**	**-2.6**
	6.8nm,0.3s						
SATY				*e*Lg	Lg	12 52 47.1	
	17nm,0.6s						
ZHN	**Zhinishke**	**4.18**	**67**	Pg	**Pb**	**12 51 53.1**	**+2.5**
	9.6nm,0.3s						
ZHN				Lg	Lg	12

MAKZ	**Makanchi**	**8.16**	**48**	⇑Pn		**Pn**	**12 52 39.4**	**+3.9**
	2.3nm,1.2s							
MAKZ				⇓Lg		Lg	12 54 57.1	
	2.4nm,0.7s							
MK31	**Makanchi Array**	**8.33**	**49**	⇓Pn		Pn	12 52 42.6	+4.8
	3.3nm,1.1s,baz=230,slow=13,SNR=9.9							
MK31				⇑Lg		Lg	12 55 01.7	
	4.0nm,0.9s,baz=243,slow=26,SNR=3.6							
KURBB	**Kurchatov Arra**	**9.72**	**21**	⇑Lg		Lg	12 55 44.1	
	14nm,0.8s							
KURK	**Kurchatov**	**9.83**	**21**	⇑Lg		Lg	12 55 48.3	
	7.8nm,0.8s							

*PGC **07** 13:03:16.5±5.2,50.00N×130.22W,h10km,MLSn3.3/11, Mw3.9/11,Mw3.9/11,213km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **07** 13:03:20.4±1.0,50.24N×129.87W,h0km,mb3.7/10, mbtmp3.6/17,ML3.2/7,MS3.1/7,Error ellipse: s-maj=18.6km s-min=12.8km az=67.0*
ISC 07 13:03:21.6±0.8,50.25N±0.06×129.76W±0.06,h10km,n48, σ1§93/42,mb3.7/10,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.11**	**69**	Pn	**Pg**	**13 03 40.7**	**-2.2**
PACB	**Port Alice, BC**	**1.46**	**82**	Pn	**Pn**	**13 03 44.2**	**-3.8**
PACB				Sn	**Sn**	**13 04 06.2**	**-1.0**
PHC	**Port Hardy**	**1.55**	**72**	Pn	**Pn**	**13 03 47.0**	**-2.3**
PHC				Sn	**Sb**	**13 04 09.7**	**-0.4**
MAYB	**Maynard**	**1.66**	**84**	Pn	**Pn**	**13 03 48.8**	**-2.1**
BBB	**Bella Bella**	**2.19**	**27**	Pn	**Pn**	**13 03 56.9**	**-1.2**
	12nm,0.3s,baz=236,slow=5.4,SNR=66						
BBB				Sn	**Sn**	**13 04 25.3**	**0.0**
	18nm,0.3s,baz=307,slow=20,SNR=5.1						
	61nm,0.4s						
BBB	**Bella Bella**	**2.19**	**27**	Pn	**Pn**	**13 03 56.9**	**-1.2**
BBB				Sn	**Sn**	**13 04 25.4**	**0.0**
HG4B	**Hotspring**	**2.24**	**337**	Pn	Pn	13 03 53.1	-5.6
HG4B				Sn	**Sn**	**13 04 22.2**	**-4.2**
NCRB	**Newcastle Ridg**	**2.38**	**85**	Pn	**Pn**	**13 03 57.6**	**-3.1**
BNB	**Barry Inlet**	**2.64**	**333**	Pn	Pn	13 03 58.5	-5.9
CBB	**Campbell River**	**2.83**	**93**	Pn	**Pn**	**13 04 03.7**	**-3.2**
BNKB	**Banks Island**	**3.09**	**358**	Pn	**Pn**	**13 04 07.5**	**-2.9**
BNAB	**Bonilla**	**3.29**	**351**	Pn	**Pn**	**13 04 09.8**	**-3.4**
HWKB	**Hawksbury Isla**	**3.37**	**6**	Pn	**Pn**	**13 04 12.2**	**-2.2**
HWKB				Sn	**Sn**	**13 04 54.0**	**-0.5**
DIB	**Dawson Inlet,**	**3.41**	**331**	Pn	Pn	13 04 09.7	-5.0
H02S1	**DAWSON INLET T**	**3.41**	**331**	Pn	Pn	13 04 09.7	-5.1
GRNB	**Grenville Isla**	**3.60**	**358**	Pn	**Pn**	**13 04 14.6**	**-3.0**
GRNB				Sn	**Sn**	**13 04 58.0**	**-2.1**
KITB	**Kitimat**	**3.90**	**10**	Pn	**Pn**	**13 04 20.4**	**-1.1**
FSB	**Fort Saint Jam**	**5.38**	**36**	P	**Pn**	**13 04 42.2**	**+0.3**
FMW	**Mount Fremont**	**6.31**	**119**	P	**Pn**	**13 04 55.1**	**+0.3**
LTY	**Liberty**	**6.71**	**113**	P	**Pn**	**13 05 00.1**	**-0.1**
T35M	**Bob Quinn**	**6.75**	**358**	P	**Pn**	**13 05 00.4**	**-0.4**
NBC4	**NorthernBC 4**	**7.73**	**42**	P	**Pn**	**13 05 15.5**	**+1.3**
DLBC	**Dease Lake**	**8.21**	**359**	Pn	**Pn**	**13 05 20.1**	**-0.6**
	0.2nm,0.3s,baz=137,slow=19,SNR=1.9						
DLBC				LR	LR	13 08 36.0	
	comp=Z,67nm,20.4s,baz=296,slow=38						
	2.1nm,0.6s						
NBC5	**NorthernBC 5**	**8.40**	**27**	P	**Pn**	**13 05 24.5**	**+1.2**
NEW	**Newport**	**8.50**	**99**	LR	LR	13 08 14.8	
	comp=Z,68nm,21.7s,baz=284,slow=34						
YBH	**Yreka Blue Hor**	**9.82**	**147**	LR	LR	13 08 58.0	
	comp=Z,120nm,19.4s,baz=316,slow=34						
ELK	**Elko**	**13.90**	**128**	Pn	**P**	**13 06 44.6**	**-2.6**
	baz=299,slow=11,SNR=2.1						
ELK				LR	LR	13 11 29.1	
	comp=Z,123nm,19.0s,baz=320,slow=35						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**14.36**	**141**	Pn	**Pn**	**13 06 46.9**	**+1.9**
	0.3nm,0.3s,baz=283,slow=13,SNR=2.3						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**14.81**	**28**	Pn	**Pn**	**13 06 49.5**	**-1.4**
	0.1nm,0.3s,baz=218,slow=12,SNR=8.4						
	0.7nm,1.0s						
KDAK	**Kodiak Island**	**15.34**	**308**	LR	LR	13 11 16.0	
	comp=Z,115nm,20.4s,baz=99,slow=31						
PDAR	**Pinedale Array**	**15.76**	**111**	Pn	**Pn**	**13 07 06.0**	**+2.2**
	baz=304,slow=6.4,SNR=8.1						
PDAR				LR	LR	13 12 44.6	
	comp=Z,72nm,19.9s,baz=310,slow=36						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**17.12**	**335**	P	**Pn**	**13 07 21.4**	**+0.7**
	baz=322,slow=34,SNR=4.0						
ILAR				LR	LR	13 13 42.0	
	comp=Z,52nm,18.8s,baz=113,slow=36						
	0.3nm,0.8s						
ULM	**Lac du Bonnet**	**21.56**	**77**	P	**P**	**13 08 12.0**	**+1.0**
	8.9nm,0.9s,baz=284,slow=11,SNR=8.0						
	8.9nm,0.9s						
ANMO	**Albuquerque**	**22.84**	**123**	P	**P**	**13 08 25.2**	**+0.2**
	1.0nm,0.7s,baz=48,slow=12,SNR=6.0						
	1.0nm,0.7s						
SEY	**Seymchan**	**41.97**	**318**	P	**P**	**13 11 12.5**	**+0.2**
	1.0nm,0.8s,baz=112,slow=5.1,SNR=4.0						
	1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**58.09**	**263**	T	T	14 15 49.1	
	baz=42,slow=75,SNR=72						
H11N3	**WAKE ISLAND Hy**	**58.09**	**263**	T	T	14 15 49.3	
	baz=42,slow=75,SNR=98						
H11N1	**WAKE ISLAND Hy**	**58.11**	**263**	T	T	14 15 50.4	
	baz=42,slow=75,SNR=72						
H11S1	**WAKE ISLAND Hy**	**59.12**	**262**	T	T	14 17 03.0	
	baz=47						
H11S2	**WAKE ISLAND Hy**	**59.12**	**262**	T	T	14 17 05.0	
	baz=47						
H11S3	**WAKE ISLAND Hy**	**59.13**	**262**	T	T	14 17 01.9	
	baz=47						
FINES	**FINESS Array B**	**66.98**	**12**	P	**P**	**13 14 16.2**	**+2.2**
	3.1nm,0.8s,baz=358,slow=15,SNR=4.1						
	3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**72.18**	**339**	P	**P**	**13 14 45.1**	**-1.1**
	0.4nm,0.4s,baz=2.9,slow=5.8,SNR=4.8						
	0.4nm,0.4s						
GERES	**GERESS Array B**	**76.42**	**24**	P	**P**	**13 15 12.9**	**+1.8**
	0.3nm,0.6s,baz=354,slow=8.1,SNR=2.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**76.65**	**342**	P	**P**	**13 15 12.6**	**+0.4**
	0.8nm,0.8s,baz=17,slow=5.2,SNR=6.9						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**77.84**	**13**	P	**P**	**13 15 20.4**	**+1.5**
	0.6nm,0.5s,baz=346,slow=4.5,SNR=4.6						
	0.6nm,0.5s						
ESDC	**Sonseca Array**	**78.59**	**40**	P	**P**	**13 15 23.5**	**+0.2**
	0.1nm,0.3s,baz=287,slow=8.3,SNR=3.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**79.44**	**338**	P	**P**	**13 15 27.7**	**-0.2**
	0.2nm,0.6s,baz=35,slow=4.9,SNR=2.4						
	0.2nm,0.6s						

*IDC **07** 13:26:35.3±1.3,4.78N×125.09E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=92.4km s-min=18.0km az=63.0*
ISC 07 13:26:40.6±1.2,4.7N±0.3×125.1E±0.4,h35km,n6,σ0§92/6, mb3.3/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.16**	**160**	P	**P**	**13 32 11.9**	**0.0**
	0.4nm,0.5s,baz=334,slow=10,SNR=12						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**28.95**	**300**	P	**P**	**13 32 37.3**	**+0.5**
	0.2nm,0.3s,baz=122,slow=8.6,SNR=1.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**29.52**	**163**	P	**P**	**13 32 41.9**	**0.0**
	0.3nm,0.5s,baz=341,slow=7.4,SNR=12						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**39.67**	**158**	P	**P**	**13 34 09.4**	**+0.1**
	0.9nm,0.3s,baz=334,slow=8.6,SNR=4.4						
	0.9nm,0.3s						
SONM	**Songino Array**	**45.83**	**342**	P	**P**	**13 35 00.1**	**+0.8**
	0.2nm,0.4s,baz=152,slow=9.5,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.80**	**326**	P	**P**	**13 36 13.0**	**-1.3**
	0.6nm,0.3s,baz=119,slow=7.6,SNR=17						
	0.6nm,0.3s						

*IDC **07** 13:27:17.7±0.7,13.72N×90.89W,h0km,mb4.4/15, mbtmp4.5/18,ML3.7/2,MS4.3/55,Error ellipse: s-maj=24.6km s-min=10.8km az=41.0*
*GCG **07** 13:27:20.6±2.8,13.48N×91.23W,h10km,MD4.7*
*NEIC **07** 13:27:23.2±2.6,13.53N±0.07×91.21W±0.07,h44km±8km, mb4.9/116,Error ellipse: s-maj=12.0km s-min=7.4km az=224.0*
*GCMT **07** 13:27:24.2±0.2,13.43N±0.02×91.35W±0.02,h28km, MW5.1/103,Moment Tensor Solution. s86,c117; s103,c147; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.10±.15; Mθθ-4.21±.11; Mϕϕ0.10±.12; Mrθ3.21±.19; Mθϕ1.87±.09; Mϕr-1.85±.22; Best double couple: M₀5.83800×10¹⁶ NP1:ϕs117.00000°,δ65.00000°, λ97.00000°. NP2:ϕs282.00000°,δ26.00000°,λ76.00000°. Principal axes: T 5.4670, Plg69.0000°, Azm41.0000°; N 0.7390, Plg6.0000°, Azm294.0000°; P -6.2090, Plg20.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SNET **07** 13:27:27.2±5.7,13.61N×90.99W,h49km,ML5.2*
*UPA **07** 13:27:28.1±9.1,8.28N×92.06W,h0km±999km,MW4.6*
ISC 07 13:27:21.9±0.6,13.53N±0.04×91.23W±0.04,h32km±3km, n539,σ1§65/508,mb4.9/70,MS4.3/60,3C,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.83**	**337**	*eP*	**Pb**	**13 27 39.5**	**+1.5**
FUG	**Fuego 3**	**0.98**	**22**	*eP*	**Pb**	**13 27 41.0**	**+0.4**
PCG	**Pacaya**	**1.05**	**35**	*eP*	**Pb**	**13 27 41.9**	**+0.2**
RTAL	**Retalhuleu**	**1.09**	**335**		**Pn**	**13 27 41.2**	**+0.3**
RTAL				Sn	**Sn**	**13 27 54.1**	**-0.7**
STG3	**Santiaguito 3,**	**1.22**	**344**	*eP*	**Pb**	**13 27 43.7**	**-0.8**
NBG	**Las Nubes**	**1.35**	**39**	*eP*	**Pb**	**13 27 46.9**	**0.0**
RTR	**El Retiro**	**1.58**	**77**	*i P*	**Pn**	**13 27 48.0**	**+0.2**
CEVE	**Cerro Verde**	**1.59**	**79**	*eP*	**Pn**	**13 27 47.8**	**-0.2**
CEVE				*eS*	**Sb**	**13 28 11.2**	**+0.6**
JAYA	**Jayaque - finc**	**1.73**	**86**	*eP*	**Pn**	**13 27 49.5**	**-0.5**
JAYA				*eS*	**Sn**	**13 28 11.9**	**+0.8**
HUEH	**Huehuetenango**	**1.80**	**352**		**Pb**	**13 27 53.1**	**-1.2**
CEDA	**San Andres**	**1.80**	**81**	*eP*	**Pn**	**13 27 50.9**	**+0.1**
CEDA				*eS*	**Sb**	**13 28 17.0**	**+0.4**
BOQS	**Boqueron**	**1.91**	**84**	*eP*	**Pn**	**13 27 52.6**	**+0.3**
SNET	**Serv Nac Est T**	**1.95**	**85**		**Pn**	**13 27 52.9**	**0.0**
MTO3	**Montecristo**	**2.01**	**64**		**Pn**	**13 27 54.9**	**+1.1**
LFU	**La Fuente**	**2.07**	**84**	*eP*	**Pn**	**13 27 55.4**	**+1.0**
ESQI	**Esquipulas**	**2.10**	**61**		**Pn**	**13 27 56.5**	**+1.6**
ESQI	**Esquipulas**	**2.10**	**61**	*eP*	**Pn**	**13 27 56.4**	**+1.5**
ESQI				*eS*	**Sb**	**13 28 24.5**	**-0.6**
LFRS	**El Faro**	**2.11**	**87**	*i P*	**Pn**	**13 27 55.8**	**+0.7**
ALJI	**Alcalda de J**	**2.59**	**94**	*eP*	**Pn**	**13 28 03.2**	**+1.6**
ALJI				*eS*	**Sn**	**13 28 33.5**	**+1.5**
COEB	**Comit de Eme**	**2.62**	**90**	*eP*	**Pn**	**13 28 02.9**	**+0.8**
COEB				*eS*	**Sn**	**13 28 35.1**	**+2.1**
CCIG	**Comitan**	**2.87**	**342**		**Pb**	**13 28 09.2**	**-3.4**
CAHU	**Cacacuatique**	**2.94**	**85**	*eP*	**Pn**	**13 28 07.3**	**+0.7**
FAGO	**Alcalda de S**	**3.04**	**87**	*eP*	**Pn**	**13 28 08.0**	**+0.2**
FAGO				*eS*	**Sn**	**13 28 47.2**	**+4.1**
LCND	**La Caada**	**3.26**	**94**	*eP*	**Pn**	**13 28 11.2**	**+0.4**
LCND				*eS*	**Sn**	**13 28 52.3**	**+3.8**
CNCH	**Conchagua**	**3.31**	**94**	*eP*	**Pn**	**13 28 12.2**	**+0.6**
CNCH				*eS*	**Sb**	**13 28 55.4**	**-4.6**
PETF	**Flores**	**3.61**	**21**		**Pn**	**13 28 16.6**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.88**	**82**		**Pn**	**13 28 18.7**	**-0.8**
CRIN	**San Cristobal**	**4.15**	**101**		**Pn**	**13 28 23.5**	**+0.3**
CNGN	**Cerro Negro**	**4.53**	**103**		**Pn**	**13 28 28.8**	**+0.4**
CMIG	**Matias Romero**	**5.00**	**316**	Pn	**Pn**	**13 28 36.0**	**+1.3**
	8.4nm,0.3s,baz=135,slow=11,SNR=52						
CMIG				Sn	**Sn**	**13 29 31.7**	**+0.3**
	22nm,0.3s,baz=108,slow=14,SNR=5.3						
CMIG				LR	LR	13 30 36.1	
	comp=Z,2μm,21.0s,baz=128,slow=39						
	37nm,0.3s						
BOAB	**BOACO BROADBAN**	**5.53**	**101**		**Pn**	**13 28 41.4**	**-0.6**
ACON	**Acoyapa**	**6.11**	**104**		**Pn**	**13 28 49.8**	**-0.2**
HZTE	**Horizontes, Gu**	**6.18**	**116**	Pn	**Pn**	**13 28 52.9**	**+1.9**
GBS2	**Las Lilas**	**6.25**	**115**	*eP*	Pn	13 29 00.4	+8.5
GBS2				*eS*	**Sn**	**13 30 05.0**	**+2.6**
GBS3	**Finca Las Img**	**6.27**	**115**	*eP*	**Pn**	**13 28 56.6**	**+4.3**
LAPC	**Finca la Perla**	**6.30**	**115**	*i P*	**Pn**	**13 28 56.3**	**+3.7**
GB1A	**Borinquen Arri**	**6.31**	**115**	*eP*	**Pn**	**13 28 55.7**	**+2.9**
GB1A				*eS*	**Sn**	**13 30 05.1**	**+1.3**
BUEV	**Buena Vista**	**6.31**	**115**	*i P*	**Pn**	**13 28 56.2**	**+3.4**
BUEV				*eS*	**Sn**	**13 30 02.8**	**-1.1**
BUAI	**Buenos Aires**	**6.34**	**114**	*i P*	Pn	13 28 58.9	+5.4
BUAI				*eS*	**Sn**	**13 30 01.4**	**-3.1**
VORI	**VORI**	**6.35**	**114**	*eP*	Pn	13 28 58.9	+5.4
GPS3	**Bodega del ICE**	**6.36**	**115**	*eP*	**Pn**	**13 28 56.3**	**+2.8**
GPS1	**Guardaparques**	**6.37**	**115**	*i P*	**Pn**	**13 28 57.0**	**+3.4**
GPS2	**Hotel Rincn d**	**6.38**	**115**	*i P*	**Pn**	**13 28 58.4**	**+4.7**
GP14	**Hacienda Santa**	**6.38**	**115**	*eP*	**Pn**	**13 28 54.4**	**+0.6**
GP77	**Hacienda Santa**	**6.40**	**115**	*eP*	**Pn**	**13 28 58.7**	**+4.7**
ORTG	**Ortega, Santa**	**6.46**	**119**		**Pn**	**13 28 56.5**	**+1.6**
GUAB	**Guayabo de Bag**	**6.50**	**115**	*eP*	**Pn**	**13 28 57.6**	**+2.1**
CLARA	**Aguas Claras**	**6.52**	**114**	*eP*	Pn	13 29 01.2	+5.5
MESS	**Mesas**	**6.52**	**115**	*eP*	Pn	13 29 01.6	+5.9
COLC	**Colonia**	**6.54**	**115**	*i P*	**Pn**	**13 28 59.3**	**+3.3**
HORNC	**Hornillas**	**6.55**	**115**	*eP*	**Pn**	**13 29 00.2**	**+4.2**
SAAN	**San Antonio**	**6.56**	**120**	*i P*	**Pn**	**13 28 57.7**	**+1.5**
DUNO	**Dulce Nombre,**	**6.58**	**121**		**Pn**	**13 28 56.1**	**-0.3**
CANAL	**Canalete**	**6.61**	**113**	*eP*	**Pn**	**13 28 58.5**	**+1.7**
MOTZ	**Rio Naranjo**	**6.65**	**114**	*eP*	**Pn**	**13 29 01.4**	**+3.9**
ACAL	**Aguas Claras**	**6.71**	**115**	*i P*	**Pn**	**13 29 01.2**	**+2.9**
PTEN	**Parque Tenorio**	**6.71**	**114**	*eP*	**Pn**	**13 29 01.2**	**+2.8**
COTE	**Lago Cote**	**6.84**	**115**	*eP*	**Pn**	**13 29 03.9**	**+3.8**
ESPN	**Las Esperanzas**	**6.89**	**100**	Pn	**Pn**	**13 29 01.9**	**+1.3**
JTS	**Las Juntas de**	**6.94**	**117**	Pn	**Pn**	**13 29 00.0**	**-1.4**
	5.3nm,0.3s						
JTS	**Las Juntas de**	**6.94**	**117**	Pn	**Pn**	**13 29 01.5**	**+0.1**
TABAC	**Tabacon**	**7.00**	**115**	*i P*	**Pn**	**13 29 06.8**	**+4.5**
CASO	**Castillo**	**7.06**	**115**	*i P*	**Pn**	**13 29 05.8**	**+2.6**
CEDE	**Laguna Cedeo**	**7.07**	**115**	*i P*	**Pn**	**13 29 07.8**	**+4.6**
FORC	**Fortuna**	**7.10**	**115**	*eP*	**Pn**	**13 29 06.1**	**+2.4**
TEIG	**Tepich**	**7.23**	**23**	Pn	**Pn**	**13 29 08.6**	**+3.2**
COVE	**Coope Vega, Sa**	**7.24**	**112**	Pn	**Pn**	**13 29 05.4**	**-0.1**
JACO	**JACO, Garabito**	**7.50**	**120**		**Pn**	**13 29 10.4**	**+1.3**
HDC	**Heredia**	**7.80**	**116**	*eS*	Sn	13 30 54.3	+14
HDC	**Heredia**	**7.80**	**116**	*eP*	Pn	13 29 24.7	+11
RIMA	**Rio Macho**	**8.13**	**117**		**Pn**	**13 29 21.1**	**+3.2**
TLIG	**Tlapa**	**8.13**	**300**	Pn	**Pn**	**13 29 17.8**	**0.0**
BATAN	**Batan**	**8.41**	**113**	*eP*	Pb	13 29 41.3	-5.5
BATAN				*eS*	Sb	13 31 12.6	-14
SRBA	**San Rafael, Bu**	**8.82**	**118**	Pn	**Pn**	**13 29 29.4**	**+2.1**
CNI2	**El Empalme, Bo**	**9.50**	**115**	*eS*	**Sn**	**13 31 25.3**	**+2.9**
BRU2	**Volcan**	**9.61**	**118**	Pn	**Pn**	**13 29 39.9**	**+1.7**
BRU2	**Volcan**	**9.61**	**118**	*eP*	**Pn**	**13 29 39.9**	**+1.7**
BRU2				*eS*	**Sn**	**13 31 24.8**	**-0.4**
BRU2	**Volcan**	**9.61**	**118**	*eP*	**Pn**	**13 29 40.7**	**+2.5**
BC3P	**Paso Ancho**	**9.67**	**118**	*eP*	**Pn**	**13 29 41.1**	**+2.1**
BC3P				*eS*	**Sn**	**13 31 24.3**	**-2.4**
DVD	**David**	**9.99**	**120**	*eS*	**Sn**	**13 31 37.5**	**+3.1**
BCIP	**Isla Barro Col**	**11.98**	**110**	*eP*	**Pn**	**13 30 06.7**	**-3.9**
SOR	**Soroa**	**12.07**	**39**	Pn	**Pn**	**13 30 13.5**	**+1.7**
MTDJ	**Mount Denham**	**13.97**	**69**		**Pn**	**13 30 39.0**	**+1.1**
PAYG	**Puerto Ayora**	**14.14**	**176**	Pn	**Pn**	**13 30 38.4**	**-1.7**
061Z	**Ochoppi**	**15.64**	**37**		**Pn**	**13 31 01.9**	**+1.9**
061Z				IAmb	IAmb	13 31 08.2	
	comp=Z,115nm,1.0s						
SJCC	**San Jacinto, C**	**16.12**	**101**	*eP*	**Pn**	**13 31 07.8**	**+1.4**
DBBC	**Dabeiba**	**16.13**	**112**	*eP*	**P**	**13 31 10.3**	**+0.9**
UREC	**San Jos de Ur**	**16.46**	**109**	*eP*	**P**	**13 31 12.8**	**-0.2**
833A	**Chaparral WMA,**	**16.57**	**334**	Pn	**Pn**	**13 31 11.3**	**-0.5**
833A	**Chaparral WMA,**	**16.57**	**334**	P	**P**	**13 31 16.5**	**+2.4**
	baz=150						
PLMC	**San Jos del P**	**17.05**	**119**	*eP*	**Pn**	**13 31 18.6**	**+0.5**
DWPF	**Disney Wildern**	**17.14**	**31**	P	**P**	**13 31 20.4**	**0.0**
	baz=213						
ZARC	**Zaragoza, Cauc**	**17.17**	**109**	*eP*	**Pn**	**13 31 19.8**	**+0.3**
YOTC	**Yotoco, Valle**	**17.49**	**122**	*eP*	**P**	**13 31 26.1**	**+1.6**
GUY2C	**Guyana, Caldas**	**17.68**	**116**	*eP*	**P**	**13 31 28.1**	**+1.0**
PTBC	**PUERTO BERRIO,**	**17.91**	**111**	*eP*	**Pn**	**13 31 28.9**	**+0.2**
BRAL	**Brewton**	**17.97**	**12**	P	**P**	**13 31 31.9**	**+2.3**
	baz=192						
GCUF	**Volcan Galeras**	**18.39**	**131**	*eP*	**Pn**	**13 31 39.8**	**+4.7**
ORTC	**Ortega, Tolima**	**18.45**	**120**	*eP*	**Pn**	**13 31 37.3**	**+2.0**
VBMS	**Vicksburg**	**18.61**	**2**	P	**Pn**	**13 31 39.4**	**+2.3**
	baz=181						
JCT	**Junction City**	**18.63**	**336**	P	**P**	**13 31 35.1**	**-1.8**
JCT	**Junction City**	**18.63**	**336**	P	**Pn**	**13 31 40.2**	**+2.8**
	baz=152						
ROSC	**El Rosal**	**18.78**	**116**	P	**P**	**13 31 37.9**	**-1.2**
	comp=Z,2.4nm,0.3s,baz=16,slow=19,SNR=12						
	comp=Z,9.5nm,0.5s						

BARC	**Barichara**	**19.05**	**109**	*eP*	**Pn**	**13 31 42.9**	**+0.1**
TIGA	**Tifton**	**19.16**	**20**	P	**P**	**13 31 43.2**	**+0.5**
	baz=202						
GARC	**Garzon, Huila**	**19.22**	**125**	*eP*	**Pn**	**13 31 46.9**	**+2.1**
PAMC	**Pamplona, Colo**	**19.23**	**107**	*eP*	**Pn**	**13 31 45.0**	**-0.2**
WHTX	**Lake Whitney,**	**19.24**	**344**	P	**Pn**	**13 31 44.4**	**-0.3**
WHTX	**Lake Whitney,**	**19.24**	**344**	P	**Pn**	**13 31 44.7**	**0.0**
	baz=161						
CHIC	**Chingaza**	**19.39**	**116**	*eP*	**Pn**	**13 31 48.4**	**+1.3**
RUSC	**La Rusia**	**19.42**	**111**		**P**	**13 31 45.7**	**-0.5**
RUSC	**La Rusia**	**19.42**	**111**	*eP*	**Pn**	**13 31 48.0**	**+0.6**
FLOC	**Florencia**	**19.45**	**126**	*eP*	**Pn**	**13 31 49.3**	**+1.9**
TXAR	**Lajitas Array**	**19.50**	**326**	P	**Pn**	**13 31 49.6**	**+1.7**
TX31	**Lajitas Ar. Si**	**19.50**	**326**	P	**Pn**	**13 31 49.7**	**+1.7**
TX32	**Lajitas Array**	**19.50**	**326**	P	**Pn**	**13 31 49.7**	**+1.8**
H06E1	**SOCORRO T-PHAS**	**19.62**	**288**	T	T	13 52 04.5	
	SNR=872						
Z47A	**Carrollton**	**19.79**	**8**	P	**P**	**13 31 49.0**	**-0.5**
Z47A				IAmb	IAmb	13 31 56.9	
	comp=Z,94nm,1.2s						
LRAL	**Lakeview Retre**	**19.80**	**11**	P	**Pn**	**13 31 50.5**	**-0.8**
LRAL	**Lakeview Retre**	**19.80**	**11**	P	**P**	**13 31 49.9**	**+0.4**
	baz=192						
TAMC	**Tame, Arauca**	**20.39**	**108**	*eP*	**P**	**13 31 55.5**	**-0.8**
Z51A	**Franklin**	**20.45**	**15**	P	**P**	**13 31 57.2**	**+0.4**
Z51A				IAmb	IAmb	13 32 06.6	
	comp=Z,39nm,0.5s						
ABTX	**Abilene, Hawle**	**20.50**	**339**	P	**P**	**13 31 58.1**	**+0.8**
ABTX	**Abilene, Hawle**	**20.50**	**339**	P	Pn	13 31 59.0	-0.7
	baz=155,SNR=12						
MACC	**Macarena, Meta**	**20.58**	**122**	*eP*	Pn	13 32 01.9	+1.2
Y49A	**Blount Mountai**	**20.70**	**11**	P	**P**	**13 31 58.0**	**-1.5**
Y49A				IAmb	IAmb	13 32 01.2	
	comp=Z,102nm,1.7s						
SDV	**Santo Domingo**	**20.72**	**101**	P	**P**	**13 31 57.6**	**-2.5**
	comp=Z,6.8nm,0.5s,baz=251,slow=5.3,SNR=8.8						
SDV				S	**S**	**13 35 48.7**	**-1.3**
	comp=Z,3.6nm,0.7s,baz=260,slow=15,SNR=3.3						
	comp=Z,6.8nm,0.5s						
SDV	**Santo Domingo**	**20.72**	**101**	P	**P**	**13 31 58.7**	**-1.3**
SDV	**Santo Domingo**	**20.72**	**101**	*eP*	**P**	**13 31 59.9**	**-0.1**
LPIG	**La Paz**	**20.87**	**303**	LR	LR	13 40 40.0	
	comp=Z,589nm,18.6s,baz=160,slow=38						
OXF	**Oxford**	**20.95**	**4**	P	**P**	**13 32 03.0**	**+0.9**
	baz=184						
PTGC	**Puerto Gaitan,**	**21.00**	**114**	*eP*	**P**	**13 32 03.0**	**+0.1**
MIAR	**Mount Ida**	**21.03**	**355**	P	**P**	**13 32 03.3**	**+0.3**
MIAR	**Mount Ida**	**21.03**	**355**	P	**P**	**13 32 04.8**	**+1.9**
	baz=173						
UALR	**University of**	**21.18**	**357**	P	**P**	**13 32 04.5**	**-0.1**
UALR				IAmb	IAmb	13 32 23.6	
	comp=Z,48nm,1.1s						
Y52A	**Lilburn**	**21.26**	**17**	P	**P**	**13 32 03.5**	**-2.0**
Y52A				IAmb	IAmb	13 32 10.9	
	comp=Z,82nm,1.4s						
X37A	**Clayton**	**21.30**	**351**		**P**	**13 32 05.8**	**0

comp=Z,4.8nm,0.6s
ANMO Albuquerque 25.38 330 P P 13 32 46.4 -0.1
ANMO Albuquerque 25.38 330 P P 13 32 48.7 +2.1
baz=143
R50A Paris 25.40 13 P P 13 32 45.7 -0.8
R50A IAmb IAmb 13 33 16.2
comp=Z,23nm,0.9s
BLA Blacksburg 25.48 20 P P 13 32 47.7 +0.4
baz=204
TUC Tucson 25.88 319 P P 13 32 53.9 +2.9
baz=131
P40A Paris 25.91 359 P P 13 32 49.8 -1.3
KSU1 Kansas State U 25.91 350 P P 13 32 52.3 +1.2
baz=167
P38A Dawn 26.07 356 P P 13 32 50.6 -1.9
CBKS Cedar Bluff 26.29 345 P P 13 32 56.7 +2.2
baz=160
T25A Trinidad 26.30 336 P P 13 32 57.2 +2.3
baz=149
Q51A Peebles 26.33 14 P P 13 32 53.5 -1.4
Q51A IAmb IAmb 13 33 19.0
comp=Z,48nm,1.1s
P49A Miami Univ. Ec 26.53 11 P P 13 32 57.9 +1.3
baz=194
X18A Snowflake 26.91 324 P P 13 33 02.9 +2.4
X18A IAmb IAmb 13 33 04.8
comp=Z,60nm,1.8s
214A Organ Pipe Nat 26.97 316 P P 13 33 03.1 +2.3
baz=128
HDIL Hopedale 26.98 3 P P 13 33 01.2 +0.6
baz=184
SFIN Lafayette 26.99 7 P P 13 33 00.2 -0.6
baz=188
O48B Farmland 27.15 10 P P 13 33 03.0 +0.7
baz=192
P52A Corning 27.21 15 P P 13 33 02.3 -0.5
baz=199
W18A Petrified Fore 27.22 325 P P 13 33 05.9 +2.7
baz=137,SNR=6.3
SDCO Great Sand Dun 27.26 335 P P 13 33 05.7 +2.1
baz=148
SGCB St.o Gabriel d 27.55 118 eP P 13 33 05.2 -0.9
ACSO Alum Creek Sta 27.57 14 P P 13 33 06.4 +0.5
baz=197
S22A 4UR Ranch, Cre 27.83 333 P P 13 33 10.9 +2.1
baz=145
O53A New Philadelph 28.03 16 P P 13 33 09.1 -1.1
baz=200
MVCO Mesa Verde 28.18 330 P P 13 33 14.0 +2.2
MVCO IAmb IAmb 13 33 15.3
comp=Z,47nm,1.6s
MVCO Mesa Verde 28.18 330 P P 13 33 14.4 +2.7
baz=142,SNR=8.0
WUAZ Wupatki 28.43 324 P P 13 33 17.3 +3.3
baz=135,SNR=11
GLA Glamis 28.99 316 P P 13 33 21.3 +2.5
baz=126
PV13 Radium Mtn., P 29.08 331 P P 13 33 20.5 +0.6
NNA Nana 29.09 150 LR LR 13 42 47.0
comp=Z,466nm,20.8s,baz=325,slow=32
PV11 David Mesa, Pa 29.22 331 P P 13 33 21.7 +0.7
PV11 IAmb IAmb 13 33 25.4
comp=Z,41nm,1.6s
SSPA Standing Stone 29.42 21 P P 13 33 21.5 -1.0
baz=207
SWSC Sam W. Stewart 29.59 315 P P 13 33 25.7 +1.6
baz=125
IKP In-Ko-Pah, Jac 29.64 314 P P 13 33 26.8 +2.2
baz=124
BC3 Big Chuckawall 29.77 316 P P 13 33 28.8 +3.0
baz=126,SNR=7.8
IRM Iron Mountain 29.86 318 P P 13 33 29.0 +2.5
baz=127
MONP2 Monument Peak 29.99 314 P P 13 33 30.5 +2.6
baz=124
N23A Red Feather La 30.14 337 P P 13 33 30.3 +1.1
baz=150
KNB Kanab 30.32 324 P P 13 33 31.6 +0.8
KNB IAmb IAmb 13 33 35.2
comp=Z,57nm,1.7s
BELC Belle Mtn. Jos 30.34 316 P P 13 33 32.8 +1.9
baz=126
TPFO Pinon Flats 30.41 315 P P 13 33 34.4 +2.9
baz=125
PFO Pinyon Flats O 30.42 315 LR LR 13 47 04.7
comp=Z,468nm,18.2s,baz=127,slow=39
PFO Pinyon Flats O 30.42 315 P P 13 33 34.2 +2.6
baz=125
PFO Pinyon Flats O 30.42 315 P P 13 33 35.2 +3.6
PFO pP sP 13 33 44.8 0.0
O20A White River Ci 30.42 334 P P 13 33 33.9 +2.2
baz=145
ECSD EROS Data Cent 30.45 352 P P 13 33 32.0 +0.5
baz=169
109C Camp Elliot, M 30.47 314 P P 13 33 34.4 +2.6
baz=125
GMRC Granite Mounta 30.58 318 P P 13 33 35.9 +2.8
baz=127
WVNY West Valley, N 30.78 18 P P 13 33 32.8 -1.7
L56A Greenwood 30.87 20 P P 13 33 33.7 -1.6
MURC Murrieta 30.92 315 P P 13 33 38.6 +2.7
baz=124
MSU Marysvale 31.05 327 P P 13 33 37.1 -0.1
HEC Hector,Ludlow 31.05 317 P P 13 33 40.5 +3.4
baz=126
TUQ Turquoise Moun 31.15 319 P P 13 33 41.1 +3.1
baz=128
TEFE Tefe 31.36 121 eP P 13 33 42.2 +2.3
BFSC Mount Baldy Ra 31.60 315 P P 13 33 44.8 +2.8
baz=124
GSC Goldstone, Bar 31.64 318 P P 13 33 45.4 +3.1
baz=126
CIS Catalina Islan 31.67 313 P P 13 33 45.5 +3.0
baz=122
K22A Casper 31.89 338 P P 13 33 46.1 +1.6
baz=150
MPU Maple Canyon 31.90 330 P P 13 33 45.3 +0.7
MPU IAmb IAmb 13 33 48.1
comp=Z,26nm,1.6s
EDW2 Edwards Air Fo 32.19 316 P P 13 33 49.7 +2.6
baz=124
TPNV Topopah Spring 32.31 321 P P 13 33 52.1 +3.9
baz=129
LRMC Laurel Mtn Rad 32.33 317 P P 13 33 51.1 +2.8
baz=126
RSSD Black Hills 32.40 343 P P 13 33 49.3 +0.3
RSSD sP sP 13 34 03.5 +1.3
MPMC Manual Prospec 32.54 318 P P 13 33 52.9 +2.5
baz=126,SNR=6.4
SPR3 Spring Creek 3 32.56 325 P P 13 33 51.8 +1.2
SPR3 IAmb IAmb 13 33 54.4
comp=Z,40nm,1.5s
DUG Dugway, Tooele 32.62 328 P P 13 33 53.3 +2.3
baz=138
SADO Sadowa 32.80 16 LR LR 13 47 42.6
comp=Z,853nm,21.9s,baz=204,slow=38
R11A Troy Canyon, C 32.83 323 P P 13 33 56.1 +3.4
baz=132,SNR=17
ARVC Arvin 32.89 316 P P 13 33 56.6 +3.4
baz=124
ISA Isabella, Lake 32.96 317 P P 13 33 57.4 +3.6
baz=125
CWC Cottonwood Cre 33.15 318 P P 13 33 59.0 +3.4
baz=126
PDAR Pinedale Array 33.16 335 P P 13 33 56.5 +0.9
comp=Z,0.7nm,0.6s,baz=130,slow=9.5,SNR=12
PDAR PcP PcP 13 36 38.5 +0.2
comp=Z,1.0nm,0.6s,baz=147,slow=4.9,SNR=13
PDAR ScP ScP 13 40 23.8 +3.5
comp=Z,0.1nm,0.5s,baz=120,slow=5.3,SNR=1.7
PDAR LR LR 13 50 00.9
comp=Z,396nm,19.3s,baz=148,slow=41
comp=Z,0.7nm,0.6s
BGU Big Grassy Mou 33.28 329 P P 13 33 57.1 +0.4
BGU IAmb IAmb 13 34 00.4
comp=Z,28nm,1.6s
VES Vestal, Richgr 33.47 316 P P 13 34 01.3 +3.1
baz=124,SNR=6.3
HRV Adam Dziewonsk 33.52 27 P P 13 33 59.6 +1.1
baz=216
TIN Tinemaha, Big 33.62 319 P P 13 34 02.9 +3.3
baz=127
SMMC Simmler 33.79 315 P P 13 34 04.9 +3.8
baz=122
ETMB Extrema 33.98 132 P P 13 34 02.4 -0.4
ETMB IAmb IAmb 13 34 04.6
comp=Z,55nm,1.7s

ELK Elko 34.29 327 LR LR 13 49 50.5
comp=Z,593nm,20.6s,baz=149,slow=39
ELK Elko 34.29 327 P P 13 34 05.1 -0.4
ELK IAmb IAmb 13 34 09.7
comp=Z,20nm,1.5s
ELK PcP 13 36 42.8 +1.3
MLAC Mammoth, Mammo 34.35 319 P P 13 34 06.3 +0.2
baz=127
NVAR Mina Array Bea 34.50 321 P P 13 34 10.2 +2.8
comp=Z,6.4nm,0.6s,baz=133,slow=7.9,SNR=42
NVAR PcP PcP 13 36 43.5 +1.4
comp=Z,3.0nm,0.6s,baz=133,slow=3.3,SNR=7.7
NVAR ScP ScP 13 40 28.7 +3.6
comp=Z,0.2nm,0.3s,baz=262,slow=19,SNR=2.0
comp=Z,6.4nm,0.6s
NVAR Mina Array Bea 34.50 321 P P 13 34 11.0 +3.6
NVAR PcP 13 36 44.1 +2.0
MACA Manacapuru-AM 34.55 117 eP P 13 34 07.9 +0.1
AGMN Agassiz Nation 34.88 355 P P 13 34 09.8 -0.4
baz=172
MDND Maddock 34.92 350 P P 13 34 10.5 -0.1
baz=165
H17A Grant Village 34.92 335 P P 13 34 13.6 +2.6
baz=145
RLMT Red Lodge 35.02 338 P P 13 34 14.3 +2.5
baz=148
WAKR Walker 35.25 320 P P 13 34 17.0 +3.1
LAO LASA Array 35.38 342 P P 13 34 16.4 +1.8
baz=154
YERR Yerington 35.42 321 P P 13 34 17.3 +2.0
SAML Samuel 35.69 127 P P 13 34 15.7 -1.9
SAML pP pP 13 34 25.6 -1.4
SAML sP sP 13 34 30.7 -0.2
HLID Hailey 35.95 331 P P 13 34 21.7 +2.0
baz=139,SNR=11
MCMT McKenzie Canyo 36.22 334 P P 13 34 23.4 +1.3
BOZ Bozeman (W) 36.33 336 P P 13 34 24.8 +1.8
baz=145
DGMT Dagmar 36.46 345 P P 13 34 24.9 +1.0
baz=158
PKME Peaks-Kenny Pk 36.70 26 P P 13 34 25.6 -0.2
baz=217
ULM Lac du Bonnet 36.81 355 P P 13 34 24.9 -1.9
comp=Z,4.6nm,0.7s,baz=167,slow=9.0,SNR=6.7
ULM LR LR 13 52 45.2
comp=Z,264nm,19.4s,baz=184,slow=42
comp=Z,4.6nm,0.7s
LPAZ La Paz 37.41 142 eP P 13 34 34.4 +1.6
EGMT Eagleton 37.68 340 P P 13 34 36.1 +1.8
baz=149
PLID Pearl Lake 37.84 331 P P 13 34 35.9 +0.1
PLID IAmb IAmb 13 34 38.4
comp=Z,41nm,1.8s
MSO Missoula 38.27 335 P P 13 34 41.2 +1.8
baz=142
MDP Montagnes des 38.94 99 LR LR 13 51 37.4
comp=Z,390nm,21.5s,baz=302,slow=38
YBH Yreka Blue Hor 39.19 322 LR LR 13 53 09.7
comp=Z,496nm,18.9s,baz=148,slow=40
ITTB Itaituba 39.47 114 eP P 13 34 48.7 -0.9
MALB Monte Alegre 39.71 110 eP P 13 34 50.6 -1.0
VILB Vilhena 40.47 129 eP P 13 34 58.1 +0.1
H04A Detroit Lake 40.72 326 P P 13 34 59.6 -0.1
NEW Newport 40.75 333 LR LR 13 54 57.0
comp=Z,349nm,18.1s,baz=138,slow=41
NPGB Novo Progresso 41.07 118 eP P 13 35 00.8 -2.1
SIV San Ignacio 41.83 134 P P 13 35 08.4 -0.7
comp=Z,8.2nm,0.7s,baz=306,slow=8.0,SNR=35
SIV LR LR 13 51 57.6
comp=Z,578nm,19.8s,baz=330,slow=36
comp=Z,8.2nm,0.7s
LON Longmire 41.88 328 P P 13 35 10.1 +0.9
LON IAmb IAmb 13 35 12.1
comp=Z,45nm,1.6s
FFC Flin Flon 41.95 351 P P 13 35 08.8 -0.8
LVC Limon Verde 42.05 148 LR LR 13 52 33.0
comp=Z,380nm,18.1s,baz=321,slow=36
PDRB Porto dos Gac 42.37 125 eP P 13 35 13.4 -0.1
CLDB Colider 42.70 123 eP P 13 35 16.6 +0.3
PTLB Pontes e Lacer 42.86 131 eP P 13 35 17.9 +0.5
BBSD Serra de San D 42.96 134 eP P 13 35 17.4 -0.9
EDM Edmonton 43.32 341 P P 13 35 20.7 -0.1
EDM IAmb IAmb 13 35 21.2
comp=Z,23nm,1.2s
RPN Rapa Nui 44.07 203 LR LR 13 49 11.2
comp=Z,515nm,19.0s,baz=34,slow=30
FCC Fort Churchill 45.20 358 P P 13 35 34.1 -1.4
SCHQ Schefferville 45.40 20 P P 13 35 35.4 -2.0
comp=Z,33nm,0.9s,baz=223,slow=8.1,SNR=22
SCHQ PcP PcP 13 37 15.7 -0.5
comp=Z,4.4nm,0.7s,baz=254,slow=6.5,SNR=3.9
SCHQ LR LR 13 55 40.6
comp=Z,591nm,19.6s,baz=237,slow=38
comp=Z,33nm,0.9s
SCHQ Schefferville 45.40 20 P P 13 35 35.4 -2.0
TMAB Tom-Au,PA,Br 45.60 107 eP P 13 35 37.6 -1.9
SALV Santo Antonio 45.71 129 eP P 13 35 39.3 -1.0
LCO Las Campanas 46.72 155 P P 13 35 49.7 +1.4
WAPA Wapiti River 46.93 338 P P 13 35 49.6 +0.2
SNDB Serra Nova Dou 47.01 121 eP P 13 35 49.3 -1.3
PP1B Ponte de Pedra 47.37 130 eP P 13 35 53.8 +0.5
H03N2 Juan Fernandez 48.16 166 T T 14 27 30.8
baz=347,slow=76,SNR=19
H03N1 Juan Fernandez 48.16 166 T T 14 27 38.4
baz=347,slow=76,SNR=28
H03N3 Juan Fernandez 48.18 166 T T 14 27 37.2
baz=347,slow=76,SNR=28
ARAG Araguaiana, MT 48.61 125 eP P 13 36 01.4 -1.6
SMTB Santa Maria do 48.70 115 eP P 13 36 02.7 -1.0
CFA Coronel Fontan 50.01 154 LR LR 13 53 08.8
comp=Z,241nm,21.2s,baz=3.5,slow=31
AMBA Amambai (Brazi 50.72 135 eP P 13 36 18.1 -0.7
CPUP Villa Florida 51.55 140 LR LR 13 59 40.0
comp=Z,347nm,18.0s,baz=330,slow=38
BDFB Brasilia 51.64 123 P P 13 36 25.2 -0.8
comp=Z,3.3nm,0.8s,baz=278,slow=6.6,SNR=3.5
BDFB LR LR 13 58 15.7
comp=Z,231nm,18.9s,baz=303,slow=36
comp=Z,3.3nm,0.8s
YKA Yellowknife Ar 51.65 346 P P 13 36 24.7 -0.6
comp=Z,2.7nm,0.6s,baz=149,slow=7.5,SNR=46
YKA PcP PcP 13 37 38.5 -0.1
comp=Z,0.7nm,0.7s,baz=150,slow=3.5,SNR=4.4
YKA LR LR 14 02 36.4
comp=Z,209nm,19.0s,baz=80,slow=41
comp=Z,2.7nm,0.6s
KOTAN Kotaneelee Air 52.38 340 P P 13 36 32.5 +1.7
baz=138
FRB Frobisher Bay 52.60 12 LR LR 13 59 53.8
comp=Z,501nm,18.2s,baz=202,slow=37
SDBA SAO DESIDERIO 52.66 117 eP P 13 36 32.2 -1.4
IPMB Ipameri, GO 52.74 125 eP P 13 36 32.6 -1.5
DLBC Dease Lake 53.38 336 LR LR 14 02 02.3
comp=Z,243nm,20.4s,baz=103,slow=39
DLBC Dease Lake 53.38 336 P P 13 36 39.2 +0.9
DLBC IAmb IAmb 13 36 42.0
comp=Z,17nm,1.1s
DLBC Dease Lake 53.38 336 P P 13 36 39.9 +1.6
baz=130
TAOE Nuku Hiva Isla 53.41 248 eS S 13 44 10.4 +0.6
comp=Z,210nm,24.4s
TAOE eSS SKiKP 13 47 53.6 -0.1
comp=Z,67nm,25.9s
TAOE eLR LR 13 52 12.4
comp=Z,242nm,21.4s
TAOE Nuku Hiva Isla 53.41 248 eT T 14 33 57.2
comp=Z,57nm,0.2s
S34M Telegraph Cree 53.50 335 P P 13 36 40.0 +0.9
baz=129
T33K Petersburg 53.60 333 P P 13 36 40.9 +1.1
baz=126
WTLY Watson Lake, Y 54.03 338 P P 13 36 44.6 +1.6
baz=133
R33M Jennings River 54.38 336 P P 13 36 46.6 +1.0
baz=130
Q32M Nakina River 54.62 335 P P 13 36 48.7 +1.2
baz=128
P33M Teslin, Yukon 55.62 336 P P 13 36 55.8 +1.3
baz=128
RKT Rikitea 56.21 230 eS S 13 44 47.7 +0.8
comp=Z,29µm,30.5s
RKT eLR LR 13 53 35.8
comp=Z,78µm,24.8s
RKT Rikitea 56.21 230 eT T 14 37 23.6
comp=Z,24nm,0.2s
DIAM Diamantina, MG 56.56 123 eP P 13 37 01.1 -0.9

FARO Faro, Yukon 57.09 338 P P 13 37 06.2 +1.2
baz=129
O30N Mendenhall 57.25 336 P P 13 37 07.0 +0.9
baz=125
PLCA Paso Flores 57.29 161 LR LR 13 56 48.0
comp=Z,365nm,18.4s,baz=358,slow=31
RCBR Riachuelo 58.20 106 LR LR 14 04 09.3
comp=Z,334nm,20.0s,baz=86,slow=38
RCBR Riachuelo 58.20 106 P P 13 37 12.2 -1.3
RCBR Riachuelo 58.20 106 P P 13 37 13.0 -0.5
M30M Minto, Yukon 58.58 337 P P 13 37 15.8 +0.4
baz=125
YUK8 Steele Glacier 59.03 335 P P 13 37 19.7 +0.9
baz=122
M29M Somme Creek 59.14 337 P P 13 37 19.7 +0.4
baz=123
L29M L29M 59.39 337 P P 13 37 21.4 +0.4
baz=124
K29M Barlow Dome 59.58 338 P P 13 37 22.7 +0.3
baz=125
SFJD Kangerlussuaq 59.73 17 LR LR 14 02 49.7
comp=Z,546nm,22.0s,baz=218,slow=36
RIB01 Linhares ES 59.76 122 eP P 13 37 22.8 -1.4
WAX Waxell Ridge 59.92 333 P P 13 37 23.1 -1.6
DAWY Dawson 60.39 338 P P 13 37 27.3 -0.6
DAWY IAmb IAmb 13 39 11.6
comp=Z,24nm,1.8s
DAWY Dawson 60.39 338 P P 13 37 27.7 -0.1
baz=123
MCARA McCarthy VSAT 60.44 334 P P 13 37 26.4 -1.8
MCARA McCarthy VSAT 60.44 334 P P 13 37 29.2 +1.0
baz=118
M27K Edge Creek, AK 60.44 336 P P 13 37 28.8 +0.5
baz=120
L27K Beaver Creek, 60.78 336 P P 13 37 31.3 +0.8
baz=120
GLB Gilahina Butte 60.80 334 P P 13 37 30.9 +0.2
BMRM Bremner River 60.92 333 P P 13 37 32.8 +1.3
baz=116
INK Inuvik 61.10 343 LR LR 14 10 20.3
comp=Z,308nm,18.3s,baz=142,slow=42
INK Inuvik 61.10 343 P P 13 37 30.1 -2.4
INK IAmb IAmb 13 37 32.7
comp=Z,16nm,1.6s
INK Inuvik 61.10 343 P P 13 37 29.9 -2.6
baz=131
RES Resolute Bay 61.18 359 LR LR 14 06 45.7
comp=Z,385nm,19.2s,baz=186,slow=39
RES Resolute Bay 61.18 359 P P 13 37 31.0 -2.0
N25K Chitina, Valde 61.21 334 P P 13 37 38.3 +0.2
N25K IAmb IAmb 13 37 47.2
comp=Z,13nm,0.9s
N25K Chitina, Valde 61.21 334 P P 13 37 34.6 +1.1
baz=117
L26K Log Cabin Wild 61.36 336 P P 13 37 34.9 +0.4
baz=119
EGAK Eagle 61.42 338 P P 13 37 35.0 +0.2
baz=122
KLU Klutina 61.73 334 P P 13 37 34.9 -2.1
KLU Klutina 61.73 334 P P 13 37 37.1 +0.1
baz=115
A36M Sachs Harbour 61.85 349 P P 13 37 36.1 -1.4
A36M Sachs Harbour 61.85 349 P P 13 37 36.5 -1.1
baz=142,SNR=5.6
DOT Dot Lake 61.95 336 P P 13 37 37.4 -1.0
I27K Kandik River 62.03 339 P P 13 37 38.8 -0.2
baz=122
SCRK Sand Creek 62.08 337 P P 13 37 39.9 +0.5
baz=118
M24K Tolsona, Glenn 62.10 334 P P 13 37 39.9 +0.4
baz=116
J26L Joseph Creek 62.17 337 P P 13 37 40.2 +0.3
J26L IAmb IAmb 13 37 42.0
comp=Z,8.8nm,1.2s
J26L Joseph Creek 62.17 337 P P 13 37 40.5 +0.5
baz=119
PAX Paxson 62.19 335 P P 13 37 39.7 -0.4
PAX IAmb IAmb 13 37 41.9
comp=Z,24nm,1.6s
PAX Paxson 62.19 335 P P 13 37 40.5 +0.3
baz=117
RIDG Independent Ri 62.30 336 P P 13 37 41.6 +0.8
baz=118
H27K Steamboat Moun 62.33 339 P P 13 37 41.5 +0.6
baz=122
M23K Glacier View 62.63 334 P P 13 37 43.4 +0.4
baz=114
G27K Doyon Strip 62.69 340 P P 13 37 43.4 +0.1
baz=122
K24K Donnelly Dome 62.70 336 P P 13 37 43.6 +0.2
baz=117
SEW Seward 62.76 331 P P 13 37 44.8 +1.0
baz=111
KNK Knik Glacier 62.80 333 P P 13 37 44.6 +0.4
baz=113
SML Sawmill 62.90 333 P P 13 37 44.4 -0.4
SML Sawmill 62.90 333 P P 13 37 45.2 +0.4
baz=113
J25K Salcha River, 62.91 337 P P 13 37 45.0 +0.2
J25K IAmb IAmb 13 37 46.7
comp=Z,9.1nm,1.3s
J25K Salcha River, 62.91 337 P P 13 37 45.4 +0.6
baz=117
WAT6 Susitna Watana 62.97 334 P P 13 37 45.5 +0.2
baz=114
PMR Palmer 63.17 333 P P 13 37 46.3 -0.2
PMR Palmer 63.17 333 P P 13 37 46.7 +0.2
baz=112
BRSE Bradley Lake S 63.23 331 P P 13 37 47.4 +0.4
baz=110
RC01 Rabbit Creek A 63.25 332 P P 13 37 47.0 -0.1
RC01 Rabbit Creek A 63.25 332 P P 13 37 47.5 +0.4
baz=112
PRP Porcupine Dome 63.39 338 P P 13 37 47.8 -0.3
baz=118
WAT1 Susitna Watana 63.41 334 P P 13 37 48.4 +0.2
baz=113
E27K Coleen River 63.41 341 P P 13 37 48.1 0.0
baz=123
HDA Harding Lake 63.43 336 P P 13 37 48.1 -0.1
baz=116
KDAK Kodiak Island 63.51 328 LR LR 14 06 37.2
comp=Z,152nm,19.3s,baz=124,slow=37
KDAK Kodiak Island 63.51 328 P P 13 37 49.8 +1.0
baz=107
ILAR Eielson Array 63.56 337 P P 13 37 49.3 +0.2
comp=Z,4.6nm,1.1s,baz=162,slow=4.4,SNR=29
ILAR LR LR 14 07 60.0
comp=Z,385nm,20.3s,baz=116,slow=38
comp=Z,4.6nm,1.1s
ILAR Eielson Array 63.56 337 P P 13 37 49.9 +0.8
Q20K Shuyak Island 63.66 329 P P 13 37 51.0 +1.1
baz=108
M22K Willow 63.67 333 P P 13 37 50.8 +1.0
baz=111
OHAK Old Harbor 63.70 328 P P 13 37 51.4 +1.3
baz=106
POKR Poker Plat Res 63.92 337 P P 13 37 51.3 -0.1
baz=116
MCK McKinley 63.93 335 P P 13 37 51.7 +0.1
baz=114
F26K Sheenjek River 63.98 340 P P 13 37 51.8 0.0
baz=120
BMAR Burnt Mountain 63.99 340 P P 13 37 51.6 -0.3
O20K Slope Mountain 64.24 331 P P 13 37 54.1 +0.3
baz=108
SPU Mount Spurr 64.33 332 P P 13 37 54.8 +0.5
NEA2 Nenana 64.34 336 P P 13 37 54.4 +0.2
baz=114
SKT Skwentna 64.37 333 P P 13 37 55.0 +0.5
SKT IAmb IAmb 13 37 56.5
comp=Z,11nm,0.7s
SKT Skwentna 64.37 333 P P 13 37 55.3 +0.8
baz=110,SNR=5.6
TRF Thorofare Moun 64.38 335 P P 13 37 54.6 -0.1
TRF Thorofare Moun 64.38 335 P P 13 37 54.8 +0.1
baz=112,SNR=6.1
Q19K Cape Douglas, 64.38 329 P P 13 37 53.5 -1.1
Q19K Cape Douglas, 64.38 329 P P 13 37 54.7 +0.1
baz=107
P19K Oil Pt 64.40 330 P P 13 37 54.7 0.0
P19K Oil Pt 64.40 330 P P 13 37 55.3 +0.6
baz=108
H24K Noodor Dome 64.41 338 P P 13 37 54.8 +0.1
H24K Noodor Dome 64.41 338 P P 13 37 55.0 +0.3
baz=116
SPCR Spurr Chakacha 64.41 332 P P 13 37 55.2 +0.4

baz=109
F25K **Christian Rive** 64.42 340 P P 13 37 54.6 -0.2
baz=118
RSO **Redoubt South** 64.42 331 P P 13 37 55.7 +0.6
ILSW **Iliamna Southw** 64.46 331 P P 13 37 53.2 -2.0
ILSW IAmb IAmb 13 39 02.6
comp=Z,62nm,1.6s
G24K **Hadweenzic Riv** 64.64 339 P P 13 37 56.7 +0.6
E25K **Arctic Village** 64.65 340 P P 13 37 56.6 +0.3
baz=119
I23K **Minto, Yukon-K** 64.68 337 P P 13 37 54.5 -1.8
I23K IAmb IAmb 13 37 58.1
comp=Z,22nm,1.4s
I23K **Minto, Yukon-K** 64.68 337 P P 13 37 56.9 +0.6
baz=114,SNR=7.7
KTH **Kantishna Hill** 64.68 335 P P 13 37 56.2 -0.3
KTH IAmb IAmb 13 38 09.2
comp=Z,8.9nm,1.0s
C27K **Jago River** 64.84 342 P P 13 37 57.8 +0.4
baz=121
BPAW **Bear Paw Mtn.** 64.91 335 P P 13 37 58.1 +0.1
BPAW **Bear Paw Mtn.** 64.91 335 P P 13 37 58.1 +0.1
baz=112,SNR=5.9
PPLA **Purkeypile** 64.98 334 P P 13 37 56.6 -2.0
PPLA **Purkeypile** 64.98 334 P P 13 37 59.0 +0.4
baz=110
H23K **Yukon River** 65.02 337 P P 13 37 59.0 +0.3
baz=114
M20K **Styx River** 65.05 333 P P 13 37 59.3 +0.3
M20K IAmb IAmb 13 38 10.2
comp=Z,11nm,0.8s
O19K **Port Alsworth** 65.08 331 P P 13 37 59.0 0.0
baz=107
CAST **Castle Rocks** 65.12 334 P P 13 37 58.2 -1.1
CAST IAmb IAmb 13 37 59.8
comp=Z,24nm,1.6s
CAST **Castle Rocks** 65.12 334 P P 13 37 59.2 -0.2
baz=110
MLY **Manley** 65.17 336 P P 13 37 59.9 +0.2
MLY IAmb IAmb 13 38 00.4
comp=Z,11nm,1.1s
MLY **Manley** 65.17 336 P P 13 37 59.9 +0.2
baz=112,SNR=8.8
P18K **Big Mountain,** 65.30 330 P P 13 38 01.0 +0.4
P18K **Big Mountain,** 65.30 330 P P 13 38 00.8 +0.2
baz=106
N19K **Bonanza Creek** 65.34 331 P P 13 38 01.4 +0.5
N19K **Bonanza Creek** 65.34 331 P P 13 38 01.7 +0.8
baz=107
PPT **Papeete** 65.35 243 LR LR 13 58 19.3
comp=Z,305nm,20.9s,baz=84,slow=28
PPT2 **Papeete2** 65.36 243 *e*S S 13 46 43.6 -0.4
comp=Z,128nm,25.8s
PPT2 **Papeete2** 65.36 243 *e*LR LR 13 57 48.1
comp=Z,298nm,21.5s
PPT2 *e*LR LR 13 57 50.3
comp=Z,200nm,22.2s
CHUM **Lake Minchumin** 65.38 335 P P 13 37 59.3 -1.7
baz=110,SNR=5.9
R17K **Ugashik Creek** 65.43 328 P P 13 38 02.1 +0.7
baz=104
D25K **Kavik River** 65.50 341 P P 13 38 02.6 +0.9
baz=118
G23K **Bananza Creek** 65.56 338 P P 13 38 02.9 +0.7
baz=114
L20K **Farewell, AK** 65.58 333 P P 13 38 02.6 +0.3
baz=108
E24K **Your Creek** 65.60 340 P P 13 38 03.6 +1.2
baz=116
I21K **Tanana** 65.71 336 P P 13 38 01.8 -1.3
I21K IAmb IAmb 13 39 22.8
comp=Z,29nm,1.9s
I21K **Tanana** 65.71 336 P P 13 38 03.7 +0.6
baz=111
H22K **Ishtalitna Cre** 65.74 337 P P 13 38 03.5 +0.2
baz=112
Q16K **King Salmon** 65.82 329 P P 13 38 04.1 +0.2
baz=104
COLD **Coldfoot** 65.84 339 P P 13 38 04.7 +0.8
baz=114
L19K **White Mountain** 65.92 333 P P 13 38 04.4 -0.1
L19K IAmb IAmb 13 38 20.9
comp=Z,28nm,1.6s
SVW2 **Sparrevohn** 65.94 331 P P 13 38 04.0 -0.7
SVW2 IAmb IAmb 13 38 05.2
comp=Z,7.0nm,0.6s
K20K **Telida** 65.94 334 P P 13 38 03.4 -1.2
K20K IAmb IAmb 13 38 16.0
comp=Z,12nm,1.1s
K20K **Telida** 65.94 334 P P 13 38 04.9 +0.3
baz=108
R16K **Pilot Point** 66.04 327 P P 13 38 05.6 +0.3
baz=103
G22K **Bettles** 66.19 338 P P 13 38 06.7 +0.5
baz=112
H21K **Melozitna Rive** 66.20 337 P P 13 38 05.1 -1.2
H21K IAmb IAmb 13 38 07.2
comp=Z,16nm,1.6s
H21K **Melozitna Rive** 66.20 337 P P 13 38 06.6 +0.3
baz=110
J20K **Nowinta River** 66.24 335 P P 13 38 06.0 -0.4
J20K IAmb IAmb 13 38 31.9
comp=Z,23nm,1.7s
J20K **Nowinta River** 66.24 335 P P 13 38 06.9 +0.4
baz=109
O17K **Koliganek Bris** 66.31 330 P P 13 38 07.8 +0.8
baz=104,SNR=6.6
C24K **Franklin Bluff** 66.41 341 P P 13 38 08.5 +1.0
baz=116
EUNU **Eureka** 66.58 1 P P 13 38 07.0 -1.6
EUNU IAmb IAmb 13 38 08.9
comp=Z,8.3nm,0.6s
F22K **John River** 66.65 339 P P 13 38 10.1 +1.0
baz=112
TTA **Tatalina** 66.65 333 P P 13 38 08.6 -0.7
TTA IAmb IAmb 13 38 20.8
comp=Z,9.1nm,1.1s
TTA **Tatalina** 66.65 333 P P 13 38 09.6 +0.3
baz=106
D23K **Nanushuk River** 66.72 340 P P 13 38 10.0 +0.5
baz=114
O16K **Kokwok River B** 66.76 329 P P 13 38 10.0 +0.1
baz=103
E22K **Anaktuvuk Pass** 66.77 339 P P 13 38 10.1 +0.2
baz=112
G21K **Allakaket** 66.78 337 P P 13 38 10.7 +0.7
baz=110
F21K **Alatna River** 67.02 338 P P 13 38 12.2 +0.7
SDPT **Sand Point** 67.19 325 P P 13 38 13.1 +0.4
baz=99
N16K **Nishlik Lake** 67.29 330 P P 13 38 14.4 +1.0
baz=103,SNR=5.1
TBI **Tubuai** 67.73 238 *e*S S 13 47 12.8 +0.3
comp=Z,567nm,25.8s
TBI **Tubuai** 67.73 238 *e*LR LR 13 58 56.0
comp=Z,1μm,26.2s
TBI *e*LR LR 13 58 56.1
comp=Z,5μm,22.2s
TBI **Tubuai** 67.73 238 *e*T T 14 51 51.0
comp=Z,8.0nm,0.2s
BORG **Borgarnes** 69.31 26 LR LR 14 08 56.8
comp=Z,179nm,19.2s,baz=255,slow=36
ANM **Nome** 71.07 334 P P 13 38 36.3 -0.3
baz=98
BBTS **Babate** 72.12 79 LR LR 14 06 22.2
comp=Z,272nm,19.8s,baz=276,slow=33
JMIC **Jan Mayen** 74.93 20 LR LR 14 12 42.9
comp=Z,191nm,21.5s,baz=248,slow=36
RAR **Rarotonga** 75.62 244 LR LR 14 03 13.8
comp=Z,110nm,19.4s,baz=105,slow=28
EKA **Eskdalemuir Ar** 77.91 36 LR LR 14 14 22.7
comp=Z,163nm,19.0s,baz=276,slow=36
ESDC **Sonseca Array** 79.42 52 P P 13 39 21.7 -3.6
comp=Z,0.4nm,0.5s,baz=297,slow=4.8,SNR=6.7
MDT **Midelt** 80.00 59 LR LR 14 08 46.6
comp=Z,124nm,21.1s,baz=309,slow=31
SPITS **Spitsbergen Ar** 80.39 11 LR LR 14 17 05.9
comp=Z,409nm,18.6s,baz=246,slow=37
PMSA **Palmer Station** 80.75 169 LR LR 14 07 01.5
comp=Z,128nm,19.4s,baz=298,slow=30
NOA **NORSAR Array B** 84.20 29 LR LR 14 15 30.9
comp=Z,55nm,19.5s,baz=305,slow=34
TIC **Toumodi** 84.80 84 [1] *e*PKIKP P 13 39 53.4 -0.5
comp=Z,13nm,0.8s
LIC **Lamto** 84.89 85 [1] *e*PKIKP P 13 39 53.1 -1.2
comp=Z,22nm,0.8s
KIC **Kosan Boka** 85.14 85 [1] *e*PKIKP P 13 39 52.7 -2.9
comp=Z,4.7nm,0.7s
HFS **Hagfors** 85.65 29 LR LR 14 16 42.2
comp=Z,110nm,19.3s,baz=298,slow=35
ARCES **ARCESS Array B** 86.34 18 P P 13 39 59.0 -1.5
comp=Z,8.2nm,1.1s,baz=343,slow=3.8,SNR=5.1
ARCES LR LR 14 17 22.9
comp=Z,87nm,21.5s,baz=294,slow=35
comp=Z,8.2nm,1.1s
DAVOX **Davos/Dischmat** 87.70 42 LR LR 14 14 21.7
comp=Z,144nm,21.9s,baz=276,slow=32
GERES **GERESS Array B** 89.48 40 P P 13 40 14.6 -1.4
comp=Z,0.1nm,0.3s,baz=14,slow=2.0,SNR=1.4
GERES LR LR 14 15 12.9
comp=Z,158nm,21.7s,baz=272,slow=32
comp=Z,0.1nm,0.3s
KEST **Kesra** 90.58 53 LR LR 14 13 03.4
comp=Z,75nm,21.2s,baz=270,slow=30
FINES **FINESS Array B** 90.60 25 LR LR 14 21 21.9
comp=Z,128nm,19.2s,baz=275,slow=36
TIXI **Tiksi** 90.87 348 LR LR 14 27 38.0
comp=Z,119nm,18.8s,baz=168,slow=40
VRAC **Vranov** 91.09 39 LR LR 14 18 50.9
comp=Z,138nm,20.5s,baz=312,slow=34
PETK **Petropavlovsk-** 91.45 326 P P 13 40 27.2 +2.2
comp=Z,5.9nm,1.0s,baz=57,slow=16,SNR=2.5
PETK LR LR 14 22 28.7
comp=Z,30nm,19.5s,baz=56,slow=36
comp=Z,5.9nm,1.0s
MA2 **Magadan** 91.85 333 LR LR 14 25 49.5
comp=Z,79nm,18.2s,baz=56,slow=38
NRIK **Noril'sk** 97.34 0 LR LR 14 28 18.5
comp=Z,315nm,20.5s,baz=358,slow=38
AKASG **Malin Array Be** 97.70 34 LR LR 14 24 58.2
comp=Z,107nm,18.1s,baz=260,slow=36
YAK **Yakutsk** 98.13 342 LR LR 14 32 32.0
comp=Z,83nm,18.9s,baz=82,slow=40
URZ **Urewera** 99.53 233 LR LR 14 15 40.7
comp=Z,93nm,20.9s,baz=159,slow=29
DZM **Mont Dzumac** 106.23 251 *e*LR LR 14 16 46.8
comp=Z,152nm,25.2s
SONM **Songino Array** 116.92 347 PKP PKiKP 13 46 03.8 +0.2
comp=Z,0.4nm,0.5s,baz=326,slow=1.5,SNR=3.9
KSRS **Korea Array** 117.35 326 PKP PKPdf 13 46 04.2 -0.4
comp=Z,1.1nm,0.7s,baz=349,slow=1.5,SNR=3.9
BOSA **Boshof** 119.48 115 PKP PKiKP 13 46 09.6 +0.5
comp=Z,2.4nm,0.8s,baz=195,slow=4.1,SNR=3.6
MKAR **Makanchi Array** 119.67 5 PKP PKPdf 13 46 08.1 -0.8
comp=Z,1.1nm,0.9s,baz=0.0,slow=1.5,SNR=6.4
GEYT **Alibeck** 121.28 28 PKP PKPdf 13 46 11.7 -0.5
comp=Z,1.0nm,0.5s,baz=294,slow=4.4,SNR=2.1
HHC **Hu-ho-hao-te** 121.92 340 *e*P PKPdf 13 46 08.4 -5.1
WMQ **Urumqi** 122.92 1 *e*P PKPdf 13 46 14.6 -0.6
NJ2 **Nanjing** 126.29 328 *e*P PKPdf 13 46 21.1 -0.8
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
GTA **Gaotai** 126.33 349 *e*PKPbc PKPdf 13 46 22.2 +0.2
GTA LR LR
comp=N,180nm,14.2s
GTA LR LR
comp=E,220nm,14.9s
GTA LR LR
comp=Z,190nm,16.4s
LZH **Lanzhou** 128.63 344 *e*PKP PKiKP 13 46 27.8 +0.6
LZH sPKP 13 47 03.5
WRA **Warramunga Arr** 136.00 255 PKP PKPdf 13 46 41.3 +0.7
comp=Z,0.6nm,0.6s,baz=89,slow=2.8,SNR=10
ASAR **Alice Springs** 136.21 250 PKhKP PKPpre 13 46 38.7
comp=Z,0.2nm,0.6s,baz=82,slow=1.3,SNR=6.4
PZH **PanZhiHua** 138.25 342 PKP PKPdf 13 46 44.3 -0.5
CMAR **Chiang Mai Arr** 146.67 342 PKPbc PKPbc 13 47 01.5 +0.2
comp=Z,11nm,0.7s,baz=344,slow=3.9,SNR=56

*JMA **07** 13:34:51.5±0.3, 42°.4N×1°.0×13°.8E±°, h275km, MV3.4/33, EASTERN SEA OF JAPAN*
*IDC **07** 13:34:57.4±7.4, 41°.65N×137°.70E, h368km±182km, mb2.7/4, mbtmp3.4/5, Error ellipse: s-maj=196.0km s-min=23.4km az=174.0*
ISC 07 13:34:52.0±1.0, 42°.4N±0°.1×137°.5E±0°.1, h250km, n15, σ0s84/15, mb3.2/4, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	1.54	103	*e*P		Pn	13 35 31.6	+1.0
JHST	**Hiyamasetana**	1.79	90	*e*P		Pn	13 35 33.8	+1.2
JSH	**Shimam**	1.92	83	*e*P		Pn	13 35 34.7	+1.0
JOMM	**Oshimamatsumae**	2.11	115	*e*P		Pn	13 35 36.0	+0.5
JYM2	**Yakumo 2**	2.19	98	*e*P		Pn	13 35 37.1	+1.0
JSR	**Shiriuchi**	2.39	111	*e*P		Pn	13 35 38.8	+0.6
JSI2	**Shiura 2**	2.61	121	*e*P		Pn	13 35 41.0	+0.6
JNB	**Noboribetsu**	2.65	88	*e*P		Pn	13 35 40.8	+0.1
JIW	**Iwasaki**	2.66	133	*e*P		Pn	13 35 41.4	+0.4
JKB	**Kayabe**	2.72	101	*e*P		Pn	13 35 41.4	0.0
MJAR	**Matsushiro Arr**	5.92	174	P		Pn	13 36 19.5	+0.2
	1.1nm,0.4s,baz=1.0,slow=12,SNR=17							
SONM	**Songino Array**	22.47	295	P		P	13 39 31.2	+0.9
	0.3nm,0.4s,baz=93,slow=9.0,SNR=4.0							
	0.3nm,0.4s							
ZALV	**Zalesovo Beam**	36.11	307	P		P	13 41 30.3	+0.2
	0.4nm,0.4s,baz=96,slow=12,SNR=1.8							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	38.83	296	P		P	13 41 52.0	-0.8
	0.5nm,0.5s,baz=85,slow=10.0,SNR=8.8							
	0.5nm,0.5s							
ILAR	**Eielson Array**	46.68	35	P		P	13 42 54.2	-1.2
	0.4nm,0.7s,baz=274,slow=9.4,SNR=8.5							
	0.4nm,0.7s							

*IDC **07** 14:13:08.3±5.4, 14°.13N×90°.15W, h0km, mb3.7/2, mbtmp3.7/2, MS3.4/4, Error ellipse: s-maj=280.9km s-min=83.1km az=40.0*
*SNET **07** 14:13:13.1±1.7, 13°.55N×91°.04W, h10km, ML4.1*
*GCG **07** 14:13:19.4±0.8, 14°.30N×91°.07W, h1km±5km, MD4.0*
ISC 07 14:13:16.5±1.5, 14°.1N±0°.1×90°.99W±0°.07, h38km±3km, n26, σ1s78/33, MS3.6/3, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
FUG	**Fuego 3**	0.42	20	*e*P		Pn	14 13 25.4	-0.8
FUG				*e*S		Sn	14 13 30.8	-2.4
SULM	**Suchitepequez,**	0.61	294	*e*P		Pn	14 13 29.6	+0.7
SULM				*e*S		Sn	14 13 37.1	-0.4
NBG	**Las Nubes**	0.82	49	*e*P		Pn	14 13 35.5	+3.7
STG3	**Santiaguito 3,**	0.86	319	*e*P		Pn	14 13 33.6	+1.2
SLOZ	**Alcaldia de Sa**	1.17	91	*e*P		Pn	14 13 36.2	-0.2
SLOZ				*e*S		Sn	14 13 55.0	+3.8
NUBE	**Las Nubes**	1.18	97	*e*P		Pn	14 13 35.5	-1.2
NUBE				*e*S		Sn	14 13 54.3	+2.7
CEVE	**Cerro Verde**	1.34	99	*e*P		Pn	14 13 37.8	-1.2
CEVE				*e*S		Sn	14 13 57.9	+2.1
JAYA	**Jayaque - finc**	1.55	105	*e*P		Pn	14 13 39.2	-2.5
JAYA				*e*S		Sn	14 14 00.8	+0.1
CEDA	**San Andres**	1.57	99	*e*P		Pn	14 13 41.5	-0.4
CEDA				*e*S		Sn	14 14 03.9	+2.9
SJTE	**Alcalda de S**	1.97	102	*e*P		Pn	14 13 46.3	-1.2
SJTE				*e*S		Sn	14 14 13.9	+2.8
PAVA	**Las Pavas**	2.02	99	*e*P		Pn	14 13 46.9	-1.3
PAVA				*e*S		Sn	14 14 14.0	+1.8
TECO	**Alcaldia de Te**	2.21	103	*e*P		Pn	14 13 49.1	-1.5
TECO				*e*S		Sn	14 14 18.0	+1.3
SCLA	**Alcaldia de Sa**	2.22	99	*e*P		Pn	14 13 50.3	-0.6
SCLA				*e*S		Sn	14 14 19.8	+2.6
PQSS	**Presa 15 de Se**	2.40	100	*e*P		Pn	14 13 52.1	-1.2
COEB	**Comit de Eme**	2.45	103	*e*P		Pn	14 13 53.6	-0.5
ALJI	**Alcalda de J**	2.46	107	*e*P		Pn	14 13 53.2	-0.9
ALJI				*e*S		Sn	14 14 24.7	+1.8
FAGO	**Alcalda de S**	2.82	97	*e*P		Pn	14 13 58.0	-1.2
LCND	**La Caada**	3.10	103	*e*P		Pn	14 14 01.3	-1.6
LCND				*e*S		Sn	14 14 39.3	+0.5
CMIG	**Matias Romero**	4.82	309	LR		LR	14 16 47.2
	comp=Z,229nm,18.1s,baz=30,slow=40						
H06E1	**SOCORRO T-PHASE**	9.69	286	T		T	14 37 51.2
	SNR=65						
SDV	**Santo Domingo**	20.59	102	LR		LR	14 27 12.5
	comp=Z,56nm,18.1s,baz=290,slow=43						
NVAR	**Mina Array Bea**	34.25	320	P		P	14 20 00.3	+1.1
	1.3nm,0.8s,baz=134,slow=8.9,SNR=5.2							
	1.3nm,0.8s							
SIV	**San Ignacio**	42.02	134	LR		LR	14 37 08.1
	comp=Z,80nm,18.6s,baz=263,slow=35						
ILAR	**Eielson Array**	63.18	337	P		P	14 23 39.5	-0.9
	0.8nm,1.0s,baz=137,slow=5.0,SNR=5.6							
	0.8nm,1.0s							
BBTS	**Babate**	71.80	79	LR		LR	14 52 55.1
	comp=Z,29nm,19.0s,baz=342,slow=34						
CMAR	**Chiang Mai Arr**	146.25	343	PKPbc		PKPdf	14 32 51.4	-1.5
	1.0nm,0.7s,baz=347,slow=3.5,SNR=9.0							

*NOU **07** 14:14:29.5, 42°.85S×172°.87E, h0km, MLv3.6/9, South Island, New Zealand*
*WEL **07** 14:14:30.5±0.3, 43°.5±3°×17°.3E±°, h13km±4km, M3.0/18, ML3.2/18, MLv3.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=126.6, confirmed*
ISC 07 14:14:31.1±0.9, 42°.75S±0°.03×172°.92E±0°.03, h29km±8km, n62, σ1s66/69, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	0.23	159	P		Pb	14 14 37.6	0.0
GVZ				S		Sb	14 14 42.8	+0.7
AMCZ	**Amberley**	0.47	205	P		Pn	14 14 41.9	0.0
LTZ	**Lake Taylor**	0.48	266	P		Pb	14 14 40.3	-0.9
LTZ				S		Sb	14 14 47.2	-0.9
KHZ	**Kahutara**	0.57	54	P		Pb	14 14 41.8	-0.8
KHZ	**Kahutara**	0.57	54	P		Pb	14 14 41.9	-0.8
KHZ				S		Sb	14 14 49.9	-0.5
OXZ	**Oxford**	0.86	228	P		Pn	14 14 47.6	+0.3
OXZ				S		Sn	14 15 00.3	+1.3
MQZ	**McQueen's Vall**	0.97	191	P		Pn	14 14 49.3	+0.4
OKCZ	**Okains Bay**	0.98	174	P		Pn	14 14 49.5	+0.6
THZ	**Tophouse**	0.99	359	P		Pb	14 14 48.1	-1.6
THZ				S		Sb	14 14 59.6	-2.8
INZ	**Inchbonnie**	1.09	271	P		Pn	14 14 50.8	+0.4
INZ				S		Sb	14 15 05.7	+0.5
AKCZ	**Akaroa Harbour**	1.12	180	P		Pb	14 14 51.2	-0.8
RACZ	**Rakaia**	1.13	210	P		Pb	14 14 51.3	-0.8
BSWZ	**Blackbirch Sta**	1.25	35	P		Pb	14 14 53.7	-0.5
MHCZ	**Mount Hutt**	1.26	231	P		Pn	14 14 52.9	+0.1
DSZ	**Denniston Nort**	1.30	320	P		Pn	14 14 53.9	+0.5
DSZ				S		Sn	14 15 11.0	+1.1
MRNZ	**Matariki Terra**	1.36	355	P		Pn	14 14 54.4	+0.3
MRNZ				S		Sn	14 15 11.7	+0.6
CMWZ	**Cape Campbell**	1.39	44	P		Pb	14 14 57.8	+1.4
WACZ	**Wakanui South**	1.43	213	P		Pn	14 14 55.4	+0.3
TUWZ	**Tuamarina**	1.52	30	P		Pn	14 14 57.2	+0.8
NNZ	**Nelson**	1.57	13	P		Pn	14 14 58.2	+1.1
WVZ	**Waitaha Valley**	1.64	258	P		Pn	14 14 59.0	+1.1
RPZ	**Rata Peaks**	1.67	234	P		Pn	14 14 58.6	+0.2
RPZ	**Rata Peaks**	1.67	234	P		Pn	14 14 58.7	+0.2
TKNZ	**Takaka Hill**	1.72	1	P		Pn	14 14 59.9	+0.8
TKNZ				S		Sn	14 15 22.1	+2.1
ARCZ	**Arundel**	1.75	226	P		Pn	14 14 59.7	+0.2
TCW	**Tory Channel**	1.84	34	P		Pn	14 15 01.9	+1.1
QRZ	**Quartz Range**	1.95	351	P		Pn	14 15 04.7	+2.5
QRZ	**Quartz Range**	1.95	351	P		Pn	14 15 03.0	+0.8
SNZO	**South Karori**	1.96	43	P		Pb	14 15 04.9	-1.2
GCSZ	**Gaunt Creek Bo**	1.98	253	P		Pn	14 15 04.4	+1.7
DUWZ	**D'Urville Isla**	2.09	21	P		Pn	14 15 06.2	+2.1
TMZ	**Timaru**	2.14	220	P		Pn	14 15 05.1	+0.2
CAW	**Cannon Point**	2.29	45	P		Pn	14 15 06.9	-0.1
PAWZ	**Paruwai Farm**	2.31	55	P		Pn	14 15 06.5	-0.8
FOZ	**Fox Glacier**	2.40	250	P		Pn	14 15 10.1	+1.6
KIW	**Kapiti Island**	2.40	39	P		Pn	14 15 11.7	-2.0
OGWZ	**Otaki Gorge**	2.56	42	P		Pn	14 15 10.6	-0.1
LBZ	**Lake Benmore**	2.57	230	P		Pn	14 15 11.3	+0.5
HOWZ	**Holdsworth Sta**	2.68	47	P		Pn	14 15 13.7	+1.4
ODZ	**Otahua Downs**	2.82	215	P		Pn	14 15 14.1	-0.1
ODZ	**Otahua Downs**	2.82	215	P		Pn	14 15 14.3	+0.1
JCZ	**Jackson Bay**	3.29	245	P		Pn	14 15 21.0	+0.2
JCZ	**Jackson Bay**	3.29	245	P		Pn	14 15 21.3	+0.5
EAZ	**Earnscleugh**	3.60	225	P		Pn	14 15 24.7	-0.2
PKE	**Pukeiti**	3.64	13	P		Pn	14 15 29.0	+3.4
VRZ	**Vera Road**	3.88	22	P		Pn	14 15 31.8	+3.0
WNVZ	**Wahianoa**	3.98	32	P		Pn	14 15 35.0	+4.8
TUZ	**Tuapeka**	3.98	215	P		Pn	14 15 30.3	+0.2
TUVZ	**Tukino**	4.05	32	P		Pb	14 15 38.0	-3.8
NGZ	**Ngauruhoe**	4.11	30	P		Pb	14 15 38.8	-4.0
TMVZ	**Te Maari**	4.20	31	P		Pb	14 15 40.8	-3.5
MLZ	**Mavora Lakes**	4.34	231	P		Pn	14 15 34.6	-0.5
HIZ	**Hauiti**	4.48	20	P		Pn	14 15 39.6	+2.7
HIZ	**Hauiti**	4.48	20	P		Pn	14 15 39.6	+2.5
BKZ	**Black Stump Fm**	4.49	38	P		Pn	14 15 40.9	+3.7
BKZ	**Black Stump Fm**	4.49	38	P		Pn	14 15 43.1	+5.9
SYZ	**Scrubby Hill**	4.65	214	P		Pn	14 15 39.5	+0.2
SYZ	**Scrubby Hill**	4.65	214	P		Pn	14 15 39.6	+0.2
WHZ	**Wether Hill Ro**	4.75	227	P		Pn	14 15 39.8	-1.0
APZ	**The Paps**	5.38	219	P		Pn	14 15 49.0	-0.4
TKGZ	**Te Karaka**	5.71	43	P		Pn	14 15 56.7	+2.8
MKAZ	**Moumakai**	5.90	18	P		Pn	14 16 01.1	+4.6

*IDC **07** 14:39:33.8±2.0, 8°.50S×158°.75E, h0km, mb3.3/3, mbtmp3.6/5, ML3.9/2, MS2.6/1, Error ellipse: s-maj=44.8km s-min=25.0km az=21.0*
ISC 07 14:39:39.0±1.6, 8°.7S±0°.2×158°.8E±0°.1, h35km, n7, σ1s21/7, mb3.0/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	1.38	124	Pn		Pn	14 40 01.8	+0.1
	5μm,0.3s,baz=211,slow=5.9,SNR=372							
HNR				Sn		Sn	14 40 17.6	-1.1
	13μm,0.3s,baz=4.7,slow=22,SNR=20							
HNR				LR		LR	14 40 26.1
	comp=Z,1μm,18.8s,baz=36,slow=35							
PMG	**Port Moresby**	11.52	265	LR		LR	14 45 41.6
	comp=Z,28nm,21.1s,baz=4.5,slow=32							
DZM	**Mont Dzumac**	15.24	152	Pn		Pn	14 43 13.1	+1.4
	0.5nm,0.3s,baz=330,slow=18,SNR=10							
	5.4nm,0.9s							
CTA	**Charters Tower**	16.63	226	Pn		P	14 43 30.7	-0.9
	0.3nm,0.3s,baz=41,slow=16,SNR=2.5							
	5.5nm,1.0s							
WRA	**Warramunga Arr**	26.18	242	P		P	14 45 09.4	-1.1
	0.1nm,0.3s,baz=66,slow=9.5,SNR=1.0							
	0.1nm,0.3s							
ASAR	**Alice Springs**	28.11	235	P		P	14 45 28.6	+0.7
	0.3nm,0.8s,baz=61,slow=10,SNR=4.6							
	0.3nm,0.8s							
MKAR	**Makanchi Array**	87.14	318	P		P	14 52 21.5	+0.1
	0.2nm,0.5s,baz=96,slow=4.9,SNR=2.1							
	0.2nm,0.5s							

IDC 07 14:59:06.2±2.0, 7°.83S×157°.28E, h0km, mb3.4/3, mbtmp3.6/4, ML4.8/1, MS3.4/1, Error ellipse: s-maj=48.8km s-min=35.1km az=6.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	3.08	121	Pn		Pn	14 59 56.0	-0.2
	119nm,0.3s,baz=223,slow=19,SNR=2.4							
HNR				Sn		Sn	15 00 22.2	-12
	456nm,0.3s,baz=203,slow=13,SNR=6.9							
	494nm,0.4s							
WRA	**Warramunga Arr**	25.27	239	P		P	15 04 34.1	-0.4
	0.5nm,0.5s,baz=64,slow=9.6,SNR=5.2							
	0.5nm,0.5s							
ASAR	**Alice Springs**	27.39	232	P		P	15 04 53.8	+0.2
	0.2nm,0.5s,baz=60,slow=9.3,SNR=7.3							
	0.2nm,0.5s							
H11S3	**WAKE ISLAND Hy**	27.75	19	T		T	15 33 33.1
	baz=202,slow=75,SNR=9.1							
H11S2	**WAKE ISLAND Hy**	27.76	19	T		T	15 33 23.8
	baz=202,slow=75,SNR=6.3							
H11S1	**WAKE ISLAND Hy**	27.77	19	T		T	15 33 34.4
	baz=202,slow=75,SNR=4.5							
NWAO	**Narrogin (SRO)**	44.67	230	LR		LR	15 27 03.9
	comp=Z,47nm,18.7s,slow=38							
MKAR	**Makanchi Array**	85.53	318	P		P	15 11 46.6	+0.2
	0.2nm,0.6s,baz=94,slow=4.3,SNR=1.9							
	0.2nm,0.6s							

*ISK **07** 15:01:07.9, 38°.37N×22°.11E, h6km, ML3.4/15*
*THE **07** 15:01:08.9, 38°.36N×22°.02E, h10km, ML3.3/22, Error ellipse: s-maj=0.6km s-min=0.5km az=75.0*
*ATH **07** 15:01:09.0, 38°.36N×21°.99E, h5km±31km, ML3.3/21, Error ellipse: s-maj=31.6km s-min=0.6km az=0.0*
*IDC **07** 15:01:14.4±4.7, 38°.51N±22°.01E, h53km±48km, mb3.4/5, mbtmp3.6/6, ML3.2/1, MS2.5/1, Error ellipse: s-maj=60.9km s-min=24.7km az=4.0*

ISC 07 15:01:08.9±0.7, 38°37'N±0'.01×22°00E±0'.01, h11km±4km, n106, σ0.72/159, mb3.8/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SERG	**Sergoula**	**0.06**	**43**	P	**Pg**	**15 01 11.7**	**+0.5**
SERG				S	**Sg**	**15 01 13.2**	**+0.3**
	198μm,0.2s						
SERG	**Sergoula**	**0.06**	**43**	P	**Pg**	**15 01 11.7**	**+0.5**
SERG				S	**Sg**	**15 01 12.6**	**-0.4**
SERG				AML	AML	15 01 14.2	
SERG				AML	AML	15 01 14.3	
EFP	**Efpalio**	**0.10**	**307**	P	**Pg**	**15 01 11.1**	**-0.5**
EFP				S	**Sg**	**15 01 13.1**	**-0.5**
	24μm,0.3s						
EFP	**Efpalio**	**0.10**	**307**	P	**Pg**	**15 01 11.1**	**-0.5**
EFP				S	**Sg**	**15 01 13.0**	**-0.5**
EFP				AML	AML	15 01 13.2	
	comp=E,57386μm,0.3s						
EFP				AML	AML	15 01 15.2	
	comp=N,36326μm,0.4s						
LAKA	**Lakka**	**0.13**	**189**	P	**Pg**	**15 01 11.8**	**-0.2**
LAKA				S	**Sg**	**15 01 14.6**	**+0.3**
	comp=N,71μm,0.4s						
LAKA	**Lakka**	**0.13**	**189**	P	**Pg**	**15 01 11.8**	**-0.2**
LAKA				S	**Sg**	**15 01 13.6**	**-0.7**
LAKA				AML	AML	15 01 14.7	
	comp=E,48935μm,0.5s						
LAKA				AML	AML	15 01 14.7	
	comp=N,26553μm,0.2s						
UPR	**University Cam**	**0.19**	**244**	P	**Pg**	**15 01 13.2**	**+0.2**
UPR				S	**Sg**	**15 01 16.6**	**+0.8**
ANX	**Ano Chora**	**0.23**	**344**	P	**Pg**	**15 01 13.5**	**-0.3**
ANX				S	**Sg**	**15 01 17.2**	**+0.1**
	comp=N,51μm,0.4s						
ANX	**Ano Chora**	**0.23**	**344**	P	**Pg**	**15 01 13.4**	**-0.3**
ANX				S	**Sg**	**15 01 17.2**	**+0.1**
ANX				AML	AML	15 01 17.4	
ANX				AML	AML	15 01 17.7	
	comp=E,92874μm,0.3s						
KLV	**Kalavryta, Ach**	**0.34**	**160**	P	**Pg**	**15 01 15.4**	**-0.4**
KLV				S	**Sg**	**15 01 20.6**	**+0.2**
	comp=E,4μm,0.2s						
KLV	**Kalavryta, Ach**	**0.34**	**160**	P	**Pg**	**15 01 15.4**	**-0.4**
KLV				S	**Sg**	**15 01 20.4**	**0.0**
KLV				AML	AML	15 01 22.5	
	comp=E,7579μm,0.3s						
KLV				AML	AML	15 01 23.3	
	comp=N,7695μm,0.3s						
DLFA	**Delphi**	**0.40**	**74**	P	**Pg**	**15 01 17.1**	**+0.3**
DLFA				S	**Sb**	**15 01 23.0**	**-1.1**
DLFA				AML	AML	15 01 23.6	
	comp=N,12169μm,0.4s						
DLFA				AML	AML	15 01 26.4	
	comp=E,11580μm,0.4s						
PVO	**Paravola**	**0.45**	**304**	P	**Pg**	**15 01 16.4**	**-1.3**
PVO				S	**Sg**	**15 01 23.4**	**-0.3**
DRO	**Drossia**	**0.48**	**209**	P	**Pg**	**15 01 18.1**	**-0.1**
DRO				S	**Sb**	**15 01 25.8**	**-0.5**
	comp=E,8μm,0.2s						
DRO	**Drossia**	**0.48**	**209**	P	**Pg**	**15 01 18.0**	**-0.2**
DRO				S	**Sg**	**15 01 24.9**	**+0.4**
DRO				AML	AML	15 01 26.6	
	comp=N,13576μm,0.3s						
DRO				AML	AML	15 01 31.5	
	comp=E,16852μm,0.2s						
RLS	**Riolos of Patr**	**0.53**	**234**	P	**Pg**	**15 01 19.2**	**+0.1**
RLS				S	**Sg**	**15 01 27.0**	**+1.0**
	comp=E,2μm,0.3s						
RLS	**Riolos of Patr**	**0.53**	**234**	P	**Pg**	**15 01 18.9**	**-0.2**
RLS				S	**Sg**	**15 01 25.9**	**-0.2**
RLS				AML	AML	15 01 30.1	
	comp=N,3436μm,0.3s						
RLS				AML	AML	15 01 30.6	
	comp=E,5516μm,0.4s						
EVR	**Evrytania**	**0.57**	**344**	P	**Pg**	**15 01 20.4**	**+0.4**
EVR				S	**Sb**	**15 01 29.2**	**+0.2**
	comp=E,7μm,0.4s						
EVR	**Evrytania**	**0.57**	**344**	P	**Pg**	**15 01 20.1**	**+0.2**
EVR				S	**Sg**	**15 01 28.3**	**+0.8**
EVR				AML	AML	15 01 31.8	
	comp=N,11845μm,0.3s						
EVR				AML	AML	15 01 32.1	
	comp=E,16680μm,0.5s						
THAL	**Thalero**	**0.62**	**122**	P	**Pg**	**15 01 20.7**	**-0.2**
THAL				S	**Sg**	**15 01 28.6**	**-0.3**
	comp=E,6μm,0.2s						
THAL	**Thalero**	**0.62**	**122**	P	**Pg**	**15 01 20.6**	**-0.2**
THAL				S	**Sg**	**15 01 28.6**	**-0.3**
THAL				AML	AML	15 01 31.8	
	comp=N,10304μm,0.2s						
THAL				AML	AML	15 01 33.4	
	comp=E,10828μm,0.3s						
AXAR	**Agios Charalam**	**0.65**	**52**	P	**Pg**	**15 01 20.8**	**-0.7**
AXAR				S	**Sb**	**15 01 31.3**	**0.0**
	comp=E,15μm,0.4s						
AXAR	**Agios Charalam**	**0.65**	**52**	P	**Pg**	**15 01 20.5**	**-1.0**
AXAR				S	**Sb**	**15 01 31.1**	**-0.1**
AXAR				AML	AML	15 01 32.4	
	comp=E,36014μm,0.4s						
AXAR				AML	AML	15 01 33.1	
	comp=N,18837μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.65**	**9**	P	**Pg**	**15 01 21.4**	**-0.1**
MAKR				S	**Sb**	**15 01 31.2**	**-0.1**
	comp=N,9μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.65**	**9**	P	**Pg**	**15 01 21.3**	**-0.2**
MAKR				S	**Sb**	**15 01 31.3**	**-0.1**
AGG	**Agios Georgios**	**0.70**	**21**	P	**Pg**	**15 01 21.5**	**-0.9**
AGG				S	**Sb**	**15 01 32.6**	**-0.2**
	comp=N,3μm,0.3s						
AGG	**Agios Georgios**	**0.70**	**21**	Pg	**Pg**	**15 01 21.2**	**-1.3**
AGG				Sg	**Sg**	**15 01 31.5**	**-0.1**
AGG	**Agios Georgios**	**0.70**	**21**	P	**Pg**	**15 01 21.2**	**-1.3**
AGG				S	**Sg**	**15 01 31.7**	**0.0**
LKR	**Lokris**	**0.83**	**70**	P	**Pg**	**15 01 24.0**	**-0.9**
LKR				S	**Sb**	**15 01 36.3**	**-0.2**
LOUT	**Loutraki**	**0.85**	**116**	P	**Pg**	**15 01 25.1**	**-0.2**
LOUT				S	**Sg**	**15 01 36.4**	**-0.1**
	comp=N,1μm,0.5s						
LOUT	**Loutraki**	**0.85**	**116**	P	**Pg**	**15 01 25.0**	**-0.3**
LOUT				S	**Sb**	**15 01 37.1**	**0.0**
LOUT				AML	AML	15 01 40.4	
	comp=N,408μm,0.5s						
LOUT				AML	AML	15 01 40.8	
	comp=E,383μm,0.5s						
VIL2	**Platees**	**1.01**	**99**	P	**Pg**	**15 01 28.2**	**-0.1**
VIL2				S	**Sn**	**15 01 42.7**	**-0.4**
VIL2				AML	AML	15 01 47.5	
	comp=E,4461μm,0.7s						
VIL2				AML	AML	15 01 51.0	
	comp=N,2693μm,0.7s						
VILL	**Villia**	**1.05**	**101**	P	**Pg**	**15 01 28.4**	**-0.7**
VILL				S	**Sb**	**15 01 43.3**	**+0.5**
	comp=N,2μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.08**	**289**	P	**Pb**	**15 01 28.7**	**-0.8**
NYDR				S	**Sn**	**15 01 45.8**	**+1.0**
	comp=N,600nm,0.4s						
EVGI	**Lefkada island**	**1.09**	**284**	P	**Pb**	**15 01 28.8**	**-0.9**
EVGI				S	**Sn**	**15 01 45.0**	**0.0**
	comp=N,1μm,0.5s						
EVGI	**Lefkada island**	**1.09**	**284**	P	**Pb**	**15 01 28.6**	**-1.1**
VLS	**Valsamata**	**1.13**	**261**	P	**Pb**	**15 01 29.2**	**-1.2**
VLS				S	**Sn**	**15 01 46.9**	**+0.8**
	comp=N,1μm,0.2s						
VLS	**Valsamata**	**1.13**	**261**	P	**Pb**	**15 01 29.1**	**-1.2**
VLS				AML	AML	15 01 48.0	
	comp=E,1446μm,0.2s						
VLS				AML	AML	15 01 48.1	
	comp=N,4341μm,0.3s						
LTHK	**Lithakia**	**1.13**	**235**	P	**Pb**	**15 01 29.7**	**-0.7**
LTHK				S	**Sn**	**15 01 46.5**	**+0.4**
	comp=N,1μm,0.3s						
LTHK	**Lithakia**	**1.13**	**235**	P	**Pb**	**15 01 29.7**	**-0.7**
LTHK				S	**Sg**	**15 01 45.8**	**+0.5**
LTHK				AML	AML	15 01 54.7	
	comp=E,3287μm,0.3s						
LTHK				AML	AML	15 01 59.8	
	comp=N,2556μm,0.6s						
LKD2	**Lefkada island**	**1.14**	**292**	P	**Pb**	**15 01 29.0**	**-1.5**
FSK	**Fiskardo**	**1.14**	**275**	P	**Pb**	**15 01 29.7**	**-0.8**
FSK				S	**Sn**	**15 01 46.6**	**+0.4**
	comp=N,1μm,0.7s						
FSK	**Fiskardo**	**1.14**	**275**	P	**Pb**	**15 01 29.7**	**-0.8**
FSK				S	**Sb**	**15 01 45.5**	**+0.2**
FSK				AML	AML	15 01 51.4	
	comp=N,1415μm,0.6s						
FSK				AML	AML	15 01 52.4	
	comp=E,1760μm,0.6s						
PSDA	**Pessada-Kefalo**	**1.15**	**258**	P	**Pb**	**15 01 29.6**	**-1.1**
PSDA				S	**Sn**	**15 01 47.5**	**+1.0**
PSDA	**Pessada-Kefalo**	**1.15**	**258**	P	**Pb**	**15 01 29.5**	**-1.2**
TSLK	**Tsoukalades, L**	**1.15**	**294**	P	**Pb**	**15 01 30.7**	**0.0**
TSLK	**Tsoukalades, L**	**1.15**	**294**	P	**Pb**	**15 01 30.8**	**+0.1**
EPID	**Epidavros**	**1.16**	**130**	P	**Pb**	**15 01 30.7**	**-0.2**
EPID				S	**Sn**	**15 01 46.8**	**0.0**
EPID	**Epidavros**	**1.16**	**130**	P	**Pn**	**15 01 31.3**	**+0.3**
ITM	**Ithomi**	**1.19**	**183**	P	**Pb**	**15 01 30.5**	**-0.9**
ITM				S	**Sb**	**15 01 46.6**	**-0.2**
	comp=E,688nm,0.3s						
ITM	**Ithomi**	**1.19**	**183**	Pn	**Pb**	**15 01 30.5**	**-0.9**
ITM				Sn	**Sn**	**15 01 48.8**	**+1.2**
ITM	**Ithomi**	**1.19**	**183**	P	**Pb**	**15 01 30.3**	**-1.1**
THL	**Klokotos Trika**	**1.19**	**0**	P	**Pb**	**15 01 30.5**	**-1.0**
THL				S	**Sn**	**15 01 48.1**	**+0.5**
	comp=E,1μm,0.5s						
THL	**Klokotos Trika**	**1.19**	**0**	P	**Pb**	**15 01 30.5**	**-1.0**
THL				S	**Sn**	**15 01 48.2**	**+0.5**
THL				AML	AML	15 01 51.4	
	comp=E,3238μm,0.6s						
THL				AML	AML	15 01 51.7	
	comp=N,1601μm,0.4s						
KEF4	**Livadi, Kephal**	**1.25**	**265**	P	**Pn**	**15 01 31.1**	**-1.1**
KEF4				S	**Sg**	**15 01 49.6**	**+0.6**
KEF4	**Livadi, Kephal**	**1.25**	**265**	P	**Pn**	**15 01 31.3**	**-0.9**
KEF3	**Kipouria, Keph**	**1.31**	**263**	P	**Pb**	**15 01 33.8**	**+0.3**
LRSO	**Larissa Observ**	**1.33**	**13**	P	**Pb**	**15 01 33.9**	**0.0**
NEO	**Neokhori**	**1.33**	**45**	P	**Pn**	**15 01 33.6**	**+0.1**
KRND	**KRANIDI**	**1.34**	**137**	P	**Pb**	**15 01 34.1**	**+0.2**
TYRN	**Tyrnavos**	**1.35**	**7**	P	**Pn**	**15 01 33.5**	**-0.2**
TYRN				S	**Sg**	**15 01 53.0**	**+0.6**
	comp=N,705nm,0.5s						
TYRN	**Tyrnavos**	**1.35**	**7**	P	**Pn**	**15 01 33.4**	**-0.2**
XOR	**Xorichti**	**1.36**	**43**	P	**Pn**	**15 01 33.4**	**-0.4**
ATH	**Athens Observa**	**1.41**	**106**	P	**Pn**	**15 01 34.6**	**+0.2**
ATH				S	**Sg**	**15 01 53.6**	**-0.5**
ATH				AML	AML	15 01 58.4	
	comp=N,833μm,0.4s						
ATH				AML	AML	15 01 58.8	
	comp=E,1354μm,0.4s						
ATHU	**Athens Univers**	**1.46**	**105**	P	**Pn**	**15 01 35.3**	**+0.1**
ATHU				S	**Sb**	**15 01 54.5**	**-0.1**
ATHU				AML	AML	15 01 59.3	
	comp=N,586μm,0.5s						
ATHU				AML	AML	15 02 04.4	
	comp=E,266μm,0.7s						
PYL	**PYLOS**	**1.49**	**188**	P	**Pn**	**15 01 35.8**	**+0.4**
PTL	**Penteli**	**1.50**	**102**	P	**Pn**	**15 01 35.8**	**+0.1**
VLY	**Voula,Athens**	**1.50**	**110**	P	**Pn**	**15 01 36.1**	**+0.3**
VLY				AML	AML	15 02 03.5	
	comp=E,1071μm,0.3s						
VLY				AML	AML	15 02 07.7	
	comp=N,635μm,0.7s						
DION	**Dionisos Attik**	**1.55**	**100**	P	**Pb**	**15 01 37.5**	**0.0**
DION				S	**Sb**	**15 01 57.2**	**+0.1**
DION				AML	AML	15 02 05.1	
	comp=N,1735μm,0.5s						
DION				AML	AML	15 02 07.1	
	comp=E,1648μm,0.5s						
JAN	**Janina**	**1.57**	**325**	P	**Pn**	**15 01 37.5**	**+0.9**
KPRO	**Kipourio**	**1.66**	**343**	P	**Pb**	**15 01 39.8**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.67**	**80**	P	**Pn**	**15 01 37.9**	**0.0**
IGT	**Igoumenitsa**	**1.75**	**312**	P	**Pb**	**15 01 40.9**	**0.0**
LIT	**Litokhoron**	**1.77**	**12**	P	**Pn**	**15 01 39.6**	**+0.1**
VLI	**Veliai**	**1.81**	**155**	P	**Pn**	**15 01 40.5**	**+0.6**
MNVA	**Monemvasia**	**1.87**	**154**	P	**Pb**	**15 01 42.2**	**-0.7**
KZN	**Kozani**	**1.94**	**355**	P	**Pb**	**15 01 43.8**	**-0.6**
NEST	**Nestorio**	**2.17**	**340**	P	**Pb**	**15 01 47.0**	**-1.3**
KEK	**Kerkira**	**2.18**	**309**	P	**Pb**	**15 01 47.3**	**-1.0**
KTHA	**Kythira Island**	**2.27**	**158**	Pn	**Pn**	**15 01 47.1**	**+0.8**
KTHA	**Kythira Island**	**2.27**	**158**	P	**Pn**	**15 01 47.7**	**+1.4**
HORT	**Hortiatis**	**2.38**	**21**	Pn	**Pn**	**15 01 48.0**	**+0.1**
HORT	**Hortiatis**	**2.38**	**21**	P	**Pn**	**15 01 47.8**	**-0.1**
FNA	**Florina**	**2.46**	**349**	Pn	**Pn**	**15 01 50.1**	**+1.1**
FNA				Sn	**Sn**	**15 02 20.8**	**+1.8**
FNA	**Florina**	**2.46**	**349**	P	**Pn**	**15 01 50.1**	**+1.1**
OUR	**Ouranopolis**	**2.49**	**37**	Pn	**Pn**	**15 01 49.1**	**-0.2**
MHLO	**Agia Marina, M**	**2.54**	**131**	P	**Pn**	**15 01 50.9**	**+1.0**
GRG	**Griva**	**2.60**	**7**	Pn	**Pn**	**15 01 51.8**	**+0.9**
GRG				Sn	**Sn**	**15 02 23.6**	**+1.1**
KNT	**Kendrikon**	**2.87**	**14**	Pn	**Pn**	**15 01 55.4**	**+0.8**
OHR	**Ohrid**	**2.89**	**342**	*i* Pn	**Pb**	**15 01 59.9**	**-0.6**
VAY	**Valandovo**	**2.98**	**8**	*i* Pn	**Pn**	**15 01 59.0**	**+3.0**
APE	**Apeiranthos**	**3.08**	**114**	Pn	**Pn**	**15 01 57.7**	**+0.2**
APE	**Apeiranthos**	**3.08**	**114**	P	**Pn**	**15 01 57.8**	**+0.4**
SIGR	**SIGRI**	**3.12**	**73**	Pn	**Pn**	**15 01 58.1**	**+0.1**
CHOS	**Chios island**	**3.18**	**88**	Pn	**Pn**	**15 01 59.0**	**+0.1**
IRLA	**Izmir**	**3.61**	**89**	Pn	**Pn**	**15 02 05.2**	**+0.5**
RDO	**Rodhopi**	**3.89**	**43**	Pn	**Pn**	**15 02 09.4**	**+0.9**
GELI	**Tayfur-Gelibol**	**4.01**	**58**	Pn	**Pn**	**15 02 10.9**	**+0.7**
KDZ	**Kurdzhali**	**4.20**	**38**	Pn	**Pn**	**15 02 11.9**	**-0.9**
BRTR	**Keskin Array B**	**9.15**	**78**	P	**Pn**	**15 03 23.4**	**+2.5**
	comp=E,0.3nm,0.3s,baz=256,slow=12,SNR=7.4						
BRTR					LR	LR	15 06 35.5
	comp=E,28nm,18.2s,baz=207,slow=35						
	comp=E,0.5nm,0.4s						
ESDC	**Sonseca Array**	**20.20**	**282**	P	**P**	**15 05 44.6**	**+1.0**
	comp=E,0.8nm,0.8s,baz=76,slow=13,SNR=6.4						
	comp=E,0.8nm,0.8s						
FINES	**FINESS Array B**	**23.24**	**5**	P	**P**	**15 06 15.7**	**-0.1**
	comp=E,3.4nm,0.8s,baz=193,slow=11,SNR=1.7						
	comp=E,3.4nm,0.8s						
NB2	**NORSAR Subarra**	**23.68**	**347**	P	**P**	**15 06 20.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**23.68**	**347**	P	**P**	**15 06 19.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=156,slow=8.5,SNR=4.3						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**	**15 09 17.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=275,slow=7.3,SNR=22						
	comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**44.69**	**48**	P	**P**	**15 09 20.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=268,slow=10,SNR=4.3						
	comp=Z,0.5nm,0.4s						

*NEIC **07** 15:18:26.4±2.9, 13°.45N±0°.09×91°.35W±0°.09, h10km±2km, mb4.3/22, Error ellipse: s-maj=18.9km s-min=8.7km az=224.0*

*IDC **07** 15:18:26.8±0.9, 13°.65N×90°.88W, h0km, mb4.1/10, mbtmp4.1/11, ML3.9/1, MS3.5/17, Error ellipse: s-maj=35.2km s-min=17.6km az=50.0*

*SNET **07** 15:18:29.9±1.7, 13°.44N×91°.17W, h10km, ML4.8*

*INET **07** 15:18:34.7±1.4, 13°.58N×90°.82W, h0km±3km, MW3.5*

ISC 07 15:18:31.6±1.5, 13°.60N±0°.06×91°.25W±0°.07, h41km±14km, n126, σ1.67/123, mb4.2/15, MS3.5/16, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.01**	**335**		**Pn**	**15 18 48.2**	**-1.2**
NUBE	**Las Nubes**	**1.45**	**78**	*eP*	**Pn**	**15 18 55.0**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.48**	**73**	*eP*	**Pn**	**15 18 55.8**	**0.0**
RTR	**El Retiro**	**1.58**	**79**	*eP*	**Pn**	**15 18 55.6**	**-1.7**
CEVE	**Cerro Verde**	**1.59**	**82**	*eP*	**Pn**	**15 18 57.1**	**-0.4**
HUEH	**Huehuetenango**	**1.72**	**352**		**Pn**	**15 18 59.4**	**+0.1**
HUEH	**Huehuetenango**	**1.72**	**352**	*eP*	**Pn**	**15 19 02.5**	**+3.1**
JAYA	**Jayaque - finc**	**1.75**	**88**	*eP*	**Pn**	**15 18 58.8**	**-0.8**
BOQS	**Boqueron**	**1.91**	**86**	*eP*	**Pn**	**15 19 01.8**	**-0.1**
SNET	**Serv Nac Est T**	**1.96**	**87**		**Pn**	**15 19 01.2**	**-1.2**
SNET	**Serv Nac Est T**	**1.96**	**87**	*eP*	**Pn**	**15 19 02.1**	**-0.3**
MTO3	**Montecristo**	**1.99**	**66**		**Pn**	**15 19 02.0**	**-1.0**
MTO3	**Montecristo**	**1.99**	**66**	*eP*	**Pn**	**15 19 04.0**	**+1.0**
MTO3				*eS*	**Sn**	**15 19 29.9**	**+3.1**
LFU	**La Fuente**	**2.08**	**86**	*eP*	**Pn**	**15 19 04.7**	**+0.6**
ESQI	**Esquipulas**	**2.08**	**63**		**Pn**	**15 19 05.5**	**+1.4**
ESQI	**Esquipulas**	**2.08**	**63**	*eP*	**Pn**	**15 19 05.2**	**+1.1**
ESQI				*eS*	**Sn**	**15 19 33.1**	**+4.3**
LBRS	**Las Brisas**	**2.14**	**86**	*eP*	**Pn**	**15 19 05.4**	**+0.5**
SJTE	**Alcalda de S**	**2.18**	**89**	*eP*	**Pn**	**15 19 05.6**	**+0.2**
SJTE				*eS*	**Sn**	**15 19 32.2**	**+1.0**
PAVA	**Las Pavas**	**2.25**	**87**	*eP*	**Pn**	**15 19 06.5**	**+0.1**
SNVI	**San Vicente**	**2.34**	**89**	*eP*	**Pn**	**15 19 08.1**	**+0.4**
TECO	**Alcaldia de Te**	**2.40**	**91**	*eP*	**Pn**	**15 19 08.4**	**+0.1**
TECO				*eS*	**Sn**	**15 19 35.8**	**-0.8**
P5NO	**Presa 5 de nov**	**2.44**	**81**	*eP*	**Pn**	**15 19 08.7**	**-0.3**
P5NO				*eS*	**Sn**	**15 19 39.8**	**+2.1**
SCLA	**Alcaldia de Sa**	**2.45**	**87**	*eP*	**Pn**	**15 19 09.7**	**+0.6**
SCLA				*eS*	**Sn**	**15 19 41.6**	**+3.8**
PQSS	**Presa 15 de Se**	**2.61**	**89**	*eP*	**Pn**	**15 19 11.2**	**0.0**
COEB	**Comit de Eme**	**2.64**	**92**	*eP*	**Pn**	**15 19 11.9**	**+0.1**
CCIG	**Comitan**	**2.80**	**342**		**Pn**	**15 19 11.8**	**-2.2**
FAGO	**Alcalda de S**	**3.05**	**88**	*eP*	**Pn**	**15 19 17.1**	**-0.3**
LCND	**La Caada**	**3.28**	**95**	*eP*	**Pn**	**15 19 20.2**	**-0.2**
LCND				*eS*	**Sn**	**15 19 58.4**	**+0.2**
CNCH	**Conchagua**	**3.33**	**95**	*eP*	**Pn**	**15 19 21.2**	**-0.2**
PETF	**Flores**	**3.55**	**22**		**Pn**	**15 19 27.5**	**+3.3**
PETF	**Flores**	**3.55**	**22**	*eP*	**Pn**	**15 19 27.8**	**+3.6**
TGUH	**Tegucigalpa,Un**	**3.88**	**83**		**Pn**	**15 19 26.8**	**-2.1**
CRIN	**San Cristobal**	**4.18**	**102**		**Pn**	**15 19 30.2**	**-2.8**
CRIN	**San Cristobal**	**4.18**	**102**	*eP*	**Pn**	**15 19 33.0**	**+0.1**
TELN	**Telica**	**4.41**	**103**	*eP*	**Pn**	**15 19 36.6**	**+0.5**
TELN				*eS*	**Sn**	**15 20 25.8**	**-0.6**
CNGN	**Cerro Negro**	**4.56**	**103**		**Pn**	**15 19 36.7**	**-1.5**
CMIG	**Matias Romero**	**4.93**	**315**	Pn	**Pn**	**15 19 44.9**	**+1.6**
	4.5nm,0.3s,baz=132,slow=11,SNR=18						
CMIG					Sn	**Sn**	**15 20 41.3**	**+2.2**
	3.3nm,0.3s,baz=139,slow=11,SNR=4.2						
CMIG					LR	LR	15 21 55.9
	comp=Z,369nm,21.8s,baz=82,slow=40						
	15nm,0.4s						
BOAB	**BOACO BROADBAN**	**5.56**	**101**		**Pn**	**15 19 49.0**	**-2.8**
BOAB	**BOACO BROADBAN**	**5.56**	**101**	*eP*	**Pn**	**15 19 50.8**	**-1.0**
BOAB				*eS*	**Sn**	**15 20 50.7**	**-3.7**
ACON	**Acoyapa**	**6.14**	**105**	Pn	**Pn**	**15 19 58.3**	**-1.5**
HZTE	**Horizontes, Gu**	**6.22**	**117**	Pn	**Pn**	**15 20 00.9**	**-0.1**
GBS3	**Finca Las Img**	**6.32**	**116**	*eP*	**Pn**	15 20 07.0	+4.8
LAPC	**Finca la Perla**	**6.34**	**116**	*eP*	**Pn**	**15 20 04.8**	**+2.2**
GB1A	**Borinquen Arri**	**6.35**	**115**	*eP*	**Pn**	15 20 05.7	+2.9
BUEV	**Buena Vista**	**6.35**	**115**	*eP*	**Pn**	**15 20 05.3**	**+2.5**
BUAI	**Buenos Aires**	**6.38**	**114**	*eP*	**Pn**	15 20 07.6	+4.4
GPS3	**Bodega del ICE**	**6.41**	**116**	*eP*	**Pn**	**15 20 05.9**	**+2.4**
GPS1	**Guardaparques**	**6.41**	**115**	*eP*	**Pn**	**15 20 04.7**	**+1.1**
GP77	**Hacienda Santa**	**6.44**	**115**	*eP*	**Pn**	**15 20 05.4**	**+1.4**
ORTG	**Ortega, Santa**	**6.51**	**119**	Pn	**Pn**	**15 20 04.3**	**-0.7**
ORTG	**Ortega, Santa**	**6.51**	**119**	*eP*	**Pn**	**15 20 06.5**	**+1.5**
ORTG				*eS*	**Sn**	**15 21 16.7**	**-1.4**
GUAB	**Guayabo de Bag**	**6.55**	**115**	*eP*	**Pn**	**15 20 05.4**	**-0.1**
CLARA	**Aguas Claras**	**6.56**	**115**	*eP*	**Pn**	**15 20 05.8**	**+0.1**
MESS	**Mesas**	**6.56**	**115**	*eP*	**Pn**	**15 20 06.8**	**+1.1**
COLC	**Colonia**	**6.59**	**116**	*eP*	**Pn**	**15 20 05.7**	**-0.4**
VMAR	**Armenia, Volca**	**6.60**	**114**	*eP*	**Pn**	**15 20 08.0**	**+1.7**
SAAN	**San Antonio**	**6.61**	**120**	*eP*	**Pn**	**15 20 06.9**	**+0.6**
CUI	**Cuipilapa**	**6.63**	**116**	*eP*	**Pn**	**15 20 06.4**	**-0.2**
DUNO	**Dulce Nombre,**	**6.63**	**121**		**Pn**	**15 20 03.0**	**-3.6**
CANAL	**Canalete**	**6.65**	**114**	*eP*	**Pn**	**15 20 07.5**	**+0.7**
MOTZ	**Rio Naranjo**	**6.70**	**115**	*eP*	**Pn**	**15 20 06.1**	**-1.4**
ACAL	**Aguas Claras**	**6.75**	**115**	*eP*	**Pn**	**15 20 09.7**	**+1.4**
PTEN	**Parque Tenorio**	**6.76**	**114**	*eP*	Pn	15 20 12.1	+3.8
TABAC	**Tabacon**	**7.05**	**115**	*eP*	**Pn**	**15 20 14.6**	**+2.2**
TEIG	**Tepich**	**7.17**	**23**	Pn	**Pn**	**15 20 13.2**	**-0.8**
TEIG	**Tepich**	**7.17**	**23**	*eP*	Pn	15 20 17.9	+4.0
JACO	**JACO, Garabito**	**7.55**	**121**		**Pn**	**15 20 17.7**	**-1.5**
RIMA	**Rio Macho**	**8.17**	**117**		**Pn**	**15 20 25.5**	**-2.4**
SRBA	**San Rafael, Bu**	**8.87**	**119**	Pn	**Pn**	**15 20 34.1**	**-3.3**
SOR	**Soroa**	**12.03**	**39**		**Pn**	**15 21 21.4**	**+1.0**
MTDJ	**Mount Denham**	**13.96**	**69**	Pn	**Pn**	**15 21 47.1**	**0.0**
ZARC	**Zaragoza, Cauc**	**17.21**	**109**	*eP*	**Pn**	**15 22 26.8**	**-2.3**
YOYC	**Yotoco, Valle**	**17.54**	**122**	*eP*	**P**	**15 22 35.5**	**+1.5**
GUY2C	**Guyana, Caldas**	**17.73**	**117**	*eP*	**Pn**	**15 22 36.2**	**+0.2**
ORTC	**Ortega, Tolima**	**18.50**	**120**	*eP*	**Pn**	**15 22 46.8**	**+1.9**
PAMC	**Pamplona, Colo**	**19.26**	**107**	*eP*	**P**	**15 22 54.6**	**+1.3**
TX32	**Lajitas Array**	**19.43**	**326**	P	**P**	**15 22 53.4**	**-1.3**
TXAR	**Lajitas Array**	**19.43**	**326**	P	**P**	**15 22 52.0**	**-2.7

comp=Z,9.6nm,0.8s
CFA Coronel Fontan 50.08 154 LR LR 15 44 18.5
comp=Z,46nm,19.3s,baz=104,slow=31
YKA Yellowknife Ar 51.58 346 P **P** **15 27 33.6 +0.2**
comp=Z,1.3nm,0.7s,baz=150,slow=7.4,SNR=16
YKA PcP **PcP** **15 28 47.5 +0.7**
comp=Z,0.3nm,0.7s,baz=152,slow=3.6,SNR=4.1
comp=Z,1.3nm,0.7s
CPUP Villa Florida 51.61 140 LR LR 15 51 27.2
comp=Z,40nm,18.7s,baz=335,slow=38
PLCA Paso Flores 57.37 161 LR LR 15 47 58.0
comp=Z,42nm,18.5s,baz=352,slow=31
ILAR Eielson Array 63.49 337 P **P** **15 28 58.0 +0.7**
comp=Z,1.8nm,0.9s,baz=135,slow=4.4,SNR=17
comp=Z,1.8nm,0.9s
MLY Manley 65.09 336 P **P** **15 29 07.5 -0.3**
MKAR Makanchi Array 119.60 5 PKP **PKiKP** **15 37 17.2 0.0**
comp=Z,0.6nm,0.9s,baz=29,slow=2.8,SNR=4.7
WRA Warramunga Arr 136.01 255 PKP **PKiKP** **15 37 50.7 -0.1**
comp=Z,0.6nm,0.7s,baz=110,slow=1.1,SNR=5.4
ASAR Alice Springs 136.22 250 PKP **PKiKP** **15 37 50.4 -0.7**
comp=Z,0.2nm,0.8s,baz=117,slow=3.2,SNR=2.7
CMAR Chiang Mai Arr 146.60 342 PKPbc **PKPab** **15 38 10.5 -0.1**
comp=Z,4.3nm,0.7s,baz=344,slow=3.4,SNR=30

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*NEIC **07** 15:33:42.3±2.5, 4.°5S±0.°1×151.°55E±0.°08, h40km±10km, mb4.5/14, Error ellipse: s-maj=17.9km s-min=10.0km az=163.0*
*IDC **07** 15:33:42.3±1.2, 4.°64S×151.°71E, h33km±12km, mb3.9/10, mbtmp4.2/11, ML2.5/1, MS3.6/33, Error ellipse: s-maj=30.8km s-min=12.4km az=127.0*
*DJA **07** 15:33:43.5±0.4, 4.°5S×15.°2E±.°, h44km±7km, M4.8/11, mB5.0/1, mb4.6/11, MLv4.8/3, Mw(mB)4.3/1*

ISC 07 15:33:43.0±0.5, 4.°47S±0.°07×151.°61E±0.°05, h35km, n82, σ1s88/57, mb4.3/17, MS3.6/30, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.45**	**69**	Pg	**Pn**	**15 33 52.2**	**-0.8**
	4µm,0.3s,baz=183,slow=1.2,SNR=2755						
KRVT				Sn	**Sn**	**15 34 00.6**	**+0.8**
	5µm,0.3s,baz=34,slow=24,SNR=16						
KRVT				LR	LR	15 34 14.3	
	comp=Z,5µm,20.1s,baz=277,slow=70						
RABL	**Rabaul**	**0.62**	**64**		**Pn**	**15 33 55.8**	**+0.4**
RABL	**Rabaul**	**0.62**	**64**	P	**Pn**	**15 33 56.0**	**+0.6**
MANU	**Manus Island**	**4.87**	**300**	Pn	**Pn**	**15 34 54.0**	**+0.2**
PMG	**Port Moresby**	**6.60**	**222**	Pn	**Pn**	**15 35 17.3**	**-0.2**
	6.8nm,0.3s,baz=39,slow=6.4,SNR=30						
PMG				Sn	**Sn**	**15 36 36.5**	**+4.9**
	baz=36,slow=13						
PMG				LR	LR	15 38 10.6	
	comp=Z,151nm,18.3s,baz=60,slow=41						
	96nm,0.8s						
PMG	**Port Moresby**	**6.60**	**222**		**Pn**	**15 35 15.8**	**-1.7**
PMG	**Port Moresby**	**6.60**	**222**	P	**Pn**	**15 35 19.0**	**+1.5**
HNR	**Honiara**	**9.63**	**121**	Pn	**Pn**	**15 35 59.2**	**-0.1**
	46nm,0.3s,baz=250,slow=11,SNR=1.4						
COEN	**Coen**	**12.57**	**221**	Pn	**Pn**	**15 36 38.0**	**-1.4**
COEN	**Coen**	**12.57**	**221**	P	**Pn**	**15 36 39.9**	**+0.5**
TV1H	**Townsville Har**	**15.43**	**197**	P	**P**	**15 37 23.1**	**+0.8**
CTA	**Charters Tower**	**16.38**	**198**	Pn	**P**	**15 37 31.1**	**-1.7**
	0.9nm,0.3s,baz=19,slow=13,SNR=13						
CTA				LR	LR	15 42 53.5	
	comp=Z,215nm,21.6s,baz=16,slow=34						
CTA	**Charters Tower**	**16.38**	**198**	P	**P**	**15 37 35.2**	**+2.4**
CTAO	**Charters Tower**	**16.38**	**198**	P	**Pn**	**15 37 30.7**	**+0.4**
CTAO				IAmb	IAmb	15 37 35.9	
	comp=Z,55nm,1.1s						
CTAO	**Charters Tower**	**16.38**	**198**	P	**P**	**15 37 35.1**	**+2.3**
RKPI	**Ransiki, Papua**	**17.65**	**279**	P	**P**	**15 37 48.4**	**+1.4**
	comp=Z,47nm,1.1s						
GUMO	**Guam**	**19.15**	**340**	LR	LR	15 45 13.2	
	comp=Z,80nm,21.0s,baz=122,slow=36						
QIS	**Mount Isa**	**19.80**	**215**	P	**Pn**	**15 38 11.4**	**-0.9**
SAUI	**Saumlaki**	**20.48**	**255**	P	Pn	15 38 22.3	+1.9
SIJI	**Sorong**	**20.63**	**279**	P	**P**	**15 38 20.6**	**+0.9**
	comp=Z,10nm,0.8s,baz=88,slow=7.8,SNR=8.3						
	comp=Z,10nm,0.8s						
RMQ	**Roma**	**22.06**	**187**	P	**P**	**15 38 36.2**	**+1.3**
WB0	**Warramunga Arr**	**22.64**	**226**		**P**	**15 38 38.5**	**-2.7**
WB0				IAmb	IAmb	15 38 48.4	
	comp=Z,14nm,0.8s						
DZM	**Mont Dzumac**	**22.65**	**142**	LR	LR	15 46 44.1	
	comp=Z,255nm,20.3s,baz=320,slow=35						
DZM	**Mont Dzumac**	**22.65**	**142**	P	**P**	**15 38 42.9**	**+1.6**
WR0	**Warramunga Ar**	**22.66**	**226**	P	**P**	**15 38 38.3**	**-3.1**
WR0				IAmb	IAmb	15 38 48.6	
	comp=Z,22nm,1.1s						
WRAB	**Tennant Creek**	**22.78**	**226**	P	**P**	**15 38 39.4**	**-3.2**
WRAB				IAmb	IAmb	15 38 44.6	
	comp=Z,9.0nm,0.5s						
WRAB	**Tennant Creek**	**22.78**	**226**	P	**P**	**15 38 41.0**	**-1.7**
WB2	**Warramunga Arr**	**22.78**	**226**		**P**	**15 38 39.5**	**-3.2**
WB2				IAmb	IAmb	15 38 49.9	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**22.79**	**226**	P	**P**	**15 38 40.3**	**-2.5**
	comp=Z,7.2nm,0.6s,baz=51,slow=9.9,SNR=35						
WRA				LR	LR	15 47 44.1	
	comp=Z,113nm,18.7s,baz=51,slow=37						
	comp=Z,7.2nm,0.6s						
QLP	**Quilpie**	**23.09**	**197**	P	**P**	**15 38 46.6**	**+0.8**
KNRA	**Kununurra**	**25.06**	**242**	P	**P**	**15 39 03.0**	**-1.4**
KNRA	**Kununurra**	**25.06**	**242**	P	**P**	**15 39 00.1**	**-4.2**
INKA	**Innaminka**	**25.35**	**203**	P	**P**	**15 39 07.8**	**+1.0**
AS31	**Alice Springs**	**25.61**	**220**	P	**P**	**15 39 08.3**	**-1.0**
AS31				IAmb	IAmb	15 39 12.0	
	comp=Z,3.8nm,0.6s						
ASAR	**Alice Springs**	**25.61**	**220**	P	**P**	**15 39 08.5**	**-0.8**
	comp=Z,8.7nm,0.7s,baz=52,slow=8.8,SNR=102						
ASAR				LR	LR	15 48 31.7	
	comp=Z,95nm,22.0s,baz=40,slow=35						
	comp=Z,8.7nm,0.7s						
SANI	**Sanana**	**25.69**	**275**	P	**P**	**15 39 13.2**	**+3.1**
	comp=Z,26nm,1.4s						
ARMA	**Armidale**	**25.81**	**180**	P	**P**	**15 39 09.2**	**-1.9**
ARMA				IAmb	IAmb	15 39 24.5	
	comp=Z,13nm,1.1s						
CMSA	**Cobar Meteorol**	**27.49**	**191**	P	**P**	**15 39 26.3**	**+0.2**
OOD	**Oodnadatta**	**27.71**	**211**	P	**P**	**15 39 27.9**	**-0.2**
BATI	**Baumata**	**28.28**	**257**	LR	LR	15 53 58.9	
	comp=Z,203nm,18.7s,baz=95,slow=43						
FITZ	**Fitzroy Crossi**	**28.78**	**240**	P	**P**	**15 39 34.9**	**-2.9**
STKA	**Stephens Creek**	**28.84**	**198**	P	**P**	**15 39 37.5**	**-0.7**
	comp=Z,4.8nm,0.7s,baz=6.3,slow=8.9,SNR=9.3						
STKA				LR	LR	15 50 45.9	
	comp=Z,167nm,19.4s,baz=16,slow=36						
	comp=Z,4.8nm,0.7s						
STKA	**Stephens Creek**	**28.84**	**198**	P	**P**	**15 39 37.6**	**-0.5**
LUWI	**Luwuk**	**29.00**	**276**	P	P	15 39 31.1	-8.7
WRKA	**Warakurna**	**30.33**	**225**	P	**P**	**15 39 50.1**	**-1.4**
MULG	**Mulgathing**	**30.55**	**211**	P	**P**	**15 39 52.9**	**-0.5**
HTT	**Hallett**	**31.15**	**201**	P	**P**	**15 39 59.2**	**+0.6**
KAPI	**Kappang**	**31.75**	**268**	LR	LR	15 54 13.7	
	comp=Z,48nm,21.9s,baz=82,slow=39						
LKBA	**Tubou, Lakemba**	**31.99**	**118**	P	**P**	**15 40 08.0**	**+1.9**
JCJ	**Chichijima**	**32.67**	**344**	LR	LR	15 52 20.2	
	comp=Z,72nm,21.2s,baz=124,slow=34						
ARPS	**Mount Arapiles**	**33.37**	**194**	P	**P**	**15 40 18.3**	**+0.3**
FORT	**Forrest**	**34.31**	**218**	P	**P**	**15 40 22.9**	**-3.4**
FORT	**Forrest**	**34.31**	**218**	P	**P**	**15 40 25.1**	**-1.1**
JOW	**Kunigami**	**38.44**	**325**	LR	LR	15 54 22.0	
	comp=Z,58nm,22.0s,baz=20,slow=32						
URZ	**Urewera**	**40.88**	**149**	LR	LR	15 56 21.5	
	comp=Z,128nm,19.9s,baz=38,slow=33						
MORW	**Morawa**	**41.63**	**230**	P	**P**	**15 41 24.1**	**-4.0**
JNU	**Nakatsue**	**42.23**	**334**	LR	LR	15 57 06.6	
	comp=Z,58nm,19.8s,baz=153,slow=33						
MJAR	**Matsushiro Arr**	**42.68**	**344**	LR	LR	15 57 51.8	
	comp=Z,86nm,19.9s,baz=158,slow=34						
RPZ	**Rata Peaks**	**42.69**	**159**	LR	LR	15 57 27.8	
	comp=Z,254nm,20.4s,baz=334,slow=34						
KSRS	**Korea Array**	**47.18**	**334**	LR	LR	16 00 23.4	
	comp=Z,37nm,20.7s,baz=165,slow=34						
ASAJ	**Asahikawa**	**49.04**	**351**	LR	LR	16 00 50.8	
	comp=Z,40nm,21.8s,baz=106,slow=33						
RAR	**Rarotonga**	**50.00**	**114**	LR	LR	16 00 51.1	
	comp=Z,136nm,18.1s,baz=279,slow=33						
KLR	**Kul'dur**	**56.20**	**344**	LR	LR	16 08 30.2	
	comp=Z,28nm,18.3s,baz=179,slow=37						
CMAR	**Chiang Mai Arr**	**56.66**	**295**	P	**P**	**15 43 25.6**	**+2.3**
	comp=Z,1.7nm,0.9s,baz=97,slow=5.1,SNR=11						
CMAR				LR	LR	16 08 28.1	
	comp=Z,18nm,19.0s,baz=285,slow=37						
	comp=Z,1.7nm,0.9s						
PETK	**Petropavlovsk-**	**57.59**	**4**	LR	LR	16 09 25.8	
	comp=Z,22nm,18.1s,baz=157,slow=37						
PPT	**Papeete**	**58.96**	**108**	LR	LR	16 04 47.9	
	comp=Z,41nm,18.2s,baz=339,slow=32						
MA2	**Magadan**	**63.85**	**360**	LR	LR	16 12 18.9	
	comp=Z,40nm,19.2s,baz=162,slow=36						
SONM	**Songino Array**	**65.42**	**328**	P	**P**	**15 44 23.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=1.8						
	comp=Z,0.4nm,0.5s						
YAK	**Yakutsk**	**68.42**	**349**	LR	LR	16 12 36.6	
	comp=Z,28nm,21.9s,baz=152,slow=34						
VNDA	**Vanda**	**73.20**	**178**	P	**P**	**15 45 09.7**	**-0.2**
MKAR	**Makanchi Array**	**79.30**	**319**	P	**P**	**15 45 45.0**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=109,slow=7.9,SNR=3.1						
MKAR				LR	LR	16 21 13.8	
	comp=Z,24nm,20.3s,baz=69,slow=36						
	comp=Z,0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**80.22**	**327**	P	**P**	**15 45 51.2**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=114,slow=3.5,SNR=4.1						
ZALV				LR	LR	16 21 07.5	
	comp=Z,35nm,21.3s,baz=12,slow=35						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**82.31**	**22**	P	**P**	**15 46 00.3**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=255,slow=5.4,SNR=2.8						
	comp=Z,0.4nm,0.8s						
AAK	**Ala-Archa**	**83.58**	**314**	LR	LR	16 24 02.4	
	comp=Z,30nm,18.7s,baz=24,slow=36						
NRIK	**Noril'sk**	**85.27**	**341**	P	**P**	**15 46 14.5**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=128,slow=6.3,SNR=1.5						
NRIK				LR	LR	16 25 03.0	
	comp=Z,30nm,18.2s,baz=345,slow=36						
	comp=Z,1.3nm,0.6s						
MAW	**Mawson**	**85.42**	**203**	LR	LR	16 23 22.2	
	comp=Z,86nm,18.2s,baz=110,slow=35						
QSPA	**South Pole Qui**	**85.49**	**180**	P	**P**	**15 46 17.2**	**+0.1**
QSPA				IAmb	IAmb	15 46 33.7	
	comp=Z,2.6nm,0.9s						
YBH	**Yreka Blue Hor**	**89.72**	**48**	LR	LR	16 21 37.9	
	comp=Z,71nm,19.0s,baz=268,slow=32						
PFO	**Pinyon Flats O**	**94.06**	**57**	LR	LR	16 22 26.8	
	comp=Z,65nm,19.3s,baz=235,slow=31						
ARU	**Arti**	**95.38**	**326**	LR	LR	16 29 15.6	
	comp=Z,58nm,21.9s,baz=78,slow=35						
LPIG	**La Paz**	**99.18**	**66**	LR	LR	16 26 30.0	
	comp=Z,56nm,18.3s,baz=16,slow=32						
CLL	**Collm**	**121.99**	**331**	*es*PKPdf	sPKPdf	15 52 49.0	-0.4

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*DJA **07** 15:51:00.7±0.2, 8.°5S×116.°29E, h261km±3km, M4.0/15, mb4.4/12, mB5.0/1, MLv3.9/15, Mw(mB)4.3/1*
*IDC **07** 15:51:02.0±4.2, 7.°43S×116.°29E, h269km±33km, mb2.7/4, mbtmp3.5/5, Error ellipse: s-maj=83.3km s-min=18.9km az=51.0*

ISC 07 15:51:00.2±0.8, 7.°9S±0.°2×115.°92E±0.°07, h263km±7km, n24, σ1s27/32, mb3.1/4, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.72**	**257**	P	**Pn**	**15 51 36.5**	**+1.2**
SRBI				S	**S**	**15 52 04.0**	**+1.0**
DNP	**Denpasar**	**1.03**	**223**	S	**S**	**15 52 06.1**	**+0.4**
IGBI	**Denpasar**	**1.17**	**221**	P	**Pn**	**15 51 38.3**	**+0.7**
IGBI				S	**S**	**15 52 05.3**	**-1.9**
TWSI	**Taliwang, Sumb**	**1.25**	**130**	P	**Pn**	**15 51 38.8**	**+0.7**
TWSI				S	**S**	**15 52 07.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.83**	**253**	P	**Pn**	**15 51 43.4**	**+1.0**
JAGI				S	**S**	**15 52 13.3**	**-2.4**
PLAI	**Plampang**	**2.04**	**116**	P	**Pn**	**15 51 45.0**	**+0.9**
PLAI				S	**S**	**15 52 17.6**	**-1.3**
BLJI	**Banyuglugur**	**2.31**	**274**	P	**Pn**	**15 51 48.1**	**+1.5**
GMJI	**Gumukmas**	**2.48**	**262**	P	**Pn**	**15 51 49.1**	**+0.9**
GMJI				S	**S**	**15 52 24.4**	**-1.8**
PWJI	**Pagerwojo**	**4.08**	**268**	P	**Pn**	**15 52 05.8**	**+0.3**
BASI	**Baing, Sumba**	**5.13**	**117**	P	**Pn**	**15 52 18.0**	**0.0**
	213nm,1.9s,0.9nm						
UGM	**Wanagama**	**5.35**	**270**	P	**Pn**	**15 52 21.2**	**+0.5**
	51nm,1.2s,0.6nm						
MMRI	**Maumere**	**6.29**	**97**	P	**Pn**	**15 52 32.9**	**+0.7**
	60nm,0.7s,0.3nm						
PBKI	**Pangkalan Bun**	**6.70**	**321**	P	Pn	15 52 39.4	+2.1
	47nm,0.7s,2µm0.2nm						
CMJI	**Cimerak**	**7.41**	**271**	P	**Pn**	**15 52 45.4**	**-0.7**
BATI	**Baumata**	**7.97**	**107**	P	**Pn**	**15 52 53.9**	**+0.6**
	23nm,0.6s,baz=280,slow=6.1,SNR=10.0						
BATI				S	**S**	**15 54 21.5**	**-3.0**
	15nm,0.3s,baz=263,slow=8.1,SNR=6.4						
BATI	**Baumata**	**7.97**	**107**	P	**Pn**	**15 52 53.5**	**+0.2**
	32nm,0.6s,0.2nm						
SOEI	**Soe**	**8.45**	**103**	P	**Pn**	**15 52 59.4**	**+0.1**
	52nm,0.8s						
CNJI	**Cibinong**	**8.74**	**273**	P	**Pn**	**15 53 02.7**	**-0.1**
	16nm,1.5s						
CGJI	**Cibinong**	**10.23**	**277**	P	**Pn**	**15 53 21.4**	**-0.2**
	49nm,2.0s						
MNAI	**Manna**	**13.37**	**285**	P	**Pn**	**15 54 00.9**	**+0.6**
	403nm,1.2s						
WRA	**Warramunga Arr**	**21.47**	**126**	P	**P**	**15 55 30.0**	**+1.6**
	0.2nm,0.3s,baz=301,slow=11,SNR=10.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**23.28**	**134**	P	**P**	**15 55 47.0**	**+2.0**
	0.4nm,0.5s,baz=308,slow=8.8,SNR=11						
ASAR				PcP	**PcP**	**15 59 25.5**	**+1.2**
	0.4nm,0.8s,baz=333,slow=1.7,SNR=2.0						
ASAR				ScP	**ScP**	**16 02 37.6**	**+0.5**
	0.6nm,0.9s,baz=317,slow=2.6,SNR=3.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**62.15**	**335**	P	**P**	**16 00 52.6**	**-1.0**
	0.1nm,0.3s,baz=140,slow=7.5,SNR=2.0						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**66.99**	**341**	P	**P**	**16 01 24.0**	**-0.7**
	0.2nm,0.3s,baz=160,slow=4.6,SNR=2.0						
	0.2nm,0.3s						

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*VAO **07** 16:04:48.6±0.3, 7.°92S×75.°80W, h10km, mb4.7*
*IDC **07** 16:04:53.7±0.6, 7.°86S×75.°43W, h40km±5km, mb4.1/12, mbtmp4.4/18, ML3.7/6, MS3.7/28, Error ellipse: s-maj=19.3km s-min=11.9km az=71.0*
*NEIC **07** 16:04:54.4±1.8, 7.°84S±0.°06×75.°55W±0.°07, h40km±6km, mb4.9/48, Error ellipse: s-maj=10.9km s-min=8.8km az=66.0*

ISC 07 16:04:54.0±0.3, 7.°84S±0.°04×75.°54W±0.°05, h42km±2km, h42km:pP-P, n322, σ1s00/333, mb4.9/41, MS3.8/24, 1C-2D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**2.81**	**88**		**Pn**	**16 05 39.5**	**+3.0**
CZSB	**Cruzeiro do Su**	**2.81**	**88**	*eP*	**Pn**	**16 05 39.4**	**+2.9**
ATAH	**Atahualpa**	**2.91**	**284**	Pn	**Pn**	**16 05 39.4**	**+1.2**
	13nm,0.3s,baz=81,slow=3.8,SNR=106						
ATAH				Sn	**Sn**	**16 06 14.6**	**+2.4**
	80nm,0.3s,baz=190,slow=12,SNR=9.4						
ATAH				LR	LR	16 07 14.5	
	comp=Z,1µm,19.8s,baz=162,slow=46						
	30nm,0.3s						
NNA	**Nana**	**4.32**	**197**	Pn	**Pn**	**16 05 57.9**	**+0.6**
	34nm,0.3s,baz=9.9,slow=11,SNR=23						
NNA				Sn	**Sn**	**16 06 45.9**	**-0.5**
	72nm,0.3s,baz=108,slow=22,SNR=4.3						
NNA				LR	LR	16 08 04.0	
	comp=Z,1µm,18.9s,baz=8.0,slow=44						
	73nm,0.3s						
NNA	**Nana**	**4.32**	**197**		**Pn**	**16 05 58.5**	**+1.2**
NNA				Sn	**Sn**	**16 06 46.2**	**-0.2**
MCRA	**Macar, Loja**	**5.58**	**308**		**Pn**	**16 06 12.4**	**-2.1**
ARNL	**Arenillas**	**6.20**	**313**	Pn	**Pn**	**16 06 21.3**	**-1.7**
TBTG	**Tabatinga, AM**	**6.67**	**57**	*eP*	**Pn**	**16 06 32.1**	**+2.5**
PORT	**Chimborazo Vol**	**7.10**	**333**		**Pn**	**16 06 36.5**	**+0.5**
CHSH	**Refugio Sur-Vo**	**7.12**	**332**		**Pn**	**16 06 38.0**	**+1.8**
SLOR	**San Lorenzo -**	**7.65**	**337**		**Pn**	**16 06 43.8**	**+0.4**
ETMB	**Extrema**	**9.43**	**103**	Pn	**Pn**	**16 07 06.8**	**-0.5**
ETMB	**Extrema**	**9.43**	**103**	*eP*	**Pn**	**16 07 07.1**	**-0.2**
LPAZ	**La Paz**	**11.09**	**140**	Pn	**Pn**	**16 07 30.8**	**+0.1**
LPAZ	**La Paz**	**11.09**	**140**	*eP*	**Pn**	**16 07 29.5**	**-1.1**
SGCB	**SÃo Gabriel d**	**11.43**	**48**	*eP*	**Pn**	**16 07 33.6**	**-1.2**
TEFE	**Tefe**	**11.67**	**69**	*eP*	**Pn**	**16 07 38.1**	**0.0**
PB16	**IPOC Station P**	**11.97**	**151**		**Pn**	**16 07 44.4**	**+1.7**
SAML	**Samuel**	**12.28**	**96**	Pn	**Pn**	**16 07 43.6**	**-2.8**
MNMC	**Minye Minye**	**12.63**	**153**		**Pn**	**16 07 49.9**	**-1.5**
ROSC	**El Rosal**	**12.65**	**6**	Pn	**Pn**	**16 07 52.2**	**+0.4**
	1.2nm,0.3s,baz=217,slow=20,SNR=1.8						
ROSC				LR	LR	16 13 45.1	
	comp=Z,598nm,20.2s,baz=242,slow=42						
	7.2nm,0.5s						
GO01	**Chusmiza**	**13.28**	**153**		**Pn**	**16 07 59.0**	**-1.5**
RUSC	**La Rusia**	**13.86**	**10**	Pn	**Pn**	**16 08 08.2**	**-0.1**
PB02	**IPOC Station P**	**14.47**	**158**	P	**P**	**16 08 23.4**	**+1.2**
PB07	**IPOC Station P**	**14.85**	**159**	Pn	**Pn**	**16 08 20.3**	**-1.1**
PB07				P	**P**	**16 08 28.1**	**+1.6**
PB03	**IPOC Station P**	**15.19**	**159**	P	**P**	**16 08 31.5**	**+1.2**
PB03				IAmb	IAmb	16 08 32.4	
	comp=Z,30nm,0.7s						
MACA	**Manacapuru-AM**	**15.50**	**73**	*eP*	**P**	**16 08 32.0**	**-1.6**
VILB	**Vilhena**	**15.92**	**110**	*eP*	**Pn**	**16 08 36.5**	**+1.3**
LVC	**Limon Verde**	**16.02**	**157**	Pn	**Pn**	**16 08 34.4**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=315,slow=16,SNR=2.4						
LVC				LR	LR	16 15 17.0	
	comp=Z,150nm,19.8s,baz=342,slow=39						
	comp=Z,2.6nm,0.7s						
LVC	**Limon Verde**	**16.02**	**157**	Pn	**Pn**	**16 08 35.1**	**-1.6**
LVC				P	**P**	**16 08 41.3**	**+1.6**
LVC	**Limon Verde**	**16.02**	**157**	*eP*	**Pn**	**16 08 35.2**	**-1.5**
SIV	**San Ignacio**	**16.30**	**121**	Pn	**Pn**	**16 08 38.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=303,slow=11,SNR=34						
SIV				LR	LR	16 15 20.2	
	comp=Z,355nm,19.4s,baz=328,slow=39						
	comp=Z,9.1nm,0.6s						
BBSD	**Serra de San D**	**17.28**	**124**	*eP*	**Pn**	**16 08 50.8**	**-1.5**
SDV	**Santo Domingo**	**17.32**	**17**	P	**Pn**	**16 08 52.4**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=210,slow=1.0,SNR=4.7						
SDV				LR	LR	16 16 46.5	
	comp=Z,401nm,18.7s,baz=170,slow=41						
	comp=Z,5.6nm,0.4s						
SDV	**Santo Domingo**	**17.32**	**17**	*eP*	**Pn**	**16 08 52.8**	**-0.2**
PTLB	**Pontes e Lacer**	**17.75**	**117**		**Pn**	**16 08 57.1**	**-1.0**
PTLB				IAmb	IAmb	16 09 00.9	
	comp=Z,10nm,0.8s						
PTLB	**Pontes e Lacer**	**17.75**	**117**	*eP*	**Pn**	**16 08 55.0**	**-3.1**
BOAV	**Boa Vista**	**18.11**	**56**	P	**P**	**16 09 02.4**	**-0.1**
BOAV				IAmb	IAmb	16 09 14.4	
	comp=Z,8.9nm,1.0s						
BOAV	**Boa Vista**	**18.11**	**56**	*eP*	**Pn**	**16 09 03.7**	**+1.2**
BAUV	**El Baul**	**18.27**	**24**		**P**	**16 09 04.2**	**0.0**
BBRB	**Robore, Bolivi**	**18.49**	**126**	*eP*	**P**	**16 09 06.0**	**-0.7**
AC01	**Pan de Azucar**	**18.81**	**166**	P	**P**	**16 09 10.0**	**-0.2**
PDRB	**Porto dos Gac**	**18.92**	**103**	*eP*	**P**	**16 09 11.9**	**+0.5**
HDC	**Heredia**	**19.67**	**334**	*eP*	**P**	**16 09 16.6**	**-3.1**
CLDB	**Colider**	**19.71**	**100**	*eP*	**P**	**16 09 20.5**	**+0.3**
AC02	**Maricunga**	**19.85**	**163**		**P**	**16 09 22.4**	**+0.4**
ITTB	**Itaituba**	**19.99**	**81**	*eP*	**P**	**16 09 24.2**	**+1.0**
NPGB	**Novo Progresso**	**20.03**	**89**	*eP*	**P**	**16 09 24.2**	**+0.6**
JTS	**Las Juntas de**	**20.30**	**332**	LR	LR	16 16 49.8	
	comp=Z,60nm,18.0s,slow=35						
SALV	**Santo Antonio**	**21.00**	**114**	*eP*	**P**	**16 09 35.2**	**+1.1**
LCO	**Las Campanas**	**21.55**	**168**	P	**P**	**16 09 40.8**	**+0.6**
MALB	**Monte Alegre**	**22.01**	**75**	*eP*	**P**	**16 09 46.9**	**+2.0**
PP1B	**Ponte de Pedra**	**22.35**	**118**	*eP*	**P**	**16 09 49.4**	**+0.9**
AQDB	**Aquidauana**	**22.94**	**125**	P	**P**	**16 09 53.4**	**-1.4**
AQDB				IAmb	IAmb	16 10 13.5	
	comp=Z,43nm,1.9s						
AQDB	**Aquidauana**	**22.94**	**125**	*eP*	**P**	**16 09 53.7**	**-1.1**
TICA	**Tres Isletas**	**23.41**	**144**	*eP*	**P**	**16 09 59.7**	**+0.3**
CO02	**Combarbal**	**23.63**	**170**	P	**P**	**16 10 02.5**	**+0.9**
CO02				IAmb	IAmb	16 10 03.3	
	comp=Z,26nm,1.1s						
SNDB	**Serra Nova Dou**	**24.23**	**102**	*eP*	**P**	**16 10 06.8**	**-0.4**
ARAG	**Araguaiana, MT**	**24.49**	**111**	*eP*	**P**	**16 10 09.8**	**+0.3**
MCPB	**Macapa, AP**	**24.56**	**74**	*eP*	**P**	**16 10 11.9**	**+1.8**
CFA	**Coronel Fontan**	**24.61**	**165**	P	**P**	**16 10 10.2**	**-0.3**
	comp=Z,7.8nm,0.8s,baz=340,slow=9.2,SNR=17						
CFA				LR	LR	16 19 32.6	
	comp=Z,133nm,20.6s,baz=42,slow=36						
	comp=Z,7.8nm,0.8s						
AMBA	**Amambai (Brazi**	**24.80**	**130**	*eP*	**P**	**16 10 11.9**	**-0.3**
CPUP	**Villa Florida**	**25.26**	**139**	P	**P**	**

	baz=134						
TUC	Tucson	52.18	322	P	P	16 14 01.7	+0.8
TUC				pP	pP	16 14 13.1	+0.2
T25A	Trinidad	52.27	331	P	P	16 14 03.2	+1.7
	baz=143						
FRNY	Flat Rock	52.46	2	P	P	16 14 02.4	0.0
SADO	Sadowa	52.46	357	LR	LR	16 40 01.7	
	comp=Z,38nm,18.9s,baz=124,slow=40						
214A	Organ Pipe Nat	53.21	320	P	P	16 14 09.3	+1.0
	baz=132						
SDCO	Great Sand Dun	53.28	330	P	P	16 14 09.5	+0.5
SDCO	Great Sand Dun	53.28	330	P	P	16 14 10.2	+1.2
	baz=142						
W18A	Petrified Fore	53.54	325	P	P	16 14 11.9	+1.0
	baz=136						
S22A	4UR Ranch, Cre	53.94	329	P	P	16 14 14.8	+0.9
	baz=141						
WUAZ	Wupatki	54.76	324	P	P	16 14 20.6	+0.8
	baz=135						
ECSD	EROS Data Cent	54.77	341	P	P	16 14 20.0	+0.6
	baz=154						
BC3	Big Chuckawall	56.00	320	P	P	16 14 28.9	+0.2
	baz=130						
IRM	Iron Mountain	56.13	320	P	P	16 14 29.6	+0.1
	baz=131						
MONP2	Monument Peak	56.15	318	P	P	16 14 30.0	+0.2
	baz=129						
O20A	White River Ci	56.48	330	P	P	16 14 33.1	+1.1
	baz=140						
BELC	Belle Mtn. Jos	56.57	320	P	P	16 14 33.0	+0.2
	baz=130						
TPFO	Pinon Flats	56.61	319	P	P	16 14 32.8	-0.3
	baz=129						
PFO	Pinyon Flats O	56.62	319	LR	LR	16 37 33.5	
	comp=Z,35nm,20.2s,baz=128,slow=35						
PFO	Pinyon Flats O	56.62	319	P	P	16 14 33.1	0.0
	baz=129						
PFO	Pinyon Flats O	56.62	319	P	P	16 14 34.6	+1.4
PFO				pP	pP	16 14 46.7	+1.4
PFO				sP	sP	16 14 51.2	+0.9
GMRC	Granite Mounta	56.86	321	P	P	16 14 35.2	+0.4
	baz=131						
MURC	Murrieta	57.09	319	P	P	16 14 37.1	+0.7
	baz=129						
HEC	Hector,Ludlow	57.31	320	P	P	16 14 38.7	+0.8
	baz=130						
K22A	Casper	57.64	333	P	P	16 14 41.2	+1.0
	baz=143						
BFSC	Mount Baldy Ra	57.79	319	P	P	16 14 41.7	+0.4
	baz=128						
GSC	Goldstone, Bar	57.91	320	P	P	16 14 42.8	+0.7
	baz=130						
SHOC	Shoshone, Teco	57.96	321	P	P	16 14 42.4	0.0
	baz=131						
EDW2	Edwards Air Fo	58.41	319	P	P	16 14 45.4	-0.2
	baz=128						
SNCC	San Nicolas Is	58.43	317	P	P	16 14 45.9	+0.2
	baz=126						
LRMC	Laurel Mtn Rad	58.58	320	P	P	16 14 46.6	-0.2
	baz=129						
TPNV	Topopah Spring	58.63	322	P	P	16 14 48.2	+1.0
	baz=131						
FURC	Furnace Creek,	58.69	321	P	P	16 14 48.2	+0.8
	baz=130						
AGMN	Agassiz Nation	58.69	344	P	P	16 14 48.1	+0.9
	baz=156						
MPMC	Manual Prospec	58.82	321	P	P	16 14 49.4	+0.8
	baz=130						
DUG	Dugway, Tooele	58.88	327	P	P	16 14 49.4	+0.6
	baz=136						
PDAR	Pinedale Array	59.13	331	P	P	16 14 50.5	-0.2
	comp=Z,0.6nm,0.6s,baz=123,slow=9.5,SNR=6.3						
PDAR				PcP	PcP	16 15 38.9	-0.1
	comp=Z,0.8nm,0.5s,baz=125,slow=7.5,SNR=7.2						
	comp=Z,0.6nm,0.6s						
R11A	Troy Canyon, C	59.16	324	P	P	16 14 50.0	-0.9
R11A	Troy Canyon, C	59.16	324	P	P	16 14 51.5	+0.6
	baz=132						
ISA	Isabella, Lake	59.20	320	P	P	16 14 52.0	+0.9
	baz=128						
HWUT	Hardware Ranch	59.25	329	P	P	16 14 50.9	-0.6
HWUT				IAmb	IAmb	16 14 52.8	
	comp=Z,8.5nm,1.1s						
GRAC	Grapevine Rang	59.34	322	P	P	16 14 52.8	+0.8
	baz=130						
MDND	Maddock	59.38	341	P	P	16 14 53.2	+1.2
	baz=152						
CWC	Cottonwood Cre	59.43	321	P	P	16 14 52.4	-0.4
	baz=129						
ULM	Lac du Bonnet	60.49	345	P	P	16 14 58.8	-0.7
	comp=Z,2.8nm,0.5s,baz=145,slow=6.6,SNR=7.2						
	comp=Z,2.8nm,0.5s						
ELK	Elko	60.58	326	LR	LR	16 40 34.2	
	comp=Z,36nm,21.6s,baz=88,slow=35						
NVAR	Mina Array Bea	60.83	322	P	P	16 15 03.4	+1.0
	comp=Z,2.5nm,0.8s,baz=135,slow=7.5,SNR=9.0						
NVAR				PcP	PcP	16 15 45.2	-0.6
	comp=Z,0.6nm,0.5s,baz=114,slow=6.6,SNR=3.6						
	comp=Z,2.5nm,0.8s						
DGMT	Dagmar	61.48	339	P	P	16 15 07.2	+0.9
	baz=148						
HLID	Hailey	62.11	329	P	P	16 15 11.7	+0.8
	baz=136						
BOZ	Bozeman (W)	62.24	332	P	P	16 15 12.3	+0.6
	baz=139						
SCHQ	Schefferville	62.86	6	LR	LR	16 43 24.1	
	comp=Z,58nm,18.4s,baz=264,slow=37						
SCHQ	Schefferville	62.86	6	pP	pP	16 15 27.3	-0.6
ORV	Oroville	63.47	322	P	P	16 15 20.7	+0.8
ORV				IAmb	IAmb	16 15 22.3	
	comp=Z,14nm,1.1s						
ORV				pP	pP	16 15 33.0	+0.7
MSO	Missoula	64.23	332	P	P	16 15 25.8	+0.9
	baz=137						
K05A	Summer Lake	65.07	325	P	P	16 15 30.4	-0.1
K05A				IAmb	IAmb	16 15 32.8	
	comp=Z,12nm,0.9s						
WALA	Waterton Lakes	65.86	333	P	P	16 15 35.6	+0.3
WALA				IAmb	IAmb	16 17 10.9	
	comp=Z,5.7nm,1.0s						
FFC	Flin Flon	66.15	344	P	P	16 15 37.2	+0.2
FFC				pP	pP	16 15 48.8	-0.6
NEW	Newport	66.77	331	LR	LR	16 50 36.5	
	comp=Z,29nm,18.5s,baz=52,slow=41						
FCC	Fort Churchill	68.04	350	P	P	16 15 48.5	-0.3
FCC				pP	pP	16 16 00.9	-0.4
FCC				IAmb	IAmb	16 16 01.6	
	comp=Z,17nm,1.2s						
DBIC	Dimbokro	71.95	80	P	P	16 16 13.5	-0.3
DBIC				IAmb	IAmb	16 16 14.8	
	comp=Z,12nm,0.7s						
TBI	Tubuai	72.20	248	*e*LR	LR	16 38 16.9	
	comp=Z,503nm,29.5s						
TBI				*e*LR	LR	16 38 17.1	
	comp=Z,1μm,23.0s						
PPT2	Papeete2	72.50	254	*e*LR	LR	16 38 25.2	
	comp=Z,92nm,25.0s						
PPT	Papeete	72.51	254	LR	LR	16 40 33.3	
	comp=Z,62nm,19.0s,baz=119,slow=30						
BELA	Belgrano 2	73.10	172	P	P	16 16 18.9	-0.6
BELA				IAmb	IAmb	16 16 21.6	
	comp=Z,8.6nm,1.2s						
BELA				pP	pP	16 16 31.3	-0.8
VNA3	Neumayer Olymp	74.98	162	P	P	16 16 31.7	+1.1
VNA1	Neumayer--Stat	75.21	161	P	P	16 16 33.5	+1.7
VNA2	Neumayer--Watz	75.57	162	P	P	16 16 35.1	+1.2
	baz=294,slow=5.0						
YKA	Yellowknife Ar	76.28	342	P	P	16 16 38.2	+0.3
	comp=Z,2.8nm,0.7s,baz=141,slow=6.0,SNR=43						
YKA				pP	PcP	16 16 49.9	+0.1
	comp=Z,3.3nm,0.9s,baz=141,slow=5.5,SNR=14						
	comp=Z,2.8nm,0.7s						
SFJD	Kangerlussuaq	76.78	10	LR	LR	16 51 03.1	
	comp=Z,76nm,18.1s,baz=168,slow=36						
DY2G	Dye2	77.12	12	*i* P	P	16 16 43.1	+0.1
DY2G				IAmb	IAmb	16 16 56.7	
	comp=Z,15nm,0.6s						
KOTAN	Kotaneelee Air	77.80	337	P	P	16 16 47.5	+0.8
	baz=131						
T35M	Bob Quinn	78.46	333	P	P	16 16 51.7	+1.3
	baz=124						
MDT	Midelt	78.49	54	LR	LR	16 49 33.2	
	comp=Z,27nm,18.5s,baz=328,slow=34						
TROLL	Troll, Antarti	78.91	162	P	P	16 16 54.2	+1.4
ICESG	Greenland Ices	80.69	12	*i* P	P	16 17 03.4	+0.7
ICESG				IAmb	IAmb	16 17 16.4	
	comp=Z,14nm,0.7s						
ESDC	Sonseca Array	81.05	48	P	P	16 17 03.5	-1.4
	comp=Z,1.0nm,0.9s,baz=262,slow=4.8,SNR=5.5						
	comp=Z,1.0nm,0.9s						
RAR	Rarotonga	81.86	250	P	P	16 17 08.5	-0.9
	comp=Z,14nm,0.8s,baz=196,slow=7.4,SNR=1.8						
RAR				pP	pP	16 17 21.4	-0.8
	comp=Z,22nm,0.6s,baz=33,slow=12,SNR=4.3						
	comp=Z,14nm,0.8s						
QSPA	South Pole Qui	82.27	180	P	P	16 17 12.3	+1.4
QSPA				IAmb	IAmb	16 17 13.3	
	comp=Z,14nm,1.1s						
QSPA				pP	pP	16 17 23.1	-0.6
FARO	Faro, Yukon	82.67	336	P	P	16 17 13.2	+0.3
	baz=122						
KULLO	Kullorsuaq	83.04	5	*i* P	P	16 17 11.0	-3.5
KULLO				IAmb	IAmb	16 17 18.4	
	comp=Z,12nm,0.7s						
N31M	Braeburn, Yuko	83.27	335	P	P	16 17 16.9	+0.9
	baz=120						
SUMG	Summit	83.74	11	*i* P	P	16 17 19.0	+0.4
SUMG				IAmb	IAmb	16 17 32.3	
	comp=Z,23nm,1.1s						
M30M	Minto, Yukon	84.23	336	P	P	16 17 21.7	+0.8
	baz=119						
TULEG	Thule	84.33	2	*i* P	P	16 17 09.7	-11
YUK4	Talbot Arm	84.41	334	P	P	16 17 23.4	+1.4
	baz=118						
M29M	Somme Creek	84.84	335	P	P	16 17 25.1	+1.1
	baz=118						
L29M	L29M	85.02	336	P	P	16 17 25.8	+1.0
	baz=118						
K29M	Barlow Dome	85.13	337	P	P	16 17 25.8	+0.3
	baz=119						
ELIB	Princess Elisa	85.36	162	*d*PcP	P	16 17 27.6	+1.0
ELIB				*d*pP	pP	16 17 38.1	-1.3
YUK3	Moose Creek	85.38	334	P	P	16 17 27.4	+0.5
	baz=116						
BVCY	Beaver Creek	85.83	335	P	P	16 17 29.7	+0.8
	baz=116						
A36M	Sachs Harbour	85.95	346	P	P	16 17 29.3	+0.1
	baz=131						
DAWY	Dawson	85.96	337	P	P	16 17 29.4	-0.1
	baz=117						
INK	Inuvik	86.01	342	LR	LR	16 58 50.0	
	comp=Z,53nm,18.3s,baz=293,slow=38						
INK	Inuvik	86.01	342	P	P	16 17 30.3	+0.7
	baz=123						
EPYK	Eagle Plains	86.07	339	P	P	16 17 30.4	+0.4
	baz=120						
I29M	Ogilvie Camp,	86.15	338	P	P	16 17 30.6	+0.2
	baz=118						
M27K	Edge Creek, AK	86.23	335	P	P	16 17 31.7	+0.7
	baz=115						
NEEM	North Greenlan	86.27	5	*i* P	P	16 17 32.3	+1.2
NEEM				IAmb	IAmb	16 17 45.0	
	comp=Z,8.0nm,0.7s						
MCARA	McCarthy VSAT	86.33	334	P	P	16 17 32.1	+0.7
	baz=114						
L27K	Beaver Creek,	86.51	335	P	P	16 17 33.3	+1.1
	baz=115						
M26K	Nabesna, AK	86.73	334	P	P	16 17 33.2	-0.1
	baz=114						
BMRM	Bremner River	86.88	333	P	P	16 17 34.2	+0.1
	baz=112						
EGAK	Eagle	86.97	337	P	P	16 17 35.4	+1.0
	baz=116						
L26K	Log Cabin Wild	87.13	335	P	P	16 17 36.5	+1.3
	baz=113						
I27K	Kandik River	87.50	338	P	P	16 17 37.1	+0.1
	baz=115						
KLU	Klutina	87.66	333	P	P	16 17 38.6	+0.7
KLU	Klutina	87.66	333	P	P	16 17 38.9	+0.9
	baz=111						
DOT	Dot Lake	87.67	335	P	P	16 17 38.0	+0.1
DOT				IAmb	IAmb	16 17 39.3	
	comp=Z,8.9nm,0.8s						
H27K	Steamboat Moun	87.73	338	P	P	16 17 38.8	+0.7
	baz=115						
SCRK	Sand Creek	87.76	336	P	P	16 17 38.9	+0.5
SCRK				IAmb	IAmb	16 17 39.8	
	comp=Z,5.9nm,0.7s						
SCRK	Sand Creek	87.76	336	P	P	16 17 39.4	+1.0
	baz=113,SNR=7.8						
J26L	Joseph Creek	87.80	336	P	P	16 17 39.1	+0.5
J26L				IAmb	IAmb	16 17 40.2	
	comp=Z,11nm,0.8s						
J26L	Joseph Creek	87.80	336	P	P	16 17 39.4	+0.9
	baz=113						
M24K	Tolsona, Glenn	88.00	334	P	P	16 17 40.5	+1.0
M24K				pP	pP	16 17 53.1	+0.7
M24K	Tolsona, Glenn	88.00	334	P	P	16 17 40.5	+1.0
	baz=111						
PAX	Paxson	88.00	335	P	P	16 17 39.9	+0.4
PAX				IAmb	IAmb	16 17 40.7	
	comp=Z,8.5nm,0.8s						
PAX	Paxson	88.00	335	P	P	16 17 40.1	+0.6
	baz=112,SNR=5.8						
G27K	Doyon Strip	88.02	339	P	P	16 17 39.6	+0.1
	baz=115						
RIDG	Independent Ri	88.03	335	P	P	16 17 39.5	-0.1
RIDG				IAmb	IAmb	16 17 41.6	
	comp=Z,11nm,0.9s						
RIDG	Independent Ri	88.03	335	P	P	16 17 40.2	+0.6
	baz=112						
J25K	Salcha River,	88.56	336	P	P	16 17 42.9	+0.8
J25K				pP	pP	16 17 54.9	-0.1
J25K	Salcha River,	88.56	336	P	P	16 17 42.7	+0.6
	baz=112						
M23K	Glacier View	88.58	333	P	P	16 17 42.7	+0.6
	baz=110						
E27K	Coleen River	88.59	340	P	P	16 17 42.5	+0.4
	baz=115						
WAT6	Susitna Watana	88.84	334	P	P	16 17 44.1	+0.5
	baz=110,SNR=7.4						
SML	Sawmill	88.85	333	P	P	16 17 43.7	+0.2
SML	Sawmill	88.85	333	P	P	16 17 44.2	+0.7
	baz=109,SNR=6.3						
PRP	Porcupine Dome	88.96	337	P	P	16 17 44.6	+0.5
	baz=112						
VNDA	Vanda	89.08	191	P	P	16 17 44.8	+0.5
	comp=Z,2.3nm,0.8s,baz=106,slow=3.7,SNR=11						
	comp=Z,2.3nm,0.8s						
HDA	Harding Lake	89.13	336	P	P	16 17 45.2	+0.5
	baz=110						
PMR	Palmer	89.14	333	P	P	16 17 44.0	-0.8
	baz=108						
ILAR	Eielson Array	89.23	336	P	P	16 17 45.1	0.0
	comp=Z,2.5nm,0.8s,baz=141,slow=3.1,SNR=33						
ILAR				pP	pP	16 17 57.7	-0.4
	comp=Z,2.3nm,0.8s,baz=125,slow=3.2,SNR=9.7						
	comp=Z,2.5nm,0.8s						
ILAR	Eielson Array	89.23	336	P	P	16 17 45.6	+0.4
F26K	Sheenjek River	89.27	339	P	P	16 17 46.4	+1.1
	baz=113						
RC01	Rabbit Creek A	89.27	332	P	P	16 17 45.4	-0.1
	baz=108						
WAT1	Susitna Watana	89.28	334	P	P	16 17 45.7	+0.2
	baz=109						
BRSE	Bradley Lake S	89.35	331	P	P	16 17 45.8	-0.1
	baz=107						
CCB	Clear Creek Bu	89.56	336	P	P	16 17 46.0	-0.6
CCB				IAmb	IAmb	16 17 48.0	
	comp=Z,5.7nm,0.8s						
POKR	Poker Plat Res	89.57	336	P	P	16 17 46.1	-0.6
POKR				IAmb	IAmb	16 17 48.4	
	comp=Z,5.8nm,0.8s						
POKR	Poker Plat Res	89.57	336	P	P	16 17 47.4	+0.7
	baz=110,SNR=5.2						
G25K	Bearman Lake	89.63	338	P	P	16 17 48.2	+1.3
	baz=111						
M22K	Willow	89.64	333	P	P	16 17 48.1	+1.0
	baz=107						
MCK	McKinley	89.73	335	P	P	16 17 47.9	+0.4
	baz=108						
F25K	Christian Rive	89.76	339	P	P	16 17 48.7	+1.1
	baz=111						
MDM	Murphy Dome	89.83	336	P	P	16 17 48.2	+0.2
SUA	Susitna One	89.85	332	P	P	16 17 49.2	+1.0
	baz=107						
C27K	Jago River	89.88	341	P	P	16 17 49.3	+1.2
	baz=113						
CUT	Chulitna	89.90	333	P	P	16 17 48.5	+0.2
	baz=107						
E25K	Arctic Village	89.93	339	P	P	16 17 49.4	+1.0
	baz=112						
H24K	Noodor Dome	89.98	337	P	P	16 17 49.7	+1.0
	baz=109						
NEA2	Nenana	90.06	336	P	P	16 17 49.5	+0.5
NEA2	Nenana	90.06	336	P	P	16 17 49.6	+0.5
	baz=108,SNR=9.7						
G24K	Hadweenzic Riv	90.12	338	P	P	16 17 50.6	+1.3
	baz=110						
TRF	Thorofare Moun	90.22	334	P	P	16 17 50.4	+0.4
	baz=107						
I23K	Minto, Yukon-K	90.35	336	P	P	16 17 50.9	+0.5
I23K				IAmb	IAmb	16 17 51.8	
	comp=Z,5.7nm,0.6s						
I23K	Minto, Yukon-K	90.35	336	P	P	16 17 50.5	+0.1
	baz=108,SNR=6.0						
SKT	Skwentna	90.35	333	P	P	16 17 50.5	+0.1
SKT				pP	pP	16 18 02.8	-0.7
SKT	Skwentna	90.35	333	P	P	16 17 51.1	+0.7
	baz=106,SNR=6.5						
TSUM	Tsumeb	90.39	109	LR	LR	16 57 51.6	
	comp=Z,41nm,18.1s,baz=176,slow=35						
KEST	Kesra	90.40	54	LR	LR	16 59 30.1	
	comp=Z,28nm,18.3s,baz=311,slow=36						
SPCR	Spurr Chakacha	90.45	332	P	P	16 17 51.5	+0.4
	baz=106						
KTH	Kantishna Hill	90.52	334	P	P	16 17 51.8	+0.5
KTH				IAmb	IAmb	16 18 04.7	
	comp=Z,13nm,1.2s						
F24K	Squaw Lake	90.54	339	P	P	16 17 52.0	+0.7
	baz=109						
H23K	Yukon River	90.63	337	P	P	16 17 51.7	0.0
	baz=108						
D25K	Kavik River	90.63	340	P	P	16 17 52.1	+0.4
	baz=111						
BPAW	Bear Paw Mtn.	90.71	335	P	P	16 17 52.4	+0.3
BPAW	Bear Paw Mtn.	90.71	335	P	P	16 17 52.6	+0.5
	baz=107,SNR=9.1						
MLY	Manley	90.87	336	P	P	16 17 53.2	+0.4
MLY				IAmb	IAmb	16 17 53.9	
	comp=Z,4.0nm,0.7s						
MLY	Manley	90.87	336	P	P	16 17 52.8	-0.1
	baz=107,SNR=6.3						
PPLA	Purkeypile	90.89	334	P	P	16 17 53.4	+0.2
PPLA	Purkeypile	90.89	334	P	P	16 17 53.3	+0.2
	baz=106						
E24K	Your Creek	90.94	339	P	P	16 17 54.2	+1.0
	baz=109						
CAST	Castle Rocks	90.99	334	P	P	16 17 53.1	-0.3
CAST	Castle Rocks	90.99	334	P	P	16 17 53.6	+0.2
	baz=106,SNR=8.4						
M20K	Styx River	91.05	332	P	P	16 17 53.8	0.0
	baz=105						
G23K	Bananza Creek	91.08	337	P	P	16 17 54.4	+0.6
	baz=107						
SUR	Sutherland	91.18	123	LR	LR	16 55 45.1	
	comp=Z,36nm,19.4s,baz=194,slow=34						
COLD	Coldfoot	91.30	338	P	P	16 17 55.0	+0.3
	baz=107						
N19K	Bonanza Creek	91.43	331	P	P	16 17 55.5	-0.1
	baz=104						
C24K	Franklin Bluff	91.54	340	P	P	16 17 56.9	+1.2
	baz=109						
L20K	Farewell, AK	91.54	333	P	P	16 17 55.7	-0.3
	baz=104						
K20K	Telida	91.84	334	P	P	16 17 57.2	-0.2
	baz=104						
H21K	Melozitna Rive	91.87	336	P	P	16 17 57.4	0.0
	baz=105						
L19K	White Mountain	91.91	333	P	P	16 17 57.4	-0.4
	baz=103						
D23K	Nanushuk River	91.98	340	P	P	16 17 59.0	+1.1
	baz=107						
J20K	Nowinta River	92.06	335	P	P	16 17 59.1	+0.8
	baz=104						
F22K	John River	92.11	338	P	P	16 17 60.0	+1.4
	baz=105						
G21K	Allakaket	92.37	337	P	P	16 18 00.7	+1.0
	baz=104						
O17K	Koliganek Bris	92.47	330	P	P	16 18 00.3	0.0
	baz=101						
CHGN	Chignik	92.52	326	P	P	16 17 59.9	-0.7
	baz=100						
F21K	Alatna River	92.53	338	P	P	16 17 59.7	-0.8
	baz=104						
NOA	NORSAR Array B	95.22	29	LR	LR	16 57 22.5	
	comp=Z,16nm,21.2s,baz=40,slow=33						
LBTB	Lobatse	96.70	116	LR	LR	16 59 32.9	
	comp=Z,43nm,18.4s,baz=227,slow=34						
SPIA	Saint Paul Isl	99.08	327	P	Pdif	16 18 29.6	-0.8
	baz=90						
STKA	Stephens Creek	126.93	220	PKP	PKPdf	16 23 54.0	0.0
	comp=Z,2.2nm,0.6s,baz=91,slow=3.4,SNR=9.4						
ZALV	Zalesovo Beam	131.36	15	PKP	PKiKP	16 24 02.3	-0.3
	comp=Z,1.3nm,0.4s,baz=300,slow=2.9,SNR=13						
ZALV				pPKP	pPKPdf	16 24 15.2	+0.2
	comp=Z,5.6nm,0.9s,baz=300,slow=2.9,SNR=10						
USRK	Ussuriysk Ar.	136.55	331	PKP	PKPdf	16 24 11.8	+0.1
	comp=Z,1.4nm,0.8s,baz=132,slow=2.8,SNR=4.6						
MKAR	Makanchi Array	136.79	22	PKP	PKPdf	16 24 12.3	+0.2
	comp=Z,0.6nm,0.6s,baz=353,slow=2.1,SNR=7.1						
ASAR	Alice Springs	137.48	222	PKhKP	PKPpre	16 24 06.0	
	comp=Z,0.6nm,0.5s,baz=136,slow=2.3,SNR=18						
ASAR				PKP	PKPdf	16 24 14.2	0.0
	comp=Z,2.3nm,0.8s,baz=116,slow=2.0,SNR=13						
MJAR	Matsushiro Arr	138.05	318	PKhKP	PKPpre	16 24 07.1	
	comp=Z,0.7nm,0.8s,baz=150,slow=9.9,SNR=2.7						
MJAR				PKP	PKPdf	16 24 14.9	+0.1
	comp=Z,1.6nm,0.8s,baz=86,slow=2.2,SNR=5.9						
WRA	Warramunga Arr	139.66	226	PKhKP	PKPpre	16 24 11.2	
	comp=Z,0.4nm,0.5s,baz=136,slow=2.5,SNR=2.5						
WRA				PKP	PKPdf	16 24 18.2	0.0
	comp=Z,3.5nm,0.8s,baz=130,slow=1.3,SNR=18						
KSRS	Korea Array	143.64	328	PKhKP	PKPpre	16 24 21.1	
	comp=Z,2.7nm,0.8s,baz=45,slow=3.4,SNR=7.4						
FITZ	Fitzroy Crossi	146.81	219		PKPbc	16 24 33.0	+0.4
FITZ					pPKPbc	16 24 45.0	-0.8
MBWA	Marble Bar	147.51	207	PKPbc	PKPbc	16 24 34.4	-0.1
GTA	Gaotai	148.29	7	⇑PKPbc	PKPbc	16 24 36.6	+0.4
GTA				PKPab	pPKPbc	16 24 48.9	-0.6
LZH	Lanzhou	151.88	1	*e*PKPbc	PKPdf	16 24 34.4	-4.2
LZH				pPKP	PKPbc	16 24 44.2	-0.9
LZH				sPKP		16 24 47.1	
PZH	PanZhiHua	161.25	8	PKP	PKPdf	16 24 47.2	-3.7
CMAR	Chiang Mai Arr	168.16	26	PKP	PKPdf	16 24 57.2	+0.2
	comp=Z,0.3nm,0.4s,baz=280,slow=2.2,SNR=5.3						
CMAR				pPKP	pPKPdf	16 25 10.7	+0.3
	comp=Z,1.5nm,0.9s,baz=299,slow=2.8,SNR=4.8						
CMAR				PKPab	PKPab	16 26 06.0	+1.1
	comp=Z,1.0nm,0.8s,baz=327,slow=6.3,SNR=7.6						
CMAR				pPKPab	pPKPab	16 26 17.9	+0.1
	comp=Z,2.8nm,0.8s,baz=324,slow=5.7,SNR=11						

*SOME **07** 16:08:16.7, 39°.05N×75°.87E, h0km*
*NNC **07** 16:08:22.5±2.1, 39°.24N×75°.96E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=15.2km s-min=9.9km az=155.0
*KRNET **07** 16:08:27.5±0.1, 39°.30N×75°.79E, mb3.1*
ISC 07 16:08:29.0±1.8**, 39°.35N**±0°.08×**75°.77E**±0°.05**, h10km, n37,**
σ**2s.86**/51**, 24C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	2.09	5	⇑*i*P	Pb	16 09 06.0	-1.2
	baz=4.0						
NRN				⇑*i*S	Sb	16 09 34.1	+0.7
	baz=4.0						
OHH	Osh	2.58	298	⇑*i*P	Pb	16 09 13.0	-2.3
	baz=99						
OHH				⇑*i*S	Sb	16 09 45.9	-1.2
	baz=99						
ARLS	Aral	2.74	337	⇑*i*P	Pb	16 09 15.5	-2.7
	baz=37						
ARLS				⇑*i*S	Sb	16 09 50.0	-1.9
	baz=37						
ULHL	Ulahol	2.92	7	⇑*i*P	Pb	16 09 17.8	-3.4
	baz=7.0						
ULHL				⇑*i*S	Sb	16 09 54.2	-2.9
	baz=7.0						
KDJ	Kajisay	2.98	21	⇓*e*P	Pb	16 09 18.8	-3.5
	baz=20						
KDJ				⇓*i*S	Sb	16 09 55.5	-3.3
	baz=20						
UCH	Uchtor	3.03	342	⇑*e*P	Pn	16 09 19.3	+1.9
	baz=42						
UCH				⇑*i*S	Sn	16 09 56.9	+2.9
	baz=42						
DRK	Karamyk	3.07	274	⇑*i*P	Pn	16 09 19.5	+1.6
	baz=75						
DRK				⇑*i*S	Sb	16 09 57.4	-4.2
	baz=75						

AML	**Almayashu**	**3.19**	**331**	⇑*e*P	**Pn**	**16 09 21.2**	**+1.6**
	baz=31								
AML				⇑*i*S	**Sn**	**16 10 01.2**	**+3.2**
	baz=31								
KBK	**Karagaybulak**	**3.36**	**350**	⇑*e*P	**Pn**	**16 09 23.5**	**+1.7**
	baz=50								
KBK				⇑*i*S	**Sn**	**16 10 05.5**	**+3.7**
	baz=50								
AAK	**Ala-Archa**	**3.42**	**344**	⇑*e*P	**Pn**	**16 09 24.4**	**+1.8**
	baz=44								
AAK				⇑*e*S	**Sn**	**16 10 06.8**	**+3.5**
	baz=44								
TKM2	**Tokmak 2**	**3.57**	**358**	⇓Pg	**Pb**	**16 09 30.7**	**-1.7**
	3.8nm,0.7s								
TKM2				⇓Lg	Lg	16 10 19.9			
	5.3nm,0.5s								
TKM2	**Tokmak 2**	**3.57**	**358**	⇑*i*P	**Pn**	**16 09 26.5**	**+1.8**
	baz=58								
TKM2				⇑*e*S	**Sn**	**16 10 10.2**	**+3.2**
	baz=58								
KST	**Kastek**	**3.69**	**2**	Pg	**Pb**	**16 09 30.8**	**-3.6**
	3.7nm,0.4s								
KST				Lg	Lg	16 10 24.5			
	10.0nm,0.5s								
KST	**Kastek**	**3.69**	**2**	*e*Pg	**Pb**	**16 09 30.8**	**-3.6**
	3.7nm,0.4s								
KST				*e*Lg	Lg	16 10 24.5			
	10.0nm,0.5s								
CHMS	**Chumysh**	**3.73**	**348**	⇑Pg	**Pb**	**16 09 31.3**	**-3.7**
	4.7nm,0.8s								
CHMS				⇓Lg	Lg	16 10 24.9			
	26nm,1.0s								
TNSS	**Tian-Shan**	**3.79**	**13**	Pg	**Pn**	**16 09 31.1**	**+3.2**
	3.2nm,0.5s								
TNSS				Lg	Lg	16 10 25.7			
	5.0nm,0.7s								
TNSS	**Tian-Shan**	**3.79**	**13**	*e*Pg	**Pn**	**16 09 31.1**	**+3.2**
	3.2nm,0.5s								
TNSS				*e*Lg	Lg	16 10 25.0			
	5.0nm,0.7s								
MTBS	**Maitube**	**3.81**	**7**	Pg	**Pb**	**16 09 32.6**	**-3.8**
	4.0nm,0.4s								
MTBS				Lg	Lg	16 10 27.2			
	6.4nm,0.3s								
MTBS	**Maitube**	**3.81**	**7**	*e*Pg	**Pb**	**16 09 32.5**	**-3.9**
	5.9nm,0.3s								
MTBS				*e*Lg	Lg	16 10 27.2			
	6.4nm,0.3s								
BTK	**Batken**	**3.88**	**282**	⇑*i*P	**Pn**	**16 09 31.3**	**+2.5**
	baz=83								
BTK				⇑*i*S	**Sn**	**16 10 16.7**	**+2.2**
	baz=83								
MDOK	**Medeo**	**3.93**	**14**	Pg	**Pb**	**16 09 34.3**	**-4.2**
	2.2nm,0.3s								
MDOK				Pg	Pg	16 09 37.9	-6.5		
	5.3nm,0.8s								
MDOK				Lg	Lg	16 10 30.2			
	10nm,0.7s								
MDOK				Lg	Lg	16 10 30.4			
	9.2nm,0.6s								
MDOK	**Medeo**	**3.93**	**14**	*e*Pg	**Pb**	**16 09 34.2**	**-4.3**
	2.2nm,0.3s								
MDOK				*e*Lg	Lg	16 10 30.2			
	10nm,0.7s								
SGDS	**Sogindy**	**4.19**	**349**	Pg	**Pb**	**16 09 39.4**	**-3.4**
	3.2nm,0.5s								
SGDS				Lg	Lg	16 10 38.9			
	7.2nm,0.7s								
SATY	**Saty**	**4.21**	**27**	Pg	**Pb**	**16 09 40.4**	**-2.8**
	6.1nm,0.7s								
SATY				Lg	Lg	16 10 41.3			
	9.6nm,0.6s								
SATY	**Saty**	**4.21**	**27**	*e*Pg	**Pb**	**16 09 40.6**	**-2.6**
	6.1nm,0.7s								
SATY				*e*Lg	Lg	16 10 41.2			
	9.6nm,0.3s								
KRBS	**Karabastau**	**4.34**	**359**	Pg	**Pb**	**16 09 43.9**	**-1.6**
	3.4nm,0.5s								
KRBS				Lg	Lg	16 10 47.4			
	8.1nm,1.1s								
KRBS	**Karabastau**	**4.34**	**359**	*e*Pg	**Pb**	**16 09 43.9**	**-1.6**
	3.4nm,0.5s								
KRBS				*e*Lg	Lg	16 10 46.8			
	4.5nm,0.4s								
KTBS	**Karatobe**	**4.41**	**9**	Pg	**Pb**	**16 09 43.3**	**-3.3**
	1.5nm,0.4s								
KTBS				Lg	Lg	16 10 46.0			
	9.0nm,0.7s								
KTBS	**Karatobe**	**4.41**	**9**	*e*Pg	**Pb**	**16 09 43.3**	**-3.3**
	1.5nm,0.4s								
KTBS				*e*Lg	Lg	16 10 46.0			
	9.0nm,0.7s								
KURS	**Kuram**	**4.51**	**23**	Pg	**Pb**	**16 09 44.7**	**-3.7**
	4.7nm,0.8s								
KURS				Lg	Lg	16 10 48.3			
	7.8nm,0.6s								
KURS	**Kuram**	**4.51**	**23**	*e*Pg	**Pb**	**16 09 44.7**	**-3.7**
	4.7nm,0.8s								
KURS				*e*Lg	Lg	16 10 48.3			
	7.8nm,0.6s								
KUU	**Kurty**	**4.56**	**5**	Pg	**Pb**	**16 09 47.7**	**-1.5**
	2.9nm,0.6s								
KUU				Lg	Lg	16 10 53.8			
	16nm,0.5s								
KUU	**Kurty**	**4.56**	**5**	*e*Pg	**Pb**	**16 09 47.7**	**-1.5**
	2.9nm,0.3s								
KUU				*e*Lg	Lg	16 10 53.6			
	16nm,0.5s								
CHKK	**Chushkaly**	**4.59**	**11**	*e*Pg	**Pb**	**16 09 46.7**	**-3.0**
	1.3nm,0.2s								
CHKK				*e*Lg	Lg	16 10 51.6			
	4.8nm,0.2s								
SHLS	**Shalkode**	**4.72**	**35**	Pg	**Pb**	**16 09 51.3**	**-0.6**
	1.8nm,0.2s								
SHLS				Lg	Lg	16 10 59.9			
	4.5nm,0.5s								
SHLS	**Shalkode**	**4.72**	**35**	*e*Pg	**Pb**	**16 09 51.3**	**-0.6**
	1.8nm,0.2s								
SHLS				*e*Lg	Lg	16 10 59.9			
	4.5nm,0.5s								
KK31	**Karatay Array**	**5.46**	**315**	⇓Pn	**Pn**	**16 09 49.8**	**-0.6**
	0.5nm,0.5s,baz=130,slow=13,SNR=14								
KK31				⇓Pg	**Pb**	**16 10 05.1**	**+0.8**
	0.4nm,0.5s								
KK31				⇑Sn	**Sn**	**16 10 54.0**	**+0.8**
	1.0nm,0.5s								
KK31				⇓Lg	Lg	16 11 19.3			
	0.7nm,0.4s,baz=129,slow=32								

*NOU **07** 16:13:59.3,37˚.08S×179˚.95E,h0km,ML4.2/7, Off E. Coast of N. Island, N.Z.*
*WEL **07** 16:14:09.8±1.2,37˚S±11˚×17˚9E±1˚0,h64km±22km, M3.6/15, ML3.8/17, MLv3.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=146.1, confirmed*
ISC 07 16:14:03.0±2.7,37˚.09S±0˚.07×179˚.6E±0˚.1,h10km±12km, n86,σ1§39/92, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.10**	**244**	P	**Pb**	**16 14 24.1**	**0.0**
MXZ	**Matakaoa Point**	**1.10**	**244**	P	**Pb**	**16 14 23.8**	**-0.2**
WMGZ	**Waiomatatini S**	**1.16**	**231**	P	**Pn**	**16 14 27.7**	**+2.4**
WMGZ				S	**Sb**	**16 14 41.3**	**+1.1**
PKGZ	**Pakihiroa**	**1.42**	**235**	P	**Pg**	**16 14 30.8**	**+0.6**
PUZ	**Puketiti**	**1.42**	**226**	P	**Pg**	**16 14 31.2**	**+0.9**
PUZ				S	**Sg**	**16 14 48.1**	**-0.7**
HAZ	**Te Kaha**	**1.56**	**244**	P	**Pg**	**16 14 33.1**	**+0.2**
HAZ				S	**Sn**	**16 14 49.8**	**-1.1**
TWGZ	**Tauwhareparae**	**1.65**	**228**	P	**Pg**	**16 14 34.4**	**-0.3**
TWGZ				S	**Sn**	**16 14 54.3**	**+0.9**
RUGZ	**Raukumara Rang**	**1.73**	**239**	P	**Pg**	**16 14 35.7**	**-0.4**
CNGZ	**Carnagh Statio**	**1.75**	**217**	P	**Pg**	**16 14 37.0**	**+0.3**
TKGZ	**Te Karaka**	**1.91**	**224**	P	**Pb**	**16 14 37.5**	**-0.4**
WIZ	**White Island**	**1.93**	**256**	P	**Pn**	**16 14 35.4**	**-0.4**
MWZ	**Matawai**	**2.03**	**232**	P	**Pb**	**16 14 39.1**	**-0.9**
MWZ				S	**Sn**	**16 15 01.7**	**-0.9**
RIGZ	**Rimuhau**	**2.15**	**221**	P	**Pb**	**16 14 41.2**	**-0.7**
WHRZ	**Whale Island**	**2.19**	**249**	P	**Pb**	**16 14 41.2**	**-1.4**
RAGZ	**Rawiri**	**2.20**	**230**	P	**Pb**	**16 14 41.9**	**-1.0**
URZ	**Urewera**	**2.26**	**238**	P	**Pn**	**16 14 42.0**	**+1.6**
URZ	**Urewera**	**2.26**	**238**	P	**Pn**	**16 14 42.0**	**+1.6**
URZ				S	**Sn**	**16 15 06.2**	**-2.1**
SNGZ	**Shannon Statio**	**2.43**	**225**	P	**Pn**	**16 14 44.6**	**+1.9**
KNZ	**Kokohu**	**2.43**	**217**	P	**Pn**	**16 14 44.4**	**+1.7**
MHGZ	**Mahia Peninsul**	**2.44**	**212**	P	**Pb**	**16 14 45.5**	**-1.4**
OPRZ	**Ohinepanea**	**2.50**	**251**	P	**Pn**	**16 14 44.6**	**+1.0**
RTZ	**Ruatahuna**	**2.54**	**232**	P	**Pn**	**16 14 46.0**	**+1.7**
MUGZ	**Murupara**	**2.60**	**237**	P	**Pn**	**16 14 46.3**	**+1.2**
RAHZ	**Arahi**	**2.67**	**226**	P	**Pn**	**16 14 48.1**	**+2.1**
TARZ	**Mount Tarawera**	**2.67**	**244**	P	**Pn**	**16 14 48.4**	**+2.3**
TGRZ	**Tauranga**	**2.69**	**255**	P	**Pn**	**16 14 47.3**	**+1.0**
WHHZ	**Waihua**	**2.70**	**222**	P	**Pn**	**16 14 48.3**	**+1.9**
OMRZ	**Omania**	**2.72**	**247**	P	**Pn**	**16 14 48.8**	**+2.1**
MTHZ	**Maungataniwha**	**2.77**	**230**	P	**Pn**	**16 14 49.6**	**+2.1**
KARZ	**Kaharoa**	**2.79**	**249**	P	**Pn**	**16 14 49.0**	**+1.4**
HLRZ	**Highlands Stat**	**2.79**	**244**	P	**Pn**	**16 14 49.7**	**+2.0**
ALRZ	**Allen Road**	**2.94**	**239**	P	**Pn**	**16 14 51.3**	**+1.6**
NMHZ	**Naumai**	**2.95**	**226**	P	**Pn**	**16 14 51.9**	**+1.9**
ARHZ	**Aropaoanui**	**2.96**	**222**	P	**Pn**	**16 14 51.9**	**+1.8**
GRRZ	**Galatos Road**	**3.00**	**244**	P	**Pn**	**16 14 52.7**	**+2.1**
MRHZ	**Matea Rd**	**3.03**	**234**	P	**Pn**	**16 14 52.5**	**+1.5**
KUZ	**Kuaotunu**	**3.09**	**275**	P	**Pn**	**16 14 50.9**	**-0.8**
BKZ	**Black Stump Fm**	**3.18**	**228**	P	**Pn**	**16 14 54.5**	**+1.4**
BKZ	**Black Stump Fm**	**3.18**	**228**	P	**Pn**	**16 14 54.5**	**+1.4**
CKHZ	**Cape Kidnapper**	**3.22**	**216**	P	**Pn**	**16 14 54.7**	**+1.1**
MCHZ	**McNeill Hill**	**3.25**	**223**	P	**Pn**	**16 14 55.5**	**+1.5**
KUTZ	**Kaahu Road**	**3.27**	**243**	P	**Pn**	**16 14 56.1**	**+1.8**
GRZ	**Great Barrier**	**3.39**	**283**	P	**Pn**	**16 14 57.0**	**+1.1**
KAHZ	**Kahuranaki**	**3.42**	**217**	P	**Pn**	**16 14 57.4**	**+1.0**
MKAZ	**Moumakai**	**3.51**	**268**	P	**Pn**	**16 14 57.2**	**-0.3**
WIAZ	**Waiheke Island**	**3.55**	**273**	P	**Pn**	**16 14 58.1**	**0.0**
KRHZ	**Kereru**	**3.57**	**223**	P	**Pn**	**16 14 59.2**	**+0.7**
PXZ	**Pawanui**	**3.62**	**215**	P	**Pn**	**16 14 59.4**	**+0.4**
BHHZ	**Black Hill Sta**	**3.64**	**228**	P	**Pn**	**16 15 00.5**	**+1.0**
TMVZ	**Te Maari**	**3.65**	**235**	P	**Pn**	**16 15 01.1**	**+1.5**
ETVZ	**East Tongariro**	**3.65**	**235**	P	**Pn**	**16 15 00.6**	**+0.9**
OTVZ	**Oturere**	**3.70**	**235**	P	**Pn**	**16 15 01.6**	**+1.3**
ETAZ	**East Tamaki Re**	**3.70**	**271**	P	**Pn**	**16 15 00.7**	**+0.5**
NNVZ	**North Ngauruho**	**3.71**	**235**	P	**Pn**	**16 15 02.2**	**+1.6**
SNVZ	**South Ngauruho**	**3.73**	**235**	P	**Pn**	**16 15 01.1**	**+0.3**
MBAZ	**Motutapu North**	**3.74**	**273**	P	**Pn**	**16 15 01.4**	**+0.7**
NGZ	**Ngauruhoe**	**3.75**	**235**	P	**Pn**	**16 15 02.0**	**+1.0**
TUVZ	**Tukino**	**3.76**	**233**	P	**Pn**	**16 15 02.5**	**+1.3**
MOVZ	**Moawhango**	**3.78**	**231**	P	**Pn**	**16 15 02.5**	**+1.1**
TWVZ	**Taurewa**	**3.80**	**237**	P	**Pn**	**16 15 03.9**	**+2.3**
WNVZ	**Wahianoa**	**3.83**	**233**	P	**Pn**	**16 15 03.2**	**+1.0**
WPHZ	**Waipukurau**	**3.84**	**218**	P	**Pn**	**16 15 02.6**	**+0.4**
TRVZ	**Turoa**	**3.85**	**234**	P	**Pn**	**16 15 03.1**	**+0.7**
EPAZ	**Eden Park BICE**	**3.85**	**272**	P	**Pn**	**16 15 05.4**	**+3.2**
PNHZ	**Pukenui**	**3.86**	**222**	P	**Pn**	**16 15 02.6**	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.92**	**269**	P	**Pn**	**16 15 04.2**	**+0.9**
MTVZ	**Mangateitei**	**3.95**	**233**	P	**Pn**	**16 15 04.6**	**+0.9**
PKVZ	**Pokaka**	**3.97**	**235**	P	**Pn**	**16 15 03.0**	**-1.0**
HIZ	**Hauiti**	**3.98**	**248**	P	**Pn**	**16 15 06.2**	**+2.2**
HIZ	**Hauiti**	**3.98**	**248**	P	**Pn**	**16 15 06.3**	**+2.3**
WTAZ	**Waiatarua**	**3.98**	**271**	P	**Pn**	**16 15 04.8**	**+0.7**
RVAZ	**Riverhead Bore**	**3.99**	**273**	P	**Pn**	**16 15 04.9**	**+0.7**
DVHZ	**Dannevirke**	**4.16**	**218**	P	**Pn**	**16 15 06.7**	**+0.2**
VRZ	**Vera Road**	**4.29**	**240**	P	**Pn**	**16 15 10.2**	**+1.9**
WCZ	**Waipu Caves**	**4.34**	**284**	P	**Pn**	**16 15 09.9**	**+0.9**
BFZ	**Birch Farm**	**4.42**	**215**	P	**Pn**	**16 15 09.3**	**-0.8**
PRWZ	**Pori Road**	**4.45**	**218**	P	**Pn**	**16 15 10.9**	**+0.5**
WAZ	**Wanganui**	**4.46**	**232**	P	**Pn**	**16 15 12.3**	**+1.6**
LREZ	**Lake Rotokare**	**4.69**	**238**	P	**Pn**	**16 15 13.1**	**-0.7**
NEZ	**North Egmont**	**4.82**	**241**	P	**Pn**	**16 15 18.7**	**+3.1**
KHEZ	**Kahui Hut**	**4.88**	**241**	P	**Pn**	**16 15 18.2**	**+1.7**
OUZ	**Omahuta**	**5.16**	**289**	P	**Pn**	**16 15 21.7**	**+1.4**
OUZ	**Omahuta**	**5.16**	**289**	P	**Pn**	**16 15 22.1**	**+1.8**
TKNZ	**Takaka Hill**	**6.46**	**230**	P	**Pn**	**16 15 37.5**	**-0.7**
QRZ	**Quartz Range**	**6.62**	**234**	P	**Pn**	**16 15 39.3**	**-1.0**
KHZ	**Kahutara**	**7.05**	**219**	P	**Pn**	**16 15 46.3**	**+0.1**

*IDC **07** 17:17:18.8±9.4,55˚.61N×110˚.26E,h0km,mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=120.9km s-min=40.1km az=78.0*
*BYKL **07** 17:17:20.6±0.2,55˚.70N×110˚.19E,h9km±3km*
ISC 07 17:17:19.3±1.1,55˚.65N±0˚.03×110˚.21E±0˚.02,h0km±9km, n34,σ2§48/90,6C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.40**	**289**	⇑*i*Pg	**Pg**	**17 17 26.9**	**0.0**
NIZ				*e*Sg	**Sg**	**17 17 32.2**	**+0.1**
NIZ				*e*		17 17 33.7	
NIZ				Pmax			
	145nm,0.3s						
NIZ				max			
	2µm,0.2s						
KMO	**Kumora**	**0.61**	**66**	⇑*i*Pg	**Pg**	**17 17 30.9**	**-0.1**
KMO				*e*Sg	**Sg**	**17 17 39.1**	**+0.2**
KMO				*e*		17 17 41.1	
KMO				Pmax			
	125nm,0.2s						
KMO				max			
	903nm,1.0s						
YLYR	**Ulyunkhan**	**0.94**	**144**	⇑*i*Pg	**Pg**	**17 17 38.2**	**+0.8**
YLYR				*e*Sg	**Sb**	**17 17 52.3**	**+0.7**
YLYR				Pmax			
	163nm,0.4s						
YLYR				Smax			
	646nm,0.2s						
YOA	**Uoyan**	**0.98**	**60**	*e*Pg	**Pg**	**17 17 38.0**	**-0.1**
YOA				*e*Sg	**Sg**	**17 17 51.2**	**+0.3**
YOA				Pmax			
	168nm,0.2s						
YOA				Smax			
	1µm,0.5s						
SVKR	**Severomuysk**	**1.95**	**75**	*e*Pg	**Pb**	**17 17 55.7**	**+0.1**
SVKR				*e*Sg	**Sg**	**17 18 21.7**	**-0.1**
SVKR				Pmax			
	173nm,0.4s						
SVKR				Smax			
	1µm,0.6s						
UKT	**Uakit**	**1.95**	**93**	⇑*i*Pg	**Pb**	**17 17 55.3**	**-0.4**
UKT				*e*		17 17 57.7	
UKT				*e*Sg	**Sg**	**17 18 21.9**	**+0.1**
UKT				Pmax			
	153nm,0.5s						
UKT				Smax			
	344nm,0.5s						
SYVR	**Suvo**	**2.00**	**184**	*e*Pg	**Pb**	**17 17 57.0**	**+0.6**
SYVR				*e*		17 17 59.6	
SYVR				*e*Sg	**Sg**	**17 18 24.8**	**+1.5**
SYVR				Pmax			
	79nm,0.6s						
SYVR				Smax			
	1µm,0.8s						
MXMB	**Maximikha**	**2.54**	**200**	*e*Pn	**Pn**	**17 18 03.6**	**+1.9**
MXMB				*e*Pg	**Pg**	**17 18 07.9**	**+0.1**
MXMB				*e*Sg	**Sg**	**17 18 41.7**	**+1.0**
BOD	**Bodaibo**	**3.02**	**42**	*e*Pn	**Pn**	**17 18 09.2**	**+0.9**
BOD				*e*Pg	**Pb**	**17 18 14.7**	**+0.8**
BOD				*e*Sn	**Sn**	**17 18 44.8**	**-0.3**
BOD				*e*Sg	**Sb**	**17 18 53.1**	**+1.9**
BOD				Pmax			
	12nm,0.3s						
BOD				Smax			
	128nm,0.8s						
KELR	**Kotokel**	**3.15**	**204**	*e*Pn	**Pn**	**17 18 11.0**	**+0.9**
KELR				*e*Pg	**Pb**	**17 18 17.5**	**+1.4**
KELR				*e*Sg	**Sg**	**17 18 59.1**	**-1.3**
NLYR	**Nelyaty**	**3.19**	**72**	*e*Pn	**Pn**	**17 18 11.6**	**+0.9**
NLYR				*e*Pg	**Pb**	**17 18 18.2**	**+1.3**
NLYR				*e*		17 18 21.0	
NLYR				*e*Sn	**Sn**	**17 18 48.9**	**-0.6**
NLYR				*e*Sg	**Sg**	**17 19 00.1**	**-1.8**
NLYR				max			
	47nm,0.7s						
NLYR				Smax			
	120nm,1.0s						
ZRHB	**Zarechye**	**3.58**	**211**	*e*Pg	**Pb**	**17 18 25.3**	**+1.8**
ZRHB				*e*Sn	**Sn**	**17 18 59.2**	**+0.2**
ZRHB				*e*Sg	**Sg**	**17 19 13.3**	**-1.0**
ZRHB				Pmax			
	54nm,1.2s						
ZRHB				Smax			
	234nm,1.2s						
TRG	**Tyrgan**	**3.67**	**220**	*e*Pn	**Pn**	**17 18 19.1**	**+1.8**
TRG				*e*Sn	**Sn**	**17 19 01.7**	**+0.4**
TRG				*e*Sg	**Sg**	**17 19 15.7**	**-1.5**
TRG				max			
	34nm,0.3s						
TRG				Smax			
	100nm,0.5s						
VTMR	**Vitim**	**4.01**	**17**	*e*Pn	**Pn**	**17 18 21.8**	**0.0**
VTMR				*e*Pg	**Pb**	**17 18 31.4**	**+0.7**
VTMR				*e*Sn	**Sn**	**17 19 07.8**	**-1.6**
VTMR				*e*Sg	**Sg**	**17 19 23.7**	**-4.2**
CIT	**Chita**	**4.14**	**150**	*e*Pg	**Pb**	**17 18 35.8**	**+2.9**
CIT				*e*Sg	**Sg**	**17 19 30.3**	**-1.8**
CIT				Pmax			
	41nm,0.5s						
CIT				Smax			
	87nm,0.3s						
FFNB	**Fofonovo**	**4.14**	**211**	*e*Sg	**Sg**	**17 19 30.5**	**-1.8**
STDB	**Stepnoy Dvoret**	**4.16**	**215**	*e*Pn	**Pn**	**17 18 25.8**	**+1.9**
STDB				*e*Sg	**Sg**	**17 19 30.4**	**-2.4**
BGT	**Bolshoye Golou**	**4.59**	**220**	*e*Pn	**Pn**	**17 18 31.9**	**+2.0**
BGT				*e*Sn	**Sn**	**17 19 23.8**	**-0.1**
BGT				*e*Sg	**Sg**	**17 19 45.3**	**-1.4**
BGT				max			
BGT				Smax			
	68nm,0.8s						
CRS	**Chara**	**4.67**	**71**	*e*Pn	**Pn**	**17 18 31.5**	**+0.6**
CRS				*e*Pg	**Pb**	**17 18 44.7**	**+2.8**
CRS				*e*Sn	**Sn**	**17 19 25.1**	**-0.7**
CRS				*e*Sg	**Sg**	**17 19 45.9**	**-3.2**
CRS				Pmax			
	29nm,1.1s						
CRS				Smax			
	44nm,1.1s						
IRK	**Irkutsk**	**4.89**	**228**	*e*Pg	**Pb**	**17 18 48.0**	**+2.3**
IRK				*e*Sn	**Sn**	**17 19 30.1**	**-1.1**
IRK				*e*Sg	**Sg**	**17 19 52.6**	**-3.6**
IRK				Pmax			
	62nm,0.3s						
IRK				Smax			
	199nm,0.5s						
LSTR	**Listvyanka**	**4.95**	**222**	*e*Pn	**Pn**	**17 18 35.9**	**+1.1**
LSTR				*e*Sn	**Sn**	**17 19 31.0**	**-1.7**
LSTR				*e*Sg	**Sg**	**17 19 53.4**	**-4.7**
LSTR				max			
	7.0nm,0.3s						
LSTR				Smax			
	44nm,1.8s						
IVK	**Ivanovka**	**5.16**	**224**	*e*Pn	**Pn**	**17 18 38.5**	**+0.8**
IVK				*e*Pg	**Pb**	**17 18 53.9**	**+3.5**
IVK				*e*Sn	**Sn**	**17 19 35.8**	**-2.2**
IVK				*e*Sg	**Sg**	**17 20 00.9**	**-4.1**
IVK				max			
	9.0nm,0.4s						
IVK				Smax			
	43nm,1.1s						
TLY	**Talaya**	**5.57**	**227**	*e*Pn	**Pn**	**17 18 43.6**	**+0.3**
TLY				*e*Pg	**Pb**	**17 19 02.0**	**+4.7**
TLY				*e*Sn	**Sn**	**17 19 46.0**	**-1.9**
TLY				*e*Sg	**Sg**	**17 20 14.4**	**-3.6**
TLY				Pmax			
	8.0nm,0.5s						
TLY				Smax			
	29nm,0.6s						
TUP	**Tupik**	**5.74**	**98**	*e*Pn	**Pn**	**17 18 46.2**	**+0.6**
TUP				*e*Pg	**Pb**	**17 19 02.6**	**+2.4**
TUP				*e*Sn	**Sn**	**17 19 49.7**	**-2.4**
TUP				*e*Sg	**Sg**	**17 20 18.0**	**-5.4**
TUP				Smax			
	74nm,1.2s						
ARS	**Arshan**	**5.93**	**234**	*e*Pn	**Pn**	**17 18 49.1**	**+0.7**
ARS				*e*Pg	**Pb**	**17 19 07.1**	**+3.6**
ARS				*e*Sn	**Sn**	**17 19 54.5**	**-2.5**
ARS				*e*Sg	**Sg**	**17 20 25.0**	**-4.7**
ARS				max			
	31nm,0.4s						
ARS				Smax			
	184nm,0.8s						
KPC	**Khapcheranga**	**6.10**	**167**	*e*Pn	**Pn**	**17 18 51.5**	**+0.9**
KPC				*e*Pg	**Pb**	**17 19 10.6**	**+4.3**
KPC				*e*		17 19 12.4	
KPC				*e*Sn	**Sn**	**17 20 00.0**	**-1.1**
KPC				*e*Sg	**Sg**	**17 20 31.2**	**-3.8**
KPC				*e*		17 20 39.6	
KPC				max			
	6.0nm,0.9s						
KPC				max			
	50nm,1.2s						
YKLR	**Yuktali**	**6.47**	**77**	*e*Pg	**Pb**	**17 19 17.2**	**+4.5**
YKLR				*e*Sg	**Sg**	**17 20 40.9**	**-6.1**
ZAK	**Zakamensk**	**6.73**	**221**	*e*Pn	**Pn**	**17 19 01.0**	**+1.7**
ZAK				*e*Sn	**Sn**	**17 20 13.3**	**-3.3**
ZAK				*e*Sg	**Sg**	**17 20 49.8**	**-5.3**
ZAK				max			
	6.0nm,1.1s						
ZAK				Smax			
	30nm,1.3s						
MOY	**Mondy**	**6.77**	**238**	⇑*i*Pn	**Pn**	**17 19 02.2**	**+2.3**
MOY				*e*Sn	**Sn**	**17 20 15.5**	**-2.2**
MOY				*e*Sg	**Sg**	**17 20 50.7**	**-5.9**
MOY				max			
	23nm,0.8s						
MOY				Smax			
	52nm,1.5s						
ORL	**Orlik**	**6.86**	**247**	⇑*i*Pn	**Pn**	**17 19 02.9**	**+1.7**
ORL				*e*Sn	**Sn**	**17 20 17.8**	**-2.1**
ORL				*e*Sg	**Sg**	**17 20 53.7**	**-5.8**
ORL				max			
	19nm,1.3s						
ORL				Smax			
	46nm,1.0s						
SONM	**Songino Array**	**8.17**	**198**	Pn	**Pn**	**17 19 18.1**	**-1.0**
	0.3nm,0.3s,baz=12,slow=15,SNR=2.7						
SONM				Lg	Lg	17 21 38.2	
	0.3nm,0.3s,baz=12,slow=28,SNR=2.7						
	0.3nm,0.5s						
IENR	**Iengra**	**8.25**	**80**	*e*Sg	Sg	17 21 35.1	-8.8
ZALV	**Zalesovo Beam**	**14.72**	**274**	Pn	**Pn**	**17 20 49.4**	**+1.0**
	0.1nm,0.3s,baz=77,slow=12,SNR=2.1						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**19.48**	**255**	P	**P**	**17 21 47.0**	**-0.5**
	0.2nm,0.3s,baz=60,slow=9.4,S

PAWZ	**Paruwai Farm**	**1.75**	**53**	P		**Pn**	**17 19 17.1**	**-0.4**
QRZ	**Quartz Range**	**1.81**	**334**	P		**Pn**	**17 19 19.2**	**+0.9**
QRZ	**Quartz Range**	**1.81**	**334**	P		**Pn**	**17 19 18.9**	**+0.6**
MHCZ	**Mount Hutt**	**1.83**	**233**	P		**Pn**	**17 19 18.0**	**-0.6**
KIW	**Kapiti Island**	**1.88**	**32**	P		**Pn**	**17 19 19.4**	**+0.1**
TRWZ	**Traveller**	**1.89**	**57**	P		**Pn**	**17 19 19.1**	**-0.4**
MTW	**Mount Morrison**	**1.93**	**49**	P		**Pn**	**17 19 19.5**	**-0.6**
WACZ	**Wakanui South**	**1.96**	**220**	P		**Pn**	**17 19 20.3**	**0.0**
OGWZ	**Otaki Gorge**	**2.02**	**37**	P		**Pn**	**17 19 21.1**	**-0.2**
HOWZ	**Holdsworth Sta**	**2.13**	**44**	P		**Pn**	**17 19 19.6**	**-3.2**
WVZ	**Waitaha Valley**	**2.18**	**253**	P		**Pn**	**17 19 23.7**	**+0.3**
TMWZ	**Te Maipa**	**2.19**	**53**	P		**Pn**	**17 19 22.9**	**-0.7**
RPZ	**Rata Peaks**	**2.24**	**235**	P		**Pn**	**17 19 24.1**	**-0.2**
RPZ	**Rata Peaks**	**2.24**	**235**	P		**Pn**	**17 19 23.8**	**-0.4**
ARCZ	**Arundel**	**2.31**	**229**	P		**Pn**	**17 19 24.6**	**-0.6**
MRZ	**Mangatainoka R**	**2.34**	**41**	P		**Pn**	**17 19 25.0**	**-0.6**
CPWZ	**Castlepoint**	**2.50**	**53**	P		**Sn**	**17 19 58.1**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**2.54**	**249**	P		**Pn**	**17 19 28.8**	**+0.4**
PRWZ	**Pori Road**	**2.61**	**44**	P		**Pb**	**17 19 33.2**	**-1.2**
BFZ	**Birch Farm**	**2.67**	**49**	P		**Pn**	**17 19 29.9**	**-0.3**
BFZ	**Birch Farm**	**2.67**	**49**	P		**Pn**	**17 19 29.2**	**-1.0**
TMZ	**Timaru**	**2.69**	**223**	P		**Pn**	**17 19 30.6**	**+0.2**
WAZ	**Wanganui**	**2.90**	**22**	P		**Pn**	**17 19 35.0**	**+1.7**
DVHZ	**Dannevirke**	**2.90**	**43**	P		**Pn**	**17 19 31.9**	**-1.5**
FOZ	**Fox Glacier**	**2.96**	**247**	P		**Pn**	**17 19 35.2**	**+1.1**
TSZ	**Takapari Road**	**2.99**	**38**	P		**Pn**	**17 19 33.6**	**-1.0**
LREZ	**Lake Rotokare**	**3.06**	**12**	P		**Pb**	**17 19 43.4**	**+1.4**
LBZ	**Lake Benmore**	**3.14**	**231**	P		**Pn**	**17 19 36.6**	**0.0**
KHEZ	**Kahui Hut**	**3.17**	**6**	P		**Pn**	**17 19 39.5**	**+2.3**
KHEZ	**Kahui Hut**	**3.17**	**6**	P		**Pn**	**17 19 39.7**	**+2.5**
NBEZ	**Newall Road No**	**3.19**	**4**	P		**Pb**	**17 19 42.8**	**-1.5**
NEZ	**North Egmont**	**3.21**	**7**	P		**Pn**	**17 19 41.0**	**+3.4**
PNHZ	**Pukenui**	**3.22**	**39**	P		**Pn**	**17 19 36.5**	**-1.2**
PKE	**Pukeiti**	**3.27**	**6**	P		**Pn**	**17 19 40.5**	**+2.0**
ODZ	**Otahua Downs**	**3.35**	**218**	P		**Pn**	**17 19 39.2**	**-0.3**
ODZ	**Otahua Downs**	**3.35**	**218**	P		**Pn**	**17 19 38.9**	**-0.6**
MTVZ	**Mangateitei**	**3.38**	**26**	P		**Pb**	**17 19 48.7**	**+1.1**
PKVZ	**Pokaka**	**3.43**	**24**	P		**Pn**	**17 19 41.7**	**+1.0**
VRZ	**Vera Road**	**3.44**	**15**	P		**Pn**	**17 19 42.2**	**+1.4**
MOVZ	**Moawhango**	**3.46**	**29**	P		**Pn**	**17 19 40.9**	**-0.2**
WNVZ	**Wahianoa**	**3.48**	**27**	P		**Pn**	**17 19 42.3**	**+0.9**
TRVZ	**Turoa**	**3.49**	**26**	P		**Pn**	**17 19 42.2**	**+0.6**
BHHZ	**Black Hill Sta**	**3.51**	**33**	P		**Pn**	**17 19 41.5**	**-0.3**
KRHZ	**Kereru**	**3.51**	**38**	P		**Pn**	**17 19 40.4**	**-1.4**
DRZ	**Dome Shelter**	**3.51**	**26**	P		**Pb**	**17 19 52.6**	**+2.6**
WHVZ	**Whangaehu Hut**	**3.52**	**26**	P		**Pn**	**17 19 42.8**	**+0.8**
FWVZ	**Far West T-bar**	**3.53**	**26**	P		**Pb**	**17 19 51.9**	**+1.7**
TUVZ	**Tukino**	**3.55**	**27**	P		**Pn**	**17 19 43.4**	**+1.0**
NGZ	**Ngauruhoe**	**3.62**	**26**	P		**Pn**	**17 19 43.9**	**+0.6**
SNVZ	**South Ngauruho**	**3.62**	**26**	P		**Pn**	**17 19 45.3**	**+1.9**
OTVZ	**Oturere**	**3.65**	**26**	P		**Pb**	**17 19 53.7**	**+1.6**
NNVZ	**North Ngauruho**	**3.66**	**26**	P		**Pn**	**17 19 45.3**	**+1.4**
TWVZ	**Taurewa**	**3.66**	**23**	P		**Pn**	**17 19 43.3**	**-0.6**
WTVZ	**West Tongariro**	**3.67**	**25**	P		**Pb**	**17 19 51.9**	**-0.6**
ETVZ	**East Tongariro**	**3.69**	**27**	P		**Pn**	**17 19 44.9**	**+0.6**
TMVZ	**Te Maari**	**3.71**	**27**	P		**Pn**	**17 19 45.0**	**+0.5**
NTVZ	**North Tongarir**	**3.71**	**26**	P		**Pb**	**17 19 54.8**	**+1.6**
MCHZ	**McNeill Hill**	**3.82**	**39**	P		**Pg**	**17 19 58.7**	**-2.7**
JCZ	**Jackson Bay**	**3.86**	**244**	P		**Pn**	**17 19 47.0**	**+0.4**
JCZ	**Jackson Bay**	**3.86**	**244**	P		**Pn**	**17 19 47.0**	**+0.4**
RATZ	**Rangitukua**	**3.95**	**26**	P		**Pb**	**17 19 58.7**	**+1.4**
BKZ	**Black Stump Fm**	**3.96**	**35**	P		**Pn**	**17 19 48.8**	**+0.9**
BKZ	**Black Stump Fm**	**3.96**	**35**	P		**Pn**	**17 19 47.6**	**-0.3**
HIZ	**Hauiti**	**4.06**	**14**	P		**Pn**	**17 19 50.7**	**+1.5**
HIZ	**Hauiti**	**4.06**	**14**	P		**Pn**	**17 19 50.9**	**+1.7**
WATZ	**Wairara**	**4.09**	**24**	P		**Pb**	**17 20 00.1**	**+0.5**
EAZ	**Earnscleugh**	**4.15**	**227**	P		**Pn**	**17 19 58.5**	**-0.1**
NMHZ	**Naumai**	**4.15**	**37**	P		**Pb**	**17 20 02.8**	**+2.1**
MTHZ	**Maungataniwha**	**4.37**	**36**	P		**Pn**	**17 19 52.2**	**-1.4**
URZ	**Urewera**	**4.98**	**34**	P		**Pn**	**17 20 01.0**	**-0.9**
AWAZ	**Awhitu Peninsu**	**5.45**	**9**	P		**Pn**	**17 20 09.5**	**+1.2**
RUGZ	**Raukumara Rang**	**5.47**	**36**	P		**Pn**	**17 20 07.5**	**-1.3**
MKAZ	**Moumakai**	**5.48**	**13**	P		**Pn**	**17 20 08.9**	**+0.1**
ETAZ	**East Tamaki Re**	**5.59**	**11**	P		**Pn**	**17 20 11.2**	**+0.9**
WIAZ	**Waiheke Island**	**5.78**	**12**	P		**Pn**	**17 20 13.9**	**+1.0**
CTZ	**Chatham Island**	**7.29**	**103**	P		**Pn**	**17 20 33.6**	**0.0**

*NEIC **07** 17:19:36.3±2.9, 17.29S×0.10×174.19W±0.10, h95km±9km, mb4.7/30, Error ellipse: s-maj=14.3km s-min=13.2km az=187.0*

*IDC **07** 17:19:39.0±3.5, 17.36S×174.24W, h131km±31km, mb3.9/8, mbtmp4.3/10, MS3.5/5, Error ellipse: s-maj=23.9km s-min=13.7km az=128.0*

ISC 07 17:19:37.5±0.6, 17.25S±0.09×174.16W±0.08, h124km, n57, σ1§27/50, mb4.5/23, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**4.03**	**35**			**Pn**	**17 20 36.5**	**-1.1**
NIUE	**Niue**	**4.41**	**115**			**Pn**	**17 20 41.4**	**-1.2**
RAR	**Rarotonga**	**14.14**	**108**	P		**P**	**17 22 55.3**	**-0.7**
	20nm,0.7s,baz=182,slow=16,SNR=2.2							
RAR				LR		LR	17 27 03.1	
	comp=Z,88nm,19.5s,baz=294,slow=31							
RAR	**Rarotonga**	**14.14**	**108**			**P**	**17 22 55.6**	**-0.5**
MARNC	**Mare, Loyalty**	**17.33**	**253**	Pn		**Pn**	**17 23 33.0**	**+1.1**
OUENC	**Ouen Island, N**	**18.60**	**251**	Pn		**Pn**	**17 23 47.0**	**0.0**
OUENC				IAmb		IAmb	17 24 00.0	
	comp=Z,47nm,1.3s							
DZM	**Mont Dzumac**	**18.89**	**252**	P		**Pn**	**17 23 49.7**	**-0.8**
	comp=Z,6.1nm,0.8s,baz=76,slow=18,SNR=2.3							
DZM	**Mont Dzumac**	**18.89**	**252**	Pn		**Pn**	**17 23 50.0**	**-0.5**
URZ	**Urewera**	**22.29**	**198**	P		**P**	**17 24 24.0**	**-0.7**
	comp=Z,6.8nm,0.5s,baz=68,slow=2.7,SNR=7.1							
URZ				S		**S**	**17 28 20.3**	**-0.9**
	comp=Z,2.9nm,0.3s,baz=0.0,slow=20,SNR=2.5							
	comp=Z,6.8nm,0.5s							
RTZ	**Ruatahuna**	**22.66**	**198**	P		**P**	**17 24 28.2**	**-0.2**
BKZ	**Black Stump Fm**	**23.32**	**199**	P		**P**	**17 24 34.6**	**0.0**
BKZ				IAmb		IAmb	17 24 34.8	
	comp=Z,37nm,1.5s							
PPT	**Papeete**	**23.45**	**94**	LR		LR	17 31 24.7	
	comp=Z,34nm,20.3s,baz=292,slow=30							
MRZ	**Mangatainoka R**	**24.96**	**199**	P		**P**	**17 24 50.5**	**+1.1**
MRZ				IAmb		IAmb	17 25 20.9	
	comp=Z,39nm,1.4s							
SNZO	**South Karori**	**25.83**	**200**	P		**P**	**17 24 57.3**	**+0.1**
BHW	**Baring Head**	**25.86**	**199**	P		**P**	**17 25 00.4**	**+2.9**
PLWZ	**Palliser**	**25.89**	**198**	P		**P**	**17 24 58.5**	**+0.6**
QRZ	**Quartz Range**	**26.16**	**203**	P		**P**	**17 25 03.2**	**+2.9**
QRZ				IAmb		IAmb	17 25 21.9	
	comp=Z,47nm,1.3s							
TKNZ	**Takaka Hill**	**26.18**	**202**	P		**P**	**17 25 02.4**	**+2.0**
HNR	**Honiara**	**26.34**	**284**	LR		LR	17 33 47.5	
	comp=Z,858nm,19.6s,baz=118,slow=32							
MRNZ	**Matariki Terra**	**26.57**	**202**	P		**P**	**17 25 05.8**	**+1.9**
THZ	**Tophouse**	**26.84**	**202**	P		**P**	**17 25 08.0**	**+1.6**
THZ				IAmb		IAmb	17 25 30.2	
	comp=Z,27nm,1.3s							
DSZ	**Denniston Nort**	**27.23**	**203**	P		**P**	**17 25 11.4**	**+1.5**
GVZ	**Greta Valley S**	**27.86**	**200**	P		**P**	**17 25 17.0**	**+1.6**
INZ	**Inchbonnie**	**28.21**	**203**	P		**P**	**17 25 19.1**	**+0.6**
INZ				IAmb		IAmb	17 25 21.6	
	comp=Z,38nm,1.3s							
OXZ	**Oxford**	**28.52**	**201**	P		**P**	**17 25 21.4**	**+0.2**
OXZ				IAmb		IAmb	17 25 45.1	
	comp=Z,12nm,0.8s							
MQZ	**McQueen's Vall**	**28.65**	**200**	P		**P**	**17 25 23.4**	**+1.0**
EIDS	**Eidsvold**	**33.30**	**250**	P		**P**	**17 26 03.2**	**-0.4**
ARMA	**Armidale**	**33.79**	**241**	P		**P**	**17 26 07.7**	**-0.2**
ARMA				IAmb		IAmb	17 26 35.5	
	comp=Z,28nm,1.5s							
H11S2	**WAKE ISLAND Hy**	**40.19**	**331**	T		T	18 10 47.5	
	baz=145							
H11S3	**WAKE ISLAND Hy**	**40.21**	**331**	T		T	18 10 50.0	
	baz=145,slow=74							
H11S1	**WAKE ISLAND Hy**	**40.21**	**331**	T		T	18 10 46.9	
	baz=145,slow=74							
H11N3	**WAKE ISLAND Hy**	**41.17**	**332**	T		T	18 11 53.7	
	baz=146,slow=76							
H11N1	**WAKE ISLAND Hy**	**41.18**	**332**	T		T	18 11 54.1	
	baz=146,slow=76							
H11N2	**WAKE ISLAND Hy**	**41.19**	**332**	T		T	18 11 55.3	
	baz=146,slow=76							
STKA	**Stephens Creek**	**42.51**	**241**	P		**P**	**17 27 20.7**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=18,slow=9.3,SNR=6.0							
	comp=Z,2.4nm,0.6s							
STKA	**Stephens Creek**	**42.51**	**241**	P		**P**	**17 27 20.1**	**-0.7**
BBOO	**Buckleboo**	**47.28**	**241**	P		**P**	**17 27 57.8**	**-0.8**
BBOO				IAmb		IAmb	17 28 30.3	
	comp=Z,15nm,1.4s							
WR0	**Warramunga Arr**	**48.55**	**258**	P		**P**	**17 28 07.5**	**-1.0**
WR0				IAmb		IAmb	17 28 14.1	
	comp=Z,10nm,1.4s							
WB0	**Warramunga Arr**	**48.71**	**259**	P		**P**	**17 28 09.1**	**-0.7**
WB0				IAmb		IAmb	17 28 30.6	
	comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**48.73**	**258**	P		**P**	**17 28 09.1**	**-0.8**
WB2				IAmb		IAmb	17 28 10.7	
	comp=Z,7.8nm,1.2s							
WRAB	**Tennant Creek**	**48.73**	**258**	P		**P**	**17 28 08.8**	**-1.2**
WRAB				IAmb		IAmb	17 28 10.7	
	comp=Z,18nm,1.4s							
WRA	**Warramunga Arr**	**48.74**	**258**	P		**P**	**17 28 09.0**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=97,slow=7.0,SNR=99							
WRA				LR		LR	17 48 06.3	
	comp=Z,41nm,18.7s,baz=343,slow=35							
	comp=Z,2.8nm,0.5s							
WRA	**Warramunga Arr**	**48.74**	**258**	P		**P**	**17 28 08.7**	**-1.3**
AS31	**Alice Springs**	**48.87**	**253**	P		**P**	**17 28 10.9**	**-0.1**
AS31				IAmb		IAmb	17 28 11.4	
	comp=Z,4.9nm,0.8s							
ASAR	**Alice Springs**	**48.87**	**253**	P		**P**	**17 28 10.8**	**-0.2**
	comp=Z,16nm,0.6s,baz=89,slow=8.7,SNR=482							
	comp=Z,16nm,0.6s							
KNRA	**Kununurra**	**54.59**	**263**	P		**P**	**17 28 54.5**	**+1.0**
SBA	**Scott Base**	**61.36**	**185**	P		**P**	**17 29 42.3**	**+2.5**
SBA				IAmb		IAmb	17 30 04.6	
	comp=Z,16nm,1.4s							
VNDA	**Vanda**	**61.48**	**186**	P		**P**	**17 29 40.1**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=17,slow=5.2,SNR=4.5							
	comp=Z,1.6nm,0.9s							
TOLI2	**Tolitoli**	**66.60**	**279**	P		**P**	**17 30 14.9**	**-0.2**
TOLI2				IAmb		IAmb	17 30 29.4	
	comp=Z,7.6nm,1.1s							
QSPA	**South Pole Qui**	**72.81**	**180**	P		**P**	**17 30 53.0**	**+0.6**
LPIG	**La Paz**	**74.62**	**58**	LR		LR	17 57 56.3	
	comp=Z,31nm,18.4s,baz=30,slow=31							
YBH	**Yreka Blue Hor**	**75.50**	**37**	P		**P**	**17 31 10.7**	**+2.4**
NVAR	**Mina Array Bea**	**76.18**	**42**	P		**P**	**17 31 14.1**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=221,slow=7.6,SNR=3.8							
	comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**84.11**	**42**	P		**P**	**17 31 55.9**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=211,slow=3.3,SNR=25							
	comp=Z,2.1nm,0.6s							
ILAR	**Eielson Array**	**84.39**	**11**	P		**P**	**17 31 56.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=237,slow=6.2,SNR=20							
	comp=Z,0.6nm,0.6s							
BRTR	**Kevin Array B**	**147.09**	**319**	PKPbc		**PKPab**	**17 39 08.0**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=4.4,slow=1.9,SNR=3.2							
GERES	**GERESS Array B**	**147.84**	**350**	PKP		**PKPdf**	**17 39 02.2**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=30,slow=8.0,SNR=2.0							
GERES				PKPbc		**PKiKP**	**17 39 09.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=349,slow=1.4,SNR=3.7							

*SJA **07** 17:33:02.4±0.8, 19.52S×70.14W, h29km±2km, ML4.0, MW3.9*

*NEIC **07** 17:33:03.9±1.6, 19.542S±0.009×70.14W±0.04, h27km±7km, Mwr3.7/23, ML4.0(GUC), Error ellipse: s-maj=5.7km s-min=1.3km az=86.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr3.48; Mθθ-1.36; Mϕϕ-2.12; Mrθ0.36; Mrϕ1.77; Mθϕ1.31; Fault plane solution: M₀3.77000×10¹⁴ NP1:φs336.85000°, δ53.54000°, λ109.62000°. NP2:φs125.89000°, δ40.75000°, λ65.55000°. Principal axes: T 3.8833, Plg73.0000°, Azm301.0000°; N -0.2420, Plg16.0000°, Azm145.0000°; P -3.6413, Plg7.0000°, Azm53.0000°;*

*GUC **07** 17:33:04.9±0.6, 19.52S×70.11W, h32km±1km, ML4.0*

ISC 07 17:33:04.2±0.8, 19.52S±0.02×70.15W±0.03, h29km±5km, n86, σ1§26/145, 2C-14D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSGC	**Pisagua**	**0.08**	**165**	*i* P		**Pb**	**17 33 09.4**	**-0.1**
PSGC				*i* S		**Sb**	**17 33 13.1**	**+0.2**
PSGC				IAML			17 33 13.4	
	comp=E,37μm,0.2s							
PSGCX	**Pisagua**	**0.08**	**165**			**Pb**	**17 33 08.4**	**-1.0**
PSGCX				Sg		**Sb**	**17 33 12.8**	**-0.2**
PSGCX	**Pisagua**	**0.08**	**165**	*eP*		**Pb**	**17 33 09.0**	**-0.4**
PSGCX	**Pisagua**	**0.08**	**165**	*eP*		**Pb**	**17 33 09.0**	**-0.4**
PB11	**IPOC Station P**	**0.52**	**117**			**Pb**	**17 33 13.6**	**-1.5**
PB11				Sg		**Sb**	**17 33 21.6**	**-0.8**
PB11	**IPOC Station P**	**0.52**	**117**	*i* P		**Pb**	**17 33 14.7**	**-0.3**
PB11				*i* S		**Sb**	**17 33 22.0**	**-0.4**
PB11				IAML			17 33 22.6	
	comp=N,24μm,0.2s							
PB11	**IPOC Station P**	**0.52**	**117**	*eP*		**Pb**	**17 33 14.0**	**-1.0**
PB11				*eS*		**Sb**	**17 33 22.0**	**-0.4**
PB11				IAML			17 33 22.8	
	comp=Z,14μm,0.2s							
PB11	**IPOC Station P**	**0.52**	**117**	*eP*		**Pb**	**17 33 14.0**	**-1.0**
PB11				*eS*		**Sb**	**17 33 22.0**	**-0.4**
PB11				IAML			17 33 22.8	
	comp=Z,14μm,0.2s							
MNMC	**Minye Minye**	**0.65**	**53**			**Pb**	**17 33 15.9**	**-1.3**
MNMC				Sg		**Sb**	**17 33 25.9**	**-0.2**
MNMC	**Minye Minye**	**0.65**	**53**	*i* P		**Pb**	**17 33 16.9**	**-0.3**
MNMC				*i* S		**Sb**	**17 33 26.0**	**-0.1**
MNMC				IAML			17 33 26.6	
	comp=N,13μm,0.1s							
MNMCX	**Minye Minye**	**0.65**	**53**	*eP*		**Pb**	**17 33 16.0**	**-1.2**
MNMCX				*eS*		**Sb**	**17 33 26.2**	**+0.1**
MNMCX				IAML			17 33 26.6	
	comp=Z,6μm,0.1s							
MNMCX	**Minye Minye**	**0.65**	**53**	*eP*		**Pb**	**17 33 16.0**	**-1.2**
MNMCX				*eS*		**Sb**	**17 33 26.2**	**+0.1**
MNMCX				IAML			17 33 26.6	
	comp=Z,6μm,0.1s							
TA02	**Huaiquique**	**0.74**	**179**			**Pb**	**17 33 17.9**	**-0.8**
TA02				Sn		**Sb**	**17 33 27.9**	**-0.7**
TA02	**Huaiquique**	**0.74**	**179**	*i* P		**Pb**	**17 33 17.9**	**-0.8**
TA02				*i* S		**Sb**	**17 33 28.2**	**-0.4**
TA02				IAML			17 33 28.9	
	comp=N,19μm,0.3s							
TA02	**Huaiquique**	**0.74**	**179**	*eP*		**Pb**	**17 33 17.9**	**-0.8**
TA02				*eP*		**Pb**	**17 33 18.0**	**-0.7**
TA02				*eS*		**Sb**	**17 33 28.4**	**-0.1**
TA02				IAML			17 33 29.8	
	comp=Z,6μm,0.1s							
TA02	**Huaiquique**	**0.74**	**179**	*eP*		**Pb**	**17 33 17.9**	**-0.7**
TA02				*eP*		**Pb**	**17 33 18.0**	**-0.7**
TA02				*eS*		**Sb**	**17 33 28.4**	**-0.1**
TA02				IAML			17 33 29.8	
	comp=Z,6μm,0.1s							
HMBC	**Humberstone**	**0.79**	**162**	*i* P		**Pn**	**17 33 18.7**	**-0.9**
HMBC				*i* S		**Sb**	**17 33 29.3**	**-0.6**
HMBC				IAML			17 33 33.2	
	comp=N,6μm,0.2s							
GO01	**Chusmiza**	**0.91**	**99**			**Pn**	**17 33 20.9**	**-0.6**
GO01				Sn		**Sb**	**17 33 33.1**	**-0.6**
GO01	**Chusmiza**	**0.91**	**99**	*i* P		**Pn**	**17 33 20.9**	**-0.6**
GO01	**Chusmiza**	**0.91**	**99**	*eP*		**Pn**	**17 33 20.9**	**-0.6**
GO01	**Chusmiza**	**0.91**	**99**	*eP*		**Pn**	**17 33 20.9**	**-0.6**
PB12	**IPOC Station P**	**0.92**	**349**			**Pn**	**17 33 20.1**	**-1.3**
PB12				Sn		**Sn**	**17 33 33.0**	**-0.6**
PB12	**IPOC Station P**	**0.92**	**349**	*i* P		**Pn**	**17 33 20.9**	**-0.4**
PB12				*i* S		**Sn**	**17 33 33.2**	**-0.4**
PB12				IAML			17 33 34.0	
	comp=E,10μm,0.3s							
PB12	**IPOC Station P**	**0.92**	**349**	*eP*		**Pn**	**17 33 20.0**	**-1.3**
PB12				*eS*		**Sb**	**17 33 33.5**	**0.0**
PB12				IAML			17 33 33.7	
	comp=Z,5μm,0.3s							
PB12	**IPOC Station P**	**0.92**	**349**	*eP*		**Pn**	**17 33 20.0**	**-1.3**
PB12				*eS*		**Sb**	**17 33 33.5**	**0.0**
PB12				IAML			17 33 33.7	
	comp=Z,5μm,0.3s							
TA01	**Diego Aracena**	**1.04**	**182**			**Pn**	**17 33 22.4**	**-0.5**
TA01				Sn		**Sn**	**17 33 35.9**	**-0.5**
TA01	**Diego Aracena**	**1.04**	**182**	*i* P		**Pn**	**17 33 22.5**	**-0.3**
TA01				*i* S		**Sn**	**17 33 36.2**	**-0.3**
TA01				IAML			17 33 37.2	
	comp=E,5μm,0.2s							
TA01	**Diego Aracena**	**1.04**	**182**	*eP*		**Pn**	**17 33 22.5**	**-0.3**
TA01				*eS*		**Sb**	**17 33 36.8**	**-0.1**
TA01				IAML			17 33 36.9	
	comp=Z,2μm,0.4s							
TA01	**Diego Aracena**	**1.04**	**182**	*eP*		**Pn**	**17 33 22.5**	**-0.3**
TA01				*eS*		**Sb**	**17 33 36.8**	**-0.1**
TA01				IAML			17 33 36.9	
	comp=Z,2μm,0.4s							
PB08	**IPOC Station P**	**1.12**	**124**			**Pn**	**17 33 23.3**	**-1.0**
PB08				Sn		**Sn**	**17 33 38.9**	**-0.1**
PB08	**IPOC Station P**	**1.12**	**124**	*i* P		**Pn**	**17 33 24.2**	**-0.1**
PB08				*i* S		**Sn**	**17 33 39.1**	**+0.1**
PB08				IAML			17 33 40.1	
	comp=N,5μm,0.2s							
PB08	**IPOC Station P**	**1.12**	**124**	*eP*		**Pn**	**17 33 24.2**	**-0.1**
PB08				*eS*		**Sb**	**17 33 39.2**	**-0.4**
PB08				IAML			17 33 39.5	
	comp=Z,2μm,0.2s							
PB08	**IPOC Station P**	**1.12**	**124**	*eP*		**Pn**	**17 33 24.2**	**-0.1**
PB08				*eS*		**Sb**	**17 33 39.2**	**-0.4**
PB08				IAML			17 33 39.5	
	comp=Z,2μm,0.2s							
AP01	**Chacalluta**	**1.16**	**351**			**Pn**	**17 33 24.7**	**+0.3**
AP01				Sn		**Sb**	**17 33 40.1**	**-0.3**
AP01	**Chacalluta**	**1.16**	**351**	*i* P		**Pn**	**17 33 24.8**	**+0.3**
AP01				*i* S		**Sb**	**17 33 40.0**	**-0.3**
AP01				IAML			17 33 41.8	
	comp=E,11μm,0.4s							
AP01	**Chacalluta**	**1.16**	**351**	*eP*		**Pn**	**17 33 24.8**	**+0.3**
AP01				*eS*		**Sb**	**17 33 41.0**	**+0.7**
AP01				IAML			17 33 42.2	
	comp=Z,6μm,0.1s							
AP01	**Chacalluta**	**1.16**	**351**	*eP*		**Pn**	**17 33 24.8**	**+0.3**
AP01				*eS*		**Sb**	**17 33 41.0**	**+0.7**
AP01				IAML			17 33 42.2	
	comp=Z,6μm,0.1s							
PATCX	**Punta Patache**	**1.29**	**180**			**Pn**	**17 33 25.9**	**-0.5**
PATCX	**Punta Patache**	**1.29**	**180**	*i* P		**Pn**	**17 33 26.0**	**-0.5**
PATCX				*i* S		**Sn**	**17 33 43.1**	**+0.3**
PATCX				IAML			17 33 46.0	
	comp=E,2μm,0.4s							
PATCX	**Punta Patache**	**1.29**	**180**	*eP*		**Pn**	**17 33 26.1**	**-0.3**
PATCX				*eS*		**Sb**	**17 33 45.3**	**+1.1**
PATCX				IAML			17 33 48.8	
	comp=Z,1μm,0.5s							
PATCX	**Punta Patache**	**1.29**	**180**	*eP*		**Pn**	**17 33 26.1**	**-0.3**
PATCX				*eS*		**Sb**	**17 33 45.3**	**+1.1**
PATCX				IAML			17 33 48.8	
	comp=Z,1μm,0.5s							
PB16	**IPOC Station P**	**1.32**	**27**			**Pn**	**17 33 26.9**	**-0.4**
PB16				Sn		**Sn**	**17 33 44.3**	**0.0**
PB16	**IPOC Station P**	**1.32**	**27**	*i* P		**Pn**	**17 33 27.9**	**+0.6**
PB16				*i* S		**Sn**	**17 33 44.6**	**+0.4**
PB16				IAML			17 33 47.2	
	comp=N,3μm,0.3s							
PB16	**IPOC Station P**	**1.32**	**27**	*eP*		**Pn**	**17 33 27.9**	**+0.6**
PB16				*eS*		**Sb**	**17 33 44.9**	**-0.7**
PB16				IAML			17 33 46.2	
	comp=Z,3μm,0.2s							
PB16	**IPOC Station P**	**1.32**	**27**	*eP*		**Pn**	**17 33 27.9**	**+0.6**
PB16				*eS*		**Sb**	**17 33 44.9**	**-0.7**
PB16				IAML			17 33 46.2	
	comp=Z,3μm,0.2s							
PB01	**IPOC Station P**	**1.64**	**158**			**Pn**	**17 33 31.0**	**-0.1**

ISC 07 17:53:49.9±0.9, 2.76S±0.06×129.55E±0.05, h28km, n14, σ1§57/17, mb3.8/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.85**	**227**	P	**Pb**	**17 54 05.7**	**-0.4**
MSAI				S	**Sn**	**17 54 19.6**	**+2.0**
AAI	**Ambon**	**1.64**	**236**	P	**Pb**	**17 54 18.9**	**-0.6**
BNDI	**Bandanaira**	**1.79**	**169**	P	**Pb**	**17 54 21.5**	**-0.6**
BNDI				S	**Sb**	**17 54 45.7**	**+1.6**
NLAI	**Namlea**	**2.49**	**259**	P	**Pn**	**17 54 28.8**	**+0.2**
SIJI	**Sorong**	**2.54**	**43**	Pn	**Pn**	**17 54 29.7**	**+0.4**
	16nm,0.3s,baz=232,slow=19,SNR=228						
SIJI				Sn	**Sn**	**17 55 00.2**	**+0.8**
	16nm,0.3s,baz=180,slow=20,SNR=15						
	60nm,0.2s						
FAKI	**Fak Fak**	**2.70**	**93**	P	**Pn**	**17 54 32.1**	**+0.6**
SANI	**Sanana**	**3.63**	**281**	P	**Pn**	**17 54 42.2**	**-2.0**
SANI				S	**Sn**	**17 55 25.8**	**-0.3**
APSI	**Ampana**	**8.11**	**283**	P	**Pn**	**17 55 46.2**	**+0.4**
	29nm,1.1s						
MRSI	**Marisa**	**8.26**	**293**	P	**Pn**	**17 55 47.7**	**-0.2**
KAPI	**Kappang**	**10.03**	**257**	LR	LR	18 00 26.4	
	comp=Z,44nm,19.4s,baz=76,slow=40						
WRA	**Warramunga Arr**	**17.71**	**165**	P	**Pn**	**17 57 51.1**	**-3.6**
	0.2nm,0.3s,baz=344,slow=12,SNR=2.8						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**21.21**	**169**	P	**P**	**17 58 33.0**	**-0.6**
	1.8nm,0.4s,baz=347,slow=9.8,SNR=45						
	1.8nm,0.4s						
MKAR	**Makanchi Array**	**64.47**	**326**	P	**P**	**18 04 24.7**	**+0.7**
	0.3nm,0.8s,baz=111,slow=6.5,SNR=4.0						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**67.61**	**333**	P	**P**	**18 04 46.8**	**+2.8**
	0.3nm,0.4s,baz=139,slow=9.6,SNR=2.2						
	0.3nm,0.4s						

*IDC **07** 17:54:53.7±2.7,5.40S×146.84E,h118km±25km, mb3.8/9, mbtmp4.2/13, Error ellipse: s-maj=27.6km s-min=19.0km az=81.0*
*NEIC **07** 17:54:58.3±1.2,5.50S±0.09×146.5E±0.1,h133km±12km, mb4.4/18, Error ellipse: s-maj=18.5km s-min=12.4km az=105.0*

ISC 07 17:54:56.0±0.6, 5.47S±0.06×146.53E±0.08, h123km, n37, σ1§20/39, mb3.9/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.96**	**171**	P	**Pn**	**17 55 54.7**	**-0.3**
	6.8nm,0.3s,baz=345,slow=9.8,SNR=13						
PMG				S	**Sn**	**17 56 38.8**	**-2.0**
	41nm,0.3s,baz=300,slow=20,SNR=16						
RABL	**Rabaul**	**5.76**	**77**		**Pn**	**17 56 21.8**	**+2.6**
COEN	**Coen**	**9.05**	**201**	Pn	**Pn**	**17 57 05.8**	**+2.0**
COEN				Sn	**Sn**	**17 58 42.2**	**-1.8**
HNR	**Honiara**	**13.87**	**107**	Pn	**P**	**17 58 10.5**	**-1.2**
FAKI	**Fak Fak**	**14.46**	**280**		**P**	**17 58 18.8**	**+0.5**
CTA	**Charters Tower**	**14.53**	**181**	P	**Pn**	**17 58 16.4**	**+0.5**
	8.0nm,1.1s,baz=350,slow=9.6,SNR=2.4						
CTAO	**Charters Tower**	**14.53**	**181**	P	**P**	**17 58 21.2**	**+2.3**
SIJI	**Sorong**	**15.90**	**286**	P	**P**	**17 58 35.0**	**+0.8**
	6.9nm,0.6s,baz=140,slow=11,SNR=5.7						
WB0	**Warramunga Arr**	**18.48**	**219**	P	**P**	**17 59 03.4**	**+0.9**
WB0				IAmb	IAmb	17 59 06.5	
	comp=Z,6.9nm,0.7s						
WR0	**Warramunga Arr**	**18.53**	**218**	P	**P**	**17 59 04.0**	**+0.9**
WR0				IAmb	IAmb	17 59 07.2	
	comp=Z,9.5nm,0.5s						
WRAB	**Tennant Creek**	**18.63**	**218**	P	**P**	**17 59 04.3**	**+0.1**
WRAB				IAmb	IAmb	17 59 08.5	
	comp=Z,13nm,0.6s						
WB2	**Warramunga Arr**	**18.63**	**218**	P	**P**	**17 59 05.2**	**+1.0**
WB2				IAmb	IAmb	17 59 08.6	
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**18.64**	**218**	P	**P**	**17 59 05.2**	**+0.9**
	comp=Z,9.0nm,0.6s,baz=41,slow=12,SNR=40						
WRA	**Warramunga Arr**	**18.64**	**218**	P	**P**	**17 59 04.2**	**-0.2**
KNRA	**Kununurra**	**20.17**	**238**	P	**P**	**17 59 22.0**	**+1.1**
KNRA				IAmb	IAmb	17 59 32.0	
	comp=Z,36nm,1.3s						
AS31	**Alice Springs**	**21.79**	**213**	P	**P**	**17 59 39.1**	**+0.9**
ASAR	**Alice Springs**	**21.80**	**213**	P	**P**	**17 59 38.7**	**+0.4**
	comp=Z,5.7nm,0.7s,baz=48,slow=7.6,SNR=35						
	comp=Z,5.7nm,0.7s						
ASAR	**Alice Springs**	**21.80**	**213**	P	**P**	**17 59 38.9**	**+0.5**
SOEI	**Soe**	**22.46**	**258**	P	**P**	**17 59 46.9**	**+1.6**
SOEI				IAmb	IAmb	17 59 56.0	
	comp=Z,18nm,0.9s						
BATI	**Baumata**	**23.13**	**257**	P	**P**	**17 59 52.9**	**+1.3**
	comp=Z,29nm,0.6s,baz=134,slow=8.2,SNR=5.0						
	comp=Z,29nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.95**	**237**	P	**P**	**17 59 59.7**	**+0.7**
STKA	**Stephens Creek**	**26.67**	**189**	P	**P**	**18 00 23.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=351,slow=8.9,SNR=3.2						
	comp=Z,0.9nm,0.4s						
STKA	**Stephens Creek**	**26.67**	**189**	P	**P**	**18 00 23.8**	**+0.4**
BBOO	**Buckleboo**	**28.90**	**198**	P	**P**	**18 00 43.5**	**+0.2**
BBOO				IAmb	IAmb	18 01 02.4	
	comp=Z,20nm,1.4s						
PSA00	**Pilbara Seismi**	**30.39**	**236**	P	**P**	**18 00 56.1**	**-0.6**
FORT	**Forrest**	**30.58**	**212**	P	**P**	**18 00 58.6**	**+0.4**
MORW	**Morawa**	**37.17**	**227**	P	**P**	**18 01 55.7**	**+0.4**
YULB	**Yu-li**	**37.82**	**320**	P	**P**	**18 02 00.8**	**+0.1**
TPUB	**Ta-pu**	**38.18**	**319**	P	**P**	**18 02 03.5**	**-0.3**
SSLB	**Suanglung**	**38.32**	**320**	P	**P**	**18 02 05.2**	**+0.2**
SSLB				IAmb	IAmb	18 02 15.4	
	comp=Z,19nm,1.5s						
SONM	**Songino Array**	**63.72**	**331**	P	**P**	**18 05 13.7**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=129,slow=4.2,SNR=6.0						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**63.72**	**331**	P	**P**	**18 05 13.6**	**-1.1**
SONM				IAmb	IAmb	18 05 17.7	
	comp=Z,1.3nm,1.2s						
VNDA	**Vanda**	**72.46**	**177**	P	**P**	**18 06 07.8**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=326,slow=9.1,SNR=5.1						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**76.79**	**321**	P	**P**	**18 06 33.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=99,slow=7.9,SNR=2.1						
	comp=Z,0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**78.32**	**328**	P	**P**	**18 06 40.5**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=122,slow=6.1,SNR=3.4						
	comp=Z,0.6nm,0.4s						
MAW	**Mawson**	**82.55**	**203**	P	**P**	**18 07 03.7**	**-1.1**
	comp=Z,16nm,1.1s,baz=106,slow=7.4,SNR=1.6						
	comp=Z,16nm,1.1s						
ILAR	**Eielson Array**	**85.19**	**23**	P	**P**	**18 07 15.7**	**-2.5**
	comp=Z,0.8nm,0.6s,baz=248,slow=5.1,SNR=14						
	comp=Z,0.8nm,0.6s						

*IDC **07** 17:56:22.4±1.3,9.52N×126.73E,h0km, mb3.5/4, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=49.2km s-min=22.6km az=88.0*
*MAN **07** 17:56:26.9,9.50N×126.54E,h18km, mb4.5, ML3.4, MS3.2*
*NEIC **07** 17:56:28.8±1.8,9.55N±0.08×126.5E±0.1,h37km±8km, mb4.5/9, Error ellipse: s-maj=21.3km s-min=11.2km az=103.0*

ISC 07 17:56:26.4±0.7, 9.47N±0.03×126.58E±0.07, h20km±4km, n38, σ1§48/54, mb4.0/8, 9C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.54**	**305**	⇑*eP*	**Pg**	**17 56 37.6**	**+0.3**
GLSP				*eS*	**Sg**	**17 56 44.7**	**0.0**
SCPH	**Surigao**	**1.12**	**286**	*eP*	**Pn**	**17 56 45.4**	**-1.6**
SCPH				*eS*	**Sb**	**17 56 58.4**	**-2.8**
BIPH	**Bislig**	**1.30**	**190**	⇓*eP*	**Pn**	**17 56 49.0**	**-0.5**
BIPH				*i S*	**Sn**	**17 57 05.8**	**-0.5**
MSLP	**Maasin**	**1.82**	**291**	⇑*eP*	**Pn**	**17 56 56.3**	**-0.3**
MSLP				*eS*	**Sn**	**17 57 19.1**	**0.0**
CGP	**Cagayan de Oro**	**2.12**	**242**	⇑*eP*	**Pn**	**17 57 00.3**	**-0.5**
CGP				*eS*	**Sn**	**17 57 25.5**	**-1.1**
BUKP	**Musuan**	**2.18**	**224**	⇓*eP*	**Pn**	**17 57 02.7**	**+1.1**
BUKP				*eS*	**Sb**	**17 57 30.5**	**-1.4**
BUKP	**Musuan**	**2.18**	**224**	⇑*eP*	**Pn**	**17 57 03.3**	**+1.7**
BUKP				*eS*	**Sb**	**17 57 30.6**	**-1.3**
BESP	**Borongan**	**2.39**	**332**	⇑*eP*	**Pn**	**17 57 02.9**	**-1.7**
BESP				*eS*	**Sn**	**17 57 33.9**	**+0.6**
MATI	**Mati**	**2.53**	**187**	⇓*eP*	**Pn**	**17 57 07.9**	**+1.4**
MATI				*eS*	**Sn**	**17 57 39.1**	**+2.4**
DAV	**Davao City (W)**	**2.59**	**203**	Pn	**Pn**	**17 57 07.6**	**+0.4**
	31nm,0.3s,baz=45,slow=5.7,SNR=2.7						
DAV				Sn	**Sb**	**17 57 42.3**	**-1.2**
	12nm,0.3s,baz=90,slow=20,SNR=1.6						
	86nm,0.4s						
DAV	**Davao City (W)**	**2.59**	**203**	Pn	**Pn**	**17 57 07.5**	**+0.3**
TBP	**Tagbilaran**	**2.69**	**275**	*eP*	**Pn**	**17 57 08.8**	**+0.2**
TBP				*i* S	**Sn**	**17 57 41.9**	**+1.3**
LLP	**Lapu-Lapu**	**2.71**	**288**	*eP*	**Pn**	**17 57 10.4**	**+1.5**
LLP				*eS*	**Sn**	**17 57 42.1**	**+1.0**
CTBH	**Cotabato--PC H**	**3.22**	**226**	⇑*iP*	**Pn**	**17 57 17.1**	**+1.3**
DCPH	**Dipolog City**	**3.31**	**255**	⇓*eP*	**Pn**	**17 57 18.2**	**+1.1**
DCPH				*eS*	**Sn**	**17 57 57.0**	**+1.0**
DDMP	**Don Marcelino,**	**3.46**	**194**	⇓*eP*	**Pn**	**17 57 17.0**	**-2.2**
DDMP				*eS*	**Sb**	**17 58 05.8**	**-2.8**
PAGZ	**Pagadian**	**3.55**	**243**	⇑*eP*	**Pn**	**17 57 21.7**	**+1.3**
PAGZ				*eS*	**Sn**	**17 58 00.7**	**-1.2**
PAGZ	**Pagadian**	**3.55**	**243**	⇓*eP*	**Pn**	**17 57 22.9**	**+2.4**
CNP	**Catarman**	**3.56**	**328**	⇑*eP*	**Pn**	**17 57 21.8**	**+1.3**
CNP				*eS*	**Sn**	**17 58 00.8**	**-1.2**
RCP	**Roxas**	**4.30**	**299**	⇑*eP*	**Pn**	**17 57 33.5**	**+2.7**
KKM	**Kota Kinabalu**	**10.82**	**252**	Pn	**Pn**	**17 59 00.6**	**+0.2**
LUWI	**Luwuk**	**11.11**	**200**	Pn	**Pn**	**17 59 05.8**	**+1.4**
TPUB	**Ta-pu**	**14.88**	**338**		**P**	**18 00 00.5**	**-0.9**
MTN	**Manton Dam**	**22.63**	**168**	P	**P**	**18 01 26.8**	**+0.5**
MTN				IAmb	IAmb	18 01 39.7	
	comp=Z,34nm,1.4s						
KNRA	**Kununurra**	**25.08**	**175**	P	**P**	**18 01 49.5**	**-0.4**
KNRA				IAmb	IAmb	18 01 54.5	
	comp=Z,33nm,1.4s						
WRA	**Warramunga Arr**	**30.21**	**165**	P	**P**	**18 02 33.9**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=350,slow=7.6,SNR=1.9						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**33.71**	**168**	P	**P**	**18 03 05.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=343,slow=7.3,SNR=1.5						
	comp=Z,0.2nm,0.3s						
MORW	**Morawa**	**39.64**	**195**	P	**P**	**18 03 57.9**	**+0.8**
FORT	**Forrest**	**40.05**	**178**	P	**P**	**18 03 59.9**	**-0.5**
BBOO	**Buckleboo**	**43.01**	**168**	P	**P**	**18 04 24.8**	**+0.2**
BBOO				IAmb	IAmb	18 04 31.7	
	comp=Z,5.2nm,0.9s						
NWAO	**Narrogin (SRO)**	**43.10**	**192**	P	**P**	**18 04 25.9**	**+0.5**
MK31	**Makanchi Array**	**52.84**	**323**	P	**P**	**18 05 38.8**	**-2.0**
MKAR	**Makanchi Array**	**52.84**	**323**	P	**P**	**18 05 39.1**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=130,slow=7.9,SNR=7.4						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**52.84**	**323**	P	**P**	**18 05 38.2**	**-2.6**
MAKZ	**Makanchi**	**53.04**	**323**	P	**P**	**18 05 39.5**	**-2.6**
KKAR	**Karatay Array**	**59.02**	**315**	P	**P**	**18 06 22.7**	**-2.4**
BILL	**Bilibino**	**64.08**	**15**	P	**P**	**18 06 59.6**	**+0.9**
BILL				IAmb	IAmb	18 07 23.1	
	comp=Z,5.6nm,1.4s						
YKA	**Yellowknife Ar**	**94.35**	**24**	P	**P**	**18 09 45.0**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=298,slow=4.6,SNR=5.7						
	comp=Z,0.3nm,0.7s						

IDC 07 17:57:39.5±3.9, 49.29S×125.78E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=119.8km s-min=67.7km az=106.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**21.06**	**40**	P	P	18 02 25.2	+0.1
	3.3nm,0.7s,baz=203,slow=10,SNR=8.4						
	3.3nm,0.7s						
ASAR	**Alice Springs**	**26.36**	**17**	P	P	18 03 17.5	+0.1
	2.0nm,0.7s,baz=187,slow=11,SNR=11						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**30.07**	**16**	P	P	18 03 50.2	-0.3
	0.7nm,1.0s,baz=192,slow=10,SNR=2.0						
	0.7nm,1.0s						
YKA	**Yellowknife Ar**	**145.05**	**45**	PKPbc	PKPbc	18 17 16.0	-0.9
	0.4nm,0.7s,baz=267,slow=4.0,SNR=6.5						

IDC 07 18:08:44.1±3.1, 5.39S×130.29E, h229km±47km, mb2.7/1, mbtmp3.5/4, MS2.5/1, Error ellipse: s-maj=96.9km s-min=18.3km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.59**	**12**	P	Pn	18 09 54.9	+0.5
	6.3nm,0.2s,baz=210,slow=20,SNR=41						
SIJI				S	S	18 10 49.5	-0.3
	6.9nm,0.2s,baz=217,slow=20,SNR=11						
KAPI	**Kappang**	**10.50**	**272**	LR	LR	18 15 50.0	
	0.3nm,0.3s,baz=343,slow=12,SNR=9.3						
WRA				S	S	18 14 40.1	-11
	1.3nm,1.1s,baz=333,slow=23,SNR=1.4						
ASAR	**Alice Springs**	**18.51**	**169**	P	P	18 12 43.1	-0.6
	1.3nm,0.6s,baz=353,slow=12,SNR=23						
MKAR	**Makanchi Array**	**67.04**	**326**	P	P	18 19 13.7	+1.0
	0.1nm,0.5s,baz=111,slow=6.6,SNR=1.7						
	0.1nm,0.5s						

WEL 07 18:27:30.0, 38°S±6°×17°7E±°, h60km±8km, M3.2/52, ML3.5/60, MLv3.2/52, Error ellipse: s-maj=0.0km s-min=0.0km az=156.5, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.26**	**308**	P	Pn	18 27 39.9	+0.1
HAZ	**Te Kaha**	**0.27**	**104**	P	Pn	18 27 39.6	-0.2
HAZ				S	Sn	18 27 48.1	+1.1
RUGZ	**Raukumara Rang**	**0.33**	**147**	P	Pn	18 27 40.3	-0.2
RUGZ				S	Sn	18 27 49.5	+1.4
WHRZ	**Whale Island**	**0.41**	**246**	P	Pn	18 27 42.6	+1.5
PKGZ	**Pakihiroa**	**0.54**	**112**	P	Pn	18 27 42.0	-0.4
URZ	**Urewera**	**0.63**	**205**	P	Pn	18 27 44.1	+0.7
URZ				S	Sn	18 27 55.7	+2.6
TWGZ	**Tauwhareparae**	**0.64**	**139**	P	Pn	18 27 44.6	+1.0
MWZ	**Matawai**	**0.65**	**174**	P	Pn	18 27 44.3	+0.6
MARZ	**Manawahe**	**0.68**	**244**	P	Pn	18 27 44.5	+0.5
MXZ	**Matakaoa Point**	**0.69**	**80**	P	Pn	18 27 43.0	-1.1
EDRZ	**Edgecumbe**	**0.70**	**233**	P	Pn	18 27 45.0	+0.7
OPRZ	**Ohinepanea**	**0.72**	**257**	P	Pn	18 27 44.7	+0.2
PUZ	**Puketiti**	**0.74**	**121**	P	Pn	18 27 44.5	-0.3
WMGZ	**Waiomatatini S**	**0.78**	**100**	P	Pn	18 27 44.8	-0.3
RAGZ	**Rawiri**	**0.81**	**182**	P	Pn	18 27 46.9	+1.2
TKGZ	**Te Karaka**	**0.81**	**157**	P	Pn	18 27 46.2	+0.6
TARZ	**Mount Tarawera**	**0.92**	**234**	P	Pn	18 27 49.1	+2.0
TGRZ	**Tauranga**	**0.94**	**267**	P	Pn	18 27 47.1	-0.1
OMRZ	**Omania**	**0.95**	**244**	P	Pn	18 27 48.0	+0.6
MUGZ	**Murupara**	**0.95**	**214**	P	Pn	18 27 48.1	+0.7
RTZ	**Ruatahuna**	**0.99**	**202**	P	Pn	18 27 48.9	+0.8
KARZ	**Kaharoa**	**1.01**	**251**	P	Pn	18 27 48.5	+0.3
MYRZ	**Mayor Island**	**1.04**	**293**	P	Pn	18 27 48.1	-0.5
RIGZ	**Rimuhau**	**1.04**	**166**	P	Pn	18 27 48.9	+0.2
SNGZ	**Shannon Statio**	**1.09**	**184**	P	Pn	18 27 50.3	+1.1
PRRZ	**Plateau Road**	**1.16**	**226**	P	Pn	18 27 51.5	+1.3
KMRZ	**Kaimai**	**1.20**	**262**	P	Pn	18 27 50.6	-0.1
ALRZ	**Allen Road**	**1.23**	**225**	P	Pn	18 27 52.7	+1.6
MTHZ	**Maungataniwha**	**1.26**	**202**	P	Pn	18 27 52.3	+0.9
RAHZ	**Arahi**	**1.26**	**193**	P	Pn	18 27 52.2	+0.7
KNZ	**Kokohu**	**1.34**	**172**	P	Pn	18 27 52.4	-0.2
WHNZ	**Waihua**	**1.40**	**187**	P	Pn	18 27 54.1	+0.8
MRHZ	**Matea Rd**	**1.40**	**215**	P	Pn	18 27 54.4	+1.0
MHGZ	**Mahia Peninsul**	**1.50**	**166**	P	Pn	18 27 54.4	-0.4
ARHZ	**Aropaoanui**	**1.61**	**193**	P	Pn	18 27 56.7	+0.6
BKZ	**Black Stump Fm**	**1.65**	**207**	P	Pn	18 27 57.6	+0.8
KUZ	**Kuaotunu**	**1.67**	**304**	P	Pn	18 27 55.5	-1.5
RATZ	**Rangitukua**	**1.77**	**228**	P	Pn	18 28 00.2	+1.9
RITZ	**Rihia Road**	**1.79**	**224**	P	Pn	18 28 00.7	+2.0
MCHZ	**McNeill Hill**	**1.85**	**198**	P	Pn	18 28 00.1	+0.7
KWHZ	**Kaweka Forest**	**1.91**	**205**	P	Pn	18 28 00.8	+0.5
MKAZ	**Moumakai**	**1.91**	**287**	P	Pn	18 27 59.5	-0.7
TMVZ	**Te Maari**	**1.98**	**223**	P	Pn	18 28 02.5	+1.3
NTVZ	**North Tongarir**	**1.98**	**224**	P	Pn	18 28 03.0	+1.7
CKHZ	**Cape Kidnapper**	**1.99**	**188**	P	Pn	18 28 00.7	-0.6
ETVZ	**East Tongariro**	**1.99**	**223**	P	Pn	18 28 02.8	+1.4
OTVZ	**Oturere**	**2.03**	**223**	P	Pn	18 28 03.5	+1.5
NNVZ	**North Ngauruho**	**2.04**	**224**	P	Pn	18 28 03.8	+1.7
WTVZ	**West Tongariro**	**2.04**	**225**	P	Pn	18 28 04.1	+2.0
WIAZ	**Waiheke Island**	**2.05**	**295**	P	Pn	18 28 01.3	-0.8
SNVZ	**South Ngauruho**	**2.06**	**223**	P	Pn	18 28 03.6	+1.2
NGZ	**Ngauruhoe**	**2.08**	**224**	P	Pn	18 28 04.1	+1.5
TWVZ	**Taurewa**	**2.10**	**228**	P	Pn	18 28 04.6	+1.7
BHHZ	**Black Hill Sta**	**2.10**	**211**	P	Pn	18 28 03.4	+0.5
TUVZ	**Tukino**	**2.11**	**221**	P	Pn	18 28 04.3	+1.2
KRHZ	**Kereru**	**2.13**	**203**	P	Pn	18 28 02.7	-0.4
ETAZ	**East Tamaki Re**	**2.14**	**289**	P	Pn	18 28 02.8	-0.5
GRZ	**Great Barrier**	**2.15**	**311**	P	Pn	18 28 02.0	-1.4
KAHZ	**Kahuranaki**	**2.15**	**192**	P	Pn	18 28 02.9	-0.6
FWVZ	**Far West T-bar**	**2.16**	**223**	P	Pn	18 28 05.0	+1.2
WHVZ	**Whangaehu Hut**	**2.16**	**222**	P	Pn	18 28 04.8	+1.0
MOVZ	**Moawhango**	**2.17**	**217**	P	Pn	18 28 04.2	+0.4
WNVZ	**Wahianoa**	**2.19**	**221**	P	Pn	18 28 05.1	+0.9
TRVZ	**Turoa**	**2.19**	**222**	P	Pn	18 28 05.0	+0.7
HIZ	**Hauiti**	**2.20**	**247**	P	Pn	18 28 05.3	+1.0
MTVZ	**Mangateitei**	**2.30**	**222**	P	Pn	18 28 06.5	+1.0
PKVZ	**Pokaka**	**2.30**	**225**	P	Pn	18 28 07.0	+1.5
PXZ	**Pawanui**	**2.38**	**191**	P	Pn	18 28 05.1	-1.5
PNHZ	**Pukenui**	**2.42**	**203**	P	Pn	18 28 06.3	-1.0
WPHZ	**Waipukurau**	**2.50**	**198**	P	Pn	18 28 07.1	-1.2
VRZ	**Vera Road**	**2.55**	**235**	P	Pn	18 28 11.0	+2.0
TSZ	**Takapari Road**	**2.63**	**206**	P	Pn	18 28 08.9	-1.2
PRHZ	**Porangahau**	**2.65**	**194**	P	Pn	18 28 08.7	-1.6
DVHZ	**Dannevirke**	**2.79**	**201**	P	Pn	18 28 10.2	-2.0
WAZ	**Wanganui**	**2.82**	**222**	P	Pn	18 28 13.7	+1.0
ANWZ	**Angora Road**	**2.87**	**195**	P	Pn	18 28 11.6	-1.7
PRWZ	**Pori Road**	**3.08**	**201**	P	Pn	18 28 14.8	-1.4
BFZ	**Birch Farm**	**3.13**	**197**	P	Pn	18 28 14.5	-2.4
KHEZ	**Kahui Hut**	**3.13**	**238**	P	Pn	18 28 20.1	+3.1
MRZ	**Mangatainoka R**	**3.30**	**206**	P	Pn	18 28 16.8	-2.4
TIWZ	**Tintock**	**3.31**	**201**	P	Pn	18 28 17.3	-2.1
CPWZ	**Castlepoint**	**3.36**	**196**	P	Pn	18 28 18.3	-1.7
HOWZ	**Holdsworth Sta**	**3.54**	**204**	P	Pn	18 28 19.4	-3.0
OGWZ	**Otaki Gorge**	**3.59**	**209**	P	Pn	18 28 20.9	-2.2
TMWZ	**Te Maipa**	**3.62**	**199**	P	Pn	18 28 20.5	-3.1
KIW	**Kapiti Island**	**3.73**	**211**	P	Pn	18 28 22.7	-2.4
MTW	**Mount Morrison**	**3.78**	**203**	P	Pn	18 28 22.3	-3.4
CAW	**Cannon Point**	**3.88**	**208**	P	Pn	18 28 24.2	-2.9
TRWZ	**Traveller**	**3.95**	**200**	P	Pn	18 28 24.7	-3.3
PAWZ	**Paruwai Farm**	**4.00**	**202**	P	Pn	18 28 25.2	-3.6
DUWZ	**D'Urville Isla**	**4.14**	**220**	P	Pn	18 28 28.5	-2.3
WEL	**Wellington**	**4.14**	**209**	P	Pn	18 28 27.6	-3.2
PLWZ	**Palliser**	**4.23**	**203**	P	Pn	18 28 27.8	-4.1
TCW	**Tory Channel**	**4.29**	**214**	P	Pn	18 28 29.7	-2.9
TUWZ	**Tuamarina**	**4.61**	**215**	P	Pn	18 28 33.7	-3.5
TKNZ	**Takaka Hill**	**4.82**	**225**	P	Pn	18 28 37.8	-2.2
QRZ	**Quartz Range**	**4.94**	**229**	P	Pn	18 28 39.6	-2.0
MRNZ	**Matariki Terra**	**5.18**	**223**	P	Pn	18 28 41.8	-3.2
THZ	**Tophouse**	**5.37**	**219**	P	Pn	18 28 44.1	-3.5
GVZ	**Greta Valley S**	**6.26**	**211**	P	Pn	18 28 55.3	-4.4
LTZ	**Lake Taylor**	**6.45**	**216**	P	Pn	18 28 57.2	-5.0
MQZ	**McQueen's Vall**	**7.03**	**210**	P	Pn	18 29 04.5	-5.7
AKCZ	**Akaroa Harbour**	**7.07**	**208**	P	Pn	18 29 05.8	-5.0
CTZ	**Chatham Island**	**7.53**	**145**	P	Pn	18 29 16.2	-0.9

*SOME **07** 18:30:59.8, 40.95N×76.08E, h15km*
*KRNET **07** 18:31:00.8±0.1, 41.01N×76.06E, h16km, mb3.2*
*KNET **07** 18:31:02.3±0.6, 41.10N×76.05E, h16km±7km, ml2.6, Error ellipse: s-maj=4.2km s-min=2.9km az=4.0*
*NNC **07** 18:31:02.2±1.1, 41.04N×76.10E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=7.8km s-min=5.5km az=173.0*

ISC 07 18:31:03.0±1.7, 41.12N±0.07×76.02E±0.03, h13km±10km, n72, σ1§04/89, 30C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**0.31**	**357**	*i* P	**Pg**	**18 31 08.9**	**-0.6**
	baz=51						
NRN

DGS					Lg	Lg	18 32 13.3			
	46nm,0.5s									
DGS	**Degeres**	**2.13**	**355**		*e*Pg	**Pg**	**18 31 42.4**	**-1.4**		
	17nm,0.4s									
DGS					*e*Lg	Lg	18 32 13.3			
	46nm,0.5s									
MDOK	**Medeo**	**2.18**	**20**		Pg	**Pb**	**18 31 42.5**	**+0.1**		
	26nm,0.3s									
MDOK					⇑Pn	**Pg**	**18 31 42.6**	**-2.1**		
	21nm,0.5s									
MDOK					Lg	Lg	18 32 13.6			
	28nm,0.6s									
MDOK					⇓Lg	Lg	18 32 14.5			
	33nm,0.8s									
MDOK	**Medeo**	**2.18**	**20**		*e*Pg	**Pb**	**18 31 42.5**	**+0.1**		
	26nm,0.3s									
MDOK					*e*Lg	Lg	18 32 13.6			
	28nm,0.6s									
AAA	**Alma-Ata**	**2.19**	**17**		Pg	**Pg**	**18 31 43.7**	**-1.2**		
	35nm,0.2s									
AAA					Lg	Lg	18 32 15.1			
	43nm,0.3s									
AAA	**Alma-Ata**	**2.19**	**17**		*e*Pg	**Pg**	**18 31 43.7**	**-1.2**		
	35nm,0.2s									
AAA					*e*Lg	Lg	18 32 15.1			
	43nm,0.3s									
KOTS	**Kotyrbulak**	**2.26**	**21**		Pg	**Pb**	**18 31 44.4**	**+0.6**		
	18nm,0.3s									
KOTS					Lg	Lg	18 32 16.7			
	52nm,0.3s									
KOTS	**Kotyrbulak**	**2.26**	**21**		*e*Pg	**Pb**	**18 31 44.4**	**+0.6**		
	18nm,0.3s									
KOTS					*e*Lg	Lg	18 32 16.7			
	52nm,0.3s									
EKS2	**Erkin-Say**	**2.27**	**313**		⇑*i*P	**Pb**	**18 31 42.1**	**-1.9**		
	baz=15									
EKS2					⇑*i*S	**Sb**	**18 32 12.3**	**+0.2**		
	baz=15									
USP	**Ospenovka**	**2.42**	**333**		⇑*i*P	**Pb**	**18 31 44.4**	**-2.1**		
	baz=33									
USP					⇑*i*S	**Sb**	**18 32 16.0**	**-0.3**		
	baz=33									
SGDS	**Sogindy**	**2.55**	**337**		Pg	**Pb**	**18 31 49.3**	**+0.7**		
	11nm,0.5s									
SGDS					Lg	Lg	18 32 24.7			
	40nm,0.5s									
KRBS	**Karabastau**	**2.58**	**354**		Pg	**Pb**	**18 31 50.3**	**+1.1**		
	54nm,0.2s									
KRBS					Lg	Lg	18 32 26.6			
	49nm,0.5s									
KRBS	**Karabastau**	**2.58**	**354**		*e*Pg	**Pb**	**18 31 50.3**	**+1.1**		
	54nm,0.2s									
KRBS					*e*Lg	Lg	18 32 26.6			
	49nm,0.5s									
SATY	**Saty**	**2.62**	**42**		Pg	**Pb**	**18 31 50.5**	**+0.5**		
	18nm,0.5s									
SATY					Lg	Lg	18 32 26.7			
	39nm,0.5s									
SATY	**Saty**	**2.62**	**42**		*e*Pg	**Pb**	**18 31 50.5**	**+0.5**		
	18nm,0.5s									
SATY					*e*Lg	Lg	18 32 26.7			
	39nm,0.5s									
KTBS	**Karatobe**	**2.63**	**10**		Pg	**Pb**	**18 31 51.5**	**-1.9**		
	23nm,0.2s									
KTBS					Lg	Lg	18 32 28.9			
	55nm,0.3s									
KTBS	**Karatobe**	**2.63**	**10**		*e*Pg	**Pg**	**18 31 51.5**	**-1.9**		
	23nm,0.2s									
KTBS					*e*Lg	Lg	18 32 28.9			
	55nm,0.3s									
MRKS	**Merke**	**2.64**	**309**		Pg	**Pb**	**18 31 49.8**	**-0.4**		
	4.0nm,0.3s									
MRKS					Lg	Lg	18 32 25.6			
	17nm,0.4s									
MRKS	**Merke**	**2.64**	**309**		*e*Pg	**Pb**	**18 31 49.8**	**-0.4**		
	4.0nm,0.3s									
MRKS					*e*Lg	Lg	18 32 25.6			
	17nm,0.4s									
ZHN	**Zhinishke**	**2.72**	**40**		Pg	**Pb**	**18 31 51.3**	**-0.3**		
	14nm,0.2s									
ZHN					Lg	Lg	18 32 28.5			
	39nm,0.2s									
ZHN	**Zhinishke**	**2.72**	**40**		*e*Pg	**Pb**	**18 31 51.3**	**-0.3**		
	14nm,0.2s									
ZHN					*e*Lg	Lg	18 32 28.5			
	39nm,0.2s									
KUU	**Kurty**	**2.78**	**5**		Pg	**Pb**	**18 31 53.5**	**+1.0**		
	6.2nm,0.2s									
KUU					Lg	Lg	18 32 32.2			
	65nm,0.7s									
KUU	**Kurty**	**2.78**	**5**		*e*Pg	**Pb**	**18 31 53.5**	**+1.0**		
	6.2nm,0.2s									
KUU					*e*Lg	Lg	18 32 32.2			
	65nm,0.7s									
CHKK	**Chushkaly**	**2.82**	**14**		Pg	**Pb**	**18 31 54.3**	**+1.0**		
	18nm,1.0s									
CHKK					Lg	Lg	18 32 33.9			
	21nm,0.3s									
CHKK	**Chushkaly**	**2.82**	**14**		*e*Pg	**Pb**	**18 31 54.3**	**+1.0**		
	18nm,1.0s									
CHKK					*e*Lg	Lg	18 32 33.9			
	21nm,0.3s									
KURS	**Kuram**	**2.85**	**33**		Pg	**Pb**	**18 31 53.9**	**+0.2**		
	16nm,0.4s									
KURS					Lg	Lg	18 32 32.6			
	14nm,0.7s									
KURS	**Kuram**	**2.85**	**33**		*e*Pg	**Pb**	**18 31 53.9**	**+0.2**		
	16nm,0.4s									
KURS					*e*Lg	Lg	18 32 32.6			
	14nm,0.7s									
UZB	**Uzynbulak**	**3.01**	**47**		Pg	**Pb**	**18 31 55.5**	**-1.0**		
	15nm,0.4s									
UZB					Lg	Lg	18 32 35.3			
	10.0nm,0.3s									
UZB	**Uzynbulak**	**3.01**	**47**		*e*Pg	**Pb**	**18 31 55.5**	**-1.0**		
	15nm,0.4s									
UZB					*e*Lg	Lg	18 32 35.3			
	10.0nm,0.3s									
KPKS	**Kokpek**	**3.06**	**39**		Pg	**Pb**	**18 31 57.3**	**-0.1**		
	12nm,0.2s									
KPKS					Lg	Lg	18 32 38.6			
	49nm,0.4s									
KPKS	**Kokpek**	**3.06**	**39**		*e*Pg	**Pb**	**18 31 57.3**	**-0.1**		
	12nm,0.2s									
KPKS					*e*Lg	Lg	18 32 38.5			
	49nm,0.4s									
SHLS	**Shalkode**	**3.27**	**50**		Pg	**Pg**	**18 32 05.5**	**-0.1**		
	3.6nm,0.2s									
SHLS					Lg	Lg	18 32 52.9			
	24nm,0.5s									
SHLS	**Shalkode**	**3.27**	**50**		*e*Pg	**Pg**	**18 32 05.5**	**-0.1**		
	3.6nm,0.2s									
SHLS					*e*Lg	Lg	18 32 52.9			
	24nm,0.5s									
KTMS	**Ketmen**	**3.96**	**53**		Pg	**Pb**	**18 32 14.1**	**+1.3**		
	2.1nm,0.4s									
KTMS					Lg	Lg	18 33 07.5			
	7.1nm,0.4s									
KTMS	**Ketmen**	**3.96**	**53**		*e*Pg	**Pb**	**18 32 14.1**	**+1.3**		
	2.1nm,0.4s									
KTMS					*e*Lg	Lg	18 33 07.5			
	7.1nm,0.4s									
BTLS	**Baital**	**4.17**	**340**		Pg	**Pb**	**18 32 18.0**	**+1.7**		
	3.1nm,0.4s									
BTLS					Lg	Lg	18 33 13.9			
	7.1nm,0.7s									
BTLS	**Baital**	**4.17**	**340**		*e*Pg	**Pb**	**18 32 18.0**	**+1.7**		
	3.1nm,0.4s									
BTLS					*e*Lg	Lg	18 33 13.9			
	7.1nm,0.7s									
DJR	**Jarkent**	**4.24**	**40**		Pg	**Pb**	**18 32 18.6**	**+1.1**		
	3.6nm,0.3s									
DJR					Lg	Lg	18 33 15.0			
	5.9nm,0.3s									
DJR	**Jarkent**	**4.24**	**40**		*e*Pg	**Pb**	**18 32 18.6**	**+1.1**		
	3.6nm,0.3s									
DJR					*e*Lg	Lg	18 33 15.0			
	5.9nm,0.3s									
KK31	**Karatay Array**	**4.55**	**298**		⇑Pg	**Pb**	**18 32 24.8**	**+2.1**		
	0.6nm,0.4s,baz=118,slow=16,SNR=14									
KK31					⇓Lg	Lg	18 33 28.0			
	1.2nm,0.3s,baz=110,slow=29,SNR=4.8									
IUG	**luzhnay**	**4.61**	**285**		Pg	**Pb**	**18 32 25.8**	**+2.1**		
	2.9nm,0.4s									
IUG					Lg	Lg	18 33 27.3			
	14nm,0.4s									
IUG	**luzhnay**	**4.61**	**285**		*e*Pg	**Pb**	**18 32 25.8**	**+2.1**		
	2.9nm,0.4s									
IUG					*e*Lg	Lg	18 33 27.3			
	14nm,0.4s									
MK31	**Makanchi Array**	**7.25**	**36**		⇓Lg	Lg	18 34 55.1			
	1.5nm,0.8s									
KURBB	**Kurchatov Arra**	**9.66**	**10**		⇓Lg	Lg	18 36 10.6			
	5.2nm,0.9s									
KURK	**Kurchatov**	**9.76**	**10**		⇑Lg	Lg	18 36 15.2			
	4.8nm,0.9s									

***IDC 07** 18:39:47.9±4.3,24°98N×94°94E,h86km±40km,**mb3.1/3,mbtmp3.3/4,Error ellipse: s-maj=103.6km s-min=26.4km az=60.0,Myanmar-India border region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.48**	**149**	P	Pn	18 41 34.4	0.0
	0.8nm,0.7s,baz=324,slow=13,SNR=8.7						
MKAR	**Makanchi Array**	**24.00**	**338**	P	P	18 44 54.5	0.0
	0.1nm,0.3s,baz=147,slow=10.0,SNR=2.3						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**58.85**	**136**	P	P	18 49 37.6	-0.2
	0.7nm,0.7s,baz=324,slow=7.4,SNR=11						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**61.36**	**139**	P	P	18 49 55.1	+0.2
	0.5nm,0.7s,baz=318,slow=6.5,SNR=9.4						
	0.5nm,0.7s						

*REN **07** 18:42:45.8±2.4,38°.33N±0°.01×118°.89W±0°.02,h10km±7km, ML3.0/14, ML2.8/58(NEIC),Error ellipse: s-maj=2.2km s-min=1.9km az=97.0*
*ANF **07** 18:42:47.6±1.0,38°.21N×119°.19W,h13km±3km,ML3.0/8, Error ellipse: s-maj=9.0km s-min=4.0km az=89.0*
NEIC 07 18:42:45.8±2.4,38°.33N±0°.01×118°.88W±0°.02,h19km±4km, Error ellipse: s-maj=2.3km s-min=1.7km az=78.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.15**	**35**		Pg	18 42 50.0	-0.7
TVH1					Sg	18 42 52.7	-1.2
LHV	**Little Huntoon**	**0.31**	**105**		Pb	18 42 52.7	+0.1
LHV					Sb	18 42 57.6	+0.4
LHV	**Little Huntoon**	**0.31**	**105**	IAML		18 42 58.7	
	comp=E,2μm,0.5s						
LHV				IAML		18 42 58.7	
	comp=N,2μm,0.4s						
LUL	**Lundy Lake**	**0.37**	**221**		Pg	18 42 53.5	-0.2
RYN	**Ryan**	**0.41**	**43**		Pg	18 42 54.4	+0.1
RYN					Sb	18 43 00.4	-0.1
RYN	**Ryan**	**0.41**	**43**	IAML		18 43 00.9	
	comp=E,2μm,0.3s						
RYN				IAML		18 43 00.9	
	comp=N,2μm,0.3s						
NV09	**Mina Array Sit**	**0.44**	**76**		Pg	18 42 54.9	0.0
NV08	**Mina Array Sit**	**0.45**	**80**		Pg	18 42 55.1	0.0
NVAR	**Mina Array Bea**	**0.46**	**77**		Pg	18 42 55.2	-0.1
WAKR	**Walker**	**0.47**	**292**		Pg	18 42 55.5	0.0
WAKR					Sg	18 43 02.1	+0.1
WAKR	**Walker**	**0.47**	**292**	IAML		18 43 06.4	
	comp=N,482nm,0.5s						
NV11	**Mina Array Sit**	**0.58**	**80**		Pn	18 42 58.3	-0.8
BENR	**Benton**	**0.66**	**158**		Pb	18 42 58.8	0.0
MDYM	**Dry Creek**	**0.68**	**189**		Sg	18 43 09.1	+0.6
MCBM	**Casa Benchmark**	**0.69**	**181**		Pg	18 42 59.5	+0.1
MCBM					Sg	18 43 09.2	+0.5
MLAC	**Mammoth, Mammo**	**0.70**	**177**		Pg	18 42 59.8	+0.2
MLAC	**Mammoth, Mammo**	**0.70**	**177**	S	Sg	18 43 09.7	+0.6
	baz=357						
YERR	**Yerington**	**0.71**	**337**		Pb	18 42 59.8	+0.1
YERR					Sg	18 43 09.8	+0.3
MDPB	**Devils Postpil**	**0.71**	**193**		Pb	18 42 59.7	0.0
ORC	**Owens River**	**0.72**	**166**		Pb	18 42 59.8	0.0
OMMB	**Old Mammoth Mi**	**0.72**	**188**		Pb	18 42 59.9	0.0
MLNR	**Milner Canyon**	**0.85**	**150**		Pg	18 43 02.4	0.0
RCCR	**Rock Creek Can**	**0.85**	**172**		Pb	18 43 02.3	+0.1
KVN	**Kaiserville**	**0.94**	**40**		Pn	18 43 04.0	-0.2
KVN					Sg	18 43 16.7	0.0
KVN	**Kaiserville**	**0.94**	**40**	IAML		18 43 20.3	
	comp=E,411nm,0.3s						
KVN				IAML		18 43 20.6	
	comp=N,374nm,0.3s						
VCNR	**Virginia City**	**1.14**	**328**		Pg	18 43 07.4	-0.5
VCNR					Sg	18 43 22.9	+0.1
VCNR	**Virginia City**	**1.14**	**328**	IAML		18 43 24.3	
	comp=N,371nm,0.6s						
DSP	**Deep Springs**	**1.20**	**143**		Pg	18 43 08.8	-0.2
DSP					Sg	18 43 24.9	+0.2
CMB	**Columbia Colle**	**1.22**	**256**		Pb	18 43 08.7	+0.3
CMB	**Columbia Colle**	**1.22**	**256**		Pb	18 43 08.6	+0.2
CMB	**Columbia Colle**	**1.22**	**256**	IAML		18 43 28.2	
	comp=N,238nm,0.6s						
CMB				IAML		18 43 28.3	
	comp=E,229nm,0.6s						
MPK	**Martis Peak**	**1.32**	**317**		Pg	18 43 10.8	-0.5
MPK				IAML		18 43 36.5	
	comp=N,270nm,0.5s						
MZP	**Montezuma Peak**	**1.34**	**118**		Pg	18 43 11.1	-0.6
TIN	**Tinemaha, Big**	**1.37**	**158**		Pg	18 43 12.7	+0.4
TIN	**Tinemaha, Big**	**1.37**	**158**	P	Pg	18 43 12.6	+0.3
	baz=338						
TIN				S	Sg	18 43 31.5	+1.1
	baz=338						
Q09A	**Carvers**	**1.42**	**69**		Pb	18 43 12.4	+0.6
LCH	**Last Change Ra**	**1.47**	**138**		Pb	18 43 12.8	+0.3
LCH				IAML		18 43 35.2	
	comp=N,124nm,0.3s						
LCH				IAML		18 43 35.7	
	comp=E,121nm,0.3s						
DONR	**Donner Summit**	**1.52**	**313**		Pb	18 43 14.3	+0.8
PEAR	**Peavine Mounta**	**1.53**	**327**		Pg	18 43 14.8	-0.5
BABR	**Babbit Peak**	**1.59**	**323**		Pg	18 43 15.9	-0.6
LOY	**Loyalton**	**1.70**	**322**		Pb	18 43 17.4	+0.9
AFDM	**Forest Hills D**	**1.75**	**291**		Pb	18 43 17.6	+0.3
WVA	**Winnemucca Val**	**1.77**	**336**		Pb	18 43 18.5	+0.7
GRAC	**Grapevine Rang**	**1.79**	**138**		Pg	18 43 19.5	-0.8
GRAC				IAML		18 43 47.8	
	comp=N,136nm,0.5s						
GRAC				IAML		18 43 50.4	
	comp=E,167nm,0.7s						
GRAC	**Grapevine Rang**	**1.79**	**138**	P	Pg	18 43 19.8	-0.5
	baz=318						
GRAC				S	Sg	18 43 44.7	+1.1
	baz=318						
BEKR	**Beckworth**	**1.92**	**324**		Pb	18 43 20.6	+0.4
SGV	**South Grapevin**	**1.99**	**132**		Pb	18 43 20.3	-1.2
CWC	**Cottonwood Cre**	**1.99**	**161**	Sb	Sg	18 43 49.4	-0.6
	baz=342						
WCT	**Wildcat Mounta**	**2.36**	**130**		Pn	18 43 25.4	+1.9
ORV	**Oroville**	**2.38**	**302**		Pb	18 43 26.0	-2.0
ORV				IAML		18 44 01.0	
	comp=N,34nm,0.8s						
BBGB	**Big Mountain B**	**2.45**	**225**		Pb	18 43 28.6	-0.6
BMN	**Battle Mountai**	**2.46**	**31**		Pn	18 43 25.9	+0.9
TPNV	**Topopah Spring**	**2.50**	**123**	Pn	Pn	18 43 27.7	+2.1
TPNV				IAML		18 44 13.7	
	comp=N,62nm,0.8s						
TPNV				IAML		18 44 18.3	
	comp=N,67nm,1.4s						
TPNV	**Topopah Spring**	**2.50**	**123**	P	Pg	18 43 32.5	-1.4
	baz=304						
MPMC	**Manual Prospec**	**2.52**	**154**	Pb	Pg	18 43 33.2	-1.0
	baz=334						
MPMC				Sb	Sg	18 44 06.1	-1.0
	baz=334						
S11A	**Rachel**	**2.57**	**105**		Pn	18 43 28.6	+2.1
SAO	**San Andreas Ge**	**2.57**	**233**	Pn	Pn	18 43 28.1	+1.7
R11A	**Troy Canyon, C**	**2.59**	**89**	Pn	Pn	18 43 27.8	+1.0
R11A				IAML		18 44 09.1	
	comp=N,42nm,0.6s						
R11A	**Troy Canyon, C**	**2.59**	**89**	P	Pb	18 43 32.6	+0.9
	baz=271						
R11A				S	Sg	18 44 07.5	-1.6
	baz=271						
PMPB	**Monarch Peak**	**2.61**	**217**	Pn	Pn	18 43 26.9	-0.1
CPY	**CP-1**	**2.64**	**121**		Pn	18 43 29.8	+2.4
ISA	**Isabella, Lake**	**2.68**	**173**		Pn	18 43 27.1	-0.9
ISA				IAML		18 44 11.6	
	comp=N,32nm,0.2s						
ISA				IAML		18 44 13.2	
	comp=E,33nm,0.5s						
ISA	**Isabella, Lake**	**2.68**	**173**	Sb	Sg	18 44 09.5	-2.6
	baz=353						
GWY	**Greenwater Val**	**2.77**	**140**		Pn	18 43 30.5	+1.2
AMDNV	**Amargosa**	**2.79**	**131**		Pn	18 43 30.9	+1.5
QSM	**Queen of Sheba**	**2.86**	**145**		Pn	18 43 31.7	+1.4
GDXM	**Geysers**	**3.11**	**280**	Pn	Pn	18 43 34.1	+0.3
LBCM	**Butte Creek Ri**	**3.15**	**323**		Pn	18 43 34.8	+0.4
MCCM	**Marconi Confer**	**3.16**	**268**	Pn	Pn	18 43 35.5	+1.1
PRN	**Pahroc Range**	**3.17**	**106**		Pn	18 43 35.1	+0.4
CCAC	**Calif City Air**	**3.25**	**167**	Pn	Pn	18 43 36.2	+0.5
CCAC				IAML		18 44 29.1	
	comp=N,23nm,0.6s						
CCAC				IAML		18 44 50.3	
	comp=E,21nm,1.0s						
HOPS	**Hopland Field**	**3.35**	**283**	Pn	Pn	18 43 37.8	+0.7
GSC	**Goldstone, Bar**	**3.45**	**151**		Pn	18 43 39.2	+0.6
GSC				IAML		18 44 48.9	
	comp=N,13nm,2.5s						
GSC				IAML		18 44 54.5	
	comp=E,16nm,3.5s						
SHPR	**Sheep Range**	**3.48**	**120**		Pn	18 43 39.7	+0.7
SPR3	**Spring Creek 3**	**3.62**	**78**		Pn	18 43 42.2	+1.1
ELK	**Elko**	**3.71**	**48**	Pn	Pn	18 43 43.0	+0.8
ELK				IAML		18 44 44.9	
	comp=E,20nm,0.3s						
ELK				IAML		18 44 45.9	
	comp=E,21nm,0.4s						
V12A	**Nelson**	**4.14**	**128**		Pn	18 43 48.6	+0.6
CCUT	**Cedar City**	**4.43**	**98**		Pn	18 43 50.2	-2.0
YBH	**Yreka Blue Hor**	**4.49**	**320**	Pn	Pn	18 43 53.6	+0.8
K05A	**Summer Lake**	**4.65**	**341**	Pn	Pn	18 43 54.1	-1.0
LCMT	**Little Creek M**	**4.66**	**105**		Pn	18 43 55.1	-0.1
KNB	**Kanab**	**4.98**	**103**		Pn	18 44 00.9	+1.3
TCRU	**Three Creeks R**	**5.05**	**85**		Pn	18 44 00.8	0.0
DUG	**Dugway, Tooele**	**5.06**	**67**		Pn	18 44 02.8	+2.0
W13A	**Hualapai Mount**	**5.15**	**127**		Pn	18 44 01.2	-0.8
BGU	**Big Grassy Mou**	**5.21**	**58**		Pn	18 44 01.6	-1.1
MVU	**Marysvale**	**5.24**	**86**		Pn	18 44 01.8	-1.5
MSU	**Marysvale**	**5.27**	**86**	Pn	Pn	18 44 03.4	-0.2
MTPU	**Mount Pierson**	**5.28**	**91**		Pn	18 44 02.2	-1.7
U15A	**North Rim**	**5.58**	**108**	Pn	Pn	18 44 08.8	+0.8
SPU1	**South Promonto**	**5.77**	**57**	Pn	Pn	18 44 10.2	-0.4
HLID	**Hailey**	**6.22**	**31**	Pn	Pn	18 44 17.7	+1.0

*ISK **07** 19:09:05.6,39°.37N×26°.14E,h9km,ML2.8/19*
*THE **07** 19:09:06.4,39°.37N×26°.12E,h9km±1km,ML2.4/6,Error ellipse: s-maj=1.2km s-min=0.5km az=161.0*
*ATH **07** 19:09:06.9,39°.37N×26°.10E,h6km±2km,ML2.4/5,Error ellipse: s-maj=2.7km s-min=0.8km az=179.0*
*DDA **07** 19:09:06.1±0.0,39°.38N×26°.16E,h7km±1km,ML2.5*
ISC 07 19:09:06.3±0.9,39°.38N±0°.02×26°.15E±0°.02,h13km±5km, n46,σ0°54/70,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.07**	**353**	Pg	**Pg**	**19 09 08.9**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.12**	**357**	P	**Pg**	**19 09 09.2**	**-0.4**
KOCA				S	**Sg**	**19 09 11.4**	**-0.5**
KOCA				*i* AML	AML	19 09 13.0	
	comp=E,2μm,0.2s						
KOCA				*i* AML	AML	19 09 13.0	
	comp=N,1μm,0.4s						
PRK	**Paraskevi**	**0.17**	**144**	P	**Pg**	**19 09 10.7**	**+0.5**
PRK				S	**Sg**	**19 09 12.8**	**-0.1**
	6μm,0.2s						
PRK	**Paraskevi**	**0.17**	**144**	P	**Pg**	**19 09 10.7**	**+0.5**
PRK				S	**Sg**	**19 09 13.0**	**+0.1**
PRK				AML	AML	19 09 13.5	
	comp=E,14894μm,0.3s						
PRK				AML	AML	19 09 14.6	
	comp=N,10263μm,0.2s						
SIGR	**SIGRI**	**0.28**	**233**	P	**Pg**	**19 09 11.6**	**-0.6**
SIGR				S	**Sg**	**19 09 15.4**	**-0.6**
	comp=N,770nm,0.3s						
SIGR	**SIGRI**	**0.28**	**233**	Pg	**Pg**	**19 09 11.6**	**-0.6**
SIGR				Sg	**Sg**	**19 09 15.7**	**-0.4**
SIGR	**SIGRI**	**0.28**	**233**	P	**Pg**	**19 09 11.5**	**-0.6**
SIGR				S	**Sg**	**19 09 15.5**	**-0.6**
SIGR				AML	AML	19 09 15.7	
	comp=N,1754μm,0.3s						
SIGR				AML	AML	19 09 15.9	
	comp=E,1313μm,0.3s						
AYVA	**Ayvalik**	**0.43**	**100**	P	**Pg**	**19 09 14.3**	**-0.5**
AYVA				S	**Sb**	**19 09 20.9**	**-1.2**
AYVA				*i* AML	AML	19 09 21.0	
	comp=E,402nm,0.3s						
AYVA				*i* AML	AML	19 09 23.0	
	comp=E,264nm,0.2s						
EZN	**Ezine**	**0.47**	**17**	P	**Pg**	**19 09 15.3**	**-0.2**
EZN				S	**Sb**	**19 09 22.4**	**-0.8**
	comp=E,765nm,0.2s						
EZN	**Ezine**	**0.47**	**17**	Pg	**Pg**	**19 09 15.4**	**-0.1**
EZN				Sg	**Sb**	**19 09 22.6**	**-0.6**
BOZC	**Bozcaada**	**0.47**	**351**	Pg	**Pg**	**19 09 15.4**	**-0.1**
BOZC				Sg	**Sb**	**19 09 22.6**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**0.47**	**41**	P	**Pg**	**19 09 15.0**	**-0.7**
BAYC				S	**Sg**	**19 09 22.1**	**+0.1**
BUHA	**Balikesir, Bur**	**0.73**	**80**	P	**Pg**	**19 09 20.3**	**-0.2**
BUHA				S	**Sn**	**19 09 33.7**	**+0.2**
BUHA				*i* AML	AML	19 09 34.0	
	comp=E,267nm,0.3s						
BUHA				*i* AML	AML	19 09 35.0	
	comp=E,292nm,0.3s						
GADA	**Gvkgeada**	**0.83**	**347**	Pg	**Pg**	**19 09 22.1**	**-0.3**
PSRA	**Psara**	**0.95**	**209**	P	**Pg**	**19 09 24.7**	**0.0**
PSRA				S	**Sg**	**19 09 37.3**	**+0.1**
CHOS	**Chios island**	**0.99**	**184**	P	**Pg**	**19 09 24.9**	**-0.6**
CHOS				S	**Sg**	**19 09 38.6**	**+0.1**
	comp=E,335nm,0.3s						
CHOS	**Chios island**	**0.99**	**184**	Pg	**Pg**	**19 09 24.9**	**-0.6**
CHOS				Sg	**Sb**	**19 09 39.1**	**+0.6**
CHOS	**Chios island**	**0.99**	**184**	P	**Pg**	**19 09 25.0**	**-0.6**
CHOS				S	**Sg**	**19 09 38.6**	**+0.1**
CHOS				AML	AML	19 09 41.3	
	comp=N,679μm,0.3s						
CHOS				AML	AML	19 09 41.6	
	comp=E,775μm,0.3s						
GELI	**Tayfur-Gelibol**	**1.05**	**14**	Pg	**Pg**	**19 09 26.2**	**-0.3**
**URL

CRLT	**Corlu**	**2.13**	**34**	Pn	**Pn**	**19 09 42.4**	**+0.8**
KOKK	**Kokkinochori,**	**2.18**	**312**	P	**Pn**	**19 09 42.6**	**+0.3**

LJU 07 19:18:05.0±0.3, 46°06'N×14°72'E, h8km±1km, ML0.2, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDS	**Vrh nad Dolski**	**0.04**	**341**	⇑*i*Pg	Pg	19 18 06.6	0.0
VNDS				*i* Sg	Sg	19 18 07.8	0.0
VNDS				IAML		19 18 08.0	
	comp=Z,8.7nm,0.1s						
LJU	**Ljubljana**	**0.14**	**262**	*i* Pg	Pg	19 18 08.1	+0.1
LJU				*i* Sg	Sg	19 18 10.3	+0.4
PDKS	**Podkum**	**0.19**	**90**	*i* Pg	Pg	19 18 09.1	+0.2
PDKS				*i* Sg	Sg	19 18 11.9	+0.3
PDKS				IAML		19 18 12.6	
	comp=Z,2.6nm,0.1s						
GBAS	**Gorenja Brezov**	**0.23**	**237**	*i* Pg	Pg	19 18 09.6	0.0
GBAS				*i* Sg	Sg	19 18 12.7	-0.1
GBAS				IAML		19 18 13.7	
	comp=Z,1.7nm,0.1s						
VISS	**Visnje**	**0.27**	**162**	⇑*i*Pg	Pg	19 18 10.5	+0.1
VISS				*i* Sg	Sg	19 18 14.5	+0.5
VISS				IAML		19 18 15.4	
	comp=Z,0.8nm,0.1s						
MOZS	**Mozjanca**	**0.30**	**320**	⇓*i*Pg	Pg	19 18 11.0	+0.1
MOZS				*i* Sg	Sg	19 18 15.3	+0.4
MOZS				IAML		19 18 15.7	
	comp=Z,1.9nm,0.2s						
CRNS	**Crni Vrh**	**0.32**	**273**	*i* Sg	Sg	19 18 16.1	+0.5

VIE 07 19:18:21.6, 47°71N×16°02E, h4km, ml0.4/3 2 km SW of Ternitz, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RONA	**Rosalia, Austr**	**0.19**	**92**	*i* Pg	Pg	19 18 25.4	+0.1
	1.1nm,0.1s						
RONA				*i* Sg	Sg	19 18 28.1	+0.3
	1.5nm,0.1s						
CONA	**Conrad Observa**	**0.25**	**335**	*i* Pg	Pg	19 18 26.4	0.0
	0.1nm,0.1s						
CONA				*i* Sg	Sg	19 18 29.9	+0.2
	0.8nm,0.2s						
ARSA	**Arzberg**	**0.56**	**217**	*e*Pg	Pg	19 18 32.7	+0.3
	0.1nm,0.1s						
ARSA				*i* Sg	Sg	19 18 39.9	+0.2
	0.2nm,0.1s						

*IDC **07** 19:21:25.6±1.1, 2°86S×129°48E, h0km, mb3.7/3, mbtmp3.8/5, ML3.8/2, MS2.8/2, Error ellipse: s-maj=35.0km s-min=22.0km az=89.0*
*DJA **07** 19:21:29.3±0.3, 3°S×13°0E, h10km, M3.6/9, MLv3.6/9*
ISC 07 19:21:30.0±0.8, 2°87S±0°06×129°56E±0°05, h28km, n24, σ2°39/27, mb3.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.79**	**233**	P	**Pb**	**19 21 44.9**	**-0.2**
MSAI				S	**Sn**	**19 21 59.3**	**+3.2**
AAI	**Ambon**	**1.59**	**239**	P	**Pb**	**19 21 58.6**	**-0.1**
BNDI	**Bandanaira**	**1.68**	**168**	P	**Pb**	**19 22 02.0**	**+1.8**
BNDI	**Bandanaira**	**1.68**	**168**	P	**Pb**	**19 22 02.0**	**+1.8**
NLAI	**Namlea**	**2.48**	**261**	P	**Pn**	**19 22 10.1**	**+1.5**
SIJI	**Sorong**	**2.62**	**41**	Pn	**Pn**	**19 22 10.5**	**0.0**
	30nm,0.3s,baz=49,slow=17,SNR=272						
SIJI				Sn	**Sn**	**19 22 43.0**	**+1.6**
	17nm,0.3s,baz=30,slow=17,SNR=22 135nm,0.2s						
FAKI	**Fak Fak**	**2.69**	**91**	P	**Pn**	**19 22 11.8**	**+0.4**
FAKI	**Fak Fak**	**2.69**	**91**	P	**Pn**	**19 22 11.9**	**+0.5**
SANI	**Sanana**	**3.66**	**283**	P	**Pn**	**19 22 24.4**	**-0.4**
SANI	**Sanana**	**3.66**	**283**	P	**Pn**	**19 22 24.3**	**-0.5**
RKPI	**Ransiki, Papua**	**4.81**	**74**	P	**Pn**	**19 22 40.8**	**+0.2**
LUWI	**Luwuk**	**7.02**	**285**	P	**Pn**	**19 23 10.7**	**-0.3**
TOLI2	**Tolitoli**	**9.63**	**294**	P	**Pn**	**19 23 46.9**	**+0.1**
MTN	**Manton Dam**	**10.03**	**171**	P	**Pn**	**19 23 55.5**	**+3.2**
DAV	**Davao City (W)**	**10.64**	**338**	LR	LR	19 29 19.8	
	comp=Z,42nm,18.1s,baz=76,slow=45						
KNRA	**Kununurra**	**12.75**	**183**	P	**Pn**	**19 24 32.2**	**+2.7**
WRA	**Warramunga Arr**	**17.60**	**165**	P	**Pn**	**19 25 31.1**	**-2.3**
	0.3nm,0.3s,baz=351,slow=11,SNR=16						
WRA				S	**Sn**	**19 28 41.5**	**-7.2**
	0.2nm,0.4s,baz=351,slow=23,SNR=1.5 0.7nm,0.4s						
MANU	**Manus Island**	**17.81**	**88**	P	**Pn**	**19 25 34.6**	**-1.4**
PMG	**Port Moresby**	**18.65**	**111**	LR	LR	19 35 35.8	
	comp=Z,37nm,19.5s,baz=273,slow=45						
QIS	**Mount Isa**	**20.12**	**152**	P	**P**	**19 26 03.0**	**+1.1**
ASAR	**Alice Springs**	**21.10**	**169**	P	**P**	**19 26 12.1**	**-0.3**
	2.2nm,0.4s,baz=346,slow=9.9,SNR=64						
ASAR				S	**S**	**19 30 00.0**	**-5.9**
	0.9nm,1.1s,baz=348,slow=17,SNR=3.2						
ASAR				PcP	**PcP**	**19 30 19.1**	**+0.6**
	0.3nm,0.5s,baz=6.1,slow=2.1,SNR=5.8 2.2nm,0.4s						
WRKA	**Warakurna**	**22.07**	**183**	P	**P**	**19 26 22.6**	**-0.3**
MKAR	**Makanchi Array**	**64.57**	**326**	P	**P**	**19 32 03.7**	**-1.0**
	0.3nm,0.6s,baz=122,slow=6.9,SNR=3.9 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**68.79**	**328**	P	**P**	**19 32 31.6**	**0.0**
	0.8nm,0.6s,baz=131,slow=5.6,SNR=9.4 0.8nm,0.6s						

*NEIC **07** 19:28:47.6±1.6, 7°50S±0°05×68°4E±0°1, h10km±2km, mb4.4/6, Error ellipse: s-maj=19.2km s-min=6.4km az=250.0*
*IDC **07** 19:28:49.0±3.1, 7°21S×68°71E, h0km, mb3.8/6, mbtmp3.8/6, MS3.4/11, Error ellipse: s-maj=77.8km s-min=28.9km az=53.0*
ISC 07 19:28:47.2±1.2, 7°55S±0°2×68°4E±0°1, h10km, n29, σ1°19/17, mb3.9/8, MS3.3/11, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**4.06**	**89**	Pn	**Pn**	**19 29 48.8**	**-0.5**
H08S1	**Diego Garcia H**	**4.08**	**92**	Pn	**Pn**	**19 29 49.1**	**-0.3**
	baz=300,slow=15						
H08S1				T	T	19 34 55.4	
	baz=275						
H08S3	**Diego Garcia H**	**4.09**	**92**	Pn	**Pn**	**19 29 49.2**	**-0.4**
	baz=300,slow=15						
H08S3				T	T	19 34 49.6	
	baz=275						
H08S2	**Diego Garcia H**	**4.09**	**92**	Pn	**Pn**	**19 29 49.6**	**-0.1**
	baz=300,slow=15						
H08S2				T	T	19 34 47.3	
	baz=275						
MSEY	**Mahe Island**	**13.12**	**282**	Pn	**Pn**	**19 31 53.3**	**-0.5**
KMBO	**Kilima Mbogo**	**31.65**	**280**	LR	LR	19 45 45.6	
	comp=Z,44nm,19.5s,baz=92,slow=32						
WSAR	**Wadi Sarin**	**32.03**	**343**	LR	LR	19 44 33.8	
	comp=Z,42nm,21.9s,baz=231,slow=30						
MBAR	**Mbarara**	**38.13**	**279**	LR	LR	19 50 12.7	
	comp=Z,38nm,18.1s,baz=124,slow=33						
CMAR	**Chiang Mai Arr**	**39.71**	**49**	P	**P**	**19 36 18.9**	**-1.1**
	0.7nm,0.3s,baz=245,slow=9.1,SNR=5.0 0.7nm,0.3s						
LBTB	**Lobatse**	**44.35**	**242**	LR	LR	19 52 39.6	
	comp=Z,52nm,19.7s,baz=96,slow=32						
GAR	**Garm**	**46.33**	**2**	P	**P**	**19 37 13.1**	**-0.4**
GAR				IAmb	IAmb	19 37 20.4	
	comp=Z,4.5nm,0.9s						
H01W3	**Cape Leeuwin H**	**50.01**	**130**	T	T	20 31 31.6	
	baz=291,slow=75,SNR=7.3						
H01W2	**Cape Leeuwin H**	**50.01**	**130**	T	T	20 31 33.1	
	baz=291,slow=75,SNR=6.4						
H01W1	**Cape Leeuwin H**	**50.03**	**130**	T	T	20 31 34.2	
	baz=291,slow=75,SNR=7.0						
TSUM	**Tsumeb**	**50.58**	**251**	LR	LR	19 56 53.2	
	comp=Z,35nm,18.8s,baz=152,slow=33						
KAPI	**Kappang**	**51.12**	**90**	LR	LR	19 57 21.7	
	comp=Z,18nm,19.4s,baz=258,slow=34						
MKAR	**Makanchi Array**	**55.48**	**12**	P	**P**	**19 38 21.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=190,slow=8.0,SNR=3.8 comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**55.48**	**12**	P	**P**	**19 38 21.0**	**-1.3**
KURBB	**Kurchatov Arra**	**58.58**	**8**	P	**P**	**19 38 44.4**	**+0.4**
	comp=Z,0.8nm,0.2s,baz=210,slow=7.5,SNR=2.0						
KURBB				LR	LR	20 03 11.1	
	comp=Z,43nm,20.4s,baz=180,slow=35 comp=Z,0.8nm,0.2s						
DAV	**Davao City (W)**	**58.87**	**77**	LR	LR	20 02 13.8	
	comp=Z,20nm,21.8s,baz=166,slow=34						
ZALV	**Zalesovo Beam**	**62.80**	**11**	P	**P**	**19 39 15.6**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=2.0 comp=Z,0.2nm,0.3s						
SONM	**Songino Array**	**64.53**	**27**	P	**P**	**19 39 25.5**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=204,slow=2.8,SNR=2.3 comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**64.64**	**113**	P	**P**	**19 39 24.8**	**-0.9**
AS31	**Alice Springs**	**64.64**	**113**	P	**P**	**19 39 25.0**	**-0.7**
AS31				IAmb	IAmb	19 39 27.8	
	comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr**	**64.92**	**108**	P	**P**	**19 39 29.4**	**+1.9**
	comp=Z,2.2nm,0.7s,baz=280,slow=6.6,SNR=16						
WRA				LR	LR	20 04 02.8	
	comp=Z,22nm,21.3s,baz=188,slow=33 comp=Z,2.2nm,0.7s						
WRA	**Warramunga Arr**	**64.92**	**108**	P	**P**	**19 39 28.2**	**+0.7**
WB2	**Warramunga Arr**	**64.93**	**108**	P	**P**	**19 39 28.6**	**+1.1**
RPZ	**Rata Peaks**	**93.92**	**135**	LR	LR	20 16 30.1	
	comp=Z,80nm,20.8s,baz=328,slow=30						
DZM	**Mont Dzumac**	**94.63**	**113**	LR	LR	20 23 44.4	
	comp=Z,20nm,18.9s,baz=7.5,slow=35						

*IDC **07** 20:05:00.2±2.6, 23°18S×172°45E, h0km, mb4.1/4, mbtmp4.1/6, ML4.7/2, MS3.3/2, Error ellipse: s-maj=78.9km s-min=23.7km az=155.0*
*NEIC **07** 20:05:01.2±1.0, 23°1S±0°2×172°62E±0°10, h10km±2km, mb4.2/9, Error ellipse: s-maj=28.8km s-min=14.5km az=169.0*
*NOU **07** 20:05:21.8, 22°85S×171°19E, h67km, ML4.6/7, Southeast of Loyalty Islands*
ISC 07 20:05:04.5±0.9, 23°2S±0°1×172°54E±0°09, h34km, n37, σ1°20/29, mb4.0/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**4.53**	**292**		**Pn**	**20 06 10.0**	**-0.6**
MARNC	**Mare, Loyalty**	**4.53**	**292**	P	**Pn**	**20 06 10.1**	**-0.6**
OUENC	**Ouen Island, N**	**5.32**	**278**		**Pn**	**20 06 21.1**	**-0.4**
OUENC	**Ouen Island, N**	**5.32**	**278**	P	**Pn**	**20 06 21.4**	**-0.2**
YATNC	**Mamie plateau,**	**5.35**	**282**	P	**Pn**	**20 06 21.1**	**-0.9**
LIFNC	**LIFOU**	**5.49**	**296**	Pn	**Pn**	**20 06 23.7**	**-0.3**
LIFNC	**LIFOU**	**5.49**	**296**	P	**Pn**	**20 06 23.9**	**-0.1**
ONTNC	**Ouen Toro**	**5.69**	**278**	Pn	**Pn**	**20 06 27.1**	**+0.4**
DZM	**Mont Dzumac**	**5.75**	**281**	Pn	**Pn**	**20 06 27.2**	**-0.4**
	2.5nm,0.3s,baz=124,slow=15,SNR=29						
DZM				Sn	**Sn**	**20 07 31.9**	**-0.5**
	2.3nm,0.3s,baz=182,slow=23,SNR=2.2 5.6nm,0.3s						
DZM	**Mont Dzumac**	**5.75**	**281**		**Pn**	**20 06 27.0**	**-0.6**
DZM	**Mont Dzumac**	**5.75**	**281**	P	**Pn**	**20 06 27.0**	**-0.6**
RTV	**Rentapao**	**6.65**	**324**	P	Pn	20 06 44.4	+4.5
DVP	**Devils Point**	**6.84**	**323**	P	**Pn**	**20 06 44.6**	**+2.2**
MSVF	**Nonsavu**	**7.53**	**44**	Pn	**Pn**	**20 06 52.1**	**0.0**
	1.2nm,0.3s,baz=209,slow=9.7,SNR=8.7 13nm,0.7s						
MSVF	**Nonsavu**	**7.53**	**44**		**Pn**	**20 06 49.2**	**-2.9**
KOUNC	**Koumac, New Ca**	**8.12**	**288**	Pn	**Pn**	**20 07 00.9**	**+0.9**
URZ	**Urewera**	**15.47**	**166**	LR	LR	20 13 40.4	
	comp=Z,88nm,19.2s,baz=90,slow=34						
MRZ	**Mangatainoka R**	**17.55**	**172**	P	**Pn**	**20 09 07.8**	**+1.3**
MRZ				IAmb	IAmb	20 09 22.9	
	comp=Z,36nm,1.3s						
EIDS	**Eidsvold**	**19.67**	**259**	P	**P**	**20 09 32.3**	**+1.6**
EIDS				IAmb	IAmb	20 09 50.7	
	comp=Z,29nm,1.4s						
ARMA	**Armidale**	**19.96**	**245**	P	**P**	**20 09 36.0**	**+2.0**
ARMA				IAmb	IAmb	20 10 00.2	
	comp=Z,14nm,1.2s						
CTAO	**Charters Tower**	**24.62**	**272**	P	**P**	**20 10 22.6**	**+0.7**
AS31	**Alice Springs**	**35.37**	**261**	P	**P**	**20 11 57.1**	**-0.1**
AS31				IAmb	IAmb	20 12 01.3	
	comp=Z,1.6nm,1.0s						
ASAR	**Alice Springs**	**35.37**	**261**	P	**P**	**20 11 57.1**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=85,slow=8.9,SNR=19 comp=Z,2.3nm,0.8s						
WR0	**Warramunga Arr**	**35.41**	**268**	P	**P**	**20 11 57.1**	**-0.5**
WR0				IAmb	IAmb	20 12 20.7	
	comp=Z,8.3nm,1.3s						
WRA	**Warramunga Arr**	**35.60**	**268**	P	**P**	**20 11 58.1**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=96,slow=8.6,SNR=4.5 comp=Z,0.9nm,0.5s						
WRA	**Warramunga Arr**	**35.60**	**268**	P	**P**	**20 11 58.4**	**-0.8**
FORT	**Forrest**	**40.13**	**249**	P	**P**	**20 12 37.4**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**41.87**	**352**	T	T	20 57 09.2	
	baz=171,slow=76,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**41.88**	**352**	T	T	20 57 13.9	
	baz=171,slow=76,SNR=3.4						
H11S1	**WAKE ISLAND Hy**	**41.89**	**352**	T	T	20 57 14.5	
	baz=171,slow=76,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**43.05**	**352**	T	T	20 58 39.5	
	baz=171						
H11N3	**WAKE ISLAND Hy**	**43.05**	**352**	T	T	20 58 41.5	
	baz=171						
H11N2	**WAKE ISLAND Hy**	**43.07**	**352**	T	T	20 58 44.8	
	baz=171						
FITZ	**Fitzroy Crossi**	**44.03**	**268**	P	**P**	**20 13 06.7**	**-2.6**
VNDA	**Vanda**	**54.58**	**183**	LR	LR	20 34 41.6	
	comp=Z,35nm,19.5s,baz=47,slow=33						
PETK	**Petropavlovsk-**	**77.12**	**351**	P	**P**	**20 16 55.7**	**+1.5**
	comp=Z,5.4nm,0.8s,baz=132,slow=6.0,SNR=5.0 comp=Z,5.4nm,0.8s						
ILAR	**Eielson Array**	**93.16**	**16**	P	**P**	**20 18 14.1**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=217,slow=2.8,SNR=2.7 comp=Z,0.4nm,0.8s						

*NCEDC **07** 20:05:43.0±1.1, 39°33N±0°01×122°81W±0°02, h9km±7km, ML3.0/16, ML2.9/48(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=82.0*
NEIC 07 20:05:43.2±1.8, 39°353N±0°006×122°75W±0°02, h10km±8km, Error ellipse: s-maj=2.1km s-min=0.9km az=101.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTSM	**Trough Springs**	**0.12**	**110**		Pg	20 05 46.5	+0.3
GHMM	**Hull Mountain**	**0.20**	**315**		Pg	20 05 47.1	-0.4
GHGM	**Hogback Ridge**	**0.23**	**195**		Pg	20 05 47.3	-0.7
GBMM	**Baldy Mountain**	**0.29**	**137**		Pg	20 05 49.0	-0.1
GCK	**Clark Valley**	**0.31**	**52**		Pb	20 05 51.1	+0.3
GFC	**Funks Creek**	**0.36**	**94**		Pb	20 05 52.2	+0.7
GWKM	**Walker Ridge**	**0.36**	**146**		Pg	20 05 50.2	-0.1
GHLM	**Highland Sprin**	**0.38**	**214**		Pg	20 05 49.9	-0.8
KRKM	**Rackout Spring**	**0.40**	**302**		Pg	20 05 50.0	-1.0
GRTM	**Round Top Moun**	**0.42**	**172**		Pb	20 05 52.2	-0.4
GVV	**Valley View**	**0.42**	**8**		Pb	20 05 52.3	-0.6
HOPS	**Hopland Field**	**0.44**	**215**	Pg	Pg	20 05 50.9	-0.8
HOPS	**Hopland Field**	**0.44**	**215**		Sg	20 05 58.5	+0.9
GWRM	**Wonder Ranch**	**0.45**	**251**		Pg	20 05 51.3	-0.8
GSGM	**Seigler Mounta**	**0.49**	**177**		Pg	20 05 52.5	-0.2
GACM	**Adobe Creek**	**0.49**	**191**		Pg	20 05 52.1	-0.6
GBGM	**Boggs Mountain**	**0.54**	**174**		Pg	20 05 52.4	-1.3
GDXM	**Geysers**	**0.55**	**184**		Pg	20 05 53.3	-0.5
GDXM	**Geysers**	**0.55**	**184**	IAML		20 05 57.2	
	comp=E,434nm,0.6s						
GDXM				IAML		20 06 09.7	
	comp=N,366nm,0.8s						
GROM	**Round Mountain**	**0.57**	**6**		Pb	20 05 54.7	-0.5
GCRM	**Castle Rock Sp**	**0.58**	**177**		Pg	20 05 53.8	-0.7
NMTM	**Middletown**	**0.59**	**157**		Pg	20 05 54.8	+0.1
KFPM	**Farley Peak**	**0.60**	**299**		Pg	20 05 54.1	-0.7
GCVM	**Cloverdale**	**0.62**	**200**		Pg	20 05 54.9	-0.3
KBNM	**Bluenose Ridge**	**0.64**	**328**		Pg	20 05 55.5	-0.1
GAXM	**Alexander Vall**	**0.64**	**181**		Pg	20 05 55.4	-0.2
GSSM	**Skaggs Springs**	**0.68**	**198**		Pg	20 05 56.1	-0.3
OSUM	**Sutter Buttes**	**0.70**	**96**		Pg	20 05 56.8	+0.2
NHSM	**Mount Saint He**	**0.70**	**171**		Pg	20 05 56.3	-0.4
KCPM	**Cahto Peak**	**0.73**	**298**		Pg	20 05 57.1	-0.1
KIPM	**Iron Peak**	**0.73**	**309**		Pg	20 05 56.9	-0.3
SUTB	**Sutter Butte**	**0.76**	**99**		Pg	20 05 57.2	-0.6
MAC	**Mark West Spri**	**0.80**	**179**		Pg	20 05 57.7	-0.9
NBPM	**Berryessa Peak**	**0.81**	**148**		Pg	20 05 58.2	-0.5
NDHM	**Dunnigan Hills**	**0.88**	**132**		Pg	20 05 60.0	-0.1
PAM	**Palermo**	**0.96**	**84**		Pg	20 06 01.1	-0.5
LBPM	**Beegum Peak**	**0.97**	**354**		Pb	20 06 02.1	0.0
LTCM	**Tuscan Springs**	**0.98**	**29**		Pg	20 06 01.3	-0.7
OHCM	**Honcut**	**0.98**	**91**		Pg	20 06 00.5	-1.5
OWYM	**Wyandotte**	**0.98**	**84**		Pg	20 06 00.7	-1.4
ORV	**Oroville**	**0.99**	**78**		Pg	20 06 00.7	-1.5
ORV	**Oroville**	**0.99**	**78**		Pg	20 06 00.8	-1.3
ORV				IAML		20 06 24.5	
	comp=E,106nm,0.6s						
ORV				IAML		20 06 25.9	
	comp=N,146nm,0.6s						
NAPC	**Atlas Peak**	**0.99**	**157**		Pg	20 06 00.9	-1.4
CVS	**Carmenet Viney**	**1.03**	**167**		Pg	20 06 00.7	-2.3
NBRB	**Beebe Ranch Br**	**1.10**	**172**		Pb	20 06 02.2	-2.0
KMRM	**Mail Ridge**	**1.14**	**320**		Pb	20 06 03.7	-1.3
KMRM	**Mail Ridge**	**1.14**	**320**	IAML		20 06 34.9	
	comp=N,423nm,1.1s						
KHBM	**Hayfork Bally**	**1.35**	**345**		Pb	20 06 08.8	0.0
AFDM	**Forest Hills D**	**1.44**	**106**		Pn	20 06 07.7	-1.6
KMPM	**Mount Pierce**	**1.50**	**316**		Pn	20 06 07.9	-2.3
KMPM				IAML		20 06 42.6	
	comp=N,163nm,0.8s						
KMPM				IAML		20 06 45.7	
	comp=E,189nm,1.0s						
LSHM	**Sage Hen Hill**	**1.54**	**20**		Pn	20 06 08.8	-1.9
JCC	**Jacoby Creek,**	**1.76**	**326**		Pn	20 06 14.3	+0.6
JCC				IAML		20 06 51.2	
	comp=N,92nm,2.6s						
JCC				IAML		20 06 57.3	
	comp=E,117nm,3.8s						
LBCM	**Butte Creek Ri**	**1.83**	**35**		Pn	20 06 15.6	+0.8
DONR	**Donner Summit**	**1.88**	**89**		Pn	20 06 16.0	+0.4
BEKR	**Beckworth**	**1.92**	**74**		Pn	20 06 16.5	+0.5
BEKR	**Beckworth**	**1.92**	**74**	IAML		20 06 43.2	
	comp=N,150nm,0.7s						
LOY	**Loyalton**	**1.97**	**80**		Pn	20 06 17.8	+1.1
EMB	**Emerald Bay**	**2.09**	**100**		Pn	20 06 18.8	+0.4
LBFM	**Black Fox Moun**	**2.10**	**18**		Pn	20 06 20.3	-1.1
MPK	**Martis Peak**	**2.11**	**91**		Pn	20 06 18.6	-0.1
MCUB	**Copperopolis B**	**2.16**	**129**		Pn	20 06 18.1	-1.1
CMB	**Columbia Colle**	**2.27**	**125**		Pn	20 06 20.1	-0.7
CMB				IAML		20 06 55.6	
	comp=N,45nm,0.7s						
YBH	**Yreka Blue Hor**	**2.38**	**1**	Pn	Pn	20 06 22.5	+0.2
VCNR	**Virginia City**	**2.40**	**90**		Pn	20 06 24.0	+1.3
VCNR				IAML		20 07 14.6	
	comp=N,80nm,0.8s						
WAKR	**Walker**	**2.72**	**107**		Pn	20 06 27.5	+0.5
WAKR				IAML		20 07 08.5	
	comp=E,50nm,0.8s						
WAKR				IAML		20 07 08.6	
	comp=N,37nm,0.8s						
YERR	**Yerington**	**2.75**	**97**		Pn	20 06 27.4	-0.1
YERR				IAML		20 07 25.1	
	comp=N,57nm,0.8s						
HUMO	**Hull Mountain**	**3.25**	**357**		Pn	20 06 35.4	+1.2
HUMO				IAML		20 07 41.3	
	comp=E,26nm,3.8s						
HUMO				IAML		20 08 00.6	
	comp=N,17nm,4.6s						
MDPB	**Devils Postpil**	**3.35**	**120**		Pn	20 06 36.4	+0.6
MDPB				IAML		20 07 35.9	
	comp=N,30nm,0.8s						
MDPB				IAML		20 07 52.7	
	comp=E,29nm,1.0s						
RYN	**Ryan**	**3.37**	**101**		Pn	20 06 36.6	+0.6
RYN				IAML		20 07 47.1	
	comp=N,15nm,1.0s						
RYN				IAML		20 07 54.8	
	comp=E,20nm,1.2s						
OMMB	**Old Mammoth Mi**	**3.42**	**119**		Pn	20 06 37.7	+1.0
OMMB				IAML		20 07 49.9	
	comp=N,17nm,0.8s						
NVAR	**Mina Array Bea**	**3.59**	**103**		Pn	20 06 39.4	+0.4
KVN	**Kaiserville**	**3.62**	**93**		Pn	20 06 39.5	0.0
KVN				IAML		20 07 46.4	
	comp=N,13nm,2.3s						
KVN				IAML		20 07 49.2	
	comp=E,14nm,1.9s						
NV11	**Mina Array Sit**	**3.70**	**103**		Pn	20 06 41.6	+1.1
NV11				IAML		20 07 42.1	
	comp=E,16nm,0.8s						
NV11				IAML		20 07 42.1	
	comp=N,16nm,1.7s						
LCH	**Last Change Ra**	**4.54**	**116**	Pn	Pn	20 06 51.7	-0.3
LCH				IAML		20 09 03.7	
	comp=N,7.6nm,4.0s						
LCH				IAML		20 09 10.3	
	comp=E,9.2nm,4.3s						
WOFM	**Oak Flat**	**4.98**	**139**		Pn	20 06 58.0	-0.1

IDC 07 20:08:57.6±1.7, 16°14N×98°59E, h0km, mb3.4/2, mbtmp3.4/3, ML3.5/1, MS2.1/1, Error ellipse: s-maj=23.0km s-min=15.2km az=77.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**2.33**	**8**	Pn	Pn	20 09 35.8	-1.4
	2.9nm,0.3s,baz=193,slow=14,SNR=73						
CMAR				Pg	Pb	20 09 41.0	+0.5
	71nm,0.3s,baz=194,slow=18,SNR=87						
CMAR				Lg	Lg	20 10 11.9	
	83nm,0.3s,baz=192,slow=33,SNR=14						
CMAR				LR	LR	20 10 21.3	
	comp=Z,42nm,18.8s,baz=200,slow=36 7.6nm,0.3s						
WRA	**Warramunga Arr**	**50.20**	**134**	P	P	20 17 55.3	-0.3
	0.6nm,0.9s,baz=325,slow=7.3,SNR=2.4 0.6nm,0.9s						
ASAR	**Alice Springs**	**52.50**	**138**	P	P	20 18 13.0	+0.2
	0.4nm,0.9s,baz=315,slow=8.1,SNR=4.5 0.4nm,0.9s

NEIC 07 20:24:27.9±0.8, 19°37N±0°01×155°494W±0°008, h16km±1km, Error ellipse: s-maj=1.6km s-min=1.0km az=176.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIN	**Ainahou**	**0.03**	**82**		Sg	20 24 32.4	-0.7
AIN	**Ainahou**	**0.03**	**82**	Pg	Pg	20 24 30.7	-0.3
AIN				IAML		20 24 32.6	
	comp=E,144µm,0.4s						
AIN				IAML		20 24 33.0	
	comp=N,491µm,0.8s						
MWH	**Moku'aweowe**	**0.15**	**320**		Pg	20 24 32.1	-0.3
MWH				IAML		20 24 35.6	
	comp=N,12µm,0.7s						
MWH	**Moku'aweowe**	**0.15**	**320**		Sg	20 24 35.1	-0.4
HTC	**Hot Caves**	**0.16**	**145**		Pg	20 24 31.9	-0.1
MLH	**Mauna Loa**	**0.16**	**39**		Pg	20 24 32.3	-0.1
MLH					Sg	20 24 35.0	-0.3
MLH	**Mauna Loa**	**0.16**	**39**	IAML		20 24 35.6	
	comp=N,2µm,0.6s						
MLH				IAML		20 24 39.0	
	comp=E,3µm,0.4s						
KHU	**Kahuku**	**0.17**	**223**		Pg	20 24 31.9	-0.5
KHU					Sg	20 24 34.5	-0.8
MLOA	**Mauna Loa Obse**	**0.18**	**335**		Pg	20 24 32.7	-0.1
MLOA					Sg	20 24 35.7	-0.3
MLOA	**Mauna Loa Obse**	**0.18**	**335**	IAML		20 24 36.0	
	comp=E,12µm,0.4s						
MLOA				IAML		20 24 36.0	
	comp=N,20µm,0.5s						
WRMHI	**West Rim**	**0.19**	**78**		Pg	20 24 32.6	+0.1
WRMHI					Sg	20 24 36.0	+0.3
HLP	**Hilina Pali**	**0.19**	**112**		Pg	20 24 32.6	+0.1
HLP	**Hilina Pali**	**0.19**	**112**	IAML		20 24 38.8	
	comp=E,10µm,0.2s						
HLP				IAML		20 24 38.9	
	comp=N,11µm,0.4s						
SDHHI	**Sand Hill**	**0.19**	**83**		Pg	20 24 32.6	0.0
SDHHI					Sg	20 24 35.6	-0.2
SDHHI	**Sand Hill**	**0.19**	**83**	IAML		20 24 36.1	
	comp=E,17µm,0.3s						
SDHHI				IAML		20 24 38.0	
	comp=N,17µm,0.2s						
UWE	**Uwekahuna**	**0.20**	**74**		Pg	20 24 32.8	+0.1
UWE				IAML		20 24 38.5	
	comp=N,12µm,0.3s						
UWE				IAML		20 24 38.7	
	comp=E,13µm,0.5s						
OBL	**Observatory Le**	**0.20**	**76**		Pg	20 24 32.8	0.0
OBL	**Observatory Le**	**0.20**	**76**	IAML		20 24 38.4	
	comp=E,15µm,0.5s						
OBL				IAML		20 24 39.1	
	comp=N,13µm,0.4s						
NPH	**North Pit**	**0.21**	**78**		Pg	20 24 32.8	-0.1
NPH					Sg	20 24 36.0	-0.1
NPH	**North Pit**	**0.21**	**78**	IAML		20 24 37.3	
	comp=E,2µm,0.4s						
NPH				IAML		20 24 38.6	
	comp=N,4µm,0.3s						
RIM	**Rim**	**0.21**	**82**		Pg	20 24 32.9	0.0
RIM					Sg	20 24 36.5	+0.3
RIM	**Rim**	**0.21**	**82**	IAML		20 24 36.6	
	comp=N,11µm,0.3s						
RIM				IAML		20 24 40.3	
	comp=E,7µm,0.5s						
UWB	**Uwekahuna B**	**0.21**	**74**		Pg	20 24 32.9	0.0
UWB					Sg	20 24 36.3	0.0
UWB	**Uwekahuna B**	**0.21**	**74**	IAML		20 24 37.5	
	comp=E,2µm,0.6s						
UWB				IAML		20 24 40.2	
	comp=N,4µm,0.5s						
KKO	**Keanakako`i**	**0.22**	**82**		Pg	20 24 33.0	0.0
KKO					Sg	20 24 36.7	+0.2
KKO	**Keanakako`i**	**0.22**	**82**	IAML		20 24 40.2	
	comp=N,7µm,0.6s						
KKO				IAML		20 24 40.6	
	comp=E,6µm,0.4s						
SBLHI	**Steaming Bluff**	**0.22**	**74**		Pg	20 24 33.0	0.0
SBLHI					Sg	20 24 36.9	+0.3
SBLHI	**Steaming Bluff**	**0.22**	**74**	IAML		20 24 37.7	
	comp=E,8µm,0.3s						
SBLHI				IAML		20 24 40.6	
	comp=N,10µm,0.3s						
ALEP	**Alea Permanent**	**0.22**	**321**		Pg	20 24 33.1	-0.2
ALEP					Sg	20 24 36.9	-0.1
BYL	**Byron's Ledge**	**0.23**	**79**		Pg	20 24 33.1	0.0
BYL	**Byron's Ledge**	**0.23**	**79**	IAML		20 24 38.5	
	comp=N,4µm,0.7s						
BYL				IAML		20 24 39.6	
	comp=E,5µm,0.4s						
RSD	**Rainshed**	**0.23**	**65**		Pg	20 24 33.2	0.0
RSD				IAML		20 24 39.9	
	comp=N,6µm,0.3s						
RSD	**Rainshed**	**0.23**	**65**		Sb	20 24 37.4	-0.1
HATHI	**Halema'uma'u T**	**0.23**	**76**		Pg	20 24 33.1	0.0
HATHI					Sb	20 24 37.5	-0.2
HATHI	**Halema'uma'u T**	**0.23**	**76**	IAML		20 24 40.7	
	comp=E,8µm,0.3s						
HATHI				IAML		20 24 40.8	
	comp=N,6µm,0.4s						
HMH	**Humu'ula Sheep**	**0.23**	**3**		Pb	20 24 33.7	-0.3
HMH					Sb	20 24 37.7	-0.4
HMH	**Humu'ula Sheep**	**0.23**	**3**	IAML		20 24 37.9	
	comp=N,6µm,0.5s						
HMH				IAML		20 24 39.6	
	comp=E,5µm,0.4s						
PUH	**Pauahi**	**0.26**	**89**		Pg	20 24 33.6	-0.2
PUH					Sb	20 24 38.3	-0.3
PUH	**Pauahi**	**0.26**	**89**	IAML		20 24 38.8	
	comp=E,8µm,0.3s						
PUH				IAML		20 24 40.3	
	comp=N,7µm,0.3s						
HPO	**Honuapo**	**0.28**	**192**		Pg	20 24 33.5	-0.5
HPO					Sb	20 24 38.8	-0.2
KNHH	**Kane Nui o Ham**	**0.31**	**88**		Pg	20 24 34.2	-0.2
STCH	**Steam Cracks**	**0.35**	**87**		Pg	20 24 34.9	-0.3
STCH				IAML		20 24 41.0	
	comp=N,4µm,0.4s						
STCH				IAML		20 24 41.4	
	comp=E,7µm,0.5s						
STCH	**Steam Cracks**	**0.35**	**87**		Sg	20 24 40.5	+0.3
JCUZ	**Jacuzzi**	**0.37**	**87**		Pg	20 24 35.1	-0.4
JCUZ				IAML		20 24 41.8	
	comp=N,3µm,0.4s						
JCUZ				IAML		20 24 41.9	
	comp=E,5µm,0.6s						
JCUZ	**Jacuzzi**	**0.37**	**87**		Sb	20 24 41.3	-0.4
POHA	**Pohakuloa**	**0.39**	**355**	Pg	Pg	20 24 36.3	+0.3
POHA				IAML		20 24 45.0	
	comp=E,4µm,0.3s						
POHA				IAML		20 24 46.2	
	comp=E,5µm,0.5s						
POHA	**Pohakuloa**	**0.39**	**355**		Sb	20 24 42.3	-0.2
CPH	**Captain Cook**	**0.42**	**287**		Pg	20 24 36.2	-0.2
KHLU	**Kahalu`u**	**0.44**	**301**		Pg	20 24 36.8	0.0
KHLU					Sb	20 24 43.5	-0.2
KHLU	**Kahalu`u**	**0.44**	**301**	IAML		20 24 43.9	
	comp=N,9µm,0.5s						
KHLU				IAML		20 24 43.9	
	comp=E,8µm,0.5s						
HUH	**Hualalai**	**0.45**	**314**		Pb	20 24 37.6	-0.1
HUH					Sb	20 24 45.5	+1.3
JOKA	**Jonika Flow**	**0.47**	**82**		Pg	20 24 36.6	-0.7
JOKA					Sb	20 24 45.3	+0.8
HPAH	**Hawaii Prepara**	**0.69**	**344**		Pg	20 24 40.3	-1.1
HPAH				IAML		20 24 50.3	
	comp=E,1µm,0.3s						
HPAH	**Hawaii Prepara**	**0.69**	**344**		Sg	20 24 48.9	-1.7
MHA	**Mahukona**	**0.90**	**335**		Pb	20 24 43.4	-1.8

IDC 07 20:28:26.4±2.3, 1°59N×126°14E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=221.7km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.86**	**160**	P	P	20 33 31.2	-0.3
	1.6nm,0.8s,baz=338,slow=11,SNR=6.2 1.6nm,0.8s						
ASAR	**Alice Springs**	**26.22**	**164**	P	P	20 34 03.4	+0.3
	0.3nm,0.7s,baz=350,slow=13,SNR=8.6 0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.98**	**326**	P	P	20 38 27.7	-0.1
	0.1nm,0.4s,baz=127,slow=7.7,SNR=5.4 0.1nm,0.4s						

IDC 07 20:31:54.7±4.2, 52°.43N×171°.74E, h0km, mb3.3/3, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=128.0km s-min=20.1km az=177.0
NEIC 07 20:31:54.5±1.6, 52°.2N×0°.2×171°.7E±0°.1, h10km±2km, mb4.0/7, Error ellipse: s-maj=40.2km s-min=10.1km az=167.0

ISC 07 20:31:57.9±2.4, 52°.3N±0°.5×171°.57E±0°.07, h35km, n24, σ1s50/21, mb3.8/7, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.60**	**74**	Pn	**Pn**	**20 32 23.1**	**-0.6**
	42nm,0.3s,baz=311,slow=9.3,SNR=23						
SHEM				Sn	**Sn**	**20 32 42.2**	**-0.9**
	62nm,0.3s,baz=28,slow=24,SNR=24						
SMY	**Shemya**	**1.60**	**74**		**Pn**	**20 32 22.9**	**-0.8**
SMY				Sn	**Sn**	**20 32 42.1**	**-1.0**
PET	**Petropavlovsk**	**7.88**	**280**	Pn	**Pn**	**20 33 49.8**	**-0.1**
PEA0B	**Petropavlovsk-**	**8.46**	**281**	Pn	**Pn**	**20 33 59.2**	**+1.3**
PETK	**Petropavlovsk-**	**8.46**	**281**	Pn	**Pn**	**20 34 00.2**	**+2.3**
	0.2nm,0.3s,baz=85,slow=19,SNR=6.9						
PETK				Sn	**Sn**	**20 35 27.6**	**-4.4**
	0.1nm,0.3s,baz=66,slow=23,SNR=2.0 6.0nm,0.9s						
OHAK	**Old Harbor**	**20.70**	**62**	P	**P**	**20 36 34.0**	**-0.8**
OHAK				IAmb	IAmb	20 36 35.0	
	comp=Z,22nm,1.3s						
J20K	**Nowinta River**	**21.28**	**43**	P	**P**	**20 36 40.7**	**-0.2**
J20K				IAmb	IAmb	20 37 03.9	
	comp=Z,7.6nm,1.5s						
IMAR	**Indian Mountai**	**22.05**	**38**	P	**P**	**20 36 49.1**	**0.0**
H21K	**Melozitna Rive**	**22.30**	**40**	P	**P**	**20 36 53.1**	**+1.2**
H21K				IAmb	IAmb	20 36 59.3	
	comp=Z,5.8nm,1.4s						
KNK	**Knik Glacier**	**23.31**	**51**	P	**P**	**20 37 01.0**	**-1.4**
KNK				IAmb	IAmb	20 37 17.2	
	comp=Z,13nm,1.2s						
ILAR	**Eielson Array**	**24.48**	**43**	P	**P**	**20 37 12.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=244,slow=7.1,SNR=3.0 comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**24.48**	**43**	P	**P**	**20 37 13.8**	**+0.5**
N25K	**Chitina, Valde**	**25.17**	**51**	P	**P**	**20 37 19.0**	**-0.7**
SCRK	**Sand Creek**	**25.61**	**46**	P	**P**	**20 37 23.4**	**-0.3**
SCRK				IAmb	IAmb	20 37 37.8	
	comp=Z,2.4nm,0.9s						
J26L	**Joseph Creek**	**25.85**	**44**	P	**P**	**20 37 24.8**	**-1.0**
BMAR	**Burnt Mountain**	**25.96**	**38**	P	**P**	**20 37 27.0**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**32.73**	**188**	T	T	21 14 04.1	
	baz=5.7,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**32.74**	**188**	T	T	21 13 59.3	
	baz=5.7,slow=76,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**32.74**	**188**	T	T	21 14 12.6	
	baz=5.7,slow=76,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**33.95**	**188**	T	T	21 15 36.8	
	baz=5.9,slow=76,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**33.97**	**188**	T	T	21 15 41.7	
	baz=5.9,slow=76,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**33.97**	**188**	T	T	21 15 39.7	
	baz=5.9,slow=76,SNR=5.3						
YKA	**Yellowknife Ar**	**38.87**	**45**	P	**P**	**20 39 20.8**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=286,slow=8.3,SNR=1.9 comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**54.63**	**303**	P	**P**	**20 41 24.3**	**+1.6**
	comp=Z,0.9nm,1.2s,baz=65,slow=10,SNR=2.0 comp=Z,0.9nm,1.2s						

IDC 07 20:34:06.2±8.5, 29°.84N×50°.40E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=156.5km s-min=40.4km az=11.0
TEH 07 20:34:12.5, 30°.40N×50°.68E, h9km±27km, ML3.5

ISC 07 20:34:12.6±0.8, 30°38N±0°03×50°67E±0°04, h10km, n63, σ1s79/63, mb3.8/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.42**	**301**	Pg	**Pg**	**20 34 21.1**	**+0.1**
KLNJ	**Kolanjah**	**1.01**	**51**	Pg	**Pb**	**20 34 31.9**	**-0.5**
KAZ1	**Kazerun**	**1.12**	**132**	Pg	**Pn**	**20 34 34.9**	**+0.3**
AHBU	**AHRAM**	**1.60**	**160**	Pg	**Pg**	**20 34 43.7**	**+0.3**
IBRJ	**Brojen**	**1.61**	**18**	Pg	**Pg**	**20 34 42.9**	**-0.6**
AMIS	**Naft Sefid**	**1.75**	**317**	Pg	**Pb**	**20 34 45.0**	**+0.2**
SHI	**Shiraz**	**1.76**	**114**	Pg	**Pb**	**20 34 44.9**	**-0.1**
SHK1	**Shahrekord**	**1.95**	**5**	Pn	**Pb**	**20 34 47.7**	**-0.7**
IRAM	**Ramesheh**	**2.04**	**45**	Pn	**Pb**	**20 34 49.6**	**-0.4**
DSBU	**Dashti - Bushe**	**2.07**	**166**	Pn	**Pb**	**20 34 49.7**	**-0.7**
IPIR	**Pirpir**	**2.31**	**5**	Pn	**Pb**	**20 34 53.4**	**-1.1**
IGAR	**Gharneh**	**2.33**	**30**	Pn	**Pb**	**20 34 53.7**	**-1.2**
QIR1	**Qir**	**2.81**	**132**	Pn	**Pn**	**20 34 59.5**	**+1.8**
IZEF	**Zefreh**	**2.88**	**29**	Pn	**Pn**	**20 35 00.9**	**+2.1**
ISAD	**Sadrabad**	**3.00**	**59**	Pn	**Pn**	**20 35 02.7**	**+2.2**
NASN	**Na'in**	**3.00**	**36**	Pn	**Pn**	**20 35 02.8**	**+1.9**
IKLH	**Kalahrood**	**3.03**	**14**	Pn	**Pn**	**20 35 02.7**	**+1.8**
QAMS	**Qamsar**	**3.40**	**10**	Pn	**Pn**	**20 35 08.1**	**+2.0**
KHMZ	**Khomeyn**	**3.41**	**350**	Pn	**Pn**	**20 35 08.4**	**+2.4**
IMEH	**Mehriz**	**3.53**	**72**	Pn	**Pn**	**20 35 09.8**	**+2.0**
ICHK	**Chekchek**	**3.70**	**59**	Pn	**Pn**	**20 35 11.3**	**+1.3**
KRSH	**Karshahi**	**3.79**	**19**	Pn	**Pn**	**20 35 13.2**	**+2.0**
ANAR	**Anarak**	**3.82**	**42**	Pn	**Pn**	**20 35 13.3**	**+1.6**
YZKH	**Yazd**	**3.91**	**58**	Pn	**Pn**	**20 35 14.9**	**+2.1**
IKFM	**Kafar-mosalman**	**3.95**	**323**	Pn	**Pn**	**20 35 16.1**	**+2.8**
IDOB	**Doab**	**4.00**	**329**	Pn	**Pn**	**20 35 16.1**	**+1.8**
GHVR	**GHOM**	**4.12**	**7**	Pn	**Pn**	**20 35 17.9**	**+2.2**
ISFB	**Sefidab**	**4.18**	**18**	Pn	**Pn**	**20 35 18.0**	**+1.5**
ASAO	**Ashtian**	**4.19**	**353**	Pn	**Pn**	**20 35 19.2**	**+2.3**
HSAM	**Samen**	**4.21**	**336**	Pn	**Pn**	**20 35 18.4**	**+1.3**
IQOM	**Qom**	**4.46**	**4**	Pn	**Pn**	**20 35 22.0**	**+1.4**
HAGD	**Aghdareh**	**4.62**	**344**	Pn	**Pn**	**20 35 24.2**	**+1.5**
IKOM	**Komasi**	**4.64**	**326**	Pn	**Pn**	**20 35 25.5**	**+2.6**
IVRN	**Varamin**	**4.69**	**11**	Pn	**Pn**	**20 35 25.2**	**+1.7**
ILBA	**Ilam Banvizeh**	**4.99**	**312**	Pn	**Pn**	**20 35 28.4**	**+0.8**
KHGB	**Koh Gabri**	**5.01**	**89**	Pn	**Pn**	**20 35 29.4**	**+1.3**
IRAZ	**Razeghan**	**5.05**	**353**	Pn	**Pn**	**20 35 31.7**	**+3.0**
NGRK	**Negar Kerman**	**5.30**	**96**	Pn	**Pn**	**20 35 34.6**	**+2.3**
IDMV	**Damavand**	**5.31**	**12**	Pn	**Pn**	**20 35 33.6**	**+1.4**
DAMV	**Damavand**	**5.35**	**11**	Pn	**Pn**	**20 35 34.1**	**+1.3**
SNGE	**Sanandaj**	**5.47**	**330**	Pn	**Pn**	**20 35 35.3**	**+0.9**
CHTH	**Charan**	**5.53**	**4**	Pn	**Pn**	**20 35 37.4**	**+2.2**
IFIR	**Firoozkooh**	**5.53**	**18**	Pn	**Pn**	**20 35 36.5**	**+1.2**
IDHR	**Dehrash**	**5.63**	**321**	Pn	**Pn**	**20 35 38.9**	**+2.4**
BNDS	**Bandar-Abbas**	**5.66**	**120**	Pn	**Pn**	**20 35 39.9**	**+2.9**
IANJ	**Anjilo**	**5.76**	**27**	Pn	**Pn**	**20 35 39.2**	**+0.9**
TPRV	**Parvadeh(Tabas**	**5.76**	**61**	Pn	**Pn**	**20 35 40.4**	**+2.1**
ISHM	**Shahmirzad**	**5.84**	**21**	Pn	**Pn**	**20 35 40.9**	**+1.4**
IPRN	**Peran**	**6.01**	**13**	Pn	**Pn**	**20 35 44.5**	**+2.8**
QALM	**Alamut, Qazvin**	**6.04**	**360**	Pn	**Pn**	**20 35 44.0**	**+1.8**
MZPU	**Pul - Mazandar**	**6.09**	**7**	Pn	**Pn**	**20 35 45.2**	**+2.3**
KLST	**Kelardasht - M**	**6.13**	**3**	Pn	**Pn**	**20 35 44.9**	**+1.3**
TNSJ	**Nastanj**	**6.17**	**53**	Pn	**Pn**	**20 35 45.7**	**+1.8**
TABS	**Tabas**	**6.37**	**58**	Pn	**Pn**	**20 35 48.8**	**+2.1**
IGLO	**Ghaloghah**	**6.65**	**23**	Pn	**Pn**	**20 35 53.1**	**+2.5**
SHRO	**Shahrood**	**7.16**	**37**	Pn	**Pn**	**20 35 59.8**	**+2.3**
BSRN	**Basiran**	**7.41**	**76**	Pn	**Pn**	**20 36 03.6**	**+2.6**
MRVT	**Maraveh tapeh**	**8.54**	**30**	Pn	**Pn**	**20 36 18.4**	**+2.0**
BELG	**Belogornoye**	**22.11**	**355**	P	**P**	**20 39 08.6**	**+0.7**
	3.6nm,0.8s,baz=155,slow=1.4,SNR=4.6 3.6nm,0.8s						
AKASG	**Malin Array Be**	**25.87**	**328**	P	**P**	**20 39 42.6**	**-1.7**
	0.2nm,0.3s,baz=127,slow=7.9,SNR=4.0 0.2nm,0.3s						
MKAR	**Makanchi Array**	**29.40**	**47**	P	**P**	**20 40 16.2**	**+0.2**
	0.2nm,0.6s,baz=243,slow=6.3,SNR=1.5 0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**34.04**	**36**	P	**P**	**20 40 56.5**	**-0.3**
	0.7nm,0.6s,baz=263,slow=7.3,SNR=4.6 0.7nm,0.6s						
FINES	**FINESS Array B**	**35.03**	**340**	P	**P**	**20 41 03.2**	**-1.9**
	3.8nm,1.0s,baz=140,slow=11,SNR=1.8 3.8nm,1.0s						

TAP 07 20:37:51.2, 24°.81N×122°.12E, h101km, ML3.3, B
JMA 07 20:37:51.3±0.2, 24°.8N±0°.8×122°.1E±0°.5, h99km±2km, MV2.1/10, TAIWAN REGION

ISC 07 20:37:50.5±1.3, 24°.83N±0°03×122°12E±0°03, h108km±6km, n138, σ0s84/244, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.21**	**326**	*i* P	**Pn**	**20 38 06.0**	**+0.3**
	baz=321						
TWB1				S	**Sn**	**20 38 16.3**	**-0.7**
	baz=321						
TIPB	**Shuangxi**	**0.30**	**298**	P	**Pn**	**20 38 06.3**	**+0.2**
	baz=289						
TIPB				S	**Sn**	**20 38 16.5**	**-1.2**
	baz=289						
TWC	**Suao**	**0.33**	**228**	*i* P	**Pn**	**20 38 06.1**	**0.0**
	baz=231						
TWC				*e*S	**Sn**	**20 38 16.7**	**-1.1**
	baz=231						
ILA	**Ilan**	**0.34**	**259**	*i* P	**Pn**	**20 38 06.6**	**+0.5**
	baz=259						
ILA				S	**Sn**	**20 38 17.8**	**-0.1**
	baz=259						
SXI1	**Grass Mountain**	**0.34**	**320**	*i* P	**Pn**	**20 38 06.6**	**+0.3**
	baz=310						
SXI1				S	**Sn**	**20 38 17.4**	**-0.8**
	baz=310						
NWF	**Wu-fen Shan**	**0.39**	**308**	*i* P	**Pn**	**20 38 06.8**	**+0.3**
	baz=301						
NWF				S	**Sn**	**20 38 17.9**	**-0.7**
	baz=301						
WFSB	**Wu-fen Shan**	**0.39**	**308**	P	**Pn**	**20 38 06.9**	**+0.5**
	baz=301						
WFSB				S	**Sn**	**20 38 17.8**	**-0.6**
	baz=301						
NDS	**Dongshan**	**0.41**	**242**	P	**Pn**	**20 38 07.0**	**+0.4**
	baz=244						
TWE	**Neicheng**	**0.42**	**255**	*e*P	**Pn**	**20 38 06.9**	**+0.3**
	baz=260						
TNOU	**National Taiwa**	**0.45**	**316**	*i* P	**Pn**	**20 38 07.0**	**+0.2**
	baz=309						
TNOU				S	**Sn**	**20 38 18.3**	**-0.7**
	baz=309						
FUSB	**Fushanzhiwuyua**	**0.49**	**262**	P	**Pn**	**20 38 07.3**	**+0.2**
	baz=266						
FUSB				*e*S	**Sn**	**20 38 19.9**	**+0.3**
	baz=266						
EWUT	**Wuta**	**0.49**	**219**	*i* P	**Pn**	**20 38 07.5**	**+0.5**
	baz=214						
EWUT				*e*S	**Sn**	**20 38 19.9**	**+0.4**
	baz=214						
TWA	**Mucha**	**0.51**	**287**	*i* P	**Pn**	**20 38 07.2**	**+0.1**
	baz=294						
TWA				S	**Sn**	**20 38 18.6**	**-1.1**
	baz=294						
ENA	**Nanau**	**0.53**	**221**	*i* P	**Pn**	**20 38 07.9**	**+0.6**
	baz=215						
ENA				*e*S	**Sn**	**20 38 20.2**	**+0.3**
	baz=215						
ENTT	**Nioudou**	**0.54**	**249**	P	**Pn**	**20 38 08.0**	**+0.6**
	baz=249						
ENTT				S	**Sn**	**20 38 21.0**	**+0.9**
	baz=249						
NHY	**Taipei**	**0.54**	**293**	*i* P	**Pn**	**20 38 07.7**	**+0.3**
	baz=294						
NHY				S	**Sn**	**20 38 19.4**	**-0.6**
	baz=294						
NHDH	**Xindian Distri**	**0.55**	**284**	*i* P	**Pn**	**20 38 07.7**	**+0.2**
	baz=290						
NHDH				*e*S	**Sn**	**20 38 19.1**	**-1.1**
	baz=290						
NWLT	**Wulai**	**0.56**	**265**	P	**Pn**	**20 38 07.8**	**+0.2**
	baz=271						
NWLT				*e*S	**Sn**	**20 38 19.2**	**-1.2**
	baz=271						
YM01	**YM01**	**0.59**	**302**	P	**Pn**	**20 38 08.1**	**+0.3**
	baz=299						
YM01				S	**Sn**	**20 38 19.9**	**-0.9**
	baz=299						
TATO	**Taipei**	**0.59**	**284**	P	**Pn**	**20 38 08.2**	**+0.5**
TATO	**Taipei**	**0.59**	**284**	*e*P	**Pn**	**20 38 07.9**	**+0.1**
	baz=290						
TATO				*e*S	**Sn**	**20 38 19.3**	**-1.4**
	baz=290						
TAP	**Taipei**	**0.59**	**291**	*e*S	**Sn**	**20 38 19.9**	**-0.8**
	baz=292						
NDT	**Datong Townshi**	**0.59**	**248**	*e*P	**Pn**	**20 38 06.3**	**-1.5**
	baz=254						
YM08	**YM08**	**0.60**	**307**	P	**Pn**	**20 38 07.9**	**+0.1**
	baz=303						
YM08				*e*S	**Sn**	**20 38 19.6**	**-1.3**
	baz=303						
LATG	**Datong**	**0.61**	**242**	P	**Pn**	**20 38 08.9**	**+0.9**
	baz=250						
LATG				*e*S	**Sn**	**20 38 22.1**	**+0.8**
	baz=250						
TWY	**Chenhua**	**0.65**	**313**	P	**Pn**	**20 38 08.6**	**+0.4**
	baz=308						
TWY				*e*S	**Sn**	**20 38 21.3**	**-0.2**
	baz=308						
ANP	**Anpu**	**0.65**	**303**	*e*P	**Pn**	**20 38 08.1**	**-0.3**
	baz=298						
ANP				*e*S	**Sn**	**20 38 20.9**	**-0.8**
	baz=298						
TWS1	**Kuangyinshan**	**0.69**	**293**	P	**Pn**	**20 38 09.0**	**+0.5**
	baz=298						
TWS1				*e*S	**Sn**	**20 38 22.0**	**-0.1**
	baz=298						
NTST	**Danshui**	**0.69**	**299**	*e*P	**Pn**	**20 38 07.1**	**-1.4**
	baz=303						
NTST				*e*S	**Sn**	**20 38 22.2**	**0.0**
	baz=303						
YHNB	**Yeheng**	**0.69**	**257**	P	**Pn**	**20 38 09.4**	**+0.7**
YHNB	**Yeheng**	**0.69**	**257**	P	**Pn**	**20 38 09.1**	**+0.4**
	baz=258						
YHNB				*e*S	**Sn**	**20 38 21.8**	**-0.6**
	baz=258						
NSK	**Sanguang**	**0.71**	**258**	P	**Pn**	**20 38 09.2**	**+0.5**
	baz=258						
NSK				*e*S	**Sn**	**20 38 22.0**	**-0.5**
	baz=258						
NNSB	**Datong**	**0.78**	**239**	P	**Pn**	**20 38 10.3**	**+0.9**
	baz=232						
NNSB				S	**Sn**	**20 38 23.9**	**+0.1**
	baz=232						
NNSH	**Datong**	**0.78**	**239**	*e*P	**Pn**	**20 38 10.3**	**+0.8**
	baz=232						
NNSH				*e*S	**Sn**	**20 38 24.0**	**+0.2**
	baz=232						
NNS	**Nan Shan**	**0.78**	**240**	*e*P	**Pn**	**20 38 10.3**	**+0.8**
	baz=241						

FUSS	**Fushou**	**0.98 234**	*eP*	**Pn**	**20 38 12.4**	**+0.8**
	baz=228					
FUSS			*eS*	**Sn**	**20 38 27.8**	**+0.2**
	baz=228					
NHW	**Xinwu Township**	**0.99 280**	*eP*	**Pn**	**20 38 12.3**	**+0.9**
	baz=281					
NHW			*eS*	**Sn**	**20 38 28.3**	**+1.2**
	baz=281					
HSN1	**Hsinchu**	**1.00 267**	P	**Pn**	**20 38 12.4**	**+1.0**
	baz=262					
HSN1			*eS*	**Sn**	**20 38 27.9**	**+0.6**
	baz=262					
LIOB	**Emei**	**1.02 260**	P	**Pn**	**20 38 12.4**	**+0.7**
	baz=262					
LIOB			S	**Sn**	**20 38 27.5**	**-0.2**
	baz=262					
SBCB	**Hsinchu**	**1.03 268**	P	**Pn**	**20 38 12.5**	**+0.7**
	baz=262					
SBCB			S	**Sn**	**20 38 28.4**	**+0.5**
	baz=262					
ETM	**Tongmen**	**1.03 214**	P	**Pn**	**20 38 11.6**	**-0.3**
	baz=220					
ETM			*eS*	**Sn**	**20 38 26.5**	**-1.5**
	baz=220					
TWT	**Tachien**	**1.03 236**	*eP*	**Pn**	**20 38 13.3**	**+1.2**
	baz=231					
TWT			*eS*	**Sn**	**20 38 29.0**	**+0.7**
	baz=231					
WHF	**Hehuan Shan**	**1.03 229**	*eP*	**Pn**	**20 38 12.9**	**+0.6**
	baz=229					
WHF			*eS*	**Sn**	**20 38 28.7**	**0.0**
	baz=229					
NSTT	**Nanjuang**	**1.03 259**	P	**Pn**	**20 38 12.5**	**+0.6**
	baz=260					
NSTT			S	**Sn**	**20 38 27.9**	**-0.1**
	baz=260					
HSN	**Hsinchu**	**1.04 269**	P	**Pn**	**20 38 12.4**	**+0.4**
	baz=263					
HSN			S	**Sn**	**20 38 28.0**	**-0.2**
	baz=263					
TDCB	**Techi**	**1.05 237**	*eP*	**Pn**	**20 38 13.5**	**+1.3**
	baz=231					
TDCB			*eS*	**Sn**	**20 38 29.1**	**+0.6**
	baz=231					
TEYL	**Yanliau Villag**	**1.07 206**	*eP*	**Pn**	**20 38 12.3**	**+0.1**
	baz=204					
TEYL			*eS*	**Sn**	**20 38 28.0**	**-0.6**
	baz=204					
NJN	**Zhunan**	**1.14 263**	*eS*	**Sn**	**20 38 30.4**	**+0.3**
	baz=260					
CHGB	**Renai**	**1.15 228**	P	**Pn**	**20 38 14.4**	**+1.0**
	baz=229					
CHGB			S	**Sn**	**20 38 30.9**	**+0.2**
	baz=229					
ESL	**Shilin**	**1.19 212**	*eP*	**Pn**	**20 38 12.9**	**-0.7**
	baz=216					
ESL			*eS*	**Sn**	**20 38 29.5**	**-1.5**
	baz=216					
WHP	**Taichung City**	**1.20 243**	P	**Pn**	**20 38 15.0**	**+1.3**
	baz=253					
WHP			S	**Sn**	**20 38 31.7**	**+0.3**
	baz=253					
OWD	**Renai**	**1.22 225**	*eP*	**Pn**	**20 38 14.7**	**+0.5**
	baz=219					
OWD			*eS*	**Sn**	**20 38 31.6**	**-0.4**
	baz=219					
WUSB	**Renai**	**1.24 228**	P	**Pn**	**20 38 15.2**	**+1.0**
	baz=228					
WUSB			*eS*	**Sn**	**20 38 32.1**	**-0.1**
	baz=228					
NMLH	**Miaoli**	**1.24 257**	*eP*	**Pn**	**20 38 14.6**	**+0.5**
	baz=259					
NMLH			*eS*	**Sn**	**20 38 31.9**	**-0.2**
	baz=259					
TWQ1	**Liyutan**	**1.31 249**	P	**Pn**	**20 38 15.5**	**+0.5**
	baz=251					
TWQ1			*eS*	**Sn**	**20 38 34.0**	**+0.4**
	baz=251					
EGFH	**Guangfu**	**1.32 209**	P	**Pn**	**20 38 15.1**	**0.0**
	baz=206					
EGFH			*eS*	**Sn**	**20 38 32.9**	**-0.7**
	baz=206					
WPL	**Puli Township**	**1.33 233**	*eP*	**Pn**	**20 38 16.8**	**+1.6**
	baz=243					
WCS	**Beigang Elemen**	**1.34 235**	P	**Pn**	**20 38 16.3**	**+1.0**
	baz=245					
WCS			*eS*	**Sn**	**20 38 34.6**	**+0.5**
	baz=245					
VWDT	**VWDT**	**1.39 220**	P	**Pn**	**20 38 16.6**	**+0.7**
	baz=214					
VWDT			*eS*	**Sn**	**20 38 35.6**	**+0.5**
	baz=214					
WDJ	**Dajia District**	**1.43 251**	*eP*	**Pn**	**20 38 17.3**	**+1.0**
	baz=247					
WDJ			*eS*	**Sn**	**20 38 36.5**	**+0.6**
	baz=247					
TYC	**Yuchr**	**1.47 232**	*eP*	**Pn**	**20 38 17.9**	**+1.0**
	baz=241					
TYC			*eS*	**Sn**	**20 38 37.6**	**+0.8**
	baz=241					
HGSD	**Ruisui**	**1.48 206**	*eP*	**Pn**	**20 38 16.9**	**0.0**
	baz=212					
HGSD			*eS*	**Sn**	**20 38 36.3**	**-0.6**
	baz=212					
TCU	**Taichung**	**1.48 243**	*eP*	**Pn**	**20 38 17.6**	**+0.7**
	baz=252					
TCU			*eS*	**Sn**	**20 38 37.7**	**+0.7**
	baz=252					
SSLB	**Suanglung**	**1.48 226**	P	**Pn**	**20 38 18.7**	**+1.7**
SSLB	**Suanglung**	**1.48 226**	*eP*	**Pn**	**20 38 18.4**	**+1.4**
	baz=229					
SSLB			*eS*	**Sn**	**20 38 38.2**	**+1.0**
	baz=229					
EHY	**Hungye**	**1.50 209**	*eP*	**Pn**	**20 38 16.9**	**-0.4**
	baz=208					
WWF	**Wufeng**	**1.51 239**	*eP*	**Pn**	**20 38 18.1**	**+0.8**
	baz=248					
WWF			*eS*	**Sn**	**20 38 38.3**	**+0.6**
	baz=248					
IRIF	**Iriomote-Funau**	**1.55 108**	P	**Pn**	**20 38 18.4**	**+0.6**
IRIF			S	**Sn**	**20 38 38.7**	**+0.3**
WCHH	**Zhanghua**	**1.61 243**	*eP*	**Pn**	**20 38 19.2**	**+0.8**
	baz=252					
WCHH			*eS*	**Sn**	**20 38 39.8**	**+0.1**
	baz=252					
WHYT	**Xinyi Township**	**1.61 226**	*eP*	**Pn**	**20 38 19.8**	**+1.2**
	baz=234					
WHYT			*eS*	**Sn**	**20 38 41.5**	**+1.5**
	baz=234					
WNT	**Mingjian**	**1.61 234**	*eP*	**Pn**	**20 38 19.8**	**+1.2**
	baz=245					
WNT			*eS*	**Sn**	**20 38 40.7**	**+0.8**
	baz=245					
YULB	**Yu-li**	**1.62 208**	P	**Pn**	**20 38 19.1**	**+0.5**
YULB	**Yu-li**	**1.62 208**	*eP*	**Pn**	**20 38 17.9**	**-0.8**
	baz=206					
WJS	**Zhushan**	**1.62 232**	*eP*	**Pn**	**20 38 19.3**	**+0.7**
	baz=243					
WJS			*eS*	**Sn**	**20 38 40.2**	**+0.3**
	baz=243					
EYUL	**Yuli**	**1.65 206**	*eP*	**Pn**	**20 38 19.6**	**+0.6**
	baz=204					
WYL	**Yuanlin Townsh**	**1.65 239**	*eP*	**Pn**	**20 38 20.1**	**+1.1**
	baz=250					
WYL			*eS*	**Sn**	**20 38 41.4**	**+0.8**
	baz=250					
TWF1	**Yuli**	**1.65 207**	*eP*	**Pn**	**20 38 19.7**	**+0.7**
	baz=205					
ALS	**Alishan**	**1.78 223**	*eP*	**Pn**	**20 38 22.1**	**+1.2**
	baz=235					
ALS			*eS*	**Sn**	**20 38 45.9**	**+1.9**
	baz=235					
CHN5	**Tsauling**	**1.80 227**	*eP*	**Pn**	**20 38 22.2**	**+1.3**
	baz=228					
CHN5			S	**Sn**	**20 38 45.3**	**+1.1**
	baz=228					
JKRS	**Kuro-shima**	**1.82 109**	P	**Pn**	**20 38 22.2**	**+1.1**
JKRS			*eS*	**Sn**	**20 38 45.1**	**+0.7**
WDLH	**Douliu**	**1.84 232**	P	**Pn**	**20 38 22.7**	**+1.4**
	baz=235					
WDLH			*eS*	**Sn**	**20 38 45.8**	**+1.0**
	baz=235					
WRL	**Guolierlin Hig**	**1.84 240**	*eP*	**Pn**	**20 38 22.0**	**+0.7**
	baz=243					
WRL			*eS*	**Sn**	**20 38 44.4**	**-0.4**
	baz=243					
CHKT	**Chengkung**	**1.85 202**	P	**Pn**	**20 38 21.3**	**-0.3**
	baz=209					
CHKT			*eS*	**Sn**	**20 38 43.3**	**-1.9**
	baz=209					
EHD	**Haiduan**	**1.87 207**	*eP*	**Pn**	**20 38 21.7**	**-0.1**
	baz=210					
EHD			*eS*	**Sn**	**20 38 43.9**	**-1.7**
	baz=210					
JIJ	**Ishigaki jima**	**1.90 104**	P	**Pn**	**20 38 22.9**	**+0.7**
JIJ			S	**Sn**	**20 38 45.5**	**-0.8**
ELDTW	**Lidau**	**1.92 212**	*eP*	**Pn**	**20 38 22.7**	**+0.2**
	baz=202					
ELDTW			*eS*	**Sn**	**20 38 46.1**	**-0.7**
	baz=202					
WTK	**Tuku**	**1.94 235**	*eP*	**Pn**	**20 38 23.6**	**+1.0**
	baz=237					
WTK			*eS*	**Sn**	**20 38 47.4**	**+0.2**
	baz=237					
WCKO	**Fanlu**	**1.96 225**	*eP*	**Pn**	**20 38 24.0**	**+1.1**
	baz=225					
WCKO			*eS*	**Sn**	**20 38 48.2**	**+0.6**
	baz=225					
CHN2	**Minshiung**	**1.98 230**	*eP*	**Pn**	**20 38 24.1**	**+1.0**
	baz=231					
EDH	**Donghe**	**1.99 202**	*eP*	**Pn**	**20 38 23.4**	**+0.1**
	baz=206					
EDH			*eS*	**Sn**	**20 38 47.2**	**-1.2**
	baz=206					
JISG	**Ishigakijimahi**	**2.01 96**	*eP*	**Pn**	**20 38 24.7**	**+1.3**
JISG			*eS*	**Sn**	**20 38 48.7**	**0.0**
CHY	**Chiayi**	**2.04 230**	*eP*	**Pn**	**20 38 24.8**	**+0.9**
	baz=232					
CHY			*eS*	**Sn**	**20 38 49.9**	**+0.5**
	baz=232					
TPUB	**Ta-pu**	**2.04 222**	P	**Pn**	**20 38 25.5**	**+1.5**
TPUB	**Ta-pu**	**2.04 222**	*eP*	**Pn**	**20 38 25.4**	**+1.4**
	baz=233					
STYH	**Taoyuan**	**2.06 217**	*eP*	**Pn**	**20 38 25.7**	**+1.6**
	baz=217					
WTP	**Ta-pu**	**2.09 221**	*eP*	**Pn**	**20 38 25.5**	**+0.8**
	baz=233					
WTP			*eS*	**Sn**	**20 38 50.6**	**-0.1**
	baz=233					
WSF	**Szhu**	**2.10 236**	*eP*	**Pn**	**20 38 26.0**	**+1.3**
	baz=238					
WSF			*eS*	**Sn**	**20 38 51.0**	**+0.2**
	baz=238					
LONT	**Longtian**	**2.12 205**	*eP*	**Pn**	**20 38 25.9**	**+0.9**
	baz=195					
LONT			*eS*	**Sn**	**20 38 50.7**	**-0.6**
	baz=195					
TWK	**Hsinying**	**2.15 224**	*eP*	**Pn**	**20 38 26.4**	**+1.0**
	baz=224					
TWK			*eS*	**Sn**	**20 38 52.6**	**+0.4**
	baz=224					
WSL	**Shuilin Townsh**	**2.16 233**	*eP*	**Pn**	**20 38 26.2**	**+0.8**
	baz=243					
WSL			*eS*	**Sn**	**20 38 51.7**	**-0.5**
	baz=243					
CHN1	**Nanshi**	**2.19 222**	*eP*	**Pn**	**20 38 26.7**	**+0.9**
	baz=234					
CHN1			*eS*	**Sn**	**20 38 53.3**	**+0.4**
	baz=234					
TWGBT	**Beinan**	**2.22 206**	*eP*	**Pn**	**20 38 25.3**	**-0.9**
	baz=196					
TWGBT			*eS*	**Sn**	**20 38 51.9**	**-1.6**
	baz=196					
TWG	**Pinlang**	**2.22 206**	*eP*	**Pn**	**20 38 25.6**	**-0.6**
	baz=196					
TWG			*eS*	**Sn**	**20 38 51.3**	**-2.2**
	baz=196					
LDUT	**Ludao**	**2.23 196**	*eP*	**Pn**	**20 38 25.9**	**-0.4**
	baz=187					
LDUT			*eS*	**Sn**	**20 38 51.6**	**-2.1**
	baz=187					
SGST	**Jiashian**	**2.24 219**	*eP*	**Pn**	**20 38 26.4**	**0.0**
	baz=231					
SGST			*eS*	**Sn**	**20 38 53.8**	**-0.2**
	baz=231					
CHN8	**Yiju**	**2.29 230**	*eP*	**Pn**	**20 38 27.5**	**+0.5**
	baz=233					
CHN8			*eS*	**Sn**	**20 38 55.3**	**+0.3**
	baz=233					
JTJ	**Tarama**	**2.36 94**	P	**Pn**	**20 38 28.8**	**+0.9**
MATB	**Ma-tsu**	**2.36 304**	*eP*	**Pn**	**20 38 28.0**	**-0.1**
	baz=303					
VWUC	**VWUC**	**2.43 274**	*eP*	**Pn**	**20 38 29.1**	**+0.2**
	baz=276					
VWUC			*eS*	**Sn**	**20 38 56.7**	**-1.7**
	baz=276					
SCST	**Cishan**	**2.44 218**	*eP*	**Pn**	**20 38 30.9**	**+1.8**
	baz=230					
ECL	**Taimali**	**2.46 206**	*eP*	**Pn**	**20 38 30.7**	**+1.3**
	baz=199					
TSCK	**Chigu Township**	**2.50 228**	*eP*	**Pn**	**20 38 30.6**	**+0.7**
	baz=231					
TSCK			*eS*	**Sn**	**20 38 60.0**	**-0.1**
	baz=231					
TSMG	**Majia**	**2.51 213**	*eP*	**Pn**	**20 38 31.2**	**+1.2**
	baz=227					
MASBT	**Mashibuluo**	**2.59 212**	*eP*	**Pn**	**20 38 32.3**	**+1.2**
	baz=226					
PNG	**Penghu**	**2.66 242**	*eP*	**Pn**	**20 38 31.1**	**-0.8**
	baz=245					
PNG			*eS*	**Sn**	**20 39 02.0**	**-1.7**
	baz=245					
PHUB	**P'eng-hu**	**2.67 241**	*eP*	**Pn**	**20 38 31.4**	**-0.6**
	baz=244					
PHUB			*eS*	**Sn**	**20 39 02.2**	**-1.8**
	baz=244					
EAST	**Anshuo**	**2.70 206**	*eP*	**Pn**	**20 38 34.1**	**+1.6**
	baz=199					
XPSS	**Dashiqiu**	**2.72 321**	*eP*	**Pn**	**20 38 32.4**	**-0.3**
	baz=319					
TAWH	**Dawu Township**	**2.72 205**	*eP*	**Pn**	**20 38 33.1**	**+0.3**
	baz=198					
TAWH			*eS*	**Sn**	**20 39 03.9**	**-1.4**
	baz=198					
PTMZ	**Houxiangcun**	**2.73 275**	*eP*	**Pn**	**20 38 32.5**	**-0.3**
	baz=276					
WDGT	**Dungji**	**2.74 236**	*eP*	**Pn**	**20 38 33.0**	**+0.1**
	baz=238					
WDGT			*eS*	**Sn**	**20 39 03.3**	**-2.3**
	baz=238					
SCZT	**Fangliau**	**2.81 210**	*eP*	**Pn**	**20 38 34.0**	**+0.1**
	baz=219					
LAY	**Lan-yu**	**2.83 191**	*eP*	**Pn**	**20 38 34.0**	**-0.2**
	baz=182					
SLIU	**Shizi**	**2.87 205**	*eP*	**Pn**	**20 38 35.3**	**+0.5**
	baz=215					
VCHM	**Qimei**	**2.94 237**	*eP*	**Pn**	**20 38 35.6**	**0.0**
	baz=240					
VCHM			*eS*	**Sn**	**20 39 09.0**	**-1.4**
	baz=240					

*IDC **07** 20:47:45.7±6.5, 4°66S×153°52E, h126km±38km, **mb3.1**/3, **mbtmp3.7**/4, **Error ellipse: s-maj=80.0km s-min=28.7km az=97.0, New Ireland region***

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
KRVT	**Keravat (AS076**	**1.54**	**283**	P		Pn	20 48 12.9		-1.0
	73nm,0.5s,baz=118,slow=17,SNR=1.8								
KRVT				S		Sn	20 48 35.5		+0.1
	136nm,0.8s,baz=357,slow=17,SNR=1.9								
PMG	**Port Moresby**	**7.88**	**233**	P		Pn	20 49 39.4		+1.8
	11nm,0.4s,baz=37,slow=11,SNR=6.2								
WRA	**Warramunga Arr**	**24.08**	**229**	P		P	20 52 50.2		+0.6
	1.1nm,0.7s,baz=54,slow=9.7,SNR=16								
	1.1nm,0.7s								
ASAR	**Alice Springs**	**26.74**	**223**	P		P	20 53 13.1		-0.6
	0.3nm,0.4s,baz=56,slow=9.1,SNR=10								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**80.70**	**319**	P		P	20 59 44.8		-0.2
	0.1nm,0.5s,baz=95,slow=8.1,SNR=2.1								
	0.1nm,0.5s								

*IDC **07** 20:48:12.8±2.2, 9°39S×160°32E, h0km, **mb3.4**/3, **mbtmp3.4**/3, **Error ellipse: s-maj=53.6km s-min=22.1km az=166.0, Bougainville-Solomon Islands region***

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
HNR	**Honiara**	**0.37**	**263**	Pn		Pn	20 48 25.0		-0.3
	1μm,0.3s,baz=46,slow=4.1,SNR=24								
HNR				Sn		Sb	20 48 34.6		+6.1
	2μm,0.3s,baz=198,slow=22,SNR=11								
WRA	**Warramunga Arr**	**27.19**	**244**	P		P	20 53 58.9		+0.5
	0.6nm,0.8s,baz=73,slow=9.0,SNR=5.1								
	0.6nm,0.8s								
H11S2	**WAKE ISLAND Hy**	**28.41**	**13**	T		T	21 22 45.3		
	baz=198,slow=74,SNR=4.9								
H11S3	**WAKE ISLAND Hy**	**28.41**	**13**	T		T	21 23 15.9		
	baz=198,slow=74,SNR=4.6								
H11S1	**WAKE ISLAND Hy**	**28.43**	**13**	T		T	21 23 18.5		
	baz=198,SNR=7.3								
ASAR	**Alice Springs**	**28.95**	**237**	P		P	20 54 14.2		+0.1
	0.2nm,0.4s,baz=60,slow=10,SNR=1.6								
	0.2nm,0.4s								
H11N1	**WAKE ISLAND Hy**	**29.63**	**13**	T		T	21 24 09.5		
	baz=194,slow=76,SNR=5.1								
H11N3	**WAKE ISLAND Hy**	**29.64**	**13**	T		T	21 24 10.4		
	baz=194,slow=76,SNR=7.5								
H11N2	**WAKE ISLAND Hy**	**29.65**	**13**	T		T	21 24 10.5		
	baz=194,slow=76,SNR=9.3								
SONM	**Songino Array**	**74.23**	**326**	P		P	20 59 52.2		+0.4
	0.2nm,0.5s,baz=108,slow=4.7,SNR=1.7								
	0.2nm,0.5s								

*IDC **07** 21:10:08.2±0.7, 6°93N×73°11W, h156km±14km, mb3.3/3, mbtmp3.8/5, Error ellipse: s-maj=41.0km s-min=7.6km az=131.0*
*RSNC **07** 21:10:08.6±1.6, 6°84N×73°19W, h149km±6km, ML3.4, Mw3.6*
ISC 07 21:10:07.4±0.8, 6°84N±0°03×73°14W±0°04, h157km±6km, n33, σ1°66/62, mb3.7/3, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
BARC	**Barichara**	**0.25**	**189**	⇑*iP*		**Pn**	**21 10 29.0**		**+0.1**
BARC				*eS*		**Sn**	**21 10 44.2**		**-1.1**
BARC				*i*			21 10 45.0		
	comp=Z,1μm,0.2s								
BRRC	**Barranca, Sant**	**0.62**	**295**	⇓*iP*		**Pn**	**21 10 30.6**		**+0.5**
BRRC				*eS*		**Sn**	**21 10 47.0**		**-0.5**
BRRC				*i*			21 10 50.9		
	comp=Z,631nm,0.1s								
PAMC	**Pamplona, Colo**	**0.66**	**42**	*eP*		**Pn**	**21 10 31.5**		**+0.6**
PAMC				*eS*		**Sn**	**21 10 48.5**		**-0.4**
PAMC				*i*			21 10 50.5		
	comp=Z,1μm,0.5s								
RUSC	**La Rusia**	**0.94**	**176**	*eP*		**Pn**	**21 10 33.0**		**+0.1**
RUSC				*eS*		**Sn**	**21 10 51.8**		**-0.6**
PTBC	**PUERTO BERRIO,**	**1.34**	**257**	⇓*iP*		**Pn**	**21 10 35.5**		**-0.3**
PTBC				*eS*		**Sn**	**21 10 57.1**		**-0.6**
PTBC				*i*			21 11 02.5		
	comp=Z,320nm,0.2s								
TAMC	**Tame, Arauca**	**1.40**	**107**	⇑*iP*		**Pn**	**21 10 37.3**		**+0.8**
TAMC				*eS*		**Sn**	**21 10 58.8**		**0.0**
TAMC				*i*			21 11 02.9		
	comp=Z,84nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*eP*		**Pn**	**21 10 40.9**		**0.0**
ZARC				*eS*		**Sn**	**21 11 05.9**		**-0.7**
ZARC				*i*			21 11 12.1		
	comp=Z,412nm,0.3s								
CHIC	**Chingaza**	**2.27**	**195**	*eP*		**Pn**	**21 10 47.6**		**+1.0**
CHIC				*eS*		**Sn**	**21 11 16.2**		**-0.6**
CHIC				*i*			21 11 23.0		
	comp=Z,103nm,0.3s								
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**21 10 49.3**		**+2.4**
	comp=Z,135nm,0.4s,baz=271,slow=23,SNR=33								
ROSC				S		**Sn**	**21 11 20.4**		**+3.0**
	comp=Z,209nm,0.4s,baz=27,slow=23,SNR=15								
ROSC	**El Rosal**	**2.31**	**211**	*eP*		**Pn**	**21 10 49.1**		**+2.2**
ROSC				*eS*		**Sn**	**21 11 18.6**		**+1.2**
UREC	**San Jos de Ur**	**2.54**	**291**	*eP*		**Pn**	**21 10 48.7**		**-0.6**
UREC				*eS*		**Sn**	**21 11 19.8**		**-1.9**
UREC				*i*			21 11 30.0		
	comp=Z,242nm,0.3s								
LL1C	**La Loma 1 Cana**	**2.71**	**351**	*eP*		**Pn**	**21 10 51.2**		**-0.2**
LL1C				*eS*		**Sn**	**21 11 27.3**		**+1.7**
LL1C				*i*			21 11 40.4		
	comp=Z,377nm,0.5s								
GUY2C	**Guyana, Caldas**	**2.73**	**234**	*eP*		**Pn**	**21 10 53.9**		**+1.8**
GUY2C				*eS*		**Sn**	**21 11 25.9**		**-0.8**
GUY2C				IAML			21 11 37.7		
	comp=Z,177nm,0.4s								
PTGC	**Puerto Gaitan,**	**2.81**	**159**	*eP*		**Pn**	**21 10 52.4**		**-0.3**
PTGC				*eS*		**Sn**	**21 11 26.1**		**-1.7**
PTGC				*i*			21 11 32.2		
	comp=Z,68nm,0.4s								
CBOC	**Ciudad Bolivar**	**3.01**	**251**	*eP*		**Pn**	**21 10 56.7**		**+1.4**
CBOC				*eS*		**Sn**	**21 11 30.5**		**-2.0**
CBOC				*i*			21 11 45.7		
	comp=Z,82nm,0.6s								
DBBC	**Dabeiba**	**3.05**	**273**	*eP*		**Pn**	**21 10 56.6**		**+0.9**
DBBC				*eS*		**Sn**	**21 11 31.6**		**-1.5**
DBBC				*i*			21 11 37.2		
	comp=Z,96nm,0.3s								
ARGC	**Ariguani, Magd**	**3.19**	**340**	*eP*		**Pn**	**21 10 59.9**		**+2.4**
ARGC				*eS*		**Sn**	**21 11 36.5**		**+0.3**
ARGC				*i*			21 11 47.5		
	comp=Z,38nm,0.3s								
SDV	**Santo Domingo**	**3.21**	**51**	P		**Pn**	**21 10 58.7**		**+0.8**
	comp=Z,8.5nm,0.3s,baz=265,slow=6.0,SNR=12								
SDV				S		**Sn**	**21 11 36.0**		**-0.9**
	comp=Z,31nm,0.3s,baz=290,slow=14,SNR=24								
APAC	**Apartado, Choc**	**3.57**	**287**	*eP*		**Pn**	**21 11 02.5**		**+0.3**
APAC				*eS*		**Sn**	**21 11 42.6**		**-2.2**
APAC				*i*			21 11 48.4		
	comp=Z,100nm,0.4s								
ORTC	**Ortega, Tolima**	**3.59**	**216**	*eP*		**Pn**	**21 11 03.6**		**+1.1**
ORTC				*eS*		**Sn**	**21 11 44.1**		**-1.4**
ORTC				*eS*		**Sn**	**21 11 45.8**		**+0.3**
ORTC				*i*			21 11 52.0		
	comp=Z,111nm,0.4s								
SJCC	**San Jacinto, C**	**3.64**	**327**	*eP*		**Pn**	**21 11 02.5**		**-0.7**
SJCC				*eS*		**Sn**	**21 11 45.8**		**-0.9**
SJCC				*i*			21 11 47.8		
	comp=Z,98nm,0.6s								
PLMC	**San Jos del P**	**3.67**	**239**	*eP*		**Pn**	**21 11 04.9**		**+1.3**
PLMC				*eS*		**Sn**	**21 11 45.4**		**-1.9**
PLMC				*i*			21 11 55.6		
	comp=Z,60nm,0.3s								
CRJC	**Cerrejon, Guaj**	**4.16**	**4**	*eP*		**Pn**	**21 11 08.8**		**-1.2**
CRJC				*eS*		**Sn**	**21 11 54.5**		**-4.3**
CRJC				*i*			21 12 02.0		
	comp=Z,45nm,0.2s								
YOTC	**Yotoco, Valle**	**4.27**	**228**	*eP*		**Pn**	**21 11 12.4**		**+1.0**
YOTC				*eS*		**Sn**	**21 12 00.2**		**-1.2**
SMRC	**Santa Marta, M**	**4.43**	**346**	*eP*		**Pn**	**21 11 14.6**		**+1.2**
SMRC				*eS*		**Sn**	**21 12 01.3**		**-3.6**
SMRC				*i*			21 12 06.1		
	comp=Z,22nm,0.3s								
MACC	**Macarena, Meta**	**4.72**	**189**	*eP*		**Pn**	**21 11 16.5**		**-0.8**
MACC				*eS*		**Sn**	**21 12 05.5**		**-6.3**
MACC				*i*			21 12 14.7		
	comp=Z,24nm,0.6s								
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*		**Pn**	**21 11 23.8**		**+0.2**
GARC				*eS*		**Sn**	**21 12 20.1**		**-3.1**
GARC				*i*			21 12 30.5		
	comp=Z,30nm,0.2s								
FLOC	**Florencia**	**5.79**	**206**	*eP*		**Pn**	**21 11 32.3**		**+0.8**
FLOC				*eS*		**Sn**	**21 12 36.7**		**-0.6**
FLOC				*i*			21 12 43.9		
	comp=Z,5.2nm,0.3s								
ULM	**Lac du Bonnet**	**47.26**	**340**	P		**P**	**21 18 24.5**		**-0.1**
	comp=Z,1.5nm,0.4s,baz=146,slow=6.3,SNR=4.2								
	comp=Z,1.5nm,0.4s								
PDAR	**Pinedale Array**	**48.05**	**324**	P		**P**	**21 18 32.0**		**+0.8**
	comp=Z,0.3nm,0.5s,baz=130,slow=8.4,SNR=2.2								
	comp=Z,0.3nm,0.5s								
YKA	**Yellowknife Ar**	**63.24**	**340**	P		**P**	**21 20 19.1**		**+0.3**
	comp

baz=254,slow=75,SNR=16
KSRS Korea Array 30.64 344 LR LR 21 42 31.2
comp=Z,14nm,21.3s,baz=135,slow=33
SONM Songino Array 47.81 332 P P 21 34 10.9 -0.3
0.2nm,0.6s,baz=143,slow=5.0,SNR=1.7
SONM PcP PcP 21 35 40.4 +0.3
0.2nm,0.6s,baz=141,slow=5.4,SNR=2.3
0.2nm,0.6s
MKAR Makanchi Array 60.98 320 P P 21 35 47.2 +0.4
0.9nm,0.8s,baz=105,slow=8.7,SNR=10
0.9nm,0.8s
ILAR Eielson Array 76.44 25 P P 21 37 23.2 +0.2
0.1nm,0.5s,baz=246,slow=6.3,SNR=5.1
0.1nm,0.5s
FINES FINESS Array B 93.15 333 P P 21 38 46.1 -1.4
3.3nm,1.1s,baz=64,slow=7.0,SNR=4.8
3.3nm,1.1s

*IDC **07** 21:37:33.9±2.1,7.˙14S×155.˚54E,h0km,mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=67.6km s-min=26.9km az=124.0*

ISC 07 21:37:38.2±2.3,7.˙4S±0.˙4×155.˚8E±0.˚4,h35km,n10, σ1§16/7,mb3.7/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**237**	P		**P**		**21 42 52.9**	**+0.7**
	0.4nm,0.5s,baz=61,slow=9.4,SNR=6.6								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**26.51**	**230**	P		**P**		**21 43 12.2**	**-0.6**
	0.2nm,0.5s,baz=59,slow=9.8,SNR=6.4								
	0.2nm,0.5s								
H11S3	**WAKE ISLAND Hy**	**27.86**	**23**	T		T		22 11 56.1	
	baz=202,slow=74,SNR=16								
H11S2	**WAKE ISLAND Hy**	**27.86**	**23**	T		T		22 11 56.8	
	baz=202,slow=74,SNR=20								
H11S1	**WAKE ISLAND Hy**	**27.88**	**23**	T		T		22 11 49.8	
	baz=202								
CMAR	**Chiang Mai Arr**	**61.62**	**295**	P		**P**		**21 47 53.8**	**+0.9**
	0.2nm,0.3s,baz=91,slow=4.5,SNR=2.7								
	0.2nm,0.3s								
ILAR	**Eielson Array**	**83.43**	**21**	P		**P**		**21 50 02.5**	**+0.7**
	0.1nm,0.4s,baz=246,slow=5.0,SNR=5.5								
	0.1nm,0.4s								
MKAR	**Makanchi Array**	**84.18**	**319**	P		**P**		**21 50 06.1**	**0.0**
	2.1nm,0.6s,baz=103,slow=5.8,SNR=28								
	2.1nm,0.6s								
KURBB	**Kurchatov Arra**	**87.62**	**322**	P		**P**		**21 50 21.6**	**-1.4**
	0.4nm,0.7s,baz=100,slow=3.8,SNR=4.8								
	0.4nm,0.7s								
BVAR	**Borovoye Array**	**93.04**	**323**	P		**P**		**21 50 47.0**	**-1.2**
	1.2nm,0.7s,baz=95,slow=6.3,SNR=6.7								
	1.2nm,0.7s								

*VAO **07** 21:40:07.9±3.0,24.˚66S×66.˚72W,h10km,mb4.0*
*GUC **07** 21:40:27.4±0.7,22.˚29S×68.˚04W,h181km±5km,ML3.7*
*SCB **07** 21:40:27.8±1.2,22.˚25S×67.˚90W,h149km± 15km,ML3.3/1, MW3.4,Error ellipse: s-maj=7.1km s-min=4.3km az=0.0*

ISC 07 21:40:26.0±1.2,22.˚29S±0.˚05×67.˚90W±0.˚05, h175km±11km,n37,σ1§08/56,10C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.71**	**201**	*eP*		**Pn**		**21 40 52.4**	**+0.8**
AF01	**San Pedro de A**	**0.71**	**201**	Pg		**Pn**		**21 40 52.3**	**+0.7**
LVC	**Limon Verde**	**0.99**	**251**	*iP*		**Pn**		**21 40 53.7**	**+0.2**
LVC	**Limon Verde**	**0.99**	**251**	Pg		**Pn**		**21 40 53.7**	**+0.2**
LVC	**Limon Verde**	**0.99**	**251**	*eP*		**Pn**		**21 40 53.7**	**+0.2**
PB09	**IPOC Station P**	**1.33**	**291**	*iP*		**Pn**		**21 40 57.2**	**+1.0**
PB09				*i*	S	**Sn**		**21 41 19.3**	**-0.1**
PB06	**IPOC Station P**	**1.60**	**255**	*iP*		**Pn**		**21 40 59.1**	**+0.4**
PB06				*i*	S	**Sn**		**21 41 23.5**	**-0.4**
PB06					IAML			21 41 25.3	
	comp=E,499nm,0.1s								
PB06	**IPOC Station P**	**1.60**	**255**	Pg		**Pn**		**21 40 59.2**	**+0.5**
PB06				Sg		**Sn**		**21 41 23.5**	**-0.4**
PB15	**IPOC Station P**	**1.71**	**237**	*iP*		**Pn**		**21 41 00.6**	**+0.7**
PB15				*i*	S	**Sn**		**21 41 26.2**	**+0.1**
PB15	**IPOC Station P**	**1.71**	**237**	Pg		**Pn**		**21 41 00.6**	**+0.7**
PB03	**IPOC Station P**	**1.73**	**277**	*iP*		**Pn**		**21 41 00.6**	**+0.6**
PB03				*i*	S	**Sn**		**21 41 25.6**	**-0.7**
PB03					IAML			21 41 26.6	
	comp=N,769nm,0.3s								
PB03					IAML			21 41 26.7	
	comp=E,789nm,0.2s								
PB01	**IPOC Station P**	**1.92**	**310**	*iP*		**Pn**		**21 41 02.5**	**+0.5**
PB01				*i*	S	**Sn**		**21 41 29.3**	**-0.6**
PB01					IAML			21 41 31.3	
	comp=N,435nm,0.1s								
PB07	**IPOC Station P**	**1.92**	**286**	*iP*		**Pn**		**21 41 02.8**	**+0.7**
PB07				*i*	S	**Sn**		**21 41 28.9**	**-1.0**
PB07					IAML			21 41 30.8	
	comp=E,642nm,0.4s								
PB04	**IPOC Station P**	**2.08**	**268**	*iP*		**Pn**		**21 41 04.4**	**+0.5**
PB04				*i*	S	**Sn**		**21 41 31.8**	**-1.2**
PB04					IAML			21 41 34.0	
	comp=N,596nm,0.1s								
PB04	**IPOC Station P**	**2.08**	**268**	Pg		**Pn**		**21 41 04.3**	**+0.5**
PB02	**IPOC Station P**	**2.09**	**297**	*iP*		**Pn**		**21 41 04.3**	**+0.5**
PB02				*i*	S	**Sn**		**21 41 31.9**	**-1.1**
PB02					IAML			21 41 33.5	
	comp=N,480nm,0.2s								
PB02	**IPOC Station P**	**2.09**	**297**	Pg		**Pn**		**21 41 04.3**	**+0.5**
PB02				Sg		**Sn**		**21 41 31.9**	**-1.1**
MOCB	**Mochara**	**2.34**	**64**	Pg		**Pn**		**21 41 07.5**	**+0.4**
MOCB				Sg		**Sn**		**21 41 37.7**	**-1.1**
MOCB					IAML			21 41 38.1	
	comp=N,128nm,0.8s								
PB08	**IPOC Station P**	**2.43**	**331**	*i*	P	**Pn**		**21 41 09.7**	**+1.6**
PB08				*i*	S	**Sn**		**21 41 41.5**	**+0.9**
PB08					IAML			21 41 43.3	
	comp=N,116nm,0.3s								
PATCX	**Punta Patache**	**2.55**	**304**	*i*	P	**Pn**		**21 41 09.4**	**+0.3**
PATCX				*i*	S	**Sn**		**21 41 41.4**	**-1.2**
PATCX					IAML			21 41 45.1	
	comp=N,189nm,0.3s								
HMBC	**Humberstone**	**2.72**	**317**	*i*	P	**Pn**		**21 41 11.0**	**-0.2**
HMBC				*i*	S	**Sn**		**21 41 45.0**	**-1.3**
HMBC					IAML			21 41 47.9	
	comp=N,158nm,0.1s								
TA01	**Diego Aracena**	**2.73**	**308**	*eP*		**Pn**		**21 41 11.1**	**0.0**
TA01				*i*	S	**Sn**		**21 41 44.8**	**-1.4**
TA01					IAML			21 41 46.7	
	comp=E,176nm,0.2s								
TA01	**Diego Aracena**	**2.73**	**308**	Pg		**Pn**		**21 41 12.2**	**+1.1**
PB10	**IPOC Station P**	**2.73**	**243**	*iP*		**Pn**		**21 41 11.3**	**+0.1**
PB10				*i*	S	**Sn**		**21 41 44.4**	**-2.0**
PB10					IAML			21 41 46.2	
	comp=N,78nm,0.5s								
GO01	**Chusmiza**	**2.87**	**335**	*eP*		**Pn**		**21 41 15.0**	**+1.7**
GO01	**Chusmiza**	**2.87**	**335**	Pg		**Pn**		**21 41 14.6**	**+1.2**
PB11	**IPOC Station P**	**3.00**	**327**	*iP*		**Pn**		**21 41 14.8**	**+0.2**
PB11				*i*	S	**Sn**		**21 41 51.2**	**-1.2**
PB11					IAML			21 41 54.0	
	comp=E,147nm,0.4s								
PB14	**IPOC Station P**	**3.27**	**224**	*eP*		**Pn**		**21 41 18.3**	**+0.2**
PSGC	**Pisagua**	**3.39**	**322**	*eP*		**Pn**		**21 41 18.7**	**-0.6**
PSGC				*eS*		**Sn**		**21 41 58.5**	**-2.4**
PSGC					IAML			21 42 00.1	
	comp=E,46nm,0.3s								
MNMC	**Minye Minye**	**3.52**	**333**	*eP*		**Pn**		**21 41 22.6**	**+1.4**
MNMC				*eS*		**Sn**		**21 42 03.9**	**-0.2**
PB16	**IPOC Station P**	**4.21**	**339**	*eP*		**Pn**		**21 41 31.5**	**+1.2**
SOET	**ToroToro**	**4.59**	**26**	Pg		**Pn**		**21 41 36.3**	**+1.4**
BBOE	**La Paz, Chanca**	**5.45**	**359**	Pg		**Pn**		**21 41 48.2**	**+1.9**
BBSD	**Serra de San D**	**8.54**	**55**	*eP*		**Pn**		**21 42 23.6**	**-2.8**
PTLB	**Pontes e Lacer**	**10.72**	**52**	*eP*		**Pn**		**21 42 53.9**	**-1.2**
PDRB	**Porto dos Gac**	**15.05**	**47**	*eP*		**P**		**21 43 53.1**	**+1.8**
SNDB	**Serra Nova Dou**	**18.88**	**60**	*eP*		**P**		**21 44 33.3**	**+0.1**

*MOS **07** 21:46:42.3±0.9,55.˚74N×110.˚20E,h8km,mb3.7/1,Error ellipse: s-maj=11.8km s-min=7.6km az=75.6*
*BYKL **07** 21:46:43.7±0.2,55.˚72N×110.˚16E,h7km±3km*
*IDC **07** 21:46:43.0±1.4,55.˚76N×110.˚05E,h0km,mb3.8/5, mbtmp3.8/9,ML3.6/4,Error ellipse: s-maj=27.2km s-min=21.4km az=127.0*

ISC 07 21:46:42.4±1.1,55.§81N±0.˚03×110.˚30E±0.˚02,h3km±8km, n61,σ2§80/123,mb3.8/5,8C-1D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.43**	**265**	*eP*		**Pg**		**21 46 50.2**	**-0.3**
NIZ				*eS*		**Sg**		**21 46 55.3**	**-0.9**
NIZ				*e*				21 46 57.1	
NIZ				Pmax					
	108nm,0.2s								
NIZ				max					
	3µm,0.2s								
NIZ	**Nizh Angarsk**	**0.43**	**265**	*eP*	G	**Pg**		**21 46 50.3**	**-0.3**
NIZ				*e*				21 46 55.3	
NIZ				pmax	pmax				
	comp=Z,230nm,0.1s								
NIZ				smax	smax				
	comp=N,3µm,0.2s								
KMO	**Kumora**	**0.52**	**81**	*iP*	G	**Pb**		**21 46 54.1**	**-0.1**
KMO				*eSg*		**Sb**		**21 47 02.4**	**+0.4**
KMO				Pmax					
	comp=N,310nm,0.5s								
KMO				Smax					
	comp=N,2µm,1.1s								
KMO	**Kumora**	**0.52**	**81**	*iPG*		**Pb**		**21 46 54.0**	**-0.1**
KMO				*e*				21 47 01.0	
KMO				pmax	pmax				
	comp=Z,365nm,0.3s								
KMO				smax	smax				
	comp=N,2µm,0.7s								
YOA	**Uoyan**	**0.86**	**68**	*ePg*		**Pb**		**21 47 00.9**	**+0.8**
YOA				*eSg*		**Sb**		**21 47 13.5**	**+1.4**
YOA				Pmax					
	comp=N,216nm,0.4s								
YOA				Smax					
	comp=N,2µm,0.6s								
YOA	**Uoyan**	**0.86**	**68**	*iPG*		**Pb**		**21 47 00.7**	**+0.6**
YOA				*i*				21 47 14.7	
YOA				pmax	pmax				
	comp=Z,132nm,0.2s								
YOA				smax	smax				
	comp=N,2µm,0.4s								
YLYR	**Ulyunkhan**	**1.06**	**152**	*iPg*		**Pg**		**21 47 01.5**	**-1.2**
YLYR				*eSg*		**Sg**		**21 47 15.5**	**-0.9**
YLYR				Pmax					
	comp=N,302nm,0.5s								
YLYR				Smax					
	comp=N,1µm,0.3s								
YLYR	**Ulyunkhan**	**1.06**	**152**	*iPG*		**Pg**		**21 47 01.5**	**-1.2**
YLYR				*e*				21 47 12.6	
YLYR				pmax	pmax				
	comp=Z,349nm,0.3s								
YLYR				smax	smax				
	comp=N,1µm,0.1s								
SVKR	**Severomuysk**	**1.86**	**79**	*ePn*		**Pg**		**21 47 18.3**	**+0.3**
SVKR				*ePg*		**Pb**		**21 47 19.0**	**+2.0**
SVKR				*eSg*		**Sg**		**21 47 45.2**	**+3.1**
SVKR				Pmax					
	comp=N,559nm,0.4s								
SVKR				Smax					
	comp=N,3µm,0.6s								
UKT	**Uakit**	**1.92**	**98**	*iPg*		**Pb**		**21 47 18.6**	**+0.6**
UKT				*eSg*		**Sg**		**21 47 45.5**	**+1.6**
UKT				Pmax					
	comp=N,573nm,1.0s								
UKT				Smax					
	comp=N,714nm,0.6s								
UKT	**Uakit**	**1.92**	**98**	*ePN*		**Pb**		**21 47 18.6**	**+0.6**
UKT				*e*				21 47 45.0	
UKT				pmax	pmax				
	comp=Z,479nm,0.6s								
UKT				smax	smax				
	comp=N,712nm,0.6s								
SYVR	**Suvo**	**2.17**	**185**	*ePg*		**Pn**		**21 47 20.4**	**+1.0**
SYVR				*e*				21 47 23.0	
SYVR				*eSg*		**Sb**		**21 47 48.8**	**-0.7**
SYVR				max					
	comp=N,206nm,0.6s								
SYVR				Smax					
	comp=N,3µm,0.9s								
SYVR	**Suvo**	**2.17**	**185**	*ePN*		**Pn**		**21 47 20.2**	**+0.8**
SYVR				*e*				21 47 48.9	
SYVR				pmax	pmax				
	comp=Z,210nm,0.5s								
SYVR				smax	smax				
	comp=E,3µm,0.7s								
OGRR	**Ongureny**	**2.68**	**217**	*ePN*		**Pb**		**21 47 29.4**	**-1.6**
OGRR				*e*				21 48 02.3	
OGRR				pmax	pmax				
	comp=Z,76nm,0.3s								
OGRR				smax	smax				
	comp=E,432nm,0.6s								
MXMB	**Maximikha**	**2.71**	**200**	*ePn*		**Pn**		**21 47 27.0**	**+0.1**
MXMB				*ePg*		**Pb**		**21 47 30.4**	**-1.1**
MXMB				*eSg*		**Sb**		**21 48 05.6**	**+0.4**
BOD	**Bodaibo**	**2.86**	**44**	*ePn*		**Pb**		**21 47 32.5**	**-1.6**
BOD				*eSn*		**Sn**		**21 48 06.8**	**+2.9**
BOD				*eSg*		**Sg**		**21 48 15.6**	**+1.3**
BOD				max					
	comp=E,33nm,0.7s								
BOD				Smax					
	comp=E,262nm,0.9s								
BOD	**Bodaibo**	**2.86**	**44**	*ePN*		**Pb**		**21 47 32.0**	**-2.1**
BOD				*e*				21 47 37.6	
BOD				*e*				21 48 15.5	
BOD				pmax	pmax				
	comp=Z,32nm,0.3s								
BOD				smax	smax				
	comp=E,260nm,0.7s								
NLYR	**Nelyaty**	**3.10**	**75**	*iPn*		**Pn**		**21 47 34.8**	**+2.6**
NLYR				*ePg*		**Pb**		**21 47 40.4**	**+2.2**
NLYR				*ePgPg*		**Pg**		**21 47 43.2**	**+1.5**
NLYR				*eSg*		**Sg**		**21 48 22.5**	**+0.6**
NLYR				max					
	comp=E,127nm,0.7s								
NLYR				Smax					
	comp=E,246nm,1.4s								
KELR	**Kotokel**	**3.32**	**204**	*ePn*		**Pn**		**21 47 34.8**	**-0.5**
KELR				*ePg*		**Pb**		**21 47 41.2**	**-0.8**
KELR				*eSg*		**Sb**		**21 48 22.4**	**-0.4**
ZRHB	**Zarechye**	**3.75**	**211**	*ePn*		**Pn**		**21 47 42.1**	**+0.9**
ZRHB				*ePg*		**Pb**		**21 47 49.8**	**+0.5**
ZRHB				*eSg*		**Sb**		**21 48 37.5**	**+2.4**
ZRHB				Pmax					
	comp=E,59nm,0.8s								
ZRHB				Smax					
	comp=E,580nm,1.2s								
VTMR	**Vitim**	**3.83**	**17**	*ePn*		**Pn**		**21 47 45.1**	**+2.8**
VTMR				*ePg*		**Pg**		**21 47 54.5**	**-1.3**
VTMR				*eSn*		**Sn**		**21 48 29.3**	**+1.5**
VTMR				*eSg*		**Sg**		**21 48 46.7**	**+1.3**
TRG	**Tyrgan**	**3.83**	**219**	*iPn*		**Pn**		**21 47 42.2**	**-0.1**
TRG				*eSn*		**Sn**		**21 48 25.5**	**-2.4**
TRG				*eSg*		**Sb**		**21 48 38.7**	**+1.2**
TRG				max					
	comp=E,83nm,0.3s								
TRG				Smax					
	comp=E,183nm,0.5s								
TRG	**Tyrgan**	**3.83**	**219**	*ePN*		**Pn**		**21 47 42.2**	**-0.1**
TRG				*e*				21 47 50.8	
TRG				*eS*		**Sn**		**21 48 25.6**	**-2.4**
TRG				*e*				21 48 38.6	
TRG				pmax	pmax				
	comp=Z,40nm,0.4s								
TRG				smax	smax				
	comp=N,186nm,0.4s								
CIT	**Chita**	**4.26**	**152**	*ePg*		**Pb**		**21 47 58.7**	**+0.8**
CIT				*eSg*		**Sb**		**21 48 55.0**	**+5.3**
CIT				Pmax					
	comp=N,119nm,0.8s								
CIT				Smax					
	comp=N,161nm,0.5s								
CIT	**Chita**	**4.26**	**152**	*ePN*		**Pn**		**21 47 45.5**	**-2.7**
CIT				*e*				21 47 58.4	
CIT				*eS*		**Sn**		**21 48 35.6**	**-2.8**
CIT				*e*				21 48 50.9	
CIT				pmax	pmax				
	comp=Z,120nm,0.6s								
CIT				smax	smax				
	comp=E,192nm,0.8s								
FFNB	**Fofonovo**	**4.31**	**210**	*ePn*		**Pn**		**21 47 49.6**	**+0.7**
FFNB				*ePg*		**Pb**		**21 47 58.8**	**0.0**
FFNB				*eSg*		**Sb**		**21 48 53.4**	**+2.2**
STDB	**Stepnoy Dvoret**	**4.33**	**214**	*ePn*		**Pn**		**21 47 50.7**	**+1.7**
STDB				*eSg*		**Sb**		**21 48 53.8**	**+2.2**
KAB	**Kabansk**	**4.34**	**211**	*eSg*		**Sb**		**21 48 55.1**	**+3.1**
KAB				Smax					
	comp=E,344nm,0.8s								
CRS	**Chara**	**4.57**	**73**	*ePn*		**Pn**		**21 47 55.3**	**+2.9**
CRS				*ePg*		**Pg**		**21 48 07.8**	**-2.0**
CRS				*eSg*		**Sg**		**21 49 08.6**	**-0.3**
CRS				Pmax					
	comp=E,88nm,0.9s								
CRS				Smax					
	comp=E,99nm,1.0s								
CRS	**Chara**	**4.57**	**73**	*ePN*		**Pn**		**21 47 55.2**	**+2.9**
CRS				*e*				21 48 07.4	
CRS				*e*				21 49 08.0	
CRS				pmax	pmax				
	comp=Z,88nm,0.6s								
CRS				smax	smax				
	comp=E,99nm,0.6s								
BGT	**Bolshoye Golou**	**4.75**	**219**	*ePn*		**Pn**		**21 47 54.7**	**-0.2**
BGT				*eSn*		**Sn**		**21 48 47.2**	**-3.3**
BGT				*eSg*		**Sb**		**21 49 08.0**	**+4.1**
BGT				max					
	comp=E,84nm,0.4s								
BGT				Smax					
	comp=E,142nm,0.8s								
IRK	**Irkutsk**	**5.04**	**227**	*eSn*		**Sn**		**21 48 54.2**	**-3.4**
IRK				*eSg*		**Sb**		**21 49 15.3**	**+3.2**
IRK				Smax					
	comp=E,315nm,0.5s								
LSTR	**Listvyanka**	**5.11**	**222**	*ePn*		**Pn**		**21 47 59.2**	**-0.6**
LSTR				*e*				21 48 07.5	
LSTR				*eSn*		**Sn**		**21 48 55.0**	**-4.2**
LSTR				*eSg*		**Sb**		**21 49 16.7**	**+2.6**
LSTR				max					
	comp=E,22nm,0.5s								
LSTR				Smax					
	comp=E,73nm,0.6s								
IVK	**Ivanovka**	**5.32**	**223**	*ePn*		**Pn**		**21 48 01.7**	**-1.0**
IVK				*eSn*		**Sn**		**21 48 59.6**	**-4.9**
IVK				*eSg*		**Sb**		**21 49 23.9**	**+3.7**
IVK				max					
	comp=E,26nm,0.8s								
IVK				Smax					
	comp=E,123nm,1.1s								
KHNR	**Khani**	**5.50**	**74**	*ePn*		**Pn**		**21 48 08.5**	**+3.4**
KHNR				*ePg*		**Pg**		**21 48 24.5**	**-3.1**
KHNR				*eSg*		**Sg**		**21 49 37.1**	**-1.7**
TUP	**Tupik**	**5.71**	**100**	*ePn*		**Pn**		**21 48 09.5**	**+1.4**
TUP				*ePg*		**Pb**		**21 48 27.0**	**+4.3**
TUP				*eSg*		**Sg**		**21 49 43.1**	**-2.7**
TUP				*e*				21 50 00.3	
TUP				Smax					
	comp=E,183nm,1.0s								
TLY	**Talaya**	**5.72**	**226**	*ePn*		**Pn**		**21 48 07.0**	**-1.2**
TLY				*eSn*		**Sn**		**21 49 09.9**	**-4.4**
TLY				*eSg*		**Sb**		**21 49 37.2**	**+5.5**
TLY				max					
	comp=E,10.0nm,0.5s								
TLY				Smax					
	comp=E,78nm,0.9s								
ARS	**Arshan**	**6.07**	**233**	*iPn*		**Pn**		**21 48 12.4**	**-0.7**
ARS				*ePg*		**Pb**		**21 48 31.4**	**+2.6**
ARS				*eSn*		**Sn**		**21 49 18.6**	**-4.5**
ARS				*eSg*		**Sb**		**21 49 49.0**	**+7.1**
ARS				Pmax					
	comp=E,60nm,0.9s								
ARS				Smax					
	comp=E,370nm,1.1s								
KPC	**Khapcheranga**	**6.25**	**167**	*ePn*		**Pn**		**21 48 14.8**	**-0.7**
KPC				*ePg*		**Pb**		**21 48 34.2**	**+2.4**
KPC				*eSn*		**Sn**		**21 49 23.3**	**-4.2**
KPC				*eSg*		**Sb**		**21 49 55.1**	**+8.1**
KPC				Pmax					
	comp=E,16nm,0.9s								
KPC				Smax					
	comp=E,110nm,1.3s								
KPC	**Khapcheranga**	**6.25**	**167**	*ePN*		**Pn**		**21 48 15.1**	**-0.4**
KPC				*e*				21 48 33.1	
KPC				*eS*		**Sn**		**21 49 22.0**	**-5.5**
KPC				*e*				21 49 51.8	
KPC				pmax	pmax				
	comp=Z,16nm,0.6s								
KPC				smax	smax				
	comp=E,111nm,1.3s								
YKLR	**Yuktali**	**6.39**	**78**	*ePg*		Pg		21 48 40.4	-4.3
YKLR				*eSg*		**Sg**		**21 50 04.6**	**-2.7**
ZAK	**Zakamensk**	**6.88**	**221**	*ePn*		**Pn**		**21 48 24.1**	**-0.2**
ZAK				*eSn*		**Sn**		**21 49 39.2**	**-4.0**
ZAK				*eSg*		**Sb**		**21 50 12.1**	**+6.8**
ZAK				max					
	comp=E,15nm,0.8s								
ZAK				Smax					
	comp=E,72nm,1.3s								
ZAK	**Zakamensk**	**6.88**	**221**	*ePN*		**Pn**		**21 48 24.2**	**-0.1**
ZAK				*eS*		**Sn**		**21 49 43.0**	**-0.2**
ZAK				*e*				21 50 12.2	
ZAK				pmax	pmax				
	comp=Z,15nm,0.6s								
ZAK				smax	smax				
	comp=E,72nm,1.1s								
MOY	**Mondy**	**6.90**	**237**	*ePn*		**Pn**		**21 48 25.0**	**+0.4**
MOY				*e*				21 48 33.2	
MOY				*eSn*		**Sn**		**21 49 39.2**	**-4.4**
MOY				*eSg*		**Sb**		**21 50 13.7**	**+7.9**
MOY				max					
	comp=E,99nm,1.0s								
MOY				Smax					
	comp=E,124nm,1.3s								
MOY	**Mondy**	**6.90**	**237**	*ePN*		**Pn**		**21 48 25.3**	**+0.7**
MOY				*e*				21 48 46.1	
MOY				*eS*		**Sn**		**21 49 39.8**	**-3.8**
MOY				*e*				21 50 12.3	
MOY				pmax	pmax				
	comp=Z,19nm,0.4s								
MOY				smax	smax				
	comp=E,121nm,1.4s								
ORL	**Orlik**	**6.97**	**246**	*ePn*		**Pn**		**21 48 25.5**	**0.0**
ORL				*eSn*		**Sn**		**21 49 41.2**	**-4.1**
ORL				*eSg*		**Sb**		**21 50 16.0**	**+8.2**
ORL				max					
	comp=E,41nm,1.1s								
ORL				Smax					
	comp=E,87nm,1.1s								
ORL	**Orlik**	**6.97**	**246**	*ePN*		**Pn**		**21 48 26.1**	**+0.6**
ORL				*e*				21 48 47.0	
ORL				*eS*		**Sn**		**21 49 42.1**	**-3.2**
ORL				*e*				21 50 15.4	
ORL				pmax	pmax				
	comp=Z,41nm,0.9s								
ORL				smax	smax				
	comp=N,86nm,1.2s								
IENR	**Iengra**	**8.17**	**81**	*ePn*		**Pn**		**21 48 43.9**	**+2.0**
IENR				*ePg*		Pg		21 49 12.5	-6.2
IENR				*eSg*		**Sg**		**21 51 00.5**	**-4.0**
CLNS	**Chul'man**	**8.18**	**77**	*eSg*		**Sg**		**21 51 00.4**	**-4.4**
SONM	**Songino Array**	**8.35**	**198**	Pn		**Pn**		**21 48 45.0**	**+0.7**
	comp=N,0.5nm,0.3s,baz=13,slow=13,SNR=10								
SONM				Lg		Lg		21 51 02.9	
	comp=N,1.2nm,0.3s,baz=19,slow=28,SNR=13								
	comp=N,0.8nm,0.3s								
KLR	**Kul'dur**	**14.59**	**108**	Pn		**Pn**		**21 50 11.4**	**+1.8**
	comp=N,0.1nm,0.3s,baz=298,slow=15,SNR=2.6						

ILAR	**Eielson Array**	**46.20**	**35**	P		**P**		**21 55 10.4**	**+2.4**	
	comp=N,0.4nm,0.8s,baz=306,slow=9.1,SNR=5.9									
	comp=N,0.4nm,0.8s									

IDC ***07*** *22:19:02.0±0.7,4.°32S×153.°05E,h0km,mb4.0/10, mbtmp4.0/11,ML2.3/1,MS2.9/3,Error ellipse: s-maj=17.4km s-min=15.5km az=20.0*

NEIC ***07*** *22:19:08.0±0.9,4.°35S±0.°09×153.°01E±0.°07,h35km±6km, mb4.4/19,Error ellipse: s-maj=12.8km s-min=9.7km az=163.0*

ISC 07 22:19:07.4±0.5,4.°37S±0.°07×153.°03E±0.°06,h35km,n42, σ0.85/47,mb4.3/18,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**0.88**	**282**	Pn		**Pn**	**22 19 23.6**	**+0.2**
RABL				Sn		**Sn**	**22 19 35.7**	**+0.7**
KRVT	**Keravat (AS076**	**1.00**	**274**	Pn		**Pn**	**22 19 24.4**	**-0.6**
	273nm,0.3s,baz=258,slow=2.7,SNR=173							
KRVT				Sn		**Sn**	**22 19 39.0**	**+1.0**
	251nm,0.3s,baz=180,slow=16,SNR=6.6							
PMG	**Port Moresby**	**7.68**	**229**	Pn		**Pn**	**22 20 54.8**	**-2.1**
	2.4nm,0.3s,baz=27,slow=17,SNR=1.5							
PMG				Sn		**Sn**	**22 22 25.1**	**+2.4**
	4.2nm,0.3s,baz=333,slow=18,SNR=2.0							
PMG				LR		LR	22 23 59.0	
	comp=Z,113nm,20.6s,baz=338,slow=38							
	8.8nm,0.3s							
HNR	**Honiara**	**8.51**	**127**	Pn		**Pn**	**22 21 07.4**	**-0.8**
	68nm,0.3s,baz=280,slow=12,SNR=2.0							
HNR				Sn		**Sn**	**22 22 44.9**	**+1.8**
	61nm,0.3s,baz=249,slow=19,SNR=1.9							
PATS	**Pohnpei**	**12.32**	**25**	Pn		**Pn**	**22 22 01.2**	**+0.7**
CTA	**Charters Tower**	**16.96**	**202**	LR		LR	22 28 48.8	
	comp=Z,46nm,19.2s,baz=81,slow=34							
DZM	**Mont Dzumac**	**21.88**	**145**	P		**P**	**22 23 56.1**	**-1.4**
	5.6nm,0.8s,baz=302,slow=13,SNR=2.1							
DZM				LR		LR	22 31 22.2	
	comp=Z,24nm,20.2s,baz=352,slow=34							
	5.6nm,0.8s							
DZM	**Mont Dzumac**	**21.88**	**145**	P		**P**	**22 23 57.1**	**-0.4**
DZM				IAmb		IAmb	22 23 58.3	
	comp=Z,24nm,1.2s							
MTN	**Manton Dam**	**23.21**	**247**	P		**P**	**22 24 11.1**	**-0.5**
MTN				IAmb		IAmb	22 24 16.5	
	comp=Z,45nm,1.4s							
WB0	**Warramunga Arr**	**23.75**	**228**	P		**P**	**22 24 16.5**	**-0.3**
WB0				IAmb		IAmb	22 24 18.5	
	comp=Z,6.0nm,0.7s							
WB2	**Warramunga Arr**	**23.89**	**228**	P		**P**	**22 24 17.5**	**-0.6**
WB2				IAmb		IAmb	22 24 19.2	
	comp=Z,7.5nm,0.9s							
WRA	**Warramunga Arr**	**23.90**	**228**	P		**P**	**22 24 18.1**	**0.0**
	comp=Z,6.1nm,0.5s,baz=54,slow=9.9,SNR=70							
WRA				PcP		**PcP**	**22 28 00.9**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=48,slow=2.2,SNR=6.8							
	comp=Z,6.1nm,0.5s							
WRA	**Warramunga Arr**	**23.90**	**228**	P		**P**	**22 24 17.1**	**-1.1**
ARMA	**Armidale**	**25.94**	**183**	P		**P**	**22 24 37.5**	**+0.7**
ARMA				IAmb		IAmb	22 24 46.1	
	comp=Z,25nm,1.4s							
KNRA	**Kununurra**	**26.37**	**243**	P		**P**	**22 24 42.0**	**+1.3**
AS31	**Alice Springs**	**26.62**	**222**	P		**P**	**22 24 42.3**	**-0.6**
ASAR	**Alice Springs**	**26.62**	**222**	P		**P**	**22 24 42.8**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=56,slow=9.2,SNR=16							
ASAR				PcP		**PcP**	**22 28 07.0**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=69,slow=2.7,SNR=4.7							
	comp=Z,0.9nm,0.5s							
ASAR	**Alice Springs**	**26.62**	**222**	P		**P**	**22 24 42.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.06**	**241**	P		**P**	**22 25 13.1**	**-0.5**
FORT	**Forrest**	**35.26**	**219**	P		**P**	**22 25 58.8**	**-0.2**
MBWA	**Marble Bar**	**36.38**	**240**	P		**P**	**22 26 08.1**	**-0.6**
TCW	**Tory Channel**	**41.34**	**156**	P		**P**	**22 26 50.1**	**+0.2**
TUWZ	**Tuamarina**	**41.38**	**156**	P		**P**	**22 26 50.6**	**+0.4**
RPZ	**Rata Peaks**	**42.30**	**161**	P		**P**	**22 26 58.5**	**+0.7**
	comp=Z,6.6nm,0.7s,baz=338,slow=5.4,SNR=3.2							
	comp=Z,6.6nm,0.7s							
MORW	**Morawa**	**42.79**	**231**	P		**P**	**22 27 01.4**	**-0.6**
MORW				IAmb		IAmb	22 27 10.6	
	comp=Z,23nm,1.4s							
PETK	**Petropavlovsk-**	**57.40**	**3**	P		**P**	**22 28 51.4**	**-1.0**
	comp=Z,4.6nm,1.0s,baz=210,slow=8.0,SNR=1.6							
	comp=Z,4.6nm,1.0s							
SONM	**Songino Array**	**66.09**	**328**	P		**P**	**22 29 51.5**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=151,slow=6.8,SNR=4.2							
	comp=Z,0.5nm,0.6s							
SONM	**Songino Array**	**66.09**	**328**	P		**P**	**22 29 51.3**	**+0.2**
SONM				IAmb		IAmb	22 29 51.7	
	comp=Z,2.2nm,1.3s							
VNDA	**Vanda**	**73.25**	**178**	P		**P**	**22 30 35.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=334,slow=7.2,SNR=7.5							
	comp=Z,1.1nm,0.6s							
VNDA	**Vanda**	**73.25**	**178**	P		**P**	**22 30 35.7**	**+1.1**
VNDA				IAmb		IAmb	22 30 45.1	
	comp=Z,2.3nm,0.9s							
MKAR	**Makanchi Array**	**80.16**	**319**	P		**P**	**22 31 14.3**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=107,slow=5.4,SNR=4.3							
	comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**80.16**	**319**	P		**P**	**22 31 14.2**	**0.0**
MAKZ	**Makanchi**	**80.36**	**319**	P		**P**	**22 31 15.4**	**+0.1**
ZALV	**Zalesovo Beam**	**80.92**	**326**	P		**P**	**22 31 17.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=1.8							
	comp=Z,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**80.92**	**326**	P		**P**	**22 31 17.6**	**-0.5**
ILAR	**Eielson Array**	**81.68**	**22**	P		**P**	**22 31 22.0**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=266,slow=5.6,SNR=4.4							
	comp=Z,0.3nm,0.8s							
J25K	**Salcha River,**	**82.17**	**23**	P		**P**	**22 31 24.6**	**0.0**
J25K				IAmb		IAmb	22 31 38.7	
	comp=Z,5.5nm,1.4s							
M27K	**Edge Creek, AK**	**82.59**	**25**	P		**P**	**22 31 27.2**	**+0.3**
M27K				IAmb		IAmb	22 31 54.0	
	comp=Z,9.2nm,1.4s							
QSPA	**South Pole Qui**	**85.59**	**180**	P		**P**	**22 31 42.4**	**+0.3**
BRVK	**Borovoye**	**89.10**	**323**	P		**P**	**22 31 58.5**	**-0.6**
BRVK				IAmb		IAmb	22 31 59.0	
	comp=Z,1.2nm,0.8s							
GERES	**GERESS Array B**	**123.81**	**329**	PKP		**PKPdf**	**22 38 00.3**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=46,slow=2.8,SNR=4.0							
BDFB	**Brasilia**	**151.20**	**134**	PKPbc		**PKPbc**	**22 38 58.5**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=167,slow=1.5,SNR=3.7							

JMA 07 23:02:53.6±0.0,36.°8N±0.°1×140.°6E±0.°3,h6km,MV0.5/9, NORTHERN IBARAKI PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.19**	**182**	*e*P		Pg	23 02 57.5	+0.1
JHO				*e*S		Sg	23 03 00.1	+0.2
JFFD	**Fukushimafurud**	**0.29**	**357**	*e*P		Pg	23 02 59.6	+0.3

IDC ***07*** *23:19:44.4±0.5,36.°77N×68.°48E,h0km,mb4.5/36, mbtmp4.5/42,ML3.9/6,MS3.9/60,Error ellipse: s-maj=10.6km s-min=9.1km az=156.0*

BJI ***07*** *23:19:45.0±0.0,36.°90N×68.°50E,h10km,mb4.6/52, mB4.9/32,ML4.7/1,Ms4.7/45,Ms7 4.4/43*

NNC ***07*** *23:19:45.9±2.9,37.°19N×68.°04E,h0km,mb5.1,mpv4.9, Error ellipse: s-maj=36.1km s-min=19.2km az=151.0*

MOS ***07*** *23:19:45.8±1.0,36.°91N×68.°49E,h19km,mb5.0/79,Error ellipse: s-maj=4.0km s-min=3.2km az=107.9*

NEIC ***07*** *23:19:47.2±1.2,36.°90N±0.°04×68.°42E±0.°07,h14km±4km, mb4.9/113,Error ellipse: s-maj=8.1km s-min=6.1km az=69.0*

ISC 07 23:19:49.0±0.2,36.°86N±0.°03×68.°48E±0.°03,h30km,n647, σ1.9/58/671,mb4.8/183,MS4.0/71,41C-33D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHGR	**Chuyangaron**	**1.88**	**17**			**Pn**	**23 20 19.3**	**+0.2**
CHGR	**Chuyangaron**	**1.88**	**17**	PN		**Pn**	**23 20 19.3**	**+0.2**
KBL	**Kabul**	**2.36**	**169**	Pn		**Pn**	**23 20 27.7**	**+1.9**
KBL	**Kabul**	**2.36**	**169**	PN		**Pn**	**23 20 27.7**	**+1.9**
KBL	**Kabul**	**2.36**	**169**	P		**Pn**	**23 20 28.3**	**+2.5**
	SNR=817							
GAR	**Garm**	**2.59**	**34**	Pn		**Pn**	**23 20 29.4**	**+0.5**
CEP	**Cherat**	**4.13**	**136**	P		**Pn**	**23 20 53.7**	**+3.6**
CEP				S		**Sb**	**23 21 50.0**	**-0.4**
TAS	**Tashkent**	**4.51**	**8**			**Pn**	**23 20 55.2**	**0.0**
TAS	**Tashkent**	**4.51**	**8**	PN		**Pn**	**23 20 55.2**	**0.0**
THW	**Thamme Wali**	**4.86**	**146**	P		**Pn**	**23 21 01.5**	**+1.4**
NIL	**Nilore**	**5.05**	**128**	Pn		**Pn**	**23 21 04.9**	**+2.2**
NIL	**Nilore**	**5.05**	**128**	PN		**Pn**	**23 21 04.9**	**+2.2**
NIL	**Nilore**	**5.05**	**128**	P		**Pn**	**23 21 04.2**	**+1.5**
CHCP	**Chirah Chowk**	**5.05**	**128**	P		**Pn**	**23 21 05.2**	**+2.5**
IUG	**Iuzhnay**	**5.42**	**12**	*e*Pn		**Pn**	**23 21 07.8**	**0.0**
	baz=13							
IUG				*e*Sn		**Sn**	**23 22 07.5**	**-1.6**
	baz=13							
IUG	**Iuzhnay**	**5.42**	**12**	*e*PN		**Pn**	**23 21 07.8**	**0.0**
IUG				*e*			23 22 07.5	
HRA	**Herat**	**5.64**	**246**			**Pn**	**23 21 10.8**	**-0.2**
DZA	**Taraz**	**6.42**	**19**	*e*Pn		**Pn**	**23 21 22.2**	**+0.7**
	baz=20							
DZA	**Taraz**	**6.42**	**19**	*e*PN		**Pn**	**23 21 22.1**	**+0.7**
KK31	**Karatay Array**	**6.43**	**13**			**Pn**	**23 21 21.3**	**-0.3**
KK31	**Karatay Array**	**6.43**	**13**	⇓Pn		**Pn**	**23 21 21.3**	**-0.3**
	12nm,0.4s,baz=202,slow=14,SNR=211							
KK31				⇑Pg		**Pb**	**23 21 42.0**	**+1.9**
	42nm,0.5s,baz=202,slow=16,SNR=6.4							
KK31				⇑Sn		**Sn**	**23 22 32.6**	**-1.4**
	50nm,0.5s,baz=205,slow=17,SNR=4.5							
KK31				⇓Lg		Lg	23 23 02.8	
	56nm,0.5s,baz=206,slow=29,SNR=5.8							
KK31	**Karatay Array**	**6.43**	**13**	PN		**Pn**	**23 21 21.3**	**-0.3**
KKAR	**Karatay Array**	**6.43**	**13**			**Pn**	**23 21 21.5**	**-0.1**
KKAR	**Karatay Array**	**6.43**	**13**			**Pn**	**23 21 21.2**	**-0.4**
KKAR	**Karatay Array**	**6.43**	**13**	PN		**Pn**	**23 21 21.5**	**-0.1**
KSH	**Kashi**	**6.47**	**64**	P		**Pn**	**23 21 19.0**	**-3.3**
KSH				pP		Pn	23 21 22.2	-0.1
KSH				S		**Sn**	**23 22 32.8**	**-2.4**
KSH				pmax		pmax		
	comp=Z,74nm,0.7s							
KSH				smax		smax		
	comp=N,590nm,1.1s							
KSH				smax		smax		
	comp=E,480nm,1.4s							
KSH				LR		LR		
	comp=N,5μm,4.4s							
KSH				LR		LR		
	comp=E,9μm,5.4s							
KSH				LR		LR		
	comp=Z,5μm,6.0s							
AML	**Almayashu**	**6.63**	**36**	P		**Pn**	**23 21 25.3**	**+0.6**
	SNR=26							
JMU	**Jammu**	**6.71**	**126**	*e*P		**Pn**	**23 21 27.3**	**+1.9**
EKS2	**Erkin-Say**	**7.09**	**34**	P		**Pn**	**23 21 31.9**	**+1.1**
	SNR=29							
UCH	**Uchtor**	**7.11**	**39**	P		**Pn**	**23 21 32.3**	**+1.0**
	SNR=44							
AAK	**Ala-Archa**	**7.40**	**37**	P		**Pn**	**23 21 35.7**	**+0.6**
	SNR=27							
AAK	**Ala-Archa**	**7.40**	**37**	Pn		**Pn**	**23 21 35.4**	**+0.3**
	comp=Z,8.3nm,0.3s,baz=271,slow=6.8,SNR=56							
AAK				Sn		**Sn**	**23 22 57.6**	**-0.5**
	baz=24,slow=23							
AAK				Lg		Lg	23 23 43.1	
	comp=Z,6.3nm,0.3s,baz=167,slow=23,SNR=1.7							
AAK				LR		LR	23 24 51.5	
	comp=Z,1μm,19.8s,baz=234,slow=41							
	comp=Z,21nm,0.3s							
AAK	**Ala-Archa**	**7.40**	**37**	*i* P		**Pn**	**23 21 35.7**	**+0.6**
	SNR=66							
AAK	**Ala-Archa**	**7.40**	**37**	P		**Pn**	**23 21 35.8**	**+0.7**
KBK	**Karagaybulak**	**7.64**	**39**	P		**Pn**	**23 21 39.4**	**+1.1**
	SNR=212							
CHMS	**Chumysh**	**7.80**	**36**	P		**Pn**	**23 21 40.6**	**+0.2**
	SNR=70							
CHMS	**Chumysh**	**7.80**	**36**	⇓Pn		**Pn**	**23 21 40.4**	**0.0**
CHMS	comp=Z,112nm,0.8s			⇓Sn		**Sn**	**23 23 09.6**	**+1.9**
	comp=Z,172nm,1.0s							
CHMS				⇓Lg		Lg	23 23 51.7	
	comp=Z,209nm,1.0s							
USP	**Ospenovka**	**7.89**	**34**	P		**Pn**	**23 21 42.2**	**+0.5**
	SNR=34							
ULHL	**Ulahol**	**8.06**	**46**	P		**Pn**	**23 21 44.5**	**+0.4**
	SNR=29							
SGDS	**Sogindy**	**8.10**	**34**	⇑*i*Pn		**Pn**	**23 21 44.4**	**-0.2**
	baz=35							
SGDS				*e*Sn		**Sn**	**23 23 13.9**	**-1.2**
	baz=35							
SGDS				*e*Lg		Lg	23 24 00.5	
	baz=35							
SGDS	**Sogindy**	**8.10**	**34**	*c i*P		**Pn**	**23 21 44.3**	**-0.2**
SGDS				*e*			23 23 13.8	
TKM2	**Tokmak 2**	**8.16**	**40**	P		**Pn**	**23 21 46.1**	**+0.5**
	SNR=20							
TKM2	**Tokmak 2**	**8.16**	**40**	⇓Pn		**Pn**	**23 21 45.3**	**-0.3**
	comp=Z,72nm,0.5s							
TKM2				⇑Sn		**Sn**	**23 23 18.3**	**+1.5**
	comp=Z,88nm,1.0s							
TKM2				⇓Lg		Lg	23 24 03.7	
	comp=Z,144nm,1.2s							
GEYT	**Alibeck**	**8.31**	**281**	Pn		**Pn**	**23 21 42.8**	**-4.7**
	comp=Z,3.0nm,0.3s,baz=112,slow=11,SNR=20							
GEYT				Sn		**Sn**	**23 23 18.7**	**-1.7**
	comp=Z,8.2nm,0.3s,baz=113,slow=22,SNR=2.4							
GEYT				Lg		Lg	23 24 17.9	
	baz=121,slow=28							
GEYT	**Alibeck**	**8.31**	**281**			**Pn**	**23 21 44.6**	**-2.9**
GEYT	**Alibeck**	**8.31**	**281**	P		**Pn**	**23 21 44.6**	**-2.9**
GYA0	**ALIBECK ARRAY**	**8.31**	**281**	P		**Pn**	**23 21 44.6**	**-2.9**
GYA0B	**ALIBECK ARRAY**	**8.31**	**281**			**Pn**	**23 21 44.8**	**-2.7**
GYA0B	**ALIBECK ARRAY**	**8.31**	**281**	⇓Pn		**Pn**	**23 21 43.4**	**-4.1**
TARG	**Taragay, Kyrgy**	**8.71**	**53**			**Pn**	**23 21 52.8**	**-0.5**
TARG	**Taragay, Kyrgy**	**8.71**	**53**	P		**Pn**	**23 21 52.8**	**-0.5**
TNSS	**Tian-Shan**	**8.96**	**44**	*i* Pn		**Pn**	**23 21 57.2**	**+0.4**
	baz=45							
TNSS	**Tian-Shan**	**8.96**	**44**	*i* P		**Pn**	**23 21 57.1**	**+0.4**
AAA	**Alma-Ata**	**9.06**	**43**	*e*Pn		**Pn**	**23 21 58.9**	**+1.2**
	baz=44							
AAA	**Alma-Ata**	**9.06**	**43**	*e*P		**Pn**	**23 21 58.9**	**+1.2**
MDOK	**Meo**	**9.10**	**44**	⇑Pn		**Pn**	**23 21 58.2**	**-0.2**
	comp=Z,84nm,0.7s							
MDOK				⇑Lg		Lg	23 24 36.3	
	comp=Z,132nm,1.3s							
MDOK	**Medeo**	**9.10**	**44**	*e*Pn		**Pn**	**23 21 58.7**	**+0.3**
	baz=45							
MDOK				*e*Lg		Lg	23 24 34.0	
	baz=45							
MDOK	**Medeo**	**9.10**	**44**	*e*P		**Pn**	**23 21 58.7**	**+0.3**
BTLS	**Baital**	**9.20**	**26**	*e*Pn		**Pn**	**23 22 00.4**	**+0.9**
	baz=26							
BTLS	**Baital**	**9.20**	**26**	*e*P		**Pn**	**23 22 00.3**	**+0.9**
KUU	**Kurty**	**9.24**	**38**	*i* Pn		**Pn**	**23 21 59.6**	**-0.5**
	baz=39							
KUU	**Kurty**	**9.24**	**38**	*i* P		**Pn**	**23 21 59.5**	**-0.5**
CHKK	**Chushkaly**	**9.54**	**40**	*e*Pn		**Pn**	**23 22 03.2**	**-1.0**
	baz=41							
CHKK	**Chushkaly**	**9.54**	**40**	*e*P		**Pn**	**23 22 03.2**	**-1.0**
SATY	**Saty**	**9.82**	**48**	*e*Pn		**Pn**	**23 22 08.0**	**-0.2**
	baz=49							
SATY	**Saty**	**9.82**	**48**	*e*P		**Pn**	**23 22 07.9**	**-0.2**
ZHN	**Zhinishke**	**9.90**	**47**	*i* Pn		**Pn**	**23 22 09.3**	**0.0**
	baz=48							
ZHN	**Zhinishke**	**9.90**	**47**	*i* P		**Pn**	**23 22 09.2**	**0.0**
KPKS	**Kokpek**	**10.22**	**47**	*i* Pn		**Pn**	**23 22 13.2**	**-0.5**
	baz=48							
KPKS	**Kokpek**	**10.22**	**47**	*i* P		**Pn**	**23 22 13.1**	**-0.5**
UZB	**Uzunbulak**	**10.24**	**49**	*i* Pn		**Pn**	**23 22 13.6**	**-0.4**
	baz=50							
UZB	**Uzunbulak**	**10.24**	**49**	*i* P		**Pn**	**23 22 13.5**	**-0.4**
DDI	**Dehra Dun**	**10.31**	**126**	*e*P		**Pn**	**23 22 14.8**	**0.0**
SHLS	**Shalkode**	**10.51**	**50**	*i* Pn		**Pn**	**23 22 21.0**	**+3.3**
	baz=52							
SHLS	**Shalkode**	**10.51**	**50**	*i* P		**Pn**	**23 22 20.9**	**+3.3**
NDI	**New Delhi**	**10.97**	**135**	*e*P		**Pn**	**23 22 23.5**	**-0.4**
NDI				*e*P		Pn	23 22 29.4	+5.5
NDI				*e*S		**Sn**	**23 24 21.7**	**-4.0**
NDI				*e*S		**Sn**	**23 24 23.0**	**-2.7**
NDI				IAML			23 24 31.0	
	comp=N,62nm,0.5s							
NDI				IAML			23 24 32.6	
	comp=E,74nm,0.5s							
KUDL	**Kundal**	**11.01**	**140**	*e*P		**Pn**	**23 22 22.9**	**-1.4**
KUDL				*e*S		**Sn**	**23 24 22.1**	**-4.3**
TDK	**Taldyqorghan**	**11.07**	**40**	*e*Pn		**Pn**	**23 22 24.6**	**-0.5**
	baz=40							
TDK	**Taldyqorghan**	**11.07**	**40**	*e*P		**Pn**	**23 22 24.6**	**-0.5**
AJM	**Ajmer**	**11.60**	**151**	*e*P		**Pn**	**23 22 36.6**	**+4.1**
BRZS	**Berezniki**	**13.47**	**12**	*e*P		**P**	**23 23 04.9**	**-1.9**
AB31	**Akbulak array**	**13.86**	**336**	⇑P		**Pn**	**23 22 59.3**	**-3.9**
	comp=E,14nm,0.4s							
AB31	**Akbulak array**	**13.86**	**336**	*i* P		**Pn**	**23 22 59.3**	**-3.9**
AB31				pmax		pmax		
	comp=Z,14nm,0.4s							
ABKAR	**Akbulak array**	**13.86**	**336**	Pn		**Pn**	**23 22 59.4**	**-3.9**
ABKAR	**Akbulak array**	**13.86**	**336**	Pn		**Pn**	**23 22 59.2**	**-4.1**
MAKZ	**Makanchi**	**14.13**	**41**	Pn		**Pn**	**23 23 04.8**	**-2.2**
MAKZ	**Makanchi**	**14.13**	**41**	⇑P		**Pn**	**23 23 04.3**	**-2.7**
	comp=Z,25nm,0.8s							
MAKZ	**Makanchi**	**14.13**	**41**	P		**Pn**	**23 23 04.8**	**-2.2**
JASK	**Jask - Hormozg**	**14.21**	**223**	P		**Pn**	**23 23 11.5**	**+3.4**
MK31	**Makanchi Array**	**14.29**	**42**			**Pn**	**23 23 07.1**	**-2.0**
MK31	**Makanchi Array**	**14.29**	**42**	⇑P		**Pn**	**23 23 06.5**	**-2.6**
	comp=Z,32nm,0.8s,baz=227,slow=8.6,SNR=244							
MK31	**Makanchi Array**	**14.29**	**42**	*i* P		**Pn**	**23 23 07.2**	**-1.9**
MKAR	**Makanchi Array**	**14.29**	**42**	Pn		**Pn**	**23 23 07.1**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=235,slow=13,SNR=177							
MKAR				Lg		Lg	23 27 23.4	
	comp=Z,0.2nm,0.3s,baz=224,slow=14,SNR=2.9							
MKAR				LR		LR	23 29 18.7	
	comp=Z,788nm,21.6s,baz=246,slow=40							
	comp=Z,24nm,0.8s							
MKAR	**Makanchi Array**	**14.29**	**42**	Pn		**Pn**	**23 23 06.7**	**-2.4**
SHME	**Shamn**	**15.05**	**228**	P		**P**	**23 23 23.0**	**-1.5**
BANOM	**Banah**	**15.05**	**227**	P		**Pn**	**23 23 21.5**	**+2.0**
BANOM	**Banah**	**15.05**	**227**	P		**P**	**23 23 22.6**	**-1.9**
DANN	**Dangsing**	**15.41**	**119**	*e*P		**Pn**	**23 23 20.4**	**-4.1**
AKTO	**Aktyubinsk**	**15.52**	**334**	Pn		**Pn**	**23 23 22.4**	**-3.1**
	comp=Z,1.4nm,0.3s,baz=150,slow=12,SNR=58							
AKTO				Sn		**Sn**	**23 26 09.8**	**-6.5**
	comp=Z,0.3nm,0.3s,baz=152,slow=21,SNR=1.8							
AKTO				Lg		Lg	23 27 57.7	
	baz=63,slow=7.4							
AKTO				LR		LR	23 29 25.3	
	comp=Z,363nm,19.1s,baz=112,slow=37							
	comp=Z,18nm,0.7s							
AKTO	**Aktyubinsk**	**15.52**	**334**	⇑P		**Pn**	**23 23 22.0**	**-3.5**
	comp=Z,21nm,0.7s							
MDH	**Madha**	**15.53**	**226**	P		**P**	**23 23 29.2**	**-0.6**
MDH				P		**P**	**23 23 29.2**	**-0.6**
KURBB	**Kurchatov Arra**	**15.54**	**25**	Pn		**Pn**	**23 23 21.5**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=60							
KURBB				Lg		Lg	23 27 58.0	
	comp=Z,0.1nm,0.3s,baz=197,slow=30,SNR=3.0							
	comp=Z,9.3nm,0.9s							
KURBB	**Kurchatov Arra**	**15.54**	**25**	⇓P		**Pn**	**23 23 23.4**	**-2.4**
	comp=Z,30nm,0.7s							
MASF	**Masafi**	**15.55**	**226**	P		**P**	**23 23 30.1**	**0.0**
MSFE	**Esma-Masafi**	**15.56**	**226**	P		**P**	**23 23 29.6**	**-0.6**
BHPL	**Bhopal**	**15.61**	**148**	*e*P		**Pn**	**23 23 22.9**	**-4.0**
BHPL				IAmb		IAmb	23 23 29.9	
	comp=Z,34nm,0.6s							
KURK	**Kurchatov**	**15.65**	**25**	Pn		**Pn**	**23 23 23.4**	**-3.8**
KURK	**Kurchatov**	**15.65**	**25**	⇑P		**Pn**	**23 23 22.6**	**-4.5**
	comp=Z,27nm,0.8s							
KURK	**Kurchatov**	**15.65**	**25**	*c e*P		**Pn**	**23 23 22.9**	**-4.3**
KURK				pmax		pmax		
	comp=Z,28nm,1.7s							
KURK	**Kurchatov**	**15.65**	**25**	P		**Pn**	**23 23 28.6**	**+1.4**
KOLN	**Koldanda**	**15.65**	**121**	*e*P		**Pn**	**23 23 23.4**	**-4.2**
	comp=Z,1.2nm,0.3s							
UOSS	**Minazif**	**15.85**	**225**	P		**P**	**23 23 32.2**	**-1.3**
UOSS	**Minazif**	**15.85**	**225**	P		**P**	**23 23 34.2**	**+0.7**
UOSS				P		**P**	**23 23 34.2**	**+0.7**
HATD	**Hatta, Dubai**	**15.99**	**225**	P		**P**	**23 23 35.1**	**+0.1**
WSAR	**Wadi Sarin**	**16.01**	**215**	LR		LR	23 30 53.5	
	comp=Z,401nm,19.6s,baz=89,slow=42							
ZSN	**Zaisan**	**16.08**	**44**	*e*Pn		**P**	**23 23 34.8**	**-1.2**
	baz=44							
ZSN	**Zaisan**	**16.08**	**44**	*e*P		**P**	**23 23 34.7**	**-1.2**
NAZ	**Nazwa, Dubai**	**16.13**	**226**	P		**Pn**	**23 23 34.8**	**+1.3**
NAZ	**Nazwa, Dubai**	**16.13**	**226**	P		**P**	**23 23 37.6**	**+1.1**
ASHO	**Ashiyiah**	**16.14**	**225**	*i* P		**Pn**	**23 23 33.2**	**-0.5**
	SNR

comp=Z,0.4nm,0.3s,baz=46,slow=6.4,SNR=11
GNI LR LR 23 34 01.3
comp=Z,413nm,19.9s,baz=114,slow=45
comp=Z,39nm,1.0s
GNI Garni 18.85 287 Pn Pn 23 24 07.2 -0.2
GNI IAmb IAmb 23 24 17.6
comp=Z,91nm,1.1s
GNI Garni 18.85 287 P **Pn 23 24 07.2 -0.2**
GNI pmax pmax
comp=Z,91nm,1.2s
GNI Garni 18.85 287 P **Pn 23 24 09.5 +2.1**
ODAN Odare 18.88 116 *eP* **P 23 24 05.6 -1.5**
comp=Z,6.3nm,0.5s
MZR Muzera 18.93 227 P **P 23 24 07.1 -0.4**
MZR Muzera 18.93 227 P **Pn 23 24 10.7 +2.4**
SNR=7.3
SLWR Sila 19.24 233 P **Pn 23 24 13.6 +1.7**
SLWR P **Pn 23 24 13.6 +1.7**
SMRA Abu-Samra 19.34 236 P **Pn 23 24 14.9 +1.8**
ZEI Tsey 19.75 295 *eP* **P 23 24 16.7 +0.2**
ZEI pmax pmax
comp=Z,13nm,1.1s
BOK Bokaro 19.84 126 *eP* **Pn 23 24 18.3 -0.8**
BOK IAmb IAmb 23 24 24.1
comp=Z,43nm,0.6s
AKH Akhalkalaki 19.88 291 P **P 23 24 18.2 +0.3**
AKH IAmb IAmb 23 24 25.8
comp=Z,89nm,0.9s
AKH Akhalkalaki 19.88 291 P **P 23 24 18.2 +0.3**
AKH pmax pmax
comp=Z,89nm,0.9s
ONI Oni 20.05 294 P **P 23 24 20.1 +0.5**
ONI Oni 20.05 294 P **P 23 24 20.1 +0.5**
ONI pmax pmax
comp=Z,19nm,0.8s
NCK Nalchik 20.09 297 *i* P **P 23 24 19.0 -1.0**
NCK pmax pmax
comp=Z,24nm,0.8s
GEVA Gevas 20.18 282 P **P 23 24 20.4 -0.8**
GEVA IAmb IAmb 23 24 27.8
comp=Z,103nm,1.7s
LSA Lhasa 20.23 104 P 23 24 22.7 +0.6
LSA IAmb IAmb 23 24 29.4
comp=Z,42nm,1.0s
LSA Lhasa 20.23 104 P Pn 23 24 24.2 0.0
LSA pmax pmax
comp=Z,50nm,1.0s
LSA LR LR
comp=Z,1μm,13.9s
LSA LR LR
comp=Z,830nm,11.9s
LSA LR LR
comp=Z,380nm,9.2s
LSA Lhasa 20.23 104 P **P 23 24 22.7 +0.6**
LSA pmax pmax
comp=Z,42nm,1.0s
LSA Lhasa 20.23 104 P Pn 23 24 24.1 0.0
LSA Lhasa 20.23 104 P **P 23 24 22.4 +0.2**
ZAA0 Zalesovo Array 20.50 28 P **P 23 24 23.4 -0.9**
ZAA0 IAmb IAmb 23 24 31.6
comp=Z,44nm,0.8s
ZAA0 Zalesovo Array 20.50 28 ⇓P **P 23 24 22.9 -1.4**
comp=Z,6.7nm,0.8s
ZALV Zalesovo Beam 20.50 28 P **P 23 24 23.6 -0.8**
comp=Z,37nm,0.7s,baz=226,slow=10,SNR=169
ZALV LR LR 23 33 54.0
comp=Z,117nm,21.0s,baz=218,slow=41
comp=Z,37nm,0.7s
ZALV Zalesovo Beam 20.50 28 P **P 23 24 23.1 -1.2**
KBZ Khabaz 20.63 297 P **P 23 24 24.2 -1.7**
comp=Z,8.4nm,0.8s,baz=126,slow=8.5,SNR=10
KBZ LR LR 23 34 20.9
comp=Z,162nm,18.5s,baz=101,slow=42
comp=Z,8.4nm,0.8s
KBZ Khabaz 20.63 297 *ce*P **P 23 24 26.1 +0.2**
KBZ pmax pmax
comp=Z,22nm,1.3s
SVE Sverdlovsk 20.66 348 *eP* **P 23 24 25.5 -0.5**
SVE *eS* **S 23 28 15.1 0.0**
SVE pmax pmax
comp=Z,30nm,0.9s
SVE MLR MLR
comp=Z,700nm,8.0s
NEY Neytrino 20.68 296 *i* P **P 23 24 26.3 -0.3**
ARU Arti 20.69 344 P **P 23 24 25.5 -0.8**
comp=Z,21nm,0.6s,baz=166,slow=6.9,SNR=61
ARU LR LR 23 33 22.5
comp=Z,303nm,20.2s,baz=150,slow=39
comp=Z,21nm,0.6s
ARU Arti 20.69 344 P **P 23 24 25.9 -0.4**
ARU IAmb IAmb 23 24 32.7
comp=Z,35nm,0.8s
ARU Arti 20.69 344 *d* P **P 23 24 26.4 +0.1**
ARU PPP PPP 23 24 52.0
ARU S Sn 23 28 19.4 -1.8
ARU SS **SnSn 23 28 39.5 +3.5**
ARU pmax pmax
comp=Z,30nm,0.7s
SHA1 Shidzhatmaz 20.81 297 ⇓*e*P **P 23 24 27.9 -0.1**
KVAR Kislovodsk Arr 20.82 298 P **P 23 24 27.4 -0.6**
comp=Z,3.6nm,0.7s,baz=266,slow=23,SNR=2.1
comp=Z,3.6nm,0.7s
KIV Kislovodsk 20.83 298 P **P 23 24 27.0 -1.1**
KIV IAmb IAmb 23 24 37.6
comp=Z,33nm,0.8s
KIV Kislovodsk 20.83 298 *eP* **P 23 24 27.5 -0.6**
KIV *eS* **S 23 28 19.1 +0.2**
KIV pmax pmax
comp=Z,46nm,1.1s
KIV MLR MLR
comp=Z,114nm,14.0s
KIV Kislovodsk 20.83 298 P **P 23 24 26.5 -1.5**
KIV Kislovodsk 20.83 298 P Pn 23 24 30.9 +0.3
GURO Guroymak-BITLI 20.97 283 P **P 23 24 28.7 -1.0**
GOMU GeErMu 21.16 84 P **P 23 24 32.3 +0.3**
GOMU pP pP 23 24 36.5 -3.7
GOMU sP sP 23 24 40.1 -4.0
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU pmax pmax
comp=Z,140nm,4.3s
GOMU LR LR
comp=Z,360nm,6.8s
GOMU LR LR
comp=Z,410nm,6.9s
GOMU LR LR
comp=Z,360nm,6.9s
HYB Hyderabad 21.31 153 *eP* **P 23 24 33.5 +0.1**
HYB IAmb IAmb 23 24 36.1
comp=Z,22nm,0.9s
BELG Belogornoye 21.36 323 P **P 23 24 32.9 -0.7**
comp=Z,284nm,0.9s,baz=288,slow=0.6,SNR=215
BELG LR LR 23 35 16.7
comp=Z,79nm,18.2s,baz=173,slow=44
BELG Belogornoye 21.36 323 ⇓*i* P **P 23 24 32.9 -0.7**
BELG pmax pmax
comp=Z,44nm,0.8s
MARD Mardin 22.07 280 P **P 23 24 41.4 -0.2**
DOK Doka 22.12 219 P **P 23 24 44.6 +2.6**
SNR=6.2
DOK P **P 23 24 44.6 +2.6**
SNR=6.2
DMTO DMTO 22.49 216 P **P 23 24 48.4 +2.4**
DMTO P **P 23 24 48.4 +2.4**
WHFO Wadi Hawf 22.89 218 P **P 23 24 52.7 +2.4**
WHFO P **P 23 24 52.7 +2.4**
SOC Sochi 22.89 296 *eP* **P 23 24 46.6 -3.5**
SOC *e*PPP PPP 23 25 18.3
SOC *e*S **S 23 28 55.5 -2.3**
SOC *e*SSS SSS 23 29 40.6
SOC MLR MLR
comp=Z,291nm,20.0s
SHL Shillong 22.91 113 P **P 23 24 49.1 -1.4**
SHL IAmb IAmb 23 24 51.0
comp=Z,48nm,0.9s
SHL Shillong 22.91 113 *eP* **P 23 24 49.3 -1.3**
SHL IAmb IAmb 23 24 53.2
comp=Z,28nm,1.0s
SHL Shillong 22.91 113 P **P 23 24 49.1 -1.4**
SHL pmax pmax
comp=Z,48nm,0.9s
SHL Shillong 22.91 113 P **P 23 24 50.2 -0.4**
SNR=16
TEZP TEZPUR 23.01 109 *eP* **P 23 24 51.1 -0.3**
TEZP IAmb IAmb 23 24 52.5
comp=Z,36nm,0.5s

ZIRO ZIRO 23.35 106 *eP* **P 23 24 54.9 -0.1**
ZIRO IAmb IAmb 23 24 57.6
comp=Z,46nm,0.9s
ABTO Aybut 23.60 219 P **P 23 24 59.3 +1.9**
RAYN Ar Rayn 23.82 243 P **P 23 24 58.6 -0.8**
RAYN IAmb IAmb 23 25 03.3
comp=Z,79nm,1.7s
RAYN Ar Rayn 23.82 243 P **P 23 24 58.6 -0.8**
RAYN pmax pmax
comp=Z,79nm,1.7s
RAYN Ar Rayn 23.82 243 *i* P **P 23 24 58.8 -0.7**
SNR=13
RAYN Ar Rayn 23.82 243 P **P 23 25 01.0 +1.6**
VRH Novokhopyorsk 23.82 315 *eP* **P 23 25 04.1 +5.0**
VRH pmax pmax
comp=Z,50nm,0.7s
MOKO MOKOCHONG 24.47 108 *eP* **P 23 25 06.4 +0.9**
MOKO IAmb IAmb 23 25 08.7
comp=Z,36nm,0.5s
BRDH Bariadhala 24.50 119 LR LR 23 37 07.7
comp=Z,272nm,21.0s,baz=312,slow=43
GTA Gaotai 24.72 74 ⇑P **P 23 25 08.8 +1.1**
GTA pP pP 23 25 13.6 -2.9
GTA sP sP 23 25 16.8 -3.4
GTA S **S 23 29 35.1 +7.2**
GTA pmax pmax
comp=Z,8.0nm,1.6s
GTA pmax pmax
comp=Z,160nm,4.7s
GTA LR LR
comp=Z,770nm,13.5s
GTA LR LR
comp=Z,690nm,15.6s
GTA LR LR
comp=Z,730nm,15.3s
IMP Imphal 24.86 112 *eP* **P 23 25 10.2 +1.3**
IMP IAmb IAmb 23 25 12.0
comp=Z,76nm,1.2s
LKP Lekhapani 24.98 104 *eP* **P 23 25 10.8 +0.8**
LKP IAmb IAmb 23 25 12.4
comp=Z,253nm,1.5s
KIRV Kirov 25.06 336 P **P 23 25 10.7 +0.3**
comp=Z,25nm,0.7s,baz=136,slow=0.9,SNR=18
comp=Z,25nm,0.7s
KIRV Kirov 25.06 336 *ce*P **P 23 25 10.1 -0.3**
VSR Storozhevoye 25.28 314 *eP* **P 23 25 12.1 -0.4**
VSR pmax pmax
comp=Z,30nm,0.7s
VORR Voronezh 25.44 315 *eP* **P 23 25 13.7 -0.2**
VORR pmax pmax
comp=Z,50nm,1.1s
SAIH SAIHA 25.57 117 *eP* **P 23 25 16.5 +1.1**
SAIH IAmb IAmb 23 25 18.6
comp=Z,42nm,1.0s
LPSR Galich'ya Gora 25.99 317 *eP* **P 23 25 18.3 -0.6**
LPSR pmax pmax
comp=Z,40nm,1.0s
SIM Simferopol' 27.04 298 *eP* **P 23 25 31.8 +3.3**
SIM *eS* **S 23 30 01.5 -2.7**
SIM pmax pmax
comp=Z,56nm,1.1s
SIM smax smax
comp=Z,70nm,14.9s
PCHI Peechi 27.16 163 *eP* P 23 25 12.8 -17
PCHI *eS* **S 23 30 01.8 -4.7**
MOY Mondy 27.32 47 *eP* **P 23 25 33.1 +2.1**
MOY pmax pmax
comp=Z,40nm,1.5s
BR131 Keskin Array S 27.39 287 P **P 23 25 31.6 -0.2**
BR131 IAmb IAmb 23 25 38.0
comp=Z,15nm,0.8s
BR131 Keskin Array S 27.39 287 *i* P **P 23 25 32.9 +1.1**
BRTR Keskin Array B 27.39 287 P **P 23 25 32.2 +0.4**
comp=Z,4.9nm,0.8s,baz=92,slow=8.4,SNR=16
BRTR LR LR 23 39 37.2
comp=Z,191nm,19.8s,baz=90,slow=44
comp=Z,4.9nm,0.8s
BRTR Keskin Array B 27.39 287 P **P 23 25 31.9 +0.1**
BRTR Keskin Array B 27.39 287 P **P 23 25 31.9 +0.1**
MOS Moscow 28.12 322 *eP* **P 23 25 37.5 -0.5**
MOS *e* 23 26 38.9
MOS pmax pmax
comp=Z,45nm,1.4s
TNCH TengChong 28.22 106 *eP* **P 23 25 40.2 +0.8**
TNCH pP pP 23 25 45.5 -2.8
TNCH S **S 23 30 25.8 +2.3**
TNCH pmax pmax
comp=Z,9.0nm,1.1s
TNCH pmax pmax
comp=Z,82nm,4.0s
TNCH LR LR
comp=Z,290nm,12.7s
TNCH LR LR
comp=Z,160nm,9.9s
ZAK Zakamensk 28.31 50 *eP* **P 23 25 39.6 -0.3**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
OBN Obninsk 28.36 320 P **P 23 25 40.2 +0.1**
comp=Z,1.8nm,0.4s,baz=119,slow=18,SNR=4.1
OBN LR LR 23 37 47.3
comp=Z,49nm,19.3s,baz=164,slow=38
comp=Z,1.8nm,0.4s
OBN Obninsk 28.36 320 P **P 23 25 39.0 -1.0**
OBN Obninsk 28.36 320 *ce*P **P 23 25 40.5 +0.4**
OBN *i* 23 26 25.6
OBN *i* PPP PPP 23 26 39.9
OBN pmax pmax
comp=Z,44nm,1.7s
OBN MLR MLR
comp=Z,174nm,19.0s
LZH Lanzhou 28.36 81 *eP* P 23 25 45.9 +5.4
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=Z,520nm,14.8s
LZH LR LR
comp=Z,700nm,12.5s
LZH LR LR
comp=Z,760nm,16.3s
PRGR Permogore 28.63 337 *eP* **P 23 25 42.3 -0.2**
PRGR *e**SP **pP 23 25 47.4 -3.9**
PRGR pmax pmax
comp=Z,32nm,0.9s
EIL Elat 28.83 265 LR LR 23 39 21.6
comp=Z,287nm,19.7s,baz=69,slow=41
SONM Songino Array 29.82 56 P **P 23 25 54.2 +0.9**
comp=Z,3.3nm,0.8s,baz=254,slow=10.0,SNR=22
SONM LR LR 23 39 13.7
comp=Z,1μm,18.5s,baz=277,slow=39
comp=Z,3.3nm,0.8s
SONM Songino Array 29.82 56 P **P 23 25 53.3 0.0**
SONM Songino Array 29.82 56 P **P 23 25 53.3 0.0**
SONM pmax pmax
comp=Z,5.0nm,1.0s
PZH PanZhiHua 30.00 101 P **P 23 25 55.1 0.0**
PZH S **S 23 30 52.3 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.6s
PZH LR LR
comp=Z,380nm,13.9s
PZH LR LR
comp=Z,750nm,15.1s
PZH LR LR
comp=Z,720nm,13.3s
KLMR Klimovskoe 30.19 332 *eP* **P 23 25 53.8 -2.5**
KLMR AMP 23 25 56.6
comp=Z,15nm,0.9s
KLMR *e*PP **PnPn 23 26 51.8 -2.5**
KLMR Klimovskoe 30.19 332 *eP* **P 23 25 53.8 -2.5**
KLMR *e* 23 26 51.8
KLMR pmax pmax
comp=Z,15nm,0.9s
ULN Ulaanbaatar 30.26 56 P **P 23 25 57.1 -0.2**
ULN Ulaanbaatar 30.26 56 *ce*P **P 23 25 58.5 +1.2**
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 30.26 56 P **P 23 25 58.8 +1.6**
ULN P **P 23 25 58.8 +1.6**
ELL Elmali 30.74 282 P **P 23 26 02.1 +0.5**
ELL Elmali 30.74 282 P **P 23 26 02.1 +0.5**
ELL pmax pmax
comp=Z,63nm,0.8s
AKASG Malin Array Be 31.14 309 P **P 23 26 04.7 -0.1**
comp=Z,0.9nm,0.4s,baz=88,slow=7.2,SNR=21

AKASG LR LR 23 40 23.5
comp=Z,219nm,19.9s,baz=87,slow=40
comp=Z,0.9nm,0.4s
AKASG Malin Array Be 31.14 309 P **P 23 26 03.8 -1.0**
AKBB Malin Array Si 31.14 309 P **P 23 26 04.5 -0.3**
AKBB IAmb IAmb 23 26 59.9
comp=Z,38nm,1.6s
AKBB Malin Array Si 31.14 309 *ce*P **P 23 26 04.8 0.0**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
KMI Kunming 31.45 102 ⇓P **P 23 26 07.9 -0.2**
KMI pmax pmax
comp=Z,7.0nm,1.5s
KMI LR LR
comp=Z,520nm,17.9s
KMI LR LR
comp=Z,310nm,17.9s
KMI LR LR
comp=Z,260nm,18.5s
CHTO Chiang Mai 32.19 116 P **P 23 26 14.3 -0.1**
CHTO Chiang Mai 32.19 116 P **P 23 26 14.3 -0.1**
CHTO pmax pmax
comp=Z,8.0nm,1.3s
PLOR Plostina 32.34 299 ⇑P **P 23 26 17.1 +1.5**
PLOR Plostina 32.34 299 P **P 23 26 17.0 +1.5**
CRAI Chiangrai 32.36 112 P **P 23 26 15.6 -0.2**
CRAI IAmb IAmb 23 26 16.8
comp=Z,42nm,1.9s
CM31 Chiang Mai Arr 32.42 116 P **P 23 26 16.6 +0.2**
CM31 IAmb IAmb 23 26 56.6
comp=Z,18nm,1.2s
CMAR Chiang Mai Arr 32.42 116 P **P 23 26 16.8 +0.4**
comp=Z,3.7nm,0.4s,baz=298,slow=7.8,SNR=5.4
CMAR LR LR 23 42 14.7
comp=Z,138nm,19.5s,baz=330,slow=42
comp=Z,3.7nm,0.4s
CMAR Chiang Mai Arr 32.42 116 P **P 23 26 16.3 -0.1**
ADZR Andozero 32.64 336 *eP* P 23 26 12.2 -5.6
ADZR *e* 23 27 27.3
ADZR pmax pmax
comp=Z,20nm,1.2s
COVR Voineasa-Covas 32.65 299 ⇑P **P 23 26 19.4 +1.1**
HORU Horodok 32.70 306 P **P 23 26 19.0 +0.4**
MNK Minsk 32.82 316 *i* P **P 23 26 20.1 +0.6**
comp=E,4.0nm,1.2s
MNK *i* P **P 23 26 20.1 +0.6**
comp=N,65nm,1.4s
MNK *i* P **P 23 26 20.1 +0.6**
comp=Z,17nm,0.8s,baz=106
MNK *i* PP **PnPn 23 27 28.1 -0.3**
MNK *i* PcP **PcP 23 29 05.6 +1.7**
MNK *i* S **S 23 31 39.5 +4.9**
MNK *i* SS **SnSn 23 33 32.9 +0.9**
MNK *i* LQ LQ 23 37 06.3
MNK *i* LR LR 23 39 35.5
MNK *i* LRM MLR 23 41 09.4
comp=Z,270nm,21.2s
MNK *i* LRM MLR 23 41 45.8
comp=E,29nm,21.2s
MNK *i* LRM MLR 23 41 52.2
comp=N,415nm,15.2s
MNK Minsk 32.82 316 *i* P **P 23 26 20.1 +0.6**
MNK *i* 23 27 28.0
MNK *i* 23 29 05.5
MNK *i* S **S 23 31 39.5 +4.9**
MNK *i* SS **SnSn 23 33 32.9 +0.9**
MNK pmax pmax
comp=E,4.0nm,1.2s
MNK pmax pmax
comp=N,65nm,1.4s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=Z,270nm,21.0s
MNK MLR MLR
comp=E,29nm,21.0s
MNK MLR MLR
comp=N,415nm,15.0s
MLR Muntele Rosu 32.83 299 LR LR 23 43 30.7
comp=N,346nm,18.3s,baz=66,slow=43
MLR Muntele Rosu 32.83 299 ⇑P **P 23 26 21.4 +1.5**
MLR Muntele Rosu 32.83 299 P **P 23 26 19.9 0.0**
MLR IAmb IAmb 23 26 25.4
comp=Z,20nm,0.9s
MLR Muntele Rosu 32.83 299 P **P 23 26 19.9 0.0**
MLR pmax pmax
comp=Z,21nm,0.9s
XAN Xi'an 32.90 83 P **P 23 26 21.2 +0.7**
XAN pP pP 23 26 31.0 +1.6
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,150nm,4.9s
XAN LR LR
comp=Z,420nm,10.3s
XAN LR LR
comp=Z,380nm,9.3s
XAN LR LR
comp=Z,560nm,14.5s
PHRA Phrae 33.33 115 P **P 23 26 24.1 -0.2**
BURAR Bucovina Array 33.38 303 ⇓P **P 23 26 26.2 +1.6**
BURAR Bucovina Array 33.38 303 P **P 23 26 24.7 0.0**
BURAR Bucovina Array 33.38 303 P **P 23 26 26.2 +1.6**
BUR08 Bucovina Ar. S 33.40 303 P **P 23 26 24.9 +0.2**
BUR08 IAmb IAmb 23 26 32.1
comp=Z,11nm,1.2s
VOIR 33.46 299 ⇑P **P 23 26 26.7 +1.4**
VOIR 33.46 299 P **P 23 26 26.7 +1.4**
HHC Hu-ho-hao-te 33.54 70 *eP* **P 23 26 28.1 +2.0**
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,260nm,5.5s
HHC LR LR
comp=Z,880nm,11.5s
HHC LR LR
comp=Z,440nm,12.0s
HHC LR LR
comp=Z,660nm,14.7s
NACGM Naroch 33.54 316 *eP* **P 23 26 26.5 +0.7**
comp=Z,36nm,1.0s,baz=105
ARR Arges 33.76 299 ⇓P **P 23 26 29.1 +1.2**
GYA Guiyang 33.92 97 *eP* **P 23 26 29.8 +0.2**
GYA pmax pmax
comp=Z,12nm,1.1s
GYA LR LR
comp=Z,460nm,12.9s
GYA LR LR
comp=Z,270nm,8.7s
GYA LR LR
comp=Z,290nm,10.6s
ARCR ARCALIA 33.95 302 ⇑P **P 23 26 31.0 +1.5**
IIGN Ignalina 33.97 317 *eP* P 23 26 23.8 -5.7
NRIK Noril'sk 34.17 12 P **P 23 26 31.9 +0.9**
comp=Z,9.3nm,0.8s,baz=213,slow=6.7,SNR=12
NRIK LR LR 23 40 40.7
comp=Z,221nm,18.5s,baz=198,slow=37
comp=Z,9.3nm,0.8s
NRIK Noril'sk 34.17 12 P **P 23 26 31.4 +0.3**
NRIK IAmb IAmb 23 26 44.4
comp=Z,20nm,1.2s
NRIK Noril'sk 34.17 12 *ce*P **P 23 26 32.0 +0.9**
NRIK pmax pmax
comp=Z,17nm,1.2s
LVV L'vov 34.32 306 *eP* **P 23 26 33.2 +0.6**
MORS Morshin 34.35 305 P **P 23 26 33.8 +0.9**
BMR Baia Mare 34.55 303 ⇑P **P 23 26 35.8 +1.1**
BMR Baia Mare 34.55 303 P **P 23 26 35.7 +1.1**
TIY Taiyuan 34.75 75 *eP* **P 23 26 37.7 +1.1**
TIY pmax pmax
comp=Z,14nm,0.5s
TIY LR LR
comp=Z,640nm,9.0s
TIY LR LR
comp=Z,290nm,7.4s
TIY LR LR
comp=Z,280nm,11.0s
MARR Marisel-Cluj 34.80 301 ⇓P **P 23 26 37.9 +1.0**
TRSU Trosnyk 34.92 303 P **P 23 26 40.1 +2.3**
VTS Vitosha 34.94 294 ⇑P **P 23 26 39.8 +1.6**
VTS Vitosha 34.94 294 P **P 23 26 38.5 +0.3**
VTS Vitosha 34.94 294 P **P 23 26 38.5 +0.3**
VTS pmax pmax
comp=Z,8.0nm,1.0s
DEV Deva 34.96 299 ⇓P **P 23 26 40.1 +1.9**

DEV	**Deva**	**34.96**	**299**		P		**P**	**23 26 40.1**	**+1.9**
GZR	**Gura Zlata**	**35.06**	**299**	⇑	P		**P**	**23 26 40.8**	**+1.7**
DRGR		**35.08**	**301**		P		**P**	**23 26 40.9**	**+1.6**
DRGR					pmax		pmax		
	comp=Z,20nm,1.0s								
TRPA	**Tarpa**	**35.20**	**303**	⇑	P		**P**	**23 26 42.0**	**+1.7**
PABE	**Paberze**	**35.26**	**316**		P		**P**	**23 26 40.5**	**0.0**
PABE	**Paberze**	**35.26**	**316**		*e*P		**P**	**23 26 41.2**	**+0.6**
UZH	**Uzhgorod**	**35.38**	**304**		*e*P		**P**	**23 26 42.7**	**+0.9**
UZH					*i*			23 26 46.3	
VSVD	**Vaisvydziai**	**35.39**	**317**		*e*P		**P**	**23 26 42.5**	**+0.8**
SURR	**Surduc**	**35.51**	**299**	⇑	P		**P**	**23 26 44.4**	**+1.5**
SIRR	**Siria**	**35.81**	**300**	⇑	P		**P**	**23 26 47.6**	**+2.1**
MDVR	**Moldovita**	**35.85**	**298**	⇑	P		**P**	**23 26 46.9**	**+1.0**
BZS	**Buzias**	**35.87**	**299**	⇓	P		**P**	**23 26 46.6**	**+0.5**
BZS	**Buzias**	**35.87**	**299**		P		**P**	**23 26 46.5**	**+0.5**
CRVS	**Cervenica-Dubn**	**35.94**	**305**		*e*P		**P**	**23 26 45.6**	**-1.1**
CRVS	**Cervenica-Dubn**	**35.94**	**305**		*e*P		**P**	**23 26 45.5**	**-1.1**
FIA1	**FINESS Array S**	**36.06**	**327**		P		**P**	**23 26 47.3**	**-0.2**
FINES	**FINESS Array B**	**36.06**	**327**		P		**P**	**23 26 47.6**	**+0.2**
	comp=Z,2.4nm,0.4s,baz=121,slow=9.8,SNR=30								
FINES					LR		LR	23 44 11.6	
	comp=Z,55nm,19.8s,baz=86,slow=41								
	comp=Z,2.4nm,0.4s								
FINES	**FINESS Array B**	**36.06**	**327**		P		**P**	**23 26 47.2**	**-0.2**
FINES	**FINESS Array B**	**36.06**	**327**		P		**P**	**23 26 47.3**	**-0.2**
LVZ	**Lovozero**	**36.39**	**339**		P		**P**	**23 26 51.4**	**+1.2**
LVZ	**Lovozero**	**36.39**	**339**		P		**P**	**23 26 51.4**	**+1.2**
LVZ					pmax		pmax		
	comp=Z,237nm,2.0s								
XLT	**XiLinHaoTe**	**36.52**	**64**	⇑	*i*P		**P**	**23 26 56.2**	**+4.4**
XLT					pP		pP	23 27 01.2	+0.5
XLT					S		**S**	**23 32 32.4**	**+0.2**
XLT					pmax		pmax		
	comp=Z,16nm,0.8s								
XLT					pmax		pmax		
	comp=Z,160nm,4.3s								
XLT					LR		LR		
	comp=Z,600nm,12.2s								
XLT					LR		LR		
	comp=Z,720nm,13.4s								
HNS	**HongShan**	**36.58**	**75**	⇓	P		**P**	**23 26 54.0**	**+1.9**
HNS					*e*S		**S**	**23 32 31.2**	**-1.6**
HNS					pmax		pmax		
	comp=Z,8.0nm,1.0s								
HNS					LR		LR		
	comp=Z,520nm,17.4s								
HNS					LR		LR		
	comp=Z,410nm,19.8s								
NIE	**Niedzica**	**36.72**	**306**		*e*P		**P**	**23 26 54.2**	**+0.9**
NIE	**Niedzica**	**36.72**	**306**		P		**P**	**23 26 55.2**	**+1.9**
NIE					pmax		pmax		
	comp=Z,10.0nm,0.9s								
PSZ	**Piszkesteto**	**36.98**	**303**	⇑	P		**P**	**23 26 57.0**	**+1.5**
PSZ	**Piszkesteto**	**36.98**	**303**		P		**P**	**23 26 54.9**	**-0.7**
PSZ	**Piszkesteto**	**36.98**	**303**		P		**P**	**23 26 54.9**	**-0.7**
PSZ					pmax		pmax		
	comp=Z,8.0nm,0.9s								
OJC	**Ojcow**	**37.07**	**307**		*e*P		**P**	**23 26 55.7**	**-0.4**
OJC	**Ojcow**	**37.07**	**307**		P		**P**	**23 26 55.8**	**-0.4**
OJC					IAmb		IAmb	23 26 57.6	
	comp=Z,11nm,0.8s								
OJC	**Ojcow**	**37.07**	**307**		P		**P**	**23 26 55.8**	**-0.4**
OJC					pmax		pmax		
	comp=Z,11nm,0.8s								
DIVS	**Divibare**	**37.14**	**297**		P		**P**	**23 26 56.2**	**-0.7**
DIVS					IAmb		IAmb	23 27 24.8	
	comp=Z,19nm,1.3s								
BJT	**Baijiatuau**	**37.14**	**70**		P		**P**	**23 26 57.7**	**+0.7**
BJT	**Baijiatuau**	**37.14**	**70**		P		**P**	**23 26 57.7**	**+0.7**
BJT					pmax		pmax		
	comp=Z,8.0nm,0.7s								
FRGS	**Fruska Gora**	**37.17**	**298**	⇓	P		**P**	**23 26 58.6**	**+1.4**
VYHS	**Vyhne**	**37.68**	**304**		*e*P		**P**	**23 27 02.3**	**+0.9**
VYHS					pmax		pmax		
	comp=Z,6.0nm,1.2s								
VYHS	**Vyhne**	**37.68**	**304**		*e*P		**P**	**23 27 02.3**	**+0.9**
VYHS					*e*			23 37 01.0	
MORH	**Mrgy, Hungar**	**37.91**	**300**	⇓	P		**P**	**23 27 04.4**	**+1.0**
SRO	**Srobarova**	**38.05**	**303**		*e*P		**P**	**23 27 06.5**	**+2.0**
SRO					pmax		pmax		
	comp=Z,17nm,0.9s								
SRO	**Srobarova**	**38.05**	**303**		*e*P		**P**	**23 27 06.5**	**+2.0**
MAUC	**Maruska**	**38.33**	**305**		*e*P		**P**	**23 27 08.6**	**+1.7**
WHN	**Wuhan**	**38.39**	**86**	⇑	P		**P**	**23 27 09.8**	**+2.2**
JAVC	**Velka Javorina**	**38.44**	**305**		*e*P		**P**	**23 27 09.7**	**+1.8**
MORC	**Moravsky Berou**	**38.52**	**306**	⇓	P		**P**	**23 27 09.4**	**+0.9**
MORC	**Moravsky Berou**	**38.52**	**306**		P		**P**	**23 27 08.8**	**+0.3**
MORC	**Moravsky Berou**	**38.52**	**306**		*e*P		**P**	**23 27 09.1**	**+0.6**
MORC					*e*			23 28 39.5	
MORC	**Moravsky Berou**	**38.52**	**306**		P		**P**	**23 27 08.8**	**+0.3**
MORC					pmax		pmax		
	comp=Z,9.0nm,0.9s								
SMOL	**Smolenice**	**38.61**	**304**		*e*P		**P**	**23 27 09.9**	**+0.6**
HIA	**Hailar**	**38.74**	**55**		P		**P**	**23 27 11.6**	**+1.2**
HIA	**Hailar**	**38.74**	**55**		P		**P**	**23 27 11.6**	**+1.2**
HIA					pmax		pmax		
	comp=Z,9.0nm,1.0s								
GKP	**Gorka Klasztor**	**38.82**	**312**		*e*P		**P**	**23 27 11.9**	**+1.0**
KRLC	**Kraliky**	**39.01**	**307**		*e*P		**P**	**23 27 13.5**	**+0.9**
KRLC	**Kraliky**	**39.01**	**307**		*e*P		**P**	**23 27 13.5**	**+0.9**
VRAC	**Vranov**	**39.14**	**305**		LR		LR	23 44 21.3	
	comp=Z,95nm,21.3s,baz=90,slow=38								
VRAC	**Vranov**	**39.14**	**305**	⇓	P		**P**	**23 27 15.3**	**+1.6**
VRAC	**Vranov**	**39.14**	**305**		*e*P		**P**	**23 27 14.6**	**+0.9**
VRAC	**Vranov**	**39.14**	**305**		P		**P**	**23 27 15.3**	**+1.6**
UBPT	**Khong Chiam**	**39.23**	**113**		P		**P**	**23 27 13.4**	**-1.3**
SOP	**Sopron**	**39.24**	**303**		P		**P**	**23 27 15.9**	**+1.4**
KRUC	**Moravsky**	**39.28**	**305**		*e*P		**P**	**23 27 15.6**	**+0.8**
DPC	**Dobruska-Polom**	**39.30**	**307**		*e*P		**P**	**23 27 16.4**	**+1.4**
DPC	**Dobruska-Polom**	**39.30**	**307**		*e*P		**P**	**23 27 16.4**	**+1.4**
KSP	**Ksiaz**	**39.32**	**308**		P		**P**	**23 27 16.4**	**+1.3**
OSTC	**Ostas**	**39.37**	**307**		*e*P		**P**	**23 27 16.6**	**+1.0**
UPC	**Upice**	**39.50**	**307**		*e*P		**P**	**23 27 17.9**	**+1.3**
UPC	**Upice**	**39.50**	**307**		*e*P		**P**	**23 27 17.9**	**+1.3**
CONA	**Conrad Observa**	**39.69**	**303**		*e*P		**P**	**23 27 19.4**	**+1.1**
	comp=Z,1.1nm,0.5s								
ARA0	**ARCESS Array S**	**40.05**	**338**		*e*P		**P**	**23 27 21.3**	**+0.3**
ARA0					IAmb		IAmb	23 27 22.6	
	comp=Z,36nm,1.0s								
ARCES	**ARCESS Array B**	**40.05**	**338**		P		**P**	**23 27 21.4**	**+0.4**
	comp=Z,13nm,0.8s,baz=136,slow=9.5,SNR=13								
ARCES					LR		LR	23 44 26.9	
	comp=Z,112nm,20.4s,baz=126,slow=37								
	comp=Z,13nm,0.8s								
ARCES	**ARCESS Array B**	**40.05**	**338**		P		**P**	**23 27 20.8**	**-0.2**
ARCES	**ARCESS Array B**	**40.05**	**338**		P		**P**	**23 27 20.8**	**-0.2**
ARCES					pmax		pmax		
	comp=Z,187nm,2.0s								
QIZ	**Qiongzhong**	**40.27**	**105**		P		**P**	**23 27 24.7**	**+1.3**
QIZ					S		S	23 33 38.3	+9.3
QIZ					LR		LR		
	comp=Z,230nm,11.6s								
QIZ					LR		LR		
	comp=Z,140nm,15.9s								
QIZ					LR		LR		
	comp=Z,280nm,19.4s								
GOPC	**GO Pecny, Ondr**	**40.30**	**306**		*e*P		**P**	**23 27 24.8**	**+1.5**
GOPC	**GO Pecny, Ondr**	**40.30**	**306**		*e*P		**P**	**23 27 24.8**	**+1.5**
SOKA	**Soboth**	**40.35**	**301**		*e*P		**P**	**23 27 24.9**	**+1.0**
	comp=Z,7.0nm,0.9s,SNR=8.1								
PRU	**Pruhonice**	**40.45**	**306**		*e*P		**P**	**23 27 25.6**	**+1.0**
PRU	**Pruhonice**	**40.45**	**306**		*e*P		**P**	**23 27 25.6**	**+1.0**
KTK1	**Kautokeino**	**40.48**	**337**		IAmb		IAmb	23 27 24.3	
	comp=Z,1μm,3.1s								
KTK1					*e*P		**P**	**23 27 24.4**	**-0.1**
CKRC	**Cesky Krumlov**	**40.66**	**305**		*e*P		**P**	**23 27 28.5**	**+2.1**
MOA	**Molln**	**40.77**	**303**		*e*P		**P**	**23 27 27.9**	**+0.7**
	comp=Z,1.8nm,0.6s,SNR=6.3								
BRG	**Berggiesshubel**	**40.81**	**308**	⇓	*i*P		**P**	**23 27 28.6**	**+1.2**
BRG					Amp			23 27 29.3	
	comp=Z,11nm,0.8s								
BRG					pP		**pP**	**23 27 32.4**	**-4.1**
BRG					Amp			23 27 33.7	
	comp=Z,9.6nm,0.8s								
BRG	**Berggiesshubel**	**40.81**	**308**	⇓	*i*P		**P**	**23 27 28.6**	**+1.2**
BRG								23 27 32.3	
BRG					pmax		pmax		
	comp=Z,11nm,0.8s								
BRG					pmax		pmax		
	comp=Z,10.0nm,0.8s								
RUE	**Ruedersdorf**	**40.89**	**310**		*e*P		**P**	**23 27 28.7**	**+0.6**
DEL	**Delary**	**41.01**	**316**		*i* P		**P**	**23 27 29.0**	**0.0**
GEC2	**GERESS Array S**	**41.06**	**305**		P		**P**	**23 27 29.8**	**+0.1**
GERES	**GERESS Array B**	**41.06**	**305**		P		**P**	**23 27 30.2**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=91,slow=9.3,SNR=8.1								
GERES					PcP		**PcP**	**23 29 29.9**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=124,slow=1.9,SNR=5.5								
GERES					LR		LR	23 48 24.2	
	comp=Z,58nm,19.0s,baz=80,slow=42								
	comp=Z,1.4nm,0.7s								
GERES	**GERESS Array B**	**41.06**	**305**		P		**P**	**23 27 29.3**	**-0.4**
GERES	**GERESS Array B**	**41.06**	**305**		P		**P**	**23 27 29.3**	**-0.4**
KHC	**Kasperske Hory**	**41.12**	**305**		*e*P		**P**	**23 27 30.6**	**+0.4**
KHC					*ex*		x	23 29 30.5	
KHC	**Kasperske Hory**	**41.12**	**305**		*e*P		**P**	**23 27 30.6**	**+0.4**
KHC					*e*			23 29 30.5	
LUNU	**Lund**	**41.18**	**315**		*i* P		**P**	**23 27 31.0**	**+0.5**
BIOA	**Bad Ischl, Aus**	**41.20**	**303**		*e*P		**P**	**23 27 31.3**	**+0.5**
	comp=Z,0.7nm,0.3s								
CLL	**Collm**	**41.38**	**309**		*i* P		**P**	**23 27 32.4**	**+0.2**
	comp=Z,8.0nm,0.8s								
CLL					*e*PP		**PP**	**23 29 05.0**	**-2.9**
CLL					LmV			23 48 00.0	
	comp=Z,200nm,18.0s								
CLL	**Collm**	**41.38**	**309**		*i* P		**P**	**23 27 32.4**	**+0.2**
CLL					pmax		pmax		
	comp=Z,8.0nm,0.8s								
SABO	**M.te Sabotino**	**41.42**	**300**		P		**P**	**23 27 32.5**	**-0.2**
SABO					IAmb		IAmb	23 27 36.6	
	comp=Z,45nm,1.3s								
NJ2	**Nanjing**	**41.43**	**81**		*e*P		**P**	**23 27 33.0**	**+0.2**
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
BJUU	**Bjuv**	**41.45**	**316**		*i* P		**P**	**23 27 32.8**	**+0.1**
HFS	**Hagfors**	**41.53**	**322**		LR		LR	23 48 07.0	
	comp=Z,192nm,19.1s,baz=93,slow=41								
JETT	**Jettan, Norway**	**41.63**	**337**		*e*		**P**	**23 27 34.3**	**+0.3**
FABU	**Falkenberg**	**41.68**	**317**		*i* P		**P**	**23 27 34.8**	**+0.3**
BORU	**Boraas**	**41.71**	**318**		*i* P		**P**	**23 27 34.6**	**-0.2**
COP	**Copenhagen**	**41.76**	**315**		*e*P		**P**	**23 27 32.1**	**-3.1**
COP					IAmb		IAmb	23 27 32.9	
	comp=Z,63nm,0.9s								
NKC	**Novy Kostel**	**41.79**	**307**		*e*P		**P**	**23 27 35.3**	**-0.3**
NKC	**Novy Kostel**	**41.79**	**307**		*e*P		**P**	**23 27 35.3**	**-0.3**
STAL	**STALIGIAL**	**42.00**	**301**		P		**P**	**23 27 36.8**	**-0.6**
STAL					IAmb		IAmb	23 27 39.1	
	comp=Z,15nm,0.9s								
ABTA	**Abfaltersbach**	**42.07**	**302**		*e*P		**P**	**23 27 38.2**	**+0.2**
	comp=Z,3.2nm,0.9s								
CIMO	**Cimolais**	**42.18**	**301**		P		**P**	**23 27 38.5**	**-0.3**
CIMO					IAmb		IAmb	23 27 40.3	
	comp=Z,15nm,1.0s								
MOR8	**Moi Rana**	**42.52**	**331**		*e*P		**P**	**23 27 40.9**	**-0.4**
MOR8					IAmb		IAmb	23 27 46.8	
	comp=Z,24nm,0.7s								
FAUS	**Fauske**	**42.55**	**333**		*e*P		**P**	**23 27 41.7**	**+0.2**
WTTA	**Wattenberg**	**42.60**	**303**		*e*P		**P**	**23 27 42.3**	**-0.1**
	comp=Z,5.0nm,0.7s								
MURB	**Monte Urbino**	**42.62**	**297**		P		**P**	**23 27 42.1**	**-0.4**
GRFO	**Grafenberg**	**42.62**	**306**		P		**P**	**23 27 42.1**	**-0.2**
GRFO					IAmb		IAmb	23 27 44.9	
	comp=Z,22nm,1.2s								
GRFO	**Grafenberg**	**42.62**	**306**		P		**P**	**23 27 42.1**	**-0.2**
GRFO					pmax		pmax		
	comp=Z,22nm,1.2s								
WATA	**Walderalm**	**42.63**	**303**		*e*P		**P**	**23 27 42.4**	**-0.2**
	comp=Z,2.1nm,0.5s								
NC405	**NORSAR Array S**	**42.64**	**323**		P		**P**	**23 27 41.5**	**-0.9**
NC405					IAmb		IAmb	23 27 42.0	
	comp=Z,20nm,1.0s								
NC602	**NORSAR Array S**	**42.68**	**323**		*e*P		**P**	**23 27 42.1**	**-0.5**
NC602					IAmb		IAmb	23 27 56.4	
	comp=Z,1μm,3.7s								
NORES	**NORESS Array B**	**42.68**	**323**		P		**P**	**23 27 42.2**	**-0.4**
STEI	**Steigen**	**42.75**	**334**		*e*		**P**	**23 27 43.4**	**+0.3**
CTI	**Castel Tesino**	**42.76**	**301**		P		**P**	**23 27 43.4**	**-0.2**
CTI	**Castel Tesino**	**42.76**	**301**		P		**P**	**23 27 43.4**	**-0.2**
CTI					pmax		pmax		
	comp=Z,10.0nm,0.9s								
NC303	**NORSAR Array S**	**42.83**	**323**		*e*P		**P**	**23 27 43.8**	**-0.1**
NB201	**NORSAR Array S**	**42.84**	**323**		*e*P		**P**	**23 27 43.6**	**-0.4**
NB2	**NORSAR Subarra**	**42.88**	**323**		P		**P**	**23 27 44.0**	**-0.3**
	comp=Z,5.6nm,0.8s,baz=98,slow=8.6								
NB2	**NORSAR Subarra**	**42.88**	**323**		P		**P**	**23 27 44.0**	**-0.3**
	slow=8.6								
NOA	**NORSAR Array B**	**42.88**	**323**		P		**P**	**23 27 44.0**	**-0.3**
	comp=Z,9.8nm,0.8s,baz=98,slow=8.1,SNR=32								
NOA					LR		LR	23 48 52.1	
	comp=Z,153nm,19.1s,baz=110,slow=41								
	comp=Z,9.8nm,0.8s								
SQTA	**Sankt Quirin**	**42.89**	**303**		*e*P		**P**	**23 27 44.4**	**-0.3**
	comp=Z,2.7nm,0.7s								
MOTA	**Moosalm**	**42.95**	**303**		*e*P		**P**	**23 27 45.1**	**-0.1**
	comp=Z,5.9nm,0.9s,SNR=8.7								
NAO01	**NORSAR Array S**	**43.01**	**323**		*e*P		**P**	**23 27 45.2**	**-0.1**
KULM	**Kulim**	**43.05**	**129**		P		**P**	**23 27 47.0**	**+0.8**
KULM					IAmb		IAmb	23 28 26.5	
	comp=Z,57nm,1.4s								
NBO00	**NORSAR Array S**	**43.09**	**323**		*e*P		**P**	**23 27 44.4**	**-1.5**
NC204	**NORSAR Array S**	**43.12**	**323**		*e*P		**P**	**23 27 46.5**	**+0.2**
RETA	**Reutte**	**43.16**	**303**		*i* P		**P**	**23 27 46.9**	**+0.1**
	comp=Z,1.5nm,0.6s								
CN2	**Changchun**	**43.24**	**62**		*e*P		P	23 27 36.2	-11
CN2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
FETA	**Feichten**	**43.24**	**302**		*e*P		**P**	**23 27 47.3**	**-0.3**
	comp=Z,2.2nm,0.7s,SNR=6.9								
ZEA	**Zeya**	**43.33**	**48**		*e*P		**P**	**23 27 49.8**	**+1.8**
ZEA					pmax		pmax		
	comp=Z,10.0nm,1.2s								
OSSC	**Osservatorio P**	**43.48**	**297**		P		**P**	**23 27 49.4**	**0.0**
KONO	**Kongsberg**	**43.53**	**321**		P		**P**	**23 27 49.4**	**-0.1**
KONO					IAmb		IAmb	23 29 17.4	
	comp=Z,62nm,1.6s								
KONO	**Kongsberg**	**43.53**	**321**		P		**P**	**23 27 49.4**	**-0.1**
KONO					pmax		pmax		
	comp=Z,63nm,1.6s								
KONO	**Kongsberg**	**43.53**	**321**		*e*P		**P**	**23 27 49.2**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**43.62**	**302**		P		**P**	**23 27 50.6**	**-0.1**
HEH	**HeiHe**	**43.65**	**53**		*e*P		**P**	**23 27 52.1**	**+1.5**
HEH					pmax		pmax		
	comp=Z,31nm,0.9s								
DAVA	**Damuels**	**43.78**	**303**		*e*P		**P**	**23 27 51.9**	**0.0**
	comp=Z,4.9nm,0.7s								
DAVOX	**Davos/Dischmat**	**43.86**	**302**		LR		LR	23 49 33.9	
	comp=Z,76nm,18.3s,baz=65,slow=41								
IPM	**Ipoh**	**43.91**	**129**		P		**P**	**23 27 52.6**	**-0.5**
IPM					IAmb		IAmb	23 28 07.2	
	comp=Z,54nm,1.6s								
PSI	**Prapat**	**43.98**	**133**		P		**P**	**23 27 52.9**	**-0.9**
PSI					pmax		pmax		
	comp=Z,10.0nm,0.6s								
DOMB	**Dombas**	**44.02**	**324**		*e*P		**P**	**23 27 54.4**	**+0.9**
RPSI	**Rantau Prapat**	**44.06**	**133**		P		**P**	**23 27 52.9**	**-1.4**
RPSI					IAmb		IAmb	23 27 59.3	
	comp=Z,10nm,0.6s								
GSI	**Gunungsitoli**	**44.43**	**136**		P		**P**	**23 27 57.9**	**+0.7**
BFO	**Black Forest**	**44.66**	**305**		P		**P**	**23 27 58.2**	**-0.6**
BFO	**Black Forest**	**44.66**	**305**		P		**P**	**23 27 58.2**	**-0.6**
BFO					pmax		pmax		
	comp=Z,12nm,1.3s								
YAK	**Yakutsk**	**44.86**	**36**		P		**P**	**23 28 00.6**	**+0.5**
	comp=Z,9.3nm,0.6s,baz=235,slow=1.8,SNR=9.5								
YAK					LR		LR	23 48 14.7	
	comp=Z,276nm,18.6s,baz=262,slow=38								
	comp=Z,9.3nm,0.6s								
YAK	**Yakutsk**	**44.86**	**36**		P		**P**	**23 27 59.6**	**-0.5**
YAK	**Yakutsk**	**44.86**	**36**		*e*P		**P**	**23 27 59.4**	**-0.7**
YAK					*e**PP		**pP**	**23 28 08.5**	**-0.7**
YAK					*e*PPP		PPP	23 30 20.8	
YAK					*e*S		**S**	**23 34 37.4**	**+1.9**
YAK					*e*			23 37 55.1	
YAK					*e*SS		SnSn	23 38 45.1	+23
YAK					pmax		pmax		
	comp=Z,34nm,1.5s								
YAK					pmax		pmax		
	comp=N,5.0nm,1.6s								
YAK					pmax		pmax		
	comp=E,17nm,1.5s								
YAK					pmax		pmax		
	comp=Z,188nm,5.1s								
YAK					pmax		pmax		
	comp=N,245nm,7.6s								
YAK					pmax		pmax		
	comp=E,169nm,6.8s								
YAK					smax		smax		
	comp=N,167nm,5.5s								
YAK					smax		smax		
	comp=E,72nm,5.4s								
YAK					MLR		MLR		
	comp=Z,124nm,17.0s								
YAK					MLR		MLR		
	comp=N,202nm,23.0s								
YAK					MLR		MLR		
	comp=E,189nm,19.0s								
LODK	**Lodwar**	**45.09**	**230**		P		**P**	**23 28 02.7**	**+0.1**
LODK					IAmb		IAmb	23 28 06.4	
	comp=Z,15nm,1.5s								
LODK	**Lodwar**	**45.09**	**230**		P		**P**	**23 28 04.8**	**+2.2**
	SNR=5.5								
PGF	**Pioggiola**	**45.30**	**296**		*e*P		**P**	**23 28 03.4**	**-0.7**
PGF					pmax		pmax		
	comp=Z,42nm,1.5s								
CDF	**Champ du Feu**	**45.35**	**305**		*e*P		**P**	**23 28 06.4**	**+2.1**
CDF					pmax		pmax		
	comp=Z,9.0nm,1.2s								
ECH	**Echery**	**45.45**	**305**		P		**P**	**23 28 04.8**	**-0.2**
ECH	**Echery**	**45.45**	**305**		P		**P**	**23 28 04.9**	**-0.2**
ECH					pmax		pmax		
	comp=Z,5.0nm,1.0s								
SENIN	**Lac Senin/Sane**	**45.68**	**302**		P		**P**	**23 28 06.5**	**-0.7**
HINF	**Hinteralfeld**	**45.72**	**304**		*e*P		**P**	**23 28 06.7**	**-0.6**
HINF					pmax		pmax		
	comp=Z,7.0nm,1.0s								
BTNL	**Ternell**	**45.78**	**308**		*d*P		**P**	**23 28 08.6**	**+1.0**
	comp=Z,4.9nm,0.9s								
MEM	**Membach**	**45.85**	**308**		*d*P		**P**	**23 28 09.2**	**+1.0**
	comp=Z,8.7nm,1.0s								
WLF	**Walferdange**	**45.89**	**307**		P		**P**	**23 28 09.2**	**+0.7**
WLF					IAmb		IAmb	23 28 11.3	
	comp=Z,16nm,1.0s								
WLF	**Walferdange**	**45.89**	**307**		P		**P**	**23 28 09.2**	**+0.7**
WLF					pmax		pmax		
	comp=Z,16nm,1.0s								
WLF	**Walferdange**	**45.89**	**307**		*d*P		**P**	**23 28 09.5**	**+1.0**
	comp=Z,9.9nm,1.0s								
HAU	**Haudompre**	**46.02**	**304**		*e*P		**P**	**23 28 09.3**	**-0.3**
HAU					pmax		pmax		
	comp=Z,7.0nm,0.8s								
SBF	**Sospel**	**46.11**	**299**		*e*P		**P**	**23 28 10.1**	**-0.3**
SBF					pmax		pmax		
	comp=Z,11nm,0.7s								
TIXI	**Tiksi**	**46.21**	**22**		P		**P**	**23 28 11.4**	**+0.7**
	comp=Z,22nm,0.8s,baz=270,slow=24,SNR=46								
TIXI					LR		LR	23 49 00.5	
	comp=Z,167nm,19.5s,baz=256,slow=38								
	comp=Z,22nm,0.8s								
TIXI	**Tiksi**	**46.21**	**22**		P		**P**	**23 28 10.9**	**+0.2**
TIXI	**Tiksi**	**46.21**	**22**	*ce*	P		**P**	**23 28 11.1**	**+0.4**
TIXI					pmax		pmax		
	comp=Z,25nm,0.8s								
LPL	**La Plagne**	**46.24**	**301**		*e*P		**P**	**23 28 11.5**	**-0.1**
LPL					pmax		pmax		
	comp=Z,8.0nm,0.7s								
BCLA	**Clavier**	**46.32**	**308**		*d*P		**P**	**23 28 13.4**	**+1.6**
BNI	**Bardonecchia**	**46.37**	**300**		P		**P**	**23 28 12.1**	**-0.4**
BNI					IAmb		IAmb	23 28 24.9	
	comp=Z,13nm,1.1s								
BNI	**Bardonecchia**	**46.37**	**300**		P		**P**	**23 28 12.1**	**-0.4**
BNI					pmax		pmax		
	comp=Z,13nm,1.1s								
MBDF	**Montbardon**	**46.38**	**300**		*e*P		**P**	**23 28 12.0**	**-0.6**
MBDF					pmax		pmax		
	comp=Z,11nm,0.8s								
RCHB	**Rochefort**	**46.41**	**308**		*d*P		**P**	**23 28 13.3**	**+0.8**
	comp=Z,4.5nm,0.8s								
CABF	**La Chapelle**	**46.46**	**303**		*e*P		**P**	**23 28 13.1**	**0.0**
CABF					pmax		pmax		
	comp=Z,30nm,1.4s								
KLR	**Kul'dur**	**46.57**	**54**		P		**P**	**23 28 14.2**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=289,slow=9.2,SNR=11								
KLR					LR		LR	23 49 36.1	
	comp=Z,252nm,18.1s,baz=278,slow=38								
	comp=Z,3.8nm,0.8s								
KLR	**Kul'dur**	**46.57**	**54**	*ce*	P		**P**	**23 28 15.3**	**+1.5**
KLR					pmax		pmax		
	comp=Z,9.0nm,1.7s								
KS19	**Wonju Array Si**	**46.62**	**70**		P		**P**	**23 28 14.5**	**+0.1**
KSAR	**Wonju Array Be**	**46.65**	**70**		P		**P**	**23 28 14.6**	**0.0**
KSAR	**Wonju Array Be**	**46.65**	**70**		P		**P**	**23 28 14.6**	**0.0**
KSRS	**Korea Array**	**46.68**	**70**		P		**P**	**23 28 15.5**	**+

EPF	**Esparros**	**51.31**	**299**	*e*P		**P**		**23 28 49.8**	**-0.5**
EPF					pmax	pmax				
	comp=Z,2.0nm,0.7s									
SGMF	**Saint Gilles**	**51.79**	**306**	*e*P		**P**		**23 28 53.6**	**-0.2**
SGMF					pmax	pmax				
	comp=Z,19nm,1.2s									
ETSF	**Etsaut**	**51.98**	**299**	*e*P		**P**		**23 28 55.4**	**0.0**
ETSF					pmax	pmax				
	comp=Z,7.0nm,0.8s									
ROSF	**Rostrenen**	**52.23**	**307**	*e*P		**P**		**23 28 56.7**	**-0.4**
ROSF					pmax	pmax				
	comp=Z,20nm,1.0s									
QUIF	**Quistinic**	**52.28**	**306**	*e*P		**P**		**23 28 57.1**	**-0.3**
QUIF					pmax	pmax				
	comp=Z,66nm,1.8s									
SBUM	**Sibu**	**52.82**	**120**	P		**P**		**23 29 01.7**	**-0.2**
DSB	**Dublin**	**52.89**	**313**	P		**P**		**23 29 01.7**	**-0.2**
NOR	**Nord**	**53.08**	**349**	*i* P		**P**		**23 29 03.0**	**+0.1**
NOR					IAmb	IAmb		23 29 04.8		
	comp=Z,2.3nm,1.7s									
JSD	**Sado**	**54.17**	**66**	P		**P**		**23 29 11.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**54.27**	**54**	*e*P		**P**		**23 29 12.6**	**+0.6**
YSS					pmax	pmax				
	comp=Z,10.0nm,0.8s									
DBG	**Daneborg**	**54.57**	**340**	*e*P		**P**		**23 29 14.2**	**+0.3**
MJAR	**Matsushiro Arr**	**54.70**	**68**	P		**P**		**23 29 16.1**	**+0.7**
	comp=Z,6.5nm,0.9s,baz=291,slow=9.2,SNR=17									
MJAR					LR	LR		23 54 10.9		
	comp=Z,118nm,19.5s,baz=300,slow=38									
	comp=Z,6.5nm,0.9s									
ASAJ	**Asahikawa**	**55.09**	**58**	LR		LR		23 55 06.0		
	comp=Z,344nm,20.7s,baz=298,slow=38									
JTM	**Tenmabayashi**	**55.19**	**62**	P		**P**		**23 29 20.1**	**+1.2**
SEY	**Seymchan**	**55.25**	**34**	P		**P**		**23 29 20.3**	**+1.4**
	comp=Z,3.9nm,0.8s,baz=286,slow=7.6,SNR=7.4									
	comp=Z,3.9nm,0.8s									
MA2	**Magadan**	**55.33**	**38**	LR		LR		23 52 11.1		
	comp=Z,87nm,18.5s,baz=280,slow=35									
ESBB	**Sonseca Array**	**55.49**	**297**	P		**P**		**23 29 21.3**	**+0.3**
ESDC	**Sonseca Array**	**55.49**	**297**	P		**P**		**23 29 21.4**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=64,slow=7.2,SNR=31									
ESDC					LR	LR		23 56 16.7		
	comp=Z,17nm,19.4s,baz=106,slow=40									
	comp=Z,4.3nm,0.9s									
ESDC	**Sonseca Array**	**55.49**	**297**	P		**P**		**23 29 20.7**	**-0.4**
PAB	**San Pablo**	**55.81**	**297**	P		**P**		**23 29 23.2**	**-0.2**
PAB					IAmb	IAmb		23 29 24.6		
	comp=Z,10nm,1.2s									
PAB	**San Pablo**	**55.81**	**297**	P		**P**		**23 29 23.2**	**-0.2**
PAB					pmax	pmax				
	comp=Z,10.0nm,1.2s									
JMM	**Marumori**	**56.09**	**65**	P		**P**		**23 29 25.6**	**+0.3**
PBRG	**Braganca**	**56.66**	**300**	*e*P		**P**		**23 29 29.9**	**+0.5**
LEM	**Lembang**	**56.83**	**132**	LR		LR		23 54 17.0		
	comp=Z,25nm,21.9s,baz=247,slow=36									
MVO	**Moncorvo**	**57.10**	**299**	*e*P		**P**		**23 29 33.5**	**+0.9**
	comp=Z,16nm,1.6s									
BORG	**Borgarnes**	**57.27**	**329**	LR		LR		23 54 25.4		
	comp=Z,50nm,18.0s,baz=160,slow=36									
PCAB	**Cabril**	**57.58**	**300**	*e*P		**P**		**23 29 37.9**	**+2.0**
	comp=Z,31nm,2.0s									
PGAV	**Gavieira, Arco**	**57.65**	**301**	*e*P		**P**		**23 29 37.6**	**+1.1**
MTE	**Manteigas**	**57.75**	**299**	*e*P		**P**		**23 29 38.5**	**+1.3**
MTE	**Manteigas**	**57.75**	**299**	P		**P**		**23 29 37.1**	**-0.1**
MTE					IAmb	IAmb		23 29 39.2		
	comp=Z,16nm,1.0s									
PVIS	**Viseu**	**57.88**	**299**	*e*P		**P**		**23 29 39.2**	**+1.2**
PCBR	**Castelo Branco**	**57.93**	**298**	*e*P		**P**		**23 29 40.1**	**+1.8**
PMRV	**Marv??o**	**58.03**	**298**	*e*P		**P**		**23 29 39.9**	**+0.8**
PBAR	**Barrancos**	**58.28**	**296**	*e*P		**P**		**23 29 41.3**	**+0.5**
PESTR	**Estremoz**	**58.40**	**297**	*e*P		**P**		**23 29 42.3**	**+0.6**
PESTR	**Estremoz**	**58.40**	**297**	P		**P**		**23 29 40.9**	**-0.7**
PCAS	**Casmilo, Conde**	**58.56**	**299**	*e*P		**P**		**23 29 44.7**	**+1.9**
OPO	**Ambohidratompo**	**58.68**	**204**	P		**P**		**23 29 43.6**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=76,slow=4.2,SNR=1.9									
OPO					LR	LR		23 51 48.0		
	comp=Z,38nm,21.6s,baz=167,slow=33									
	comp=Z,2.2nm,0.8s									
EVO	**Evora**	**58.84**	**297**	*e*P		**P**		**23 29 45.7**	**+1.0**
PBEJ	**Beja**	**58.94**	**296**	*e*P		**P**		**23 29 46.4**	**+1.0**
ABPO	**Ambohimpanom**	**59.08**	**204**	P		**P**		**23 29 46.4**	**-0.3**
ABPO					IAmb	IAmb		23 30 25.2		
	comp=Z,11nm,1.2s									
ABPO	**Ambohimpanom**	**59.08**	**204**	P		**P**		**23 29 46.4**	**-0.3**
ABPO					pmax	pmax				
	comp=Z,11nm,1.2s									
BILL	**Bilibino**	**59.17**	**26**	*ce*P		**P**		**23 29 47.6**	**+1.1**
BILL				*i*				23 30 36.7		
BILL				*i*				23 31 58.1		
BILL					pmax	pmax				
	comp=Z,17nm,2.5s									
BILL					MLR	MLR				
	comp=Z,111nm,16.0s									
DAV	**Davao City (W)**	**59.64**	**105**	LR		LR		23 56 14.7		
	comp=Z,97nm,21.8s,baz=314,slow=37									
PTEO	**Sao Teotonio**	**59.76**	**296**	*e*P		**P**		**23 29 52.4**	**+1.3**
	comp=Z,47nm,1.6s									
SUMG	**Summit**	**60.06**	**341**	*i* P		**P**		**23 29 53.0**	**-0.1**
SUMG					IAmb	IAmb		23 30 02.7		
	comp=Z,8.0nm,0.8s									
NEEM	**North Greenlan**	**60.25**	**347**	*i* P		**P**		**23 29 55.5**	**+1.3**
NEEM					IAmb	IAmb		23 29 58.0		
	comp=Z,8.3nm,0.8s									
ICESG	**Greenland Ices**	**62.10**	**337**	*i* P		**P**		**23 30 07.5**	**+0.6**
ICESG					IAmb	IAmb		23 30 08.7		
	comp=Z,7.2nm,0.8s									
EUNU	**Eureka**	**62.49**	**355**	P		**P**		**23 30 09.1**	**0.0**
KAPI	**Kappang**	**63.38**	**120**	LR		LR		00 04 18.2		
	comp=Z,28nm,19.9s,baz=298,slow=42									
LSZ	**Lusaka**	**64.27**	**224**	LR		LR		00 01 28.5		
	comp=Z,168nm,18.6s,baz=27,slow=39									
LSZ	**Lusaka**	**64.27**	**224**	P		**P**		**23 30 21.6**	**0.0**
LSZ					IAmb	IAmb		23 30 24.8		
	comp=Z,6.2nm,0.9s									
LSZ	**Lusaka**	**64.27**	**224**	P		**P**		**23 30 21.6**	**0.0**
LSZ					pmax	pmax				
	comp=Z,6.0nm,0.9s									
ILULI	**Ilulissat**	**65.38**	**340**	P		**P**		**23 30 27.7**	**-0.3**
ILULI	**Ilulissat**	**65.38**	**340**	P		**P**		**23 30 27.7**	**-0.3**
ILULI					pmax	pmax				
	comp=Z,62nm,1.2s									
DY2G	**Dye2**	**65.65**	**336**	*i* P		**P**		**23 30 30.6**	**+0.5**
DY2G					IAmb	IAmb		23 30 32.0		
	comp=Z,12nm,1.1s									
SFJD	**Kangerlussuaq**	**66.68**	**338**	LR		LR		23 59 24.3		
	comp=Z,114nm,18.0s,baz=61,slow=36									
RES	**Resolute Bay**	**68.19**	**355**	P		**P**		**23 30 48.1**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=31,slow=5.9,SNR=1.6									
	comp=Z,0.5nm,0.6s									
A36M	**Sachs Harbour**	**71.02**	**4**	P		**P**		**23 31 04.2**	**+0.9**
A36M					IAmb	IAmb		23 31 28.9		
	comp=Z,17nm,0.9s									
COLD	**Coldfoot**	**72.16**	**15**	P		**P**		**23 31 10.9**	**+0.6**
COLD					IAmb	IAmb		23 31 42.4		
	comp=Z,6.6nm,0.9s									
IMAR	**Indian Mountai**	**72.43**	**17**	P		**P**		**23 31 12.1**	**+0.2**
DBIC	**Dimbokro**	**72.70**	**265**	P		**P**		**23 31 13.7**	**-0.7**
DBIC	**Dimbokro**	**72.70**	**265**	P		**P**		**23 31 13.7**	**-0.7**
BMAR	**Burnt Mountain**	**73.06**	**13**	P		**P**		**23 31 17.0**	**+1.3**
TSUM	**Tsumeb**	**73.57**	**230**	LR		LR		00 06 09.3		
	comp=Z,108nm,18.7s,baz=14,slow=38									
TSUM	**Tsumeb**	**73.57**	**230**	P		**P**		**23 31 18.8**	**-0.6**
TSUM					IAmb	IAmb		23 31 23.1		
	comp=Z,44nm,1.9s									
LBTB	**Lobatse**	**73.61**	**220**	LR		LR		00 04 07.6		
	comp=Z,71nm,18.6s,baz=60,slow=36									
LBTB	**Lobatse**	**73.61**	**220**	P		**P**		**23 31 19.4**	**-0.1**
LBTB					IAmb	IAmb		23 32 56.8		
	comp=Z,39nm,1.9s									
LBTB	**Lobatse**	**73.61**	**220**	P		**P**		**23 31 19.4**	**-0.1**
LBTB					pmax	pmax				
	comp=Z,39nm,1.9s									
INK	**Inuvik**	**73.86**	**8**	P		**P**		**23 31 21.0**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=11,slow=7.2,SNR=16									
INK					LR	LR		00 07 58.6		
	comp=Z,58nm,19.8s,baz=226,slow=39									
	comp=Z,4.8nm,0.8s									
INK	**Inuvik**	**73.86**	**8**	P		**P**		**23 31 20.8**	**+0.5**
INK					IAmb	IAmb		23 31 22.4		
	comp=Z,8.7nm,1.1s									
INK	**Inuvik**	**73.86**	**8**	P		**P**		**23 31 20.8**	**+0.5**
INK					pmax	pmax				
	comp=Z,9.0nm,1.1s									
MLY	**Manley**	**73.92**	**16**	P		**P**		**23 31 21.6**	**+0.7**
MLY					IAmb	IAmb		23 31 23.9		
	comp=Z,19nm,1.7s									
FRB	**Frobisher Bay**	**74.10**	**342**	LR		LR		00 03 14.7		
	comp=Z,30nm,20.3s,baz=38,slow=35									
K20K	**Telida**	**74.53**	**18**	P		**P**		**23 31 25.2**	**+0.8**
K20K					IAmb	IAmb		23 31 26.5		
	comp=Z,13nm,1.1s									
COLA	**College**	**74.68**	**15**	P		**P**		**23 31 25.8**	**+0.7**
COLA					IAmb	IAmb		23 31 30.6		
	comp=Z,11nm,0.8s									
COLA	**College**	**74.68**	**15**	P		**P**		**23 31 25.8**	**+0.7**
COLA					pmax	pmax				
	comp=Z,11nm,0.8s									
IL31		**74.97**	**15**	P		**P**		**23 31 27.0**	**+0.2**
IL31					IAmb	IAmb		23 31 28.6		
	comp=Z,11nm,1.3s									
ILAR	**Eielson Array**	**74.97**	**15**	P		**P**		**23 31 27.1**	**+0.3**
	comp=Z,3.6nm,1.0s,baz=319,slow=4.8,SNR=24									
ILAR					LR	LR		00 08 41.9		
	comp=Z,113nm,18.7s,baz=288,slow=39									
	comp=Z,3.6nm,1.0s									
ILAR	**Eielson Array**	**74.97**	**15**	P		**P**		**23 31 26.9**	**0.0**
ILAR	**Eielson Array**	**74.97**	**15**	P		**P**		**23 31 26.9**	**0.0**
PPLA	**Purkeypile**	**75.39**	**18**	P		**P**		**23 31 29.9**	**+0.4**
SCRK	**Sand Creek**	**76.26**	**14**	P		**P**		**23 31 34.8**	**+0.3**
SCRK					IAmb	IAmb		23 31 36.3		
	comp=Z,9.4nm,1.0s									
SKT	**Skwentna**	**76.33**	**18**	P		**P**		**23 31 34.7**	**0.0**
SKT					IAmb	IAmb		23 31 35.7		
	comp=Z,13nm,1.0s									
DHY	**Denali Highway**	**76.36**	**16**	P		**P**		**23 31 35.3**	**+0.3**
DHY					IAmb	IAmb		23 31 37.7		
	comp=Z,32nm,1.9s									
BOSA	**Boshof**	**76.74**	**218**	P		**P**		**23 31 36.9**	**-0.6**
	comp=Z,5.4nm,1.0s,baz=60,slow=7.1,SNR=5.0									
BOSA					LR	LR		00 08 44.0		
	comp=Z,37nm,18.4s,baz=7.5,slow=38									
	comp=Z,5.4nm,1.0s									
BOSA	**Boshof**	**76.74**	**218**	P		**P**		**23 31 37.4**	**-0.1**
BOSA					IAmb	IAmb		23 31 43.1		
	comp=Z,12nm,1.1s									
PAX	**Paxson**	**76.86**	**15**	P		**P**		**23 31 38.1**	**+0.3**
PAX	**Paxson**	**76.86**	**15**	P		**P**		**23 31 38.1**	**+0.3**
PAX					pmax	pmax				
	comp=Z,5.0nm,0.9s									
DAWY	**Dawson**	**77.02**	**12**	P		**P**		**23 31 39.1**	**+0.5**
DAWY					IAmb	IAmb		23 31 41.0		
	comp=Z,12nm,1.2s									
SML	**Sawmill**	**77.25**	**17**	P		**P**		**23 31 40.0**	**0.0**
SML					IAmb	IAmb		23 32 04.3		
	comp=Z,16nm,0.8s									
BBTS	**Babate**	**77.42**	**279**	LR		LR		00 14 37.7		
	comp=Z,41nm,18.3s,baz=68,slow=42									
SCM	**Sheep Creek Mo**	**77.46**	**17**	P		**P**		**23 31 41.5**	**+0.3**
SCM	**Sheep Creek Mo**	**77.46**	**17**	P		**P**		**23 31 41.5**	**+0.3**
SCM					pmax	pmax				
	comp=Z,38nm,1.4s									
M31M	**Drury Creek, Y**	**79.57**	**11**	P		**P**		**23 31 53.1**	**+0.4**
M31M					IAmb	IAmb		23 31 55.3		
	comp=Z,35nm,1.7s									
KDAK	**Kodiak Island**	**79.61**	**21**	LR		LR		00 10 05.2		
	comp=Z,94nm,19.1s,baz=317,slow=38									
SCHQ	**Schefferville**	**80.95**	**336**	P		**P**		**23 32 01.1**	**+0.8**
	comp=Z,5.7nm,0.9s,baz=44,slow=5.0,SNR=5.4									
	comp=Z,5.7nm,0.9s									
SCHQ	**Schefferville**	**80.95**	**336**	P		**P**		**23 32 00.7**	**+0.4**
SCHQ					IAmb	IAmb		23 32 06.6		
	comp=Z,13nm,1.1s									
YKA	**Yellowknife Ar**	**80.96**	**1**	P		**P**		**23 32 01.1**	**+0.9**
	comp=Z,6.3nm,0.7s,baz=348,slow=5.6,SNR=69									
	comp=Z,6.3nm,0.7s									
YKA	**Yellowknife Ar**	**80.96**	**1**	P		**P**		**23 32 00.4**	**+0.2**
YKA	**Yellowknife Ar**	**80.96**	**1**	P		**P**		**23 32 00.4**	**+0.2**
SUR	**Sutherland**	**82.02**	**219**	LR		LR		00 13 02.7		
	comp=Z,69nm,18.7s,baz=16,slow=39									
SUR	**Sutherland**	**82.02**	**219**	P		**P**		**23 32 07.2**	**+0.9**
FCC	**Fort Churchill**	**83.63**	**351**	P		**P**		**23 32 14.9**	**+0.8**
FCC					IAmb	IAmb		23 32 15.5		
	comp=Z,18nm,1.4s									
FCC	**Fort Churchill**	**83.63**	**351**	P		**P**		**23 32 14.9**	**+0.8**
FCC					pmax	pmax				
	comp=Z,18nm,1.5s									
DLBC	**Dease Lake**	**83.81**	**10**	LR		LR		00 14 26.4		
	comp=Z,42nm,18.5s,baz=0.5,slow=39									
WRA	**Warramunga Arr**	**83.91**	**120**	P		**P**		**23 32 14.3**	**-1.9**
	comp=Z,2.4nm,0.9s,baz=325,slow=4.6,SNR=18									
	comp=Z,2.4nm,0.9s									
WRA	**Warramunga Arr**	**83.91**	**120**	P		**P**		**23 32 14.6**	**-1.5**
WRA	**Warramunga Arr**	**83.91**	**120**	P		**P**		**23 32 14.6**	**-1.5**
WRA					pmax	pmax				
	comp=Z,2.0nm,1.9s									
WB2	**Warramunga Arr**	**83.92**	**120**	P		**P**		**23 32 14.2**	**-2.0**
WB2					IAmb	IAmb		23 32 46.9		
	comp=Z,9.0nm,1.1s									
ASAR	**Alice Springs**	**86.14**	**123**	P		**P**		**23 32 25.3**	**-2.0**
	comp=Z,1.8nm,0.9s,baz=315,slow=5.0,SNR=11									
	comp=Z,1.8nm,0.9s									
ASAR	**Alice Springs**	**86.14**	**123**	P		**P**		**23 32 25.1**	**-2.2**
FORT	**Forrest**	**87.40**	**132**	P		**P**		**23 32 31.6**	**-1.6**
FFC	**Flin Flon**	**88.42**	**354**	P		P		23 32 28.0	-10
BBB	**Bella Bella**	**90.15**	**10**	LR		LR		00 19 48.0		
	comp=Z,53nm,18.2s,baz=316,slow=40									
EDM	**Edmonton**	**90.28**	**1**	P		**P**		**23 32 46.9**	**+0.2**
EDM	**Edmonton**	**90.28**	**1**	P		**P**		**23 32 46.9**	**+0.2**
EDM					pmax	pmax				
	comp=Z,14nm,0.8s									
ULM	**Lac du Bonnet**	**92.17**	**350**	P		**P**		**23 32 56.3**	**+0.8**
	comp=Z,5.0nm,1.0s,baz=7.1,slow=5.8,SNR=4.0									
ULM					LR	LR		00 17 31.0		
	comp=Z,33nm,18.6s,baz=357,slow=38									
	comp=Z,5.0nm,1.0s									
CTA	**Charters Tower**	**92.54**	**113**	LR		LR		00 18 44.6		
	comp=Z,18nm,21.5s,baz=258,slow=38									
NEW	**Newport**	**95.11**	**4**	LR		LR		00 21 21.6		
	comp=Z,84nm,18.2s,baz=358,slow=39									
TEFE	**Tefe**	**125.69**	**296**	*e*P		**PKiKP**		**23 38 52.7**	**+4.3**
PTLB	**Pontes e Lacer**	**129.06**	**280**	*e*P		**PKiKP**		**23 38 59.5**	**+4.5**
CPUP	**Villa Florida**	**133.20**	**267**	PKP		**PKPdf**		**23 38 59.8**	**-2.2**
	comp=Z,1.4nm,0.9s,baz=90,slow=2.0,SNR=2.2									
PLCA	**Paso Flores**	**148.04**	**250**	PKPbc		**PKPbc**		**23 39 31.1**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=151,slow=6.2,SNR=4.1									

*SNET **07** 23:30:03.7±0.8, 13.72N×91.11W, h22km±5km, ML3.2*
*GCG **07** 23:30:09.3±0.3, 14.08N×91.17W, h60km±12km, MD3.8*
ISC 07 23:30:04.0±2.6, 13.5N±0.2×91.2W±0.1, h35km, n12, σ0.9s76/15, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.90**	**335**	*e*P	**Pn**	**23 30 20.6**	**+0.4**
FUG	**Fuego 3**	**1.01**	**18**	*e*P	**Pn**	**23 30 21.7**	**-0.1**
STG3	**Santiaguito 3,**	**1.28**	**342**	*e*P	**Pn**	**23 30 24.6**	**-0.9**
NBG	**Las Nubes**	**1.36**	**36**	*e*P	**Pn**	**23 30 27.6**	**+0.9**
NUBE	**Las Nubes**	**1.41**	**73**	*e*P	**Pn**	**23 30 26.3**	**-1.1**
NUBE				IAML		23 30 52.4	
	comp=Z,262nm,0.3s						
SLOZ	**Alcaldia de Sa**	**1.45**	**68**	*e*P	**Pn**	**23 30 27.4**	**-0.4**
SLOZ				*e*S	**Sn**	**23 30 44.5**	**-1.2**
SLOZ				IAML		23 30 54.0	
	comp=Z,351nm,0.5s						
JAYA	**Jayaque - finc**	**1.68**	**84**	*e*P	**Pn**	**23 30 30.2**	**-0.8**
JAYA				*e*S	**Sn**	**23 30 52.2**	**+0.7**
JAYA				IAML		23 30 56.3	
	comp=Z,708nm,0.2s						
UEES	**Universidad Ev**	**1.89**	**83**	*e*P	**Pn**	**23 30 33.8**	**-0.1**
UEES				*e*S	**Sn**	**23 30 57.1**	**+0.5**
PAVA	**Las Pavas**	**2.18**	**84**	*e*P	**Pn**	**23 30 37.7**	**-0.3**
TECO	**Alcaldia de Te**	**2.33**	**88**	*e*S	**Sn**	**23 31 08.0**	**+0.8**
PQSS	**Presa 15 de Se**	**2.54**	**87**	*e*P	**Pn**	**23 30 42.8**	**0.0**
LCND	**La Caada**	**3.20**	**93**	*e*P	**Pn**	**23 30 52.1**	**+0.3**
LCND				IAML		23 31 40.0	
	comp=Z,132nm,0.4s						

IDC 07 23:37:16.2±4.6, 6.82S×128.71E, h0km, mb4.0/1, mbtmp3.7/4, ML3.4/3, MS4.2/1, Error ellipse: s-maj=121.8km s-min=32.8km az=96.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.44**	**23**	Pn	Pn	23 38 52.5	+0.2
	0.4nm,0.3s,baz=220,slow=23,SNR=1.1						
SIJI				Sn	Sn	23 39 57.4	-9.3
	1.4nm,0.3s,baz=237,slow=23,SNR=2.8						
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**14.14**	**158**	Pn	Pn	23 40 38.2	+0.3
	0.2nm,0.3s,baz=337,slow=13,SNR=2.5						
WRA				Sn	Sn	23 43 08.9	-6.8
	0.4nm,0.3s,baz=336,slow=22,SNR=7.0						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**17.48**	**164**	P	Pn	23 41 21.9	+0.4
	0.4nm,0.3s,baz=340,slow=11,SNR=39						
ASAR				S	Sn	23 44 30.3	-6.5
	0.4nm,0.7s,baz=350,slow=26,SNR=2.7						
	1.1nm,0.5s						
STKA	**Stephens Creek**	**27.68**	**156**	P	P	23 43 05.7	-0.3
	0.8nm,0.4s,baz=320,slow=7.9,SNR=3.0						
	0.8nm,0.4s						
HNR	**Honiara**	**31.03**	**97**	LR	LR	23 58 01.1	
	comp=Z,377nm,18.2s,baz=232,slow=40						

*IDC **07** 23:38:29.2±2.3, 36.67N×68.58E, h0km, mb3.8/8, mbtmp3.8/13, ML3.0/5, MS2.9/4, Error ellipse: s-maj=40.8km s-min=17.5km az=159.0*
*NNC **07** 23:38:32.0±2.6, 37.10N×68.24E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=20.8km s-min=17.1km az=165.0*
ISC 07 23:38:36.4±0.7, 37.09N±0.06×68.32E±0.06, h30km, n24, σ1.87/29, mb3.6/6, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**4.39**	**137**	P	**Pn**	**23 39 40.7**	**-0.4**
CEP				S	**Sn**	**23 40 33.0**	**+1.7**
THW	**Thamme Wali**	**5.13**	**146**	P	**Pn**	**23 39 53.0**	**+1.8**
CHCP	**Chirah Chowk**	**5.30**	**129**	P	**Pn**	**23 39 50.1**	**-3.5**
KK31	**Karatay Array**	**6.23**	**15**	⇓Pn	**Pn**	**23 40 07.6**	**+1.2**
	0.7nm,0.2s,baz=201,slow=14,SNR=54						
KK31				⇓Pg	**Pb**	**23 40 25.1**	**+0.9**
	7.3nm,0.8s,baz=206,slow=16,SNR=4.6						
KK31				⇑Sn	**Sn**	**23 41 18.8**	**+2.2**
	8.4nm,0.6s						
KK31				⇓Lg	Lg	23 41 51.7	
	9.6nm,0.6s,baz=202,slow=30,SNR=4.0						
AAK	**Ala-Archa**	**7.29**	**39**	Sn	**Sn**	**23 41 45.3**	**+2.5**
	0.5nm,0.3s,baz=257,slow=11,SNR=1.8						
AAK				LR	LR	23 42 56.1	
	comp=Z,48nm,19.1s,baz=228,slow=36						
CHMS	**Chumysh**	**7.69**	**38**	⇑Pn	**Pn**	**23 40 23.2**	**-3.1**
	7.4nm,0.8s						
CHMS				⇑Sn	**Sn**	**23 41 55.2**	**+2.8**
	26nm,1.4s						
CHMS				⇑Lg	Lg	23 42 35.3	
	34nm,1.4s						
TKM2	**Tokmak 2**	**8.06**	**42**	⇓Pn	**Pn**	**23 40 31.7**	**0.0**
	6.3nm,0.6s						
TKM2				⇑Sn	**Sn**	**23 42 04.7**	**+2.8**
	7.6nm,0.8s						
TKM2				⇑Lg	Lg	23 42 49.2	
	12nm,1.0s						
GEYT	**Alibeck**	**8.15**	**279**	Pn	**Pn**	**23 40 31.9**	**-0.8**
	0.2nm,0.3s,baz=102,slow=12,SNR=1.6						
GEYT				Sn	**Sn**	**23 42 04.9**	**+1.1**
	0.7nm,0.3s,baz=105,slow=27,SNR=2.0						
GEYT				Lg	Lg	23 42 57.9	
	0.2nm,0.3s,baz=209,slow=46,SNR=1.4						
GEYT				LR	LR	23 44 33.6	
	comp=Z,52nm,19.9s,baz=110,slow=43						
	1.2nm,0.5s						
MDOK	**Medeo**	**9.02**	**45**	⇑Pn	**Pn**	**23 40 44.5**	**-0.3**
	6.1nm,0.6s						
MDOK				Lg	Lg	23 43 21.6	
	14nm,1.0s						
AB31	**Akbulak array**	**13.59**	**336**	Pn	**Pn**	**23 41 45.4**	**-1.6**
	0.7nm,0.3s,baz=156,slow=12,SNR=45						
AB31				⇑Sn	**Sn**	**23 44 16.3**	**-0.6**
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**14.19**	**43**	Pn	**Pn**	**23 41 53.8**	**-1.6**
	0.1nm,0.3s,baz=238,slow=14,SNR=24						
	2.7nm,0.8s						
AKTO	**Aktyubinsk**	**15.25**	**334**	Pn	**Pn**	**23 42 08.8**	**-0.6**

H11S2	**WAKE ISLAND Hy**	**21.45**	**73**	T	T	00 14 57.8		
	baz=260,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**21.89**	**70**	T	T	00 15 25.8		
	baz=257,slow=75,SNR=22							
H11N2	**WAKE ISLAND Hy**	**21.91**	**70**	T	T	00 15 29.0		
	baz=257,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**21.91**	**70**	T	T	00 15 29.1		
	baz=257,slow=75,SNR=23							
PMG	**Port Moresby**	**22.42**	**175**	LR	LR	00 02 06.6		
	comp=Z,51nn,19.3s,baz=11,slow=39							
COEN	**Coen**	**26.92**	**184**	P	**P**	**23 53 19.2**	**-3.8**	
COEN				IAmb	IAmb	23 53 41.7		
	comp=Z,5.7nm,1.0s							
WRA	**Warramunga Arr**	**34.48**	**198**	P	**P**	**23 54 32.6**	**+2.9**	
	comp=Z,0.6nm,0.9s,baz=18,slow=9.3,SNR=2.7							
	comp=Z,0.6nm,0.9s							
ASAR	**Alice Springs**	**38.12**	**197**	P	**P**	**23 55 01.6**	**+0.8**	
	comp=Z,0.3nm,0.7s,baz=11,slow=9.4,SNR=6.3							
	comp=Z,0.3nm,0.7s							
MK31	**Makanchi Array**	**62.03**	**316**	P	**P**	**23 58 01.5**	**-0.5**	
MK31				IAmb	IAmb	23 58 08.1		
	comp=Z,0.5nm,1.1s							
MKAR	**Makanchi Array**	**62.03**	**316**	P	**P**	**23 58 02.4**	**+0.5**	
	comp=Z,0.2nm,0.5s,baz=89,slow=8.5,SNR=5.2							
	comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**62.03**	**316**	P	**P**	**23 58 01.4**	**-0.5**	
ILAR	**Eielson Array**	**68.93**	**25**	P	**P**	**23 58 46.4**	**+0.2**	
	comp=Z,0.3nm,0.6s,baz=241,slow=5.9,SNR=2.3							
	comp=Z,0.3nm,0.6s							
YKA	**Yellowknife Ar**	**83.21**	**27**	P	**P**	**00 00 08.3**	**+0.9**	
	comp=Z,0.1nm,0.4s,baz=282,slow=5.2,SNR=1.5							
	comp=Z,0.1nm,0.4s							

*HEL **08** 00:15:22.7±0.4, 67°.79N×20°.12E, h0km, ML1.5, Explosion*
*UPP **08** 00:15:23.3±0.6, 67°.82N×20°.21E, h1km±5km, ML2.6, Suspected explosion*

ISC 08 00:15:23.7±0.8, 67°.83N±0°.03×20°.22E±0°.03, h0km, n23, σ0°.81/35, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**270**	P	**Pg**	**00 15 27.8**	**-0.4**
RATU				S	**Sg**	**00 15 31.1**	**-0.2**
KOVU	**Salmi**	**0.40**	**357**	P	**Pg**	**00 15 31.0**	**-0.4**
NIKU	**Nikkaluokta**	**0.45**	**276**	P	**Pg**	**00 15 31.7**	**-0.6**
LANU	**Lannavaara**	**0.71**	**71**	P	**Pg**	**00 15 36.6**	**-0.6**
LANU	**Lannavaara**	**0.71**	**71**	PG	**Pg**	**00 15 36.4**	**-0.8**
LANU				SB	**Sg**	**00 15 46.1**	**-0.2**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**00 15 36.5**	**-1.0**
MASU	**Masugnsbyn**	**0.78**	**118**	P	**Pg**	**00 15 37.9**	**-0.7**
SALU	**Saltoluokta**	**0.79**	**236**	P	**Pg**	**00 15 38.0**	**-0.9**
KIF	**Kilpisjarvi**	**1.20**	**10**	*eP*	**Pg**	**00 15 46.4**	**-0.4**
KIF	**Kilpisjarvi**	**1.20**	**10**	PN	**Pg**	**00 15 46.6**	**-0.2**
KIF				MSG		00 16 01.6	
	comp=Z,8.2nm,0.2s						
KIF				SB	**Sb**	**00 16 02.6**	**-0.8**
HEF	**Hetta**	**1.42**	**64**	*eP*	**Pn**	**00 15 49.4**	**-1.4**
HEF	**Hetta**	**1.42**	**64**	PG	**Pn**	**00 15 49.4**	**-1.4**
	baz=242						
HEF				MSG		00 16 06.8	
	comp=Z,3.9nm,0.2s						
HEF				SN	**Sn**	**00 16 10.2**	**+0.1**
KLF	**Kolari**	**1.56**	**111**	PN	**Pn**	**00 15 51.7**	**-1.0**
KLF				MSG		00 16 10.1	
	comp=Z,1.8nm,0.2s						
KLF				SN	**Sg**	**00 16 14.0**	**+0.3**
KTK1	**Kautokeino**	**1.63**	**42**	PG	**Pn**	**00 15 53.2**	**-0.5**
KTK1				SN	**Sg**	**00 16 15.9**	**-0.2**
TRO	**Tromso**	**1.88**	**346**	PG	**Pn**	**00 15 57.2**	**+0.2**
TRO				SG	**Sb**	**00 16 22.4**	**-0.3**
KALU	**Kalix**	**2.33**	**146**	PG	**Pn**	**00 16 03.9**	**+0.6**
KALU				SG	**Sb**	**00 16 35.5**	**-0.4**
TOF	**Tornio**	**2.39**	**135**	PG	**Pn**	**00 16 04.9**	**+0.9**
TOF				MSG		00 16 33.2	
	comp=Z,1.4nm,0.2s						
TOF				SG	**Sb**	**00 16 36.8**	**-0.6**
SGF	**Sodankyl**	**2.44**	**96**	PG	**Pn**	**00 16 06.3**	**+1.5**
SGF				SG	**Sb**	**00 16 39.2**	**+0.1**
RNF	**Rovaniemi**	**2.57**	**116**	PG	**Pn**	**00 16 07.9**	**+1.4**
RNF				SG	**Sb**	**00 16 41.6**	**-1.0**
ARA0	**ARCESS Array S**	**2.58**	**46**	PB	**Pn**	**00 16 07.3**	**+0.5**
	baz=226						
ARA0				SB	**Sn**	**00 16 40.3**	**+1.4**
KEV	**Kevo**	**3.14**	**49**	SN	**Sn**	**00 16 53.2**	**+0.8**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PG	**Pb**	**00 16 34.1**	**+0.8**
KU6	**Riekki**	**4.21**	**111**	PG	**Pb**	**00 16 38.9**	**+0.3**

*SJA **08** 00:33:46.6±1.4, 30°.18S×72°.13W, h10km, ML4.9, MW4.5*
*IDC **08** 00:33:47.3±0.6, 30°.17S×71°.93W, h0km, mb4.6/10, mbtmp4.5/15, ML4.3/5, MS4.2/28, Error ellipse: s-maj=21.6km s-min=15.3km az=86.0*
*NEIC **08** 00:33:48.4±2.8, 30°.15S±0°.04×72°.19W±0°.04, h10km±1km, mb5.2/85, Mwr4.8/66, Mwr5.0(GUC), Error ellipse: s-maj=7.5km s-min=5.9km az=337.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr1.89; Mθθ-2.04; Mfθ0.23; Mϕϕ-0.01; Mϕr-0.10; Fault plane solution: M0 1.99000×10^16^ NP1:ϕs172.98000°, δ46.93000°, λ79.93000°. NP2:ϕs7.56000°, δ44.01000°, λ100.60000°. Principal axes: T 1.9207, Plg83.0000°, Azm11.0000°; N 0.1233, Plg7.0000°, Azm180.0000°; P -2.0439, Plg1.0000°, Azm270.0000°;*
*VAO **08** 00:33:48.6±0.3, 30°.12S×72°.08W, h10km, mb4.9*
*GUC **08** 00:33:49.8±0.6, 30°.20S×72°.10W, h37km±2km, ML4.9*
*GCMT **08** 00:33:50.3±0.3, 30°.23S±0°.02×72°.42W±0°.02, h21km, MW5.0/89, Moment Tensor Solution. s35,c44; s89,c111; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.00±.15; Mθθ-0.35±.09; Mϕϕ-2.64±.11; Mfθ-0.17±.15; Mϕϕ0.55±.07; Mϕr-2.64±.20; Best double couple: M0 3.90700×10^16^ NP1:ϕs178.00000°, δ66.00000°, λ98.00000°. NP2: ϕs339.00000°, δ25.00000°, λ73.00000°. Principal axes: T 4.0720, Plg68.0000°, Azm102.0000°; N -0.3250, Plg7.0000°, Azm355.0000°; P -3.7420, Plg21.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 00:33:47.3±1.5, 30°.18S±0°.03×72°.14W±0°.04, h4km±9km, n464, σ1°.39/465, mb5.2/45, MS4.3/24, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.82**	**71**		**Pb**	**00 34 04.5**	**+0.4**
CO05					**Sb**	**00 34 16.0**	**+0.6**
CO05	**La Serena**	**0.82**	**71**	*i* P	**Pb**	**00 34 04.4**	**+0.4**
CO05				*e*S	**Sb**	**00 34 15.4**	**-0.1**
CO05				IAML		00 34 20.3	
	comp=E,42μm,0.3s						
GO04	**Tololo Observa**	**1.16**	**90**		**Pg**	**00 34 09.9**	**+0.4**
GO04	**Tololo Observa**	**1.16**	**90**	||*i* P	**Pg**	**00 34 09.9**	**+0.4**
GO04				*e*S	**Sg**	**00 34 24.8**	**+0.3**
GO04				IAML		00 34 37.5	
	comp=N,61μm,0.4s						
GO04	**Tololo Observa**	**1.16**	**90**	*e*P	**Pg**	**00 34 09.9**	**+0.4**
GO04				*e*S	**Sb**	**00 34 25.0**	**-0.4**
GO04	**Tololo Observa**	**1.16**	**90**	*e*P	**Pg**	**00 34 09.9**	**+0.4**
GO04				*e*S	**Sb**	**00 34 25.0**	**-0.4**
CO03	**El Pedregal**	**1.41**	**118**		**Pn**	**00 34 13.6**	**-0.1**
CO03	**El Pedregal**	**1.41**	**118**	||*i* P	**Pn**	**00 34 13.7**	**-0.1**
CO03				*e*S	**Sb**	**00 34 30.4**	**-2.1**
CO03				IAML		00 34 38.5	
	comp=N,19μm,0.7s						
CO03	**El Pedregal**	**1.41**	**118**	*e*P	**Pn**	**00 34 13.8**	**0.0**
CO03				*e*S	**Sb**	**00 34 32.0**	**-0.5**
CO03				IAML		00 34 38.6	
	comp=Z,13μm,0.7s						
CO03	**El Pedregal**	**1.41**	**118**	*e*P	**Pn**	**00 34 13.8**	**0.0**
CO03				*e*S	**Sb**	**00 34 32.0**	**-0.5**
CO03				IAML		00 34 38.6	
	comp=Z,13μm,0.7s						
CO02	**Combarbal**	**1.41**	**136**	Pn	**Pn**	**00 34 14.0**	**+0.1**
CO02				Sn	**Sb**	**00 34 32.5**	**-0.1**
CO02	**Combarbal**	**1.41**	**136**	||*i* P	**Pn**	**00 34 13.9**	**+0.1**
CO02				*e*S	**Sb**	**00 34 31.6**	**-1.0**
CO02				IAML		00 34 40.2	
	comp=N,39μm,0.3s						
CO02	**Combarbal**	**1.41**	**136**	*e*P	**Pn**	**00 34 14.1**	**+0.3**
CO02				*e*S	**Sg**	**00 34 33.3**	**+0.7**
CO02				IAML		00 34 38.6	
	comp=Z,21μm,0.8s						
CO02	**Combarbal**	**1.41**	**136**	*e*P	**Pn**	**00 34 14.1**	**+0.3**
CO02				*e*S	**Sg**	**00 34 33.3**	**+0.7**
CO02				IAML		00 34 38.6	
	comp=Z,21μm,0.8s						
LCO	**Las Campanas**	**1.71**	**47**		**Pn**	**00 34 18.1**	**0.0**
LCO	**Las Campanas**	**1.71**	**47**	*e*P	**Pn**	**00 34 18.0**	**0.0**
LCO				*e*S	**Sb**	**00 34 41.0**	**-0.4**
LCO	**Las Campanas**	**1.71**	**47**	*e*P	**Pn**	**00 34 17.9**	**-0.2**
LCO				*e*S	**Sg**	**00 34 42.0**	**-0.2**
LCO				IAML		00 34 47.2	
	comp=Z,80μm,0.7s						
LCO	**Las Campanas**	**1.71**	**47**	*e*P	**Pn**	**00 34 17.9**	**-0.2**
LCO				*e*S	**Sg**	**00 34 42.0**	**-0.2**
LCO				IAML		00 34 47.2	
	comp=Z,80μm,0.7s						
CO01	**Juntas del Tor**	**1.78**	**84**		**Pn**	**00 34 20.0**	**+1.0**
CO01	**Juntas del Tor**	**1.78**	**84**	*e*P	**Pn**	**00 34 19.7**	**+0.7**
CO01				*e*S	**Sn**	**00 34 42.2**	**0.0**
CO01	**Juntas del Tor**	**1.78**	**84**	*e*P	**Pn**	**00 34 20.0**	**+1.0**
CO01				*e*S	**Sg**	**00 34 44.1**	**-0.4**
CO01				IAML		00 34 49.4	
	comp=Z,5μm,0.7s						
CO01	**Juntas del Tor**	**1.78**	**84**	*e*P	**Pn**	**00 34 20.0**	**+1.0**
CO01				*e*S	**Sg**	**00 34 44.1**	**-0.4**
CO01				IAML		00 34 49.4	
	comp=Z,5μm,0.7s						
AC05	**El Transito**	**2.11**	**51**		**Pn**	**00 34 24.0**	**+0.6**
AC05	**El Transito**	**2.11**	**51**	*e*P	**Pn**	**00 34 23.8**	**+0.4**
AC05				*e*S	**Sb**	**00 34 51.5**	**-1.1**
AC05				IAML		00 35 00.2	
	comp=Z,10μm,0.9s						
AC05	**El Transito**	**2.11**	**51**	*e*P	**Pn**	**00 34 23.8**	**+0.4**
AC05				*e*S	**Sb**	**00 34 51.5**	**-1.1**
AC05				IAML		00 35 00.2	
	comp=Z,10μm,0.9s						
AC04	**Llanos de Chal**	**2.18**	**25**	Pn	**Pn**	**00 34 23.3**	**-0.9**
AC04	**Llanos de Chal**	**2.18**	**25**	*e*P	**Pn**	**00 34 23.4**	**-0.9**
AC04				*e*S	**Sg**	**00 35 00.8**	**+3.5**
AC04				IAML		00 35 13.7	
	comp=Z,4μm,1.4s						
AC04	**Llanos de Chal**	**2.18**	**25**	*e*P	**Pn**	**00 34 23.4**	**-0.9**
AC04				*e*S	**Sg**	**00 35 00.8**	**+3.5**
AC04				IAML		00 35 13.7	
	comp=Z,4μm,1.4s						
VA06	**Catapilco**	**2.48**	**163**	Pn	**Pn**	**00 34 28.5**	**+0.2**
VA01	**Torpederas**	**2.86**	**172**		**Pn**	**00 34 32.5**	**-1.1**
VA01	**Torpederas**	**2.86**	**172**	*e*P	**Pn**	**00 34 33.8**	**+0.1**
VA01				IAML		00 35 29.9	
	comp=Z,2μm,0.8s						
VA01	**Torpederas**	**2.86**	**172**	*e*P	**Pn**	**00 34 33.8**	**+0.1**
VA01				IAML		00 35 29.9	
	comp=Z,2μm,0.8s						
VA03	**San Esteban**	**2.91**	**153**		**Pn**	**00 34 35.5**	**+1.1**
VA03	**San Esteban**	**2.91**	**153**	*e*P	**Pn**	**00 34 35.2**	**+0.8**
VA03				*e*S	**Sn**	**00 35 09.7**	**-0.1**
VA03				IAML		00 35 26.3	
	comp=N,5μm,0.6s						
RTLS	**Leoncito**	**2.92**	**124**	*e*P	**Pb**	**00 34 38.6**	**-1.4**
RTLS				IAML		00 35 28.5	
	comp=Z,9μm,1.8s						
RTLS	**Leoncito**	**2.92**	**124**	*e*P	**Pb**	**00 34 38.6**	**-1.4**
RTLS				IAML		00 35 28.5	
	comp=Z,9μm,1.8s						
ROCH	**El Roble**	**2.94**	**161**	*e*P	**Pn**	**00 34 35.3**	**+0.4**
ROCH				*e*P	Pb	00 34 35.4	-5.0
ROCH				IAML		00 35 31.9	
	comp=E,5μm,0.6s						
ROCH				IAML		00 35 32.0	
	comp=E,5μm,0.5s						
ROC1	**El Roble**	**2.94**	**161**		**Pn**	**00 34 35.3**	**+0.3**
ROC1	**El Roble**	**2.94**	**161**	*e*P	**Pn**	**00 34 35.2**	**+0.2**
ROC1	**El Roble**	**2.94**	**161**	*e*P	**Pn**	**00 34 35.2**	**+0.2**
GO03	**Copiap**	**3.07**	**33**		**Pn**	**00 34 36.0**	**-0.6**
MT02	**Curacav**	**3.18**	**165**		**Pn**	**00 34 38.0**	**-0.1**
MT02	**Curacav**	**3.18**	**165**	*e*P	**Pn**	**00 34 38.2**	**+0.2**
MT02				IAML		00 35 37.3	
	comp=E,1μm,0.6s						
MT02	**Curacav**	**3.18**	**165**	*e*P	**Pn**	**00 34 38.4**	**+0.3**
MT02				IAML		00 35 34.8	
	comp=Z,3μm,0.8s						
MT02	**Curacav**	**3.18**	**165**	*e*P	**Pn**	**00 34 38.4**	**+0.3**
MT02				IAML		00 35 34.8	
	comp=Z,3μm,0.8s						
PEL	**Peldehue**	**3.20**	**158**	*e*P	**Pn**	**00 34 39.5**	**+1.1**
PEL				IAML		00 35 35.2	
	comp=N,4μm,0.5s						
PEL	**Peldehue**	**3.20**	**158**	*e*P	**Pn**	**00 34 39.5**	**+1.1**
PEL	**Peldehue**	**3.20**	**158**	*e*P	**Pn**	**00 34 39.5**	**+1.1**
AC06	**Mina Casimiro**	**3.22**	**29**		**Pn**	**00 34 38.3**	**-0.3**
ZON	**Zonda**	**3.27**	**115**		**Pn**	**00 34 42.1**	**+2.9**
RTLL	**Cerro Villicun**	**3.35**	**111**	*e*P	**Pn**	**00 34 43.4**	**+2.9**
RTLL	**Cerro Villicun**	**3.35**	**111**	*e*P	**Pn**	**00 34 43.4**	**+2.9**
MT05	**Renca**	**3.41**	**160**	Pn	**Pn**	**00 34 41.7**	**+0.4**
MT05	**Renca**	**3.41**	**160**	*e*P	**Pn**	**00 34 42.1**	**+0.8**
MT05				IAML		00 35 40.2	
	comp=Z,5μm,1.2s						
MT05	**Renca**	**3.41**	**160**	*e*P	**Pn**	**00 34 42.1**	**+0.8**
MT05				IAML		00 35 40.2	
	comp=Z,5μm,1.2s						
VA05	**Santo Domingo**	**3.49**	**173**	Pn	**Pn**	**00 34 41.6**	**-0.6**
FCH	**Farellones**	**3.51**	**154**	*e*P	**Pn**	**00 34 44.1**	**+1.3**
FCH				IAML		00 35 40.0	
	comp=E,2μm,0.7s						
MT03	**Universidad Ad**	**3.58**	**158**		**Pn**	**00 34 44.4**	**+0.8**
MT03	**Universidad Ad**	**3.58**	**158**	*e*P	**Pn**	**00 34 44.9**	**+1.3**
MT03				IAML		00 35 44.1	
	comp=Z,5μm,1.6s						
MT03	**Universidad Ad**	**3.58**	**158**	*e*P	**Pn**	**00 34 44.9**	**+1.3**
MT03				IAML		00 35 44.1	
	comp=Z,5μm,1.6s						
CFA	**Coronel Fontan**	**3.64**	**114**	Pn	**Pn**	**00 34 47.6**	**+3.2**
	comp=Z,69nm,0.3s,baz=300,slow=13,SNR=328						
CFA				Sn	**Sn**	**00 35 31.1**	**+3.4**
	comp=Z,67nm,0.3s,baz=139,slow=18,SNR=5.4						
CFA				LR	LR	00 36 07.3	
	comp=Z,3μm,21.6s,baz=248,slow=40						
CFA	**Coronel Fontan**	**3.64**	**114**	*e*P	**Pn**	**00 34 47.6**	**+3.2**
CFA				IAML		00 35 47.4	
	comp=Z,1μm,0.8s						
CFA	**Coronel Fontan**	**3.64**	**114**	*e*P	**Pn**	**00 34 47.6**	**+3.2**
CFA				IAML		00 35 47.4	
	comp=Z,1μm,0.8s						
MT09	**Talagante**	**3.71**	**165**		**Pn**	**00 34 45.9**	**+0.4**
MT01	**Popeta**	**3.75**	**169**		**Pn**	**00 34 45.9**	**+0.1**
MT01	**Popeta**	**3.75**	**169**	*e*P	**Pn**	**00 34 45.7**	**-0.1**
MT01				IAML		00 35 56.0	
	comp=E,1μm,0.5s						
MT01	**Popeta**	**3.75**	**169**	*e*P	**Pn**	**00 34 45.7**	**-0.1**
MT01				IAML		00 35 59.1	
	comp=Z,1μm,1.2s						
MT01	**Popeta**	**3.75**	**169**	*e*P	**Pn**	**00 34 45.7**	**-0.1**
MT01				IAML		00 35 59.1	
	comp=Z,1μm,1.2s						
LMEL	**Las Melosas**	**4.00**	**156**		**Pn**	**00 34 50.8**	**+1.2**
BO04	**La Punta**	**4.01**	**162**		**Pn**	**00 34 50.0**	**+0.5**
BO04	**La Punta**	**4.01**	**162**	||*i* P	**Pn**	**00 34 50.2**	**+0.7**
BO04				*e*S	**Sn**	**00 35 35.3**	**-1.6**
AC01	**Pan de Azucar**	**4.24**	**19**		**Pn**	**00 34 50.5**	**-2.2**
AC01	**Pan de Azucar**	**4.24**	**19**	*e*P	**Pn**	**00 34 50.6**	**-2.1**
AC01				IAML		00 36 18.9	
	comp=E,634nm,0.9s						
AC01	**Pan de Azucar**	**4.24**	**19**	*e*P	**Pn**	**00 34 50.6**	**-2.1**
AC01				IAML		00 36 18.9	
	comp=Z,634nm,0.9s						
AC02	**Maricunga**	**4.26**	**39**	Pn	**Pn**	**00 34 53.6**	**+0.3**
AC02	**Maricunga**	**4.26**	**39**	*e*P	**Pn**	**00 34 53.8**	**+0.5**
AC02				IAML		00 36 09.1	
	comp=Z,2μm,0.9s						
AC02	**Maricunga**	**4.26**	**39**	*e*P	**Pn**	**00 34 53.8**	**+0.5**
AC02				IAML		00 36 09.1	
	comp=Z,2μm,0.9s						
BO01	**Tunca**	**4.29**	**168**	Pn	**Pn**	**00 34 53.1**	**-0.1**
BO01	**Tunca**	**4.29**	**168**	*e*P	**Pn**	**00 34 53.3**	**0.0**
BO01				IAML		00 36 04.2	
	comp=Z,866nm,1.2s						
BO01	**Tunca**	**4.29**	**168**	*e*P	**Pn**	**00 34 53.3**	**0.0**
BO01				IAML		00 36 04.2	
	comp=Z,866nm,1.2s						
BO02	**Sierra Bellavi**	**4.74**	**166**	Pn	**Pn**	**00 34 59.5**	**0.0**
BO02	**Sierra Bellavi**	**4.74**	**166**	*e*P	**Pn**	**00 35 00.1**	**+0.6**
BO02	**Sierra Bellavi**	**4.74**	**166**	*e*P	**Pn**	**00 35 00.1**	**+0.6**
GO05	**Huala**	**4.82**	**178**		**Pn**	**00 34 59.3**	**-1.3**
GO05	**Huala**	**4.82**	**178**	*e*P	**Pn**	**00 34 59.5**	**-1.1**
GO05	**Huala**	**4.82**	**178**	*e*P	**Pn**	**00 34 59.5**	**-1.1**
ML02	**Panimavida**	**5.60**	**174**	Pn	**Pn**	**00 35 10.5**	**-0.8**
PB14	**IPOC Station P**	**5.75**	**16**	Pn	**Pn**	**00 35 10.4**	**-3.2**
BI05	**Punta Hualpn**	**6.61**	**187**		**Pn**	**00 35 23.3**	**-1.8**
H03N1	**Juan Fernandez**	**6.62**	**239**	T	T	00 42 29.1	
	baz=70,slow=72,SNR=228						
H03N2	**Juan Fernandez**	**6.63**	**239**	T	T	00 42 39.3	
	baz=70,slow=72,SNR=254						
H03N3	**Juan Fernandez**	**6.63**	**239**	T	T	00 42 38.0	
	baz=70,slow=72,SNR=219						
VA04	**Juan Fernndez**	**6.65**	**237**		**Pn**	**00 35 23.8**	**-2.0**
PB10	**IPOC Station P**	**6.79**	**12**	Pn	**Pn**	**00 35 24.7**	**-3.0**
PB15	**IPOC Station P**	**7.34**	**20**		**Pn**	**00 35 33.3**	**-2.2**
PB06	**IPOC Station P**	**7.79**	**18**		**Pn**	**00 35 38.2**	**-3.4**
LVC	**Limon Verde**	**8.08**	**22**	Pn	**Pn**	**00 35 43.3**	**-2.4**
	comp=Z,2.2nm,0.3s,baz=163,slow=9.6,SNR=16						
LVC				Sn	**Sn**	**00 37 11.4**	**-6.3**
	comp=Z,5.1nm,0.3s,baz=280,slow=13,SNR=1.6						
LVC				Lg	Lg	00 37 52.3	
	comp=Z,6.4nm,0.3s,baz=27,slow=22,SNR=4.9						
	comp=Z,6.1nm,0.3s						
LVC	**Limon Verde**	**8.08**	**22**		**Pn**	**00 35 42.7**	**-3.0**
LVC	**Limon Verde**	**8.08**	**22**	*e*P	**Pn**	**00 35 42.8**	**-3.0**
PB03	**IPOC Station P**	**8.38**	**15**		**Pn**	**00 35 45.4**	**-4.2**
PB07	**IPOC Station P**	**8.66**	**14**		**Pn**	**00 35 49.3**	**-4.2**
PB09	**IPOC Station P**	**8.75**	**18**		**Pn**	**00 35 51.3**	**-3.4**
PB02	**IPOC Station P**	**9.05**	**13**		**Pn**	**00 35 54.7**	**-4.1**
GO06	**Curarrehue**	**9.39**	**177**		**Pn**	**00 36 02.4**	**-1.1**
LR03	**Panguipulli**	**9.43**	**181**		**Pn**	**00 36 03.1**	**-0.7**
LR04	**Corral**	**9.73**	**186**		**Pn**	**00 36 06.1**	**-1.8**
VACA	**Villa Angela C**	**10.33**	**79**	*e*P	**Pn**	**00 36 14.6**	**-1.6**
PLCA	**Paso Flores**	**10.60**	**173**	Pn	**Pn**	**00 36 20.3**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=333,slow=10,SNR=42						
PLCA				Lg	Lg	00 39 27.3	
	comp=Z,0.1nm,0.3s,baz=333,slow=14,SNR=2.5						
PLCA				LR	LR	00 40 54.9	
	comp=Z,1μm,18.6s,baz=352,slow=40						
	comp=Z,7.3nm,0.5s						
PLCA	**Paso Flores**	**10.60**	**173**	Pn	**Pn**	**00 36 19.1**	**-0.9**
PLCA	**Paso Flores**	**10.60**	**173**	*e*P	**Pn**	**00 36 20.6**	**+0.5**
PB11	**IPOC Station P**	**10.62**	**13**		**Pn**	**00 36 16.3**	**-4.1**
LL04	**Puerto Octay**	**10.71**	**181**		**Pn**	**00 36 20.1**	**-1.2**
GO01	**Chusmiza**	**10.80**	**15**		**Pn**	**00 36 20.6**	**-2.5**
TICA	**Tres Isletas**	**11.03**	**73**	*e*P	**Pn**	**00 36 26.2**	**+0.4**
MNMC	**Minye Minye**	**11.24**	**12**		Pn	00 36 24.4	-4.6
TRQA	**Tornquist**	**11.50**	**136**	Pn	**Pn**	**00 36 31.7**	**-0.6**
PB16	**IPOC Station P**	**12.04**	**12**		**Pn**	**00 36 37.9**	**-2.3**
PB18	**Visviri**	**12.77**	**12**	Pn	**Pn**	**00 36 49.5**	**-0.6**
ITQB	**Itaqui**	**13.46**	**92**	Pn	**Pn**	**00 36 56.6**	**-2.5**
CPUP	**Villa Florida**	**13.60**	**77**	Pn	**Pn**	**00 36 59.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=231,slow=13,SNR=2.4						
CPUP				Lg	Lg	00 40 54.8	
	comp=Z,0.4nm,0.3s,baz=354,slow=19,SNR=1.9						
CPUP				LR	LR	00 42 36.0	
	comp=Z,2μm,18.3s,baz=254,slow=39						
	comp=Z,2.3nm,1.0s						
CPUP	**Villa Florida**	**13.60**	**77**	Pn	**Pn**	**00 36 59.0**	**-2.0**
CPUP	**Villa Florida**	**13.60**	**77**	*e*P	**Pn**	**00 36 59.8**	**-1.1**
AZCA	**Azaras, Argent**	**14.27**	**86**	*e*P	**Pn**	**00 37 09.3**	**-0.8**
UNIS	**Unistalda (Bra**	**14.88**	**90**	*e*P	**Pn**	**00 37 19.6**	**+1.1**
COYC	**Coyhaique**	**15.36**	**180**		**Pn**	**00 37 23.2**	**-1.6**
MURT	**Porto Murtinho**	**15.57**	**60**	*e*P	**Pn**	**00 37 26.9**	**-0.7**
PLTB	**Pedras Altas**	**15.97**	**100**	Pn	**Pn**	**00 37 31.7**	**-1.2**
PLTB	**Pedras Altas**	**15.97**	**100**	*e*P	**Pn**	**00 37 33.1**	**+0.2**
CRSM	**Crissiumal (Br**	**16.08**	**85**	*e*P	**Pn**	**00 37 35.8**	**+1.6**
CPSB	**Cacapava Do Su**	**16.15**	**96**	*e*P	**P**	**00 37 37.6**	**-0.8**
BBRB	**Robore, Bolivi**	**16.32**	**46**	*e*P	**Pn**	**00 37 36.8**	**-0.5**
ANTJ	**Antonio Joao (**	**16.61**	**64**	*e*P	**P**	**00 37 42.6**	**-1.1**
BBLB	**La Banda, Boli**	**16.68**	**50**	*e*P	**Pn**	**00 37 42.4**	**+0.4**
ALGR	**Alto Alegre (B**	**16.70**	**90**	*e*P	**Pn**	**00 37 42.6**	**+0.4**
BDQN	**Bodoquena, MS**	**16.94**	**59**	*e*P	**Pn**	**00 37 46.1**	**+0.9**
FRBT	**Francisco Belt**	**17.34**	**81**	*e*P	**P**	**00 37 51.2**	**-0.6**
SIV	**San Ignacio**	**17.39**	**38**	P	**Pn**	**00 37 49.2**	**-1.7**
	baz=226,slow=8.6,SNR=19			

MACA Manacapuru-AM 28.98 24 *e*P P **00 39 47.8 -0.3**
MC01 Montes Claros 29.04 69 *e*P P **00 39 47.6 -1.1**
JANB Januaria 29.66 66 *e*P P **00 39 53.8 -0.4**
ALF01 Guarapari-ES 29.85 79 *e*P P **00 39 55.4 -0.3**
ITTB Itaituba 29.99 34 *e*P P **00 39 55.9 -1.1**
SGCB S£o Gabriel d 30.29 10 *e*P P **00 39 59.0 -0.6**
SJMB Sao Joao De Ma 30.31 75 *e*P P **00 39 59.3 -0.6**
BSFB Barra de Sao F 30.53 76 *e*P P **00 40 01.1 -0.8**
RIB01 Linhares ES 30.69 77 *e*P P **00 40 03.0 -0.2**
SDBA SAO DESIDERIO 30.80 61 *e*P P **00 40 03.6 -0.6**
SMTB Santa Maria do 31.25 52 *e*P P **00 40 08.0 -0.2**
NAN01 Guarapari, ES 31.60 74 *e*P P **00 40 10.0 -1.3**
PRPB Parauapebas 31.80 46 *e*P P **00 40 12.2 -0.9**
RPN Rapa Nui 32.69 266 LR LR 00 49 40.3
comp=Z,442nm,21.0s,baz=64,slow=29
MALB Monte Alegre 32.89 34 *e*P P **00 40 21.7 -0.8**
CMC01 Camacan, BA 33.35 71 *e*P P **00 40 26.4 -0.2**
ORTC Ortega, Tolima 34.03 354 *e*P P **00 40 35.6 +3.1**
GDU01 Guandu, BA 34.20 69 *e*P P **00 40 33.3 -0.7**
BOAV Boa Vista 34.24 21 P P **00 40 34.0 -0.3**
BOAV IAmb IAmb 00 40 45.5
comp=Z,20nm,0.9s
BOAV Boa Vista 34.24 21 *e*P P **00 40 34.5 +0.2**
BOAV Boa Vista 34.24 21 *e*P P **00 40 34.3 0.0**
CHIC Chingaza 34.65 357 *e*P P **00 40 39.8 +1.5**
PMSA Palmer Station 34.98 174 LR LR 00 54 46.5
comp=Z,416nm,18.4s,baz=315,slow=36
PMSA Palmer Station 34.98 174 *e*P P **00 40 41.5 +1.4**
MCPB Macapa, AP 35.28 36 *e*P P **00 40 43.0 -0.3**
GUY2C Guyana, Caldas 35.34 354 *e*P P **00 40 45.5 +1.2**
TMAB Tom-Au,PA,Br 35.84 44 *e*P P **00 40 48.5 +0.3**
RUSC La Rusia 35.88 358 P P **00 40 49.4 +0.4**
RUSC La Rusia 35.88 358 *e*P P **00 40 51.0 +2.0**
CBOC Ciudad Bolivar 36.03 353 *e*P P **00 40 52.2 +2.2**
BARC Barichara 36.58 358 *e*P P **00 40 55.7 +1.0**
PTBC PUERTO BERRIO, 36.58 356 *e*P P **00 40 54.3 -0.2**
ZARC Zaragoza, Cauc 37.55 356 *e*P P **00 41 02.9 +0.2**
ROSB Rosrio 37.95 50 *e*P P **00 41 06.0 -0.1**
SDV Santo Domingo 38.87 2 P P **00 41 13.4 -0.7**
SDV Santo Domingo 38.87 2 *e*P P **00 41 14.1 +0.1**
BAUV El Baul 39.10 6 P P **00 41 15.3 -0.4**
BAUV IAmb IAmb 00 41 26.0
comp=Z,86nm,1.1s
MDP Montagnes des 39.75 31 LR LR 00 59 46.1
comp=Z,400nm,18.4s,baz=202,slow=39
RCBR Riachuelo 41.81 62 LR LR 01 01 10.2
comp=Z,594nm,18.2s,baz=356,slow=39
RCBR Riachuelo 41.81 62 *e*P P **00 41 37.9 -0.4**
MLPR Magueyes Islan 48.12 7 P P **00 42 27.1 -1.2**
CRPR Cabo Rojo, PR 48.15 6 P P **00 42 27.3 -1.3**
OBIP Obispado Ponce 48.24 7 P P **00 42 28.2 -1.0**
CELP Cerrillos 48.28 7 P P **00 42 28.7 -0.8**
SJG San Juan 48.36 8 P P **00 42 28.8 -1.4**
SJG IAmb IAmb 00 42 30.7
comp=Z,37nm,1.1s
UUPR Utuado, UPR, P 48.44 7 P P **00 42 29.5 -1.3**
BELA Belgrano 2 50.64 170 P P **00 42 48.0 +1.0**
BELA IAmb IAmb 00 42 49.5
comp=Z,22nm,1.1s
TEIG Tepich 52.47 341 P P **00 43 01.8 +0.6**
VNA3 Neumayer Olymp 52.93 159 P P **00 43 05.1 +1.0**
VNA1 Neumayer--Stat 53.22 158 P P **00 43 07.6 +1.3**
VNA2 Neumayer--Watz 53.56 158 P P **00 43 09.8 +0.9**
baz=310,slow=3.0
SNAA Sanae 55.15 159 P P **00 43 21.2 +0.7**
SNAA Sanae 55.15 159 LR LR 01 06 01.0
comp=Z,242nm,18.8s,baz=344,slow=35
SNAA Sanae 55.15 159 P P **00 43 21.1 +0.6**
TROLL Troll, Antarti 56.86 159 P P **00 43 33.7 +0.9**
QSPA South Pole Qui 60.04 180 P P **00 43 55.7 +0.6**
QSPA IAmb IAmb 00 43 57.5
comp=Z,19nm,1.0s
TIGA Tifton 62.24 349 P P **00 44 11.6 +1.4**
baz=169
BRAL Brewton 62.64 346 P P **00 44 13.7 +1.0**
baz=166
NHSC New Hope 63.41 352 P P **00 44 19.3 +1.5**
baz=172
833A Chaparral WMA, 63.74 333 P P **00 44 22.3 +2.1**
baz=154,SNR=5.7
LRAL Lakeview Retre 64.43 346 P P **00 44 24.6 0.0**
LRAL IAmb IAmb 00 45 05.2
comp=Z,29nm,1.6s
LRAL Lakeview Retre 64.43 346 P P **00 44 25.7 +1.2**
baz=166
VBMS Vicksburg 64.47 343 P P **00 44 26.0 +1.2**
baz=163
Y49A Blount Mountai 65.11 347 P P **00 44 29.0 0.0**
Y49A IAmb IAmb 00 45 24.1
comp=Z,24nm,1.3s
435B Jarrell 65.28 336 P P **00 44 31.4 +1.2**
baz=156
CNNC Cliffs of the 65.30 355 P P **00 44 31.5 +1.3**
baz=175
KMSC Kings Mountain 65.55 352 P P **00 44 33.1 +1.3**
baz=171
JCT Junction City 65.82 334 P P **00 44 34.2 +0.5**
JCT IAmb IAmb 00 44 38.0
comp=Z,14nm,0.6s
JCT Junction City 65.82 334 P P **00 44 35.5 +1.7**
baz=154,SNR=8.6
CPCT Cooper Cave 66.32 349 P P **00 44 37.5 +0.7**
CPCT IAmb IAmb 00 44 38.6
comp=Z,37nm,1.5s
WHTX Lake Whitney, 66.34 337 P P **00 44 37.8 +0.8**
WHTX IAmb IAmb 00 44 40.6
comp=Z,9.8nm,0.7s
WHTX Lake Whitney, 66.34 337 P P **00 44 38.5 +1.5**
baz=156
OXF Oxford 66.38 344 P P **00 44 38.1 +0.9**
baz=164
TX32 Lajitas Array 66.38 330 P P **00 44 38.5 +1.0**
TXAR Lajitas Array 66.38 330 P P **00 44 38.7 +1.2**
TKL Tuckaleechee C 66.40 350 P P **00 44 37.7 +0.3**
MIAR Mount Ida 67.49 341 P P **00 44 44.2 0.0**
MIAR IAmb IAmb 00 45 20.7
comp=Z,38nm,1.7s
MIAR Mount Ida 67.49 341 P P **00 44 45.8 +1.6**
baz=160
BLA Blacksburg 67.49 353 P P **00 44 45.6 +1.4**
baz=172
WVT Waverly 67.59 346 P P **00 44 45.2 +0.3**
WVT Waverly 67.59 346 P P **00 44 45.9 +1.1**
baz=166
ABTX Abilene, Hawle 67.69 335 P P **00 44 47.0 +1.4**
baz=155
VNDA Vanda 67.82 191 P P **00 44 48.5 +2.6**
comp=Z,1.2nm,0.7s,baz=106,slow=4.5,SNR=3.9
VNDA LR LR 01 11 21.3
comp=Z,50nm,18.4s,baz=144,slow=33
comp=Z,1.2nm,0.7s
VNDA Vanda 67.82 191 P P **00 44 46.2 +0.3**
VNDA IAmb IAmb 00 44 59.5
comp=Z,20nm,1.6s
LCAR Lake Charles 68.29 343 P P **00 44 49.9 +0.6**
LCAR IAmb IAmb 00 45 15.5
comp=Z,11nm,0.9s
MNTX Cornudas Mount 69.17 330 P P **00 44 55.2 +0.3**
MNTX Cornudas Mount 69.17 330 P P **00 44 55.8 +0.9**
baz=150
WMOK Wichita Mounta 69.29 337 P P **00 44 56.3 +0.7**
baz=156
WCI Wyandotte Cave 69.33 348 P P **00 44 56.8 +1.1**
baz=167
TUL1 Leonard 69.41 340 P P **00 44 56.9 +0.6**
TUL1 Leonard 69.41 340 P P **00 44 57.1 +0.9**
baz=158
BBTS Babate 69.66 58 LR LR 01 16 21.4
comp=Z,135nm,18.3s,baz=231,slow=37
OK031 S. Brethren Rd 69.77 339 P P **00 44 58.4 -0.1**
OK031 IAmb IAmb 00 45 11.2
comp=Z,31nm,1.3s
MCWV Mont Chateau 69.86 354 P P **00 45 00.6 +1.7**
baz=173
MSTX Muleshoe 70.07 333 P P **00 45 00.8 +0.3**
MSTX IAmb IAmb 00 45 12.4
comp=Z,24nm,0.9s
MSTX Muleshoe 70.07 333 P P **00 45 01.7 +1.2**
baz=152,SNR=6.4
P52A Corning 70.08 352 P P **00 45 00.9 +0.6**
baz=171
OK044 Pawnee Station 70.14 339 P **00 45 00.6 -0.2**
OK044 IAmb IAmb 00 45 03.5
comp=Z,49nm,1.6s
CCM Cathedral Cave 70.20 344 P P **00 45 01.6 +0.6**
CCM IAmb IAmb 00 45 18.2
comp=Z,30nm,1.2s
CCM Cathedral Cave 70.20 344 P P **00 45 02.1 +1.0**
baz=163
P49A Miami Univ. Ec 70.34 350 P P **00 45 02.3 +0.4**
baz=169
AMTX Amarillo 70.46 335 P P **00 45 04.5 +1.6**
baz=153
O53A New Philadelph 70.58 353 P P **00 45 05.1 +1.7**
baz=172
SSPA Standing Stone 70.66 355 P P **00 45 04.5 +0.7**
SSPA Standing Stone 70.66 355 P P **00 45 05.3 +1.5**
baz=175
ACSO Alum Creek Sta 70.78 351 P P **00 45 05.0 +0.5**
ACSO IAmb IAmb 00 45 06.1
comp=Z,25nm,1.0s
ACSO Alum Creek Sta 70.78 351 P P **00 45 05.3 +0.8**
baz=170
O48B Farmland 71.12 350 P P **00 45 07.1 +0.5**
baz=168
SFIN Lafayette 71.57 348 P P **00 45 10.1 +0.8**
baz=166
P40A Paris 71.79 344 P P **00 45 11.3 +0.6**
P40A IAmb IAmb 00 45 12.8
comp=Z,28nm,1.0s
TUC Tucson 72.15 326 P P **00 45 13.3 +0.1**
baz=146
HDIL Hopedale 72.16 346 P P **00 45 14.0 +1.1**
baz=155
L61B Northampton 72.28 360 P P **00 45 15.1 +1.6**
baz=180
ERPA Erie 72.31 354 P P **00 45 15.9 +2.1**
baz=173
ANMO Albuquerque 72.41 331 LR LR 01 13 27.4
comp=Z,103nm,18.0s,baz=251,slow=33
ANMO Albuquerque 72.41 331 P P **00 45 16.1 +1.3**
ANMO Albuquerque 72.41 331 P P **00 45 16.6 +1.8**
baz=145
MMNY Mt. Morris Dam 72.75 356 P P **00 45 17.3 +0.9**
214A Organ Pipe Nat 72.86 325 P P **00 45 18.8 +1.5**
baz=144
CBKS Cedar Bluff 73.31 338 P P **00 45 21.4 +1.6**
baz=155
T25A Trinidad 73.48 334 P P **00 45 22.7 +1.6**
T25A IAmb IAmb 00 45 34.7
comp=Z,38nm,1.4s
T25A Trinidad 73.48 334 P P **00 45 23.6 +2.4**
baz=151,SNR=8.2
W18A Petrified Fore 73.98 329 P P **00 45 26.2 +2.1**
baz=147
DBIC Dimbokro 74.07 72 P P **00 45 25.3 +0.5**
SCIA State Center 74.32 344 P P **00 45 27.8 +2.2**
baz=161
SDCO Great Sand Dun 74.44 333 P P **00 45 28.3 +1.5**
SDCO Great Sand Dun 74.44 333 P P **00 45 28.9 +2.1**
baz=150,SNR=7.4
KSCO Kaye Shedlock' 74.47 336 P P **00 45 28.3 +1.5**
baz=153
LONY Lake Ozonia 74.48 358 P P **00 45 28.7 +2.2**
baz=178
JFWS Jewell Farm 74.62 346 P P **00 45 27.6 +0.2**
JFWS IAmb IAmb 00 45 30.4
comp=Z,48nm,1.4s
JFWS Jewell Farm 74.62 346 P P **00 45 28.8 +1.4**
baz=164
SADO Sadowa 74.87 355 P P **00 45 29.3 +0.6**
S22A 4UR Ranch, Cre 74.97 332 P P **00 45 31.6 +1.7**
baz=150
WUAZ Wupatki 75.06 328 P P **00 45 31.7 +1.4**
WUAZ IAmb IAmb 00 45 44.7
comp=Z,20nm,1.1s
WUAZ Wupatki 75.06 328 P P **00 45 32.2 +1.9**
baz=146
IKP In-Ko-Pah, Jac 75.10 323 P P **00 45 32.3 +1.8**
baz=142
SWSC Sam W. Stewart 75.17 323 P P **00 45 32.5 +1.7**
baz=142
BGNE Belgrade 75.19 340 P P **00 45 32.4 +1.7**
baz=157
MVCO Mesa Verde 75.20 331 P P **00 45 32.8 +1.7**
baz=148
Q24A Divide 75.36 334 P P **00 45 34.0 +1.8**
baz=151,SNR=8.6
MONP2 Monument Peak 75.46 323 P P **00 45 34.3 +1.6**
baz=142
BC3 Big Chuckawall 75.55 324 P P **00 45 35.1 +2.0**
baz=142
IRM Iron Mountain 75.79 324 P P **00 45 36.0 +1.6**
baz=143
LMN Caledonia Moun 75.97 5 **P** **00 45 36.4 +1.3**
LMN IAmb IAmb 00 45 37.7
comp=Z,22nm,0.9s
OGNE Ogallala 75.99 337 P P **00 45 37.2 +1.8**
baz=154
TPFO Pinon Flats 76.03 323 P P **00 45 37.4 +1.6**
baz=142
PFO Pinyon Flats O 76.04 323 LR LR 01 12 54.7
comp=Z,60nm,21.6s,baz=156,slow=31
PFO Pinyon Flats O 76.04 323 P P **00 45 37.9 +2.0**
baz=142
TRQ Mont Tremblant 76.08 358 P P **00 45 35.8 0.0**
BELC Belle Mtn. Jos 76.10 324 P P **00 45 37.8 +1.6**
baz=142
ISCO Idaho Springs 76.26 334 P P **00 45 38.6 +1.3**
ISCO Idaho Springs 76.26 334 P P **00 45 39.3 +2.0**
baz=151,SNR=6.8
MURC Murrieta 76.41 323 P P **00 45 39.9 +2.0**
baz=141
GMRC Granite Mounta 76.55 324 P P **00 45 40.8 +2.0**
baz=142
SUR Sutherland 76.76 120 LR LR 01 16 50.1
comp=Z,136nm,18.3s,baz=222,slow=34
SUR Sutherland 76.76 120 P P **00 45 40.5 +0.1**
MAW Mawson 76.86 164 LR LR 01 18 48.6
comp=Z,260nm,20.5s,baz=224,slow=35
ECSD EROS Data Cent 76.90 342 P P **00 45 41.1 +0.7**
ECSD IAmb IAmb 00 45 52.7
comp=Z,23nm,0.9s
ECSD EROS Data Cent 76.90 342 P P **00 45 41.9 +1.5**
baz=158
HEC Hector,Ludlow 76.92 324 P P **00 45 42.7 +1.9**
baz=142
BFSC Mount Baldy Ra 77.15 323 P P **00 45 43.1 +0.9**
baz=141
TUQ Turquoise Moun 77.19 325 P P **00 45 44.0 +1.6**
baz=142
BATG Bathurst New B 77.30 4 P P **00 45 44.0 +1.5**
N23A Red Feather La 77.34 334 P P **00 45 44.5 +1.3**
baz=151
SPMN Marine on St. 77.37 345 P P **00 45 43.6 +0.6**
baz=162
SNCC San Nicolas Is 77.39 321 P P **00 45 44.2 +0.8**
baz=139
DECC Green Verdugo 77.52 322 P P **00 45 45.1 +1.0**
baz=140
GSC Goldstone, Bar 77.53 324 P P **00 45 46.0 +1.8**
baz=142
O20A White River Ci 77.58 332 P P **00 45 46.5 +1.9**
baz=149,SNR=6.9
RAR Rarotonga 77.69 253 LR LR 01 11 20.1
comp=Z,147nm,20.9s,baz=126,slow=29
EDW2 Edwards Air Fo 77.82 323 P P **00 45 47.6 +1.8**
baz=141
OSI Osito Audit: C 78.00 322 P P **00 45 48.2 +1.3**
baz=140
SCZ2 Santa Cruz Isl 78.02 321 P P **00 45 48.0 +1.1**
baz=139
LRMC Laurel Mtn Rad 78.12 323 P P **00 45 49.2 +1.6**
baz=141
SUSD Miller 78.20 341 P P **00 45 49.9 +2.3**
baz=157
ARVC Arvin 78.45 322 P P **00 45 49.9 +0.7**
baz=140
MPMC Manual Prospec 78.47 324 P P **00 45 51.1 +1.5**
baz=141
FURC Furnace Creek, 78.47 325 P P **00 45 51.8 +2.5**
baz=142
TPNV Topopah Spring 78.55 325 P P **00 45 51.7 +1.7**
baz=142
ISA Isabella, Lake 78.67 323 P P **00 45 52.5 +2.0**
baz=140
PKM Mcpherson Peak 78.79 322 P P **00 45 53.4 +2.0**
baz=139
CWC Cottonwood Cre 79.07 324 P P **00 45 54.8 +2.0**
baz=141
K22A Casper 79.08 335 P P **00 45 54.9 +2.1**
baz=150,SNR=9.0
VES Vestal, Richgr 79.13 323 P P **00 45 55.0 +2.1**
baz=140
GRAC Grapevine Rang 79.14 325 P P **00 45 54.4 +1.4**
baz=141
SMMC Simmler 79.21 322 P P **00 45 55.2 +1.7**
baz=139
R11A Troy Canyon, C 79.33 327 P P **00 45 56.1 +1.9**
baz=143
RSSD Black Hills 79.49 337 P P **00 45 55.8 +0.7**
RSSD Black Hills 79.49 337 P P **00 45 57.0 +1.9**
baz=152
DUG Dugway, Tooele 79.55 329 P P **00 45 57.3 +1.9**
baz=145
TIN Tinemaha, Big 79.62 324 P P **00 45 57.6 +1.9**
baz=141
EYMN Ely 79.69 347 P P **00 45 58.4 +2.6**
baz=163
SOE Somerset East 80.14 122 P P **00 45 59.2 +0.3**
HWUT Hardware Ranch 80.18 331 P P **00 45 59.4 +0.6**
HWUT IAmb IAmb 00 46 01.2
comp=Z,14nm,0.8s
PD31 Pinedale Array 80.33 333 P P **00 45 59.6 0.0**
PDAR Pinedale Array 80.33 333 P P **00 46 00.7 +1.0**
comp=Z,1.6nm,0.6s,baz=138,slow=7.2,SNR=20
PDAR LR LR 01 18 31.8
comp=Z,42nm,18.0s,baz=126,slow=33
comp=Z,1.6nm,0.6s
PDAR Pinedale Array 80.33 333 P P **00 45 59.8 +0.2**
TSUM Tsumeb 80.35 107 LR LR 01 17 25.3
comp=Z,231nm,18.4s,baz=179,slow=33
TSUM Tsumeb 80.35 107 P P **00 45 59.5 -0.8**
GRHM Grahamstown, E 80.45 123 P P **00 46 01.0 +0.4**
GRHM IAmb IAmb 00 46 02.3
comp=Z,38nm,1.3s
NVAR Mina Array Bea 80.72 325 P P **00 46 04.0 +2.2**
comp=Z,1.4nm,0.7s,baz=157,slow=6.3,SNR=8.1
comp=Z,1.4nm,0.7s
AHID Auburn Hatcher 80.95 332 P P **00 46 02.7 -0.2**
AHID IAmb IAmb 00 46 15.5
comp=Z,20nm,1.1s
AGMN Agassiz Nation 80.97 344 P P **00 46 03.0 +0.3**
ELK Elko 81.08 328 LR LR 01 17 39.7
comp=Z,69nm,19.4s,baz=124,slow=32
ELK Elko 81.08 328 P P **00 46 04.0 +0.3**
TPAW Teton Pass 81.49 333 P P **00 46 05.4 -0.4**
MDND Maddock 81.50 342 P P **00 46 07.1 +1.6**
baz=156
BOSA Boshof 81.93 118 P P **00 46 08.9 +0.3**
comp=Z,7.0nm,0.9s,baz=230,slow=4.5,SNR=9.7
BOSA LR LR 01 17 49.7
comp=Z,144nm,20.0s,baz=206,slow=32
comp=Z,7.0nm,0.9s
BOSA Boshof 81.93 118 P P **00 46 08.8 +0.3**
BOSA IAmb IAmb 00 48 01.2
comp=Z,35nm,1.6s
H17A Grant Village 82.10 333 P P **00 46 10.4 +1.4**
baz=147
RLMT Red Lodge 82.22 334 P P **00 46 10.8 +1.2**
RLMT IAmb IAmb 00 46 18.8
comp=Z,40nm,1.9s
RLMT Red Lodge 82.22 334 P P **00 46 11.2 +1.6**
baz=148,SNR=6.4
LAO LASA Array 82.48 337 P P **00 46 12.1 +1.3**
baz=151
ULM Lac du Bonnet 82.80 345 P P **00 46 12.7 +0.5**
comp=Z,5.3nm,0.7s,baz=152,slow=2.3,SNR=11
comp=Z,5.3nm,0.7s
ULM Lac du Bonnet 82.80 345 P P **00 46 12.2 0.0**
ULM IAmb IAmb 00 46 24.5
comp=Z,52nm,1.7s
HLID Hailey 82.98 330 P P **00 46 15.1 +1.5**
HLID Hailey 82.98 330 P P **00 46 15.5 +1.9**
baz=144
DGMT Dagmar 83.40 339 P P **00 46 16.2 +0.8**
DGMT IAmb IAmb 00 46 17.5
comp=Z,20nm,0.7s
DGMT Dagmar 83.40 339 P P **00 46 17.3 +1.9**
baz=153
BOZ Bozeman (W) 83.52 333 P P **00 46 17.3 +1.1**
baz=146
LBTB Lobatse 83.99 115 LR LR 01 20 24.6
comp=Z,217nm,18.4s,baz=258,slow=33
LBTB Lobatse 83.99 115 P P **00 46 18.8 -0.5**
LBTB IAmb IAmb 00 46 19.7
comp=Z,17nm,1.1s
LRM Limekiln Ridge 84.03 333 P P **00 46 20.0 +1.0**
SCHQ Schefferville 84.79 3 P P **00 46 22.2 -0.1**
comp=Z,14nm,1.2s,baz=252,slow=6.0,SNR=4.4
comp=Z,14nm,1.2s
SCHQ Schefferville 84.79 3 P P **00 46 21.9 -0.5**
SCHQ IAmb IAmb 00 46 24.4
comp=Z,38nm,1.4s
PLID Pearl Lake 84.89 330 P P **00 46 24.6 +1.3**
PLID IAmb IAmb 00 46 28.0
comp=Z,10nm,0.8s
MSO Missoula 85.44 333 P P **00 46 27.1 +1.2**
baz=145
URZ Urewera 86.16 228 LR LR 01 17 24.8
comp=Z,97nm,20.0s,baz=210,slow=30
HUMO Hull Mountain 86.19 325 P P **00 46 30.3 +0.7**
HUMO IAmb IAmb 00 46 38.0
comp=Z,27nm,1.6s
RPZ Rata Peaks 86.49 220 LR LR 01 17 09.3
comp=Z,88nm,18.1s,baz=105,slow=30
WALA Waterton Lakes 87.25 334 P P **00 46 35.6 +0.9**
WALA IAmb IAmb 00 46 47.2
comp=Z,17nm,1.3s
MDT Midelt 89.49 51 LR LR 01 28 08.2
comp=Z,120nm,18.0s,baz=246,slow=36
FCC Fort Churchill 90.48 349 P P **00 46 50.5 +0.9**
LSZ Lusaka 91.08 108 LR LR 01 24 50.6
comp=Z,159nm,18.8s,baz=212,slow=34
LSZ Lusaka 91.08 108 P P **00 46 54.4 +0.7**
LSZ IAmb IAmb 00 46 56.3
comp=Z,15nm,1.1s
ESDC Sonseca Array 93.99 46 LR LR 01 29 41.0
comp=Z,183nm,18.2s,baz=256,slow=36
YKA Yellowknife Ar 98.42 342 P Pdif 00 47 26.4 +0.5
comp=Z,0.7nm,0.7s,baz=146,slow=4.5,SNR=5.9
comp=Z,0.7nm,0.7s
YUK4 Talbot Arm 105.78 333 P **PKiKP 00 52 11.9 +0.3**
baz=125
P23K Montague Islan 108.77 329 P **PKiKP 00 52 17.7 +0.7**
baz=118
HARP HAARP 108.96 332 P **PKiKP 00 52 17.6 +0.3**
baz=119
I27K Kandik River 109.21 336 P **PKiKP 00 52 18.1 +0.4**
baz=121
J20K Nowinta River 113.39 332 P **PKiKP 00 52 25.7 +0.1**
baz=111
AKASG Malin Array Be 119.64 46 PKP **PKPdf 00 52 37.3 -0.7**
comp=Z,0.2nm,0.4s,baz=253,slow=2.5,SNR=6.0
BRTR Keskin Array B 120.00 59 PKP **PKiKP 00 52 40.4 +1.1**
comp=Z,0.8nm,0.8s,baz=202,slow=7.2,SNR=2.9
GAMB Gambell 120.81 329 P **PKPdf 00 52 39.8 0.0**
baz=96
ASAR Alice Springs 120.91 208 PKP **PKPdf 00 52 40.8 -0.7**
comp=Z,0.4nm,0.7s,baz=138,slow=1.6,SNR=6.0
WRA Warramunga Arr 124.03 210 PKP **PKPdf 00 52 47.1 -0.4**
comp=Z,1.1nm,0.7s,baz=158,slow=1.7,SNR=12
H11S2 WAKE ISLAND Hyl 25.65 272 T T 03 11 46.6
baz=116,slow=74,SNR=21
H11S1 WAKE ISLAND Hyl 25.67 272 T T 03 11 37.0
baz=116,slow=74,SNR=14
H11S3 WAKE ISLAND Hyl 25.67 272 T T 03 11 47.6
baz=116,slow=74,SNR=16
KLMR Klimovskoe 126.34 34 *e*PKPdf **PKPdf 00 52 49.2 -1.3**
KLMR AMP 00 52 50.6
comp=Z,35nm,2.2s
GEYT Alibeck 138.47 66 PKP **PKiKP 00 53 16.3 -0.1**
comp=Z,0.7nm,0.5s,baz=114,slow=44,SNR=2.4
EKS2 Erkin-Say 150.08 56 P **PKiKP 00 53 40.8 +0.6**
SNR=9.2
AML Almayashu 150.14 57 P **PKiKP 00 53 41.5 +0.9**
SNR=8.1
HYB Hyderabad 150.42 109 *e*PKiKP **PKPbc 00 53 41.1 +0.5**
USP Ospenovka 150.45 55 P **PKiKP 00 53 41.2 +0.4**
SNR=12
AAK Ala-Archa 150.60 56 P **PKiKP 00 53 42.2 +0.9**
SNR=12
CHMS Chumysh 150.69 55 P **PKiKP 00 53 41.9 +0.6**
SNR=7.8
UCH Uchtor 150.71 57 P **PKiKP 00 53 43.0 +1.1**
SNR=18
KBK Karagaybulak 150.92 56 P **PKiKP 00 53 42.6 +0.7**
SNR=8.0
ZALV Zalesovo Beam 150.98 28 PKPbc **PKiKP 00 53 41.6 +0.2**

comp=Z,30nm,0.7s,baz=306,slow=3.2,SNR=113
TKM2 Tokmak 2 151.31 55 P **PKiKP** **00 53 43.3 +0.5**
SNR=10
KSH Kashi 152.34 62 PKPbc **PKiKP** **00 53 45.1 +0.2**
KSH PP **PP** **00 57 25.8 -1.5**
MJAR Matsushiro Arr 153.94 292 PKPab **PKPab** **00 54 01.9 +0.5**
comp=Z,1.6nm,0.7s,baz=81,slow=4.8,SNR=4.2
MKAR Makanchi Array 154.17 43 PKP **PKPdf** **00 53 40.2 +0.1**
comp=Z,0.7nm,0.9s,baz=328,slow=1.7,SNR=5.5
MKAR PKPbc **PKPbc** **00 53 48.4 +0.2**
comp=Z,1.6nm,0.7s,baz=342,slow=2.0,SNR=14
WMQ Urumqi 158.98 44 *e*P **PKPdf** **00 53 46.0 -0.5**
WMQ LR LR
comp=Z,120nm,21.3s
CMAR Chiang Mai Arr 165.78 143 PKP **PKPdf** **00 53 54.9 +0.9**
comp=Z,1.5nm,0.3s,baz=242,slow=1.9,SNR=4.8
HHC Hu-ho-hao-te 168.94 345 *e*P **PKPdf** **00 53 48.8 -6.9**
TNCH TengChong 170.25 120 *e*P **PKPdf** **00 53 54.9 -2.2**
NJ2 Nanjing 170.40 284 *e*P **PKPdf** **00 53 55.2 -1.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
PZH PanZhiHua 173.48 123 PKP **PKPdf** **00 53 57.2 -1.3**

NNC ***08*** *00:35:10.7±2.6,40.6′64N×68.6′76E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=18.7km s-min=16.3km az=173.0*
SOME ***08*** *00:35:11.9,40.6′65N×68.6′97E,h5km*
ISU ***08*** *00:35:12.5,40.6′50N×68.6′89E,h25km*
ISC 08 00:35:11.2±1.1,40.6′75N±0.6′04×68.6′45E±0.6′04,h6km±10km, n40,σ1♀83/45,3C,Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
NZBK	**Nazarbek**	**0.69**	**47**	P	**Pg**	**00 35 23.3**	**-1.2**
NZBK				S	**Sg**	**00 35 34.3**	**+0.8**
KUMR	**Kumaryk**	**0.79**	**51**	P	**Pn**	**00 35 33.4**	**+4.5**
DZI	**Dzhizak**	**0.79**	**217**	P	**Pg**	**00 35 25.3**	**-1.1**
DZI				S	**Sb**	**00 35 38.0**	**-0.4**
KRSA	**Karasay**	**0.83**	**221**	P	**Pg**	**00 35 25.9**	**-1.2**
KRSA				S	**Sb**	**00 35 39.2**	**-0.3**
TAS	**Tashkent**	**0.86**	**48**	P	**Pg**	**00 35 26.6**	**-1.1**
TAS				S	**Sg**	**00 35 38.6**	**-0.3**
BXML	**Bakhmal**	**1.11**	**197**	P	**Pg**	**00 35 30.3**	**-2.2**
BXML				S	**Sg**	**00 35 46.5**	**-0.3**
CHMG	**Chimgan**	**1.43**	**55**	P	**Sn**	**00 35 53.0**	**-4.0**
CHRV	**Charvak**	**1.44**	**51**	P	**Sn**	**00 35 54.4**	**-2.9**
SAM	**Samarkand**	**1.58**	**227**	P	**Sn**	**00 36 00.8**	**+0.2**
AGL	**Agalyk**	**1.72**	**225**	P	**Pg**	**00 35 45.6**	**+1.4**
IUG	**Iuzhnay** 40nm,0.1s	**1.83**	**40**	P	**Pn**	**00 35 43.7**	**+0.3**
IUG				S	**Sn**	**00 36 07.5**	**+0.4**
	262nm,0.4s						
IUG	**Iuzhnay** 40nm,0.1s	**1.83**	**40**	*e*P	**Pn**	**00 35 43.8**	**+0.3**
IUG				*e*S	**Sn**	**00 36 07.5**	**+0.4**
	262nm,0.4s						
KKRN	**Kattakurgan**	**1.87**	**243**	P	**Sg**	**00 36 12.3**	**+1.0**
NUT	**Nurota**	**2.12**	**266**	P	**Pb**	**00 35 50.8**	**+0.8**
BAYS	**Baysun**	**2.71**	**201**	P	**Sb**	**00 36 33.3**	**-0.5**
KK31	**Karatay Array** 2.0nm,0.2s,baz=215,slow=17,SNR=14	**2.81**	**33**	⇑Pg	**Pb**	**00 36 02.1**	**+0.2**
KK31				Lg	Lg	00 36 37.3	
	11nm,0.3s,baz=214,slow=30,SNR=12						
DZA	**Taraz** 21nm,0.2s	**3.04**	**44**	*e*Pg	**Pb**	**00 36 03.9**	**-1.8**
DZA				*e*Lg	Lg	00 36 41.5	
	196nm,0.3s						
TMD	**Tamdy-Bulak**	**3.04**	**290**	P	**Pg**	**00 36 09.6**	**+0.1**
TSTA	**Tashata**	**3.07**	**92**	P	**Sn**	**00 36 38.0**	**+0.6**
GZLY	**Gazly**	**3.87**	**262**	P	**Sg**	**00 37 16.0**	**+0.6**
MRKS	**Merke** 9.0nm,0.5s	**4.09**	**59**	Pg	**Pb**	**00 36 23.9**	**+0.1**
MRKS				Lg	Lg	00 37 15.5	
	16nm,0.3s						
MRKS	**Merke** 9.0nm,0.5s	**4.09**	**59**	*e*Pg	**Pb**	**00 36 23.9**	**+0.1**
MRKS				*e*Lg	Lg	00 37 15.5	
	16nm,0.3s						
TKM2	**Tokmak 2** 1.8nm,0.5s	**5.76**	**66**	⇑Pg	**Pb**	**00 36 51.5**	**-0.7**
TKM2				⇑Lg	Lg	00 38 03.8	
	7.1nm,0.6s						
DGS	**Degeres** 1.6nm,0.2s	**6.00**	**63**	Pg	**Pb**	**00 36 56.2**	**0.0**
DGS				Lg	Lg	00 38 11.6	
	5.4nm,0.8s						
DGS	**Degeres** 1.6nm,0.2s	**6.00**	**63**	*e*Pg	**Pb**	**00 36 56.2**	**0.0**
DGS				*e*Lg	Lg	00 38 11.6	
	5.4nm,0.8s						
KST	**Kastek** 2.3nm,0.7s	**6.06**	**65**	Pg	**Pb**	**00 36 57.7**	**+0.5**
KST				Lg	Lg	00 38 13.7	
	7.8nm,0.6s						
KST	**Kastek** 2.3nm,0.7s	**6.06**	**65**	*e*Pg	**Pb**	**00 36 57.7**	**+0.5**
KST				*e*Lg	Lg	00 38 13.7	
	7.8nm,0.6s						
KUU	**Kurty** 2.0nm,0.6s	**6.64**	**59**	Pg	**Pb**	**00 37 09.0**	**+1.9**
KUU				Lg	Lg	00 38 32.8	
	4.8nm,0.8s						
KUU	**Kurty** 2.0nm,0.6s	**6.64**	**59**	*e*Pg	**Pb**	**00 37 09.0**	**+1.9**
KUU				*e*Lg	Lg	00 38 32.8	
	4.8nm,0.8s						
TNSS	**Tian-Shan** 2.3nm,0.7s	**6.74**	**67**	Pg	**Pb**	**00 37 10.0**	**+0.9**
TNSS				Lg	Lg	00 38 34.6	
	2.1nm,0.6s						
TNSS	**Tian-Shan** 2.3nm,0.7s	**6.74**	**67**	*e*Pg	**Pb**	**00 37 10.0**	**+0.9**
TNSS				*e*Lg	Lg	00 38 34.6	
	2.1nm,0.6s						
KTBS	**Karatobe** 1.3nm,0.6s	**6.79**	**61**	Pg	**Pb**	**00 37 11.7**	**+2.0**
KTBS				Lg	Lg	00 38 37.5	
	6.4nm,0.5s						
KTBS	**Karatobe** 1.3nm,0.6s	**6.79**	**61**	*e*Pg	**Pb**	**00 37 11.7**	**+2.0**
KTBS				*e*Lg	Lg	00 38 37.5	
	6.4nm,0.5s						
MDOK	**Medeo** 2.7nm,0.5s	**6.85**	**67**	Pg	**Pb**	**00 37 12.6**	**+1.8**
MDOK				Lg	Lg	00 38 39.0	
	3.0nm,0.6s						
MDOK	**Medeo** 2.7nm,0.5s	**6.85**	**67**	*e*Pg	**Pb**	**00 37 12.6**	**+1.8**
MDOK				*e*Lg	Lg	00 38 39.0	
	3.0nm,0.6s						
KOTS	**Kotyrbulak** 3.0nm,0.7s	**6.92**	**66**	Pg	Pb	00 37 16.9	+5.0
KOTS	**Kotyrbulak** 3.0nm,0.7s	**6.92**	**66**	*e*Pg	Pb	00 37 16.9	+5.0
KOTS				*e*Lg	Lg	00 38 47.3	
	8.7nm,0.7s						
CHKK	**Chushkaly** 0.4nm,0.0s	**7.05**	**61**	Pg	**Pb**	**00 37 18.8**	**+4.7**
CHKK				Lg	Lg	00 38 50.3	
	2.7nm,0.3s						
CHKK	**Chushkaly** 0.4nm,0.0s	**7.05**	**61**	*e*Pg	**Pb**	**00 37 18.8**	**+4.7**
CHKK				*e*Lg	Lg	00 38 50.3	
	2.7nm,0.3s						
AB31	**Akbulak array** 0.4nm,0.3s,baz=130,slow=15,SNR=27	**10.42**	**328**	P	**Pn**	**00 37 39.2**	**-1.8**

NEIC ***08*** *01:04:42.7±1.8,24.6′05S±0.6′06×66.6′86W±0.6′08,h187km±6km, mb5.0/272,Mww5.1(GUC),Error ellipse: s-maj=11.0km s-min=8.7km az=83.0*
IDC ***08*** *01:04:42.9±0.9,24.6′03S×66.6′79W,h182km±6km,mb4.2/12, mbtmp4.8/19,MS3.7/9,Error ellipse: s-maj=14.0km s-min=10.3km az=42.0*
SJA ***08*** *01:04:43.3±1.0,23.9′99S×66.6′97W,h175km,ML5.0,MW4.8*
VAO ***08*** *01:04:43.4±0.3,23.9′55S×66.9′90W,h202km±3km,mb5.0*
GUC ***08*** *01:04:44.5±0.5,23.9′25S×67.2′20W,h227km±8km,ML5.2*
GCMT ***08*** *01:04:46.7±0.3,23.9′99S±0.6′02×66.9′95W±0.6′02,h212km±2km, MW5.2/101,Moment Tensor Solution. s52,c58; s101,c129; Duration: 1♀0 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.98±.20; Mθθ-4.59±.28; Mφφ5.57±.29; Mrθ-1.19±.16; Mθφ-1.23±.22; Mφr-6.24±.18; Best double couple: M₀7.84500×10¹⁶ NP1:φ₂28.00000°,δ86.00000°, λ-53.00000°. NP2:φ₂123.00000°,δ37.00000°, λ-174.00000°. Principal axes: T 9.3550, Plg31.0000°, Azm88.0000°; N -3.0240, Plg37.0000°, Azm205.0000°; P -6.3350, Plg38.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 01:04:43.5±0.4,24.6′02S±0.6′03×66.6′94W±0.6′03,h195km±3km, h195km:pP-P,n707,σ1♀49/711,mb4.9/138,19C-2D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.48**	**118**	*e*P	**Pn**	**01 05 17.2**	**+0.5**
SLA	**San Lorenzo**	**1.48**	**118**	*e*P	**Pn**	**01 05 17.2**	**+0.5**
AF01	**San Pedro de A**	**1.56**	**313**	*i*P	**Pn**	**01 05 18.8**	**+1.2**
AF01	**San Pedro de A**	**1.56**	**313**	⇑*i*P	**Pn**	**01 05 18.8**	**+1.2**
AF01				*e*S	**Sn**	**01 05 49.1**	**+5.1**
AF01				IAML		01 05 56.2	
	comp=N,7μm,0.5s						
AF01	**San Pedro de A**	**1.56**	**313**	*e*P	**Pn**	**01 05 18.8**	**+1.2**
HJA	**Humahuaca**	**1.62**	**60**	*e*P	**Pn**	**01 05 18.8**	**+0.5**
HJA				IAML		01 05 54.3	
	comp=Z,1μm,1.8s						
HJA	**Humahuaca**	**1.62**	**60**	*e*P	**Pn**	**01 05 18.8**	**+0.5**
HJA				IAML		01 05 54.3	
	comp=Z,1μm,1.8s						
AZAP	**Zapla**	**1.72**	**97**	*e*P	**Pn**	**01 05 19.4**	**+0.4**
AZAP				IAML		01 05 58.6	
	comp=Z,3μm,1.3s						
AZAP	**Zapla**	**1.72**	**97**	*e*P	**Pn**	**01 05 19.4**	**+0.4**
AZAP				IAML		01 05 58.6	
	comp=Z,3μm,1.3s						
ASTB	**Santa Barbara**	**2.27**	**89**	*e*P	Pn	01 05 19.0	-5.6
ASTB				*e*P	**Pn**	**01 05 24.7**	**0.0**
ASTB				*e*S	Sn	01 05 38.4	-18
ASTB				IAML		01 05 44.6	
	comp=Z,123nm,0.5s						
ASTB	**Santa Barbara**	**2.27**	**89**	*e*P	Pn	01 05 19.0	-5.6
ASTB				*e*P	**Pn**	**01 05 24.7**	**0.0**
ASTB				*e*S	Sn	01 05 38.4	-18
ASTB				IAML		01 05 44.6	
	comp=Z,123nm,0.5s						
LVC	**Limon Verde**	**2.29**	**307**	P	**Pn**	**01 05 25.7**	**+0.5**
	comp=Z,3μm,0.5s,baz=129,slow=7.2,SNR=2348						
LVC				S	**Sn**	**01 05 57.7**	**+0.2**
	comp=Z,2μm,0.4s,baz=261,slow=23,SNR=48						
LVC	**Limon Verde**	**2.29**	**307**	*i*P	**Pn**	**01 05 25.7**	**+0.5**
LVC				*e*S	**Sn**	**01 05 57.3**	**-0.2**
LVC	**Limon Verde**	**2.29**	**307**	*i*P	**Pn**	**01 05 25.6**	**+0.5**
LVC				*i*S	**Sn**	**01 05 57.1**	**-0.4**
LVC	**Limon Verde**	**2.29**	**307**	*e*P	**Pn**	**01 05 25.4**	**+0.3**
LVC				*e*S	**Sn**	**01 05 58.4**	**+0.9**
PB15	**IPOC Station P**	**2.46**	**289**	P	**Pn**	**01 05 27.3**	**+0.5**
PB15	**IPOC Station P**	**2.46**	**289**	⇑*i*P	**Pn**	**01 05 27.3**	**+0.5**
PB15				*e*S	**Sn**	**01 05 60.0**	**-0.5**
PB15	**IPOC Station P**	**2.46**	**289**	⇑*i*P	**Pn**	**01 05 27.3**	**+0.5**
PB15				*i*S	**Sn**	**01 05 59.7**	**-0.8**
PB15	**IPOC Station P**	**2.46**	**289**	*e*P	**Pn**	**01 05 27.3**	**+0.5**
PB15				*e*S	**Sn**	**01 06 00.3**	**-0.2**
PB15				IAML		01 06 05.9	
	comp=Z,21μm,0.3s						
PB15	**IPOC Station P**	**2.46**	**289**	*e*P	**Pn**	**01 05 27.3**	**+0.5**
PB15				*e*S	**Sn**	**01 06 00.3**	**-0.2**
PB15				IAML		01 06 05.9	
	comp=Z,21μm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.71**	**86**	*e*P	**Pn**	**01 05 28.5**	**-1.0**
ALOL				*e*S	Sn	01 05 44.3	-21
ALOL	**LOMAS DE OLMED**	**2.71**	**86**	*e*P	**Pn**	**01 05 28.5**	**-1.0**
ALOL				*e*S	Sn	01 05 44.3	-21
PB06	**IPOC Station P**	**2.75**	**298**	P	**Pn**	**01 05 30.3**	**+0.2**
PB06	**IPOC Station P**	**2.75**	**298**	*i*P	**Pn**	**01 05 30.5**	**+0.3**
PB06				*e*S	**Sn**	**01 06 05.2**	**-1.2**
PB06				IAML		01 06 06.5	
	comp=N,12μm,0.5s						
PB06	**IPOC Station P**	**2.75**	**298**	⇑*i*P	**Pn**	**01 05 30.4**	**+0.3**
PB06				*i*S	**Sn**	**01 06 05.3**	**-1.2**
PB06	**IPOC Station P**	**2.75**	**298**	*e*P	**Pn**	**01 05 30.5**	**+0.3**
PB06				*e*S	**Sn**	**01 06 06.1**	**-0.3**
PB06				IAML		01 06 12.5	
	comp=Z,5μm,0.3s						
PB06	**IPOC Station P**	**2.75**	**298**	*e*P	**Pn**	**01 05 30.5**	**+0.3**
PB06				*e*S	**Sn**	**01 06 06.1**	**-0.3**
PB06				IAML		01 06 12.5	
	comp=Z,5μm,0.3s						
PB09	**IPOC Station P**	**3.07**	**316**		**Pn**	**01 05 34.6**	**+0.8**
PB09	**IPOC Station P**	**3.07**	**316**	⇑*i*P	**Pn**	**01 05 34.7**	**+0.8**
PB09				*e*S	**Sn**	**01 06 12.3**	**-1.0**
PB09				IAML		01 06 15.9	
	comp=E,4μm,0.5s						
PB09	**IPOC Station P**	**3.07**	**316**	⇑*i*P	**Pn**	**01 05 34.4**	**+0.5**
PB09				*i*S	**Sn**	**01 06 11.8**	**-1.4**
PB09				IAML		01 06 16.8	
	comp=N,3μm,0.4s						
PB09	**IPOC Station P**	**3.07**	**316**	*e*P	**Pn**	**01 05 34.6**	**+0.8**
PB09				*e*S	**Sn**	**01 06 13.4**	**+0.2**
PB09				IAML		01 06 18.6	
	comp=Z,3μm,0.6s						
PB09	**IPOC Station P**	**3.07**	**316**	*e*P	**Pn**	**01 05 34.6**	**+0.8**
PB09				*e*S	**Sn**	**01 06 13.4**	**+0.2**
PB09				IAML		01 06 18.6	
	comp=Z,3μm,0.6s						
AHML	**Horco Molle**	**3.11**	**153**	⇓*i*P	**Pn**	**01 05 34.0**	**-0.2**
AHML				*i*S	**Sn**	**01 06 12.1**	**-1.8**
AHML	**Horco Molle**	**3.11**	**153**	*e*P	**Pn**	**01 05 33.7**	**-0.4**
AHML				*i*P	**Pn**	**01 05 34.3**	**+0.2**
AHML				*e*S	**Sn**	**01 06 13.2**	**-0.7**
AHML	**Horco Molle**	**3.11**	**153**	*e*P	**Pn**	**01 05 33.7**	**-0.4**
AHML				*i*P	**Pn**	**01 05 34.3**	**+0.2**
AHML				*e*S	**Sn**	**01 06 13.2**	**-0.7**
PB14	**IPOC Station P**	**3.22**	**259**		**Pn**	**01 05 35.5**	**-0.3**
PB14	**IPOC Station P**	**3.22**	**259**	*e*P	**Pn**	**01 05 35.6**	**-0.1**
PB14				*e*S	**Sn**	**01 06 14.8**	**-1.7**
PB14				IAML		01 06 18.1	
	comp=Z,5μm,0.3s						
PB14	**IPOC Station P**	**3.22**	**259**	*e*P	**Pn**	**01 05 35.6**	**-0.1**
PB14				*e*S	**Sn**	**01 06 14.8**	**-1.7**
PB14				IAML		01 06 18.1	
	comp=Z,5μm,0.3s						
PB03	**IPOC Station P**	**3.25**	**307**		**Pn**	**01 05 35.8**	**-0.2**
PB03	**IPOC Station P**	**3.25**	**307**	⇑*i*P	**Pn**	**01 05 36.0**	**0.0**
PB03				*e*S	**Sn**	**01 06 14.8**	**-2.4**
PB03	**IPOC Station P**	**3.25**	**307**	⇑*i*P	**Pn**	**01 05 35.9**	**-0.2**
PB03				*i*S	**Sn**	**01 06 14.7**	**-2.4**
PB03	**IPOC Station P**	**3.25**	**307**	*e*P	**Pn**	**01 05 35.5**	**-0.6**
PB03				*e*S	**Sn**	**01 06 15.2**	**-1.9**
PB03				IAML		01 06 19.6	
	comp=Z,6μm,0.3s						
PB03	**IPOC Station P**	**3.25**	**307**	*e*P	**Pn**	**01 05 35.5**	**-0.6**
PB03				*e*S	**Sn**	**01 06 15.2**	**-1.9**
PB03				IAML		01 06 19.6	
	comp=Z,6μm,0.3s						
PB10	**IPOC Station P**	**3.35**	**278**		**Pn**	**01 05 37.1**	**0.0**
PB10	**IPOC Station P**	**3.35**	**278**	⇑*i*P	**Pn**	**01 05 37.2**	**+0.2**
PB10				*e*S	**Sn**	**01 06 16.8**	**-2.2**
PB10	**IPOC Station P**	**3.35**	**278**	⇑*i*P	**Pn**	**01 05 37.1**	**0.0**
PB10				*i*S	**Sn**	**01 06 16.3**	**-2.6**
PB10	**IPOC Station P**	**3.35**	**278**	*e*P	**Pn**	**01 05 36.5**	**-0.6**
PB10				*e*S	**Sn**	**01 06 16.5**	**-2.4**
PB10				IAML		01 06 19.7	
	comp=Z,4μm,0.6s						
PB10	**IPOC Station P**	**3.35**	**278**	*e*P	**Pn**	**01 05 36.5**	**-0.6**
PB10				*e*S	**Sn**	**01 06 16.5**	**-2.4**
PB10				IAML		01 06 19.7	
	comp=Z,4μm,0.6s						
PB04	**IPOC Station P**	**3.40**	**299**		**Pn**	**01 05 37.6**	**-0.3**
PB04	**IPOC Station P**	**3.40**	**299**	*e*P	**Pn**	**01 05 37.6**	**-0.3**
PB04				*e*S	**Sn**	**01 06 18.2**	**-2.1**
PB04				IAML		01 06 22.1	
	comp=Z,6μm,0.5s						
PB04	**IPOC Station P**	**3.40**	**299**	*e*P	**Pn**	**01 05 37.6**	**-0.3**
PB04				*e*S	**Sn**	**01 06 18.2**	**-2.1**
PB04				IAML		01 06 22.1	
	comp=Z,6μm,0.5s						
AC02	**Maricunga**	**3.43**	**215**		**Pn**	**01 05 39.1**	**+0.6**
AC02	**Maricunga**	**3.43**	**215**	⇑*i*P	**Pn**	**01 05 39.0**	**+0.5**
AC02				*i*S	**Sn**	**01 06 21.6**	**0.0**
AC02	**Maricunga**	**3.43**	**215**	*e*P	**Pn**	**01 05 38.6**	**+0.1**
AC02				*e*S	**Sn**	**01 06 19.0**	**-2.5**
AC02				IAML		01 06 29.0	
	comp=Z,1μm,0.4s						
AC02	**Maricunga**	**3.43**	**215**	*e*P	**Pn**	**01 05 38.6**	**+0.1**
AC02				*e*S	**Sn**	**01 06 19.0**	**-2.5**
AC02				IAML		01 06 29.0	
	comp=Z,1μm,0.4s						
PB07	**IPOC Station P**	**3.55**	**309**		**Pn**	**01 05 39.3**	**-0.4**
PB07	**IPOC Station P**	**3.55**	**309**	⇑*i*P	**Pn**	**01 05 39.5**	**-0.2**
PB07				*e*S	**Sn**	**01 06 20.9**	**-2.8**
PB07	**IPOC Station P**	**3.55**	**309**	*i*P	**Pn**	**01 05 39.4**	**-0.4**
PB07				*i*S	**Sn**	**01 06 20.8**	**-2.9**
PB07	**IPOC Station P**	**3.55**	**309**	*e*P	**Pn**	**01 05 39.0**	**-0.7**
PB07				*e*S	**Sn**	**01 06 21.8**	**-1.9**
PB07				IAML		01 06 26.6	
	comp=Z,5μm,0.5s						
PB07	**IPOC Station P**	**3.55**	**309**	*e*P	**Pn**	**01 05 39.0**	**-0.7**
PB07				*e*S	**Sn**	**01 06 21.8**	**-1.9**
PB07				IAML		01 06 26.6	
	comp=Z,5μm,0.5s						
PB01	**IPOC Station P**	**3.79**	**321**		**Pn**	**01 05 41.9**	**-0.7**
PB01	**IPOC Station P**	**3.79**	**321**	⇑*i*P	**Pn**	**01 05 42.2**	**-0.3**
PB01				*e*S	**Sn**	**01 06 26.0**	**-2.8**
PB01	**IPOC Station P**	**3.79**	**321**	⇑*i*P	**Pn**	**01 05 41.9**	**-0.7**
PB01				*i*S	**Sn**	**01 06 26.0**	**-2.8**
PB01	**IPOC Station P**	**3.79**	**321**	*e*P	**Pn**	**01 05 42.0**	**-0.6**
PB01				*e*S	**Sn**	**01 06 28.0**	**-0.8**
PB01				IAML		01 06 30.9	
	comp=Z,2μm,0.8s						
PB01	**IPOC Station P**	**3.79**	**321**	*e*P	**Pn**	**01 05 42.0**	**-0.6**
PB01				*e*S	**Sn**	**01 06 28.0**	**-0.8**
PB01				IAML		01 06 30.9	
	comp=Z,2μm,0.8s						
PB02	**IPOC Station P**	**3.83**	**314**		**Pn**	**01 05 42.9**	**-0.2**
PB02	**IPOC Station P**	**3.83**	**314**	*e*P	**Pn**	**01 05 42.4**	**-0.8**
PB02				*e*S	**Sn**	**01 06 26.8**	**-3.1**
PB02				IAML		01 06 39.5	
	comp=Z,7μm,0.3s						
PB02	**IPOC Station P**	**3.83**	**314**	*e*P	**Pn**	**01 05 42.4**	**-0.8**
PB02				*e*S	**Sn**	**01 06 26.8**	**-3.1**
PB02				IAML		01 06 39.5	
	comp=Z,7μm,0.3s						
AC01	**Pan de Azucar**	**3.94**	**237**		**Pn**	**01 05 43.2**	**-1.0**
AC01	**Pan de Azucar**	**3.94**	**237**	*e*P	**Pn**	**01 05 43.8**	**-0.4**
AC01				*e*S	**Sn**	**01 06 28.9**	**-3.1**
AC01				IAML		01 06 32.8	
	comp=Z,4μm,0.4s						
AC01	**Pan de Azucar**	**3.94**	**237**	*e*P	**Pn**	**01 05 43.8**	**-0.4**
AC01				*e*S	**Sn**	**01 06 28.9**	**-3.1**
AC01				IAML		01 06 32.8	
	comp=Z,4μm,0.4s						
PATCX	**Punta Patache**	**4.36**	**316**	Pn	**Pn**	**01 05 48.4**	**-1.2**
PATCX	**Punta Patache**	**4.36**	**316**	*e*P	**Pn**	**01 05 48.5**	**-1.2**
PATCX				*e*S	**Sn**	**01 06 37.4**	**-4.4**
PATCX				IAML		01 06 49.7	
	comp=Z,2μm,0.7s						
PATCX	**Punta Patache**	**4.36**	**316**	*e*P	**Pn**	**01 05 48.5**	**-1.2**
PATCX				*e*S	**Sn**	**01 06 37.4**	**-4.4**
PATCX				IAML		01 06 49.7	
	comp=Z,2μm,0.7s						
PB08	**IPOC Station P**	**4.38**	**332**	⇑*i*P	**Pn**	**01 05 50.7**	**+0.5**
PB08				*e*S	**Sn**	**01 06 41.0**	**-1.5**
PB08	**IPOC Station P**	**4.38**	**332**	*e*P	**Pn**	**01 05 50.3**	**+0.1**
PB08				*i*S	**Sn**	**01 06 40.5**	**-2.1**
PB08	**IPOC Station P**	**4.38**	**332**	*e*P	**Pn**	**01 05 50.7**	**+0.5**
PB08				*e*S	**Sn**	**01 06 42.0**	**-0.6**
PB08				IAML		01 06 45.4	
	comp=Z,1μm,0.9s						
PB08	**IPOC Station P**	**4.38**	**332**	*e*P	**Pn**	**01 05 50.7**	**+0.5**
PB08				*e*S	**Sn**	**01 06 42.0**	**-0.6**
PB08				IAML		01 06 45.4	
	comp=Z,1μm,0.9s						
CYA	**Choya**	**4.52**	**167**	*e*P	**Pn**	**01 05 50.7**	**-0.9**
CYA				*e*S	**Sn**	**01 06 44.4**	**-0.9**
CYA				IAML		01 06 48.7	
	comp=Z,294nm,1.1s						
CYA	**Choya**	**4.52**	**167**	*e*P	**Pn**	**01 05 50.7**	**-0.9**
CYA				*e*S	**Sn**	**01 06 44.4**	**-0.9**
CYA				IAML		01 06 48.7	
	comp=Z,294nm,1.1s						
AC06	**Mina Casimiro**	**4.53**	**222**		**Pn**	**01 05 50.6**	**-1.1**
AC06	**Mina Casimiro**	**4.53**	**222**	*e*P	**Pn**	**01 05 50.3**	**-1.4**
AC06				*i*S	**Sn**	**01 06 40.6**	**-4.9**
TA01	**Diego Aracena**	**4.57**	**318**	Pn	**Pn**	**01 05 50.7**	**-1.6**
TA01	**Diego Aracena**	**4.57**	**318**	*e*P	**Pn**	**01 05 50.6**	**-1.6**
TA01				*i*S	**Sn**	**01 06 40.3**	**-6.0**
TA01	**Diego Aracena**	**4.57**	**318**	*e*P	**Pn**	**01 05 51.0**	**-1.2**
TA01	**Diego Aracena**	**4.57**	**318**	*e*P	**Pn**	**01 05 51.0**	**-1.2**
GO03	**Copiap**	**4.63**	**219**		**Pn**	**01 05 52.0**	**-1.1**
GO03	**Copiap**	**4.63**	**219**	*e*P	**Pn**	**01 05 52.6**	**-0.5**
GO03				*e*S	**Sn**	**01 06 45.3**	**-2.6**
GO03	**Copiap**	**4.63**	**219**	*e*P	**Pn**	**01 05 52.6**	**-0.5**
GO03				*e*S	**Sn**	**01 06 45.3**	**-2.6**
TA02	**Huaiquique**	**4.76**	**321**		**Pn**	**01 05 53.9**	**-0.9**
TA02	**Huaiquique**	**4.76**	**321**	*e*P	**Pn**	**01 05 53.5**	**-1.2**
TA02				*e*S	**Sn**	**01 06 47.8**	**-3.0**
TA02				IAML		01 06 51.4	
	comp=Z,1μm,0.6s						
TA02	**Huaiquique**	**4.76**	**321**	*e*P	**Pn**	**01 05 53.5**	**-1.2**
TA02				*e*S	**Sn**	**01 06 47.8**	**-3.0**
TA02				IAML		01 06 51.4	
	comp=Z,1μm,0.6s						
GO01	**Chusmiza**	**4.81**	**334**		**Pn**	**01 05 55.7**	**-0.2**
GO01	**Chusmiza**	**4.81**	**334**	⇑*i*P	**Pn**	**01 05 55.6**	**-0.2**
GO01				*i*S	**Sn**	**01 06 50.7**	**-2.0**
GO01	**Chusmiza**	**4.81**	**334**	*e*P	**Pn**	**01 05 55.0**	**-0.9**
GO01				*e*S	**Sn**	**01 06 52.3**	**-0.5**
GO01	**Chusmiza**	**4.81**	**334**	*e*P	**Pn**	**01 05 55.0**	**-0.9**
GO01				*e*S	**Sn**	**01 06 52.3**	**-0.5**
PB11	**IPOC Station P**

PTLB Pontes e Lacer 11.25 42 Pn **Pn 01 07 17.4 -1.6**
PTLB Pontes e Lacer 11.25 42 eP **Pn 01 07 17.4 -1.6**
MCR1 Marechal Candi 11.78 95 eP **Pn 01 07 24.9 -0.9**
CRSM Crissiumal (Br 12.12 109 eP **Pn 01 07 29.5 -0.5**
CRSM eS **S 01 09 55.5 +8.9**
RODS Rosario do Sul 12.20 124 eP **Pn 01 07 29.5 -1.4**
VILB Vilhena 12.73 31 Pn **Pn 01 07 36.5 -1.4**
VILB Vilhena 12.73 31 eP **Pn 01 07 36.8 -1.1**
VILB eS **Sn 01 09 57.7 -2.1**
FRBT Francisco Belt 12.73 102 eP **Pn 01 07 38.2 +0.3**
PP1B Ponte de Pedra 12.96 63 eP **Pn 01 07 38.6 -2.1**
TRCB Terra Rica 13.19 88 Pn **Pn 01 07 42.2 -1.4**
TRCB Terra Rica 13.19 88 eP **Pn 01 07 41.9 -1.7**
SALV Santo Antonio 13.30 55 eP **Pn 01 07 43.2 -1.8**
ALGR Alto Alegre (B 13.34 114 eP **Pn 01 07 44.5 -1.0**
PTGB Pitanga 13.57 96 eP **Pn 01 07 48.2 -0.2**
CPSB Cacapava Do Su 13.58 121 eP **Pn 01 07 46.7 -1.7**
ITAB Concordia 13.73 107 Pn **Pn 01 07 47.1 -3.2**
ITAB Concordia 13.73 107 eP **Pn 01 07 49.2 -1.1**
ITAB eS **Sn 01 10 21.9 -1.7**
BI05 Punta Hualpn 13.78 202 Pn **Pn 01 07 47.9 -2.8**
PLTB Pedras Altas 14.08 126 Pn **Pn 01 07 51.5 -3.1**
PLTB Pedras Altas 14.08 126 eP **Pn 01 07 52.5 -2.1**
C2SB Chapadao do Su 14.13 71 eP **Pn 01 07 55.0 -0.3**
ETMB Extrema 14.14 3 Pn **Pn 01 07 54.1 -1.4**
ETMB Extrema 14.14 3 eP **Pn 01 07 53.9 -1.6**
VA04 Juan Fernndez 14.15 225 **P 01 07 56.4 -0.8**
TRQA Tornquist 14.62 164 Pn **Pn 01 07 59.2 -1.9**
PCMB Pacaembu 14.65 84 eP **Pn 01 08 01.2 -0.5**
NNA Nana 15.22 320 P **P 01 08 10.4 +1.1**
comp=Z,20nm,0.5s,baz=160,slow=11,SNR=13
NNA Nana 15.22 320 **Pn 01 08 08.3 -0.5**
CNLB Canela 15.31 114 eP **Pn 01 08 08.1 -1.7**
PDRB Porto dos Gac 15.70 40 eP **Pn 01 08 13.0 -1.6**
FRTB Fartura 15.93 91 eP **P 01 08 16.1 -1.1**
ITRB Iturama 15.98 78 eP **P 01 08 16.4 -1.2**
GO06 Curarrehue 15.98 193 IAmb IAmb 01 08 28.7
comp=Z,54nm,1.0s
TIJ01 Guaruva-PR 16.35 98 eP **P 01 08 21.3 -0.5**
ARAG Araguaiana, MT 16.45 63 eP **P 01 08 22.6 -0.2**
TER01 Tubaro-SC 16.59 110 eP **P 01 08 23.3 -1.0**
CLDB Colider 16.84 41 eP **P 01 08 25.9 -1.2**
PLCA Paso Flores 16.94 189 P **Pn 01 08 28.7 -0.5**
comp=Z,5.3nm,0.5s,baz=6.2,slow=11,SNR=39
PLCA ScP **ScP 01 16 21.9 +1.9**
comp=Z,6.4nm,0.9s,baz=20,slow=3.7,SNR=7.0
PLCA Paso Flores 16.94 189 eP **Pn 01 08 29.2 0.0**
CZSB Cruzeiro do Su 17.12 340 P **P 01 08 29.6 -0.5**
CZSB IAmb IAmb 01 08 32.2
comp=Z,156nm,1.2s
CZSB Cruzeiro do Su 17.12 340 eP **P 01 08 28.7 -1.5**
LL03 Petrohue 17.67 194 IAmb IAmb 01 08 52.7
comp=Z,75nm,0.9s
SPB Sao Paulo 17.86 93 **P 01 08 36.9 -1.3**
SPB Sao Paulo 17.86 93 eP **P 01 08 37.6 -0.6**
RCLB Rio Claro- Sao 17.91 89 eP **P 01 08 37.6 -1.3**
PET01 Itanhaem-SP 17.95 95 eP **P 01 08 38.5 -0.7**
VAO Valinhos 18.35 91 eP **P 01 08 42.6 -1.0**
IPMB Ipameri, GO 18.48 75 eP **P 01 08 44.4 -0.6**
LL06 Loncomilla 18.98 195 IAmb IAmb 01 08 51.6
comp=Z,128nm,0.9s
SNDB Serra Nova Dou 19.08 54 eP **P 01 08 49.8 -1.7**
PARB Paraibuna 19.54 92 eP **P 01 08 55.5 -0.9**
BDFB Brasilia 19.64 68 P **P 01 08 57.3 -0.3**
comp=Z,197nm,0.7s,baz=244,slow=10,SNR=260
BDFB ScP **ScP 01 16 28.0 +1.7**
comp=Z,12nm,1.0s,baz=158,slow=1.9,SNR=5.5
BDFB Brasilia 19.64 68 P **P 01 08 56.7 -1.0**
BDFB Brasilia 19.64 68 eP **P 01 08 56.6 -1.0**
TBTG Tabatinga, AM 19.93 351 P **P 01 09 00.7 +0.1**
TBTG IAmb IAmb 01 09 06.0
comp=Z,520nm,1.0s
TBTG Tabatinga, AM 19.93 351 eP **P 01 09 01.5 +1.0**
ATAH Atahualpa 20.07 325 P Pn 01 09 05.1 -1.9
comp=Z,19nm,1.0s,baz=155,slow=9.4,SNR=24
comp=Z,19nm,1.0s
NPGB Novo Progresso 20.21 35 eP **P 01 09 00.6 -3.0**
TEFE Tefe 20.52 7 eP **P 01 09 05.9 -0.9**
AY01 Puyuhuapi 20.88 192 P **P 01 09 09.6 -0.8**
MAN01 Angra dos Reis 21.11 92 eP **P 01 09 11.5 -1.7**
MACA Manacapuru-AM 21.60 17 P **P 01 09 18.3 -3.0**
MACA IAmb IAmb 01 09 18.9
comp=Z,60nm,0.9s
MACA Manacapuru-AM 21.60 17 eP **P 01 09 17.1 -1.1**
VAS01 Vassouras-RJ 21.67 90 eP **P 01 09 18.8 -0.2**
COYC Coyhaique 21.90 190 P **P 01 09 18.3 -2.6**
COYC IAmb IAmb 01 09 25.2
comp=Z,41nm,1.3s
ITTB Itaituba 22.33 31 eP **P 01 09 23.1 -2.3**
DIAM Diamantina, MG 22.42 80 eP **P 01 09 25.1 -1.2**
DUB01 Friburgo-RJ 22.68 90 eP **P 01 09 27.4 -1.1**
JANB Januaria 23.09 71 eP **P 01 09 30.5 -1.7**
SGCB SEo Gabriel d 23.76 360 eP **P 01 09 38.0 -0.3**
SMTB Santa Maria do 23.86 54 eP **P 01 09 37.9 -1.5**
SDBA SAO DESIDERIO 23.87 65 eP **P 01 09 37.5 -1.9**
PRPB Parauapebas 24.20 46 eP **P 01 09 39.9 -2.4**
ALF01 Guarapari-ES 24.47 87 eP **P 01 09 43.2 -1.6**
SJMB Sao Joao De Ma 24.54 83 eP **P 01 09 43.7 -1.8**
RIB01 Linhares ES 25.09 84 eP **P 01 09 48.6 -1.8**
CHSH Refugio Sur-Vo 25.20 331 IAmb IAmb 01 10 12.3
comp=Z,136nm,1.1s
MALB Monte Alegre 25.22 31 eP **P 01 09 49.6 -2.0**
SLOR San Lorenzo - 25.72 333 P **P 01 09 55.0 -1.6**
SLOR IAmb IAmb 01 10 06.6
comp=Z,26nm,1.2s
NAN01 Guarapari, ES 25.76 81 eP **P 01 09 54.4 -2.1**
GUA01 Guaratinga, BA 26.47 79 eP **P 01 10 01.1 -1.7**
FLOC Florencia 26.82 340 eP **P 01 10 05.9 -0.1**
BOAV Boa Vista 26.99 14 P **P 01 10 06.9 -0.5**
BOAV IAmb IAmb 01 10 18.0
comp=Z,13nm,1.2s
BOAV Boa Vista 26.99 14 eP **P 01 10 07.0 -0.5**
BOAV Boa Vista 26.99 14 eP **P 01 10 07.3 -0.2**
ABR01 Abrolhos, BA 27.02 83 eP **P 01 10 05.6 -2.1**
GCUF Volcan Galeras 27.06 337 eP **P 01 10 15.5 +6.9**
CMC01 Camacan, BA 27.18 77 eP **P 01 10 07.8 -1.3**
GARC Garzon, Huila 27.35 341 eP **P 01 10 11.9 +1.0**
GDU01 Guandu, BA 27.80 73 eP **P 01 10 12.0 -2.6**
ORTC Ortega, Tolima 28.92 343 eP **P 01 10 24.8 +0.2**
CHIC Chingaza 29.24 346 eP **P 01 10 27.6 -0.2**
YOTC Yotoco, Valle 29.31 341 eP **P 01 10 26.9 -1.2**
ROSC El Rosal 29.58 345 P **P 01 10 32.2 +1.4**
comp=Z,4.8nm,0.4s,baz=120,slow=21,SNR=1.8
comp=Z,4.8nm,0.4s
ROSC El Rosal 29.58 345 P **P 01 10 29.7 -1.1**
PLMC San Jos del P 30.16 341 eP **P 01 10 35.1 -0.5**
GUY2C Guyana, Caldas 30.21 343 eP **P 01 10 36.4 0.0**
RUSC La Rusia 30.33 348 P **P 01 10 35.5 -2.0**
RUSC La Rusia 30.33 348 eP **P 01 10 37.5 -0.1**
CBOC Ciudad Bolivar 31.00 342 eP **P 01 10 42.1 -0.9**
MDP Montagnes des 32.13 28 LR LR 01 25 50.6
comp=Z,133nm,20.1s,baz=184,slow=40
BAUV El Baul 32.78 358 P **P 01 10 56.4 -2.0**
BAUV IAmb IAmb 01 10 58.8
comp=Z,41nm,1.0s
SDV Santo Domingo 32.91 353 P **P 01 10 57.7 -2.0**
SDV Santo Domingo 32.91 353 eP **P 01 10 59.6 -0.1**
SDV Santo Domingo 32.91 353 P **P 01 10 58.4 -1.3**
NBCL Cascavel-CE 33.91 59 eP **P 01 11 06.9 -1.3**
SJCC San Jacinto, C 34.66 346 eP **P 01 11 13.4 -1.3**
RCBR Riachuelo 34.88 64 P **P 01 11 13.7 -3.0**
RCBR IAmb IAmb 01 11 17.7
comp=Z,46nm,1.0s
RCBR Riachuelo 34.88 64 eP **P 01 11 16.1 -0.6**
RCBR Riachuelo 34.88 64 P **P 01 11 16.6 -0.1**
RCBR pP **pP 01 11 59.4 +1.0**
CDITO Canoas 35.94 332 P **P 01 11 25.4 -0.2**
CDITO IAmb IAmb 01 11 37.0
comp=Z,36nm,1.0s
BRU2 Volcan 36.06 333 IAmb IAmb 01 11 30.7
comp=Z,58nm,1.3s
SRBA San Rafael, Bu 36.74 332 IAmb IAmb 01 11 36.4
comp=Z,52nm,1.2s
RIMA Rio Macho 37.44 332 P **P 01 11 37.7 -0.7**
RIMA IAmb IAmb 01 11 42.3
comp=Z,29nm,1.1s
HOPE Hope Point 37.80 151 P **P 01 11 41.9 +1.1**
HOPE pP **pP 01 12 24.3 +1.8**
RPN Rapa Nui 38.24 256 P **P 01 11 46.8 +2.0**
comp=Z,102nm,1.0s,baz=318,slow=2.6,SNR=3.7
comp=Z,102nm,1.0s
JTS Las Juntas de 38.38 331 P **P 01 11 46.4 +0.3**
JTS IAmb IAmb 01 11 50.2
comp=Z,57nm,1.2s
JTS Las Juntas de 38.38 331 P **P 01 11 48.8 +2.7**
JTS pP **pP 01 12 29.2 +0.5**
DUNO Dulce Nombre, 38.44 330 IAmb IAmb 01 11 50.3
comp=Z,68nm,1.3s
ORTG Ortega, Santa 38.67 330 IAmb IAmb 01 11 52.6
comp=Z,61nm,1.1s
ESPN Las Esperanzas 39.80 333 IAmb IAmb 01 12 02.1
comp=Z,84nm,1.4s
BOAB BOACO BROADBAN 40.61 331 P **P 01 12 04.0 -0.4**
BOAB IAmb IAmb 01 12 09.7
comp=Z,68nm,1.3s
OBIP Obispado Ponce 41.81 0 P **P 01 12 12.4 -1.7**
OBIP IAmb IAmb 01 12 15.0
comp=Z,57nm,1.1s
UUPR Utuado, UPR, P 42.02 0 P **P 01 12 14.1 -1.8**
UUPR IAmb IAmb 01 12 15.7
comp=Z,31nm,0.9s
TGUH Tegucigalpa,Un 42.75 330 P **P 01 12 21.4 -0.6**
TGUH IAmb IAmb 01 12 24.3
comp=Z,90nm,1.2s
SNET Serv Nac Est T 43.35 328 P **P 01 12 27.9 +1.2**
BELA Belgrano 2 56.01 172 P **P 01 14 01.4 +0.1**
BELA IAmb IAmb 01 14 03.9
comp=Z,41nm,1.5s
VNA3 Neumayer Olymp 57.11 161 P **P 01 14 10.3 +1.1**
VNA1 Neumayer--Stat 57.31 160 P **P 01 14 12.0 +1.5**
TIGA Tifton 57.41 343 P **P 01 14 12.6 +1.0**
baz=162
VNA2 Neumayer--Watz 57.68 160 P **P 01 14 14.3 +1.2**
baz=305,slow=9.0
352A Blakely 57.81 342 P **P 01 14 15.5 +1.0**
baz=160
ZAIG Zacatecas 57.98 321 P **P 01 14 17.3 +1.0**
ZAIG IAmb IAmb 01 14 19.8
comp=Z,37nm,1.2s
BRAL Brewton 58.16 340 P **P 01 14 17.6 +0.6**
baz=158
BRAL Brewton 58.16 340 P **P 01 14 17.4 +0.5**
baz=158
NHSC New Hope 58.20 347 P **P 01 14 18.5 +1.4**
baz=166
NHSC New Hope 58.20 347 P **P 01 14 19.0 +1.8**
baz=166
154A Montrose 58.40 344 P **P 01 14 19.1 +0.6**
baz=163
250A Grady 58.67 341 P **P 01 14 20.3 -0.1**
250A Grady 58.67 341 P **P 01 14 20.9 +0.4**
baz=159
Y60A Bolivia 58.70 349 P **P 01 14 21.6 +1.0**
baz=168
Y60A P **P 01 14 21.6 +1.0**
baz=168
HAW Hawthorne Fire 58.75 346 P **P 01 14 21.9 +0.9**
baz=164
152A Waverly Hall 58.87 342 P **P 01 14 21.6 -0.3**
baz=161
346A Big Creek Wild 59.17 338 P **P 01 14 25.6 +1.7**
baz=156
SNAA Sanae 59.31 161 P **P 01 14 25.4 +1.0**
SNAA Sanae 59.31 161 P **P 01 14 24.4 -0.1**
KVTX Kingsville 59.33 328 P **P 01 14 27.1 +2.0**
baz=147
X58A Rowland 59.44 348 P **P 01 14 26.4 +0.8**
baz=167
X58A P **P 01 14 26.4 +0.8**
baz=167
JSC Jenkinsville 59.56 346 P **P 01 14 28.4 +1.9**
baz=165
Z51A Franklin 59.61 342 P **P 01 14 27.9 +1.0**
baz=161
344A Westbrook Farm 59.68 336 P **P 01 14 28.3 +1.0**
baz=155
HODGE Hodges 59.74 345 P **P 01 14 28.7 +1.0**
baz=164
BIRD Birdtown, Kers 59.74 347 P **P 01 14 28.9 +1.1**
baz=166
Y52A Lilburn 59.83 344 P **P 01 14 28.8 +0.4**
Y52A IAmb IAmb 01 14 29.1
comp=Z,35nm,1.2s
Y52A Lilburn 59.83 344 P **P 01 14 28.6 +0.2**
baz=162
Y52A P **P 01 14 28.6 +0.2**
baz=162
LRAL Lakeview Retre 59.88 341 P **P 01 14 28.8 0.0**
baz=159
LRAL Lakeview Retre 59.88 341 P **P 01 14 28.4 -0.3**
baz=159
146A Union 60.17 339 P **P 01 14 31.1 +0.4**
baz=157
PAULI Pauline 60.20 346 P **P 01 14 31.6 +0.8**
baz=164
342B Flagon Creek P 60.21 335 P **P 01 14 32.8 +1.9**
baz=153,SNR=5.9
VBMS Vicksburg 60.29 337 P **P 01 14 31.8 +0.2**
baz=155
735A Kenedy 60.39 329 P **P 01 14 33.9 +1.6**
baz=147
KMSC Kings Mountain 60.40 346 P **P 01 14 33.7 +1.4**
baz=165
KMSC Kings Mountain 60.40 346 P **P 01 14 33.7 +1.4**
baz=165
HKT Hockley 60.41 331 P **P 01 14 32.4 0.0**
HKT IAmb IAmb 01 14 34.1
comp=Z,32nm,1.4s
HKT Hockley 60.41 331 P **P 01 14 33.4 +1.1**
baz=150
HKT Hockley 60.41 331 P **P 01 14 33.5 +1.2**
HKT pP **pP 01 15 18.1 -0.5**
Y49A Blount Mountai 60.47 341 P **P 01 14 31.9 -0.9**
baz=160
CASEE Lake Jocassee 60.62 345 P **P 01 14 33.5 -0.2**
baz=163
X51A Calhoun 60.70 343 P **P 01 14 34.8 +0.5**
baz=161
X51A P **P 01 14 34.8 +0.5**
baz=161
833A Chaparral WMA, 60.72 327 P **P 01 14 35.7 +1.2**
baz=146,SNR=21
833A Chaparral WMA, 60.72 327 P **P 01 14 35.7 +1.2**
baz=146,SNR=21
U59A Littleton 60.92 350 P **P 01 14 35.7 0.0**
baz=169
U59A P **P 01 14 35.7 0.0**
baz=169
W52A Murphy 60.96 344 P **P 01 14 36.5 +0.4**
baz=162
TROLL Troll, Antarti 61.02 161 P **P 01 14 37.5 +1.3**
143A Socs Landing, 61.05 336 P **P 01 14 38.1 +1.5**
baz=154
V55A Taylorsville 61.06 347 P **P 01 14 37.4 +0.7**
baz=165
V55A P **P 01 14 37.4 +0.7**
baz=165
X48A Hartselle 61.21 341 P **P 01 14 37.8 +0.1**
baz=159,SNR=8.2
V53A Saluda 61.24 345 P **P 01 14 39.0 +1.0**
baz=163
V53A P **P 01 14 39.0 +1.0**
baz=163
W50A Signal Mountai 61.42 343 P **P 01 14 39.8 +0.6**
baz=161
Y45A Yeager Farm, C 61.45 339 P **P 01 14 39.6 +0.2**
baz=156
TKL Tuckaleechee C 61.46 344 LR LR 01 43 53.5
comp=Z,56nm,19.1s,baz=159,slow=38
TKL Tuckaleechee C 61.46 344 P **P 01 14 38.3 -1.0**
baz=162
NATX Nacogdoches 61.48 333 P **P 01 14 40.4 +0.8**
NATX Nacogdoches 61.48 333 P **P 01 14 40.7 +1.2**
baz=151,SNR=5.2
NATX Nacogdoches 61.48 333 P **P 01 14 41.1 +1.6**
baz=151,SNR=5.2
V52A Sevierville 61.59 345 P **P 01 14 40.0 -0.2**
baz=163
V51A Loudon 61.74 344 P **P 01 14 41.4 +0.2**
baz=162
U54A Nelsons Funny 61.84 346 P **P 01 14 42.6 +0.7**
baz=164
U54A P **P 01 14 42.6 +0.7**
baz=164
435B Jarrell 61.91 330 P **P 01 14 43.2 +0.7**
baz=148
OXF Oxford 62.00 339 P **P 01 14 43.6 +0.6**
baz=157
OXF Oxford 62.00 339 P **P 01 14 43.4 +0.4**
baz=157
PLAL Pickwick Lake 62.01 340 IAmb IAmb 01 14 44.3
comp=Z,18nm,1.0s
237A Washetta, Mont 62.17 332 P **P 01 14 45.5 +1.4**
baz=150
V48A Smith Brothers 62.35 342 IAmb IAmb 01 14 46.5
comp=Z,34nm,1.1s
V48A Smith Brothers 62.35 342 P **P 01 14 45.5 +0.3**
baz=160,SNR=5.2
BBTS Babate 62.47 57 LR LR 01 40 47.7
comp=Z,155nm,20.9s,baz=248,slow=35
S57A Dark Hollow, R 62.49 349 P **P 01 14 46.8 +0.7**
baz=168
S57A P **P 01 14 46.8 +0.7**
baz=168
R61A Willards 62.52 353 P **P 01 14 47.7 +1.4**
baz=171
R61A P **P 01 14 47.7 +1.4**
baz=171
JCT Junction City 62.69 328 P **P 01 14 47.9 +0.1**
JCT IAmb IAmb 01 14 49.5
comp=Z,22nm,0.9s
JCT Junction City 62.69 328 P **P 01 14 48.6 +0.8**
baz=146,SNR=8.4
JCT Junction City 62.69 328 P **P 01 14 48.3 +0.6**
baz=146,SNR=8.4
U49A Red Boiling Sp 62.78 343 P **P 01 14 47.8 -0.3**
baz=161
WHTX Lake Whitney, 62.88 331 P **P 01 14 49.5 +0.7**
baz=149,SNR=7.7
WHTX Lake Whitney, 62.88 331 P **P 01 14 49.2 +0.4**
baz=149,SNR=7.7
Z38A Mt. Pleasant 62.92 334 P **P 01 14 49.9 +0.8**
baz=151
S54A Dingess, Beckl 62.96 347 P **P 01 14 50.9 +1.5**
baz=165
S54A P **P 01 14 50.9 +1.5**
baz=165
HPIG 62.97 321 P **P 01 14 49.3 -0.6**
HPIG IAmb IAmb 01 14 52.1
comp=Z,16nm,1.1s
WVT Waverly 63.00 341 P **P 01 14 49.4 -0.1**
WVT Waverly 63.00 341 P **P 01 14 49.5 -0.1**
baz=159,SNR=9.2
WVT Waverly 63.00 341 P **P 01 14 49.6 0.0**
baz=158
WVT Waverly 63.00 341 P **P 01 14 49.2 -0.4**
WVT pP **pP 01 15 35.7 -0.4**
T50A Nancy 63.02 344 P **P 01 14 50.0 +0.3**
baz=162
T50A P **P 01 14 50.0 +0.3**
baz=162
MIAR Mount Ida 63.50 336 P **P 01 14 53.0 +0.1**
MIAR IAmb IAmb 01 14 54.6
comp=Z,28nm,1.2s
MIAR Mount Ida 63.50 336 P **P 01 14 53.6 +0.7**
baz=153,SNR=5.9
MIAR Mount Ida 63.50 336 P **P 01 14 53.6 +0.7**
baz=153,SNR=5.9
T47A Sharon Grove 63.59 342 P **P 01 14 53.0 -0.4**
baz=159,SNR=6.2
R53A Hurricane 63.60 347 P **P 01 14 54.4 +0.9**
baz=165
R53A P **P 01 14 54.4 +0.9**
baz=165
TX32 Lajitas Array 63.73 324 IAmb IAmb 01 14 56.9
comp=Z,39nm,1.8s
TX31 Lajitas Ar. Si 63.73 324 IAmb IAmb 01 14 56.2
comp=Z,20nm,1.1s
TX31 Lajitas Ar. Si 63.73 324 P **P 01 14 55.6 +0.9**
baz=142,SNR=8.4
Z35A Perchaven, San 63.93 332 P **P 01 14 56.8 +1.1**
baz=149,SNR=6.4
LCAR Lake Charles 64.00 338 P **P 01 14 56.0 -0.1**
baz=155
FCAR Ozark Folk Cen 64.17 337 IAmb IAmb 01 14 58.3
comp=Z,23nm,1.2s
X37A Clayton 64.24 334 P **P 01 14 59.0 +1.3**
baz=151,SNR=9.1
ABTX Abilene, Hawle 64.40 330 IAmb IAmb 01 15 00.7
comp=Z,38nm,1.2s
ABTX Abilene, Hawle 64.40 330 P **P 01 14 59.2 +0.3**
baz=147,SNR=7.3
ABTX Abilene, Hawle 64.40 330 P **P 01 14 59.4 +0.6**
baz=147,SNR=7.3
PBMO Poplar Bluff 64.41 339 P **P 01 14 58.9 +0.1**
baz=156
LOOK Love County 64.47 332 IAmb IAmb 01 15 01.1
comp=Z,44nm,1.2s
MCWV Mont Chateau 64.49 349 P **P 01 15 00.9 +1.7**
baz=167
WCI Wyandotte Cave 64.53 343 P **P 01 14 59.2 -0.4**
WCI IAmb IAmb 01 14 59.9
comp=Z,28nm,1.2s
WCI Wyandotte Cave 64.53 343 P **P 01 14 59.2 -0.4**
baz=160
WCI Wyandotte Cave 64.53 343 P **P 01 14 59.1 -0.4**
baz=160
WCI Wyandotte Cave 64.53 343 P **P 01 14 58.9 -0.7**
Q51A Peebles 64.57 346 P **P 01 15 00.2 +0.4**
baz=163
Q51A P **P 01 15 00.2 +0.4**
baz=163
P53A Whipple 64.61 348 P **P 01 15 01.1 +1.1**
baz=165
P53A P **P 01 15 01.1 +1.1**
baz=165
BRNJ Basking Ridge 64.76 354 P **P 01 15 01.7 +0.7**
baz=172
T42A Van Buren 64.85 339 P **P 01 15 01.2 -0.4**
baz=156
S44A Carbondale 64.88 341 P **P 01 15 01.4 -0.4**
baz=158
P52A Corning 64.90 347 P **P 01 15 02.4 +0.5**
baz=165
P51A Williamsport 64.95 346 P **P 01 15 02.5 +0.3**
baz=164
P51A P **P 01 15 02.5 +0.3**
baz=164
SSPA Standing Stone 65.13 351 P **P 01 15 04.3 +1.0**
baz=169
HHAR Hobbs 65.18 336 IAmb IAmb 01 15 05.2
comp=Z,44nm,1.3s
X34A Smith Ranch, M 65.27 332 IAmb IAmb 01 15 06.3
comp=Z,32nm,1.3s
O53A New Philadelph 65.31 348 P **P 01 15 05.2 +0.6**
baz=166
UPAO U. Pittsburgh 65.32 349 P **P 01 15 05.5 +0.9**
baz=167
MGMO Mountain Grove 65.36 338 IAmb IAmb 01 15 06.4
comp=Z,45nm,1.3s
P49A Miami Univ. Ec 65.37 345 P **P 01 15 04.7 -0.2**
baz=162
P49A Miami Univ. Ec 65.37 345 P **P 01 15 04.9 -0.1**
baz=162
P48A Milroy 65.47 344 P **P 01 15 04.9 -0.7**
baz=161
P48A P **P 01 15 04.9 -0.7**
baz=161
RLO Rose Lookout 65.48 335 IAmb IAmb 01 15 07.6
comp=Z,60nm,1.5s
U38A Gravette 65.48 336 IAmb IAmb 01 15 06.5
comp=Z,43nm,1.6s
U38A Gravette 65.48 336 P **P 01 15 06.1 +0.4**
baz=152
TUL1 Leonard 65.56 335 P **P 01 15 07.2 +1.0**
baz=151,SNR=5.1
TUL1 Leonard 65.56 335 P **P 01 15 06.6 +0.4**
baz=151,SNR=5.1
ACSO Alum Creek Sta 65.65 347 P **P 01 15 06.1 -0.6**
baz=164
ACSO Alum Creek Sta 65.65 347 P **P 01 15 06.6 0.0**
baz=164
PAMR Moraine State 65.78 349 P **P 01 15 08.8 +1.3**
baz=167
N53A Lisbon 65.78 348 P **P 01 15 08.6 +1.0**
baz=166
N53A P **P 01 15 08.6 +1.0**
baz=166
DEOK Depew 65.78 334 IAmb IAmb 01 15 09.2
comp=Z,67nm,1.2s
NPNY Mohonk Preserv 65.78 354 P **P 01 15 09.5 +2.0**
baz=173
WMOK Wichita Mounta 65.79 332 P **P 01 15 07.9 +0.2**
baz=148
WMOK Wichita Mounta 65.79 332 P **P 01 15 07.5 -0.3**
baz=148
CCM Cathedral Cave 65.84 339 P **P 01 15 07.8 -0.2**

CCM IAmb IAmb 01 15 09.6
comp=Z,27nm,0.9s
CCM Cathedral Cave 65.84 339 P **P** **01 15 07.9 0.0**
baz=156,SNR=11
CCM Cathedral Cave 65.84 339 P **P** **01 15 07.7 -0.3**
baz=156
CCM Cathedral Cave 65.84 339 P **P** **01 15 07.7 -0.2**
CCM pP **pP** **01 15 52.5 -2.3**
O49A Covington 65.91 345 P **P** **01 15 08.5 +0.2**
baz=163
O49A P **P** **01 15 08.5 +0.2**
baz=163
Q44A Meyer Farm, Va 65.92 341 P **P** **01 15 07.8 -0.7**
baz=158
QUOK Quay 66.15 334 IAmb IAmb 01 15 11.7
comp=Z,64nm,1.2s
O48B Farmland 66.16 345 P **P** **01 15 09.2 -0.7**
baz=162
O48B Farmland 66.16 345 P **P** **01 15 09.9 -0.1**
baz=162
QSPA South Pole Qui 66.18 180 P **P** **01 15 11.6 +1.6**
QSPA IAmb IAmb 01 15 12.1
comp=Z,11nm,0.6s
QSPA South Pole Qui 66.18 180 P **P** **01 15 11.5 +1.5**
QSPA pP **pP** **01 15 58.2 +1.3**
N51A Ashland 66.18 347 P **P** **01 15 10.5 +0.4**
baz=165
N51A P **P** **01 15 10.5 +0.4**
baz=165
S39A Bolivar 66.21 337 P **P** **01 15 11.1 +0.8**
baz=154,SNR=12
R40A Maddies Statio 66.39 338 P **P** **01 15 10.9 -0.5**
R40A Maddies Statio 66.39 338 P **P** **01 15 11.8 +0.4**
baz=155,SNR=8.6
BINY Binghamton 66.42 353 P **P** **01 15 12.1 +0.5**
baz=171
BINY Binghamton 66.42 353 P **P** **01 15 12.4 +0.9**
baz=171
MNTX Cornudas Mount 66.50 325 IAmb IAmb 01 15 13.8
comp=Z,25nm,1.2s
MNTX Cornudas Mount 66.50 325 P **P** **01 15 12.6 +0.3**
baz=142,SNR=21
MNTX Cornudas Mount 66.50 325 P **P** **01 15 12.4 +0.1**
baz=142,SNR=21
CSTR Hydro, Custer 66.52 332 IAmb IAmb 01 15 14.3
comp=Z,6.0nm,1.3s
L56A Greenwood 66.56 351 P **P** **01 15 12.2 -0.2**
baz=169
L56A P **P** **01 15 12.2 -0.2**
baz=169
N49A Columbus Grove 66.57 346 P **P** **01 15 12.5 0.0**
baz=163
N49A P **P** **01 15 12.5 0.0**
baz=163
M52A Chesterland 66.59 348 P **P** **01 15 13.7 +1.1**
baz=166
M52A P **P** **01 15 13.7 +1.1**
baz=166
T35A Sooner Cattle 66.72 334 IAmb IAmb 01 15 15.5
comp=Z,56nm,1.4s
T35B Sooner Cattle 66.72 334 P **P** **01 15 14.6 +1.0**
baz=151,SNR=6.5
P43A Skaggs, Pawnee 66.75 341 P **P** **01 15 13.4 -0.3**
baz=158
BLOK Blackwell 66.86 334 IAmb IAmb 01 15 17.0
comp=Z,44nm,1.2s
N47A Urbana 66.89 345 P **P** **01 15 14.3 -0.2**
baz=161
N47A P **P** **01 15 14.3 -0.2**
baz=161
O44A Mansfield 66.93 342 P **P** **01 15 14.2 -0.5**
baz=159
MSTX Muleshoe 66.99 328 P **P** **01 15 15.4 0.0**
MSTX Muleshoe 66.99 328 P **P** **01 15 16.2 +0.7**
baz=144,SNR=17
MSTX Muleshoe 66.99 328 P **P** **01 15 16.2 +0.7**
baz=144,SNR=17
KAN13 South Haven SW 67.19 334 IAmb IAmb 01 15 18.4
comp=Z,60nm,1.3s
ELIS Ellis County 67.19 332 IAmb IAmb 01 15 18.6
comp=Z,16nm,0.9s
AMTX Amarillo 67.22 329 IAmb IAmb 01 15 18.6
comp=Z,31nm,1.3s
AMTX Amarillo 67.22 329 P **P** **01 15 17.6 +0.8**
baz=146
AMTX Amarillo 67.22 329 P **P** **01 15 17.8 +0.9**
baz=146
U32A Winter Ranch, 67.28 332 P **P** **01 15 17.8 +0.6**
baz=148
KAN14 Manchester OK 67.34 333 IAmb IAmb 01 15 19.3
comp=Z,19nm,1.1s
P40A Paris 67.44 339 IAmb IAmb 01 15 19.1
comp=Z,50nm,1.2s
P40A Paris 67.44 339 P **P** **01 15 18.4 +0.4**
baz=155,SNR=9.7
ELIB Princess Elisa 67.47 160 *d*P **P** **01 15 19.3 +1.3**
comp=Z,27nm,0.0s
J59A Piesco 67.51 354 P **P** **01 15 19.1 +0.7**
baz=172
J59A P **P** **01 15 19.1 +0.7**
baz=172
HDIL Hopedale 67.53 342 P **P** **01 15 18.3 -0.3**
baz=158
HDIL Hopedale 67.53 342 P **P** **01 15 18.2 -0.4**
baz=158
KAN08 Anthony NE Sta 67.57 334 IAmb IAmb 01 15 20.9
comp=Z,54nm,1.2s
DBIC Dimbokro 67.76 71 P **P** **01 15 19.1 -1.5**
DBIC IAmb IAmb 01 15 20.6
comp=Z,47nm,1.6s
DBIC Dimbokro 67.76 71 P **P** **01 15 19.3 -1.2**
DBIC pP **pP** **01 16 07.5 +0.1**
P38A Dawn 68.02 338 P **P** **01 15 22.0 +0.4**
baz=154,SNR=11
L46A Eue Claire 68.10 345 P **P** **01 15 22.5 +0.4**
baz=161
L46A P **P** **01 15 22.5 +0.4**
baz=161
N41A Harden Midland 68.14 341 IAmb IAmb 01 15 23.5
comp=Z,37nm,1.0s
N41A Harden Midland 68.14 341 P **P** **01 15 22.2 -0.1**
baz=156,SNR=7.0
121A Cookes Peak, D 68.43 324 IAmb IAmb 01 15 28.1
comp=Z,47nm,1.2s
121A Cookes Peak, D 68.43 324 P **P** **01 15 26.9 +2.3**
baz=140,SNR=11
121A Cookes Peak, D 68.43 324 P **P** **01 15 26.3 +1.7**
baz=140,SNR=11
KSU1 Kansas State U 68.66 336 IAmb IAmb 01 15 27.9
comp=Z,38nm,1.4s
KSU1 Kansas State U 68.66 336 P **P** **01 15 26.0 +0.3**
baz=151
KSU1 Kansas State U 68.66 336 P **P** **01 15 26.1 +0.4**
baz=151
R32A Long Quarter, 68.90 334 IAmb IAmb 01 15 29.3
comp=Z,48nm,1.1s
R32A Long Quarter, 68.90 334 P **P** **01 15 28.5 +1.3**
baz=149,SNR=6.9
N38A Joes South For 68.97 339 IAmb IAmb 01 15 28.5
comp=Z,23nm,1.1s
N38A Joes South For 68.97 339 P **P** **01 15 28.1 +0.6**
baz=154
L42A Oliver, Polo 68.98 342 P **P** **01 15 27.6 0.0**
baz=158
G62A West of Eustis 68.98 357 P **P** **01 15 28.8 +1.3**
baz=176
G62A P **P** **01 15 28.8 +1.3**
baz=176
Y22A Socorro 69.07 325 P **P** **01 15 30.3 +1.7**
baz=141,SNR=5.8
DUN6 Lazy B Ranch 69.16 323 IAmb IAmb 01 15 32.5
comp=Z,121nm,1.3s
SADO Sadowa 69.36 351 LR LR 01 47 27.0
comp=Z,36nm,20.9s,baz=162,slow=37
L40A Anamosa 69.49 341 P **P** **01 15 30.6 0.0**
baz=156,SNR=5.2
ANMO Albuquerque 69.60 326 P **P** **01 15 32.6 +0.9**
ANMO IAmb IAmb 01 15 34.8
comp=Z,32nm,1.2s
ANMO Albuquerque 69.60 326 P **P** **01 15 33.6 +1.8**
baz=142,SNR=20
ANMO Albuquerque 69.60 326 P **P** **01 15 32.4 +0.6**
baz=142
ANMO Albuquerque 69.60 326 P **P** **01 15 33.4 +1.7**
ANMO pP **pP** **01 16 22.2 +3.0**
CBKS Cedar Bluff 69.65 333 P **P** **01 15 33.4 +1.6**
baz=148,SNR=7.8
CBKS Cedar Bluff 69.65 333 P **P** **01 15 32.9 +1.1**
baz=148,SNR=7.8
N35A Tabor 69.85 337 IAmb IAmb 01 15 34.1
comp=Z,51nm,1.4s
N35A Tabor 69.85 337 P **P** **01 15 33.0 +0.1**
baz=152
TUC Tucson 69.94 321 P **P** **01 15 34.1 +0.3**
TUC IAmb IAmb 01 15 36.9
comp=Z,36nm,1.4s
TUC Tucson 69.94 321 P **P** **01 15 35.0 +1.2**
baz=138
TUC Tucson 69.94 321 P **P** **01 15 35.4 +1.6**
TUC pP **pP** **01 16 24.9 +3.7**
SCIA State Center 69.96 339 P **P** **01 15 33.7 +0.1**
baz=154
SCIA State Center 69.96 339 P **P** **01 15 33.7 +0.1**
baz=154
JFWS Jewell Farm 69.98 342 IAmb IAmb 01 15 35.4
comp=Z,24nm,1.1s
JFWS Jewell Farm 69.98 342 P **P** **01 15 33.2 -0.5**
baz=157
JFWS Jewell Farm 69.98 342 P **P** **01 15 32.9 -0.8**
baz=157
T25A Trinidad 70.33 329 P **P** **01 15 37.6 +1.3**
baz=144,SNR=11
N33B J Bar K, Exete 70.40 336 P **P** **01 15 37.4 +1.1**
baz=150
K38A Parkersburg 70.49 340 P **P** **01 15 37.2 +0.4**
baz=155
I42A Draeger Farm, 70.53 343 P **P** **01 15 37.4 +0.4**
baz=159
214A Organ Pipe Nat 70.86 320 IAmb IAmb 01 15 42.8
comp=Z,36nm,1.3s
214A Organ Pipe Nat 70.86 320 P **P** **01 15 40.6 +1.4**
baz=136,SNR=10.0
I40A Norwalk 70.99 342 IAmb IAmb 01 15 40.7
comp=Z,55nm,1.4s
I40A Norwalk 70.99 342 P **P** **01 15 39.6 -0.1**
baz=157
KSCO Kaye Shedlock' 71.05 331 IAmb IAmb 01 15 43.2
comp=Z,40nm,1.1s
KSCO Kaye Shedlock' 71.05 331 P **P** **01 15 42.0 +1.6**
baz=146
KSCO Kaye Shedlock' 71.05 331 P **P** **01 15 41.0 +0.6**
baz=146
L34A Svendsen Farm, 71.08 337 P **P** **01 15 40.7 +0.3**
baz=152
MACI Morro de la Ar 71.14 46 P **P** **01 15 39.5 -1.7**
BGNE Belgrade 71.25 336 P **P** **01 15 42.6 +1.2**
baz=150,SNR=9.6
BGNE Belgrade 71.25 336 P **P** **01 15 41.6 +0.2**
baz=150,SNR=9.6
SDCO Great Sand Dun 71.34 329 IAmb IAmb 01 15 45.4
comp=Z,35nm,1.4s
SDCO Great Sand Dun 71.34 329 P **P** **01 15 44.1 +1.7**
baz=143,SNR=15
SDCO Great Sand Dun 71.34 329 P **P** **01 15 44.1 +1.7**
baz=143,SNR=15
SFX San Felipe 71.44 318 IAmb IAmb 01 15 45.8
comp=Z,27nm,1.1s
W18A Petrified Fore 71.45 324 IAmb IAmb 01 15 46.1
comp=Z,48nm,1.3s
W18A Petrified Fore 71.45 324 P **P** **01 15 44.4 +1.4**
baz=139,SNR=11
I37A Lemond, Waseca 71.92 340 IAmb IAmb 01 15 47.1
comp=Z,28nm,0.9s
I37B Waseca 71.92 340 P **P** **01 15 45.9 +0.6**
baz=155,SNR=5.3
S22A 4UR Ranch, Cre 71.98 328 P **P** **01 15 47.6 +1.4**
baz=142
Q24A Divide 72.15 330 P **P** **01 15 48.0 +0.8**
Q24A IAmb IAmb 01 15 50.2
comp=Z,54nm,1.4s
Q24A Divide 72.15 330 P **P** **01 15 48.5 +1.3**
baz=144,SNR=10
MVCO Mesa Verde 72.39 326 IAmb IAmb 01 15 51.7
comp=Z,62nm,1.5s
MVCO Mesa Verde 72.39 326 P **P** **01 15 49.9 +1.3**
baz=140,SNR=17
OGNE Ogallala 72.39 333 IAmb IAmb 01 15 50.9
comp=Z,58nm,1.5s
OGNE Ogallala 72.39 333 P **P** **01 15 49.8 +1.4**
baz=147
OGNE Ogallala 72.39 333 P **P** **01 15 49.6 +1.3**
baz=147
K31A O'Neill 72.52 336 P **P** **01 15 50.0 +1.1**
baz=150
WUAZ Wupatki 72.63 323 IAmb IAmb 01 15 53.5
comp=Z,30nm,1.1s
WUAZ Wupatki 72.63 323 P **P** **01 15 52.1 +2.1**
baz=138,SNR=15
ECSD EROS Data Cent 72.72 338 IAmb IAmb 01 15 51.6
comp=Z,40nm,1.2s
ECSD EROS Data Cent 72.72 338 P **P** **01 15 50.6 +0.5**
baz=152,SNR=11
ECSD EROS Data Cent 72.72 338 P **P** **01 15 50.9 +0.8**
baz=152,SNR=11
SPMN Marine on St. 72.84 341 IAmb IAmb 01 15 51.8
comp=Z,25nm,1.1s
SPMN Marine on St. 72.84 341 P **P** **01 15 51.0 +0.3**
baz=155
SPMN Marine on St. 72.84 341 P **P** **01 15 51.7 +1.0**
baz=155
ISCO Idaho Springs 73.03 330 P **P** **01 15 53.5 +1.1**
ISCO Idaho Springs 73.03 330 P **P** **01 15 54.1 +1.7**
baz=143,SNR=9.2
ISCO Idaho Springs 73.03 330 P **P** **01 15 53.7 +1.4**
baz=143,SNR=9.2
BLYC Blythe 73.14 320 P **P** **01 15 54.1 +1.4**
BLYC IAmb IAmb 01 15 56.2
comp=Z,30nm,1.1s
PV15 Paradox Valley 73.26 327 IAmb IAmb 01 15 57.1
comp=Z,38nm,1.3s
RMX La Jumorosa 73.27 318 IAmb IAmb 01 15 56.8
comp=Z,22nm,1.1s
PV13 Radium Mtn., P 73.29 327 IAmb IAmb 01 15 57.0
comp=Z,23nm,1.2s
IKP In-Ko-Pah, Jac 73.32 318 P **P** **01 15 56.0 +2.0**
baz=134,SNR=11
SWSC Sam W. Stewart 73.34 319 P **P** **01 15 55.9 +1.9**
baz=134
D41A Chassel 73.40 345 P **P** **01 15 54.7 +0.7**
baz=159
TKX Tecate 73.57 318 P **P** **01 15 56.9 +1.6**
TKX IAmb IAmb 01 15 58.6
comp=Z,23nm,1.1s
BC3 Big Chuckawall 73.63 319 P **P** **01 15 57.4 +1.7**
baz=134,SNR=16
F36A Milaca 73.63 341 IAmb IAmb 01 15 56.4
comp=Z,32nm,1.3s
F36A Milaca 73.63 341 P **P** **01 15 55.4 0.0**
baz=155,SNR=5.5
MONP2 Monument Peak 73.68 318 P **P** **01 15 58.4 +2.2**
baz=134,SNR=9.9
BAR Barrett 73.69 318 IAmb IAmb 01 15 59.2
comp=Z,23nm,1.1s
E38A The Farm, Brul 73.75 343 P **P** **01 15 56.9 +0.9**
baz=157
IRM Iron Mountain 73.80 320 P **P** **01 15 58.5 +1.9**
baz=135,SNR=11
U15A North Rim 73.81 323 IAmb IAmb 01 16 00.7
comp=Z,27nm,1.2s
N23A Red Feather La 74.06 330 P **P** **01 16 00.4 +2.1**
baz=143
109C Camp Elliot, M 74.10 318 P **P** **01 16 00.3 +2.0**
baz=133
SUSD Miller 74.17 337 P **P** **01 15 59.3 +0.7**
baz=150
PHWY Pilot Hill 74.17 331 IAmb IAmb 01 16 01.8
comp=Z,28nm,1.4s
PMD Palm Desert 74.17 319 IAmb IAmb 01 16 02.1
comp=Z,12nm,1.1s
BELC Belle Mtn. Jos 74.19 319 P **P** **01 16 00.8 +1.8**
baz=134,SNR=12
TPFO Pinon Flats 74.19 319 P **P** **01 16 00.9 +1.9**
baz=134,SNR=9.5
PFO Pinyon Flats O 74.20 319 P **P** **01 16 00.3 +1.2**
PFO Pinyon Flats O 74.20 319 P **P** **01 16 01.2 +2.1**
baz=134,SNR=11
F33A 5 Mile Ranch, 74.47 339 P **P** **01 16 00.3 +0.1**
baz=152
O20A White River Ci 74.53 328 IAmb IAmb 01 16 04.1
comp=Z,32nm,1.2s
O20A White River Ci 74.53 328 P **P** **01 16 02.5 +1.6**
baz=141,SNR=9.8
GMRC Granite Mounta 74.54 320 P **P** **01 16 02.7 +1.7**
baz=135,SNR=22
MURC Murrieta 74.64 318 P **P** **01 16 02.7 +1.2**
baz=133,SNR=5.9
VNDA Vanda 74.69 190 P **P** **01 16 02.1 +1.0**
comp=Z,1.0nm,0.7s,baz=88,slow=4.4,SNR=1.3
comp=Z,1.0nm,0.7s
VNDA Vanda 74.69 190 P **P** **01 16 01.7 +0.6**
V12A Nelson 74.73 321 IAmb IAmb 01 16 05.2
comp=Z,23nm,1.2s
ELS Elsinore Mount 74.81 318 IAmb IAmb 01 16 05.8
comp=Z,22nm,1.1s
EYMN Ely 74.96 343 P **P** **01 16 03.0 0.0**
baz=157
HEC Hector,Ludlow 74.97 320 P **P** **01 16 05.3 +1.9**
baz=134,SNR=11
Q16A Castle Valley 75.06 326 IAmb IAmb 01 16 07.4
comp=Z,31nm,1.4s
SZCU Shurtz Canyon 75.09 324 P **P** **01 16 05.0 +0.7**
SZCU IAmb IAmb 01 16 07.9
comp=Z,31nm,1.6s
TUQ Turquoise Moun 75.15 320 P **P** **01 16 06.7 +2.2**
baz=134,SNR=9.0
CCUT Cedar City 75.21 323 IAmb IAmb 01 16 08.9
comp=Z,28nm,1.1s
CIS Catalina Islan 75.25 317 P **P** **01 16 06.7 +1.7**
baz=132
P17A Butcher Ranch, 75.26 326 IAmb IAmb 01 16 08.1
comp=Z,33nm,1.2s
BFSC Mount Baldy Ra 75.35 318 P **P** **01 16 07.6 +1.9**
baz=133,SNR=6.3
GSC Goldstone, Bar 75.57 320 IAmb IAmb 01 16 10.4
comp=Z,33nm,1.4s
GSC Goldstone, Bar 75.57 320 P **P** **01 16 08.6 +1.7**
baz=134,SNR=8.4
PASC Pasadena Art C 75.63 318 IAmb IAmb 01 16 10.4
comp=Z,26nm,1.2s
SHOC Shoshone, Teco 75.67 321 P **P** **01 16 09.2 +1.8**
baz=134
K22A Casper 75.72 331 P **P** **01 16 10.5 +2.9**
baz=143,SNR=5.6
K22A Casper 75.72 331 P **P** **01 16 09.4 +1.8**
baz=143,SNR=5.6
SUR Sutherland 75.75 119 P **P** **01 16 07.5 -0.8**
DECC Green Verdugo 75.77 318 P **P** **01 16 10.3 +2.3**
baz=133
RSSD Black Hills 75.85 333 P **P** **01 16 08.9 +0.5**
RSSD Black Hills 75.85 333 P **P** **01 16 10.1 +1.7**
baz=145,SNR=6.6
RSSD Black Hills 75.85 333 P **P** **01 16 10.2 +1.7**
baz=145
EDW2 Edwards Air Fo 75.99 319 P **P** **01 16 11.2 +1.9**
baz=133
PRN Pahroc Range 76.04 322 IAmb IAmb 01 16 13.3
comp=Z,31nm,1.3s
GWY Greenwater Val 76.10 321 IAmb IAmb 01 16 12.9
comp=Z,21nm,1.1s
CCAC Calif City Air 76.19 319 IAmb IAmb 01 16 13.5
comp=Z,36nm,1.2s
LRMC Laurel Mtn Rad 76.21 319 P **P** **01 16 12.1 +1.5**
baz=133,SNR=11
OSI Osito Audit: C 76.25 318 P **P** **01 16 12.3 +1.6**
baz=132
TPNV Topopah Spring 76.39 321 IAmb IAmb 01 16 15.3
comp=Z,30nm,1.2s
TPNV Topopah Spring 76.39 321 P **P** **01 16 13.3 +1.7**
baz=135,SNR=9.9
SCZ2 Santa Cruz Isl 76.40 317 P **P** **01 16 13.4 +1.9**
baz=132
FURC Furnace Creek, 76.41 321 P **P** **01 16 13.6 +2.2**
baz=134,SNR=6.1
JLU Jordanelle 76.47 327 IAmb IAmb 01 16 15.2
comp=Z,33nm,1.4s
MPMC Manual Prospec 76.49 320 P **P** **01 16 13.7 +1.5**
baz=134,SNR=6.7
WCT Wildcat Mounta 76.50 321 IAmb IAmb 01 16 15.8
comp=Z,27nm,1.2s
E28A Huff 76.62 337 P **P** **01 16 13.9 +1.5**
baz=149,SNR=5.4
SBC Santa Barbara 76.75 317 P **P** **01 16 15.4 +2.0**
baz=132
SPR3 Spring Creek 3 76.78 324 IAmb IAmb 01 16 17.0
comp=Z,35nm,1.4s
ISA Isabella, Lake 76.81 319 P **P** **01 16 14.3 +0.5**
ISA IAmb IAmb 01 16 17.3
comp=Z,28nm,1.2s
ISA Isabella, Lake 76.81 319 P **P** **01 16 16.0 +2.2**
baz=133,SNR=8.7
TCUT Toone Canyon 76.83 327 IAmb IAmb 01 16 17.2
comp=Z,44nm,1.6s
DUG Dugway, Tooele 76.86 326 P **P** **01 16 15.9 +1.9**
baz=138,SNR=13
R11A Troy Canyon, C 77.00 323 P **P** **01 16 16.2 +1.2**
baz=135,SNR=16
GRAC Grapevine Rang 77.07 321 P **P** **01 16 17.1 +1.9**
baz=134
CWC Cottonwood Cre 77.10 320 P **P** **01 16 17.6 +2.1**
baz=133
PKM Mcpherson Peak 77.11 318 P **P** **01 16 17.6 +2.0**
baz=132,SNR=6.5
PDAR Pinedale Array 77.20 329 P **P** **01 16 17.2 +1.2**
comp=Z,0.8nm,0.3s,baz=128,slow=9.4,SNR=16
comp=Z,0.8nm,0.3s
HWUT Hardware Ranch 77.28 327 IAmb IAmb 01 16 19.1
comp=Z,65nm,1.9s
VES Vestal, Richgr 77.30 319 P **P** **01 16 18.1 +1.7**
baz=132,SNR=6.1
MDND Maddock 77.33 338 P **P** **01 16 17.7 +1.3**
baz=150,SNR=9.6
MDND Maddock 77.33 338 P **P** **01 16 17.7 +1.3**
baz=150,SNR=9.6
SPUT South Promonto 77.50 327 IAmb IAmb 01 16 20.6
comp=Z,35nm,1.4s
SMMC Simmler 77.50 318 P **P** **01 16 19.4 +1.8**
baz=132
TSUM Tsumeb 77.59 106 P **P** **01 16 17.5 -1.2**
TIN Tinemaha, Big 77.61 320 P **P** **01 16 20.2 +1.9**
baz=133
AHID Auburn Hatcher 77.93 328 IAmb IAmb 01 16 22.7
comp=Z,37nm,1.3s
REDW Red Top Meadow 78.26 329 IAmb IAmb 01 16 24.9
comp=Z,32nm,1.5s
ULM Lac du Bonnet 78.27 342 P **P** **01 16 21.6 +0.1**
comp=Z,3.4nm,0.3s,baz=153,slow=7.3,SNR=17
comp=Z,3.4nm,0.3s
ULM Lac du Bonnet 78.27 342 IAmb IAmb 01 16 22.9
comp=Z,39nm,1.4s
OMMB Old Mammoth Mi 78.44 320 IAmb IAmb 01 16 26.1
comp=Z,23nm,1.1s
SCHQ Schefferville 78.53 0 P **P** **01 16 22.7 -0.1**
comp=Z,1.1nm,0.3s,baz=150,slow=3.5,SNR=6.7
comp=Z,1.1nm,0.3s
SCHQ Schefferville 78.53 0 P **P** **01 16 22.8 0.0**
SCHQ IAmb IAmb 01 16 33.6
comp=Z,44nm,2.0s
NVAR Mina Array Bea 78.59 321 P **P** **01 16 25.5 +1.7**
comp=Z,5.3nm,1.0s,baz=155,slow=5.6,SNR=20
comp=Z,5.3nm,1.0s
IMW Indian Meadow 78.71 329 IAmb IAmb 01 16 27.5
comp=Z,27nm,1.2s
LAO LASA Array 78.84 334 IAmb IAmb 01 16 27.1
comp=Z,32nm,1.1s
LAO LASA Array 78.84 334 P **P** **01 16 26.4 +1.7**
baz=144,SNR=6.6
LAO LASA Array 78.84 334 P **P** **01 16 26.4 +1.7**
baz=144,SNR=6.6
RLMT Red Lodge 78.89 331 P **P** **01 16 27.0 +1.7**
baz=141,SNR=7.5
KVN Kaiserville 78.90 322 IAmb IAmb 01 16 28.2
comp=Z,22nm,1.1s
H17A Grant Village 78.92 330 P **P** **01 16 27.5 +2.0**
baz=140
LKWY Lake 78.97 330 IAmb IAmb 01 16 31.7
comp=Z,45nm,1.6s
WAKR Walker 79.30 321 IAmb IAmb 01 16 31.2
comp=Z,36nm,1.4s
YMR Madison River 79.31 330 IAmb IAmb 01 16 31.2
comp=Z,50nm,1.4s
SOE Somerset East 79.39 121 P **P** **01 16 28.2 -0.1**
DGMT Dagmar 79.50 336 P **P** **01 16 30.1 +1.8**
baz=146,SNR=8.0
DGMT Dagmar 79.50 336 P **P** **01 16 30.1 +1.8**
baz=146,SNR=8.0
YERR Yerington 79.51 321 IAmb IAmb 01 16 32.1
comp=Z,30nm,1.2s
GRHM Grahamstown, E 79.82 122 P **P** **01 16 30.5 0.0**
VCNR Virginia City 79.95 321 IAmb IAmb 01 16 34.5
comp=Z,26nm,1.3s
HLID Hailey 80.14 327 IAmb IAmb 01 16 35.5
comp=Z,30nm,1.1s
HLID Hailey 80.14 327 P **P** **01 16 34.3 +2.3**
baz=137,SNR=24

BOZ	**Bozeman (W)**	**80.32**	**330**	P	**P**	**01 16 34.2**	**+1.3**
	baz=139							
AVE	**Averroes**	**80.38**	**47**	P	**P**	**01 16 33.2**	**0.0**
AVE				IAmb	IAmb	01 16 35.5		
	comp=Z,23nm,1.0s							
AFDM	**Forest Hills D**	**80.48**	**320**	IAmb	IAmb	01 16 36.3		
	comp=Z,22nm,1.1s							
BOSA	**Boshof**	**80.67**	**117**	P	**P**	**01 16 34.9**	**-0.4**
	comp=Z,18nm,0.9s,baz=244,slow=3.8,SNR=59							
BOSA				LR	LR	01 48 54.2		
	comp=Z,55nm,21.1s,baz=192,slow=33							
	comp=Z,18nm,0.9s							
BOSA	**Boshof**	**80.67**	**117**	P	**P**	**01 16 34.0**	**-1.3**
BOSA				IAmb	IAmb	01 16 37.0		
	comp=Z,23nm,0.9s							
BEKR	**Beckworth**	**80.74**	**321**	IAmb	IAmb	01 16 38.3		
	comp=Z,31nm,1.4s							
ORV	**Oroville**	**81.19**	**320**	IAmb	IAmb	01 16 40.5		
	comp=Z,42nm,1.4s							
HRY	**Holter Researc**	**81.26**	**331**	P	**P**	**01 16 39.1**	**+1.3**
EGMT	**Eagleton**	**81.36**	**333**	IAmb	IAmb	01 16 40.3		
	comp=Z,32nm,1.2s							
EGMT	**Eagleton**	**81.36**	**333**	P	**P**	**01 16 38.8**	**+0.6**
	baz=141							
MAW	**Mawson**	**81.40**	**163**	P	**P**	**01 16 39.4**	**+1.3**
	comp=Z,19nm,0.8s,baz=350,slow=6.4,SNR=2.0							
	comp=Z,19nm,0.8s							
PLID	**Pearl Lake**	**82.03**	**327**	IAmb	IAmb	01 16 44.6		
	comp=Z,22nm,1.1s							
J08A	**Circle Bar Ran**	**82.07**	**325**	IAmb	IAmb	01 16 45.1		
	comp=Z,34nm,1.3s							
MSO	**Missoula**	**82.31**	**330**	P	**P**	**01 16 45.1**	**+1.9**
	baz=138							
LBTB	**Lobatse**	**82.33**	**114**	P	**P**	**01 16 43.2**	**-0.8**
LBTB				IAmb	IAmb	01 16 45.3		
	comp=Z,53nm,1.6s							
K05A	**Summer Lake**	**82.95**	**323**	IAmb	IAmb	01 16 49.8		
	comp=Z,39nm,1.2s							
PSBE	**So Bento**	**83.29**	**41**	*e*P	**P**	**01 16 49.1**	**+0.7**
PMTG	**Montargil**	**83.36**	**42**	*e*P	**P**	**01 16 49.2**	**+0.5**
PBAR	**Barrancos**	**83.55**	**43**	*e*P	**P**	**01 16 51.4**	**+1.7**
PCAS	**Casmilo, Conde**	**83.81**	**41**	*e*P	**P**	**01 16 54.3**	**+3.4**
FFC	**Flin Flon**	**84.00**	**340**	P	**P**	**01 16 52.0**	**+0.4**
MTE	**Manteigas**	**84.60**	**41**	*e*P	**P**	**01 16 56.2**	**+1.2**
	comp=Z,22nm,1.2s							
MTE	**Manteigas**	**84.60**	**41**	P	**P**	**01 16 55.1**	**+0.1**
HAWA	**Hanford**	**84.71**	**326**	IAmb	IAmb	01 16 58.0		
	comp=Z,24nm,1.2s							
D08A	**Wollman Farm,**	**84.86**	**327**	IAmb	IAmb	01 16 58.6		
	comp=Z,24nm,1.3s							
PVRL	**Vila Real**	**85.03**	**41**	*e*P	**P**	**01 16 58.0**	**+0.9**
POLO	**Lamas de Olo**	**85.04**	**40**	*e*P	**P**	**01 16 57.5**	**+0.3**
C09A	**Chrisman Ranch**	**85.06**	**328**	IAmb	IAmb	01 16 59.4		
	comp=Z,28nm,1.1s							
MVO	**Moncorvo**	**85.37**	**41**	*e*P	**P**	**01 16 59.9**	**+1.1**
FCC	**Fort Churchill**	**85.50**	**346**	IAmb	IAmb	01 17 00.8		
	comp=Z,25nm,1.1s							
PBRG	**Braganca**	**85.93**	**41**	*e*P	**P**	**01 17 03.5**	**+1.9**
PAB	**San Pablo**	**86.06**	**43**	P	**P**	**01 17 02.8**	**+0.6**
ESDC	**Sonseca Array**	**86.37**	**44**	P	**P**	**01 17 05.0**	**+1.2**
	comp=Z,4.0nm,0.9s,baz=239,slow=5.1,SNR=26							
ESDC				LR	LR	01 56 28.0		
	comp=Z,36nm,18.4s,baz=252,slow=36							
	comp=Z,4.0nm,0.9s							
NRS	**Narsarsuaq**	**86.65**	**10**	P	**P**	**01 17 02.8**	**-1.7**
FRB	**Frobisher Bay**	**87.48**	**359**	LR	LR	01 59 50.0		
	comp=Z,31nm,18.1s,baz=210,slow=38							
LSZ	**Lusaka**	**88.44**	**106**	P	**P**	**01 17 15.5**	**+1.1**
CASY	**Casey**	**89.96**	**179**	P	**P**	**01 17 18.7**	**-1.6**
WAPA	**Wapiti River**	**90.63**	**333**	IAmb	IAmb	01 17 25.9		
	comp=Z,22nm,1.0s							
URZ	**Urewera**	**93.75**	**225**	LR	LR	01 51 52.7		
	comp=Z,44nm,19.6s,baz=129,slow=30							
YKA	**Yellowknife Ar**	**94.17**	**340**	P	**P**	**01 17 40.4**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=134,slow=4.4,SNR=24							
	comp=Z,2.2nm,0.7s							
U33K	**Whale Pass**	**97.39**	**329**	P	Pdif	01 17 55.8	+1.5	
	baz=122							
P33M	**Teslin, Yukon**	**99.45**	**332**	P	**Pdif**	**01 18 04.7**	**+1.1**
	baz=122							
FARO	**Faro, Yukon**	**100.74**	**334**	P	**Pdif**	**01 18 10.6**	**+1.4**
	baz=121							
L29M	**L29M**	**103.09**	**334**	P	**Pdif**	**01 18 21.2**	**+1.6**
	baz=117							
H22K	**Ishtalitna Cre**	**109.43**	**334**	P	**PKiKP**	**01 22 51.5**	**+1.6**
	baz=105							
N19K	**Bonanza Creek**	**109.49**	**329**	P	**PKiKP**	**01 22 51.0**	**+0.8**
	baz=104							
ANM	**Nome**	**115.03**	**332**	P	**PKPdf**	**01 23 01.6**	**+1.1**
	baz=93							
NIKH	**Nikolski High**	**115.89**	**319**	P	**PKPdf**	**01 23 02.5**	**-0.1**
	baz=96							
TNA	**Tin City**	**116.14**	**333**	P	**PKiKP**	**01 23 03.8**	**+1.1**
	baz=91							
ASAR	**Alice Springs**	**128.46**	**205**	PKP	**PKiKP**	**01 23 28.4**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=138,slow=2.3,SNR=20							
ASAR				SKPbc	SKiKP	01 26 30.2	-16	
	comp=Z,1.2nm,0.5s,baz=146,slow=3.4,SNR=14							
GEYT	**Alibeck**	**131.54**	**60**	SKPbc	**SKPab**	**01 26 40.9**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=317,slow=6.3,SNR=5.7							
WRA	**Warramunga Arr**	**131.63**	**207**	PKP	**PKiKP**	**01 23 34.7**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=154,slow=2.0,SNR=38							
WRA				SKPbc	**SKPab**	**01 26 41.8**	**-0.1**	
	comp=Z,16nm,1.0s,baz=153,slow=3.5,SNR=38							
PETK	**Petropavlovsk-**	**135.66**	**323**	PKP	**PKiKP**	**01 23 41.9**	**-0.1**
	comp=Z,18nm,1.2s,baz=114,slow=3.6,SNR=4.0							
ZAA0	**Zalesovo Array**	**143.39**	**28**	PKPdf	**PKPdf**	**01 23 53.9**	**-0.4**
ZALV	**Zalesovo Beam**	**143.39**	**28**	PKP	PKPbc	01 23 52.8	+0.8	
	comp=Z,9.8nm,0.9s,baz=296,slow=4.2,SNR=31							
ZALV	**Zalesovo Beam**	**143.39**	**28**	PKPdf	PKPbc	01 23 53.1	+1.1	
BATI	**Baumata**	**144.44**	**198**	PKP	**PKPdf**	**01 23 57.8**	**+0.4**
	comp=Z,20nm,0.4s,baz=215,slow=4.1,SNR=2.3							
MAKZ	**Makanchi**	**146.32**	**40**	PKPbc	**PKPab**	**01 24 01.9**	**-0.5**
MK31	**Makanchi Array**	**146.51**	**40**	PKPbc	**PKPbc**	**01 24 02.2**	**+0.5**
MKAR	**Makanchi Array**	**146.51**	**40**	PKPbc	**PKPbc**	**01 24 01.3**	**-0.5**
	comp=Z,7.5nm,0.7s,baz=316,slow=2.7,SNR=73							
MKAR				SKPbc	**SKiKP**	**01 27 24.0**	**+1.9**	
	comp=Z,1.1nm,0.7s,baz=278,slow=2.7,SNR=4.1							
HYB	**Hyderabad**	**147.12**	**95**	*e*PKPab	**PKPbc**	**01 24 04.9**	**+0.6**
HYB				*e*pPKPab	**pPKPdf**	**01 24 52.5**	**-1.4**	
WMQ	**Urumqi**	**151.33**	**40**	*e*P	**PKPdf**	**01 24 08.5**	**+0.6**
HEH	**HeiHe**	**151.53**	**341**	*e*P	**PKiKP**	**01 24 14.8**	**+0.2**
MJAR	**Matsushiro Arr**	**155.04**	**306**	PKPab	**PKPab**	**01 24 39.7**	**+0.9**
	comp=Z,9.2nm,1.1s,baz=77,slow=2.3,SNR=14							
SONM	**Songino Array**	**155.65**	**11**	PKP	**PKPdf**	**01 24 15.6**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=354,slow=1.5,SNR=4.1							
SONM				PKPab	**PKPab**	**01 24 42.8**	**+1.7**	
	comp=Z,0.3nm,0.4s,baz=53,slow=0.7,SNR=3.7							
HHC	**Hu-ho-hao-te**	**163.17**	**4**	*e*P	**PKPdf**	**01 24 23.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**165.72**	**110**	PKPab	**PKPab**	**01 25 26.7**	**+0.8**
	comp=Z,2.9nm,0.5s,baz=252,slow=5.2,SNR=17							
TNCH	**TengChong**	**166.72**	**83**	*e*P	**PKPdf**	**01 24 24.6**	**-1.8**
PZH	**PanZhiHua**	**169.46**	**74**	PKP	**PKPdf**	**01 24 25.6**	**-2.5**
NJ2	**Nanjing**	**170.51**	**329**	*e*P	**PKPdf**	**01 24 28.2**	**-0.2**
NJ2				pmax	pmax			
	comp=Z,11nm,0.6s							

*NOU **08** 01:15:59.9, 30˙.65S×118˙.43E, h0km, MLv3.6/7, Western Australia*
*AUST **08** 01:15:59.9±0.7, 30˙.65S×118˙.42E, h10km, Error ellipse: s-maj=7.8km s-min=6.6km az=141.0*
ISC 08 01:15:59.5±0.9, 30˙.63S±0˙.04×118˙.46E±0˙.05, h13km, n19, σ1s73/29, 1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.13**	**212**	P	**Pb**	**01 16 20.8**	**-0.2**
	baz=1.1,SNR=151						
KLBR				S	**Sb**	**01 16 34.6**	**-1.0**
	baz=1.1						
KLBR	**Kellerberrin**	**1.13**	**212**	P	**Pb**	**01 16 20.9**	**-0.1**
BLDU	**Ballidu**	**1.51**	**270**	⇓P	**Pn**	**01 16 27.2**	**+0.9**
	baz=1.5,SNR=157						
BLDU				S	**Sn**	**01 16 46.1**	**+0.3**
	baz=1.5						
BLDU	**Ballidu**	**1.51**	**270**	P	**Pn**	**01 16 27.4**	**+1.1**
MUN	**Mundaring**	**2.35**	**235**	P	**Pn**	**01 16 38.7**	**+0.8**
	baz=2.3,SNR=11						
MUN				S	**Sn**	**01 17 07.7**	**+1.1**
	baz=2.3						
MUN	**Mundaring**	**2.35**	**235**	P	**Pn**	**01 16 39.1**	**+1.2**
NWAO	**Narrogin (SRO)**	**2.52**	**204**	P	**Pn**	**01 16 40.9**	**+0.8**
	baz=2.5,SNR=15						
NWAO				P	**Pn**	**01 16 40.9**	**+0.8**
	baz=2.5,SNR=15						
NWAO	**Narrogin (SRO)**	**2.52**	**204**	P	**Pn**	**01 16 41.4**	**+1.2**
MORW	**Morawa**	**2.62**	**306**	P	**Pn**	**01 16 42.7**	**+1.1**
	baz=2.6,SNR=5.0						
MORW				S	**Sn**	**01 17 13.4**	**+0.2**
	baz=2.6						
MORW	**Morawa**	**2.62**	**306**	P	**Pn**	**01 16 42.7**	**+1.1**
KMBL	**Kambalda**	**3.03**	**105**	P	**Pn**	**01 16 49.1**	**+1.9**
	baz=3.1,SNR=8.5						
KMBL				S	**Sn**	**01 17 24.6**	**+1.3**
	baz=3.1						
KMBL	**Kambalda**	**3.03**	**105**	P	**Pn**	**01 16 49.3**	**+2.1**
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**01 17 02.3**	**+2.0**
	baz=4.0,SNR=12						
MEEK				S	**Sn**	**01 17 49.3**	**+2.4**
	baz=4.0						
MEEK	**Meekatharra**	**3.98**	**2**	P	**Pn**	**01 17 02.7**	**+2.4**
RKGY	**Rocky Gully**	**4.16**	**197**	P	**Pn**	**01 17 04.5**	**+1.8**
	baz=4.1						
RKGY				S	**Sn**	**01 17 53.5**	**+2.2**
	baz=4.1						
FORT	**Forrest**	**8.27**	**93**	P	**Pn**	**01 18 00.0**	**+0.9**
	baz=8.3,SNR=7.0						
FORT				S	**Sn**	**01 19 29.9**	**-2.5**
	baz=8.3						
WRKA	**Warakurna**	**10.33**	**60**	P	**Pn**	**01 18 28.4**	**+0.8**
	baz=10,SNR=6.1						
WRKA				S	**Sn**	**01 20 19.2**	**-4.1**
	baz=10						
MULG	**Mulgathing**	**13.46**	**92**	P	**Pn**	**01 19 10.5**	**+0.2**
	baz=14						
OOD	**Oodnadatta**	**15.31**	**84**	P	**Pn**	**01 19 32.6**	**-2.7**
	baz=15,SNR=4.9						

*HEL **08** 01:18:50.0±0.3, 67˙.78N×20˙.19E, h0km, ML1.2, Explosion*
*UPP **08** 01:18:50.3±0.4, 67˙.83N×20˙.19E, h1km±6km, ML2.5, Suspected explosion*
ISC 08 01:18:49.9±0.8, 67˙.80N±0˙.03×20˙.22E±0˙.03, h0km, n21, σ0s73/32, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**276**	P	**Pg**	**01 18 54.7**	**+0.3**
RATU				S	**Sg**	**01 18 57.9**	**+0.4**
KOVU	**Salmi**	**0.43**	**357**	P	**Pg**	**01 18 57.8**	**-0.2**
KOVU				S	**Sg**	**01 19 03.2**	**-0.3**
NIKU	**Nikkaluokta**	**0.46**	**279**	P	**Pg**	**01 18 58.6**	**+0.1**
DUNU	**Dundret**	**0.69**	**169**	P	**Pg**	**01 19 03.7**	**+0.6**
LANU	**Lannavaara**	**0.71**	**69**	P	**Pg**	**01 19 03.8**	**+0.3**
LANU	**Lannavaara**	**0.71**	**69**	PB	**Pg**	**01 19 03.8**	**+0.3**
LANU				SG	**Sg**	**01 19 12.9**	**+0.2**
MASU	**Masugnsbyn**	**0.76**	**116**	P	**Pg**	**01 19 04.9**	**+0.5**
MASU				S	**Sb**	**01 19 15.6**	**-1.3**
SALU	**Saltoluokta**	**0.78**	**238**	P	**Pg**	**01 19 04.9**	**+0.1**
KIF	**Kilpisjarvi**	**1.23**	**10**	PG	**Pg**	**01 19 13.3**	**-0.1**
	baz=190						
KIF				MSG		01 19 28.9		
	comp=Z,2.6nm,0.2s							
KIF				SG	**Sg**	**01 19 29.7**	**+0.4**
HEF	**Hetta**	**1.43**	**63**	PN	**Pn**	**01 19 16.5**	**-0.5**
HEF				MSG		01 19 33.5		
	comp=Z,1.7nm,0.2s							
HEF				SG	**Sg**	**01 19 35.1**	**-0.5**
KLF	**Kolari**	**1.55**	**110**	PN	**Pb**	**01 19 19.0**	**-0.3**
KLF				MSG		01 19 36.4		
	comp=Z,1.4nm,0.2s							
KLF				SN	**Sn**	**01 19 39.2**	**-0.2**
KTK1	**Kautokeino**	**1.65**	**41**	PG	**Pn**	**01 19 20.2**	**+0.1**
KTK1				SN	**Sg**	**01 19 43.0**	**+0.2**
TRO	**Tromso**	**1.90**	**346**	SG	**Sb**	**01 19 49.8**	**+0.2**
KALU	**Kalix**	**2.31**	**146**	SG	**Sb**	**01 20 01.9**	**+0.6**
TOF	**Tornio**	**2.37**	**135**	PG	**Pb**	**01 19 32.7**	**-0.5**
TOF				MSG		01 19 59.7		
	comp=Z,1.0nm,0.2s							
TOF				SG	**Sb**	**01 20 02.4**	**-0.5**
SGF	**Sodankyl**	**2.44**	**96**	SG	**Sb**	**01 20 05.2**	**+0.1**
RNF	**Rovaniemi**	**2.55**	**115**	PG	**Pb**	**01 19 35.0**	**-1.5**
RNF				SG	**Sb**	**01 20 08.2**	**-0.1**
ARA0	**ARCESS Array S**	**2.60**	**46**	PB	**Pn**	**01 19 34.4**	**+1.3**
ARA0	baz=231						
				SG	**Sb**	**01 20 08.7**	**-1.1**
KEV	**Kevo**	**3.15**	**48**	SN	**Sn**	**01 20 20.0**	**+1.0**
VRF	**Varrio**	**3.57**	**86**	SG	**Sb**	**01 20 39.8**	**+2.2**
OBF8	**Ulkokalla**	**3.72**	**158**	PN	**Pn**	**01 19 48.3**	**-0.1**

*KRNET **08** 01:21:58.8±0.1, 39˙.50N×73˙.79E, mb3.3*
*NNC **08** 01:21:59.6±4.3, 39˙.59N×73˙.66E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=34.9km s-min=18.5km az=172.0*
*SOME **08** 01:21:59.3, 39˙.57N×73.67E, h5km*
ISC 08 01:22:00.6±2.2, 39˙.42N±0˙.07×73˙.71E±0˙.04, h10km±17km, n46, σ1s55/63, 25C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.31**	**327**	⇑*i*P	**Pb**	**01 22 23.1**	**-2.3**
	baz=23						
OHH				⇑*i*S	**Sb**	**01 22 40.9**	**-1.5**
	baz=23						
DRK	**Karamyk**	**1.48**	**273**	⇑*i*P	**Pn**	**01 22 27.5**	**-0.2**
	baz=70						
DRK				⇑*i*S	**Sg**	**01 22 48.8**	**+0.5**
	baz=70						
BTK	**Batken**	**2.32**	**287**	⇑*i*P	**Pn**	**01 22 40.7**	**+1.7**
	baz=85						
BTK				⇑*i*S	**Sb**	**01 23 11.1**	**-0.3**
	baz=85						
ARLS	**Aral**	**2.48**	**11**	⇑*i*P	**Pn**	**01 22 41.2**	**-0.1**
	baz=10.0						
ARLS				⇑*i*S	**Sn**	**01 23 11.8**	**+0.1**
	baz=10.0						
NRN	**Naryn**	**2.66**	**40**	⇑*i*P	**Pn**	**01 22 43.2**	**-0.7**
	baz=40						
NRN				⇑*i*S	**Sn**	**01 23 15.7**	**-0.7**
	baz=40						
GAR	**Garm**	**2.67**	**262**	⇑*i*P	**Pn**	**01 22 46.2**	**+2.3**
	baz=61						
GAR				⇑*i*S	**Sb**	**01 23 20.9**	**-0.6**
	baz=61						
AML	**Almayashu**	**2.71**	**360**	P	**Pn**	**01 22 45.9**	**+1.3**
	SNR=20						
AML	**Almayashu**	**2.71**	**360**	⇓*i*P	**Pn**	**01 22 44.9**	**+0.3**
	baz=58						
AML				⇓*i*S	**Sn**	**01 23 18.2**	**+0.6**
	baz=58						
ARK	**Arkit**	**2.72**	**331**	⇑*i*P	**Pn**	**01 22 45.4**	**+0.8**
	baz=29						
ARK				⇑*i*S	**Sn**	**01 23 19.2**	**+1.6**
	baz=29						
UCH	**Uchtor**	**2.87**	**12**	P	**Pn**	**01 22 48.1**	**+1.2**
	SNR=28						
UCH	**Uchtor**	**2.87**	**12**	⇑*i*P	**Pn**	**01 22 46.9**	**0.0**
	baz=11						
UCH				⇑*i*S	**Sn**	**01 23 21.9**	**+0.2**
	baz=11						
TRKS	**Terek-Say**	**2.88**	**318**	⇓*i*P	**Pn**	**01 22 47.0**	**+0.2**
	baz=15						
TRKS				⇓*i*S	**Sn**	**01 23 22.2**	**+0.7**
	baz=15						
EKS2	**Erkin-Say**	**3.24**	**1**	P	**Pn**	**01 22 54.4**	**+2.7**
	SNR=12						
EKS2	**Erkin-Say**	**3.24**	**1**	⇓*i*P	**Pn**	**01 22 51.8**	**+0.1**
	baz=60						
EKS2				⇓*i*S	**Sn**	**01 23 30.6**	**+0.3**
	baz=60						
AAK	**Ala-Archa**	**3.27**	**10**	P	**Pn**	**01 22 53.5**	**+1.4**
	SNR=8.1						
AAK	**Ala-Archa**	**3.27**	**10**	⇑*i*P	**Pn**	**01 22 52.1**	**0.0**
	baz=9.0						
AAK				⇑*i*S	**Sn**	**01 23 31.1**	**0.0**
	baz=9.0						
MRKS	**Merke**	**3.34**	**354**	Pg	**Pn**	**01 22 54.6**	**+1.6**
	7.1nm,0.4s						
MRKS				Lg	Lg	01 23 39.4		
	23nm,0.4s							
MRKS	**Merke**	**3.34**	**354**	*e*Pg	**Pb**	**01 22 57.9**	**-2.2**
	15nm,0.4s						
MRKS				*e*Lg	Lg	01 23 40.4		
	23nm,0.4s							
KBK	**Karagaybulak**	**3.36**	**16**	P	**Pn**	**01 22 55.2**	**+1.8**
	SNR=14						
KBK	**Karagaybulak**	**3.36**	**16**	⇑*e*P	**Pn**	**01 22 53.6**	**+0.2**
	baz=15						
KBK				⇑*i*S	**Sn**	**01 23 33.3**	**-0.2**
	baz=15						
TKM2	**Tokmak 2**	**3.77**	**22**	⇓Pn	**Pn**	**01 23 00.8**	**+1.7**
	2.6nm,0.5s						
TKM2				⇓Pg	**Pb**	**01 23 10.3**	**+2.8**
	6.6nm,0.6s						
TKM2				⇑Lg	Lg	01 23 54.9		
	11nm,0.6s						
KDJ	**Kajisay**	**3.77**	**43**	⇑*i*P	**Pn**	**01 22 59.1**	**0.0**
	baz=43						
KDJ				⇑*i*S	**Sn**	**01 23 43.0**	**-0.7**
	baz=43						
IUG	**Iuzhnay**	**3.90**	**315**	Pg	**Pn**	**01 23 02.7**	**+2.0**
	24nm,0.4s						
IUG				Lg	Lg	01 23 53.1		
	48nm,0.6s						
IUG	**Iuzhnay**	**3.90**	**315**	*e*Pg	**Pb**	**01 23 05.9**	**-3.7**
	8.8nm,0.5s						
IUG				*e*Lg	Lg	01 23 53.5		
	25nm,0.9s						
KST	**Kastek**	**4.00**	**24**	*e*Pg	**Pb**	**01 23 10.9**	**-0.3**
	3.8nm,0.5s						
KST				*e*Lg	Lg	01 24 02.5		
	31nm,0.7s						
SGDS	**Sogindy**	**4.08**	**9**	Pg	**Pb**	**01 23 12.3**	**-0.4**
	3.2nm,0.4s						
SGDS				Lg	Lg	01 24 09.2		
	14nm,0.7s						
DGS	**Degeres**	**4.12**	**21**	*e*Pg	**Pb**	**01 23 14.6**	**+1.2**
	6.5nm,0.6s						
DGS				*e*Lg	Lg	01 24 08.8		
	22nm,0.9s						
MTBS	**Maitube**	**4.23**	**28**	Pg	**Pb**	**01 23 13.0**	**-2.2**
	3.8nm,0.3s						
MTBS				Lg	Lg	01 24 10.5		
	16nm,0.5s						
MTBS	**Maitube**	**4.23**	**28**	*e*Pg	**Pb**	**01 23 15.9**	**+0.7**
	4.7nm,0.8s						
MTBS				*e*Lg	Lg	01 24 10.9		
	16nm,0.5s						
TNSS	**Tian-Shan**	**4.36**	**33**	Pg	**Pb**	**01 23 15.4**	**-2.2**
	8.2nm,0.5s						
TNSS				Lg	Lg	01 24 14.1		
	3.8nm,0.5s						
TNSS	**Tian-Shan**	**4.36**	**33**	*e*Pg	**Pb**	**01 23 18.3**	**+0.7**
	10nm,0.5s						
TNSS				*e*Lg	Lg	01 24 14.5		
	3.8nm,0.5s						
KK31	**Karatay Array**	**4.40**	**328**	Pn	**Pn**	**01 23 08.6**	**+1.1**
	1.1nm,0.3s,baz=132,slow=12,SNR=73						
KK31				Pg	**Pb**	**01 23 21.0**	**+3.0**
	1.7nm,0.3s,baz=159,slow=19,SNR=6.0						
KK31				⇑Sn	**Sn**	**01 24 01.9**	**+3.1**
	4.3nm,0.6s,baz=143,slow=24,SNR=2.6						
KK31				⇓Lg	Lg	01 24 19.1		
	1.9nm,0.3s,baz=134,slow=32,SNR=4.0						
MDOK	**Medeo**	**4.50**	**33**	⇓Pg	**Pb**	**01 23 18.6**	**-1.3**
	7.5nm,0.6s						
MDOK				⇑Lg	Lg	01 24 18.9		
	14nm,0.9s						
MDOK	**Medeo**	**4.50**	**33**	*e*Pg	**Pb**	**01 23 20.2**	**+0.3**
	5.3nm,0.5s						
MDOK				*e*Lg	Lg	01 24 18.6		
	8.0nm,0.7s						
KRBS	**Karabastau**	**4.52**	**18**	*e*Pg	**Pb**	**01 23 20.6**	**+0.5**
	2.4nm,0.5s						
KRBS				*e*Lg	Lg	01 24 19.1		
	18nm,0.6s						
KOTS	**Kotyrbulak**	**4.59**	**33**	*e*Pg	**Pb**	**01 23 20.4**	**-0.9**
	7.0nm,0.5s						
KOTS				*e*Lg	Lg	01 24 19.1		
	24nm,0.9s						
KTBS	**Karatobe**	**4.83**	**27**	*e*Pg	**Pb**	**01 23 26.7**	**+1.3**
	5.2nm,0.8s						
KTBS				*e*Lg	Lg	01 24 29.6		
	21nm,0.6s						
KUU	**Kurty**	**4.88**	**23**	*e*Pg	**Pb**	**01 23 27.5**	**+1.3**
	4.4nm,0.7s						
KUU				*e*Lg	Lg	01 24 30.6		
	17nm,0.7s						
CHKK	**Chushkaly**	**5.06**	**28**	*e*Pg	**Pb**	**01 23 31.1**	**+1.8**
	3.2nm,0.5s						
CHKK				*e*Lg	Lg	01 24 37.3		
	14nm,0.6s						
SATY	**Saty**	**5.07**	**43**	Pg	**Pb**	**01 23 27.7**	**-1.8**
	8.5nm,0.7s						
SATY				Lg	Lg	01 24 35.7		
	15nm,0.7s						
SATY	**Saty**	**5.07**	**43**	*e*Pg	**Pb**	**01 23 30.6**	**+1.0**
	5.3nm,0.6s						
SATY				*e*Lg	Lg	01 24 36.5		
	15nm,0.7s						
KURS	**Kuram**	**5.26**	**38**	*e*Pg	**Pb**	**01 23 33.3**	**+0.5**
	3.7nm,0.7s						
KURS				*e*Lg	Lg	01 24 41.6		
	4.9nm,1.1s						
BTLS	**Baital**	**5.62**	**2**	*e*Pg	**Pb**	**01 23 41.7**	**+2.9**
	1.7nm,0.8s						
BTLS				*e*Lg	Lg	01 24 55.0		
	4.7nm,1.2s						
SHLS	**Shalkode**	**5.72**	**47**	Pg	**Pb**	**01 23 43.6**	**+3.0**
	4.7nm,0.4s						
SHLS				Lg	Lg	01 25 02.6		
	59nm,0.7s						
TDK	**Taldyqorghan**	**6.57**	**30**	Pg	**Pb**	**01 23 54.8**	**-0.3**
	21nm,0.3s						
TDK				Lg	Lg	01 25 21.7		
	9.2nm,0.4s						
AB31	**Akbulak array**	**13.90**	**320**	P	**

JAK	**Akkeshi**	**4.30**	**248**	*e*P	Pn	01 54 11.7	-0.8
JAK				eS	Sn	01 54 58.0	-3.6
JTKR	**Abashiri--Toko**	**4.53**	**262**	*e*P	Pn	01 54 18.1	+2.5
JAR	**Ashorobuto**	**4.81**	**255**	*e*P	Pn	01 54 20.4	+0.9
JOB	**Onbets**	**4.91**	**250**	*e*P	Pn	01 54 20.7	-0.2
JOB				eS	Sn	01 55 14.2	-2.5
JCH	**Churui**	**5.35**	**249**	*e*P	Pn	01 54 26.4	-0.5
JCH				eS	Sn	01 55 24.1	-3.4
JNBK	**Urakawa-nobuka**	**5.90**	**248**	*e*P	Pn	01 54 33.9	-0.6
JANG	**Nango**	**7.71**	**238**	eS	Sn	01 56 15.8	-10

*TUL **08** 02:02:36.9±1.2,36°.91N±0°.01×97°.58W±0°.02,h7km±7km, ML3.0,mb_Lg2.9/35(NEIC),ML3.2/66(NEIC),Error ellipse: s-maj=2.1km s-min=1.6km az=211.0*
*ANF **08** 02:02:36.6±0.4,36°.92N×97°.60W,h5km,ML3.4/8,Error ellipse: s-maj=7.5km s-min=3.3km az=172.0*
*NEIC **08** 02:02:37.3±0.8,36°.89N±0°.01×97°.58W±0°.01,h3km±7km, Error ellipse: s-maj=1.9km s-min=1.5km az=207.0*

ISC 08 02:02:37.3±1.0,36°.90N±0°.02×97°.58W±0°.02,h5km±9km, n81,σ0§60/88,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAN13	**South Haven SW**	**0.14**	**35**	Pg		**Pg**	**02 02 40.1**	**0.0**
KAN13				Sg		**Sg**	**02 02 42.3**	**+0.2**
KAN13				IAML			02 02 42.5	
	comp=N,8μm,0.4s							
KAN13				IAML			02 02 42.5	
	comp=E,7μm,0.3s							
KAN17	**Caldwell West**	**0.21**	**315**	Pg		**Pg**	**02 02 41.3**	**-0.1**
KAN17				Sg		**Sg**	**02 02 44.2**	**+0.1**
KAN17				IAML			02 02 44.4	
	comp=E,3μm,0.2s							
GC02	**Grant County #**	**0.23**	**259**	Pg		**Pg**	**02 02 41.8**	**+0.1**
GC02				Sg		**Sg**	**02 02 45.1**	**+0.4**
KAN09	**Caldwell North**	**0.24**	**353**	Pg		**Pg**	**02 02 41.9**	**-0.1**
KAN09				Sg		**Sg**	**02 02 45.2**	**0.0**
KAN09				IAML			02 02 49.1	
	comp=N,3μm,0.2s							
KAN01	**Argonia South**	**0.29**	**331**			**Pg**	**02 02 42.9**	**-0.1**
KAN01				Sg		**Sg**	**02 02 46.9**	**0.0**
KAN01				IAML			02 02 47.0	
	comp=E,5μm,0.1s							
KAN01				IAML			02 02 47.1	
	comp=N,4μm,0.2s							
KAN14	**Manchester OK**	**0.31**	**281**			**Pg**	**02 02 43.2**	**-0.1**
KAN14				Sg		**Sg**	**02 02 47.6**	**+0.1**
KAN14				IAML			02 02 47.8	
	comp=N,5μm,0.1s							
BLOK	**Blackwell**	**0.32**	**115**	Pg		**Pg**	**02 02 43.7**	**+0.2**
BLOK				Sg		**Sg**	**02 02 48.1**	**+0.4**
BLOK				IAML			02 02 51.7	
	comp=E,1μm,0.2s							
BLOK				IAML			02 02 52.0	
	comp=N,1μm,0.2s							
KS20	**Mayfield South**	**0.33**	**4**	Pg		**Pg**	**02 02 43.5**	**-0.2**
KS20				Sg		**Sg**	**02 02 48.2**	**+0.1**
KS20				IAML			02 02 48.3	
	comp=N,2μm,0.3s							
KS21	**Milan North St**	**0.40**	**350**	IAML			02 02 50.3	
	comp=N,2μm,0.3s							
KS21	**Milan North St**	**0.40**	**350**			**Pg**	**02 02 44.8**	**-0.1**
KS21				Sg		**Sg**	**02 02 50.1**	**0.0**
KAN06	**Argonia West S**	**0.42**	**328**			**Pg**	**02 02 45.1**	**-0.2**
KAN06				Sg		**Sg**	**02 02 50.8**	**0.0**
KAN06				IAML			02 02 50.9	
	comp=N,1μm,0.2s							
KAN06				IAML			02 02 50.9	
	comp=E,1μm,0.2s							
KAN08	**Anthony NE Sta**	**0.46**	**317**	Pg		**Pg**	**02 02 45.9**	**-0.1**
KAN08				Sg		**Sg**	**02 02 52.1**	**+0.1**
KAN08				IAML			02 02 53.8	
	comp=N,2μm,0.4s							
KAN08				IAML			02 02 53.9	
	comp=E,3μm,0.5s							
OK032	**Salt Plains WL**	**0.51**	**260**	Pg		**Pg**	**02 02 47.0**	**-0.2**
OK032				Sg		**Sg**	**02 02 54.2**	**+0.4**
OK032				IAML			02 03 00.3	
	comp=E,2μm,0.2s							
KAN12	**Harper NE Stat**	**0.52**	**320**	Pg		**Pg**	**02 02 47.0**	**-0.3**
KAN12				Sg		**Sg**	**02 02 54.2**	**+0.1**
KAN12				IAML			02 03 03.4	
	comp=N,3μm,0.4s							
OK045	**Pawnee Station**	**0.69**	**130**			**Pg**	**02 02 50.3**	**-0.3**
OK045				Sg		**Sg**	**02 02 59.9**	**+0.4**
OK045				IAML			02 03 00.1	
	comp=N,953nm,0.3s							
OK045				IAML			02 03 02.3	
	comp=N,726nm,0.2s							
OK050	**Pawnee Station**	**0.69**	**136**			**Pg**	**02 02 50.5**	**-0.1**
OK050				Sg		**Sg**	**02 02 59.6**	**+0.1**
OK048	**Pawnee Station**	**0.70**	**133**			**Pg**	**02 02 50.6**	**-0.1**
OK048				IAML			02 03 00.4	
	comp=N,610nm,0.4s							
OK046	**Pawnee Station**	**0.73**	**132**	Pg		**Pg**	**02 02 51.1**	**-0.3**
OK046				IAML			02 03 03.3	
	comp=N,667nm,0.5s							
OK044	**Pawnee Station**	**0.82**	**129**	Pg		**Pg**	**02 02 52.8**	**-0.1**
T35A	**Sooner Cattle**	**0.86**	**88**	Pg		**Pg**	**02 02 53.2**	**-0.5**
T35B	**Sooner Cattle**	**0.86**	**88**	P		**Pg**	**02 02 53.3**	**-0.4**
	baz=270							
T35B				S		**Sg**	**02 03 04.6**	**-0.2**
	baz=270							
OK035	**E0210 Rd and N**	**0.93**	**259**			**Pg**	**02 02 55.1**	**+0.1**
OK035				IAML			02 03 12.4	
	comp=N,792nm,0.3s							
OK035				IAML			02 03 15.4	
	comp=N,1μm,0.5s							
OK033	**Mehan**	**0.99**	**148**	Pg		**Pg**	**02 02 56.2**	**-0.1**
OK033				IAML			02 03 11.3	
	comp=N,462nm,0.4s							
OK033				IAML			02 03 14.8	
	comp=N,539nm,0.6s							
QUOK	**Quay**	**1.01**	**136**	IAML			02 03 15.2	
	comp=N,1μm,0.2s							
QUOK				IAML			02 03 15.6	
	comp=E,935nm,0.2s							
OK053	**SW of W Deep R**	**1.09**	**144**			**Pg**	**02 02 57.7**	**-0.4**
OK052	**Battle Ridge R**	**1.10**	**145**			**Pg**	**02 02 57.4**	**-0.9**
OK029	**Liberty Lake**	**1.10**	**175**	IAML			02 03 17.3	
	comp=E,801nm,0.6s							
OK029				IAML			02 03 19.1	
	comp=E,346nm,0.3s							
OK031	**S. Brethren Rd**	**1.11**	**147**	IAML			02 03 14.4	
	comp=E,552nm,0.2s							
OK031				IAML			02 03 17.7	
	comp=E,595nm,0.6s							
NOKA	**Waynoka**	**1.12**	**257**	IAML			02 03 19.0	
	comp=N,794nm,0.2s							
NOKA				IAML			02 03 24.2	
	comp=E,676nm,0.3s							
OK034	**N. Norfolk Rd.**	**1.13**	**141**			**Pg**	**02 02 58.1**	**-0.7**
OK034				IAML			02 03 18.0	
	comp=E,669nm,0.4s							
OK034				IAML			02 03 18.1	
	comp=E,611nm,0.5s							
BCOK	**Bluff Creek, N**	**1.24**	**181**			**Pg**	**02 03 00.3**	**-0.7**
BCOK				IAML			02 03 21.8	
	comp=E,232nm,0.3s							
BCOK				IAML			02 03 23.3	
	comp=N,163nm,0.4s							
U32A	**Winter Ranch,**	**1.25**	**246**	IAML			02 03 20.4	
	comp=E,524nm,0.1s							
U32A	**Winter Ranch,**	**1.25**	**246**	P		**Pg**	**02 03 00.4**	**-0.9**
	baz=64							
U32A				S		**Sg**	**02 03 17.4**	**-0.2**
	baz=64							
OK025	**Westminster Rd**	**1.33**	**171**			**Pg**	**02 03 02.0**	**-0.7**
DEOK	**Depew**	**1.37**	**140**	IAmb_Lg			02 03 20.8	
	comp=Z,5.5nm,0.8s							
CSTR	**Hydro, Custer**	**1.54**	**216**			**Pn**	**02 03 05.4**	**-0.1**
FNO	**Franklin**	**1.64**	**175**			**Pn**	**02 03 07.2**	**+0.3**
ELIS	**Ellis County**	**1.70**	**241**	Pn		**Pn**	**02 03 07.9**	**+0.2**
TUL1	**Leonard**	**1.75**	**124**	P		**Pn**	**02 03 08.6**	**+0.3**
	baz=305							
TUL1				S		**Sb**	**02 03 31.9**	**-0.2**
	baz=305							
R32A	**Long Quarter,**	**1.77**	**330**	Pn		**Pn**	**02 03 09.3**	**+0.7**
R32A	**Long Quarter,**	**1.77**	**330**	P		**Pn**	**02 03 06.9**	**-1.7**
	baz=149							
R32A				S		**Sn**	**02 03 32.1**	**+0.6**
	baz=149							
RLO	**Rose Lookout**	**2.19**	**109**			**Pn**	**02 03 14.5**	**+0.2**
RLO				IAmb_Lg			02 03 45.3	
	comp=Z,26nm,0.8s							
X34A	**Smith Ranch, M**	**2.30**	**185**			**Pn**	**02 03 17.4**	**+1.5**
KSU1	**Kansas State U**	**2.33**	**19**			**Pn**	**02 03 16.4**	**0.0**
KSU1				IAmb_Lg			02 03 51.9	
	comp=Z,42nm,1.1s							
KSU1	**Kansas State U**	**2.33**	**19**	P		**Pn**	**02 03 15.6**	**-0.8**
	baz=200							
WMOK	**Wichita Mounta**	**2.36**	**205**			**Pn**	**02 03 17.0**	**+0.2**
WMOK	**Wichita Mounta**	**2.36**	**205**	P		**Pn**	**02 03 16.9**	**+0.1**
	baz=24							
CBKS	**Cedar Bluff**	**2.57**	**319**			**Pn**	**02 03 21.8**	**+2.2**
CBKS	**Cedar Bluff**	**2.57**	**319**	P		**Pn**	**02 03 18.5**	**-1.1**
	baz=138							
U38A	**Gravette**	**2.61**	**99**	Pn		**Pn**	**02 03 20.7**	**+0.5**
U38A	**Gravette**	**2.61**	**99**	P		**Pn**	**02 03 19.5**	**-0.6**
	baz=281							
U38A				S		**Sn**	**02 03 53.0**	**+0.7**
	baz=281							
LOOK	**Love County**	**2.92**	**173**	Pn		**Pn**	**02 03 24.4**	**+0.1**
X37A	**Clayton**	**2.92**	**141**			**Pn**	**02 03 24.7**	**+0.3**
X37A				IAmb_Lg			02 04 14.9	
	comp=Z,47nm,0.8s							
HHAR	**Hobbs**	**2.99**	**101**			**Pn**	**02 03 26.0**	**+0.6**
HHAR				IAmb_Lg			02 04 17.4	
	comp=Z,27nm,0.7s							
S39A	**Bolivar**	**3.49**	**76**	Pn		**Pn**	**02 03 32.8**	**+0.5**
S39A				IAmb_Lg			02 04 32.8	
	comp=Z,46nm,1.2s							
Z35A	**Perchaven, San**	**3.57**	**176**			**Pn**	**02 03 33.1**	**-0.2**
Z35A				IAmb_Lg			02 04 35.4	
	comp=Z,20nm,0.9s							
N33A	**J Bar K, Exete**	**3.84**	**1**	Pn		**Pn**	**02 03 36.5**	**-0.5**
FW03	**Perrin-Whitt E**	**3.87**	**186**	IAmb_Lg			02 04 45.8	
	comp=Z,14nm,0.8s							
AMTX	**Amarillo**	**3.89**	**240**			**Pn**	**02 03 38.7**	**+0.9**
AMTX				IAmb_Lg			02 04 45.0	
	comp=Z,39nm,0.8s							
FW06	**Azle**	**3.91**	**180**	Pn		**Pn**	**02 03 37.8**	**-0.3**
FW06				IAmb_Lg			02 04 43.9	
	comp=Z,16nm,0.9s							
MIAR	**Mount Ida**	**4.01**	**125**	Pn		**Pn**	**02 03 39.9**	**+0.5**
FW07	**Weatherford**	**4.19**	**182**	IAmb_Lg			02 04 54.6	
	comp=Z,14nm,0.8s							
P38A	**Dawn**	**4.19**	**48**	Pn		**Pn**	**02 03 41.9**	**-0.1**
P38A				IAmb_Lg			02 04 55.2	
	comp=Z,26nm,0.8s							
Z38A	**Mt. Pleasant**	**4.21**	**149**	Pn		**Pn**	**02 03 41.8**	**-0.3**
N35A	**Tabor**	**4.24**	**20**	Pn		**Pn**	**02 03 43.0**	**+0.5**
N35A				IAmb_Lg			02 04 56.0	
	comp=Z,43nm,0.8s							
MGMO	**Mountain Grove**	**4.26**	**85**	Pn		**Pn**	**02 03 41.7**	**-1.1**
MGMO				IAmb_Lg			02 04 53.9	
	comp=Z,28nm,0.8s							
R40A	**Maddies Statio**	**4.44**	**70**	Pn		**Pn**	**02 03 45.8**	**+0.5**
R40A				IAmb_Lg			02 05 02.8	
	comp=Z,32nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.51**	**101**	Pn		**Pn**	**02 03 46.6**	**+0.2**
FCAR				IAmb_Lg			02 05 00.1	
	comp=Z,25nm,1.0s							
BGNE	**Belgrade**	**4.53**	**355**	Pn		**Pn**	**02 03 45.4**	**-1.1**
X40A	**Basin Creek Fa**	**4.55**	**120**	Pn		**Pn**	**02 03 47.0**	**+0.2**
ABTX	**Abilene, Hawle**	**4.59**	**202**	Pn		**Pn**	**02 03 46.5**	**-0.9**
WHTX	**Lake Whitney,**	**4.89**	**179**	Pn		**Pn**	**02 03 50.7**	**-0.8**
P40A	**Paris**	**5.09**	**57**	Pn		**Pn**	**02 03 54.7**	**+0.5**
P40A				IAmb_Lg			02 05 27.8	
	comp=Z,21nm,0.8s							
CCM	**Cathedral Cave**	**5.17**	**75**	Pn		**Pn**	**02 03 56.6**	**+1.3**
CCM				IAmb_Lg			02 05 20.9	
	comp=Z,26nm,0.7s							
LCAR	**Lake Charles**	**5.24**	**97**	Pn		**Pn**	**02 03 56.0**	**-0.3**
OGNE	**Ogallala**	**5.33**	**321**	IAmb_Lg			02 05 37.1	
	comp=Z,22nm,0.7s							
T25A	**Trinidad**	**5.47**	**275**	Pn		**Pn**	**02 03 58.4**	**-1.3**
CGM3	**Cape Girardeau**	**6.34**	**84**	IAmb_Lg			02 06 04.5	
	comp=Z,29nm,1.2s							
SDCO	**Great Sand Dun**	**6.37**	**280**	Pn		**Pn**	**02 04 11.3**	**-0.8**
JCT	**Junction City**	**6.66**	**197**	IAmb_Lg			02 06 21.7	
	comp=Z,18nm,1.2s							
N23A	**Red Feather La**	**7.65**	**304**	IAmb_Lg			02 06 50.5	
	comp=Z,12nm,0.8s							

*VAO **08** 02:04:28.2±0.4,20°.93S×67°.42W,h157km±5km,mb3.8*
*IDC **08** 02:04:28.1±1.4,21°.14S×67°.32W,h165km±12km,mb3.4/2, mbtmp3.9/7,Error ellipse: s-maj=26.7km s-min=17.8km az=132.0*
*GUC **08** 02:04:29.7±0.8,21°.19S×67°.60W,h193km±7km,ML3.7*
*SCB **08** 02:04:29.5±1.1,21°.20S×67°.50W,h161km±13km,ML3.9/1, MW3.6,Error ellipse: s-maj=4.7km s-min=2.7km az=0.0*

ISC 08 02:04:28.0±0.6,21°.15S±0°.04×67°.46W±0°.05,h180km±7km, n65,σ1§58/89,7C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOCB	**Mochara**	**1.71**	**94**	Pg		**Pn**	**02 05 04.0**	**+1.6**
MOCB				Sg		**Sn**	**02 05 29.1**	**0.0**
MOCB				IAML			02 05 30.8	
	631nm,0.4s							
PB09	**IPOC Station P**	**1.78**	**248**	⇑*i*P		**Pn**	**02 05 04.1**	**+1.2**
PB09				*e*S		**Sn**	**02 05 30.7**	**+0.8**
PB09				IAML			02 05 32.9	
	comp=N,172nm,0.4s							
PB08	**IPOC Station P**	**1.88**	**302**	*i* P		**Pn**	**02 05 05.6**	**+1.5**
PB08				*e*S		**Sn**	**02 05 33.0**	**+0.9**
PB08				IAML			02 05 35.1	
	comp=N,391nm,0.1s							
PB01	**IPOC Station P**	**1.89**	**273**	*e*P		**Pn**	**02 05 04.6**	**+0.6**
PB01				*e*S		**Sn**	**02 05 31.6**	**-0.3**
PB01				IAML			02 05 34.2	
	comp=E,385nm,0.2s							
AF01	**San Pedro de A**	**1.91**	**200**	*e*P		**Pn**	**02 05 06.0**	**+1.6**
LVC	**Limon Verde**	**1.98**	**223**	P		**Pn**	**02 05 06.0**	**+0.7**
	comp=E,55nm,0.3s,baz=50,slow=11,SNR=250							
LVC				S		**Sn**	**02 05 34.5**	**+0.4**
	comp=E,54nm,0.3s,baz=198,slow=18,SNR=34							
LVC	**Limon Verde**	**1.98**	**223**	*e*P		**Pn**	**02 05 05.7**	**+0.5**
LVC				*e*S		**Sn**	**02 05 34.2**	**+0.1**
LVC	**Limon Verde**	**1.98**	**223**	Pg		**Pn**	**02 05 05.9**	**+0.7**
LVC	**Limon Verde**	**1.98**	**223**	*e*P		**Pn**	**02 05 05.9**	**+0.7**
GO01	**Chusmiza**	**2.19**	**312**	⇑*i*P		**Pn**	**02 05 09.0**	**+1.4**
GO01				*e*S		**Sn**	**02 05 40.8**	**+2.3**
GO01				IAML			02 05 45.1	
GO01	**Chusmiza**	**2.19**	**312**	Pg		**Pn**	**02 05 09.1**	**+1.4**
PB02	**IPOC Station P**	**2.28**	**265**	*e*P		**Pn**	**02 05 08.9**	**+0.7**
PB02				*e*S		**Sn**	**02 05 38.3**	**-1.2**
PB02	**IPOC Station P**	**2.28**	**265**	Pg		**Pn**	**02 05 08.9**	**+0.7**
PB02				Sg		**Sn**	**02 05 38.0**	**-1.4**
PB03	**IPOC Station P**	**2.31**	**247**	*e*P		**Pn**	**02 05 09.3**	**+0.6**
PB03				*e*S		**Sn**	**02 05 39.3**	**-0.9**
PB03				IAML			02 05 40.5	
	comp=E,415nm,0.2s							
PB07	**IPOC Station P**	**2.33**	**255**	*e*P		**Pn**	**02 05 09.3**	**+0.4**
PB07				*e*S		**Sn**	**02 05 39.4**	**-1.2**
PB07				IAML			02 05 41.0	
	comp=N,354nm,0.3s							
PB11	**IPOC Station P**	**2.48**	**304**	*e*P		**Pn**	**02 05 11.3**	**+0.7**
PB11				*e*S		**Sn**	**02 05 42.7**	**-1.0**
PB06	**IPOC Station P**	**2.50**	**231**	*i* P		**Pn**	**02 05 11.1**	**+0.4**
PB06				*e*S		**Sn**	**02 05 43.5**	**-0.6**
PB06	**IPOC Station P**	**2.50**	**231**	Pg		**Pn**	**02 05 11.2**	**+0.4**
PATCX	**Punta Patache**	**2.54**	**277**	*i* P		**Pn**	**02 05 11.5**	**+0.3**
PATCX				*e*S		**Sn**	**02 05 43.5**	**-1.2**
AOVT	**TarijaAcel**	**2.60**	**99**	Pg		**Pn**	**02 05 13.3**	**+1.3**
TA01	**Diego Aracena**	**2.61**	**282**	*e*P		**Pn**	**02 05 11.9**	**0.0**
TA01				*e*S		**Sn**	**02 05 43.9**	**-2.2**
TA02	**Huaiquique**	**2.65**	**289**	Pg		**Pn**	**02 05 13.1**	**+0.7**
PB04	**IPOC Station P**	**2.76**	**244**	*e*P		**Pn**	**02 05 14.2**	**+0.2**
PB04				*e*S		**Sn**	**02 05 48.1**	**-1.6**
PB04				IAML			02 05 49.3	
	comp=N,282nm,0.1s							
PB04	**IPOC Station P**	**2.76**	**244**	Pg		**Pn**	**02 05 14.1**	**+0.2**
PB15	**IPOC Station P**	**2.77**	**222**	*e*P		**Pn**	**02 05 14.5**	**+0.5**
PB15				*e*S		**Sn**	**02 05 50.4**	**+0.5**
PB15	**IPOC Station P**	**2.77**	**222**	Pg		**Pn**	**02 05 14.6**	**+0.5**
MNMC	**Minye Minye**	**2.84**	**315**	⇑*i*P		**Pn**	**02 05 16.2**	**+1.2**
MNMC				*e*S		**Sn**	**02 05 51.6**	**+0.1**
PSGC	**Pisagua**	**2.94**	**301**	*e*P		**Pn**	**02 05 15.9**	**0.0**
PSGC				*e*S		**Sn**	**02 05 51.1**	**-2.3**
SOET	**ToroToro**	**3.40**	**28**	Pg		**Pn**	**02 05 23.1**	**+1.2**
PB16	**IPOC Station P**	**3.40**	**325**	⇑*i*P		**Pn**	**02 05 24.0**	**+1.9**
PB16				*e*S		**Sn**	**02 06 05.7**	**+1.4**
PB12	**IPOC Station P**	**3.69**	**313**	⇑*i*P		**Pn**	**02 05 24.4**	**-0.9**
PB12				*e*S		**Sn**	**02 06 06.9**	**-3.2**
PB10	**IPOC Station P**	**3.71**	**230**	⇑*i*P		**Pn**	**02 05 25.1**	**-0.2**
PB10				*e*S		**Sn**	**02 06 05.3**	**-4.9**
SOEJ	**Jacaque**	**4.21**	**350**	Pg		**Pn**	**02 05 34.4**	**+2.1**
BBOE	**La Paz, Chanca**	**4.34**	**353**	Pg		**Pn**	**02 05 36.4**	**+2.4**
BBOD	**La Paz, Gloria**	**4.62**	**346**	Pg		**Pn**	**02 05 39.5**	**+2.0**
AC01	**Pan de Azucar**	**5.75**	**209**	⇑*i*P		**Pn**	**02 05 50.1**	**-1.5**
AC01				*e*S		**Sn**	**02 06 52.0**	**-5.6**
BBSD	**Serra de San D**	**7.58**	**60**	*e*P		**Pn**	**02 06 14.0**	**-1.8**
BBRB	**Robore, Bolivi**	**7.75**	**70**	*e*P		**Pn**	**02 06 15.6**	**-2.5**
SIV	**San Ignacio**	**7.94**	**51**	P		**Pn**	**02 06 19.4**	**-1.2**
	comp=N,8.9nm,0.4s,baz=238,slow=11,SNR=26							
SIV				S		**Sn**	**02 07 44.2**	**-5.5**
	comp=N,4.4nm,0.7s,baz=130,slow=23,SNR=9.2							
MURT	**Porto Murtinho**	**9.19**	**95**	*e*P		**Pn**	**02 06 36.4**	**-0.6**
PTLB	**Pontes e Lacer**	**9.73**	**56**	*e*P		**Pn**	**02 06 43.1**	**-0.9**
CFA	**Coronel Fontan**	**10.44**	**184**	P		**Pn**	**02 06 52.4**	**-0.8**
	comp=N,2.8nm,0.3s,baz=26,slow=18,SNR=20							
CFA				S		Sn	02 08 40.3	-8.9
	comp=N,1.7nm,0.3s,baz=211,slow=11,SNR=5.5							
CPUP	**Villa Florida**	**10.62**	**121**	P		**Pn**	**02 06 54.6**	**-0.9**
	comp=N,2.7nm,1.1s,baz=307,slow=18,SNR=3.7							
CPUP	**Villa Florida**	**10.62**	**121**	*e*P		**Pn**	**02 06 57.1**	**+1.6**
VILB	**Vilhena**	**10.71**	**42**	*e*P		**Pn**	**02 06 55.6**	**-1.2**
ETMB	**Extrema**	**11.33**	**6**	*e*P		**Pn**	**02 07 03.4**	**-1.5**
AMBA	**Amambai (Brazi**	**11.70**	**101**	*e*P		**Pn**	**02 07 10.3**	**+0.7**
TRCB	**Terra Rica**	**13.86**	**100**	*e*P		**P**	**02 07 38.6**	**-0.9**
PTGB	**Pitanga**	**14.62**	**107**	*e*P		**P**	**02 07 49.1**	**+1.0**
ALGR	**Alto Alegre (B**	**15.13**	**123**	*e*P		**P**	**02 07 54.5**	**+0.8**
NPGB	**Novo Progresso**	**18.27**	**42**	*e*P		**P**	**02 08 27.7**	**-0.5**
IPMB	**Ipameri, GO**	**18.41**	**83**	*e*P		**Pn**	**02 08 31.0**	**-1.1**
RCLB	**Rio Claro- Sao**	**18.55**	**98**	*e*P		**Pn**	**02 08 33.9**	**+0.2**
PLCA	**Paso Flores**	**19.70**	**187**	P		**Pn**	**02 08 45.7**	**-1.3**
	comp=N,1.9nm,0.6s,baz=11,slow=11,SNR=10							
PLCA	**Paso Flores**	**19.70**	**187**	*e*P		**Pn**	**02 08 47.6**	**+0.5**
ITTB	**Itaituba**	**20.20**	**36**	*e*P		**P**	**02 08 49.2**	**+0.2**
SGCB	**SÃo Gabriel d**	**20.90**	**1**	*e*P		**P**	**02 08 55.4**	**-1.1**
VAS01	**Vassouras-RJ**	**22.34**	**97**	*e*P		**P**	**02 09 13.0**	**+1.8**
MALB	**Monte Alegre**	**23.10**	**36**	*e*P		**P**	**02 09 17.7**	**-0.4**
BOAV	**Boa Vista**	**24.37**	**17**	*e*P		**P**	**02 09 30.1**	**+0.4**
SJMB	**Sao Joao De Ma**	**24.82**	**89**	*e*P		**P**	**02 09 35.6**	**+1.9**
SNAA	**Sanae**	**62.17**	**161**	P		**P**	**02 14 31.5**	**+1.7**
	comp=N,0.9nm,0.6s,baz=210,slow=23,SNR=7.6							
	comp=N,0.9nm,0.6s							
YKA	**Yellowknife Ar**	**91.31**	**340**	P		**P**	**02 17 14.4**	**+1.9**
	comp=N,0.2nm,0.6s,baz=126,slow=3.4,SNR=2.2							
	comp=N,0.2nm,0.6s							
ASAR	**Alice Springs**	**130.83**	**206**	PKP		**PKiKP**	**02 23 19.9**	**+0.4**
	comp=N,0.2nm,0.6s,baz=136,slow=2.0,SNR=4.2							
MKAR	**Makanchi Array**	**144.55**	**37**	PKP		**PKPdf**	**02 23 43.7**	**+0.8**
	comp=N,1.0nm,0.6s,baz=320,slow=3.8,SNR=13							

*IDC **08** 02:16:09.9±1.2,10°.47S×161°.22E,h0km,mb4.0/7, mbtmp4.0/7,MS3.5/10,Error ellipse: s-maj=29.6km s-min=24.4km az=162.0*

ISC 08 02:16:15.2±1.1,10°.5S±0°.2×161°.2E±0°.1,h35km,n15, σ1§34/9,mb3.8/7,MS3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**1.60**	**311**	Pn		**Pn**	**02 16 40.7**	**-0.4**
	466nm,0.3s,baz=192,slow=3.7,SNR=22							
HNR				Sn		**Sn**	**02 17 01.3**	**+0.8**
	2μm,0.3s,baz=173,slow=23,SNR=8.9							
HNR				LR		LR	02 17 28.8	
	comp=Z,4μm,19.8s,baz=208,slow=49							
DZM	**Mont Dzumac**	**12.57**	**157**	LR		LR	02 23 30.1	
	comp=Z,119nm,20.0s,baz=358,slow=35							
PMG	**Port Moresby**	**13.85**	**273**	LR		LR	02 24 16.6	
	comp=Z,207nm,20.7s,baz=151,slow=35							
CTA	**Charters Tower**	**17.25**	**235**	LR		LR	02 26 25.3	
	comp=Z,166nm,18.5s,baz=82,slow=36							
WRA	**Warramunga Arr**	**27.51**	**247**	P		**P**	**02 21 58.8**	**+0.1**
	1.9nm,0.8s,baz=75,slow=9.0,SNR=9.1							
WRA				LR		LR	02 32 10.9	
	comp=Z,86nm,20.6s,baz=72,slow=35							
	1.9nm,0.8s				

GUMO	**Guam**	**19.19**	**29**	LR	LR	02 59 09.4			
	comp=Z,68nm,18.7s,baz=134,slow=39								
CTA	**Charters Tower**	**19.62**	**149**	P	**Pn**	**02 51 18.4**	**+0.9**		
	comp=Z,0.6nm,0.3s,baz=335,slow=10.0,SNR=6.0								
CTA				LR	LR	02 59 20.2			
	comp=Z,123nm,21.6s,baz=304,slow=38								
	comp=Z,12nm,0.8s								
AS31	**Alice Springs**	**20.26**	**184**	P	**P**	**02 51 23.9**	**+1.0**		
AS31				IAmb	IAmb	02 51 32.3			
	comp=Z,14nm,0.6s								
ASAR	**Alice Springs**	**20.26**	**184**	P	Pn	02 51 24.8	-0.2		
	comp=Z,21nm,0.6s,baz=8.7,slow=11,SNR=157								
ASAR				S	**S**	**02 55 03.3**	**-6.1**		
	comp=Z,2.5nm,0.7s,baz=4.0,slow=28,SNR=6.9								
ASAR				LR	LR	02 59 40.2			
	comp=Z,165nm,20.1s,baz=360,slow=38								
	comp=Z,21nm,0.6s								
ASAR	**Alice Springs**	**20.26**	**184**	P	**P**	**02 51 24.1**	**+1.1**		
WRKA	**Warakurna**	**22.67**	**197**	P	**P**	**02 51 49.7**	**+0.8**		
PSA00	**Pilbara Seismi**	**23.71**	**219**	P	**P**	**02 51 58.9**	**-0.4**		
PSA00				IAmb	IAmb	02 52 02.4			
	comp=Z,18nm,0.8s								
SBUM	**Sibu**	**24.05**	**284**	P	**P**	**02 52 02.1**	**-0.7**		
OOD	**Oodnadatta**	**24.31**	**180**	P	**P**	**02 52 05.4**	**+0.5**		
FORT	**Forrest**	**28.19**	**194**	P	**P**	**02 52 40.2**	**+0.3**		
STKA	**Stephens Creek**	**28.93**	**169**	P	**P**	**02 52 47.1**	**+0.6**		
	comp=Z,2.8nm,0.7s,baz=344,slow=8.3,SNR=6.0								
STKA				LR	LR	03 04 35.2			
	comp=Z,71nm,21.0s,baz=11,slow=37								
	comp=Z,2.8nm,0.7s								
STKA	**Stephens Creek**	**28.93**	**169**	P	**P**	**02 52 46.7**	**+0.2**		
BBOO	**Buckleboo**	**29.31**	**179**	P	**P**	**02 52 50.3**	**+0.5**		
BBOO				IAmb	IAmb	02 53 16.1			
	comp=Z,17nm,1.4s								
DZM	**Mont Dzumac**	**35.25**	**124**	LR	LR	03 08 59.4			
	comp=Z,53nm,18.1s,baz=323,slow=38								
JNU	**Nakatsue**	**36.55**	**353**	LR	LR	03 08 34.0			
	comp=Z,22nm,18.4s,baz=143,slow=36								
MJAR	**Matsushiro Arr**	**39.76**	**3**	LR	LR	03 08 30.7			
	comp=Z,40nm,20.1s,baz=160,slow=33								
CMAR	**Chiang Mai Arr**	**42.09**	**302**	P	**P**	**02 54 39.8**	**+0.2**		
	comp=Z,1.2nm,0.3s,baz=123,slow=6.6,SNR=6.6								
	comp=Z,1.2nm,0.3s								
CMAR	**Chiang Mai Arr**	**42.09**	**302**	P	**P**	**02 54 38.3**	**-1.2**		
PZH	**PanZhiHua**	**44.17**	**314**	P	**P**	**02 54 57.1**	**+0.7**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,120nm,6.1s								
TNCH	**TengChong**	**45.72**	**310**	*e*P	**P**	**02 55 12.5**	**+3.7**		
LZH	**Lanzhou**	**49.18**	**326**	*e*P	**P**	**02 55 37.4**	**+1.8**		
LZH				pP	pP	02 55 41.3	-1.2		
LZH				sP	sP	02 55 43.9	-1.3		
LZH				pmax	pmax				
	comp=Z,20nm,1.4s								
BNX	**BinXian**	**49.41**	**352**	⇑P	**P**	**02 55 36.6**	**-0.4**		
BNX				pmax	pmax				
	comp=Z,9.0nm,0.7s								
BNX				pmax	pmax				
	comp=Z,170nm,5.2s								
RPZ	**Rata Peaks**	**50.98**	**147**	LR	LR	03 16 56.1			
	comp=Z,74nm,19.1s,baz=270,slow=36								
SHL	**Shillong**	**51.17**	**307**	P	**P**	**02 55 49.0**	**-1.9**		
URZ	**Urewera**	**51.38**	**138**	LR	LR	03 16 25.7			
	comp=Z,50nm,21.5s,baz=52,slow=35								
KLR	**Kul'dur**	**52.48**	**357**	P	**P**	**02 55 59.1**	**-0.8**		
	comp=Z,2.7nm,0.8s,baz=179,slow=4.6,SNR=8.5								
	comp=Z,2.7nm,0.8s								
LSA	**Lhasa**	**53.73**	**311**	P	**P**	**02 56 08.3**	**-1.8**		
LSA				IAmb	IAmb	02 56 12.8			
	comp=Z,6.0nm,0.8s								
GTA	**Gaotai**	**53.79**	**326**	⇓P	**P**	**02 56 11.3**	**+1.3**		
GTA				pP	pP	02 56 17.8	+0.9		
GTA				pmax	pmax				
	comp=Z,13nm,0.9s								
GTA				pmax	pmax				
	comp=Z,67nm,4.4s								
GTA				LR	LR				
	comp=N,92nm,13.1s								
GTA				LR	LR				
	comp=E,89nm,13.8s								
GTA				LR	LR				
	comp=Z,91nm,14.2s								
TAPN	**Taplejung**	**55.31**	**307**	*e*P	**P**	**02 56 22.3**	**+0.8**		
RAMN	**Ramite**	**56.04**	**306**	*e*P	**P**	**02 56 27.4**	**+0.7**		
	comp=Z,29nm,0.7s								
JIRN	**Jiri**	**56.67**	**306**	*e*P	**P**	**02 56 32.0**	**+0.7**		
SONM	**Songino Array**	**57.02**	**337**	P	**P**	**02 56 33.1**	**0.0**		
	comp=Z,0.5nm,0.5s,baz=158,slow=8.0,SNR=6.3								
	comp=Z,0.5nm,0.5s								
SONM	**Songino Array**	**57.02**	**337**	P	**P**	**02 56 31.9**	**-1.2**		
PKI	**Pulchoki**	**57.26**	**306**	*e*P	**P**	**02 56 35.8**	**+0.4**		
	comp=Z,6.9nm,0.4s								
PKIN	**Phulchoki**	**57.27**	**306**	*e*P	**P**	**02 56 35.8**	**+0.4**		
	comp=Z,8.0nm,0.4s								
DMN	**Daman**	**57.52**	**306**	*e*P	**P**	**02 56 37.6**	**+0.4**		
GKN	**Gorkha**	**58.06**	**306**	*e*P	**P**	**02 56 41.5**	**+0.6**		
	comp=Z,5.3nm,0.3s								
KOLN	**Koldanda**	**58.81**	**305**	*e*P	**P**	**02 56 47.2**	**+1.1**		
	comp=Z,3.0nm,0.7s								
DANN	**Dangsing**	**58.91**	**306**	*e*P	**P**	**02 56 47.8**	**+0.9**		
	comp=Z,22nm,0.6s								
MK31	**Makanchi Array**	**68.42**	**324**	P	**P**	**02 57 48.4**	**-0.7**		
MK31				IAmb	IAmb	02 57 50.9			
	comp=Z,3.7nm,0.8s								
MKAR	**Makanchi Array**	**68.42**	**324**	P	**P**	**02 57 50.1**	**+1.1**		
	comp=Z,4.8nm,0.7s,baz=112,slow=8.3,SNR=53								
	comp=Z,4.8nm,0.7s								
MAKZ	**Makanchi**	**68.61**	**324**	P	**P**	**02 57 49.9**	**-0.4**		
ZAA0	**Zalesovo Array**	**70.95**	**331**	P	**P**	**02 58 02.2**	**-2.3**		
ZAA0				IAmb	IAmb	02 58 04.8			
	comp=Z,2.8nm,0.8s								
ZALV	**Zalesovo Beam**	**70.95**	**331**	P	**P**	**02 58 04.2**	**-0.2**		
	comp=Z,2.3nm,0.8s,baz=106,slow=5.3,SNR=9.6								
	comp=Z,2.3nm,0.8s								
ZALV	**Zalesovo Beam**	**70.95**	**331**	P	**P**	**02 58 03.0**	**-1.5**		
AAK	**Ala-Archa**	**71.52**	**317**	P	**P**	**02 58 08.7**	**+0.4**		
	comp=Z,2.5nm,0.3s,baz=16,slow=4.1,SNR=5.0								
	comp=Z,2.5nm,0.3s								
KURK	**Kurchatov**	**72.47**	**326**	P	**P**	**02 58 12.5**	**-1.1**		
KURBB	**Kurchatov Arra**	**72.48**	**326**	P	**P**	**02 58 13.8**	**+0.1**		
	comp=Z,2.4nm,1.0s,baz=122,slow=5.1,SNR=19								
	comp=Z,2.4nm,1.0s								
GAR	**Garm**	**73.20**	**312**	P	**P**	**02 58 18.1**	**-0.4**		
KK31	**Karatay Array**	**74.42**	**316**	P	**P**	**02 58 23.3**	**-2.0**		
KKAR	**Karatay Array**	**74.42**	**316**	P	**P**	**02 58 23.8**	**-1.6**		
VNDA	**Vanda**	**75.44**	**174**	P	**P**	**02 58 33.6**	**+3.1**		
	comp=Z,1.7nm,0.9s,baz=316,slow=7.1,SNR=4.2								
VNDA				LR	LR	03 30 06.3			
	comp=Z,49nm,20.8s,baz=322,slow=34								
	comp=Z,1.7nm,0.9s								
BVAR	**Borovoye Array**	**78.07**	**326**	P	**P**	**02 58 45.7**	**-0.2**		
	comp=Z,2.9nm,0.8s,baz=108,slow=9.3,SNR=10								
	comp=Z,2.9nm,0.8s								
BRVK	**Borovoye**	**78.14**	**326**	P	**P**	**02 58 44.4**	**-1.8**		
BRVK				IAmb	IAmb	02 58 47.1			
	comp=Z,5.9nm,1.2s								
GEYT	**Alibeck**	**82.20**	**309**	P	**P**	**02 59 09.3**	**+0.7**		
	comp=Z,1.6nm,0.7s,baz=169,slow=8.2,SNR=2.4								
	comp=Z,1.6nm,0.7s								
GEYT	**Alibeck**	**82.20**	**309**	P	P	02 59 03.0	-5.5		
GEYT				IAmb	IAmb	02 59 20.4			
	comp=Z,3.7nm,0.9s								
GYA0B	**ALIBECK ARRAY**	**82.20**	**309**	P	P	02 59 02.5	-6.0		
GYA0B				IAmb	IAmb	02 59 20.3			
	comp=Z,3.5nm,0.8s								
ABKAR	**Akbulak array**	**83.20**	**320**	P	**P**	**02 59 11.1**	**-2.3**		
K20K	**Telida**	**84.29**	**25**	P	**P**	**02 59 16.2**	**-2.5**		
K20K				IAmb	IAmb	02 59 44.3			
	comp=Z,3.7nm,1.1s								
J20K	**Nowinta River**	**84.53**	**24**		**P**	**02 59 19.6**	**-0.2**		
J20K				IAmb	IAmb	02 59 33.2			
	comp=Z,6.2nm,1.4s								
AKTO	**Aktyubinsk**	**84.68**	**321**	P	**P**	**02 59 21.2**	**+0.2**		
	comp=Z,1.6nm,0.8s,baz=58,slow=2.0,SNR=5.1								
	comp=Z,1.6nm,0.8s								
CAST	**Castle Rocks**	**85.16**	**25**	P	**P**	**02 59 22.4**	**-0.7**		
CAST				IAmb	IAmb	02 59 32.5			
	comp=Z,5.8nm,1.4s								
RND	**Reindeer**	**86.55**	**26**	P	**P**	**02 59 27.6**	**-2.5**		
MCK	**McKinley**	**86.60**	**26**	P	**P**	**02 59 28.1**	**-2.2**		
MCK				IAmb	IAmb	02 59 46.0			
	comp=Z,5.7nm,1.3s								
QSPA	**South Pole Qui**	**86.60**	**180**	LR	LR	03 39 33.9			
	comp=Z,78nm,18.1s,baz=289,slow=36								
QSPA	**South Pole Qui**	**86.60**	**180**	P	**P**	**02 59 30.3**	**-0.1**		
QSPA				IAmb	IAmb	02 59 53.0			
	comp=Z,6.3nm,1.3s								
CCB	**Clear Creek Bu**	**87.30**	**25**	IAmb	IAmb	02 59 33.1			
	comp=Z,3.7nm,0.7s								
ILAR	**Eielson Array**	**87.71**	**25**	P	**P**	**02 59 33.7**	**-1.9**		
	comp=Z,1.4nm,0.6s,baz=263,slow=4.4,SNR=29								
	comp=Z,1.4nm,0.6s								
ILAR	**Eielson Array**	**87.71**	**25**	P	**P**	**02 59 33.5**	**-2.1**		
M27K	**Edge Creek, AK**	**89.48**	**28**	P	**P**	**02 59 43.5**	**-0.7**		
ARCES	**ARCESS Array B**	**100.07**	**340**	P	**Pdif**	**03 00 32.0**	**-0.3**		
	comp=Z,4.1nm,0.9s,baz=69,slow=5.9,SNR=3.7								
CPUP	**Villa Florida**	**147.96**	**158**	PKPbc	**PKPbc**	**03 06 33.8**	**+0.6**		
	comp=Z,2.8nm,0.8s,baz=342,slow=0.9,SNR=7.4								

*TAP **08** 03:12:18.1,24.94N×122.62E,h8km±1km, ML3.2,D*
*IDC **08** 03:12:22.7±2.3,24.72N×121.43E,h0km, mb3.3/3, mbtmp3.3/3,MS2.6/1,Error ellipse: s-maj=181.8km s-min=30.4km az=65.0*

ISC 08 03:12:19.0±1.1,24.91N±0.04×122.61E±0.06,h10km,n74, σ0.93/73,mb3.2/3,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.57**	**280**	*i* P	**Pb**	**03 12 29.9**	**-1.2**
	baz=277						
YOJ	**Yonaguni jima**	**0.58**	**141**	P	**Pb**	**03 12 30.4**	**-0.8**
	baz=144						
SXI1	**Grass Mountain**	**0.69**	**285**	P	**Pb**	**03 12 32.6**	**-0.6**
	baz=283						
TIPB	**Shuangxi**	**0.71**	**275**	*i* P	**Pb**	**03 12 32.9**	**-0.6**
	baz=273						
TWC	**Suao**	**0.76**	**247**	P	**Pb**	**03 12 33.6**	**-0.6**
	baz=245						
NWF	**Wu-fen Shan**	**0.77**	**282**	*i* P	**Pn**	**03 12 34.5**	**-1.5**
	baz=280						
WFSB	**Wu-fen Shan**	**0.77**	**282**	P	**Pb**	**03 12 33.8**	**-0.7**
	baz=280						
TNOU	**National Taiwa**	**0.80**	**288**	*e*P	**Pn**	**03 12 35.0**	**-1.2**
	baz=285						
PCYT	**Pengchaiyu**	**0.87**	**326**	*i* P	**Pn**	**03 12 35.7**	**-1.6**
	baz=323						
TWE	**Neicheng**	**0.88**	**258**	*i* P	**Pb**	**03 12 36.0**	**-0.3**
	baz=256						
EWUT	**Wuta**	**0.89**	**239**	P	**Pb**	**03 12 35.9**	**-0.6**
	baz=238						
ENA	**Nanau**	**0.93**	**239**	*i* P	**Pg**	**03 12 36.1**	**-0.7**
	baz=238						
TWA	**Mucha**	**0.94**	**274**	P	**Pg**	**03 12 36.3**	**-0.7**
	baz=272						
FUSB	**Fushanzhiwuyua**	**0.94**	**261**	P	**Pb**	**03 12 37.0**	**-0.4**
	baz=260						
YM01	**YM01**	**0.97**	**284**	P	**Pn**	**03 12 38.0**	**-0.7**
	baz=282						
TWY	**Chenhua**	**0.99**	**292**	P	**Pn**	**03 12 37.9**	**-0.9**
	baz=289						
ENTT	**Nioudou**	**0.99**	**254**	*i* P	**Pn**	**03 12 38.7**	**-0.2**
	baz=253						
NHDH	**Xindian Distri**	**0.99**	**273**	P	**Pn**	**03 12 38.5**	**-0.3**
	baz=271						
NWLT	**Wulai**	**1.02**	**263**	*i* P	**Pb**	**03 12 38.1**	**-0.6**
	baz=261						
ANP	**Anpu**	**1.03**	**286**	*e*P	**Pb**	**03 12 38.2**	**-0.7**
	baz=284						
NDT	**Datong Townshi**	**1.04**	**253**	P	**Pg**	**03 12 38.2**	**-0.8**
	baz=239						
LATG	**Datong**	**1.05**	**249**	P	**Pg**	**03 12 38.9**	**-0.4**
	baz=249						
YHNB	**Yeheng**	**1.15**	**258**	P	**Pn**	**03 12 40.8**	**-0.4**
	baz=272						
NSK	**Sanguang**	**1.16**	**259**	*i* P	**Pn**	**03 12 40.7**	**-0.6**
	baz=257						
ETL	**Fush Village**	**1.17**	**230**	P	**Pb**	**03 12 40.3**	**-1.0**
	baz=230						
NACB	**Ninganchiao**	**1.18**	**232**	P	**Pn**	**03 12 40.6**	**-0.9**
	baz=232						
NNSB	**Datong**	**1.22**	**247**	P	**Pg**	**03 12 42.2**	**-0.1**
	baz=246						
NNS	**Nan Shan**	**1.22**	**248**	*i* P	**Pg**	**03 12 42.6**	**+0.2**
	baz=247						
TWD	**Chiawan**	**1.24**	**228**	*i* P	**Pg**	**03 12 42.9**	**+0.1**
	baz=228						
ETLH	**Xiulin Townshi**	**1.25**	**236**	P	**Pb**	**03 12 42.1**	**-0.5**
	baz=248						
ETLH				*e*S	**Sn**	**03 13 00.1**	**+0.7**
	baz=248						
NFF	**Wufeng Townshi**	**1.39**	**259**	P	**Pb**	**03 12 44.5**	**-0.5**
	baz=258						
FUSS	**Fushou**	**1.41**	**242**	P	**Pg**	**03 12 46.4**	**+0.4**
	baz=242						
WHF	**Hehuan Shan**	**1.44**	**238**	*i* P	**Pb**	**03 12 45.7**	**-0.5**
	baz=238						
TWT	**Tachien**	**1.46**	**244**	*i* P	**Pg**	**03 12 46.7**	**-0.4**
	baz=243						
LIOB	**Emei**	**1.47**	**260**	P	**Pg**	**03 12 46.4**	**-0.8**
	baz=259						
TDCB	**Techi**	**1.48**	**244**	P	**Pg**	**03 12 47.6**	**+0.3**
	baz=244						
NSTT	**Nanjuang**	**1.49**	**260**	P	**Pg**	**03 12 46.9**	**-0.7**
	baz=259						
ESL	**Shilin**	**1.53**	**225**	*e*P	**Pn**	**03 12 46.5**	**+0.1**
	baz=225						
CHGB	**Renai**	**1.56**	**237**	P	**Pg**	**03 12 48.4**	**-0.5**
	baz=219						
OWD	**Renai**	**1.62**	**234**	*i* P	**Pb**	**03 12 48.8**	**-0.2**
	baz=217						
WUSB	**Renai**	**1.64**	**236**	P	**Pb**	**03 12 49.2**	**-0.2**
	baz=218						
WHP	**Taichung City**	**1.64**	**248**	*i* P	**Pg**	**03 12 51.0**	**+0.5**
	baz=263						
NMLH	**Miaoli**	**1.70**	**258**	*e*P	**Pb**	**03 12 49.9**	**-0.3**
	baz=257						
TWQ1	**Liyutan**	**1.76**	**252**	*e*P	**Pg**	**03 12 52.4**	**-0.5**
	baz=251						
WCS	**Beigang Elemen**	**1.77**	**242**	P	**Pg**	**03 12 52.4**	**-0.5**
	baz=241						
VWDT	**VWDT**	**1.77**	**230**	P	**Pb**	**03 12 50.4**	**-1.1**
	baz=214						
HGSD	**Ruisui**	**1.78**	**218**	P	**Pn**	**03 12 49.2**	**-0.6**
	baz=203						
EHY	**Hungye**	**1.83**	**220**	P	**Pb**	**03 12 51.7**	**-0.8**
	baz=220						
SMLT	**Sun Moon Lake**	**1.87**	**237**	P	**Pb**	**03 12 52.8**	**-0.4**
	baz=220						
SSLB	**Suanglung**	**1.88**	**234**	P	**Pb**	**03 12 52.4**	**-1.0**
	baz=217						
TYC	**Yuchr**	**1.89**	**238**	*i* P	**Pb**	**03 12 53.7**	**+0.2**
	baz=220						
YULB	**Yu-li**	**1.93**	**219**	P	**Pn**	**03 12 50.6**	**-1.3**
	baz=219						
EYUL	**Yuli**	**1.95**	**217**	P	**Pn**	**03 12 52.2**	**0.0**
	baz=203						
WHYT	**Xinyi Township**	**2.01**	**233**	*e*P	**Pb**	**03 12 56.0**	**+0.4**
	baz=221						
WJS	**Zhushan**	**2.03**	**238**	P	**Pb**	**03 12 56.5**	**+0.5**
	baz=238						
ALS	**Alishan**	**2.16**	**230**	P	**Pb**	**03 12 57.9**	**-0.5**
	baz=215						
EHD	**Haiduan**	**2.17**	**216**	P	**Pn**	**03 12 53.4**	**-1.9**
	baz=216						
CHN5	**Tsauling**	**2.20**	**234**	*i* P	**Pb**	**03 12 58.5**	**-0.3**
	baz=216						
CHN4	**Tsaushan**	**2.41**	**230**	P	**Pn**	**03 12 58.9**	**+0.4**
	baz=214						
STYH	**Taoyuan**	**2.41**	**224**	P	**Pn**	**03 13 00.1**	**+1.6**
	baz=209						
LONT	**Longtian**	**2.41**	**214**	P	**Pn**	**03 12 55.7**	**-2.8**
	baz=214						
TPUB	**Ta-pu**	**2.42**	**229**	P	**Pb**	**03 13 00.7**	**-1.9**
	baz=212						
WTP	**Ta-pu**	**2.47**	**228**	P	**Pn**	**03 13 00.2**	**+0.9**
	baz=212						
TWK	**Hsinying**	**2.54**	**230**	*e*P	**Pb**	**03 13 03.7**	**-1.0**
	baz=213						
CHN1	**Nanshi**	**2.56**	**228**	P	**Pn**	**03 13 01.9**	**+1.3**
	baz=228						
WSL	**Shuilin Townsh**	**2.58**	**238**	*e*P	**Pb**	**03 13 03.6**	**-1.7**
	baz=237						
VWUC	**VWUC**	**2.87**	**272**	*e*P	**Pn**	**03 13 04.2**	**-0.6**
	baz=271						
XPSS	**Dashiqiu**	**2.96**	**313**	*e*P	**Pn**	**03 13 07.8**	**+1.7**
	baz=311						
EAST	**Anshuo**	**2.99**	**213**	*e*P	**Pn**	**03 13 06.5**	**0.0**
	baz=213						
SLIU	**Shizi**	**3.16**	**212**	P	**Pn**	**03 13 09.3**	**+0.5**
	baz=213						
KSRS	**Korea Array**	**13.30**	**19**	LR	LR	03 21 24.2	
	comp=Z,24nm,21.1s,baz=185,slow=39						
SONM	**Songino Array**	**26.23**	**335**	P	**P**	**03 17 56.8**	**+2.6**
	0.4nm,0.7s,baz=146,slow=8.4,SNR=2.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**38.74**	**315**	P	**P**	**03 19 43.5**	**+0.1**
	0.2nm,0.6s,baz=108,slow=8.7,SNR=2.7						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**46.02**	**165**	P	P	03 20 48.9	+6.1
	0.6nm,0.8s,baz=342,slow=8.7,SNR=2.8						
	0.6nm,0.8s						

*SSNC **08** 03:14:04.0±2.3,18.19N×71.18W,h7km±999km, MD3.3, ML2.3*
*OSPL **08** 03:14:09.4±2.5,18.65N×71.53W,h0km±33km, ML2.3*

ISC 08 03:14:06.8±1.5,18.49N±0.04×71.45W±0.04,h1km±13km, n9,σ13°62/17,1C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.36**	**153**	*i* P	**Pn**	**03 14 18.1**	**-1.3**
PODR				*e*S	**Sb**	**03 14 25.6**	**+3.2**
SDDR	**Presa de Saban**	**0.52**	**18**	*e*P	**Pg**	**03 14 17.4**	**+0.7**
SDDR				*e*S	**Sg**	**03 14 23.0**	**-0.5**
SDDR	**Presa de Saban**	**0.52**	**18**	*i* P	**Pg**	**03 14 17.4**	**+0.7**
SDDR				*e*S	**Sg**	**03 14 21.1**	**-2.4**
SDDR				IAML		03 14 25.5	
	comp=Z,114nm,0.7s						
LOPE2	**Hotel El Peder**	**0.53**	**211**	*i* P	**Pn**	**03 14 20.2**	**-1.4**
LOPE2				IAML		03 14 29.1	
	comp=Z,161nm,2.1s						
LOPE2				*e*S	**Sn**	**03 14 30.1**	**-1.1**
PAPH	**Port-au-Prince**	**0.80**	**273**	*i* P	**Pg**	**03 14 22.3**	**+0.1**
PAPH				*e*S	**Sg**	**03 14 33.5**	**+0.9**
SC01	**Santiago de lo**	**1.16**	**36**	*i* P	**Pn**	**03 14 29.7**	**-0.5**
MASC	**Masc**	**3.11**	**303**	⇑*e*P	**Pn**	**03 14 58.0**	**+0.9**
MASC				*e*S	**Sn**	**03 15 36.5**	**+1.5**
MASC				IAML		03 15 42.5	
	comp=E,5.1nm,0.4s						
MASC				IAML		03 15 45.1	
	comp=N,3.2nm,0.1s						
GTBY	**Guantanamo Bay**	**3.74**	**293**	*e*P	**Pn**	**03 15 05.2**	**-0.5**
GTBY				*e*S	**Sn**	**03 15 50.8**	**+0.3**
RCC	**Rio Carpintero**	**4.28**	**291**	*e*P	**Pn**	**03 15 11.0**	**-2.1**
RCC				*e*S	**Sn**	**03 16 02.1**	**-1.7**
RCC				IAML		03 16 19.5	
	comp=N,2.0nm,0.6s						
RCC				IAML		03 16 25.1	
	comp=E,2.9nm,0.9s						

*FUNV **08** 03:14:22.7,10.50N×71.43W,h5km, MW3.3*

ISC 08 03:14:22.2±1.7,10.48N±0.05×71.40W±0.03,h6km±13km, n12,σ0°68/22,1D,Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**1.19**	**249**	*e*P	**Pg**	**03 14 44.5**	**-0.6**
MCQV				*e*S	**Sb**	**03 15 01.1**	**+0.1**
URIC	**Uribia, Colomb**	**1.34**	**335**	*e*P	**Pn**	**03 14 46.4**	**-1.1**
URIC				*e*S	**Sb**	**03 15 05.3**	**+0.1**
URIC				*i*		03 15 05.9	
	comp=Z,250nm,0.2s						
CURV	**Curarigua**	**1.49**	**108**	*e*P	**Pn**	**03 14 49.1**	**-0.5**
CURV				*e*S	**Sn**	**03 15 09.6**	**0.0**
CRJC	**Cerrejon, Guaj**	**1.55**	**290**	⇓*i* P	**Pn**	**03 14 49.7**	**-0.7**
CRJC				*e*S	**Sb**	**03 15 10.9**	**-0.3**
CRJC				*i*		03 15 12.9	
	comp=Z,100nm,0.4s						
SIQV	**Siquisique**	**1.58**	**84**	*e*P	**Pn**	**03 14 51.4**	**+0.7**
SIQV				*e*S	**Sg**	**03 15 14.1**	**+1.2**
SOCV	**Socops**	**2.25**	**166**	*e*P	**Pn**	**03 14 59.8**	**-0.2**
SOCV				*e*S	**Sn**	**03 15 27.5**	**-0.6**
LL1C	**La Loma 1 Cana**	**2.32**	**246**	*e*P	**Pn**	**03 15 01.5**	**+0.6**
LL1C				*e*S	**Sn**	**03 15 30.6**	**+0.9**
LL1C				*i*		03 15 41.0	
	comp=Z,406nm,0.4s						
CAPV	**Capacho**	**2.75**	**199**	*e*P	**Pn**	**03 15 07.2**	**+0.1**
CAPV				*e*S	**Sn**	**03 15 40.3**	**-0.5**
SMRC	**Santa Marta, M**	**2.85**	**284**	*e*P	**Pn**	**03 15 08.6**	**+0.3**
SMRC				*e*S	**Sn**	**03 15 44.2**	**+1.2**
SMRC				*i*		03 15 54.1	
	comp=Z,24nm,0.4s						
MAPV	**Macapo**	**2.97**	**102**	*e*P	**Pn**	**03 15 09.4**	**-0.6**
BAUV	**El Baul**	**3.65**	**114**	*e*P	**Pn**	**03 15 19.1**	**-0.2**
BAUV				*e*S	**Sn**	**03 16 02.3**	**-0.4**
BENV	**Beln**	**3.78**	**98**	*e*P	**Pn**	**03 15 21.5**	**+0.4**

IDC 08 03:17:37.6±5.2,21.63S×147.83E,h0km,mbtmp3.1/3, ML2.6/3,Error ellipse: s-maj=42.8km s-min=28.9km az=80.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.13**	**316**	Pn	Pn	03 18 14.2	-0.2
	3.8nm,0.3s,baz=129,slow=17,SNR=32						
CTA				Lg	Lg	03 18 45.6	
	6.6nm,0.3s,baz=41,slow=19,SNR=16						
	7.8nm,0.3s						
WRA	**Warramunga Arr**	**12.73**	**275**	Pn	Pn	03 20 41.7	+1.8
	baz=98,slow=13,SNR=1.9						
WRA

0.3nm,0.7s,baz=269,slow=7.5,SNR=6.6
0.3nm,0.7s
H11N2 WAKE ISLAND Hy 33.04 164 T T 04 10 19.4
baz=349
H11N3 WAKE ISLAND Hy 33.05 164 T T 04 10 16.9
baz=349
H11N1 WAKE ISLAND Hy 33.05 164 T T 04 10 18.8
baz=349
PDAR Pinedale Array 59.37 59 P **P** **03 39 22.8 +1.3**
0.2nm,0.5s,baz=335,slow=4.0,SNR=2.2
0.2nm,0.5s
H03N2 Juan Fernandez 135.73 88 T T 06 19 34.1
baz=314,slow=77
H03N1 Juan Fernandez 135.75 88 T T 06 19 33.5
baz=314,slow=77
H03N3 Juan Fernandez 135.75 88 T T 06 19 32.4
baz=314,slow=77

GCMT 08 03:34:09.0±0.3, **23.43N**±0.02×**123.67E**±0.03, **h27**km±1km, **MW4.9**/70, **Moment Solution. s30,c38; s70,c108; Duration: 0 Moment tensor: Scale** 10^{16} **Nm;** M_{rr}1.44±.16; $M_{\theta\theta}$-1.28±.10; $M_{\phi\phi}$-0.16±.10; $M_{r\theta}$1.96±.21; $M_{\theta\phi}$-1.70±.08; $M_{\phi r}$1.10±.22; **Best double couple:** $M_0$3.00200×10^{16} **NP1:**ϕ_s62.00000°,δ70.00000°, λ99.00000°. **NP2:**ϕ_s219.00000°,δ22.00000°,λ68.00000°. **Principal axes:** T 2.4850, Plg64.0000°, Azm346.0000°; N 1.0300, Plg8.0000°, Azm239.0000°; P -3.5190, Plg24.0000°, Azm146.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southwestern Ryukyu Islands**

NNC 08 03:45:39.2±4.3, **38.62N**×**69.05E, h0**km, **mb3.8, mpv3.6, 2C-2D Error ellipse: s-maj=35.6km s-min=25.2km az=166.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.60**	**12**	Pg	Pg	03 46 46.1	-2.1
	15nm,0.5s						
IUG				Lg	Lg	03 47 32.3	
	52nm,0.7s						
KK31	**Karatay Array**	**4.61**	**13**	Pg	Pb	03 47 01.7	+0.7
	1.9nm,0.5s,baz=189,slow=16,SNR=6.9						
KK31				⇑Lg	Lg	03 48 03.1	
	3.5nm,0.4s,baz=191,slow=27,SNR=10						
MRKS	**Merke**	**5.20**	**36**	Pg	Pg	03 47 17.7	-1.2
	5.0nm,0.4s						
MRKS				Lg	Lg	03 48 26.1	
	9.3nm,0.4s						
TKM2	**Tokmak 2**	**6.57**	**47**	⇓Pn	Pn	03 47 14.2	-3.0
	2.0nm,0.5s						
TKM2				⇑Sn	Sn	03 48 34.2	+1.3
	3.2nm,0.8s						
DGS	**Degeres**	**6.87**	**46**	Pg	Pg	03 47 46.5	-4.3
	2.6nm,0.4s						
DGS				Lg	Lg	03 49 15.2	
	3.4nm,0.5s						
AB31	**Akbulak array**	**12.48**	**331**	P	Pn	03 48 36.1	-1.9
	0.2nm,0.4s,baz=160,slow=11,SNR=19						
AKTO	**Aktyubinsk**	**14.17**	**330**	⇓P	Pn	03 49 03.4	+2.3
	0.7nm,0.8s						

IDC ***08*** *04:09:22.4±2.0, 1.51N×97.13E, h0km, mb3.8/8, mbtmp3.8/9, Error ellipse: s-maj=68.0km s-min=22.0km az=57.0*

ISC 08 04:09:27.0±2.0, **1.6N**±0.2×**97.3E**±0.4, **h28**km, **n12,** σ0.9**37**/9, **mb3.9/8, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.85**	**6**	Pn	**P**	**04 13 22.9**	**0.0**
	0.5nm,0.3s,baz=192,slow=12,SNR=5.6						
H08S2	**Diego Garcia H**	**26.34**	**249**	T	T	04 42 04.0	
	baz=70,slow=75,SNR=791						
H08S3	**Diego Garcia H**	**26.34**	**249**	T	T	04 42 04.2	
	baz=70,slow=75,SNR=686						
H08S1	**Diego Carcia H**	**26.36**	**249**	T	T	04 42 05.3	
	baz=70,slow=75,SNR=893						
WRA	**Warramunga Arr**	**42.20**	**122**	P	**P**	**04 17 18.2**	**+0.3**
	1.5nm,1.2s,baz=303,slow=9.0,SNR=1.6						
	1.5nm,1.2s						
ASAR	**Alice Springs**	**43.59**	**127**	P	**P**	**04 17 28.9**	**-0.2**
	0.4nm,0.9s,baz=298,slow=7.4,SNR=2.4						
	0.4nm,0.9s						
KSRS	**Korea Array**	**45.50**	**35**	P	**P**	**04 17 43.8**	**-0.3**
	2.1nm,0.9s,baz=223,slow=9.0,SNR=4.3						
	2.1nm,0.9s						
SONM	**Songino Array**	**46.74**	**8**	P	**P**	**04 17 54.3**	**+0.4**
	1.6nm,0.8s,baz=189,slow=9.6,SNR=12						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**46.88**	**346**	P	**P**	**04 17 55.2**	**+0.3**
	1.3nm,0.5s,baz=159,slow=9.3,SNR=27						
	1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**51.37**	**345**	P	**P**	**04 18 29.1**	**0.0**
	0.7nm,0.6s,baz=160,slow=7.0,SNR=6.2						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**53.19**	**351**	P	**P**	**04 18 42.2**	**-0.3**
	1.3nm,0.5s,baz=178,slow=7.5,SNR=7.6						
	1.3nm,0.5s						
BVAR	**Borovoye Array**	**55.90**	**341**	P	**P**	**04 19 01.8**	**-0.5**
	0.5nm,0.5s,baz=138,slow=8.9,SNR=3.1						
	0.5nm,0.5s						

IDC ***08*** *04:09:32.3±2.7, 10.45S×161.28E, h58km±22km, mb3.7/8, mbtmp4.0/9, ML3.5/1, MS3.5/9, Error ellipse: s-maj=25.0km s-min=15.9km az=73.0*

ISC 08 04:09:31.3±0.8, **10.46S**±0.10×**161.4E**±0.1, **h50**km, **n16,** σ1**51**/13, **mb3.8/8, MS3.5/5, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.75**	**306**	P	**Pn**	**04 09 59.0**	**-0.3**
	10μm,0.4s,baz=171,slow=6.1,SNR=14						
HNR				S	**Sn**	**04 10 19.4**	**-1.1**
	50μm,0.3s,baz=73,slow=19,SNR=16						
HNR				LR	LR	04 10 54.4	
	comp=Z,10μm,19.1s,baz=184,slow=50						
KRVT	**Keravat (AS076**	**11.12**	**303**	LR	LR	04 16 41.9	
	comp=Z,121nm,20.4s,baz=239,slow=39						
DZM	**Mont Dzumac**	**12.52**	**158**	P	**Pn**	**04 12 28.2**	**+1.3**
	0.3nm,0.3s,baz=18,slow=9.5,SNR=27						
DZM				S	**Sn**	**04 14 41.7**	**-3.2**
	7.8nm,1.0s,baz=288,slow=20,SNR=1.4						
	4.7nm,0.8s						
PMG	**Port Moresby**	**14.06**	**273**	LR	LR	04 18 09.9	
	comp=Z,260nm,18.3s,baz=69,slow=37						
CTA	**Charters Tower**	**17.45**	**235**	P	**P**	**04 13 33.9**	**+2.0**
	18nm,0.8s,baz=60,slow=12,SNR=10						
CTA				LR	LR	04 19 32.7	
	comp=Z,118nm,19.2s,baz=82,slow=35						
MSVF	**Nonsavu**	**17.69**	**116**	LR	LR	04 19 16.7	
	comp=Z,112nm,21.0s,baz=23,slow=33						
WRA	**Warramunga Arr**	**27.72**	**247**	P	**P**	**04 15 14.4**	**-0.8**
	3.4nm,0.8s,baz=75,slow=9.1,SNR=18						
WRA				LR	LR	04 25 50.2	
	comp=Z,107nm,18.6s,baz=29,slow=35						
	3.4nm,0.8s						
STKA	**Stephens Creek**	**28.09**	**218**	P	**P**	**04 15 19.4**	**+1.0**
	1.2nm,0.5s,baz=54,slow=14,SNR=4.4						
STKA				LR	LR	04 26 08.4	
	comp=Z,152nm,18.4s,baz=25,slow=36						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**29.30**	**240**	P	**P**	**04 15 27.8**	**-1.5**
	1.1nm,0.7s,baz=64,slow=9.4,SNR=14						
ASAR				LR	LR	04 27 03.7	
	comp=Z,195nm,18.5s,baz=108,slow=36						
	1.1nm,0.7s						
KSRS	**Korea Array**	**57.06**	**328**	LR	LR	04 42 59.4	
	comp=Z,31nm,18.4s,baz=190,slow=35						
MA2	**Magadan**	**70.32**	**354**	LR	LR	04 46 43.5	
	comp=Z,20nm,20.2s,baz=230,slow=32						
SONM	**Songino Array**	**75.71**	**325**	P	**P**	**04 21 12.2**	**+0.5**
	0.6nm,0.6s,baz=129,slow=6.4,SNR=6.0						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**79.54**	**180**	P	**P**	**04 21 33.2**	**+0.5**
	0.7nm,0.6s,baz=321,slow=6.8,SNR=7.4						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**84.37**	**20**	P	**P**	**04 21 57.5**	**-0.3**
	0.5nm,0.6s,baz=240,slow=4.5,SNR=11						
	0.5nm,0.6s						

MKAR Makanchi Array 90.19 318 P **P** **04 22 25.7 -0.7**
0.3nm,0.6s,baz=92,slow=5.4,SNR=3.0
0.3nm,0.6s
YKA Yellowknife Ar 96.44 28 P **P** **04 22 55.1 +0.4**
0.3nm,0.6s,baz=257,slow=4.9,SNR=3.0
0.3nm,0.6s

JMA ***08*** *04:15:41.4±0.1, 36.90N±0.03×141.10E±0.06, h55km, MD4.3/40, MV4.3/40, E OFF IBARAKI PREF*
JMA Felt III J1 at E OFF IBARAKI PREF .
NEIC ***08*** *04:15:41.8±2.0, 36.90N±0.04×141.10E±0.1, h47km±8km, mb4.2/15, Error ellipse: s-maj=11.9km s-min=5.7km az=96.0*
NIED ***08*** *04:15:41.4, 36.88N×140.99E, h55km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.81; $M_{\theta\theta}$0.45; $M_{\phi\phi}$-1.27; $M_{r\theta}$-0.71; $M_{\theta\phi}$-0.15; $M_{\phi r}$1.61; Fault plane solution: $M_0$2.08000×10^{15} NP1: ϕ_s339.00000°,δ77.00000°,λ71.00000°. NP2: ϕ_s216.00000°,δ23.00000°,λ145.00000°.*
IDC ***08*** *04:15:42.9±1.9, 36.82N×140.90E, h69km±19km, mb3.7/18, mbtmp4.1/22, MS3.2/9 Error ellipse: s-maj=16.3km s-min=10.4km az=61.0*

ISC 08 04:15:40.9±0.8, **36.86N**±0.04×**141.10E**±0.06, **h50**km±7km, **n105,** σ1**32**/94, **mb4.0**/25, **MS3.3**/5, **13D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.34**	**316**	⇓*i*P	**Pn**	**04 15 50.7**	**+0.1**
ONAJ				⇓S	**Sn**	**04 15 57.0**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.34**	**316**	A	A	04 15 50.7	
	comp=E,78nm,1.9s,comp=E,37nm,0.6s						
JFFD	**Fukushimafurud**	**0.49**	**299**	⇓*i*P	**Pn**	**04 15 52.0**	**-0.1**
JFFD				⇓S	**Sn**	**04 15 59.3**	**-0.8**
JFFD	**Fukushimafurud**	**0.49**	**299**	A	A	04 15 52.0	
	comp=E,40nm,2.5s,comp=E,21nm,0.6s						
JHO	**Hitachi**	**0.49**	**240**	⇓*i*P	**Pn**	**04 15 52.2**	**+0.1**
JHO				⇓S	**Sn**	**04 15 59.6**	**-0.5**
JHO	**Hitachi**	**0.49**	**240**	A	A	04 15 52.2	
	comp=E,29nm,1.0s,comp=E,13nm,0.3s						
JFK	**Kawauchi**	**0.54**	**341**	*i* P	**Pn**	**04 15 52.7**	**0.0**
JFK				S	**Sn**	**04 16 00.6**	**-0.6**
JFK	**Kawauchi**	**0.54**	**341**	A	A	04 15 52.7	
	comp=E,24nm,1.1s,comp=E,15nm,0.6s						
JHYU	**Hitachinakayam**	**0.66**	**219**	A	A	04 15 54.5	
	comp=E,17nm,0.7s,comp=E,18nm,0.3s						
JMST	**Minamisoumatoc**	**0.88**	**349**	A	A	04 15 57.4	
	comp=E,19nm,0.3s,comp=E,17nm,0.4s						
JSB	**Shiboa**	**0.95**	**277**	⇓*i*P	**Pn**	**04 15 57.8**	**-0.3**
JSB				⇓S	**Sn**	**04 16 09.5**	**-1.1**
JSB	**Shiboa**	**0.95**	**277**	A	A	04 15 57.8	
	comp=E,17nm,2.2s,comp=E,12nm,1.0s						
JYT	**Yasato**	**0.96**	**230**	A	A	04 15 58.2	
	comp=E,25nm,0.4s,comp=E,20nm,0.3s						
JMM	**Marumori**	**1.04**	**346**		**Pn**	**04 15 59.1**	**0.0**
JMM				Sn	**Sn**	**04 16 11.4**	**-1.2**
JMM	**Marumori**	**1.04**	**346**	P	**Pn**	**04 15 59.2**	**0.0**
JMM	**Marumori**	**1.04**	**346**	*i* P	**Pn**	**04 15 59.1**	**0.0**
JMM				S	**Sn**	**04 16 12.0**	**-0.6**
JFY	**Yanaizu**	**1.24**	**297**	⇓*i*P	**Pn**	**04 16 01.4**	**-0.6**
JYAR	**Yonezawaarcadi**	**1.30**	**324**	A	A	04 16 02.7	
	comp=E,12nm,1.2s,comp=E,13nm,1.0s						
JAG	**Ashikaga**	**1.39**	**253**	⇓*i*P	**Pn**	**04 16 03.5**	**-0.5**
JAG				⇓S	**Sn**	**04 16 20.2**	**-1.0**
JKT	**Katashina**	**1.49**	**267**	*i* P	**Pn**	**04 16 05.3**	**-0.1**
JKT				S	**Sn**	**04 16 23.2**	**-0.5**
JOU	**Okura**	**1.55**	**347**	*i* P	**Pn**	**04 16 06.3**	**+0.2**
JOU				*e*S	**Sn**	**04 16 25.1**	**+0.1**
JOU	**Okura**	**1.55**	**347**	A	A	04 16 06.3	
	comp=E,9.0nm,0.8s,comp=E,11nm,0.5s						
JYS	**Shirataka**	**1.59**	**329**	⇓P	**Pn**	**04 16 07.0**	**+0.3**
JYS				⇓*e*S	**Sn**	**04 16 26.4**	**+0.2**
JYS	**Shirataka**	**1.59**	**329**	A	A	04 16 07.0	
	comp=E,17nm,1.5s,comp=E,8.0nm,1.1s						
JOFO	**Osakifurukawao**	**1.75**	**355**	A	A	04 16 09.6	
	comp=E,14nm,2.7s,comp=E,12nm,4.5s						
JYA	**Atsumi**	**2.05**	**328**	A	A	04 16 13.4	
	comp=E,7.0nm,0.7s,comp=E,7.0nm,0.8s						
TATJ	**Tateyama 2**	**2.07**	**209**	A	A	04 16 14.2	
	comp=E,13nm,2.0s,comp=E,13nm,2.1s						
MJAR	**Matsushiro Arr**	**2.34**	**263**	P	**Pn**	**04 16 16.9**	**-0.1**
	52nm,0.4s,baz=85,slow=16,SNR=293						
MJAR				S	**Sn**	**04 16 43.1**	**-1.5**
	153nm,0.8s,baz=97,slow=28,SNR=6.3						
MJAR				LR	LR	04 17 30.9	
	comp=Z,486nm,21.8s,baz=120,slow=49						
MAJO	**Matsushiro**	**2.35**	**263**		**Pn**	**04 16 17.7**	**+0.7**
MAJO	**Matsushiro**	**2.35**	**263**	P	**Pn**	**04 16 17.7**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.35**	**263**		**Pn**	**04 16 17.6**	**+0.6**
JSD	**Sado**	**2.55**	**298**		**Pn**	**04 16 18.9**	**-0.9**
JNY	**Yasuok**	**3.02**	**241**	A	A	04 16 27.0	
	comp=E,4.0nm,1.1s,comp=E,7.0nm,1.4s						
JSG	**Sagara**	**3.22**	**228**	P	**Pn**	**04 16 32.5**	**+3.6**
JGF	**Kuroka**	**3.27**	**249**		**Pn**	**04 16 30.3**	**+0.5**
JGF	**Kuroka**	**3.27**	**249**	P	**Pn**	**04 16 31.1**	**+1.3**
INU	**Inuyama**	**3.63**	**247**		**Pn**	**04 16 35.6**	**+1.0**
INU	**Inuyama**	**3.63**	**247**	P	**Pn**	**04 16 36.2**	**+1.6**
JHJ	**Hachijo jima 2**	**3.88**	**197**	P	**Pn**	**04 16 39.2**	**+1.2**
	113nm,0.2s,baz=334,slow=14,SNR=15						
JHJ				S	**Sn**	**04 17 22.4**	**0.0**
	221nm,0.3s,baz=212,slow=23,SNR=8.0						
JHJ2	**Mitsune**	**3.88**	**196**	P	**Pn**	**04 16 39.9**	**+1.9**
JTM	**Tenmabayashi**	**3.93**	**360**	Pn	**Pn**	**04 16 39.6**	**+0.9**
JTM	**Tenmabayashi**	**3.93**	**360**	P	**Pn**	**04 16 40.2**	**+1.6**
ERM	**Erimo**	**5.39**	**17**	P	**Pn**	**04 16 58.4**	**-0.3**
JEM	**Erimo**	**5.39**	**17**	P	**Pn**	**04 16 58.7**	**-0.1**
JMN	**Monobe**	**6.68**	**244**	P	**Pn**	**04 17 19.7**	**+3.2**
JHS	**Saijyo**	**6.74**	**256**		**Pn**	**04 17 17.6**	**+0.3**
JHS	**Saijyo**	**6.74**	**256**	P	**Pn**	**04 17 19.4**	**+2.1**
ASAJ	**Asahikawa**	**7.34**	**8**	P	**Pn**	**04 17 24.3**	**-1.1**
	13nm,0.4s,baz=215,slow=11,SNR=16						
ASAJ				S	**Sn**	**04 18 46.1**	**-1.3**
	12nm,0.6s,baz=277,slow=17,SNR=2.1						
ASAJ				LR	LR	04 20 46.1	
	comp=Z,37nm,19.6s,baz=18,slow=41						
JKA	**Kamikawa-asahi**	**7.34**	**8**	Pn	**Pn**	**04 17 24.6**	**-0.8**
JNU	**Nakatsue**	**9.18**	**249**	P	**Pn**	**04 17 51.8**	**+1.1**
	12nm,0.8s,baz=61,slow=7.6,SNR=6.0						
JNU				LR	LR	04 21 26.6	
	comp=Z,177nm,19.1s,baz=148,slow=38						
JCJ	**Chichijima**	**9.78**	**174**	P	**Pn**	**04 17 60.0**	**+1.1**
	68nm,0.5s,baz=342,slow=6.9,SNR=2.4						
JCJ				S	**Sn**	**04 19 42.0**	**-5.2**
	84nm,0.9s,baz=294,slow=18,SNR=1.5						
USRK	**Ussuriysk Ar.**	**10.09**	**319**	P	**Pn**	**04 18 07.2**	**+4.1**
	12nm,0.6s,baz=134,slow=13,SNR=14						
USRK	**Ussuriysk Ar.**	**10.09**	**319**		**Pn**	**04 18 03.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**10.17**	**6**	Pn	**Pn**	**04 18 03.2**	**-0.9**
KSRS	**Korea Array**	**10.54**	**277**	P	**Pn**	**04 18 11.9**	**+2.8**
	2.5nm,0.7s,baz=89,slow=14,SNR=6.8						
KSRS				LR	LR	04 21 46.4	
	comp=Z,90nm,21.1s,baz=85,slow=35						
KLR	**Kul'dur**	**14.12**	**334**	P	**P**	**04 19 01.6**	**-2.7**
	3.0nm,0.9s,baz=160,slow=9.7,SNR=8.0						
BJT	**Baijiatuan**	**19.77**	**287**	P	**P**	**04 20 06.7**	**0.0**
BJT				IAmb	IAmb	04 20 09.3	
	comp=Z,5.3nm,0.6s						
MA2	**Magadan**	**23.58**	**12**	P	**P**	**04 20 47.0**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=216,slow=17,SNR=1.5						
MA2				LR	LR	04 29 56.2	
	comp=Z,39nm,18.0s,baz=174,slow=36						
	comp=Z,2.1nm,0.4s						
SEY	**Seymchan**	**27.01**	**11**	P	**P**	**04 21 19.2**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=197,slow=12,SNR=4.0						
	comp=Z,1.7nm,0.7s						
ENH	**Enshi**	**27.07**	**265**	P	**P**	**04 21 19.0**	**+0.3**
ENH				IAmb	IAmb	04 21 28.7	
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.25**	**305**	P	**P**	**04 21 21.1**	**+0.8**
ULN				IAmb	IAmb	04 21 22.8	
	comp=Z,4.2nm,0.9s						
SONM	**Songino Array**	**27.68**	**304**	P	**P**	**04 21 24.0**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=106,slow=9.1,SNR=17						
	comp=Z,3.2nm,0.6s						
SONM	**Songino Array**	**27.68**	**304**	P	**P**	**04 21 23.6**	**-0.5**
SONM				IAmb	IAmb	04 21 27.9	
	comp=Z,2.2nm,0.8s						
SHEM	**Shemya Is, Ala**	**27.97**	**45**	LR	LR	04 29 51.9	
	comp=Z,45nm,20.9s,baz=207,slow=30						
H11N2	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	04 51 34.9	
	baz=313,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	04 51 35.6	
	baz=313,slow=75,SNR=155						
H11N3	**WAKE ISLAND Hy**	**28.29**	**120**	T	T	04 51 35.0	
	baz=313,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**28.98**	**122**	T	T	04 52 28.3	
	baz=315,slow=76,SNR=96						
H11S3	**WAKE ISLAND Hy**	**28.98**	**122**	T	T	04 52 28.4	
	baz=315,slow=76,SNR=91						
H11S2	**WAKE ISLAND Hy**	**28.99**	**122**	T	T	04 52 29.5	
	baz=315,slow=76,SNR=46						
ZAA0	**Zalesovo Array**	**41.85**	**313**	P	**P**	**04 23 24.8**	**-0.9**
ZAA0				IAmb	IAmb	04 23 25.9	
	comp=Z,4.6nm,1.2s						
ZALV	**Zalesovo Beam**	**41.85**	**313**	P	**P**	**04 23 24.2**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=98,slow=9.1,SNR=7.2						
	comp=Z,1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**41.85**	**313**	P	**P**	**04 23 24.8**	**-0.9**
MK31	**Makanchi Array**	**44.00**	**302**	P	**P**	**04 23 42.8**	**-0.5**
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**04 23 42.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=86,slow=8.3,SNR=9.1						
MKAR				LR	LR	04 40 51.3	
	comp=Z,43nm,18.3s,baz=70,slow=34						
	comp=Z,0.8nm,0.6s						
MAKZ	**Makanchi**	**44.21**	**302**	P	**P**	**04 23 44.5**	**-0.5**
BRDH	**Bariadhala**	**44.73**	**266**	LR	LR	04 44 14.8	
	comp=Z,66nm,18.7s,baz=205,slow=38						
KURK	**Kurchatov**	**45.84**	**308**	P	**P**	**04 23 56.7**	**-1.2**
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**04 23 57.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=84,slow=8.1,SNR=19						
	comp=Z,2.5nm,0.6s						
IL31		**49.78**	**32**	P	**P**	**04 24 30.8**	**+2.7**
IL31				IAmb	IAmb	04 24 48.8	
	comp=Z,5.3nm,1.2s						
ILAR	**Eielson Array**	**49.78**	**32**	P	**P**	**04 24 28.9**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=267,slow=5.5,SNR=12						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**04 24 32.6**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=74,slow=5.1,SNR=3.6						
	comp=Z,0.3nm,0.3s						
BRVK	**Borovoye**	**50.56**	**312**	P	**P**	**04 24 35.2**	**+1.0**
BRVK				IAmb	IAmb	04 24 36.6	
	comp=Z,5.8nm,1.4s						
KK31	**Karatay Array**	**53.00**	**300**	P	**P**	**04 24 52.6**	**+0.1**
KK31				IAmb	IAmb	04 25 14.8	
	comp=Z,3.8nm,1.2s						
KKAR	**Karatay Array**	**53.00**	**300**	P	**P**	**04 24 52.6**	**+0.1**
KKAR				IAmb	IAmb	04 25 14.8	
	comp=Z,3.8nm,1.2s						
INK	**Inuvik**	**54.66**	**27**	P	**P**	**04 25 04.9**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=311,slow=4.7,SNR=4.4						
	comp=Z,1.2nm,0.8s						
ARU	**Arti**	**56.33**	**319**	P	**P**	**04 25 15.4**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=60,slow=18,SNR=3.1						
	comp=Z,1.8nm,0.3s						
WR0	**Warramunga Arr**	**56.85**	**187**	P	**P**	**04 25 20.7**	**+0.3**
WRA	**Warramunga Arr**	**56.85**	**188**	P	**P**	**04 25 20.1**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=3.5,slow=7.5,SNR=20						
	comp=Z,2.2nm,0.7s						
WRA	**Warramunga Arr**	**56.85**	**188**	P	**P**	**04 25 21.0**	**+0.6**
ABKAR	**Akbulak array**	**57.86**	**310**	P	**P**	**04 25 27.6**	**+0.3**
ASAR	**Alice Springs**	**60.58**	**188**	P	**P**	**04 25 46.5**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=15,slow=6.0,SNR=13						
ASAR				LR	LR	04 49 26.8	
	comp=Z,21nm,21.3s,baz=282,slow=33						
	comp=Z,2.1nm,0.9s						
ASAR	**Alice Springs**	**60.58**	**188**	P	**P**	**04 25 45.9**	**-0.4**
GEYT	**Alibeck**	**63.70**	**299**	P	**P**	**04 26 07.6**	**+0.3**
ARCES	**ARCESS Array B**	**64.08**	**339**	P	**P**	**04 26 10.5**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=63,slow=8.4,SNR=1.6						
	comp=Z,3.3nm,0.9s						
FINES	**FINESS Array B**	**68.85**	**332**	P	**P**	**04 26 39.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=47,slow=8.4,SNR=1.6						
	comp=Z,0.7nm,0.5s						
NOA	**NORSAR Array B**	**74.25**	**337**	P	**P**	**04 27 10.3**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=38,slow=5.8,SNR=2.5						
	comp=Z,1.2nm,0.9s						
AKASG	**Malin Array Be**	**74.28**	**322**	P	**P**	**04 27 11.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=47,slow=6.2,SNR=8.2						
	comp=Z,0.4nm,0.3s						
LRM	**Limekiln Ridge**	**74.45**	**44**	P	**P**	**04 27 15.5**	**+1.4**
NVAR	**Mina Array Bea**	**75.30**	**53**	P	**P**	**04 27 19.8**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=305,slow=6.5,SNR=3.8						
	comp=Z,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**75.30**	**53**	P	**P**	**04 27 21.2**	**+2.2**
PDAR	**Pinedale Array**	**77.97**	**45**	P	**P**	**04 27 35.1**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=289,slow=2.8,SNR=4.9						
	comp=Z,0.4nm,0.7s						
H03N2	**Juan Fernandez**	**147.25**	**96**	T	T	07 20 13.3	
	baz=291,slow=76,SNR=38						
H03N3	**Juan Fernandez**	**147.27**	**96**	T	T	07 20 15.5	
	baz=291,slow=76,SNR=44						
H03N1	**Juan Fernandez**	**147.27**	**96**	T	T	07 20 14.8	
	baz=291,slow=76,SNR=51						

BGR ***08*** *04:19:36.2, 5.46S×12.50W, h33km, mb5.0*
IDC ***08*** *04:19:43.9±0.6, 3.93S×12.08W, h0km, mb4.4/22, mbtmp4.4/23, ML4.3/1, MS3.7/32, Error ellipse: s-maj=20.2km s-min=16.4km az=118.0*
NEIC ***08*** *04:19:46.4±1.3, 3.86S±0.07×12.1W±0.1, h10km±1km, mb5.0/56, Error ellipse: s-maj=17.1km s-min=11.7km az=102.0*

**ISC 08 04:19

LODK	Lodwar	47.99	82	P		P		04 28 26.2	+1.1
MACA	Manacapuru-AM	48.48	269	P		P		04 28 28.7	-0.1
MACA				IAmb		IAmb		04 28 30.6	
	comp=Z,19nm,0.9s								
CPUP	Villa Florida	48.68	238	LR		LR		04 45 50.4	
	comp=Z,86nm,21.9s,baz=75,slow=32								
BOAV	Boa Vista	48.78	277	P		P		04 28 30.5	-0.6
BOAV				IAmb		IAmb		04 28 34.6	
	comp=Z,11nm,1.1s								
KMBO	Kilima Mbogo	49.39	88	LR		LR		04 47 49.3	
	comp=Z,201nm,19.9s,baz=272,slow=34								
SIV	San Ignacio	49.58	252	P		P		04 28 38.3	+1.1
	comp=Z,0.5nm,0.6s,baz=100,slow=11,SNR=2.2								
SIV				LR		LR		04 47 47.4	
	comp=Z,117nm,20.4s,baz=107,slow=34								
	comp=Z,0.5nm,0.6s								
LATE	Laterza	51.08	23	P		P		04 28 48.8	+0.7
MURB	Monte Urbino	51.91	23	P		P		04 28 55.1	+0.7
CTI	Castel Tesino	53.98	20	P		P		04 29 11.4	+1.8
CTI				IAmb		IAmb		04 29 22.0	
	comp=Z,35nm,2.0s								
ETMB	Extrema	53.99	261	P		P		04 29 09.9	-0.3
ETMB				IAmb		IAmb		04 29 11.2	
	comp=Z,26nm,1.8s								
DAVA	Damuels	54.48	18	*e*P		P		04 29 13.9	+0.5
	comp=Z,15nm,1.0s,SNR=4.2								
FETA	Feichten	54.52	19	*e*P		P		04 29 13.9	+0.3
	comp=Z,7.5nm,1.0s								
ECH	Echery	54.53	16	P		P		04 29 14.2	+0.7
ECH				IAmb		IAmb		04 29 15.3	
	comp=Z,16nm,1.4s								
CLUD	Cludinico	54.77	21	P		P		04 29 16.1	+0.8
CLUD				IAmb		IAmb		04 29 17.5	
	comp=Z,22nm,1.3s								
SQTA	Sankt Quirin	54.85	19	*e*P		P		04 29 16.1	+0.1
	comp=Z,12nm,0.9s,SNR=8.8								
ABTA	Abfaltersbach	54.88	21	*e*P		P		04 29 17.6	+1.4
	comp=Z,12nm,1.3s								
MOTA	Moosalm	54.93	19	*e*P		P		04 29 16.3	-0.3
	comp=Z,7.3nm,0.9s,SNR=4.2								
RETA	Reutte	54.94	19	*e*P		P		04 29 16.7	+0.1
	comp=Z,5.2nm,0.9s,SNR=4.3								
BFO	Black Forest	54.96	17	P		P		04 29 17.4	+0.7
BFO				IAmb		IAmb		04 29 19.0	
	comp=Z,29nm,1.7s								
WTTA	Wattenberg	55.03	20	*i* P		P		04 29 17.8	+0.4
	comp=Z,8.7nm,0.9s,SNR=6.6								
WATA	Walderalm	55.08	19	*e*P		P		04 29 17.9	+0.2
	comp=Z,8.3nm,1.1s								
WLF	Walferdange	55.60	14	*d*P		P		04 29 22.4	+1.2
STU	Stuttgart	55.61	17	P		P		04 29 22.1	+0.9
STU				IAmb		IAmb		04 29 22.7	
	comp=Z,25nm,1.6s								
DOU	Dourbes	55.64	13	*d*P		P		04 29 22.0	+0.6
	comp=Z,5.1nm,1.3s								
SOKA	Soboth	55.74	22	*e*P		P		04 29 23.7	+1.3
	comp=Z,7.9nm,1.0s,SNR=7.3								
DIVS	Divibare	55.76	28	P		P		04 29 23.8	+1.2
DIVS				IAmb		IAmb		04 29 32.5	
	comp=Z,18nm,1.3s								
RCHB	Rochefort	55.84	13	*d*P		P		04 29 23.5	+0.6
BMRD	Maredsous	55.87	13	*d*P		P		04 29 23.1	0.0
EIL	Elat	56.04	50	LR		LR		04 54 04.2	
	comp=Z,35nm,18.1s,baz=276,slow=37								
BCLA	Clavier	56.10	13	*d*P		P		04 29 25.4	+0.6
BSTI	Sart Tilman	56.32	13	*d*P		P		04 29 27.6	+1.3
ARSA	Arzberg	56.41	22	*e*P		P		04 29 28.3	+1.3
	comp=Z,13nm,1.9s,SNR=4.4								
MEM	Membach	56.45	14	*d*P		P		04 29 28.7	+1.5
MOA	Molln	56.45	21	*e*P		P		04 29 27.7	+0.3
	comp=Z,11nm,1.8s								
BTNL	Ternell	56.45	14	*d*P		P		04 29 28.3	+0.9
	comp=Z,6.3nm,1.5s								
MORH	Mrgy, Hungar	56.82	25	⇑P		P		04 29 30.8	+0.8
GRF	Grafenberg Arr	57.03	18	*e*P		P		04 29 32.1	+0.7
	comp=Z,23nm,1.6s,baz=209,slow=7.5								
RONA	Rosalia, Austr	57.07	23	*e*P		P		04 29 33.2	+1.4
	comp=Z,16nm,0.9s								
MDVR	Moldovita	57.08	28	⇓P		P		04 29 33.1	+1.2
GEC2	GERESS Array S	57.10	20	P		P		04 29 32.0	-0.1
GEC2				IAmb		IAmb		04 29 33.6	
	comp=Z,16nm,1.0s								
GERES	GERESS Array B	57.10	20	P		P		04 29 32.3	+0.2
	comp=Z,5.7nm,0.8s,baz=191,slow=6.5,SNR=48								
	comp=Z,5.7nm,0.8s								
CONA	Conrad Observa	57.10	22	*e*P		P		04 29 33.2	+1.1
	comp=Z,15nm,1.7s,SNR=4.8								
BAUV	El Baul	57.18	283	P		P		04 29 33.2	+0.1
CKRC	Cesky Krumlov	57.28	20	*e*P		P		04 29 34.0	+0.7
CKRC				*ex*		x		04 29 40.8	
KHC	Kasperske Hory	57.30	20	P		P		04 29 34.0	+0.5
KHC	Kasperske Hory	57.30	20	*e*P		P		04 29 33.9	+0.5
KHC				*ex*		x		04 29 47.2	
HERR	Herculane	57.49	29	⇑P		P		04 29 35.8	+1.1
SJG	San Juan	57.54	294	LR		LR		04 48 57.0	
	comp=Z,51nm,20.7s,baz=41,slow=30								
BZS	Buzias	57.67	27	⇑P		P		04 29 37.1	+1.1
ZST	Bratislava	57.79	23	*e*P		P		04 29 38.2	+1.4
NKC	Novy Kostel	57.89	18	*e*P		P		04 29 37.3	-0.2
SRO	Srobarova	57.96	24	*e*P		P		04 29 39.2	+1.2
LVC	Limon Verde	57.97	246	LR		LR		04 52 41.7	
	comp=Z,33nm,21.4s,baz=8.5,slow=34								
MODS	Modra-Piesok	58.00	23	*e*P		P		04 29 39.5	+1.2
SIRR	Siria	58.18	27	⇑P		P		04 29 40.7	+1.0
KRUC	Moravsky	58.24	22	*e*P		P		04 29 40.2	+0.3
PRU	Pruhonice	58.36	20	*e*P		P		04 29 41.2	+0.4
GOPC	GO Pecny, Ondr	58.38	20	*e*P		P		04 29 40.7	-0.2
VRAC	Vranov	58.51	22	LR		LR		04 54 53.7	
	comp=Z,19nm,18.4s,baz=308,slow=36								
VRAC	Vranov	58.51	22	⇑P		P		04 29 42.2	+0.4
VRAC	Vranov	58.51	22	*e*P		P		04 29 42.4	+0.5
JAVC	Velka Javorina	58.55	23	*e*P		P		04 29 43.3	+1.1
PSZ	Piszkesteto	58.69	25	⇓P		P		04 29 44.5	+1.4
PSZ	Piszkesteto	58.69	25	P		P		04 29 44.2	+1.0
PSZ				IAmb		IAmb		04 29 47.0	
	comp=Z,26nm,1.5s								
VYHS	Vyhne	58.71	24	*e*P		P		04 29 44.5	+1.2
PVCC	Panska Ves	58.83	20	*e*P		P		04 29 44.4	+0.4
BRG	Berggiesshubel	58.92	19	*e*P		P		04 29 45.3	+0.7
BRG				Amp				04 29 47.6	
	comp=Z,6.3nm,1.2s								
BRG	Berggiesshubel	58.92	19	P		P		04 29 57.7	+13
BRG				Amp				04 29 59.5	
	comp=Z,11nm,1.5s								
AC02	Maricunga	58.98	241	P		P		04 29 46.2	0.0
AC02				IAmb		IAmb		04 29 59.7	
	comp=Z,18nm,1.6s								
CLL	Collm	59.00	18	*e*P		P		04 29 44.0	-1.2
	comp=Z,24nm,1.8s								
MAUC	Maruska	59.02	22	*e*P		P		04 29 46.6	+1.1
MAUC				*ex*		x		04 29 53.7	
DRGR		59.05	27	⇑P		P		04 29 46.1	+0.3
MARR	Marisel-Cluj	59.15	28	⇑P		P		04 29 48.0	+1.5
VOIR		59.17	30	⇑P		P		04 29 46.5	-0.2
KRLC	Kraliky	59.22	21	*e*P		P		04 29 47.1	+0.3
KRLC				*ex*		x		04 29 54.5	
MORC	Moravsky Berou	59.25	22	⇑P		P		04 29 48.2	+1.2
MORC	Moravsky Berou	59.25	22	P		P		04 29 47.6	+0.5
MORC				IAmb		IAmb		04 29 49.0	
	comp=Z,9.7nm,1.1s								
MORC	Moravsky Berou	59.25	22	*e*P		P		04 29 47.8	+0.8
DPC	Dobruska-Polom	59.28	21	*e*P		P		04 29 47.0	-0.2
DPC				epP		pwP		04 29 53.7	-0.3
CFA	Coronel Fontan	59.38	235	LR		LR		04 54 28.6	
	comp=Z,56nm,18.4s,baz=89,slow=35								
OSTC	Ostas	59.42	21	*e*P		P		04 29 44.3	-3.8
OSTC				*ex*		x		04 29 47.8	
OKC	Ostrava-Krasne	59.53	22	*e*P		P		04 29 50.1	+1.2
TRPA	Tarpa	59.98	26	⇑P		P		04 29 52.4	+0.4
COVR	Voineasa-Covas	60.04	30	⇑P		P		04 29 52.4	-0.1
BMR	Baia Mare	60.07	27	⇑P		P		04 29 53.1	+0.4
CRVS	Cervenica-Dubn	60.11	25	*e*P		P		04 29 54.6	+1.7
BRTR	Keskin Array B	60.37	39	P		P		04 29 56.4	+1.3
	comp=Z,5.6nm,1.1s,baz=215,slow=4.1,SNR=11								
BRTR				LR		LR		04 58 52.0	
	comp=Z,28nm,19.1s,baz=296,slow=39								
	comp=Z,5.6nm,1.1s								
BR131	Keskin Array S	60.37	39	P		P		04 29 55.1	+0.1
OJC	Ojcow	60.47	23	P		P		04 29 55.2	-0.1
SORM	Soroca	62.68	29	⇑P		P		04 30 09.7	-0.6
ROSC	El Rosal	62.74	277	P		P		04 30 12.8	+0.9
	comp=Z,8.7nm,0.3s,baz=127,slow=16,SNR=4.2								
ROSC				LR		LR		04 54 58.8	
	comp=Z,142nm,19.1s,baz=143,slow=34								
	comp=Z,8.7nm,0.3s								

ROSC	El Rosal	62.74	277	P		P		04 30 12.4	+0.6
ROSC				IAmb		IAmb		04 30 18.6	
	comp=Z,17nm,1.1s								
BSD	Bornholm Skovb	62.87	17	*i* P		P		04 30 02.5	-8.9
BSD				IAmb		IAmb		04 30 05.5	
	comp=Z,79nm,1.3s								
NNA	Nana	64.50	259	LR		LR		04 58 34.4	
	comp=Z,69nm,18.2s,baz=44,slow=36								
AKASG	Malin Array Be	64.86	28	P		P		04 30 24.5	-0.1
	comp=Z,5.1nm,0.8s,baz=229,slow=7.0,SNR=28								
AKASG				LR		LR		05 00 39.4	
	comp=Z,34nm,18.5s,baz=62,slow=38								
	comp=Z,5.1nm,0.8s								
AKASG	Malin Array Be	64.86	28	IAmb		IAmb		04 30 25.1	
	comp=Z,10nm,1.2s								
AKBB	Malin Array Si	64.86	28	P		P		04 30 24.5	-0.1
GURO	Guroymak-BITLI	65.37	44	P		P		04 30 28.8	+0.4
ATAH	Atahualpa	66.01	264	LR		LR		04 58 13.3	
	comp=Z,126nm,20.4s,baz=54,slow=35								
VIKU	Vikbolandet	66.29	16	*e*P		P		04 30 33.2	-0.4
PORT	Chimborazo Vol	66.62	270	P		P		04 30 38.0	+0.5
VNA1	Neumayer--Stat	66.75	179	P		P		04 30 36.6	+0.2
NACGM	Naroch	66.80	23	*e*P		P		04 30 34.4	-2.7
	comp=Z,22nm,0.9s,baz=223								
IIGN	Ignalina	66.91	23	*e*P		P		04 30 32.5	-5.2
MNK	Minsk	66.95	24	*i* P		P		04 30 36.0	-2.0
	comp=E,2.0nm,1.5s								
MNK				*i* P		P		04 30 36.0	-2.0
	comp=N,9.0nm,0.6s								
MNK				*i* P		P		04 30 36.0	-2.0
	comp=Z,13nm,1.0s,baz=224								
MNK				*i* PP		PP		04 33 04.9	-0.7
MNK				*i* PPP		PPP		04 34 42.5	
MNK				*i* S		S		04 39 28.6	-2.5
MNK				*i* SS		SS		04 43 49.4	-0.5
MNK				*i* SSS		SSS		04 46 59.2	
MNK				*i* LQ		LQ		04 55 12.3	
MNK				*i* LR		LR		04 59 57.9	
MNK				*i* LRM		MLR		05 01 41.4	
	comp=N,1μm,12.1s								
MNK				*i* LRM		MLR		05 02 05.0	
	comp=Z,133nm,22.4s								
MNK				*i* LRM		MLR		05 02 38.9	
	comp=E,17nm,17.2s								
ISAL	Salakas	67.04	22	*e*P		P		04 30 33.5	-5.1
VNA2	Neumayer--Watz	67.05	178	P		P		04 30 38.2	-0.3
	baz=350,slow=8.0								
IDID	Didziasalis	67.08	23	*e*P		P		04 30 34.0	-4.8
NOA	NORSAR Array B	67.20	12	P		P		04 30 39.3	-0.3
	comp=E,2.2nm,0.9s,baz=203,slow=6.9,SNR=3.9								
NOA				LR		LR		05 00 22.2	
	comp=E,19nm,18.8s,baz=325,slow=36								
	comp=E,2.2nm,0.9s								
VNA3	Neumayer Olymp	67.31	179	P		P		04 30 39.9	-0.2
MCRA	Macar, Loja	67.65	267	P		P		04 30 42.9	-0.5
MCRA				IAmb		IAmb		04 30 43.9	
	comp=Z,7.4nm,1.1s								
SNAA	Sanae	67.98	177	P		P		04 30 44.0	-0.4
SNAA	Sanae	67.98	177	P		P		04 30 43.3	-1.1
	comp=Z,4.7nm,0.9s,baz=5.0,slow=6.9,SNR=6.7								
	comp=Z,4.7nm,0.9s								
SNAA	Sanae	67.98	177	P		P		04 30 43.5	-0.9
SNAA				IAmb		IAmb		04 30 45.5	
	comp=Z,9.3nm,1.2s								
KIV	Kislovodsk	68.33	39	P		P		04 30 48.7	+1.6
KBZ	Khabaz	68.36	40	P		P		04 30 48.1	+0.9
	comp=Z,5.8nm,0.8s,baz=254,slow=4.5,SNR=7.1								
	comp=Z,5.8nm,0.8s								
TROLL	Troll, Antarti	68.69	175	P		P		04 30 48.7	-0.2
BORG	Borgarnes	68.77	356	LR		LR		04 56 37.0	
	comp=Z,52nm,18.4s,baz=184,slow=32								
VSU	Vasula	69.41	27	*e*P		P		04 30 53.1	-0.3
FINES	FINESS Array B	71.44	18	P		P		04 31 05.8	+0.1
	comp=Z,7.8nm,0.8s,baz=194,slow=4.3,SNR=22								
	comp=Z,7.8nm,0.8s								
ELIB	Princess Elisa	71.53	169	*d*P		P		04 31 06.4	+0.1
ELIB				*dx*		x		04 31 08.6	
BELA	Belgrano 2	74.92	185	P		P		04 31 25.8	-0.3
KLMR	Klimovskoe	75.82	23	*e*P		P		04 31 27.1	-4.4
KLMR				AMP				04 31 36.2	
	comp=Z,66nm,2.2s								
SADO	Sadowa	76.67	318	LR		LR		04 57 56.3	
	comp=Z,92nm,19.7s,baz=118,slow=30								
GEYT	Alibeck	76.94	50	P		P		04 31 39.0	+0.6
	comp=Z,1.7nm,0.6s,baz=296,slow=4.8,SNR=4.8								
GEYT				LR		LR		05 07 50.7	
	comp=Z,46nm,18.9s,baz=100,slow=38								
	comp=Z,1.7nm,0.6s								
GEYT	Alibeck	76.94	50	P		P		04 31 38.3	-0.1
GEYT				IAmb		IAmb		04 31 40.2	
	comp=Z,21nm,1.6s								
GYA0B	ALIBECK ARRAY	76.94	50	P		P		04 31 37.8	-0.7
TKL	Tuckaleechee C	77.47	308	LR		LR		04 59 38.7	
	comp=Z,63nm,20.9s,baz=29,slow=31								
ARCES	ARCESS Array B	77.56	13	P		P		04 31 41.5	+0.3
	comp=Z,5.7nm,0.7s,baz=224,slow=3.8,SNR=11								
	comp=Z,5.7nm,0.7s								
SUMG	Summit	78.13	352	*i* P		P		04 31 44.7	-0.1
SUMG				IAmb		IAmb		04 31 46.4	
	comp=Z,14nm,1.1s								
AKTO	Aktyubinsk	80.47	38	P		P		04 31 57.6	+0.1
	comp=Z,2nm,0.8s,baz=269,slow=4.4,SNR=4.5								
	comp=Z,2.2nm,0.8s								
ABKAR	Akbulak array	81.32	39	P		P		04 32 02.6	+0.5
ARU	Arti	82.65	32	P		P		04 32 09.6	+0.7
	comp=Z,4.3nm,0.8s,baz=254,slow=3.0,SNR=8.2								
ARU				LR		LR		05 09 37.6	
	comp=Z,40nm,21.4s,baz=6.5,slow=36								
	comp=Z,4.3nm,0.8s								
ARU	Arti	82.65	32	P		P		04 32 09.0	0.0
ARU				IAmb		IAmb		04 32 10.6	
	comp=Z,14nm,1.1s								
NEEM	North Greenlan	84.00	352	*i* P		P		04 32 17.1	+1.3
NEEM				IAmb		IAmb		04 32 18.0	
	comp=Z,53nm,1.6s								
MGMO	Mountain Grove	84.48	308	P		P		04 32 17.7	-1.1
MGMO				IAmb		IAmb		04 32 20.3	
	comp=Z,21nm,1.5s								
NOR	Nord	85.40	359	*i* P		P		04 32 21.7	-0.8
NOR				IAmb		IAmb		04 32 24.2	
	comp=Z,9.7nm,1.3s								
P38A	Dawn	85.84	310	P		P		04 32 25.1	-0.4
P38A				IAmb		IAmb		04 32 32.3	
	comp=Z,7.9nm,1.1s								
QSPA	South Pole Qui	86.24	180	P		P		04 32 26.6	-0.6
QSPA				IAmb		IAmb		04 32 35.3	
	comp=Z,15nm,1.0s								
GAR	Garm	86.53	51	P		P		04 32 29.1	0.0
KK31	Karatay Array	87.23	47	P		P		04 32 33.0	+0.6
KKAR	Karatay Array	87.23	47	P		P		04 32 32.5	+0.2
OK034	N. Norfolk Rd.	87.88	306	P		P		04 32 35.6	+0.1
NIL	Nilore	88.26	56	P		P		04 32 37.4	-0.1
ULM	Lac du Bonnet	88.94	320	LR		LR		05 05 50.1	
	comp=Z,48nm,20.1s,baz=93,slow=31								
AAK	Ala-Archa	90.09	47	P		P		04 32 46.7	+0.7
	comp=Z,2.2nm,0.8s,baz=188,slow=3.3,SNR=5.7								
	comp=Z,2.2nm,0.8s								
AAK	Ala-Archa	90.09	47	P		P		04 32 45.7	-0.4
AAK				IAmb		IAmb		04 32 48.1	
	comp=Z,9.7nm,1.2s								
KSH	Kashi	90.95	51	P		P		04 32 49.7	-0.4
KSH				sP		pwP		04 32 56.6	-1.1
KSH				pmax		pmax			
	comp=Z,6.0nm,1.2s								
TARG	Taragay, Kyrgy	92.48	49	IAmb		IAmb		04 32 59.1	
	comp=Z,8.0nm,1.0s								
KURBB	Kurchatov Arra	93.36	40	P		P		04 33 00.9	+0.1
	comp=Z,0.9nm,0.2s,baz=277,slow=5.7,SNR=4.5								
	comp=Z,0.9nm,0.2s								
RPN	Rapa Nui	94.67	243	LR		LR		05 08 46.0	
	comp=Z,34nm,20.1s,baz=352,slow=31								
ANMO	Albuquerque	95.75	305	LR		LR		05 10 42.7	
	comp=Z,7.9nm,21.1s,baz=190,slow=32								
MKAR	Makanchi Array	95.81	44	P		P		04 33 11.7	-0.5
	comp=Z,0.8nm,0.7s,baz=272,slow=3.3,SNR=9.4								
	comp=Z,0.8nm,0.7s								
MKAR	Makanchi Array	95.81	44	P		P		04 33 11.8	-0.4
PDAR	Pinedale Array	98.07	312	LR		LR		05 13 56.5	
	comp=Z,30nm,19.5s,baz=88,slow=33								
YKA	Yellowknife Ar	99.17	333	P		Pdif		04 33 27.3	+0.4
	comp=Z,0.2nm,0.5s,baz=83,slow=4.8,SNR=3.8								
	comp=Z,0.2nm,0.5s								
ASAR	Alice Springs	137.05	131	PKhKP		PKPpre		04 38 59.0	
	comp=Z,0.7nm,0.8s,baz=230,slow=3.0,SNR=7.8								
WRA	Warramunga Arr	139.44	127	PKhKP		PKPpre		04 39 04.6	
	comp=Z,0.5nm,0.8s,baz=242,slow=2.8,SNR=5.4								
WRA				PKP		PKPdf		04 39 14.7	+0.6
	comp=Z,0.5nm,0.7s,baz=237,slow=2.7,SNR=4.6								

NDI ***08*** *04:28:14.8±0.9,25°.12N×94°.58E, h83km±8km, ML3.5*
IDC ***08*** *04:28:18.5±4.5,25°.01N×94°.64E, h98km±47km, mb3.1/3, mbtmp3.4/4, Error ellipse: s-maj=73.6km s-min=25.7km az=69.0*

ISC 08 04:28:16.0±1.0,**25°.18N**±0°.05×**94°.56E**±0°.07,**h71**km±12km, **n12**,σ1°**09**/16,**mb3.3**/4,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IMP	Imphal	0.66	238	*e*Pg		Pn	04 28 30.4	-0.2
IMP				*i* Sg		Sn	04 28 41.2	-0.1
MOKO	MOKOCHONG	1.14	358	*e*Pg		Pn	04 28 36.8	+0.4
MOKO				*i* Sg		Sn	04 28 53.0	+1.4
MOKO				IAML			04 28 57.0	
	comp=N,990nm,0.3s							
MOKO				IAML			04 28 57.1	
	comp=E,2μm,0.3s							
TEZP	TEZPUR	2.14	312	*e*P		Pn	04 28 48.8	-0.7
TEZP				*e*S		Sn	04 29 13.9	-1.1
TEZP				IAML			04 29 15.7	
	comp=E,448nm,0.1s							
TEZP				IAML			04 29 16.0	
	comp=N,395nm,0.2s							
ZIRO	ZIRO	2.42	345	*e*P		Pn	04 28 53.1	-0.4
ZIRO				*e*S		Sn	04 29 21.4	-0.8
LKP	Lekhapani	2.43	28	*e*S		Sn	04 29 21.0	-1.2
LKP				IAML			04 29 21.7	
	comp=N,289nm,0.1s							
SHL	Shillong	2.46	280	*e*P		Pn	04 28 54.0	0.0
SHL				*e*S		Sn	04 29 22.3	-0.8
SHL				IAML			04 29 24.2	
	comp=N,368nm,0.1s							
SHL				IAML			04 29 24.5	
	comp=E,212nm,0.2s							
BRDH	Bariadhala	3.66	228	S		Sn	04 29 53.0	+0.9
	comp=E,78nm,0.3s,baz=270,slow=20,SNR=5.9							
CMAR	Chiang Mai Arr	7.83	148	P		Pn	04 30 07.3	+0.1
	comp=E,1.0nm,0.3s,baz=322,slow=14,SNR=4.2							
MKAR	Makanchi Array	23.69	339	P		P	04 33 22.9	+1.7
	comp=E,0.5nm,0.5s,baz=145,slow=8.1,SNR=5.1							
	comp=E,0.5nm,0.5s							
SONM	Songino Array	24.47	19	P		P	04 33 29.6	+1.1
	comp=E,0.5nm,0.7s,baz=196,slow=10,SNR=5.5							
	comp=E,0.5nm,0.7s							
KURBB	Kurchatov Arra	28.25	338	pP		pP	04 34 23.3	+3.8
	comp=E,0.3nm,0.3s,baz=157,slow=9.5,SNR=2.2							
WRA	Warramunga Arr	59.23	136	P		P	04 38 08.7	-1.6
	comp=E,0.4nm,0.7s,baz=322,slow=7.4,SNR=2.6							
	comp=E,0.4nm,0.7s							

IDC ***08*** *04:30:33.2±6.2, 13°.50N×90°.20W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=172.1km s-min=96.0km az=26.0*
SNET ***08*** *04:30:37.0±0.9, 13°.22N×90°.98W, h11km±26km, ML3.2*
GCG ***08*** *04:30:48.0±0.3, 14°.98N×90°.68W, h50km, MD3.8*

ISC 08 04:30:38.8±1.4,**13°.2N**±0°.1×**90°.99W**±0°.07,**h33**km,**n16**, σ0°**88**/20,**mb3.5**/3,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SULM	Suchitepequez,	1.23	333	*e*P		Pb	04 31 06.8	+5.3
FUG	Fuego 3	1.24	6	*e*P		Pn	04 31 00.4	+0.4
NUBE	Las Nubes	1.36	59	*e*P		Pn	04 31 00.9	-0.7
NUBE				*e*S		Sn	04 31 19.1	+0.5
SLOZ	Alcaldia de Sa	1.43	55	*e*P		Pn	04 31 01.8	-0.6
SLOZ				*e*S		Sn	04 31 21.2	+1.1
JAYA	Jayaque - finc	1.56	73	*e*P		Pn	04 31 04.1	-0.3
JAYA				*e*S		Sb	04 31 25.8	-0.9
JAYA				IAML			04 31 36.2	
	comp=Z,438nm,0.2s							
STG3	Santiaguito 3,	1.60	339	*e*P		Pn	04 31 05.0	+0.1
SJTE	Alcalda de S	1.97	78	*e*P		Pn	04 31 09.8	-0.2
PAVA	Las Pavas	2.06	76	*e*P		Pn	04 31 11.6	+0.5
TECO	Alcaldia de Te	2.17	81

TBG	**Guadaloupe-3**	**2.31 329**	*eP*		**Pn**	**04 43 58.1**	**+0.6**
CBE	**Ff, Capester**	**2.47 332**			**Pn**	**04 44 01.2**	**+1.4**
CBE	**Ff, Capester**	**2.47 332**	*eP*		**Pn**	**04 44 01.2**	**+1.4**
CBE			*eS*		**Sn**	**04 44 28.8**	**-1.7**
GDSD	**La Dsirade Is**	**2.51 345**			**Pn**	**04 44 01.4**	**+1.0**
H05N1	**Guadeloupe/Mar**	**2.51 346**	Pn		**Pn**	**04 44 00.9**	**+0.5**
H05N1			Sn		**Sn**	**04 44 30.9**	**-0.5**
TOSP	**Speyside**	**2.56 183**	*eP*		**Pn**	**04 44 00.6**	**-0.5**
GDHS	**Morne Mazeau,**	**2.72 331**			**Pn**	**04 44 03.6**	**+0.3**
ABD	**La Joyeuse, An**	**2.79 338**	*eP*		**Pn**	**04 44 05.3**	**+1.1**
ABD			*eS*		**Sn**	**04 44 37.1**	**-1.2**
MLYT	**Lee's Yard**	**3.31 329**	*eP*		**Pn**	**04 44 11.8**	**+0.3**
TRN	**Trinidad (W)**	**3.35 197**	*eP*		**Pn**	**04 44 13.0**	**+1.0**
ANBD	**Bethesda, Anti**	**3.42 338**	*eP*		**Pn**	**04 44 13.8**	**+1.0**
ANBD			*eS*		**Sn**	**04 44 52.4**	**-1.4**
ANWB	**Willy Bob**	**4.00 341**	*eP*	Pn	**Pn**	**04 44 21.5**	**+0.6**
ANWB	**Willy Bob**	**4.00 341**	*eS*		**Sn**	**04 45 07.3**	**-0.9**
SJG	**San Juan**	**6.95 308**	Pn		**Pn**	**04 45 02.8**	**+1.4**
	4.7nm,0.3s,baz=123,slow=13,SNR=11						
SJG			Sn		**Sn**	**04 46 19.1**	**-1.8**
	0.8nm,0.3s,baz=323,slow=20,SNR=1.5 16nm,0.3s						
SJG	**San Juan**	**6.95 308**			**Pn**	**04 45 01.8**	**+0.4**
SJG	**San Juan**	**6.95 308**	*eP*		**Pn**	**04 45 03.0**	**+1.6**
GCPR	**Guaynabo City**	**7.02 310**	Pn		**Pn**	**04 45 03.0**	**+0.7**
UUPR	**Utuado, UPR, P**	**7.47 306**			**Pn**	**04 45 08.8**	**+0.2**
BAUV	**El Baul**	**8.95 238**			**Pn**	**04 45 29.8**	**+1.0**
BAUV	**El Baul**	**8.95 238**	*e*		**Pn**	**04 45 32.1**	**+3.2**
SDV	**Santo Domingo**	**11.19 245**	Pn		Pn	04 46 05.6	+5.9
	0.4nm,0.3s,baz=55,slow=8.8,SNR=1.9						
BOAV	**Boa Vista**	**11.40 181**	*eP*		**Pn**	**04 46 02.8**	**+0.2**
MDP	**Montagnes des**	**11.60 138**	Pn		Pn	04 45 59.4	-5.8
	0.4nm,0.3s,baz=78,slow=2.8,SNR=2.6						
MDP			Sn		Sn	04 47 60.0	-15
	3.0nm,0.3s,baz=83,slow=20,SNR=12						
PAMC	**Pamplona, Colo**	**13.71 243**	*eP*		**P**	**04 46 45.9**	**+2.4**
BARC	**Barichara**	**14.50 241**	*eP*		**P**	**04 46 51.2**	**-0.8**
BRRC	**Barranca, Sant**	**14.71 244**	*eP*		**P**	**04 46 56.3**	**+2.2**
RUSC	**La Rusia**	**14.79 239**	Pn		**Pn**	**04 46 47.1**	**-2.2**
RUSC	**La Rusia**	**14.79 239**	*eP*		**P**	**04 46 59.8**	**+4.4**
ZARC	**Zaragoza, Cauc**	**15.55 247**	*eP*		**P**	**04 47 04.9**	**+1.5**
PTBC	**PUERTO BERRIO,**	**15.62 244**	*eP*		**P**	**04 47 02.5**	**-1.8**
CHIC	**Chingaza**	**16.03 236**	*eP*		**P**	**04 47 11.2**	**+2.0**
UREC	**San Jos de Ur**	**16.05 249**	*eP*		**Pn**	**04 47 06.5**	**+1.0**
ROSC	**El Rosal**	**16.39 238**	Pn		**P**	**04 47 16.4**	**+3.3**
	2.1nm,0.3s,baz=344,slow=22,SNR=4.0						
ROSC	**El Rosal**	**16.39 238**	Pn		**Pn**	**04 47 08.8**	**-1.4**
GUY2C	**Guyana, Caldas**	**17.06 241**	*eP*		**P**	**04 47 21.1**	**+0.4**
MACC	**Macarena, Meta**	**17.68 230**	*eP*		**Pn**	**04 47 22.8**	**-3.2**
ORTC	**Ortega, Tolima**	**17.68 237**	*eP*		**P**	**04 47 28.1**	**+1.0**
PLMC	**San Jos del P**	**18.01 242**	*eP*		**Pn**	**04 47 30.3**	**0.0**
ETMB	**Extrema**	**24.23 194**	P		**P**	**04 48 37.1**	**+0.3**
ETMB			IAmb		IAmb	04 48 38.3	
	comp=Z,3.5nm,0.9s						
JTS	**Las Juntas de**	**24.26 264**	P		**P**	**04 48 36.6**	**-0.6**
CZSB	**Cruzeiro do Su**	**24.69 210**	P		**P**	**04 48 40.8**	**-0.3**
CZSB			IAmb		IAmb	04 48 59.7	
	comp=Z,10nm,1.0s						
SIV	**San Ignacio**	**29.68 181**	P		**P**	**04 49 26.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=18,slow=9.6,SNR=2.0 comp=Z,0.4nm,0.5s						
CPUP	**Villa Florida**	**40.07 176**	P		**P**	**04 50 54.4**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=353,slow=12,SNR=3.5 comp=Z,1.2nm,0.8s						
TXAR	**Lajitas Array**	**42.80 298**	P		**P**	**04 51 18.7**	**+0.6**
TX31	**Lajitas Ar. Si**	**42.80 298**	P		**P**	**04 51 18.1**	**+0.1**
TX31			IAmb		IAmb	04 51 20.0	
	comp=Z,16nm,1.4s						
ULM	**Lac du Bonnet**	**46.33 329**	P		**P**	**04 51 45.5**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=105,slow=8.7,SNR=3.9 comp=Z,3.1nm,0.8s						
FRB	**Frobisher Bay**	**50.14 355**	LR		LR	05 13 40.4	
	comp=Z,27nm,20.7s,baz=13,slow=36						
H10N3	**ASCENSION HYDR**	**50.41 113**	T		T	05 45 59.1	
	baz=295,slow=75,SNR=9.2						
H10N2	**ASCENSION HYDR**	**50.41 113**	T		T	05 46 01.1	
	baz=295,slow=75,SNR=7.9						
H10N1	**ASCENSION HYDR**	**50.43 113**	T		T	05 46 08.4	
	baz=295,slow=75,SNR=9.9						
PD31	**Pinedale Array**	**51.03 314**	P		**P**	**04 52 21.9**	**-0.4**
PD31			IAmb		IAmb	04 52 30.4	
	comp=Z,5.1nm,1.2s						
PDAR	**Pinedale Array**	**51.03 314**	P		**P**	**04 52 22.6**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=115,slow=8.5,SNR=17 comp=Z,0.8nm,0.3s						
BW06	**Boulder Array**	**51.03 314**	P		**P**	**04 52 21.6**	**-0.7**
BW06			IAmb		IAmb	04 52 30.4	
	comp=Z,5.4nm,1.1s						
TMUT	**Trail Mountain**	**51.20 310**	P		**P**	**04 52 22.5**	**-1.3**
TMUT			IAmb		IAmb	04 52 32.3	
	comp=Z,4.3nm,0.8s						
DUG	**Dugway, Tooele**	**52.63 310**	P		**P**	**04 52 33.6**	**-0.6**
DUG			IAmb		IAmb	04 52 36.1	
	comp=Z,3.2nm,1.1s						
BGU	**Big Grassy Mou**	**52.97 311**	IAmb		IAmb	04 52 38.4	
	comp=Z,5.7nm,1.1s						
PLCA	**Paso Flores**	**55.14 189**	P		**P**	**04 52 52.0**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=12,slow=8.8,SNR=4.3 comp=Z,1.8nm,0.8s						
ESDC	**Sonseca Array**	**55.54 51**	P		**P**	**04 52 54.6**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=263,slow=8.1,SNR=5.3 comp=Z,0.4nm,0.8s						
NVAR	**Mina Array Bea**	**56.44 307**	P		**P**	**04 53 03.1**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=111,slow=6.8,SNR=4.6 comp=Z,0.3nm,0.4s						
ICESG	**Greenland Ices**	**56.74 9**	*i* P		**P**	**04 53 03.0**	**-0.8**
SUMG	**Summit**	**60.09 7**	*i* P		**P**	**04 53 28.0**	**+0.8**
YKA	**Yellowknife Ar**	**61.66 335**	P		**P**	**04 53 37.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=106,slow=7.2,SNR=30 comp=Z,1.6nm,0.6s						
YKA	**Yellowknife Ar**	**61.66 335**	P		**P**	**04 53 36.1**	**-1.4**
GERES	**GERESS Array B**	**69.23 43**	P		**P**	**04 54 26.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=258,slow=4.9,SNR=2.8 comp=Z,0.3nm,0.6s						
BCAR	**Beaver Creek A**	**73.83 332**	P		**P**	**04 54 54.8**	**+0.3**
ILAR	**Eielson Array**	**76.07 334**	P		**P**	**04 55 07.3**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=98,slow=5.1,SNR=8.8 comp=Z,0.9nm,0.6s						
FINES	**FINESS Array B**	**76.25 30**	P		**P**	**04 55 09.3**	**+1.0**
	comp=Z,2.1nm,1.1s,baz=224,slow=9.7,SNR=4.4 comp=Z,2.1nm,1.1s						
NEA2	**Nenana**	**77.01 334**	P		**P**	**04 55 12.2**	**-0.4**
BRTR	**Keskin Array B**	**84.33 51**	P		**P**	**04 55 52.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=296,slow=4.6,SNR=2.3 comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**163.33 232**	PKP		**PKPdf**	**05 03 23.6**	**0.0**
	comp=Z,0.7nm,0.9s,baz=108,slow=3.0,SNR=5.2						

*IDC **08** 04:46:32.3±3.9, 16°.69S×179°.18W, h551km±24km, mb2.6/3, mbtmp3.5/4, Error ellipse: s-maj=209.5km s-min=29.5km az=145.0*

ISC 08 04:46:32.0±4.7, 17°S±1°×179°.2W±1°.0, h550km, n6, σ0s37/5, mb3.0/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.87**	**248**	P	**P**	**04 47 46.5**	**+0.2**
	4.4nm,0.4s,baz=162,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**44.17**	**258**	P	**P**	**04 53 52.6**	**+0.1**
	0.2nm,0.4s,baz=92,slow=8.3,SNR=6.5 0.2nm,0.4s						
ASAR	**Alice Springs**	**44.45**	**253**	P	**P**	**04 53 54.5**	**-0.3**
	0.9nm,0.5s,baz=86,slow=8.6,SNR=23 0.9nm,0.5s						
ILAR	**Eielson Array**	**84.85**	**13**	P	**P**	**04 58 08.5**	**+0.1**
	0.3nm,1.0s,baz=213,slow=6.4,SNR=1.8 0.3nm,1.0s						
BRTR	**Keskin Array B**	**143.40**	**316**	PKP	PKPbc	05 05 04.1	+1.0
	0.7nm,0.9s,baz=77,slow=2.5,SNR=5.1						
GERES	**GERESS Array B**	**146.24**	**345**	PKPbc	**PKPbc**	**05 05 10.9**	**-0.3**
	0.1nm,0.3s,baz=356,slow=3.1,SNR=1.9						

*IDC **08** 04:47:05.2±6.8, 18°.18S×179°.77W, h646km±21km, mb2.3/3, mbtmp3.3/4, Error ellipse: s-maj=294.8km s-min=33.5km az=145.0*

ISC 08 04:47:06.1±6.5, 18°S±2°×180°W±°, h650km, n6, σ0s44/5, mb3.0/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.91**	**275**	P	**P**	**04 48 24.3**	**-0.4**
	1.9nm,0.3s,baz=17,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**43.19**	**260**	P	**P**	**04 54 12.7**	**0.0**
	0.2nm,0.3s,baz=96,slow=7.3,SNR=1.3						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**43.38**	**254**	P	**P**	**04 54 14.4**	**+0.3**
	0.3nm,0.6s,baz=88,slow=8.6,SNR=2.6 0.3nm,0.6s						
ILAR	**Eielson Array**	**86.21**	**14**	P	**P**	**04 58 40.1**	**0.0**
	0.3nm,0.9s,baz=213,slow=5.9,SNR=1.6 0.3nm,0.9s						
AKASG	**Malin Array Be**	**139.85**	**331**	PKhKP	PKPpre	05 05 17.6	
	0.2nm,0.3s,baz=38,slow=4.0,SNR=2.8						
GERES	**GERESS Array B**	**147.20**	**343**	PKPbc	**PKPbc**	**05 05 38.6**	**+0.4**
	0.1nm,0.3s,baz=23,slow=3.2,SNR=4.4						

*NOU **08** 05:07:06.9, 40°.17S×176°.77E, h11km, MLv3.8/9, North Island, New Zealand*
*WEL **08** 05:07:07.6±1.0, 40°S±4°×177°E±°, h41km±8km, M3.2/50, ML3.5/10, MLv3.2/50, Error ellipse: s-maj=0.0km s-min=0.0km az=117.2, confirmed*

ISC 08 05:07:07.9±1.4, 40°.27S±0°.03×176°.65E±0°.04, h52km±7km, n100, σ1s15/102, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRHZ	**Porangahau**	**0.01**	**272**	P	**Pn**	**05 07 16.0**	**+0.1**
PRHZ				S	**Sn**	**05 07 21.6**	**+0.1**
ANWZ	**Angora Road**	**0.23**	**214**	P	**Pn**	**05 07 17.3**	**+0.6**
ANWZ				S	**Sn**	**05 07 24.2**	**+1.2**
WPHZ	**Waipukurau**	**0.26**	**322**	P	**Pn**	**05 07 16.3**	**-0.6**
WPHZ				S	**Sn**	**05 07 22.3**	**-1.0**
PXZ	**Pawanui**	**0.29**	**35**	P	**Pn**	**05 07 17.2**	**+0.1**
PXZ				S	**Sn**	**05 07 24.1**	**+0.4**
DVHZ	**Dannevirke**	**0.37**	**265**	P	**Pn**	**05 07 17.3**	**-0.6**
DVHZ				S	**Sn**	**05 07 24.0**	**-1.1**
PNHZ	**Pukenui**	**0.49**	**316**	P	**Pn**	**05 07 18.2**	**-1.0**
KAHZ	**Kahuranaki**	**0.50**	**21**	P	**Pn**	**05 07 19.4**	**0.0**
KAHZ				S	**Sn**	**05 07 28.4**	**+0.7**
BFZ	**Birch Farm**	**0.51**	**216**	P	**Pn**	**05 07 19.8**	**+0.3**
BFZ	**Birch Farm**	**0.51**	**216**	P	**Pn**	**05 07 19.9**	**+0.3**
TSZ	**Takapari Road**	**0.56**	**291**	P	**Pn**	**05 07 19.1**	**-1.0**
PRWZ	**Pori Road**	**0.59**	**241**	P	**Pn**	**05 07 20.2**	**-0.1**
KRHZ	**Kereru**	**0.66**	**341**	P	**Pn**	**05 07 20.3**	**-0.9**
POWZ	**Post Office Ro**	**0.68**	**259**	P	**Pn**	**05 07 21.2**	**-0.3**
CKHZ	**Cape Kidnapper**	**0.69**	**29**	P	**Pn**	**05 07 21.5**	**-0.2**
CPWZ	**Castlepoint**	**0.73**	**208**	P	**Pn**	**05 07 23.5**	**+1.4**
TIWZ	**Tintock**	**0.77**	**228**	P	**Pn**	**05 07 22.8**	**+0.1**
MCHZ	**McNeill Hill**	**0.82**	**3**	P	**Pn**	**05 07 23.3**	**0.0**
KWHZ	**Kaweka Forest**	**0.86**	**348**	P	**Pn**	**05 07 23.3**	**-0.6**
BHHZ	**Black Hill Sta**	**0.90**	**330**	P	**Pn**	**05 07 23.6**	**-0.8**
MRZ	**Mangatainoka R**	**0.90**	**244**	P	**Pn**	**05 07 24.1**	**-0.3**
TMWZ	**Te Maipa**	**1.02**	**214**	P	**Pn**	**05 07 25.9**	**0.0**
ARHZ	**Aropaoanui**	**1.04**	**15**	P	**Pn**	**05 07 26.4**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.07**	**233**	P	**Pn**	**05 07 26.1**	**-0.5**
MOVZ	**Moawhango**	**1.10**	**321**	P	**Pn**	**05 07 26.7**	**-0.4**
BKZ	**Black Stump Fm**	**1.11**	**354**	P	**Pn**	**05 07 26.5**	**-0.6**
BKZ	**Black Stump Fm**	**1.11**	**354**	P	**Pn**	**05 07 26.6**	**-0.6**
NMHZ	**Naumai**	**1.18**	**6**	P	**Pn**	**05 07 28.1**	**0.0**
WNVZ	**Wahianoa**	**1.24**	**319**	P	**Pn**	**05 07 29.1**	**0.0**
MTW	**Mount Morrison**	**1.24**	**224**	P	**Pn**	**05 07 28.2**	**-0.8**
OGWZ	**Otaki Gorge**	**1.25**	**243**	P	**Pn**	**05 07 28.6**	**-0.4**
TUVZ	**Tukino**	**1.26**	**322**	P	**Pn**	**05 07 29.6**	**+0.4**
MTVZ	**Mangateitei**	**1.26**	**314**	P	**Pn**	**05 07 29.8**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.28**	**320**	P	**Pn**	**05 07 29.8**	**+0.2**
TRVZ	**Turoa**	**1.28**	**318**	P	**Pn**	**05 07 29.9**	**+0.2**
DRZ	**Dome Shelter**	**1.29**	**320**	P	**Pn**	**05 07 30.6**	**+0.7**
FWVZ	**Far West T-bar**	**1.31**	**320**	P	**Pn**	**05 07 30.2**	**+0.1**
SNVZ	**South Ngauruho**	**1.33**	**324**	P	**Pn**	**05 07 30.4**	**+0.1**
OTVZ	**Oturere**	**1.34**	**325**	P	**Pn**	**05 07 30.7**	**+0.3**
ETVZ	**East Tongariro**	**1.34**	**327**	P	**Pn**	**05 07 30.5**	**+0.1**
TRWZ	**Traveller**	**1.34**	**212**	P	**Pn**	**05 07 30.0**	**-0.4**
NGZ	**Ngauruhoe**	**1.35**	**323**	P	**Pn**	**05 07 30.6**	**0.0**
TMVZ	**Te Maari**	**1.36**	**327**	P	**Pn**	**05 07 30.6**	**0.0**
WAZ	**Wanganui**	**1.37**	**291**	P	**Pn**	**05 07 31.4**	**+0.7**
NNVZ	**North Ngauruho**	**1.38**	**325**	P	**Pn**	**05 07 31.1**	**+0.1**
NTVZ	**North Tongarir**	**1.39**	**327**	P	**Pn**	**05 07 31.1**	**+0.1**
PKVZ	**Pokaka**	**1.40**	**314**	P	**Pn**	**05 07 31.2**	**+0.1**
KRVZ	**Karewarewa**	**1.40**	**326**	P	**Pn**	**05 07 31.6**	**+0.4**
WTVZ	**West Tongariro**	**1.41**	**324**	P	**Pn**	**05 07 31.3**	**0.0**
MTHZ	**Maungataniwha**	**1.42**	**6**	P	**Pn**	**05 07 31.0**	**-0.4**
RITZ	**Rihia Road**	**1.42**	**334**	P	**Pn**	**05 07 32.1**	**+0.6**
MRHZ	**Matea Rd**	**1.44**	**353**	P	**Pn**	**05 07 31.9**	**+0.2**
PAWZ	**Paruwai Farm**	**1.45**	**219**	P	**Pn**	**05 07 31.0**	**-0.8**
KIW	**Kapiti Island**	**1.45**	**245**	P	**Pn**	**05 07 31.3**	**-0.5**
CAW	**Cannon Point**	**1.47**	**235**	P	**Pn**	**05 07 31.1**	**-0.9**
KNZ	**Kokohu**	**1.48**	**33**	P	**Pn**	**05 07 31.6**	**-0.5**
MHGZ	**Mahia Peninsul**	**1.48**	**42**	P	**Pn**	**05 07 32.0**	**-0.1**
TWVZ	**Taurewa**	**1.52**	**322**	P	**Pn**	**05 07 32.6**	**-0.2**
SNGZ	**Shannon Statio**	**1.58**	**20**	P	**Pn**	**05 07 33.3**	**-0.2**
RTZ	**Ruatahuna**	**1.67**	**9**	P	**Pn**	**05 07 34.7**	**-0.1**
PLWZ	**Palliser**	**1.67**	**219**	P	**Pn**	**05 07 33.5**	**-1.3**
RIGZ	**Rimuhau**	**1.78**	**29**	P	**Pn**	**05 07 34.8**	**-0.3**
SNZO	**South Karori**	**1.81**	**234**	P	**Pn**	**05 07 39.2**	**+2.6**
VRZ	**Vera Road**	**1.85**	**307**	P	**Pn**	**05 07 37.5**	**+0.3**
LREZ	**Lake Rotokare**	**1.90**	**294**	P	**Pn**	**05 07 39.1**	**+1.2**
TCW	**Tory Channel**	**2.03**	**242**	P	**Pn**	**05 07 38.5**	**-1.2**
MWZ	**Matawai**	**2.05**	**20**	P	**Pn**	**05 07 39.1**	**-0.8**
DUWZ	**D'Urville Isla**	**2.14**	**255**	P	**Pn**	**05 07 40.8**	**-0.4**
NEZ	**North Egmont**	**2.20**	**296**	P	**Pn**	**05 07 44.0**	**+1.9**
HIZ	**Hauiti**	**2.23**	**321**	P	**Pn**	**05 07 43.6**	**+1.1**
HIZ	**Hauiti**	**2.23**	**321**	P	**Pn**	**05 07 42.1**	**-0.4**
KHEZ	**Kahui Hut**	**2.25**	**295**	P	**Pn**	**05 07 44.6**	**+1.9**
KHEZ	**Kahui Hut**	**2.25**	**295**	P	**Pn**	**05 07 44.4**	**+1.7**
PKE	**Pukeiti**	**2.31**	**297**	P	Pn	05 07 49.3	+5.7
TUWZ	**Tuamarina**	**2.36**	**240**	P	**Pn**	**05 07 42.5**	**-1.6**
NBEZ	**Newall Road No**	**2.36**	**294**	P	**Pn**	**05 07 48.9**	**+4.7**
RUGZ	**Raukumara Rang**	**2.44**	**20**	P	**Pn**	**05 07 44.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**2.55**	**234**	P	**Pn**	**05 07 45.3**	**-1.5**
PKGZ	**Pakihiroa**	**2.62**	**26**	P	**Pn**	**05 07 47.3**	**-0.5**
HAZ	**Te Kaha**	**2.66**	**20**	P	**Pn**	**05 07 48.1**	**-0.2**
MRNZ	**Matariki Terra**	**3.16**	**248**	P	**Pn**	**05 07 54.3**	**-0.8**
QRZ	**Quartz Range**	**3.19**	**259**	P	**Pn**	**05 07 58.9**	**+3.4**
QRZ	**Quartz Range**	**3.19**	**259**	P	**Pn**	**05 07 54.1**	**-1.4**
THZ	**Tophouse**	**3.20**	**241**	P	**Pn**	**05 07 54.1**	**-1.7**
MKAZ	**Moumakai**	**3.36**	**339**	P	**Pn**	**05 07 55.6**	**-2.3**
DSZ	**Denniston Nort**	**3.95**	**246**	P	**Pn**	**05 08 04.9**	**-1.1**
LTZ	**Lake Taylor**	**4.13**	**231**	P	**Pn**	**05 08 08.0**	**-0.6**
OKCZ	**Okains Bay**	**4.37**	**217**	P	**Pn**	**05 08 10.5**	**-1.2**
MQZ	**McQueen's Vall**	**4.54**	**220**	P	**Pn**	**05 08 12.2**	**-1.9**
AKCZ	**Akaroa Harbour**	**4.55**	**216**	P	**Pn**	**05 08 13.1**	**-1.1**
RACZ	**Rakaia**	**4.82**	**223**	P	Pn	05 08 23.0	+5.2
MHCZ	**Mount Hutt**	**5.00**	**228**	P	Pn	05 08 25.4	+5.0
WACZ	**Wakanui South**	**5.12**	**223**	P	**Pn**	**05 08 20.8**	**-1.2**
RPZ	**Rata Peaks**	**5.41**	**229**	P	**Pn**	**05 08 29.2**	**+3.3**
RPZ	**Rata Peaks**	**5.41**	**229**	P	**Pn**	**05 08 28.7**	**+2.8**
ARCZ	**Arundel**	**5.48**	**226**	P	**Pn**	**05 08 26.1**	**-0.9**
TMZ	**Timaru**	**5.86**	**224**	P	**Pn**	**05 08 30.8**	**-1.4**
CTZ	**Chatham Island**	**6.10**	**127**	P	**Pn**	**05 08 36.6**	**+1.2**
CTZ	**Chatham Island**	**6.10**	**127**	P	**Pn**	**05 08 36.6**	**+1.2**
ODZ	**Otahua Downs**	**6.51**	**221**	P	Pn	05 08 44.8	+3.8
ODZ	**Otahua Downs**	**6.51**	**221**	P	**Pn**	**05 08 39.3**	**-1.7**

*IDC **08** 05:22:55.6±4.4, 34°.51N×22°.57E, h0km, mb3.7/4, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=80.3km s-min=36.2km az=43.0*
*THE **08** 05:23:02.1, 34°.84N×23°.09E, h18km±3km, ML3.1/5, Error ellipse: s-maj=4.2km s-min=1.8km az=212.0*
*ATH **08** 05:23:05.5, 34°.66N×23°.38E, h24km±5km, ML3.4/3, Error ellipse: s-maj=8.2km s-min=2.8km az=57.0*

ISC 08 05:23:02.1±2.1, 34.79N±0°.08×23°.25E±0°.07, h8km±11km, n19, σ1s84/25, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.57**	**39**	P	**Pg**	**05 23 13.3**	**+0.1**
KNDR				S	**Sb**	**05 23 23.1**	**+0.4**
	1µm,0.6s						
KNDR	**Palaiochora Ch**	**0.57**	**39**	P	**Pn**	**05 23 17.3**	**+0.7**
KNDR				S	**Sn**	**05 23 25.9**	**-0.3**
KNDR				AML	AML	05 23 29.0	
	comp=N,5358µm,0.3s						
KNDR				AML	AML	05 23 33.6	
	comp=E,7364µm,0.4s						
GVD	**Gavdhos**	**0.69**	**85**	P	**Pb**	**05 23 17.3**	**+0.9**
GVD				S	**Sn**	**05 23 29.6**	**+0.4**
	comp=E,5µm,0.4s						
GVD	**Gavdhos**	**0.69**	**85**	P	**Pb**	**05 23 17.3**	**+0.9**
GVD				AML	AML	05 23 32.7	
	comp=N,9023µm,0.4s						
GVD				AML	AML	05 23 33.3	
	comp=E,9958µm,0.4s						

IMMV	**Iera Moni Meta**	**0.90**	**42**	P	**Pg**	**05 23 19.1**	**-0.3**
IMMV				S	**Sb**	**05 23 32.2**	**0.0**
	comp=E,2µm,0.5s						
IMMV	**Iera Moni Meta**	**0.90**	**42**	P	**Pn**	**05 23 22.0**	**+1.0**
IMMV				AML	AML	05 23 35.7	
	comp=E,3352µm,0.6s						
IMMV				AML	AML	05 23 38.8	
	comp=N,3614µm,0.7s						
CHAN	**Chania**	**0.98**	**42**	P	**Pn**	**05 23 24.0**	**+1.9**
ANKY	**Antikythira Is**	**1.08**	**2**	P	**Pg**	**05 23 21.1**	**-1.7**
ANKY				S	**Sg**	**05 23 35.5**	**-1.3**
	comp=N,785nm,0.7s						
ANKY	**Antikythira Is**	**1.08**	**2**	P	**Pn**	**05 23 25.9**	**+2.4**
PRNS	**Prines Rethymn**	**1.18**	**60**	P	**Pg**	**05 23 22.8**	**-1.9**
PRNS				S	**Sb**	**05 23 39.4**	**-0.7**
	comp=N,342nm,0.4s						
KTHA	**Kythira Island**	**1.47**	**354**	P	**Pg**	**05 23 32.1**	**+1.8**
VLI	**Veliai**	**1.94**	**353**	P	**Pg**	**05 23 38.8**	**-0.6**
BRTR	**Keskin Array B**	**9.64**	**56**	Pn	**Pn**	**05 25 25.9**	**+4.7**
	baz=241,slow=15,SNR=1.9 comp=N,0.6nm,0.9s						
EIL	**Elat**	**11.14**	**114**	Pn	**Pn**	**05 25 41.8**	**+0.1**
	comp=N,0.2nm,0.3s,baz=349,slow=10,SNR=1.8						
EIL				Sn	Sn	05 27 36.8	-10
	comp=N,0.2nm,0.3s,baz=52,slow=19,SNR=1.3 comp=N,3.9nm,0.8s						
AKASG	**Malin Array Be**	**16.49**	**13**	Pn	**Pn**	**05 26 54.5**	**+0.9**
	comp=N,0.6nm,0.3s,baz=211,slow=9.2,SNR=7.8 comp=N,0.1nm,0.3s						
HFS	**Hagfors**	**26.11**	**349**	P	**P**	**05 28 31.8**	**-4.4**
	comp=N,1.8nm,0.8s,baz=149,slow=12,SNR=1.3 comp=N,1.8nm,0.8s						
MKAR	**Makanchi Array**	**45.29**	**56**	P	**P**	**05 31 19.8**	**-0.4**
	comp=N,0.4nm,0.4s,baz=267,slow=7.7,SNR=10 comp=N,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**46.39**	**46**	P	**P**	**05 31 27.1**	**-1.7**
	comp=N,0.5nm,0.4s,baz=280,slow=8.6,SNR=2.1 comp=N,0.5nm,0.4s						
SONM	**Songino Array**	**60.93**	**50**	P	**P**	**05 33 15.8**	**+0.2**
	comp=N,0.3nm,0.5s,baz=284,slow=6.4,SNR=2.6 comp=N,0.3nm,0.5s						

*IDC **08** 06:03:02.0±4.2, 27°.91S×177°.93W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=235.3km s-min=45.8km az=156.0*

ISC 08 06:03:06.5±3.3, 28°S±1°×177°.9W±0°.6, h35km, n6, σ1s23/6, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.25**	**253**	P	**P**	**06 09 57.6**	**-0.2**
	1.0nm,0.4s,baz=130,slow=2.6,SNR=4.8 1.0nm,0.4s						
ASAR	**Alice Springs**	**43.43**	**264**	P	**P**	**06 11 06.4**	**+0.2**
	0.4nm,0.6s,baz

GUMO Guam 1.30 65 P **Pn** **06 25 28.3 +0.6**
89nm,0.3s,baz=129,slow=1.9,SNR=27
GUMO S **Sn** **06 25 52.8 +0.3**
207nm,0.3s,baz=179,slow=23,SNR=13
MJAR Matsushiro Arr 23.91 349 P **P** **06 29 50.0 -1.3**
0.4nm,0.3s,baz=158,slow=13,SNR=1.3
0.4nm,0.3s
WRA Warramunga Arr 34.03 196 P **P** **06 31 20.6 -0.3**
3.4nm,0.7s,baz=16,slow=9.3,SNR=20
3.4nm,0.7s
KLR Kul'dur 37.41 347 P **P** **06 31 49.2 0.0**
0.8nm,0.7s,baz=157,slow=8.0,SNR=2.0
0.8nm,0.7s
ASAR Alice Springs 37.70 195 P **P** **06 31 52.0 -0.1**
0.9nm,0.4s,baz=18,slow=13,SNR=42
0.9nm,0.4s
PETK Petropavlovsk- 41.52 13 LR LR 06 51 21.3
comp=Z,74nm,19.1s,baz=233,slow=38
STKA Stephens Creek 44.70 182 P **P** **06 32 48.8 -0.1**
1.4nm,0.5s,baz=348,slow=9.2,SNR=5.8
1.4nm,0.5s
SONM Songino Array 46.51 326 P **P** **06 33 04.0 +0.9**
0.3nm,0.5s,baz=149,slow=8.0,SNR=2.1
0.3nm,0.5s
MKAR Makanchi Array 61.07 316 P **P** **06 34 49.1 +0.6**
0.1nm,0.6s,baz=84,slow=8.2,SNR=1.8
0.1nm,0.6s
KURBB Kurchatov Arra 64.29 320 P **P** **06 35 09.8 +0.2**
0.5nm,0.5s,baz=104,slow=6.3,SNR=6.2
0.5nm,0.5s
ILAR Eielson Array 69.57 25 P **P** **06 35 42.0 -0.6**
0.2nm,0.4s,baz=247,slow=6.1,SNR=5.2
0.2nm,0.4s
YKA Yellowknife Ar 83.89 27 P **P** **06 37 02.3 -0.4**
0.1nm,0.5s,baz=291,slow=5.2,SNR=2.0
0.1nm,0.5s
NVAR Mina Array Bea 88.19 51 P **P** **06 37 24.7 +0.2**
0.3nm,0.4s,baz=286,slow=6.5,SNR=2.4
0.3nm,0.4s

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*SNET **08** 06:29:05.9±1.6, 12°.76N×90°.12W, h10km, ML4.1*
*NEIC **08** 06:29:10.2±2.0, 12°.99N±0°.07×89°.98W±0°.07, h35km±2km, mb4.3/50, Error ellipse: s-maj=14.9km s-min=7.9km az=222.0*
*IDC **08** 06:29:11.6±3.6, 13°.25N×89°.69W, h52km±36km, mb3.7/12, mbtmp4.0/15, ML2.9/2, MS3.4/6, Error ellipse: s-maj=34.7km s-min=17.4km az=51.0*
*GCG **08** 06:29:29.6±0.3, 14°.62N×90°.67W, h33km±4km, MD4.1*
ISC 08 06:29:08.2±0.5, 12°.99N±0°.05×90°.01W±0°.04, h29km, n121, σ1§41/119, mb4.2/33, MS3.4/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.85**	**40**	*e*P	**Pb**	**06 29 26.8**	**+2.1**
CEVE	**Cerro Verde**	**0.91**	**25**	*e*P	**Pb**	**06 29 27.9**	**+2.2**
NUBE	**Las Nubes**	**0.93**	**14**	*e*P	**Pb**	**06 29 27.7**	**+1.8**
SNJE	**San Jose**	**0.95**	**24**	*e*P	**Pb**	**06 29 28.6**	**+2.3**
RTR	**El Retiro**	**0.97**	**22**	*e*P	**Pb**	**06 29 28.6**	**+2.1**
CEDA	**San Andres**	**1.00**	**37**	*e*P	**Pb**	**06 29 28.9**	**+1.9**
BOQS	**Boqueron**	**1.02**	**44**	*e*P	**Pb**	**06 29 29.2**	**+1.7**
SNET	**Serv Nac Est T**	**1.03**	**48**		**Pb**	**06 29 28.7**	**+1.3**
SNET	**Serv Nac Est T**	**1.03**	**48**	*e*P	**Pb**	**06 29 28.9**	**+1.4**
UEES	**Universidad Ev**	**1.04**	**46**	*e*P	**Pb**	**06 29 29.2**	**+1.5**
SLOZ	**Alcaldia de Sa**	**1.05**	**12**	*e*P	**Pb**	**06 29 29.5**	**+1.6**
LFRS	**El Faro**	**1.12**	**56**	*e*P	**Pb**	**06 29 30.3**	**+1.2**
LFU	**La Fuente**	**1.15**	**49**	*e*P	**Pb**	**06 29 31.0**	**+1.4**
SJTE	**Alcalda de S**	**1.16**	**58**	*e*P	**Pb**	**06 29 30.6**	**+0.9**
SJTE				*e*S	**Sb**	**06 29 47.0**	**+2.6**
LBRS	**Las Brisas**	**1.20**	**52**	*e*P	**Pb**	**06 29 31.8**	**+1.4**
PAVA	**Las Pavas**	**1.27**	**56**	*e*P	**Pb**	**06 29 32.7**	**+1.2**
SCLA	**Alcaldia de Sa**	**1.44**	**60**	*e*P	**Pb**	**06 29 34.7**	**+0.3**
COEB	**Comit de Eme**	**1.53**	**71**	*e*P	**Pn**	**06 29 35.2**	**+1.5**
PQSS	**Presa 15 de Se**	**1.55**	**66**	*e*P	**Pn**	**06 29 35.8**	**+2.0**
P5NO	**Presa 5 de nov**	**1.57**	**51**	*e*P	**Pb**	**06 29 36.8**	**+0.2**
NBG	**Las Nubes**	**1.62**	**348**	*e*P	**Pb**	**06 29 38.4**	**+0.8**
FUG	**Fuego 3**	**1.65**	**331**	*e*P	**Pn**	**06 29 37.1**	**+1.6**
ESQI	**Esquipulas**	**1.69**	**23**		**Pb**	**06 29 39.2**	**+0.4**
ESQI	**Esquipulas**	**1.69**	**23**	*e*P	**Pb**	**06 29 39.1**	**+0.4**
FAGO	**Alcalda de S**	**1.99**	**69**	*e*P	**Pn**	**06 29 41.6**	**+1.8**
SULM	**Suchitepequez,**	**1.99**	**311**	*e*P	**Pb**	**06 29 46.1**	**+2.2**
LCND	**La Caada**	**2.09**	**81**	*e*P	**Pn**	**06 29 42.8**	**+1.5**
LCND				*e*S	**Sb**	**06 30 10.6**	**-0.4**
CNCH	**Conchagua**	**2.14**	**82**	*e*P	**Pn**	**06 29 43.4**	**+1.3**
CNCH				*e*S	**Sb**	**06 30 12.1**	**-0.5**
RTAL	**Retalhuleu**	**2.23**	**313**	Pn	**Pn**	**06 29 44.5**	**+1.3**
RTAL				Sn	**Sn**	**06 30 05.3**	**-4.6**
STG3	**Santiaguito 3,**	**2.28**	**319**	*e*P	**Pn**	**06 29 46.2**	**+2.1**
HUEH	**Huehuetenango**	**2.73**	**328**		**Pn**	**06 29 52.4**	**+2.2**
TGUH	**Tegucigalpa,Un**	**2.87**	**68**		**Pn**	**06 29 54.1**	**+2.0**
TGUH	**Tegucigalpa,Un**	**2.87**	**68**	*e*P	**Pn**	**06 29 54.3**	**+2.2**
CRIN	**San Cristobal**	**2.90**	**95**		**Pn**	**06 29 53.7**	**+1.1**
CNGN	**Cerro Negro**	**3.27**	**98**		**Pn**	**06 29 58.0**	**+0.4**
CCIG	**Comitan**	**3.86**	**328**	Pn	**Pn**	**06 30 08.9**	**+3.1**
BOAB	**BOACO BROADBAN**	**4.28**	**97**	Pn	**Pn**	**06 30 11.6**	**+0.2**
ACON	**Acoyapa**	**4.83**	**102**	Pn	**Pn**	**06 30 19.2**	**+0.1**
HZTE	**Horizontes, Gu**	**4.88**	**117**		**Pn**	**06 30 21.1**	**+1.3**
ORTG	**Ortega, Santa**	**5.17**	**120**		**Pn**	**06 30 24.8**	**+1.0**
DUNO	**Dulce Nombre,**	**5.29**	**123**	Pn	**Pn**	**06 30 25.7**	**+0.4**
ESPN	**Las Esperanzas**	**5.63**	**97**	Pn	**Pn**	**06 30 30.9**	**+0.8**
JTS	**Las Juntas de** 7.2nm,0.4s	**5.64**	**118**	P	**Pn**	**06 30 31.3**	**+1.2**
JTS				S	**Sn**	**06 31 32.3**	**-1.7**
JTS	**Las Juntas de**	**5.64**	**118**	Pn	**Pn**	**06 30 31.2**	**+1.0**
JACO	**JACO, Garabito**	**6.21**	**122**	Pn	**Pn**	**06 30 40.1**	**+2.2**
RIMA	**Rio Macho**	**6.83**	**117**		**Pn**	**06 30 47.6**	**+0.9**
BATAN	**Batan**	**7.11**	**113**	Pn	**Pn**	**06 30 51.7**	**+1.4**
PEZE	**Perez Zeledon,**	**7.18**	**119**		**Pn**	**06 30 53.6**	**+2.2**
SRBA	**San Rafael, Bu**	**7.52**	**119**		**Pn**	**06 30 58.0**	**+1.9**
CDITO	**Canoas**	**8.28**	**121**		**Pn**	**06 31 07.7**	**+1.3**
BRU2	**Volcan**	**8.31**	**119**		**Pn**	**06 31 08.5**	**+1.5**
TLIG	**Tlapa**	**9.42**	**300**	Pn	**Pn**	**06 31 24.9**	**+2.7**
MTDJ	**Mount Denham**	**13.10**	**65**	Pn	**Pn**	**06 32 12.5**	**+0.1**
PAYG	**Puerto Ayora**	**13.58**	**181**	Pn	**Pn**	**06 32 20.2**	**+1.1**
ROSC	**El Rosal** 0.4nm,0.3s,baz=250,slow=4.5,SNR=5.0 3.6nm,0.5s	**17.48**	**116**	P	**Pn**	**06 33 10.9**	**+0.5**
ROSC	**El Rosal**	**17.48**	**116**		**Pn**	**06 33 10.2**	**-0.3**
ROSC				IAmb	IAmb	06 33 23.9	
	comp=Z,40nm,1.4s						
CHSH	**Refugio Sur-Vo**	**18.15**	**142**		**P**	**06 33 19.2**	**+0.2**
CHSH				IAmb	IAmb	06 33 37.5	
	comp=Z,4.6nm,0.8s						
PORT	**Chimborazo Vol**	**18.18**	**141**	P	**Pn**	**06 33 19.2**	**-0.1**
SDV	**Santo Domingo**	**19.46**	**100**	P	**P**	**06 33 32.8**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=313,slow=7.6,SNR=6.1 comp=Z,3.7nm,0.5s						
SDV	**Santo Domingo**	**19.46**	**100**	P	**P**	**06 33 32.0**	**-1.0**
TX32	**Lajitas Array**	**20.62**	**324**	P	**P**	**06 33 44.0**	**-1.5**
TXAR	**Lajitas Array**	**20.62**	**324**		Pn	06 33 47.8	0.0
TX31	**Lajitas Ar. Si**	**20.62**	**324**	P	Pn	06 33 47.7	-0.1
TX31				IAmb	IAmb	06 33 50.3	
	comp=Z,13nm,0.8s						
Y45A	**Yeager Farm, C**	**20.78**	**1**	P	Pn	06 33 52.0	+2.5
Y45A				IAmb	IAmb	06 34 18.6	
	comp=Z,29nm,1.2s						
FW07	**Weatherford**	**20.87**	**341**	P	**P**	**06 33 48.0**	**0.0**
FW07				IAmb	IAmb	06 33 52.1	
	comp=Z,5.4nm,0.7s						
Y49A	**Blount Mountai**	**21.03**	**8**	P	**P**	**06 33 50.5**	**+0.8**
Y49A				IAmb	IAmb	06 34 19.4	
	comp=Z,13nm,1.1s						
FW06	**Azle**	**21.05**	**342**	IAmb	IAmb	06 34 04.9	
	comp=Z,6.0nm,0.9s						
Z35A	**Perchaven, San**	**21.30**	**343**	P	**P**	**06 33 52.7**	**+0.1**
Z35A				IAmb	IAmb	06 34 14.8	
	comp=Z,9.9nm,0.9s						
ABTX	**Abilene, Hawle**	**21.44**	**337**	P	**P**	**06 33 54.8**	**+0.6**
X48A	**Hartselle**	**21.53**	**7**	P	**P**	**06 33 57.1**	**+2.1**
MIAR	**Mount Ida**	**21.70**	**352**	P	**P**	**06 33 58.0**	**+1.1**
MIAR				IAmb	IAmb	06 34 14.7	
	comp=Z,15nm,1.5s						
FPAL	**Fort Paine**	**21.82**	**10**	P	**P**	**06 33 59.9**	**+1.7**
FPAL				IAmb	IAmb	06 34 25.1	
	comp=Z,11nm,1.1s						
BAUV	**El Baul**	**21.94**	**98**	P	**P**	**06 34 00.9**	**+1.3**
BAUV				IAmb	IAmb	06 34 02.1	
	comp=Z,12nm,0.9s						
PLAL	**Pickwick Lake**	**21.96**	**4**	P	**P**	**06 34 00.7**	**+1.0**
X37A	**Clayton**	**22.04**	**348**	P	**P**	**06 34 02.8**	**+2.2**
X37A				IAmb	IAmb	06 34 28.9	
	comp=Z,14nm,1.2s						
WHAR	**Wooly Hollow**	**22.29**	**355**	P	**P**	**06 34 04.5**	**+1.2**
WHAR				IAmb	IAmb	06 34 25.6	
	comp=Z,15nm,1.3s						
CPCT	**Cooper Cave**	**22.90**	**12**	P	**P**	**06 34 10.9**	**+1.2**
CPCT				IAmb	IAmb	06 34 20.2	
	comp=Z,17nm,1.4s						
ATAH	**Atahualpa**	**23.09**	**149**	P	**P**	**06 34 14.7**	**+2.4**
	comp=Z,5.0nm,1.0s,baz=356,slow=8.7,SNR=2.5 comp=Z,5.0nm,1.0s						
WVT	**Waverly**	**23.12**	**5**	P	**P**	**06 34 12.8**	**+0.9**
WVT				IAmb	IAmb	06 34 25.3	
	comp=Z,11nm,1.2s						
BIRD	**Birdtown, Kers**	**23.23**	**20**	P	**P**	**06 34 14.0**	**+0.9**
TKL	**Tuckaleechee C**	**23.26**	**13**	P	**P**	**06 34 13.0**	**-0.4**
	comp=Z,8.0nm,1.1s,baz=172,slow=12,SNR=4.7						
TKL				LR	LR	06 44 02.3	
	comp=Z,123nm,19.4s,baz=187,slow=39 comp=Z,8.0nm,1.1s						
TKL	**Tuckaleechee C**	**23.26**	**13**	P	**P**	**06 34 13.9**	**+0.6**
V51A	**Loudon**	**23.28**	**12**	P	**P**	**06 34 13.9**	**+0.4**
V51A				IAmb	IAmb	06 34 38.8	
	comp=Z,15nm,1.3s						
MNTX	**Cornudas Mount**	**23.37**	**325**	P	**P**	**06 34 15.8**	**+1.3**
OK025	**Westminster Rd**	**23.44**	**345**	P	**P**	**06 34 14.5**	**-0.6**
BCOK	**Bluff Creek, N**	**23.58**	**344**	P	**P**	**06 34 16.2**	**-0.3**
BCOK				IAmb	IAmb	06 34 16.3	
	comp=Z,13nm,0.7s						
U49A	**Red Boiling Sp**	**23.73**	**8**	P	**P**	**06 34 18.3**	**+0.4**
U49A				IAmb	IAmb	06 34 24.6	
	comp=Z,8.7nm,0.9s						
W57A	**Gilead**	**23.85**	**21**	P	**P**	**06 34 19.2**	**+0.1**
MGMO	**Mountain Grove**	**24.14**	**356**	P	**P**	**06 34 22.0**	**+0.2**
MGMO				IAmb	IAmb	06 34 22.9	
	comp=Z,5.2nm,0.7s						
V58A	**Windy Hill, Pi**	**24.74**	**22**	P	**P**	**06 34 26.9**	**-0.3**
V58A				IAmb	IAmb	06 34 29.3	
	comp=Z,15nm,0.9s						
S39A	**Bolivar**	**24.77**	**354**	IAmb	IAmb	06 34 28.1	
	comp=Z,7.0nm,0.7s						
S39A				P	**P**	**06 34 28.2**	**+0.7**
ANMO	**Albuquerque**	**26.44**	**329**	P	**P**	**06 34 44.2**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=192,slow=9.3,SNR=4.5 comp=Z,0.8nm,0.6s						
NNA	**Nana**	**28.05**	**152**	LR	LR	06 43 46.6	
	comp=Z,36nm,18.8s,baz=322,slow=31						
PV11	**David Mesa, Pa**	**30.27**	**330**	IAmb	IAmb	06 35 19.4	
	comp=Z,3.8nm,0.6s						
MTPU	**Mount Pierson**	**31.81**	**326**	IAmb	IAmb	06 35 35.4	
	comp=Z,3.2nm,0.9s						
SADO	**Sadowa**	**33.00**	**14**	LR	LR	06 49 53.1	
	comp=Z,91nm,19.7s,baz=290,slow=38						
PDAR	**Pinedale Array**	**34.15**	**334**	P	**P**	**06 35 51.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=133,slow=12,SNR=2.5						
PDAR				PcP	**PcP**	**06 38 28.2**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=118,slow=7.6,SNR=2.7 comp=Z,0.2nm,0.5s						
SNOW	**Snow King Moun**	**35.23**	**333**	P	**P**	**06 36 00.8**	**+0.4**
NVAR	**Mina Array Bea**	**35.67**	**320**	P	**P**	**06 36 06.1**	**+1.9**
	comp=Z,2.0nm,0.7s,baz=133,slow=8.3,SNR=11						
NVAR				PcP	**PcP**	**06 38 32.3**	**0.0**
	comp=Z,0.5nm,0.5s,baz=122,slow=3.3,SNR=3.8 comp=Z,2.0nm,0.7s						
MCMT	**McKenzie Canyo**	**37.23**	**333**	P	**P**	**06 36 18.1**	**+0.6**
ULM	**Lac du Bonnet**	**37.46**	**354**	P	**P**	**06 36 17.2**	**-1.8**
	comp=Z,2.9nm,0.6s,baz=155,slow=7.8,SNR=6.0 comp=Z,2.9nm,0.6s						
PLID	**Pearl Lake**	**38.89**	**330**	P	**P**	**06 36 31.7**	**+0.2**
VILB	**Vilhena**	**39.22**	**130**	P	**P**	**06 36 34.4**	**+0.1**
VILB				IAmb	IAmb	06 36 47.0	
	comp=Z,9.1nm,0.8s						
YBH	**Yreka Blue Hor**	**40.35**	**321**	P	**P**	**06 36 42.4**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=106,slow=9.6,SNR=1.7						
YBH				LR	LR	06 53 30.1	
	comp=Z,39nm,19.9s,baz=176,slow=36 comp=Z,1.3nm,0.9s						
YBH	**Yreka Blue Hor**	**40.35**	**321**	P	**P**	**06 36 42.3**	**-1.2**
YBH				IAmb	IAmb	06 37 04.1	
	comp=Z,7.1nm,1.5s						
FFC	**Flin Flon**	**42.68**	**350**	P	**P**	**06 37 01.7**	**-0.6**
E03A	**Lebam**	**43.75**	**327**	P	**P**	**06 37 10.3**	**-0.7**
SCHQ	**Schefferville**	**45.52**	**19**	P	**P**	**06 37 23.2**	**-1.9**
	comp=Z,6.6nm,0.5s,baz=224,slow=6.7,SNR=26						
SCHQ				LR	LR	06 55 49.2	
	comp=Z,50nm,19.2s,baz=146,slow=35 comp=Z,6.6nm,0.5s						
SCHQ	**Schefferville**	**45.52**	**19**	P	**P**	**06 37 23.8**	**-1.3**
FCC	**Fort Churchill**	**45.78**	**357**	P	**P**	**06 37 25.5**	**-1.5**
FCC				IAmb	IAmb	06 37 41.2	
	comp=Z,5.2nm,1.2s						
YKA	**Yellowknife Ar**	**52.45**	**346**	P	**P**	**06 38 16.7**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=149,slow=7.6,SNR=19 comp=Z,1.4nm,0.7s						
RES	**Resolute Bay**	**61.74**	**359**	LR	LR	07 07 20.6	
	comp=Z,54nm,18.8s,baz=2.0,slow=37						
RES	**Resolute Bay**	**61.74**	**359**	P	**P**	**06 39 21.9**	**-1.6**
RES				IAmb	IAmb	06 39 24.8	
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**61.95**	**343**	P	**P**	**06 39 24.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=130,slow=10,SNR=1.9 comp=Z,0.5nm,0.5s						
A36M	**Sachs Harbour**	**62.61**	**348**	P	**P**	**06 39 27.6**	**-1.8**
ILAR	**Eielson Array**	**64.52**	**337**	P	**P**	**06 39 41.8**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=135,slow=5.9,SNR=7.9 comp=Z,0.6nm,0.9s						
BMAR	**Burnt Mountain**	**64.90**	**340**	P	**P**	**06 39 44.4**	**-0.3**
MLY	**Manley**	**66.13**	**336**	P	**P**	**06 39 52.0**	**-0.6**
MLY				IAmb	IAmb	06 40 19.8	
	comp=Z,3.8nm,1.3s						
EUNU	**Eureka**	**67.10**	**1**	P	**P**	**06 39 57.4**	**-1.3**
EUNU				IAmb	IAmb	06 40 01.8	
	comp=Z,3.7nm,1.2s						
NOA	**NORSAR Array B**	**84.10**	**29**	P	**P**	**06 41 34.3**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=274,slow=6.2,SNR=1.7 comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**147.52**	**344**	PKPbc	**PKPbc**	**06 48 50.4**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=347,slow=3.3,SNR=1.6						

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*SOME **08** 06:39:26.5, 41°.90N×82°.33E, h5km*
*NNC **08** 06:39:28.5±1.3, 41°.91N×82°.33E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=10.0km s-min=6.2km az=159.0*
ISC 08 06:39:32.7±2.7, 42°.1N±0°.1×82°.1E±0°.1, h10km, n31, σ2§41/34, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 21nm,0.2s	**1.84**	**317**	Pg	**Pb**	**06 40 06.9**	**+0.3**
KTMS				Lg	Lg	06 40 37.5	
	35nm,0.5s						
KTMS	**Ketmen** 21nm,0.2s	**1.84**	**317**	*e*Pg	**Pb**	**06 40 07.4**	**+0.8**
KTMS				*e*Lg	Lg	06 40 37.5	
	35nm,0.5s						
SHLS	**Shalkode** 24nm,0.1s	**2.19**	**299**	Pg	**Pn**	**06 40 09.2**	**-0.2**
SHLS				Lg	Lg	06 40 40.8	
	52nm,0.3s						
SHLS	**Shalkode** 24nm,0.1s	**2.19**	**299**	*e*Pg	**Pn**	**06 40 09.2**	**-0.2**
SHLS				*e*Lg	Lg	06 40 40.8	
	52nm,0.3s						
UZB	**Uzunbulak** 7.3nm,0.1s	**2.48**	**296**	Pg	**Pb**	**06 40 18.2**	**+0.8**
UZB				Lg	Lg	06 40 56.0	
	29nm,0.4s						
UZB	**Uzunbulak** 7.3nm,0.1s	**2.48**	**296**	*e*Pg	**Pb**	**06 40 18.2**	**+0.8**
UZB				*e*Lg	Lg	06 40 56.0	
	29nm,0.4s						
DJR	**Jarkent** 4.9nm,0.2s	**2.77**	**324**	Pg	**Pb**	**06 40 23.5**	**+1.1**
DJR				Lg	Lg	06 41 04.7	
	23nm,0.3s						
DJR	**Jarkent** 4.9nm,0.2s	**2.77**	**324**	*e*Pg	**Pb**	**06 40 23.5**	**+1.1**
DJR				*e*Lg	Lg	06 41 04.7	
	23nm,0.3s						
KPKS	**Kokpek**	**2.84**	**300**	*e*Pg	**Pb**	**06 40 22.1**	**-1.4**
KPKS				*e*Lg	Lg	06 41 02.1	
	0.1nm,0.4s						
KURS	**Kuram** 4.3nm,0.4s	**3.19**	**297**	Pg	**Pb**	**06 40 31.7**	**+2.3**
KURS				Lg	Lg	06 41 18.6	
	5.5nm,0.6s						
KURS	**Kuram** 4.3nm,0.4s	**3.19**	**297**	*e*Pg	**Pb**	**06 40 31.3**	**+1.9**
KURS				*e*Lg	Lg	06 41 18.6	
	5.5nm,0.6s						
BLB	**Baldybastay** 11nm,0.2s	**3.30**	**308**	Pg	**Pb**	**06 40 33.5**	**+2.2**
BLB				Lg	Lg	06 41 22.1	
	22nm,0.4s						
MDOK	**Medeo** 5.4nm,0.5s	**3.85**	**287**	Pg	**Pg**	**06 40 44.1**	**-2.4**
MDOK				Lg	Lg	06 41 39.9	
	6.9nm,0.5s						
MDOK	**Medeo** 5.4nm,0.5s	**3.85**	**287**	*e*Pg	**Pg**	**06 40 44.1**	**-2.4**
MDOK				*e*Lg	Lg	06 41 40.0	
	6.9nm,0.5s						
TNSS	**Tian-Shan** 2.2nm,0.4s	**3.90**	**285**	Pg	**Pb**	**06 40 43.0**	**+1.2**
TNSS				Lg	Lg	06 41 38.2	
	4.2nm,0.6s						
TNSS	**Tian-Shan** 2.2nm,0.4s	**3.90**	**285**	*e*Pg	**Pb**	**06 40 43.0**	**+1.2**
TNSS				*e*Lg	Lg	06 41 38.2	
	4.2nm,0.6s						
TDK	**Taldyqorghan** 25nm,0.3s	**3.93**	**318**	Pg	**Pb**	**06 40 43.8**	**+1.7**
TDK				Lg	Lg	06 41 39.5	
	18nm,0.1s						
TDK	**Taldyqorghan** 25nm,0.3s	**3.93**	**318**	*e*Pg	**Pb**	**06 40 43.8**	**+1.7**
TDK				*e*Lg	Lg	06 41 39.5	
	18nm,0.1s						
CHKK	**Chushkaly** 0.6nm,0.1s	**4.12**	**297**	Pg	**Pb**	**06 40 48.5**	**+3.2**
CHKK				Lg	Lg	06 41 47.3	
	9.8nm,0.3s						
CHKK	**Chushkaly** 0.6nm,0.1s	**4.12**	**297**	*e*Pg	**Pb**	**06 40 47.9**	**+2.6**
CHKK				*e*Lg	Lg	06 41 47.4	
	9.8nm,0.3s						
KUU	**Kurty** 0.7nm,0.3s	**4.57**	**295**	Pg	**Pb**	**06 40 56.8**	**+3.9**
KUU	**Kurty** 0.7nm,0.3s	**4.57**	**295**	*e*Pg	**Pb**	**06 40 56.9**	**+3.9**
KUU				*e*Lg	Lg	06 42 01.7	
	6.8nm,0.4s						
KST	**Kastek** 4.5nm,0.9s	**4.61**	**284**	Pg	**Pb**	**06 40 56.8**	**+3.1**
KST	**Kastek** 4.5nm,0.9s	**4.61**	**284**	*e*Pg	**Pb**	**06 40 56.8**	**+3.1**
KST				*e*Lg	Lg	06 42 02.6	
	7.4nm,0.6s						
MK31	**Makanchi Array** 0.5nm,0.3s,baz=183,slow=13,SNR=53	**4.68**	**2**	Pn	**Pn**	**06 40 42.7**	**-0.7**
MK31				Pg	**Pg**	**06 40 59.2**	**-3.1**
	0.8nm,0.3s,baz=182,slow=16,SNR=7.1			⇑Lg	Lg	06 41 59.5	
MK31							
	4.2nm,0.5s,baz=188,slow=28,SNR=7.5						
MAKZ	**Makanchi** 1.6nm,0.5s	**4.69**	**359**	⇑Pn	**Pn**	**06 40 43.4**	**-0.1**
MAKZ				⇑Pg	**Pg**	**06 40 59.5**	**-3.0**
	1.6nm,0.4s						
MAKZ				⇑Sn	**Sn**	**06 41 42.3**	**+4.3**
	1.9nm,0.5s						
MAKZ				⇑Lg	Lg	06 41 59.5	
	2.7nm,0.6s						
DGS	**Degeres** 2.1nm,0.4s	**4.78**	**286**	Pg	**Pg**	**06 41 00.6**	**-3.7**
DGS	**Degeres** 2.1nm,0.4s	**4.78**	**286**	*e*Pg	**Pg**	**06 41 00.6**	**-3.7**
DGS				*e*Lg	Lg	06 42 08.2	
	8.6nm,0.5s						
TKM2	**Tokmak 2** 2.0nm,0.7s	**4.86**	**282**	⇑Pg	**Pb**	**06 40 60.0**	**+2.0**
TKM2				⇓Lg	Lg	06 42 09.6	
	8.6nm,0.8s						
ZSN	**Zaisan** 1.9nm,0.3s	**5.69**	**19**	Pg	**Pb**	**06 41 13.7**	**+1.6**
ZSN	**Zaisan** 1.9nm,0.3s	**5.69**	**19**	*e*Pg	**Pb**	**06 41 13.7**	**+1.6**
ZSN				*e*Lg	Lg	06 42 30.8	
	10nm,0.7s						

IDC 08 06:55:07.6±3.5, 5°.65N×133°.61E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/1, Error ellipse: s-maj=215.4km s-min=23.1km az=75.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.2nm,0.8s,baz=357,slow=9.9,SNR=6.7 1.2nm,0.8s	**25.44**	**178**	P	P	07 00 36.8	-0.6
ASAR	**Alice Springs** 0.3nm,0.9s,baz=7.3,slow=11,SNR=2.3 0.3nm,0.9s	**29.14**	**179**	P	P	07 01 11.3	+0.8
H11S3	**WAKE ISLAND Hy** baz=253,slow=75,SNR=25	**34.70**	**66**	T	T	07 39 55.1	
H11S1	**WAKE ISLAND Hy** baz=253,slow=75,SNR=21	**34.71**	**65**	T	T	07 39 56.2	
H11S2	**WAKE ISLAND Hy** baz=253,slow=75,SNR=22	**34.71**	**66**	T	T	07 39 56.2	
H11N1	**WAKE ISLAND Hy** baz=250,slow=75,SNR=6.5	**35.26**	**64**	T	T	07 40 26.6	
H11N2	**WAKE ISLAND Hy** baz=250,slow=75,SNR=3.5	**35.27**	**64**	T	T	07 40 32.6	
H11N3	**WAKE ISLAND Hy** baz=250,slow=75,SNR=5.6	**35.27**	**64**	T	T	07 40 37.7	
SONM	**Songino Array** 0.2nm,0.3s,baz=141,slow=9.3,SNR=2.2 0.2nm,0.3s	**48.04**	**336**	P	P	07 03 48.8	0.0
YAK	**Yakutsk** comp=Z,17nm,21.5s,baz=91,slow=35	**56.34**	**358**	LR	LR	07 27 38.4	
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=110,slow=8.3,SNR=17 0.7nm,0.4s	**60.10**	**322**	P	P	07 05 16.8	-0.1

IDC 08 07:06:11.5±2.2, 3°.78N×128°.83E, h0km, mb3.5/5, mbtmp3.5/5, MS3.0/1, Error ellipse: s-maj=175.5km s-min=22.7km az=69.0, North of Halmahera

|

2.1nm,0.3s
H08S2 Diego Garcia H 26.11 249 T T 07 42 06.2
baz=70,slow=75,SNR=811
H08S3 Diego Garcia H 26.11 250 T T 07 42 06.6
baz=70,slow=75,SNR=748
H08S1 Diego Garcia H 26.13 249 T T 07 42 07.7
baz=70,slow=75,SNR=770
H01W3 Cape Leeuwin H 39.50 158 T T 07 59 09.4
baz=332
H01W2 Cape Leeuwin H 39.52 158 T T 07 59 27.4
baz=332
H01W1 Cape Leeuwin H 39.52 158 T T 07 59 12.9
baz=332
WRA Warramunga Arr 42.27 122 P **P 07 17 21.7 -0.3**
0.6nm,0.9s,baz=304,slow=9.1,SNR=3.1
0.6nm,0.9s
WB2 Warramunga Arr 42.28 122 P **P 07 17 21.6 -0.5**
WB2 IAmb IAmb 07 17 50.2
comp=Z,5.6nm,1.1s
KSRS Korea Array 45.74 35 P **P 07 17 49.0 -0.6**
comp=Z,1.4nm,0.8s,baz=220,slow=11,SNR=3.3
comp=Z,1.4nm,0.8s
SONM Songino Array 46.93 9 P **P 07 17 58.6 -0.3**
comp=Z,2.4nm,0.8s,baz=188,slow=8.0,SNR=15
SONM LR LR 07 40 27.1
comp=Z,52nm,21.5s,baz=110,slow=40
comp=Z,2.4nm,0.8s
SONM Songino Array 46.93 9 P **P 07 17 59.9 +0.9**
MK31 Makanchi Array 46.99 346 P **P 07 18 00.1 +0.8**
MK31 IAmb IAmb 07 18 00.6
comp=Z,2.5nm,0.8s
MKAR Makanchi Array 46.99 346 P **P 07 17 59.2 -0.1**
comp=Z,3.1nm,0.8s,baz=160,slow=7.8,SNR=25
comp=Z,3.1nm,0.8s
MKAR Makanchi Array 46.99 346 P **P 07 17 59.9 +0.6**
ULN Ulaanbaatar 47.06 9 P **P 07 17 59.1 -0.9**
MAKZ Makanchi 47.08 346 P **P 07 18 00.7 +0.7**
MAKZ IAmb IAmb 07 18 01.2
comp=Z,2.7nm,0.8s
KK31 Karatay Array 47.79 334 P **P 07 18 06.2 +0.6**
KK31 IAmb IAmb 07 18 06.6
comp=Z,3.3nm,1.4s
KKAR Karatay Array 47.79 334 P **P 07 18 05.1 -0.5**
KKAR Karatay Array 47.79 334 P **P 07 18 06.0 +0.3**
KKAR IAmb IAmb 07 18 06.7
comp=Z,3.3nm,1.4s
JCJ Chichijima 50.21 55 P **P 07 18 23.0 -1.3**
KURBB Kurchatov Arra 51.48 345 P **P 07 18 33.1 -0.4**
comp=Z,0.6nm,0.6s,baz=162,slow=7.2,SNR=5.8
comp=Z,0.6nm,0.6s
MJB9 Matsu-Tunnel 51.62 43 P **P 07 18 34.6 -0.2**
MJAR Matsushiro Arr 51.62 43 P **P 07 18 35.1 +0.2**
comp=Z,1.0nm,0.9s,baz=259,slow=6.0,SNR=1.9
comp=Z,1.0nm,0.9s
USA0B Ussuriysk Arra 52.65 31 P **P 07 18 41.7 -0.6**
USA0B IAmb IAmb 07 19 06.4
comp=Z,3.2nm,0.6s
USRK Ussuriysk Ar. 52.65 31 P **P 07 18 42.1 -0.2**
ZAA0 Zalesovo Array 53.32 351 P **P 07 18 46.6 -0.4**
ZAA0 IAmb IAmb 07 18 48.9
comp=Z,2.2nm,0.8s
ZALV Zalesovo Beam 53.32 351 P **P 07 18 47.2 +0.1**
comp=Z,1.4nm,0.5s,baz=176,slow=7.7,SNR=9.0
comp=Z,1.4nm,0.5s
BVAR Borovoye Array 55.99 341 P **P 07 19 05.8 -0.8**
comp=Z,0.8nm,0.7s,baz=134,slow=11,SNR=4.1
comp=Z,0.8nm,0.7s
KLR Kul'dur 56.12 27 P **P 07 19 07.7 +0.2**
comp=Z,1.4nm,0.8s,baz=271,slow=7.7,SNR=5.4
comp=Z,1.4nm,0.8s
ABKAR Akbulak arra 57.25 332 P **P 07 19 16.2 +0.7**
YAK Yakutsk 65.25 16 LR LR 07 51 49.4
comp=Z,53nm,18.1s,baz=216,slow=39
AK05 Malin Array Si 74.98 322 P **P 07 21 10.1 +0.7**

*LDG **08** 07:13:52.9±0.1, 47°.84N×3°.68W, h2km, Md2.8/2, Ml2.8/31, Error ellipse: s-maj=1.0km s-min=0.8km az=75.0*
*STR **08** 07:13:53.8±0.7, 48°.N±.5×°±°, h5km, MLv2.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=138.5, preliminary*
*BGS **08** 07:13:54.6±1.6, 47°.95N×3°.76W, h6km±24km, ML2.6, ML2.6*
ISC 08 07:13:51.8±1.2,**47°.83N**±0°.02×**3°.62W**±0°.04,**h16**km±9km, **n48**,σ1°**31**/80,**France**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
QUIF	**Quistinic**	**0.32**	**74**	*e*Pg		**Pb**	**07 13 59.4**	**+0.3**
QUIF				*e*Sg		**Sb**	**07 14 04.1**	**+0.1**
	56nm,0.1s							
ROSF	**Rostrenen**	**0.56**	**24**	*e*Pg		**Pb**	**07 14 03.5**	**+0.3**
ROSF	**Rostrenen**	**0.56**	**24**	*e*Pn		**Pn**	**07 14 06.3**	**+1.2**
ROSF				*e*Sg		**Sb**	**07 14 10.9**	**-0.1**
	252nm,0.2s							
ROSF	**Rostrenen**	**0.56**	**24**	*e*P		**Pb**	**07 14 03.7**	**+0.4**
ROSF				IAML			07 14 11.1	
	comp=E,114nm,0.3s							
ROSF				IAML			07 14 15.9	
	comp=N,127nm,0.1s							
ROSF	**Rostrenen**	**0.56**	**24**	Pg		**Pb**	**07 14 03.6**	**+0.4**
ROSF				Sg		**Sb**	**07 14 10.8**	**-0.2**
CAMF	**Camaret-sur-Me**	**0.80**	**304**	Pg		**Pb**	**07 14 07.6**	**+0.3**
CAMF				Pn		**Pn**	**07 14 09.3**	**+0.8**
SGMF	**Saint Gilles**	**0.83**	**59**	*e*Pg		**Pn**	**07 14 08.9**	**0.0**
SGMF	**Saint Gilles**	**0.83**	**59**	*e*Pn		**Pn**	**07 14 09.8**	**+0.9**
SGMF				*e*Sg		**Sn**	**07 14 20.6**	**-0.2**
	comp=N,114nm,0.2s							
JSA	**Saint Aubin**	**1.67**	**35**	*e*P		**Pg**	**07 14 23.5**	**-0.3**
JSA				*e*S		**Sg**	**07 14 45.2**	**-0.2**
JSA				IAML			07 14 46.8	
	comp=N,50nm,0.2s							
JSA				IAML			07 14 47.5	
	comp=E,33nm,0.2s							
JSA	**Saint Aubin**	**1.67**	**35**	Pn		**Pn**	**07 14 20.6**	**+0.3**
JSA				Pg		**Pg**	**07 14 23.7**	**-0.1**
JSA	**Saint Aubin**	**1.67**	**35**	Sg		**Sg**	**07 14 45.2**	**-0.2**
JVM	**Valle D.L. Mar**	**1.68**	**34**	*e*P		**Pg**	**07 14 23.9**	**-0.1**
JRS	**Jersey**	**1.70**	**36**	*e*P		**Pg**	**07 14 23.8**	**-0.7**
JDC	**Jersey Dam (Cr**	**1.71**	**37**	*e*P		**Pg**	**07 14 24.8**	**+0.1**
JDC				IAML			07 14 48.2	
	comp=E,294nm,0.2s							
JDC				IAML			07 14 48.4	
	comp=N,346nm,0.2s							
JLP	**Les Platons**	**1.73**	**35**	*e*P		**Pg**	**07 14 25.5**	**+0.3**
GRR	**Gorron**	**1.93**	**72**	*e*Pn		**Pn**	**07 14 25.5**	**+1.5**
GRR	**Gorron**	**1.93**	**72**	*e*Pg		**Pg**	**07 14 29.6**	**+0.7**
GRR				*e*Sn		**Sb**	**07 14 49.6**	**-0.9**
	comp=N,22nm,0.2s							
FLN	**La Foliniere**	**2.29**	**65**	*e*Pn		**Pn**	**07 14 30.4**	**+1.4**
	baz=249							
FLN	**La Foliniere**	**2.29**	**65**	*e*Pg		**Pg**	**07 14 35.9**	**+0.1**
FLN				*e*Sn		**Sn**	**07 14 57.9**	**+1.0**
FLN				*e*Sg		**Sg**	**07 15 05.8**	**+0.3**
	comp=N,11nm,0.1s							
LDF	**La Druitiere**	**2.46**	**71**	*e*Pn		**Pn**	**07 14 32.9**	**+1.6**
LDF	**La Druitiere**	**2.46**	**71**	*e*Pg		**Pg**	**07 14 39.1**	**+0.1**
LDF				*e*Sg		**Sg**	**07 15 11.4**	**+0.5**
	comp=N,11nm,0.2s							
DYA	**Yadsworthy**	**2.62**	**356**	Pn		**Pn**	**07 14 33.8**	**+0.4**
MFF	**Saint Martin d**	**2.67**	**116**	*e*Pn		**Pn**	**07 14 35.5**	**+1.4**
MFF	**Saint Martin d**	**2.67**	**116**	*e*P		**Pb**	**07 14 38.2**	**-1.0**
MFF	**Saint Martin d**	**2.67**	**116**	*e*Pg		**Pg**	**07 14 43.2**	**+0.2**
MFF				*e*Sg		**Sg**	**07 15 18.1**	**+0.6**
	comp=N,15nm,0.2s							
MFF	**Saint Martin d**	**2.67**	**116**	Pn		**Pn**	**07 14 36.2**	**+2.0**
CHIF	**Chize**	**2.78**	**127**	Pn		**Pb**	**07 14 39.5**	**-1.6**
LFF	**La Frestale**	**4.18**	**132**	*e*P		**Pn**	**07 14 59.2**	**+4.3**
LFF	**La Frestale**	**4.18**	**132**	*e*Pg		**Pb**	**07 15 09.4**	**+4.5**
LFF				*e*Sg		**Sg**	**07 16 05.1**	**-0.8**
	comp=N,6.3nm,0.3s							
TCF	**Toulx Ste Croi**	**4.27**	**109**	*e*Pn		**Pn**	**07 14 57.6**	**+1.4**
TCF	**Toulx Ste Croi**	**4.27**	**109**	*e*Pg		**Pg**	**07 15 13.0**	**-0.6**
TCF				*e*Sn		**Sn**	**07 15 45.6**	**-0.1**
	comp=N,1.5nm,0.3s							
TCF				*e*Sg		**Sg**	**07 16 08.2**	**-0.8**
	comp=N,3.0nm,0.2s							
HYF	**Humbligny**	**4.28**	**95**	*e*Sg		**Sg**	**07 16 08.4**	**-0.6**
RJF	**Les Rejaudoux**	**4.35**	**124**	*e*Pn		**Pn**	**07 14 58.4**	**+1.1**
RJF				*e*Sn		**Sn**	**07 15 47.4**	**-0.2**
	comp=N,1.1nm,0.1s							
RJF				*e*Sg		**Sg**	**07 16 10.6**	**-0.9**
	comp=N,5.7nm,0.3s							
BGF	**Bois d'Agland**	**4.59**	**104**	*e*Pn		**Pn**	**07 15 01.9**	**+1.4**
BGF				*e*Sn		**Sn**	**07 15 53.0**	**-0.5**
BGF				*e*Sg		**Sg**	**07 16 17.9**	**-1.2**
	comp=N,7.2nm,0.3s							
AVF	**Avril sur Loir**	**4.86**	**100**	*e*Pn		**Pn**	**07 15 05.1**	**+0.9**
AVF				*e*Sn		**Sn**	**07 15 59.5**	**-0.5**
	comp=N,0.4nm,0.1s							
AVF				*e*Sg		**Sg**	**07 16 26.4**	**-1.2**
	comp=N,1.8nm,0.4s							
CAF	**Calviac**	**4.89**	**124**	*e*Pn		**Pn**	**07 15 06.0**	**+1.3**
CAF	**Calviac**	**4.89**	**124**	*e*P		**Pn**	**07 15 09.4**	**+4.7**
CAF				*e*Sn		**Sn**	**07 16 00.2**	**-0.8**
	comp=N,1.7nm,0.3s							
CAF				*e*Sg		**Sg**	**07 16 27.5**	**-1.2**
	comp=N,2.9nm,0.3s							
SSF	**Saint Saulge**	**4.89**	**96**	*e*Pn		**Pn**	**07 15 05.8**	**+1.0**
SSF	**Saint Saulge**	**4.89**	**96**	*e*Pg		**Pg**	**07 15 24.4**	**-1.1**
SSF				*e*Sn		**Sn**	**07 16 00.5**	**-0.5**
	comp=N,1.1nm,0.3s							
SSF				*e*Sg		**Sg**	**07 16 27.7**	**-1.2**
	comp=N,2.7nm,0.4s							
SJPF	**Ste Jean**	**5.01**	**159**	*e*Pn		**Pn**	**07 15 07.2**	**+0.9**
SJPF				*e*Sn		**Sn**	**07 16 02.6**	**-1.3**
	comp=N,0.7nm,0.1s							
SJPF				*e*Sg		**Sg**	**07 16 30.6**	**-2.0**
	comp=N,0.7nm,0.2s							
LOR	**Lormes**	**5.09**	**94**	*e*Pn		**Pn**	**07 15 08.2**	**+0.7**
	baz=274							
LOR	**Lormes**	**5.09**	**94**	*e*Pg		**Pg**	**07 15 27.8**	**-1.6**
LOR				*e*Sn		**Sn**	**07 16 05.3**	**-0.7**
	comp=N,1.3nm,0.3s							
LOR				*e*Sg		**Sg**	**07 16 34.1**	**-1.2**
	comp=N,1.9nm,0.3s							
SMF	**Signal de Mont**	**5.22**	**100**	*e*Sn		**Sn**	**07 16 08.1**	**-0.9**
	comp=N,0.7nm,0.1s							
SMF				*e*Sg		**Sg**	**07 16 37.7**	**-1.5**
	comp=N,0.8nm,0.2s							
ETSF	**Etsaut**	**5.38**	**155**	*e*Pn		**Pn**	**07 15 12.5**	**+1.0**
ETSF				*e*Sn		**Sn**	**07 16 11.7**	**-1.5**
	comp=N,0.6nm,0.2s							
EPF	**Esparros**	**5.55**	**148**	*e*Pn		**Pn**	**07 15 14.7**	**+0.9**
EPF				*e*Sn		**Sn**	**07 16 15.8**	**-1.5**
	comp=N,0.8nm,0.2s							
BAIF	**Baives**	**5.62**	**64**	*e*Sn		**Sn**	**07 16 17.6**	**-1.2**
	comp=N,2.4nm,0.3s							
SFTF	**Sexfontaines**	**5.82**	**83**	*e*Sn		**Sn**	**07 16 22.6**	**-1.3**
	comp=N,2.0nm,0.1s							
GIVF	**Givet**	**6.01**	**65**	*e*Sn		**Sn**	**07 16 27.0**	**-1.4**
	comp=N,2.5nm,0.2s							

*JMA **08** 07:18:19.6±0.2, 24°.N±.1°×121°.9E±0°.8, h43km±3km, MV2.9/10, TAIWAN REGION*
*TAP **08** 07:18:20.1, 23°.75N×121°.99E, h40km, ML3.2, C*
ISC 08 07:18:19.3±1.1,**23°.72N**±0°.02×**121°.96E**±0°.02,**h28**km±12km, **n54**,σ0°**54**/103,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.37**	**294**	*i* P		**Pn**	**07 18 29.0**	**+0.2**
	baz=297							
TEYL				*i* S		**Sn**	**07 18 35.7**	**+0.6**
	baz=297							
HWA	**Hwalien**	**0.42**	**308**	*i* P		**Pn**	**07 18 29.4**	**-0.1**
	baz=299							
HWA				*e*S		**Sn**	**07 18 36.9**	**+0.5**
	baz=299							
TWD	**Chiawan**	**0.49**	**317**	P		**Pn**	**07 18 30.0**	**-0.6**
	baz=313							
TWD				*e*S		**Sn**	**07 18 37.1**	**-1.1**
	baz=313							
EGFH	**Guangfu**	**0.49**	**264**	*i* P		**Pn**	**07 18 30.6**	**0.0**
	baz=256							
EGFH				S		**Sn**	**07 18 38.6**	**+0.4**
	baz=256							
ESL	**Shilin**	**0.49**	**281**	*e*P		**Pn**	**07 18 30.0**	**-0.6**
	baz=271							
ESL				*e*S		**Sn**	**07 18 37.5**	**-0.8**
	baz=271							
ETL	**Fush Village**	**0.54**	**325**	P		**Pn**	**07 18 30.6**	**-0.6**
	baz=315							
ETL				*e*S		**Sn**	**07 18 38.2**	**-1.2**
	baz=315							
HGSD	**Ruisui**	**0.54**	**246**	*i* P		**Pn**	**07 18 31.3**	**0.0**
	baz=244							
HGSD				*e*S		**Sn**	**07 18 39.5**	**0.0**
	baz=244							
NACB	**Ninganchiao**	**0.56**	**323**	P		**Pn**	**07 18 31.0**	**-0.5**
	baz=316							
NACB				*e*S		**Sb**	**07 18 38.6**	**+0.1**
	baz=316							
EHY	**Hungye**	**0.62**	**250**	P		**Pn**	**07 18 32.7**	**+0.3**
	baz=262							
EHY				*i* S		**Sn**	**07 18 41.9**	**+0.4**
	baz=262							
ETLH	**Xiulin Townshi**	**0.66**	**318**	P		**Pn**	**07 18 32.5**	**-0.4**
	baz=314							
ETLH				*e*S		**Sn**	**07 18 41.3**	**-1.1**
	baz=314							
YULB	**Yu-li**	**0.69**	**242**	*i* P		**Pn**	**07 18 33.7**	**+0.4**
	baz=254							
YULB				*i* S		**Sn**	**07 18 43.5**	**+0.4**
	baz=254							
EYUL	**Yuli**	**0.70**	**238**	P		**Pn**	**07 18 34.0**	**+0.6**
	baz=229							
EYUL				*e*S		**Sn**	**07 18 44.4**	**+1.1**
	baz=229							
ENA	**Nanau**	**0.73**	**344**	*i* P		**Pn**	**07 18 33.8**	**-0.1**
	baz=337							
ENA				S		**Sn**	**07 18 43.7**	**-0.5**
	baz=337							
EWUT	**Wuta**	**0.74**	**347**	P		**Pn**	**07 18 34.2**	**+0.2**
	baz=338							
EWUT				S		**Sn**	**07 18 44.0**	**-0.4**
	baz=338							
VWDT	**VWDT**	**0.75**	**273**	*e*P		**Pn**	**07 18 34.8**	**+0.7**
	baz=270							
VWDT				*i* S		**Sn**	**07 18 45.2**	**+0.6**
	baz=270							
OWD	**Renai**	**0.76**	**288**	*i* P		**Pn**	**07 18 34.5**	**+0.1**
	baz=285							
OWD				*e*S		**Sn**	**07 18 44.5**	**-0.5**
	baz=285							
WHF	**Hehuan Shan**	**0.77**	**304**	*i* P		**Pn**	**07 18 34.5**	**-0.2**
	baz=301							
WHF				*i* S		**Sn**	**07 18 45.2**	**-0.4**
	baz=301							
CHGB	**Renai**	**0.80**	**295**	*i* P		**Pn**	**07 18 35.1**	**+0.2**
	baz=292							
CHGB				S		**Sn**	**07 18 46.6**	**+0.5**
	baz=292							
WUSB	**Renai**	**0.82**	**290**	*i* P		**Pn**	**07 18 35.5**	**+0.3**
	baz=287							
WUSB				*i* S		**Sn**	**07 18 46.7**	**+0.2**
	baz=287							
CHKT	**Chengkung**	**0.83**	**222**	*e*P		**Pb**	**07 18 34.9**	**-0.2**
	baz=214							
CHKT				*e*S		**Sb**	**07 18 45.3**	**-0.5**
	baz=214							
FUSS	**Fushou**	**0.84**	**309**	*i* P		**Pn**	**07 18 35.7**	**+0.1**
	baz=306							
FUSS				*e*S		**Sn**	**07 18 46.6**	**-0.7**
	baz=306							
NNSB	**Datong**	**0.88**	**323**	*i* P		**Pn**	**07 18 36.0**	**-0.1**
	baz=312							
NNSB				*i* S		**Sn**	**07 18 47.8**	**-0.3**
	baz=312							
TWC	**Suao**	**0.89**	**353**	P		**Pb**	**07 18 36.6**	**+0.3**
	baz=352							
TWC				*e*S		**Sn**	**07 18 48.7**	**+0.6**
	baz=352							
TWT	**Tachien**	**0.90**	**307**	*e*P		**Pn**	**07 18 36.9**	**+0.6**
	baz=303							
TWT				*i* S		**Sn**	**07 18 48.7**	**+0.3**
	baz=303							
EHD	**Haiduan**	**0.90**	**231**	*i* P		**Pb**	**07 18 36.5**	**+0.1**
	baz=243							
EHD				S		**Sn**	**07 18 48.4**	**+0.1**
	baz=243							
NNS	**Nan Shan**	**0.90**	**323**	*i* P		**Pn**	**07 18 36.2**	**0.0**
	baz=321							
NNS				S		**Sn**	**07 18 48.4**	**0.0**
	baz=321							
LATG	**Datong**	**0.91**	**334**	*i* P		**Pn**	**07 18 36.5**	**+0.1**
	baz=331							
LATG				S		**Sn**	**07 18 48.1**	**-0.5**
	baz=331							
TDCB	**Techi**	**0.91**	**306**	*e*P		**Pn**	**07 18 37.1**	**+0.6**
	baz=303							
TDCB				*i* S		**Sn**	**07 18 48.7**	**0.0**
	baz=303							
SSLB	**Suanglung**	**0.93**	**274**	*i* P		**Pb**	**07 18 37.0**	**+0.2**
	baz=272							
NDS	**Dongshan**	**0.94**	**346**	P		**Pb**	**07 18 37.1**	**+0.1**
	baz=344							
NDS				*e*S		**Sn**	**07 18 49.8**	**+0.5**
	baz=344							
EDH	**Donghe**	**0.96**	**219**	*e*P		**Pn**	**07 18 36.9**	**-0.1**
	baz=213							
EDH				*e*S		**Sb**	**07 18 49.0**	**-0.6**
	baz=213							
ENTT	**Nioudou**	**0.99**	**338**	P		**Pb**	**07 18 37.9**	**0.0**
	baz=328							
ENTT				*i* S		**Sn**	**07 18 50.4**	**-0.1**
	baz=328							
SMLT	**Sun Moon Lake**	**0.99**	**280**	*e*P		**Pb**	**07 18 38.4**	**+0.5**
	baz=271							
WHYT	**Xinyi Township**	**1.02**	**269**	*e*P		**Pb**	**07 18 39.1**	**+0.8**
	baz=267							
WHYT				S		**Sn**	**07 18 52.0**	**+0.8**
	baz=267							
WCS	**Beigang Elemen**	**1.02**	**290**	P		**Pb**	**07 18 38.6**	**+0.3**
	baz=278							
TYC	**Yuchr**	**1.03**	**281**	*e*P		**Pb**	**07 18 38.8**	**+0.2**
	baz=278							
TWE	**Neicheng**	**1.03**	**345**	*e*P		**Pb**	**07 18 38.7**	**+0.1**
	baz=344							
TWE				*e*S		**Sb**	**07 18 52.1**	**+0.3**
	baz=344							
WHP	**Taichung City**	**1.08**	**301**	*e*P		**Pb**	**07 18 40.7**	**+1.2**
	baz=305							
FUSB	**Fushanzhiwuyua**	**1.09**	**342**	P		**Pb**	**07 18 39.4**	**-0.2**
	baz=328							
FUSB				*i* S		**Sb**	**07 18 53.0**	**-0.5**
	baz=328							
LONT	**Longtian**	**1.11**	**224**	*i* P		**Pb**	**07 18 39.7**	**-0.3**
	baz=234							
LONT				S		**Sb**	**07 18 53.9**	**-0.2**
	baz=234							
LDUT	**Ludao**	**1.14**	**204**	*e*P		**Pn**	**07 18 39.3**	**-0.1**
	baz=204							
LDUT				*e*S		**Sn**	**07 18 52.8**	**-1.2**
	baz=204							
NWLT	**Wulai**	**1.14**	**338**	P		**Pb**	**07 18 39.9**	**-0.4**
	baz=325							
NWLT				*i* S		**Sb**	**07 18 54.1**	**-0.6**
	baz=325							
JYNG	**Yonagunijimaku**	**1.16**	**51**	*e*P		**Pn**	**07 18 40.1**	**+0.5**
JYNG				*e*S		**Sn**	**07 18 54.5**	**0.0**
YOJ	**Yonaguni jima**	**1.21**	**52**	P		**Pn**	**07 18 41.0**	**+0.6**
YOJ				S		**Sn**	**07 18 56.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.21**	**52**	*e*P		**Pn**	**07 18 41.1**	**+0.6**
	baz=52							
YOJ				*e*S		**Sn**	**07 18 55.3**	**-0.6**
	baz=52							
TWG	**Pinlang**	**1.21**	**223**	P		**Pn**	**07 18 40.6**	**+0.1**
	baz=232							
TWG				*i* S		**Sn**	**07 18 56.4**	**+0.4**
	baz=232							
TWB1	**Santiao Chiao**	**1.28**	**1**	P		**Pn**	**07 18 42.0**	**+0.5**
TWB1				*i* S		**Sn**	**07 18 57.5**	**-0.3**
SXI1	**Grass Mountain**	**1.37**	**357**	*e*P		**Pb**	**07 18 44.0**	**-0.4**
	baz=10.0							
SXI1				S		**Sn**	**07 19 00.3**	**+0.2**
	baz=10.0							
LAY	**Lan-yu**	**1.71**	**193**	*e*P		**Pn**	**07 18 47.2**	**-0.2**
	baz=193							
LAY				*e*S		**Sn**	**07 19 07.1**	**-1.3**
	baz=193							
HATJ	**Hateruma jima**	**1.72**	**78**	P		**Pn**	**07 18 47.9**	**+0.5**
HATJ				S		**Sn**	**07 19 08.8**	**+0.3**
IRIF	**Iriomote-Funau**	**1.73**	**69**	P		**Pn**	**07 18 48.2**	**+0.6**
IRIF				S		**Sn**	**07 19 09.1**	**+0.3**
JKRS	**Kuro-shima**	**1.94**	**74**	P		**Pn**	**07 18 51.5**	**+1.0**
JKRS				S		**Sn**	**07 19 14.9**	**+0.9**
JIJ	**Ishigaki jima**	**2.09**	**72**	P		**Pn**	**07 18 52.9**	**+0.3**
JIJ				S		**Sn**	**07 19 17.2**	**-0.5**
JISG	**Ishigakijimahi**	**2.31**	**68**	P		**Pn**	**07 18 55.7**	**+0.1**
JISG				S		**Sn**	**07 19 21.8**	**-1.3**

*NNC **08** 07:36:51.8±0.6, 49°.99N×78°.42E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=5.9km s-min=2.4km az=78.0, Suspected Mining explosion.*
*IDC **08** 07:36:52.8±0.7, 50°.06N×78°.78E, h0km, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=10.0km s-min=5.6km az=62.0*
ISC 08 07:36:53.4±0.8,**50°.05N**±0°.04×**78°.67E**±0°.04,**h0**km,**n23**, σ1°**11**/36,**18C-6D**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.54**	**350**	⇑P		**Pg**	**07 37 03.5**	**-0.3**
KUR07				⇑S		**Sg**	**07 37 12.0**	**+1.1**
KUR06	**Kurchatov Arra**	**0.56**	**351**	⇑P		**Pg**	**07 37 03.9**	**-0.4**
KUR06				⇓S		**Sg**	**07 37 13.0**	**+1.5**
KUR14	**Kurchatov Arra**	**0.57**	**355**	⇑P		**Pg**	**07 37 03.8**	**-0.5**
KUR14				⇑S		**Sg**	**07 37 12.6**	**+0.9**
KUR15	**Kurchatov Arra**	**0.57**	**353**	⇑P		**Pg**	**07 37 04.1**	**-0.3**
KUR15				⇑S		**Sg**	**07 37 13.0**	**+1.1**
KURBB	**Kurchatov Arra**	**0.58**	**351**	Pg		**Pg**	**07 37 04.3**	**-0.3**
	4.3nm,0.3s,baz=165,slow=19,SNR=140							
KURBB				Lg		Lg	07 37 12.0	
	3.7nm,0.3s,baz=167,slow=34,SNR=17							
KURBB	**Kurchatov Arra**	**0.58**	**351**	⇑P		**Pg**	**07 37 04.1**	**-0.4**
	47nm,0.4s							
KURBB				⇑S		**Sg**	**07 37 13.2**	**+1.1**
	73nm,0.4s							
KUR16	**Kurchatov Arra**	**0.59**	**349**	⇑P		**Pg**	**07 37 04.3**	**-0.4**
KUR16				⇑S		**Sg**	**07 37 13.5**	**+1.1**
KUR17	**Kurchatov Arra**	**0.60**	**348**	⇓P		**Pg**	**07 37 04.6**	**-0.3**
	6.9nm,0.3s							
KUR17				⇓S		**Sb**	**07 37 14.2**	**-1.6**
KUR05	**Kurchatov Arra**	**0.60**	**352**	⇑P		**Pg**	**07 37 04.4**	**-0.5**
KUR05				⇑S		**Sg**	**07 37 13.7**	**+1.0**
KUR04	**Kurchatov Arra**	**0.62**	**353**	⇓P		**Pg**	**07 37 04.8**	**-0.5**
KUR04				⇓S		**Sg**	**07 37 14.6**	**+1.3**
SEM	**Semipalatinsk**	**1.08**	**70**	P		**Pg**	**07 37 14.7**	**+0.6**
	14nm,0.1s							
SEM				S		**Sn**	**07 37 33.2**	**+1.4**
	31nm,0.2s							
MAKZ	**Makanchi**	**3.92**	**145**	⇑Pn		**Pn**	**07 37 54.6**	**-0.2**
	0.2nm,0.2s							
MAKZ				⇑Pg		**Pb**	**07 38 02.6**	**-0.7**
	1.0nm,0.3s							
MAKZ				⇓Lg		Lg	07 38 51.4	
	5.3nm,0.4s							
MK31	**Makanchi Array**	**4.05**	**142**	⇑Pn		**Pn**	**07 37 56.4**	**-0.3**
	0.2nm,0.1s,baz=328,slow=10,SNR=76							
MK31				⇑Pg		**Pb**	**07 38 05.3**	**-0.3**
	1.2nm,0.3s,baz=316,

	4.3nm,0.6s						
KURS				Lg	Lg	07 40 21.7	
	6.2nm,0.4s						
SHLS	**Shalkode**	**6.92 175**		Pg	Pg	07 39 00.1	-5.7
	1.3nm,0.3s						
SHLS				Lg	Lg	07 40 33.1	
	101nm,0.6s						
KST	**Kastek**	**7.25 196**		Pg	**Pb**	**07 39 02.0**	**+1.8**
	1.8nm,0.6s						
KST				Lg	Lg	07 40 36.5	
	8.0nm,0.7s						
AAK	**Ala-Archa**	**7.95 203**		Pn	**Pn**	**07 38 49.8**	**-0.6**
	0.2nm,0.3s,baz=6.3,slow=18,SNR=1.8						
AAK				Lg	Lg	07 41 03.1	
	0.3nm,0.3s,baz=32,slow=19,SNR=2.1						
	0.8nm,0.5s						

IDC ***08*** *07:47:20.7±0.6,4°.13N×126°.74E, h0km, mb4.2/17, mbtmp4.2/18, ML4.0/1, MS3.3/8, Error ellipse: s-maj=42.5km s-min=12.7km az=65.0*

NEIC ***08*** *07:47:24.4±0.9,4°.19N±0°.07×126°.84E±0°.09, h21km±4km, mb4.5/26, Error ellipse: s-maj=15.8km s-min=7.4km az=55.0*

ISC 08 07:47:22.8±0.4, 4°.11N±0°.05×126°.83E±0°.08, h10km, n70, σ1ᵍ40/70, mb4.5/33, MS3.5/7, 2C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.71**	**316**	*eP*	**Pn**	**07 48 08.8**	**+2.2**
DAV	**Davao City (W)**	**3.19**	**337**	Pn	**Pb**	**07 48 17.3**	**-2.4**
	baz=129,slow=23						
DAV				Sn	**Sb**	**07 48 56.1**	**-2.5**
	51nm,0.3s,baz=227,slow=18,SNR=3.7						
TNTI	**Ternate**	**3.36**	**171**	Pn	**Pn**	**07 48 16.9**	**+1.5**
KCP	**Kidapawan**	**3.36**	**329**	*eP*	**Pn**	**07 48 19.5**	**+4.0**
KCP				*i* S	**Sb**	**07 49 05.4**	**+1.9**
BIPH	**Bislig**	**4.08**	**353**	*eP*	**Pb**	**07 48 34.3**	**-0.3**
CGP	**Cagayan de Oro**	**4.81**	**334**	*eP*	**Pb**	**07 48 47.7**	**+0.5**
LUWI	**Luwuk**	**6.53**	**218**	Pn	**Pn**	**07 48 59.8**	**+0.9**
SIJI	**Sorong**	**6.64**	**138**	Pn	**Pn**	**07 49 02.0**	**+1.4**
	3.1nm,0.3s,baz=357,slow=14,SNR=5.1						
SIJI				Sn	**Sn**	**07 50 17.8**	**+1.4**
	3.4nm,0.3s,baz=239,slow=24,SNR=2.8						
	8.0nm,0.3s						
TOLI2	**Tolitoli**	**6.73**	**244**	Pn	**Pn**	**07 49 02.4**	**+0.6**
FAKI	**Fak Fak**	**8.84**	**142**	Pn	**Pn**	**07 49 31.1**	**+0.4**
KAPI	**Kappang**	**11.49**	**218**	LR	LR	07 55 10.6	
	comp=Z,112nm,19.2s,baz=53,slow=41						
SBUM	**Sibu**	**14.68**	**264**		**Pn**	**07 50 50.3**	**-0.3**
MTN	**Manton Dam**	**17.38**	**166**	P	**Pn**	**07 51 25.9**	**+0.4**
MTN				IAmb	IAmb	07 51 30.5	
	comp=Z,18nm,0.7s						
JAGI	**Jajag, Banyuwa**	**17.77**	**225**	P	**Pn**	**07 51 30.9**	**+0.4**
KNRA	**Kununurra**	**19.75**	**174**	P	**P**	**07 51 53.7**	**+0.7**
KNRA				IAmb	IAmb	07 51 57.8	
	comp=Z,15nm,0.6s						
TPUB	**Ta-pu**	**20.00**	**343**	P	**P**	**07 51 53.9**	**-1.8**
TPUB				IAmb	IAmb	07 52 01.8	
	comp=Z,21nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.10**	**183**	P	**P**	**07 52 19.1**	**+0.7**
WB0	**Warramunga Arr**	**24.86**	**163**	P	**P**	**07 52 45.7**	**0.0**
WB0				IAmb	IAmb	07 52 46.7	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**25.01**	**163**	P	**P**	**07 52 46.7**	**-0.4**
WRAB				IAmb	IAmb	07 52 51.3	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**07 52 46.5**	**-0.6**
	comp=Z,7.0nm,0.8s,baz=344,slow=11,SNR=57						
	comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**07 52 46.6**	**-0.6**
WB2	**Warramunga Arr**	**25.02**	**163**	P	**P**	**07 52 47.1**	**0.0**
WB2				IAmb	IAmb	07 52 51.4	
	comp=Z,16nm,0.9s						
WR0	**Warramunga Arr**	**25.09**	**163**	P	**P**	**07 52 47.6**	**-0.2**
WR0				IAmb	IAmb	07 52 58.2	
	comp=Z,11nm,1.0s						
MBWA	**Marble Bar**	**26.06**	**195**	P	**P**	**07 52 56.0**	**-0.5**
MBWA				IAmb	IAmb	07 53 03.9	
	comp=Z,13nm,0.9s						
AS31	**Alice Springs**	**28.45**	**166**	P	**P**	**07 53 18.0**	**-0.2**
ASAR	**Alice Springs**	**28.46**	**166**	P	**P**	**07 53 17.9**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=340,slow=6.5,SNR=23						
ASAR				PcP	**PcP**	**07 56 29.3**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=348,slow=2.4,SNR=2.4						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**28.46**	**166**	P	**P**	**07 53 17.3**	**-0.8**
NJ2	**Nanjing**	**28.79**	**346**	*eP*	**P**	**07 53 21.1**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
JNU	**Nakatsue**	**29.11**	**7**	LR	LR	08 04 55.0	
	comp=Z,44nm,22.0s,baz=187,slow=36						
JNU	**Nakatsue**	**29.11**	**7**	P	**P**	**07 53 21.6**	**-2.3**
CMAR	**Chiang Mai Arr**	**30.77**	**300**	P	**P**	**07 53 38.6**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=114,slow=8.0,SNR=5.2						
CMAR				LR	LR	08 06 12.5	
	comp=Z,26nm,21.8s,baz=90,slow=37						
	comp=Z,0.9nm,0.3s						
PZH	**PanZhiHua**	**32.74**	**315**	P	**P**	**07 53 58.3**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,5.7s						
TNCH	**TengChong**	**34.25**	**310**	*eP*	**P**	**07 54 11.1**	**+1.7**
FORT	**Forrest**	**34.71**	**178**	P	**P**	**07 54 13.5**	**+0.5**
EIDS	**Eidsvold**	**37.59**	**142**	P	**P**	**07 54 38.0**	**+0.2**
EIDS				IAmb	IAmb	07 54 57.5	
	comp=Z,18nm,1.3s						
BBOO	**Buckleboo**	**37.75**	**167**	P	**P**	**07 54 39.5**	**+0.5**
STKA	**Stephens Creek**	**38.45**	**160**	P	**P**	**07 54 45.0**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=338,slow=7.4,SNR=7.1						
	comp=Z,1.9nm,0.3s						
STKA	**Stephens Creek**	**38.45**	**160**	P	**P**	**07 54 43.7**	**-1.2**
HHC	**Hu-ho-hao-te**	**39.07**	**342**	*eP*	**P**	**07 54 52.1**	**+1.9**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.2s						
SHL	**Shillong**	**39.73**	**306**	P	**P**	**07 54 54.5**	**-1.5**
SHL				IAmb	IAmb	07 54 56.6	
	comp=Z,6.1nm,0.6s						
ARMA	**Armidale**	**41.73**	**147**	P	**P**	**07 55 11.2**	**-1.1**
ARMA				IAmb	IAmb	07 55 30.6	
	comp=Z,23nm,1.4s						
GTA	**Gaotai**	**42.82**	**329**	*eP*	**P**	**07 55 24.1**	**+2.9**
GTA				pP	sP	07 55 33.6	+8.0
GTA				sP	pP	07 55 38.1	+14
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CAN	**Canberra**	**44.41**	**154**	P	**P**	**07 55 33.6**	**-0.3**
SONM	**Songino Array**	**46.97**	**341**	P	**P**	**07 55 54.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=165,slow=9.9,SNR=4.5						
SONM				PcP	**PcP**	**07 57 25.4**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=127,slow=3.8,SNR=2.8						
	comp=Z,0.4nm,0.5s						
WMQ	**Urumqi**	**52.47**	**325**	*eP*	**P**	**07 56 34.5**	**-1.5**
WMQ				pP	sP	07 56 46.4	+6.0
WMQ				PcP	**PcP**	**07 57 50.7**	**+4.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MK31	**Makanchi Array**	**57.30**	**325**	P	**P**	**07 57 10.2**	**-0.7**
MK31				IAmb	IAmb	07 57 22.7	
	comp=Z,3.7nm,1.4s						
MKAR	**Makanchi Array**	**57.30**	**325**	P	**P**	**07 57 10.0**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=116,slow=8.0,SNR=18						
MKAR				LR	LR	08 21 57.0	
	comp=Z,40nm,18.1s,baz=64,slow=36						
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**57.30**	**325**	P	**P**	**07 57 09.9**	**-0.9**
MAKZ	**Makanchi**	**57.49**	**325**	P	**P**	**07 57 11.4**	**-0.8**
MAKZ				IAmb	IAmb	07 57 16.0	
	comp=Z,3.4nm,1.1s						
YAK	**Yakutsk**	**57.83**	**2**	LR	LR	08 20 48.0	
	comp=Z,24nm,21.8s,baz=74,slow=35						
AAK	**Ala-Archa**	**60.15**	**318**	LR	LR	08 25 30.2	
	comp=Z,40nm,18.1s,baz=114,slow=38						
ZALV	**Zalesovo Beam**	**60.30**	**333**	P	**P**	**07 57 29.9**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=134,slow=8.3,SNR=2.6						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**61.47**	**327**	P	**P**	**07 57 38.4**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=127,slow=6.2,SNR=16						
	comp=Z,1.9nm,0.6s						
KURK	**Kurchatov**	**61.48**	**327**	P	**P**	**07 57 38.3**	**-1.3**
KURK				IAmb	IAmb	07 57 51.3	
	comp=Z,4.5nm,0.8s						
KKAR	**Karatay Array**	**63.02**	**317**	P	**P**	**07 57 48.8**	**-1.4**
BVAR	**Borovoye Array**	**67.06**	**327**	P	**P**	**07 58 15.0**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=137,slow=14,SNR=6.7						
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**67.13**	**327**	P	**P**	**07 58 15.6**	**-1.1**
TIXI	**Tiksi**	**67.47**	**1**	P	**P**	**07 58 18.4**	**0.0**
	comp=Z,2.3nm,0.3s,baz=270,slow=8.1,SNR=3.7						
	comp=Z,2.3nm,0.3s						
NRIK	**Norilsk**	**70.09**	**346**	P	**P**	**07 58 34.4**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=117,slow=6.1,SNR=4.2						
	comp=Z,2.0nm,0.4s						
ABKAR	**Akbulak array**	**71.92**	**321**	P	**P**	**07 58 45.5**	**-0.9**
ARU	**Arti**	**74.67**	**328**	LR	LR	08 33 30.2	
	comp=Z,22nm,18.2s,baz=344,slow=37						
KIRV	**Kirov**	**79.95**	**329**	LR	LR	08 35 29.9	
	comp=Z,47nm,19.3s,baz=15,slow=36						
KVAR	**Kislovodsk Arr**	**82.94**	**314**	P	**P**	**07 59 47.9**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=97,slow=8.1,SNR=1.4						
	comp=Z,1.9nm,0.4s						
VNDA	**Vanda**	**83.79**	**173**	P	**P**	**07 59 52.5**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=318,slow=4.9,SNR=3.9						
	comp=Z,1.6nm,0.8s						
VNDA	**Vanda**	**83.79**	**173**	P	**P**	**07 59 52.3**	**+0.5**
ILAR	**Eielson Array**	**84.72**	**25**	P	**P**	**07 59 56.9**	**0.0**
	comp=Z,1.3nm,1.1s,baz=256,slow=5.1,SNR=3.6						
	comp=Z,1.3nm,1.1s						
BMAR	**Burnt Mountain**	**85.69**	**23**	P	**P**	**08 00 02.0**	**+0.3**
ARCES	**ARCESS Array B**	**90.13**	**340**	P	**P**	**08 00 21.4**	**-1.5**
	comp=Z,3.3nm,0.9s,baz=80,slow=5.8,SNR=1.6						
	comp=Z,3.3nm,0.9s						
FINES	**FINESS Array B**	**91.55**	**332**	P	**P**	**08 00 27.0**	**-2.6**
	comp=Z,0.9nm,0.7s,baz=83,slow=4.3,SNR=1.0						
	comp=Z,0.9nm,0.7s						
AKASG	**Malin Array Be**	**91.66**	**321**	P	**P**	**08 00 28.6**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=62,slow=4.3,SNR=5.1						
	comp=Z,0.3nm,0.5s						

IDC ***08*** *08:03:57.2±0.9,29°.45N×70°.30E, h0km, mb3.8/13, mbtmp3.8/16, ML3.5/3, MS3.6/2, Error ellipse: s-maj=25.9km s-min=18.0km az=60.0*

ISC 08 08:03:57.5±0.7, 29°.28N±0°.09×70°.25E±0°.05, h10km, n25, σ2ᵍ93/28, mb3.8/13, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NDI	**New Delhi**	**6.13**	**94**	*eP*	**Pg**	**08 05 57.0**	**+2.1**
NDI				*eS*	**Sb**	**08 07 03.0**	**+5.2**
KOLN	**Koldanda**	**11.83**	**94**	*eP*	**Pn**	**08 06 46.7**	**+0.1**
KOLN				*eS*	**Sn**	**08 08 52.6**	**-6.2**
	1.4nm,0.4s						
DANN	**Dangsing**	**11.88**	**91**	*eP*	**Pn**	**08 06 47.9**	**+0.6**
DANN				*eS*	**Sn**	**08 08 55.2**	**-5.0**
	12nm,0.5s						
WSAR	**Wadi Sarin**	**12.04**	**243**	Pn	**Pn**	**08 06 51.2**	**+2.0**
	0.2nm,0.3s,baz=99,slow=18,SNR=1.8						
WSAR				Sn	**Sn**	**08 08 57.9**	**-5.7**
	0.3nm,0.3s,baz=225,slow=13,SNR=1.4						
	2.3nm,0.8s						
AAK	**Ala-Archa**	**13.76**	**13**	Pn	**Pn**	**08 07 10.6**	**-2.2**
	0.5nm,0.3s,baz=198,slow=9.1,SNR=7.2						
	1.3nm,0.3s						
JIRN	**Jiri**	**14.11**	**93**	*eP*	**Pn**	**08 07 17.4**	**-0.5**
RAMN	**Ramite**	**14.61**	**95**	*eP*	**Pn**	**08 07 23.6**	**-1.0**
RAMN				*eS*	**Sn**	**08 09 59.4**	**-7.4**
	5.7nm,0.3s						
TAPN	**Taplejung**	**15.50**	**93**	*eP*	**Pn**	**08 07 36.1**	**-0.4**
MKAR	**Makanchi Array**	**19.85**	**25**	P	**P**	**08 08 26.4**	**-2.1**
	0.1nm,0.3s,baz=202,slow=11,SNR=6.6						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**22.21**	**14**	P	**P**	**08 08 52.0**	**-1.9**
	0.8nm,0.7s,baz=206,slow=9.6,SNR=4.5						
	0.8nm,0.7s						
AKTO	**Aktyubinsk**	**23.06**	**340**	P	**P**	**08 09 03.8**	**+0.8**
	1.1nm,0.5s,baz=173,slow=8.1,SNR=2.6						
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**23.72**	**0**	P	**P**	**08 09 08.8**	**-0.8**
	0.6nm,0.5s,baz=166,slow=8.9,SNR=3.6						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**26.84**	**19**	P	**P**	**08 09 38.5**	**+0.5**
	0.4nm,0.4s,baz=229,slow=8.8,SNR=2.9						
	0.4nm,0.4s						
SONM	**Songino Array**	**33.40**	**46**	P	**P**	**08 10 37.7**	**+1.4**
	0.7nm,0.7s,baz=245,slow=9.0,SNR=2.6						
	0.7nm,0.7s						
AKASG	**Malin Array Be**	**37.38**	**317**	P	**P**	**08 11 11.1**	**+0.8**
	0.2nm,0.3s,baz=96,slow=6.8,SNR=9.9						
	0.2nm,0.3s						
MLR	**Muntele Rosu**	**38.22**	**307**	LR	LR	08 31 11.6	
	comp=Z,66nm,20.0s,baz=158,slow=43						
FINES	**FINESS Array B**	**43.30**	**331**	P	**P**	**08 11 60.0**	**+0.8**
	1.8nm,0.9s,baz=147,slow=8.1,SNR=1.6						
	1.8nm,0.9s						
ARCES	**ARCESS Array B**	**47.65**	**340**	P	**P**	**08 12 34.1**	**+0.6**
	3.2nm,0.9s,baz=123,slow=6.6,SNR=5.5						
	3.2nm,0.9s						
NB2	**NORSAR Subarra**	**49.92**	**327**	P	**P**	**08 12 51.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=102,slow=7.9						
NOA	**NORSAR Array B**	**49.92**	**327**	P	**P**	**08 12 49.9**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=102,slow=7.7,SNR=4.7						
	comp=Z,0.8nm,0.7s						
JOW	**Kunigami**	**50.81**	**78**	LR	LR	08 35 01.3	
	comp=Z,68nm,20.1s,baz=6.0,slow=37						
WRA	**Warramunga Arr**	**78.80**	**120**	P	**P**	**08 16 02.4**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=319,slow=5.2,SNR=18						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**80.72**	**124**	P	**P**	**08 16 13.1**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=306,slow=5.8,SNR=24						
	comp=Z,0.7nm,0.4s						
INK	**Inuvik**	**81.11**	**9**	P	**P**	**08 16 13.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=8.4,slow=4.5,SNR=6.9						
	comp=Z,0.6nm,0.4s						
YKA	**Yellowknife Ar**	**88.47**	**2**	P	**P**	**08 16 50.6**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=344,slow=5.1,SNR=6.9						
	comp=Z,0.4nm,0.5s						

IDC ***08*** *08:04:17.9±2.5,42°.31N×142°.01E, h83km±23km, mb3.2/7, mbtmp3.6/7, Error ellipse: s-maj=28.4km s-min=21.7km az=93.0*

JMA ***08*** *08:04:18.8±0.2,42°.4N±0°.6×142°.1E±0°.7, h92km±1km, MV3.2/40, S OFF URAKAWA*

ISC 08 08:04:18.8±0.8, 42°.36N±0°.04×142°.07E±0°.04, h91km±6km, n32, σ0ᵍ78/40, mb3.3/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIAM	**Iburiatsuma**	**0.28**	**337**	*eP*	**Pn**	**08 04 32.7**	**+0.5**
JIAM				*eS*	**Sn**	**08 04 43.1**	**+1.0**
JSHD	**Hidakashinhida**	**0.29**	**80**	*eP*	**Pn**	**08 04 32.5**	**+0.3**
JBT2	**Biratori 2**	**0.47**	**27**	*i* P	**Pn**	**08 04 33.2**	**-0.1**
JBT2				*eS*	**Sn**	**08 04 43.8**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.51**	**99**	*i* P	**Pn**	**08 04 33.8**	**+0.2**
JEW	**Eniwo**	**0.67**	**316**	*i* P	**Pn**	**08 04 35.2**	**+0.2**
JEW				*eS*	**Sn**	**08 04 46.7**	**-0.4**
JNB	**Noboribetsu**	**0.77**	**278**	*i* P	**Pn**	**08 04 35.8**	**-0.2**
JNB				S	**Sn**	**08 04 48.6**	**-0.4**
JEM	**Erimo**	**0.88**	**113**	*eP*	**Pn**	**08 04 38.2**	**+1.1**
JFR	**Furan**	**0.89**	**25**	*i* P	**Pn**	**08 04 37.0**	**-0.3**
JFR				*eS*	**Sn**	**08 04 50.7**	**-0.5**
JKB	**Kayabe**	**0.91**	**239**	*i* P	**Pn**	**08 04 37.8**	**+0.4**
JKB				S	**Sn**	**08 04 51.3**	**-0.2**
JCH	**Churui**	**0.99**	**75**	*i* P	**Pn**	**08 04 38.6**	**+0.3**
JCH				*eS*	**Sn**	**08 04 53.0**	**0.0**
JISS	**Ishikarishitsu**	**1.03**	**332**	P	**Pn**	**08 04 39.1**	**+0.3**
JISS				S	**Sn**	**08 04 54.1**	**+0.1**
JAB	**Ashibetsu**	**1.15**	**5**	*i* P	**Pn**	**08 04 41.2**	**+1.0**
JAB				*eS*	**Sn**	**08 04 57.7**	**+1.3**
JOT	**Ohata**	**1.24**	**218**	*i* P	**Pn**	**08 04 41.9**	**+0.6**
JOT				*eS*	**Sn**	**08 04 58.8**	**+0.5**
JYM2	**Yakumo 2**	**1.29**	**260**	*i* P	**Pn**	**08 04 42.5**	**+0.8**
JYM2				*eS*	**Sn**	**08 04 59.7**	**+0.4**
JHR	**Hokuryu**	**1.41**	**350**	*i* P	**Pn**	**08 04 44.3**	**+1.0**
JAR	**Ashorobuto**	**1.56**	**53**	*i* P	**Pn**	**08 04 45.3**	**+0.1**
JAR				*eS*	**Sn**	**08 05 05.4**	**+0.1**
JKK2	**Kamakawa 2**	**1.59**	**18**	*i* P	**Pn**	**08 04 46.3**	**+0.6**
JKK2				S	**Sn**	**08 05 06.7**	**+0.6**
JOMM	**Oshimamatsumae**	**1.75**	**242**	P	**Pn**	**08 04 49.2**	**+1.5**
ASAJ	**Asahikawa**	**1.80**	**12**	P	**Pn**	**08 04 49.0**	**+0.7**
	80nm,0.3s,baz=208,slow=9.3,SNR=249						
ASAJ				S	**Sn**	**08 05 11.1**	**+0.3**
	143nm,0.8s,baz=246,slow=20,SNR=12						
H11N2	**WAKE ISLAND Hy**	**30.80**	**129**	T	T	08 42 12.3	
	baz=323,slow=75,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**30.81**	**129**	T	T	08 42 18.5	
	baz=323,slow=75,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**30.82**	**129**	T	T	08 42 12.6	
	baz=323,slow=75,SNR=0.8						
H11S1	**WAKE ISLAND Hy**	**31.66**	**131**	T	T	08 43 16.0	
	baz=325,slow=74						
H11S3	**WAKE ISLAND Hy**	**31.67**	**131**	T	T	08 43 16.8	
	baz=325						
H11S2	**WAKE ISLAND Hy**	**31.68**	**131**	T	T	08 43 17.1	
	baz=325,slow=74						
MKAR	**Makanchi Array**	**41.92**	**297**	P	**P**	**08 11 58.1**	**-2.1**
	0.2nm,0.8s,baz=64,slow=6.6,SNR=1.6						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**44.78**	**35**	P	**P**	**08 12 23.3**	**+0.4**
	0.4nm,0.9s,baz=287,slow=9.3,SNR=5.5						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**47.49**	**309**	P	**P**	**08 12 45.6**	**+1.3**
	1.3nm,0.3s,baz=74,slow=8.9,SNR=12						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**62.40**	**188**	P	**P**	**08 14 32.1**	**+0.1**
	0.3nm,0.6s,baz=5.9,slow=6.6,SNR=6.0						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**64.36**	**331**	P	**P**	**08 14 44.0**	**-0.4**
	2.0nm,0.9s,baz=47,slow=6.1,SNR=5.4						
	2.0nm,0.9s						
ASAR	**Alice Springs**	**66.13**	**188**	P	**P**	**08 14 54.6**	**-1.7**
	0.4nm,0.9s,baz=22,slow=5.1,SNR=2.1						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**73.61**	**47**	P	**P**	**08 15 43.0**	**+0.7**
	0.2nm,0.4s,baz=311,slow=7.0,SNR=1.5						
	0.2nm,0.4s						

NEIC ***08*** *08:09:17.4±0.7,51°.1N±0°.2×179°.68E±0°.08, h65km±67km, Error ellipse: s-maj=34.5km s-min=5.4km az=187.0*

AEIC ***08*** *08:09:19.1±1.1,51°.4N±0°.2×179°.83E±0°.10, h26km±9km, ML3.3, Error ellipse: s-maj=24.1km s-min=8.3km az=171.0*

IDC ***08*** *08:09:21.5±2.9,51°.66N×179°.55E, h100km±21km, mb3.5/12, mbtmp3.9/13, Error ellipse: s-maj=44.2km s-min=13.6km az=180.0*

ISC 08 08:09:20.2±1.3, 51°.5N±0°.2×179°.68E±0°.06, h100km, n27, σ1ᵍ34/23, mb3.7/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIWB	**Kanaga Island**	**2.01**	**78**		**Pn**	**08 09 50.2**	**-2.6**
ADK	**Adak**	**2.30**	**79**		**Pn**	**08 09 54.0**	**-2.5**
ADK				Sn	**Sn**	**08 10 22.4**	**-2.1**
SHEM	**Shemya Is, Ala**	**3.66**	**292**	P	**Pn**	**08 10 14.2**	**-0.5**
	28nm,0.3s,baz=75,slow=20,SNR=6.4						
SHEM				S	**Sn**	**08 10 55.4**	**-1.5**
	83nm,0.3s,baz=322,slow=16,SNR=8.7						
SMY	**Shemya**	**3.66**	**292**	Pn	**Pn**	**08 10 13.7**	**-1.0**
SPIA	**Saint Paul Isl**	**8.19**	**42**	Pn	**Pn**	**08 11 16.6**	**+0.5**
UNV	**Unalaska Valle**	**8.72**	**69**	Pn	**Pn**	**08 11 23.8**	**+0.4**
AKUT	**Akutan**	**9.20**	**68**	Pn	**Pn**	**08 11 29.2**	**-0.6**
KDAK	**Kodiak Island**	**17.16**	**58**	P	**Pn**	**08 13 11.5**	**-2.0**
	1.7nm,0.3s,baz=279,slow=2.3,SNR=15						
ILAR	**Eielson Array**	**21.76**	**40**	P	**P**	**08 14 03.9**	**+0.6**
	0.3nm,0.6s,baz=236,slow=8.9,SNR=4.7						
INK	**Inuvik**	**27.92**	**35**	P	**P**	**08 15 01.1**	**+0.7**
	0.5nm,0.6s,baz=245,slow=4.8,SNR=1.7						
	0.5nm,0.6s						
KLR	**Kul'dur**	**30.23**	**285**	P	**P**	**08 15 21.3**	**+0.2**
	1.8nm,0.7s,baz=70,slow=8.2,SNR=7.0						
	1.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.25**	**202**	T	T	08 51 20.3	
	baz=13,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.26**	**202**	T	T	08 51 38.5	
	baz=13						
H11N1	**WAKE ISLAND Hy**	**33.27**	**202**	T	T	08 51 04.3	
	baz=13,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.47**	**202**	T	T	08 52 31.7	
	baz=16						
H11S2	**WAKE ISLAND Hy**	**34.49**	**202**	T	T	08 52 44.2	
	baz=16						
H11S3	**WAKE ISLAND Hy**	**34.49**	**202**	T	T	08 52 51.6	
	baz=16						
YKA	**Yellowknife Ar**	**35.84**	**46**	P	**P**	**08 16 10.4**	**+0.7**
	0.7nm,0.7s,baz=281,slow=8.7,SNR=9.3						
	0.7nm,0.7s						
NVAR	**Mina Array Bea**	**44.48**	**82**	P	**P**	**08 17 23.6**	**+2.1**
	0.8nm,0.7s,baz=296,slow=6.5,SNR=4.7						
	0.8nm,0.7s						
SONM	**Songino Array**	**45.74**	**296**	P	**P**	**08 17 31.9**	**+0.6**
	0.6nm,0.5s,baz=58,slow=7.7,SNR=3.9					

ASAR	**Alice Springs**	**42.19 269**	P	P	08 37 31.3	+0.3	
	0.3nm,0.7s,baz=102,slow=8.0,SNR=2.7						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**43.35 275**	P	P	08 37 40.0	-0.4	
	0.4nm,0.4s,baz=114,slow=8.1,SNR=4.8						
	0.4nm,0.4s						
H03N3	**Juan Fernandez**	**80.35 123**	T	T	10 10 29.4		
	baz=240						
H03N2	**Juan Fernandez**	**80.36 123**	T	T	10 10 30.5		
	baz=240						
H03N1	**Juan Fernandez**	**80.37 123**	T	T	10 10 24.7		
	baz=240						
FINES	**FINESS Array B**	**146.58 338**	PKPbc	PKPbc	08 49 18.2	-0.6	
	1.9nm,0.9s,baz=35,slow=5.1,SNR=1.7						

*BJI **08** 08:52:02.6±0.0,6°.40S×147°.95E,h68km,mb5.3/86, mB5.7/68,Ms5.4/95,Ms7 5.2/88*
*MOS **08** 08:52:04.7±1.0,6°.12S×147°.45E,h50km,mb5.8/64, MS5.4/15,Error ellipse: s-maj=6.7km s-min=4.4km az=106.4*
*NEIC **08** 08:52:07.9±1.5,6°.23S±0°.06×147°.48E±0°.07,h61km±1km, mb5.8/303,Mwb5.8/49,Mww5.9/29,Error ellipse: s-maj=11.4km s-min=9.7km az=279.0,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr3.50; Mθθ-5.21; Mφφ 1.71; Mrθ5.26; Mθφ0.05; Mφr-2.45; Fault plane solution: M0 7.41000×10^17^ NP1:φs112.18000°, δ73.38000°,λ108.72000°. NP2:φs242.34000°,δ24.83000°, λ42.93000°. Principal axes: T 6.9158, Plg58.0000°, Azm47.0000°; N 0.9034, Plg18.0000°, Azm287.0000°; P -7.8192, Plg26.0000°, Azm188.0000°;*
*IDC **08** 08:52:07.2±1.0,6°.13S×147°.59E,h59km±8km,mb5.2/40, mbtmp5.5/46,MS5.1/57 Error ellipse: s-maj=9.8km s-min=7.0km az=93.0*
*KLM **08** 08:52:09,6°.22S×147°.53E,h62km,mb6.3*
*DJA **08** 08:52:10.2±0.3,6°S±2°×14°8E±°,h76km±3km,M5.9/85, mb6.1/85,mB6.4/78,MLv6.2/3,Mw(mB)6.2/78, MwMwp5.5/47,Mwp5.7/47*
*GCMT **08** 08:52:10.9±0.1,6°.41S×147°.65E,h65km,MW5.9/160, Moment Tensor Solution. s160,c343; s155,c453; Duration: 2≥3 Moment tensor: Scale 10^18^Nm; Mrr0.54±.01; Mθθ-0.87±.01; Mφφ0.33±.01; Mrθ0.55±.01; Mθφ0.13±.01; Mφr-0.39±.01; Best double couple: M0 1.01500×10^18^ NP1:φs121.00000°,δ70.00000°, λ117.00000°. NP2:φs245.00000°,δ33.00000°,λ39.00000°. Principal axes: T 0.9210, Plg56.0000°, Azm67.0000°; N 0.1870, Plg25.0000°, Azm291.0000°; P -1.1080, Plg20.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 08:52:17.7,6°.33S×147°.48E,h50km,Moment Tensor Solution. Duration: 4≥5 Moment tensor: Scale 10^17^Nm; Mrr6.61; Mθθ-8.19; Mφφ 1.58; Mrθ4.83; Mθφ 1.67; Mφr-3.69; Fault plane solution: M0 9.78000×10^17^ NP1: φs118.36000°,δ65.57000°,λ109.61000°. NP2: φs257.63000°,δ30.95000°,λ53.55000°. Principal axes: T 9.3178, Plg64.0000°, Azm61.0000°; N 0.9285, Plg18.0000°, Azm290.0000°; P -10.2463, Plg18.0000°, Azm194.0000°;*
ISC 08 08:52:08.0±0.2,6°18S±0°.02×147°52E±0°.03,h69km±1km, h69km:pP-P,n1577,σ1s52/1695,mb5.7/293,81C-32D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.23 186**		P	**Pn**	**08 52 56.2**	**-0.1**
	7μm,0.6s,baz=0.2,slow=12,SNR=938						
PMG				S	**Sn**	**08 53 39.0**	**+5.3**
	13μm,0.8s,baz=349,slow=23,SNR=2.9						
PMG				LR	LR	08 54 04.0	
	comp=Z,90μm,18.4s,baz=113,slow=36						
PMG	**Port Moresby**	**3.23 186**		P	**Pn**	**08 52 56.3**	**-0.1**
MANU	**Manus Island**	**4.11 358**			**Pn**	**08 53 10.6**	**+2.2**
MANU	**Manus Island**	**4.11 358**		P	**Pn**	**08 53 11.3**	**+3.0**
KRVT	**Keravat (AS076**	**4.85 68**		P	**Pn**	**08 53 18.4**	**-0.1**
	1μm,0.5s,baz=214,slow=1.2,SNR=54						
KRVT				S	**Sn**	**08 54 21.5**	**+8.1**
	5μm,1.0s,baz=209,slow=19,SNR=8.6						
RABL	**Rabaul**	**5.02 67**			**Pn**	**08 53 22.1**	**+1.2**
RABL	**Rabaul**	**5.02 67**		P	**Pn**	**08 53 23.2**	**+2.3**
GENI	**Genyem**	**8.15 296**		P	**Pn**	**08 54 06.1**	**+2.5**
GENI	**Genyem**	**8.15 296**		P	**Pn**	**08 54 08.1**	**+4.5**
	3μm,0.9s,44μm27μm						
COEN	**Coen**	**8.84 209**		P	**Pn**	**08 54 12.6**	**-0.5**
	baz=8.8,SNR=772						
COEN	**Coen**	**8.84 209**		Pn	**Pn**	**08 54 12.1**	**-1.0**
COEN	**Coen**	**8.84 209**		P	**Pn**	**08 54 13.6**	**+0.5**
SMPI	**Sarmi**	**9.72 295**		P	Pn	08 54 31.3	+6.2
	1μm,1.1s,20μm18μm						
SRPI	**Serui, Papua**	**12.04 290**		P	**Pn**	**08 54 59.6**	**+2.8**
	1μm,0.7s,12μm7μm						
MTSU	**Mount Surprise**	**12.29 194**		P	**Pn**	**08 55 00.0**	**-0.2**
	baz=12,SNR=383						
MTSU	**Mount Surprise**	**12.29 194**		P	**Pn**	**08 55 00.2**	**0.0**
HNR	**Honiara**	**12.73 106**		P	**Pn**	**08 55 06.5**	**+0.4**
	7μm,0.8s,baz=211,slow=5.3,SNR=34						
HNR				S	**Sn**	**08 57 28.3**	**+2.1**
	3μm,0.9s,baz=187,slow=20,SNR=0.8						
HNR				LR	LR	08 59 24.8	
	comp=Z,100μm,21.5s,baz=276,slow=34						
HNR	**Honiara**	**12.73 106**			**Pn**	**08 55 06.8**	**+0.6**
HNR	**Honiara**	**12.73 106**		P	**Pn**	**08 55 07.9**	**+1.7**
HNR	**Honiara**	**12.73 106**		P	**Pn**	**08 55 06.8**	**+0.6**
TV1H	**Townsville Har**	**13.03 183**		P	**Pn**	**08 55 10.6**	**+0.4**
CTA	**Charters Tower**	**13.88 185**		P	**Pn**	**08 55 21.4**	**-0.2**
	52nm,0.6s,baz=3.5,slow=14,SNR=60						
CTA				S	**Sn**	**08 57 57.3**	**+3.0**
	36nm,0.7s,baz=298,slow=13,SNR=1.9						
CTA				LR	LR	09 00 27.4	
	comp=Z,13μm,21.6s,baz=0.0,slow=36						
CTA	**Charters Tower**	**13.88 185**		P	**Pn**	**08 55 22.9**	**+1.2**
CTAO	**Charters Tower**	**13.88 185**		Pn	**Pn**	**08 55 21.2**	**-0.5**
CTAO	**Charters Tower**	**13.88 185**		P	**Pn**	**08 55 22.9**	**+1.2**
CTAO	**Charters Tower**	**13.88 185**		P	**Pn**	**08 55 21.2**	**-0.5**
RKPI	**Ransiki, Papua**	**14.10 289**		P	**P**	**08 55 30.8**	**+0.7**
	1μm,1.3s,16μm8μm						
FAKI	**Fak Fak**	**15.56 281**		Pn	**Pn**	**08 55 43.1**	**-0.3**
FAKI	**Fak Fak**	**15.56 281**		P	**P**	**08 55 45.1**	**-1.3**
FAKI	**Fak Fak**	**15.56 281**		P	**Pn**	**08 55 44.9**	**+1.5**
	740nm,1.4s,15μm7μm						
KDU	**Kakadu**	**16.19 245**		P	**Pn**	**08 55 51.0**	**-0.3**
	baz=16,SNR=172						
KDU	**Kakadu**	**16.19 245**		P	**Pn**	**08 55 52.2**	**+0.9**
SAUI	**Saumlaki**	**16.20 263**		P	**P**	**08 55 53.4**	**-0.1**
SAUI	**Saumlaki**	**16.20 263**		P	**P**	**08 55 53.1**	**-0.3**
SAUI	**Saumlaki**	**16.20 263**		P	**P**	**08 55 54.0**	**+0.6**
	4μm,1.1s,43μm26μm						
QIS	**Mount Isa**	**16.23 208**		P	**Pn**	**08 55 51.1**	**-0.7**
	baz=16,SNR=290						
QIS	**Mount Isa**	**16.23 208**		P	**Pn**	**08 55 52.0**	**+0.2**
PATS	**Pohnpei**	**16.82 40**			**Pn**	**08 55 59.5**	**+0.3**
PATS	**Pohnpei**	**16.82 40**		P	**P**	**08 56 01.5**	**+1.2**
SIJI	**Sorong**	**17.05 287**		P	**Pn**	**08 56 01.7**	**-0.4**
	40nm,0.5s,baz=90,slow=10,SNR=34						
SIJI				LR	LR	09 04 18.0	
	comp=Z,6μm,21.2s,baz=118,slow=43						
RK1H	**Rockhampton Ha**	**17.35 171**		P	**P**	**08 56 06.2**	**+0.1**
MTN	**Manton Dam**	**17.46 247**		P	**P**	**08 56 07.8**	**+0.4**
	baz=18,SNR=160						
MTN	**Manton Dam**	**17.46 247**			**Pn**	**08 56 05.1**	**-2.0**
MTN	**Manton Dam**	**17.46 247**		P	**P**	**08 56 08.1**	**+0.7**
BNDI	**Bandanaira**	**17.62 274**		P	**P**	**08 56 11.5**	**+2.4**
BNDI	**Bandanaira**	**17.62 274**		P	**P**	**08 56 12.8**	**+3.7**
	4μm,1.2s,78μm						
GD1S	**Gladstone Soft**	**17.91 169**		P	**Pn**	**08 56 13.9**	**+1.4**
WB0	**Warramunga Arr**	**18.59 222**		P	**P**	**08 56 18.6**	**-1.2**
WB0				IAmb	IAmb	08 56 23.2	
	comp=Z,745nm,1.0s						
WR0	**Warramunga Arr**	**18.62 221**		P	**P**	**08 56 19.2**	**-0.9**
WR0				IAmb	IAmb	08 56 29.2	
	comp=Z,1μm,1.2s						
WRAB	**Tennant Creek**	**18.73 222**		P	**P**	**08 56 20.3**	**-1.0**
WRAB				IAmb	IAmb	08 56 24.8	
	comp=Z,527nm,0.8s						
WRAB	**Tennant Creek**	**18.73 222**		P	**P**	**08 56 21.7**	**+0.4**
WRAB	**Tennant Creek**	**18.73 222**	*d*	*i*P	**P**	**08 56 20.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,598nm,0.9s						
WRAB				MLR	MLR		
	comp=Z,15μm,13.0s						
WB2	**Warramunga Arr**	**18.74 222**		P	**P**	**08 56 20.5**	**-0.9**
WB2				IAmb	IAmb	08 56 30.6	
	comp=Z,1μm,1.4s						
MSAI	**Masohi**	**18.74 278**		P	**Pn**	**08 56 25.9**	**+3.3**
	comp=Z,142nm,0.8s,comp=Z,2μm						
WRA	**Warramunga Arr**	**18.75 222**		P	**P**	**08 56 20.6**	**-0.9**
	comp=Z,339nm,0.8s,baz=48,slow=11,SNR=725						
WRA				S	**Sn**	**08 59 55.5**	**+3.6**
	comp=Z,78nm,0.9s,baz=42,slow=22,SNR=5.1						
WRA				PcP	**PcP**	**09 00 46.9**	**-0.1**
	comp=Z,38nm,1.0s,baz=11,slow=1.4,SNR=2.8						
WRA				LR	LR	09 04 12.6	
	comp=Z,7μm,21.9s,baz=36,slow=38						
WRA				ScP	**ScP**	**09 04 18.2**	**+1.4**
	comp=Z,106nm,1.0s,baz=24,slow=2.2,SNR=6.9						
WRA				ScS	**ScS**	**09 07 59.4**	**+1.1**
	comp=Z,18nm,1.2s,baz=20,slow=2.7,SNR=4.6						
WRA	**Warramunga Arr**	**18.75 222**		P	**P**	**08 56 20.6**	**-0.9**
WRA	**Warramunga Arr**	**18.75 222**	*i*	P	**P**	**08 56 20.3**	**-1.2**
WRA				pmax	pmax		
	comp=Z,181nm,0.4s						
I39PW	**PALAU INFRASON**	**18.79 316**		I	I	10 50 26.1	
	baz=140,slow=309,SNR=3.4						
EIDS	**Eidsvold**	**19.39 170**		P	**Pn**	**08 56 29.5**	**-0.7**
	baz=19,SNR=118						
EIDS	**Eidsvold**	**19.39 170**		P	**P**	**08 56 28.9**	**+0.4**
EIDS				IAmb	IAmb	08 56 31.1	
	comp=Z,2μm,1.7s						
EIDS	**Eidsvold**	**19.39 170**		P	**P**	**08 56 29.2**	**+0.8**
AAI	**Ambon**	**19.41 276**		P	**Pn**	**08 56 31.2**	**+0.6**
AAI				pmax	pmax		
	comp=Z,3μm,0.9s						
AAI	**Ambon**	**19.41 276**		P	**Pn**	**08 56 30.9**	**+0.3**
	comp=Z,3μm,0.8s,comp=Z,28μmcomp=Z,15μm						
GUMO	**Guam**	**19.81 352**		P	**P**	**08 56 33.9**	**+0.8**
	comp=Z,428nm,1.0s,baz=178,slow=11,SNR=8.5						
GUMO				S	**S**	**09 00 08.4**	**-4.3**
	comp=Z,66nm,0.8s,baz=217,slow=20,SNR=1.5						
GUMO				LR	LR	09 04 11.6	
	comp=Z,7μm,18.5s,baz=168,slow=37						
GUMO	**Guam**	**19.81 352**		P	**Pn**	**08 56 34.2**	**-1.0**
GUMO				IAmb	IAmb	08 56 35.8	
	comp=Z,863nm,1.1s						
GUMO	**Guam**	**19.81 352**		P	**Pn**	**08 56 34.9**	**-0.3**
GUMO	**Guam**	**19.81 352**		P	**Pn**	**08 56 34.2**	**-1.0**
GUMO				pmax	pmax		
	comp=Z,863nm,1.2s						
RMQ	**Roma**	**20.23 177**		P	Pn	08 56 39.1	-1.0
	baz=20,SNR=118						
RMQ	**Roma**	**20.23 177**		P	Pn	08 56 39.1	-1.0
QLP	**Quilpie**	**20.54 188**		P	**P**	**08 56 41.9**	**+1.1**
	baz=21,SNR=698						
QLP	**Quilpie**	**20.54 188**		P	**P**	**08 56 41.8**	**+0.9**
NLAI	**Namlea**	**20.56 277**		P	Pn	08 56 42.7	-1.4
	comp=Z,677nm,1.9s,comp=Z,11μm						
KNRA	**Kununurra**	**20.68 241**		P	**P**	**08 56 42.6**	**+0.1**
	baz=21,SNR=373						
KNRA	**Kununurra**	**20.68 241**		P	**P**	**08 56 41.1**	**-1.5**
KNRA				IAmb	IAmb	08 56 48.5	
	comp=Z,393nm,0.9s						
KNRA	**Kununurra**	**20.68 241**		P	**P**	**08 56 42.7**	**+0.1**
AUBSH	**Beerwah State**	**21.21 166**		P	**P**	**08 56 48.2**	**+0.1**
TNTI	**Ternate**	**21.27 288**		P	**P**	**08 56 51.9**	**+3.0**
TNTI	**Ternate**	**21.27 288**		P	**P**	**08 56 50.5**	**+1.6**
	comp=Z,448nm,0.9s,comp=Z,9μmcomp=Z,5μm						
KOUNC	**Koumac, New Ca**	**21.65 133**		P	**P**	**08 56 50.7**	**-2.2**
KOUNC				IAmb	IAmb	08 57 15.9	
	comp=Z,514nm,1.4s						
KOUNC	**Koumac, New Ca**	**21.65 133**		P	**P**	**08 56 53.4**	**+0.5**
AS01	**Alice Springs**	**21.75 216**		P	**P**	**08 56 54.7**	**+0.8**
AUWSH	**Wavell State H**	**21.75 167**		P	**P**	**08 56 54.2**	**+0.3**
AS31	**Alice Springs**	**21.77 216**		P	**P**	**08 56 54.3**	**0.0**
AS31				IAmb	IAmb	08 56 56.0	
	comp=Z,569nm,1.4s						
ASAR	**Alice Springs**	**21.77 216**		P	**P**	**08 56 53.7**	**-0.6**
	comp=Z,402nm,0.6s,baz=52,slow=8.9,SNR=7862						
ASAR				S	Sn	09 00 59.6	-5.0
	comp=Z,122nm,0.9s,baz=32,slow=21,SNR=6.9						
ASAR				ScP	**ScP**	**09 04 25.6**	**+1.6**
	comp=Z,74nm,0.9s,baz=42,slow=2.9,SNR=12						
ASAR				LR	LR	09 05 60.0	
	comp=Z,7μm,19.3s,baz=45,slow=38						
	comp=Z,402nm,0.6s						
SANI	**Sanana**	**21.86 280**		P	**P**	**08 56 57.1**	**+1.9**
SANI	**Sanana**	**21.86 280**		P	**P**	**08 56 58.3**	**+3.1**
	comp=Z,1μm,2.0s,comp=Z,18μmcomp=Z,10μm						
INKA	**Innaminka**	**22.39 196**		P	**P**	**08 57 01.1**	**+0.3**
GC1S	**Gold Coast 1 S**	**22.59 166**		P	**P**	**08 57 03.1**	**+0.2**
AULRC	**Lightning Ridg**	**23.14 179**		P	**P**	**08 57 08.0**	**-0.5**
DVP	**Devils Point**	**23.22 121**		P	**P**	**08 57 09.4**	**+0.1**
SOEI	**Soe**	**23.30 260**		P	**P**	**08 57 10.3**	**0.0**
SOEI	**Soe**	**23.30 260**		P	**P**	**08 57 11.9**	**+1.6**
SOEI	**Soe**	**23.30 260**		P	**P**	**08 57 12.8**	**+2.5**
	comp=Z,1μm,0.8s,comp=Z,25μmcomp=Z,14μm						
RTV	**Rentapao**	**23.45 121**		P	**P**	**08 57 12.4**	**+0.9**
BATI	**Baumata**	**23.95 259**		P	**P**	**08 57 17.4**	**+1.3**
	comp=Z,432nm,0.8s,baz=124,slow=2.6,SNR=28						
BATI				S	**S**	**09 01 35.3**	**+7.2**
	comp=Z,63nm,0.8s,baz=349,slow=20,SNR=1.5						
BATI				LR	LR	09 09 09.4	
	comp=Z,15μm,20.9s,baz=108,slow=42						
	comp=Z,432nm,0.8s						
BATI	**Baumata**	**23.95 259**		P	**P**	**08 57 19.3**	**+3.2**
	comp=Z,1μm,1.6s,comp=Z,19μmcomp=Z,13μm						
LIFNC	**LIFOU**	**24.00 129**		P	**P**	**08 57 15.9**	**-0.5**
LIFNC	**LIFOU**	**24.00 129**		P	**P**	**08 57 16.1**	**-0.4**
DZM	**Mont Dzumac**	**24.16 133**	*e*	P	**P**	**08 57 16.9**	**-1.2**
	comp=Z,428nm,1.3s						
DZM			*e*	pP	**pP**	**08 57 31.3**	**-2.2**
	comp=Z,891nm,1.2s						
DZM			*e*	LR	LR	09 03 19.5	
	comp=Z,14μm,23.9s						
DZM	**Mont Dzumac**	**24.16 133**		P	**P**	**08 57 17.3**	**-0.7**
	comp=Z,108nm,1.0s,baz=275,slow=7.7,SNR=44						
DZM				S	**S**	**09 01 30.3**	**-1.3**
	comp=Z,8.8nm,0.9s,baz=339,slow=19,SNR=0.8						
DZM				ScP	**ScP**	**09 04 33.8**	**+3.5**
	comp=Z,34nm,1.0s,baz=342,slow=20,SNR=6.1						
	comp=Z,108nm,1.0s						
DZM	**Mont Dzumac**	**24.16 133**		P	**P**	**08 57 17.1**	**-0.9**
DZM				IAmb	IAmb	08 57 37.5	
	comp=Z,393nm,1.1s						
DZM	**Mont Dzumac**	**24.16 133**		P	**P**	**08 57 17.4**	**-0.7**
OOD	**Oodnadatta**	**24.26 206**		P	**P**	**08 57 19.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.42 239**		P	**P**	**08 57 20.7**	**+0.4**
FITZ				IAmb	IAmb	08 57 23.7	
	comp=Z,357nm,1.4s						
ARMA	**Armidale**	**24.42 171**		P	**P**	**08 57 21.0**	**+0.7**
	baz=24,SNR=232						
ARMA	**Armidale**	**24.42 171**		P	**P**	**08 57 21.0**	**+0.7**
ARMA	**Armidale**	**24.42 171**		P	**P**	**08 57 21.1**	**+0.8**
YATNC	**Mamie plateau,**	**24.49 132**		P	**P**	**08 57 20.8**	**-0.1**
OUENC	**Ouen Island, N**	**24.67 133**		P	**P**	**08 57 21.7**	**-0.8**
OUENC				IAmb	IAmb	08 57 41.4	
	comp=Z,266nm,1.3s						
OUENC	**Ouen Island, N**	**24.67 133**		P	**P**	**08 57 22.1**	**-0.4**
AUPHS	**Peel High Scho**	**25.00 173**		P	**P**	**08 57 26.0**	**+0.5**
MARNC	**Mare, Loyalty**	**25.01 129**		P	**P**	**08 57 25.1**	**-0.5**
MARNC	**Mare, Loyalty**	**25.01 129**		P	**P**	**08 57 25.5**	**-0.1**
MMRI	**Maumere**	**25.19 263**		P	**P**	**08 57 29.0**	**+1.6**
LUWI	**Luwuk**	**25.21 281**		P	**P**	**08 57 28.8**	**+1.1**
LUWI	**Luwuk**	**25.21 281**		P	**P**	**08 57 29.8**	**+2.2**
LUWI	**Luwuk**	**25.21 281**		P	**P**	**08 57 29.6**	**+2.0**
	comp=Z,4μm,1.4s,comp=Z,43μm						
CMSA	**Cobar Meteorol**	**25.29 184**		P	**P**	**08 57 28.2**	**+0.1**
	baz=25,SNR=70						
CMSA	**Cobar Meteorol**	**25.29 184**		P	**P**	**08 57 28.2**	**+0.1**
LCRK	**Leigh Creek**	**25.68 199**		P	**P**	**08 57 32.4**	**+0.7**
AUDCS	**Dubbo College**	**25.94 178**		P	**P**	**08 57 34.4**	**+0.4**
STKA	**Stephens Creek**	**26.16 191**		P	**P**	**08 57 36.1**	**+0.1**
	comp=Z,426nm,1.1s,baz=5.2,slow=12,SNR=173						
STKA				ScP	**ScP**	**09 04 38.9**	**+3.3**
	comp=Z,33nm,1.1s,baz=330,slow=5.8,SNR=3.7						
	comp=Z,426nm,1.1s						
STKA	**Stephens Creek**	**26.16 191**		P	**P**	**08 57 36.1**	**+0.1**
	baz=26,SNR=346						
STKA	**Stephens Creek**	**26.16 191**		P	**P**	**08 57 35.2**	**-0.8**
STKA				IAmb	IAmb	08 57 39.1	
	comp=Z,323nm,1.6s						
STKA	**Stephens Creek**	**26.16 191**		P	**P**	**08 57 36.3**	**+0.3**
STKA	**Stephens Creek**	**26.16 191**	*d*	*i*P	**P**	**08 57 35.9**	**-0.1**
WRKA	**Warakurna**	**26.29 222**		P	**P**	**08 57 37.7**	**+0.5**
	baz=26,SNR=1000						
WRKA	**Warakurna**	**26.29 222**		P	**P**	**08 57 37.9**	**+0.6**
APSI	**Ampana**	**26.34 280**		P	**P**	**08 57 40.5**	**+2.7**
	comp=Z,1μm,1.3s,comp=Z,17μmcomp=Z,5μm						
MRSI	**Marisa**	**26.38 284**		P	**P**	**08 57 37.3**	**-0.8**
TARA	**Tarawa**	**26.44 74**		P	**P**	**08 57 37.5**	**-1.2**
TARA	**Tarawa**	**26.44 74**		P	**P**	**08 57 38.4**	**-0.3**
NTLH	**Newcastle Hard**	**26.87 172**		P	**P**	**08 57 43.7**	**+1.4**
BSSI	**Bau Bau, Buton**	**26.88 269**		P	**P**	**08 57 42.0**	**-0.6**
	comp=Z,655nm,1.1s,comp=Z,11μmcomp=Z,7μm						
BASI	**Baing, Sumba**	**26.96 260**		P	**P**	**08 57 48.0**	**+4.6**
	comp=Z,2μm,1.2s,comp=Z,25μmcomp=Z,9μm						
MULG	**Mulgathing**	**27.12 206**		P	**P**	**08 57 45.1**	**+0.5**
BKSI	**Bulukumba**	**27.27 270**		P	**P**	**08 57 47.1**	**+0.9**
	comp=Z,187nm,0.9s,comp=Z,3μmcomp=Z,5μm						
LHI	**Lord Howe Isla**	**27.43 158**		P	**P**	**08 57 47.0**	**-0.3**
LHI				IAmb	IAmb	08 58 15.4	
	comp=Z,498nm,1.4s						
TOLI2	**Tolitoli**	**27.66 284**		P	**P**	**08 57 49.1**	**-0.6**
TOLI2				IAmb	IAmb	08 58 19.3	
	comp=Z,247nm,0.9s						
TOLI2	**Tolitoli**	**27.66 284**		P	**P**	**08 57 50.2**	**+0.5**
KAPI	**Kappang**	**27.66 271**		P	**P**	**08 57 50.9**	**+1.3**
	comp=Z,92nm,1.0s,baz=92,slow=6.4,SNR=20						
KAPI				S	**S**	**09 02 23.7**	**-3.4**
	comp=Z,12nm,1.0s,baz=163,slow=20,SNR=0.9						
KAPI				ScP	**ScP**	**09 04 41.7**	**+1.2**
	comp=Z,18nm,0.9s,baz=106,slow=15,SNR=4.1						
KAPI				LR	LR	09 12 20.2	
	comp=Z,1μm,18.8s,baz=92,slow=44						
	comp=Z,92nm,1.0s						
KAPI	**Kappang**	**27.66 271**		P	**P**	**08 57 50.8**	**+1.1**
KAPI				IAmb	IAmb	08 58 22.9	
	comp=Z,509nm,1.2s						
KAPI	**Kappang**	**27.66 271**		P	**P**	**08 57 51.0**	**+1.3**
KAPI	**Kappang**	**27.66 271**	*c*	*i*P	**P**	**08 57 50.6**	**+0.9**
KAPI				pmax	pmax		
	comp=Z,213nm,1.3s						
KAPI				MLR	MLR		
	comp=Z,5μm,20.0s						
SPSI	**Sidrap Palu**	**27.73 273**		P	**P**	**08 57 51.3**	**+1.0**
	comp=Z,332nm,2.6s,comp=Z,7μm						
WBSI	**Waikabubak, Su**	**28.07 261**		P	**P**	**08 57 54.9**	**+1.5**
	comp=Z,504nm,1.3s,comp=Z,7μm						
HTT	**Hallett**	**28.27 195**		P	**P**	**08 57 55.3**	**+0.3**
	baz=28,SNR=145						
HTT	**Hallett**	**28.27 195**		P	**P**	**08 57 55.0**	**+0.1**
HTT	**Hallett**	**28.27 195**		P	**P**	**08 57 55.1**	**+0.1**
WHYH	**Whyalla**	**28.28 198**		P	**P**	**08 57 54.9**	**0.0**
PTPS	**Port Pirie**	**28.29 197**		P	**P**	**08 57 55.5**	**+0.5**
MPSI	**Mapaga**	**28.32 282**		P	**P**	**08 57 55.3**	**-0.3**
	comp=Z,188nm,1.2s,comp=Z,3μm						
BBOO	**Buckleboo**	**28.57 200**		P	**P**	**08 57 57.5**	**0.0**
	baz=29,SNR=43						
BBOO	**Buckleboo**	**28.57 200**		P	**P**	**08 57 57.0**	**-0.5**
BBOO				IAmb	IAmb	08 58 17.9	
	comp=Z,574nm,1.3s						
BBOO	**Buckleboo**	**28.57 200**		P	**P**	**08 57 57.7**	**+0.1**
CAN	**Canberra**	**29.04 178**		P	**P**	**08 58 00.7**	**-1.0**
CAN				IAmb	IAmb	08 58 07.7	
	comp=Z,271nm,1.4s						
CAN	**Canberra**	**29.04 178**		P	**P**	**08 58 02.3**	**+0.6**
CAN	**Canberra**	**29.04 178**		P	**P**	**08 58 00.7**	**-1.0**
CAN				pmax	pmax		
	comp=Z,271nm,1.4s						
CNB	**Canberra Magne**	**29.05 177**		P	**P**	**08 58 02.4**	**+0.6**
AUUHS	**Ulladulla High**	**29.17 175**		P	**P**	**08 58 03.5**	**+0.7**
PLAI	**Plampang**	**29.60 263**		P	**P**	**08 58 06.6**	**-0.4**
PLAI	**Plampang**	**29.60 263**		P	**P**	**08 58 07.8**	**+0.8**
	comp=Z,213nm,0.9s,comp=Z,2μmcomp=Z,4μm						
GHSS	**Government Hou**	**29.77 195**		P	**P**	**08 58 09.0**	**+0.9**
AUMAG	**Moama Anglican**	**29.89 185**		P	**P**	**08 58 10.0**	**+0.8**
AUSMG	**Snowy Mountain**	**30.12 178**		P	**P**	**08 58 11.2**	**-0.1**
TWSI	**Taliwang, Sumb**	**30.48 263**		P	**P**	**08 58 18.8**	**+4.1**
	comp=Z,152nm,0.9s,comp=Z,2μm						
FORT	**Forrest**	**30.55 214**		P	**P**	**08 58 15.4**	**+0.3**
	baz=31,SNR=80						
FORT	**Forrest**	**30.55 214**		P	**P**	**08 58 14.3**	**-0.8**
FORT	**Forrest**	**30.55 214**		P	**P**	**08 58 15.5**	**+0.4**
MBWA	**Marble Bar**	**30.76 238**		P	**P**	**08 58 16.3**	**-0.8**
MBWA	**Marble Bar**	**30.76 238**		P	**P**	**08 58 18.2**	**+1.1**
MBWA	**Marble Bar**	**30.76 238**	‖	P	**P**	**08 58 18.3**	**+1.3**
MBWA				pP	**pP**	**08 58 34.8**	**+0.3**
MBWA				sP	**sP**	**08 58 42.5**	**-

SBUM Sibu 36.28 283 P **P** **08 59 05.3 +0.2**
SBUM IAmb IAmb 08 59 27.3
comp=Z,168nm,1.1s
SBUM Sibu 36.28 283 P **P** **08 59 07.0 +1.9**
UWJI Ujung Watu 36.35 268 P P 08 59 24.6 +19
TAU Tasmania Unive 36.59 180 P **P** **08 59 08.3 +1.0**
TAU Tasmania Unive 36.59 180 P **P** **08 59 08.5 +1.2**
TAU pmax pmax
comp=Z,170nm,2.2s
TAU Tasmania Unive 36.59 180 P **P** **08 59 07.7 +0.3**
TAU pP **pP** **08 59 24.9 +0.7**
TAU sP **sP** **08 59 31.2 -1.0**
UGM Wanagama 36.75 265 P **P** **08 59 10.6 +1.4**
UGM Wanagama 36.75 265 P P 08 59 24.0 +15
SMRI Semarang 36.84 266 P P 08 59 28.2 +18
MORW Morawa 37.45 229 P **P** **08 59 16.2 +1.3**
baz=38,SNR=63
MORW Morawa 37.45 229 P **P** **08 59 15.8 +0.9**
KLBR Kellerberrin 37.61 224 P **P** **08 59 16.8 +0.6**
baz=38,SNR=189
KLBR Kellerberrin 37.61 224 P **P** **08 59 16.5 +0.3**
JOW Kunigami 37.74 331 P **P** **08 59 17.7 +0.4**
comp=Z,79nm,0.8s,baz=150,slow=9.9,SNR=9.2
JOW LR LR 09 13 00.6
comp=Z,3μm,21.3s,baz=152,slow=33
comp=Z,79nm,0.8s
JOW Kunigami 37.74 331 P **P** **08 59 16.8 -0.6**
JOW Kunigami 37.74 331 P **P** **08 59 19.3 +2.0**
BLDU Ballidu 37.78 226 P **P** **08 59 18.6 +0.9**
baz=38,SNR=75
BLDU Ballidu 37.78 226 P **P** **08 59 18.3 +0.6**
KPJI Karang Pucung 38.33 266 P **P** **08 59 24.7 +2.2**
comp=Z,382nm,1.2s,comp=Z,5μm
TWGBT Beinan 38.72 319 P **P** **08 59 28.1 +2.5**
NWAO Narrogin (SRO) 38.75 223 P **P** **08 59 26.7 +0.9**
comp=Z,241nm,1.0s
NWAO PP **PP** **09 00 52.9 -2.9**
NWAO S **S** **09 05 20.5 +2.2**
NWAO LR LR 09 16 51.6
comp=Z,7μm,19.2s,slow=38
comp=Z,241nm,1.0s
NWAO Narrogin (SRO) 38.75 223 P **P** **08 59 26.7 +0.9**
baz=39,SNR=54
NWAO P **P** **08 59 26.7 +0.9**
baz=39,SNR=54
NWAO Narrogin (SRO) 38.75 223 P **P** **08 59 25.5 -0.4**
NWAO Narrogin (SRO) 38.75 223 P **P** **08 59 26.8 +0.9**
NWAO Narrogin (SRO) 38.75 223 ⇓P **P** **08 59 26.6 +0.8**
NWAO sP **sP** **08 59 50.5 -1.3**
CMJI Cimerak 38.81 265 P **P** **08 59 27.8 +1.3**
comp=Z,646nm,1.0s,comp=Z,8μmcomp=Z,3μm
MUN Mundaring 38.90 225 P **P** **08 59 28.2 +1.1**
baz=39,SNR=74
MUN Mundaring 38.90 225 P **P** **08 59 27.9 +0.8**
YULB Yu-li 38.99 320 IAmb IAmb 08 59 35.6
comp=Z,108nm,0.7s
YULB Yu-li 38.99 320 P **P** **08 59 29.0 +1.1**
JCJI Jatiwangi 39.01 267 P **P** **08 59 31.0 +2.8**
comp=Z,1μm,1.8s,comp=Z,17μm
MTKN Mount Kenneth 39.18 225 P **P** **08 59 31.7 +2.3**
TPUB Ta-pu 39.35 319 IAmb IAmb 08 59 35.5
comp=Z,168nm,0.7s
TPUB Ta-pu 39.35 319 P **P** **08 59 32.1 +1.2**
NACB Ninganchiao 39.36 321 P **P** **08 59 32.1 +1.2**
SSLB Suanglung 39.49 320 IAmb IAmb 08 59 56.9
comp=Z,116nm,1.0s
SSLB Suanglung 39.49 320 P **P** **08 59 32.5 +0.4**
AUALB St Joseph's Co 39.59 220 P **P** **08 59 33.5 +0.7**
BBJI Bungbulang 39.60 266 P **P** **08 59 33.7 +0.4**
LEM Lembang 39.65 267 P **P** **08 59 34.5 +0.8**
comp=Z,104nm,0.7s,baz=86,slow=8.0,SNR=13
LEM S **S** **09 05 26.6 -5.9**
comp=Z,16nm,0.3s,baz=73,slow=7.7,SNR=2.1
LEM LR LR 09 17 22.7
comp=Z,1μm,21.7s,baz=96,slow=38
comp=Z,104nm,0.7s
JHJ Hachijo jima 2 39.76 350 LR LR 09 15 31.6
comp=Z,2μm,18.4s,baz=107,slow=35
YHNB Yeheng 39.86 321 P **P** **08 59 35.4 +0.3**
YHNB Yeheng 39.86 321 P **P** **08 59 36.7 +1.5**
RKGY Rocky Gully 39.94 221 P **P** **08 59 37.2 +1.5**
baz=40,SNR=67
RKGY Rocky Gully 39.94 221 P **P** **08 59 37.3 +1.6**
TATO Taipei 40.01 322 P **P** **08 59 36.6 +0.3**
TATO Taipei 40.01 322 P **P** **08 59 37.4 +1.1**
TATO Taipei 40.01 322 P **P** **08 59 37.0 +0.7**
TATO pP **pP** **08 59 55.4 +2.2**
CNJI Cibinong 40.12 266 P **P** **08 59 38.3 +0.8**
comp=Z,603nm,1.4s,comp=Z,8μmcomp=Z,1μm
CBJI Citeko 40.42 267 P P 08 59 50.3 +10
AFI Afiamalu 40.76 104 P **P** **08 59 42.9 +0.1**
AFI Afiamalu 40.76 104 P **P** **08 59 42.9 +0.1**
AFI pmax pmax
comp=Z,408nm,1.1s
AFI Afiamalu 40.76 104 P **P** **08 59 42.1 -0.6**
AFI pP **pP** **08 59 59.8 +0.2**
JSU Suzuyama 40.86 337 P **P** **08 59 44.1 +0.8**
PPBI Pangkal Pinang 41.46 274 P **P** **08 59 51.2 +2.7**
comp=Z,313nm,1.2s,comp=Z,14μm
DSZ Denniston Nort 41.49 152 IAmb IAmb 09 00 14.8
comp=Z,469nm,1.8s
CGJI Cibinong 41.56 267 P **P** **08 59 49.7 +0.4**
comp=Z,593nm,1.5s,comp=Z,10μm
JSG Sagara 41.58 348 P **P** **08 59 48.3 -0.7**
XMI Christmas Isla 41.59 261 P **P** **08 59 51.0 +1.4**
URZ Urewera 41.71 144 P **P** **08 59 50.1 0.0**
comp=Z,9.6nm,0.7s,baz=20,slow=1.5,SNR=12
URZ LR LR 09 16 06.6
comp=Z,4μm,19.7s,baz=41,slow=34
comp=Z,9.6nm,0.7s
URZ Urewera 41.71 144 P **P** **08 59 50.2 0.0**
JMN Monobe 41.74 343 IAmb IAmb 09 00 10.6
comp=Z,219nm,1.1s
JMN Monobe 41.74 343 P **P** **08 59 52.0 +1.5**
H01W1 Cape Leeuwin H 41.98 223 P **P** **08 59 54.6 +2.5**
baz=74,slow=7.1,SNR=14
H01W3 Cape Leeuwin H 41.98 223 P **P** **08 59 54.8 +2.6**
baz=74,slow=7.1,SNR=14
H01W2 Cape Leeuwin H 41.99 223 P **P** **08 59 54.9 +2.7**
baz=74,slow=7.1,SNR=7.8
THZ Tophouse 42.02 151 IAmb IAmb 09 00 16.9
comp=Z,147nm,0.9s
FOZ Fox Glacier 42.06 156 P **P** **08 59 53.2 +0.3**
JCZ Jackson Bay 42.10 157 P **P** **08 59 55.1 +1.7**
JNU Nakatsue 42.16 339 P **P** **08 59 54.1 +0.2**
comp=Z,73nm,1.0s,baz=138,slow=5.2,SNR=16
JNU ScP **ScP** **09 05 30.7 -1.3**
comp=Z,17nm,0.9s,baz=106,slow=4.0,SNR=4.1
JNU LR LR 09 14 25.8
comp=Z,3μm,21.9s,baz=162,slow=32
comp=Z,73nm,1.0s
JNU Nakatsue 42.16 339 P **P** **08 59 54.4 +0.5**
INU Inuyama 42.47 347 IAmb IAmb 09 00 29.0
comp=Z,170nm,1.2s
INU Inuyama 42.47 347 P **P** **08 59 57.0 +0.7**
INU Inuyama 42.47 347 P **P** **08 59 56.0 -0.3**
KLI Kotabumi 42.48 270 P **P** **08 59 58.0 +1.2**
KLI pmax pmax
comp=Z,415nm,1.4s
KLI Kotabumi 42.48 270 P P 09 00 02.4 +5.6
LTZ Lake Taylor 42.52 153 IAmb IAmb 09 00 16.1
comp=Z,516nm,1.8s
MRZ Mangatainoka R 42.54 148 IAmb IAmb 09 00 45.7
comp=Z,232nm,1.2s
SNZO South Karori 42.56 149 P **P** **08 59 56.4 -0.7**
SNZO sP **sP** **09 00 20.1 -2.1**
JGF Kuroka 42.64 348 IAmb IAmb 09 00 19.3
comp=Z,512nm,1.7s
JGF Kuroka 42.64 348 P **P** **08 59 57.9 +0.1**
DCZ Deep Cove 42.70 160 IAmb IAmb 09 00 25.5
comp=Z,203nm,1.1s
BHW Baring Head 42.72 149 IAmb IAmb 09 00 23.3
comp=Z,353nm,1.5s
PMBI Palembang 42.73 272 P **P** **09 00 00.9 +2.1**
PMBI Palembang 42.73 272 P **P** **09 00 02.2 +3.4**
comp=Z,313nm,0.5s,comp=Z,10μm
RPZ Rata Peaks 42.73 155 P **P** **08 59 58.5 +0.1**
comp=Z,99nm,0.6s,baz=310,slow=1.9,SNR=54
RPZ LR LR 09 16 30.0
comp=Z,2μm,21.0s,baz=325,slow=34
comp=Z,99nm,0.6s
RPZ Rata Peaks 42.73 155 IAmb IAmb 08 59 59.9
comp=Z,102nm,0.6s
KASI Kota Agung 42.80 269 P **P** **08 59 59.7 +0.3**
comp=Z,619nm,1.1s,comp=Z,5μm

KHZ Kahutara 42.82 151 IAmb IAmb 09 00 36.5
comp=Z,159nm,1.2s
OXZ Oxford 42.84 154 P **P** **08 59 59.2 -0.1**
BFZ Birch Farm 42.91 148 IAmb IAmb 09 00 34.9
comp=Z,137nm,1.1s
BFZ Birch Farm 42.91 148 P **P** **09 00 00.0 +0.1**
LBZ Lake Benmore 42.92 156 P **P** **09 00 00.0 +0.1**
LBZ IAmb IAmb 09 00 01.2
comp=Z,100nm,0.9s
MLZ Mavora Lakes 42.95 159 IAmb IAmb 09 00 28.2
comp=Z,136nm,1.0s
JHS Saijyo 43.15 343 IAmb IAmb 09 00 21.9
comp=Z,349nm,1.4s
JHS Saijyo 43.15 343 P **P** **09 00 01.9 0.0**
MDSI Maura Dua 43.18 270 P **P** **09 00 03.3 +0.8**
comp=Z,626nm,1.5s,comp=Z,10μmcomp=Z,3μm
HKPS Hong Kong Po S 43.22 312 P **P** **09 00 04.7 +2.1**
DSRI Dabo 43.22 276 P **P** **09 00 04.7 +1.8**
comp=Z,216nm,1.1s,comp=Z,4μmcomp=Z,3μm
LWLI Liwa 43.26 269 P **P** **09 00 05.1 +1.8**
comp=Z,1μm,1.1s,comp=Z,16μm
NIUE Niue 43.33 111 P **P** **09 00 02.5 -1.1**
baz=43,SNR=4.7
NIUE Niue 43.33 111 P **P** **09 00 03.7 +0.1**
NIUE IAmb IAmb 09 00 50.8
comp=Z,390nm,1.2s
NIUE Niue 43.33 111 P **P** **09 00 04.3 +0.7**
WHZ Wether Hill Ro 43.34 159 IAmb IAmb 09 00 23.6
comp=Z,97nm,1.0s
MJAR Matsushiro Arr 43.38 349 P **P** **09 00 03.6 -0.2**
comp=Z,46nm,0.7s,baz=168,slow=7.9,SNR=69
MJAR ScP **ScP** **09 05 36.1 -0.7**
comp=Z,4.2nm,0.9s,baz=175,slow=5.2,SNR=2.8
MJAR LR LR 09 18 18.9
comp=Z,2μm,18.2s,baz=159,slow=36
comp=Z,46nm,0.7s
MAJO Matsushiro 43.38 349 P **P** **09 00 03.8 0.0**
MAJO Matsushiro 43.38 349 P **P** **09 00 03.7 0.0**
MAJO Matsushiro 43.38 349*c i*P **P** **09 00 03.6 -0.1**
MAJO pmax pmax
comp=Z,385nm,1.5s
MAJO MLR MLR
comp=Z,2μm,20.0s
MAJO Matsushiro 43.38 349 P **P** **09 00 03.8 0.0**
MAJO pP **pP** **09 00 21.2 +0.8**
MQZ McQueen's Vall 43.42 153 IAmb IAmb 09 00 28.6
comp=Z,252nm,1.3s
TPRI Tanjung Pinang 43.50 278 P **P** **09 00 07.5 +2.5**
comp=Z,458nm,1.2s,comp=Z,6μmcomp=Z,3μm
JMBI JAMBI 44.00 274 P **P** **09 00 12.7 +3.7**
comp=Z,412nm,1.1s,comp=Z,5μm
JMM Marumori 44.26 352 IAmb IAmb 09 00 47.0
comp=Z,257nm,1.1s
JMM Marumori 44.26 352 P **P** **09 00 12.1 +1.4**
MYKOM Kota Tinggi 44.32 279 P **P** **09 00 12.7 +1.1**
MYKOM IAmb IAmb 09 00 31.6
comp=Z,243nm,1.0s
QIZ Qiongzhong 44.78 305 P **P** **09 00 16.6 +1.4**
QIZ pP **pP** **09 00 30.7 -1.7**
QIZ sP **sP** **09 00 37.5 -2.8**
QIZ PP **PP** **09 02 01.1 +0.1**
QIZ S **S** **09 06 49.1 +1.4**
QIZ pmax pmax
comp=Z,440nm,8.1s
QIZ LR LR
comp=Z,3μm,16.3s
QIZ LR LR
comp=Z,1μm,16.7s
QIZ LR LR
comp=Z,2μm,34.3s
QIZ Qiongzhong 44.78 305 P **P** **09 00 18.2 +3.0**
SSE Sheshan 44.81 327 P **P** **09 00 15.4 +0.2**
SSE S **S** **09 06 47.4 -0.2**
SSE pmax pmax
comp=Z,60nm,1.1s
SSE pmax pmax
comp=Z,710nm,10.8s
SSE LR LR
comp=Z,1μm,18.4s
SSE LR LR
comp=Z,1μm,18.7s
SSE Sheshan 44.81 327 P **P** **09 00 15.8 +0.6**
SSE pP **pP** **09 00 32.5 +0.2**
JSD Sado 44.82 350 P **P** **09 00 16.4 +1.2**
KSI Kapahiang 44.83 271 P **P** **09 00 16.3 +0.5**
KSI pmax pmax
comp=Z,184nm,0.6s
KSI Kapahiang 44.83 271 P **P** **09 00 16.9 +1.1**
comp=Z,318nm,1.5s,comp=Z,12μm
MASI Maura Aman, Be 45.22 272 P **P** **09 00 20.5 +1.6**
comp=Z,346nm,0.8s,comp=Z,3μm
SDSI Sungai Dareh 46.28 275 P **P** **09 00 28.7 +1.5**
comp=Z,408nm,1.4s
TJN Taejon 46.36 337 P **P** **09 00 27.9 +0.6**
TJN Taejon 46.36 337*ce*P **P** **09 00 28.6 +1.3**
NJ2 Nanjing 46.81 326⇑*i*P **P** **09 00 31.8 +0.8**
NJ2 sP **pP** **09 00 51.9 +3.7**
NJ2 S **S** **09 07 19.0 +2.5**
NJ2 sS **sS** **09 07 47.5 +0.7**
NJ2 pmax pmax
comp=Z,110nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,3.5s
NJ2 LR LR
comp=Z,2μm,17.2s
NJ2 LR LR
comp=Z,3μm,18.1s
NJ2 LR LR
comp=Z,2μm,18.6s
BKNI Bangkinang 46.84 276 P **P** **09 00 34.4 +2.8**
BKNI Bangkinang 46.84 276 P **P** **09 00 34.1 +2.5**
BKNI Bangkinang 46.84 276 P **P** **09 00 33.6 +2.0**
comp=Z,313nm,1.0s,comp=Z,6μm
KSRS Korea Array 47.10 339 P **P** **09 00 33.6 +0.5**
comp=Z,46nm,1.1s,baz=157,slow=8.5,SNR=72
KSRS S **S** **09 07 16.7 -3.6**
comp=Z,0.8nm,0.8s,baz=94,slow=32,SNR=1.4
KSRS LR LR 09 17 58.8
comp=Z,3μm,21.7s,baz=150,slow=33
comp=Z,46nm,1.1s
KSAR Wonju Array Be 47.10 339 P **P** **09 00 33.8 +0.6**
KSAR Wonju Array Be 47.10 339 P **P** **09 00 33.8 +0.6**
JTM Tenmabayashi 47.11 353 P **P** **09 00 33.7 +0.6**
JTM Tenmabayashi 47.11 353 P **P** **09 00 34.0 +0.9**
KS19 Wonju Array Si 47.16 339 P **P** **09 00 33.3 -0.4**
PDSI Padang 47.24 274 P **P** **09 00 34.4 -0.3**
comp=Z,122nm,1.1s,comp=Z,3μm
INCN Inchon 47.61 337 P **P** **09 00 37.6 +0.5**
INCN Inchon 47.61 337 P **P** **09 00 38.2 +1.1**
INCN Inchon 47.61 337 P **P** **09 00 37.6 +0.5**
INCN pmax pmax
comp=Z,348nm,1.3s
INCN Inchon 47.61 337 P **P** **09 00 37.8 +0.7**
INCN pP **pP** **09 00 55.5 +1.1**
IPM Ipoh 47.62 282 P **P** **09 00 37.2 -0.4**
IPM Ipoh 47.62 282 P **P** **09 00 39.4 +1.8**
CNSH ChangSha 47.75 317⇑P **P** **09 00 39.3 +0.9**
CNSH S **S** **09 07 30.4 +0.5**
CNSH pmax pmax
comp=Z,64nm,0.8s
CNSH LR LR
comp=Z,1μm,16.7s
CNSH LR LR
comp=Z,2μm,13.2s
CNSH LR LR
comp=Z,2μm,33.6s
ERM Erimo 48.12 356 P **P** **09 00 41.3 +0.3**
ERM Erimo 48.12 356 P **P** **09 00 43.3 +2.3**
ERM Erimo 48.12 356*c i*P **P** **09 00 41.9 +0.9**
ERM pmax pmax
comp=Z,129nm,1.4s
ERM MLR MLR
comp=Z,1μm,20.0s
ERM Erimo 48.12 356 P **P** **09 00 42.6 +1.6**
ERM pP **pP** **09 01 01.2 +3.3**
JEM Erimo 48.12 356 P **P** **09 00 43.5 +2.5**
KULM Kulim 48.16 283 P **P** **09 00 40.9 -0.9**
KULM IAmb IAmb 09 01 16.7
comp=Z,127nm,1.0s
JOHN Johnston Islan 48.18 61 P **P** **09 00 42.0 +0.2**
MNSI Mandailing Nat 48.36 277 P **P** **09 00 44.3 +1.0**
comp=Z,150nm,0.6s,comp=Z,8μm
WHN Wuhan 48.40 321⇑P **P** **09 00 44.3 +1.0**
WHN pP **pP** **09 01 01.8 +1.3**
WHN sP **sP** **09 01 08.2 0.0**

WHN S **S** **09 07 41.5 +2.5**
WHN sS **sS** **09 08 12.4 +2.9**
WHN pmax pmax
comp=Z,480nm,1.3s
WHN pmax pmax
comp=Z,2μm,2.7s
WHN LR LR
comp=Z,2μm,11.5s
WHN LR LR
comp=Z,5μm,16.1s
WHN LR LR
comp=Z,10μm,31.7s
HJU Haeju 48.45 337 P **P** **09 00 44.0 +0.4**
HJU pP **pP** **09 01 00.7 -0.1**
HJU S **S** **09 07 42.2 +2.8**
HJU AmB
comp=Z,822nm,1.6s
MCQ Macquarie Isla 49.06 171 P **P** **09 00 49.0 +1.0**
baz=49,SNR=5.5
MCQ Macquarie Isla 49.06 171 P **P** **09 00 48.4 +0.4**
MCQ Macquarie Isla 49.06 171 P **P** **09 00 49.2 +1.2**
MCQ Macquarie Isla 49.06 171 P **P** **09 00 48.4 +0.4**
MCQ pmax pmax
comp=Z,436nm,1.2s
PYAG Pyongyang 49.31 338 P **P** **09 00 50.2 +0.1**
PYAG pP **pP** **09 01 08.1 +0.6**
PYAG S **S** **09 07 54.7 +3.2**
PYAG AmB
comp=Z,283nm,1.9s
RPSI Rantau Prapat 49.32 279 P **P** **09 00 50.4 -0.3**
PSI Prapat 49.34 279 P **P** **09 00 51.9 +0.9**
PSI Prapat 49.34 279 P **P** **09 00 50.4 -0.6**
PSI pmax pmax
comp=Z,440nm,1.3s
HHU Hamhung 49.45 340 P **P** **09 00 51.5 +0.4**
TSI Tuntungan 49.82 280 P **P** **09 00 57.1 +2.6**
comp=Z,435nm,1.3s,comp=Z,17μmcomp=Z,3μm
NONG Nongkai 49.97 300 P **P** **09 00 55.7 +0.1**
YUK Yuzh-Kuril'sk 50.00 358*d i*P **P** **09 00 55.2 -0.1**
YUK *e*S **S** **09 08 04.5 +3.6**
YUK pmax pmax
comp=Z,335nm,1.1s
YUK pmax pmax
comp=E,115nm,0.6s
YUK pmax pmax
comp=N,263nm,1.0s
YUK pmax pmax
comp=Z,477nm,4.6s
ASAJ Asahikawa 50.26 355 P **P** **09 00 58.0 +0.8**
comp=Z,119nm,1.1s,baz=196,slow=6.1,SNR=27
ASAJ S **S** **09 07 56.4 -8.2**
comp=Z,3.2nm,0.9s,baz=84,slow=34,SNR=1.3
ASAJ LR LR 09 18 48.4
comp=Z,3μm,21.8s,baz=178,slow=32
comp=Z,119nm,1.1s
GSI Gunungsitoli 50.41 277 P **P** **09 00 58.5 -0.5**
GSI Gunungsitoli 50.41 277 P **P** **09 00 59.7 +0.7**
GSI Gunungsitoli 50.41 277 P **P** **09 00 59.7 +0.7**
comp=Z,394nm,1.6s,comp=Z,5μm
KCSI Kotacane, Aceh 50.60 280 P **P** **09 01 00.3 -0.2**
comp=Z,275nm,1.0s,comp=Z,3μm
SUJ Sinuiju 50.71 337 P **P** **09 01 01.3 +0.6**
SUJ pP **pP** **09 01 17.8 -0.3**
SUJ S **S** **09 08 12.4 +1.5**
SUJ AmB
comp=Z,520nm,1.8s
DL2 Dalian 50.87 334 P **P** **09 01 02.2 +0.2**
DL2 pP **pP** **09 01 20.8 +1.5**
DL2 S **S** **09 08 14.4 +1.1**
DL2 pmax pmax
comp=Z,68nm,1.1s
DL2 pmax pmax
comp=Z,710nm,5.7s
DL2 LR LR
comp=Z,1μm,20.6s
DL2 LR LR
comp=Z,2μm,19.6s
DL2 LR LR
comp=Z,3μm,23.7s
TIA Tai'an 50.90 328⇑P **P** **09 01 01.9 -0.4**
TIA S **S** **09 08 12.6 -1.2**
TIA pmax pmax
comp=Z,75nm,1.0s
TIA pmax pmax
comp=Z,680nm,4.2s
TIA LR LR
comp=Z,1μm,14.7s
TIA LR LR
comp=Z,2μm,13.1s
TIA LR LR
comp=Z,3μm,33.5s
GYA Guiyang 51.19 311 *e*P **P** **09 01 03.2 -1.6**
GYA pP pP 09 01 23.2 +0.8
GYA S **S** **09 08 18.8 +0.5**
GYA sS sS 09 08 51.4 +2.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,420nm,4.7s
GYA LR LR
comp=Z,880nm,20.5s
GYA LR LR
comp=Z,540nm,15.3s
GYA LR LR
comp=Z,1μm,26.5s
ENH Enshi 51.40 317 P **P** **09 01 05.8 -0.4**
ENH IAmb IAmb 09 01 41.9
comp=Z,192nm,1.2s
ENH Enshi 51.40 317 P **P** **09 01 06.7 +0.5**
ENH Enshi 51.40 317 P **P** **09 01 06.2 0.0**
TEY Ternei 51.91 350⇑*e*P **P** **09 01 10.0 +0.4**
TEY *e* 09 01 25.7
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=Z,20nm,1.5s
TEY pmax pmax
comp=Z,100nm,9.4s
USA0B Ussuriysk Arra 52.06 346 P **P** **09 01 11.7 +0.9**
USA0B Ussuriysk Arra 52.06 346*c i*P **P** **09 01 11.3 +0.5**
USRK Ussuriysk Ar. 52.06 346 P **P** **09 01 11.4 +0.6**
comp=Z,21nm,0.5s,baz=169,slow=8.4,SNR=53
USRK ScP **ScP** **09 06 13.6 +0.4**
comp=Z,6.0nm,0.9s,baz=186,slow=4.3,SNR=4.5
USRK S **S** **09 08 28.8 -0.7**
comp=Z,3.2nm,0.6s,baz=134,slow=43,SNR=1.6
USRK LR LR 09 21 47.4
comp=Z,2μm,19.8s,baz=145,slow=34
comp=Z,21nm,0.5s
USRK Ussuriysk Ar. 52.06 346 P **P** **09 01 11.7 +0.9**
USRK Ussuriysk Ar. 52.06 346 P **P** **09 01 11.7 +0.9**
MLSI Meulaboh, Aceh 52.08 280 P **P** **09 01 11.7 +0.2**
LYN LuoYang 52.30 323⇑*i*P **P** **09 01 12.4 -0.4**
LYN pP pP 09 01 30.8 +0.7
LYN sP sP 09 01 39.3 +1.5
LYN PP **PP** **09 03 17.5 +5.4**
LYN S **S** **09 08 30.8 -2.3**
LYN ScS **ScS** **09 10 51.4 -5.2**
LYN SS **SS** **09 12 14.5 +2.6**
LYN pmax pmax
comp=Z,10.0nm,1.2s
LYN pmax pmax
comp=Z,720nm,4.0s
LYN LR LR
comp=Z,2μm,15.5s
LYN LR LR
comp=Z,2μm,32.0s
SNY Shenyang 52.54 338⇑P **P** **09 01 14.4 0.0**
SNY S **S** **09 08 39.8 +3.7**
SNY pmax pmax
comp=Z,86nm,1.1s
SNY pmax pmax
comp=Z,1μm,5.2s
SNY LR LR
comp=Z,2μm,22.6s
SNY LR LR
comp=Z,2μm,20.6s
SNY LR LR
comp=Z,5μm,23.1s
YSS Yuzh-Sakhalins 53.06 356 P **P** **09 01 18.8 +0.6**
YSS IAmb IAmb 09 01 44.7
comp=Z,190nm,1.1s
YSS Yuzh-Sakhalins 53.06 356 P **P** **09 01 19.0 +0.8**

YSS	**Yuzh-Sakhalins**	**53.06 356**	*ce*	P		**P**	**09 01 18.9 +0.8**
YSS			*e*				09 02 24.0		
YSS			*e*	S		**S**	**09 08 41.2 -1.8**
YSS			*e*	SS		**SKiKP**	**09 12 29.0 -1.2**
YSS				pmax	pmax		
	comp=Z,110nm,1.0s						
YSS				pmax	pmax		
	comp=Z,1μm,7.5s						
YSS	**Yuzh-Sakhalins**	**53.06 356**		P		**P**	**09 01 18.7 +0.6**
YSS				pP		**pP**	**09 01 37.7 +2.1**
HNS	**HongShan**	**53.07 327**	⇑	P		**P**	**09 01 18.4 +0.1**
HNS				pP		**pP**	**09 01 35.9 +0.2**
HNS				S		**S**	**09 08 43.5 +0.1**
HNS				sS		**sS**	**09 09 11.6 -1.1**
HNS				pmax	pmax		
	comp=Z,150nm,1.2s						
HNS				LR	LR		
	comp=Z,2μm,19.6s						
HNS				LR	LR		
	comp=Z,3μm,19.0s						
HNS				LR	LR		
	comp=Z,2μm,20.6s						
MDJ	**Mudanjiang**	**53.07 344**		P		**P**	**09 01 18.2 0.0**
MDJ				IAmb	IAmb		09 01 38.9
	comp=Z,212nm,1.3s						
MDJ	**Mudanjiang**	**53.07 344**		P		**P**	**09 01 18.6 +0.4**
MDJ				pP	pP		09 01 37.9 +2.3
MDJ				S		**S**	**09 08 41.2 -2.1**
MDJ				pmax	pmax		
	comp=Z,68nm,1.8s						
MDJ				LR	LR		
	comp=Z,2μm,22.0s						
MDJ				LR	LR		
	comp=Z,1μm,23.2s						
MDJ				LR	LR		
	comp=Z,3μm,24.8s						
MDJ	**Mudanjiang**	**53.07 344**		P		**P**	**09 01 19.0 +0.8**
MDJ	**Mudanjiang**	**53.07 344**		P		**P**	**09 01 18.4 +0.2**
MDJ				pP		**pP**	**09 01 37.7 +2.0**
RAR	**Rarotonga**	**53.09 112**		LR		LR	09 21 33.6
	comp=Z,508nm,21.4s,baz=280,slow=33						
RAR	**Rarotonga**	**53.09 112**		P		**P**	**09 01 19.6 +0.8**
RAR				IAmb	IAmb		09 01 21.2
	comp=Z,217nm,1.3s						
RAR	**Rarotonga**	**53.09 112**		P		**P**	**09 01 19.7 +0.9**
RAR	**Rarotonga**	**53.09 112**		P		**P**	**09 01 19.6 +0.8**
RAR				pmax	pmax		
	comp=Z,217nm,1.3s						
RAR	**Rarotonga**	**53.09 112**		P		**P**	**09 01 19.4 +0.6**
RAR				pP		**pP**	**09 01 37.0 +1.0**
RAR				sP		**sP**	**09 01 44.8 +1.2**
CRAI	**Chiangrai**	**53.25 301**		IAmb	IAmb		09 02 11.0
	comp=Z,124nm,1.0s						
KMI	**Kunming**	**53.52 307**	⇑	P		**P**	**09 01 22.9 +0.8**
KMI				sP	sP		09 01 47.2 -0.4
KMI				S		**S**	**09 08 52.5 +2.1**
KMI				SS		**SS**	**09 12 32.2 +0.4**
KMI				pmax	pmax		
	comp=Z,22nm,1.3s						
KMI				pmax	pmax		
	comp=Z,430nm,10.2s						
KMI				LR	LR		
	comp=Z,760nm,17.5s						
KMI				LR	LR		
	comp=Z,870nm,21.1s						
KMI				LR	LR		
	comp=Z,2μm,32.9s						
CN2	**Changchun**	**53.60 340**	*e*	P		**P**	**09 01 21.3 -0.8**
CN2				pP		pP	09 01 40.3 +0.7
CN2				PP		**PP**	**09 03 24.8 +1.2**
CN2				S		**S**	**09 08 48.5 -1.9**
CN2			*e*	sS		sS	09 09 21.4 +2.1
CN2				pmax	pmax		
	comp=Z,20nm,1.7s						
CN2				pmax	pmax		
	comp=Z,860nm,5.0s						
CN2				LR	LR		
	comp=Z,2μm,23.0s						
CN2				LR	LR		
	comp=Z,1μm,23.0s						
CN2				LR	LR		
	comp=Z,3μm,25.0s						
CM31	**Chiang Mai Arr**	**53.79 298**		P		**P**	**09 01 22.3 -1.7**
CM31				IAmb	IAmb		09 01 56.7
	comp=Z,100nm,0.9s						
CMAR	**Chiang Mai Arr**	**53.79 298**		P		**P**	**09 01 24.4 +0.3**
	comp=Z,4.0nm,0.4s,baz=119,slow=5.5,SNR=24						
CMAR				S		**S**	**09 08 51.7 -2.2**
	comp=Z,1.0nm,0.3s,baz=251,slow=28,SNR=0.9						
	comp=Z,4.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**53.79 298**		P		**P**	**09 01 24.1 +0.1**
CMAR	**Chiang Mai Arr**	**53.79 298**	*i*	P		**P**	**09 01 24.7 +0.7**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CHTO	**Chiang Mai**	**53.93 299**		P		**P**	**09 01 25.0 0.0**
CHTO	**Chiang Mai**	**53.93 299**		P		**P**	**09 01 25.0 0.0**
XAN	**Xi'an**	**54.15 320**		P		**P**	**09 01 26.0 -0.3**
XAN				pP	pP		09 01 40.7 -3.5
XAN				sP	sP		09 01 47.9 -4.1
XAN				S		**S**	**09 08 56.5 -1.8**
XAN				SS		**SS**	**09 12 43.7 +2.6**
XAN				pmax	pmax		
	comp=Z,100nm,1.3s						
XAN				pmax	pmax		
	comp=Z,1μm,3.6s						
XAN				LR	LR		
	comp=Z,1μm,16.2s						
XAN				LR	LR		
	comp=Z,1μm,18.6s						
XAN				LR	LR		
	comp=Z,3μm,24.5s						
XAN	**Xi'an**	**54.15 320**		P		**P**	**09 01 26.1 -0.3**
XAN				sP		**sP**	**09 01 49.5 -2.5**
BJT	**Baijiatuau**	**54.30 331**		P		**P**	**09 01 27.4 +0.1**
TIY	**Taiyuan**	**54.54 326**	*e*	P		**P**	**09 01 29.2 0.0**
TIY				pP		**sP**	**09 01 52.7 -1.5**
TIY				S		**S**	**09 09 02.6 -0.9**
TIY				sS		**sS**	**09 09 31.5 -1.3**
TIY				pmax	pmax		
	comp=Z,38nm,1.0s						
TIY				pmax	pmax		
	comp=Z,690nm,6.5s						
TIY				LR	LR		
	comp=Z,1μm,22.0s						
TIY				LR	LR		
	comp=Z,2μm,20.6s						
TIY				LR	LR		
	comp=Z,3μm,42.6s						
BNX	**BinXian**	**54.72 343**	⇑	P		**P**	**09 01 30.3 +0.1**
BNX				pP		**pP**	**09 01 45.5 -2.2**
BNX				sP		**sP**	**09 01 53.7 -1.7**
BNX				PP		**PP**	**09 03 34.8 +1.2**
BNX				S		**S**	**09 09 08.5 +3.0**
BNX				sS		**sS**	**09 09 36.6 +2.1**
BNX				pmax	pmax		
	comp=Z,150nm,1.3s						
BNX				pmax	pmax		
	comp=Z,1μm,5.7s						
BNX				LR	LR		
	comp=Z,2μm,28.3s						
BNX				LR	LR		
	comp=Z,2μm,22.8s						
BNX				LR	LR		
	comp=Z,5μm,27.1s						
PZH	**PanZhiHua**	**54.97 308**		P		**P**	**09 01 32.4 -0.2**
PZH				pP		**pP**	**09 01 50.7 +0.3**
PZH				sP		**sP**	**09 01 56.5 -1.6**
PZH				S		**S**	**09 09 09.0 -0.8**
PZH				sS		**sS**	**09 09 37.8 -1.3**
PZH				ScS		**ScS**	**09 11 08.8 -7.3**
PZH				pmax	pmax		
	comp=Z,40nm,1.1s						
PZH				pmax	pmax		
	comp=Z,600nm,6.9s						
PZH				LR	LR		
	comp=Z,3μm,27.5s						
PZH				LR	LR		
	comp=Z,2μm,27.0s						
PZH				LR	LR		
	comp=Z,2μm,27.9s						
UGL	**Uglegorsk**	**55.23 356**	⇑	*i* P		**P**	**09 01 34.9 +1.1**
UGL			*e*				09 01 53.2
UGL			*e*				09 02 32.5
UGL				pmax	pmax		
	comp=Z,6μm,6.0s						
UGL				pmax	pmax		
	comp=Z,220nm,1.3s						
XMAS	**Kiritimati**	**55.55 83**		P		**P**	**09 01 36.2 -0.6**
XMAS	**Kiritimati**	**55.55 83**		P		**P**	**09 01 37.4 +0.6**
XMAS	**Kiritimati**	**55.55 83**		P		**P**	**09 01 37.2 +0.4**
XMAS				pP		**pP**	**09 01 55.2 +1.1**
XMAS				sP		**sP**	**09 02 03.3 +1.7**
CD2	**Chengdu**	**55.77 314**		P		**P**	**09 01 37.8 -0.4**
CD2				pP		pP	09 01 59.0 +3.0
CD2				S		**S**	**09 09 18.0 -2.2**
CD2				pmax	pmax		
	comp=Z,150nm,1.2s						
CD2				pmax	pmax		
	comp=Z,550nm,7.3s						
CD2				LR	LR		
	comp=Z,690nm,13.2s						
CD2				LR	LR		
	comp=Z,380nm,9.4s						
CD2				LR	LR		
	comp=Z,780nm,13.2s						
TNCH	**TengChong**	**56.85 305**	*e*	P		**P**	**09 01 48.3 +2.1**
TNCH				pP		pP	09 02 06.0 +2.1
TNCH				S		**S**	**09 09 34.6 -0.4**
TNCH				pmax	pmax		
	comp=Z,110nm,1.4s						
TNCH				pmax	pmax		
	comp=Z,380nm,7.9s						
TNCH				LR	LR		
	comp=Z,590nm,17.5s						
TNCH				LR	LR		
	comp=Z,760nm,18.4s						
TNCH				LR	LR		
	comp=Z,950nm,19.8s						
KLR	**Kul'dur**	**56.87 348**		P		**P**	**09 01 46.0 +0.5**
	comp=Z,62nm,1.1s,baz=167,slow=5.1,SNR=115						
KLR				S		**S**	**09 09 31.9 -2.0**
	comp=Z,1.1nm,0.9s,baz=164,slow=8.1,SNR=1.5						
KLR				LR		LR	09 23 56.8
	comp=Z,979nm,21.2s,baz=164,slow=34						
	comp=Z,62nm,1.1s						
KLR	**Kul'dur**	**56.87 348**	*c*	*i* P		**P**	**09 01 46.1 +0.5**
KLR				pmax	pmax		
	comp=Z,214nm,1.5s						
TYV	**Tymovskoe**	**56.96 356**	*e*	P		**P**	**09 01 47.5 +1.3**
TYV			*e*	S		**S**	**09 09 38.9 +3.8**
TYV				pmax	pmax		
	comp=Z,118nm,1.4s						
TYV				pmax	pmax		
	comp=Z,600nm,2.8s						
TYV				smax	smax		
	comp=N,600nm,5.2s						
TYV				smax	smax		
	comp=E,1μm,5.2s						
HHC	**Hu-ho-hao-te**	**57.26 328**	*e*	P		**P**	**09 01 49.0 +0.4**
HHC				sP		sP	09 02 12.6 -1.1
HHC				S		**S**	**09 09 39.7 +0.1**
HHC				sS		sS	09 10 10.0 +0.9
HHC				SS		**SS**	**09 13 30.1 +0.1**
HHC				pmax	pmax		
	comp=E,110nm,0.9s						
HHC				pmax	pmax		
	comp=E,1μm,4.7s						
HHC				LR	LR		
	comp=E,2μm,21.6s						
HHC				LR	LR		
	comp=E,2μm,21.6s						
HHC				LR	LR		
	comp=E,4μm,22.2s						
XLT	**XiLinHaoTe**	**57.36 333**	⇑	*i* P		**P**	**09 01 49.2 0.0**
XLT				pP		pP	09 02 07.0 +0.2
XLT				sP		sP	09 02 11.5 -3.0
XLT				S		**S**	**09 09 40.4 -0.4**
XLT				sS		sS	09 10 11.1 +0.9
XLT				SS		**SS**	**09 13 37.0 +5.5**
XLT				pmax	pmax		
	comp=E,47nm,1.1s						
XLT				pmax	pmax		
	comp=E,770nm,4.7s						
XLT				LR	LR		
	comp=E,2μm,19.6s						
XLT				LR	LR		
	comp=E,3μm,21.1s						
GRNR	**Gornyy**	**57.52 352**	⇓	*i* P		**P**	**09 01 50.8 +0.7**
GRNR			*e*	S		**S**	**09 09 46.0 +3.5**
GRNR				pmax	pmax		
	comp=N,20nm,1.0s						
GRNR				pmax	pmax		
	comp=E,6.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,30nm,1.1s						
GRNR				smax	smax		
	comp=N,3.0nm,0.6s						
MND	**Mandalay**	**57.61 301**		P		**P**	**09 01 51.3 0.0**
BTO	**Baotou**	**57.91 327**	*e*	P		**P**	**09 01 54.6 +1.4**
BTO				S		**S**	**09 09 51.6 +3.5**
BTO				LR	LR		
	comp=N,9μm,19.0s						
BTO				LR	LR		
	comp=N,10μm,20.6s						
LZH	**Lanzhou**	**58.68 319**	⇑	P		**P**	**09 01 59.5 +0.8**
LZH				pP		pP	09 02 18.2 +1.5
LZH				sP		sP	09 02 26.2 +1.7
LZH				PP		**PP**	**09 04 06.8 -2.5**
LZH				S		**S**	**09 09 59.0 +0.5**
LZH				sS		sS	09 10 30.0 +2.0
LZH				pmax	pmax		
	comp=N,57nm,1.5s						
LZH				pmax	pmax		
	comp=N,910nm,6.2s						
LZH				LR	LR		
	comp=N,1μm,17.9s						
LZH				LR	LR		
	comp=N,850nm,17.9s						
LZH				LR	LR		
	comp=N,2μm,17.2s						
HEH	**HeiHe**	**58.84 345**	*e*	P		**P**	**09 01 59.3 0.0**
HEH				pP		**pP**	**09 02 16.4 -0.6**
HEH				S		**S**	**09 10 06.3 +6.6**
HEH				sS		**sS**	**09 10 30.8 +1.6**
HEH				ScS		**ScS**	**09 11 38.2 -4.7**
HEH				pmax	pmax		
	comp=N,80nm,1.0s						
HEH				pmax	pmax		
	comp=N,1μm,5.7s						
NKL	**Nikolayevsk**	**59.38 355**	*e*	P		**P**	**09 02 01.2 -1.8**
NKL			*e*	S		**S**	**09 10 11.3 +4.8**
NKL				pmax	pmax		
	comp=E,71nm,1.2s						
NKL				pmax	pmax		
	comp=N,248nm,1.3s						
NKL				pmax	pmax		
	comp=Z,783nm,1.3s						
NKL				smax	smax		
	comp=E,192nm,2.0s						
NKL				smax	smax		
	comp=N,525nm,3.9s						
PEA0B	**Petropavlovsk-**	**59.69 7**		P		**P**	**09 02 05.5 +0.3**
PEA0B	**Petropavlovsk-**	**59.69 7**	*de*	P		**P**	**09 02 03.9 -1.2**
PETK	**Petropavlovsk-**	**59.69 7**		P		**P**	**09 02 05.1 0.0**
	comp=N,69nm,0.9s,baz=174,slow=9.2,SNR=58						
PETK				LR		LR	09 24 25.8
	comp=N,4μm,21.1s,baz=199,slow=32						
	comp=N,69nm,0.9s						
PET	**Petropavlovsk**	**59.73 8**		P		**P**	**09 02 06.1 +0.8**
PET				IAmb	IAmb		09 02 07.4
	comp=Z,124nm,1.1s						
PET	**Petropavlovsk**	**59.73 8**		P		**P**	**09 02 06.1 +0.8**
PET	**Petropavlovsk**	**59.73 8**	*e*	P		**P**	**09 02 05.7 +0.3**
PET			*e*				09 02 59.9
PET			*e*	S		**S**	**09 10 17.9 +7.0**
PET				pmax	pmax		
	comp=Z,147nm,1.1s						
PET				pmax	pmax		
	comp=Z,2μm,7.7s						
PET				MLR	MLR		
	comp=Z,2μm,16.0s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**59.73 8**		P		**P**	**09 02 05.7 +0.3**
PET				pP		**pP**	**09 02 22.6 -0.4**
KIP	**Kipapa**	**60.02 61**		P		**P**	**09 02 07.4 -0.6**
KIP	**Kipapa**	**60.02 61**		P		**P**	**09 02 09.7 +1.7**
KIP	**Kipapa**	**60.02 61**		P		**P**	**09 02 09.5 +1.5**
KIP	**Kipapa**	**60.02 61**	*de*	P		**P**	**09 02 08.3 +0.3**
KIP				pmax	pmax		
	comp=Z,129nm,1.3s						
KIP	**Kipapa**	**60.02 61**		P		**P**	**09 02 08.9 +0.9**
HIA	**Hailar**	**60.30 339**		P		**P**	**09 02 09.7 +0.3**
HIA	**Hailar**	**60.30 339**		P		**P**	**09 02 10.3 +0.9**
HIA	**Hailar**	**60.30 339**		P		**P**	**09 02 09.7 +0.3**
HIA				pmax	pmax		
	comp=Z,539nm,1.7s						
HIA	**Hailar**	**60.30 339**		P		**P**	**09 02 09.9 +0.5**
HIA				pP		**pP**	**09 02 27.1 -0.1**
HIA				sP		**sP**	**09 02 37.0 +2.2**
SAIH	**SAIHA**	**60.47 300**	*e*	P		**P**	**09 02 12.8 +1.5**
SAIH			*ex*			**S**	**09 10 22.9 +1.0**
DRV	**Dumont d'Urvil**	**60.62 183**		P		**P**	**09 02 11.9 +0.6**
DRV	**Dumont d'Urvil**	**60.62 183**	⇓	P		**P**	**09 02 12.2 +0.9**
DRV				pP		**pP**	**09 02 29.0 -0.6**
MOKO	**MOKOCHONG**	**60.67 305**	*e*	P		**P**	**09 02 17.4 +4.8**
KHLU	**Kahalu`u**	**61.27 64**		P		**P**	**09 02 16.6 -0.2**
HMH	**Humu'ula Sheep**	**61.64 64**		P		**P**	**09 02 19.7 +0.3**
POHA	**Pohakuloa**	**61.65 64**		P		**P**	**09 02 19.5 +0.1**
POHA	**Pohakuloa**	**61.65 64**		P		**P**	**09 02 21.4 +2.0**
POHA	**Pohakuloa**	**61.65 64**		P		**P**	**09 02 20.5 +1.1**
BRDH	**Bariadhala**	**61.70 300**		LR		LR	09 29 42.9
	comp=Z,525nm,21.1s,baz=146,slow=36						
ZEA	**Zeya**	**62.09 347**	*ce*	P		**P**	**09 02 22.6 +1.2**
ZEA			*e*	PP		**pP**	**09 02 40.6 +1.4**
ZEA			*e*	S		**S**	**09 10 46.0 +4.9**
ZEA			*e*	SS		**SS**	**09 14 46.4 +1.3**
ZEA				pmax	pmax		
	comp=E,20nm,1.0s						
ZEA				pmax	pmax		
	comp=N,100nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,180nm,1.1s						
ZEA				pmax	pmax		
	comp=N,300nm,5.4s						
ZEA				pmax	pmax		
	comp=Z,400nm,4.4s						
ZEA				smax	smax		
	comp=N,400nm,11.0s						
PPT	**Papeete**	**62.35 107**		P		**P**	**09 02 24.2 +0.3**
	comp=N,65nm,0.9s,baz=216,slow=17,SNR=9.0						
PPT				S		S	09 10 56.0 +10
	comp=N,6.0nm,0.5s,baz=229,slow=19,SNR=1.0						
PPT				LR		LR	09 25 57.4
	comp=N,396nm,20.2s,baz=268,slow=33						
	comp=N,65nm,0.9s						
PPT2	**Papeete2**	**62.35 107**	*e*	P		**P**	**09 02 24.7 +0.7**
	comp=N,106nm,1.1s						
PPT2			*e*	S		**S**	**09 10 45.7 -0.1**
	comp=N,844nm,26.0s						
PPT2	**Papeete2**	**62.35 107**	*e*	LR		LR	09 21 02.0
	comp=N,1μm,35.8s						
PPT2			*e*	LR		LR	09 21 02.0
	comp=N,2μm,27.2s						
PPTF	**Pamatai, Papee**	**62.36 107**		P		**P**	**09 02 25.3 +1.3**
PPTF	**Pamatai, Papee**	**62.36 107**		P		**P**	**09 02 26.5 +2.5**
PPTF	**Pamatai, Papee**	**62.36 107**		P		**P**	**09 02 25.0 +0.9**
SHL	**Shillong**	**62.55 303**		P		**P**	**09 02 24.8 -0.5**
SHL	**Shillong**	**62.55 303**	*e*	P		**P**	**09 02 24.9 -0.5**
SHL	**Shillong**	**62.55 303**		P		**P**	**09 02 24.8 -0.5**
SHL				pmax	pmax		
	comp=Z,295nm,1.5s						
TIAR	**Tiarei**	**62.57 106**	*e*	P		**P**	**09 02 25.6 +0.2**
	comp=Z,47nm,1.2s						
TVO	**Taravao**	**62.66 107**	*e*	P		**P**	**09 02 26.3 +0.2**
	comp=Z,84nm,1.1s						
TBI	**Tubuai**	**62.82 113**	*e*	P		**P**	**09 02 27.0 +0.1**
	comp=Z,578nm,1.3s						
TBI			*e*	S		**S**	**09 10 51.4 0.0**
	comp=Z,4μm,29.0s						
TBI	**Tubuai**	**62.82 113**	*e*	LR		LR	09 21 14.3
	comp=Z,17μm,37.5s						
TBI			*e*	LR		LR	09 21 15.1
	comp=Z,21μm,35.8s						
SHEM	**Shemya Is, Ala**	**62.87 18**		S		**S**	**09 10 57.1 +6.2**
	comp=Z,158nm,1.0s,baz=22,slow=8.5,SNR=3.1						
SHEM				LR		LR	09 26 39.2
	comp=Z,1μm,20.3s,baz=198,slow=33						
GTA	**Gaotai**	**63.21 320**	⇑	P		**P**	**09 02 29.7 +0.3**
GTA				pP		pP	09 02 47.2 -0.3
GTA				sP		sP	09 02 56.8 +1.7
GTA				S		**S**	**09 10 57.7 +1.7**
GTA				sS		sS	09 11 28.6 +2.7
GTA				SS		**SS**	**09 15 03.4 -0.1**
GTA				pmax	pmax		
	comp=Z,27nm,1.5s						
GTA				pmax	pmax		
	comp=Z,650nm,5.1s						
GTA				LR	LR		
	comp=Z,760nm,17.1s						
GTA				LR	LR		
	comp=Z,660nm,19.3s						
GTA				LR	LR		
	comp=Z,1μm,20.0s						
MEH	**Mehetia**	**63.80 107**	*e*	P		**P**	**09 02 33.8 +0.3**
	comp=Z,62nm,1.0s						
VAH	**Vaihoa**	**64.16 104**	*e*	P		**P**	**09 02 35.8 -0.1**
	comp=Z,237nm,1.3s						
ULN	**Ulaanbaatar**	**64.51 331**		P		**P**	**09 02 38.4 +0.6**
ULN				IAmb	IAmb		09 02 39.8
	comp=Z,71nm,0.9s						
ULN	**Ulaanbaatar**	**64.51 331**	*c*	*i* P		**P**	**09 02 38.3 +0.5**
ULN				pmax	pmax		
	comp=Z,97nm,1.1s						
ULN	**Ulaanbaatar**	**64.51 331**	⇑	P		**P**	**09 02 38.5 +0.8**
ULN				pP		**pP**	**09 02 56.6 +0.6**
LSA	**Lhasa**	**64.76 307**		P		**P**	**09 02 40.5 +0.3**
LSA				IAmb	IAmb		09 03 20.3
	comp=Z,60nm,0.8s						
LSA	**Lhasa**	**64.76 307**		P		**P**	**09 02 39.2 -1.0**
LSA				pmax	pmax		
	comp=Z,15nm,1.0s						
LSA				LR	LR		
	comp=Z,2μm,24.7s						
LSA				LR	LR		
	comp=Z,1μm,23.9s						
LSA				LR	LR		
	comp=Z,490nm,9.6s						
LSA	**Lhasa**	**64.76 307**		P		**P**	**09 02 40.5 +0.3**
LSA				pmax	pmax		
	comp=Z,60nm,0.8s						
LSA	**Lhasa**	**64.76 307**		P		P	09 02 45.1 +5.0
LSA				pP		sP	09 03 03.1 -3.3
SONM	**Songino Array**	**64.81 331**		P		**P**	**09 02 40.1 +0.4**
	comp=Z,50nm,1.0s,baz=148,slow=6.9,SNR=184						
SONM				S		**S**	**09 11 11.4 -4.1**
	comp=Z,0.4nm,0.3s,baz=181,slow=7.2,SNR=1.8						
SONM				LR		LR	09 30 30.6
	comp=Z,2μm,21.9s,baz=138,slow=36						
SONM				PKP2bc		**P'P'bc**	**09 31 30.7 +1.1**
	comp=Z,8.3nm,1.0s,baz=263,slow=1.1,SNR=19						
	comp=Z,50nm,1.0s						
SONM	**Songino Array**	**64.81 331**		P		**P**	**09 02 40.2 +0.5**
SONM				IAmb	IAmb		09 02 41.6
	comp=Z,95nm,1.1s						
SONM	**Songino Array**	**64.81 331**		P		**P**	**09 02 40.2 +0.5**
SONM				pmax	pmax		
	comp=Z,95nm,1.1s						
CIT	**Chita**	**64.82 338**	*e*	P		**P**	**09 02 40.2 +0.7**
CIT			*e*				09 03 00.1
CIT			*e*				09 03 15.0
CIT				pmax	pmax		
	comp=Z,451nm,1.7s						
GOMU	**GeErMu**	**64.89 315**		P		**P**	**09 02 41.0 +0.3**
GOMU				S		**S**	**09 11 20.3 +3.0**
GOMU				LR	LR		
	comp=Z,540nm,19.6s						
GOMU				LR	LR		
	comp=Z,700nm,19.0s						
GOMU				LR	LR		
	comp=Z,800nm,19.0s						
CASY	**Casey**	**65.23 196**		P		**P**	**09 02 42.6 +0.7**
CASY				IAmb	IAmb		09 03 21.5
	comp=Z,88nm,1.1s						
CASY	**Casey**	**65.23 196**		P		**P**	**09 02 42.3 +0.4**
CASY				pP		**pP**	**09 03 00.6 +0.2**
ADK	**Adak**	**65.42 23**		P		**P**	**09 02 44.1 +0.8**
ADK	**Adak**	**65.42 23**		P		**P**	**09 02 43.7 +0.4**
ADK	**Adak**	**65.42 23**		P		**P**	**09 02 44.1 +0.8**
ADK				pmax	pmax		
	comp=Z,267nm,1.2s						
ADK	**Adak**	**65.42 23**		P		**P**	**09 02 44.2 +0.9**
ADK				pP		**pP**	**09 03 02.7 +1.6**
ADK				sP		**sP**	**09 03 09.8 +1.2**
MA2	**Magadan**	**65.59 2**		P		**P**	**09 02 44.3 0.0**

comp=Z,66nm,1.0s,baz=169,slow=6.7,SNR=18
MA2 S **S** **09 11 24.4 +0.1**
comp=Z,1.9nm,0.4s,baz=168,slow=20,SNR=1.3
MA2 LR LR 09 27 23.0
comp=Z,2µm,21.7s,baz=186,slow=32
comp=Z,66nm,1.0s
MA2 Magadan 65.59 2 P **P** **09 02 44.9 +0.6**
MA2 lAmb lAmb 09 02 46.2
comp=Z,254nm,1.4s
MA2 Magadan 65.59 2 P **P** **09 02 44.9 +0.6**
MA2 Magadan 65.59 2*c* *i*P **P** **09 02 44.5 +0.2**
MA2 pmax pmax
comp=Z,287nm,1.7s
MA2 Magadan 65.59 2 P **P** **09 02 44.6 +0.2**
MA2 pP **pP** **09 03 04.0 +1.8**
GTK Tadong 65.93 303 *ex* P 09 02 54.4 +7.0
BOK Bokaro 67.06 299 *eP* **P** **09 02 53.4 -1.1**
BOK lAmb lAmb 09 03 19.8
comp=Z,30nm,1.7s
VIS Vishakhapatnam 67.65 292 *eP* **P** **09 02 59.3 +1.0**
VIS lAmb lAmb 09 03 22.6
comp=Z,34nm,1.1s
RAGD RAYAGADA 67.92 294 *eP* **P** **09 03 00.0 0.0**
RAGD lAmb lAmb 09 03 24.8
comp=Z,94nm,1.1s
PALK Pallekele 67.99 280 P **P** **09 02 59.4 -1.2**
PALK lAmb lAmb 09 03 23.4
comp=Z,64nm,1.0s
PALK Pallekele 67.99 280 P **P** **09 02 59.4 -1.2**
PALK pmax pmax
comp=Z,65nm,1.0s
PALK Pallekele 67.99 280 P **P** **09 03 02.1 +1.5**
PALK pP **pP** **09 03 20.2 +0.9**
ZAK Zakamensk 68.04 331 *eP* **P** **09 03 00.0 -0.2**
ZAK pmax pmax
comp=Z,109nm,1.1s
IRK Irkutsk 68.84 333 *eP* **P** **09 03 04.8 -0.2**
IRK pmax pmax
comp=Z,136nm,1.3s
SEY Seymchan 69.01 2 P **P** **09 03 06.3 +0.5**
comp=Z,32nn,0.9s,baz=180,slow=6.7,SNR=30
SEY PKP2ab **P'P'ab** **09 31 23.0 +6.5**
comp=Z,2.7nm,1.0s,baz=15,slow=2.5,SNR=4.8
SEY LR LR 09 33 31.5
comp=Z,2µm,19.0s,baz=167,slow=36
comp=Z,32nn,0.9s
SEY Seymchan 69.01 2*c* *i*P **P** **09 03 06.3 +0.5**
SEY pmax pmax
comp=Z,131nm,1.5s
BOD Bodaibo 69.31 342 *eP* **P** **09 03 07.2 -0.6**
BOD pmax pmax
comp=Z,466nm,1.5s
YAK Yakutsk 69.39 351 P **P** **09 03 08.5 +0.2**
comp=Z,15nn,0.5s,baz=143,slow=3.0,SNR=42
YAK S **S** **09 12 05.3 -4.4**
comp=Z,4.0nm,0.5s,baz=206,slow=3.0,SNR=1.5
YAK LR LR 09 34 06.2
comp=Z,625nm,18.3s,baz=138,slow=36
comp=Z,15nn,0.5s
YAK Yakutsk 69.39 351 P **P** **09 03 08.1 -0.1**
YAK pP **pP** **09 03 26.8 +0.6**
YAK Yakutsk 69.39 351*c* *i*P **P** **09 03 08.4 +0.2**
YAK *e* 09 03 25.4
YAK *e* 09 05 42.5
YAK *e*S **S** **09 12 09.0 -0.7**
YAK *e**SS **sS** **09 12 37.1 -3.0**
YAK *e* 09 12 57.7
YAK *e*SS **SS** **09 16 46.4 +8.1**
YAK pmax pmax
comp=Z,178nm,1.1s
YAK pmax pmax
comp=N,76nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=Z,114nm,1.8s
YAK pmax pmax
comp=N,87nm,1.8s
YAK pmax pmax
comp=E,42nm,1.5s
YAK smax smax
comp=E,138nm,2.3s
YAK smax smax
comp=N,132nm,2.5s
YAK Yakutsk 69.39 351 P **P** **09 03 08.3 +0.1**
YAK pP **pP** **09 03 26.3 +0.1**
NIKH Nikolski High 69.50 26 P **P** **09 03 09.3 +0.2**
baz=227
VJD Vijayawada 69.85 290 *ex* **PcP** **09 03 33.8 -0.3**
VJD lAmb lAmb 09 03 36.1
comp=Z,72nm,1.1s
MOY Mondy 69.98 331 *eP* **P** **09 03 12.6 +0.4**
MOY pmax pmax
comp=Z,199nm,1.6s
CCD Concordia, Ant 70.26 186 ⇓P **P** **09 03 14.7 +0.8**
CCD pP **pP** **09 03 32.8 +0.1**
UNV Unalaska Valle 71.13 27 P **P** **09 03 19.0 0.0**
baz=229
SALM Salem 71.19 284 *eP* **P** **09 03 22.2 +2.1**
KOD Kodaikanal 71.64 283 *eP* **P** **09 03 24.6 +1.3**
AKUT Akutan 71.65 27 P **P** **09 03 22.0 -0.2**
TAOE Nuku Hiva Isla 71.66 97 *eP* **P** **09 03 18.5 -4.7**
comp=Z,359nm,37.0s
TAOE *e*S **S** **09 12 37.8 -0.4**
comp=Z,283nm,26.6s
TAOE Nuku Hiva Isla 71.66 97 *e*LR LR 09 25 21.7
comp=Z,881nm,22.7s
TAOE Nuku Hiva Isla 71.66 97 P **P** **09 03 25.1 +1.9**
TAOE lAmb lAmb 09 03 25.5
comp=Z,266nm,1.3s
TAOE Nuku Hiva Isla 71.66 97 P **P** **09 03 24.2 +1.0**
VNDA Vanda 71.71 177 P **P** **09 03 23.0 +0.9**
comp=Z,31nm,0.7s,baz=334,slow=7.2,SNR=146
VNDA S **S** **09 12 36.6 +0.2**
comp=Z,0.7nm,0.8s,baz=74,slow=20,SNR=1.0
comp=Z,31nn,0.7s
VNDA Vanda 71.71 177 P **P** **09 03 23.3 +1.1**
VNDA lAmb lAmb 09 03 41.5
comp=Z,358nm,1.6s
VNDA Vanda 71.71 177 P **P** **09 03 23.3 +1.1**
VNDA pmax pmax
comp=Z,358nm,1.7s
VNDA Vanda 71.71 177 ⇓P **P** **09 03 23.1 +0.9**
VNDA pP **PcP** **09 03 40.6 -0.3**
TRD Trivandrum 71.85 281 *eP* **P** **09 03 26.1 +1.9**
TRD lAmb lAmb 09 03 44.3
comp=Z,78nm,1.7s
HYB Hyderabad 72.01 290 *eP* **P** **09 03 24.2 -0.9**
HYB *ep*P **PcP** **09 03 41.1 -2.2**
HYB *e*PcP **pP** **09 03 43.0 -1.1**
HYB *es*P **sP** **09 03 47.7 -4.1**
HYB *e*S **S** **09 12 41.2 -0.8**
HYB Hyderabad 72.01 290 *eP* **P** **09 03 27.5 +2.4**
SBA Scott Base 72.34 176 P **P** **09 03 28.0 +2.0**
SBA Scott Base 72.34 176 P **P** **09 03 28.0 +2.0**
SBA pmax pmax
comp=Z,467nm,1.9s
PCHI Peechi 72.78 283⇑ *eP* **P** **09 03 30.6 +0.9**
PCHI *e*S **S** **09 12 53.0 +2.3**
WMQ Urumqi 73.26 319 ⇑P **P** **09 03 32.0 -0.1**
WMQ PcP **PcP** **09 03 49.2 +1.0**
WMQ pP pP 09 03 52.9 +2.4
WMQ sP sP 09 04 00.9 +2.8
WMQ PP **PP** **09 06 17.9 +1.7**
WMQ S **S** **09 12 55.5 +0.1**
WMQ sS sS 09 13 25.8 -0.2
comp=Z,660nm,5.5s
WMQ LR LR
comp=Z,980nm,22.5s
WMQ LR LR
comp=Z,890nm,21.1s
WMQ LR LR
comp=Z,1µm,25.3s
LGTI Lohaghat 73.58 303 *eP* **P** **09 03 34.8 +0.7**
JHNI Jhansi 73.94 299 *ex* **PcP** **09 03 54.9 +3.4**
AKL Akola 74.15 293 *ex* **PcP** **09 03 52.0 -0.5**
AKL lAmb lAmb 09 04 01.2
comp=Z,227nm,1.4s
S12K Black Hills 74.30 27 P **P** **09 03 37.7 -0.1**
baz=233
H08S2 Diego Garcia H 74.41 264 P **P** **09 03 42.0 +3.0**
baz=36,slow=7.5,SNR=50
H08S3 Diego Garcia H 74.42 264 P **P** **09 03 41.8 +2.7**
baz=36,slow=7.5,SNR=35
H08S1 Diego Garcia H 74.43 264 P **P** **09 03 41.9 +2.8**
baz=36,slow=7.5,SNR=52
SDPT Sand Point 74.82 28 P **P** **09 03 40.6 -0.1**
SDPT lAmb lAmb 09 04 14.4
comp=Z,180nm,1.2s
SDPT Sand Point 74.82 28 P **P** **09 03 40.4 -0.4**
baz=234
BILL Bilibino 75.22 7 P **P** **09 03 43.9 +1.0**
BILL lAmb lAmb 09 04 08.6
comp=Z,103nm,1.1s
BILL Bilibino 75.22 7*d* *i*P **P** **09 03 43.2 +0.3**
BILL *e* 09 03 57.1
BILL *e* 09 06 37.5
BILL *e*S S 09 13 26.2 +10
BILL pmax pmax
comp=Z,98nm,1.5s
BILL MLR MLR
comp=Z,395nm,18.0s
MNCY Minicoy 75.65 280 *eP* **P** **09 03 48.3 +1.8**
GOA Goa 76.07 288 *eP* **P** **09 03 48.8 0.0**
GOA lAmb lAmb 09 04 13.0
comp=Z,63nm,1.1s
DGZ Jazzator, Alta 76.08 325*c* *i*P **P** **09 03 48.0 -0.4**
DGZ pmax pmax
comp=Z,39nm,1.3s
RKT Rikitea 76.13 112 *eP* **P** **09 03 48.8 -0.2**
comp=Z,202nm,1.2s
RKT *ep*P **pP** **09 04 06.8 -0.7**
comp=Z,187nm,1.1s
RKT *e*S **S** **09 13 27.4 -0.5**
comp=Z,62µm,32.8s
RKT Rikitea 76.13 112 *e*LR LR 09 27 24.2
comp=Z,491µm,37.0s
GAMB Gambell 76.19 17 P **P** **09 03 48.7 +0.3**
baz=222
CHGN Chignik 76.32 28 P **P** **09 03 50.1 +0.8**
CHGN lAmb lAmb 09 04 17.8
comp=Z,73nm,1.0s
CHGN Chignik 76.32 28 P **P** **09 03 48.6 -0.7**
baz=236
KUDL Kundal 76.39 301 *eP* **P** **09 03 50.1 -0.3**
ZSN Zaisan 76.62 322⇑ *i*P **P** **09 03 51.1 -0.3**
baz=322
ZSN *e*S **S** **09 13 31.7 -0.7**
baz=322
ZSN Zaisan 76.62 322*c* *i*P **P** **09 03 51.0 -0.3**
ZSN *e*S **S** **09 13 31.7 -0.7**
POO Poona 76.62 291 *eP* **P** **09 03 50.5 -1.4**
POO lAmb lAmb 09 04 12.4
comp=Z,56nm,1.1s
CHIR Chirikof Islan 77.37 29 P **P** **09 03 56.4 +1.1**
R16K Pilot Point 77.41 27 P **P** **09 03 55.1 -0.3**
baz=236
AJM Ajmer 77.59 299 lAmb lAmb 09 04 21.6
comp=Z,137nm,1.4s
DHRM DHARAMSHALA 77.62 305 *eP* **P** **09 03 55.6 -1.9**
MK31 Makanchi Array 77.96 320 P **P** **09 03 58.7 -0.1**
MK31 Makanchi Array 77.96 320*c* *i*P **P** **09 03 58.6 -0.3**
MKAR Makanchi Array 77.96 320 P **P** **09 03 58.5 -0.4**
comp=Z,10nm,0.7s,baz=98,slow=8.2,SNR=117
MKAR S **S** **09 13 48.5 +1.5**
comp=Z,1.0nm,0.9s,baz=125,slow=18,SNR=5.0
MKAR PKKPbc **PKKPbc** **09 23 00.4 -0.9**
comp=Z,1.1nm,0.8s,baz=278,slow=1.8,SNR=6.6
MKAR PKPPKP **P'P'df** **09 31 07.6 +5.7**
comp=Z,2.1nm,1.0s,baz=289,slow=2.1,SNR=6.8
MKAR LR LR 09 41 02.3
comp=Z,465nm,18.3s,baz=116,slow=38
comp=Z,10nm,0.7s
MKAR Makanchi Array 77.96 320 P **P** **09 03 58.8 -0.1**
R17K Ugashik Creek 77.98 27 P **P** **09 03 58.2 -0.5**
baz=238
P16K Nushagak River 78.04 25 P **P** **09 03 58.0 -1.0**
baz=236
THN Thein Dam 78.14 305 *eP* **P** **09 04 01.2 +1.1**
MAKZ Makanchi 78.17 320 P **P** **09 03 59.8 -0.2**
MAKZ lAmb lAmb 09 04 26.5
comp=Z,116nm,1.2s
MAKZ Makanchi 78.17 320 P **P** **09 03 59.8 -0.2**
MAKZ pmax pmax
comp=Z,117nm,1.2s
O16K Kokwok River B 78.31 25 P **P** **09 04 00.4 -0.1**
baz=236
Q16K King Salmon 78.42 26 P **P** **09 04 01.6 +0.6**
baz=237
SHLS Shalkode 78.52 316⇑ *i*P **P** **09 04 00.4 -1.8**
comp=Z,33nm,1.8s,baz=316
SHLS *e*S **S** **09 13 49.5 -3.9**
baz=316
SHLS Shalkode 78.52 316*c* *i*P **P** **09 04 00.4 -1.8**
SHLS *e*S **S** **09 13 49.5 -3.9**
SHLS pmax pmax
comp=Z,33nm,1.8s
N16K Nishlik Lake 78.54 24 P **P** **09 04 02.0 +0.2**
baz=235
TNA Tin City 78.60 17 P **P** **09 04 02.2 +0.3**
baz=225
TIXI Tiksi 78.64 354 P **P** **09 04 01.5 -0.5**
comp=Z,11nm,0.5s,baz=270,slow=23,SNR=19
TIXI S **S** **09 13 52.0 -1.2**
comp=Z,0.5nm,0.3s,baz=270,slow=24,SNR=0.8
TIXI LR LR 09 36 18.2
comp=Z,1µm,21.9s,baz=1.0,slow=34
comp=Z,11nm,0.5s
TIXI Tiksi 78.64 354 P **P** **09 04 00.8 -1.1**
TIXI Tiksi 78.64 354*c* *i*P **P** **09 04 01.0 -1.0**
TIXI pmax pmax
comp=Z,38nm,1.0s
ANM Nome 78.70 19 P **P** **09 04 02.4 -0.1**
baz=228
UZB Uzynbulak 78.82 316⇑ *i*P **P** **09 04 03.6 -0.2**
comp=Z,47nm,1.6s,baz=316
UZB Uzynbulak 78.82 316*c* *i*P **P** **09 04 03.6 -0.2**
UZB pmax pmax
comp=Z,47nm,1.6s
O17K Koliganek Bris 78.84 25 P **P** **09 04 03.0 -0.3**
baz=236,SNR=14
OHAK Old Harbor 79.20 28 P **P** **09 04 05.0 -0.3**
OHAK Old Harbor 79.20 28 P **P** **09 04 05.0 -0.3**
baz=240
SATY Saty 79.22 316⇑ *i*P **P** **09 04 05.7 -0.4**
comp=Z,38nm,1.7s,baz=316
SATY *e*S **S** **09 13 59.6 -1.2**
baz=316
SATY Saty 79.22 316*c* *i*P **P** **09 04 05.6 -0.4**
SATY *e*S **S** **09 13 59.6 -1.2**
SATY pmax pmax
comp=Z,38nm,1.7s
ZHN Zhinishke 79.23 316 *eP* **P** **09 04 05.5 -0.5**
baz=316
ZHN Zhinishke 79.23 316 *eP* **P** **09 04 05.5 -0.5**
P18K Big Mountain, 79.43 26 P **P** **09 04 05.0 -1.7**
baz=238
ZAA0 Zalesovo Array 79.44 328 P **P** **09 04 05.5 -1.2**
ZALV Zalesovo Beam 79.44 328 P **P** **09 04 05.3 -1.4**
comp=Z,14nm,0.5s,baz=112,slow=6.1,SNR=94
ZALV S **S** **09 14 05.4 +3.0**
comp=Z,2.6nm,0.9s,baz=115,slow=10.0,SNR=3.6
ZALV PKKPbc **PKKPbc** **09 22 56.2 -2.2**
comp=Z,2.5nm,0.7s,baz=318,slow=4.0,SNR=9.2
ZALV PKPPKP **P'P'df** **09 30 59.8 +1.2**
comp=Z,1.5nm,0.8s,baz=266,slow=4.2,SNR=3.6
ZALV LR LR 09 39 12.7
comp=Z,1µm,21.9s,baz=112,slow=36
comp=Z,14nm,0.5s
ZALV Zalesovo Beam 79.44 328 P **P** **09 04 05.5 -1.2**
KDAK Kodiak Island 79.81 28 P **P** **09 04 08.2 -0.4**
comp=Z,15nm,0.9s,baz=306,slow=0.8,SNR=7.2
KDAK LR LR 09 33 34.7
comp=Z,2µm,21.9s,baz=261,slow=31
comp=Z,15nm,0.9s
KDAK Kodiak Island 79.81 28 P **P** **09 04 08.0 -0.6**
baz=241
KSH Kashi 79.88 312 P **P** **09 04 10.7 +1.0**
KSH pP pP 09 04 28.0 -0.6
KSH PP PP 09 07 20.7 +8.6
KSH S **S** **09 14 05.2 -2.8**
KSH pmax pmax
comp=Z,17nm,1.6s
KSH pmax pmax
comp=Z,450nm,4.1s
KSH LR LR
comp=Z,470nm,14.1s
KSH LR LR
comp=Z,690nm,15.1s
KSH LR LR
comp=Z,760nm,20.3s
Q19K Cape Douglas, 79.89 27 P **P** **09 04 08.0 -1.1**
baz=240
SVW2 Sparrevohn 80.19 24 P **P** **09 04 11.7 +1.0**
MDOK Medeo 80.19 316 P **P** **09 04 10.5 -0.8**
TNSS Tian-Shan 80.22 315 *eP* **P** **09 04 11.5 -0.3**
baz=316
TNSS Tian-Shan 80.22 315 *eP* **P** **09 04 11.5 -0.3**
O19K Port Alsworth 80.24 26 P **P** **09 04 10.1 -0.8**
baz=239
Q20K Shuyak Island 80.30 27 P **P** **09 04 10.2 -1.1**
baz=241
P19K Oil Pt 80.44 26 lAmb lAmb 09 04 40.6
comp=Z,82nm,1.0s
P19K Oil Pt 80.44 26 P **P** **09 04 11.4 -0.7**
baz=240
CHKK Chushkaly 80.45 316 *eP* **P** **09 04 11.5 -1.0**
baz=316
CHKK Chushkaly 80.45 316 *eP* **P** **09 04 11.5 -1.0**
NIL Nilore 80.45 305 P **P** **09 04 12.1 -0.6**
NIL lAmb lAmb 09 04 37.9
comp=Z,112nm,0.9s
NIL Nilore 80.45 305 P **P** **09 04 12.1 -0.6**
NIL pmax pmax
comp=Z,112nm,0.9s
N19K Bonanza Creek 80.49 25 P **P** **09 04 11.9 -0.5**
baz=239
ILSW Iliamna Southw 80.64 26 lAmb lAmb 09 04 42.0
comp=Z,66nm,1.2s
KUU Kurty 80.91 316⇑ *i*P **P** **09 04 14.3 -0.6**
comp=Z,110nm,1.8s,baz=316
KUU Kurty 80.91 316*c* *i*P **P** **09 04 14.3 -0.6**
KUU pmax pmax
comp=Z,110nm,1.8s
O20K Slope Mountain 80.92 26 P **P** **09 04 13.0 -1.7**
baz=240
TTA Tatalina 81.01 23 P **P** **09 04 15.0 -0.1**
baz=237,SNR=11
L19K White Mountain 81.06 24 lAmb lAmb 09 04 45.7
comp=Z,79nm,1.1s
L19K White Mountain 81.06 24 P **P** **09 04 15.2 -0.1**
baz=238
TKM2 Tokmak 2 81.14 315 P **P** **09 04 16.1 -0.3**
SNR=18
TKM2 Tokmak 2 81.14 315 *i* P **P** **09 04 15.7 -0.7**
TKM2 pmax pmax
comp=Z,15nm,0.8s
HOM Homer 81.14 27 P **P** **09 04 15.1 -0.7**
baz=241
CNPM China Poot 81.26 27 lAmb lAmb 09 04 54.1
comp=Z,119nm,1.1s
BRSE Bradley Lake S 81.59 27 P **P** **09 04 16.6 -1.5**
baz=242
M20K Styx River 81.60 24 P **P** **09 04 17.7 -0.5**
baz=240
L20K Farewell, AK 81.60 24 P **P** **09 04 17.9 -0.3**
baz=239
SPCR Spurr Chakacha 81.65 25 P **P** **09 04 17.1 -1.5**
baz=241
KURBB Kurchatov Arra 81.68 323 S **S** **09 14 33.2 +7.2**
comp=Z,1.3nm,0.2s,baz=126,slow=6.4,SNR=4.4
KURBB PKKPbc PKKPbc 09 22 52.4 -0.6
comp=Z,0.8nm,0.3s,baz=288,slow=2.6,SNR=9.1
KURBB PKPPKP **P'P'df** **09 30 55.1 +0.2**
comp=Z,1.2nm,0.2s,baz=279,slow=3.3,SNR=6.1
KURBB LR LR 09 40 20.6
comp=Z,557nm,21.5s,baz=143,slow=35
KURBB Kurchatov Arra 81.68 323 P **P** **09 04 17.4 -1.4**
GCSA Galena City Sc 81.69 21 P **P** **09 04 18.1 -0.4**
baz=236
UCH Uchtor 81.71 314 P **P** **09 04 20.1 +0.3**
SNR=19
CHMS Chumysh 81.75 315 P **P** **09 04 18.9 -0.5**
SNR=12
CHMS Chumysh 81.75 315 *i* P **P** **09 04 18.4 -1.1**
CHMS pmax pmax
comp=Z,54nm,1.3s
AAK Ala-Archa 81.83 315 P **P** **09 04 19.9 -0.2**
SNR=14
AAK Ala-Archa 81.83 315 LR LR 09 42 37.7
comp=Z,370nm,19.8s,baz=100,slow=37
AAK Ala-Archa 81.83 315 P **P** **09 04 20.1 0.0**
AAK Ala-Archa 81.83 315*c* *i*P **P** **09 04 19.6 -0.4**
AAK pmax pmax
comp=Z,53nm,1.1s
CAPN Captain Cook N 81.89 26 P **P** **09 04 18.9 -0.8**
baz=242
SGDS Sogindy 81.97 315 *eP* **P** **09 04 20.1 -0.5**
baz=315
SGDS Sogindy 81.97 315 *eP* **P** **09 04 20.1 -0.5**
K20K Telida 81.98 23 P **P** **09 04 20.1 -0.1**
baz=239
USP Ospenovka 82.00 315 P **P** **09 04 20.5 -0.3**
SNR=27
AML Almayashu 82.27 314 P **P** **09 04 22.9 +0.2**
SNR=30
MAW Mawson 82.29 203 P **P** **09 04 22.1 +0.4**
comp=Z,27nm,0.9s,baz=68,slow=5.1,SNR=9.3
MAW S S 09 14 22.3 -9.3
comp=Z,6.7nm,1.0s,baz=75,slow=15,SNR=2.1
MAW LR LR 09 39 46.7
comp=Z,1µm,21.0s,baz=83,slow=35
comp=Z,27nm,0.9s
MAW Mawson 82.29 203 P **P** **09 04 22.4 +0.7**
baz=82,SNR=7.5
MAW Mawson 82.29 203 P **P** **09 04 21.8 +0.2**
SKT Skwentna 82.31 25 P **P** **09 04 21.6 -0.3**
baz=241
SEW Seward 82.33 27 lAmb lAmb 09 04 53.9
comp=Z,112nm,1.2s
SEW Seward 82.33 27 P **P** **09 04 20.9 -1.1**
baz=243
EKS2 Erkin-Say 82.35 314 P **P** **09 04 22.7 0.0**
SNR=17
O22K Cooper Landing 82.38 26 P **P** **09 04 21.3 -0.9**
baz=243
J20K Nowinta River 82.38 22 P **P** **09 04 22.3 +0.1**
baz=239
SUA Susitna One 82.39 25 P **P** **09 04 21.0 -1.4**
baz=242
FIS Fire Island 82.47 26 lAmb lAmb 09 05 41.7
comp=Z,142nm,1.3s
PPLA Purkeypile 82.49 24 lAmb lAmb 09 04 51.7
comp=Z,95nm,1.4s
PPLA Purkeypile 82.49 24 P **P** **09 04 21.2 -1.8**
baz=241,SNR=9.7
RC01 Rabbit Creek A 82.65 26 lAmb lAmb 09 04 53.0
comp=Z,141nm,1.4s
RC01 Rabbit Creek A 82.65 26 P **P** **09 04 22.7 -1.0**
baz=243,SNR=8.6
CAST Castle Rocks 82.79 23 P **P** **09 04 23.3 -1.0**
baz=241,SNR=11
M22K Willow 82.79 25 P **P** **09 04 22.4 -1.9**
baz=243
BTLS Baital 82.81 317⇑ *i*P **P** **09 04 24.7 -0.2**
comp=Z,47nm,1.7s,baz=317
BTLS Baital 82.81 317*c* *i*P **P** **09 04 24.7 -0.2**
BTLS pmax pmax
comp=Z,47nm,1.7s
CHUM Lake Minchumin 82.93 23 P **P** **09 04 24.6 -0.4**
baz=240,SNR=12
CUT Chulitna 83.03 25 P **P** **09 04 23.7 -1.9**
baz=242
PMR Palmer 83.14 25 P **P** **09 04 24.7 -1.5**
baz=244,SNR=7.2
PMR Palmer 83.14 25 P **P** **09 04 26.9 +0.8**
PWL Port Wells 83.16 26 lAmb lAmb 09 05 04.6
comp=Z,83nm,1.0s
PWL Port Wells 83.16 26 P **P** **09 04 25.7 -0.7**
baz=244,SNR=7.1
P23K Montague Islan 83.21 27 P **P** **09 04 25.1 -1.5**
baz=245
GHO Glory Hole Cre 83.31 25 lAmb lAmb 09 05 01.8
comp=Z,61nm,1.0s
KNK Knik Glacier 83.35 26 lAmb lAmb 09 05 06.0
comp=Z,117nm,1.4s
KNK Knik Glacier 83.35 26 P **P** **09 04 27.0 -0.3**
baz=244,SNR=5.7
TRF Thorofare Moun 83.51 24 P **P** **09 04 26.9 -1.3**
baz=242
BPAW Bear Paw Mtn. 83.54 23 P **P** **09 04 26.6 -1.6**
baz=242,SNR=7.3
SML Sawmill 83.58 25 lAmb lAmb 09 05 02.9
comp=Z,148nm,1.2s
SML Sawmill 83.58 25 P **P** **09 04 27.3 -1.2**
baz=244,SNR=8.2
H21K Melozitna Rive 83.64 21 P **P** **09 04 28.4 -0.2**
baz=240
I21K Tanana 83.69 22 lAmb lAmb 09 05 04.1

comp=Z,84nm,1.2s
I21K Tanana 83.69 22 P P 09 04 28.6 -0.3
baz=240
QSPA South Pole Qui 83.79 180 P P 09 04 29.6 -0.1
comp=Z,84nm,0.8s,baz=198,slow=0.8,SNR=536
QSPA LR LR 09 39 48.1
comp=Z,2µm,22.0s,baz=8.0,slow=34
comp=Z,84nm,0.8s
QSPA South Pole Qui 83.79 180 P P 09 04 29.7 0.0
G21K Allakaket 83.83 20 P P 09 04 29.3 -0.3
baz=239
M23K Glacier View 83.83 26 P P 09 04 29.2 -0.6
baz=245
WAT1 Susitna Watana 83.93 24 P P 09 04 29.1 -1.2
baz=244
GAR Garm 84.00 310 P P 09 04 30.2 -1.1
GAR IAmb IAmb 09 05 50.7
comp=Z,166nm,1.5s
SCM Sheep Creek Mo 84.02 26 IAmb IAmb 09 05 09.3
comp=Z,110nm,1.1s
SCM Sheep Creek Mo 84.02 26 P P 09 04 30.2 -0.5
baz=245,SNR=7.5
KBL Kabul 84.05 306 P P 09 04 30.0 -1.8
KBL Kabul 84.05 306 P P 09 04 30.0 -1.8
KBL pmax pmax
comp=Z,38nm,1.0s
MLY Manley 84.08 22 P P 09 04 30.5 -0.5
MLY Manley 84.08 22 P P 09 04 30.2 -0.8
baz=242,SNR=24
DZA Taraz 84.15 314 *e*P P 09 04 31.3 -0.6
comp=Z,26nm,1.1s,baz=314
DZA Taraz 84.15 314 *e*P P 09 04 31.2 -0.6
DZA pmax pmax
comp=Z,26nm,1.1s
WAT6 Susitna Watana 84.16 25 P P 09 04 30.3 -1.3
baz=245,SNR=12
BWN Browne 84.17 23 IAmb IAmb 09 04 53.2
comp=Z,239nm,1.4s
MCK McKinley 84.18 24 IAmb IAmb 09 05 05.9
comp=Z,118nm,1.3s
MCK McKinley 84.18 24 P P 09 04 29.6 -1.9
baz=244,SNR=22
EYAK Cordova Ski Ar 84.19 27 P P 09 04 30.9 -0.7
baz=247
F21K Alatna River 84.20 20 P P 09 04 31.3 -0.2
baz=239
H22K Ishtalitna Cre 84.27 21 P P 09 04 32.0 +0.1
baz=241
DIV Divide 84.41 27 IAmb IAmb 09 04 54.5
comp=Z,93nm,1.3s
KLU Klutina 84.49 26 IAmb IAmb 09 05 03.3
comp=Z,60nm,1.0s
KLU Klutina 84.49 26 P P 09 04 32.5 -0.7
baz=246,SNR=8.1
NEA2 Nenana 84.51 23 P P 09 04 31.6 -1.5
baz=243,SNR=12
DHY Denali Highway 84.52 25 IAmb IAmb 09 05 06.0
comp=Z,66nm,1.1s
DHY Denali Highway 84.52 25 P P 09 04 32.5 -1.0
baz=245,SNR=13
M24K Tolsona, Glenn 84.63 26 IAmb IAmb 09 05 10.2
comp=Z,84nm,0.9s
M24K Tolsona, Glenn 84.63 26 P P 09 04 33.4 -0.4
baz=246,SNR=5.9
I23K Minto, Yukon-K 84.66 22 IAmb IAmb 09 07 49.8
comp=Z,81nm,1.5s
I23K Minto, Yukon-K 84.66 22 P P 09 04 33.2 -0.6
baz=243,SNR=7.8
G22K Bettles 84.72 20 P P 09 04 33.6 -0.6
baz=241
KK31 Karatay Array 84.78 314 P P 09 04 34.3 -0.7
KK31 IAmb IAmb 09 05 12.6
comp=Z,137nm,1.4s
KK31 Karatay Array 84.78 314 *i*P P 09 04 33.9 -1.1
KKAR Karatay Array 84.78 314 P P 09 04 34.3 -0.7
KKAR IAmb IAmb 09 05 12.6
comp=Z,137nm,1.4s
KKAR Karatay Array 84.78 314 P P 09 04 34.2 -0.8
KKAR Karatay Array 84.78 314 P P 09 04 34.2 -0.8
KKAR pmax pmax
comp=Z,137nm,1.5s
CHGR Chuyangaron 84.81 310 P P 09 04 34.0 -1.3
CHGR IAmb IAmb 09 05 32.5
comp=Z,191nm,1.3s
CHGR Chuyangaron 84.81 310 P P 09 04 34.0 -1.3
BMRM Bremner River 84.87 27 IAmb IAmb 09 05 05.0
comp=Z,95nm,1.2s
BMRM Bremner River 84.87 27 P P 09 04 34.2 -0.9
baz=248,SNR=6.4
H23K Yukon River 84.90 22 P P 09 04 34.7 -0.4
baz=243
IUG luzhnay 84.91 313 *e*P P 09 04 35.5 -0.3
baz=313
IUG luzhnay 84.91 313 *e*P P 09 04 35.5 -0.3
BRZS Berezniki 85.06 321 *e*P P 09 04 45.7 +9.5
BRZS pmax pmax
comp=Z,69nm,1.6s
TCOL CIGO, UAF Yank 85.10 23 P P 09 04 34.2 -1.9
baz=244,SNR=6.7
COLA College 85.11 23 P P 09 04 34.1 -2.0
baz=244
COLA College 85.11 23 P P 09 04 35.3 -0.8
COLA College 85.11 23*c i*P P 09 04 34.1 -2.0
COLA pmax pmax
comp=Z,69nm,1.6s
N25K Chitina, Valde 85.12 26 IAmb IAmb 09 05 33.1
comp=Z,94nm,1.4s
N25K Chitina, Valde 85.12 26 P P 09 04 35.7 -0.6
baz=248,SNR=6.2
G23K Bananza Creek 85.14 21 P P 09 04 36.0 -0.3
baz=242
HARP HAARP 85.18 26 P P 09 04 35.5 -1.1
baz=247
HDA Harding Lake 85.26 23 P P 09 04 35.3 -1.6
baz=245,SNR=9.2
PAX Paxson 85.27 25 P P 09 04 35.9 -1.2
baz=247,SNR=6.7
COLD Coldfoot 85.32 20 P P 09 04 36.8 -0.4
baz=242
POKR Poker Plat Res 85.37 23 P P 09 04 34.8 -2.6
baz=245
GLB Gilahina Butte 85.41 27 IAmb IAmb 09 05 07.7
comp=Z,75nm,1.2s
ILAR Eielson Array 85.44 23 P P 09 04 35.8 -1.9
comp=Z,6.3nm,0.7s,baz=252,slow=4.8,SNR=79
ILAR S S 09 14 56.5 -6.8
comp=Z,0.2nm,0.8s,baz=232,slow=8.9,SNR=2.3
ILAR PKKP PKKPbc 09 22 41.6 -3.3
comp=Z,0.8nm,0.8s,baz=8.2,slow=1.0,SNR=7.0
ILAR PKPPKP P'P'df 09 30 43.1 -4.0
comp=Z,0.6nm,1.0s,baz=9.5,slow=2.7,SNR=4.9
ILAR LR LR 09 39 35.4
comp=Z,962nm,20.6s,baz=232,slow=33
comp=Z,6.3nm,0.7s
ILAR Eielson Array 85.44 23 P P 09 04 35.5 -2.3
K24K Donnelly Dome 85.48 24 P P 09 04 36.8 -1.3
baz=246
VRDI Verde Repeater 85.49 27 IAmb IAmb 09 05 08.2
comp=Z,73nm,1.2s
A21K Barrow 85.49 16 IAmb IAmb 09 05 07.8
comp=Z,179nm,1.6s
A21K Barrow 85.49 16 P P 09 04 37.1 -0.7
baz=236
H24K Noodor Dome 85.52 22 IAmb IAmb 09 07 57.2
comp=Z,79nm,1.4s
H24K Noodor Dome 85.52 22 P P 09 04 37.5 -0.7
baz=244
NRIK Noril'sk 85.60 342 P P 09 04 38.0 -0.5
comp=Z,24nm,0.9s,baz=116,slow=5.4,SNR=33
NRIK S SKSac 09 14 44.8 -13
comp=Z,2.1nm,0.6s,baz=120,slow=6.4,SNR=4.2
NRIK LR LR 09 41 00.1
comp=Z,887nm,21.5s,baz=118,slow=34
comp=Z,24nm,0.9s
NRIK Noril'sk 85.60 342 P P 09 04 37.5 -1.0
NRIK Noril'sk 85.60 342 *i*P P 09 04 37.6 -0.9
NRIK pmax pmax
comp=Z,81nm,1.2s
MCARA McCarthy VSAT 85.74 27 IAmb IAmb 09 05 09.5
comp=Z,105nm,1.2s
MCARA McCarthy VSAT 85.74 27 P P 09 04 38.6 -0.8
baz=249
RIDG Independent Ri 85.83 24 IAmb IAmb 09 05 12.5
comp=Z,124nm,1.3s
RIDG Independent Ri 85.83 24 P P 09 04 39.0 -0.8
baz=247,SNR=11
E23K Chandalar 85.90 20 P P 09 04 40.0 -0.2
baz=242
J25K Salcha River, 85.97 23 P P 09 04 39.2 -1.3
baz=247
D23K Nanushuk River 85.99 19 P P 09 04 40.5 +0.1
baz=241
G24K Hadweenzic Riv 86.04 21 P P 09 04 40.6 -0.1
baz=245
M26K Nabesna, AK 86.11 26 P P 09 04 40.7 -0.6
baz=249
DOT Dot Lake 86.12 25 IAmb IAmb 09 05 13.9
comp=Z,63nm,1.1s
L26K Log Cabin Wild 86.19 25 P P 09 04 41.1 -0.4
baz=249,SNR=9.6
BARN Barnard Glacie 86.24 27 IAmb IAmb 09 05 24.3
comp=Z,38nm,0.8s
F24K Squaw Lake 86.25 20 P P 09 04 41.6 -0.2
baz=244
PRP Porcupine Dome 86.27 23 P P 09 04 40.6 -1.4
baz=246
SCRK Sand Creek 86.28 24 IAmb IAmb 09 05 14.7
comp=Z,56nm,1.3s
SCRK Sand Creek 86.28 24 P P 09 04 41.2 -0.9
baz=248,SNR=10
E24K Your Creek 86.29 20 P P 09 04 41.7 -0.3
baz=244
G25K Bearman Lake 86.56 21 P P 09 04 42.8 -0.4
baz=246
PINM Pinnacle 86.58 29 P P 09 04 42.8 -0.8
baz=252
M27K Edge Creek, AK 86.59 26 IAmb IAmb 09 05 17.7
comp=Z,58nm,0.9s
M27K Edge Creek, AK 86.59 26 P P 09 04 43.2 -0.5
baz=250
J26L Joseph Creek 86.64 24 IAmb IAmb 09 05 10.7
comp=Z,132nm,1.8s
J26L Joseph Creek 86.64 24 P P 09 04 43.3 -0.6
baz=248
D24K Happy Valley 86.67 19 P P 09 04 43.6 -0.2
baz=243
FYU Fort Yukon 86.80 22 IAmb IAmb 09 05 24.0
comp=Z,113nm,1.3s
O28M Mount Upton 86.83 28 P P 09 04 44.9 -0.2
baz=252
BCPM Bancas Point 86.83 29 IAmb IAmb 09 05 15.2
comp=Z,161nm,1.5s
L27K Beaver Creek, 86.85 25 IAmb IAmb 09 05 12.8
comp=Z,55nm,1.2s
L27K Beaver Creek, 86.85 25 P P 09 04 44.7 -0.2
baz=250
PNL Peninsula 86.86 29 P P 09 04 44.7 -0.2
baz=252
PNL Peninsula 86.86 29 P P 09 04 47.4 +2.5
C24K Franklin Bluff 86.96 18 P P 09 04 45.2 +0.1
baz=243
YUK3 Moose Creek 87.02 27 P P 09 04 45.4 -0.5
baz=251,SNR=21
BVCY Beaver Creek 87.05 26 P P 09 04 46.0 +0.2
baz=251,SNR=8.9
F25K Christian Rive 87.06 21 P P 09 04 45.6 -0.2
baz=246
K27K Chicken 87.08 25 P P 09 04 45.6 -0.3
baz=250
YUK8 Steele Glacier 87.18 27 P P 09 04 46.5 -0.3
baz=252,SNR=11
BVA0 Borovoye Array 87.22 324 *i*P P 09 04 45.0 -1.8
BVAR Borovoye Array 87.22 324 S SKSac 09 15 03.7 -4.5
comp=Z,3.1nm,1.0s,baz=145,slow=11,SNR=4.8
BVAR PKKP PKKPbc 09 22 38.3 -1.8
comp=Z,1.3nm,0.7s,baz=316,slow=6.0,SNR=4.7
BVAR PKPPKP P'P'df 09 30 47.0 +2.2
comp=Z,0.4nm,0.6s,baz=336,slow=3.2,SNR=3.6
BVAR LR LR 09 47 35.6
comp=Z,384nm,18.1s,baz=89,slow=38
BRVK Borovoye 87.29 324 P P 09 04 45.6 -1.5
BRVK Borovoye 87.29 324*d i*P P 09 04 44.3 -2.8
BRVK pmax pmax
comp=Z,30nm,1.4s
E25K Arctic Village 87.30 20 P P 09 04 46.7 -0.2
baz=246
O29M Mount Kennedy 87.44 29 P P 09 04 47.5 -0.4
baz=253
G26K Porcupine Rive 87.47 22 P P 09 04 47.8 +0.1
baz=248
D25K Kavik River 87.53 19 P P 09 04 47.7 -0.2
baz=246
F26K Sheenjek River 87.63 21 P P 09 04 48.5 0.0
baz=248
EGAK Eagle 87.71 24 IAmb IAmb 09 05 15.9
comp=Z,81nm,1.2s
EGAK Eagle 87.71 24 P P 09 04 48.4 -0.5
baz=250,SNR=18
YUK4 Talbot Arm 87.72 28 P P 09 04 49.3 +0.1
baz=253,SNR=19
YUK6 Outpost Mounta 87.73 28 P P 09 04 49.2 -0.2
baz=253,SNR=5.8
I27K Kandik River 87.81 23 P P 09 04 48.9 -0.5
baz=250
S31K Pelican 87.96 31 P P 09 04 50.0 -0.1
baz=255
H27K Steamboat Moun 88.06 23 P P 09 04 50.6 +0.1
baz=250
HYT Haines Junctio 88.10 28 IAmb IAmb 09 05 18.7
comp=Z,100nm,1.2s
HYT Haines Junctio 88.10 28 P P 09 04 50.7 -0.3
baz=254,SNR=15
M29M Somme Creek 88.12 27 P P 09 04 50.8 -0.2
baz=253
P30M Million Dollar 88.17 29 P P 09 04 51.2 0.0
baz=254
SIT Sitka 88.21 32 P P 09 04 51.1 -0.3
baz=256
DAWY Dawson 88.21 25 IAmb IAmb 09 05 20.1
comp=Z,108nm,1.2s
DAWY Dawson 88.21 25 P P 09 04 50.9 -0.5
baz=252
G27K Doyon Strip 88.21 22 P P 09 04 51.5 +0.2
baz=250
C26K Camden Bay 88.23 19 P P 09 04 51.3 +0.1
baz=247
PLBC Pleasant Camp 88.28 30 P P 09 04 51.2 -0.5
baz=255,SNR=9.3
R31K City Hall, Gus 88.33 31 P P 09 04 51.2 -0.7
baz=256
L29M L29M 88.46 26 P P 09 04 51.6 -1.0
baz=253
C27K Jago River 88.51 19 P P 09 04 52.3 -0.2
baz=248
E27K Coleen River 88.70 21 P P 09 04 53.1 -0.5
baz=250
O30N Mendenhall 88.75 28 P P 09 04 54.0 0.0
baz=255,SNR=17
SKAG Skagway 88.79 30 IAmb IAmb 09 04 56.6
comp=Z,88nm,1.3s
SKAG Skagway 88.79 30 P P 09 04 53.7 -0.4
baz=256,SNR=7.6
J29M Klondike Camp 88.82 25 IAmb IAmb 09 05 22.7
comp=Z,72nm,1.1s
J29M Klondike Camp 88.82 25 P P 09 04 54.2 -0.1
baz=253,SNR=9.1
M30M Minto, Yukon 88.90 27 IAmb IAmb 09 05 23.2
comp=Z,47nm,1.1s
M30M Minto, Yukon 88.90 27 P P 09 04 54.2 -0.4
baz=254
R32K Eaglecrest 88.92 31 P P 09 04 54.5 -0.2
baz=256
K29M Barlow Dome 88.94 25 P P 09 04 54.8 0.0
baz=254
CRAG Craig 89.04 34 P P 09 04 54.0 -1.3
baz=258
I29M Ogilvie Camp, 89.04 24 IAmb IAmb 09 05 24.1
comp=Z,100nm,1.4s
I29M Ogilvie Camp, 89.04 24 P P 09 04 54.3 -0.9
baz=253,SNR=7.5
N31M Braeburn, Yuko 89.08 28 IAmb IAmb 09 05 23.8
comp=Z,74nm,1.2s
N31M Braeburn, Yuko 89.08 28 P P 09 04 55.6 +0.1
baz=255,SNR=6.1
U33K Whale Pass 89.18 33 P P 09 04 55.8 -0.1
baz=258
WHY Whitehorse 89.30 29 P P 09 04 56.8 +0.1
WHY IAmb IAmb 09 05 08.1
comp=Z,40nm,1.3s
WHY Whitehorse 89.30 29 P P 09 04 56.3 -0.3
baz=256,SNR=6.7
T33K Petersburg 89.42 33 P P 09 04 57.1 0.0
baz=258
MAYO Mayo, Yukon 89.57 26 IAmb IAmb 09 05 43.6
comp=Z,54nm,1.0s
MAYO Mayo, Yukon 89.57 26 P P 09 04 57.3 -0.4
baz=255
P32M Atlin 89.62 30 P P 09 04 57.8 -0.3
baz=257
WRAK Wrangell Islan 89.66 33 P P 09 04 57.4 -0.8
baz=258
V35K Ketchikan 89.85 34 P P 09 04 58.8 -0.3
baz=259
M31M Drury Creek, Y 89.89 27 P P 09 04 58.8 -0.4
baz=257
EPYK Eagle Plains 89.95 23 P P 09 04 58.9 -0.6
baz=254,SNR=19
P33M Teslin, Yukon 90.20 29 P P 09 05 00.2 -0.6
baz=258
Q32M Nakina River 90.22 31 P P 09 05 00.9 -0.2
baz=258
G30M tAoh Zraii Nji 90.31 22 P P 09 05 00.5 -0.6
baz=255,SNR=14
FARO Faro, Yukon 90.38 27 IAmb IAmb 09 05 50.0
comp=Z,48nm,1.5s
FARO Faro, Yukon 90.38 27 P P 09 05 01.4 -0.1
baz=258,SNR=7.7
S34M Telegraph Cree 90.60 32 P P 09 05 03.0 +0.4
baz=259
T35M Bob Quinn 90.91 33 P P 09 05 05.0 +0.9
baz=260
R33M Jennings River 90.96 30 P P 09 05 04.4 0.0
baz=260
DLBC Dease Lake 91.27 31 LR LR 09 38 35.0
comp=Z,2µm,21.3s,baz=275,slow=31
DLBC Dease Lake 91.27 31 IAmb IAmb 09 05 35.5
comp=Z,109nm,1.7s
DLBC Dease Lake 91.27 31 P P 09 05 06.0 +0.2
baz=260
F31M Tsiigehtchic 91.35 22 P P 09 05 05.0 -0.8
baz=257,SNR=19
BBB Bella Bella 91.38 38 LR LR 09 39 00.4
comp=Z,2µm,20.7s,baz=256,slow=31
WSAR Wadi Sarin 91.39 293 S SKSac 09 15 39.2 +5.2
comp=Z,2.4nm,0.7s,baz=81,slow=4.6,SNR=3.7
WSAR PKKP PKKPbc 09 22 29.4 +1.0
comp=Z,2.8nm,0.7s,baz=246,slow=6.2,SNR=5.1
INK Inuvik 91.62 21 P P 09 05 06.0 -1.1
comp=Z,4.6nm,0.6s,baz=279,slow=4.6,SNR=16
INK PKKP PKKPdf 09 22 27.5 +1.2
comp=Z,1.2nm,0.4s,baz=92,slow=1.2,SNR=12
INK LR LR 09 41 34.2
comp=Z,2µm,22.0s,baz=233,slow=32
comp=Z,4.6nm,0.6s
INK Inuvik 91.62 21 P P 09 05 06.3 -0.7
INK IAmb IAmb 09 05 35.4
comp=Z,68nm,1.2s
INK Inuvik 91.62 21 P P 09 05 05.8 -1.3
baz=258,SNR=15
INK Inuvik 91.62 21 P P 09 05 06.4 -0.7
INK pmax pmax
comp=Z,68nm,1.3s
AB31 Akbulak array 93.05 319 *i*P P 09 05 11.7 -2.4
ABKAR Akbulak array 93.05 319 P P 09 05 12.1 -2.0
ABKAR IAmb IAmb 09 06 21.9
comp=Z,29nm,1.2s
GEYT Alibeck 93.28 308 P P 09 05 14.6 -1.0
comp=Z,7.1nm,0.9s,baz=102,slow=5.3,SNR=9.3
GEYT S SKSac 09 15 40.9 -3.2
comp=Z,1.0nm,0.4s,baz=76,slow=12,SNR=1.1
GEYT LR LR 09 50 16.7
comp=Z,602nm,21.5s,baz=104,slow=37
comp=Z,7.1nm,0.9s
GEYT Alibeck 93.28 308 P P 09 05 13.9 -1.6
GEYT IAmb IAmb 09 05 50.1
comp=Z,42nm,1.4s
GEYT Alibeck 93.28 308 P P 09 05 14.0 -1.6
GEYT pmax pmax
comp=Z,42nm,1.4s
SVE Sverdlovsk 93.42 327 *e*P P 09 05 13.8 -1.8
SVE pmax pmax
comp=Z,32nm,1.6s
SVE MLR MLR
comp=Z,1µm,21.0s
YBH Yreka Blue Hor 93.89 49 P P 09 05 18.6 +0.3
comp=Z,11nm,1.2s,baz=231,slow=4.8,SNR=7.7
YBH LR LR 09 39 13.4
comp=Z,3µm,21.8s,baz=290,slow=30
comp=Z,11nm,1.2s
YBH Yreka Blue Hor 93.89 49 IAmb IAmb 09 05 43.8
comp=Z,55nm,1.4s
ELIB Princess Elisa 94.16 195 *d*P P 09 05 18.9 -0.2
comp=Z,40nm,1.3s
ELIB *d*pP pP 09 05 37.6 -1.1
AKTO Aktyubinsk 94.40 320 LR LR 09 49 48.7
comp=Z,558nm,20.0s,baz=66,slow=37
AKTO Aktyubinsk 94.40 320 P P 09 05 18.1 -2.2
ARU Arti 94.52 326 LR LR 09 47 26.5
comp=Z,624nm,20.9s,baz=84,slow=35
ARU Arti 94.52 326 P P 09 05 18.8 -1.9
ARU Arti 94.52 326*c i*P P 09 05 18.0 -2.7
ARU 09 09 05.5
ARU S SKSac 09 15 46.4 -3.5
ARU SS SS 09 22 37.6 -14
ARU pmax pmax
comp=Z,26nm,1.4s
ARU MLR MLR
comp=Z,1µm,23.0s
ORV Oroville 94.64 51 IAmb IAmb 09 05 47.3
comp=Z,34nm,1.2s
D05A Enumclaw 94.81 43 IAmb IAmb 09 06 16.8
comp=Z,76nm,1.5s
A36M Sachs Harbour 94.97 18 IAmb IAmb 09 05 51.9
comp=Z,31nm,0.8s
A36M Sachs Harbour 94.97 18 P P 09 05 22.3 -0.1
baz=266
AFDM Forest Hills D 95.01 51 IAmb IAmb 09 05 48.6
comp=Z,32nm,1.2s
C36M Paulatuk 95.17 21 IAmb IAmb 09 05 50.6
comp=Z,24nm,1.2s
C36M Paulatuk 95.17 21 P P 09 05 24.2 +0.8
baz=266
PINE Pine Mountain 95.34 47 P P 09 05 24.6 -0.4
PINE IAmb IAmb 09 06 15.6
comp=Z,23nm,1.2s
CMB Columbia Colle 95.41 52 P P 09 05 25.1 -0.2
BEKR Beckworth 95.54 51 IAmb IAmb 09 05 51.7
comp=Z,22nm,1.2s
SMMC Simmler 95.55 55 P P 09 05 25.7 -0.3
baz=266
MOD Modoc Plateau 95.70 49 IAmb IAmb 09 05 51.8
comp=Z,25nm,1.2s
BELA Belgrano 2 96.06 180 P P 09 05 27.4 0.0
WAKR Walker 96.18 52 IAmb IAmb 09 07 19.3
comp=Z,57nm,2.0s
VES Vestal, Richgr 96.32 55 P P 09 05 29.2 -0.2
baz=267
YERR Yerington 96.36 52 IAmb IAmb 09 05 54.9
comp=Z,39nm,1.7s
I07A Izee 96.39 46 IAmb IAmb 09 06 20.8
comp=Z,43nm,1.7s
MDPB Devils Postpil 96.42 53 P P 09 05 30.1 -0.1
HAWA Hanford 96.46 44 IAmb IAmb 09 05 55.0
comp=Z,43nm,1.6s
ARVC Arvin 96.49 55 P P 09 05 30.3 +0.1
baz=267
B08A Colville Reser 96.66 42 IAmb IAmb 09 06 00.8
comp=Z,54nm,1.7s
CIS Catalina Islan 96.75 57 P P 09 05 31.1 -0.3
baz=267,SNR=9.2
E08A Dider Farm, El 96.79 44 IAmb IAmb 09 05 36.6
comp=Z,51nm,1.8s
ISA Isabella, Lake 96.81 55 IAmb IAmb 09 06 05.6
comp=Z,30nm,1.6s
ISA Isabella, Lake 96.81 55 P P 09 05 31.1 -0.7
baz=267
G08A Pilot Rock 96.82 45 IAmb IAmb 09 09 27.5
comp=Z,43nm,1.9s
DECC Green Verdugo 96.86 56 P P 09 05 32.0 +0.1
baz=267
D08A Wollman Farm, 96.90 43 IAmb IAmb 09 06 02.3
comp=Z,47nm,1.8s
WVOR Wild Horse Val 96.96 48 IAmb IAmb 09 09 20.3
comp=Z,36nm,1.6s
PASC Pasadena Art C 96.97 56 IAmb IAmb 09 05 33.5
comp=Z,21nm,1.2s
NVAR Mina Array Bea 97.06 52 P P 09 05 32.8 -0.3
comp=Z,1.6nm,0.8s,baz=255,slow=3.5,SNR=8.1
NVAR PP PP 09 09 29.2 -0.5
comp=Z,5.2nm,1.1s,baz=243,slow=8.2,SNR=4.5
NVAR LR LR 09 44 49.7
comp=Z,879nm,19.1s,baz=272,slow=33
comp=Z,1.6nm,0.8s
TIN Tinemaha, Big 97.07 54 P P 09 05 32.7 -0.3

baz=268
CWC Cottonwood Cre 97.16 54 P **P** **09 05 32.9 -0.6**
baz=268
EDW2 Edwards Air Fo 97.17 56 P **P** **09 05 32.8 -0.6**
baz=267,SNR=7.7
DSP Deep Springs 97.29 53 IAmb IAmb 09 09 31.3
comp=Z,68nm,2.0s
BFSC Mount Baldy Ra 97.41 56 P **P** **09 05 34.5 -0.1**
baz=268,SNR=6.3
E09A Wood Farm, Sta 97.42 44 IAmb IAmb 09 05 59.3
comp=Z,33nm,1.3s
LRMC Laurel Mtn Rad 97.44 55 P **P** **09 05 34.6 -0.1**
baz=268,SNR=10
VOI Vohitsoka 97.60 247 P **P** **09 05 35.1 -0.6**
VOI IAmb IAmb 09 05 57.2
comp=Z,17nm,0.8s
VOI Vohitsoka 97.60 247 P Pdif 09 05 43.8 +8.0
MPMC Manual Prospec 97.62 55 P Pdif 09 05 35.7 +0.1
baz=268,SNR=7.3
ABPO Ambohimpanom 97.67 250 P **P** **09 05 35.6 -0.5**
ABPO IAmb IAmb 09 05 55.5
comp=Z,31nm,1.2s
ABPO Ambohimpanom 97.67 250 P **P** **09 05 35.6 -0.5**
ABPO pmax pmax
comp=Z,31nm,1.2s
GRAC Grapevine Rang 97.75 54 P Pdif 09 05 37.1 +1.1
baz=268
NVL N'lazarevskaya 97.76 194 ⇑*i*P **P** **09 05 34.8 -0.4**
NVL *e*S **SKSac** **09 16 06.0 -0.4**
NVL pmax pmax
comp=Z,11nm,0.9s
NVL MLR MLR
comp=Z,1μm,19.0s
MURC Murrieta 97.77 57 P Pdif 09 05 36.7 +0.6
baz=268
OPO Ambohidratompo 97.78 250 LR LR 09 44 59.1
comp=Z,134nm,21.2s,baz=317,slow=32
109C Camp Elliot, M 97.82 58 P Pdif 09 05 36.9 +0.6
baz=268
BMN Battle Mountai 97.96 50 IAmb IAmb 09 09 36.3
comp=Z,35nm,1.5s
BMO Blue Mountains 97.98 46 IAmb IAmb 09 05 37.4
comp=Z,38nm,1.9s
NEW Newport 98.13 42 P **P** **09 05 37.0 -0.3**
comp=Z,2.5nm,0.7s,baz=211,slow=4.4,SNR=8.2
NEW LR LR 09 44 04.3
comp=Z,1μm,19.9s,baz=267,slow=32
comp=Z,2.5nm,0.7s
FURC Furnace Creek, 98.14 54 P Pdif 09 05 37.7 +0.1
baz=268
GSC Goldstone, Bar 98.15 55 P **P** **09 05 37.3 -0.6**
baz=268
PFO Pinyon Flats O 98.39 57 LR LR 09 41 49.1
comp=Z,2μm,21.6s,baz=271,slow=30
PFO Pinyon Flats O 98.39 57 P **P** **09 05 38.7 -0.3**
PFO Pinyon Flats O 98.39 57 P **P** **09 05 39.0 0.0**
baz=268,SNR=7.0
PFO Pinyon Flats O 98.39 57 ⇓*i*P Pdif 09 05 39.2 +0.2
PFO pmax pmax
comp=Z,18nm,1.5s
TPFO Pinon Flats 98.39 57 P Pdif 09 05 39.1 +0.1
baz=268
MONP2 Monument Peak 98.39 58 P **P** **09 05 38.6 -0.6**
baz=268,SNR=14
PMD Palm Desert 98.46 57 IAmb IAmb 09 06 10.8
comp=Z,16nm,1.4s
HEC Hector,Ludlow 98.53 56 P Pdif 09 05 39.7 +0.2
baz=268
SHOC Shoshone, Teco 98.60 55 P Pdif 09 05 40.5 +0.7
baz=269,SNR=10
TPNV Topopah Spring 98.65 54 P **P** **09 05 40.0 -0.1**
baz=269
IKP In-Ko-Pah, Jac 98.65 58 P Pdif 09 05 40.3 +0.1
baz=268,SNR=6.0
TROLL Troll, Antarti 98.72 190 P **P** **09 05 39.5 -0.2**
BELC Belle Mtn. Jos 98.78 57 P **P** **09 05 40.4 -0.4**
baz=268,SNR=8.0
RPN Rapa Nui 98.80 119 LR LR 09 42 32.0
comp=Z,260nm,21.8s,baz=260,slow=31
TUQ Turquoise Moun 98.88 55 P **P** **09 05 41.0 -0.2**
baz=269
SWSC Sam W. Stewart 98.92 58 P **P** **09 05 40.9 -0.3**
baz=268
GMRC Granite Mounta 99.08 56 P **Pdif** **09 05 41.4 -0.7**
baz=269
YKA Yellowknife Ar 99.08 28 P **Pdif** **09 05 40.5 -0.8**
comp=Z,6.8nm,1.1s,baz=274,slow=4.5,SNR=19
YKA PP **PP** **09 09 39.9 -4.3**
comp=Z,4.7nm,1.1s,baz=272,slow=7.8,SNR=5.3
YKA PKiKP **PKiKP** **09 10 10.7 -0.5**
comp=Z,1.3nm,0.8s,baz=289,slow=1.9,SNR=2.3
YKA PKKPbc **PKKPbc** **09 22 06.0 -3.3**
comp=Z,1.6nm,0.7s,baz=90,slow=2.5,SNR=12
comp=Z,6.8nm,1.1s
R11A Troy Canyon, C 99.20 52 P **Pdif** **09 05 41.6 -1.0**
baz=269
BC3 Big Chuckawall 99.23 57 P **Pdif** **09 05 42.6 -0.1**
baz=269,SNR=7.8
KIRV Kirov 99.47 328 LR LR 09 51 27.1
comp=Z,1μm,21.1s,baz=82,slow=36
KIRV Kirov 99.47 328 ⇓*i*P **Pdif** **09 05 42.8 -0.2**
ELK Elko 99.48 50 LR LR 09 43 35.9
comp=Z,829nm,20.6s,baz=272,slow=31
IRM Iron Mountain 99.49 56 P **Pdif** **09 05 43.8 0.0**
baz=269,SNR=7.9
GLA Glamis 99.74 58 P **Pdif** **09 05 44.9 -0.1**
baz=269
V12A Nelson 99.76 55 IAmb IAmb 09 09 50.1
comp=Z,29nm,1.5s
SNAA Sanae 99.91 189 P **Pdif** **09 05 44.7 -0.1**
SNAA Sanae 99.91 189 P **Pdif** **09 05 44.8 -0.1**
comp=Z,8.4nm,0.8s,baz=144,slow=2.2,SNR=12
SNAA PP **PP** **09 09 47.7 -2.1**
comp=Z,15nm,1.1s,baz=148,slow=9.3,SNR=11
SNAA LR LR 09 52 07.4
comp=Z,2μm,18.4s,baz=148,slow=36
comp=Z,8.4nm,0.8s
SNAA Sanae 99.91 189 Pdif **Pdif** **09 05 44.9 0.0**
SNAA Sanae 99.91 189 *i*P **Pdif** **09 05 44.9 0.0**
SNAA pmax pmax
comp=Z,106nm,1.8s
NEE2 Needles Airpor 99.94 56 P **Pdif** **09 05 45.4 -0.3**
baz=269
HLID Hailey 100.06 47 P **Pdif** **09 05 45.5 -0.8**
baz=271
MSO Missoula 100.31 44 P **Pdif** **09 05 46.8 -0.4**
baz=272
BELG Belogornoye 100.91 322 *c i*P **Pdif** **09 05 46.8 -2.7**
PRGR Permogore 101.06 332 *e*P **Pdif** **09 05 47.5 -2.5**
PRGR pmax pmax
comp=Z,31nm,1.5s
VNA2 Neumayer--Watz 101.25 188 P **Pdif** **09 05 50.7 -0.1**
baz=155,slow=5.0
VNA3 Neumayer Olymp 101.27 187 P **Pdif** **09 05 50.5 -0.3**
DUG Dugway, Tooele 101.33 50 P **Pdif** **09 05 51.7 -0.3**
baz=272
214A Organ Pipe Nat 101.43 59 P **Pdif** **09 05 52.2 -0.2**
baz=270
MAK Makhachkala 101.51 312 *i*P **Pdif** **09 05 51.0 -1.4**
MAK *e* 09 09 59.7
MAK *e* 09 16 25.7
MAK pmax pmax
comp=Z,256nm,1.1s
BOZ Bozeman (W) 101.97 45 P **Pdif** **09 05 55.0 +0.3**
baz=273
WUAZ Wupatki 102.59 55 P **Pdif** **09 05 56.9 -0.8**
baz=271
EGMT Eagleton 103.07 42 P **Pdif** **09 05 59.8 +0.4**
baz=275
TUC Tucson 103.15 58 P **Pdif** **09 06 00.4 +0.3**
baz=271
PDAR Pinedale Array 103.65 48 Pdiff **Pdif** **09 06 01.3 -1.0**
comp=Z,1.6nm,0.9s,baz=248,slow=2.1,SNR=7.8
PDAR PKKPbc **PKKPbc** **09 21 53.8 -1.9**
comp=Z,0.6nm,0.5s,baz=90,slow=1.8,SNR=6.1
KLMR Klimovskoe 104.10 331 *e*Pdif **Pdif** **09 05 58.8 -4.8**
KLMR AMP 09 06 21.7
comp=Z,60nm,1.6s
KLMR *e*PP **PKiKP** **09 10 19.5 -0.8**
KLMR pPKiKP **pPKiKP** **09 10 40.4 -0.4**
KLMR *e*PKKPbc **PKKPbc** **09 21 50.9 -3.7**
KLMR LQ LQ 09 40 11.8
KLMR LQ LQ 09 40 11.8
KLMR LR LR 09 42 18.9
KLMR AMP 09 55 11.5
comp=Z,2μm,17.8s
KLMR Klimovskoe 104.10 331 *e*P **Pdif** **09 05 58.7 -4.8**
KLMR *e* 09 10 19.4
KLMR pmax pmax
comp=Z,60nm,1.6s
KLMR MLR MLR
comp=Z,2μm,18.0s
APA Apatity 104.75 339 ⇓*i*P **Pdif** **09 06 07.9 +1.6**
APA pmax pmax
comp=Z,9.0nm,1.3s
KBZ Khabaz 104.81 313 PP PP 09 10 39.5 +12
comp=Z,6.8nm,1.0s,baz=120,slow=10,SNR=3.8
KBZ PKKPbc **PKKPbc** **09 21 51.9 0.0**
comp=Z,3.5nm,1.0s,baz=320,slow=3.3,SNR=3.8
O20A White River Ci 104.84 50 P **Pdif** **09 06 08.0 +0.4**
baz=274
MVCO Mesa Verde 104.84 53 P **Pdif** **09 06 07.7 -0.1**
baz=274
LAO LASA Array 105.61 43 P **PKiKP** **09 10 24.8 +1.1**
baz=278
LAO LASA Array 105.61 43 P **PKiKP** **09 10 23.9 +0.2**
baz=278
Y22A Socorro 106.29 57 P **PKiKP** **09 10 25.2 -0.3**
baz=274
Y22D IRIS PASSCAL I 106.31 56 P **PKiKP** **09 10 26.9 +1.5**
baz=274
Y22D IRIS PASSCAL I 106.31 56 P **PKiKP** **09 10 25.2 -0.3**
baz=274
Y22F Passcal Instru 106.31 56 P **PKiKP** **09 10 25.6 +0.1**
baz=274
ARCES ARCESS Array B 106.58 342 Pdiff **Pdif** **09 06 13.6 -0.9**
comp=Z,4.1nm,0.8s,baz=67,slow=6.9,SNR=12
ARCES PKiKP **PKiKP** **09 10 24.5 -0.3**
comp=Z,5.9nm,0.9s,baz=69,slow=0.9,SNR=13
ARCES PKKPbc **PKKPbc** **09 21 46.5 -0.8**
comp=Z,1.5nm,0.5s,baz=274,slow=0.9,SNR=11
ANMO Albuquerque 106.64 55 P **PKiKP** **09 10 25.4 -0.7**
baz=274
ANMO Albuquerque 106.64 55 P **PKiKP** **09 10 25.9 -0.2**
baz=274
ISCO Idaho Springs 106.88 50 P **PKiKP** **09 10 28.4 +1.8**
baz=276
SDCO Great Sand Dun 107.17 53 P **PKiKP** **09 10 25.4 -1.8**
baz=276
RSSD Black Hills 107.50 46 P **PKiKP** **09 10 28.1 +0.6**
baz=278
MNTX Cornudas Mount 107.76 59 P **PKiKP** **09 10 28.2 +0.1**
baz=274
MNTX Cornudas Mount 107.76 59 P **PKiKP** **09 10 28.1 +0.1**
baz=274
T25A Trinidad 108.10 53 P **PKiKP** **09 10 28.0 -0.8**
baz=276
E28A Huff 109.38 43 P **PKiKP** **09 10 30.3 -0.3**
baz=282
TX31 Lajitas Ar. Si 109.39 61 P **PKiKP** **09 10 30.4 -0.9**
baz=274
FINES FINESS Array B 110.06 334 Pdiff **Pdif** **09 06 27.9 -2.1**
comp=Z,2.8nm,0.9s,baz=57,slow=7.0,SNR=9.8
FINES PKiKP **PKiKP** **09 10 30.4 -1.0**
comp=Z,1.7nm,0.5s,baz=96,slow=3.1,SNR=10
FINES PKKPbc **PKKPbc** **09 21 33.9 -2.2**
comp=Z,3.1nm,0.9s,baz=232,slow=6.7,SNR=4.5
SUSD Miller 111.03 45 P **PKiKP** **09 10 33.8 0.0**
baz=282
ULM Lac du Bonnet 111.58 38 PKiKP **PKiKP** **09 10 33.3 -1.3**
comp=Z,1.7nm,0.4s,baz=323,slow=1.1,SNR=7.1
ULM PP **PP** **09 11 14.7 -2.1**
comp=Z,17nm,1.1s,baz=295,slow=4.9,SNR=7.7
BR131 Keskin Array S 112.24 310 ⇓*i*PKiKP **PKiKP** **09 10 34.6 -1.8**
BRTR Keskin Array B 112.24 310 PKiKP **PKiKP** **09 10 34.0 -2.4**
comp=Z,1.7nm,0.9s,baz=98,slow=6.0,SNR=3.1
BRTR PKKPbc **PKKPbc** **09 21 25.6 -2.8**
comp=Z,1.8nm,0.9s,baz=221,slow=3.1,SNR=4.6
NACGM Naroch 112.38 328 *e*PKiKP **PKiKP** **09 10 37.0 +1.0**
comp=Z,17nm,1.1s,baz=67
R32A Long Quarter, 112.39 51 P **PKiKP** **09 10 34.8 -1.9**
baz=280
AKASG Malin Array Be 112.47 323 PKiKP **PKiKP** **09 10 35.0 -1.3**
comp=Z,0.9nm,0.4s,baz=60,slow=2.4,SNR=9.3
AKASG PP **PP** **09 11 22.4 -0.7**
comp=Z,2.8nm,0.9s,baz=63,slow=5.7,SNR=8.6
AKASG PKKPbc **PKKPbc** **09 21 25.6 -2.2**
comp=Z,0.5nm,0.4s,baz=265,slow=4.5,SNR=8.1
ABTX Abilene, Hawle 112.52 57 P **PKiKP** **09 10 37.1 +0.1**
baz=277
F33A 5 Mile Ranch, 112.53 43 P **PKiKP** **09 10 36.7 +0.1**
baz=285
JCT Junction City 112.63 60 P **PKiKP** **09 10 37.1 -0.2**
baz=276
JCT Junction City 112.63 60 P **PKiKP** **09 10 37.9 +0.6**
baz=276
ECSD EROS Data Cent 112.83 45 P **PKiKP** **09 10 36.2 -1.1**
baz=284
ECSD EROS Data Cent 112.83 45 P **PKiKP** **09 10 37.7 +0.4**
baz=284
WMOK Wichita Mounta 112.94 55 P **PKiKP** **09 10 37.9 +0.2**
baz=279
WMOK Wichita Mounta 112.94 55 P **PKiKP** **09 10 38.4 +0.7**
baz=279
833A Chaparral WMA, 113.21 62 P **PKiKP** **09 10 38.7 +0.2**
baz=276
833A Chaparral WMA, 113.21 62 P **PKiKP** **09 10 37.4 -1.0**
baz=276
SUMG Summit 113.57 2 *i*P **PKiKP** **09 10 41.0 +2.6**
KSU1 Kansas State U 113.87 50 P **PKiKP** **09 10 38.6 -0.7**
baz=282
KSU1 Kansas State U 113.87 50 P **PKiKP** **09 10 39.1 -0.2**
baz=282
F36A Milaca 114.38 42 P PKPdf 09 10 40.0 -0.1
baz=287
T35B Sooner Cattle 114.38 52 P **PKiKP** **09 10 40.7 +0.2**
baz=281
Z35A Pechaven, San 114.40 56 P PKPdf 09 10 39.5 -1.1
baz=279
WHTX Lake Whitney, 114.44 58 P **PKiKP** **09 10 40.8 +0.1**
baz=278
WHTX Lake Whitney, 114.44 58 P PKPdf 09 10 40.2 -0.4
baz=278
435B Jarrell 114.49 59 P **PKiKP** **09 10 40.9 +0.1**
baz=278
435B Jarrell 114.49 59 P PKPdf 09 10 40.3 -0.5
baz=278
BOSA Boshof 114.57 235 PKP **PKiKP** **09 10 41.8 +0.5**
comp=Z,2.9nm,0.5s,baz=133,slow=2.0,SNR=8.8
I37B Waseca 115.00 44 P PKPdf 09 10 42.0 +0.6
baz=287
TUL1 Leonard 115.14 53 P **PKPdf** **09 10 42.5 +0.6**
baz=281
TUL1 Leonard 115.14 53 P **PKiKP** **09 10 41.9 0.0**
baz=281
HARR Harsova 115.16 317 ⇑P **PKiKP** **09 10 40.7 -0.9**
HARR Harsova 115.16 317 ⇑PKIKP **PKiKP** **09 10 40.7 -0.9**
TESR Tescani 115.44 319 ⇑P **PKiKP** **09 10 39.0 -3.2**
LBTB Lobatse 115.60 239 PKP **PKiKP** **09 10 44.0 +0.8**
comp=Z,8.4nm,0.9s,baz=95,slow=1.7,SNR=7.7
SCIA State Center 115.71 46 P **PKPdf** **09 10 43.0 +0.2**
baz=286
SCIA State Center 115.71 46 P **PKPdf** **09 10 43.2 +0.3**
baz=286
BISRR Bisoca 115.72 318 ⇑P **PKiKP** **09 10 40.6 -2.2**
X37A Clayton 115.73 55 P **PKiKP** **09 10 43.3 +0.3**
baz=281
237A Washetta, Mont 115.82 58 P **PKiKP** **09 10 44.1 +0.7**
baz=279
K38A Parkersburg 115.83 45 P **PKiKP** **09 10 43.6 +0.6**
baz=286
COVR Voineasa-Covas 115.95 318 ⇑P **PKPdf** **09 10 40.2 -3.0**
BURAR Bucovina Array 115.99 320 ⇑P **PKiKP** **09 10 43.6 +0.2**
BURAR Bucovina Array 115.99 320 ⇑PKIKP **PKiKP** **09 10 43.6 +0.2**
P38A Dawn 116.07 49 P **PKPdf** **09 10 42.4 -1.2**
baz=284
HKT Hockley 116.11 60 P **PKiKP** **09 10 45.9 +2.0**
baz=276
U38A Gravette 116.15 52 P **PKPdf** **09 10 42.2 -1.7**
baz=282
LSZ Lusaka 116.24 250 PKP **PKiKP** **09 10 46.3 +1.5**
comp=Z,11nm,0.6s,baz=125,slow=2.2,SNR=15
LSZ Lusaka 116.24 250 PKPdf **PKPdf** **09 10 44.0 -0.7**
Z38A Mt. Pleasant 116.29 56 P **PKiKP** **09 10 45.2 +1.0**
baz=280
NB2 NORSAR Subarra 116.31 338 PKPdf **PKPdf** **09 10 42.5 -1.0**
comp=Z,3.0nm,1.2s,baz=44,slow=1.9
NB2 PKKP **PKKPbc** **09 21 12.9 -2.2**
comp=Z,0.7nm,0.7s,baz=218,slow=3.3
NOA NORSAR Array B 116.31 338 PKP **PKPdf** **09 10 42.3 -1.2**
comp=Z,1.6nm,1.1s,baz=48,slow=2.1,SNR=4.8
NOA PKKPbc **PKKPbc** **09 21 14.0 -1.1**
comp=Z,1.6nm,0.9s,baz=231,slow=3.7,SNR=4.5
DOPR Dopca 116.45 319 ⇑P **PKiKP** **09 10 44.8 +0.6**
SUR Sutherland 116.48 229 PKP **PKiKP** **09 10 47.0 +2.1**
comp=Z,21nm,1.2s,baz=160,slow=8.1,SNR=6.6
S39A Bolivar 116.70 51 P **PKPdf** **09 10 43.4 -1.5**
baz=284
NATX Nacogdoches 116.82 58 P **PKiKP** **09 10 45.3 +0.1**
baz=280
NATX Nacogdoches 116.82 58 P **PKiKP** **09 10 45.6 +0.3**
baz=280
VOIR 116.86 318 ⇑P **PKPdf** **09 10 44.6 -0.4**
VOIR 116.86 318 ⇑PKIKP **PKPdf** **09 10 44.6 -0.4**
I40A Norwalk 116.95 44 P **PKPdf** **09 10 44.3 -0.9**
baz=289
ICESG Greenland Ices 116.99 3 *i*P **PKPdf** **09 10 41.9 -3.0**
MIAR Mount Ida 117.19 54 P **PKPdf** **09 10 45.2 -0.7**
baz=282
MIAR Mount Ida 117.19 54 P **PKiKP** **09 10 46.0 +0.1**
baz=282
P40A Paris 117.21 49 P **PKiKP** **09 10 45.9 +0.1**
baz=286
D41A Chassel 117.21 40 P **PKiKP** **09 10 46.0 +0.5**
baz=292
R40A Maddies Statio 117.36 50 P **PKPdf** **09 10 45.5 -0.6**
baz=285
UZH Uzhgorod 117.42 322 *e*PKIKP PKiKP 09 10 54.3 +8.4
UZH *i* 09 11 08.3
JFWS Jewell Farm 117.52 44 P **PKiKP** **09 10 46.4 +0.1**
baz=288
STHS Stebnicka Huta 117.72 324 *e*PKIKP **PKPdf** **09 10 45.7 -0.8**
STHS Stebnicka Huta 117.72 324 *e*PKP **PKPdf** **09 10 45.7 -0.8**
CRVS Cervenica-Dubn 117.81 323 *e*PKIKP **PKiKP** **09 10 46.7 0.0**
CRVS Cervenica-Dubn 117.81 323 *e*PKP **PKiKP** **09 10 46.7 0.0**
PLVB Pleven 117.83 316 ⇑P **PKPdf** **09 10 45.7 -1.2**
DEV Deva 118.10 319 ⇑P **PKiKP** **09 10 49.3 +2.0**
DEV Deva 118.10 319 ⇑PKIKP **PKiKP** **09 10 49.3 +2.0**
CCM Cathedral Cave 118.20 50 PKPdf **PKPdf** **09 10 47.0 -0.8**
CCM Cathedral Cave 118.20 50 P **PKPdf** **09 10 46.7 -1.0**
baz=285
CCM Cathedral Cave 118.20 50 P **PKiKP** **09 10 47.8 +0.1**
baz=285
CCM Cathedral Cave 118.20 50 PKIKP **PKPdf** **09 10 47.0 -0.8**
L42A Oliver, Polo 118.22 45 P **PKPdf** **09 10 47.1 -0.5**
baz=289
GZR Gura Zlata 118.37 319 ⇑P **PKPdf** **09 10 46.6 -1.3**
GZR Gura Zlata 118.37 319 ⇑PKIKP **PKPdf** **09 10 46.6 -1.3**
SURR Surduc 118.66 319 ⇑P **PKPdf** **09 10 47.1 -1.2**
SIRR Siria 118.75 320 ⇑P **PKPdf** **09 10 47.1 -1.4**
HDIL Hopedale 118.94 47 P **PKiKP** **09 10 49.4 +0.2**
baz=288
HDIL Hopedale 118.94 47 P **PKiKP** **09 10 49.8 +0.7**
baz=288
BZS Buzias 119.04 319 ⇓P **PKPdf** **09 10 48.1 -1.0**
BZS Buzias 119.04 319 ⇓PKIKP **PKPdf** **09 10 48.1 -1.0**
P43A Skaggs, Pawnee 119.05 48 P **PKiKP** **09 10 50.0 +0.6**
baz=287
VTS Vitosha 119.05 316 ⇑P **PKPdf** **09 10 48.4 -1.0**
VTS Vitosha 119.05 316 ⇑PKIKP **PKPdf** **09 10 48.4 -1.0**
PSZ Piszkesteto 119.17 322 ⇑P **PKPdf** **09 10 48.4 -1.0**
PSZ Piszkesteto 119.17 322 ⇑PKIKP **PKPdf** **09 10 48.4 -1.0**
MDVR Moldovita 119.30 319 ⇑P **PKPdf** **09 10 48.3 -1.4**
143A Socs Landing, 119.35 56 P **PKiKP** **09 10 50.8 +0.7**
baz=282
L44A Lake County Fo 119.39 45 P **PKiKP** **09 10 51.3 +1.3**
baz=290
L44A Lake County Fo 119.39 45 P **PKiKP** **09 10 50.5 +0.5**
baz=290
VYHS Vyhne 119.55 323 *e*PKIKP **PKPdf** **09 10 48.9 -1.1**
VYHS Vyhne 119.55 323 *e*PKP **PKPdf** **09 10 48.9 -1.1**
M44A Midewin, Midew 119.56 46 P **PKPdf** **09 10 49.9 -0.3**
baz=290
Q44A Meyer Farm, Va 119.64 49 P **PKPdf** **09 10 49.9 -0.6**
baz=287
O44A Mansfield 119.66 47 P **PKPdf** **09 10 50.1 -0.4**
baz=288
MORC Moravsky Berou 119.70 325 ⇑P **PKPdf** **09 10 50.1 -0.2**
MORC Moravsky Berou 119.70 325 *e*PKP **PKiKP** **09 10 50.6 +0.2**
MORC Moravsky Berou 119.70 325 ⇑PKIKP **PKPdf** **09 10 50.1 -0.2**
BOVS Bovan 119.73 317 ⇑P **PKPdf** **09 10 49.2 -1.3**
MAUC Maruska 119.74 325 *e*PKP **PKPdf** **09 10 49.7 -0.7**
MAUC *ex* x 09 11 09.8
S44A Carbondale 119.81 50 P **PKiKP** **09 10 51.0 +0.1**
baz=287
KRLC Kraliky 119.99 326 *e*PKPDF **PKPdf** **09 10 49.8 -1.1**
KRLC AMS AMS 09 58 30.0
comp=Z,1μm,17.0s
KRLC Kraliky 119.99 326 *e*PKIKP **PKPdf** **09 10 49.8 -1.1**
KRLC MLR MLR
comp=Z,1μm,17.0s
OSTC Ostas 120.06 326 *e*PKP **PKPdf** **09 10 50.1 -0.9**
OSTC *ex* x 09 11 08.9
OSTC AMS AMS 09 58 20.0
comp=Z,2μm,30.6s
JAVC Velka Javorina 120.07 324 *e*PKP **PKiKP** **09 10 51.7 +0.5**
DPC Dobruska-Polom 120.11 326 *e*PKPDF **PKPdf** **09 10 50.2 -0.9**
DPC *e*PKP **pPKPdf** **09 11 08.9 -2.6**
DPC AMS AMS 09 58 20.0
comp=Z,2μm,27.9s
DPC Dobruska-Polom 120.11 326 *e*PKIKP **PKPdf** **09 10 50.2 -0.9**
DPC *e* 09 11 08.9
DPC MLR MLR
comp=Z,2μm,27.9s
344A Westbrook Farm 120.17 57 P **PKiKP** **09 10 52.2 +0.4**
baz=282
E46A Sault Ste Mari 120.17 39 P **PKPdf** **09 10 51.3 0.0**
baz=295
VBMS Vicksburg 120.19 56 P **PKPdf** **09 10 52.0 +0.2**
baz=283
VBMS Vicksburg 120.19 56 P **PKiKP** **09 10 52.3 +0.5**
baz=283
UPC Upice 120.20 326 AMS AMS 09 58 20.0
comp=Z,2μm,28.4s
OLIL Olney 120.38 48 P **PKPdf** **09 10 51.5 -0.4**
baz=288
FRGS Fruska Gora 120.39 320 ⇑P **PKPdf** **09 10 51.8 0.0**
FRGS Fruska Gora 120.39 320 *e*P **PKPdf** **09 10 51.5 -0.3**
VRAC Vranov 120.47 325 *e*PKP **PKiKP** **09 10 51.9 0.0**
T45B Paducah 120.47 50 P **PKiKP** **09 10 52.7 +0.5**
baz=287
MODS Modra-Piesok 120.53 324 *e*PKIKP **PKPdf** **09 10 51.3 -0.6**
MODS Modra-Piesok 120.53 324 *e*PKP **PKPdf** **09 10 51.3 -0.6**
OXF Oxford 120.55 53 P **PKiKP** **09 10 52.7 +0.2**
baz=285
OXF Oxford 120.55 53 P **PKiKP** **09 10 52.7 +0.2**
baz=285
W45A Hickory Valley 120.56 53 P **PKPdf** **09 10 52.3 -0.1**
baz=285
SFIN Lafayette 120.58 46 P **PKPdf** **09 10 52.1 -0.2**
baz=290
SFIN Lafayette 120.58 46 P **PKiKP** **09 10 52.7 +0.4**
baz=290
Y45A Yeager Farm, C 120.60 54 P **PKiKP** **09 10 52.8 +0.2**
baz=284
GLMI Grayling 120.62 41 P **PKiKP** **09 10 53.0 +0.7**
baz=294
MORH Mrgy, Hungar 120.68 321 ⇑P **PKPdf** **09 10 51.1 -1.1**
DIVS Divibare 120.70 318 *e*P **PKPdf** **09 10 52.4 -0.1**
KRUC Moravsky 120.71 325 *e*PKP **PKPdf** **09 10 51.4 -0.8**
P46A Rosedale 120.75 47 P **PKPdf** **09 10 52.4 -0.2**
baz=289
PVCC Panska Ves 120.98 327 *e*PKPDF **PKiKP** **09 10 54.1 +1.3**
PVCC AMS AMS 09 58 20.0
comp=Z,2μm,26.9s
PVCC Panska Ves 120.98 327 *e*PKIKP **PKiKP** **09 10 54.1 +1.3**
PVCC MLR MLR
comp=Z,2μm,26.9s
TREC Trest 121.11 325 AMS AMS 09 57 50.0
comp=Z,2μm,27.1s
J47A Sunmer 121.12 43 P **PKPdf** **09 10 52.2 -0.9**
baz=293
J47A P **PKPdf** **09 10 52.2 -0.9**
baz=293
BRG Berggiesshubel 121.13 328 *e*PKP **PKPdf** **09 10 52.5 -0.4**
BRG Amp 09 10 53.5
comp=Z,11nm,0.9s
BRG pPKP **pPKPdf** **09 11 10.0 -3.4**
BRG Amp 09 11 13.6
comp=Z,17nm,1.2s
BRG Berggiesshubel 121.13 328 PP PP 09 12 27.0 +3.7
BRG Berggiesshubel 121.13 328 PS PS 09 22 23.0 +6.5
BRG Berggiesshubel 121.13 328 *e*PKIKP **PKPdf** **09 10 52.5 -0.4**
BRG 09 11 09.9
BRG 09 12 27.0
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,17nm,1.2s
BRG pmax pmax

comp=Z,17nm,1.5s
BRG Berggiesshubel 121.13 328 *e*PKPdf **PKiKP** 09 10 53.2 +0.1
baz=56,slow=1.9
BRG *e*pPKPdf **pPKPdf** 09 11 09.9 -3.4
baz=55,slow=1.9
BSEG Bad Segeberg 121.17 332 *e*PKPdf **PKiKP** 09 10 53.2 +0.2
baz=56,slow=1.9
BBLS Lazići 121.18 318 *e*P **PKPdf** 09 10 51.9 -1.5
GOPC GO Pecny, Ondr 121.18 326 AMS AMS 09 58 50.0
comp=Z,2µm,34.1s
346A Big Creek Wild 121.24 57 P **PKiKP** 09 10 55.3 +1.4
baz=283
PRU Pruhonice 121.28 326 *e*PKPDF **PKPdf** 09 10 52.2 -1.1
PRU *e*pPKP **pPKPdf** 09 11 12.5 -1.2
PRU AMS AMS 09 58 40.0
comp=Z,2µm,29.5s
PRU Pruhonice 121.28 326 *e*PKIKP **PKPdf** 09 10 52.2 -1.1
PRU *e* 09 11 12.5
146A Union 121.29 56 P **PKiKP** 09 10 54.1 +0.1
baz=284
WVT Waverly 121.36 51 **PKPdf** 09 10 53.0 -0.8
WVT Waverly 121.36 51 P **PKPdf** 09 10 53.8 -0.1
baz=287
WVT Waverly 121.36 51 P **PKPdf** 09 10 53.7 -0.1
baz=287
WVT Waverly 121.36 51 PKIKP **PKPdf** 09 10 53.0 -0.8
CLL Collm 121.38 328 *e*PKPdf **PKPdf** 09 10 52.0 -1.4
comp=Z,10.0nm,0.9s
CLL *i* x x 09 11 01.2
CLL *i* pPKPdf **pPKPdf** 09 11 12.4 -1.4
comp=Z,12nm,0.9s
CLL *i* PP **PP** 09 12 25.8 +0.8
CLL *e*SKPdf **SKPdf** 09 14 18.0 -5.1
CLL *e*PPP PPP 09 15 00.0
CLL *e*PPPP 09 16 48.0
CLL *e*SKKSac SKKSac 09 19 30.0 +11
CLL *e*Sdif **Sdif** 09 20 12.0 -1.0
CLL *e*PS **PS** 09 22 06.0 -13
CLL *e*PPS PPS 09 23 54.0
CLL *e*SS **SS** 09 28 56.0 +2.0
CLL *ex* x 09 30 12.0
CLL *e*SSS SSS 09 33 24.0
CLL *e*SSSS 09 37 00.0
CLL LmH 10 06 00.0
comp=N,1µm,21.6s
CLL LmH 10 06 00.0
comp=E,700nm,19.9s
CLL LmV 10 07 00.0
comp=Z,1µm,20.8s
CLL Collm 121.38 328 *e*PKIKP **PKPdf** 09 10 52.0 -1.4
CLL *i* 09 11 01.2
CLL *i* 09 12 25.8
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL MLR MLR
comp=Z,1µm,20.8s
CLL Collm 121.38 328 *e*PKPdf **PKPdf** 09 10 53.4 0.0
baz=56,slow=1.9
HAPS Han Pijesak,Bl 121.39 319 *e*P **PKPdf** 09 10 52.6 -1.2
N47A Urbana 121.41 45 P **PKPdf** 09 10 53.9 0.0
baz=291
N47A P **PKPdf** 09 10 53.9 0.0
baz=291
FBE Freiberg 121.41 328 *e*PKPdf **PKiKP** 09 10 53.8 +0.2
baz=56,slow=1.9
RONA Rosalia, Austr 121.43 323 *i* PKP **PKPdf** 09 10 52.7 -1.0
comp=Z,9.4nm,1.2s
CONA Conrad Observa 121.57 324 *e*PKP **PKPdf** 09 10 53.1 -1.0
comp=Z,3.6nm,0.5s
CONA *e*PKKP **PKKPab** 09 20 54.7 -0.1
comp=Z,1.8nm,0.8s
T47A Sharon Grove 121.66 50 P **PKPdf** 09 10 53.7 -0.7
baz=288
PLCA Paso Flores 121.69 147 PKP **PKiKP** 09 10 55.4 +0.7
comp=Z,11nm,0.7s,baz=247,slow=2.1,SNR=34
PLCA PKKPbc **PKKPbc** 09 20 54.4 -0.6
comp=Z,3.5nm,1.0s,baz=339,slow=14,SNR=3.9
PLCA Paso Flores 121.69 147 *e*P **PKiKP** 09 10 55.3 +0.7
FLTG Flechtingen 121.69 330 *e*PKPdf **PKPdf** 09 10 54.0 0.0
baz=56,slow=1.9
FLTG *e*pPKPdf **pPKPdf** 09 11 10.7 -3.7
baz=55,slow=1.9
WCI Wyandotte Cave 121.88 48 **PKPdf** 09 10 54.7 -0.1
WCI Wyandotte Cave 121.88 48 P **PKPdf** 09 10 53.9 -0.9
baz=289
WCI Wyandotte Cave 121.88 48 P **PKPdf** 09 10 54.4 -0.4
baz=289
WCI Wyandotte Cave 121.88 48 PKIKP **PKPdf** 09 10 54.7 -0.1
L48A N Adams 121.89 44 P **PKPdf** 09 10 53.9 -0.8
baz=293
L48A P **PKPdf** 09 10 53.9 -0.8
baz=293
Z47A Carrollton 121.96 55 P **PKPdf** 09 10 54.7 -0.4
baz=285
O48B Farmland 122.01 46 P **PKPdf** 09 10 53.7 -1.3
baz=291
O48B Farmland 122.01 46 P **PKPdf** 09 10 54.7 -0.3
baz=291
CKRC Cesky Krumlov 122.02 325 *e*PKP **PKPdf** 09 10 54.8 0.0
CKRC *ex* x 09 11 15.1
NEUB Neuenburg 122.08 329 *e*PKPdf **PKPdf** 09 10 54.8 0.0
baz=56,slow=1.9
ASSE Asse, Remlinge 122.09 330 *e*PKPdf **PKiKP** 09 10 55.0 +0.1
baz=56,slow=1.9
P48A Milroy 122.10 47 P **PKPdf** 09 10 55.2 0.0
baz=291
P48A P **PKPdf** 09 10 55.2 0.0
baz=291
ARSA Arzberg 122.10 323 *e*PKP **PKPdf** 09 10 53.6 -1.4
comp=Z,2.3nm,0.6s
ARSA *e*PKKP **PKKPab** 09 20 52.3 -0.1
comp=Z,4.3nm,1.1s
NRDL Niedersach Rie 122.15 331 *e*PKPdf **PKiKP** 09 10 55.2 +0.3
baz=56,slow=1.9
NRDL *e*pPKPdf **pPKPdf** 09 11 11.9 -3.2
baz=55,slow=1.9
I49A Point Hope 122.16 41 P **PKPdf** 09 10 54.2 -0.9
baz=295
I49A P **PKPdf** 09 10 54.2 -0.9
baz=295
TANN Tannenbergstha 122.17 328 *e*PKPdf **PKiKP** 09 10 55.2 -0.1
baz=56,slow=1.9
TANN *e*pPKPdf **pPKPdf** 09 11 11.8 -3.6
baz=55,slow=1.9
WERD Werda 122.23 328 *e*PKPdf **PKPdf** 09 10 55.1 0.0
baz=56,slow=1.9
WERD *e*pPKPdf **pPKPdf** 09 11 12.0 -3.5
baz=55,slow=1.9
BLY Banja Luka 122.25 320 *e*P **PKPdf** 09 10 50.8 -4.5
V48A Smith Brothers 122.25 51 P **PKPdf** 09 10 54.9 -0.8
baz=287
KHC Kasperske Hory 122.26 326 *e*PKPDF **PKPdf** 09 10 54.1 -1.2
KHC *e*pPKP **pPKPdf** 09 11 14.8 -0.9
KHC AMS AMS 09 59 20.0
comp=Z,2µm,30.4s
KHC Kasperske Hory 122.26 326 *e*PKIKP **PKPdf** 09 10 54.1 -1.2
KHC *e* 09 11 14.8
GUNZ Gunzen 122.27 328 *e*PKPdf **PKiKP** 09 10 55.5 +0.1
baz=56,slow=1.9
GUNZ *e*pPKPdf **pPKPdf** 09 11 12.1 -3.5
baz=55,slow=1.9
NKC Novy Kostel 122.28 328 *e*PKPDF **PKPdf** 09 10 54.5 -0.7
NKC *e*pPKP **pPKPdf** 09 11 14.2 -1.4
NKC AMS AMS 09 54 50.0
comp=Z,2µm,39.8s
NKC Novy Kostel 122.28 328 *e*PKIKP **PKPdf** 09 10 54.5 -0.7
NKC *e* 09 11 14.2
AAM Ann Arbor 122.28 43 P **PKPdf** 09 10 55.3 -0.1
baz=294
AAM Ann Arbor 122.28 43 P **PKPdf** 09 10 54.9 -0.5
baz=294
WERN Wernitzgruen 122.28 328 *e*PKPdf **PKiKP** 09 10 55.5 0.0
baz=56,slow=1.9
PLN Plauen 122.29 328 *e*PKPdf **PKiKP** 09 10 55.4 0.0
baz=56,slow=1.9
A051A Mrakovica 122.31 320 *e*P **PKPdf** 09 10 51.9 -3.6
GEC2 GERESS Array S 122.34 326 *e*PKPdf **PKPdf** 09 10 55.5 0.0
baz=56,slow=1.9
GEC2 *e*pPKPdf **pPKPdf** 09 11 12.2 -3.7
baz=55,slow=1.9
GERES GERESS Array B 122.34 326 PKP **PKPdf** 09 10 54.8 -0.7
comp=Z,3.5nm,0.5s,baz=96,slow=1.9,SNR=57
GERES PKKPbc **PKKPab** 09 20 51.2 -0.2
comp=Z,0.7nm,0.7s,baz=198,slow=2.8,SNR=5.9
RETH Rethem/Aller, 122.36 331 *e*PKPdf **PKiKP** 09 10 55.8 +0.4
baz=56,slow=1.9
CLZ Clausthal 122.42 330 *e*PKPdf **PKiKP** 09 10 56.0 +0.4
baz=56,slow=1.9
CLZ *e*pPKPdf **pPKPdf** 09 11 12.6 -3.3
baz=55,slow=1.9
X48A Hartselle 122.45 53 P **PKPdf** 09 10 54.6 -1.4
baz=286
N49A Columbus Grove 122.45 45 P **PKPdf** 09 10 54.6 -1.2
baz=292
N49A P **PKPdf** 09 10 54.6 -1.2
baz=292
MGRS Mrkonjic Grad 122.46 320 *e*P **PKPdf** 09 10 49.3 -6.5
MOX Moxa 122.48 328 *e*PKPdf **PKPdf** 09 10 55.6 0.0
baz=56,slow=1.9
MOX *e*pPKPdf **pPKPdf** 09 11 12.3 -3.7
baz=55,slow=1.9
GROS Grobnik 122.50 322 *i* PKPdf **PKPdf** 09 10 54.3 -1.5
MOA Molln 122.54 324 *e*PKP **PKPdf** 09 10 54.7 -1.1
comp=Z,2.0nm,0.5s
MOA *e*PKKP **PKKPbc** 09 20 53.0 +1.3
comp=Z,8.0nm,1.6s
P49A Miami Univ. Ec 122.59 47 P **PKPdf** 09 10 55.3 -0.9
baz=291
P49A Miami Univ. Ec 122.59 47 P **PKPdf** 09 10 56.0 -0.1
baz=291
MANZ Manzenberg 122.60 327 *e*PKPdf **PKiKP** 09 10 56.2 +0.1
baz=56,slow=1.9
MANZ *e*pPKPdf **pPKPdf** 09 11 12.7 -3.6
baz=55,slow=1.9
O49A Covington 122.62 46 P **PKPdf** 09 10 54.9 -1.3
baz=292
O49A P **PKPdf** 09 10 54.9 -1.3
baz=292
SOKA Soboth 122.68 323 *i* PKP **PKPdf** 09 10 54.5 -1.7
comp=Z,9.0nm,1.2s
SOKA *e*PKKP **PKKPbc** 09 20 51.2 0.0
comp=Z,6.3nm,1.5s
R49A Shelbyville 122.69 48 P **PKPdf** 09 10 55.5 -0.9
baz=290
R49A P **PKPdf** 09 10 55.5 -0.9
baz=290
STON Ston 122.72 318 *e*P **PKPdf** 09 10 52.9 -3.3
A050A Klekovaca 122.78 320 *e*P **PKPdf** 09 10 52.8 -3.7
GTTG Gottingen 122.80 330 *e*PKPdf **PKiKP** 09 10 56.6 +0.3
baz=56,slow=1.9
U49A Red Boiling Sp 122.82 50 P **PKPdf** 09 10 56.1 -0.5
baz=288
CRES Cresnjev 122.83 322 *e*P **PKPdf** 09 10 55.2 -1.2
LRAL Lakeview Retre 122.87 55 P **PKiKP** 09 10 57.1 0.0
baz=286
LRAL Lakeview Retre 122.87 55 P **PKPdf** 09 10 56.9 0.0
baz=286
BIOA Bad Ischl, Aus 122.98 325 *e*PKP **PKPdf** 09 10 55.6 -1.1
comp=Z,3.1nm,0.5s
OBKA Obir 123.05 323 *e*PKP **PKPdf** 09 10 55.4 -1.6
comp=Z,1.8nm,0.5s
OBKA *e*PKKP **PKKPbc** 09 20 50.2 +0.4
comp=Z,9.6nm,1.1s
OBKA Obir 123.05 323 *e*P **PKPdf** 09 10 55.0 -1.9
BOJS Bojanci 123.11 322 *e*P **PKPdf** 09 10 56.2 -0.8
Y49A Blount Mountai 123.12 53 P **PKPdf** 09 10 57.1 -0.2
baz=286
UBBA Unterbreizbach 123.21 329 *e*PKPdf **PKiKP** 09 10 57.4 +0.3
baz=56,slow=1.9
GRF Grafenberg Arr 123.24 328 *e*PKPdf **PKiKP** 09 10 57.3 -0.1
baz=56,slow=1.9
GRF *e*pPKPdf **pPKPdf** 09 11 14.1 -3.4
baz=55,slow=1.9
LJU Ljubljana 123.29 322 *i* PKPdf **PKPdf** 09 10 56.5 -0.8
LJU *e* 09 11 12.8
BRAL Brewton 123.30 57 P **PKPdf** 09 10 57.3 -0.4
baz=284
BRAL Brewton 123.30 57 P **PKPdf** 09 10 57.6 -0.2
baz=284
R50A Paris 123.32 48 P **PKPdf** 09 10 57.1 -0.5
baz=291
R50A P **PKPdf** 09 10 57.1 -0.5
baz=291
T50A Nancy 123.37 49 P **PKPdf** 09 10 56.6 -1.2
baz=290
T50A P **PKPdf** 09 10 56.6 -1.2
baz=290
IBBN Ibbenburen 123.39 332 *e*PKPdf **PKiKP** 09 10 57.6 +0.1
baz=56,slow=1.9
KBA Koelnbreinsper 123.47 324 *e*PKP **PKPdf** 09 10 56.4 -1.4
comp=Z,2.7nm,0.6s
CEY Cerknica 123.51 322 *e*P **PKPdf** 09 10 56.6 -1.2
MYKA Terra Mystica 123.53 323 *e*PKP **PKPdf** 09 10 56.0 -1.8
comp=Z,4.6nm,1.0s
MYKA *e*PKKP **PKKPbc** 09 20 48.2 +0.3
comp=Z,5.9nm,0.8s
ACSO Alum Creek Sta 123.56 45 P **PKPdf** 09 10 57.1 -0.9
baz=293
ACSO Alum Creek Sta 123.56 45 P **PKPdf** 09 10 58.0 0.0
baz=293
W50A Signal Mountai 123.59 52 P **PKPdf** 09 10 57.0 -1.3
baz=288
VOJS Vojsko 123.69 323 *i* PKPdf **PKPdf** 09 10 56.8 -1.3
N51A Ashland 123.72 44 P **PKPdf** 09 10 57.8 -0.4
baz=294
N51A P **PKPdf** 09 10 57.8 -0.4
baz=294
250A Grady 123.74 56 P **PKPdf** 09 10 57.9 -0.7
baz=285
Q51A Peebles 123.76 47 P **PKPdf** 09 10 57.9 -0.5
baz=292
Q51A P **PKPdf** 09 10 57.9 -0.5
baz=292
KASTN Kahler Asten 123.77 330 *e*PKPdf **PKiKP** 09 10 58.3 0.0
baz=56,slow=1.9
KASTN *e*pPKPdf **pPKPdf** 09 11 15.1 -3.4
baz=55,slow=1.9
P51A Williamsport 123.80 46 P **PKiKP** 09 10 58.6 -0.1
baz=292
P51A P **PKiKP** 09 10 58.6 -0.1
baz=292
SKDS Skadanscina 123.85 322 *e*P **PKPdf** 09 10 55.0 -3.4
FUR Furstenfeldbru 124.07 326 *e*PKPdf **PKPdf** 09 10 58.8 0.0
baz=56,slow=1.9
S51A Beattyville 124.09 48 P **PKPdf** 09 10 58.5 -0.5
baz=291
S51A P **PKPdf** 09 10 58.5 -0.5
baz=291
ABTA Abfaltersbach 124.13 324 *e*PKP **PKPdf** 09 10 57.2 -1.8
comp=Z,3.3nm,0.6s
ABTA *e*PKKP **PKKPbc** 09 20 45.0 -0.5
comp=Z,5.4nm,0.8s
X51A Calhoun 124.14 52 P **PKPdf** 09 10 58.7 -0.6
baz=288
X51A P **PKPdf** 09 10 58.7 -0.6
baz=288
V51A Loudon 124.14 51 P **PKPdf** 09 10 58.9 -0.4
baz=289
BUG Bochum--Univer 124.18 331 *e*PKPdf **PKiKP** 09 10 59.0 -0.1
baz=56,slow=1.9
SCHQ Schefferville 124.20 23 PKP **PKPdf** 09 10 58.3 -0.5
comp=Z,5.1nm,0.5s,baz=317,slow=1.7,SNR=13
Z51A Franklin 124.26 54 P **PKiKP** 09 10 59.7 -0.1
baz=287
WATA Walderalm 124.36 325 *e*PKP **PKPdf** 09 10 58.4 -1.1
comp=Z,6.2nm,0.5s,SNR=7.2
WTTA Wattenberg 124.36 325 *e*PKP **PKPdf** 09 10 58.4 -1.1
comp=Z,16nm,0.7s,SNR=8.4
WTTA *e*PKKP **PKKPbc** 09 20 44.6 -0.2
comp=Z,6.4nm,1.0s
TNS Taunus Mts 124.36 329 *e*PKPdf **PKiKP** 09 10 59.5 -0.1
baz=56,slow=1.9
P52A Corning 124.40 46 P **PKPdf** 09 10 59.2 -0.5
baz=293
O52A Adamsville 124.42 45 P **PKPdf** 09 10 59.4 -0.3
baz=294
O52A P **PKPdf** 09 10 59.4 -0.3
baz=294
TZTN Tazewell 124.50 49 P **PKPdf** 09 10 59.8 -0.1
baz=290
TZTN Tazewell 124.50 49 P **PKPdf** 09 10 59.8 -0.1
baz=290
451A Vernon 124.53 57 P **PKiKP** 09 11 01.1 +0.7
baz=285
Q52A Bidwell 124.57 46 P **PKPdf** 09 10 59.9 -0.1
baz=293
Q52A P **PKPdf** 09 10 59.9 -0.1
baz=293
MOTA Moosalm 124.62 325 *e*PKP **PKPdf** 09 10 58.6 -1.5
comp=Z,5.4nm,0.5s,SNR=5.8
MOTA *e*PKKP **PKKPbc** 09 20 43.7 -0.1
comp=Z,2.4nm,0.6s
SQTA Sankt Quirin 124.63 325 *e*PKP **PKPdf** 09 10 58.8 -1.2
comp=Z,11nm,1.2s
TSUM Tsumeb 124.63 242 PKP **PKiKP** 09 11 02.4 +1.3
comp=Z,37nm,1.0s,baz=106,slow=4.1,SNR=25
TKL Tuckaleechee C 124.63 51 P **PKPdf** 09 10 00.2 0.0
baz=290
M53A WI Miller and 124.66 43 P **PKiKP** 09 11 00.5 +0.1
baz=296
W52A Murphy 124.70 51 P **PKPdf** 09 10 59.7 -0.7
baz=289
V52A Sevierville 124.71 50 P **PKPdf** 09 11 00.4 0.0
baz=290
RETA Reutte 124.73 326 *e*PKP **PKPdf** 09 10 58.7 -1.5
comp=Z,2.6nm,0.5s
RETA *e*PKKP **PKKPbc** 09 20 43.2 +0.1
comp=Z,4.8nm,1.3s
O53A New Philadelph 124.80 44 P **PKPdf** 09 11 00.2 -0.1
baz=295
152A Waverly Hall 124.81 54 P **PKiKP** 09 11 01.2 +0.3
baz=287
ERPA Erie 124.82 42 P **PKiKP** 09 11 00.7 +0.1
baz=297
N53A Lisbon 124.82 44 P **PKPdf** 09 10 59.9 -0.5
baz=295
N53A P **PKPdf** 09 10 59.9 -0.5
baz=295
AHRW Bad Neuenahr-A 124.85 330 *e*PKPdf **PKiKP** 09 11 00.5 0.0
baz=56,slow=1.9
STU Stuttgart 124.85 328 **PKPdf** 09 10 59.9 -0.3
STU Stuttgart 124.85 328 PKIKP **PKPdf** 09 10 59.9 -0.3
STU Stuttgart 124.85 328 *e*PKPdf **PKPdf** 09 11 00.2 0.0
baz=56,slow=1.9
352A Blakely 124.98 56 P **PKPdf** 09 10 59.6 -1.3
baz=286
Y52A Lilburn 124.98 53 P **PKPdf** 09 11 00.5 -0.4
baz=288
Y52A P **PKPdf** 09 11 00.5 -0.4
baz=288
P53A Whipple 124.98 45 P **PKPdf** 09 11 00.2 -0.5
baz=294
P53A P **PKPdf** 09 11 00.2 -0.5
baz=294
UBR Ueberruh 124.99 326 *e*PKPdf **PKPdf** 09 11 00.4 -0.2
baz=56,slow=1.9
UBR *e*pPKPdf **pPKPdf** 09 11 17.2 -3.8
baz=55,slow=1.9
FETA Feichten 125.01 325 *e*PKP **PKPdf** 09 10 59.7 -1.1
comp=Z,15nm,1.3s,SNR=6.4
R53A Hurricane 125.04 47 P **PKPdf** 09 11 00.6 -0.3
baz=293
R53A P **PKPdf** 09 11 00.6 -0.3
baz=293
PAMR Moraine State 125.27 43 P **PKPdf** 09 11 01.0 -0.3
baz=296
BTNL Ternell 125.28 331 *d*PKP **PKPdf** 09 11 00.3 -0.7
MEM Membach 125.33 331 *d*PKP **PKPdf** 09 11 00.4 -0.6
DAVA Damuels 125.34 326 *e*PKP **PKPdf** 09 11 00.1 -1.3
comp=Z,6.6nm,0.7s
V53A Saluda 125.36 50 P **PKPdf** 09 11 01.8 +0.2
baz=290
V53A P **PKPdf** 09 11 01.8 +0.2
baz=290
O54A Avella 125.41 44 P **PKPdf** 09 11 01.5 -0.1
baz=295
O54A P **PKPdf** 09 11 01.5 -0.1
baz=295
BHOU Houvegnez 125.50 331 *d*PKP **PKPdf** 09 11 00.6 -0.8
CASEE Lake Jocassee 125.50 51 P **PKiKP** 09 11 02.3 0.0
baz=290
UPAO U. Pittsburgh 125.52 44 P **PKPdf** 09 11 00.8 -0.9
baz=296
BSTI Sart Tilman 125.56 331 *d*PKP **PKiKP** 09 11 01.9 0.0
BFO Black Forest 125.58 328 PKPdf **PKPdf** 09 11 01.0 -0.6
BFO Black Forest 125.58 328 PKIKP **PKPdf** 09 11 01.0 -0.6
BFO Black Forest 125.58 328 *e*PKPdf **PKPdf** 09 11 01.2 -0.5
baz=56,slow=1.9
BFO *e*pPKPdf **pPKPdf** 09 11 17.9 -4.1
baz=55,slow=1.9
Q54A Coxs Mills 125.58 46 P **PKPdf** 09 11 01.6 -0.3
baz=294
Q54A P **PKPdf** 09 11 01.6 -0.3
baz=294
WVNY West Valley, N 125.60 41 P **PKPdf** 09 11 01.8 -0.1
baz=298
S54A Dingess, Beckl 125.71 47 P **PKPdf** 09 11 01.8 -0.4
baz=293
S54A P **PKPdf** 09 11 01.8 -0.4
baz=293
BCLA Clavier 125.79 331 *d*PKP **PKiKP** 09 11 03.3 +0.9
U54A Nelsons Funny 125.81 49 P **PKPdf** 09 11 01.8 -0.7
baz=292
U54A P **PKPdf** 09 11 01.8 -0.7
baz=292
SLE Schleitheim 125.83 327 PKIKP **PKPdf** 09 11 01.3 -0.8
WLF Walferdange 125.87 330 PKPdf **PKPdf** 09 11 02.3 +0.2
WLF Walferdange 125.87 330 PKIKP **PKPdf** 09 11 02.3 +0.2
WLF Walferdange 125.87 330 *d*PKP **PKPdf** 09 11 01.6 -0.5
OTT Ottawa 125.89 37 PKIKP **PKPdf** 09 11 02.4 +0.2
BGES Gesves 125.92 331 *d*PKP **PKPdf** 09 11 01.7 -0.5
MCWV Mont Chateau 126.00 45 P **PKPdf** 09 11 01.7 -0.9
baz=295
MCWV Mont Chateau 126.00 45 P **PKiKP** 09 11 03.1 0.0
baz=295
RCHB Rochefort 126.00 331 *d*PKP **PKPdf** 09 11 01.4 -0.9
CDF Champ du Feu 126.08 328 *e*PKIKP **PKPdf** 09 11 01.1 -1.6
CDF pmax pmax
comp=Z,12nm,1.4s
TIGA Tifton 126.08 55 P **PKiKP** 09 11 04.0 +0.6
baz=287
TIGA Tifton 126.08 55 P **PKPdf** 09 11 03.2 +0.2
baz=287
PSDB Penn State Uni 126.10 43 P **PKPdf** 09 11 01.7 -1.1
baz=297
BMRD Maredsous 126.13 331 *d*PKP **PKPdf** 09 11 02.0 -0.5
154A Montrose 126.13 54 P **PKiKP** 09 11 04.3 +0.8
baz=288
GIVF Givet 126.23 331 *e*PKIKP **PKPdf** 09 11 02.3 -0.5
GIVF pmax pmax
comp=Z,17nm,1.1s
HODGE Hodges 126.28 52 P **PKPdf** 09 11 03.1 -0.2
baz=290
DOU Dourbes 126.35 331 *d*PKP **PKPdf** 09 11 02.6 -0.4
R55A Marlinton 126.38 46 P **PKPdf** 09 11 03.5 0.0
baz=294
R55A P **PKPdf** 09 11 03.5 0.0
baz=294
L56A Greenwood 126.41 41 P **PKPdf** 09 11 03.3 -0.1
baz=299
L56A P **PKPdf** 09 11 03.3 -0.1
baz=299
PAULI Pauline 126.42 51 P **PKPdf** 09 11 02.8 -0.8
baz=290
MT05 Renca 126.48 140 PKPdf **PKPdf** 09 11 03.9 0.0
V55A Taylorsville 126.51 49 P **PKiKP** 09 11 04.6 +0.4
baz=292
V55A P **PKiKP** 09 11 04.6 +0.4
baz=292
BAIF Baives 126.56 331 *e*PKIKP **PKiKP** 09 11 04.9 +1.0
BAIF pmax pmax
comp=Z,5.0nm,0.8s
BLA Blacksburg 126.59 48 P **PKPdf** 09 11 04.1 +0.2
baz=293
BLA Blacksburg 126.59 48 P **PKPdf** 09 11 04.2 +0.2
baz=293
HINF Hinteralfeld 126.67 328 *e*PKIKP **PKPdf** 09 11 02.7 -1.1
HINF pmax pmax
comp=Z,11nm,0.8s
KMSC Kings Mountain 126.68 50 P **PKiKP** 09 11 04.5 -0.1
baz=291
KMSC Kings Mountain 126.68 50 P **PKiKP** 09 11 04.4 -0.2
baz=291
K57A Scipio Center 126.79 40 P **PKPdf** 09 11 04.3 +0.2
baz=300
HAU Haudompre 126.82 328 *e*PKIKP **PKPdf** 09 11 03.2 -0.8
HAU pmax pmax
comp=Z,11nm,0.8s
255A Hazlehurst 126.85 54 P **PKiKP** 09 11 05.1 +0.1
baz=288
BMNY Brushton-Moira 126.91 37 P **PKiKP** 09 11 04.9 +0.2
baz=304
SSPA Standing Stone 126.91 43 P **PKiKP** 09 11 04.7 -0.1
baz=298
SSPA Standing Stone 126.91 43 P **PKPdf** 09 11 04.7 -0.1
baz=298
LONY Lake Ozonia 126.98 37 P **PKiKP** 09 11 05.1 +0.2
baz=304
M57A Sunshine Farm, 127.08 42 P **PKiKP** 09 11 05.0 -0.2
baz=299
M57A P **PKiKP** 09 11 05.0 -0.2

baz=299
HAW Hawthorne Fire 127.08 52 P PKiKP 09 11 05.3 -0.1
baz=290
J58A Remsen 127.24 39 P PKiKP 09 11 05.7 +0.3
J58A baz=302 P PKiKP 09 11 05.7 +0.3
baz=302
P57A Homestead Farm 127.35 44 P PKiKP 09 11 06.0 +0.2
baz=297
P57A P PKiKP 09 11 06.0 +0.2
baz=297
BINY Binghamton 127.40 40 P PKPdf 09 11 05.4 +0.1
baz=301
BINY Binghamton 127.40 40 P PKiKP 09 11 05.7 -0.1
baz=301
FRNY Flat Rock 127.45 36 P PKPdf 09 11 04.7 -0.6
baz=305
BIRD Birdtown, Kers 127.53 51 P PKPdf 09 11 05.7 0.0
baz=291
T57A Hurt 127.53 47 P PKPdf 09 11 04.9 -0.8
T57A baz=294 P PKPdf 09 11 04.9 -0.8
baz=294
NCB Newcomb 127.56 37 P PKiKP 09 11 05.9 -0.2
baz=304
N58A Sunbury 127.59 42 P PKiKP 09 11 06.2 0.0
N58A baz=299 P PKiKP 09 11 06.2 0.0
baz=299
J59A Piesco 127.66 38 P PKPdf 09 11 05.9 +0.1
baz=303
J59A P PKPdf 09 11 05.9 +0.1
baz=303
W57A Gilead 127.70 50 P PKiKP 09 11 06.5 -0.1
baz=292
W57A P PKiKP 09 11 06.5 -0.1
baz=292
Y57A Sumter 127.81 51 P PKPdf 09 11 06.5 +0.2
baz=291
Y57A P PKPdf 09 11 06.5 +0.2
baz=291
CABF La Chapelle 127.83 327 *e*PKiKP PKPdf 09 11 05.7 -0.4
CABF pmax pmax
comp=Z,24nm,1.1s
TRQA Tornquist 128.13 150 PKiKP 09 11 07.9 +0.4
TRQA Tornquist 128.13 150 PKiKP PKiKP 09 11 07.9 +0.4
TRQA Tornquist 128.13 150 *e*P PKiKP 09 11 07.9 +0.4
LPL La Plagne 128.15 326 *e*PKiKP PKPdf 09 11 06.3 -0.6
LPL pmax pmax
comp=Z,5.0nm,0.6s
SDMD Soldier's Deli 128.19 44 P PKiKP 09 11 09.2 +1.8
baz=298
CBN Corbin Frederi 128.37 45 P PKiKP 09 11 07.7 -0.1
baz=297
Y58A Scranton 128.41 51 P PKiKP 09 11 08.4 +0.4
Y58A baz=292 P PKiKP 09 11 08.4 +0.4
baz=292
BNI Bardonecchia 128.45 325 PKiKP PKPdf 09 11 07.1 -0.3
PGF Pioggiola 128.50 321 *e*PKiKP PKPdf 09 11 07.6 +0.1
PGF pmax pmax
comp=Z,46nm,1.3s
D62A Allapoint, All 128.59 31 P PKPdf 09 11 06.8 -0.6
baz=311
D62A P PKPdf 09 11 06.8 -0.6
baz=311
LOR Lormes 128.59 329 *e*PKiKP PKPdf 09 11 06.9 -0.5
LOR pmax pmax
comp=Z,21nm,1.4s
MBDF Montbardon 128.59 325 *e*PKiKP PKPdf 09 11 06.9 -0.8
MBDF pmax pmax
comp=Z,9.0nm,1.0s
E62A Clayton Lake 128.64 32 P PKPdf 09 11 07.7 +0.2
baz=310
E62A P PKPdf 09 11 07.7 +0.2
baz=310
SBF Sospel 128.71 324 *e*PKiKP PKiKP 09 11 08.5 0.0
SBF pmax pmax
comp=Z,7.0nm,0.6s
HDC Heredia 128.78 82 *e*P PKiKP 09 11 09.7 +0.1
T59A Double "B" Far 128.78 47 P PKiKP 09 11 08.7 0.0
baz=296
T59A P PKiKP 09 11 08.7 0.0
baz=296
GEDE Greenville 128.81 43 P PKiKP 09 11 08.5 -0.2
baz=299
SSF Saint Saulge 128.91 329 *e*PKiKP PKPdf 09 11 07.6 -0.4
SSF pmax pmax
comp=Z,33nm,1.6s
J61A Chester 128.91 37 P PKiKP 09 11 08.7 -0.1
baz=305
J61A P PKiKP 09 11 08.7 -0.1
baz=305
G62A West of Eustis 128.97 34 P PKPdf 09 11 08.2 0.0
baz=308
G62A P PKPdf 09 11 08.2 0.0
baz=308
ORIF Oris-en-Rattie 128.99 325 *e*PKiKP PKPdf 09 11 07.8 -0.5
ORIF pmax pmax
comp=Z,14nm,1.2s
SMF Signal de Mont 129.00 328 *e*PKiKP PKiKP 09 11 08.8 -0.1
SMF pmax pmax
comp=Z,9.0nm,0.8s
AVF Avril sur Loir 129.16 329 *e*PKiKP PKPdf 09 11 06.7 -1.8
AVF pmax pmax
comp=Z,6.0nm,1.1s
CFA Coronel Fontan 129.25 140 PKP PKiKP 09 11 10.1 +0.2
comp=Z,30nm,0.9s,baz=250,slow=2.9,SNR=39
CFA SKPbc SKPbc 09 14 28.2 +3.3
comp=Z,16nm,1.0s,baz=253,slow=5.5,SNR=6.4
CNNC Cliffs of the 129.25 49 P PKiKP 09 11 09.9 +0.3
baz=294
L61B Northampton 129.34 38 P PKiKP 09 11 10.8 +1.1
baz=304
L61B Northampton 129.34 38 P PKiKP 09 11 11.1 +1.4
baz=304
PAL Palisades 129.35 40 P PKiKP 09 11 10.2 +0.4
baz=302
PAL Palisades 129.35 40 P PKiKP 09 11 10.1 +0.4
baz=302
LMR La Mourre 129.57 323 *e*PKiKP PKPdf 09 11 09.7 +0.3
LMR pmax pmax
comp=Z,80nm,1.8s
BGF Bois d'Agland 129.58 329 *e*PKiKP PKPdf 09 11 09.0 -0.3
BGF pmax pmax
comp=Z,8.0nm,0.7s
LDF La Druitiere 129.61 333 *e*PKiKP PKPdf 09 11 08.5 -0.8
LDF pmax pmax
comp=Z,4.0nm,0.8s
FLN La Foliniere 129.65 333 *e*PKiKP PKPdf 09 11 08.7 -0.6
FLN pmax pmax
comp=Z,56nm,1.8s
HRV Adam Dziewonsk 129.99 37 ⇑PKHKP PKPpre 09 10 57.3
TCF Toulx Ste Croi 130.09 329 *e*PKiKP PKPdf 09 11 10.0 -0.3
TCF pmax pmax
comp=Z,24nm,1.2s
GRR Gorron 130.09 333 *e*PKiKP PKPdf 09 11 09.8 -0.4
GRR pmax pmax
comp=Z,19nm,1.2s
BRU2 Volcan 130.17 84 *e*P PKiKP 09 11 12.2 -0.1
SGMF Saint Gilles 130.95 334 *e*PKiKP PKPdf 09 11 11.2 -0.6
SGMF pmax pmax
comp=Z,20nm,1.3s
MFF Saint Martin d 131.04 331 *e*PKiKP PKPdf 09 11 12.2 +0.1
MFF pmax pmax
comp=Z,16nm,1.2s
ROSF Rostrenen 131.20 334 *e*PKiKP PKPdf 09 11 11.7 -0.6
ROSF pmax pmax
comp=Z,35nm,1.4s
KEST Kesra 131.68 313 SKPbc SKPbc 09 14 29.4 -4.1
comp=Z,20nm,0.9s,baz=337,slow=3.5,SNR=7.3
LFF La Frestale 131.76 329 *e*PKiKP PKiKP 09 11 14.4 -0.1
LFF pmax pmax
comp=Z,13nm,1.3s
ATAH Atahualpa 132.32 105 PKP PKiKP 09 11 17.9 +0.9
comp=Z,62nm,1.1s,baz=272,slow=1.5,SNR=41
NNA Nana 132.33 112 PKP PKiKP 09 11 16.2 -0.3
comp=Z,82nm,1.2s,baz=288,slow=3.9,SNR=14
CHSH Refugio Sur-Vo 133.06 98 PKPdf 09 11 15.8 -1.8
EPF Esparros 133.26 327 *e*PKiKP PKPdf 09 11 17.0 +0.5
EPF pmax pmax
comp=Z,4.0nm,0.8s
PAC1 Pacto, Paraso 133.41 95 *e*P PKPdf 09 11 17.7 0.0
CUSE Cuicocha Este 133.81 95 *e*P PKPdf 09 11 19.3 +0.5
ETSF Etsaut 133.84 327 *e*PKiKP PKiKP 09 11 18.3 -0.6
ETSF pmax pmax
comp=Z,7.0nm,0.8s

SJPF Ste Jean 134.04 328 *e*PKiKP PKiKP 09 11 19.0 -0.2
SJPF pmax pmax
comp=Z,45nm,1.8s
LVC Limon Verde 134.29 130 PKhKP PKPpre 09 11 12.4
comp=Z,2.2nm,0.5s,baz=279,slow=1.9,SNR=2.3
LVC SKPbc **SKPab** 09 14 45.6 -0.6
comp=Z,26nm,1.1s,baz=196,slow=3.7,SNR=9.0
LVC Limon Verde 134.29 130 PKiKP PKPdf 09 11 18.9 -0.5
LVC Limon Verde 134.29 130 *e*P PKiKP 09 11 20.2 -0.6
GR1C Gorgona, Isla 134.36 92 *e*P PKPdf 09 11 18.2 -1.0
TULM Tulcn-Chalpat 134.47 95 *e*P PKiKP 09 11 21.0 -0.4
BONI La Bonita 134.69 95 *e*P PKiKP 09 11 21.1 -0.6
GCUF Volcan Galeras 134.97 94 *e*P PKiKP 09 11 22.4 -0.2
PTAC Punta Ardita, 134.98 86 *e*P PKPdf 09 11 20.2 -0.2
APAC Apartado, Choc 136.21 85 *e*P PKPdf 09 11 23.1 +0.4
YOTC Yotoco, Valle 136.26 91 *e*P PKPdf 09 11 22.8 -0.1
PLMC San Jos del P 136.39 89 *e*P PKPdf 09 11 19.5 -3.7
DBBC Dabeiba 136.56 86 *e*P PKPdf 09 11 16.6 -6.9
FLOC Florencia 136.70 94 *e*P PKPdf 09 11 24.1 +0.4
GARC Garzon, Huila 136.93 93 *e*P PKPdf 09 11 24.7 +0.3
PLTB Pedras Altas 137.22 153 *e*P PKiKP 09 11 25.4 -0.6
URCC San Jos de Ur 137.25 85 *e*P PKPdf 09 11 24.1 -0.5
GUY2C Guyana, Caldas 137.32 89 *e*P PKPpre 09 11 14.9
GUD Guadarrama 137.34 328 PKiKP PKiKP 09 11 26.2 +0.1
SJCC San Jacinto, C 137.58 82 *e*P PKPdf 09 11 25.1 -0.2
RODS Rosario do Sul 137.65 150 *e*P PKiKP 09 11 26.3 -0.6
PBRG Braganca 137.78 331 *i* LQ LQ 09 14 51.0
ZARC Zaragoza, Cauc 137.91 86 *e*P PKPdf 09 11 25.8 -0.1
ESDC Sonseca Array 137.92 327 PKP PKiKP 09 11 26.3 -0.9
comp=Z,1.2nm,0.8s,baz=9.5,slow=2.3,SNR=7.3
ESDC PP PP 09 14 14.2 +1.4
comp=Z,3.5nm,1.1s,baz=31,slow=7.2,SNR=5.1
ESDC SKPbc **SKPbc** 09 14 48.5 -4.9
comp=Z,9.2nm,1.3s,baz=29,slow=6.7,SNR=5.0
PAB San Pablo 138.22 327 PKPdf PKPdf 09 11 26.2 +0.4
PAB San Pablo 138.22 327 ⇑PKiKP PKPdf 09 11 25.4 -0.4
PTBC PUERTO BERRIO 138.29 87 *e*P PKPpre 09 11 13.8
ROSC El Rosal 138.34 90 PKhKP PKPpre 09 11 18.4
comp=Z,21nm,0.4s,baz=86,slow=11,SNR=13
ROSC El Rosal 138.34 90 *e*P PKPpre 09 11 18.7
PGAV Gavieira, Arco 138.37 333 *e*PKPdf PKiKP 09 11 27.5 -0.7
PGAV Gavieira, Arco 138.37 333 *e*LR LR 09 59 41.8
comp=Z,573nm,20.0s
MVO Moncorvo 138.41 331 *e*PKPdf PKPdf 09 11 25.5 -0.6
MVO *i* LQ LQ 09 14 55.4
MVO Moncorvo 138.41 331 *e*LR LR 09 59 52.4
comp=Z,973nm,22.0s
PCAB Cabril 138.46 332 *i* LQ LQ 09 14 54.4
MACC Macarena, Meta 138.56 94 *e*P PKPpre 09 11 16.7
POLO Lamas de Olo 138.62 332 *e*PKPdf PKPdf 09 11 26.8 +0.3
POLO *i* LQ LQ 09 14 55.3
CHIC Chingaza 138.91 90 *e*P PKPdf 09 11 21.8 -6.4
PVIS Viseu 139.17 331 *i* LQ LQ 09 14 55.8
MTE Manteigas 139.25 330 *e*PKPdf PKPdf 09 11 27.5 -0.2
MTE *i* LQ LQ 09 14 58.0
MTE Manteigas 139.25 330 *e*LR LR 10 00 10.9
comp=Z,802nm,20.0s
RUSC La Rusia 139.62 88 *e*P PKPpre 09 11 21.5
PCBR Castelo Branco 139.64 330 *e*PKPdf PKPdf 09 11 28.3 0.0
CPUP Villa Florida 139.69 144 PKhKP PKPpre 09 11 21.6
comp=Z,3.5nm,0.9s,baz=179,slow=3.9,SNR=4.6
CPUP SKPbc **SKPbc** 09 14 58.0 -0.7
comp=Z,12nm,1.0s,baz=214,slow=1.9,SNR=4.1
CRJC Cerrejon, Guaj 139.79 80 *e*P PKPdf 09 11 29.8 +0.4
PMRV Marv??o 139.91 329 *e*PKPdf PKPdf 09 11 26.6 -2.2
PMRV *i* LQ LQ 09 14 58.0
PMRV Marv??o 139.91 329 *e*LR LR 10 01 15.5
comp=Z,676nm,18.0s
PCAS Casmilo, Conde 139.98 331 *e*PKPdf PKPdf 09 11 29.3 +0.4
PESTR Estremoz 140.43 329 *e*PKPdf PKPdf 09 11 28.6 -1.2
PESTR *i* LQ LQ 09 15 00.9
PTGC Puerto Gaitan, 140.46 91 *e*P PKPpre 09 11 22.5
PSBE So Bento 140.54 331 *e*PKPdf PKPpre 09 11 22.9
PSBE *i* LQ LQ 09 15 00.9
PMTG Montargil 140.60 330 *i* LQ LQ 09 14 51.3
URIC Uribia, Colomb 140.61 79 *e*P PKPdf 09 11 27.8 -2.9
PBAR Barrancos 140.66 328 *e*PKPdf PKPdf 09 11 25.8 -4.4
PBAR *i* LQ LQ 09 14 59.0
EVO Evora 140.90 329 *i* LQ LQ 09 14 55.4
PBEJ Beja 141.21 328 *e*PKPdf PKPdf 09 11 26.6 -4.6
PBEJ *i* LQ LQ 09 15 03.0
TBTG Tabatinga, AM 141.23 104 *e*P PKPdf 09 11 25.3 -6.6
PNCL Nicolau / Gran 141.49 329 *e*PKPdf PKPdf 09 11 27.0 -4.7
PVAQ Vaqueiros 141.59 328 *e*SS SS 09 33 18.2 +18
PVAQ Vaqueiros 141.59 328 *e*LR LR 10 01 15.5
comp=Z,555nm,22.0s
SDV Santo Domingo 142.09 84 PKhKP PKPpre 09 11 28.6
comp=Z,24nm,0.4s,baz=50,slow=0.5,SNR=32
SDV SKPbc **SKPbc** 09 15 04.7 -0.8
comp=Z,20nm,0.8s,baz=317,slow=8.4,SNR=3.5
MORF Marmelete 142.16 328 *e*PP PP 09 14 40.3 +1.6
MORF IAMs_20 IAMs_20 10 08 10.0
comp=Z,3μm,42.9s
SIV San Ignacio 144.13 128 PKP PKPpc 09 11 35.6 +0.4
comp=Z,36nm,0.5s,baz=242,slow=2.4,SNR=150
SIV SKPbc **SKiKP** 09 15 11.6 +0.6
comp=Z,28nm,0.9s,baz=211,slow=1.8,SNR=3.1
AVE Averroes 144.36 322 PKPbc 09 11 35.6 +0.2
AVE Averroes 144.36 322 P PKPbc 09 11 35.6 +0.3
BAUV El Baul 144.65 83 PKPdf PKPab 09 11 36.0 -0.7
BAUV El Baul 144.65 83 *e*P PKPab 09 11 35.6 -1.1
TZRR Tazzarine 144.83 317 P PKPdf 09 11 38.0 0.0
AQUB Aquidauana 145.04 140 PKPdf 09 11 38.5 0.0
SJG San Juan 145.08 67 PKPbc PKPbc 09 11 36.2 -1.9
comp=Z,143nm,1.1s,baz=309,slow=3.1,SNR=24
SJG San Juan 145.08 67 PKPbc 09 11 37.5 -0.6
SJG San Juan 145.08 67 *e*P PKPbc 09 11 35.6 -2.4
SJG San Juan 145.08 67 PKiKP PKPbc 09 11 37.5 -0.6
TRCB Terra Rica 145.10 146 *e*P PKPbc 09 11 37.5 -0.6
SRHM Skhour des Reh 145.22 322 P PKPdf 09 11 39.0 +0.4
OUZM OUZ 145.54 319 P PKPbc 09 11 39.4 +0.1
SHEL Horse Pasture 145.59 230 PKP2 PKPab 09 11 41.3 +1.2
PTLB Pontes e Lacer 145.95 129 *e*P PKPab 09 11 41.3 -0.1
OUK Oukaimeden 146.06 320 P PKPab 09 11 42.0 +0.1
FRTB Fartura 146.24 151 *e*P PKPab 09 11 42.2 -0.2
PET01 Itanhaem-SP 146.46 155 *e*P PKPbc 09 11 42.2 0.0
TEFE Tefe 146.48 106 *e*P PKPbc 09 11 41.9 -0.6
VILA Vilhena 146.54 125 *e*P PKPbc 09 11 42.5 -0.2
PCMB Paraoembu 146.81 147 *e*P PKPbc 09 11 43.2 -0.1
H07S1 FLORES T-PHASB 146.92 358 PKPbc PKPdf 09 11 41.0 -0.1
SPB Sao Paulo 147.01 154 *e*P PKPbc 09 11 43.5 -0.2
PP1B Ponte de Pedra 147.63 137 *e*P PKPbc 09 11 44.4 -1.3
VAO Valinhos 147.73 154 *e*P PKPdf 09 11 44.3 +1.2
SMRT St. Maarten 147.90 66 *e*P PKPbc 09 11 45.3 -1.1
PARB Paraibuna 147.98 157 *e*P PKPbc 09 11 45.3 -1.3
RCLB Rio Claro- Sao 147.99 153 *e*P PKPbc 09 11 45.3 -1.3
C2SB Chapadao do Su 148.11 141 *e*P PKPbc 09 11 45.9 -1.0
SALV Santo Antonio 148.23 134 *e*P PKPbc 09 11 45.7 -1.5
ITRB Iturama 148.84 146 *e*P PKPdf 09 11 45.6 +0.7
ANWB Willy Bob 149.19 66 *e*P PKPbc 09 11 48.5 -1.2
PMPST Porto Santo, M 149.31 333 *e*PKPab PKPab 09 11 53.1 -1.1
ANBD Bethesda, Anti 149.39 67 *e*P PKPdf 09 11 44.3 -1.5
VAS01 Vassouras-RJ 149.75 160 *e*P PKPdf 09 11 48.0 +1.8
ABD La Joyeuse, An 149.81 68 *e*P PKPdf 09 11 44.6 -1.7
CBE Ff, Capester 149.81 69 *e*P PKiKP 09 11 54.0 +1.7
PMOZ Porto Moniz, M 149.91 334 *e*LR LR 10 05 52.6
PDRB Porto das Gac 150.09 126 *e*P PKPdf 09 11 47.6 +0.6
MAGL Barre de l'ile 150.15 69 *e*P PKPdf 09 11 49.3 +2.3
DUB01 Friburgo-RJ 150.29 161 *e*P PKPdf 09 11 48.8 +1.6
MACA Manacapuru-AM 150.35 107 *e*P PKPdf 09 11 48.0 +0.7
FDF Fort de France 150.58 71 *e*P PKPbc 09 11 50.8 -2.4
GRGR Grenville 150.61 76 *e*P PKPdf 09 11 47.8 +0.1
BIM Bigot 150.70 71 *e*P PKPbc 09 11 53.5 0.0
GCMP Grenada, Carri 150.77 75 *e*P PKPbc 09 11 52.4 -1.2
SVB Belmont 150.80 74 *e*P PKPbc 09 11 53.3 -0.4
SLCP Castries, St. 150.90 72 *e*P PKPdf 09 11 34.6 -13
SLBI Saint Lucia, B 150.91 72 *e*P PKPdf 09 11 45.0 -3.1
MPOM Morne Pois Mar 150.92 71 *e*P PKPbc 09 11 54.0 0.0
MCLT Moule a Chique 151.00 73 *e*P PKPbc 09 11 53.1 -1.0
ARAG Araguaiana, MT 151.03 139 *e*P PKPdf 09 11 49.5 +1.1
TPP Pointe-a-Pierr 151.04 80 *e*P PKPbc 09 11 54.2 -0.1
TRN Trinidad (W) 151.05 79 *e*P PKPdf 09 11 48.7 +0.3
TRN Trinidad (W) 151.05 79 *e*P PKPbc 09 11 54.2 -0.1
CLDB Colider 151.26 126 *e*P PKPdf 09 11 49.5 +0.7
TBH Brigand Hill 151.40 79 *e*P PKiKP 09 11 56.7 +1.2
IPMB Ipameri, GO 151.41 147 *e*P PKPdf 09 11 50.8 +1.8
TPR Prospect 151.60 78 *e*P PKPbc 09 11 54.9 -0.6
BOAV Boa Vista 151.79 96 PKPdf PKPdf 09 11 50.2 +0.6
BOAV PKPbc PKiKP 09 11 57.1 +0.7
BOAV Boa Vista 151.79 96 *e*P PKPdf 09 11 49.7 +0.1
BOAV Boa Vista 151.79 96 *e*P PKPdf 09 11 50.7 +1.1

TOSP Speyside 151.82 78 *e*P PKiKP 09 11 57.5 +1.1
ALF01 Guarapari-ES 152.17 163 *e*P PKPdf 09 11 48.9 -1.0
KIC Kosan Boka 152.43 272 ⇑*e*PKP1 PKiKP 09 11 58.8 +1.1
comp=Z,16nm,0.5s
DBIC Dimbokro 152.55 273 PKPdf PKPdf 09 11 48.9 -1.8
DBIC Dimbokro 152.55 273 PKiKP PKPdf 09 11 48.9 -1.8
LIC Lamto 152.71 272 ⇓*e*PKP1 PKiKP 09 11 59.5 +1.2
comp=Z,75nm,0.7s
TIC Toumodi 152.71 273 ⇑*i*PKP1 PKiKP 09 11 59.8 +1.5
comp=Z,35nm,0.6s
DIAM Diamantina, MG 153.29 156 *e*P PKPdf 09 11 52.4 +0.6
BDFB Brasilia 153.42 145 PKPbc PKiKP 09 12 00.1 +0.3
comp=Z,112nm,0.9s,baz=215,slow=2.1,SNR=43
BDFB Brasilia 153.42 145 *e*P PKPdf 09 11 52.7 +0.7
RIB01 Linhares ES 153.50 163 *e*P PKPdf 09 11 51.9 -0.1
NPGB Novo Progresso 153.66 120 *e*P PKPdf 09 11 52.1 -0.2
SJMB Sao Joao De Ma 153.83 161 *e*P PKPdf 09 11 53.6 +1.2
SNDB Serra Nova Dou 154.01 134 *e*P PKPdf 09 11 53.6 +0.8
ITTB Itaituba 154.53 114 *e*P PKPdf 09 11 53.6 0.0
ABR01 Abrolhos, BA 155.24 166 *e*P PKPdf 09 11 56.1 +1.7
JANB Januaria 155.86 151 *e*P PKPdf 09 11 56.2 +0.8
GUA01 Guaratinga, BA 156.25 162 *e*P PKPdf 09 11 56.1 +0.3
MALB Monte Alegre 156.83 109 *e*P PKPdf 09 11 56.5 -0.1
SDBA SAO DESIDERIO 157.79 146 *e*P PKPdf 09 11 58.3 +0.4
SMTB Santa Maria do 158.78 135 *e*P PKPdf 09 11 59.4 +0.4
PRPB Paraupebas 158.79 125 *e*P PKPdf 09 11 59.4 +0.3
MCPB Macapa, AP 159.41 108 *e*P PKPdf 09 11 59.6 -0.2
MDP Montagnes des 159.91 92 PKPab PKPab 09 12 39.5 -0.4
comp=Z,89nm,1.2s,baz=263,slow=5.9,SNR=8.7
TMAB Tom-Au,PA,Br 162.24 118 *e*P PKPdf 09 12 03.5 +0.7
ROSB Rosrio 165.29 127 *e*P PKPdf 09 12 05.7 +0.1
RCBR Riachuelo 167.60 164 PKP PKPdf 09 12 08.2 +0.7
comp=Z,23nm,1.0s,baz=161,slow=1.0,SNR=4.9
RCBR Riachuelo 167.60 164 *e*P PKPdf 09 12 08.6 +1.1
NBCL Cascavel-CE 168.15 151 *e*P PKPdf 09 12 10.2 +2.4

*TAP **08** 09:16:45.4,24.3°30N×122.1°13E,h33km,ML3.0,C*
*JMA **08** 09:16:45.1±0.1,24.2°N±0.6×122.1°E±0.3,h52km±1km,*
MV2.3/9, TAIWAN REGION
ISC 08 09:16:44.9±1.1,24.2°25N±0.02°×122.1°15E±0.02,h19km±2km,
n59,σ0s67/100, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.39**	**300**	*e*P		**Pb**		**09 16 53.9**	**+0.7**
EWUT	baz=298			*e*S		**Sb**		**09 16 59.9**	**+1.0**
ENA	baz=298 **Nanau**	**0.41**	**296**	*e*P		**Pb**		**09 16 54.3**	**+0.7**
ENA	baz=294			*e*S		**Sb**		**09 17 00.7**	**+1.1**
TWC	baz=294 **Suao**	**0.45**	**323**	*e*P		**Pb**		**09 16 54.4**	**+0.2**
TWC	baz=325			*i* S		**Sb**		**09 17 00.5**	**-0.1**
ETL	**Fush Village**	**0.48**	**259**	*e*P		**Pn**		**09 16 56.1**	**-0.8**
ETL	baz=253			*e*S		**Sn**		**09 17 04.0**	**-0.8**
NACB	baz=253 **Ninganchiao**	**0.51**	**262**	*e*P		**Pg**		**09 16 56.0**	**+0.8**
NACB	baz=255			*e*S		**Sb**		**09 17 03.6**	**+1.4**
TWD	baz=255 **Chiawan**	**0.53**	**252**	*e*P		**Pg**		**09 16 56.4**	**+0.9**
TWD	baz=232			*e*S		**Sn**		**09 17 04.8**	**-1.1**
NDS	baz=232 **Dongshan**	**0.55**	**314**	*e*P		**Pg**		**09 16 56.2**	**+0.3**
NDS	baz=314			*e*S		**Sg**		**09 17 03.8**	**+0.6**
ETLH	**Xiulin Townshi**	**0.61**	**266**	*e*P		**Pg**		**09 16 57.6**	**+0.6**
ILA	baz=261 **Ilan**	**0.63**	**325**	*e*P		**Pg**		**09 16 57.1**	**-0.3**
ILA	baz=323			*i* S		**Sn**		**09 17 06.9**	**-1.4**
LATG	baz=323 **Datong**	**0.63**	**297**	*e*P		**Pg**		**09 16 57.8**	**+0.4**
LATG	baz=298			*e*S		**Sg**		**09 17 06.9**	**+0.9**
TWE	baz=298 **Neicheng**	**0.64**	**317**	P		**Pg**		**09 16 57.8**	**+0.2**
TWE	baz=321			S		**Sg**		**09 17 06.2**	**0.0**
ENTT	baz=321 **Nioudou**	**0.66**	**307**	*e*P		**Pg**		**09 16 58.2**	**+0.3**
ENTT	baz=303			*e*S		**Sg**		**09 17 07.2**	**+0.6**
NNSB	baz=303 **Datong**	**0.72**	**285**	P		**Pg**		**09 16 59.2**	**+0.2**
NNSB	baz=281			S		**Sg**		**09 17 09.2**	**+0.6**
FUSB	baz=281 **Fushanzhiwuyua**	**0.72**	**315**	*e*P		**Pg**		**09 16 59.2**	**+0.1**
FUSB	baz=312			S		**Sg**		**09 17 08.7**	**0.0**
NNS	baz=312 **Nan Shan**	**0.73**	**285**	P		**Pg**		**09 16 59.4**	**+0.1**
NNS	baz=281			S		**Sg**		**09 17 09.4**	**+0.4**
JYNG	**Yonagunijimaku**	**0.76**	**74**	P		**Pn**		**09 17 00.8**	**+0.2**
JYNG				S		**Sn**		**09 17 12.1**	**+0.6**
TWB1	**Santiao Chiao**	**0.77**	**349**	*e*P		**Pg**		**09 16 59.6**	**-0.4**
TWB1	baz=350			*i* S		**Sb**		**09 17 09.4**	**-0.4**
TIPB	baz=350 **Shuangxi**	**0.78**	**338**	*e*P		**Pg**		**09 16 59.9**	**-0.2**
TIPB	baz=343			S		**Sg**		**09 17 10.0**	**-0.5**
ESL	baz=343 **Shilin**	**0.78**	**237**	*e*P		**Pb**		**09 16 59.9**	**0.0**
WHF	baz=220 **Hehuan Shan**	**0.81**	**263**	*e*P		**Pg**		**09 17 00.8**	**0.0**
WHF	baz=259			*e*S		**Sn**		**09 17 12.9**	**-0.5**
YHNB	baz=259 **Yeheng**	**0.82**	**301**	P		**Pg**		**09 17 00.8**	**-0.1**
YHNB	baz=298			*e*S		**Sg**		**09 17 11.8**	**0.0**
YOJ	baz=298 **Yonaguni jima**	**0.82**	**75**	P		**Pn**		**09 17 01.3**	**-0.1**
YOJ				S		**Sn**		**09 17 13.5**	**+0.6**
YOJ	**Yonaguni jima**	**0.82**	**75**	*e*P		**Pn**		**09 17 01.1**	**-0.3**
YOJ	baz=78			S		**Sn**		**09 17 13.3**	**+0.3**
FUSS	baz=78 **Fushou**	**0.82**	**270**	*e*P		**Pn**		**09 17 01.5**	**-0.2**
NSK	baz=266 **Sanguang**	**0.83**	**301**	*e*P		**Pb**		**09 17 00.8**	**0.0**
NSK	baz=298			S		**Sb**		**09 17 11.7**	**0.0**
EGFH	baz=298 **Guangfu**	**0.88**	**229**	*e*P		**Pb**		**09 17 01.1**	**-0.3**
SXI1	baz=214 **Grass Mountain**	**0.88**	**344**	P		**Pb**		**09 17 01.3**	**-0.3**
SXI1	baz=356			*e*S		**Sb**		**09 17 12.6**	**-0.4**
NWF	baz=356 **Wu-fen Shan**	**0.88**	**338**	P		**Pb**		**09 17 01.6**	**-0.1**
NWF	baz=349			*e*S		**Sg**		**09 17 13.5**	**-0.4**
TWT	baz=349 **Tachien**	**0.89**	**270**	*i* S		**Sg**		**09 17 14.5**	**+0.5**
TWA	baz=259 **Mucha**	**0.89**	**325**	*e*P		**Pn**		**09 17 02.9**	**+0.5**
TWA	baz=324			*e*S		**Sg**		**09 17 13.9**	**-0.1**
CHGB	baz=324 **Renai**	**0.91**	**258**	*e*P		**Pb**		**09 17 02.1**	**0.0**
CHGB	baz=243			*e*S		**Sb**		**09 17 14.3**	**+0.4**
NHDH	baz=243 **Xindian Distri**	**0.91**	**322**	*e*P		**Pn**		**09 17 02.8**	**+0.1**
NHDH	baz=329			*e*S		**Sg**		**09 17 14.3**	**-0.3**
OWD	baz=329 **Renai**	**0.93**	**252**	*e*P		**Pb**		**09 17 02.3**	**-0.2**
OWD	baz=248			*e*S		**Sb**		**09 17 14.0**	**-0.6**
WUSB	baz=248 **Renai**	**0.97**	**255**	*e*P		**Pb**		**09 17 03.2**	**-0.1**
WUSB	baz=240			*e*S		**Sb**		**09 17 15.4**	**-0.4**

HGSD	**Ruisui**	**1.00**	**221**	*e*P		**Pb**	**09 17 03.4**	**-0.2**
	baz=209							
NFF	**Wufeng Townshi**	**1.01**	**292**	*i* S		**Sg**	**09 17 18.4**	**+0.5**
	baz=290							
YM01	**YM01**	**1.03**	**330**	*e*P		**Pn**	**09 17 04.3**	**-0.2**
	baz=340							
YM01				*e*S		**Sn**	**09 17 17.8**	**-0.7**
	baz=340							
VWDT	**VWDT**	**1.04**	**242**	*e*P		**Pb**	**09 17 04.1**	**-0.2**
	baz=239							
VWDT				*e*S		**Sb**	**09 17 17.2**	**-0.4**
	baz=239							
LIOB	**Emei**	**1.10**	**291**	*e*P		**Pb**	**09 17 05.5**	**+0.1**
	baz=288							
NSTT	**Nanjuang**	**1.11**	**290**	*e*P		**Pb**	**09 17 05.6**	**+0.1**
	baz=287							
WCS	**Beigang Elemen**	**1.14**	**261**	*e*P		**Pg**	**09 17 07.1**	**0.0**
	baz=249							
YULB	**Yu-li**	**1.15**	**222**	*e*P		**Pn**	**09 17 04.8**	**-1.2**
	baz=219							
EYUL	**Yuli**	**1.17**	**220**	*e*P		**Pn**	**09 17 06.1**	**-0.2**
	baz=230							
SSLB	**Suanglung**	**1.18**	**247**	*e*P		**Pn**	**09 17 06.1**	**-0.4**
	baz=244							
SMLT	**Sun Moon Lake**	**1.20**	**252**	*e*P		**Pn**	**09 17 06.8**	**+0.1**
	baz=240							
WHYT	**Xinyi Township**	**1.30**	**245**	*e*P		**Pn**	**09 17 08.5**	**+0.4**
	baz=235							
WJS	**Zhushan**	**1.36**	**252**	*e*P		**Pb**	**09 17 10.6**	**+0.7**
	baz=242							
WJS				*e*S		**Sb**	**09 17 27.6**	**+0.8**
	baz=242							
ALS	**Alishan**	**1.43**	**239**	*e*P		**Pn**	**09 17 10.6**	**+0.5**
	baz=225							
IRIF	**Iriomote-Funau**	**1.45**	**86**	*e*S		**Sb**	**09 17 28.8**	**-0.5**
EDH	**Donghe**	**1.49**	**211**	*e*P		**Pn**	**09 17 09.3**	**-1.3**
	baz=200							
EDH				*e*S		**Sn**	**09 17 26.1**	**-3.5**
	baz=200							
CHN5	**Tsauling**	**1.49**	**244**	*e*P		**Pn**	**09 17 11.5**	**+0.7**
	baz=230							
CHN5				*e*S		**Sb**	**09 17 31.5**	**+0.9**
	baz=230							
LONT	**Longtian**	**1.63**	**215**	*e*P		**Pn**	**09 17 12.7**	**+0.1**
	baz=212							
STYH	**Taoyuan**	**1.65**	**230**	*e*P		**Pn**	**09 17 13.7**	**+0.9**
	baz=218							
STYH				*e*S		**Sn**	**09 17 33.4**	**-0.2**
	baz=218							
WRL	**Guolierlin Hig**	**1.65**	**258**	*e*P		**Pb**	**09 17 14.0**	**-0.7**
	baz=256							
WRL				*e*S		**Sb**	**09 17 34.6**	**-0.6**
	baz=256							
CHN4	**Tsaushan**	**1.68**	**238**	*e*P		**Pb**	**09 17 15.0**	**-0.2**
	baz=224							
CHN4				*e*S		**Sb**	**09 17 37.3**	**+1.3**
	baz=224							
TPUB	**Ta-pu**	**1.68**	**236**	*e*P		**Pb**	**09 17 14.4**	**-0.8**
	baz=221							
TPUB				*e*S		**Sn**	**09 17 35.4**	**+1.0**
	baz=221							
JKRS	**Kuro-shima**	**1.70**	**90**	P		**Pn**	**09 17 13.8**	**+0.2**
JKRS				S		**Sn**	**09 17 34.8**	**0.0**
JIJ	**Ishigaki jima**	**1.83**	**86**	P		**Pn**	**09 17 15.5**	**+0.2**
JIJ				S		**Sn**	**09 17 38.1**	**+0.2**
JISG	**Ishigakijimahi**	**2.00**	**80**	P		**Pn**	**09 17 17.9**	**+0.2**
JISG				S		**Sn**	**09 17 42.6**	**+0.4**

RSNC 08 09:18:40.1±1.0, 6°83N×73°16W, h149km±4km, ML3.1, Mw3.5, 3C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**185**	⇓*i*P	Pn	09 19 00.1	-0.5
BARC				*e*S	Sn	09 19 15.1	-1.1
BARC				*i*		09 19 16.4	
	comp=Z,370nm,0.2s						
BRRC	**Barranca, Sant**	**0.61**	**297**	⇑*i*P	Pn	09 19 02.0	+0.1
BRRC				*e*S	Sn	09 19 18.9	+0.4
BRRC				*i*		09 19 22.2	
	comp=Z,178nm,0.4s						
PAMC	**Pamplona, Colo**	**0.68**	**42**	⇑*i*P	Pn	09 19 02.9	-0.1
PAMC				*e*S	Sn	09 19 20.0	-0.3
PAMC				*i*		09 19 22.4	
	comp=Z,389nm,0.5s						
RUSC	**La Rusia**	**0.94**	**175**	⇓*i*P	Pn	09 19 04.0	-0.8
RUSC				*e*S	Sn	09 19 23.1	-0.5
RUSC				*i*		09 19 24.4	
	comp=Z,126nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.32**	**257**	*e*P	Pn	09 19 06.8	-1.0
PTBC				*e*S	Sn	09 19 28.6	-0.2
PTBC				*i*		09 19 34.2	
	comp=Z,89nm,0.3s						
TAMC	**Tame, Arauca**	**1.42**	**106**	⇓*i*P	Pn	09 19 08.6	-0.2
TAMC				*i*		09 19 29.4	
	comp=Z,52nm,0.4s						
TAMC				*e*S	Sn	09 19 30.3	-0.3
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	*e*P	Pn	09 19 12.6	-0.3
ZARC				*e*S	Sn	09 19 38.0	-0.1
ZARC				*i*		09 19 44.9	
	comp=Z,112nm,0.4s						
CHIC	**Chingaza**	**2.26**	**195**	*e*P	Pn	09 19 18.3	-0.4
CHIC				*e*S	Sn	09 19 47.6	-0.7
CHIC				*i*		09 19 51.1	
	comp=Z,97nm,0.5s						
ROSC	**El Rosal**	**2.29**	**210**	*e*P	Pn	09 19 20.0	+1.0
ROSC				*e*S	Sn	09 19 48.9	0.0
ROSC				*i*		09 19 53.9	
	comp=Z,171nm,0.5s						
UREC	**San Jos de Ur**	**2.52**	**291**	*e*P	Pn	09 19 20.2	-1.3
UREC				*e*S	Sn	09 19 52.1	-1.3
UREC				*i*		09 20 03.9	
	comp=Z,64nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.71**	**234**	*e*P	Pn	09 19 24.2	0.0
GUY2C				*e*S	Sn	09 19 59.9	+1.7
GUY2C				*i*		09 20 06.4	
	comp=Z,62nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.72**	**352**	*e*P	Pn	09 19 25.6	+1.6
LL1C				*e*S	Sn	09 20 00.6	+2.7
PTGC	**Puerto Gaitan,**	**2.81**	**159**	⇓*i*P	Pn	09 19 23.2	-1.8
PTGC				*e*S	Sn	09 19 56.8	-3.0
PTGC				*i*		09 20 01.6	
	comp=Z,86nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.99**	**251**	*e*P	Pn	09 19 28.4	+0.9
CBOC				*e*S	Sn	09 20 05.3	+1.2
DBBC	**Dabeiba**	**3.03**	**274**	*e*P	Pn	09 19 27.5	-0.4
DBBC				*e*S	Sn	09 20 03.4	-1.5
DBBC				*i*		09 20 04.9	
	comp=Z,26nm,0.3s						
ARGC	**Ariguani, Magd**	**3.19**	**340**	*e*P	Pn	09 19 30.4	+0.5
ARGC				*e*S	Sn	09 20 09.8	+1.3
ARGC				*i*		09 20 20.2	
	comp=Z,18nm,0.2s						
APAC	**Apartado, Choc**	**3.55**	**288**	*e*P	Pn	09 19 34.0	-0.6
APAC				*e*S	Sn	09 20 15.7	-1.0
APAC				*i*		09 20 20.9	
	comp=Z,24nm,0.3s						
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P	Pn	09 19 34.5	-0.3
ORTC				*e*S	Sn	09 20 18.2	+1.1
ORTC				*i*		09 20 21.5	
	comp=Z,47nm,0.3s						
SJCC	**San Jacinto, C**	**3.64**	**327**	⇑*i*P	Pn	09 19 34.3	-1.4
SJCC				*e*S	Sn	09 20 15.9	-3.1
SJCC				*i*		09 20 22.2	
	comp=Z,24nm,0.6s						
PLMC	**San Jos del P**	**3.65**	**239**	*e*P	Pn	09 19 35.7	-0.2
PLMC				*e*S	Sn	09 20 19.1	+0.1
PLMC				*i*		09 20 21.7	
	comp=Z,20nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	*e*P	Pn	09 19 40.4	-2.3
CRJC				*e*S	Sn	09 20 27.9	-3.5
CRJC				*i*		09 20 35.3	
	comp=Z,45nm,0.4s						
YOTC	**Yotoco, Valle**	**4.25**	**228**	*e*P	Pn	09 19 42.7	-1.0
YOTC				*e*S	Sn	09 20 35.3	+2.1
GUVC	**San Jose del G**	**4.29**	**173**	*e*P	Pn	09 19 42.6	-1.6
GUVC				*e*S	Sn	09 20 31.2	-2.9
GUVC				*i*		09 20 37.6	
	comp=Z,28nm,0.3s						
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	Pn	09 19 45.0	-1.1
SMRC				*e*S	Sn	09 20 33.3	-4.1
SMRC				*i*		09 20 36.6	
	comp=Z,17nm,0.2s						
MACC	**Macarena, Meta**	**4.70**	**188**	*e*P	Pn	09 19 47.0	-2.7
MACC				*e*S	Sn	09 20 38.9	-5.0
MACC				*i*		09 21 02.9	
	comp=Z,15nm,0.5s						
URIC	**Uribia, Colomb**	**4.98**	**13**	*e*P	Pn	09 19 50.6	-2.6
URIC				*e*S	Sn	09 20 45.8	-4.5
GARC	**Garzon, Huila**	**5.16**	**207**	*e*P	Pn	09 19 54.2	-1.8
GARC				*i*		09 20 56.6	
	comp=Z,22nm,0.3s						
FLOC	**Florencia**	**5.77**	**206**	*e*P	Pn	09 20 02.8	-1.0
FLOC				*e*S	Sn	09 21 05.4	-3.9

IDC ***08*** *09:22:13.4±1.3, 33°.61N×33°.12E, h0km, mb3.9/14, mbtmp4.0/19, ML4.2/5, Error ellipse: s-maj=26.1km s-min=14.4km az=41.0*

MOS ***08*** *09:22:15.4±1.5, 33°.60N×33°.32E, h27km, mb4.4/4, Error ellipse: s-maj=8.9km s-min=4.7km az=93.3*

ISK ***08*** *09:22:16.1, 33°.52N×33°.20E, h67km, ML4.3/47*

NEIC ***08*** *09:22:16.8±1.7, 33°.59N±0°.07×33°.18E±0°.09, h19km±5km, mb4.4/14, Error ellipse: s-maj=11.6km s-min=8.5km az=54.0*

GII ***08*** *09:22:17.9±0.4, 33°.56N×33°.27E, h40km, mb4.1/4, MD3.9/5, Mm3.9/9*

NIC ***08*** *09:22:17.4±0.0, 33°.56N×33°.29E, h27km±2km, Ml4.5/7*

HLW ***08*** *09:22:18.8, 33°.53N×33°.26E, h33km±41km, Md3.9, Ml4.5*

GRAL ***08*** *09:22:19.0±0.5, 33°.63N×33°.47E, h15km±31km, MD3.9*

ISC 08 09:22:16.1±1.0, 33°.53N±0°.02×33°.25E±0°.03, h19km±3km, n244, σ1°60/285, mb4.1/28, 4C-8D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSC2	**CSNet OBS 4**	**0.94**	**241**	Pg	**Pb**	**09 22 29.6**	**-4.2**
ASGA	**Asgata**	**1.25**	**360**	⇓*e*P	**Pn**	**09 22 38.2**	**-0.3**
ASGA				S	**Sb**	**09 22 54.7**	**-0.1**
ASGA				AML	AML	09 22 56.4	
	53nm,0.3s						
ASGA				AML	AML	09 22 56.4	
	53nm,0.3s						
ASGA				AML	AML	09 22 58.6	
	37nm,0.5s						
ASGA				AML	AML	09 22 58.6	
	37nm,0.5s						
SZAC	**Souni**	**1.26**	**346**	P	**Pn**	**09 22 39.0**	**+0.3**
SZAC				S	**Sn**	**09 22 56.0**	**+0.9**
SZAC				AML	AML	09 22 57.7	
	72nm,0.5s						
SZAC				AML	AML	09 22 57.7	
	72nm,0.5s						
SZAC				AML	AML	09 23 00.7	
	56nm,0.4s						
SZAC				AML	AML	09 23 00.7	
	56nm,0.4s						
NATA	**Nata**	**1.37**	**336**	P	**Pb**	**09 22 40.9**	**-0.2**
NATA				S	**Sg**	**09 22 59.5**	**-0.8**
CSS	**Mathiatis**	**1.43**	**3**		**Pn**	**09 22 40.9**	**-0.1**
CSS	**Mathiatis**	**1.43**	**3**	Pn	**Pn**	**09 22 40.7**	**-0.3**
CSS				Sn	**Sn**	**09 22 59.6**	**+0.3**
CSS	**Mathiatis**	**1.43**	**3**	P	**Pn**	**09 22 40.9**	**-0.1**
CSS				S	**Sb**	**09 22 59.8**	**-0.1**
CSS				AML	AML	09 23 01.6	
	9.3nm,0.6s						
CSS				AML	AML	09 23 01.6	
	9.3nm,0.6s						
CSS				AML	AML	09 23 02.3	
	7.8nm,0.6s						
CSS				AML	AML	09 23 02.3	
	7.8nm,0.6s						
CSS	**Mathiatis**	**1.43**	**3**	Pn	**Pn**	**09 22 40.8**	**-0.1**
CSS				Sn	**Sn**	**09 22 59.1**	**-0.2**
CSS	**Mathiatis**	**1.43**	**3**	P	**Pn**	**09 22 40.7**	**-0.3**
MVOU	**Mavrovouni**	**1.51**	**12**	P	**Pn**	**09 22 41.5**	**-0.6**
MVOU				S	**Sb**	**09 23 02.1**	**-0.2**
MVOU				AML	AML	09 23 08.8	
	8.2nm,0.6s						
MVOU				AML	AML	09 23 08.8	
	8.2nm,0.6s						
MVOU				AML	AML	09 23 09.4	
	6.6nm,0.4s						
MVOU				AML	AML	09 23 09.4	
	6.6nm,0.4s						
PARAL	**Paralimni**	**1.60**	**24**	P	**Pn**	**09 22 42.8**	**-0.5**
PARAL				S	**Sn**	**09 23 03.5**	**+0.1**
PARAL				AML	AML	09 23 05.0	
	7.7nm,1.0s						
PARAL				AML	AML	09 23 05.0	
	7.7nm,1.0s						
PARAL				AML	AML	09 23 23.0	
	6.3nm,0.6s						
PARAL				AML	AML	09 23 23.0	
	6.3nm,0.6s						
ATHAL	**Athalassa**	**1.61**	**4**	P	**Pn**	**09 22 43.8**	**+0.3**
ATHAL				S	**Sb**	**09 23 05.5**	**+0.5**
LEF	**Lefka**	**1.61**	**349**	Pn	**Pn**	**09 22 44.0**	**+0.5**
LEF				Sn	**Sn**	**09 23 04.4**	**+0.7**
OSC1	**CSNet OBS 1**	**1.65**	**269**	Pn	**Pn**	**09 22 43.2**	**-0.8**
OSC1	**CSNet OBS 1**	**1.65**	**269**	P	**Pn**	**09 22 44.4**	**+0.3**
OSC1				S	**Sn**	**09 23 04.8**	**+0.1**
AKMS	**Akamas**	**1.67**	**333**	P	**Pn**	**09 22 44.5**	**+0.2**
AKMS				S	**Sn**	**09 23 05.2**	**+0.1**
AKMS				AML	AML	09 23 06.2	
	21nm,0.4s						
AKMS				AML	AML	09 23 06.2	
	21nm,0.4s						
AKMS				AML	AML	09 23 06.7	
	16nm,0.3s						
AKMS				AML	AML	09 23 06.7	
	16nm,0.3s						
HNTI	**Hanita**	**1.67**	**105**	Pn	**Pn**	**09 22 44.3**	**0.0**
HNTI				Sn	**Sn**	**09 23 04.5**	**-0.7**
HNTI	**Hanita**	**1.67**	**105**	P	**Pn**	**09 22 45.2**	**+0.9**
ALFC	**Alefka**	**1.71**	**342**	P	**Pn**	**09 22 45.1**	**+0.3**
ALFC				S	**Sn**	**09 23 06.4**	**+0.2**
ALFC				AML	AML	09 23 12.2	
	21nm,0.4s						
ALFC				AML	AML	09 23 12.2	
	21nm,0.4s						
ALFC				AML	AML	09 23 18.1	
	24nm,0.4s						
ALFC				AML	AML	09 23 18.1	
	24nm,0.4s						
OFRI	**`Ofer**	**1.71**	**122**	Pn	**Pn**	**09 22 44.8**	**-0.2**
OFRI				Sn	**Sn**	**09 23 06.8**	**+0.4**
OFRI	**`Ofer**	**1.71**	**122**	P	**Pb**	**09 22 47.3**	**+0.3**
LFK	**Lefkose**	**1.76**	**7**	Pn	**Pn**	**09 22 45.9**	**+0.3**
AKDN	**Akdeniz- Kıbrı**	**1.78**	**352**	Pn	**Pn**	**09 22 45.8**	**0.0**
BLGI	**Bet Lehem HaGe**	**1.81**	**116**	Pn	**Pn**	**09 22 46.5**	**+0.3**
BLGI				Sn	**Sn**	**09 23 08.2**	**-0.5**
BLGI	**Bet Lehem HaGe**	**1.81**	**116**	P	**Pb**	**09 22 48.0**	**-0.6**
MMAI	**Mount Meron Ar**	**1.87**	**105**	Pn	**Pn**	**09 22 48.0**	**+0.8**
	74nm,0.3s,baz=293,slow=13,SNR=29						
MMAI				Sn	**Sn**	**09 23 10.1**	**-0.2**
	249nm,0.3s,baz=313,slow=27,SNR=16						
	54nm,0.4s						
BEYL	**Beirut**	**1.90**	**79**	*e*P	**Pn**	**09 22 47.2**	**-0.2**
DQRL	**Deir Qamar**	**1.94**	**84**	*e*P	**Pn**	**09 22 47.5**	**-0.6**
DQRL				*e*S	**Sn**	**09 23 09.1**	**-2.9**
SLTI	**Sal'it**	**1.98**	**130**	Pn	**Pn**	**09 22 48.9**	**+0.3**
BHL	**Bhannes**	**2.04**	**79**	*e*P	**Pn**	**09 22 49.0**	**-0.5**
BHL				*e*S	**Sn**	**09 23 11.2**	**-3.1**
BHL	**Bhannes**	**2.04**	**79**	P	**Pn**	**09 22 48.9**	**-0.5**
BHL				S	**Sn**	**09 23 11.2**	**-3.1**
MMLI	**Mount Malkishu**	**2.12**	**120**	Pn	**Pn**	**09 22 50.7**	**+0.1**
MMLI				Sn	**Sn**	**09 23 17.2**	**+0.7**
MMLI	**Mount Malkishu**	**2.12**	**120**	P	**Pn**	**09 22 50.8**	**+0.3**
MMLI				S	**Sn**	**09 23 16.7**	**+0.2**
MMLI	**Mount Malkishu**	**2.12**	**120**	Pn	**Pn**	**09 22 50.9**	**+0.3**
MMLI				Sn	**Sn**	**09 23 16.8**	**+0.3**
EREN	**Erenkoy**	**2.13**	**21**	Pn	**Pn**	**09 22 51.0**	**+0.4**
RCY	**Rachaya**	**2.16**	**90**	*e*P	**Pn**	**09 22 51.2**	**0.0**
RCY				*e*S	**Sn**	**09 23 14.8**	**-2.7**
SALP	**Salfit**	**2.19**	**131**	Pn	**Pn**	**09 22 52.1**	**+0.6**
SALP				Sn	**Sn**	**09 23 18.8**	**+0.7**
ZAHL	**Zahle**	**2.22**	**81**	*e*P	**Pn**	**09 22 52.0**	**0.0**
SHMJ	**Saham**	**2.25**	**110**	P	**Pn**	**09 22 53.9**	**+1.5**
HMDT	**Nahal Hemdat**	**2.30**	**123**	Pn	**Pn**	**09 22 53.5**	**+0.6**
HMDT				Sn	**Sn**	**09 23 21.5**	**+0.8**
HMDT	**Nahal Hemdat**	**2.30**	**123**	P	**Pn**	**09 22 54.0**	**+1.1**
HMDT				S	**Sn**	**09 23 22.7**	**+2.0**
HWQ	**Hawqa**	**2.36**	**71**	*e*P	**Pn**	**09 22 53.5**	**-0.4**
HWQ				*e*S	**Sn**	**09 23 19.0**	**-3.4**
AMAZ	**Amatzia**	**2.44**	**144**	P	**Pn**	**09 22 56.3**	**+1.4**
AMAZ					S	**Sn**	**09 23 24.9**	**+0.7**
AMAZ	**Amatzia**	**2.44**	**144**	Pn	**Pn**	**09 22 56.0**	**+1.1**
AMAZ					Sn	**Sn**	**09 23 25.2**	**+1.0**
UJAP	**Al Uja**	**2.44**	**130**	Pn	**Pn**	**09 22 55.9**	**+1.0**
UJAP	**Al Uja**	**2.44**	**130**	Pn	**Pn**	**09 22 55.9**	**+1.0**
UJAP					Sn	**Sn**	**09 23 25.1**	**+0.9**
UJAP	**Al Uja**	**2.44**	**130**	P	**Pn**	**09 22 56.3**	**+1.4**
BOZY	**Bozyazi-Mersin**	**2.58**	**355**	Pn	**Pn**	**09 22 57.4**	**+0.6**
AKK2	**Akkuyu-Mersin**	**2.61**	**5**	Pn	**Pn**	**09 22 57.8**	**+0.6**
AKKU	**Akkuyu-Mersin**	**2.63**	**5**	Pn	**Pn**	**09 22 57.9**	**+0.4**
TISA	**Tisan-Mersin**	**2.65**	**7**	Pn	**Pn**	**09 22 57.9**	**+0.2**
DSI	**Dead Sea**	**2.66**	**137**	Pn	**Pn**	**09 22 58.9**	**+1.0**
DSI				Sn	**Sn**	**09 23 30.2**	**+0.6**
DSI	**Dead Sea**	**2.66**	**137**	P	**Pn**	**09 22 59.0**	**+2.0**
DSI				S	**Sn**	**09 23 31.3**	**+1.7**
OREN	**Orenkoy-Mersin**	**2.67**	**4**	Pn	**Pn**	**09 22 58.5**	**+0.4**
YESI	**Yesilovacik-Me**	**2.67**	**7**	Pn	**Pn**	**09 22 58.6**	**+0.5**
YTIR	**Yattir**	**2.68**	**143**	Pn	**Pn**	**09 22 59.3**	**+1.1**
YTIR					Sn	**Sn**	**09 23 30.8**	**+0.6**
KARG	**Kargicak-Mersi**	**2.69**	**8**	Pn	**Pn**	**09 22 58.9**	**+0.6**
TEPK	**Tepekoy-MERSIN**	**2.69**	**5**	Pn	**Pn**	**09 22 59.0**	**+0.6**
IKL	**Isikli**	**2.72**	**7**	Pn	**Pn**	**09 22 59.3**	**+0.5**
KZIT	**Kziot**	**2.79**	**159**	P	**Pn**	**09 23 01.3**	**+1.6**
KZIT				S	**Sn**	**09 23 32.2**	**-0.7**
KZIT	**Kziot**	**2.79**	**159**	Pn	**Pn**	**09 23 00.8**	**+1.0**
KZIT				Sn	**Sn**	**09 23 33.4**	**+0.5**
BERE	**Bereket-Mersin**	**2.81**	**359**	Pn	**Pn**	**09 23 00.6**	**+0.5**
MDBI	**Mazsada**	**2.84**	**141**	Pn	**Pn**	**09 23 01.9**	**+1.5**
MDBI	**Mazsada**	**2.84**	**141**	P	**Pn**	**09 23 02.5**	**+2.1**
MSBI	**Mazada**	**2.84**	**141**	Pn	**Pn**	**09 23 01.8**	**+1.4**
MSBI				Sn	**Sn**	**09 23 34.8**	**+0.8**
HSUJ	**Al Zarqa**	**2.85**	**119**	P	**Pb**	**09 23 04.2**	**-2.3**
SILI	**Silifke-Mersin**	**2.88**	**11**	Pn	**Pn**	**09 23 01.7**	**+0.8**
TEVE	**Tevekalti-Mers**	**2.90**	**3**	Pn	**Pn**	**09 23 01.7**	**+0.4**
WALJ	**Wala**	**2.92**	**132**	P	**Pn**	**09 23 03.4**	**+1.9**
GHAJ	**Ghor Haditha**	**2.96**	**138**		**Pn**	**09 23 03.7**	**+1.6**
LISJ	**El Lisan**	**2.96**	**140**	P	**Pn**	**09 23 04.4**	**+2.4**
DAMI2	**DAM2**	**3.00**	**141**	Pn	**Pn**	**09 23 04.0**	**+1.5**
DAMI2				Sn	**Sn**	**09 23 39.5**	**+1.7**
KIZK	**Mersin**	**3.03**	**14**	Pn	**Pn**	**09 23 03.6**	**+0.6**
KARJ	**KARJ**	**3.15**	**139**	P	Pn	09 22 56.8	-7.8
KARJ				S	Sn	09 23 26.3	-15
SWQJ	**Swaqa**	**3.29**	**133**	P	**Pn**	**09 23 09.9**	**+3.2**
ASF	**Jabal al Asfar**	**3.35**	**113**	Pn	**Pn**	**09 23 09.4**	**+1.9**
	12nm,0.3s,baz=312,slow=4.3,SNR=33						
ASF					Sn	**Sn**	**09 23 50.5**	**+3.6**
	18nm,0.3s,baz=311,slow=8.1,SNR=7.1						
	29nm,0.3s						
ZFRI	**Zfri**	**3.39**	**151**	Pn	**Pn**	**09 23 09.5**	**+1.5**
ZFRI				Sn	**Sn**	**09 23 47.9**	**+0.3**
ZFRI	**Zfri**	**3.39**	**151**	P	**Pn**	**09 23 09.4**	**+1.5**
YAYL	**Yayladag**	**3.43**	**42**	Pn	**Pn**	**09 23 09.3**	**+0.7**
PRNI	**Paran**	**3.50**	**154**	Pn	**Pn**	**09 23 10.6**	**+1.0**
PRNI				Sn	**Sn**	**09 23 49.7**	**-0.8**
PRNI	**Paran**	**3.50**	**154**	P	**Pn**	**09 23 11.3**	**+1.7**
KRMI	**Paran Flat**	**3.63**	**159**	Pn	**Pn**	**09 23 12.3**	**+1.0**
KRMI				Sn	**Sn**	**09 23 55.1**	**+1.5**
HHAG	**Hagoal**	**3.70**	**196**	⇑P	**Pn**	**09 23 13.7**	**+1.4**
	baz=196						
HHAG				S	**Sn**	**09 23 52.6**	**-2.9**
	baz=196						
KOT	**Kottamia**	**3.79**	**199**	⇓P	**Pn**	**09 23 14.7**	**+1.2**
	baz=200						
KOT				S	**Sn**	**09 23 56.8**	**-0.9**
	baz=200						
HRFI	**Mount Harif**	**3.80**	**156**	Pn	**Pn**	**09 23 14.9**	**+1.2**
HRFI				Sn	**Sn**	**09 23 57.9**	**0.0**
MBRI	**Mt Berech**	**3.99**	**159**	Pn	**Pn**	**09 23 17.7**	**+1.4**
MBRI				Sn	**Sn**	**09 24 03.6**	**+1.1**
MBRI	**Mt Berech**	**3.99**	**159**	P	**Pn**	**09 23 19.3**	**+3.0**
KARA	**Karaisali**	**4.00**	**21**	Pn	**Pn**	**09 23 16.6**	**+0.3**
CEYT	**Ceyhan**	**4.02**	**30**	Pn	**Pn**	**09 23 17.4**	**+0.7**
AKAS	**Kas**	**4.03**	**313**	Pn	**Pn**	**09 23 17.9**	**+1.0**
AQBJ	**Aqaba**	**4.09**	**158**	P	**Pn**	**09 23 19.8**	**+2.2**
EIL	**Elat**	**4.12**	**159**	Pn	**Pn**	**09 23 19.6**	**+1.6**
	44nm,0.3s,baz=334,slow=4.9,SNR=143						
EIL					Sn	**Sn**	**09 24 05.0**	**-0.6**
	84nm,0.3s,baz=3.9,slow=22,SNR=18						
	100nm,0.4s						
EIL	**Elat**	**4.12**	**159**	Pn	**Pn**	**09 23 18.9**	**+1.0**
EIL				Sn	**Sn**	**09 24 06.0**	**+0.4**
EIL	**Elat**	**4.12**	**159**	P	**Pn**	**09 23 19.8**	**+1.9**
ZNM	**Zenema**	**4.16**	**185**	⇑P	**Pn**	**09 23 20.1**	**+1.6**
	baz=185						
GLL	**Jalalah**	**4.16**	**199**	⇑P	**Pn**	**09 23 19.7**	**+1.1**
	baz=199						
HSAF	**As Saff**	**4.16**	**201**	⇑P	**Pn**	**09 23 19.5**	**+0.8**
	baz=201						
ELL	**Elmali**	**4.22**	**320**	Pn	**Pn**	**09 23 21.0**	**+1.5**
ELL	**Elmali**	**4.22**	**320**	Pn	**Pn**	**09 23 19.7**	**+0.2**
ELL	**Elmali**	**4.22**	**320**	P	**Pn**	**09 23 21.0**	**+1.5**
YESY	**Yesilyurt**	**4.26**	**5**	Pn	**Pn**	**09 23 21.9**	**+1.9**
KONT	**Konya--Tatoy**	**4.46**	**351**	Pn	**Pn**	**09 23 24.1**	**+1.4**
KOZT	**Kozan**	**4.46**	**27**	Pn	**Pn**	**09 23 23.3**	**+0.6**
BCK	**Bucak**	**4.48**	**332**	Pn	**Pn**	**09 23 23.7**	**+0.7**
BCK	**Bucak**	**

SOC				*e*			09 26 58.0		
SOC				MLR	MLR				
	comp=Z,121nm,13.0s								
ANN	**Anapa**	**11.71**	**15**	*e*P	**Pn**		**09 25 00.7**	**-1.3**	
ANN				*e*S	**Sn**		**09 27 10.8**	**-1.3**	
ANN				pmax	pmax				
	comp=Z,118nm,1.1s								
FNA	**Florina**	**11.91**	**311**	Pn	**Pn**		**09 25 05.6**	**+0.6**	
FNA	**Florina**	**11.91**	**311**	P	**Pn**		**09 25 05.6**	**+0.6**	
KEK	**Kerkira**	**12.44**	**304**	Pn	**Pn**		**09 25 13.7**	**+1.7**	
SHA1	**Shidzhatmaz**	**12.55**	**33**⇓	*e*P	**Pn**		**09 25 13.9**	**+0.1**	
KBZ	**Khabaz**	**12.66**	**34**⇑	*e*P	**Pn**		**09 25 17.2**	**+2.2**	
KBZ				pmax	pmax				
	comp=Z,8.0nm,1.3s								
KIV	**Kislovodsk**	**12.74**	**32**	*e*P	**Pn**		**09 25 15.3**	**-0.9**	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
CUC	**Castrocucco**	**15.38**	**300**	Pn	**Pn**		**09 25 50.9**	**-1.2**	
CUC				IAmb	IAmb		09 25 58.3		
	comp=Z,13nm,0.7s								
RAFF	**Raffo Rosso**	**15.84**	**289**	Pn	**Pn**		**09 25 56.8**	**-1.2**	
AKASG	**Malin Array Be**	**17.41**	**351**	P	**Pn**		**09 26 16.1**	**-1.6**	
	comp=Z,0.9nm,0.3s,baz=168,slow=11,SNR=13								
	comp=Z,1.2nm,0.5s								
AKASG	**Malin Array Be**	**17.41**	**351**	*i* P	**P**		**09 26 18.7**	**-0.2**	
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.5s								
AKBB	**Malin Array Si**	**17.41**	**351**	P	**P**		**09 26 19.0**	**+0.1**	
AKBB	**Malin Array Si**	**17.41**	**351**⇓	*e*P	**P**		**09 26 19.6**	**+0.7**	
AKBB				pmax	pmax				
	comp=Z,50nm,3.0s								
VYHS	**Vyhne**	**18.44**	**328**	*e*P	**Pn**		**09 26 36.8**	**+6.3**	
VYHS	**Vyhne**	**18.44**	**328**	*e*P	**Pn**		**09 26 36.8**	**+6.3**	
VORR	**Voronezh**	**18.64**	**12**	P	**P**		**09 26 29.9**	**-2.6**	
VORR				pmax	pmax				
	comp=Z,7.0nm,0.5s								
VRH	**Novokhopyorsk**	**18.71**	**17**	*e*P	**P**		**09 26 32.1**	**-1.1**	
VRH				pmax	pmax				
	comp=Z,20nm,1.1s								
MODS	**Modra-Piesok**	**19.06**	**326**	*e*P	**Pn**		**09 26 43.2**	**+5.2**	
MODS	**Modra-Piesok**	**19.06**	**326**	*e*P	**Pn**		**09 26 43.2**	**+5.2**	
RONA	**Rosalia, Austr**	**19.07**	**323**	P	**Pn**		**09 26 43.7**	**+5.5**	
	comp=Z,9.5nm,1.5s								
CONA	**Conrad Observa**	**19.44**	**323**	*e*P	**Pn**		**09 26 47.2**	**+4.6**	
	comp=Z,8.2nm,1.7s								
LPSR	**Galich'ya Gora**	**19.49**	**10**	*e*P	**P**		**09 26 42.2**	**+0.4**	
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MYKA	**Terra Mystica**	**19.84**	**317**	*e*P	**Pn**		**09 26 52.2**	**+4.8**	
	comp=Z,6.1nm,0.6s								
MOA	**Molln**	**20.22**	**321**	*e*P	Pn		09 26 56.3	+4.6	
	comp=Z,8.9nm,1.5s								
KBA	**Koelnbreinsper**	**20.26**	**318**	*e*P	Pn		09 26 56.6	+4.2	
	comp=Z,16nm,1.2s								
ABTA	**Abfaltersbach**	**20.55**	**316**	P	Pn		09 26 59.5	+3.8	
	comp=Z,9.7nm,1.7s								
GEYT	**Alibeck**	**20.63**	**71**	P	Pn		09 26 56.3	-0.5	
	comp=Z,2.4nm,0.7s,baz=272,slow=11,SNR=2.8								
	comp=Z,2.4nm,0.7s								
CTI	**Castel Tesino**	**20.70**	**313**	P	**P**		**09 26 54.7**	**-0.5**	
CTI	**Castel Tesino**	**20.70**	**313**	P	**P**		**09 26 54.7**	**-0.5**	
CTI				pmax	pmax				
	comp=Z,4.0nm,0.8s								
CKRC	**Cesky Krumlov**	**20.81**	**323**	*e*P	Pn		09 27 02.9	+4.2	
DPC	**Dobruska-Polom**	**20.92**	**328**	*e*P	**P**		**09 26 56.8**	**-0.6**	
DPC	**Dobruska-Polom**	**20.92**	**328**	*e*P	**P**		**09 26 56.8**	**-0.6**	
GEC2	**GERESS Array S**	**21.13**	**322**	P	**P**		**09 26 58.1**	**-1.7**	
GERES	**GERESS Array B**	**21.13**	**322**	P	**P**		**09 26 59.2**	**-0.6**	
	comp=Z,0.5nm,0.5s,baz=127,slow=8.9,SNR=3.3								
	comp=Z,0.5nm,0.5s								
GERES	**GERESS Array B**	**21.13**	**322**	P	**P**		**09 26 58.1**	**-1.7**	
WTTA	**Wattenberg**	**21.34**	**316**	*e*P	**P**		**09 27 07.9**	**+5.8**	
	comp=Z,10nm,0.9s								
KHC	**Kasperske Hory**	**21.38**	**323**	P	**P**		**09 27 02.0**	**-0.4**	
KHC				IAmb	IAmb		09 27 12.2		
	comp=Z,15nm,1.3s								
KHC	**Kasperske Hory**	**21.38**	**323**	*e*P	**P**		**09 27 02.9**	**+0.5**	
KHC				*ep*P	**pwP**		**09 27 10.0**	**0.0**	
KHC	**Kasperske Hory**	**21.38**	**323**	*e*P	**P**		**09 27 02.9**	**+0.5**	
KHC				*e*			09 27 10.0		
WATA	**Walderalm**	**21.41**	**317**	*e*P	**P**		**09 27 08.0**	**+5.2**	
	comp=Z,8.9nm,1.2s								
PRU	**Pruhonice**	**21.47**	**326**	*e*P	P		09 27 11.0	+7.7	
PRU	**Pruhonice**	**21.47**	**326**	*e*P	P		09 27 11.0	+7.7	
BELG	**Belogornoye**	**21.51**	**25**	P	**P**		**09 27 03.6**	**0.0**	
	comp=Z,19nm,0.6s,baz=326,slow=3.4,SNR=9.1								
	comp=Z,19nm,0.6s								
BELG	**Belogornoye**	**21.51**	**25**	*ce*P	**P**		**09 27 03.3**	**-0.4**	
BELG				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MOTA	**Moosalm**	**21.68**	**316**	*e*P	**P**		**09 27 10.9**	**+5.1**	
	comp=Z,7.9nm,1.4s								
OBN	**Obninsk**	**21.70**	**5**⇑	*e*P	**P**		**09 27 04.8**	**-0.9**	
OBN				pmax	pmax				
	comp=Z,69nm,2.5s								
FETA	**Feichten**	**21.74**	**315**	P	**P**		**09 27 12.2**	**+5.8**	
	comp=Z,5.7nm,1.0s								
UOSS	**Minazif**	**21.75**	**107**	P	**P**		**09 27 06.7**	**+0.2**	
UOSS				IAmb	IAmb		09 27 11.7		
	comp=Z,10nm,0.8s								
RETA	**Reutte**	**21.96**	**316**	*e*P	**P**		**09 27 13.1**	**+4.5**	
	comp=Z,3.9nm,0.5s								
CLL	**Collm**	**23.09**	**326**	*e*P	**P**		**09 27 22.0**	**+1.5**	
CLL				*ex*	x		09 27 40.0		
CLL				*ep*PP			09 27 49.0		
CLL	**Collm**	**23.09**	**326**	*e*P	**P**		**09 27 22.0**	**+1.5**	
SENIN	**Lac Senin/Sane**	**23.54**	**311**	P	**P**		**09 27 23.5**	**-1.9**	
SENIN				IAmb	IAmb		09 27 40.7		
	comp=Z,16nm,0.8s								
WSAR	**Wadi Sarin**	**24.51**	**108**	P	**P**		**09 27 36.1**	**+1.7**	
	comp=Z,4.2nm,0.9s,baz=317,slow=8.4,SNR=3.8								
	comp=Z,4.2nm,0.9s								
AKTO	**Aktyubinsk**	**24.80**	**40**	P	**P**		**09 27 37.2**	**+0.4**	
	comp=Z,2.4nm,0.5s,baz=244,slow=8.3,SNR=7.4								
	comp=Z,2.4nm,0.5s								
ABKAR	**Akbulak array**	**25.27**	**44**	P	**P**		**09 27 40.7**	**-0.2**	
KIRV	**Kirov**	**27.30**	**19**⇑	*e*P	**P**		**09 28 01.0**	**+1.8**	
FIA1	**FINESS Array S**	**28.31**	**353**	P	**P**		**09 28 07.0**	**-1.1**	
FINES	**FINESS Array B**	**28.31**	**353**	P	**P**		**09 28 06.9**	**-1.2**	
	comp=Z,2.2nm,0.6s,baz=154,slow=12,SNR=18								
	comp=Z,2.2nm,0.6s								
FINES	**FINESS Array B**	**28.31**	**353**	P	**P**		**09 28 07.2**	**-0.9**	
FINES	**FINESS Array B**	**28.31**	**353**	*i* P	**P**		**09 28 07.4**	**-0.8**	
FINES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
HFS	**Hagfors**	**29.55**	**340**	P	**P**		**09 28 18.2**	**-1.0**	
	comp=Z,2.7nm,0.9s,baz=124,slow=13,SNR=2.0								
	comp=Z,2.7nm,0.9s								
ESDC	**Sonseca Array**	**30.34**	**292**	P	**P**		**09 28 26.2**	**-0.4**	
	comp=Z,0.4nm,0.8s,baz=132,slow=11,SNR=2.1								
	comp=Z,0.4nm,0.8s								
BRVK	**Borovoye**	**32.77**	**42**⇓	*e*P	**P**		**09 28 47.9**	**+0.2**	
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.4s								
BVAR	**Borovoye Array**	**32.81**	**42**	P	**P**		**09 28 48.0**	**-0.1**	
	comp=Z,1.1nm,0.8s,baz=262,slow=8.2,SNR=4.7								
	comp=Z,1.1nm,0.8s								
ARCES	**ARCESS Array B**	**36.31**	**355**	P	**P**		**09 29 17.3**	**-0.9**	
	comp=Z,2.8nm,0.9s,baz=29,slow=2.8,SNR=6.4								
	comp=Z,2.8nm,0.9s								
KURBB	**Kurchatov Arra**	**37.04**	**49**	P	**P**		**09 29 25.2**	**+0.7**	
	comp=Z,1.7nm,0.5s,baz=263,slow=8.6,SNR=12								
	comp=Z,1.7nm,0.5s								
KURK	**Kurchatov**	**37.11**	**49**	P	**P**		**09 29 25.3**	**+0.2**	
MKAR	**Makanchi Array**	**39.13**	**55**	P	**P**		**09 29 42.6**	**+0.4**	
	comp=Z,0.5nm,0.9s,baz=266,slow=5.8,SNR=4.5								
	comp=Z,0.5nm,0.9s								
MKAR	**Makanchi Array**	**39.13**	**55**	P	**P**		**09 29 41.2**	**-1.1**	
MKAR	**Makanchi Array**	**39.13**	**55**	P	**P**		**09 29 41.2**	**-1.1**	
NRIK	**Noril'sk**	**46.60**	**23**	P	**P**		**09 30 43.0**	**+0.5**	
	comp=Z,2.3nm,0.5s,baz=250,slow=6.4,SNR=5.4								
	comp=Z,2.3nm,0.5s								
NRIK	**Noril'sk**	**46.60**	**23**	P	**P**		**09 30 42.4**	**-0.1**	
NRIK				IAmb	IAmb		09 31 05.3		
	comp=Z,13nm,1.5s								
NRIK	**Noril'sk**	**46.60**	**23**	P	**P**		**09 30 43.0**	**+0.5**	
MOY	**Mondy**	**51.15**	**48**	*e*P	**P**		**09 31 16.2**	**-1.6**	
MOY				pmax	pmax				
	comp=Z,41nm,2.1s								
GTA	**Gaotai**	**52.77**	**63**	*e*P	P		09 31 16.5	-14	
GTA				pP	pP		09 31 23.7	-12	
GTA				sP	sP		09 31 28.0	-10	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
NRS	**Narsarsuaq**	**55.91**	**325**	P	**P**		**09 31 50.9**	**-1.5**	
NRS	**Narsarsuaq**	**55.91**	**325**	P	**P**		**09 31 50.9**	**-1.5**	

A36M	**Sachs Harbour**	**73.69**	**353**	P	**P**		**09 33 48.5**	**+0.4**	
A36M				IAmb	IAmb		09 34 01.2		
	comp=Z,6.8nm,0.9s								
BMAR	**Burnt Mountain**	**79.34**	**359**	P	**P**		**09 34 21.1**	**+0.9**	
YKA	**Yellowknife Ar**	**80.87**	**346**	P	**P**		**09 34 27.6**	**-0.8**	
	comp=Z,0.2nm,0.7s,baz=34,slow=5.4,SNR=2.0								
	comp=Z,0.2nm,0.7s								
H21K	**Melozitna Rive**	**81.02**	**3**	P	**P**		**09 34 29.3**	**0.0**	
H21K				IAmb	IAmb		09 34 49.8		
	comp=Z,3.6nm,1.1s								
MLY	**Manley**	**81.71**	**2**	P	**P**		**09 34 33.2**	**+0.2**	
MLY				IAmb	IAmb		09 34 39.5		
	comp=Z,5.5nm,1.4s								

*DJA **08** 09:25:43.3±0.5,8˚S±4˚×12˚9E±˚, h199km±13km, M4.9/9, mb4.8/7, mB5.4/5, MLv5.0/9, Mw(mB)4.8/5*
*IDC **08** 09:25:43.6±1.4, 7˚43S×128˚35E, h155km±14km, mb3.8/15, mbtmp4.4/18, Error ellipse: s-maj=13.4km s-min=9.6km az=95.0*
*NEIC **08** 09:25:45.0±2.0, 7˚50S±0˚07×128˚41E±0˚06, h158km±7km, mb4.6/26, Error ellipse: s-maj=10.8km s-min=7.0km az=148.0*

ISC 08 09:25:43.7±0.4,**7˚55S**±0˚04×**128˚45E**±0˚05,**h151**km,**n112,** σ1ᵎ**76**/117,**mb4.2**/27,**1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.85**	**99**			**Pn**	**09 26 31.3**	**+2.1**
SAUI	**Saumlaki**	**2.85**	**99**	P		**Pn**	**09 26 30.9**	**+1.7**
SAUI				S		**Sn**	**09 27 07.3**	**+2.9**
NLAI	**Namlea**	**4.49**	**342**	P		**Pn**	**09 26 53.0**	**+2.5**
SOEI	**Soe**	**4.68**	**242**	Pn		**Pn**	**09 26 54.1**	**+1.1**
SOEI	**Soe**	**4.68**	**242**	P		**Pn**	**09 26 54.4**	**+1.4**
SOEI	**Soe**	**4.68**	**242**	P		**Pn**	**09 26 54.2**	**+1.1**
BATI	**Baumata**	**5.42**	**241**	P		**Pn**	**09 27 03.5**	**+0.8**
	818nm,0.5s,baz=102,slow=2.8,SNR=96							
BATI				S		**Sn**	**09 28 04.0**	**-0.4**
	430nm,0.4s,baz=156,slow=12,SNR=16							
BATI	**Baumata**	**5.42**	**241**	P		**Pn**	**09 27 03.5**	**+0.8**
	954nm,0.5s,15µm4.6nm							
MTN	**Manton Dam**	**5.88**	**154**	Pn		**Pn**	**09 27 09.3**	**+0.5**
MTN	**Manton Dam**	**5.88**	**154**	P		**Pn**	**09 27 09.1**	**+0.3**
FAKI	**Fak Fak**	**5.96**	**40**	Pn		**Pn**	**09 27 08.4**	**-1.4**
FAKI	**Fak Fak**	**5.96**	**40**	P		**Pn**	**09 27 08.7**	**-1.2**
FAKI	**Fak Fak**	**5.96**	**40**	P		**Pn**	**09 27 08.5**	**-1.4**
	61nm,0.6s,2µm0.5nm							
SANI	**Sanana**	**6.00**	**336**	P		**Pn**	**09 27 11.7**	**+1.3**
SANI	**Sanana**	**6.00**	**336**	P		**Pn**	**09 27 10.4**	**0.0**
	60nm,1.1s,0.3nm							
MMRI	**Maumere**	**6.25**	**260**	Pn		**Pn**	**09 27 12.5**	**-1.2**
KDU	**Kakadu**	**6.46**	**143**	P		**Pn**	**09 27 16.6**	**+0.1**
SIJI	**Sorong**	**7.21**	**23**	P		**Pn**	**09 27 26.1**	**-0.5**
	65nm,0.3s,baz=52,slow=19,SNR=64							
SIJI				S		**Sn**	**09 28 44.8**	**-2.5**
	17nm,0.3s,baz=191,slow=22,SNR=6.4							
KNRA	**Kununurra**	**8.08**	**178**	Pn		**Pn**	**09 27 37.6**	**-0.5**
KNRA	**Kununurra**	**8.08**	**178**	P		**Pn**	**09 27 37.6**	**-0.5**
RKPI	**Ransiki, Papua**	**8.28**	**44**	P		**Pn**	**09 27 39.7**	**-1.2**
LUWI	**Luwuk**	**8.60**	**319**	Pn		**Pn**	**09 27 47.0**	**+1.9**
PLAI	**Plampang**	**10.64**	**262**	P		**Pn**	**09 28 13.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**10.83**	**194**			**Pn**	**09 28 13.5**	**-1.2**
TOLI2	**Tolitoli**	**11.52**	**318**	Pn		**Pn**	**09 28 25.8**	**+2.1**
WB0	**Warramunga Arr**	**13.44**	**155**	Pn		**Pn**	**09 28 45.8**	**-2.7**
WRAB	**Tennant Creek**	**13.57**	**156**			**Pn**	**09 28 47.4**	**-2.7**
WRA	**Warramunga Arr**	**13.57**	**156**	P		**Pn**	**09 28 47.7**	**-2.5**
	22nm,0.5s,baz=327,slow=14,SNR=112							
WRA				S		**Sn**	**09 31 13.6**	**-7.1**
	68nm,0.8s,baz=324,slow=24,SNR=12							
WRA	**Warramunga Arr**	**13.57**	**156**			**Pn**	**09 28 47.0**	**-3.3**
WB2	**Warramunga Arr**	**13.58**	**156**	Pn		**Pn**	**09 28 47.8**	**-2.5**
WR0	**Warramunga Arr**	**13.67**	**155**			**Pn**	**09 28 48.6**	**-2.8**
JAGI	**Jajag, Banyuwa**	**14.19**	**265**	Pn		**Pn**	**09 28 58.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**14.19**	**265**	P		**Pn**	**09 28 58.9**	**+0.8**
	19nm,0.8s							
COEN	**Coen**	**15.79**	**115**	P		**Pn**	**09 29 19.3**	**+0.6**
COEN				IAmb	IAmb		09 29 20.8	
	comp=Z,65nm,1.4s							
COEN	**Coen**	**15.79**	**115**	P		**Pn**	**09 29 17.6**	**-0.4**
MBWA	**Marble Bar**	**15.94**	**211**	P		**Pn**	**09 29 19.1**	**-0.5**
MBWA				IAmb	IAmb		09 29 55.4	
	comp=Z,33nm,1.4s							
MBWA	**Marble Bar**	**15.94**	**211**	P		**P**	**09 29 22.3**	**+2.1**
MYLDM	**Lahad Datu**	**16.08**	**322**	P		**P**	**09 29 24.0**	**+2.1**
MYLDM				IAmb	IAmb		09 29 56.3	
	comp=Z,38nm,1.0s							
QIS	**Mount Isa**	**16.84**	**141**	P		**Pn**	**09 29 30.9**	**+0.2**
AS31	**Alice Springs**	**16.85**	**163**	P		**Pn**	**09 29 30.9**	**+0.1**
AS31				IAmb	IAmb		09 29 59.2	
	comp=Z,9.7nm,0.7s							
ASAR	**Alice Springs**	**16.85**	**163**	P		**Pn**	**09 29 30.7**	**-0.2**
	comp=Z,17nm,0.6s,baz=342,slow=11,SNR=154							
ASAR				S		**S**	**09 32 31.6**	**-6.6**
	comp=Z,3.0nm,0.5s,baz=336,slow=19,SNR=4.8							
ASAR	**Alice Springs**	**16.85**	**163**			**Pn**	**09 29 31.5**	**+0.7**
WRKA	**Warakurna**	**17.39**	**180**	P		**Pn**	**09 29 38.1**	**+0.9**
UGM	**Wanagama**	**17.77**	**268**	P		**P**	**09 29 38.7**	**-1.8**
PMG	**Port Moresby**	**18.59**	**97**	P		**Pn**	**09 29 51.3**	**-0.3**
	comp=Z,43nm,0.8s,baz=291,slow=7.6,SNR=11							
PMG	**Port Moresby**	**18.59**	**97**	P		**Pn**	**09 29 52.4**	**+0.9**
PMG				IAmb	IAmb		09 29 54.7	
	comp=Z,43nm,0.8s							
MTSU	**Mount Surprise**	**18.68**	**126**	P		**Pn**	**09 29 52.2**	**-0.4**
SBUM	**Sibu**	**19.00**	**301**	P		**P**	**09 29 54.8**	**+0.8**
SBUM				IAmb	IAmb		09 29 57.2	
	comp=Z,26nm,0.8s							
GIRL	**Giralia**	**20.31**	**221**	P		**P**	**09 30 08.0**	**+0.1**
MEEK	**Meekatharra**	**21.16**	**205**	P		**P**	**09 30 17.5**	**+0.5**
OOD	**Oodnadatta**	**21.27**	**162**	P		**P**	**09 30 18.7**	**+0.6**
CTA	**Charters Tower**	**21.28**	**128**	P		**P**	**09 30 19.6**	**+1.3**
	comp=Z,8.3nm,0.7s,baz=296,slow=10,SNR=14							
	comp=Z,8.3nm,0.7s							
CTAO	**Charters Tower**	**21.28**	**128**			**P**	**09 30 19.2**	**+0.8**
CTAO				IAmb	IAmb		09 31 00.6	
	comp=Z,33nm,1.4s							
CTAO	**Charters Tower**	**21.28**	**128**	P		**P**	**09 30 18.9**	**+0.5**
FORT	**Forrest**	**23.11**	**181**	P		**P**	**09 30 37.3**	**+0.9**
FORT	**Forrest**	**23.11**	**181**	P		**P**	**09 30 37.1**	**+0.8**
INKA	**Innaminka**	**23.21**	**151**	P		**P**	**09 30 38.7**	**+1.4**
MULG	**Mulgathing**	**23.21**	**168**	P		**P**	**09 30 38.3**	**+1.0**
QLP	**Quilpie**	**24.15**	**143**	P		**P**	**09 30 47.6**	**+1.7**
MORW	**Morawa**	**24.39**	**207**	P		**P**	**09 30 49.6**	**+1.6**
MORW				IAmb	IAmb		09 31 09.7	
	comp=Z,27nm,1.4s							
MORW	**Morawa**	**24.39**	**207**	P		**P**	**09 30 49.7**	**+1.6**
KMBL	**Kambalda**	**24.47**	**194**	P		**P**	**09 30 49.1**	**+0.3**
	comp=Z,22nm,0.8s							
LCRK	**Leigh Creek**	**24.55**	**159**	P		**P**	**09 30 50.6**	**+1.2**
BLDU	**Ballidu**	**25.44**	**204**	P		**P**	**09 31 00.6**	**+3.0**
BBOO	**Buckleboo**	**26.10**	**165**	P		**P**	**09 31 04.0**	**+0.5**
BBOO				IAmb	IAmb		09 31 04.9	
	comp=Z,15nm,0.7s							
BBOO	**Buckleboo**	**26.10**	**165**	P		**P**	**09 31 04.3**	**+0.8**
STKA	**Stephens Creek**	**27.12**	**155**	P		**P**	**09 31 13.4**	**+0.8**
	comp=Z,12nm,0.5s,baz=329,slow=9.3,SNR=52							
	comp=Z,12nm,0.5s							
STKA	**Stephens Creek**	**27.12**	**155**	P		**P**	**09 31 13.4**	**+0.8**
STKA	**Stephens Creek**	**27.12**	**155**	P		**P**	**09 31 13.5**	**+0.8**
NWAO	**Narrogin (SRO)**	**27.31**	**201**	P		**P**	**09 31 14.3**	**0.0**
	comp=Z,2.0nm,0.4s							
	comp=Z,2.0nm,0.4s							
NWAO	**Narrogin (SRO)**	**27.31**	**201**	P		**P**	**09 31 15.2**	**+1.0**
NWAO				IAmb	IAmb		09 31 56.2	
	comp=Z,24nm,1.4s							
NWAO	**Narrogin (SRO)**	**27.31**	**201**	P		**P**	**09 31 15.8**	**+1.5**
	comp=Z,17nm,1.3s							
HTT	**Hallett**	**27.51**	**161**	P		**P**	**09 31 17.8**	**+1.6**
CMSA	**Cobar Meteorol**	**28.78**	**148**	P		**P**	**09 31 28.7**	**+1.4**
ARPS	**Mount Arapiles**	**31.54**	**159**	P		**P**	**09 31 53.4**	**+1.8**
CAN	**Canberra**	**33.45**	**149**	P		**P**	**09 32 10.0**	**+1.6**
CAN				IAmb	IAmb		09 32 25.8	
	comp=Z,16nm,1.1s							
CAN	**Canberra**	**33.45**	**149**	P		**P**	**09 32 09.2**	**+0.8**
TOO	**Toolangi**	**33.65**	**155**	P		**P**	**09 32 12.3**	**+2.3**
TOO				IAmb	IAmb		09 32 45.5	
	comp=Z,19nm,1.3s							
TOO	**Toolangi**	**33.65**	**155**	P		**P**	**09 32 12.6**	**+2.6**
OUENC	**Ouen Island, N**	**39.77**	**116**	P		**P**	**09 33 02.7**	**+0.7**
NJ2	**Nanjing**	**40.44**	**347**	*e*P		**P**	**09 33 09.6**	**+2.3**
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
TNCH	**TengChong**	**43.57**	**319**	*e*P		**P**	**09 33 35.3**	**+2.2**
KSRS	**Korea Array**	**44.77**	**359**	P		**P**	**09 33 40.7**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=181,slow=8.8,SNR=2.2							
	comp=Z,0.5nm,0.5s							
MJAR	**Matsushiro Arr**	**44.81**	**11**	P		**P**	**09 33 40.3**	**-2.3**
	comp=Z,3.0nm,1.0s,baz=176,slow=8.8,SNR=3.3							
	comp=Z,3.0nm,1.0s							
XAN	**Xi'an**	**45.32**	**337**	P		**P**	**09 33 41.9**	**-4.8**
XAN				pP		P	09 33 47.5	+0.8
XAN				pmax	pmax			
	comp=Z,8.0nm,1.5s							
HHC	**Hu-ho-hao-te**	**50.61**	**343**	*e*P		**P**	**09 34 29.6**	**+2.3**
HHC				pmax	pmax			
	comp=Z,15nm,0.9s							
HHC				pmax	pmax			
	comp=Z,450nm,5.7s							
WHZ	**Wether Hill Ro**	**51.11**	**145**	P		**P**	**09 34 31.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**51.61**	**3**	P		**P**	**09 34 33.1**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=178,slow=6.5,SNR=4.7							
	comp=Z,1.6nm,0.6s							
USRK	**Ussuriysk Ar.**	**51.61**	**3**	P		**P**	**09 34 35.0**	**+0.5**
RPZ	**Rata Peaks**	**51.75**	**141**	P		**P**	**09 34 36.3**	**+0.6**
RPZ				IAmb	IAmb		09 34 37.9	
	comp=Z,17nm,0.8s							
GTA	**Gaotai**	**53.73**	**333**	*e*P		**P**	**09 34 48.8**	**-1.6**
GTA				pP	pP		09 35 26.4	+2.4
GTA				sP	sP		09 35 43.9	+3.8
GTA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SONM	**Songino Array**	**58.49**	**343**	P		**P**	**09 35 23.5**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=166,slow=8.1,SNR=4.6							
	comp=Z,1.1nm,0.7s							
SONM	**Songino Array**	**58.49**	**343**	P		**P**	**09 35 23.8**	**-0.3**
WMQ	**Urumqi**	**63.03**	**328**	*e*P		**P**	**09 35 57.1**	**+2.3**
PEA0B	**Petropavlovsk-**	**65.33**	**19**	P		**P**	**09 36 09.0**	**-0.5**
PETK	**Petropavlovsk-**	**65.33**	**19**	P		**P**	**09 36 08.6**	**-0.9**
	comp=Z,4.5nm,0.6s,baz=194,slow=4.1,SNR=11							
	comp=Z,4.5nm,0.6s							
MK31	**Makanchi Array**	**67.86**	**328**	P		**P**	**09 36 24.8**	**-0.9**
MKAR	**Makanchi Array**	**67.86**	**328**	P		**P**	**09 36 24.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=111,slow=7.9,SNR=15							
	comp=Z,0.6nm,0.3s							
ZALV	**Zalesovo Beam**	**71.41**	**335**	P		**P**	**09 36 45.4**	**-1.8**
	comp=Z,1.2nm,0.4s,baz=153,slow=5.2,SNR=7.1							
	comp=Z,1.2nm,0.4s							
ZALV	**Zalesovo Beam**	**71.41**	**335**	P		**P**	**09 36 45.1**	**-2.1**
VNDA	**Vanda**	**72.09**	**173**	P		**P**	**09 36 51.3**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=317,slow=7.5,SNR=14							
	comp=Z,1.5nm,0.6s							
VNDA	**Vanda**	**72.09**	**173**	P		**P**	**09 36 51.8**	**+0.9**
KURBB	**Kurchatov Arra**	**72.19**	**329**	P		**P**	**09 36 50.7**	**-1.3**
	comp=Z,2.1nm,0.4s,ba

FDF				*e*S		**Sn**	09 53 20.4	-1.3
PML	**Morne Lenard**	4.03	14	*e*P		**Pn**	09 52 37.1	+0.5
GBMF	**Grand Be**	4.05	14	*e*P		**Pn**	09 52 37.6	+0.7
PCM	**Pelee Case Pet**	4.05	13	*e*P		**Pn**	09 52 37.4	+0.5
ILAM	**Ilet Lapin Mar**	4.10	18	*e*P		**Pn**	09 52 38.7	+1.1
ILAM				*e*S		**Sn**	09 53 21.6	-2.8
MERV	**Las Mercedes**	4.35	249	*e*P		**Pn**	09 52 40.1	-0.9
FUNV	**FUNVISIS**	4.56	266	*e*P		**Pn**	09 52 44.4	+0.4
MDCT	**Cottage Hill,**	4.79	8	*e*P		**Pn**	09 52 47.9	+0.9
MDCT	**Cottage Hill,**	4.79	8	*e*S		**Sn**	09 53 38.7	-2.5
TACV	**Tcata**	4.82	262⇑	*e*P		**Pn**	09 52 46.9	-0.5
MAGL	**Barre de l'ile**	5.14	10	*e*P		**Pn**	09 52 53.4	+1.6
MAGL	**Barre de l'ile**	5.14	10	*e*S		**Sn**	09 53 47.5	-2.3
CBE	**Ff, Capester**	5.22	6	*e*P		**Pn**	09 52 53.8	+1.0
CBE	**Ff, Capester**	5.22	6	*e*S		**Sn**	09 53 49.5	-2.2
CACV	**CAICARA DEL OR**	5.40	233	*e*P		Pn	09 52 48.4	-6.8
BENV	**Beln**	5.40	261	*e*P		**Pn**	09 52 55.4	0.0
TURV	**Turiamo**	5.58	266	*e*P		**Pn**	09 52 57.2	-0.4
ABD	**La Joyeuse, An**	5.63	7	*e*P		**Pn**	09 52 59.7	+1.3
ABD	**La Joyeuse, An**	5.63	7	*e*S		**Sn**	09 53 58.7	-3.0
BAUV	**El Baul**	6.08	252	*e*P		**Pn**	09 53 03.2	-1.3
BAUV				*e*S		**Sn**	09 54 08.3	-4.4
BAUV	**El Baul**	6.08	252	*e*P		**Pn**	09 53 03.4	-1.1
ANBD	**Bethesda, Anti**	6.17	4	*e*P		**Pn**	09 53 07.6	+1.8
ANBD	**Bethesda, Anti**	6.17	4	*e*S		**Sn**	09 54 12.9	-2.1
MAPV	**Macapo**	6.26	261⇓	*i*P		**Pn**	09 53 05.1	-1.9
ANWB	**Willy Bob**	6.79	3	*e*P		**Pn**	09 53 14.3	+0.1
CDVI	**St. Croix**	7.30	340	*e*P		**Pn**	09 53 21.3	+0.1
SIQV	**Siquisique**	7.50	269	*e*P		**Pn**	09 53 23.1	-0.9
CURV	**Curarigua**	7.70	265	*e*P		**Pn**	09 53 25.9	-0.8
SDV	**Santo Domingo**	8.55	258	*e*P		Pn	09 53 36.1	-2.3
BOAV	**Boa Vista**	8.56	169	*e*P		Pn	09 53 34.6	-3.9
SOCV	**Socops**	8.93	254⇑	*i*P		**Pn**	09 53 41.5	-2.0
CAPV	**Capacho**	10.43	254	*e*P		Pn	09 54 01.9	-2.3
TAMC	**Tame, Arauca**	10.46	246	*e*P		Pn	09 54 02.2	-2.2
BARC	**Barichara**	11.67	250	*e*P		**Pn**	**09 54 21.3**	**+0.3**
RUSC	**La Rusia**	11.86	246	*e*P		**Pn**	**09 54 21.7**	**-2.1**
SGCB	**SEo Gabriel d**	11.92	204	*e*P		Pn	09 54 21.2	-3.0
SJCC	**San Jacinto, C**	12.82	267	*e*P		Pn	09 54 34.3	-2.1
PTBC	**PUERTO BERRIO,**	12.87	252	*e*P		Pn	09 54 32.6	-4.4
ZARC	**Zaragoza, Cauc**	12.95	256	*e*P		Pn	09 54 34.9	-3.2
CHIC	**Chingaza**	13.00	243	*e*P		Pn	09 54 35.7	-3.5
ROSC	**El Rosal**	13.42	245	*e*P		**Pn**	**09 54 45.7**	**+1.0**
UREC	**San Jos de Ur**	13.53	258	*e*P		Pn	09 54 41.7	-4.1
GUY2C	**Guyana, Caldas**	14.20	248	*e*P		Pn	09 54 52.6	-2.3
DBBC	**Dabeiba**	14.37	256⇓	*e*P		**Pn**	**09 54 55.4**	**-1.4**
MACC	**Macarena, Meta**	14.45	234	*e*P		**P**	**09 55 02.8**	**+0.6**
CBOC	**Ciudad Bolivar**	14.55	251	*e*P		**Pn**	**09 55 01.3**	**+2.1**
ORTC	**Ortega, Tolima**	14.67	243	*e*P		**Pn**	**09 54 58.9**	**-1.8**
MALB	**Monte Alegre**	14.88	148	*e*P		Pn	09 54 58.2	-5.0
MCPB	**Macapa, AP**	15.01	137	*e*P		Pn	09 55 00.5	-4.5
PLMC	**San Jos del P**	15.16	248	*e*P		**Pn**	**09 55 08.0**	**+1.0**
FLOC	**Florencia**	16.24	236	*e*P		**Pn**	**09 55 20.9**	**+0.4**
ITTB	**Itaituba**	16.42	157	*e*P		**Pn**	**09 55 20.5**	**-2.2**
TBTG	**Tabatinga, AM**	16.80	208	*e*P		**Pn**	**09 55 27.1**	**-0.3**
NPGB	**Novo Progresso**	19.03	159	*e*P		**P**	**09 55 52.2**	**-0.6**
TMAB	**Tom-Au,PA,Br**	19.21	132	*e*P		**P**	**09 55 53.7**	**-1.0**
PRPB	**Parauapebas**	20.92	143	*e*P		**P**	**09 56 12.4**	**-0.8**
ETMB	**Extrema**	20.92	191	*e*P		**P**	**09 56 13.7**	**+0.4**
CZSB	**Cruzeiro do Su**	21.22	210	*e*P		**P**	**09 56 16.7**	**+0.2**
HDC	**Heredia**	21.59	270	*e*P		**P**	**09 56 22.3**	**+1.8**
ROSB	**Rosrio**	22.57	126	*e*P		**P**	**09 56 29.2**	**-1.7**
VILB	**Vilhena**	23.73	175	*e*P		**P**	**09 56 42.4**	**+0.4**
SMTB	**Santa Maria do**	24.38	143	*e*P		**P**	**09 56 48.0**	**+0.1**
SNDB	**Serra Nova Dou**	25.12	154	*e*P		**P**	**09 56 55.4**	**+0.8**
PTLB	**Pontes e Lacer**	26.30	173	*e*P		**P**	**09 57 06.3**	**+1.1**
BBSD	**Serra de San D**	27.90	177	*e*P		**P**	**09 57 16.7**	**-2.8**
BBRB	**Robore, Bolivi**	29.04	175	*e*P		**P**	**09 57 30.5**	**+0.8**
PCMB	**Pacaembu**	33.99	162	*e*P		**P**	**09 58 13.7**	**+0.5**
GUA01	**Guaratinga, BA**	35.11	141	*e*P		**P**	**09 58 23.0**	**+0.1**
PLCA	**Paso Flores**	51.90	188	*e*P		**P**	**10 00 38.4**	**+0.9**

*MDD **08** 10:13:23.6±1.8,36°.39N×11°.17W,h32km±44km, mb_Lg2.5/7, Error ellipse: s-maj=27.8km s-min=8.8km az=50.0*
*INMG **08** 10:13:24.5±1.3,36°.39N×11°.15W,h31km, ML1.9, Error ellipse: s-maj=6.6km s-min=4.1km az=85.0*
*CNRM **08** 10:13:25.2,36°.34N×10°.76W,h52km, ml1.9*

ISC 08 10:13:22.9±1.9,36°.41N±0°.05×11°.07W±0°.09,h35km,n43, σ1s47/75,2C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.94**	**68**	*i*Pn	**Pn**	**10 13 54.5**	**+1.2**
PFVI				*e*Sn	**Sn**	**10 14 16.6**	**+0.2**
PFVI				A	A	10 14 17.6	
	6.0nm,0.4s						
PFVI	**Vila Bisbo**	**1.94**	**68**	P	**Pn**	**10 13 54.6**	**+1.3**
PFVI				S	**Sn**	**10 14 13.9**	**-2.6**
PFVI	**Vila Bisbo**	**1.94**	**68**	S	**Sn**	**10 14 15.9**	**-0.6**
PFVI				P	**Pn**	**10 13 54.5**	**+1.2**
MORF	**Marmelete**	**2.13**	**65**	*e*P	**Pn**	**10 13 57.2**	**+1.2**
MORF				*e*S	**Sn**	**10 14 21.4**	**+0.1**
MORF				IAML		10 14 24.7	
	comp=N,8.5nm,0.2s						
MORF	**Marmelete**	**2.13**	**65⇑**	*e*Pn	**Pn**	**10 13 57.3**	**+1.2**
MORF				*e*Sn	**Sn**	**10 14 21.5**	**+0.2**
MORF				A	A	10 14 28.7	
	comp=N,4.0nm,0.3s						
PTEO	**Sao Teotonio**	**2.19**	**58**	*e*Pn	**Pn**	**10 13 58.1**	**+1.3**
PTEO				*e*Sn	**Sn**	**10 14 23.3**	**+0.6**
PTEO				A	A	10 14 24.0	
	comp=N,4.7nm,0.8s						
PNCL	**Nicolau / Gran**	**2.64**	**49**	*e*Pn	**Pn**	**10 14 04.7**	**+1.7**
PNCL				*e*Sn	**Sn**	**10 14 34.2**	**+0.4**
PNCL				A	A	10 14 37.3	
	comp=N,3.2nm,0.1s						
PNCL	**Nicolau / Gran**	**2.64**	**49**	S	**Sn**	**10 14 33.1**	**-0.7**
PNCL				P	**Pn**	**10 14 05.4**	**+2.4**
PCVE	**Castro Verde**	**2.71**	**62**	*e*Pn	**Pn**	**10 14 05.5**	**+1.5**
PCVE				*e*Sn	**Sn**	**10 14 35.9**	**+0.4**
PCVE				A	A	10 14 44.8	
	comp=N,2.1nm,1.0s						
PCVE	**Castro Verde**	**2.71**	**62**	P	**Pn**	**10 14 06.3**	**+2.4**
PCVE				S	**Sn**	**10 14 35.6**	**+0.1**
PVAQ	**Vaqueiros**	**2.86**	**69**	*e*Pn	**Pn**	**10 14 07.5**	**+1.5**
PVAQ				*e*Sn	**Sn**	**10 14 38.8**	**-0.4**
PVAQ				A	A	10 14 43.3	
	comp=N,2.3nm,0.3s						
PVAQ	**Vaqueiros**	**2.86**	**69**	P	**Pn**	**10 14 05.0**	**-1.1**
PVAQ				S	**Sn**	**10 14 37.0**	**-2.3**
PVAQ	**Vaqueiros**	**2.86**	**69**	P	**Pn**	**10 14 07.3**	**+1.3**
PVAQ				S	**Sn**	**10 14 37.7**	**-1.5**
PMAFR	**Mafra**	**2.91**	**29**	*e*Pn	**Pn**	**10 14 07.1**	**+0.5**
PMAFR				*e*Sn	**Sn**	**10 14 39.8**	**-0.5**
PMAFR				A	A	10 14 44.4	
	comp=N,8.7nm,0.4s						
EGRO	**El Granado**	**3.08**	**68**	S	**Sn**	**10 14 42.7**	**-1.9**
EGRO				P	**Pn**	**10 14 10.3**	**+1.2**
EGRO	**El Granado**	**3.08**	**68**	P	**Pn**	**10 14 10.5**	**+1.5**
EGRO				S	**Sn**	**10 14 44.9**	**+0.3**
EGRO				*i* Vmb_Lg		10 14 46.4	
EVO	**Evora**	**3.22**	**48**	*e*Sn	**Sn**	**10 14 48.4**	**+0.3**
EVO				A	A	10 14 52.0	
	comp=N,4.9nm,0.3s						
EVO	**Evora**	**3.22**	**48**	S	**Sn**	**10 14 47.2**	**-0.9**
PMTG	**Montargil**	**3.48**	**40**	*e*Pn	**Pn**	**10 14 14.9**	**+0.4**
PMTG				*e*Sn	**Sn**	**10 14 53.8**	**-0.6**
PMTG				A	A	10 14 57.5	
	comp=N,2.3nm,0.1s						
PSBE	**So Bento**	**3.58**	**29**	*e*Pn	**Pn**	**10 14 16.7**	**+0.8**
PSBE				*e*Sn	**Sn**	**10 14 57.3**	**+0.3**
PSBE				A	A	10 14 57.6	
	comp=N,2.7nm,0.7s						
PBAR	**Barrancos**	**3.66**	**60**	*e*Sn	**Sn**	**10 14 58.4**	**-0.6**
PBAR				A	A	10 15 01.1	
	comp=N,1.1nm,0.3s						
PBAR	**Barrancos**	**3.66**	**60**	S	**Sn**	**10 14 58.1**	**-0.9**
PESTR	**Estremoz**	**3.69**	**47**	*e*Sn	**Sn**	**10 14 59.4**	**-0.3**
PESTR				A	A	10 15 01.6	
	comp=N,1.4nm,0.8s						
PESTR	**Estremoz**	**3.69**	**47**	P	**Pn**	**10 14 16.3**	**-1.2**
PESTR				S	**Sn**	**10 14 59.5**	**-0.2**
EMIN	**Mina Concepcio**	**3.77**	**68**	P	**Pn**	**10 14 19.9**	**+1.4**
EMIN				S	**Sn**	**10 15 01.2**	**-0.3**
EBAD	**Badajoz**	**3.98**	**53**	S	**Sn**	**10 15 05.8**	**-1.0**
EBAD	**Badajoz**	**3.98**	**53**	P	**Pn**	**10 14 22.5**	**+1.1**
EBAD				S	**Sn**	**10 15 06.8**	**0.0**
EBAD				*i* Vmb_Lg		10 15 08.6	
PCAS	**Casmilo, Conde**	**4.16**	**28**	*e*Pn	**Pn**	**10 14 24.7**	**+0.8**
PCAS				*e*Sn	**Sn**	**10 15 09.9**	**-1.3**
PCAS				A	A	10 15 32.5	
	comp=N,1.5nm,0.6s						
PMRV	**Marv??o**	**4.18**	**43**	*e*Pn	**Pn**	**10 14 24.9**	**+0.7**
PMRV				*e*Sn	**Sn**	**10 15 10.4**	**-1.5**
PMRV				A	A	10 15 12.8	
	comp=N,2.0nm,0.2s						
ESPR	**Espera**	**4.22**	**82**	P	**Pn**	**10 14 26.3**	**+1.7**
ESPR				S	**Sn**	**10 15 12.5**	**-0.2**
ESPR				*i* Vmb_Lg		10 15 13.9	
PCBR	**Castelo Branco**	**4.44**	**39**	*e*Sn	**Sn**	**10 15 17.3**	**-0.8**
ECAB	**El Cabril**	**4.80**	**68**	P	**Pn**	**10 14 33.9**	**+1.2**
ECAB				S	**Sn**	**10 15 25.4**	**-1.8**
ECAB				*i* Vmb_Lg		10 15 27.2	
EAH	**EAH**	**4.91**	**165**	P	**Pn**	**10 14 33.6**	**-0.6**
EAH				S	**Sn**	**10 15 29.2**	**-0.7**
PVIS	**Viseu**	**4.96**	**29**	*e*Sn	**Sn**	**10 15 29.1**	**-2.0**
EPLA	**Plasencia**	**5.36**	**46**	P	**Pn**	**10 14 43.2**	**+2.9**
EPLA				*i* Vmb_Lg		10 15 40.7	
EADA	**Adamuz**	**5.46**	**69**	P	**Pn**	**10 14 43.4**	**+1.6**
EADA				S	**Sn**	**10 15 43.0**	**-0.4**
EADA				*i* Vmb_Lg		10 15 44.6	
MVO	**Moncorvo**	**5.70**	**32**	*e*Sn	**Sn**	**10 15 47.0**	**-2.2**
OUK	**Oukaimeden**	**5.84**	**152**	P	**Pn**	**10 14 47.8**	**+0.5**
OUK				S	**Sn**	**10 15 50.2**	**-3.0**
ELOB	**Lobios**	**5.92**	**22**	P	**Pn**	**10 14 48.3**	**+0.1**
ELOB				S	**Sn**	**10 15 51.9**	**-3.0**
ELOB				*i* Vmb_Lg		10 15 52.6	
PGAV	**Gavieira, Arco**	**5.95**	**21**	*e*Sn	**Sn**	**10 15 52.1**	**-3.5**
MD31	**MD31**	**6.29**	**122**	P	**Pn**	**10 14 53.4**	**+0.1**
MD31				S	**Sn**	**10 15 59.8**	**-4.1**
MDT	**Midelt**	**6.42**	**122**	P	**Pn**	**10 14 55.2**	**+0.1**
MDT				S	**Sn**	**10 16 04.1**	**-3.1**
OUZM	**OUZ**	**6.56**	**146**	P	**Pn**	**10 14 57.5**	**+0.5**
OUZM				S	**Sn**	**10 16 09.3**	**-1.3**

*NOU **08** 10:14:36.6,39°.74S×174°.74E,h145km, MLv3.7/10, North Island, New Zealand*
*WEL **08** 10:14:39.5±0.7,40°.S±4°.×17°.5E±°,h108km±7km, M3.3/68, ML3.2/30, MLv3.3/68, Error ellipse: s-maj=0.0km s-min=0.0km az=121.9, confirmed*

ISC 08 10:14:36.4±1.5,39°.78S±0°.04×174°.76E±0°.04,h138km±8km, n132,σ0s93/139,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.18**	**82**	P	**Pn**	**10 14 56.0**	**+0.8**
WAZ				S	**Sn**	**10 15 08.4**	**-1.1**
LREZ	**Lake Rotokare**	**0.42**	**319**	P	**Pn**	**10 14 57.2**	**+1.2**
LREZ				S	**Sn**	**10 15 10.4**	**-0.4**
VRZ	**Vera Road**	**0.66**	**0**	P	**Pn**	**10 14 57.9**	**+0.6**
PKVZ	**Pokaka**	**0.67**	**43**	P	**Pn**	**10 14 57.9**	**+0.4**
MTVZ	**Mangateitei**	**0.68**	**55**	P	**Pn**	**10 14 58.0**	**+0.4**
NEZ	**North Egmont**	**0.72**	**315**	P	**Pn**	**10 14 58.9**	**+1.0**
NEZ				S	**Sn**	**10 15 13.2**	**-1.0**
DREZ	**Durham Road**	**0.73**	**324**	P	**Pn**	**10 14 58.8**	**+0.9**
DREZ				S	**Sn**	**10 15 12.8**	**-1.3**
KHEZ	**Kahui Hut**	**0.75**	**310**	P	**Pn**	**10 14 59.0**	**+0.9**
KHEZ	**Kahui Hut**	**0.75**	**310**	P	**Pn**	**10 14 59.1**	**+0.9**
NMEZ	**Namu Road**	**0.77**	**298**	P	**Pn**	**10 14 59.0**	**+0.9**
NMEZ				S	**Sn**	**10 15 14.0**	**-0.6**
TRVZ	**Turoa**	**0.78**	**52**	P	**Pn**	**10 14 59.0**	**+0.4**
WNVZ	**Wahianoa**	**0.79**	**55**	P	**Pn**	**10 14 59.0**	**+0.4**
DRZ	**Dome Shelter**	**0.80**	**51**	P	**Pn**	**10 14 59.3**	**+0.5**
FWVZ	**Far West T-bar**	**0.81**	**50**	P	**Pn**	**10 14 59.2**	**+0.4**
WHVZ	**Whangaehu Hut**	**0.81**	**53**	P	**Pn**	**10 14 59.2**	**+0.4**
PKE	**Pukeiti**	**0.83**	**314**	P	**Pn**	**10 14 59.9**	**+1.1**
MOVZ	**Moawhango**	**0.86**	**65**	P	**Pn**	**10 14 59.2**	**+0.2**
NBEZ	**Newall Road No**	**0.86**	**306**	P	**Pn**	**10 14 60.0**	**+1.1**
TUVZ	**Tukino**	**0.86**	**54**	P	**Pn**	**10 14 59.7**	**+0.6**
TWVZ	**Taurewa**	**0.88**	**37**	P	**Pn**	**10 14 59.5**	**+0.3**
NGZ	**Ngauruhoe**	**0.89**	**48**	P	**Pn**	**10 14 59.8**	**+0.5**
WTVZ	**West Tongariro**	**0.93**	**44**	P	**Pn**	**10 15 00.1**	**+0.5**
NNVZ	**North Ngauruho**	**0.93**	**46**	P	**Pn**	**10 15 00.2**	**+0.5**
OTVZ	**Oturere**	**0.94**	**49**	P	**Pn**	**10 15 00.5**	**+0.8**
TSZ	**Takapari Road**	**0.97**	**107**	P	**Pn**	**10 15 00.6**	**+0.8**
KRVZ	**Karewarewa**	**0.97**	**45**	P	**Pn**	**10 15 00.5**	**+0.5**
ETVZ	**East Tongariro**	**0.98**	**49**	P	**Pn**	**10 15 00.9**	**+0.8**
NTVZ	**North Tongariro**	**0.98**	**47**	P	**Pn**	**10 15 01.0**	**+0.9**
TMVZ	**Te Maari**	**0.99**	**48**	P	**Pn**	**10 15 01.0**	**+0.9**
BHHZ	**Black Hill Sta**	**1.05**	**74**	P	**Pn**	**10 15 00.8**	**+0.2**
MRZ	**Mangatainoka R**	**1.08**	**145**	P	**Pn**	**10 15 01.8**	**+1.0**
OGWZ	**Otaki Gorge**	**1.08**	**163**	P	**Pn**	**10 15 02.1**	**+1.2**
OGWZ				S	**Sn**	**10 15 18.0**	**-1.5**
KATZ	**Kakaramea**	**1.08**	**42**	P	**Pn**	**10 15 01.9**	**+0.9**
KIW	**Kapiti Island**	**1.09**	**174**	P	**Pn**	**10 15 01.8**	**+1.0**
PNHZ	**Pukenui**	**1.12**	**97**	P	**Pn**	**10 15 02.2**	**+0.9**
RITZ	**Rihia Road**	**1.17**	**47**	P	**Pn**	**10 15 02.6**	**+0.8**
DVHZ	**Dannevirke**	**1.20**	**116**	P	**Pn**	**10 15 02.9**	**+1.0**
DUWZ	**D'Urville Isla**	**1.20**	**212**	P	**Pn**	**10 15 03.1**	**+1.1**
DUWZ				S	**Sn**	**10 15 20.8**	**-0.8**
RATZ	**Rangitukua**	**1.21**	**41**	P	**Pn**	**10 15 03.1**	**+1.0**
PRWZ	**Pori Road**	**1.21**	**130**	P	**Pn**	**10 15 03.6**	**+1.5**
KRHZ	**Kereru**	**1.25**	**84**	P	**Pn**	**10 15 03.3**	**+0.8**
HOWZ	**Holdsworth Sta**	**1.26**	**153**	P	**Pn**	**10 15 03.7**	**+1.1**
HIZ	**Hauiti**	**1.27**	**4**	P	**Pn**	**10 15 03.7**	**+1.0**
HIZ	**Hauiti**	**1.27**	**4**	P	**Pn**	**10 15 03.5**	**+0.9**
WATZ	**Wairara**	**1.31**	**36**	P	**Pn**	**10 15 04.4**	**+1.3**
TIWZ	**Tintock**	**1.32**	**139**	P	**Pn**	**10 15 04.5**	**+1.3**
WPHZ	**Waipukurau**	**1.33**	**103**	P	**Pn**	**10 15 04.4**	**+1.2**
KWHZ	**Kaweka Forest**	**1.34**	**75**	P	**Pn**	**10 15 04.6**	**+1.2**
CAW	**Cannon Point**	**1.35**	**170**	P	**Pn**	**10 15 04.8**	**+1.3**
HATZ	**Hinemaiaia**	**1.36**	**50**	P	**Pn**	**10 15 03.4**	**-0.3**
BFZ	**Birch Farm**	**1.45**	**129**	P	**Pn**	**10 15 05.2**	**+0.6**
TCW	**Tory Channel**	**1.48**	**194**	P	**Pn**	**10 15 06.1**	**+1.3**
BKZ	**Black Stump Fm**	**1.48**	**66**	P	**Pn**	**10 15 05.6**	**+0.7**
BKZ	**Black Stump Fm**	**1.48**	**66**	P	**Pn**	**10 15 05.5**	**+0.6**
ANWZ	**Angora Road**	**1.48**	**118**	P	**Pn**	**10 15 06.4**	**+1.5**
MTW	**Mount Morrison**	**1.49**	**158**	P	**Pn**	**10 15 06.1**	**+1.1**
WEL	**Wellington**	**1.50**	**180**	P	**Pn**	**10 15 06.3**	**+1.2**
PRHZ	**Porangahau**	**1.52**	**109**	P	**Pn**	**10 15 06.6**	**+1.3**
SNZO	**South Karori**	**1.53**	**181**	P	**Pn**	**10 15 06.6**	**+1.2**
KUTZ	**Kaahu Road**	**1.53**	**33**	P	**Pn**	**10 15 06.9**	**+1.4**
MCH	**McNeil Hill**	**1.54**	**78**	P	**Pn**	**10 15 04.9**	**-0.6**
TLZ	**Tolley Road**	**1.57**	**23**	P	**Pn**	**10 15 06.9**	**+1.0**
TMWZ	**Te Maipa**	**1.58**	**147**	P	**Pn**	**10 15 07.3**	**+1.2**
MRHZ	**Matea Rd**	**1.60**	**54**	P	**Pn**	**10 15 06.6**	**+0.4**
KAHZ	**Kahuranaki**	**1.63**	**91**	P	**Pn**	**10 15 07.8**	**+1.1**
PXZ	**Pawanui**	**1.64**	**99**	P	**Pn**	**10 15 07.8**	**+1.2**
PAWZ	**Paruwai Farm**	**1.68**	**162**	P	**Pn**	**10 15 08.2**	**+1.1**
NMHZ	**Naumai**	**1.73**	**67**	P	**Pn**	**10 15 09.3**	**+1.6**
ALRZ	**Allen Road**	**1.73**	**46**	P	**Pn**	**10 15 08.4**	**+0.7**
TUWZ	**Tuamarina**	**1.76**	**200**	P	**Pn**	**10 15 09.0**	**+1.0**
TRWZ	**Traveller**	**1.77**	**157**	P	**Pn**	**10 15 09.2**	**+1.1**
NNZ	**Nelson**	**1.78**	**216**	P	**Pn**	**10 15 09.3**	**+1.2**
CKHZ	**Cape Kidnapper**	**1.79**	**87**	P	**Pn**	**10 15 09.8**	**+1.4**
PRRZ	**Plateau Road**	**1.81**	**45**	P	**Pn**	**10 15 09.5**	**+0.9**
ARHZ	**Aropaoanui**	**1.81**	**74**	P	**Pn**	**10 15 09.8**	**+1.3**
PLWZ	**Palliser**	**1.83**	**168**	P	**Pn**	**10 15 09.8**	**+1.0**
HRRZ	**Handcock Road**	**1.83**	**41**	P	**Pn**	**10 15 10.1**	**+1.3**
TKNZ	**Takaka Hill**	**1.86**	**227**	P	**Pn**	**10 15 10.2**	**+1.0**
MTHZ	**Maungataniwha**	**1.86**	**61**	P	**Pn**	**10 15 09.9**	**+0.7**
QRZ	**Quartz Range**	**2.00**	**238**	P	**Pn**	**10 15 11.5**	**+0.8**
QRZ	**Quartz Range**	**2.00**	**238**	P	**Pn**	**10 15 11.6**	**+0.8**
RAHZ	**Arahi**	**2.00**	**65**	P	**Pn**	**10 15 11.9**	**+1.1**
CMWZ	**Cape Campbell**	**2.01**	**192**	P	**Pn**	**10 15 12.8**	**+1.9**
MUGZ	**Murupara**	**2.04**	**51**	P	**Pn**	**10 15 11.7**	**+0.4**
WHHZ	**Waihua**	**2.04**	**71**	P	**Pn**	**10 15 12.5**	**+1.2**
BSWZ	**Blackbirch Sta**	**2.04**	**199**	P	**Pn**	**10 15 12.7**	**+1.3**
RTZ	**Ruatahuna**	**2.08**	**57**	P	**Pn**	**10 15 12.5**	**+0.6**
MRNZ	**Matariki Terra**	**2.22**	**223**	P	**Pn**	**10 15 14.7**	**+1.2**
SNGZ	**Shannon Statio**	**2.24**	**64**	P	**Pn**	**10 15 14.7**	**+0.9**
URZ	**Urewera**	**2.38**	**51**	P	**Pn**	**10 15 15.5**	**0.0**
KNZ	**Kokohu**	**2.38**	**72**	P	**Pn**	**10 15 16.0**	**+0.6**
OPRZ	**Ohinepanea**	**2.39**	**37**	P	**Pn**	**10 15 17.2**	**+1.6**
THZ	**Tophouse**	**2.43**	**215**	P	**Pn**	**10 15 17.2**	**+1.1**
RAGZ	**Rawiri**	**2.43**	**59**	P	**Pn**	**10 15 16.8**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.52**	**77**	P	**Pn**	**10 15 18.1**	**+0.9**
RIGZ	**Rimuhau**	**2.57**	**66**	P	**Pn**	**10 15 18.3**	**+0.5**
MWZ	**Matawai**	**2.60**	**57**	P	**Pn**	**10 15 18.6**	**+0.4**
MKAZ	**Moumakai**	**2.69**	**7**	P	**Pn**	**10 15 20.4**	**+1.1**
TKGZ	**Te Karaka**	**2.75**	**62**	P	**Pn**	**10 15 20.7**	**+0.6**
KHZ	**Kahutara**	**2.79**	**199**	P	**Pn**	**10 15 22.0**	**+1.4**
KHZ	**Kahutara**	**2.79**	**199**	P	**Pn**	**10 15 21.9**	**+1.3**
ETAZ	**East Tamaki Re**	**2.83**	**3**	P	**Pn**	**10 15 22.7**	**+1.6**
RUGZ	**Raukumara Rang**	**2.91**	**52**	P	**Pn**	**10 15 22.1**	**-0.2**
DSZ	**Denniston Nort**	**2.98**	**228**	P	**Pn**	**10 15 24.0**	**+1.0**
CNGZ	**Carnagh Statio**	**2.98**	**65**	P	**Pn**	**10 15 23.7**	**+0.6**
TWGZ	**Tauwhareparae**	**2.98**	**59**	P	**Pn**	**10 15 24.0**	**+0.9**
MBAZ	**Motutapu North**	**3.01**	**2**	P	**Pn**	**10 15 24.3**	**+0.9**
HAZ	**Te Kaha**	**3.11**	**50**	P	**Pn**	**10 15 24.3**	**-0.5**
PKGZ	**Pakihiroa**	**3.21**	**55**	P	**Pn**	**10 15 26.6**	**+0.5**
PUZ	**Puketiti**	**3.22**	**59**	P	**Pn**	**10 15 26.3**	**+0.1**
GVZ	**Greta Valley S**	**3.44**	**202**	P	**Pn**	**10 15 29.7**	**+0.7**
WMGZ	**Waiomatatini S**	**3.46**	**57**	P	**Pn**	**10 15 29.2**	**-0.1**
LTZ	**Lake Taylor**	**3.54**	**211**	P	**Pn**	**10 15 30.5**	**+0.3**
MXZ	**Matakaoa Point**	**3.55**	**53**	P	**Pn**	**10 15 31.0**	**+0.6**
AMCZ	**Amberley**	**3.74**	**204**	P	**Pn**	**10 15 33.6**	**+0.7**
INZ	**Inchbonnie**	**3.86**	**219**	P	**Pn**	**10 15 35.3**	**+0.9**
OXZ	**Oxford**	**4.09**	**209**	P	**Pn**	**10 15 36.7**	**-0.8**
OKCZ	**Okains Bay**	**4.14**	**197**	P	**Pn**	**10 15 38.1**	**+0.0**
MQZ	**McQueen's Vall**	**4.23**	**201**	P	**Pn**	**10 15 38.7**	**-0.6**
AKCZ	**Akaroa Harbour**	**4.32**	**198**	P	**Pn**	**10 15 40.2**	**-0.2**
RACZ	**Rakaia**	**4.40**	**206**	P	**Pn**	**10 15 41.0**	**-0.6**
MHCZ	**Mount Hutt**	**4.44**	**211**	P	**Pn**	**10 15 42.6**	**+0.4**
WACZ	**Wakanui South**	**4.70**	**207**	P	**Pn**	**10 15 45.1**	**-0.4**
RPZ

IVAS				*e*Sn		**Sb**	**10 21 09.2**	**-1.2**
LSTV	**Lastovo**	**2.38**	**306**	*e*Pn		**Pn**	**10 20 42.3**	**+0.6**
LSTV				Sn		**Sn**	**10 21 10.9**	**+0.2**
BBLS	**Lazići**	**2.46**	**358**	*e*Pn		**Pb**	**10 20 46.4**	**-0.7**
BBLS				*e*Sn		**Sb**	**10 21 16.0**	**-1.3**
MAKA	**Makarska**	**2.63**	**316**	Sn		**Sn**	**10 21 16.8**	**-0.2**
RICI	**Ricice**	**2.73**	**321**	*e*Pn		**Pn**	**10 20 47.7**	**+1.2**
RICI				Sn		**Sn**	**10 21 17.8**	**-1.6**
HVAR	**Hvar**	**2.88**	**309**	Sn		**Sn**	**10 21 23.0**	**-0.1**
KIJV	**Kijevo**	**3.46**	**320**	Sn		**Sn**	**10 21 36.6**	**-0.9**
ZIRJ	**Zirje**	**3.63**	**309**	Sn		**Sn**	**10 21 41.2**	**-0.5**
MORI	**Morici**	**3.73**	**312**	*e*Pn		**Pn**	**10 21 01.4**	**+1.2**
MORI				Sn		**Sn**	**10 21 43.1**	**-1.0**
DUGI	**Dugi Otok**	**4.18**	**310**	*e*Pn		**Pn**	**10 21 07.6**	**+1.2**
DUGI				Sn		**Sn**	**10 21 55.2**	**+0.2**
VIRC	**Vir**	**4.37**	**313**	Sn		**Sn**	**10 21 58.9**	**-0.7**
PLIT	**Plitvice**	**4.49**	**322**	Sn		**Sn**	**10 22 02.0**	**-0.8**
NVLJ	**Novalja**	**4.64**	**314**	*e*Pn		**Pn**	**10 21 14.0**	**+1.3**
NVLJ				Sn		**Sn**	**10 22 05.2**	**-1.3**

*NOU **08** 10:21:27.8,41˚.27S×173˚.17E,h130km,MLv3.7/8,South Island, New Zealand*
*WEL **08** 10:21:29.8±0.9,41˚S±7˚×173˚3E±˚,h108km±7km,M3.1/21, MLv3.1/21,Error ellipse: s-maj=0.0km s-min=0.0km az=148.5,confirmed*

ISC 08 10:21:27.2±1.5,**41˚28S**±0˚.04×**173˚15E**±0˚.05,**h136**km±8km, **n73,**σ1§**02/79,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNZ	**Nelson**	**0.18**	**69**	P		**Pn**	**10 21 46.3**	**+0.6**
NNZ				S		**Sn**	**10 21 58.8**	**-0.8**
TKNZ	**Takaka Hill**	**0.29**	**330**	P		**Pn**	**10 21 46.3**	**+0.2**
TKNZ				S		**Sn**	**10 21 58.3**	**-1.9**
MRNZ	**Matariki Terra**	**0.32**	**249**	P		**Pn**	**10 21 46.5**	**+0.4**
MRNZ				S		**Sn**	**10 21 59.0**	**-1.4**
THZ	**Tophouse**	**0.51**	**201**	P		**Pn**	**10 21 47.9**	**+0.9**
THZ				S		**Sn**	**10 22 01.1**	**-1.0**
TUWZ	**Tuamarina**	**0.61**	**104**	P		**Pn**	**10 21 48.8**	**+1.2**
QRZ	**Quartz Range**	**0.66**	**314**	P		**Pn**	**10 21 47.8**	**-0.1**
QRZ	**Quartz Range**	**0.66**	**314**	P		**Pn**	**10 21 48.1**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.69**	**129**	P		**Pn**	**10 21 49.3**	**+1.2**
BSWZ				S		**Sn**	**10 22 04.3**	**+0.3**
DUWZ	**D'Urville Isla**	**0.76**	**51**	P		**Pn**	**10 21 49.5**	**+0.9**
DUWZ				S		**Sn**	**10 22 04.5**	**-0.3**
TCW	**Tory Channel**	**0.85**	**85**	P		**Pn**	**10 21 50.5**	**+1.2**
DSZ	**Denniston Nort**	**1.11**	**245**	P		**Pn**	**10 21 52.3**	**+0.6**
KHZ	**Kahutara**	**1.17**	**166**	P		**Pn**	**10 21 53.6**	**+1.4**
SNZO	**South Karori**	**1.17**	**92**	P		**Pn**	**10 21 53.0**	**+0.8**
WEL	**Wellington**	**1.22**	**91**	P		**Pn**	**10 21 53.7**	**+1.0**
KIW	**Kapiti Island**	**1.39**	**73**	P		**Pn**	**10 21 55.5**	**+1.0**
CAW	**Cannon Point**	**1.46**	**84**	P		**Pn**	**10 21 56.0**	**+0.8**
OGWZ	**Otaki Gorge**	**1.59**	**74**	P		**Pn**	**10 21 57.6**	**+0.9**
PLWZ	**Palliser**	**1.61**	**101**	P		**Pn**	**10 21 57.8**	**+0.9**
LTZ	**Lake Taylor**	**1.64**	**203**	P		**Pn**	**10 21 58.3**	**+1.1**
GVZ	**Greta Valley S**	**1.69**	**183**	P		**Pn**	**10 21 59.1**	**+1.4**
MTW	**Mount Morrison**	**1.78**	**87**	P		**Pn**	**10 21 59.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.83**	**79**	P		**Pn**	**10 22 00.0**	**+0.6**
INZ	**Inchbonnie**	**1.92**	**221**	P		**Pn**	**10 22 01.5**	**+1.0**
AMCZ	**Amberley**	**1.93**	**191**	P		**Pn**	**10 22 01.7**	**+1.1**
MRZ	**Mangatainoka R**	**1.94**	**72**	P		**Pn**	**10 22 01.2**	**+0.4**
NMEZ	**Namu Road**	**1.95**	**17**	P		**Pn**	**10 22 02.3**	**+1.4**
LREZ	**Lake Rotokare**	**2.06**	**28**	P		**Pn**	**10 22 04.2**	**+2.1**
WAZ	**Wanganui**	**2.07**	**43**	P		**Pn**	**10 22 04.1**	**+1.8**
TMWZ	**Te Maipa**	**2.07**	**86**	P		**Pn**	**10 22 03.2**	**+0.8**
NBEZ	**Newall Road No**	**2.09**	**15**	P		**Pn**	**10 22 03.8**	**+1.3**
KHEZ	**Kahui Hut**	**2.09**	**19**	P		**Pn**	**10 22 04.1**	**+1.4**
KHEZ	**Kahui Hut**	**2.09**	**19**	P		**Pn**	**10 22 04.2**	**+1.4**
NEZ	**North Egmont**	**2.14**	**20**	P		**Pn**	**10 22 04.6**	**+1.4**
PKE	**Pukeiti**	**2.18**	**17**	P		**Pn**	**10 22 05.4**	**+1.7**
OXZ	**Oxford**	**2.20**	**202**	P		**Pn**	**10 22 04.3**	**+0.4**
DREZ	**Durham Road**	**2.24**	**21**	P		**Pn**	**10 22 05.6**	**+1.2**
OKCZ	**Okains Bay**	**2.44**	**182**	P		**Pn**	**10 22 08.0**	**+1.2**
MQZ	**McQueen's Vall**	**2.45**	**189**	P		**Pn**	**10 22 07.2**	**+0.3**
TSZ	**Takapari Road**	**2.46**	**61**	P		**Pn**	**10 22 07.5**	**+0.3**
VRZ	**Vera Road**	**2.48**	**30**	P		**Pn**	**10 22 09.0**	**+1.6**
MHCZ	**Mount Hutt**	**2.54**	**207**	P		**Pn**	**10 22 08.4**	**+0.3**
WVZ	**Waitaha Valley**	**2.54**	**224**	P		**Pn**	**10 22 08.6**	**+0.5**
RACZ	**Rakaia**	**2.56**	**197**	P		**Pn**	**10 22 08.8**	**+0.5**
AKCZ	**Akaroa Harbour**	**2.59**	**184**	P		**Pn**	**10 22 09.7**	**+0.9**
PKVZ	**Pokaka**	**2.60**	**41**	P		**Pn**	**10 22 10.2**	**+1.2**
PNHZ	**Pukenui**	**2.69**	**60**	P		**Pn**	**10 22 08.8**	**-1.3**
MOVZ	**Moawhango**	**2.73**	**48**	P		**Pn**	**10 22 11.1**	**+0.4**
WPHZ	**Waipukurau**	**2.78**	**65**	P		**Pn**	**10 22 11.4**	**+0.2**
NGZ	**Ngauruhoe**	**2.82**	**42**	P		**Pn**	**10 22 13.5**	**+1.6**
TWVZ	**Taurewa**	**2.82**	**39**	P		**Pn**	**10 22 12.8**	**+1.0**
WACZ	**Wakanui South**	**2.83**	**200**	P		**Pn**	**10 22 12.5**	**+0.7**
BHHZ	**Black Hill Sta**	**2.85**	**52**	P		**Pn**	**10 22 12.6**	**+0.4**
WTVZ	**West Tongariro**	**2.86**	**42**	P		**Pn**	**10 22 13.5**	**+1.2**
GCSZ	**Gaunt Creek Bo**	**2.92**	**225**	P		**Pn**	**10 22 13.7**	**+0.8**
KRHZ	**Kereru**	**2.95**	**57**	P		**Pn**	**10 22 13.4**	**0.0**
ARCZ	**Arundel**	**3.04**	**208**	P		**Pn**	**10 22 15.3**	**+0.8**
HIZ	**Hauiti**	**3.06**	**26**	P		**Pn**	**10 22 15.5**	**+0.7**
HIZ	**Hauiti**	**3.06**	**26**	P		**Pn**	**10 22 15.6**	**+0.8**
KAHZ	**Kahuranaki**	**3.20**	**64**	P		**Pn**	**10 22 16.8**	**+0.1**
BKZ	**Black Stump Fm**	**3.32**	**51**	P		**Pn**	**10 22 18.1**	**-0.1**
BKZ	**Black Stump Fm**	**3.32**	**51**	P		**Pn**	**10 22 18.1**	**-0.1**
FOZ	**Fox Glacier**	**3.34**	**227**	P		**Pn**	**10 22 18.7**	**+0.3**
TMZ	**Timaru**	**3.48**	**206**	P		**Pn**	**10 22 20.5**	**+0.3**
NMHZ	**Naumai**	**3.55**	**53**	P		**Pn**	**10 22 21.1**	**-0.2**
ODZ	**Otahua Downs**	**4.18**	**205**	P		**Pn**	**10 22 30.3**	**+0.9**
ODZ	**Otahua Downs**	**4.18**	**205**	P		**Pn**	**10 22 30.0**	**+0.6**
MHGZ	**Mahia Peninsul**	**4.22**	**61**	P		**Pn**	**10 22 29.2**	**-0.7**
JCZ	**Jackson Bay**	**4.26**	**228**	P		**Pn**	**10 22 31.3**	**+0.8**
JCZ	**Jackson Bay**	**4.26**	**228**	P		**Pn**	**10 22 30.7**	**+0.2**
URZ	**Urewera**	**4.29**	**47**	P		**Pn**	**10 22 29.6**	**-1.3**
MKAZ	**Moumakai**	**4.46**	**21**	P		**Pn**	**10 22 34.4**	**+1.3**
MWZ	**Matawai**	**4.47**	**50**	P		**Pn**	**10 22 31.9**	**-1.5**
ETAZ	**East Tamaki Re**	**4.54**	**18**	P		**Pn**	**10 22 35.8**	**+1.5**

ROM 08 10:23:22.9±0.4,**42˚82N**±0˚.01×**13˚11E**±0˚.02,**h18**km±2km, **ML1.6/5,4C-3D,Error ellipse: s-maj=1.7km s-min=0.7km az=289.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
T1245	**Castelsantange**	**0.07**	**60**	⇓P		Pg	10 23 26.9	+0.5
T1245				S		Sg	10 23 28.8	0.0
T1245				AML		AML		
	comp=E,283μm,0.7s							
T1245				AML		AML		
	comp=N,189μm,0.8s							
T1212	**Cascia, Frazio**	**0.08**	**213**	P		Pg	10 23 27.0	+0.6
T1212				S		Sg	10 23 28.9	+0.1
T1212				AML		AML		
	comp=E,151μm,0.1s							
T1212				AML		AML		
	comp=N,156μm,0.3s							
T1216	**Preci, Frazion**	**0.09**	**318**	⇑P		Pg	10 23 27.7	+1.2
T1214	**Arquata del Tr**	**0.10**	**129**	P		Pg	10 23 26.7	+0.1
T1214				S		Sg	10 23 28.4	-0.7
MC2	**Monte Cornacci**	**0.11**	**35**	⇓P		Pg	10 23 27.7	+0.9
MC2				S		Sg	10 23 30.1	+0.5
T1218	**Civita (PG)**	**0.15**	**177**	⇑P		Pg	10 23 27.6	+0.4
T1215	**Vallo di Nera,**	**0.17**	**264**	⇓P		Pb	10 23 28.8	+1.2
MMO1	**Montemonaco**	**0.18**	**64**	P		Pb	10 23 28.3	+0.6
MMO1				S		Sb	10 23 31.2	+0.3
FDMO	**Fiordimonte**	**0.21**	**357**	P		Pg	10 23 27.6	-0.4
FDMO				AML		AML		
	comp=E,107μm,0.1s							
FDMO				AML		AML		
	comp=N,114μm,0.2s							
CESI	**CESI - Serrava**	**0.23**	**321**	⇑P		Pb	10 23 30.1	+1.4
T1241	**Roccafluvione,**	**0.24**	**82**	⇑P		Pb	10 23 29.5	+0.8
T1219	**Muccia, Frazio**	**0.24**	**343**	P		Pg	10 23 28.5	-0.1
T1220	**Camerino, Fraz**	**0.29**	**358**	P		Pg	10 23 28.5	-0.8
T1220				AML		AML		
	comp=E,193μm,1.2s							
T1220				AML		AML		
	comp=N,210μm,1.4s							
T1220				AML		AML		
	comp=E,193μm,0.8s							
T1220				AML		AML		
	comp=N,210μm,0.6s							
TERO	**Teramo**	**0.42**	**118**	P		Pg	10 23 31.5	+0.1

*IDC **08** 10:29:32.1±2.6,8˚.18S×114˚.83E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=155.1km s-min=26.4km az=49.0*
*DJA **08** 10:29:51.6±0.7,8˚S±11˚×115˚5E±˚,h136km±7km,M3.1/10, MLv3.1/10*

ISC 08 10:29:49.7±1.0,**8˚4S**±0˚.1×**115˚00E**±0˚.06,**h159**km±8km, **n13,**σ1§**44/19,mb3.1/3,Bali region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SRBI	**Singaraja**	**0.35**	**37**	P		**Pn**	**10 30 11.8**	**+0.3**
DNP	**Denpasar**	**0.37**	**146**	P		**Pn**	**10 30 15.6**	**+4.1**
DNP				S		**Sn**	**10 30 28.3**	**0.0**
IGBI	**Denpasar**	**0.47**	**163**	P		**Pn**	**10 30 11.4**	**-0.5**
IGBI				S		**Sn**	**10 30 27.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**0.85**	**263**	P		**Pn**	**10 30 14.4**	**+0.2**
JAGI				S		**Sn**	**10 30 31.3**	**-1.6**
ABJI	**Asem Bagus**	**0.95**	**307**	P		**Pn**	**10 30 15.5**	**+0.6**
BLJI	**Banyuglugur**	**1.52**	**294**	P		**Pn**	**10 30 21.0**	**+0.8**
BLJI				S		**Sn**	**10 30 44.3**	**+0.7**
GMJI	**Gumukmas**	**1.54**	**273**	P		**Pn**	**10 30 20.0**	**-0.4**
GMJI				S		**Sn**	**10 30 42.1**	**-1.9**
TWSI	**Taliwang, Sumb**	**1.90**	**101**	P		**Pn**	**10 30 23.7**	**-0.5**
TWSI				S		**Sn**	**10 30 50.5**	**-0.2**
PLAI	**Plampang**	**2.78**	**100**	P		**Pn**	**10 30 35.1**	**+0.4**
PWJI	**Pagerwojo**	**3.19**	**276**	P		**Pn**	**10 30 41.1**	**+1.4**
WRA	**Warramunga Arr**	**21.97**	**124**	P		**P**	**10 34 30.4**	**-0.7**
	0.4nm,0.6s,baz=300,slow=12,SNR=6.6 0.4nm,0.6s							
ASAR	**Alice Springs**	**23.65**	**132**	P		**P**	**10 34 47.8**	**+1.1**
	0.4nm,0.6s,baz=306,slow=9.1,SNR=10 0.4nm,0.6s							
MKAR	**Makanchi Array**	**62.16**	**335**	P		**P**	**10 39 53.7**	**-0.3**
	0.1nm,0.4s,baz=152,slow=6.5,SNR=4.5 0.1nm,0.4s							

*SOME **08** 10:41:24.0,42˚.27N×73˚.20E,h15km*
*KRNET **08** 10:41:24.2±0.1,42˚.29N×73˚.21E,h20km,mb3.3*
*KNET **08** 10:41:25.7±0.3,42˚.30N×73˚.34E,h13km±1km,ml2.5,Error ellipse: s-maj=2.2km s-min=1.6km az=55.0*
*NNC **08** 10:41:27.8±3.1,42˚.73N×73˚.20E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=57.4km s-min=17.9km az=0.0*

ISC 08 10:41:24.1±1.1,**42˚33N**±0˚.03×**73˚19E**±0˚.02,**h3**km±9km, **n54,**σ1§**03/92,32C-38D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRKS	**Merke**	**0.41**	**4**	*e*P		**Pb**	**10 41 33.6**	**-0.5**
MRKS	92nm,0.2s			*e*S		**Sb**	**10 41 40.2**	**-0.6**
AML	**Almayashu**	**0.43**	**118**	P		**Pg**	**10 41 32.3**	**-0.1**
AML	103nm,0.2s,SNR=326			⇓S		**Sg**	**10 41 38.0**	**0.0**
AML	**Almayashu**	**0.43**	**118**	⇑*i*P		**Pg**	**10 41 32.3**	**-0.1**
AML	372nm,0.2s baz=14			⇑*i*S		**Sg**	**10 41 37.9**	**0.0**
EKS2	**Erkin-Say**	**0.55**	**53**	P		**Pb**	**10 41 35.4**	**-1.0**
EKS2	41nm,0.2s,SNR=185			⇑S		**Sb**	**10 41 43.5**	**-1.2**
EKS2	**Erkin-Say**	**0.55**	**53**	⇓*i*P		**Pg**	**10 41 35.0**	**+0.4**
EKS2	50nm,0.1s baz=48			⇓*i*S		**Sb**	**10 41 43.1**	**-1.6**
UCH	**Uchtor**	**0.99**	**96**	⇓P		**Pg**	**10 41 42.7**	**-0.4**
UCH	18nm,0.1s,SNR=61			⇓S		**Sg**	**10 41 56.3**	**+0.4**
UCH	**Uchtor**	**0.99**	**96**	⇑*i*P		**Pg**	**10 41 42.5**	**-0.6**
UCH	65nm,0.2s baz=93			⇑*i*S		**Sg**	**10 41 55.5**	**-0.4**
AAK	**Ala-Archa**	**1.02**	**72**	⇑P		**Pg**	**10 41 43.5**	**0.0**
AAK	60nm,0.2s,SNR=98			⇓S		**Sg**	**10 41 56.9**	**+0.1**
AAK	**Ala-Archa**	**1.02**	**72**	⇓*i*P		**Pg**	**10 41 43.0**	**-0.5**
AAK	58nm,0.3s baz=70			⇓*i*S		**Sg**	**10 41 56.8**	**+0.1**
ARK	**Arkit**	**1.05**	**240**	⇓*i*P		**Pg**	**10 41 43.7**	**-0.6**
ARK	baz=43			⇓*i*S		**Sg**	**10 41 57.8**	**-0.1**
FRU1	**Bishkek**	**1.17**	**65**	⇓*i*P		**Pg**	**10 41 46.0**	**-0.5**
FRU1	baz=63			⇓*i*S		**Sg**	**10 42 01.7**	**+0.1**
CHMS	**Chumysh**	**1.33**	**59**	⇓P		**Pb**	**10 41 49.5**	**-0.2**
CHMS	18nm,0.1s,SNR=17			⇑S		**Sn**	**10 42 07.6**	**-0.3**
CHMS	**Chumysh**	**1.33**	**59**	⇓Pn		**Pb**	**10 41 49.3**	**-0.4**
CHMS	7.4nm,0.3s 21nm,0.3s			⇓Sn		**Sb**	**10 42 06.9**	**-0.3**
CHMS	**Chumysh**	**1.33**	**59**	⇓*i*P		**Pn**	**10 41 48.9**	**-0.7**
CHMS	baz=58			⇓*i*S		**Sb**	**10 42 06.8**	**-0.4**
KBK	**Karagaybulak**	**1.34**	**75**	⇓P		**Pg**	**10 41 49.5**	**-0.3**
KBK	30nm,0.1s,SNR=56			⇓S		**Sn**	**10 42 08.3**	**0.0**
KBK	**Karagaybulak**	**1.34**	**75**	⇓*i*P		**Pg**	**10 41 48.8**	**-1.0**
KBK	101nm,0.2s baz=74			⇓*i*S		**Sg**	**10 42 06.6**	**-0.6**
USP	**Ospenovka**	**1.35**	**46**	⇓P		**Pb**	**10 41 49.7**	**-0.3**
USP	17nm,0.1s,SNR=28			⇓S		**Sn**	**10 42 08.5**	**+0.4**
USP	**Ospenovka**	**1.35**	**46**	⇑*i*P		**Pn**	**10 41 49.3**	**-0.5**
USP	113nm,0.2s baz=44			⇑*i*S		**Sn**	**10 42 07.5**	**-0.7**
DZA	**Taraz**	**1.48**	**293**	*e*P		**Pg**	**10 41 53.2**	**+0.8**
DZA	108nm,0.1s			*e*S		**Sg**	**10 42 14.5**	**+2.9**
TRKS	**Terek-Say**	**1.72**	**243**	⇓*i*P		**Pb**	**10 41 55.9**	**-0.5**
TRKS	195nm,0.2s baz=42			⇓*i*S		**Sg**	**10 42 18.8**	**-0.6**
OHH	**Osh**	**1.83**	**190**	⇑*i*P		**Pn**	**10 41 56.8**	**+0.3**
OHH	baz=90			⇑*i*S		**Sn**	**10 42 20.4**	**+0.2**
TKM2	**Tokmak 2**	**1.88**	**71**	⇑P		**Pb**	**10 41 58.7**	**-0.3**
TKM2	20nm,0.1s,SNR=46 166nm,0.2s			⇓S		**Sg**	**10 42 23.8**	**-0.5**
TKM2	**Tokmak 2**	**1.88**	**71**	⇓Pn		**Pb**	**10 41 58.7**	**-0.3**
TKM2	9.4nm,0.3s 30nm,0.2s			⇑Sn		**Sg**	**10 42 23.5**	**-0.8**
TKM2	**Tokmak 2**	**1.88**	**71**	⇑*i*P		**Pb**	**10 41 58.1**	**-0.9**
TKM2	baz=70 baz=70			⇑*i*S		**Sb**	**10 42 22.5**	**-0.4**
BOOM	**Boomskoye usch**	**2.05**	**85**	⇑*i*P		**Pn**	**10 42 00.3**	**+0.8**
BOOM	baz=83			⇑*i*S		**Sn**	**10 42 26.3**	**+0.7**
DGS	**Degeres**	**2.11**	**64**	*e*Pg		**Pb**	**10 42 03.3**	**+0.3**
DGS	65nm,0.4s 189nm,0.3s			*e*Lg		Lg	10 42 32.5	
KK31	**Karatay Array**	**2.12**	**292**	Pn		**Pg**	**10 42 03.5**	**-1.1**
KK31	5.1nm,0.3s,baz=116,slow=15,SNR=120 11nm,0.3s,baz=114,slow=25,SNR=5.8			⇑Sn		**Sg**	**10 42 33.1**	**+1.1**
KKAR	**Karatay Array**	**2.12**	**292**	⇑*i*P		**Pb**	**10 42 01.8**	**-1.2**
KKAR	baz=93 baz=93			⇑*i*S		**Sb**	**10 42 29.0**	**-0.7**
ULHL	**Ulahol**	**2.27**	**91**	⇑*i*P		**Pn**	**10 42 03.2**	**+0.6**
ULHL	baz=90 baz=90			⇑*i*S		**Sn**	**10 42 31.7**	**+0.5**
KRBS	**Karabastau**	**2.28**	**52**	*e*Pg		**Pb**	**10 42 06.2**	**+0.4**
KRBS	69nm,0.3s 214nm,0.4s			*e*Lg		Lg	10 42 37.1	
NRN	**Naryn**	**2.29**	**112**	⇓*i*P		**Pn**	**10 42 02.9**	**0.0**
NRN	baz=12 baz=12			⇓*i*S		**Sn**	**10 42 31.2**	**-0.5**
IUG	**Iuzhnay**	**2.35**	**267**	*e*Pg		**Pg**	**10 42 09.4**	**+0.4**
IUG	91nm,0.3s 344nm,0.7s			*e*Lg		Lg	10 42 41.9	
MTBS	**Maitube**	**2.52**	**70**	*e*Pg		**Pb**	**10 42 10.3**	**+0.3**
MTBS	7.2nm,0.3s 97nm,0.4s			*e*Lg		Lg	10 42 44.2	
BTLS	**Baital**	**2.78**	**13**	*e*Pg		**Pb**	**10 42 14.6**	**+0.2**
BTLS	2.8nm,0.2s 44nm,0.5s			*e*Lg		Lg	10 42 51.6	
KUU	**Kurty**	**2.79**	**55**	*e*Pg		**Pb**	**10 42 14.9**	**+0.4**
KUU	8.0nm,0.3s 159nm,0.4s			*e*Lg		Lg	10 42 51.6	
TNSS	**Tian-Shan**	**2.86**	**74**	*e*Pg		**Pb**	**10 42 16.6**	**+0.6**
TNSS	16nm,0.4s 25nm,0.5s			*e*Lg		Lg	10 42 55.1	
BTK	**Batken**	**2.89**	**219**	⇑*i*P		**Pn**	**10 42 11.6**	**+0.6**
BTK	baz=20 baz=20			⇑*i*S		**Sn**	**10 42 46.3**	**0.0**
KTBS	**Karatobe**	**2.91**	**61**	*e*Pg		**Pb**	**10 42 17.2**	**+0.6**
KTBS	8.8nm,0.2s 210nm,0.6s			*e*Lg		Lg	10 42 55.6	
MDOK	**Medeo**	**2.96**	**72**	Pn		**Pb**	**10 42 17.9**	**+0.3**
MDOK	5.9nm,0.4s 32nm,0.6s			Sn		**Sg**	**10 42 57.3**	**-2.0**
MDOK	**Medeo**	**2.96**	**72**	*e*Pg		**Pb**	**10 42 18.2**	**+0.6**
MDOK	13nm,0.3s 39nm,0.5s			*e*Lg		Lg	10 42 57.6	
KDJ	**Kajisay**	**2.97**	**93**	⇓*i*P		**Pn**	**10 42 13.1**	**+0.8**
KDJ	baz=92 baz=92			⇓*i*S		**Sn**	**10 42 48.8**	**+0.3**
DRK	**Karamyk**	**3.04**	**201**	⇑*i*P		**Pn**	**10 42 13.6**	**+0.4**
DRK	baz=1.0 baz=1.0			⇑*i*S		**Sn**	**10 42 49.6**	**-0.6**
CHKK	**Chushkaly**	**3.17**	**60**	*e*Pg		**Pb**	**10 42 21.3**	**+0.2**
CHKK	2.7nm,0.3s 53nm,0.3s			*e*Lg		Lg	10 43 02.6	
ANVS	**Anan'yevo**	**3.34**	**81**	⇑*i*P		**Pn**	**10 42 18.2**	**+0.9**
ANVS	baz=80 baz=80			⇑*i*S		**Sn**	**10 42 57.5**	**-0.1**
TARG	**Taragay, Kyrgy**	**3.49**	**98**	⇓*i*P		**Pn**	**10 42 20.2**	**+0.6**
TARG	baz=98 baz=98			⇓*i*S		**Sn**	**10 43 01.1**	**-0.6**
KURS	**Kuram**	**3.84**	**71**	*e*Pg		**Pb**	**10 42 34.5**	**+2.1**
KURS	2.9nm,0.5s 11nm,0.5s			*e*Lg		Lg	10 43 24.9	
SATY	**Saty**	**3.92**	**78**	*e*Pg		**Pb**	**10 42 35.9**	**+2.1**
SATY	3.0nm,0.3s 16nm,0.4s			*e*Lg		Lg	10 43 28.0	
ZHN	**Zhinishke**	**3.96**	**76**	*e*Pg		**Pb**	**10 42 35.7**	**+1.3**
ZHN	2.8nm,0.4s 29nm,0.2s			*e*Lg		Lg	10 43 27.5	
GAR	**Garm**	**3.98**	**214**	⇓*i*P		**Pn**	**10 42 26.8**	**+0.8**
GAR	baz=15 baz=15			⇓*i*S		**Sn**	**10 43 12.4**	**-0.8**
UZB	**Uzynbulak**	**4.38**	**77**	*e*Pg		**Pb**	**10 42 43.5**	**+1.8**
UZB	2.4nm,0.3s 13nm,0.6s			*e*Lg		Lg	10 43 40.8	
CHGR	**Chuyangaron**	**4.79**	**221**	⇓*i*P		**Pn**	**10 42 38.0**	**+0.9**
CHGR	baz=22 baz=22			⇓*i*S		**Sn**	**10 43 31.8**	**-1.2**
MK31	**Makanchi Array**	**7.88**	**52**	⇑Pn		**Pn**	**10 43 21.8**	**+2.3**
	0.4nm,0.4s,baz=232,slow=12,SNR=14							
MK31	0.9nm,0.6s,baz=232,slow=24,SNR=5.2			⇓Sn		**Sn**	**10 44 54.0**	**+4.8**
MK31	4.0nm,0.8s,baz=237,slow=27,SNR=4.1			Lg		Lg	10 45 35.9	
KURBB	**Kurchatov Arra**	**9.07**	**22**	⇑Pn		Pn	10 43 30.4	-5.4
KURBB	1.7nm,0.5s 3.3nm,0.7s			⇑Sn		**Sn**	**10 45 15.4**	**-3.0**
KURBB	13nm,0.7s			⇑Lg		Lg	10 46 08.8	
AB31	**Akbulak array**	**11.54**	**311**	P		**Pn**	**10 44 09.6**	**+0.1**
	0.4nm,0.4s,baz=116,slow=14,SNR=22							

WEL 08 10:57:18.8±0.6,**42˚S**±3˚×**17˚8E**±˚,**h12**km,**M3.3**/13, **ML3.6**/18,**MLv3.3**/13,**Error ellipse: s-maj=0.0km s-min=0.0km az=117.2,confirmed,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TMWZ	**Te Maipa**	**1.68**	**301**	P		Pg	10 57 53.0	+1.9
TMWZ	**Te Maipa**	**1.68**	**301**	P		Pg	10 57 52.3	+1.2
TMWZ				S		Sn	10 58 09.9	+0.3
BFZ	**Birch Farm**	**1.75**	**318**	S		Sg	10 58 14.4	-0.8
PAWZ	**Paruwai Farm**	**1.88**	**288**	S		Sn	10 58 13.6	-0.8
MTW	**Mount Morrison**	**1.91**	**295**	P		Pn	10 57 52.0	+0.8
MTW				S		Sn	10 58 14.5	-0.7
PRHZ	**Porangahau**	**1.94**	**333**	P		Pb	10 57 54.2	+0.2
PRHZ	**Porangahau**	**1.94**	**333**	P		Pb	10 57 54.3	+0.3
PLWZ	**Palliser**	**1.95**	**282**	P		Pn	10 57 50.1	-1.6
PLWZ				S		Sn	10 58 15.8	-0.4
PRWZ	**Pori Road**	**1.99**	**316**	P		Pb	10 57 55.6	+0.7
PRWZ	**Pori Road**	**1.99**	**316**	P		Pb	10 57 55.0	0.0
PRWZ				S		Sb	10 58 20.9	+1.2
HOWZ	**Holdsworth Sta**	**2.04**	**302**	S		Sn	10 58 17.5	-0.8
PXZ	**Pawanui**	**2

SNGZ			S	Sn	10 58 45.9	-1.8		
ETVZ	**East Tongariro**	**3.27 330**	P	Pn	10 58 13.0	+3.0		
NGZ	**Ngauruhoe**	**3.27 329**	P	Pn	10 58 13.2	+3.1		
NGZ	**Ngauruhoe**	**3.27 329**	P	Pn	10 58 12.6	+2.5		
NGZ			S	Sn	10 58 49.9	+0.9		
PKVZ	**Pokaka**	**3.28 325**	P	Pn	10 58 13.5	+3.4		
PKVZ	**Pokaka**	**3.28 325**	P	Pn	10 58 13.1	+3.0		
RIGZ	**Rimuhau**	**3.28 360**	P	Pn	10 58 07.4	-2.7		
RIGZ			S	Sn	10 58 47.3	-1.8		
NNVZ	**North Ngauruho**	**3.31 329**	P	Pn	10 58 13.6	+3.1		
NNVZ	**North Ngauruho**	**3.31 329**	P	Pn	10 58 13.2	+2.7		
NNVZ			S	Sn	10 58 49.5	-0.3		
WTVZ	**West Tongariro**	**3.33 329**	P	Pn	10 58 13.9	+3.1		
WTVZ	**West Tongariro**	**3.33 329**	P	Pn	10 58 13.9	+3.1		
WTVZ			S	Sn	10 58 51.2	+0.9		
MUGZ	**Murupara**	**3.60 347**	P	Pn	10 58 16.1	+1.7		
MWZ	**Matawai**	**3.66 357**	P	Pn	10 58 15.5	+0.2		
VRZ	**Vera Road**	**3.68 320**	P	Pn	10 58 18.9	+3.3		
RUGZ	**Raukumara Rang**	**4.02 359**	P	Pn	10 58 21.5	+1.1		
MQZ	**McQueen's Vall**	**4.15 244**	P	Pn	10 58 20.5	-1.5		
MQZ			S	Sn	10 59 07.1	-3.3		
WMGZ	**Waiomatatini S**	**4.20 7**	P	Pn	10 58 22.1	-0.4		
HAZ	**Te Kaha**	**4.23 360**	P	Pn	10 58 23.6	+0.5		
CTZ	**Chatham Island**	**4.46 115**	P	Pn	10 58 21.5	-4.7		
CTZ			S	Sn	10 59 06.3	-12		

*IDC **08** 11:15:40.0±2.0, 37°.88N×144°.03E, h0km, mb3.6/2, mbtmp3.4/4, ML2.7/2, MS3.7/1, Error ellipse: s-maj=41.5km s-min=35.0km az=76.0*
*JMA **08** 11:15:44.0±0.2, 38°.0N±0°.8×14°.4E±°, h53km, MV3.3/27, FAR E OFF MIYAGI PREF*
ISC 08 11:15:43.8±1.3, **38°.03N**±0°.06×**143°.94E**±0°.08, **h35**km, **n16**, σ1§**57**/26, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.97**	**279**	P			**Pn**	**11 16 14.5**	**-0.2**
JIKH					*e*S		**Sn**	**11 16 36.8**	**-1.4**
OFUJ	**Ofunato**	**2.07**	**301**	P			**Pn**	**11 16 16.4**	**+0.4**
JIO	**Ouri**	**2.09**	**283**	P			**Pn**	**11 16 16.3**	**0.0**
JIO				S			**Sn**	**11 16 39.9**	**-1.1**
JKMT	**Kesennumamotoy**	**2.09**	**293**	P			**Pn**	**11 16 16.4**	**+0.1**
JKMT				S			**Sn**	**11 16 40.6**	**-0.6**
JMK	**Ichinoseki**	**2.33**	**294**	P			**Pn**	**11 16 20.0**	**+0.4**
JMK				S			**Sn**	**11 16 47.2**	**+0.2**
JOM	**Ohasama**	**2.53**	**306**	P			**Pn**	**11 16 23.3**	**+1.0**
JYK	**Kaneyama**	**2.95**	**289**	P	*e*		**Pn**	**11 16 29.3**	**+1.1**
JYK				S			**Sn**	**11 17 03.3**	**+1.0**
JAG	**Ashikaga**	**3.92**	**247**	P	*e*		**Pn**	**11 16 41.3**	**-0.2**
JAG				S			**Sn**	**11 17 24.6**	**-1.8**
JRY	**Ryogami san**	**4.51**	**245**	P			**Pn**	**11 16 49.3**	**-0.2**
JRY				S			**Sn**	**11 17 37.5**	**-3.2**
JCH	**Churui**	**4.61**	**355**	P	*e*		**Pn**	**11 16 51.3**	**+0.5**
JCH				S			**Sn**	**11 17 41.7**	**-1.4**
MJAR	**Matsushiro Arr**	**4.81**	**254**	Pn			**Pn**	**11 16 54.6**	**+1.0**
	0.1nm,0.3s,baz=90,slow=16,SNR=8.1								
MJAR				Sn			**Sn**	**11 17 50.1**	**+1.9**
	0.1nm,0.3s,baz=258,slow=18,SNR=1.6								
	0.6nm,0.3s								
NEM2	**Nemuro 2**	**5.51**	**14**	P	*e*		**Pn**	**11 17 00.5**	**-2.7**
NEM2				S			**Sn**	**11 18 01.3**	**-4.0**
ASAJ	**Asahikawa**	**6.17**	**351**	Pn			**Pn**	**11 17 14.5**	**+2.1**
	0.2nm,0.3s,baz=218,slow=16,SNR=1.2								
ASAJ				Sn			**Sn**	**11 18 22.4**	**+0.8**
	0.1nm,0.3s,baz=252,slow=20,SNR=2.5								
	1.2nm,0.4s								
TIXI	**Tiksi**	**34.57**	**352**	LR			LR	11 37 16.9	
	comp=Z,101nm,18.5s,baz=177,slow=37								
WRA	**Warramunga Arr**	**58.36**	**191**	P			**P**	**11 25 35.9**	**+0.4**
	1.0nm,0.8s,baz=11,slow=7.1,SNR=7.4								
	1.0nm,0.8s								
ASAR	**Alice Springs**	**62.09**	**190**	P			**P**	**11 26 01.7**	**+0.7**
	0.5nm,0.9s,baz=5.9,slow=7.1,SNR=5.8								
	0.5nm,0.9s								

*WEL **08** 11:32:01.7±0.4, 42°.32S±2°.17°×4E±°, h9km±4km, M3.5/31, ML3.8/12, MLv3.5/31, Error ellipse: s-maj=0.0km s-min=0.0km az=117.7, confirmed*
*NOU **08** 11:32:01.9, 42°.42S×173°.69E, h16km, MLv4.1/10, South Island, New Zealand*
ISC 08 11:32:01.0±1.0, **42°.32S**±0°.03×**173°.67E**±0°.03, **h14**km±8km, **n78**, σ1§**35**/86, **South Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**226**	P			**Pb**	**11 32 06.5**	**+1.0**
KHZ	**Kahutara**	**0.14**	**226**	P			**Pb**	**11 32 06.4**	**+1.0**
KHZ				S			**Sg**	**11 32 09.8**	**+2.6**
BSWZ	**Blackbirch Sta**	**0.62**	**14**	P			**Pg**	**11 32 13.0**	**-0.2**
BSWZ				S			**Sg**	**11 32 21.1**	**-0.3**
CMWZ	**Cape Campbell**	**0.70**	**35**	P			**Pb**	**11 32 15.9**	**+0.9**
THZ	**Tophouse**	**0.80**	**314**	P			**Pg**	**11 32 15.1**	**-1.4**
THZ				S			**Sg**	**11 32 24.7**	**-2.3**
GVZ	**Greta Valley S**	**0.80**	**216**	P			**Pn**	**11 32 18.8**	**+0.8**
GVZ				S			**Sn**	**11 32 31.9**	**+2.2**
TUWZ	**Tuamarina**	**0.91**	**13**	P			**Pg**	**11 32 18.2**	**-0.5**
TUWZ				S			**Sg**	**11 32 30.0**	**-0.6**
NNZ	**Nelson**	**1.12**	**349**	P			**Pn**	**11 32 21.1**	**-1.2**
LTZ	**Lake Taylor**	**1.13**	**245**	P			**Pb**	**11 32 22.4**	**-0.1**
LTZ				S			**Sb**	**11 32 37.1**	**0.0**
AMCZ	**Amberley**	**1.14**	**221**	P			**Pn**	**11 32 23.2**	**+0.7**
MRNZ	**Matariki Terra**	**1.15**	**323**	P			**Pn**	**11 32 21.5**	**-1.1**
MRNZ				S			**Sb**	**11 32 36.1**	**-1.2**
TCW	**Tory Channel**	**1.20**	**22**	P			**Pn**	**11 32 23.1**	**-0.2**
TCW				S			**Sb**	**11 32 39.0**	**+0.2**
SNZO	**South Karori**	**1.27**	**38**	P			**Pn**	**11 32 24.8**	**+0.5**
WEL	**Wellington**	**1.32**	**39**	P			**Pn**	**11 32 25.4**	**+0.4**
WEL				S			**Sb**	**11 32 43.2**	**+0.9**
TKNZ	**Takaka Hill**	**1.39**	**337**	P			**Pn**	**11 32 25.8**	**-0.2**
PLWZ	**Palliser**	**1.40**	**58**	P			**Pn**	**11 32 26.2**	**+0.1**
OKCZ	**Okains Bay**	**1.47**	**198**	P			**Pg**	**11 32 27.9**	**-1.5**
DSZ	**Denniston Nort**	**1.51**	**292**	P			**Pn**	**11 32 28.2**	**+0.6**
DUWZ	**D'Urville Isla**	**1.53**	**7**	P			**Pn**	**11 32 28.0**	**+0.1**
OXZ	**Oxford**	**1.57**	**230**	P			**Pn**	**11 32 28.0**	**-0.4**
MQZ	**McQueen's Vall**	**1.57**	**208**	P			**Pn**	**11 32 28.1**	**-0.4**
CAW	**Cannon Point**	**1.60**	**41**	P			**Pn**	**11 32 28.9**	**+0.1**
PAWZ	**Paruwai Farm**	**1.61**	**55**	P			**Pn**	**11 32 28.8**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.65**	**200**	P			**Pb**	**11 32 30.0**	**-1.2**
INZ	**Inchbonnie**	**1.70**	**255**	P			**Pn**	**11 32 30.6**	**+0.4**
QRZ	**Quartz Range**	**1.72**	**330**	P			**Pn**	**11 32 31.5**	**+1.0**
QRZ	**Quartz Range**	**1.72**	**330**	P			**Pn**	**11 32 31.2**	**+0.6**
KIW	**Kapiti Island**	**1.73**	**33**	P			**Pn**	**11 32 31.3**	**+0.6**
TRWZ	**Traveller**	**1.76**	**59**	P			**Pn**	**11 32 30.7**	**-0.5**
MTW	**Mount Morrison**	**1.79**	**50**	P			**Pn**	**11 32 31.1**	**-0.5**
RACZ	**Rakaia**	**1.80**	**218**	P			**Pn**	**11 32 31.3**	**-0.3**
OGWZ	**Otaki Gorge**	**1.88**	**37**	P			**Pn**	**11 32 32.7**	**+0.1**
MHCZ	**Mount Hutt**	**1.96**	**231**	P			**Pn**	**11 32 33.4**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.98**	**45**	P			**Pn**	**11 32 34.0**	**-0.2**
TMWZ	**Te Maipa**	**2.06**	**55**	P			**Pn**	**11 32 34.5**	**-0.7**
WACZ	**Wakanui South**	**2.11**	**219**	P			**Pn**	**11 32 35.6**	**-0.2**
MRZ	**Mangatainoka R**	**2.19**	**41**	P			**Pn**	**11 32 36.7**	**-0.3**
WVZ	**Waitaha Valley**	**2.29**	**250**	P			**Pn**	**11 32 38.9**	**+0.5**
RPZ	**Rata Peaks**	**2.37**	**233**	P			**Pn**	**11 32 39.4**	**-0.1**
RPZ	**Rata Peaks**	**2.37**	**233**	P			**Pn**	**11 32 39.2**	**-0.4**
ARCZ	**Arundel**	**2.45**	**227**	P			**Pn**	**11 32 40.2**	**-0.3**
PRWZ	**Pori Road**	**2.47**	**45**	P			**Pb**	**11 32 44.2**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.66**	**247**	P			**Pn**	**11 32 44.0**	**+0.6**
WAZ	**Wanganui**	**2.75**	**22**	P			**Pb**	**11 32 49.1**	**-0.8**
DVHZ	**Dannevirke**	**2.76**	**44**	P			**Pn**	**11 32 48.0**	**+3.2**
TMZ	**Timaru**	**2.83**	**222**	P			**Pn**	**11 32 45.8**	**-0.1**
TSZ	**Takapari Road**	**2.84**	**38**	P			**Pn**	**11 32 45.5**	**-0.5**
NMEZ	**Namu Road**	**2.91**	**3**	P			**Pb**	**11 32 53.2**	**+0.6**
LREZ	**Lake Rotokare**	**2.91**	**11**	P			**Pb**	**11 32 51.5**	**-1.1**
KHEZ	**Kahui Hut**	**3.03**	**5**	P			**Pn**	**11 32 51.5**	**+2.8**
KHEZ	**Kahui Hut**	**3.03**	**5**	P			**Pb**	**11 32 53.5**	**-1.3**
NBEZ	**Newall Road No**	**3.05**	**3**	P			**Pn**	**11 32 52.9**	**+4.1**
FOZ	**Fox Glacier**	**3.08**	**246**	P			**Pn**	**11 32 49.8**	**+0.6**
PKE	**Pukeiti**	**3.13**	**4**	P			**Pb**	**11 32 56.6**	**+0.2**
LBZ	**Lake Benmore**	**3.28**	**230**	P			**Pn**	**11 32 52.4**	**+0.4**
PKVZ	**Pokaka**	**3.28**	**23**	P			**Pn**	**11 32 55.9**	**+3.8**
VRZ	**Vera Road**	**3.30**	**15**	P			**Pn**	**11 32 54.4**	**+2.2**
MOVZ	**Moawhango**	**3.31**	**29**	P			**Pn**	**11 32 55.7**	**+3.3**
WNVZ	**Wahianoa**	**3.33**	**27**	P			**Pb**	**11 32 59.3**	**-0.6**
ODZ	**Otahua Downs**	**3.50**	**218**	P			**Pn**	**11 32 54.6**	**-0.4**
ODZ	**Otahua Downs**	**3.50**	**218**	P			**Pn**	**11 32 54.4**	**-0.6**
NNVZ	**North Ngauruho**	**3.51**	**26**	P			**Pb**	**11 33 01.0**	**-2.0**
TWVZ	**Taurewa**	**3.51**	**23**	P			**Pb**	**11 33 01.8**	**-1.2**
WTVZ	**West Tongariro**	**3.52**	**25**	P			**Pb**	**11 33 01.5**	**-1.6**
HIZ	**Hauiti**	**3.91**	**14**	P			**Pn**	**11 33 03.3**	**+2.7**
HIZ	**Hauiti**	**3.91**	**14**	P			**Pn**	**11 33 02.8**	**+2.2**
JCZ	**Jackson Bay**	**3.98**	**242**	P			**Pn**	**11 33 01.3**	**-0.4**
JCZ	**Jackson Bay**	**3.98**	**242**	P			**Pn**	**11 33 01.5**	**-0.2**
EAZ	**Earnscleugh**	**4.30**	**226**	P			**Pn**	**11 33 05.9**	**0.0**
TUZ	**Tuapeka**	**4.65**	**217**	P			**Pn**	**11 33 10.7**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.30**	**8**	P			**Pn**	**11 33 21.4**	**+1.6**
SYZ	**Scrubby Hill**	**5.32**	**216**	P			**Pn**	**11 33 20.0**	**0.0**
MKAZ	**Moumakai**	**5.33**	**13**	P			**Pn**	**11 33 23.1**	**+3.0**
ETAZ	**East Tamaki Re**	**5.45**	**11**	P			**Pn**	**11 33 24.5**	**+2.8**
MBAZ	**Motutapu North**	**5.62**	**10**	P			Pn	11 33 29.7	+5.5
APZ	**The Paps**	**6.07**	**220**	P			**Pn**	**11 33 30.5**	**+0.3**
CTZ	**Chatham Island**	**7.25**	**105**	P			**Pn**	**11 33 46.6**	**+0.1**
CTZ	**Chatham Island**	**7.25**	**105**	P			**Pn**	**11 33 46.2**	**-0.3**

PRU 08 11:36:27.4±0.0, **50°.08N**×**19°.29E**, **h0**km, **Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**1.17**	**256**	*e*PG			Pg	11 36 49.6	-0.2
MORC				*e*SG			Sg	11 37 04.7	-0.2
VYHS	**Vyhne**	**1.61**	**191**	*e*PN			Pn	11 36 56.5	-0.7
VYHS				*e*SN			Sn	11 37 16.8	-1.9
KRLC	**Kraliky**	**1.62**	**271**	*e*SG			Sn	11 37 18.8	0.0
DPC	**Dobruska-Polom**	**1.93**	**279**	*e*PG			Pn	11 37 01.7	+0.2
DPC				*e*SG			Sb	11 37 28.5	+0.5
OSTC	**Ostas**	**2.03**	**285**	*e*SG			Sg	11 37 32.2	-0.3

*BJI **08** 11:41:02.3±0.0, 21°.39N×145°.57E, h42km, mb4.7/53, mB5.0/29, Ms4.3/14, Ms7 4.0/13*
*MOS **08** 11:41:02.2±0.8, 21°.43N×145°.40E, h35km, mb5.2/62, Error ellipse: s-maj=9.3km s-min=4.7km az=115.4*
*NEIC **08** 11:41:06.3±1.4, 21°.49N±0°.06×145°.4E±0°.1, h47km±6km, mb5.0/117, Error ellipse: s-maj=16.1km s-min=8.9km az=77.0*
*IDC **08** 11:41:08.1±2.7, 21°.44N×145°.46E, h73km±24km, mb4.3/31, mbtmp4.6/33, MS3.9/63, Error ellipse: s-maj=15.0km s-min=10.4km az=81.0*
ISC 08 11:41:03.8±0.4, **21°.48N**±0°.04×**145°.47E**±0°.06, **h33**km±2km, **h33**km:**pP-P**, **n647**, σ1§**02**/630, **mb5.0**/156, **MS4.0**/74, **25C-10D**, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.35**	**332**	P			**Pn**	**11 42 38.0**	**+3.0**
	100nm,0.6s,baz=135,slow=20,SNR=6.6								
JCJ				S			**Sn**	**11 43 51.2**	**+4.7**
	154nm,0.8s,baz=287,slow=23,SNR=2.4								
JCJ	**Chichijima**	**6.35**	**332**	Pn			**Pn**	**11 42 34.6**	**-0.5**
GUMO	**Guam**	**7.87**	**184**	P			Pn	11 43 03.0	+7.0
	103nm,0.8s,baz=13,slow=10.0,SNR=3.0								
GUMO				LR			LR	11 45 31.9	
	comp=Z,2μm,20.1s,baz=20,slow=34								
INU	**Inuyama**	**15.68**	**334**	Pn			**Pn**	**11 44 42.3**	**0.0**
JGF	**Kuroka**	**15.77**	**335**	P			**P**	**11 44 47.7**	**+0.6**
JGF	**Kuroka**	**15.77**	**335**	P			**P**	**11 44 46.7**	**-0.3**
MJAR	**Matsushiro Arr**	**16.29**	**339**	P			**Pn**	**11 44 49.8**	**-0.3**
	9.8nm,0.7s,baz=165,slow=11,SNR=15								
MAJO	**Matsushiro**	**16.29**	**339**				**Pn**	**11 44 51.4**	**+1.2**
MAJO	**Matsushiro**	**16.29**	**339**↑	*e*P			**Pn**	**11 44 51.1**	**+0.9**
MJB9	**Matsu-Tunnel**	**16.30**	**339**	P			**P**	**11 44 51.9**	**-1.0**
JMM	**Marumori**	**16.83**	**347**				**Pn**	**11 44 56.9**	**0.0**
JMM					IAmb		IAmb	11 45 02.0	
	comp=Z,161nm,1.0s								
JMM	**Marumori**	**16.83**	**347**	P			**P**	**11 45 00.3**	**+1.6**
JHS	**Saijyo**	**17.30**	**324**				**P**	**11 45 03.6**	**-0.4**
JHS	**Saijyo**	**17.30**	**324**	P			**P**	**11 45 03.9**	**-0.1**
JNU	**Nakatsue**	**17.38**	**315**	P			**P**	**11 45 05.8**	**+0.9**
	comp=Z,41nm,1.0s,baz=94,slow=5.9,SNR=9.9								
JNU				LR			LR	11 49 58.3	
	comp=Z,116nm,20.9s,baz=54,slow=30								
JNU	**Nakatsue**	**17.38**	**315**	P			**P**	**11 45 06.4**	**+1.4**
JNU	**Nakatsue**	**17.38**	**315**	P			**P**	**11 45 08.1**	**+3.2**
JSD	**Sado**	**17.64**	**341**	P			**Pn**	**11 45 06.5**	**-0.5**
JSD					IAmb		IAmb	11 45 09.3	
	comp=Z,154nm,1.8s								
H11N1	**WAKE ISLAND Hy**	**20.13**	**91**	T			T	12 06 28.3	
	baz=276,slow=74,SNR=9.5								
H11N2	**WAKE ISLAND Hy**	**20.13**	**91**	T			T	12 06 29.3	
	baz=276,slow=74,SNR=12								
H11N3	**WAKE ISLAND Hy**	**20.14**	**91**	T			T	12 06 29.2	
	baz=276,slow=74,SNR=10								
H11S3	**WAKE ISLAND Hy**	**20.15**	**95**	T			T	12 06 25.3	
	baz=281,slow=74,SNR=28								
H11S1	**WAKE ISLAND Hy**	**20.16**	**95**	T			T	12 06 24.7	
	baz=281,slow=74,SNR=12								
H11S2	**WAKE ISLAND Hy**	**20.17**	**95**	T			T	12 06 25.8	
	baz=281,slow=74,SNR=12								
KSRS	**Korea Array**	**22.01**	**320**	P			**P**	**11 45 57.0**	**+1.7**
	comp=Z,7.3nm,0.8s,baz=145,slow=9.0,SNR=22								
KSRS				LR			LR	11 54 06.6	
	comp=Z,476nm,21.1s,baz=135,slow=35								
	comp=Z,7.3nm,0.8s								
KS19	**Wonju Array Si**	**22.07**	**320**	P			**P**	**11 45 58.4**	**+2.4**
KS19					IAmb		IAmb	11 46 10.8	
	comp=Z,74nm,1.3s								
JKA	**Kamikawa-asahi**	**22.70**	**355**	P			**P**	**11 46 04.7**	**+2.0**
JKA					IAmb		IAmb	11 46 06.6	
	comp=Z,132nm,1.7s								
ASAJ	**Asahikawa**	**22.70**	**355**	P			**P**	**11 46 04.5**	**+1.8**
	comp=Z,34nm,1.1s,baz=226,slow=12,SNR=17								
ASAJ					LR		LR	11 56 57.8	
	comp=Z,190nm,18.9s,baz=167,slow=42								
	comp=Z,34nm,1.1s								
ASAJ	**Asahikawa**	**22.70**	**355**	P			**P**	**11 46 04.7**	**+2.0**
ASAJ					pmax		pmax		
	comp=Z,132nm,1.7s								
SSLB	**Suanglung**	**22.74**	**280**	P			**P**	**11 46 03.8**	**+0.5**
SSLB					IAmb		IAmb	11 46 06.1	
	comp=Z,160nm,1.9s								
SSLB	**Suanglung**	**22.74**	**280**	P			**P**	**11 46 04.0**	**+0.7**
DAV	**Davao City (W)**	**23.97**	**236**	LR			LR	11 53 37.4	
	comp=Z,474nm,21.4s,baz=52,slow=31								
SMPI	**Sarmi**	**24.24**	**197**	P			**P**	**11 46 18.4**	**+0.5**
	comp=Z,42nm,1.8s								
GENI	**Genyem**	**24.48**	**193**	P			**P**	**11 46 19.0**	**-1.1**
	comp=Z,28nm,1.0s								
TEY	**Ternei**	**24.61**	**345**	*e*P			**P**	**11 46 20.9**	**-0.1**
USA0B	**Ussuriysk Arra**	**25.27**	**337**	P			**P**	**11 46 28.2**	**+1.2**
USA0B					IAmb		IAmb	11 46 30.8	
	comp=Z,65nm,0.9s								
USA0B	**Ussuriysk Arra**	**25.27**	**337**	*c i*P			**P**	**11 46 29.7**	**+2.7**
USRK	**Ussuriysk Ar.**	**25.27**	**337**	P			**P**	**11 46 28.5**	**+1.5**
	comp=Z,43nm,0.8s,baz=150,slow=9.0,SNR=58								
	comp=Z,43nm,0.8s								
USRK	**Ussuriysk Ar.**	**25.27**	**337**	P			**P**	**11 46 28.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**25.27**	**337**	P			**P**	**11 46 28.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**25.51**	**356**	P			**P**	**11 46 29.5**	**+0.4**
YSS					IAmb		IAmb	11 46 32.5	
	comp=Z,34nm,0.9s								
YSS	**Yuzh-Sakhalins**	**25.51**	**356**	P			**P**	**11 46 30.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**25.51**	**356**↑	*e*P			**P**	**11 46 29.8**	**+0.7**
YSS					pmax		pmax		
	comp=Z,53nm,1.2s								
NJ2	**Nanjing**	**25.93**	**300**	*e*P			**P**	**11 46 34.0**	**+0.9**
NJ2					pmax		pmax		
	comp=Z,6.0nm,0.5s								
SIJI	**Sorong**	**26.19**	**214**	LR			LR	11 56 02.5	
	comp=Z,164nm,19.0s,baz=44,slow=34								
KRVT	**Keravat (AS076**	**26.42**	**165**	LR			LR	11 57 50.5	
	comp=Z,87nm,18.7s,baz=109,slow=38								
MDJ	**Mudanjiang**	**26.55**	**334**	P			**P**	**11 46 39.0**	**+0.5**
MDJ					IAmb		IAmb	11 46 41.3	
	comp=Z,46nm,1.4s								
MDJ	**Mudanjiang**	**26.55**	**334**	P			**P**	**11 46 40.0**	**+1.4**
MDJ					pmax		pmax		
	comp=Z,25nm,1.3s								
MDJ					pmax		pmax		
	comp=Z,200nm,5.6s								
MDJ	**Mudanjiang**	**26.55**	**334**	P			**P**	**11 46 39.6**	**+1.0**
FAKI	**Fak Fak**	**27.49**	**210**	P			**P**	**11 46 46.4**	**-0.9**
	comp=Z,16nm,1.7s								
UGL	**Uglegorsk**	**27.68**	**355**	*e*P			**P**	**11 46 50.1**	**+1.5**
UGL					pmax		pmax		
	comp=Z,60nm,1.3s								
CN2	**Changchun**	**27.79**	**328**	*e*P			**P**	**11 46 48.6**	**-1.1**
CN2					sP		sP	11 47 02.0	+0.4
CN2					S		**S**	**11 51 27.6**	**-2.8**
CN2					LR		LR		
	comp=Z,340nm,19.0s								
CN2					LR		LR		
	comp=Z,290nm,19.0s								
CN2					LR		LR		
	comp=Z,360nm,20.0s								
BNX	**BinXian**	**28.36**	**333**	⇑P			**P**	**11 46 55.5**	**+0.7**
BNX					pmax		pmax		
	comp=Z,27nm,0.8s								
BNX					pmax		pmax		
	comp=Z,160nm,4.4s								
TYV	**Tymovskoe**	**29.41**	**356**	*e*P			**P**	**11 47 04.5**	**+0.4**
TYV					*e*S		**S**	**11 51 58.2**	**+2.4**
TYV					pmax		pmax		
	comp=Z,10.0nm,0.9s								
TYV					pmax		pmax		
	comp=Z,200nm,3.2s								
TYV					smax		smax		
	comp=N,600nm,5.7s								
TYV					smax		smax		
	comp=E,700nm,5.7s								
KLR	**Kul'dur**	**29.77**	**342**	P			**P**	**11 47 08.2**	**+0.9**
	comp=E,31nm,0.8s,baz=147,slow=7.6,SNR=118								
KLR					LR		LR	12 00 35.2	
	comp=E,120nm,19.9s,baz=147,slow=39								
	comp=E,31nm,0.8s								
KLR	**Kul'dur**	**29.77**	**342**	*de*P			**P**	**11 47 08.0**	**+0.7**
KLR					pmax		pmax		
	comp=Z,37nm,0.8s								
PMG	**Port Moresby**	**30.73**	**177**	LR			LR	11 58 41.0	
	comp=Z,186nm,21.5s,baz=318,slow=34								
MYLDM	**Lahad Datu**	**30.75**	**242**	P			**P**	**11 47 17.2**	**+0.9**
MYLDM					IAmb		IAmb	11 47 33.8	
	comp=Z,38nm,1.1s								
HNS	**HongShan**	**30.96**	**308**	⇓P			**P**	**11 47 19.3**	**+1.3**
HNS					pmax		pmax		
	comp=Z,14nm,1.0s								
MRSI	**Marisa**	**31.03**	**231**	P			**P**	**11 47 18.5**	**-0.2**
	comp=Z,34nm,0.8s								
TOLI2	**Tolitoli**	**31.45**	**233**	P			**P**	**11 47 23.3**	**+0.8**
TOLI2					IAmb		IAmb	11 47 25.8	
	comp=Z,20nm,0.9s								
TOLI2	**Tolitoli**	**31.45**	**233**	P			**P**	**11 47 24.0**	**+1.5**
HEH	**HeiHe**	**32.06**	**338**	*e*P			**P**	**11 47 27.8**	**+0.4**
HEH					pmax		pmax		
	comp=Z,21nm,1.3s								
APSI	**Ampana**	**32.20**	**229**	P			**P**	**11 47 28.3**	**-0.8**
	comp=Z,63nm,1.4s								
MPSI	**Mapaga**	**32.62**	**233**	P			**P**	**11 47 34.7**	**+2.0**
	comp=Z,16nm,0.9s								
PETK	**Petropavlovsk-**	**32.94**	**14**	P			**P**	**11 47 36.9**	**+1.8**
	comp=Z,8.0nm,1.0s,baz=200,slow=12,SNR=2.2								
PETK					LR		LR	11 58 51.1	
	comp=Z,275nm,21.1s,baz=198,slow=32								
	comp=Z,8.0nm,1.0s								
XLT	**XiLinHaoTe**	**33.06**	**319**	*e*P			P	11 47 46.5	+10
XLT					pmax		pmax		
	comp=Z,9.0nm,1.0s								
XLT					pmax		pmax		
	comp=Z,200nm,5.1s								
QIZ	**Qiongzhong**	**33.47**	**272**	P			**P**	**11 47 41.1**	**+0.9**
QIZ				S			**S**	**11 53 01.1**	**+1.1

YAK *e* 11 50 27.2
YAK *eS* **S** **11 55 02.2 -5.4**
YAK *eSS* **SS** **11 58 09.1 -5.9**
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,81nm,3.7s
YAK pmax pmax
comp=N,113nm,3.3s
YAK pmax pmax
comp=E,31nm,2.5s
YAK smax smax
comp=N,55nm,3.5s
YAK smax smax
comp=E,53nm,3.3s
YAK Yakutsk 41.97 349 P **P** **11 48 51.3 -0.1**
YAK pP **pP** **11 48 59.8 0.0**
CRAI Chiangrai 42.05 277 P **P** **11 48 53.4 +0.7**
QIS Mount Isa 42.17 188 P **P** **11 48 53.5 0.0**
WB0 Warramunga Arr 42.40 196 P **P** **11 48 55.0 -0.3**
WB0 IAmb IAmb 11 48 57.4
comp=Z,18nm,0.8s
WR0 Warramunga Arr 42.55 195 P **P** **11 48 55.8 -0.8**
WRAB Tennant Creek 42.57 196 P **P** **11 48 56.3 -0.5**
WRAB IAmb IAmb 11 48 58.8
comp=Z,20nm,0.8s
WRAB Tennant Creek 42.57 196 P **P** **11 48 56.5 -0.3**
WRAB Tennant Creek 42.57 196 *ce*P **P** **11 48 56.1 -0.7**
WRAB pmax pmax
comp=Z,36nm,1.3s
WRAB Tennant Creek 42.57 196 P **P** **11 48 56.1 -0.7**
WRAB pP **pP** **11 49 03.5 -1.8**
WB2 Warramunga Arr 42.58 196 P **P** **11 48 56.3 -0.5**
WB2 IAmb IAmb 11 48 59.0
comp=Z,22nm,0.9s
WRA Warramunga Arr 42.58 196 P **P** **11 48 56.3 -0.6**
comp=Z,21nm,1.0s,baz=17,slow=8.7,SNR=50
WRA LR LR 12 05 43.4
comp=Z,325nm,21.9s,baz=38,slow=35
comp=Z,21nm,1.0s
WRA Warramunga Arr 42.58 196 P **P** **11 48 56.1 -0.8**
WRA Warramunga Arr 42.58 196 *i*P **P** **11 48 55.5 -1.4**
WRA pmax pmax
comp=Z,21nm,1.0s
BLJI Banyuglugur 42.69 231 P **P** **11 49 00.6 +2.8**
comp=Z,50nm,1.0s
GTA Gaotai 42.74 305 *e*P **P** **11 49 00.3 +2.1**
GTA sP pwP 11 49 17.6 +5.8
GTA PcP **PcP** **11 50 51.2 +1.8**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,64nm,4.7s
GTA LR LR
comp=Z,130nm,12.7s
GTA LR LR
comp=Z,150nm,14.5s
GTA LR LR
comp=Z,150nm,16.0s
BOD Bodaibo 42.89 336 *e*P **P** **11 48 59.2 +0.2**
BOD pmax pmax
comp=Z,23nm,1.4s
TNCH TengChong 43.12 284 *e*P **P** **11 49 02.6 +1.0**
CMAR Chiang Mai Arr 43.72 275 P **P** **11 49 06.7 +0.5**
comp=Z,1.8nm,0.7s,baz=59,slow=6.8,SNR=9.0
CMAR LR LR 12 05 21.1
comp=Z,55nm,21.3s,baz=70,slow=33
comp=Z,1.8nm,0.7s
CMAR Chiang Mai Ar 43.72 275 P **P** **11 49 07.2 +0.9**
CMAR Chiang Mai Arr 43.72 275 *i*P **P** **11 49 06.5 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
ZAK Zakamensk 43.83 322 *e*P **P** **11 49 05.8 -1.0**
ZAK pmax pmax
comp=Z,13nm,1.2s
FITZ Fitzroy Crossi 43.87 208 P **P** **11 49 07.2 -0.1**
FITZ Fitzroy Crossi 43.87 208 P **P** **11 49 07.0 -0.2**
PWJI Pagerwojo 44.18 232 P **P** **11 49 06.4 -3.4**
comp=Z,39nm,1.4s
MND Mandalay 45.69 280 P **P** **11 49 22.5 +0.6**
GOMU GeErMu 46.24 300 P **P** **11 49 28.0 +1.5**
GOMU pmax pmax
comp=Z,12nm,0.8s
GOMU pmax pmax
comp=Z,120nm,4.7s
AS31 Alice Springs 46.26 195 P **P** **11 49 25.2 -1.0**
ASAR Alice Springs 46.26 195 P **P** **11 49 25.4 -0.9**
comp=Z,8.4nm,0.7s,baz=13,slow=7.5,SNR=82
ASAR LR LR 12 08 11.4
comp=Z,186nm,21.5s,baz=22,slow=35
comp=Z,8.4nm,0.7s
LEM Lembang 46.59 237 LR LR 12 11 07.8
comp=Z,81nm,18.9s,baz=27,slow=39
NIKH Nikolski High 46.88 36 P **P** **11 49 30.3 -0.5**
baz=246
LIFNC LIFOU 47.07 152 P **P** **11 49 33.1 +0.5**
DZM Mont Dzumac 47.88 153 *e*LR LR 12 03 17.7
comp=Z,415nm,25.3s
DZM Mont Dzumac 47.88 153 P **P** **11 49 38.7 -0.3**
comp=Z,10nm,0.7s,baz=325,slow=4.4,SNR=8.6
DZM LR LR 12 07 07.4
comp=Z,141nm,21.7s,baz=7.0,slow=33
comp=Z,10nm,0.7s
DZM Mont Dzumac 47.88 153 P **P** **11 49 39.8 +0.8**
DZM Mont Dzumac 47.88 153 P **P** **11 49 38.8 -0.2**
SPIA Saint Paul Isl 48.05 31 P **P** **11 49 39.4 -0.4**
baz=241
BILL Bilibino 48.33 10 P **P** **11 49 42.8 +0.9**
BILL IAmb IAmb 11 49 44.4
comp=Z,14nm,1.0s
BILL Bilibino 48.33 10 *ce*P **P** **11 49 42.1 +0.2**
BILL *i* 11 49 50.3
BILL *e* 11 51 33.4
BILL pmax pmax
comp=Z,23nm,1.3s
BILL MLR MLR
comp=Z,174nm,19.0s
BILL Bilibino 48.33 10 P **P** **11 49 42.5 +0.7**
BILL pP **pP** **11 49 51.6 +1.3**
OUENC Ouen Island, N 48.35 153 P **P** **11 49 42.6 +0.1**
UNV Unalaska Valle 48.52 36 P **P** **11 49 44.2 +0.7**
UNV Unalaska Valle 48.52 36 P **P** **11 49 44.1 +0.7**
baz=248
SHL Shillong 49.04 286 P **P** **11 49 47.8 -0.3**
SHL Shillong 49.04 286 P **P** **11 49 47.8 -0.3**
SHL pmax pmax
comp=Z,8.0nm,0.9s
INKA Innaminka 49.14 186 P **P** **11 49 46.9 -1.6**
WRKA Warakurna 49.16 201 P **P** **11 49 48.6 -0.1**
LSA Lhasa 49.30 291 P **P** **11 49 50.2 -0.3**
LSA IAmb IAmb 11 49 54.9
comp=Z,13nm,0.9s
LSA Lhasa 49.30 291 P **P** **11 49 50.2 -0.3**
LSA pmax pmax
comp=Z,13nm,0.9s
OOD Oodnadatta 49.89 191 P **P** **11 49 52.6 -1.6**
MSVF Nonsavu 50.37 138 P **P** **11 49 59.6 +1.5**
comp=Z,5.6nm,0.6s,baz=305,slow=11,SNR=7.1
MSVF LR LR 12 10 00.3
comp=Z,93nm,18.8s,baz=237,slow=34
comp=Z,5.6nm,0.6s
MSVF Nonsavu 50.37 138 P **P** **11 49 59.1 +1.0**
MSVF IAmb IAmb 11 50 00.7
comp=Z,17nm,1.0s
MSVF Nonsavu 50.37 138 P **P** **11 49 59.5 +1.4**
MSVF Nonsavu 50.37 138 ⇑*i*P **P** **11 49 58.9 +0.8**
MSVF pmax pmax
comp=Z,30nm,1.5s
MSVF Nonsavu 50.37 138 P **P** **11 49 59.8 +1.7**
MSVF pP **pP** **11 50 08.1 +1.3**
TAVE Taveuni 50.91 135 P **P** **11 50 03.6 +1.5**
GAMB Gambell 50.98 23 P **P** **11 50 01.6 -0.4**
baz=235
TIXI Tiksi 51.10 353 LR LR 12 13 05.3
comp=Z,67nm,20.0s,baz=2.0,slow=38
TIXI Tiksi 51.10 353 ⇑*i*P **P** **11 50 02.6 -0.2**
TIXI pmax pmax
comp=Z,11nm,1.4s
LCRK Leigh Creek 52.09 188 P **P** **11 50 10.0 -0.7**
SDPT Sand Point 52.33 36 P **P** **11 50 11.7 -0.5**
baz=252

WMQ Urumqi 52.37 309 *e*P **P** **11 50 14.1 +1.3**
WMQ pP pwP 11 50 26.6 +0.1
WMQ sP sP 11 50 28.5 +3.5
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,120nm,3.9s
TAPN Taplejung 52.54 289 *e*P **P** **11 50 15.8 +1.2**
comp=Z,9.7nm,0.2s
MULG Mulgathing 52.62 192 P **P** **11 50 14.6 0.0**
STKA Stephens Creek 53.18 184 P **P** **11 50 17.7 -1.0**
comp=Z,1.6nm,0.6s,baz=333,slow=12,SNR=4.1
STKA LR LR 12 14 32.5
comp=Z,179nm,18.1s,baz=19,slow=38
comp=Z,1.6nm,0.6s
STKA Stephens Creek 53.18 184 ‖*e*P **P** **11 50 19.5 +0.7**
TNA Tin City 53.33 22 P **P** **11 50 19.7 +0.2**
baz=238
DGZ Jazzator, Alta 53.35 317 *ci*P **P** **11 50 20.6 +0.5**
DGZ pmax pmax
comp=Z,29nm,1.4s
RAMN Ramite 53.57 288 *e*P **P** **11 50 22.9 +0.7**
CHGN Chignik 53.72 35 P **P** **11 50 22.5 0.0**
baz=254
ANM Nome 53.74 24 P **P** **11 50 23.4 +0.9**
baz=241
JIRN Jiri 53.84 289 *e*P **P** **11 50 24.8 +0.5**
PKI Pulchoki 54.54 289 *e*P **P** **11 50 29.0 -0.3**
PKIN Phulchoki 54.55 289 *e*P **P** **11 50 29.3 -0.1**
comp=Z,12nm,0.5s
FORT Forrest 54.58 198 P **P** **11 50 28.2 -0.8**
FORT IAmb IAmb 11 50 30.8
comp=Z,16nm,0.7s
ZSN Zaisan 54.72 314 *e*P **P** **11 50 29.8 -0.2**
baz=314
ZSN Zaisan 54.72 314 *e*P **P** **11 50 29.8 -0.2**
BBOO Buckleboo 54.73 190 P **P** **11 50 29.4 -0.6**
BBOO IAmb IAmb 11 50 40.0
comp=Z,31nm,1.3s
AFI Afiamalu 54.74 126 P P 11 50 25.4 -5.2
P16K Nushagak River 54.75 32 P **P** **11 50 30.8 +0.9**
baz=252
N16K Nishlik Lake 54.84 30 P **P** **11 50 31.2 +0.5**
baz=250,SNR=6.8
O16K Kokwok River B 54.88 31 P **P** **11 50 31.2 +0.4**
baz=252
HTT Hallett 54.96 187 P **P** **11 50 32.8 +1.0**
CHIR Chirikof Islan 55.11 36 P **P** **11 50 33.1 +0.5**
baz=256
GKN Gorkha 55.16 290 *e*P **P** **11 50 33.4 -0.2**
R17K Ugashik Creek 55.16 34 P **P** **11 50 33.2 +0.3**
baz=255
O17K Koliganek Bris 55.41 31 P **P** **11 50 35.3 +0.6**
baz=252,SNR=6.4
ZAA0 Zalesovo Array 55.71 321 P **P** **11 50 36.7 -0.3**
ZAA0 IAmb IAmb 11 50 37.6
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 55.71 321 P **P** **11 50 36.3 -0.6**
comp=Z,4.3nm,0.5s,baz=97,slow=6.3,SNR=24
ZALV PcP **PcP** **11 51 34.8 -1.2**
comp=Z,4.8nm,0.9s,baz=98,slow=3.3,SNR=4.5
ZALV LR LR 12 15 02.4
comp=Z,155nm,19.9s,baz=76,slow=36
comp=Z,4.3nm,0.5s
ZALV Zalesovo Beam 55.71 321 P **P** **11 50 37.0 +0.1**
ZALV Zalesovo Beam 55.71 321 P **P** **11 50 37.0 +0.1**
DANN Dangsing 55.88 290 *e*P **P** **11 50 38.1 -0.9**
comp=Z,37nm,0.5s
SII Sitkinak Islan 56.06 35 P **P** **11 50 39.9 +0.4**
baz=257
MK31 Makanchi Array 56.41 313 P **P** **11 50 42.0 -0.2**
MK31 IAmb IAmb 11 50 43.5
comp=Z,16nm,1.4s
MK31 Makanchi Array 56.41 313 *ci*P **P** **11 50 42.3 +0.1**
MKAR Makanchi Array 56.41 313 P **P** **11 50 41.8 -0.4**
comp=Z,2.9nm,0.7s,baz=90,slow=8.7,SNR=28
MKAR PcP **PcP** **11 51 38.4 -0.6**
comp=Z,4.3nm,0.9s,baz=100,slow=5.0,SNR=6.9
MKAR LR LR 12 18 07.9
comp=Z,49nm,18.3s,baz=128,slow=39
comp=Z,2.9nm,0.7s
MKAR Makanchi Array 56.41 313 P **P** **11 50 41.6 -0.6**
MKAR Makanchi Array 56.41 313 *i*P **P** **11 50 41.5 -0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
SVW2 Sparrevohn 56.52 30 P **P** **11 50 44.0 +1.3**
SVW2 IAmb IAmb 11 50 45.7
comp=Z,25nm,1.6s
MAKZ Makanchi 56.63 313 P **P** **11 50 43.3 -0.4**
MAKZ IAmb IAmb 11 50 45.8
comp=Z,12nm,1.1s
MAKZ Makanchi 56.63 313 P **P** **11 50 43.4 -0.3**
MAKZ Makanchi 56.63 313 P **P** **11 50 43.5 -0.2**
OHAK Old Harbor 56.69 35 P **P** **11 50 44.4 +0.5**
baz=258
O19K Port Alsworth 56.87 31 P **P** **11 50 46.0 +0.9**
O19K IAmb IAmb 11 50 48.2
comp=Z,15nm,0.7s
O19K Port Alsworth 56.87 31 P **P** **11 50 46.1 +1.0**
baz=255,SNR=6.6
TTA Tatalina 56.89 28 P **P** **11 50 46.2 +0.8**
TTA Tatalina 56.89 28 P **P** **11 50 46.0 +0.7**
baz=252
TTA Tatalina 56.89 28 P **P** **11 50 46.2 +0.8**
TTA pmax pmax
comp=Z,12nm,1.2s
N19K Bonanza Creek 56.96 30 P **P** **11 50 46.8 +0.9**
N19K IAmb IAmb 11 50 52.4
comp=Z,30nm,1.4s
N19K Bonanza Creek 56.96 30 P **P** **11 50 46.7 +0.9**
baz=254
GCSA Galena City Sc 57.14 26 P **P** **11 50 47.8 +0.8**
baz=250
L19K White Mountain 57.17 29 P **P** **11 50 48.3 +1.0**
L19K IAmb IAmb 11 50 52.7
comp=Z,18nm,1.4s
L19K White Mountain 57.17 29 P **P** **11 50 48.0 +0.7**
baz=253
KDAK Kodiak Island 57.18 34 P **P** **11 50 47.5 +0.1**
comp=Z,5.9nm,0.6s,baz=273,slow=12,SNR=6.3
KDAK LR LR 12 12 04.9
comp=Z,168nm,21.9s,baz=254,slow=32
comp=Z,5.9nm,0.6s
KDAK Kodiak Island 57.18 34 P **P** **11 50 47.9 +0.6**
KDAK Kodiak Island 57.18 34 P **P** **11 50 47.9 +0.6**
KDAK pmax pmax
comp=Z,96nm,1.6s
P19K Oil Pt 57.27 32 P **P** **11 50 47.6 -0.4**
baz=256
Q20K Shuyak Island 57.45 33 P **P** **11 50 49.3 0.0**
baz=258
L20K Farewell, AK 57.69 29 P **P** **11 50 51.5 +0.6**
baz=254
K20K Telida 57.86 28 P **P** **11 50 53.6 +1.5**
M20K Styx River 57.87 29 P **P** **11 50 53.1 +0.8**
baz=255
J20K Nowinta River 58.07 27 P **P** **11 50 55.1 +1.6**
J20K Nowinta River 58.07 27 P **P** **11 50 54.3 +0.8**
baz=253
SPCR Spurr Chakacha 58.13 30 P **P** **11 50 53.9 -0.2**
baz=256
SHLS Shalkode 58.32 308 *e*P **P** **11 50 53.9 -2.0**
baz=308
SHLS Shalkode 58.32 308 *e*P **P** **11 50 53.8 -2.0**
BRSE Bradley Lake S 58.52 32 P **P** **11 50 56.5 -0.2**
baz=258
PPLA Purkeypile 58.56 28 P **P** **11 50 58.3 +1.2**
PPLA Purkeypile 58.56 28 P **P** **11 50 57.2 +0.1**
baz=255,SNR=6.0
SKT Skwentna 58.63 30 P **P** **11 50 57.5 0.0**
SKT IAmb IAmb 11 50 59.1
comp=Z,27nm,1.6s
SKT Skwentna 58.63 30 P **P** **11 50 58.0 +0.5**
baz=256
UZB Uzynbulak 58.64 308 *e*P **P** **11 50 58.6 +0.4**
baz=308
UZB Uzynbulak 58.64 308 *e*P **P** **11 50 58.5 +0.4**
CAST Castle Rocks 58.74 28 P **P** **11 50 59.0 +0.7**
CAST IAmb IAmb 11 51 01.3
comp=Z,12nm,0.9s
CAST Castle Rocks 58.74 28 P **P** **11 50 58.6 +0.3**
baz=255,SNR=11
CHUM Lake Minchumin 58.76 27 P **P** **11 50 58.6 +0.3**
baz=254
IMAR Indian Mountai 58.79 25 P **P** **11 50 58.9 +0.4**
SUA Susitna One 58.88 30 P **P** **11 50 59.3 0.0**
baz=258
NRIK Noril'sk 58.94 339 P **P** **11 50 59.5 0.0**
comp=Z,16nm,1.0s,baz=116,slow=6.8,SNR=12
NRIK LR LR 12 17 15.1
comp=Z,225nm,20.7s,baz=140,slow=37
comp=Z,16nm,1.0s
NRIK Noril'sk 58.94 339 P **P** **11 51 00.0 +0.5**
NRIK Noril'sk 58.94 339 *ci*P **P** **11 50 59.8 +0.3**
NRIK pmax pmax
comp=Z,39nm,1.4s
G21K Allakaket 59.05 24 P **P** **11 51 01.3 +1.0**
baz=252
FIS Fire Island 59.06 31 P **P** **11 50 59.2 -1.2**
H21K Melozitna Rive 59.06 25 P **P** **11 51 01.8 +1.4**
H21K Melozitna Rive 59.06 25 P **P** **11 51 01.8 +1.4**
baz=253
ZHN Zhinishke 59.07 308 *e*P **P** **11 51 00.8 -0.3**
baz=308
ZHN Zhinishke 59.07 308 *e*P **P** **11 51 00.7 -0.3**
KLBR Kellerberrin 59.08 208 P **P** **11 51 00.0 -0.9**
KURK Kurchatov 59.09 317 P **P** **11 51 00.7 -0.1**
KURK Kurchatov 59.09 317 P **P** **11 51 00.7 -0.1**
KURK pmax pmax
comp=Z,32nm,1.5s
KURK Kurchatov 59.09 317 P **P** **11 51 00.5 -0.3**
KURK pP **pP** **11 51 08.3 -1.3**
KURK sP **sP** **11 51 11.7 -1.4**
SATY Saty 59.09 308 *e*P **P** **11 51 01.5 +0.2**
comp=Z,12nm,1.5s,baz=308
SATY Saty 59.09 308 *e*P **P** **11 51 01.4 +0.2**
SATY pmax pmax
comp=Z,12nm,1.5s
KURBB Kurchatov Arra 59.14 317 P **P** **11 51 00.2 -1.0**
O22K Cooper Landing 59.16 31 P **P** **11 51 01.5 +0.3**
O22K Cooper Landing 59.16 31 P **P** **11 51 01.4 +0.3**
baz=259
SEW Seward 59.22 32 P **P** **11 51 01.5 -0.1**
baz=260
M22K Willow 59.23 30 P **P** **11 51 01.4 -0.2**
baz=258
I21K Tanana 59.25 26 P **P** **11 51 03.1 +1.4**
I21K IAmb IAmb 11 51 18.2
comp=Z,11nm,0.9s
I21K Tanana 59.25 26 P **P** **11 51 02.6 +0.9**
baz=254,SNR=6.4
RC01 Rabbit Creek A 59.27 31 P **P** **11 51 02.3 +0.3**
RC01 IAmb IAmb 11 51 06.1
comp=Z,12nm,0.8s
RC01 Rabbit Creek A 59.27 31 P **P** **11 51 02.0 0.0**
baz=259
KTH Kantishna Hill 59.28 28 P **P** **11 51 03.0 +1.0**
F21K Alatna River 59.28 23 P **P** **11 51 02.2 +0.3**
baz=252
CUT Chulitna 59.30 29 P **P** **11 51 02.4 +0.3**
baz=257
BPAW Bear Paw Mtn. 59.38 27 P **P** **11 51 03.3 +0.6**
BPAW IAmb IAmb 11 51 05.7
comp=Z,13nm,0.7s
BPAW Bear Paw Mtn. 59.38 27 P **P** **11 51 03.3 +0.6**
baz=256,SNR=16
TRF Thorofare Moun 59.53 28 P **P** **11 51 04.0 +0.2**
TRF Thorofare Moun 59.53 28 P **P** **11 51 04.1 +0.2**
baz=257,SNR=7.9
TARG Taragay, Kyrgy 59.59 307 P **P** **11 51 05.1 +0.1**
TARG IAmb IAmb 11 51 07.2
comp=Z,8.5nm,1.0s
TARG Taragay, Kyrgy 59.59 307 P **P** **11 51 05.1 +0.1**
TARG pmax pmax
comp=Z,9.0nm,1.0s
PMR Palmer 59.66 30 P **P** **11 51 04.7 +0.1**
PMR Palmer 59.66 30 P **P** **11 51 04.6 +0.1**
baz=259
PMR Palmer 59.66 30 P **P** **11 51 04.7 +0.1**
PMR pmax pmax
comp=Z,40nm,1.6s
H22K Ishtalitna Cre 59.69 25 P **P** **11 51 04.9 +0.1**
baz=254,SNR=7.0
MLY Manley 59.72 26 P **P** **11 51 05.9 +0.9**
MLY IAmb IAmb 11 51 10.3
comp=Z,17nm,1.3s
MLY Manley 59.72 26 P **P** **11 51 05.3 +0.3**
baz=255,SNR=7.8
A21K Barrow 59.73 18 P **P** **11 51 05.1 +0.2**
baz=246
F22K John River 59.85 23 P **P** **11 51 06.8 +1.0**
baz=253
PWL Port Wells 59.90 31 P **P** **11 51 06.6 +0.3**
baz=260
G22K Bettles 59.93 24 P **P** **11 51 06.8 +0.4**
baz=254
KNK Knik Glacier 59.94 31 P **P** **11 51 06.7 +0.1**
baz=260
SML Sawmill 60.07 30 P **P** **11 51 07.9 +0.4**
baz=260,SNR=7.6
MDOK Medeo 60.09 308 P **P** **11 51 07.8 -0.3**
CHKK Chushkaly 60.11 309 *e*P **P** **11 51 08.1 0.0**
baz=309
CHKK Chushkaly 60.11 309 *e*P **P** **11 51 08.0 0.0**
TNSS Tian-Shan 60.16 308 *e*P **P** **11 51 09.8 +0.8**
baz=308
TNSS Tian-Shan 60.16 308 *e*P **P** **11 51 09.7 +0.8**
WAT1 Susitna Watana 60.17 29 P **P** **11 51 08.3 +0.2**
baz=259
AAA Alma-Ata 60.18 308 *e*P **P** **11 51 09.8 +1.1**
baz=308
AAA Alma-Ata 60.18 308 *e*P **P** **11 51 09.7 +1.1**
MCK McKinley 60.18 28 P **P** **11 51 08.2 0.0**
baz=258
P23K Montague Islan 60.22 32 P **P** **11 51 09.0 +0.5**
baz=261
NEA2 Nenana 60.31 27 P **P** **11 51 09.5 +0.5**
baz=257
I23K Minto, Yukon-K 60.32 26 P **P** **11 51 10.1 +1.1**
baz=257,SNR=6.0
M23K Glacier View 60.35 30 P **P** **11 51 09.7 +0.3**
baz=260
H23K Yukon River 60.40 25 P **P** **11 51 10.9 +1.2**
H23K IAmb IAmb 11 51 32.9
comp=Z,26nm,1.8s
H23K Yukon River 60.40 25 P **P** **11 51 10.1 +0.5**
baz=256
G23K Bananza Creek 60.44 24 P **P** **11 51 10.6 +0.7**
baz=255
WAT6 Susitna Watana 60.49 29 P **P** **11 51 10.7 +0.2**
baz=260,SNR=11
COLD Coldfoot 60.50 24 P **P** **11 51 11.0 +0.7**
baz=255,SNR=6.7
SCM Sheep Creek Mo 60.55 30 P **P** **11 51 11.0 +0.2**
SCM Sheep Creek Mo 60.55 30 P **P** **11 51 11.4 +0.6**
baz=260
SCM Sheep Creek Mo 60.55 30 P **P** **11 51 11.0 +0.2**
SCM pmax pmax
comp=Z,26nm,1.0s
KUU Kurty 60.57 309 *e*P **P** **11 51 11.2 0.0**
comp=Z,16nm,1.1s,baz=309
KUU Kurty 60.57 309 *e*P **P** **11 51 11.2 0.0**
KUU pmax pmax
comp=Z,16nm,1.1s
DHY Denali Highway 60.74 29 P **P** **11 51 12.7 +0.5**
baz=260,SNR=8.6
D23K Nanushuk River 60.81 22 P **P** **11 51 14.1 +1.7**
baz=253
TCOL CIGO, UAF Yank 60.88 27 P **P** **11 51 14.3 +1.4**
baz=258
COLA College 60.88 27 P **P** **11 51 13.8 +0.9**
baz=258
COLA College 60.88 27 ‖*e*P **P** **11 51 14.6 +1.7**
COLA pmax pmax
comp=Z,30nm,3.8s
COLA College 60.88 27 P **P** **11 51 14.1 +1.2**
COLA pP **pP** **11 51 22.4 +0.9**
E23K Chandalar 60.94 23 P **P** **11 51 14.6 +1.2**
baz=255
H24K Noodor Dome 61.07 26 P **P** **11 51 14.6 +0.3**
baz=258
POKR Poker Plat Res 61.10 26 P **P** **11 51 15.4 +0.9**
baz=258
EYAK Cordova Ski Ar 61.11 32 P **P** **11 51 15.2 +0.7**
baz=263
KSH Kashi 61.12 304 P **P** **11 51 18.7 +3.5**
KSH sP pwP 11 51 31.8 +2.8
KSH pmax pmax
comp=Z,8.0nm,1.0s
M24K Tolsona, Glenn 61.13 30 P **P** **11 51 15.1 +0.4**
baz=261
KLU Klutina 61.16 31 P **P** **11 51 15.3 +0.3**

baz=262
TKM2 Tokmak 2 61.16 308 P P 11 51 14.5 -1.0
HDA Harding Lake 61.17 27 P P 11 51 14.3 -0.6
baz=259,SNR=5.0
IL31 61.27 27 P P 11 51 14.7 -0.8
IL31 IAmb IAmb 11 51 16.9
comp=Z,11nm,1.2s
ILAR Eielson Array 61.27 27 P P 11 51 14.5 -1.0
comp=Z,3.8nm,0.9s,baz=256,slow=5.8,SNR=28
ILAR LR LR 12 15 08.9
comp=Z,192nm,22.0s,baz=250,slow=33
comp=Z,3.8nm,0.9s
ILAR Eielson Array 61.27 27 P P 11 51 14.7 -0.9
ILAR Eielson Array 61.27 27 P P 11 51 14.7 -0.9
E24K Your Creek 61.35 23 P P 11 51 17.3 +1.1
baz=256
G24K Hadweenzic Riv 61.42 25 P P 11 51 17.5 +0.9
baz=258
F24K Squaw Lake 61.44 24 P P 11 51 17.5 +0.8
baz=257
D24K Happy Valley 61.51 22 P P 11 51 17.8 +0.8
baz=255
K24K Donnelly Dome 61.57 28 P P 11 51 18.5 +0.9
baz=261
PAX Paxson 61.58 29 P P 11 51 17.4 -0.3
PAX Paxson 61.58 29 P P 11 51 18.3 +0.5
baz=262,SNR=6.5
PAX Paxson 61.58 29 P P 11 51 17.5 -0.3
HARP HAARP 61.64 30 P P 11 51 18.6 +0.4
baz=262
C24K Franklin Bluff 61.70 21 P P 11 51 18.7 +0.3
baz=255
BMRM Bremner River 61.72 31 P P 11 51 19.3 +0.6
BMRM Bremner River 61.72 31 P P 11 51 19.3 +0.6
baz=263
N25K Chitina, Valde 61.80 31 P P 11 51 19.5 +0.2
baz=263
SGDS Sogindy 61.83 309 *e*P P 11 51 19.7 -0.2
baz=309
SGDS Sogindy 61.83 309 *e*P P 11 51 19.6 -0.2
J25K Salcha River, 61.88 27 P P 11 51 18.7 -1.1
J25K IAmb IAmb 11 52 00.8
comp=Z,23nm,1.9s
J25K Salcha River, 61.88 27 P P 11 51 19.2 -0.5
baz=261
G25K Bearman Lake 61.97 25 P P 11 51 20.7 +0.5
baz=259
PRP Porcupine Dome 61.97 26 P P 11 51 19.8 -0.6
baz=260
RIDG Independent Ri 61.97 28 P P 11 51 20.5 +0.1
RIDG IAmb IAmb 11 51 21.3
comp=Z,17nm,1.1s
RIDG Independent Ri 61.97 28 P P 11 51 20.6 +0.2
baz=262,SNR=6.6
AAK Ala-Archa 61.99 308 LR LR 12 19 24.0
comp=Z,55nm,20.4s,baz=91,slow=37
AAK Ala-Archa 61.99 308⇑ *e*P P 11 51 21.5 +0.5
AAK pmax pmax
comp=Z,7.0nm,1.5s
GLB Gilahina Butte 62.16 31 P P 11 51 22.4 +0.8
BTLS Baital 62.16 311 *e*P P 11 51 21.9 -0.1
baz=311
BTLS Baital 62.16 311 *e*P P 11 51 21.8 -0.1
FYU Fort Yukon 62.27 25 P P 11 51 23.8 +1.6
F25K Christian Rive 62.30 24 P P 11 51 23.6 +1.1
baz=259
SCRK Sand Creek 62.38 28 P P 11 51 23.4 +0.1
SCRK IAmb IAmb 11 51 24.1
comp=Z,18nm,1.2s
SCRK Sand Creek 62.38 28 P P 11 51 23.5 +0.3
baz=262,SNR=8.9
D25K Kavik River 62.39 22 P P 11 51 23.6 +0.4
baz=257
E25K Arctic Village 62.43 23 P P 11 51 24.0 +0.7
baz=259,SNR=5.7
MCARA McCarthy VSAT 62.53 31 P P 11 51 24.9 +0.9
baz=265
L26K Log Cabin Wild 62.55 29 P P 11 51 24.6 +0.4
baz=264
J26L Joseph Creek 62.64 27 P P 11 51 24.9 +0.1
J26L IAmb IAmb 11 51 34.7
comp=Z,19nm,1.3s
J26L Joseph Creek 62.64 27 P P 11 51 25.0 +0.1
baz=262,SNR=12
M26K Nabesna, AK 62.64 30 P P 11 51 25.5 +0.6
baz=264
BMAR Burnt Mountain 62.67 24 P P 11 51 26.5 +1.5
F26K Sheenjek River 62.88 24 P P 11 51 27.7 +1.3
baz=266
G26K Porcupine Rive 62.90 25 P P 11 51 27.4 +1.0
baz=261
C26K Camden Bay 63.02 21 P P 11 51 28.2 +1.0
baz=258
M27K Edge Creek, AK 63.16 30 P P 11 51 28.6 +0.2
baz=265
K27K Chicken 63.23 28 P P 11 51 30.0 +1.4
K27K IAmb IAmb 11 51 33.3
comp=Z,13nm,1.3s
K27K Chicken 63.23 28 P P 11 51 29.1 +0.4
baz=264
L27K Beaver Creek, 63.24 29 P P 11 51 29.4 +0.6
L27K IAmb IAmb 11 51 30.3
comp=Z,24nm,1.8s
L27K Beaver Creek, 63.24 29 P P 11 51 29.2 +0.4
baz=265
BCAR Beaver Creek A 63.26 29 P P 11 51 29.5 +0.5
C27K Jago River 63.38 22 P P 11 51 30.4 +0.8
baz=260
I27K Kandik River 63.59 26 P P 11 51 31.7 +0.6
baz=264
BVCY Beaver Creek 63.63 30 P P 11 51 31.6 +0.1
baz=266
H27K Steamboat Moun 63.70 26 P P 11 51 32.3 +0.5
baz=264
EGAK Eagle 63.70 27 P P 11 51 31.7 0.0
baz=265
G27K Doyon Strip 63.71 25 P P 11 51 32.7 +0.9
baz=263
YUK3 Moose Creek 63.78 31 P P 11 51 33.0 +0.3
baz=267
PINM Pinnacle 63.80 33 P P 11 51 31.3 -1.3
baz=268
O28M Mount Upton 63.86 32 P P 11 51 33.5 +0.2
baz=267
E27K Coleen River 63.91 23 P P 11 51 33.9 +0.7
baz=262
NIL Nilore 64.03 298 P P 11 51 34.2 -0.3
NIL Nilore 64.03 298 P P 11 51 34.2 -0.3
NIL pmax pmax
comp=Z,35nm,1.2s
NIL Nilore 64.03 298 P P 11 51 35.1 +0.6
YUK8 Steele Glacier 64.09 31 P P 11 51 35.2 +0.5
baz=268
BVA0 Borovoye Array 64.22 320 *i* P P 11 51 34.7 -0.7
BVAR Borovoye Array 64.22 320 LR LR 12 20 40.3
comp=Z,155nm,20.3s,baz=78,slow=37
BRVK Borovoye 64.28 320 P P 11 51 35.8 -0.1
BRVK IAmb IAmb 11 51 37.2
comp=Z,28nm,1.2s
BRVK Borovoye 64.28 320 *c i*P P 11 51 35.9 +0.1
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 64.28 320 P P 11 51 35.3 -0.6
DAWY Dawson 64.41 28 P P 11 51 37.3 +0.8
DAWY IAmb IAmb 11 51 51.4
comp=Z,31nm,1.7s
DAWY Dawson 64.41 28 P P 11 51 36.8 +0.3
baz=267
YUK4 Talbot Arm 64.63 31 P P 11 51 39.6 +1.3
baz=269
O29M Mount Kennedy 64.64 32 P P 11 51 39.1 +0.9
baz=269
M29M Somme Creek 64.75 30 P P 11 51 39.5 +0.7
baz=268
YUK6 Outpost Mounta 64.76 32 P P 11 51 39.8 +0.7
baz=269
KK31 Karatay Array 64.86 309 P P 11 51 39.8 0.0
KK31 IAmb IAmb 11 51 41.2
comp=Z,10nm,0.9s
KK31 Karatay Array 64.86 309 *i* P P 11 51 39.2 -0.6
KKAR Karatay Array 64.86 309 P P 11 51 39.2 -0.6
KKAR Karatay Array 64.86 309 P P 11 51 41.5 +1.7
KKAR IAmb IAmb 11 52 00.1
comp=Z,7.2nm,0.9s
KKAR Karatay Array 64.86 309 P P 11 51 39.2 -0.6
KKAR pmax pmax
comp=Z,7.0nm,0.9s

L29M L29M 64.92 29 P P 11 51 40.9 +1.0
baz=268
J29M Klondike Camp 64.94 28 P P 11 51 40.5 +0.5
baz=268
I29M Ogilvie Camp, 64.95 27 P P 11 51 40.1 +0.1
baz=267,SNR=8.0
HYT Haines Junctio 65.18 32 P P 11 51 42.3 +0.6
baz=270
K29M Barlow Dome 65.22 28 P P 11 51 42.3 +0.4
baz=268
IUG Iuzhnay 65.33 308 *e*P P 11 51 42.8 -0.2
baz=308
IUG Iuzhnay 65.33 308 *e*P P 11 51 42.8 -0.2
P30M Million Dollar 65.45 33 P P 11 51 44.1 +0.7
baz=271
M30M Minto, Yukon 65.53 30 P P 11 51 44.8 +1.0
baz=270
GAR Garm 65.54 304 P P 11 51 45.1 +0.7
GAR IAmb IAmb 11 51 53.2
comp=Z,18nm,0.9s
EPYK Eagle Plains 65.64 26 P P 11 51 45.1 +0.7
EPYK Eagle Plains 65.64 26 P P 11 51 45.2 +0.7
baz=268,SNR=5.3
PLBC Pleasant Camp 65.76 33 P P 11 51 46.0 +0.7
baz=271
G30M tAoh Zraii Nji 65.86 25 P P 11 51 46.7 +0.8
baz=268
O30N Mendenhall 65.87 32 P P 11 51 46.6 +0.5
baz=271
N31M Braeburn, Yuko 66.01 31 P P 11 51 47.4 +0.5
N31M IAmb IAmb 11 51 51.1
comp=Z,24nm,1.2s
N31M Braeburn, Yuko 66.01 31 P P 11 51 47.7 +0.8
baz=271
URZ Urewera 66.43 153 LR LR 12 16 59.1
comp=Z,85nm,21.9s,baz=55,slow=32
CHGR Chuyangaron 66.49 304 P P 11 51 50.9 +0.4
CHGR Chuyangaron 66.49 304 P P 11 51 50.9 +0.4
CHGR pmax pmax
comp=Z,30nm,0.7s
SIMJ Simiganj 66.60 304 P P 11 51 51.1 -0.1
SIMJ pP pP 11 51 59.7 -0.6
M31M Drury Creek, Y 66.65 30 P P 11 51 51.7 +0.7
M31M IAmb IAmb 11 51 53.3
comp=Z,16nm,1.4s
M31M Drury Creek, Y 66.65 30 P P 11 51 51.5 +0.5
baz=272
F31M Tsiigehtchic 66.84 24 P P 11 51 52.0 0.0
baz=270
INK Inuvik 66.92 24 P P 11 51 52.3 -0.2
comp=Z,3.2nm,0.8s,baz=254,slow=6.8,SNR=10
comp=Z,3.2nm,0.8s
INK Inuvik 66.92 24 P P 11 51 52.6 +0.1
INK Inuvik 66.92 24 P P 11 51 53.2 +0.7
baz=270
INK Inuvik 66.92 24 P P 11 51 52.6 +0.1
INK pmax pmax
comp=Z,11nm,1.3s
FARO Faro, Yukon 67.14 30 P P 11 51 54.3 +0.2
baz=273
KBL Kabul 67.31 300 P P 11 51 55.8 -0.1
KBL Kabul 67.31 300 P P 11 51 55.8 -0.1
KBL pmax pmax
comp=Z,25nm,1.0s
P33M Teslin, Yukon 67.52 32 P P 11 51 57.5 +0.9
baz=274
RAR Rarotonga 68.25 125 LR LR 12 14 52.3
comp=Z,92nm,21.3s,baz=304,slow=30
S34M Telegraph Cree 68.59 35 P P 11 52 04.9 +1.6
baz=276
DLBC Dease Lake 69.11 34 LR LR 12 26 04.2
comp=Z,35nm,18.0s,baz=280,slow=39
DLBC Dease Lake 69.11 34 P P 11 52 07.2 +0.6
DLBC IAmb IAmb 11 52 09.5
comp=Z,32nm,1.6s
DLBC Dease Lake 69.11 34 P P 11 52 07.7 +1.1
baz=277
SVE Sverdlovsk 69.50 324 *e*P P 11 52 09.9 +0.9
SVE pmax pmax
comp=Z,28nm,1.3s
A36M Sachs Harbour 69.54 19 P P 11 52 09.3 +0.4
A36M Sachs Harbour 69.54 19 P P 11 52 09.3 +0.4
baz=276
C36M Paulatuk 70.26 22 P P 11 52 13.1 -0.3
baz=278
ARU Arti 70.70 324 LR LR 12 25 41.5
comp=Z,66nm,18.3s,baz=62,slow=38
ARU Arti 70.70 324 P P 11 52 15.6 -0.7
ARU IAmb IAmb 11 52 18.7
comp=Z,12nm,0.8s
ARU Arti 70.70 324 *c i*P P 11 52 16.5 +0.2
ARU 11 52 35.8
ARU S S 12 01 29.9 +1.6
ARU SS SS 12 05 59.8 -0.2
ARU pmax pmax
comp=Z,32nm,1.4s
ARU Arti 70.70 324 P P 11 52 15.8 -0.5
BBB Bella Bella 71.17 40 LR LR 12 16 28.4
comp=Z,104nm,21.4s,baz=272,slow=30
AB31 Akbulak array 71.18 316 *i* P P 11 52 18.2 -1.2
ABKAR Akbulak array 71.18 316 P P 11 52 18.3 -1.1
ABKAR Akbulak array 71.18 316 P P 11 52 18.7 -0.7
ABKAR IAmb IAmb 11 52 20.1
comp=Z,8.1nm,1.1s
AKTO Aktyubinsk 72.17 318 LR LR 12 24 32.2
comp=Z,110nm,21.9s,baz=42,slow=36
AKTO Aktyubinsk 72.17 318 P P 11 52 23.4 -1.9
PPT Papeete 74.51 116 LR LR 12 21 39.7
comp=Z,108nm,19.4s,baz=329,slow=33
PPT2 Papeete2 74.52 116 *e*LR LR 12 15 37.8
comp=Z,114nm,29.0s
PPT2 *e*LR LR 12 15 38.6
comp=Z,99nm,23.0s
KIRV Kirov 75.01 327 LR LR 12 28 28.9
comp=Z,88nm,18.0s,baz=63,slow=38
KIRV Kirov 75.01 327 *ce*P P 11 52 42.0 +0.2
EUNU Eureka 75.02 8 P P 11 52 41.5 -0.2
GEYT Alibeck 75.12 305 P P 11 52 43.6 +0.7
comp=Z,1.9nm,0.5s,baz=129,slow=4.7,SNR=6.2
GEYT LR LR 12 29 52.8
comp=Z,48nm,18.6s,baz=76,slow=39
comp=Z,1.9nm,0.5s
YKA Yellowknife Ar 75.65 28 P P 11 52 44.8 -0.6
comp=Z,1.6nm,0.5s,baz=290,slow=6.1,SNR=20
comp=Z,1.6nm,0.5s
YKA Yellowknife Ar 75.65 28 *i* P P 11 52 44.7 -0.7
YKA pmax pmax
comp=Z,2.0nm,0.5s
PRGR Permogore 75.89 331 *e*P P 11 52 45.2 -1.6
PRGR pmax pmax
comp=Z,24nm,0.9s
SPITS Spitsbergen Ar 76.41 351 LR LR 12 32 30.4
comp=Z,47nm,18.1s,baz=358,slow=40
NOR Nord 76.72 357 *e*P P 11 52 46.6 -4.6
NOR IAmb IAmb 11 53 33.5
comp=Z,1.8nm,1.2s
RES Resolute Bay 76.79 14 LR LR 12 26 45.6
comp=Z,52nm,22.0s,baz=346,slow=36
RES Resolute Bay 76.79 14 P P 11 52 52.1 +0.5
RES IAmb IAmb 11 52 52.9
comp=Z,40nm,2.0s
RES Resolute Bay 76.79 14 P P 11 52 52.1 +0.5
RES pmax pmax
comp=Z,40nm,2.0s
TBI Tubuai 77.44 121 *e*LR LR 12 16 35.2
comp=Z,370nm,27.2s
TBI *e*LR LR 12 16 58.4
comp=Z,2µm,24.8s
B08A Colville Reser 77.58 43 P P 11 52 57.4 +0.7
B08A IAmb IAmb 11 53 01.1
comp=Z,18nm,1.5s
LVZ Lovozero 77.78 339⇑ *e*P P 11 52 56.2 -1.2
LVZ pmax pmax
comp=Z,94nm,1.5s
BELG Belogornoye 77.90 322 LR LR 12 28 47.7
comp=Z,108nm,21.8s,baz=178,slow=37
BELG Belogornoye 77.90 322 *c i*P P 11 52 58.6 +0.4
BELG pmax pmax
comp=Z,9.0nm,1.0s
PINE Pine Mountain 77.94 48 P P 11 53 00.2 +1.2
ADZR Andozero 78.17 334 *e*P P 11 52 58.6 -1.0
ADZR pmax pmax
comp=Z,63nm,1.4s
ORV Oroville 78.88 52 P P 11 53 04.8 +0.8
ORV IAmb IAmb 11 53 05.2
comp=Z,33nm,1.8s

ORV Oroville 78.88 52 P P 11 53 04.8 +0.8
ORV pmax pmax
comp=Z,33nm,1.8s
TAOE Nuku Hiva Isla 78.92 104 *e*LR LR 12 17 39.4
comp=Z,116nm,23.3s
KLMR Klimovskoe 78.93 331 *e*P P 11 53 01.5 -2.3
KLMR AMP 11 53 06.4
comp=Z,56nm,1.7s
KLMR Klimovskoe 78.93 331 *e*P P 11 53 01.5 -2.3
KLMR pmax pmax
comp=Z,56nm,1.7s
E09A Wood Farm, Sta 78.94 44 P P 11 53 05.1 +0.9
NEW Newport 79.01 42 LR LR 12 21 40.5
comp=Z,157nm,21.1s,baz=286,slow=31
WSAR Wadi Sarin 79.05 291 LR LR 12 31 09.3
comp=Z,27nm,18.8s,baz=51,slow=38
ARCES ARCESS Array B 79.80 342 P P 11 53 09.3 +0.9
comp=Z,7.5nm,0.8s,baz=76,slow=5.1,SNR=10
ARCES LR LR 12 31 53.4
comp=Z,96nm,21.9s,baz=70,slow=38
comp=Z,7.5nm,0.8s
TULEG Thule 80.00 8 *i* P P 11 53 09.5 +0.1
TULEG IAmb IAmb 11 53 13.8
comp=Z,5.8nm,1.3s
BMO Blue Mountains 80.06 46 P P 11 53 10.7 +0.2
BMO IAmb IAmb 11 53 11.7
comp=Z,43nm,1.9s
BMO Blue Mountains 80.06 46 P P 11 53 10.7 +0.2
BMO pmax pmax
comp=Z,43nm,2.0s
NEEM North Greenlan 80.80 4 *i* P P 11 53 13.7 -0.4
NEEM IAmb IAmb 11 53 15.4
comp=Z,7.1nm,0.9s
PLID Pearl Lake 80.84 45 P P 11 53 14.7 -0.2
MSO Missoula 81.54 43 P P 11 53 19.1 +0.7
baz=292
NVAR Mina Array Bea 81.60 52 P P 11 53 18.7 -0.3
comp=Z,5.1nm,0.8s,baz=266,slow=5.7,SNR=20
comp=Z,5.1nm,0.8s
AKT Akhty 81.61 311 *e*P P 11 53 19.5 +0.7
AKT pmax pmax
comp=Z,51nm,1.6s
VRH Novokhopyorsk 81.74 322 *e*P P 11 53 18.8 -0.3
VRH pmax pmax
comp=Z,30nm,1.0s
VES Vestal, Richgr 81.93 55 P P 11 53 20.2 -0.2
baz=291
TIN Tinemaha, Big 82.14 53 P P 11 53 22.4 +0.7
baz=291
ISA Isabella, Lake 82.45 55 P P 11 53 23.5 +0.2
baz=291
HLID Hailey 82.47 46 P P 11 53 23.5 +0.2
baz=292
CWC Cottonwood Cre 82.47 54 P P 11 53 23.3 -0.2
baz=291
SNCC San Nicolas Is 82.50 57 P P 11 53 24.1 +0.7
baz=291
OSI Osito Audit: C 82.64 56 P P 11 53 24.3 0.0
baz=291
LPSR Galich'ya Gora 82.72 324 *e*P P 11 53 24.0 -0.2
LPSR pmax pmax
comp=Z,50nm,1.0s
GRAC Grapevine Rang 82.81 53 P P 11 53 24.9 -0.2
baz=291
OBN Obninsk 82.85 327 LR LR 12 32 25.0
comp=Z,34nm,20.8s,baz=13,slow=37
LRM Limekiln Ridge 82.88 44 P P 11 53 25.9 +0.4
HRY Holter Researc 82.92 43 P P 11 53 26.1 +0.6
ELK Elko 82.97 49 P P 11 53 26.7 +0.6
ELK Elko 82.97 49 P P 11 53 26.7 +0.6
ELK pmax pmax
comp=Z,5.0nm,0.9s
VORR Voronezh 82.97 323 *e*P P 11 53 25.0 -0.5
VORR pmax pmax
comp=Z,40nm,1.0s
MPMC Manual Prospec 83.06 54 P P 11 53 26.3 -0.3
baz=292
EDW2 Edwards Air Fo 83.10 55 P P 11 53 26.8 +0.1
baz=291
LRMC Laurel Mtn Rad 83.12 55 P P 11 53 27.1 +0.2
baz=292
VSR Storozhevoye 83.19 323 *e*P P 11 53 26.1 -0.6
VSR pmax pmax
comp=Z,50nm,1.0s
CIS Catalina Islan 83.31 57 P P 11 53 27.9 +0.2
baz=291
FURC Furnace Creek, 83.38 54 P P 11 53 28.4 +0.4
baz=292
WCT Wildcat Mounta 83.44 53 P P 11 53 28.9 +0.5
PUL Pulkovo 83.47 333⇑ *e*P P 11 53 27.6 -0.3
PUL pmax pmax
comp=Z,38nm,0.8s
BOZ Bozeman (W) 83.50 44 P P 11 53 28.4 -0.3
baz=294
BFSC Mount Baldy Ra 83.59 56 P P 11 53 29.5 +0.2
baz=292
R11A Troy Canyon, C 83.62 51 P P 11 53 29.8 +0.4
baz=292
TPNV Topopah Spring 83.66 53 P P 11 53 29.6 0.0
baz=292
EGMT Eagleton 83.66 41 P P 11 53 29.6 +0.3
baz=295
NCK Nalchik 83.68 314⇓ *e*P P 11 53 30.3 +0.9
NCK pmax pmax
comp=Z,34nm,1.0s
ZEI Tsey 83.75 313 *e*P P 11 53 29.7 -0.4
ZEI pmax pmax
comp=Z,23nm,1.3s
GSC Goldstone, Bar 83.85 55 P P 11 53 31.1 +0.5
baz=292
RRX Edison Barstow 83.87 55 P P 11 53 30.9 +0.4
baz=292
SHOC Shoshone, Teco 84.03 54 P P 11 53 31.5 +0.1
baz=292
KBZ Khabaz 84.05 315 P P 11 53 31.9 +0.7
comp=Z,17nm,0.9s,baz=142,slow=1.0,SNR=18
KBZ LR LR 12 33 51.5
comp=Z,117nm,19.7s,baz=62,slow=38
comp=Z,17nm,0.9s
KBZ Khabaz 84.05 315⇑ *i*P P 11 53 31.9 +0.7
KBZ pmax pmax
comp=Z,20nm,0.9s
KIV Kislovodsk 84.09 315 *e*P P 11 53 33.4 +1.8
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,90nm,20.0s
MURC Murrieta 84.19 56 P P 11 53 32.4 +0.2
baz=292
GNI Garni 84.21 311 LR LR 12 33 32.6
comp=Z,30nm,20.2s,baz=55,slow=37
FIA1 FINESS Array S 84.29 335 P P 11 53 31.0 -1.1
FINES FINESS Array B 84.29 335 P P 11 53 30.9 -1.2
comp=Z,5.6nm,0.6s,baz=57,slow=4.0,SNR=22
FINES LR LR 12 34 59.3
comp=Z,62nm,18.8s,baz=56,slow=38
comp=Z,5.6nm,0.6s
FINES FINESS Array B 84.29 335 P P 11 53 32.2 +0.2
NEY Neytrino 84.36 314⇑ *e*P P 11 53 33.1 0.0
NEY pmax pmax
comp=Z,6.0nm,1.4s
HEC Hector,Ludlow 84.39 55 P P 11 53 33.9 +0.6
baz=292
TUQ Turquoise Moun 84.47 54 P P 11 53 34.7 +0.9
baz=292
109C Camp Elliot, M 84.52 57 P P 11 53 34.3 +0.4
baz=292
H17A Grant Village 84.67 44 P P 11 53 36.3 +1.5
baz=295
SPUT South Promonto 84.69 48 P P 11 53 34.9 +0.1
PFO Pinyon Flats O 84.75 56 P P 11 53 35.4 +0.2
baz=292
PFO Pinyon Flats O 84.75 56⇓ *i*P P 11 53 34.7 -0.5
PFO pmax pmax
comp=Z,8.0nm,0.9s
TPFO Pinon Flats 84.76 56 P P 11 53 35.0 -0.2
baz=292
PMD Palm Desert 84.80 56 P P 11 53 35.3 0.0
PMD IAmb IAmb 11 53 37.5
comp=Z,4.9nm,0.8s
UPNV Upernavik 84.86 6 *e*P P 11 53 35.4 +0.7
UPNV IAmb IAmb 11 53 36.8
comp=Z,6.2nm,1.1s
DUG Dugway, Tooele 84.88 49 P P 11 53 36.2 +0.5
DUG IAmb IAmb 11 53 37.9
comp=Z,21nm,1.4s
DUG Dugway, Tooele 84.88 49 P P 11 53 35.8 0.0

baz=294
DUG Dugway, Tooele 84.88 49 P P 11 53 36.3 +0.5
DUG pmax pmax
comp=Z,21nm,1.5s
GMRC Granite Mounta 84.92 55 P P 11 53 36.9 +0.9
baz=293
BELC Belle Mtn. Jos 84.96 56 P P 11 53 36.7 +0.4
baz=292
MONP2 Monument Peak 85.05 57 P P 11 53 37.4 +0.6
baz=292
V12A Nelson 85.17 54 P P 11 53 37.9 +0.7
RLMT Red Lodge 85.21 43 P P 11 53 38.2 +0.8
baz=296
IKP In-Ko-Pah, Jac 85.39 57 P P 11 53 39.1 +0.7
baz=293
BC3 Big Chuckawall 85.51 56 P P 11 53 39.4 +0.5
baz=293
SWSC Sam W. Stewart 85.51 56 P P 11 53 39.5 +0.6
baz=293
IRM Iron Mountain 85.55 55 P P 11 53 40.1 +1.0
baz=293
VSU Vasula 85.74 332 eP P 11 53 39.0 -0.4
VSU pmax pmax
comp=Z,88nm,1.2s
BW06 Boulder Array 86.04 45 P P 11 53 40.9 -0.7
PD31 Pinedale Array 86.04 45 P P 11 53 41.3 -0.3
PD31 IAmb IAmb 11 56 23.2
comp=Z,18nm,2.0s
PDAR Pinedale Array 86.04 45 P P 11 53 41.2 -0.3
comp=Z,2.1nm,0.8s,baz=254,slow=1.3,SNR=16
PDAR LR LR 12 24 59.1
comp=Z,112nm,20.3s,baz=314,slow=31
comp=Z,2.1nm,0.8s
SUMG Summit 86.15 1 iP P 11 53 42.0 +0.3
SUMG IAmb IAmb 11 53 43.1
comp=Z,4.4nm,0.8s
SOC Sochi 86.20 316 eP P 11 53 40.0 -2.0
SOC e 11 56 59.1
SOC ePPP PPP 11 58 54.8
SOC eS **SKSac 12 04 02.3 -3.7**
SOC MLR MLR
comp=Z,60nm,13.0s
GLA Glamis 86.23 56 P P 11 53 44.1 +1.7
baz=293
LAO LASA Array 86.41 41 P P 11 53 43.8 +0.7
baz=298
SRU San Rafael Swe 86.94 49 P P 11 53 45.4 -0.6
SRU IAmb IAmb 11 53 48.8
comp=Z,7.6nm,0.9s
SRU San Rafael Swe 86.94 49 P P 11 53 45.4 -0.6
SRU pmax pmax
comp=Z,8.0nm,0.9s
ANN Anapa 87.12 317 eP P 11 53 42.9 -3.6
ANN e*PP **pP 11 53 53.5 -2.2**
ANN e 11 57 08.4
ANN eS **SKSac 12 04 06.1 -5.4**
ANN eSS **SS 12 10 06.9 +0.3**
ANN eSSS SSS 12 13 37.8
ANN pmax pmax
comp=Z,84nm,1.4s
MNK Minsk 87.47 329 iP P 11 53 46.9 -1.1
comp=E,3.0nm,1.6s
MNK iP P 11 53 46.9 -1.1
comp=N,40nm,1.0s
MNK iP P 11 53 46.9 -1.1
comp=Z,20nm,1.2s,baz=56
MNK iPP **PP 11 57 12.4 0.0**
MNK iPPP PPP 11 59 06.3
MNK iS **SKSac 12 04 11.2 -2.2**
MNK iSS **SS 12 10 11.2 -0.1**
MNK iSSS SSS 12 13 46.1
MNK iLQ LQ 12 27 22.6
MNK iLR LR 12 30 50.8
MNK iLRM MLR 12 33 41.1
comp=N,281nm,16.0s
MNK iLRM MLR 12 34 04.1
comp=Z,212nm,19.8s
MNK iLRM MLR 12 34 55.2
comp=E,23nm,22.4s
MNK Minsk 87.47 329 iP P 11 53 46.8 -1.1
MNK i 11 57 12.3
MNK iPPP PPP 11 59 06.2
MNK iS **SKSac 12 04 11.1 -2.2**
MNK iSS **SS 12 10 11.1 -0.1**
MNK iSSS SSS 12 13 46.1
MNK pmax pmax
comp=Z,20nm,1.2s
MNK pmax pmax
comp=N,40nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.6s
MNK MLR MLR
comp=N,281nm,16.0s
MNK MLR MLR
comp=Z,212nm,20.0s
MNK MLR MLR
comp=E,23nm,22.0s
WUAZ Wupatki 87.84 53 P P 11 53 51.1 +0.6
baz=295
O20A White River Ci 88.08 47 P P 11 53 51.6 0.0
baz=297
K22A Casper 88.09 45 P P 11 53 50.8 -0.6
baz=298
K22A Casper 88.09 45 P P 11 53 52.0 +0.5
baz=298
214A Organ Pipe Nat 88.22 56 P P 11 53 53.3 +1.2
baz=294
AKASG Malin Array Be 88.91 325 P P 11 53 53.1 -1.8
comp=E,4.1nm,0.8s,baz=48,slow=5.0,SNR=17
AKASG LR LR 12 35 13.2
comp=E,108nm,22.0s,baz=61,slow=36
comp=E,4.1nm,0.8s
AKASG Malin Array Be 88.91 325 iP P 11 53 54.0 -0.9
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 88.91 325 eP P 11 53 54.1 -0.8
RSSD Black Hills 88.98 42 P P 11 53 55.5 -0.2
baz=299
RSSD Black Hills 88.98 42 P P 11 53 55.7 0.0
baz=299
MVCO Mesa Verde 89.20 50 P P 11 53 57.6 +0.7
baz=297
W18A Petrified Fore 89.22 52 P P 11 53 57.7 +0.7
baz=296
N23A Red Feather La 89.29 46 P P 11 53 58.0 +0.7
baz=298
TUC Tucson 89.64 55 P P 11 53 59.5 +0.6
baz=295
TUC Tucson 89.64 55 P P 11 54 00.1 +1.2
TUC pmax pmax
comp=Z,6.0nm,1.4s
HFS Hagfors 89.74 338 LR LR 12 37 42.1
comp=Z,66nm,20.0s,baz=46,slow=38
E28A Huff 89.78 39 P P 11 53 59.9 +0.8
baz=302
NB2 NORSAR Subarra 89.91 340 P P 11 53 57.8 -1.6
comp=Z,8.6nm,1.1s,baz=45,slow=4.8
NB2 NORSAR Subarra 89.91 340 P P 11 53 57.8 -1.6
baz=45,slow=4.8
NOA NORSAR Array B 89.91 340 P P 11 53 58.0 -1.4
comp=Z,2.1nm,0.9s,baz=52,slow=4.4,SNR=5.2
NOA LR LR 12 38 28.9
comp=Z,91nm,20.4s,baz=30,slow=38
comp=Z,2.1nm,0.9s
ISCO Idaho Springs 90.03 47 P P 11 54 01.5 +0.7
baz=298
ISCO Idaho Springs 90.03 47 P P 11 54 01.1 +0.3
baz=298
S22A 4UR Ranch, Cre 90.15 49 P P 11 54 01.2 -0.1
baz=298
ULM Lac du Bonnet 90.44 34 LR LR 12 32 29.4
comp=Z,125nm,21.9s,baz=308,slow=34
Q24A Divide 90.74 47 P P 11 54 04.5 +0.4
baz=299
SFJD Kangerlussuaq 90.97 6 LR LR 12 33 41.1
comp=Z,34nm,22.0s,baz=11,slow=35
SDCO Great Sand Dun 91.08 49 P P 11 54 05.5 -0.2
baz=298
SDCO Great Sand Dun 91.08 49 P P 11 54 05.6 -0.2
baz=298
ANMO Albuquerque 91.70 51 LR LR 12 29 01.7
comp=Z,112nm,21.9s,baz=23,slow=31
ANMO Albuquerque 91.70 51 P P 11 54 08.2 -0.3
baz=298
ANMO Albuquerque 91.70 51 P P 11 54 08.8 +0.2
baz=298
ANMO Albuquerque 91.70 51 eP P 11 54 08.3 -0.3
ANMO pmax pmax
comp=Z,7.0nm,1.2s
Y22D IRIS PASSCAL I 91.77 52 P P 11 54 09.5 +0.7
baz=298
Y22A Socorro 91.80 52 P P 11 54 08.6 -0.4
baz=298
121A Cookes Peak, D 91.82 54 P P 11 54 09.0 -0.1
baz=297
121A Cookes Peak, D 91.82 54 P P 11 54 09.3 +0.2
baz=297
OGNE Ogallala 91.85 44 P P 11 54 08.2 -0.8
baz=301
OGNE Ogallala 91.85 44 P P 11 54 08.6 -0.4
baz=301
BR131 Keskin Array S 92.03 314 eP P 11 54 10.2 +0.3
BRTR Keskin Array B 92.03 314 P P 11 54 09.6 -0.3
comp=Z,2.0nm,0.9s,baz=67,slow=3.2,SNR=7.2
BRTR LR LR 12 39 41.3
comp=Z,60nm,19.2s,baz=70,slow=38
comp=Z,2.0nm,0.9s
T25A Trinidad 92.13 49 P P 11 54 11.0 +0.5
baz=299
KSCO Kaye Shedlock' 92.43 46 P P 11 54 11.1 -0.7
baz=300
KSCO Kaye Shedlock' 92.43 46 P P 11 54 12.0 +0.2
baz=300
F33A 5 Mile Ranch, 92.74 38 P P 11 54 11.2 -1.6
baz=305
KIDD KIDD Seismic O 93.13 54 P P 11 54 15.4 +0.3
baz=298
ECSD EROS Data Cent 93.74 40 P P 11 54 16.6 -0.9
baz=305
MNTX Cornudas Mount 94.02 54 P P 11 54 18.6 -0.4
baz=298
MNTX Cornudas Mount 94.02 54 P P 11 54 18.7 -0.4
baz=298
CRVS Cervenica-Dubn 94.03 327 eP P 11 54 19.2 +0.5
CRVS Cervenica-Dubn 94.03 327 ePDIFF P 11 54 19.2 +0.5
EYMN Ely 94.12 34 P P 11 54 19.4 +0.2
baz=309
F36A Milaca 94.29 37 P P 11 54 19.1 -0.9
baz=307
MORC Moravsky Berou 95.40 329 eP P 11 54 25.3 +0.3
MORC ePP **PP 11 58 16.6 +1.6**
DPC Dobruska-Polom 95.58 330 P P 11 54 26.9 +1.0
VYHS Vyhne 95.62 328 eP P 11 54 26.5 +0.5
VYHS Vyhne 95.62 328 ePDIFF P 11 54 26.5 +0.5
VYHS Vyhne 95.62 328 e 11 58 04.8
JAVC Velka Javorina 95.95 328 eP P 11 54 28.8 +1.2
VRAC Vranov 96.17 329 LR LR 12 40 20.6
comp=Z,108nm,21.2s,baz=32,slow=37
VRAC Vranov 96.17 329 eP P 11 54 28.5 0.0
VRAC ePP **PP 11 58 18.8 -2.2**
CLL Collm 96.40 332 eP P 11 54 29.0 -0.5
CLL ePP **PP 11 58 23.0 +0.4**
CLL eSS SS 12 12 24.0 +4.7
CLL Lm MLR 12 41 00.0
comp=N,100nm,20.3s
CLL Lm MLR 12 41 00.0
comp=E,100nm,19.5s
CLL Collm 96.40 332 eP P 11 54 29.0 -0.5
KRUC Moravsky 96.43 329 eP P 11 54 28.5 -1.2
TX31 Lajitas Ar. Si 96.44 55 P P 11 54 30.6 +0.3
baz=299
KHC Kasperske Hory 97.70 330 eP P 11 54 34.9 -0.6
KHC pmax pmax
comp=Z,25nm,3.7s
GERES GERESS Array B 97.85 330 P P 11 54 35.5 -0.8
comp=Z,0.8nm,0.8s,baz=48,slow=4.2,SNR=6.4
GERES LR LR 12 43 27.7
comp=Z,104nm,18.6s,baz=46,slow=38
comp=Z,0.8nm,0.8s
E46A Sault Ste Mari 98.85 32 P Pdif 11 54 40.9 +0.3
baz=314
SCHQ Schefferville 99.12 18 LR LR 12 41 55.6
comp=Z,40nm,20.1s,baz=18,slow=37
VNDA Vanda 99.26 176 LR LR 12 38 29.5
comp=Z,32nm,18.0s,baz=329,slow=35
O48B Farmland 102.58 37 P Pdif 11 54 56.3 -1.0
baz=313
WCI Wyandotte Cave 103.28 39 P Pdif 11 54 59.6 -0.9
baz=311
WVT Waverly 103.70 42 P Pdif 11 55 02.2 -0.2
baz=310
ESDC Sonseca Array 112.80 335 PP PP 12 00 21.8 -2.7
comp=Z,1.0nm,0.9s,baz=21,slow=5.5,SNR=3.0
NVL N'lazarevskaya 123.81 197 ePKIKP PKiKP 12 00 06.3 +8.5
NVL pmax pmax
comp=Z,8.0nm,0.7s
PLCA Paso Flores 144.00 130 PKP PKPbc 12 00 35.1 +1.0
comp=Z,6.2nm,1.0s,baz=180,slow=1.0,SNR=4.7
PLCA Paso Flores 144.00 130 PKIKP PKPbc 12 00 35.0 +0.8

JMA 08 11:43:31.2±0.1, 36.8N±0.1°×140.6E±0.3, h8km, MV1.0/29, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.17**	**179**	P	Pg	11 43 34.7	0.0
JHO				eS	Sg	11 43 37.3	+0.2
JFFD	**Fukushimafurud**	**0.31**	**360**	P	Pg	11 43 37.3	-0.1
ONAJ	**Iwakimizuishiy**	**0.37**	**30**	eP	Pg	11 43 38.7	+0.1
ONAJ				eS	Sg	11 43 43.8	+0.4

*IDC **08** 11:45:27.6±1.1, 21.4°N×145.78E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=51.9km s-min=21.4km az=97.0*

ISC 08 11:45:32.0±1.1, 21.4°N±0.2×145.8E±0.3, h29km, n10, σ0°44/7, mb3.7/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**19.88**	**95**	T	T	12 10 56.3	
baz=281							
H11S1	**WAKE ISLAND Hy**	**19.89**	**95**	T	T	12 10 55.1	
baz=281							
H11S2	**WAKE ISLAND Hy**	**19.90**	**95**	T	T	12 10 55.7	
baz=281							
KLR	**Kul'dur**	**29.89**	**341**	P	P	**11 51 37.6**	**+0.6**
1.5nm,0.8s,baz=152,slow=8.5,SNR=3.9							
1.5nm,0.8s							
WRA	**Warramunga Arr**	**42.62**	**196**	P	P	**11 53 26.2**	**+0.3**
1.0nm,0.6s,baz=18,slow=8.6,SNR=8.0							
1.0nm,0.6s							
ASAR	**Alice Springs**	**46.30**	**195**	P	P	**11 53 55.3**	**0.0**
0.8nm,0.7s,baz=12,slow=8.2,SNR=7.0							
0.8nm,0.7s							
MKAR	**Makanchi Array**	**56.64**	**313**	P	P	**11 55 12.3**	**-0.2**
0.3nm,0.6s,baz=89,slow=8.8,SNR=2.2							
0.3nm,0.6s							
ILAR	**Eielson Array**	**61.17**	**27**	P	P	**11 55 43.6**	**-0.1**
0.4nm,0.8s,baz=260,slow=5.4,SNR=2.9							
0.4nm,0.8s							
YKA	**Yellowknife Ar**	**75.55**	**28**	P	P	**11 57 13.7**	**+0.1**
0.3nm,0.7s,baz=282,slow=6.8,SNR=2.9							
0.3nm,0.7s							
FINES	**FINESS Array B**	**84.43**	**335**	P	P	**11 58 01.1**	**-0.5**
2.9nm,0.8s,baz=46,slow=4.0,SNR=6.5							
2.9nm,0.8s							

IDC 08 11:57:38.3±1.7, 1.12S×149.77E, h0km, mb3.7/3, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=51.5km s-min=30.0km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.88**	**145**	Pn	Pn	11 58 39.2	-0.1
16nm,0.3s,baz=88,slow=12,SNR=3.0							
175nm,0.7s							
WRA	**Warramunga Arr**	**24.04**	**218**	P	P	12 02 55.3	0.0
1.6nm,0.6s,baz=42,slow=10,SNR=27							
1.6nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**25.62**	**40**	T	T	12 30 22.6	
baz=222,slow=75,SNR=54							
H11S2	**WAKE ISLAND Hy**	**25.63**	**40**	T	T	12 30 15.0	
baz=222,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy**	**25.64**	**40**	T	T	12 30 27.1	
baz=222,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**26.66**	**38**	T	T	12 31 25.1	
baz=219							
H11N3	**WAKE ISLAND Hy**	**26.67**	**38**	T	T	12 31 36.6	
baz=219,slow=74							
H11N2	**WAKE ISLAND Hy**	**26.68**	**38**	T	T	12 31 41.2	
baz=219,slow=74							
ASAR	**Alice Springs**	**27.19**	**213**	P	P	12 03 24.0	+0.2
0.5nm,0.5s,baz=47,slow=8.3,SNR=19							
0.5nm,0.5s							
ILAR	**Eielson Array**	**79.94**	**23**	P	P	12 09 48.8	-0.2
0.6nm,1.1s,baz=243,slow=6.0,SNR=2.3							
0.6nm,1.1s							

*NEIC **08** 12:16:02.4±2.2, 16°.50N×0°.03×96°.28W±0°.02, h43km±8km, mb4.5/93, Md4.6/37(MEX), Error ellipse: s-maj=5.1km s-min=2.3km az=195.0*
*MEX **08** 12:16:03.5±0.9, 16°.47N×96°.33W, h54km±11km, MD4.6*
*IDC **08** 12:16:06.6±3.7, 16°.65N×96°.06W, h80km±33km, mb3.8/15, mbtmp4.2/16, MS3.5/4, Error ellipse: s-maj=25.0km s-min=13.0km az=58.0*

ISC 08 12:16:02.2±0.7, 16°.45N±0°.03×96°.31W±0°.03, h48km±7km, n360, σ1°20/383, mb4.5/37, MS3.4/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.70**	**164**		Pn	**12 16 16.2**	**+0.3**
HUIG					Sn	**12 16 27.2**	**+1.4**
HUIG	**Huatulco**	**0.70**	**164**	eP	Pn	**12 16 16.2**	**+0.3**
HUIG				eS	Sn	**12 16 27.2**	**+1.4**
OXBJ	**Oaxaca**	**0.73**	**327**		Pn	**12 16 15.9**	**-0.6**
OXBJ					Sn	**12 16 25.7**	**-1.1**
OXBJ	**Oaxaca**	**0.73**	**327**	eP	Pn	**12 16 15.9**	**-0.6**
OXBJ				eS	Sn	**12 16 25.7**	**-1.1**
OXIG	**Oaxaca**	**0.74**	**327**		Pn	**12 16 16.1**	**-0.5**
OXIG					Sn	**12 16 26.2**	**-0.8**
VHO	**Vista Hermosa**	**0.74**	**327**	eP	Pn	**12 16 16.1**	**-0.5**
VHO				eS	Sn	**12 16 26.2**	**-0.8**
PANG	**Puerto Angel**	**0.79**	**191**		Pn	**12 16 16.6**	**-0.5**
PANG					Sn	**12 16 27.4**	**-0.5**
PANG	**Puerto Angel**	**0.79**	**191**	eP	Pn	**12 16 16.6**	**-0.5**
PANG				eS	Sn	**12 16 27.4**	**-0.5**
PEIG	**Puerto Escondi**	**0.92**	**241**		Pn	**12 16 18.1**	**-0.7**
PEIG					Sn	**12 16 31.4**	**+0.4**
PEIG	**Puerto Escondi**	**0.92**	**241**	eP	Pn	**12 16 18.1**	**-0.7**
PEIG				eS	Sn	**12 16 31.4**	**+0.4**
YOIG	**Yosondua**	**1.25**	**289**		Pn	**12 16 23.5**	**0.0**
YOIG					Sn	**12 16 39.0**	**-0.4**
YOIG	**Yosondua**	**1.25**	**289**	eP	Pn	**12 16 23.5**	**0.0**
YOIG				eS	Sn	**12 16 39.0**	**-0.4**
NEUV	**Arroyo Zacate**	**1.35**	**21**	iP	Pn	**12 16 24.9**	**+0.3**
NEUV				iS	Sn	**12 16 42.2**	**+0.9**
TXIG	**Tlaxiaco**	**1.61**	**300**		Pn	**12 16 28.8**	**+0.4**
TXIG					Sn	**12 16 48.6**	**+0.5**
TXIG	**Tlaxiaco**	**1.61**	**300**	eP	Pn	**12 16 28.8**	**+0.4**
TXIG				eS	Sn	**12 16 48.6**	**+0.5**
NILT	**Santiago Nilte**	**1.63**	**86**	eP	Pn	**12 16 29.0**	**+0.5**
NILT				eS	Sn	**12 16 43.6**	**-4.6**
PNIG	**Pinotepa**	**1.74**	**268**		Pn	**12 16 29.1**	**-0.9**
PNIG					Sn	**12 16 49.5**	**-1.6**
PNIG	**Pinotepa**	**1.74**	**268**	eP	Pn	**12 16 29.1**	**-0.9**
PNIG				eS	Sn	**12 16 49.5**	**-1.6**
UXUV	**UXUV**	**2.25**	**67**	eP	Pn	**12 16 36.9**	**0.0**
UXUV				iS	Sn	**12 17 02.0**	**-1.4**
MIHL	**Minatitlan**	**2.28**	**48**	eP	Pn	**12 16 36.0**	**-1.3**
MGIG	**Malinaltepec**	**2.36**	**290**		Pn	**12 16 40.9**	**+2.3**
MGIG					Sn	**12 17 03.5**	**-2.9**
MGIG	**Malinaltepec**	**2.36**	**290**	eP	Pn	**12 16 40.9**	**+2.3**
MGIG				eS	Sn	**12 17 03.5**	**-2.9**
TLIG	**Tlapa**	**2.42**	**298**	Pn	Pn	**12 16 39.9**	**+0.5**
OZST	**Orizaba**	**2.51**	**343**	eP	Pn	**12 16 42.1**	**+1.4**
JAUV	**Jalcomulco**	**2.94**	**351**	eP	Pn	**12 16 46.2**	**-0.3**
JAUV				iS	Sn	12 17 10.2	-10
PHPU	**Puebla**	**3.13**	**326**		Pn	**12 16 51.7**	**+2.4**
PHPU	**Puebla**	**3.13**	**326**	eP	Pn	**12 16 51.7**	**+2.4**
DAIG	**Los Arroyos**	**3.25**	**281**		Pn	**12 16 50.1**	**-0.5**
DAIG					Sn	**12 17 25.3**	**-2.8**
DAIG	**Los Arroyos**	**3.25**	**281**	eP	Pn	**12 16 50.1**	**-0.5**
DAIG				eS	Sn	**12 17 25.3**	**-2.8**
AMVM	**AMECAMECA**	**3.56**	**319**		Pn	**12 16 59.7**	**+4.5**
AMVM	**AMECAMECA**	**3.56**	**319**	eP	Pn	**12 16 59.7**	**+4.5**
CXUV	**Coxquihui**	**3.90**	**342**	eP	Pn	**12 17 02.0**	**+2.4**
CXUV				iS	Sn	**12 17 40.6**	**-3.6**
UNM	**Universidad Na**	**3.96**	**317**	Pn	Pn	**12 17 03.6**	**+3.0**
AZVM	**Tlapan**	**4.01**	**315**	eP	Pn	**12 17 04.3**	**+2.8**
CCIG	**Comitan**	**4.01**	**92**		Pn	**12 17 01.4**	**+0.1**
ARIG	**Puente Sto Nin**	**4.26**	**296**		Pn	**12 17 06.1**	**+1.5**
ARIG	**Puente Sto Nin**	**4.26**	**296**	eP	Pn	**12 17 06.1**	**+1.5**
DEIG	**Demacu**	**4.62**	**326**	eP	Pn	**12 17 13.6**	**+3.9**
DEIG				eS	Sn	**12 18 06.0**	**+3.7**
HUEH	**Huehuetenango**	**4.76**	**103**	Pn	Pn	**12 17 13.3**	**+1.6**
ACIG	**Acambay**	**4.88**	**317**		Pn	12 17 08.6	-4.7
ACIG	**Acambay**	**4.88**	**317**	eP	Pn	12 17 08.6	-4.7
MOIG	**Morelia**	**5.64**	**305**	Pn	Pn	**12 17 25.9**	**+2.2**
PETF	**Flores**	**6.20**	**85**	Pn	Pn	**12 17 31.2**	**+0.1**
TEIG	**Tepich**	**8.51**	**63**	Pn	Pn	**12 18 01.5**	**-1.3**
ZAIG	**Zacatecas**	**8.62**	**318**	Pn	Pn	**12 18 06.1**	**+1.5**
BOAB	**BOACO BROADBAN**	**11.05**	**110**	Pn	Pn	**12 18 37.8**	**+0.2**
HZTE	**Horizontes, Gu**	**11.87**	**117**	Pn	Pn	**12 18 51.5**	**+2.5**
833A	**Chaparral WMA,**	**12.16**	**347**	Pn	Pn	**12 18 55.1**	**+2.4**
833A	**Chaparral WMA,**	**12.16**	**347**	P	Pn	**12 18 53.4**	**+0.7**
baz=165,SNR=6.5							
ORTG	**Ortega, Santa**	**12.17**	**118**		Pn	**12 18 55.7**	**+2.7**
JTS	**Las Juntas de**	**12.63**	**118**	P	Pn	**12 19 01.2**	**+1.9**
6.9nm,0.3s							
JACO	**JACO, Garabito**	**13.20**	**119**	Pn	Pn	**12 19 09.1**	**+2.1**
RIMA	**Rio Macho**	**13.82**	**117**		Pn	**12 19 17.3**	**+1.6**
SOR	**Soroa**	**14.03**	**61**	Pn	Pn	**12 19 15.7**	**-2.6**
435B	**Jarrell**	**14.32**	**356**	Pn	Pn	**12 19 18.7**	**-3.4**
435B	**Jarrell**	**14.32**	**356**	P	Pn	**12 19 22.3**	**+0.2**
baz=175							
JCT	**Junction City**	**14.33**	**348**	Pn	Pn	**12 19 24.0**	**+1.7**
JCT	**Junction City**	**14.33**	**348**	P	Pn	**12 19 24.2**	**+1.9**
baz=166							
TX32	**Lajitas Array**	**14.50**	**333**		Pn	**12 19 25.8**	**+1.2**
TX31	**Lajitas Ar. Si**	**14.50**	**333**	Pn	Pn	**12 19 25.7**	**+1.0**
SRBA	**San Rafael, Bu**	**14.52**	**118**	Pn	Pn	**12 19 25.0**	**0.0**
342A	**Flagon Creek P**	**15.30**	**13**		Pn	**12 19 35.6**	**+0.7**
NATX	**Nacogdoches**	**15.32**	**5**	Pn	Pn	**12 19 34.8**	**-0.5**
NATX				IAmb	IAmb	12 19 53.2	
comp=Z,72nm,1.4s							
NATX	**Nacogdoches**	**15.32**	**5**	P	Pn	**12 19 35.9**	**+0.7**
baz=186							
237A	**Washetta, Mont**	**15.49**	**2**	Pn	Pn	**12 19 37.6**	**+0.1**
237A				IAmb	IAmb	12 19 55.2	
comp=Z,42nm,0.8s							
WHTX	**Lake Whitney,**	**15.51**	**356**	Pn	Pn	**12 19 37.7**	**0.0**
WHTX				IAmb	IAmb	12 19 55.0	
comp=Z,25nm,0.7s							
WHTX	**Lake Whitney,**	**15.51**	**356**	P	Pn	**12 19 38.3**	**+0.6**
baz=175,SNR=8.6							
346A	**Big Creek Wild**	**16.13**	**22**	Pn	Pn	**12 19 45.4**	**-0.2**
346A				IAmb	IAmb	12 20 13.6	
comp=Z,64nm,1.1s							
ABTX	**Abilene, Hawle**	**16.39**	**350**	P	Pn	**12 19 49.4**	**+0.5**
ABTX	**Abilene, Hawle**	**16.39**	**350**	P	Pn	**12 19 50.0**	**+1.1**
baz=168							
FW06	**Azle**	**16.49**	**356**	Pn	Pn	**12 19 50.1**	**-0.1**
FW06				IAmb	IAmb	12 20 18.5	
comp=Z,30nm,1.0s							
VBMS	**Vicksburg**	**16.56**	**17**	P	Pn	**12 19 51.0**	**0.0**
baz=200							
Z38A	**Mt. Pleasant**	**16.78**	**4**	P	P	**12 19 55.5**	**0.0**
Z35A	**Perchaven, San**	**16.83**	**357**	Pn	Pn	**12 19 51.9**	**-2.6**
CLNB	**Carlsbad**	**17.18**	**338**		P	**12 20 00.8**	**+0.9**
HTMS	**Hat Mesa**	**17.28**	**339**		Pn	**12 20 00.4**	**+0.3**
MNTX	**Cornudas Mount**	**17.28**	**333**		Pn	**12 20 00.8**	**+0.7**
MNTX	**Cornudas Mount**	**17.28**	**333**	P	P	**12 20 01.7**	**+0.7**
baz=149,SNR=7.4							
GDL2	**Guadalupe Moun**	**17.30**	**336**		P	**12 20 02.0**	**+0.7**
WLAR	**White Oak Lake**	**17.41**	**9**	Pn	Pn	**12 20 00.0**	**-1.5**
LOOK	**Love County**	**17.49**	**358**		P	**12 20 03.5**	**+0.3**
LOOK				IAmb	IAmb	12 20 22.6	
comp=Z,47nm,0.8s							
CCAR	**Cane Creek**	**17.87**	**12**		Pn	**12 20 07.2**	**0.0**
CCAR				IAmb	IAmb	12 20 27.6	
comp=Z,68nm,1.2s							
250A	**Grady**	**17.95**	**29**		P	**12 20 09.2**	**+0.8**
250A				IAmb	IAmb	12 20 21.8	
comp=Z,32nm,0.9s							
DWPF	**Disney Wildern**	**17.99**	**47**	P	Pn	**12 20 08.0**	**-0.7**
baz=233							
X37A	**Clayton**	**18.09**	**3**	P	P	**12 20 09.0**	**-0.8**
X37A				IAmb	IAmb	12 20 40.8	
comp=Z,24nm,0.6s							
X34A	**Smith Ranch, M**	**18.13**	**356**	P	P	**12 20 09.1**	**-1.2**
X34A				IAmb	IAmb	12 20 32.5	

comp=Z,46nm,0.8s
MIAR **Mount Ida** 18.19 7 P P 12 20 08.8 -2.1
MIAR IAmb IAmb 12 20 17.0
comp=Z,30nm,0.7s
MIAR **Mount Ida** 18.19 7 P P 12 20 10.9 0.0
baz=188,SNR=14
X40A **Basin Creek Fa** 18.23 9 P P 12 20 10.9 -0.5
Z47A **Carrollton** 18.27 23 P P 12 20 10.5 -1.3
WMOK **Wichita Mounta** 18.35 354 P P 12 20 12.1 -0.6
WMOK **Wichita Mounta** 18.35 354 P P 12 20 12.2 -0.6
baz=172
Y45A **Yeager Farm, C** 18.38 18 P P 12 20 12.9 -0.1
MSTX **Muleshoe** 18.39 343 P P 12 20 12.8 -0.5
MSTX **Muleshoe** 18.39 343 P P 12 20 13.4 +0.1
baz=160,SNR=5.4
LRAL **Lakeview Retre** 18.54 25 P P 12 20 14.5 -0.3
LRAL IAmb IAmb 12 20 36.1
comp=Z,47nm,1.4s
LRAL **Lakeview Retre** 18.54 25 P P 12 20 14.5 -0.3
baz=209
UALR **University of** 18.59 10 P P 12 20 13.9 -1.5
UALR IAmb IAmb 12 20 35.1
comp=Z,34nm,1.1s
FNO **Franklin** 18.76 357 P Pn 12 20 18.2 +0.1
TIGA **Tifton** 18.89 36 P P 12 20 18.7 0.0
baz=221
OXF **Oxford** 19.02 18 P P 12 20 19.6 -0.5
baz=200
121A **Cookes Peak, D** 19.09 329 P Pn 12 20 22.1 -0.2
baz=144
WHAR **Wooly Hollow** 19.11 10 P P 12 20 21.3 +0.3
WHAR IAmb IAmb 12 20 41.1
comp=Z,22nm,0.8s
BCOK **Bluff Creek, N** 19.16 357 P 12 20 21.3 -0.3
BCOK IAmb IAmb 12 20 41.9
comp=Z,20nm,0.6s
TUL1 **Leonard** 19.39 1 P P 12 20 23.5 -0.6
TUL1 **Leonard** 19.39 1 P P 12 20 24.3 +0.2
baz=181,SNR=14
OK031 **S. Brethren Rd** 19.43 359 P 12 20 24.6 0.0
OK031 IAmb IAmb 12 20 36.8
comp=Z,20nm,0.8s
OK052 **Battle Ridge R** 19.47 359 P P 12 20 25.3 +0.3
OK052 IAmb IAmb 12 20 48.2
comp=Z,60nm,1.5s
OK053 **SW of W Deep R** 19.49 359 P 12 20 24.2 -1.0
OK053 IAmb IAmb 12 20 26.6
comp=Z,21nm,0.7s
Y49A **Blount Mountai** 19.49 25 P P 12 20 24.3 -0.9
FCAR **Ozark Folk Cen** 19.72 10 P P 12 20 27.3 -0.4
FCAR IAmb IAmb 12 20 48.6
comp=Z,19nm,0.8s
X48A **Hartselle** 19.76 23 P P 12 20 27.0 -1.2
HHAR **Hobbs** 19.87 6 P P 12 20 28.8 -0.5
HHAR IAmb IAmb 12 20 48.4
comp=Z,14nm,0.6s
OK046 **Pawnee Station** 19.88 359 P P 12 20 27.9 -1.5
OK046 IAmb IAmb 12 20 53.4
comp=Z,20nm,0.8s
OK050 **Pawnee Station** 19.88 358 P P 12 20 28.4 -1.0
PLAL **Pickwick Lake** 19.88 20 P P 12 20 28.8 -0.6
Y22D **IRIS PASSCAL I** 19.98 333 P P 12 20 31.6 +0.9
baz=148
Y22F **Passcal Instru** 19.98 333 P P 12 20 31.5 +0.8
baz=148
LCAR **Lake Charles** 20.07 12 P P 12 20 30.5 -1.0
T35A **Sooner Cattle** 20.39 360 P P 12 20 33.5 -1.5
T35A IAmb IAmb 12 20 55.9
comp=Z,29nm,0.8s
FPAL **Fort Paine** 20.41 26 P P 12 20 33.4 -1.9
TUC **Tucson** 20.53 323 P P 12 20 37.3 +0.6
TUC **Tucson** 20.53 323 P Pn 12 20 38.5 -0.7
baz=136
ANMO **Albuquerque** 20.54 336 P P 12 20 37.9 +1.1
comp=Z,2.1nm,0.7s,baz=235,slow=11,SNR=13
comp=Z,2.1nm,0.7s
ANMO **Albuquerque** 20.54 336 P P 12 20 36.8 -0.1
ANMO **Albuquerque** 20.54 336 P P 12 20 37.7 +0.9
baz=151
SWET **Sewanee** 20.87 24 P P 12 20 38.6 -1.7
SWET IAmb IAmb 12 21 05.0
comp=Z,24nm,1.3s
MGMO **Mountain Grove** 20.93 9 P P 12 20 38.7 -2.2
MGMO IAmb IAmb 12 21 00.2
comp=Z,25nm,1.1s
V48A **Smith Brothers** 21.00 22 P P 12 20 40.5 -1.1
V48A IAmb IAmb 12 21 02.8
comp=Z,15nm,0.7s
WVT **Waverly** 21.01 19 P P 12 20 38.8 -2.9
WVT IAmb IAmb 12 21 02.6
comp=Z,16nm,0.7s
WVT **Waverly** 21.01 19 P P 12 20 40.4 -1.3
baz=203
S39A **Bolivar** 21.32 7 P P 12 20 44.3 -0.8
S39A IAmb IAmb 12 21 14.4
comp=Z,15nm,0.8s
214A **Organ Pipe Nat** 21.51 319 P P 12 20 48.5 +1.3
baz=132
T45A **Paducah** 21.59 17 P P 12 20 47.5 -0.4
T25A **Trinidad** 21.82 342 P P 12 20 51.6 +1.0
baz=158,SNR=9.0
CCM **Cathedral Cave** 21.98 11 P P 12 20 51.0 -1.1
CCM IAmb IAmb 12 21 26.7
comp=Z,10.0nm,0.6s
CCM **Cathedral Cave** 21.98 11 P P 12 20 52.2 +0.1
baz=193
R40A **Maddies Statio** 22.05 9 P P 12 20 52.1 -0.7
R40A IAmb IAmb 12 20 55.6
comp=Z,29nm,1.3s
U49A **Red Boiling Sp** 22.07 23 P P 12 20 51.9 -1.1
U49A IAmb IAmb 12 21 12.8
comp=Z,19nm,0.8s
W18A **Petrified Fore** 22.13 330 P P 12 20 54.9 +1.0
baz=143
TKL **Tuckaleechee C** 22.16 28 P P 12 20 52.7 -1.4
comp=Z,3.2nm,0.7s,baz=26,slow=19,SNR=1.4
comp=Z,3.2nm,0.7s
TKL **Tuckaleechee C** 22.16 28 P P 12 20 51.6 -2.5
TKL IAmb IAmb 12 21 08.5
comp=Z,23nm,1.2s
CBKS **Cedar Bluff** 22.48 353 P P 12 20 57.9 +0.4
baz=171
KSU1 **Kansas State U** 22.57 359 P P 12 20 58.2 -0.2
baz=179
V53A **Saluda** 22.61 30 P P 12 20 58.3 -0.7
V53A IAmb IAmb 12 21 34.1
comp=Z,23nm,1.3s
113A **Mohawk Valley,** 22.66 319 P P 12 21 00.1 +0.8
SDCO **Great Sand Dun** 22.71 341 P P 12 21 00.1 -0.2
baz=156
KSCO **Kaye Shedlock'** 23.15 347 P P 12 21 04.8 +0.3
baz=164
S22A **4UR Ranch, Cre** 23.16 338 P P 12 21 04.9 +0.1
baz=153
Q44A **Meyer Farm, Va** 23.27 15 P P 12 21 04.1 -1.4
Q44A IAmb IAmb 12 21 23.8
comp=Z,18nm,0.8s
WUAZ **Wupatki** 23.27 328 P P 12 21 06.8 +1.0
WUAZ **Wupatki** 23.27 328 P P 12 21 06.6 +0.8
baz=140,SNR=8.3
P40A **Paris** 23.30 8 P P 12 21 05.0 -0.8
P40A IAmb IAmb 12 21 26.4
comp=Z,22nm,0.8s
MVCO **Mesa Verde** 23.32 335 P P 12 21 05.8 -0.5
baz=149
OLIL **Olney** 23.34 16 P P 12 21 04.9 -1.3
WCI **Wyandotte Cave** 23.42 20 P P 12 21 04.9 -2.1
WCI **Wyandotte Cave** 23.42 20 P P 12 21 05.5 -1.4
baz=205
U54A **Nelsons Funny** 23.77 30 P P 12 21 08.3 -2.1
U54A IAmb IAmb 12 21 40.3
comp=Z,19nm,0.9s
S51A **Beattyville** 23.91 26 P P 12 21 09.4 -2.1
S51A IAmb IAmb 12 21 45.3
comp=Z,20nm,1.0s
SWSC **Sam W. Stewart** 24.08 317 P P 12 21 13.6 +0.4
baz=128
IKP **In-Ko-Pah, Jac** 24.11 316 P P 12 21 13.8 +0.2
baz=127
PV13 **Radium Mtn., P** 24.27 335 P P 12 21 15.4 +0.3
PV15 **Paradox Valley** 24.29 336 P P 12 21 15.7 +0.4
BC3 **Big Chuckawall** 24.30 318 P P 12 21 16.7 +1.3
baz=130,SNR=7.0
IRM **Iron Mountain** 24.44 320 P P 12 21 18.8 +2.3
baz=131,SNR=11
MONP2 **Monument Peak** 24.46 316 P P 12 21 18.9 +2.0
baz=127,SNR=6.7
NEE2 **Needles Airpor** 24.53 321 P P 12 21 19.8 +2.5
baz=133
O44A **Mansfield** 24.59 15 P P 12 21 16.3 -1.3
O44A IAmb IAmb 12 21 17.3
comp=Z,11nm,0.7s
ISCO **Idaho Springs** 24.64 343 P P 12 21 19.9 +1.3
baz=158
HDIL **Hopedale** 24.78 13 P P 12 21 19.7 +0.2
baz=196
BELC **Belle Mtn. Jos** 24.87 318 P P 12 21 22.3 +1.7
baz=129,SNR=6.8
OGNE **Ogallala** 24.91 350 P P 12 21 19.4 -1.3
OGNE **Ogallala** 24.91 350 P P 12 21 22.0 +1.3
baz=167
TPFO **Pinon Flats** 24.92 317 P P 12 21 22.5 +1.5
baz=128,SNR=7.2
109C **Camp Elliot, M** 24.92 315 P P 12 21 22.5 +1.6
baz=126
PFO **Pinyon Flats O** 24.93 317 P P 12 21 22.8 +1.8
comp=Z,3.8nm,0.8s,baz=116,slow=6.6,SNR=9.5
PFO LR LR 12 31 49.9
comp=Z,62nm,20.2s,baz=242,slow=38
comp=Z,3.8nm,0.8s
PFO **Pinyon Flats O** 24.93 317 P P 12 21 23.4 +2.4
baz=128,SNR=6.6
BLA **Blacksburg** 25.00 31 P P 12 21 20.0 -1.6
BLA IAmb IAmb 12 21 54.5
comp=Z,24nm,1.1s
BLA **Blacksburg** 25.00 31 P P 12 21 20.1 -1.5
baz=218
P49A **Miami Univ. Ec** 25.13 21 P P 12 21 21.9 -0.8
baz=207
SFIN **Lafayette** 25.15 17 P P 12 21 21.9 -0.9
baz=201
GMRC **Granite Mounta** 25.17 320 P P 12 21 25.3 +2.0
baz=131
MURC **Murrieta** 25.41 316 P P 12 21 27.3 +2.1
baz=127
SCIA **State Center** 25.51 5 P P 12 21 25.4 -0.7
baz=187
O48B **Farmland** 25.63 20 P P 12 21 26.0 -1.1
baz=205,SNR=7.8
N23A **Red Feather La** 25.75 343 P P 12 21 29.8 +1.2
baz=158
TUQ **Turquoise Moun** 25.77 321 P P 12 21 30.4 +1.8
baz=132,SNR=6.3
O20A **White River Ci** 25.78 339 P P 12 21 30.3 +1.5
baz=153
O49A **Covington** 25.84 21 P P 12 21 27.8 -1.4
N47A **Urbana** 26.02 19 P P 12 21 28.3 -2.4
BFSC **Mount Baldy Ra** 26.10 317 P P 12 21 33.7 +2.0
baz=127
CIS **Catalina Islan** 26.11 314 P P 12 21 33.3 +1.6
baz=125
SDV **Santo Domingo** 26.14 104 P P 12 21 32.3 0.0
comp=Z,3.3nm,0.6s,baz=338,slow=8.0,SNR=4.2
SDV LR LR 12 33 10.0
comp=Z,58nm,18.7s,baz=277,slow=39
comp=Z,3.3nm,0.6s
GSC **Goldstone, Bar** 26.22 320 P P 12 21 33.4 +0.7
baz=130
SHOC **Shoshone, Teco** 26.29 321 P P 12 21 33.6 +0.4
baz=132
JFWS **Jewell Farm** 26.88 10 P P 12 21 37.2 -1.3
JFWS **Jewell Farm** 26.88 10 P P 12 21 37.7 -0.7
baz=193,SNR=5.4
LRMC **Laurel Mtn Rad** 26.88 319 P P 12 21 38.9 +0.2
baz=129
TPNV **Topopah Spring** 26.99 323 P P 12 21 39.9 +0.2
baz=134
MPMC **Manual Prospec** 27.13 320 P P 12 21 41.7 +0.7
baz=130
ECSD **EROS Data Cent** 27.20 360 P P 12 21 40.6 -0.7
ECSD IAmb IAmb 12 22 17.6
comp=Z,7.7nm,0.7s
ECSD **EROS Data Cent** 27.20 360 P P 12 21 41.2 -0.1
baz=179
CBN **Corbin Frederi** 27.33 34 P P 12 21 42.5 0.0
baz=223
ARVC **Arvin** 27.40 317 P P 12 21 43.7 +0.5
baz=127
R11A **Troy Canyon, C** 27.61 326 P P 12 21 46.7 +1.4
baz=137
DUG **Dugway, Tooele** 27.67 332 P P 12 21 45.1 -0.6
baz=144
VES **Vestal, Richgr** 28.00 318 P P 12 21 50.2 +1.6
baz=127
RSSD **Black Hills** 28.35 348 P P 12 21 53.3 +1.5
baz=164
PDAR **Pinedale Array** 28.57 339 P P 12 21 54.4 +0.6
comp=Z,0.3nm,0.7s,baz=134,slow=13,SNR=4.2
PDAR PcP PcP 12 25 03.9 -0.4
comp=Z,0.3nm,0.5s,baz=144,slow=5.3,SNR=4.0
comp=Z,0.3nm,0.7s
SPMN **Marine on St.** 28.84 5 P P 12 21 55.3 -0.6
baz=187
NVAR **Mina Array Bea** 29.19 323 P P 12 22 01.5 +2.1
comp=Z,2.2nm,0.8s,baz=145,slow=8.4,SNR=14
comp=Z,2.2nm,0.8s
HLID **Hailey** 31.10 334 P P 12 22 16.7 +0.5
baz=144
BOZ **Bozeman (W)** 31.77 339 P P 12 22 22.6 +0.6
baz=151
HRY **Holter Researc** 32.81 340 P P 12 22 30.9 -0.2
PLID **Pearl Lake** 33.00 334 P P 12 22 34.0 +1.1
MSO **Missoula** 33.64 338 P P 12 22 38.8 +0.5
baz=148
ULM **Lac du Bonnet** 33.72 1 P P 12 22 37.6 -1.2
comp=Z,5.5nm,0.7s,baz=180,slow=9.4,SNR=11
ULM PcP PcP 12 25 16.9 -0.7
comp=Z,0.8nm,0.5s,baz=214,slow=3.6,SNR=3.0
comp=Z,5.5nm,0.7s
ULM **Lac du Bonnet** 33.72 1 P P 12 22 37.5 -1.2
ULM IAmb IAmb 12 22 39.5
comp=Z,6.7nm,0.8s
YBH **Yreka Blue Hor** 33.91 323 LR LR 12 36 47.6
comp=Z,150nm,18.5s,baz=150,slow=37
TRQ **Mont Tremblant** 34.78 27 P P 12 22 46.9 -1.3
ETMB **Extrema** 39.60 129 P P 12 23 28.6 -0.6
ETMB IAmb IAmb 12 23 30.6
comp=Z,5.2nm,1.0s
SCHQ **Schefferville** 44.53 24 P P 12 24 07.6 -1.4
comp=Z,7.4nm,0.7s,baz=237,slow=7.4,SNR=11
comp=Z,7.4nm,0.7s
YKA **Yellowknife Ar** 47.76 349 P P 12 24 33.7 -0.5
comp=Z,2.4nm,0.6s,baz=156,slow=7.2,SNR=29
YKA PcP PcP 12 26 01.9 -0.8
comp=Z,0.4nm,0.7s,baz=163,slow=2.5,SNR=4.3
comp=Z,2.4nm,0.6s
WRAK **Wrangell Islan** 48.30 334 P P 12 24 39.0 +0.5
baz=131
U33K **Whale Pass** 48.44 333 P P 12 24 40.6 +1.1
baz=130
DLBC **Dease Lake** 48.76 337 P P 12 24 43.2 +1.0
baz=135
R33M **Jennings River** 49.78 338 P P 12 24 50.7 +0.7
baz=134
AC02 **Maricunga** 50.48 148 P P 12 24 57.0 +1.0
AC02 IAmb IAmb 12 24 58.8
comp=Z,5.8nm,0.8s
LCO **Las Campanas** 51.53 151 P P 12 25 04.6 +0.9
LCO IAmb IAmb 12 25 06.0
comp=Z,5.1nm,0.8s
WHY **Whitehorse** 52.09 337 P P 12 25 08.1 +0.8
baz=130
O30N **Mendenhall** 52.62 337 P P 12 25 11.8 +0.7
baz=129
PNL **Peninsula** 53.26 334 P P 12 25 14.6 -1.2
baz=125
PINM **Pinnacle** 53.86 334 P P 12 25 20.2 -0.1
baz=124
M30M **Minto, Yukon** 54.03 338 P P 12 25 22.2 +0.7
baz=130
MAYO **Mayo, Yukon** 54.38 339 P P 12 25 24.0 +0.1
baz=131
M29M **Somme Creek** 54.55 337 P P 12 25 25.9 +0.6
baz=128
L29M **L29M** 54.84 338 P P 12 25 28.2 +0.8
baz=128
CFA **Coronel Fontan** 54.85 151 P P 12 25 29.5 +1.7
comp=Z,3.5nm,0.6s,baz=334,slow=7.9,SNR=7.6
comp=Z,3.5nm,0.6s
K29M **Barlow Dome** 55.09 339 P P 12 25 30.2 +1.0
baz=129
BVCY **Beaver Creek** 55.43 337 P P 12 25 31.8 +0.2
baz=125
C36M **Paulatuk** 55.64 348 P P 12 25 31.7 -1.2
baz=147
MCARA **McCarthy VSAT** 55.71 335 P P 12 25 33.5 0.0
baz=122
DAWY **Dawson** 55.88 339 P P 12 25 34.1 -0.6
baz=128
Q23K **Middleton Isla** 56.16 332 P P 12 25 37.7 +1.0
baz=118
L27K **Beaver Creek,** 56.17 337 P P 12 25 38.4 +1.5
L27K **Beaver Creek,** 56.17 337 P P 12 25 37.2 +0.4
baz=124
M26K **Nabesna, AK** 56.25 336 P P 12 25 37.9 +0.5
baz=123
I29M **Ogilvie Camp,** 56.33 340 P P 12 25 36.8 -1.1
baz=129
F31M **Tsiigehtchic** 56.38 344 P P 12 25 38.4 +0.2
baz=135
EYAK **Cordova Ski Ar** 56.43 333 P P 12 25 38.4 -0.2
baz=119
N25K **Chitina, Valde** 56.47 335 P P 12 25 39.6 +0.5
baz=121
EPYK **Eagle Plains** 56.49 342 P P 12 25 38.3 -0.8
baz=132
L26K **Log Cabin Wild** 56.72 336 P P 12 25 40.3 -0.5
baz=123
K27K **Chicken** 56.81 338 P P 12 25 42.0 +0.7
K27K IAmb IAmb 12 25 43.8
comp=Z,3.9nm,0.9s
K27K **Chicken** 56.81 338 P P 12 25 40.6 -0.8
baz=125
EGAK **Eagle** 56.92 339 P P 12 25 42.8 +0.7
baz=126
INK **Inuvik** 56.95 344 LR LR 12 53 31.0
comp=Z,60nm,20.6s,baz=230,slow=40
INK **Inuvik** 56.95 344 P P 12 25 42.2 0.0
INK **Inuvik** 56.95 344 P P 12 25 42.6 +0.4
baz=136,SNR=8.5
KLU **Kluting** 56.96 334 P P 12 25 43.5 +1.0
baz=119
HARP **HAARP** 57.10 335 P P 12 25 43.8 +0.4
baz=120
M24K **Tolsona, Glenn** 57.37 335 P P 12 25 46.6 +1.2
baz=119
SCRK **Sand Creek** 57.48 337 P P 12 25 46.6 +0.4
baz=122
PAX **Paxson** 57.52 336 P P 12 25 46.6 +0.2
baz=120
I27K **Kandik River** 57.57 340 P P 12 25 46.2 -0.5
baz=126
J26L **Joseph Creek** 57.61 338 P P 12 25 48.0 +0.8
baz=123
RIDG **Independent Ri** 57.68 337 P P 12 25 47.7 +0.1
baz=122
H27K **Steamboat Moun** 57.91 340 P P 12 25 49.6 +0.5
baz=126
WAT6 **Susitna Watana** 58.24 335 P P 12 25 51.8 +0.2
baz=118
G27K **Doyon Strip** 58.30 341 P P 12 25 51.8 0.0
baz=126
BRSE **Bradley Lake S** 58.31 331 P P 12 25 52.0 0.0
baz=113
J25K **Salcha River,** 58.33 338 P P 12 25 51.9 -0.3
baz=121
PMR **Palmer** 58.37 333 P P 12 25 52.4 +0.1
baz=116
WAT1 **Susitna Watana** 58.68 335 P P 12 25 53.7 -0.8
baz=117
HDA **Harding Lake** 58.81 337 P P 12 25 55.3 -0.1
baz=120
PRP **Porcupine Dome** 58.87 338 P P 12 25 56.6 +0.7
PRP IAmb IAmb 12 25 57.0
comp=Z,5.0nm,1.1s
PRP **Porcupine Dome** 58.87 338 P P 12 25 55.8 -0.1
baz=122
IL31 58.97 337 P P 12 25 56.8 +0.3
ILAR **Eielson Array** 58.97 337 P P 12 25 56.8 +0.3
comp=Z,3.5nm,0.9s,baz=136,slow=5.5,SNR=58
comp=Z,3.5nm,0.9s
ILAR **Eielson Array** 58.97 337 P P 12 25 57.1 +0.6
SUA **Susitna One** 59.01 333 P P 12 25 58.1 +1.2
SUA **Susitna One** 59.01 333 P P 12 25 57.2 +0.2
baz=114,SNR=5.6
E27K **Coleen River** 59.11 342 P P 12 25 58.3 +0.9
baz=127
MCK **McKinley** 59.26 336 P P 12 25 58.5 0.0
baz=117
POKR **Poker Plat Res** 59.35 337 P P 12 25 59.9 +0.8
POKR IAmb IAmb 12 26 00.6
comp=Z,3.0nm,0.7s
POKR **Poker Plat Res** 59.35 337 P P 12 25 58.8 -0.3
baz=120
COLA **College** 59.38 337 P P 12 25 58.7 -0.6
baz=119
TCOL **COLLEGE, AF Yank** 59.39 337 P P 12 25 59.6 +0.3
baz=119
SPU **Mount Spurr** 59.48 332 P P 12 26 00.3 +0.2
RSO **Redoubt South** 59.52 331 P P 12 26 01.6 +1.1
SPCR **Spurr Chakacha** 59.55 332 P P 12 26 00.9 +0.3
baz=113
SKT **Skwentna** 59.57 333 P P 12 26 01.8 +1.1
SKT **Skwentna** 59.57 333 P P 12 26 01.3 +0.6
baz=114,SNR=5.2
F26K **Sheenjek River** 59.60 341 P P 12 26 01.0 +0.2
baz=124
TRF **Thorofare Moun** 59.67 335 P P 12 26 02.2 +0.7
TRF **Thorofare Moun** 59.67 335 P P 12 26 01.4 -0.1
baz=116
NEA2 **Nenana** 59.71 337 P P 12 26 01.4 -0.2
baz=118
G25K **Bearman Lake** 59.73 339 P P 12 26 02.0 +0.4
baz=122
H24K **Noodor Dome** 59.87 338 P P 12 26 03.3 +0.6
baz=120
F25K **Christian Rive** 60.02 340 P P 12 26 04.5 +0.7
baz=123
I23K **Minto, Yukon-K** 60.08 337 P P 12 26 04.7 +0.7
I23K **Minto, Yukon-K** 60.08 337 P P 12 26 04.3 +0.2
baz=118,SNR=8.8
O19K **Port Alsworth** 60.15 331 P P 12 26 05.2 +0.6
baz=110
G24K **Hadweenzic Riv** 60.16 339 P P 12 26 05.0 +0.3
baz=120
PPLA **Purkeypile** 60.22 334 P P 12 26 05.5 +0.3
baz=114
M20K **Styx River** 60.22 333 P P 12 26 06.2 +0.9
M20K **Styx River** 60.22 333 P P 12 26 05.8 +0.6
baz=112
BPAW **Bear Paw Mtn.** 60.23 336 P P 12 26 05.2 0.0
baz=115
E25K **Arctic Village** 60.29 341 P P 12 26 05.8 +0.3
baz=123
P18K **Big Mountain,** 60.31 330 P P 12 26 05.5 -0.4
baz=109
CAST **Castle Rocks** 60.39 335 P P 12 26 05.8 -0.5
CAST IAmb IAmb 12 26 07.2
comp=Z,5.2nm,1.0s
CAST **Castle Rocks** 60.39 335 P P 12 26 06.4 +0.1
baz=114,SNR=5.1
N19K **Bonanza Creek** 60.44 331 P P 12 26 07.2 +0.5
N19K **Bonanza Creek** 60.44 331 P P 12 26 07.0 +0.2
baz=110
H23K **Yukon River** 60.46 338 P P 12 26 06.1 -0.7
baz=118
MLY **Manley** 60.54 337 P P 12 26 07.1 -0.3
MLY **Manley** 60.54 337 P P 12 26 08.0 +0.6
baz=116,SNR=10.0
C27K **Jago River** 60.59 343 P P 12 26 07.9 +0.3
baz=126
F24K **Squaw Lake** 60.72 340 P P 12 26 08.9 +0.4
baz=120
L20K **Farewell, AK** 60.77 333 P P 12 26 09.5 +0.5
baz=112
R16K **Pilot Point** 60.94 327 P P 12 26 10.4 +0.4
baz=106
G23K **Bananza Creek** 61.05 339 P P 12 26 10.4 -0.4
baz=118
CHGN **Chignik** 61.06 326 P P 12 26 10.4 -0.5
baz=104
I21K **Tanana** 61.08 337 P P 12 26 10.8 -0.2
baz=115
L19K **White Mountain** 61.09 333 P P 12 26 11.4 +0.3
baz=111
H22K **Ishtalitna Cre** 61.17 337 P P 12 26 12.1 +0.5
baz=116
K20K **Telida** 61.19 334 P P 12 26 11.6 -0.1
K20K **Telida** 61.19 334 P P 12 26 11.5 -0.1
baz=112
D25K **Kavik River** 61.19 342 P P 12 26 12.7 +1.1
baz=123

E24K	**Your Creek**	**61.20**	**340**	P	**P**	**12 26 12.2 +0.5**
	baz=120					
O17K	**Koliganek Bris**	**61.33**	**330**	P	**P**	**12 26 12.4 -0.3**
	baz=107					
COLD	**Coldfoot**	**61.36**	**339**	P	**P**	**12 26 13.1 +0.3**
	baz=118					
J20K	**Nowinta River**	**61.53**	**335**	P	**P**	**12 26 13.3 -0.7**
	baz=112					
E23K	**Chandalar**	**61.56**	**340**	P	**P**	**12 26 14.5 +0.3**
	baz=119					
H21K	**Melozitna Rive**	**61.60**	**337**	P	**P**	**12 26 14.3 -0.1**
	baz=114					
G22K	**Bettles**	**61.67**	**338**	P	**P**	**12 26 14.9 0.0**
	baz=116					
PLCA	**Paso Flores**	**61.72**	**158**	P	**P**	**12 26 16.6 +1.0**
	comp=Z,3.8nm,0.9s,baz=325,slow=7.6,SNR=6.5					
	comp=Z,3.8nm,0.9s					
O16K	**Kokwok River B**	**61.77**	**329**	P	**P**	**12 26 15.3 -0.3**
	baz=106					
TTA	**Tatalina**	**61.85**	**333**	P	**P**	**12 26 15.7 -0.6**
	baz=110					
C24K	**Franklin Bluff**	**62.10**	**342**	P	**P**	**12 26 17.9 +0.2**
	baz=120					
F22K	**John River**	**62.17**	**339**	P	**P**	**12 26 17.9 -0.3**
	baz=116					
G21K	**Allakaket**	**62.21**	**338**	P	**P**	**12 26 18.9 +0.3**
	baz=114					
D23K	**Nanushuk River**	**62.34**	**341**	P	**P**	**12 26 19.9 +0.5**
	baz=118					
N16K	**Nishlik Lake**	**62.34**	**330**	P	**P**	**12 26 19.8 +0.3**
	baz=106					
F21K	**Alatna River**	**62.50**	**338**	P	**P**	**12 26 21.2 +0.8**
	baz=114					
ICESG	**Greenland Ices**	**63.13**	**20**	*e*P	**P**	**12 26 24.5 -0.5**
ICESG				IAmb	IAmb	12 26 25.1
	comp=Z,9.9nm,0.9s					
NEEM	**North Greenlan**	**65.01**	**10**	*i* P	**P**	**12 26 36.8 -0.4**
NEEM				IAmb	IAmb	12 26 38.1
	comp=Z,17nm,1.1s					
SUMG	**Summit**	**65.03**	**16**	*i* P	**P**	**12 26 37.0 -0.5**
SUMG				IAmb	IAmb	12 26 38.4
	comp=Z,5.4nm,0.9s					
ANM	**Nome**	**66.30**	**334**	P	**P**	**12 26 45.1 -0.3**
	baz=102					
GAMB	**Gambell**	**68.92**	**333**	P	**P**	**12 27 01.8 0.0**
	baz=96					
NOR	**Nord**	**72.32**	**9**	*e*P	**P**	**12 27 22.2 -0.1**
NOR				IAmb	IAmb	12 27 22.9
	comp=Z,3.3nm,0.4s					
ESDC	**Sonseca Array**	**81.45**	**51**	P	**P**	**12 28 13.9 -0.6**
	comp=Z,1.1nm,0.9s,baz=303,slow=4.9,SNR=7.2					
	comp=Z,1.1nm,0.9s					
NB2	**NORSAR Subarra**	**83.96**	**28**	P	**P**	**12 28 27.5 +0.4**
	comp=Z,12nm,1.1s,baz=297,slow=5.6					
NOA	**NORSAR Array B**	**83.96**	**28**	P	**P**	**12 28 27.0 -0.1**
	comp=Z,1.3nm,0.7s,baz=298,slow=5.0,SNR=4.8					
	comp=Z,1.3nm,0.7s					
ARCES	**ARCESS Array B**	**85.09**	**17**	P	**P**	**12 28 33.0 +0.4**
	comp=Z,1.7nm,0.9s,baz=265,slow=4.5,SNR=0.8					
	comp=Z,1.7nm,0.9s					
MKAR	**Makanchi Array**	**117.04**	**1**	PKP	**PKPdf**	**12 34 41.0 -0.9**
	comp=Z,0.4nm,0.6s,baz=51,slow=2.3,SNR=4.9					
STKA	**Stephens Creek**	**125.56**	**242**	PKP	**PKPdf**	**12 34 59.1 +0.5**
	comp=Z,1.8nm,0.7s,baz=34,slow=3.6,SNR=5.0					
WRA	**Warramunga Arr**	**131.90**	**258**	PKP	**PKPdf**	**12 35 11.7 +0.7**
	comp=Z,0.7nm,0.8s,baz=91,slow=3.3,SNR=5.5					
ASAR	**Alice Springs**	**132.48**	**253**	PKP	**PKPdf**	**12 35 12.8 +0.7**
	comp=Z,0.6nm,1.0s,baz=94,slow=2.2,SNR=4.7					
CMAR	**Chiang Mai Arr**	**142.20**	**336**	PKP	**PKPdf**	**12 35 30.4 +0.3**
	comp=Z,0.5nm,0.4s,baz=336,slow=3.1,SNR=4.8					

IDC 08 12:42:56.5±2.6, 7.11S×127.48E, h0km, mb3.3/1, mbtmp3.0/3, ML2.8/2, MS2.5/1, Error ellipse: s-maj=312.3km s-min=34.1km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.38**	**153**	Pn	Pn	12 46 21.4	-0.2
	0.1nm,0.3s,baz=330,slow=13,SNR=1.8						
WRA				Sn	Sn	12 48 49.7	-12
	0.2nm,0.3s,baz=342,slow=19,SNR=6.6						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**17.58**	**160**	P	Pn	12 47 03.2	+0.1
	baz=344,slow=8.8,SNR=1.5						
ASAR				S	Sn	12 50 13.2	-6.4
	0.2nm,0.8s,baz=348,slow=29,SNR=1.7						
	0.2nm,1.0s						
PMG	**Port Moresby**	**19.61**	**98**	LR	LR	12 55 33.2	
	comp=Z,16nm,21.1s,baz=342,slow=39						
MKAR	**Makanchi Array**	**66.97**	**328**	P	P	12 53 51.1	0.0
	0.1nm,0.4s,baz=131,slow=6.5,SNR=2.2						
	0.1nm,0.4s						

*ISK **08** 12:43:06.5, 39.22N×28.07E, h11km, ML2.5/13*
*DDA **08** 12:43:06.6±0.0, 39.22N×28.10E, h7km±3km, ML2.1*
ISC 08 12:43:06.7±1.0, 39.22N±0.02×28.09E±0.02, h12km±10km, n28, σ0.39/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.33**	**299**	P	**Pg**	**12 43 13.5**	**+0.2**
STEP				S	**Sg**	**12 43 18.0**	**+0.2**
AKHS	**Akhisar**	**0.40**	**213**	P	**Pg**	**12 43 15.0**	**+0.4**
AKHS				S	**Sb**	**12 43 21.4**	**-0.4**
AKS	**Akhisar**	**0.40**	**213**	Pg	**Pg**	**12 43 14.8**	**+0.2**
AKS				Sg	**Sb**	**12 43 21.1**	**-0.8**
BALB	**Balikesir**	**0.45**	**339**	Pg	**Pb**	**12 43 16.3**	**-0.3**
BALB				Sg	**Sb**	**12 43 23.1**	**-0.2**
DST	**Dursunbey**	**0.56**	**47**	Pg	**Pg**	**12 43 17.7**	**0.0**
BALY	**Balya**	**0.64**	**325**	P	**Pb**	**12 43 19.7**	**-0.1**
SIMA	**Simav-Kutahya**	**0.71**	**101**	Pg	**Pb**	**12 43 20.9**	**-0.1**
SIMA				Sg	**Sb**	**12 43 31.3**	**+0.5**
MANT	**Manisa**	**0.81**	**153**	P	**Pb**	**12 43 22.7**	**-0.2**
MANT				S	**Sg**	**12 43 32.2**	**-0.8**
MANT				*i* AML	AML	12 43 37.0	
	comp=E,54nm,0.4s						
MANT				*i* AML	AML	12 43 37.0	
	comp=N,52nm,0.4s						
ZEDA	**zmir-Bergama**	**0.83**	**253**	P	**Pb**	**12 43 23.3**	**+0.3**
ZEDA				S	**Sg**	**12 43 33.3**	**-0.2**
ZEDA				*i* AML	AML	12 43 37.0	
	comp=N,40nm,0.4s						
KULA	**Kula-Manisa**	**0.83**	**147**	Pg	**Pb**	**12 43 23.0**	**-0.1**
BUHA	**Balikesir, Bur**	**0.83**	**290**	P	**Pn**	**12 43 23.9**	**-0.5**
BUHA				S	**Sb**	**12 43 35.4**	**+1.0**
BUHA				*i* AML	AML	12 43 38.0	
	comp=E,43nm,0.3s						
USAK	**Uak-Merkez**	**0.88**	**125**	P	**Pb**	**12 43 23.9**	**0.0**
USAK				S	**Sg**	**12 43 34.9**	**-0.3**
GONE	**Gonen-Balikesi**	**0.89**	**339**	Pg	**Pg**	**12 43 23.5**	**-0.2**
ORLT	**Orhaneli**	**1.03**	**37**	Pg	**Pb**	**12 43 26.8**	**+0.2**
GEDZ	**Gediz**	**1.04**	**99**	Pg	**Pn**	**12 43 27.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.07**	**11**	Pg	**Pn**	**12 43 27.5**	**0.0**
TVSB	**Tavsanli**	**1.09**	**77**	Pn	**Pn**	**12 43 28.6**	**+0.7**
KNL	**Balıkesir**	**1.14**	**338**	P	**Pn**	**12 43 29.0**	**+0.5**
KNL				*i* AML	AML	12 43 46.0	
	comp=E,70nm,0.5s						
KNL				*i* AML	AML	12 43 46.0	
	comp=N,68nm,0.5s						
EDC	**Edincik**	**1.14**	**351**	Pn	**Pb**	**12 43 28.3**	**-0.1**
ULDT	**Uludag**	**1.23**	**41**	P	**Pb**	**12 43 29.5**	**-0.4**
ULDT				S	**Sg**	**12 43 46.3**	**+0.1**
ULDT				*i* AML	AML	12 43 50.0	
	comp=E,73nm,0.3s						
ULDT				*i* AML	AML	12 43 50.0	
	comp=N,65nm,0.3s						
MDNY	**Mudanya-Bursa**	**1.30**	**28**	Pn	**Pn**	**12 43 31.0**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.30**	**294**	P	**Pg**	**12 43 31.4**	**-0.3**
BAYC				S	**Sb**	**12 43 47.8**	**-0.1**
BAYC				*i* AML	AML	12 43 53.0	
	comp=N,27nm,1.0s						
PASA	**Karahalli, USA**	**1.40**	**128**	P	**Pb**	**12 43 33.0**	**+0.3**
PASA				S	**Sb**	**12 43 50.2**	**-0.4**
GEMT	**Gemlik**	**1.48**	**34**	Pn	**Pb**	**12 43 34.1**	**-0.1**
EZN	**Ezine**	**1.49**	**295**	Pn	**Pn**	**12 43 33.7**	**+0.3**
AYDN	**Tasoluk**	**1.56**	**186**	P	**Pb**	**12 43 35.8**	**+0.2**
CAVI	**Cavuskoy**	**1.67**	**53**	Pn	**Pb**	**12 43 37.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.71**	**314**	Pn	**Pn**	**12 43 36.6**	**+0.2**

*IDC **08** 12:55:56.6±1.6, 29.90N×130.77E, h43km±15km, mb3.3/5, mbtmp3.5/9, ML3.3/4, Error ellipse: s-maj=28.9km s-min=8.8km az=109.0*

*JMA **08** 12:55:56.0±0.2, 29.9N±0.6×131.0E±0.6, h42km±1km, MV3.6/28, NEAR AMAMI-OSHIMA ISLAND*
*NIED **08** 12:55:56.0, 29.87N×131.00E, h42km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=6.86; Mθθ=4.23; Mφφ=2.63; Mrθ=-0.02; Mrφ=3.09; Mθφ=-0.53; Fault plane solution: M0=6.76000×10^14 NP1:φ=49.00000°, δ=47.00000°, λ=-94.00000°. NP2:φ=235.00000°, δ=44.00000°, λ=-85.00000°.*
ISC 08 12:55:56.3±1.3, 29.85N±0.06×130.94E±0.09, h44km±13km, n30, σ0.76/34, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.54**	**317**	*i* P	**Pn**	**12 56 07.5**	**-0.2**
JYAK				S	**Sn**	**12 56 16.2**	**+0.4**
JMTN	**Minamitane**	**0.55**	**357**	*i* P	**Pn**	**12 56 07.2**	**-0.6**
JTN	**Tanegashima 3**	**0.81**	**3**	*i* P	**Pn**	**12 56 10.8**	**-0.4**
JTN				S	**Sn**	**12 56 22.1**	**-0.1**
JKC	**Kuchinoerabu**	**0.89**	**314**	P	**Pn**	**12 56 12.8**	**+0.5**
JNN	**Nakanoshima**	**0.92**	**270**	P	**Pn**	**12 56 14.1**	**+1.2**
JTSR	**Tashiro 2**	**1.32**	**359**	*i* P	**Pn**	**12 56 18.6**	**+0.4**
JTSR				S	**Sn**	**12 56 35.2**	**+0.6**
JTAJ	**Takarajima**	**1.66**	**246**	P	**Pn**	**12 56 24.6**	**+1.7**
JNAR	**Kushima--Naru**	**1.70**	**10**	P	**Pn**	**12 56 23.9**	**+0.5**
JSU	**Suzuyama**	**1.71**	**346**	P	**Pn**	**12 56 24.1**	**+0.5**
JSU	**Suzuyama**	**1.71**	**346**	P	**Pn**	**12 56 23.5**	**0.0**
JSU				*e*S	**Sn**	**12 56 44.7**	**+0.5**
JAM	**Amami Oshima**	**1.84**	**220**	*i* P	**Pn**	**12 56 26.4**	**+1.0**
JNKG	**Nichinankitago**	**1.85**	**12**	P	**Pn**	**12 56 26.1**	**+0.6**
JNKG				S	**Sn**	**12 56 48.4**	**+0.7**
JNU	**Nakatsue**	**3.27**	**359**	P	**Pn**	**12 56 45.6**	**+0.6**
	3.2nm,0.3s,baz=271,slow=7.1,SNR=12						
JNU				S	**Sn**	**12 57 22.0**	**-0.7**
	23nm,0.4s,baz=192,slow=22,SNR=8.8						
	7.1nm,0.3s						
JNU	**Nakatsue**	**3.27**	**359**	P	**Pn**	**12 56 45.7**	**+0.7**
JOW	**Kunigami**	**3.81**	**219**	P	**Pn**	**12 56 52.5**	**0.0**
	7.0nm,0.3s,baz=87,slow=19,SNR=19						
JOW				S	**Sn**	**12 57 35.4**	**-0.6**
	26nm,0.3s,baz=148,slow=25,SNR=9.2						
	15nm,0.4s						
JMN	**Monobe**	**4.61**	**32**	P	**Pn**	**12 57 03.1**	**-0.4**
JHS	**Saijyo**	**5.46**	**19**	P	**Pn**	**12 57 15.2**	**+0.1**
INU	**Inuyama**	**7.51**	**41**	P	**Pn**	**12 57 44.4**	**+1.2**
JGF	**Kuroka**	**7.88**	**42**	P	**Pn**	**12 57 48.9**	**+0.5**
MAJO	**Matsushiro**	**9.04**	**40**	P	**Pn**	**12 58 04.9**	**+0.8**
MJAR	**Matsushiro Arr**	**9.04**	**40**	P	**Pn**	**12 58 04.9**	**+0.8**
	0.1nm,0.3s,baz=310,slow=19,SNR=12						
	0.5nm,0.3s						
KLR	**Kul'dur**	**19.37**	**2**	P	**Pn**	**13 00 18.9**	**-0.7**
	0.1nm,0.3s,baz=187,slow=11,SNR=2.4						
	1.1nm,0.7s						
SONM	**Songino Array**	**26.06**	**320**	P	**P**	**13 01 24.4**	**-1.2**
	0.6nm,0.4s,baz=130,slow=10,SNR=5.3						
	0.6nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**34.04**	**99**	T	T	13 38 55.9	
	baz=296,slow=75,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**34.04**	**99**	T	T	13 38 50.4	
	baz=296,slow=75,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**34.06**	**99**	T	T	13 38 53.8	
	baz=296,slow=75,SNR=4.7						
MKAR	**Makanchi Array**	**41.05**	**308**	P	**P**	**13 03 35.3**	**-0.1**
	0.8nm,0.7s,baz=98,slow=10.0,SNR=7.9						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**53.28**	**177**	P	**P**	**13 05 11.9**	**+1.1**
	0.3nm,0.8s,baz=11,slow=12,SNR=2.7						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**60.13**	**29**	P	**P**	**13 05 59.3**	**+0.4**
	0.3nm,0.7s,baz=273,slow=6.4,SNR=5.8						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**70.90**	**331**	P	**P**	**13 07 07.5**	**-1.0**
	0.9nm,0.7s,baz=62,slow=3.3,SNR=5.3						
	0.9nm,0.7s						

*NOU **08** 12:56:07.4, 42.20S×173.93E, h3km, MLv4.6/14, South Island, New Zealand*
*WEL **08** 12:56:08.7±0.4, 42°S±2°×17°4E±°, h5km, M4.4/79, ML4.4/12, MLv4.4/79, Error ellipse: s-maj=0.0km s-min=0.0km az=114.2, confirmed*
*NEIC **08** 12:56:08.2±2.2, 42.03S±0.02×173.80E±0.03, h9km±7km, mb4.1/6, Error ellipse: s-maj=3.9km s-min=2.5km az=141.0*
ISC 08 12:56:07.5±1.3, 42.07S±0.03×173.84E±0.02, h3km±10km, n172, σ1.41/177, mb4.2/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**4**		**Pg**	**12 56 14.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.36**	**4**	P	**Pg**	**12 56 14.9**	**+0.6**
BSWZ				S	**Sg**	**12 56 19.8**	**+0.8**
KHZ	**Kahutara**	**0.41**	**213**	Pg	**Pb**	**12 56 17.5**	**0.0**
KHZ	**Kahutara**	**0.41**	**213**	P	**Pb**	**12 56 17.4**	**0.0**
CMWZ	**Cape Campbell**	**0.42**	**41**		**Pb**	**12 56 17.5**	**-0.1**
CMWZ	**Cape Campbell**	**0.42**	**41**	P	**Pb**	**12 56 17.6**	**-0.1**
TUWZ	**Tuamarina**	**0.65**	**7**		**Pg**	**12 56 20.4**	**+0.5**
TUWZ	**Tuamarina**	**0.65**	**7**	P	**Pg**	**12 56 20.4**	**+0.5**
TUWZ				S	**Sb**	**12 56 29.5**	**-1.3**
THZ	**Tophouse**	**0.76**	**294**		**Pg**	**12 56 22.1**	**-0.1**
THZ	**Tophouse**	**0.76**	**294**	P	**Pg**	**12 56 22.2**	**+0.1**
THZ				S	**Sg**	**12 56 32.0**	**-0.1**
TCW	**Tory Channel**	**0.92**	**21**		**Pg**	**12 56 25.1**	**0.0**
TCW	**Tory Channel**	**0.92**	**21**	P	**Pg**	**12 56 25.2**	**0.0**
NNZ	**Nelson**	**0.92**	**338**		**Pg**	**12 56 24.8**	**-0.4**
NNZ	**Nelson**	**0.92**	**338**	P	**Pg**	**12 56 24.7**	**-0.5**
NNZ				S	**Sg**	**12 56 36.7**	**-0.3**
SNZO	**South Karori**	**1.00**	**41**		**Pb**	**12 56 27.9**	**+0.4**
SNZO	**South Karori**	**1.00**	**41**	P	**Pb**	**12 56 27.8**	**+0.4**
BHW	**Baring Head**	**1.02**	**50**		**Pb**	**12 56 28.1**	**+0.4**
WEL	**Wellington**	**1.05**	**42**	P	**Pb**	**12 56 28.7**	**+0.5**
MRNZ	**Matariki Terra**	**1.05**	**309**		**Pg**	**12 56 27.5**	**-0.1**
MRNZ	**Matariki Terra**	**1.05**	**309**	P	**Pg**	**12 56 27.6**	**-0.1**
MRNZ				S	**Sb**	**12 56 41.8**	**-0.7**
GVZ	**Greta Valley S**	**1.08**	**213**		**Pb**	**12 56 29.5**	**+0.7**
GVZ	**Greta Valley S**	**1.08**	**213**	P	**Pb**	**12 56 29.4**	**+0.7**
GVZ				S	**Sn**	**12 56 46.0**	**+1.0**
PLWZ	**Palliser**	**1.17**	**65**		**Pg**	**12 56 29.7**	**-0.2**
PLWZ	**Palliser**	**1.17**	**65**	P	**Pg**	**12 56 29.9**	**0.0**
TKNZ	**Takaka Hill**	**1.23**	**327**		**Pg**	**12 56 30.3**	**-0.8**
TKNZ	**Takaka Hill**	**1.23**	**327**	P	**Pg**	**12 56 30.3**	**-0.8**
MSWZ	**Poikau Station**	**1.24**	**59**		**Pg**	**12 56 31.2**	**+0.1**
DUWZ	**D'Urville Isla**	**1.27**	**3**	P	**Pg**	**12 56 31.0**	**-0.8**
CAW	**Cannon Point**	**1.33**	**44**	P	**Pn**	**12 56 32.4**	**-0.6**
LTZ	**Lake Taylor**	**1.36**	**238**		**Pn**	**12 56 33.5**	**0.0**
LTZ	**Lake Taylor**	**1.36**	**238**	P	**Pn**	**12 56 33.5**	**0.0**
PAWZ	**Paruwai Farm**	**1.37**	**60**	P	**Pn**	**12 56 32.5**	**-1.1**
AMCZ	**Amberley**	**1.41**	**218**		**Pn**	**12 56 34.1**	**0.0**
AMCZ	**Amberley**	**1.41**	**218**	P	**Pn**	**12 56 33.7**	**-0.4**
KIW	**Kapiti Island**	**1.45**	**34**	P	**Pn**	**12 56 34.5**	**-0.1**
TRWZ	**Traveller**	**1.54**	**65**	P	**Pn**	**12 56 34.5**	**-1.3**
MTW	**Mount Morrison**	**1.54**	**54**	P	**Pn**	**12 56 34.7**	**-1.2**
DSZ	**Denniston Nort**	**1.56**	**281**		**Pb**	**12 56 36.9**	**-0.1**
DSZ	**Denniston Nort**	**1.56**	**281**	P	**Pb**	**12 56 36.9**	**-0.1**
QRZ	**Quartz Range**	**1.59**	**321**		**Pn**	**12 56 36.8**	**+0.2**
QRZ	**Quartz Range**	**1.59**	**321**	P	**Pn**	**12 56 36.7**	**+0.2**
QRZ	**Quartz Range**	**1.59**	**321**	P	**Pn**	**12 56 36.4**	**-0.1**
OGWZ	**Otaki Gorge**	**1.60**	**39**	P	**Pn**	**12 56 36.1**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.72**	**48**	P	**Pn**	**12 56 37.7**	**-1.1**
OKCZ	**Okains Bay**	**1.75**	**199**	P	**Pn**	**12 56 38.1**	**-0.7**
TMWZ	**Te Maipa**	**1.81**	**59**	P	**Pn**	**12 56 38.2**	**-1.5**
OXZ	**Oxford**	**1.83**	**226**		**Pn**	**12 56 38.9**	**-0.9**
OXZ	**Oxford**	**1.83**	**226**	P	**Pn**	**12 56 38.7**	**-1.1**
MQZ	**McQueen's Vall**	**1.85**	**208**		**Pn**	**12 56 38.8**	**-1.3**
MQZ	**McQueen's Vall**	**1.85**	**208**	P	**Pn**	**12 56 38.5**	**-1.6**
INZ	**Inchbonnie**	**1.89**	**249**		**Pn**	**12 56 41.2**	**+0.5**
INZ	**Inchbonnie**	**1.89**	**249**	P	**Pn**	**12 56 41.2**	**+0.5**
MRZ	**Mangatainoka R**	**1.92**	**43**		**Pn**	**12 56 40.1**	**-1.0**
MRZ	**Mangatainoka R**	**1.92**	**43**	P	**Pn**	**12 56 40.0**	**-1.0**
AKCZ	**Akaroa Harbour**	**1.93**	**200**	P	**Pn**	**12 56 40.3**	**-0.8**
TIWZ	**Tintock**	**2.01**	**51**	P	**Pg**	**12 56 47.5**	**+1.5**
RACZ	**Rakaia**	**2.07**	**217**	P	**Pn**	**12 56 42.0**	**-1.2**
PRWZ	**Pori Road**	**2.21**	**47**	P	**Pn**	**12 56 44.4**	**-0.6**
POWZ	**Post Office Ro**	**2.22**	**42**	P	**Pn**	**12 56 45.0**	**-0.2**
MHCZ	**Mount Hutt**	**2.22**	**228**	P	**Pn**	**12 56 44.1**	**-1.1**
BFZ	**Birch Farm**	**2.28**	**53**		**Pn**	**12 56 45.5**	**-0.5**
BFZ	**Birch Farm**	**2.28**	**53**	P	**Pn**	**12 56 44.3**	**-1.7**
WACZ	**Wakanui South**	**2.38**	**217**	P	**Pn**	**12 56 46.2**	**-1.2**
WAZ	**Wanganui**	**2.47**	**21**	P	**Pn**	**12 56 50.6**	**+1.9**
DVHZ	**Dannevirke**	**2.49**	**46**	P	**Pn**	**12 56 47.1**	**-1.9**
WVZ	**Waitaha Valley**	**2.50**	**245**	P	**Pn**	**12 56 49.4**	**+0.3**
TSZ	**Takapari Road**	**2.57**	**39**	P	**Pn**	**12 56 48.8**	**-1.3**
RPZ	**Rata Peaks**	**2.63**	**230**	Pn	**Pn**	**12 56 50.3**	**-0.6**
RPZ	**Rata Peaks**	**2.63**	**230**	P	**Pn**	**12 56 50.2**	**-0.6**
RPZ	**Rata Peaks**	**2.63**	**230**	P	**Pn**	**12 56 49.7**	**-1.0**
LREZ	**Lake Rotokare**	**2.64**	**9**	P	**Pb**	**12 56 54.1**	**-1.4**
NMEZ	**Namu Road**	**2.66**	**1**	P	**Pb**	**12 56 54.4**	**-1.3**
ARCZ	**Arundel**	**2.71**	**225**	P	**Pn**	**12 56 50.7**	**-1.3**
KHEZ	**Kahui Hut**	**2.78**	**3**	P	**Pb**	**12 56 56.2**	**-1.6**
KHEZ	**Kahui Hut**	**2.78**	**3**	P	**Pb**	**12 56 55.9**	**-1.9**
PNHZ	**Pukenui**	**2.80**	**40**	P	**Pb**	**12 56 59.8**	**+1.6**
NBEZ	**Newall Road No**	**2.80**	**0**	P	**Pb**	**12 56 55.9**	**-2.3**
NEZ	**North Egmont**	**2.81**	**4**	P	**Pn**	**12 56 56.8**	**-1.5**
GCSZ	**Gaunt Creek Bo**	**2.87**	**243**	P	**Pn**	**12 56 55.1**	**+0.9**
PKE	**Pukeiti**	**2.88**	**2**	P	**Pb**	**12 56 57.4**	**-2.1**
DREZ	**Durham Road**	**2.89**	**6**	P	**Pb**	**12 56 57.2**	**-2.5**
MTVZ	**Mangateitei**	**2.96**	**25**	P	**Pb**	**12 56 60.0**	**-0.9**
PKVZ	**Pokaka**	**3.00**	**23**	P	**Pb**	**12 56 57.0**	**+0.9**
MHEZ	**Mangahewa**	**3.01**	**7**	P	**Pb**	**12 57 01.3**	**-0.5**
VRZ	**Vera Road**	**3.02**	**14**	P	**Pn**	**12 56 58.1**	**+1.8**
MOVZ	**Moawhango**	**3.03**	**29**	P	**Pn**	**12 56 57.6**	**+1.2**
WNVZ	**Wahianoa**	**3.05**	**27**	P	**Pn**	**12 56 58.4**	**+1.6**
TRVZ	**Turoa**	**3.06**	**26**	P	**Pn**	**12 56 59.4**	**+2.4**
PXZ	**Pawanui**	**3.06**	**49**	P	**Pb**	**12 57 03.4**	**+0.8**
BHHZ	**Black Hill Sta**	**3.08**	**34**	P	**Pn**	**12 56 57.1**	**0.0**
DRZ	**Dome Shelter**	**3.08**	**26**	P	**Pb**	**12 57 02.4**	**-0.7**
WHVZ	**Whangaehu Hut**	**3.09**	**26**	P	**Pn**	**12 57 00.3**	**+3.0**
FWVZ	**Far West T-bar**	**3.10**	**25**	P	**Pb**	**12 57 02.0**	**-1.4**
TMZ	**Timaru**	**3.10**	**221**	P	**Pn**	**12 56 56.3**	**-1.1**
TUVZ	**Tukino**	**3.12**	**27**	P	**Pn**	**12 57 00.4**	**+2.6**
NGZ	**Ngauruhoe**	**3.19**	**25**	P	**Pn**	**12 57 00.8**	**+2.1**
SNVZ	**South Ngauruho**	**3.19**	**26**	P	**Pb**	**12 57 04.1**	**-0.8**
OTVZ	**Oturere**	**3.22**	**26**	P	**Pb**	**12 57 02.7**	**-2.7**
NNVZ	**North Ngauruho**	**3.23**	**25**	P	**Pb**	**12 57 00.8**	**+0.8**
KAHZ	**Kahuranaki**	**3.23**	**46**	P	**Pb**	**12 57 05.6**	**0.0**
TWVZ	**Taurewa**	**3.23**	**23**	P	**Pn**	**12 57 02.4**	**+3.2**
WTVZ	**West Tongariro**	**3.24**	**25**	P	**Pn**	**12 57 02.1**	**+2.8**
ETVZ	**East Tongariro**	**3.26**	**26**	P	**Pn**	**12 57 01.9**	**+2.3**
KRVZ	**Karewarewa**	**3.27**	**25**	P	**Pb**	**12 57 04.6**	**-1.7**
TMVZ	**Te Maari**	**3.27**	**26**	P	**Pb**	**12 57 04.4**	**-1.9**
NTVZ	**North Tongarir**	**3.28**	**26**	P	**Pb**	**12 57 05.4**	**-1.1**
FOZ	**Fox Glacier**	**3.30**	**242**		**Pn**	**12 57 01.4**	**+1.3**
FOZ	**Fox Glacier**	**3.30**	**242**	P	**Pn**	**12 57 00.1**	**+0.1**
RITZ	**Rihia Road**	**3.45**	**27**	P	**Pn**	**12 57 05.9**	**+3.8**
LBZ	**Lake Benmore**	**3.53**	**228**	Pn	**Pn**	**12 57 02.9**	**-0.3**
LBZ	**Lake Benmore**	**3.53**	**228**	P	**Pn**	**12 57 02.4**	**-0.9**
BKZ	**Black Stump Fm**	**3.54**	**36**		**Pn**	**12 57 04.3**	**+1.0**
BKZ	**Black Stump Fm**	**3.54**	**36**	P	**Pn**	**12 57 03.5**	**+0.2**
BKZ	**Black Stump Fm**	**3.54**	**36**	P	**Pn**	**12 57 01.7**	**-1.6**
HIZ	**Hauiti**	**3.64**	**13**		**Pn**	**12 57 06.4**	**+1.7**
HIZ	**Hauiti**	**3.64**	**13**	P	**Pn**	**12 57 07.0**	**+2.3**
HIZ	**Hauiti**	**3.64**	**13**	P	**Pn**	**12 57 06.3**	**+1.6**
WATZ	**Wairara**	**3.66**	**24**	P	**Pb**	**12 57 10.9**	**-1.9**
ODZ	**Otahua Downs**	**3.77**	**217**		**Pn**	**12 57 05.8**	**-0.8**
ODZ	**Otahua Downs**	**3.77**	**217**	P	**Pn**	**12 57 05.4**	**-1.1**
**

0.3nm,0.2s,baz=187,slow=15,SNR=4.5
MK31 Lg Lg 12 58 52.9
0.5nm,0.2s,baz=193,slow=25,SNR=21
CHKK Chushkaly 3.05 263 *e*Pg **Pb 12 58 29.6 +0.3**
1.8nm,0.1s
CHKK *e*Lg Lg 12 59 08.7
13nm,0.2s
MDOK Medeo 3.20 251 Pg **Pb 12 58 33.2 +1.1**
3.5nm,0.6s
MDOK Lg Lg 12 59 14.8
1.5nm,0.3s
MDOK Medeo 3.20 251 *e*Pg **Pb 12 58 33.0 +0.9**
1.5nm,0.6s
MDOK *e*Lg Lg 12 59 13.9
6.4nm,0.5s
KTBS Karatobe 3.30 261 *e*Pg **Pb 12 58 34.7 +1.1**
0.6nm,0.4s
KTBS *e*Lg Lg 12 59 17.1
12nm,0.3s
TNSS Tian-Shan 3.32 249 *e*Pg **Pb 12 58 35.6 +1.4**
5.1nm,0.5s
TNSS *e*Lg Lg 12 59 18.6
2.8nm,0.7s
KUU Kurty 3.51 265 *e*Pg **Pb 12 58 37.7 +0.6**
1.6nm,0.5s
KUU *e*Lg Lg 12 59 22.0
7.7nm,0.5s
MTBS Maitube 3.64 253 *e*P **Pb 12 58 40.2 +0.8**
MTBS *e*S **Sb 12 59 26.6 +3.0**
KST Kastek 3.99 253 *e*Pg **Pb 12 58 47.6 +2.3**
3.8nm,0.5s
KST *e*Lg Lg 12 59 39.4
6.5nm,0.5s
KRBS Karabastau 4.02 263 *e*Pg **Pb 12 58 47.0 +1.2**
1.3nm,0.6s
KRBS *e*Lg Lg 12 59 38.4
1.7nm,0.3s
DGS Degeres 4.06 257 *e*Pg **Pb 12 58 49.4 +2.8**
2.8nm,0.4s
DGS *e*Lg Lg 12 59 42.6
7.8nm,0.6s
ZSN Zaisan 4.06 38 *e*Pg **Pb 12 58 47.9 +1.2**
2.2nm,0.4s
ZSN *e*Lg Lg 12 59 39.4
7.4nm,0.8s
TKM2 Tokmak 2 4.28 253 ⇓Pg **Pg 12 58 56.9 -0.1**
1.3nm,0.5s
TKM2 ⇑Lg Lg 12 59 47.7
1.2nm,0.3s

*IDC **08** 13:11:40.7±1.7,47˚.02N×85˚.33E,h0km,mbtmp3.7/5, ML3.3/5,Error ellipse: s-maj=15.5km s-min=11.9km az=117.0*
*SOME **08** 13:11:42.7,46˚.98N×85˚.03E,h10km*
*NNC **08** 13:11:42.6±4.7,46˚.99N×85˚.31E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=32.4km s-min=14.5km az=92.0, Suspected Mining explosion.*
*ASRS **08** 13:11:52.7±0.6,48˚N×3˚×8˚5E±˚,h1km,MLh3.8/7,Error ellipse: s-maj=8.3km s-min=5.6km az=111.9,confirmed*
ISC 08 13:11:45.6±1.0,47˚.17N±0˚.05×85˚.10E±0˚.05,h0km,n45, σ1§89/61,6C-5D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.32**	**330**	*e*P	**Pb**	**13 11 54.8**	**+0.5**
ZSN	192nm,0.2s			*e*S	**Sb**	**13 12 04.4**	**+4.4**
MK31	610nm,0.4s **Makanchi Array**	**1.96**	**260**	⇑Pg	**Pb**	**13 12 21.7**	**-0.5**
MK31	93nm,0.5s,baz=86,slow=18,SNR=2567			⇓Lg	Lg	13 12 49.2	
MKAR	27nm,0.2s,baz=85,slow=31,SNR=8.9 **Makanchi Array**	**1.96**	**260**	Pg	**Pn**	**13 12 17.4**	**-2.7**
MKAR	23nm,0.3s,baz=83,slow=18,SNR=417			Lg	Lg	13 12 49.1	
MAKZ	107nm,0.3s,baz=80,slow=34,SNR=24 **Makanchi**	**2.17**	**261**	⇑Pg	**Pb**	**13 12 25.0**	**-0.7**
MAKZ	10nm,0.2s			⇓Lg	Lg	13 12 55.8	
DGZ	17nm,0.2s **Jazzator, Alta**	**2.97**	**31**	Pn	**Pn**	**13 12 35.9**	**+1.8**
DGZ				Pg	**Pg**	**13 12 43.3**	**+0.9**
DGZ				Sg	**Sg**	**13 13 18.7**	**-2.1**
CHBI	**Chibit, Altay**	**3.52**	**26**	⇑Pn	**Pb**	**13 12 46.2**	**-2.6**
CHBI				Pg	**Pg**	**13 12 53.3**	**+0.3**
CHBI				Sg	**Sg**	**13 13 39.3**	**+0.7**
CUR	**Chagan-Uzun**	**3.63**	**35**	Pn	**Pn**	**13 12 45.1**	**+1.8**
CUR				Pg	**Pg**	**13 12 54.4**	**-0.8**
CUR				Sg	**Sg**	**13 13 40.9**	**-1.4**
UKR	**Ust'-Kan**	**3.77**	**357**	Pn	**Pn**	**13 12 46.9**	**+1.8**
UKR				Pg	**Pg**	**13 12 58.1**	**+0.3**
UKR				Sg	**Sg**	**13 13 48.8**	**+2.0**
ULGR	**Ulagan, Altay**	**3.93**	**28**	Pn	**Pn**	**13 12 51.0**	**+3.7**
ULGR				Pg	**Pg**	**13 13 02.6**	**+1.7**
ULGR				Sg	**Sg**	**13 13 50.8**	**-1.1**
DJR	**Jarkent**	**4.68**	**235**	*e*Pg	**Pb**	**13 13 08.4**	**-0.2**
DJR	4.9nm,0.5s			*e*Lg	Lg	13 14 10.4	
GALT	45nm,0.8s **Gorno-Altaysk,**	**4.82**	**6**	Sg	**Sg**	**13 14 21.8**	**+1.4**
ARTR	**Artybash**	**4.84**	**16**	Pn	**Pn**	**13 13 01.8**	**+2.1**
ARTR				Pg	**Pg**	**13 13 16.1**	**-2.2**
ARTR				Sg	**Sg**	**13 14 21.2**	**+0.2**
TDK	**Taldyqorghan**	**5.14**	**247**	*e*Pg	**Pb**	**13 13 17.5**	**+1.1**
TDK	26nm,0.5s			*e*Lg	Lg	13 14 26.2	
KURBB	107nm,0.7s **Kurchatov Arra**	**5.54**	**311**	Pn	**Pn**	**13 13 06.9**	**-2.3**
KURBB	1.0nm,0.3s,baz=122,slow=14,SNR=19			Sn	**Sn**	**13 14 14.8**	**+1.1**
KURBB	0.9nm,0.3s,baz=118,slow=28,SNR=5.6			Lg	Lg	13 14 43.7	
KURBB	2.5nm,0.3s,baz=131,slow=36,SNR=4.8 **Kurchatov Arra**	**5.54**	**311**	⇓Pn	**Pn**	**13 13 09.6**	**+0.4**
KURBB	3.6nm,0.3s 7.3nm,0.5s			⇑Sn	**Sn**	**13 14 14.7**	**+1.1**
KURBB	15nm,0.4s			⇑Lg	Lg	13 14 40.7	
SHLS	114nm,0.7s **Shalkode**	**5.66**	**227**	*e*Pg	Pb	13 13 20.4	-4.9
SHLS	2.3nm,0.2s			*e*Lg	Lg	13 14 31.8	
TASR	23nm,0.5s **Tashtagol**	**5.87**	**17**	Pn	**Pn**	**13 13 15.7**	**+1.8**
TASR				Sg	**Sg**	**13 14 52.1**	**-2.0**
UZB	**Uzynbulak**	**5.89**	**229**	*e*Pg	**Pb**	**13 13 29.7**	**+0.5**
UZB	6.6nm,0.3s			*e*Lg	Lg	13 14 47.2	
KURS	20nm,0.6s **Kuram**	**6.12**	**236**	*e*Pg	**Pb**	**13 13 33.5**	**+0.4**
KURS	2.2nm,0.3s			*e*Lg	Lg	13 14 54.3	
ELT	9.7nm,0.4s **Eltsovka**	**6.14**	**6**	Pn	**Pn**	**13 13 17.9**	**+0.4**
ELT				Pg	**Pg**	**13 13 41.6**	**-1.6**
ELT				Sg	**Sg**	**13 15 02.1**	**-0.5**
ZHN	**Zhinishke**	**6.18**	**232**	*e*Pg	**Pb**	**13 13 35.2**	**+1.0**
ZHN	4.0nm,0.1s			*e*Lg	Lg	13 14 58.1	
SATY	29nm,0.2s **Saty**	**6.27**	**231**	*e*Pg	**Pb**	**13 13 35.9**	**+0.2**
SATY	2.1nm,0.2s			*e*Lg	Lg	13 14 57.7	
ZALV	23nm,0.6s **Zalesovo Beam**	**6.79**	**359**	Pn	**Pn**	**13 13 24.8**	**-1.5**
ZALV	1.7nm,0.3s,baz=178,slow=13,SNR=17			Sn	**Sn**	**13 14 43.7**	**-0.6**
ZALV	1.8nm,0.3s,baz=178,slow=26,SNR=7.8			Lg	Lg	13 15 22.9	
LUZB	1.6nm,0.3s,baz=177,slow=24,SNR=9.5 **Luzhba, Kemero**	**6.93**	**19**	Sg	**Sg**	**13 15 25.7**	**-2.4**
DJOS	3.4nm,0.3s **Djoyskaya Sosn**	**6.94**	**33**	Sg	**Sg**	**13 15 28.7**	**+0.5**
MDOK	**Medeo**	**6.96**	**238**	*e*Pg	**Pb**	**13 13 50.3**	**+2.8**
MDOK	3.0nm,0.8s			*e*Lg	Lg	13 15 23.2	
KUU	13nm,0.9s **Kurty**	**6.97**	**245**	*e*Pg	**Pb**	**13 13 46.6**	**-0.9**
KUU	1.8nm,0.7s			*e*Lg	Lg	13 15 16.1	
TNSS	10nm,0.6s **Tian-Shan**	**7.10**	**237**	*e*Pg	**Pb**	**13 13 51.6**	**+1.7**
TNSS	2.3nm,0.5s			*e*Lg	Lg	13 15 25.4	
MTBS	3.5nm,0.7s **Maitube**	**7.34**	**240**	*e*Pg	**Pb**	**13 13 54.5**	**+0.6**
MTBS	2.5nm,0.4s			*e*Lg	Lg	13 15 30.8	
KRBS	9.6nm,0.6s **Karabastau**	**7.49**	**246**	*e*Pg	**Pb**	**13 13 58.7**	**+2.3**
KRBS	1.4nm,0.5s			*e*Lg	Lg	13 15 37.8	
KST	4.7nm,0.6s **Kastek**	**7.67**	**241**	*e*Pg	**Pb**	**13 14 02.9**	**+3.4**
KST	2.2nm,0.7s			*e*Lg	Lg	13 15 44.1	
DGS	11nm,1.2s **Degeres**	**7.67**	**243**	*e*Pg	**Pb**	**13 14 02.9**	**+3.4**
DGS	2.8nm,0.4s			*e*Lg	Lg	13 15 45.6	
TKM2	13nm,0.6s **Tokmak 2**	**7.96**	**241**	⇓P	**Pn**	**13 13 39.3**	**-3.4**
TKM2	SNR=9.4 **Tokmak 2**	**7.96**	**241**	⇑Lg	Lg	13 15 52.2	
ULHL	6.8nm,0.7s **Ulahol**	**8.01**	**235**	P	**Pn**	**13 13 44.1**	**+0.8**
USP	SNR=9.3 **Ospenovka**	**8.44**	**246**	P	**Pn**	**13 13 48.2**	**-1.0**
KBK	SNR=6.6 **Karagaybulak**	**8.50**	**242**	P	**Pn**	**13 13 50.1**	**0.0**
AAK	SNR=12 **Ala-Archa**	**8.79**	**243**	P	**Pn**	**13 13 53.5**	**-0.5**
AAK	SNR=5.9 **Ala-Archa**	**8.79**	**243**	Pn	**Pn**	**13 13 51.8**	**-2.1**
AAK	0.5nm,0.3s,baz=81,slow=8.8,SNR=20			Lg	Lg	13 16 19.5	
AML	0.2nm,0.3s,baz=37,slow=20,SNR=1.7 4.5nm,0.6s **Almayashu**	**9.56**	**242**	P	**Pn**	**13 14 05.7**	**+0.9**
KK31	SNR=5.5 **Karatay Array**	**11.08**	**254**	⇓Lg	Lg	13 17 38.9	
BVAR	2.1nm,0.6s **Borovoye Array**	**11.11**	**307**	Pn	**Pn**	**13 14 23.3**	**-2.3**
BVAR	0.2nm,0.3s,baz=114,slow=13,SNR=20			Sn	**Sn**	**13 16 26.2**	**-4.2**
BVAR	0.2nm,0.3s,baz=110,slow=21,SNR=8.7			Lg	Lg	13 17 41.2	
SONM	0.1nm,0.3s,baz=114,slow=28,SNR=3.6 1.4nm,0.3s **Songino Array**	**14.40**	**80**	Pn	Pn	13 15 03.5	-7.2
SONM	0.1nm,0.3s,baz=262,slow=9.8,SNR=1.5			Lg	Lg	13 19 16.2	
	0.2nm,0.3s,baz=271,slow=32,SNR=6.1 0.1nm,0.5s						

WEL 08 13:15:48.1±0.6,41˚S±3˚×17˚2E±˚,h5km,M1.9/3,ML2.3/6, MLv1.9/3,Error ellipse: s-maj=0.0km s-min=0.0km az=129.2,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.20**	**20**	P	Pg	13 15 52.8	+0.8
QRZ				S	Sg	13 15 55.7	+1.1
TKNZ	**Takaka Hill**	**0.40**	**94**	P	Pg	13 15 56.3	+0.5
TKNZ				S	Sg	13 16 01.8	+0.8
MRNZ	**Matariki Terra**	**0.46**	**148**	P	Pg	13 15 57.5	+0.6
MRNZ				S	Sg	13 16 04.1	+1.2
NNZ	**Nelson**	**0.74**	**107**	P	Pg	13 16 02.6	+0.2
THZ	**Tophouse**	**0.83**	**155**	P	Pg	13 16 03.6	-0.5
DSZ	**Denniston Nort**	**0.88**	**213**	P	Pg	13 16 04.9	-0.1

IDC 08 13:19:01.6±4.3,2˚.82N×123˚.36E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=224.4km s-min=34.6km az=84.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.06**	**155**	P	P	13 24 28.0	+0.1
	0.2nm,0.3s,baz=334,slow=10,SNR=6.7 0.2nm,0.3s						
ASAR	**Alice Springs**	**28.26**	**159**	P	P	13 24 56.3	-0.4
	0.3nm,0.9s,baz=344,slow=8.2,SNR=1.5 0.3nm,0.9s						
ILAR	**Eielson Array**	**87.37**	**25**	P	P	13 31 50.5	+0.1
	0.3nm,0.8s,baz=263,slow=5.0,SNR=6.0 0.3nm,0.8s						

*IDC **08** 13:20:47.8±1.1,30˚.62N×141˚.73E,h0km,mb3.6/8, mbtmp3.6/10,ML3.1/2,MS2.9/3,Error ellipse: s-maj=44.3km s-min=16.0km az=80.0*
*JMA **08** 13:20:56.2±0.8,31˚.N±4˚×14˚.2E±˚,h128km,MV3.3/26, NEAR TORISHIMA IS*
ISC 08 13:20:51.0±0.9,30˚.76N±0˚.06×142˚.0E±0˚.2,h24km,n23, σ1§68/25,mb3.6/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.00**	**322**	LR	LR	13 22 24.1	
JCJ	comp=Z,669nm,18.5s,baz=88,slow=32 **Chichijima**	**3.66**	**177**	Pn	**Pn**	**13 21 44.5**	**-1.5**
JCJ	2.5nm,0.3s,baz=259,slow=20,SNR=1.8			Sn	**Sn**	**13 22 27.1**	**-1.3**
BSO1	14nm,0.3s,baz=312,slow=22,SNR=4.0 109nm,0.9s **Boso 1**	**3.97**	**348**	*e*P	**Pn**	**13 21 51.0**	**+1.1**
BSO3	**Boso 3**	**4.21**	**343**	*e*P	**Pn**	**13 21 55.0**	**+1.6**
BSO4	**Boso 4**	**4.44**	**342**	*e*P	**Pn**	**13 21 57.7**	**+1.0**
BSO4				*e*S	**Sn**	**13 22 46.4**	**-1.2**
JOD2	**Odawara 2**	**5.10**	**332**	P	**Pn**	**13 22 09.0**	**+3.1**
JHU	**Hanno**	**5.55**	**337**	P	**Pn**	**13 22 13.0**	**+0.8**
JHU				S	**Sn**	**13 23 12.3**	**-3.0**
JYT	**Yasato**	**5.65**	**345**	P	**Pn**	**13 22 13.6**	**+0.2**
JRY	**Ryogami san**	**5.84**	**335**	P	**Pn**	**13 22 17.5**	**+1.4**
JHO	**Hitachi**	**5.95**	**349**	P	**Pn**	**13 22 18.0**	**+0.4**
JHO				*e*S	**Sn**	**13 23 20.6**	**-4.4**
JAG	**Ashikaga**	**6.03**	**340**	*e*P	**Pn**	**13 22 19.5**	**+0.9**
MJAR	**Matsushiro Arr**	**6.56**	**332**	Pn	**Pn**	**13 22 27.4**	**+1.4**
MJAR	0.2nm,0.3s,baz=157,slow=12,SNR=18			LR	LR	13 24 52.3	
JFK	comp=Z,46nm,21.7s,baz=252,slow=37 2.2nm,0.4s **Kawauchi**	**6.65**	**352**	*e*P	**Pn**	**13 22 26.8**	**-0.4**
JMK	**Ichinoseki**	**8.20**	**356**	*e*P	**Pn**	**13 22 49.2**	**+0.9**
KSRS	**Korea Array**	**13.41**	**304**	LR	LR	13 28 57.6	
KLR	comp=Z,36nm,18.8s,baz=110,slow=37 **Kul'dur**	**20.01**	**340**	P	**P**	**13 25 21.9**	**+0.1**
	0.5nm,0.4s,baz=156,slow=12,SNR=2.4 0.5nm,0.4s						
SONM	**Songino Array**	**32.03**	**312**	P	**P**	**13 27 15.8**	**+0.1**
	0.5nm,0.7s,baz=108,slow=6.9,SNR=2.7 0.5nm,0.7s						
MKAR	**Makanchi Array**	**48.06**	**307**	P	**P**	**13 29 28.2**	**-0.2**
	0.5nm,0.6s,baz=87,slow=10,SNR=7.0 0.5nm,0.6s						
WRA	**Warramunga Arr**	**50.94**	**189**	P	**P**	**13 29 49.7**	**-0.9**
	0.9nm,0.5s,baz=5.3,slow=7.6,SNR=16 0.9nm,0.5s						
ILAR	**Eielson Array**	**54.62**	**30**	P	**P**	**13 30 19.6**	**+2.3**
	0.3nm,0.7s,baz=252,slow=6.9,SNR=4.3 0.3nm,0.7s						
ASAR	**Alice Springs**	**54.67**	**189**	P	**P**	**13 30 17.1**	**-0.9**
	0.4nm,0.6s,baz=1.0,slow=5.2,SNR=23 0.4nm,0.6s						
FINES	**FINESS Array B**	**74.59**	**333**	P	**P**	**13 32 28.4**	**+0.7**
	1.6nm,0.8s,baz=64,slow=3.2,SNR=4.1 1.6nm,0.8s						
AKASG	**Malin Array Be**	**79.57**	**323**	P	**P**	**13 32 56.1**	**+0.2**
	0.2nm,0.4s,baz=49,slow=5.3,SNR=1.4 0.2nm,0.4s						

*BJI **08** 13:31:26.0±0.0,31˚.90N×72˚.30E,h10km,mb4.4/32, mB4.7/15,ML4.8/2,Ms4.1/7,Ms7 3.7/7*
*NEIC **08** 13:31:26.2±1.9,31˚.77N±0˚.05×72˚.16E±0˚.08,h10km±1km, mb4.5/32,Error ellipse: s-maj=14.0km s-min=4.9km az=121.0*
*NDI **08** 13:31:27.0±3.9,31˚.80N×72˚.16E,h10km,ML4.3, mb4.5(NEIC)*
*MOS **08** 13:31:28.8±1.1,31˚.96N×72˚.26E,h45km,mb4.6/18,Error ellipse: s-maj=9.5km s-min=5.5km az=93.9*
*IDC **08** 13:31:29.4±0.7,31˚.90N×72˚.29E,h36km±4km,mb3.9/22, mbtmp4.1/26,ML4.2/4,MS3.4/18,Error ellipse: s-maj=18.0km s-min=11.1km az=40.0*
ISC 08 13:31:28.4±0.3,31˚.75N±0˚.04×72˚.28E±0˚.04,h35km,n163, σ2§22/188,mb4.4/44,MS3.3/14,7C-7D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARP	**Sargodha**	**0.37**	**63**	⇓P	**Pn**	**13 31 38.6**	**+1.4**
THW	**Thamme Wali**	**1.14**	**336**	⇑P	**Pn**	**13 31 48.3**	**+0.5**
NIL	**Nilore**	**2.06**	**23**	Pn	**Pn**	**13 32 01.9**	**+1.4**
NIL				Sn	**Sn**	**13 32 27.4**	**+2.3**
NIL	**Nilore**	**2.06**	**23**	P	**Pn**	**13 32 01.9**	**+1.4**
CHCP	**Chirah Chowk**	**2.07**	**23**	⇓P	**Pn**	**13 32 01.7**	**+1.0**
JMU	**Jammu**	**2.42**	**66**	*e*P	**Pn**	**13 32 08.3**	**+2.9**
JMU				*i* x	x	13 32 16.4	
JMU				*e*S	**Sn**	**13 32 37.5**	**+3.8**
THN	**Thein Dam**	**2.99**	**76**	*e*P	**Pn**	**13 32 17.8**	**+4.5**
THN				*i* x	x	13 32 26.6	
THN				*e*S	**Sn**	**13 32 52.7**	**+4.8**
THN				IAML		13 33 12.0	
THN	comp=E,2μm,0.3s			IAML		13 33 15.3	
BHK	comp=N,3μm,0.5s **Bhakra**	**3.54**	**94**	*e*P	**Pn**	**13 32 24.2**	**+3.3**
BHK				*e*S	**Sn**	**13 33 04.4**	**+2.9**
KBL	**Kabul**	**3.89**	**317**	Pn	**Pn**	**13 32 24.3**	**-1.6**
KBL	**Kabul**	**3.89**	**317**	P	**Pn**	**13 32 24.3**	**-1.6**
KHET	**Khetri**	**4.77**	**139**	*e*P	**Pn**	**13 32 40.3**	**+2.5**
KUDL	**Kundal**	**5.12**	**134**	*e*P	**Pn**	**13 32 45.0**	**+2.4**
DDI	**Dehra Dun**	**5.15**	**105**	*e*P	**Pn**	**13 32 47.8**	**+4.6**
DDI				*e*S	**Sn**	**13 33 43.7**	**+2.3**
NDI	**New Delhi**	**5.25**	**124**	*e*P	**Pn**	**13 32 47.0**	**+2.6**
NDI				*e*S	**Sn**	**13 33 46.0**	**+2.3**
LGTI	**Lohaghat**	**7.24**	**106**	*e*P	**Pn**	**13 33 11.7**	**+0.1**
LGTI				*e*S	**Sn**	**13 34 30.1**	**-2.5**
LGTI	comp=N,192nm,0.4s			IAML		13 35 24.4	
LGTI	comp=E,158nm,0.6s			IAML		13 35 24.5	
CHGR	**Chuyangaron**	**7.35**	**340**		**Pn**	**13 33 13.2**	**0.0**
CHGR	**Chuyangaron**	**7.35**	**340**	P	**Pn**	**13 33 13.3**	**0.0**
GAR	**Garm**	**7.41**	**348**	Pn	**Pn**	**13 33 14.6**	**+0.5**
KSH	**Kashi**	**8.31**	**20**	Pn	**Pn**	**13 33 23.2**	**-3.2**
KSH				Sn	Sn	13 34 44.8	-14
KSH	comp=E,270nm,0.8s			smax	smax		
KSH	comp=E,180nm,0.5s			smax	smax		
KSH	comp=E,540nm,6.2s			LR	LR		
KSH	comp=E,800nm,5.5s			LR	LR		
KSH	comp=E,350nm,6.9s			LR	LR		
BHUJ	**Bhuj**	**8.78**	**196**	*e*P	**Pn**	**13 33 35.1**	**+2.3**
BHUJ				*i* x	x	13 33 41.9	
BHUJ				*e*S	**Sn**	**13 35 07.4**	**-3.2**
BHPL	**Bhopal**	**9.63**	**150**	*e*P	**Pn**	**13 33 45.6**	**+1.1**
BHPL				*e*S	**Sn**	**13 35 28.9**	**-2.6**
AML	**Almayashu**	**10.42**	**6**	P	**Pn**	**13 33 55.0**	**-0.6**
DANN	SNR=130 **Dangsing**	**10.51**	**106**	*e*Pg	**Pn**	**13 33 57.6**	**+0.8**
DANN				*e*Sg	**Sn**	**13 35 49.1**	**-4.3**
KOLN	comp=E,175nm,0.5s **Koldanda**	**10.60**	**109**	*e*Pg	**Pn**	**13 33 58.8**	**+0.8**
KOLN				*e*Sg	**Sn**	**13 35 52.5**	**-3.1**
UCH	comp=E,14nm,0.4s **Uchtor**	**10.61**	**9**	P	**Pn**	**13 33 58.3**	**+0.1**
TARG	SNR=87 **Taragay, Kyrgy**	**10.89**	**22**		**Pn**	**13 34 02.0**	**-0.2**
TARG	**Taragay, Kyrgy**	**10.89**	**22**	P	**Pn**	**13 34 02.0**	**-0.2**
JBP	**Jabalpur**	**10.94**	**140**	*e*P	**Pn**	**13 34 01.6**	**-0.9**
JBP				*ex*	x	13 36 17.5	
EKS2	**Erkin-Say**	**10.95**	**6**	P	**Pn**	**13 34 02.6**	**-0.1**
AAK	SNR=26 **Ala-Archa**	**11.01**	**9**	P	**Pn**	**13 34 04.2**	**+0.7**
AAK	SNR=36 **Ala-Archa**	**11.01**	**9**	Pn	**Pn**	**13 34 03.7**	**+0.3**
AAK	comp=E,7.1nm,0.3s,baz=172,slow=6.6,SNR=77			Sn	**Sn**	**13 36 01.9**	**-3.4**
AAK	comp=E,1.9nm,0.3s,baz=344,slow=20,SNR=8.8			LR	LR	13 39 05.0	
AAK	comp=E,138nm,21.4s,baz=202,slow=42 comp=E,19nm,0.4s **Ala-Archa**	**11.01**	**9**	Pn	**Pn**	**13 34 03.9**	**+0.4**
AAK	**Ala-Archa**	**11.01**	**9***c*	*i*P	**Pn**	**13 34 04.0**	**+0.6**
AAK	comp=Z,12nm,0.5s			pmax	pmax		
KBK	**Karagaybulak**	**11.09**	**10**	P	**Pn**	**13 34 07.6**	**+3.0**
GKN	SNR=10 **Gorkha**	**11.35**	**106**	*e*Pg	**Pn**	**13 34 08.5**	**+0.3**
GKN				*e*Sg	**Sn**	**13 36 09.1**	**-4.8**
CHMS	comp=Z,66nm,0.3s **Chumysh**	**11.40**	**9**	P	**Pn**	**13 34 08.4**	**-0.2**
KK31	SNR=15 **Karatay Array**	**11.42**	**353**	Pn	**Pn**	**13 34 07.6**	**-1.3**
KK31	**Karatay Array**	**11.42**	**353**	P	**Pn**	**13 34 07.6**	**-1.3**
KKAR	**Karatay Array**	**11.42**	**353**	Pn	**Pn**	**13 34 07.3**	**-1.6**
KKAR	**Karatay Array**	**11.42**	**353**		**Pn**	**13 34 07.5**	**-1.4**
KKAR	**Karatay Array**	**11.42**	**353**	P	**Pn**	**13 34 07.5**	**-1.4**
TKM2	**Tokmak 2**	**11.46**	**12**	P	**Pn**	**13 34 09.2**	**-0.4**
USP	SNR=23 **Ospenovka**	**11.63**	**8**	P	**Pn**	**13 34 11.2**	**-0.6**
DMN	SNR=26 **Daman**	**11.89**	**107**	*e*Pg	**Pn**	**13 34 15.4**	**-0.2**
DMN				*e*Sg	**Sn**	**13 36 22.4**	**-4.8**
KKN	comp=Z,73nm,0.4s **Kakani**	**11.96**	**106**	*e*Pg	**Pn**	**13 34 15.7**	**-0.9**
KKN				*e*Sg	**Sn**	**13 36 22.5**	**-6.4**
PKIN	comp=Z,5.1nm,0.3s **Phulchoki**	**12.14**	**107**	*e*Pg	**Pn**	**13 34 18.5**	**-0.6**
PKIN				*e*Sg	**Sn**	**13 36 27.8**	**-5.5**
PKI	comp=Z,87nm,0.4s **Pulchoki**	**12.15**	**107**	*e*Pg	**Pn**	**13 34 18.9**	**-0.4**
PKI				*e*Sg	**Sn**	**13 36 28.0**	**-5.7**
JIRN	comp=Z,54nm,0.3s **Jiri**	**12.76**	**105**	*e*Pg	**Pn**	**13 34 27.0**	**-0.6**
JIRN				*e*Sg	**Sn**	**13 36 41.8**	**-6.8**
GEYT	comp=Z,62nm,0.3s **Alibeck**	**13.16**	**302**	Pn	**Pn**	**13 34 34.2**	**+1.4**
GEYT	comp=Z,0.1nm,0.3s,baz=110,slow=12,SNR=2.3			LR	LR	13 40 31.8	
	comp=Z,153nm,19.6s,baz=131,slow=41 comp=Z,1.3nm,0.6s						
RAMN	**Ramite**	**13.37**	**107**	*e*Pg	**Pn**	**13 34 34.1**	**-1.8**
RAMN				*e*Sg	**Sn**	**13 36 57.1**	**-6.3**
ODAN	comp=Z,83nm,0.4s **Odare**	**14.05**	**106**	*e*Pg	**Pn**	**13 34 43.8**	**-1.4**
ODAN				*e*Sg	**Sn**	**13 37 12.7**	**-7.3**
TAPN	comp=Z,14nm,0.5s **Taplejung**	**14.12**	**104**	*e*Pg	**Pn**	**13 34 43.9**	**-2.3**
TAPN				*e*Sg	**Sn**	**13 37 13.6**	**-8.3**
BOK	comp=Z,33nm,0.4s **Bokaro**	**14.40**	**120**	*e*P	**Pn**	**13 34 47.7**	**-2.1**
BOK				*e*S	**Sn**	**13 37 20.8**	**-7.5**
WSAR	**Wadi Sarin**	**14.78**	**238**	Pn	**Pn**	**13 34 54.5**	**-0.4**
HYB	comp=Z,0.8nm,0.3s,baz=81,slow=9.6,SNR=11 **Hyderabad**	**15.36**	**157**	*e*P	**Pn**	**13 35 02.7**	**0.0**
HYB				*e*		13 37 47.9	
HYB				*e*Sn	**Sn**	**13 37 54.9**	**+3.2**
UOSS	**Minazif**	**15.69**	**248**		**P**	**13 35 10.2**	**-0.3**
LSA	**Lhasa**	**16.35**	**92**		**P**	**13 35 19.6**	**+1.2**
LSA	**Lhasa**	**16.35**	**92**	P	**P**	**13 35 19.6**	**+1.2**
LSA	comp=Z,8.0nm,0.9s			pmax	pmax		
MAKZ	**Makanchi**	**16.78**	**24**	Pn	**Pn**	**13 35 18.1**	**-2.5**
MAKZ	comp=Z,30nm,1.1s			IAmb	IAmb	13 35 22.8	
MAKZ	**Makanchi**	**16.78**	**24**	P	**Pn**	**13 35 18.1**	**-2.5**
MAKZ	comp=Z,30nm,1.1s			pmax	pmax		
MK31	**Makanchi Array**	**16.88**	**24**		**Pn**	**13 35 20.1**	**-1.7**
MK31	**Makanchi Array**	**16.88**	**24***c*	*i*P	**Pn**	**13 35 20.2**	**-1.7**
MKAR	**Makanchi Array**	**16.88**	**24**	Pn	**Pn**	**13 35 19.7**	**-2.1**
MKAR	comp=Z,1.3nm,0.3s,baz=216,slow=14,SNR=55			LR	LR	13 42 38.4	
	comp=Z,165nm,18.1s,baz=246,slow=40 comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**16.88**	**24**	Pn	**Pn**	**13 35 19.6**	**-2.2**
MKAR	**Makanchi Array**	**16.88**	**24**	*i* P	**Pn**	**13 35 20.5**	**-1.3**
MKAR	comp=Z,10.0nm,0.8s			pmax	pmax		

WMQ **Urumqi** **17.10** **41** *e*P **Pn** **13 35 22.0 -2.6**
WMQ pmax pmax
comp=Z,22nm,0.7s
SHL **Shillong** **18.26** **105** P **P** **13 35 36.3 -2.9**
SHL IAmb IAmb 13 35 40.9
comp=Z,16nm,0.6s
SHL **Shillong** **18.26** **105** *ex* P **13 35 37.9 -1.3**
SHL **Shillong** **18.26** **105** P **P** **13 35 36.3 -2.9**
SHL pmax pmax
comp=Z,16nm,0.6s
GOMU **GeErMu** **19.19** **71** P **Pn** **13 35 50.2 -0.4**
GOMU pP P 13 35 53.7 +4.2
GOMU sP pP 13 35 57.2 -1.6
GOMU pmax pmax
comp=Z,1.0nm,0.4s
GOMU pmax pmax
comp=Z,59nm,5.3s
KURBB **Kurchatov Arra** **19.42** **12** P **P** **13 35 49.5 -2.0**
comp=Z,0.8nm,0.3s,baz=203,slow=10.0,SNR=25
KURBB LR LR 13 43 52.9
comp=Z,146nm,21.9s,baz=146,slow=39
comp=Z,3.5nm,0.4s
KURK **Kurchatov** **19.52** **12** P **P** **13 35 50.8 -1.8**
KURK IAmb IAmb 13 35 51.9
comp=Z,10nm,0.5s
KURK **Kurchatov** **19.52** **12** P **P** **13 35 50.8 -1.8**
KURK pmax pmax
comp=Z,10.0nm,0.5s
ABKAR **Akbulak array** **19.80** **336** P **P** **13 35 54.9 -0.7**
ABKAR IAmb IAmb 13 36 05.2
comp=Z,8.6nm,0.6s
ABKAR **Akbulak array** **19.80** **336** P **P** **13 35 54.9 -0.7**
DGZ **Jazzator, Alta** **21.22** **28***d* *i*P **P** **13 36 11.4 +0.2**
DGZ pmax pmax
comp=Z,19nm,0.7s
BVAR **Borovoye Array** **21.30** **357** P **P** **13 36 10.6 -1.2**
comp=Z,5.4nm,0.3s,baz=158,slow=9.1,SNR=21
BVAR LR LR 13 45 06.3
comp=Z,176nm,19.6s,baz=182,slow=39
comp=Z,5.4nm,0.3s
BRVK **Borovoye** **21.34** **357** P **P** **13 36 09.7 -2.5**
BRVK IAmb IAmb 13 36 21.9
comp=Z,24nm,0.8s
BRVK **Borovoye** **21.34** **357***de*P **P** **13 36 11.1 -1.2**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
PCHI **Peechi** **21.45** **169** *e*P **P** **13 36 14.2 +0.5**
PCHI *ex* x 13 39 51.5
AKTO **Aktyubinsk** **21.47** **334** P **P** **13 36 13.3 -0.4**
comp=Z,6.7nm,0.8s,baz=142,slow=8.9,SNR=20
AKTO LR LR 13 44 25.3
comp=Z,66nm,18.9s,baz=205,slow=36
comp=Z,6.7nm,0.8s
GTA **Gaotai** **23.60** **63** *e*P **P** **13 36 38.8 +2.7**
GTA pP pP 13 36 42.4 -3.5
GTA sP sP 13 36 46.7 -3.6
GTA pmax pmax
comp=Z,2.0nm,0.7s
GNI **Garni** **23.75** **298** LR LR 13 47 22.7
comp=Z,36nm,21.4s,baz=68,slow=40
ZAA0 **Zalesovo Array** **23.94** **18** P **P** **13 36 37.3 -1.7**
ZAA0 IAmb IAmb 13 36 40.7
comp=Z,15nm,0.9s
ZALV **Zalesovo Beam** **23.94** **18** P **P** **13 36 38.0 -1.0**
comp=Z,8.8nm,0.3s,baz=214,slow=10,SNR=62
ZALV LR LR 13 46 41.9
comp=Z,52nm,19.2s,baz=176,slow=38
comp=Z,8.8nm,0.3s
ZALV **Zalesovo Beam** **23.94** **18** P **P** **13 36 37.8 -1.3**
TNCH **TengChong** **24.00** **100** *e*P **P** **13 36 41.8 +1.7**
PALK **Pallekele** **25.59** **160** P **P** **13 36 57.9 +3.5**
PALK pmax pmax
comp=Z,13nm,1.1s
KBZ **Khabaz** **25.99** **306** P **P** **13 36 58.5 +0.7**
comp=Z,1.1nm,0.7s,baz=89,slow=18,SNR=1.5
KBZ pP **pP** **13 37 09.0 +1.1**
comp=Z,2.9nm,0.7s,baz=110,slow=10,SNR=4.3
comp=Z,1.1nm,0.7s
KIV **Kislovodsk** **26.21** **306** *e*P **P** **13 37 01.7 +1.8**
KIV pmax pmax
comp=Z,12nm,1.1s
PZH **PanZhiHua** **26.21** **94** P **P** **13 37 02.5 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,4.8s
SVE **Sverdlovsk** **26.34** **346** *e*P P 13 37 12.3 +11
ARU **Arti** **26.46** **343** P **P** **13 37 02.6 +0.6**
comp=Z,1.2nm,0.3s,baz=153,slow=16,SNR=1.9
ARU pP **pP** **13 37 11.9 -0.1**
comp=Z,9.2nm,0.5s,baz=171,slow=4.8,SNR=13
ARU LR LR 13 47 41.4
comp=Z,42nm,21.9s,baz=152,slow=37
comp=Z,1.2nm,0.3s
ARU **Arti** **26.46** **343** P **P** **13 37 02.4 +0.5**
ARU IAmb IAmb 13 37 15.5
comp=Z,16nm,0.8s
ARU **Arti** **26.46** **343***c* *i*P P 13 37 13.7 +12
ARU 13 37 55.5
ARU pmax pmax
comp=Z,20nm,0.9s
CHTO **Chiang Mai** **27.25** **112** P **P** **13 37 10.9 +1.5**
CHTO IAmb IAmb 13 37 12.8
comp=Z,7.3nm,0.7s
CHTO **Chiang Mai** **27.25** **112** P **P** **13 37 10.9 +1.5**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
BELG **Belogornoye** **27.34** **326** P **P** **13 37 10.9 +1.1**
comp=Z,7.9nm,0.9s,baz=134,slow=2.3,SNR=2.0
BELG pP **pP** **13 37 21.6 +1.7**
comp=Z,29nm,0.7s,baz=144,slow=2.2,SNR=8.2
BELG LR LR 13 50 23.5
comp=Z,51nm,18.5s,baz=158,slow=42
comp=Z,7.9nm,0.9s
CMAR **Chiang Mai Arr** **27.44** **112** P **P** **13 37 13.2 +2.1**
comp=Z,3.4nm,0.7s,baz=292,slow=10,SNR=16
CMAR pP **sP** **13 37 24.6 -0.8**
comp=Z,2.8nm,0.6s,baz=295,slow=11,SNR=3.6
comp=Z,3.4nm,0.7s
CMAR **Chiang Mai Arr** **27.44** **112** P **P** **13 37 13.0 +1.8**
CMAR **Chiang Mai Arr** **27.44** **112***ce*P **P** **13 37 13.3 +2.1**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CRAI **Chiangrai** **27.65** **108** P **P** **13 37 14.8 +1.8**
PHRA **Phrae** **28.44** **111** P **P** **13 37 21.6 +1.6**
ANN **Anapa** **30.06** **306** *e*P **P** **13 37 31.6 -2.5**
ANN *e*S **S** **13 42 29.9 -0.2**
ANN pmax pmax
comp=Z,54nm,1.0s
SONM **Songino Array** **30.43** **48** P **P** **13 37 39.1 +1.5**
comp=Z,1.8nm,0.8s,baz=247,slow=9.0,SNR=10
SONM LR LR 13 51 21.4
comp=Z,52nm,18.0s,baz=162,slow=39
comp=Z,1.8nm,0.8s
SONM **Songino Array** **30.43** **48** P **P** **13 37 38.4 +0.8**
ULN **Ulaanbaatar** **30.86** **48**⇓*e*P **P** **13 37 43.0 +1.6**
ULN pmax pmax
comp=Z,8.0nm,2.8s
BRTR **Keskin Array B** **32.17** **295** P **P** **13 37 53.3 +0.3**
comp=Z,0.4nm,0.7s,baz=119,slow=10,SNR=1.3
BRTR pP **pP** **13 38 04.1 +1.0**
comp=Z,0.5nm,0.6s,baz=137,slow=10,SNR=2.5
comp=Z,0.4nm,0.7s
BR131 **Keskin Array S** **32.17** **295** P **P** **13 37 52.9 -0.1**
BR131 **Keskin Array S** **32.17** **295** P **P** **13 37 52.9 -0.1**
BR131 pmax pmax
comp=Z,19nm,1.5s
HHC **Hu-ho-hao-te** **32.70** **63** *e*P **P** **13 37 59.3 +1.7**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,220nm,4.9s
UBPT **Khong Chiam** **34.39** **111** P **P** **13 38 13.6 +1.3**
AKASG **Malin Array Be** **36.87** **314** P **P** **13 38 33.9 +0.6**
comp=Z,0.7nm,0.5s,baz=105,slow=8.6,SNR=8.6
AKASG pP **pP** **13 38 42.9 -0.7**
comp=Z,1.2nm,0.6s,baz=102,slow=7.5,SNR=6.0
AKASG LR LR 13 58 13.4
comp=Z,57nm,18.2s,baz=84,slow=44
comp=Z,0.7nm,0.5s
AKASG **Malin Array Be** **36.87** **314** P **P** **13 38 34.6 +1.3**
AKBB **Malin Array Si** **36.87** **314** P **P** **13 38 33.6 +0.3**
AKBB IAmb IAmb 13 38 46.8
comp=Z,13nm,1.4s
AKBB **Malin Array Si** **36.87** **314** P **P** **13 38 33.6 +0.3**
AKBB pmax pmax
comp=Z,13nm,1.4s
PSI **Prapat** **38.19** **134** P **P** **13 38 45.8 +0.9**
PSI pmax pmax
comp=Z,6.0nm,0.9s
MLR **Muntele Rosu** **38.19** **305** LR LR 13 58 12.5
comp=Z,47nm,18.5s,baz=75,slow=42
RPSI **Rantau Prapat** **38.27** **134** P **P** **13 38 45.8 +0.3**
RPSI IAmb IAmb 13 38 51.4
comp=Z,5.7nm,0.9s
NRIK **Noril'sk** **38.62** **9** P **P** **13 38 47.8 -0.1**
comp=Z,3.1nm,0.6s,baz=184,slow=4.0,SNR=5.0
comp=Z,3.1nm,0.6s
NRIK **Noril'sk** **38.62** **9**⇑*i*P **P** **13 38 48.0 +0.1**
NRIK pmax pmax
comp=Z,12nm,2.0s
BURAR **Bucovina Array** **38.90** **308** P **P** **13 38 51.6 +1.0**
BURAR **Bucovina Array** **38.90** **308** P **P** **13 38 51.6 +1.0**
BURAR pmax pmax
comp=Z,2.0nm,0.7s
NJ2 **Nanjing** **39.30** **77** *e*P **P** **13 38 54.9 +0.9**
NJ2 pmax pmax
comp=Z,15nm,0.6s
FINES **FINESS Array B** **42.05** **329** P **P** **13 39 16.7 +0.4**
comp=Z,3.5nm,1.0s,baz=106,slow=7.9,SNR=5.4
FINES pP **pP** **13 39 25.3 -1.3**
comp=Z,4.9nm,0.7s,baz=119,slow=7.4,SNR=6.2
comp=Z,3.5nm,1.0s
FINES **FINESS Array B** **42.05** **329** P **P** **13 39 16.5 +0.2**
FINES **FINESS Array B** **42.05** **329** *i* P **P** **13 39 18.3 +2.0**
FINES pmax pmax
comp=Z,3.0nm,0.9s
ZEA **Zeya** **44.62** **44** *e*P P 13 39 50.8 +14
KSRS **Korea Array** **45.59** **67** P **P** **13 39 45.0 -0.1**
comp=Z,1.4nm,0.8s,baz=280,slow=7.3,SNR=4.7
comp=Z,1.4nm,0.8s
KSRS **Korea Array** **45.59** **67** P **P** **13 39 45.0 -0.1**
ARCES **ARCESS Array B** **45.94** **339** P **P** **13 39 47.4 0.0**
comp=Z,3.5nm,0.6s,baz=118,slow=6.9,SNR=20
ARCES pP **pP** **13 39 57.1 -0.8**
comp=Z,3.3nm,0.5s,baz=114,slow=8.2,SNR=3.5
comp=Z,3.5nm,0.6s
ARCES **ARCESS Array B** **45.94** **339** P **P** **13 39 47.3 0.0**
ARCES IAmb IAmb 13 40 08.6
comp=Z,3.5nm,0.8s
GERES **GERESS Array B** **46.65** **309** P **P** **13 39 54.6 +1.3**
comp=Z,0.2nm,0.4s,baz=87,slow=5.3,SNR=1.9
comp=Z,0.2nm,0.4s
YAK **Yakutsk** **47.29** **33** LR LR 13 59 44.8
comp=Z,32nm,18.9s,baz=90,slow=36
YAK **Yakutsk** **47.29** **33***c* *i*P **P** **13 39 58.2 +0.1**
YAK pmax pmax
comp=Z,8.0nm,0.7s
HFS **Hagfors** **47.50** **325** LR LR 14 04 53.3
comp=Z,91nm,18.3s,baz=88,slow=42
CIMO **Cimolais** **47.62** **306** P **P** **13 40 01.1 +0.2**
CIMO IAmb IAmb 13 40 17.0
comp=Z,3.7nm,0.7s
NC303 **NORSAR Array S** **48.80** **326** P **P** **13 40 10.3 +0.6**
NB2 **NORSAR Subarra** **48.85** **326** P **P** **13 40 10.3 +0.1**
comp=Z,0.5nm,0.4s,baz=99,slow=7.9
NOA **NORSAR Array B** **48.85** **326** P **P** **13 40 09.4 -0.7**
comp=Z,0.6nm,0.4s,baz=101,slow=7.3,SNR=5.1
NOA pP **pP** **13 40 20.2 -0.5**
comp=Z,3.4nm,0.7s,baz=93,slow=7.4,SNR=11
NOA LR LR 14 03 23.3
comp=Z,31nm,19.0s,baz=120,slow=39
comp=Z,0.6nm,0.4s
TIXI **Tiksi** **49.81** **20** LR LR 14 02 52.3
comp=Z,70nm,18.5s,baz=251,slow=38
TIXI **Tiksi** **49.81** **20**⇓*e*P **P** **13 40 17.3 0.0**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
SENIN **Lac Senin/Sane** **51.15** **306** P **P** **13 40 27.5 -0.6**
SEY **Seymchan** **57.81** **32**⇓*e*P **P** **13 41 16.6 +0.7**
SEY pmax pmax
comp=Z,3.0nm,1.0s
ESDC **Sonseca Array** **60.70** **301** P **P** **13 41 36.5 +0.1**
comp=Z,0.3nm,0.6s,baz=56,slow=8.3,SNR=2.3
ESDC pP **pP** **13 41 46.9 -0.2**
comp=Z,1.3nm,0.8s,baz=64,slow=7.0,SNR=7.8
comp=Z,0.3nm,0.6s
PETK **Petropavlovsk-** **62.69** **43** LR LR 14 12 41.8
comp=Z,76nm,18.7s,baz=118,slow=40
NEEM **North Greenlan** **65.89** **348** *i* P **P** **13 42 13.1 +2.7**
SUMG **Summit** **65.89** **342** *i* P **P** **13 42 07.4 -3.2**
BOSA **Boshof** **74.87** **222** P **P** **13 43 06.6 +1.0**
BOSA **Boshof** **74.87** **222** P **P** **13 43 06.6 +1.0**
BOSA pmax pmax
comp=Z,14nm,1.5s
IMAR **Indian Mountain** **76.36** **18** P **P** **13 43 15.4 +1.8**
BMAR **Burnt Mountain** **77.29** **14** P **P** **13 43 19.4 +0.5**
INK **Inuvik** **78.40** **10** P **P** **13 43 24.3 -0.6**
comp=Z,1.2nm,0.9s,baz=330,slow=4.7,SNR=5.5
comp=Z,1.2nm,0.9s
INK **Inuvik** **78.40** **10** P **P** **13 43 24.3 -0.6**
INK IAmb IAmb 13 43 41.9
comp=Z,5.9nm,1.5s
INK **Inuvik** **78.40** **10** P **P** **13 43 24.3 -0.6**
INK pmax pmax
comp=Z,6.0nm,1.5s
WB0 **Warramunga Arr** **78.51** **122** P **P** **13 43 27.3 +1.0**
WB0 IAmb IAmb 13 43 27.9
comp=Z,3.5nm,0.7s
WRA **Warramunga Arr** **78.58** **122** P **P** **13 43 27.7 +1.1**
comp=Z,2.4nm,0.6s,baz=321,slow=5.4,SNR=46
comp=Z,2.4nm,0.6s
WRA **Warramunga Arr** **78.58** **122** P **P** **13 43 27.5 +0.8**
WRA **Warramunga Arr** **78.58** **122** *i* P **P** **13 43 27.7 +1.1**
WRA pmax pmax
comp=Z,3.0nm,0.6s
ASAR **Alice Springs** **80.66** **125** P **P** **13 43 39.0 +1.1**
comp=Z,2.8nm,0.8s,baz=310,slow=5.2,SNR=60
comp=Z,2.8nm,0.8s
ASAR **Alice Springs** **80.66** **125** P **P** **13 43 39.0 +1.1**
YKA **Yellowknife Ar** **85.92** **3** P **P** **13 44 03.6 -0.8**
comp=Z,0.6nm,0.6s,baz=344,slow=5.1,SNR=9.0
comp=Z,0.6nm,0.6s
STKA **Stephens Creek** **91.10** **127** P **P** **13 44 30.3 +0.9**
comp=Z,1.9nm,0.9s,baz=319,slow=9.7,SNR=3.8
comp=Z,1.9nm,0.9s

*DDA **08** 13:34:39.7±0.0,41.00N×33.51E,h7km,3km,ML1.5*
*ISK **08** 13:34:39.9,41.04N×33.47E,h18km,ML2.6/9*
ISC 08 13:34:40.4±1.0,**41.02N**±0.03×**33.48E**±0.03,**h15**km±10km,
n15,σ0**39**/23,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PELI	**Kastamonı-Ara**	**0.31**	**336**	P		**Pg**	**Pg**	**13 34 46.7**	**-0.2**
PELI				S		**Sg**	**Sg**	**13 34 51.2**	**-0.2**
PELI				*i* AML	AML	13 34 53.0			
	comp=E,46nm,0.3s								
PELI				*i* AML	AML	13 34 53.0			
	comp=N,50nm,0.3s								
KMON	**Kastamonu**	**0.42**	**33**	Pg		**Pg**	**Pg**	**13 34 48.7**	**-0.3**
KMON				Sg		**Sg**	**Sg**	**13 34 55.5**	**+0.7**
CANT	**Cankiri**	**0.43**	**165**	Pg		**Pg**	**Pg**	**13 34 49.6**	**+0.6**
CANT				Sg		**Sg**	**Sb**	**13 34 56.3**	**+0.4**
SAFT	**Safranbolu**	**0.64**	**291**	Pg		**Pg**	**Pb**	**13 34 52.8**	**-0.4**
SAFT				Sg		**Sg**	**Sb**	**13 35 01.9**	**0.0**
KBUK	**KARABUK-Merkez**	**0.68**	**289**	P		**Pb**	**Pb**	**13 34 53.9**	**-0.1**
KBUK				*i* AML	AML	13 35 05.0			
	comp=E,23nm,0.5s								
KBUK				*i* AML	AML	13 35 06.0			
	comp=N,23nm,0.3s								
BZK	**Bozkurt**	**1.02**	**23**	Pg		**Pb**	**Pb**	**13 34 59.9**	**+0.2**
BOYA	**Sinop/Boyabat-**	**1.04**	**60**	P		**Pn**	**Pn**	**13 35 00.7**	**+0.2**
BOYA				S		**Sb**	**Sb**	**13 35 13.9**	**+0.3**
DELI	**KIRIKKALE**	**1.07**	**161**	P		**Pb**	**Pb**	**13 34 60.0**	**-0.8**
DELI				S		**Sb**	**Sb**	**13 35 14.7**	**+0.1**
DELI				*i* AML	AML	13 35 19.0			
	comp=E,15nm,0.4s								
DELI				*i* AML	AML	13 35 19.0			
	comp=N,14nm,0.5s								
BCAM	**Yenicaga**	**1.09**	**260**	P		**Pg**	**Pg**	**13 35 02.0**	**+0.5**
BTIN	**Bartın**	**1.11**	**304**	P		**Pg**	**Pg**	**13 35 01.9**	**0.0**
CORM	**Corum**	**1.22**	**133**	Pn		**Pn**	**Pn**	**13 35 02.6**	**-0.3**
CORM				Sn		**Sg**	**Sg**	**13 35 19.8**	**+0.1**
BR131	**Keskin Array S**	**1.30**	**174**	Pn		**Pn**	**Pn**	**13 35 03.9**	**-0.2**
BR131				Sn		**Sg**	**Sg**	**13 35 21.9**	**-0.4**
KAMT	**Kaman**	**1.66**	**174**	Pn		**Pn**	**Pn**	**13 35 09.2**	**+0.2**
YOZ	**Yozgat**	**1.97**	**134**	Pn		**Pn**	**Pn**	**13 35 13.0**	**-0.3**
YAYX	**Yaylak**	**2.09**	**173**	Pn		**Pn**	**Pn**	**13 35 15.2**	**+0.2**

WEL 08 13:37:15.0±0.6,**42.°S**±4.°×**17.°4E**±.°,**h5**km±3km,**M3.3**/18,
ML3.5/9,MLv3.3/18,Error ellipse: s-maj=0.0km
s-min=0.0km az=157.6,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**275**	P		P	Pg	13 37 17.0	-0.2
KHZ				S		Sg		13 37 19.9	+1.2
GVZ	**Greta Valley S**	**0.72**	**221**	P		P	Pb	13 37 29.6	-0.5
BSWZ	**Blackbirch Sta**	**0.73**	**12**	P		P	Pg	13 37 28.9	-0.1
CMWZ	**Cape Campbell**	**0.79**	**31**	P		P	Pb	13 37 31.1	0.0
THZ	**Tophouse**	**0.88**	**319**	P		P	Pg	13 37 31.8	-0.1
THZ				S		S	Sb	13 37 44.9	+0.1
TUWZ	**Tuamarina**	**1.01**	**11**	P		P	Pg	13 37 34.3	-0.2
AMCZ	**Amberley**	**1.06**	**225**	P		P	Pg	13 37 35.2	-0.3
LTZ	**Lake Taylor**	**1.10**	**251**	P		P	Pg	13 37 35.6	-0.5
LTZ				S		S	Sn	13 37 51.9	-0.7
NNZ	**Nelson**	**1.23**	**349**	P		P	Pg	13 37 38.0	-0.6
MRNZ	**Matariki Terra**	**1.23**	**326**	P		P	Pg	13 37 38.7	0.0
TCW	**Tory Channel**	**1.29**	**20**	P		P	Pn	13 37 37.9	-1.8
OKCZ	**Okains Bay**	**1.37**	**199**	P		P	Pn	13 37 38.3	-2.5
WEL	**Wellington**	**1.40**	**36**	P		P	Pn	13 37 39.3	-1.9
PLWZ	**Palliser**	**1.46**	**54**	P		P	Pn	13 37 38.9	-3.1
MOZ	**McQueen's Vall**	**1.48**	**210**	P		P	Pn	13 37 39.1	-3.2
TKNZ	**Takaka Hill**	**1.49**	**339**	P		P	Pn	13 37 42.4	0.0
OXZ	**Oxford**	**1.50**	**233**	P		P	Pn	13 37 40.2	-2.4
DSZ	**Denniston Nort**	**1.55**	**295**	P		P	Pn	13 37 43.2	-0.1
AKCZ	**Akaroa Harbour**	**1.55**	**201**	P		P	Pn	13 37 40.6	-2.7
DUWZ	**D'Urville Isla**	**1.63**	**7**	P		P	Pn	13 37 44.7	+0.2
PAWZ	**Paruwai Farm**	**1.67**	**52**	P		P	Pn	13 37 41.8	-3.2
INZ	**Inchbonnie**	**1.68**	**259**	P		P	Pn	13 37 44.1	-0.8
CAW	**Cannon Point**	**1.68**	**39**	P		P	Pn	13 37 42.6	-2.4
RACZ	**Rakaia**	**1.72**	**220**	P		P	Pn	13 37 43.3	-2.2
QRZ	**Quartz Range**	**1.81**	**331**	P		P	Pn	13 37 47.4	+0.5
KIW	**Kapiti Island**	**1.82**	**31**	P		P	Pn	13 37 45.3	-1.6
MHCZ	**Mount Hutt**	**1.90**	**234**	P		P	Pn	13 37 45.8	-2.3
OGWZ	**Otaki Gorge**	**1.96**	**35**	P		P	Pn	13 37 46.8	-2.1
WACZ	**Wakanui South**	**2.03**	**221**	P		P	Pn	13 37 47.4	-2.4
HOWZ	**Woldsworth Sta**	**2.06**	**43**	P		P	Pn	13 37 48.1	-1.6
WVZ	**Waitaha Valley**	**2.26**	**252**	P		P	Pn	13 37 52.1	-0.9
MRZ	**Mangatainoka R**	**2.27**	**40**	P		P	Pn	13 37 51.2	-2.0
RPZ	**Rata Peaks**	**2.31**	**235**	P		P	Pn	13 37 51.7	-2.1
ARCZ	**Arundel**	**2.38**	**229**	P		P	Pn	13 37 52.5	-2.2
GCSZ	**Gaunt Creek Bo**	**2.62**	**249**	P		P	Pn	13 37 57.6	-0.4
TMZ	**Timaru**	**2.76**	**224**	P		P	Pn	13 37 57.8	-2.1
WAZ	**Wanganui**	**2.85**	**21**	P		P	Pb	13 38 04.1	-2.2
LREZ	**Lake Rotokare**	**3.01**	**11**	P		P	Pb	13 38 09.0	-0.2
FOZ	**Fox Glacier**	**3.04**	**247**	P		P	Pn	13 38 03.1	-0.6
KHEZ	**Kahui Hut**	**3.14**	**5**	P		P	Pb	13 38 11.1	-0.3
PKE	**Pukeiti**	**3.24**	**4**	P		P	Pb	13 38 12.0	-1.0
PKVZ	**Pokaka**	**3.38**	**23**	P		P	Pn	13 38 11.8	+3.3
VRZ	**Vera Road**	**3.40**	**14**	P		P	Pn	13 38 09.1	+0.4
ODZ	**Otahua Downs**	**3.42**	**219**	P		P	Pn	13 38 06.6	-2.4
NGZ	**Ngauruhoe**	**3.56**	**25**	P		P	Pb	13 38 15.0	-3.6
JCZ	**Jackson Bay**	**3.93**	**244**	P		P	Pn	13 38 15.1	-1.0
HIZ	**Hauiti**	**4.01**	**13**	P		P	Pn	13 38 17.6	+0.6
EAZ	**Earnscleugh**	**4.22**	**227**	P		P	Pn	13 38 17.5	-2.5
AWAZ	**Awhitu Peninsu**	**5.41**	**8**	P		P	Pn	13 38 36.4	+0.1
MKAZ	**Moumakai**	**5.44**	**13**	P		P	Pn	13 38 36.7	0.0
ETAZ	**East Tamaki Re**	**5.55**	**10**	P		P	Pn	13 38 40.9	+2.6

*IDC **08** 13:37:50.6±0.8,17.°56N×122.°46E,h0km,mb4.0/17,*
mbtmp4.0/17,Error ellipse: s-maj=34.2km s-min=17.2km
az=67.0
*NEIC **08** 13:37:52.3±1.9,17.°09N±0.°05×122.°9E±0.°1,h38km±7km,*
mb4.1/13,Error ellipse: s-maj=17.1km s-min=6.7km
az=94.0
*MAN **08** 13:37:55.9,17.°72N×122.°31E,h17km,mb4.7,ML3.6,*
MS3.5
ISC 08 13:37:53.4±1.4,**17.°60N**±0.°03×**122.°53E**±0.°07,**h19**km±10km,
n60,σ1**93**/59,**mb4.1**/22,**6C-5D,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGCP	**Gonzaga**	**0.79**	**324**⇑	*e*P		**Pb**		**13 38 07.7**	**-0.9**
SGCP				*e*S		**Sb**		**13 38 16.8**	**-2.0**
SAMP	**Sagada Mountai**	**1.64**	**252**⇓	*e*P		**Pn**		**13 38 21.4**	**+0.2**
SAMP				*e*S		**Sn**		**13 38 41.4**	**-0.4**
BALP	**Baler**	**2.06**	**206**⇓	*e*P		**Pn**		**13 38 29.7**	**-0.5**
BALP				*e*S		**Sb**		**13 38 56.6**	**+1.2**
SMPP	**San Manuel, Pa**	**2.28**	**231**⇓	*e*P		**Pb**		**13 38 32.2**	**-1.8**
SMPP				*e*S		**Sn**		**13 38 59.3**	**+1.6**
PCPH	**Palayan**	**2.45**	**214**⇑	*e*P		**Pb**		**13 38 35.9**	**-0.9**
PCPH				*e*S		**Sb**		**13 39 06.1**	**-0.5**
BOLP	**Bolinao**	**2.78**	**245**⇑	*e*P		**Pn**		**13 38 39.6**	**+2.7**
BOLP				*e*S		**Sb**		**13 39 14.3**	**-1.9**
JCNP	**Jose Panganiba**	**3.29**	**177**⇓	*i*P		**Pn**		**13 38 47.5**	**+3.5**
JCNP				*i* S		**Sn**		**13 39 22.2**	**-0.5**
LQP	**Lukban**	**3.59**	**196**⇑	*e*P		**Pn**		**13 38 51.4**	**+3.0**
LQP				*e*S		**Sb**		**13 39 38.1**	**-1.7**
MACP	**Maragondon, Ca**	**3.74**	**208**⇑	*e*P		**Pn**		**13 38 54.3**	**+4.1**
MACP				*e*S		**Sb**		**13 39 41.7**	**-2.3**
BOAC	**Boac**	**4.17**	**189**⇓	*e*P		**Pn**		**13 38 59.6**	**+3.6**
BOAC				*e*S		**Sn**		**13 39 43.9**	**-0.3**
LUBP	**Lubang**	**4.42**	**210**⇑	*i*P		**Pn**		**13 38 59.9**	**+0.3**
LUBP				*i* S		**Sb**		**13 40 00.2**	**-3.4**
TWG	**Pinlang**	**5.37**	**345**	Pn		**Pn**		**13 39 16.7**	**+4.1**
TPUB	**Ta-pu**	**5.95**	**343**	Pn		**Pn**		**13 39 24.1**	**+3.6**
SSLB	**Suanglung**	**6.33**	**347**	Pn		**Pn**		**13 39 30.2**	**+4.4**
NACB	**Ninganchiao**	**6.60**	**353**	Pn		**Pn**		13 39 34.2	+4.7
YOJ	**Yonaguni jima**	**6.85**	**4**	Pn		**Pn**		**13 39 36.1**	**+3.2**
HKPS	**Hong Kong Po S**	**9.16**	**302**	Pn		**Pn**		**13 40 08.8**	**+4.2**
JOW	**Kunigami**	**10.62**	**29**	Pn		**Pn**		**13 40 25.6**	**+1.0**
MYLDM	**Lahad Datu**	**12.96**	**198**	Pn		Pn		13 40 47.7	-8.9
TOLI2	**Tolitoli**	**16.47**	**186**	P		Pn		13 41 36.6	-7.0
KSRS	**Korea Array**	**20.34**	**12**	P		Pn		13 42 30.5	-0.2
	1.8nm,0.6s,baz=201,slow=11,SNR=11								
	1.8nm,0.6s								
KS19	**Wonju Array Si**	**20.38**	**12**	P		Pn		13 42 30.5	-0.7
CMAR	**Chiang Mai Arr**	**22.44**	**276**	P		**P**		**13 42 51.3**	**-0.2**
	1.3nm,0.7s,baz=81,slow=8.9,SNR=10								
	1.3nm,0.7s								
CMAR	**Chiang Mai Arr**	**22.44**	**276**	P		**P**		**13 42 51.2**	**-0.3**
BJT	**Baijiatuan**	**23.01**	**347**	P		**P**		**13 42 58.2**	**+1.0**
BJT				IAmb	IAmb	13 43 32.1			
	comp=Z,6.9nm,1.2s								
ULN	**Ulaanbaatar**	**32.74**	**341**	P		**P**		**13 44 25.7**	**+0.5**
ULN				IAmb	IAmb	13 44 27.3			
	comp=Z,2.1nm,0.8s								
SONM	**Songino Array**	**32.93**	**340**	P		**P**		**13 44 27.8**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=158,slow=9.3,SNR=14								
	comp=Z,1.6nm,0.5s								
SONM	**Songino Array**	**32.93**	**340**	P		**P**		**13 44 27.1**	**+0.3**
SONM				IAmb	IAmb	13 44 29.1			
	comp=Z,1.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**35.60**	**175**	P		P		13 44 41.3	-8.7
WRA	**Warramunga Arr**	**39.07**	**162**	P		**P**		**13 45 19.5**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=341,slow=9.2,SNR=5.7								
	comp=Z,2.5nm,1.0s								
H11S3	**WAKE ISLAND Hy**	**41.92**	**82**	T		T		14 30 48.6	
	baz=276,slow=75,SNR=414								
H11S1	**WAKE ISLAND Hy**	**41.93**	**82**	T		T		14 30 52.5	
	baz=276,slow=75,SNR=306								
H11S2	**WAKE ISLAND Hy**	**41.94**	**82**

KKAR	**Karatay Array**	**50.62**	**312**	P	**P**	**13 46 51.8**	**+0.5**
BVAR	**Borovoye Array**	**53.63**	**324**	P	**P**	**13 47 13.6**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=92,slow=10,SNR=3.6						
	comp=Z,0.6nm,0.5s						
BRVK	**Borovoye**	**53.70**	**324**	P	**P**	**13 47 13.7**	**-0.3**
BRVK				IAmb	IAmb	13 47 16.1	
	comp=Z,2.8nm,0.8s						
ABKAR	**Akbulak array**	**59.02**	**317**	P	**P**	**13 47 52.5**	**+0.5**
ARU	**Arti**	**61.16**	**325**	P	**P**	**13 48 06.5**	**0.0**
	comp=Z,2.2nm,0.3s,baz=128,slow=12,SNR=5.7						
	comp=Z,2.2nm,0.3s						
ARU	**Arti**	**61.16**	**325**	P	**P**	**13 48 07.0**	**+0.4**
BELG	**Belogornoye**	**67.07**	**320**	P	**P**	**13 48 45.1**	**-0.3**
	comp=Z,9.1nm,0.6s,baz=73,slow=17,SNR=3.6						
	comp=Z,9.1nm,0.6s						
IMAR	**Indian Mountai**	**71.53**	**25**	P	**P**	**13 49 10.5**	**-2.3**
ARCES	**ARCESS Array B**	**76.10**	**339**	P	**P**	**13 49 38.6**	**-0.9**
	comp=Z,5.2nm,0.9s,baz=75,slow=4.9,SNR=2.6						
	comp=Z,5.2nm,0.9s						
FINES	**FINESS Array B**	**77.76**	**331**	P	**P**	**13 49 48.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=56,slow=5.2,SNR=6.5						
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.14**	**308**	P	**P**	**13 49 52.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=101,slow=3.7,SNR=1.8						
	comp=Z,0.7nm,0.8s						
AKASG	**Malin Array Be**	**78.64**	**320**	P	**P**	**13 49 53.1**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=60,slow=5.1,SNR=7.8						
	comp=Z,0.7nm,0.6s						
AKBB	**Malin Array Si**	**78.64**	**320**	P	**P**	**13 49 52.1**	**-2.1**
AKBB				IAmb	IAmb	13 50 25.1	
	comp=Z,2.3nm,1.2s						
WRAK	**Wrangell Islan**	**83.60**	**33**	P	**P**	**13 50 17.8**	**-2.5**
NOA	**NORSAR Array B**	**84.62**	**333**	P	**P**	**13 50 24.0**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=78,slow=4.2,SNR=1.2						
	comp=Z,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**88.52**	**23**	P	**P**	**13 50 45.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=307,slow=4.5,SNR=2.1						
	comp=Z,0.2nm,0.6s						

*ISK **08** 13:44:58.2, 38°.54N×25°.21E, h7km, ML2.5/6*
*ATH **08** 13:44:59.6, 38°.57N×25°.24E, h10km±5km, ML2.5/2, Error ellipse: s-maj=5.4km s-min=1.5km az=143.0*
*THE **08** 13:44:59.7, 38°.57N×25°.26E, h10km±2km, ML2.1/4, Error ellipse: s-maj=2.8km s-min=0.7km az=35.0*
*DDA **08** 13:45:00.4±0.0, 38°.62N×25°.37E, h7km±4km, ML2.1*

ISC 08 13:44:59.7±1.2, 38°.55N±0°.03×25°.28E±0°.03, h17km±10km, n23, σ0°55/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSRA	**Psara**	**0.22**	**92**	P	**Pb**	**13 45 05.2**	**-0.1**
PSRA				S	**Sb**	**13 45 08.5**	**-0.6**
PSRA				AML	AML	13 45 09.0	
	comp=N,4203μm,0.3s						
PSRA				AML	AML	13 45 09.1	
	comp=E,5803μm,0.3s						
CHOS	**Chios island**	**0.63**	**105**	P	**Pb**	**13 45 12.1**	**-0.2**
CHOS				S	**Sb**	**13 45 21.2**	**+0.3**
	comp=E,332nm,0.5s						
CHOS	**Chios island**	**0.63**	**105**	Pg	**Pg**	**13 45 11.9**	**-0.3**
CHOS				Sg	**Sb**	**13 45 21.5**	**+0.6**
CHOS	**Chios island**	**0.63**	**105**	P	**Pb**	**13 45 12.1**	**-0.2**
CHOS				S	**Sb**	**13 45 20.9**	**0.0**
CHOS				AML	AML	13 45 25.4	
	comp=N,680μm,0.7s						
CHOS				AML	AML	13 45 25.4	
	comp=E,656μm,0.3s						
SIGR	**SIGRI**	**0.80**	**34**	P	**Pb**	**13 45 14.5**	**-0.6**
SIGR				S	**Sb**	**13 45 25.5**	**-0.1**
	comp=E,100nm,0.5s						
SIGR	**SIGRI**	**0.80**	**34**	Pg	**Pb**	**13 45 14.6**	**-0.6**
SIGR				Sg	**Sg**	**13 45 26.7**	**+0.8**
SIGR	**SIGRI**	**0.80**	**34**	P	**Pb**	**13 45 14.4**	**-0.6**
SIGR				S	**Sb**	**13 45 25.6**	**-0.1**
KYMI	**Kymi, Euboea I**	**0.93**	**275**	P	**Pb**	**13 45 16.4**	**-0.9**
KYMI				S	**Sb**	**13 45 30.1**	**+0.8**
	comp=E,145nm,1.0s						
KYMI	**Kymi, Euboea I**	**0.93**	**275**	P	**Pb**	**13 45 16.2**	**-1.1**
ZEYE	**Izmir, Urla-Ze**	**1.01**	**108**	P	**Pb**	**13 45 18.6**	**-0.1**
ZEYE				S	**Sn**	**13 45 32.3**	**-0.6**
ZEYE				*i* AML	AML	13 45 37.0	
	comp=E,41nm,0.3s						
ZEYE				*i* AML	AML	13 45 37.0	
	comp=E,68nm,0.5s						
PRK	**Paraskevi**	**1.04**	**48**	P	**Pb**	**13 45 19.4**	**+0.2**
PRK				S	**Sg**	**13 45 34.2**	**+0.7**
	comp=E,92nm,0.6s						
PRK	**Paraskevi**	**1.04**	**48**	P	**Pb**	**13 45 19.4**	**+0.2**
URLA	**Izmir**	**1.05**	**100**	Pn	**Pg**	**13 45 19.7**	**-0.4**
URLA	**Izmir**	**1.05**	**100**	P	**Pn**	**13 45 19.4**	**-0.3**
URLA				S	**Sn**	**13 45 34.2**	**+0.3**
URLA				*i* AML	AML	13 45 38.0	
	comp=E,66nm,0.7s						
URLA				*i* AML	AML	13 45 41.0	
	comp=E,75nm,0.6s						
DION	**Dionisos Attik**	**1.16**	**246**	P	**Pn**	**13 45 21.4**	**+0.3**
DION				S	**Sb**	**13 45 36.8**	**+0.8**
KOCA	**Canakkale, Ayv**	**1.16**	**35**	P	**Pn**	**13 45 21.7**	**-0.1**
KOCA				S	**Sb**	**13 45 35.8**	**-0.2**
KOCA				*i* AML	AML	13 45 46.0	
	comp=E,62nm,1.2s						
KOCA				*i* AML	AML	13 45 49.0	
	comp=E,80nm,2.0s						
PTL	**Penteli**	**1.22**	**246**	P	**Pn**	**13 45 22.4**	**+0.4**
PTL				S	**Sn**	**13 45 38.7**	**+0.6**
DGB	**zmir**	**1.36**	**111**	P	**Pg**	**13 45 25.2**	**-0.7**
BLCB	**Balcova**	**1.40**	**96**	Pn	**Pb**	**13 45 25.5**	**+0.2**
APE	**Apeiranthos**	**1.49**	**172**	Pn	**Pn**	**13 45 25.8**	**0.0**
EZN	**Ezine**	**1.51**	**32**	Pn	**Pb**	**13 45 27.5**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.54**	**39**	P	**Pn**	**13 45 27.4**	**+1.0**
BUHA	**Balikesir, Bur**	**1.69**	**55**	P	**Pg**	**13 45 31.8**	**-0.4**
BUHA				S	**Sn**	**13 45 48.9**	**-0.8**

WEL 08 13:46:46.9±0.5, 42°S±2°×177°E±°, h11km±4km, M3.9/63, ML4.0/12, MLv3.9/63, Error ellipse: s-maj=0.0km s-min=0.0km az=103.5, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.09**	**147**	P	Pg	13 46 49.9	+0.6
CMWZ				S	Sg	13 46 52.8	+1.6
BSWZ	**Blackbirch Sta**	**0.21**	**260**	P	Pg	13 46 52.0	+0.7
BSWZ				S	Sg	13 46 55.9	+1.6
TUWZ	**Tuamarina**	**0.29**	**328**	P	Pb	13 46 53.9	-0.3
TUWZ				S	Sb	13 46 59.1	0.0
TCW	**Tory Channel**	**0.48**	**11**	P	Pb	13 46 56.7	-0.5
TCW				S	Sb	13 47 03.9	-0.4
WEL	**Wellington**	**0.61**	**50**	P	Pb	13 46 59.2	-0.3
WEL				S	Sb	13 47 08.7	+0.7
NNZ	**Nelson**	**0.74**	**308**	P	Pb	13 47 01.6	-0.2
NNZ				S	Sb	13 47 12.2	+0.3
PLWZ	**Palliser**	**0.83**	**83**	P	Pg	13 47 02.9	-0.1
MSWZ	**Moikau Station**	**0.86**	**73**	P	Pb	13 47 04.0	+0.2
KHZ	**Kahutara**	**0.87**	**212**	P	Pg	13 47 03.6	+0.1
KHZ				S	Sb	13 47 16.6	+1.0
DUWZ	**D'Urville Isla**	**0.89**	**349**	P	Pg	13 47 04.1	0.0
CAW	**Cannon Point**	**0.89**	**51**	P	Pg	13 47 04.0	0.0
THZ	**Tophouse**	**0.94**	**264**	P	Pg	13 47 04.8	-0.1
KIW	**Kapiti Island**	**1.00**	**35**	P	Pg	13 47 05.7	-0.3
PAWZ	**Paruwai Farm**	**1.00**	**73**	P	Pg	13 47 05.4	-0.7
MRNZ	**Matariki Terra**	**1.08**	**284**	P	Pn	13 47 07.9	-0.2
TKNZ	**Takaka Hill**	**1.10**	**305**	P	Pb	13 47 08.0	0.0
MTW	**Mount Morrison**	**1.14**	**63**	P	Pb	13 47 07.4	-1.2
OGWZ	**Otaki Gorge**	**1.15**	**42**	P	Pb	13 47 08.4	-0.4
TRWZ	**Traveller**	**1.19**	**77**	P	Pb	13 47 07.5	-1.9
HOWZ	**Holdsworth Sta**	**1.29**	**53**	P	Pn	13 47 09.7	-1.1
TMWZ	**Te Maipa**	**1.43**	**67**	P	Pn	13 47 10.9	-1.8
MRZ	**Mangatainoka R**	**1.48**	**47**	P	Pn	13 47 12.6	-0.8
QRZ	**Quartz Range**	**1.49**	**304**	P	Pb	13 47 14.5	-0.1
GVZ	**Greta Valley S**	**1.53**	**212**	P	Pn	13 47 12.5	-1.7
TIWZ	**Tintock**	**1.59**	**56**	P	Pn	13 47 13.9	-1.1
CPWZ	**Castlepoint**	**1.72**	**64**	P	Pg	13 47 21.7	+1.8
DSZ	**Denniston Nort**	**1.76**	**267**	P	Pn	13 47 18.0	+0.6
POWZ	**Post Office Ro**	**1.77**	**44**	P	Pn	13 47 16.8	-0.7
PRWZ	**Pori Road**	**1.77**	**51**	P	Pn	13 47 16.2	-1.3
LTZ	**Lake Taylor**	**1.78**	**231**	P	Pn	13 47 16.6	-1.1
AMCZ	**Amberley**	**1.86**	**216**	P	Pn	13 47 16.8	-1.9
WAZ	**Wanganui**	**2.02**	**19**	P	Pb	13 47 22.8	-0.9
DVHZ	**Dannevirke**	**2.06**	**49**	P	Pn	13 47 19.7	-1.7
ANWZ	**Angora Road**	**2.14**	**56**	P	Pg	13 47 28.3	+0.5
OKCZ	**Okains Bay**	**2.20**	**201**	P	Pn	13 47 20.6	-2.8
LREZ	**Lake Rotokare**	**2.22**	**5**	P	Pb	13 47 25.5	-1.5
INZ	**Inchbonnie**	**2.27**	**242**	P	Pn	13 47 23.6	-0.7
OXZ	**Oxford**	**2.27**	**223**	P	Pn	13 47 21.9	-2.5
NMEZ	**Namu Road**	**2.27**	**355**	P	Pb	13 47 28.0	+0.1
MQZ	**McQueen's Vall**	**2.31**	**208**	P	Pn	13 47 21.5	-3.3
PNHZ	**Pukenui**	**2.35**	**42**	P	Pn	13 47 24.6	-0.9
PRHZ	**Porangahau**	**2.35**	**54**	P	Pb	13 47 27.9	-1.3
WPHZ	**Waipukurau**	**2.37**	**48**	P	Pg	13 47 30.9	-1.3
AKCZ	**Akaroa Harbour**	**2.38**	**202**	P	Pn	13 47 23.0	-2.8
KHEZ	**Kahui Hut**	**2.38**	**357**	P	Pb	13 47 28.8	-1.1
NEZ	**North Egmont**	**2.41**	**359**	P	Pb	13 47 29.5	-0.7
NBEZ	**Newall Road No**	**2.42**	**355**	P	Pn	13 47 28.3	+2.0
PKE	**Pukeiti**	**2.48**	**357**	P	Pb	13 47 30.3	-1.3
DREZ	**Durham Road**	**2.49**	**1**	P	Pb	13 47 30.1	-1.4
MTVZ	**Mangateitei**	**2.50**	**24**	P	Pb	13 47 31.0	-0.9
RACZ	**Rakaia**	**2.53**	**215**	P	Pn	13 47 24.9	-3.0
PKVZ	**Pokaka**	**2.55**	**21**	P	Pn	13 47 29.6	+1.3
MOVZ	**Moawhango**	**2.58**	**29**	P	Pn	13 47 28.3	-0.3
VRZ	**Vera Road**	**2.59**	**10**	P	Pn	13 47 30.3	+1.6
WNVZ	**Wahianoa**	**2.59**	**26**	P	Pn	13 47 30.4	+1.4
MHEZ	**Mangahewa**	**2.60**	**3**	P	Pb	13 47 32.0	-1.5
TRVZ	**Turoa**	**2.60**	**25**	P	Pn	13 47 29.3	+0.2
BHHZ	**Black Hill Sta**	**2.63**	**34**	P	Pn	13 47 29.9	+0.6
WHVZ	**Whangaehu Hut**	**2.63**	**25**	P	Pn	13 47 31.7	+2.2
FWVZ	**Far West T-bar**	**2.65**	**24**	P	Pb	13 47 34.2	-0.2
MHCZ	**Mount Hutt**	**2.66**	**225**	P	Pn	13 47 27.3	-2.5
TUVZ	**Tukino**	**2.67**	**26**	P	Pb	13 47 33.6	-1.1
NGZ	**Ngauruhoe**	**2.73**	**24**	P	Pn	13 47 31.6	+0.8
OTVZ	**Oturere**	**2.76**	**25**	P	Pb	13 47 35.2	-1.1
NNVZ	**North Ngauruho**	**2.78**	**24**	P	Pn	13 47 32.8	+1.4
TWVZ	**Taurewa**	**2.78**	**21**	P	Pn	13 47 33.2	+1.7
WTVZ	**West Tongariro**	**2.79**	**24**	P	Pn	13 47 33.7	+2.2
ETVZ	**East Tongariro**	**2.80**	**26**	P	Pb	13 47 35.2	-1.9
KRVZ	**Karewarewa**	**2.82**	**24**	P	Pb	13 47 37.5	+0.2
TMVZ	**Te Maari**	**2.82**	**25**	P	Pb	13 47 36.5	-0.8
WACZ	**Wakanui South**	**2.83**	**216**	P	Pn	13 47 29.4	-2.7
WVZ	**Waitaha Valley**	**2.89**	**240**	P	Pn	13 47 32.1	-0.7
RITZ	**Rihia Road**	**3.00**	**26**	P	Pb	13 47 38.0	-2.2
RPZ	**Rata Peaks**	**3.06**	**227**	P	Pn	13 47 33.2	-2.0
RATZ	**Rangitukua**	**3.07**	**24**	P	Pb	13 47 41.6	0.0
BKZ	**Black Stump Fm**	**3.08**	**36**	P	Pn	13 47 33.9	-1.6
ARCZ	**Arundel**	**3.15**	**223**	P	Pn	13 47 34.2	-2.3
WATZ	**Wairara**	**3.20**	**23**	P	Pb	13 47 42.1	-1.7
HIZ	**Hauiti**	**3.21**	**10**	P	Pn	13 47 38.7	+1.5
GCSZ	**Gaunt Creek Bo**	**3.27**	**239**	P	Pn	13 47 37.8	-0.2
MRHZ	**Matea Rd**	**3.33**	**32**	P	Pb	13 47 43.4	-2.5
KUTZ	**Kaahu Road**	**3.43**	**22**	P	Pb	13 47 46.8	-0.9
TLZ	**Tolley Road**	**3.51**	**18**	P	Pn	13 47 44.3	+2.9
ALRZ	**Allen Road**	**3.54**	**29**	P	Pn	13 47 47.0	-2.5
TMZ	**Timaru**	**3.55**	**219**	P	Pn	13 47 39.8	-2.2
PRRZ	**Plateau Road**	**3.61**	**29**	P	Pb	13 47 46.8	-3.9
FOZ	**Fox Glacier**	**3.70**	**238**	P	Pn	13 47 43.5	-0.5
MUGZ	**Murupara**	**3.77**	**33**	P	Pb	13 47 51.8	-1.7
LBZ	**Lake Benmore**	**3.97**	**226**	P	Pn	13 47 46.1	-1.7
TOZ	**Tahuroa Road**	**4.08**	**15**	P	Pn	13 47 50.8	+1.7
ODZ	**Otahua Downs**	**4.23**	**216**	P	Pn	13 47 48.1	-3.1
RUGZ	**Raukumara Rang**	**4.59**	**37**	P	Pn	13 47 55.4	-0.9
JCZ	**Jackson Bay**	**4.61**	**237**	P	Pn	13 47 55.5	-1.1
AWAZ	**Awhitu Peninsu**	**4.62**	**5**	P	Pn	13 47 58.6	+1.9
MKAZ	**Moumakai**	**4.63**	**10**	P	Pn	13 47 58.2	+1.4
ETAZ	**East Tamaki Re**	**4.76**	**8**	P	Pn	13 48 00.0	+1.5
RVAZ	**Riverhead Bore**	**4.91**	**4**	P	Pn	13 48 02.5	+1.9
MBAZ	**Motutapu North**	**4.94**	**7**	P	Pn	13 48 03.4	+2.5
EAZ	**Earnscleugh**	**5.00**	**223**	P	Pn	13 47 59.7	-2.3
KUZ	**Kuaotunu**	**5.07**	**14**	P	Pn	13 48 04.0	+1.2
MSZ	**Milford Sound**	**5.45**	**235**	P	Pn	13 48 11.1	+3.2
WCZ	**Waipu Caves**	**5.73**	**2**	P	Pn	13 48 14.1	+2.2
CTZ	**Chatham Island**	**7.10**	**110**	P	Pn	13 48 27.8	-2.9

NNC 08 14:01:16.8±17.0, 37°.37N×71°.06E, h0km, mb3.6, mpv3.4, 3C, Error ellipse: s-maj=151.9km s-min=91.7km az=167.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.75**	**356**	P	Pn	14 02 45.5	+2.1
	1.1nm,0.3s,baz=179,slow=13,SNR=50						
KK31				⇑S	Sn	14 03 54.6	+4.6
	1.3nm,0.4s,baz=180,slow=22,SNR=9.3						
TKM2	**Tokmak 2**	**6.55**	**31**	⇑P	Pn	14 02 55.5	+0.9
	2.6nm,0.6s						
TKM2				⇑S	Sn	14 04 07.5	-2.5
	0.2nm,0.1s						
AB31	**Akbulak array**	**14.36**	**329**	P	Pn	14 04 36.5	-4.7
	0.1nm,0.3s,baz=153,slow=12,SNR=13						

IDC 08 14:16:34.7±9.8, 5°.88S×154°.94E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=301.3km s-min=43.6km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.42**	**233**	P	P	14 21 56.5	+1.3
	1.1nm,0.6s,baz=61,slow=10,SNR=14						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**26.88**	**227**	P	P	14 22 16.4	-1.1
	0.5nm,0.6s,baz=58,slow=9.6,SNR=12						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**82.54**	**319**	P	P	14 28 59.5	-0.1
	0.3nm,0.7s,baz=91,slow=6.3,SNR=3.1						
	0.3nm,0.7s						

*IDC **08** 14:20:03.9±0.9, 54°.27S×136°.39W, h0km, mb4.3/7, mbtmp4.3/7, MS4.8/46, Error ellipse: s-maj=31.1km s-min=24.6km az=174.0*
*NEIC **08** 14:20:06.3±1.6, 54°.3S±0°.1×135°.86W±0°.09, h10km±1km, mb4.9/27, Ms_20 5.1/104, Mwb5.6/15, Error ellipse: s-maj=23.1km s-min=5.6km az=340.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.26; $M_{\theta\theta}$=2.10; $M_{\phi\phi}$=-1.84; $M_{r\theta}$=0.20; $M_{\theta\phi}$=2.08; $M_{r\phi}$=0.22; Fault plane solution: M_0=2.89000×10^{17} NP1:ϕ_s=111.79000°, δ=84.57000°, λ=1.31000°. NP2:ϕ_s=21.67000°, δ=88.70000°, λ=174.57000°. Principal axes: T 3.0122, Plg5.0000°, Azm337.0000°; N -0.2738, Plg84.0000°, Azm188.0000°; P -2.7384, Plg3.0000°, Azm67.0000°;*
*GCMT **08** 14:20:14.3±0.1, 54°.74S±0°.01×135°.63W±0°.01, h16km, MW5.6/148, Moment Tensor Solution. s123,c211; s148,c277; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.34±.03; $M_{\theta\theta}$=2.26±.03; $M_{\phi\phi}$=-1.91±.03; $M_{r\theta}$=0.20±.09; $M_{\theta\phi}$=2.13±.03; $M_{r\phi}$=0.33±.08; Best double couple: M_0=3.00500×10^{17} NP1:ϕ_s=202.00000°, δ=90.00000°, λ=-173.00000°. NP2:ϕ_s=112.00000°, δ=83.00000°, λ=0.00000°. Principal axes: T 3.1840, Plg5.0000°, Azm337.0000°; N -0.3530, Plg83.0000°, Azm203.0000°; P -2.8260, Plg5.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 14:20:06.5±0.4, 54°.41S±0°.07×135°.87W±0°.09, h13km, n158, σ1°23/56, mb4.8/20, MS5.0/96, 1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCN	**Pitcairn Islan**	**29.62**	**11**	P	**P**	**14 26 10.6**	**-0.7**
SBA	**Scott Base**	**30.72**	**200**	IAMs_20	IAMs_20	14 34 45.4	
	comp=Z,3μm,20.0s						
RKT	**Rikitea**	**31.25**	**2**	*e*S	**S**	**14 31 33.1**	**+1.3**
RKT	comp=Z,69μm,30.5s			*e*LR	LR	14 34 32.7	
	comp=Z,1034μm,30.0s						
RKT	**Rikitea**	**31.25**	**2**	*e*T	T	14 59 16.3	
	comp=Z,13nm,0.2s						
VNDA	**Vanda**	**31.67**	**202**	P	**P**	**14 26 27.4**	**-1.5**
	comp=Z,2.0nm,1.2s,baz=64,slow=4.9,SNR=2.5						
VNDA				LR	LR	14 35 47.0	
	comp=Z,2μm,22.0s,baz=82,slow=30						
	comp=Z,2.0nm,1.2s						
VNDA	**Vanda**	**31.67**	**202**	P	**P**	**14 26 31.3**	**+2.4**
VNDA				IAmb	IAmb	14 26 54.0	
	comp=Z,18nm,1.4s						
TBI	**Tubuai**	**32.65**	**336**	*e*P	**P**	**14 26 39.9**	**+1.9**
	comp=Z,743nm,51.8s						
TBI	**Tubuai**	**32.65**	**336**	*e*PP	**PP**	**14 27 51.3**	**-0.5**
	comp=Z,958nm,33.5s						
TBI				*e*S	**S**	**14 31 54.5**	**+0.9**
	comp=Z,2μm,28.5s						
TBI				*e*LR	LR	14 35 12.2	
	comp=Z,25μm,28.0s						
TBI				*e*LR	LR	14 35 12.3	
	comp=Z,82μm,26.5s						
TBI	**Tubuai**	**32.65**	**336**	*e*T	T	15 01 06.0	
	comp=Z,78nm,0.3s						
RPN	**Rapa Nui**	**33.48**	**46**	LR	LR	14 37 01.7	
	comp=Z,2μm,19.6s,baz=210,slow=30						
SMAI	**San Martin Ant**	**33.74**	**141**	P	**P**	**14 26 47.6**	**+0.5**
ODZ	**Otahua Downs**	**35.04**	**263**	IAMs_20	IAMs_20	14 37 39.5	
	comp=Z,2μm,22.0s						
URZ	**Urewera**	**35.51**	**277**	LR	LR	14 37 50.9	
	comp=Z,1μm,21.2s,baz=217,slow=30						
RPZ	**Rata Peaks**	**35.58**	**265**	LR	LR	14 37 53.9	
	comp=Z,1μm,20.6s,baz=122,slow=30						
LBZ	**Lake Benmore**	**35.69**	**264**	IAMs_20	IAMs_20	14 37 36.7	
	comp=Z,2μm,21.0s						
QSPA	**South Pole Qui**	**35.76**	**180**	P	**P**	**14 27 06.2**	**+1.4**
	comp=Z,7.4nm,1.0s,baz=102,slow=1.4,SNR=22						
QSPA				LR	LR	14 39 50.2	
	comp=Z,3μm,18.2s,baz=73,slow=33						
	comp=Z,7.4nm,1.0s						
QSPA	**South Pole Qui**	**35.76**	**180**	P	**P**	**14 27 05.9**	**+1.1**
QSPA				IAmb	IAmb	14 27 13.8	
	comp=Z,36nm,1.4s						
QSPA	**South Pole Qui**	**35.76**	**180**	IAMs_20	IAMs_20	14 38 49.5	
	comp=Z,3μm,22.0s						
PMSA	**Palmer Station**	**35.78**	**136**	LR	LR	14 37 40.3	
	comp=Z,5μm,20.1s,baz=248,slow=29						
PMSA	**Palmer Station**	**35.78**	**136**	IAMs_20	IAMs_20	14 37 38.6	
	comp=Z,5μm,20.0s						
WKZ	**Wanaka**	**36.10**	**262**	IAMs_20	IAMs_20	14 38 00.8	
	comp=Z,2μm,21.0s						
MLZ	**Mavora Lakes**	**36.31**	**261**	IAMs_20	IAMs_20	14 38 20.4	
	comp=Z,2μm,20.0s						
FOZ	**Fox Glacier**	**36.41**	**264**	IAMs_20	IAMs_20	14 38 40.8	
	comp=Z,2μm,20.0s						
RAR	**Rarotonga**	**37.77**	**322**	LR	LR	14 39 15.0	
	comp=Z,722nm,19.6s,baz=148,slow=31						
PPT2	**Papeete2**	**38.24**	**339**	*e*P	**P**	**14 27 27.6**	**+1.4**
	comp=Z,259nm,48.5s						
PPT2				*e*S	**S**	**14 33 20.9**	**+1.2**
	comp=Z,787nm,27.2s						
PPT2				*e*LR	LR	14 37 47.6	
	comp=Z,5μm,30.0s						
PPT2				*e*LR	LR	14 37 47.7	
	comp=Z,6μm,27.5s						
PPT	**Papeete**	**38.26**	**339**	LR	LR	14 38 52.9	
	comp=Z,2μm,20.1s,baz=156,slow=30						
BELA	**Belgrano 2**	**39.74**	**161**	P	**P**	**14 27 39.0**	**+0.9**
VAH	**Vaihoa**	**40.15**	**342**	*e*T	T	15 10 24.3	
	comp=Z,37nm,0.3s						
COYC	**Coyhaique**	**40.63**	**105**	IAMs_20	IAMs_20	14 39 47.3	
	comp=Z,4μm,20.0s						
H03S2	**Juan Fernandez**	**44.35**	**86**	T	T	15 15 37.6	
	baz=222,slow=74,SNR=225						
H03S1	**Juan Fernandez**	**44.35**	**86**	T	T	15 15 36.8	
	baz=222,slow=74,SNR=290						
H03S3	**Juan Fernandez**	**44.37**	**86**	T	T	15 15 40.8	
	baz=222,slow=74,SNR=230						
PLCA	**Paso Flores**	**44.53**	**100**	LR	LR	14 42 34.9	
	comp=Z,2μm,19.3s,baz=232,slow=30						
H03N3	**Juan Fernandez**	**44.62**	**86**	T	T	15 15 57.5	
	baz=225,slow=72,SNR=176						
H03N2	**Juan Fernandez**	**44.63**	**86**	T	T	15 15 54.4	
	baz=225,slow=72,SNR=66						
H03N1	**Juan Fernandez**	**44.64**	**86**	T	T	15 15 55.6	
	baz=225,slow=72,SNR=64						
TAOE	**Nuku Hiva Isla**	**45.56**	**354**	*e*P	**P**	**14 28 25.8**	**-0.2**
	comp=Z,65nm,36.5s						
TAOE				*e*S	**S**	**14 35 08.7**	**+0.8**
	comp=Z,587nm,28.0s						
TAOE				*e*LR	LR	14 41 11.6	
	comp=Z,4μm,25.9s						
BO02	**Sierra Bellavi**	**48.43**	**94**	P	**P**	**14 28 48.2**	**-0.2**
BO02				IAmb	IAmb	14 29 06.0	
	comp=Z,13nm,0.8s						
VNA3	**Neumayer Olymp**	**49.00**	**160**	P	**P**	**14 28 55.3**	**+3.2**
TAU	**Tasmania Unive**	**49.58**	**250**	IAMs_20	IAMs_20	14 44 07.6	
	comp=Z,2

ASAR	Alice Springs	71.23	256			P	14 31 26.5	+1.2
AS31	Alice Springs	71.23	256	P		P	14 31 23.3	-2.0
H01W1	Cape Leeuwin H	72.67	234	T		T	15 51 48.3	
	baz=143,slow=75,SNR=38							
H01W2	Cape Leeuwin H	72.68	234	T		T	15 51 47.6	
	baz=143,slow=75,SNR=27							
H01W3	Cape Leeuwin H	72.69	234	T		T	15 51 49.5	
	baz=143,slow=75,SNR=34							
SAML	Samuel	72.70	81	P		P	14 31 34.1	0.0
NWAO	Narrogin (SRO)	72.78	237	LR		LR	14 56 26.7	
	comp=Z,646nm,20.1s,slow=30							
WB2	Warramunga Arr	73.91	258			P	14 31 41.8	+0.6
WB2				IAmb		IAmb	14 31 50.3	
	comp=Z,8.9nm,0.9s							
WRA	Warramunga Arr	73.92	258	P		P	14 31 39.5	-1.7
	comp=Z,5.3nm,1.1s,baz=146,slow=5.3,SNR=18							
WRA				LR		LR	15 01 11.0	
	comp=Z,673nm,19.0s,baz=150,slow=34							
	comp=Z,5.3nm,1.1s							
WRAB	Tennant Creek	73.92	258	P		P	14 31 41.8	+0.6
WRAB				IAmb		IAmb	14 31 50.9	
	comp=Z,11nm,1.1s							
WRAB	Tennant Creek	73.92	258	IAMs_20		IAMs_20	15 00 49.9	
	comp=Z,760nm,20.0s							
WB0	Warramunga Arr	74.02	258			P	14 31 40.6	-1.3
PMG	Port Moresby	74.83	275	LR		LR	15 00 43.2	
	comp=Z,417nm,19.6s,baz=146,slow=33							
KRVT	Keravat (AS076	76.14	282	LR		LR	15 00 53.7	
	comp=Z,90nm,18.4s,baz=292,slow=32							
BDFB	Brasília	76.20	98	LR		LR	15 01 22.2	
	comp=Z,2µm,21.2s,baz=211,slow=32							
JTS	Las Juntas de	77.37	52	LR		LR	14 58 08.6	
	comp=Z,1µm,21.0s,slow=30							
JTS	Las Juntas de	77.37	52	IAMs_20		IAMs_20	14 58 14.7	
	comp=Z,1µm,19.0s							
HDC	Heredia	77.50	52	IAMs_20		IAMs_20	14 58 21.3	
	comp=Z,1µm,19.0s							
ROSC	El Rosal	77.91	64	LR		LR	14 59 55.6	
	comp=Z,1µm,21.7s,baz=232,slow=31							
BCIP	Isla Barro Col	78.81	57	IAMs_20		IAMs_20	14 58 28.0	
	comp=Z,1µm,20.0s							
LPIG	La Paz	81.23	24	LR		LR	14 59 34.4	
	comp=Z,181nm,19.9s,baz=204,slow=29							
SDV	Santo Domingo	83.25	65	LR		LR	15 03 45.5	
	comp=Z,413nm,19.9s,baz=198,slow=31							
BOAV	Boa Vista	83.45	77	P		P	14 32 32.5	-1.2
BOAV				IAmb		IAmb	14 34 58.6	
	comp=Z,14nm,1.4s							
BAUV	El Baul	84.68	67	P		P	14 32 39.0	-0.9
H11S2	WAKE ISLAND Hy	87.54	307	T		T	16 10 27.7	
	baz=144,slow=76,SNR=24							
H11S3	WAKE ISLAND Hy	87.55	307	T		T	16 10 35.5	
	baz=144,slow=76,SNR=14							
H11S1	WAKE ISLAND Hy	87.56	307	T		T	16 10 24.6	
	baz=144,slow=76,SNR=14							
BATI	Baumata	87.81	256	LR		LR	15 10 56.0	
	comp=Z,492nm,18.4s,baz=148,slow=35							
SOEI	Soe	87.83	256	IAMs_20		IAMs_20	15 06 53.7	
	comp=Z,691nm,21.0s							
KVTX	Kingsville	87.94	33	IAMs_20		IAMs_20	15 01 56.6	
	comp=Z,382nm,18.0s							
H11N3	WAKE ISLAND Hy	88.51	308	T		T	16 11 36.8	
	baz=144,slow=76,SNR=3.8							
H11N1	WAKE ISLAND Hy	88.51	308	T		T	16 11 41.3	
	baz=144,slow=76,SNR=5.4							
H11N2	WAKE ISLAND Hy	88.53	308	T		T	16 11 43.1	
	baz=144,slow=76,SNR=4.5							
PFO	Pinyon Flats O	89.25	16	LR		LR	15 04 29.5	
	comp=Z,469nm,20.1s,baz=202,slow=30							
MMRI	Maumere	89.89	255	IAMs_20		IAMs_20	15 10 44.4	
	comp=Z,565nm,22.0s							
MDP	Montagnes des	90.17	82	LR		LR	15 07 45.8	
	comp=Z,436nm,20.9s,baz=230,slow=32							
SIJI	Sorong	90.97	267	LR		LR	15 09 54.2	
	comp=Z,170nm,21.6s,baz=132,slow=33							
RCBR	Riachuelo	91.08	101	LR		LR	15 10 29.5	
	comp=Z,1µm,19.8s,baz=351,slow=33							
SUR	Sutherland	91.25	160	LR		LR	15 09 33.4	
	comp=Z,1µm,19.6s,baz=186,slow=32							
ANMO	Albuquerque	92.54	24	LR		LR	15 06 20.3	
	comp=Z,224nm,20.6s,baz=290,slow=30							
CMB	Columbia Colle	93.04	12	IAMs_20		IAMs_20	15 05 22.3	
	comp=Z,486nm,20.0s							
SJG	San Juan	93.32	63	LR		LR	15 10 04.6	
	comp=Z,287nm,20.3s,baz=216,slow=32							
KAPI	Kappang	94.26	255	LR		LR	15 15 04.8	
	comp=Z,179nm,18.3s,baz=158,slow=35							
SABA	Saba	94.45	66	IAMs_20		IAMs_20	15 09 01.7	
	comp=Z,808nm,21.0s							
GUMO	Guam	94.79	287	LR		LR	15 06 42.0	
	comp=Z,51nm,20.8s,baz=146,slow=30							
SMRT	St. Maarten	94.89	66	IAMs_20		IAMs_20	15 09 23.4	
	comp=Z,541nm,21.0s							
BOSA	Boshof	95.73	163	LR		LR	15 10 28.2	
	comp=Z,2µm,21.7s,baz=192,slow=32							
OK053	SW of W Deep R	96.14	31	IAMs_20		IAMs_20	15 24 13.9	
	comp=Z,388nm,20.0s							
OK034	N. Norfolk Rd.	96.16	31	IAMs_20		IAMs_20	15 14 18.4	
	comp=Z,525nm,21.0s							
YBH	Yreka Blue Hor	96.43	10	LR		LR	15 09 24.8	
	comp=Z,433nm,18.1s,baz=178,slow=31							
MFID	Camas Ranch	98.94	15	IAMs_20		IAMs_20	15 09 35.7	
	comp=Z,830nm,20.0s							
BKB	Balikpapan	98.94	255	IAMs_20		IAMs_20	15 12 47.4	
	comp=Z,427nm,21.0s							
LBTB	Lobatse	99.30	163	LR		LR	15 15 36.4	
	comp=Z,737nm,19.4s,baz=180,slow=34							
PDAR	Pinedale Array	99.38	19	LR		LR	15 10 19.9	
	comp=Z,341nm,21.0s,baz=206,slow=30							
LEM	Lembang	99.40	244	LR		LR	15 11 08.5	
	comp=Z,179nm,20.4s,baz=163,slow=31							
SBUM	Sibu	104.62	253	IAMs_20		IAMs_20	15 17 17.8	
	comp=Z,448nm,22.0s							
KKM	Kota Kinabalu	105.29	259	IAMs_20		IAMs_20	15 18 28.6	
	comp=Z,372nm,21.0s							
O22K	Cooper Landing	115.08	352	IAMs_20		IAMs_20	15 20 58.4	
	comp=Z,595nm,18.0s							
PWL	Port Wells	115.35	353	IAMs_20		IAMs_20	15 15 42.6	
	comp=Z,612nm,22.0s							
GLB	Gilahina Butte	115.68	356	IAMs_20		IAMs_20	15 16 31.3	
	comp=Z,674nm,21.0s							
KLU	Klutina	115.83	355	IAMs_20		IAMs_20	15 19 33.4	
	comp=Z,707nm,20.0s							
M22K	Willow	116.37	352	IAMs_20		IAMs_20	15 20 08.5	
	comp=Z,463nm,18.0s							
M27K	Edge Creek, AK	116.52	357	IAMs_20		IAMs_20	15 17 46.6	
	comp=Z,774nm,21.0s							
M20K	Styx River	116.75	351	IAMs_20		IAMs_20	15 22 01.6	
	comp=Z,662nm,19.0s							
L26K	Log Cabin Wild	117.24	356	IAMs_20		IAMs_20	15 18 04.6	
	comp=Z,591nm,20.0s							
DHY	Denali Highway	117.49	354	IAMs_20		IAMs_20	15 15 40.2	
	comp=Z,450nm,19.0s							
YKA	Yellowknife Ar	117.75	11	PKP		PKPdf	14 38 50.1	-0.8
	comp=Z,0.1nm,0.6s,baz=194,slow=1.3,SNR=2.2							
RND	Reindeer	117.92	353	IAMs_20		IAMs_20	15 19 54.4	
	comp=Z,328nm,20.0s							
RIDG	Independent Ri	118.02	355	IAMs_20		IAMs_20	15 20 08.2	
	comp=Z,691nm,19.0s							
J25K	Salcha River,	118.92	355	IAMs_20		IAMs_20	15 20 10.9	
	comp=Z,606nm,18.0s							
EGAK	Eagle	118.93	357	IAMs_20		IAMs_20	15 20 00.1	
	comp=Z,672nm,21.0s							
NEA2	Nenana	119.11	354	IAMs_20		IAMs_20	15 21 42.9	
	comp=Z,374nm,19.0s							
ILAR	Eielson Array	119.15	355	PKP		PKPdf	14 38 52.4	-1.1
	comp=Z,0.4nm,0.9s,baz=186,slow=0.8,SNR=2.0							
PALK	Pallekele	124.60	226	IAMs_20		IAMs_20	15 36 50.3	
	comp=Z,360nm,20.0s							
CMAR	Chiang Mai Arr	125.11	251	PKP		PKPdf	14 39 06.2	-0.2
	comp=Z,0.3nm,0.7s,baz=121,slow=2.6,SNR=2.0							
A21K	Barrow	126.30	352	IAMs_20		IAMs_20	15 22 48.0	
	comp=Z,437nm,21.0s							
ATD	Arta Tunnel	137.22	178	IAMs_20		IAMs_20	15 33 24.6	
	comp=Z,553nm,22.0s							
AVE	Averroes	138.40	99	IAMs_20		IAMs_20	15 32 48.2	
	comp=Z,442nm,22.0s							
ESDC	Sonseca Array	144.81	95	PKPbc		PKPdf	14 39 42.9	+0.5
	comp=Z,1.1nm,0.9s,baz=223,slow=2.9,SNR=5.8							
ESDC	Sonseca Array	144.81	95			PKPab	14 39 39.6	-1.9
CART	Cartagena	145.12	100	PKPbc		PKPbc	14 39 41.9	-0.6
CART				IAMs_20		IAMs_20	15 34 25.3	
	comp=Z,227nm,18.0s							
RAYN	Ar Rayn	149.14	182	PKPdf		PKPdf	14 39 48.0	-2.2
UOSS	Minazif	149.23	202	IAMs_20		IAMs_20	15 41 13.3	
	comp=Z,479nm,21.0s							
SSB	Saint Sauveur	153.20	93	IAMs_20		IAMs_20	16 01 12.0	
	comp=Z,174nm,20.0s							

JMA ***08*** *14:38:55.4±0.1, 39°.2N±0°.2×142°.4E±0°.6, h33km, MV3.3/38, E OFF IWATE PREF*
IDC ***08*** *14:38:58.9±4.8, 35°.64N×142°.98E, h273km±22km, mb2.9/4, mbtmp3.4/5, Error ellipse: s-maj=97.3km s-min=30.2km az=172.0*
ISC 08 14:38:55.5±1.9, 39°.21N±0°.05×142°.4E±0°.1, h31km±11km, n15, σ1§51/25, mb3.4/4, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.55	257	⇓P		Pb	14 39 06.9	+0.3
OFUJ				⇓S		Sb	14 39 14.9	+0.5
MIYJ	Miyakonagasawa	0.55	312	⇓*i*P		Pb	14 39 06.5	-0.3
MIYJ				⇓S		Sb	14 39 14.4	-0.1
JKMT	Kesennumamotoy	0.79	240	*i* P		Pn	14 39 10.4	0.0
JKMT				S		Sn	14 39 21.1	-0.1
JTH	Tanohata	0.82	333	P		Pn	14 39 10.4	-0.5
JTH				S		Sn	14 39 21.8	-0.2
JOM	Ohasama	0.86	288	⇓P		Pn	14 39 11.6	+0.1
JOM				⇓S		Sn	14 39 23.4	+0.4
JMK	Ichinoseki	0.92	254	P		Pn	14 39 12.3	+0.2
JMK				S		Sn	14 39 24.7	+0.4
JIO	Ouri	1.09	226	P		Pn	14 39 14.3	-0.2
JIO				S		Sn	14 39 28.2	-0.2
JKZ	Kuzumaki	1.11	315	P		Pn	14 39 15.4	+0.5
JKZ				S		Sn	14 39 29.6	+0.5
JANG	Nango	1.33	331	P		Pn	14 39 18.2	+0.3
JANG				S		Sn	14 39 35.2	+0.7
JRG	Rokugo	1.35	279	P		Pn	14 39 19.3	+1.2
MJAR	Matsushiro Arr	4.22	232	P		Pn	14 40 01.4	+3.7
	0.9nm,0.6s,baz=134,slow=17,SNR=13							
MJAR				S		Sb	14 40 55.5	-4.0
	0.4nm,0.3s,baz=95,slow=26,SNR=1.5							
ZALV	Zalesovo Beam	41.03	311	P		P	14 46 37.5	+1.9
	0.4nm,0.5s,baz=81,slow=8.9,SNR=2.6							
	0.4nm,0.5s							
MKAR	Makanchi Array	43.63	300	P		P	14 46 53.6	-3.3
	0.2nm,0.6s,baz=77,slow=9.5,SNR=2.4							
	0.2nm,0.6s							
KURBB	Kurchatov Arra	45.28	306	P		P	14 47 10.0	0.0
	0.8nm,0.3s,baz=77,slow=8.3,SNR=2.8							
	0.8nm,0.3s							
ILAR	Eielson Array	47.27	33	P		P	14 47 25.6	+0.2
	0.2nm,0.6s,baz=262,slow=5.6,SNR=5.4							
	0.2nm,0.6s							

TAP ***08*** *14:43:42.0, 24°.10N×122°.46E, h31km, ML3.3, D*
JMA ***08*** *14:43:41.9±0.3, 24°.2N×122°.4E±0°.6, h18km±4km, MV2.9/10, NW OFF ISHIGAKIJIMA IS*
ISC 08 14:43:40.4±1.1, 24°.02N±0°.02×122°.43E±0°.02, h8km±9km, n64, σ0§57/120, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.64	47	P		Pb	14 43 53.9	0.0
JYNG				S		Sg	14 44 02.0	+0.9
YOJ	Yonaguni jima	0.69	50	P		Pg	14 43 54.2	+0.5
YOJ	Yonaguni jima	0.69	50	P		Pg	14 43 54.1	+0.3
YOJ				eS		Sg	14 44 03.5	+0.7
EWUT	Wuta	0.73	306	*i* P		Pb	14 43 55.5	+0.1
	baz=299							
EWUT				*e*S		Sb	14 44 05.6	0.0
	baz=299							
ENA	Nanau	0.75	303	P		Pb	14 43 56.5	+0.8
	baz=296							
ENA				*e*S		Sb	14 44 06.2	+0.1
	baz=296							
ETL	Fush Village	0.75	281	P		Pb	14 43 56.5	+0.7
	baz=259							
ETL				*e*S		Sb	14 44 06.4	+0.3
	baz=259							
HWA	Hwalien	0.75	267	*i* P		Pn	14 43 56.8	-0.5
	baz=260							
HWA				S		Sn	14 44 08.3	-0.7
	baz=260							
TWD	Chiawan	0.76	275	*i* P		Pb	14 43 56.7	+0.8
	baz=268							
TWD				*e*S		Sb	14 44 07.1	+0.6
	baz=268							
NACB	Ninganchiao	0.78	282	P		Pb	14 43 56.5	+0.3
NACB	Ninganchiao	0.78	282	P		Pb	14 43 56.7	+0.5
	baz=260							
NACB				S		Sb	14 44 07.9	+1.0
	baz=260							
TWC	Suao	0.79	318	*i* P		Pb	14 43 56.2	-0.2
	baz=313							
TWC				*e*S		Sg	14 44 05.8	-0.2
	baz=313							
ETLH	Xiulin Townshi	0.89	283	P		Pb	14 43 58.3	+0.2
	baz=276							
ETLH				*e*S		Sb	14 44 10.5	+0.3
	baz=276							
NDS	Dongshan	0.90	314	P		Pb	14 43 58.6	+0.4
	baz=308							
NDS				*e*S		Sb	14 44 11.0	+0.7
	baz=308							
ESL	Shilin	0.93	258	P		Pb	14 43 58.8	-0.1
	baz=242							
ESL				S		Sb	14 44 12.4	+1.0
	baz=242							
LATG	Datong	0.97	302	*i* P		Pb	14 43 60.0	+0.4
	baz=297							
LATG				S		Sb	14 44 13.4	+0.7
	baz=297							
EGFH	Guangfu	0.98	250	P		Pb	14 43 59.9	+0.2
	baz=245							
EGFH				*i* S		Sb	14 44 13.3	+0.6
	baz=245							
ENTT	Nioudou	1.00	308	*i* P		Pb	14 44 00.3	+0.3
	baz=303							
ENTT				S		Sb	14 44 13.3	-0.2
	baz=303							
NNSH	Datong	1.04	293	*i* P		Pb	14 44 00.8	0.0
	baz=288							
NNSH				*e*S		Sn	14 44 15.4	-0.8
	baz=288							
NNSB	Datong	1.04	293	*i* P		Pb	14 44 00.8	0.0
	baz=288							
NNSB				*i* S		Sb	14 44 14.8	+0.2
	baz=288							
NNS	Nan Shan	1.05	294	*i* P		Pb	14 44 01.0	+0.1
	baz=288							
NNS				*i* S		Sb	14 44 15.2	+0.3
	baz=288							
HGSD	Ruisui	1.06	241	*e*P		Pg	14 44 00.8	+0.1
	baz=237							
HGSD				*e*S		Sg	14 44 14.6	+0.1
	baz=237							
FUSB	Fushanzhiwuyua	1.07	314	*i* P		Pn	14 44 01.5	-0.3
	baz=309							
FUSB				S		Sb	14 44 15.5	+0.2
	baz=309							
TWB1	Santiao Chiao	1.07	338	P		Pg	14 44 00.8	-0.1
	baz=350							
TWB1				S		Sg	14 44 14.2	-0.6
	baz=350							
WHF	Hehuan Shan	1.07	277	P		Pb	14 44 01.4	-0.1
	baz=259							
WHF				S		Sb	14 44 16.4	+0.6
	baz=259							
TIPB	Shuangxi	1.10	330	*e*P		Pb	14 44 01.8	+0.1
	baz=327							
TIPB				*i* S		Sg	14 44 14.9	-0.9
	baz=327							
EHY	Hungye	1.13	244	*e*P		Pb	14 44 02.3	0.0
	baz=253							
EHY				*e*S		Sn	14 44 19.0	+0.6
	baz=253							
NWLT	Wulai	1.14	312	*e*P		Pn	14 44 03.2	+0.5
	baz=308							
NWLT				*e*S		Sn	14 44 18.1	-0.4
	baz=308							
OWD	Renai	1.15	267	P		Pg	14 44 02.4	-0.1
	baz=262							
OWD				*e*S		Sg	14 44 16.8	-0.6
	baz=262							
TWT	Tachien	1.17	282	*i* P		Pn	14 44 03.4	+0.2
	baz=265							
TWT				S		Sn	14 44 19.2	-0.3
	baz=265							
NSK	Sanguang	1.18	304	*i* P		Pg	14 44 02.9	-0.1
	baz=287							
NSK				*e*S		Sn	14 44 19.2	-0.4
	baz=287							
SXI1	Grass Mountain	1.19	335	P		Pg	14 44 02.5	-0.7
	baz=346							
SXI1				S		Sg	14 44 17.9	-0.8
	baz=346							
WFSB	Wu-fen Shan	1.21	331	P		Pg	14 44 02.8	-0.8
	baz=328							
WFSB				*i* S		Sg	14 44 18.3	-0.9
	baz=328							
YULB	Yu-li	1.21	239	P		Pg	14 44 03.0	-0.6
EYUL	Yuli	1.22	237	*e*P		Pn	14 44 04.5	+0.8
	baz=233							
EYUL				*e*S		Sn	14 44 21.5	+1.1
	baz=233							
IRIF	Iriomote-Funau	1.23	75	P		Pb	14 44 03.8	-0.1
IRIF				S		Sg	14 44 19.8	-0.2
TWF1	Yuli	1.23	238	*e*P		Pn	14 44 04.6	+0.7
	baz=223							
TWF1				S		Sb	14 44 20.1	+0.1
	baz=223							
TWA	Mucha	1.23	321	*e*P		Pn	14 44 04.8	+0.8
	baz=336							
TWA				*e*S		Sn	14 44 20.6	-0.2
	baz=336							
NHDH	Xindian Distri	1.25	319	*e*P		Pg	14 44 04.8	+0.3
	baz=331							
NHDH				S		Sn	14 44 21.1	-0.2
	baz=331							
HATJ	Hateruma jima	1.26	88	P		Pg	14 44 05.1	+0.6
HATJ				*e*S		Sb	14 44 20.5	-0.3
TATO	Taipei	1.28	318	P		Pg	14 44 05.0	0.0
TATO	Taipei	1.28	318	P		Pg	14 44 05.0	0.0
	baz=315							
TATO				S		Sn	14 44 21.8	-0.2
	baz=315							
CHKT	Chengkung	1.34	227	*e*P		Pn	14 44 04.2	-1.1
	baz=224							
CHKT				*e*S		Sb	14 44 20.4	-2.6
	baz=224							
SSLB	Suanglung	1.37	261	P		Pn	14 44 05.9	0.0
SMLT	Sun Moon Lake	1.41	265	*i* P		Pn	14 44 06.7	+0.2
	baz=251							
SMLT				*e*S		Sg	14 44 25.6	-0.1
	baz=251							
TWS1	Kuangyinshan	1.42	320	*e*P		Pb	14 44 07.2	+0.1
	baz=334							
TWS1				*e*S		Sn	14 44 25.4	-0.1
	baz=334							
TYC	Yuchr	1.44	266	P		Pb	14 44 07.3	-0.2
	baz=262							
TYC				*e*S		Sb	14 44 26.4	+0.3
	baz=262							
JKRS	Kuro-shima	1.46	81	P		Pb	14 44 08.0	+0.2
JKRS				S		Sn	14 44 26.5	0.0
EDH	Donghe	1.47	225	*e*P		Pn	14 44 07.2	+0.1
	baz=214							
EDH				*e*S		Sg	14 44 27.9	+0.4
	baz=214							
WHYT	Xinyi Township	1.48	258	*e*P		Pb	14 44 08.1	-0.1
	baz=243							
WHYT				S		Sg	14 44 27.7	-0.3
	baz=243							
ELDTW	Lidau	1.53	238	P		Pb	14 44 08.9	-0.3
	baz=234							
ELDTW				*e*S		Sb	14 44 29.3	+0.5
	baz=234							
WJS	Zhushan	1.57	263	*e*P		Pb	14 44 09.3	-0.4
	baz=259							
WJS				*e*S		Sb	14 44 29.8	+0.1
	baz=259							
ALS	Alishan	1.57	252	*i* P		Pb	14 44 09.6	-0.3
	baz=248							
ALS				*e*S		Sb	14 44 29.9	-0.1
	baz=248							
JIJ	Ishigaki jima	1.60	77	P		Pn	14 44 09.0	0.0
JIJ				S		Sn	14 44 29.5	-0.5
CHN5	Tsauling	1.66	256	*e*P		Pb	14 44 10.7	-0.6
	baz=242							
CHN5				*e*S		Sb	14 44 32.1	-0.2
	baz=242							
TWGBT	Beinan	1.72	226	P		Pn	14 44 10.5	-0.2
TWG	Pinlang	1.72	227	*e*P		Pb	14 44 11.8	-0.5
	baz=235							
TWG				*e*S		Sb	14 44 34.2	+0.1
	baz=235							
STYT	Tauyuan	1.75	241	*i* P		Pn	14 44 12.0	+0.8
	baz=229							
STYT				*e*S		Sb	14 44 34.6	-0.4
	baz=229							
TPUB	Ta-pu	1.80	247	P		Pb	14 44 12.9	-0.7
CHN4	Tsaushan	1.81	249	*e*P		Pn	14 44 12.9	+1.0
	baz=246							
CHN4				*e*S		Sb	14 44 36.0	-0.6
	baz=246							
JISG	Ishigakijimahi	1.81	71	P		Pn	14 44 11.8	-0.1
JISG				*e*S		Sn	14 44 34.4	-0.7
WTP	Ta-pu	1.83	246	P		Pb	14 44 13.9	-0.3
	baz=242							
WTP				*e*S		Sn	14 44 36.5	+0.8
	baz=242							
CHN1	Nanshi	1.93	245	*e*P		Pn	14 44 14.7	+1.1
	baz=241							
CHN1				*e*S		Sn	14 44 39.1	+1.0
	baz=241							
TWK	Hsinying	1.93	248	*e*P		Pn	14 44 14.5	+0.9
	baz=244							
TWK				*e*S		Sn	14 44 38.8	+0.7
	baz=244							
JMJ	Miyako jima 2	2.73	72	*e*P		Pn	14 44 23.8	-0.8
	baz=76							

JSN ***08*** *14:51:56.7±1.5, 18°.25N×75°.77W, h0km±31km, MD3.1*
SSNC ***08*** *14:52:01.5±1.5, 18°.29N×75°.98W, h2km, MD3.0, ML1.9*
ISC 08 14:51:56.2±1.8, 18°.2N±0°.1×75°.8W±0°.1, h9km±14km, n10, σ1§14/16, 3C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GWJ	Greenwich	0.88	263	*i* P		Pg	14 52 13.2	+0.1
HOJ	Hope	0.91	259	*i* P		Pn	14 52 15.2	0.0
STH	Stony Hill	0.95	264	⇑*i*P		Pb	14 52 14.5	-0.5
BBJ	Bamboo Saint A	1.40	278	⇑*i*P		Pn	14 52 22.6	+0.6
MTDJ	Mount Denham	1.64	272	*e*P		Pn	14 52 26.1	+0.8
MTDJ				*e*S		Sn	14 52 46.0	-0.6
RCC	Rio Carpintero	1.80	4	*e*P		Pb	14 52 29.7	+0.3
RCC				*e*S		Sn	14 52 51.0	+0.5
RCC				IAML			14 52 57.5	
	comp=E,2.4nm,0.2s							
RCC				IAML			14 52 57.6	
	comp=N,2.0nm,0.1s							
MCJ	Malvern	1.80	262	⇑*i*P		Pb	14 52 28.8	-0.6
MCJ				*i* S		Sn	14 52 52.4	+1.8
GTBY	Guantanamo Bay	1.85	21	*e

CDVI	**St. Croix**	**1.31**	**198**		**Pn**	**14 56 44.9**	**-0.8**
CDVI	**St. Croix**	**1.31**	**198**		**Sn**	**14 57 02.9**	**+1.0**
SMRT	**St. Maarten**	**1.52**	**128**		**Pn**	**14 56 47.6**	**-1.0**
SMRT				IAML		14 57 09.2	
	comp=N,354nm,0.2s						
SMRT				IAML		14 57 09.3	
	comp=E,373nm,0.3s						
CBYP	**Canovanas**	**1.62**	**244**⇑	*eP*	**Pn**	**14 56 49.8**	**-0.2**
CBYP	**Canovanas**	**1.62**	**244**	*eS*	**Sn**	**14 57 09.3**	**-0.4**
CBYP	**Canovanas**	**1.62**	**244**		**Pn**	**14 56 49.0**	**-1.0**
CBYP				IAML		14 57 23.5	
	comp=E,447nm,0.2s						
CBYP	**Canovanas**	**1.62**	**244**		**Sn**	**14 57 09.3**	**-0.4**
HUMP	**Col San Antoni**	**1.67**	**240**⇑	*eP*	**Pn**	**14 56 50.1**	**-0.5**
HUMP	**Col San Antoni**	**1.67**	**240**	*eS*	**Sn**	**14 57 11.4**	**+0.4**
HUMP	**Col San Antoni**	**1.67**	**240**		**Pn**	**14 56 49.9**	**-0.8**
HUMP				IAML		14 57 14.5	
	comp=E,109nm,0.2s						
HUMP				IAML		14 57 16.3	
	comp=N,106nm,0.3s						
HUMP	**Col San Antoni**	**1.67**	**240**		**Sn**	**14 57 11.4**	**+0.4**
GCPR	**Guaynabo City**	**1.80**	**248**	*eS*	**Sn**	**14 57 14.2**	**+0.2**
GCPR	**Guaynabo City**	**1.80**	**248**		**Sn**	**14 57 14.2**	**+0.2**
GCPR	**Guaynabo City**	**1.80**	**248**	Pn	**Pn**	**14 56 52.0**	**-0.4**
GCPR	**Guaynabo City**	**1.80**	**248**	IAML		14 57 21.5	
	comp=N,70nm,0.6s						
GCPR				IAML		14 57 26.0	
	comp=E,49nm,0.5s						
SJG	**San Juan**	**1.94**	**243**	Pn	**Pn**	**14 56 53.6**	**-0.7**
SJG				IAML		14 57 27.0	
	comp=E,74nm,0.6s						
IGPR	**InterUniversit**	**1.97**	**239**⇓	*eP*	**Pn**	**14 56 54.8**	**0.0**
IGPR	**InterUniversit**	**1.97**	**239**	*eS*	**Sn**	**14 57 18.9**	**+0.5**
IGPR	**InterUniversit**	**1.97**	**239**		**Pn**	**14 56 54.8**	**0.0**
IGPR					**Sn**	**14 57 18.9**	**+0.5**
EMPR	**Esperanza - Ma**	**2.15**	**256**	Pn	**Pn**	**14 56 57.8**	**+0.6**
EMPR				IAML		14 57 34.4	
	comp=E,146nm,0.8s						
EMPR				IAML		14 57 38.9	
	comp=N,123nm,1.0s						
CELP	**Cerrillos**	**2.32**	**247**		**Pn**	**14 56 59.4**	**-0.2**
OBIP	**Obispado Ponce**	**2.36**	**247**⇑	*eP*	**Pn**	**14 57 00.4**	**+0.3**
OBIP	**Obispado Ponce**	**2.36**	**247**	*eS*	**Sn**	**14 57 27.9**	**0.0**
OBIP	**Obispado Ponce**	**2.36**	**247**		**Pn**	**14 57 00.4**	**+0.3**
OBIP					**Sn**	**14 57 27.9**	**0.0**
OBIP	**Obispado Ponce**	**2.36**	**247**	IAML		14 57 35.2	
	comp=E,48nm,1.2s						
UUPR	**Utuado, UPR, P**	**2.38**	**252**		**Pn**	**14 56 59.9**	**-0.6**
AOPR	**Arecibo Observ**	**2.39**	**255**	Pn	**Pn**	**14 57 01.4**	**+0.8**
AOPR				IAML		14 57 44.5	
	comp=N,105nm,0.4s						
AOPR				IAML		14 57 48.3	
	comp=E,198nm,0.5s						
AGPR	**Aguadilla, PR**	**2.69**	**259**	Pn	**Pn**	**14 57 03.8**	**-0.9**
AGPR				IAML		14 57 53.0	
	comp=E,88nm,1.9s						
AGPR				IAML		14 58 03.7	
	comp=N,123nm,3.1s						
MLPR	**Magueyes Islan**	**2.77**	**249**	Pn	**Pn**	**14 57 05.3**	**-0.5**
PRSN	**Puerto Rico Se**	**2.78**	**254**	Pn	**Pn**	**14 57 06.9**	**+1.0**
PRSN				IAML		14 58 40.4	
	comp=E,147nm,0.3s						
PRSN				IAML		14 58 52.1	
	comp=N,177nm,0.3s						
CRPR	**Cabo Rojo, PR**	**2.81**	**250**⇑	*eP*	**Pn**	**14 57 07.1**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.81**	**250**	*eS*	**Sn**	**14 57 39.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.81**	**250**		**Pn**	**14 57 07.1**	**+0.7**
CRPR					**Sn**	**14 57 39.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.81**	**250**	IAML		14 57 42.4	
	comp=N,52nm,3.2s						
CRPR				IAML		14 57 55.7	
	comp=E,59nm,2.5s						
GDHS	**Morne Mazeau,**	**3.65**	**138**	Pn	**Pn**	**14 57 17.9**	**-0.1**
CBE	**Ff, Capester**	**3.90**	**138**	Pn	**Pn**	**14 57 21.9**	**+0.5**

*SJA **08** 14:58:28.8±0.7, 23°.03S×71°.07W, h27^{km}±4^{km}, ML4.5, MW4.6*
*IDC **08** 14:58:29.7±0.9, 23°.02S×70°.87W, h0^{km}, mb4.0/4, mbtmp3.9/8, ML3.7/4, MS3.8/4, Error ellipse: s-maj=23.5km s-min=20.0km az=163.0*
*GUC **08** 14:58:30.8±0.7, 23°.09S×70°.98W, h40^{km}±2^{km}, ML4.5*
*NEIC **08** 14:58:31.1±1.5, 23°.07S±0°.03×70°.98W±0°.07, h20^{km}±5^{km}, mb4.2/11, Mwr4.4/66, Mwr4.6(GUC), Error ellipse: s-maj=9.9km s-min=4.4km az=82.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.60; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$-4.86; $M_{r\theta}$-0.44; $M_{\theta\phi}$1.53; $M_{\phi r}$-1.42; Fault plane solution: M_o5.68000×10^{15} NP1:φ≈169.87000°, δ51.78000°, λ.100.01000°. NP2:φ≈333.94000°, δ39.31000°, λ77.55000°. Principal axes: T 5.8543, Plg80.0000°, Azm124.0000°; N -0.3555, Plg8.0000°, Azm344.0000°; P -5.4987, Plg6.0000°, Azm253.0000°;*
*VAO **08** 14:58:33.0±2.1, 23°.06S×70°.78W, h22^{km}±15^{km}, mb4.4*
ISC 08 14:58:30.4±1.8, 23°08S±0°.02×70°.99W±0°.04, h14^{km}±12^{km}, n145, σ1§32/170, mb4.2/5, 11C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PB10	**IPOC Station P**	**0.59**	**138**			**Pb**	**14 58 42.7**	**+0.2**
PB10						**Sb**	**14 58 50.6**	**-0.1**
PB10	**IPOC Station P**	**0.59**	**138**	⇓*iP*		**Pb**	**14 58 42.6**	**+0.2**
PB10				*i*S		**Sb**	**14 58 50.6**	**-0.1**
PB10	**IPOC Station P**	**0.59**	**138**	*eP*		**Pb**	**14 58 42.6**	**+0.2**
PB10	**IPOC Station P**	**0.59**	**138**	*eP*		**Pb**	**14 58 42.6**	**+0.2**
PB04	**IPOC Station P**	**1.07**	**46**			**Pb**	**14 58 50.6**	**-0.1**
PB04				Sn		**Sn**	**14 59 05.1**	**-0.7**
PB04	**IPOC Station P**	**1.07**	**46**	⇑*iP*		**Pb**	**14 58 50.7**	**-0.1**
PB04				*i*S		**Sn**	**14 59 05.2**	**-0.7**
PB04				IAML			14 59 10.1	
	comp=N,17µm,0.4s							
PB04	**IPOC Station P**	**1.07**	**46**	*eP*		**Pb**	**14 58 50.0**	**-0.8**
PB04				IAML			14 59 09.7	
	comp=Z,9µm,0.4s							
PB04	**IPOC Station P**	**1.07**	**46**	*eP*		**Pb**	**14 58 50.0**	**-0.8**
PB04				IAML			14 59 09.7	
	comp=Z,9µm,0.4s							
PB06	**IPOC Station P**	**1.36**	**74**	Pn		**Pn**	**14 58 54.8**	**-0.2**
PB06				Sn		**Sn**	**14 59 11.9**	**-1.0**
PB06	**IPOC Station P**	**1.36**	**74**	⇓*iP*		**Pn**	**14 58 54.8**	**-0.2**
PB06				*i*S		**Sb**	**14 59 13.0**	**+0.1**
PB06				IAML			14 59 15.6	
	comp=E,23µm,0.4s							
PB06	**IPOC Station P**	**1.36**	**74**	*eP*		**Pn**	**14 58 55.0**	**0.0**
PB06				IAML			14 59 16.3	
	comp=Z,8µm,1.0s							
PB06	**IPOC Station P**	**1.36**	**74**	*eP*		**Pn**	**14 58 55.0**	**0.0**
PB06				IAML			14 59 16.3	
	comp=Z,8µm,1.0s							
PB15	**IPOC Station P**	**1.40**	**96**			**Pn**	**14 58 55.7**	**0.0**
PB15				Sn		**Sn**	**14 59 13.6**	**-0.5**
PB15	**IPOC Station P**	**1.40**	**96**	⇑*iP*		**Pn**	**14 58 55.7**	**0.0**
PB15				*e*S		**Sb**	**14 59 14.1**	**-0.2**
PB15	**IPOC Station P**	**1.40**	**96**	*eP*		Pn	14 58 50.3	-5.4
PB15				*eP*		**Pb**	**14 58 56.0**	**-0.4**
PB15				IAML			14 59 19.9	
	comp=Z,22µm,0.7s							
PB15	**IPOC Station P**	**1.40**	**96**	*eP*		Pn	14 58 50.3	-5.4
PB15				*eP*		**Pb**	**14 58 56.0**	**-0.4**
PB15				IAML			14 59 19.9	
	comp=Z,22µm,0.7s							
PB03	**IPOC Station P**	**1.53**	**48**			**Pn**	**14 58 57.4**	**0.0**
PB03	**IPOC Station P**	**1.53**	**48**	⇑*iP*		**Pn**	**14 58 57.5**	**0.0**
PB03				*i*S		**Sb**	**14 59 17.5**	**-0.5**
PB03				IAML			14 59 21.9	
	comp=E,6µm,0.3s							
PB03	**IPOC Station P**	**1.53**	**48**	*eP*		**Pn**	**14 58 57.0**	**-0.5**
PB03				IAML			14 59 20.4	
	comp=Z,7µm,0.9s							
PB03	**IPOC Station P**	**1.53**	**48**	*eP*		**Pn**	**14 58 57.0**	**-0.5**
PB03				IAML			14 59 20.4	
	comp=Z,7µm,0.9s							
PB14	**IPOC Station P**	**1.63**	**161**			**Pn**	**14 58 59.0**	**0.0**
PB14	**IPOC Station P**	**1.63**	**161**	⇑*iP*		**Pn**	**14 58 59.1**	**0.0**
PB14				*i*S		**Sn**	**14 59 18.4**	**-1.6**
PB14	**IPOC Station P**	**1.63**	**161**	*eP*		**Pn**	**14 58 59.0**	**0.0**
PB14	**IPOC Station P**	**1.63**	**161**	*eP*		**Pn**	**14 58 59.0**	**0.0**
PB07	**IPOC Station P**	**1.69**	**37**			**Pn**	**14 58 59.7**	**+0.1**
PB07	**IPOC Station P**	**1.69**	**37**	⇑*iP*		**Pn**	**14 58 59.7**	**+0.1**
PB07				*e*S		**Sb**	**14 59 21.7**	**-0.8**
PB07	**IPOC Station P**	**1.69**	**37**	*eP*		**Pn**	**14 58 59.0**	**-0.6**
PB07				IAML			14 59 28.0	
	comp=Z,5µm,0.5s							
PB07	**IPOC Station P**	**1.69**	**37**	*eP*		**Pn**	**14 58 59.0**	**-0.6**
PB07				IAML			14 59 28.0	
	comp=Z,5µm,0.5s							
LVC	**Limon Verde**	**1.97**	**77**	Pn		**Pn**	**14 59 04.8**	**+1.1**
	comp=Z,80nm,0.3s,baz=262,slow=10,SNR=251							
LVC				Sn		**Sb**	**14 59 29.8**	**-1.1**
	comp=Z,221nm,0.3s,baz=245,slow=15,SNR=7.7							
LVC	**Limon Verde**	**1.97**	**77**⇑	*iP*		**Pn**	**14 59 04.8**	**+1.1**
LVC				*e*S		**Sn**	**14 59 29.0**	**+0.6**
PB02	**IPOC Station P**	**2.02**	**30**			**Pn**	**14 59 04.1**	**0.0**
PB02	**IPOC Station P**	**2.02**	**30**	⇑*iP*		**Pn**	**14 59 04.3**	**+0.2**
PB02				*e*S		**Sn**	**14 59 29.2**	**0.0**
PB02				IAML			14 59 44.3	
	comp=E,5µm,0.4s							
PB02	**IPOC Station P**	**2.02**	**30**	*eP*		**Pn**	**14 59 04.0**	**-0.1**
PB02				IAML			14 59 40.2	
	comp=Z,4µm,1.1s							
PB02	**IPOC Station P**	**2.02**	**30**	*eP*		**Pn**	**14 59 04.0**	**-0.1**
PB02				IAML			14 59 40.2	
	comp=Z,4µm,1.1s							
PB09	**IPOC Station P**	**2.06**	**52**			**Pn**	**14 59 05.6**	**+0.9**
PB09	**IPOC Station P**	**2.06**	**52**⇑	*iP*		**Pn**	**14 59 05.8**	**+1.1**
PB09				*e*S		**Sb**	**14 59 33.3**	**+0.2**
PB09				IAML			14 59 40.2	
	comp=N,5µm,0.4s							
PATCX	**Punta Patache**	**2.38**	**19**			**Pn**	**14 59 08.8**	**-0.2**
PATCX	**Punta Patache**	**2.38**	**19**⇑	*iP*		**Pn**	**14 59 08.8**	**-0.2**
PATCX				*e*S		**Sn**	**14 59 38.5**	**+0.5**
PB01	**IPOC Station P**	**2.46**	**35**			**Pn**	**14 59 10.3**	**+0.2**
PB01	**IPOC Station P**	**2.46**	**35**⇑	*iP*		**Pn**	**14 59 10.7**	**+0.6**
PB01				*e*S		**Sn**	**14 59 39.0**	**-1.0**
PB01				IAML			14 59 52.3	
	comp=E,3µm,0.4s							
AF01	**San Pedro de A**	**2.59**	**88**			**Pn**	**14 59 13.6**	**+1.5**
AF01	**San Pedro de A**	**2.59**	**88**	*eP*		**Pn**	**14 59 14.0**	**+1.9**
TA01	**Diego Aracena**	**2.61**	**17**			**Pn**	**14 59 11.7**	**-0.4**
TA01	**Diego Aracena**	**2.61**	**17**	⇑*eP*		**Pn**	**14 59 11.9**	**-0.2**
TA01	**Diego Aracena**	**2.61**	**17**	*eP*		**Pn**	**14 59 12.0**	**-0.1**
TA01				*e*S		**Sb**	**14 59 50.3**	**+1.5**
TA01				IAML			14 59 58.6	
	comp=Z,2µm,0.8s							
TA01	**Diego Aracena**	**2.61**	**17**	*eP*		**Pn**	**14 59 12.0**	**-0.1**
TA01				*e*S		**Sb**	**14 59 50.3**	**+1.5**
TA01				IAML			14 59 58.6	
	comp=Z,2µm,0.8s							
TA02	**Huaiquique**	**2.90**	**16**			**Pn**	**14 59 16.6**	**+0.4**
AC01	**Pan de Azucar**	**3.08**	**173**	Pn		**Pn**	**14 59 18.0**	**-0.6**
AC01	**Pan de Azucar**	**3.08**	**173**	*eP*		**Pn**	**14 59 17.9**	**-0.6**
AC01				*e*S		**Sn**	**14 59 52.6**	**-2.6**
AC01				IAML			15 00 14.5	
	comp=Z,613nm,0.7s							
AC01	**Pan de Azucar**	**3.08**	**173**	*eP*		**Pn**	**14 59 17.9**	**-0.6**
AC01				*e*S		**Sn**	**14 59 52.6**	**-2.6**
AC01				IAML			15 00 14.5	
	comp=Z,613nm,0.7s							
PB08	**IPOC Station P**	**3.38**	**31**			**Pn**	**14 59 23.7**	**+0.5**
PB08	**IPOC Station P**	**3.38**	**31**	*eP*		**Pn**	**14 59 24.4**	**+1.2**
PB11	**IPOC Station P**	**3.52**	**21**			**Pn**	**14 59 24.5**	**-0.4**
PSGCX	**Pisagua**	**3.56**	**13**			**Pn**	**14 59 25.2**	**-0.1**
PSGCX	**Pisagua**	**3.56**	**13**	*eP*		**Pn**	**14 59 25.0**	**-0.2**
PSGCX				*e*S		**Sg**	**15 00 26.3**	**+1.7**
PSGCX				IAML			15 00 36.8	
	comp=Z,423nm,0.9s							
PSGCX	**Pisagua**	**3.56**	**13**	*eP*		**Pn**	**14 59 25.0**	**-0.2**
PSGCX				*e*S		**Sg**	**15 00 26.3**	**+1.7**
PSGCX				IAML			15 00 36.8	
	comp=Z,423nm,0.9s							
GO01	**Chusmiza**	**3.78**	**27**			**Pn**	**14 59 29.5**	**+0.8**
GO01	**Chusmiza**	**3.78**	**27**	*eP*		**Pn**	**14 59 31.0**	**+2.3**
GO01				*e*S		**Sb**	**15 00 25.3**	**+2.3**
GO01	**Chusmiza**	**3.78**	**27**	*eP*		**Pn**	**14 59 31.0**	**+2.3**
GO01				*e*S		**Sb**	**15 00 25.3**	**+2.3**
AC02	**Maricunga**	**4.10**	**156**			**Pn**	**14 59 34.2**	**+1.1**
AC02	**Maricunga**	**4.10**	**156**	*eP*		**Pn**	**14 59 35.0**	**+1.9**
AC02				*e*S		**Sn**	**15 00 25.3**	**+4.1**
AC02				*e*S		**Sb**	**15 00 33.8**	**+1.5**
AC02				IAML			15 00 46.4	
	comp=Z,591nm,1.4s							
AC02	**Maricunga**	**4.10**	**156**	*eP*		**Pn**	**14 59 35.0**	**+1.9**
AC02				*e*S		**Sn**	**15 00 25.3**	**+4.1**
AC02				*e*S		**Sb**	**15 00 33.8**	**+1.5**
AC02				IAML			15 00 46.4	
	comp=Z,591nm,1.4s							
MNMC	**Minye Minye**	**4.14**	**19**	*eP*		**Pn**	**14 59 29.3**	**-4.1**
AC06	**Mina Casimiro**	**4.30**	**172**			**Pn**	**14 59 34.6**	**-0.8**
PB12	**IPOC Station P**	**4.48**	**8**	*eP*		**Pn**	**14 59 38.0**	**0.0**
PB12				IAML			15 01 00.8	
	comp=Z,299nm,0.8s							
PB12	**IPOC Station P**	**4.48**	**8**	*eP*		**Pn**	**14 59 38.0**	**0.0**
PB12				IAML			15 01 00.8	
	comp=Z,299nm,0.8s							
GO03	**Copiap**	**4.55**	**172**			**Pn**	**14 59 38.4**	**-0.5**
GO03	**Copiap**	**4.55**	**172**	*eP*		**Pn**	**14 59 39.0**	**+0.1**
GO03				*e*S		**Sn**	**15 00 30.2**	**-1.3**
GO03	**Copiap**	**4.55**	**172**	*eP*		**Pn**	**14 59 39.0**	**+0.1**
GO03				*e*S		**Sn**	**15 00 30.2**	**-1.3**
PB16	**IPOC Station P**	**4.92**	**17**	*eP*		**Pn**	**14 59 45.0**	**+0.6**
PB16				IAML			15 01 09.7	
	comp=Z,329nm,1.3s							
PB16	**IPOC Station P**	**4.92**	**17**	*eP*		**Pn**	**14 59 45.0**	**+0.6**
PB16				IAML			15 01 09.7	
	comp=Z,329nm,1.3s							
AC05	**El Transito**	**5.77**	**174**	Pn		**Pn**	**14 59 55.1**	**-0.6**
LCO	**Las Campanas**	**5.92**	**178**			**Pn**	**14 59 56.2**	**-1.7**
GO04	**Tololo Observa**	**7.07**	**179**			**Pn**	**15 00 12.3**	**-1.4**
ZON	**Zonda**	**8.68**	**167**	Pn		**Pn**	**15 00 37.1**	**+1.5**
CFA	**Coronel Fontan**	**8.84**	**165**	Pn		**Pn**	**15 00 38.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=339,slow=15,SNR=2.8							
CFA				Sn		**Sn**	**15 02 20.9**	**+3.6**
	comp=Z,0.4nm,0.3s,baz=324,slow=19,SNR=2.0							
CFA				LR		LR	15 03 55.1	
	comp=Z,534nm,18.4s,baz=284,slow=37							
	comp=Z,1.0nm,0.4s							
MT02	**Curacav**	**10.14**	**181**	Pn		**Pn**	**15 00 55.8**	**+0.2**
BBSD	**Serra de San D**	**11.37**	**61**	*eP*		**Pn**	**15 01 11.8**	**-0.6**
BBRB	**Robore, Bolivi**	**11.50**	**68**	*eP*		**Pn**	**15 01 13.1**	**-1.2**
SIV	**San Ignacio**	**11.70**	**55**	Pn		**Pn**	**15 01 15.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=239,slow=12,SNR=44							
SIV				Sn		**Sn**	**15 03 28.6**	**+1.0**
	baz=246,slow=20							
	comp=Z,8.6nm,0.7s							
H03N1	**Juan Fernandez**	**12.46**	**212**	Pn		**Pn**	**15 01 25.6**	**-1.5**
	baz=110,slow=14							
H03N1				T		T	15 14 31.6	
	baz=44							
H03N2	**Juan Fernandez**	**12.47**	**212**	Pn		**Pn**	**15 01 25.6**	**-1.5**
	baz=110,slow=14							
H03N2				T		T	15 14 31.6	
	baz=44							
H03N3	**Juan Fernandez**	**12.48**	**212**	Pn		**Pn**	**15 01 25.4**	**-1.9**
	baz=110,slow=14							
H03N3				T		T	15 14 31.6	
	baz=44							
H03S3	**Juan Fernandez**	**12.77**	**211**	Pn		**Pn**	**15 01 29.8**	**-1.5**
	baz=16							
H03S1	**Juan Fernandez**	**12.78**	**211**	Pn		**Pn**	**15 01 29.7**	**-1.8**
	baz=16							
H03S2	**Juan Fernandez**	**12.79**	**211**	Pn		**Pn**	**15 01 29.9**	**-1.6**
	baz=16							
CPUP	**Villa Florida**	**12.83**	**107**	Pn		**Pn**	**15 01 32.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=278,slow=12,SNR=2.3							
CPUP				LR		LR	15 06 52.5	
	comp=Z,500nm,20.7s,baz=294,slow=40							
	comp=Z,1.0nm,0.7s							
PTLB	**Pontes e Lacer**	**13.51**	**58**			**Pn**	**15 01 40.3**	**-1.5**
PTLB	**Pontes e Lacer**	**13.51**	**58**	*eP*		**Pn**	**15 01 41.0**	**-0.7**
ETMB	**Extrema**	**13.96**	**20**			**Pn**	**15 01 45.5**	**-2.3**
VILB	**Vilhena**	**14.37**	**47**			**Pn**	**15 01 50.9**	**-2.5**
VILB	**Vilhena**	**14.37**	**47**	*eP*		**Pn**	**15 01 53.7**	**+0.2**
AQDB	**Aquidauana**	**14.44**	**83**			**Pn**	**15 01 51.4**	**-3.0**
AQDB	**Aquidauana**	**14.44**	**83**	*eP*		**Pn**	**15 01 55.0**	**+0.6**
CZSB	**Cruzeiro do Su**	**15.35**	**354**	Pn		**Pn**	**15 02 07.1**	**+0.4**
CZSB				IAmb		IAmb	15 02 15.2	
	comp=Z,16nm,1.0s							
CZSB	**Cruzeiro do Su**	**15.35**	**354**	*eP*		**Pn**	**15 02 08.9**	**+2.2**
SAML	**Samuel**	**15.92**	**29**			**Pn**	**15 02 13.4**	**-0.6**
PP1B	**Ponte de Pedra**	**16.05**	**73**	*eP*		**Pn**	**15 02 13.9**	**-1.9**
SALV	**Santo Antonio**	**16.08**	**66**	*eP*		**Pn**	**15 02 15.7**	**-0.5**
TRQA	**Tornquist**	**16.81**	**155**			**P**	**15 02 27.1**	**-0.4**
TRQA				IAmb		IAmb	15 03 10.6	
	comp=Z,34nm,1.5s							
TRCB	**Terra Rica**	**16.91**	**93**			**Pn**	**15 02 26.5**	**-0.3**
TRCB				IAmb		IAmb	15 02 41.0	
	comp=Z,18nm,0.6s							
TRCB	**Terra Rica**	**16.91**	**93**	*eP*		**Pn**	**15 02 25.0**	**-1.7**
PLCA	**Paso Flores**	**17.61**	**179**	P		**P**	**15 02 39.0**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=354,slow=11,SNR=2.3							
PLCA				LR		LR	15 08 43.5	
	comp=Z,164nm,19.8s,baz=12,slow=35							
	comp=Z,1.6nm,0.8s							
PLCA	**Paso Flores**	**17.61**	**179**	P		**Pn**	**15 02 35.7**	**+0.3**
PLCA				IAmb		IAmb	15 02 56.7	
	comp=Z,23nm,1.5s							
PLCA	**Paso Flores**	**17.61**	**179**	*eP*		**P**	**15 02 37.2**	**+0.9**
PLTB	**Pedras Altas**	**17.68**	**123**	Pn		**Pn**	**15 02 33.6**	**-2.6**
PLTB				IAmb		IAmb	15 02 36.1	
	comp=Z,18nm,1.5s							
PDRB	**Porto dos Gac**	**17.74**	**52**	*eP*		**P**	**15 02 37.5**	**-0.4**
PCMB	**Pacaembu**	**18.31**	**89**	*eP*		**Pn**	**15 02 41.6**	**-2.5**
ITRB	**Iturama**	**19.50**	**84**	*eP*		**P**	**15 02 57.6**	**+0.4**
ARAG	**Araguaiana, MT**	**19.50**	**71**	*eP*		**Pn**	**15 02 58.4**	**-0.2**
FRTB	**Fartura**	**19.69**	**95**	*eP*		**Pn**	**15 03 00.7**	**-0.2**
TEFE	**Tefe**	**20.40**	**18**	*eP*		Pn	15 03 08.0	-1.2
RCLB	**Rio Claro- Sao**	**21.64**	**93**	*eP*		**P**	**15 03 21.1**	**+0.6**
IPMB	**Ipameri, GO**	**21.91**	**81**	*eP*		**P**	**15 03 22.0**	**-1.5**
NPGB	**Novo Progresso**	**21.91**	**46**	*eP*		**P**	**15 03 22.4**	**-1.0**
VAO	**Valinhos**	**22.10**	**95**	*eP*		**P**	**15 03 23.5**	**-2.0**
MACA	**Manacapuru-AM**	**22.17**	**28**	P		**P**	**15 03 25.6**	**-0.5**
MACA				IAmb		IAmb	15 03 27.6	
	comp=Z,34nm,0.9s							
MACA	**Manacapuru-AM**	**22.17**	**28**	*eP*		**P**	**15 03 26.1**	**0.0**
BDFB	**Brasilia**	**22.88**	**75**	P		**P**	**15 03 32.7**	**-1.1**
	comp=Z,3.6nm,0.7s,baz=263,slow=9.0,SNR=5.7							
	comp=Z,3.6nm,0.7s							
BDFB	**Brasilia**	**22.88**	**75**	P		**P**	**15 03 31.2**	**-2.6**
BDFB				IAmb		IAmb	15 03 36.5	
	comp=Z,5.1nm,0.9s							
SGCB	**S£o Gabriel d**	**23.14**	**10**	*eP*		**P**	**15 03 36.5**	**+0.2**
ITTB	**Itaituba**	**23.73**	**41**	*eP*		**P**	**15 03 41.5**	**-0.8**
DIAM	**Diamantina, MG**	**25.97**	**85**	*eP*		**P**	**15 04 02.9**	**-0.1**
JANB	**Januaria**	**26.41**	**77**	*eP*		**P**	**15 04 05.9**	**-1.0**
PRPB	**Parauapebas**	**26.43**	**54**	*eP*		**P**	**15 04 06.8**	**-0.1**
SMTB	**Santa Maria do**	**26.51**	**62**	*eP*		**P**	**15 04 08.2**	**+0.6**
MALB	**Monte Alegre**	**26.61**	**40**	*eP*		**P**	**15 04 10.4**	**+1.8**
SDBA	**SAO DESIDERIO**	**26.97**	**71**	*eP*		**P**	**15 04 11.5**	**-0.4**
BOAV	**Boa Vista**	**27.30**	**23**	P		**P**	**15 04 12.3**	**-2.4**
BOAV				IAmb		IAmb	15 04 22.2	
	comp=Z,9.5nm,1.1s							
RUSC	**La Rusia**	**28.86**	**356**	P		**P**	**15 04 27.0**	**-2.2**
PDAR	**Pinedale Array**	**74.54**	**332**	P		**P**	**15 10 11.2**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=129,slow=13,SNR=2.1							
	comp=Z,0.4nm,0.8s							
VNDA	**Vanda**	**74.97**	**190**	P		**P**	**15 10 08.3**	**-2.3**
MAW	**Mawson**	**83.37**	**164**	LR		LR	15 50 28.1	
	comp=Z,61nm,18.5s,baz=286,slow=37							
BOSA	**Boshof**	**84.40**	**119**	P		**P**	**15 11 03.7**	**+0.8**
	comp=Z,3.1nm,1.0s,baz=210,slow=2.7,SNR=6.3							
	comp=Z,3.1nm,1.0s							
YKA	**Yellowknife Ar**	**92.04**	**341**	P		**P**	**15 11 40.1**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=139,slow=4.7,SNR=12							
	comp=Z,1.0nm,0.8s							
H11S2	**WAKE ISLAND Hyd**	**26.16**	**277**	T		T	17 37 02

TWC				eS	Sg	15 58 18.2	0.0		
	baz=301								
ETL	**Fush Village**	**1.17**	**280**	*eP*	**Pg**	**15 58 04.4**	**+0.6**		
	baz=277								
ETL				eS	Sg	15 58 19.2	+0.2		
	baz=277								
TWD	**Chiawan**	**1.18**	**276**	*eP*	**Pg**	**15 58 04.2**	**+0.2**		
	baz=273								
TWD				eS	Sg	15 58 20.1	+0.7		
	baz=273								
NACB	**Ninganchiao**	**1.20**	**280**	*eP*	**Pg**	**15 58 04.2**	**-0.1**		
	baz=277								
NACB				eS	Sn	15 58 19.4	-0.1		
	baz=277								
JIJ	**Ishigaki jima**	**1.22**	**71**	P	**Pb**	**15 58 04.3**	**+0.3**		
JIJ				S	**Sb**	**15 58 19.1**	**-0.4**		
NDS	**Dongshan**	**1.25**	**302**	*eP*	**Pg**	**15 58 05.2**	**-0.3**		
	baz=299								
NDS				eS	Sn	15 58 20.7	-0.4		
	baz=299								
ETLH	**Xiulin Townshi**	**1.30**	**281**	*eP*	**Pb**	**15 58 05.9**	**+0.4**		
	baz=278								
ETLH				eS	Sb	15 58 22.0	-0.2		
	baz=278								
ESL	**Shilin**	**1.34**	**264**	*eP*	**Pg**	**15 58 06.8**	**-0.1**		
	baz=261								
ESL				eS	Sg	15 58 23.9	-0.5		
	baz=261								
TWE	**Neicheng**	**1.34**	**304**	*eP*	**Pg**	**15 58 07.1**	**+0.1**		
	baz=302								
TWE				eS	Sb	15 58 23.4	+0.3		
	baz=302								
LATG	**Datong**	**1.36**	**295**	*eP*	**Pg**	**15 58 07.3**	**-0.1**		
	baz=292								
LATG				eS	Sn	15 58 23.6	-0.2		
	baz=292								
EGFH	**Guangfu**	**1.37**	**258**	*eP*	**Pg**	**15 58 07.5**	**0.0**		
	baz=256								
EGFH				eS	Sb	15 58 24.7	+0.8		
	baz=256								
ENTT	**Nioudou**	**1.38**	**299**	*eP*	**Pg**	**15 58 07.7**	**0.0**		
	baz=297								
ENTT				eS	Sb	15 58 24.2	0.0		
	baz=297								
TIPB	**Shuangxi**	**1.39**	**316**	*eP*	**Pb**	**15 58 07.0**	**0.0**		
	baz=314								
TIPB				eS	Sn	15 58 24.0	-0.4		
	baz=314								
HGSD	**Ruisui**	**1.42**	**251**	*eP*	**Pg**	**15 58 08.3**	**-0.2**		
	baz=249								
HGSD				eS	Sb	15 58 25.7	+0.3		
	baz=249								
FUSB	**Fushanzhiwuyua**	**1.42**	**304**	P	**Pb**	**15 58 07.7**	**+0.1**		
	baz=301								
FUSB				eS	Sn	15 58 25.2	-0.1		
	baz=301								
JISG	**Ishigakijimahi**	**1.44**	**64**	P	**Pb**	**15 58 07.6**	**-0.3**		
JISG				eS	**Sn**	**15 58 25.0**	**-0.6**		
NNSB	**Datong**	**1.45**	**289**	P	**Pb**	**15 58 08.5**	**+0.5**		
	baz=286								
NNSB				eS	Sb	15 58 26.0	-0.3		
	baz=286								
SXI1	**Grass Mountain**	**1.45**	**321**	P	**Pb**	**15 58 07.5**	**-0.5**		
	baz=318								
SXI1				S	Sn	15 58 25.2	-0.8		
	baz=318								
NNS	**Nan Shan**	**1.46**	**289**	*eP*	**Pg**	**15 58 08.9**	**-0.4**		
	baz=287								
NNS				eS	Sb	15 58 26.4	-0.3		
	baz=287								
NWF	**Wu-fen Shan**	**1.49**	**318**	*eP*	**Pb**	**15 58 08.4**	**-0.3**		
	baz=315								
NWF				eS	Sn	15 58 26.6	-0.3		
	baz=315								
WHF	**Hehuan Shan**	**1.49**	**277**	*eP*	**Pb**	**15 58 09.2**	**+0.3**		
	baz=275								
WHF				eS	Sb	15 58 27.9	0.0		
	baz=275								
NWLT	**Wulai**	**1.50**	**303**	*eP*	**Pb**	**15 58 08.7**	**-0.1**		
	baz=300								
NWLT				eS	Sb	15 58 27.2	-0.5		
	baz=300								
EHY	**Hungye**	**1.50**	**253**	*eP*	**Pb**	**15 58 08.6**	**-0.3**		
	baz=250								
EHY				eS	Sn	15 58 27.5	+0.4		
	baz=250								
TWA	**Mucha**	**1.56**	**311**	*eP*	**Pb**	**15 58 09.8**	**0.0**		
	baz=308								
TWA				eS	Sn	15 58 27.8	-0.7		
	baz=308								
EYUL	**Yuli**	**1.56**	**247**	*eS*	**Sb**	**15 58 30.0**	**+0.5**		
	baz=245								
NSK	**Sanguang**	**1.56**	**297**	*eP*	**Pb**	**15 58 10.1**	**+0.2**		
	baz=295								
NSK				eS	Sb	15 58 29.5	-0.1		
	baz=295								
OWD	**Renai**	**1.56**	**270**	*eP*	**Pb**	**15 58 09.9**	**-0.1**		
	baz=268								
OWD				eS	Sn	15 58 28.7	-0.1		
	baz=268								
YULB	**Yu-li**	**1.56**	**249**	P	**Pb**	**15 58 09.7**	**-0.2**		
	baz=247								
YULB				eS	Sn	15 58 28.7	0.0		
	baz=247								
CHGB	**Renai**	**1.57**	**274**	*eP*	**Pb**	**15 58 09.9**	**-0.2**		
	baz=271								
CHGB				eS	Sn	15 58 29.2	+0.2		
	baz=271								
TWT	**Tachien**	**1.59**	**281**	*eP*	**Pb**	**15 58 10.2**	**-0.2**		
	baz=278								
TWT				eS	Sb	15 58 29.9	-0.5		
	baz=278								
VWDT	**VWDT**	**1.61**	**263**	P	**Pb**	**15 58 10.3**	**-0.4**		
	baz=261								
VWDT				eS	Sn	15 58 30.0	+0.3		
	baz=261								
WUSB	**Renai**	**1.61**	**271**	P	**Pb**	**15 58 10.8**	**-0.1**		
	baz=269								
WUSB				eS	Sb	15 58 30.6	-0.6		
	baz=269								
CHKT	**Chengkung**	**1.64**	**239**	*eS*	**Sn**	**15 58 31.0**	**+0.5**		
	baz=237								
EHD	**Haiduan**	**1.74**	**242**	*eP*	**Pb**	**15 58 12.2**	**-0.8**		
	baz=241								
EHD				eS	Sn	15 58 32.6	-0.5		
	baz=241								
NFF	**Wufeng Townshi**	**1.74**	**293**	*eP*	**Pb**	**15 58 12.3**	**-0.8**		
	baz=290								
EDH	**Donghe**	**1.75**	**236**	*eP*	**Pb**	**15 58 13.4**	**+0.2**		
	baz=235								
EDH				eS	Sn	15 58 33.1	-0.3		
	baz=235								
SSLB	**Suanglung**	**1.77**	**265**	*eP*	**Pb**	**15 58 13.1**	**-0.5**		
	baz=263								
WHP	**Taichung City**	**1.80**	**280**	*eP*	**Pb**	**15 58 14.2**	**+0.2**		
	baz=278								
WHP				eS	Sn	15 58 35.2	+0.6		
	baz=278								
WCS	**Beigang Elemen**	**1.81**	**273**	*eP*	**Pb**	**15 58 13.8**	**-0.3**		
	baz=271								
WCS				eS	Sn	15 58 35.5	+0.8		
	baz=271								
LDUT	**Ludao**	**1.83**	**226**	*eP*	**Pn**	**15 58 13.6**	**+1.3**		
	baz=225								
LDUT				eS	Sn	15 58 34.4	-0.7		
	baz=225								
LIOB	**Emei**	**1.83**	**292**	*eP*	**Pb**	**15 58 13.6**	**-0.9**		
	baz=290								
NSTT	**Nanjuang**	**1.84**	**291**	*eP*	**Pn**	**15 58 13.0**	**+0.6**		
	baz=289								
NSTT				eS	Sn	15 58 36.0	+0.5		
	baz=289								
TYC	**Yuchr**	**1.85**	**268**	*eP*	**Pb**	**15 58 14.2**	**-0.7**		
	baz=266								
WHYT	**Xinyi Township**	**1.88**	**262**	*eP*	**Pb**	**15 58 14.8**	**-0.5**		
	baz=260								
ELDTW	**Lidau**	**1.88**	**246**	*eP*	**Pb**	**15 58 14.5**	**-0.9**		
	baz=244								
LONT	**Longtian**	**1.93**	**237**	*eS*	**Sn**	**15 58 38.9**	**+1.3**		
	baz=236								
ALS	**Alishan**	**1.96**	**257**	*eP*	**Pb**	**15 58 16.1**	**-0.8**		
	baz=255								
WJS	**Zhushan**	**1.98**	**266**	*eP*	**Pb**	**15 58 16.3**	**-0.7**		
	baz=264								
WJS				eS	Sn	15 58 39.9	+1.0		
	baz=264								
TWGBT	**Beinan**	**2.01**	**236**	*eP*	**Pn**	**15 58 16.2**	**+1.4**		
	baz=234								
TWGBT				eS	Sn	15 58 40.0	+0.2		
	baz=234								
WNT	**Mingjian**	**2.02**	**268**	*eP*	**Pb**	**15 58 16.6**	**-1.0**		
	baz=266								
WNT				eS	Sn	15 58 40.1	+0.3		
	baz=266								
TWG	**Pinlang**	**2.02**	**236**	*eP*	**Pn**	**15 58 15.7**	**+0.9**		
	baz=234								
TWG				eS	Sn	15 58 39.9	+0.1		
	baz=234								
CHN5	**Tsauling**	**2.05**	**260**	*eP*	**Pb**	**15 58 18.2**	**-0.1**		
	baz=258								
CHN5				eS	Sb	15 58 43.2	-0.6		
	baz=258								
STYH	**Taoyuan**	**2.09**	**248**	*eP*	**Pb**	**15 58 18.1**	**-0.8**		
	baz=247								
STYH				eS	Sn	15 58 43.1	+1.4		
	baz=247								
WCKO	**Fanlu**	**2.15**	**256**	*eP*	**Pb**	**15 58 19.1**	**-0.9**		
	baz=255								
WCKO				eS	Sn	15 58 44.1	+0.8		
	baz=255								
WDLH	**Douliu**	**2.17**	**263**	*eP*	**Pb**	**15 58 18.9**	**-1.3**		
	baz=261								
WDLH				eS	Sn	15 58 44.3	+0.8		
	baz=261								
TPUB	**Ta-pu**	**2.17**	**253**	*eP*	**Pb**	**15 58 19.5**	**-0.8**		
	baz=251								
TPUB				eS	Sb	15 58 46.0	-1.1		
	baz=251								
CHN4	**Tsaushan**	**2.19**	**254**	*eP*	**Pb**	**15 58 19.2**	**-1.4**		
	baz=252								
CHN4				eS	Sn	15 58 44.6	+0.6		
	baz=252								
WTP	**Ta-pu**	**2.20**	**251**	*eP*	**Pb**	**15 58 19.8**	**-1.1**		
	baz=250								
WTP				eS	Sb	15 58 46.6	-1.4		
	baz=250								
ECL	**Taimali**	**2.24**	**233**	*eS*	**Sb**	**15 58 47.3**	**-1.7**		
	baz=231								
SGST	**Jiashian**	**2.29**	**248**	*eP*	**Pb**	**15 58 20.9**	**-1.4**		
	baz=246								
SGST				eS	Sb	15 58 48.6	-1.8		
	baz=246								
LYUB	**Lan-yu**	**2.29**	**212**	*eP*	**Pn**	**15 58 19.8**	**+1.2**		
	baz=211								
LYUB				eS	Sn	15 58 47.0	+0.4		
	baz=211								
WRL	**Guolierlin Hig**	**2.29**	**269**	*eS*	**Sn**	**15 58 48.0**	**+1.4**		
	baz=267								
CHN1	**Nanshi**	**2.30**	**251**	*eP*	**Pb**	**15 58 21.1**	**-1.3**		
	baz=249								
CHN1				eS	Sb	15 58 49.0	-1.7		
	baz=249								
TWK	**Hsinying**	**2.31**	**253**	*eP*	**Pb**	**15 58 21.3**	**-1.3**		
	baz=251								
TWK				eS	Sn	15 58 48.4	+1.4		
	baz=251								
SSD	**Sandimen**	**2.40**	**240**	*eP*	**Pb**	**15 58 22.7**	**-1.5**		
	baz=238								
TSMG	**Majia**	**2.41**	**239**	*eP*	**Pb**	**15 58 23.0**	**-1.4**		
	baz=238								
TSMG				eS	Sn	15 58 51.6	+2.0		
	baz=238								
SCST	**Cishan**	**2.44**	**244**	*eP*	**Pb**	**15 58 23.6**	**-1.3**		
	baz=243								
SCST				eS	Sn	15 58 52.4	+2.0		
	baz=243								
EAST	**Anshuo**	**2.45**	**230**	*eP*	**Pb**	**15 58 23.4**	**-1.6**		
	baz=229								
TAWH	**Dawu Township**	**2.45**	**229**	*eS*	**Sn**	**15 58 51.9**	**+1.4**		
	baz=226								
MASBT	**Mashibuluo**	**2.47**	**237**	*eP*	**Pb**	**15 58 23.6**	**-1.7**		
	baz=236								
MASBT				eS	Sb	15 58 53.7	-2.0		
	baz=236								
SMST	**Manzhou Townsh**	**2.70**	**225**	*eS*	**Sn**	**15 58 58.5**	**+1.7**		
	baz=224								

NEIC ***08*** *16:07:33.1±1.4, 0.82N±0.08×126.44E±0.05, h35km±8km, mb4.5/33, Error ellipse: s-maj=12.0km s-min=7.4km az=187.0*

IDC ***08*** *16:07:34.3±3.0, 0.73N×126.55E, h56km±27km, mb3.8/11, mbtmp4.1/12, ML3.2/1, MS2.4/1, Error ellipse: s-maj=27.9km s-min=13.2km az=71.0*

ISC 08 16:07:32.2±0.5, 0.78N±0.07×126.43E±0.07, h35km, n57, σ0§85/61, mb4.4/28, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.94**	**90**		**Pn**	**16 07 49.8**	**+0.9**
LUWI	**Luwuk**	**4.08**	**244**	Pn	**Pn**	**16 08 33.2**	**+1.1**
SIJI	**Sorong**	**5.11**	**109**	P	**Pn**	**16 08 48.0**	**+1.7**
	0.9nm,0.3s,baz=209,slow=23,SNR=4.0						
SIJI				S	**Sn**	**16 09 43.1**	**-1.0**
	2.1nm,0.5s,baz=243,slow=22,SNR=1.0						
SIJI				LR	LR	16 10 28.3	
	comp=Z,35nm,19.2s,baz=169,slow=35						
	4.2nm,0.2s						
TOLI2	**Tolitoli**	**5.66**	**273**	Pn	**Pn**	**16 08 55.0**	**+1.2**
FAKI	**Fak Fak**	**6.88**	**122**		**Pn**	**16 09 12.1**	**+1.4**
MYLDM	**Lahad Datu**	**9.04**	**299**	Pn	**Pn**	**16 09 39.7**	**-0.6**
MTN	**Manton Dam**	**14.32**	**161**	Pn	**Pn**	**16 10 52.6**	**+0.1**
KNRA	**Kununurra**	**16.51**	**172**	Pn	**Pn**	**16 11 22.4**	**+1.2**
WB0	**Warramunga Arr**	**21.86**	**159**	P	**P**	**16 12 21.6**	**-0.5**
WB0				IAmb	IAmb	16 12 22.7	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**22.00**	**160**	P	**P**	**16 12 23.2**	**-0.3**
WRAB				IAmb	IAmb	16 12 24.2	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**22.01**	**160**	P	**P**	**16 12 23.3**	**-0.3**
	comp=Z,10nm,0.4s,baz=338,slow=11,SNR=156						
	comp=Z,10nm,0.4s						
WB2	**Warramunga Arr**	**22.01**	**160**	P	**P**	**16 12 23.4**	**-0.2**
WB2				IAmb	IAmb	16 12 26.2	
	comp=Z,22nm,1.1s						
WR0	**Warramunga Arr**	**22.09**	**159**	P	**P**	**16 12 24.1**	**-0.4**
WR0				IAmb	IAmb	16 12 25.1	
	comp=Z,14nm,0.9s						
COEN	**Coen**	**22.13**	**132**	P	**P**	**16 12 24.6**	**-0.4**
COEN				IAmb	IAmb	16 12 57.3	
	comp=Z,25nm,1.4s						
TPUB	**Ta-pu**	**23.08**	**346**	P	**P**	**16 12 33.1**	**-1.8**
AS31	**Alice Springs**	**25.36**	**164**	P	**P**	**16 12 55.9**	**-0.3**
AS31				IAmb	IAmb	16 12 59.5	
	comp=Z,3.7nm,0.3s						
ASAR	**Alice Springs**	**25.36**	**164**	P	**P**	**16 12 56.0**	**-0.2**
	comp=Z,2.7nm,0.4s,baz=340,slow=10,SNR=143						
ASAR				PcP	**PcP**	**16 16 27.9**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=338,slow=2.6,SNR=2.2						
ASAR				ScP	**ScP**	**16 20 02.6**	**-2.6**
	comp=Z,0.8nm,1.2s,baz=347,slow=2.6,SNR=2.0						
	comp=Z,2.7nm,0.4s						
ASAR	**Alice Springs**	**25.36**	**164**	P	**P**	**16 12 56.2**	**-0.1**
GIRL	**Giralia**	**26.14**	**206**	P	**P**	**16 13 03.1**	**-0.1**
FORT	**Forrest**	**31.42**	**177**	P	**P**	**16 13 50.2**	**0.0**
FORT				IAmb	IAmb	16 13 53.4	
	comp=Z,12nm,0.9s						
BBOO	**Buckleboo**	**34.62**	**166**	P	**P**	**16 14 17.9**	**-0.3**
NWAO	**Narrogin (SRO)**	**34.63**	**194**	P	**P**	**16 14 19.0**	**+0.8**
STKA	**Stephens Creek**	**35.52**	**157**	P	**P**	**16 14 23.8**	**-2.1**
	comp=Z,2.1nm,0.7s,baz=327,slow=9.3,SNR=5.2						
	comp=Z,2.1nm,0.7s						
STKA	**Stephens Creek**	**35.52**	**157**	P	**P**	**16 14 25.5**	**-0.4**
INU	**Inuyama**	**35.78**	**15**	P	**P**	**16 14 27.9**	**-0.2**
JGF	**Kuroka**	**36.11**	**15**	P	**P**	**16 14 30.7**	**-0.3**
KSRS	**Korea Array**	**36.52**	**2**	P	**P**	**16 14 34.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=184,slow=10.0,SNR=4.5						
	comp=Z,0.9nm,0.7s						
MJAR	**Matsushiro Arr**	**37.22**	**16**	P	**P**	**16 14 38.8**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=187,slow=10.0,SNR=1.4						
	comp=Z,0.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**43.52**	**6**	P	**P**	**16 15 33.1**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=190,slow=6.3,SNR=8.8						
	comp=Z,1.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**43.52**	**6**	P	**P**	**16 15 32.5**	**+0.1**
SONM	**Songino Array**	**49.99**	**342**	P	**P**	**16 16 23.9**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=156,slow=8.2,SNR=8.4						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**49.99**	**342**	P	**P**	**16 16 23.8**	**+0.7**
FUNA	**Funafuti**	**53.39**	**101**	P	**P**	**16 16 48.6**	**-0.3**
PETK	**Petropavlovsk-**	**58.26**	**22**	P	**P**	**16 17 23.8**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=194,slow=2.4,SNR=6.7						
	comp=Z,6.1nm,0.9s						
MK31	**Makanchi Array**	**59.81**	**326**	P	**P**	**16 17 34.2**	**+0.2**
MKAR	**Makanchi Array**	**59.81**	**326**	P	**P**	**16 17 34.5**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=120,slow=8.2,SNR=41						
MKAR				PcP	**PcP**	**16 18 20.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=138,slow=3.7,SNR=4.5						
	comp=Z,1.2nm,0.4s						
MKAR	**Makanchi Array**	**59.81**	**326**	P	**P**	**16 17 34.4**	**+0.3**
MAKZ	**Makanchi**	**59.99**	**326**	P	**P**	**16 17 35.8**	**+0.4**
MAKZ				IAmb	IAmb	16 17 36.5	
	comp=Z,1.7nm,0.5s						
ZAA0	**Zalesovo Array**	**63.08**	**334**	P	**P**	**16 17 55.7**	**-0.2**
ZAA0				IAmb	IAmb	16 17 56.7	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**63.08**	**334**	P	**P**	**16 17 55.7**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=138,slow=6.5,SNR=8.6						
	comp=Z,1.6nm,0.6s						
GAR	**Garm**	**63.71**	**314**	P	**P**	**16 18 00.0**	**-0.6**
KURK	**Kurchatov**	**64.06**	**328**	P	**P**	**16 18 02.9**	**+0.4**
KURK				IAmb	IAmb	16 18 04.6	
	comp=Z,7.9nm,0.8s						
KK31	**Karatay Array**	**65.19**	**318**	P	**P**	**16 18 10.2**	**+0.1**
KKAR	**Karatay Array**	**65.19**	**318**	P	**P**	**16 18 10.2**	**+0.1**
BRVK	**Borovoye**	**69.70**	**328**	P	**P**	**16 18 39.0**	**+0.7**
BRVK				IAmb	IAmb	16 18 39.9	
	comp=Z,4.3nm,0.7s						
ABKAR	**Akbulak array**	**74.24**	**321**	P	**P**	**16 19 06.1**	**+0.4**
SVW2	**Sparrevohn**	**83.52**	**29**	P	**P**	**16 19 57.7**	**+1.3**
SVW2				IAmb	IAmb	16 20 19.6	
	comp=Z,11nm,1.4s						
TTA	**Tatalina**	**83.65**	**27**	P	**P**	**16 19 57.8**	**+0.7**
N19K	**Bonanza Creek**	**84.00**	**29**	P	**P**	**16 19 59.8**	**+0.9**
N19K				IAmb	IAmb	16 20 01.0	
	comp=Z,5.6nm,0.9s						
IMAR	**Indian Mountai**	**85.14**	**24**	P	**P**	**16 20 04.4**	**-0.1**
H23K	**Yukon River**	**86.84**	**24**	P	**P**	**16 20 12.9**	**0.0**
H23K				IAmb	IAmb	16 20 53.0	
	comp=Z,6.1nm,1.4s						
SML	**Sawmill**	**87.06**	**28**	P	**P**	**16 20 14.8**	**+0.7**
H24K	**Noodor Dome**	**87.52**	**24**	P	**P**	**16 20 16.2**	**-0.1**
H24K				IAmb	IAmb	16 20 31.4	
	comp=Z,2.7nm,1.2s						
ILAR	**Eielson Array**	**87.88**	**25**	P	**P**	**16 20 16.2**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=241,slow=4.5,SNR=5.5						
	comp=Z,0.2nm,0.7s						
BMAR	**Burnt Mountain**	**88.90**	**23**	P	**P**	**16 20 23.2**	**+0.5**
J26L	**Joseph Creek**	**89.31**	**26**	P	**P**	**16 20 23.9**	**-0.8**
J26L				IAmb	IAmb	16 21 07.1	
	comp=Z,6.4nm,1.5s						
K27K	**Chicken**	**89.96**	**26**	P	**P**	**16 20 28.1**	**+0.3**
K27K				IAmb	IAmb	16 21 04.9	
	comp=Z,4.9nm,1.4s						

IDC ***08*** *16:21:28.2±0.6, 1.00N×26.97W, h0km, mb4.2/16, mbtmp4.2/16, ML5.2/1, MS3.9/62, Error ellipse: s-maj=21.7km s-min=16.3km az=121.0*

NEIC ***08*** *16:21:29.9±1.6, 0.90N±0.10×26.85W±0.09, h10km±1km, mb4.9/42, Error ellipse: s-maj=18.6km s-min=13.4km az=138.0*

GCMT ***08*** *16:21:31.9±0.3, 1.03N±0.02×26.69W±0.01, h13km±1km, MW4.9/110, Moment Tensor Solution. s29,c33; s110,c148; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.47±.09; Mθθ0.66±.10; Mϕϕ-0.18±.09; Mrθ1.36±.30; Mθϕ-2.38±.10; Mϕr0.32±.21; Best double couple: M₀2.81900×10¹⁶ NP1:ϕ₁268.00000°, δ82.00000°, λ-149.00000°. NP2:ϕ₂173.00000°, δ59.00000°, λ-9.00000°. Principal axes: T 2.8780, Plg15.0000°, Azm37.0000°; N -0.1170, Plg58.0000°, Azm281.0000°; P -2.7600, Plg27.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 16:21:29.4±0.4, 0.94N±0.07×26.98W±0.07, h10km, n155, σ1§12/105, mb4.7/44, MS4.0/60, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**11.16**	**233**	Pn	**Pn**	**16 24 07.0**	**-2.1**
	3.6nm,0.3s,baz=172,slow=15,SNR=27						
RCBR				Sn	Sn	16 26 02.4	-12
	0.1nm,0.3s,baz=18,slow=7.5,SNR=1.8						
RCBR				LR	LR	16 27 21.1	
	comp=Z,2μm,21.4s,baz=166,slow=32						
RCBR	**Riachuelo**	**11.16**	**233**		**Pn**	**16 24 07.5**	**-1.6**
RCBR	**Riachuelo**	**11.16**	**233**	*eP*	**Pn**	**16 24 08.6**	**-0.5**
NBCL	**Cascavel-CE**	**12.41**	**245**	*eP*	**Pn**	**16 24 24.6**	**-1.6**
SACV	**Santiago Islan**	**14.33**	**13**		**Pn**	**16 24 51.2**	**-1.3**
H10N3	**ASCENSION HYDR**	**15.20**	**125**	T	T	16 40 26.4	
	baz=304,slow=74,SNR=177						
H10N2	**ASCENSION HYDR**	**15.21**	**125**	T	T	16 40 26.8	
	baz=304,slow=74,SNR=142						
H10N1	**ASCENSION HYDR**	**15.22**	**125**	T	T	16 40 28.0	
	baz=304,slow=74,SNR=204						
ASCN	**Ascension**	**15.37**	**125**	P	**Pn**	**16 25 08.2**	**+1.7**
ASCN				IAmb	IAmb	16 25 09.7	
	comp=Z,123nm,1.2s						
H10S3	**ASCENSION HYDR**	**15.73**	**129**	T	T	16 41 07.3	
	baz=306,slow=74,SNR=101						
H10S2	**ASCENSION HYDR**	**15.74**	**129**	T	T	16 41 08.7	
	baz=274,slow=74,SNR=79						
MBO	**M'Bour**	**16.64**	**36**	Pn	**Pn**	**16 25 22.3**	**-0.6**
BBTS	**Babate**	**17.10**	**37**	P	**Pn**	**16 25 29.0**	**+0.3**
	comp=Z,7.9nm,0.3s,baz=162,slow=13,SNR=7.4						
BBTS				LR	LR	16 30 29.8	
	comp=Z,956nm,21.3s,baz=238,slow=32						
GUA01	**Guaratinga, BA**	**21.52**	**215**	*eP*	**P**	**16 26 19.6**	**+0.8**
SDBA	**SAO DESIDERIO**	**22.19**	**233**	*eP*	**P**	**16 26 26.2**	**+0.2**
SMTB	**Santa Maria do**	**22.72**	**244**	*eP*	**P**	**16 26 30.8**	**-1.0**
DBIC	**Dimbokro**	**22.79**	**75**	P	**P**	**16 26 30.2**	**-2.3**
DBIC				IAmb	IAmb	16 26 38.8	
	comp=Z,37nm,1.1s						
JANB	**Januaria**	**23.38**	**226**	*eP*	**P**	**16 26 40.4**	**+1.9**
MDP	**Montagnes des**	**25.95**	**280**	LR	LR	16 35 06.3	
	comp=Z,116nm,22.0s,baz=140,slow=32						
BDFB	**Brasilia**	**26.52**	**231**	P	**P**	**16 27 08.9**	**+1.3**
	comp=Z,4.0nm,0.8s,baz=43,slow=9.6,SNR=6.3						
BDFB				LR	LR	16 36 32.7	
	comp=Z,930nm,19.8s,baz=82,slow=34						
	comp=Z,4.0nm,0.8s						
BDFB	**Brasilia**	**26.52**	**231**	P	**P**	**16 27 08.8**	**+1.3**
IPMB	**Ipameri, GO**	**28.

PVIS	**Viseu**	**43.21**	**21**	*e*P		**P**	**16 29 31.8**	**+1.0**
PAB	**San Pablo**	**43.62**	**26**	P		**P**	**16 29 34.4**	**+0.3**
ESDC	**Sonseca Array**	**43.90**	**26**	P		**P**	**16 29 37.2**	**+0.9**
	comp=Z,2.9nm,1.0s,baz=222,slow=9.7,SNR=18							
ESDC				LR		LR	16 44 57.7	
	comp=Z,99nm,21.7s,baz=258,slow=32							
	comp=Z,2.9nm,1.0s							
ESDC	**Sonseca Array**	**43.90**	**26**	P		**P**	**16 29 36.7**	**+0.4**
SDV	**Santo Domingo**	**44.16**	**282**	LR		LR	16 47 20.1	
	comp=Z,62nm,20.4s,baz=100,slow=35							
LVC	**Limon Verde**	**47.06**	**237**	LR		LR	16 50 48.9	
	comp=Z,140nm,19.1s,baz=40,slow=37							
ROSC	**El Rosal**	**47.42**	**276**	LR		LR	16 49 28.2	
	comp=Z,200nm,18.8s,baz=88,slow=35							
TSUM	**Tsumeb**	**48.10**	**117**	P		**P**	**16 30 10.8**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=296,slow=10.0,SNR=4.5							
TSUM				LR		LR	16 45 36.6	
	comp=Z,142nm,21.7s,baz=324,slow=30							
	comp=Z,2.9nm,0.8s							
TSUM	**Tsumeb**	**48.10**	**117**	P		**P**	**16 30 09.2**	**-0.7**
TSUM				IAmb		IAmb	16 30 12.6	
	comp=Z,34nm,1.9s							
KEST	**Kesra**	**48.33**	**40**	P		**P**	**16 30 11.3**	**-0.1**
	comp=Z,6.0nm,0.9s,baz=44,slow=2.6,SNR=4.1							
KEST				LR		LR	16 51 51.8	
	comp=Z,395nm,18.1s,baz=195,slow=38							
	comp=Z,6.0nm,0.9s							
CFA	**Coronel Fontan**	**50.74**	**227**	LR		LR	16 52 19.7	
	comp=Z,417nm,18.4s,baz=35,slow=36							
NNA	**Nana**	**51.15**	**254**	LR		LR	16 51 52.9	
	comp=Z,72nm,18.1s,baz=66,slow=36							
ATAH	**Atahualpa**	**51.91**	**260**	LR		LR	16 53 19.3	
	comp=Z,121nm,18.1s,baz=80,slow=37							
VAE	**Valguarnera**	**52.66**	**41**	LR		LR	16 54 15.0	
	comp=Z,471nm,18.2s,baz=322,slow=37							
SENIN	**Lac Senin/Sane**	**54.27**	**29**	P		**P**	**16 30 55.9**	**-0.1**
GO05	**Huala**	**55.14**	**225**	P		**P**	**16 31 02.4**	**+0.2**
GO05				IAmb		IAmb	16 31 03.6	
	comp=Z,26nm,1.3s							
SALO	**Salr**	**55.37**	**31**	P		**P**	**16 31 02.8**	**-0.9**
TEOL	**Teolo**	**55.80**	**32**	P		**P**	**16 31 05.8**	**-1.0**
DAVOX	**Davos/Dischmat**	**55.83**	**30**	LR		LR	16 53 48.1	
	comp=Z,90nm,18.6s,baz=261,slow=35							
SUR	**Sutherland**	**55.97**	**131**	P		**P**	**16 31 07.6**	**-0.9**
	comp=Z,13nm,1.2s,baz=240,slow=5.0,SNR=2.4							
SUR				LR		LR	16 49 27.0	
	comp=Z,122nm,21.2s,baz=317,slow=30							
	comp=Z,13nm,1.2s							
DAVA	**Damuels**	**56.18**	**29**	*e*P		**P**	**16 31 09.2**	**-0.5**
	comp=Z,5.6nm,0.9s							
CTI	**Castel Tesino**	**56.24**	**32**	P		**P**	**16 31 09.6**	**-0.5**
FETA	**Feichten**	**56.42**	**30**	*e*P		**P**	**16 31 10.7**	**-0.6**
	comp=Z,9.6nm,1.0s							
RETA	**Reutte**	**56.76**	**30**	*e*P		**P**	**16 31 12.9**	**-0.7**
	comp=Z,4.2nm,1.1s							
SQTA	**Sankt Quirin**	**56.80**	**30**	*e*P		**P**	**16 31 13.3**	**-0.7**
	comp=Z,4.4nm,0.8s							
MOTA	**Moosalm**	**56.83**	**30**	*i* P		**P**	**16 31 13.8**	**-0.4**
	comp=Z,5.4nm,0.9s							
LBTB	**Lobatse**	**57.02**	**121**	LR		LR	16 52 19.7	
	comp=Z,133nm,18.5s,baz=277,slow=32							
WTTA	**Wattenberg**	**57.04**	**30**	*e*P		**P**	**16 31 15.6**	**-0.2**
	comp=Z,9.3nm,1.2s							
ABTA	**Abfaltersbach**	**57.15**	**31**	*e*P		**P**	**16 31 16.7**	**+0.2**
	comp=Z,8.8nm,1.0s							
PLCA	**Paso Flores**	**57.32**	**218**	LR		LR	16 55 30.7	
	comp=Z,196nm,19.1s,baz=26,slow=36							
ESK	**Eskdalemuir**	**57.56**	**16**	P		**P**	**16 31 19.5**	**+0.5**
ESK				IAmb		IAmb	16 31 58.4	
	comp=Z,20nm,1.2s							
EKA	**Eskdalemuir Ar**	**57.59**	**16**	LR		LR	16 52 45.2	
	comp=Z,191nm,18.5s,baz=207,slow=33							
MBAR	**Mbarara**	**57.74**	**91**	LR		LR	16 53 36.0	
	comp=Z,74nm,19.1s,baz=249,slow=33							
BOSA	**Boshof**	**57.96**	**125**	P		**P**	**16 31 23.1**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=312,slow=6.6,SNR=5.7							
BOSA				LR		LR	16 51 17.4	
	comp=Z,157nm,20.5s,baz=320,slow=31							
	comp=Z,3.4nm,0.8s							
SOKA	**Soboth**	**58.45**	**33**	*e*P		**P**	**16 31 25.8**	**+0.2**
	comp=Z,8.7nm,1.2s							
J61A	**Chester**	**58.55**	**322**	P		**P**	**16 31 27.3**	**+1.1**
MOA	**Molln**	**58.77**	**31**	*e*P		**P**	**16 31 27.4**	**-0.3**
	comp=Z,1.9nm,0.8s							
FNA	**Florina**	**59.00**	**41**	P		**P**	**16 31 30.5**	**+1.0**
FNA				IAmb		IAmb	16 31 31.0	
	comp=Z,7.6nm,1.1s							
ARSA	**Arzberg**	**59.06**	**32**	*e*P		**P**	**16 31 29.4**	**-0.3**
	comp=Z,1.6nm,0.8s							
GEC2	**GERESS Array S**	**59.13**	**30**	P		**P**	**16 31 29.6**	**-0.7**
GEC2				IAmb		IAmb	16 31 41.7	
	comp=Z,8.6nm,1.2s							
GERES	**GERESS Array B**	**59.13**	**30**	P		**P**	**16 31 30.3**	**0.0**
	comp=Z,2.2nm,0.9s,baz=229,slow=6.2,SNR=15							
GERES				LR		LR	16 55 14.6	
	comp=Z,80nm,20.3s,baz=247,slow=34							
	comp=Z,2.2nm,0.9s							
GERES	**GERESS Array B**	**59.13**	**30**	P		**P**	**16 31 29.5**	**-0.7**
KHC	**Kasperske Hory**	**59.25**	**30**	P		**P**	**16 31 30.8**	**-0.3**
KHC	**Kasperske Hory**	**59.25**	**30**	*e*P		**P**	**16 31 29.8**	**-1.3**
CLL	**Collm**	**60.42**	**28**	*e*P		**P**	**16 31 41.0**	**+2.0**
CLL				*e*S		**S**	**16 39 55.0**	**+0.9**
GRHM	**Grahamstown, E**	**60.60**	**130**	P		**P**	**16 31 39.9**	**-0.8**
DPC	**Dobruska-Polom**	**61.40**	**30**	*e*P		**P**	**16 31 43.5**	**-2.3**
KRLC	**Kraliky**	**61.46**	**30**	*e*P		P	16 31 39.7	-6.5
OSTC	**Ostas**	**61.48**	**30**	*e*P		**P**	**16 31 46.4**	**+0.1**
ARG	**Arkhangelos**	**61.83**	**49**	P		**P**	**16 31 48.1**	**-0.8**
PSZ	**Piszkesteto**	**61.85**	**34**	P		**P**	**16 31 48.6**	**-0.3**
PSZ				IAmb		IAmb	16 32 18.1	
	comp=Z,22nm,1.6s							
SCHQ	**Schefferville**	**62.78**	**335**	P		**P**	**16 31 54.7**	**-0.2**
	comp=Z,3.5nm,1.0s,baz=72,slow=17,SNR=1.2							
SCHQ				LR		LR	16 54 50.9	
	comp=Z,85nm,21.0s,baz=122,slow=32							
	comp=Z,3.5nm,1.0s							
TKL	**Tuckaleechee C**	**62.91**	**310**	LR		LR	16 53 40.2	
	comp=Z,110nm,21.2s,baz=112,slow=31							
SADO	**Sadowa**	**63.36**	**321**	LR		LR	16 52 51.8	
	comp=Z,106nm,19.3s,baz=308,slow=30							
BORG	**Borgarnes**	**63.80**	**3**	LR		LR	16 53 47.6	
	comp=Z,13nm,21.5s,baz=161,slow=30							
MLR	**Muntele Rosu**	**64.18**	**39**	LR		LR	17 01 55.1	
	comp=Z,196nm,19.6s,baz=254,slow=38							
EIL	**Elat**	**65.33**	**58**	LR		LR	17 01 14.9	
	comp=Z,155nm,18.9s,baz=237,slow=37							
NOA	**NORSAR Array B**	**66.63**	**19**	P		**P**	**16 32 19.9**	**0.0**
	comp=Z,0.8nm,0.8s,baz=221,slow=6.2,SNR=1.9							
NOA				LR		LR	16 57 45.3	
	comp=Z,53nm,20.2s,baz=225,slow=33							
	comp=Z,0.8nm,0.8s							
HFS	**Hagfors**	**66.82**	**21**	LR		LR	16 58 46.9	
	comp=Z,97nm,20.0s,baz=242,slow=34							
BR131	**Keskin Array S**	**67.13**	**47**	P		**P**	**16 32 22.5**	**-1.2**
BR131				IAmb		IAmb	16 32 34.4	
	comp=Z,12nm,1.1s							
BRTR	**Keskin Array B**	**67.13**	**47**	P		**P**	**16 32 23.5**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=241,slow=6.2,SNR=13							
BRTR				LR		LR	17 02 34.3	
	comp=Z,180nm,21.6s,baz=244,slow=37							
	comp=Z,2.9nm,0.8s							
BRTR	**Keskin Array B**	**67.13**	**47**	P		**P**	**16 32 22.7**	**-1.0**
SFJD	**Kangerlussuaq**	**67.97**	**350**	LR		LR	16 59 58.9	
	comp=Z,32nm,18.0s,baz=163,slow=34							
AKASG	**Malin Array Be**	**68.52**	**35**	P		**P**	**16 32 31.8**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=242,slow=6.5,SNR=23							
AKASG				LR		LR	17 04 11.0	
	comp=Z,49nm,18.1s,baz=231,slow=37							
	comp=Z,4.2nm,0.8s							
AKASG	**Malin Array Be**	**68.52**	**35**	P		**P**	**16 32 31.4**	**-0.6**
AKASG				IAmb		IAmb	16 32 43.2	
	comp=Z,12nm,1.5s							
AKBB	**Malin Array Si**	**68.52**	**35**	P		**P**	**16 32 31.5**	**-0.5**
SUMG	**Summit**	**71.89**	**356**	*i* P		**P**	**16 32 54.0**	**+1.2**
FINES	**FINESS Array B**	**72.36**	**24**	P		**P**	**16 32 55.8**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=284,slow=9.2,SNR=3.8							
FINES				LR		LR	17 00 52.7	
	comp=Z,103nm,21.8s,baz=240,slow=33							
	comp=Z,4.2nm,0.8s							
RAYN	**Ar Rayn**	**73.58**	**66**	P		**P**	**16 33 02.0**	**-1.4**
RAYN				IAmb		IAmb	16 33 05.2	
	comp=Z,8.7nm,1.1s							
OBN	**Obninsk**	**74.38**	**32**	LR		LR	17 05 39.2	
	comp=Z,12nm,18.5s,baz=200,slow=36							
KBZ	**Khabaz**	**74.90**	**45**	P		**P**	**16 33 11.1**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=240,slow=7.3,SNR=4.8							
KBZ				LR		LR	17 07 54.3	
	comp=Z,54nm,20.5s,baz=217,slow=37							
	comp=Z,3.9nm,0.9s							
ABTX	**Abilene, Hawle**	**74.92**	**303**	P		**P**	**16 33 12.4**	**+1.4**
ONI	**Oni**	**75.03**	**46**	P		**P**	**16 33 12.0**	**+0.5**
ONI				IAmb		IAmb	16 33 19.6	
	comp=Z,7.5nm,0.9s							
GNI	**Garni**	**75.47**	**49**	LR		LR	17 09 27.7	
	comp=Z,47nm,18.3s,baz=278,slow=38							
ULM	**Lac du Bonnet**	**75.89**	**322**	LR		LR	17 01 00.7	
	comp=Z,95nm,21.5s,baz=104,slow=31							
ARCES	**ARCESS Array B**	**76.74**	**17**	LR		LR	17 01 40.1	
	comp=Z,98nm,21.7s,baz=259,slow=32							
BELA	**Belgrano 2**	**78.84**	**182**	P		**P**	**16 33 32.7**	**+0.6**
BELA				IAmb		IAmb	16 33 40.9	
	comp=Z,18nm,1.7s							
BELG	**Belogornoye**	**79.89**	**37**	LR		LR	17 08 25.0	
	comp=Z,81nm,22.0s,baz=183,slow=35							
SPITS	**Spitsbergen Ar**	**80.45**	**8**	LR		LR	17 03 22.3	
	comp=Z,87nm,20.1s,baz=196,slow=31							
PHWY	**Pilot Hill**	**80.72**	**312**	P		**P**	**16 33 42.8**	**-0.7**
PHWY				IAmb		IAmb	16 33 47.3	
	comp=Z,16nm,1.3s							
ANMO	**Albuquerque**	**80.83**	**305**	LR		LR	17 04 42.1	
	comp=Z,123nm,21.4s,baz=172,slow=32							
KIRV	**Kirov**	**82.12**	**31**	LR		LR	17 09 05.2	
	comp=Z,93nm,20.2s,baz=277,slow=35							
UOSS	**Minazif**	**83.42**	**65**	P		**P**	**16 33 56.0**	**-1.7**
UOSS				IAmb		IAmb	16 33 57.8	
	comp=Z,5.5nm,0.8s							
X18A	**Snowflake**	**83.67**	**304**	P		**P**	**16 33 59.7**	**+0.8**
X18A				IAmb		IAmb	16 34 09.1	
	comp=Z,19nm,1.6s							
PDAR	**Pinedale Array**	**83.90**	**313**	P		**P**	**16 33 59.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=81,slow=5.6,SNR=2.1							
PDAR				LR		LR	17 05 43.2	
	comp=Z,111nm,21.7s,baz=110,slow=32							
	comp=Z,0.3nm,0.7s							
GEYT	**Ailbeck**	**85.55**	**52**	LR		LR	17 16 20.4	
	comp=Z,27nm,18.6s,baz=310,slow=38							
AKTO	**Aktyubinsk**	**86.08**	**40**	LR		LR	17 16 19.8	
	comp=Z,44nm,18.3s,baz=107,slow=38							
HVU	**Hansel Valley**	**86.23**	**312**	P		**P**	**16 34 11.7**	**0.0**
HVU				IAmb		IAmb	16 34 20.7	
	comp=Z,23nm,1.8s							
ARU	**Arti**	**86.75**	**34**	LR		LR	17 12 57.0	
	comp=Z,55nm,21.1s,baz=266,slow=36							
BCYI	**Bear Canyon**	**86.78**	**314**	P		**P**	**16 34 15.2**	**+0.8**
EDM	**Edmonton**	**87.07**	**323**	P		**P**	**16 34 15.9**	**+0.6**
ABKAR	**Akbulak array**	**87.28**	**41**	P		**P**	**16 34 16.5**	**+0.1**
PRN	**Pahroc Range**	**87.89**	**307**	P		**P**	**16 34 21.5**	**+1.7**
YKA	**Yellowknife Ar**	**88.07**	**332**	P		**P**	**16 34 19.7**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=95,slow=5.1,SNR=5.7							
YKA				LR		LR	17 09 41.6	
	comp=Z,81nm,20.9s,baz=228,slow=33							
	comp=Z,0.2nm,0.6s							
PFO	**Pinyon Flats O**	**89.05**	**303**	LR		LR	17 11 32.8	
	comp=Z,57nm,20.3s,baz=82,slow=34							
NEW	**Newport**	**89.40**	**318**	LR		LR	17 12 06.9	
	comp=Z,50nm,21.8s,baz=92,slow=34							
MAW	**Mawson**	**90.81**	**157**	LR		LR	17 07 52.5	
	comp=Z,59nm,18.7s,baz=336,slow=31							
YBH	**Yreka Blue Hor**	**93.66**	**312**	LR		LR	17 13 24.4	
	comp=Z,50nm,18.1s,baz=94,slow=33							
BVAR	**Borovoye Array**	**93.70**	**37**	LR		LR	17 17 39.2	
	comp=Z,43nm,19.9s,baz=263,slow=36							
INK	**Inuvik**	**95.20**	**339**	LR		LR	17 16 16.4	
	comp=Z,45nm,18.4s,baz=318,slow=35							
DLBC	**Dease Lake**	**96.02**	**329**	LR		LR	17 16 00.2	
	comp=Z,56nm,18.8s,baz=162,slow=34							
BBB	**Bella Bella**	**96.08**	**323**	LR		LR	17 12 47.1	
	comp=Z,62nm,20.6s,baz=60,slow=32							
NRIK	**Noril'sk**	**97.59**	**19**	LR		LR	17 20 21.6	
	comp=Z,42nm,18.3s,baz=280,slow=36							
AAK	**Ala-Archa**	**97.81**	**47**	LR		LR	17 23 48.2	
	comp=Z,32nm,18.4s,baz=279,slow=38							
STKA	**Stephens Creek**	**147.39**	**162**	PKPbc		**PKPbc**	**16 41 15.2**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=127,slow=17,SNR=1.6							
ASAR	**Alice Springs**	**150.78**	**142**	PKPbc		**PKPbc**	**16 41 22.8**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=207,slow=2.0,SNR=14							
WRA	**Warramunga Arr**	**153.72**	**137**	PKPbc		**PKiKP**	**16 41 31.3**	**+1.5**
	comp=Z,0.6nm,1.0s,baz=237,slow=1.9,SNR=2.7							

MDD ***08*** *16:35:58.7±1.2,36°.52N×11°.66W, h0km, Mb3.6/5, M_mb2.9/7, Error ellipse: s-maj=9.8km s-min=8.5km az=13.0*
INMG ***08*** *16:35:59.8±1.3,36°.38N×11°.89W, h31km, ML2.0, Error ellipse: s-maj=6.8km s-min=4.6km az=87.0*
CNRM ***08*** *16:36:09.0,36°.00N×10°.73W, h78km, ml3.0*

ISC 08 16:35:57.7±2.9,36°.41N±0°.09×11°.18W±0°.1, h35km, n36, σ1=56/67, 6C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.51**	**72**	⇑*e*P		**Pn**	**16 36 37.2**	**+1.3**
PFVI				*e*Sn		**Sn**	**16 37 04.4**	**-0.8**
PFVI				A		A	16 37 06.9	
	6.6nm,0.5s							
PFVI	**Vila Bisbo**	**2.51**	**72**	S		**Sn**	**16 37 03.2**	**-2.0**
PFVI				P		**Pn**	**16 36 36.8**	**+0.9**
MORF	**Marmelete**	**2.69**	**70**	*e*P		**Pn**	**16 36 39.9**	**+1.5**
MORF				*e*S		**Sn**	**16 37 09.6**	**-0.3**
MORF				IAML			16 37 11.7	
	comp=E,6.7nm,0.2s							
MORF	**Marmelete**	**2.69**	**70**	*e*Pn		**Pn**	**16 36 40.0**	**+1.5**
MORF				*e*Sn		**Sn**	**16 37 09.0**	**-0.8**
MORF				A		A	16 37 16.2	
	comp=E,5.0nm,0.1s							
PTEO	**Sao Teotonio**	**2.72**	**64**	*e*Pn		**Pn**	**16 36 40.7**	**+1.8**
PTEO				*e*Sn		**Sn**	**16 37 10.8**	**+0.2**
PTEO				A		A	16 37 12.0	
	comp=E,2.7nm,0.2s							
PNCL	**Nicolau / Gran**	**3.12**	**56**	*e*Pn		**Pn**	**16 36 46.4**	**+2.0**
PNCL				*e*Sn		**Sn**	**16 37 21.2**	**+0.7**
PNCL				A		A	16 37 24.4	
	comp=E,2.0nm,0.2s							
PNCL	**Nicolau / Gran**	**3.12**	**56**	S		**Sn**	**16 37 20.8**	**+0.4**
PNCL				P		**Pn**	**16 36 46.2**	**+1.9**
PMAFR	**Mafra**	**3.24**	**38**	*e*Pn		**Pn**	**16 36 47.7**	**+1.7**
PMAFR				*e*Sn		**Sn**	**16 37 23.4**	**+0.1**
PMAFR				A		A	16 37 28.1	
	comp=E,7.3nm,0.2s							
PCVE	**Castro Verde**	**3.26**	**67**	*e*Pn		**Pn**	**16 36 48.0**	**+1.7**
PCVE				*e*Sn		**Sn**	**16 37 24.7**	**+0.9**
PCVE				A		A	16 37 36.1	
	comp=E,1.4nm,0.4s							
PCVE	**Castro Verde**	**3.26**	**67**	P		**Pn**	**16 36 47.7**	**+1.5**
PCVE				S		**Sn**	**16 37 23.3**	**-0.5**
PVAQ	**Vaqueiros**	**3.43**	**72**	*e*Pn		**Pn**	**16 36 50.2**	**+1.6**
PVAQ				*e*Sn		**Sn**	**16 37 27.3**	**-0.7**
PVAQ				A		A	16 37 31.9	
	comp=E,5.1nm,0.1s							
PVAQ	**Vaqueiros**	**3.43**	**72**	P		**Pn**	**16 36 49.6**	**+1.0**
PVAQ				S		**Sn**	**16 37 25.7**	**-2.3**
PVAQ	**Vaqueiros**	**3.43**	**72**	S		**Sn**	**16 37 27.3**	**-0.7**
PVAQ				P		**Pn**	**16 36 49.6**	**+1.0**
EGRO	**El Granado**	**3.65**	**71**	P		**Pn**	**16 36 53.4**	**+1.8**
EGRO				S		**Sn**	**16 37 32.7**	**-0.7**
EGRO	**El Granado**	**3.65**	**71**	P		**Pn**	**16 36 53.7**	**+2.1**
EGRO				⇑*i*Vmb_V			16 36 55.9	
	comp=E,89nm,SNR=1.4							
EGRO				S		**Sn**	**16 37 32.8**	**-0.5**
EVO	**Evora**	**3.69**	**54**	*e*Sn		**Sn**	**16 37 34.5**	**0.0**
EVO				A		A	16 37 36.4	
	comp=E,3.0nm,0.3s							
PMTG	**Montargil**	**3.89**	**46**	*e*Pn		**Pn**	**16 36 56.1**	**+1.2**
PMTG				*e*Sn		**Sn**	**16 37 38.7**	**-0.7**
PMTG				A		A	16 37 42.8	
	comp=E,1.0nm,0.3s							
PSBE	**So Bento**	**3.91**	**37**	*e*Pn		**Pn**	**16 36 56.6**	**+1.4**
PSBE				*e*Sn		**Sn**	**16 37 39.9**	**0.0**
PSBE				A		A	16 37 43.8	
	comp=E,3.2nm,0.7s							
PESTR	**Estremoz**	**4.16**	**53**	*e*Pn		**Pn**	**16 37 00.7**	**+2.1**
PESTR				*e*Sn		**Sn**	**16 37 45.5**	**-0.4**
PESTR				A		A	16 37 48.5	
	comp=E,0.9nm,0.3s							
PBAR	**Barrancos**	**4.20**	**64**	*e*Pn		**Pn**	**16 37 01.3**	**+2.2**
PBAR				*e*Sn		**Sn**	**16 37 46.4**	**-0.5**
PBAR				A		A	16 37 50.8	
	comp=E,1.2nm,0.4s							
PBAR	**Barrancos**	**4.20**	**64**	P		**Pn**	**16 37 01.1**	**+1.9**
PBAR				S		**Sn**	**16 37 44.6**	**-2.3**
EMIN	**Mina Concepcio**	**4.33**	**70**	P		**Pn**	**16 37 02.6**	**+1.6**
EMIN				⇑*i*Vmb_V			16 37 02.9	
	comp=E,49nm,SNR=1.1							
EMIN				S		**Sn**	**16 37 48.8**	**-1.4**
EBAD	**Badajoz**	**4.47**	**57**	P		**Pn**	**16 37 04.1**	**+1.2**
EBAD				⇑*i*Vmb_V			16 37 06.7	
	comp=E,61nm,SNR=1.2							
EBAD				S		**Sn**	**16 37 53.3**	**-0.5**
PCAS	**Casmilo, Conde**	**4.48**	**35**	*e*Pn		**Pn**	**16 37 04.8**	**+1.8**
PCAS				*e*Sn		**Sn**	**16 37 52.7**	**-1.2**
PCAS				A		A	16 37 57.9	
	comp=E,1.1nm,0.3s							
PMRV	**Marv??o**	**4.62**	**48**	*e*Pn		**Pn**	**16 37 05.8**	**+0.9**
PMRV				*e*Sn		**Sn**	**16 37 56.3**	**-1.0**
PMRV				A		A	16 38 00.8	
	comp=E,1.6nm,0.3s							
ESPR	**Espera**	**4.81**	**83**	P		**Pn**	**16 37 08.9**	**+1.2**
ESPR				S		**Sn**	**16 37 60.0**	**-2.2**
ECAB	**El Cabril**	**5.37**	**70**	P		**Pn**	**16 37 15.7**	**+0.5**
ECAB				S		**Sn**	**16 38 13.5**	**-2.3**
ECAB	**El Cabril**	**5.37**	**70**	P		**Pn**	**16 37 16.8**	**+1.5**
ECAB				⇑*i*Vmb_V			16 37 17.8	
	comp=E,74nm,SNR=1.8							
ECAB				S		**Sn**	**16 38 14.2**	**-1.6**
POLO	**Lamas de Olo**	**5.86**	**31**	*e*Sn		**Sn**	**16 38 25.7**	**-2.5**
POLO				A		A	16 38 46.2	
	comp=E,0.6nm,0.6s							
EADA	**Adamuz**	**6.03**	**71**	P		**Pn**	**16 37 26.1**	**+1.8**
EADA				⇑*i*Vmb_V			16 37 28.3	
	comp=E,44nm,SNR=0.9							
EADA				S		**Sn**	**16 38 29.6**	**-2.7**
MVO	**Moncorvo**	**6.04**	**37**	*e*Pn		**Pn**	**16 37 25.5**	**+0.9**
MVO				*e*Sn		**Sn**	**16 38 30.0**	**-2.5**
MVO				A		A	16 38 32.8	
	comp=E,2.1nm,0.3s							
OUK	**Oukaimeden**	**6.14**	**147**	P		**Pn**	**16 37 25.5**	**-0.8**
OUK				S		Sn	16 38 28.5	-7.0
ELOB	**Lobios**	**6.18**	**27**	P		**Pn**	**16 37 27.1**	**+0.7**
ELOB				S		**Sn**	**16 38 32.5**	**-3.4**
PGAV	**Gavieira, Arco**	**6.19**	**25**	*e*Pn		**Pn**	**16 37 27.7**	**+1.1**
PGAV				*e*Sn		**Sn**	**16 38 32.6**	**-3.6**
PGAV				A		A	16 38 41.0	
	comp=E,2.4nm,1.0s							
MD31	**MD31**	**6.81**	**119**	P		**Pn**	**16 37 34.6**	**-0.5**
MD31				S		Sn	16 38 39.2	-12
MDT	**Midelt**	**6.94**	**119**	P		**Pn**	**16 37 36.9**	**0.0**
MDT				S		Sn	16 38 41.2	-14

WEL 08 16:38:26.2±0.4,42°.S±2°×17°.4E±°, h5km, M1.9/2, ML2.4/8, MLv1.9/2, Error ellipse: s-maj=0.0km s-min=0.0km az=75.1, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.15**	**184**	P		Pg	16 38 29.5	+0.3
KHZ				S		Sg	16 38 32.1	+0.9
BSWZ	**Blackbirch Sta**	**0.60**	**24**	S		Sg	16 38 38.6	-6.9
BSWZ	**Blackbirch Sta**	**0.60**	**24**	P		Pg	16 38 33.7	-4.0
THZ	**Tophouse**	**0.70**	**316**	P		Pg	16 38 39.9	+0.3
THZ				S		Sg	16 38 49.5	+0.8
GVZ	**Greta Valley S**	**0.80**	**208**	P		Pb	16 38 42.5	-0.1
TUWZ	**Tuamarina**	**0.89**	**19**	P		Pg	16 38 43.4	+0.2
TUWZ				S		Sb	16 38 55.9	-0.2
TUWZ	**Tuamarina**	**0.89**	**19**	S		Sg	16 38 48.1	-6.6
TUWZ	**Tuamarina**	**0.89**	**19**	P		Pg	16 38 39.3	-3.9
MRNZ	**Matariki Terra**	**1.05**	**325**	P		Pg	16 38 48.4	+0.1
NNZ	**Nelson**	**1.06**	**353**	P		Pg	16 38 46.5	+0.1
LTZ	**Lake Taylor**	**1.08**	**241**	P		Pg	16 38 46.6	-0.3
TCW	**Tory Channel**	**1.19**	**27**	P		Pg	16 38 48.3	-0.6
TCW	**Tory Channel**	**1.19**	**27**	S		Sg	16 38 57.5	-6.8
TCW	**Tory Channel**	**1.19**

ESDC				Pg	**Pg**	**17 07 52.8**	**-0.8**
ESDC				Sn	**Sn**	**17 08 17.0**	**+0.6**
ESDC				Sg	**Sg**	**17 08 28.3**	**+0.6**
ESDC				*i* Vmb_Lg		17 08 33.8	
PAB	**San Pablo**	**2.68**	**325**	P	**Pn**	**17 07 46.5**	**+1.0**
PAB	**San Pablo**	**2.68**	**325**	Pn	**Pn**	**17 07 46.6**	**+1.0**
PAB				Pg	**Pg**	**17 07 53.4**	**-1.2**
PAB				Sn	**Sn**	**17 08 16.0**	**-1.7**
PAB				Sg	**Sg**	**17 08 27.3**	**-2.1**
PAB				*i* Vmb_Lg		17 08 33.7	
JBK	**JBK**	**3.02**	**183**	P	**Pn**	**17 07 48.4**	**-1.9**
JBK				S	**Sn**	**17 08 21.4**	**-4.7**
JBK	**JBK**	**3.02**	**183**	P	**Pn**	**17 07 52.0**	**+1.6**
UCM	**Universidad Co**	**3.03**	**347**	P	**Pn**	**17 07 51.4**	**+1.1**
EMOS	**Mosqueruela**	**3.35**	**26**	Pn	**Pn**	**17 07 57.4**	**+2.5**
EMOS				Sn	**Sn**	**17 08 35.6**	**+1.2**
EMOS				Sg	**Sg**	**17 08 48.7**	**-2.2**
EMOS				*i* Vmb_Lg		17 08 57.8	
EIBI	**Ibiza**	**3.37**	**59**	P	**Pn**	**17 07 55.3**	**+0.3**
EIBI	**Ibiza**	**3.37**	**59**	Pn	**Pn**	**17 07 55.0**	**0.0**
EIBI				Sn	**Sn**	**17 08 32.4**	**-2.2**
EIBI				*i* Vmb_Lg		17 08 37.8	
EMIN	**Mina Concepcio**	**3.44**	**278**	P	**Pn**	**17 07 57.2**	**+1.3**
EMIN	**Mina Concepcio**	**3.44**	**278**	Pn	**Pn**	**17 07 56.9**	**+0.9**
EMIN				Sn	**Sn**	**17 08 36.3**	**+0.1**
EMIN				Sg	**Sg**	**17 08 51.4**	**-2.2**
EMIN				*i* Vmb_Lg		17 08 56.2	
ETOR	**Torete**	**3.47**	**4**	Pn	**Pn**	**17 07 58.6**	**+2.2**
ETOR				Pg	**Pg**	**17 08 09.8**	**+0.2**
ETOR				Sn	**Sn**	**17 08 36.5**	**-0.7**
ETOR				Sg	**Sg**	**17 08 55.3**	**+0.7**
ETOR				*i* Vmb_Lg		17 08 59.2	
GUD	**Guadarrama**	**3.56**	**338**	Sn	**Sn**	**17 08 39.3**	**-0.2**
GUD				Sg	**Sg**	**17 08 55.1**	**-2.6**
GUD				*i* Vmb_Lg		17 09 04.0	
PBAR	**Barrancos**	**3.78**	**284**	*e*Pn	**Pn**	**17 08 01.7**	**+1.0**
PBAR				*e*Sn	**Sn**	**17 08 45.5**	**+0.7**
PBAR				*e*Sg	**Sg**	**17 09 02.4**	**-2.3**
PBAR				A	A	17 09 15.6	
	14nm,0.5s						
PBAR	**Barrancos**	**3.78**	**284**	P	**Pn**	**17 08 01.6**	**+0.9**
EBAD	**Badajoz**	**3.92**	**292**	P	**Pn**	**17 08 03.3**	**+0.8**
EBAD	**Badajoz**	**3.92**	**292**	Pn	**Pn**	**17 08 02.9**	**+0.4**
EBAD				Sn	**Sn**	**17 08 46.9**	**-1.1**
EBAD				*i* Vmb_Lg		17 09 16.2	
EPLA	**Plasencia**	**3.96**	**314**	Pn	**Pn**	**17 08 04.5**	**+1.3**
EPLA				Sn	**Sn**	**17 08 49.8**	**+0.6**
EPLA				Sg	**Sg**	**17 09 08.4**	**-2.1**
EPLA				*i* Vmb_Lg		17 09 16.0	
EGRO	**El Granado**	**4.07**	**274**	P	**Pn**	**17 08 05.9**	**+1.3**
EGRO	**El Granado**	**4.07**	**274**	Pn	**Pn**	**17 08 05.2**	**+0.6**
EGRO				Sn	**Sn**	**17 08 51.3**	**-0.4**
EGRO				*i* Vmb_Lg		17 09 19.7	
PVAQ	**Vaqueiros**	**4.25**	**272**	*e*Pn	**Pn**	**17 08 08.5**	**+1.4**
PVAQ				*e*Sn	**Sn**	**17 08 56.9**	**+0.5**
PVAQ				A	A	17 09 31.2	
	10nm,0.6s						
PVAQ	**Vaqueiros**	**4.25**	**272**	P	**Pn**	**17 08 08.4**	**+1.4**
PVAQ				S	**Sn**	**17 08 51.5**	**-4.9**
PVAQ	**Vaqueiros**	**4.25**	**272**	P	**Pn**	**17 08 08.4**	**+1.4**
PVAQ	**Vaqueiros**	**4.25**	**272**	P	**Pn**	**17 08 08.6**	**+1.4**
PESTR	**Estremoz**	**4.38**	**292**	*e*Pn	**Pn**	**17 08 10.2**	**+1.4**
PESTR				*e*Sn	**Sn**	**17 08 59.6**	**+0.1**
PESTR				*e*Sg	**Sg**	**17 09 22.0**	**-1.8**
PESTR				A	A	17 09 30.9	
	20nm,0.6s						
PESTR	**Estremoz**	**4.38**	**292**	P	**Pn**	**17 08 10.3**	**+1.4**
PESTR				S	**Sn**	**17 08 57.9**	**-1.6**
PESTR	**Estremoz**	**4.38**	**292**	P	**Pn**	**17 08 10.3**	**+1.4**
PESTR	**Estremoz**	**4.38**	**292**	P	**Pn**	**17 08 10.3**	**+1.4**
PBEJ	**Beja**	**4.41**	**280**	*e*Pn	**Pn**	**17 08 10.6**	**+1.4**
PBEJ				*e*Sn	**Sn**	**17 09 00.3**	**+0.2**
PBEJ				A	A	17 09 27.6	
	8.9nm,0.6s						
PMRV	**Marv??o**	**4.45**	**299**	*e*Pn	**Pn**	**17 08 11.3**	**+1.5**
PMRV				*e*Sn	**Sn**	**17 09 01.1**	**-0.1**
PMRV				*e*Sg	**Sg**	**17 09 24.7**	**-1.3**
PMRV				A	A	17 09 32.4	
	28nm,0.4s						
PCVE	**Castro Verde**	**4.51**	**275**	*e*Pn	**Pn**	**17 08 12.1**	**+1.4**
PCVE				*e*Sn	**Sn**	**17 09 02.7**	**0.0**
PCVE				A	A	17 09 30.4	
	9.7nm,0.9s						
EVO	**Evora**	**4.61**	**286**	*e*Pn	**Pn**	**17 08 14.1**	**+2.1**
EVO				*e*Sn	**Sn**	**17 09 05.2**	**+0.1**
EVO				*e*Sg	**Sg**	**17 09 29.8**	**-1.3**
EVO				A	A	17 09 31.4	
	15nm,0.5s						
EJUZ	**Juzbado, Salam**	**4.62**	**325**	Sn	**Sn**	**17 09 04.3**	**-1.1**
PCBR	**Castelo Branco**	**4.70**	**303**	*e*Pn	**Pn**	**17 08 15.0**	**+1.7**
PCBR				*e*Sn	**Sn**	**17 09 08.2**	**+0.8**
PCBR				*e*Sg	**Sg**	**17 09 33.5**	**-0.6**
PCBR				A	A	17 09 37.6	
	12nm,0.4s						
ETOS	**Mallorca**	**4.73**	**58**	P	**Pn**	**17 08 15.0**	**+1.3**
ETOS	**Mallorca**	**4.73**	**58**	Pn	**Pn**	**17 08 14.5**	**+0.8**
ETOS				Sn	**Sn**	**17 09 02.7**	**-5.4**
PMTG	**Montargil**	**4.91**	**292**	*e*Pn	**Pn**	**17 08 17.1**	**+0.9**
PMTG				*e*Sn	**Sn**	**17 09 12.0**	**-0.6**
PMTG				*e*Sg	**Sg**	**17 09 40.5**	**-0.4**
PMTG				A	A	17 09 48.3	
	19nm,0.6s						
PNCL	**Nicolau / Gran**	**4.94**	**281**	*e*Pn	**Pn**	**17 08 17.9**	**+1.4**
PNCL				*e*Sn	**Sn**	**17 09 13.2**	**+0.1**
PNCL				*e*Sg	**Sg**	**17 09 39.8**	**-1.8**
PNCL				A	A	17 09 41.8	
	8.3nm,0.4s						
PNCL	**Nicolau / Gran**	**4.94**	**281**	P	**Pn**	**17 08 18.0**	**+1.6**
MORF	**Marmelete**	**5.00**	**271**	*e*P	**Pn**	**17 08 18.3**	**+0.9**
MORF				*e*S	**Sn**	**17 09 12.9**	**-1.9**
MORF				IAML		17 09 21.1	
	comp=E,7.9nm,0.4s						
MORF	**Marmelete**	**5.00**	**271**	*e*Pn	**Pn**	**17 08 18.9**	**+1.5**
MORF				*e*Sn	**Sn**	**17 09 15.1**	**+0.2**
MORF				A	A	17 09 16.7	
	comp=E,4.3nm,0.3s						
MTE	**Manteigas**	**5.05**	**309**	*e*Pn	**Pn**	**17 08 20.7**	**+2.6**
MTE				*e*Sg	**Sg**	**17 09 43.0**	**-2.2**
MTE				A	A	17 09 51.7	
	comp=E,20nm,0.7s						
PTEO	**Sao Teotonio**	**5.05**	**274**	*e*Pn	**Pn**	**17 08 19.6**	**+1.5**
PTEO				*e*Sn	**Sn**	**17 09 16.5**	**+0.4**
PTEO				A	A	17 09 35.8	
	comp=E,5.5nm,0.5s						
PFVI	**Vila Bisbo**	**5.15**	**269**	*e*Pn	**Pn**	**17 08 21.2**	**+1.7**
PFVI				*e*Sn	**Sn**	**17 09 18.1**	**-0.4**
PFVI				A	A	17 10 03.2	
	comp=E,8.7nm,0.6s						
MVO	**Moncorvo**	**5.24**	**318**	*e*Pn	**Pn**	**17 08 22.6**	**+1.8**
MVO				*e*Sn	**Sn**	**17 09 20.9**	**0.0**
MVO				*e*Sg	**Sg**	**17 09 48.9**	**-2.6**
MVO				A	A	17 10 00.2	
	comp=E,12nm,0.6s						
PVIS	**Viseu**	**5.45**	**310**	*e*Pn	**Pn**	**17 08 25.6**	**+2.0**
PVIS				*e*Sn	**Sn**	**17 09 26.0**	**+0.1**
PVIS				*e*Sg	**Sg**	**17 09 56.0**	**-2.1**
PVIS				A	A	17 10 04.6	
	comp=E,11nm,0.6s						
PSBE	**So Bento**	**5.48**	**295**	*e*Pn	**Pn**	**17 08 25.9**	**+1.9**
PSBE				*e*Sn	**Sn**	**17 09 26.1**	**-0.5**
PSBE				A	A	17 10 05.2	
	comp=E,22nm,0.5s						
PCAS	**Casmilo, Conde**	**5.49**	**301**	*e*Pn	**Pn**	**17 08 26.2**	**+2.0**
PCAS				*e*Sn	**Sn**	**17 09 26.5**	**-0.4**
PCAS				*e*Sg	**Sg**	**17 09 57.0**	**-2.5**
PCAS				A	A	17 10 07.8	
	comp=E,18nm,0.5s						
COI	**Coimbra**	**5.51**	**303**	*e*Pn	**Pn**	**17 08 26.4**	**+2.0**
COI				*e*Sn	**Sn**	**17 09 27.2**	**-0.1**
PBRG	**Braganca**	**5.58**	**324**	*e*Pn	**Pn**	**17 08 26.7**	**+1.3**
PBRG				*e*Sn	**Sn**	**17 09 29.0**	**-0.1**
PBRG				*e*Sg	**Sg**	**17 09 58.9**	**-3.2**
PBRG				A	A	17 10 07.7	
	comp=E,9.1nm,0.6s						
PMAFR	**Mafra**	**5.67**	**288**	*e*Pn	**Pn**	**17 08 28.5**	**+1.9**
PMAFR				*e*Sn	**Sn**	**17 09 31.9**	**+0.6**
PMAFR				A	A	17 10 20.8	
	comp=E,14nm,0.6s						
ECAL	**Calabor**	**5.68**	**325**	Pn	**Pn**	**17 08 28.4**	**+1.6**
ECAL				Sn	**Sn**	**17 09 30.6**	**-1.1**
ECAL				*i* Vmb_Lg		17 10 32.0	

PVRL	**Vila Real**	**5.70**	**315**	*e*Pn	**Pn**	**17 08 29.2**	**+2.2**
PVRL				*e*Sn	**Sn**	**17 09 32.0**	**0.0**
PVRL				*e*Sg	**Sg**	**17 10 02.1**	**-3.9**
PVRL				A	A	17 10 13.1	
	comp=E,7.9nm,0.5s						
ETSF	**Etsaut**	**5.71**	**14**	*e*Pn	**Pn**	**17 08 29.1**	**+1.9**
ETSF	**Etsaut**	**5.71**	**14**	*e*P	Pn	17 08 33.6	+6.4
ETSF				*e*Sn	**Sn**	**17 09 32.9**	**+0.6**
ETSF				*e*Sg	**Sg**	**17 10 07.0**	**+0.6**
	comp=E,6.1nm,0.6s						
POLO	**Lamas de Olo**	**5.81**	**315**	*e*Pn	**Pn**	**17 08 30.3**	**+1.7**
POLO				*e*Sn	**Sn**	**17 09 35.5**	**+0.7**
POLO				A	A	17 10 19.8	
	comp=E,4.7nm,0.6s						
SJPF	**Ste Jean**	**5.82**	**8**	*e*Pn	**Pn**	**17 08 31.8**	**+3.2**
SJPF	**Ste Jean**	**5.82**	**8**	*e*P	Pn	17 08 35.5	+6.9
SJPF				*e*Sn	**Sn**	**17 09 34.9**	**0.0**
SJPF				*e*Sg	**Sg**	**17 10 10.7**	**+0.8**
	comp=E,9.0nm,0.7s						
EALK	**Alkurruntz**	**5.90**	**6**	Pn	**Pn**	**17 08 33.2**	**+3.4**
EALK				Sn	**Sn**	**17 09 35.9**	**-1.1**
EALK				*i* Vmb_Lg		17 10 29.1	
ELAN	**Lanestosa**	**5.93**	**352**	Pn	**Pn**	**17 08 30.9**	**+0.8**
EPF	**Esparros**	**6.04**	**19**	*e*Pn	**Pn**	**17 08 34.9**	**+3.2**
EPF	**Esparros**	**6.04**	**19**	*e*P	Pn	17 08 38.6	+6.9
EPF				*e*Sn	**Sn**	**17 09 41.4**	**+1.0**
EPF				*e*Sg	**Sg**	**17 10 15.9**	**-1.0**
	comp=E,11nm,0.7s						
EARI	**Arriondas**	**6.32**	**341**	Pn	**Pn**	**17 08 37.7**	**+2.1**
EARI				Sn	**Sn**	**17 09 44.2**	**-3.2**
PGAV	**Gavieira, Arco**	**6.47**	**317**	*e*Pn	**Pn**	**17 08 39.7**	**+2.0**
PGAV				*e*Sn	**Sn**	**17 09 50.4**	**-0.7**
PGAV				*e*Sg	**Sg**	**17 10 30.5**	**-0.2**
PGAV				A	A	17 10 33.6	
	comp=E,6.7nm,0.7s						
MTLF	**Montolieu**	**6.93**	**29**	*e*Pn	**Pn**	**17 08 45.9**	**+2.0**
MTLF	**Montolieu**	**6.93**	**29**	*e*P	Pn	17 08 50.4	+6.5
MTLF				*e*Sn	**Sn**	**17 10 02.9**	**+0.6**
LASF	**Ste Croix**	**8.21**	**33**	*e*Pn	**Pn**	**17 09 02.2**	**+0.7**
LASF				*e*Sn	**Sn**	**17 10 30.8**	**-3.1**
CAF	**Calviac**	**8.27**	**22**	*e*Pn	**Pn**	**17 09 03.1**	**+0.8**
CAF				*e*Sn	**Sn**	**17 10 32.8**	**-2.5**
QUIF	**Quistinic**	**10.57**	**357**	*e*Pn	**Pn**	**17 09 35.2**	**+1.4**
SGMF	**Saint Gilles**	**10.89**	**359**	*e*Pn	**Pn**	**17 09 38.7**	**+0.5**

*IDC **08** 17:08:57.9±1.1,64°.15N×86°.94W,h0km,mb3.0/1, mbtmp3.5/7,ML2.8/6,MS3.0/1,Error ellipse: s-maj=23.5km s-min=12.8km az=177.0*

*OTT **08** 17:08:58.5±0.1,64°.00N×86°.94W,h18km,MN3.6/7, 185km west from Coral Harbour, Nu Boothia Ungava Seismic Zone.*

ISC 08 17:08:55.3±0.8,**63°.99N**±0°.06×**86°.85W**±0°.06,**h10**km,**n20, σ2§22/23,Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ILON	**Igloolik, Nuna**	**5.76**	**18**	PN	**Pn**	**17 10 22.5**		**+1.9**
ILON				SN	**Sn**	**17 11 24.4**		**-2.3**
ILON				LG	Lg	17 11 59.5		
ILON				Trac		17 12 02.2		
	comp=Z,63nm,0.3s							
FCC	**Fort Churchill**	**6.29**	**217**	PN	**Pn**	**17 10 30.0**		**+2.1**
FCC				SN	**Sn**	**17 11 37.2**		**-2.5**
FCC				LG	Lg	17 12 13.9		
FCC				Trac		17 12 21.0		
	comp=Z,20nm,0.3s							
FRB	**Frobisher Bay**	**8.08**	**83**	Pn	**Pn**	**17 10 54.4**		**+1.9**
	1.2nm,0.3s,baz=277,slow=16,SNR=15							
FRB				Sn	Sn	17 12 17.6		-6.1
	1.3nm,0.3s,baz=201,slow=18,SNR=6.8							
FRB				Lg	Lg	17 13 03.8		
	1.9nm,0.3s,baz=13,slow=22,SNR=5.0							
	2.8nm,0.3s							
FRB	**Frobisher Bay**	**8.08**	**83**	PN	**Pn**	**17 10 54.4**		**+1.9**
FRB				SN	**Sn**	**17 12 20.6**		**-3.1**
FRB				LG	Lg	17 13 12.3		
FRB				Trac		17 13 30.1		
	comp=Z,32nm,0.6s							
SAKN	**Sanikiluaq**	**8.37**	**150**	PN	**Pn**	**17 10 57.8**		**+1.3**
SAKN				SN	**Sn**	**17 12 28.1**		**-2.8**
SAKN				LG	Lg	17 13 20.5		
SAKN				Trac		17 13 28.7		
	comp=Z,1.3nm,0.0s							
KJKQ	**Kuujjuarapik**	**9.87**	**148**	PN	**Pn**	**17 11 19.4**		**+2.5**
KJKQ				SN	Sn	17 13 01.7		-5.9
KJKQ				LG	Lg	17 14 06.4		
KJKQ				Trac		17 14 08.6		
	comp=Z,4.5nm,0.2s							
RES	**Resolute Bay**	**11.10**	**349**	Pn	**Pn**	**17 11 36.8**		**+3.0**
	baz=244,slow=17,SNR=1.1							
RES				Sn	Sn	17 13 28.9		-8.8
	0.2nm,0.3s,baz=173,slow=6.9,SNR=2.7							
RES				Lg	Lg	17 14 37.0		
	0.9nm,0.3s,baz=66,slow=22,SNR=12							
	0.4nm,0.6s							
FFC	**Flin Flon**	**12.04**	**227**	PN	**Pn**	**17 11 46.9**		**+0.2**
FFC				SN	Sn	17 13 52.2		-8.7
KUKN	**Kugluktuk,NWT**	**12.09**	**301**	PN	**Pn**	**17 11 45.6**		**-1.8**
KUKN				SN	Sn	17 13 53.7		-8.3
KUKN				LG	Lg	17 15 15.6		
KUKN				Trac		17 15 29.6		
	comp=Z,352nm,3.5s							
LG4Q	**La Grande 4**	**12.28**	**142**	PN	**Pn**	**17 11 51.0**		**+1.0**
LG4Q				SN	Sn	17 13 59.6		-7.1
LG4Q				LG	Lg	17 15 20.5		
LG4Q				Trac		17 15 30.2		
	comp=Z,9.3nm,0.3s							
YKA	**Yellowknife Ar**	**12.55**	**276**	Pn	**Pn**	**17 11 52.0**		**-1.6**
	0.3nm,0.3s,baz=77,slow=12,SNR=8.7							
YKA				Sn	Sn	17 14 01.8		-11
	0.3nm,0.3s,baz=66,slow=22,SNR=6.0							
YKA				Lg	Lg	17 15 17.6		
	0.3nm,0.3s,baz=63,slow=24,SNR=4.0							
	0.4nm,0.5s							
PKLO	**Pickle Lake**	**12.66**	**190**	PN	**Pn**	**17 11 55.7**		**+0.5**
PKLO				SN	Sn	17 14 08.0		-8.0
PKLO				Trac		17 15 51.8		
	comp=Z,162nm,1.9s							
NMSQ	**Nemaska Statio**	**13.56**	**150**	PN	**Pn**	**17 12 07.7**		**+0.3**
NMSQ				SN	Sn	17 14 30.0		-8.0
NMSQ				LG	Lg	17 16 01.3		
NMSQ				Trac		17 16 42.1		
	comp=Z,12nm,0.4s							
SCHQ	**Schefferville**	**13.65**	**123**	Pn	**Pn**	**17 12 08.0**		**-0.6**
	0.1nm,0.3s,baz=318,slow=14,SNR=1.4							
SCHQ				Sn	Sn	17 14 31.6		-8.5
	0.3nm,0.3s,baz=35,slow=12,SNR=2.2							
SCHQ				Lg	Lg	17 15 57.9		
	0.7nm,0.3s,baz=45,slow=20,SNR=4.9							
	2.2nm,0.7s							
SOLO	**Sioux Lookout**	**14.28**	**194**	PN	**Pn**	**17 12 16.5**		**-0.9**
SOLO				SN	Sn	17 14 44.5		-11
SOLO				Trac		17 16 41.3		
	comp=Z,1.9nm,0.3s							
ULM	**Lac du Bonnet**	**14.60**	**204**	Pn	**Pn**	**17 12 22.8**		**+1.2**
	0.5nm,0.3s,baz=12,slow=10,SNR=4.0							
ULM				Sn	Sn	17 14 48.1		-15
	0.4nm,0.3s,baz=221,slow=14,SNR=2.4							
ULM				Lg	Lg	17 16 25.4		
	0.4nm,0.3s,baz=100,slow=6.3,SNR=5.5							
	1.1nm,0.3s							
ULM	**Lac du Bonnet**	**14.60**	**204**	PN	**Pn**	**17 12 21.9**		**+0.3**
ULM				SN	Sn	17 14 52.4		-11
ULM				LG	Lg	17 16 33.9		
ULM				Trac		17 17 14.1		
	comp=Z,417nm,4.0s							
INK	**Inuvik**	**18.97**	**304**	Pn	**P**	**17 13 13.3**		**-3.0**
	baz=353,slow=26,SNR=1.9							
INK				Sn	Sn	17 16 34.1		-15
	0.1nm,0.3s,baz=31,slow=12,SNR=1.5							
INK				Lg	Lg	17 18 36.1		
	0.2nm,0.3s,baz=151,slow=29,SNR=1.6							
	1.0nm,1.1s							
PDAR	**Pinedale Array**	**24.94**	**222**	P	**P**	**17 14 22.9**		**+4.2**
	0.2nm,0.6s,baz=30,slow=9.4,SNR=2.4							
	0.2nm,0.6s							
NOA	**NORSAR Array B**	**41.06**	**47**	LR	LR	17 31 28.7		
	comp=Z,17nm,19.4s,baz=355,slow=33							

*IDC **08** 17:26:16.9±0.8,67°.13N×20°.95E,h0km,mb3.6/1, mbtmp3.3/6,ML2.7/6,MS3.6/1,Error ellipse: s-maj=13.2km s-min=7.2km az=110.0*

*DNK **08** 17:26:16.9±0.6,67°.20N×20°.67E,h0km,ML2.9(UPP), Suspected explosion*

*HEL **08** 17:26:16.0±0.2,67°.19N×20°.57E,h0km,ML2.2, Explosion*

*UPP **08** 17:26:16.5±0.1,67°.20N×20°.66E,h0km,ML2.9,Confirmed Induced event*

*BER **08** 17:26:19.3±1.5,67°.18N×20°.72E,h0km,ML2.5,Suspected explosion*

ISC 08 17:26:16.1±0.7,**67°.20N**±0°.02×**20°.67E**±0°.02,**h0**km,**n62, σ1§30/88,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**206**	P	**Pg**	**17 26 18.4**		**+0.6**
DUNU				S	**Sg**	**17 26 19.7**		**+0.7**
DUNU	**Dundret**	**0.09**	**206**	P	**Pg**	**17 26 18.4**		**+0.6**
DUNU				S	**Sg**	**17 26 19.7**		**+0.7**
MASU	**Masugnsbyn**	**0.57**	**63**	P	**Pg**	**17 26 27.6**		**+0.6**
MASU				S	**Sg**	**17 26 35.2**		**+0.7**
MASU	**Masugnsbyn**	**0.57**	**63**	P	**Pg**	**17 26 27.6**		**+0.6**
MASU				S	**Sg**	**17 26 35.2**		**+0.7**
RATU	**Laukkuluspa**	**0.75**	**327**	P	**Pg**	**17 26 30.6**		**+0.2**
RATU	**Laukkuluspa**	**0.75**	**327**	P	**Pg**	**17 26 30.6**		**+0.2**
SALU	**Saltoluokta**	**0.86**	**283**	P	**Pg**	**17 26 32.8**		**+0.3**
SALU	**Saltoluokta**	**0.86**	**283**	P	**Pg**	**17 26 32.8**		**+0.3**
NIKU	**Nikkaluokta**	**0.92**	**317**	P	**Pg**	**17 26 33.8**		**+0.1**
NIKU	**Nikkaluokta**	**0.92**	**317**	P	**Pg**	**17 26 33.8**		**+0.1**
LANU	**Lannavaara**	**0.99**	**30**	P	**Pg**	**17 26 34.9**		**-0.2**
LANU	**Lannavaara**	**0.99**	**30**	P	**Pg**	**17 26 34.9**		**-0.2**
LANU	**Lannavaara**	**0.99**	**30**	PG	**Pg**	**17 26 34.8**		**-0.2**
LANU				SB	**Sb**	**17 26 49.9**		**+0.2**
KOVU	**Salmi**	**1.04**	**350**	P	**Pg**	**17 26 35.9**		**-0.2**
KOVU	**Salmi**	**1.04**	**350**	P	**Pg**	**17 26 35.9**		**-0.2**
KLF	**Kolari**	**1.28**	**87**	PG	**Pg**	**17 26 39.6**		**-1.0**
	baz=274							
KLF				SG	**Sg**	**17 26 57.2**		**0.0**
HEF	**Hetta**	**1.66**	**42**	*e*P	**Pn**	**17 26 46.6**		**+0.2**
HEF				*e*S	**Sn**	**17 27 08.2**		**-0.2**
HEF	**Hetta**	**1.66**	**42**	PG	**Pn**	**17 26 46.1**		**-0.3**
	baz=228							
HEF				MSG		17 27 06.8		
	comp=Z,12nm,0.2s							
HEF				SN	**Sn**	**17 27 08.4**		**0.0**
KALU	**Kalix**	**1.73**	**140**	P	**Pn**	**17 26 47.4**		**+0.1**
KALU	**Kalix**	**1.73**	**140**	P	**Pn**	**17 26 47.4**		**+0.1**
KALU	**Kalix**	**1.73**	**140**	PB	**Pn**	**17 26 46.9**		**-0.4**
	baz=322							
KALU				SG	**Sb**	**17 27 11.3**		**+0.5**
SJUU	**Sjulsmark**	**1.74**	**167**	P	**Pn**	**17 26 48.7**		**+1.2**
SJUU	**Sjulsmark**	**1.74**	**167**	P	**Pn**	**17 26 48.7**		**+1.2**
KIF	**Kilpisjarvi**	**1.81**	**2**	*e*P	**Pb**	**17 26 49.9**		**-0.1**
KIF				*e*S	**Sg**	**17 27 14.4**		**+0.2**
KIF	**Kilpisjarvi**	**1.81**	**2**	PG	**Pn**	**17 26 49.6**		**+1.1**
	baz=178							
KIF				MSG		17 27 11.5		
	comp=Z,31nm,0.2s							
TOF	**Tornio**	**1.84**	**126**	PG	**Pn**	**17 26 49.2**		**+0.4**
	baz=306							
TOF				MSG		17 27 11.7		
	comp=Z,25nm,0.2s							
TOF				SG	**Sb**	**17 27 14.4**		**+0.3**
KTK1	**Kautokeino**	**2.06**	**27**	*e*P	**Pb**	**17 26 53.6**		**-0.7**
KTK1				*e*S	**Sn**	**17 27 18.6**		**+0.4**
KTK1				IAML		17 27 24.5		
	comp=Z,75nm,0.6s							
KTK1	**Kautokeino**	**2.06**	**27**	PG	**Pn**	**17 26 53.3**		**+1.4**
KTK1				SG	**Sb**	**17 27 20.0**		**-0.3**
FAUS	**Fauske**	**2.10**	**277**	*e*P	**Pb**	**17 26 54.2**		**-0.7**
FAUS				*e*S	**Sn**	**17 27 19.9**		**+0.7**
FAUS				IAML		17 27 27.8		
	comp=Z,76nm,0.6s							
RNF	**Rovaniemi**	**2.19**	**103**	PB	**Pn**	**17 26 54.5**		**+0.8**
	baz=292							
RNF				SG	**Sb**	**17 27 24.6**		**+0.4**
SGF	**Sodankyl**	**2.28**	**81**	PB	**Pn**	**17 26 55.6**		**+0.6**
	baz=271							
SGF				SG	**Sb**	**17 27 26.9**		**+0.1**
JETT	**Jettan, Norway**	**2.37**	**358**	*e*P	**Pn**	**17 26 58.2**		**+2.0**
JETT				IAML		17 27 33.9		
	comp=Z,87nm,0.4s							
TRO	**Tromso**	**2.52**	**346**	*e*P	**Pn**	**17 26 59.8**		**+1.5**
TRO				IAML		17 27 36.9		
	comp=Z,48nm,0.8s							
TRO	**Tromso**	**2.52**	**346**	PB	**Pn**	**17 27 00.1**		**+1.8**
TRO				SG	**Sb**	**17 27 34.4**		**+0.6**
ARA0	**ARCESS Array S**	**2.95**	**35**	*e*P	**Pn**	**17 27 05.3**		**+1.2**
ARA0				IAML		17 27 48.0		
	comp=Z,11nm,0.3s							
ARA0	**ARCESS Array S**	**2.95**	**35**	PN	**Pn**	**17 27 04.8**		**+0.7**
ARCES	**ARCESS Array B**	**2.95**	**35**	Pn	**Pn**	**17 27 05.0**		**+0.9**
	comp=Z,1.2nm,0.3s,baz=216,slow=13,SNR=149							
ARCES				Sn

mb3.8/6,mB4.6/1,MLv3.8/12,Mw(mB)3.8/1
IDC ***08*** *17:29:32.9±11.0, 0°.31N×122°.06E, h152km±105km, mb3.2/4, mbtmp3.6/4, Error ellipse: s-maj=195.1km s-min=25.0km az=61.0*

ISC 08 17:29:26.2±0.9, 0°.65N±0°.07×122°.12E±0°.05, h100km, n22, σ1°65/26, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.25**	**226**	P	Pn	17 29 38.6	-2.0
MRSI				S	**Sn**	**17 29 47.5**	**-3.8**
GTOI	**Gorontalo**	**0.89**	**91**	P	**Pn**	**17 29 44.7**	**-0.7**
GTOI				S	**Sn**	**17 29 58.7**	**-1.2**
TOLI2	**Tolitoli**	**1.42**	**289**	P	Pn	17 29 49.6	-1.8
APSI	**Ampana**	**1.62**	**197**	P	**Pn**	**17 29 52.8**	**-1.2**
APSI				S	**Sn**	**17 30 14.9**	**-0.1**
LUWI	**Luwuk**	**1.80**	**159**	P	**Pn**	**17 29 57.3**	**+1.0**
LUWI	**Luwuk**	**1.80**	**159**	P	**Pn**	**17 29 56.8**	**+0.5**
LUWI				S	**Sn**	**17 30 22.7**	**+3.6**
MPSI	**Mapaga**	**2.24**	**262**	P	**Pn**	**17 30 00.8**	**-1.1**
SANI	**Sanana**	**4.71**	**125**	P	**Pn**	**17 30 34.3**	**-0.7**
SANI	**Sanana**	**4.71**	**125**	P	**Pn**	**17 30 33.9**	**-1.1**
SANI				S	**Sn**	**17 31 25.5**	**-2.9**
SPSI	**Sidrap Palu** 11nm,0.5s,0.1nm	**5.15**	**207**	P	**Pn**	**17 30 41.4**	**+0.4**
BKSI	**Bulukumba** 7.3nm,1.8s,0.1nm	**6.26**	**199**	P	**Pn**	**17 30 53.8**	**-2.2**
NLAI	**Namlea** 6.0nm,0.9s,0.1nm	**6.30**	**128**	P	**Pn**	**17 30 56.9**	**+0.3**
KKM	**Kota Kinabalu**	**7.97**	**312**	P	**Pn**	**17 31 20.4**	**+1.0**
KNRA	**Kununurra**	**17.50**	**158**	P	**P**	**17 33 24.8**	**+1.1**
WRAB	**Tennant Creek**	**23.71**	**150**	P	**P**	**17 34 29.5**	**+0.3**
WRA	**Warramunga Arr** 2.1nm,0.8s,baz=324,slow=11,SNR=19 2.1nm,0.8s	**23.71**	**150**	P	**P**	**17 34 28.6**	**-0.6**
WRKA	**Warakurna**	**26.23**	**167**	P	**P**	**17 34 52.0**	**0.0**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=335,slow=10,SNR=16	**26.75**	**155**	P	**P**	**17 34 56.2**	**-0.4**
ASAR				PcP	**PcP**	**17 38 17.1**	**-0.6**
	0.1nm,0.3s,baz=348,slow=2.0,SNR=5.5 0.4nm,0.6s						
AS01	**Alice Springs** 2.4nm,1.7s	**26.76**	**155**	P	**P**	**17 34 57.0**	**+0.2**
QIS	**Mount Isa**	**27.15**	**142**	P	**P**	**17 35 01.7**	**+1.4**
STKA	**Stephens Creek** 0.9nm,0.3s,baz=318,slow=11,SNR=3.7 0.9nm,0.3s	**37.24**	**152**	P	**P**	**17 36 27.4**	**-0.8**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=128,slow=7.9,SNR=5.1 0.1nm,0.3s	**57.60**	**329**	P	**P**	**17 39 08.7**	**+2.9**

IDC 08 17:47:18.1±1.2, 0°.12S×124°.72E, h0km, mb3.3/3, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=55.2km s-min=23.3km az=58.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong** 0.6nm,0.3s,baz=270,slow=20,SNR=5.0 2.0nm,0.4s	**6.59**	**97**	Pn	Pn	17 48 56.6	+0.4
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=334,slow=11,SNR=5.2 0.2nm,0.3s	**21.84**	**155**	P	P	17 52 11.0	-1.3
ASAR	**Alice Springs** 0.4nm,0.7s,baz=343,slow=11,SNR=13	**25.05**	**160**	P	P	17 52 44.6	+0.3
ASAR				PcP	PcP	17 56 19.9	+0.6
	0.1nm,0.4s,baz=340,slow=2.1,SNR=4.2 0.4nm,0.7s						
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=125,slow=7.9,SNR=15 0.5nm,0.4s	**59.63**	**328**	P	P	17 57 23.7	-0.3

JMA 08 17:47:40.0±0.1, 36°.9N±0°.4×141°.0E±0°.6, h53km±1km, MV1.1/20, E OFF IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.26**	**328**	P	Pn	17 47 48.8	-0.3
ONAJ				eS	Sn	17 47 55.5	-0.2
JFFD	**Fukushimafurud**	**0.39**	**303**	P	Pn	17 47 50.3	0.0
JHO	**Hitachi**	**0.42**	**230**	P	Pn	17 47 50.4	-0.2
JHO				S	Sn	17 47 57.7	-0.4
JFK	**Kawauchi**	**0.49**	**351**	S	Sn	17 47 59.0	-0.6

IDC ***08*** *17:57:21.8±1.5, 6°.14S×147°.63E, h62km±14km, mb4.0/15, mbtmp4.4/20, MS3.4/29, Error ellipse: s-maj=18.6km s-min=10.1km az=92.0*
NEIC ***08*** *17:57:23.8±2.4, 6°.24S±0°.05×147°.62E±0°.07, h87km±8km, mb4.5/31, Error ellipse: s-maj=12.0km s-min=3.3km az=125.0*
DJA ***08*** *17:57:24.7±0.4, 6°.S±3°×14°.8E±°, h85km±5km, M4.6/18, mB5.0/5, mb4.7/18, MLv4.8/3, Mw(mB)4.3/5*

ISC 08 17:57:23.1±0.4, 6°.21S±0°.05×147°.52E±0°.07, h77km, n111, σ1°62/94, mb4.5/27, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 798nm,0.8s,baz=328,slow=6.2,SNR=125	**3.19**	**186**	P	**Pn**	**17 58 10.8**	**-0.2**
PMG				S	**Sn**	**17 58 48.5**	**+0.5**
	332nm,0.5s,baz=308,slow=14,SNR=12						
PMG	**Port Moresby**	**3.19**	**186**	Pn	**Pn**	**17 58 10.7**	**-0.4**
PMG	**Port Moresby**	**3.19**	**186**	P	**Pn**	**17 58 11.3**	**+0.3**
PMG	**Port Moresby**	**3.19**	**186**	P	**Pn**	**17 58 11.1**	**+0.1**
MANU	**Manus Island**	**4.15**	**358**		**Pn**	**17 58 25.3**	**+1.3**
MANU	**Manus Island**	**4.15**	**358**	P	Pn	17 58 33.1	+9.1
KRVT	**Keravat (AS076** 117nm,0.5s,baz=180,slow=20,SNR=19	**4.87**	**67**	P	**Pn**	**17 58 32.2**	**-1.7**
KRVT				LR	LR	18 00 23.0	
	comp=Z,496nm,21.8s,baz=9.6,slow=38						
RABL	**Rabaul**	**5.04**	**67**		**Pn**	**17 58 35.9**	**-0.4**
RABL	**Rabaul**	**5.04**	**67**	P	**Pn**	**17 58 37.7**	**+1.4**
GENI	**Genyem**	**8.17**	**296**	P	Pn	17 59 28.5	+10
GENI	**Genyem** 101nm,0.9s	**8.17**	**296**	P	Pn	17 59 25.0	+6.1
COEN	**Coen**	**8.80**	**209**	Pn	**Pn**	**17 59 28.1**	**+0.5**
SMPI	**Sarmi** 37nm,1.2s	**9.74**	**295**	P	Pn	17 59 46.5	+6.1
SRPI	**Serui, Papua** 84nm,0.9s	**12.05**	**291**	P	**Pn**	**18 00 14.0**	**+2.1**
MTSU	**Mount Surprise**	**12.25**	**195**	P	**Pn**	**18 00 15.5**	**+0.8**
HNR	**Honiara** comp=Z,1μm,20.2s,baz=232,slow=35	**12.72**	**105**	LR	LR	18 04 43.0	
CTA	**Charters Tower** 4.2nm,0.7s,baz=29,slow=22,SNR=2.0	**13.85**	**185**	P	**Pn**	**18 00 37.4**	**+1.4**
CTA				LR	LR	18 05 54.9	
	comp=Z,102nm,21.4s,baz=358,slow=37						
CTAO	**Charters Tower**	**13.85**	**185**	Pn	**Pn**	**18 00 35.2**	**-0.7**
RKPI	**Ransiki, Papua** 21nm,0.8s	**14.11**	**289**	P	**P**	**18 00 44.3**	**-0.4**
FAKI	**Fak Fak**	**15.57**	**281**	Pn	**Pn**	**18 00 55.2**	**-3.1**
FAKI				IAmb	IAmb	18 01 22.2	
	comp=Z,19nm,1.1s						
QIS	**Mount Isa**	**16.20**	**208**	P	**P**	**18 01 07.3**	**-0.6**
SIJI	**Sorong** comp=Z,6.7nm,0.6s,baz=107,slow=6.2,SNR=7.2	**17.07**	**287**	P	**P**	**18 01 19.3**	**+1.7**
SIJI				LR	LR	18 09 48.7	
	comp=Z,87nm,21.0s,baz=86,slow=44						
MTN	**Manton Dam**	**17.45**	**247**	P	**Pn**	**18 01 21.2**	**-0.4**
MTN				IAmb	IAmb	18 01 51.1	
	comp=Z,15nm,0.8s						
WB0	**Warramunga Arr**	**18.56**	**222**	P	**P**	**18 01 33.1**	**-0.8**
WR0	**Warramunga Arr**	**18.59**	**222**	P	**P**	**18 01 34.1**	**-0.2**
WR0				IAmb	IAmb	18 01 44.2	
	comp=Z,26nm,1.1s						
WRAB	**Tennant Creek**	**18.70**	**222**	P	**P**	**18 01 36.2**	**+0.7**
WRAB				IAmb	IAmb	18 01 54.5	
	comp=Z,16nm,0.9s						
WRAB	**Tennant Creek**	**18.70**	**222**	P	**Pn**	**18 01 36.7**	**0.0**
WB2	**Warramunga Arr**	**18.71**	**222**	P	**P**	**18 01 36.2**	**+0.7**
WB2				IAmb	IAmb	18 01 41.3	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr** comp=Z,7.9nm,0.6s,baz=49,slow=11,SNR=68	**18.71**	**222**	P	**P**	**18 01 36.6**	**+0.9**
WRA				S	**S**	**18 05 01.0**	**-3.5**
	comp=Z,1.4nm,0.9s,baz=65,slow=28,SNR=2.0						
WRA				PcP	**PcP**	**18 06 01.3**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=25,slow=2.0,SNR=5.2						
WRA				LR	LR	18 08 58.2	
	comp=Z,89nm,21.6s,baz=354,slow=37						
WRA				ScP	**ScP**	**18 09 32.2**	**+2.3**
	comp=Z,1.8nm,1.1s,baz=43,slow=2.6,SNR=4.0						
WRA	**Warramunga Arr**	**18.71**	**222**	P	**P**	**18 01 35.3**	**-0.4**
EIDS	**Eidsvold**	**19.35**	**170**	P	**P**	**18 01 42.2**	**-0.3**
EIDS				IAmb	IAmb	18 01 47.0	
	comp=Z,19nm,1.0s						
EIDS	**Eidsvold**	**19.35**	**170**	P	**Pn**	**18 01 44.5**	**+0.2**
AAI	**Ambon** comp=Z,68nm,0.7s	**19.42**	**277**	P	**Pn**	**18 01 45.7**	**+0.5**
GUMO	**Guam** comp=Z,58nm,18.2s,baz=148,slow=38	**19.85**	**352**	LR	LR	18 09 59.2	
RMQ	**Roma**	**20.19**	**177**	P	Pn	18 01 53.8	-0.4
QLP	**Quilpie**	**20.50**	**188**	P	Pn	18 01 57.3	-0.5
KNRA	**Kununurra**	**20.66**	**241**	P	**P**	**18 01 58.1**	**+1.3**
KNRA				IAmb	IAmb	18 02 17.7	
	comp=Z,19nm,0.8s						
AS01	**Alice Springs** comp=Z,21nm,0.7s	**21.71**	**216**	P	**P**	**18 02 09.5**	**+1.4**
AS31	**Alice Springs**	**21.74**	**216**	P	**P**	**18 02 09.6**	**+1.3**
ASAR	**Alice Springs** comp=Z,12nm,0.6s,baz=49,slow=8.9,SNR=468	**21.74**	**216**	P	**P**	**18 02 09.7**	**+1.3**
ASAR				S	**S**	**18 06 03.6**	**-1.2**
	comp=Z,1.2nm,0.9s,baz=31,slow=18,SNR=3.6						
ASAR				ScP	**ScP**	**18 09 40.4**	**+3.3**
	comp=Z,1.8nm,1.1s,baz=54,slow=4.7,SNR=5.2						
ASAR				LR	LR	18 11 14.6	
	comp=Z,122nm,20.6s,baz=48,slow=38 comp=Z,12nm,0.6s						
ASAR	**Alice Springs**	**21.74**	**216**	P	**P**	**18 02 09.8**	**+1.5**
SANI	**Sanana** comp=Z,21nm,0.8s	**21.87**	**280**	P	**P**	**18 02 16.0**	**+6.2**
SANI	**Sanana** comp=Z,21nm,0.8s	**21.87**	**280**	P	**P**	**18 02 12.1**	**+2.4**
INKA	**Innaminka**	**22.36**	**196**	P	**P**	**18 02 16.6**	**+1.8**
AULRC	**Lightning Ridg**	**23.10**	**179**	P	**P**	**18 02 23.8**	**+1.3**
BATI	**Baumata** comp=Z,66nm,0.9s,baz=9.9,slow=3.0,SNR=6.4	**23.94**	**259**	P	**P**	**18 02 32.7**	**+2.4**
BATI				LR	LR	18 14 04.6	
	comp=Z,173nm,19.1s,baz=86,slow=42 comp=Z,66nm,0.9s						
BATI	**Baumata** comp=Z,74nm,1.1s	**23.94**	**259**	P	**P**	**18 02 33.0**	**+2.6**
LIFNC	**LIFOU**	**23.98**	**129**	P	**P**	**18 02 25.9**	**-4.6**
LIFNC	**LIFOU** comp=Z,94nm,1.0s	**23.98**	**129**	P	**P**	**18 02 31.8**	**+1.2**
DZM	**Mont Dzumac** comp=Z,7.4nm,0.9s,baz=300,slow=16,SNR=2.4	**24.14**	**133**	P	**P**	**18 02 32.4**	**+0.3**
DZM				LR	LR	18 09 07.3	
	comp=Z,30nm,21.5s,baz=318,slow=29 comp=Z,7.4nm,0.9s						
DZM	**Mont Dzumac**	**24.14**	**133**	P	**P**	**18 02 29.0**	**-3.2**
DZM				IAmb	IAmb	18 03 04.7	
	comp=Z,62nm,1.4s						
OOD	**Oodnadatta**	**24.23**	**206**	P	**P**	**18 02 34.8**	**+2.1**
ARMA	**Armidale**	**24.39**	**171**	P	**P**	**18 02 34.2**	**-0.1**
ARMA				IAmb	IAmb	18 02 38.3	
	comp=Z,14nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.40**	**239**	P	**P**	**18 02 36.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**24.40**	**239**	P	**P**	**18 02 36.9**	**+2.5**
LUWI	**Luwuk**	**25.22**	**281**	P	**P**	**18 02 42.6**	**+0.6**
LUWI	**Luwuk** comp=Z,44nm,0.9s,comp=Z,671nm	**25.22**	**281**	P	**P**	**18 02 42.8**	**+0.8**
CMSA	**Cobar Meteorol**	**25.25**	**184**	P	**P**	**18 02 44.3**	**+2.2**
LCRK	**Leigh Creek**	**25.64**	**199**	P	**P**	**18 02 47.2**	**+1.6**
AUDCS	**Dubbo College**	**25.90**	**178**	P	**P**	**18 02 51.2**	**+3.2**
STKA	**Stephens Creek** comp=Z,9.2nm,0.8s,baz=350,slow=9.9,SNR=17	**26.13**	**192**	P	**P**	**18 02 51.7**	**+1.7**
STKA				LR	LR	18 13 11.3	
	comp=Z,117nm,19.9s,baz=27,slow=36 comp=Z,9.2nm,0.8s						
STKA	**Stephens Creek**	**26.13**	**192**	P	**P**	**18 02 50.2**	**+0.2**
STKA	**Stephens Creek**	**26.13**	**192**	P	**P**	**18 02 51.8**	**+1.8**
WRKA	**Warakurna**	**26.26**	**222**	P	**P**	**18 02 52.8**	**+1.5**
KAPI	**Kappang** comp=Z,40nm,18.4s,baz=82,slow=43	**27.66**	**271**	LR	LR	18 17 09.9	
TOLI2	**Tolitoli**	**27.67**	**284**	P	**P**	**18 03 03.4**	**-0.6**
TOLI2				IAmb	IAmb	18 03 41.4	
	comp=Z,9.2nm,0.8s						
BBOO	**Buckleboo**	**28.53**	**201**	P	**P**	**18 03 10.2**	**-1.3**
BBOO				IAmb	IAmb	18 03 48.9	
	comp=Z,26nm,1.4s						
CAN	**Canberra**	**29.00**	**178**	P	**P**	**18 03 13.6**	**-2.1**
FORT	**Forrest**	**30.51**	**214**	P	**P**	**18 03 27.8**	**-1.3**
FORT				IAmb	IAmb	18 03 32.2	
	comp=Z,17nm,0.8s						
MBWA	**Marble Bar**	**30.73**	**238**	P	**P**	**18 03 30.2**	**-1.0**
PSA00	**Pilbara Seismi**	**30.81**	**238**	P	**P**	**18 03 31.6**	**-0.3**
PSA00				IAmb	IAmb	18 03 34.1	
	comp=Z,14nm,0.8s						
MSVF	**Nonsavu** comp=Z,37nm,19.4s,baz=313,slow=34	**31.92**	**114**	LR	LR	18 15 37.3	
MORW	**Morawa**	**37.42**	**229**	P	**P**	**18 04 28.3**	**-0.7**
NWAO	**Narrogin (SRO)** comp=Z,55nm,19.5s,baz=38	**38.72**	**223**	LR	LR	18 21 58.6	
NWAO	**Narrogin (SRO)**	**38.72**	**223**	P	**P**	**18 04 39.0**	**-0.9**
NWAO				IAmb	IAmb	18 05 19.2	
	comp=Z,18nm,1.3s						
TPUB	**Ta-pu**	**39.38**	**319**	P	**P**	**18 04 43.6**	**-1.8**
LEM	**Lembang** comp=Z,46nm,18.1s,baz=34,slow=41	**39.64**	**267**	LR	LR	18 24 47.2	
URZ	**Urewera** comp=Z,57nm,19.9s,baz=44,slow=34	**41.68**	**144**	LR	LR	18 20 50.2	
JNU	**Nakatsue** comp=Z,32nm,20.3s,baz=190,slow=33	**42.19**	**339**	LR	LR	18 20 34.9	
RPZ	**Rata Peaks** comp=Z,139nm,21.1s,baz=326,slow=32	**42.69**	**155**	LR	LR	18 20 02.1	
MJAR	**Matsushiro Arr** comp=Z,5.6nm,1.1s,baz=167,slow=5.8,SNR=5.2 comp=Z,5.6nm,1.1s	**43.42**	**349**	P	**P**	**18 05 17.8**	**-0.5**
MAJO	**Matsushiro**	**43.42**	**349**	P	**P**	**18 05 17.4**	**-0.9**
MAJO				IAmb	IAmb	18 05 47.9	
	comp=Z,28nm,1.4s						
MJB9	**Matsu-Tunnel**	**43.42**	**349**	P	**P**	**18 05 18.4**	**0.0**
KSRS	**Korea Array** comp=Z,1.7nm,0.8s,baz=153,slow=8.8,SNR=5.3	**47.14**	**339**	P	**P**	**18 05 48.4**	**+0.7**
KSRS				LR	LR	18 24 27.3	
	comp=Z,32nm,21.4s,baz=120,slow=34 comp=Z,1.7nm,0.8s						
ASAJ	**Asahikawa** comp=Z,4.3nm,0.9s,baz=142,slow=18,SNR=2.1	**50.29**	**355**	P	**P**	**18 06 13.3**	**+1.6**
ASAJ				LR	LR	18 24 08.8	
	comp=Z,22nm,21.3s,baz=311,slow=32 comp=Z,4.3nm,0.9s						
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.8s,baz=121,slow=5.6,SNR=7.9 comp=Z,0.8nm,0.8s	**53.81**	**298**	P	**P**	**18 06 38.9**	**+0.5**
KLR	**Kul'dur** comp=Z,1.7nm,0.7s,baz=184,slow=4.0,SNR=7.4 comp=Z,1.7nm,0.7s	**56.91**	**348**	P	**P**	**18 07 00.7**	**+0.7**
PETK	**Petropavlovsk-** comp=Z,11nm,1.1s,baz=159,slow=4.5,SNR=4.7	**59.72**	**7**	P	**P**	**18 07 19.7**	**+0.1**
PETK				LR	LR	18 30 00.2	
	comp=Z,36nm,21.2s,baz=132,slow=33 comp=Z,11nm,1.1s						
SONM	**Songino Array** comp=Z,1.9nm,0.9s,baz=130,slow=4.0,SNR=12	**64.84**	**331**	P	**P**	**18 07 54.0**	**-0.1**
SONM				LR	LR	18 35 32.1	
	comp=Z,28nm,21.5s,baz=108,slow=35 comp=Z,1.9nm,0.9s						
MA2	**Magadan** comp=Z,21nm,21.7s,baz=151,slow=32	**65.63**	**2**	LR	LR	18 32 02.2	
VNDA	**Vanda** comp=Z,2.3nm,0.9s,baz=344,slow=8.0,SNR=8.6 comp=Z,2.3nm,0.9s	**71.67**	**177**	P	**P**	**18 08 37.5**	**+1.4**
VNDA	**Vanda**	**71.67**	**177**	P	**P**	**18 08 36.8**	**+0.7**
VNDA				IAmb	IAmb	18 08 55.0	
	comp=Z,6.5nm,1.2s						
MKAR	**Makanchi Array** comp=Z,0.8nm,0.8s,baz=98,slow=8.6,SNR=10.0 comp=Z,0.8nm,0.8s	**77.99**	**320**	P	**P**	**18 09 13.1**	**-0.1**
MKAR	**Makanchi Array**	**77.99**	**320**	P	**P**	**18 09 12.7**	**-0.4**
MAKZ	**Makanchi**	**78.20**	**320**	P	**P**	**18 09 13.8**	**-0.5**
ZAA0	**Zalesovo Array**	**79.47**	**328**	P	**P**	**18 09 19.5**	**-1.5**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.4s,baz=98,slow=6.1,SNR=6.8	**79.47**	**328**	P	**P**	**18 09 19.9**	**-1.1**
ZALV				LR	LR	18 44 47.9	
	comp=Z,14nm,21.9s,baz=74,slow=36 comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**79.47**	**328**	P	**P**	**18 09 19.4**	**-1.6**
QSPA	**South Pole Qui**	**83.75**	**180**	P	**P**	**18 09 43.3**	**-0.3**
QSPA				IAmb	IAmb	18 09 45.5	
	comp=Z,6.2nm,0.7s						
ILAR	**Eielson Array** comp=Z,1.0nm,0.8s,baz=249,slow=5.2,SNR=7.4	**85.47**	**23**	P	**P**	**18 09 50.2**	**-1.9**
ILAR				LR	LR	18 42 19.7	
	comp=Z,23nm,20.4s,baz=215,slow=32 comp=Z,1.0nm,0.8s						
BBB	**Bella Bella**	**91.41**	**38**	LR	LR	18 41 51.1	
	comp=Z,29nm,21.6s,baz=282,slow=29						
YBH	**Yreka Blue Hor** comp=Z,37nm,20.9s,baz=266,slow=31	**93.92**	**49**	LR	LR	18 45 15.5	
NEW	**Newport** comp=Z,19nm,21.3s,baz=281,slow=30	**98.17**	**42**	LR	LR	18 46 04.1	
PFO	**Pinyon Flats O** comp=Z,26nm,19.9s,baz=64,slow=31	**98.41**	**57**	LR	LR	18 48 19.6	
SNAA	**Sanae** comp=Z,61nm,21.7s,baz=133,slow=35	**99.87**	**189**	LR	LR	18 55 00.4	
PLCA	**Paso Flores** comp=Z,0.8nm,0.5s,baz=264,slow=9.2,SNR=3.5	**121.66**	**147**	PKP	**PKiKP**	**18 16 09.3**	**+0.6**
GERES	**GERESS Array B** comp=Z,0.4nm,0.6s,baz=122,slow=1.7,SNR=5.2	**122.38**	**326**	PKP	**PKPdf**	**18 16 09.4**	**-0.2**
CPUP	**Villa Florida** comp=Z,2.8nm,1.1s,baz=266,slow=6.0,SNR=4.2	**139.66**	**144**	PKP	**PKPdf**	**18 16 43.3**	**+0.5**
SDV	**Santo Domingo** comp=Z,3.0nm,0.4s,baz=5.3,slow=6.2,SNR=3.8	**142.09**	**84**	PKhKP	PKPpre	18 16 43.8	
SIV	**San Ignacio** comp=Z,3.6nm,0.7s,baz=234,slow=3.7,SNR=14	**144.11**	**128**	PKP	PKPbc	18 16 49.8	+0.6
BDFB	**Brasilia** comp=Z,8.0nm,0.7s,baz=247,slow=0.9,SNR=13	**153.39**	**145**	PKPbc	**PKiKP**	**18 17 14.1**	**+0.3**

IDC ***08*** *18:01:30.8±2.8, 10°.42N×62°.12W, h0km, mb3.5/2, mbtmp3.9/4, ML3.8/2, MS3.1/2, Error ellipse: s-maj=81.6km s-min=30.9km az=32.0*
NEIC ***08*** *18:01:39.9±2.5, 10°.71N±0°.07×61°.72W±0°.07, h44km±28km, mb3.9/1, Error ellipse: s-maj=9.7km s-min=9.2km az=178.0*
TRN ***08*** *18:01:41.2, 10°.81N×61°.73W, h46km, MD3.8*
TRN Felt Trinidad, MMI III.
FUNV ***08*** *18:01:42.7, 10°.87N×61°.65W, h34km, MW3.9*

ISC 08 18:01:40.4±0.8, 10°.79N±0°.04×61°.78W±0°.04, h61km±9km, n76, σ1°76/95, mb3.9/3, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.40**	**111**	eP	**Pn**	**18 01 51.3**	**-0.1**
TRN				eS	**Sn**	**18 01 57.6**	**-1.8**
TPP	**Pointe-a-Pierr**	**0.57**	**146**	eP	**Pn**	**18 01 53.5**	**+0.2**
TBH	**Brigand Hill**	**0.76**	**113**	eP	**Pn**	**18 01 55.9**	**+0.3**
TPR	**Prospect**	**1.06**	**68**	eP	**Pn**	**18 01 59.0**	**-0.3**
TPR				eS	**Sn**	**18 02 12.0**	**-1.3**
BOT	**Bacolet**	**1.11**	**70**	eP	**Pn**	**18 01 59.8**	**-0.1**
BOT				eS	**Sn**	**18 02 13.3**	**-1.1**
TOSP	**Speyside**	**1.32**	**67**		**Pn**	**18 02 02.0**	**-0.7**
TOSP				Sn	**Sn**	**18 02 16.9**	**-2.5**
TOSP	**Speyside**	**1.32**	**67**	eP	**Pn**	**18 02 02.1**	**-0.7**
TOSP				eS	**Sn**	**18 02 18.4**	**-1.0**
GRGR	**Grenville**	**1.34**	**5**	Pn	**Pn**	**18 02 03.0**	**0.0**
GRGR				Sn	**Sn**	**18 02 19.1**	**-0.8**
GRGR	**Grenville**	**1.34**	**5**	eP	**Pn**	**18 02 03.1**	**0.0**
GRGR				eS	**Sn**	**18 02 19.3**	**-0.6**
CRUV	**Carupano**	**1.44**	**266**	eP	**Pn**	**18 02 25.6**	**+2.3**
CRUV				eS	**Sn**	**18 02 25.6**	**+3.3**
GCMP	**Grenada, Carri**	**1.72**	**12**	eP	**Pn**	**18 02 08.6**	**+0.5**
GCMP				eS	**Sn**	**18 02 28.3**	**-0.8**
SVB	**Belmont**	**2.52**	**12**	Pn	**Pn**	**18 02 20.0**	**+1.0**
SVB	**Belmont**	**2.52**	**12**	eP	**Pn**	**18 02 19.8**	**+0.8**
SVB				eS	**Sn**	**18 02 48.1**	**-0.5**
SSV	**Crater Summit**	**2.58**	**13**	eP	**Pn**	**18 02 21.1**	**+1.1**
SSV				eS	**Sn**	**18 02 48.8**	**-1.6**
MCLT	**Moule a Chique**	**3.01**	**16**	Pn	**Pn**	**18 02 26.7**	**+1.0**
MCLT	**Moule a Chique**	**3.01**	**16**	eP	**Pn**	**18 02 26.8**	**+1.0**
MCLT				eS	**Sn**	**18 02 59.7**	**-1.0**
SLB	**Belfond**	**3.10**	**13**	eP	**Pn**	**18 02 29.0**	**+1.9**
SLB				eS	**Sn**	**18 03 02.2**	**-0.8**
SLBI	**Saint Lucia, B**	**3.31**	**14**	eP	**Pn**	**18 02 30.8**	**+1.1**
SLBI				eS	**Sn**	**18 03 07.0**	**-0.8**
PRGV	**PARIAGUAN**	**3.47**	**235**	eP	**Pn**	**18 02 35.0**	**+3.0**
PRGV				eS	**Sn**	**18 03 14.5**	**+2.5**
MPOM	**Morne Pois Mar**	**3.74**	**14**	Pn	**Pn**	**18 02 36.2**	**+0.5**
MPOM	**Morne Pois Mar**	**3.74**	**14**	eP	**Pn**	**18 02 36.8**	**+1.1**
MPOM				eS	**Sn**	**18 03 17.4**	**-1.1**
BIM	**Bigot**	**3.77**	**10**	Pn	**Pn**	**18 02 36.6**	**+0.5**
BIM	**Bigot**	**3.77**	**10**	eP	**Pn**	**18 02 37.3**	**+1.2**
BIM				eS	**Sn**	**18 03 18.4**	**-0.8**
FDF	**Fort de France**	**3.97**	**9**	Pn	**Pn**	**18 02 39.1**	**+0.3**
FDF	**Fort de France**	**3.97**	**9**	eP	**Pn**	**18 02 39.7**	**+0.9**
FDF				eS	**Sn**	**18 03 22.0**	**-2.2**
ILAM	**Ilet Lapin Mar**	**4.06**	**12**	Pn	**Pn**	**18 02 41.2**	**+1.2**
ILAM	**Ilet Lapin Mar**	**4.06**	**12**	eS	**Sn**	**18 03 24.7**	**-1.6**
SVN	**Savane Anatole**	**4.07**	**8**	Pn	**Pn**	**18 02 40.6**	**+0.4**
MERV	**Las Mercedes**	**4.71**	**251**	eP	**Pn**	**18 02 51.5**	**+2.6**
MERV				eS	**Sn**	**18 03 43.2**	**+0.9**
MAGL	**Barre de l'ile**	**5.15**	**5**	Pn	**Pn**	**18 02 55.8**	**+0.8**
MAGL	**Barre de l'ile**	**5.15**	**5**	eP	**Pn**	**18 02 56.3**	**+1.3**
MAGL	**Barre de l'ile**	**5.15**	**5**	eS	**Sn**	**18 03 51.3**	**-1.8**
TACV	**Tcata**	**5.20**	**263**	eP	**Pn**	**18 02 58.5**	**+2.7**
TACV				eS	**Sn**	**18 03 55.3**	**+0.8**
CBE	**Ff, Capester**	**5.25**	**2**	Pn	**Pn**	**18 02 57.9**	**+1.5**
CBE	**Ff, Capester**	**5.25**	**2**	eP

YOZ				Sg	Sg	18 05 04.7	+1.2	
SIRC	**Yozgat**	**0.39**	**225**	P	Pg	18 05 06.1	+0.1	
SIRC				S	Sg	18 05 11.9	+0.7	
SIRC				*i* AML	AML	18 05 12.0		
	comp=E,7μm,0.2s							
CUSAR	**Sarkisla-SIVAS**	**0.60**	**109**	P	Pg	18 05 09.2	-0.7	
CUSAR				S	Sg	18 05 17.7	-0.1	
CUSAR				*i* AML	AML	18 05 18.0		
	comp=N,1μm,0.6s							
KOZK	**Kozakli-Nevseh**	**0.64**	**231**	Pg	Pg	18 05 10.2	-0.5	
KOZK				Sg	Sb	18 05 21.1	-0.1	
GUNE	**Kayseri**	**0.72**	**173**	P	Pg	18 05 11.9	-0.2	
GUNE				S	Sb	18 05 23.2	-0.2	
BNN	**Bunyan**	**0.81**	**161**	Pg	Pg	18 05 13.2	-0.6	
BNN				Sg	Sb	18 05 25.4	-0.6	
CDAG	**Cicekdag**	**0.88**	**271**	P	Pg	18 05 14.6	-0.6	
CDAG				S	Sg	18 05 26.1	-0.5	
CORM	**Corum**	**0.88**	**310**	Pg	Pb	18 05 15.9	-0.2	
CORM				Sg	Sb	18 05 29.2	+1.1	
AMSY	**Amasya-Merkez**	**1.05**	**14**	P	Pb	18 05 18.8	-0.2	
TOKT	**Tokat**	**1.06**	**48**	Pg	Pg	18 05 17.7	-1.0	
CTAK	**Corum_Osmancik**	**1.17**	**332**	P	Pg	18 05 20.0	-0.8	
CTAK				S	Sb	18 05 36.7	+0.2	
CTAK				*i* AML	AML	18 05 41.0		
	comp=N,1μm,0.5s							
AKPI	**Kirsehir/Akpin**	**1.17**	**265**	P	Pg	18 05 20.2	-0.6	
AKPI				S	Sg	18 05 35.5	-0.6	
AKPI				*i* AML	AML	18 05 39.0		
	comp=E,2μm,0.2s							
SVSK	**Karacayir**	**1.19**	**75**	Pn	Pg	18 05 19.4	-1.7	
SCER	**sogukcermik**	**1.27**	**78**	P	Pg	18 05 20.8	-2.0	
SCER				S	Sb	18 05 39.3	-0.2	
SCER				*i* AML	AML	18 05 41.0		
	comp=E,915nm,0.7s							
KIRS	**Kirsehir-Merke**	**1.32**	**249**	P	Pn	18 05 22.3	-1.1	
KIRS				S	Sg	18 05 40.8	-0.1	
KIRS				*i* AML	AML	18 05 44.0		
	comp=E,450nm,0.4s							
KIZO	**Buyukkizoglu-L**	**1.32**	**14**	Pn	Pn	18 05 23.3	-0.2	
YARM	**Yarimca-Ladik(**	**1.33**	**10**	Pn	Pg	18 05 23.7	-0.1	
SARI	**SarD1z-Kayseri**	**1.40**	**149**	Pn	Pb	18 05 24.9	-0.1	
KAMT	**Kaman**	**1.41**	**261**	Pn	Pn	18 05 24.6	-0.1	
BR131	**Keskin Array S**	**1.45**	**275**	Pn	Pn	18 05 24.1	-1.1	
YAYX	**Yaylak**	**1.48**	**243**	Pn	Pn	18 05 25.4	-0.2	
KVT	**Kavak**	**1.52**	**16**	Pn	Pb	18 05 26.7	-0.3	
KVT				Sn	Sg	18 05 47.4	+0.2	
CUKAN	**kangal_SIVAS**	**1.54**	**101**	P	Pn	18 05 26.1	-0.4	
CUKAN				S	Sg	18 05 47.7	-0.3	
CUKAN				*i* AML	AML	18 05 52.0		
	comp=N,510nm,0.6s							
RSDY	**Resadiye-TOKAT**	**1.60**	**60**	Pn	Pn	18 05 27.5	+0.3	
RSDY				Sn	Sg	18 05 49.3	-0.5	
GULA	**Gulagac**	**1.61**	**218**	Pn	Pn	18 05 27.6	+0.2	
GULA				Sn	Sg	18 05 50.4	+0.3	
CUGUR	**Gurin_SVAS**	**1.64**	**122**	P	Pg	18 05 29.5	-0.2	
CUGUR				S	Sg	18 05 51.3	+0.4	
SERE	**Sereflikochisa**	**1.65**	**247**	Pn	Pn	18 05 28.6	+0.6	
SERE				Sn	Sg	18 05 51.7	+0.3	
AKSY	**AKSARAY - Alti**	**1.67**	**235**	P	Pn	18 05 28.9	+0.7	
AKSY				S	Sg	18 05 51.6	-0.3	
AKSY				*i* AML	AML	18 05 53.0		
	comp=E,606nm,0.5s							
SAIM	**ADANA**	**1.70**	**164**	P	Pn	18 05 28.6	+0.1	
SAIM				S	Sg	18 05 52.8	-0.1	
SAIM				*i* AML	AML	18 06 00.0		
	comp=E,186nm,0.3s							
NIDE	**Nigde/Merkez-G**	**1.71**	**200**	P	Pb	18 05 29.7	-0.6	
NIDE				S	Sg	18 05 53.4	0.0	
NIDE				*i* AML	AML	18 05 59.0		
	comp=E,458nm,0.2s							
KAGI	**orum-Kargı**	**1.71**	**333**	P	Pn	18 05 29.3	+0.5	
KAGI				S	Sb	18 05 52.3	+0.2	
KAGI				*i* AML	AML	18 05 58.0		
	comp=N,259nm,0.7s							
CANT	**Cankiri**	**1.75**	**305**	Pn	Pb	18 05 30.5	-0.5	
ELBS	**KAHRAMANMARAS**	**1.81**	**135**	P	Pg	18 05 32.3	-0.7	
ELBS				S	Sg	18 05 57.4	+1.0	
ELBS				*i* AML	AML	18 06 03.0		
	comp=E,469nm,0.6s							
BBAL	**Bala**	**1.84**	**269**	P	Pn	18 05 31.5	+0.9	
BBAL				S	Sb	18 05 56.0	0.0	
BBAL				*i* AML	AML	18 06 02.0		
	comp=E,590nm,0.4s							
DARE	**Darende-Malaty**	**1.86**	**124**	Pn	Pn	18 05 30.7	-0.1	
AFSR	**Afar-Bala (An**	**1.89**	**266**	Pn	Pn	18 05 31.9	+0.6	
BOYA	**Sinop/Boyabat-**	**2.02**	**342**	P	Pn	18 05 33.9	+1.0	
BOYA				S	Sb	18 06 00.9	+0.1	
BOYA				*i* AML	AML	18 06 06.0		
	comp=E,155nm,0.9s							
KULU	**Kulu**	**2.03**	**254**	Pn	Pn	18 05 34.5	+1.4	
HEKM	**Malatya_Hekimh**	**2.04**	**110**	P	Pb	18 05 35.5	-0.5	
HEKM				S	Sb	18 06 02.2	+0.6	
HEKM				*i* AML	AML	18 06 08.0		
	comp=E,355nm,0.6s							
DIKM	**Dikmen**	**2.04**	**355**	Pn	Pn	18 05 34.2	+1.0	
KKUL	**Konya-Kulu**	**2.06**	**258**	P	Pn	18 05 34.4	+0.8	
KKUL				S	Sb	18 06 03.0	+1.0	
KKUL				*i* AML	AML	18 06 05.0		
	comp=E,371nm,0.9s							
KOZT	**Kozan**	**2.15**	**173**	Pn	Pn	18 05 35.4	+0.7	
AKO	**Adana**	**2.15**	**181**	P	Pb	18 05 36.3	-1.4	
SUSE	**Susehri**	**2.15**	**73**	P	Pn	18 05 36.1	+1.2	
SUSE				S	Sb	18 06 05.2	+0.3	
SUSE				*i* AML	AML	18 06 18.0		
	comp=E,130nm,0.5s							
YESY	**Yesilyurt**	**2.29**	**218**	Pn	Pn	18 05 37.9	+1.1	
AKCD	**Akcadag**	**2.30**	**124**	P	Pg	18 05 42.0	-0.4	
AKCD				S	Sg	18 06 10.8	-1.4	
KEMA	**Kemaliye**	**2.34**	**98**	P	Pn	18 05 37.9	+0.5	
PELI	**Kastamonı-Ara**	**2.38**	**316**	P	Pb	18 05 40.8	-0.8	
PELI				S	Sb	18 06 11.9	+0.8	
PELI				*i* AML	AML	18 06 16.0		
	comp=E,39nm,0.4s							
KAHM	**Kahramanmaras,**	**2.40**	**151**	P	Pb	18 05 42.1	+0.3	
KAHM				S	Sb	18 06 12.8	+1.2	
KAHM				*i* AML	AML	18 06 19.0		
	comp=N,39nm,0.5s							
ALIN	**Konya, Altinte**	**2.44**	**238**	P	Pn	18 05 39.3	+0.6	
KERG	**Konya-Eregli**	**2.45**	**207**	P	Pb	18 05 42.0	-0.9	
AKCA	**Adyaman/Gʢll**	**2.49**	**136**	P	Pb	18 05 42.9	-0.7	
AKCA				S	Sb	18 06 14.2	-0.3	
AKCA				*i* AML	AML	18 06 26.0		
	comp=E,138nm,0.8s							
REFA	**Refahiye_ERZN**	**2.53**	**82**	P	Pn	18 05 40.2	+0.1	
ALUC	**Giresun/Alucra**	**2.61**	**73**	P	Pn	18 05 42.7	+1.5	
DED	**Mersin**	**2.71**	**192**	P	Pn	18 05 44.3	+1.9	
DED				S	Sg	18 06 24.3	-1.0	
DED				*i* AML	AML	18 06 33.0		
	comp=N,28nm,1.0s							
KBUK	**KARABUK-Merkez**	**2.73**	**307**	P	Pn	18 05 44.7	+1.9	
GZT	**Gaziantep**	**2.77**	**144**	P	Pg	18 05 50.0	-1.5	
GZT				S	Sb	18 06 23.3	+0.6	
KDHN	**Kadinhani**	**2.86**	**249**	P	Pn	18 05 45.0	+0.4	
BCAM	**Yenicaga**	**2.90**	**296**	P	Pb	18 05 48.5	-2.0	
BCAM				S	Sg	18 06 29.5	-1.9	
BCAM				*i* AML	AML	18 06 33.0		
	comp=N,49nm,0.7s							
KIBS	**BOLU**	**2.92**	**287**	P	Pn	18 05 46.5	+1.1	
KIBS				S	Sb	18 06 27.1	+0.2	
KIBS				*i* AML	AML	18 06 38.0		
	comp=N,87nm,1.0s							
ELZG	**Elazig**	**2.93**	**111**	P	Pn	18 05 46.8	+1.2	
KELT	**Kelkit**	**2.93**	**78**	P	Pn	18 05 46.9	+1.3	
KMER	**Konya-Meram**	**3.07**	**234**	P	Pn	18 05 49.0	+1.4	
KMER				S	Sg	18 06 35.4	-1.6	
KMER				*i* AML	AML	18 06 45.0		
	comp=E,36nm,1.2s							
KKBE	**Karaman, Kazim**	**3.13**	**221**	P	Pb	18 05 53.9	-0.5	
TNCL	**Tunceli-Merkez**	**3.17**	**98**	P	Pn	18 05 49.5	+0.7	
DOGA	**KONYA_Doganhis**	**3.35**	**245**	P	Pn	18 05 52.4	+1.0	
KOVA	**Elazig, Kovanc**	**3.47**	**104**	P	Pb	18 05 59.7	-0.5	
SEDI	**Konya, Seydise**	**3.65**	**235**	P	Pn	18 05 59.0	+3.5	
BAYB	**BAYBURT**	**3.71**	**79**	P	Pb	18 06 04.0	-0.4	
ECAT	**Cat-ERZURUM**	**4.22**	**88**	P	Pg	18 06 27.5	+8.3	
KRIK	**Erzurum-spir**	**4.22**	**78**	P	Pb	18 06 12.0	-1.2	
KZIL	**AFYON_Kizioren**	**4.40**	**254**	P	Pn	18 06 06.3	+0.5	
KZIL				S	Sn	18 06 57.3	-0.1	
KZIL				*i* AML	AML	18 07 07.0		
	comp=E,12nm,0.6s							
EJDE	**Erzurum, Palan**	**4.47**	**85**	P	Pg	18 06 24.5	+0.5	
PASA	**Karahalli, USA**	**4.86**	**257**	P	Pn	18 06 12.4	+0.4	
KOTA	**Agri, Merkez-K**	**5.94**	**86**	P	Pb	18 06 45.2	+2.9	

***IDC 08** 18:05:53.6±2.0, 3°.64N×128°.53E, h0km, mb3.2/3, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=131.0km s-min=23.5km az=63.0, North of Halmahera*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.25**	**149**	Pn	Pn	18 07 13.5	+0.1
	0.6nm,0.3s,baz=262,slow=3.7,SNR=4.2						
SIJI				Sn	Sn	18 08 16.2	+1.5
	0.8nm,0.3s,baz=246,slow=22,SNR=13						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**24.12**	**167**	P	P	18 11 11.0	-0.4
	0.3nm,0.7s,baz=347,slow=11,SNR=2.0						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**27.64**	**169**	P	P	18 11 43.8	+0.6
	0.5nm,1.2s,baz=354,slow=8.4,SNR=1.7						
	0.5nm,1.2s						
MKAR	**Makanchi Array**	**58.66**	**324**	P	P	18 15 52.5	-0.3
	0.2nm,0.5s,baz=118,slow=8.8,SNR=4.9						
	0.2nm,0.5s						

*ISU **08** 18:17:21.0, 39°.80N×73°.95E, h30km*
*IDC **08** 18:17:21.1±0.9, 39°.28N×73°.64E, h0km, mb3.7/11, mbtmp3.7/16, ML2.8/6, MS2.8/4, Error ellipse: s-maj=17.1km s-min=14.9km az=60.0*
*KRNET **08** 18:17:23.6±0.1, 39°.46N×73°.46E, mb3.8*
*SOME **08** 18:17:24.1, 39°.47N×73°.55E, h15km*
*NNC **08** 18:17:27.0±1.2, 39°.59N×73°.57E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=9.2km s-min=4.9km az=167.0*
ISC 08 18:17:22.3±1.3, 39°.53N±0°.04×73°.70E±0°.02, h5km±8km, n117, σ1°85/144, mb3.7/11, MS3.2/3, 28C-27D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.22**	**325**	⇑*iP*	Pg	18 17 45.9	+0.2
	baz=34						
OHH				⇑*iS*	Sn	18 18 02.5	-0.7
	baz=34						
TSTA	**Tashata**	**1.41**	**319**	P	Pn	18 17 49.0	+0.2
TSTA				S	Sg	18 18 09.2	+1.6
DRK	**Karamyk**	**1.47**	**269**	⇓*iP*	Pn	18 17 47.9	-1.9
	baz=71						
DRK				⇓*iS*	Sb	18 18 06.0	-3.5
	baz=71						
FRG	**Fergana**	**1.70**	**301**	P	Pn	18 17 53.5	+0.8
FRG				S	Sg	18 18 18.3	+1.4
CHMI	**Chimion**	**1.83**	**295**	P	Pb	18 17 55.8	-0.6
CHMI				S	Sg	18 18 22.4	+1.2
BTK	**Batken**	**2.28**	**284**	⇑*eP*	Pn	18 18 02.3	+1.5
	baz=87						
BTK				⇑*iS*	Sn	18 18 30.6	+1.2
	baz=87						
BTK	**Batken**	**2.28**	**284**	P	Pn	18 18 02.3	+1.5
ARLS	**Aral**	**2.38**	**11**	⇓*iP*	Pg	18 18 07.2	-0.8
	baz=15						
ARLS				⇓*iS*	Sg	18 18 38.7	-0.2
	baz=15						
NRN	**Naryn**	**2.59**	**42**	⇓*iP*	Pb	18 18 10.7	+1.2
	baz=44						
NRN				⇓*iS*	Sg	18 18 45.2	-0.4
	baz=44						
AML	**Almayashu**	**2.60**	**360**	P	Pb	18 18 10.6	+0.9
	SNR=102						
AML	**Almayashu**	**2.60**	**360**	⇑*iP*	Pb	18 18 09.9	+0.1
	baz=4.0						
AML				⇑*iS*	Sg	18 18 44.0	-2.0
	baz=4.0						
ARK	**Arkit**	**2.63**	**330**	⇓*iP*	Pb	18 18 09.0	-1.0
	baz=35						
ARK				⇓*iS*	Sb	18 18 41.6	-1.0
	baz=35						
GAR	**Garm**	**2.68**	**260**	⇑*eP*	Pn	18 18 07.3	+1.0
	baz=60						
GAR				⇑*iS*	Sn	18 18 39.1	-0.1
	baz=60						
UCH	**Uchtor**	**2.77**	**13**	P	Pb	18 18 13.6	+0.9
	SNR=92						
UCH	**Uchtor**	**2.77**	**13**	⇑*iP*	Pb	18 18 12.9	+0.3
	baz=16						
UCH				⇑*iS*	Sb	18 18 48.8	+1.7
	baz=16						
TRKS	**Terek-Say**	**2.79**	**317**	⇓*iP*	Pn	18 18 09.8	+1.9
	baz=20						
TRKS				⇓*iS*	Sn	18 18 43.1	+0.9
	baz=20						
EKS2	**Erkin-Say**	**3.13**	**1**	P	Pb	18 18 18.3	-0.4
	SNR=16						
EKS2	**Erkin-Say**	**3.13**	**1**	⇑*iP*	Pb	18 18 17.3	-1.4
	baz=4.0						
EKS2				⇑*iS*	Sb	18 18 56.2	-1.0
	baz=4.0						
AAK	**Ala-Archa**	**3.17**	**11**	P	Pb	18 18 19.2	0.0
	SNR=10						
AAK	**Ala-Archa**	**3.17**	**11**	Pn	Pb	18 18 19.3	0.0
	3.3nm,0.3s,baz=158,slow=5.5,SNR=37						
AAK				Sn	Sg	18 19 03.1	-1.0
	2.9nm,0.3s,baz=6.7,slow=18,SNR=2.1						
AAK				LR	LR	18 19 04.0	
	comp=Z,30nm,19.8s,baz=215,slow=30						
	11nm,0.3s						
AAK	**Ala-Archa**	**3.17**	**11**	⇓*iP*	Pb	18 18 17.9	-1.3
	baz=14						
AAK				⇓*iS*	Sb	18 18 57.8	-0.4
	baz=14						
MRKS	**Merke**	**3.24**	**354**	Pg	Pg	18 18 24.5	+0.1
	35nm,0.3s						
MRKS				Lg	Lg	18 19 07.0	
	98nm,0.3s						
MRKS	**Merke**	**3.24**	**354**	*e*Pg	Pg	18 18 24.3	-0.1
	35nm,0.3s						
MRKS				*e*Lg	Lg	18 19 07.0	
	98nm,0.3s						
KBK	**Karagaybulak**	**3.27**	**16**	P	Pb	18 18 20.6	-0.4
	SNR=39						
KBK	**Karagaybulak**	**3.27**	**16**	⇓*iP*	Pb	18 18 19.9	-1.1
	baz=19						
KBK				⇓*iS*	Sb	18 19 00.9	-0.2
	baz=19						
ULHL	**Ulahol**	**3.33**	**35**	P	Pg	18 18 27.1	+0.9
	SNR=9.7						
ULHL	**Ulahol**	**3.33**	**35**	⇓*iP*	Pb	18 18 21.2	-0.9
	baz=36						
ULHL				⇓*iS*	Sb	18 19 03.3	+0.3
	baz=36						
FRU1	**Bishkek**	**3.36**	**12**	⇓*iP*	Pb	18 18 21.0	-1.4
	baz=14						
FRU1				⇓*iS*	Sb	18 19 03.0	-0.6
	baz=14						
CHMG	**Chimgan**	**3.46**	**307**	P	Pb	18 18 21.5	-2.8
CHRV	**Charvak**	**3.55**	**308**	P	Sb	18 19 09.7	+0.5
CHMS	**Chumysh**	**3.56**	**13**	P	Pb	18 18 25.4	-0.5
	SNR=14						
CHMS	**Chumysh**	**3.56**	**13**	⇑Pg	Pg	18 18 33.4	+2.9
	11nm,0.5s						
CHMS				⇑Lg	Lg	18 19 20.3	
	34nm,0.8s						
CHMS	**Chumysh**	**3.56**	**13**	⇑*eP*	Pb	18 18 23.5	-2.4
	baz=15						
CHMS				⇑*iS*	Sb	18 19 07.3	-2.1
	baz=15						
YBZ	**Yangibazar**	**3.61**	**301**	P	Pn	18 18 21.7	+2.7
YBZ				S	Sb	18 19 09.4	-1.3
CHGR	**Chuyangaron**	**3.64**	**258**	⇓*iP*	Pn	18 18 20.3	+0.8
	baz=58						
CHGR				⇓*iS*	Sn	18 19 02.0	-0.8
	baz=58						
TKM2	**Tokmak 2**	**3.68**	**22**	⇑Pg	Pg	18 18 35.6	+2.7
	15nm,0.6s						
TKM2				⇑Lg	Lg	18 19 23.9	
	26nm,0.7s						
TKM2	**Tokmak 2**	**3.68**	**22**	⇑*iP*	Pb	18 18 25.8	-2.3
	baz=24						
TKM2				⇑*iS*	Sb	18 19 11.2	-1.9
	baz=24						
KDJ	**Kajisay**	**3.71**	**44**	⇑*eP*	Pb	18 18 26.9	-1.6
	baz=46						
KDJ				⇑*iS*	Sb	18 19 12.7	-1.1
	baz=46						
USP	**Ospenovka**	**3.79**	**9**	P	Pb	18 18 27.6	-2.1
	SNR=9.7						
USP	**Ospenovka**	**3.79**	**9**	⇑*iP*	Pb	18 18 26.7	-3.0
	baz=11						
USP				⇑*iS*	Sb	18 19 12.6	-3.3
	baz=11						

KUMR	**Kumaryk**	**3.80**	**298**	P	Sb	18 19 13.1	-3.1	
KUMR				S	Pg	18 18 37.3	+2.2	
DZA	**Taraz**	**3.81**	**333**	Pg	Pg	18 18 34.2	-1.1	
	35nm,0.2s							
DZA				Lg	Lg	18 19 24.9		
	74nm,0.4s							
DZA	**Taraz**	**3.81**	**333**	*e*Pg	Pg	18 18 34.2	-1.1	
	35nm,0.2s							
DZA				*e*Lg	Lg	18 19 24.9		
	74nm,0.4s							
TAS	**Tashkent**	**3.81**	**300**	⇑*iP*	Pn	18 18 23.7	+1.9	
	baz=2.0							
TAS				⇑*iS*	Sn	18 19 07.6	+0.6	
	baz=2.0							
IUG	**luzhnay**	**3.82**	**314**	Pg	Pg	18 18 35.1	-0.4	
	101nm,0.5s							
IUG				Lg	Lg	18 19 25.1		
	207nm,0.4s							
IUG	**luzhnay**	**3.82**	**314**	*e*Pg	Pg	18 18 36.4	+0.9	
	101nm,0.5s							
IUG				*e*Lg	Lg	18 19 28.5		
	207nm,0.4s							
NZBK	**Nazarbek**	**3.89**	**297**	P	Sb	18 19 15.8	-3.0	
KST	**Kastek**	**3.91**	**25**	Pg	Pg	18 18 39.1	+1.9	
	14nm,0.4s							
KST				Lg	Lg	18 19 31.7		
	87nm,0.9s							
KST	**Kastek**	**3.91**	**25**	*e*Pg	Pg	18 18 38.3	+1.1	
	8.6nm,0.6s							
KST				*e*Lg	Lg	18 19 31.7		
	87nm,0.9s							
SGDS	**Sogindy**	**3.99**	**10**	Pg	Pg	18 18 37.6	-1.1	
	11nm,0.5s							
SGDS				Lg	Lg	18 19 29.4		
	33nm,0.8s							
DGS	**Degeres**	**4.03**	**22**	Pg	Pg	18 18 40.4	+0.9	
	18nm,0.3s							
DGS				Lg	Lg	18 19 35.5		
	92nm,0.7s							
DGS	**Degeres**	**4.03**	**22**	*e*Pg	Pg	18 18 40.4	+0.9	
	18nm,0.3s							
DGS				*e*Lg	Lg	18 19 35.5		
	92nm,0.7s							
MTBS	**Maitube**	**4.15**	**29**	Pg	Pg	18 18 42.4	+0.6	
	16nm,0.4s							
MTBS				Lg	Lg	18 19 38.3		
	37nm,0.7s							
MTBS	**Maitube**	**4.15**	**29**	*e*Pg	Pg	18 18 42.4	+0.6	
	16nm,0.4s							
MTBS				*e*Lg	Lg	18 19 38.3		
	37nm,0.7s							
CHM	**Chimkent**	**4.17**	**313**	*e*Pg	Pg	18 18 40.0	-2.2	
	32nm,0.4s							
CHM				*e*Lg	Lg	18 19 34.7		
	144nm,0.5s							
TNSS	**Tian-Shan**	**4.28**	**34**	Pg	Pg	18 18 44.6	+0.3	
	20nm,0.6s							
TNSS				Lg	Lg	18 19 42.6		
	39nm,0.6s							
TNSS	**Tian-Shan**	**4.28**	**34**	*e*Pg	Pg	18 18 44.6	+0.3	
	20nm,0.6s							
TNSS				*e*Lg	Lg	18 19 42.6		
	39nm,0.6s							
KK31	**Karatay Array**	**4.30**	**327**	⇓Pn	Pn	18 18 33.3	+4.8	
	1.2nm,0.3s,baz=132,slow=12,SNR=128							
KK31				⇑Pg	Pg	18 18 42.6	-2.2	
	5.7nm,0.4s,baz=147,slow=15,SNR=5.7							
KK31				⇑Lg	Lg	18 19 39.6		
	14nm,0.5s,baz=168,slow=28,SNR=3.7							
KKAR	**Karatay Array**	**4.30**	**327**	⇓*eP*	Pn	18 18 31.7	+3.1	
	baz=30							
KKAR				⇓*iS*	Sn	18 19 21.8	+2.6	
	baz=30							
BXML	**Bakhmal**	**4.38**	**274**	P	Pb	18 18 39.5	-0.4	
KRBS	**Karabastau**	**4.42**	**19**	Pg	Pg	18 18 46.8	-0.3	
	13nm,0.4s							
KRBS				Lg	Lg	18 19 46.9		
	28nm,0.6s							
KRBS	**Karabastau**	**4.42**	**19**	*e*Pg	Pg	18 18 46.8	-0.3	
	13nm,0.4s							
KRBS				*e*Lg	Lg	18 19 45.8		
	28nm,0.6s							
ANVS	**Anan'yevo**	**4.42**	**41**	⇓*iP*	Pb	18 18 36.7	-4.0	
	baz=42							
ANVS				⇓*iS*	Sb	18 19 29.9	-4.5	
	baz=42							
MDOK	**Medeo**	**4.42**	**34**	Pg	Pg	18 18 47.7	+0.6	
	16nm,0.7s							
MDOK				Pg	Pg	18 18 48.5	+1.4	
	13nm,0.6s							
MDOK				Lg	Lg	18 19 48.6		
	33nm,1.0s							
MDOK				⇓Lg	Lg	18 19 48.7		
	58nm,0.9s							
MDOK	**Medeo**	**4.42**	**34**	*e*Pg	Pg	18 18 48.5	+1.4	
	13nm,0.6s							
MDOK				*e*Lg	Lg	18 19 48.5		
	33nm,1.0s							
KOTS	**Kotyrbulak**	**4.51**	**34**	Pg	Pg	18 18 49.3	+0.6	
	15nm,0.6s							
KOTS				Lg	Lg	18 19 50.7		
	88nm,0.6s							
KOTS	**Kotyrbulak**	**4.51**	**34**	*e*Pg	Pg	18 18 49.3	+0.6	
	15nm,0.6s							
KOTS				*e*Lg	Lg	18 19 50.7		
	88nm,0.6s							
KRSA	**Karasay**	**4.62**	**279**	P	Pn	18 18 36.6	+3.6	
KTBS	**Karatobe**	**4.74**	**27**	Pg	Pg	18 18 52.5	-0.7	
	5.1nm,0.3s							
KTBS				Lg	Lg	18 19 56.3		
	65nm,0.6s							
KTBS	**Karatobe**	**4.74**	**27**	*e*Pg	Pg	18 18 52.5	-0.7	
	5.1nm,0.3s							
KTBS				*e*Lg	Lg	18 19 56.3		
	65nm,0.6s							
KUU	**Kurty**	**4.79**	**24**	Pg	Pg	18 18 53.1	-1.0	
	13nm,0.4s							
KUU				Lg	Lg	18 19 57.4		
	55nm,1.0s							
KUU	**Kurty**	**4.79**	**24**	*e*Pg	Pg	18 18 53.1	-1.0	
	13nm,0.4s							
KUU				*e*Lg	Lg	18 19 57.4		
	55nm,1.0s							
CHKK	**Ch

CHCP Chirah Chowk 5.87 184 P Pn 18 18 54.8 +4.8
CEP Cherat 5.87 195 P Pn 18 18 54.6 +4.4
NUT Nurota 6.24 282 P Sn 18 20 11.1 +4.3
THW Thamme Wali 6.90 194 P Pn 18 19 06.1 +1.9
MK31 Makanchi Array 9.60 38 Lg Lg 18 22 34.7
0.2nm,0.1s,baz=102,slow=28,SNR=2.6
MKAR Makanchi Array 9.60 38 Pn Pn 18 19 44.3 +3.1
baz=222,slow=14,SNR=1.8
MKAR Lg Lg 18 22 28.5
baz=229,slow=30,SNR=4.1
KURBB Kurchatov Arra 11.61 15 Lg Lg 18 23 30.7
0.1nm,0.3s,baz=209,slow=33,SNR=7.8
BVAR Borovoye Array 13.69 352 Pn Pn 18 20 38.1 +1.0
baz=156,slow=12,SNR=8.0
BVAR Lg Lg 18 24 39.5
baz=151,slow=27,SNR=3.1
1.0nm,0.4s
AB31 Akbulak array 13.81 319 P Pn 18 20 38.7 0.0
0.7nm,0.5s,baz=138,slow=12,SNR=20
DANN Dangsing 13.92 140 *eP* Pn 18 20 39.2 -1.4
5.8nm,0.4s
DMN Daman 15.20 138 *eP* Pn 18 20 54.8 -3.2
1.8nm,0.3s
PKIN Phulchoki 15.38 137 *eP* Pn 18 20 57.4 -3.0
1.4nm,0.3s
PKI Pulchoki 15.39 137 *eP* Pn 18 20 57.4 -3.2
0.7nm,0.3s
AKTO Aktyubinsk 15.52 320 Pn Pn 18 21 02.8 +0.9
0.1nm,0.3s,baz=122,slow=12,SNR=4.8
AKTO Sn Sn 18 23 47.9 -6.3
0.1nm,0.3s,baz=72,slow=1.6,SNR=1.9
1.2nm,0.6s
AKTO Aktyubinsk 15.52 320 ||P Pn 18 21 01.2 -0.7
4.2nm,0.9s
JIRN Jiri 15.74 135 *eP* Pn 18 21 02.1 -3.1
3.6nm,0.4s
ZALV Zalesovo Beam 16.29 24 Pn P 18 21 14.3 -0.5
0.1nm,0.3s,baz=211,slow=11,SNR=3.7
0.7nm,0.5s
RAMN Ramite 16.52 136 *eP* Pn 18 21 12.3 -2.8
4.4nm,0.5s
ARU Arti 19.64 334 P Pn 18 21 54.6 +1.6
baz=122,slow=6.7,SNR=3.3
0.9nm,0.4s
SONM Songino Array 24.91 60 P P 18 22 48.8 +2.4
1.0nm,1.1s,baz=277,slow=12,SNR=4.4
1.0nm,1.1s
CMAR Chiang Mai Arr 30.29 127 LR LR 18 36 38.0
comp=Z,9.0nm,21.3s,baz=300,slow=38
BRTR Keskin Array B 30.68 283 P P 18 23 38.0 -0.1
0.7nm,0.7s,baz=87,slow=8.8,SNR=4.0
0.7nm,0.7s
AKASG Malin Array Be 32.84 305 P P 18 23 57.6 +0.8
0.1nm,0.3s,baz=72,slow=7.4,SNR=4.6
0.1nm,0.3s
FINES FINESS Array B 36.26 323 P P 18 24 26.9 +0.8
3.6nm,1.0s,baz=111,slow=10,SNR=5.4
3.6nm,1.0s
ARCES ARCESS Array B 39.22 336 P P 18 24 51.8 +0.6
2.4nm,0.9s,baz=98,slow=10,SNR=1.1
2.4nm,0.9s
NOA NORSAR Array B 43.31 321 P P 18 25 25.5 +0.5
0.8nm,0.8s,baz=92,slow=7.6,SNR=2.1
0.8nm,0.8s
ESDC Sonseca Array 57.95 297 P P 18 27 15.0 -0.8
0.3nm,0.6s,baz=64,slow=8.7,SNR=1.9
0.3nm,0.6s
ILAR Eielson Array 71.28 17 P P 18 28 42.5 +0.1
0.4nm,0.8s,baz=294,slow=5.6,SNR=4.4
0.4nm,0.8s
FRB Frobisher Bay 72.80 343 LR LR 19 04 48.0
comp=Z,13nm,20.0s,baz=278,slow=39
YKA Yellowknife Ar 78.11 4 P P 18 29 21.7 -0.2
0.5nm,0.8s,baz=348,slow=5.6,SNR=8.3
0.5nm,0.8s
TSUM Tsumeb 78.45 233 LR LR 19 07 10.7
comp=Z,38nm,19.9s,baz=136,slow=38
WRA Warramunga Arr 81.85 124 P P 18 29 42.0 -0.8
1.0nm,0.9s,baz=326,slow=4.9,SNR=6.1
1.0nm,0.9s
ASAR Alice Springs 84.30 127 P P 18 29 54.8 -0.6
0.4nm,0.7s,baz=314,slow=4.8,SNR=9.1
0.4nm,0.7s

INET ***08*** *18:25:58.6±0.4, 11°.59N×86°.30W, h119km±7km, MW4.3*
NEIC ***08*** *18:25:58.7±1.9, 11°.71N±0°.05×86°.18W±0°.03, h116km±5km, mb4.6/72, Error ellipse: s-maj=7.3km s-min=3.6km az=201.0*
UCR ***08*** *18:25:59.9±0.9, 11°.61N×86°.22W, h114km±5km, MW4.5, mb4.6(NEIC)*
IDC ***08*** *18:25:59.2±1.1, 11°.71N×85°.89W, h138km±12km, mb3.7/13, mbtmp4.1/13, MS2.9/3, Error ellipse: s-maj=28.4km s-min=13.9km az=73.0*
SNET ***08*** *18:26:04.2±0.9, 11°.89N×86°.47W, h79km±58km, ML3.8*
ISC 08 18:25:58.1±0.6, 11°.72N±0°.04×86°.21W±0°.04, h126km±5km, n217, σ1°.09/237, mb4.5/42, 1C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MASN	**Masaya**	**0.28**	**12**	*eP*	**Pn**		**18 26 16.9**	**+1.1**
MGAN	**Managua**	**0.43**	**355**	*eP*	**Pn**		**18 26 16.6**	**+0.3**
WILN	**Americas 2**	**0.44**	**3**	*eP*	**Pn**		**18 26 16.8**	**+0.4**
CONN	**Concepcion**	**0.59**	**105**	*eP*	**Pn**		**18 26 17.6**	**+0.3**
HUEN		**0.62**	**3**	*eP*	**Pn**		**18 26 18.3**	**+0.7**
MOMN	**Momotombo**	**0.76**	**335**	*eP*	**Pn**		**18 26 18.8**	**+0.2**
BOAB	**BOACO BROADBAN**	**0.90**	**36**	Pn	**Pn**		**18 26 20.1**	**+0.3**
CNGN	**Cerro Negro**	**0.92**	**328**		**Pn**		**18 26 19.9**	**-0.1**
CNGN				Sn	**Sn**		**18 26 36.1**	**-0.4**
CNGN	**Cerro Negro**	**0.92**	**328**	*eP*	**Pn**		**18 26 20.1**	**+0.2**
CNGN	**Cerro Negro**	**0.92**	**328**	*eP*	**Pn**		**18 26 20.3**	**+0.3**
BRAN	**Las Pilas**	**1.01**	**352**	*eP*	**Pn**		**18 26 16.9**	**-3.9**
ACON	**Acoyapa**	**1.04**	**76**		**Pn**		**18 26 21.2**	**+0.1**
ACON	**Acoyapa**	**1.04**	**76**	*eP*	**Pn**		**18 26 21.9**	**+0.8**
GBS2	**Las Lilas**	**1.15**	**140**	*i* P	**Pn**		**18 26 22.1**	**0.0**
GBS2				*eS*	**Sn**		**18 26 39.8**	**-0.6**
HZTE	**Horizontes, Gu**	**1.16**	**149**	Pn	**Pn**		**18 26 22.6**	**+0.3**
HZTE				Sn	**Sn**		**18 26 40.5**	**-0.1**
HZTE	**Horizontes, Gu**	**1.16**	**149**	*eP*	**Pn**		**18 26 22.7**	**+0.3**
GBS3	**Finca Las Img**	**1.19**	**141**	*eP*	**Pn**		**18 26 22.5**	**-0.1**
GBS3				*eS*	**Sn**		**18 26 40.6**	**-0.5**
GB1A	**Borinquen Arri**	**1.19**	**138**	*eP*	**Pn**		**18 26 22.9**	**+0.2**
GB1A				*i* S	**Sn**		**18 26 41.4**	**-0.1**
BUAI	**Buenos Aires**	**1.20**	**134**	*eP*	**Pn**		**18 26 24.2**	**+1.5**
LAPC	**Finca la Perla**	**1.21**	**141**	‖*eP*	**Pn**		**18 26 22.7**	**-0.1**
LAPC				*eS*	**Sn**		**18 26 40.5**	**-1.1**
VORI	**VORI**	**1.23**	**136**	*eP*	**Pn**		**18 26 23.5**	**+0.3**
VRLE	**La Escondida,**	**1.24**	**138**	*eP*	**Pn**		**18 26 23.3**	**+0.1**
ELI1	**Hacienda Flor**	**1.24**	**149**	*eP*	**Pn**		**18 26 24.2**	**+1.0**
GPS1	**Guardaparques**	**1.26**	**138**	*eP*	**Pn**		**18 26 23.9**	**+0.5**
GP03	**Hacienda Santa**	**1.26**	**138**	*eP*	**Pn**		**18 26 24.8**	**+1.4**
GP03				*i* S	**Sn**		**18 26 42.5**	**-0.2**
GPS2	**Hotel Rincn d**	**1.27**	**139**	*eP*	**Pn**		**18 26 24.0**	**+0.4**
GP14	**Hacienda Santa**	**1.27**	**138**	*eP*	**Pn**		**18 26 23.9**	**+0.4**
CRIN	**San Cristobal**	**1.28**	**320**		**Pn**		**18 26 24.1**	**+0.5**
CRIN				Sn	**Sn**		**18 26 43.0**	**0.0**
CRIN	**San Cristobal**	**1.28**	**320**	*eP*	**Pn**		**18 26 24.1**	**+0.5**
GP77	**Hacienda Santa**	**1.28**	**137**	*eP*	**Pn**		**18 26 24.3**	**+0.6**
ALIBA	**Liberia Airpor**	**1.29**	**150**	*eP*	**Pn**		**18 26 24.0**	**+0.3**
ALIBA				*eS*	**Sn**		**18 26 43.2**	**+0.1**
CLARA	**Aguas Claras**	**1.37**	**132**	*i* P	**Pn**		**18 26 25.1**	**+0.5**
LIM1	**Limonal**	**1.38**	**137**	*eP*	**Pn**		**18 26 25.0**	**+0.3**
GUAB	**Guayabo de Bag**	**1.39**	**136**	*eP*	**Pn**		**18 26 24.9**	**+0.1**
MESS	**Mesas**	**1.39**	**134**	*i* P	**Pn**		**18 26 25.0**	**+0.2**
VMAR	**Armenia, Volca**	**1.40**	**130**	*eP*	**Pn**		**18 26 24.9**	**+0.1**
VMAR				*eP*	**Pn**		**18 26 25.1**	**+0.2**
VMAR				*eS*	**Sn**		**18 26 45.2**	**0.0**
DELF	**Filadelfia**	**1.42**	**153**	*eP*	**Pn**		**18 26 26.6**	**+1.6**
CAMAV	**Centro de Prod**	**1.42**	**135**	*eP*	**Pn**		**18 26 26.1**	**+0.9**
HORNC	**Hornillas**	**1.42**	**135**	*eP*	**Pn**		**18 26 25.5**	**+0.4**
CANAL	**Canalete**	**1.43**	**128**	‖*eP*	**Pn**		**18 26 25.4**	**+0.2**
COLC	**Colonia**	**1.44**	**137**	*eP*	**Pn**		**18 26 25.6**	**+0.4**
COLC				*eS*	**Sn**		**18 26 46.1**	**+0.1**
CUI	**Cuipilapa**	**1.47**	**136**	*eP*	**Pn**		**18 26 26.1**	**+0.4**
CUI				*eS*	**Sn**		**18 26 47.7**	**+1.1**
HATIL	**Hatillo**	**1.49**	**160**	*eP*	**Pn**		**18 26 26.0**	**+0.1**
HATIL				*eS*	**Sn**		**18 26 44.8**	**-2.3**
BAGA	**Bagaces**	**1.50**	**142**	*eP*	**Pn**		**18 26 26.2**	**+0.2**
MOTZ	**Rio Naranjo**	**1.51**	**132**	*eP*	**Pn**		**18 26 26.7**	**+0.5**
ORTG	**Ortega, Santa**	**1.53**	**151**		**Pn**		**18 26 26.5**	**+0.1**
ORTG	**Ortega, Santa**	**1.53**	**151**	*eP*	**Pn**		**18 26 26.8**	**+0.4**
PTEN	**Parque Tenorio**	**1.56**	**130**	‖*i* P	**Pn**		**18 26 27.2**	**+0.5**
VERA	**Finca Concepci**	**1.57**	**123**	‖*i* P	**Pn**		**18 26 27.2**	**+0.5**
ACAL	**Aguas Claras**	**1.57**	**133**	*eP*	**Pn**		**18 26 27.4**	**+0.5**
LCHIL	**Los Chiles**	**1.61**	**115**	*eP*	**Pn**		**18 26 28.7**	**+1.5**
JUD3	**Juan Diaz 3**	**1.68**	**157**	*eP*	**Pn**		**18 26 28.3**	**+0.2**
CNAS	**Canas**	**1.68**	**139**	*eP*	**Pn**		**18 26 28.7**	**+0.6**
SAAN	**San Antonio**	**1.69**	**154**	‖*eP*	**Pn**		**18 26 28.5**	**+0.4**
COTE	**Lago Cote**	**1.70**	**132**	*i* P	**Pn**		**18 26 29.3**	**+0.9**
SAJU	**San Juanillo,**	**1.71**	**163**	*eP*	**Pn**		**18 26 28.2**	**-0.2**
SAJU				*eS*	**Sn**		**18 26 49.0**	**-2.6**
DUNO	**Dulce Nombre,**	**1.77**	**157**		**Pn**		**18 26 28.5**	**-0.6**
DUNO	**Dulce Nombre,**	**1.77**	**157**	*eP*	**Pn**		**18 26 29.4**	**+0.2**
NARJA	**Naranjal**	**1.85**	**159**	*eP*	**Pn**		**18 26 30.2**	**0.0**
CMARA	**Lajas Hojancha**	**1.85**	**155**	*eP*	**Pn**		**18 26 30.4**	**+0.2**
TABAC	**Tabacon**	**1.86**	**130**	*eP*	**Pn**		**18 26 30.9**	**+0.6**
JTS	**Las Juntas de**	**1.88**	**139**	P	**Pn**		**18 26 30.6**	**+0.2**
JTS				S	**Sn**		**18 26 53.4**	**-1.7**
JTS				LR	LR		18 27 12.4	
	comp=Z,107nm,19.3s,slow=44							
JTS	**Las Juntas de**	**1.88**	**139**	Pn	**Pn**		**18 26 29.8**	**-0.7**
JTS	**Las Juntas de**	**1.88**	**139**	*eP*	**Pn**		**18 26 30.2**	**-0.2**
JUNT	**Juntas**	**1.88**	**139**	*eP*	**Pn**		**18 26 30.8**	**+0.4**
SGBR	**La Fortuna**	**1.88**	**131**	*eP*	**Pn**		**18 26 31.2**	**+0.7**
POPE	**POPE, Guanacas**	**1.89**	**150**	*eP*	**Pn**		**18 26 31.1**	**+0.6**
CEDE	**Laguna Cedeo**	**1.92**	**129**	*i* P	**Pn**		**18 26 31.6**	**+0.6**
ESPN	**Las Esperanzas**	**1.93**	**75**		**Pn**		**18 26 32.5**	**+1.6**
ESPN	**Las Esperanzas**	**1.93**	**75**	*eP*	**Pn**		**18 26 32.6**	**+1.6**
CASO	**Castillo**	**1.93**	**131**	*eP*	**Pn**		**18 26 31.7**	**+0.6**
VACR	**Volcan Arenal**	**1.94**	**129**	*eP*	**Pn**		**18 26 31.9**	**+0.7**
FORC	**Fortuna**	**1.96**	**129**	*eP*	**Pn**		**18 26 32.0**	**+0.6**
COVE	**Coope Vega, Sa**	**2.03**	**119**		**Pn**		**18 26 32.5**	**+0.3**
COVE	**Coope Vega, Sa**	**2.03**	**119**	*eP*	**Pn**		**18 26 32.5**	**+0.3**
SOCE	**Pocosol**	**2.05**	**130**	*eP*	**Pn**		**18 26 32.9**	**+0.4**
LCND	**La Caada**	**2.28**	**314**	*eP*	**Pn**		**18 26 36.1**	**+0.7**
LCND				*eS*	**Sn**		**18 27 01.0**	**-3.0**
LCND				IAML			18 27 07.4	
	comp=Z,871nm,0.3s							
LAFE	**Finca La Fe, P**	**2.29**	**146**	*eP*	**Pn**		**18 26 35.7**	**+0.3**
CPMI	**Catarata Coope**	**2.29**	**128**	*eP*	**Pn**		**18 26 36.3**	**+0.6**
RAMO	**San Ramon**	**2.35**	**133**	*eP*	**Pn**		**18 26 38.4**	**+2.0**
CBL1	**Cabuya**	**2.38**	**152**	*eP*	**Pn**		**18 26 37.0**	**+0.3**
JACO	**JACO, Garabito**	**2.55**	**143**		**Pn**		**18 26 39.4**	**+0.6**
JACO	**JACO, Garabito**	**2.55**	**143**	*eP*	**Pn**		**18 26 39.5**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.55**	**336**	Pn	**Pn**		**18 26 40.9**	**+1.9**
TGUH	**Tegucigalpa,Un**	**2.55**	**336**	*eP*	**Pn**		**18 26 40.2**	**+1.3**
VSM	**San Miguel**	**2.64**	**310**	*eP*	**Pn**		**18 26 41.7**	**+1.5**
HDC	**Heredia**	**2.67**	**129**		**Pn**		**18 26 41.2**	**+0.7**
HDC	**Heredia**	**2.67**	**129**	*eP*	**Pn**		**18 26 41.5**	**+1.0**
ACOS	**Acosta**	**2.77**	**133**	*eP*	**Pn**		**18 26 42.7**	**+0.9**
ALJI	**Alcalda de J**	**2.81**	**305**	*eP*	**Pn**		**18 26 43.0**	**+0.9**
ALJI				*eS*	**Sn**		**18 27 12.8**	**-3.2**
COEB	**Comit de Eme**	**2.88**	**308**	*eP*	**Pn**		**18 26 45.0**	**+1.9**
COEB				*eS*	**Sn**		**18 27 15.6**	**-2.2**
COEB				IAML			18 27 23.5	
	comp=Z,589nm,0.3s							
ABE2	**San Pablo**	**2.91**	**133**	*eP*	**Pn**		**18 26 44.6**	**+0.9**
PQSS	**Presa 15 de Se**	**2.98**	**310**	*eP*	**Pn**		**18 26 45.8**	**+1.4**
PQSS				IAML			18 27 25.5	
	comp=Z,172nm,0.1s							
RIMA	**Rio Macho**	**3.01**	**130**		**Pn**		**18 26 46.1**	**+1.1**
RIMA	**Rio Macho**	**3.01**	**130**	*eP*	**Pn**		**18 26 46.0**	**+1.0**
SCLA	**Alcaldia de Sa**	**3.15**	**309**	*eP*	**Pn**		**18 26 48.1**	**+1.5**
SCLA				*eS*	**Sn**		**18 27 23.2**	**-1.0**
BATAN	**Batan**	**3.21**	**120**		**Pn**		**18 26 47.5**	**0.0**
CDM	**Cerro de Muert**	**3.22**	**132**	*eP*	**Pn**		**18 26 50.1**	**+2.2**
BUS1	**Rivas**	**3.23**	**131**	*eP*	**Pn**		**18 26 50.0**	**+1.9**
SJTE	**Alcalda de S**	**3.32**	**305**	*eP*	**Pn**		**18 26 50.0**	**+1.1**
SJTE				IAML			18 27 34.0	
	comp=Z,233nm,0.3s							
P5NO	**Presa 5 de nov**	**3.36**	**312**	*eP*	**Pn**		**18 26 50.4**	**+1.0**
P5NO				IAML			18 27 24.2	
	comp=Z,165nm,0.5s							
LFRS	**El Faro**	**3.37**	**305**	*eP*	**Pn**		**18 26 51.3**	**+1.7**
LFRS				*eS*	**Sn**		**18 27 28.5**	**-0.8**
PEZE	**Perez Zeledon,**	**3.40**	**133**		**Pn**		**18 26 51.2**	**+1.2**
PMON	**Piamonte**	**3.62**	**304**	*eP*	**Pn**		**18 26 54.9**	**+2.0**
JAYA	**Jayaque - finc**	**3.70**	**302**	*eP*	**Pn**		**18 26 55.9**	**+1.9**
JAYA				IAML			18 27 40.3	
	comp=Z,668nm,0.3s							
SRBA	**San Rafael, Bu**	**3.73**	**131**	Pn	**Pn**		**18 26 54.6**	**+0.2**
NUBE	**Las Nubes**	**4.11**	**302**	*eP*	**Pn**		**18 27 00.3**	**+1.0**
BRU2	**Volcan**	**4.52**	**130**		**Pn**		**18 27 04.4**	**-0.5**
PRVC	**Isla de Provid**	**5.01**	**70**	Pn	**Pn**		**18 27 12.1**	**+0.8**
TLIG	**Tlapa**	**13.29**	**297**		**Pn**		**18 29 04.5**	**+2.3**
GTBY	**Guantanamo Bay**	**13.44**	**51**		**P**		**18 29 07.1**	**-1.6**
ROSC	**El Rosal**	**13.60**	**119**	P	**P**		**18 29 13.4**	**+2.4**
	comp=Z,12nm,0.5s,baz=105,slow=22,SNR=8.2							
RUSC	**La Rusia**	**14.20**	**113**		**P**		**18 29 19.7**	**+2.0**
061Z	**Ochoppi**	**14.94**	**19**	Pn	**Pn**		**18 29 23.5**	**+0.6**
SDV	**Santo Domingo**	**15.58**	**99**	P	**Pn**		**18 29 31.4**	**+0.2**
	comp=Z,22nm,0.9s,baz=282,slow=6.0,SNR=12							
SDV				LR	LR		18 36 05.8	
	comp=Z,24nm,20.0s,baz=292,slow=40							
BAUV	**El Baul**	**18.08**	**97**	P	**P**		**18 29 59.8**	**-0.4**
MLPR	**Magueyes Islan**	**19.53**	**69**	P	**P**		**18 30 16.5**	**+0.6**
MLPR				IAmb	IAmb		18 30 18.1	
	comp=Z,27nm,0.8s							
CELP	**Cerrillos**	**19.99**	**69**	P	**P**		**18 30 20.6**	**-0.3**
CELP				IAmb	IAmb		18 30 28.4	
	comp=Z,21nm,0.9s							
SJG	**San Juan**	**20.39**	**69**	LR	LR		18 37 57.0	
	comp=Z,32nm,18.5s,baz=144,slow=36							
152A	**Waverly Hall**	**20.90**	**4**	P	Pn		18 30 33.6	-0.8
152A				IAmb	IAmb		18 30 36.0	
	comp=Z,33nm,0.7s							
LRAL	**Lakeview Retre**	**21.23**	**358**	P	**P**		**18 30 37.0**	**+2.9**
Z47A	**Carrollton**	**21.45**	**356**	P	**P**		**18 30 36.9**	**+0.5**
Z47A				IAmb	IAmb		18 30 40.7	
	comp=Z,34nm,1.1s							
Y49A	**Blount Mountai**	**22.04**	**360**	P	**P**		**18 30 44.7**	**+2.1**
Y49A				IAmb	IAmb		18 30 45.3	
	comp=Z,11nm,0.6s							
X48A	**Hartselle**	**22.65**	**358**	P	**P**		**18 30 49.8**	**+1.1**
HODGE	**Hodges**	**22.70**	**9**	P	**P**		**18 30 50.7**	**+1.5**
OXF	**Oxford**	**22.88**	**353**	P	**P**		**18 30 51.4**	**+0.5**
OXF				IAmb	IAmb		18 30 53.7	
	comp=Z,28nm,0.7s							
JSC	**Jenkinsville**	**22.91**	**11**	P	**P**		**18 30 52.3**	**+1.1**
JSC				IAmb	IAmb		18 30 54.5	
	comp=Z,19nm,0.7s							
PLAL	**Pickwick Lake**	**23.22**	**356**	P	**P**		**18 30 54.5**	**+0.4**
PLAL				IAmb	IAmb		18 30 56.9	
	comp=Z,18nm,0.8s							
PAULI	**Pauline**	**23.35**	**9**	P	**P**		**18 30 56.4**	**+1.1**
W50A	**Signal Mountai**	**23.39**	**2**	P	**P**		**18 30 55.7**	**0.0**
W50A				IAmb	IAmb		18 30 59.3	
	comp=Z,16nm,0.6s							
SWET	**Sewanee**	**23.40**	**1**	P	**P**		**18 30 56.1**	**+0.4**
UALR	**University of**	**23.62**	**347**	P	**P**		**18 30 58.1**	**+0.3**
UALR				IAmb	IAmb		18 31 00.2	
	comp=Z,15nm,0.8s							
CPCT	**Cooper Cave**	**23.68**	**3**	P	**P**		**18 30 58.5**	**+0.3**
CPCT				IAmb	IAmb		18 31 02.8	
	comp=Z,15nm,0.9s							
KMSC	**Kings Mountain**	**23.74**	**10**	P	**P**		**18 30 59.6**	**+0.8**
KMSC				IAmb	IAmb		18 31 02.1	
	comp=Z,18nm,0.8s							
TXAR	**Lajitas Array**	**23.91**	**320**	P	**P**		**18 31 01.9**	**+1.3**
TX31	**Lajitas Ar. Si**	**23.91**	**320**	P	**P**		**18 31 01.9**	**+1.3**
TX32	**Lajitas Array**	**23.91**	**320**	P	**P**		**18 31 02.0**	**+1.5**
TX32				IAmb	IAmb		18 31 04.0	
	comp=Z,13nm,0.6s							
TKL	**Tuckaleechee C**	**23.94**	**5**	P	**P**		**18 31 02.0**	**+1.5**
	comp=Z,8.9nm,0.7s,baz=172,slow=11,SNR=13							
	comp=Z,8.9nm,0.7s							
TKL	**Tuckaleechee C**	**23.94**	**5**	P	**P**		**18 31 02.1**	**+1.5**
TKL				IAmb	IAmb		18 31 05.1	
	comp=Z,11nm,0.7s							
W57A	**Gilead**	**24.01**	**13**	P	**P**		**18 31 02.1**	**+0.9**
W57A				IAmb	IAmb		18 31 03.6	
	comp=Z,12nm,0.7s							
V53A	**Saluda**	**24.05**	**7**	P	**P**		**18 31 03.5**	**+1.8**
V53A				IAmb	IAmb		18 31 06.5	
	comp=Z,12nm,0.8s							
WHAR	**Wooly Hollow**	**24.11**	**348**	P	**P**		**18 31 02.2**	**+0.1**
WHAR				IAmb	IAmb		18 31 03.7	
	comp=Z,15nm,0.9s							
V52A	**Sevierville**	**24.14**	**5**	P	**P**		**18 31 02.7**	**+0.3**
X37A	**Clayton**	**24.25**	**341**	P	**P**		**18 31 03.8**	**+0.4**
CLTN	**Cedars of Leba**	**24.27**	**360**	P	**P**		**18 31 04.0**	**+0.5**
CLTN				IAmb	IAmb		18 31 08.0	
	comp=Z,14nm,0.8s							
WVT	**Waverly**	**24.35**	**357**	P	**P**		**18 31 04.4**	**+0.1**
V55A	**Taylorsville**	**24.45**	**10**	P	**P**		**18 31 05.6**	**+0.3**
V55A				IAmb	IAmb		18 31 10.2	
	comp=Z,19nm,0.9s							
FCAR	**Ozark Folk Cen**	**24.66**	**348**	P	**P**		**18 31 07.0**	**-0.1**
LCAR	**Lake Charles**	**24.66**	**350**	P	**P**		**18 31 07.6**	**+0.5**
U49A	**Red Boiling Sp**	**24.69**	**1**	P	**P**		**18 31 08.0**	**+0.6**
V58A	**Windy Hill, Pi**	**24.82**	**14**	P	**P**		**18 31 10.0**	**+1.4**
V58A				IAmb	IAmb		18 31 11.5	
	comp=Z,25nm,0.6s							
TZTN	**Tazewell**	**24.84**	**5**	P	**P**		**18 31 09.1**	**+0.3**
U54A	**Nelsons Funny**	**25.01**	**8**	P	**P**		**18 31 11.2**	**+0.8**
U54A				IAmb	IAmb		18 31 16.4	
	comp=Z,27nm,0.8s							
T47A	**Sharon Grove**	**25.18**	**358**	P	**P**		**18 31 13.4**	**+1.5**
T47A				IAmb	IAmb		18 31 14.5	
	comp=Z,12nm,0.7s							
MGMO	**Mountain Grove**	**25.91**	**349**	P	**P**		**18 31 18.7**	**+0.2**
T57A	**Hurt**	**25.94**	**13**	P	**P**		**18 31 19.5**	**+0.8**
T57A				IAmb	IAmb		18 31 22.4	
	comp=Z,26nm,1.1s							
CCM	**Cathedral Cave**	**26.61**	**351**	P	**P**		**18 31 25.1**	**+0.3**
R53A	**Hurricane**	**26.77**	**7**	P	**P**		**18 31 27.6**	**+1.4**
R53A				IAmb	IAmb		18 31 30.5	
	comp=Z,30nm,1.2s							
R55A	**Marlinton**	**27.01**	**11**	P	**P**		**18 31 29.5**	**+1.1**
R55A				IAmb	IAmb		18 31 31.9	
	comp=Z,23nm,1.1s							
Q51A	**Peebles**	**27.32**	**5**	P	**P**		**18 31 32.1**	**+1.1**
P53A	**Whipple**	**27.99**	**8**	P	**P**		**18 31 38.5**	**+1.5**
P52A	**Corning**	**28.04**	**7**	P	**P**		**18 31 38.4**	**+0.9**
O53A	**New Philadelph**	**28.76**	**8**	P	**P**		**18 31 44.8**	**+0.9**
N49A	**Columbus Grove**	**29.15**	**3**	P	**P**		**18 31 48.0**	**+0.7**
ETMB	**Extrema**	**29.20**	**136**	P	**P**		**18 31 48.1**	**+0.1**
ETMB				IAmb	IAmb		18 31 48.9	
	comp=Z,18nm,1.3s							
N53A	**Lisbon**	**29.36**	**8**	P	**P**		**18 31 50.3**	**+1.1**
ANMO	**Albuquerque**	**29.55**	**325**	P	**P**		**18 31 53.4**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=218,slow=6.7,SNR=4.2							
	comp=Z,1.0nm,0.7s							
PAGS	**Pennsylvania G**	**29.61**	**15**	P	**P**		**18 31 52.4**	**+1.1**
SSPA	**Standing Stone**	**29.73**	**13**	P	**P**		**18 31 53.6**	**+1.2**
SSPA				IAmb	IAmb		18 31 55.4	
	comp=Z,15nm,0.8s							
N58A	**Sunbury**	**30.19**	**14**	P	**P**		**18 31 58.4**	**+1.9**
N58A				IAmb	IAmb		18 31 59.6	
	comp=Z,18nm,0.8s							
L42A	**Oliver, Polo**	**30.32**	**355**	P	**P**		**18 31 58.1**	**+0.5**
M57A	**Sunshine Farm,**	**30.57**	**14**	P	**P**		**18 32 01.7**	**+1.9**
SAML	**Samuel**	**30.75**	**131**	P	**P**		**18 31 58.7**	**-3.0**
J47A	**Sunmer**	**31.43**	**2**	P	**P**		**18 32 07.2**	**-0.2**
BINY	**Binghamton**	**31.65**	**15**	P	**P**		**18 32 10.8**	**+1.5**
J58A	**Remsen**	**32.92**	**15**	P	**P**		**18 32 21.3**	**+0.9**
ECSD	**EROS Data Cent**	**33.15**	**346**	P	**P**		**18 32 21.1**	**-1.3**
PV17	**East Wray Mesa**	**33.35**	**326**	P	**P**		**18 32 25.2**	**+0.6**
PV17				IAmb	IAmb		18 32 26.9	
	comp=Z,4.2nm,0.5s							
SADO	**Sadowa**	**33.49**	**9**	P	**P**		**18 32 25.8**	**+0.4**
SPMN	**Marine on St.**	**33.87**	**352**	P	**P**		**18 32 27.3**	**-1.3**
LONY	**Lake Ozonia**	**34.28**	**15**	P	**P**		**18 32 31.0**	**-1.2**
LONY				IAmb	IAmb		18 32 34.4	
	comp=Z,16nm,0.9s							
G62A	**West of Eustis**	**35.98**	**19**	P	**P**		**18 32 47.1**	**+0.3**
G62A				IAmb	IAmb		18 32 47.1	
	comp=Z,21nm,1.3s							
PKME	**Peaks-Kenny Pk**	**36.43**	**20**	P	**P**		**18 32 49.4**	**-1.1**

JMA 08 19:46:14.9±0.0, 35°.4N±0°.1×133°.84E±0°.09, h12km, MV0.8/32, EASTERN TOTTORI PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKR	**Kurayoshi**	**0.04**	**200**	*i* P	Pg	19 46 17.1	-0.1
JKR				*e*S	Sg	19 46 18.4	-0.3
JAD	**Aida**	**0.55**	**150**	P	Pg	19 46 25.4	-0.2
JAD				*e*S	Sg	19 46 32.6	-0.2
JNM	**Ikuma**	**0.66**	**277**	*e*P	Pg	19 46 28.0	+0.2
JKS	**Kasai**	**0.93**	**117**	P	Pg	19 46 32.4	-0.4
JKS				*e*S	Sg	19 46 44.7	-0.4
JOI	**OKI**	**0.99**	**331**	*e*P	Pb	19 46 33.3	-0.8
JOI				*e*S	Sg	19 46 46.5	-0.6

JMA 08 19:46:30.5±0.1, 35°.4N±0°.2×133°.8E±0°.1, h11km, MV0.3/10, EASTERN TOTTORI PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKR	**Kurayoshi**	**0.05**	**197**	*e*P	Pg	19 46 32.7	0.0
JKR				*e*S	Sg	19 46 34.0	-0.2

*IDC **08** 19:47:19.1±0.7, 36°.43N×141°.84E, h0km, mb3.7/14, mbtmp3.7/18, ML3.4/4, MS2.9/6, Error ellipse: s-maj=18.1km s-min=16.8km az=89.0*
*JMA **08** 19:47:25.7±0.2, 36°.6N±0°.5×141°.1E°, h50km±3km, MV3.4/34, E OFF IBARAKI PREF*

ISC 08 19:47:21.2±0.7, 36°.51N±0°.06×141°.71E±0°.06, h10km, n46, σ1s90/41, mb3.7/14, MS2.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.93**	**260**	P	**Pg**	**19 47 39.5**	**+0.5**
JHYU				S	**Sg**	**19 47 48.4**	**-2.6**
JHO	**Hitachi**	**0.93**	**276**	P	**Pg**	**19 47 39.0**	**0.0**
JHO				*e*S	**Sg**	**19 47 48.4**	**-2.6**
ONAJ	**Iwakimizuishiy**	**0.94**	**309**	P	**Pg**	**19 47 39.7**	**+0.4**
JFK	**Kawauchi**	**1.08**	**322**	P	**Pg**	**19 47 42.0**	**0.0**
JFFD	**Fukushimafurud**	**1.09**	**302**	P	**Pg**	**19 47 41.6**	**-0.5**
JMM	**Marumori**	**1.54**	**332**	P	**Pn**	**19 47 49.9**	**+1.3**
JMM	**Marumori**	**1.54**	**332**	P	**Pn**	**19 47 49.1**	**+0.5**
JAG	**Ashikaga**	**1.82**	**268**	P	**Pn**	**19 47 52.4**	**-0.2**
JFY	**Yanaizu**	**1.84**	**300**	P	**Pn**	**19 47 54.0**	**+1.1**
JKT	**Katashina**	**2.00**	**278**	P	**Pn**	**19 47 56.8**	**+1.7**
MJAR	**Matsushiro Arr**	**2.82**	**272**	P	**Pn**	**19 48 07.5**	**+1.2**
	5.1nm,0.3s,baz=81,slow=10,SNR=199						
MJAR				Sn	**Sn**	**19 48 42.9**	**+2.5**
	1.9nm,0.3s,baz=78,slow=30,SNR=11						
MJAR				LR	LR	19 49 32.4	
	comp=Z,406nm,18.1s,baz=61,slow=46 21nm,0.5s						
MAJO	**Matsushiro**	**2.82**	**272**	P	**Pn**	**19 48 07.9**	**+1.5**
JSD	**Sado**	**3.15**	**300**	P	**Pn**	**19 48 12.7**	**+1.9**
JGF	**Kuroka**	**3.65**	**257**	P	**Pn**	**19 48 20.5**	**+2.8**
INU	**Inuyama**	**3.98**	**254**	P	**Pn**	**19 48 26.5**	**+4.2**
JTM	**Tenmabayashi**	**4.30**	**353**	P	**Pn**	**19 48 30.3**	**+3.7**
ERM	**Erimo**	**5.61**	**11**	P	**Pn**	**19 48 48.1**	**+3.5**
JEM	**Erimo**	**5.61**	**11**	P	**Pn**	**19 48 48.2**	**+3.6**
JHS	**Saijyo**	**7.15**	**260**	P	**Pn**	**19 49 09.8**	**+4.0**
ASAJ	**Asahikawa**	**7.62**	**5**	Pn	**Pn**	**19 49 12.7**	**+0.4**
	1.0nm,0.3s,baz=211,slow=14,SNR=14						
ASAJ				Sn	**Sn**	**19 50 36.3**	**-2.4**
	0.9nm,0.3s,baz=134,slow=28,SNR=1.4 2.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.67**	**319**	Pn	**Pn**	**19 49 55.0**	**+1.0**
	0.2nm,0.3s,baz=144,slow=11,SNR=1.4						
USRK				LR	LR	19 53 57.6	
	comp=Z,105nm,18.9s,baz=142,slow=37 1.0nm,0.6s						
KSRS	**Korea Array**	**11.07**	**279**	Pn	**Pn**	**19 50 01.9**	**+2.3**
	0.2nm,0.3s,baz=92,slow=13,SNR=3.0						
KSRS				LR	LR	19 54 13.1	
	comp=Z,94nm,18.9s,baz=75,slow=37 1.5nm,0.7s						
KLR	**Kul'dur**	**14.64**	**333**	Pn	**P**	**19 50 54.1**	**-0.5**
	0.2nm,0.3s,baz=137,slow=14,SNR=10						
GUMO	**Guam**	**23.00**	**172**	LR	LR	20 00 40.0	
	comp=Z,15nm,21.7s,baz=97,slow=35						
MA2	**Magadan**	**23.81**	**11**	LR	LR	20 00 51.9	
	comp=Z,10nm,21.4s,baz=102,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.68**	**120**	T	T	20 22 32.0	
	baz=313,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**27.68**	**120**	T	T	20 22 35.9	
	baz=313,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**27.69**	**120**	T	T	20 22 32.6	
	baz=313,slow=75,SNR=19						
SONM	**Songino Array**	**28.28**	**305**	LR	LR	20 04 30.1	
	comp=Z,26nm,19.8s,baz=22,slow=36						
H11S1	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	20 23 24.3	
	baz=315,slow=76,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**28.38**	**123**	T	T	20 23 17.5	
	baz=315,slow=76,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**28.39**	**123**	T	T	20 23 21.5	
	baz=315,slow=76,SNR=6.5						
ZALV	**Zalesovo Beam**	**42.44**	**313**	P	**P**	**19 55 16.6**	**+0.7**
	0.7nm,0.5s,baz=93,slow=7.3,SNR=3.9 0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.60**	**303**	P	**P**	**19 55 33.4**	**-0.1**
	0.4nm,0.6s,baz=86,slow=9.3,SNR=7.2 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**46.51**	**308**	P	**P**	**19 55 48.7**	**+0.2**
	1.4nm,0.5s,baz=83,slow=8.2,SNR=9.2 1.4nm,0.5s						
ILAR	**Eielson Array**	**49.80**	**32**	P	**P**	**19 56 12.0**	**-1.8**
	0.4nm,0.7s,baz=261,slow=6.7,SNR=5.7 0.4nm,0.7s						
AAK	**Ala-Archa**	**50.95**	**299**	P	**P**	**19 56 22.8**	**-0.1**
	0.3nm,0.4s,baz=54,slow=19,SNR=1.8 0.3nm,0.4s						
BVAR	**Borovoye Array**	**51.10**	**313**	P	**P**	**19 56 24.3**	**+0.6**
	0.5nm,0.5s,baz=91,slow=6.8,SNR=2.3 0.5nm,0.5s						
INK	**Inuvik**	**54.74**	**27**	P	**P**	**19 56 50.0**	**-0.4**
	1.0nm,0.7s,baz=208,slow=5.0,SNR=4.1 1.0nm,0.7s						
WRA	**Warramunga Arr**	**56.58**	**188**	P	**P**	**19 57 03.3**	**-0.8**
	0.8nm,0.7s,baz=7.4,slow=7.5,SNR=7.9 0.8nm,0.7s						
ASAR	**Alice Springs**	**60.31**	**188**	P	**P**	**19 57 29.2**	**-0.8**
	0.8nm,0.8s,baz=6.7,slow=6.4,SNR=7.5 0.8nm,0.8s						
YKA	**Yellowknife Ar**	**64.14**	**30**	P	**P**	**19 57 56.2**	**+0.9**
	0.9nm,0.8s,baz=299,slow=6.8,SNR=9.3 0.9nm,0.8s						
STKA	**Stephens Creek**	**68.03**	**180**	P	**P**	**19 58 19.0**	**-1.6**
	0.8nm,0.7s,baz=335,slow=17,SNR=3.4 0.8nm,0.7s						
NOA	**NORSAR Array B**	**74.76**	**337**	P	**P**	**19 59 00.6**	**-0.5**
	0.6nm,0.7s,baz=39,slow=5.6,SNR=2.0 0.6nm,0.7s						
AKASG	**Malin Array Be**	**74.86**	**323**	P	**P**	**19 59 02.2**	**+0.5**
	0.2nm,0.3s,baz=46,slow=5.9,SNR=2.1 0.2nm,0.3s						
PDAR	**Pinedale Array**	**77.86**	**46**	P	**P**	**19 59 19.4**	**+0.2**
	0.2nm,0.6s,baz=305,slow=3.2,SNR=1.2 0.2nm,0.6s						

*NEIC **08** 20:24:21.2±1.6, 17°.5S±0°.1×178°.5W±0°.1, h544km±7km, mb4.6/95, Error ellipse: s-maj=17.9km s-min=14.4km az=140.0*
*NOU **08** 20:24:21.9, 17°.59S×178°.46W, h547km, mb4.9/62, Fiji Islands Region*
*IDC **08** 20:24:22.6±0.8, 17°.65S×178°.60W, h545km±7km, mb3.7/16, mbtmp4.6/19, Error ellipse: s-maj=13.8km s-min=10.8km az=149.0*

ISC 08 20:24:22.2±0.3, 17°.58S±0°.07×178°.62W±0°.06, h547km, n560, σ0s99/568, mb4.7/105, 33C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.68**	**196**	P	**P**	**20 25 28.2**	**+0.7**
TAVE	**Taveuni**	**1.50**	**305**	P	**P**	**20 25 31.0**	**+1.3**
MSVF	**Nonsavu**	**3.18**	**267**	P	**P**	**20 25 40.0**	**+1.8**
	468nm,0.8s,baz=131,slow=6.4,SNR=12						
MSVF				S	**S**	**20 26 42.1**	**+2.0**
	62nm,1.1s,baz=134,slow=18,SNR=9.6						
MSVF	**Nonsavu**	**3.18**	**267**	P	**P**	**20 25 39.8**	**+1.6**
FUTU	**Fugatoga**	**3.29**	**8**	P	**P**	**20 25 39.3**	**+0.3**
AFI	**Afiamalu**	**7.53**	**62**	P	**P**	**20 26 11.0**	**-4.4**
NIUE	**Niue**	**8.39**	**102**	P	**P**	**20 26 23.8**	**0.0**
	baz=8.3,SNR=17						
NIUE	**Niue**	**8.39**	**102**	P	**P**	**20 26 23.4**	**-0.4**
RTV	**Rentapao**	**12.35**	**267**	P	**P**	**20 27 05.7**	**+1.3**
DVP	**Devils Point**	**12.58**	**267**	P	**P**	**20 27 07.1**	**+0.3**
DZM	**Mont Dzumac**	**14.74**	**250**	P	**P**	**20 27 28.4**	**-0.8**
	18nm,0.8s,baz=113,slow=18,SNR=13						
DZM	**Mont Dzumac**	**14.74**	**250**	P	**P**	**20 27 28.8**	**-0.5**
DZM	**Mont Dzumac**	**14.74**	**250**	P	**P**	**20 27 29.6**	**+0.3**
KOUNC	**Koumac, New Ca**	**16.43**	**257**	P	**P**	**20 27 45.3**	**-0.6**
RAR	**Rarotonga**	**18.14**	**105**	P	**P**	**20 28 02.4**	**+0.8**
	19nm,0.8s,baz=275,slow=5.2,SNR=6.4						
OUZ	**Omahuta**	**18.89**	**200**	P	**P**	**20 28 07.4**	**-0.8**
URZ	**Urewera**	**20.94**	**189**	P	**P**	**20 28 25.3**	**-1.5**
	18nm,0.7s,baz=356,slow=3.2,SNR=6.6 18nm,0.7s						
BHW	**Baring Head**	**24.40**	**192**	P	**P**	**20 28 56.0**	**-1.7**
NNZ	**Nelson**	**24.54**	**195**	P	**P**	**20 28 57.8**	**-1.1**
KHZ	**Kahutara**	**25.64**	**193**	P	**P**	**20 29 07.2**	**-1.4**
KHZ				IAmb	IAmb	20 29 12.9	
	comp=Z,22nm,0.9s						
RPZ	**Rata Peaks**	**27.48**	**196**	P	**P**	**20 29 24.3**	**-0.5**
	comp=Z,11nm,0.7s,baz=103,slow=20,SNR=2.4 comp=Z,11nm,0.7s						
RPZ	**Rata Peaks**	**27.48**	**196**	P	**P**	**20 29 23.6**	**-1.2**
PPT	**Papeete**	**27.68**	**94**	P	**P**	**20 29 28.0**	**+1.1**
	comp=Z,18nm,0.6s,baz=69,slow=16,SNR=3.6 comp=Z,18nm,0.6s						
AUWSH	**Wavell State H**	**27.89**	**244**	P	**P**	**20 29 29.9**	**+1.3**
	comp=Z,58nm,1.0s						
JCZ	**Jackson Bay**	**28.47**	**199**	P	**P**	**20 29 33.3**	**-0.2**
EIDS	**Eidsvold**	**29.19**	**249**	P	**P**	**20 29 39.7**	**-0.3**
	baz=39,SNR=7.8						
EIDS	**Eidsvold**	**29.19**	**249**	P	**P**	**20 29 39.6**	**-0.4**
EIDS	**Eidsvold**	**29.19**	**249**	P	**P**	**20 29 39.7**	**-0.3**
MLZ	**Mavora Lakes**	**29.84**	**199**	P	**P**	**20 29 44.9**	**-0.4**
ARMA	**Armidale**	**29.93**	**239**	P	**P**	**20 29 47.5**	**+1.1**
	baz=30,SNR=22						
ARMA	**Armidale**	**29.93**	**239**	P	**P**	**20 29 47.5**	**+1.1**
ARMA	**Armidale**	**29.93**	**239**	P	**P**	**20 29 47.4**	**+1.0**
DCZ	**Deep Cove**	**30.23**	**200**	P	**P**	**20 29 47.6**	**-1.0**
DCZ				IAmb	IAmb	20 29 56.7	
	comp=Z,27nm,1.1s						
AUPHS	**Peel High Scho**	**30.75**	**238**	P	**P**	**20 29 54.7**	**+1.3**
RMQ	**Roma**	**31.44**	**248**	P	**P**	**20 30 00.6**	**+1.3**
	baz=39,SNR=27						
RMQ	**Roma**	**31.44**	**248**	P	**P**	**20 30 00.1**	**+0.8**
RABL	**Rabaul**	**31.55**	**292**	P	**P**	**20 29 58.1**	**-2.3**
RABL	**Rabaul**	**31.55**	**292**	P	**P**	**20 30 02.9**	**+2.4**
AULRC	**Lightning Ridg**	**32.70**	**243**	P	**P**	**20 30 10.7**	**+0.7**
	comp=Z,39nm,1.6s						
CTA	**Charters Tower**	**33.30**	**260**	P	**P**	**20 30 15.1**	**-0.1**
CTAO	**Charters Tower**	**33.30**	**260**	P	**P**	**20 30 13.5**	**-1.7**
CTAO	**Charters Tower**	**33.30**	**260**	P	**P**	**20 30 15.1**	**-0.1**
CAN	**Canberra**	**33.74**	**232**	P	**P**	**20 30 16.7**	**-2.1**
CAN				IAmb	IAmb	20 30 20.8	
	comp=Z,38nm,1.4s						
PMG	**Port Moresby**	**34.20**	**279**	P	**P**	**20 30 20.6**	**-2.3**
PMG	**Port Moresby**	**34.20**	**279**	P	**P**	**20 30 24.2**	**+1.4**
CMSA	**Cobar Meteorol**	**35.14**	**240**	P	**P**	**20 30 30.8**	**+0.4**
	baz=35,SNR=36						
CMSA	**Cobar Meteorol**	**35.14**	**240**	P	**P**	**20 30 30.9**	**+0.5**
MTSU	**Mount Surprise**	**35.24**	**263**	P	**P**	**20 30 31.5**	**0.0**
	baz=35,SNR=10						
MTSU	**Mount Surprise**	**35.24**	**263**	P	**P**	**20 30 31.5**	**0.0**
QLP	**Quilpie**	**35.46**	**249**	P	**P**	**20 30 33.2**	**+0.1**
	baz=36,SNR=19						
QLP	**Quilpie**	**35.46**	**249**	P	**P**	**20 30 33.5**	**+0.3**
MANU	**Manus Island**	**36.79**	**291**	P	**P**	**20 30 44.9**	**+0.6**
MANU	**Manus Island**	**36.79**	**291**	P	**P**	**20 30 45.9**	**+1.6**
COEN	**Coen**	**36.90**	**270**	P	**P**	**20 30 45.8**	**+0.6**
	baz=37,SNR=42						
COEN	**Coen**	**36.90**	**270**	P	**P**	**20 30 43.0**	**-2.2**
COEN	**Coen**	**36.90**	**270**	P	**P**	**20 30 46.1**	**+0.9**
TOO	**Toolangi**	**37.22**	**230**	P	**P**	**20 30 48.7**	**+1.2**
	baz=37,SNR=9.6						
TOO	**Toolangi**	**37.22**	**230**	P	**P**	**20 30 48.2**	**+0.7**
TOO				IAmb	IAmb	20 30 49.6	
	comp=Z,25nm,0.9s						
TOO	**Toolangi**	**37.22**	**230**	P	**P**	**20 30 49.0**	**+1.4**
BRAT	**Ballarat**	**38.37**	**231**	P	**P**	**20 30 58.6**	**+1.8**
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**20 30 59.7**	**+0.8**
	comp=Z,24nm,0.8s,baz=93,slow=10,SNR=72						
STKA				ScP	**ScP**	**20 35 56.6**	**+3.1**
	comp=Z,2.0nm,0.7s,baz=161,slow=3.9,SNR=3.4 comp=Z,24nm,0.8s						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**20 31 00.0**	**+1.1**
	baz=39,SNR=38						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**20 30 59.7**	**+0.8**
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**20 30 59.7**	**+0.8**
INKA	**Innaminka**	**38.68**	**247**	P	**P**	**20 31 00.6**	**+1.1**
QIS	**Mount Isa**	**39.52**	**259**	P	**P**	**20 31 07.6**	**+1.2**
	baz=40,SNR=6.1						
QIS	**Mount Isa**	**39.52**	**259**	P	**P**	**20 31 06.6**	**+0.2**
ARPS	**Mount Arapiles**	**39.68**	**233**	P	**P**	**20 31 08.2**	**+0.7**
	baz=40,SNR=4.7						
ARPS	**Mount Arapiles**	**39.68**	**233**	P	**P**	**20 31 08.2**	**+0.7**
HTT	**Hallett**	**41.14**	**239**	P	**P**	**20 31 19.9**	**+0.8**
	baz=41,SNR=25						
HTT	**Hallett**	**41.14**	**239**	P	**P**	**20 31 20.0**	**+0.8**
LCRK	**Leigh Creek**	**41.22**	**244**	P	**P**	**20 31 20.3**	**+0.5**
WHYH	**Whyalla**	**42.17**	**240**	P	**P**	**20 31 28.5**	**+1.3**
GENI	**Genyem**	**43.08**	**286**	P	**P**	**20 31 36.8**	**+2.1**
GENI	**Genyem**	**43.08**	**286**	P	**P**	**20 31 35.6**	**+0.9**
	comp=Z,201nm,0.7s						
OOD	**Oodnadatta**	**43.15**	**248**	P	**P**	**20 31 36.0**	**+1.0**
HMH	**Humu'ula Sheep**	**43.38**	**33**	P	**P**	**20 31 35.8**	**-1.4**
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**20 31 37.2**	**+0.4**
	baz=43,SNR=39						
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**20 31 37.0**	**+0.2**
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**20 31 37.5**	**+0.7**
WR0	**Warramunga Arr**	**44.30**	**259**	P	**P**	**20 31 42.8**	**-1.2**
WR0				IAmb	IAmb	20 31 44.5	
	comp=Z,22nm,1.2s						
WB0	**Warramunga Arr**	**44.46**	**259**	P	**P**	**20 31 44.4**	**-0.9**
WB0				IAmb	IAmb	20 31 45.6	
	comp=Z,24nm,0.9s						
WB2	**Warramunga Arr**	**44.48**	**259**	P	**P**	**20 31 44.8**	**-0.7**
WB2				IAmb	IAmb	20 31 45.8	
	comp=Z,24nm,0.8s						
WRAB	**Tennant Creek**	**44.48**	**259**	P	**P**	**20 31 44.5**	**-1.0**
WRAB				IAmb	IAmb	20 31 45.7	
	comp=Z,20nm,0.8s						
WB1	**Warramunga Ar.**	**44.48**	**259**	P	**P**	**20 31 45.1**	**-0.4**
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**20 31 44.7**	**-0.8**
	comp=Z,14nm,0.8s,baz=95,slow=7.2,SNR=139						
WRA				ScP	**ScP**	**20 36 19.3**	**+1.9**
	comp=Z,3.4nm,0.8s,baz=88,slow=4.2,SNR=10						
WRA				S	**S**	**20 37 36.7**	**-4.7**
	comp=Z,0.6nm,0.8s,baz=96,slow=13,SNR=1.9 comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**20 31 44.1**	**-1.5**
AS01	**Alice Springs**	**44.64**	**254**	P	**P**	**20 31 46.8**	**+0.1**
SMPI	**Sarmi**	**44.66**	**285**	P	**P**	**20 31 46.6**	**-0.3**
	comp=Z,75nm,1.0s						
AS31	**Alice Springs**	**44.68**	**254**	P	**P**	**20 31 47.1**	**0.0**
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**20 31 47.0**	**0.0**
	comp=Z,118nm,0.7s,baz=87,slow=8.2,SNR=1273						
ASAR				PcP	**PcP**	**20 33 17.1**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=101,slow=4.9,SNR=2.2						
ASAR				ScP	**ScP**	**20 36 20.4**	**+2.3**
	comp=Z,3.3nm,0.8s,baz=92,slow=4.0,SNR=11						
ASAR				S	**S**	**20 37 40.2**	**-4.0**
	comp=Z,3.7nm,0.9s,baz=88,slow=16,SNR=16						
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**20 31 47.1**	**+0.1**
MULG	**Mulgathing**	**44.77**	**245**	P	**P**	**20 31 47.8**	**+0.3**
KDU	**Kakadu**	**47.36**	**269**	P	**P**	**20 32 07.6**	**+0.2**
	baz=47,SNR=70						
KDU	**Kakadu**	**47.36**	**269**	P	**P**	**20 32 07.6**	**+0.2**
GUMO	**Guam**	**47.51**	**308**	P	**P**	**20 32 08.9**	**+0.5**
	comp=Z,113nm,0.7s,baz=184,slow=5.6,SNR=4.9						
MTN	**Manton Dam**	**48.60**	**268**	P	**P**	**20 32 16.2**	**-0.5**
	baz=49,SNR=11						
MTN	**Manton Dam**	**48.60**	**268**	P	**P**	**20 32 16.2**	**-0.5**
MTN	**Manton Dam**	**48.60**	**268**	P	**P**	**20 32 16.5**	**-0.2**
RKPI	**Ransiki, Papua**	**49.02**	**284**	P	**P**	**20 32 19.8**	**0.0**
	comp=Z,56nm,0.7s,comp=Z,3μm						
WRKA	**Warakurna**	**49.75**	**252**	P	**P**	**20 32 25.2**	**+0.2**
	baz=50,SNR=307						
WRKA	**Warakurna**	**49.75**	**252**	P	**P**	**20 32 25.3**	**+0.2**
FORT	**Forrest**	**49.97**	**244**	P	**P**	**20 32 26.2**	**-0.3**
	baz=50,SNR=40						
FORT	**Forrest**	**49.97**	**244**	P	**P**	**20 32 26.2**	**-0.3**
FORT	**Forrest**	**49.97**	**244**	P	**P**	**20 32 26.2**	**-0.3**
FAKI	**Fak Fak**	**50.31**	**281**	P	**P**	**20 32 28.7**	**-0.6**
FAKI				IAmb	IAmb	20 32 29.8	
	comp=Z,12nm,0.7s						
FAKI	**Fak Fak**	**50.31**	**281**	P	**P**	**20 32 28.3**	**-1.0**
	comp=Z,23nm,1.5s						
KNRA	**Kununurra**	**50.32**	**264**	P	**P**	**20 32 29.2**	**-0.1**
	baz=50,SNR=20						
KNRA	**Kununurra**	**50.32**	**264**	P	**P**	**20 32 29.4**	**+0.1**
KNRA	**Kununurra**	**50.32**	**264**	P	**P**	**20 32 29.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.88**	**260**	P	**P**	**20 32 47.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.88**	**260**	P	**P**	**20 32 48.4**	**+0.7**
AAI	**Ambon**	**53.87**	**278**	P	**P**	**20 32 53.3**	**-1.5**
	comp=Z,50nm,0.8s						
NLAI	**Namlea**	**55.05**	**279**	P	**P**	**20 33 01.4**	**-1.7**
	comp=Z,31nm,1.3s,comp=Z,9μm						
SOEI	**Soe**	**55.87**	**270**	P	**P**	**20 33 09.8**	**+0.8**
SOEI	**Soe**	**55.87**	**270**	P	**P**	**20 33 10.7**	**+1.8**
SOEI	**Soe**	**55.87**	**270**	P	**P**	**20 33 10.4**	**+1.5**
	comp=Z,139nm,0.8s,comp=Z,1μm						
TNTI	**Ternate**	**56.19**	**283**	P	**P**	**20 33 11.6**	**+0.6**
	comp=Z,57nm,1.1s						
BATI	**Baumata**	**56.33**	**269**	P	**P**	**20 33 13.9**	**+1.9**
	comp=Z,52nm,0.9s						
SANI	**Sanana**	**56.49**	**279**	P	**P**	**20 33 12.8**	**-0.3**
SANI	**Sanana**	**56.49**	**279**	P	**P**	**20 33 12.7**	**-0.3**
MBWA	**Marble Bar**	**57.96**	**256**	P	**P**	**20 33 22.3**	**-0.7**
MBWA				IAmb	IAmb	20 33 23.7	
	comp=Z,17nm,0.8s						
MMRI	**Maumere**	**58.09**	**271**	P	**P**	**20 33 23.1**	**-0.9**
MMRI				IAmb	IAmb	20 33 45.1	
	comp=Z,66nm,1.1s						
MMRI	**Maumere**	**58.09**	**271**	P	**P**	**20 33 19.7**	**-4.3**
	comp=Z,72nm,1.5s						
MEEK	**Meekatharra**	**58.36**	**249**	P	**P**	**20 33 25.5**	**-0.2**
	baz=58,SNR=6.2						
KLBR	**Kellerberrin**	**58.79**	**243**	P	**P**	**20 33 28.6**	**+0.1**
	baz=59,SNR=15						
KLBR	**Kellerberrin**	**58.79**	**243**	P	**P**	**20 33 28.4**	**-0.1**
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**20 33 30.7**	**-0.4**
	baz=59,SNR=4.6						
NWAO				P	**P**	**20 33 30.7**	**-0.4**
	baz=59,SNR=4.6						
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**20 33 30.4**	**-0.7**
NWAO				IAmb	IAmb	20 33 31.5	
	comp=Z,19nm,1.0s						
BLDU	**Ballidu**	**59.74**	**244**	P	**P**	**20 33 34.8**	**0.0**
	baz=60,SNR=5.9						
LUWI	**Luwuk**	**59.85**	**279**	P	**P**	**20 33 36.9**	**+1.1**
LUWI	**Luwuk**	**59.85**	**279**	P	**P**	**20 33 35.7**	**-0.1**
	comp=Z,45nm,1.1s						
GTOI	**Gorontalo**	**60.20**	**281**	P	**P**	**20 33 38.2**	**+0.1**
	comp=Z,20nm,0.9s						
MORW	**Morawa**	**60.43**	**246**	P	**P**	**20 33 39.4**	**0.0**
	baz=60,SNR=8.0						
MORW	**Morawa**	**60.43**	**246**	P	**P**	**20 33 37.6**	**-1.8**
MORW				IAmb	IAmb	20 33 47.2	
	comp=Z,25nm,1.4s						
VNDA	**Vanda**	**60.75**	**185**	P	**P**	**20 33 41.0**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=9.5,slow=6.1,SNR=2.6 comp=Z,2.2nm,0.9s						
APSI	**Ampana**	**60.95**	**279**	P	**P**	**20 33 43.1**	**0.0**
	comp=Z,88nm,1.0s,comp=Z,902nm						
MRSI	**Marisa**	**61.15**	**281**	P	**P**	**20 33 43.4**	**-1.0**
	comp=Z,20nm,1.0s						
SPSI	**Sidrap Palu**	**61.76**	**275**	P	**P**	**20 33 46.7**	**-1.7**
	comp=Z,30nm,0.8s						
PLAI	**Plampang**	**62.30**	**269**	P	**P**	**20 33 52.0**	**+0.2**
PLAI	**Plampang**	**62.30**	**269**	P	**P**	**20 33 51.3**	**-0.5**
	comp=Z,85nm,1.0s						
TOLI2	**Tolitoli**	**62.45**	**281**	P	**P**	**20 33 53.2**	**+0.3**
TOLI2				IAmb	IAmb	20 33 57.0	
	comp=Z,12nm,0.7s						
TOLI2	**Tolitoli**	**62.45**	**281**	P	**P**	**20 33 53.8**	**+0.9**
GIRL	**Giralia**	**62.79**	**253**	P	**P**	**20 33 56.4**	**+1.4**
	baz=63,SNR=3.6						
GIRL	**Giralia**	**62.79**	**253**	P	**P**	**20 33 52.8**	**-2.1**
MPSI	**Mapaga**	**63.02**	**280**	P	**P**	**20 33 55.6**	**-0.9**
	comp=Z,31nm,0.8s						
TWSI	**Taliwang, Sumb**	**63.17**	**269**	P	**P**	**20 33 57.1**	**-0.4**
	comp=Z,96nm,1.0s						
SRBI	**Singaraja**	**64.94**	**269**	P	**P**	**20 34 07.1**	**-1.6**
	comp=Z,39nm,0.8s						
JAGI	**Jajag, Banyuwa**	**65.

PFO	Pinyon Flats O	78.09	49	P		P	20 35 25.4	+0.2
	baz=239							
TPFO	Pinon Flats	78.09	49	P		P	20 35 25.6	+0.4
	baz=239							
Q16K	King Salmon	78.10	12	P		P	20 35 24.6	+0.1
	baz=201							
KDAK	Kodiak Island	78.13	14	P		P	20 35 23.3	-1.3
KDAK				IAmb		IAmb	20 35 47.2	
	comp=Z,40nm,1.5s							
LRMC	Laurel Mtn Rad	78.19	47	P		P	20 35 26.3	+0.6
	baz=238							
P16K	Nushagak River	78.19	11	P		P	20 35 25.6	+0.7
	baz=200							
SWSC	Sam W. Stewart	78.24	50	P		P	20 35 26.6	+0.8
	baz=240							
CWC	Cottonwood Cre	78.42	46	P		P	20 35 27.7	+0.7
	baz=238							
MLAC	Mammoth, Mammo	78.54	44	P		P	20 35 28.5	+0.8
	baz=237							
BELC	Belle Mtn. Jos	78.62	49	P		P	20 35 29.6	+1.6
	baz=240,SNR=5.9							
MPMC	Manual Prospec	78.62	46	P		P	20 35 29.6	+1.5
	baz=238,SNR=6.8							
TIN	Tinemaha, Big	78.64	45	P		P	20 35 29.3	+1.3
	baz=238							
O16K	Kokwok River B	78.70	10	P		P	20 35 27.2	-0.5
	baz=200							
GSC	Goldstone, Bar	78.71	47	P		P	20 35 29.6	+1.2
	baz=239							
HEC	Hector,Ludlow	78.80	48	P		P	20 35 30.1	+1.3
	baz=239,SNR=9.6							
BC3	Big Chuckawall	78.84	49	P		P	20 35 30.7	+1.5
	baz=240							
Q19K	Cape Douglas,	78.94	13	P		P	20 35 29.6	+0.6
	baz=204							
DSP	Deep Springs	78.99	45	P		P	20 35 28.1	-1.6
P18K	Big Mountain,	79.04	12	P		P	20 35 29.0	-0.6
P18K				IAmb		IAmb	20 35 30.2	
	comp=Z,22nm,0.8s							
P18K	Big Mountain,	79.04	12	P		P	20 35 29.4	-0.1
	baz=202,SNR=9.6							
O17K	Koliganek Bris	79.05	11	P		P	20 35 29.6	+0.1
	baz=201							
GRAC	Grapevine Rang	79.20	46	P		P	20 35 33.0	+2.0
	baz=238,SNR=6.6							
GMRC	Granite Mounta	79.25	48	P		P	20 35 31.9	+0.5
	baz=240							
FURC	Furnace Creek,	79.27	46	P		P	20 35 32.3	+1.1
	baz=239							
IRM	Iron Mountain	79.31	49	P		P	20 35 33.2	+1.6
	baz=240,SNR=6.9							
NVAR	Mina Array Bea	79.33	44	P		P	20 35 33.0	+1.2
	comp=Z,6.8nm,0.7s,baz=222,slow=8.7,SNR=20							
	comp=Z,6.8nm,0.7s							
SHOC	Shoshone, Teco	79.39	47	P		P	20 35 32.7	+0.8
	baz=239							
TUQ	Turquoise Moun	79.40	48	P		P	20 35 33.0	+0.9
	baz=239							
N16K	Nishlik Lake	79.42	10	P		P	20 35 33.5	+2.0
	baz=199							
KVN	Kaiserville	79.80	44	P		P	20 35 33.5	-0.7
TPNV	Topopah Spring	79.94	46	P		P	20 35 36.0	+1.0
	baz=239							
O19K	Port Alsworth	79.96	12	P		P	20 35 34.4	+0.1
	baz=203,SNR=13							
214A	Organ Pipe Nat	79.97	52	P		P	20 35 36.0	+0.9
	baz=242							
ILSW	Iliamna Southw	80.01	13	P		P	20 35 34.3	-0.4
ILSW				IAmb		IAmb	20 35 35.2	
	comp=Z,24nm,0.8s							
CNPM	China Poot	80.01	14	P		P	20 35 33.5	-1.1
CNPM				IAmb		IAmb	20 35 35.7	
	comp=Z,34nm,1.0s							
SDSI	Sungai Dareh	80.14	272	P		P	20 35 35.3	-1.0
	comp=Z,9.1nm,0.8s,comp=Z,µm							
BRLK	Bradley Lake	80.31	14	P		P	20 35 34.5	-1.7
BRLK				IAmb		IAmb	20 35 37.1	
	comp=Z,15nm,0.8s							
BRSE	Bradley Lake S	80.32	14	P		P	20 35 36.9	+0.7
	baz=207,SNR=5.7							
N19K	Bonanza Creek	80.50	12	P		P	20 35 36.4	-0.8
N19K	Bonanza Creek	80.50	12	P		P	20 35 36.8	-0.5
	baz=203							
RSO	Redoubt South	80.53	13	P		P	20 35 37.0	-0.6
SVW2	Sparrevohn	80.56	11	P		P	20 35 37.0	-0.5
PDSI	Padang	81.06	272	P		P	20 35 39.7	-1.5
	comp=Z,17nm,0.6s							
R11A	Troy Canyon, C	81.11	45	P		P	20 35 41.9	+0.9
	baz=239,SNR=7.3							
CAPN	Captain Cook N	81.15	13	P		P	20 35 41.5	+1.1
	baz=206							
O22K	Cooper Landing	81.21	14	P		P	20 35 40.8	0.0
	baz=208							
SPCR	Spurr Chakacha	81.31	13	P		P	20 35 41.2	-0.2
	baz=205							
SPU	Mount Spurr	81.33	13	P		P	20 35 40.7	-0.8
M19K	Big River Lodg	81.52	11	P		P	20 35 41.9	-0.5
M19K	Big River Lodg	81.52	11	P		P	20 35 42.2	-0.2
	baz=203							
UBPT	Khong Chiam	81.63	289	P		P	20 35 43.1	-0.8
TUC	Tucson	81.66	52	P		P	20 35 45.4	+1.5
	baz=243							
L19K	White Mountain	81.69	11	P		P	20 35 43.4	+0.1
	baz=203							
M20K	Styx River	81.75	12	P		P	20 35 43.9	+0.3
	baz=204							
RC01	Rabbit Creek A	81.75	14	P		P	20 35 43.5	0.0
	baz=208							
SUA	Susitna One	81.86	13	P		P	20 35 43.3	-0.9
SUA				IAmb		IAmb	20 35 44.8	
	comp=Z,14nm,0.7s							
SUA	Susitna One	81.86	13	P		P	20 35 44.0	-0.2
	baz=207,SNR=7.7							
PWL	Port Wells	81.87	14	P		P	20 35 43.5	-0.7
PWL				IAmb		IAmb	20 35 44.9	
	comp=Z,18nm,0.9s							
PWL	Port Wells	81.87	14	P		P	20 35 44.2	+0.1
	baz=209							
L20K	Farewell, AK	82.15	11	P		P	20 35 45.5	-0.1
	baz=204							
TTA	Tatalina	82.19	10	P		P	20 35 45.5	-0.3
TTA	Tatalina	82.19	10	P		P	20 35 46.0	+0.2
	baz=202,SNR=6.8							
EYAK	Cordova Ski Ar	82.24	16	P		P	20 35 46.1	+0.1
	baz=211							
M22K	Willow	82.25	13	P		P	20 35 46.3	+0.3
	baz=207							
KNK	Knik Glacier	82.33	14	P		P	20 35 45.7	-0.8
KNK	Knik Glacier	82.33	14	P		P	20 35 46.7	+0.2
	baz=209							
PMR	Palmer	82.33	14	P		P	20 35 45.6	-0.8
PMR				IAmb		IAmb	20 35 47.8	
	comp=Z,19nm,1.4s							
PMR	Palmer	82.33	14	P		P	20 35 46.9	+0.5
	baz=208							
BELA	Belgrano 2	82.52	173	P		P	20 35 47.5	+0.1
BELA				IAmb		IAmb	20 35 48.8	
	comp=Z,11nm,0.8s							
GHO	Glory Hole Cre	82.54	14	P		P	20 35 46.0	-1.6
GHO				IAmb		IAmb	20 35 48.5	
	comp=Z,20nm,0.7s							
WUAZ	Wupatki	82.68	49	P		P	20 35 50.4	+1.3
	baz=242							
SML	Sawmill	82.70	14	P		P	20 35 46.5	-1.9
SML				IAmb		IAmb	20 36 25.9	
	comp=Z,17nm,1.4s							
SML	Sawmill	82.70	14	P		P	20 35 48.4	0.0
	baz=209							
BMRM	Bremner River	82.90	16	P		P	20 35 49.2	-0.2
	baz=212							
K20K	Telida	82.92	11	P		P	20 35 49.1	-0.3
K20K				IAmb		IAmb	20 35 50.6	
	comp=Z,16nm,0.8s							
K20K	Telida	82.92	11	P		P	20 35 49.6	+0.1
	baz=203							
SCM	Sheep Creek Mo	82.96	14	P		P	20 35 47.5	-2.3
SCM				IAmb		IAmb	20 35 50.7	
	comp=Z,26nm,0.8s							
SCM	Sheep Creek Mo	82.96	14	P		P	20 35 49.6	-0.2
	baz=210,SNR=9.6							
KLU	Klutina	83.01	15	P		P	20 35 49.4	-0.5
	baz=211							
S31K	Pelican	83.02	21	P		P	20 35 51.2	+1.2
	baz=220							
CAST	Castle Rocks	83.35	12	P		P	20 35 49.9	-1.6
CAST				IAmb		IAmb	20 35 51.7	
	comp=Z,18nm,0.8s							
CAST	Castle Rocks	83.35	12	P		P	20 35 50.8	-0.8
	baz=205,SNR=19							
PINM	Pinnacle	83.40	18	P		P	20 35 52.2	+0.3
	baz=216							
VRDI	Verde Repeater	83.42	16	P		P	20 35 50.9	-1.3
VRDI				IAmb		IAmb	20 35 53.2	
	comp=Z,14nm,1.0s							
N25K	Chitina, Valde	83.44	16	P		P	20 35 51.2	-1.0
N25K				IAmb		IAmb	20 35 53.2	
	comp=Z,22nm,0.7s							
N25K	Chitina, Valde	83.44	16	P		P	20 35 52.5	+0.4
	baz=212,SNR=14							
M24K	Tolsona, Glenn	83.47	15	P		P	20 35 52.1	-0.2
M24K	Tolsona, Glenn	83.47	15	P		P	20 35 52.8	+0.5
	baz=211							
GLB	Gilahina Butte	83.51	16	P		P	20 35 52.0	-0.4
GLB				IAmb		IAmb	20 35 53.0	
	comp=Z,14nm,0.7s							
WAT6	Susitna Watana	83.52	14	P		P	20 35 52.7	+0.1
	baz=209,SNR=10.0							
WAT1	Susitna Watana	83.55	13	P		P	20 35 53.0	+0.3
	baz=209							
J20K	Nowinta River	83.66	11	P		P	20 35 53.3	+0.3
J20K				IAmb		IAmb	20 35 54.3	
	comp=Z,8.6nm,0.8s							
J20K	Nowinta River	83.66	11	P		P	20 35 53.6	+0.5
	baz=203							
MCARA	McCarthy VSAT	83.67	16	P		P	20 35 52.5	-0.7
MCARA				IAmb		IAmb	20 35 54.4	
	comp=Z,12nm,1.1s							
MCARA	McCarthy VSAT	83.67	16	P		P	20 35 53.9	+0.8
	baz=214							
KTH	Kantishna Hill	83.70	12	P		P	20 35 51.9	-1.4
KTH				IAmb		IAmb	20 35 53.3	
	comp=Z,13nm,0.9s							
CHUM	Lake Minchumin	83.73	11	P		P	20 35 52.8	-0.5
	baz=205,SNR=7.0							
TRF	Thorofare Moun	83.73	12	P		P	20 35 52.1	-1.6
TRF				IAmb		IAmb	20 35 54.3	
	comp=Z,20nm,0.7s							
TRF	Thorofare Moun	83.73	12	P		P	20 35 53.2	-0.4
	baz=207,SNR=16							
GCSA	Galena City Sc	83.75	9	P		P	20 35 54.4	+1.0
	baz=201							
BARN	Barnard Glacie	83.78	17	P		P	20 35 53.2	-0.8
BARN				IAmb		IAmb	20 35 55.3	
	comp=Z,15nm,0.8s							
DUG	Dugway, Tooele	83.89	45	P		P	20 35 54.8	-0.2
	baz=241							
O28M	Mount Upton	83.96	18	P		P	20 35 55.3	+0.3
	baz=216							
HARP	HAARP	83.97	15	P		P	20 35 55.3	+0.7
	baz=212							
DHY	Denali Highway	84.03	14	P		P	20 35 53.8	-1.3
DHY	Denali Highway	84.03	14	P		P	20 35 55.2	+0.1
	baz=210							
121A	Cookes Peak, D	84.04	53	P		P	20 35 56.6	+0.7
	baz=245							
O29M	Mount Kennedy	84.07	19	P		P	20 35 56.0	+0.6
	baz=218							
MAW	Mawson	84.10	200	P		P	20 35 54.0	-1.3
PLBC	Pleasant Camp	84.12	20	P		P	20 35 55.5	+0.1
	baz=220							
BPAW	Bear Paw Mtn.	84.18	12	P		P	20 35 54.3	-1.4
BPAW	Bear Paw Mtn.	84.18	12	P		P	20 35 55.1	-0.5
	baz=206							
MCK	McKinley	84.27	13	P		P	20 35 55.8	-0.3
MCK				IAmb		IAmb	20 35 56.8	
	comp=Z,20nm,1.1s							
MCK	McKinley	84.27	13	P		P	20 35 56.1	0.0
	baz=208,SNR=10.0							
PAX	Paxson	84.38	15	P		P	20 35 56.8	0.0
	baz=211							
P30M	Million Dollar	84.44	20	P		P	20 35 58.2	+1.1
	baz=219,SNR=6.0							
GSI	Gunungsitoli	84.48	273	P		P	20 35 57.9	-0.4
GSI				IAmb		IAmb	20 36 00.7	
	comp=Z,24nm,0.8s							
GSI	Gunungsitoli	84.48	273	P		P	20 35 56.8	-1.5
	comp=Z,39nm,0.9s							
YUK8	Steele Glacier	84.50	18	P		P	20 35 58.4	+0.8
	baz=217,SNR=6.6							
HLID	Hailey	84.52	41	P		P	20 35 57.9	-0.1
HLID				IAmb		IAmb	20 36 00.5	
	comp=Z,8.3nm,0.8s							
HLID	Hailey	84.52	41	P		P	20 35 59.1	+1.1
	baz=239							
M26K	Nabesna, AK	84.52	16	P		P	20 35 58.3	+0.9
	baz=214							
YUK6	Outpost Mounta	84.64	18	P		P	20 35 58.5	+0.2
	baz=218							
YUK3	Moose Creek	84.69	17	P		P	20 35 59.3	+0.8
	baz=216,SNR=9.4							
M27K	Edge Creek, AK	84.78	16	P		P	20 35 59.6	+0.8
	baz=215							
HYT	Haines Junctio	84.81	19	P		P	20 35 59.3	+0.4
	baz=219							
S34M	Telegraph Cree	84.83	23	P		P	20 36 00.7	+1.8
	baz=225,SNR=5.4							
YUK4	Talbot Arm	84.87	18	P		P	20 36 00.1	+0.8
	baz=218							
L26K	Log Cabin Wild	84.95	15	P		P	20 36 00.1	+0.6
	baz=213							
I21K	Tanana	84.97	11	P		P	20 35 58.6	-0.8
I21K	Tanana	84.97	11	P		P	20 36 00.1	+0.7
	baz=205							
KCSI	Kotacane, Aceh	84.97	275	P		P	20 36 00.1	-0.6
	comp=Z,14nm,1.1s							
NEA2	Nenana	85.00	12	P		P	20 35 58.5	-1.1
	baz=208							
K24K	Donnelly Dome	85.03	14	P		P	20 36 00.5	+0.7
	baz=211,SNR=8.6							
MLY	Manley	85.06	11	P		P	20 35 59.5	-0.5
	baz=206,SNR=5.7							
BVCY	Beaver Creek	85.10	17	P		P	20 36 01.0	+0.7
	baz=216,SNR=7.2							
P32M	Atlin	85.11	21	P		P	20 36 00.7	+0.4
	baz=222							
Q32M	Nakina River	85.16	22	P		P	20 36 01.0	+0.2
	baz=224							
RIDG	Independent Ri	85.19	14	P		P	20 36 00.9	+0.2
	baz=212							
O30N	Mendenhall	85.21	19	P		P	20 36 01.0	+0.2
	baz=220							
H21K	Melozitna Rive	85.25	10	P		P	20 36 00.2	-0.6
H21K	Melozitna Rive	85.25	10	P		P	20 36 01.4	+0.5
	baz=204							
HDA	Harding Lake	85.29	13	P		P	20 35 59.9	-1.1
HDA				IAmb		IAmb	20 36 01.6	
	comp=Z,9.9nm,0.8s							
HDA	Harding Lake	85.29	13	P		P	20 36 00.8	-0.2
	baz=210,SNR=7.9							
CCB	Clear Creek Bu	85.31	13	P		P	20 35 59.6	-1.5
CCB				IAmb		IAmb	20 36 01.5	
	comp=Z,10nm,1.0s							
L27K	Beaver Creek,	85.37	16	P		P	20 36 02.3	+0.8
	baz=215							
BCAR	Beaver Creek A	85.39	16	P		P	20 36 01.4	-0.2
IMAR	Indian Mountai	85.39	10	P		P	20 36 00.6	-0.9
N30M	Aishikik Lake	85.43	19	P		P	20 36 01.9	+0.1
	baz=219							
I23K	Minto, Yukon-K	85.43	12	P		P	20 36 02.3	+0.6
	baz=208							
MDM	Murphy Dome	85.49	12	P		P	20 36 00.8	-1.2
MDM				IAmb		IAmb	20 36 03.0	
	comp=Z,16nm,1.4s							
TCOL	CGO, UAF Yank	85.50	13	P		P	20 36 02.1	+0.1
	baz=209							
COLA	College	85.50	13	P		P	20 36 02.5	+0.5
	baz=209							
MVCO	Mesa Verde	85.52	49	P		P	20 36 03.9	+0.8
	baz=244							
WHY	Whitehorse	85.52	20	P		P	20 36 02.7	+0.3
	baz=221							
MNTX	Cornudas Mount	85.56	55	P		P	20 36 04.3	+1.2
	baz=246							
SCRK	Sand Creek	85.59	15	P		P	20 36 01.7	-1.0
SCRK	Sand Creek	85.59	15	P		P	20 36 03.1	+0.4
	baz=213							
DLBC	Dease Lake	85.61	23	P		P	20 36 03.5	+0.7
	baz=226							
ILAR	Eielson Array	85.61	13	P		P	20 36 01.9	-0.7
	comp=Z,3.5nm,0.7s,baz=225,slow=4.7,SNR=39							
	comp=Z,3.5nm,0.7s							
ILAR	Eielson Array	85.61	13	P		P	20 36 01.4	-1.2
H22K	Ishtalitna Cre	85.72	11	P		P	20 36 03.2	+0.1
	baz=206							
M29M	Somme Creek	85.80	18	P		P	20 36 04.4	+0.7
	baz=218							
POKR	Poker Plat Res	85.80	13	P		P	20 36 02.4	-1.1
POKR	Poker Plat Res	85.80	13	P		P	20 36 02.8	-0.7
	baz=210							
J25K	Salcha River,	85.81	14	P		P	20 36 04.1	+0.4
	baz=211							
N31M	Braeburn, Yuko	85.86	19	P		P	20 36 04.4	+0.5
	baz=220							
P33M	Teslin, Yukon	85.87	21	P		P	20 36 05.2	+1.2
	baz=223							
XAN	Xi'an	85.90	307	P		P	20 36 06.5	+1.8
XAN				pP		PcP	20 36 14.8	+8.2
XAN				pmax		pmax		
	comp=Z,9.0nm,1.0s							
G21K	Allakaket	85.92	10	P		P	20 36 04.5	+0.5
	baz=204							
R33M	Jennings River	85.94	22	P		P	20 36 05.2	+0.7
	baz=225							
TXAR	Lajitas Array	85.99	58	P		P	20 36 04.8	-0.6
H23K	Yukon River	86.00	12	P		P	20 36 04.4	0.0
	baz=208							
ANMO	Albuquerque	86.05	52	P		P	20 36 06.0	+0.4
	baz=245							
K27K	Chicken	86.11	15	P		P	20 36 05.5	+0.6
	baz=214							
J26L	Joseph Creek	86.14	14	P		P	20 36 05.7	+0.5
J26L				IAmb		IAmb	20 36 06.3	
	comp=Z,8.1nm,0.8s							
J26L	Joseph Creek	86.14	14	P		P	20 36 05.8	+0.5
	baz=213							
H24K	Noodor Dome	86.34	12	P		P	20 36 05.2	-0.9
	baz=209							
M30M	Minto, Yukon	86.39	18	P		P	20 36 05.3	-1.1
M30M				IAmb		IAmb	20 36 07.3	
	comp=Z,7.1nm,0.8s							
M30M	Minto, Yukon	86.39	18	P		P	20 36 07.1	+0.8
	baz=219							
L29M	L29M	86.42	17	P		P	20 36 06.9	+0.4
	baz=218							
MLSI	Meulaboh, Aceh	86.49	276	P		P	20 36 08.1	+0.1
PRP	Porcupine Dome	86.55	13	P		P	20 36 04.3	-2.9
PRP	Porcupine Dome	86.55	13	P		P	20 36 06.7	-0.5
	baz=211							
F21K	Alatna River	86.58	10	P		P	20 36 07.1	0.0
	baz=204							
G22K	Bettles	86.63	10	P		P	20 36 07.8	+0.5
	baz=206							
G23K	Bananza Creek	86.70	11	P		P	20 36 08.3	+0.5
	baz=207							
DAWY	Dawson	86.83	16	P		P	20 36 08.9	+0.5
	baz=217							
M31M	Drury Creek, Y	86.83	19	P		P	20 36 08.0	-0.4
	baz=222							
S22A	4UR Ranch, Cre	86.95	49	P		P	20 36 11.2	+1.3
	baz=245							
EGAK	Eagle	86.95	15	P		P	20 36 09.1	+0.2
	baz=215							
O20A	White River Ci	86.97	46	P		P	20 36 10.4	+0.5
	baz=244							
F22K	John River	87.05	10	P		P	20 36 09.7	+0.3
	baz=205							
COLD	Coldfoot	87.13	11	P		P	20 36 10.6	+0.9
	baz=207							
K29M	Barlow Dome	87.16	17	P		P	20 36 10.7	+0.6
	baz=219							
G24K	Hadweenzic Riv	87.17	12	P		P	20 36 09.9	-0.1
	baz=209							
FARO	Faro, Yukon	87.18	19	P		P	20 36 09.9	-0.2
	baz=222							
BOZ	Bozeman (W)	87.25	40	P		P	20 36 11.9	+0.9
	baz=241							
BW06	Boulder Array	87.25	44	P		P	20 36 10.8	-0.4
BW06	Boulder Array	87.25	44	P		P	20 36 11.8	+0.6
	baz=243							
PD31	Pinedale Array	87.25	44	P		P	20 36 10.8	-0.3
PDAR	Pinedale Array	87.25	44	P		P	20 36 11.7	+0.5
	comp=Z,3.7nm,0.7s,baz=225,slow=3.6,SNR=37							
PDAR				PP		PP	20 39 44.2	-1.5
	comp=Z,0.4nm,0.9s,baz=205,slow=6.6,SNR=4.2							
	comp=Z,3.7nm,0.7s							
PDAR	Pinedale Array	87.25	44	P		P	20 36 10.1	-1.1
H17A	Grant Village	87.34	42	P		P	20 36 14.5	+2.9
	baz=242,SNR=8.1							
MAYO	Mayo, Yukon	87.43	18	P		P	20 36 12.0	+0.8
	baz=220							
G25K	Bearman Lake	87.50	12	P		P	20 36 11.6	+0.2
	baz=211							
I27K	Kandik River	87.52	14	P		P	20 36 11.8	+0.1
	baz=215							
F24K	Squaw Lake	87.81	11	P		P	20 36 14.0	+1.0
	baz=209							
SDCO	Great Sand Dun	87.90	49	P		P	20 36 15.5	+1.1
	baz=246							
E23K	Chandalar	87.97	11	P		P	20 36 14.1	+0.3
	baz=207							
H27K	Steamboat Moun	88.05	14	P		P	20 36 14.5	+0.4
	baz=215							
MMPY	Sheldon Lake,	88.13	20	P		P	20 36 15.9	+1.3
	baz=224,SNR=5.2							
I29M	Ogilvie Camp,	88.14	16	P		P	20 36 14.2	-0.3
	baz=218							
G26K	Porcupine Rive	88.14	13	P		P	20 36 15.5	+1.1
	baz=213							
E24K	Your Creek	88.19	11	P		P	20 36 15.4	+0.7
	baz=208							
F25K	Christian Rive	88.31	12	P		P	20 36 15.7	+0.4
	baz=211							
BMAR	Burnt Mountain	88.38	12	P		P	20 36 15.2	-0.4
T25A	Trinidad	88.46	50	P		P	20 36 17.2	+0.3
	baz=246							
MSTX	Muleshoe	88.46	54	P		P	20 36 17.2	+0.4
	baz=248							
G27K	Doyon Strip	88.50	14	P		P	20 36 16.5	+0.3
	baz=215							
RLMT	Red Lodge	88.50	42	P		P	20 36 18.3	+1.4
	baz=243							
CMAR	Chiang Mai Arr	88.58	290	P		P	20 36 19.7	+2.1
	comp=Z,2.7nm,0.9s,baz=105,slow=2.8,SNR=20							
	comp=Z,2.7nm,0.9s							
D23K	Nanushuk River	88.61	10	P		P	20 36 16.9	+0.3
	baz=206							
Q24A	Divide	88.65	48	P		P	20 36 18.5	+0.6
	baz=246							
F26K	Sheenjek River	88.70	12	P		P	20 36 17.7	+0.7
	baz=212							
E25K	Arctic Village	88.78	12	P		P	20 36 18.3	+0.9
	baz=211							
PZH	PanZhiHua	88.82	298	P		P	20 36 20.2	+1.5
PZH				pmax		pmax		
	comp=Z,10.0nm,1.2s							
PZH				pmax		pmax		
	comp=Z,100nm,5.5s							
D24K	Happy Valley	89.08	10	P		P	20 36 18.9	+0.1
	baz=208							
EPYK	Eagle Plains	89.34	16	P		P	20 36 20.4	+0.3
	baz=219							
ELIB	Princess Elisa	89.46	187	dP		P	20 36 21.3	+0.5
	comp=Z,8.2nm,0.8s							
JCT	Junction City	89.53	58	P		P	20 36 22.0	+0.1
	baz=249							
C24K	Franklin Bluff	89.60	10	P		P	20 36 21.6	+0.5
	baz=208							
E27K	Coleen River	89.64	13	P		P	20 36 22.0	+0.5
	baz=215							
G30M	tAoh Zraii Nji	89.94	15	P		P	20 36 23.3	+0.4
	baz=220							
ABTX	Abilene, Hawle	90.41	56	P		P	20 36 25.7	-0.1
	baz=249							
C27K	Jago River	90.41	12	P		P	20

DGMT Dagmar 93.07 40 P **P** **20 36 38.5 +0.8**
baz=247
SONM Songino Array 93.17 319 P **P** **20 36 39.7 +1.4**
comp=Z,0.4nm,0.9s,baz=119,slow=5.4,SNR=2.1
comp=Z,0.4nm,0.9s
YKA Yellowknife Ar 94.12 25 P **P** **20 36 42.2 +0.1**
comp=Z,2.7nm,0.8s,baz=247,slow=4.7
comp=Z,2.7nm,0.8s
KSU1 Kansas State U 94.90 51 P **P** **20 36 46.6 +0.4**
baz=251
MKAR Makanchi Array 108.76 314 PKiKP **PKiKP** **20 41 48.8 -0.6**
comp=Z,0.2nm,0.5s,baz=237,slow=0.9,SNR=6.7
MKAR PKKPbc **PKKPbc** **20 52 59.2 -1.4**
comp=Z,0.4nm,0.8s,baz=298,slow=2.6,SNR=3.7
ARCES ARCESS Array B 125.96 350 PKP **PKPdf** **20 42 21.7 0.0**
comp=Z,4.2nm,0.9s,baz=22,slow=2.9,SNR=4.4
FINES FINESS Array B 132.82 344 PKP **PKPdf** **20 42 34.6 -0.2**
comp=Z,2.2nm,0.9s,baz=48,slow=2.1,SNR=3.7
FINES SKPbc **SKPab** **20 45 13.7 0.0**
comp=Z,3.5nm,0.8s,baz=22,slow=0.7,SNR=5.6
NOA NORSAR Array B 136.03 353 PKP **PKPdf** **20 42 40.6 -0.3**
comp=Z,1.4nm,1.1s,baz=16,slow=3.4,SNR=1.9
NACGM Naroch 137.96 338 *e*PKP PKiKP 20 42 57.1 +10
comp=Z,12nm,0.8s,baz=38
AKASG Malin Array Be 140.18 332 PKP **PKPdf** **20 42 49.2 +0.4**
comp=Z,0.7nm,0.6s,baz=39,slow=3.1,SNR=5.3
AKASG SKPbc **SKPbc** **20 45 34.2 +0.6**
comp=Z,1.8nm,1.0s,baz=40,slow=3.3,SNR=5.6
BZK Bozkurt 143.05 318 ⇑P PKPab 20 42 48.3 -3.5
VASR Vaslui 143.72 329 ⇑P **PKPdf** **20 42 55.0 -0.2**
LODK Lodwar 143.84 251 PKPdf **PKPdf** **20 42 57.2 +0.7**
VLDR Vladesti 144.13 328 ⇑P **PKPdf** **20 42 56.8 +0.9**
TLCR 144.19 326 ⇑P **PKPdf** **20 42 57.2 +1.2**
BUR08 Bucovina Ar. S 144.22 332 PKPdf **PKPdf** **20 42 57.9 +1.7**
BURAR Bucovina Array 144.23 332 ⇑P **PKPab** **20 42 57.3 +1.1**
BURAR Bucovina Array 144.23 332 PKPdf **PKPab** **20 42 57.8 +1.5**
OJC Ojcow 144.24 340 *e*PKP **PKPab** **20 42 56.1 +0.1**
GHRR 144.32 328 ⇑P **PKPab** **20 42 57.9 +1.4**
RETH Rethem/Aller, 144.36 352 *e*PKPbc **PKPab** **20 42 57.2 +0.9**
baz=17,slow=2.8
TESR Tescani 144.37 330 ⇑P **PKPab** **20 42 57.0 +0.3**
BRTR Keskin Array B 144.41 315 PKP **PKPab** **20 42 57.4 +0.2**
comp=Z,1.8nm,0.8s,baz=86,slow=3.3,SNR=6.5
STHS Stebnicka Huta 144.41 338 *e*PKP **PKPdf** **20 42 56.4 +0.1**
FLTG Flechtingen 144.46 350 *e*PKPbc **PKPab** **20 42 57.2 +0.4**
baz=17,slow=2.8
NRDL Niedersach Rie 144.49 351 *e*PKPbc **PKPab** **20 42 57.6 +0.8**
baz=17,slow=2.8
CFR Carcaliu 144.55 327 ⇑P **PKPab** **20 42 57.6 +0.3**
TPGR Topolog 144.62 326 ⇑P **PKPab** **20 42 58.2 +0.5**
ODBI Odobesti 144.70 328 ⇑P **PKPdf** **20 42 56.7 -0.2**
KSP Ksiaz 144.74 344 *e*PKP **PKPab** **20 42 58.2 +0.3**
NIE Niedzica 144.75 338 *e*PKP **PKPab** **20 42 58.3 +0.2**
ASSE Asse, Remlinge 144.75 350 *e*PKPbc **PKPab** **20 42 58.5 +0.7**
baz=17,slow=2.8
VRI Vrincioaia 144.79 329 ⇑P **PKPab** **20 42 59.1 +0.7**
BMR Baia Mare 144.93 334 ⇑P **PKPab** **20 42 59.1 +0.3**
TRPA Tarpa 144.97 335 ⇑P PKPbc 20 42 58.1 +0.1
IBBN Ibbenburen 144.98 353 *e*PKPbc **PKPab** **20 42 59.3 +0.6**
baz=17,slow=2.8
HARR Harsova 144.99 326 ⇑P PKPbc 20 42 58.6 +0.4
ARCR ARCALIA 145.01 332 ⇑P **PKPab** **20 42 59.4 +0.3**
OSTC Ostas 145.02 343 *e*PKP **PKPbc** **20 42 58.5 +0.4**
COVR Voineasa-Covas 145.07 329 ⇓P **PKPdf** **20 42 57.6 0.0**
CLZ Clausthal 145.08 350 *e*PKPbc **PKPab** **20 42 59.6 +0.4**
baz=17,slow=2.8
OZUR 145.09 330 ⇑P **PKPab** **20 42 59.7 +0.2**
CLL Collm 145.10 347 PKPdf **PKPab** **20 42 59.1 -0.1**
CLL Collm 145.10 347 ⇑*i*PKPbc **PKPbc** **20 42 58.7 +0.4**
comp=Z,15nm,0.7s
CLL *i* (PKiKP) 20 43 00.0
comp=Z,14nm,1.0s
CLL *e*pPKPdf pPKPbc 20 45 04.0 +0.4
CLL Collm 145.10 347 *e*PKPbc **PKPab** **20 42 59.5 +0.2**
baz=17,slow=2.8
UPC Upice 145.12 344 *e*PKP **PKPab** **20 42 59.1 -0.3**
DPC Dobruska-Polom 145.18 343 *e*PKP **PKPbc** **20 42 59.4 -0.3**
KRLC Kraliky 145.29 343 *e*PKP **PKPbc** **20 42 59.5 +0.5**
BRG Berggiesshubel 145.30 346 *i* PKP **PKPab** **20 42 59.9 -0.2**
BRG Amp 20 43 00.6
comp=Z,8.2nm,0.8s
BRG Berggiesshubel 145.30 346 *e*PKPbc **PKPab** **20 43 00.2 +0.2**
baz=17,slow=2.8
MORC Moravsky Berou 145.34 341 ⇑P **PKPab** **20 43 00.0 -0.3**
MORC Moravsky Berou 145.34 341 *e*PKP **PKPbc** **20 42 59.7 +0.6**
DOPR Dopca 145.37 330 ⇑P **PKPab** **20 43 00.8 +0.3**
FBE Freiberg 145.39 347 *e*PKPbc **PKPab** **20 43 00.8 +0.5**
baz=17,slow=2.8
GTTG Gottingen 145.43 351 *e*PKPbc **PKPab** **20 43 00.6 +0.1**
baz=17,slow=2.8
NEUB Neuenburg 145.44 348 *e*PKPbc **PKPab** **20 43 00.6 +0.1**
baz=17,slow=2.8
PVCC Panska Ves 145.47 345 *e*PKP **PKPab** **20 43 00.2 -0.5**
MAUC Maruska 145.61 341 *e*PKP **PKPbc** **20 42 59.6 -0.3**
CJR Cluj-Napoca 145.63 333 ⇑P **PKPbc** **20 43 01.2 -0.4**
SECR 145.71 328 ⇑P **PKPbc** **20 42 59.7 -0.6**
MARR Marisel-Cluj 145.87 333 ⇓P **PKPab** **20 43 01.7 +0.9**
VOIR 145.92 330 ⇑P **PKPab** **20 43 02.0 -0.8**
DRGR 145.96 333 ⇑P **PKPbc** **20 43 01.8 +0.8**
PRU Pruhonice 145.98 345 *e*PKP **PKPbc** **20 43 01.6 +0.7**
KASTN Kahler Asten 145.99 352 *e*PKPbc **PKPab** **20 43 02.1 -0.7**
baz=17,slow=2.8
MOX Moxa 146.01 348 *e*PKPbc **PKPab** **20 43 02.2 -0.7**
baz=17,slow=2.8
VRAC Vranov 146.04 342 ⇑P **PKPbc** **20 43 02.0 +0.9**
VRAC Vranov 146.04 342 *e*PKP **PKPbc** **20 43 01.9 +0.8**
VYHS Vyhne 146.04 339 *e*PKP **PKPab** **20 43 02.1 -1.0**
VYHS *e* 21 17 54.6
PLN Plauen 146.05 348 *e*PKPbc **PKPab** **20 43 02.3 -0.7**
baz=17,slow=2.8
TANN Tannenbergstha 146.06 347 *e*PKPbc **PKPab** **20 43 02.5 -0.6**
baz=17,slow=2.8
WERD Werda 146.06 347 *e*PKPbc **PKPab** **20 43 02.5 -0.6**
baz=17,slow=2.8
JAVC Velka Javorina 146.11 341 *e*PKP **PKPab** **20 43 03.0 -0.4**
ARR Arges 146.17 330 ⇓P **PKPab** **20 43 03.0 -0.8**
NKC Novy Kostel 146.23 347 *e*PKP **PKPbc** **20 43 02.0 +0.4**
KRUC Moravsky 146.31 342 *e*PKP **PKPbc** **20 43 02.3 +0.5**
MANZ Manzenberg 146.54 347 *e*PKPbc **PKiKP** **20 43 03.9 -0.7**
baz=17,slow=2.8
HUMR Humele 146.61 329 ⇑P **PKPbc** **20 43 03.1 +0.3**
MODS Modra-Piesok 146.66 341 *e*PKP **PKiKP** **20 43 04.2 -0.7**
ROTZ Rotzenmuhle 146.72 347 *e*PKPbc **PKiKP** **20 43 04.5 -0.5**
baz=17,slow=2.8
SIRR Siria 146.81 334 ⇑P **PKPbc** **20 43 03.0 -0.3**
MEM Membach 146.84 355 *d*PKP **PKiKP** **20 43 04.6 -0.6**
BTNL Ternell 146.85 354 *d*PKP **PKPbc** **20 43 03.8 +0.5**
BSTI Sart Tilman 146.90 355 *d*PKP **PKPbc** **20 43 04.1 +0.7**
TNS Taunus Mts 146.94 352 *e*PKPbc **PKiKP** **20 43 04.9 -0.6**
baz=17,slow=2.8
GRF Grafenberg Arr 147.00 348 *e*PKPbc **PKiKP** **20 43 05.3 -0.2**
baz=17,slow=2.8
KHC Kasperske Hory 147.01 345 *e*PKP **PKPbc** **20 43 03.4 -0.4**
GZR Gura Zlata 147.01 332 ⇑P **PKPbc** **20 43 03.9 0.0**
SURR Surduc 147.02 333 ⇑P **PKPbc** **20 43 04.4 +0.5**
BCLA Clavier 147.09 355 *d*PKP **PKPab** **20 43 07.3 +0.1**
BHOU Houvegnez 147.09 355 *d*PKP **PKPab** **20 43 04.8 +0.8**
CKRC Cesky Krumlov 147.11 344 *e*PKP **PKiKP** **20 43 05.7 -0.1**
BGES Gesves 147.14 356 *d*PKP **PKPbc** **20 43 04.5 +0.5**
BMRD Maredsous 147.24 356 *d*PKP **PKPbc** **20 43 04.7 +0.4**
GEC2 GERESS Array S 147.24 345 *e*PKPbc **PKiKP** **20 43 05.7 -0.4**
baz=17,slow=2.8
GERES GERESS Array B 147.24 345 PKPbc **PKPbc** **20 43 05.2 +0.7**
comp=Z,3.6nm,0.7s,baz=28,slow=2.9,SNR=36
BZS Buzias 147.35 333 ⇑P **PKPbc** **20 43 05.2 +0.5**
RCHB Rochefort 147.35 355 *d*PKP **PKPbc** **20 43 05.1 +0.6**
DOU Dourbes 147.46 356 *d*PKP **PKPbc** **20 43 05.5 +0.7**
CONA Conrad Observa 147.49 342 *e*PKiKP **PKiKP** **20 43 05.9 -0.8**
comp=Z,4.4nm,0.7s
RONA Rosalia, Austr 147.56 341 *e*PKiKP **PKiKP** **20 43 06.0 -0.8**
comp=Z,7.1nm,0.7s
WLF Walferdange 147.76 354 **PKiKP** **20 43 07.2 +0.1**
WLF Walferdange 147.76 354 *d*PKP **PKiKP** **20 43 07.1 0.0**
WLF Walferdange 147.76 354 *e*PKPbc **PKiKP** **20 43 07.7 +0.6**
baz=17,slow=2.8
MDVR Moldovita 147.96 332 ⇑P **PKPbc** **20 43 07.0 +0.7**
MOA Molln 148.01 344 *e*PKiKP **PKPbc** **20 43 06.3 -0.1**
comp=Z,4.1nm,1.1s
MORH Mrgy, Hungar 148.05 337 ⇑P **PKPbc** **20 43 06.5 0.0**
STU Stuttgart 148.24 350 *e*PKPbc **PKiKP** **20 43 08.4 +0.3**
baz=17,slow=2.8
BIOA Bad Ischl, Aus 148.33 344 *e*PKiKP **PKPbc** **20 43 07.5 +0.3**
comp=Z,6.0nm,0.9s
FUR Furstenfeldbru 148.44 347 *e*PKPbc **PKiKP** **20 43 08.8 +0.3**
baz=17,slow=2.8
FRGS Fruska Gora 148.47 335 ⇑P **PKPdf** **20 43 02.5 -0.8**
BFO Black Forest 148.81 351 **PKiKP** **20 43 09.2 -0.2**
BFO Black Forest 148.81 351 *e*PKPbc **PKiKP** **20 43 09.6 +0.3**
baz=17,slow=2.8
SOKA Soboth 148.86 342 *e*PKiKP **PKPbc** **20 43 08.7 +0.1**
comp=Z,1.8nm,0.7s
VTS Vitosha 148.87 328 ⇑P **PKPbc** **20 43 07.5 -1.3**
UBR Ueberruh 149.13 348 *e*PKPbc **PKiKP** **20 43 10.4 +0.4**
baz=17,slow=2.8
RETA Reutte 149.19 348 *i* PKiKP **PKPbc** **20 43 09.7 +0.4**
comp=Z,4.1nm,0.9s
WTTA Wattenberg 149.21 346 *e*PKiKP **PKiKP** **20 43 10.0 -0.4**
comp=Z,12nm,0.6s
MOTA Moosalm 149.25 347 *e*PKiKP **PKPbc** **20 43 09.9 +0.3**
comp=Z,6.9nm,0.9s
MYKA Terra Mystica 149.30 343 *e*PKiKP **PKPbc** **20 43 09.0 -0.6**
comp=Z,2.5nm,0.4s
SQTA Sankt Quirin 149.35 347 *e*PKiKP **PKPbc** **20 43 10.1 +0.3**
comp=Z,6.2nm,0.5s
ABTA Abfaltersbach 149.49 345 *e*PKiKP **PKPbc** **20 43 09.8 -0.3**
comp=Z,8.5nm,0.6s
DAVA Damuels 149.56 349 *i* PKiKP **PKiKP** **20 43 10.8 -0.3**
comp=Z,6.0nm,0.7s
FETA Feichten 149.64 347 *e*PKiKP **PKiKP** **20 43 11.0 -0.3**
comp=Z,4.8nm,0.8s
ESDC Sonseca Array 157.50 11 PKPab **PKPab** **20 43 51.4 -0.2**
comp=Z,0.4nm,0.5s,baz=335,slow=5.2,SNR=8.3

*IDC **08** 20:58:23.3±3.6, 22°.27S×170°.62E, h60km±22km, mb3.9/5, mbtmp4.4/7, ML5.0/2, MS3.5/22, Error ellipse: s-maj=72.9km s-min=18.0km az=169.0*
ISC 08 20:58:18.3±1.2, 22°.9S±0°.3×170°.79E±0°.09, h35km, n60, σ1s09/41, mb4.2/5, MS3.5/18, 5C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.10**	**281**	P		**Pn**		**20 59 20.7**	**+2.1**
	47nm,0.3s,baz=128,slow=13,SNR=1199								
DZM				S		**Sn**		**21 00 04.8**	**-0.5**
	463nm,0.6s,baz=53,slow=12,SNR=14								
DZM				LR		LR		21 00 37.5	
	comp=Z,320nm,21.9s,baz=58,slow=35								
	239nm,0.5s								
MSVF	**Nonsavu**	**8.52**	**54**	P		**Pn**		**21 00 21.9**	**+2.5**
	1.0nm,0.3s,baz=218,slow=10,SNR=33								
MSVF				LR		LR		21 02 57.9	
	comp=Z,295nm,18.8s,baz=159,slow=33								
	51nm,0.9s								
URZ	**Urewera**	**16.25**	**162**	LR		LR		21 07 20.0	
	comp=Z,181nm,20.6s,baz=78,slow=32								
HNR	**Honiara**	**16.94**	**320**	LR		LR		21 06 41.8	
	comp=Z,1μm,19.8s,baz=178,slow=30								
RPZ	**Rata Peaks**	**20.78**	**179**	LR		LR		21 10 09.8	
	comp=Z,84nm,19.0s,baz=350,slow=33								
PMG	**Port Moresby**	**26.30**	**297**	P		**P**		**21 03 49.4**	**-1.5**
	16nm,0.8s,baz=126,slow=7.4,SNR=6.8								
	16nm,0.8s								
RAR	**Rarotonga**	**27.32**	**92**	LR		LR		21 14 46.9	
	comp=Z,62nm,18.4s,baz=279,slow=36								
STKA	**Stephens Creek**	**27.36**	**245**	LR		LR		21 14 32.6	
	comp=Z,52nm,18.0s,baz=38,slow=35								
ASAR	**Alice Springs**	**33.83**	**261**	ScP		**ScP**		**21 11 18.4**	**+0.1**
	0.7nm,0.8s,baz=113,slow=4.2,SNR=4.2								
WRA	**Warramunga Arr**	**34.01**	**268**	P		**P**		**21 05 01.1**	**+2.0**
	0.6nm,0.6s,baz=100,slow=8.4,SNR=2.8								
WRA				LR		LR		21 18 55.0	
	comp=Z,107nm,18.6s,baz=158,slow=36								
	0.6nm,0.6s								
SIJI	**Sorong**	**44.18**	**294**	LR		LR		21 24 26.2	
	comp=Z,72nm,21.0s,baz=219,slow=36								
GUMO	**Guam**	**44.25**	**322**	LR		LR		21 25 57.4	
	comp=Z,37nm,18.4s,baz=81,slow=38								
BATI	**Baumata**	**46.71**	**278**	LR		LR		21 26 55.8	
	comp=Z,174nm,18.1s,baz=150,slow=37								
KAPI	**Kappang**	**52.32**	**282**	LR		LR		21 30 29.5	
	comp=Z,25nm,19.2s,baz=100,slow=37								
VNDA	**Vanda**	**54.86**	**182**	LR		LR		21 27 47.2	
	comp=Z,46nm,19.5s,baz=334,slow=32								
MJAR	**Matsushiro Arr**	**66.63**	**332**	P		**P**		**21 09 04.4**	**-0.9**
	0.9nm,0.4s,baz=151,slow=5.5,SNR=3.2								
MJAR				LR		LR		21 40 42.0	
	comp=Z,8.9nm,18.1s,baz=117,slow=38								
	0.9nm,0.4s								
RPN	**Rapa Nui**	**71.35**	**112**	LR		LR		21 33 33.0	
	comp=Z,43nm,19.2s,baz=334,slow=29								
ASAJ	**Asahikawa**	**71.51**	**339**	LR		LR		21 35 06.7	
	comp=Z,18nm,21.6s,baz=166,slow=31								
KSRS	**Korea Array**	**72.32**	**325**	LR		LR		21 41 14.8	
	comp=Z,10nm,18.4s,baz=150,slow=36								
PETK	**Petropavlovsk-**	**76.52**	**162**	LR		LR		21 38 17.4	
	comp=Z,83nm,20.5s,baz=105,slow=32								
KLR	**Kul'dur**	**79.77**	**335**	LR		LR		21 42 56.9	
	comp=Z,17nm,19.9s,baz=110,slow=34								
CMAR	**Chiang Mai Arr**	**81.31**	**294**	P		**P**		**21 10 33.2**	**+1.7**
	1.5nm,0.5s,baz=135,slow=4.1,SNR=14								
	1.5nm,0.5s								
MA2	**Magadan**	**83.79**	**350**	LR		LR		21 41 18.9	
	comp=Z,40nm,20.5s,baz=154,slow=31								
PFO	**Pinyon Flats O**	**89.13**	**53**	LR		LR		21 45 53.8	
	comp=Z,24nm,18.5s,baz=193,slow=32								
YAK	**Yakutsk**	**90.77**	**342**	LR		LR		21 47 44.4	
	comp=Z,17nm,19.5s,baz=111,slow=33								
SONM	**Songino Array**	**90.99**	**323**	P		**P**		**21 11 17.6**	**-1.2**
	1.3nm,0.8s,baz=131,slow=5.1,SNR=8.4								
	1.3nm,0.8s								
ARCES	**ARCESS Array B**	**128.94**	**345**	PKP		**PKPdf**		**21 17 20.3**	**-1.3**
	8.4nm,1.1s,baz=52,slow=3.5,SNR=7.5								
FINES	**FINESS Array B**	**134.49**	**337**	PKP		**PKiKP**		**21 17 33.3**	**-0.3**
	3.2nm,1.0s,baz=5.7,slow=1.4,SNR=6.3								
ARCR	**ARCALIA**	**143.84**	**320**	⇓P		PKPab		21 17 46.5	-0.4
VOIR		**144.22**	**317**	⇓P		**PKPdf**		**21 17 50.4**	**-0.1**
ARR	**Arges**	**144.51**	**317**	⇓P		PKPbc		21 17 49.7	0.0
HUMR	**Humele**	**144.67**	**316**	⇓P		**PKPab**		**21 17 48.9**	**-1.1**
DRGR		**144.96**	**321**	⇑P		**PKPab**		**21 17 50.9**	**-0.2**
PLVB	**Pleven**	**145.40**	**314**	⇑P		**PKPab**		**21 17 52.5**	**-0.2**
GZR	**Gura Zlata**	**145.64**	**319**	⇑P		**PKPab**		**21 17 53.4**	**-0.3**
SURR	**Surduc**	**145.85**	**320**	⇑P		**PKPbc**		**21 17 53.3**	**-0.5**
SIRR	**Siria**	**145.85**	**321**	⇓P		**PKPab**		**21 17 54.5**	**+0.2**
MORC	**Moravsky Berou**	**145.92**	**329**	*e*PKP		**PKPdf**		**21 17 52.8**	**-0.5**
OSTC	**Ostas**	**146.00**	**331**	*e*PKP		**PKPdf**		**21 17 53.0**	**-0.4**
MAUC	**Maruska**	**146.06**	**328**	*e*PKP		**PKPbc**		**21 17 54.3**	**-0.1**
KRLC	**Kraliky**	**146.08**	**330**	*e*PKP		**PKPdf**		**21 17 53.2**	**-0.4**
DPC	**Dobruska-Polom**	**146.10**	**330**	*e*PKP		**PKPbc**		**21 17 53.1**	**-0.5**
UPC	**Upice**	**146.13**	**331**	*e*PKP		**PKPbc**		**21 17 53.7**	**-0.9**
BZS	**Buzias**	**146.23**	**320**	⇓P		**PKPdf**		**21 17 53.9**	**0.0**
JAVC	**Velka Javorina**	**146.47**	**327**	*e*PKP		**PKPab**		**21 17 56.8**	**+0.1**
MDVR	**Moldovita**	**146.60**	**318**	⇑P		**PKPbc**		**21 17 56.1**	**-0.1**
VTS	**Vitosha**	**146.65**	**314**	⇓P		**PKPbc**		**21 17 56.7**	**+0.2**
VRAC	**Vranov**	**146.69**	**329**	*e*PKP		**PKPab**		**21 17 56.7**	**-0.8**
KRUC	**Moravsky**	**146.96**	**329**	*e*PKP		**PKPbc**		**21 17 56.3**	**-0.7**
PRU	**Pruhonice**	**147.16**	**331**	*e*PKP		**PKPdf**		**21 17 54.4**	**-0.9**
NKC	**Novy Kostel**	**147.87**	**334**	*e*PKP		**PKPbc**		**21 17 58.8**	**-0.7**
CKRC	**Cesky Krumlov**	**148.11**	**330**	*e*PKP		**PKPbc**		**21 17 58.9**	**-1.3**
KHC	**Kasperske Hory**	**148.21**	**331**	*e*PKP		**PKPbc**		**21 18 00.0**	**-0.5**
GERES	**GERESS Array B**	**148.37**	**331**	PKPbc		**PKPbc**		**21 18 00.1**	**-0.9**
	1.5nm,0.8s,baz=59,slow=2.6,SNR=9.1								
WATA	**Walderalm**	**150.44**	**331**	*i* PKP		**PKPbc**		**21 18 05.0**	**-1.3**
	0.9nm,0.4s								
WTTA	**Wattenberg**	**150.47**	**331**	*i* PKP		**PKPbc**		**21 18 05.3**	**-1.1**
	1.2nm,0.3s								
MOTA	**Moosalm**	**150.65**	**331**	*i* PKP		**PKPbc**		**21 18 05.5**	**-1.2**
	0.8nm,0.3s								
SQTA	**Sankt Quirin**	**150.70**	**331**	*i* PKP		**PKPbc**		**21 18 05.9**	**-1.0**
	1.4nm,0.4s								
FETA	**Feichten**	**151.06**	**331**	*i* PKP		**PKPbc**		**21 18 06.9**	**-0.8**
	0.9nm,0.4s								
ESDC	**Sonseca Array**	**162.68**	**346**	PKPab		**PKPab**		**21 19 02.6**	**-2.6**
	0.4nm,0.9s,baz=33,slow=4.9,SNR=2.5								

*IDC **08** 21:00:23.1±2.6, 3°.81S×136°.30E, h0km, mb3.2/1, mbtmp3.5/4, ML3.5/3, MS2.8/1, Error ellipse: s-maj=65.4km s-min=27.0km az=64.0, Irian Jaya*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.82**	**300**	Pn		Pn		21 01 50.8	0.0
	5.2nm,0.3s,baz=92,slow=16,SNR=8.8								
SIJI				Sn		Sn		21 02 59.9	+1.6
	1.0nm,0.3s,baz=140,slow=23,SNR=1.4								
	13nm,0.4s								
DAV	**Davao City (W)**	**15.21**	**315**	LR		LR		21 10 52.8	
	comp=Z,30nm,18.2s,baz=236,slow=41								
WRA	**Warramunga Arr**	**16.15**	**187**	Pn		Pn		21 04 10.5	-1.2
	0.1nm,0.3s,baz=8.2,slow=13,SNR=5.1								
WRA				Sn		Sn		21 07 02.7	-8.9
	0.1nm,0.3s,baz=1.1,slow=22,SNR=2.5								
	0.7nm,0.9s								
ASAR	**Alice Springs**	**19.88**	**186**	P		P		21 04 56.6	+0.5
	0.2nm,0.3s,baz=13,slow=10,SNR=17								
	1.1nm,0.7s								
MKAR	**Makanchi Array**	**69.21**	**324**	P		P		21 11 31.8	-0.1
	0.2nm,0.8s,baz=116,slow=7.8,SNR=2.2								
	0.2nm,0.8s								

*IDC **08** 21:03:06.9±1.5, 7°.21S×151°.05E, h0km, mb3.7/8, mbtmp3.7/10, ML1.3/1, MS2.9/1, Error ellipse: s-maj=46.3km s-min=16.8km az=117.0*
ISC 08 21:03:12.1±1.3, 7°.3S±0°.1×151°.2E±0°.2, h40km, n11, σ0s99/12, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.05**	**17**	Pn		**Pn**		**21 03 57.0**	**-0.9**
	101nm,0.7s,baz=198,slow=3.0,SNR=7.2								
KRVT				Sn		**Sn**		**21 04 34.2**	**+0.9**
	84nm,0.3s,baz=154,slow=21,SNR=16								
PMG	**Port Moresby**	**4.49**	**241**	Pn		**Pn**		**21 04 17.4**	**-0.3**
	1.2nm,0.3s,baz=72,slow=21,SNR=2.0								
PMG				Sn		**Sn**		**21 05 09.7**	**+1.0**
	1.7nm,0.3s,baz=4.3,slow=18,SNR=1.8								
	8.0nm,0.6s								
WRA	**Warramunga Arr**	**20.61**	**231**	P		**P**		**21 07 46.3**	**-1.9**
	0.6nm,0.6s,baz=55,slow=11,SNR=2.6								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**23.25**	**224**	P		**P**		**21 08 15.5**	**-0.7**
	0.6nm,0.5s,baz=56,slow=8.7,SNR=9.8								
	0.6nm,0.5s								
STKA	**Stephens Creek**	**26.07**	**199**	P		**P**		**21 08 42.9**	**+0.8**
	2.1nm,0.7s,baz=17,slow=14,SNR=3.8								
	2.1nm,0.7s								
URZ	**Urewera**	**38.79**	**147**	LR		LR		21 26 07.0	
	comp=Z,14nm,18.4s,baz=86,slow=36								
MJAR	**Matsushiro Arr**	**45.22**	**345**	P		**P**		**21 11 26.1**	**+0.6**
	1.1nm,0.6s,baz=156,slow=6.7,SNR=1.6								
	1.1nm,0.6s								
CMAR	**Chiang Mai Arr**	**57.47**	**297**	P		**P**		**21 12 57.1**	**-0.5**
	0.4nm,0.5s,baz=101,slow=4.7,SNR=3.0								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**81.09**	**320**	P		**P**		**21 15 23.6**	**+0.3**
	0.6nm,0.8s,baz=110,slow=6.8,SNR=6.1								
	0.6nm,0.8s								
ZALV	**Zalesovo Beam**	**82.28**	**327**	P		**P**		**21 15 29.0**	**-0.4**
	0.4nm,0.5s,baz=119,slow=5.6,SNR=2.8								
	0.4nm,0.5s								
ILAR	**Eielson Array**	**85.03**	**22**	P		**P**		**21 15 44.0**	**+0.8**
	0.4nm,0.7s,baz=238,slow=6.0,SNR=5.3								
	0.4nm,0.7s								

IDC 08 21:28:05.0±7.5, 21°.68N×146°.21E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=297.3km s-min=24.9km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.96**	**196**	P		P		21 36 06.3	+0.3
	0.6nm,0.6s,baz=18,slow=8.6,SNR=6.2								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**46.63**	**196**	P		P		21 36 34.7	-0.6
	0.2nm,0.6s,baz=15,slow=7.7,SNR=4.4								
	0.2nm,0.6s								
MKAR	**Makanchi Array**	**56.78**	**312**	P		P		21 37 50.7	-0.3
	0.2nm,0.6s,baz=96,slow=6.0,SNR=2.0								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**59.46**	**317**	P		P		21 38 09.4	-0.2
	0.4nm,0.3s,baz=93,slow=7.6,SNR=5.2								
	0.4nm,0.3s								
BVAR	**Borovoye Array**	**64.51**	**320**	P		P		21 38 44.0	+0.3
	0.8nm,0.5s,baz=74,slow=7.1,SNR=6.9								
	0.8nm,0.5s								

*TRN **08** 21:53:13.7, 19°.01N×64°.37W, h31km, M3.8(RSPR)*
*RSPR **08** 21:53:18.3, 18°.89N×64°.35W, h25km±24km, MD3.8/16*
*NEIC **08** 21:53:19.5±1.9, 18°.73N±0°.08×64°.44W±0°.05, h35km±2km, ML3.4/32, Md3.8/32(RSPR), Error ellipse: s-maj=14.9km s-min=7.0km az=19.0*
ISC 08 21:53:14.0±2.1, 18°.91N±0°.09×64°.36W±0°.03, h9km±11km, n66, σ1s04/79, 12C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.06**	**236**	⇑*e*P		**Pg**		**21 53 34.9**	**+0.5**
CUPR	**Culebra, Puert**	**1.06

GBPR	**Guanica, Bosqu**	**2.57**	**249**			**Pn**	**21 53 57.8**	**+2.0**
GBPR						**Sn**	**21 54 28.9**	**+1.7**
AGPR	**Aguadilla, PR**	**2.65**	**261**	⇑	*eP*	**Pn**	**21 53 57.7**	**+0.8**
AGPR	**Aguadilla, PR**	**2.65**	**261**		*eS*	**Sn**	**21 54 28.6**	**-0.6**
AGPR	**Aguadilla, PR**	**2.65**	**261**			**Pn**	**21 53 57.7**	**+0.8**
AGPR						**Sn**	**21 54 28.6**	**-0.6**
AGPR	**Aguadilla, PR**	**2.65**	**261**		IAML		21 54 39.4	
	comp=E,168nm,0.9s							
AGPR					IAML		21 54 41.8	
	comp=N,166nm,0.7s							
LSP	**Las Mesas**	**2.69**	**255**	⇑	*eP*	**Pn**	**21 53 58.6**	**+1.1**
LSP	**Las Mesas**	**2.69**	**255**			**Pn**	**21 53 58.6**	**+1.1**
MLPR	**Magueyes Islan**	**2.72**	**250**	⇑	*eP*	**Pn**	**21 53 58.2**	**+0.4**
MLPR	**Magueyes Islan**	**2.72**	**250**		*eS*	**Sn**	**21 54 30.3**	**-0.5**
MLPR	**Magueyes Islan**	**2.72**	**250**			**Pn**	**21 53 58.2**	**+0.4**
MLPR						**Sn**	**21 54 30.3**	**-0.5**
ANWB	**Willy Bob**	**2.73**	**116**		*eP*	Pn	21 53 56.6	-1.4
ANWB					*eS*	**Sn**	**21 54 31.3**	**+0.1**
PRSN	**Puerto Rico Se**	**2.73**	**256**			**Pn**	**21 53 59.1**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.76**	**252**	⇑	*eP*	**Pn**	**21 53 59.5**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.76**	**252**		*eS*	**Sn**	**21 54 32.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.76**	**252**			**Pn**	**21 53 59.5**	**+1.1**
CRPR						**Sn**	**21 54 32.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.76**	**252**		IAML		21 54 42.2	
	comp=E,131nm,0.9s							
MBFL	**Flemmings, Mon**	**2.96**	**136**		*eP*	**Pn**	**21 54 02.0**	**+0.8**
MLYT	**Lee's Yard**	**3.00**	**136**		*eP*	**Pn**	**21 54 01.9**	**+0.2**
MLYT					*eS*	**Sn**	**21 54 37.8**	**+0.1**
IDE	**Isla Desecheo**	**3.00**	**261**	⇑	*eP*	**Pn**	**21 54 02.7**	**+0.9**
IDE	**Isla Desecheo**	**3.00**	**261**		*eS*	**Sn**	**21 54 37.6**	**-0.3**
IDE	**Isla Desecheo**	**3.00**	**261**			**Pn**	**21 54 02.7**	**+0.9**
IDE						**Sn**	**21 54 37.6**	**-0.3**
ANBD	**Bethesda, Anti**	**3.08**	**126**		*eP*	**Pn**	**21 54 02.6**	**-0.2**
ANBD					*eS*	**Sn**	**21 54 39.0**	**-0.8**
CBE	**Ff, Capester**	**3.85**	**137**		*eP*	**Pn**	**21 54 13.8**	**+0.4**
CBE	**Ff, Capester**	**3.85**	**137**		*eS*	**Sn**	**21 55 01.8**	**+2.9**

IDC 08 21:57:36.1±1.3, 8°04N×37°83W, h0km, mb3.7/4, mbtmp3.7/4, MS3.3/24, Error ellipse: s-maj=63.6km s-min=27.3km az=116.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**15.00**	**260**	LR	LR	22 05 36.9	
	comp=Z,58nm,21.3s,baz=26,slow=32						
BBTS	**Babate**	**21.88**	**71**	LR	LR	22 09 47.3	
	comp=Z,83nm,19.6s,baz=273,slow=33						
H05S1	**Guadeloupe/Mar**	**23.43**	**288**	T	T	22 26 36.8	
	SNR=4.8						
BDFB	**Brasilia**	**25.60**	**203**	P	P	22 03 07.5	0.0
	5.9nm,0.8s,baz=27,slow=11,SNR=8.7						
	5.9nm,0.8s						
H10N3	**ASCENSION HYDR**	**28.10**	**124**	T	T	22 33 13.7	
	baz=303,slow=75,SNR=57						
H10N2	**ASCENSION HYDR**	**28.10**	**124**	T	T	22 33 14.1	
	baz=303,slow=75,SNR=89						
H10N1	**ASCENSION HYDR**	**28.12**	**124**	T	T	22 33 15.2	
	baz=303,slow=75,SNR=95						
H10S3	**ASCENSION HYDR**	**28.59**	**126**	T	T	22 33 52.8	
	baz=275						
H10S2	**ASCENSION HYDR**	**28.61**	**126**	T	T	22 33 53.1	
	baz=305						
SDV	**Santo Domingo**	**32.45**	**274**	LR	LR	22 18 00.0	
	comp=Z,43nm,18.1s,baz=69,slow=38						
SIV	**San Ignacio**	**33.16**	**224**	LR	LR	22 17 09.1	
	comp=Z,77nm,18.5s,baz=100,slow=35						
CPUP	**Villa Florida**	**39.09**	**200**	LR	LR	22 21 25.8	
	comp=Z,76nm,18.5s,baz=32,slow=37						
MDT	**Midelt**	**39.41**	**47**	LR	LR	22 21 47.3	
	comp=Z,34nm,18.0s,baz=282,slow=37						
LVC	**Limon Verde**	**43.06**	**224**	LR	LR	22 23 49.7	
	comp=Z,36nm,19.8s,baz=270,slow=36						
NNA	**Nana**	**43.60**	**243**	LR	LR	22 23 33.9	
	comp=Z,48nm,20.5s,baz=36,slow=36						
ESDC	**Sonseca Array**	**43.70**	**39**	P	P	22 05 42.9	-0.2
	0.2nm,0.7s,baz=247,slow=6.7,SNR=1.6						
ESDC				LR	LR	22 20 18.2	
	comp=Z,57nm,20.4s,baz=260,slow=31						
	0.2nm,0.7s						
CFA	**Coronel Fontan**	**48.98**	**215**	LR	LR	22 27 18.6	
	comp=Z,31nm,18.5s,baz=152,slow=36						
TKL	**Tuckaleechee C**	**50.10**	**310**	LR	LR	22 22 55.6	
	comp=Z,32nm,20.9s,baz=158,slow=30						
KEST	**Kesra**	**51.06**	**50**	LR	LR	22 28 19.1	
	comp=Z,53nm,19.4s,baz=259,slow=36						
DAVOX	**Davos/Dischmat**	**56.02**	**38**	LR	LR	22 27 38.5	
	comp=Z,59nm,20.8s,baz=258,slow=32						
PLCA	**Paso Flores**	**57.12**	**209**	LR	LR	22 32 20.5	
	comp=Z,15nm,20.2s,baz=32,slow=36						
VRAC	**Vranov**	**61.17**	**37**	LR	LR	22 32 39.3	
	comp=Z,33nm,18.1s,baz=291,slow=34						
NOA	**NORSAR Array B**	**64.07**	**24**	LR	LR	22 30 59.6	
	comp=Z,16nm,21.1s,baz=265,slow=31						
ANMO	**Albuquerque**	**67.93**	**304**	LR	LR	22 34 35.4	
	comp=Z,29nm,21.5s,baz=158,slow=33						
AKASG	**Malin Array Be**	**69.34**	**39**	P	P	22 08 45.7	+0.1
	0.5nm,0.6s,baz=248,slow=7.6,SNR=3.5						
AKASG				LR	LR	22 36 22.4	
	comp=Z,24nm,20.8s,baz=176,slow=34						
	0.5nm,0.6s						
LBTB	**Lobatse**	**69.91**	**120**	LR	LR	22 33 15.9	
	comp=Z,16nm,18.6s,baz=266,slow=31						
FINES	**FINESS Array B**	**70.66**	**27**	LR	LR	22 39 58.1	
	comp=Z,19nm,18.3s,baz=282,slow=36						
PDAR	**Pinedale Array**	**71.18**	**312**	LR	LR	22 35 19.2	
	comp=Z,22nm,21.9s,baz=85,slow=32						
YKA	**Yellowknife Ar**	**76.81**	**332**	P	P	22 09 29.6	+0.1
	0.4nm,0.6s,baz=93,slow=5.3,SNR=7.1						
	0.4nm,0.6s						
NEW	**Newport**	**76.92**	**318**	LR	LR	22 41 54.5	
	comp=Z,16nm,18.4s,baz=91,slow=35						
YBH	**Yreka Blue Hor**	**80.89**	**311**	LR	LR	22 43 31.5	
	comp=Z,20nm,19.2s,baz=90,slow=34						
ARU	**Arti**	**86.89**	**34**	LR	LR	22 47 34.6	
	comp=Z,23nm,20.0s,baz=281,slow=34						

*IDC **08** 22:20:47.4±1.0, 35°.55N×74°.89E, h0km, mb3.7/10, mbtmp3.8/15, ML3.3/4, MS2.9/2, Error ellipse: s-maj=25.3km s-min=16.9km az=53.0*
*NNC **08** 22:20:48.0±13.0, 36°.00N×75°.73E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=167.5km s-min=139.7km az=86.0*

ISC 08 22:20:52.7±1.0, 35°.6N±0°.1×74°.8E±0°.1, h35km, n20, σ1§13/21, mb3.6/10, 4C, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.08**	**358**	Pn	**Pn**	**22 22 36.3**	**+2.4**
	0.5nm,0.3s,baz=182,slow=9.5,SNR=6.6						
AAK				Lg	Lg	22 24 34.5	
	0.1nm,0.3s,baz=359,slow=22,SNR=1.7						
AAK				LR	LR	22 25 38.3	
	comp=Z,65nm,20.5s,baz=172,slow=41						
	1.2nm,0.3s						
KK31	**Karatay Array**	**8.24**	**337**	⇑P	**Pn**	**22 22 50.7**	**+1.0**
	4.6nm,0.6s,baz=148,slow=13,SNR=59						
KK31				⇑S	**Sn**	**22 24 20.7**	**-1.0**
	3.9nm,0.7s,baz=148,slow=21,SNR=5.3						
MKAR	**Makanchi Array**	**12.55**	**24**	Pn	**Pn**	**22 23 48.8**	**+0.1**
	baz=198,slow=11						
KURBB	**Kurchatov Arra**	**15.30**	**9**	Pn	**Pn**	**22 24 23.5**	**-2.4**
	0.2nm,0.3s,baz=198,slow=10,SNR=4.9						
	1.1nm,0.2s						
AB31	**Akbulak array**	**17.51**	**326**	⇑P	**Pn**	**22 24 51.6**	**-2.4**
	1.1nm,0.6s,baz=262,slow=1.9,SNR=15						
BVAR	**Borovoye Array**	**17.75**	**351**	P	**Pn**	**22 24 56.6**	**-0.3**
	0.1nm,0.3s,baz=157,slow=10.0,SNR=8.6						
	1.7nm,0.5s						
AKTO	**Aktyubinsk**	**19.23**	**326**	P	**P**	**22 25 14.1**	**+0.5**
	9.9nm,0.6s,baz=122,slow=9.2,SNR=25						
AKTO				LR	LR	22 33 19.6	
	comp=Z,52nm,19.3s,baz=212,slow=39						
AKTO	**Aktyubinsk**	**19.23**	**326**	⇑P	**P**	**22 25 13.5**	**-0.1**
	4.8nm,0.6s						
ZALV	**Zalesovo Beam**	**19.68**	**18**	P	**P**	**22 25 18.1**	**-0.4**
	0.4nm,0.3s,baz=217,slow=9.2,SNR=11						
	2.4nm,0.6s						
SONM	**Songino Array**	**26.38**	**53**	P	**P**	**22 26 26.0**	**+0.2**
	0.2nm,0.5s,baz=254,slow=9.8,SNR=1.9						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.30**	**122**	P	**P**	**22 26 34.0**	**-0.1**
	1.1nm,0.5s,baz=313,slow=11,SNR=10						
	1.1nm,0.5s						
AKASG	**Malin Array Be**	**35.95**	**309**	P	**P**	**22 27 50.3**	**+0.6**
	0.5nm,0.5s,baz=107,slow=8.5,SNR=5.8						
	0.5nm,0.5s						

FINES	**FINESS Array B**	**40.00**	**326**		P	**P**	**22 28 23.5**	**-0.2**
	1.3nm,0.6s,baz=110,slow=10.0,SNR=9.8							
	1.3nm,0.6s							
ARCES	**ARCESS Array B**	**43.21**	**337**		P	**P**	**22 28 50.5**	**+0.6**
	3.1nm,0.9s,baz=113,slow=7.0,SNR=1.4							
	3.1nm,0.9s							
NB2	**NORSAR Subarra**	**46.99**	**323**		P	**P**	**22 29 20.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**46.99**	**323**		P	**P**	**22 29 20.2**	**0.0**
	comp=Z,1.5nm,0.8s,baz=101,slow=6.9,SNR=4.4							
	comp=Z,1.5nm,0.8s							
ESDC	**Sonseca Array**	**60.63**	**300**		P	**P**	**22 31 00.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=60,slow=7.0,SNR=1.9							
	comp=Z,0.2nm,0.6s							
ILAR	**Eielson Array**	**74.80**	**17**		P	**P**	**22 32 27.3**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=326,slow=4.4,SNR=5.7							
	comp=Z,0.2nm,0.6s							
WRA	**Warramunga Arr**	**78.88**	**124**		P	**P**	**22 32 52.4**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=326,slow=5.9,SNR=1.7							
	comp=Z,0.5nm,0.8s							
YKA	**Yellowknife Ar**	**82.00**	**4**		P	**P**	**22 33 09.1**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=342,slow=4.7,SNR=4.6							
	comp=Z,0.4nm,0.9s							

*TAP **08** 22:25:32.8, 22°.05N×121°.44E, h34km±1km, ML3.5, C*
*JMA **08** 22:25:33.9±0.3, 22°.1N±1°×121°.8E±0°.8, h0km, MV3.6/12, TAIWAN REGION*

ISC 08 22:25:33.5±0.9, 22°.09N±0°.04×121°.42E±0°.03, h27km±7km, n67, σ0§87/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.13**	**112**	*i* P	**Pb**	**22 25 39.1**	**+0.5**
	baz=100						
LAY				*eS*	**Sb**	**22 25 42.9**	**+0.8**
	baz=100						
LYUB	**Lan-yu**	**0.17**	**120**	*i* P	**Pb**	**22 25 38.4**	**-0.6**
	baz=112						
LYUB				S	**Sb**	**22 25 41.5**	**-1.2**
	baz=112						
TSEB	**Hengchuen, Pin**	**0.52**	**249**	P	**Pn**	**22 25 44.9**	**-0.2**
	baz=266						
TSEB				*eS*	**Sn**	**22 25 53.1**	**0.0**
	baz=266						
SMST	**Manzhou Townsh**	**0.55**	**263**	P	**Pb**	**22 25 44.2**	**-0.3**
	baz=274						
SMST				*eS*	**Sb**	**22 25 51.4**	**-0.6**
	baz=274						
TAWH	**Dawu Township**	**0.55**	**297**	P	**Pb**	**22 25 44.1**	**-0.5**
	baz=308						
TAWH				*eS*	**Sb**	**22 25 51.4**	**-0.8**
	baz=308						
TAW	**Tawu**	**0.56**	**299**	P	**Pb**	**22 25 44.1**	**-0.6**
	baz=310						
TAW				*eS*	**Sb**	**22 25 51.3**	**-1.0**
	baz=310						
TWKBT	**Hengchun**	**0.58**	**255**	*eP*	**Pb**	**22 25 45.0**	**-0.1**
	baz=268						
TWKBT				S	**Sb**	**22 25 53.1**	**+0.1**
	baz=268						
LDUT	**Ludao**	**0.58**	**4**	P	**Pb**	**22 25 44.6**	**-0.5**
	baz=12						
LDUT				S	**Sb**	**22 25 52.4**	**-0.7**
	baz=12						
TWK1	**Hengchun**	**0.59**	**256**	*eP*	**Pb**	**22 25 45.0**	**-0.2**
	baz=268						
TWK1				*eS*	**Sb**	**22 25 53.2**	**-0.1**
	baz=268						
SLIU	**Shizi**	**0.59**	**283**	*eP*	**Pb**	**22 25 44.7**	**-0.6**
	baz=285						
SLIU				*eS*	**Sb**	**22 25 52.0**	**-1.3**
	baz=285						
EAST	**Anshuo**	**0.61**	**299**	*eP*	**Pb**	**22 25 44.9**	**-0.6**
	baz=308						
EAST				*eS*	**Sb**	**22 25 52.8**	**-1.0**
	baz=308						
ECL	**Taimali**	**0.67**	**320**	*eP*	**Pb**	**22 25 46.2**	**-0.3**
	baz=320						
ECL				*eS*	**Sb**	**22 25 54.9**	**-0.5**
	baz=320						
TWGBT	**Beinan**	**0.79**	**337**	P	**Pn**	**22 25 49.5**	**+0.6**
TWGBT	**Beinan**	**0.79**	**337**	*eP*	**Pn**	**22 25 49.3**	**+0.4**
	baz=325						
TWGBT				*eS*	**Sb**	**22 25 59.1**	**+0.1**
	baz=325						
SCZT	**Fangliau**	**0.79**	**291**	*eP*	**Pb**	**22 25 48.2**	**-0.5**
	baz=299						
TWG	**Pinlang**	**0.80**	**336**	*eP*	**Pn**	**22 25 49.3**	**+0.3**
	baz=325						
TWG				*eS*	**Sb**	**22 25 58.8**	**-0.4**
	baz=325						
LONT	**Longtian**	**0.86**	**342**	*eP*	**Pb**	**22 25 49.3**	**-0.5**
	baz=328						
EDH	**Donghe**	**0.89**	**353**	*eP*	**Pb**	**22 25 49.9**	**-0.3**
	baz=359						
EDH				*eS*	**Sn**	**22 26 02.6**	**+0.4**
	baz=359						
MASBT	**Mashibuluo**	**0.90**	**306**	*eP*	**Pb**	**22 25 49.6**	**-0.8**
	baz=311						
TSMG	**Majia**	**0.94**	**311**	*eP*	**Pn**	**22 25 53.1**	**+2.1**
	baz=314						
SSD	**Sandimen**	**0.98**	**312**	*eP*	**Pn**	**22 25 53.3**	**+1.8**
	baz=315						
CHKT	**Chengkung**	**1.01**	**357**	*eP*	**Pb**	**22 25 51.3**	**-1.0**
	baz=2.0						
CHKT				*eS*	**Sb**	**22 26 04.5**	**-0.6**
	baz=2.0						
EHD	**Haiduan**	**1.07**	**349**	*eP*	**Pb**	**22 25 53.2**	**-0.2**
	baz=337						
EHD				*eS*	**Sn**	**22 26 08.4**	**+1.6**
	baz=337						
ELDTW	**Lidau**	**1.16**	**341**	*eP*	**Pn**	**22 25 53.2**	**-0.8**
	baz=340						
STYH	**Taoyuan**	**1.23**	**331**	*eP*	**Pb**	**22 25 56.4**	**+0.3**
	baz=335						
EYUL	**Yuli**	**1.26**	**356**	*eP*	**Pb**	**22 25 56.5**	**0.0**
	baz=360						
SGST	**Jiashian**	**1.26**	**322**	*eP*	**Pb**	**22 25 57.3**	**+0.8**
	baz=330						
YULB	**Yu-li**	**1.30**	**355**	P	**Pb**	**22 25 56.9**	**-0.4**
YULB	**Yu-li**	**1.30**	**355**	*eP*	**Pn**	**22 25 56.7**	**+0.7**
	baz=344						
CHN1	**Nanshi**	**1.37**	**323**	*eP*	**Pb**	**22 25 59.6**	**+1.2**
	baz=322						
WTP	**Ta-pu**	**1.37**	**327**	*eP*	**Pb**	**22 25 59.8**	**+1.3**
	baz=335						
HGSD	**Ruisui**	**1.40**	**0**	*eP*	**Pn**	**22 25 57.5**	**+0.2**
	baz=2.0						
TPUB	**Ta-pu**	**1.41**	**329**	P	**Pb**	**22 26 00.4**	**+1.2**
TPUB	**Ta-pu**	**1.41**	**329**	*eP*	**Pb**	**22 25 59.4**	**+0.2**
	baz=328						
EHY	**Hungye**	**1.41**	**356**	*eP*	**Pn**	**22 25 58.3**	**+0.8**
	baz=343						
TWK	**Hsinying**	**1.46**	**324**	*eP*	**Pb**	**22 26 01.0**	**+1.1**
	baz=323						
CHN4	**Tsuehan**	**1.47**	**329**	*eP*	**Pb**	**22 26 00.6**	**+0.4**
	baz=327						
ALS	**Alishan**	**1.52**	**338**	*eP*	**Pb**	**22 26 01.6**	**+0.3**
	baz=337						
WCKO	**Fanlu**	**1.54**	**331**	*eP*	**Pb**	**22 26 02.4**	**+1.0**
	baz=320						
TSCK	**Chigu Township**	**1.62**	**311**	*eP*	**Pb**	**22 26 02.0**	**-0.7**
	baz=309						
VWDT	**VWDT**	**1.68**	**351**	*eP*	**Pb**	**22 26 03.0**	**-0.7**
	baz=358						
SSLB	**Suanglung**	**1.75**	**346**	P	**Pb**	**22 26 04.7**	**-0.2**
SSLB	**Suanglung**	**1.75**	**346**	*eP*	**Pb**	**22 26 04.3**	**-0.5**
	baz=343						
WDLH	**Douliu**	**1.79**	**333**	*eP*	**Pb**	**22 26 05.8**	**+0.3**
	baz=317						
WSL	**Shuilin Townsh**	**1.80**	**323**	*eP*	**Pb**	**22 26 04.6**	**-1.2**
	baz=321						
SMLT	**Sun Moon Lake**	**1.85**	**345**	*eP*	**Pb**	**22 26 07.0**	**+0.3**
	baz=343						
OWD	**Renai**	**1.87**	**353**	*eP*	**Pn**	**22 26 05.3**	**+1.4**
	baz=359						
TYC	**Yuchr**	**1.88**	**344**	*eP*	**Pb**	**22 26 07.0**	**-0.1**
	baz=342						
WUSB	**Renai**	**1.92**	**352**	*eP*	**Pb**	**22 26 06.5**	**-1.3**
	baz=357						
CHGB	**Renai**	**1.98**	**353**	*eP*	**Pb**	**22 26 07.7**	**-1.2**
	baz=359						
WCS	**Beigang Elemen**	**2.02**	**347**	*eP*	**Pb**	**22 26 09.3**	**-0.1**
	baz=331						
WHF	**Hehuan Shan**	**2.05**	**356**	*eP*	**Pn**	**22 26 08.6**	**+1.9**
	baz=3.0						
NACB	**Ninganchiao**	**2.08**	**4**	P	**Pn**	**22 26 07.9**	**+1.2**

NACB	**Ninganchiao**	**2.08**	**4**		*eP*	**Pn**	**22 26 07.3**	**+0.6**
	baz=351							
NACB					*eS*	**Sn**	**22 26 31.9**	**+0.2**
	baz=351							
ETLH	**Xiulin Townshi**	**2.11**	**2**		*eP*	**Pn**	**22 26 08.3**	**+1.2**
	baz=359							
ETLH					*eS*	**Sn**	**22 26 33.2**	**+0.7**
	baz=359							
PHUB	**P'eng-hu**	**2.22**	**310**		P	**Pn**	**22 26 08.9**	**+0.4**
	baz=300							
PHUB					S	**Sn**	**22 26 34.5**	**-0.6**
	baz=300							
TWQ1	**Liyutan**	**2.33**	**345**		*eP*	**Pb**	**22 26 13.2**	**-1.6**
	baz=342							
NNSB	**Datong**	**2.33**	**359**		*eP*	**Pb**	**22 26 12.7**	**-2.2**
	baz=356							
LATG	**Datong**	**2.44**	**2**		*eP*	**Pn**	**22 26 13.1**	**+1.4**
	baz=359							
HATJ	**Hateruma jima**	**2.94**	**48**		*eP*	**Pn**	**22 26 19.3**	**+0.8**
HATJ					S	**Sn**	**22 26 52.5**	**-0.5**
IRIF	**Iriomote-Funau**	**3.08**	**43**		P	**Pn**	**22 26 21.7**	**+1.2**
IRIF					*eS*	**Sn**	**22 26 56.3**	**-0.2**
JKRS	**Kuro-shima**	**3.20**	**48**		P	**Pn**	**22 26 23.5**	**+1.4**
JKRS					*eS*	**Sn**	**22 26 59.2**	**-0.1**
JIJ	**Ishigaki jima**	**3.38**	**47**		*eP*	**Pn**	**22 26 25.4**	**+1.0**
JIJ					S	**Sn**	**22 27 02.5**	**-1.2**
JISG	**Ishigakijimahi**	**3.64**	**46**		P	**Pn**	**22 26 28.8**	**+0.7**
JISG					*eS*	**Sn**	**22 27 09.1**	**-1.0**
JTJ	**Tarama**	**3.94**	**49**		S	**Sn**	**22 27 17.6**	**-0.1**
JIRB	**Irabujima**	**4.39**	**51**		S	**Sn**	**22 27 28.4**	**-0.3**
JMJ2	**Miyako jima3**	**4.46**	**53**		*eS*	**Sn**	**22 27 31.0**	**+0.7**

*NEIC **08** 22:32:33.2±0.6, 43°.74N±0°.05×105°.47W±0°.05, h0km±2km, ML3.1/26, Error ellipse: s-maj=8.9km s-min=5.0km az=339.0*
*IDC **08** 22:32:34.0±2.0, 43°.74N×105°.48W, h0km, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=47.5km s-min=10.0km az=149.0*

ISC 08 22:32:32.7±0.9, 43°.75N±0°.05×105°.47W±0°.05, h0km, n23, σ0§82/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.10**	**70**	Pg	**Pg**	**22 32 54.4**	**+0.5**
RSSD				Sg	**Sg**	**22 33 08.4**	**+0.1**
K22A	**Casper**	**1.34**	**215**	Pn	**Pn**	**22 32 59.9**	**+1.1**
K22A				Sn	**Sn**	**22 33 17.4**	**0.0**
K22A				IAML		22 33 22.4	
	comp=E,221nm,0.7s						
K22A				IAML		22 33 24.3	
	comp=N,224nm,0.6s						
RWWY	**Rawlins**	**2.42**	**213**	Pn	**Pn**	**22 33 13.9**	**+0.1**
RWWY				IAML		22 33 52.1	
	comp=N,157nm,0.9s						
PHWY	**Pilot Hill**	**2.44**	**180**	Pn	**Pn**	**22 33 14.4**	**+0.3**
PHWY				IAML		22 33 50.6	
	comp=N,66nm,0.6s						
N23A	**Red Feather La**	**2.87**	**187**	Pn	**Pn**	**22 33 20.5**	**+0.5**
N23A				IAML		22 34 03.0	
	comp=E,74nm,0.7s						
N23A				IAML		22 34 03.4	
	comp=N,87nm,0.5s						
LAO	**LASA Array**	**2.99**	**350**	Pn	**Pn**	**22 33 21.7**	**+0.2**
RLMT	**Red Lodge**	**3.05**	**298**	Pn	**Pn**	**22 33 22.5**	**+0.2**
RLMT				IAML		22 35 17.6	
	comp=N,58nm,0.6s						
RLMT				IAML		22 35 20.6	
	comp=N,56nm,0.6s						
BW06	**Boulder Array**	**3.14**	**253**	Pn	**Pn**	**22 33 24.2**	**+0.5**
PD31	**Pinedale Array**	**3.14**	**253**	Pn	**Pn**	**22 33 24.5**	**+0.9**
PDAR	**Pinedale Array**	**3.14**	**253**	Pn	**Pb**	**22 33 28.2**	**-1.3**
	comp=N,1.6nm,0.3s,baz=74,slow=16,SNR=28						
PDAR				Lg	Lg	22 34 11.3	
	comp=N,5.1nm,0.3s,baz=76,slow=30,SNR=2.5						
	comp=N,2.5nm,0.4s						
PDAR	**Pinedale Array**	**3.14**	**253**	Pn	**Pn**	**22 33 25.7**	**+2.0**
BRIGG	**Briggsdale**	**3.28**	**164**	Pn	**Pn**	**22 33 25.3**	**-0.1**
YMP	**Mirror Lake PI**	**3.51**	**288**	Pn	**Pn**	**22 33 29.1**	**+0.3**
OGNE	**Ogallala**	**3.79**	**136**	Pn	**Pn**	**22 33 32.4**	**0.0**
SNOW	**Snow King Moun**	**3.85**	**268**	Pn	**Pn**	**22 33 34.7**	**+1.3**
SNOW				IAML		22 34 54.2	
	comp=N,39nm,1.4s						
SNOW				IAML		22 34 59.7	
	comp=N,28nm,0.9s						
AHID	**Auburn Hatcher**	**4.22**	**259**	Pn	**Pn**	**22 33 38.1**	**-0.5**
AHID				IAML		22 34 56.6	
	comp=N,30nm,0.9s						
AHID				IAML		22 34 57.1	
	comp=N,22nm,0.8s						
ECR	**Eagle Creek**	**4.35**	**263**	Pn	**Pn**	**22 33 40.0**	**-0.4**
HRY	**Holter Researc**	**5.38**	**306**	Pn	**Pn**	**22 33 54.4**	**0.0**
SPUT	**South Promonto**	**5.70**	**247**	Pn	**Pn**	**22 33 59.1**	**+0.3**
HVU	**Hansel Valley**	**5.72**	**252**	Pn	**Pn**	**22 33 59.2**	**+0.1**
I10CA	**LAC DU BONNET**	**9.13**	**42**	I	I	23 25 50.0	
	baz=231,slow=323,SNR=1.3						
ULM	**Lac du Bonnet**	**9.23**	**42**	Pn	**Pn**	**22 34 45.9**	**-1.1**
	comp=N,0.5nm,0.3s,baz=223,slow=10,SNR=5.4						
ULM				Lg	Lg	22 37 17.9	
	comp=N,0.

PB07				Sn		Sn	22 58 44.9	-0.6
PB07	**IPOC Station P**	**1.14 248**	⇑	*i*P		Pn	**22 58 26.8**	**+0.2**
PB07				*i* S		Sn	**22 58 45.6**	**+0.1**
PB07				IAML			22 58 46.8	
	comp=N,4μm,0.3s							
PB07	**IPOC Station P**	**1.14 248**		*e*P		Pn	**22 58 26.6**	**0.0**
PB07				*e*S		Sn	**22 58 46.1**	**+0.5**
PB07				IAML			22 58 46.8	
	comp=Z,1μm,0.1s							
PB07	**IPOC Station P**	**1.14 248**		*e*P		Pn	**22 58 26.6**	**0.0**
PB07				*e*S		Sn	**22 58 46.1**	**+0.5**
PB07				IAML			22 58 46.8	
	comp=Z,1μm,0.1s							
PB03	**IPOC Station P**	**1.20 231**				Pn	**22 58 27.4**	**+0.2**
PB03				Sn		Sn	**22 58 46.2**	**-0.4**
PB03	**IPOC Station P**	**1.20 231**	⇑	*i*P		Pn	**22 58 27.4**	**+0.2**
PB03				*i* S		Sn	**22 58 46.5**	**-0.1**
PB03				IAML			22 58 47.0	
	comp=E,1μm,0.2s							
PB03	**IPOC Station P**	**1.20 231**		*e*P		Pn	**22 58 27.0**	**-0.2**
PB03				*e*S		Sn	**22 58 46.8**	**+0.2**
PB03				IAML			22 58 49.8	
	comp=Z,1μm,0.3s							
PB03	**IPOC Station P**	**1.20 231**		*e*P		Pn	**22 58 27.0**	**-0.2**
PB03				*e*S		Sn	**22 58 46.8**	**+0.2**
PB03				IAML			22 58 49.8	
	comp=Z,1μm,0.3s							
PB08	**IPOC Station P**	**1.21 342**				Pn	**22 58 27.2**	**-0.3**
PB08				Sn		Sn	**22 58 45.5**	**-1.5**
PB08	**IPOC Station P**	**1.21 342**	⇑	*i*P		Pn	**22 58 27.1**	**-0.5**
PB08				*i* S		Sn	**22 58 46.0**	**-1.0**
PB08				IAML			22 58 47.5	
	comp=E,1μm,0.2s							
PB08	**IPOC Station P**	**1.21 342**		*e*P		Pn	**22 58 27.0**	**-0.5**
PB08				*e*P		Pn	**22 58 27.0**	**-0.5**
PB08				*e*S		Sn	**22 58 47.4**	**+0.4**
PB08				IAML			22 58 47.5	
	comp=Z,724nm,0.2s							
PB08	**IPOC Station P**	**1.21 342**		*e*P		Pn	**22 58 27.0**	**-0.5**
PB08				*e*P		Pn	**22 58 27.0**	**-0.5**
PB08				*e*S		Sn	**22 58 47.4**	**+0.4**
PB08				IAML			22 58 47.5	
	comp=Z,724nm,0.2s							
LVC	**Limon Verde**	**1.32 186**		P		Pn	**22 58 28.7**	**+0.1**
	comp=Z,463nm,0.4s,baz=14,slow=9.7,SNR=1112							
LVC				S		Sn	**22 58 48.1**	**-1.0**
	comp=Z,244nm,0.4s,baz=283,slow=23,SNR=58							
LVC				LR		LR	22 59 05.6	
	comp=Z,85nm,18.2s,baz=148,slow=51							
LVC	**Limon Verde**	**1.32 186**		Pn		Pn	**22 58 28.8**	**+0.1**
LVC				Sn		Sn	**22 58 48.8**	**-0.3**
LVC	**Limon Verde**	**1.32 186**		*e*P		Pn	**22 58 28.7**	**+0.1**
LVC				*i* S		Sn	**22 58 48.8**	**-0.3**
LVC	**Limon Verde**	**1.32 186**		*e*P		Pn	**22 58 28.9**	**+0.2**
PATCX	**Punta Patache**	**1.39 289**		Pn		Pn	**22 58 29.3**	**+0.3**
PATCX	**Punta Patache**	**1.39 289**	⇑	*i*P		Pn	**22 58 29.4**	**+0.3**
PATCX				*i* S		Sn	**22 58 49.8**	**-0.1**
PATCX	**Punta Patache**	**1.39 289**		*e*P		Pn	**22 58 29.0**	**-0.1**
PATCX				*e*S		Sn	**22 58 50.5**	**+0.5**
PATCX				IAML			22 58 52.5	
	comp=Z,4μm,0.5s							
PATCX	**Punta Patache**	**1.39 289**		*e*P		Pn	**22 58 29.0**	**-0.1**
PATCX				*e*S		Sn	**22 58 50.5**	**+0.5**
PATCX				IAML			22 58 52.5	
	comp=Z,4μm,0.5s							
HMBC	**Humberstone**	**1.47 313**	⇑	*i*P		Pn	**22 58 29.5**	**-0.5**
HMBC				*i* S		Sn	**22 58 50.5**	**-0.9**
HMBC				IAML			22 58 53.2	
	comp=E,4μm,0.4s							
TA01	**Diego Aracena**	**1.52 298**				Pn	**22 58 30.2**	**-0.2**
TA01	**Diego Aracena**	**1.52 298**	⇑	*i*P		Pn	**22 58 30.2**	**-0.2**
TA01				*i* S		Sn	**22 58 51.6**	**-0.7**
TA01	**Diego Aracena**	**1.52 298**		*e*P		Pn	**22 58 30.2**	**-0.2**
TA01				*e*S		Sn	**22 58 52.3**	**+0.1**
TA01				IAML			22 58 53.4	
	comp=Z,2μm,0.4s							
TA01	**Diego Aracena**	**1.52 298**		*e*P		Pn	**22 58 30.2**	**-0.2**
TA01				*e*S		Sn	**22 58 52.3**	**+0.1**
TA01				IAML			22 58 53.4	
	comp=Z,2μm,0.4s							
PB06	**IPOC Station P**	**1.60 208**				Pn	**22 58 31.8**	**+0.3**
PB06	**IPOC Station P**	**1.60 208**	⇑	*i*P		Pn	**22 58 31.9**	**+0.5**
PB06				*i* S		Sn	**22 58 54.6**	**+0.4**
PB06				IAML			22 58 55.5	
	comp=E,1μm,0.4s							
PB06	**IPOC Station P**	**1.60 208**		*e*P		Pn	**22 58 31.8**	**+0.3**
PB06				*e*P		Pn	**22 58 32.0**	**+0.5**
PB06				*e*S		Sn	**22 58 55.1**	**+0.9**
PB06				IAML			22 58 55.4	
	comp=Z,536nm,0.7s							
PB06	**IPOC Station P**	**1.60 208**		*e*P		Pn	**22 58 31.8**	**+0.3**
PB06				*e*P		Pn	**22 58 32.0**	**+0.5**
PB06				*e*S		Sn	**22 58 55.1**	**+0.9**
PB06				IAML			22 58 55.4	
	comp=Z,536nm,0.7s							
TA02	**Huaiquique**	**1.64 308**				Pn	**22 58 31.2**	**-0.6**
TA02	**Huaiquique**	**1.64 308**		*e*P		Pn	**22 58 31.4**	**-0.5**
TA02				*i* S		Sn	**22 58 54.5**	**-0.3**
TA02	**Huaiquique**	**1.64 308**		*e*P		Pn	**22 58 31.3**	**-0.5**
TA02				*e*P		Pn	**22 58 32.0**	**+0.2**
TA02				*e*P		Pn	**22 58 32.2**	**+0.4**
TA02				*e*S		Sn	**22 58 55.5**	**+0.7**
TA02				IAML			22 58 57.2	
	comp=Z,1μm,0.2s							
TA02	**Huaiquique**	**1.64 308**		*e*P		Pn	**22 58 31.3**	**-0.5**
TA02				*e*P		Pn	**22 58 32.0**	**+0.2**
TA02				*e*P		Pn	**22 58 32.2**	**+0.4**
TA02				*e*S		Sn	**22 58 55.5**	**+0.7**
TA02				IAML			22 58 57.2	
	comp=Z,1μm,0.2s							
PB04	**IPOC Station P**	**1.66 231**				Pn	**22 58 32.5**	**+0.3**
PB04	**IPOC Station P**	**1.66 231**	⇑	*i*P		Pn	**22 58 32.5**	**+0.3**
PB04				*i* S		Sn	**22 58 55.5**	**0.0**
PB04				IAML			22 59 02.1	
	comp=N,817nm,0.3s							
PB04	**IPOC Station P**	**1.66 231**		*e*P		Pn	**22 58 32.0**	**-0.2**
PB04				*e*S		Sn	**22 58 56.1**	**+0.6**
PB04				IAML			22 59 06.8	
	comp=Z,560nm,0.6s							
PB04	**IPOC Station P**	**1.66 231**		*e*P		Pn	**22 58 32.0**	**-0.2**
PB04				*e*S		Sn	**22 58 56.1**	**+0.6**
PB04				IAML			22 59 06.8	
	comp=Z,560nm,0.6s							
GO01	**Chusmiza**	**1.67 345**				Pn	**22 58 31.7**	**-0.9**
GO01	**Chusmiza**	**1.67 345**	⇑	*i*P		Pn	**22 58 32.1**	**-0.6**
GO01				*i* S		Sn	**22 58 55.4**	**-0.7**
GO01				IAML			22 58 58.8	
	comp=N,2μm,0.5s							
GO01	**Chusmiza**	**1.67 345**		*e*P		Pn	**22 58 32.0**	**-0.6**
GO01				*e*P		Pn	**22 58 32.2**	**-0.4**
GO01				*e*S		Sn	**22 58 56.8**	**+0.7**
GO01	**Chusmiza**	**1.67 345**		*e*P		Pn	**22 58 32.0**	**-0.6**
GO01				*e*P		Pn	**22 58 32.2**	**-0.4**
GO01				*e*S		Sn	**22 58 56.8**	**+0.7**
AF01	**San Pedro de A**	**1.73 162**				Pn	**22 58 32.8**	**-0.4**
AF01	**San Pedro de A**	**1.73 162**	⇑	*i*P		Pn	**22 58 34.0**	**+0.8**
PB11	**IPOC Station P**	**1.74 331**				Pn	**22 58 32.4**	**-0.8**
PB11	**IPOC Station P**	**1.74 331**	⇑	*i*P		Pn	**22 58 32.4**	**-0.8**
PB11				*i* S		Sn	**22 58 56.2**	**-0.9**
PB11				IAML			22 58 58.4	
	comp=E,3μm,0.1s							
PB11	**IPOC Station P**	**1.74 331**		*e*P		Pn	**22 58 32.0**	**-1.2**
PB11				*e*P		Pn	**22 58 32.4**	**-0.8**
PB11				*e*S		Sn	**22 58 57.0**	**-0.1**
PB11				IAML			22 59 00.8	
	comp=Z,1μm,0.4s							
PB11	**IPOC Station P**	**1.74 331**		*e*P		Pn	**22 58 32.0**	**-1.2**
PB11				*e*P		Pn	**22 58 32.4**	**-0.8**
PB11				*e*S		Sn	**22 58 57.0**	**-0.1**
PB11				IAML			22 59 00.8	
	comp=Z,1μm,0.4s							
PB15	**IPOC Station P**	**2.02 199**				Pn	**22 58 36.8**	**+0.4**
PB15	**IPOC Station P**	**2.02 199**		*e*P		Pn	**22 58 37.0**	**+0.5**
PB15	**IPOC Station P**	**2.02 199**		*e*P		Pn	**22 58 37.0**	**+0.5**
PSGCX	**Pisagua**	**2.12 322**		Pn		Pn	**22 58 36.6**	**-1.0**
PSGCX	**Pisagua**	**2.12 322**		*e*P		Pn	**22 58 36.5**	**-1.1**
PSGCX				*e*S		Sn	**22 59 04.0**	**-1.0**
PSGCX				IAML			22 59 06.2	
	comp=Z,604nm,0.6s							
PSGCX	**Pisagua**	**2.12 322**		*e*P		Pn	**22 58 36.5**	**-1.1**
PSGCX				*e*S		Sn	**22 59 04.0**	**-1.0**
PSGCX				IAML			22 59 06.2	
	comp=Z,604nm,0.6s							
PSGC	**Pisagua**	**2.12 322**	⇑	*i*P		Pn	**22 58 36.5**	**-1.1**
PSGC				*i* S		Sn	**22 59 03.6**	**-1.4**
PSGC				IAML			22 59 05.7	
	comp=E,2μm,0.3s							
MNMC	**Minye Minye**	**2.29 340**		Pn		Pn	**22 58 39.5**	**-0.4**
MNMC	**Minye Minye**	**2.29 340**	⇑	*i*P		Pn	**22 58 39.5**	**-0.4**
MNMC				*i* S		Sn	**22 59 08.8**	**-0.3**
MNMCX	**Minye Minye**	**2.29 340**		*e*P		Pn	**22 58 39.4**	**-0.5**
MNMCX				*e*S		Sn	**22 59 09.2**	**+0.2**
MNMCX				IAML			22 59 14.2	
	comp=Z,1μm,0.5s							
MNMCX	**Minye Minye**	**2.29 340**		*e*P		Pn	**22 58 39.4**	**-0.5**
MNMCX				*e*S		Sn	**22 59 09.2**	**+0.2**
MNMCX				IAML			22 59 14.2	
	comp=Z,1μm,0.5s							
PB10	**IPOC Station P**	**2.77 217**				Pn	**22 58 46.1**	**+0.5**
PB10	**IPOC Station P**	**2.77 217**	⇑	*i*P		Pn	**22 58 45.9**	**+0.3**
PB10				*i* S		Sn	**22 59 16.9**	**-2.6**
PB10				IAML			22 59 27.1	
	comp=N,121nm,0.6s							
PB10	**IPOC Station P**	**2.77 217**		*e*P		Pn	**22 58 45.9**	**+0.3**
PB10				*e*S		Sn	**22 59 18.8**	**-0.6**
PB10	**IPOC Station P**	**2.77 217**		*e*P		Pn	**22 58 45.9**	**+0.3**
PB10				*e*S		Sn	**22 59 18.8**	**-0.6**
PB16	**IPOC Station P**	**3.03 346**				Pn	**22 58 49.4**	**-0.1**
PB16	**IPOC Station P**	**3.03 346**	⇑	*i*P		Pn	**22 58 49.4**	**-0.1**
PB16				*i* S		Sn	**22 59 26.2**	**+0.1**
PB16	**IPOC Station P**	**3.03 346**		*e*P		Pn	**22 58 49.0**	**-0.5**
PB16				*e*S		Sn	**22 59 26.6**	**+0.5**
PB16				IAML			22 59 32.6	
	comp=Z,164nm,0.3s							
PB16	**IPOC Station P**	**3.03 346**		*e*P		Pn	**22 58 49.0**	**-0.5**
PB16				*e*S		Sn	**22 59 26.6**	**+0.5**
PB16				IAML			22 59 32.6	
	comp=Z,164nm,0.3s							
PB12	**IPOC Station P**	**3.05 331**		Pn		Pn	**22 58 47.6**	**-1.7**
PB12	**IPOC Station P**	**3.05 331**	⇑	*i*P		Pn	**22 58 47.6**	**-1.7**
PB12				*i* S		Sn	**22 59 23.9**	**-2.1**
PB12				IAML			22 59 31.1	
	comp=E,636nm,0.4s							
PB12	**IPOC Station P**	**3.05 331**		*e*P		Pn	**22 58 47.7**	**-1.6**
PB12				*e*S		Sn	**22 59 24.6**	**-1.4**
PB12				IAML			22 59 32.2	
	comp=Z,315nm,0.5s							
PB12	**IPOC Station P**	**3.05 331**		*e*P		Pn	**22 58 47.7**	**-1.6**
PB12				*e*S		Sn	**22 59 24.6**	**-1.4**
PB12				IAML			22 59 32.2	
	comp=Z,315nm,0.5s							
YJA	**Yavi**	**3.13 107**		*e*P		Pn	**22 58 50.9**	**+0.3**
YJA	**Yavi**	**3.13 107**		*e*P		Pn	**22 58 50.9**	**+0.3**
AP01	**Chacalluta**	**3.27 332**				Pn	**22 58 50.6**	**-1.4**
AP01	**Chacalluta**	**3.27 332**		*e*P		Pn	**22 58 51.2**	**-0.8**
AP01				IAML			22 59 34.3	
	comp=Z,430nm,0.3s							
AP01	**Chacalluta**	**3.27 332**		*e*P		Pn	**22 58 51.2**	**-0.8**
AP01				IAML			22 59 34.3	
	comp=Z,430nm,0.3s							
HJA	**Humahuaca**	**3.63 122**		*e*S		Sn	**22 59 45.0**	**+5.0**
HJA	**Humahuaca**	**3.63 122**		*e*S		Sn	**22 59 45.0**	**+5.0**
PB14	**IPOC Station P**	**3.65 204**		Pn		Pn	**22 58 57.5**	**+0.1**
PB18	**Visviri**	**3.75 349**		Pn		Pn	**22 58 58.0**	**-0.8**
PB18	**Visviri**	**3.75 349**		*e*P		Pn	**22 59 00.3**	**+1.5**
AZAP	**Zapla**	**4.48 131**		*e*P		Pn	**22 59 08.0**	**-0.2**
AZAP	**Zapla**	**4.48 131**		*e*P		Pn	**22 59 08.0**	**-0.2**
ASTB	**Santa Barbara**	**4.77 124**		*e*S		Sn	**23 00 04.2**	**-2.4**
ASTB	**Santa Barbara**	**4.77 124**		*e*S		Sn	**23 00 04.2**	**-2.4**
ALOL	**LOMAS DE OLMED**	**5.07 121**		*e*P		Pn	**22 59 14.7**	**-1.2**
ALOL	**LOMAS DE OLMED**	**5.07 121**		*e*P		Pn	**22 59 14.7**	**-1.2**
AC01	**Pan de Azucar**	**5.12 199**		Pn		Pn	**22 59 15.3**	**-1.2**
AC01	**Pan de Azucar**	**5.12 199**		*e*P		Pn	**22 59 14.9**	**-1.6**
AC02	**Maricunga**	**5.53 184**		Pn		Pn	**22 59 22.1**	**-0.4**
AC06	**Mina Casimiro**	**6.21 193**				Pn	**22 59 28.8**	**-2.4**
GO03	**Copiap**	**6.42 192**				Pn	**22 59 31.7**	**-2.3**
AC05	**El Transito**	**7.64 190**		Pn		Pn	**22 59 47.4**	**-3.0**
LCO	**Las Campanas**	**7.89 193**				Pn	**22 59 50.6**	**-3.3**
CO01	**Juntas del Tor**	**8.73 188**				Pn	**23 00 03.6**	**-1.7**
SIV	**San Ignacio**	**8.98 55**		P		Pn	**23 00 04.2**	**-4.3**
	comp=Z,11nm,0.5s,baz=260,slow=8.8,SNR=43							
SIV				S		Sn	23 01 36.5	-12
	comp=Z,0.6nm,0.5s,baz=304,slow=20,SNR=1.2							
CFA	**Coronel Fontan**	**10.28 178**		P		Pn	**23 00 22.5**	**-3.3**
	comp=Z,2.9nm,0.3s,baz=1.3,slow=12,SNR=11							
CFA				S		Sn	**23 02 11.1**	**-8.3**
	comp=Z,2.0nm,0.4s,baz=209,slow=16,SNR=2.8							
CPUP	**Villa Florida**	**11.59 118**		P		Pn	23 00 38.0	-5.1
	comp=Z,1.4nm,0.9s,baz=64,slow=10,SNR=2.7							
AMBA	**Amambai (Brazi**	**12.86 100**		*e*P		**P**	**23 01 03.1**	**-2.2**
SALV	**Santo Antonio**	**13.48 69**		*e*P		**P**	**23 01 12.1**	**-0.2**
MCR1	**Marechal Candi**	**13.92 106**		*e*P		**P**	**23 01 17.4**	**+0.2**
CRSM	**Crissiumal (Br**	**14.75 118**		*e*P		**P**	**23 01 26.6**	**+0.4**
PDRB	**Porto dos Gac**	**15.01 52**		*e*P		**P**	**23 01 29.1**	**-0.1**
TRCB	**Terra Rica**	**15.02 99**				**P**	**23 01 28.9**	**-0.5**
TRCB	**Terra Rica**	**15.02 99**		*e*P		**P**	**23 01 29.4**	**0.0**
FRBT	**Francisco Belt**	**15.11 111**		*e*P		**P**	**23 01 30.8**	**+0.4**
RODS	**Rosario do Sul**	**15.16 129**		*e*P		**P**	**23 01 30.0**	**-0.8**
PTGB	**Pitanga**	**15.73 106**		*e*P		**P**	**23 01 38.2**	**+0.9**
ALGR	**Alto Alegre (B**	**16.08 121**		*e*P		**P**	**23 01 41.6**	**+0.5**
CLDB	**Colider**	**16.18 52**		*e*P		**P**	**23 01 43.4**	**+1.2**
ITAB	**Concordia**	**16.26 115**				**Pn**	**23 01 41.8**	**-0.7**
ITAB				IAmb		IAmb	23 01 43.8	
	comp=Z,17nm,0.7s							
ITAB	**Concordia**	**16.26 115**		*e*P		**P**	**23 01 43.0**	**0.0**
PCMB	**Pacaembu**	**16.29 94**		*e*P		**P**	**23 01 45.0**	**+1.7**
CPSB	**Cacapava Do Su**	**16.49 127**		*e*P		**Pn**	**23 01 44.3**	**-0.9**
ARAG	**Araguaiana, MT**	**16.99 74**		*e*P		**Pn**	**23 01 52.9**	**+1.4**
TBTG	**Tabatinga, AM**	**17.04 356**		P		**P**	**23 01 51.8**	**+0.1**
TBTG				IAmb		IAmb	23 01 53.6	
	comp=Z,63nm,1.2s							
PLTB	**Pedras Altas**	**17.08 131**		P		**P**	**23 01 50.8**	**-1.3**
PLTB				IAmb		IAmb	23 02 19.5	
	comp=Z,15nm,1.4s							
PLTB	**Pedras Altas**	**17.08 131**		*e*P		**P**	**23 01 50.8**	**-1.3**
ITRB	**Iturama**	**17.30 88**		*e*P		**Pn**	**23 01 57.1**	**+1.9**
TRQA	**Tornquist**	**17.70 162**		P		**Pn**	**23 01 59.7**	**-0.2**
TRQA				IAmb		IAmb	23 02 01.9	
	comp=Z,9.6nm,0.8s							
FRTB	**Fartura**	**17.87 100**		*e*P		**P**	**23 02 01.0**	**+0.2**
CNLB	**Canela**	**18.03 120**		*e*P		**P**	**23 02 01.5**	**-1.1**
TIJ01	**Guaruva-PR**	**18.57 106**		*e*P		**P**	**23 02 09.2**	**+0.7**
NPGB	**Novo Progresso**	**19.19 44**		*e*P		**P**	**23 02 14.8**	**-0.4**
PLCA	**Paso Flores**	**19.44 184**		P		**P**	**23 02 18.7**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=358,slow=13,SNR=2.1							
PLCA	**Paso Flores**	**19.44 184**		P		**P**	**23 02 19.0**	**+1.2**
PLCA				IAmb		IAmb	23 02 20.8	
	comp=Z,7.3nm,1.1s							
IPMB	**Ipameri, GO**	**19.62 84**		*e*P		**P**	**23 02 19.3**	**-0.6**
RCLB	**Rio Claro- Sao**	**19.73 97**		*e*P		**P**	**23 02 19.9**	**-1.2**
SPB	**Sao Paulo**	**19.84 101**		*e*P		**P**	**23 02 21.7**	**-0.4**
PET01	**Itanhaem-SP**	**20.02 103**		*e*P		**P**	**23 02 23.5**	**-0.7**
BDFB	**Brasilia**	**20.45 78**		P		**P**	**23 02 27.6**	**-1.3**
	comp=Z,3.0nm,0.5s,baz=255,slow=10,SNR=6.4							
	comp=Z,3.0nm,0.5s							
BDFB	**Brasilia**	**20.45 78**		P		**P**	**23 02 27.4**	**-1.5**
BDFB	**Brasilia**	**20.45 78**		*e*P		**P**	**23 02 28.2**	**-0.7**
SGCB	**SÃ£o Gabriel d**	**21.11 5**		*e*P		**P**	**23 02 35.4**	**-0.5**
SMTB	**Santa Maria do**	**23.84 62**		*e*P		**P**	**23 03 03.1**	**+0.4**
MALB	**Monte Alegre**	**23.93 38**		*e*P		**P**	**23 03 02.3**	**-1.2**
JANB	**Januaria**	**24.02 79**		*e*P		**P**	**23 03 04.3**	**-0.1**
SDBA	**SAO DESIDERIO**	**24.44 73**		*e*P		**P**	**23 03 08.1**	**-0.2**
BOAV	**Boa Vista**	**24.88 20**		P		**P**	**23 03 12.3**	**+0.2**
BOAV				IAmb		IAmb	23 03 45.7	
	comp=Z,10nm,1.5s							
BOAV	**Boa Vista**	**24.88 20**		*e*P		**P**	**23 03 10.5**	**-1.6**
YKA	**Yellowknife Ar**	**91.04 341**		P		**P**	**23 10 52.9**	**+2.5**
	comp=Z,0.6nm,0.5s,baz=136,slow=4.3,SNR=8.6							
	comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**145.38 36**		PKPbc		**PKPab**	**23 17 25.5**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=327,slow=2.4,SNR=9.0							
MKAR				pPKPbc		pPKPab	23 18 00.4	-0.3
	comp=Z,0.7nm,0.9s,baz=323,slow=3.6,SNR=3.9							
SONM	**Songino Array**	**153.23 7**		PKPbc		**PKiKP**	**23 17 45.8**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=329,slow=1.7,SNR=2.2							

NIED ***08*** *23:30:40.1, 37.2ON×141.4E, h30km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.07; Mθθ 0.60; Mϕϕ 0.47; Mrθ 0.66; Mθϕ 0.69; Mϕr 0.42; Fault plane solution: M₀1.39000×10¹⁵ NP1: ϕs234.00000°, δ62.00000°, λ-83.00000°. NP2:ϕs40.00000°, δ29.00000°, λ-102.00000°.*

JMA ***08*** *23:30:40.1±0.2, 37.2N±0.4×141.4E±0.9, h30km±1km,*

MD4.5/40,MV3.8/40,E OFF FUKUSHIMA PREF

IDC ***08*** *23:30:43.4±3.3, 36.99N×141.38E, h43km±29km, mb3.6/13, mbtmp3.8/15, ML2.6/2, MS3.0/4, Error ellipse: s-maj=27.2km s-min=21.0km az=151.0*

ISC 08 23:30:40.6±1.2, 37.20N±0.04×141.45E±0.05, h18km±4km, n48, σ1°38/39, mb3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**290**	P		**Pg**	**23 30 49.7**	**-0.8**
JFK				S		**Sb**	**23 30 56.6**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.53**	**259**	P		**Pg**	**23 30 50.4**	**-0.9**
ONAJ				S		**Sg**	**23 30 57.6**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.53**	**259**	A		A	23 30 50.4	
	comp=E,17nm,0.2s,comp=E,20nm,2.4s							
JMST	**Minamisoumatoc**	**0.69**	**319**	P		**Pb**	**23 30 53.2**	**-0.8**
JMST				S		**Sg**	**23 31 02.8**	**-0.5**
JMST	**Minamisoumatoc**	**0.69**	**319**	A		A	23 30 53.2	
	comp=E,10.0nm,0.9s,comp=E,12nm,0.8s							
JFFD	**Fukushimafurud**	**0.72**	**261**	P		**Pb**	**23 30 53.6**	**-1.0**
JFFD				S		**Sb**	**23 31 02.9**	**-1.2**
JMM	**Marumori**	**0.84**	**322**	*i* P		**Pb**	**23 30 55.8**	**-1.0**
JMM				S		**Sb**	**23 31 07.0**	**-0.8**
JHO	**Hitachi**	**0.92**	**230**	P		**Pb**	**23 30 56.4**	**-1.6**
JHO				S		**Sb**	**23 31 08.1**	**-1.9**
JSB	**Shiboa**	**1.25**	**260**	P		**Pb**	**23 31 03.2**	**-0.4**
JSB				S		**Sn**	**23 31 19.3**	**-0.1**
JIO	**Ouri**	**1.25**	**356**	*i* P		**Pn**	**23 31 02.2**	**-1.0**
JIO				*e*S		**Sb**	**23 31 17.4**	**-2.1**
JYAR	**Yonezawaarcadi**	**1.26**	**305**	A		A	23 31 02.0	
	comp=E,25nm,1.1s,comp=E,14nm,0.9s							
JOU	**Okura**	**1.32**	**332**	P		**Pn**	**23 31 03.9**	**-0.2**
JOU				S		**Sb**	**23 31 21.5**	**+0.1**
JOU	**Okura**	**1.32**	**332**	A		A	23 31 03.9	
	comp=E,8.0nm,0.8s,comp=E,15nm,1.2s							
JFY	**Yanaizu**	**1.41**	**279**	*i* P		**Pb**	**23 31 05.6**	**-0.7**
JFY				S		**Sb**	**23 31 24.0**	**+0.1**
JOFO	**Osakifurukawao**	**1.46**	**343**	A		A	23 31 05.2	
	comp=E,53nm,1.2s,comp=E,44nm,4.9s							
JYS	**Shirataka**	**1.50**	**313**	A		A	23 31 05.7	
	comp=E,11nm,1.3s,comp=E,20nm,1.4s							
JYA	**Atsumi**	**1.95**	**316**	A		A	23 31 12.3	
	comp=E,13nm,1.0s,comp=E,17nm,1.0s							
JYW	**Yuwa**	**2.53**	**338**	A		A	23 31 20.7	
	comp=E,8.0nm,2.3s,comp=E,9.0nm,4.3s							
MJAR	**Matsushiro Arr**	**2.68**	**257**	P		**Pn**	**23 31 22.7**	**-0.2**
	0.8nm,0.3s,baz=78,slow=15,SNR=23							
MJAR				S		**Sb**	**23 32 01.9**	**+1.3**
	11nm,0.3s,baz=80,slow=11,SNR=6.8							
	4.9nm,0.3s							
JKEN	**Kujiedanarisaw**	**3.01**	**4**	A		A	23 31 27.5	
	comp=E,6.0nm,5.6s,comp=E,5.0nm,0.9s							
ASAJ	**Asahikawa**	**6.96**	**7**	P		**Pn**	**23 32 21.9**	**+0.3**
	3.5nm,0.3s,baz=280,slow=15,SNR=2.2							
ASAJ				S		**Sn**	**23 33 37.3**	**-3.0**
	6.6nm,0.6s,baz=136,slow=34,SNR=1.7							
USRK	**Ussuriysk Ar.**	**10.02**	**317**	P		**Pn**	**23 33 04.4**	**+0.9**
	0.1nm,0.3s,baz=133,slow=12,SNR=2.8							
USRK				LR		LR	23 36 38.0	
	comp=Z,145nm,20.0s,baz=159,slow=35							
	1.8nm,0.7s							
KSRS	**

Azm43.0000°;
*GCMT **08** 23:47:15.4±0.1,74°.44N×92°.06W,h33km,MW6.1/165, Moment Tensor Solution. s165,c391; s164,c597; Duration: 2s7 Moment tensor: Scale 10¹⁸Nm; Mrr1.57±.01; Mθθ-0.83±.01; Mϕϕ-0.74±.01; Mrθ-0.17±.01; Mθϕ0.95±.01; Mϕr0.16±.01; Best double couple: M₀1.67000×10¹⁸ NP1:ϕs314.00000°,δ49.00000°, λ90.00000°. NP2:ϕs134.00000°,δ41.00000°,λ90.00000°. Principal axes: T 1.5860, Plg86.0000°, Azm225.0000°; N 0.1650, Plg0.0000°, Azm134.0000°; P -1.7530, Plg4.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **08** 23:47:18.2, 74°.79N×89°.75W,h16km,mb5.6,mB_BB5.7, Ms5.8*

ISC 08 23:47:13.7±0.2,74°28N±0°.02×92°42W±0°.02,h32km±1km, h32km:pP-P,n2753,c1ᵍ76/2815,mb6.0/759,MS5.9/370, 197C-97D,Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**0.78**	**303**	Pn		**Pb**	**23 47 28.8**	**0.0**
	6μm,0.3s,baz=119,slow=13							
RES				LR		LR	23 47 45.9	
	comp=Z,56μm,20.9s,baz=91,slow=45							
RES	**Resolute Bay**	**0.78**	**303**			**Pb**	**23 47 28.6**	**-0.2**
RES						**Sb**	**23 47 38.3**	**-0.7**
RES	**Resolute Bay**	**0.78**	**303**	PG		**Pb**	**23 47 28.6**	**-0.2**
RES				SG		**Sb**	**23 47 38.3**	**-0.7**
RES				Trac			23 47 40.6	
	comp=Z,596μm,0.5s							
RES	**Resolute Bay**	**0.78**	**303**	⇑P		**Pb**	**23 47 27.9**	**-0.9**
ILON	**Igloolik, Nuna**	**5.94**	**141**	PN		**Pn**	**23 48 37.5**	**-1.7**
ILON				SN		**Sn**	**23 49 40.9**	**-5.0**
ILON				LG		Lg	23 50 15.7	
ILON				Trac			23 50 25.0	
	comp=Z,12μm,0.5s							
EUNU	**Eureka**	**5.95**	**10**	Pn		**Pn**	**23 48 37.3**	**-2.1**
EUNU	**Eureka**	**5.95**	**10**	PN		**Pn**	**23 48 37.4**	**-2.0**
EUNU				SN		**Sn**	**23 49 41.5**	**-4.8**
EUNU				LG		Lg	23 50 22.5	
EUNU				Trac			23 50 38.5	
	comp=Z,181μm,2.2s							
TULEG	**Thule**	**6.34**	**58**			**Pn**	**23 48 41.8**	**-2.9**
TULEG	**Thule**	**6.34**	**58**	⇓P		**Pn**	**23 48 41.8**	**-2.9**
I18DK	**QAANAAQ INFRAS**	**6.46**	**50**	Pn		**Pn**	**23 48 44.0**	**-2.4**
	baz=272,slow=20							
I18DK				*i*			00 01 40.0	
	0.1nm,0.9s,baz=276,slow=323,SNR=4.5							
CB31	**Cambridge Bay**	**6.52**	**224**	PN		**Pn**	**23 48 45.9**	**-1.4**
CB31				SN		**Sn**	**23 49 57.8**	**-2.6**
CB31				LG		Lg	23 50 34.6	
CB31				Trac			23 50 53.3	
	comp=Z,15μm,0.3s							
CLRN	**Clyde River**	**8.13**	**106**	PN		**Pn**	**23 49 05.9**	**-3.3**
CLRN				SN		**Sn**	**23 50 31.6**	**-8.2**
CLRN				LG		Lg	23 51 24.1	
CLRN				Trac			23 51 38.6	
	comp=Z,12μm,0.8s							
KULLO	**Kullorsuaq**	**9.37**	**71**	*e*		Pn	23 49 21.5	-4.7
	baz=302,slow=12							
KULLO				*i* P		**Pn**	**23 49 23.8**	**-2.5**
KULLO	**Kullorsuaq**	**9.37**	**71**	PN		**Pn**	**23 49 23.5**	**-2.7**
KULLO				SN		Sn	23 51 01.3	-9.0
KULLO				LG		Lg	23 52 00.9	
KULLO				Trac			23 52 36.8	
	comp=Z,4μm,1.2s							
A36M	**Sachs Harbour**	**9.72**	**273**	Pn		**Pn**	**23 49 29.3**	**-1.6**
A36M	**Sachs Harbour**	**9.72**	**273**	PN		**Pn**	**23 49 29.4**	**-1.5**
A36M				SN		**Sn**	**23 51 12.4**	**-6.3**
A36M				LG		Lg	23 52 15.2	
A36M				Trac			23 52 35.4	
	comp=Z,8μm,0.8s							
A36M	**Sachs Harbour**	**9.72**	**273**	P		**Pn**	**23 49 28.8**	**-2.1**
	baz=61,SNR=1000							
A36M				S		Sn	23 51 10.5	-8.3
	baz=61							
KUKN	**Kugluktuk,NWT**	**9.74**	**240**	PN		**Pn**	**23 49 29.4**	**-1.9**
KUKN				SN		**Sn**	**23 51 12.7**	**-6.6**
KUKN				LG		Lg	23 52 14.9	
KUKN				Trac			23 52 29.1	
	comp=Z,22μm,1.2s							
ALE	**Alert**	**10.01**	**22**	PN		**Pn**	**23 49 31.9**	**-3.0**
ALE				SN		Sn	23 51 16.7	-9.1
ALE				LG		Lg	23 52 22.9	
ALE				Trac			23 52 24.9	
	comp=Z,25μm,0.9s							
UPNV	**Upernavik**	**10.29**	**81**	*e*P		**Pn**	**23 49 37.1**	**-1.7**
UPNV				IAML			23 51 36.7	
	comp=Z,530nm,0.3s							
NEEM	**North Greenlan**	**10.39**	**53**	*i* P		**Pn**	**23 49 38.1**	**-2.4**
C36M	**Paulatuk**	**10.93**	**259**	Pn		**Pn**	**23 49 45.1**	**-2.4**
C36M	**Paulatuk**	**10.93**	**259**	PN		**Pn**	**23 49 45.0**	**-2.4**
C36M				SN		**Sn**	**23 51 41.0**	**-7.4**
C36M				LG		Lg	23 52 54.3	
C36M				Trac			23 53 08.8	
	comp=Z,13μm,1.1s							
C36M	**Paulatuk**	**10.93**	**259**	P		**Pn**	**23 49 44.6**	**-2.8**
	baz=49,SNR=1000							
C36M				S		**Sn**	**23 51 40.6**	**-7.8**
	baz=49							
NUUG	**Nuugaatsiaq**	**11.69**	**84**	*i* P		**Pn**	**23 49 56.5**	**-1.3**
FRB	**Frobisher Bay**	**13.44**	**129**	Pn		Pn	23 50 15.9	-5.9
	comp=Z,11nm,0.3s,baz=339,slow=13,SNR=149							
FRB				Sn		Sn	23 52 35.8	-14
	comp=Z,75nm,0.3s,baz=75,slow=16,SNR=2.8							
FRB				Lg		Lg	23 54 05.0	
	comp=Z,106nm,0.3s,baz=42,slow=20,SNR=3.0							
FRB				LR		LR	23 55 29.6	
	comp=Z,51μm,18.7s,baz=339,slow=37							
	comp=Z,152nm,0.7s							
FRB	**Frobisher Bay**	**13.44**	**129**	PN		Pn	23 50 15.8	-6.0
FRB				SN		Sn	23 52 37.9	-12
FRB				LG		Lg	23 54 09.5	
FRB				Trac			23 54 26.1	
	comp=Z,7μm,1.1s							
FRB	**Frobisher Bay**	**13.44**	**129**	⇓P		Pn	23 50 15.6	-6.2
ILULI	**Ilulissat**	**13.63**	**91**			**Pn**	**23 50 21.8**	**-2.6**
ILULI	**Ilulissat**	**13.63**	**91**	*i* P		**Pn**	**23 50 24.2**	**-0.2**
ILULI	**Ilulissat**	**13.63**	**91**	PN		**Pn**	**23 50 21.9**	**-2.5**
ILULI				SN		Sn	23 52 42.6	-12
ILULI				LG		Lg	23 54 13.6	
ILULI				Trac			23 55 04.2	
	comp=Z,1μm,2.0s							
INK	**Inuvik**	**14.18**	**266**	Pn		**Pn**	**23 50 28.8**	**-3.0**
	comp=Z,88nm,0.3s,baz=34,slow=14,SNR=387							
INK				Sn		Sn	23 52 53.5	-14
	comp=Z,95nm,0.3s,baz=324,slow=21,SNR=14							
INK				Lg		Lg	23 54 23.9	
	baz=60,slow=15							
INK				LR		LR	23 56 33.6	
	comp=Z,77μm,18.2s,baz=44,slow=40							
INK	**Inuvik**	**14.18**	**266**	Pn		**Pn**	**23 50 29.0**	**-2.8**
INK	**Inuvik**	**14.18**	**266**	PN		**Pn**	**23 50 29.4**	**-2.4**
INK				SN		Sn	23 52 58.0	-10
INK				LG		Lg	23 54 33.6	
INK				Trac			23 54 48.6	
	comp=Z,5μm,1.2s							
INK	**Inuvik**	**14.18**	**266**	P		**Pn**	**23 50 28.4**	**-3.5**
	baz=47,SNR=994							
INK				S		Sn	23 52 55.0	-13
	baz=47							
INK	**Inuvik**	**14.18**	**266**	⇓P		**Pn**	**23 50 28.3**	**-3.5**
INK				⇓S		Sn	23 52 57.9	-10
INK	**Inuvik**	**14.18**	**266**	P		**Pn**	**23 50 29.0**	**-2.8**
YKA	**Yellowknife Ar**	**14.23**	**226**	Pn		Pn	23 50 26.3	-6.2
	comp=Z,76nm,0.3s,baz=20,slow=14,SNR=658							
YKA				Sn		Sn	23 52 55.7	-13
	comp=Z,170nm,0.3s,baz=19,slow=22,SNR=6.0							
YKA				Lg		Lg	23 54 23.8	
	comp=Z,114nm,0.3s,baz=29,slow=30,SNR=4.2							
YKA				LR		LR	23 55 59.4	
	comp=Z,92μm,18.0s,baz=26,slow=37							
F31M	**Tsiigehtchic**	**14.85**	**264**	P		**Pn**	**23 50 37.1**	**-3.7**
	baz=45,SNR=846							
F31M				S		Sn	23 53 12.0	-12
	baz=45							
SUMG	**Summit**	**15.04**	**70**	*i* P		**Pn**	**23 50 40.9**	**-2.9**
SFJD	**Kangerlussuaq**	**15.30**	**97**	Pn		**Pn**	**23 50 44.5**	**-2.3**
	comp=Z,13nm,0.3s,baz=309,slow=11,SNR=32							
SFJD				Sn		**Sn**	**23 53 28.8**	**-6.1**
	comp=Z,6.8nm,0.3s,baz=354,slow=22,SNR=1.6							
SFJD				LR		LR	23 56 52.4	
	comp=Z,22μm,18.1s,baz=323,slow=38							
	comp=Z,44nm,0.4s							
SFJD	**Kangerlussuaq**	**15.30**	**97**	Pn		**Pn**	**23 50 44.4**	**-2.5**
SFJD	**Kangerlussuaq**	**15.30**	**97**	*i* P		**Pn**	**23 50 45.0**	**-1.8**
SFJD	**Kangerlussuaq**	**15.30**	**97**	PN		**Pn**	**23 50 44.3**	**-2.5**
SFJD				SN		Sn	23 53 21.3	-14
SFJD				LG		Lg	23 55 05.7	
SFJD				Trac			23 55 26.2	
	comp=Z,29nm,1.6s							
SFJD	**Kangerlussuaq**	**15.30**	**97**	⇓P		**Pn**	**23 50 44.5**	**-2.3**
WRGLY	**Wrigley**	**15.51**	**241**	P		**Pn**	**23 50 45.1**	**-4.5**
	baz=32,SNR=704							
WRGLY				S		Sn	23 53 28.5	-12
	baz=32							
FCC	**Fort Churchill**	**15.60**	**183**	Pn		Pn	23 50 43.9	-7.0
FCC				IAmb		IAmb	23 50 59.2	
	comp=Z,1μm,0.9s							
FCC	**Fort Churchill**	**15.60**	**183**	PN		**Pn**	**23 50 44.8**	**-6.1**
FCC				SN		Sn	23 53 27.7	-15
FCC				LG		Lg	23 55 17.8	
FCC				Trac			23 55 25.4	
	comp=Z,8μm,1.2s							
G30M	**tAoh Zraii Nji**	**15.85**	**265**	P		**Pn**	**23 50 50.6**	**-3.4**
	baz=44							
G30M				S		Sn	23 53 34.3	-14
	baz=44							
NOR	**Nord**	**15.94**	**31**	*i* P		**Pn**	**23 50 49.3**	**-5.8**
NOR				*i* S		Sn	23 53 35.5	-15
NOR	**Nord**	**15.94**	**31**	⇓P		Pn	23 50 47.5	-7.5
C27K	**Jago River**	**16.07**	**279**	P		**Pn**	**23 50 54.3**	**-2.6**
	baz=50							
C27K				S		Sn	23 53 39.9	-14
	baz=50							
C26K	**Camden Bay**	**16.21**	**281**	P		**Pn**	**23 50 57.0**	**-1.6**
	baz=51							
C26K				S		Sn	23 53 43.6	-13
	baz=51							
EPYK	**Eagle Plains**	**16.43**	**264**	Pn		**Pn**	**23 50 58.1**	**-3.4**
EPYK				IAmb		IAmb	23 51 09.2	
	comp=Z,1μm,0.7s							
EPYK	**Eagle Plains**	**16.43**	**264**	PN		**Pn**	**23 50 58.5**	**-3.0**
EPYK				SN		Sn	23 53 52.0	-11
EPYK				LG		Lg	23 55 47.0	
EPYK				Trac			23 55 50.6	
	comp=Z,21μm,2.3s							
EPYK	**Eagle Plains**	**16.43**	**264**	P		**Pn**	**23 50 57.4**	**-4.1**
	baz=42,SNR=245							
EPYK				S		Sn	23 53 49.8	-13
	baz=42							
E27K	**Coleen River**	**16.46**	**274**	P		**Pn**	**23 50 58.9**	**-2.9**
	baz=47							
ICESG	**Greenland Ices**	**16.82**	**81**	*i* P		**Pn**	**23 51 06.0**	**-0.7**
ICESG	**Greenland Ices**	**16.82**	**81**	⇑P		**Pn**	**23 51 03.9**	**-2.8**
DY2G	**Dye2**	**16.86**	**94**	*e*P		**Pn**	**23 51 07.0**	**-0.1**
DY2G	**Dye2**	**16.86**	**94**	⇓P		**Pn**	**23 51 05.1**	**-2.0**
D25K	**Kavik River**	**16.99**	**281**	P		**Pn**	**23 51 06.8**	**-1.6**
	baz=49,SNR=401							
NUUK	**Nuuk**	**17.16**	**105**	*e*P		**Pn**	**23 51 11.0**	**+0.4**
NUUK	**Nuuk**	**17.16**	**105**	⇑P		**Pn**	**23 51 09.8**	**-0.7**
C24K	**Franklin Bluff**	**17.35**	**283**	P		**Pn**	**23 51 10.6**	**-2.3**
	baz=50							
G27K	**Doyon Strip**	**17.45**	**270**	P		**Pn**	**23 51 11.3**	**-3.0**
	baz=44							
F26K	**Sheenjek River**	**17.50**	**275**	P		**Pn**	**23 51 13.0**	**-1.8**
	baz=45							
E25K	**Arctic Village**	**17.58**	**277**	P		**Pn**	**23 51 13.7**	**-2.1**
	baz=46,SNR=231							
I29M	**Ogilvie Camp,**	**17.63**	**264**	P		**Pn**	**23 51 14.1**	**-2.3**
I29M				IAmb		IAmb	23 51 21.5	
	comp=Z,2μm,0.7s							
I29M	**Ogilvie Camp,**	**17.63**	**264**	P		**Pn**	**23 51 13.2**	**-3.1**
	baz=40,SNR=1000							
D24K	**Happy Valley**	**17.75**	**282**	P		**Pn**	**23 51 15.4**	**-2.5**
	baz=48							
BMAR	**Burnt Mountain**	**17.80**	**274**	Pn		**Pn**	**23 51 16.2**	**-2.4**
H27K	**Steamboat Moun**	**17.84**	**269**	P		**Pn**	**23 51 16.7**	**-2.4**
	baz=42							
G26K	**Porcupine Rive**	**17.93**	**273**	P		**Pn**	**23 51 18.0**	**-2.0**
	baz=44							
F25K	**Christian Rive**	**17.98**	**276**	P		**Pn**	**23 51 18.9**	**-1.8**
	baz=45							
NBC3	**NorthernBC 3**	**18.06**	**231**	PN		**Pn**	**23 51 18.4**	**-3.4**
NBC3				SN		Sn	23 54 30.1	-12
NBC3				LG		Lg	23 56 37.4	
NBC3				Trac			23 56 42.9	
	comp=Z,8μm,1.5s							
J29M	**Klondike Camp**	**18.31**	**262**	P		**P**	**23 51 23.2**	**-1.5**
J29M				IAmb		IAmb	23 51 32.4	
	comp=Z,875nm,0.9s							
J29M	**Klondike Camp**	**18.31**	**262**	P		**P**	**23 51 21.8**	**-2.8**
	baz=38,SNR=65							
NBC2	**NorthernBC 2**	**18.33**	**234**	PN		**P**	**23 51 23.1**	**-1.8**
NBC2				SN		Sn	23 54 36.9	-11
NBC2				LG		Lg	23 56 44.8	
NBC2				Trac			23 56 54.3	
	comp=Z,24μm,1.7s							
HILA	**High Level**	**18.33**	**224**			**P**	**23 51 19.7**	**-5.2**
I27K	**Kandik River**	**18.34**	**268**	P		**P**	**23 51 22.7**	**-2.3**
	baz=41							
KOTAN	**Kotaneelee Air**	**18.36**	**236**	P		**P**	**23 51 21.9**	**-3.3**
	baz=27,SNR=217							
A21K	**Barrow**	**18.37**	**293**	P		**P**	**23 51 23.4**	**-1.7**
A21K	**Barrow**	**18.37**	**293**	P		**P**	**23 51 24.2**	**-0.9**
	baz=51,SNR=66							
MAYO	**Mayo, Yukon**	**18.37**	**257**	P		**P**	**23 51 23.4**	**-1.9**
MAYO	**Mayo, Yukon**	**18.37**	**257**	P		**P**	**23 51 23.1**	**-2.2**
	baz=36,SNR=80							
D23K	**Nanushuk River**	**18.38**	**283**	P		**P**	**23 51 24.4**	**-0.9**
	baz=47,SNR=1000							
E24K	**Your Creek**	**18.40**	**279**	P		**P**	**23 51 24.4**	**-1.3**
	baz=46							
DBG	**Daneborg**	**18.47**	**55**	*i* P		**P**	**23 51 21.7**	**-4.6**
DBG				*e*S		Sn	23 54 34.5	-17
DBG				IAML			23 55 26.3	
	comp=Z,188nm,0.5s							
DBG	**Daneborg**	**18.47**	**55**	⇑P		P	23 51 19.6	-6.7
SAKN	**Sanikiluaq**	**18.55**	**157**	PN		**P**	**23 51 24.4**	**-2.9**
SAKN				SN		Sn	23 54 38.5	-15
SAKN				LG		Lg	23 56 51.0	
SAKN				Trac			23 57 36.4	
	comp=Z,2μm,0.7s							
K29M	**Barlow Dome**	**18.60**	**260**	P		**P**	**23 51 25.5**	**-2.4**
	baz=37							
FYU	**Fort Yukon**	**18.61**	**273**	P		**P**	**23 51 26.3**	**-1.6**
F24K	**Squaw Lake**	**18.64**	**278**	P		**P**	**23 51 26.7**	**-1.5**
	baz=45,SNR=382							
G25K	**Bearman Lake**	**18.70**	**274**	P		**P**	**23 51 27.6**	**-1.3**
	baz=43							
E23K	**Chandalar**	**18.72**	**280**	P		**P**	**23 51 28.1**	**-1.1**
	baz=46							
NBC1	**NorthernBC 1**	**18.73**	**235**	PN		**P**	**23 51 29.4**	**+0.1**
NBC1				SN		Sn	23 54 45.6	-13
NBC1				LG		Lg	23 56 59.6	
NBC1				Trac			23 57 33.7	
	comp=Z,37μm,2.0s							
FARO	**Faro, Yukon**	**18.82**	**252**	P		**P**	**23 51 26.5**	**-3.8**
FARO				IAmb		IAmb	23 51 33.3	
	comp=Z,1μm,1.4s							
FARO	**Faro, Yukon**	**18.82**	**252**	P		**P**	**23 51 27.8**	**-2.5**
	baz=34,SNR=314							
EGAK	**Eagle**	**18.85**	**265**	P		**P**	**23 51 29.5**	**-1.0**
EGAK	**Eagle**	**18.85**	**265**	P		**P**	**23 51 28.5**	**-2.0**
	baz=39,SNR=52							
DAWY	**Dawson**	**18.93**	**262**	P		**P**	**23 51 29.8**	**-1.7**
DAWY				IAmb		IAmb	23 51 44.8	
	comp=Z,2μm,1.9s							
DAWY	**Dawson**	**18.93**	**262**	PN		**P**	**23 51 30.2**	**-1.3**
DAWY				SN		Sn	23 54 50.8	-12
DAWY				LG		Lg	23 57 09.2	
DAWY				Trac			23 57 32.6	
	comp=Z,27μm,3.6s							
DAWY	**Dawson**	**18.93**	**262**	P		**P**	**23 51 28.8**	**-2.7**
	baz=38,SNR=213							
DAWY	**Dawson**	**18.93**	**262**	⇓P		**P**	**23 51 29.1**	**-2.4**
M31M	**Drury Creek, Y**	**19.11**	**253**	P		**P**	**23 51 32.3**	**-1.2**
M31M				IAmb		IAmb	23 51 37.7	
	comp=Z,1μm,0.9s							
M31M	**Drury Creek, Y**	**19.11**	**253**	P		**P**	**23 51 31.9**	**-1.6**
	baz=34,SNR=1000							
G24K	**Hadweenzic Riv**	**19.12**	**275**	P		**P**	**23 51 32.5**	**-1.0**
	baz=43,SNR=342							
NBC6	**NorthernBC 6**	**19.17**	**230**	PN		**P**	**23 51 32.4**	**-1.6**
NBC6				SN		Sn	23 54 56.2	-12
NBC6				Trac			23 57 38.7	
	comp=Z,30μm,2.0s							
FNBB	**Fort Nelson**	**19.25**	**233**	PN		**P**	**23 51 33.4**	**-1.5**
FNBB				SN		Sn	23 54 57.6	-13
FNBB				LG		Lg	23 57 16.7	
L29M	**L29M**	**19.36**	**259**	P		**P**	**23 51 34.6**	**-1.6**
	baz=36							
M30M	**Minto, Yukon**	**19.44**	**257**	P		**P**	**23 51 35.8**	**-1.3**
M30M				IAmb		IAmb	23 51 42.0	
	comp=Z,836nm,1.1s							
M30M	**Minto, Yukon**	**19.44**	**257**	P		**P**	**23 51 35.7**	**-1.3**
	baz=35							
COLD	**Coldfoot**	**19.47**	**279**	P		**P**	**23 51 36.7**	**-0.6**
	baz=44,SNR=99							
PRP	**Porcupine Dome**	**19.47**	**271**	P		**P**	**23 51 37.4**	**-0.1**
PRP	**Porcupine Dome**	**19.47**	**271**	P		**P**	**23 51 37.5**	**0.0**
	baz=41,SNR=552							
LIRD	**Liard River Hi**	**19.47**	**238**	P		**P**	**23 51 35.6**	**-1.8**
	baz=27,SNR=254							
WTLY	**Watson Lake, Y**	**19.49**	**243**	P		**P**	**23 51 37.8**	**+0.2**
WTLY				IAmb		IAmb	23 51 44.4	
	comp=Z,722nm,0.9s							
WTLY	**Watson Lake, Y**	**19.49**	**243**	P		**Pn**	**23 51 39.5**	**+0.5**
	baz=29,SNR=12							
ISOG	**Isortoq, Green**	**19.54**	**88**	*e*P		**P**	**23 51 39.0**	**+1.0**
ISOG	**Isortoq, Green**	**19.54**	**88**	⇓P		**P**	**23 51 38.1**	**+0.1**
K27K	**Chicken**	**19.69**	**265**	P		**P**	**23 51 38.6**	**-1.1**
K27K	**Chicken**	**19.69**	**265**	P		**P**	**23 51 39.1**	**-0.6**
	baz=38							
J26L	**Joseph Creek**	**19.72**	**267**	P		**P**	**23 51 38.8**	**-1.4**
J26L				IAmb		IAmb	23 51 54.5	
	comp=Z,500nm,0.7s							
J26L	**Joseph Creek**	**19.72**	**267**	P		**P**	**23 51 40.4**	**+0.2**
	baz=39							
F22K	**John River**	**19.80**	**281**	P		**P**	**23 51 40.5**	**-0.4**
	baz=44							
G23K	**Bananza Creek**	**19.80**	**278**	P		**P**	**23 51 41.8**	**+0.9**
	baz=43,SNR=694							
ANGG	**Ammassalik, Gr**	**19.86**	**87**	P		**P**	**23 51 41.5**	**0.0**
ANGG	**Ammassalik, Gr**	**19.86**	**87**	*e*P		**Pn**	**23 51 43.4**	**+0.2**
ANGG	**Ammassalik, Gr**	**19.86**	**87**	⇓P		**P**	**23 51 41.6**	**+0.1**
H24K	**Noodor Dome**	**19.87**	**274**	P		**P**	**23 51 42.6**	**+0.9**
H24K	**Noodor Dome**	**19.87**	**274**	P		**P**	**23 51 42.8**	**+1.1**
	baz=41							
KJKQ	**Kuujjuarapik**	**19.96**	**155**	PN		**P**	**23 51 41.5**	**-1.2**
KJKQ				SN		S	23 55 11.9	-13
KJKQ				LG		Lg	23 57 35.1	
KJKQ				Trac			23 57 50.3	
	comp=Z,2μm,1.1s							
M29M	**Somme Creek**	**19.99**	**258**	P		**P**	**23 51 43.5**	**+0.4**
	baz=35							
FFC	**Flin Flon**	**20.01**	**196**	P		**P**	**23 51 41.0**	**-2.3**
FFC				IAmb		IAmb	23 51 58.1	
	comp=Z,2μm,1.1s							
FFC	**Flin Flon**	**20.01**	**196**	IAMs_20		IAMs_20	23 59 35.1	
	comp=Z,58μm,18.0s							
FFC	**Flin Flon**	**20.01**	**196**	P		**P**	**23 51 41.0**	**-2.3**
FFC				pmax		pmax		
	comp=Z,2μm,1.1s							
FFC				MLR		MLR		
	comp=Z,58μm,18.0s							
FL31	**Flin Flon Arra**	**20.02**	**196**	PN		**P**	**23 51 42.4**	**-1.0**
FL31				SN		S	23 55 14.0	-12
FL31				LG		Lg	23 57 35.5	
FL31				Trac			23 57 42.9	
	comp=Z,4μm,0.8s							
G22K	**Bettles**	**20.05**	**279**	P		**P**	**23 51 43.3**	**-0.2**
	baz=43							
N31M	**Braeburn, Yuko**	**20.08**	**254**	IAmb		IAmb	23 51 57.4	
	comp=Z,1μm,1.3s							
N31M	**Braeburn, Yuko**	**20.08**	**254**	P		**P**	**23 51 44.7**	**+0.8**
	baz=33,SNR=189							
J25K	**Salcha River,**	**20.12**	**269**	P		**P**	**23 51 46.1**	**+1.6**
	baz=39							
SCRK	**Sand Creek**	**20.25**	**267**	IAMs_20		IAMs_20	23 59 58.4	
	comp=Z,85μm,19.0s							
SCRK	**Sand Creek**	**20.25**	**267**	P		**P**	**23 51 46.9**	**+1.0**
	baz=38,SNR=156							
POKR	**Poker Plat Res**	**20.30**	**272**	IAmb		IAmb	23 51 55.6	
	comp=Z,942nm,1.4s							
POKR				IAMs_20		IAMs_20	00 00 14.5	
	comp=Z,42μm,19.0s							
POKR	**Poker Plat Res**	**20.30**	**272**	P		**P**	**23 51 47.6**	**+1.3**
	baz=40,SNR=150							
H23K	**Yukon River**	**20.33**	**275**	IAmb		IAmb	23 52 02.4	
	comp=Z,1μm,1.9s							
H23K	**Yukon River**	**20.33**	**275**	P		**P**	**23 51 47.7**	**+1.0**
	baz=41,SNR=144							
F21K	**Alatna River**	**20.35**	**282**	P		**P**	**23 51 47.0**	**0.0**
	baz=43							
L27K	**Beaver Creek,**	**20.39**	**263**	P		**P**	**23 51 47.5**	**+0.1**
L27K				IAmb		IAmb	23 52 03.5	
	comp=Z,633nm,1.0s							
L27K				IAMs_20		IAMs_20	23 59 57.7	
	comp=Z,65μm,19.0s							
L27K	**Beaver Creek,**	**20.39**	**263**	P		**P**	**23 51 47.9**	**+0.5**
	baz=36,SNR=342							
P33M	**Teslin, Yukon**	**20.40**	**248**	P		**P**	**23 51 48.5**	**+0.9**
P33M				IAmb		IAmb	23 52 05.9	
	comp=Z,651nm,1.0s							
P33M	**Teslin, Yukon**	**20.40**	**248**	P		**P**	**23 51 48.3**	**+0.7**
	baz=30,SNR=174							
IL31		**20.41**	**271**	P		**P**	**23 51 48.0**	**+0.5**
IL31				IAmb		IAmb	23 52 04.0	
	comp=Z,1μm,1.5s							
ILAR	**Eielson Array**	**20.41**	**271**	P		**P**	**23 51 48.7**	**+1.1**
	comp=Z,305nm,0.9s,baz=39,slow=9.0,SNR=426							
ILAR				S		S	23 55 20.6	-14
	comp=Z,12nm,0.6s,baz=328,slow=33,SNR=1.1							
ILAR				LR		LR	00

RIDG Independent Ri 20.67 267 P **P** **23 51 51.4 +1.0**
RIDG IAmb IAmb 23 52 07.8
comp=Z,1µm,0.9s
RIDG IAMs_20 IAMs_20 00 00 12.5
comp=Z,55µm,21.0s
RIDG Independent Ri 20.67 267 P **P** **23 51 51.8 +1.4**
baz=38,SNR=203
HDA Harding Lake 20.71 270 P **P** **23 51 51.5 +0.7**
HDA Harding Lake 20.71 270 P **P** **23 51 52.4 +1.5**
baz=39,SNR=1000
CCB Clear Creek Bu 20.76 272 P **P** **23 51 51.7 +0.3**
CCB IAmb IAmb 23 52 10.2
comp=Z,472nm,0.8s
O30N Mendenhall 20.76 253 P **P** **23 51 53.0 +1.5**
baz=32,SNR=126
H22K Ishtalitna Cre 20.78 277 P **P** **23 51 52.9 +1.4**
baz=41,SNR=446
I23K Minto, Yukon-K 20.80 274 P **P** **23 51 52.6 +0.9**
I23K Minto, Yukon-K 20.80 274 P **P** **23 51 53.0 +1.3**
baz=40,SNR=301
L26K Log Cabin Wild 20.83 265 P **P** **23 51 52.5 +0.4**
L26K IAmb IAmb 23 52 10.8
comp=Z,2µm,1.6s
L26K IAMs_20 IAMs_20 00 00 13.3
comp=Z,41µm,20.0s
L26K Log Cabin Wild 20.83 265 P **P** **23 51 53.9 +1.7**
baz=36,SNR=77
K24K Donnelly Dome 20.87 268 P **P** **23 51 54.6 +2.1**
baz=38,SNR=312
G21K Allakaket 20.88 280 P **P** **23 51 52.1 -0.5**
baz=42
YUK5 Granite Creek 20.92 256 PN **P** **23 51 55.0 +1.8**
YUK5 SN **S** **23 55 40.0 -4.5**
YUK5 LG Lg 23 58 08.1
YUK5 Trac 23 58 38.7
comp=Z,41µm,5.3s
YUK4 Talbot Arm 20.95 257 PN **P** **23 51 54.4 +0.8**
YUK4 Trac 23 58 33.0
comp=Z,30µm,5.1s
YUK4 Talbot Arm 20.95 257 P **P** **23 51 54.2 +0.6**
baz=34,SNR=162
WRH Wood River Hil 20.98 272 P **P** **23 51 54.7 +1.0**
WRH IAmb IAmb 23 52 12.0
comp=Z,1µm,0.9s
M27K Edge Creek, AK 20.98 262 P **P** **23 51 54.3 +0.4**
M27K IAmb IAmb 23 52 11.7
comp=Z,727nm,0.9s
M27K IAMs_20 IAMs_20 00 00 18.3
comp=Z,57µm,20.0s
M27K Edge Creek, AK 20.98 262 P **P** **23 51 55.6 +1.8**
baz=35
MENT Mentasta 21.00 265 P **P** **23 51 55.0 +1.0**
MENT IAmb IAmb 23 52 12.4
comp=Z,2µm,1.3s
YUK3 Moose Creek 21.08 259 PN **P** **23 51 57.3 +2.3**
YUK3 SN **S** **23 55 42.3 -5.3**
YUK3 Trac 23 58 38.6
comp=Z,13µm,3.9s
YUK3 Moose Creek 21.08 259 P **P** **23 51 57.2 +2.3**
baz=34,SNR=235
HYT Haines Junctio 21.09 255 **P** **23 51 56.6 +1.6**
HYT Haines Junctio 21.09 255 PN **P** **23 51 57.1 +2.0**
HYT SN **S** **23 55 40.5 -7.2**
HYT LG Lg 23 58 09.6
HYT Trac 23 58 38.0
comp=Z,39µm,6.7s
HYT Haines Junctio 21.09 255 P **P** **23 51 57.0 +2.0**
baz=32,SNR=295
NEA2 Nenana 21.15 273 P **P** **23 51 55.9 +0.4**
NEA2 IAmb IAmb 23 52 13.8
comp=Z,550nm,0.9s
NEA2 Nenana 21.15 273 P **P** **23 51 56.3 +0.8**
baz=39,SNR=263
P32M Atlin 21.17 248 P **P** **23 51 57.6 +1.8**
baz=30,SNR=82
YUK2 White River 21.17 260 PN **P** **23 51 58.2 +2.3**
YUK2 SN **S** **23 55 45.3 -4.0**
YUK2 LG Lg 23 58 17.9
YUK6 Outpost Mounta 21.21 256 PN **P** **23 51 58.9 +2.4**
YUK6 SN **S** **23 55 46.7 -3.7**
YUK6 LG Lg 23 58 17.8
YUK6 Outpost Mounta 21.21 256 P **P** **23 51 58.8 +2.3**
baz=33,SNR=131
M26K Nabesna, AK 21.24 263 P **P** **23 51 57.9 +1.3**
M26K IAMs_20 IAMs_20 00 00 27.3
comp=Z,40µm,19.0s
M26K Nabesna, AK 21.24 263 P **P** **23 51 58.6 +2.0**
baz=36
MLY Manley 21.26 275 IAmb IAmb 23 52 14.1
comp=Z,634nm,0.8s
MLY Manley 21.26 275 P **P** **23 51 58.1 +1.3**
baz=40,SNR=253
DLBC Dease Lake 21.27 242 P **P** **23 51 59.2 +2.2**
comp=Z,485nm,0.7s,baz=24,slow=8.8,SNR=256
DLBC S S 23 55 36.7 -15
comp=Z,140nm,0.9s,baz=320,slow=11,SNR=2.1
DLBC Lg Lg 23 58 14.1
comp=Z,6.5nm,0.3s,baz=332,slow=26,SNR=1.6
DLBC LR LR 00 00 03.6
comp=Z,32µm,20.2s,baz=31,slow=36
comp=Z,485nm,0.7s
DLBC Dease Lake 21.27 242 P **P** **23 51 58.8 +1.8**
DLBC Dease Lake 21.27 242 PN **P** **23 51 57.3 +0.4**
DLBC SN **S** **23 55 48.5 -2.8**
DLBC LG Lg 23 58 18.8
DLBC Dease Lake 21.27 242 P **P** **23 51 59.6 +2.6**
baz=27,SNR=301
YUK8 Steele Glacier 21.30 258 PN **P** **23 51 58.9 +1.4**
YUK8 SN **S** **23 55 47.5 -4.7**
YUK8 LG Lg 23 58 10.2
YUK8 Trac 23 58 34.7
comp=Z,18µm,4.6s
YUK8 Steele Glacier 21.30 258 P **P** **23 51 59.5 +2.0**
baz=34,SNR=227
NRS Narsarsuaq 21.31 103 P **P** **23 51 58.5 +1.3**
NRS Narsarsuaq 21.31 103 *eP* **P** **23 51 58.8 +1.5**
NRS Narsarsuaq 21.31 103 P **P** **23 51 58.6 +1.3**
NRS pmax pmax
comp=Z,367nm,0.9s
NRS MLR MLR
comp=Z,22µm,19.0s
H21K Melozitna Rive 21.34 278 P **P** **23 51 58.4 +0.8**
H21K IAmb IAmb 23 52 16.1
comp=Z,3µm,2.0s
H21K Melozitna Rive 21.34 278 P **P** **23 51 58.8 +1.2**
baz=41,SNR=369
IMAR Indian Mountai 21.35 279 P **P** **23 51 57.6 0.0**
Q32M Nakina River 21.36 246 P **P** **23 52 00.1 +2.1**
baz=29,SNR=63
KBS Kingsbay 21.42 31 P **P** **23 51 58.4 0.0**
KBS Kingsbay 21.42 31 IAMs_20 IAMs_20 23 59 56.1
comp=Z,65µm,18.0s
KBS Kingsbay 21.42 31 *eP* **P** **23 52 02.8 +4.5**
KBS Kingsbay 21.42 31 *deP* **P** **23 51 58.9 +0.6**
KBS pmax pmax
comp=Z,2µm,1.3s
KBS MLR MLR
comp=Z,58µm,17.0s
KBS Kingsbay 21.42 31 *eP* **P** **23 51 59.1 +0.8**
KBS IVmBBB 23 52 04.9
comp=Z,16µm,1.0s
KBS *eS* **S** **23 55 56.6 +2.7**
KBS *e* 23 59 28.8
PAX Paxson 21.45 267 P **P** **23 52 00.4 +1.5**
baz=36,SNR=525
I21K Tanana 21.48 276 P **P** **23 51 59.0 -0.1**
I21K Tanana 21.48 276 P **P** **23 52 00.7 +1.6**
baz=40,SNR=63
YUK7 Dusty Glacier 21.50 255 PN **P** **23 52 03.2 +2.7**
YUK7 SN **S** **23 55 49.9 -6.2**
YUK7 LG Lg 23 58 16.7
P30M Million Dollar 21.54 253 P **P** **23 52 01.6 +1.8**
baz=31
BWN Browne 21.59 272 P **P** **23 52 00.3 +0.1**
SKAG Skagway 21.69 250 P **P** **23 52 01.6 +0.3**
SKAG Skagway 21.69 250 P **P** **23 52 03.1 +1.8**
baz=30,SNR=30
SKAG Skagway 21.69 250 ⇓P **P** **23 52 03.8 +2.5**
NBC4 NorthernBC 4 21.72 226 PN **P** **23 52 02.4 +0.6**
NBC4 SN **S** **23 55 55.4 -4.7**
MCK McKinley 21.79 271 P **P** **23 53 03.2 +0.9**
MCK McKinley 21.79 271 P **P** **23 52 03.3 +0.9**
baz=38,SNR=234
MCK McKinley 21.79 271 P **P** **23 52 03.3 +0.9**
MCK pmax pmax
comp=Z,3µm,1.2s
O29M Mount Kennedy 21.81 255 P **P** **23 52 04.7 +1.9**
baz=32
HARP HAARP 21.83 265 P **P** **23 52 04.6 +1.8**
baz=36,SNR=132
O28M Mount Upton 21.84 258 P **P** **23 52 04.8 +1.6**
baz=33
DHY Denali Highway 21.89 269 P **P** **23 52 03.9 +0.3**
DHY IAMs_20 IAMs_20 00 01 01.7
comp=Z,42µm,19.0s
DHY Denali Highway 21.89 269 P **P** **23 52 04.7 +1.1**
baz=37,SNR=330
WAPA Wapiti River 21.93 224 P **P** **23 52 03.6 -0.4**
PLBC Pleasant Camp 21.96 251 PN **P** **23 52 06.6 +2.3**
PLBC SN **S** **23 56 02.6 -2.0**
PLBC LG Lg 23 58 39.4
PLBC Pleasant Camp 21.96 251 P **P** **23 52 05.5 +1.3**
baz=30,SNR=91
BARN Barnard Glacie 21.99 260 P **P** **23 52 03.9 -0.9**
BARN IAmb IAmb 23 52 25.8
comp=Z,969nm,0.8s
S34M Telegraph Cree 22.01 243 P **P** **23 52 07.1 +2.4**
baz=27,SNR=86
RND Reindeer 22.03 271 P **P** **23 52 03.8 -1.2**
RND IAmb IAmb 23 52 21.2
comp=Z,424nm,0.8s
RND Reindeer 22.03 271 P **P** **23 52 03.8 -1.2**
RND pmax pmax
comp=Z,425nm,0.8s
RND MLR MLR
comp=Z,24µm,21.0s
SCHQ Schefferville 22.03 138 P **P** **23 52 02.9 -2.1**
comp=Z,58nm,0.9s,baz=348,slow=11,SNR=26
SCHQ S S 23 55 52.9 -13
comp=Z,134nm,0.5s,baz=192,slow=15,SNR=2.2
SCHQ Lg Lg 23 58 28.5
baz=245,slow=18
SCHQ LR LR 00 00 39.9
comp=Z,48µm,18.1s,baz=342,slow=37
comp=Z,58nm,0.9s
SCHQ Schefferville 22.03 138 P **P** **23 52 03.2 -1.8**
SCHQ IAmb IAmb 23 52 18.9
comp=Z,618nm,0.9s
BPAW Bear Paw Mtn. 22.06 274 P **P** **23 52 04.8 -0.4**
BPAW Bear Paw Mtn. 22.06 274 P **P** **23 52 06.0 +0.7**
baz=38,SNR=205
MCARA McCarthy VSAT 22.09 262 P **P** **23 52 06.5 +0.8**
MCARA IAMs_20 IAMs_20 00 00 54.7
comp=Z,51µm,20.0s
MCARA McCarthy VSAT 22.09 262 P **P** **23 52 07.1 +1.5**
baz=34,SNR=87
RDOG Red Dog Mine 22.21 290 P **P** **23 52 08.6 +1.7**
baz=43
GLB Gilahina Butte 22.25 262 P **P** **23 52 09.3 +1.8**
N25K Chitina, Valde 22.33 264 P **P** **23 52 09.6 +1.2**
N25K IAmb IAmb 23 52 28.9
comp=Z,969nm,0.8s
N25K Chitina, Valde 22.33 264 P **P** **23 52 10.0 +1.7**
baz=34,SNR=78
VRDI Verde Repeater 22.34 262 P **P** **23 52 08.9 +0.5**
VRDI IAmb IAmb 23 52 29.6
comp=Z,818nm,0.9s
BESE Bessie Mountai 22.34 248 P **P** **23 52 10.1 +1.7**
M24K Tolsona, Glenn 22.35 266 P **P** **23 52 08.7 +0.3**
M24K Tolsona, Glenn 22.35 266 P **P** **23 52 09.7 +1.2**
baz=35,SNR=81
TRF Thorofare Moun 22.38 272 P **P** **23 52 09.3 +0.4**
TRF Thorofare Moun 22.38 272 P **P** **23 52 09.6 +0.6**
baz=37,SNR=273
WAT6 Susitna Watana 22.39 268 P **P** **23 52 09.5 +0.5**
baz=36,SNR=365
BCPM Bancas Point 22.39 256 **P** **23 52 09.8 +0.9**
BCPM IAmb IAmb 23 52 28.2
comp=Z,1µm,1.0s
BCPM IAMs_20 IAMs_20 00 01 06.9
comp=Z,60µm,20.0s
WAT1 Susitna Watana 22.41 269 P **P** **23 52 09.1 +0.1**
baz=36
PINM Pinnacle 22.43 257 P **P** **23 52 10.9 +1.5**
baz=32,SNR=24
KTH Kantishna Hill 22.47 273 P **P** **23 52 10.1 +0.3**
R32K Eaglecrest 22.52 248 P **P** **23 52 12.3 +2.0**
baz=28
PNL Peninsula 22.57 255 P **P** **23 52 12.1 +1.3**
baz=31,SNR=13
SPITS Spitsbergen Ar 22.58 31 P **P** **23 52 11.2 +0.4**
comp=Z,169nm,0.9s,baz=356,slow=3.3,SNR=32
SPITS S **S** **23 56 08.7 -7.0**
comp=Z,36nm,0.7s,baz=320,slow=8.7,SNR=1.5
SPITS LR LR 00 00 53.0
comp=Z,73µm,18.2s,baz=264,slow=37
comp=Z,169nm,0.9s
SPB2 Spitsbergen Ar 22.58 31 P **P** **23 52 11.1 +0.3**
CHUM Lake Minchumin 22.59 275 P **P** **23 52 11.6 +0.7**
baz=38,SNR=184
T35M Bob Quinn 22.63 241 P **P** **23 52 13.5 +2.0**
baz=26,SNR=49
R31K City Hall, Gus 22.71 249 P **P** **23 52 13.1 +0.9**
baz=29
YKU2 Yakutat 22.78 255 P **P** **23 52 11.4 -1.5**
KLU Klutina 22.79 265 P **P** **23 52 14.2 +1.1**
KLU Klutina 22.79 265 P **P** **23 52 13.5 +0.4**
baz=34,SNR=106
EDM Edmonton 22.80 214 P **P** **23 52 12.9 -0.3**
EDM Edmonton 22.80 214 P **P** **23 52 13.0 -0.3**
EDM pmax pmax
comp=Z,3µm,0.9s
J20K Nowinta River 22.85 277 P **P** **23 52 13.5 -0.2**
J20K Nowinta River 22.85 277 P **P** **23 52 14.6 +0.9**
baz=38,SNR=311
BMRM Bremner River 22.86 263 P **P** **23 52 14.8 +0.9**
baz=34,SNR=52
SCM Sheep Creek Mo 22.89 267 IAmb IAmb 23 52 37.4
comp=Z,868nm,0.8s
SCM Sheep Creek Mo 22.89 267 P **P** **23 52 14.7 +0.5**
baz=35,SNR=70
CAST Castle Rocks 22.90 274 IAmb IAmb 23 52 32.4
comp=Z,744nm,0.9s
CAST Castle Rocks 22.90 274 P **P** **23 52 14.7 +0.5**
baz=37,SNR=199
M23K Glacier View 23.03 267 P **P** **23 52 16.1 +0.6**
baz=35,SNR=136
GCSA Galena City Sc 23.14 280 P **P** **23 52 17.5 +0.9**
baz=39,SNR=52
SML Sawmill 23.18 268 P **P** **23 52 17.6 +0.5**
baz=35,SNR=185
CUT Chulitna 23.22 270 P **P** **23 52 18.4 +1.0**
baz=36,SNR=139
S31K Pelican 23.23 249 P **P** **23 52 18.6 +1.1**
baz=29,SNR=34
JMIC Jan Mayen 23.30 55 P **P** **23 52 20.1 +2.0**
comp=Z,224nm,0.8s,baz=186,slow=5.1,SNR=1.6
JMIC LR LR 00 01 14.6
comp=Z,30µm,18.4s,baz=324,slow=36
PPLA Purkeypile 23.34 273 P **P** **23 52 20.0 +1.2**
baz=36,SNR=95
HSPB Hornsund (broa 23.34 33 *eP* **P** **23 52 20.7 +2.2**
HSPB *eL* L 00 00 57.1
comp=Z,41µm,21.7s
T33K Petersburg 23.43 244 P **P** **23 52 20.9 +1.4**
baz=26
K20K Telida 23.48 275 P **P** **23 52 21.2 +1.1**
baz=37,SNR=356
EYAK Cordova Ski Ar 23.52 263 P **P** **23 52 21.5 +1.1**
baz=33,SNR=38
KNK Knik Glacier 23.54 267 P **P** **23 52 21.9 +1.2**
baz=34,SNR=153
PMR Palmer 23.57 268 IAmb IAmb 23 52 43.8
comp=Z,695nm,0.7s
PMR Palmer 23.57 268 P **P** **23 52 22.0 +1.1**
baz=35,SNR=56
PMR Palmer 23.57 268 P **P** **23 52 22.9 +2.0**
WRAK Wrangell Islan 23.64 243 P **P** **23 52 22.9 +1.3**
WRAK IAmb IAmb 23 52 46.1
comp=Z,370nm,0.9s
WRAK Wrangell Islan 23.64 243 P **P** **23 52 23.4 +1.9**
baz=26
M22K Willow 23.71 269 P **P** **23 52 23.0 +0.9**
M22K Willow 23.71 269 P **P** **23 52 23.6 +1.4**
baz=35
SIT Sitka 23.81 247 IAmb IAmb 23 52 48.0
comp=Z,548nm,0.9s
SIT Sitka 23.81 247 P **P** **23 52 25.3 +2.3**
baz=27,SNR=6.4
SIT Sitka 23.81 247 P **P** **23 52 24.7 +1.6**
SKT Skwentna 23.91 271 IAMs_20 IAMs_20 00 02 18.1
comp=Z,38µm,21.0s
SKT Skwentna 23.91 271 P **P** **23 52 24.7 +0.6**
baz=35,SNR=197
PWL Port Wells 23.97 266 IAMs_20 IAMs_20 00 02 13.7
comp=Z,45µm,20.0s
PWL Port Wells 23.97 266 P **P** **23 52 26.4 +1.7**
baz=34,SNR=75
U33K Whale Pass 24.11 243 P **P** **23 52 27.9 +2.0**
baz=26,SNR=6.7
SUA Susitna One 24.12 270 P **P** **23 52 28.0 +1.8**
baz=35,SNR=140
L20K Farewell, AK 24.14 274 P **P** **23 52 26.6 +0.4**
baz=36
RC01 Rabbit Creek A 24.16 268 P **P** **23 52 28.3 +2.0**
baz=34,SNR=103
ULM Lac du Bonnet 24.17 185 P **P** **23 52 27.0 +0.5**
comp=Z,189nm,0.9s,baz=360,slow=10,SNR=91
ULM S **S** **23 56 37.0 -5.2**
comp=Z,76nm,0.7s,baz=250,slow=22,SNR=1.4
ULM Lg Lg 23 59 46.3
comp=Z,23nm,0.3s,baz=73,slow=17,SNR=3.0
comp=Z,189nm,0.9s
ULM Lac du Bonnet 24.17 185 P **P** **23 52 26.9 +0.4**
ULM Lac du Bonnet 24.17 185 ⇑P **P** **23 52 26.8 +0.2**
TTA Tatalina 24.36 276 P **P** **23 52 29.6 +1.3**
baz=36,SNR=170
TTA Tatalina 24.36 276 ⇑P **P** **23 52 29.3 +1.0**
TTA Tatalina 24.36 276 ⇑P **P** **23 52 29.3 +1.0**
M20K Styx River 24.43 272 IAmb IAmb 23 52 45.6
comp=Z,628nm,0.8s
M20K IAMs_20 IAMs_20 00 02 44.7
comp=Z,37µm,20.0s
M20K Styx River 24.43 272 P **P** **23 52 29.4 +0.4**
baz=35
P23K Montague Islan 24.44 264 P **P** **23 52 31.1 +2.2**
baz=33
V35K Ketchikan 24.46 241 P **P** **23 52 29.6 +0.5**
baz=25
MID Middleton Isla 24.63 262 P **P** **23 52 30.9 +0.2**
MID IAmb IAmb 23 52 57.6
comp=Z,556nm,0.9s
MID Middleton Isla 24.63 262 P **P** **23 52 30.9 +0.2**
MID pmax pmax
comp=Z,556nm,0.9s
Q23K Middleton Isla 24.63 262 P **P** **23 52 32.9 +2.2**
baz=32
L19K White Mountain 24.65 274 P **P** **23 52 30.9 +0.1**
L19K IAmb IAmb 23 52 49.7
comp=Z,377nm,1.0s
L19K White Mountain 24.65 274 P **P** **23 52 31.5 +0.6**
baz=35
O22K Cooper Landing 24.66 267 P **P** **23 52 33.1 +2.1**
O22K Cooper Landing 24.66 267 P **P** **23 52 33.0 +2.1**
baz=33,SNR=180
CRAG Craig 24.69 243 P **P** **23 52 33.5 +2.3**
baz=25
CRAG Craig 24.69 243 ⇑P **P** **23 52 37.4 +6.2**
SPU Mount Spurr 24.71 270 P **P** **23 52 32.1 +0.7**
SPCR Spurr Chakachа 24.74 271 P **P** **23 52 33.0 +1.3**
baz=34,SNR=16
M19K Big River Lodg 24.75 274 IAmb IAmb 23 52 49.1
comp=Z,533nm,0.9s
M19K IAMs_20 IAMs_20 00 03 06.3
comp=Z,34µm,18.0s
M19K Big River Lodg 24.75 274 P **P** **23 52 32.6 +0.8**
baz=35
CAPN Captain Cook N 24.81 269 P **P** **23 52 34.8 +2.5**
CAPN Captain Cook N 24.81 269 P **P** **23 52 35.5 +3.2**
baz=34,SNR=28
SEW Seward 24.90 266 P **P** **23 52 35.0 +1.9**
baz=33,SNR=60
BORG Borgarnes 24.91 75 P **P** **23 52 34.0 +0.9**
comp=Z,190nm,1.0s,baz=325,slow=3.9,SNR=17
BORG LR LR 00 02 12.9
comp=Z,17µm,19.8s,baz=329,slow=36
comp=Z,190nm,1.0s
BORG Borgarnes 24.91 75 P **P** **23 52 34.7 +1.6**
BORG IAmb IAmb 23 52 52.3
comp=Z,586nm,1.2s
BORG Borgarnes 24.91 75 P **P** **23 52 34.7 +1.6**
BORG pmax pmax
comp=Z,586nm,1.3s
RUBB Prince Rupert 25.05 238 P **P** **23 52 36.6 +2.1**
RUBB IAmb IAmb 23 52 56.6
comp=Z,1µm,1.9s
HOPEN Hopen 25.07 29 *eP* **P** **23 52 34.6 +0.1**
HOPEN *eS* **S** **23 56 58.3 +2.0**
KAPO Kapuskasing 25.28 165 ⇓P **P** **23 52 36.5 -0.1**
TNA Tin City 25.40 290 P **P** **23 52 38.9 +1.3**
baz=38,SNR=16
TNA Tin City 25.40 290 ⇑P **P** **23 52 39.7 +2.1**
GRNB Grenville Isla 25.43 237 P **P** **23 52 39.9 +1.9**
GRNB IAmb IAmb 23 52 59.3
comp=Z,822nm,1.1s
ANM Nome 25.54 287 P **P** **23 52 40.2 +1.3**
ANM IAmb IAmb 23 53 09.6
comp=Z,288nm,0.9s
ANM Nome 25.54 287 P **P** **23 52 40.2 +1.3**
baz=37,SNR=26
ANM Nome 25.54 287 P **P** **23 52 40.2 +1.3**
ANM pmax pmax
comp=Z,288nm,0.9s
BRSE Bradley Lake S 25.56 267 P **P** **23 52 40.3 +1.1**
baz=32,SNR=49
BRLK Bradley Lake 25.58 267 P **P** **23 52 40.8 +1.4**
N19K Bonanza Creek 25.68 272 IAMs_20 IAMs_20 00 03 35.8
comp=Z,49µm,19.0s
N19K Bonanza Creek 25.68 272 P **P** **23 52 41.5 +1.2**
baz=34,SNR=115
SVW2 Sparrevohn 25.74 274 IAmb IAmb 23 52 59.4
comp=Z,384nm,0.8s
O20K Slope Mountain 25.79 269 P **P** **23 52 42.3 +1.0**
baz=33,SNR=34
HOM Homer 25.88 268 P **P** **23 52 44.1 +2.2**
HOM Homer 25.88 268 P **P** **23 52 43.0 +1.1**
baz=32,SNR=12
CNPM China Poot 25.88 267 P **P** **23 52 43.6 +1.6**
ILSW Iliamna Southw 26.01 270 IAmb IAmb 23 53 03.3
comp=Z,832nm,0.8s
AGMN Agassiz Nation 26.12 185 P **P** **23 52 45.3 +1.1**
baz=2.1,SNR=141
AGMN Agassiz Nation 26.12 185 P **P** **23 52 44.6 +0.3**
baz=2.2,SNR=141
O19K Port Alsworth 26.15 271 IAMs_20 IAMs_20 00 03 40.4
comp=Z,34µm,21.0s
O19K Port Alsworth 26.15 271 P **P** **23 52 45.0 +0.6**
baz=33
P19K Oil Pt 26.32 270 P **P** **23 52 46.8 +0.8**
P19K Oil Pt 26.32 270 P **P** **23 52 47.2 +1.3**
baz=32,SNR=29
DGMT Dagmar 26.40 198 P **P** **23 52 48.3 +1.5**
baz=7.1,SNR=40
DGMT Dagmar 26.40 198 P **P** **23 52 48.3 +1.5**
baz=7.3,SNR=40
EYMN Ely 26.43 179 IAMs_20 IAMs_20 00 03 01.9
comp=Z,42µm,18.0s
EYMN Ely 26.43 179 P **P** **23 52 48.2 +1.1**
baz=359,SNR=40
EYMN Ely 26.43 179 P **P** **23 52 47.9 +0.8**
baz=360,SNR=40
MOBC Moresby Island 26.54 239 P **P** **23 52 49.4 +1.3**
BBB Bella Bella 26.56 233 P **P** **23 52 51.0 +2.8**
BBB Bella Bella 26.56 233 ⇓P P 23 52 57.0 +8.8
DIB Dawson Inlet, 26.61 240 P **P** **23 52 50.5 +1.9**
DIB IAmb IAmb 23 53 10.1
comp=Z,588nm,0.9s
H02S1 DAWSON INLET T 26.61 240 P **P** **23 52 50.5 +1.9**
SNR=135
MDND Maddock 26.71 191 P **P** **23 52 50.7 +1.1**
MDND Maddock 26.71 191 P **P** **23 52 50.8 +1.1**
baz=4.3,SNR=6.9
MDND Maddock 26.71 191 P **P** **23 52 50.6 +1.1**
baz=4.5
WALA Waterton Lakes 26.94 212 IAmb IAmb 23 53 32.2
comp=Z,999nm,1.4s
WALA Waterton Lakes 26.94 212 ⇑P **P** **23 52 52.8 +1.0**
Q20K Shuyak Island 26.97 268 P **P** **23 52 52.1 +0.2**
baz=31
Q19K Cape Douglas, 27.04 269 P **P** **23 52 53.0 +0.4**
Q19K Cape Douglas, 27.04 269 P **P** **23 52 53.6 +1.1**
baz=32,SNR=45
P18K Big Mountain, 27.08 271 IAmb IAmb 23 53 11.1
comp=Z,819nm,1.1s
P18K IAMs_20 IAMs_20 00 04 17.8
comp=Z,29µm,18.0s
P18K Big Mountain, 27.08 271 P **P** **23 52 53.7 +0.8**
baz=32,SNR=151
N16K Nishlik Lake 27.13 276 P **P** **23 52 54.9 +1.6**

baz=33
O17K Koliganek Bris 27.27 273 P **P** **23 52 55.5 +1.1**
baz=32
D32A Dogwood Acres, 27.31 187 P **P** **23 52 56.6 +1.6**
D32A IAmb IAmb 23 53 33.5
comp=Z,367nm,0.8s
D32B Dogwood Acres, 27.31 187 P **P** **23 52 57.1 +2.1**
baz=2.7
D41A Chassel 27.37 174 P **P** **23 52 57.1 +1.7**
D41A Chassel 27.37 174 P **P** **23 52 57.0 +1.5**
baz=358,SNR=7.4
EGMT Eagleton 27.40 206 P **P** **23 52 57.1 +1.2**
baz=10,SNR=39
PNT Penticton 27.60 220 ⇑P **P** **23 53 00.0 +2.4**
PNT Penticton 27.60 220 ⇑P **P** **23 53 00.0 +2.4**
O16K Kokwok River B 27.69 274 P **P** **23 52 59.6 +1.4**
baz=32,SNR=11
KDAK Kodiak Island 27.74 267 P **P** **23 53 00.8 +2.1**
comp=Z,141nm,0.9s,baz=64,slow=4.9,SNR=57
KDAK S S 23 57 26.0 -13
comp=Z,14nm,0.8s,baz=306,slow=22,SNR=0.7
comp=Z,141nm,0.9s
KDAK Kodiak Island 27.74 267 P **P** **23 53 00.9 +2.2**
KDAK Kodiak Island 27.74 267 *de*P **P** **23 53 01.1 +2.4**
KDAK pmax pmax
comp=Z,225nm,0.9s
KDAK MLR MLR
comp=Z,36µm,12.0s
E38A The Farm, Brul 27.77 179 IAmb IAmb 23 53 16.1
comp=Z,710nm,1.1s
E38A The Farm, Brul 27.77 179 P **P** **23 53 00.4 +1.3**
baz=360,SNR=19
GAMB Gambell 27.81 291 P **P** **23 53 00.7 +1.3**
GAMB IAmb IAmb 23 53 21.6
comp=Z,303nm,0.9s
GAMB Gambell 27.81 291 P **P** **23 53 00.1 +0.8**
baz=35
GAMB Gambell 27.81 291 ⇑P **P** **23 53 00.6 +1.3**
HOLB Holberg 28.02 232 P **P** **23 53 02.6 +1.3**
HOLB IAmb IAmb 23 53 24.4
comp=Z,276nm,1.0s
E28A Huff 28.04 192 P **P** **23 53 03.6 +2.1**
baz=4.7,SNR=12
Q16K King Salmon 28.08 272 P **P** **23 53 01.3 -0.4**
baz=31,SNR=9.3
E43A Lone Tree Farm 28.10 172 P **P** **23 53 03.7 +1.6**
E43A IAmb IAmb 23 53 51.2
comp=Z,277nm,0.9s
E43A Lone Tree Farm 28.10 172 P **P** **23 53 03.4 +1.4**
baz=357
P16K Nushagak River 28.14 273 P **P** **23 53 03.2 +1.0**
baz=32,SNR=42
NEW Newport 28.20 216 P **P** **23 53 04.3 +1.3**
comp=Z,101nm,0.9s,baz=22,slow=7.9,SNR=36
NEW S S 23 57 37.5 -8.7
comp=Z,24nm,0.6s,baz=94,slow=20,SNR=1.0
NEW LR LR 00 04 17.9
comp=Z,61µm,18.9s,baz=7.5,slow=36
comp=Z,101nm,0.9s
NEW Newport 28.20 216 P **P** **23 53 04.8 +1.8**
NEW IAmb IAmb 23 53 21.7
comp=Z,594nm,0.8s
NEW Newport 28.20 216 P **P** **23 53 04.8 +1.8**
NEW pmax pmax
comp=Z,594nm,0.9s
NEW MLR MLR
comp=Z,62µm,18.0s
E46A Sault Ste Mari 28.24 168 P **P** **23 53 04.7 +1.4**
baz=355,SNR=8.6
COWI Conover 28.31 175 IAmb IAmb 23 53 50.6
comp=Z,420nm,1.1s
COWI IAMs_20 IAMs_20 00 04 27.7
comp=Z,27µm,18.0s
COWI Conover 28.31 175 P **P** **23 53 05.4 +1.4**
baz=358
LAO LASA Array 28.35 200 P **P** **23 53 05.5 +1.2**
LAO IAmb IAmb 23 53 28.2
comp=Z,574nm,0.9s
LAO LASA Array 28.35 200 P **P** **23 53 06.2 +1.9**
baz=7.8,SNR=23
LAO LASA Array 28.35 200 P **P** **23 53 05.0 +0.7**
baz=8.0,SNR=23
OHAK Old Harbor 28.41 267 P **P** **23 53 05.9 +1.2**
OHAK IAmb IAmb 23 53 23.4
comp=Z,355nm,0.7s
OHAK Old Harbor 28.41 267 P **P** **23 53 05.4 +0.7**
baz=30,SNR=34
B08A Colville Reser 28.48 219 IAmb IAmb 23 53 24.4
comp=Z,431nm,1.1s
F36A Milaca 28.52 182 IAmb IAmb 23 53 43.5
comp=Z,250nm,0.8s
F36A Milaca 28.52 182 P **P** **23 53 06.9 +1.1**
baz=0.6,SNR=32
F33A 5 Mile Ranch, 28.59 186 IAmb IAmb 23 54 06.6
comp=Z,221nm,0.6s
F33A 5 Mile Ranch, 28.59 186 P **P** **23 53 06.9 +0.5**
baz=2.2,SNR=18
F42A Maple Grove Fa 28.68 174 P **P** **23 53 08.4 +1.2**
F42A IAmb IAmb 23 53 26.2
comp=Z,239nm,0.8s
F42A Maple Grove Fa 28.68 174 P **P** **23 53 08.6 +1.4**
baz=358
B06A Marblemount 28.71 222 P **P** **23 53 08.0 +0.6**
C09A Chrisman Ranch 28.84 218 P **P** **23 53 10.1 +1.4**
C09A IAmb IAmb 23 53 27.3
comp=Z,376nm,1.0s
R17K Ugashik Creek 28.90 270 P **P** **23 53 09.2 +0.2**
baz=30
CLRS Cowichan Lake 28.92 226 P **P** **23 53 11.9 +2.6**
CLRS IAmb IAmb 23 54 07.6
comp=Z,496nm,1.2s
PGC Sidney 28.95 225 P **P** **23 53 10.6 +1.0**
PGC IAmb IAmb 23 53 27.1
comp=Z,318nm,1.1s
OZB Mount Ozzard 29.06 228 P **P** **23 53 12.4 +1.8**
MSO Missoula 29.12 211 IAmb IAmb 23 53 30.9
comp=Z,204nm,0.8s
MSO Missoula 29.12 211 P **P** **23 53 11.9 +0.6**
baz=12,SNR=49
G40A Rib Lake 29.12 177 P **P** **23 53 11.8 +0.7**
G40A IAmb IAmb 23 53 27.9
comp=Z,503nm,0.8s
G40A Rib Lake 29.12 177 P **P** **23 53 12.2 +1.0**
baz=359,SNR=20
D62A Allapoint, All 29.14 146 P **P** **23 53 11.8 +0.5**
D62A Allapoint, All 29.14 146 P **P** **23 53 11.8 +0.5**
baz=347,SNR=20
D62A P **P** **23 53 11.8 +0.5**
baz=347,SNR=20
SPMN Marine on St. 29.15 181 P **P** **23 53 12.9 +1.5**
baz=0.2,SNR=19
SPMN Marine on St. 29.15 181 P **P** **23 53 12.4 +1.0**
baz=0.3,SNR=19
DRLN Deer Lake 29.16 130 P **P** **23 53 13.1 +1.7**
DRLN IAmb IAmb 23 53 32.1
comp=Z,242nm,0.9s
DRLN Deer Lake 29.16 130 ⇓P **P** **23 53 12.2 +0.9**
SII Sitkinak Islan 29.24 267 P **P** **23 53 13.2 +1.2**
SII Sitkinak Islan 29.24 267 P **P** **23 53 13.3 +1.2**
baz=29,SNR=19
R16K Pilot Point 29.28 271 P **P** **23 53 11.5 -1.0**
baz=30
BILL Bilibino 29.38 311 P **P** **23 53 13.3 +0.1**
BILL IAmb IAmb 23 53 35.4
comp=Z,532nm,1.5s
BILL Bilibino 29.38 311 *d i* P **P** **23 53 13.7 +0.5**
BILL *e* 23 54 08.0
BILL *eS* **S** **23 58 10.5 +6.2**
BILL pmax pmax
comp=Z,175nm,1.1s
BILL MLR MLR
comp=Z,7µm,17.0s
G45A Suttons Bay 29.49 170 P **P** **23 53 16.2 +1.8**
G45A IAmb IAmb 23 54 07.7
comp=Z,312nm,0.8s
G45A Suttons Bay 29.49 170 P **P** **23 53 16.3 +1.8**
baz=356
G45A P **P** **23 53 16.3 +1.8**
baz=356
E62A Clayton Lake 29.52 147 P **P** **23 53 15.3 +0.6**
baz=348,SNR=13
E62A P **P** **23 53 15.3 +0.6**
baz=348,SNR=13
B04A Port Angeles 29.53 225 P **P** **23 53 16.8 +2.1**
B04A IAmb IAmb 23 54 13.2
comp=Z,478nm,1.1s
GCMT Greycliff 29.59 205 P **P** **23 53 16.6 +1.1**
D08A Wollman Farm, 29.67 218 P **P** **23 53 16.8 +0.9**
D08A IAmb IAmb 23 53 33.8
comp=Z,284nm,0.9s
PQI Presque Isle 29.70 145 IAMs_20 IAMs_20 00 05 05.9
comp=Z,41µm,18.0s
GLMI Grayling 29.76 169 P **P** **23 53 17.7 +0.9**
GLMI IAmb IAmb 23 54 21.3
comp=Z,299nm,0.9s
GLMI IAMs_20 IAMs_20 00 05 12.9
comp=Z,32µm,18.0s
GLMI Grayling 29.76 169 P **P** **23 53 18.3 +1.6**
baz=356
GLMI Grayling 29.76 169 P **P** **23 53 16.8 0.0**
baz=356
LTY Liberty 29.78 220 P **P** **23 53 18.6 +1.6**
C03A Quillayute Air 29.84 226 P **P** **23 53 19.9 +2.5**
C03A IAmb IAmb 23 54 20.8
comp=Z,554nm,1.1s
HAMF Hammerfest 29.88 37 *e*P **P** **23 53 17.7 +0.1**
HAMF IVmBBB 23 53 22.7
comp=Z,3µm,4.5s
HAMF *e*S **S** **23 58 13.9 +1.8**
HAMF *e*ScS **ScS** **00 03 55.4 +2.0**
HAMF IVMs_BB IVMs_BB 00 05 35.2
comp=Z,8µm,18.7s
E63A Oxbow 29.88 146 P **P** **23 53 18.4 +0.5**
baz=347,SNR=12
E63A P **P** **23 53 18.4 +0.5**
baz=347,SNR=12
OTT Ottawa 29.93 156 P **P** **23 53 19.0 +0.8**
TRO Tromso 29.95 41 *e*P **P** **23 53 18.9 +0.7**
TRO IVmBBB 23 53 34.2
comp=Z,5µm,4.1s
TRO *e*S **S** **23 58 16.2 +3.1**
TRO IVMs_BB IVMs_BB 00 05 48.2
comp=Z,11µm,14.4s
H43A Windswept, Lux 29.98 173 IAmb IAmb 23 53 36.8
comp=Z,396nm,1.2s
H43A Windswept, Lux 29.98 173 P **P** **23 53 21.5 +2.8**
baz=358
BOZ Bozeman (W) 30.02 207 IAmb IAmb 23 53 37.9
comp=Z,454nm,1.0s
BOZ Bozeman (W) 30.02 207 P **P** **23 53 20.2 +0.9**
baz=10,SNR=79
MNTQ Montreal, Queb 30.07 153 P **P** **23 53 20.9 +1.5**
SUSD Miller 30.08 189 P **P** **23 53 20.0 +0.4**
SUSD Miller 30.08 189 P **P** **23 53 20.9 +1.3**
baz=3.5
SUSD Miller 30.08 189 P **P** **23 53 19.3 -0.3**
baz=3.6
D05A Enumclaw 30.08 222 P **P** **23 53 21.1 +1.5**
F62A Pittston Farm, 30.17 148 P **P** **23 53 21.1 +0.7**
F62A Pittston Farm, 30.17 148 P **P** **23 53 21.1 +0.7**
baz=348,SNR=6.3
F62A P **P** **23 53 21.1 +0.7**
baz=348,SNR=6.3
SADO Sadowa 30.20 161 LR LR 00 05 37.6
comp=Z,39µm,18.4s,baz=9.0,slow=37
SADO Sadowa 30.20 161 P **P** **23 53 21.9 +1.2**
SADO Sadowa 30.20 161 ⇑P **P** **23 53 22.7 +2.0**
RLMT Red Lodge 30.21 204 P **P** **23 53 22.6 +1.5**
RLMT IAmb IAmb 23 54 20.0
comp=Z,148nm,0.7s
RLMT Red Lodge 30.21 204 P **P** **23 53 22.2 +1.2**
baz=9.1,SNR=28
LOF Lofoten 30.23 46 *e*P **P** **23 53 20.4 -0.3**
LOF IVmB_BB 23 53 42.9
comp=Z,6µm,3.7s
LOF *e*S **S** **23 58 19.2 +1.5**
LOF *e*ScS **ScS** **00 03 56.3 +1.2**
LOF IVMs_BB IVMs_BB 00 04 47.1
comp=Z,15µm,15.0s
NLWA Neilton Lookou 30.24 225 P **P** **23 53 22.6 +1.6**
NLWA IAmb IAmb 23 54 25.9
comp=Z,1µm,1.9s
E08A Dider Farm, El 30.24 218 IAmb IAmb 23 53 39.0
comp=Z,458nm,0.9s
CHIR Chirikof Islan 30.27 268 P **P** **23 53 22.5 +1.3**
CHIR Chirikof Islan 30.27 268 P **P** **23 53 22.1 +0.9**
baz=29,SNR=13
I37A Lemond, Waseca 30.36 181 P **P** **23 53 23.3 +1.2**
I37B Waseca 30.36 181 P **P** **23 53 23.6 +1.4**
baz=0.5,SNR=11
HAWA Hanford 30.42 219 P **P** **23 53 23.4 +0.9**
HAWA IAmb IAmb 23 53 40.7
comp=Z,255nm,0.9s
HAWA Hanford 30.42 219 ⇑P **P** **23 53 24.1 +1.5**
F64A Sherman 30.44 146 P **P** **23 53 22.9 +0.2**
baz=348,SNR=9.0
F64A P **P** **23 53 22.9 +0.2**
baz=348,SNR=9.0
F10A Beach Ranch, E 30.45 215 IAmb IAmb 23 54 18.1
comp=Z,275nm,1.1s
F10A Beach Ranch, E 30.45 215 ⇑P **P** **23 53 25.0 +2.0**
I45A Fountain 30.47 171 P **P** **23 53 24.4 +1.4**
I45A IAmb IAmb 23 54 25.8
comp=Z,223nm,0.8s
I45A Fountain 30.47 171 P **P** **23 53 25.4 +2.4**
baz=357
I45A P **P** **23 53 25.4 +2.4**
baz=357
LON Longmire 30.47 222 P **P** **23 53 24.4 +1.3**
LON Longmire 30.47 222 P **P** **23 53 24.4 +1.3**
LON pmax pmax
comp=Z,194nm,1.2s
WISH Wishkah 30.48 224 P **P** **23 53 24.8 +1.7**
WISH IAmb IAmb 23 54 33.2
comp=Z,292nm,1.0s
F63A Nahmakanta, Br 30.48 147 P **P** **23 53 25.1 +1.9**
F63A Nahmakanta, Br 30.48 147 P **P** **23 53 23.1 -0.1**
baz=348,SNR=5.8
F63A P **P** **23 53 23.1 -0.1**
baz=348,SNR=5.8
I40A Norwalk 30.49 177 P **P** **23 53 24.9 +1.6**
I40A IAmb IAmb 23 53 41.9
comp=Z,345nm,0.9s
I40A Norwalk 30.49 177 P **P** **23 53 24.5 +1.2**
baz=359
I42A Draeger Farm, 30.52 175 IAmb IAmb 23 53 40.6
comp=Z,323nm,0.8s
I42A Draeger Farm, 30.52 175 P **P** **23 53 25.5 +1.9**
baz=358
DELO Deloro Mine 30.59 159 P **P** **23 53 25.8 +1.6**
BMNY Brushton-Moira 30.61 155 P **P** **23 53 25.7 +1.5**
baz=351,SNR=7.6
CHGN Chignik 30.61 271 P **P** **23 53 24.3 +0.1**
YMP Mirror Lake Pl 30.69 205 P **P** **23 53 27.7 +2.3**
YMP IAmb IAmb 23 54 35.5
comp=Z,287nm,0.9s
ECSD EROS Data Cent 30.70 186 P **P** **23 53 25.8 +0.7**
ECSD EROS Data Cent 30.70 186 IAMs_20 IAMs_20 00 05 40.9
comp=Z,25µm,18.0s
ECSD EROS Data Cent 30.70 186 P **P** **23 53 26.2 +1.0**
baz=2.2,SNR=132
ECSD EROS Data Cent 30.70 186 P **P** **23 53 25.8 +0.7**
baz=2.3,SNR=132
RSSD Black Hills 30.71 196 P **P** **23 53 26.9 +1.5**
RSSD Black Hills 30.71 196 P **P** **23 53 27.3 +1.9**
baz=6.1,SNR=127
RSSD Black Hills 30.71 196 P **P** **23 53 26.2 +0.7**
baz=6.2
RSSD Black Hills 30.71 196 ⇑P **P** **23 53 26.4 +1.0**
RSSD Black Hills 30.71 196 P **P** **23 53 26.9 +1.5**
RSSD pmax pmax
comp=Z,807nm,0.7s
RSSD MLR MLR
comp=Z,65µm,22.0s
RSSD Black Hills 30.71 196 P **P** **23 53 27.6 +2.1**
RSSD pP **sP** **23 53 39.2 +0.7**
FRNY Flat Rock 30.73 153 P **P** **23 53 27.3 +2.0**
FRNY Flat Rock 30.73 153 P **P** **23 53 26.8 +1.5**
baz=350,SNR=10.0
STEI Steigen 30.74 45 *e*P **P** **23 53 27.9 +2.8**
STEI IVmBBB 23 53 48.3
comp=Z,5µm,2.8s
STEI *e*S **S** **23 58 28.4 +2.9**
STEI IVMs_BB IVMs_BB 00 05 13.2
comp=Z,21µm,16.4s
I49A Point Hope 30.75 166 P **P** **23 53 27.8 +2.3**
I49A IAmb IAmb 23 53 42.4
comp=Z,312nm,0.8s
I49A Point Hope 30.75 166 P **P** **23 53 27.6 +2.1**
baz=355,SNR=5.6
I49A P **P** **23 53 27.6 +2.1**
baz=355,SNR=5.6
G62A West of Eustis 30.75 149 P **P** **23 53 27.3 +1.8**
baz=349
G62A P **P** **23 53 27.3 +1.8**
baz=349
QLMT Earthquake Lak 30.75 207 P **P** **23 53 28.0 +2.2**
YUF Upper Falls 30.76 206 P **P** **23 53 28.0 +2.1**
YUF IAmb IAmb 23 54 36.2
comp=Z,197nm,0.9s
YNM Yellowstone No 30.77 206 P **P** **23 53 28.4 +2.4**
YNM IAmb IAmb 23 54 27.5
comp=Z,549nm,1.7s
YNR Norris Junctio 30.77 206 P **P** **23 53 28.6 +2.5**
YNR IAmb IAmb 23 54 33.0
comp=Z,207nm,1.0s
LONY Lake Ozonia 30.82 155 IAMs_20 IAMs_20 00 05 35.7
comp=Z,29µm,18.0s
LONY Lake Ozonia 30.82 155 P **P** **23 53 27.0 +0.9**
baz=351
YMR Madison River 30.85 206 P **P** **23 53 29.6 +2.8**
YMR IAmb IAmb 23 54 35.6
comp=Z,453nm,1.1s
PKME Peaks-Kenny Pk 30.88 147 P **P** **23 53 28.6 +1.9**
baz=348
PKME Peaks-Kenny Pk 30.88 147 P **P** **23 53 27.5 +0.8**
baz=348
LKWY Lake 30.89 205 P **P** **23 53 28.0 +0.9**
LKWY IAmb IAmb 23 54 38.0
comp=Z,253nm,0.9s
LKWY Lake 30.89 205 P **P** **23 53 28.0 +0.9**
LKWY pmax pmax
comp=Z,253nm,1.0s
LKWY MLR MLR
comp=Z,116µm,18.0s
F07A Phinny Hill Vi 30.97 219 IAmb IAmb 23 53 45.8
comp=Z,501nm,1.0s
E03A Lebam 30.99 224 P **P** **23 53 30.2 +2.6**
E03A IAmb IAmb 23 53 48.0
comp=Z,413nm,1.0s
LMN Caledonia Moun 31.03 141 P **P** **23 53 28.7 +0.8**
H17A Grant Village 31.08 206 P **P** **23 53 30.7 +2.0**
H17A Grant Village 31.08 206 P **P** **23 53 32.0 +3.3**
baz=9.5,SNR=8.3
PLID Pearl Lake 31.12 213 P **P** **23 53 30.2 +1.1**
PLID IAmb IAmb 23 54 27.1
comp=Z,161nm,0.8s
ARCES ARCESS Array B 31.16 37 P **P** **23 53 27.7 -1.2**
comp=Z,16nm,0.6s,baz=339,slow=7.5,SNR=33
ARCES LR LR 00 06 51.1
comp=Z,15µm,18.3s,baz=321,slow=38
ARCES P3KPbc 00 25 09.2
comp=Z,5.4nm,1.0s,baz=157,slow=4.9,SNR=6.7
comp=Z,16nm,0.6s
RADR Rader Ridge 31.16 224 P **P** **23 53 31.0 +1.9**
RADR IAmb IAmb 23 53 59.1
comp=Z,389nm,1.2s
KEV Kevo 31.20 36 P **P** **23 53 29.4 +0.1**
KEV IAmb IAmb 23 54 27.2
comp=Z,136nm,0.7s
KEV Kevo 31.20 36 ⇑P **P** **23 53 27.9 -1.3**
KEV Kevo 31.20 36 P **P** **23 53 29.4 +0.1**
KEV pmax pmax
comp=Z,136nm,0.7s
KEV MLR MLR
comp=Z,15µm,21.0s
KEV Kevo 31.20 36 P **P** **23 53 28.6 -0.6**
G65A Princeton 31.21 145 P **P** **23 53 29.5 0.0**
baz=347,SNR=9.8
G65A P **P** **23 53 29.5 0.0**
baz=347,SNR=9.8
FAUS Fauske 31.22 45 *e*P **P** **23 53 28.9 -0.5**
FAUS IVmB_BB 23 54 12.0
comp=Z,6µm,3.2s
FAUS *e*S **S** **23 58 36.6 +3.5**
FAUS *e*ScS **ScS** **00 04 02.6 +2.7**
FAUS IVMs_BB IVMs_BB 00 05 16.0
comp=Z,16µm,23.3s
PECO Prince Edward 31.23 158 P **P** **23 53 31.1 +1.4**
KTK1 Kautokeino 31.24 39 *e*P **P** **23 53 30.2 +0.6**
KTK1 IVmBBB 23 53 44.5
comp=Z,4µm,2.3s
KTK1 *e*S **S** **23 58 36.6 +3.2**
KTK1 IVMs_BB IVMs_BB 00 06 46.6
comp=Z,5µm,13.6s
VADS Vadso 31.24 34 *e*P **P** **23 53 29.6 -0.1**
VADS IVmBBB 23 53 45.2
comp=Z,3µm,3.3s
VADS *e*S **S** **23 58 36.5 +3.0**
VADS IVMs_BB IVMs_BB 00 07 13.4
comp=Z,11µm,13.7s
H62A Milan 31.30 150 P **P** **23 53 30.8 +0.4**
baz=349,SNR=10
H62A P **P** **23 53 30.8 +0.4**
baz=349,SNR=10
VT1 Waterbury 31.32 152 P **P** **23 53 32.9 +2.3**
VT1 Waterbury 31.32 152 P **P** **23 53 32.9 +2.3**
baz=350
WCNY West Carthage 31.33 156 P **P** **23 53 32.1 +1.5**
baz=351,SNR=5.7
J47A Sunmer 31.33 169 P **P** **23 53 32.9 +2.3**
J47A IAmb IAmb 23 53 48.1
comp=Z,356nm,0.8s
J47A Sunmer 31.33 169 P **P** **23 53 31.8 +1.2**
baz=356,SNR=11
J47A P **P** **23 53 31.8 +1.2**
baz=356,SNR=11
G08A Pilot Rock 31.39 217 IAmb IAmb 23 53 49.4
comp=Z,334nm,1.1s
GGN Saint George 31.40 144 IAmb IAmb 23 53 54.7
comp=Z,555nm,2.0s
JFWS Jewell Farm 31.48 177 P **P** **23 53 33.7 +1.8**
JFWS IAmb IAmb 23 53 49.2
comp=Z,348nm,0.9s
JFWS Jewell Farm 31.48 177 P **P** **23 53 33.4 +1.4**
baz=359,SNR=11
JFWS Jewell Farm 31.48 177 P **P** **23 53 33.8 +1.9**
baz=359,SNR=11
JFWS Jewell Farm 31.48 177 P **P** **23 53 33.7 +1.8**
JFWS pmax pmax
comp=Z,348nm,0.9s
JFWS MLR MLR
comp=Z,17µm,18.0s
NCB Newcomb 31.50 154 P **P** **23 53 32.8 +0.6**
baz=351,SNR=7.6
WVL Waterville 31.52 148 IAMs_20 IAMs_20 00 06 08.9
comp=Z,35µm,18.0s
BMO Blue Mountains 31.55 215 P **P** **23 53 33.5 +0.8**
BMO IAmb IAmb 23 53 52.5
comp=Z,525nm,1.1s
BMO Blue Mountains 31.55 215 P **P** **23 53 33.5 +0.8**
BMO pmax pmax
comp=Z,525nm,1.1s
BMO MLR MLR
comp=Z,43µm,18.0s
KONS Konsvik 31.56 48 *e*P **P** **23 53 32.5 +0.1**
IMW Indian Meadow 31.61 206 IAmb IAmb 23 54 40.3
comp=Z,221nm,1.1s
MCVT Middlebury Col 31.67 153 P **P** **23 53 34.6 +1.0**
baz=350
EMMW East Machias 31.71 145 IAMs_20 IAMs_20 00 06 42.9
comp=Z,21µm,19.0s
EMMW East Machias 31.71 145 P **P** **23 53 34.8 +0.9**
baz=348
K43A Burlington 31.73 174 P **P** **23 53 36.4 +2.3**
K43A IAmb IAmb 23 54 37.9
comp=Z,253nm,1.1s
K43A Burlington 31.73 174 P **P** **23 53 36.6 +2.5**
baz=358
K38A Parkersburg 31.73 180 P **P** **23 53 36.0 +1.9**
baz=0.2,SNR=12
J54A Appleton 31.73 161 IAmb IAmb 23 53 51.2
comp=Z,222nm,0.8s
J54A Appleton 31.73 161 P **P** **23 53 35.6 +1.4**
baz=353
J54A P **P** **23 53 35.6 +1.4**
baz=353
J55A Hilton 31.82 160 P **P** **23 53 35.4 +0.5**
J55A Hilton 31.82 160 P **P** **23 53 36.3 +1.4**
baz=353
J55A P **P** **23 53 36.3 +1.4**
baz=353
HOOD Mount Hood Mea 31.82 221 P **P** **23 53 37.0 +1.9**
HOOD IAmb IAmb 23 53 54.0
comp=Z,473nm,1.1s
MEDO Medina 31.86 160 P **P** **23 53 36.0 +0.8**
MEDO IAmb IAmb 23 53 52.1
comp=Z,228nm,0.8s
J57A Williamstown 31.86 157 P **P** **23 53 36.7 +1.5**

J57A Williamstown 31.86 157 P **P** **23 53 36.4 +1.2**
baz=352
J57A P **P** **23 53 36.4 +1.2**
baz=352
FXWY Fox Creek 31.88 206 P **P** **23 53 36.7 +0.9**
FXWY IAmb IAmb 23 54 38.8
comp=Z,199nm,1.0s
K31A O'Neill 31.88 189 P **P** **23 53 36.2 +0.6**
K31A O'Neill 31.88 189 P **P** **23 53 37.2 +1.6**
baz=3.2
I63A Otisfield 31.89 149 P **P** **23 53 36.1 +0.6**
baz=349
I63A P **P** **23 53 36.1 +0.6**
baz=349
J56A Wolcott 31.90 158 P **P** **23 53 36.8 +1.2**
J56A Wolcott 31.90 158 P **P** **23 53 37.3 +1.7**
baz=352
J56A P **P** **23 53 37.3 +1.7**
baz=352
K50A Casco 31.92 166 P **P** **23 53 37.0 +1.2**
baz=355,SNR=13
K50A P **P** **23 53 37.0 +1.2**
baz=355,SNR=13
I62A Tamworth 31.96 151 P **P** **23 53 38.4 +2.2**
I62A Tamworth 31.96 151 P **P** **23 53 37.9 +1.7**
baz=350,SNR=6.3
I62A P **P** **23 53 37.9 +1.7**
baz=350,SNR=6.3
J59A Piesco 31.97 155 P **P** **23 53 37.5 +1.2**
baz=351,SNR=8.1
J59A P **P** **23 53 37.5 +1.2**
baz=351,SNR=8.1
J58A Remsen 31.98 156 P **P** **23 53 36.3 -0.1**
J58A Remsen 31.98 156 P **P** **23 53 39.3 +2.9**
baz=351,SNR=6.1
J58A P **P** **23 53 39.3 +2.9**
baz=351,SNR=6.1
HNH Hanover 32.00 152 P **P** **23 53 38.2 +1.7**
HNH IAMs_20 IAMs_20 00 06 12.9
comp=Z,22µm,18.0s
HNH Hanover 32.00 152 P **P** **23 53 38.1 +1.6**
baz=350,SNR=8.6
SDPT Sand Point 32.01 272 IAmb IAmb 23 53 52.5
comp=Z,238nm,0.8s
SDPT Sand Point 32.01 272 P **P** **23 53 36.6 +0.1**
baz=28,SNR=22
SNOW Snow King Moun 32.02 206 P **P** **23 53 38.6 +1.6**
SNOW IAmb IAmb 23 54 44.4
comp=Z,255nm,1.3s
TIXI Tiksi 32.04 337 LR LR 00 07 29.9
comp=Z,22µm,19.6s,baz=91,slow=38
TIXI Tiksi 32.04 337 P **P** **23 53 36.6 0.0**
TIXI IAmb IAmb 23 53 54.2
comp=Z,181nm,1.1s
TIXI IAMs_20 IAMs_20 00 06 59.5
comp=Z,22µm,20.0s
TIXI Tiksi 32.04 337 ⇑P **P** **23 53 36.8 +0.2**
TIXI Tiksi 32.04 337*c i*P **P** **23 53 36.8 +0.2**
TIXI pmax pmax
comp=Z,61nm,1.1s
TIXI MLR MLR
comp=Z,22µm,19.0s
TIXI Tiksi 32.04 337 P **P** **23 53 37.5 +0.9**
TIXI pP **sP** **23 53 48.8 -0.8**
MOR8 Moi Rana 32.11 47 *e*P **P** **23 53 36.6 -0.7**
MOR8 *e*S **S** **23 58 48.4 +1.3**
MOR8 *e*ScS **ScS** **00 04 06.5 +2.0**
MOR8 IVMs_BB IVMs_BB 00 05 19.3
comp=Z,12µm,23.4s
S12K Black Hills 32.13 274 P **P** **23 53 38.9 +1.3**
baz=29,SNR=14
ACCN Adirondack Com 32.15 154 P **P** **23 53 39.8 +2.0**
ACCN Adirondack Com 32.15 154 P **P** **23 53 39.4 +1.6**
baz=351
L44A Lake County Fo 32.26 174 P **P** **23 53 40.6 +1.7**
L44A Lake County Fo 32.26 174 P **P** **23 53 41.3 +2.5**
baz=358,SNR=8.0
L44A Lake County Fo 32.26 174 P **P** **23 53 40.6 +1.7**
baz=358,SNR=8.0
HEBO Mount Hebo 32.31 223 P **P** **23 53 39.7 +0.3**
HEBO IAmb IAmb 23 54 04.5
comp=Z,245nm,1.1s
FFD Franklin Falls 32.31 151 P **P** **23 53 40.0 +0.8**
FFD IAMs_20 IAMs_20 00 06 48.2
comp=Z,20µm,19.0s
L40A Anamosa 32.31 178 P **P** **23 53 41.3 +2.0**
baz=359,SNR=14
J61A Chester 32.32 152 P **P** **23 53 40.9 +1.5**
J61A Chester 32.32 152 P **P** **23 53 40.9 +1.5**
baz=350
J61A P **P** **23 53 40.9 +1.5**
baz=350
AAM Ann Arbor 32.33 168 IAMs_20 IAMs_20 00 06 42.8
comp=Z,33µm,18.0s
AAM Ann Arbor 32.33 168 P **P** **23 53 41.0 +1.6**
baz=356,SNR=11
AAM Ann Arbor 32.33 168 P **P** **23 53 41.1 +1.7**
baz=356,SNR=11
MMNY Mt. Morris Dam 32.34 160 P **P** **23 53 40.7 +1.2**
K22A Casper 32.38 200 P **P** **23 53 41.4 +1.3**
baz=7.0,SNR=72
K22A Casper 32.38 200 P **P** **23 53 41.0 +0.9**
baz=7.2,SNR=72
L42A Oliver, Polo 32.39 176 IAmb IAmb 23 53 57.0
comp=Z,240nm,0.8s
L42A Oliver, Polo 32.39 176 P **P** **23 53 41.2 +1.2**
baz=359,SNR=7.2
L34A Svendsen Farm, 32.46 185 P **P** **23 53 42.6 +2.0**
baz=2.0
SCIA State Center 32.47 181 P **P** **23 53 42.8 +2.1**
baz=0.4
SCIA State Center 32.47 181 P **P** **23 53 41.3 +0.6**
baz=0.5,SNR=8.8
K57A Scipio Center 32.47 158 IAmb IAmb 23 54 50.7
comp=Z,120nm,0.8s
K57A Scipio Center 32.47 158 P **P** **23 53 42.3 +1.6**
baz=352
L46A Eue Claire 32.48 171 IAmb IAmb 23 53 58.2
comp=Z,262nm,0.8s
L46A Eue Claire 32.48 171 P **P** **23 53 43.9 +3.1**
baz=357,SNR=6.0
L46A P **P** **23 53 43.9 +3.1**
baz=357,SNR=6.0
BW06 Boulder Array 32.57 204 IAmb IAmb 23 54 03.5
comp=Z,163nm,1.0s
BW06 Boulder Array 32.57 204 P **P** **23 53 41.9 +0.1**
baz=8.6
PD31 Pinedale Array 32.57 204 ⇓P **P** **23 53 42.8 +1.0**
PDAR Pinedale Array 32.57 204 P **P** **23 53 42.8 +1.0**
comp=Z,8.8nm,0.4s,baz=22,slow=7.2,SNR=62
PDAR LR LR 00 07 24.4
comp=Z,37µm,18.7s,baz=12,slow=37
PDAR P3KPbc 00 25 04.1
comp=Z,0.4nm,0.6s,baz=187,slow=5.1,SNR=4.8
comp=Z,8.8nm,0.4s
WVNY West Valley, N 32.59 161 IAmb IAmb 23 53 58.7
comp=Z,160nm,0.8s
WVNY West Valley, N 32.59 161 P **P** **23 53 42.6 +0.8**
baz=353,SNR=6.6
L48A N Adams 32.64 169 P **P** **23 53 44.0 +1.9**
L48A N Adams 32.64 169 P **P** **23 53 43.8 +1.7**
baz=356
L48A P **P** **23 53 43.8 +1.7**
baz=356
HQIL Hanson Quary C 32.64 174 IAMs_20 IAMs_20 00 07 09.3
comp=Z,25µm,18.0s
I07A Izee 32.66 217 P **P** **23 53 44.2 +1.8**
MFID Camas Ranch 32.73 212 IAmb IAmb 23 54 04.1
comp=Z,300nm,1.1s
HCNY Howe Caverns 32.74 155 P **P** **23 53 44.1 +1.1**
baz=351,SNR=8.6
AHID Auburn Hatcher 32.75 206 IAmb IAmb 23 54 01.7
comp=Z,294nm,1.1s
ERPA Erie 32.76 163 P **P** **23 53 45.5 +2.3**
ERPA IAmb IAmb 23 54 56.1
comp=Z,116nm,0.8s
ERPA Erie 32.76 163 P **P** **23 53 46.1 +2.9**
baz=354
ERPA Erie 32.76 163 P **P** **23 53 43.5 +0.3**
baz=354
UNH University of 32.79 150 P **P** **23 53 44.3 +0.9**
baz=350
COR Corvallis 32.83 223 P **P** **23 53 47.0 +3.2**
COR Corvallis 32.83 223 P **P** **23 53 47.0 +3.2**
COR pmax pmax
comp=Z,699nm,1.0s
COR MLR MLR
comp=Z,39µm,19.0s
COR Corvallis 32.83 223 P **P** 23 53 49.4 +5.6
COR pP sP 23 54 00.1 +3.2
L56A Greenwood 32.96 159 P **P** **23 53 46.1 +1.1**
baz=353,SNR=7.9
L56A P **P** **23 53 46.1 +1.1**
baz=353,SNR=7.9
K62A Royalston 33.03 152 P **P** **23 53 47.8 +2.2**
K62A Royalston 33.03 152 P **P** **23 53 47.7 +2.2**
baz=350
K62A P **P** **23 53 47.7 +2.2**
baz=350
NSS Namsos 33.04 50 *e*P **P** **23 53 45.3 -0.1**
NSS IVmB_BB 23 54 14.7
comp=Z,6µm,4.7s
NSS *e*S **S** **23 59 04.6 +3.0**
NSS IVMsBB 00 06 38.1
comp=Z,9µm,16.3s
SPIA Saint Paul Isl 33.05 283 P **P** **23 53 45.7 +0.2**
baz=29
M44A Midewin, Midew 33.05 174 IAmb IAmb 23 54 03.0
comp=Z,371nm,0.8s
M44A Midewin, Midew 33.05 174 P **P** **23 53 46.7 +1.0**
baz=358
BINY Binghamton 33.05 157 P **P** **23 53 47.1 +1.3**
BINY Binghamton 33.05 157 P **P** **23 53 47.2 +1.3**
baz=352,SNR=6.5
BINY Binghamton 33.05 157 P **P** **23 53 47.0 +1.3**
baz=352,SNR=6.5
BGNE Belgrade 33.07 188 P **P** **23 53 48.2 +2.2**
BGNE Belgrade 33.07 188 P **P** **23 53 47.3 +1.3**
baz=2.8,SNR=9.0
BGNE Belgrade 33.07 188 P **P** **23 53 46.7 +0.7**
baz=2.9,SNR=9.0
BUCK Buck Mountain 33.15 222 P **P** **23 53 50.1 +3.4**
L59A Walton 33.16 156 P **P** **23 53 47.7 +0.9**
baz=352
L59A P **P** **23 53 47.7 +0.9**
baz=352
PINE Pine Mountain 33.18 219 P **P** **23 53 48.9 +1.8**
L61B Northampton 33.19 153 P **P** **23 53 49.7 +2.8**
L61B IAMs_20 IAMs_20 00 06 58.3
comp=Z,20µm,18.0s
L61B Northampton 33.19 153 P **P** **23 53 47.8 +0.9**
baz=350,SNR=7.5
L61B Northampton 33.19 153 P **P** **23 53 47.1 +0.2**
baz=350,SNR=7.5
ALLY Alegheny Colle 33.22 163 IAmb IAmb 23 54 05.1
comp=Z,490nm,1.1s
ALLY Alegheny Colle 33.22 163 P **P** **23 53 48.4 +1.2**
baz=354,SNR=9.7
M52A Chesterland 33.23 165 P **P** **23 53 48.7 +1.4**
baz=355,SNR=8.6
M52A P **P** **23 53 48.7 +1.4**
baz=355,SNR=8.6
M50A Fremont 33.26 167 P **P** **23 53 49.1 +1.6**
baz=355
M50A P **P** **23 53 49.1 +1.6**
baz=355
HRV Adam Dziewonsk 33.27 151 P **P** **23 53 49.2 +1.5**
HRV Adam Dziewonsk 33.27 151 P **P** **23 53 48.7 +1.1**
baz=350,SNR=8.0
HRV Adam Dziewonsk 33.27 151 P **P** **23 53 47.8 +0.1**
baz=350
HRV Adam Dziewonsk 33.27 151 ⇑P **P** **23 53 49.2 +1.5**
HRV Adam Dziewonsk 33.27 151 P **P** **23 53 49.2 +1.5**
HRV pmax pmax
comp=Z,105nm,0.9s
HRV MLR MLR
comp=Z,14µm,18.0s
HRV Adam Dziewonsk 33.27 151 P **P** **23 53 49.0 +1.3**
HRV pP **sP** **23 54 01.1 +0.4**
M53A WI Miller and 33.38 164 IAMs_20 IAMs_20 00 07 06.8
comp=Z,31µm,22.0s
M53A WI Miller and 33.38 164 P **P** **23 53 49.0 +0.4**
baz=354,SNR=26
PAOC Oil Creek Stat 33.39 162 P **P** **23 53 49.9 +1.2**
baz=354
RWWY Rawlins 33.40 200 IAmb IAmb 23 54 55.7
comp=Z,259nm,1.0s
QUA2 Belchertown 33.40 152 P **P** **23 53 51.0 +2.3**
QUA2 Belchertown 33.40 152 P **P** **23 53 48.8 +0.1**
baz=350,SNR=6.3
WES Weston 33.42 151 P **P** **23 53 50.3 +1.3**
WES IAMs_20 IAMs_20 00 07 06.6
comp=Z,21µm,18.0s
WES Weston 33.42 151 P **P** **23 53 50.3 +1.3**
WES pmax pmax
comp=Z,103nm,1.1s
WES MLR MLR
comp=Z,21µm,18.0s
BCX Boston College 33.49 151 P **P** **23 53 51.2 +1.6**
BCX IAMs_20 IAMs_20 00 07 09.4
comp=Z,23µm,19.0s
N35A Tabor 33.55 184 P **P** **23 53 51.0 +1.0**
baz=1.6,SNR=57
N38A Joes South For 33.58 181 P **P** **23 53 51.5 +1.1**
baz=0.4,SNR=53
PHWY Pilot Hill 33.62 198 P **P** **23 53 52.1 +1.1**
PHWY IAmb IAmb 23 54 09.2
comp=Z,241nm,1.2s
PHWY IAMs_20 IAMs_20 00 07 54.1
comp=Z,27µm,18.0s
N47A Urbana 33.64 171 P **P** **23 53 52.4 +1.5**
N47A IAmb IAmb 23 54 09.0
comp=Z,788nm,2.0s
N47A Urbana 33.64 171 P **P** **23 53 52.9 +2.1**
baz=357,SNR=10
N47A P **P** **23 53 52.9 +2.1**
baz=357,SNR=10
N49A Columbus Grove 33.67 169 IAmb IAmb 23 54 09.9
comp=Z,389nm,1.1s
N49A Columbus Grove 33.67 169 P **P** **23 53 52.0 +0.8**
baz=356,SNR=16
N49A P **P** **23 53 52.0 +0.8**
baz=356,SNR=16
N41A Harden Midland 33.67 178 P **P** **23 53 52.0 +0.8**
N41A IAmb IAmb 23 54 08.5
comp=Z,403nm,1.0s
N41A Harden Midland 33.67 178 P **P** **23 53 52.9 +1.7**
baz=359
NPNY Mohonk Preserv 33.70 155 P **P** **23 53 52.7 +1.3**
baz=351
KSPA Keystone Colle 33.71 157 P **P** **23 53 52.5 +1.0**
KSPA Keystone Colle 33.71 157 P **P** **23 53 53.3 +1.8**
baz=352
N33A J Bar K, Exete 33.72 187 P **P** **23 53 53.0 +1.4**
N33B J Bar K, Exete 33.72 187 P **P** **23 53 53.4 +1.8**
baz=2.4,SNR=6.4
OGNE Ogallala 33.73 193 IAmb IAmb 23 54 11.1
comp=Z,273nm,0.9s
OGNE Ogallala 33.73 193 P **P** **23 53 53.9 +2.1**
baz=4.7,SNR=9.0
OGNE Ogallala 33.73 193 P **P** **23 53 52.7 +1.0**
baz=4.8,SNR=9.0
OGNE S **S** **23 59 13.0 +0.2**
baz=4.8
N51A Ashland 33.78 166 IAmb IAmb 23 54 10.6
comp=Z,388nm,1.2s
N51A Ashland 33.78 166 P **P** **23 53 53.1 +1.0**
baz=355,SNR=9.9
N51A P **P** **23 53 53.1 +1.0**
baz=355,SNR=9.9
M57A Sunshine Farm, 33.79 159 P **P** **23 53 53.5 +1.3**
M57A Sunshine Farm, 33.79 159 P **P** **23 53 53.8 +1.6**
baz=353,SNR=5.4
M57A P **P** **23 53 53.8 +1.6**
baz=353,SNR=5.4
KSCT Kent School, K 33.80 154 P **P** **23 53 53.7 +1.5**
TBLU Trondheim 33.81 53 *e*S **S** **23 59 14.8 +1.4**
TBLU IVMs_BB IVMs_BB 00 05 56.9
comp=Z,7µm,16.1s
MOL Molde 33.81 55 *e*P **P** **23 53 52.6 +0.5**
MOL *e*S **S** **23 59 16.2 +2.8**
HDIL Hopedale 33.85 176 P **P** **23 53 54.0 +1.3**
baz=358,SNR=13
HDIL Hopedale 33.85 176 P **P** **23 53 53.7 +1.1**
baz=359,SNR=13
PSDB Penn State Uni 33.85 161 P **P** **23 53 53.7 +0.9**
baz=353
BRYW Bryant College 33.86 151 P **P** **23 53 55.0 +2.2**
UCCT U. Connecticut 33.89 152 P **P** **23 53 54.5 +1.4**
LRW Lerwick 33.90 64 *e*P **P** **23 53 53.6 +0.6**
LRW IAmb IAmb 23 53 58.3
comp=Z,110nm,0.9s
LRW IAMs_20 IAMs_20 00 06 36.8
comp=Z,18µm,17.9s
LRW Lerwick 33.90 64 ⇑P **P** **23 53 53.6 +0.6**
HVU Hansel Valley 33.92 208 P **P** **23 53 54.3 +0.8**
HVU IAmb IAmb 23 54 12.0
comp=Z,437nm,1.4s
HVU Hansel Valley 33.92 208 P **P** **23 53 54.3 +0.8**
HVU pmax pmax
comp=Z,437nm,1.4s
PAMR Moraine State 33.92 163 P **P** **23 53 54.6 +1.2**
baz=354
L64A Middleborough 33.93 151 P **P** **23 53 53.7 +0.4**
L64A Middleborough 33.93 151 P **P** **23 53 56.4 +3.0**
baz=350
L64A P **P** **23 53 56.4 +3.0**
baz=350
PSWB Penn State Wil 33.94 158 P **P** **23 53 54.5 +1.0**
baz=352
HWUT Hardware Ranch 33.94 206 P **P** **23 53 54.8 +1.0**
HWUT IAmb IAmb 23 54 11.2
comp=Z,172nm,0.8s
N53A Lisbon 34.00 164 IAmb IAmb 23 54 11.3
comp=Z,263nm,0.8s
N53A Lisbon 34.00 164 P **P** **23 53 55.5 +1.5**
baz=354,SNR=17
N53A P **P** **23 53 55.5 +1.5**
baz=354,SNR=17
BRNY Black Rk. Fore 34.05 155 P **P** **23 53 56.9 +2.5**
baz=351,SNR=6.1
LVZ Lovozero 34.07 33 P **P** **23 53 54.1 -0.3**
LVZ IAmb IAmb 23 54 09.8
comp=Z,202nm,0.9s
LVZ IAMs_20 IAMs_20 00 07 52.1
comp=Z,33µm,20.0s
LVZ Lovozero 34.07 33*d i*P **P** **23 53 54.4 0.0**
LVZ pmax pmax
comp=Z,93nm,0.8s
LVZ MLR MLR
comp=Z,31µm,18.0s
LVZ Lovozero 34.07 33 P **P** **23 53 53.8 -0.6**
N23A Red Feather La 34.07 198 P **P** **23 53 55.7 +0.8**
N23A Red Feather La 34.07 198 P **P** **23 53 55.9 +1.0**
baz=6.6,SNR=32
N23A S **S** **23 59 18.0 -0.4**
baz=6.6
SFIN Lafayette 34.09 173 IAmb IAmb 23 54 12.5
comp=Z,275nm,0.8s
SFIN Lafayette 34.09 173 P **P** **23 53 55.7 +1.0**
baz=358,SNR=14
SFIN Lafayette 34.09 173 P **P** **23 53 55.7 +1.0**
baz=358,SNR=14
SFIN S **S** **23 59 16.4 -1.7**
baz=358
FOO Floro 34.10 58 *e*P **P** **23 53 55.1 +0.5**
FOO IVmBBB 23 54 07.3
comp=Z,2µm,3.2s
FOO *e*S **S** **23 59 21.2 +3.3**
WVOR Wild Horse Val 34.12 216 IAmb IAmb 23 54 14.3
comp=Z,144nm,0.8s
WVOR Wild Horse Val 34.12 216 ⇓P **P** **23 53 57.9 +2.6**
WVOR Wild Horse Val 34.12 216 ⇓P **P** **23 53 57.8 +2.6**
APA Apatity 34.19 34 ⇓*i*P **P** **23 53 54.6 -0.7**
APA *i* 23 55 11.0
APA *i*S **S** **23 59 13.0 -6.1**
APA MLR MLR
comp=Z,26µm,15.0s
K05A Summer Lake 34.21 219 P **P** **23 53 59.0 +2.9**
DBO Dodson Butte 34.24 222 P **P** **23 53 57.3 +1.2**
DBO IAmb IAmb 23 54 15.5
comp=Z,248nm,1.2s
O44A Mansfield 34.27 175 P **P** **23 53 58.6 +2.3**
O44A IAmb IAmb 23 54 13.7
comp=Z,238nm,0.8s
O44A Mansfield 34.27 175 P **P** **23 53 58.3 +2.0**
baz=358
YLE Yale 34.27 153 P **P** **23 53 57.0 +0.6**
YLE IAmb IAmb 23 54 01.1
comp=Z,198nm,1.0s
YLE IAMs_20 IAMs_20 00 07 32.0
comp=Z,19µm,20.0s
O48B Farmland 34.28 170 P **P** **23 53 57.4 +0.9**
baz=357,SNR=17
O48B Farmland 34.28 170 P **P** **23 53 57.0 +0.5**
baz=357,SNR=17
O48B S **S** **23 59 22.7 +1.5**
baz=357
TRNY Table Rock, Ra 34.29 155 P **P** **23 53 58.5 +2.0**
M63A Gales Ferry 34.30 152 P **P** **23 53 57.7 +1.2**
baz=350
M63A P **P** **23 53 57.7 +1.2**
baz=350
ODNJ Ogdensburg 34.31 156 P **P** **23 53 58.4 +1.7**
ODNJ Ogdensburg 34.31 156 P **P** **23 53 57.8 +1.2**
baz=352,SNR=8.5
M65A Busby, Falmout 34.32 150 P **P** **23 53 57.0 +0.3**
baz=350
N58A Sunbury 34.33 159 IAmb IAmb 23 54 14.3
comp=Z,115nm,0.8s
N58A Sunbury 34.33 159 P **P** **23 53 57.9 +1.1**
baz=353
N58A P **P** **23 53 57.9 +1.1**
baz=353
SPUT South Promonto 34.35 207 IAmb IAmb 23 54 15.7
comp=Z,541nm,1.5s
WSPT Westport, CT 34.37 154 IAMs_20 IAMs_20 00 07 52.6
comp=Z,21µm,19.0s
UPAO U. Pittsburgh 34.38 163 P **P** **23 53 58.5 +1.2**
baz=354
O49A Covington 34.40 169 P **P** **23 53 58.2 +0.7**
baz=356,SNR=35
O49A P **P** **23 53 58.2 +0.7**
baz=356,SNR=35
TCUT Toone Canyon 34.41 206 P **P** **23 53 59.5 +1.6**
TCUT IAmb IAmb 23 54 18.3
comp=Z,243nm,0.9s
SSPA Standing Stone 34.41 160 P **P** **23 53 59.6 +2.0**
SSPA Standing Stone 34.41 160 P **P** **23 53 58.5 +0.8**
baz=353,SNR=10.0
SSPA Standing Stone 34.41 160 P **P** **23 53 57.3 -0.3**
baz=353
SSPA Standing Stone 34.41 160 ⇑P **P** **23 53 58.4 +0.8**
SSPA Standing Stone 34.41 160 P **P** **23 53 58.1 +0.5**
ACSO Alum Creek Sta 34.43 167 IAmb IAmb 23 54 15.0
comp=Z,304nm,0.8s
ACSO IAMs_20 IAMs_20 00 08 23.4
comp=Z,19µm,18.0s
ACSO Alum Creek Sta 34.43 167 P **P** **23 53 58.7 +1.0**
baz=356,SNR=10
ACSO Alum Creek Sta 34.43 167 P **P** **23 53 57.8 +0.1**
baz=356,SNR=10
ACSO S **S** **23 59 24.7 +1.3**
baz=356
PAL Palisades 34.46 155 P **P** **23 53 58.8 +0.8**
PAL IAmb IAmb 23 54 16.7
comp=Z,364nm,1.6s
PAL IAMs_20 IAMs_20 00 07 56.2
comp=Z,24µm,19.0s
PAL Palisades 34.46 155 P **P** **23 53 59.3 +1.3**
baz=351
PAL Palisades 34.46 155 P **P** **23 53 58.8 +0.8**
baz=351,SNR=7.4
PAL Palisades 34.46 155 P **P** **23 53 58.8 +0.8**
PAL pmax pmax
comp=Z,365nm,1.6s
PAL MLR MLR
comp=Z,24µm,19.0s
SUE Sulen 34.51 58 *e*P **P** **23 53 58.2 +0.1**
SUE *e*S **S** **23 59 26.4 +2.2**
AKUT Akutan 34.53 276 ⇑P **P** **23 53 59.7 +1.3**
O53A New Philadelph 34.53 165 IAmb IAmb 23 54 15.8
comp=Z,257nm,0.8s
O53A New Philadelph 34.53 165 P **P** **23 53 59.6 +1.1**
baz=355,SNR=11
N62A Caumsett State 34.59 154 P **P** **23 54 00.1 +1.1**
N62A IAmb IAmb 23 54 16.8
comp=Z,155nm,0.8s
N62A Caumsett State 34.59 154 P **P** **23 54 00.5 +1.5**
baz=351
N62A P **P** **23 54 00.5 +1.5**
baz=351
DOMB Dombas 34.61 54 *e*P **P** **23 53 59.1 0.0**
DOMB IVmB_BB 23 54 33.1
comp=Z,3µm,4.9s
DOMB *e*S **S** **23 59 28.0 +2.1**
DOMB IVMs_BB IVMs_BB 00 07 25.9
comp=Z,6µm,23.4s
O52A Adamsville 34.62 166 IAmb IAmb 23 54 16.3
comp=Z,219nm,0.7s

O52A Adamsville 34.62 166 P P 23 54 00.1 +0.8
baz=355,SNR=17
O52A P P 23 54 00.1 +0.8
baz=355,SNR=17
O54A Avella 34.66 164 IAmb IAmb 23 54 16.9
comp=Z,221nm,0.8s
O54A Avella 34.66 164 P P 23 54 00.8 +1.1
baz=354,SNR=16
O54A P P 23 54 00.8 +1.1
baz=354,SNR=16
CPNY Central Park 34.67 155 P P 23 54 01.5 +1.7
KEBM Edson Butte 34.68 223 P P 23 54 02.7 +2.8
HUMO Hull Mountain 34.69 221 P P 23 54 02.7 +2.7
HUMO IAmb IAmb 23 54 18.8
comp=Z,313nm,1.6s
HUMO IAMs_20 IAMs_20 00 07 58.6
comp=Z,16µm,19.0s
HUMO Hull Mountain 34.69 221 ⇑P P 23 54 03.1 +3.2
LUPA Lehigh Univers 34.70 157 IAmb IAmb 23 54 17.7
comp=Z,213nm,0.8s
BRNJ Basking Ridge 34.71 156 P P 23 54 02.0 +1.9
BRNJ Basking Ridge 34.71 156 P P 23 54 01.5 +1.4
baz=352
PABK Blue Knob Stat 34.72 161 P P 23 54 00.7 +0.5
baz=354
HYA Hoyanger 34.74 57 *e*S S 23 59 29.8 +2.0
P38A Dawn 34.75 182 P P 23 54 01.0 +0.5
baz=0.5,SNR=65
P43A Skaggs, Pawnee 34.76 176 IAmb IAmb 23 54 18.2
comp=Z,300nm,1.0s
BGU Big Grassy Mou 34.80 208 IAmb IAmb 23 54 19.6
comp=Z,226nm,1.0s
P40A Paris 34.84 179 IAmb IAmb 23 54 18.1
comp=Z,321nm,0.9s
P40A Paris 34.84 179 P P 23 54 01.4 +0.1
baz=360,SNR=33
P46A Rosedale 34.84 173 P P 23 54 02.4 +1.1
baz=358,SNR=25
CTU Camp Tracy 34.87 206 IAmb IAmb 23 54 19.8
comp=Z,162nm,0.9s
JLU Jordanelle 34.92 206 P P 23 54 03.8 +1.5
PAGS Pennsylvania G 34.93 159 P P 23 54 03.4 +1.3
UNV Unalaska Valle 34.98 276 P P 23 54 02.4 +0.1
baz=27,SNR=5.1
PANJ Princeton 34.99 156 P P 23 54 02.6 0.0
baz=352,SNR=8.0
P49A Miami Univ. Ec 35.03 170 IAmb IAmb 23 54 21.1
comp=Z,345nm,1.1s
P49A Miami Univ. Ec 35.03 170 P P 23 54 03.2 +0.4
baz=356,SNR=28
P49A Miami Univ. Ec 35.03 170 P P 23 54 04.0 +1.1
baz=356,SNR=28
P49A S S 23 59 30.7 -1.9
baz=356
O20A White River Ci 35.03 201 P P 23 54 04.3 +1.1
O20A White River Ci 35.03 201 P P 23 54 03.8 +0.6
baz=7.5,SNR=37
P48A Milroy 35.07 171 IAmb IAmb 23 54 20.1
comp=Z,255nm,0.8s
P48A Milroy 35.07 171 P P 23 54 03.9 +0.6
baz=357,SNR=25
P48A P P 23 54 03.9 +0.6
baz=357,SNR=25
P52A Corning 35.08 166 IAmb IAmb 23 54 21.4
comp=Z,257nm,1.3s
P52A Corning 35.08 166 P P 23 54 04.3 +1.0
baz=355,SNR=6.8
P52A S S 23 59 32.4 -1.0
baz=355
ASK Askoy 35.12 59 *e*P P 23 54 03.9 +0.5
ASK *e*S S 23 59 35.4 +1.9
ASK IVMs_BB IVMs_BB 00 07 36.8
comp=Z,17µm,20.7s
ISCO Idaho Springs 35.13 198 P P 23 54 05.2 +1.1
ISCO IAmb IAmb 23 54 23.0
comp=Z,252nm,1.3s
ISCO IAMs_20 IAMs_20 00 08 35.9
comp=Z,30µm,18.0s
ISCO Idaho Springs 35.13 198 P P 23 54 05.9 +1.8
baz=6.1,SNR=40
ISCO Idaho Springs 35.13 198 P P 23 54 05.3 +1.2
baz=6.3,SNR=40
ISCO S S 23 59 33.8 -1.0
baz=6.3
ISCO Idaho Springs 35.13 198 P P 23 54 05.2 +1.1
ISCO pmax pmax
comp=Z,253nm,1.3s
ISCO MLR MLR
comp=Z,30µm,18.0s
TUPA Temple Univers 35.15 157 P P 23 54 04.7 +0.8
baz=352,SNR=17
P51A Williamsport 35.17 167 P P 23 54 04.7 +0.6
baz=356,SNR=34
P51A P P 23 54 04.7 +0.6
baz=356,SNR=34
MVL Millersville 35.19 158 IAmb IAmb 23 54 21.9
comp=Z,136nm,0.8s
MCWV Mont Chateau 35.22 163 IAmb IAmb 23 54 21.8
comp=Z,226nm,0.8s
MCWV Mont Chateau 35.22 163 P P 23 54 05.6 +1.0
baz=354,SNR=20
MCWV Mont Chateau 35.22 163 P P 23 54 05.6 +1.0
baz=354,SNR=20
MCWV S S 23 59 37.3 +1.7
baz=354
BER Bergen 35.24 59 *e*P P 23 54 04.9 +0.4
BER IVmBBB 23 54 09.9
comp=Z,2µm,3.9s
BER *e*S S 23 59 38.5 +3.1
BER IVMs_BB IVMs_BB 00 08 17.2
comp=Z,9µm,17.9s
KPL Plockton 35.24 70 *e*P P 23 54 05.2 +0.7
KPL IAMs_20 IAMs_20 00 07 56.8
comp=Z,23µm,18.8s
ELK Elko 35.27 211 LR LR 00 09 02.7
comp=Z,67µm,18.3s,baz=15,slow=37
P53A Whipple 35.27 165 IAmb IAmb 23 54 22.2
comp=Z,320nm,0.8s
P53A Whipple 35.27 165 P P 23 54 05.7 +0.7
baz=355,SNR=23
P53A P P 23 54 05.7 +0.7
baz=355,SNR=23
BLO Bloomington 35.31 172 P P 23 54 06.7 +1.4
BLO IAmb IAmb 23 54 22.3
comp=Z,163nm,0.7s
BLO Bloomington 35.31 172 P P 23 54 06.7 +1.4
BLO pmax pmax
comp=Z,163nm,0.7s
KSU1 Kansas State U 35.33 186 IAMs_20 IAMs_20 00 08 27.3
comp=Z,22µm,18.0s
KSU1 Kansas State U 35.33 186 P P 23 54 06.2 +0.8
baz=1.9,SNR=28
KSU1 Kansas State U 35.33 186 P P 23 54 07.1 +1.7
baz=2.0,SNR=28
KSU1 S S 23 59 37.1 -0.1
baz=2.0
KSU1 Kansas State U 35.33 186 ⇑P P 23 54 06.9 +1.5
WUPA West Chester U 35.34 157 P P 23 54 05.5 0.0
PSUB Penn St. - Bra 35.36 157 P P 23 54 08.5 +2.8
baz=352
GEDE Greenville 35.45 157 P P 23 54 08.0 +1.4
baz=352
DUG Dugway, Tooele 35.49 207 IAMs_20 IAMs_20 00 08 41.3
comp=Z,26µm,18.0s
DUG Dugway, Tooele 35.49 207 P P 23 54 08.6 +1.6
baz=9.5,SNR=59
YBH Yreka Blue Hor 35.49 221 LR LR 00 09 20.7
comp=Z,26µm,18.3s,baz=37,slow=38
YBH Yreka Blue Hor 35.49 221 IAMs_20 IAMs_20 00 08 52.0
comp=Z,30µm,18.0s
Q44A Meyer Farm, Va 35.50 175 P P 23 54 08.4 +1.4
baz=358,SNR=20
MPU Maple Canyon 35.52 206 IAmb IAmb 23 54 27.6
comp=Z,134nm,0.9s
P57A Homestead Farm 35.55 161 IAmb IAmb 23 54 26.0
comp=Z,134nm,0.9s
P57A Homestead Farm 35.55 161 P P 23 54 08.5 +1.2
baz=353,SNR=12
P57A P P 23 54 08.5 +1.2
baz=353,SNR=12
Q51A Peebles 35.61 168 IAmb IAmb 23 54 24.9
comp=Z,196nm,0.9s
Q51A Peebles 35.61 168 P P 23 54 09.5 +1.6
baz=356
Q51A P P 23 54 09.5 +1.6
baz=356
NLU North Lily Min 35.63 206 IAmb IAmb 23 54 27.2
comp=Z,377nm,1.1s
SKAR Skarslia 35.65 56 *e*P P 23 54 11.1 +2.9
SKAR IVmBBB 23 54 23.3
comp=Z,2µm,1.2s
SKAR *e*S S 23 59 44.8 +2.8
NC204 NORSAR Array S 35.67 54 IAmb IAmb 23 54 23.8
comp=Z,318nm,0.9s
P61A Hammonton 35.68 156 P P 23 54 10.2 +1.8
P61A IAmb IAmb 23 54 29.1
comp=Z,587nm,1.6s
P61A Hammonton 35.68 156 P P 23 54 09.7 +1.2
baz=352
P61A P P 23 54 09.7 +1.2
baz=352
KSCO Kaye Shedlock' 35.69 194 P P 23 54 10.4 +1.7
KSCO Kaye Shedlock' 35.69 194 P P 23 54 10.3 +1.5
baz=4.7
KSCO Kaye Shedlock' 35.69 194 P P 23 54 09.7 +0.9
baz=4.8
OLIL Olney 35.70 174 P P 23 54 09.2 +0.6
baz=358,SNR=37
CBKS Cedar Bluff 35.73 190 P P 23 54 09.4 +0.4
baz=3.4,SNR=27
CBKS Cedar Bluff 35.73 190 P P 23 54 09.4 +0.4
baz=3.5,SNR=27
CBKS S S 23 59 42.2 -1.3
baz=3.5
CBKS Cedar Bluff 35.73 190 ⇓P P 23 54 09.6 +0.6
SDMD Soldier's Deli 35.73 159 P P 23 54 09.8 +0.9
SDMD Soldier's Deli 35.73 159 P P 23 54 10.4 +1.4
baz=353
Q52A Bidwell 35.74 166 P P 23 54 09.2 +0.2
baz=355,SNR=40
Q52A P P 23 54 09.2 +0.2
baz=355,SNR=40
SLM Saint Louis 35.75 177 P P 23 54 10.2 +1.1
SLM IAmb IAmb 23 54 25.5
comp=Z,310nm,0.8s
SLM Saint Louis 35.75 177 P P 23 54 10.3 +1.2
baz=359
SLM Saint Louis 35.75 177 P P 23 54 10.2 +1.1
SLM pmax pmax
comp=Z,310nm,0.8s
Q54A Coxs Mills 35.81 164 IAmb IAmb 23 54 26.9
comp=Z,291nm,0.8s
Q54A Coxs Mills 35.81 164 P P 23 54 10.7 +1.1
baz=355,SNR=22
Q54A P P 23 54 10.7 +1.1
baz=355,SNR=22
NC303 NORSAR Array S 35.85 53 IAmb IAmb 23 54 25.4
comp=Z,226nm,1.1s
SMCO Snowmass 35.86 199 P P 23 54 12.0 +1.5
SMCO Snowmass 35.86 199 ⇑P P 23 54 12.8 +2.2
Q56A Snyder Ridge, 35.88 162 P P 23 54 11.3 +1.1
baz=354,SNR=50
Q56A P P 23 54 11.3 +1.1
baz=354,SNR=50
NBO00 NORSAR Array S 35.89 54 IAmb IAmb 23 54 24.5
comp=Z,232nm,0.9s
Q24A Divide 35.92 197 IAmb IAmb 23 54 29.4
comp=Z,377nm,1.2s
Q24A Divide 35.92 197 P P 23 54 12.3 +1.4
baz=5.9,SNR=24
Q24A S S 23 59 42.6 -4.3
baz=5.9
PLTX Planet X, Gerl 35.94 216 P P 23 54 13.4 +2.5
PLTX IAmb IAmb 23 54 30.6
comp=Z,963nm,0.9s
ODD1 Odda 35.95 58 *e*P P 23 54 11.6 +0.9
ODD1 *e*S S 23 59 44.0 -2.6
ODD1 IVMs_BB IVMs_BB 00 08 14.9
comp=Z,8µm,17.2s
NB2 NORSAR Subarra 35.98 54 P P 23 54 09.9 -1.0
comp=Z,313nm,1.1s,baz=328,slow=7.9
NB2 NORSAR Subarra 35.98 54 P P 23 54 09.9 -1.0
baz=328,slow=7.9
NOA NORSAR Array B 35.98 54 P P 23 54 09.8 -1.2
comp=Z,11nm,0.7s,baz=329,slow=7.8,SNR=122
NOA LR LR 00 09 01.0
comp=Z,13µm,18.5s,baz=335,slow=36
comp=Z,11nm,0.7s
NB201 NORSAR Array S 35.99 54 IAmb IAmb 23 54 26.5
comp=Z,278nm,1.1s
NC405 NORSAR Array S 36.02 53 IAmb IAmb 23 54 25.7
comp=Z,134nm,0.8s
R32A Long Quarter, 36.07 188 P P 23 54 12.2 +0.3
baz=2.9,SNR=54
R40A Maddies Statio 36.08 180 P P 23 54 11.7 -0.2
baz=360,SNR=73
R49A Shelbyville 36.24 170 IAmb IAmb 23 54 30.3
comp=Z,192nm,0.7s
R49A Shelbyville 36.24 170 P P 23 54 14.1 +0.7
baz=357,SNR=12
R49A P P 23 54 14.1 +0.7
baz=357,SNR=12
WCI Wyandotte Cave 36.26 172 P P 23 54 13.8 +0.3
WCI IAmb IAmb 23 54 31.5
comp=Z,228nm,0.7s
WCI Wyandotte Cave 36.26 172 P P 23 54 13.9 +0.4
baz=357,SNR=13
WCI Wyandotte Cave 36.26 172 P P 23 54 13.9 +0.4
baz=357
WCI S S 23 59 50.4 -1.1
baz=357
WCI Wyandotte Cave 36.26 172 ⇓P P 23 54 13.7 +0.3
WCI Wyandotte Cave 36.26 172 P P 23 54 13.8 +0.3
WCI pmax pmax
comp=Z,229nm,0.7s
WCI MLR MLR
comp=Z,34µm,18.0s
WCI Wyandotte Cave 36.26 172 P P 23 54 13.4 -0.1
WCI pP sP 23 54 24.1 -2.4
WCI sP pP 23 54 29.1 +6.3
SRU San Rafael Swe 36.29 204 IAmb IAmb 23 54 31.8
comp=Z,262nm,0.8s
R50A Paris 36.30 169 IAmb IAmb 23 54 30.8
comp=Z,219nm,0.8s
R50A Paris 36.30 169 P P 23 54 14.7 +0.9
baz=356,SNR=21
R50A P P 23 54 14.7 +0.9
baz=356,SNR=21
CCM Cathedral Cave 36.32 178 P P 23 54 13.6 -0.3
CCM Cathedral Cave 36.32 178 IAMs_20 IAMs_20 00 09 06.6
comp=Z,19µm,18.0s
CCM Cathedral Cave 36.32 178 P P 23 54 15.2 +1.2
baz=360,SNR=65
CCM Cathedral Cave 36.32 178 P P 23 54 14.1 +0.2
baz=360
CCM S S 23 59 50.5 -1.9
baz=360
CCM Cathedral Cave 36.32 178 ⇓P P 23 54 13.8 -0.1
CCM Cathedral Cave 36.32 178 P P 23 54 13.6 -0.3
CCM pmax pmax
comp=Z,453nm,0.8s
CCM MLR MLR
comp=Z,19µm,18.0s
CCM Cathedral Cave 36.32 178 P P 23 54 13.7 -0.3
CCM sP sP 23 54 28.8 +1.8
NC602 NORSAR Array S 36.33 54 P P 23 54 13.4 -0.4
NC602 IAmb IAmb 23 54 29.2
comp=Z,187nm,1.1s
NORES NORESS Array B 36.33 54 P P 23 54 13.6 -0.2
BLS5 Blasjo 36.35 58 *e*P P 23 54 15.5 +1.5
BLS5 *e*S S 23 59 54.5 +1.9
BLS5 IVMs_BB IVMs_BB 00 08 26.8
comp=Z,7µm,15.6s
R53A Hurricane 36.38 166 IAmb IAmb 23 54 33.0
comp=Z,435nm,1.2s
R53A Hurricane 36.38 166 P P 23 54 15.6 +1.1
baz=355,SNR=9.4
R53A P P 23 54 15.6 +1.1
baz=355,SNR=9.4
FVM French Village 36.40 177 IAmb IAmb 23 54 31.4
comp=Z,169nm,0.8s
FVM French Village 36.40 177 P P 23 54 15.5 +0.8
baz=359,SNR=15
NIKH Nikolski High 36.40 278 P P 23 54 14.3 -0.2
baz=26
DRUM Mains of Drumt 36.42 67 *e*P P 23 54 13.8 -0.9
DRUM IAMs_20 IAMs_20 00 08 58.0
comp=Z,23µm,17.0s
USIN University of 36.48 174 IAmb IAmb 23 54 32.1
comp=Z,249nm,0.8s
KHMM Horse Mountain 36.51 221 P P 23 54 17.9 +2.1
KHMM IAmb IAmb 23 54 36.1
comp=Z,542nm,1.4s
R55A Marlinton 36.56 164 IAmb IAmb 23 54 34.0
comp=Z,208nm,0.9s
R55A Marlinton 36.56 164 P P 23 54 17.3 +1.2
baz=354,SNR=17
R55A P P 23 54 17.3 +1.2
baz=354,SNR=17
NRIK Noril'sk 36.61 0 P P 23 54 16.3 +0.2
comp=Z,34nm,1.0s,baz=29,slow=6.6,SNR=16
NRIK S S 23 59 48.9 -7.4
comp=Z,7.8nm,0.8s,baz=358,slow=21,SNR=1.3
NRIK LR LR 00 09 55.6
comp=Z,27µm,19.3s,baz=6.0,slow=37
comp=Z,34nm,1.0s
NRIK Noril'sk 36.61 0 P P 23 54 16.4 +0.3
NRIK Noril'sk 36.61 0 *de*P P 23 54 17.0 +0.9
NRIK pmax pmax
comp=Z,276nm,2.2s
NRIK MLR MLR
comp=Z,24µm,18.0s
JCC Jacoby Creek, 36.61 222 P P 23 54 17.2 +0.7
JCC IAmb IAmb 23 54 35.9
comp=Z,296nm,1.0s
JCC IAMs_20 IAMs_20 00 09 30.7
comp=Z,28µm,19.0s
SEY Seymchan 36.63 316 P P 23 54 17.2 +0.8
comp=Z,49nm,0.8s,baz=28,slow=3.8,SNR=59
SEY LR LR 00 12 19.7
comp=Z,9µm,18.2s,baz=26,slow=41
comp=Z,49nm,0.8s
SEY Seymchan 36.63 316 ⇑*e*P P 23 54 17.4 +1.0
SEY pmax pmax
comp=Z,114nm,1.3s
SEY MLR MLR
comp=Z,9µm,18.0s
PV21 Cone Mtn., Par 36.67 202 P P 23 54 18.5 +1.2
PV21 IAmb IAmb 23 54 37.4
comp=Z,231nm,0.8s
PV22 Blue Mesa, Par 36.67 202 P P 23 54 18.4 +1.1
PV22 IAmb IAmb 23 54 37.9
comp=Z,151nm,0.9s
S39A Bolivar 36.68 181 P P 23 54 18.1 +1.0
baz=0.4,SNR=16
S44A Carbondale 36.71 176 IAmb IAmb 23 54 33.6
comp=Z,246nm,0.8s
S44A Carbondale 36.71 176 P P 23 54 18.8 +1.5
baz=359,SNR=15
PV07 Paradox Valley 36.76 202 IAmb IAmb 23 54 37.5
comp=Z,142nm,0.8s
PV23 Carpenter Ridg 36.78 202 IAmb IAmb 23 54 36.7
comp=Z,359nm,0.9s
PV04 Paradox Valley 36.83 202 P P 23 54 20.5 +2.0
PV04 IAmb IAmb 23 54 37.0
comp=Z,576nm,1.5s
PV15 Paradox Valley 36.83 201 P P 23 54 19.9 +1.2
PV15 IAmb IAmb 23 54 37.1
comp=Z,248nm,1.0s
PV10 Paradox Valley 36.86 202 IAmb IAmb 23 54 45.4
comp=Z,196nm,0.8s
PV14 Lion Creek, Pa 36.86 202 P P 23 54 20.5 +1.6
PV14 IAmb IAmb 23 54 37.3
comp=Z,230nm,0.7s
OSL Oslo 36.86 55 *e*S S 00 00 03.5 +3.3
OSL *e*ScS ScS 00 04 32.4 +2.4
OSL IVMs_BB IVMs_BB 00 09 03.0
comp=Z,6µm,24.9s
SPR3 Spring Creek 3 36.86 209 P P 23 54 20.8 +1.8
SPR3 IAmb IAmb 23 54 39.0
comp=Z,334nm,0.8s
KONO Kongsberg 36.87 56 P P 23 54 18.8 +0.3
KONO Kongsberg 36.87 56 ⇓P P 23 54 19.8 +1.4
KONO Kongsberg 36.87 56 P P 23 54 19.7 +1.3
KONO Kongsberg 36.87 56 *e*P P 23 54 18.1 -0.3
KONO *e*S S 00 00 02.1 +1.7
KONO IVMs_BB IVMs_BB 00 09 50.7
comp=Z,5µm,23.6s
KONO Kongsberg 36.87 56 P P 23 54 19.2 +0.7
KONO pP pP 23 54 28.8 +1.2
CBN Corbin Frederi 36.87 160 IAmb IAmb 23 54 35.9
comp=Z,126nm,0.7s
CBN Corbin Frederi 36.87 160 P P 23 54 20.0 +1.4
baz=353,SNR=7.5
CBN Corbin Frederi 36.87 160 P P 23 54 19.2 +0.5
baz=353,SNR=7.5
PV20 West Nyswonger 36.88 202 P P 23 54 21.1 +2.1
PV20 IAmb IAmb 23 54 37.4
comp=Z,452nm,1.4s
PV12 Saucer Basin, 36.89 202 P P 23 54 20.6 +1.5
PV12 IAmb IAmb 23 54 39.3
comp=Z,194nm,0.8s
BEKR Beckworth 36.91 217 IAmb IAmb 23 54 38.3
comp=Z,443nm,1.1s
PV16 Nyswonger Mesa 36.91 202 P P 23 54 21.1 +1.8
PV16 IAmb IAmb 23 54 37.8
comp=Z,679nm,1.4s
PV11 David Mesa, Pa 36.92 202 IAmb IAmb 23 54 37.7
comp=Z,656nm,1.3s
PV19 Morning Glory 36.92 202 P P 23 54 21.0 +1.6
PV19 IAmb IAmb 23 54 37.7
comp=Z,185nm,1.0s
PV17 East Wray Mesa 36.94 202 P P 23 54 20.5 +1.0
PV17 IAmb IAmb 23 54 38.0
comp=Z,343nm,1.2s
PV03 Paradox Valley 36.96 202 P P 23 54 21.2 +1.5
PV03 IAmb IAmb 23 54 38.1
comp=Z,351nm,1.2s
PV18 Skein Mesa, Pa 36.97 202 P P 23 54 22.3 +2.5
PV18 IAmb IAmb 23 54 39.3
comp=Z,484nm,1.4s
S51A Beattyville 36.97 168 IAmb IAmb 23 54 36.5
comp=Z,294nm,0.8s
S51A Beattyville 36.97 168 P P 23 54 20.7 +1.1
baz=356,SNR=18
S51A P P 23 54 20.7 +1.1
baz=356,SNR=18
PV02 Paradox Valley 36.99 202 P P 23 54 21.5 +1.5
PV02 IAmb IAmb 23 54 40.3
comp=Z,220nm,0.9s
TCRU Three Creeks R 37.01 206 P P 23 54 22.5 +2.4
KMPM Mount Pierce 37.02 222 P P 23 54 21.4 +1.4
KMPM IAmb IAmb 23 54 39.5
comp=Z,609nm,1.8s
PV01 Paradox Valley 37.05 201 P P 23 54 22.0 +1.5
PV01 IAmb IAmb 23 54 39.2
comp=Z,644nm,1.4s
PV13 Radium Mtn., P 37.05 202 IAmb IAmb 23 54 39.6
comp=Z,523nm,1.1s
R58B Mineral 37.07 161 P P 23 54 21.1 +0.8
R58B Mineral 37.07 161 P P 23 54 21.5 +1.1
baz=354,SNR=7.2
R58B P P 23 54 21.5 +1.1
baz=354,SNR=7.2
MVU Marysvale 37.08 206 P P 23 54 22.9 +2.1
CGM3 Cape Girardeau 37.09 176 P P 23 54 21.6 +1.1
CGM3 IAmb IAmb 23 54 36.3
comp=Z,55nm,0.7s
EDI Edinburgh 37.13 69 *e*P P 23 54 19.9 -0.8
EDI IAmb IAmb 23 54 25.5
comp=Z,64nm,0.8s
EDI IAMs_20 IAMs_20 00 09 14.4
comp=Z,25µm,18.2s
KMRM Mail Ridge 37.13 221 P P 23 54 25.8 +4.8
KMRM IAmb IAmb 23 54 39.9
comp=Z,282nm,0.8s
PV05 Paradox Valley 37.16 202 P P 23 54 21.6 +0.2
PV05 IAmb IAmb 23 54 40.0
comp=Z,252nm,0.9s
SDCO Great Sand Dun 37.16 197 IAmb IAmb 23 54 41.0
comp=Z,288nm,1.5s
SDCO Great Sand Dun 37.16 197 P P 23 54 23.2 +1.8
baz=5.8,SNR=29
SDCO Great Sand Dun 37.16 197 P P 23 54 22.8 +1.3
baz=5.9,SNR=29
SDCO S S 00 00 08.5 +2.6
baz=5.9
KS21 Milan North St 37.17 187 P P 23 54 21.8 +0.6
KAN12 Harper NE Stat 37.17 187 P P 23 54 22.2 +1.0
S57A Dark Hollow, R 37.17 162 P P 23 54 22.8 +1.5
baz=354
S57A P P 23 54 22.8 +1.5
baz=354
MGMO Mountain Grove 37.21 180 IAmb IAmb 23 54 37.7
comp=Z,170nm,0.8s
KS20 Mayfield South 37.22 187 P P 23 54 23.6 +2.0
KS20 IAmb IAmb 23 54 38.3
comp=Z,263nm,0.8s
KAN08 Anthony NE Sta 37.24 187 P P 23 54 22.6 +0.7
KAN08 IAmb IAmb 23 54 39.1

comp=Z,499nm,1.1s
PSUT Pine Spring 37.26 208 P P 23 54 23.4 +1.2
PSUT IAmb IAmb 23 54 41.4
comp=Z,330nm,0.9s
S22A 4UR Ranch, Cre 37.27 199 IAmb IAmb 23 54 42.1
comp=Z,224nm,1.1s
S22A 4UR Ranch, Cre 37.27 199 P P 23 54 24.0 +1.5
baz=6.5,SNR=45
S22A S S **00 00 06.9 -0.6**
baz=6.5
ESY Stoneypath 37.28 68 eP P 23 54 21.2 -0.8
EBL Broad Law 37.30 69 eP P 23 54 21.5 -0.6
KAN09 Caldwell North 37.32 187 P 23 54 24.7 +2.2
KAN09 IAmb IAmb 23 54 39.1
comp=Z,330nm,0.8s
JSRW J. Sargeant Re 37.33 161 P P 23 54 23.9 +1.3
HFS Hagfors 37.34 52 P P 23 54 21.5 -1.0
comp=Z,43nm,0.7s,baz=343,slow=4.6,SNR=73
HFS LR LR 00 09 26.3
comp=Z,21µm,20.2s,baz=338,slow=36
comp=Z,43nm,0.7s
KVN Kaiserville 37.35 214 IAmb IAmb 23 54 41.3
comp=Z,352nm,0.8s
VCNR Virginia City 37.35 216 P P 23 54 25.4 +2.4
VCNR IAmb IAmb 23 54 42.2
comp=Z,429nm,1.0s
T45A Paducah 37.39 175 P P 23 54 24.5 +1.4
T45A IAmb IAmb 23 54 40.0
comp=Z,254nm,0.8s
T45B Paducah 37.40 175 P P 23 54 24.8 +1.7
baz=358,SNR=5.4
ORV Oroville 37.40 218 P P 23 54 25.4 +2.2
ORV Oroville 37.40 218 P P 23 54 25.4 +2.2
ORV pmax pmax
comp=Z,97nm,1.1s
ORV MLR MLR
comp=Z,3µm,19.0s
Q09A Carvers 37.42 213 P P 23 54 25.5 +1.9
Q09A IAmb IAmb 23 54 41.7
comp=Z,321nm,1.0s
KAN13 South Haven SW 37.43 187 P 23 54 24.6 +1.2
KAN13 IAmb IAmb 23 54 40.8
comp=Z,531nm,1.1s
T47A Sharon Grove 37.47 173 IAmb IAmb 23 54 40.4
comp=Z,382nm,0.8s
T47A Sharon Grove 37.47 173 P P 23 54 25.6 +1.9
baz=358,SNR=40
SNART Snartemo 37.50 59 eP P 23 54 23.9 +0.2
T35B Sooner Cattle 37.50 185 P P 23 54 24.5 +0.4
baz=1.8,SNR=52
T50A Nancy 37.53 170 IAmb IAmb 23 54 41.3
comp=Z,288nm,0.8s
T50A Nancy 37.53 170 P P 23 54 25.0 +0.8
baz=357
T50A P P **23 54 25.0 +0.8**
baz=357
MTPU Mount Pierson 37.54 206 P P 23 54 26.6 +1.9
MTPU IAmb IAmb 23 54 44.5
comp=Z,332nm,1.4s
NEWG New Galloway 37.58 70 eP P 23 54 25.3 +0.7
NEWG IAmb IAmb 23 54 33.0
comp=Z,58nm,1.1s
NEWG IAMs_20 IAMs_20 00 08 34.9
comp=Z,22µm,21.2s
YERR Yerington 37.59 215 P P 23 54 26.8 +1.9
YERR IAmb IAmb 23 54 43.6
comp=Z,349nm,1.0s
PBMO Poplar Bluff 37.60 177 P P 23 54 26.1 +1.2
PBMO IAmb IAmb 23 54 41.2
comp=Z,317nm,0.9s
PBMO Poplar Bluff 37.60 177 P P 23 54 27.0 +2.2
baz=359,SNR=7.5
BLA Blacksburg 37.60 164 IAmb IAmb 23 54 43.0
comp=Z,291nm,1.0s
BLA Blacksburg 37.60 164 P P 23 54 26.2 +1.2
baz=355
BLA Blacksburg 37.60 164 P P 23 54 25.9 +0.9
baz=355,SNR=12
BLA S S **00 00 14.2 +2.1**
baz=355
KCPM Cahto Peak 37.63 221 P P 23 54 26.5 +1.2
KCPM IAmb IAmb 23 54 43.8
comp=Z,167nm,0.8s
EKA Eskdalemuir Ar 37.66 69 P P 23 54 24.7 -0.6
comp=Z,41nm,0.7s,baz=319,slow=8.3,SNR=29
EKA LR LR 00 09 57.1
comp=Z,28µm,19.1s,baz=331,slow=36
comp=Z,41nm,0.7s
ESK Eskdalemuir 37.67 69 P P 23 54 25.1 -0.1
ESK IAmb IAmb 23 54 41.1
comp=Z,409nm,1.4s
ESK Eskdalemuir 37.67 69 IAMs_20 IAMs_20 00 09 43.9
comp=Z,27µm,20.0s
ESK Eskdalemuir 37.67 69 eP P 23 54 24.4 -0.8
ESK IAmb IAmb 23 54 29.6
comp=Z,59nm,0.8s
ESK IAMs_20 IAMs_20 00 09 20.7
comp=Z,28µm,19.8s
ESK Eskdalemuir 37.67 69 P P 23 54 25.1 -0.1
ESK pmax pmax
comp=Z,409nm,1.4s
ESK MLR MLR
comp=Z,27µm,20.0s
ESK Eskdalemuir 37.67 69 P P 23 54 24.9 -0.3
ESK pP **pP 23 54 35.8 +1.2**
OK032 Salt Plains WL 37.67 188 IAMs_20 IAMs_20 00 09 51.3
comp=Z,21µm,18.0s
R11A Troy Canyon, C 37.67 210 P P 23 54 26.2 +0.5
R11A IAmb IAmb 23 54 45.7
comp=Z,189nm,1.0s
R11A Troy Canyon, C 37.67 210 P P 23 54 26.2 +0.5
baz=10,SNR=20
R11A S S **00 00 12.8 -0.6**
baz=10
T25A Trinidad 37.68 196 P P 23 54 27.1 +1.3
T25A Trinidad 37.68 196 P P 23 54 26.1 +0.3
baz=5.4
T25A S S **00 00 10.8 -2.8**
baz=5.4
BLOK Blackwell 37.68 186 IAmb IAmb 23 54 42.0
comp=Z,339nm,0.7s
OK035 E0210 Rd and N 37.78 188 IAmb IAmb 23 54 43.8
comp=Z,328nm,1.0s
OK035 IAMs_20 IAMs_20 00 10 22.3
comp=Z,20µm,18.0s
RYN Ryan 37.83 214 P P 23 54 28.6 +1.6
RYN IAmb IAmb 23 54 44.7
comp=Z,162nm,0.7s
HICK Hickman 37.86 176 P P 23 54 28.2 +1.2
HICK IAmb IAmb 23 54 44.9
comp=Z,625nm,1.4s
HOMB Homborsund 37.86 58 eP P 23 54 26.8 0.0
NOKA Waynoka 37.86 189 P 23 54 28.3 +1.1
NOKA IAmb IAmb 23 54 44.5
comp=Z,291nm,0.9s
AFDM Forest Hills D 37.90 217 P P 23 54 30.0 +2.6
T57A Hurt 37.91 163 IAmb IAmb 23 54 45.4
comp=Z,158nm,0.8s
T57A Hurt 37.91 163 P P 23 54 28.7 +1.3
baz=354,SNR=20
T57A P P **23 54 28.7 +1.3**
baz=354,SNR=20
U38A Gravette 37.94 183 P P 23 54 28.1 +0.3
baz=0.9,SNR=27
CROK Carrier 37.96 187 IAmb IAmb 23 54 45.2
comp=Z,558nm,1.0s
MVCO Mesa Verde 37.96 201 IAmb IAmb 23 54 54.9
comp=Z,321nm,1.1s
MVCO Mesa Verde 37.96 201 P P 23 54 29.8 +1.6
baz=7.1,SNR=50
MVCO S S **00 00 20.7 +2.8**
baz=7.1
NV11 Mina Array Sit 37.96 214 P P 23 54 30.1 +2.0
NV11 IAmb IAmb 23 54 47.1
comp=Z,281nm,1.2s
PVMO Portageville 37.98 176 P P 23 54 29.2 +1.2
OK045 Pawnee Station 37.98 186 IAMs_20 IAMs_20 00 10 00.6
comp=Z,23µm,19.0s
NVAR Mina Array Bea 37.99 214 P P 23 54 29.7 +1.3
comp=Z,11nm,0.6s,baz=8.4,slow=6.8,SNR=22
NVAR LR LR 00 10 20.5
comp=Z,25µm,19.8s,baz=16,slow=37
comp=Z,11nm,0.6s
T60A Surry 37.99 159 P P 23 54 30.4 +2.3
T60A Surry 37.99 159 P P 23 54 30.2 +2.0
baz=353,SNR=9.0
T60A P P **23 54 30.2 +2.0**
baz=353,SNR=9.0
U49A Red Boiling Sp 37.99 171 IAmb IAmb 23 54 45.4
comp=Z,148nm,0.8s
U49A Red Boiling Sp 37.99 171 P P 23 54 28.9 +0.8
baz=357,SNR=21
U40A Yellville 38.01 181 P P 23 54 28.5 +0.1
baz=0.2
U40A P P **23 54 28.5 +0.1**
baz=0.2
OK038 West end E0370 38.01 188 P 23 54 29.4 +1.0
OK038 IAmb IAmb 23 54 45.9
comp=Z,459nm,1.1s
OK038 IAMs_20 IAMs_20 00 10 29.4
comp=Z,23µm,18.0s
OK048 Pawnee Station 38.01 186 IAMs_20 IAMs_20 00 10 09.5
comp=Z,26µm,19.0s
OK046 Pawnee Station 38.03 186 IAMs_20 IAMs_20 00 10 10.9
comp=Z,26µm,18.0s
OK050 Pawnee Station 38.04 186 IAMs_20 IAMs_20 00 10 11.1
comp=Z,24µm,18.0s
OK044 Pawnee Station 38.05 186 IAMs_20 IAMs_20 00 10 11.5
comp=Z,26µm,18.0s
UTMT University of 38.06 175 P P 23 54 30.4 +1.7
UTMT IAmb IAmb 23 54 45.4
comp=Z,349nm,0.8s
TZTN Tazewell 38.07 168 IAmb IAmb 23 54 46.1
comp=Z,265nm,0.8s
TZTN Tazewell 38.07 168 P P 23 54 29.7 +0.9
baz=356,SNR=16
TZTN Tazewell 38.07 168 P P 23 54 29.5 +0.7
baz=356,SNR=16
TZTN S S **00 00 18.9 -0.1**
baz=356
T59A Double "B" Far 38.08 161 IAmb IAmb 23 54 46.4
comp=Z,161nm,0.8s
T59A Double "B" Far 38.08 161 P P 23 54 29.6 +0.7
baz=354,SNR=25
T59A P P **23 54 29.6 +0.7**
baz=354,SNR=25
SZCU Shurtz Canyon 38.09 207 P P 23 54 32.2 +3.0
SZCU IAmb IAmb 23 54 48.3
comp=Z,418nm,1.7s
WAKR Walker 38.09 215 P P 23 54 31.8 +2.5
U32A Winter Ranch, 38.12 189 P 23 54 30.0 +0.7
U32A IAmb IAmb 23 54 46.8
comp=Z,284nm,0.9s
U32A Winter Ranch, 38.12 189 P P 23 54 30.9 +1.6
baz=2.9,SNR=9.2
GLAT Glass 38.13 176 P P 23 54 30.8 +1.5
GLAT IAmb IAmb 23 54 46.0
comp=Z,217nm,1.0s
PKCU Pink Cliffs 38.14 206 P P 23 54 31.9 +2.0
CCUT Cedar City 38.16 207 IAmb IAmb 23 54 48.5
comp=Z,208nm,0.9s
LHV Little Huntoon 38.19 214 IAmb IAmb 23 54 48.9
comp=Z,208nm,1.0s
U54A Nelsons Funny 38.19 166 P P 23 54 31.2 +1.2
baz=355,SNR=25
U54A P P **23 54 31.2 +1.2**
baz=355,SNR=25
RLO Rose Lookout 38.22 183 IAmb IAmb 23 54 47.1
comp=Z,252nm,1.1s
QUOK Quay 38.25 186 IAmb IAmb 23 54 47.9
comp=Z,618nm,1.2s
IOMK Kirk Michael 38.27 71 eP P 23 54 30.7 +0.4
IOMK IAmb IAmb 23 54 34.1
comp=Z,215nm,0.8s
IOMK IAMs_20 IAMs_20 00 09 05.6
comp=Z,28µm,19.5s
PEBM Pemiscott Bayo 38.27 177 P P 23 54 31.9 +1.3
LNXT Lenox 38.29 176 P P 23 54 32.6 +1.9
LNXT IAmb IAmb 23 54 48.6
comp=Z,433nm,1.1s
LNXT Lenox 38.29 176 P P 23 54 32.0 +1.3
baz=359
LCAR Lake Charles 38.30 178 IAmb IAmb 23 54 47.3
comp=Z,203nm,0.8s
LCAR Lake Charles 38.30 178 P P 23 54 31.5 +0.7
baz=360,SNR=54
WVT Waverly 38.30 174 P P 23 54 32.2 +1.4
WVT Waverly 38.30 174 IAMs_20 IAMs_20 00 10 45.1
comp=Z,14µm,18.0s
WVT Waverly 38.30 174 P P 23 54 32.0 +1.2
baz=358,SNR=16
WVT Waverly 38.30 174 P P 23 54 31.6 +0.8
baz=358
WVT S S **00 00 19.7 -2.8**
baz=358
WVT Waverly 38.30 174 ⇑P P 23 54 31.8 +1.0
WVT Waverly 38.30 174 P P 23 54 32.2 +1.4
WVT pmax pmax
comp=Z,104nm,0.9s
WVT MLR MLR
comp=Z,14µm,18.0s
WVT Waverly 38.30 174 P P 23 54 32.0 +1.2
WVT pP **sP 23 54 42.8 -1.1**
ADZR Andozero 38.32 33 eP P 23 54 28.9 -1.7
ADZR pmax pmax
comp=Z,191nm,0.9s
KESW Keswick, Cumbr 38.35 70 eP P 23 54 31.8 +0.8
KESW IAMs_20 IAMs_20 00 09 19.8
comp=Z,26µm,20.9s
GDXM Geysers 38.35 220 P P 23 54 33.5 +2.2
GDXM IAmb IAmb 23 54 52.0
comp=Z,364nm,1.0s
OK033 Mehan 38.38 186 IAmb IAmb 23 54 47.9
comp=Z,375nm,0.7s
OK033 IAMs_20 IAMs_20 00 10 21.3
comp=Z,25µm,19.0s
S11A Rachel 38.39 210 P P 23 54 34.2 +2.5
OK053 SW of W Deep R 38.41 186 IAMs_20 IAMs_20 00 10 22.0
comp=Z,23µm,18.0s
OK034 N. Norfolk Rd. 38.41 186 IAmb IAmb 23 54 49.2
comp=Z,530nm,1.0s
OK034 IAMs_20 IAMs_20 00 10 22.0
comp=Z,23µm,18.0s
GNAR Gosnell 38.42 177 P P 23 54 33.0 +1.2
GNAR IAmb IAmb 23 54 49.4
comp=Z,490nm,1.3s
EDMD Edmundbyers 38.42 69 eP P 23 54 31.1 -0.5
EDMD IAMs_20 IAMs_20 00 10 02.9
comp=Z,28µm,18.5s
UPP Uppsala 38.42 50 eP P 23 54 32.2 +0.7
OK052 Battle Ridge R 38.43 186 IAMs_20 IAMs_20 00 10 22.5
comp=Z,24µm,18.0s
ELIS Ellis County 38.45 189 IAmb IAmb 23 54 50.0
comp=Z,799nm,1.1s
U56A King 38.47 164 P P 23 54 33.2 +1.0
U56A IAmb IAmb 23 54 51.6
comp=Z,740nm,1.9s
U56A King 38.47 164 P P 23 54 33.1 +0.9
baz=355
U56A P P **23 54 33.1 +0.9**
baz=355
OK031 S. Brethren Rd 38.47 186 IAMs_20 IAMs_20 00 10 23.6
comp=Z,23µm,18.0s
FCAR Ozark Folk Cen 38.48 180 IAmb IAmb 23 54 48.0
comp=Z,358nm,0.7s
HALT Halls 38.48 176 P P 23 54 33.4 +1.1
HALT IAmb IAmb 23 54 49.9
comp=Z,454nm,1.2s
TUL1 Leonard 38.49 184 IAmb IAmb 23 54 49.8
comp=Z,358nm,1.3s
TUL1 Leonard 38.49 184 P P 23 54 33.4 +1.0
baz=1.5,SNR=31
TUL1 Leonard 38.49 184 P P 23 54 32.7 +0.3
baz=1.6,SNR=31
TUL1 S S **00 00 21.8 -3.6**
baz=1.6
OK030 Cody Creek RV 38.50 186 IAMs_20 IAMs_20 00 10 25.2
comp=Z,23µm,18.0s
PRN Pahroc Range 38.52 209 ⇑P P 23 54 34.6 +1.8
MZP Montezuma Peak 38.56 212 P P 23 54 36.2 +2.9
DEOK Depew 38.57 185 IAmb IAmb 23 54 50.6
comp=Z,739nm,1.1s
FIA0 FINESS Array S 38.62 43 P P 23 54 32.2 -1.0
FIA0 FINESS Array S 38.62 43 P P 23 54 32.2 -1.0
FINES FINESS Array B 38.62 43 P P 23 54 31.8 -1.4
comp=Z,51nm,0.7s,baz=344,slow=7.4,SNR=57
FINES LR LR 00 10 20.9
comp=Z,41µm,18.9s,baz=356,slow=36
comp=Z,51nm,0.7s
KNB Kanab 38.62 207 P P 23 54 35.2 +1.5
KNB Kanab 38.62 207 P P 23 54 35.2 +1.5
KNB pmax pmax
comp=Z,686nm,1.0s
OK029 Liberty Lake 38.65 187 IAmb IAmb 23 54 51.1
comp=Z,407nm,1.1s
OK029 IAMs_20 IAMs_20 00 10 41.2
comp=Z,27µm,19.0s
U59A Littleton 38.67 161 P P 23 54 34.8 +0.9
baz=354
U59A P P **23 54 34.8 +0.9**
baz=354
LCMT Little Creek M 38.68 207 IAmb IAmb 23 54 52.8
comp=Z,354nm,0.9s
CMB Columbia Colle 38.70 216 IAmb IAmb 23 54 52.7
comp=Z,269nm,1.1s
CMB Columbia Colle 38.70 216 P P 23 54 36.6 +2.4
DSB Dublin 38.71 73 IAmb IAmb 23 54 49.9
comp=Z,279nm,1.4s
V48A Smith Brothers 38.72 173 IAmb IAmb 23 54 52.4
comp=Z,374nm,1.2s
V48A Smith Brothers 38.72 173 P P 23 54 35.5 +1.2
baz=358,SNR=16
V51A Loudon 38.76 169 IAmb IAmb 23 54 51.9
comp=Z,331nm,0.8s
V51A Loudon 38.76 169 P P 23 54 35.2 +0.6
baz=357,SNR=20
V52A Sevierville 38.76 169 IAmb IAmb 23 54 52.1
comp=Z,262nm,0.8s
V52A Sevierville 38.76 169 P P 23 54 35.8 +1.1
baz=356,SNR=20
BCOK Bluff Creek, N 38.79 187 IAmb IAmb 23 54 52.3
comp=Z,244nm,1.3s
HBAR Harrisburg 38.82 178 P P 23 54 36.8 +1.7
baz=359
CSTR Hydro, Custer 38.84 188 IAmb IAmb 23 54 53.9
comp=Z,55nm,1.2s
MLAC Mammoth, Mammo 38.85 214 P P 23 54 35.9 +0.2
baz=11
OK025 Westminster Rd 38.86 186 IAmb IAmb 23 54 52.9
comp=Z,692nm,1.4s
MDPB Devils Postpil 38.88 215 P P 23 54 38.2 +2.2
MDPB IAmb IAmb 23 54 55.4
comp=Z,245nm,0.9s
OMMB Old Mammoth Mi 38.89 214 P P 23 54 38.5 +2.4
OMMB IAmb IAmb 23 54 55.8
comp=Z,252nm,1.1s
V55A Taylorsville 38.90 165 P P 23 54 37.1 +1.3
baz=355,SNR=9.4
V55A P P **23 54 37.1 +1.3**
baz=355,SNR=9.4
TKL Tuckaleechee C 38.94 169 LR LR 00 11 09.0
comp=Z,33µm,18.6s,baz=1.0,slow=37
TKL Tuckaleechee C 38.94 169 P P 23 54 36.7 +0.6
baz=356,SNR=8.1
V53A Saluda 38.98 168 IAmb IAmb 23 54 54.3
comp=Z,381nm,0.8s
V53A Saluda 38.98 168 P P 23 54 37.5 +0.9
baz=356,SNR=28
V53A P P **23 54 37.5 +0.9**
baz=356,SNR=28
LCH Last Change Ra 39.06 213 P P 23 54 39.2 +1.9
LCH IAmb IAmb 23 54 56.1
comp=Z,316nm,0.9s
WPS Cemaes, Angles 39.06 72 eP P 23 54 37.4 +0.4
WPS IAmb IAmb 23 54 41.9
comp=Z,99nm,1.0s
WHAR Wooly Hollow 39.07 180 IAmb IAmb 23 54 55.1
comp=Z,560nm,1.6s
CPCT Cooper Cave 39.11 170 IAmb IAmb 23 54 54.6
comp=Z,352nm,0.8s
V58A Windy Hill, Pi 39.11 163 P P 23 54 39.0 +1.4
baz=354,SNR=11
V58A P P **23 54 39.0 +1.4**
baz=354,SNR=11
GSTR Great Sitkin T 39.12 284 P P 23 54 39.1 +1.6
TPNV Topopah Spring 39.14 211 P P 23 54 39.7 +1.7
TPNV Topopah Spring 39.14 211 P P 23 54 39.0 +1.0
baz=10,SNR=25
TPNV Topopah Spring 39.14 211 ⇑P P 23 54 38.6 +0.6
TPNV Topopah Spring 39.14 211 P P 23 54 39.7 +1.7
TPNV pmax pmax
comp=Z,638nm,0.9s
TPNV MLR MLR
comp=Z,51µm,18.0s
U15A North Rim 39.14 206 IAmb IAmb 23 54 56.4
comp=Z,515nm,1.2s
YRC Rhoscolyn 39.18 72 eP P 23 54 38.5 +0.6
FNO Franklin 39.18 186 P 23 54 39.7 +1.5
WLF1 Llynfaes 39.19 72 eP P 23 54 38.4 +0.4
WLF1 IAmb IAmb 23 54 42.9
comp=Z,173nm,1.0s
W45A Hickory Valley 39.24 176 P P 23 54 39.5 +0.9
baz=359,SNR=17
GRAC Grapevine Rang 39.25 212 IAmb IAmb 23 54 57.1
comp=Z,504nm,1.1s
GRAC Grapevine Rang 39.25 212 P P 23 54 40.6 +1.8
baz=10,SNR=21
GRAC S S **00 00 35.1 -1.9**
baz=10
MET Memphis--Engin 39.26 177 P P 23 54 39.9 +1.1
SWET Sewanee 39.28 172 IAmb IAmb 23 54 55.5
comp=Z,382nm,0.8s
HPK Haverah Park 39.29 69 eP P 23 54 38.4 -0.5
HPK IAmb IAmb 23 54 43.1
comp=Z,103nm,1.0s
HPK IAMs_20 IAMs_20 00 10 39.8
comp=Z,30µm,19.6s
W50A Signal Mountai 39.32 171 P P 23 54 39.8 +0.4
baz=357,SNR=14
TIN Tinemaha, Big 39.32 213 P P 23 54 40.8 +1.3
baz=11
V61A Roper 39.34 160 P P 23 54 41.3 +1.9
V61A IAmb IAmb 23 54 56.5
comp=Z,442nm,1.4s
V61A Roper 39.34 160 P P 23 54 41.2 +1.8
baz=353
V61A P P **23 54 41.2 +1.8**
baz=353
WCT Wildcat Mounta 39.34 211 IAmb IAmb 23 54 57.9
comp=Z,464nm,1.4s
YLL Llanberis 39.38 72 eP P 23 54 39.9 +0.2
SHPR Sheep Range 39.43 209 P P 23 54 42.1 +1.7
SHPR IAmb IAmb 23 54 59.7
comp=Z,265nm,0.9s
PLAL Pickwick Lake 39.44 174 IAmb IAmb 23 54 56.8
comp=Z,405nm,0.8s
PLAL IAMs_20 IAMs_20 00 11 21.2
comp=Z,18µm,18.0s
MEF Metsahovi 39.44 45 eP P 23 54 41.7 +1.6
VIKU Vikbolandet 39.47 51 eP P 23 54 41.8 +1.5
ADK Adak 39.47 284 P P 23 54 41.6 +1.2
ADK IAmb IAmb 23 54 58.4
comp=Z,299nm,0.8s
ADK Adak 39.47 284 IAMs_20 IAMs_20 00 13 11.3
comp=Z,14µm,20.0s
ADK Adak 39.47 284 ⇑P P 23 54 42.2 +1.8
ADK Adak 39.47 284 P P 23 54 41.6 +1.2
ADK pmax pmax
comp=Z,299nm,0.8s
ADK MLR MLR
comp=Z,14µm,20.0s
ADK Adak 39.47 284 P P 23 54 41.2 +0.8
ADK sP **sP 23 54 56.9 +3.4**
W52A Murphy 39.49 169 IAmb IAmb 23 54 59.3
comp=Z,694nm,1.9s
W52A Murphy 39.49 169 P P 23 54 41.7 +0.9
baz=356,SNR=6.8
KMSC Kings Mountain 39.60 166 P P 23 54 42.8 +1.2
baz=355,SNR=16
KMSC Kings Mountain 39.60 166 P P 23 54 43.2 +1.6
baz=355,SNR=16
KMSC S S **00 00 42.1 0.0**
baz=355
BG3 Lake Jocassee 39.65 168 IAmb IAmb 23 55 00.1
comp=Z,435nm,1.4s
CASEE Lake Jocassee 39.65 168 P P 23 54 43.2 +1.1
baz=356,SNR=14
MUD Monsted U'grnd 39.66 58 ⇑P P 23 54 45.2 +3.3
MUD Monsted U'grnd 39.66 58 ⇑P P 23 54 45.2 +3.3
W57A Gilead 39.68 164 IAmb IAmb 23 54 59.6
comp=Z,161nm,0.8s
W57A Gilead 39.68 164 P P 23 54 42.9 +0.5
baz=355,SNR=13
W57A P P **23 54 42.9 +0.5**
baz=355,SNR=13
FURC Furnace Creek, 39.70 211 P P 23 54 44.1 +1.7
baz=10,SNR=17
WTNK Soaring Height 39.72 209 IAmb IAmb 23 55 01.3
comp=Z,75nm,1.0s
AMTX Amarillo 39.74 192 P P 23 54 43.7 +0.7
baz=3.9

AMTX Amarillo 39.74 192 P P 23 54 43.4 +0.5
baz=4.0
WMOK Wichita Mounta 39.75 188 IAmb IAmb 23 55 00.6
comp=Z,354nm,1.1s
WMOK Wichita Mounta 39.75 188 IAMs_20 IAMs_20 00 11 35.4
comp=Z,14µm,19.0s
WMOK Wichita Mounta 39.75 188 P P 23 54 43.4 +0.4
baz=2.7,SNR=68
WMOK Wichita Mounta 39.75 188 P P 23 54 43.0 0.0
baz=2.8,SNR=68
WMOK S S 00 00 45.1 +0.7
baz=2.8
WMOK Wichita Mounta 39.75 188 ⇑P P 23 54 42.9 0.0
WMOK Wichita Mounta 39.75 188 ⇑P P 23 54 42.9 0.0
CNNC Cliffs of the 39.77 161 P P 23 54 44.8 +1.7
CNNC IAmb IAmb 23 55 00.7
comp=Z,145nm,0.7s
CNNC Cliffs of the 39.77 161 P P 23 54 44.2 +1.2
baz=354
CNNC Cliffs of the 39.77 161 P P 23 54 44.5 +1.5
baz=354,SNR=8.8
CNNC S S 00 00 42.6 -2.0
baz=354
CNNC Cliffs of the 39.77 161 ⇑P P 23 54 45.9 +2.9
LBWR Ladybower, Pea 39.77 69 *e*P P 23 54 42.2 -0.7
LBWR IAmb IAmb 23 54 54.9
comp=Z,283nm,1.3s
LBWR IAMs_20 IAMs_20 00 11 03.7
comp=Z,26µm,17.7s
X37A Clayton 39.80 184 IAmb IAmb 23 55 01.1
comp=Z,438nm,1.3s
X37A Clayton 39.80 184 P P 23 54 43.3 0.0
baz=1.2,SNR=25
MIAR Mount Ida 39.82 181 IAmb IAmb 23 55 01.5
comp=Z,713nm,1.6s
MIAR Mount Ida 39.82 181 P P 23 54 43.1 -0.3
baz=0.5,SNR=40
MIAR Mount Ida 39.82 181 P P 23 54 43.3 -0.2
baz=0.6,SNR=40
MIAR S S 00 00 43.2 -2.2
baz=0.6
MIAR Mount Ida 39.82 181 ⇓P P 23 54 43.2 -0.3
MIAR Mount Ida 39.82 181 ⇓P P 23 54 43.2 -0.3
FOEL Foel Wylfa 39.86 71 *e*P P 23 54 43.1 -0.6
FOEL IAmb IAmb 23 54 43.3
comp=Z,54nm,1.0s
FOEL IAMs_20 IAMs_20 00 09 52.3
comp=Z,15µm,21.7s
X40A Basin Creek Fa 39.88 181 P P 23 54 43.8 -0.1
baz=0.2
X40A P P 23 54 43.8 -0.1
baz=0.2
OXF Oxford 39.88 176 IAmb IAmb 23 55 03.4
comp=Z,771nm,1.2s
OXF IAMs_20 IAMs_20 00 11 24.8
comp=Z,21µm,18.0s
OXF Oxford 39.88 176 P P 23 54 44.3 +0.3
baz=359,SNR=20
OXF Oxford 39.88 176 P P 23 54 45.2 +1.2
baz=359,SNR=20
OXF S S 00 00 47.4 +1.1
baz=359
PAULI Pauline 39.88 166 IAmb IAmb 23 55 01.6
comp=Z,400nm,0.9s
PAULI Pauline 39.88 166 P P 23 54 45.0 +1.0
baz=356,SNR=31
CWC Cottonwood Cre 39.90 213 P P 23 54 45.9 +1.6
baz=11
WUAZ Wupatki 39.94 204 IAmb IAmb 23 55 04.1
comp=Z,708nm,1.1s
WUAZ Wupatki 39.94 204 P P 23 54 46.0 +1.4
baz=8.0,SNR=64
WUAZ S S 00 00 45.0 -2.5
baz=8.0
WUAZ Wupatki 39.94 204 ⇑P P 23 54 46.2 +1.6
GWY Greenwater Val 39.95 211 IAmb IAmb 23 55 03.9
comp=Z,871nm,1.5s
FPAL Fort Paine 39.96 171 IAmb IAmb 23 55 01.4
comp=Z,300nm,0.8s
X51A Calhoun 39.97 170 IAmb IAmb 23 55 02.3
comp=Z,213nm,0.8s
X51A Calhoun 39.97 170 P P 23 54 46.3 +1.5
baz=357
X51A P P 23 54 46.3 +1.5
baz=357
X48A Hartselle 40.00 173 IAmb IAmb 23 55 01.4
comp=Z,234nm,0.8s
X48A Hartselle 40.00 173 P P 23 54 45.1 +0.1
baz=358,SNR=36
ANMO Albuquerque 40.02 198 LR LR 00 11 44.4
comp=Z,45µm,18.8s,baz=109,slow=37
ANMO Albuquerque 40.02 198 P P 23 54 46.4 +1.0
ANMO Albuquerque 40.02 198 P P 23 54 47.1 +1.7
baz=5.8,SNR=22
ANMO Albuquerque 40.02 198 P P 23 54 47.3 +1.9
baz=6.0
ANMO S S 00 00 47.8 -1.0
baz=6.0
ANMO Albuquerque 40.02 198 ⇓P P 23 54 47.0 +1.6
ANMO Albuquerque 40.02 198 *c i*P P 23 54 47.6 +2.2
ANMO pmax pmax
comp=Z,83nm,1.0s
ANMO MLR MLR
comp=Z,62µm,16.0s
ANMO Albuquerque 40.02 198 P P 23 54 46.9 +1.6
ANMO sP sP 23 55 03.6 +5.1
MA2 Magadan 40.04 315 P P 23 54 45.1 +0.1
comp=Z,76nm,0.8s,baz=40,slow=9.1,SNR=35
MA2 LR LR 00 13 45.3
comp=Z,9µm,19.5s,baz=32,slow=40
comp=Z,76nm,0.8s
MA2 Magadan 40.04 315 P P 23 54 45.0 -0.1
MA2 Magadan 40.04 315 ⇑P P 23 54 45.4 +0.3
MA2 Magadan 40.04 315 *c i*P P 23 54 46.0 +1.0
MA2 pmax pmax
comp=Z,216nm,1.3s
MA2 MLR MLR
comp=Z,10µm,19.0s
MA2 Magadan 40.04 315 P P 23 54 45.6 +0.5
MA2 pP sP 23 54 56.0 -2.1
LMK Market Rasen 40.08 68 *e*P P 23 54 46.2 +0.8
LMK IAmb IAmb 23 54 52.7
comp=Z,262nm,1.0s
LMK IAMs_20 IAMs_20 00 11 13.1
comp=Z,24µm,17.7s
SAO San Andreas Ge 40.11 217 P P 23 54 47.2 +1.3
SAO IAmb IAmb 23 55 05.9
comp=Z,362nm,1.4s
SAO San Andreas Ge 40.11 217 P P 23 54 47.2 +1.3
SAO pmax pmax
comp=Z,362nm,1.5s
SAO MLR MLR
comp=Z,31µm,19.0s
BIRD Birdtown, Kers 40.15 165 P P 23 54 47.3 +1.1
baz=355
V12A Nelson 40.15 209 P P 23 54 48.0 +1.6
W18A Petrified Fore 40.15 202 IAmb IAmb 23 55 05.5
comp=Z,426nm,1.4s
W18A Petrified Fore 40.15 202 P P 23 54 48.7 +2.2
baz=7.3,SNR=25
W18A S S 00 00 49.7 -1.1
baz=7.3
SHOC Shoshone, Teco 40.17 211 P P 23 54 48.2 +1.8
baz=9.9,SNR=8.7
SHOC S S 00 00 51.1 +0.3
baz=9.9
MPMC Manual Prospec 40.19 212 P P 23 54 48.2 +1.4
baz=10,SNR=38
MPMC S S 00 00 49.6 -1.8
baz=10
QSM Queen of Sheba 40.19 211 IAmb IAmb 23 55 04.6
comp=Z,407nm,0.7s
VOG Valley Oaks Go 40.22 215 P P 23 54 47.7 +1.0
baz=11
BBGB Big Mountain B 40.23 217 P P 23 54 49.5 +2.5
BBGB IAmb IAmb 23 55 11.3
comp=Z,811nm,1.3s
HLM1 Long Mynd 40.28 71 *e*P P 23 54 47.1 0.0
HLM1 IAmb IAmb 23 54 51.2
comp=Z,131nm,1.0s
HLM1 IAMs_20 IAMs_20 00 10 04.7
comp=Z,15µm,23.3s
RSBS Rosebush, Pemb 40.31 73 *e*P P 23 54 47.9 +0.5
RSBS IAmb IAmb 23 54 51.7
comp=Z,123nm,1.1s
RSBS IAMs_20 IAMs_20 00 12 18.6
comp=Z,11µm,15.1s

X58A Rowland 40.33 163 IAmb IAmb 23 55 05.3
comp=Z,420nm,0.7s
X58A Rowland 40.33 163 P P 23 54 48.4 +0.7
baz=355,SNR=23
X58A P P 23 54 48.4 +0.7
baz=355,SNR=23
LOOK Love County 40.44 186 P P 23 54 49.6 +1.0
LOOK IAmb IAmb 23 55 07.6
comp=Z,915nm,1.4s
HODGE Hodges 40.44 167 IAmb IAmb 23 55 06.0
comp=Z,308nm,0.8s
HODGE Hodges 40.44 167 P P 23 54 49.4 +0.8
baz=356,SNR=35
CCAR Cane Creek 40.44 179 P P 23 54 49.4 +0.8
CCAR IAmb IAmb 23 55 05.2
comp=Z,330nm,0.9s
CCAR Cane Creek 40.44 179 P P 23 54 49.8 +1.1
baz=360
JSC Jenkinsville 40.46 166 IAmb IAmb 23 55 07.6
comp=Z,724nm,1.5s
JSC Jenkinsville 40.46 166 P P 23 54 49.8 +1.0
baz=355,SNR=23
Y45A Yeager Farm, C 40.52 176 P P 23 54 49.6 +0.4
baz=359,SNR=26
PMPB Monarch Peak 40.54 216 P P 23 54 52.5 +2.9
PMPB IAmb IAmb 23 55 11.0
comp=Z,655nm,1.1s
TUQ Turquoise Moun 40.58 210 P P 23 54 51.1 +1.2
baz=9.7
TUQ S S 00 00 57.4 +0.3
baz=9.7
Y49A Blount Mountai 40.61 172 IAmb IAmb 23 55 06.7
comp=Z,229nm,0.8s
Y49A Blount Mountai 40.61 172 P P 23 54 50.1 +0.1
baz=358,SNR=18
VES Vestal, Richgr 40.64 214 P P 23 54 52.3 +2.0
baz=11
VES S S 00 00 56.2 -1.5
baz=11
WLAR White Oak Lake 40.67 181 IAmb IAmb 23 55 07.8
comp=Z,213nm,0.9s
Y52A Lilburn 40.71 169 IAmb IAmb 23 55 08.0
comp=Z,193nm,0.7s
Y52A Lilburn 40.71 169 P P 23 54 51.3 +0.4
baz=357,SNR=12
Y52A P P 23 54 51.3 +0.4
baz=357,SNR=12
MSTX Muleshoe 40.72 193 P P 23 54 52.0 +1.0
baz=4.2,SNR=11
MSTX Muleshoe 40.72 193 P P 23 54 52.1 +1.0
baz=4.4,SNR=11
MSTX S S 00 00 57.7 -1.3
baz=4.4
DEL Delary 40.72 55 *e*P P 23 54 52.0 +1.3
MCH1 Michaelchurch 40.72 71 *e*P P 23 54 50.8 0.0
MCH1 IAmb IAmb 23 54 54.8
comp=Z,119nm,0.9s
MCH1 IAMs_20 IAMs_20 00 10 19.2
comp=Z,20µm,21.7s
MCH1 Michaelchurch 40.72 71 ⇑P P 23 54 51.0 +0.2
ISA Isabella, Lake 40.72 213 IAmb IAmb 23 55 11.7
comp=Z,274nm,0.9s
ISA Isabella, Lake 40.72 213 P P 23 54 52.5 +1.5
baz=11,SNR=21
ISA S S 00 00 58.1 -1.0
baz=11
MTSE Matsula 40.73 46 *e*P P 23 54 52.1 +1.5
Y57A Sumter 40.78 165 IAmb IAmb 23 55 09.2
comp=Z,310nm,0.8s
Y57A Sumter 40.78 165 P P 23 54 52.9 +1.4
baz=355,SNR=14
Y57A P P 23 54 52.9 +1.4
baz=355,SNR=14
LRMC Laurel Mtn Rad 40.79 212 P P 23 54 53.1 +1.4
baz=10
LRMC S S 00 00 58.6 -1.5
baz=10
LENM Lemitar 40.83 199 P P 23 54 56.0 +3.8
GSC Goldstone, Bar 40.84 211 IAmb IAmb 23 55 11.2
comp=Z,243nm,0.9s
GSC Goldstone, Bar 40.84 211 P P 23 54 53.8 +1.8
baz=9.9,SNR=30
GSC S S 00 01 01.9 +1.1
baz=9.9
Y22D IRIS PASSCAL I 40.92 198 P P 23 54 55.3 +2.5
Y22D IAmb IAmb 23 55 13.8
comp=Z,233nm,0.8s
Y22D IRIS PASSCAL I 40.92 198 P P 23 54 53.6 +0.8
baz=5.9
Y22D IRIS PASSCAL I 40.92 198 P P 23 54 53.9 +1.1
baz=6.0
Y22D S S 00 01 03.9 +1.8
baz=6.0
Y22F Passcal Instru 40.92 198 P P 23 54 53.4 +0.6
baz=6.0
Y22F S S 00 01 04.8 +2.6
baz=6.0
Y58A Scranton 40.95 164 P P 23 54 54.4 +1.6
Y58A IAmb IAmb 23 55 10.4
comp=Z,295nm,0.8s
Y58A Scranton 40.95 164 P P 23 54 54.2 +1.4
baz=355
Y58A P P 23 54 54.2 +1.4
baz=355
PUL Pulkovo 40.95 40 *ce*P P 23 54 53.3 +0.8
PUL pmax pmax
comp=Z,214nm,1.3s
PUL MLR MLR
comp=Z,34µm,18.0s
Y60A Bolivia 40.97 162 P P 23 54 53.7 +0.7
baz=354,SNR=11
Y60A P P 23 54 53.7 +0.7
baz=354,SNR=11
WACR West Acre 40.98 68 *e*P P 23 54 52.9 0.0
WACR IAmb IAmb 23 54 56.4
comp=Z,138nm,0.9s
WACR IAMs_20 IAMs_20 00 11 50.8
comp=Z,21µm,17.6s
CRNM Carthage 41.02 198 P P 23 54 55.0 +1.3
SBM South Baldy 41.04 199 P P 23 54 54.0 -0.1
Y22A Socorro 41.06 199 P P 23 54 55.5 +1.5
baz=5.9,SNR=47
NEE2 Needles Airpor 41.07 208 P P 23 54 54.8 +1.0
baz=9.1
NEE2 S S 00 01 05.9 +1.9
baz=9.1
SHEM Shemya Is, Ala 41.09 293 P P 23 54 54.2 +0.5
comp=Z,64nm,1.0s,baz=98,slow=22,SNR=1.5
SHEM LR LR 00 13 34.6
comp=Z,4µm,20.5s,baz=44,slow=39
comp=Z,64nm,1.0s
Z35A Perchaven, San 41.10 186 IAmb IAmb 23 55 12.0
comp=Z,704nm,1.7s
Z35A Perchaven, San 41.10 186 P P 23 54 56.1 +2.1
baz=2.0
Z38A Mt. Pleasant 41.12 183 IAmb IAmb 23 55 12.1
comp=Z,519nm,1.2s
Z38A Mt. Pleasant 41.12 183 P P 23 54 55.5 +1.3
baz=1.1,SNR=33
YAK Yakutsk 41.14 331 LR LR 00 12 50.5
comp=Z,7µm,21.4s,baz=12,slow=38
YAK Yakutsk 41.14 331 P P 23 54 53.0 -1.1
YAK IAmb IAmb 23 55 10.5
comp=Z,255nm,0.9s
YAK Yakutsk 41.14 331 ⇑P P 23 54 53.3 -0.8
YAK Yakutsk 41.14 331 *e*P P 23 54 53.1 -0.9
YAK *e**PP pP 23 55 01.8 -1.6
YAK *e* 23 56 28.5
YAK *e*PPP PPP 23 57 04.2
YAK *e*S S 00 01 06.7 +2.2
YAK *e*SS SS 00 04 08.9 +1.8
YAK *e* 00 04 56.6
YAK pmax pmax
comp=Z,147nm,0.9s
YAK pmax pmax
comp=N,71nm,1.0s
YAK pmax pmax
comp=E,35nm,1.1s
YAK pmax pmax
comp=Z,62nm,0.8s
YAK pmax pmax
comp=N,61nm,1.5s
YAK pmax pmax
comp=E,60nm,1.1s
YAK smax smax
comp=E,389nm,3.5s
YAK smax smax
comp=N,1µm,7.3s
YAK MLR MLR
comp=Z,10µm,16.0s
YAK MLR MLR
comp=N,8µm,19.0s
YAK MLR MLR
comp=E,5µm,20.0s
YAK Yakutsk 41.14 331 P P 23 54 53.1 -0.9
YAK sP sP 23 55 09.1 +1.9
STRD Stroud 41.14 71 *e*P P 23 54 54.4 +0.2
STRD IAmb IAmb 23 54 58.6
comp=Z,82nm,0.8s
STRD IAMs_20 IAMs_20 00 10 42.5
comp=Z,14µm,21.5s
CCAC Calif City Air 41.16 213 P P 23 54 57.3 +2.7
GMRC Granite Mounta 41.19 210 P P 23 54 56.7 +1.7
baz=9.4,SNR=31
GMRC S S 00 01 07.7 +1.6
baz=9.4
Z51A Franklin 41.20 171 IAmb IAmb 23 55 12.3
comp=Z,358nm,1.0s
Z51A Franklin 41.20 171 P P 23 54 55.6 +0.7
baz=357,SNR=17
Z47A Carrollton 41.22 174 IAmb IAmb 23 55 11.4
comp=Z,254nm,0.8s
Z47A Carrollton 41.22 174 P P 23 54 55.2 +0.2
baz=358,SNR=22
HEC Hector,Ludlow 41.23 210 P P 23 54 57.2 +1.9
baz=9.7,SNR=16
HEC S S 00 01 08.5 +1.8
baz=9.7
HTL Hartland 41.25 73 *e*P P 23 54 55.3 +0.2
HTL IAmb IAmb 23 55 00.3
comp=Z,117nm,1.0s
HTL IAMs_20 IAMs_20 00 12 56.9
comp=Z,14µm,15.4s
RRX Edison Barstow 41.28 211 P P 23 54 57.1 +1.6
baz=9.9
RRX S S 00 01 10.2 +2.9
baz=9.9
SMMC Simmler 41.30 215 P P 23 54 57.0 +1.3
baz=11
ARVC Arvin 41.30 214 P P 23 54 57.4 +1.7
baz=11
HAW Hawthorne Fire 41.35 166 P P 23 54 56.6 +0.5
baz=356,SNR=16
LRAL Lakeview Retre 41.41 173 IAMs_20 IAMs_20 00 12 50.3
comp=Z,13µm,19.0s
LRAL Lakeview Retre 41.41 173 P P 23 54 56.4 -0.2
baz=358,SNR=22
LRAL Lakeview Retre 41.41 173 P P 23 54 57.3 +0.6
baz=358,SNR=22
LRAL S S 00 01 06.6 -2.5
baz=358
EDW2 Edwards Air Fo 41.42 212 P P 23 54 58.6 +1.8
baz=10,SNR=56
EDW2 S S 00 01 09.6 +0.2
baz=10
KLMR Klimovskoe 41.43 33 *e*P P 23 54 55.3 -1.2
KLMR *e*P P 23 54 55.3 -1.2
KLMR *e*P P 23 54 55.3 -1.2
KLMR *e*pP pP 23 55 05.8 0.0
KLMR AMP 23 55 11.8
comp=Z,474nm,1.1s
KLMR PP PP 23 56 34.4 +2.3
KLMR S S 00 01 04.4 -4.4
KLMR S S 00 01 04.4 -4.4
KLMR LQ LQ 00 08 58.5
KLMR LQ LQ 00 08 58.5
KLMR LR LR 00 09 50.4
KLMR AMP 00 13 31.8
comp=Z,18µm,16.5s
KLMR Klimovskoe 41.43 33 *e*P P 23 54 55.2 -1.2
KLMR *e**PP pP 23 55 05.8 0.0
KLMR 23 56 34.4
KLMR S S 00 01 04.4 -4.4
KLMR pmax pmax
comp=Z,474nm,1.1s
KLMR MLR MLR
comp=Z,18µm,17.0s
SLIT Slitere, Latvi 41.43 48 *e*P P 23 54 57.4 +0.8
SWN1 Swindon 41.47 71 *e*P P 23 54 57.1 +0.2
SWN1 IAmb IAmb 23 55 01.6
comp=Z,245nm,1.2s
SWN1 IAMs_20 IAMs_20 00 10 52.7
comp=Z,16µm,22.7s
VSU Vasula 41.52 44 *ce*P P 23 54 56.3 -0.9
VSU pmax pmax
comp=Z,278nm,0.9s
VSU MLR MLR
comp=Z,86µm,19.0s
VSU Vasula 41.52 44 *e*P P 23 54 56.7 -0.5
PRGR Permogore 41.54 29 *e*P P 23 54 55.2 -2.1
PRGR *e**SP sP 23 55 09.4 -1.1
PRGR pmax pmax
comp=Z,195nm,0.8s
BCW Bitter Crk WRg 41.57 214 P P 23 55 00.3 +2.2
SBD Saint Breward 41.59 74 *e*P P 23 54 57.5 -0.3
ELMS Elmsett, Ipswi 41.65 68 *e*P P 23 54 57.3 -1.1
ELMS IAmb IAmb 23 55 02.5
comp=Z,129nm,0.9s
ELMS IAMs_20 IAMs_20 00 12 20.5
comp=Z,21µm,17.6s
143A Socs Landing, 41.66 179 P P 23 54 59.8 +1.2
baz=360
Y14A Wickenburg 41.68 206 P P 23 55 01.0 +2.0
PKM Mcpherson Peak 41.69 215 P P 23 55 00.7 +1.6
baz=11
NHSC New Hope 41.70 164 P P 23 55 00.7 +1.7
NHSC IAmb IAmb 23 55 16.8
comp=Z,375nm,0.9s
NHSC New Hope 41.70 164 P P 23 55 00.3 +1.3
baz=355
NHSC New Hope 41.70 164 P P 23 55 00.1 +1.1
baz=355,SNR=8.3
NHSC S S 00 01 16.4 +3.0
baz=355
CPRX Cap Rock 41.72 195 P P 23 55 01.5 +2.1
IRM Iron Mountain 41.74 209 P P 23 55 00.6 +1.2
baz=9.1,SNR=23
IRM S S 00 01 13.1 -1.0
baz=9.1
146A Union 41.75 176 P P 23 55 00.8 +1.4
baz=359
OSI Osito Audit: C 41.79 213 P P 23 55 01.4 +1.6
baz=10
OSI S S 00 01 15.1 +0.3
baz=10
WOL Wolverton 41.80 70 *e*P P 23 54 59.3 -0.3
CSU Charleston Sou 41.83 164 P P 23 55 01.5 +1.4
CSU IAmb IAmb 23 55 17.7
comp=Z,457nm,0.8s
152A Waverly Hall 41.87 170 IAmb IAmb 23 55 17.7
comp=Z,302nm,0.8s
152A Waverly Hall 41.87 170 P P 23 55 00.9 +0.5
baz=357,SNR=26
BBRC Big Bear Solar 41.87 211 P P 23 55 02.2 +1.5
baz=9.8
BBRC S S 00 01 17.5 +1.0
baz=9.8
ABTX Abilene, Hawle 41.89 189 IAmb IAmb 23 55 16.9
comp=Z,207nm,0.7s
ABTX Abilene, Hawle 41.89 189 P P 23 55 01.1 +0.5
baz=2.9,SNR=35
ABTX Abilene, Hawle 41.89 189 P P 23 55 01.1 +0.5
baz=3.0,SNR=35
ABTX S S 00 01 17.3 +1.0
baz=3.0
BFSC Mount Baldy Ra 42.00 212 P P 23 55 03.3 +1.7
baz=10.0,SNR=67
BFSC S S 00 01 16.9 -1.3
baz=10.0
154A Montrose 42.00 168 IAmb IAmb 23 55 18.6
comp=Z,460nm,0.8s
154A Montrose 42.00 168 P P 23 55 02.0 +0.5
baz=356,SNR=12
BELC Belle Mtn. Jos 42.00 210 P P 23 55 02.9 +1.2
baz=9.4,SNR=37
BELC S S 00 01 19.0 +0.8
baz=9.4
BLYC Blythe 42.06 208 IAmb IAmb 23 55 21.0
comp=Z,282nm,1.2s
DECC Green Verdugo 42.09 213 P P 23 55 03.8 +1.7
baz=10
DECC S S 00 01 20.0 +0.8
baz=10
SBC Santa Barbara 42.11 214 P P 23 55 04.5 +2.2

baz=11
SBC S **S** **00 01 19.8 +0.4**
baz=11
PASC **Pasadena Art C** **42.15 212** P **P** **23 55 05.2 +2.6**
PASC IAmb IAmb 23 55 23.1
comp=Z,330nm,1.1s
VBMS **Vicksburg** **42.15 178** P **P** **23 55 04.9 +2.3**
VBMS **Vicksburg** **42.15 178** P **P** **23 55 04.9 +2.3**
baz=359
VBMS **Vicksburg** **42.15 178** P **P** **23 55 04.7 +2.1**
baz=359
VBMS S **S** **00 01 19.4 -0.7**
baz=359
BSD **Bornholm Skovb** **42.20 55** ⇑P **P** **23 55 06.1 +3.3**
BSD **Bornholm Skovb** **42.20 55** ⇑P **P** **23 55 06.1 +3.3**
BSD **Bornholm Skovb** **42.20 55** *eP* **P** **23 55 02.6 -0.2**
BSEG **Bad Segeberg** **42.24 59** *eP* **P** **23 55 03.0 -0.2**
comp=Z,142nm,1.3s,baz=339,slow=8.0
BC3 **Big Chuckawall** **42.27 209** P **P** **23 55 05.5 +1.7**
baz=9.2,SNR=48
BC3 S **S** **00 01 24.9 +2.8**
baz=9.2
RGN **Rugen** **42.36 56** P **P** **23 55 05.1 +0.9**
RGN IAmb IAmb 23 55 20.9
comp=Z,465nm,1.0s
RGN **Rugen** **42.36 56** *eP* **P** **23 55 04.4 +0.2**
comp=Z,288nm,1.2s,baz=339,slow=8.0
237A **Washetta, Mont** **42.39 184** P **P** **23 55 05.6 +1.0**
baz=1.4
PMD **Palm Desert** **42.40 210** P **P** **23 55 06.8 +2.1**
PMD IAmb IAmb 23 55 24.6
comp=Z,198nm,1.3s
WHTX **Lake Whitney,** **42.44 186** IAmb IAmb 23 55 24.0
comp=Z,347nm,1.2s
WHTX **Lake Whitney,** **42.44 186** P **P** **23 55 06.3 +1.3**
baz=2.0,SNR=7.3
WHTX **Lake Whitney,** **42.44 186** P **P** **23 55 06.7 +1.7**
baz=2.1,SNR=7.3
WHTX S **S** **00 01 25.5 +1.1**
baz=2.1
PFO **Pinyon Flats O** **42.45 210** LR LR 00 13 23.5
comp=Z,32µm,18.4s,baz=1.0,slow=37
PFO **Pinyon Flats O** **42.45 210** P **P** **23 55 06.8 +1.6**
PFO **Pinyon Flats O** **42.45 210** P **P** **23 55 06.8 +1.6**
baz=9.5,SNR=15
PFO S **S** **00 01 23.9 -0.9**
baz=9.5
PFO **Pinyon Flats O** **42.45 210** *ce*P **P** **23 55 07.8 +2.5**
PFO pmax pmax
comp=Z,307nm,1.5s
PFO MLR MLR
comp=Z,57µm,16.0s
PFO **Pinyon Flats O** **42.45 210** P **P** **23 55 07.2 +1.9**
PFO pP **pP** **23 55 18.0 +3.2**
PFO sP **sP** **23 55 22.2 +3.7**
TPFO **Pinon Flats** **42.45 210** P **P** **23 55 06.5 +1.2**
baz=9.5,SNR=24
TPFO S **S** **00 01 24.7 -0.1**
baz=9.5
250A **Grady** **42.49 172** P **P** **23 55 06.0 +0.6**
baz=358,SNR=18
121A **Cookes Peak, D** **42.53 199** IAmb IAmb 23 55 24.7
comp=Z,401nm,1.5s
121A **Cookes Peak, D** **42.53 199** P **P** **23 55 07.7 +1.7**
baz=6.1,SNR=62
121A **Cookes Peak, D** **42.53 199** P **P** **23 55 07.3 +1.3**
baz=6.2,SNR=62
121A S **S** **00 01 26.2 +0.2**
baz=6.2
SCZ2 **Santa Cruz Isl** **42.53 214** P **P** **23 55 07.5 +1.7**
baz=11
ELSH **Elham, Standar** **42.55 68** *eP* **P** **23 55 04.8 -1.0**
ELSH IAmb IAmb 23 55 09.1
comp=Z,256nm,0.8s
ELSH IAMs_20 IAMs_20 00 12 50.3
comp=Z,25µm,17.9s
MURC **Murrieta** **42.56 211** P **P** **23 55 08.6 +2.5**
baz=9.8,SNR=5.5
MURC S **S** **00 01 27.2 +1.0**
baz=9.8
NATX **Nacogdoches** **42.61 183** IAMs_20 IAMs_20 00 13 08.2
comp=Z,22µm,19.0s
NATX **Nacogdoches** **42.61 183** P **P** **23 55 07.1 +0.7**
baz=0.9,SNR=41
NATX **Nacogdoches** **42.61 183** P **P** **23 55 07.6 +1.2**
baz=1.0,SNR=41
NATX S **S** **00 01 26.0 -0.8**
baz=1.0
FMP **Fort Macarthur** **42.61 212** P **P** **23 55 07.8 +1.4**
baz=10
FMP S **S** **00 01 28.4 +1.6**
baz=10
DUN6 **Lazy B Ranch** **42.63 201** IAmb IAmb 23 55 25.7
comp=Z,772nm,1.3s
255A **Hazlehurst** **42.72 167** P **P** **23 55 07.8 +0.5**
baz=356,SNR=7.2
257A **Skidaway Islan** **42.77 166** P **P** **23 55 09.0 +1.3**
GLA **Glamis** **42.78 208** P **P** **23 55 09.4 +1.5**
GLA **Glamis** **42.78 208** P **P** **23 55 09.5 +1.5**
baz=8.8
GLA S **S** **00 01 28.7 -0.9**
baz=8.8
GLA **Glamis** **42.78 208** P **P** **23 55 09.4 +1.5**
GLA pmax pmax
comp=Z,145nm,0.9s
PBUR **Paburge** **42.85 49** *eP* **P** **23 55 08.8 +0.6**
344A **Westbrook Farm** **42.91 178** P **P** **23 55 11.2 +2.4**
344A IAmb IAmb 23 55 27.7
comp=Z,509nm,1.4s
344A **Westbrook Farm** **42.91 178** P **P** **23 55 11.5 +2.7**
baz=359
CIS **Catalina Islan** **42.93 213** P **P** **23 55 11.1 +2.0**
baz=10
CIS S **S** **00 01 31.5 -0.2**
baz=10
342A **Flagon Creek P** **42.98 180** IAmb IAmb 23 55 27.5
comp=Z,214nm,0.9s
342B **Flagon Creek P** **42.98 180** P **P** **23 55 10.8 +1.4**
baz=360
346A **Big Creek Wild** **42.99 176** P **P** **23 55 10.6 +1.0**
baz=359,SNR=12
SWSC **Sam W. Stewart** **43.02 209** P **P** **23 55 12.0 +2.3**
baz=9.2,SNR=18
SWSC S **S** **00 01 31.4 -1.4**
baz=9.2
352A **Blakely** **43.04 171** P **P** **23 55 11.1 +1.2**
352A IAmb IAmb 23 55 26.8
comp=Z,285nm,0.8s
352A **Blakely** **43.04 171** P **P** **23 55 09.8 -0.1**
baz=357,SNR=10
TUC **Tucson** **43.04 203** P **P** **23 55 11.6 +1.5**
TUC **Tucson** **43.04 203** P **P** **23 55 11.7 +1.7**
baz=7.3
TUC S **S** **00 01 34.9 +1.5**
baz=7.3
TUC **Tucson** **43.04 203** ⇑P **P** **23 55 11.6 +1.5**
TUC **Tucson** **43.04 203** P **P** **23 55 11.6 +1.5**
TUC pmax pmax
comp=Z,195nm,1.1s
TUC MLR MLR
comp=Z,34µm,18.0s
TUC **Tucson** **43.04 203** P **P** **23 55 11.7 +1.7**
TUC pP **sP** **23 55 23.2 0.0**
RETH **Rethem/Aller,** **43.11 61** *eP* **P** **23 55 10.3 +0.1**
comp=Z,74nm,1.2s,baz=339,slow=8.0
IBBN **Ibbenburen** **43.13 62** *eP* **P** **23 55 10.1 -0.3**
comp=Z,94nm,1.1s,baz=339,slow=8.0
TIGA **Tifton** **43.15 169** IAmb IAmb 23 55 27.8
comp=Z,281nm,0.8s
TIGA **Tifton** **43.15 169** P **P** **23 55 11.5 +0.8**
baz=357,SNR=8.9
TIGA **Tifton** **43.15 169** P **P** **23 55 12.1 +1.4**
baz=357,SNR=8.9
TIGA S **S** **00 01 39.4 +4.7**
baz=357
MNTX **Cornudas Mount** **43.15 196** P **P** **23 55 12.0 +1.2**
baz=5.1,SNR=23
MNTX **Cornudas Mount** **43.15 196** P **P** **23 55 12.0 +1.2**
baz=5.2,SNR=23
MNTX S **S** **00 01 36.7 +1.8**
baz=5.2
MONP2 **Monument Peak** **43.15 210** P **P** **23 55 13.1 +2.1**
baz=9.3,SNR=36
MONP2 S **S** **00 01 37.0 +1.7**
baz=9.3
109C **Camp Elliot, M** **43.25 211** P **P** **23 55 13.3 +1.8**
baz=9.6
109C S **S** **00 01 36.1 -0.1**
baz=9.6
SNCC **San Nicolas Is** **43.25 214** P **P** **23 55 15.0 +3.4**
SNCC IAmb IAmb 23 55 32.2
comp=Z,216nm,0.8s
SNCC **San Nicolas Is** **43.25 214** P **P** **23 55 13.0 +1.4**
baz=10
BRAL **Brewton** **43.27 173** IAmb IAmb 23 55 30.6
comp=Z,536nm,0.9s
BRAL IAMs_20 IAMs_20 00 13 58.6
comp=Z,16µm,19.0s
BRAL **Brewton** **43.27 173** P **P** **23 55 13.2 +1.5**
baz=358
BRAL **Brewton** **43.27 173** P **P** **23 55 13.3 +1.5**
baz=358,SNR=5.5
BRAL S **S** **00 01 35.9 -0.6**
baz=358
BRAL **Brewton** **43.27 173** ⇑P **P** **23 55 14.9 +3.1**
VSVD **Vaisvydziai** **43.30 47** *eP* **P** **23 55 12.6 +0.9**
YUH **Yuha Desert** **43.33 209** IAmb IAmb 23 55 31.8
comp=Z,257nm,1.1s
IKP **In-Ko-Pah, Jac** **43.35 210** P **P** **23 55 14.7 +2.2**
baz=9.2,SNR=36
IKP S **S** **00 01 42.3 +4.4**
baz=9.2
RMX **La Rumorosa** **43.39 210** P **P** **23 55 15.7 +2.8**
RMX IAmb IAmb 23 55 33.0
comp=Z,292nm,1.1s
CPBX **Cerro Prieto** **43.47 209** P **P** **23 55 17.4 +4.0**
CPBX IAmb IAmb 23 55 32.4
comp=Z,249nm,1.2s
JSA **Saint Aubin** **43.51 72** *eP* **P** **23 55 14.3 +0.8**
JSA IAmb IAmb 23 55 17.8
comp=Z,100nm,1.2s
JSA IAMs_20 IAMs_20 00 13 02.0
comp=Z,10µm,18.6s
JSA **Saint Aubin** **43.51 72** ⇓P **P** **23 55 14.6 +1.1**
NRDL **Niedersach Rie** **43.52 60** *eP* **P** **23 55 13.3 -0.1**
comp=Z,80nm,1.1s,baz=339,slow=8.0
GUVIX **Guadalupe Vict** **43.55 208** P **P** **23 55 16.3 +2.3**
GUVIX IAmb IAmb 23 55 33.7
comp=Z,552nm,1.4s
441A **DeRidder** **43.60 181** P **P** **23 55 16.2 +1.7**
baz=0.3
TJX **Tijuana** **43.62 211** P **P** **23 55 17.6 +3.0**
TJX IAmb IAmb 23 55 37.6
comp=Z,346nm,1.3s
214A **Organ Pipe Nat** **43.62 205** P **P** **23 55 16.6 +1.9**
baz=8.0,SNR=14
214A S **S** **00 01 42.0 +0.3**
baz=8.0
435B **Jarrell** **43.65 186** IAmb IAmb 23 55 33.8
comp=Z,274nm,0.9s
435B **Jarrell** **43.65 186** P **P** **23 55 15.7 +0.9**
baz=2.0,SNR=13
435B **Jarrell** **43.65 186** P **P** **23 55 16.1 +1.2**
baz=2.1
435B S **S** **00 01 43.1 +1.0**
baz=2.1
PABE **Paberze** **43.75 47** IAmb IAmb 23 55 30.8
comp=Z,332nm,1.0s
PABE **Paberze** **43.75 47** *eP* **P** **23 55 15.3 -0.1**
BUG **Bochum--Univer** **43.81 63** *eP* **P** **23 55 15.2 -0.6**
comp=Z,72nm,1.1s,baz=339,slow=8.0
KLNR **Kaliningrad** **43.82 51** *ce*P **P** **23 55 17.0 +1.1**
KLNR pmax pmax
comp=Z,438nm,1.1s
KLNR MLR MLR
comp=Z,6µm,16.0s
451A **Vernon** **43.87 172** P **P** **23 55 17.9 +1.4**
baz=357
FLTG **Flechtingen** **43.93 59** *eP* **P** **23 55 16.1 -0.7**
comp=Z,73nm,1.1s,baz=339,slow=8.0
456A **Hilliard** **43.95 167** P **P** **23 55 18.9 +1.7**
456A IAmb IAmb 23 55 35.2
comp=Z,322nm,1.1s
456A **Hilliard** **43.95 167** P **P** **23 55 18.4 +1.2**
baz=356,SNR=8.9
ESJX **Sierra Juarez** **43.96 209** P **P** **23 55 19.2 +1.6**
ASSE **Asse, Remlinge** **43.99 60** *eP* **P** **23 55 17.1 -0.2**
comp=Z,60nm,1.2s,baz=339,slow=8.0
ROSF **Rostrenen** **44.00 74** *eP* **P** **23 55 18.1 +0.6**
ROSF pmax pmax
comp=Z,122nm,1.1s
BEBN **Eben Emael** **44.01 65** *dP* **P** **23 55 16.7 -0.8**
JCT **Junction City** **44.03 189** P **P** **23 55 18.4 +0.4**
baz=2.9,SNR=26
JCT **Junction City** **44.03 189** P **P** **23 55 18.4 +0.4**
baz=3.0,SNR=26
JCT S **S** **00 01 47.5 -0.3**
baz=3.0
JCT **Junction City** **44.03 189** ⇑P **P** **23 55 18.2 +0.3**
JCT **Junction City** **44.03 189** ⇑P **P** **23 55 18.2 +0.3**
PIX **Pinacate** **44.09 206** P **P** **23 55 19.7 +1.4**
ISAL **Salakas** **44.12 46** *eP* **P** **23 55 20.3 +2.0**
BSTI **Sart Tilman** **44.18 65** *dP* **P** **23 55 18.6 -0.3**
comp=Z,19nm,1.2s
CLZ **Clausthal** **44.18 60** *eP* **P** **23 55 19.2 +0.2**
comp=Z,144nm,1.2s,baz=339,slow=8.0
CCX **Cesse** **44.19 210** P **P** **23 55 20.2 +1.0**
BBSR **BB Station** **44.21 146** P **P** **23 55 21.4 +2.2**
BBSR IAmb IAmb 23 55 32.9
comp=Z,583nm,1.8s
BBSR **BB Station** **44.21 146** P **P** **23 55 20.6 +1.3**
baz=350
BBSR **BB Station** **44.21 146** ⇑P **P** **23 55 21.5 +2.2**
BBSR **BB Station** **44.21 146** P **P** **23 55 20.7 +1.5**
BBSR pP **sP** **23 55 30.8 -1.6**
BMRD **Maredsous** **44.24 66** *dP* **P** **23 55 18.8 -0.6**
comp=Z,72nm,1.0s
BGES **Gesves** **44.25 65** *dP* **P** **23 55 18.7 -0.7**
comp=Z,46nm,1.1s
SGMF **Saint Gilles** **44.26 73** *eP* **P** **23 55 19.7 +0.1**
SGMF pmax pmax
comp=Z,140nm,1.1s
MEM **Membach** **44.27 65** *dP* **P** **23 55 19.2 -0.4**
comp=Z,63nm,1.1s
BCLA **Clavier** **44.27 65** *dP* **P** **23 55 18.8 -0.8**
comp=Z,35nm,1.0s
KASTN **Kahler Asten** **44.31 62** *eP* **P** **23 55 19.8 -0.2**
comp=Z,114nm,1.1s,baz=339,slow=8.0
BTNL **Ternell** **44.32 64** *dP* **P** **23 55 19.8 -0.3**
comp=Z,97nm,1.2s
BAIF **Baives** **44.33 66** *eP* **P** **23 55 21.9 +1.8**
BAIF pmax pmax
comp=Z,128nm,1.2s
FLN **La Foliniere** **44.33 71** *eP* **P** **23 55 20.1 0.0**
FLN pmax pmax
comp=Z,95nm,0.7s
IIGN **Ignalina** **44.35 46** *eP* P 23 55 13.8 -6.3
GTTG **Gottingen** **44.36 61** *eP* **P** **23 55 20.7 +0.4**
comp=Z,398nm,1.1s,baz=339,slow=8.0
RUE **Ruedersdorf** **44.38 57** *eP* **P** **23 55 22.1 +1.6**
RUE **Ruedersdorf** **44.38 57** *eP* **P** **23 55 20.4 -0.1**
comp=Z,144nm,1.1s,baz=339,slow=8.0
DOU **Dourbes** **44.39 66** P **P** **23 55 21.3 +0.7**
DOU **Dourbes** **44.39 66** *dP* **P** **23 55 19.6 -0.9**
comp=Z,77nm,1.1s
QUIF **Quistinic** **44.41 74** *eP* **P** **23 55 20.2 -0.6**
QUIF pmax pmax
comp=Z,119nm,1.0s
GKP **Gorka Klasztor** **44.42 54** *eP* **P** **23 55 22.4 +1.6**
GKP *eL* L 00 14 26.9
comp=Z,14µm,17.5s
GKP **Gorka Klasztor** **44.42 54** P **P** **23 55 22.0 +1.2**
GKP **Gorka Klasztor** **44.42 54** *eP* **P** **23 55 22.6 +1.8**
HKT **Hockley** **44.43 184** P **P** **23 55 22.3 +1.3**
HKT IAmb IAmb 23 55 40.9
comp=Z,388nm,1.6s
HKT **Hockley** **44.43 184** IAMs_20 IAMs_20 00 14 36.1
comp=Z,19µm,18.0s
HKT **Hockley** **44.43 184** P **P** **23 55 22.7 +1.6**
baz=1.3
HKT **Hockley** **44.43 184** ⇑P **P** **23 55 22.6 +1.6**
HKT **Hockley** **44.43 184** P **P** **23 55 22.3 +1.3**
HKT pmax pmax
comp=Z,388nm,1.7s
HKT MLR MLR
comp=Z,19µm,18.0s
HKT **Hockley** **44.43 184** P **P** **23 55 22.5 +1.6**
HKT sP **sP** **23 55 37.8 +3.6**
GIVF **Givet** **44.44 66** *eP* **P** **23 55 20.0 -1.0**
GIVF pmax pmax
comp=Z,59nm,0.8s
IDID **Didziasalis** **44.48 45** *eP* P 23 55 16.5 -4.7
PET **Petropavlovsk** **44.49 305** P **P** **23 55 21.5 +0.2**
PET IAmb IAmb 23 55 24.3
comp=Z,348nm,0.9s
PET **Petropavlovsk** **44.49 305** ⇑P **P** **23 55 21.9 +0.5**
PET **Petropavlovsk** **44.49 305** *c i*P **P** **23 55 21.7 +0.4**
PET pmax pmax
comp=Z,555nm,1.3s
PET MLR MLR
comp=Z,11µm,20.0s
PET **Petropavlovsk** **44.49 305** P **P** **23 55 21.8 +0.5**
PET pP **sP** **23 55 32.6 -1.9**
RCHB **Rochefort** **44.49 65** *dP* **P** **23 55 20.7 -0.7**
comp=Z,45nm,1.0s
BHOU **Houvegnez** **44.50 65** *dP* **P** **23 55 21.1 -0.4**
comp=Z,78nm,1.2s
GRR **Gorron** **44.58 72** *eP* **P** **23 55 22.3 +0.2**
GRR pmax pmax
comp=Z,129nm,1.1s
LDF **La Druitiere** **44.58 71** *eP* **P** **23 55 22.0 -0.1**
LDF pmax pmax
comp=Z,128nm,1.0s
AHRW **Bad Neuenahr-A** **44.59 64** *eP* **P** **23 55 21.9 -0.2**
comp=Z,143nm,1.0s,baz=339,slow=8.0
PEA0B **Petropavlovsk-** **44.62 306** P **P** **23 55 23.7 +1.3**
PEA0B IAmb IAmb 23 55 38.7
comp=Z,164nm,0.8s
PEA0B **Petropavlovsk-** **44.62 306** *ce*P **P** **23 55 24.2 +1.8**
PETK **Petropavlovsk-** **44.62 306** P **P** **23 55 22.6 +0.2**
comp=Z,68nm,0.9s,baz=114,slow=3.7,SNR=34
PETK LR LR 00 15 15.7
comp=Z,13µm,21.7s,baz=14,slow=38
comp=Z,68nm,0.9s
SFX **San Felipe** **44.77 208** P **P** **23 55 25.8 +2.0**
NACGM **Naroch** **44.88 46** ⇓*i*P **P** **23 55 24.2 -0.2**
comp=Z,698nm,0.9s,baz=340
KIRV **Kirov** **44.98 27** P **P** **23 55 24.1 -1.0**
comp=Z,51nm,0.7s,baz=126,slow=0.8,SNR=20
KIRV S S 00 01 52.8 -8.1
comp=Z,14nm,0.6s,baz=154,slow=22,SNR=1.1
KIRV LR LR 00 15 50.1
comp=Z,20µm,18.4s,baz=342,slow=38
comp=Z,51nm,0.7s
KIRV **Kirov** **44.98 27** *ce*P **P** **23 55 24.7 -0.4**
UBBA **Unterbreizbach** **45.04 61** *eP* **P** **23 55 26.0 +0.4**
comp=Z,45nm,1.0s,baz=339,slow=8.0
NEUB **Neuenburg** **45.10 59** *eP* **P** **23 55 26.0 -0.2**
comp=Z,113nm,1.1s,baz=339,slow=8.0
WLF **Walferdange** **45.18 65** P **P** **23 55 27.4 +0.6**
WLF IAMs_20 IAMs_20 00 13 28.2
comp=Z,12µm,21.0s
WLF **Walferdange** **45.18 65** P **P** **23 55 27.4 +0.6**
WLF pmax pmax
comp=Z,164nm,1.2s
WLF MLR MLR
comp=Z,12µm,21.0s
WLF **Walferdange** **45.18 65** *dP* **P** **23 55 26.6 -0.2**
comp=Z,65nm,1.2s
WLF **Walferdange** **45.18 65** *eP* **P** **23 55 26.8 0.0**
comp=Z,120nm,1.2s,baz=339,slow=8.0
WLF *ep*P **pP** **23 55 31.0 -5.2**
baz=340,slow=8.0
TNS **Taunus Mts** **45.22 63** *eP* **P** **23 55 27.2 -0.1**
comp=Z,129nm,1.1s,baz=339,slow=8.0
656A **Willston** **45.26 168** P **P** **23 55 29.6 +1.9**
656A IAmb IAmb 23 55 46.1
comp=Z,684nm,1.9s
656A **Willston** **45.26 168** P **P** **23 55 30.0 +2.3**
baz=356
CLL **Collm** **45.29 58** IAMs_20 IAMs_20 00 15 06.0
comp=Z,12µm,18.0s
CLL **Collm** **45.29 58** *eP* **P** **23 55 27.0 -0.7**
comp=Z,148nm,1.1s
CLL *eP*max 23 55 30.0
CLL *i* x x 23 55 31.8
comp=Z,98nm,1.0s
CLL *i* pP **pP** **23 55 38.5 +1.4**
comp=Z,148nm,1.1s
CLL *eP*P **PP** **23 57 12.0 -1.6**
CLL *eP*cS **PcS** **00 01 02.0 +1.4**
CLL *eS* **S** **00 02 05.0 -0.6**
CLL *eS*max 00 02 52.0
comp=N,7µm,34.3s
CLL *eS*max 00 02 52.0
comp=E,2µm,34.2s
CLL *eS*max 00 02 52.0
comp=Z,4µm,34.5s
CLL *eS*S **SS** **00 05 30.0 +1.7**
CLL LmH 00 14 00.0
comp=N,9µm,18.9s
CLL LmH 00 14 00.0
comp=E,4µm,19.1s
CLL LmV 00 14 00.0
comp=Z,12µm,18.3s
CLL Lmax 00 15 00.0
CLL **Collm** **45.29 58** *eP* **P** **23 55 27.0 -0.7**
CLL *i* 23 55 31.8
CLL *eS* **S** **00 02 05.0 -0.6**
CLL pmax pmax
comp=Z,148nm,1.1s
CLL MLR MLR
comp=Z,12µm,18.3s
CLL **Collm** **45.29 58** *eP* **P** **23 55 27.1 -0.7**
comp=Z,98nm,1.0s,baz=339,slow=8.0
TX31 **Lajitas Ar. Si** **45.38 194** IAmb IAmb 23 55 46.9
comp=Z,326nm,1.4s
TX31 **Lajitas Ar. Si** **45.38 194** P **P** **23 55 29.3 +0.5**
baz=4.2,SNR=42
MNK **Minsk** **45.47 45** *i* P **P** **23 55 28.5 -0.6**
comp=E,6.0nm,1.1s
MNK *i* P **P** **23 55 28.5 -0.6**
comp=N,82nm,1.1s
MNK *i* P **P** **23 55 28.5 -0.6**
comp=Z,108nm,1.1s,baz=341
MNK *i* PP **PP** **23 57 13.7 -1.6**
MNK *i* PPP PPP 23 57 54.2
MNK *i* S **S** **00 02 07.0 -1.0**
MNK *i* SSS SSS 00 06 20.2
MNK *i* LQ LQ 00 09 59.9
MNK *i* LR LR 00 11 50.2
MNK *i* LRM MLR 00 13 46.4
comp=E,1µm,15.3s
MNK *i* LRM MLR 00 13 54.0
comp=Z,29µm,17.8s
MNK *i* LRM MLR 00 13 58.2
comp=N,17µm,16.1s
MNK **Minsk** **45.47 45** *i* P **P** **23 55 28.4 -0.6**
MNK *i* 23 57 13.7
MNK *i* PPP PPP 23 57 54.2
MNK *i* S **S** **00 02 07.0 -1.0**
MNK *i* SSS SSS 00 06 20.1
MNK pmax pmax
comp=Z,108nm,1.1s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK pmax pmax
comp=N,82nm,1.1s
MNK MLR MLR
comp=E,1µm,15.0s
MNK MLR MLR
comp=Z,29µm,18.0s
MNK MLR MLR
comp=N,17µm,16.0s
735A **Kenedy** **45.57 187** P **P** **23 55 31.8 +1.7**
735A IAmb IAmb 23 55 49.8
comp=Z,307nm,1.4s
735A **Kenedy** **45.57 187** P **P** **23 55 32.1 +2.0**
baz=2.0
MOX **Moxa** **45.59 60** *eP* **P** **23 55 29.9 -0.2**
comp=Z,46nm,1.1s,baz=339,slow=8.0
MOX *ep*P **pP** **23 55 34.1 -5.4**
baz=340,slow=8.0
MOX *eL* L 00 14 42.3
comp=Z,12µm,20.2s
CLF **Chambon-Foret** **45.72 69** IAmb IAmb 23 55 49.1
comp=Z,442nm,1.2s
CLF **Chambon-Foret** **45.72 69** ⇑P **P** **23 55 30.8 -0.3**
CLF **Chambon-Foret** **45.72 69** P **P** **23 55 30.9 -0.3**
CLF pP **sP** **23 55 41.9 -2.4**
FBE **Freiberg** **45.73 58** *eP* **P** **23 55 30.9 -0.3**
comp=Z,80nm,1.1s,baz=339,slow=8.0
FBE *ep*P **pP** **23 55 35.1 -5.6**
baz=340,slow=8.0
PLN **Plauen** **45.86 59** *eP* **P** **23 55 32.2 -0.1**
comp=Z,93nm,1.1s,baz=339,slow=8.0
PLN *ep*P **pP** **23 55 36.3 -5.4**
baz=340,slow=8.0
BRG **Berggiesshubel** **45.92 58** *eP* **P** **23 55 31.8 -0.9**

BRG Amp 23 55 33.2
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 45.92 58 P **P** **23 55 33.9 +1.2**
BRG Amp 23 55 34.8
comp=Z,18nm,0.9s
BRG Berggiesshubel 45.92 58 P P 23 55 37.5 +4.9
BRG Amp 23 55 38.5
comp=Z,57nm,1.0s
BRG Berggiesshubel 45.92 58 P P 23 55 44.1 +11
BRG Amp 23 55 48.8
comp=Z,94nm,1.2s
BRG Berggiesshubel 45.92 58 S **S** **00 02 11.0 -3.6**
BRG Berggiesshubel 45.92 58 SS SS 00 05 49.0 +10
BRG Amp 00 15 35.0
comp=N,7.3nm,17.4s
BRG Amp 00 15 40.0
comp=E,8.4nm,18.1s
BRG Amp 00 15 41.0
comp=Z,13nm,16.9s
BRG Berggiesshubel 45.92 58 *e*P **P** **23 55 31.7 -0.9**
BRG 23 55 37.5
BRG 23 55 44.1
BRG 23 57 05.0
BRG pmax pmax
comp=Z,57nm,1.0s
BRG Berggiesshubel 45.92 58 *e*P **P** **23 55 32.2 -0.5**
comp=Z,57nm,1.0s,baz=339,slow=8.0
BRG *ep*P **pP** **23 55 36.3 -5.8**
baz=340,slow=8.0
WERD Werda 45.93 59 *e*P **P** **23 55 32.6 -0.2**
comp=Z,57nm,1.0s,baz=339,slow=8.0
WERD *ep*P **pP** **23 55 36.9 -5.4**
baz=340,slow=8.0
TANN Tannenbergstha 46.00 59 *e*P **P** **23 55 33.3 -0.1**
comp=Z,69nm,1.0s,baz=339,slow=8.0
TANN *ep*P **pP** **23 55 37.5 -5.3**
baz=340,slow=8.0
MOS Moscow 46.03 37 *e*P **P** **23 55 32.1 -1.4**
MOS *e* 23 57 13.2
MOS *e*S **S** **00 02 14.1 -1.9**
MOS pmax pmax
comp=Z,1μm,2.8s
MOS pmax pmax
comp=Z,327nm,1.1s
MOS smax smax
comp=N,3μm,5.5s
MOS smax smax
comp=E,2μm,5.5s
MOS MLR MLR
comp=N,15μm,17.0s
MOS MLR MLR
comp=E,2μm,17.0s
MOS MLR MLR
comp=Z,16μm,17.0s
WERN Wernitzgruen 46.10 59 *e*P **P** **23 55 34.2 0.0**
comp=Z,86nm,1.1s,baz=339,slow=8.0
WERN *ep*P **pP** **23 55 38.3 -5.3**
baz=340,slow=8.0
833A Chaparral WMA, 46.16 189 P **P** **23 55 35.8 +1.0**
833A Chaparral WMA, 46.16 189 P **P** **23 55 35.5 +0.7**
baz=2.6,SNR=36
833A Chaparral WMA, 46.16 189 P **P** **23 55 36.0 +1.2**
baz=2.7,SNR=36
833A S **S** **00 02 18.5 0.0**
baz=2.7
NKC Novy Kostel 46.16 59 *e*P **P** **23 55 34.7 0.0**
NKC *e*S **S** **00 02 14.4 -3.8**
NKC AMS AMS 00 14 40.0
comp=Z,10μm,20.4s
NKC Novy Kostel 46.16 59 *e*P **P** **23 55 34.7 0.0**
NKC *e*S **S** **00 02 14.4 -3.8**
NKC MLR MLR
comp=Z,10μm,20.4s
HSIG 46.31 203 P **P** **23 55 37.2 +1.2**
HSIG IAmb IAmb 23 55 55.1
comp=Z,161nm,1.2s
HSIG 46.31 203 ⇓P **P** **23 55 37.7 +1.7**
MANZ Manzenberg 46.31 60 *e*P **P** **23 55 35.6 -0.3**
comp=Z,16nm,1.0s,baz=339,slow=8.0
MANZ *ep*P **pP** **23 55 39.8 -5.5**
baz=340,slow=8.0
GRA1 Grafenberg Arr 46.38 61 IAmb IAmb 23 55 53.1
comp=Z,132nm,0.8s
GRA1 IAMs_20 IAMs_20 00 15 44.8
comp=Z,11μm,19.0s
GRF Grafenberg Arr 46.38 61 *e*P **P** **23 55 36.7 +0.3**
comp=Z,116nm,0.9s,baz=339,slow=8.0
GRF *e*L L 00 15 45.8
comp=Z,11μm,19.0s
GRFO Grafenberg 46.38 61 P **P** **23 55 36.9 +0.5**
GRFO IAmb IAmb 23 55 53.0
comp=Z,141nm,0.9s
GRFO IAMs_20 IAMs_20 00 15 44.8
comp=Z,11μm,19.0s
GRFO Grafenberg 46.38 61 P **P** **23 55 36.9 +0.5**
GRFO pmax pmax
comp=Z,141nm,0.9s
GRFO MLR MLR
comp=Z,11μm,19.0s
PVCC Panska Ves 46.38 57 *e*P **P** **23 55 36.1 -0.2**
PVCC *e*S **S** **00 02 20.6 -0.7**
PVCC AMS AMS 00 16 20.0
comp=Z,12μm,15.8s
PVCC Panska Ves 46.38 57 *e*P **P** **23 55 36.1 -0.2**
PVCC *e*S **S** **00 02 20.6 -0.7**
PVCC MLR MLR
comp=Z,12μm,15.8s
MFF Saint Martin d 46.42 72 *e*P **P** **23 55 37.2 +0.5**
MFF pmax pmax
comp=Z,108nm,1.0s
OBN Obninsk 46.45 38 P **P** **23 55 36.2 -0.6**
comp=Z,16nm,0.8s,baz=333,slow=6.7,SNR=23
OBN S **S** **00 02 16.9 -5.2**
comp=Z,1.6nm,0.4s,baz=115,slow=23,SNR=1.5
OBN LR LR 00 15 32.8
comp=Z,6μm,19.1s,baz=3.5,slow=37
comp=Z,16nm,0.8s
OBN Obninsk 46.45 38 P **P** **23 55 36.2 -0.6**
OBN IAmb IAmb 23 55 52.2
comp=Z,313nm,0.9s
OBN Obninsk 46.45 38*c i*P **P** **23 55 36.2 -0.6**
OBN *i* S S 00 02 14.4 -7.7
OBN pmax pmax
comp=Z,162nm,1.3s
OBN MLR MLR
comp=Z,22μm,17.0s
OBN Obninsk 46.45 38 P **P** **23 55 37.3 +0.5**
OBN pP **sP** **23 55 49.6 -0.4**
KSP Ksiaz 46.48 56 *e*P **P** **23 55 37.5 +0.4**
KSP *e*S **S** **00 02 24.2 +1.6**
KSP *e*L L 00 15 10.3
comp=Z,10μm,20.6s
KSP Ksiaz 46.48 56 ⇑P **P** **23 55 37.3 +0.2**
KSP Ksiaz 46.48 56 P **P** **23 55 38.0 +0.9**
BEL Belsk 46.54 52 *e*P **P** **23 55 37.9 +0.4**
BEL *e*L L 00 14 52.4
comp=Z,18μm,19.8s
BEL Belsk 46.54 52 ⇑P **P** **23 55 41.5 +4.0**
BEL Belsk 46.54 52 ⇑P **P** **23 55 41.5 +4.0**
ROTZ Rotzenmuhle 46.54 60 *e*P **P** **23 55 37.8 +0.2**
comp=Z,40nm,1.1s,baz=339,slow=8.0
ROTZ *ep*P **pP** **23 55 41.8 -5.2**
baz=340,slow=8.0
DWPF Disney Wildern 46.58 167 P **P** **23 55 39.9 +1.8**
baz=356
DWPF Disney Wildern 46.58 167 P **P** **23 55 39.6 +1.5**
baz=356
CDF Champ du Feu 46.62 65 *e*P **P** **23 55 38.2 -0.1**
CDF pmax pmax
comp=Z,49nm,0.8s
OSTC Ostas 46.73 56 *e*P **P** **23 55 38.9 -0.2**
OSTC *e*S **S** **00 02 26.3 0.0**
OSTC AMS AMS 00 15 00.0
comp=Z,10μm,19.6s
UPC Upice 46.73 56 *e*P **P** **23 55 40.1 +1.0**
UPC *e*S **S** **00 02 20.7 -5.6**
UPC AMS AMS 00 14 30.0
comp=Z,11μm,20.7s
UPC Upice 46.73 56 *e*P **P** **23 55 40.1 +1.0**
UPC *e*S **S** **00 02 20.7 -5.6**
UPC MLR MLR
comp=Z,11μm,20.7s
STU Stuttgart 46.75 63 IAMs_20 IAMs_20 00 14 41.7
comp=Z,13μm,21.0s
STU Stuttgart 46.75 63 P **P** **23 55 40.4 +1.2**
STU Stuttgart 46.75 63 *e*P **P** **23 55 39.3 0.0**
comp=Z,261nm,1.1s,baz=339,slow=8.0
STU *ep*P **pP** **23 55 43.6 -5.1**
baz=340,slow=8.0
HAU Haudompre 46.76 66 *e*P **P** **23 55 39.8 +0.4**
HAU pmax pmax
comp=Z,43nm,0.8s
ECH Echery 46.77 65 P **P** **23 55 39.1 -0.3**
LOR Lormes 46.83 68 *e*P **P** **23 55 40.2 +0.3**
LOR pmax pmax
comp=Z,109nm,1.0s
KVTX Kingsville 46.88 187 P **P** **23 55 42.9 +2.5**
KVTX IAmb IAmb 23 55 58.6
comp=Z,146nm,0.9s
KVTX Kingsville 46.88 187 P **P** **23 55 42.4 +2.0**
baz=2.0
KVTX Kingsville 46.88 187 ⇑P **P** **23 55 43.5 +3.1**
PRU Pruhonice 46.88 58 *e*P **P** **23 55 40.2 0.0**
PRU *e*S **S** **00 02 22.2 -6.2**
PRU AMS AMS 00 15 40.0
comp=Z,10μm,17.3s
PRU Pruhonice 46.88 58 *e*P **P** **23 55 40.2 0.0**
PRU *e*S **S** **00 02 22.2 -6.2**
PRU MLR MLR
comp=Z,10μm,17.3s
SSF Saint Saulge 46.93 69 *e*P **P** **23 55 39.9 -0.8**
SSF pmax pmax
comp=Z,131nm,1.0s
DPC Dobruska-Polom 46.95 56 *e*P **P** **23 55 40.7 -0.1**
DPC *e*S **S** **00 02 26.8 -2.7**
DPC AMS AMS 00 15 00.0
comp=Z,9μm,19.6s
DPC Dobruska-Polom 46.95 56 *e*P **P** **23 55 40.7 -0.1**
DPC *e*S **S** **00 02 26.8 -2.7**
DPC MLR MLR
comp=Z,9μm,19.6s
BFO Black Forest 46.95 64 P **P** **23 55 40.4 -0.5**
BFO IAMs_20 IAMs_20 00 14 29.1
comp=Z,11μm,21.0s
BFO Black Forest 46.95 64 P **P** **23 55 40.4 -0.5**
BFO pmax pmax
comp=Z,91nm,1.0s
BFO Black Forest 46.95 64 P **P** **23 55 40.2 -0.7**
BFO Black Forest 46.95 64 *e*P **P** **23 55 40.7 -0.1**
comp=Z,98nm,1.2s,baz=339,slow=8.0
BFO *ep*P **pP** **23 55 45.1 -5.2**
baz=340,slow=8.0
BOD Bodaibo 46.99 341 *e*P **P** **23 55 38.9 -2.1**
BOD pmax pmax
comp=Z,266nm,1.8s
GOPC GO Pecny, Ondr 47.01 58 *e*P **P** **23 55 41.2 -0.1**
GOPC *e*S **S** **00 02 25.2 -5.0**
GOPC AMS AMS 00 16 40.0
comp=Z,13μm,15.5s
GOPC GO Pecny, Ondr 47.01 58 *e*P **P** **23 55 41.2 -0.1**
GOPC *e*S **S** **00 02 25.2 -5.0**
GOPC MLR MLR
comp=Z,13μm,15.5s
HINF Hinteralfeld 47.06 65 *e*P **P** **23 55 42.1 +0.3**
HINF pmax pmax
comp=Z,52nm,0.8s
AVF Avril sur Loir 47.14 69 *e*P **P** **23 55 41.4 -0.9**
AVF pmax pmax
comp=Z,128nm,1.0s
BGF Bois d'Agland 47.23 69 *e*P **P** **23 55 42.0 -1.0**
BGF pmax pmax
comp=Z,119nm,1.0s
SKR Severo-Kuril's 47.24 306 *e*P P 23 55 38.2 -4.8
KRLC Kraliky 47.31 56 *e*P **P** **23 55 43.4 -0.3**
KRLC *e*S **S** **00 02 30.1 -4.5**
KRLC AMS AMS 00 16 50.0
comp=Z,11μm,16.0s
KRLC Kraliky 47.31 56 *e*P **P** **23 55 43.4 -0.3**
KRLC *e*S **S** **00 02 30.1 -4.5**
KRLC MLR MLR
comp=Z,11μm,16.0s
TCF Toulx Ste Croi 47.32 70 *e*P **P** **23 55 42.7 -1.0**
TCF pmax pmax
comp=Z,99nm,0.9s
SMF Signal de Mont 47.40 68 *e*P **P** **23 55 44.1 -0.3**
SMF pmax pmax
comp=Z,143nm,1.0s
KHC Kasperske Hory 47.46 59 IAmb IAmb 23 56 02.0
comp=Z,186nm,1.5s
KHC Kasperske Hory 47.46 59 *e*P **P** **23 55 44.7 -0.1**
KHC *ep*P **sP** **23 55 56.0 -2.1**
KHC *e*S **S** **00 02 36.0 -0.7**
KHC AMS AMS 00 18 10.0
comp=Z,11μm,16.5s
KHC Kasperske Hory 47.46 59*ce*P **P** **23 55 45.6 +0.8**
KHC pmax pmax
comp=Z,165nm,1.3s
KHC MLR MLR
comp=Z,19μm,16.0s
SLE Schleitheim 47.52 64 P **P** **23 55 45.8 +0.5**
TREC Trest 47.75 57 *e*P **P** **23 55 46.8 -0.2**
TREC *e*S **S** **00 02 38.0 -2.8**
TREC AMS AMS 00 17 10.0
comp=Z,18μm,16.0s
TREC Trest 47.75 57 *e*P **P** **23 55 46.8 -0.2**
TREC *e*S **S** **00 02 38.0 -2.8**
TREC MLR MLR
comp=Z,18μm,16.0s
GEC2 GERESS Array S 47.76 59 IAmb IAmb 23 56 04.0
comp=Z,179nm,1.4s
GEC2 GERESS Array S 47.76 59 *e*P **P** **23 55 47.6 +0.4**
comp=Z,97nm,1.2s,baz=339,slow=8.0
GEC2 *ep*P **pP** **23 55 51.6 -5.1**
baz=340,slow=8.0
GERES GERESS Array B 47.76 59 P **P** **23 55 46.6 -0.6**
comp=Z,8.6nm,0.9s,baz=305,slow=7.8,SNR=28
GERES S **S** **00 02 41.0 0.0**
comp=Z,0.7nm,0.8s,baz=354,slow=5.4,SNR=1.0
GERES LR LR 00 16 07.4
comp=Z,9μm,19.9s,baz=346,slow=36
comp=Z,8.8nm,0.9s
MORC Moravsky Berou 47.76 55 ⇑P **P** **23 55 47.2 0.0**
MORC Moravsky Berou 47.76 55 *e*P **P** **23 55 46.9 -0.3**
MORC Moravsky Berou 47.76 55 P **P** **23 55 47.1 0.0**
FUR Furstenfeldbru 47.82 61 *e*P **P** **23 55 47.9 +0.3**
comp=Z,198nm,1.0s,baz=339,slow=8.0
OKC Ostrava-Krasne 47.84 55 *e*P **P** **23 55 48.6 +0.9**
OKC *e*S S 00 02 32.8 -9.2
OKC AMS AMS 00 17 00.0
comp=Z,13μm,16.2s
OKC Ostrava-Krasne 47.84 55 *e*P **P** **23 55 48.6 +0.9**
OKC *e*S S 00 02 32.8 -9.2
OKC MLR MLR
comp=Z,13μm,16.2s
OJC Ojcow 47.84 53 *e*P **P** **23 55 49.1 +1.4**
OJC *e*S **S** **00 02 40.5 -1.6**
OJC *e*L L 00 15 11.5
comp=Z,10μm,22.6s
OJC Ojcow 47.84 53 IAmb IAmb 23 56 03.8
comp=Z,140nm,1.1s
OJC Ojcow 47.84 53 ⇑P **P** **23 55 47.4 -0.3**
OJC Ojcow 47.84 53 P **P** **23 55 48.2 +0.5**
HPIG 47.90 196 P **P** **23 55 50.1 +1.4**
HPIG 47.90 196 ⇓P **P** **23 55 50.5 +1.8**
CKRC Cesky Krumlov 47.92 59 *e*P **P** **23 55 48.9 +0.5**
CKRC *e*S S 00 02 34.5 -8.8
SVE Sverdlovsk 47.92 20 *e*P **P** **23 55 48.8 +0.5**
SVE *e* 23 57 45.8
SVE *e*S **S** **00 02 46.1 +3.1**
SVE pmax pmax
comp=Z,189nm,1.1s
SVE MLR MLR
comp=N,9μm,17.0s
SVE MLR MLR
comp=Z,17μm,17.0s
SVE MLR MLR
comp=E,6μm,15.0s
NKL Nikolayevsk 47.97 320 *e*P **P** **23 55 47.7 -0.9**
NKL *e* 23 57 39.1
NKL *e*S **S** **00 02 43.8 0.0**
NKL pmax pmax
comp=E,248nm,0.9s
NKL pmax pmax
comp=N,393nm,1.0s
NKL pmax pmax
comp=Z,1μm,1.0s
NKL smax smax
comp=N,938nm,3.5s
NKL smax smax
comp=E,1μm,3.5s
NKL MLR MLR
comp=E,22μm,18.0s
NKL MLR MLR
comp=N,9μm,14.0s
NKL MLR MLR
comp=Z,22μm,19.0s
VRAC Vranov 47.99 56 P **P** **23 55 48.1 -0.7**
comp=Z,20nm,1.0s,baz=342,slow=8.1,SNR=20
VRAC LR LR 00 15 56.3
comp=Z,9μm,20.5s,baz=342,slow=36
comp=Z,20nm,1.0s
VRAC Vranov 47.99 56 ⇑P **P** **23 55 49.1 +0.2**
VRAC Vranov 47.99 56 *e*P **P** **23 55 50.2 +1.3**
VRAC Vranov 47.99 56 P **P** **23 55 49.0 +0.2**
UBR Ueberruh 47.99 63 *e*P **P** **23 55 49.4 +0.4**
comp=Z,120nm,1.0s,baz=339,slow=8.0
CABF La Chapelle 48.00 67 *e*P **P** **23 55 48.6 -0.5**
CABF pmax pmax
comp=Z,119nm,0.8s
RJF Les Rejaudoux 48.05 71 *e*P **P** **23 55 49.1 -0.3**
RJF pmax pmax
comp=Z,90nm,1.0s
ARU Arti 48.12 21 LR LR 00 17 58.4
comp=Z,26μm,20.3s,baz=339,slow=38
ARU Arti 48.12 21 P **P** **23 55 50.1 +0.3**
ARU IAmb IAmb 23 56 06.7
comp=Z,264nm,1.1s
ARU Arti 48.12 21*d i*P **P** **23 55 50.4 +0.6**
ARU 23 57 20.4
ARU 23 57 45.7
ARU PPP PPP 23 58 26.6
ARU S **S** **00 02 48.2 +2.4**
ARU 00 05 38.4
ARU SS **SS** **00 06 14.9 +0.6**
ARU pmax pmax
comp=Z,96nm,0.8s
ARU MLR MLR
comp=Z,24μm,18.0s
ARU Arti 48.12 21 P **P** **23 55 49.9 +0.1**
ARU pP **sP** **23 56 01.4 -1.6**
SRIG Santa Rosalia 48.13 204 P **P** **23 55 51.5 +1.3**
SRIG IAmb IAmb 23 56 09.4
comp=Z,152nm,0.9s
KRUC Moravsky 48.17 57 *e*P **P** **23 55 50.1 -0.2**
LFF La Frestale 48.19 72 *e*P **P** **23 55 50.0 -0.5**
LFF pmax pmax
comp=Z,83nm,0.8s
MAUC Maruska 48.21 55 *e*P **P** **23 55 51.3 +0.7**
DAVA Damuels 48.30 63 *e*P **P** **23 55 51.7 +0.2**
comp=Z,50nm,0.9s,SNR=24
DAVA Damuels 48.30 63 ⇓P **P** **23 55 51.9 +0.4**
RETA Reutte 48.33 62 *e*P **P** **23 55 52.6 +1.0**
comp=Z,46nm,0.9s,SNR=8.5
SENIN Lac Senin/Sane 48.53 66 IAmb IAmb 23 55 59.6
comp=Z,267nm,0.8s
MOTA Moosalm 48.54 62 *e*P **P** **23 55 53.4 0.0**
comp=Z,130nm,1.2s,SNR=43
CAF Calviac 48.55 71 *e*P **P** **23 55 53.7 +0.4**
CAF pmax pmax
comp=Z,41nm,1.0s
PGAV Gavieira, Arco 48.57 82 *e*P **P** **23 55 53.5 -0.1**
comp=Z,206nm,2.4s
PGAV *e*S **S** **00 02 52.4 -0.4**
PGAV *e*LQ LQ 00 08 14.3
PGAV *e*LR LR 00 10 35.0
comp=Z,6μm,18.0s
JAVC Velka Javorina 48.65 56 *e*P **P** **23 55 56.3 +2.2**
WATA Walderalm 48.66 62 *e*P **P** **23 55 54.5 +0.2**
comp=Z,85nm,1.0s,SNR=38
SQTA Sankt Quirin 48.69 62 *e*P **P** **23 55 55.1 +0.7**
comp=Z,75nm,1.3s,SNR=27
NIE Niedzica 48.71 53 *e*P **P** **23 55 56.4 +1.9**
NIE *e*S **S** **00 02 55.1 +0.7**
NIE *e*L L 00 15 50.6
comp=Z,6μm,22.5s
WTTA Wattenberg 48.75 61 *e*P **P** **23 55 55.6 +0.7**
comp=Z,88nm,1.0s,SNR=25
FETA Feichten 48.76 62 *ep*P **P** **23 55 56.9 +1.9**
comp=Z,48nm,1.0s,SNR=12
DAVOX Davos/Dischmat 48.77 63 P **P** **23 55 55.3 +0.1**
comp=Z,22nm,0.7s,baz=329,slow=12
DAVOX LR LR 00 16 08.4
comp=Z,12μm,21.6s,baz=344,slow=36
comp=Z,22nm,0.7s
MOA Molln 48.82 59 *e*P **P** **23 55 56.6 +1.3**
comp=Z,9.1nm,0.8s,SNR=9.1
BIOA Bad Ischl, Aus 48.82 60 *e*P **P** **23 55 55.3 -0.1**
comp=Z,14nm,0.9s,SNR=9.4
SSB Saint Sauveur 48.85 69 P **P** **23 55 56.8 +1.2**
SSB IAmb IAmb 23 56 13.6
comp=Z,210nm,1.4s
SSB Saint Sauveur 48.85 69 ⇑P **P** **23 55 55.8 +0.2**
SSB Saint Sauveur 48.85 69 P **P** **23 55 56.8 +1.2**
SSB pmax pmax
comp=Z,210nm,1.4s
SSB MLR MLR
comp=Z,21μm,18.0s
SSB Saint Sauveur 48.85 69 P **P** **23 55 55.6 0.0**
PCAB Cabril 48.88 82 *e*P **P** **23 55 55.4 -0.4**
comp=Z,222nm,1.3s
STHS Stebnicka Huta 48.92 53 *e*P **P** **23 55 57.6 +1.6**
STHS pmax pmax
comp=Z,54nm,1.0s
STHS Stebnicka Huta 48.92 53 *e*P **P** **23 55 57.6 +1.6**
SMOL Smolenice 48.92 56 *e*P **P** **23 55 58.4 +2.3**
SMOL pmax pmax
comp=Z,107nm,1.5s
TUE Stuetta 48.93 64 P **P** **23 55 58.2 +1.7**
TUE IAMs_20 IAMs_20 00 16 13.6
comp=Z,15μm,20.0s
FUORN Ofenpass-Fuorn 49.02 63 P **P** **23 55 57.5 +0.3**
MODS Modra-Piesok 49.02 56 *e*P **P** **23 55 57.3 +0.4**
MODS pmax pmax
comp=Z,521nm,1.4s
MODS Modra-Piesok 49.02 56 *e*P **P** **23 55 57.2 +0.4**
CONA Conrad Observa 49.12 58 *e*P **P** **23 55 59.3 +1.7**
comp=Z,27nm,1.0s,SNR=23
LVV L'vov 49.13 50 *e*P **P** **23 55 58.0 +0.4**
LVV *e* 23 56 09.0
LVV *e*S **S** **00 02 54.9 -5.3**
LVV *e*PS 00 03 06.9
LVV pmax pmax
comp=Z,220nm,1.4s
LVV MLR MLR
comp=E,2μm,14.0s
LVV MLR MLR
comp=N,14μm,18.0s
LVV MLR MLR
comp=Z,17μm,17.0s
PBRG Braganca 49.13 80 *e*P **P** **23 55 57.3 -0.5**
comp=Z,141nm,1.4s
ZST Bratislava 49.15 56 *e*P **P** **23 56 00.0 +2.2**
ZST pmax pmax
comp=Z,524nm,1.6s
ZST Bratislava 49.15 56 *e*P **P** **23 56 00.0 +2.2**
LPL La Plagne 49.18 67 *e*P **P** **23 55 58.4 +0.1**
LPL pmax pmax
comp=Z,32nm,0.9s
POLO Lamas de Olo 49.25 82 *e*P **P** **23 55 58.9 +0.1**
comp=Z,69nm,1.3s
PTO Porto 49.25 82 *e*P **P** **23 55 59.1 +0.5**
comp=Z,225nm,1.2s
VYHS Vyhne 49.26 55 *e*P **P** **23 56 00.1 +1.5**
VYHS pmax pmax
comp=Z,90nm,1.1s
VYHS Vyhne 49.26 55 *e*P **P** **23 56 00.1 +1.5**
LPSR Galich'ya Gora 49.26 37 *e*P **P** **23 55 58.8 +0.2**
LPSR *e**SP **sP** **23 56 10.4 -1.4**
LPSR *e*S **S** **00 02 59.2 -2.7**
LPSR pmax pmax
comp=Z,150nm,1.1s
LPSR smax smax
comp=E,740nm,8.1s
LPSR MLR MLR
comp=Z,8μm,16.0s
VIVF Saint-Julien-l 49.28 69 *e*P **P** **23 56 00.2 +1.3**
VIVF pmax pmax
comp=Z,72nm,1.0s
KBA Koelnbreinsper 49.33 60 *ep*P **P** **23 56 01.7 +2.3**
comp=Z,20nm,0.8s
KBA Koelnbreinsper 49.33 60 ⇓P **P** **23 56 01.9 +2.4**
KBA Koelnbreinsper 49.33 60 ⇓P **P** **23 56 01.8 +2.4**
AKASG Malin Array Be 49.34 46 P **P** **23 55 58.1 -1.1**
comp=Z,20nm,0.6s,baz=343,slow=8.0,SNR=82
AKASG LR LR 00 16 24.3
comp=Z,30μm,21.2s,baz=330,slow=36
comp=Z,20nm,0.6s

AKASG Malin Array Be 49.34 46 IAmb IAmb 23 56 14.4
comp=Z,209nm,1.1s
AKBB Malin Array Si 49.34 46 IAmb IAmb 23 56 14.3
comp=Z,253nm,1.2s
AKBB Malin Array Si 49.34 46*d iP* **P** **23 55 58.5 -0.7**
AKBB pmax pmax
comp=Z,80nm,1.1s
PVRL Vila Real 49.37 81 *e*P **P** **23 55 59.1 -0.5**
comp=Z,100nm,1.6s
AK05 Malin Array Si 49.41 46 P P **23 55 59.9 +0.1**
AK05 IAmb IAmb 23 56 15.0
comp=Z,266nm,1.2s
RONA Rosalia, Austr 49.43 57 *e*P **P** **23 56 00.5 +0.5**
comp=Z,51nm,0.9s,SNR=46
ABTA Abfaltersbach 49.44 61 *e*P **P** **23 56 01.7 +1.6**
comp=Z,20nm,0.8s,SNR=7.4
CRVS Cervenica-Dubn 49.45 53 *e*P **P** **23 56 03.6 +3.5**
CRVS pmax pmax
comp=Z,276nm,1.6s
CRVS Cervenica-Dubn 49.45 53 *e*P **P** **23 56 03.6 +3.5**
ZEA Zeya 49.51 330 *e*P **P** **23 56 00.5 0.0**
ZEA *e* 23 56 11.5
ZEA *e* 23 57 58.5
ZEA *e*S **S** **00 03 07.2 +1.8**
ZEA pmax pmax
comp=Z,70nm,1.1s
ZEA pmax pmax
comp=E,200nm,4.6s
ZEA pmax pmax
comp=N,300nm,6.0s
ZEA pmax pmax
comp=Z,600nm,4.7s
ZEA pmax pmax
comp=E,200nm,6.3s
ZEA pmax pmax
comp=Z,600nm,5.3s
ZEA smax smax
comp=E,700nm,12.2s
ORIF Oris-en-Rattie 49.53 68 *e*P **P** **23 56 00.4 -0.4**
ORIF pmax pmax
comp=Z,85nm,1.0s
BNI Bardonecchia 49.60 67 P **P** **23 56 02.4 +0.9**
BNI IAmb IAmb 23 56 20.0
comp=Z,202nm,1.4s
BNI IAMs_20 IAMs_20 00 16 10.4
comp=Z,12µm,22.0s
BNI Bardonecchia 49.60 67 P **P** **23 56 02.4 +0.9**
BNI pmax pmax
comp=Z,202nm,1.5s
KECS Kecovo 49.63 54 *e*P **P** **23 56 03.8 +2.3**
KECS Kecovo 49.63 54 *e*P **P** **23 56 03.8 +2.3**
MVO Moncorvo 49.65 81 *e*P **P** **23 56 01.6 -0.2**
comp=Z,176nm,1.3s
MVO *e*S **S** **00 03 09.3 +1.4**
MVO *e*LQ LQ 00 08 36.4
MVO *e*LR LR 00 10 22.2
comp=Z,6µm,20.0s
ARSA Arzberg 49.68 58 *e*P **P** **23 56 02.4 +0.5**
comp=Z,18nm,0.8s,SNR=22
ARSA Arzberg 49.68 58 ⇑P **P** **23 56 03.1 +1.2**
ETSF Etsaut 49.76 74 *e*P **P** **23 56 02.9 +0.3**
ETSF pmax pmax
comp=Z,79nm,1.4s
SRO Srobarova 49.78 56 *e*P **P** **23 56 04.8 +2.2**
SRO pmax pmax
comp=Z,223nm,1.5s
SRO Srobarova 49.78 56 *e*P **P** **23 56 04.8 +2.2**
TYV Tymovskoe 49.81 317 *e*P **P** **23 56 04.8 +2.1**
TYV *e*S **S** **00 03 14.5 +4.9**
TYV pmax pmax
comp=Z,23nm,1.0s
TYV pmax pmax
comp=Z,600nm,4.0s
TYV smax smax
comp=N,600nm,6.4s
TYV smax smax
comp=E,600nm,6.4s
MYKA Terra Mystica 49.82 60 *e*P **P** **23 56 04.7 +1.7**
comp=E,40nm,1.2s,SNR=8.0
CIMO Cimolais 49.83 61 IAmb IAmb 23 56 41.4
comp=Z,122nm,1.5s
PVIS Viseu 49.84 82 *e*P **P** **23 56 03.0 -0.2**
comp=Z,199nm,1.1s
UZH Uzhgorod 49.88 52 *e*P **P** **23 56 02.4 -1.0**
UZH *i* 23 56 10.2
UZH *i* 23 56 18.2
UZH *e* 23 57 23.0
UZH *e* 23 58 02.5
UZH *e* 23 58 52.4
UZH *i*S **S** **00 03 07.6 -3.2**
UZH *i* 00 03 18.4
UZH *e* 00 06 37.7
CTI Castel Tesino 49.89 62 IAmb IAmb 23 56 10.4
comp=Z,161nm,1.0s
MONC Moncucco Torin 49.89 66 ⇓P **P** **23 56 06.2 +2.7**
MBDF Montbardon 49.93 67 *e*P **P** **23 56 03.9 -0.1**
MBDF pmax pmax
comp=Z,91nm,1.8s
STAL STALIGIAL 49.95 61 P **P** **23 56 05.4 +1.5**
PTCC Patocco-Chiusa 49.96 60 ⇓P **P** **23 56 03.8 -0.3**
PRED Cave del Predi 49.98 60 P **P** **23 56 04.2 0.0**
PRED IAmb IAmb 23 57 04.2
comp=Z,106nm,0.7s
SALO Salr 50.02 63 IAmb IAmb 23 56 10.4
comp=Z,105nm,0.9s
SALO Salr 50.02 63 ⇓P **P** **23 56 04.8 +0.2**
PSZ Piszkesteto 50.04 54 ⇑P **P** **23 56 05.2 +0.6**
PSZ Piszkesteto 50.04 54 IAmb IAmb 23 56 21.3
comp=Z,236nm,1.3s
PSZ IAMs_20 IAMs_20 00 19 06.2
comp=Z,12µm,18.0s
PSZ Piszkesteto 50.04 54 P **P** **23 56 05.2 +0.6**
SOKA Soboth 50.10 59 *e*P **P** **23 56 05.0 -0.2**
comp=Z,56nm,1.0s,SNR=22
OBKA Obir 50.15 59 *e*P **P** **23 56 06.6 +1.1**
comp=Z,107nm,1.1s,SNR=11
OBKA Obir 50.15 59 *e*P **P** **23 56 06.6 +1.1**
ROBS Robic 50.15 60 *e*P **P** **23 56 04.5 -1.0**
PERS Pernice 50.16 59 *i* P **P** **23 56 06.6 +1.0**
PERS *e*S **S** **00 03 12.5 -2.3**
PERS *e*SS SS 00 07 01.5 +14
PERS IAMs_20 IAMs_20 00 16 26.5
comp=Z,7µm,19.7s
COI Coimbra 50.17 83 *e*P **P** **23 56 07.7 +2.1**
comp=Z,93nm,1.9s
COI Coimbra 50.17 83 P P **23 56 06.9 +1.2**
COI Coimbra 50.17 83 ⇑P **P** **23 56 07.8 +2.1**
COI Coimbra 50.17 83 P **P** **23 56 06.9 +1.2**
COI pmax pmax
comp=Z,111nm,1.2s
VORR Voronezh 50.20 37 *e*P **P** **23 56 05.3 -0.4**
VORR *e*S S 00 03 06.5 -8.6
VORR pmax pmax
comp=Z,50nm,1.2s
VORR MLR MLR
comp=Z,17µm,17.0s
MTE Manteigas 50.23 82 *e*P **P** **23 56 05.7 -0.5**
comp=Z,184nm,1.2s
MTE *e*S **S** **00 03 16.6 +0.7**
MTE *e*LQ LQ 00 09 33.2
MTE *e*LR LR 00 11 41.9
comp=Z,6µm,16.0s
MTE Manteigas 50.23 82 P **P** **23 56 05.6 -0.5**
MTE IAmb IAmb 23 56 23.7
comp=Z,104nm,0.9s
PCAS Casmilo, Conde 50.30 83 *e*P **P** **23 56 06.6 0.0**
comp=Z,163nm,2.4s
TRPA Tarpa 50.41 52 ⇑P **P** **23 56 08.2 +0.8**
GROS Grobnik 50.41 59 *e*P **P** **23 56 08.3 +0.8**
SABO M.te Sabotino 50.42 60 IAmb IAmb 23 56 34.1
comp=Z,58nm,1.0s
VSR Storozhevoye 50.64 37 *e*P **P** **23 56 09.1 +0.1**
VSR *e**SP **pP** **23 56 19.8 +1.3**
VSR *e*S S 00 03 13.4 -7.8
VSR pmax pmax
comp=Z,70nm,1.1s
VSR smax smax
comp=N,2µm,9.0s
VSR MLR MLR
comp=Z,26µm,17.0s
BSZH Besenyszg 50.70 54 ⇑P **P** **23 56 10.1 +0.6**
PSBE So Bento 50.72 83 *e*P **P** **23 56 09.7 -0.1**
comp=Z,212nm,1.2s
PCBR Castelo Branco 50.77 82 *e*P **P** **23 56 09.8 -0.4**
comp=Z,185nm,1.0s

PRMA PARMA 50.77 64 IAmb IAmb 23 56 17.4
comp=Z,272nm,1.0s
BELG Belogornoye 50.78 31 P **P** **23 56 09.3 -0.8**
comp=Z,108nm,0.8s,baz=329,slow=1.9,SNR=34
BELG S S 00 03 13.4 -10
comp=Z,21nm,0.9s,baz=227,slow=17,SNR=1.7
BELG LR LR 00 17 54.0
comp=Z,17µm,21.1s,baz=349,slow=36
comp=Z,108nm,0.8s
BELG Belogornoye 50.78 31*c iP* **P** **23 56 09.2 -0.9**
BELG pmax pmax
comp=Z,75nm,0.9s
BELG MLR MLR
comp=Z,1µm,15.0s
CEY Cerknica 50.84 60 *e*P **P** **23 56 09.1 -1.6**
GOLS Golise 50.87 59 *i* P **P** **23 56 10.5 -0.4**
SBF Sospel 50.91 67 *e*P **P** **23 56 14.5 +3.3**
SBF pmax pmax
comp=Z,63nm,0.7s
SKDS Skadanscina 50.93 60 *e*P **P** **23 56 11.8 +0.5**
MSSA Maissana 51.00 65 P **P** **23 56 13.7 +1.7**
GRNR Gornyy 51.00 322⇑*iP* **P** **23 56 11.7 -0.1**
GRNR *e* 23 57 23.8
GRNR *e*S **S** **00 03 29.2 +3.0**
GRNR *e*SS **SS** **00 07 00.4 -0.1**
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=E,10.0nm,1.1s
GRNR pmax pmax
comp=Z,80nm,1.0s
GRNR smax smax
comp=N,2.0nm,1.1s
CRES Cresnjev 51.00 59 *e*P **P** **23 56 11.7 -0.2**
BMR Baia Mare 51.05 51 ⇑P **P** **23 56 12.4 +0.2**
BMR Baia Mare 51.05 51 P **P** **23 56 12.4 +0.2**
VRH Novokhopyorsk 51.06 35 *e*P **P** **23 56 12.2 0.0**
VRH *e**SP **sP** **23 56 23.6 -1.9**
VRH *e*S **S** **00 03 22.0 -5.1**
VRH pmax pmax
comp=Z,150nm,0.9s
VRH smax smax
comp=N,2µm,7.7s
VRH MLR MLR
comp=Z,9µm,15.0s
PMAFR Mafra 51.11 84 *e*P **P** **23 56 14.7 +1.9**
comp=Z,207nm,1.4s
PMAFR Mafra 51.11 84 P P 23 56 21.2 +8.5
PMAFR S **S** **00 03 21.2 -6.9**
LPIG La Paz 51.12 201 LR LR 00 18 59.4
comp=Z,20µm,18.3s,baz=1.0,slow=37
PMRV Marv??o 51.18 82 *e*P **P** **23 56 14.0 +0.7**
comp=Z,78nm,1.2s
PMRV *e*S **S** **00 03 29.8 +0.8**
PMRV *e*LR LR 00 11 56.6
comp=Z,5µm,18.0s
BOJS Bojanci 51.26 59 *e*P **P** **23 56 14.4 +0.6**
PMTG Montargil 51.29 83 *e*P **P** **23 56 13.2 -0.9**
comp=Z,182nm,1.1s
ZCCA Zocca 51.32 63 IAmb IAmb 23 56 52.2
comp=Z,253nm,1.2s
VLC Villacollemand 51.36 64 IAmb IAmb 23 56 57.1
comp=Z,177nm,1.0s
VLC Villacollemand 51.36 64 ⇓P **P** **23 56 16.2 +1.6**
MORH Mrgy, Hungar 51.37 56 ⇓P **P** **23 56 14.7 +0.2**
LIS Lisbon 51.37 84 *e*P **P** **23 56 15.9 +1.3**
LIS *e*S **S** **00 03 34.6 +3.1**
LIS IAMs_20 IAMs_20 00 15 14.9
comp=Z,14µm,13.0s
LIS Lisbon 51.37 84 *e*P **P** **23 56 15.9 +1.3**
LIS *e*S **S** **00 03 34.6 +3.1**
MESR Meseseni 51.43 52 ⇑P **P** **23 56 16.5 +1.5**
BURAR Bucovina Array 51.47 50 ⇓P **P** **23 56 15.9 +0.4**
BURAR Bucovina Array 51.47 50 P **P** **23 56 15.8 +0.4**
SLBS Sierra La Lagu 51.49 201 P **P** **23 56 17.2 +1.4**
SLBS Sierra La Lagu 51.49 201 ⇑P **P** **23 56 16.8 +0.9**
SLBS Sierra La Lagu 51.49 201 P **P** **23 56 17.0 +1.1**
SLBS pP **pP** **23 56 28.3 +2.8**
SLBS sP **sP** **23 56 32.2 +3.1**
SORM Soroca 51.62 47 ⇑P **P** **23 56 16.4 -0.1**
SORM Soroca 51.62 47 P **P** **23 56 16.3 -0.1**
UGL Uglegorsk 51.63 317 *e*P **P** **23 56 16.9 +0.4**
UGL *e* 23 56 28.2
UGL *e*S **S** **00 03 39.1 +4.3**
UGL pmax pmax
comp=Z,170nm,0.8s
UGL pmax pmax
comp=Z,1µm,5.0s
UGL smax smax
comp=E,1µm,6.0s
UGL smax smax
comp=N,3µm,7.0s
PESTR Estremoz 51.65 82 *e*P **P** **23 56 16.3 -0.5**
comp=N,115nm,1.4s
PESTR Estremoz 51.65 82 P **P** **23 56 16.4 -0.5**
PESTR Estremoz 51.65 82 P **P** **23 56 18.8 +2.0**
PESTR Estremoz 51.65 82 ⇑P **P** **23 56 16.2 -0.5**
DRGR 51.72 52 ⇑P **P** **23 56 18.9 +1.5**
DRGR 51.72 52 P **P** **23 56 18.8 +1.5**
SOR Soroa 51.77 169 P **P** **23 56 17.8 -0.1**
SOR Soroa 51.77 169 P **P** **23 56 17.8 -0.1**
SOR pmax pmax
comp=Z,123nm,1.1s
ARCR ARCALIA 51.79 51 ⇑P **P** **23 56 18.2 +0.5**
ZAIG Zacatecas 51.84 192 P **P** **23 56 19.6 +0.9**
ZAIG IAmb IAmb 23 56 37.0
comp=Z,159nm,0.8s
ZAIG Zacatecas 51.84 192 ⇑P **P** **23 56 20.0 +1.3**
EVO Evora 51.85 83 *e*P **P** **23 56 17.8 -0.5**
comp=Z,116nm,1.3s
EVO Evora 51.85 83 P **P** **23 56 18.0 -0.2**
EVO S **S** **00 03 36.8 -1.4**
ESDC Sonseca Array 51.87 79 P **P** **23 56 18.2 -0.3**
comp=Z,45nm,0.8s,baz=340,slow=7.2,SNR=180
ESDC S S 00 03 28.5 -10
comp=Z,1.3nm,0.9s,baz=331,slow=7.5,SNR=1.5
ESDC LR LR 00 16 06.7
comp=Z,6µm,21.6s,baz=339,slow=34
comp=Z,45nm,0.8s
ESDC Sonseca Array 51.87 79 IAmb IAmb 23 56 36.8
comp=Z,178nm,1.2s
PAB San Pablo 51.89 79 P **P** **23 56 18.5 -0.2**
PAB San Pablo 51.89 79 ⇑P **P** **23 56 18.3 -0.4**
PAB San Pablo 51.89 79 P **P** **23 56 18.5 -0.2**
PAB pmax pmax
comp=Z,130nm,1.1s
PAB San Pablo 51.89 79 P **P** **23 56 18.2 -0.4**
PAB pP **sP** **23 56 29.7 -2.3**
MARR Marisel-Cluj 51.92 52 ⇓P **P** **23 56 18.8 -0.1**
CBBR Cluj-Babes-Bol 51.92 52 ⇓P **P** **23 56 19.1 +0.3**
CJR Cluj-Napoca 51.98 52 ⇑P **P** **23 56 21.2 +1.9**
CJR Cluj-Napoca 51.98 52 P **P** **23 56 21.2 +1.9**
SIRR Siria 51.99 53 ⇓P **P** **23 56 21.1 +1.8**
ZAA0 Zalesovo Array 52.04 2 IAmb IAmb 23 56 32.8
comp=Z,337nm,1.2s
ZALV Zalesovo Beam 52.04 2 P **P** **23 56 19.1 -0.3**
comp=Z,42nm,0.6s,baz=1.1,slow=7.1,SNR=72
ZALV LR LR 00 20 24.8
comp=Z,10µm,19.3s,baz=0.5,slow=38
ZALV PKPPKP **P'P'df** **00 26 56.0 -2.3**
comp=Z,0.8nm,0.7s,baz=135,slow=3.7,SNR=4.4
comp=Z,42nm,0.6s
ZALV Zalesovo Beam 52.04 2 *i* P **P** **23 56 19.2 -0.3**
ZALV pmax pmax
comp=Z,41nm,0.6s
PNCL Nicolau / Gran 52.10 84 *e*P **P** **23 56 19.9 -0.3**
comp=Z,152nm,1.4s
A051A Mrakovica 52.11 58 *e*P **P** **23 56 20.2 0.0**
A052A Srbac 52.16 57 *e*P **P** **23 56 20.5 0.0**
OSSC Osservatorio P 52.17 63 P **P** **23 56 21.6 +1.0**
IAS Iasi 52.35 48 ⇑P **P** **23 56 21.9 0.0**
IAS Iasi 52.35 48 P **P** **23 56 21.9 0.0**
PBEJ Beja 52.36 83 *e*P **P** **23 56 21.9 -0.2**
comp=Z,143nm,1.1s
BRVK Borovoye 52.41 13 P **P** **23 56 23.2 +1.0**
BRVK Borovoye 52.41 13 IAMs_20 IAMs_20 00 22 00.6
comp=Z,12µm,18.0s
BRVK Borovoye 52.41 13*ce*P **P** **23 56 23.0 +0.7**
BRVK pmax pmax
comp=Z,142nm,0.8s
BRVK MLR MLR
comp=Z,10µm,15.0s
BRVK Borovoye 52.41 13 P **pP** **23 56 34.0 +2.2**
BRVK S **S** **00 03 45.5 0.0**

BRVK Borovoye 52.41 13 P **P** **23 56 23.2 +1.0**
BRVK pP **sP** **23 56 33.8 -1.7**
BRVK sP **pP** **23 56 38.1 +6.3**
BLY Banja Luka 52.42 58 ⇓P **P** **23 56 23.9 +1.5**
BLY Banja Luka 52.42 58 *e*P **P** **23 56 22.2 -0.2**
PBAR Barrancos 52.45 82 *e*P **P** **23 56 22.3 -0.4**
comp=Z,242nm,1.2s
BVAR Borovoye Array 52.45 13 LR LR 00 22 15.8
comp=Z,14µm,18.5s,baz=358,slow=40
A050A Klekovaca 52.52 59 *e*P **P** **23 56 23.2 -0.1**
PGF Pioggiola 52.53 66 *e*P **P** **23 56 28.0 +4.6**
PGF pmax pmax
comp=Z,75nm,1.2s
SURR Surduc 52.58 53 ⇑P **P** **23 56 23.9 +0.3**
PTEO Sao Teotonio 52.58 84 *e*P **P** **23 56 26.2 +2.5**
comp=Z,128nm,1.5s
BZS Buzias 52.60 54 P **P** **23 56 24.2 +0.5**
BZS Buzias 52.60 54 ⇓P **P** **23 56 24.3 +0.5**
DEV Deva 52.62 53 ⇑P **P** **23 56 24.3 +0.4**
DEV Deva 52.62 53 P **P** **23 56 24.3 +0.4**
FRGS Fruska Gora 52.63 55 ⇑P **P** **23 56 25.1 +1.1**
FRGS Fruska Gora 52.63 55 *e*P **P** **23 56 24.9 +0.9**
PCVE Castro Verde 52.69 83 *e*P **P** **23 56 26.3 +1.8**
comp=Z,105nm,1.4s
MDB Medias 52.70 51 ⇓P **P** **23 56 26.2 +1.6**
MDB Medias 52.70 51 P **P** **23 56 26.1 +1.6**
MGRS Mrkonjic Grad 52.71 58 *e*P **P** **23 56 24.5 -0.1**
BANR Banloc 52.71 54 ⇑P **P** **23 56 26.3 +1.7**
MURB Monte Urbino 52.72 62 P **P** **23 56 26.3 +1.5**
MURB IAmb IAmb 23 56 40.3
comp=Z,159nm,0.9s
CASP Castiglione de 52.76 64 P **P** **23 56 27.4 +2.4**
CIT Chita 52.77 340 *e*P **P** **23 56 25.0 0.0**
CIT *e* 23 56 37.0
CIT *e* 23 58 21.6
CIT pmax pmax
comp=Z,370nm,2.6s
KIS Kishinev 52.80 47 ⇑P **P** **23 56 26.8 +1.6**
KIS Kishinev 52.80 47 P **P** **23 56 26.8 +1.6**
TESR Tescani 52.82 49 ⇑P **P** **23 56 25.1 -0.3**
MORF Marmelete 52.83 84 *e*P **P** **23 56 26.9 +1.2**
MORF *e*S **S** **00 03 54.8 +3.0**
MORF IAMs_20 IAMs_20 00 16 10.8
comp=Z,12µm,21.8s
MORF Marmelete 52.83 84 *e*P **P** **23 56 25.2 -0.4**
comp=Z,137nm,1.4s
MORF Marmelete 52.83 84 P **P** **23 56 26.5 +0.9**
MORF Marmelete 52.83 84 ⇑P **P** **23 56 26.7 +1.1**
MORF Marmelete 52.83 84 *e*P **P** **23 56 26.8 +1.2**
MORF *e*S **S** **00 03 54.7 +3.0**
MILM Milestii Mici 52.87 47 ⇓P **P** **23 56 25.4 -0.4**
MILM Milestii Mici 52.87 47 P **P** **23 56 25.3 -0.4**
HEH HeiHe 52.89 329 *e*P **P** **23 56 25.2 -0.6**
HEH pP **P** **23 56 27.2 +1.4**
HEH PP **PP** **23 58 26.8 +1.8**
HEH S **S** **00 03 50.7 -1.4**
HEH SS **SS** **00 07 29.4 -0.9**
HEH pmax pmax
comp=Z,60nm,0.8s
HEH pmax pmax
comp=Z,2µm,7.7s
HEH LR LR
comp=Z,7µm,20.8s
HEH LR LR
comp=Z,9µm,19.6s
HEH LR LR
comp=Z,8µm,23.0s
VASR Vaslui 52.93 48 ⇑P **P** **23 56 26.2 0.0**
PFVI Vila Bisbo 52.94 84 *e*P **P** **23 56 28.3 +1.9**
comp=Z,88nm,1.6s
PFVI Vila Bisbo 52.94 84 P **P** **23 56 27.7 +1.3**
PFVI Vila Bisbo 52.94 84 P **P** **23 56 27.8 +1.5**
PFVI S **S** **00 03 48.0 -5.2**
PVAQ Vaqueiros 52.99 83 *e*P **P** **23 56 26.5 -0.3**
comp=Z,91nm,1.4s
PVAQ *e*S **S** **00 03 53.6 -0.2**
PVAQ *e*LQ LQ 00 09 48.3
PVAQ *e*LR LR 00 12 00.6
comp=Z,12µm,18.0s
PVAQ Vaqueiros 52.99 83 P **P** **23 56 27.6 +0.9**
PVAQ Vaqueiros 52.99 83 P **P** **23 56 28.9 +2.2**
PVAQ Vaqueiros 52.99 83 ⇑P **P** **23 56 26.4 -0.3**
OZUR 53.04 50 ⇑P **P** **23 56 28.4 +1.4**
GZR Gura Zlata 53.06 53 P **P** **23 56 27.5 +0.3**
GZR Gura Zlata 53.06 53 ⇑P **P** **23 56 27.6 +0.3**
FDMO Fiordimonte 53.07 62 P **P** **23 56 28.6 +1.2**
DOPR Dopca 53.08 51 ⇑P **P** **23 56 27.5 +0.1**
TEKS Tekeris 53.15 56 *e*P **P** **23 56 26.6 -1.2**
LATE Laterza 53.16 63 P **P** **23 56 29.4 +1.4**
LATE IAmb IAmb 23 56 41.6
comp=Z,207nm,1.1s
LEOM Leova 53.18 48 ⇑P **P** **23 56 27.8 -0.2**
LEOM Leova 53.18 48 P **P** **23 56 27.8 -0.2**
KLR Kul'dur 53.24 325 LR LR 00 20 55.4
comp=Z,10µm,20.1s,baz=9.5,slow=38
KLR Kul'dur 53.24 325*c iP* **P** **23 56 28.2 -0.3**
KLR pmax pmax
comp=Z,128nm,1.1s
KLR MLR MLR
comp=Z,6µm,18.0s
BIR Birlad 53.25 49 ⇓P **P** **23 56 29.5 +0.9**
BIR Birlad 53.25 49 P **P** **23 56 29.5 +0.9**
IRK Irkutsk 53.26 347 *e*P **P** **23 56 27.6 -1.0**
IRK pmax pmax
comp=Z,425nm,0.6s
COVR Voineasa-Covas 53.36 50 ⇓P **P** **23 56 30.2 +0.8**
GHRR 53.41 49 ⇓P **P** **23 56 30.8 +1.1**
MDVR Moldovita 53.41 54 ⇓P **P** **23 56 29.8 0.0**
PLOR Plostina 53.45 50 ⇑P **P** **23 56 30.4 +0.3**
PLOR Plostina 53.45 50 P **P** **23 56 30.3 +0.3**
VRI Vrincioaia 53.45 49 ⇑P **P** **23 56 30.3 +0.2**
VRI Vrincioaia 53.45 49 P **P** **23 56 30.2 +0.2**
HAPS Han Pijesak,Bl 53.45 57 *e*P **P** **23 56 31.6 +1.4**
PURM Purcari 53.45 47 ⇑P **P** **23 56 31.4 +1.4**
HERM Herculane 53.47 53 ⇑P **P** **23 56 30.8 +0.6**
ARR Arges 53.49 51 ⇑P **P** **23 56 30.6 +0.2**
YSS Yuzh-Sakhalins 53.54 316 P **P** **23 56 30.8 +0.2**
YSS IAmb IAmb 23 56 43.7
comp=Z,453nm,1.6s
YSS Yuzh-Sakhalins 53.54 316*c iP* **P** **23 56 30.5 -0.1**
YSS pmax pmax
comp=Z,269nm,1.7s
YSS MLR MLR
comp=Z,7µm,18.0s
ODBI Odobesti 53.62 49 ⇑P **P** **23 56 32.1 +0.9**
CAMP Campotosto 53.62 62 P **P** **23 56 31.9 +0.5**
MLR Muntele Rosu 53.65 50 P **P** **23 56 32.5 +0.9**
comp=Z,22nm,0.6s,baz=200,slow=2.1,SNR=22
MLR LR LR 00 19 28.5
comp=Z,24µm,20.8s,baz=334,slow=36
comp=Z,22nm,0.6s
MLR Muntele Rosu 53.65 50 ⇑P **P** **23 56 33.4 +1.8**
MLR Muntele Rosu 53.65 50 P **P** **23 56 32.1 +0.5**
MLR Muntele Rosu 53.65 50 P **P** **23 56 33.4 +1.8**
DIVS Divibare 53.68 56 ⇓P **P** **23 56 33.2 +1.4**
DIVS Divibare 53.68 56 *e*P **P** **23 56 31.4 -0.4**
DJES Djerdap 53.70 53 P **P** **23 56 33.0 +1.1**
DJES Djerdap 53.70 53 ⇑P **P** **23 56 33.0 +1.1**
MTUR Matau 53.71 51 ⇑P **P** **23 56 33.4 +1.3**
MTUR Matau 53.71 51 P **P** **23 56 33.4 +1.3**
VLDR Vladesti 53.75 48 ⇑P **P** **23 56 32.5 +0.3**
BISRR Bisoca 53.75 50 ⇑P **P** **23 56 33.8 +1.5**
BBLS Lazići 53.77 56 *e*P **P** **23 56 34.0 +1.5**
NEHR Nehoiu 53.78 50 ⇑P **P** **23 56 34.2 +1.7**
SRE Strehaia 53.85 53 ⇑P **P** **23 56 34.3 +1.3**
SRE Strehaia 53.85 53 P **P** **23 56 34.3 +1.3**
SCTR Scanteiesti 53.90 48 ⇑P **P** **23 56 33.8 +0.6**
TUDR 53.91 49 ⇑P **P** **23 56 35.2 +1.9**
SLCR Slobozia Conac 53.93 49 ⇑P **P** **23 56 34.1 +0.6**
GRER 53.97 49 ⇑P **P** **23 56 35.3 +1.5**
IZVR Izvoarele 53.97 49 ⇑P **P** **23 56 34.9 +1.1**
TATR Tatarca 53.98 48 ⇑P **P** **23 56 34.3 +0.5**
AKTO Aktyubinsk 53.98 23 LR LR 00 22 16.9
comp=Z,30µm,19.3s,baz=360,slow=39
AKTO Aktyubinsk 53.98 23 *i* P **P** **23 56 32.8 -1.1**
AKTO pmax pmax
comp=Z,80nm,1.0s
MOY Mondy 54.01 350 *e*P **P** **23 56 35.0 +0.8**
MOY pmax pmax
comp=Z,354nm,2.9s
SCHL Schela 54.03 49 ⇓P **P** **23 56 35.6 +1.4**
STFAR Stefanesti-Arg 54.04 51 ⇑P **P** **23 56 35.6 +1.2**
SECR 54.11 50 ⇑P **P** **23 56 36.6 +1.7**

GIUM	**Giurgiulesti**	**54.12**	**48**	⇑P		**P**		**23 56 36.5**	**+1.6**
TEIG	**Tepich**	**54.13**	**175**	P		**P**		**23 56 38.1**	**+2.9**
TEIG	**Tepich**	**54.13**	**175**	⇓P		**P**		**23 56 37.4**	**+2.2**
TEIG	**Tepich**	**54.13**	**175**	P		**P**		**23 56 37.0**	**+1.7**
TEIG				sP		**sP**		**23 56 51.8**	**+3.3**
SFS	**San Fernando**	**54.28**	**82**	P		**P**		**23 56 38.2**	**+2.0**
SFS				IAmb	IAmb		23 57 08.2		
	comp=Z,219nm,1.0s								
SFS				IAMs_20	IAMs_20		00 18 08.1		
	comp=Z,9μm,19.0s								
SFS	**San Fernando**	**54.28**	**82**	P		**P**		**23 56 38.2**	**+2.0**
SFS				pmax	pmax				
	comp=Z,219nm,1.0s								
STON	**Ston**	**54.32**	**58**	*e*P		**P**		**23 56 36.3**	**-0.1**
HUMR	**Humele**	**54.36**	**51**	⇑P		**P**		**23 56 37.4**	**+0.7**
CFR	**Carcaliu**	**54.40**	**49**	⇑P		**P**		**23 56 37.6**	**+0.7**
CFR	**Carcaliu**	**54.40**	**49**	P		**P**		**23 56 37.6**	**+0.7**
PGOR	**Pogoanele**	**54.42**	**50**	⇑P		**P**		**23 56 38.3**	**+1.2**
EMAL	**Malaga-Limoner**	**54.48**	**80**	S		**S**		**00 04 12.1**	**-1.8**
EMAL				P		**P**		**23 56 39.7**	**+2.1**
BAIL	**Bailesti**	**54.49**	**53**	⇑P		**P**		**23 56 39.2**	**+1.6**
BOVS	**Bovan**	**54.50**	**54**	⇓P		**P**		**23 56 38.4**	**+0.7**
TLCR		**54.53**	**48**	⇑P		**P**		**23 56 38.8**	**+0.9**
TLCR		**54.53**	**48**	P		**P**		**23 56 38.7**	**+0.9**
CART	**Cartagena**	**54.62**	**77**	P		**P**		**23 56 39.6**	**+1.0**
PMPST	**Porto Santo, M**	**54.71**	**93**	*e*P		**P**		**23 56 40.9**	**+1.5**
PMOZ	**Porto Moniz, M**	**54.72**	**94**	*e*S		**S**		**00 04 24.1**	**+7.1**
PMOZ				eLQ		LQ		00 10 31.1	
PMOZ				eLR		LR		00 12 31.9	
	comp=Z,6μm,20.0s								
VLAD	**Vladila**	**54.74**	**52**	⇑P		**P**		**23 56 41.1**	**+1.6**
TPGR	**Topolog**	**54.77**	**48**	⇓P		**P**		**23 56 39.5**	**-0.1**
AMRR	**Amara**	**54.78**	**49**	⇑P		**P**		**23 56 40.0**	**+0.3**
AMRR	**Amara**	**54.78**	**49**	P		**P**		**23 56 40.0**	**+0.3**
COPA	**Copaceanca**	**54.79**	**51**	⇓P		**P**		**23 56 41.3**	**+1.6**
LEHL	**Lehliu**	**54.80**	**50**	⇓P		**P**		**23 56 40.5**	**+0.7**
HARR	**Harsova**	**54.82**	**49**	⇑P		**P**		**23 56 40.1**	**0.0**
HARR	**Harsova**	**54.82**	**49**	P		**P**		**23 56 40.0**	**0.0**
MOIG	**Morelia**	**54.84**	**190**	P		**P**		**23 56 43.5**	**+2.8**
MOIG				IAmb	IAmb		23 57 01.8		
	comp=Z,92nm,0.8s								
HIA	**Hailar**	**54.84**	**335**	IAmb	IAmb		23 56 52.6		
	comp=Z,447nm,1.9s								
HIA	**Hailar**	**54.84**	**335**	P		**P**		**23 56 40.1**	**0.0**
HIA				pP		**pP**		**23 56 50.7**	**+0.9**
TLBR	**Topalu**	**54.99**	**49**	⇑P		**P**		**23 56 41.9**	**+0.7**
PDG	**Podgorica**	**55.09**	**57**	⇑P		**P**		**23 56 42.8**	**+0.8**
PDG	**Podgorica**	**55.09**	**57**	P		**P**		**23 56 42.8**	**+0.8**
PDG				IAMs_20	IAMs_20		00 22 59.3		
	comp=Z,7μm,18.0s								
PDG	**Podgorica**	**55.09**	**57**	⇑P		**P**		**23 56 42.4**	**+0.4**
UNM	**Universidad Na**	**55.10**	**188**	P		**P**		**23 56 44.6**	**+2.0**
UNM				IAMs_20	IAMs_20		00 22 22.9		
	comp=Z,10μm,21.0s								
UNM	**Universidad Na**	**55.10**	**188**	P		**P**		**23 56 44.6**	**+2.0**
UNM				pmax	pmax				
	comp=Z,504nm,1.3s								
UNM				MLR	MLR				
	comp=Z,10μm,21.0s								
KURK	**Kurchatov**	**55.14**	**7**	P		**P**		**23 56 42.0**	**-0.2**
KURK				IAmb	IAmb		23 56 58.7		
	comp=Z,249nm,0.9s								
KURK	**Kurchatov**	**55.14**	**7**	P		**P**		**23 56 42.0**	**-0.2**
KURK				pmax	pmax				
	comp=Z,249nm,1.0s								
KURK				MLR	MLR				
	comp=Z,17μm,21.0s								
KURK	**Kurchatov**	**55.14**	**7**	P		**P**		**23 56 46.6**	**+4.3**
KURK				S		**S**		**00 04 21.6**	**-1.0**
KURK	**Kurchatov**	**55.14**	**7**	P		**P**		**23 56 41.9**	**-0.3**
KURK				pP		**sP**		**23 56 54.4**	**-1.2**
TIRR	**Tirgusor**	**55.15**	**49**	⇑P		**P**		**23 56 42.8**	**+0.5**
TIRR	**Tirgusor**	**55.15**	**49**	⇑P		**P**		**23 56 42.8**	**+0.5**
TIRR	**Tirgusor**	**55.15**	**49**	P		**P**		**23 56 42.8**	**+0.5**
TIRR				IAmb	IAmb		23 56 58.4		
	comp=Z,295nm,1.4s								
TIRR	**Tirgusor**	**55.15**	**49**	P		**P**		**23 56 42.8**	**+0.5**
TIRR				pmax	pmax				
	comp=Z,295nm,1.4s								
TIRR				MLR	MLR				
	comp=Z,24μm,20.0s								
ZAK	**Zakamensk**	**55.17**	**348**	*e*P		**P**		**23 56 43.3**	**+0.7**
ZAK				pmax	pmax				
	comp=Z,77nm,1.2s								
GTBY	**Guantanamo Bay**	**55.19**	**160**	P		**P**		**23 56 44.0**	**+1.0**
GTBY				IAmb	IAmb		23 56 48.4		
	comp=Z,110nm,0.9s								
GTBY				IAMs_20	IAMs_20		00 19 26.2		
	comp=Z,9μm,22.0s								
GTBY	**Guantanamo Bay**	**55.19**	**160**	⇑P		**P**		**23 56 44.3**	**+1.4**
MPEP	**Malo Peshtene**	**55.21**	**53**	*e*P		**P**		**23 56 43.6**	**+0.7**
KURBB	**Kurchatov Arra**	**55.23**	**7**	LR	LR		00 22 45.1		
	comp=Z,18μm,21.5s,baz=343,slow=39								
ZIMR		**55.28**	**51**	⇑P		**P**		**23 56 44.2**	**+0.9**
ZIMR		**55.28**	**51**	P		**P**		**23 56 44.1**	**+0.9**
AB31	**Akbulak array**	**55.35**	**22**	*i* P		**P**		**23 56 43.4**	**-0.3**
AB31				pmax	pmax				
	comp=Z,60nm,0.8s								
ABKAR	**Akbulak array**	**55.35**	**22**	IAmb	IAmb		23 57 00.1		
	comp=Z,169nm,1.2s								
ICOR	**Ion Corvin**	**55.35**	**49**	⇓P		**P**		**23 56 45.1**	**+1.3**
PLVB	**Pleven**	**55.37**	**52**	⇑P		**P**		**23 56 44.6**	**+0.6**
MFTR	**Murfatlar**	**55.42**	**49**	⇑P		**P**		**23 56 44.9**	**+0.6**
RAZG	**Razgrad**	**55.60**	**50**	⇑P		**P**		**23 56 45.4**	**-0.3**
BRZS	**Berezniki**	**55.62**	**12**	*e*P		P		23 56 55.7	+10
BRZS				pmax	pmax				
	comp=Z,217nm,1.6s								
PVL	**Pavlikeni**	**55.69**	**52**	*e*P		**P**		**23 56 46.7**	**+0.4**
SZH	**Strazhica**	**55.77**	**51**	*e*P		**P**		**23 56 46.7**	**-0.2**
CHEFC	**Chefchaouen**	**55.79**	**82**	P		**P**		**23 56 50.1**	**+2.8**
SIM	**Simferopol'**	**55.79**	**44**	*e*P		P		23 56 42.0	-5.0
SIM				*e*				23 57 46.0	
SIM				*e*				23 58 47.0	
SIM				MLR	MLR				
	comp=Z,9μm,14.8s								
VTS	**Vitosha**	**55.81**	**54**	P		**P**		**23 56 47.6**	**+0.2**
VTS	**Vitosha**	**55.81**	**54**	⇓P		**P**		**23 56 48.4**	**+1.1**
VTS	**Vitosha**	**55.81**	**54**	P		**P**		**23 56 47.6**	**+0.2**
VTS				pmax	pmax				
	comp=Z,55nm,1.4s								
VTS	**Vitosha**	**55.81**	**54**	*e*P		P		23 56 58.3	+11
PVLZ	**Peæn de**	**56.01**	**81**	P		**P**		**23 56 48.6**	**0.0**
PRD	**Provadia**	**56.14**	**50**	*e*P		**P**		**23 56 51.0**	**+1.5**
SC01	**Santiago de lo**	**56.14**	**155**	P		**P**		**23 56 51.5**	**+1.8**
SC01				IAmb	IAmb		23 57 47.5		
	comp=Z,123nm,1.1s								
MATE	**Matera**	**56.20**	**60**	⇓P		**P**		**23 56 50.2**	**+0.3**
TIR	**Tirane**	**56.26**	**57**	⇑P		**P**		**23 56 50.1**	**-0.3**
TIR	**Tirane**	**56.26**	**57**	IAMs_20	IAMs_20		00 23 08.2		
	comp=Z,7μm,18.0s								
TIR	**Tirane**	**56.26**	**57**	P		**P**		**23 56 50.1**	**-0.3**
ASAJ	**Asahikawa**	**56.30**	**315**	P		**P**		**23 56 49.2**	**-1.4**
	comp=Z,59nm,0.9s,baz=318,slow=6.9,SNR=28								
ASAJ				LR	LR		00 24 11.3		
	comp=Z,5μm,18.1s,baz=31,slow=40								
	comp=Z,59nm,0.9s								
JKA	**Kamikawa-asahi**	**56.30**	**315**	IAmb	IAmb		23 58 02.6		
	comp=Z,186nm,1.2s								
DGZ	**Jazzator, Alta**	**56.31**	**0**	*c i*P		**P**		**23 56 51.2**	**+0.4**
DGZ				pmax	pmax				
	comp=Z,160nm,1.0s								
DGZ				MLR	MLR				
	comp=Z,7μm,16.0s								
H06S1	**SOCORRO T**	**56.49**	**201**	P		**P**		**23 56 54.4**	**+2.1**
	SNR=7.6								
KKB	**Krupnik**	**56.49**	**54**	*e*P		P		23 57 03.5	+11
TEY	**Ternei**	**56.51**	**320**	⇑*e*P		**P**		**23 56 51.2**	**-0.9**
TEY				*e*				23 58 53.5	
TEY				*e*				00 04 39.1	
TEY				pmax	pmax				
	comp=Z,20nm,0.7s								
TEY				pmax	pmax				
	comp=E,10.0nm,1.0s								
TEY				pmax	pmax				
	comp=N,20nm,1.3s								
TEY				pmax	pmax				
	comp=Z,50nm,1.3s								
SDDR	**Presa de Saban**	**56.52**	**156**	IAmb	IAmb		23 57 06.9		
	comp=Z,119nm,0.8s								
SDDR	**Presa de Saban**	**56.52**	**156**	⇑P		**P**		**23 56 52.3**	**-0.2**
SDDR	**Presa de Saban**	**56.52**	**156**	*e*P		**P**		**23 56 55.2**	**+2.7**
ANN	**Anapa**	**56.55**	**41**	*e*P		**P**		**23 56 50.4**	**-1.9**
ANN				*e**PP		**pP**		**23 57 00.6**	**-1.4**
ANN				*e*S		**S**		**00 04 38.8**	**-2.5**
ANN				pmax	pmax				
	comp=Z,120nm,1.1s								
ANN				MLR	MLR				
	comp=N,6μm,19.0s								
ANN				MLR	MLR				
	comp=Z,9μm,17.0s								
ANN				MLR	MLR				
	comp=E,3μm,15.0s								
CUC	**Castrocucco**	**56.61**	**61**	IAmb	IAmb		23 57 06.3		
	comp=Z,154nm,1.0s								
BNJ	**Bonny Gate**	**56.62**	**162**	*i* P		**P**		**23 56 52.9**	**-0.4**
MTDJ	**Mount Denham**	**56.67**	**163**	P		**P**		**23 56 54.5**	**+0.9**
MTDJ				IAmb	IAmb		23 56 57.0		
	comp=Z,183nm,0.9s								
MTDJ	**Mount Denham**	**56.67**	**163**	⇑P		**P**		**23 56 53.9**	**+0.2**
TLIG	**Tlapa**	**56.83**	**187**	P		**P**		**23 56 56.1**	**+1.2**
TLIG	**Tlapa**	**56.83**	**187**	⇓P		**P**		**23 56 57.1**	**+2.3**
LGNH	**Logne**	**56.84**	**157**	P		**P**		**23 56 56.0**	**+1.3**
TAF	**Taforalt**	**56.85**	**79**	P		**P**		**23 56 57.0**	**+2.2**
STH	**Stony Hill**	**56.88**	**162**	*i* P		**P**		**23 56 55.8**	**+0.8**
MMB	**Musomiste**	**56.90**	**53**	*e*P		**P**		**23 56 58.6**	**+3.6**
AVE	**Averroes**	**56.94**	**85**	P		**P**		**23 56 57.1**	**+1.8**
AVE				IAmb	IAmb		23 57 10.6		
	comp=Z,204nm,0.9s								
AVE	**Averroes**	**56.94**	**85**	P		**P**		**23 56 57.6**	**+2.3**
AVE	**Averroes**	**56.94**	**85**	S		**S**		**00 04 42.7**	**-4.0**
AVE				P		**P**		**23 56 55.4**	**+0.1**
HOJ	**Hope**	**56.95**	**162**	*i* P		**P**		**23 56 57.0**	**+1.5**
KNT	**Kendrikon**	**57.12**	**54**	P		P		23 57 02.0	+5.4
FNA	**Florina**	**57.14**	**56**	P		**P**		**23 56 56.0**	**-0.8**
FNA	**Florina**	**57.14**	**56**	⇑P		**P**		**23 56 55.9**	**-0.8**
FNA	**Florina**	**57.14**	**56**	⇑P		**P**		**23 56 55.9**	**-0.8**
NVR	**Nevrokopi**	**57.16**	**53**	P		**P**		**23 57 00.0**	**+3.2**
KBN	**Korca**	**57.16**	**56**	P		**P**		**23 56 58.7**	**+1.8**
KBN	**Korca**	**57.16**	**56**	P		**P**		**23 56 58.7**	**+1.8**
KBN				pmax	pmax				
	comp=Z,77nm,0.9s								
JBK	**JBK**	**57.27**	**80**	P		**P**		**23 56 60.0**	**+2.1**
EDRB	**Edirne**	**57.30**	**51**	P		**P**		**23 57 00.4**	**+2.6**
BNX	**BinXian**	**57.30**	**328**	⇑P		**P**		**23 56 56.8**	**-0.9**
BNX				pP		pP		23 57 00.5	-6.9
BNX				sP		sP		23 57 01.5	-10
BNX				PP		**PP**		**23 59 02.6**	**-2.0**
BNX				S		**S**		**00 04 49.6**	**-1.7**
BNX				pmax	pmax				
	comp=Z,28nm,0.8s								
BNX				pmax	pmax				
	comp=Z,2μm,4.9s								
BNX				LR	LR				
	comp=Z,8μm,19.6s								
BNX				LR	LR				
	comp=Z,5μm,18.5s								
BNX				LR	LR				
	comp=Z,10μm,18.5s								
ULN	**Ulaanbaatar**	**57.43**	**345**	P		**P**		**23 56 59.5**	**+0.7**
ULN				IAmb	IAmb		23 57 16.4		
	comp=Z,186nm,0.8s								
ULN	**Ulaanbaatar**	**57.43**	**345**	⇑P		**P**		**23 56 59.5**	**+0.7**
ULN	**Ulaanbaatar**	**57.43**	**345**	*c i*P		**P**		**23 56 59.3**	**+0.5**
ULN				pmax	pmax				
	comp=Z,264nm,1.4s								
ULN				MLR	MLR				
	comp=Z,4μm,18.0s								
ULN	**Ulaanbaatar**	**57.43**	**345**	P		**P**		**23 56 57.6**	**-1.2**
ULN				S		**S**		**00 04 52.5**	**-0.8**
ULN	**Ulaanbaatar**	**57.43**	**345**	P		**P**		**23 56 59.4**	**+0.6**
ULN				pP		**sP**		**23 57 10.2**	**-2.0**
SONM	**Songino Array**	**57.51**	**345**	P		**P**		**23 57 00.1**	**+0.7**
	comp=Z,123nm,1.1s,baz=350,slow=6.4,SNR=113								
SONM				S		S		00 04 45.2	-9.0
	comp=Z,0.6nm,0.4s,baz=329,slow=23,SNR=1.6								
SONM				LR	LR			00 23 26.2	
	comp=Z,3μm,19.8s,baz=1.5,slow=38								
SONM				PKPPKP		P'P'df		00 26 40.6	-10
	comp=Z,1.6nm,1.1s,baz=188,slow=3.2,SNR=5.3								
SONM				PKP2bc		**P'P'bc**		**00 27 00.0**	**-2.1**
	comp=Z,1.7nm,1.1s,baz=188,slow=4.2,SNR=3.8								
	comp=Z,123nm,1.1s								
SONM	**Songino Array**	**57.51**	**345**	IAmb	IAmb		23 57 17.0		
	comp=Z,268nm,0.8s								
AGPR	**Aguadilla, PR**	**57.53**	**151**	P		**P**		**23 57 00.8**	**+1.2**
TIP	**Timpagrande**	**57.60**	**60**	⇓P		**P**		**23 56 59.5**	**-0.5**
TIP	**Timpagrande**	**57.60**	**60**	P		**P**		**23 57 00.7**	**+0.6**
TIP				IAMs_20	IAMs_20		00 21 30.8		
	comp=Z,13μm,22.0s								
TIP	**Timpagrande**	**57.60**	**60**	⇓P		**P**		**23 57 01.2**	**+1.2**
SET	**Setif**	**57.61**	**72**	P		**P**		**23 57 01.0**	**+0.9**
AOPR	**Arecibo Observ**	**57.70**	**151**	P		**P**		**23 57 01.1**	**+0.2**
AOPR				IAmb	IAmb		23 57 14.1		
	comp=Z,163nm,1.2s								
RDO	**Rodhopi**	**57.72**	**52**	P		**P**		**23 57 02.3**	**+1.6**
RDO	**Rodhopi**	**57.72**	**52**	⇓P		**P**		**23 57 05.1**	**+4.5**
PRSN	**Puerto Rico Se**	**57.77**	**151**	P		**P**		**23 57 02.3**	**+1.0**
PRSN				IAmb	IAmb		23 57 18.4		
	comp=Z,120nm,0.8s								
GCPR	**Guaynabo City**	**57.83**	**150**	P		**P**		**23 57 02.0**	**+0.3**
CUPR	**Culebra, Puert**	**57.94**	**149**	P		**P**		**23 57 03.8**	**+1.4**
CRPR	**Cabo Rojo, PR**	**57.99**	**151**	IAmb	IAmb		23 57 16.7		
	comp=Z,299nm,1.4s								
CELP	**Cerrillos**	**57.99**	**151**	P		**P**		**23 57 03.9**	**+1.1**
CCIG	**Comitan**	**58.00**	**180**	IAmb	IAmb		23 57 25.1		
	comp=Z,218nm,1.1s								
CCIG	**Comitan**	**58.00**	**180**	⇑P		**P**		**23 57 04.1**	**+0.9**
SJG	**San Juan**	**58.01**	**150**	LR	LR		00 22 01.1		
	comp=Z,6μm,19.4s,baz=334,slow=36								
SJG	**San Juan**	**58.01**	**150**	P		**P**		**23 57 03.8**	**+0.8**
SJG				IAmb	IAmb		23 57 16.5		
	comp=Z,164nm,1.3s								
SJG	**San Juan**	**58.01**	**150**	⇑P		**P**		**23 57 03.9**	**+0.8**
SJG	**San Juan**	**58.01**	**150**	P		**P**		**23 57 03.8**	**+0.8**
SJG				pmax	pmax				
	comp=Z,164nm,1.3s								
OBIP	**Obispado Ponce**	**58.02**	**151**	P		**P**		**23 57 03.4**	**+0.4**
HUMP	**Col San Antoni**	**58.02**	**150**	P		**P**		**23 57 03.3**	**+0.3**
HUMP				IAmb	IAmb		23 57 18.8		
	comp=Z,122nm,1.1s								
MLPR	**Magueyes Islan**	**58.03**	**151**	IAmb	IAmb		23 57 14.8		
	comp=Z,128nm,0.9s								
LIT	**Litokhoron**	**58.05**	**55**	P		**P**		**23 57 02.9**	**-0.2**
LIT	**Litokhoron**	**58.05**	**55**	P		**P**		**23 57 02.9**	**-0.2**
LIT				pmax	pmax				
	comp=Z,67nm,1.0s								
ALN	**Alexandroupoli**	**58.06**	**52**	P		**P**		**23 57 04.5**	**+1.4**
ALN	**Alexandroupoli**	**58.06**	**52**	⇑P		**P**		**23 57 04.6**	**+1.5**
ALN	**Alexandroupoli**	**58.06**	**52**	P		**P**		**23 57 04.5**	**+1.4**
ALN				pmax	pmax				
	comp=Z,64nm,0.9s								
MDJ	**Mudanjiang**	**58.07**	**326**	IAmb	IAmb		23 57 19.5		
	comp=Z,127nm,1.1s								
MDJ				IAMs_20	IAMs_20		00 23 40.8		
	comp=Z,10μm,20.0s								
MDJ	**Mudanjiang**	**58.07**	**326**	P		**P**		**23 57 02.2**	**-1.0**
MDJ				pP		pP		23 57 08.0	-4.8
MDJ				sP		sP		23 57 14.0	-2.6
MDJ				PP		**PP**		**23 59 11.0**	**-0.4**
MDJ				LR	LR				
	comp=Z,6μm,17.3s								
MDJ				LR	LR				
	comp=Z,6μm,16.8s								
MDJ				LR	LR				
	comp=Z,9μm,16.7s								
MDJ	**Mudanjiang**	**58.07**	**326**	P		**P**		**23 57 02.0**	**-1.1**
MDJ				pP		**pP**		**23 57 13.8**	**+1.0**
USA0B	**Ussuriysk Arra**	**58.10**	**324**	P		**P**		**23 57 03.0**	**-0.4**
USA0B				IAmb	IAmb		23 57 20.7		
	comp=Z,169nm,0.9s								
USA0B	**Ussuriysk Arra**	**58.10**	**324**	*c i*P		**P**		**23 57 02.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**58.10**	**324**	P		**P**		**23 57 02.9**	**-0.5**
	comp=Z,81nm,0.7s,baz=11,slow=6.4,SNR=93								
USRK				S	S			00 04 50.3	-12
	comp=Z,0.4nm,0.4s,baz=28,slow=26,SNR=1.2								
USRK				LR	LR			00 22 58.3	
	comp=Z,10μm,21.6s,baz=358,slow=37								
	comp=Z,81nm,0.7s								
SOC	**Sochi**	**58.12**	**39**	*e*P		**P**		**23 57 04.8**	**+1.3**
SOC				*e**PP		**pP**		**23 57 12.4**	**-0.8**
SOC				*e**SP		**sP**		**23 57 16.4**	**-0.5**
SOC				*e*S		**S**		**00 05 05.3**	**+3.2**
SOC				*e**SS		**sS**		**00 05 17.9**	**-0.1**
SOC				pmax	pmax				
	comp=Z,43nm,1.0s								
SOC				MLR	MLR				
	comp=Z,19μm,18.0s								
MDT	**Midelt**	**58.15**	**82**	P		**P**		**23 57 03.8**	**-0.2**
	comp=Z,35nm,0.8s,baz=322,slow=2.4,SNR=42								
MDT				LR	LR		00 20 29.7		
	comp=Z,3μm,19.0s,baz=3.0,slow=34								
	comp=Z,35nm,0.8s								
MDT	**Midelt**	**58.15**	**82**	P		**P**		**23 57 06.7**	**+2.7**
ERM	**Erimo**	**58.21**	**314**	P		**P**		**23 57 04.5**	**+0.3**
ERM				IAmb	IAmb		23 57 33.4		
	comp=Z,115nm,0.8s								
ERM	**Erimo**	**58.21**	**314**	*c i*P		**P**		**23 57 04.4**	**+0.3**
ERM				pmax	pmax				
	comp=Z,184nm,1.1s								
ERM				MLR	MLR				
	comp=Z,6μm,17.0s								
ERM	**Erimo**	**58.21**	**314**	P		**P**		**23 57 03.7**	**-0.4**
KIV	**Kislovodsk**	**58.26**	**37**	P		**P**		**23 57 05.1**	**+0.5**
KIV	**Kislovodsk**	**58.26**	**37**	*e*P		**P**		**23 57 05.7**	**+1.1**
KIV				*e*				23 59 15.2	
KIV				*e*S		**S**		**00 05 05.0**	**+0.9**
KIV				*e*SS		**SS**		**00 08 58.9**	**+3.6**
KIV				pmax	pmax				
	comp=Z,30nm,1.0s								
KIV				MLR	MLR				
	comp=Z,14μm,17.0s								
KIV	**Kislovodsk**	**58.26**	**37**	P		**P**		**23 57 08.4**	**+3.8**
KIV	**Kislovodsk**	**58.26**	**37**	P		**P**		**23 57 06.1**	**+1.5**
KVAR	**Kislovodsk Arr**	**58.26**	**37**	P		**P**		**23 57 06.0**	**+1.3**
	comp=Z,24nm,1.0s,baz=78,slow=19,SNR=9.2								
KVAR				LR	LR		00 22 59.1		
	comp=Z,16μm,19.1s,baz=261,slow=37								
CLTB	**Caltabellotta**	**58.27**	**64**	P		**P**		**23 57 04.8**	**+0.1**
CLTB				IAmb	IAmb		23 57 23.9		
	comp=Z,159nm,0.9s								
CLTB	**Caltabellotta**	**58.27**	**64**	⇑P		**P**		**23 57 06.0**	**+1.3**
CEL	**Celeste**	**58.27**	**61**	P		**P**		**23 57 02.5**	**-2.2**
SMRT	**St. Maarten**	**58.51**	**147**	P		**P**		**23 57 07.0**	**+0.5**
SMRT				IAmb	IAmb		23 57 20.0		
	comp=Z,204nm,1.4s								
SMRT				IAMs_20	IAMs_20		00 21 07.7		
	comp=Z,7μm,20.0s								
KBZ	**Khabaz**	**58.52**	**37**	P		**P**		**23 57 06.8**	**+0.6**
	comp=Z,42nm,0.9s,baz=340,slow=5.0,SNR=57								
KBZ				S		**S**		**00 05 03.2**	**-4.0**
	comp=Z,3.7nm,1.0s,baz=193,slow=11,SNR=1.4								
KBZ				LR	LR		00 23 13.0		
	comp=Z,20μm,18.5s,baz=338,slow=37								
KBZ				PKP2bc		**P'P'bc**		**00 26 57.3**	**-1.7**
	comp=Z,5.4nm,1.0s,baz=167,slow=9.1,SNR=4.2								
	comp=Z,42nm,0.9s								
KBZ	**Khabaz**	**58.52**	**37**	*d i*P		**P**		**23 57 06.7**	**+0.5**
ZSN	**Zaisan**	**58.55**	**2**	*i* P		**P**		**23 57 06.2**	**-0.3**
	comp=Z,71nm,1.3s,baz=2.2								
ZSN				*i* S		**S**		**00 05 07.2**	**-0.4**
	baz=2.2								
ZSN	**Zaisan**	**58.55**	**2**	*i* P		**P**		**23 57 06.1**	**-0.3**
ZSN				*i* S		**S**		**00 05 07.2**	**-0.4**
ZSN				pmax	pmax				
	comp=Z,71nm,1.3s								
CDVI	**St. Croix**	**58.56**	**149**	P		**P**		**23 57 07.2**	**+0.5**
CDVI				IAmb	IAmb		23 57 19.5		
	comp=Z,365nm,1.4s								
CDVI	**St. Croix**	**58.56**	**149**	*e*P		**P**		**23 57 05.6**	**-1.2**
BZK	**Bozkurt**	**58.66**	**45**	P		**P**		**23 57 07.9**	**+0.7**
VAE	**Valguarnera**	**58.66**	**63**	LR	LR		00 26 38.9		
	comp=Z,6μm,18.3s,baz=332,slow=40								
OUK	**Oukaimeden**	**58.79**	**86**	P		**P**		**23 57 11.0**	**+2.2**
NCK	**Nalchik**	**58.86**	**36**	⇑*e*P		**P**		**23 57 11.0**	**+2.3**
NCK				pmax	pmax				
	comp=Z,78nm,1.0s								
NCK				MLR	MLR				
	comp=Z,15μm,18.0s								
RAFF	**Raffo Rosso**	**58.89**	**63**	IAmb	IAmb		23 57 25.9		
	comp=Z,167nm,0.9s								
SABA	**Saba**	**58.91**	**147**	IAMs_20	IAMs_20		00 22 00.3		
	comp=Z,10μm,20.0s								
SABA	**Saba**	**58.91

TZRR Tazzarine 59.81 84 P **P** **23 57 18.0 +2.5**
DRO Drossia 59.92 56 P P 23 57 16.6 +0.5
KLV Kalavryta, Ach 59.94 56 P P 23 57 05.6 -11
BORA Eskisehir 59.96 48 P **P** **23 57 17.3 +0.9**
MAK Makhachkala 59.99 33 *eP* **P** **23 57 15.1 -1.3**
MAK *e* 23 59 25.0
MAK *e*PPP PPP 00 00 52.2
MAK *e*S **S** **00 05 25.2 -1.0**
MAK *e*SS **SS** **00 09 23.5 +1.4**
MAK pmax pmax
comp=Z,265nm,1.3s
MAK MLR MLR
comp=Z,8µm,17.0s
TGUH Tegucigalpa,Un 60.29 174 P **P** **23 57 21.1 +2.2**
TGUH IAmb IAmb 23 57 39.8
comp=Z,138nm,0.9s
TGUH Tegucigalpa,Un 60.29 174 ⇑P **P** **23 57 21.4 +2.5**
TGUH Tegucigalpa,Un 60.29 174 *eP* **P** **23 57 20.4 +1.5**
ABD La Joyeuse, An 60.30 145 *eP* P 23 57 12.8 -6.0
PTL Penteli 60.32 55 P **P** **23 57 21.3 +2.5**
ZGR Zagora 60.43 84 P **P** **23 57 22.0 +2.2**
ANTO Ankara 60.44 46 P **P** **23 57 20.8 +1.1**
ANTO IAmb IAmb 23 57 36.6
comp=Z,100nm,0.8s
ANTO Ankara 60.44 46 P **P** **23 57 20.8 +1.1**
ANTO pmax pmax
comp=Z,99nm,0.9s
ANTO Ankara 60.44 46 P P 23 57 27.9 +8.2
ANTO Ankara 60.44 46 P **P** **23 57 20.3 +0.6**
ANTO pP **sP** **23 57 31.4 -1.7**
ANTO sP **pP** **23 57 35.8 +6.4**
GDHS Morne Mazeau, 60.45 146 P **P** **23 57 20.9 +1.0**
BR231 Keskin MP Arra 60.46 46 P **P** **23 57 21.2 +1.3**
BR231 IAmb IAmb 23 57 36.9
comp=Z,116nm,0.9s
GDSD La Dsirade Is 60.52 145 P **P** **23 57 20.3 -0.1**
XLT XiLinHaoTe 60.55 337 ⇑*iP* **P** **23 57 21.1 +0.7**
XLT pP pP 23 57 27.2 -2.9
XLT sP sP 23 57 28.3 -5.5
XLT S **S** **00 05 35.8 +2.1**
XLT sS pS 00 05 43.5 -1.9
XLT pmax pmax
comp=Z,37nm,0.7s
XLT pmax pmax
comp=Z,2µm,5.0s
XLT LR LR
comp=Z,710nm,17.1s
XLT LR LR
comp=Z,3µm,15.7s
XLT LR LR
comp=Z,9µm,16.9s
SNET Serv Nac Est T 60.61 176 P **P** **23 57 22.6 +1.5**
BTLS Baital 60.62 11 *iP* **P** **23 57 20.9 +0.1**
comp=Z,54nm,1.2s,baz=11
BTLS *e*S **S** **00 05 33.8 -0.5**
baz=11
BTLS Baital 60.62 11 *iP* **P** **23 57 20.8 +0.1**
BTLS pmax pmax
comp=Z,54nm,1.2s
CBE Ff, Capester 60.68 146 P **P** **23 57 22.6 +1.1**
CBE IAmb IAmb 23 57 34.9
comp=Z,284nm,1.1s
ITM Ithomi 60.71 57 P **P** **23 57 22.3 +0.8**
ITM IAmb IAmb 23 59 19.5
comp=Z,111nm,1.1s
BR131 Keskin Array S 60.74 46 P **P** **23 57 22.1 +0.3**
BR131 IAmb IAmb 23 57 38.6
comp=Z,83nm,0.9s
BR131 Keskin Array S 60.74 46*deP* **P** **23 57 22.8 +1.0**
BRTR Keskin Array B 60.74 46 P **P** **23 57 22.0 +0.2**
comp=Z,21nm,1.0s,baz=338,slow=3.5,SNR=34
BRTR LR LR 00 26 36.2
comp=Z,6µm,18.1s,baz=11,slow=39
BRTR PKPPKP **P'P'df** **00 26 41.8 -2.5**
comp=Z,2.0nm,1.0s,baz=176,slow=2.0,SNR=5.0
comp=Z,21nm,1.0s
MAGL Barre de l'ile 60.84 145 *eP* **P** **23 57 20.8 -1.7**
TDK Taldyqorghan 60.85 7 *eP* **P** **23 57 22.6 +0.3**
comp=Z,158nm,1.2s,baz=7.5
TDK *e*S **S** **00 05 37.7 +0.4**
baz=7.5
TDK LR LR 00 25 22.4
comp=Z,10µm,16.7s,baz=7.5
TDK Taldyqorghan 60.85 7 *eP* **P** **23 57 22.6 +0.3**
TDK *e*S **S** **00 05 37.6 +0.4**
TDK pmax pmax
comp=Z,158nm,1.2s
TDK MLR MLR
comp=Z,10µm,17.0s
MANT Manisa 60.91 50 P **P** **23 57 24.3 +1.2**
ZKTA Zakatala 61.15 34 P **P** **23 57 26.6 +2.2**
AKT Akhty 61.47 33 *eP* **P** **23 57 27.1 +0.4**
AKT *e* 23 58 09.0
AKT *e* 23 59 43.8
AKT pmax pmax
comp=Z,194nm,0.9s
KARS Kars 61.57 37 P **P** **23 57 29.1 +1.7**
KARS Kars 61.57 37 P **P** **23 57 29.1 +1.7**
KARS pmax pmax
comp=Z,420nm,0.9s
CRIN San Cristobal 61.64 174 P **P** **23 57 29.3 +1.3**
CRIN San Cristobal 61.64 174 *eP* **P** **23 57 30.7 +2.7**
SEKA Sheki 61.66 34 P **P** **23 57 30.1 +2.2**
SNY Shenyang 61.68 330 ⇑P **P** **23 57 27.0 -0.9**
SNY pmax pmax
comp=Z,130nm,1.1s
SNY pmax pmax
comp=Z,1µm,6.2s
SNY LR LR
comp=Z,14µm,19.6s
SNY LR LR
comp=Z,7µm,17.3s
SNY LR LR
comp=Z,19µm,18.6s
MIDW Midway 61.73 273 P **P** **23 57 29.7 +1.3**
MIDW IAmb IAmb 23 57 48.4
comp=Z,204nm,0.8s
CNGN Cerro Negro 61.85 174 P **P** **23 57 29.8 +0.4**
CNGN Cerro Negro 61.85 174 *eP* **P** **23 57 32.0 +2.6**
KUU Kurty 61.87 9 *iP* **P** **23 57 29.1 -0.2**
comp=Z,180nm,1.3s,baz=9.2
KUU *i*S **S** **00 05 50.1 -0.2**
baz=9.2
KUU LR LR 00 26 31.5
comp=Z,9µm,15.1s,baz=9.2
KUU Kurty 61.87 9 *iP* **P** **23 57 29.0 -0.2**
KUU pmax pmax
comp=Z,180nm,1.3s
KUU MLR MLR
comp=Z,9µm,15.0s
BOAB BOACO BROADBAN 61.93 173 P **P** **23 57 29.0 -0.9**
CHKK Chushkaly 61.94 9 *eP* **P** **23 57 29.2 -0.5**
baz=8.7
CHKK Chushkaly 61.94 9 *eP* **P** **23 57 29.2 -0.5**
ISP Isparta 61.96 49 IAmb IAmb 23 57 46.0
comp=Z,170nm,1.4s
BNN Bunyan 62.01 44 P **P** **23 57 31.2 +0.8**
BNN Bunyan 62.01 44 ⇓P **P** **23 57 33.0 +2.5**
FDF Fort de France 62.06 145 P **P** **23 57 31.8 +1.0**
FDF IAmb IAmb 23 57 44.2
comp=Z,295nm,1.2s
FDF Fort de France 62.06 145 *eP* **P** **23 57 28.0 -2.8**
FDF Fort de France 62.06 145 P **P** **23 57 31.8 +1.0**
FDF pmax pmax
comp=Z,295nm,1.2s
ILAM Ilet Lapin Mar 62.06 145 P **P** **23 57 30.6 -0.2**
MNGR Mingechevir, A 62.06 34 P **P** **23 57 33.1 +2.6**
GANJ Ganja 62.07 35 P **P** **23 57 32.8 +2.1**
WMQ Urumqi 62.19 360 *eP* **P** **23 57 31.9 +0.4**
WMQ pP pP 23 57 42.5 +1.3
WMQ PcP **PcP** **23 58 13.9 +2.7**
WMQ S **S** **00 05 54.2 -0.2**
WMQ ScS **SKKSac** **00 07 16.8 -3.8**
WMQ pmax pmax
comp=Z,120nm,1.7s
WMQ pmax pmax
comp=Z,1µm,4.7s
WMQ LR LR
comp=Z,12µm,20.9s
WMQ LR LR
comp=Z,8µm,16.7s
WMQ LR LR
comp=Z,10µm,22.3s
WMQ Urumqi 62.19 360 P **P** **23 57 31.9 +0.4**

WMQ pP **sP** **23 57 42.7 -2.2**
SGDS Sogindy 62.23 11 *i*P **P** **23 57 32.2 +0.4**
comp=Z,73nm,1.1s,baz=11
SGDS *i*S **S** **00 05 55.0 0.0**
baz=11
SGDS Sogindy 62.23 11 *i*P **P** **23 57 32.1 +0.4**
SGDS *i*S **S** **00 05 54.9 0.0**
SGDS pmax pmax
comp=Z,73nm,1.1s
BIM Bigot 62.28 145 P **P** **23 57 33.5 +1.2**
BIM Bigot 62.28 145 *eP* **P** **23 57 31.4 -0.9**
GNI Garni 62.31 36 P **P** **23 57 33.8 +1.4**
comp=Z,30nm,1.1s,baz=186,slow=4.5,SNR=7.5
GNI LR LR 00 25 24.7
comp=Z,8µm,18.5s,baz=344,slow=37
comp=Z,30nm,1.1s
GNI Garni 62.31 36 P **P** **23 57 34.3 +1.9**
GNI IAmb IAmb 23 57 49.9
comp=Z,225nm,1.6s
GNI Garni 62.31 36 ⇓P **P** **23 57 35.3 +2.9**
GNI Garni 62.31 36 P **P** **23 57 34.3 +1.9**
GNI pmax pmax
comp=Z,225nm,1.6s
GNI Garni 62.31 36 P **P** **23 57 35.0 +2.6**
GNI Garni 62.31 36 P P 23 57 40.0 +7.5
GNI Garni 62.31 36 P **P** **23 57 34.8 +2.4**
GNI pP **sP** **23 57 47.5 +1.7**
KKAR Karatay Array 62.34 14 ⇑P **P** **23 57 32.7 +0.3**
MPOM Morne Pois Mar 62.39 145 *eP* P 23 57 28.9 -4.0
USP Ospenovka 62.41 11 P **P** **23 57 33.5 +0.6**
SNR=53
ACON Acoyapa 62.43 172 *eP* **P** **23 57 35.8 +2.6**
AAA Alma-Ata 62.58 9 *eP* **P** **23 57 36.1 +2.0**
baz=8.8
AAA LR LR 00 25 33.3
comp=Z,14µm,15.9s,baz=8.8
AAA Alma-Ata 62.58 9 *eP* **P** **23 57 36.0 +2.0**
AAA MLR MLR
comp=Z,14µm,16.0s
DZA Taraz 62.60 13 *eP* **P** **23 57 34.4 +0.2**
comp=Z,82nm,1.3s,baz=13
DZA Taraz 62.60 13 *eP* **P** **23 57 34.4 +0.2**
DZA pmax pmax
comp=Z,82nm,1.3s
ZHN Zhinishke 62.68 8 *eP* **P** **23 57 35.4 +0.6**
comp=Z,81nm,1.3s,baz=7.5
ZHN *e*S **S** **00 06 00.6 -0.2**
baz=7.5
ZHN Zhinishke 62.68 8 *eP* **P** **23 57 35.4 +0.6**
ZHN *e*S **S** **00 06 00.5 -0.2**
ZHN pmax pmax
comp=Z,81nm,1.3s
JMM Marumori 62.68 314 ⇑P **P** **23 57 34.4 -0.4**
CHMS Chumysh 62.69 11 P **P** **23 57 35.2 +0.4**
SNR=27
CHMS Chumysh 62.69 11 *iP* **P** **23 57 35.0 +0.2**
CHMS pmax pmax
comp=Z,224nm,1.0s
UZB Uzynbulak 62.72 7 *eP* **P** **23 57 35.1 0.0**
baz=7.1
UZB *e*S **S** **00 06 01.0 -0.3**
baz=7.1
UZB Uzynbulak 62.72 7 *eP* **P** **23 57 35.9 +0.8**
UZB *e*S **S** **00 06 01.0 -0.3**
OPA Opana 62.72 252 P **P** **23 57 36.1 +0.9**
OPA Opana 62.72 252 P **P** **23 57 36.1 +0.9**
OPA pmax pmax
comp=Z,301nm,1.0s
SHLS Shalkode 62.72 7 *iP* **P** **23 57 35.7 +0.5**
comp=Z,73nm,1.2s,baz=6.3
SHLS *e*S **S** **00 06 01.5 +0.2**
baz=6.3
SHLS Shalkode 62.72 7 *iP* **P** **23 57 35.6 +0.5**
SHLS *e*S **S** **00 06 01.5 +0.2**
SHLS pmax pmax
comp=Z,73nm,1.2s
TNSS Tian-Shan 62.75 9 *eP* **P** **23 57 36.5 +0.9**
baz=8.8
TNSS Tian-Shan 62.75 9 *eP* **P** **23 57 36.5 +0.9**
SLBI Saint Lucia, B 62.78 145 *eP* P 23 57 31.4 -4.1
SATY Saty 62.79 8 *eP* **P** **23 57 35.7 +0.2**
comp=Z,81nm,1.2s,baz=7.6
SATY *e*S **S** **00 06 01.8 -0.3**
baz=7.6
SATY Saty 62.79 8 *eP* **P** **23 57 35.7 +0.2**
SATY *e*S **S** **00 06 01.7 -0.3**
SATY pmax pmax
comp=Z,81nm,1.2s
TKM2 Tokmak 2 62.81 10 P **P** **23 57 36.1 +0.3**
SNR=45
TKM2 Tokmak 2 62.81 10 *iP* **P** **23 57 35.3 -0.5**
TKM2 pmax pmax
comp=Z,222nm,0.8s
ELL Elmali 62.87 50 P **P** **23 57 37.0 +0.9**
ELL IAmb IAmb 23 58 05.0
comp=Z,249nm,1.0s
ELL Elmali 62.87 50 ⇑P **P** **23 57 37.9 +1.8**
ELL Elmali 62.87 50 P **P** **23 57 37.0 +0.9**
ELL pmax pmax
comp=Z,249nm,1.0s
KEKH Kekaha 62.89 254 P **P** **23 57 37.4 +1.2**
HHU Hamhung 62.98 326 P **P** **23 57 34.7 -1.9**
EKS2 Erkin-Say 62.98 11 P **P** **23 57 38.2 +1.4**
SNR=33
KIP Kipapa 62.98 252 P **P** **23 57 38.7 +1.9**
KIP Kipapa 62.98 252 IAMs_20 IAMs_20 00 20 13.4
comp=Z,12µm,20.0s
KIP Kipapa 62.98 252 ⇑*iP* **P** **23 57 38.6 +1.8**
KIP pmax pmax
comp=Z,232nm,1.0s
KIP MLR MLR
comp=Z,7µm,17.0s
KIP Kipapa 62.98 252 P **P** **23 57 38.2 +1.4**
KIP pP **pP** **23 57 49.1 +2.5**
KIP sP **sP** **23 57 53.8 +3.4**
JSD Sado 63.00 317 IAmb IAmb 23 57 49.2
comp=Z,131nm,0.9s
JSD Sado 63.00 317 ⇑P **P** **23 57 36.2 -0.6**
ARG Arkhangelos 63.00 51 IAmb IAmb 23 57 56.6
comp=Z,200nm,1.1s
ARG Arkhangelos 63.00 51 ⇑P **P** **23 57 37.4 +0.6**
ARG Arkhangelos 63.00 51 P **P** **23 57 36.8 -0.1**
AAK Ala-Archa 63.04 11 P **P** **23 57 38.0 +0.8**
SNR=34
AAK Ala-Archa 63.04 11 LR LR 00 28 40.7
comp=Z,16µm,18.2s,baz=353,slow=40
AAK Ala-Archa 63.04 11 P **P** **23 57 37.9 +0.6**
AAK Ala-Archa 63.04 11*c* *iP* **P** **23 57 37.8 +0.6**
AAK pmax pmax
comp=Z,124nm,1.3s
AAK MLR MLR
comp=Z,17µm,20.0s
AAK Ala-Archa 63.04 11 P **P** **23 57 39.2 +2.0**
AAK S **S** **00 06 09.5 +4.2**
AAK Ala-Archa 63.04 11 P **P** **23 57 37.9 +0.6**
AAK pP **sP** **23 57 49.1 -1.6**
AAK sP **pP** **23 57 53.7 +6.7**
KBK Karagaybulak 63.04 10 P **P** **23 57 40.6 +3.4**
SNR=27
HON Honolulu 63.07 252 P **P** **23 57 38.8 +1.4**
HON Honolulu 63.07 252 P **P** **23 57 38.8 +1.4**
HON pmax pmax
comp=Z,1µm,1.0s
KHLH Kahului Airpor 63.07 250 P **P** **23 57 38.4 +1.0**
HLK Haleakala 63.16 250 P **P** **23 57 38.2 -0.2**
SUJ Sinuiju 63.24 329 P **P** **23 57 38.6 +0.2**
SUJ S **S** **00 06 07.8 +0.3**
SUJ AmB
comp=Z,1µm,2.3s
IUG Iuzhnay 63.26 15 *eP* **P** **23 57 39.2 +0.6**
baz=15
IUG *e*S **S** **00 06 08.1 +0.1**
baz=15
IUG Iuzhnay 63.26 15 *eP* **P** **23 57 39.2 +0.6**
AKAS Kas 63.30 50 P **P** **23 57 38.4 -0.6**
AKAS IAmb IAmb 23 57 55.2
comp=Z,289nm,1.1s
NAX Nakhchivan 63.38 36 P **P** **23 57 42.2 +2.7**
UCH Uchtor 63.45 11 P **P** **23 57 41.2 +0.9**
SNR=32
SVB Belmont 63.48 146 P **P** **23 57 40.8 +0.6**
SVB IAmb IAmb 23 57 52.1
comp=Z,171nm,0.8s
SVB Belmont 63.48 146 *eP* P 23 57 30.9 -9.3
AML Almayashu 63.50 12 P **P** **23 57 41.3 +0.7**

SNR=55
HATO Hato, Curacao 63.50 154 P **P** **23 57 40.6 +0.3**
MHA Mahukona 63.62 250 P **P** **23 57 41.8 +0.7**
MHA Mahukona 63.62 250 P **P** **23 57 41.8 +0.7**
URIC Uribia, Colomb 63.64 158 IAmb IAmb 23 57 54.6
comp=Z,190nm,1.3s
URIC Uribia, Colomb 63.64 158 *eP* **P** **23 57 41.0 -0.3**
HPAH Hawaii Prepara 63.71 249 P **P** **23 57 41.9 0.0**
GEVA Gevas 63.83 38 P **P** **23 57 44.5 +1.9**
GEVA IAmb IAmb 23 58 00.3
comp=Z,146nm,1.2s
BBGH Gun Hill 63.87 144 IAMs_20 IAMs_20 00 23 48.6
comp=Z,11µm,21.0s
GAZ Gaziantep 63.90 43 P **P** **23 57 44.2 +1.3**
GAZ Gaziantep 63.90 43 ⇑P **P** **23 57 45.4 +2.5**
POHA Pohakuloa 63.93 249 P **P** **23 57 45.6 +2.1**
POHA Pohakuloa 63.93 249 IAMs_20 IAMs_20 00 21 56.8
comp=Z,9µm,19.0s
POHA Pohakuloa 63.93 249 ⇑P **P** **23 57 46.9 +3.4**
POHA Pohakuloa 63.93 249 P **P** **23 57 45.8 +2.3**
POHA pP **sP** **23 57 56.9 0.0**
TAS Tashkent 64.03 15 P **P** **23 57 44.7 +1.1**
TAS IAmb IAmb 23 58 01.3
comp=Z,149nm,0.9s
TAS Tashkent 64.03 15 P **P** **23 57 44.7 +1.1**
TAS pmax pmax
comp=Z,149nm,0.9s
HMH Humu'ula Sheep 64.07 249 P **P** **23 57 45.3 +0.8**
HUH Hualalai 64.08 250 P **P** **23 57 45.0 +0.5**
TARG Taragay, Kyrgy 64.09 8 IAmb IAmb 23 58 04.6
comp=Z,147nm,0.8s
PYAG Pyongyang 64.10 328 P **P** **23 57 42.6 -1.4**
JTS Las Juntas de 64.10 172 LR LR 00 27 02.5
comp=Z,5µm,18.4s,slow=37
JTS Las Juntas de 64.10 172 P **P** **23 57 44.7 +0.3**
JTS Las Juntas de 64.10 172 P **P** **23 57 44.7 +0.3**
JTS pmax pmax
comp=Z,35nm,1.1s
JTS Las Juntas de 64.10 172 P **P** **23 57 44.4 +0.1**
MLH Mauna Loa 64.15 249 P **P** **23 57 45.7 +0.8**
MLOA Mauna Loa Obse 64.16 249 P **P** **23 57 46.5 +1.4**
JCUZ Jacuzzi 64.18 249 P **P** **23 57 47.0 +2.1**
KHLU Kahalu`u 64.18 250 P **P** **23 57 45.6 +0.7**
HATHI Halema'uma'u T 64.18 249 P **P** **23 57 45.9 +0.9**
STCH Steam Cracks 64.19 249 P **P** **23 57 46.1 +1.1**
UWB Uwekahuna B 64.19 249 P **P** **23 57 46.2 +1.2**
BYL Byron's Ledge 64.19 249 P **P** **23 57 46.1 +1.1**
UWE Uwekahuna 64.19 249 P **P** **23 57 46.5 +1.4**
OBL Observatory Le 64.19 249 P **P** **23 57 47.3 +2.3**
NPH North Pit 64.20 249 P **P** **23 57 46.8 +1.7**
KKO Keanakako`i 64.21 249 P **P** **23 57 47.2 +2.0**
MWH Moku'aweowe 64.21 249 P **P** **23 57 48.0 +2.3**
RIM Rim 64.21 249 P **P** **23 57 47.0 +1.9**
CRJC Cerrejon, Guaj 64.22 159 *eP* **P** **23 57 45.9 +0.7**
PUH Pauahi 64.22 249 P **P** **23 57 46.0 +0.8**
GCMP Grenada, Carri 64.22 146 *eP* **P** **23 57 44.5 -0.6**
SDHHI Sand Hill 64.22 249 P **P** **23 57 46.3 +1.1**
AIN Ainahou 64.28 249 P **P** **23 57 47.1 +1.4**
HLP Hilina Pali 64.32 249 P **P** **23 57 46.4 +0.6**
LKRN Lenkeran, Azer 64.34 33 P **P** **23 57 48.3 +2.7**
BJI Beijing 64.36 336 PP PP 23 59 54.4 -12
BJI pmax pmax
comp=Z,20nm,0.7s
BJI pmax pmax
comp=Z,720nm,5.4s
BJI LR LR
comp=N,2µm,18.6s
BJI LR LR
comp=E,3µm,17.6s
BJI LR LR
comp=Z,3µm,18.5s
BJT Baijiatuao 64.38 336 IAmb IAmb 23 57 58.7
comp=Z,419nm,1.9s
BJT Baijiatuao 64.38 336 P **P** **23 57 45.4 -0.5**
BJT pP **sP** **23 57 57.6 -1.8**
MARD Mardin 64.41 40 P **P** **23 57 47.6 +1.4**
MARD IAmb IAmb 23 58 04.0
comp=Z,116nm,1.0s
BTO Baotou 64.41 341 *eP* **P** **23 57 45.3 -0.9**
BTO LR LR
comp=Z,12µm,19.2s
BTO LR LR
comp=Z,31µm,15.7s
HDC Heredia 64.42 171 P **P** **23 57 47.0 +0.4**
HDC IAmb IAmb 23 58 16.4
comp=Z,101nm,0.9s
HDC IAMs_20 IAMs_20 00 25 48.1
comp=Z,7µm,21.0s
HDC Heredia 64.42 171 *eP* **P** **23 57 46.2 -0.4**
KHU Kahuku 64.44 249 P **P** **23 57 48.7 +1.9**
KHU Kahuku 64.44 249 P **P** **23 57 48.7 +1.9**
KHU pmax pmax
comp=Z,554nm,1.0s
MJB9 Matsu-Tunnel 64.46 316 P **P** **23 57 46.4 -0.1**
MAJO Matsushiro 64.46 316 P **P** **23 57 45.9 -0.5**
MAJO Matsushiro 64.46 316 ⇑P **P** **23 57 46.1 -0.4**
MAJO Matsushiro 64.46 316 ⇑*eP* **P** **23 57 45.8 -0.7**
MAJO pmax pmax
comp=Z,94nm,1.0s
MAJO MLR MLR
comp=Z,4µm,16.0s
MAJO Matsushiro 64.46 316 P **P** **23 57 46.0 -0.5**
MJAR Matsushiro Arr 64.46 316 P **P** **23 57 46.4 -0.1**
comp=Z,44nm,0.9s,baz=4.6,slow=7.2,SNR=40
MJAR PKP2bc **P'P'bc** **00 26 43.2 -0.6**
comp=Z,3.2nm,0.9s,baz=214,slow=3.7,SNR=4.4
MJAR LR LR 00 30 34.8
comp=Z,4µm,18.4s,baz=22,slow=40
comp=Z,44nm,0.9s
GRGR Grenville 64.53 146 *eP* **P** **23 57 46.2 -0.9**
GRGR Grenville 64.53 146 *eP* P 23 57 58.2 +11
WUS Wushi 64.67 7 P **P** **23 57 48.0 0.0**
JACO JACO, Garabito 64.74 172 IAmb IAmb 23 58 00.4
comp=Z,101nm,1.0s
DL2 Dalian 64.81 331 P **P** **23 57 48.2 -0.5**
DL2 S **S** **00 06 26.7 -0.3**
DL2 pmax pmax
comp=Z,100nm,1.2s
DL2 pmax pmax
comp=Z,880nm,4.5s
DL2 LR LR
comp=Z,2µm,23.7s
DL2 LR LR
comp=Z,6µm,23.5s
DL2 LR LR
comp=Z,5µm,19.6s
PEZE Perez Zeledon, 65.06 170 IAmb IAmb 23 58 03.6
comp=Z,277nm,1.6s
HJU Haeju 65.09 327 P **P** **23 57 48.6 -1.9**
SJCC San Jacinto, C 65.11 161 *eP* **P** **23 57 51.3 +0.3**
SRBA San Rafael, Bu 65.22 170 IAmb IAmb 23 58 04.8
comp=Z,232nm,1.8s
ARGC Ariguani, Magd 65.24 160 *eP* **P** **23 57 52.0 +0.3**
CSS Mathiatis 65.29 47 P **P** **23 57 53.6 +1.7**
CSS IAmb IAmb 23 58 08.2
comp=Z,193nm,1.4s
KS19 Wonju Array Si 65.30 326 IAmb IAmb 23 58 05.2
comp=Z,138nm,1.2s
KSRS Korea Array 65.34 325 P **P** **23 57 52.0 -0.1**
comp=Z,59nm,0.9s,baz=360,slow=6.2,SNR=43
comp=Z,59nm,0.9s
KSAR Wonju Array Be 65.35 325 P **P** **23 57 51.4 -0.8**
KSAR Wonju Array Be 65.35 325 P **P** **23 57 51.4 -0.8**
BCIP Isla Barro Col 65.48 166 IAmb IAmb 23 58 06.3
comp=Z,298nm,1.5s
BCIP IAMs_20 IAMs_20 00 25 35.1
comp=Z,8µm,21.0s
INCN Inchon 65.50 327 P **P** **23 57 53.3 0.0**
INCN IAmb IAmb 23 57 55.7
comp=Z,176nm,1.1s
INCN Inchon 65.50 327 IAMs_20 IAMs_20 00 30 32.7
comp=Z,7µm,18.0s
INCN Inchon 65.50 327 P **P** **23 57 53.3 0.0**
INCN pmax pmax
comp=Z,176nm,1.1s
INCN MLR MLR
comp=Z,7µm,18.0s
TOSP Speyside 65.52 145 P **P** **23 57 54.3 +0.7**
JGF Kuroka 65.53 317 ⇓P **P** **23 57 53.1 -0.4**
BRU2 Volcan 65.69 169 P **P** **23 57 54.1 -0.7**
BRU2 IAmb IAmb 23 58 25.9
comp=Z,149nm,1.2s
INU Inuyama 65.84 317 P **P** **23 57 55.7 +0.2**
CDITO Canoas 65.90 170 P **P** **23 57 57.1 +1.1**

CDITO IAmb IAmb 23 58 14.9
comp=Z,117nm,1.1s
TRN Trinidad (W) 66.03 146 *e*P P 23 57 49.4 -7.4
KSH Kashi 66.22 10 P **P** **23 58 01.1 +3.1**
KSH pP pP 23 58 04.1 -3.7
KSH sP sP 23 58 06.2 -5.3
KSH S **S** **00 06 51.6 +7.1**
KSH SS **SS** **00 11 08.5 +8.8**
KSH pmax pmax
comp=Z,110nm,0.7s
KSH pmax pmax
comp=Z,840nm,5.2s
KSH LR LR
comp=Z,10µm,24.3s
KSH LR LR
comp=Z,9µm,19.7s
KSH LR LR
comp=Z,24µm,17.2s
GTA Gaotai 66.30 350 ⇑P **P** **23 57 58.8 +0.3**
GTA pP sP 23 58 10.0 -2.0
GTA PP **PP** **00 00 26.3 +2.3**
GTA S **S** **00 06 46.8 +1.4**
GTA pmax pmax
comp=Z,74nm,1.1s
GTA pmax pmax
comp=Z,870nm,8.0s
GTA LR LR
comp=Z,7µm,18.9s
GTA LR LR
comp=Z,4µm,19.6s
GTA LR LR
comp=Z,9µm,18.5s
GEYT Alibeck 66.34 25 P **P** **23 57 59.1 +0.5**
comp=Z,33nm,0.8s,baz=317,slow=6.0,SNR=52
GEYT S **S** **00 06 45.9 +0.1**
comp=Z,0.7nm,0.2s,baz=218,slow=41,SNR=1.9
GEYT PKP2bc **P'P'df** **00 26 37.0 +1.5**
comp=Z,0.8nm,0.3s,baz=205,slow=16,SNR=5.1
GEYT LR LR 00 30 01.6
comp=Z,16µm,21.2s,baz=12,slow=39
comp=Z,33nm,0.8s
GEYT Alibeck 66.34 25 IAmb IAmb 23 58 05.4
comp=Z,130nm,0.9s
GYA0B ALIBECK ARRAY 66.34 25 IAmb IAmb 23 58 05.4
comp=Z,127nm,1.0s
TJN Taejon 66.48 326⇓ *e*P **P** **23 57 59.6 +0.1**
SDV Santo Domingo 66.56 156 LR LR 00 26 54.0
comp=Z,3µm,20.0s,baz=344,slow=36
SDV Santo Domingo 66.56 156 P **P** **23 58 00.1 -0.4**
SDV Santo Domingo 66.56 156 *e*P **P** **23 57 59.5 -1.0**
SDV Santo Domingo 66.56 156 P **P** **23 57 59.5 -1.0**
SDV pP **pP** **23 58 11.2 +0.9**
SIMJ Simiganj 66.66 16 P **P** **23 58 01.0 +0.2**
SIMJ sP **sP** **23 58 15.6 +1.3**
AZU Azuero 66.82 167 *e*P **P** **23 58 00.5 -1.4**
JHS Saijyo 66.88 320 P **P** **23 58 01.9 -0.3**
JHS IAmb IAmb 23 58 20.0
comp=Z,83nm,0.7s
JHS Saijyo 66.88 320 ⇓P **P** **23 58 02.2 +0.1**
APAC Apartado, Choc 66.97 163 *e*P **P** **23 58 03.8 +0.9**
TIY Taiyuan 67.05 339 P **P** **23 58 05.6 +2.4**
TIY sP **sP** **23 58 15.8 -1.0**
TIY S **S** **00 06 56.1 +1.6**
TIY SS **SS** **00 11 20.6 +8.1**
TIY pmax pmax
comp=Z,23nm,1.2s
TIY pmax pmax
comp=Z,1µm,8.0s
TIY LR LR
comp=Z,7µm,19.2s
TIY LR LR
comp=Z,3µm,16.5s
TIY LR LR
comp=Z,9µm,18.6s
HNS HongShan 67.13 337 ⇑P **P** **23 58 03.6 0.0**
HNS PP **PP** **00 00 31.7 +0.6**
HNS S **S** **00 06 56.8 +1.6**
HNS SKS **SKSac** **00 07 57.3 -0.7**
HNS SS **SS** **00 11 17.7 +4.2**
HNS pmax pmax
comp=Z,120nm,1.2s
HNS pmax pmax
comp=Z,1µm,6.7s
HNS LR LR
comp=Z,11µm,17.8s
HNS LR LR
comp=Z,5µm,16.9s
HNS LR LR
comp=Z,13µm,18.0s
UREC San Jos de Ur 67.21 162 *e*P **P** **23 58 03.9 -0.5**
JHJ Hachijo jima 2 67.48 314 LR LR 00 30 29.6
comp=Z,2µm,20.1s,baz=13,slow=38
MMAI Mount Meron Ar 67.59 46 P **P** **23 58 06.8 +0.1**
comp=Z,2.9nm,0.4s,baz=7.1,slow=3.5,SNR=3.2
comp=Z,2.9nm,0.4s
PTAC Punta Ardita, 67.62 164 *e*P **P** **23 58 06.9 -0.1**
PAMC Pamplona, Colo 67.88 159 *e*P **P** **23 58 08.8 -0.3**
DBBC Dabeiba 67.88 163 *e*P **P** **23 58 09.0 +0.3**
JTU Tsushima 67.97 324 P **P** **23 58 09.7 +0.7**
JMN Monobe 67.99 319 P **P** **23 58 09.8 +0.6**
JMN IAmb IAmb 23 58 23.0
comp=Z,231nm,1.2s
JMN Monobe 67.99 319 ⇑P **P** **23 58 10.2 +1.0**
BRRC Barranca, Sant 68.01 160 *e*P **P** **23 58 09.3 -0.1**
TIA Tai'an 68.03 335 ⇑P **P** **23 58 06.1 -3.3**
TIA S **S** **00 07 03.3 -2.8**
TIA pmax pmax
comp=Z,830nm,6.4s
TIA LR LR
comp=Z,2µm,22.6s
TIA LR LR
comp=Z,6µm,23.5s
TIA LR LR
comp=Z,5µm,26.3s
PTBC PUERTO BERRIO, 68.50 161 *e*P **P** **23 58 12.1 -0.4**
BARC Barichara 68.57 159 *e*P **P** **23 58 12.5 -0.7**
ASF Jabal al Asfar 68.69 45 P **P** **23 58 14.2 +0.5**
comp=Z,41nm,1.1s,baz=211,slow=1.2,SNR=12
comp=Z,41nm,1.1s
TAMC Tame, Arauca 68.86 158 *e*P **P** **23 58 15.6 +0.8**
CBOC Ciudad Bolivar 69.04 162 *e*P **P** **23 58 18.3 +2.3**
JNU Nakatsue 69.10 322 P **P** **23 58 16.3 +0.2**
comp=Z,78nm,1.2s,baz=53,slow=7.5,SNR=6.8
JNU LR LR 00 29 23.7
comp=Z,4µm,21.9s,baz=18,slow=37
comp=Z,78nm,1.2s
JNU Nakatsue 69.10 322 P **P** **23 58 17.2 +1.1**
JNU IAmb IAmb 23 58 30.4
comp=Z,221nm,1.2s
RUSC La Rusia 69.27 159 IAmb IAmb 23 59 03.1
comp=Z,162nm,1.3s
RUSC La Rusia 69.27 159 *e*P **P** **23 58 17.2 -0.7**
GHAJ Ghor Haditha 69.28 46 P **P** **23 58 18.3 +1.1**
GHAJ IAmb IAmb 00 00 08.8
comp=Z,204nm,1.8s
LZH Lanzhou 69.37 346 ⇑P **P** **23 58 18.7 +0.8**
LZH sP sP 23 58 29.9 -1.6
LZH PP **PP** **00 00 53.8 +3.0**
LZH S **S** **00 07 20.8 -1.6**
LZH pmax pmax
comp=Z,120nm,1.6s
LZH pmax pmax
comp=Z,910nm,5.2s
LZH LR LR
comp=Z,7µm,16.1s
LZH LR LR
comp=Z,4µm,16.1s
LZH LR LR
comp=Z,8µm,15.5s
NORC Norcasia 69.43 161 *e*P **P** **23 58 17.8 -0.5**
GOMU GeErMu 69.70 354 P **P** **23 58 20.6 +0.4**
GOMU pP pP 23 58 23.6 -6.4
GOMU sP sP 23 58 28.1 -5.6
GOMU PP **PP** **00 00 57.2 +3.4**
GOMU S **S** **00 07 27.9 +1.3**
GOMU pmax pmax
comp=Z,22nm,0.8s
GOMU pmax pmax
comp=Z,940nm,7.7s
GOMU LR LR
comp=Z,3µm,19.6s
GOMU LR LR
comp=Z,2µm,18.8s
GOMU LR LR
comp=Z,3µm,19.4s

GUY2C Guyana, Caldas 69.72 162 *e*P **P** **23 58 20.6 0.0**
PLMC San Jos del P 69.96 163 *e*P **P** **23 58 22.0 +0.4**
SACV Santiago Islan 69.99 106 P **P** **23 58 22.1 +0.4**
SACV IAmb IAmb 23 58 36.4
comp=Z,206nm,1.1s
LYN LuoYang 70.18 338⇑ *i*P **P** **23 58 22.7 0.0**
LYN PP **PP** **00 01 04.2 +6.6**
LYN S **S** **00 07 25.6 -5.9**
LYN SS **SS** **00 11 57.6 -3.1**
LYN pmax pmax
comp=Z,30nm,0.7s
LYN pmax pmax
comp=Z,1µm,4.8s
LYN LR LR
comp=Z,10µm,19.0s
LYN LR LR
comp=Z,5µm,17.8s
LYN LR LR
comp=Z,12µm,19.1s
ROSC El Rosal 70.19 161 P **P** **23 58 24.1 +0.7**
comp=Z,86nm,0.7s,baz=82,slow=4.1,SNR=33
ROSC LR LR 00 32 09.7
comp=Z,6µm,18.4s,baz=356,slow=38
comp=Z,86nm,0.7s
ROSC El Rosal 70.19 161 IAmb IAmb 23 58 27.1
comp=Z,98nm,0.8s
ROSC El Rosal 70.19 161 *e*P **P** **23 58 24.1 +0.7**
HRA Herat 70.30 22 IAmb IAmb 23 58 41.1
comp=Z,187nm,1.0s
EIL Eilat 70.74 47 P **P** **23 58 26.6 +0.4**
comp=Z,29nm,0.9s,baz=341,slow=3.1,SNR=13
EIL LR LR 00 30 45.6
comp=Z,2µm,21.4s,baz=354,slow=37
comp=Z,29nm,0.9s
JSU Suzuyama 70.75 322 P **P** **23 58 26.2 0.0**
JSU IAmb IAmb 23 58 38.6
comp=Z,138nm,1.3s
KBL Kabul 70.75 16 P **P** **23 58 25.8 -0.6**
KBL IAmb IAmb 23 58 43.5
comp=Z,152nm,1.1s
KBL Kabul 70.75 16 P **P** **23 58 25.8 -0.6**
KBL pmax pmax
comp=Z,152nm,1.1s
KBL Kabul 70.75 16 P **P** **23 58 26.6 +0.1**
SNR=93
KBL S **S** **00 07 40.9 +2.2**
YOTC Yotoco, Valle 70.87 163 *e*P **P** **23 58 26.0 -1.2**
XAN Xi'an 71.02 341 P **P** **23 58 27.3 -0.6**
XAN pP pP 23 58 33.9 -3.9
XAN sP sP 23 58 36.2 -5.2
XAN pmax pmax
comp=Z,59nm,1.1s
XAN pmax pmax
comp=Z,2µm,11.6s
XAN LR LR
comp=Z,7µm,17.2s
XAN LR LR
comp=Z,5µm,18.5s
XAN LR LR
comp=Z,11µm,17.7s
XAN Xi'an 71.02 341 P **P** **23 58 27.1 -0.8**
XAN sP **sP** **23 58 43.4 +2.0**
ORTC Ortega, Tolima 71.04 162 *e*P **P** **23 58 27.1 -1.0**
PTGC Puerto Gaitan, 71.04 159 *e*P **P** **23 58 27.3 -0.8**
GR1C Gorgona, Isla 71.71 165 *e*P **P** **23 58 33.5 +1.4**
NIL Nilore 71.92 13 P **P** **23 58 33.3 0.0**
NIL IAmb IAmb 23 58 49.9
comp=Z,183nm,0.9s
NIL Nilore 71.92 13 P **P** **23 58 33.3 0.0**
NIL pmax pmax
comp=Z,183nm,1.0s
NIL MLR MLR
comp=Z,10µm,18.0s
NIL Nilore 71.92 13 P **P** **23 58 33.2 0.0**
NIL pP **sP** **23 58 44.5 -2.3**
NIL sP **PcP** **23 58 49.1 -2.8**
NJ2 Nanjing 71.92 332⇑ *i*P **P** **23 58 32.4 -0.9**
NJ2 sP **pP** **23 58 44.1 +0.9**
NJ2 PcP **PcP** **23 58 52.7 +0.9**
NJ2 S **S** **00 07 49.0 -2.7**
NJ2 sS **pS** **00 08 00.2 -3.8**
NJ2 ScS **SKKSac** **00 08 36.6 +2.0**
NJ2 pmax pmax
comp=Z,65nm,0.8s
NJ2 pmax pmax
comp=Z,1µm,5.3s
NJ2 LR LR
comp=Z,3µm,23.7s
NJ2 LR LR
comp=Z,6µm,22.7s
NJ2 LR LR
comp=Z,6µm,17.2s
MBO M'Bour 72.31 100 P **P** **23 58 38.2 +2.5**
SSE Sheshan 72.56 330 P **P** **23 58 38.2 +1.1**
SSE pmax pmax
comp=Z,26nm,1.0s
SSE pmax pmax
comp=Z,800nm,10.5s
SSE LR LR
comp=Z,1µm,15.8s
SSE LR LR
comp=Z,2µm,15.6s
GARC Garzon, Huila 72.72 162 *e*P **P** **23 58 38.2 -0.3**
JCJ Chichijima 72.83 310 P **P** **23 58 39.3 +0.5**
comp=Z,59nm,0.4s,baz=290,slow=14,SNR=1.8
JCJ LR LR 00 32 05.3
comp=Z,893nm,21.4s,baz=354,slow=37
comp=Z,59nm,0.4s
MACC Macarena, Meta 72.90 161 *e*P **P** **23 58 38.1 -1.2**
MPGF Montagnes des 72.92 138 ⇑P **P** **23 58 39.4 0.0**
MDP Montagnes des 72.92 138 LR LR 00 30 25.3
comp=Z,3µm,19.0s,baz=344,slow=36
JMU Jammu 72.94 11 *e*P **P** **23 58 39.0 -0.3**
FLOC Florencia 73.30 162 *e*P **P** **23 58 40.6 -1.1**
GCUF Volcan Galeras 73.53 164 *e*P **P** **23 58 42.2 -1.3**
CMBC Cumbal 73.77 165 *e*P P 23 58 50.1 +5.2
WHN Wuhan 73.94 336 ⇑P **P** **23 58 44.6 -0.7**
WHN pP **P** **23 58 47.1 +1.8**
WHN S **SKiKP** **00 08 12.4 +1.8**
WHN SS **SS** **00 12 59.2 +0.8**
WHN pmax pmax
comp=Z,2µm,4.5s
WHN LR LR
comp=Z,12µm,16.5s
WHN LR LR
comp=Z,17µm,17.6s
WHN LR LR
comp=Z,14µm,20.2s
TULM Tulcn-Chalpat 74.00 165 IAmb IAmb 23 59 00.7
comp=Z,349nm,1.3s
BOAV Boa Vista 74.27 147 IAmb IAmb 23 59 01.7
comp=Z,117nm,1.0s
BOAV Boa Vista 74.27 147 *e*P **P** **23 58 46.5 -0.8**
BOAV Boa Vista 74.27 147 *e*P **P** **23 58 46.3 -1.0**
BHK Bhakra 74.31 10 *e*P **P** **23 58 48.6 +1.2**
BHK *i* x x 23 59 00.1
BHK IAmb_20 IAmb_20 00 34 49.9
comp=Z,7µm,21.4s
CUSE Cuicocha Este 74.36 165 *e*P **P** **23 58 50.4 +2.0**
PAC1 Pacto, Paraso 74.38 166 *e*P **P** **23 58 48.5 +0.4**
IMBA Imbabura, San 74.41 165 P **P** **23 58 49.6 +1.0**
IMBA IAmb IAmb 23 59 32.9
comp=Z,186nm,0.8s
CD2 Chengdu 74.53 346 P **P** **23 58 49.0 +0.3**
CD2 pP pP 23 58 51.6 -7.1
CD2 PP **PP** **00 01 37.3 +2.5**
CD2 S **S** **00 08 21.6 +0.2**
CD2 SS **SS** **00 13 06.3 -1.1**
CD2 pmax pmax
comp=Z,150nm,1.1s
CD2 pmax pmax
comp=Z,1µm,5.7s
CD2 LR LR
comp=Z,2µm,15.1s
CD2 LR LR
comp=Z,2µm,14.5s
CD2 LR LR
comp=Z,3µm,16.1s
ENH Enshi 74.70 340 IAmb IAmb 23 59 02.5
comp=Z,409nm,1.9s
ENH IAMs_20 IAMs_20 00 33 41.5
comp=Z,6µm,20.0s
PAYG Puerto Ayora 74.86 178 P **P** **23 58 51.9 +1.2**
PAYG IAmb IAmb 23 59 06.1
comp=Z,247nm,1.6s

PAYG Puerto Ayora 74.86 178 ⇓P **P** **23 58 51.9 +1.2**
FLF1 Flavio Alfaro- 74.93 167 *e*P **P** **23 58 53.7 +2.6**
SLOR San Lorenzo - 75.38 166 P **P** **23 58 55.0 +0.7**
DDI Dehra Dun 75.47 8 *e*P **P** **23 58 54.0 -0.2**
JOW Kunigami 75.68 323 LR LR 00 33 28.9
comp=Z,6µm,21.7s,baz=50,slow=37
JOW Kunigami 75.68 323 P **P** **23 58 55.2 -0.1**
JOW IAmb IAmb 23 59 14.8
comp=Z,225nm,0.9s
JOW Kunigami 75.68 323 ⇓P **P** **23 58 58.3 +2.9**
SGCB SCo Gabriel d 75.86 154 *e*P **P** **23 58 56.5 +0.1**
PPLP Puerto Lpez 76.05 168 *e*P **P** **23 58 59.5 +1.9**
CHSH Refugio Sur-Vo 76.11 166 P **P** **23 58 59.5 +0.9**
CHSH IAmb IAmb 23 59 29.0
comp=Z,72nm,1.1s
LSA Lhasa 76.26 357 IAmb IAmb 23 59 14.7
comp=Z,154nm,1.0s
LSA Lhasa 76.26 357 P **P** **23 59 00.3 +1.1**
LSA pmax pmax
comp=Z,22nm,0.8s
LSA LR LR
comp=Z,4µm,20.8s
LSA LR LR
comp=Z,3µm,16.5s
LSA LR LR
comp=Z,4µm,20.8s
LSA Lhasa 76.26 357 P **P** **23 59 00.1 +0.9**
LGTI Lohaghat 76.42 7 *e*P **P** **23 58 57.7 -1.8**
LGTI IAMs_20 IAMs_20 00 37 33.3
comp=Z,10µm,18.0s
NDI New Delhi 77.07 9 *e*P **P** **23 59 05.5 +2.3**
SAKB Bahrain 77.10 34 P P 23 59 08.3 +4.9
SHMA Al-Shehemyia 77.28 33 P P 23 59 09.9 +5.5
SHMA S **S** **00 08 49.6 -2.1**
SONA Sohna 77.49 9 *e*P **P** **23 59 06.7 +1.1**
DANN Dangsing 77.60 3 *e*P **P** **23 59 06.2 -0.4**
comp=Z,211nm,0.7s
SHME Shamm 77.82 29 P **P** **23 59 10.9 +3.4**
SNR=8.6
GKN Gorkha 77.96 3 *e*P **P** **23 59 08.2 -0.2**
comp=Z,129nm,0.8s
BANOM Banah 77.96 29 *i* P **P** **23 59 09.6 +1.3**
SNR=15
BANOM Banah 77.96 29 P **P** **23 59 13.0 +4.7**
SNR=16
KOLN Koldanda 78.17 4 *e*P **P** **23 59 09.5 -0.1**
KKN Kakani 78.17 2 *e*P **P** **23 59 09.0 -0.7**
UMQ Umm Al-Quwin 78.27 29 *i* P **P** **23 59 09.8 -0.2**
SNR=11
UMQ Umm Al-Quwin 78.27 29 P P 23 59 16.4 +6.5
SNR=10
UMQ S **S** **00 09 03.5 +1.1**
JIRN Jiri 78.31 1 *e*P **P** **23 59 10.6 0.0**
comp=Z,35nm,0.5s
SMRA Abu-Samra 78.35 34 P **P** **23 59 11.0 +0.7**
DMN Daman 78.35 2 *e*P **P** **23 59 10.7 0.0**
comp=Z,110nm,0.7s
MCPB Macapa, AP 78.36 139 *e*P **P** **23 59 09.2 -1.4**
PKIN Phulchoki 78.39 2 *e*P **P** **23 59 10.8 -0.1**
comp=Z,53nm,0.6s
PKI Pulchoki 78.39 2 *e*P **P** **23 59 10.5 -0.5**
JRN Qarnain Island 78.46 32 P **P** **23 59 12.8 +1.8**
SNR=13
JRN S **S** **00 09 04.0 -0.4**
MASF Masafi 78.49 29 P **P** **23 59 12.6 +1.4**
SNR=35
MSFE Esma-Masafi 78.50 29 *i* P **P** **23 59 12.3 +1.0**
SNR=31
TATO Taipei 78.54 329 IAMs_20 IAMs_20 00 37 16.6
comp=Z,6µm,20.0s
MDH Madha 78.58 29 *i* P **P** **23 59 11.5 -0.1**
SNR=17
MDH Madha 78.58 29 P **P** **23 59 13.7 +2.0**
SNR=21
MDH S **S** **00 09 03.3 -2.5**
TAPN Taplejung 78.62 360 *e*P **P** **23 59 12.2 -0.1**
comp=Z,259nm,0.9s
RAYN Ar Rayn 78.69 39 P **P** **23 59 12.8 +0.4**
RAYN Ar Rayn 78.69 39 IAMs_20 IAMs_20 00 35 25.0
comp=Z,5µm,22.0s
RAYN Ar Rayn 78.69 39 P **P** **23 59 12.8 +0.4**
RAYN pmax pmax
comp=Z,34nm,1.0s
RAYN MLR MLR
comp=Z,5µm,22.0s
RAYN Ar Rayn 78.69 39 P **P** **23 59 15.3 +2.9**
RAYN S **S** **00 09 12.7 +5.6**
GYA Guiyang 78.73 343⇑ *i*P **P** **23 59 13.0 +0.4**
GYA pP pP 23 59 15.6 -7.0
GYA PcP **sP** **23 59 25.1 -1.1**
GYA S **S** **00 09 05.8 -1.8**
GYA pmax pmax
comp=Z,150nm,1.0s
GYA pmax pmax
comp=Z,2µm,4.6s
GYA LR LR
comp=Z,5µm,19.4s
GYA LR LR
comp=Z,4µm,19.7s
GYA LR LR
comp=Z,6µm,19.2s
NAZ Nazwa, Dubai 78.80 29 *i* P **P** **23 59 13.0 +0.1**
SNR=25
NAZ Nazwa, Dubai 78.80 29 P **P** **23 59 14.5 +1.6**
SNR=26
NAZ S **S** **00 09 07.9 -0.2**
YOJ Yonaguni jima 78.83 327 P **P** **23 59 13.8 +0.8**
YOJ IAmb IAmb 00 01 56.7
comp=Z,413nm,1.5s
YOJ Yonaguni jima 78.83 327 P **P** **23 59 13.8 +0.8**
YOJ pmax pmax
comp=Z,413nm,1.5s
UOSS Minazif 78.91 29 P **P** **23 59 13.7 +0.2**
UOSS Minazif 78.91 29 IAMs_20 IAMs_20 00 40 28.6
comp=Z,5µm,20.0s
UOSS Minazif 78.91 29 P **P** **23 59 15.6 +2.1**
UOSS S **S** **00 09 07.6 -1.8**
RAMN Ramite 79.02 1 *e*P **P** **23 59 13.8 -0.6**
comp=Z,161nm,0.9s
HATD Hatta, Dubai 79.02 29 *i* P **P** **23 59 13.1 -1.0**
SNR=43
HATD Hatta, Dubai 79.02 29 P **P** **23 59 15.2 +1.0**
SNR=66
HATD S **S** **00 09 08.1 -2.5**
FAQ Al Faqa, Dubai 79.03 29 *i* P **P** **23 59 13.2 -0.9**
SNR=22
FAQ Al Faqa, Dubai 79.03 29 P **P** **23 59 15.5 +1.4**
SNR=25
FAQ S **S** **00 09 09.1 -1.5**
PZH PanZhiHua 79.03 347 P **P** **23 59 14.0 -0.3**
PZH pP **PcP** **23 59 16.4 -6.3**
PZH sP **pP** **23 59 19.6 -4.7**
PZH PcP **sP** **23 59 23.7 -4.2**
PZH PP **PP** **00 02 12.7 -0.2**
PZH S **S** **00 09 09.3 -1.6**
PZH SKS **SKSac** **00 09 27.9 +0.4**
PZH SS **SS** **00 14 14.2 -1.5**
PZH pmax pmax
comp=Z,110nm,1.2s
PZH pmax pmax
comp=Z,1µm,4.1s
PZH LR LR
comp=Z,3µm,20.6s
PZH LR LR
comp=Z,2µm,20.1s
PZH LR LR
comp=Z,4µm,18.6s
ASUD Al Ashush, Dub 79.11 30 *i* P **P** **23 59 13.0 -1.6**
SNR=9.2
ASUD Al Ashush, Dub 79.11 30 P **P** **23 59 14.8 +0.3**
SNR=12
ASUD S **S** **00 09 11.3 -0.2**
ODAN Odare 79.11 0 *e*P **P** **23 59 14.2 -0.7**
AJN Ajban 79.13 30 *i* P **P** **23 59 14.3 -0.4**
SNR=14
AJN Ajban 79.13 30 P **P** **23 59 19.2 +4.6**
SNR=13
AJN S **S** **00 09 09.7 -2.0**
AJM Ajmer 79.13 12 *e*P **P** **23 59 13.8 -0.9**
AJM IAmb IAmb 23 59 29.3
comp=Z,212nm,1.6s
SLWR Sila 79.14 33 P **P** **23 59 15.3 +0.6**
SLWR S **S** **00 09 08.4 -3.4**
ASHO Ashiyiah 79.15 29 *i* P **P** **23 59 14.4 -0.4**
SNR=56

ASHO Ashiyiah 79.15 29 P P 23 59 15.7 +0.9
SNR=55
SLGI Shiliguri 79.27 359 *eP* P 23 59 17.4 +2.0
NACB Ninganchiao 79.31 329 P P 23 59 15.0 -0.7
NACB IAms_20 IAms_20 00 38 11.1
comp=Z,7µm,19.0s
GHWR Ruwais 79.42 32 P P 23 59 17.4 +1.1
GHWR S S 00 09 11.4 -3.4
MALB Monte Alegre 79.44 141 *eP* P 23 59 15.5 -0.8
KNMB Chin-men Tao 79.46 332 P P 23 59 13.5 -2.9
KNMB IAms_20 IAms_20 00 40 00.9
comp=Z,5µm,18.0s
TEFE Tefe 79.50 152 *eP* P 23 59 16.7 0.0
TBTG Tabatinga, AM 79.55 157 P P 23 59 16.3 -0.7
TBTG IAmb IAmb 23 59 30.6
comp=Z,406nm,1.2s
TBTG Tabatinga, AM 79.55 157 *eP* P 23 59 16.0 -0.9
TBTG Tabatinga, AM 79.55 157 *eP* P 23 59 17.2 +0.3
MACA Manacapuru-AM 79.70 148 IAmb IAmb 23 59 32.1
comp=Z,198nm,1.0s
MACA Manacapuru-AM 79.70 148 *eP* P 23 59 17.7 -0.1
ALNE Al Ain 79.73 29 *i* P P 23 59 17.4 -0.6
SNR=64
ALNE Al Ain 79.73 29 P P 23 59 19.5 +1.5
SNR=64
ALNE S S 00 09 17.7 -0.4
SOHO SOHO 79.76 29 *i* P P 23 59 16.6 -1.5
SNR=20
SOHO SOHO 79.76 29 P P 23 59 18.3 +0.2
SOHO S S 00 09 15.1 -3.1
MZWR Madinat Zayed 79.76 31 P P 23 59 19.5 +1.4
MZWR S S 00 09 19.0 +0.6
SSLB Suanglung 79.78 329 IAms_20 IAms_20 00 37 17.5
comp=Z,7µm,20.0s
YULB Yu-li 80.12 329 IAms_20 IAms_20 00 38 09.6
comp=Z,6µm,19.0s
TPUB Ta-pu 80.31 329 IAmb IAmb 23 59 35.2
comp=Z,210nm,1.2s
TPUB IAms_20 IAms_20 00 37 42.4
comp=Z,5µm,20.0s
JHNI Jhansi 80.32 8 *eP* P 23 59 20.0 -1.2
JHNI *i* pP **pP** 23 59 31.8 +0.7
JHNI IAmb IAmb 23 59 33.6
comp=Z,289nm,1.2s
KMI Kunming 80.34 346 ⇑P P 23 59 21.3 -0.2
KMI pP PcP 23 59 23.6 -5.0
KMI PP **PP** 00 02 23.3 -0.6
KMI pmax pmax
comp=Z,130nm,1.7s
KMI pmax pmax
comp=Z,2µm,4.1s
KMI LR LR
comp=Z,2µm,22.1s
KMI LR LR
comp=Z,6µm,19.7s
KMI LR LR
comp=Z,4µm,17.1s
SHL Shillong 80.36 356 *eP* P 23 59 20.2 -1.4
SHL IAmb IAmb 23 59 36.7
comp=Z,86nm,0.7s
SHL *i* x x 00 02 29.9
HOQ Hoqain 80.40 28 P P 23 59 23.9 +2.3
SNR=22
MZR Muzera 80.45 32 *i* P P 23 59 20.7 -1.2
SNR=47
MZR Muzera 80.45 32 P P 23 59 22.6 +0.7
SNR=41
ARQ Araqi 80.54 29 P P 23 59 23.4 +1.0
SNR=43
VAR Varanasi 80.62 4 *eP* P 23 59 23.0 +0.3
TNCH TengChong 80.67 350 ⇑*iP* P 23 59 23.8 +0.5
TNCH pP PcP 23 59 27.5 -2.5
TNCH PP **PP** 00 02 27.5 +0.9
TNCH S **S** 00 09 29.9 +1.6
TNCH SS **SS** 00 14 43.9 +3.5
TNCH pmax pmax
comp=Z,55nm,0.9s
TNCH pmax pmax
comp=Z,1µm,3.7s
TNCH LR LR
comp=Z,3µm,17.1s
TNCH LR LR
comp=Z,2µm,17.2s
TNCH LR LR
comp=Z,6µm,18.9s
TWG Pinlang 80.72 329 P P 23 59 23.4 +0.1
TWG IAmb IAmb 23 59 36.2
comp=Z,287nm,1.9s
TWG IAms_20 IAms_20 00 37 18.3
comp=Z,7µm,21.0s
WSAR Wadi Sarin 80.91 27 LR LR 00 42 29.1
comp=Z,3µm,18.8s,baz=356,slow=41
UMZA Um Al Zommool 80.97 30 P P 23 59 25.7 +1.0
SMDO Samad 81.01 27 P P 23 59 25.4 +0.4
SNR=64
TMAB Tom-Au,PA,Br 81.07 135 *eP* P 23 59 25.3 +0.2
BSY Bisya 81.21 28 P P 23 59 25.3 -0.6
SNR=57
XMAS Kiritimati 81.42 246 P P 23 59 28.4 +1.4
XMAS IAmb IAmb 23 59 46.0
comp=Z,244nm,1.1s
WBK Wadi Bani Khal 81.57 27 P P 23 59 28.7 +0.8
SNR=32
ITTB Itaituba 81.65 143 *eP* P 23 59 27.4 -0.9
JMDO Jabal Madar 81.70 27 P P 23 59 28.0 -0.6
SNR=28
ATAH Atahualpa 81.74 166 LR LR 00 37 49.8
comp=Z,3µm,18.3s,baz=0.6,slow=37
BHUJ Bhuj 82.00 17 *ex* P 23 59 33.3 +3.2
BHUJ IAmb IAmb 23 59 43.8
comp=Z,340nm,1.4s
JLN Jalan Bani Buh 82.07 26 P P 23 59 30.6 +0.1
SNR=54
HKPS Hong Kong Po S 82.14 335 P P 23 59 30.6 -0.2
HKPS IAmb IAmb 23 59 50.3
comp=Z,116nm,0.9s
HKPS Hong Kong Po S 82.14 335 IAms_20 IAms_20 00 41 28.7
comp=Z,6µm,18.0s
BOK Bokaro 82.16 2 *eP* P 23 59 30.1 -0.9
BOK IAmb IAmb 23 59 43.6
comp=Z,205nm,1.4s
ROSB Rosrio 82.37 131 *eP* P 23 59 31.9 -0.1
BHPL Bhopal 82.49 9 *eP* P 23 59 31.9 -0.8
CZSB Cruzeiro do Su 82.78 160 IAmb IAmb 23 59 49.1
comp=Z,108nm,0.9s
CZSB Cruzeiro do Su 82.78 160 *eP* P 23 59 32.9 -1.2
DBIC Dimbokro 82.96 91 P P 23 59 35.4 +0.3
DBIC Dimbokro 82.96 91 ⇑P P 23 59 35.8 +0.6
DBIC ⇓P P 23 59 36.2 +1.1
DBIC Dimbokro 82.96 91 P P 23 59 35.4 +0.3
DBIC pmax pmax
comp=Z,26nm,1.0s
MHTO MHTO 83.04 28 P P 23 59 34.8 -0.7
SNR=35
BRDH Bariadhala 83.24 356 LR LR 00 41 22.0
comp=Z,4µm,18.2s,baz=354,slow=39
DQM DQM 84.03 28 P P 23 59 42.6 +2.0
JHSG JHARSUGUGA 84.16 4 *eP* P 23 59 40.6 -0.7
JHSG *i* x x 00 03 10.4
NPGB Novo Progresso 84.34 143 *eP* P 23 59 41.8 -0.3
PRPB Parauapebas 84.45 137 *eP* P 23 59 42.8 +0.1
DOK Doka 84.86 32 P P 23 59 44.5 -0.3
SNR=41
NBCL Cascavel-CE 84.90 126 *eP* P 23 59 44.5 -0.4
AKL Akola 84.99 10 *eP* P 23 59 43.7 -1.8
AKL IAmb IAmb 23 59 51.2
comp=Z,79nm,1.1s
AKL *i* x x 23 59 56.5
GUMO Guam 85.33 305 LR LR 00 38 36.5
comp=Z,1µm,21.0s,baz=32,slow=36
CRAI Chiangrai 85.35 348 IAmb IAmb 00 00 01.1
comp=Z,138nm,1.1s
WHFO Wadi Hawf 85.49 32 P P 23 59 47.5 -0.6
SNR=36
ETMB Extrema 85.52 154 IAmb IAmb 00 00 01.2
comp=Z,77nm,1.0s
ETMB Extrema 85.52 154 *eP* P 23 59 46.2 -1.8
QIZ Qiongzhong 85.80 339 IAmb IAmb 00 00 03.2
comp=Z,94nm,0.9s
QIZ Qiongzhong 85.80 339 IAms_20 IAms_20 00 41 28.6
comp=Z,6µm,19.0s
QIZ Qiongzhong 85.80 339 P P 23 59 49.3 -0.2
QIZ PP **PP** 00 03 08.6 +0.1
QIZ S **S** 00 10 13.4 -6.6
QIZ SS **SS** 00 16 00.1 +4.0
QIZ pmax pmax
comp=Z,62nm,1.1s
QIZ pmax pmax
comp=Z,980nm,5.5s
QIZ LR LR
comp=Z,3µm,18.8s
QIZ LR LR
comp=Z,4µm,17.7s
QIZ LR LR
comp=Z,5µm,19.2s
DMTO DMTO 85.86 31 P P 23 59 51.2 +1.4
SNR=10
RBK Rabkut 85.96 32 P P 23 59 49.8 -0.6
SNR=34
ABTO Aybut 85.98 33 P P 23 59 50.3 -0.2
SNR=31
BOM Bombay 86.55 14 *eP* P 23 59 51.4 -1.8
NNA Nana 86.65 165 LR LR 00 39 22.8
comp=Z,3µm,21.9s,baz=338,slow=36
NNA Nana 86.65 165 P P 23 59 53.5 -0.2
NNA Nana 86.65 165⇑ *eP* P 23 59 52.7 -0.9
NNA pmax pmax
comp=Z,108nm,1.9s
NNA MLR MLR
comp=Z,5µm,20.0s
CHTO Chiang Mai 86.83 349 P P 23 59 53.3 -1.3
CHTO IAmb IAmb 00 00 07.8
comp=Z,109nm,1.2s
CHTO IAMs_20 IAMs_20 00 41 28.8
comp=Z,4µm,19.0s
CHTO Chiang Mai 86.83 349 P P 23 59 53.3 -1.3
CHTO pmax pmax
comp=Z,109nm,1.2s
CHTO MLR MLR
comp=Z,4µm,19.0s
POO Poona 86.98 13 *eP* P 23 59 55.5 +0.1
POO IAmb IAmb 00 00 08.6
comp=Z,106nm,1.0s
POO *i* x x 00 03 32.0
RCBR Riachuelo 86.99 124 LR LR 00 34 13.0
comp=Z,4µm,20.6s,baz=106,slow=32
RCBR Riachuelo 86.99 124 P P 23 59 55.3 0.0
RCBR Riachuelo 86.99 124 IAMs_20 IAMs_20 00 33 51.4
comp=Z,4µm,20.0s
RCBR Riachuelo 86.99 124 P P 23 59 55.3 0.0
RCBR pmax pmax
comp=Z,65nm,1.4s
RCBR Riachuelo 86.99 124 *eP* P 23 59 55.1 -0.2
CM31 Chiang Mai Arr 87.19 349 P P 23 59 56.4 +0.1
CM31 IAmb IAmb 00 00 10.1
comp=Z,155nm,1.2s
CMAR Chiang Mai Arr 87.19 349 P P 23 59 55.5 -0.9
comp=Z,27nm,0.9s,baz=351,slow=5.6,SNR=33
CMAR PKiKP **PKiKP** 00 05 01.1 +0.3
comp=Z,1.9nm,0.3s,baz=335,slow=1.9,SNR=4.3
CMAR PKPPKP **P'P'df** 00 25 54.2 -3.7
comp=Z,0.8nm,0.3s,baz=186,slow=3.6,SNR=1.2
CMAR LR LR 00 42 01.9
comp=Z,3µm,20.6s,baz=355,slow=38
comp=Z,27nm,0.9s
CMAR Chiang Mai Arr 87.19 349 *i* P P 23 59 55.5 -0.9
CMAR pmax pmax
comp=Z,20nm,0.6s
SMTB Santa Maria do 87.49 136 *eP* P 23 59 57.7 0.0
CLDB Colider 88.02 144 *eP* P 00 00 00.2 0.0
TAOE Nuku Hiva Isla 88.05 227 *eP* P 00 00 02.8 +2.3
comp=Z,554nm,25.0s
TAOE Nuku Hiva Isla 88.05 227 *e*PP **PP** 00 03 28.0 +0.6
comp=Z,458nm,28.0s
TAOE *eS* **S** 00 10 44.0 +2.3
comp=Z,1µm,28.0s
TAOE *e*SS **SS** 00 16 34.3 +3.9
comp=Z,3µm,31.2s
TAOE Nuku Hiva Isla 88.05 227 *e*LR LR 00 28 00.4
comp=Z,4µm,25.7s
VIS Vishakhapatnam 88.17 4 *eP* P 00 00 03.1 +2.1
VIS IAmb IAmb 00 00 15.8
comp=Z,89nm,1.4s
VIS *i* x x 00 03 34.0
HYB Hyderabad 88.33 9 *eP* P 00 00 02.1 +0.3
HYB *e*PcP **PcP** 00 00 03.6 +0.1
HYB *e*pP **pP** 00 00 12.5 +0.6
HYB *e* 00 03 39.6
HYB *e*SKSac **SKSac** 00 10 26.2 -1.9
HYB *e*SS **SS** 00 16 38.6 +5.5
HYB IVMs_BB IVMs_BB 00 43 43.5
comp=Z,1µm,20.7s
HYB Hyderabad 88.33 9 *eP* P 00 00 01.0 -0.8
HYB IAmb IAmb 00 00 15.2
HYB *i* x x 00 03 39.8
PDRB Porto dos Gac 88.60 145 *eP* P 00 00 03.1 +0.2
PATS Pohnpei 88.60 290 IAMs_20 IAMs_20 00 38 42.8
comp=Z,5µm,19.0s
VJD Vijayawada 89.30 7 *eP* P 00 00 06.8 +0.5
VILB Vilhena 89.40 149 P P 00 00 07.0 +0.3
VILB IAmb IAmb 00 00 21.8
comp=Z,136nm,1.2s
VILB Vilhena 89.40 149 *eP* P 00 00 06.5 -0.2
SNDB Serra Nova Dou 89.85 140 *eP* P 00 00 08.9 +0.1
ATD Arta Tunnel 89.93 44 P P 00 00 10.1 +0.7
ATD Arta Tunnel 89.93 44 ⇑P P 00 00 09.8 +0.4
TARA Tarawa 89.97 275 IAMs_20 IAMs_20 00 39 50.0
comp=Z,5µm,20.0s
SDBA SAO DESIDERIO 91.47 134 *eP* P 00 00 16.4 0.0
FURI Furi 91.68 48 P P 00 00 18.9 +1.1
FURI IAmb IAmb 00 03 52.8
comp=Z,63nm,0.5s
FURI Furi 91.68 48 ⇑P P 00 00 31.0 +13
PTLB Pontes e Lacer 92.00 148 P P 00 00 18.5 -0.3
PTLB IAmb IAmb 00 00 33.6
comp=Z,40nm,1.0s
PTLB Pontes e Lacer 92.00 148 *eP* P 00 00 18.6 -0.1
SIV San Ignacio 92.27 150 LR LR 00 44 02.6
comp=Z,2µm,20.0s,baz=6.5,slow=37
DGPR DIGLIPUR 92.66 355 *eP* P 00 00 22.6 +0.7
PB18 Visviri 92.84 158 P P 00 00 24.1 +0.9
SALV Santo Antonio 92.97 145 *eP* P 00 00 23.1 0.0
ARAG Araguaiana, MT 93.41 141 *eP* P 00 00 24.6 -0.7
BBSD Serra de San D 93.51 150 *eP* P 00 00 25.4 -0.3
PB16 IPOC Station P 93.58 158 P P 00 00 26.9 +0.3
PB12 IPOC Station P 93.77 159 P P 00 00 27.2 +0.2
PB12 IAmb IAmb 00 00 42.2
comp=Z,53nm,1.0s
BDFB Brasilia 94.03 137 P P 00 00 28.8 +0.6
comp=Z,8.7nm,0.8s,baz=26,slow=1.9,SNR=15
BDFB LR LR 00 42 38.7
comp=Z,4µm,20.0s,baz=332,slow=35
comp=Z,8.7nm,0.8s
BDFB Brasilia 94.03 137 *eP* P 00 00 29.1 +0.9
SALM Salem 94.04 9 *eP* P 00 00 25.5 -2.9
JANB Januaria 94.16 134 *eP* P 00 00 28.9 +0.1
BBRB Robore, Bolivi 94.69 149 *eP* P 00 00 31.1 0.0
PP1B Ponte de Pedra 94.76 144 *eP* P 00 00 31.6 +0.1
GO01 Chusmiza 94.92 158 P P 00 00 32.7 0.0
PB11 IPOC Station P 94.97 159 P P 00 00 32.0 -0.5
PCHI Peechi 95.06 11⇑ *eP* P 00 00 34.6 +1.6
PCHI *e*S **SKSac** 00 11 05.8 -0.3
PB08 IPOC Station P 95.40 158 P P 00 00 34.4 -0.4
KOD Kodaikanal 95.41 10 *eP* P 00 00 31.8 -3.2
DAV Davao City (W) 95.48 322 LR LR 00 47 49.6
comp=Z,1µm,19.7s,baz=10.0,slow=38
DAV Davao City (W) 95.48 322 P P 00 00 34.8 -0.1
RVDE Rio Verde (Bra 96.15 145 *eP* P 00 00 36.5 -1.3
C2SB Chapadao do Su 96.24 143 *eP* P 00 00 37.8 -0.3
PB01 IPOC Station P 96.26 159 P P 00 00 40.0 +1.7
IPMB Ipameri, GO 96.27 138 *eP* P 00 00 38.3 0.0
LODK Lodwar 96.30 53 P P 00 00 39.2 +0.5
PB07 IPOC Station P 96.89 159 P P 00 00 42.4 +1.1
SRIT Nakonsritamara 96.94 348 P P 00 00 42.1 +0.5
AQDB Aquidauana 97.45 146 P Pdif 00 00 45.3 +1.6
AQDB Aquidauana 97.45 146 *eP* P 00 00 44.0 +0.4
LVC Limon Verde 97.86 158 LR LR 00 47 14.0
comp=Z,3µm,21.1s,baz=324,slow=37
LVC Limon Verde 97.86 158 P P 00 00 45.1 -0.7
LVC Limon Verde 97.86 158 P P 00 00 45.1 -0.7
LVC pmax pmax
comp=Z,25nm,1.6s
LVC MLR MLR
comp=Z,3µm,21.0s
LVC Limon Verde 97.86 158 *eP* P 00 00 45.4 -0.4
KKM Kota Kinabalu 97.89 331 P 00 00 46.9 +0.9
KKM IAmb IAmb 00 00 59.7
comp=Z,42nm,1.0s
PB06 IPOC Station P 97.89 159 P P 00 00 45.8 +0.1
ABR01 Abrolhos, BA 98.13 129 *eP* P 00 00 46.9 +0.2
MURT Porto Murtinho 98.33 148 *eP* P 00 00 47.6 +0.1
SJMB Sao Joao De Ma 98.33 132 *eP* P 00 00 47.1 -0.4
MYLDM Lahad Datu 98.43 329 P P 00 00 49.0 +0.7
MYLDM IAmb IAmb 00 01 02.9
comp=Z,86nm,1.5s
MYLDM IAMs_20 IAMs_20 00 52 03.7
comp=Z,6µm,19.0s
PPT Papeete 98.49 234 LR LR 00 38 06.7
comp=Z,3µm,21.3s,baz=16,slow=31
PPT2 Papeete2 98.51 234 *eP* Pdif 00 00 50.9 +2.4
PPT2 Papeete2 98.51 234 *e*PP **PP** 00 04 50.0 +0.7
comp=Z,590nm,26.5s
PPT2 Papeete2 98.51 234 *e*SS SS 00 19 03.9 +3.9
comp=Z,3µm,34.2s
PPT2 Papeete2 98.51 234 *e*LR LR 00 32 51.9
comp=Z,6µm,23.2s
PPT2 *e*LR LR 00 32 52.2
comp=Z,5µm,23.5s
HMDM Hanimaadhoo 98.60 14 IAMs_20 IAMs_20 00 49 30.7
comp=Z,4µm,21.0s
MBAR Mbarara 99.16 58 LR LR 00 49 31.5
comp=Z,5µm,19.1s,baz=326,slow=38
MBAR Mbarara 99.16 58 P **Pdif** **00 00 52.8 +1.1**
MBAR Mbarara 99.16 58 IAMs_20 IAMs_20 00 49 01.5
comp=Z,5µm,20.0s
MBAR Mbarara 99.16 58 P **Pdif** **00 00 52.8 +1.1**
MBAR pmax pmax
comp=Z,8.0nm,1.1s
MBAR MLR MLR
comp=Z,5µm,20.0s
PCMB Pacaembu 99.28 142 *eP* **Pdif** **00 00 51.3 -0.5**
KULM Kulim 100.15 347 IAMs_20 IAMs_20 00 51 31.8
comp=Z,5µm,18.0s
IPM Ipoh 100.93 346 IAMs_20 IAMs_20 00 53 36.5
comp=Z,3µm,19.0s
RKT Rikitea 101.00 219 *eP* **Pdif** **00 01 02.0 +2.7**
RKT Rikitea 101.00 219 *e*PP **PP** **00 05 08.3 +0.1**
comp=Z,86µm,30.5s
RKT Rikitea 101.00 219 *e*SS SS 00 19 38.9 +4.2
comp=Z,344µm,36.0s
RKT Rikitea 101.00 219 *e*LR LR 00 34 01.0
comp=Z,630µm,22.8s
KMBO Kilima Mbogo 101.12 52 IAMs_20 IAMs_20 00 53 20.0
comp=Z,3µm,19.0s
SPB Sao Paulo 101.89 138 IAMs_20 IAMs_20 00 44 41.1
comp=Z,6µm,22.0s
SBUM Sibu 101.93 335 IAMs_20 IAMs_20 00 48 48.1
comp=Z,3µm,22.0s
KIBK Kibwezi 102.46 51 IAMs_20 IAMs_20 00 53 45.1
comp=Z,3µm,19.0s
RPSI Rantau Prapat 102.83 348 IAMs_20 IAMs_20 00 55 44.8
comp=Z,4µm,19.0s
CPUP Villa Florida 102.96 148 P **Pdif** **00 01 07.6 -0.4**
comp=Z,3.4nm,1.3s,baz=359,slow=4.6,SNR=2.0
CPUP PKKPbc **PKKPbc** **00 17 01.3 -1.0**
comp=Z,1.2nm,0.7s,baz=177,slow=1.2,SNR=3.3
MYKOM Kota Tinggi 103.40 343 IAMs_20 IAMs_20 00 53 23.8
comp=Z,4µm,18.0s
HNR Honiara 103.77 284 IAMs_20 IAMs_20 00 45 28.5
comp=Z,3µm,21.0s
TBI Tubuai 104.06 233 *eP* **Pdif** **00 01 15.6 +2.7**
TBI Tubuai 104.06 233 *e*PP **PP** **00 05 31.6 +0.5**
comp=Z,2µm,29.5s
TBI Tubuai 104.06 233 *e*SS SS 00 20 21.3 +4.4
comp=Z,11µm,33.8s
TBI Tubuai 104.06 233 *e*LR LR 00 35 25.3
comp=Z,81µm,23.0s
TBI *e*LR LR 00 35 25.9
comp=Z,17µm,23.8s
GSI Gunungsitoli 104.28 350 IAMs_20 IAMs_20 00 55 34.2
comp=Z,3µm,20.0s
KAAM Kaadhehdhoo 104.81 15 IAMs_20 IAMs_20 00 52 31.3
comp=Z,4µm,22.0s
BKB Balikpapan 104.99 330 IAMs_20 IAMs_20 00 57 41.4
comp=Z,3µm,19.0s
BKNI Bangkinang 105.05 346 IAMs_20 IAMs_20 00 56 40.6
comp=Z,4µm,18.0s
MSVF Nonsavu 106.81 265 IAMs_20 IAMs_20 00 53 29.8
comp=Z,3µm,20.0s
PMBI Palembang 107.99 342 IAMs_20 IAMs_20 00 55 56.1
comp=Z,4µm,18.0s
MNAI Manna 109.56 344 IAMs_20 IAMs_20 00 56 10.1
comp=Z,5µm,20.0s
LIFNC LIFOU 112.65 274 IAMs_20 IAMs_20 00 47 09.9
comp=Z,3µm,22.0s
LSZ Lusaka 112.70 64 IAMs_20 IAMs_20 00 57 18.8
comp=Z,4µm,20.0s
TSUM Tsumeb 113.75 76 IAMs_20 IAMs_20 00 55 58.4
comp=Z,2µm,19.0s
TRQA Tornquist 113.90 154 IAMs_20 IAMs_20 00 56 24.5
comp=Z,4µm,20.0s
DZM Mont Dzumac 114.10 274 *eP* **Pdif** **00 01 59.9 +2.1**
DZM Mont Dzumac 114.10 274 *e*PP **PP** **00 06 44.8 +0.8**
comp=Z,472nm,26.1s
DZM Mont Dzumac 114.10 274 *e*LR LR 00 40 04.5
comp=Z,7µm,22.4s
DZM Mont Dzumac 114.10 274 PKP PKPdf 00 05 48.4 -0.5
comp=Z,6.2nm,0.9s,baz=270,slow=20,SNR=2.0
PLCA Paso Flores 115.67 162 PKP **PKPdf** **00 05 49.8 -1.6**
comp=Z,3.8nm,0.9s,baz=0.0,slow=3.2,SNR=6.0
PLCA PKKPbc **PKKPbc** **00 16 22.5 +0.6**
comp=Z,2.6nm,0.9s,baz=205,slow=2.3,SNR=2.0
CTA Charters Tower 117.50 295 PKP **PKPdf** **00 05 54.1 -1.3**
comp=Z,0.9nm,0.3s,baz=253,slow=1.1,SNR=1.1
WB2 Warramunga Arr 120.12 308 pPKPdf pPKPdf 00 06 12.8 +1.9
WRA Warramunga Arr 120.12 308 Pdiff **Pdif** **00 02 25.5 +1.0**
comp=Z,0.4nm,0.8s,baz=7.6,slow=4.8,SNR=2.1
WRA PKP **PKPdf** **00 05 59.2 -1.3**
comp=Z,5.8nm,0.5s,baz=355,slow=2.1,SNR=91
WRA PP **PP** **00 07 23.3 -2.5**
comp=Z,11nm,1.1s,baz=9.9,slow=7.1,SNR=6.5
WRA PKKPbc **PKKPbc** **00 16 06.7 +1.1**
comp=Z,1.9nm,0.9s,baz=202,slow=3.6,SNR=2.9
WRA SKKPbc SKKPbc 00 19 51.6 +3.2
comp=Z,1.5nm,0.9s,baz=184,slow=3.6,SNR=3.3
WRA Warramunga Arr 120.12 308 pPKPdf pPKPdf 00 06 12.3 +1.4
COYC Coyhaique 120.35 164 IAMs_20 IAMs_20 01 02 47.5
comp=Z,2µm,20.0s
ABPO Ambohimpanom 120.54 45 **PKPdf** **00 06 02.2 +0.6**
ABPO pPKPdf **sPKPdf** **00 06 14.6 -0.9**
ABPO IAMs_20 IAMs_20 01 00 12.5
comp=Z,3µm,22.0s
ABPO Ambohimpanom 120.54 45 PKIKP **PKPdf** **00 06 02.2 +0.6**
ABPO *PP **sPKPdf** **00 06 14.6 -0.9**
LBTB Lobatse 121.38 70 PKPdf **PKiKP** **00 06 04.4 +1.4**
LBTB pPKPdf **sPKPdf** **00 06 15.6 -1.3**
VOI Vohitsoka 123.27 47 pPKPdf **pPKPdf** **00 06 19.2 +2.2**
VOI IAMs_20 IAMs_20 01 05 25.8
comp=Z,3µm,19.0s
VOI Vohitsoka 123.27 47 PKP **PKiKP** **00 06 09.6 +2.7**
AS31 Alice Springs 123.82 307 pPKPdf pPKPdf 00 06 17.9 -0.1
ASAR Alice Springs 123.82 307 Pdiff **Pdif** **00 02 41.9 +1.0**
comp=Z,0.3nm,0.8s,baz=11,slow=5.8,SNR=2.6
ASAR PKP **PKPdf** **00 06 06.5 -1.1**
comp=Z,15nm,0.7s,baz=22,slow=2.0,SNR=103
ASAR PKKPbc **PKKPbc** **00 15 53.2 +1.8**
comp=Z,1.0nm,0.7s,baz=195,slow=4.7,SNR=6.0
ASAR SKKPbc SKKPbc 00 19 40.0 +3.4
comp=Z,1.3nm,1.0s,baz=195,slow=3.2,SNR=2.6
MBWA Marble Bar 124.10 323 PKPdf **PKPdf** **00 06 07.5 -0.6**
MBWA pPKPdf **pPKPdf** **00 06 19.2 +0.7**
PSA00 Pilbara Seismi 124.49 323 pPKPdf pPKPdf 00 06 20.5 +1.3
OUZ Omahuta 124.60 263 PKPdf **PKPdf** **00 06 09.2 +0.6**
OUZ IAMs_20 IAMs_20 00 52 34.0
comp=Z,3µm,21.0s
BOSA Boshof 124.73 71 PKP **PKPdf** **00 06 08.6 -0.7**
comp=Z,7.6nm,0.6s,baz=338,slow=1.7,SNR=26
BOSA Boshof 124.73 71 pPKPdf pPKPdf 00 06 23.2 +3.6
MXZ Matakaoa Point 125.54 258 IAMs_20 IAMs_20 00 56 28.7
comp=Z,4µm,21.0s
SUR Sutherland 127.14 77 PKPdf **PKiKP** **00 06 15.3 +1.0**
SUR Sutherland 127.14 77 IAMs_20 IAMs_20 01 02 08.2
comp=Z,4µm,20.0s
HIZ Hauiti 127.36 260 IAMs_20 IAMs_20 00 53 37.0
comp=Z,3µm,22.0s
BKZ Black Stump Fm 127.53 259 IAMs_20 IAMs_20 00 54 32.3
comp=Z,4µm,22.0s
SOE Somerset East 128.71 73 pPKPdf pPKPdf 00 06 30.2 +3.1
BFZ Birch Farm 129.02 258 IAMs_20 IAMs_20 01 05 39.6
comp=Z,4µm,20.0s
MRZ Mangatainoka R 129.18 259 pPKPdf **pPKPdf** **00 06 29.5 +1.9**
MRZ IAMs_20 IAMs_20 00 55 23.8
comp=Z,3µm,21.0s
GRHM Grahamstown, E 129.45 72 pPKPdf pPKPdf 00 06 31.6 +3.2
STKA Stephens Creek 129.93 296 PKhKP PKPpre 00 06 16.4
comp=Z,5.5nm,0.4s,baz=76,slow=5.4,SNR=11

STKA	**Stephens Creek**	**129.93 296**	PKPdf	**PKPdf**	**00 06 18.3**	**-0.6**
STKA			pPKPdf	**sPKPdf**	**00 06 31.4**	**-1.5**
STKA	**Stephens Creek**	**129.93 296**	PKIKP	**PKPdf**	**00 06 18.3**	**-0.6**
STKA			*PP	**sPKPdf**	**00 06 31.4**	**-1.5**
SNZO	**South Karori**	**130.02 259**	IAMs_20	IAMs_20	00 55 60.0	
	comp=Z,3μm,22.0s					
BHW	**Baring Head**	**130.06 259**	pPKPdf	**pPKPdf**	**00 06 31.7**	**+2.5**
BHW			IAMs_20	IAMs_20	01 05 45.3	
	comp=Z,3μm,19.0s					
QRZ	**Quartz Range**	**130.15 261**	IAMs_20	IAMs_20	01 06 42.8	
	comp=Z,3μm,20.0s					
THZ	**Tophouse**	**130.92 261**	IAMs_20	IAMs_20	01 00 29.3	
	comp=Z,4μm,20.0s					
CAN	**Canberra**	**131.33 287**	IAMs_20	IAMs_20	01 04 19.2	
	comp=Z,3μm,19.0s					
KHZ	**Kahutara**	**131.36 260**	IAMs_20	IAMs_20	01 03 47.5	
	comp=Z,3μm,21.0s					
FORT	**Forrest**	**131.94 311**		**PKPdf**	**00 06 22.7**	**0.0**
FORT			pPKPdf	**sPKPdf**	**00 06 35.3**	**-1.5**
GVZ	**Greta Valley S**	**132.01 260**	IAMs_20	IAMs_20	01 03 43.7	
	comp=Z,3μm,21.0s					
LTZ	**Lake Taylor**	**132.04 261**	IAMs_20	IAMs_20	01 01 36.0	
	comp=Z,3μm,21.0s					
BBOO	**Buckleboo**	**132.15 302**	pPKPdf	pPKPdf	00 06 35.4	+1.9
OXZ	**Oxford**	**132.61 261**	pPKPdf	pPKPdf	00 06 35.7	+1.7
MQZ	**McQueen's Vall**	**132.80 260**	IAMs_20	IAMs_20	01 03 59.6	
	comp=Z,3μm,20.0s					
RPZ	**Rata Peaks**	**133.24 261**	PKhKP	PKPpre	00 06 23.3	
	comp=Z,9.2nm,0.5s,baz=86,slow=14,SNR=2.3					
RPZ	**Rata Peaks**	**133.24 261**	IAMs_20	IAMs_20	00 57 02.6	
	comp=Z,4μm,22.0s					
MLZ	**Mavora Lakes**	**135.56 263**	IAMs_20	IAMs_20	01 03 54.0	
	comp=Z,3μm,21.0s					
DCZ	**Deep Cove**	**135.91 264**	IAMs_20	IAMs_20	00 59 52.2	
	comp=Z,2μm,20.0s					
NWAO	**Narrogin (SRO)**	**136.03 323**	IAMs_20	IAMs_20	01 11 24.2	
	comp=Z,2μm,20.0s					
WHZ	**Wether Hill Ro**	**136.09 263**	IAMs_20	IAMs_20	01 03 59.0	
	comp=Z,3μm,20.0s					
CRZF	**Crozet Islands**	**147.99 50**	IAMs_20	IAMs_20	01 15 02.4	
	comp=Z,2μm,20.0s					
VNA1	**Neumayer--Stat**	**153.88 131**	PKPdf	**PKPbc**	**00 07 07.2**	**-0.1**
VNA1	**Neumayer--Stat**	**153.88 131**	PKiKP	**PKPab**	**00 07 17.9**	**-3.0**
VNA3	**Neumayer Olymp**	**154.06 133**	PKPdf	**PKPbc**	**00 07 06.9**	**-0.9**
VNA3	**Neumayer Olymp**	**154.06 133**	PKiKP	**PKPab**	**00 07 17.8**	**-3.9**
VNA2	**Neumayer--Watz**	**154.28 131**	PKPdf	**PKPbc**	**00 07 07.6**	**-0.6**
	baz=321,slow=5.0					
VNA2	**Neumayer--Watz**	**154.28 131**	PKiKP	**PKPab**	**00 07 18.5**	**-4.1**
	baz=318,slow=6.0					
SNAA	**Sanae**	**155.79 129**	PKPdf	PKPdf	00 07 11.0	+8.8
SNAA	**Sanae**	**155.79 129**	IAMs_20	IAMs_20	01 14 15.8	
	comp=Z,2μm,21.0s					
NVL	**N'lazarevskaya**	**158.44 119**	*e*PKP2	PKPab	00 07 51.8	+11
NVL			pmax	pmax		
	comp=Z,91nm,1.2s					
ELIB	**Princess Elisa**	**162.01 115**	*d*PKPdf	**PKPdf**	**00 07 02.8**	**-6.8**
VNDA	**Vanda**	**162.78 225**	PKP	**PKPdf**	**00 07 03.3**	**-6.7**
	comp=Z,1.1nm,1.0s,baz=87,slow=16,SNR=1.8					
VNDA			PKPab	**PKPab**	**00 07 59.1**	**-0.2**
	comp=Z,11nm,1.0s,baz=55,slow=4.6,SNR=9.8					
VNDA	**Vanda**	**162.78 225**	PKPdf	**PKPdf**	**00 07 11.3**	**+1.3**
VNDA			pPKPdf	**pPKPdf**	**00 07 20.2**	**-0.2**
VNDA				**PKPab**	**00 08 00.3**	**+1.0**
QSPA	**South Pole Qui**	**164.22 180**	PKP	**PKPdf**	**00 07 06.2**	**-5.5**
	comp=Z,11nm,1.1s,baz=157,slow=1.4,SNR=7.4					
QSPA			PKPab	**PKPab**	**00 08 05.6**	**-0.4**
	comp=Z,25nm,0.9s,baz=193,slow=1.3,SNR=11					

ROM 08 23:55:15.7±0.1, 42°58'1"N±0°00'04"×13°29'E±0°00'7, h11km, ML1.6/6, Error ellipse: s-maj=0.6km s-min=0.5km az=223.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.07**	**189**	P	Pg	23 55 18.4	+0.3
RM33				S	Sg	23 55 19.8	-0.1
RM33				AML	AML		
	comp=E,704μm,0.7s						
RM33				AML	AML		
	comp=N,561μm,0.5s						
RM33				AML	AML		
	comp=N,524μm,0.3s						
RM33				AML	AML		
	comp=N,562μm,0.5s						
RM33				AML	AML		
	comp=N,523μm,0.3s						
RM33				AML	AML		
	comp=E,706μm,0.8s						
RM33				AML	AML		
	comp=E,704μm,0.7s						
SMA1	**SAN MARTINO**	**0.09**	**58**	P	Pg	23 55 18.9	+0.5
SMA1				S	Sg	23 55 21.0	+0.6
SMA1				AML	AML		
	comp=E,462μm,1.1s						
SMA1				AML	AML		
	comp=N,524μm,0.1s						
T1218	**Civita (PG)**	**0.12**	**317**	P	Pg	23 55 19.3	+0.5
T1218				S	Sg	23 55 21.6	+0.6
LNSS	**Leonessa**	**0.14**	**279**	P	Pb	23 55 19.8	-0.7
LNSS				S	Sg	23 55 22.5	+1.1
LNSS				AML	AML		
	comp=E,547μm,0.7s						
LNSS				AML	AML		
	comp=N,538μm,0.2s						
LNSS				AML	AML		
	comp=E,547μm,1.3s						
T1247	**Pizzolo (AQ)**	**0.15**	**160**	P	Pg	23 55 19.6	+0.5
T1247				S	Sg	23 55 22.6	+1.1
T1247				AML	AML		
	comp=N,312μm,1.5s						
T1247				AML	AML		
	comp=N,312μm,0.5s						
T1247				AML	AML		
	comp=E,317μm,0.3s						
T1214	**Arquata del Tr**	**0.18**	**355**	P	Pg	23 55 20.4	+0.7
T1214				S	Sg	23 55 23.6	+1.1
T1212	**Cascia, Frazio**	**0.22**	**322**	P	Pg	23 55 20.9	+0.6
T1212				S	Sg	23 55 24.6	+1.2
T1215	**Vallo di Nera,**	**0.35**	**310**	P	Pg	23 55 23.1	+0.5
T1215				S	Sg	23 55 28.0	+0.7
T1215				AML	AML		
	comp=E,124μm,1.3s						
T1215				AML	AML		
	comp=N,120μm,1.2s						
T1215				AML	AML		
	comp=E,124μm,0.7s						
MOMA	**Monte Martano**	**0.54**	**295**	S	Sb	23 55 35.5	+0.5
MOMA				AML	AML		
	comp=E,166μm,1.6s						
MOMA				AML	AML		
	comp=N,683μm,1.6s						
MOMA				AML	AML		
	comp=N,683μm,0.4s						
MOMA				AML	AML		
	comp=E,166μm,0.4s						

BUC 08 23:55:24.7±0.2, 44°91'N×22°51'E, h8km, s3km, ml1.0/3, 14C-14D, Error ellipse: s-maj=1.7km s-min=1.2km az=74.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HERR	**Herculane**	**0.07**	**244**	⇑P	Pg	23 55 27.0	+0.2
HERR				⇓S	Sg	23 55 28.6	+0.4
HERR	**Herculane**	**0.07**	**244**	⇑P	Pg	23 55 27.0	+0.2
HERR				⇓S	Sg	23 55 28.6	+0.4
DJES	**Djerdap**	**0.25**	**178**	⇓P	Pg	23 55 29.3	-0.3
DJES				⇑S	Sg	23 55 33.1	+0.1
DJES	**Djerdap**	**0.25**	**178**	⇓P	Pg	23 55 29.3	-0.3
DJES				⇑S	Sg	23 55 33.1	+0.1
RMGR	**Halanga-Turnu**	**0.28**	**152**	⇓P	Pg	23 55 30.3	0.0
RMGR				⇓S	Sg	23 55 34.8	+0.7
RMGR	**Halanga-Turnu**	**0.28**	**152**	⇓P	Pg	23 55 30.3	0.0
RMGR				⇓S	Sg	23 55 34.8	+0.7
GZR	**Gura Zlata**	**0.52**	**21**	⇑P	Pg	23 55 34.8	+0.1
GZR				⇑S	Sg	23 55 42.0	+0.5
GZR	**Gura Zlata**	**0.52**	**21**	⇑P	Pg	23 55 34.8	+0.1
GZR				⇑S	Sg	23 55 42.0	+0.5
MDVR	**Moldovita**	**0.58**	**257**	⇑P	Pg	23 55 35.6	-0.3
MDVR				⇓S	Sg	23 55 44.4	+0.8
MDVR	**Moldovita**	**0.58**	**257**	⇑P	Pg	23 55 35.6	-0.3
MDVR				⇓S	Sg	23 55 44.4	+0.8
SURR	**Surduc**	**0.88**	**342**	⇑P	Pg	23 55 41.9	+0.2
SURR				⇑S	Sb	23 55 53.8	-0.4
SURR	**Surduc**	**0.88**	**342**	⇑P	Pg	23 55 41.9	+0.2
SURR				⇑S	Sb	23 55 53.8	-0.4
BZS	**Buzias**	**0.94**	**318**	⇓P	Pb	23 55 43.5	+0.2
BZS				⇓S	Sg	23 55 55.5	+0.3
BZS	**Buzias**	**0.94**	**318**	⇓P	Pb	23 55 43.5	+0.2
BZS				⇓S	Sg	23 55 55.5	+0.3

*OTT **09** 00:28:45.5±0.1, 74°25'N×92°23'W, h18km, MN3.7/6, 92km southeast from Resolute, Nu. Aftershock*
*DNK **09** 00:28:46.1±1.1, 74°32'N×92°32'W, h18km, ML2.7*
*IDC **09** 00:28:52.3±3.5, 74°23'N×94°65'W, h0km, mb3.4/3, mbtmp3.5/5, ML4.1/2, Error ellipse: s-maj=50.5km s-min=44.0km az=30.0*
ISC 09 00:28:41.2±0.7, 74°19'N±0°06'×92°37'W±0°05, h10km, n23, σ3848/29, mb3.6/3, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**0.85**	**308**	PG	**Pn**	**00 29 01.5**	**+2.3**
RES				SG	**Sb**	**00 29 10.5**	**+1.1**
RES				Trac		00 29 11.2	
	comp=Z,965nm,0.1s						
ILON	**Igloolik, Nuna**	**5.85**	**140**	PN	**Pn**	**00 30 12.1**	**+4.3**
ILON				SN	**Sn**	**00 31 13.0**	**-1.8**
ILON				LG	Lg	00 31 52.8	
ILON				Trac		00 32 04.8	
	comp=Z,40nm,0.2s						
EUNU	**Eureka**	**6.04**	**10**	PN	**Pn**	**00 30 11.7**	**+1.2**
EUNU				SN	**Sn**	**00 31 16.3**	**-3.3**
EUNU				Trac		00 31 57.8	
	comp=Z,283nm,2.0s						
TULEG	**Thule**	**6.38**	**57**	*i* P	**Pn**	**00 30 17.3**	**+2.2**
TULEG				*i* S	**Sn**	**00 31 34.8**	**+6.9**
TULEG				IAML		00 31 36.5	
	comp=Z,37nm,0.7s						
CLRN	**Clyde River**	**8.09**	**106**	PN	**Pn**	**00 30 40.5**	**+2.0**
CLRN				SN	**Sn**	**00 32 06.1**	**-3.7**
CLRN				Trac		00 33 19.9	
	comp=Z,12nm,0.3s						
KULLO	**Kullorsuaq**	**9.39**	**71**	*i* P	**Pn**	**00 30 59.8**	**+3.5**
KULLO				*i* S	**Sn**	**00 32 34.6**	**-7.1**
KULLO				IAML		00 32 51.7	
	comp=Z,16nm,0.8s						
KULLO	**Kullorsuaq**	**9.39**	**71**	PN	**Pn**	**00 30 57.8**	**+1.6**
KULLO				SN	**Sn**	**00 32 35.8**	**-5.9**
KULLO				Trac		00 33 19.9	
	comp=Z,31nm,0.8s						
KUKN	**Kugluktuk,NWT**	**9.70**	**240**	PN	**Pn**	**00 31 03.4**	**+2.7**
KUKN				SN	**Sn**	**00 32 46.5**	**-3.0**
KUKN				Trac		00 34 12.7	
	comp=Z,102nm,1.5s						
A36M	**Sachs Harbour**	**9.74**	**273**	PN	**Pn**	**00 31 03.3**	**+2.3**
A36M				SN	**Sn**	**00 32 45.8**	**-4.4**
A36M				Trac		00 34 03.4	
	comp=Z,23nm,0.8s						
UPNV	**Upernavik**	**10.29**	**80**	*i* P	**Pn**	**00 31 11.7**	**+3.1**
UPNV				*i* S	Sn	00 32 56.2	-7.6
UPNV				IAML		00 33 17.4	
	comp=Z,7.6nm,0.8s						
NEEM	**North Greenlan**	**10.44**	**53**	*i* P	**Pn**	**00 31 12.5**	**+1.5**
NEEM				*i* S	Sn	00 32 59.0	-8.9
NEEM				IAML		00 33 29.1	
	comp=Z,15nm,0.6s						
C36M	**Paulatuk**	**10.92**	**260**	PN	**Pn**	**00 31 19.6**	**+2.3**
C36M				SN	**Sn**	**00 33 14.9**	**-4.4**
C36M				Trac		00 34 04.7	
	comp=Z,45nm,0.9s						
FRB	**Frobisher Bay**	**13.37**	**129**	PN	**Pn**	**00 31 52.7**	**+2.1**
FRB				SN	Sn	00 34 10.3	-8.8
FRB				Trac		00 36 34.4	
	comp=Z,220nm,2.7s						
YKA	**Yellowknife Ar**	**14.17**	**226**	Pn	**Pn**	**00 32 02.3**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=18,slow=11,SNR=100						
YKA				SN	Sn	00 34 30.5	-8.1
	comp=Z,1.5nm,0.3s,baz=23,slow=22,SNR=8.9						
YKA				Lg	Lg	00 35 57.0	
	comp=Z,0.5nm,0.3s,baz=28,slow=28,SNR=4.0						
	comp=Z,1.7nm,0.3s						
INK	**Inuvik**	**14.19**	**267**	PN	**Pn**	**00 32 03.2**	**+1.4**
INK				SN	Sn	00 34 31.8	-7.2
INK				Trac		00 35 34.6	
	comp=Z,507nm,6.0s						
SUMG	**Summit**	**15.06**	**70**	*i* P	**Pn**	**00 32 15.8**	**+1.7**
SUMG				*e*S	Sn	00 34 50.0	-11
FCC	**Fort Churchill**	**15.51**	**183**	PN	**Pn**	**00 32 21.4**	**+1.8**
FCC				SN	Sn	00 35 03.7	-7.5
NOR	**Nord**	**16.02**	**31**	*i* P	**Pn**	**00 32 22.7**	**-3.6**
DBG	**Daneborg**	**18.51**	**55**	*i* P	**P**	**00 32 55.5**	**-1.6**
ILAR	**Eielson Array**	**20.43**	**271**	P	Pn	00 33 23.1	+2.8
	comp=Z,0.1nm,0.3s,baz=41,slow=10,SNR=8.2						
	comp=Z,0.5nm,0.8s						
ULM	**Lac du Bonnet**	**24.07**	**186**	P	P	00 34 08.1	+12
	comp=Z,0.7nm,0.4s,baz=12,slow=9.3,SNR=1.6						
	comp=Z,0.7nm,0.4s						
PDAR	**Pinedale Array**	**32.49**	**204**	P	P	00 35 22.3	+11
	comp=Z,0.1nm,0.3s,baz=26,slow=8.3,SNR=1.7						
	comp=Z,0.1nm,0.3s						
NVAR	**Mina Array Bea**	**37.91**	**214**	P	P	00 36 10.3	+12
	comp=Z,0.4nm,0.3s,baz=27,slow=8.1,SNR=1.4						
	comp=Z,0.4nm,0.3s						

*BJI **09** 00:37:03.9±0.0, 21°76'S×179°03'W, h588km, mb4.6/22, mB5.3/11*
*NOU **09** 00:37:05.3, 21°94'S×179°32'W, h591km, ML4.9/87, Fiji Islands Region*
*BGR **09** 00:37:05.2, 22°23'S×179°01'W, h590km*
*NEIC **09** 00:37:06.1±1.7, 21°99'S±0°10'×179°4'W±0°1, h583km±6km, mb4.9/322, Error ellipse: s-maj=15.0km s-min=13.0km az=133.0*
*IDC **09** 00:37:06.3±0.8, 21°91'S×179°45'W, h592km±8km, mb4.2/28, mbtmp5.1/30, Error ellipse: s-maj=12.1km s-min=9.0km az=119.0*
ISC 09 00:37:06.1±0.4, 22°03'S±0°05'×179°43'W±0°05, h594km±3km, h596km:pP-P, n1102, σ0°99/1126, mb4.9/226, 80C-28D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.82**	**9**	P	**P**	**00 38 29.9**	**-0.1**
MSVF	**Nonsavu**	**4.89**	**331**	P	**P**	**00 38 38.0**	**+0.1**
	368nm,0.5s,baz=185,slow=5.9,SNR=546						
MSVF				S	**S**	**00 39 53.0**	**+0.2**
	248nm,1.1s,baz=155,slow=24,SNR=14						
TAVE	**Taveuni**	**5.31**	**355**	P	**P**	**00 38 41.3**	**0.0**
RAO	**Raoul Island**	**7.32**	**170**	P	**P**	**00 38 57.9**	**-0.7**
RAO	**Raoul Island**	**7.32**	**170**	P	**P**	**00 38 58.1**	**-0.6**
GLKZ	**Green Lake**	**7.33**	**170**	P	**P**	**00 38 57.9**	**-0.8**
GLKZ				S	**S**	**00 40 27.7**	**-3.4**
NIUE	**Niue**	**9.38**	**73**	P	**P**	**00 39 17.6**	**-1.0**
NIUE	**Niue**	**9.38**	**73**	P	**P**	**00 39 17.6**	**-1.0**
AFI	**Afiamalu**	**10.87**	**43**	P	**P**	**00 39 30.4**	**-3.3**
MARNC	**Mare, Loyalty**	**11.66**	**270**	P	**P**	**00 39 40.8**	**-0.7**
MARNC	**Mare, Loyalty**	**11.66**	**270**	P	**P**	**00 39 40.9**	**-0.5**
RTV	**Rentapao**	**12.17**	**288**	P	**P**	**00 39 47.4**	**+0.8**
DVP	**Devils Point**	**12.41**	**288**	P	**P**	**00 39 49.3**	**+0.3**
LIFNC	**LIFOU**	**12.48**	**273**	P	**P**	**00 39 48.0**	**-1.6**
LIFNC	**LIFOU**	**12.48**	**273**	P	**P**	**00 39 48.3**	**-1.4**
YATNC	**Mamie plateau,**	**12.68**	**267**	P	**P**	**00 39 51.7**	**-0.1**
OUENC	**Ouen Island, N**	**12.72**	**266**	P	**P**	**00 39 51.2**	**-1.0**
OUENC	**Ouen Island, N**	**12.72**	**266**	P	**P**	**00 39 51.7**	**-0.4**
DZM	**Mont Dzumac**	**13.10**	**267**	P	**P**	**00 39 55.3**	**-0.8**
	167nm,0.6s,baz=77,slow=19,SNR=48						
DZM	**Mont Dzumac**	**13.10**	**267**	P	**P**	**00 39 55.3**	**-0.8**
OUZ	**Omahuta**	**14.49**	**203**	P	**P**	**00 40 10.7**	**+1.1**
OUZ	**Omahuta**	**14.49**	**203**	P	**P**	**00 40 10.9**	**+1.4**
GRZ	**Great Barrier**	**14.85**	**196**	P	**P**	**00 40 13.1**	**+0.3**
WCZ	**Waipu Caves**	**14.88**	**200**	P	**P**	**00 40 15.1**	**+1.9**
KOUNC	**Koumac, New Ca**	**15.25**	**273**	P	**P**	**00 40 16.7**	**0.0**
KOUNC	**Koumac, New Ca**	**15.25**	**273**	P	**P**	**00 40 17.1**	**+0.3**
KUZ	**Kuaotunu**	**15.26**	**195**	P	**P**	**00 40 17.4**	**+0.8**
MXZ	**Matakaoa Point**	**15.60**	**187**	P	**P**	**00 40 19.2**	**-0.6**
MXZ	**Matakaoa Point**	**15.60**	**187**	P	**P**	**00 40 19.6**	**-0.2**
HAZ	**Te Kaha**	**15.86**	**188**	P	**P**	**00 40 21.7**	**-0.4**
PKGZ	**Pakihiroa**	**15.95**	**187**	P	**P**	**00 40 22.3**	**-0.8**
RUGZ	**Raukumara Rang**	**16.07**	**188**	P	**P**	**00 40 23.7**	**-0.6**
PUZ	**Puketiti**	**16.11**	**187**	P	**P**	**00 40 24.6**	**+0.1**
TWGZ	**Tauwhareparae**	**16.25**	**187**	P	**P**	**00 40 25.2**	**-0.6**
KARZ	**Kaharoa**	**16.37**	**192**	P	**P**	**00 40 29.2**	**+2.3**
URZ	**Urewera**	**16.45**	**190**	P	**P**	**00 40 25.6**	**-2.0**
	38nm,0.5s,baz=348,slow=1.9,SNR=40						
URZ				S	**S**	**00 43 05.5**	**-6.2**
	21nm,0.8s,baz=288,slow=22,SNR=13						
URZ	**Urewera**	**16.45**	**190**	P	**P**	**00 40 25.7**	**-1.9**
MWZ	**Matawai**	**16.46**	**188**	P	**P**	**00 40 27.3**	**-0.5**
TKGZ	**Te Karaka**	**16.52**	**188**	P	**P**	**00 40 28.2**	**0.0**
CNGZ	**Carnagh Statio**	**16.52**	**187**	P	**P**	**00 40 28.5**	**+0.2**
RAGZ	**Rawiri**	**16.63**	**189**	P	**P**	**00 40 28.4**	**-1.0**
GRRZ	**Galatos Road**	**16.71**	**192**	P	**P**	**00 40 31.6**	**+1.5**
MUGZ	**Murupara**	**16.71**	**190**	P	**P**	**00 40 29.4**	**-0.7**
HRRZ	**Handcock Road**	**16.72**	**192**	P	**P**	**00 40 30.8**	**+0.7**
RIGZ	**Rimuhau**	**16.79**	**188**	P	**P**	**00 40 31.5**	**+0.7**
PRRZ	**Plateau Road**	**16.80**	**191**	P	**P**	**00 40 31.0**	**+0.1**
RTZ	**Ruatahuna**	**16.82**	**190**	P	**P**	**00 40 30.4**	**-0.7**
SNGZ	**Shannon Statio**	**16.92**	**189**	P	**P**	**00 40 31.3**	**-0.6**
MTHZ	**Maungataniwha**	**17.07**	**190**	P	**P**	**00 40 32.9**	**-0.5**
RAHZ	**Arahi**	**17.09**	**189**	P	**P**	**00 40 31.9**	**-1.6**
KNZ	**Kokohu**	**17.12**	**188**	P	**P**	**00 40 33.3**	**-0.3**
HIZ	**Hauiti**	**17.14**	**195**	P	**P**	**00 40 36.2**	**+2.3**
MHGZ	**Mahia Peninsul**	**17.22**	**187**	P	**P**	**00 40 35.2**	**+0.6**
BKZ	**Black Stump Fm**	**17.43**	**191**	P	**P**	**00 40 35.2**	**-1.4**
BKZ	**Black Stump Fm**	**17.43**	**191**	P	**P**	**00 40 35.2**	**-1.4**
BKZ	**Black Stump Fm**	**17.43**	**191**	P	**P**	**00 40 35.1**	**-1.6**
TMVZ	**Te Maari**	**17.53**	**193**	P	**P**	**00 40 38.2**	**+0.6**
BFZ	**Birch Farm**	**18.95**	**190**	P	**P**	**00 40 50.2**	**-0.2**
MRZ	**Mangatainoka R**	**19.05**	**192**	P	**P**	**00 40 51.3**	**0.0**
TCW	**Tory Channel**	**19.85**	**194**	P	**P**	**00 40 59.9**	**+1.5**
SNZO	**South Karori**	**19.85**	**193**	P	**P**	**00 40 59.7**	**+1.2**
BHW	**Baring Head**	**19.91**	**193**	P	**P**	**00 41 00.0**	**+1.0**
QRZ	**Quartz Range**	**19.93**	**198**	P	**P**	**00 41 00.6**	**+1.3**
QRZ	**Quartz Range**	**19.93**	**198**	P	**P**	**00 41 00.6**	**+1.3**
PLWZ	**Palliser**	**19.99**	**192**	P	**P**	**00 41 00.4**	**+0.6**
TKNZ	**Takaka Hill**	**20.01**	**197**	P	**P**	**00 40 59.6**	**-0.4**
NNZ	**Nelson**	**20.07**	**196**	P	**P**	**00 41 00.7**	**+0.2**
TUWZ	**Tuamarina**	**20.13**	**195**	P	**P**	**00 41 02.5**	**+1.5**
MRNZ	**Matariki Terra**	**20.40**	**197**	P	**P**	**00 41 04.4**	**+0.9**
BSWZ	**Blackbirch Sta**	**20.42**	**194**	P	**P**	**00 41 05.8**	**+2.2**
THZ	**Tophouse**	**20.70**	**196**	P	**P**	**00 41 06.2**	**-0.1**
DSZ	**Denniston Nort**	**20.99**	**199**	P	**P**	**00 41 09.3**	**+0.5**
KHZ	**Kahutara**	**21.16**	**195**	P	**P**	**00 41 09.2**	**-1.0**
LHI	**Lord Howe Isla**	**21.37**	**239**	P	**P**	**00 41 12.7**	**+0.4**
	baz=22,SNR=3.2						
LHI	**Lord Howe Isla**	**21.37**	**239**	P	**P**	**00 41 14.2**	**+1.8**
LHI	**Lord Howe Isla**	**21.37**	**239**	P	**P**	**00 41 14.1**	**+1.8**
GVZ	**Greta Valley S**	**21.80**	**195**	P	**P**	**00 41 15.1**	**-0.9**
LTZ	**Lake Taylor**	**21.82**	**197**	P	**P**	**00 41 16.9**	**+0.6**
INZ	**Inchbonnie**	**22.00**	**198**	P	**P**	**00 41 19.8**	**+2.1**
OXZ	**Oxford**	**22.39**	**197**	P	**P**	**00 41 23.0**	**+1.8**
MQZ	**McQueen's Vall**	**22.59**	**195**	P	**P**	**00 41 25.2**	**+2.2**
RPZ	**Rata Peaks**	**23.02**	**198**	P	**P**	**00 41 28.2**	**+1.3**
	9.9nm,0.6s,baz=92,slow=6.4,SNR=3.0						
	9.9nm,0.6s						
FOZ	**Fox Glacier**	**23.23**	**200**	P	**P**	**00 41 28.6**	**-0.1**
LBZ	**Lake Benmore**	**23.89**	**199**	P	**P**	**00 41 33.7**	**-0.8**
ODZ	**Otahua Downs**	**24.36**	**197**	P	**P**	**00 41 38.6**	**-0.1**
WKZ	**Wanaka**	**24.64**	**200**	P	**P**	**00 41 40.7**	**-0.5**
MLZ	**Mavora Lakes**	**25.41**	**201**	P	**P**	**00 41 48.8**	**+0.8**
AUWSH	**Wavell State H**	**25.54**	**252**	P	**P**	**00 41 50.4**	**+1.0**
AUBSH	**Beerwah State**	**25.57**	**254**	P	**P**	**00 41 50.7**	**+1.0**
DCZ	**Deep Cove**	**25.83**	**202**	P	**P**	**00 41 51.9**	**+0.3**
WHZ	**Wether Hill Ro**	**25.94**	**200**	P	**P**	**00 41 53.8**	**+1.2**
EIDS	**Eidsvold**	**27.18**	**257**	P	**P**	**00 42 04.1**	**+0.3**
	baz=27,SNR=51						
EIDS	**Eidsvold**	**27.18**	**257**	P	**P**	**00 42 04.2**	**+0.5**
EIDS	**Eidsvold**	**27.18**	**257**	P	**P**	**00 42 04.1**	**+0.3**
ARMA	**Armidale**	**27.21**	**246**	P	**P**	**00 42 05.7**	**+1.6**
	baz=27,SNR=91						
ARMA	**Armidale**	**27.21**	**246**	P	**P**	**00 42 05.4**	**+1.3**
ARMA	**Armidale**	**27.21**	**246**	P	**P**	**00 42 05.6**	**+1.5**
NTLH	**Newcastle Hard**	**27.72**	**241**	P	**P**	**00 42 10.3**	**+1.9**
MGCD	**Mangrove Creek**	**28.28**	**240**	P	**P**	**00 42 14.9**	**+1.7**
	baz=28,SNR=64						
MGCD	**Mangrove Creek**	**28.28**	**240**	P	**P**	**00 42 15.0**	**+1.7**
WOLH	**Wollongong Har**	**28.81**	**238**	P	**P**	**00 42 19.1**	**+1.3**
RMQ	**Roma**	**29.29**	**255**	P	**P**	**00 42 23.5**	**+1.3**
	baz=30,SNR=62						
RMQ	**Roma**	**29.29**	**255**	P	**P**	**00 42 23.4**	**+1.3**
AUUHS	**Ulladulla High**	**29.42**	**237**	P	**P**	**00 42 24.4**	**+1.3**
AUDCS	**Dubbo College**	**30.08**	**243**	P	**P**	**00 42 29.5**	**+0.6**
CNB	**Canberra Magne**	**30.27**	**237**	P	**P**	**00 42 31.9**	**+1.4**
CAN	**Canberra**	**30.56**	**237**	P	**P**	**00 42 34.1**	**+1.1**
CAN	**Canberra**	**30.56**	**237**	P	**P**	**00 42 34.0**	**+1.1**
CAN	**Canberra**	**30.56**	**237**	P	**P**	**00 42 34.0**	**+1.0**
CAN				ScP	**ScP**	**00 48 02.8

ASAR S S 00 49 54.8 -2.0
comp=Z,4.7nm,0.8s,baz=99,slow=15,SNR=10.0
ASAR ScS ScS 00 53 05.4 -3.0
comp=Z,1.4nm,1.0s,baz=82,slow=6.6,SNR=5.1
comp=Z,159nm,0.8s
ASAR Alice Springs 42.88 258 P P 00 44 14.1 +0.2
WR0 Warramunga Arr 42.90 264 P P 00 44 13.1 -0.9
WR0 IAmb IAmb 00 44 14.1
comp=Z,48nm,0.8s
WB0 Warramunga Arr 43.07 264 P P 00 44 14.8 -0.5
WB2 Warramunga Arr 43.08 264 P P 00 44 14.8 -0.5
WRAB Tennant Creek 43.08 264 P P 00 44 14.8 -0.6
WRAB Tennant Creek 43.08 264 ⇓P P 00 44 14.6 -0.8
WRAB ScP ScP 00 48 49.8 +3.0
WRA Warramunga Arr 43.09 264 P P 00 44 14.6 -0.8
comp=Z,96nm,0.8s,baz=99,slow=7.5,SNR=502
WRA ScP ScP 00 48 48.5 +1.6
comp=Z,12nm,1.0s,baz=98,slow=4.2,SNR=14
WRA S S 00 49 56.0 -3.6
comp=Z,2.3nm,0.8s,baz=98,slow=12,SNR=5.9
comp=Z,96nm,0.8s
WRA Warramunga Arr 43.09 264 P P 00 44 15.0 -0.4
GENI Genyem 43.73 290 P P 00 44 20.2 -0.2
GENI Genyem 43.73 290 P P 00 44 19.9 -0.5
comp=Z,207nm,0.8s
SMPI Sarmi 45.29 290 P P 00 44 31.1 -1.2
comp=Z,68nm,1.0s
KDU Kakadu 46.67 273 P P 00 44 42.2 -0.6
baz=47,SNR=51
KDU Kakadu 46.67 273 P P 00 44 42.2 -0.6
KHU Kahuku 47.17 31 P P 00 44 45.7 -1.0
KHLU Kahalu`u 47.34 31 P P 00 44 47.6 -0.1
HUH Hualalai 47.44 31 P P 00 44 49.0 +0.2
FORT Forrest 47.47 248 P P 00 44 48.2 -0.4
baz=48,SNR=157
FORT Forrest 47.47 248 P P 00 44 48.4 -0.2
FORT Forrest 47.47 248 P P 00 44 48.2 -0.4
HMH Humu'ula Sheep 47.54 31 P P 00 44 49.7 +0.2
POHA Pohakuloa 47.65 31 P P 00 44 49.9 -0.3
WRKA Warakurna 47.78 256 P P 00 44 50.9 -0.1
baz=48,SNR=285
WRKA Warakurna 47.78 256 P P 00 44 50.7 -0.3
KEKH Kekaha 47.79 25 P P 00 44 51.0 0.0
HPAH Hawaii Prepara 47.81 31 P P 00 44 51.4 +0.2
MHA Mahukona 47.84 30 P P 00 44 51.8 +0.4
MTN Manton Dam 47.87 272 P P 00 44 51.1 -0.6
baz=48,SNR=11
MTN Manton Dam 47.87 272 P P 00 44 51.3 -0.4
MTN Manton Dam 47.87 272 P P 00 44 51.1 -0.6
HON Honolulu 47.90 27 P P 00 44 51.7 -0.1
KIP Kipapa 47.98 27 P P 00 44 52.4 +0.1
KNRA Kununurra 49.25 268 P P 00 45 01.8 -0.2
baz=49,SNR=79
KNRA Kununurra 49.25 268 P P 00 45 01.9 0.0
KNRA Kununurra 49.25 268 P P 00 45 01.7 -0.2
SAUI Saumlaki 49.37 279 P P 00 45 03.6 +0.7
SAUI Saumlaki 49.37 279 P P 00 45 03.5 +0.7
comp=Z,97nm,0.6s,comp=Z,22µm
RKPI Ransiki, Papua 49.49 288 P P 00 45 03.5 -0.3
comp=Z,87nm,0.8s,comp=Z,8µm
FAKI Fak Fak 50.57 285 P P 00 45 10.9 -0.7
FAKI IAmb IAmb 00 45 12.0
comp=Z,64nm,0.9s
FAKI Fak Fak 50.57 285 P P 00 45 11.3 -0.3
FAKI Fak Fak 50.57 285 P P 00 45 11.1 -0.5
comp=Z,83nm,1.0s
DRV Dumont d'Urvil 51.47 199 P P 00 45 17.8 +0.6
DRV pP pP 00 47 06.5 +0.9
FITZ Fitzroy Crossi 51.52 264 P P 00 45 18.7 +0.4
FITZ Fitzroy Crossi 51.52 264 P P 00 45 18.8 +0.4
SWI Sorong 52.38 287 P P 00 45 24.2 -0.4
comp=Z,539nm,0.8s,comp=Z,4µm
KMBL Kambalda 52.72 247 P P 00 45 26.5 -0.4
baz=53,SNR=11
KMBL Kambalda 52.72 247 P P 00 45 26.6 -0.3
MSAI Masohi 53.38 283 P P 00 45 31.0 -0.7
comp=Z,25nm,0.6s,comp=Z,1µm
AAI Ambon 53.90 282 P P 00 45 34.3 -1.1
comp=Z,153nm,0.7s,comp=Z,2µm
NLAI Namlea 55.08 282 P P 00 45 43.4 -0.2
comp=Z,52nm,1.0s
SOEI Soe 55.23 273 P P 00 45 46.3 +1.4
SOEI Soe 55.23 273 P P 00 45 46.2 +1.4
SOEI Soe 55.23 273 P P 00 45 45.9 +1.1
comp=Z,295nm,0.6s,comp=Z,3µm
BATI Baumata 55.64 273 P P 00 45 48.0 +0.5
comp=Z,164nm,0.6s,baz=185,slow=2.5,SNR=17
BATI ScP ScP 00 49 40.6 -0.1
comp=Z,34nm,0.8s,baz=296,slow=1.0,SNR=3.7
comp=Z,164nm,0.6s
BATI Baumata 55.64 273 P P 00 45 48.6 +1.1
comp=Z,210nm,0.8s
PSA00 Pilbara Seismi 56.03 258 P P 00 45 49.8 -0.4
PSA00 IAmb IAmb 00 45 50.6
comp=Z,104nm,1.0s
MEEK Meekatharra 56.16 252 P P 00 45 50.4 -0.7
baz=56,SNR=33
MEEK Meekatharra 56.16 252 P P 00 45 50.3 -0.7
KLBR Kellerberrin 56.21 246 P P 00 45 51.1 -0.1
baz=56,SNR=26
KLBR Kellerberrin 56.21 246 P P 00 45 51.1 -0.1
MBWA Marble Bar 56.23 259 P P 00 45 51.3 -0.2
MBWA Marble Bar 56.23 259 P P 00 45 51.0 -0.4
MBWA Marble Bar 56.23 259 ⇓P P 00 45 51.1 -0.4
SBA Scott Base 56.27 183 P P 00 45 54.1 +3.4
SBA IAmb IAmb 00 46 42.6
comp=Z,160nm,2.0s
VNDA Vanda 56.28 185 P P 00 45 52.8 +1.9
comp=Z,2.5nm,0.7s,baz=6.0,slow=8.3,SNR=14
comp=Z,2.5nm,0.7s
VNDA Vanda 56.28 185 P P 00 45 53.4 +2.6
VNDA Vanda 56.28 185 P P 00 45 53.0 +2.1
NWAO Narrogin (SRO) 56.50 244 P P 00 45 53.2 +0.1
baz=57,SNR=8.4
NWAO P P 00 45 53.2 +0.1
baz=57,SNR=8.4
NWAO Narrogin (SRO) 56.50 244 P P 00 45 53.1 +0.1
NWAO Narrogin (SRO) 56.50 244 P P 00 45 53.0 -0.1
NWAO IAmb IAmb 00 45 54.6
comp=Z,22nm,0.8s
NWAO Narrogin (SRO) 56.50 244 P P 00 45 53.4 +0.3
NWAO Narrogin (SRO) 56.50 244 P P 00 45 53.2 +0.1
NWAO Narrogin (SRO) 56.50 244 P P 00 45 53.0 -0.1
RKGY Rocky Gully 56.55 242 P P 00 45 54.0 +0.6
baz=57,SNR=8.0
RKGY Rocky Gully 56.55 242 P P 00 45 53.8 +0.4
TNTI Ternate 56.58 286 P P 00 45 54.1 +0.1
TNTI IAmb IAmb 00 45 54.7
comp=Z,102nm,1.1s
TNTI Ternate 56.58 286 P P 00 45 54.1 +0.1
TNTI Ternate 56.58 286 P P 00 45 54.0 0.0
comp=Z,89nm,1.1s
SANI Sanana 56.59 283 P P 00 45 53.4 -0.6
SANI Sanana 56.59 283 P P 00 45 53.0 -1.0
comp=Z,84nm,1.0s,comp=Z,906nm
BLDU Ballidu 57.22 247 P P 00 45 57.9 -0.2
baz=57,SNR=60
BLDU Ballidu 57.22 247 P P 00 45 58.0 -0.1
MUN Mundaring 57.47 245 P P 00 45 59.9 +0.2
baz=58,SNR=7.5
MUN Mundaring 57.47 245 P P 00 46 00.1 +0.3
MMRI Maumere 57.50 274 P P 00 45 59.7 -0.6
MMRI IAmb IAmb 00 46 00.5
comp=Z,139nm,1.1s
MMRI Maumere 57.50 274 P P 00 45 59.6 -0.6
comp=Z,120nm,0.8s
MORW Morawa 58.02 249 P P 00 46 03.4 -0.2
baz=58,SNR=24
MORW Morawa 58.02 249 P P 00 46 03.4 -0.2
MORW IAmb IAmb 00 46 03.9
comp=Z,37nm,0.7s
MORW Morawa 58.02 249 P P 00 46 03.4 -0.2
BASI Baing, Sumba 58.50 271 P P 00 46 07.5 +0.6
comp=Z,393nm,1.0s
LUWI Luwuk 59.92 282 P P 00 46 16.6 +0.1
comp=Z,130nm,0.9s
GTOI Gorontalo 60.42 284 P P 00 46 20.1 +0.4
comp=Z,36nm,0.9s
BKSI Bulukumba 60.65 276 P P 00 46 20.3 -1.0
comp=Z,54nm,0.7s
GIRL Giralia 60.87 256 P P 00 46 23.7 +1.1
baz=61,SNR=10
GIRL Giralia 60.87 256 P P 00 46 23.6 +1.1
APSI Ampana 61.00 282 P P 00 46 24.2 +0.7
comp=Z,101nm,1.1s

KAPI Kappang 61.11 277 P P 00 46 24.0 -0.3
KAPI Kappang 61.11 277 P P 00 46 23.7 -0.5
MRSI Marisa 61.32 283 P P 00 46 24.2 -1.4
comp=Z,34nm,0.7s
SPSI Sidrap Palu 61.49 278 P P 00 46 25.3 -1.5
comp=Z,40nm,0.8s
PLAI Plampang 61.56 272 P P 00 46 26.8 -0.4
PLAI Plampang 61.56 272 P P 00 46 26.8 -0.4
comp=Z,163nm,1.2s,comp=Z,2µm
TWSI Taliwang, Sumb 62.42 272 P P 00 46 32.4 -0.4
comp=Z,126nm,0.9s
TOLI2 Tolitoli 62.63 283 P P 00 46 33.9 -0.2
TOLI2 IAmb IAmb 00 46 36.0
comp=Z,41nm,0.7s
TOLI2 Tolitoli 62.63 283 P P 00 46 34.0 -0.1
MPSI Mapaga 63.11 282 P P 00 46 36.4 -0.8
comp=Z,76nm,0.8s
IGBI Denpasar 64.01 271 P P 00 46 42.5 -0.4
comp=Z,139nm,0.9s,comp=Z,3µm
SRBI Singaraja 64.20 272 P P 00 46 43.3 -0.8
comp=Z,107nm,0.8s
JAGI Jajag, Banyuwa 65.05 271 P P 00 46 49.1 -0.4
JAGI Jajag, Banyuwa 65.05 271 P P 00 46 49.2 -0.3
JAGI Jajag, Banyuwa 65.05 271 P P 00 46 49.0 -0.4
comp=Z,90nm,1.0s
ABJI Asem Bagus 65.21 271 P P 00 46 50.4 0.0
comp=Z,73nm,1.1s
GMJI Gumukmas 65.78 271 P P 00 46 53.0 -1.0
comp=Z,71nm,1.1s
BLJI Banyuglugur 65.82 271 P P 00 46 54.0 -0.2
comp=Z,132nm,0.6s,comp=Z,3µm
BBKI Banjar Baru 66.23 276 P P 00 47 02.2 +5.4
GRJI Gresik 67.15 272 P P 00 47 02.6 +0.2
comp=Z,148nm,1.1s
PWJI Pagerwojo 67.38 270 P P 00 47 03.7 -0.2
comp=Z,96nm,0.7s
NGJI Ngawi 67.93 271 P P 00 47 19.1 +12
QSPA South Pole Qui 68.04 180 P P 00 47 08.6 +1.4
comp=Z,20nm,0.8s,baz=27,slow=1.1,SNR=57
comp=Z,20nm,0.8s
QSPA South Pole Qui 68.04 180 P P 00 47 08.3 +1.2
QSPA IAmb IAmb 00 47 09.6
comp=Z,27nm,0.9s
QSPA South Pole Qui 68.04 180 P P 00 47 08.6 +1.4
UGM Wanagama 68.61 270 P P 00 47 11.2 -0.1
KKM Kota Kinabalu 68.88 286 P P 00 47 13.4 +0.4
KKM IAmb IAmb 00 47 13.9
comp=Z,24nm,0.7s
KKM Kota Kinabalu 68.88 286 P P 00 47 13.6 +0.6
comp=Z,38nm,0.8s
KPJI Karang Pucung 70.29 270 P P 00 47 20.4 -0.9
comp=Z,86nm,1.3s
JGF Kuroka 70.43 324 P P 00 47 22.2 +0.5
MJAR Matsushiro Arr 70.67 325 P P 00 47 22.9 -0.2
comp=Z,2.9nm,0.5s,baz=139,slow=6.1,SNR=7.8
comp=Z,2.9nm,0.5s
MAJO Matsushiro 70.67 325 P P 00 47 23.4 +0.4
SBUM Sibu 70.96 281 P P 00 47 25.0 -0.2
BBJI Bungbulang 71.43 269 P P 00 47 27.5 -0.6
LEM Lembang 71.69 270 P P 00 47 29.6 -0.1
comp=Z,124nm,0.8s
JSD Sado 71.76 326 P P 00 47 30.9 +1.5
JSD IAmb IAmb 00 49 02.5
comp=Z,117nm,1.9s
JHS Saijyo 72.41 321 P P 00 47 34.1 +0.8
JHS IAmb IAmb 00 47 59.2
comp=Z,68nm,1.3s
AMKA Amchitka 73.10 359 P P 00 47 36.4 -0.3
KIWB Kanaga Island 73.59 1 P P 00 47 39.5 0.0
ADK Adak 73.63 2 P P 00 47 39.4 -0.4
TPUB Ta-pu 73.70 304 P P 00 47 39.9 -1.0
SSLB Suanglung 73.72 305 P P 00 47 40.6 -0.3
SSLB IAmb IAmb 00 47 40.7
comp=Z,25nm,0.7s
JKA Kamikawa-asahi 74.44 333 P P 00 47 45.5 +1.0
JKA IAmb IAmb 00 48 20.4
comp=Z,80nm,1.9s
SHEM Shemya Is, Ala 74.65 356 P P 00 47 44.8 -0.6
comp=Z,74nm,0.9s,baz=34,slow=3.6,SNR=2.0
comp=Z,74nm,0.9s
NIKH Nikolski High 75.25 7 P P 00 47 48.2 -0.6
baz=190
MDSI Mara Dua 75.72 271 P P 00 47 50.3 -2.0
comp=Z,25nm,0.8s,comp=Z,2µm
UNV Unalaska Valle 76.38 8 P P 00 47 54.1 -0.9
baz=192
AKUT Akutan 76.76 8 P P 00 47 56.2 -0.8
PET Petropavlovsk 77.13 347 P P 00 47 59.1 +0.1
PEA0B Petropavlovsk- 77.42 346 P P 00 48 01.0 +0.3
PEA0B IAmb IAmb 00 48 45.0
comp=Z,88nm,1.3s
PETK Petropavlovsk- 77.42 346 P P 00 48 00.3 -0.4
comp=Z,24nm,0.7s,baz=141,slow=5.7,SNR=20
comp=Z,24nm,0.7s
KSI Kapahiang 77.49 271 P P 00 48 09.2 +7.1
SMAI San Martin Ant 77.66 159 P P 00 48 03.8 +2.0
SMAI IAmb IAmb 00 48 04.6
comp=Z,41nm,0.9s
BELA Belgrano 2 78.22 173 P P 00 48 05.0 +0.3
MYKOM Kota Tinggi 78.37 277 P P 00 48 07.4 +0.7
SDPT Sand Point 78.75 11 P P 00 48 07.0 -0.7
SDPT IAmb IAmb 00 48 07.5
comp=Z,37nm,0.7s
SDPT Sand Point 78.75 11 P P 00 48 06.8 -0.9
baz=198
S12K Black Hills 78.82 10 P P 00 48 07.6 -0.5
baz=196
SPIA Saint Paul Isl 79.28 5 P P 00 48 12.4 +2.0
baz=189
USRK Ussuriysk Ar. 79.49 327 P P 00 48 09.9 -2.0
comp=Z,4.9nm,0.9s,baz=157,slow=4.4,SNR=4.1
comp=Z,4.9nm,0.9s
SCZ2 Santa Cruz Isl 79.62 47 P P 00 48 14.3 +1.4
baz=234
NJ2 Nanjing 79.84 311 eP P 00 48 13.4 -0.6
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
PKM Mcpherson Peak 80.01 46 P P 00 48 16.6 +1.5
baz=234
CHGN Chignik 80.03 12 P P 00 48 14.5 +0.1
CHGN IAmb IAmb 00 48 15.0
comp=Z,31nm,0.9s
CIS Catalina Islan 80.11 48 P P 00 48 16.6 +1.2
baz=235
CHIR Chirikof Islan 80.14 13 P P 00 48 15.3 +0.3
PMPB Monarch Peak 80.14 44 P P 00 48 17.0 +1.4
PMPB IAmb IAmb 00 48 17.6
comp=Z,54nm,1.1s
FMP Fort Macarthur 80.37 48 P P 00 48 17.7 +1.0
baz=235
HOPS Hopland Field 80.40 41 P P 00 48 18.1 +1.3
PMSA Palmer Station 80.42 157 P P 00 48 17.7 +1.3
PMSA IAmb IAmb 00 50 52.2
comp=Z,106nm,1.4s
DECC Green Verdugo 80.65 47 P P 00 48 19.0 +0.8
baz=235
KMPM Mount Pierce 80.66 40 P P 00 48 18.8 +0.5
109C Camp Elliot, M 80.73 49 P P 00 48 19.7 +1.1
baz=236
KMRM Mail Ridge 80.78 40 P P 00 48 20.8 +1.9
ARVC Arvin 80.81 46 P P 00 48 19.8 +0.8
baz=235
VES Vestal, Richgr 81.05 46 P P 00 48 21.0 +0.8
baz=235,SNR=7.6
MURC Murrieta 81.07 48 P P 00 48 21.1 +0.7
baz=236,SNR=7.3
BFSC Mount Baldy Ra 81.10 48 P P 00 48 21.4 +0.7
baz=236,SNR=7.3
SII Sitkinak Islan 81.14 14 P P 00 48 20.5 +0.3
SII IAmb IAmb 00 48 21.4
comp=Z,52nm,1.0s
SII Sitkinak Islan 81.14 14 P P 00 48 20.7 +0.5
baz=204
MONP2 Monument Peak 81.22 49 P P 00 48 22.7 +1.3
baz=237,SNR=32
EDW2 Edwards Air Fo 81.23 47 P P 00 48 22.3 +1.1
baz=235,SNR=20
IKP In-Ko-Pah, Jac 81.31 50 P P 00 48 23.0 +1.3
baz=237,SNR=20
ISA Isabella, Lake 81.36 46 IAmb IAmb 00 48 24.1
comp=Z,28nm,0.9s
ISA Isabella, Lake 81.36 46 P P 00 48 23.1 +1.3
baz=235,SNR=16
R16K Pilot Point 81.38 12 P P 00 48 21.3 0.0
baz=200
PFO Pinyon Flats O 81.58 49 P P 00 48 24.3 +1.2

PFO Pinyon Flats O 81.58 49 P P 00 48 24.0 +0.9
baz=237,SNR=8.5
TPFO Pinon Flats 81.58 49 P P 00 48 24.1 +1.0
baz=237,SNR=9.1
PMD Palm Desert 81.66 49 P P 00 48 24.4 +1.0
PMD IAmb IAmb 00 48 25.5
comp=Z,22nm,1.4s
R17K Ugashik Creek 81.68 12 P P 00 48 23.1 +0.2
baz=202
SWSC Sam W. Stewart 81.68 50 P P 00 48 25.2 +1.7
baz=237,SNR=6.3
LRMC Laurel Mtn Rad 81.78 47 P P 00 48 25.3 +1.2
baz=236
RRX Edison Barstow 81.91 47 P P 00 48 25.5 +0.8
baz=236
MNSI Mandailing Nat 81.94 274 P P 00 48 23.9 -1.4
comp=Z,29nm,0.6s,comp=Z,2µm
OHAK Old Harbor 81.94 14 P P 00 48 24.6 +0.4
OHAK IAmb IAmb 00 48 25.4
comp=Z,61nm,1.4s
OHAK Old Harbor 81.94 14 P P 00 48 24.4 +0.2
baz=204
IPM Ipoh 82.01 278 P P 00 48 26.0 +0.4
IPM IAmb IAmb 00 48 26.9
comp=Z,25nm,0.8s
CWC Cottonwood Cre 82.06 46 P P 00 48 26.5 +0.9
baz=235
BELC Belle Mtn. Jos 82.12 49 P P 00 48 27.1 +1.2
baz=237
MPMC Manual Prospec 82.24 46 P P 00 48 27.5 +1.0
baz=236,SNR=16
GSC Goldstone, Bar 82.28 47 P P 00 48 27.6 +1.0
baz=236,SNR=14
BC3 Big Chuckawall 82.31 49 P P 00 48 28.1 +1.2
baz=237,SNR=10
TIN Tinemaha, Big 82.31 45 P P 00 48 27.6 +0.9
baz=235,SNR=6.5
YBH Yreka Blue Hor 82.31 39 P P 00 48 27.7 +1.1
comp=Z,18nm,0.8s,baz=192,slow=2.8,SNR=16
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 82.31 39 P P 00 48 28.4 +1.8
HEC Hector,Ludlow 82.34 48 P P 00 48 28.0 +1.1
baz=236,SNR=8.9
WAKR Walker 82.37 43 P P 00 48 28.6 +1.5
WAKR IAmb IAmb 00 48 29.4
comp=Z,35nm,1.0s
UBPT Khong Chiam 82.38 290 P P 00 48 28.7 +1.4
GLA Glamis 82.43 50 IAmb IAmb 00 48 30.1
comp=Z,44nm,1.0s
GLA Glamis 82.43 50 P P 00 48 29.2 +1.8
baz=238,SNR=6.3
Q16K King Salmon 82.59 12 P P 00 48 27.2 -0.2
baz=201,SNR=10
KDAK Kodiak Island 82.61 14 P P 00 48 27.3 -0.2
comp=Z,15nm,1.0s,baz=146,slow=7.3,SNR=3.7
comp=Z,15nm,1.0s
DSP Deep Springs 82.66 45 IAmb IAmb 00 48 30.6
comp=Z,28nm,1.0s
KULM Kulim 82.67 279 P P 00 48 29.4 +0.5
P16K Nushagak River 82.68 11 P P 00 48 27.7 -0.1
baz=200,SNR=9.9
CN2 Changchun 82.70 323 eP P 00 48 28.9 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.9s
HUMO Hull Mountain 82.72 38 IAmb IAmb 00 48 31.4
comp=Z,81nm,1.4s
YERR Yerington 82.77 43 IAmb IAmb 00 50 18.3
comp=Z,29nm,0.6s
GMRC Granite Mounta 82.78 48 P P 00 48 30.1 +0.9
baz=237,SNR=16
IRM Iron Mountain 82.80 49 P P 00 48 30.5 +1.4
baz=237,SNR=19
LHV Little Huntoon 82.82 44 IAmb IAmb 00 48 31.5
comp=Z,30nm,1.0s
GRAC Grapevine Rang 82.85 45 IAmb IAmb 00 48 31.7
comp=Z,53nm,1.2s
GRAC Grapevine Rang 82.85 45 P P 00 48 30.7 +1.3
baz=236,SNR=9.7
DBO Dodson Butte 82.88 38 P P 00 48 30.9 +1.6
DBO IAmb IAmb 00 48 31.9
comp=Z,46nm,1.1s
FURC Furnace Creek, 82.89 46 P P 00 48 30.2 +0.8
baz=236,SNR=5.2
BNX BinXian 82.91 326 ⇓P P 00 48 29.6 +0.2
BNX pmax pmax
comp=Z,14nm,0.8s
BNX pmax pmax
comp=Z,320nm,5.3s
TUQ Turquoise Moun 82.95 47 P P 00 48 31.1 +1.1
baz=237
SHOC Shoshone, Teco 82.97 47 P P 00 48 30.8 +0.8
baz=236
BLYC Blythe 83.02 49 P P 00 48 31.0 +0.8
BLYC IAmb IAmb 00 48 32.7
comp=Z,30nm,1.1s
RYN Ryan 83.02 44 P P 00 48 31.4 +1.1
NVAR Mina Array Bea 83.05 44 P P 00 48 31.5 +0.9
comp=Z,15nm,0.8s,baz=226,slow=8.6,SNR=34
comp=Z,15nm,0.8s
NV11 Mina Array Sit 83.15 44 IAmb IAmb 00 48 33.9
comp=Z,28nm,1.1s
KLR Kul'dur 83.17 330 P P 00 48 31.2 +0.6
comp=Z,3.4nm,0.8s,baz=128,slow=4.2,SNR=14
comp=Z,3.4nm,0.8s
Q16K Kokwok River B 83.19 11 P P 00 48 29.6 -0.9
baz=200,SNR=7.1
HSIG 83.22 55 IAmb IAmb 00 48 33.5
comp=Z,27nm,1.0s
214A Organ Pipe Nat 83.31 52 P P 00 48 33.3 +1.6
baz=239
Q20K Shuyak Island 83.41 14 P P 00 48 33.3 +1.8
baz=205
Q19K Cape Douglas, 83.43 13 P P 00 48 31.4 -0.3
Q19K IAmb IAmb 00 48 32.4
comp=Z,44nm,0.9s
Q19K Cape Douglas, 83.43 13 P P 00 48 31.6 -0.1
baz=204
NEE2 Needles Airpor 83.49 49 P P 00 48 33.9 +1.3
baz=238,SNR=5.0
P18K Big Mountain, 83.53 12 IAmb IAmb 00 48 32.1
comp=Z,20nm,0.8s
P18K Big Mountain, 83.53 12 P P 00 48 31.7 -0.5
baz=202,SNR=7.2
KVN Kaiserville 83.54 43 IAmb IAmb 00 48 34.6
comp=Z,25nm,1.1s
O17K Koliganek Bris 83.54 11 P P 00 48 32.0 -0.1
baz=201
TPH Tonopah 83.55 45 P P 00 48 33.8 +0.7
TPNV Topopah Spring 83.56 46 P P 00 48 33.7 +0.7
TPNV Topopah Spring 83.56 46 P P 00 48 34.1 +1.0
baz=236,SNR=6.9
COR Corvallis 83.77 37 P P 00 48 35.0 +1.4
MOD Modoc Plateau 83.84 40 P P 00 48 35.3 +1.0
MOD IAmb IAmb 00 48 36.5
comp=Z,34nm,1.4s
V12A Nelson 83.84 48 P P 00 48 35.5 +1.1
N16K Nishlik Lake 83.91 10 P P 00 48 34.9 +0.9
baz=199
HEBO Mount Hebo 83.92 36 P P 00 48 35.6 +1.2
WTNK Soaring Height 83.98 47 P P 00 48 35.7 +0.7
WTNK IAmb IAmb 00 48 37.1
comp=Z,11nm,1.5s
GSI Gunungsitoli 83.99 274 P P 00 48 36.5 +1.0
comp=Z,48nm,1.1s,comp=Z,4µm
K05A Summer Lake 83.99 39 P P 00 48 36.3 +1.2
K05A IAmb IAmb 00 48 37.6
comp=Z,43nm,1.0s
SHPR Sheep Range 84.05 47 P P 00 48 36.0 +0.5
W13A Hualapai Mount 84.18 49 P P 00 48 37.2 +1.0
P19K Oil Pt 84.18 13 IAmb IAmb 00 48 36.0
comp=Z,42nm,0.9s
P19K Oil Pt 84.18 13 P P 00 48 35.1 -0.2
baz=204
Y14A Wickenburg 84.19 50 P P 00 48 36.7 +0.6
O19K Port Alsworth 84.45 12 P P 00 48 36.0 -0.6
O19K Port Alsworth 84.45 12 P P 00 48 36.2 -0.4
baz=203
CNPM China Poot 84.50 14 P P 00 48 36.8 -0.1
CNPM IAmb IAmb 00 48 37.9
comp=Z,38nm,0.8s
ILSW Iliamna Southw 84.50 13 IAmb IAmb 00 48 37.3
comp=Z,69nm,0.8s
PINE Pine Mountain 84.61 38 P P 00 48 39.0 +0.9
PRN Pahroc Range 84.61 46 P P 00 48 39.3 +1.1
PRN IAmb IAmb 00 48 40.5
comp=Z,43nm,1.6s
O20K Slope Mountain 84.70 13 P P 00 48 37.2 -0.7

baz=205
BRLK Bradley Lake 84.79 14 lAmb lAmb 00 48 39.1
comp=Z,31nm,0.9s
BRSE Bradley Lake S 84.80 14 P **P** **00 48 38.6 +0.2**
baz=206,SNR=8.8
BMN Battle Mountai 84.88 43 P **P** **00 48 40.0 +0.6**
MA2 Magadan 84.91 345 P **P** **00 48 38.0 -0.9**
comp=Z,13nm,0.7s,baz=130,slow=4.2,SNR=8.5
comp=Z,13nm,0.7s
TUC Tucson 84.97 52 P **P** **00 48 41.2 +1.2**
TUC lAmb lAmb 00 48 42.8
comp=Z,23nm,0.9s
TUC Tucson 84.97 52 P **P** **00 48 41.6 +1.7**
baz=240
ELIB Princess Elisa 84.97 187 *d*P **P** **00 48 39.4 0.0**
comp=Z,23nm,0.9s
N19K Bonanza Creek 84.99 12 lAmb lAmb 00 48 39.5
comp=Z,21nm,0.9s
N19K Bonanza Creek 84.99 12 P **P** **00 48 38.6 -0.8**
baz=203
WVOR Wild Horse Val 85.16 40 lAmb lAmb 00 48 42.8
comp=Z,20nm,1.0s
NLWA Neilton Lookou 85.25 34 P **P** **00 48 42.3 +1.5**
HOLB Holberg 85.31 30 P **P** **00 48 42.3 +1.2**
SEW Seward 85.42 15 P **P** **00 48 41.1 -0.2**
baz=208
HNS HongShan 85.60 313 ⇑P **P** **00 48 38.6 -4.1**
HNS pmax pmax
comp=Z,7.0nm,0.9s
I07A Izee 85.61 39 lAmb lAmb 00 48 45.1
comp=Z,36nm,1.1s
G06A Carlson Farm, 85.66 37 P **P** **00 48 43.5 +0.6**
G06A lAmb lAmb 00 48 44.4
comp=Z,34nm,1.2s
O22K Cooper Landing 85.69 14 P **P** **00 48 42.5 -0.1**
O22K Cooper Landing 85.69 14 P **P** **00 48 42.3 -0.3**
baz=207,SNR=7.1
J08A Circle Bar Ran 85.79 40 P **P** **00 48 44.0 +0.3**
J08A lAmb lAmb 00 48 45.8
comp=Z,44nm,1.3s
ENH Enshi 85.80 305 P **P** **00 48 44.5 +0.6**
ENH lAmb lAmb 00 48 45.9
comp=Z,12nm,0.7s
SPCR Spurr Chakacha 85.80 13 P **P** **00 48 42.3 -0.9**
baz=205
P23K Montague Islan 85.82 16 P **P** **00 48 42.7 -0.5**
baz=210
CCUT Cedar City 85.83 47 P **P** **00 48 45.1 +1.0**
KNB Kanab 85.92 47 P **P** **00 48 45.4 +0.9**
KNB lAmb lAmb 00 48 46.8
comp=Z,22nm,1.2s
HEH HeiHe 85.92 329 *e*P **P** **00 48 44.3 +0.4**
COYC Coyhaique 85.92 138 P **P** **00 48 45.7 +1.4**
COYC lAmb lAmb 00 48 47.2
comp=Z,29nm,0.8s
LON Longmire 85.94 36 P **P** **00 48 44.5 +0.3**
SPR3 Spring Creek 3 85.95 45 P **P** **00 48 45.0 +0.2**
SPR3 lAmb lAmb 00 48 46.2
comp=Z,9.0nm,1.2s
U15A North Rim 85.97 48 P **P** **00 48 45.8 +0.9**
U15A lAmb lAmb 00 48 47.3
comp=Z,28nm,0.9s
M19K Big River Lodg 86.02 12 lAmb lAmb 00 48 44.6
comp=Z,13nm,0.7s
M19K Big River Lodg 86.02 12 P **P** **00 48 44.3 +0.2**
baz=203
SZCU Shurtz Canyon 86.04 47 P **P** **00 48 46.0 +0.9**
D05A Enumclaw 86.11 35 P **P** **00 48 46.5 +1.6**
WUAZ Wupatki 86.15 49 P **P** **00 48 46.7 +1.1**
WUAZ Wupatki 86.15 49 P **P** **00 48 46.5 +0.9**
baz=240
L19K White Mountain 86.19 11 lAmb lAmb 00 48 46.2
comp=Z,33nm,0.8s
L19K White Mountain 86.19 11 P **P** **00 48 45.1 +0.1**
baz=203,SNR=26
TROLL Troll, Antarti 86.20 181 P **P** **00 48 45.1 -0.1**
RC01 Rabbit Creek A 86.23 14 lAmb lAmb 00 48 46.0
comp=Z,62nm,1.3s
RC01 Rabbit Creek A 86.23 14 P **P** **00 48 45.0 -0.1**
baz=207,SNR=8.6
M20K Styx River 86.24 12 P **P** **00 48 44.7 -0.6**
baz=204
DUN6 Lazy B Ranch 86.34 53 P **P** **00 48 47.0 +0.5**
DUN6 lAmb lAmb 00 48 49.5
comp=Z,88nm,1.3s
SUA Susitna One 86.35 13 P **P** **00 48 45.4 -0.4**
baz=206,SNR=7.6
PWL Port Wells 86.35 15 lAmb lAmb 00 48 46.3
comp=Z,39nm,0.8s
PWL Port Wells 86.35 15 P **P** **00 48 45.3 -0.4**
baz=209,SNR=9.6
HPIG 86.36 59 P **P** **00 48 46.8 -0.1**
BBB Bella Bella 86.38 29 P **P** **00 48 44.8 -1.2**
comp=Z,28nm,0.8s,baz=220,slow=7.9,SNR=3.1
comp=Z,28nm,0.8s
F07A Phinny Hill Vi 86.45 37 P **P** **00 48 47.4 +0.8**
F07A lAmb lAmb 00 48 48.7
comp=Z,22nm,0.9s
PKCU Pink Cliffs 86.48 47 P **P** **00 48 48.5 +1.2**
PKCU lAmb lAmb 00 48 50.3
comp=Z,34nm,1.0s
SNAA Sanae 86.52 179 P **P** **00 48 46.2 -0.4**
SNAA Sanae 86.52 179 P **P** **00 48 46.2 -0.4**
comp=Z,4.4nm,0.9s,baz=197,slow=8.5,SNR=13
comp=Z,4.4nm,0.9s
G08A Pilot Rock 86.64 38 P **P** **00 48 48.2 +0.6**
L20K Farewell, AK 86.64 12 P **P** **00 48 46.7 -0.4**
baz=204
SKT Skwentna 86.65 13 P **P** **00 48 45.8 -1.3**
baz=206,SNR=7.1
X18A Snowflake 86.67 51 P **P** **00 48 48.6 +0.5**
TTA Tatalina 86.68 10 P **P** **00 48 47.5 +0.2**
TTA Tatalina 86.68 10 P **P** **00 48 47.3 0.0**
baz=202,SNR=9.4
VNA3 Neumayer Olymp 86.70 177 P **P** **00 48 47.2 -0.2**
EYAK Cordova Ski Ar 86.71 16 P **P** **00 48 47.4 0.0**
baz=211
M22K Willow 86.74 13 P **P** **00 48 47.2 -0.3**
baz=207
KNK Knik Glacier 86.81 14 lAmb lAmb 00 48 48.7
comp=Z,30nm,0.7s
KNK Knik Glacier 86.81 14 P **P** **00 48 47.9 0.0**
baz=208,SNR=14
PMR Palmer 86.81 14 P **P** **00 48 47.4 -0.5**
PMR lAmb lAmb 00 48 48.0
comp=Z,21nm,0.6s
PMR Palmer 86.81 14 P **P** **00 48 47.5 -0.3**
baz=208,SNR=15
LTY Liberty 86.86 36 P **P** **00 48 48.8 +0.2**
LTY lAmb lAmb 00 48 50.2
comp=Z,30nm,1.1s
MTPU Mount Pierson 86.88 47 P **P** **00 48 49.7 +0.4**
MTPU lAmb lAmb 00 48 52.1
comp=Z,22nm,1.1s
HAWA Hanford 86.97 37 P **P** **00 48 49.8 +0.8**
HAWA lAmb lAmb 00 48 51.2
comp=Z,43nm,0.9s
TCRU Three Creeks R 87.00 46 P **P** **00 48 48.7 -0.9**
SIT Sitka 87.04 22 P **P** **00 48 49.1 +0.1**
baz=220
ZAIG Zacatecas 87.07 64 P **P** **00 48 51.6 +1.2**
MVU Marysvale 87.10 46 P **P** **00 48 51.6 +1.5**
MVU lAmb lAmb 00 48 52.7
comp=Z,44nm,1.2s
W18A Petrified Fore 87.11 50 P **P** **00 48 50.8 +0.6**
W18A lAmb lAmb 00 51 44.5
comp=Z,12nm,0.7s
W18A Petrified Fore 87.11 50 P **P** **00 48 51.2 +1.0**
baz=240
MSU Marysvale 87.13 46 P **P** **00 48 51.8 +1.6**
VNA2 Neumayer--Watz 87.13 177 P **P** **00 48 49.5 +0.1**
baz=184,slow=5.0
U33K Whale Pass 87.13 24 P **P** **00 48 50.9 +1.5**
baz=222
V35K Ketchikan 87.13 25 P **P** **00 48 50.9 +1.4**
baz=223
SML Sawmill 87.19 14 lAmb lAmb 00 49 03.9
comp=Z,29nm,1.2s
SML Sawmill 87.19 14 P **P** **00 48 49.4 -0.3**
baz=209,SNR=6.8
B06A Marblemount 87.20 34 P **P** **00 48 50.3 +0.4**
B06A lAmb lAmb 00 48 51.6
comp=Z,20nm,0.9s
E08A Dider Farm, El 87.29 37 P **P** **00 48 51.4 +1.0**
E08A lAmb lAmb 00 48 52.5
comp=Z,29nm,0.9s
CUT Chulitna 87.29 13 P **P** **00 48 49.6 -0.5**
baz=207,SNR=18
121A Cookes Peak, D 87.30 53 P **P** **00 48 51.4 +0.3**
121A Cookes Peak, D 87.30 53 P **P** **00 48 52.4 +1.3**
baz=242
121A Cookes Peak, D 87.30 53 P **P** **00 48 52.6 +1.5**
baz=242
M23K Glacier View 87.31 14 P **P** **00 48 50.0 -0.2**
baz=209,SNR=5.7
BMO Blue Mountains 87.34 39 lAmb lAmb 00 48 52.6
comp=Z,15nm,0.9s
PPLA Purkeypile 87.34 12 P **P** **00 48 49.4 -1.1**
baz=205
VNA1 Neumayer--Stat 87.36 177 P **P** **00 48 50.7 +0.2**
BMRM Bremner River 87.36 16 P **P** **00 48 50.6 0.0**
baz=212,SNR=11
MFID Camas Ranch 87.41 41 lAmb lAmb 00 48 53.3
comp=Z,32nm,1.0s
K20K Telida 87.42 11 lAmb lAmb 00 48 51.5
comp=Z,26nm,1.0s
K20K Telida 87.42 11 P **P** **00 48 50.4 -0.3**
baz=203
S31K Pelican 87.42 21 P **P** **00 48 50.9 +0.2**
baz=219
SCM Sheep Creek Mo 87.44 15 P **P** **00 48 51.1 +0.2**
baz=210,SNR=20
KLU Klutina 87.48 15 lAmb lAmb 00 48 52.1
comp=Z,16nm,0.8s
KLU Klutina 87.48 15 P **P** **00 48 51.1 0.0**
baz=211,SNR=6.5
SEY Seymchan 87.56 348 P **P** **00 48 51.6 +0.3**
comp=Z,9.8nm,0.7s,baz=142,slow=5.9,SNR=20
comp=Z,9.8nm,0.7s
DUG Dugway, Tooele 87.58 45 P **P** **00 48 53.0 +0.9**
baz=238
WRAK Wrangell Islan 87.65 24 P **P** **00 48 52.8 +1.0**
baz=223
D08A Wollman Farm, 87.70 37 P **P** **00 48 53.1 +0.8**
PNL Peninsula 87.75 19 P **P** **00 48 52.7 +0.4**
baz=217
LL03 Petrohue 87.75 134 P **P** **00 48 53.5 +0.5**
TNA Tin City 87.76 5 P **P** **00 48 52.8 +0.6**
baz=191
E09A Wood Farm, Sta 87.82 37 P **P** **00 48 53.7 +0.8**
E09A lAmb lAmb 00 48 54.7
comp=Z,34nm,1.0s
BGU Big Grassy Mou 87.82 44 P **P** **00 48 54.0 +0.7**
CAST Castle Rocks 87.84 12 P **P** **00 48 51.2 -1.5**
baz=205,SNR=37
PINM Pinnacle 87.84 18 P **P** **00 48 52.9 +0.1**
baz=216
VRDI Verde Repeater 87.89 17 P **P** **00 48 52.8 -0.4**
VRDI lAmb lAmb 00 48 54.3
comp=Z,23nm,1.0s
N25K Chitina, Valde 87.91 16 P **P** **00 48 53.0 -0.1**
N25K lAmb lAmb 00 48 54.2
comp=Z,28nm,0.8s
N25K Chitina, Valde 87.91 16 P **P** **00 48 53.4 +0.3**
baz=212,SNR=14
NLU North Lily Min 87.94 45 P **P** **00 48 55.0 +1.0**
M24K Tolsona, Glenn 87.95 15 P **P** **00 48 53.9 +0.6**
baz=211,SNR=5.9
GLB Gilahina Butte 87.97 16 lAmb lAmb 00 48 54.4
comp=Z,22nm,0.8s
WAT6 Susitna Watana 88.00 14 P **P** **00 48 53.3 -0.4**
baz=209,SNR=17
XAN Xi'an 88.00 308 P **P** **00 48 55.8 +1.6**
XAN pmax pmax
comp=Z,7.0nm,0.9s
Q16A Castle Valley 88.01 46 P **P** **00 48 55.8 +1.5**
Q16A lAmb lAmb 00 48 57.8
comp=Z,52nm,1.5s
WAT1 Susitna Watana 88.04 14 P **P** **00 48 53.2 -0.4**
baz=208
MCARA McCarthy VSAT 88.13 17 P **P** **00 48 54.3 +0.3**
baz=213,SNR=9.8
J20K Nowinta River 88.16 11 lAmb lAmb 00 48 55.0
comp=Z,14nm,0.8s
J20K Nowinta River 88.16 11 P **P** **00 48 54.2 +0.1**
baz=203
TMUT Trail Mountain 88.18 46 P **P** **00 48 55.8 +0.6**
KTH Kantishna Hill 88.19 12 lAmb lAmb 00 48 54.5
comp=Z,28nm,0.9s
CHUM Lake Minchumin 88.22 12 P **P** **00 48 53.4 -1.0**
baz=205,SNR=12
TRF Thorofare Moun 88.22 13 P **P** **00 48 53.9 -0.8**
baz=209,SNR=36
PLID Pearl Lake 88.24 39 lAmb lAmb 00 48 56.9
comp=Z,35nm,1.4s
B08A Colville Reser 88.25 35 lAmb lAmb 00 48 56.2
comp=Z,28nm,0.8s
MPU Maple Canyon 88.26 45 P **P** **00 48 56.2 +0.7**
MPU lAmb lAmb 00 48 57.6
comp=Z,24nm,1.3s
PHRA Phrae 88.27 291 P **P** **00 48 56.3 +0.6**
TLIG Tlapa 88.36 70 P **P** **00 48 57.6 +1.3**
TLIG lAmb lAmb 00 48 58.5
comp=Z,19nm,1.0s
SPUT South Promonto 88.39 44 lAmb lAmb 00 48 58.0
comp=Z,25nm,1.0s
O28M Mount Upton 88.41 18 P **P** **00 48 56.0 +0.3**
baz=216
HVU Hansel Valley 88.43 43 P **P** **00 48 56.8 +0.7**
HVU lAmb lAmb 00 48 58.1
comp=Z,23nm,1.0s
HARP HAARP 88.45 15 P **P** **00 48 55.6 0.0**
baz=212,SNR=6.1
C09A Chrisman Ranch 88.49 36 P **P** **00 48 56.8 +0.8**
C09A lAmb lAmb 00 48 57.7
comp=Z,24nm,0.9s
O29M Mount Kennedy 88.51 19 P **P** **00 48 56.5 +0.5**
baz=217
DHY Denali Highway 88.51 14 lAmb lAmb 00 48 56.7
comp=Z,31nm,1.5s
DHY Denali Highway 88.51 14 P **P** **00 48 55.7 -0.3**
baz=210
CTU Camp Tracy 88.53 45 P **P** **00 48 57.2 +0.5**
CTU lAmb lAmb 00 48 58.5
comp=Z,18nm,1.0s
PLBC Pleasant Camp 88.54 20 P **P** **00 48 56.7 +0.7**
baz=219
SRU San Rafael Swe 88.54 47 P **P** **00 48 57.2 +0.5**
Y22A Socorro 88.56 52 P **P** **00 48 58.6 +1.7**
baz=242
P17A Butcher Ranch, 88.58 46 P **P** **00 48 57.9 +1.0**
P17A lAmb lAmb 00 48 59.1
comp=Z,29nm,1.2s
Y22D IRIS PASSCAL I 88.66 52 P **P** **00 48 57.8 +0.4**
Y22D lAmb lAmb 00 48 59.8
comp=Z,33nm,1.1s
Y22D IRIS PASSCAL I 88.66 52 P **P** **00 48 58.7 +1.4**
baz=242
Y22D IRIS PASSCAL I 88.66 52 P **P** **00 48 58.8 +1.4**
baz=242
Y22F Passcal Instru 88.66 52 P **P** **00 48 57.9 +0.6**
baz=242
LENM Lemitar 88.66 52 P **P** **00 48 57.9 +0.5**
BPAW Bear Paw Mtn. 88.67 12 P **P** **00 48 55.0 -1.5**
baz=206
JLU Jordanelle 88.68 45 P **P** **00 48 57.6 +0.2**
JLU lAmb lAmb 00 48 59.4
comp=Z,34nm,1.6s
MNTX Cornudas Mount 88.72 55 lAmb lAmb 00 48 59.8
comp=Z,22nm,0.8s
MNTX Cornudas Mount 88.72 55 P **P** **00 48 58.8 +1.3**
baz=243
MNTX Cornudas Mount 88.72 55 P **P** **00 48 58.8 +1.3**
baz=243
CRNM Carthage 88.74 53 P **P** **00 48 58.7 +0.9**
MCK McKinley 88.75 13 lAmb lAmb 00 48 58.7
comp=Z,27nm,1.0s
MCK McKinley 88.75 13 P **P** **00 48 56.3 -0.6**
baz=208,SNR=17
CRAI Chiangrai 88.84 292 P **P** **00 48 58.4 0.0**
T35M Bob Quinn 88.86 24 P **P** **00 48 59.2 +1.6**
baz=225
KMI Kunming 88.86 298 ⇑P **P** **00 48 57.4 -1.2**
KMI pmax pmax
comp=Z,11nm,0.5s
PAX Paxson 88.86 15 P **P** **00 48 57.3 -0.2**
baz=211,SNR=6.3
P30M Million Dollar 88.86 20 P **P** **00 48 58.4 +0.8**
baz=219
YUK8 Steele Glacier 88.95 18 P **P** **00 48 58.9 +0.7**
baz=216,SNR=12
TCUT Toone Canyon 88.97 44 P **P** **00 48 59.8 +1.0**
M26K Nabesna, AK 88.99 16 lAmb lAmb 00 48 59.4
comp=Z,20nm,1.1s
M26K Nabesna, AK 88.99 16 P **P** **00 48 58.4 +0.3**
baz=213
TX31 Lajitas Ar. Si 89.00 58 P **P** **00 49 00.1 +1.1**
TX31 Lajitas Ar. Si 89.00 58 P **P** **00 49 00.1 +1.1**
baz=244
TX32 Lajitas Array 89.00 58 P **P** **00 49 00.2 +1.2**
TX32 lAmb lAmb 00 49 01.6
comp=Z,27nm,1.1s
MVCO Mesa Verde 89.00 49 P **P** **00 48 59.0 0.0**
baz=241
PV05 Paradox Valley 89.00 48 P **P** **00 48 59.8 +0.8**
PV05 lAmb lAmb 00 49 01.1
comp=Z,11nm,1.0s
YUK6 Outpost Mounta 89.08 19 P **P** **00 48 59.3 +0.6**
baz=218
HWUT Hardware Ranch 89.12 44 P **P** **00 48 59.6 +0.3**
HWUT lAmb lAmb 00 49 00.7
comp=Z,15nm,0.8s
YUK3 Moose Creek 89.15 17 P **P** **00 48 59.3 +0.2**
baz=216,SNR=26
PLCA Paso Flores 89.19 134 P **P** **00 49 01.1 +1.4**
comp=Z,5.6nm,0.7s,baz=226,slow=3.5,SNR=8.4
comp=Z,5.6nm,0.7s
PV10 Paradox Valley 89.19 48 P **P** **00 48 59.0 -0.9**
PV10 lAmb lAmb 00 49 00.7
comp=Z,9.9nm,0.8s
S34M Telegraph Cree 89.19 23 P **P** **00 49 00.2 +1.2**
baz=224
PV19 Morning Glory 89.20 48 P **P** **00 48 59.6 -0.2**
PV19 lAmb lAmb 00 49 01.5
comp=Z,15nm,1.1s
PV17 East Wray Mesa 89.20 48 P **P** **00 49 00.1 +0.3**
PV17 lAmb lAmb 00 49 01.4
comp=Z,24nm,1.4s
PV14 Lion Creek, Pa 89.20 48 P **P** **00 48 59.6 -0.3**
PV14 lAmb lAmb 00 49 01.4
comp=Z,16nm,1.0s
BI05 Punta Hualpn 89.22 130 P **P** **00 49 00.8 +1.0**
PV18 Skein Mesa, Pa 89.22 48 P **P** **00 49 00.9 +1.0**
PV20 West Nyswonger 89.22 48 P **P** **00 48 59.5 -0.5**
PV20 lAmb lAmb 00 49 01.5
comp=Z,10nm,0.9s
PV13 Radium Mtn., P 89.24 48 P **P** **00 49 00.3 +0.3**
PV16 Nyswonger Mesa 89.24 48 P **P** **00 49 00.1 0.0**
M27K Edge Creek, AK 89.25 17 lAmb lAmb 00 49 02.3
comp=Z,24nm,1.0s
M27K Edge Creek, AK 89.25 17 P **P** **00 49 00.0 +0.6**
baz=214
PV23 Carpenter Ridg 89.25 48 lAmb lAmb 00 49 03.1
comp=Z,15nm,1.0s
HYT Haines Junctio 89.25 19 P **P** **00 48 59.1 -0.3**
HYT lAmb lAmb 00 49 01.0
comp=Z,22nm,1.4s
HYT Haines Junctio 89.25 19 P **P** **00 49 00.1 +0.7**
baz=218
MENT Mentasta 89.26 15 P **P** **00 48 59.5 +0.2**
MENT lAmb lAmb 00 49 00.5
comp=Z,15nm,0.7s
PV03 Paradox Valley 89.26 48 P **P** **00 49 00.5 +0.3**
PV11 David Mesa, Pa 89.27 48 P **P** **00 49 01.1 +1.0**
PV11 lAmb lAmb 00 49 04.3
comp=Z,23nm,1.4s
PV04 Paradox Valley 89.29 48 P **P** **00 49 00.2 -0.1**
PV04 lAmb lAmb 00 49 02.0
comp=Z,24nm,1.5s
PV02 Paradox Valley 89.32 48 P **P** **00 48 59.9 -0.5**
PV02 lAmb lAmb 00 49 02.0
comp=Z,20nm,1.4s
YUK4 Talbot Arm 89.32 18 P **P** **00 49 00.5 +0.7**
baz=217
PV21 Cone Mtn., Par 89.32 48 P **P** **00 49 00.9 +0.4**
PV21 lAmb lAmb 00 49 02.2
comp=Z,16nm,1.2s
PV12 Saucer Basin, 89.33 48 P **P** **00 48 59.7 -0.8**
PV12 lAmb lAmb 00 49 02.2
comp=Z,24nm,1.3s
BCYI Bear Canyon 89.37 41 P **P** **00 49 01.1 +0.5**
CMAR Chiang Mai Arr 89.37 290 P **P** **00 49 02.5 +1.7**
comp=Z,7.2nm,0.8s,baz=134,slow=3.2,SNR=39
CMAR PP **PP** **00 52 41.6 -1.7**
comp=Z,2.6nm,0.9s,baz=128,slow=5.6,SNR=5.8
comp=Z,7.2nm,0.8s
NEW Newport 89.39 36 P **P** **00 48 60.0 -0.3**
comp=Z,2.5nm,0.7s,baz=232,slow=3.3,SNR=8.8
comp=Z,2.5nm,0.7s
PV01 Paradox Valley 89.40 48 P **P** **00 48 59.5 -1.4**
ANMO Albuquerque 89.40 52 P **P** **00 49 01.2 +0.4**
ANMO lAmb lAmb 00 49 02.7
comp=Z,16nm,1.0s
ANMO Albuquerque 89.40 52 P **P** **00 49 01.7 +0.9**
baz=242
ANMO Albuquerque 89.40 52 P **P** **00 49 01.5 +0.7**
baz=242
L26K Log Cabin Wild 89.42 16 P **P** **00 49 00.2 +0.1**
L26K lAmb lAmb 00 49 01.8
comp=Z,16nm,1.3s
L26K Log Cabin Wild 89.42 16 P **P** **00 49 00.4 +0.4**
baz=213,SNR=7.8
I21K Tanana 89.46 11 lAmb lAmb 00 49 00.7
comp=Z,24nm,0.9s
I21K Tanana 89.46 11 P **P** **00 49 00.4 +0.3**
baz=205
HHC Hu-ho-hao-te 89.47 315 *e*P **P** **00 49 00.2 -0.7**
HHC pmax pmax
comp=Z,25nm,0.8s
NEA2 Nenana 89.49 13 P **P** **00 48 59.4 -0.9**
baz=208
PV07 Paradox Valley 89.49 48 P **P** **00 49 00.6 -0.6**
K24K Donnelly Dome 89.51 14 P **P** **00 49 00.6 +0.1**
baz=211,SNR=9.9
CHTO Chiang Mai 89.51 290 P **P** **00 49 02.7 +1.3**
CHTO lAmb lAmb 00 49 04.0
comp=Z,12nm,0.8s
MLY Manley 89.55 12 lAmb lAmb 00 49 00.4
comp=Z,14nm,1.2s
MLY Manley 89.55 12 P **P** **00 48 59.6 -1.0**
baz=206,SNR=15
PV15 Paradox Valley 89.56 48 P **P** **00 49 01.4 -0.2**
BVCY Beaver Creek 89.56 17 P **P** **00 49 01.3 +0.5**
baz=215,SNR=10
O30N Mendenhall 89.64 20 P **P** **00 49 01.9 +0.8**
baz=220
RIDG Independent Ri 89.67 15 lAmb lAmb 00 49 02.1
comp=Z,21nm,1.0s
RIDG Independent Ri 89.67 15 P **P** **00 49 01.0 -0.2**
baz=212,SNR=9.2
GDL2 Guadalupe Moun 89.72 55 P **P** **00 49 03.3 +1.0**
H21K Melozitna Rive 89.75 11 lAmb lAmb 00 49 02.4
comp=Z,11nm,0.8s
H21K Melozitna Rive 89.75 11 P **P** **00 49 01.4 -0.1**
baz=204
HDA Harding Lake 89.77 13 lAmb lAmb 00 49 02.9
comp=Z,30nm,1.2s
HDA Harding Lake 89.77 13 P **P** **00 49 00.7 -0.9**
baz=210,SNR=14
CCB Clear Creek Bu 89.80 13 lAmb lAmb 00 49 01.7
comp=Z,30nm,1.2s
L27K Beaver Creek, 89.84 16 P **P** **00 49 01.9 -0.1**
baz=214
IMAR Indian Mountai 89.89 10 P **P** **00 49 01.8 -0.3**
I23K Minto, Yukon-K 89.92 12 lAmb lAmb 00 49 03.1
comp=Z,42nm,1.8s
I23K Minto, Yukon-K 89.92 12 P **P** **00 49 01.4 -0.8**
baz=208,SNR=7.2
WHY Whitehorse 89.94 20 P **P** **00 49 02.8 +0.2**
WHY Whitehorse 89.94 20 P **P** **00 49 03.7 +1.1**
baz=221
ECR Eagle Creek 89.98 43 P **P** **00 49 03.9 +0.5**
DLBC Dease Lake 89.98 24 P **P** **00 49 03.2 +0.4**
comp=Z,5.0nm,0.8s,baz=244,slow=10,SNR=5.1
comp=Z,5.0nm,0.8s
DLBC Dease Lake 89.98 24 P **P** **00 49 03.2 +0.4**
baz=225
MCMT McKenzie Canyo 89.98 41 P **P** **00 49 04.2 +0.8**
MDM Murphy Dome 89.98 13 lAmb lAmb 00 49 02.6
comp=Z,20nm,1.0s
TCOL CIGO, UAF Yank 89.98 13 P **P** **00 49 02.5 -0.1**
baz=209
COLA College 89.99 13 P **P** **00 49 02.1 -0.4**
COLA College 89.99 13 P **P** **00 49 02.3 -0.3**
baz=209
AHID Auburn Hatcher 90.00 43 P **P** **00 49 03.7 +0.3**
AHID lAmb lAmb 00 49 06.0
comp=Z,22nm,0.8s
SCRK Sand Creek 90.07 15 P **P** **00 49 03.0 -0.2**
baz=212,SNR=11

IL31 90.10 13 IAmb IAmb 00 49 03.3
comp=Z,41nm,1.8s
ILAR Eielson Array 90.10 13 P **P** **00 49 02.1 -1.0**
comp=Z,4.9nm,0.7s,baz=220,slow=4.1,SNR=63
comp=Z,4.9nm,0.7s
CLNB Carlsbad 90.12 55 P **P** **00 49 04.6 +0.5**
H22K Ishtalitna Cre 90.21 11 P **P** **00 49 03.5 -0.1**
baz=206
M29M Somme Creek 90.25 18 P **P** **00 49 04.3 +0.3**
baz=217
PZH PanZhiHua 90.25 298 P **P** **00 49 06.2 +1.3**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.3s
P33M Teslin, Yukon 90.28 21 P **P** **00 49 04.7 +0.6**
baz=222
POKR Poker Plat Res 90.29 13 P **P** **00 49 03.0 -1.0**
baz=209
N31M Braeburn, Yuko 90.29 19 P **P** **00 49 05.0 +0.9**
baz=220
J25K Salcha River, 90.30 14 IAmb IAmb 00 49 04.7
comp=Z,40nm,1.6s
J25K Salcha River, 90.30 14 P **P** **00 49 03.9 -0.2**
baz=211,SNR=11
R33M Jennings River 90.32 23 P **P** **00 49 05.1 +0.7**
baz=224
MSO Missoula 90.39 39 P **P** **00 49 04.6 -0.5**
MSO IAmb IAmb 00 49 50.0
comp=Z,23nm,1.9s
MSO Missoula 90.39 39 P **P** **00 49 04.3 -0.7**
baz=238
G21K Allakaket 90.42 10 P **P** **00 49 04.5 -0.1**
baz=204
BILL Bilibino 90.42 355 P **P** **00 49 04.6 0.0**
BILL IAmb IAmb 00 49 05.5
comp=Z,13nm,0.7s
S22A 4UR Ranch, Cre 90.43 49 P **P** **00 49 06.0 +0.3**
S22A IAmb IAmb 00 49 07.7
comp=Z,13nm,1.1s
S22A 4UR Ranch, Cre 90.43 49 P **P** **00 49 05.3 -0.4**
baz=242
H23K Yukon River 90.49 12 P **P** **00 49 05.0 +0.1**
baz=208
SNOW Snow King Moun 90.57 43 P **P** **00 49 07.2 +1.0**
SNOW IAmb IAmb 00 49 08.2
comp=Z,22nm,0.9s
O20A White River Ci 90.58 47 IAmb IAmb 00 49 07.8
comp=Z,16nm,0.8s
O20A White River Ci 90.58 47 P **P** **00 49 06.7 +0.5**
baz=241
K27K Chicken 90.58 15 IAmb IAmb 00 49 06.8
comp=Z,13nm,1.0s
K27K Chicken 90.58 15 P **P** **00 49 06.1 +0.7**
baz=214
J26L Joseph Creek 90.61 15 IAmb IAmb 00 49 07.0
comp=Z,23nm,1.0s
J26L Joseph Creek 90.61 15 P **P** **00 49 06.1 +0.4**
baz=213
IMW Indian Meadow 90.67 42 P **P** **00 49 07.3 +0.7**
IMW IAmb IAmb 00 49 08.7
comp=Z,19nm,1.1s
LRM Limekiln Ridge 90.74 40 P **P** **00 49 07.1 +0.3**
M30M Minto, Yukon 90.83 18 P **P** **00 49 06.4 -0.2**
M30M IAmb IAmb 00 49 08.4
comp=Z,6.9nm,0.8s
M30M Minto, Yukon 90.83 18 P **P** **00 49 06.9 +0.3**
baz=219
QLMT Earthquake Lak 90.84 41 P **P** **00 49 08.6 +1.2**
L29M L29M 90.87 17 P **P** **00 49 07.3 +0.5**
baz=218
BW06 Boulder Array 90.99 44 IAmb IAmb 00 49 09.3
comp=Z,14nm,1.1s
PD31 Pinedale Array 90.99 44 IAmb IAmb 00 49 09.3
comp=Z,13nm,1.1s
PDAR Pinedale Array 90.99 44 P **P** **00 49 08.0 -0.1**
comp=Z,7.3nm,0.9s,baz=213,slow=2.9,SNR=42
comp=Z,7.3nm,0.9s
PRP Porcupine Dome 91.04 13 IAmb IAmb 00 49 08.8
comp=Z,12nm,1.3s
PRP Porcupine Dome 91.04 13 P **P** **00 49 07.9 +0.3**
baz=211,SNR=7.1
YMR Madison River 91.05 42 P **P** **00 49 08.6 +0.3**
YMR IAmb IAmb 00 49 10.6
comp=Z,8.2nm,0.7s
F21K Alatna River 91.07 10 P **P** **00 49 07.6 0.0**
baz=204
BOZ Bozeman (W) 91.11 41 IAmb IAmb 00 49 10.3
comp=Z,9.5nm,0.9s
BOZ Bozeman (W) 91.11 41 P **P** **00 49 09.3 +0.9**
baz=239,SNR=11
G22K Bettles 91.12 11 P **P** **00 49 08.0 +0.2**
baz=206
H17A Grant Village 91.15 42 P **P** **00 49 10.5 +1.7**
H17A Grant Village 91.15 42 P **P** **00 49 10.6 +1.8**
baz=240
G23K Bananza Creek 91.19 11 P **P** **00 49 08.9 +0.8**
baz=207
M31M Drury Creek, Y 91.27 19 IAmb IAmb 00 50 55.1
comp=Z,25nm,1.9s
M31M Drury Creek, Y 91.27 19 P **P** **00 49 09.0 +0.4**
baz=221
DAWY Dawson 91.30 16 IAmb IAmb 00 49 09.8
comp=Z,11nm,0.9s
DAWY Dawson 91.30 16 P **P** **00 49 08.9 +0.2**
baz=217,SNR=11
LKWY Lake 91.35 42 P **P** **00 49 11.3 +1.6**
SDCO Great Sand Dun 91.36 50 P **P** **00 49 09.9 -0.1**
SDCO IAmb IAmb 00 49 11.4
comp=Z,7.6nm,0.8s
SDCO Great Sand Dun 91.36 50 P **P** **00 49 10.0 0.0**
baz=243
SDCO Great Sand Dun 91.36 50 P **P** **00 49 10.5 +0.6**
baz=243
EGAK Eagle 91.42 15 P **P** **00 49 08.7 -0.5**
EGAK IAmb IAmb 00 49 10.0
comp=Z,12nm,0.8s
EGAK Eagle 91.42 15 P **P** **00 49 09.5 +0.3**
baz=215
F22K John River 91.54 10 P **P** **00 49 10.3 +0.6**
baz=205
HRY Holter Researc 91.57 40 P **P** **00 49 10.9 +0.5**
WALA Waterton Lakes 91.61 37 IAmb IAmb 00 49 11.7
comp=Z,11nm,1.1s
FARO Faro, Yukon 91.61 20 P **P** **00 49 10.6 +0.4**
baz=222
WTLY Watson Lake, Y 91.61 23 P **P** **00 49 10.9 +0.7**
baz=226
K29M Barlow Dome 91.62 17 P **P** **00 49 10.8 +0.5**
baz=218,SNR=6.5
COLD Coldfoot 91.62 11 P **P** **00 49 10.7 +0.6**
baz=207
G24K Hadweenzic Riv 91.66 12 P **P** **00 49 10.4 +0.1**
baz=209
MSTX Muleshoe 91.69 54 P **P** **00 49 11.4 0.0**
MSTX IAmb IAmb 00 49 12.7
comp=Z,15nm,1.1s
MSTX Muleshoe 91.69 54 P **P** **00 49 11.8 +0.5**
baz=245
MSTX Muleshoe 91.69 54 P **P** **00 49 11.3 0.0**
baz=244
T25A Trinidad 91.87 51 IAmb IAmb 00 49 13.5
comp=Z,10nm,0.9s
T25A Trinidad 91.87 51 P **P** **00 49 12.3 +0.1**
baz=244
MT01 Popeta 91.95 128 P **P** **00 49 12.9 +0.3**
833A Chaparral WMA, 91.98 60 IAmb IAmb 00 49 14.3
comp=Z,17nm,0.9s
833A Chaparral WMA, 91.98 60 P **P** **00 49 12.4 -0.2**
baz=246
833A Chaparral WMA, 91.98 60 P **P** **00 49 12.9 +0.3**
baz=246
G25K Bearman Lake 91.99 13 P **P** **00 49 12.3 +0.6**
baz=211
I27K Kandik River 92.00 15 P **P** **00 49 12.1 +0.2**
baz=215
LIRD Liard River Hi 92.13 24 P **P** **00 49 13.8 +1.2**
baz=228
Q24A Divide 92.16 49 P **P** **00 49 13.8 +0.2**
Q24A IAmb IAmb 00 49 15.2
comp=Z,9.6nm,0.9s
Q24A Divide 92.16 49 P **P** **00 49 14.2 +0.6**
baz=243
ISCO Idaho Springs 92.21 48 P **P** **00 49 14.2 +0.3**
baz=243
ISCO Idaho Springs 92.21 48 P **P** **00 49 14.6 +0.7**
baz=243

F24K Squaw Lake 92.30 12 P **P** **00 49 14.0 +0.7**
baz=209
TNCH TengChong 92.32 296 *e*P **P** **00 49 14.7 +0.2**
RLMT Red Lodge 92.32 42 P **P** **00 49 14.8 +0.7**
RLMT Red Lodge 92.32 42 P **P** **00 49 14.9 +0.8**
baz=241
E23K Chandalar 92.47 11 P **P** **00 49 14.4 +0.3**
baz=208
N23A Red Feather La 92.48 47 P **P** **00 49 16.1 +1.1**
N23A IAmb IAmb 00 49 16.8
comp=Z,8.6nm,1.1s
N23A Red Feather La 92.48 47 P **P** **00 49 15.5 +0.5**
baz=243
JCT Junction City 92.53 58 P **P** **00 49 15.0 -0.2**
JCT Junction City 92.53 58 P **P** **00 49 14.9 -0.2**
baz=246
JCT Junction City 92.53 58 P **P** **00 49 14.7 -0.5**
baz=246
H27K Steamboat Moun 92.53 14 P **P** **00 49 15.1 +0.8**
baz=215
I29M Ogilvie Camp, 92.61 16 P **P** **00 49 14.2 -0.5**
I29M IAmb IAmb 00 52 03.0
comp=Z,6.2nm,0.5s
I29M Ogilvie Camp, 92.61 16 P **P** **00 49 14.3 -0.4**
baz=218
LZH Lanzhou 92.64 308 ⇓P **P** **00 49 17.2 +1.5**
LZH pmax pmax
comp=Z,15nm,1.5s
E24K Your Creek 92.68 11 P **P** **00 49 15.5 +0.5**
baz=208
F25K Christian Rive 92.80 12 P **P** **00 49 16.4 +0.9**
baz=211
BMAR Burnt Mountain 92.87 13 P **P** **00 49 15.4 -0.5**
KVTX Kingsville 92.89 62 P **P** **00 49 17.1 +0.3**
baz=247
AMTX Amarillo 92.89 54 P **P** **00 49 17.3 +0.5**
baz=245
AMTX Amarillo 92.89 54 P **P** **00 49 17.0 +0.1**
baz=245
K22A Casper 92.90 45 P **P** **00 49 17.3 +0.6**
baz=243
K22A Casper 92.90 45 P **P** **00 49 17.2 +0.4**
baz=243
PHWY Pilot Hill 92.99 46 P **P** **00 49 16.7 -0.7**
D23K Nanushuk River 93.10 10 P **P** **00 49 17.8 +1.0**
baz=206
F26K Sheenjek River 93.19 13 P **P** **00 49 18.2 +0.9**
baz=212
E25K Arctic Village 93.27 12 P **P** **00 49 18.4 +0.8**
baz=211
EGMT Eagleton 93.45 39 P **P** **00 49 19.6 +0.6**
baz=241
735A Kenedy 93.47 60 P **P** **00 49 20.8 +1.3**
baz=247
ABTX Abilene, Hawle 93.52 56 P **P** **00 49 19.5 -0.1**
ABTX IAmb IAmb 00 49 20.9
comp=Z,7.2nm,0.8s
ABTX Abilene, Hawle 93.52 56 P **P** **00 49 19.7 +0.1**
baz=246
ABTX Abilene, Hawle 93.52 56 P **P** **00 49 19.2 -0.5**
baz=246
D24K Happy Valley 93.58 11 P **P** **00 49 19.2 +0.2**
baz=208
EPYK Eagle Plains 93.81 16 P **P** **00 49 20.2 0.0**
baz=219
KSCO Kaye Shedlock' 93.95 49 P **P** **00 49 21.6 0.0**
KSCO Kaye Shedlock' 93.95 49 P **P** **00 49 22.4 +0.8**
baz=245
KSCO Kaye Shedlock' 93.95 49 P **P** **00 49 22.3 +0.8**
baz=245
C24K Franklin Bluff 94.10 10 P **P** **00 49 22.1 +0.8**
baz=208
E27K Coleen River 94.13 13 P **P** **00 49 22.1 +0.5**
baz=215
D25K Kavik River 94.15 11 P **P** **00 49 21.7 +0.1**
baz=210
G30M tAoh Zraii Nji 94.41 16 P **P** **00 49 22.8 -0.1**
baz=220
A21K Barrow 94.44 7 P **P** **00 49 23.4 +0.6**
baz=201
C27K Jago River 94.91 12 P **P** **00 49 25.2 +0.2**
baz=213
C26K Camden Bay 94.93 11 P **P** **00 49 26.1 +1.0**
baz=212
LAO LASA Array 94.93 41 IAmb IAmb 00 49 27.5
comp=Z,7.4nm,0.9s
LAO LASA Array 94.93 41 P **P** **00 49 26.9 +1.1**
baz=243
LAO LASA Array 94.93 41 P **P** **00 49 26.5 +0.7**
baz=243
WHTX Lake Whitney, 94.97 58 P **P** **00 49 27.2 +1.0**
baz=247
WMOK Wichita Mounta 95.02 55 P **P** **00 49 28.1 +1.7**
baz=247
OGNE Ogallala 95.17 48 P **P** **00 49 28.0 +1.0**
baz=245
RSSD Black Hills 95.18 44 P **P** **00 49 26.6 -0.5**
RSSD IAmb IAmb 00 49 28.5
comp=Z,5.6nm,0.8s
RSSD Black Hills 95.18 44 P **P** **00 49 27.0 -0.1**
baz=244
RSSD Black Hills 95.18 44 P **P** **00 49 27.3 +0.2**
baz=244
F31M Tsiigehtchic 95.39 16 P **P** **00 49 27.1 -0.1**
baz=222,SNR=9.2
CBKS Cedar Bluff 95.92 51 P **P** **00 49 30.8 +0.4**
baz=247
SONM Songino Array 96.03 319 PKKPbc PKKPbc 01 06 15.3 -1.4
comp=Z,0.3nm,0.7s,baz=293,slow=2.7,SNR=3.8
INK Inuvik 96.09 16 P **P** **00 49 29.6 -0.7**
comp=Z,3.6nm,0.8s,baz=218,slow=3.4,SNR=14
comp=Z,3.6nm,0.8s
INK Inuvik 96.09 16 P **P** **00 49 29.9 -0.4**
baz=222
R32A Long Quarter, 96.51 51 P **P** **00 49 33.4 +0.4**
R32A IAmb IAmb 00 49 35.7
comp=Z,11nm,0.9s
R32A Long Quarter, 96.51 51 P **P** **00 49 33.4 +0.4**
baz=247
PB14 IPOC Station P 96.94 120 P **P** **00 49 35.3 -0.4**
PB14 IAmb IAmb 00 52 33.3
comp=Z,12nm,1.5s
DGMT Dagmar 96.95 40 P **P** **00 49 35.3 +0.6**
baz=245
DGMT Dagmar 96.95 40 P **P** **00 49 35.3 +0.6**
baz=245
T35B Sooner Cattle 97.55 53 P **P** **00 49 38.7 +1.0**
baz=248
TUL1 Leonard 97.72 55 P **P** **00 49 39.1 +0.6**
baz=248
YKA Yellowknife Ar 98.46 25 P Pdif 00 49 40.9 -0.1
comp=Z,1.1nm,0.7s,baz=246,slow=4.7,SNR=13
comp=Z,1.1nm,0.7s
ECSD EROS Data Cent 99.95 47 P **Pdif** **00 49 49.4 +1.2**
baz=249
A36M Sachs Harbour 100.69 15 P **Pdif** **00 49 51.2 +0.5**
baz=230
ZALV Zalesovo Beam 110.84 321 PKiKP **PKiKP** **00 54 30.9 -1.2**
comp=Z,2.5nm,0.6s,baz=104,slow=0.4,SNR=14
MKAR Makanchi Array 111.27 313 PKiKP **PKiKP** **00 54 32.2 -1.0**
comp=Z,1.0nm,0.4s,baz=190,slow=1.0,SNR=27
MKAR PP **PP** **00 55 27.8 +2.4**
comp=Z,0.4nm,0.7s,baz=101,slow=4.6,SNR=2.0
MKAR PKKPbc **PKKPbc** **01 05 31.1 -0.4**
comp=Z,1.0nm,0.7s,baz=274,slow=3.9,SNR=12
KURBB Kurchatov Arra 114.25 317 PKP PKPdf 00 54 37.5 -1.2
comp=Z,2.3nm,0.6s,baz=108,slow=1.8,SNR=20
TULEG Thule 116.05 14 *i* P **PKPdf** **00 54 39.5 -2.0**
FRB Frobisher Bay 118.76 28 PKP **PKPdf** **00 54 46.2 -0.8**
comp=Z,3.9nm,0.6s,baz=338,slow=2.8,SNR=16
KK31 Karatay Array 119.14 308 PKPdf **PKPdf** **00 54 47.5 -1.0**
NEEM North Greenlan 119.33 11 *i* P **PKPdf** **00 54 47.4 -0.8**
BDFB Brasilia 119.44 124 PKP **PKPdf** **00 54 49.6 -0.4**
comp=Z,3.3nm,0.9s,baz=208,slow=5.7,SNR=4.2
BRVK Borovoye 119.44 319 PKPdf **PKPdf** **00 54 48.1 -0.5**
KBL Kabul 119.44 298 PKPdf **PKPdf** **00 54 49.3 -0.3**
KULLO Kullorsuaq 119.45 15 *i* P **PKPdf** **00 54 46.3 -1.8**
NOR Nord 119.95 3 *i* P **PKPdf** **00 54 46.8 -2.2**
UPNV Upernavik 120.51 17 *i* P **PKPdf** **00 54 49.5 -0.7**
NUUG Nuugaatsiaq 121.89 18 *i* P **PKPdf** **00 54 52.1 -0.8**
SPITS Spitsbergen Ar 123.30 356 PKP **PKPdf** **00 54 55.2 -0.2**
comp=Z,16nm,0.7s,baz=81,slow=5.2,SNR=14
ILULI Ilulissat 123.63 20 *i* P **PKPdf** **00 54 55.4 -0.8**
BOSA Boshof 124.30 206 PKP **PKPdf** **00 54 58.5 -0.6**
comp=Z,1.9nm,0.8s,baz=254,slow=1.4,SNR=3.8
SFJD Kangerlussuaq 124.85 22 PKP **PKPdf** **00 54 57.0 -1.6**
comp=Z,3.2nm,0.5s,baz=86,slow=1.2,SNR=4.9

SUMG Summit 124.94 13 *i* P **PKPdf** **00 54 59.0 -0.2**
ARU Arti 125.68 325 PKPdf **PKPdf** **00 55 00.5 0.0**
DBG Daneborg 126.51 7 *i* P **PKPdf** **00 55 00.8 -0.8**
DY2G Dye2 126.61 21 *i* P **PKPdf** **00 55 01.7 -0.6**
GEYT Alibeck 128.46 302 PKP **PKPdf** **00 55 06.4 -0.1**
comp=Z,3.9nm,0.6s,baz=197,slow=1.5,SNR=9.4
GEYT SKPbc SKiKP 00 57 32.0 -15
comp=Z,2.7nm,0.8s,baz=208,slow=2.8,SNR=6.6
KIRV Kirov 129.60 329 PKP **PKPdf** **00 55 06.4 -1.5**
comp=Z,11nm,0.5s,baz=199,slow=1.6,SNR=9.3
KIRV SKPbc SKPbc 00 57 35.2 0.0
comp=Z,36nm,0.7s,baz=65,slow=0.5,SNR=20
ARA0 ARCESS Array S 130.17 349 *e*PKPdf **PKPdf** **00 55 08.4 -0.3**
ARA0 IAmb IAmb 00 55 10.2
comp=Z,224nm,1.9s
ARCES ARCESS Array B 130.17 349 PKP **PKPdf** **00 55 07.9 -0.9**
comp=Z,9.8nm,0.7s,baz=7.3,slow=1.3,SNR=29
ARCES SKPbc **SKPbc** **00 57 37.1 +0.1**
comp=Z,9.5nm,1.0s,baz=43,slow=4.1,SNR=4.2
KTK1 Kautokeino 131.02 349 *e*PKPdf **PKPdf** **00 55 09.6 -0.8**
FINES FINESS Array B 136.84 342 PKhKP PKPpre 00 55 09.5
comp=Z,1.1nm,0.4s,baz=34,slow=4.3,SNR=13
FINES PKP **PKPdf** **00 55 20.3 -1.1**
comp=Z,4.6nm,0.5s,baz=126,slow=5.0,SNR=14
FINES SKPbc **SKPbc** **00 57 59.8 +0.7**
comp=Z,3.4nm,0.9s,baz=70,slow=2.2,SNR=5.2
KMBO Kilima Mbogo 137.45 242 SKPbc **SKPbc** **00 58 02.5 -0.2**
baz=228,slow=24,SNR=3.8
KBZ Khabaz 138.95 312 SKPbc **SKPbc** **00 58 05.2 -0.4**
comp=Z,1.6nm,0.8s,baz=24,slow=16,SNR=2.7
DOMB Dombas 139.59 354 *e* PKPpre 00 55 19.4
NB2 NORSAR Subarra 140.32 352 PKP PKPpre 00 55 20.7
comp=Z,1.8nm,0.5s,baz=8.2,slow=3.0
NOA NORSAR Array B 140.32 352 PKhKP PKPpre 00 55 21.2
comp=Z,4.5nm,0.8s,baz=16,slow=4.6,SNR=15
NOA PKP **PKPdf** **00 55 28.9 +1.1**
comp=Z,2.0nm,0.6s,baz=14,slow=3.9,SNR=6.1
NC602 NORSAR Array S 140.57 352 *e* **PKPdf** **00 55 21.9 -6.3**
HFS Hagfors 140.82 350 PKhKP PKPpre 00 55 22.3
comp=Z,7.0nm,0.4s,baz=59,slow=2.5,SNR=98
IDID Didziasalis 141.45 336 *e*P PKPpre 00 55 19.5
MNK Minsk 141.61 334 *i* PKP **PKPdf** **00 55 28.2 -2.0**
comp=E,1.0nm,1.0s
MNK *i* PKP **PKPdf** **00 55 28.2 -2.0**
comp=N,19nm,0.6s
MNK *i* PKP **PKPdf** **00 55 28.2 -2.0**
comp=Z,11nm,0.7s,baz=223
MNK *i* PKiKP **PKiKP** **00 55 31.8 -1.5**
MNK *i* pPKP **pPKPdf** **00 57 47.0 0.0**
MNK *i* PP **PP** **00 58 40.4 -1.5**
MNK *i* PKS **PKSdf** **00 59 04.0 -1.8**
MNK *i* SKS **SKSdf** **01 01 41.6 -2.7**
MNK *i* PPP PPP 01 01 54.4
MNK *i* SKKS **SKKSdf** **01 11 03.1 -4.7**
MNK *i* SS **SS** **01 16 25.4 -0.7**
MNK *i* SSS SSS 01 21 54.8
MNK *i* LRM MLR 01 58 52.3
comp=N,201nm,14.4s
MNK *i* LRM MLR 01 59 17.7
comp=Z,69nm,13.6s
MNK *i* LRM MLR 01 59 23.6
comp=E,24nm,13.2s
IIGN Ignalina 141.61 337 *e*P PKPpre 00 55 19.1
NACGM Naroch 141.74 336 *e*PKP **PKPdf** **00 55 25.8 -4.7**
comp=Z,8.0nm,0.7s,baz=40
VIKU Vikbolandet 141.75 346 *e*P **PKPdf** **00 55 23.6 -6.8**
VSVD Vaisvydziai 141.93 339 *e*P **PKPdf** **00 55 27.0 -3.8**
PABE Paberze 142.29 338 *e*P **PKPdf** **00 55 28.1 -3.3**
BLS5 Blasjo 142.41 355 *e*PKPdf **PKPdf** **00 55 28.3 -3.3**
PBUR Paburge 142.54 340 *e*P **PKPdf** **00 55 27.8 -4.0**
MBAR Mbarara 142.96 237 **PKPdf** **00 55 33.4 -0.8**
HOMB Homborsund 143.35 353 *e*PKPbc PKPab 00 55 31.6 0.0
SNART Snartemo 143.41 354 *e*PKPbc PKPab 00 55 31.6 -0.3
AKASG Malin Array Be 143.67 329 PKP PKPbc 00 55 32.2 -0.9
comp=Z,8.3nm,0.3s,baz=39,slow=4.3,SNR=208
AKASG SKPbc **SKPbc** **00 58 17.4 +0.1**
comp=Z,2.4nm,0.8s,baz=40,slow=2.5,SNR=7.5
DEL Delary 144.23 347 *e*P PKPbc 00 55 34.2 -0.4
MCD Coleburn Disti 144.38 4 *e*P **PKPdf** **00 55 34.1 -0.9**
KPL Plockton 144.44 6 *e*P **PKPdf** **00 55 34.5 -0.6**
GAZ Gaziantep 144.99 304 PKPbc 00 55 38.1 +0.4
MUD Monsted U'grnd 145.03 352 *i* P **PKPbc** **00 55 37.0 -0.1**
COP Copenhagen 145.25 348 *e*P **PKPdf** **00 55 36.7 +0.1**
BSD Bornholm Skovb 145.25 346 *i* P **PKPdf** **00 55 37.0 +0.4**
BSD Bornholm Skovb 145.25 346 *e*P **PKPbc** **00 55 37.2 -0.6**
INVG Invergeldie, C 145.48 5 *e*P **PKPdf** **00 55 37.2 +0.2**
BNN Bunyan 145.53 307 **PKPbc** **00 55 39.5 +0.1**
SORM Soroca 145.77 326 ⇑P **PKPbc** **00 55 39.0 -0.5**
PURM Purcari 145.94 323 ⇑P **PKPbc** **00 55 40.1 +0.1**
ESY Stoneypath 146.07 3 *e*P **PKPbc** **00 55 39.6 -0.5**
MILM Milestii Mici 146.29 324 ⇑P **PKPbc** **00 55 40.7 -0.2**
GKP Gorka Klasztor 146.31 342 *e*PKP **PKPbc** **00 55 40.9 +0.1**
GKP Gorka Klasztor 146.31 342 *e*P **PKPbc** **00 55 41.0 +0.1**
BEL Belsk 146.38 337 *e*PKP **PKPbc** **00 55 41.5 +0.4**
EKA Eskdalemuir Ar 146.63 4 PKPbc **PKPbc** **00 55 41.1 -0.6**
comp=Z,13nm,0.7s,baz=341,slow=2.2,SNR=24
ESK Eskdalemuir 146.64 4 *e*P **PKPbc** **00 55 41.1 -0.5**
NEWG New Galloway 146.76 5 *e*P **PKPbc** **00 55 41.0 -1.0**
BRTR Keskin Array B 146.83 310 PKPbc **PKPbc** **00 55 42.6 -0.3**
comp=Z,7.4nm,0.7s,baz=140,slow=5.5,SNR=45
BRTR Keskin Array B 146.83 310 **PKPbc** **00 55 42.5 -0.4**
LEOM Leova 146.87 324 ⇓P **PKPbc** **00 55 42.4 -0.2**
GAL1 Galloway 146.97 6 *e*P **PKPbc** **00 55 42.2 -0.3**
VASR Vaslui 147.01 325 ⇑P **PKPbc** **00 55 43.1 +0.2**
EDMD Edmundbyers 147.19 3 *e*P **PKPbc** **00 55 42.2 -0.9**
BSEG Bad Segeberg 147.29 349 *e*PKPbc **PKPbc** **00 55 43.6 +0.2**
baz=18,slow=2.3
TLCR 147.32 322 ⇑P **PKPbc** **00 55 43.3 -0.5**
VLDR Vladesti 147.34 323 ⇑P **PKPbc** **00 55 44.1 +0.3**
ANTO Ankara 147.37 310 **PKPbc** **00 55 44.0 -0.2**
BR231 Keskin MP Arra 147.40 310 **PKPbc** **00 55 44.2 -0.1**
GIUM Giurgiulesti 147.49 323 ⇑P **PKPbc** **00 55 44.2 0.0**
SCTR Scanteiesti 147.50 323 ⇑P **PKPbc** **00 55 44.8 +0.6**
GHRR 147.58 324 ⇑P **PKiKP** **00 55 45.4 -0.5**
GDLE Glaisdale, N Y 147.64 2 *e*P **PKPbc** **00 55 44.1 -0.2**
SLCR Slobozia Conac 147.67 323 ⇑P **PKPbc** **00 55 45.3 +0.7**
WIM Isle of Man 147.69 6 *e*P **PKPbc** **00 55 44.2 -0.2**
BURAR Bucovina Array 147.69 328 ⇑P **PKPbc** **00 55 45.4 +0.6**
TESR Tescani 147.70 325 ⇑P **PKPbc** **00 55 44.5 -0.3**
IZVR Izvoarele 147.70 323 ⇑P **PKPbc** **00 55 45.1 +0.3**
BIZ Bicaz 147.70 326 ⇑P **PKPab** 00 55 59.0 +10
CFR Carcaliu 147.71 322 ⇑P **PKPbc** **00 55 44.9 +0.1**
TPGR Topolog 147.74 321 ⇑P **PKPbc** **00 55 45.1 +0.2**
ODBI Odobesti 147.96 324 ⇑P **PKiKP** **00 55 46.3 -0.4**
TIRR Tirgusor 147.97 321 ⇑P **PKPbc** **00 55 44.4 -1.0**
OJC Ojcow 148.06 336 *e*PKP **PKPbc** **00 55 45.6 +0.1**
EFOR EFORIE 148.06 320 ⇓P **PKPab** **00 55 57.7 +6.9**
VRI Vrincioaia 148.07 324 ⇑P **PKPbc** **00 55 45.6 -0.2**
HPK Haverah Park 148.08 2 *e*P **PKPbc** **00 55 45.1 -0.3**
HARR Harsova 148.12 322 ⇑P **PKPbc** **00 55 46.0 +0.2**
PLOR Plostina 148.12 324 ⇑P **PKPdf** **00 55 43.7 +2.0**
MFTR Murfatlar 148.13 320 ⇑P **PKPbc** **00 55 46.0 +0.1**
TLBR Topalu 148.14 321 ⇑P **PKPbc** **00 55 46.2 +0.3**
STHS Stebnicka Huta 148.14 334 *e*PKP **PKPbc** **00 55 45.5 -0.3**
MDUB Mudurnu 148.23 312 **PKPbc** **00 55 46.1 -0.3**
MANR Mangalia 148.24 320 ⇓P **PKPbc** **00 55 46.6 +0.4**
BISRR Bisoca 148.28 324 ⇑P **PKiKP** **00 55 47.0 -0.5**
COVR Voineasa-Covas 148.37 325 ⇑P **PKPbc** **00 55 46.2 -0.3**
OZUR 148.43 326 ⇑P **PKPbc** **00 55 47.1 +0.4**
WPS Cemaes, Angles 148.44 6 *e*P **PKPbc** **00 55 46.5 +0.2**
WME Myndd Eilian 148.47 6 *e*P **PKPbc** **00 55 46.0 -0.4**
BMR Baia Mare 148.47 330 ⇑P **PKPbc** **00 55 46.4 -0.3**
ARCR ARCALIA 148.48 328 ⇑P **PKPbc** **00 55 47.1 +0.5**
AMRR Amara 148.51 322 ⇑P **PKPbc** **00 55 47.2 +0.5**
NIE Niedzica 148.52 335 *e*PKP **PKiKP** **00 55 47.5 -0.3**
ICOR Ion Corvin 148.53 321 ⇓P **PKPbc** **00 55 45.7 -1.1**
WLF1 Llynfaes 148.56 6 *e*P **PKPbc** **00 55 47.0 +0.4**
TRPA Tarpa 148.57 331 ⇑P **PKPbc** **00 55 46.7 -0.1**
NEHR Nehoiu 148.58 324 ⇑P **PKPbc** **00 55 46.4 -0.6**
YRC Rhoscolyn 148.58 6 *e*P **PKPbc** **00 55 46.0 -0.6**
RETH Rethem/Aller, 148.61 350 *e*PKPbc **PKPbc** **00 55 46.9 +0.1**
baz=18,slow=2.3
LBWR Ladybower, Pea 148.63 3 *e*P **PKPbc** **00 55 45.9 -0.9**
ISR Istrita 148.64 323 ⇑P **PKPbc** **00 55 46.9 -0.3**
FLTG Flechtingen 148.65 347 *e*PKPbc **PKPbc** **00 55 46.8 -0.1**
baz=18,slow=2.3
FLTG *e*PKPab **PKPab** **00 55 52.9 0.0**
baz=17,slow=4.3
NRDL Niedersach Rie 148.71 349 *e*PKPbc **PKPbc** **00 55 47.2 +0.3**
baz=18,slow=2.3
NRDL *e*PKPab **PKPab** **00 55 53.3 +0.2**
baz=17,slow=4.3
DOPR Dopca 148.72 326 ⇑P **PKiKP** **00 55 47.8 -0.5**

KSP	Ksiaz	148.72	341	ePKP		PKiKP	00 55 47.7	-0.5
MLR	Muntele Rosu	148.73	324	⇑P		PKPbc	00 55 47.1	-0.5
RASA	Rasa	148.85	322	⇑P		PKPbc	00 55 47.8	+0.1
LEHL	Lehliu	148.88	322	⇓P		PKPbc	00 55 47.1	-0.6
STNC	Stoke	148.92	3	eP		PKPbc	00 55 47.6	+0.1
ASSE	Asse, Remlinge	148.95	348	ePKPbc		PKPbc	00 55 47.8	+0.2
	baz=18,slow=2.3							
SECR		148.96	324	⇑P		PKPbc	00 55 47.7	-0.2
OKC	Ostrava-Krasne	148.97	338	⇑ePKP		PKPbc	00 55 47.8	0.0
OSTC	Ostas	149.00	340	⇑ePKP		PKiKP	00 55 48.4	-0.3
FOEL	Foel Wylfa	149.06	4	eP		PKPbc	00 55 47.4	-0.5
LLW	Llanuwychllyn	149.06	5	eP		PKPbc	00 55 47.2	-0.7
CBBR	Cluj-Babes-Bol	149.10	328	⇑P		PKPbc	00 55 48.4	+0.2
UPC	Upice	149.10	341	⇑ePKP		PKiKP	00 55 48.5	-0.4
MESR	Meseseni	149.11	330	⇑P		PKPbc	00 55 48.3	+0.2
CJR	Cluj-Napoca	149.11	328	⇑P		PKiKP	00 55 48.7	-0.4
DPC	Dobruska-Polom	149.14	340	⇑ePKP		PKiKP	00 55 48.9	-0.2
DPC				epPKP		pPKPab	00 58 08.6	+3.1
KECS	Kecovo	149.18	334	ePKP		PKPbc	00 55 48.5	+0.2
CLL	Collm	149.21	345	⇑iPKP		PKPbc	00 55 48.5	+0.2
	comp=Z,65nm,0.9s							
CLL				iPKPab		PKPab	00 55 55.1	-0.2
	comp=Z,19nm,0.7s							
CLL				epPKPbc		pPKPbc	00 58 03.0	-0.5
CLL				Lm		MLR	02 45 00.0	
	comp=N,200nm,19.8s							
CLL				Lm		MLR	02 45 00.0	
	comp=E,200nm,20.9s							
CLL				Lm		MLR	02 45 00.0	
	comp=Z,400nm,19.7s							
CLL	Collm	149.21	345	ePKPbc		PKPbc	00 55 48.3	+0.1
	baz=18,slow=2.3							
CLL				ePKPab		PKPab	00 55 55.5	+0.3
	baz=17,slow=4.3							
KRLC	Kraliky	149.23	339	⇑ePKP		PKPbc	00 55 48.8	+0.3
KRLC				epPKP		pPKPab	00 58 09.7	+3.9
MORC	Moravsky Berou	149.23	338	⇑P		PKPbc	00 55 48.4	0.0
MORC	Moravsky Berou	149.23	338	ePKP		PKPbc	00 55 48.7	+0.2
VOIR		149.25	325	⇑P		PKiKP	00 55 51.0	+1.5
IBBN	Ibbenburen	149.27	351	ePKPbc		PKPbc	00 55 48.5	+0.2
	baz=18,slow=2.3							
CLZ	Clausthal	149.29	348	ePKPbc		PKPbc	00 55 48.8	+0.3
	baz=18,slow=2.3							
BRG	Berggiesshubel	149.37	343	ePKPbc		PKPbc	00 55 48.9	+0.3
	baz=18,slow=2.3							
BRG				ePKPab		PKPab	00 55 56.5	+0.5
	baz=17,slow=4.3							
BRG	Berggiesshubel	149.37	343	⇑iPKP		PKiKP	00 55 49.1	-0.4
BRG	Berggiesshubel	149.37	343	Amp			00 55 50.0	
	comp=Z,45nm,0.9s							
BRG	Berggiesshubel	149.37	343	PKPab		PKPab	00 55 56.5	+0.5
BRG	Berggiesshubel	149.37	343	Amp			00 55 56.8	
	comp=Z,20nm,0.8s							
MARR	Marisel-Cluj	149.37	329	⇑P		PKPbc	00 55 48.6	-0.3
MTUR	Matau	149.38	325	⇑P		PKPbc	00 55 48.8	-0.2
HLM1	Long Mynd	149.45	4	eP		PKPbc	00 55 48.3	-0.6
FBE	Freiberg	149.48	344	ePKPbc		PKiKP	00 55 49.4	-0.2
	baz=18,slow=2.3							
DRGR		149.48	329	⇓P		PKPbc	00 55 48.9	-0.3
MAUC	Maruska	149.48	338	⇑ePKP		PKiKP	00 55 49.8	0.0
PVCC	Panska Ves	149.51	342	⇑ePKP		PKiKP	00 55 49.5	-0.2
ARR	Arges	149.51	325	⇑P		PKiKP	00 55 50.5	+0.5
SGRR	Singureni	149.52	323	⇑P		PKPbc	00 55 48.7	-0.5
NEUB	Neuenburg	149.59	346	ePKPbc		PKPbc	00 55 49.4	+0.2
	baz=18,slow=2.3							
NEUB				ePKPab		PKPab	00 55 57.2	+0.4
	baz=17,slow=4.3							
RAZG	Razgrad	149.61	321	⇑P		PKPbc	00 55 49.2	-0.3
GTTG	Gottingen	149.65	348	ePKPbc		PKPbc	00 55 49.5	+0.2
	baz=18,slow=2.3							
LPW	Lampeter	149.76	6	eP		PKPbc	00 55 49.1	-0.5
ISP	Isparta	149.81	308			PKPbc	00 55 49.0	-1.3
VYHS	Vyhne	149.83	335	ePKP		PKiKP	00 55 50.2	-0.3
VYHS				e			00 55 58.3	
PSZ	Piszkesteto	149.87	334	⇑P		PKPbc	00 55 50.1	0.0
HUMR	Humele	149.88	324	⇓P		PKPbc	00 55 48.5	-1.6
VRAC	Vranov	149.96	339	⇑P		PKPbc	00 55 50.3	+0.2
VRAC	Vranov	149.96	339	ePKP		PKPbc	00 55 50.3	+0.2
VRAC				e			00 55 59.2	
MCH1	Michaelchurch	149.96	4	eP		PKPbc	00 55 49.1	-0.9
JAVC	Velka Javorina	149.96	337	ePKP		PKiKP	00 55 51.5	+0.7
ELMS	Elmsett, Ipswi	149.99	359	eP		PKPbc	00 55 49.5	-0.5
GOPC	GO Pecny, Ondr	150.00	341	⇑ePKP		PKPbc	00 55 50.5	+0.3
COPA	Copaceanca	150.00	323	⇑P		PKPbc	00 55 49.7	-0.6
PRU	Pruhonice	150.00	342	⇑ePKP		PKPbc	00 55 50.4	+0.2
PRU				ePKPAB		PKPab	00 55 58.8	+0.2
DEV	Deva	150.04	328	⇓P		PKPbc	00 55 50.4	-0.1
MOX	Moxa	150.16	346	ePKPbc		PKPbc	00 55 50.6	+0.1
	baz=18,slow=2.3							
MOX				ePKPab		PKPab	00 55 59.5	+0.3
	baz=17,slow=4.3							
TANN	Tannenbergstha	150.17	345	ePKPbc		PKPbc	00 55 50.8	+0.1
	baz=18,slow=2.3							
WERD	Werda	150.18	345	ePKPbc		PKPbc	00 55 50.8	+0.1
	baz=18,slow=2.3							
WERD				ePKPab		PKPab	00 55 59.9	+0.5
	baz=17,slow=4.3							
PLN	Plauen	150.18	345	ePKPbc		PKPbc	00 55 50.7	+0.1
	baz=18,slow=2.3							
BUG	Bochum--Univer	150.18	352	ePKPbc		PKPbc	00 55 50.4	-0.1
	baz=18,slow=2.3							
BSZH	Besenyszg	150.20	333	⇑P		PKiKP	00 55 51.5	+0.2
ZIMR		150.21	322	⇑P		PKPbc	00 55 50.7	-0.2
STRD	Stroud	150.23	3	eP		PKPbc	00 55 50.1	-0.6
KRUC	Moravsky	150.24	339	ePKP		PKPbc	00 55 50.9	+0.1
KRUC				e			00 56 00.0	
KASTN	Kahler Asten	150.25	350	ePKPbc		PKPbc	00 55 50.8	0.0
	baz=18,slow=2.3							
GUNZ	Gunzen	150.25	345	ePKPbc		PKiKP	00 55 51.1	-0.3
	baz=18,slow=2.3							
GUNZ				ePKPab		PKPab	00 56 00.1	+0.4
	baz=17,slow=4.3							
WERN	Wernitzgruen	150.31	345	ePKPbc		PKiKP	00 55 51.3	-0.2
	baz=18,slow=2.3							
WERN				ePKPab		PKPab	00 56 00.7	+0.8
	baz=17,slow=4.3							
TREC	Trest	150.33	340	⇑ePKP		PKPbc	00 55 51.2	+0.2
UBBA	Unterbreizbach	150.33	348	ePKPbc		PKiKP	00 55 51.1	-0.2
	baz=18,slow=2.3							
NKC	Novy Kostel	150.34	345	⇑ePKP		PKiKP	00 55 51.3	-0.2
SIRR	Siria	150.36	330	⇑P		PKiKP	00 55 51.4	-0.2
GZR	Gura Zlata	150.45	327	⇑P		PKPbc	00 55 50.5	-1.0
SURR	Surduc	150.51	328	⇑P		PKPbc	00 55 51.2	-0.3
MODS	Modra-Piesok	150.51	337	ePKP		PKiKP	00 55 52.2	+0.3
VLAD	Vladila	150.53	324	⇑P		PKiKP	00 55 52.0	-0.1
MANZ	Manzenberg	150.65	345	ePKPbc		PKPbc	00 55 51.9	+0.2
	baz=18,slow=2.3							
MANZ				ePKPab		PKPab	00 56 01.8	+0.4
	baz=17,slow=4.3							
SRE	Strehaia	150.74	326	⇑P		PKiKP	00 55 52.3	-0.2
WOL	Wolverton	150.74	2	eP		PKPbc	00 55 51.5	-0.3
PLVB	Pleven	150.81	322	⇑P		PKPbc	00 55 52.4	+0.1
HTL	Hartland	150.82	7	eP		PKPbc	00 55 51.5	-0.5
ROTZ	Rotzenmuhle	150.83	344	ePKPbc		PKPbc	00 55 52.2	0.0
	baz=18,slow=2.3							
BZS	Buzias	150.86	329	⇑P		PKPbc	00 55 52.2	-0.2
ELSH	Elham, Standar	150.93	359	eP		PKiKP	00 55 52.5	-0.2
HERR	Herculane	150.99	327	⇑P		PKPbc	00 55 51.6	-1.0
KHC	Kasperske Hory	151.05	342	PKPbc		PKiKP	00 55 53.1	+0.1
KHC				PKPab		PKPab	00 56 03.9	+0.8
KHC	Kasperske Hory	151.05	342	ePKPDF		PKPdf	00 55 46.2	0.0
KHC				⇑ePKP		PKPbc	00 55 52.8	+0.1
KHC				ePKPAB		PKPab	00 56 03.4	+0.3
BAIL	Bailesti	151.10	325	⇑P		PKPbc	00 55 52.9	0.0
CKRC	Cesky Krumlov	151.11	341	ePKPDF		PKPdf	00 55 47.5	+1.2
CKRC				⇑ePKP		PKiKP	00 55 54.1	+0.9
CKRC				ePKPAB		PKPab	00 56 04.4	+1.0
CKRC				epPKP		pPKPab	00 58 12.8	-0.5
GRF	Grafenberg Arr	151.14	346	ePKPbc		PKiKP	00 55 53.0	-0.1
	baz=18,slow=2.3							
GRF				ePKPab		PKPab	00 56 04.3	+0.9
	baz=17,slow=4.3							
GRF				epPKPbc		pPKPbc	00 58 08.5	-0.4
GRFO	Grafenberg	151.14	346			PKiKP	00 55 53.4	+0.2
GRFO				PKPab		PKPab	00 56 03.6	+0.2
MEM	Membach	151.16	353	dPKP		PKPbc	00 55 52.5	-0.3
BTNL	Ternell	151.17	353	dPKP		PKPbc	00 55 52.8	-0.1
TNS	Taunus Mts	151.19	349	ePKPbc		PKPbc	00 55 52.9	-0.1
	baz=18,slow=2.3							
TNS				ePKPab		PKPab	00 56 03.8	+0.2
	baz=17,slow=4.3							
SBD	Saint Breward	151.22	7	eP		PKPbc	00 55 52.6	-0.4
BSTI	Sart Tilman	151.23	353	dPKP		PKPbc	00 55 53.1	+0.1
BANR	Banloc	151.26	329	⇑P		PKiKP	00 55 53.3	-0.1
GEC2	GERESS Array S	151.27	342	ePKPbc		PKPbc	00 55 53.1	-0.1
	baz=18,slow=2.3							
GERES	GERESS Array B	151.27	342	PKP		PKPdf	00 55 45.8	-0.8
	comp=Z,0.7nm,0.7s,baz=48,slow=2.0,SNR=7.5							
GERES				PKPbc		PKPbc	00 55 53.2	-0.1
	comp=Z,7.2nm,0.6s,baz=29,slow=2.3,SNR=46							
GERES				PKPab		PKPab	00 56 04.0	-0.1
	comp=Z,2.1nm,0.6s,baz=58,slow=3.3,SNR=6.3							
CONA	Conrad Observa	151.39	338	iPKP		PKiKP	00 55 53.7	-0.1
	comp=Z,18nm,0.7s,SNR=9.3							
CONA				iPKP		PKPab	00 56 05.3	+0.6
	comp=Z,6.3nm,0.6s							
CONA				epPKP		pPKPab	00 58 13.6	-1.0
	comp=Z,11nm,1.2s							
BHOU	Houvegnez	151.41	353	dPKP		PKiKP	00 55 53.6	-0.1
BHOU				dPKPab		PKPab	00 56 04.5	0.0
MDVR	Moldovita	151.41	328	⇑P		PKPbc	00 55 52.1	-1.6
DYA	Yadsworthy	151.43	6	eP		PKPbc	00 55 52.9	-0.6
RONA	Rosalia, Austr	151.44	337	iPKP		PKiKP	00 55 53.8	-0.1
	comp=Z,21nm,0.5s,SNR=12							
RONA				epPKiKP		pPKiKP	00 58 10.8	+0.5
	comp=Z,6.8nm,0.9s							
BGES	Gesves	151.48	354	dPKPbc		PKPbc	00 55 53.2	-0.3
BGES				dPKPab		PKPab	00 56 04.0	-0.8
BMRD	Maredsous	151.59	354	dPKP		PKPbc	00 55 53.6	-0.2
BMRD				dPKPab		PKPab	00 56 04.7	-0.6
RCHB	Rochefort	151.69	354	dPKP		PKPbc	00 55 53.8	-0.2
DOU	Dourbes	151.81	355	dPKP		PKPbc	00 55 54.3	0.0
DOU				dPKPab		PKPab	00 56 05.7	-0.5
MOA	Molln	151.99	340	ePKP		PKPbc	00 55 54.2	-0.7
	comp=Z,5.3nm,0.6s							
MOA				ePKP		PKPab	00 56 07.2	+0.1
	comp=Z,6.0nm,1.1s							
MOA				epPKiKP		pPKiKP	00 58 13.2	+2.0
	comp=Z,4.7nm,1.2s							
WLF	Walferdange	152.07	352	dPKP		PKiKP	00 55 55.1	+0.1
WLF				dPKPab		PKPab	00 56 06.5	-0.9
WLF	Walferdange	152.07	352	ePKPbc		PKiKP	00 55 55.2	+0.1
	baz=18,slow=2.3							
WLF				ePKPab		PKPab	00 56 07.9	+0.5
	baz=17,slow=4.3							
ARSA	Arzberg	152.09	338	ePKP		PKPbc	00 55 54.5	-0.6
	comp=Z,2.9nm,0.7s							
ARSA				iPKP		PKPab	00 56 06.5	-1.1
	comp=Z,4.8nm,1.3s							
ARSA				iPKP		pPKPab	00 58 15.5	-1.9
	comp=Z,4.7nm,1.2s							
BOVS	Bovan	152.23	326	⇑P		PKPbc	00 55 54.6	-0.8
BIOA	Bad Ischl, Aus	152.32	341	ePKP		PKPbc	00 55 55.0	-0.6
	comp=Z,3.3nm,0.5s,SNR=4.2							
BIOA				iPKP		PKPab	00 56 09.6	+1.0
	comp=Z,8.4nm,0.5s							
BIOA				epPKP		pPKPbc	00 58 09.5	-1.9
	comp=Z,1.7nm,0.7s							
STU	Stuttgart	152.44	348	ePKPbc		PKiKP	00 55 55.8	-0.1
	baz=18,slow=2.3							
STU				ePKPab		PKPab	00 56 09.2	+0.2
	baz=17,slow=4.3							
FUR	Furstenfeldbru	152.55	344	ePKPbc		PKPbc	00 55 55.8	-0.2
	baz=18,slow=2.3							
FUR				ePKPab		PKPab	00 56 10.2	+0.8
	baz=17,slow=4.3							
SOKA	Soboth	152.76	338	ePKP		PKPbc	00 55 55.8	-0.8
	comp=Z,8.1nm,1.1s,SNR=5.7							
SOKA				iPKP		PKPab	00 56 10.5	0.0
	comp=Z,7.2nm,1.0s							
SOKA				epPKP		pPKPab	00 58 16.6	-3.6
	comp=Z,7.4nm,1.2s							
JSA	Saint Aubin	152.81	4	eP		PKPbc	00 55 56.2	-0.2
KBA	Koelnbreinsper	152.96	341	iPKP		PKPbc	00 55 56.5	-0.6
	comp=Z,8.3nm,1.0s							
KBA				ePKP		PKPab	00 56 12.1	+0.7
	comp=Z,3.0nm,0.5s							
KBA				iPKP		pPKPbc	00 58 12.7	-0.6
	comp=Z,8.1nm,1.2s							
BFO	Black Forest	153.03	349			PKPbc	00 55 56.8	-0.3
BFO				PKPab		PKPab	00 56 10.9	-0.6
BFO	Black Forest	153.03	349	ePKPbc		PKPbc	00 55 56.8	-0.3
	baz=18,slow=2.3							
BFO				ePKPab		PKPab	00 56 11.5	0.0
	baz=17,slow=4.3							
OBKA	Obir	153.07	338	ePKP		PKPbc	00 55 56.8	-0.5
	comp=Z,4.0nm,0.6s							
OBKA				iPKP		PKPab	00 56 11.9	+0.1
	comp=Z,3.3nm,0.7s							
OBKA				epPKP		pPKPab	00 58 19.7	-1.8
	comp=Z,11nm,1.6s							
WATA	Walderalm	153.24	343	iPKP		PKPbc	00 55 57.1	-0.6
	comp=Z,4.7nm,0.5s							
WATA				iPKP		PKPab	00 56 12.9	+0.3
	comp=Z,4.0nm,0.5s							
WATA				epPKiKP		pPKPbc	00 58 13.9	+0.3
	comp=Z,7.2nm,1.0s							
MYKA	Terra Mystica	153.26	340	ePKP		PKPbc	00 55 56.5	-1.2
	comp=Z,4.8nm,0.7s							
MYKA				iPKP		PKPab	00 56 11.7	-1.0
	comp=Z,4.3nm,0.5s							
MYKA				epPKiKP		pPKiKP	00 58 16.0	+2.0
	comp=Z,1.4nm,0.5s							
UBR	Ueberruh	153.28	346	ePKPdf		PKPdf	00 55 49.6	0.0
UBR				ePKPbc		PKPbc	00 55 57.2	-0.5
	baz=18,slow=2.3							
WTTA	Wattenberg	153.28	343	ePKP		PKPbc	00 55 57.5	-0.4
	comp=Z,7.4nm,0.5s,SNR=7.6							
WTTA				ePKP		PKPab	00 56 13.3	+0.4
	comp=Z,11nm,0.5s							
WTTA				epPKP		pPKPbc	00 58 13.3	-0.5
	comp=Z,7.4nm,1.2s							
RETA	Reutte	153.31	344	iPKP		PKPbc	00 55 57.5	-0.2
	comp=Z,6.5nm,1.1s							
RETA				ePKP		PKPab	00 56 12.9	+0.1
	comp=Z,5.5nm,0.6s,SNR=5.7							
MOTA	Moosalm	153.35	344	iPKP		PKPdf	00 55 49.3	-0.5
	comp=Z,8.1nm,1.1s							
MOTA				iPKP		PKPbc	00 55 57.4	-0.6
	comp=Z,3.0nm,0.5s							
MOTA				ePKP		PKPab	00 56 13.3	+0.2
	comp=Z,21nm,1.3s,SNR=4.6							
MOTA				epPKiKP		pPKiKP	00 58 16.3	+1.8
	comp=Z,7.8nm,1.2s							
VNDS	Vrh nad Dolski	153.37	338	iPKPbc		PKPbc	00 55 57.5	-0.4
SQTA	Sankt Quirin	153.44	344	iPKP		PKPdf	00 55 49.4	-0.5
	comp=Z,3.4nm,0.7s							
SQTA				iPKP		PKPbc	00 55 57.6	-0.5
	comp=Z,5.0nm,0.6s							
SQTA				ePKP		PKPab	00 56 13.8	+0.3
	comp=Z,4.9nm,0.6s							
SQTA				epPKiKP		pPKiKP	00 58 14.9	+0.2
	comp=Z,8.1nm,1.4s							
LJU	Ljubljana	153.48	338	iPKPbc		PKPbc	00 55 57.8	-0.3
ABTA	Abfaltersbach	153.51	341	iPKP		PKPdf	00 55 49.0	-0.9
	comp=Z,7.4nm,0.9s							
ABTA				iPKP		PKPbc	00 55 57.2	-1.0
	comp=Z,8.6nm,0.6s							
ABTA				iPKP		PKPab	00 56 13.2	-0.5
	comp=Z,8.6nm,0.6s							
ABTA				epPKP		pPKPbc	00 58 13.6	-0.7
	comp=Z,7.9nm,1.0s							
DAVA	Damuels	153.70	346	ePKP		PKPbc	00 55 58.7	0.0
	comp=Z,0.9nm,0.4s							
DAVA				ePKP		PKPab	00 56 14.6	0.0
	comp=Z,8.1nm,0.7s,SNR=6.1							
FETA	Feichten	153.75	344	ePKP		PKPdf	00 55 50.1	-0.3
	comp=Z,6.8nm,0.8s,SNR=6.9							
FETA				iPKP		PKPab	00 56 15.4	+0.6
	comp=Z,5.7nm,1.0s							
FETA				epPKiKP		pPKPbc	00 58 15.1	-0.1
	comp=Z,3.6nm,1.0s							
STAL	STALIGIAL	153.89	341	PKPdf		PKPdf	00 55 49.0	-1.4
STAL				PKPab		PKPab	00 56 14.0	-1.3
CIMO	Cimolais	153.92	341	PKPdf		PKPdf	00 55 49.4	-1.1
FUORN	Ofenpass-Fuorn	154.24	345	PKPbc		PKPbc	00 56 00.3	+0.3
FUORN				PKPab		PKPab	00 56 16.6	-0.4
PBRG	Braganca	159.35	16	ePKPab		PKPab	00 56 39.5	+0.4
POLO	Lamas de Olo	159.47	18	ePKPdf		PKPdf	00 55 58.8	+1.1
POLO	Lamas de Olo	159.47	18	ePKPab		PKPab	00 56 40.1	+0.4
PVRL	Vila Real	159.58	18	ePKPdf		PKPdf	00 55 55.9	-1.9
PVRL	Vila Real	159.58	18	ePKPab		PKPab	00 56 40.6	+0.5
MVO	Moncorvo	159.87	17	ePKPdf		PKPdf	00 55 59.0	+0.9
MVO	Moncorvo	159.87	17	ePKPab		PKPab	00 56 41.9	+0.5
MTE	Manteigas	160.44	19	ePKPdf		PKPdf	00 55 59.5	+0.7
MTE	Manteigas	160.44	19	ePKPab		PKPab	00 56 44.0	+0.1
PCAS	Casmilo, Conde	160.45	21	ePKPab		PKPab	00 56 44.1	+0.2
PSBE	So Bento	160.83	23	ePKPab		PKPab	00 56 45.4	-0.2
PCBR	Castelo Branco	160.97	19	ePKPdf		PKPdf	00 56 00.0	+0.8
PCBR	Castelo Branco	160.97	19	ePKPab		PKPab	00 56 45.1	-1.0
PMAFR	Mafra	161.14	24	ePKPab		PKPab	00 56 46.5	-0.5
PMTG	Montargil	161.42	22	ePKPab		PKPab	00 56 47.8	-0.4
PESTR	Estremoz	161.82	21	ePKPab		PKPab	00 56 49.8	-0.1
EVO	Evora	161.98	22	ePKPdf		PKPdf	00 56 01.3	+1.0
EVO	Evora	161.98	22	ePKPab		PKPab	00 56 48.9	-1.7
ESDC	Sonseca Array	161.99	11	PKPab		PKPab	00 56 50.2	-0.5
	comp=Z,5.0nm,1.0s,baz=338,slow=4.6,SNR=19							
ESDC	Sonseca Array	161.99	11	PKPab		PKPab	00 56 50.5	-0.2
PNCL	Nicolau / Gran	162.16	24	ePKPdf		PKPdf	00 56 01.4	+0.9
PNCL	Nicolau / Gran	162.16	24	ePKPab		PKPab	00 56 51.4	0.0
PBEJ	Beja	162.48	23	ePKPdf		PKPdf	00 56 02.1	+1.3
PBEJ	Beja	162.48	23	ePKPab		PKPab	00 56 52.8	-0.1
PBAR	Barrancos	162.63	20	ePKPdf		PKPdf	00 56 01.4	+0.4
PBAR	Barrancos	162.63	20	ePKPab		PKPab	00 56 53.5	0.0
PCVE	Castro Verde	162.77	24	ePKPab		PKPab	00 56 54.1	0.0
MORF	Marmelete	162.82	26	ePKPdf		PKPdf	00 56 02.5	+1.3
MORF	Marmelete	162.82	26	ePKPab		PKPab	00 56 54.6	+0.2
PVAQ	Vaqueiros	163.09	23	ePKPdf		PKPdf	00 56 02.3	+0.9
PVAQ	Vaqueiros	163.09	23	ePKPab		PKPab	00 56 55.9	+0.4

*IDC **09** 00:40:27.3±1.1,29.˚61S×71.˚71W,h0km,mb4.2/3, mbtmp4.1/7,ML4.1/4,Error ellipse: s-maj=35.0km s-min=25.7km az=94.0*
*NEIC **09** 00:40:35.0±1.9,29.˚66S±0.˚04×71.˚43W±0.˚06,h44km±11km, mb4.3/5,ML4.1(GUC),Error ellipse: s-maj=8.7km s-min=3.7km az=120.0*
*GUC **09** 00:40:35.6±0.7,29.˚69S×71.˚18W,h45km±2km,ML4.1*
*VAO **09** 00:40:38.0±4.7,29.˚44S×72.˚91W,h10km,mb4.3*
ISC 09 00:40:35.0±0.7,29.˚65S±0.˚03×71.˚39W±0.˚06,h47km±6km, n97,σ1s25/107,mb4.4/5,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CO05	La Serena	0.29	154		Pn	00 40 44.1	+0.3	
CO05				Sn	Sn	00 40 50.2	+0.1	
CO05	La Serena	0.29	154	⇑iP	Pn	00 40 44.1	+0.3	
CO05				eS	Sn	00 40 49.9	-0.2	
GO04	Tololo Observa	0.73	135		Pn	00 40 48.8	-0.5	
GO04				Sn	Sn	00 40 58.1	-1.4	
GO04	Tololo Observa	0.73	135	iP	Pn	00 40 48.5	-0.7	
GO04				eS	Sn	00 40 58.0	-1.6	
LCO	Las Campanas	0.88	43		Pn	00 40 50.9	-0.4	
LCO				Sn	Sn	00 41 02.2	-1.0	
CO01	Juntas del Tor	1.17	106		Pn	00 40 55.0	-0.2	
CO01				Sn	Sn	00 41 08.8	-1.4	
CO01	Juntas del Tor	1.17	106	⇓iP	Pn	00 40 55.0	-0.2	
CO01				eS	Sn	00 41 09.0	-1.2	
CO01				IAML		00 41 09.8		
	comp=N,4μm,0.3s							
AC05	El Transito	1.27	50	Pn	Pn	00 40 56.6	+0.1	
AC05				Sn	Sn	00 41 12.2	-0.3	
AC05	El Transito	1.27	50	⇓eP	Pn	00 40 56.6	+0.1	
AC05				eS	Sn	00 41 12.0	-0.5	
AC05				IAML		00 41 13.1		
	comp=N,5μm,0.2s							
CO03	El Pedregal	1.33	153		Pn	00 40 57.1	-0.2	
CO03	El Pedregal	1.33	153	eP	Pn	00 40 57.0	-0.2	
CO03				eS	Sn	00 41 13.2	-0.6	
CO03				IAML		00 41 14.3		
	comp=E,3μm,0.2s							
AC04	Llanos de Chal	1.47	11	Pn	Pn	00 41 00.1	+1.0	
AC04	Llanos de Chal

CPUP Villa Florida 12.86 78 Pn **Pn 00 43 36.5 +1.4**
comp=E,0.3nm,0.3s,baz=253,slow=14,SNR=3.4
CPUP Sn **Sn 00 45 56.9 +0.1**
comp=E,0.4nm,0.3s,baz=303,slow=4.7,SNR=4.1
CPUP Lg Lg 00 47 00.5
comp=E,0.2nm,0.3s,baz=136,slow=20,SNR=1.9
comp=E,0.8nm,0.3s
SIV San Ignacio 16.58 37 Pn **Pn 00 44 24.4 +0.1**
comp=E,0.1nm,0.3s,baz=203,slow=9.6,SNR=16
comp=E,3.0nm,0.6s
PTLB Pontes e Lacer 18.09 41 *e*P Pn 00 44 58.9 +16
PP1B Ponte de Pedra 19.28 55 *e*P Pn 00 45 12.5 +15
VILB Vilhena 19.59 34 P **Pn 00 44 59.8 -1.3**
VILB IAmb IAmb 00 45 18.1
comp=Z,6.7nm,0.7s
SALV Santo Antonio 19.89 50 *e*P Pn 00 45 19.4 +15
ETMB Extrema 20.32 15 Pn 00 45 08.3 -1.3
ETMB IAmb IAmb 00 45 12.8
comp=Z,6.7nm,0.7s
CZSB Cruzeiro do Su 21.84 356 P **P 00 45 23.7 +0.1**
CZSB IAmb IAmb 00 45 29.1
comp=Z,13nm,0.9s
CZSB Cruzeiro do Su 21.84 356 *e*P **P 00 45 27.8 +4.1**
CLDB Colider 23.68 41 *e*P P 00 45 57.0 +15
BDFB Brasilia 25.62 62 P **P 00 45 59.0 -1.3**
comp=Z,2.0nm,0.7s,baz=217,slow=8.2,SNR=4.3
comp=Z,2.0nm,0.7s
SNDB Serra Nova Dou 25.66 51 *e*P P 00 46 17.1 +17
RUSC La Rusia 35.38 357 P **P 00 47 27.1 +0.2**
RUSC IAmb IAmb 00 47 30.9
comp=Z,6.2nm,0.9s
BAUV El Baul 38.51 5 P **P 00 47 52.1 -0.8**
SNAA Sanae 55.41 159 P **P 00 50 04.3 +0.1**
comp=Z,3.7nm,0.8s,baz=291,slow=8.8,SNR=6.4
comp=Z,3.7nm,0.8s
BOSA Boshof 81.61 118 P **P 00 52 48.1 -0.4**
comp=Z,1.4nm,0.6s,baz=253,slow=1.2,SNR=4.0
comp=Z,1.4nm,0.6s
WRA Warramunga Arr 124.81 210 PKP **PKPdf 00 59 29.9 -0.5**
comp=Z,0.5nm,0.7s,baz=150,slow=1.6,SNR=2.4
YAK Yakutsk 144.79 343 PKP **PKPab 01 00 03.8 -1.2**
comp=Z,7.8nm,0.4s,baz=236,slow=0.2,SNR=4.8
KURBB Kurchatov Arra 149.23 39 PKPbc **PKPdf 01 00 15.0 +1.2**
comp=Z,0.8nm,0.4s,baz=310,slow=3.3,SNR=10
ZALV Zalesovo Beam 150.21 29 PKPbc **PKiKP 01 00 21.1 -0.1**
comp=Z,3.8nm,0.5s,baz=305,slow=3.4,SNR=26
KSH Kashi 151.52 61 PKPbc **PKiKP 01 00 25.1 +0.6**
KSH pPKP pPKPdf 01 00 32.6 +0.4
MKAR Makanchi Array 153.34 43 PKPbc **PKiKP 01 00 28.1 +0.1**
comp=Z,0.5nm,0.6s,baz=293,slow=1.7,SNR=6.0
MKAR PKPab **sPKPdf 01 00 40.7 +1.0**
comp=Z,0.8nm,0.7s,baz=302,slow=2.9,SNR=6.7
PZH PanZhiHua 173.17 116 PKP **PKPdf 01 00 39.2 -0.4**

*IDC **09** 00:51:47.7±0.7,60.63S×160.02E,h0km,mb4.7/10, mbtmp4.7/12,ML4.1/2,MS4.7/11,Error ellipse: s-maj=31.0km s-min=16.3km az=85.0*
*NEIC **09** 00:51:50.3±2.1,60.53S±0.07×159.9E±0.1,h10km±1km, mb5.2/71,Error ellipse: s-maj=14.3km s-min=4.5km az=35.0*
*GCMT **09** 00:51:55.3±0.2,60.49S±0.01×160.15E±0.03,h19km±1km, MW5.3/111,Moment Tensor Solution. s40,c49; s111,c170; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.07±.04; Mθθ=0.86±.03; Mφφ=0.92±.04; Mrθ=0.66±.10; Mrφ=0.73±.03; Mθφ=0.03±.07; Best double couple: M=1.31900×10^17 NP1:φ=243.00000°,δ=82.00000°, λ=-27.00000°. NP2:φ=337.00000°,δ=63.00000°, λ=-171.00000°. Principal axes: T 1.2390, Plg12.0000°, Azm293.0000°; N 0.1600, Plg62.0000°, Azm47.0000°; P -1.3990, Plg25.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 00:51:49.7±0.3,60.51S±0.05×160.00E±0.09,h10km,n172, σ1§40/159,mb5.2/58,MS4.7/13,3D,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**6.05**	**354**	P	Pn	00 53 15.1	-3.9
	baz=5.3,SNR=43						
MCQ	**Macquarie Isla**	**6.05**	**354**	Pn	**Pn**	**00 53 15.2**	**-3.9**
MCQ				Sn	**Sn**	**00 54 22.4**	**-6.0**
PYZ	**Puysegur Point**	**14.90**	**18**	Pn	**Pn**	**00 55 17.1**	**-3.1**
WHZ	**Wether Hill Ro**	**15.38**	**21**		**Pn**	**00 55 26.9**	**+0.3**
DCZ	**Deep Cove**	**15.66**	**19**	Pn	**Pn**	**00 55 31.4**	**+1.2**
DCZ				IAmb	IAmb	00 55 34.8	
	comp=Z,160nm,0.8s						
MLZ	**Mavora Lakes**	**15.92**	**21**		**Pn**	**00 55 34.6**	**+1.1**
WKZ	**Wanaka**	**16.61**	**23**	P	**P**	**00 55 45.0**	**+0.1**
ODZ	**Otahua Downs**	**16.74**	**27**	P	**Pn**	**00 55 44.5**	**+0.6**
VNDA	**Vanda**	**17.10**	**179**	Pn	**Pn**	**00 55 45.4**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=4.0,slow=7.2,SNR=7.1						
	comp=Z,9.0nm,1.1s						
VNDA	**Vanda**	**17.10**	**179**		**Pn**	**00 55 46.5**	**-1.9**
LBZ	**Lake Benmore**	**17.26**	**25**		**Pn**	**00 55 50.5**	**-0.1**
LBZ				IAmb	IAmb	00 55 57.2	
	comp=Z,242nm,1.5s						
SBA	**Scott Base**	**17.57**	**175**		**Pn**	**00 55 53.6**	**-0.5**
SBA				IAmb	IAmb	00 55 57.4	
	comp=Z,365nm,1.8s						
FOZ	**Fox Glacier**	**18.01**	**24**	P	**P**	**00 56 01.1**	**+0.9**
FOZ				IAmb	IAmb	00 56 10.2	
	comp=Z,302nm,1.8s						
RPZ	**Rata Peaks**	**18.09**	**27**	P	**Pn**	**00 56 01.4**	**+0.6**
	comp=Z,2.5nm,0.3s,baz=274,slow=2.2,SNR=7.9						
	comp=Z,20nm,0.6s						
RPZ	**Rata Peaks**	**18.09**	**27**	Pn	**Pn**	**00 56 00.4**	**-0.5**
OXZ	**Oxford**	**18.69**	**28**	P	**P**	**00 56 07.8**	**0.0**
INZ	**Inchbonnie**	**19.12**	**27**		**P**	**00 56 13.1**	**+0.6**
LTZ	**Lake Taylor**	**19.26**	**28**		**P**	**00 56 15.2**	**+1.2**
KHZ	**Kahutara**	**19.91**	**31**	P	**P**	**00 56 22.6**	**+1.4**
KHZ				IAmb	IAmb	00 56 29.2	
	comp=Z,111nm,1.3s						
DSZ	**Denniston Nort**	**20.14**	**26**	P	**P**	**00 56 23.5**	**-0.1**
DSZ				IAmb	IAmb	00 56 30.0	
	comp=Z,149nm,1.3s						
THZ	**Tophouse**	**20.37**	**29**	P	**P**	**00 56 27.3**	**+1.0**
BSWZ	**Blackbirch Sta**	**20.65**	**31**	P	**P**	**00 56 30.8**	**+1.5**
MRNZ	**Matariki Terra**	**20.68**	**28**	P	**P**	**00 56 31.1**	**+1.6**
TUWZ	**Tuamarina**	**20.94**	**30**	P	**P**	**00 56 33.2**	**+0.9**
QRZ	**Quartz Range**	**21.18**	**27**	P	**P**	**00 56 35.4**	**+0.6**
QRZ				IAmb	IAmb	00 56 41.9	
	comp=Z,176nm,1.5s						
BHW	**Baring Head**	**21.20**	**32**	P	**P**	**00 56 36.9**	**+1.8**
BHW				IAmb	IAmb	00 56 39.4	
	comp=Z,99nm,1.2s						
TCW	**Tory Channel**	**21.23**	**31**	P	**P**	**00 56 37.4**	**+1.9**
MRZ	**Mangatainoka R**	**22.09**	**33**	P	**P**	**00 56 45.3**	**+0.7**
MRZ				IAmb	IAmb	00 56 47.9	
	comp=Z,92nm,1.3s						
BFZ	**Birch Farm**	**22.25**	**34**	P	**P**	**00 56 47.1**	**+0.7**
BFZ				IAmb	IAmb	00 56 49.5	
	comp=Z,100nm,1.3s						
BKZ	**Black Stump Fm**	**23.73**	**33**	P	**P**	**00 57 02.8**	**+1.1**
RTZ	**Ruatahuna**	**24.38**	**34**	P	**P**	**00 57 09.2**	**+1.3**
RTZ				IAmb	IAmb	00 57 18.7	
	comp=Z,70nm,1.3s						
MILA	**Mila**	**24.47**	**339**	P	**P**	**00 57 09.0**	**+0.4**
	baz=24,SNR=6.8						
TOO	**Toolangi**	**24.73**	**332**	P	**P**	**00 57 11.4**	**+0.3**
	baz=24,SNR=7.2						
TOO	**Toolangi**	**24.73**	**332**	P	**P**	**00 57 13.0**	**+2.0**
TOO				IAmb	IAmb	00 57 14.8	
	comp=Z,99nm,1.3s						
URZ	**Urewera**	**24.75**	**34**	P	**P**	**00 57 12.6**	**+1.5**
	comp=Z,12nm,0.9s,baz=265,slow=8.4,SNR=3.1						
	comp=Z,12nm,0.9s						
ARPS	**Mount Arapiles**	**26.43**	**326**	P	**P**	**00 57 26.4**	**+0.1**
	baz=26,SNR=5.5						
QSPA	**South Pole Qui**	**29.59**	**180**	P	**P**	**00 57 54.4**	**-0.1**
	comp=Z,15nm,1.0s,baz=8.4,slow=3.8,SNR=21						
	comp=Z,15nm,1.0s						
QSPA	**South Pole Qui**	**29.59**	**180**	P	**P**	**00 57 54.5**	**-0.1**
QSPA				IAmb	IAmb	00 57 56.0	
	comp=Z,43nm,1.2s						
HTT	**Hallett**	**30.39**	**324**	P	**P**	**00 58 02.7**	**+1.0**
	baz=30,SNR=9.6						
CMSA	**Cobar Meteorol**	**30.49**	**335**	P	**P**	**00 58 03.4**	**+0.9**
	baz=30,SNR=5.4						
STKA	**Stephens Creek**	**31.11**	**329**	P	**P**	**00 58 09.3**	**+1.2**
	comp=Z,7.7nm,1.0s,baz=161,slow=7.9,SNR=10						
	comp=Z,15nm,1.0s						
STKA				LR	LR	01 09 48.0	
	comp=Z,4μm,18.4s,baz=139,slow=35						
	comp=Z,7.7nm,1.0s						
STKA	**Stephens Creek**	**31.11**	**329**	P	**P**	**00 58 10.4**	**+2.4**
	baz=30,SNR=7.0						
STKA	**Stephens Creek**	**31.11**	**329**	P	**P**	**00 58 09.5**	**+1.4**
BBOO	**Buckleboo**	**31.84**	**320**	P	**P**	**00 58 16.1**	**+1.6**
	baz=31,SNR=9.1						
BBOO	**Buckleboo**	**31.84**	**320**	P	**P**	**00 58 15.7**	**+1.2**
RMQ	**Roma**	**34.87**	**342**	P	**P**	**00 58 40.3**	**-0.6**
	baz=34,SNR=4.5						
QLP	**Quilpie**	**35.59**	**335**	P	**P**	**00 58 47.7**	**+0.6**
	baz=35,SNR=3.6						
EIDS	**Eidsvold**	**35.66**	**346**		**P**	**00 58 47.0**	**-0.7**
EIDS				IAmb	IAmb	00 58 59.1	
	comp=Z,42nm,1.4s						
FORT	**Forrest**	**36.50**	**310**	P	**P**	**00 58 56.5**	**+1.7**
	baz=36,SNR=11						
FORT	**Forrest**	**36.50**	**310**	P	**P**	**00 58 55.7**	**+0.8**
ONTNC	**Ouen Toro**	**38.44**	**10**	P	**P**	**00 59 11.6**	**+0.3**
KMBL	**Kambalda**	**38.45**	**302**	P	**P**	**00 59 13.0**	**+1.6**
	baz=38,SNR=6.7						
DZM	**Mont Dzumac**	**38.67**	**10**	P	**P**	**00 59 12.2**	**-1.2**
	comp=Z,5.1nm,0.8s,baz=231,slow=6.5,SNR=5.8						
DZM				LR	LR	01 11 10.5	
	comp=Z,1μm,20.4s,baz=194,slow=30						
	comp=Z,5.1nm,0.8s						
DZM	**Mont Dzumac**	**38.67**	**10**	P	**P**	**00 59 15.2**	**+1.8**
H01W1	**Cape Leeuwin H**	**38.90**	**290**	T	T	01 41 06.4	
	baz=144,slow=75						
H01W2	**Cape Leeuwin H**	**38.91**	**290**	T	T	01 41 06.7	
	baz=144,slow=75						
H01W3	**Cape Leeuwin H**	**38.92**	**290**	T	T	01 41 11.9	
	baz=144,slow=75						
NWAO	**Narrogin (SRO)**	**39.14**	**295**	LR	LR	01 11 35.3	
	comp=Z,2μm,21.1s,slow=30						
NWAO	**Narrogin (SRO)**	**39.14**	**295**	P	**P**	**00 59 16.2**	**-0.9**
LIFNC	**LIFOU**	**40.02**	**11**	P	**P**	**00 59 24.6**	**0.0**
LIFNC				IAmb	IAmb	00 59 28.7	
	comp=Z,61nm,1.0s						
KLBR	**Kellerberrin**	**40.04**	**297**	P	**P**	**00 59 25.4**	**+0.8**
	baz=40,SNR=4.1						
ASAR	**Alice Springs**	**41.04**	**322**	P	**P**	**00 59 34.0**	**+1.0**
	comp=Z,30nm,0.9s,baz=161,slow=8.2,SNR=12						
	comp=Z,30nm,0.9s						
ASAR	**Alice Springs**	**41.04**	**322**	P	**P**	**00 59 34.2**	**+1.2**
AS31	**Alice Springs**	**41.04**	**322**	P	**P**	**00 59 34.2**	**+1.2**
BLDU	**Balladu**	**41.34**	**296**	P	**P**	**00 59 36.2**	**+0.9**
	baz=41,SNR=10.0						
CTA	**Charters Tower**	**41.54**	**340**	LR	LR	01 15 34.8	
	comp=Z,875nm,19.0s,baz=135,slow=34						
CTAO	**Charters Tower**	**41.54**	**340**	P	**P**	**00 59 38.5**	**+1.3**
CTAO				IAmb	IAmb	00 59 42.8	
	comp=Z,101nm,1.6s						
BELA	**Belgrano 2**	**41.57**	**175**	P	**P**	**00 59 36.7**	**-0.1**
WRKA	**Warakurna**	**41.62**	**314**	P	**P**	**00 59 38.6**	**+0.9**
	baz=41,SNR=29						
QIS	**Mount Isa**	**42.44**	**331**	P	**P**	**00 59 45.4**	**+0.9**
	baz=42,SNR=5.3						
MORW	**Morawa**	**42.96**	**297**	P	**P**	**00 59 49.8**	**+1.2**
	baz=42,SNR=3.2						
MORW	**Morawa**	**42.96**	**297**	P	**P**	**00 59 49.1**	**+0.5**
MEEK	**Meekatharra**	**43.96**	**302**	P	**P**	**00 59 57.6**	**+0.8**
	baz=43,SNR=11						
WR0	**Warramunga Arr**	**44.35**	**325**	P	**P**	**01 00 00.2**	**+0.4**
WR0				IAmb	IAmb	01 00 01.4	
	comp=Z,48nm,1.2s						
WB2	**Warramunga Arr**	**44.42**	**324**	P	**P**	**01 00 00.0**	**-0.4**
WB2				IAmb	IAmb	01 00 02.0	
	comp=Z,54nm,1.3s						
WRA	**Warramunga Arr**	**44.42**	**324**	P	**P**	**01 00 00.3**	**-0.2**
	comp=Z,16nm,1.1s,baz=164,slow=6.9,SNR=34						
WRA				PcP	**PcP**	**01 01 43.2**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=155,slow=3.1,SNR=4.6						
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**44.42**	**324**	P	**P**	**00 59 59.9**	**-0.6**
WRAB	**Tennant Creek**	**44.43**	**324**	P	**P**	**01 00 00.5**	**+0.1**
WRAB				IAmb	IAmb	01 00 02.0	
	comp=Z,46nm,1.3s						
ELIB	**Princess Elisa**	**44.48**	**198**	*d*P	**P**	**01 00 00.4**	**-0.1**
	comp=Z,7.4nm,1.6s						
ELIB				*dx*	x	01 00 14.6	
WB0	**Warramunga Arr**	**44.57**	**325**	P	**P**	**01 00 01.6**	**-0.1**
WB0				IAmb	IAmb	01 00 03.1	
	comp=Z,49nm,1.4s						
MSVF	**Nonsavu**	**44.65**	**25**	LR	LR	01 17 37.5	
	comp=Z,471nm,18.2s,baz=130,slow=35						
MSVF	**Nonsavu**	**44.65**	**25**	P	**P**	**01 00 02.9**	**+0.6**
MSVF				IAmb	IAmb	01 00 04.4	
	comp=Z,37nm,1.6s						
TROLL	**Troll, Antarti**	**46.85**	**189**	P	**P**	**01 00 18.8**	**-0.4**
SNAA	**Sanae**	**47.56**	**187**	P	**P**	**01 00 24.6**	**-0.1**
SNAA	**Sanae**	**47.56**	**187**	P	**P**	**01 00 24.2**	**-0.5**
SNAA				IAmb	IAmb	01 00 25.5	
	comp=Z,45nm,1.8s						
PSA00	**Pilbara Seismi**	**47.96**	**306**	P	**P**	**01 00 28.2**	**-0.1**
COEN	**Coen**	**48.08**	**338**	P	**P**	**01 00 30.5**	**+1.3**
	baz=47,SNR=4.0						
COEN	**Coen**	**48.08**	**338**	P	**P**	**01 00 30.3**	**+1.1**
COEN				IAmb	IAmb	01 00 35.0	
	comp=Z,34nm,1.1s						
VNA3	**Neumayer Olymp**	**48.33**	**184**	P	**P**	**01 00 29.9**	**-0.7**
MBWA	**Marble Bar**	**48.38**	**306**	P	**P**	**01 00 32.3**	**+0.8**
MBWA				IAmb	IAmb	01 00 32.7	
	comp=Z,30nm,1.0s						
VNA2	**Neumayer--Watz**	**48.55**	**185**	P	**P**	**01 00 31.5**	**-0.8**
	baz=151,slow=7.0						
VNA1	**Neumayer--Stat**	**48.87**	**185**	P	**P**	**01 00 35.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**48.94**	**315**	P	**P**	**01 00 36.6**	**+0.7**
KNRA	**Kununurra**	**50.14**	**319**	P	**P**	**01 00 46.1**	**+1.1**
	baz=50,SNR=5.7						
KNRA	**Kununurra**	**50.14**	**319**	P	**P**	**01 00 45.5**	**+0.5**
HNR	**Honara**	**50.97**	**360**	LR	LR	01 17 58.2	
	comp=Z,9μm,19.3s,baz=169,slow=31						
PMG	**Port Moresby**	**51.89**	**344**	P	**P**	**01 00 59.3**	**+1.1**
	comp=Z,11nm,0.4s,baz=273,slow=10,SNR=3.4						
	comp=Z,11nm,0.4s						
PMG	**Port Moresby**	**51.89**	**344**	P	**P**	**01 00 58.2**	**+0.1**
PMG				IAmb	IAmb	01 01 09.2	
	comp=Z,43nm,1.2s						
MTN	**Manton Dam**	**52.08**	**323**	P	**P**	**01 01 00.7**	**+1.2**
KRVT	**Keravat (AS076**	**56.39**	**350**	LR	LR	01 22 27.9	
	comp=Z,357nm,19.3s,baz=176,slow=33						
SOEI	**Soe**	**57.17**	**317**	P	**P**	**01 01 37.1**	**+0.5**
SOEI	**Soe**	**57.17**	**317**	P	**P**	**01 01 38.1**	**+1.5**
	comp=Z,39nm,1.4s						
PLAI	**Plampang**	**60.35**	**310**	P	**P**	**01 01 58.9**	**+0.2**
	comp=Z,37nm,1.4s						
TWSI	**Taliwang, Sumb**	**60.78**	**309**	P	**P**	**01 02 02.0**	**+0.4**
	comp=Z,36nm,1.1s						
FAKI	**Fak Fak**	**61.23**	**328**	P	**P**	**01 02 05.5**	**+0.8**
FAKI	**Fak Fak**	**61.23**	**328**	P	**P**	**01 02 05.0**	**+0.4**
	comp=Z,28nm,1.2s						
NLAI	**Namlea**	**62.38**	**322**	P	**P**	**01 02 12.3**	**-0.1**
	comp=Z,34nm,1.2s,comp=Z,5μm						
GMJI	**Gumukmas**	**62.55**	**306**	P	**P**	**01 02 14.9**	**+1.4**
	comp=Z,59nm,1.5s						
BKSI	**Bulukumba**	**62.73**	**314**	P	**P**	**01 02 14.9**	**+0.2**
	comp=Z,19nm,1.1s						
KAPI	**Kappang**	**63.15**	**314**	LR	LR	01 27 58.8	
	comp=Z,427nm,20.6s,baz=175,slow=34						
KAPI	**Kappang**	**63.15**	**314**	P	**P**	**01 02 18.2**	**+0.7**
KAPI				IAmb	IAmb	01 02 19.5	
	comp=Z,27nm,1.1s						
PWJI	**Pagerwojo**	**63.44**	**304**	P	**P**	**01 02 20.0**	**+0.6**
	comp=Z,35nm,1.4s						
SIJI	**Sorong**	**63.45**	**327**	LR	LR	01 31 00.4	
	comp=Z,578nm,18.8s,baz=24,slow=37						
SANI	**Sanana**	**63.85**	**321**	P	**P**	**01 02 21.2**	**-0.9**
	comp=Z,31nm,1.2s						
UGM	**Wanagama**	**64.07**	**303**	P	**P**	**01 02 25.7**	**+2.1**
	comp=Z,175nm,1.8s						
KPJI	**Karang Pucung**	**65.25**	**302**	P	**P**	**01 02 32.6**	**+1.3**
	comp=Z,49nm,1.6s						
VA02	**Isla de Pascua**	**67.03**	**105**	P	**P**	**01 02 42.2**	**-0.5**
RPN	**Rapa Nui**	**67.11**	**105**	LR	LR	01 25 22.3	
	comp=Z,447nm,18.9s,baz=208,slow=30						
TOLI2	**Tolitoli**	**68.50**	**317**	P	**P**	**01 02 51.6**	**-0.3**
TOLI2				IAmb	IAmb	01 02 53.9	
	comp=Z,29nm,1.5s						
LWLI	**Liwa**	**69.42**	**298**	P	**P**	**01 02 58.9**	**+1.1**
	comp=Z,163nm,1.1s						
DAV	**Davao City (W)**	**72.61**	**324**	LR	LR	01 36 01.3	
	comp=Z,328nm,19.2s,baz=150,slow=36						
SBUM	**Sibu**	**72.82**	**309**	P	**P**	**01 03 19.1**	**+0.7**
SBUM				IAmb	IAmb	01 03 20.3	
	comp=Z,30nm,1.3s						
SDSI	**Sungai Dareh**	**74.22**	**298**	P	**P**	**01 03 25.9**	**-0.6**
	comp=Z,43nm,1.2s						
H03S2	**Juan Fernandez**	**74.39**	**132**	T	T	02 25 20.9	
	baz=204,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**74.39**	**132**	T	T	02 25 22.2	
	baz=204,slow=74,SNR=9.5						
H03S3	**Juan Fernandez**	**74.41**	**132**	T	T	02 25 31.1	
	baz=204,slow=74,SNR=11						
PDSI	**Padang**	**74.66**	**297**	P	**P**	**01 03 28.6**	**-0.6**
	comp=Z,18nm,0.7s,comp=Z,6μm						
KKM	**Kota Kinabalu**	**74.67**	**314**	P	**P**	**01 03 28.5**	**-0.7**
KKM				IAmb	IAmb	01 06 13.6	
	comp=Z,58nm,1.8s						
BO02	**Sierra Bellavi**	**76.34**	**139**	P	**P**	**01 03 39.1**	**+0.4**
MT02	**Curacav**	**77.63**	**138**	P	**P**	**01 03 46.3**	**+0.4**
MT02				IAmb	IAmb	01 03 51.5	
	comp=Z,27nm,1.3s						
VA01	**Torpederas**	**77.68**	**138**	P	**P**	**01 03 48.2**	**+2.1**
VA01				IAmb	IAmb	01 06 28.3	
	comp=Z,36nm,1.2s						
GSI	**Gunungsitoli**	**77.92**	**295**	P	**P**	**01 03 48.1**	**+0.5**
	comp=Z,26nm,1.6s						
VA03	**San Esteban**	**78.28**	**138**	P	**P**	**01 03 50.1**	**+0.5**
VA03				IAmb	IAmb	01 03 55.7	
	comp=Z,41nm,1.6s						
RPSI	**Rantau Prapat**	**78.55**	**297**	P	**P**	**01 03 50.8**	**-0.3**
RPSI				IAmb	IAmb	01 03 52.0	
	comp=Z,32nm,1.5s						
KCSI	**Kotacane, Aceh**	**79.80**	**296**	P	**P**	**01 03 57.2**	**-0.8**
	comp=Z,6.4nm,0.6s						
KULM	**Kulim**	**80.12**	**300**	P	**P**	**01 03 59.4**	**-0.2**
KULM				IAmb	IAmb	01 04 01.0	
	comp=Z,41nm,1.1s						
MLSI	**Meulaboh, Aceh**	**81.07**	**295**	P	**P**	**01 04 04.3**	**-0.5**
	comp=Z,36nm,1.1s						
H08S2	**Diego Garcia H**	**82.17**	**268**	T	T	02 35 18.8	
	baz=149,slow=76,SNR=19						
H08S1	**Diego Carcia H**	**82.18**	**268**	T	T	02 35 22.4	
	baz=149,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**82.19**	**268**	T	T	02 35 20.4	
	baz=149,slow=76,SNR=17						
BOSA	**Boshof**	**83.81**	**219**	P	**P**	**01 04 17.0**	**-2.2**
	comp=Z,6.8nm,1.2s,baz=185,slow=11,SNR=3.7						
	comp=Z,6.8nm,1.2s						
AC01	**Pan de Azucar**	**84.34**	**136**	P	**P**	**01 04 21.1**	**-0.6**
AC01				IAmb	IAmb	01 06 40.1	
	comp=Z,21nm,1.2s						
UBPT	**Khong Chiam**	**87.16**	**308**	P	**P**	**01 04 36.7**	**+1.1**
CPUP	**Villa Florida**	**88.27**	**147**	P	**P**	**01 04 39.5**	**-1.5**
	comp=Z,2.1nm,0.9s,baz=131,slow=7.9,SNR=2.9						
	comp=Z,2.1nm,0.9s						
YULB	**Yu-li**	**89.33**	**325**	P	**P**	**01 04 49.0**	**+3.2**
TPUB	**Ta-pu**	**89.43**	**324**	P	**P**	**01 04 46.8**	**+0.4**
PB08	**IPOC Station P**	**90.38**	**135**	P	**P**	**01 04 51.6**	**+0.1**
PHRA	**Phrae**	**92.16**	**305**	P	**P**	**01 04 57.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**92.65**	**304**	P	**P**	**01 05 02.5**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=181,slow=3.6,SNR=14						
	comp=Z,2.4nm,0.9s						
CHTO	**Chiang Mai**	**92.97**	**304**	P	**P**	**01 05 04.0**	**+1.2**
CHTO				IAmb	IAmb	01 05 04.8	
	comp=Z,13nm,1.2s						
NJ2	**Nanjing**	**98.19**	**326**	*e*P	Pdif	01 05 29.9	+3.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR	**Matsushiro Arr**	**98.35**	**342**	LR	LR	01 51 19.7	
	comp=Z,169nm,18.1s,baz=190,slow=36						
TNCH	**TengChong**	**98.70**	**306**	*e*P	Pdif	01 05 31.3	+2.3
PZH	**PanZhiHua**	**98.77**	**310**	P	Pdif	01 05 32.6	+3.4
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
LYN	**LuoYang**	**102.41**	**321**	*e*P	**Pdif**	**01 05 39.8**	**-5.2**
XLT	**XiLinHaoTe**	**110.05**	**328**	*e*PKP	**PKiKP**	**01 10 26.6**	**+6.2**
XLT				PP	PP	01 11 05.4	+11
NV11	**Mina Array Sit**	**118.87**	**63**		**PKiKP**	**01 10 39.9**	**+2.2**
WMQ	**Urumqi**	**119.39**	**308**	*e*P	**PKiKP**	**01 10 40.0**	**+1.7**
KSH	**Kashi**	**120.72**	**296**	PKP	**PKPdf**	**01 10 40.0**	**-1.1**
MKAR	**Makanchi Array**	**123.99**	**306**	PKP	**PKPdf**	**01 10 46.0**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=86,slow=3.8,SNR=4.0						
PDAR	**Pinedale Array**	**126.21**	**66**	PKP	**PKPdf**	**01 10 51.0**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=242,slow=1.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**128.76**	**313**	PKP	**PKPdf**	**01 10 54.9**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=176,slow=3.8,SNR=1.5						
ILAR	**Eielson Array**	**131.14**	**27**	PKP	**PKiKP**	**01 11 01.9**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=249,slow=3.8,SNR=3.4						
YKA	**Yellowknife Ar**	**138.70**	**45**	PKP	**PKPdf**	**01 11 13.2**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=231,slow=3.0,SNR=4.1						
BRTR	**Keskin Array B**	**141.21**	**262**	PKP	**PKPdf**	**01 11 19.9**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=90,slow=2.9,SNR=2.9						
FCC	**Fort Churchill**	**144.33**	**59**		**PKPdf**	**01 11 25.9**	**+1.6**
RES	**

SXI1				*e*S	**Sn**	**01 04 38.9**	**-0.2**
	baz=304							
TWE	**Neicheng**	**0.73**	**277**	*i* P	**Pn**	**01 04 26.7**	**+0.2**
TWE	baz=276			*i* S	**Sn**	**01 04 39.3**	**0.0**
	baz=276							
NWF	**Wu-fen Shan**	**0.76**	**306**	*i* P	**Pn**	**01 04 27.1**	**+0.2**
NWF	baz=299			*e*S	**Sn**	**01 04 39.8**	**-0.1**
	baz=299							
WFSB	**Wu-fen Shan**	**0.76**	**306**	*e*P	**Pn**	**01 04 27.2**	**+0.3**
WFSB	baz=299			S	**Sn**	**01 04 39.7**	**-0.1**
	baz=299							
FUSB	**Fushanzhiwuyua**	**0.81**	**280**	*i* P	**Pn**	**01 04 27.7**	**+0.2**
FUSB	baz=285			*e*S	**Sn**	**01 04 40.2**	**-0.6**
	baz=285							
TNOU	**National Taiwa**	**0.81**	**310**	*i* S	**Sn**	**01 04 40.9**	**+0.1**
	baz=309							
ENTT	**Nioudou**	**0.81**	**271**	*i* P	**Pn**	**01 04 28.1**	**+0.6**
ENTT	baz=272			*i* S	**Sn**	**01 04 41.4**	**+0.5**
	baz=272							
LATG	**Datong**	**0.86**	**264**	P	**Pn**	**01 04 28.5**	**+0.5**
LATG	baz=260			*e*S	**Sn**	**01 04 42.4**	**+0.6**
	baz=260							
TWA	**Mucha**	**0.87**	**294**	P	**Pn**	**01 04 28.1**	**+0.1**
TWA	baz=285			*e*S	**Sn**	**01 04 41.2**	**-0.7**
	baz=285							
NWLT	**Wulai**	**0.89**	**280**	*e*P	**Pn**	**01 04 28.5**	**+0.2**
NWLT	baz=286			*e*S	**Sn**	**01 04 41.3**	**-0.9**
	baz=286							
ETL	**Fush Village**	**0.90**	**239**	*e*P	**Pn**	**01 04 29.7**	**+1.4**
	baz=232							
NACB	**Ninganchiao**	**0.91**	**240**	*e*P	**Pn**	**01 04 27.9**	**-0.6**
NACB	baz=240			*e*S	**Sn**	**01 04 41.5**	**-1.1**
	baz=240							
NHDH	**Xindian Distri**	**0.91**	**292**	S	**Sn**	**01 04 42.0**	**-0.7**
	baz=284							
TATO	**Taipei**	**0.95**	**292**	*e*P	**Pn**	**01 04 28.8**	**-0.1**
TATO	baz=284			S	**Sn**	**01 04 42.4**	**-0.9**
	baz=284							
TWD	**Chiawan**	**0.96**	**236**	*e*P	**Pn**	**01 04 30.4**	**+1.4**
TWD	baz=231			*e*S	**Sn**	**01 04 42.8**	**-0.7**
	baz=231							
YM01	**YM01**	**0.96**	**303**	*i* P	**Pn**	**01 04 29.0**	**0.0**
YM01	baz=293			*i* S	**Sn**	**01 04 43.1**	**-0.5**
	baz=293							
YM08	**YM08**	**0.97**	**305**	*e*P	**Pn**	**01 04 28.9**	**-0.2**
	baz=296							
ETLH	**Xiulin Townshi**	**0.99**	**245**	*e*P	**Pn**	**01 04 29.0**	**-0.4**
ETLH	baz=239			*e*S	**Sn**	**01 04 43.5**	**-0.8**
	baz=239							
NNSB	**Datong**	**1.00**	**259**	*e*P	**Pn**	**01 04 30.9**	**+1.3**
	baz=252							
NNSH	**Datong**	**1.00**	**259**	*e*P	**Pn**	**01 04 30.4**	**+0.8**
	baz=254							
NSK	**Sanguang**	**1.00**	**273**	P	**Pn**	**01 04 29.8**	**+0.3**
NSK	baz=266			*e*S	**Sn**	**01 04 44.5**	**-0.1**
	baz=266							
NNS	**Nan Shan**	**1.01**	**260**	*e*P	**Pn**	**01 04 30.5**	**+0.8**
NNS	baz=253			*e*S	**Sn**	**01 04 45.1**	**+0.4**
	baz=253							
HWA	**Hwalien**	**1.01**	**230**	*e*S	**Sn**	**01 04 44.9**	**+0.3**
	baz=225							
ANP	**Anpu**	**1.02**	**303**	*e*P	**Pn**	**01 04 30.2**	**+0.4**
	baz=294							
TWS1	**Kuangyinshan**	**1.06**	**297**	*e*P	**Pn**	**01 04 30.3**	**+0.2**
TWS1	baz=296			*e*S	**Sn**	**01 04 45.7**	**+0.1**
	baz=296							
NTST	**Danshui**	**1.06**	**300**	*e*S	**Sn**	**01 04 45.2**	**-0.4**
	baz=293							
TEYL	**Yanliau Villag**	**1.09**	**226**	*e*P	**Pn**	**01 04 30.5**	**0.0**
	baz=222							
IRIF	**Iriomote-Funau**	**1.19**	**104**	P	**Pn**	**01 04 31.8**	**+0.1**
IRIF				S	**Sn**	**01 04 49.1**	**+0.8**
WHF	**Hehuan Shan**	**1.19**	**246**	*e*P	**Pn**	**01 04 32.1**	**0.0**
WHF	baz=241			*e*S	**Sn**	**01 04 48.6**	**-0.4**
	baz=241							
NCUH	**Zhongli**	**1.21**	**287**	*e*S	**Sn**	**01 04 48.9**	**+0.2**
	baz=277							
NFF	**Wufeng Townshi**	**1.22**	**270**	*e*P	**Pn**	**01 04 32.3**	**+0.2**
NFF	baz=270			*e*S	**Sn**	**01 04 48.8**	**-0.3**
	baz=270							
TWT	**Tachien**	**1.23**	**253**	*e*P	**Pn**	**01 04 33.3**	**+1.0**
TWT	baz=246			*e*S	**Sn**	**01 04 49.8**	**+0.4**
	baz=246							
ESL	**Shilin**	**1.24**	**229**	*e*P	**Pn**	**01 04 33.6**	**+1.3**
	baz=236							
TEGC	**Jichi Village**	**1.24**	**223**	*e*P	**Pn**	**01 04 32.7**	**+0.5**
	baz=222							
TDCB	**Techi**	**1.25**	**253**	*e*P	**Pn**	**01 04 32.8**	**+0.4**
	baz=249							
CHGB	**Renai**	**1.30**	**245**	*e*P	**Pn**	**01 04 33.3**	**+0.1**
	baz=239							
LIOB	**Emei**	**1.32**	**271**	*e*P	**Pn**	**01 04 33.5**	**+0.3**
LIOB	baz=270			*e*S	**Sn**	**01 04 50.8**	**-0.2**
	baz=270							
HSN1	**Hsinchu**	**1.32**	**277**	*e*S	**Sn**	**01 04 51.5**	**+0.4**
	baz=276							
NSTT	**Nanjuang**	**1.33**	**270**	*e*P	**Pn**	**01 04 33.6**	**+0.2**
NSTT	baz=270			*e*S	**Sn**	**01 04 51.1**	**-0.2**
	baz=270							
EGFH	**Guangfu**	**1.34**	**225**	*e*P	**Pn**	**01 04 32.5**	**-1.0**
EGFH	baz=220			*e*S	**Sn**	**01 04 50.2**	**-1.4**
	baz=220							
HATJ	**Hateruma jima**	**1.35**	**115**	*e*P	**Pn**	**01 04 33.8**	**+0.2**
HATJ				*e*S	**Sn**	**01 04 52.2**	**+0.5**
OWD	**Renai**	**1.35**	**240**	*e*P	**Pn**	**01 04 33.5**	**-0.2**
OWD	baz=235			*e*S	**Sn**	**01 04 50.6**	**-1.4**
	baz=235							
SBCB	**Hsinchu**	**1.35**	**277**	*e*S	**Sn**	**01 04 52.0**	**+0.2**
	baz=276							
WUSB	**Renai**	**1.38**	**243**	*e*P	**Pn**	**01 04 34.1**	**+0.1**
WUSB	baz=238			*e*S	**Sn**	**01 04 52.1**	**-0.5**
	baz=238							
WHP	**Taichung City**	**1.42**	**256**	*e*P	**Pn**	**01 04 35.5**	**+0.9**
WHP	baz=251			*e*S	**Sn**	**01 04 53.9**	**+0.4**
	baz=251							
JKRS	**Kuro-shima**	**1.46**	**105**	P	**Pn**	**01 04 35.2**	**+0.3**
JKRS				S	**Sn**	**01 04 54.7**	**+0.5**
HGSD	**Ruisui**	**1.48**	**220**	*e*P	**Pn**	**01 04 35.3**	**+0.1**
	baz=220							
VWDT	**VWDT**	**1.49**	**234**	*e*P	**Pn**	**01 04 35.4**	**+0.1**
VWDT	baz=234			*e*S	**Sn**	**01 04 54.1**	**-0.6**
	baz=234							
DPDB	**Guoxing**	**1.52**	**247**	*e*P	**Pn**	**01 04 36.9**	**+1.1**
	baz=247							
NMLH	**Miaoli**	**1.52**	**267**	*e*P	**Pn**	**01 04 36.0**	**+0.2**
NMLH	baz=266			*e*S	**Sn**	**01 04 55.4**	**-0.2**
	baz=266							
WCS	**Beigang Elemen**	**1.52**	**248**	*e*P	**Pn**	**01 04 36.9**	**+1.2**
WCS	baz=248			*e*S	**Sn**	**01 04 56.3**	**+0.7**
	baz=248							
EHY	**Hungye**	**1.53**	**223**	*e*P	**Pn**	**01 04 34.6**	**-1.2**
EHY	baz=223			*e*S	**Sn**	**01 04 53.2**	**-2.5**
	baz=223							
JIJ	**Ishigaki jima**	**1.55**	**99**	P	**Pn**	**01 04 36.0**	**-0.1**
JIJ				S	**Sn**	**01 04 55.8**	**-0.5**
NSY	**Sanyi**	**1.56**	**263**	*e*P	**Pn**	**01 04 36.7**	**+0.4**
	baz=262							
TWQ1	**Liyutan**	**1.56**	**260**	*e*S	**Sn**	**01 04 56.5**	**0.0**
	baz=259							
ECBN	**Changbin**	**1.60**	**215**	*e*P	**Pn**	**01 04 37.5**	**+0.8**
	baz=216							
SMLT	**Sun Moon Lake**	**1.61**	**243**	*e*P	**Pn**	**01 04 37.9**	**+1.0**
SMLT	baz=236			*e*S	**Sn**	**01 04 59.1**	**+1.5**
	baz=236							
SSLB	**Suanglung**	**1.61**	**239**	*e*P	**Pn**	**01 04 37.6**	**+0.7**
	baz=233							
YULB	**Yu-li**	**1.63**	**221**	*e*P	**Pn**	**01 04 35.9**	**-1.2**
	baz=229							
TYC	**Yuchr**	**1.63**	**244**	*e*P	**Pn**	**01 04 37.9**	**+0.8**
TYC	baz=248			*e*S	**Sn**	**01 04 58.9**	**+0.9**
	baz=248							
EYUL	**Yuli**	**1.65**	**220**	*e*P	**Pn**	**01 04 38.9**	**+1.5**
	baz=228							
TWF1	**Yuli**	**1.66**	**220**	*e*P	**Pn**	**01 04 36.6**	**-0.9**
	baz=228							
JISG	**Ishigakijimahi**	**1.68**	**91**	P	**Pn**	**01 04 37.9**	**+0.1**
JISG				S	**Sn**	**01 04 59.2**	**0.0**
WHYT	**Xinyi Township**	**1.74**	**238**	*e*P	**Pn**	**01 04 39.7**	**+1.2**
WHYT	baz=233			*e*S	**Sn**	**01 05 01.8**	**+1.3**
	baz=233							
WJS	**Zhushan**	**1.77**	**243**	*e*S	**Sn**	**01 05 02.5**	**+1.3**
	baz=253							
WNT	**Mingjian**	**1.79**	**246**	*e*S	**Sn**	**01 05 02.5**	**+0.9**
	baz=245							
CHKT	**Chengkung**	**1.82**	**214**	*e*P	**Pn**	**01 04 39.7**	**+0.1**
	baz=207							
EHD	**Haiduan**	**1.87**	**218**	*e*P	**Pn**	**01 04 38.7**	**-1.5**
	baz=218							
ALS	**Alishan**	**1.88**	**234**	*e*P	**Pn**	**01 04 41.3**	**+0.7**
ALS	baz=228			*e*S	**Sn**	**01 05 05.3**	**+1.1**
	baz=228							
CHN5	**Tsauling**	**1.93**	**238**	*e*P	**Pn**	**01 04 42.1**	**+1.1**
	baz=248							
CHN5				*e*S	**Sn**	**01 05 06.2**	**+1.2**
	baz=248							
ELDTW	**Lidau**	**1.95**	**223**	*e*P	**Pn**	**01 04 40.3**	**-1.0**
	baz=220							
EDH	**Donghe**	**1.96**	**213**	*e*P	**Pn**	**01 04 40.4**	**-1.0**
	baz=209							
WDLH	**Douliu**	**1.99**	**242**	*e*S	**Sn**	**01 05 07.2**	**+1.0**
	baz=242							
WRL	**Guolierlin Hig**	**2.04**	**250**	*e*S	**Sn**	**01 05 06.2**	**-1.2**
	baz=257							
JTJ	**Tarama**	**2.04**	**89**	P	**Pn**	**01 04 43.0**	**+0.7**
JTJ				S	**Sn**	**01 05 07.9**	**+0.5**
WCKO	**Fanlu**	**2.07**	**235**	*e*P	**Pn**	**01 04 43.8**	**+1.0**
WCKO	baz=235			*e*S	**Sn**	**01 05 09.5**	**+1.3**
	baz=235							
LONT	**Longtian**	**2.10**	**216**	*e*P	**Pn**	**01 04 42.3**	**-1.0**
	baz=216							
WTK	**Tuku**	**2.11**	**244**	*e*S	**Sn**	**01 05 09.7**	**+0.5**
	baz=244							
STYH	**Taoyuan**	**2.12**	**227**	*e*P	**Pn**	**01 04 43.9**	**+0.5**
	baz=221							
CHN4	**Tsaushan**	**2.13**	**234**	*e*P	**Pn**	**01 04 44.4**	**+0.8**
CHN4	baz=234			*e*S	**Sn**	**01 05 10.9**	**+1.3**
	baz=234							
TPUB	**Ta-pu**	**2.13**	**232**	*e*P	**Pn**	**01 04 44.1**	**+0.5**
	baz=232							
LDUT	**Ludao**	**2.15**	**205**	*e*P	**Pn**	**01 04 42.8**	**-1.1**
LDUT	baz=210			*e*S	**Sn**	**01 05 07.2**	**-2.8**
	baz=210							
WTP	**Ta-pu**	**2.18**	**231**	*e*P	**Pn**	**01 04 45.2**	**+0.9**
	baz=231							
TWK	**Hsinying**	**2.26**	**234**	*e*P	**Pn**	**01 04 46.5**	**+1.1**
TWK	baz=233			*e*S	**Sn**	**01 05 13.6**	**+0.9**
	baz=233							
CHN1	**Nanshi**	**2.28**	**231**	*e*P	**Pn**	**01 04 47.0**	**+1.4**
CHN1	baz=231			*e*S	**Sn**	**01 05 14.2**	**+1.1**
	baz=231							
SGST	**Jiashian**	**2.31**	**229**	*e*S	**Sn**	**01 05 13.9**	**+0.1**
	baz=228							
WSL	**Shuilin Townsh**	**2.32**	**242**	*e*P	**Pn**	**01 04 46.5**	**+0.4**
WSL	baz=242			*e*S	**Sn**	**01 05 13.8**	**-0.2**
	baz=242							
ECL	**Taimali**	**2.45**	**215**	*e*P	**Pn**	**01 04 48.2**	**+0.4**
	baz=209							
JIRB	**Irabujima**	**2.47**	**85**	*e*S	**Sn**	**01 05 17.3**	**-0.4**
TSMG	**Majia**	**2.54**	**221**	*e*P	**Pn**	**01 04 49.7**	**+0.7**
TSMG	baz=222			*e*S	**Sn**	**01 05 19.2**	**0.0**
	baz=222							
JIKM	**Ikemajima**	**2.55**	**83**	*e*S	**Sn**	**01 05 19.2**	**-0.2**
JMJ	**Miyako jima 2**	**2.58**	**85**	*e*P	**Pn**	**01 04 50.1**	**+0.5**
	baz=86							
JMJ2	**Miyako jima3**	**2.61**	**87**	*e*P	**Pn**	**01 04 50.5**	**+0.5**
JMJ2				S	**Sn**	**01 05 20.7**	**-0.3**
MASBT	**Mashibuluo**	**2.62**	**220**	*e*P	**Pn**	**01 04 50.8**	**+0.7**
MASBT	baz=220			*e*S	**Sn**	**01 05 21.2**	**+0.1**
	baz=220							
TSCK	**Chigu Township**	**2.63**	**236**	*e*P	**Pn**	**01 04 50.2**	**0.0**
	baz=236							
EAST	**Anshuo**	**2.68**	**214**	*e*P	**Pn**	**01 04 49.8**	**-1.2**
	baz=209							
TAWH	**Dawu Township**	**2.70**	**213**	*e*P	**Pn**	**01 04 52.9**	**+1.7**
	baz=213							
LAY	**Lan-yu**	**2.71**	**198**	*e*P	**Pn**	**01 04 51.7**	**+0.4**
	baz=198							
MATB	**Ma-tsu**	**2.73**	**304**	*e*P	**Pn**	**01 04 51.2**	**-0.4**
	baz=303							
LYUB	**Lan-yu**	**2.74**	**197**	*e*P	**Pn**	**01 04 49.8**	**-1.8**
	baz=198							
SCZT	**Fangliau**	**2.81**	**217**	*e*P	**Pn**	**01 04 52.8**	**+0.2**
	baz=229							
SLIU	**Shizi**	**2.84**	**213**	*e*P	**Pn**	**01 04 53.5**	**+0.4**
	baz=210							
PNG	**Penghu**	**2.86**	**249**	*e*P	**Pn**	**01 04 53.6**	**+0.3**
	baz=248							
PHUB	**P'eng-hu**	**2.87**	**248**	*e*P	**Pn**	**01 04 52.2**	**-1.1**
	baz=247							
SMST	**Manzhou Townsh**	**3.00**	**210**	*e*P	**Pn**	**01 04 54.4**	**-0.7**
	baz=206							
PTMZ	**Houxiangcun**	**3.06**	**278**	*e*P	**Pn**	**01 04 55.5**	**-0.5**
	baz=277							
XPSS	**Dashiqiu**	**3.07**	**319**	*e*P	**Pn**	**01 04 55.6**	**-0.5**
	baz=318							
MHZQ	**Yeshan**	**3.43**	**296**	*e*P	**Pn**	**01 05 00.8**	**-0.2**
	baz=295							
AXDP	**Jialang**	**4.09**	**275**	*e*P	**Pn**	**01 05 09.3**	**-0.5**
	baz=274							

*IDC **09** 01:19:54.7±5.7, 6°.29S×154°.87E, h0km, mb3.6/4, mbtmp3.6/4, MS4.2/3, Error ellipse: s-maj=170.7km s-min=31.2km az=109.0*

*NEIC **09** 01:20:00.9±1.6, 5°.89S±0°.09×153°.64E±0°.03, h10km±2km, mb4.3/13, Error ellipse: s-maj=15.6km s-min=6.1km az=357.0*

ISC 09 01:20:04.8±1.4, **5°.90S**±0°.10×**153°.5E**±0°.2, **h35**km, **n23**, σ1°**24**/15, **mb4.0**/8, **MS4.2**/3, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.15**	**322**	Pn	**Pn**	**01 20 37.6**	**-0.7**
PMG	**Port Moresby**	**7.17**	**241**	Pn	**Pn**	**01 21 47.4**	**+0.2**
CTAO	**Charters Tower**	**15.76**	**206**	P	**P**	**01 23 45.8**	**-1.9**
CTAO				IAmb	IAmb	01 24 13.1	
	comp=Z,28nm,1.4s						
DZM	**Mont Dzumac**	**20.38**	**143**	P	Pn	01 24 36.5	-4.3
DZM				IAmb	IAmb	01 24 51.1	
	comp=Z,19nm,1.1s						
WR0	**Warramunga Arr**	**23.12**	**231**	P	**P**	**01 25 07.7**	**-0.3**
WR0				IAmb	IAmb	01 25 09.4	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**23.12**	**232**	P	**P**	**01 25 07.4**	**-0.6**
WB0				IAmb	IAmb	01 25 42.2	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**23.25**	**231**	P	**P**	**01 25 09.4**	**+0.1**
WB2	**Warramunga Arr**	**23.25**	**231**	P	**P**	**01 25 09.3**	**0.0**
WRA	**Warramunga Arr**	**23.27**	**231**	P	**P**	**01 25 12.3**	**+2.9**
	comp=Z,0.7nm,0.7s,baz=58,slow=9.1,SNR=5.4						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**23.27**	**231**	P	**P**	**01 25 08.8**	**-0.6**
ARMA	**Armidale**	**24.45**	**184**	P	**P**	**01 25 21.1**	**+0.6**
ASAR	**Alice Springs**	**25.83**	**225**	P	**P**	**01 25 34.6**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=63,slow=8.4,SNR=9.9						
	comp=Z,1.1nm,0.8s						
FORT	**Forrest**	**34.39**	**221**	P	**P**	**01 26 49.3**	**+0.5**
ASAJ	**Asahikawa**	**50.75**	**350**	LR	LR	01 48 39.4	
	comp=Z,211nm,20.8s,baz=182,slow=34						
SHEM	**Shemya Is, Ala**	**60.98**	**14**	LR	LR	01 52 58.7	
	comp=Z,173nm,20.8s,baz=228,slow=32						
ULN	**Ulaanbaatar**	**67.29**	**328**	P	**P**	**01 30 56.5**	**+0.4**
ULN				IAmb	IAmb	01 31 14.7	
	comp=Z,1.3nm,0.6s						
SONM	**Songino Array**	**67.62**	**328**	P	P	01 31 00.4	+2.2
	comp=Z,0.3nm,0.5s,baz=145,slow=7.0,SNR=4.1						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**67.62**	**328**	P	**P**	**01 30 59.5**	**+1.3**
SONM				IAmb	IAmb	01 31 07.7	
	comp=Z,1.9nm,1.2s						
VNDA	**Vanda**	**71.71**	**178**	P	**P**	**01 31 22.3**	**-0.5**
MKAR	**Makanchi Array**	**81.61**	**319**	P	P	01 32 21.1	+1.9
	comp=Z,0.8nm,0.8s,baz=102,slow=5.4,SNR=7.1						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**81.61**	**319**	P	P	01 32 20.8	+1.5
MAKZ	**Makanchi**	**81.81**	**319**	P	P	01 32 22.3	+1.9
MAKZ				IAmb	IAmb	01 32 46.8	
	comp=Z,2.7nm,1.2s						
NRIK	**Noril'sk**	**87.22**	**341**	LR	LR	02 11 54.0	
	comp=Z,167nm,21.2s,baz=154,slow=35						

*NOU **09** 01:31:39.5, 42°.58S×173°.85E, h0km, MLv4.0/9, South Island, New Zealand*

*WEL **09** 01:31:42.2±0.5, 42°.5±4°×17°.4E±°, h6km±3km, M3.8/32, mB4.6/1, ML4.0/13, MLv3.8/32, Mw(mB)3.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=146.1, confirmed*

ISC 09 01:31:39.8±1.2, **42°.53S**±0°.02×**173°.85E**±0°.04, **h6**km±10km, **n76**, σ1°**34**/89, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.25**	**296**	P	**Pg**	**01 31 44.6**	**-0.2**
KHZ	**Kahutara**	**0.25**	**296**	P	**Pg**	**01 31 44.6**	**-0.2**
KHZ				S	**Sg**	**01 31 47.0**	**-1.1**
GVZ	**Greta Valley S**	**0.74**	**233**	P	**Pn**	**01 31 57.1**	**+0.3**
GVZ				S	**Sn**	**01 32 08.7**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.81**	**1**	P	**Pb**	**01 31 56.0**	**-0.3**
BSWZ				S	**Sg**	**01 32 08.2**	**+2.2**
CMWZ	**Cape Campbell**	**0.82**	**19**	P	**Pn**	**01 31 58.2**	**+0.2**
CMWZ				S	**Sn**	**01 32 11.6**	**+1.2**
THZ	**Tophouse**	**1.04**	**317**	P	**Pb**	**01 31 59.2**	**-1.0**
THZ				S	**Sb**	**01 32 11.0**	**-3.1**
AMCZ	**Amberley**	**1.09**	**233**	P	**Pg**	**01 32 02.2**	**+1.4**
TUWZ	**Tuamarina**	**1.10**	**4**	P	**Pn**	**01 32 01.5**	**-0.2**
TUWZ				S	**Sb**	**01 32 15.6**	**-0.2**
LTZ	**Lake Taylor**	**1.19**	**257**	P	**Pn**	**01 32 02.8**	**-0.3**
LTZ				S	**Sb**	**01 32 18.8**	**+0.3**
OKCZ	**Okains Bay**	**1.33**	**206**	P	**Pb**	**01 32 05.6**	**+0.4**
OKCZ				S	**Sg**	**01 32 23.5**	**+0.9**
TCW	**Tory Channel**	**1.35**	**14**	P	**Pn**	**01 32 04.9**	**-0.4**
NNZ	**Nelson**	**1.35**	**345**	P	**Pn**	**01 32 05.1**	**-0.1**
SNZO	**South Karori**	**1.37**	**28**	P	**Pb**	**01 32 05.5**	**-0.4**
MRNZ	**Matariki Terra**	**1.39**	**324**	P	**Pn**	**01 32 05.8**	**0.0**
PLWZ	**Palliser**	**1.42**	**48**	P	**Pb**	**01 32 05.9**	**-0.8**
WEL	**Wellington**	**1.42**	**29**	P	**Pb**	**01 32 06.2**	**-0.5**
MQZ	**McQueen's Vall**	**1.47**	**216**	P	**Pn**	**01 32 06.4**	**-0.4**
MQZ				S	**Sb**	**01 32 25.8**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.51**	**207**	P	**Pb**	**01 32 08.0**	**-0.3**
AKCZ				S	**Sb**	**01 32 27.5**	**-0.1**
OXZ	**Oxford**	**1.55**	**238**	P	**Pn**	**01 32 07.5**	**-0.5**
OXZ				S	**Sn**	**01 32 26.8**	**-1.6**
TKNZ	**Takaka Hill**	**1.63**	**336**	P	**Pn**	**01 32 09.5**	**+0.4**
TKNZ				S	**Sn**	**01 32 30.6**	**+0.2**
PAWZ	**Paruwai Farm**	**1.64**	**46**	P	**Pn**	**01 32 08.8**	**-0.5**
CAW	**Cannon Point**	**1.69**	**33**	P	**Pn**	**01 32 09.6**	**-0.2**
DSZ	**Denniston Nort**	**1.71**	**297**	P	**Pn**	**01 32 10.3**	**+0.1**
DSZ				S	**Sb**	**01 32 33.5**	**+0.1**
DUWZ	**D'Urville Isla**	**1.73**	**2**	P	**Pn**	**01 32 10.9**	**+0.5**
RACZ	**Rakaia**	**1.73**	**226**	P	**Pn**	**01 32 10.3**	**-0.2**
TRWZ	**Traveller**	**1.78**	**51**	P	**Pn**	**01 32 10.8**	**-0.2**
INZ	**Inchbonnie**	**1.79**	**263**	P	**Pn**	**01 32 11.5**	**+0.3**
MTW	**Mount Morrison**	**1.84**	**43**	P	**Pn**	**01 32 11.5**	**-0.5**
KIW	**Kapiti Island**	**1.84**	**26**	P	**Pn**	**01 32 12.2**	**+0.2**
MHCZ	**Mount Hutt**	**1.95**	**238**	P	**Pn**	**01 32 12.9**	**-0.6**
QRZ	**Quartz Range**	**1.97**	**329**	P	**Pn**	**01 32 14.9**	**+1.2**
QRZ	**Quartz Range**	**1.97**	**329**	P	**Pn**	**01 32 14.5**	**+0.9**
OGWZ	**Otaki Gorge**	**1.98**	**31**	P	**Pn**	**01 32 13.5**	**-0.3**
WACZ	**Wakanui South**	**2.04**	**225**	P	**Pn**	**01 32 14.7**	**0.0**
TMWZ	**Te Maipa**	**2.08**	**48**	P	**Pn**	**01 32 14.8**	**-0.5**
MRZ	**Mangatainoka R**	**2.27**	**35**	P	**Pn**	**01 32 17.3**	**-0.6**
RPZ	**Rata Peaks**	**2.37**	**239**	P	**Pn**	**01 32 18.5**	**-0.7**
RPZ	**Rata Peaks**	**2.37**	**239**	P	**Pn**	**01 32 18.7**	**-0.4**
ARCZ	**Arundel**	**2.41**	**233**	P	**Pn**	**01 32 19.4**	**-0.4**
BFZ	**Birch Farm**	**2.58**	**45**	P	**Pn**	**01 32 22.2**	**+0.2**
BFZ	**Birch Farm**	**2.58**	**45**	P	**Pn**	**01 32 21.4**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.70**	**252**	P	**Pn**	**01 32 24.6**	**+0.8**
TMZ	**Timaru**	**2.78**	**227**	P	**Pn**	**01 32 24.8**	**0.0**
DVHZ	**Dannevirke**	**2.83**	**39**	P	**Pn**	**01 32 27.7**	**+2.1**
WAZ	**Wanganui**	**2.90**	**18**	P	**Pb**	**01 32 30.3**	**-1.6**
TSZ	**Takapari Road**	**2.94**	**34**	P	**Pn**	**01 32 26.6**	**-0.4**
LREZ	**Lake Rotokare**	**3.09**	**8**	P	**Pn**	**01 32 36.2**	**+1.0**
FOZ	**Fox Glacier**	**3.12**	**250**	P	**Pn**	**01 32 29.9**	**+0.4**
KHEZ	**Kahui Hut**	**3.23**	**2**	P	**Pn**	**01 32 31.5**	**+0.4**
KHEZ	**Kahui Hut**	**3.23**	**2**	P	**Pb**	**01 32 36.9**	**-0.7**
LBZ	**Lake Benmore**	**3.25**	**234**	P	**Pn**	**01 32 31.6**	**+0.3**
PKE	**Pukeiti**	**3.33**	**2**	P	**Pb**	**01 32 39.3**	**0.0**
ODZ	**Otahua Downs**	**3.42**	**222**	P	**Pn**	**01 32 33.8**	**+0.1**
ODZ	**Otahua Downs**	**3.42**	**222**	P	**Pn**	**01 32 33.6**	**-0.1**
PKVZ	**Pokaka**	**3.43**	**20**	P	**Pn**	**01 32 36.8**	**+3.0**
MOVZ	**Moawhango**	**3.44**	**25**	P	**Pn**	**01 32 36.2**	**+2.2**
KRHZ	**Kereru**	**3.46**	**34**	P	**Pn**	**01 32 34.1**	**0.0**
WNVZ	**Wahianoa**	**3.46**	**23**	P	**Pn**	**01 32 36.5**	**+2.2**
VRZ	**Vera Road**	**3.47**	**12**	P	**Pn**	**01 32 36.2**	**+1.9**
TRVZ	**Turoa**	**3.47**	**22**	P	**Pn**	**01 32 37.1**	**+2.5**
TUVZ	**Tukino**	**3.53**	**23**	P	**Pb**	**01 32

PTBC				*e*S	**Sb**	**01 42 47.9**	**-0.9**
PTBC				*i*		01 42 50.0	
	comp=Z,23nm,0.3s						
ZARC	**Zaragoza, Cauc**	**2.93**	**276**	*e*P	**Pn**	**01 42 17.5**	**+0.7**
ZARC				*e*S	**Sn**	**01 42 53.5**	**+1.1**
ZARC				*i*		01 43 00.2	
	comp=Z,8.1nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.97**	**184**	*e*S	**Sb**	**01 43 00.6**	**+1.0**
PTGC				*i*		01 43 07.0	
	comp=Z,36nm,0.3s						
CHIC	**Chingaza**	**3.11**	**215**	*e*P	**Pn**	**01 42 19.4**	**-0.2**
CHIC				*e*S	**Sn**	**01 42 58.7**	**+1.3**
CHIC				*i*		01 43 18.4	
	comp=Z,5.4nm,0.5s						
NORC	**Norcasia**	**3.34**	**241**	*e*P	**Pn**	**01 42 24.4**	**+1.9**
NORC				*e*S	**Sn**	**01 43 04.0**	**+1.3**
NORC				*i*		01 43 13.3	
	comp=Z,8.2nm,0.5s						
CURV	**Curarigua**	**3.42**	**34**	*e*P	**Pn**	**01 42 24.6**	**+1.0**
CURV				*e*S	**Sn**	**01 43 04.0**	**-0.6**
SIQV	**Siquisique**	**4.03**	**31**	*e*P	**Pn**	**01 42 33.6**	**+1.7**
SIQV				*e*S	**Sn**	**01 43 16.9**	**-2.7**
SJCC	**San Jacinto, C**	**4.20**	**310**	*e*P	**Pn**	**01 42 35.6**	**+1.3**
SJCC				*e*S	**Sn**	**01 43 26.7**	**+2.8**
SJCC				*i*		01 43 48.2	
	comp=Z,3.7nm,0.5s						
BAUV	**El Baul**	**4.22**	**65**	*e*P	**Pn**	**01 42 34.8**	**+0.2**
BAUV				*e*S	**Sn**	**01 43 22.7**	**-1.7**
MAPV	**Macapo**	**4.32**	**52**	*e*P	**Pn**	**01 42 36.1**	**+0.1**
MAPV				*e*S	**Sn**	**01 43 26.2**	**-0.7**
JACV	**Jacura**	**4.94**	**38**	*e*P	**Pn**	**01 42 44.8**	**+0.4**
BENV	**Beln**	**5.09**	**57**	*e*P	**Pn**	**01 42 48.1**	**+1.6**
BENV				*e*S	**Sn**	**01 43 42.6**	**-3.2**
CACV	**CAICARA DEL OR**	**5.35**	**86**	*e*P	Pb	01 42 57.3	-6.2
TACV	**Tcata**	**5.66**	**58**	*e*P	**Pn**	**01 42 55.0**	**+0.5**
MERV	**Las Mercedes**	**5.94**	**69**	*e*P	**Pn**	**01 42 58.3**	**+0.2**

*TAP **09** 02:00:01.3,24.˚51N×122.˚88E,h71km,ML2.6,C*
*JMA **09** 02:00:01.6±0.1,25.˚N±2.˚×122.˚9E±0.˚6,h68km,MV2.3/8,*
NW OFF ISHIGAKIJIMA IS

ISC 09 02:00:02.5±1.4,**24.˚42N**±0.˚07×**122.˚86E**±0.˚03,**h63**km±8km,
n39,σ0°**93**/**67**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.09**	**68**	P	**Pn**	**02 00 11.7**	**-0.1**
JYNG				*e*S	**Sn**	**02 00 19.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.14**	**73**	P	**Pn**	**02 00 11.9**	**-0.1**
YOJ				S	**Sn**	**02 00 19.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.14**	**73**	P	**Pn**	**02 00 11.9**	**-0.1**
	baz=109						
YOJ				S	**Sn**	**02 00 19.6**	**+0.6**
	baz=109						
IRIF	**Iriomote-Funau**	**0.80**	**96**	P	**Pn**	**02 00 17.9**	**-0.2**
IRIF				S	**Sn**	**02 00 29.9**	**+0.3**
HATJ	**Hateruma jima**	**0.94**	**112**	*e*P	**Pn**	**02 00 20.0**	**+0.2**
TWC	**Suao**	**0.94**	**282**	*i* P	**Pn**	**02 00 18.9**	**-1.0**
	baz=283						
TWC				*i* S	**Sn**	**02 00 31.7**	**-1.0**
	baz=283						
ENA	**Nanau**	**1.02**	**271**	P	**Pn**	**02 00 20.8**	**-0.1**
	baz=269						
ENA				*i* S	**Sn**	**02 00 35.1**	**+0.6**
	baz=269						
JKRS	**Kuro-shima**	**1.06**	**100**	*e*P	**Pn**	**02 00 21.8**	**+0.3**
JKRS				S	**Sn**	**02 00 36.5**	**+1.0**
TIPB	**Shuangxi**	**1.09**	**301**	P	**Pn**	**02 00 21.8**	**0.0**
	baz=296						
TWE	**Neicheng**	**1.13**	**286**	P	**Pn**	**02 00 21.8**	**-0.5**
	baz=287						
JIJ	**Ishigaki jima**	**1.17**	**92**	P	**Pn**	**02 00 22.7**	**-0.2**
JIJ				S	**Sn**	**02 00 37.5**	**-0.5**
NACB	**Ninganchiao**	**1.18**	**258**	P	**Pn**	**02 00 22.2**	**-0.7**
	baz=254						
NACB				S	**Sn**	**02 00 37.5**	**-0.8**
	baz=254						
ENTT	**Nioudou**	**1.20**	**281**	*i* P	**Pn**	**02 00 23.2**	**0.0**
	baz=276						
ENTT				S	**Sn**	**02 00 38.9**	**+0.1**
	baz=276						
TWD	**Chiawan**	**1.20**	**254**	P	**Pn**	**02 00 22.4**	**-0.9**
	baz=250						
TWD				S	**Sn**	**02 00 37.9**	**-0.9**
	baz=250						
FUSB	**Fushanzhiwuyua**	**1.21**	**287**	P	**Pn**	**02 00 22.9**	**-0.5**
	baz=288						
FUSB				S	**Sn**	**02 00 39.3**	**+0.3**
	baz=288						
LATG	**Datong**	**1.22**	**276**	P	**Pn**	**02 00 23.6**	**0.0**
	baz=278						
LATG				S	**Sn**	**02 00 39.5**	**+0.1**
	baz=278						
ETLH	**Xiulin Townshi**	**1.27**	**261**	P	**Pn**	**02 00 23.5**	**-0.8**
	baz=248						
ETLH				S	**Sn**	**02 00 40.2**	**-0.5**
	baz=248						
JISG	**Ishigakijimahi**	**1.33**	**82**	P	**Pn**	**02 00 24.4**	**-0.6**
JISG				S	**Sn**	**02 00 40.4**	**-1.5**
NSK	**Sanguang**	**1.39**	**281**	*i* P	**Pn**	**02 00 26.0**	**+0.2**
	baz=277						
NSK				S	**Sn**	**02 00 42.0**	**-1.4**
	baz=277						
WHF	**Hehuan Shan**	**1.48**	**260**	*i* P	**Pn**	**02 00 26.7**	**-0.6**
	baz=246						
WHF				*i* S	**Sn**	**02 00 45.7**	**-0.3**
	baz=246						
FUSS	**Fushou**	**1.48**	**264**	P	**Pn**	**02 00 27.6**	**+0.4**
	baz=260						
FUSS				S	**Sn**	**02 00 45.2**	**-0.7**
	baz=260						
TWT	**Tachien**	**1.54**	**264**	S	**Sn**	**02 00 47.6**	**+0.4**
	baz=260						
CHGB	**Renai**	**1.58**	**257**	P	**Pn**	**02 00 27.6**	**-0.9**
	baz=244						
CHGB				S	**Sn**	**02 00 47.7**	**-0.4**
	baz=244						
NFF	**Wufeng Townshi**	**1.60**	**278**	P	**Pn**	**02 00 28.9**	**+0.2**
	baz=275						
HGSD	**Ruisui**	**1.60**	**235**	P	**Pn**	**02 00 28.1**	**-0.5**
	baz=232						
HGSD				S	**Sn**	**02 00 48.7**	**+0.3**
	baz=232						
OWD	**Renai**	**1.60**	**254**	*i* P	**Pn**	**02 00 28.1**	**-0.7**
	baz=250						
OWD				*i* S	**Sn**	**02 00 47.5**	**-1.1**
	baz=250						
WUSB	**Renai**	**1.65**	**255**	P	**Pn**	**02 00 29.3**	**-0.1**
	baz=244						
WUSB				S	**Sn**	**02 00 49.2**	**-0.4**
	baz=244						
EHY	**Hungye**	**1.67**	**237**	P	**Pn**	**02 00 28.6**	**-1.0**
	baz=243						
EHY				S	**Sn**	**02 00 48.4**	**-1.7**
	baz=243						
VWDT	**VWDT**	**1.70**	**247**	P	**Pn**	**02 00 29.9**	**-0.1**
	baz=244						
VWDT				S	**Sn**	**02 00 50.4**	**-0.4**
	baz=244						
WHP	**Taichung City**	**1.75**	**266**	P	**Pn**	**02 00 31.6**	**+0.9**
	baz=262						
WHP				S	**Sn**	**02 00 53.4**	**+1.3**
	baz=262						
YULB	**Yu-li**	**1.76**	**235**	P	**Pn**	**02 00 30.0**	**-0.7**
	baz=242						
YULB				S	**Sn**	**02 00 50.9**	**-1.3**
	baz=242						
SSLB	**Suanglung**	**1.85**	**251**	P	**Pn**	**02 00 32.0**	**0.0**
	baz=247						
SSLB				S	**Sn**	**02 00 55.4**	**+1.0**
	baz=247						
SMLT	**Sun Moon Lake**	**1.87**	**254**	P	**Pn**	**02 00 33.4**	**+1.1**
	baz=245						
TYC	**Yuchr**	**1.90**	**255**	P	**Pn**	**02 00 33.4**	**+0.8**
	baz=246						
WHYT	**Xinyi Township**	**1.97**	**249**	S	**Sn**	**02 00 59.1**	**+1.8**
	baz=246						
EDH	**Donghe**	**2.03**	**225**	*i* S	**Sn**	**02 00 56.5**	**-2.1**
	baz=223						
CHN5	**Tsauling**	**2.16**	**248**	S	**Sn**	**02 01 04.2**	**+2.3**
	baz=237						
TPUB	**Ta-pu**	**2.33**	**242**	P	**Pn**	**02 00 40.0**	**+1.6**
	baz=240						
CHN4	**Tsaushan**	**2.33**	**243**	*i* P	**Pn**	**02 00 40.1**	**+1.6**
	baz=234						
CHN4				*i* S	**Sn**	**02 01 08.5**	**+2.5**
	baz=234						

IDC 09 02:04:26.7±27.0,**22.˚32S**×**173.˚34W**,**h0km**,**mb4.4**/4,
mbtmp4.4/4,**Error ellipse: s-maj=493.3km**
s-min=151.3km az=76.0,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.66**	**266**	P	P	02 11 44.2	+0.3
	5.4nm,0.4s,baz=92,slow=9.2,SNR=12						
	5.4nm,0.4s						
STKA	**Stephens Creek**	**40.99**	**247**	P	P	02 12 11.5	0.0
	1.2nm,0.4s,baz=88,slow=9.4,SNR=4.9						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**48.35**	**258**	P	P	02 13 10.3	-0.3
	2.4nm,0.7s,baz=96,slow=7.9,SNR=23						
	2.4nm,0.7s						
WRA	**Warramunga Arr**	**48.66**	**263**	P	P	02 13 12.5	-0.4
	3.4nm,0.6s,baz=102,slow=8.2,SNR=14						
	3.4nm,0.6s						

*DJA **09** 02:13:40.9±0.2,8.˚S±2.˚×12.˚8E±.˚,h139km±3km,M4.7/37,*
mB5.3/12,mb4.7/37,MLv4.7/14,Mw(mB)4.7/12
*IDC **09** 02:13:40.9±1.5,7.˚41S×128.˚34E,h154km±14km,mb3.8/9,*
mbtmp4.5/13,Error ellipse: s-maj=14.0km s-min=11.2km
az=85.0
*NEIC **09** 02:13:41.7±2.7,7.˚56S±0.˚08×128.˚38E±0.˚07,h160km±8km,*
mb4.6/20,Error ellipse: s-maj=12.4km s-min=9.8km
az=198.0

ISC 09 02:13:40.8±0.4,**7.˚53S**±0.˚04×**128.˚45E**±0.˚05,**h151**km,**n132**,
σ1°**49**/**134**,**mb4.4**/**19**,**1C-1D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.86**	**99**	Pn	**Pn**	**02 14 27.4**	**+0.9**
SAUI	**Saumlaki**	**2.86**	**99**	P	**Pn**	**02 14 28.1**	**+1.7**
SAUI	**Saumlaki**	**2.86**	**99**	P	**Pn**	**02 14 27.5**	**+1.1**
BNDI	**Bandanaira**	**3.32**	**26**	P	**Pn**	**02 14 33.5**	**+1.2**
AAI	**Ambon**	**3.83**	**356**	P	**Pn**	**02 14 40.1**	**+1.2**
MSAI	**Masohi**	**4.18**	**7**	P	**Pn**	**02 14 45.1**	**+1.5**
NLAI	**Namlea**	**4.47**	**342**	P	**Pn**	**02 14 50.5**	**+3.2**
SOEI	**Soe**	**4.69**	**242**	Pn	**Pn**	**02 14 50.3**	**-0.1**
SOEI	**Soe**	**4.69**	**242**	P	**Pn**	**02 14 51.2**	**+0.8**
SOEI	**Soe**	**4.69**	**242**	P	**Pn**	**02 14 51.5**	**+1.1**
SOEI				S	**Sn**	**02 15 43.4**	**-1.1**
BATI	**Baumata**	**5.43**	**240**	P	**Pn**	**02 15 01.0**	**+0.9**
	429nm,0.4s,baz=106,slow=3.1,SNR=48						
BATI				S	**Sn**	**02 16 00.6**	**-1.3**
	444nm,0.4s,baz=322,slow=14,SNR=16						
BATI	**Baumata**	**5.43**	**240**	P	**Pn**	**02 15 00.9**	**+0.9**
	520nm,0.5s,7μm2.9nm						
BATI				S	**Sn**	**02 16 00.5**	**-1.4**
	520nm,0.5s,7μm2.9nm						
MTN	**Manton Dam**	**5.90**	**154**	Pn	**Pn**	**02 15 06.8**	**+0.5**
MTN	**Manton Dam**	**5.90**	**154**	P	**Pn**	**02 15 07.3**	**+1.0**
FAKI	**Fak Fak**	**5.94**	**40**	Pn	**Pn**	**02 15 05.3**	**-1.4**
FAKI	**Fak Fak**	**5.94**	**40**	P	**Pn**	**02 15 06.4**	**-0.4**
FAKI	**Fak Fak**	**5.94**	**40**	P	**Pn**	**02 15 05.1**	**-1.7**
	41nm,0.7s,1μm0.6nm						
FAKI				S	**Sn**	**02 16 09.3**	**-4.7**
	41nm,0.7s,1μm0.6nm						
SANI	**Sanana**	**5.97**	**336**	P	**Pn**	**02 15 08.3**	**+1.1**
	16nm,0.6s,0.1nm						
MMRI	**Maumere**	**6.25**	**259**	Pn	**Pn**	**02 15 10.2**	**-0.7**
MMRI	**Maumere**	**6.25**	**259**	P	**Pn**	**02 15 11.4**	**+0.4**
	117nm,0.9s,0.5nm						
KDU	**Kakadu**	**6.47**	**143**	P	**Pn**	**02 15 14.6**	**+0.7**
SIJI	**Sorong**	**7.18**	**23**	P	**Pn**	**02 15 23.1**	**-0.3**
	14nm,0.3s,baz=234,slow=22,SNR=40						
SIJI				S	**Sn**	**02 16 41.5**	**-2.4**
	16nm,0.4s,baz=64,slow=22,SNR=6.1						
SWI	**Sorong**	**7.19**	**23**	P	**Pn**	**02 15 23.8**	**+0.3**
	39nm,0.5s,0.2nm						
BSSI	**Bau Bau, Buton**	**8.03**	**279**	P	**Pn**	**02 15 34.6**	**0.0**
	84nm,0.9s						
KNRA	**Kununurra**	**8.10**	**178**	Pn	**Pn**	**02 15 34.9**	**-0.7**
KNRA	**Kununurra**	**8.10**	**178**	P	**Pn**	**02 15 35.4**	**-0.3**
BASI	**Baing, Sumba**	**8.23**	**250**	P	**Pn**	**02 15 35.0**	**-2.3**
	144nm,0.8s						
RKPI	**Ransiki, Papua**	**8.26**	**44**	P	**Pn**	**02 15 35.6**	**-2.2**
	144nm,0.6s,8μm						
BKSI	**Bulukumba**	**8.56**	**284**	P	**Pn**	**02 15 41.8**	**0.0**
	45nm,1.0s,564nm						
LUWI	**Luwuk**	**8.58**	**318**	Pn	**Pn**	**02 15 42.9**	**+0.9**
LUWI	**Luwuk**	**8.58**	**318**	P	**Pn**	**02 15 44.3**	**+2.3**
	97nm,1.3s,4μm						
KAPI	**Kappang**	**9.00**	**286**	P	**Pn**	**02 15 49.7**	**+2.0**
	8.0nm,0.5s,baz=159,slow=5.5,SNR=5.0						
KAPI	**Kappang**	**9.00**	**286**	Pn	**Pn**	**02 15 46.5**	**-1.2**
WBSI	**Waikabubak, Su**	**9.20**	**256**	P	**Pn**	**02 15 48.3**	**-2.1**
	80nm,0.7s,3μm						
SPSI	**Sidrap Palu**	**9.34**	**292**	P	**Pn**	**02 15 51.9**	**-0.2**
	44nm,0.8s						
APSI	**Ampana**	**9.45**	**314**	P	**Pn**	**02 15 55.5**	**+1.9**
	64nm,1.1s						
GTOI	**Gorontalo**	**9.76**	**326**	P	Pn	02 16 02.9	+5.2
	18nm,0.8s						
MRSI	**Marisa**	**10.27**	**320**	P	**Pn**	**02 16 06.7**	**+2.2**
	42nm,1.0s,964nm						
PLAI	**Plampang**	**10.65**	**262**	P	**Pn**	**02 16 07.8**	**-1.7**
PLAI	**Plampang**	**10.65**	**262**	P	**Pn**	**02 16 06.8**	**-2.7**
	32nm,0.5s						
FITZ	**Fitzroy Crossi**	**10.86**	**194**	Pn	**Pn**	**02 16 10.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.86**	**194**	P	**Pn**	**02 16 11.1**	**-1.1**
TOLI2	**Tolitoli**	**11.50**	**318**	Pn	**Pn**	**02 16 21.5**	**+0.9**
TWSI	**Taliwang, Sumb**	**11.52**	**263**	P	**Pn**	**02 16 18.5**	**-2.4**
	19nm,1.2s						
BKB	**Balikpapan**	**13.09**	**298**	P	**P**	**02 16 46.7**	**+0.8**
WB0	**Warramunga Arr**	**13.46**	**155**	Pn	**Pn**	**02 16 43.1**	**-2.8**
WRAB	**Tennant Creek**	**13.59**	**156**	Pn	**Pn**	**02 16 45.0**	**-2.6**
WRA	**Warramunga Arr**	**13.60**	**156**	P	**Pn**	**02 16 45.0**	**-2.7**
	34nm,0.5s,baz=331,slow=12,SNR=25						
WRA				S	Sn	02 19 07.1	-11
	26nm,0.7s,baz=334,slow=24,SNR=14						
WRA	**Warramunga Arr**	**13.60**	**156**	Pn	**Pn**	**02 16 44.8**	**-2.9**
WB2	**Warramunga Arr**	**13.60**	**156**	Pn	**Pn**	**02 16 45.0**	**-2.8**
WR0	**Warramunga Arr**	**13.70**	**155**	Pn	**Pn**	**02 16 45.9**	**-3.1**
BBKI	**Banjar Baru**	**14.14**	**286**	P	**P**	**02 16 57.0**	**-0.5**
	126nm,1.2s,13μm						
JAGI	**Jajag, Banyuwa**	**14.19**	**265**	Pn	**Pn**	**02 16 53.7**	**-1.6**
JAGI	**Jajag, Banyuwa**	**14.19**	**265**	P	**P**	**02 16 56.2**	**-2.0**
	27nm,1.6s						
JAGI	**Jajag, Banyuwa**	**14.19**	**265**	P	**Pn**	**02 16 54.4**	**-0.9**
	28nm,1.5s						
COEN	**Coen**	**15.81**	**115**	Pn	**Pn**	**02 17 13.8**	**-1.5**
COEN				IAmb	IAmb	02 17 18.6	
	comp=Z,23nm,0.7s						
COEN	**Coen**	**15.81**	**115**	P	**Pn**	**02 17 15.2**	**-0.1**
MBWA	**Marble Bar**	**15.96**	**211**		**Pn**	**02 17 15.4**	**-1.7**
MBWA				IAmb	IAmb	02 17 28.0	
	comp=Z,22nm,1.1s						
MBWA	**Marble Bar**	**15.96**	**211**	P	**Pn**	**02 17 16.6**	**-0.5**
PSA00	**Pilbara Seismi**	**16.25**	**210**		**Pn**	**02 17 19.3**	**-1.3**
PSA00				IAmb	IAmb	02 17 22.6	
	comp=Z,22nm,0.8s						
PWJI	**Pagerwojo**	**16.50**	**267**	P	**P**	**02 17 22.1**	**-1.6**
	comp=Z,23nm,1.1s						
QIS	**Mount Isa**	**16.86**	**141**	P	**Pn**	**02 17 28.5**	**+0.4**
AS31	**Alice Springs**	**16.88**	**163**		**Pn**	**02 17 28.3**	**0.0**
AS31				IAmb	IAmb	02 17 30.4	
	comp=Z,25nm,0.6s						
ASAR	**Alice Springs**	**16.88**	**163**	P	**Pn**	**02 17 29.4**	**+1.1**
	comp=Z,52nm,0.5s,baz=338,slow=10,SNR=393						
ASAR				S	S	02 20 20.3	-16
	comp=Z,7.5nm,0.5s,baz=331,slow=15,SNR=2.9						
ASAR	**Alice Springs**	**16.88**	**163**	P	**Pn**	**02 17 28.3**	**0.0**
AS01	**Alice Springs**	**16.89**	**162**	P	**Pn**	**02 17 28.8**	**+0.4**
	comp=Z,93nm,0.7s						
PBKI	**Pangkalan Bun**	**17.39**	**285**	P	**Pn**	**02 17 35.1**	**+0.7**
	comp=Z,210nm,0.4s						
WRKA	**Warakurna**	**17.41**	**180**	P	**Pn**	**02 17 35.0**	**+0.3**
KKM	**Kota Kinabalu**	**18.19**	**318**	P	**P**	**02 17 42.2**	**-0.1**
KKM				IAmb	IAmb	02 17 55.7	
	comp=Z,12nm,0.7s						
PMG	**Port Moresby**	**18.60**	**97**	P	**Pn**	**02 17 48.8**	**+0.1**
	comp=Z,21nm,0.7s,baz=266,slow=14,SNR=5.5						
PMG	**Port Moresby**	**18.60**	**97**	P	**P**	**02 17 47.9**	**+1.2**
PMG				IAmb	IAmb	02 17 52.1	
	comp=Z,27nm,0.8s						
MTSU	**Mount Surprise**	**18.70**	**126**	P	**Pn**	**02 17 49.7**	**-0.3**
SBUM	**Sibu**	**18.99**	**301**	P	**P**	**02 17 50.8**	**-0.2**
SBUM				IAmb	IAmb	02 17 54.3	
	comp=Z,30nm,0.9s						

GIRL	**Giralia**	**20.32**	**221**	P	Pn	02 18 06.4	-2.6
BBJI	**Bungbulang**	**20.63**	**269**	P	**P**	**02 18 09.8**	**+1.1**
MEEK	**Meekatharra**	**21.18**	**205**	P	**P**	**02 18 14.4**	**-0.1**
OOD	**Oodnadatta**	**21.29**	**162**	P	**P**	**02 18 16.3**	**+0.7**
CTA	**Charters Tower**	**21.29**	**128**	P	**P**	**02 18 17.4**	**+1.7**
	comp=Z,4.8nm,0.7s,baz=302,slow=13,SNR=1.9						
	comp=Z,4.8nm,0.7s						
FORT	**Forrest**	**23.13**	**181**	P	**P**	**02 18 33.3**	**-0.5**
FORT	**Forrest**	**23.13**	**181**	P	**P**	**02 18 35.0**	**+1.3**
INKA	**Innaminka**	**23.23**	**151**	P	**P**	**02 18 35.6**	**+0.9**
MULG	**Mulgathing**	**23.24**	**168**	P	**P**	**02 18 35.6**	**+0.9**
QLP	**Quilpie**	**24.17**	**144**	P	**P**	**02 18 44.2**	**+1.0**
MORW	**Morawa**	**24.41**	**207**	P	**P**	**02 18 46.0**	**+0.6**
MORW	**Morawa**	**24.41**	**207**	P	**P**	**02 18 47.0**	**+1.6**
KMBL	**Kambalda**	**24.50**	**194**	P	**P**	**02 18 46.8**	**+0.6**
LCRK	**Leigh Creek**	**24.57**	**159**	P	**P**	**02 18 47.8**	**+1.0**
BLDU	**Ballidu**	**25.47**	**204**	P	**P**	**02 18 55.3**	**+0.3**
	comp=Z,28nm,0.6s						
KLBR	**Kellerberrin**	**25.94**	**201**	P	**P**	**02 18 59.7**	**+0.5**
BBOO	**Buckleboo**	**26.13**	**165**	P	**P**	**02 19 00.1**	**-0.8**
BBOO	**Buckleboo**	**26.13**	**165**	P	**P**	**02 19 01.7**	**+0.8**
MUN	**Mundaring**	**26.87**	**204**	P	**P**	**02 19 08.5**	**+1.0**
STKA	**Stephens Creek**	**27.15**	**155**	P	**P**	**02 19 10.8**	**+0.7**
	comp=Z,13nm,0.5s,baz=328,slow=9.4,SNR=41						
	comp=Z,13nm,0.5s						
STKA	**Stephens Creek**	**27.15**	**155**	P	**P**	**02 19 10.4**	**+0.4**
STKA	**Stephens Creek**	**27.15**	**155**	P	**P**	**02 19 11.1**	**+1.1**
NWAO	**Narrogin (SRO)**	**27.33**	**201**	P	**P**	**02 19 09.7**	**-1.9**
NWAO	**Narrogin (SRO)**	**27.33**	**201**	P	**P**	**02 19 12.2**	**+0.5**
HTT	**Hallett**	**27.54**	**161**	P	**P**	**02 19 14.7**	**+1.1**
CMSA	**Cobar Meteorol**	**28.80**	**148**	P	**P**	**02 19 26.1**	**+1.4**
RKGY	**Rocky Gully**	**28.95**	**200**	P	**P**	**02 19 28.1**	**+2.1**
ARPS	**Mount Arapiles**	**31.56**	**159**	P	**P**	**02 19 50.7**	**+1.7**
CAN	**Canberra**	**33.47**	**149**	P	**P**	**02 20 06.4**	**+0.6**
CAN				IAmb	IAmb	02 20 30.3	
	comp=Z,28nm,1.4s						
TOO	**Toolangi**	**33.67**	**155**	P	**P**	**02 20 07.0**	**-0.4**
TOO				IAmb	IAmb	02 20 10.5	
	comp=Z,23nm,1.4s						
TOO	**Toolangi**	**33.67**	**155**	P	**P**	**02 20 08.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**38.92**	**312**	P	**P**	**02 20 51.6**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=138,slow=7.3,SNR=7.2						
	comp=Z,1.4nm,0.3s						
WHN	**Wuhan**	**40.20**	**341**	⇑P	**P**	**02 21 04.7**	**+2.2**
NJ2	**Nanjing**	**40.41**	**347**	*e*P	**P**	**02 21 07.4**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
JNU	**Nakatsue**	**40.49**	**3**	P	**P**	**02 21 05.8**	**+0.9**
PZH	**PanZhiHua**	**42.62**	**323**	P	**P**	**02 21 25.4**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
HHC	**Hu-ho-hao-te**	**50.59**	**343**	*e*P	**P**	**02 22 26.6**	**+2.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,250nm,5.3s						
XLT	**XiLinHaoTe**	**52.40**	**349**	*e*P	P	02 22 46.4	+8.7
XLT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,78nm,3.8s						
BKZ	**Black Stump Fm**	**53.33**	**134**	P	**P**	**02 22 44.9**	**+0.3**
GTA	**Gaotai**	**53.71**	**333**	*e*P	**P**	**02 22 48.8**	**+1.4**
GTA				pP	pwP	02 23 25.9	-0.5
GTA				sP	PcP	02 23 46.8	-4.9
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,94nm,4.4s						
GTA				LR	LR		
	comp=N,130nm,17.4s						
GTA				LR	LR		
	comp=E,100nm,15.3s						
GTA				LR	LR		
	comp=Z,170nm,16.0s						
SONM	**Songino Array**	**58.47**	**343**	P	**P**	**02 23 20.9**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=173,slow=6.3,SNR=6.1						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**58.47**	**343**	P	**P**	**02 23 21.9**	**+0.8**
WMQ	**Urumqi**	**63.01**	**328**	*e*P	**P**	**02 23 54.9**	**+3.1**
MK31	**Makanchi Array**	**67.84**	**328**	P	**P**	**02 24 21.1**	**-1.6**
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**02 24 21.3**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=125,slow=6.3,SNR=8.0						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**02 24 20.9**	**-1.9**
ZAA0	**Zalesovo Array**	**71.39**	**335**	P	**P**	**02 24 42.9**	**-1.4**
ZALV	**Zalesovo Beam**	**71.39**	**335**	P	**P**	**02 24 42.3**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=127,slow=5.9,SNR=7.6						
	comp=Z,1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**71.39**	**335**	P	**P**	**02 24 42.8**	**-1.5**
VNDA	**Vanda**	**72.11**	**173**	P	**P**	**02 24 48.7**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=323,slow=8.2,SNR=13						
	comp=Z,1.9nm,0.6s						
VNDA	**Van

Error ellipse: s-maj=1.1km s-min=1.2km az=0.0
*RHSSO **09** 02:19:43.3±0.6, 42°.92N×20°.65E, h4km±2km, ML2.5/6*
ISC 09 02:19:40.8±1.1, **42°.87N**±0°.02×**20°.73E**±0°.01, **h1**km±9km, **n88**, σ0⁰**97**/152, **48C-10D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.45**	**39**	*e*Pg	**Pg**	**02 19 49.8**	**+0.3**
SELS				*e*Sg	**Sg**	02 19 57.0	+1.6
IVA	**Berane**	**0.62**	**271**	⇓*i*Pg	**Pg**	**02 19 52.1**	**-0.5**
IVA				*i* Sg	**Sg**	**02 20 01.5**	**+0.9**
PVY	**Plav**	**0.63**	**245**	⇑*i*Pg	**Pg**	**02 19 52.2**	**-0.6**
PVY				*i* Sg	**Sg**	**02 20 02.1**	**+1.1**
SJES	**Sjenica**	**0.68**	**306**	*e*Pg	**Pg**	**02 19 53.7**	**-0.1**
SJES				*e*Sg	**Sg**	**02 20 03.7**	**+1.0**
SJES	**Sjenica**	**0.68**	**306**	*e*Pg	**Pg**	**02 19 53.5**	**-0.3**
SJES				*e*Sg	**Sg**	**02 20 03.2**	**+0.5**
BARS	**Barje**	**0.80**	**93**	*e*Pg	**Pg**	**02 19 56.1**	**+0.1**
BARS				*e*Sg	**Sg**	**02 20 07.0**	**+0.6**
IVAS	**Ivanjica**	**0.83**	**329**	*e*Pg	**Pg**	**02 19 56.3**	**-0.3**
IVAS				*e*Sg	**Sg**	**02 20 07.8**	**+0.5**
KOME	**Kolasin**	**0.90**	**269**	⇑*i*Pg	**Pg**	**02 19 57.3**	**-0.6**
KOME				*i* Sg	**Sb**	**02 20 10.9**	**-0.7**
GRUS	**Gruza**	**1.02**	**359**	*e*Pg	**Pg**	**02 20 00.8**	**+0.4**
GRUS				*e*Sg	**Sb**	**02 20 15.3**	**+0.1**
SKO	**Skopje**	**1.03**	**149**	*i* Pg	**Pg**	**02 19 59.2**	**-1.4**
BOVS	**Bovan**	**1.05**	**42**	⇓P	**Pb**	**02 20 01.7**	**0.0**
BOVS				⇑S	**Sn**	**02 20 17.4**	**-0.5**
BOVS	**Bovan**	**1.05**	**42**	*e*Pg	**Pg**	**02 20 01.0**	**+0.2**
BOVS				*e*Sg	**Sb**	**02 20 15.6**	**-0.3**
PRVS	**Prvonek**	**1.05**	**109**	*e*Pg	**Pg**	**02 20 00.3**	**-0.6**
PRVS				*e*Sg	**Sg**	**02 20 15.1**	**+0.5**
PLE	**Pljevlja**	**1.09**	**296**	⇑*i*Pg	**Pg**	**02 20 00.9**	**-0.7**
PLE				*i* Sg	**Sb**	**02 20 16.7**	**-0.5**
PDG	**Podgorica**	**1.17**	**249**	⇑P	**Pg**	**02 20 02.7**	**-0.5**
PDG				⇑S	**Sg**	**02 20 19.0**	**+0.6**
PDG	**Podgorica**	**1.17**	**249**	⇑*i*Pg	**Pg**	**02 20 02.6**	**-0.6**
PDG				*i* Sg	**Sn**	**02 20 20.9**	**0.0**
NKME	**Niksic**	**1.31**	**266**	⇓*i*Pg	**Pg**	**02 20 05.3**	**-0.6**
NKME				*i* Sg	**Sn**	**02 20 25.0**	**+0.6**
BOSS	**Bosilegrad**	**1.34**	**105**	*e*Pg	**Pn**	**02 20 05.4**	**-1.2**
BOSS				*e*Sg	**Sg**	**02 20 22.8**	**-1.0**
DIVS	**Divibare**	**1.34**	**337**	*e*Pg	**Pn**	**02 20 06.2**	**-0.6**
DIVS				*e*Sg	**Sn**	**02 20 25.6**	**+0.3**
DIVS	**Divibare**	**1.34**	**337**	⇑*i*Pg	**Pn**	**02 20 06.2**	**-0.6**
DIVS				*e*Sg	**Sg**	**02 20 23.5**	**-0.5**
CEME	**Cevo**	**1.37**	**257**	⇑*i*Pg	**Pn**	**02 20 05.9**	**-1.2**
CEME				*i* Sg	**Sn**	**02 20 26.9**	**+0.9**
TRUS	**Trudelj**	**1.38**	**350**	*e*Pg	**Pb**	**02 20 07.3**	**0.0**
TRUS				*e*Sg	**Sn**	**02 20 26.7**	**+0.7**
UPM	**Unac-Piva**	**1.38**	**285**	*e*Pg	**Pn**	**02 20 06.4**	**-0.9**
UPM				*e*Sg	**Sg**	**02 20 24.6**	**-0.5**
UPM	**Unac-Piva**	**1.38**	**285**	⇑*i*Pg	**Pn**	**02 20 06.2**	**-1.1**
UPM				*i* Sg	**Sn**	**02 20 26.8**	**+0.5**
BBLS	**Lazići**	**1.39**	**316**	*e*Pg	**Pn**	**02 20 06.6**	**-0.8**
BBLS				*e*Sg	**Sn**	**02 20 26.4**	**0.0**
BBLS	**Lazići**	**1.39**	**316**	⇑*i*Pg	**Pn**	**02 20 06.2**	**-1.2**
BBLS				*e*Sg	**Sg**	**02 20 25.1**	**-0.4**
ULC	**Ulcinj**	**1.42**	**231**	⇑*i*Pg	**Pn**	**02 20 07.4**	**-0.4**
ULC				*i* Sg	**Sn**	**02 20 29.3**	**+2.2**
SVIS	**Svilajnac**	**1.44**	**14**	*e*Pg	**Pb**	**02 20 08.3**	**-0.1**
SVIS				*e*Sg	**Sg**	**02 20 27.9**	**+0.8**
ZAGS	**Zajecar**	**1.45**	**49**	*e*Pg	**Pn**	**02 20 07.6**	**-0.5**
ZAGS				*e*Sg	**Sg**	**02 20 27.6**	**+0.3**
ZAPS	**Zavoj**	**1.45**	**73**	*e*Pg	**Pb**	**02 20 08.3**	**-0.3**
ZAPS				*e*Sg	**Sb**	**02 20 27.2**	**-0.4**
TIR	**Tirane**	**1.65**	**203**	⇑P	**Pg**	**02 20 12.7**	**+0.4**
TIR				⇑S	**Sg**	**02 20 35.7**	**+2.1**
KUBS	**Kucevo**	**1.69**	**24**	*e*Pg	**Pb**	**02 20 12.1**	**-0.6**
KUBS				*e*Sg	**Sg**	**02 20 36.0**	**+0.9**
HCY	**Herceg Novi**	**1.70**	**257**	*e*Pn	**Pb**	**02 20 13.1**	**+0.3**
HCY				*e*Sn	**Sb**	**02 20 34.4**	**-0.4**
HCY	**Herceg Novi**	**1.70**	**257**	⇑*i*Pn	**Pn**	**02 20 12.2**	**+0.6**
HCY				*i* Sn	**Sb**	**02 20 35.2**	**+0.4**
OHR	**Ohrid**	**1.75**	**178**	*i* Pn	**Pb**	**02 20 13.6**	**-0.2**
OHR				*e*Sn	**Sb**	**02 20 36.7**	**+0.4**
TREB	**Trebinje**	**1.76**	**266**	*e*Pn	**Pb**	**02 20 13.9**	**+0.1**
TREB				*e*Sn	**Sb**	**02 20 36.4**	**+0.0**
HAPS	**Han Pijesak,BI**	**1.78**	**314**	⇑*i*Pn	**Pn**	**02 20 12.8**	**0.0**
HAPS				*e*Sn	**Sn**	**02 20 35.3**	**-0.8**
TEKS	**Tekeris**	**1.90**	**333**	*e*Pg	**Pg**	**02 20 16.8**	**-0.3**
TEKS				*e*Sg	**Sg**	**02 20 41.9**	**+0.2**
TEKS	**Tekeris**	**1.90**	**333**	⇑*i*Pn	**Pb**	**02 20 16.0**	**-0.2**
TEKS				*e*Sn	**Sn**	**02 20 39.4**	**+0.6**
BEO	**Beograd**	**1.95**	**355**	*e*Pg	**Pg**	**02 20 17.8**	**-0.4**
BEO				*e*Sg	**Sg**	**02 20 44.1**	**+0.6**
MDVR	**Moldovita**	**2.04**	**20**	⇑P	**Pn**	**02 20 16.7**	**+0.4**
MDVR				⇑S	**Sn**	**02 20 43.3**	**+0.8**
VAY	**Valandovo**	**2.06**	**138**	*i* Pn	**Pb**	**02 20 18.2**	**-0.8**
VAY				*e*Sn	**Sn**	**02 20 42.4**	**-0.4**
PUNG	**Punghina**	**2.13**	**48**	⇑S	**Sb**	**02 20 46.9**	**-0.2**
BLJ	**Bijeljina**	**2.19**	**332**	*e*Pn	**Pn**	**02 20 19.6**	**+1.3**
BLJ				*e*Sn	**Sn**	**02 20 45.9**	**-0.1**
DJES	**Djerdap**	**2.22**	**35**	⇑P	**Pn**	**02 20 19.6**	**+0.9**
DJES				⇑S	**Sb**	**02 20 48.0**	**-1.6**
DJES	**Djerdap**	**2.22**	**35**	*e*Pg	**Pb**	**02 20 21.0**	**-0.6**
DJES				*e*Sg	**Sg**	**02 20 51.8**	**-0.2**
BAIL	**Bailesti**	**2.23**	**58**	⇓S	**Sb**	**02 20 49.5**	**-0.3**
STON	**Ston**	**2.23**	**271**	*e*Pn	**Pb**	**02 20 20.5**	**-1.3**
STON				*e*Sn	**Sn**	**02 20 47.2**	**+0.3**
RMGR	**Halanga-Turnu**	**2.29**	**38**	⇑P	**Pn**	**02 20 20.1**	**+0.5**
RMGR				⇑S	**Sn**	**02 20 49.5**	**+1.1**
HERR	**Herculane**	**2.35**	**31**	⇑P	**Pn**	**02 20 20.6**	**+0.1**
FRGS	**Fruska Gora**	**2.39**	**344**	⇑P	**Pn**	**02 20 20.8**	**-0.2**
FRGS	**Fruska Gora**	**2.39**	**344**	*e*Pn	**Pn**	**02 20 21.5**	**+0.5**
FRGS				*e*Sn	**Sb**	**02 20 53.0**	**-1.5**
FRGS	**Fruska Gora**	**2.39**	**344**	⇑*i*Pn	**Pn**	**02 20 21.2**	**+0.2**
FRGS				*e*Sn	**Sn**	**02 20 51.1**	**+0.2**
BANR	**Banloc**	**2.53**	**6**	⇑P	**Pn**	**02 20 22.8**	**-0.2**
BANR				⇑S	**Sn**	**02 20 54.3**	**-0.1**
BZS	**Buzias**	**2.82**	**13**	⇑P	**Pn**	**02 20 26.6**	**-0.4**
BZS				⇓S	**Sn**	**02 21 02.0**	**+0.4**
PLVB	**Pleven**	**2.89**	**78**	⇓P	**Pn**	**02 20 29.2**	**+1.3**
PLVB				⇑S	**Sb**	**02 21 07.2**	**-1.9**
VLAD	**Vladila**	**2.91**	**66**	⇑P	**Pn**	**02 20 29.8**	**+1.7**
VLAD				⇑S	**Sb**	**02 21 06.4**	**-3.0**
GZR	**Gura Zlata**	**2.92**	**30**	⇑P	**Pn**	**02 20 29.4**	**+0.9**
SURR	**Surduc**	**3.06**	**19**	⇑P	**Pn**	**02 20 30.3**	**+0.1**
SURR				⇑S	**Sn**	**02 21 08.1**	**+0.7**
MGRS	**Mrkonjic Grad**	**3.07**	**302**	*e*Pn	**Pn**	**02 20 31.7**	**+1.3**
MGRS				*e*Sn	**Sn**	**02 21 07.5**	**-0.2**
BLY	**Banja Luka**	**3.18**	**307**	⇓*i*Pn	**Pn**	**02 20 32.8**	**+0.9**
BLY				*e*Sn	**Sn**	**02 21 10.3**	**-0.2**
A052A	**Srbac**	**3.22**	**315**	⇓*i*Pn	**Pn**	**02 20 33.1**	**+0.6**
A052A				*e*Sn	**Sn**	**02 21 10.4**	**-1.1**
DEV	**Deva**	**3.40**	**27**	⇑P	**Pn**	**02 20 35.2**	**+0.4**
DEV				⇑S	**Sn**	**02 21 16.3**	**+0.6**
A050A	**Klekovaca**	**3.45**	**299**	*e*Pn	**Pn**	**02 20 36.9**	**+1.2**
A050A				*e*Sn	**Sn**	**02 21 16.3**	**-1.9**
SIRR	**Siria**	**3.47**	**11**	⇑P	**Pn**	**02 20 35.2**	**-0.6**
A051A	**Mrakovica**	**3.50**	**309**	⇑*i*Pn	**Pn**	**02 20 36.9**	**+0.6**
A051A				*e*Sn	**Sn**	**02 21 17.2**	**-1.2**
COPA	**Copaceanca**	**3.50**	**67**	⇓P	**Pn**	**02 20 37.7**	**+1.4**
COPA				⇑S	**Sn**	**02 21 21.3**	**+3.0**
MORH	**Mrgy, Hungar**	**3.67**	**337**	⇑P	**Pn**	**02 20 38.0**	**-0.6**
MORH				⇑S	**Sn**	**02 21 21.2**	**-1.2**
MATE	**Matera**	**3.74**	**235**	⇑P	**Pn**	**02 20 39.4**	**-0.1**
MATE				⇓S	**Sn**	**02 21 25.2**	**+1.1**
MARR	**Marisel-Cluj**	**4.17**	**23**	⇑P	**Pn**	**02 20 45.9**	**+0.3**
MARR				⇑S	**Sn**	**02 21 35.4**	**+0.4**
DOPR	**Dopca**	**4.55**	**45**	⇑P	**Pn**	**02 20 52.3**	**+1.5**
BOJS	**Bojanci**	**4.74**	**306**	*e*Pn	**Pn**	**02 20 54.4**	**+1.1**
CRES	**Cresnjev**	**4.80**	**310**	⇑*i*Pn	**Pn**	**02 20 54.7**	**+0.5**
CEY	**Cerknica**	**5.36**	**305**	*e*Pn	**Pn**	**02 21 02.5**	**+0.6**
CEY				*e*Sn	**Sn**	**02 22 01.9**	**-2.3**
SOKA	**Soboth** 1.3nm,0.3s	**5.57**	**315**	*i* Pn	**Pn**	**02 21 05.0**	**+0.3**
OBKA	**Obir** 0.8nm,0.3s	**5.72**	**312**	*i* Pn	**Pn**	**02 21 07.8**	**+0.9**
OBKA	**Obir**	**5.72**	**312**	*e*Pn	**Pn**	**02 21 06.5**	**-0.3**
ARSA	**Arzberg** 2.2nm,0.3s	**5.73**	**322**	*i* Pn	**Pn**	**02 21 07.4**	**+0.4**
CONA	**Conrad Observa** 0.3nm,0.3s	**6.11**	**328**	*e*Pn	**Pn**	**02 21 12.2**	**-0.1**
MYKA	**Terra Mystica** 2.1nm,0.4s	**6.30**	**309**	*e*Pn	**Pn**	**02 21 16.5**	**+1.7**
KBA	**Koelnbreinsper** 1.5nm,0.3s	**6.72**	**311**	*e*Pn	**Pn**	**02 21 21.9**	**+1.2**
MOA	**Molln**	**6.75**	**320**	*e*Pn	**Pn**	**02 21 22.3**	**+1.3**
BIOA	**Bad Ischl, Aus** 1.1nm,0.2s	**6.95**	**316**	*e*Pn	**Pn**	**02 21 25.3**	**+1.6**
ABTA	**Abfaltersbach** 1.1nm,0.4s	**7.02**	**306**	*e*Pn	**Pn**	**02 21 25.5**	**+0.8**
WTTA	**Wattenberg** 0.3nm,0.2s	**7.79**	**307**	*i* Pn	**Pn**	**02 21 38.3**	**+2.9**
WATA	**Walderalm** 1.1nm,0.3s	**7.87**	**308**	*e*Pn	**Pn**	**02 21 39.0**	**+2.6**
SQTA	**Sankt Quirin** 0.7nm,0.3s	**8.03**	**306**	*e*Pn	**Pn**	**02 21 40.5**	**+1.9**
MOTA	**Moosalm** 1.0nm,0.3s	**8.15**	**307**	*e*Pn	**Pn**	**02 21 42.9**	**+2.6**

*IDC **09** 02:34:02.9±3.0, 51°.40N×179°.05W, h0km, mb3.3/4, mbtmp3.5/5, ML4.2/1, Error ellipse: s-maj=89.0km s-min=29.2km az=173.0*
*AEIC **09** 02:34:05.3±2.0, 51°.3N±0°.2×179°.1W±0°.1, h12km±8km, Error ellipse: s-maj=33.4km s-min=11.9km az=172.0*
*NEIC **09** 02:34:06.8±2.3, 51°.4N±0°.2×179°.1W±0°.2, h40km±13km, mb3.9/36, ML3.5(AEIC), Error ellipse: s-maj=37.8km s-min=10.0km az=160.0*
ISC 09 02:34:07.5±1.6, **51°.4N**±0°.3×**179°.07W**±0°.07, **h44**km, **n57**, σ1⁰**39**/52, **mb3.8**/8, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.02**	**272**		**Pn**	**02 34 24.1**	**-1.3**
AMKA					**Sn**	**02 34 37.1**	**-1.4**
KIWB	**Kanaga Island**	**1.30**	**67**	Pn	**Pn**	**02 34 28.2**	**-1.0**
ADK	**Adak**	**1.58**	**70**	Pn	**Pn**	**02 34 31.9**	**-1.1**
GSTR	**Great Sitkin T**	**2.01**	**67**	Pn	**Pn**	**02 34 37.7**	**-1.3**
UNV	**Unalaska Valle**	**8.05**	**67**		**Pn**	**02 36 04.0**	**+2.3**
CHGN	**Chignik**	**13.15**	**60**	Pn	**Pn**	**02 37 09.1**	**-2.3**
ANM	**Nome**	**15.05**	**23**	P	**P**	**02 37 41.7**	**+0.2**
ANM				IAmb	IAmb	02 37 51.1	
	comp=Z,8.3nm,1.2s						
SII	**Sitkinak Islan**	**15.50**	**61**	Pn	**Pn**	**02 37 40.7**	**-2.2**
P18K	**Big Mountain,**	**15.69**	**50**	Pn	**Pn**	**02 37 43.7**	**-1.6**
P18K				IAmb	IAmb	02 37 50.8	
	comp=Z,13nm,1.4s						
OHAK	**Old Harbor**	**16.10**	**59**	Pn	**Pn**	**02 37 47.3**	**-3.1**
Q19K	**Cape Douglas,**	**16.31**	**52**	Pn	**Pn**	**02 37 52.1**	**-1.1**
KDAK	**Kodiak Island**	**16.58**	**57**	Pn	**Pn**	**02 37 53.7**	**-2.8**
	comp=Z,0.9nm,0.3s,baz=242,slow=1.5,SNR=34						
	comp=Z,2.1nm,0.2s						
KDAK	**Kodiak Island**	**16.58**	**57**	Pn	**Pn**	**02 37 54.4**	**-2.2**
RSO	**Redoubt South**	**17.23**	**48**	Pn	**Pn**	**02 38 02.3**	**-2.5**
M20K	**Styx River**	**17.61**	**43**	Pn	**Pn**	**02 38 07.5**	**-1.8**
CNPM	**China Poot**	**17.67**	**52**		**Pn**	**02 38 09.7**	**-0.4**
BRLK	**Bradley Lake**	**17.90**	**51**		**Pn**	**02 38 13.0**	**0.0**
BRLK				IAmb	IAmb	02 38 33.8	
	comp=Z,14nm,1.2s						
J20K	**Nowinta River**	**18.31**	**36**	P	**Pn**	**02 38 18.6**	**+0.7**
J20K				IAmb	IAmb	02 38 29.9	
	comp=Z,8.8nm,1.5s						
SKT	**Skwentna**	**18.34**	**44**	P	**Pn**	**02 38 18.4**	**+0.2**
SKT				IAmb	IAmb	02 38 45.0	
	comp=Z,9.1nm,1.4s						
CAST	**Castle Rocks**	**18.72**	**40**	P	**Pn**	**02 38 22.6**	**-0.3**
CUT	**Chulitna**	**19.05**	**43**	P	**Pn**	**02 38 26.2**	**-0.5**
CUT				IAmb	IAmb	02 39 07.6	
	comp=Z,15nm,1.2s						
KTH	**Kantishna Hill**	**19.25**	**40**	P	**P**	**02 38 27.7**	**-0.2**
PWL	**Port Wells**	**19.42**	**49**	P	**P**	**02 38 29.6**	**-0.2**
TRF	**Thorofare Moun**	**19.46**	**41**	P	**P**	**02 38 29.9**	**-0.4**
TRF				IAmb	IAmb	02 38 35.2	
	comp=Z,8.7nm,1.5s						
BPAW	**Bear Paw Mtn.**	**19.47**	**38**	P	**P**	**02 38 30.4**	**+0.1**
BPAW				IAmb	IAmb	02 38 32.7	
	comp=Z,9.4nm,1.5s						
IMAR	**Indian Mountai**	**19.48**	**32**	P	**P**	**02 38 30.9**	**+0.5**
KNK	**Knik Glacier**	**19.52**	**47**	P	**P**	**02 38 30.6**	**-0.3**
KNK				IAmb	IAmb	02 38 45.3	
	comp=Z,9.2nm,1.2s						
MLY	**Manley**	**20.01**	**36**	P	**P**	**02 38 34.3**	**-2.0**
MCK	**McKinley**	**20.13**	**40**	P	**P**	**02 38 37.4**	**-0.1**
MCK				IAmb	IAmb	02 39 11.2	
	comp=Z,8.0nm,1.4s						
SCM	**Sheep Creek Mo**	**20.16**	**46**	P	**P**	**02 38 36.4**	**-1.5**
NEA2	**Nenana**	**20.44**	**38**	P	**P**	**02 38 41.3**	**+0.5**
NEA2				IAmb	IAmb	02 38 46.9	
	comp=Z,7.7nm,1.3s						
DHY	**Denali Highway**	**20.53**	**43**	P	**P**	**02 38 42.0**	**0.0**
DHY				IAmb	IAmb	02 38 49.0	
	comp=Z,3.6nm,0.6s						
KLU	**Klutina**	**20.71**	**48**	P	**P**	**02 38 43.0**	**-0.9**
KLU				IAmb	IAmb	02 38 52.0	
	comp=Z,11nm,1.4s						
M24K	**Tolsona, Glenn**	**20.76**	**46**	P	**P**	**02 38 44.6**	**+0.2**
MDM	**Murphy Dome**	**20.92**	**38**	P	**P**	**02 38 45.9**	**-0.2**
MDM				IAmb	IAmb	02 39 04.8	
	comp=Z,4.8nm,1.2s						
CCB	**Clear Creek Bu**	**20.95**	**39**	P	**P**	**02 38 47.0**	**+0.7**
ILAR	**Eielson Array**	**21.37**	**39**	P	**P**	**02 38 50.3**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=232,slow=9.0,SNR=1.9						
	comp=Z,0.2nm,0.6s						
H24K	**Noodor Dome**	**21.45**	**36**	P	**P**	**02 38 51.5**	**-0.3**
H24K				IAmb	IAmb	02 39 16.6	
	comp=Z,5.1nm,1.2s						
GLB	**Gilahina Butte**	**21.69**	**49**	P	**P**	**02 38 52.6**	**-1.7**
GLB				IAmb	IAmb	02 39 01.6	
	comp=Z,3.1nm,0.8s						
VRDI	**Verde Repeater**	**21.82**	**49**	P	**P**	**02 38 56.2**	**+0.3**
J25K	**Salcha River,**	**21.91**	**40**	P	**P**	**02 38 54.9**	**-1.7**
SCRK	**Sand Creek**	**22.26**	**42**	P	**P**	**02 38 59.5**	**-1.1**
J26L	**Joseph Creek**	**22.60**	**41**	P	**P**	**02 39 02.3**	**-1.8**
M27K	**Edge Creek, AK**	**22.77**	**47**	P	**P**	**02 39 04.9**	**-1.1**
M27K				IAmb	IAmb	02 39 12.3	
	comp=Z,7.8nm,1.4s						
L27K	**Beaver Creek,**	**22.95**	**45**	P	**P**	**02 39 06.6**	**-1.1**
BCAR	**Beaver Creek A**	**22.97**	**45**	P	**P**	**02 39 07.0**	**-0.9**
K27K	**Chicken**	**23.08**	**43**	P	**P**	**02 39 07.2**	**-1.8**
K27K				IAmb	IAmb	02 39 22.9	
	comp=Z,6.5nm,1.4s						
BMAR	**Burnt Mountain**	**23.35**	**33**	P	**P**	**02 39 11.2**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**33.44**	**204**	T	T	03 16 25.7	
	baz=16,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**33.45**	**204**	T	T	03 16 25.5	
	baz=16,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**33.46**	**204**	T	T	03 16 24.7	
	baz=16,slow=76,SNR=37						
H11S1	**WAKE ISLAND Hy**	**34.66**	**204**	T	T	03 17 41.8	
	baz=16,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**34.68**	**204**	T	T	03 18 01.3	
	baz=16,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**34.68**	**204**	T	T	03 18 01.2	
	baz=16,slow=76,SNR=24						
YKA	**Yellowknife Ar**	**35.37**	**46**	P	**P**	**02 41 00.9**	**+2.5**
	comp=Z,0.1nm,0.5s,baz=275,slow=7.4,SNR=2.4						
	comp=Z,0.1nm,0.5s						
PDAR	**Pinedale Array**	**46.48**	**72**	P	**P**	**02 42 31.5**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=325,slow=4.5,SNR=9.6						
	comp=Z,1.6nm,0.8s						
SONM	**Songino Array**	**46.50**	**296**	P	**P**	**02 42 31.3**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=70,slow=8.3,SNR=3.7						
	comp=Z,0.4nm,0.6s						

*OTT **09** 02:39:02.8±0.2, 74°.28N×92°.27W, h18km, MN3.6/7, 90km southeast from Resolute, Nu. Aftershock*
*DNK **09** 02:39:35.1±1.6, 75°.95N×85°.00W, h18km, ML2.4*
ISC 09 02:38:59.4±0.8, **74°.32N**±0°.07×**92°.00W**±0°.05, **h10**km, **n13**, σ2⁰**56**/18, **Queen Elizabeth Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**0.86**	**297**	PG	**Pg**	**02 39 18.8**	**+2.8**
RES				SG	**Sg**	**02 39 28.8**	**+1.7**
RES				Trac		02 39 33.1	
	comp=Z,595nm,0.1s						
EUNU	**Eureka**	**5.89**	**9**	PN	**Pn**	**02 40 28.3**	**+1.7**
EUNU				SN	**Sn**	**02 41 31.5**	**-2.6**
EUNU				Trac		02 41 57.3	
	comp=Z,84nm,1.1s						
ILON	**Igloolik, Nuna**	**5.89**	**142**	PN	**Pn**	**02 40 28.6**	**+2.0**
ILON				SN	**Sn**	**02 41 32.9**	**-1.1**
ILON				Trac		02 42 29.8	
	comp=Z,25nm,0.2s						
TULEG	**Thule**	**6.23**	**58**	*i* P	**Pn**	**02 40 32.7**	**+1.6**
TULEG				*i* S	Sn	02 41 37.2	-5.0
TULEG				IAML		02 41 52.6	
	comp=Z,31nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	**Clyde River**	**8.03**	**107**	PN	**Pn**	**02 40 58.5**	**+2.7**
CLRN				SN	**Sn**	**02 42 24.0**	**-2.5**
CLRN				Trac		02 43 24.2	
	comp=Z,9.3nm,0.2s						
KULLO	**Kullorsuaq**	**9.25**	**72**	PN	**Pn**	**02 41 12.9**	**+0.4**
KULLO				SN	Sn	02 42 51.9	-4.5
A36M	**Sachs Harbour**	**9.83**	**273**	PN	**Pn**	**02 41 20.9**	**+0.4**
A36M				SN	**Sn**	**02 43 03.9**	**-6.9**
A36M				Trac		02 43 28.6	
	comp=Z,21nm,0.8s						
KUKN	**Kugluktuk,NWT**	**9.86**	**240**	PN	**Pn**	**02 41 20.9**	**+0.1**
KUKN				SN	Sn	02 43 03.0	-8.4
KUKN				Trac		02 44 12.2	
	comp=Z,30nm,0.6s						
NEEM	**North Greenlan**	**10.28**	**53**	*i* P	**Pn**	**02 41 28.3**	**+1.5**
NEEM				*i* S	Sn	02 43 14.3	-7.8
NEEM				IAML		02 43 27.6	
	comp=Z,6.1nm,0.8s						
C36M	**Paulatuk**	**11.05**	**259**	PN	**Pn**	**02 41 37.4**	**+0.3**
C36M				Trac		02 44 49.7	
	comp=Z,246nm,2.9s						
FRB	**Frobisher Bay**	**13.38**	**130**	PN	**Pn**	**02 42 09.7**	**+0.7**
FRB				SN	Sn	02 44 27.9	-10
FRB				Trac		02 45 54.0	
	comp=Z,523nm,3.2s						
SUMG	**Summit**	**14.92**	**70**	*i* P	**Pn**	**02 42 31.0**	**+0.7**
NOR	**Nord**	**15.85**	**31**	*i* P	**Pn**	**02 42 39.6**	**-2.4**

*NOU **09** 02:47:40.9, 42°.17S×178°.29E, h0km, ML4.3/9, Off E. Coast of S. Island, N.Z.*
*WEL **09** 02:47:48.6±1.0, 42°.S±12°×17°.8E±1°.7, h74km±74km, M3.6/19, ML3.9/21, MLv3.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=124.7, confirmed*
ISC 09 02:47:43.1±2.2, **42°.03S**±0°.07×**177°.90E**±0°.09, **h13**km±13km, **n39**, σ1⁰**59**/50, **Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**1.70**	**311**	P	**Pg**	**02 48 15.5**	**-0.2**
CPWZ				S	**Sb**	**02 48 34.7**	**-0.9**
TMWZ	**Te Maipa**	**1.77**	**301**	P	**Pg**	**02 48 16.7**	**-0.3**
TMWZ				S	**Sb**	**02 48 36.0**	**-1.5**
TRWZ	**Traveller**	**1.77**	**290**	P	**Pb**	**02 48 16.5**	**+1.0**
BFZ	**Birch Farm**	**1.84**	**317**	P	**Pg**	**02 48 18.0**	**-0.3**
PAWZ	**Paruwai Farm**	**1.96**	**289**	P	**Pb**	**02 48 18.0**	**-0.7**
PAWZ				S	**Sn**	**02 48 40.6**	**-0.1**
TIWZ	**Tintock**	**1.97**	**309**	P	**Pb**	**02 48 19.9**	**+1.1**
TIWZ				S	**Sb**	**02 48 42.0**	**-1.3**
PRHZ	**Porangahau**	**2.01**	**331**	P	**Pb**	**02 48 19.0**	**-0.5**
PRHZ				S	**Sn**	**02 48 40.6**	**-1.1**
PLWZ	**Palliser**	**2.03**	**282**	P	**Pn**	**02 48 18.7**	**+1.6**
PLWZ				S	**Sn**	**02 48 42.0**	**-0.4**
PRWZ	**Pori Road**	**2.07**	**315**	P	**Pb**	**02 48 20.7**	**+0.1**
PRWZ				S	**Sb**	**02 48 45.9**	**-0.4**
HOWZ	**Holdsworth Sta**	**2.12**	**302**	P	**Pb**	**02 48 20.4**	**-1.0**
HOWZ				S	**Sn**	**02 48 43.5**	**-1.1**
PXZ	**Pawanui**	**2.15**	**338**	P	**Pb**	**02 48 21.7**	**-0.2**
DVHZ	**Dannevirke**

TNSS	**Tian-Shan**	**0.92**	**33**	*e*P	**Pg**	**03 04 11.2**	**-0.7**
	baz=31								
TNSS				*e*S	**Sg**	**03 04 23.7**	**-0.4**
	baz=31								
TNSS	**Tian-Shan**	**0.92**	**33**	*e*P	**Pg**	**03 04 11.2**	**-0.7**
	58nm,0.3s								
TNSS				*e*S	**Sg**	**03 04 23.6**	**-0.4**
	64nm,0.3s								
DGS	**Degeres**	**1.05**	**340**	P	**Pb**	**03 04 13.5**	**-0.2**
	42nm,0.2s								
DGS				S	**Sg**	**03 04 27.8**	**-0.1**
	46nm,0.2s								
DGS	**Degeres**	**1.05**	**340**	*e*P	**Pb**	**03 04 13.5**	**-0.2**
	baz=39								
DGS				*e*S	**Sg**	**03 04 27.8**	**-0.1**
	baz=39								
DGS	**Degeres**	**1.05**	**340**	*e*P	**Pb**	**03 04 13.5**	**-0.2**
	42nm,0.2s								
DGS				*e*S	**Sg**	**03 04 27.8**	**-0.1**
	46nm,0.2s								
KBK	**Karagaybulak**	**1.06**	**293**	⇓P	**Pb**	**03 04 13.8**	**-0.1**
	18nm,0.1s,SNR=51								
KBK				⇑S	**Sg**	**03 04 28.5**	**+0.4**
	120nm,0.2s								
KBK	**Karagaybulak**	**1.06**	**293**	⇓*e*P	**Pb**	**03 04 13.3**	**-0.6**
	baz=93								
KBK				⇓*e*S	**Sb**	**03 04 28.0**	**+0.4**
	baz=93								
AAA	**Alma-Ata**	**1.06**	**26**	P	**Pn**	**03 04 14.1**	**-0.1**
	98nm,0.3s								
AAA				S	**Sn**	**03 04 28.5**	**-0.2**
	222nm,0.2s								
AAA	**Alma-Ata**	**1.06**	**26**	*e*P	**Pn**	**03 04 14.1**	**-0.1**
	baz=25								
AAA				*e*S	**Sn**	**03 04 28.6**	**-0.2**
	baz=25								
AAA	**Alma-Ata**	**1.06**	**26**	*e*P	**Pn**	**03 04 14.1**	**-0.1**
	98nm,0.3s								
AAA				*e*S	**Sn**	**03 04 28.5**	**-0.2**
	222nm,0.2s								
MDOK	**Medeo**	**1.07**	**32**	Pg	**Pb**	**03 04 13.6**	**-0.6**
	30nm,0.2s								
MDOK				Lg	Lg	03 04 27.7			
	43nm,0.5s								
MDOK	**Medeo**	**1.07**	**32**	*e*P	**Pb**	**03 04 13.6**	**-0.6**
	baz=31								
MDOK				*e*S	**Sb**	**03 04 27.7**	**-0.3**
	baz=31								
MDOK	**Medeo**	**1.07**	**32**	*e*P	**Pb**	**03 04 13.6**	**-0.6**
	30nm,0.2s								
MDOK				*e*S	**Sb**	**03 04 27.7**	**-0.3**
	43nm,0.5s								
KOTS	**Kotyrbulak**	**1.16**	**32**	P	**Pb**	**03 04 15.4**	**-0.2**
	20nm,0.3s								
KOTS				S	**Sn**	**03 04 31.3**	**0.0**
	180nm,0.4s								
KOTS	**Kotyrbulak**	**1.16**	**32**	*e*P	**Pb**	**03 04 15.4**	**-0.2**
	baz=31								
KOTS				*e*S	**Sn**	**03 04 31.2**	**0.0**
	baz=31								
KOTS	**Kotyrbulak**	**1.16**	**32**	*e*P	**Pb**	**03 04 15.4**	**-0.2**
	20nm,0.3s								
KOTS				*e*S	**Sn**	**03 04 31.2**	**0.0**
	180nm,0.4s								
ANVS	**Anan'yevo**	**1.16**	**63**	⇓*e*P	**Pb**	**03 04 15.1**	**-0.6**
	baz=61								
ANVS				⇓*e*S	**Sb**	**03 04 30.5**	**0.0**
	baz=61								
UCH	**Uchtor**	**1.30**	**269**	⇓P	**Pn**	**03 04 17.9**	**0.0**
	4.6nm,0.3s,SNR=6.1								
UCH				⇓S	**Sb**	**03 04 35.5**	**+0.5**
	11nm,0.1s								
UCH	**Uchtor**	**1.30**	**269**	⇓*e*P	**Pn**	**03 04 17.7**	**-0.2**
	baz=70								
UCH				⇓*e*S	**Sb**	**03 04 35.5**	**+0.5**
	baz=70								
FRU1	**Bishkek**	**1.33**	**295**	⇑*e*P	**Pb**	**03 04 18.6**	**+0.1**
	baz=96								
FRU1				⇑*e*S	**Sg**	**03 04 37.0**	**+0.1**
	baz=96								
CHMS	**Chumysh**	**1.34**	**304**	⇓P	**Pn**	**03 04 18.5**	**+0.4**
	12nm,0.2s,SNR=14								
CHMS				⇑S	**Sg**	**03 04 37.0**	**-0.2**
	45nm,0.2s								
CHMS	**Chumysh**	**1.34**	**304**	⇑P	**Pn**	**03 04 18.2**	**+0.2**
	13nm,0.4s								
CHMS				⇓S	**Sb**	**03 04 36.5**	**+0.8**
	9.4nm,0.2s								
CHMS	**Chumysh**	**1.34**	**304**	⇑*e*P	**Pn**	**03 04 18.4**	**+0.4**
	baz=4.0								
CHMS				⇑*e*S	**Sg**	**03 04 36.7**	**-0.5**
	baz=4.0								
AAK	**Ala-Archa**	**1.37**	**287**	⇓P	**Pn**	**03 04 18.9**	**+0.4**
	5.9nm,0.1s,SNR=24								
AAK				⇓S	**Sb**	**03 04 37.4**	**+0.9**
	37nm,0.3s								
AAK	**Ala-Archa**	**1.37**	**287**	⇑*e*P	**Pn**	**03 04 18.9**	**+0.4**
	baz=87								
AAK				⇑*e*S	**Sb**	**03 04 37.4**	**+0.9**
	baz=87								
KTBS	**Karatobe**	**1.48**	**12**	P	**Pb**	**03 04 21.2**	**+0.1**
	22nm,0.2s								
KTBS				S	**Sg**	**03 04 40.9**	**-0.8**
	80nm,0.4s								
KTBS	**Karatobe**	**1.48**	**12**	*e*P	**Pb**	**03 04 21.2**	**+0.1**
	baz=11								
KTBS				*e*S	**Sg**	**03 04 40.9**	**-0.8**
	baz=11								
KTBS	**Karatobe**	**1.48**	**12**	*e*P	**Pb**	**03 04 21.2**	**+0.1**
	22nm,0.2s								
KTBS				*e*S	**Sg**	**03 04 40.9**	**-0.8**
	80nm,0.4s								
KRBS	**Karabastau**	**1.50**	**343**	P	**Pb**	**03 04 21.8**	**+0.4**
	40nm,0.2s								
KRBS				S	**Sg**	**03 04 42.2**	**-0.1**
	52nm,0.2s								
KRBS	**Karabastau**	**1.50**	**343**	*e*P	**Pb**	**03 04 21.8**	**+0.4**
	baz=43								
KRBS				*e*S	**Sg**	**03 04 42.2**	**-0.1**
	baz=43								
KRBS	**Karabastau**	**1.50**	**343**	*e*P	**Pb**	**03 04 21.8**	**+0.4**
	40nm,0.2s								
KRBS				*e*S	**Sg**	**03 04 42.2**	**-0.1**
	52nm,0.2s								
ARLS	**Aral**	**1.50**	**255**	⇓*i*P	**Pn**	**03 04 21.0**	**+0.6**
	baz=56								
ARLS				⇓*i*S	**Sb**	**03 04 41.6**	**+1.1**
	baz=56								
PRZ	**Przheval'sk**	**1.59**	**81**	⇓*e*P	**Pb**	**03 04 22.4**	**-0.7**
	baz=80								
PRZ				⇓*e*S	**Sb**	**03 04 43.6**	**+0.5**
	baz=80								
KUU	**Kurty**	**1.63**	**2**	P	**Pb**	**03 04 23.8**	**+0.1**
	36nm,0.2s								
KUU				S	**Sg**	**03 04 45.3**	**-1.2**
	85nm,0.3s								
KUU	**Kurty**	**1.63**	**2**	*e*P	**Pb**	**03 04 23.8**	**+0.1**
	baz=1.0								
KUU				*e*S	**Sg**	**03 04 45.3**	**-1.2**
	baz=1.0								
KUU	**Kurty**	**1.63**	**2**	*e*P	**Pb**	**03 04 23.8**	**+0.1**
	36nm,0.2s								
KUU				*e*S	**Sg**	**03 04 45.3**	**-1.2**
	85nm,0.3s								
USP	**Ospenovka**	**1.65**	**308**	⇓P	**Pb**	**03 04 23.7**	**-0.2**
	8.2nm,0.1s,SNR=90								
USP				⇓S	**Sg**	**03 04 46.1**	**-0.9**
	70nm,0.3s								
USP	**Ospenovka**	**1.65**	**308**	⇓*e*P	**Pb**	**03 04 23.7**	**-0.2**
	baz=9.0								
USP				⇓*e*S	**Sg**	**03 04 46.0**	**-0.9**
	baz=9.0								
CHKK	**Chushkaly**	**1.68**	**18**	P	**Pb**	**03 04 24.6**	**+0.1**
	21nm,0.3s								
CHKK				S	**Sg**	**03 04 46.8**	**-1.1**
	134nm,0.2s								
CHKK	**Chushkaly**	**1.68**	**18**	*e*P	**Pb**	**03 04 24.6**	**+0.1**
	baz=18								
CHKK				*e*S	**Sg**	**03 04 46.9**	**-1.1**
	baz=18								
CHKK	**Chushkaly**	**1.68**	**18**	*e*P	**Pb**	**03 04 24.6**	**+0.1**
	21nm,0.3s								
CHKK				*e*S	**Sg**	**03 04 46.8**	**-1.1**
	134nm,0.2s								
SGDS	**Sogindy**	**1.70**	**315**	P	**Pb**	**03 04 25.1**	**+0.3**
	34nm,0.2s								
SGDS				S	**Sg**	**03 04 47.4**	**-1.0**
	30nm,0.3s								
SATY	**Saty**	**1.77**	**62**	P	**Pb**	**03 04 26.2**	**+0.2**
	9.6nm,0.3s								
SATY				S	**Sg**	**03 04 49.2**	**-1.5**
	76nm,0.1s								
SATY	**Saty**	**1.77**	**62**	*e*P	**Pb**	**03 04 26.2**	**+0.2**
	baz=62								
SATY				*e*S	**Sg**	**03 04 49.3**	**-1.5**
	baz=62								
SATY	**Saty**	**1.77**	**62**	*e*P	**Pb**	**03 04 26.1**	**+0.2**
	9.6nm,0.3s								
SATY				*e*S	**Sg**	**03 04 49.2**	**-1.5**
	76nm,0.1s								
ZHN	**Zhinishke**	**1.84**	**60**	P	**Pb**	**03 04 27.3**	**+0.2**
	9.6nm,0.2s								
ZHN				S	**Sg**	**03 04 51.4**	**-1.5**
	137nm,0.2s								
ZHN	**Zhinishke**	**1.84**	**60**	*e*P	**Pb**	**03 04 27.4**	**+0.2**
	baz=59								
ZHN				*e*S	**Sg**	**03 04 51.5**	**-1.5**
	baz=59								
ZHN	**Zhinishke**	**1.84**	**60**	*e*P	**Pb**	**03 04 27.4**	**+0.2**
	9.6nm,0.2s								
ZHN				*e*S	**Sg**	**03 04 51.5**	**-1.5**
	137nm,0.2s								
KURS	**Kuram**	**1.86**	**48**	P	**Pb**	**03 04 27.8**	**+0.2**
	5.6nm,0.4s								
KURS				S	**Sb**	**03 04 51.8**	**+1.2**
	18nm,0.5s								
KURS	**Kuram**	**1.86**	**48**	*e*P	**Pb**	**03 04 27.8**	**+0.2**
	baz=47								
KURS				*e*S	**Sb**	**03 04 51.8**	**+1.2**
	baz=47								
KURS	**Kuram**	**1.86**	**48**	*e*P	**Pb**	**03 04 27.8**	**+0.2**
	5.6nm,0.4s								
KURS				*e*S	**Sb**	**03 04 51.8**	**+1.2**
	18nm,0.5s								
EKS2	**Erkin-Say**	**1.89**	**283**	⇑*e*P	**Pb**	**03 04 27.3**	**-0.8**
	baz=84								
EKS2				⇑*e*S	**Sb**	**03 04 52.1**	**+0.6**
	baz=84								
AML	**Almayashu**	**1.92**	**267**	⇑P	**Pb**	**03 04 29.0**	**+0.3**
	4.5nm,0.1s,SNR=22								
AML				⇑S	**Sg**	**03 04 54.6**	**-1.0**
	21nm,0.2s								
AML	**Almayashu**	**1.92**	**267**	⇑*e*P	**Pb**	**03 04 27.9**	**-0.8**
	baz=68								
AML				⇑*e*S	**Sb**	**03 04 53.0**	**+0.4**
	baz=68								
KPKS	**Kokpek**	**2.15**	**55**	Pg	**Pb**	**03 04 32.9**	**+0.4**
KPKS				Lg	Lg	03 05 00.8			
	0.2nm,0.6s								
KPKS	**Kokpek**	**2.15**	**55**	*e*Pg	**Pb**	**03 04 32.9**	**+0.4**
KPKS				*e*Lg	Lg	03 05 00.8			
	0.2nm,0.6s								
UZB	**Uzynbulak**	**2.21**	**65**	Pg	**Pb**	**03 04 33.5**	**-0.1**
	7.7nm,0.4s								
UZB				Lg	Lg	03 05 02.0			
	28nm,0.4s								
UZB	**Uzynbulak**	**2.21**	**65**	*e*Pg	**Pb**	**03 04 33.8**	**+0.2**
	6.7nm,0.1s								
UZB				*e*Lg	Lg	03 05 02.7			
	28nm,0.4s								
MRKS	**Merke**	**2.30**	**283**	Pg	**Pb**	**03 04 36.8**	**+1.7**
	13nm,0.4s								
MRKS				Lg	Lg	03 05 07.4			
	42nm,0.3s								
MRKS	**Merke**	**2.30**	**283**	*e*Pg	**Pb**	**03 04 35.8**	**+0.7**
	5.6nm,0.2s								
MRKS				*e*Lg	Lg	03 05 06.1			
	42nm,0.3s								
BLB	**Baldybastay**	**2.45**	**41**	Pg	**Pb**	**03 04 37.8**	**+0.3**
	21nm,0.4s								
BLB				Lg	Lg	03 05 09.2			
	69nm,0.2s								
SHLS	**Shalkode**	**2.52**	**68**	Pg	**Pg**	**03 04 44.1**	**+2.0**
	4.8nm,0.2s								
SHLS				Lg	Lg	03 05 20.1			
	255nm,0.4s								
SHLS	**Shalkode**	**2.52**	**68**	*e*Pg	**Pg**	**03 04 45.0**	**+2.9**
	5.2nm,0.3s								
SHLS				*e*Lg	Lg	03 05 21.7			
	255nm,0.4s								
BTLS	**Baital**	**3.21**	**331**	Pg	**Pb**	**03 04 52.4**	**+1.8**
	7.5nm,0.4s								
BTLS				Lg	Lg	03 05 33.9			
BTLS	**Baital**	**3.21**	**331**	*e*Pg	**Pb**	**03 04 52.4**	**+1.8**
	7.5nm,0.4s								
BTLS				*e*Lg	Lg	03 05 33.9			
KTMS	**Ketmen**	**3.23**	**67**	Lg	Lg	03 05 32.5			
	6.4nm,0.3s								
KTMS	**Ketmen**	**3.23**	**67**	*e*Pg	**Pb**	**03 04 52.2**	**+1.3**
	0.7nm,0.4s								
KTMS				*e*Lg	Lg	03 05 34.2			
	6.4nm,0.3s								
DJR	**Jarkent**	**3.30**	**50**	Pg	**Pb**	**03 04 53.6**	**+1.4**
	1.0nm,0.2s								
DJR				Lg	Lg	03 05 36.2			
	16nm,0.5s								
DJR	**Jarkent**	**3.30**	**50**	*e*Pg	**Pb**	**03 04 53.6**	**+1.4**
	1.0nm,0.2s								
DJR				*e*Lg	Lg	03 05 36.2			
	16nm,0.5s								
KK31	**Karatay Array**	**4.33**	**283**	⇑Pg	**Pg**	**03 05 14.0**	**-2.8**
	1.8nm,0.7s,baz=94,slow=16,SNR=13								
KK31				⇓Lg	Lg	03 06 14.0			
	3.1nm,0.3s,baz=90,slow=30								
IUG	**Iuzhnay**	**4.64**	**271**	Pg	**Pg**	**03 05 19.7**	**-2.9**
	3.3nm,0.7s								
IUG	**Iuzhnay**	**4.64**	**271**	*e*Pg	**Pb**	**03 05 18.5**	**+3.7**
	2.1nm,0.3s								
IUG				*e*Lg	Lg	03 06 19.4			
	9.0nm,0.9s								

*BJI **09** 03:14:23.0±0.0, 15°.30S×174°.80W, h229km, mb4.8/27, mB5.1/14*
*NEIC **09** 03:14:25.2±1.8, 15°.26S±0°.10×174°.9W±0°.1, h232km±5km, mb4.9/74, Error ellipse: s-maj=16.8km s-min=13.3km az=116.0*
*IDC **09** 03:14:27.3±0.6, 15°.30S×174°.88W, h250km±5km, mb4.2/23, mbtmp4.8/25, Error ellipse: s-maj=14.1km s-min=9.1km az=117.0*
*NOU **09** 03:14:28.5, 15°.29S×174°.65W, h271km, mb5.2/51, Tonga Islands*

ISC 09 03:14:27.8±0.5, 15°.30S±0°.05×174°.83W±0°.05, h260km±4km, h260km; pP-P, n395, σ1°11/395, mb4.8/71, 48C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.26**	**65**			**Pn**	**03 15 21.9**	**-2.0**
FUTU	**Fugatoga**	**3.34**	**287**	P		**Pn**	**03 15 26.3**	**+1.7**
LKBA	**Tubou, Lakemba**	**4.81**	**232**	P		**Pn**	**03 15 44.8**	**+3.2**
TAVE	**Taveuni**	**5.08**	**253**	P		**Pn**	**03 15 48.0**	**+3.1**
DGTI	**Dogotuki**	**5.33**	**258**	P		**Pn**	**03 15 50.4**	**+2.5**
NIUE	**Niue**	**6.00**	**129**	Pn		**Pn**	**03 15 55.5**	**-0.7**
NIUE	**Niue**	**6.00**	**129**	P		**Pn**	**03 15 56.5**	**+0.3**
MSVF	**Nonsavu**	**7.25**	**250**	P		**Pn**	**03 16 15.2**	**+3.4**
	183nm,0.9s,baz=84,slow=11,SNR=112							
MSVF	**Nonsavu**	**7.25**	**250**	Pn		**Pn**	**03 16 14.6**	**+2.8**
GLKZ	**Green Lake**	**14.19**	**191**	P		**P**	**03 17 38.9**	**+0.8**
GLKZ				S		**S**	**03 20 10.2**	**-4.5**
RAR	**Rarotonga**	**15.46**	**115**	P		**Pn**	**03 17 53.7**	**+0.6**
	16nm,1.0s,baz=246,slow=10,SNR=4.5							
RTV	**Rentapao**	**16.25**	**259**	P		**Pn**	**03 18 04.9**	**+2.4**
MARNC	**Mare, Loyalty**	**17.39**	**247**			**P**	**03 18 11.2**	**-2.1**
MARNC	**Mare, Loyalty**	**17.39**	**247**	P		**Pn**	**03 18 15.7**	**-0.1**
LIFNC	**LIFOU**	**17.90**	**250**	P		**P**	**03 18 16.6**	**-2.2**
OUENC	**Ouen Island, N**	**18.73**	**245**	P		**P**	**03 18 26.1**	**-1.6**
DZM	**Mont Dzumac**	**18.97**	**246**	*e*S		**S**	**03 21 49.5**	**-2.4**
	216nm,25.3s							
DZM	**Mont Dzumac**	**18.97**	**246**	P		**P**	**03 18 30.0**	**-0.5**
	16nm,0.6s,baz=91,slow=15,SNR=18							
DZM	**Mont Dzumac**	**18.97**	**246**	P		**P**	**03 18 29.3**	**-1.2**
ONTNC	**Ouen Toro**	**19.03**	**246**	P		**P**	**03 18 29.0**	**-2.0**
KOUNC	**Koumac, New Ca**	**20.54**	**252**	P		**P**	**03 18 45.7**	**-1.4**
OUZ	**Omahuta**	**22.39**	**206**	P		**P**	**03 19 04.0**	**-0.5**
OUZ	**Omahuta**	**22.39**	**206**	P		**P**	**03 19 06.1**	**+1.5**
GRZ	**Great Barrier**	**22.60**	**201**	P		**P**	**03 19 09.4**	**+3.0**
WCZ	**Waipu Caves**	**22.72**	**203**	P		**P**	**03 19 09.6**	**+2.0**
KUZ	**Kuaotunu**	**22.96**	**200**	P		**P**	**03 19 11.9**	**+2.2**
KUZ	**Kuaotunu**	**22.96**	**200**	P		**P**	**03 19 12.1**	**+2.5**
MXZ	**Matakaoa Point**	**23.00**	**194**	P		**P**	**03 19 10.1**	**+0.1**
MXZ	**Matakaoa Point**	**23.00**	**194**	P		**P**	**03 19 10.8**	**+0.8**
WMGZ	**Waiomatatini S**	**23.22**	**194**	P		**P**	**03 19 14.5**	**+2.5**
HAZ	**Te Kaha**	**23.31**	**195**	P		**P**	**03 19 13.3**	**+0.5**
PKGZ	**Pakihiroa**	**23.36**	**194**	P		**P**	**03 19 13.7**	**+0.3**
MKAZ	**Moumakai**	**23.47**	**200**	P		**P**	**03 19 15.9**	**+1.6**
PUZ	**Puketiti**	**23.50**	**194**	P		**P**	**03 19 16.7**	**+2.1**
RUGZ	**Raukumara Rang**	**23.53**	**195**	P		**P**	**03 19 15.2**	**+0.1**
TWGZ	**Tauwhareparae**	**23.66**	**194**	P		**P**	**03 19 17.4**	**+1.3**
CNGZ	**Carnagh Station**	**23.90**	**194**	P		**P**	**03 19 20.0**	**+1.8**
MWZ	**Matawai**	**23.92**	**195**	P		**P**	**03 19 18.0**	**-0.4**
TOZ	**Tahuroa Road**	**23.93**	**199**	P		**P**	**03 19 20.4**	**+1.9**
TKGZ	**Te Karaka**	**23.94**	**194**	P		**P**	**03 19 20.7**	**+2.2**
URZ	**Urewera**	**23.95**	**196**	P		**P**	**03 19 17.2**	**-1.5**
	43nm,0.3s,baz=346,slow=3.0,SNR=66							
	43nm,0.3s							
URZ	**Urewera**	**23.95**	**196**	P		**P**	**03 19 17.4**	**-1.3**
RAGZ	**Rawiri**	**24.10**	**195**	P		**P**	**03 19 19.7**	**-0.4**
RIGZ	**Rimuhau**	**24.21**	**194**	P		**P**	**03 19 22.3**	**+1.2**
PPT2	**Papeete2**	**24.32**	**99**	*e*S		**S**	**03 23 23.6**	**+1.4**
	60nm,32.8s							
RTZ	**Ruatahuna**	**24.32**	**196**	P		**P**	**03 19 20.4**	**-1.7**
RAHZ	**Arahi**	**24.58**	**195**	P		**P**	**03 19 25.3**	**+0.9**
MTHZ	**Maungataniwha**	**24.58**	**196**	P		**P**	**03 19 26.0**	**+1.5**
NMHZ	**Naumai**	**24.82**	**196**	P		**P**	**03 19 27.5**	**+0.9**
HIZ	**Hauiti**	**24.85**	**200**	P		**P**	**03 19 29.2**	**+2.4**
BKZ	**Black Stump Fm**	**24.97**	**196**	P		**P**	**03 19 26.6**	**-1.3**
TMVZ	**Te Maari**	**25.14**	**198**	P		**P**	**03 19 29.5**	**-0.1**
ETVZ	**East Tongariro**	**25.16**	**198**	P		**P**	**03 19 29.5**	**-0.3**
MCHZ	**McNeill Hill**	**25.18**	**196**	P		**P**	**03 19 29.9**	**+0.2**
TWVZ	**Taurewa**	**25.18**	**198**	P		**P**	**03 19 29.8**	**-0.1**
NNVZ	**North Ngauruho**	**25.18**	**198**	P		**P**	**03 19 30.5**	**+0.5**
OTVZ	**Oturere**	**25.20**	**198**	P		**P**	**03 19 30.0**	**-0.1**
TBI	**Tubuai**	**25.21**	**112**	*e*S		**S**	**03 23 38.1**	**+2.1**
	293nm,34.8s							
SNVZ	**South Ngauruho**	**25.23**	**198**	P		**P**	**03 19 30.2**	**-0.2**
NGZ	**Ngauruhoe**	**25.23**	**198**	P		**P**	**03 19 30.5**	**+0.1**
KWHZ	**Kaweka Forest**	**25.23**	**196**	P		**P**	**03 19 30.8**	**+0.5**
TUVZ	**Tukino**	**25.30**	**197**	P		**P**	**03 19 30.3**	**-0.7**
WNVZ	**Wahianoa**	**25.37**	**198**	P		**P**	**03 19 30.6**	**-1.1**
BHHZ	**Black Hill Sta**	**25.39**	**197**	P		**P**	**03 19 30.8**	**-0.9**
MOVZ	**Moawhango**	**25.40**	**197**	P		**P**	**03 19 31.3**	**-0.5**
KRHZ	**Kereru**	**25.45**	**196**	P		**P**	**03 19 32.5**	**+0.2**
KAHZ	**Kahuranaki**	**25.46**	**195**	P		**P**	**03 19 33.3**	**+1.0**
PNHZ	**Pukenui**	**25.75**	**196**	P		**P**	**03 19 35.1**	**+0.2**
TSZ	**Takapari Road**	**25.95**	**196**	P		**P**	**03 19 37.0**	**+0.3**
QRZ	**Quartz Range**	**27.71**	**201**	P		**P**	**03 19 52.6**	**+0.3**
NNZ	**Nelson**	**27.78**	**199**	P		**P**	**03 19 52.2**	**-0.7**
THZ	**Tophouse**	**28.42**	**200**	P		**P**	**03 19 57.9**	**-0.7**
THZ					IAmb	IAmb	03 19 59.6	
	comp=Z,23nm,0.6s							
LHI	**Lord Howe Isla**	**28.79**	**231**	P		**P**	**03 20 01.9**	**0.0**
LHI					IAmb	IAmb	03 20 03.7	
	comp=Z,40nm,0.8s							
INZ	**Inchbonnie**	**29.77**	**201**	P		**P**	**03 20 09.1**	**-1.3**
RPZ	**Rata Peaks**	**30.78**	**200**	P		**P**	**03 20 18.2**	**-1.2**
	comp=Z,18nm,0.6s,baz=7.9,slow=7.5,SNR=15							
	comp=Z,18nm,0.6s							
JCZ	**Jackson Bay**	**31.89**	**203**	P		**P**	**03 20 29.4**	**+0.3**
WKZ	**Wanaka**	**32.46**	**202**	P		**P**	**03 20 32.6**	**-1.4**
EIDS	**Eidsvold**	**33.41**	**247**	P		**P**	**03 20 40.5**	**-2.0**
EIDS					IAmb	IAmb	03 20 42.9	
	comp=Z,14nm,0.8s							
EIDS	**Eidsvold**	**33.41**	**247**	P		**P**	**03 20 41.9**	**-0.6**
DCZ	**Deep Cove**	**33.69**	**203**	P		**P**	**03 20 43.8**	**-0.7**
ARMA	**Armidale**	**34.22**	**238**	P		**P**	**03 20 48.1**	**-1.4**
RMQ	**Roma**	**35.68**	**246**	P		**P**	**03 21 02.8**	**+0.9**
CTA	**Charters Tower**	**37.33**	**257**	P		**P**	**03 21 15.8**	**0.0**
	comp=Z,19nm,0.5s,baz=73,slow=11,SNR=11							
	comp=Z,19nm,0.5s							
CTA	**Charters Tower**	**37.33**	**257**	P		**P**	**03 21 16.6**	**+0.8**
CTAO	**Charters Tower**	**37.33**	**257**	P		**P**	**03 21 14.8**	**-0.9**
CTAO					IAmb	IAmb	03 21 16.7	
	comp=Z,25nm,0.8s							
CTAO	**Charters Tower**	**37.33**	**257**	P		**P**	**03 21 16.6**	**+0.8**
CTAO	**Charters Tower**	**37.33**	**257**	P		**P**	**03 21 15.3**	**-0.5**
PMG	**Port Moresby**	**37.55**	**274**	P		**P**	**03 21 16.4**	**-1.4**
PMG					IAmb	IAmb	03 21 20.0	
	comp=Z,38nm,0.8s							
PMG	**Port Moresby**	**37.55**	**274**	P		**P**	**03 21 18.9**	**+1.2**
PMG	**Port Moresby**	**37.55**	**274**	P		**P**	**03 21 19.0**	**+1.2**
PMG	**Port Moresby**	**37.55**	**274**	P		**P**	**03 21 19.3**	**+1.6**
CNB	**Canberra Magne**	**37.73**	**231**	P		**P**	**03 21 19.2**	**+0.1**
CAN	**Canberra**	**38.01**	**232**	P		**P**	**03 21 20.8**	**-0.5**
CAN					IAmb	IAmb	03 21 22.1	
	comp=Z,24nm,0.7s							
CAN	**Canberra**	**38.01**	**232**	P		**P**	**03 21 21.6**	**+0.3**
CAN	**Canberra**	**38.01**	**232**	P		**P**	**03 21 21.2**	**-0.1**
WAKE	**Wake Island**	**38.90**	**331**	P		**P**	**03 21 28.6**	**-0.1**
MTSU	**Mount Surprise**	**39.18**	**260**	P		**P**	**03 21 32.2**	**+1.0**
CMSA	**Cobar Meteorol**	**39.43**	**239**	P		**P**	**03 21 33.0**	**-0.1**
QLP	**Quilpie**	**39.69**	**247**	P		**P**	**03 21 35.3**	**0.0**
COEN	**Coen**	**40.62**	**266**	P		**P**	**03 21 42.3**	**-0.8**
COEN					IAmb	IAmb	03 21 45.0	
	comp=Z,25nm,0.7s							
COEN	**Coen**	**40.62**	**266**	P		**P**	**03 21 44.3**	**+1.3**
TOO	**

SBA **Scott Base** 63.24 184 P **P** 03 24 29.6 +1.3
SBA IAmb IAmb 03 24 32.5
comp=Z,32nm,0.9s
SBA Scott Base 63.24 184 P **P** **03 24 31.3 +3.0**
VNDA Vanda 63.34 186 P **P** **03 24 31.2 +2.2**
comp=Z,11nm,0.9s,baz=1.9,slow=7.5,SNR=21
comp=Z,11nm,0.9s
VNDA Vanda 63.34 186 P **P** **03 24 30.2 +1.2**
VNDA IAmb IAmb 03 24 32.3
comp=Z,14nm,0.9s
VNDA Vanda 63.34 186 P **P** **03 24 31.1 +2.2**
VNDA pP **pP** **03 25 25.8 -1.0**
NWAO Narrogin (SRO) 63.47 241 P **P** **03 24 29.8 -0.9**
NWAO IAmb IAmb 03 24 31.6
comp=Z,65nm,1.7s
MORW Morawa 64.68 245 P **P** **03 24 37.7 -0.9**
MORW IAmb IAmb 03 24 38.8
comp=Z,11nm,0.8s
KAPI Kappang 65.00 272 P **P** **03 24 41.5 +0.7**
comp=Z,17nm,0.7s,baz=241,slow=2.4,SNR=6.5
comp=Z,17nm,0.7s
PLAI Plampang 66.01 267 P **P** **03 24 48.3 +1.0**
GIRL Giralia 66.95 252 P **P** **03 24 53.0 -0.1**
JGF Kuroka 67.91 319 P **P** **03 24 57.7 -1.0**
MJAR Matsushiro Arr 67.98 321 P **P** **03 24 58.8 -0.4**
comp=Z,1.8nm,0.5s,baz=150,slow=5.9,SNR=7.8
comp=Z,1.8nm,0.5s
MAJO Matsushiro 67.98 321 P **P** **03 24 57.9 -1.3**
MAJO IAmb IAmb 03 25 59.7
comp=Z,61nm,1.8s
CCD Concordia, Ant 68.23 194 P **P** **03 25 01.7 +1.1**
CCD pP **pP** **03 25 57.5 -1.8**
JAGI Jajag, Banyuwa 69.58 267 P **P** **03 25 09.4 -0.1**
JAGI Jajag, Banyuwa 69.58 267 P **P** **03 25 10.9 +1.4**
JHS Saijyo 70.28 317 P **P** **03 25 13.1 -0.3**
JNU Nakatsue 70.73 314 P **P** **03 25 16.2 +0.2**
comp=Z,20nm,0.8s,baz=99,slow=7.1,SNR=4.3
comp=Z,20nm,0.8s
JKA Kamikawa-asahi 70.73 329 P **P** **03 25 16.4 +0.6**
ASAJ Asahikawa 70.73 329 P **P** **03 25 17.2 +1.4**
comp=Z,11nm,0.8s,baz=190,slow=5.2,SNR=7.5
comp=Z,11nm,0.8s
KKM Kota Kinabalu 71.51 282 P **P** **03 25 20.3 -0.9**
KKM IAmb IAmb 03 25 22.2
comp=Z,18nm,0.8s
PETK Petropavlovsk- 72.12 343 P **P** **03 25 24.2 +0.3**
comp=Z,18nm,0.7s,baz=111,slow=9.1,SNR=14
comp=Z,18nm,0.7s
UGM Wanagama 73.21 266 P **P** **03 25 30.5 -0.6**
YULB Yu-li 73.33 301 P **P** **03 25 31.2 -0.4**
SSLB Suanglung 73.78 301 P **P** **03 25 33.3 -1.0**
SSLB IAmb IAmb 03 26 19.4
comp=Z,55nm,1.4s
TPUB Ta-pu 73.85 300 P **P** **03 25 33.8 -0.9**
YBH Yreka Blue Hor 74.36 38 P **P** **03 25 38.0 +0.7**
YBH IAmb IAmb 03 27 06.8
comp=Z,34nm,1.8s
HUMO Hull Mountain 74.75 37 P **P** **03 25 39.4 0.0**
HUMO IAmb IAmb 03 26 02.5
comp=Z,49nm,1.8s
KDAK Kodiak Island 75.10 12 P **P** **03 25 41.1 +0.1**
KSRS Korea Array 75.13 316 P **P** **03 25 42.6 +1.0**
comp=Z,4.0nm,0.9s,baz=126,slow=5.9,SNR=7.3
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 75.18 43 P **P** **03 25 43.4 +1.1**
comp=Z,1.2nm,0.6s,baz=221,slow=9.1,SNR=5.9
comp=Z,1.2nm,0.6s
NVAR Mina Array Bea 75.18 43 P **P** **03 25 42.1 -0.2**
P18K Big Mountain, 76.12 10 P **P** **03 25 46.6 -0.2**
P18K IAmb IAmb 03 26 46.5
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 76.48 324 P **P** **03 25 49.6 +0.5**
comp=Z,1.7nm,0.7s,baz=126,slow=3.7,SNR=3.7
comp=Z,1.7nm,0.7s
BRLK Bradley Lake 77.28 12 P **P** **03 25 52.9 -0.4**
BRLK IAmb IAmb 03 28 30.1
comp=Z,84nm,1.8s
LON Longmire 77.95 34 P **P** **03 25 56.4 -0.9**
LON IAmb IAmb 03 27 05.7
comp=Z,24nm,1.7s
PWL Port Wells 78.81 13 P **P** **03 26 01.3 -0.3**
PWL IAmb IAmb 03 27 15.6
comp=Z,28nm,1.2s
NJ2 Nanjing 79.01 308 *e*P **P** **03 26 04.8 +1.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
GHO Glory Hole Cre 79.51 12 P **P** **03 26 05.0 -0.4**
GHO IAmb IAmb 03 27 48.7
comp=Z,18nm,0.8s
MA2 Magadan 79.66 343 P **P** **03 26 06.3 +0.1**
comp=Z,11nm,0.8s,baz=42,slow=11,SNR=4.7
comp=Z,11nm,0.8s
KLR Kul'dur 79.69 328 P **P** **03 26 07.2 +0.6**
comp=Z,1.5nm,0.7s,baz=97,slow=18,SNR=5.9
comp=Z,1.5nm,0.7s
ANM Nome 79.94 4 P **P** **03 26 07.3 -0.3**
BNX BinXian 80.02 323 ⇓P **P** **03 26 08.3 -0.1**
BNX pmax pmax
comp=Z,11nm,0.8s
BNX pmax pmax
comp=Z,400nm,5.0s
K20K Telida 80.05 9 P **P** **03 26 07.1 -1.1**
CN2 Changchun 80.13 321 *e*P **P** **03 26 09.7 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
N25K Chitina, Valde 80.31 14 P **P** **03 26 09.9 +0.1**
N25K IAmb IAmb 03 26 11.0
comp=Z,8.1nm,0.7s
GLB Gilahina Butte 80.36 15 P **P** **03 26 09.7 -0.3**
GLB IAmb IAmb 03 26 21.3
comp=Z,30nm,1.7s
BARN Barnard Glacie 80.57 16 P **P** **03 26 11.0 -0.2**
MNTX Cornudas Mount 81.27 54 P **P** **03 26 15.7 +0.2**
MCK McKinley 81.29 11 P **P** **03 26 14.4 -0.3**
TX31 Lajitas Ar. Si 81.70 57 P **P** **03 26 17.6 -0.2**
TXAR Lajitas Array 81.70 57 P **P** **03 26 18.0 +0.2**
ANMO Albuquerque 81.79 50 P **P** **03 26 17.5 -0.8**
L26K Log Cabin Wild 81.84 14 P **P** **03 26 17.3 -0.4**
SEY Seymchan 82.07 346 P **P** **03 26 18.9 +0.1**
comp=Z,11nm,0.7s,baz=149,slow=5.8,SNR=24
comp=Z,11nm,0.7s
IMAR Indian Mountai 82.57 9 P **P** **03 26 21.2 -0.1**
IL31 82.62 12 P **P** **03 26 20.6 -0.9**
ILAR Eielson Array 82.62 12 P **P** **03 26 21.4 -0.3**
comp=Z,2.8nm,0.4s,baz=217,slow=5.3,SNR=90
ILAR pP **pP** **03 27 21.6 -0.3**
comp=Z,2.8nm,1.1s,baz=228,slow=6.1,SNR=4.0
comp=Z,2.8nm,0.4s
ILAR Eielson Array 82.62 12 P **P** **03 26 21.2 -0.4**
PD31 Pinedale Array 83.11 42 P **P** **03 26 23.0 -2.0**
PDAR Pinedale Array 83.11 42 P **P** **03 26 25.5 +0.5**
comp=Z,2.9nm,0.8s,baz=226,slow=2.7,SNR=15
comp=Z,2.9nm,0.8s
PDAR Pinedale Array 83.11 42 P **P** **03 26 25.3 +0.3**
PRP Porcupine Dome 83.55 12 P **P** **03 26 25.9 -0.6**
DAWY Dawson 83.67 15 P **P** **03 26 27.3 +0.2**
EGAK Eagle 83.84 14 P **P** **03 26 27.6 -0.2**
EGAK IAmb IAmb 03 26 29.4
comp=Z,21nm,1.4s
BILL Bilibino 84.23 353 P **P** **03 26 28.9 -0.8**
J29M Klondike Camp 84.28 15 P **P** **03 26 30.4 +0.2**
J29M IAmb IAmb 03 26 33.7
comp=Z,21nm,1.4s
BELA Belgrano 2 84.29 172 P **P** **03 26 30.2 +0.1**
UBPT Khong Chiam 84.39 287 P **P** **03 26 31.5 -0.1**
UBPT IAmb IAmb 03 26 33.9
comp=Z,12nm,0.9s
LYN LuoYang 84.91 308 *e*P **P** **03 26 35.3 +1.4**
GYA Guiyang 86.78 298 ⇑P **P** **03 26 45.2 +1.8**
GYA pmax pmax
comp=Z,22nm,1.0s
MAW Mawson 87.45 199 P **P** **03 26 47.2 +1.6**
comp=Z,15nm,0.8s,baz=154,slow=6.6,SNR=1.6
comp=Z,15nm,0.8s
XAN Xi'an 87.46 306 P **P** **03 26 47.7 +1.3**
XAN pmax pmax
comp=Z,22nm,0.9s
HHC Hu-ho-hao-te 87.95 313 *e*P **P** **03 26 50.2 +1.6**
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,470nm,4.5s
KMI Kunming 89.74 296 ⇑P **P** **03 26 57.4 -0.1**
KMI pmax pmax
comp=Z,12nm,0.5s
YKA Yellowknife Ar 90.56 24 P **P** **03 27 00.4 +0.3**
comp=Z,1.0nm,0.9s,baz=238,slow=4.7,SNR=13
YKA pP **pP** **03 28 01.3 -0.9**
comp=Z,0.8nm,0.9s,baz=247,slow=4.7,SNR=4.7
comp=Z,1.0nm,0.9s
PZH PanZhiHua 91.00 297 P **P** **03 27 04.3 +1.1**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
CMAR Chiang Mai Arr 91.28 289 P **P** **03 27 06.3 +1.8**
comp=Z,7.4nm,0.8s,baz=93,slow=2.6,SNR=33
comp=Z,7.4nm,0.8s
CMAR Chiang Mai Arr 91.28 289 P **P** **03 27 04.9 +0.4**
CHTO Chiang Mai 91.37 289 P **P** **03 27 05.3 +0.4**
CHTO IAmb IAmb 03 27 07.3
comp=Z,9.4nm,0.8s
LZH Lanzhou 92.06 307 ⇑P **P** **03 27 09.4 +1.5**
LZH sP sP 03 28 28.2 -8.9
LZH pmax pmax
comp=Z,22nm,1.4s
ELIB Princess Elisa 92.11 186 *d*P **P** **03 27 07.8 +0.3**
comp=Z,12nm,0.0s
TROLL Troll, Antarti 92.89 179 P **P** **03 27 11.7 +0.6**
VNA3 Neumayer Olymp 93.08 175 P **P** **03 27 12.6 +0.8**
A36M Sachs Harbour 93.12 14 P **P** **03 27 11.8 +0.1**
A36M IAmb IAmb 03 27 13.4
comp=Z,10.0nm,0.8s
TNCH TengChong 93.39 295 *e*P **P** **03 27 14.4 +0.1**
VNA2 Neumayer--Watz 93.56 176 P **P** **03 27 15.7 +1.7**
baz=188,slow=4.0
VNA1 Neumayer--Stat 93.77 176 P **P** **03 27 14.2 -0.7**
SONM Songino Array 93.86 319 P **P** **03 27 15.8 -0.1**
comp=Z,0.5nm,0.6s,baz=140,slow=4.8,SNR=4.7
comp=Z,0.5nm,0.6s
TIXI Tiksi 94.54 345 P **P** **03 27 17.4 -0.9**
TIXI IAmb IAmb 03 27 19.2
comp=Z,6.2nm,1.1s
GTA Gaotai 96.05 309 *e*P **P** **03 27 26.7 +0.7**
GTA pmax pmax
comp=Z,3.0nm,1.0s
ZALV Zalesovo Beam 108.30 322 PKiKP **PKiKP** **03 32 24.5 -0.4**
comp=Z,0.5nm,0.3s,baz=180,slow=1.4,SNR=2.1
MKAR Makanchi Array 109.78 315 PKiKP **PKiKP** **03 32 27.2 -0.8**
comp=Z,2.4nm,0.7s,baz=60,slow=0.1,SNR=20
BRVK Borovoye 117.01 322 PKPdf **PKPdf** **03 32 40.6 -1.0**
GAR Garm 118.71 306 PKPdf **PKPdf** **03 32 45.5 0.0**
ARU Arti 122.53 328 PKPdf **PKPdf** **03 32 51.5 -0.6**
ABKAR Akbulak array 124.25 320 PKPdf **PKPdf** **03 32 54.8 -0.8**
ABKAR Akbulak array 124.25 320 PKPdf **PKPdf** **03 32 54.2 -1.4**
ARCES ARCESS Array B 124.31 351 PKP **PKPdf** **03 32 55.1 0.0**
comp=Z,5.5nm,0.7s,baz=29,slow=2.8,SNR=16
ARCES ARCESS Array B 124.31 351 PKPdf **PKPdf** **03 32 54.7 -0.5**
FINES FINESS Array B 131.54 347 PKP **PKPdf** **03 33 09.3 +0.2**
comp=Z,1.7nm,0.5s,baz=53,slow=1.7,SNR=14
FINES FINESS Array B 131.54 347 PKPdf **PKPdf** **03 33 08.7 -0.4**
MNK Minsk 137.07 341 *i* PKP **PKPdf** **03 33 17.9 -1.8**
comp=E,1.0nm,1.0s
MNK *i* PKP **PKPdf** **03 33 17.9 -1.8**
comp=N,17nm,0.7s
MNK *i* PKP **PKPdf** **03 33 17.9 -1.8**
comp=Z,8.0nm,1.0s,baz=213
MNK *i* PKiKP **PKiKP** **03 33 20.1 -1.4**
MNK *i* pPKP **pPKPdf** **03 34 21.6 -3.4**
MNK *i* PP **PP** **03 36 04.8 -1.4**
MNK *i* PPP PPP 03 39 06.0
MNK *i* SKS **SKSdf** **03 40 04.2 -1.0**
MNK *i* SKKS **SKKSdf** **03 49 41.7 -3.4**
MNK *i* SS **SS** **03 53 50.4 +0.8**
MNK *i* SSS SSS 03 58 59.5
MNK *i* LRM MLR 04 33 29.9
comp=Z,78nm,11.6s
MNK *i* LRM MLR 04 33 31.9
comp=E,12nm,12.9s
MNK *i* LRM MLR 04 33 33.2
comp=N,252nm,13.8s
NACGM Naroch 137.07 342 *e*PKP **PKiKP** **03 33 22.5 +0.9**
comp=Z,14nm,0.9s,baz=31
AKASG Malin Array Be 139.71 336 PKhKP PKPpre 03 33 15.7
comp=Z,0.3nm,0.4s,baz=41,slow=4.2,SNR=4.6
AKASG PKP **PKPdf** **03 33 24.2 -0.4**
comp=Z,2.9nm,0.9s,baz=32,slow=2.8,SNR=8.6
AKASG Malin Array Be 139.71 336 PKPpre 03 33 15.5
KIBK Kibwezi 143.05 244 PKPdf PKPbc 03 33 28.9 -0.6
OJC Ojcow 143.20 344 PKPdf PKPbc 03 33 28.4 -0.2
CLL Collm 143.53 352 *i* PKPpre PKPpre 03 33 28.9
comp=Z,6.0nm,0.8s
CLL *i* PKPdf **PKPdf** **03 33 31.3 -0.1**
CLL *i* PKiKP **PKiKP** **03 33 35.5 +0.6**
OSTC Ostas 143.71 348 *e*PKP PKPbc 03 33 30.7 +0.6
BUR08 Bucovina Ar. S 143.73 337 PKPpre 03 33 27.6
BURAR Bucovina Array 143.75 337 ⇑P PKPbc 03 33 30.5 +0.1
BRG Berggiesshubel 143.82 351 *e*PKP PKPbc 03 33 30.8 +0.5
BRG Amp 03 33 33.0
comp=Z,4.3nm,0.9s
DPC Dobruska-Polom 143.89 348 *e*PKP PKPbc 03 33 31.0 +0.3
OKC Ostrava-Krasne 143.97 346 *e*PKP PKPbc 03 33 31.3 +0.5
PVCC Panska Ves 144.05 350 *e*PKP PKPbc 03 33 31.7 +0.7
GHRR 144.11 333 ⇑P PKPbc 03 33 30.2 -0.1
TLCR 144.15 331 ⇑P PKPbc 03 33 32.1 +0.6
MORC Moravsky Berou 144.17 346 ⇑P PKPbc 03 33 31.5 0.0
MORC Moravsky Berou 144.17 346 PKPdf PKPbc 03 33 31.6 +0.1
MORC Moravsky Berou 144.17 346 *e*PKP PKPbc 03 33 31.9 +0.4
GIUM Giurgiulesti 144.20 332 ⇑P PKPbc 03 33 31.8 +0.1
TRPA Tarpa 144.26 340 ⇑P PKPbc 03 33 31.8 +0.1
LANS Liptovska Anna 144.27 344 *e*PKP **PKPdf** **03 33 33.1 +0.2**
BNN Bunyan 144.28 317 PKPdf **PKPab** **03 33 31.4 -0.6**
BMR Baia Mare 144.33 339 ⇑P **PKPab** **03 33 31.7 0.0**
KMBO Kilima Mbogo 144.33 246 PKP **PKPab** **03 33 32.9 -0.1**
comp=Z,0.3nm,0.8s,baz=53,slow=23,SNR=6.9
CFR Carcaliu 144.47 332 ⇑P PKPbc 03 33 32.8 +0.4
MAUC Maruska 144.48 346 *e*PKP **PKPdf** **03 33 33.3 +0.1**
ARCR ARCALIA 144.51 337 ⇑P **PKPdf** **03 33 33.1 -0.3**
VRI Vrincioaia 144.56 334 ⇑P PKPbc 03 33 32.8 0.0
PRU Pruhonice 144.57 350 *e*PKP **PKPdf** **03 33 33.0 -0.3**
TPGR Topolog 144.58 331 ⇑P **PKPdf** **03 33 33.2 -0.3**
KECS Kecvo 144.59 342 *e*PKP **PKPdf** **03 33 33.8 +0.4**
PLOR Plostina 144.60 334 ⇑P PKPbc 03 33 33.2 +0.3
NKC Novy Kostel 144.66 352 *e*PKP **PKPdf** **03 33 33.3 -0.2**
OZUR 144.77 335 ⇑P **PKPdf** **03 33 33.9 +0.1**
MEM Membach 144.77 359 *d*PKP **PKPdf** **03 33 33.8 +0.2**
MEM *d*PKiKP **PKiKP** **03 33 37.7 +0.2**
BTNL Ternell 144.79 359 *d*PKP **PKPdf** **03 33 33.9 +0.2**
COVR Voineasa-Covas 144.80 334 ⇑P PKPbc 03 33 33.5 0.0
BSTI Sart Tilman 144.80 360 *d*PKP **PKPdf** **03 33 33.7 0.0**
VRAC Vranov 144.82 347 ⇑P PKPbc 03 33 33.5 0.0
VRAC Vranov 144.82 347 *e*PKP **PKPdf** **03 33 34.2 +0.4**
GRER 144.84 333 ⇑P **PKPdf** **03 33 35.2 +1.3**
TIRR Tirgusor 144.88 331 ⇑P **PKPdf** **03 33 34.2 +0.2**
TIRR Tirgusor 144.88 331 PKPbc 03 33 33.0 -0.7
HARR Harsova 144.94 331 ⇑P **PKPab** **03 33 34.6 +0.5**
MESR Meseseni 144.97 339 ⇑P **PKPdf** **03 33 34.0 0.0**
BCLA Clavier 144.97 360 *d*PKP PKPbc 03 33 33.9 0.0
TLBR Topalu 144.99 331 ⇑P **PKPab** **03 33 34.5 +0.2**
JAVC Velka Javorina 144.99 346 *e*PKP **PKPab** **03 33 35.6 +1.3**
BGES Gesves 145.00 0 *d*PKP **PKPab** **03 33 34.2 0.0**
BHOU Houvegnez 145.03 359 *d*PKP **PKPab** **03 33 34.9 +0.6**
DOPR Dopca 145.03 335 ⇑P **PKPab** **03 33 35.1 +0.6**
VYHS Vyhne 145.04 344 *e*PKP **PKPab** **03 33 35.0 +0.6**
TREC Trest 145.06 348 *e*PKP **PKPab** **03 33 34.5 0.0**
BMRD Maredsous 145.09 0 *d*PKP **PKPab** **03 33 34.5 0.0**
MFTR Murfatlar 145.09 330 ⇑P **PKPab** **03 33 34.7 0.0**
NEHR Nehoiu 145.09 334 ⇑P **PKPdf** **03 33 34.3 -0.1**
KRUC Moravsky 145.09 347 *e*PKP **PKPab** **03 33 34.7 +0.1**
CJR Cluj-Napoca 145.11 338 ⇑P **PKPab** **03 33 34.6 -0.1**
CVDA Cernavoda 145.16 331 ⇓P **PKPdf** **03 33 33.9 -0.5**
MLR Muntele Rosu 145.19 334 ⇑P **PKPab** **03 33 35.2 -0.1**
MLR Muntele Rosu 145.19 334 PKPdf **PKPdf** **03 33 33.7 -1.0**
BR131 Keskin Array S 145.20 320 **PKPdf** **03 33 33.3 -1.6**
BRTR Keskin Array B 145.20 320 PKPbc **PKPdf** **03 33 34.7 -0.2**
comp=Z,9.0nm,0.8s,baz=93,slow=2.0,SNR=43
BRTR pPKPbc **pPKPdf** **03 34 41.8 +1.4**
comp=Z,3.4nm,1.0s,baz=112,slow=3.7,SNR=3.4
BRTR Keskin Array B 145.20 320 PKPdf **PKPdf** **03 33 34.2 -0.7**
ISR Istrita 145.23 333 ⇑P **PKPab** **03 33 35.5 +0.2**
RCHB Rochefort 145.23 360 *d*PKP **PKPbc** **03 33 34.8 +0.2**
AMRR Amara 145.27 332 ⇑P **PKPab** **03 33 36.2 +0.8**
MANR Mangalia 145.28 330 ⇑P **PKPab** **03 33 36.2 +0.8**
DOU Dourbes 145.29 1 *d*PKP **PKPab** **03 33 35.1 -0.1**
MARR Marisel-Cluj 145.31 338 ⇑P **PKPbc** **03 33 35.0 -0.2**
GRF Grafenberg Arr 145.34 353 *e*PKPbc **PKPab** **03 33 36.1 +0.6**
baz=10,slow=3.2
GRFO Grafenberg 145.35 353 **PKPdf** **03 33 33.2 -1.4**
DRGR 145.36 339 ⇑P **PKPbc** **03 33 35.4 +0.1**
ICOR Ion Corvin 145.43 331 ⇑P **PKPab** **03 33 36.1 +0.1**
SECR 145.50 333 ⇑P **PKPbc** **03 33 35.6 -0.1**
MODS Modra-Piesok 145.54 346 *e*PKP **PKPab** **03 33 37.1 +0.8**
KHC Kasperske Hory 145.56 350 PKPdf **PKPdf** **03 33 34.9 -0.2**
KHC Kasperske Hory 145.56 350 *e*PKP **PKPab** **03 33 36.2 -0.2**
LEHL Lehliu 145.61 332 ⇑P **PKPab** **03 33 36.7 0.0**
WLF Walferdange 145.72 359 **PKPbc** **03 33 35.8 -0.4**
WLF Walferdange 145.72 359 *d*PKP **PKPab** **03 33 36.9 0.0**
CKRC Cesky Krumlov 145.74 349 *e*PKP **PKPab** **03 33 37.3 +0.2**
GERES GERESS Array B 145.82 350 PKPbc **PKPdf** **03 33 35.8 +0.2**
comp=Z,2.6nm,0.5s,baz=33,slow=3.7,SNR=32
GERES pPKPbc **pPKPdf** **03 34 43.2 +2.1**
comp=Z,0.5nm,0.6s,baz=15,slow=5.5,SNR=1.8
GERES GERESS Array B 145.82 350 PKPdf **PKPdf** **03 33 35.4 -0.2**
ARR Arges 145.83 335 ⇑P **PKPab** **03 33 37.7 +0.1**
DEV Deva 146.07 338 ⇑P **PKPbc** **03 33 37.9 +0.5**
SIRR Siria 146.18 339 ⇑P **PKPbc** **03 33 37.7 0.0**
SGRR Singureni 146.18 333 ⇑P **PKPbc** **03 33 37.4 -0.3**
CONA Conrad Observa 146.28 347 *i* PKP **PKPab** **03 33 38.9 -0.4**
comp=Z,17nm,0.8s,SNR=7.7
RONA Rosalia, Austr 146.40 346 *e*PKP **PKPab** **03 33 39.3 -0.4**
comp=Z,20nm,0.8s,SNR=6.2
RAZG Razgrad 146.46 331 ⇑P **PKPbc** **03 33 38.9 +0.3**
SURR Surduc 146.46 338 ⇑P **PKPbc** **03 33 39.0 +0.5**
GZR Gura Zlata 146.53 337 ⇑P **PKPbc** **03 33 38.5 -0.2**
MOA Molln 146.68 349 *i* PKP **PKPbc** **03 33 39.6 +0.6**
comp=Z,11nm,0.7s
BZS Buzias 146.76 339 ⇑P **PKPbc** **03 33 39.1 -0.2**
BIOA Bad Ischl, Aus 146.95 349 *i* PKP **PKPbc** **03 33 40.1 +0.3**
comp=Z,14nm,1.1s
BFO Black Forest 146.96 356 **PKPdf** **03 33 36.4 -1.1**
ARSA Arzberg 147.00 347 *e*PKP **PKPdf** **03 33 38.5 +0.9**
comp=Z,12nm,1.2s
BORA Eskisehir 147.03 323 PKPbc **PKPdf** **03 33 39.1 +1.2**
HERR Herculane 147.10 337 ⇑P **PKPbc** **03 33 40.2 -0.1**
DJES Djerdap 147.24 337 ⇑P **PKPbc** **03 33 40.4 -0.3**
CLF Chambon-Foret 147.28 4 **PKPbc** **03 33 41.4 +0.8**
PLVB Pleven 147.44 333 ⇑P **PKPbc** **03 33 41.9 +0.6**
MDVR Moldovita 147.44 338 ⇑P **PKPdf** **03 33 36.1 -2.3**
RETA Reutte 147.57 353 *i* PKP **PKPbc** **03 33 41.9 +0.3**
comp=Z,14nm,1.0s
KBA Koelnbreinsper 147.59 350 *i* PKP **PKPbc** **03 33 41.7 -0.1**
comp=Z,7.3nm,0.5s
WATA Walderalm 147.62 352 *i* PKP **PKPbc** **03 33 42.2 +0.4**
comp=Z,7.8nm,0.6s
SOKA Soboth 147.65 347 *e*PKP **PKPbc** **03 33 41.6 -0.3**
comp=Z,13nm,1.0s
MOTA Moosalm 147.67 352 *i* PKP **PKPbc** **03 33 41.9 0.0**
comp=Z,14nm,1.1s
WTTA Wattenberg 147.68 352 *i* PKP **PKPbc** **03 33 42.4 +0.4**
comp=Z,22nm,0.6s,SNR=10
SQTA Sankt Quirin 147.78 352 *i* PKP **PKPbc** **03 33 42.6 +0.4**
comp=Z,9.8nm,0.7s
DAVA Damuels 147.87 354 *i* PKP **PKPbc** **03 33 43.0 +0.6**
comp=Z,17nm,0.7s,SNR=7.2
OBKA Obir 147.91 348 *e*PKiKP **PKiKP** **03 33 43.7 -0.5**
comp=Z,6.5nm,0.9s
MYKA Terra Mystica 147.97 349 *i* PKP **PKPbc** **03 33 41.9 -0.7**
comp=Z,7.1nm,0.7s
LODK Lodwar 148.02 251 PKPbc **PKPbc** **03 33 42.0 -1.7**
FETA Feichten 148.03 353 *e*PKP **PKPdf** **03 33 40.4 +0.9**
comp=Z,17nm,1.1s
ABTA Abfaltersbach 148.05 350 *i* PKP **PKPbc** **03 33 42.8 -0.1**
comp=Z,20nm,0.8s,SNR=7.4
LJU Ljubljana 148.36 348 *i* PKPbc **PKPbc** **03 33 43.8 +0.2**
BOVS Bovan 148.43 337 ⇓P **PKPbc** **03 33 42.5 -1.3**
FUORN Ofenpass-Fuorn 148.48 355 PKPbc **PKPbc** **03 33 43.1 -1.1**
CIMO Cimolais 148.49 350 **PKPdf** **03 33 39.5 -0.6**
STAL STALIGIAL 148.49 350 PKPbc **PKPbc** **03 33 42.9 -1.1**
DIVS Divibare 148.65 339 PKPbc **PKPbc** **03 33 44.0 -0.5**
VTS Vitosha 148.66 334 P **PKPdf** **03 33 35.6 -5.0**
BOJS Bojanci 148.71 346 *i* PKPbc **PKPbc** **03 33 45.0 +0.5**
SENIN Lac Senin/Sane 148.98 357 PKPbc **PKPbc** **03 33 45.9 +0.4**
SALO Salr 149.44 353 PKPbc **PKPbc** **03 33 44.5 -1.8**
PDG Podgorica 150.37 339 PKPbc **PKPbc** **03 33 48.2 -0.4**
PDG PKPab **PKPab** **03 33 54.8 -1.1**
FNA Florina 150.96 334 PKPbc **PKPbc** **03 33 48.5 -1.6**
PGAV Gavieira, Arco 151.00 21 *e*PKPbc **PKiKP** **03 33 50.9 +0.2**
PCAB Cabril 151.31 21 *e*PKPbc **PKiKP** **03 33 51.7 +0.4**
MURB Monte Urbino 151.43 349 PKPbc **PKPbc** **03 33 48.7 -2.4**
PBRG Braganca 151.65 19 *e*PKPbc **PKiKP** **03 33 52.1 +0.1**
POLO Lamas de Olo 151.69 21 *e*PKPbc **PKiKP** **03 33 52.6 +0.4**
PVRL Vila Real 151.81 21 *e*PKPdf **PKPdf** **03 33 46.1 +0.7**
PVRL Vila Real 151.81 21 *e*PKPbc **PKiKP** **03 33 52.5 +0.2**
MVO Moncorvo 152.14 20 *e*PKPdf **PKiKP** **03 33 47.2 +1.3**
MVO Moncorvo 152.14 20 *e*PKPbc **PKiKP** **03 33 53.7 +0.6**
PVIS Viseu 152.24 22 *e*PKPbc **PKiKP** **03 33 53.5 +0.2**
INTR Introdacqua 152.33 346 PKPbc **PKPbc** **03 33 52.4 -0.8**
COI Coimbra 152.49 23 *e*PKPbc **PKiKP** **03 33 54.4 +0.7**
MTE Manteigas 152.64 21 *e*PKPbc **PKiKP** **03 33 54.6 +0.5**
MTE Manteigas 152.64 21 PKPbc **PKPbc** **03 33 54.0 0.0**
PCBR Castelo Branco 153.16 22 *e*PKPbc **PKiKP** **03 33 55.6 +0.5**
PMAR Madeira 153.48 45 *e*PKPab **PKPab** **03 34 09.2 -0.3**
PMRV Marv??o 153.56 22 *e*PKPbc **PKiKP** **03 33 56.5 +0.5**
ESDC Sonseca Array 154.43 16 PKP **PKPdf** **03 33 49.7 +0.5**
comp=Z,0.9nm,1.0s,baz=348,slow=3.0,SNR=4.3
ESDC PKPbc **PKiKP** **03 33 58.3 +0.5**
comp=Z,0.9nm,0.7s,baz=334,slow=2.4,SNR=9.1
ESDC PKPdf **PKPab** **03 34 13.8 +0.7**
comp=Z,0.6nm,0.7s,baz=318,slow=3.3,SNR=5.9
ESDC Sonseca Array 154.43 16 PKPbc **PKPbc** **03 33 56.9 -0.9**
ESDC PKPab **PKPab** **03 34 12.4 -0.7**

*NEIC **09** 03:24:40.6±1.5, 12.1°S±0.1°×166.6°E±0.1°, h65km±8km, mb4.7/23, Error ellipse: s-maj=15.9km s-min=14.0km az=225.0*
*IDC **09** 03:24:42.2±4.3, 12.0°S±166.43°E, h74km±40km, mb3.9/9, mbtmp4.2/11, ML5.5/1, MS3.6/31, Error ellipse: s-maj=30.8km s-min=20.7km az=148.0*

ISC 09 03:24:41.7±0.6, 12.15S±0.08×166.65E±0.08, h83km, n72, σ1§18/47, mb4.5/21, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
HNR	**Honiara**	**7.12 292**		LR	LR	03 29 27.5	
	comp=Z,4μm,19.1s,baz=121,slow=42						
HNR	**Honiara**	**7.12 292**		Pn	**Pn**	**03 26 20.7**	**-2.5**
LIFNC	**LIFOU**	**8.59 176**		Pn	**Pn**	**03 26 42.7**	**-0.6**
KOUNC	**Koumac, New Ca**	**8.65 195**		Pn	**Pn**	**03 26 43.6**	**-0.4**
MARNC	**Mare, Loyalty**	**9.37 172**		Pn	**Pn**	**03 26 54.4**	**+0.6**
DZM	**Mont Dzumac**	**9.86 181**		P	**Pn**	**03 27 02.1**	**+1.4**
	8.3nm,0.9s,baz=61,slow=9.9,SNR=39						
DZM				LR	LR	03 30 33.0	
	comp=Z,396nm,21.7s,baz=17,slow=35						
DZM	**Mont Dzumac**	**9.86 181**		Pn	**Pn**	**03 27 01.7**	**+1.0**
OUENC	**Ouen Island, N**	**10.21 179**		Pn	**Pn**	**03 27 05.1**	**-0.2**
MSVF	**Nonsavu**	**12.33 118**		P	**P**	**03 27 39.8**	**-3.4**
	1.1nm,0.3s,baz=306,slow=12,SNR=4.0						
MSVF				LR	LR	03 31 28.4	
	comp=Z,287nm,21.7s,baz=303,slow=32						
	5.5nm,0.7s						
MSVF	**Nonsavu**	**12.33 118**		Pn	**Pn**	**03 27 32.6**	**-1.7**
PMG	**Port Moresby**	**19.34 276**		LR	LR	03 35 42.4	
	comp=Z,220nm,21.7s,baz=96,slow=34						
EIDS	**Eidsvold**	**19.72 226**		P	**Pn**	**03 29 05.3**	**-1.6**
CTA	**Charters Tower**	**21.10 245**		LR	LR	03 36 09.9	
	comp=Z,156nm,21.2s,baz=84,slow=33						
ARMA	**Armidale**	**22.89 215**		P	**P**	**03 29 38.6**	**0.0**
ARMA				IAmb	IAmb	03 29 42.1	
	comp=Z,25nm,1.3s						
URZ	**Urewera**	**27.62 162**		LR	LR	03 39 26.8	
	comp=Z,115nm,21.9s,baz=85,slow=32						
BKZ	**Black Stump Fm**	**28.29 164**		P	**P**	**03 30 28.6**	**+1.3**
BKZ				IAmb	IAmb	03 30 33.9	
	comp=Z,28nm,1.4s						
MRZ	**Mangatainoka R**	**29.46 166**		P	**P**	**03 30 38.1**

WRA	**Warramunga Arr**	**31.95**	**252**	P	**P**	**03 30 59.1**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=84,slow=9.4,SNR=8.4						
WRA				PcP	PcP	03 33 49.5	+1.0
	comp=Z,0.5nm,0.9s,baz=335,slow=1.6,SNR=4.6						
WRA				LR	LR	03 43 11.6	
	comp=Z,73nm,19.7s,baz=36,slow=35						
	comp=Z,2.6nm,0.9s						
ASAR	**Alice Springs**	**33.11**	**245**	P	**P**	**03 31 09.1**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=70,slow=9.6,SNR=15						
ASAR				LR	LR	03 45 16.4	
	comp=Z,25nm,18.0s,baz=96,slow=37						
	comp=Z,2.1nm,0.7s						
RAR	**Rarotonga**	**33.34**	**110**	LR	LR	03 42 10.0	
	comp=Z,61nm,21.3s,baz=282,slow=31						
GUMO	**Guam**	**33.47**	**319**	LR	LR	03 42 52.0	
	comp=Z,70nm,20.6s,baz=118,slow=33						
BBOO	**Buckleboo**	**34.74**	**229**	P	**P**	**03 31 24.4**	**+0.3**
BBOO				IAmb	IAmb	03 31 34.3	
	comp=Z,18nm,1.4s						
SIJI	**Sorong**	**36.84**	**285**	LR	LR	03 47 42.3	
	comp=Z,94nm,21.9s,baz=254,slow=38						
KNRA	**Kununurra**	**36.91**	**260**	P	**P**	**03 31 41.5**	**-1.2**
KNRA				IAmb	IAmb	03 31 45.0	
	comp=Z,24nm,1.2s						
FORT	**Forrest**	**40.15**	**236**	P	**P**	**03 32 09.2**	**-0.5**
FORT				IAmb	IAmb	03 32 11.3	
	comp=Z,9.8nm,0.8s						
PSA00	**Pilbara Seismi**	**45.61**	**252**	P	**P**	**03 32 54.4**	**+0.4**
PSA00				IAmb	IAmb	03 33 06.7	
	comp=Z,16nm,1.1s						
NWAO	**Narrogin (SRO)**	**49.59**	**237**	LR	LR	03 54 03.3	
	comp=Z,133nm,20.1s,slow=36						
NWAO	**Narrogin (SRO)**	**49.59**	**237**	P	**P**	**03 33 23.9**	**-0.8**
MORW	**Morawa**	**49.88**	**242**	P	**P**	**03 33 27.2**	**+0.2**
JNU	**Nakatsue**	**56.49**	**324**	LR	LR	03 54 34.5	
	comp=Z,48nm,21.8s,baz=40,slow=32						
SHEM	**Shemya Is, Ala**	**64.94**	**5**	LR	LR	03 58 44.9	
	comp=Z,32nm,21.3s,baz=354,slow=32						
VNDA	**Vanda**	**65.41**	**181**	P	**P**	**03 35 17.3**	**+2.3**
	comp=Z,7.2nm,1.2s,baz=3.7,slow=6.8,SNR=5.9						
	comp=Z,7.2nm,1.2s						
VNDA	**Vanda**	**65.41**	**181**	P	**P**	**03 35 16.9**	**+1.9**
VNDA				IAmb	IAmb	03 35 17.5	
	comp=Z,18nm,1.5s						
PETK	**Petropavlovsk-**	**65.45**	**354**	LR	LR	03 56 56.3	
	comp=Z,21nm,21.2s,baz=110,slow=30						
MA2	**Magadan**	**72.63**	**352**	LR	LR	04 00 10.6	
	comp=Z,33nm,21.9s,baz=161,slow=29						
CM31	**Chiang Mai Arr**	**73.36**	**294**	P	**P**	**03 36 04.7**	**-0.4**
CM31				IAmb	IAmb	03 36 07.9	
	comp=Z,9.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P	**P**	**03 36 06.7**	**+1.6**
	comp=Z,1.3nm,0.4s,baz=121,slow=4.9,SNR=12						
	comp=Z,1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P	**P**	**03 36 05.2**	**+0.1**
CHTO	**Chiang Mai**	**73.48**	**294**	P	**P**	**03 36 06.2**	**+0.4**
CHTO				IAmb	IAmb	03 36 08.8	
	comp=Z,8.2nm,1.1s						
KDAK	**Kodiak Island**	**77.29**	**21**	LR	LR	04 04 30.2	
	comp=Z,80nm,19.4s,baz=220,slow=31						
P18K	**Big Mountain,**	**77.65**	**19**	P	**P**	**03 36 28.7**	**-0.1**
P18K				IAmb	IAmb	03 37 05.7	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**77.86**	**180**	P	**P**	**03 36 31.0**	**+0.9**
YAK	**Yakutsk**	**79.41**	**343**	LR	LR	04 06 30.4	
	comp=Z,29nm,20.1s,baz=232,slow=32						
SONM	**Songino Array**	**80.03**	**324**	P	**P**	**03 36 42.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.2,SNR=2.3						
	comp=Z,0.2nm,0.4s						
CAST	**Castle Rocks**	**81.73**	**17**	P	**P**	**03 36 50.9**	**+0.1**
N25K	**Chitina, Valde**	**82.85**	**21**	P	**P**	**03 36 57.6**	**+0.8**
N25K				IAmb	IAmb	03 37 34.6	
	comp=Z,6.7nm,1.2s						
IMAR	**Indian Mountai**	**83.25**	**15**	P	**P**	**03 37 00.1**	**+1.5**
YBH	**Yreka Blue Hor**	**84.04**	**45**	LR	LR	04 07 29.2	
	comp=Z,13nm,19.2s,baz=322,slow=30						
ILAR	**Eielson Array**	**84.28**	**18**	P	**P**	**03 37 04.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=236,slow=5.5,SNR=15						
	comp=Z,0.8nm,0.6s						
ILAR	**Eielson Array**	**84.28**	**18**	P	**P**	**03 37 04.6**	**+0.7**
J25K	**Salcha River,**	**84.64**	**19**	P	**P**	**03 37 06.6**	**+0.7**
BBB	**Bella Bella**	**84.99**	**34**	LR	LR	04 09 57.0	
	comp=Z,43nm,20.4s,baz=278,slow=32						
PFO	**Pinyon Flats O**	**86.00**	**55**	LR	LR	04 07 05.1	
	comp=Z,39nm,22.0s,baz=233,slow=30						
DLBC	**Dease Lake**	**86.96**	**28**	LR	LR	04 12 08.7	
	comp=Z,22nm,20.2s,baz=296,slow=33						
TIXI	**Tiksi**	**87.34**	**349**	LR	LR	04 14 57.4	
	comp=Z,15nm,18.0s,baz=181,slow=35						
LPIG	**La Paz**	**88.67**	**65**	LR	LR	04 08 29.5	
	comp=Z,22nm,21.2s,baz=206,slow=30						
ELK	**Elko**	**89.03**	**48**	LR	LR	04 10 30.2	
	comp=Z,30nm,19.0s,baz=265,slow=31						
INK	**Inuvik**	**90.66**	**19**	LR	LR	04 11 00.5	
	comp=Z,42nm,20.8s,baz=198,slow=31						
PDAR	**Pinedale Array**	**93.65**	**47**	LR	LR	04 14 30.6	
	comp=Z,17nm,20.0s,baz=267,slow=32						
ANMO	**Albuquerque**	**94.35**	**55**	LR	LR	04 13 39.6	
	comp=Z,25nm,20.0s,baz=8.5,slow=31						
MKAR	**Makanchi Array**	**94.93**	**317**	P	**P**	**03 37 55.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=94,slow=5.9,SNR=11						
	comp=Z,1.4nm,0.7s						
YKA	**Yellowknife Ar**	**95.55**	**27**	P	**P**	**03 37 58.4**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=260,slow=4.8,SNR=8.0						
	comp=Z,0.2nm,0.5s						
NRIK	**Noril'sk**	**97.46**	**339**	LR	LR	04 20 11.9	
	comp=Z,26nm,21.1s,baz=171,slow=34						
ARCES	**ARCESS Array B**	**117.62**	**346**	PKP	**PKiKP**	**03 43 17.8**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=40,slow=3.0,SNR=7.7						
FINES	**FINESS Array B**	**123.12**	**339**	PKP	**PKiKP**	**03 43 29.5**	**+1.0**
	comp=Z,2.8nm,1.1s,baz=222,slow=2.6,SNR=3.7						

*INET **09** 03:34:46.0±0.6, 11°.73N×86°.42W, h109km±1km, MW3.5*
*UCR **09** 03:34:46.1±0.9, 11°.64N×86°.40W, h112km±10km, MW4.0*
*SNET **09** 03:34:48.1±0.9, 11°.86N×86°.61W, h122km±30km, ML3.3*
ISC 09 03:34:45.6±1.4, 11°.78N±0°.05×86°.38W±0°.05, h113km±9km, n57, σ1§20/81, 5C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TISN	**Laguna Tiscapa**	**0.38**	**17**	*eP*	**Pn**	**03 35 02.2**	**+0.2**
MGAN	**Managua**	**0.39**	**20**	*eP*	**Pn**	**03 35 02.4**	**+0.3**
MGAN				*eS*	**Sn**	**03 35 14.7**	**+0.3**
WILN	**Americas 2**	**0.42**	**27**	*eP*	**Pn**	**03 35 02.5**	**+0.3**
WILN				*eS*	**Sn**	**03 35 15.5**	**+0.7**
HUEN		**0.59**	**20**	*eP*	**Pn**	**03 35 03.9**	**+0.6**
HUEN				*eS*	**Sn**	**03 35 18.1**	**+1.4**
MOMN	**Momotombo**	**0.64**	**346**	*eP*	**Pn**	**03 35 03.8**	**0.0**
MOMN				*eS*	**Sn**	**03 35 17.4**	**-0.1**
CONN	**Concepcion**	**0.77**	**106**	*eP*	**Pn**	**03 35 04.9**	**+0.1**
CONN				*eS*	**Sn**	**03 35 19.6**	**+0.2**
CNGN	**Cerro Negro**	**0.78**	**337**	*eP*	**Pn**	**03 35 05.4**	**+0.4**
CNGN				*eS*	**Sn**	**03 35 20.2**	**+0.6**
TELN	**Telica**	**0.93**	**332**	*eP*	**Pn**	**03 35 06.9**	**+0.5**
BRAN	**Las Pilas**	**0.93**	**2**	*eP*	**Pn**	**03 35 02.3**	**-4.1**
BRAN				*eS*	**Sn**	**03 35 15.3**	**-6.7**
BOAB	**BOACO BROADBAN**	**0.96**	**46**	*eP*	**Pn**	**03 35 07.2**	**+0.5**
LCRUZ	**La Cruz**	**1.01**	**133**	*eP*	**Pn**	**03 35 08.1**	**+0.9**
LCRUZ				*eS*	**Sn**	**03 35 24.1**	**+0.7**
CRIN	**San Cristobal**	**1.12**	**324**	*eP*	**Pn**	**03 35 08.9**	**+0.5**
CRIN				*eS*	**Sn**	**03 35 26.8**	**+1.2**
CRIN	**San Cristobal**	**1.12**	**324**	*eP*	**Pn**	**03 35 08.8**	**+0.4**
ACON	**Acoyapa**	**1.20**	**81**	*eP*	**Pn**	**03 35 09.5**	**+0.5**
ACON	**Acoyapa**	**1.20**	**81**	*ļP*	**Pn**	**03 35 09.6**	**+0.5**
HZTE	**Horizontes, Gu**	**1.31**	**144**	*eP*	**Pn**	**03 35 11.0**	**+0.6**
HZTE				*eS*	**Sn**	**03 35 29.5**	**+0.3**
GBS3	**Finca Las Img**	**1.35**	**137**	*iP*	**Pn**	**03 35 10.8**	**0.0**
BUAI	**Buenos Aires**	**1.37**	**131**	*iP*	**Pn**	**03 35 12.0**	**+1.0**
BUEV	**Buena Vista**	**1.37**	**136**	*iP*	**Pn**	**03 35 10.9**	**-0.2**
LAPC	**Finca la Perla**	**1.37**	**137**	*iP*	**Pn**	**03 35 10.9**	**-0.2**
ELI1	**Hacienda Flor**	**1.39**	**144**	*eP*	**Pn**	**03 35 12.3**	**+1.0**
ELI1				*eS*	**Sn**	**03 35 32.1**	**+1.3**
ALIBA	**Liberia Airpor**	**1.44**	**145**	*eP*	**Pn**	**03 35 12.8**	**+0.9**
ALIBA				*eS*	**Sn**	**03 35 32.2**	**+0.4**
CLARA	**Aguas Claras**	**1.54**	**130**	*iP*	**Pn**	**03 35 12.8**	**-0.4**
GUAB	**Guayabo de Bag**	**1.56**	**133**	*iP*	**Pn**	**03 35 13.5**	**+0.2**
MESS	**Mesas**	**1.56**	**132**	*iP*	**Pn**	**03 35 13.4**	**+0.1**
VMAR	**Armenia, Volca**	**1.57**	**128**	*ļļeP*	**Pn**	**03 35 13.4**	**0.0**
VMAR				*iP*	**Pn**	**03 35 13.5**	**0.0**
HORNC	**Hornillas**	**1.59**	**132**	*iP*	Pn	03 35 05.3	-8.4
COLC	**Colonia**	**1.60**	**134**	*iP*	**Pn**	**03 35 14.4**	**+0.5**
CANAL	**Canalete**	**1.61**	**126**	*iP*	**Pn**	**03 35 13.7**	**-0.2**
HATIL	**Hatillo**	**1.62**	**156**	*ĪiP*	**Pn**	**03 35 14.2**	**+0.2**
HATIL				*eS*	**Sn**	**03 35 34.3**	**-1.3**
CUI	**Cuipilapa**	**1.64**	**133**	*eP*	**Pn**	**03 35 14.5**	**+0.3**
CUI				*eS*	**Sn**	**03 35 36.9**	**+0.9**
BAGA	**Bagaces**	**1.66**	**138**	*eP*	**Pn**	**03 35 14.5**	**0.0**
BAGA				*eS*	**Sn**	**03 35 36.1**	**-0.4**
ORTG	**Ortega, Santa**	**1.68**	**147**	*ĪiP*	**Pn**	**03 35 15.3**	**+0.5**
ORTG				*eS*	**Sn**	**03 35 36.1**	**-0.9**
PTEN	**Parque Tenorio**	**1.73**	**128**	*iP*	**Pn**	**03 35 15.4**	**0.0**
ACAL	**Aguas Claras**	**1.75**	**131**	*iP*	**Pn**	**03 35 16.9**	**+1.3**
VERA	**Finca Concepci**	**1.75**	**122**	*iP*	**Pn**	**03 35 15.7**	**+0.2**
VERA				*eS*	**Sn**	**03 35 39.7**	**+1.3**
JUD3	**Juan Diaz 3**	**1.81**	**153**	*ĪiP*	**Pn**	**03 35 16.7**	**+0.3**
JUD3				*eS*	**Sn**	**03 35 38.5**	**-1.3**
SAAN	**San Antonio**	**1.82**	**150**	*iP*	**Pn**	**03 35 17.0**	**+0.5**
SAAN				*iS*	**Sn**	**03 35 39.2**	**-0.9**
SAJU	**San Juanillo,**	**1.83**	**159**	*ĪiP*	**Pn**	**03 35 16.5**	**-0.1**
SAJU				*eS*	**Sn**	**03 35 37.7**	**-2.5**
DUNO	**Dulce Nombre,**	**1.90**	**153**	*eP*	**Pn**	**03 35 17.8**	**+0.3**
NARJA	**Naranjal**	**1.98**	**155**	*ĪiP*	**Pn**	**03 35 18.5**	**0.0**
NARJA				*eS*	**Sn**	**03 35 41.4**	**-2.2**
CMARA	**Lajas Hojancha**	**1.99**	**152**	*eP*	**Pn**	**03 35 18.8**	**+0.2**
POPE	**POPE, Guanacas**	**2.03**	**147**	*eP*	**Pn**	**03 35 19.6**	**+0.5**
POPE				*eS*	**Sn**	**03 35 43.1**	**-1.6**
JUNT	**Juntas**	**2.04**	**137**	*eP*	**Pn**	**03 35 19.3**	**0.0**
CNCH	**Conchagua**	**2.05**	**316**	*eP*	**Pn**	**03 35 20.1**	**+0.6**
ESPN	**Las Esperanzas**	**2.08**	**78**	*eP*	**Pn**	**03 35 20.4**	**+0.8**
ESPN	**Las Esperanzas**	**2.08**	**78**	*ļiP*	**Pn**	**03 35 20.5**	**+0.8**
LCND	**La Caada**	**2.12**	**316**	*eS*	**Sn**	**03 35 46.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.42**	**339**	*eP*	**Pn**	**03 35 25.8**	**+1.5**
LAFE	**Finca La Fe, P**	**2.44**	**143**	*eP*	**Pn**	**03 35 24.8**	**+0.5**
LAFE				*eS*	**Sn**	**03 35 52.0**	**-2.0**
ALJI	**Alcalda de J**	**2.63**	**306**	*eS*	**Sn**	**03 35 58.3**	**-0.2**
JACO	**JACO, Garabito**	**2.70**	**141**	*eP*	**Pn**	**03 35 28.1**	**+0.4**
COEB	**Comit de Eme**	**2.70**	**309**	*eP*	**Pn**	**03 35 28.8**	**+0.9**
COEB				*eS*	**Sn**	**03 36 00.0**	**-0.4**
COEB				IAML		03 36 08.4	
	comp=Z,261nm,0.3s						
SCLA	**Alcaldia de Sa**	**2.98**	**310**	*eP*	**Pn**	**03 35 32.3**	**+0.8**
SCLA				*eS*	**Sn**	**03 36 06.8**	**0.0**
SCLA				IAML		03 36 13.0	
	comp=Z,28nm,0.5s						
ABE2	**San Pablo**	**3.08**	**132**	*eP*	**Pn**	**03 35 34.0**	**+1.0**
PAVA	**Las Pavas**	**3.15**	**308**	IAML		03 36 18.9	
	comp=Z,127nm,0.2s						
PMON	**Piamonte**	**3.45**	**304**	*eS*	**Sn**	**03 36 17.0**	**-1.0**

*JMA **09** 04:02:01.3±1.0, 47°.N±5°.×15°.0E±°, h353km, MV3.9/13, KURILE ISLANDS REGION*
*NEIC **09** 04:02:01.6±1.4, 47°.85N±0°.07×148°.6E±0°.2, h360km±6km, mb4.0/23, Error ellipse: s-maj=18.7km s-min=9.6km az=93.0*
*IDC **09** 04:02:04.8±1.8, 47°.86N×148°.55E, h394km±20km, mb3.3/13, mbtmp4.1/18, Error ellipse: s-maj=17.8km s-min=12.9km az=135.0*
ISC 09 04:01:59.9±0.6, 47°.66N±0°.07×148°.92E±0°.09, h350km, n70, σ1§71/74, mb3.9/24, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.84**	**209**	*eP*	**Pn**	**04 03 17.4**	**-0.4**
NEM2				*eS*	**S**	**04 04 17.3**	**-3.4**
JNK	**Nakash**	**5.03**	**217**	*eP*	**Pn**	**04 03 21.2**	**+1.4**
JNK				*eS*	**S**	**04 04 25.3**	**+0.8**
JTKR	**Abashiri--Toko**	**5.09**	**225**	*eP*	**Pn**	**04 03 24.0**	**+3.6**
JAK	**Akkeshi**	**5.53**	**214**	*eP*	**Pn**	**04 03 25.5**	**+0.1**
JAK				*eS*	**S**	**04 04 31.1**	**-3.5**
JKA	**Kamikawa-asahi**	**5.66**	**234**	Pn	**Pn**	**04 03 29.2**	**+2.4**
ASAJ	**Asahikawa**	**5.66**	**234**	P	**Pn**	**04 03 31.1**	**+4.2**
	9.5nm,0.4s,baz=70,slow=11,SNR=14						
JAR	**Ashorobuto**	**5.67**	**222**	*eP*	**Pn**	**04 03 28.6**	**+1.6**
JAR				*eS*	**S**	**04 04 37.1**	**-0.3**
JKK2	**Kamakawa 2**	**5.74**	**231**	*eP*	**Pn**	**04 03 31.7**	**+3.9**
JOB	**Onbets**	**5.96**	**219**	*eP*	**Pn**	**04 03 31.0**	**+0.8**
JCH	**Churui**	**6.39**	**220**	*eP*	**Pn**	**04 03 35.3**	**+0.1**
JNBK	**Urakawa-nobuka**	**6.93**	**221**	*eP*	**Pn**	**04 03 40.8**	**-0.7**
ERM	**Erimo**	**6.97**	**218**	Pn	**Pn**	**04 03 42.2**	**+0.3**
PETK	**Petropavlovsk-**	**7.82**	**43**	P	**Pn**	**04 03 53.2**	**+1.5**
	8.4nm,0.9s,baz=237,slow=6.7,SNR=2.8						
JTM	**Tenmabayashi**	**8.88**	**222**	Pn	**Pn**	**04 04 03.2**	**-1.2**
JANG	**Nango**	**9.03**	**219**	*eP*	**Pn**	**04 04 05.2**	**-1.0**
JTH	**Tanohata**	**9.25**	**216**	*eP*	**Pn**	**04 04 07.8**	**-1.0**
JMM	**Marumori**	**11.46**	**214**	P	**Pn**	**04 04 36.3**	**+1.2**
KLR	**Kul'dur**	**11.52**	**284**	P	**P**	**04 04 37.9**	**+2.0**
	6.9nm,0.8s,baz=84,slow=11,SNR=19						
JSD	**Sado**	**12.38**	**223**	P	**Pn**	**04 04 48.1**	**+1.9**
MJB9	**Matsu-Tunnel**	**13.64**	**219**	P	**Pn**	**04 05 04.3**	**+3.3**
MAJO	**Matsushiro**	**13.65**	**219**	P	**Pn**	**04 05 03.9**	**+2.9**
MJAR	**Matsushiro Arr**	**13.65**	**219**	P	**Pn**	**04 05 04.2**	**+3.1**
	20nm,0.9s,baz=25,slow=12,SNR=22						
JGF	**Kuroka**	**14.81**	**220**	P	**P**	**04 05 13.7**	**+1.3**
YAK	**Yakutsk**	**18.05**	**330**	P	**P**	**04 05 46.7**	**-0.2**
	4.8nm,0.3s,baz=109,slow=2.7,SNR=7.0						
KSRS	**Korea Array**	**18.47**	**241**	P	**P**	**04 05 54.1**	**+2.4**
	0.9nm,0.3s,baz=50,slow=11,SNR=2.6						
TIXI	**Tiksi**	**25.83**	**346**	P	**P**	**04 06 58.6**	**-1.4**
	2.6nm,0.4s,baz=270,slow=23,SNR=5.9						
	2.6nm,0.4s						
TIXI	**Tiksi**	**25.83**	**346**	P	**P**	**04 06 58.1**	**-1.8**
TIXI				IAmb	IAmb	04 06 59.1	
	comp=Z,3.6nm,0.5s						
IMAR	**Indian Mountai**	**34.74**	**37**	P	**P**	**04 08 19.1**	**+1.4**
O22K	**Cooper Landing**	**36.80**	**47**	P	**P**	**04 08 35.5**	**+0.4**
SML	**Sawmill**	**37.30**	**44**	P	**P**	**04 08 41.7**	**+2.4**
SML				IAmb	IAmb	04 08 43.4	
	comp=Z,23nm,1.3s						
DHY	**Denali Highway**	**37.59**	**42**	P	**P**	**04 08 42.4**	**+0.7**
DHY				IAmb	IAmb	04 09 11.7	
	comp=Z,7.8nm,1.4s						
ILAR	**Eielson Array**	**37.63**	**39**	P	**P**	**04 08 44.2**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=260,slow=6.9,SNR=9.3						
	comp=Z,0.3nm,0.5s						
BMAR	**Burnt Mountain**	**38.39**	**35**	P	**P**	**04 08 49.0**	**+0.8**
SCRK	**Sand Creek**	**38.98**	**40**	P	**P**	**04 08 54.6**	**+1.4**
ZALV	**Zalesovo Beam**	**39.74**	**304**	P	**P**	**04 08 58.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=356,slow=8.7,SNR=2.2						
	comp=Z,0.5nm,0.4s						
INK	**Inuvik**	**42.42**	**33**	P	**P**	**04 09 21.5**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=299,slow=4.3,SNR=17						
	comp=Z,1.2nm,0.3s						
INK	**Inuvik**	**42.42**	**33**	P	**P**	**04 09 20.5**	**-0.2**
HYT	**Haines Junctio**	**42.60**	**44**	P	**P**	**04 09 23.4**	**+0.8**
HYT				IAmb	IAmb	04 09 46.2	
	comp=Z,12nm,1.4s						
N31M	**Braeburn, Yuko**	**43.21**	**43**	P	**P**	**04 09 26.3**	**-0.9**
N31M				IAmb	IAmb	04 09 56.0	
	comp=Z,21nm,1.5s						
MK31	**Makanchi Array**	**43.97**	**295**	P	**P**	**04 09 32.3**	**-1.1**
MKAR	**Makanchi Array**	**43.97**	**295**	P	**P**	**04 09 32.5**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=62,slow=6.1,SNR=21						
	comp=Z,1.7nm,0.6s						
MKAR	**Makanchi Array**	**43.97**	**295**	P	**P**	**04 09 32.2**	**-1.2**
KURK	**Kurchatov**	**44.46**	**301**	P	**P**	**04 09 35.5**	**-1.6**
AAK	**Ala-Archa**	**50.86**	**294**	P	**P**	**04 10 24.5**	**-1.6**
AAK				IAmb	IAmb	04 10 26.7	
	comp=Z,2.2nm,0.7s						
RES	**Resolute Bay**	**50.87**	**18**	P	**P**	**04 10 26.0**	**+0.5**
	comp=Z,2.5nm,0.4s,baz=320,slow=7.3,SNR=15						
	comp=Z,2.5nm,0.4s						
YKA	**Yellowknife Ar**	**51.88**	**36**	P	**P**	**04 10 33.7**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=302,slow=7.3,SNR=4.4						
	comp=Z,0.2nm,0.5s						
KKAR	**Karatay Array**	**53.04**	**296**	P	**P**	**04 10 40.8**	**-1.1**
GAR	**Garm**	**55.53**	**292**	P	**P**	**04 10 59.2**	**-0.6**
GAR				IAmb	IAmb	04 11 00.4	
	comp=Z,6.6nm,0.7s						
ABKAR	**Akbulak array**	**55.62**	**307**	P	**P**	**04 10 58.9**	**-1.3**
ARCES	**ARCESS Array B**	**56.02**	**339**	P	**P**	**04 11 01.9**	**-0.7**
	comp=Z,5.1nm,0.9s,baz=21,slow=7.7,SNR=1.7						
	comp=Z,5.1nm,0.9s						
CHGR	**Chuyangaron**	**56.46**	**292**	P	**P**	**04 11 05.2**	**-1.1**
FIA1	**FINESS Array S**	**61.96**	**333**	P	**P**	**04 11 40.9**	**-2.2**
FINES	**FINESS Array B**	**61.96**	**333**	P	**P**	**04 11 41.9**	**-1.2**
	comp=Z,3.9nm,0.5s,baz=32,slow=7.1,SNR=37						
	comp=Z,3.9nm,0.5s						
FINES	**FINESS Array B**	**61.96**	**333**	P	**P**	**04 11 40.5**	**-2.6**
NC405	**NORSAR Array S**	**66.21**	**339**	P	**P**	**04 12 07.8**	**-2.7**
NB2	**NORSAR Subarra**	**66.40**	**339**	P	**P**	**04 12 10.7**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**66.40**	**339**	P	**P**	**04 12 10.7**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=31,slow=6.7,SNR=21						
	comp=Z,2.3nm,0.5s						
WB0	**Warramunga Arr**	**68.37**	**195**	P	**P**	**04 12 25.7**	**+1.3**
WB0				IAmb	IAmb	04 12 25.9	
	comp=Z,5.9nm,1.3s						
WB2	**Warramunga Arr**	**68.55**	**195**	P	**P**	**04 12 26.2**	**+0.7**
WB2				IAmb	IAmb	04 12 30.9	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**68.56**	**195**	P	**P**	**04 12 26.9**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=8.9,slow=6.5,SNR=7.4						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**68.56**	**195**	P	**P**	**04 12 27.1**	**+1.5**
AKASG	**Malin Array Be**	**69.16**	**324**	P	**P**	**04 12 27.3**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=39,slow=6.2,SNR=15						
	comp=Z,0.7nm,0.4s						
AKBB	**Malin Array Si**	**69.16**	**324**	P	**P**	**04 12 27.5**	**-1.4**
BUR08	**Bucovina Ar. S**	**73.19**	**324**	P	**P**	**04 12 52.4**	**-0.7**
BUR08				IAmb	IAmb	04 13 20.8	
	comp=Z,7.5nm,1.5s						
BURAR	**Bucovina Array**	**73.21**	**324**	P	**P**	**04 12 52.4**	**-0.7**
BURAR				IAmb	IAmb	04 13 26.9	
	comp=Z,1.6nm,1.2s						
CLL	**Collm**	**74.40**	**333**	*i* P	**P**	**04 12 59.1**	**-0.7**
KHC	**Kasperske Hory**	**76.12**	**332**	P	**P**	**04 13 09.8**	**+0.2**
KHC				IAmb	IAmb	04 13 26.9	
	comp=Z,6.8nm,1.4s						
GERES	**GERESS Array B**	**76.33**	**331**	P	**P**	**04 13 10.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=36,slow=5.3,SNR=7.5						
	comp=Z,0.4nm,0.3s						
GERES	**GERESS Array B**	**76.33**	**331**	P	**P**	**04 13 09.9**	**-1.0**
TXAR	**Lajitas Array**	**79.48**	**58**	P	**P**	**04 13 28.4**	**0.0**

*IDC **09** 04:05:52.6±5.6, 3°.58S×130°.78E, h0km, mb3.6/3, mbtmp3.7/3, Error ellipse: s-maj=491.9km s-min=32.0km az=73.0*
*DJA **09** 04:05:56.6±0.5, 4°.S±4°.×12°.9E±°, h10km±5km, M3.6/8, MLv3.6/8*
ISC 09 04:05:58.2±1.0, 4°.22S±0°.08×129°.36E±0°.07, h35km, n9, σ1§33/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.62**	**119**	P	**Pn**	**04 06 09.6**	**-0.9**
MSAI	**Masohi**	**0.97**	**334**	P	**Pn**	**04 06 13.8**	**-1.6**
MSAI				S	**Sn**	**04 06 26.7**	**-1.3**
AAI	**Ambon**	**1.28**	**295**	P	**Pn**	**04 06 19.8**	**+0.1**
AAI				S	**Sn**	**04 06 36.0**	**+0.4**
FAKI	**Fak Fak**	**3.16**	**66**	P	**Pn**	**04 06 45.7**	**+0.2**
SWI	**Sorong**	**3.84**	**30**	P	**Pn**	**04 06 55.3**	**+0.5**
WRA	**Warramunga Arr**	**16.36**	**163**	Pn	**Pn**	**04 09 43.2**	**-2.1**
	0.1nm,0.3s,baz=351,slow=13,SNR=2.3						
ASAR	**Alice Springs**	**19.82**	**168**	P	**Pn**	**04 10 29.2**	**+1.4**
	0.9nm,0.7s,baz=356,slow=12,SNR=8.1

WVZ	**Waitaha Valley**	**1.19**	**260**	P		**Pb**	**04 45 19.8**	**+0.3**
THZ	**Tophouse**	**1.20**	**21**	P		**Pb**	**04 45 18.7**	**-0.9**
DSZ	**Denniston Nort**	**1.21**	**341**	P		**Pb**	**04 45 19.6**	**-0.1**
DSZ				S		**Sb**	**04 45 35.2**	**-0.2**
RPZ	**Rata Peaks**	**1.25**	**228**	P		**Pn**	**04 45 19.7**	**-0.7**
RPZ	**Rata Peaks**	**1.25**	**228**	P		**Pn**	**04 45 19.8**	**-0.5**
ARCZ	**Arundel**	**1.36**	**218**	P		**Pn**	**04 45 21.1**	**-0.7**
MRNZ	**Matariki Terra**	**1.52**	**12**	P		**Pn**	**04 45 24.7**	**+0.7**
MRNZ				S		**Sn**	**04 45 44.5**	**+0.7**
GCSZ	**Gaunt Creek Bo**	**1.54**	**253**	P		**Pn**	**04 45 24.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.63**	**45**	P		**Pn**	**04 45 26.6**	**+1.1**
TMZ	**Timaru**	**1.79**	**212**	P		**Pn**	**04 45 27.1**	**-0.6**
CMWZ	**Cape Campbell**	**1.79**	**51**	P		**Pn**	**04 45 28.9**	**+1.1**
NNZ	**Nelson**	**1.84**	**25**	P		**Pn**	**04 45 29.4**	**+1.1**
TUWZ	**Tuamarina**	**1.88**	**40**	P		**Pn**	**04 45 29.8**	**+0.9**
TKNZ	**Takaka Hill**	**1.91**	**14**	P		**Pn**	**04 45 29.8**	**+0.5**
FOZ	**Fox Glacier**	**1.96**	**250**	P		**Pn**	**04 45 30.6**	**+0.6**
QRZ	**Quartz Range**	**2.06**	**4**	P		**Pn**	**04 45 31.4**	**-0.1**
LBZ	**Lake Benmore**	**2.17**	**225**	P		**Pn**	**04 45 32.6**	**-0.4**
TCW	**Tory Channel**	**2.21**	**41**	P		**Pn**	**04 45 34.2**	**+0.8**
SNZO	**South Karori**	**2.36**	**49**	P		**Pb**	**04 45 38.3**	**-1.0**
DUWZ	**D'Urville Isla**	**2.39**	**30**	P		**Pn**	**04 45 37.5**	**+1.5**
ODZ	**Otahua Downs**	**2.48**	**209**	P		**Pn**	**04 45 36.4**	**-0.8**
ODZ	**Otahua Downs**	**2.48**	**209**	P		**Pn**	**04 45 36.4**	**-0.8**
PLWZ	**Palliser**	**2.53**	**60**	P		**Pn**	**04 45 37.2**	**-0.8**
CAW	**Cannon Point**	**2.70**	**50**	P		**Pn**	**04 45 39.7**	**-0.5**
KIW	**Kapiti Island**	**2.79**	**44**	P		**Pn**	**04 45 42.0**	**+0.6**
JCZ	**Jackson Bay**	**2.85**	**244**	P		**Pn**	**04 45 42.5**	**+0.1**
JCZ	**Jackson Bay**	**2.85**	**244**	P		**Pn**	**04 45 42.6**	**+0.2**
MTW	**Mount Morrison**	**2.92**	**55**	P		**Pn**	**04 45 42.7**	**-0.6**
OGWZ	**Otaki Gorge**	**2.96**	**47**	P		**Pn**	**04 45 43.3**	**-0.4**
MRZ	**Mangatainoka R**	**3.29**	**49**	P		**Pn**	**04 45 47.3**	**-1.0**
TUZ	**Tuapeka**	**3.63**	**211**	P		**Pn**	**04 45 52.4**	**-0.7**
KHEZ	**Kahui Hut**	**3.80**	**20**	P		**Pn**	**04 45 58.3**	**+2.8**
PKE	**Pukeiti**	**3.89**	**19**	P		**Pn**	**04 45 59.4**	**+2.8**
SYZ	**Scrubby Hill**	**4.31**	**211**	P		**Pn**	**04 46 01.7**	**-0.6**
SYZ	**Scrubby Hill**	**4.31**	**211**	P		**Pn**	**04 46 01.6**	**-0.6**
WNVZ	**Wahianoa**	**4.32**	**36**	P		**Pn**	**04 46 05.4**	**+2.7**
MOVZ	**Moawhango**	**4.32**	**38**	P		Pb	04 46 08.8	-4.1
NGZ	**Ngauruhoe**	**4.45**	**35**	P		**Pb**	**04 46 11.2**	**-3.8**
NNVZ	**North Ngauruho**	**4.49**	**35**	P		Pn	04 46 09.8	+4.8
HIZ	**Hauiti**	**4.77**	**24**	P		**Pn**	**04 46 11.2**	**+2.6**
HIZ	**Hauiti**	**4.77**	**24**	P		**Pn**	**04 46 09.8**	**+1.2**
WCZ	**Waipu Caves**	**7.11**	**13**	P		**Pn**	**04 46 42.5**	**+1.7**

*IDC **09** 05:03:04.6±1.3,36°.53N×140°.58E,h0km,mb3.6/7, mbtmp3.6/7,Error ellipse: s-maj=29.1km s-min=22.9km az=167.0*
*JMA **09** 05:03:05.4±0.0,36°.7N±0°.1×140°.6E±0°.2,h5km,MV3.4/20, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .
ISC 09 05:03:05.4±1.0,**36°.67N**±0°.04×**140°.63E**±0°.06,**h7**km±6km, **n21**,σ1§**02**/21,**mb3.7**/7,**1D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.07**	**220**	P	**Pg**	**05 03 07.6**	**+0.4**
JHO				*e*S	**Sg**	**05 03 09.2**	**+0.6**
JHYU	**Hitachinakayam**	**0.33**	**186**	P	**Pb**	**05 03 12.5**	**-1.0**
JHYU				*e*S	**Sb**	**05 03 17.7**	**-1.2**
JFFD	**Fukushimafurud**	**0.43**	**353**	P	**Pg**	**05 03 13.2**	**-0.5**
JFFD				*e*S	**Sg**	**05 03 19.0**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.46**	**18**	P	**Pg**	**05 03 13.8**	**-0.4**
ONAJ				*e*S	**Sg**	**05 03 20.0**	**-0.3**
JYT	**Yasato**	**0.56**	**219**	P	**Pb**	**05 03 16.7**	**-0.8**
JYT				*e*S	**Sb**	**05 03 24.5**	**-1.1**
JSB	**Shiboa**	**0.64**	**298**	P	**Pb**	**05 03 18.4**	**-0.5**
JFK	**Kawauchi**	**0.73**	**16**	⇓P	**Pg**	**05 03 18.6**	**-0.8**
MJAR	**Matsushiro Arr**	**1.95**	**267**	Pn	**Pn**	**05 03 38.9**	**0.0**
	3.1nm,0.3s,baz=88,slow=10,SNR=77						
MJAR				Sn	**Sb**	**05 04 04.4**	**-1.4**
	4.8nm,0.3s,baz=138,slow=47,SNR=5.7						
SONM	**Songino Array**	**27.47**	**305**	P	**P**	**05 08 51.8**	**-0.4**
	0.5nm,0.7s,baz=114,slow=9.9,SNR=4.2 0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.51**	**119**	T	T	05 38 44.1	
	baz=312,slow=74,SNR=182						
H11N1	**WAKE ISLAND Hy**	**28.52**	**119**	T	T	05 38 44.2	
	baz=312,slow=74,SNR=184						
H11N3	**WAKE ISLAND Hy**	**28.53**	**119**	T	T	05 38 45.3	
	baz=312,slow=74,SNR=192						
H11S1	**WAKE ISLAND Hy**	**29.20**	**121**	T	T	05 39 36.1	
	baz=314,slow=76,SNR=790						
H11S3	**WAKE ISLAND Hy**	**29.20**	**121**	T	T	05 39 36.1	
	baz=314,slow=76,SNR=383						
H11S2	**WAKE ISLAND Hy**	**29.21**	**121**	T	T	05 39 36.8	
	baz=314,slow=76,SNR=199						
ZALV	**Zalesovo Beam**	**41.70**	**313**	P	**P**	**05 10 55.3**	**+0.8**
	1.3nm,0.5s,baz=94,slow=6.1,SNR=4.8 1.3nm,0.5s						
MKAR	**Makanchi Array**	**43.78**	**302**	P	**P**	**05 11 13.0**	**+1.4**
	0.4nm,0.9s,baz=83,slow=12,SNR=2.4 0.4nm,0.9s						
ILAR	**Eielson Array**	**50.14**	**32**	P	**P**	**05 12 03.0**	**+2.0**
	0.4nm,0.9s,baz=273,slow=6.9,SNR=2.4 0.4nm,0.9s						
INK	**Inuvik**	**55.00**	**27**	P	**P**	**05 12 38.3**	**+1.4**
	1.3nm,1.1s,baz=301,slow=5.5,SNR=3.7 1.3nm,1.1s						
WRA	**Warramunga Arr**	**56.61**	**187**	P	**P**	**05 12 48.2**	**-0.9**
	0.7nm,0.8s,baz=3.0,slow=7.3,SNR=5.7 0.7nm,0.8s						
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**05 14 42.8**	**+0.2**
	0.4nm,0.5s,baz=48,slow=5.9,SNR=4.6 0.4nm,0.5s						

*FUNV **09** 05:15:16.1,9°.23N×70°.15W,h5km,MW3.2*
ISC 09 05:15:14.9±1.4,**9°.20N**±0°.03×**70°.11W**±0°.03,**h0**km±11km, **n23**,σ1§**60**/45,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.82**	**10**	*e*P	**Pg**	**05 15 30.6**	**-0.1**
CURV				*e*S	**Sg**	**05 15 41.8**	**+0.4**
SOCV	**Socops**	**1.17**	**219**	*e*P	**Pg**	**05 15 36.9**	**-0.6**
SOCV				*e*S	**Sb**	**05 15 54.2**	**+0.4**
SIQV	**Siquisique**	**1.47**	**11**	*e*P	**Pn**	**05 15 43.2**	**+0.4**
SIQV				*e*S	**Sb**	**05 16 01.8**	**-0.7**
MAPV	**Macapo**	**1.74**	**69**	*e*P	**Pn**	**05 15 47.2**	**+0.8**
MAPV				*e*S	**Sn**	**05 16 10.0**	**+0.6**
BAUV	**El Baul**	**2.05**	**97**	*e*P	**Pn**	**05 15 49.6**	**-1.1**
BAUV				*e*S	**Sn**	**05 16 17.9**	**+0.9**
JACV	**Jacura**	**2.26**	**34**	*e*P	**Pn**	**05 15 54.5**	**+0.9**
JACV				*e*S	**Sn**	**05 16 21.1**	**-1.1**
MCQV	**Machiques**	**2.54**	**290**	*e*P	**Pn**	**05 15 56.0**	**-1.4**
MCQV				*e*S	**Sn**	**05 16 27.3**	**-1.8**
CAPV	**Capacho**	**2.56**	**239**	*e*P	**Pn**	**05 15 58.8**	**+1.0**
CAPV				*e*S	**Sn**	**05 16 28.4**	**-1.3**
TURV	**Turiamo**	**2.56**	**61**	*e*P	**Pn**	**05 15 57.0**	**-0.6**
TURV				*e*S	**Sn**	**05 16 29.4**	**0.0**
BENV	**Beln**	**2.59**	**73**	*e*P	**Pn**	**05 15 59.1**	**+1.0**
BENV				*e*S	**Sn**	**05 16 29.6**	**-0.7**
URIC	**Uribia, Colomb**	**3.10**	**323**	*e*P	**Pn**	**05 16 04.8**	**-0.3**
URIC				*e*S	**Sb**	**05 16 51.2**	**+1.7**
URIC				*i*		05 16 54.4	
	comp=Z,12nm,0.2s						
PAMC	**Pamplona, Colo**	**3.16**	**234**	*e*P	**Pb**	**05 16 11.9**	**-0.4**
PAMC				*e*S	**Sb**	**05 16 49.3**	**-2.3**
PAMC				*i*		05 16 57.9	
	comp=Z,11nm,0.4s						
TACV	**Tcata**	**3.18**	**73**	*e*P	**Pn**	**05 16 06.0**	**-0.2**
TACV				*e*S	**Sn**	**05 16 42.8**	**-2.0**
TAMC	**Tame, Arauca**	**3.21**	**211**	*e*P	**Pb**	**05 16 15.3**	**+2.4**
TAMC				*e*S	**Sb**	**05 16 55.4**	**+2.8**
TAMC				*i*		05 17 06.3	
	comp=Z,22nm,0.2s						
CRJC	**Cerrejon, Guaj**	**3.28**	**304**	*e*P	**Pn**	**05 16 07.2**	**-0.5**
CRJC				*e*S	**Sn**	**05 16 46.3**	**-1.2**
CRJC				*i*		05 17 00.4	
	comp=Z,22nm,0.3s						
FUNV	**FUNVISIS**	**3.48**	**68**	*e*P	**Pn**	**05 16 10.4**	**0.0**
FUNV				*e*S	**Sn**	**05 16 51.1**	**-1.4**
MERV	**Las Mercedes**	**3.76**	**89**	*e*P	**Pn**	**05 16 13.0**	**-0.6**
MERV				*e*S	**Sn**	**05 16 57.6**	**-1.6**
CACV	**CAICARA DEL OR**	**3.88**	**114**	*e*P	Pn	05 16 21.4	+5.5
CACV				*e*S	**Sb**	**05 17 12.1**	**+0.2**
ARGC	**Ariguani, Magd**	**4.14**	**279**	*e*P	**Pn**	**05 16 20.2**	**+0.8**
ARGC				*e*S	**Sn**	**05 17 06.8**	**-1.7**
RUSC	**La Rusia**	**4.42**	**222**	*e*P	**Pn**	**05 16 24.6**	**+1.0**
RUSC				*e*S	**Sb**	**05 17 31.8**	**+4.1**
RUSC				*i*		05 17 37.5	
	comp=Z,5.7nm,0.4s						
ZARC	**Zaragoza, Cauc**	**5.00**	**251**	*e*P	**Pn**	**05 16 31.9**	**+0.7**
ZARC				*e*S	**Sn**	**05 17 25.4**	**-4.3**
SJCC	**San Jacinto, C**	**5.05**	**278**	*e*P	**Pn**	**05 16 34.1**	**+2.0**
SJCC				*e*S	**Sn**	**05 17 33.6**	**+2.4**
SJCC				*i*		05 17 37.6	
	comp=Z,8.9nm,0.8s						
PTGC	**Puerto Gaitan,**	**5.36**	**202**	*e*P	**Pn**	**05 16 36.0**	**-0.2**
PTGC				*e*S	**Sg**	**05 18 04.7**	**-2.6**
PTGC				*i*		05 18 20.0	
	comp=Z,11nm,0.6s						

*KRNET **09** 05:15:57.0±0.1,39°.22N×73°.99E,mb2.9*
*SOME **09** 05:15:59.5,39°.65N×73°.40E,h10km*
*NNC **09** 05:16:10.8±1.8,40°.32N×73°.46E,h7km±15km,mb3.0, mpv2.7,Error ellipse: s-maj=12.9km s-min=9.0km az=118.0*
ISC 09 05:16:00.3±1.7,**39°.31N**±0°.09×**73°.92E**±0°.06,**h10**km,**n29**, σ1§**91**/39,**26C-8D**,**Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.50**	**325**	⇑*i*P	**Pn**	**05 16 26.4**	**-0.9**
	baz=25						
OHH				⇑*i*S	**Sn**	**05 16 48.2**	**+1.3**
	baz=25						
DRK	**Karamyk**	**1.65**	**277**	⇑*i*P	**Pn**	**05 16 28.7**	**-0.9**
	baz=79						
DRK				⇑*i*S	**Sb**	**05 16 51.9**	**0.0**
	baz=79						
BTK	**Batken**	**2.51**	**288**	⇑*i*P	**Pn**	**05 16 41.7**	**+0.5**
	baz=90						
BTK				⇑*i*S	**Sn**	**05 17 14.2**	**+2.3**
	baz=90						
ARLS	**Aral**	**2.57**	**7**	⇓*i*P	**Pn**	**05 16 42.4**	**+0.3**
	baz=6.0						
ARLS				⇓*i*S	**Sn**	**05 17 15.3**	**+1.7**
	baz=6.0						
NRN	**Naryn**	**2.66**	**36**	⇑*i*P	**Pn**	**05 16 42.9**	**-0.5**
	baz=34						
NRN				⇑*i*S	**Sn**	**05 17 16.1**	**+0.2**
	baz=34						
GAR	**Garm**	**2.82**	**265**	⇓*i*P	**Pn**	**05 16 45.5**	**0.0**
	baz=67						
GAR				⇓*i*S	**Sn**	**05 17 20.6**	**+1.1**
	baz=67						
AML	**Almayashu**	**2.83**	**357**	⇑*i*P	**Pn**	**05 16 46.3**	**+0.4**
	baz=56						
AML				⇑*i*S	**Sn**	**05 17 22.3**	**+2.1**
	baz=56						
ARK	**Arkit**	**2.90**	**330**	⇑*i*P	**Pn**	**05 16 47.2**	**+0.6**
	baz=30						
ARK				⇑*i*S	**Sn**	**05 17 24.1**	**+2.5**
	baz=30						
UCH	**Uchtor**	**2.96**	**9**	⇓*i*P	**Pn**	**05 16 47.7**	**0.0**
	baz=7.0						
UCH				⇓*i*S	**Sn**	**05 17 25.1**	**+1.7**
	baz=7.0						
TRKS	**Terek-Say**	**3.07**	**317**	⇓*i*P	**Pn**	**05 16 49.0**	**0.0**
	baz=17						
TRKS				⇓*i*S	**Sn**	**05 17 26.6**	**+0.7**
	baz=17						
MRKS	**Merke**	**3.48**	**352**	Pg	**Pn**	**05 16 53.4**	**-1.1**
	1.2nm,0.4s						
MRKS	**Merke**	**3.48**	**352**	*e*Pg	**Pn**	**05 16 56.1**	**+1.6**
	1.4nm,0.3s						
MRKS				*e*Lg	Lg	05 17 38.5	
	5.8nm,0.3s						
CHMS	**Chumysh**	**3.74**	**9**	⇑Lg	Lg	05 17 41.4	
	7.7nm,0.8s						
CHMS	**Chumysh**	**3.74**	**9**	⇑Lg	Lg	05 17 41.4	
	7.7nm,0.8s						
TKM2	**Tokmak 2**	**3.83**	**19**	⇑Pn	**Pn**	**05 17 00.3**	**+0.8**
	0.5nm,0.3s						
TKM2				⇑Pg	**Pb**	**05 17 07.0**	**-1.0**
	1.5nm,0.3s						
TKM2				⇑Lg	Lg	05 17 48.2	
	5.6nm,0.8s						
TKM2	**Tokmak 2**	**3.83**	**19**	⇑Pn	**Pn**	**05 17 00.3**	**+0.8**
	0.5nm,0.3s						
TKM2				⇑Pg	**Pb**	**05 17 07.0**	**-1.0**
	1.5nm,0.3s						
TKM2				⇑Lg	Lg	05 17 48.2	
	5.6nm,0.8s						
KST	**Kastek**	**4.04**	**22**	Pg	**Pb**	**05 17 08.8**	**-2.8**
	1.6nm,0.9s						
KST				Lg	Lg	05 18 04.5	
	12nm,1.3s						
KST	**Kastek**	**4.04**	**22**	*e*Pg	**Pb**	**05 17 11.1**	**-0.5**
	1.5nm,0.8s						
KST				*e*Lg	Lg	05 18 04.5	
	6.4nm,0.5s						
DZA	**Taraz**	**4.08**	**332**	*e*Pg	**Pn**	**05 17 04.6**	**+1.8**
	122nm,0.1s						
DZA				*e*Lg	Lg	05 17 53.1	
	73nm,0.3s						
IUG	**Iuzhnay**	**4.10**	**315**	Pg	**Pn**	**05 17 01.8**	**-1.2**
	5.5nm,0.4s						
IUG				Lg	Lg	05 17 52.6	
	20nm,0.8s						
IUG	**Iuzhnay**	**4.10**	**315**	*e*Pg	**Pn**	**05 17 05.0**	**+1.9**
	7.5nm,0.6s						
IUG				*e*Lg	Lg	05 17 53.8	
	20nm,0.7s						
DGS	**Degeres**	**4.17**	**19**	Pg	**Pb**	**05 17 10.5**	**-3.4**
	3.2nm,0.8s						
DGS				Lg	Lg	05 18 07.8	
	4.5nm,0.8s						
DGS	**Degeres**	**4.17**	**19**	*e*Pg	**Pb**	**05 17 13.3**	**-0.5**
	2.6nm,0.4s						
DGS				*e*Lg	Lg	05 18 08.0	
	4.5nm,0.8s						
SGDS	**Sogindy**	**4.18**	**7**	Pg	**Pb**	**05 17 09.9**	**-4.0**
	2.2nm,1.3s						
SGDS				Lg	Lg	05 18 06.3	
	4.2nm,1.3s						
TNSS	**Tian-Shan**	**4.37**	**31**	*e*Pg	**Pb**	**05 17 18.1**	**+0.7**
	4.5nm,0.5s						
TNSS				*e*Lg	Lg	05 18 16.2	
	3.9nm,0.8s						
CHM	**Chimkent**	**4.45**	**314**	*e*Pg	**Pn**	**05 17 11.4**	**+3.6**
	99nm,0.2s						
CHM				*e*Lg	Lg	05 18 04.7	
	200nm,0.4s						
KK31	**Karatay Array**	**4.58**	**327**	⇑Pn	**Pn**	**05 17 05.2**	**-4.4**
	0.3nm,0.3s,baz=129,slow=12,SNR=4.6						
KK31				⇑Pg	Pb	05 17 15.5	-5.3
	0.9nm,0.5s,baz=136,slow=15,SNR=5.5						
KK31				⇑Lg	Lg	05 18 02.7	
	1.1nm,0.4s,baz=137,slow=32						
KK31	**Karatay Array**	**4.58**	**327**	⇑Pn	**Pn**	**05 17 05.2**	**-4.4**
	0.3nm,0.3s,baz=129,slow=12,SNR=4.6						
KK31				⇑Pg	Pb	05 17 15.5	-5.3
	0.9nm,0.5s,baz=136,slow=15,SNR=5.5						
KK31				⇑Lg	Lg	05 18 02.7	
	1.1nm,0.4s,baz=137,slow=32						
KUU	**Kurty**	**4.93**	**21**	*e*Pg	**Pb**	**05 17 27.0**	**+0.4**
	0.7nm,0.3s						
KUU				*e*Lg	Lg	05 18 31.7	
	5.0nm,0.7s						

*KRNET **09** 05:21:07.5±0.1,41°.41N×77°.45E,h16km,mb2.0*
*SOME **09** 05:21:17.7,42°.63N×81°.23E,h15km*
*NNC **09** 05:21:20.2±9.4,41°.75N×77°.82E,h0km,mb2.7,mpv2.5, Error ellipse: s-maj=105.5km s-min=62.8km az=98.0*
ISC 09 05:21:08.3±1.9,**41°.4N**±0°.1×**77°.36E**±0°.06,**h10**km,**n12**, σ1§**65**/15,**4C-4D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.71**	**349**	⇓*i*P	**Pg**	**05 21 21.4**	**-0.6**
	baz=45						
KDJ				⇓*i*S	**Sg**	**05 21 31.7**	**+0.4**
	baz=45						
NRN	**Naryn**	**1.02**	**270**	⇓*i*P	**Pg**	**05 21 28.2**	**+0.2**
	baz=71						
NRN				⇓*i*S	**Sb**	**05 21 43.2**	**+1.3**
	baz=71						
PRZ	**Przheval'sk**	**1.30**	**36**	⇑*i*P	**Pn**	**05 21 31.4**	**-1.3**
	baz=33						
PRZ				⇑*i*S	**Sb**	**05 21 48.6**	**-1.2**
	baz=33						
ANVS	**Anan'yevo**	**1.37**	**9**	⇑*i*P	**Pn**	**05 21 33.0**	**-0.6**
	baz=7.0						
ANVS				⇑*i*S	**Sg**	**05 21 51.8**	**-0.5**
	baz=7.0						
SATY	**Saty**	**1.80**	**25**	*e*Pg	Pg	05 21 56.5	+14
	1.4nm,0.4s						
SATY				*e*Lg	Lg	05 22 24.5	
	6.0nm,0.0s						
UZB	**Uzynbulak**	**2.11**	**35**	P	**Pg**	**05 21 49.7**	**+1.0**
	2.7nm,0.2s						
UZB				S	**Sb**	**05 22 12.7**	**-0.2**
	1.9nm,0.3s						
UZB	**Uzynbulak**	**2.11**	**35**	*e*P	**Pg**	**05 21 48.7**	**+0.1**
	3.0nm,0.2s						
UZB				*e*S	**Sb**	**05 22 11.4**	**-1.6**
	2.2nm,0.2s						
KPKS	**Kokpek**	**2.25**	**25**	Pg	**Pg**	**05 21 54.7**	**+3.2**
	1.2nm,0.6s						
KPKS				Lg	Lg	05 22 21.4	
	2.5nm,0.4s						
KPKS	**Kokpek**	**2.25**	**25**	*e*Pg	**Pg**	**05 21 54.7**	**+3.2**
	1.2nm,0.2s						
KPKS				*e*Lg	Lg	05 22 21.4	
	6.1nm,0.3s						
SHLS	**Shalkode**	**2.32**	**41**	*e*P	Pn	05 21 38.2	-8.5
	2.1nm,0.2s						
SHLS				*e*S	Sn	05 21 52.8	-23
	10nm,0.3s						
BLB	**Baldybastay**	**2.78**	**17**	Pg	**Pg**	**05 22 03.1**	**+1.5**
	2.0nm,0.8s						
BLB				Lg	Lg	05 22 36.0	
	2.6nm,1.0s						
DJR	**Jarkent**	**3.40**	**31**	*e*Pg	Pn	05 21 54.0	-7.5
	0.3nm,0.0s						
DJR				*e*Lg	Lg	05 22 19.9	
	2.4nm,0.7s						

*NEIC **09** 05:48:02.6±0.6,4°.3S±0°.1×153°.7E±0°.1,h134km±12km, mb4.2/6,Error ellipse: s-maj=24.2km s-min=9.8km az=144.0*
*IDC **09** 05:48:03.5±5.8,4°.51S×153°.57E,h122km±35km,mb3.4/3, mbtmp4.0/4,Error ellipse: s-maj=68.0km s-min=32.0km az=94.0*
ISC 09 05:48:01.6±1.2,**4°.5S**±0°.1×**153°.7E**±0°.1,**h100**km,**n16**, σ2§**08**/17,**mb3.9**/7,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.54**	**281**	Pn	**Pn**	**05 48 31.0**	**+2.6**
KRVT	**Keravat (AS076**	**1.66**	**277**	P	**Pn**	**05 48 31.0**	**+1.2**
	86nm,0.3s,baz=225,slow=2.2,SNR=6.6						
KRVT				S	**Sn**	**05 48 53.2**	**+1.9**
	197nm,0.6s,baz=157,slow=11,SNR=6.5						
HNR	**Honiara**	**7.92**	**129**	Pn	**Pn**	**05 49 56.6**	**+2.6**
PMG	**Port Moresby**	**8.10**	**233**	P	**Pn**	**05 49 59.0**	**+2.5**
	46nm,0.4s,baz=42,slow=13,SNR=10						
PMG	**Port Moresby**	**8.10**	**233**	Pn	**Pn**	**05 49 58.5**	**+2.0**
COEN	**Coen**	**13.98**	**227**	Pn	**Pn**	**05 51 16.1**	**+0.7**
MTN	**Manton Dam**	**23.76**	**248**	P	**P**	**05 53 02.8**	**-2.2**
MTN				IAmb	IAmb	05 53 06.2	
	comp=Z,30nm,1.2s						
WB0	**Warramunga Arr**	**24.16**	**229**	P	**P**	**05 53 07.4**	**-1.2**
WB0				IAmb	IAmb	05 53 14.4	
	comp=Z,4.4nm,1.1s						
WR0	**Warramunga Arr**	**24.16**	**229**	P	**P**	**05 53 06.2**	**-2.4**
WR0				IAmb	IAmb	05 53 13.4	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**24.29**	**229**	P	**P**	**05 53 08.2**	**-1.7**
WB2				IAmb	IAmb	05 53 24.6	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**24.30**	**229**	P	**P**	**05 53 08.8**	**-1.1**
	comp=Z,2.7nm,0.6s,baz=54,slow=10,SNR=28 comp=Z,2.7nm,0.6s						
WRA	**Warramunga Arr**	**24.30**	**229**	P	**P**	**05 53 08.0**	**-2.0**
ASAR	**Alice Springs**	**26.96**	**223**	P	**P**	**05 53 32.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=56,slow=8.5,SNR=7.1 comp=Z,0.4nm,0.3s						
FORT	**Forrest**	**35.57**	**220**	P	**P**	**05 54 47.7**	**-1.8**
MKAR	**Makanchi Array**	**80.68**	**319**	P	**P**	**06 00 03.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=95,slow=6.9,SNR=2.7 comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**85.46**	**180**	P	**P**	**06 00 25.8**	**-2.3**

*TIR **09** 05:54:23.5,40°.42N×20°.07E,h5km±1km,Md3.2,Ml3.1*
*PDG **09** 05:54:23.9±0.3,40°.46N×20°.01E,h11km,ML3.0/9,Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*THE **09** 05:54:24.8,40°.44N×20°.08E,h2km±1km,ML2.8/11,Error ellipse: s-maj=1.6km s-min=0.5km az=334.0*
*BEO **09** 05:54:25.7±0.4,40°.45N×20°.07E,h11km±2km,ML2.7/11*
ISC 09 05:54:24.2±1.1,**40°.44N**±0°.02×**20°.05E**±0°.02,**h6**km±9km, **n85**,σ0§**96**/126,**11C-6D**,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.42**	**275**	P	**Pg**	**05 54 33.0**	**+0.6**
VLO				S	**Sb**	**05 54 40.0**	**-0.6**
	5µm,0.3s						
VLO	**Vlora**	**0.42**	**275**	P	**Pg**	**05 54 32.7**	**+0.3**
	baz=277						
VLO				S	**Sg**	**05 54 38.6**	**+0.7**
	baz=277						
VLO				AMP			
	comp=N,25nm,0.4s,baz=277						
LSK	**Leskovik**	**0.51**	**124**	P	**Pg**	**05 54 33.5**	**-0.6**
LSK				S	**Sg**	**05 54 41.5**	**+0.7**
	comp=N,1µm,0.3s						
LSK	**Leskovik**	**0.51**	**124**	P	**Pg**	**05 54 33.4**	**-0.7**
	baz=123						

FNA				*e*Sg		**Sb**	05 54 59.9	+0.4		
KPRO	**Kipourio**	**1.12**	**115**	P		**Pg**	05 54 45.4	-0.3		
ULC	**Ulcinj**	**1.64**	**339**	⇑*i* Pn		**Pn**	05 54 53.0	-0.6		
ULC				*i* Sn		**Sb**	05 55 16.5	+0.7		
TSLK	**Tsoukalades, L**	**1.68**	**163**	P		**Pn**	05 54 54.9	+0.8		
THL	**Klokotos Trika**	**1.75**	**119**	P		**Pn**	05 54 55.6	+0.6		
THL				S		**Sn**	05 55 17.8	+0.3		
	comp=N,102nm,0.7s									
NYDR	**Nydri-Lefkada**	**1.79**	**163**	P		**Pn**	05 54 56.0	+0.3		
NYDR				S		**Sb**	05 55 20.4	+0.3		
SKO	**Skopje**	**1.86**	**34**	*e*Pn		**Pn**	05 54 57.2	+0.6		
SKO				*e*Sn		**Sn**	05 55 20.1	-0.3		
SKO	**Skopje**	**1.86**	**34**	*i* Pn		**Pn**	05 54 57.4	+0.7		
SKO				*e*Sn		**Sb**	05 55 22.5	+0.4		
BCI	**Bajram Curri**	**1.93**	**0**	P		**Pb**	05 54 59.1	-0.7		
	baz=0.0									
BCI				S		**Sn**	05 55 23.0	+0.8		
	baz=0.0									
BCI				AMP						
	comp=E,1.0nm,0.5s,baz=0.0									
PDG	**Podgorica**	**2.08**	**344**	⇓P		**Pn**	05 55 00.2	+0.6		
PDG	**Podgorica**	**2.08**	**344**	*e*Pn		**Pn**	05 54 59.6	-0.1		
PDG				*e*Sn		**Sn**	05 55 26.9	+1.1		
PDG	**Podgorica**	**2.08**	**344**	⇓*i* Pn		**Pn**	05 54 59.5	-0.1		
PDG				*i* Sn		**Sb**	05 55 27.3	-1.1		
VAY	**Valandovo**	**2.11**	**64**	*e*Pn		**Pn**	05 55 00.5	+0.5		
VAY				*e*Sn		**Sn**	05 55 26.4	-0.1		
VAY	**Valandovo**	**2.11**	**64**	*i* Pn		**Pn**	05 55 00.4	+0.4		
VAY				*e*Sn		**Sb**	05 55 29.6	+0.4		
PVY	**Plav**	**2.16**	**358**	⇓*i* Pn		**Pn**	05 55 00.5	-0.3		
PVY				*i* Sn		**Sn**	05 55 29.2	+1.3		
CEME	**Cevo**	**2.27**	**338**	⇑*i* Pn		**Pn**	05 55 01.5	-0.8		
CEME				*i* Sn		**Sn**	05 55 31.3	+0.6		
HCY	**Herceg Novi**	**2.32**	**330**	*e*Pn		**Pn**	05 55 01.3	-1.7		
HCY	**Herceg Novi**	**2.32**	**330**	⇑*i* Pn		**Pn**	05 55 01.6	-1.4		
HCY				*i* Sn		**Sn**	05 55 31.2	-0.6		
IVA	**Berane**	**2.44**	**357**	⇑*i* Pn		**Pn**	05 55 04.3	-0.3		
IVA				*i* Sn		**Sn**	05 55 35.9	+1.1		
KOME	**Kolasin**	**2.44**	**351**	⇓*i* Pn		**Pn**	05 55 05.0	+0.3		
KOME				*i* Sn		**Sn**	05 55 36.1	+1.1		
NKME	**Niksic**	**2.47**	**341**	⇓*i* Pn		**Pn**	05 55 04.9	-0.1		
NKME				*i* Sn		**Sn**	05 55 36.7	+1.2		
MATE	**Matera**	**2.55**	**276**	⇑P		**Pn**	05 55 05.9	-0.2		
PRVS	**Prvonek**	**2.57**	**36**	*e*Pn		**Pn**	05 55 07.2	+0.8		
PRVS				*e*Sn		**Sn**	05 55 38.2	+0.2		
TREB	**Trebinje**	**2.61**	**331**	*e*Pn		**Pn**	05 55 05.1	-1.8		
BARS	**Barje**	**2.72**	**29**	*e*Pn		**Pn**	05 55 09.0	+0.5		
BARS				*e*Sn		**Sn**	05 55 42.5	+0.8		
SRS	**Serrai**	**2.78**	**75**	*e*Pn		**Pn**	05 55 10.4	+1.2		
SJES	**Sjenica**	**2.82**	**359**	*e*Pn		**Pn**	05 55 11.3	+1.3		
SJES				*e*Sn		**Sn**	05 55 45.5	+1.2		
TIP	**Timpagrande**	**2.83**	**245**	⇑P		**Pn**	05 55 11.6	+1.7		
SELS	**Selova**	**2.90**	**16**	*e*Pn		**Pn**	05 55 10.8	-0.1		
PLE	**Pljevlja**	**2.93**	**351**	⇓*i* Pn		**Pn**	05 55 11.7	+0.2		
PLE				*i* Sn		**Sn**	05 55 47.8	+0.7		
STON	**Ston**	**3.00**	**325**	*e*Pn		**Pn**	05 55 10.7	-1.6		
IVAS	**Ivanjica**	**3.14**	**1**	*e*Pn		**Pn**	05 55 14.1	-0.2		
BOVS	**Bovan**	**3.43**	**21**	⇑P		**Pn**	05 55 18.5	+0.4		
ZAPS	**Zavoj**	**3.43**	**33**	*e*Pn		**Pn**	05 55 19.1	+0.8		
BBLS	**Lazići**	**3.46**	**352**	*e*Pn		**Pn**	05 55 20.3	+1.6		
BBLS	**Lazići**	**3.46**	**352**	*e*Pn		**Pn**	05 55 22.5	+3.8		
GRUS	**Gruza**	**3.49**	**8**	*e*Pn		**Pn**	05 55 20.0	+1.0		
DIVS	**Divibare**	**3.66**	**359**	*e*Pn		**Pn**	05 55 22.5	+1.1		
DIVS				*e*Sn		**Sn**	05 56 03.8	-1.1		
DIVS	**Divibare**	**3.66**	**359**	*e*Pn		**Pn**	05 55 21.5	+0.1		
HAPS	**Han Pijesak,BI**	**3.74**	**348**	*e*Pn		**Pn**	05 55 21.8	-0.7		
ZAGS	**Zajecar**	**3.75**	**25**	*e*Pn		**Pn**	05 55 22.9	+0.4		
ZAGS	**Zajecar**	**3.75**	**25**	*e*Pn		**Pn**	05 55 23.3	+0.8		
TRUS	**Trudelj**	**3.79**	**4**	*e*Pn		**Pn**	05 55 22.9	-0.3		
MGRS	**Mrkonjic Grad**	**4.54**	**332**	*e*Pn		**Pn**	05 55 33.5	0.0		
FRGS	**Fruska Gora**	**4.72**	**358**	⇑P		**Pn**	05 55 36.6	+0.7		
FRGS	**Fruska Gora**	**4.72**	**358**	*e*Pn		**Pn**	05 55 36.4	+0.4		
FRGS	**Fruska Gora**	**4.72**	**358**	*e*Pn		**Pn**	05 55 35.9	-0.1		
BLY	**Banja Luka**	**4.80**	**335**	*e*Pn		**Pn**	05 55 37.1	+0.1		
A050A	**Klekovaca**	**4.81**	**328**	*e*Pn		**Pn**	05 55 36.7	-0.5		
A051A	**Mrakovica**	**5.12**	**334**	*e*Pn		**Pn**	05 55 40.9	-0.6		
BZS	**Buzias**	**5.30**	**12**	⇑P		**Pn**	05 55 43.3	-0.6		
GZG	**Gura Zlata**	**5.34**	**21**	⇑P		**Pn**	05 55 45.5	+1.0		
BOJS	**Bojanci**	**6.16**	**327**	*e*Pn		**Pn**	05 55 53.9	-1.8		
CRES	**Cresnjev**	**6.35**	**330**	*e*Pn		**Pn**	05 55 55.9	-2.4		
CEY	**Cerknica**	**6.71**	**324**	*e*Pn		**Pn**	05 56 01.3	-1.9		
SKDS	**Skadanscina**	**6.75**	**321**	*e*Pn		**Pn**	05 56 01.4	-2.5		
SOKA	**Soboth**	**7.22**	**331**	*i* Pn		**Pn**	05 56 09.4	-0.9		
	comp=E,0.7nm,0.3s									
OBKA	**Obir**	**7.27**	**328**	*i* Pn		**Pn**	05 56 10.3	-0.7		
	comp=E,0.7nm,0.1s									
OBKA	**Obir**	**7.27**	**328**	*e*Pn		**Pn**	05 56 08.7	-2.3		
ABTA	**Abfaltersbach**	**8.34**	**322**	*e*Pn		**Pn**	05 56 24.5	-1.2		
	comp=E,0.4nm,0.2s									
MOA	**Molln**	**8.49**	**333**	*e*Pn		**Pn**	05 56 29.4	+1.7		
	comp=E,0.5nm,0.2s									
WTTA	**Wattenberg**	**9.13**	**321**	*e*Pn		**Pn**	05 56 36.1	-0.6		
	comp=E,0.5nm,0.2s									
WATA	**Walderalm**	**9.21**	**321**	*e*Pn		**Pn**	05 56 35.2	-2.4		
	comp=E,0.4nm,0.1s									
SQTA	**Sankt Quirin**	**9.31**	**320**	*e*Pn		**Pn**	05 56 37.9	-1.1		
	comp=E,0.3nm,0.1s									
MOTA	**Moosalm**	**9.45**	**320**	*e*Pn		**Pn**	05 56 39.4	-1.5		
	comp=E,1.2nm,0.4s									

IDC 09 05:54:39.5±3.4, 54°42N×86°90E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=31.1km s-min=18.4km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**250**	I		06 04 10.0	
	0.1nm,1.4s,baz=68,slow=346,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.31**	**250**	Pg	Pg	05 55 03.0	-1.6
	1.0nm,0.3s,baz=67,slow=17,SNR=17						
ZALV				Lg	Lg	05 55 21.3	
	1.0nm,0.3s,baz=70,slow=26,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.37**	**237**	Pn	Pn	05 56 15.3	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=16						
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**8.18**	**203**	Pn	Pn	05 56 40.6	+1.2
	0.1nm,0.3s,baz=23,slow=16,SNR=2.9						
	0.2nm,0.5s						

*HVO **09** 05:58:03.5±0.8, 19°21N±0.01°×155°48W±0.02, h35km±3km, ML2.7/22, ML3.0/50(NEIC), Error ellipse: s-maj=3.4km s-min=1.4km az=113.0*

NEIC 09 05:58:01.6±0.9, 19°21N±0.02°×155°49W±0.02, h44km±1km, Error ellipse: s-maj=3.5km s-min=2.4km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.09**	**71**		Pn	05 58 09.0	+0.3
HTC					Sn	05 58 13.5	-0.2
KHU	**Kahuku**	**0.12**	**288**		Pn	05 58 09.3	+0.2
HPO	**Honuapo**	**0.13**	**207**		Pn	05 58 09.1	+0.3
AIN	**Ainahou**	**0.17**	**11**		Pn	05 58 09.7	+0.4
HLP	**Hilina Pali**	**0.19**	**63**		Pn	05 58 09.6	+0.3
HLP				IAML		05 58 14.5	
	comp=E,2μm,0.3s						
HLP				IAML		05 58 23.8	
	comp=N,2μm,0.4s						
SDHHI	**Sand Hill**	**0.26**	**46**		Pn	05 58 10.0	0.0
WRMHI	**West Rim**	**0.27**	**42**		Pn	05 58 10.0	0.0
WRMHI					Sn	05 58 15.0	-1.0
RIM	**Rim**	**0.28**	**48**		Pn	05 58 11.2	+0.1
RIM				IAML		05 58 23.5	
	comp=E,1μm,0.5s						
RIM				IAML		05 58 23.7	
	comp=N,2μm,0.3s						
UWE	**Uwekahuna**	**0.28**	**41**		Pn	05 58 10.2	0.0
UWE				IAML		05 58 17.7	
	comp=N,2μm,0.4s						
NPH	**North Pit**	**0.28**	**44**		Pn	05 58 10.1	-0.1
NPH					Sn	05 58 15.0	-1.2
KKO	**Keanakako`i**	**0.28**	**48**		Pn	05 58 10.3	+0.1
KKO				IAML		05 58 18.5	
	comp=E,1μm,0.5s						
KKO				IAML		05 58 19.1	
	comp=N,2μm,0.3s						
OBL	**Observatory Le**	**0.29**	**43**		Pn	05 58 10.2	0.0
OBL					Sn	05 58 15.6	-0.6
OBL				IAML		05 58 15.9	
	comp=E,2μm,0.5s						
MWH	**Moku'aweowe**	**0.29**	**340**		Pn	05 58 10.7	0.0
MWH					Sn	05 58 16.3	-0.8
MWH				IAML		05 58 16.5	
	comp=E,2μm,0.6s						
MWH				IAML		05 58 17.5	
	comp=N,1μm,0.3s						
UWB	**Uwekahuna B**	**0.29**	**43**		Pn	05 58 10.2	-0.1
UWB					Sn	05 58 15.1	-1.3
BYL	**Byron's Ledge**	**0.30**	**47**		Pn	05 58 10.2	-0.1
BYL	**Byron's Ledge**	**0.30**	**47**	IAML		05 58 15.9	
	comp=E,1μm,0.8s						
BYL				IAML		05 58 19.5	
	comp=N,1μm,0.6s						
MLH	**Mauna Loa**	**0.30**	**19**		Pn	05 58 10.7	+0.2
MLH				IAML		05 58 16.3	
	comp=N,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.30**	**44**	Pn	Pn	05 58 10.3	-0.1
SBLHI				IAML		05 58 15.6	
	comp=E,2μm,0.3s						
HATHI	**Halema'uma'u T**	**0.30**	**45**		Pn	05 58 10.3	-0.1
HATHI				IAML		05 58 15.6	
	comp=E,2μm,0.4s						
HATHI				IAML		05 58 15.8	
	comp=N,1μm,0.7s						
PUH	**Pauahi**	**0.31**	**57**		Pn	05 58 10.4	0.0
PUH				IAML		05 58 15.7	
	comp=N,1μm,0.7s						
RSD	**Rainshed**	**0.32**	**38**		Pn	05 58 10.6	-0.1
RSD				IAML		05 58 18.6	
	comp=E,1μm,0.2s						
MLOA	**Mauna Loa Obse**	**0.34**	**346**		Pn	05 58 11.2	+0.2
MLOA					Sn	05 58 16.6	-1.0
MLOA				IAML		05 58 16.8	
	comp=E,1μm,0.2s						
MLOA				IAML		05 58 17.0	
	comp=N,1μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.35**	**61**		Pn	05 58 10.8	0.0
ALEP	**Alea Permanent**	**0.36**	**337**		Pn	05 58 11.2	0.0
ALEP					Sn	05 58 16.9	-1.1
STCH	**Steam Cracks**	**0.39**	**63**		Pn	05 58 11.2	-0.1
STCH				IAML		05 58 17.1	
	comp=E,1μm,0.2s						
STCH				IAML		05 58 17.8	
	comp=N,1μm,0.2s						
HMH	**Humu'ula Sheep**	**0.39**	**1**		Pn	05 58 12.1	+0.6
HMH				IAML		05 58 19.2	
	comp=N,898nm,0.5s						
NPOC	**North of Pu'u**	**0.41**	**63**		Pn	05 58 11.4	0.0
NPOC					Sn	05 58 17.2	-1.2
NPOC				IAML		05 58 17.4	
	comp=E,1μm,0.2s						
JCUZ	**Jacuzzi**	**0.41**	**64**		Pn	05 58 11.5	+0.1
JCUZ					Sn	05 58 17.4	-1.0
JCUZ				IAML		05 58 17.6	
	comp=N,2μm,0.5s						
JCUZ				IAML		05 58 17.9	
	comp=E,917nm,0.5s						
CPH	**Captain Cook**	**0.49**	**305**		Pn	05 58 12.2	-0.2
CPH					Sn	05 58 18.8	-1.3
JOKA	**Jonika Flow**	**0.51**	**64**		Pn	05 58 12.5	-0.2
JOKA					Sn	05 58 19.0	-1.6
KHLU	**Kahalu`u**	**0.54**	**315**		Pn	05 58 13.3	+0.2
KHLU					Sn	05 58 20.4	-0.9
POHA	**Pohakuloa**	**0.55**	**356**		Pn	05 58 13.5	+0.1
HPAH	**Hawaii Prepara**	**0.84**	**347**		Pn	05 58 17.1	0.0
HPAH					Sn	05 58 26.8	-1.6
HPAH				IAML		05 58 27.5	
	comp=E,426nm,0.4s						
MHA	**Mahukona**	**1.05**	**338**	Pn	Pn	05 58 20.2	+0.3
HLK	**Haleakala**	**1.70**	**335**	Pn	Pn	05 58 28.5	-0.5
KHLH	**Kahului Airpor**	**1.90**	**333**	Pn	Pn	05 58 31.8	+0.3
HON	**Honolulu**	**3.16**	**312**	Pn	Pn	05 58 48.5	-0.4

*IDC **09** 05:59:05.9±0.5, 36°76N×68°52E, h0km, mb4.7/33, mbtmp4.8/38, ML4.2/5, MS4.4/72, Error ellipse: s-maj=12.3km s-min=9.3km az=179.0*

*MOS **09** 05:59:07.8±1.4, 36°99N×68°47E, h19km, mb5.1/88, MS4.4/14, Error ellipse: s-maj=4.0km s-min=3.2km az=104.5*

*GCMT **09** 05:59:09.0±0.2, 36°91N±0°02×68°27E±0°01, h12km, MW4.9/114, Moment Tensor Solution. s45,c53; s114,c172; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.32±.07; Mθθ-0.49±.07; Mϕϕ-2.83±.06; Mrθ0.59±.30; Mθϕ0.92±.06; Mϕr0.22±.20; Best double couple: Mo3.28800×10^16^ NP1:ϕs351.00000°, δ46.00000°, λ104.00000°. NP2:ϕs151.00000°, δ46.00000°, λ76.00000°. Principal axes: T 3.4300, Plg80.0000°, Azm340.0000°; N -0.2810, Plg10.0000°, Azm161.0000°; P -3.1460, Plg0.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NNC **09** 05:59:09.6±1.7, 36°92N×68°36E, h67km±18km, mb5.0, mpv5.1 Error ellipse: s-maj=19.8km s-min=9.6km az=162.0*

*BJI **09** 05:59:10.1±0.0, 37°15N×68°61E, h22km, mb4.7/59, mB5.2/45, ML5.0/1, Ms5.2/62, Ms7.5 0/58*

*NEIC **09** 05:59:10.2±1.2, 36°91N±0°02×68°31E±0°06, h26km±4km, mb5.0/157, Mwr5.2/10, Error ellipse: s-maj=7.5km s-min=1.9km az=107.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr-6.30; Mθθ1.60; Mϕϕ4.69; Mrθ-3.29; Mθϕ4.19; Mϕr1.63; Fault plane solution: Mo7.95000×10^16^ NP1:ϕs190.09000°, δ48.95000°, λ-127.96000°. NP2:ϕs60.00000°, δ53.52000°, λ-54.76000°. Principal axes: T 7.6349, Plg3.0000°, Azm126.0000°; N 0.5886, Plg28.0000°, Azm217.0000°; P -8.2234, Plg62.0000°, Azm31.0000°;*

*BGR **09** 05:59:42.1, 39°51N×65°34E, h33km, mb4.6, Ms4.0*

ISC 09 05:59:10.4±0.2, 36°85N±0°03×68°42E±0°03, h30km, n849, σ1°84/857, mb4.9/223, MS4.5/100, 48C-44D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMJ	**Simiganj**	**1.87**	**14**	Pn	**Pn**	**05 59 40.9**	**+0.4**
CHGR	**Chuyangaron**	**1.90**	**18**	Pn	**Pn**	**05 59 41.0**	**+0.1**
CHGR	**Chuyangaron**	**1.90**	**18**	PN	**Pn**	**05 59 41.0**	**+0.1**
KBL	**Kabul**	**2.36**	**167**		**Pb**	**05 59 49.9**	**-2.5**
KBL	**Kabul**	**2.36**	**167**	PN	**Pb**	**05 59 49.9**	**-2.5**
KBL	**Kabul**	**2.36**	**167**	P	**Pb**	**05 59 50.1**	**-2.4**
	SNR=593						
GAR	**Garm**	**2.62**	**34**	Pn	**Pn**	**05 59 51.2**	**+0.3**
CEP	**Cherat**	**4.16**	**136**	P	**Pn**	**06 00 15.9**	**+3.9**
CEP				S	**Sb**	**06 01 07.0**	**-5.8**
TAS	**Tashkent**	**4.52**	**8**	Pn	**Pn**	**06 00 17.3**	**+0.5**
TAS	**Tashkent**	**4.52**	**8**	PN	**Pn**	**06 00 17.3**	**+0.5**
THW	**Thamme Wali**	**4.88**	**145**	P	**Pn**	**06 00 23.4**	**+1.5**
NIL	**Nilore**	**5.08**	**127**	Pn	**Pn**	**06 00 27.8**	**+3.2**
NIL	**Nilore**	**5.08**	**127**	PN	**Pn**	**06 00 27.8**	**+3.2**
CHCP	**Chirah Chowk**	**5.09**	**127**	P	**Pn**	**06 00 27.6**	**+2.9**
IUG	**Iuzhnay**	**5.44**	**13**	*e*PN	**Pn**	**06 00 30.2**	**+0.7**
HRA	**Herat**	**5.59**	**246**		**Pn**	**06 00 32.7**	**+0.9**
SARP	**Sargodha**	**6.04**	**143**	P	**Pn**	**06 00 38.3**	**+0.5**
DZA	**Taraz**	**6.44**	**19**	Pg	**Pn**	**06 00 41.7**	**-1.5**
	247nm,0.7s						
DZA	**Taraz**	**6.44**	**19**	*e*P	**Pn**	**06 00 41.5**	**-1.7**
	baz=20						
DZA	**Taraz**	**6.44**	**19**	*e*PN	**Pn**	**06 00 41.5**	**-1.7**
KK31	**Karatay Array**	**6.45**	**14**	Pn	**Pn**	**06 00 43.4**	**0.0**
KK31	**Karatay Array**	**6.45**	**14**	⇑Pn	**Pn**	**06 00 43.0**	**-0.3**
	13nm,0.3s,baz=201,slow=14,SNR=375						
KK31				⇓Pg	**Pb**	**06 01 01.7**	**-0.2**
	87nm,1.0s,baz=207,slow=19,SNR=4.4						
KK31				⇓Sn	**Sn**	**06 01 55.7**	**-0.2**
	290nm,0.7s						
KK31				Lg	Lg	06 02 27.6	
	468nm,0.7s,baz=195,slow=27,SNR=4.2						
KK31	**Karatay Array**	**6.45**	**14**	PN	**Pn**	**06 00 43.4**	**0.0**
KKAR	**Karatay Array**	**6.45**	**14**	Pn	**Pn**	**06 00 43.2**	**-0.1**
KKAR	**Karatay Array**	**6.45**	**14**	PN	**Pn**	**06 00 43.3**	**-0.1**
KSH	**Kashi**	**6.52**	**64**	P	**Pn**	**06 00 40.4**	**-4.0**
KSH				sP	Pn	06 00 48.4	+4.0
KSH				S	**Sn**	**06 01 54.5**	**-3.4**
KSH				pmax	pmax		
	comp=Z,140nm,0.5s						
KSH				smax	smax		
	comp=N,1μm,0.8s						
KSH				smax	smax		
	comp=E,1μm,1.0s						
KSH				LR	LR		
	comp=N,17μm,4.8s						
KSH				LR	LR		
	comp=E,29μm,5.5s						
KSH				LR	LR		
	comp=Z,14μm,6.2s						
AML	**Almayashu**	**6.67**	**36**	P	**Pn**	**06 00 46.7**	**0.0**
	SNR=122						
JMU	**Jammu**	**6.74**	**126**	*e*P	**Pn**	**06 00 47.5**	**+0.2**
MRKS	**Merke**	**6.95**	**31**	Pg	**Pn**	**06 00 50.5**	**+0.2**
	comp=Z,113nm,0.8s						
EKS2	**Erkin-Say**	**7.12**	**34**	P	**Pn**	**06 00 53.4**	**+0.7**
	SNR=74						
UCH	**Uchtor**	**7.14**	**39**	P	**Pn**	**06 00 53.5**	**+0.3**
	SNR=311						
AAK	**Ala-Archa**	**7.44**	**37**	P	**Pn**	**06 00 57.1**	**+0.1**
	SNR=70						
AAK	**Ala-Archa**	**7.44**	**37**	Pn	**Pn**	**06 00 57.2**	**+0.1**
	comp=Z,18nm,0.3s,baz=213,slow=5.8,SNR=53						
AAK				Lg	Lg	06 03 03.7	
	comp=Z,9.4nm,0.3s,baz=26,slow=16,SNR=3.6						
AAK				LR	LR	06 04 12.9	
	comp=Z,6μm,19.1s,baz=234,slow=41						
	comp=Z,104nm,0.4s						
AAK	**Ala-Archa**	**7.44**	**37**	P	**Pn**	**06 00 58.2**	**+1.2**
AAK				P	**Pn**	**06 00 58.2**	**+1.2**
THN	**Thein Dam**	**7.46**	**124**	*e*P	**Pn**	**06 00 58.9**	**+1.7**
THN				*ex*	x	06 02 17.4	
THN				*ex*	x	06 02 17.8	
THN				IAML		06 03 41.9	
	comp=E,549nm,1.4s						
THN				IAML		06 03 42.1	
	comp=N,360nm,1.7s						
KBK	**Karagaybulak**	**7.68**	**39**	P	**Pn**	**06 01 00.9**	**+0.6**
	SNR=307						
CHMS	**Chumysh**	**7.83**	**36**	P	**Pn**	**06 01 02.3**	**0.0**
	SNR=54						
CHMS	**Chumysh**	**7.83**	**36**	⇓Pn	**Pn**	**06 01 00.9**	**-1.4**
	comp=N,168nm,0.9s						
CHMS				⇓Sn	**Sn**	**06 02 27.7**	**-2.3**
	comp=N,392nm,0.9s						
CHMS				⇑Lg	Lg	06 03 14.5	
	comp=N,626nm,1.1s						
USP	**Ospenovka**	**7.92**	**34**	P	**Pn**	**06 01 03.0**	**-0.6**
	SNR=33						
DHRM	**DHARAMSHALA**	**7.96**	**123**	*e*S	**Sn**	**06 02 36.0**	**+2.6**
DHRM				IAML		06 03 01.1	
	comp=N,343nm,0.3s						
DHRM				IAML		06 03 01.3	
	comp=E,430nm,0.4s						
ULHL	**Ulahol**	**8.10**	**46**	P	**Pn**	**06 01 05.7**	**-0.4**
	SNR=34						
SGDS	**Sogindy**	**8.13**	**34**	Pg	**Pn**	**06 01 05.7**	**-0.7**
	comp=E,66nm,0.7s						
SGDS	**Sogindy**	**8.13**	**34**	*i* P	**Pn**	**06 01 05.4**	**-1.0**
	baz=34						
SGDS				*e*S	**Sn**	**06 02 36.9**	**-0.4**
	baz=34						
SGDS	**Sogindy**	**8.13**	**34**	*i* P	**Pn**	**06 01 05.4**	**-1.0**
SGDS				*e*S	**Sn**	**06 02 36.9**	**-0.4**
TKM2	**Tokmak 2**	**8.20**	**40**	P	**Pn**	**06 01 07.3**	**-0.2**
	SNR=154						
TKM2	**Tokmak 2**	**8.20**	**40**	⇑Pn	**Pn**	**06 01 06.2**	**-1.4**
	comp=E,121nm,0.7s						
TKM2				⇓Sn	**Sn**	**06 02 36.8**	**-2.4**
	comp=E,105nm,0.7s						
TKM2				⇓Lg	Lg	06 03 25.0	
	comp=E,518nm,1.3s						
TKM2	**Tokmak 2**	**8.20**	**40**	P	**Pn**	**06 01 06.1**	**-1.4**
TKM2						06 02 36.8	
GEYT	**Alibeck**	**8.27**	**281**	Pn	**Pn**	**06 01 05.6**	**-2.7**
	comp=E,8.4nm,0.3s,baz=102,slow=11,SNR=35						
GEYT	**Alibeck**	**8.27**	**281**	Pn	**Pn**	**06 01 05.1**	**-3.2**
GEYT	**Alibeck**	**8.27**	**281**	P	**Pn**	**06 01 05.1**	**-3.2**
GYA0	**ALIBECK ARRAY**	**8.27**	**281**	P	**Pn**	**06 01 07.4**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**8.27**	**281**	Pn	**Pn**	**06 01 05.7**	**-2.6**
GYA0B	**ALIBECK ARRAY**	**8.27**	**281**	⇑Pn	**Pn**	**06 01 06.5**	**-1.8**
GYA0B				⇓Lg	Lg	06 03 52.1	
KST	**Kastek**	**8.47**	**41**	Pg	**Pn**	**06 01 11.0**	**-0.2**
	comp=E,36nm,0.6s						
BHK	**Bhakra**	**8.56**	**127**	*e*P	**Pn**	**06 01 13.8**	**+1.4**
BHK				*e*S	**Sn**	**06 02 53.3**	**+5.4**
TARG	**Taragay, Kyrgy**	**8.76**	**53**		**Pn**	**06 01 14.5**	**-0.9**
TARG	**Taragay, Kyrgy**	**8.76**	**53**	P	**Pn**	**06 01 14.5**	**-0.9**
TNSS	**Tian-Shan**	**9.00**	**44**	*e*P	**Pn**	**06 01 18.0**	**-0.7**
	baz=45						
TNSS	**Tian-Shan**	**9.00**	**44**	*e*P	**Pn**	**06 01 18.0**	**-0.7**
AAA	**Alma-Ata**	**9.10**	**43**	*e*P	**Pn**	**06 01 17.9**	**-1.9**
	baz=44						
AAA	**Alma-Ata**	**9.10**	**43**	*e*P	**Pn**	**06 01 17.8**	**-1

MDH	**Madha**	**15.49**	**225**		P	**P**	**06 02 49.4**	**-1.5**
AKTO	**Aktyubinsk**	**15.50**	**334**		Pn	**Pn**	**06 02 44.1**	**-2.7**
	comp=Z,2.1nm,0.3s,baz=152,slow=12,SNR=72							
AKTO					LR	LR	06 08 47.0	
	comp=Z,1μm,19.1s,baz=72,slow=37							
	comp=Z,42nm,0.9s							
AKTO	**Aktyubinsk**	**15.50**	**334**	⇓	P	**Pn**	**06 02 42.4**	**-4.4**
	comp=Z,40nm,0.8s							
MSFE	**Esma-Masafi**	**15.52**	**226**		P	**P**	**06 02 50.2**	**-1.0**
KURBB	**Kurchatov Arra**	**15.57**	**25**		Pn	**Pn**	**06 02 42.8**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=66							
KURBB					Lg	Lg	06 07 17.4	
	comp=Z,0.1nm,0.3s,baz=220,slow=28,SNR=5.2							
KURBB					LR	LR	06 09 34.8	
	comp=Z,2μm,21.3s,baz=216,slow=40							
	comp=Z,14nm,0.9s							
KURBB	**Kurchatov Arra**	**15.57**	**25**	⇑	Pn	**Pn**	**06 02 41.6**	**-5.9**
	comp=Z,46nm,0.7s							
BHPL	**Bhopal**	**15.63**	**148**		*e*P	**Pn**	**06 02 45.2**	**-3.5**
KURK	**Kurchatov**	**15.68**	**25**		Pn	**Pn**	**06 02 44.1**	**-4.9**
KURK	**Kurchatov**	**15.68**	**25**	⇓	Pn	**Pn**	**06 02 45.2**	**-3.8**
	comp=Z,39nm,0.9s							
KURK				⇑	Sn	**Sn**	**06 05 40.2**	**-1.4**
	comp=Z,48nm,1.0s							
KURK				⇓	Lg	Lg	06 07 18.0	
	comp=Z,373nm,1.4s							
KURK	**Kurchatov**	**15.68**	**25**	*c i*	P	**Pn**	**06 02 43.8**	**-5.2**
KOLN	**Koldanda**	**15.69**	**121**	*e*	P	**Pn**	**06 02 43.8**	**-5.8**
UOSS	**Minazif**	**15.81**	**225**		Pn	**Pn**	**06 02 49.9**	**-1.0**
UOSS	**Minazif**	**15.81**	**225**		P	**P**	**06 02 52.8**	**-1.7**
HATD	**Hatta, Dubai**	**15.95**	**225**		P	**P**	**06 02 58.5**	**+2.6**
HATD	**Hatta, Dubai**	**15.95**	**225**		P	**P**	**06 02 55.3**	**-0.7**
HATD					P	**P**	**06 02 55.3**	**-0.7**
BIDO	**Bidbid**	**15.97**	**217**		P	**Pn**	**06 02 53.3**	**+0.4**
BIDO					P	**Pn**	**06 02 53.3**	**+0.4**
WSAR	**Wadi Sarin**	**15.98**	**215**		LR	LR	06 10 52.6	
	comp=Z,1μm,19.6s,baz=93,slow=44							
NAZ	**Nazwa, Dubai**	**16.09**	**226**		P	**P**	**06 02 57.1**	**-0.5**
ASHO	**Ashiyiah**	**16.10**	**225**		P	**P**	**06 02 58.7**	**+1.0**
ASHO	**Ashiyiah**	**16.10**	**225**		P	**P**	**06 02 57.7**	**0.0**
VLK	**Valmikinagar**	**16.16**	**122**	*e*	P	**Pn**	**06 02 55.3**	**0.0**
BVA0	**Borovoye Array**	**16.23**	**4**		P	**Pn**	**06 02 52.4**	**-3.7**
	comp=Z,57nm,0.9s,baz=176,slow=18,SNR=201							
BVA0				⇓	S	**Sn**	**06 05 51.2**	**-4.0**
	comp=Z,65nm,1.0s							
BVA0	**Borovoye Array**	**16.23**	**4**	*i*	P	**Pn**	**06 02 52.4**	**-3.7**
BVAR	**Borovoye Array**	**16.23**	**4**		Pn	**Pn**	**06 02 52.5**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=67							
BVAR					LR	LR	06 08 50.1	
	comp=Z,1μm,20.4s,baz=186,slow=36							
	comp=Z,15nm,0.7s							
WMQ	**Urumqi**	**16.25**	**59**	*e*	P	**Pn**	**06 02 54.6**	**-1.9**
WMQ					pP	pP	06 03 03.7	-3.6
WMQ					pmax	pmax		
	comp=Z,39nm,1.3s							
WMQ					LR	LR		
	comp=Z,9μm,12.1s							
WMQ					LR	LR		
	comp=Z,3μm,12.9s							
WMQ					LR	LR		
	comp=Z,3μm,19.5s							
BRVK	**Borovoye**	**16.26**	**4**		Pn	**Pn**	**06 02 53.0**	**-3.5**
BRVK					IAmb	IAmb	06 03 00.2	
	comp=Z,121nm,1.1s							
BRVK	**Borovoye**	**16.26**	**4**	⇓	P	**Pn**	**06 02 52.1**	**-4.4**
	comp=Z,101nm,1.0s							
BRVK				⇓	S	**Sn**	**06 05 51.6**	**-4.2**
	comp=Z,117nm,1.1s							
BRVK	**Borovoye**	**16.26**	**4**		P	**Pn**	**06 02 53.0**	**-3.5**
BRVK					pmax	pmax		
	comp=Z,121nm,1.1s							
BRVK	**Borovoye**	**16.26**	**4**		P	**P**	**06 02 59.2**	**-0.1**
GKN	**Gorkha**	**16.27**	**118**	*e*	P	**Pn**	**06 02 53.9**	**-3.1**
	comp=Z,326nm,0.6s							
SOHO	**SOHO**	**16.27**	**222**		P	**P**	**06 02 59.3**	**-0.3**
SOHO					P	**P**	**06 02 59.3**	**-0.3**
FAQ	**Al Faqa, Dubai**	**16.32**	**226**		P	**P**	**06 03 00.7**	**+0.6**
FAQ					P	**P**	**06 03 00.7**	**+0.6**
FAQ					P	**P**	**06 03 00.7**	**+0.6**
HOQ	**Hoqain**	**16.32**	**219**		P	**P**	**06 02 60.0**	**-0.1**
HOQ					P	**P**	**06 02 60.0**	**-0.1**
WBK	**Wadi Bani Khal**	**16.38**	**213**		P	**P**	**06 02 59.8**	**-0.9**
SMDO	**Samad**	**16.40**	**216**		P	**P**	**06 02 59.8**	**-1.3**
SMDO					P	**P**	**06 02 59.8**	**-1.3**
ASUD	**Al Ashush, Dub**	**16.56**	**226**		P	**P**	**06 03 05.8**	**+3.1**
ASUD	**Al Ashush, Dub**	**16.56**	**226**		P	**P**	**06 03 05.4**	**+2.6**
JLN	**Jalan Bani Buh**	**16.60**	**211**		P	**P**	**06 03 02.6**	**-0.6**
AKT	**Akhty**	**16.69**	**292**	*e*	P	**Pn**	**06 03 01.6**	**-0.5**
AKT				*e*	S	**S**	**06 06 11.9**	**-5.1**
AKT					pmax	pmax		
	comp=Z,10.0nm,0.7s							
AKT					smax	smax		
	comp=E,29nm,0.5s							
AKT					smax	smax		
	comp=N,29nm,0.6s							
ALNE	**Al Ain**	**16.77**	**224**		P	**P**	**06 03 07.1**	**+2.1**
ALNE	**Al Ain**	**16.77**	**224**		P	**P**	**06 03 07.2**	**+2.1**
AJN	**Ajban**	**16.81**	**227**		P	**P**	**06 03 07.4**	**+1.9**
DMN	**Daman**	**16.84**	**118**	*e*	P	**Pn**	**06 03 00.3**	**-4.0**
KKN	**Kakani**	**16.86**	**118**	*e*	P	**Pn**	**06 03 01.3**	**-3.1**
JBP	**Jabalpur**	**16.90**	**141**	*e*	P	**P**	**06 03 06.5**	**-0.1**
JBP					IAmb	IAmb	06 03 09.6	
	comp=Z,24nm,0.6s							
JBP				*e*	S	**S**	**06 06 21.8**	**+0.5**
ARQ	**Araqi**	**16.93**	**221**		P	**P**	**06 03 08.5**	**+1.6**
ARQ					P	**P**	**06 03 08.5**	**+1.6**
JMDO	**Jabal Madar**	**16.97**	**215**		P	**P**	**06 03 08.1**	**+0.7**
PKIN	**Phulchoki**	**17.07**	**118**	*e*	P	**Pn**	**06 03 04.0**	**-3.1**
	comp=Z,106nm,0.5s							
BSY	**Bisya**	**17.08**	**218**		P	**P**	**06 03 11.0**	**+2.5**
BSY					P	**P**	**06 03 11.0**	**+2.5**
PKI	**Pulchoki**	**17.08**	**118**	*e*	P	**Pn**	**06 03 05.0**	**-2.3**
MAK	**Makhachkala**	**17.15**	**297**	*e*	P	**Pn**	**06 03 05.7**	**-2.0**
MAK				*e*	S	**Sn**	**06 06 16.6**	**-0.8**
MAK					pmax	pmax		
	comp=Z,71nm,0.9s							
MAK					MLR	MLR		
	comp=Z,2μm,13.0s							
JIRN	**Jiri**	**17.58**	**116**	*e*	P	**Pn**	**06 03 11.9**	**-1.7**
	comp=Z,70nm,0.4s							
AKL	**Akola**	**17.75**	**153**	*e*	P	**Pn**	**06 03 15.1**	**-0.3**
AKL					IAmb	IAmb	06 03 17.3	
	comp=Z,12nm,0.5s							
MZWR	**Madinat Zayed**	**18.07**	**228**		P	**P**	**06 03 21.2**	**+1.7**
UMZA	**Um Al Zommool**	**18.16**	**223**		P	**P**	**06 03 22.6**	**+2.2**
RAMN	**Ramite**	**18.30**	**117**	*e*	P	**P**	**06 03 19.1**	**-3.1**
	comp=Z,129nm,0.6s							
GROC	**Groznyy**	**18.42**	**297**	*e*	P	**P**	**06 03 22.4**	**-0.8**
GROC				*e*	S	**S**	**06 06 52.7**	**+0.8**
GROC					pmax	pmax		
	comp=Z,93nm,0.6s							
SHMA	**Al-Shehemyia**	**18.47**	**239**		P	**Pn**	**06 03 29.2**	**+5.1**
GHWR	**Ruwais**	**18.53**	**230**		P	**Pn**	**06 03 26.3**	**+1.5**
GHWR					P	**Pn**	**06 03 26.3**	**+1.5**
SAKB	**Bahrain**	**18.68**	**240**		P	**Pn**	**06 03 28.6**	**+1.9**
GNI	**Garni**	**18.81**	**287**		P	**Pn**	**06 03 30.5**	**+2.2**
	comp=Z,53nm,0.9s,baz=360,slow=6.1,SNR=17							
GNI					LR	LR	06 13 23.3	
	comp=Z,1μm,19.9s,baz=110,slow=45							
GNI	**Garni**	**18.81**	**287**		P	**P**	**06 03 25.1**	**-2.6**
GNI					IAmb	IAmb	06 03 35.1	
	comp=Z,122nm,1.1s							
GNI	**Garni**	**18.81**	**287**		P	**P**	**06 03 25.1**	**-2.6**
GNI					pmax	pmax		
	comp=Z,122nm,1.2s							
GNI	**Garni**	**18.81**	**287**		P	**Pn**	**06 03 28.9**	**+0.6**
GNI	**Garni**	**18.81**	**287**		P	**Pn**	**06 03 32.0**	**+3.7**
GNI					P	**Pn**	**06 03 32.0**	**+3.7**
GNI					P	**Pn**	**06 03 32.0**	**+3.7**
DGZ	**Jazzator, Alta**	**18.82**	**41**	*c i*	P	**P**	**06 03 24.8**	**-2.9**
MZR	**Muzera**	**18.89**	**227**		P	**Pn**	**06 03 28.9**	**-0.3**
MZR	**Muzera**	**18.89**	**227**		P	**Pn**	**06 03 31.2**	**+2.0**
SNR=13								
ODAN	**Odare**	**18.92**	**116**	*e*	P	**P**	**06 03 26.9**	**-2.1**
SLWR	**Sila**	**19.20**	**233**		P	**Pn**	**06 03 33.5**	**+0.6**
SLWR					P	**Pn**	**06 03 33.5**	**+0.6**
SMRA	**Abu-Samra**	**19.30**	**236**		P	**Pn**	**06 03 34.8**	**+0.7**
DQM	**DQM**	**19.36**	**212**		P	**Pn**	**06 03 35.7**	**+0.8**
ZEI	**Tsey**	**19.71**	**295**	*e*	P	**P**	**06 03 38.1**	**+0.6**
ZEI					pmax	pmax		
	comp=Z,36nm,1.1s							
AKH	**Akhalkalaki**	**19.84**	**291**		P	**P**	**06 03 36.9**	**-2.0**
AKH					IAmb	IAmb	06 03 51.7	
	comp=Z,118nm,0.9s							
AKH	**Akhalkalaki**	**19.84**	**291**		P	**P**	**06 03 36.9**	**-2.0**
AKH					pmax	pmax		
	comp=Z,118nm,0.9s							
BOK	**Bokaro**	**19.88**	**126**	*e*	P	**P**	**06 03 39.1**	**-0.2**
ONI	**Oni**	**20.00**	**294**		P	**P**	**06 03 39.2**	**-1.4**
ONI	**Oni**	**20.00**	**294**		P	**P**	**06 03 39.2**	**-1.4**
ONI					pmax	pmax		
	comp=Z,40nm,1.0s							
NCK	**Nalchik**	**20.05**	**297**	⇓	*e*P	Pn	06 03 42.8	-0.2
NCK					pmax	pmax		
	comp=Z,82nm,0.8s							
KARS	**Kars**	**20.10**	**289**		P	Pn	06 03 45.6	+1.9
LSA	**Lhasa**	**20.27**	**104**		P	Pn	06 03 45.7	-0.5
LSA					IAmb	IAmb	06 03 58.8	
	comp=Z,136nm,1.3s							
LSA	**Lhasa**	**20.27**	**104**		P	Pn	06 03 45.8	-0.4
LSA					pmax	pmax		
	comp=Z,60nm,1.3s							
LSA					LR	LR		
	comp=Z,1μm,12.1s							
LSA					LR	LR		
	comp=Z,2μm,10.3s							
LSA					LR	LR		
	comp=Z,2μm,9.5s							
LSA	**Lhasa**	**20.27**	**104**		P	Pn	06 03 45.7	-0.5
LSA					pmax	pmax		
	comp=Z,136nm,1.3s							
LSA	**Lhasa**	**20.27**	**104**		P	Pn	06 03 45.1	-1.1
ZAA0	**Zalesovo Array**	**20.53**	**28**		P	**P**	**06 03 44.8**	**-1.3**
ZAA0					IAmb	IAmb	06 03 52.0	
	comp=Z,76nm,0.8s							
ZAA0	**Zalesovo Array**	**20.53**	**28**	⇓	Pn	**P**	**06 03 44.9**	**-1.3**
	comp=Z,13nm,0.8s							
ZALV	**Zalesovo Beam**	**20.53**	**28**		P	**P**	**06 03 44.6**	**-1.5**
	comp=Z,84nm,0.9s,baz=227,slow=9.8,SNR=143							
ZALV					LR	LR	06 12 21.6	
	comp=Z,2μm,18.4s,baz=205,slow=39							
	comp=Z,84nm,0.9s							
ZALV	**Zalesovo Beam**	**20.53**	**28**		P	**P**	**06 03 44.7**	**-1.4**
ZALV	**Zalesovo Beam**	**20.53**	**28**		P	**P**	**06 03 44.7**	**-1.4**
KBZ	**Khabaz**	**20.59**	**297**		P	**P**	**06 03 46.8**	**-0.1**
	comp=Z,17nm,0.9s,baz=123,slow=9.3,SNR=21							
KBZ					LR	LR	06 12 37.9	
	comp=Z,810nm,20.4s,baz=94,slow=39							
	comp=Z,17nm,0.9s							
KBZ	**Khabaz**	**20.59**	**297**	*ce*	P	**P**	**06 03 46.2**	**-0.7**
KBZ					pmax	pmax		
	comp=Z,19nm,0.9s							
NEY	**Neytrino**	**20.64**	**296**	⇑	*e*P	Pn	06 03 49.9	-0.1
NEY					pmax	pmax		
	comp=Z,5.0nm,0.7s							
SVE	**Sverdlovsk**	**20.65**	**348**		*e*P	**P**	**06 03 47.3**	**-0.1**
SVE					*e*S	Sn	06 07 39.7	-2.1
SVE					pmax	pmax		
	comp=Z,70nm,0.9s							
SVE					MLR	MLR		
	comp=Z,3μm,10.0s							
ARU	**Arti**	**20.68**	**344**		P	**P**	**06 03 48.1**	**+0.4**
	comp=Z,41nm,0.7s,baz=162,slow=7.5,SNR=60							
ARU					LR	LR	06 12 43.4	
	comp=Z,923nm,19.1s,baz=151,slow=39							
	comp=Z,41nm,0.7s							
ARU	**Arti**	**20.68**	**344**		P	**P**	**06 03 47.1**	**-0.6**
ARU					IAmb	IAmb	06 03 49.2	
	comp=Z,40nm,0.7s							
ARU	**Arti**	**20.68**	**344**	*c i*	P	**P**	**06 03 47.7**	**0.0**
ARU							06 04 03.0	
ARU					PPP	PPP	06 04 14.2	
ARU					S	Sn	06 07 40.3	-2.2
ARU					SS	**SnSn**	**06 08 01.1**	**+3.7**
ARU					pmax	pmax		
	comp=Z,43nm,0.7s							
ARU					MLR	MLR		
	comp=Z,820nm,9.0s							
KVAR	**Kislovodsk Arr**	**20.78**	**298**		LR	LR	06 13 17.0	
	comp=Z,2μm,19.8s,baz=194,slow=41							
KIV	**Kislovodsk**	**20.79**	**298**		P	**P**	**06 03 47.4**	**-1.7**
KIV					IAmb	IAmb	06 03 57.7	
	comp=Z,35nm,0.7s							
KIV	**Kislovodsk**	**20.79**	**298**	*e*	P	**P**	**06 03 49.1**	**0.0**
KIV				*e*	S	**S**	**06 07 41.8**	**+2.2**
KIV					pmax	pmax		
	comp=Z,46nm,1.0s							
KIV					MLR	MLR		
	comp=Z,538nm,14.0s							
KIV	**Kislovodsk**	**20.79**	**298**		P	Pn	06 03 50.5	-1.2
KIV					P	Pn	06 03 50.5	-1.2
GURO	**Guroymak-BITLI**	**20.92**	**283**		P	**P**	**06 03 50.1**	**-0.6**
GOMU	**GeErMu**	**21.21**	**84**		P	**P**	**06 03 53.7**	**-0.3**
GOMU					sP	pP	06 04 02.2	0.0
GOMU					S	**S**	**06 07 51.8**	**+3.3**
GOMU					pmax	pmax		
	comp=Z,11nm,1.4s							
GOMU					pmax	pmax		
	comp=Z,410nm,7.4s							
GOMU					LR	LR		
	comp=Z,1μm,11.8s							
GOMU					LR	LR		
	comp=Z,520nm,10.3s							
GOMU					LR	LR		
	comp=Z,880nm,10.1s							
HYB	**Hyderabad**	**21.33**	**152**	*e*	P	**P**	**06 03 55.5**	**+0.4**
HYB	**Hyderabad**	**21.33**	**152**	*e*	P	**P**	**06 03 54.4**	**-0.6**
BELG	**Belogornoye**	**21.34**	**323**		P	**P**	**06 03 55.0**	**+0.1**
	comp=Z,448nm,0.9s,baz=313,slow=1.0,SNR=104							
BELG					LR	LR	06 15 03.9	
	comp=Z,222nm,19.2s,baz=131,slow=45							
BELG	**Belogornoye**	**21.34**	**323**	*c i*	P	**P**	**06 03 53.8**	**-1.1**
BELG					pmax	pmax		
	comp=Z,74nm,0.9s							
RAGD	**RAYAGADA**	**21.94**	**139**	*ex*	P	**P**	**06 04 04.8**	**+3.2**
MARD	**Mardin**	**22.03**	**280**		P	**P**	**06 04 02.0**	**-0.5**
DOK	**Doka**	**22.08**	**218**		P	**P**	**06 04 04.9**	**+1.8**
DOK					P	**P**	**06 04 04.9**	**+1.8**
DMTO	**DMTO**	**22.46**	**216**		P	**P**	**06 04 10.7**	**+3.5**
DMTO					P	**P**	**06 04 10.7**	**+3.5**
SOC	**Sochi**	**22.85**	**296**	*e*	P	**P**	**06 04 07.7**	**-3.4**
SOC				*e*	PPP	PPP	06 04 43.9	
SOC				*e*	S	**S**	**06 08 17.0**	**-1.6**
SOC				*e*	SS	**SnSn**	**06 08 52.6**	**+2.0**
SOC				*e*	SSS	SSS	06 09 07.8	
SOC					MLR	MLR		
	comp=Z,750nm,19.0s							
WHFO	**Wadi Hawf**	**22.85**	**218**		P	**P**	**06 04 13.7**	**+2.4**
	SNR=6.0							
WHFO					P	**P**	**06 04 13.7**	**+2.4**
	SNR=6.0							
SHL	**Shillong**	**22.95**	**113**	*e*	P	**P**	**06 04 11.2**	**-1.3**
RBK	**Rabkut**	**23.00**	**217**		P	**P**	**06 04 15.4**	**+2.5**
ABTO	**Aybut**	**23.57**	**219**		P	**P**	**06 04 22.2**	**+3.7**
	SNR=5.7							
ABTO					P	**P**	**06 04 22.2**	**+3.7**
	SNR=5.7							
RAYN	**Ar Rayn**	**23.77**	**242**		P	**P**	**06 04 19.1**	**-1.4**
RAYN	**Ar Rayn**	**23.77**	**242**		P	**P**	**06 04 19.1**	**-1.4**
RAYN					pmax	pmax		
	comp=Z,25nm,1.0s							
RAYN	**Ar Rayn**	**23.77**	**242**		P	**P**	**06 04 22.7**	**+2.3**
VRH	**Novokhopyorsk**	**23.79**	**316**	*e*	P	**P**	**06 04 26.2**	**+5.9**
VRH					pmax	pmax		
	comp=Z,80nm,0.7s							
BRDH	**Bariadhala**	**24.53**	**119**		LR	LR	06 16 30.8	
	comp=Z,880nm,21.6s,baz=318,slow=43							
ANN	**Anapa**	**24.64**	**298**	*e*	P	**P**	**06 04 30.0**	**+1.8**
ANN				*e*	PPP	PPP	06 05 04.9	
ANN				*e*	S	**S**	**06 08 52.5**	**+4.9**
ANN					pmax	pmax		
	comp=Z,100nm,1.2s							
ANN					MLR	MLR		
	comp=Z,1μm,16.0s							
GTA	**Gaotai**	**24.77**	**74**	*e*	P	**P**	**06 04 30.2**	**+0.6**
GTA					pP	sP	06 04 41.0	-1.1
GTA					pmax	pmax		
	comp=Z,23nm,1.2s							
GTA					pmax	pmax		
	comp=Z,340nm,5.8s							
GTA					LR	LR		
	comp=Z,2μm,11.6s							
GTA					LR	LR		
	comp=Z,3μm,13.4s							
GTA					LR	LR		
	comp=Z,2μm,13.5s							
GAZ	**Gaziantep**	**24.87**	**280**		P	**P**	**06 04 28.0**	**-2.5**
GAZ					IAmb	IAmb	06 04 40.7	
	comp=Z,66nm,1.4s							
KIRV	**Kirov**	**25.05**	**336**		P	**P**	**06 04 32.5**	**+0.7**
	comp=Z,27nm,0.7s,baz=125,slow=11,SNR=13							
KIRV					LR	LR	06 15 11.3	
	comp=Z,229nm,18.3s,baz=152,slow=38							
	comp=Z,27nm,0.7s							
KIRV	**Kirov**	**25.05**	**336**	*d i*	P	**P**	**06 04 32.2**	**+0.5**
VSR	**Storozhevoye**	**25.25**	**314**	*e*	P	**P**	**06 04 33.6**	**-0.1**
VSR					pmax	pmax		
	comp=Z,50nm,1.0s							
VORR	**Voronezh**	**25.41**	**315**	*e*	P	**P**	**06 04 35.5**	**+0.4**
VORR					S	**S**	**06 09 01.2**	**+1.4**
VORR					pmax	pmax		
	comp=Z,50nm,1.2s							
VORR					MLR	MLR		
	comp=Z,890nm,15.0s							
BNN	**Bunyan**	**25.72**	**284**		P	**P**	**06 04 35.4**	**-2.8**
BNN					IAmb	IAmb	06 05 06.6	
	comp=Z,51nm,1.0s							
LPSR	**Galich'ya Gora**	**25.96**	**317**	*e*	P	**P**	**06 04 40.7**	**+0.6**
LPSR					pmax	pmax		
	comp=Z,70nm,1.1s							
SIM	**Simferopol'**	**27.00**	**298**		P	**P**	**06 04 51.4**	**+1.8**
SIM				*e*			06 05 37.0	
SIM				*e*			06 08 13.4	
SIM				*e*	SS	**SnSn**	**06 10 38.0**	**+5.9**
SIM					pmax	pmax		
	comp=Z,102nm,1.1s							
PCHI	**Peechi**	**27.17**	**163**	*ex*		**sP**	**06 05 07.5**	**+3.7**
PCHI				*ex*		**S**	**06 09 37.7**	**+10**
BR131	**Keskin Array S**	**27.35**	**287**		P	**P**	**06 04 52.5**	**-0.4**
BR131	**Keskin Array S**	**27.35**	**287**	*de*	P	**P**	**06 04 54.3**	**+1.4**
BRTR	**Keskin Array B**	**27.35**	**287**		P	**P**	**06 04 54.2**	**+1.4**
	comp=Z,7.9nm,0.8s,baz=108,slow=7.2,SNR=36							
BRTR					LR	LR	06 18 58.6	
	comp=Z,630nm,20.3s,baz=94,slow=43							
	comp=Z,7.9nm,0.8s							
BRTR	**Keskin Array B**	**27.35**	**287**		P	**P**	**06 04 51.9**	**-1.0**
BRTR	**Keskin Array B**	**27.35**	**287**		P	**P**	**06 04 51.9**	**-1.0**
MOY	**Mondy**	**27.36**	**47**	*e*	P	**P**	**06 04 54.5**	**+1.6**
MOY					pmax	pmax		
	comp=Z,64nm,1.7s							
MOS	**Moscow**	**28.09**	**322**	*e*	P	**P**	**06 04 58.9**	**-0.3**
MOS				*e*			06 05 59.1	
MOS				*e*	S	**S**	**06 09 42.7**	**+0.7**
MOS					pmax	pmax		
	comp=Z,30nm,0.8s							
TNCH	**TengChong**	**28.27**	**106**	*e*	P	**P**	**06 05 02.0**	**+0.7**
OBN	**Obninsk**	**28.33**	**320**		P	**P**	**06 05 02.2**	**+0.9**
	comp=Z,3.7nm,0.5s,baz=48,slow=10,SNR=4.6							
OBN					LR	LR	06 17 07.9	
	comp=Z,187nm,19.3s,baz=132,slow=38							
	comp=Z,3.7nm,0.5s							
OBN	**Obninsk**	**28.33**	**320**	⇓	*i* P	**P**	**06 05 02.2**	**+0.9**
OBN					*PP	**pP**	**06 05 09.0**	**-1.1**
OBN							06 05 46.0	
OBN				*i*	PPP	PPP	06 06 04.6	
OBN					S	**S**	**06 09 54.0**	**+8.3**
OBN				*e*	SS	**SnSn**	**06 11 02.7**	**-1.6**
OBN					pmax	pmax		
	comp=Z,41nm,1.3s							
OBN					MLR	MLR		
	comp=Z,532nm,20.0s							
ZAK	**Zakamensk**	**28.35**	**50**	*e*	P	**P**	**06 05 02.5**	**+0.8**
ZAK					pmax	pmax		
	comp=Z,13nm,1.3s							
LZH	**Lanzhou**	**28.41**	**81**	⇓	P	**P**	**06 05 04.9**	**+2.5**
LZH					pP	pP	06 05 10.6	-0.7
LZH					pmax	pmax		
	comp=Z,11nm,1.6s							
LZH					LR	LR		
	comp=Z,1μm,15.1s							
LZH					LR	LR		
	comp=Z,1μm,15.5s							
LZH					LR	LR		
	comp=Z,2μm,15.8s							
PRGR	**Permogore**	**28.62**	**337**	*e*	P	**P**	**06 05 01.0**	**-2.8**
PRGR					pmax	pmax		
	comp=Z,38nm,0.8s							
EIL	**Elat**	**28.78**	**265**		LR	LR	06 18 43.7	
	comp=Z,1μm,19.3s,baz=69,slow=41							
BORA	**Eskisehir**	**29.77**	**288**		P	**P**	**06 05 13.9**	**-0.5**
CD2	**Chengdu**	**29.82**	**91**		P	**P**	**06 05 15.7**	**+0.8**
CD2					S	**S**	**06 10 11.9**	**+2.1**
CD2					SS	**SnSn**	**06 11 40.9**	**-0.3**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
CD2					LR	LR		
	comp=Z,940nm,10.4s							
CD2					LR	LR		
	comp=Z,1μm,11.6s							
CD2					LR	LR		
	comp=Z,1μm,11.8s							
SONM	**Songino Array**	**29.86**	**56**		P	**P**	**06 05 15.7**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=252,slow=9.6,SNR=27							
SONM					LR	LR	06 18 26.2	
	comp=Z,4μm,21.9s,baz=272,slow=39							
	comp=Z,5.1nm,0.8s							
SONM	**Songino Array**	**29.86**	**56**		P	**P**	**06 05 15.8**	**+0.6**
SONM	**Songino Array**	**29.86**	**56**		P	**P**	**06 05 15.8**	**+0.6**
SONM					pmax	pmax		
	comp=Z,12nm,1.2s							
PZH	**PanZhiHua**	**30.05**	**100**		P	**P**	**06 05 19.6**	**+2.6**
PZH					pmax	pmax		
	comp=Z,7.0nm,0.8s							
PZH					pmax	pmax		
	comp=Z,100nm,4.3s							
KLMR	**Klimovskoe**	**30.18**	**332**	*e*	P	P	06 05 12.5	-5.1
KLMR					AMP		06 05 20.1	
	comp=Z,60nm,1.9s							
KLMR				*e*	PP

CMAR Chiang Mai Arr 32.46 116 P **P** **06 05 38.4 +0.2**
CMAR Chiang Mai Ar 32.46 116 P **P** **06 05 38.4 +0.2**
COVR Voineasa-Covas 32.61 299 ⇓P **P** **06 05 41.7 +2.4**
ADZR Andozero 32.62 336 *e*P **P** **06 05 39.1 0.0**
ADZR *e* 06 06 52.2
ADZR pmax pmax
comp=Z,11nm,0.5s
MNK Minsk 32.79 316 *i* P **P** **06 05 38.7 -2.1**
comp=E,6.0nm,1.2s
MNK *i* P **P** **06 05 38.7 -2.1**
comp=N,36nm,0.9s
MNK *i* P **P** **06 05 38.7 -2.1**
comp=Z,36nm,1.1s,baz=286
MNK *i* PP **PnPn** **06 06 46.7 -2.8**
MNK *i* PPP PPP 06 06 56.8
MNK *i* S **S** **06 10 56.0 +0.4**
MNK *i* SS **SnSn** **06 12 52.5 -0.4**
MNK *i* SSS SSS 06 13 08.0
MNK *i* LQ LQ 06 16 45.1
MNK *i* LR LR 06 18 54.6
MNK *i* LRM MLR 06 20 14.0
comp=Z,842nm,21.7s
MNK *i* LRM MLR 06 20 21.7
comp=E,60nm,16.6s
MNK *i* LRM MLR 06 20 26.2
comp=N,829nm,17.9s
MNK Minsk 32.79 316 *i* P **P** **06 05 38.6 -2.1**
MNK *i* 06 06 46.7
MNK *i* 06 08 23.9
MNK *i* S **S** **06 10 56.0 +0.4**
MNK *i* SS **SnSn** **06 12 52.4 -0.4**
MNK *i* 06 16 07.7
MNK pmax pmax
comp=N,36nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.2s
MNK pmax pmax
comp=Z,36nm,1.1s
MNK MLR MLR
comp=Z,842nm,22.0s
MNK MLR MLR
comp=E,60nm,17.0s
MNK MLR MLR
comp=N,829nm,18.0s
MLR Muntele Rosu 32.79 299 P **P** **06 05 43.9 +2.9**
comp=N,27nm,0.9s,baz=44,slow=4.9,SNR=21
MLR LR LR 06 22 53.1
comp=N,1μm,18.5s,baz=64,slow=43
comp=N,27nm,0.9s
MLR Muntele Rosu 32.79 299 ⇑P **P** **06 05 43.7 +2.7**
MLR Muntele Rosu 32.79 299 P **P** **06 05 43.7 +2.7**
XAN Xi'an 32.95 83 P **P** **06 05 42.5 +0.1**
XAN pP pP 06 05 50.0 -1.3
XAN S **S** **06 10 57.2 -1.4**
XAN sS sS 06 11 16.8 +3.4
XAN pmax pmax
comp=N,11nm,1.1s
XAN pmax pmax
comp=N,280nm,5.2s
XAN LR LR
comp=N,2μm,15.5s
XAN LR LR
comp=N,1μm,12.0s
XAN LR LR
comp=N,2μm,13.2s
DOPR Dopca 33.18 300 ⇓P **P** **06 05 45.9 +1.6**
BURAR Bucovina Array 33.35 303 ⇑P **P** **06 05 47.2 +1.4**
BURAR Bucovina Array 33.35 303 P **P** **06 05 46.2 +0.4**
BURAR Bucovina Array 33.35 303 P **P** **06 05 47.2 +1.4**
BUR08 Bucovina Ar. S 33.36 303 P **P** **06 05 46.1 +0.2**
PHRA Phrae 33.37 115 P **P** **06 05 45.5 -0.7**
MTUR Matau 33.42 298 ⇑P **P** **06 05 48.7 +2.3**
MTUR Matau 33.42 298 P **P** **06 05 48.7 +2.3**
NACGM Naroch 33.52 316 *e*P **P** **06 05 47.3 +0.3**
comp=Z,37nm,0.9s,baz=106
HHC Hu-ho-hao-te 33.59 70 *e*P **P** **06 05 49.9 +1.9**
HHC pP pP 06 05 57.7 +0.8
HHC S **S** **06 11 14.7 +6.1**
HHC pmax pmax
comp=Z,50nm,1.2s
HHC pmax pmax
comp=Z,340nm,5.0s
HHC LR LR
comp=Z,2μm,10.3s
HHC LR LR
comp=Z,2μm,11.3s
HHC LR LR
comp=Z,3μm,14.4s
IDID Didziasalis 33.65 317 *e*P **P** **06 05 44.6 -3.5**
ARR Arges 33.72 299 ⇑P **P** **06 05 50.8 +1.8**
ARCR ARCALIA 33.92 302 ⇑P **P** **06 05 53.0 +2.3**
IIGN Ignalina 33.94 317 *e*P P 06 05 45.4 -5.3
GYA Guiyang 33.97 97 ⇓P **P** **06 05 54.1 +2.6**
GYA S **S** **06 11 17.5 +2.8**
GYA pmax pmax
comp=Z,18nm,0.8s
GYA pmax pmax
comp=Z,71nm,3.6s
GYA LR LR
comp=Z,910nm,10.6s
GYA LR LR
comp=Z,640nm,10.5s
GYA LR LR
comp=Z,680nm,16.2s
ISAL Salakas 34.05 317 *e*P **P** **06 05 53.6 +1.9**
ATD Arta Tunnel 34.13 229 P **P** **06 05 51.2 -1.6**
ATD IAmb IAmb 06 06 02.5
comp=Z,16nm,1.1s
NRIK Noril'sk 34.19 12 P **P** **06 05 53.9 +1.2**
comp=Z,13nm,0.8s,baz=193,slow=4.4,SNR=12
NRIK LR LR 06 22 11.1
comp=Z,1μm,18.2s,baz=204,slow=40
comp=Z,13nm,0.8s
NRIK Noril'sk 34.19 12 P **P** **06 05 52.6 -0.1**
NRIK IAmb IAmb 06 06 17.1
comp=Z,30nm,1.1s
NRIK Noril'sk 34.19 12*c* *i*P **P** **06 05 53.5 +0.8**
NRIK pmax pmax
comp=Z,26nm,1.2s
LVV L'vov 34.28 306 *e*P **P** **06 05 53.3 -0.5**
LVV *e* 06 07 13.5
LVV *e*PPP PPP 06 07 34.1
LVV *e*S **S** **06 11 15.9 -3.0**
LVV *e*SSS SSS 06 13 35.9
LVV MLR MLR
comp=E,500nm,15.0s
LVV MLR MLR
comp=N,300nm,14.0s
LVV MLR MLR
comp=Z,500nm,15.0s
BMR Baia Mare 34.51 303 ⇓P **P** **06 05 56.6 +0.8**
BMR Baia Mare 34.51 303 P **P** **06 05 56.6 +0.8**
VSU Vasula 34.52 322 *e*P **P** **06 05 57.0 +0.4**
MARR Marisel-Cluj 34.76 301 ⇑P **P** **06 05 59.3 +1.3**
DEV Deva 34.92 299 ⇑P **P** **06 06 02.0 +2.7**
DEV Deva 34.92 299 P **P** **06 06 02.0 +2.7**
PUNG Punghina 34.97 297 ⇓P **P** **06 06 01.8 +2.0**
CIT Chita 35.00 50 *e*P **P** **06 06 00.2 +0.2**
CIT *e* 06 06 05.6
CIT pmax pmax
comp=Z,66nm,1.3s
GZR Gura Zlata 35.02 299 ⇓P **P** **06 06 01.6 +1.3**
DRGR 35.04 301 ⇑P **P** **06 06 02.6 +2.2**
DRGR 35.04 301 P **P** **06 06 02.6 +2.2**
TRPA Tarpa 35.17 303 ⇑P **P** **06 06 03.2 +1.7**
PABE Paberze 35.23 316 P **P** **06 06 02.1 +0.3**
PABE Paberze 35.23 316 *e*P **P** **06 06 03.0 +1.2**
UZH Uzhgorod 35.35 304 *e*P **P** **06 06 04.6 +1.6**
UZH *e* 06 06 13.6
UZH *e* 06 07 18.6
UZH *e* 06 08 38.0
UZH *e*S **S** **06 11 35.6 +0.3**
UZH MLR MLR
comp=N,180nm,12.0s
UZH MLR MLR
comp=E,150nm,12.0s
UZH MLR MLR
comp=Z,100nm,12.0s
VSVD Vaisvydziai 35.36 317 *e*P **P** **06 06 03.8 +0.9**
SURR Surduc 35.47 299 ⇑P **P** **06 06 06.6 +2.5**
LYN LuoYang 35.62 80 *e*P **P** **06 06 07.0 +1.6**
LYN S **S** **06 11 31.8 -7.9**
LYN pmax pmax
comp=Z,210nm,6.2s
LYN LR LR
comp=Z,1μm,16.1s
LYN LR LR
comp=Z,1μm,15.9s
LYN LR LR
comp=Z,1μm,20.4s
SIRR Siria 35.77 300 ⇑P **P** **06 06 09.4 +2.7**
MDVR Moldovita 35.81 298 ⇑P **P** **06 06 08.7 +1.6**
BZS Buzias 35.83 299 ⇑P **P** **06 06 08.8 +1.7**
BZS Buzias 35.83 299 P **P** **06 06 08.8 +1.7**
FINES FINESS Array B 36.04 327 P **P** **06 06 09.1 +0.4**
comp=Z,3.8nm,0.4s,baz=118,slow=9.4,SNR=20
FINES LR LR 06 21 20.2
comp=Z,467nm,18.8s,baz=114,slow=37
comp=Z,3.8nm,0.4s
FINES FINESS Array B 36.04 327 P **P** **06 06 07.9 -0.9**
MTSE Matsula 36.15 322 *e*P **P** **06 06 09.9 +0.1**
MEF Metsahovi 36.35 324 *e*P **P** **06 06 11.6 +0.2**
LVZ Lovozero 36.38 339*de*P **P** **06 06 12.8 +1.2**
LVZ pmax pmax
comp=Z,203nm,2.0s
BOD Bodaibo 36.41 40 *e*P **P** **06 06 12.3 +0.4**
BOD pmax pmax
comp=Z,39nm,1.2s
FNA Florina 36.52 291 P **P** **06 06 13.2 0.0**
FNA Florina 36.52 291 P **P** **06 06 13.2 0.0**
FNA pmax pmax
comp=Z,7.0nm,1.0s
XLT XiLinHaoTe 36.57 64 *e*P **P** **06 06 16.8 +3.2**
XLT pP pP 06 06 23.4 +0.8
XLT sP sP 06 06 27.8 +1.5
XLT S **S** **06 11 54.0 -0.3**
XLT sS sS 06 12 07.0 -2.2
XLT pmax pmax
comp=Z,24nm,1.3s
XLT pmax pmax
comp=Z,120nm,3.6s
XLT LR LR
comp=Z,2μm,14.5s
XLT LR LR
comp=Z,3μm,13.5s
HNS HongShan 36.63 75 ⇓P **P** **06 06 15.5 +1.5**
HNS S **S** **06 12 03.6 +8.5**
HNS pmax pmax
comp=Z,13nm,1.2s
HNS LR LR
comp=Z,1μm,11.0s
HNS LR LR
comp=Z,830nm,13.7s
HNS LR LR
comp=Z,1μm,20.1s
NIE Niedzica 36.68 306 *e*P **P** **06 06 16.3 +1.8**
NIE Niedzica 36.68 306 P **P** **06 06 17.0 +2.5**
NIE pmax pmax
comp=Z,12nm,1.1s
PSZ Piszkesteto 36.94 303 ⇑P **P** **06 06 19.2 +2.5**
PSZ Piszkesteto 36.94 303 P **P** **06 06 18.7 +2.0**
PSZ Piszkesteto 36.94 303 P **P** **06 06 18.7 +2.0**
PSZ pmax pmax
comp=Z,12nm,0.9s
OJC Ojcow 37.03 307 P **P** **06 06 18.2 +0.8**
OJC IAmb IAmb 06 06 23.1
comp=Z,20nm,0.9s
OJC Ojcow 37.03 307 P **P** **06 06 18.2 +0.8**
OJC pmax pmax
comp=Z,20nm,0.9s
DIVS Divibare 37.10 297 IAmb IAmb 06 06 23.1
comp=Z,18nm,1.1s
FRGS Fruska Gora 37.13 298 ⇑P **P** **06 06 20.7 +2.4**
BJT Baijiatuau 37.19 70 P **P** **06 06 20.5 +1.7**
BJT Baijiatuau 37.19 70 P **P** **06 06 20.5 +1.7**
BJT pmax pmax
comp=Z,12nm,0.9s
VYHS Vyhne 37.64 304 *e*P **P** **06 06 24.7 +2.1**
VYHS Vyhne 37.64 304 *e*P **P** **06 06 24.7 +2.1**
MORH Mrgy, Hungar 37.87 300 ⇑P **P** **06 06 25.9 +1.4**
SRO Srobarova 38.01 303 *e*P **P** **06 06 28.5 +2.9**
SRO pmax pmax
comp=Z,28nm,0.7s
SRO Srobarova 38.01 303 *e*P **P** **06 06 28.5 +2.9**
MAUC Maruska 38.30 305 *e*P **P** **06 06 29.9 +1.8**
JAVC Velka Javorina 38.41 305 *e*P **P** **06 06 31.6 +2.5**
MORC Moravsky Berou 38.48 306 ⇑P **P** **06 06 31.5 +1.8**
MORC Moravsky Berou 38.48 306 P **P** **06 06 30.6 +0.9**
MORC Moravsky Berou 38.48 306 *e*P **P** **06 06 31.0 +1.3**
MORC Moravsky Berou 38.48 306 P **P** **06 06 30.6 +0.9**
MORC pmax pmax
comp=Z,13nm,1.0s
MODS Modra-Piesok 38.68 304 *e*P **P** **06 06 33.5 +2.1**
MODS Modra-Piesok 38.68 304 *e*P **P** **06 06 33.5 +2.1**
GKP Gorka Klasztor 38.79 312 P **P** **06 06 36.3 +4.2**
GKP Gorka Klasztor 38.79 312 ⇓P **P** **06 06 33.0 +0.9**
TIA Tai'an 38.80 76 ⇓P **P** **06 06 33.6 +1.1**
TIA pmax pmax
comp=Z,14nm,1.0s
TIA LR LR
comp=Z,820nm,10.8s
TIA LR LR
comp=Z,1μm,18.7s
TIA LR LR
comp=Z,2μm,15.7s
VRAC Vranov 39.11 305 P **P** **06 06 36.5 +1.6**
comp=Z,12nm,0.9s,baz=100,slow=8.9,SNR=8.5
VRAC LR LR 06 23 42.1
comp=Z,383nm,22.0s,baz=88,slow=38
comp=Z,12nm,0.9s
VRAC Vranov 39.11 305 ⇑P **P** **06 06 36.5 +1.6**
VRAC Vranov 39.11 305 *e*P **P** **06 06 36.2 +1.3**
KRUC Moravsky 39.24 305 *e*P **P** **06 06 36.8 +0.8**
KRUC Moravsky 39.24 305 P **P** **06 06 34.1 -1.9**
KRUC pmax pmax
comp=Z,9.0nm,1.1s
DPC Dobruska-Polom 39.27 307 *e*P **P** **06 06 37.9 +1.7**
DPC Dobruska-Polom 39.27 307 *e*P **P** **06 06 37.9 +1.7**
UBPT Khong Chiam 39.27 113 P **P** **06 06 36.1 -0.4**
KSP Ksiaz 39.28 308 P **P** **06 06 37.2 +0.9**
KSP pmax pmax
comp=Z,10.0nm,1.0s
OSTC Ostas 39.33 307 *e*P **P** **06 06 38.3 +1.5**
RONA Rosalia, Austr 39.37 303 *e*P **P** **06 06 38.5 +1.3**
comp=Z,12nm,1.0s
UPC Upice 39.46 307 P **P** **06 06 39.8 +2.0**
UPC pmax pmax
comp=Z,17nm,0.9s
CONA Conrad Observa 39.65 303 *i* P **P** **06 06 41.3 +1.8**
comp=Z,20nm,1.3s
VIKU Vikbolandet 39.72 320 *e*P **P** **06 06 39.3 -0.5**
ARSA Arzberg 39.93 302 *e*P **P** **06 06 43.0 +1.2**
comp=Z,8.2nm,1.4s
ARA0 ARCESS Array S 40.04 338 *e*P **P** **06 06 42.7 +0.3**
ARA0 IAmb IAmb 06 06 46.0
comp=Z,38nm,1.0s
ARCES ARCESS Array B 40.04 338 P **P** **06 06 43.1 +0.8**
comp=Z,17nm,0.9s,baz=120,slow=7.2,SNR=13
ARCES LR LR 06 23 49.7
comp=Z,396nm,21.6s,baz=123,slow=37
comp=Z,17nm,0.9s
ARCES ARCESS Array B 40.04 338 P **P** **06 06 42.3 -0.1**
ARCES ARCESS Array B 40.04 338 P **P** **06 06 42.3 -0.1**
ARCES pmax pmax
comp=Z,123nm,1.8s
GOPC GO Pecny, Ondr 40.26 306 *e*P **P** **06 06 46.3 +1.8**
GOPC GO Pecny, Ondr 40.26 306 *e*P **P** **06 06 46.3 +1.8**
BSD Bornholm Skovb 40.28 314 *i* P P 06 06 36.3 -8.2
BSD IAmb IAmb 06 06 52.0
comp=Z,58nm,1.1s
QIZ Qiongzhong 40.31 105 P **P** **06 06 44.0 -1.2**
QIZ S **S** **06 12 55.2 +4.1**
QIZ LR LR
comp=Z,520nm,12.8s
QIZ LR LR
comp=Z,500nm,12.7s
QIZ LR LR
comp=Z,830nm,16.7s
SOKA Soboth 40.32 301 *e*P **P** **06 06 46.5 +1.4**
comp=Z,20nm,1.2s,SNR=4.9
PRU Pruhonice 40.42 306 *e*P **P** **06 06 47.5 +1.8**
PRU AMS AMS 06 27 40.0
comp=Z,600nm,15.5s
PRU Pruhonice 40.42 306 *e*P **P** **06 06 47.5 +1.8**
PRU MLR MLR
comp=Z,600nm,15.5s
KTK1 Kautokeino 40.47 337 *e*P **P** **06 06 46.4 +0.4**
KTK1 IAmb IAmb 06 06 47.2
comp=Z,35nm,0.9s
CKRC Cesky Krumlov 40.63 305 *e*P **P** **06 06 50.4 +2.9**
OBKA Obir 40.67 301 *ep*P **P** **06 06 50.9 +3.0**
comp=Z,14nm,1.4s
MOA Molln 40.73 303 *e*P **P** **06 06 49.2 +0.8**
comp=Z,12nm,1.2s,SNR=7.1
BRG Berggiesshubel 40.77 308 *i* P **P** **06 06 50.1 +1.5**
BRG Amp 06 06 53.8
comp=Z,15nm,0.8s
BRG Berggiesshubel 40.77 308 P P 06 07 01.4 +13
BRG Amp 06 07 04.1
comp=Z,9.8nm,0.9s
BRG Berggiesshubel 40.77 308 *i* P **P** **06 06 50.1 +1.5**
BRG 06 07 01.3
BRG 06 08 49.4
BRG pmax pmax
comp=Z,15nm,0.8s
BRG MLR MLR
comp=E,403nm,18.6s
BRG MLR MLR
comp=N,645nm,17.2s
BRG MLR MLR
comp=Z,622nm,22.8s
GERES GERESS Array B 41.03 305 P **P** **06 06 51.8 +0.8**
comp=Z,3.8nm,0.9s,baz=90,slow=8.4,SNR=12
GERES LR LR 06 26 30.8
comp=Z,205nm,18.0s,baz=90,slow=40
comp=Z,3.8nm,0.9s
GERES GERESS Array B 41.03 305 P **P** **06 06 50.2 -0.7**
GERES GERESS Array B 41.03 305 P **P** **06 06 50.2 -0.7**
KHC Kasperske Hory 41.09 305 *e*P **P** **06 06 52.4 +1.0**
KHC Kasperske Hory 41.09 305⇓*e*P **P** **06 06 52.4 +1.0**
KHC pmax pmax
comp=Z,50nm,2.9s
BIOA Bad Ischl, Aus 41.16 303 *e*P **P** **06 06 53.6 +1.6**
comp=Z,13nm,1.1s
RGN Rugen 41.17 313 P **P** **06 06 51.3 -0.6**
MYKA Terra Mystica 41.27 301 *i* P **P** **06 06 54.4 +1.4**
comp=Z,5.3nm,0.7s
CLL Collm 41.35 309 P **P** **06 06 52.4 -1.0**
CLL Collm 41.35 309 *i* P **P** **06 06 54.1 +0.7**
comp=Z,13nm,1.0s
CLL *i* x x 06 06 56.6
comp=Z,19nm,1.0s
CLL *e*PP **PP** **06 08 30.0 +1.0**
CLL *e*PPP PPP 06 08 57.0
CLL *e*PPPP 06 09 04.0
CLL *ex* x 06 09 30.0
CLL *e*S **S** **06 13 10.0 +4.1**
CLL *e*SS **SS** **06 16 09.0 -1.0**
CLL Collm 41.35 309 *i* P **P** **06 06 54.1 +0.7**
CLL *i* 06 06 56.6
CLL *e*S **S** **06 13 10.0 +4.1**
CLL pmax pmax
comp=Z,13nm,1.0s
SABO M.te Sabotino 41.38 300 P **P** **06 06 53.6 -0.2**
SABO IAmb IAmb 06 06 55.8
comp=Z,68nm,1.3s
KBA Koelnbreinsper 41.43 302 *e*P **P** **06 06 55.6 +1.3**
comp=Z,11nm,1.1s
NJ2 Nanjing 41.48 81 *e*P **P** **06 06 56.2 +1.5**
NJ2 pmax pmax
comp=Z,11nm,0.6s
HFS Hagfors 41.51 322 P **P** **06 06 54.9 +0.3**
comp=Z,16nm,0.7s,baz=97,slow=11,SNR=22
HFS LR LR 06 24 56.8
comp=Z,802nm,19.6s,baz=103,slow=37
comp=Z,16nm,0.7s
NKC Novy Kostel 41.75 307 *e*P **P** **06 06 58.1 +1.3**
NKC Novy Kostel 41.75 307 *e*P **P** **06 06 58.1 +1.3**
STAL STALIGIAL 41.96 301 P **P** **06 06 57.8 -0.7**
STAL IAmb IAmb 06 07 03.6
comp=Z,22nm,1.0s
ABTA Abfaltersbach 42.03 302 *e*P **P** **06 06 59.8 +0.6**
comp=Z,9.2nm,1.3s
CIMO Cimolais 42.14 301 IAmb IAmb 06 07 02.7
comp=Z,19nm,1.0s
VAE Valguarnera 42.53 288 LR LR 06 30 25.4
comp=Z,198nm,18.3s,baz=154,slow=44
FAUS Fauske 42.54 333 *e*P **P** **06 07 03.9 +1.1**
WTTA Wattenberg 42.56 303 *e*P **P** **06 07 04.1 +0.5**
comp=Z,16nm,1.2s
MURB Monte Urbino 42.58 297 P **P** **06 07 01.9 -1.7**
GRA1 Grafenberg Arr 42.58 306 P **P** **06 07 01.8 -1.7**
GRA1 IAmb IAmb 06 07 06.8
comp=Z,36nm,1.3s
GRF Grafenberg Arr 42.58 306 P **P** **06 07 01.8 -1.7**
GRF pmax pmax
comp=Z,36nm,1.3s
GRF Grafenberg Arr 42.58 306 *e*P **P** **06 07 05.3 +1.8**
comp=Z,20nm,1.3s,baz=95,slow=7.7
GRF *e*L L 06 25 40.5
comp=Z,268nm,21.5s
GRFO Grafenberg 42.58 306 P **P** **06 07 01.9 -1.6**
GRFO IAmb IAmb 06 07 06.8
comp=Z,34nm,1.3s
GRFO Grafenberg 42.58 306 P **P** **06 07 01.9 -1.6**
GRFO pmax pmax
comp=Z,34nm,1.3s
WATA Walderalm 42.59 303 *i* P **P** **06 07 04.1 +0.3**
comp=Z,8.7nm,1.0s
NC405 NORSAR Array S 42.62 323 P **P** **06 07 02.3 -1.4**
NC405 IAmb IAmb 06 07 06.6
comp=Z,29nm,1.1s
NC602 NORSAR Array S 42.65 323 P **P** **06 07 03.8 -0.1**
NC602 NORSAR Array S 42.65 323 *e*P **P** **06 07 03.8 -0.1**
NORES NORESS Array B 42.65 323 P **P** **06 07 04.0 +0.1**
CTI Castel Tesino 42.72 301 P **P** **06 07 04.0 -0.7**
CTI Castel Tesino 42.72 301 P **P** **06 07 04.1 -0.7**
CTI pmax pmax
comp=Z,15nm,1.1s
NC303 NORSAR Array S 42.80 323 P **P** **06 07 04.2 -1.0**
NC303 IAmb IAmb 06 07 09.5
comp=Z,32nm,1.0s
TEOL Teolo 42.81 300 P **P** **06 07 03.9 -1.5**
NB201 NORSAR Array S 42.81 323 P **P** **06 07 04.8 -0.5**
NB2 NORSAR Subarra 42.85 323 P **P** **06 07 05.3 -0.3**
comp=Z,23nm,1.0s,baz=97,slow=8.6
NB2 NORSAR Subarra 42.85 323 P **P** **06 07 05.3 -0.3**
slow=8.6
NOA NORSAR Array B 42.85 323 P **P** **06 07 05.5 -0.1**
comp=Z,12nm,0.8s,baz=98,slow=8.1,SNR=26
NOA LR LR 06 28 04.5
comp=Z,612nm,18.3s,baz=110,slow=40
comp=Z,12nm,0.8s
SQTA Sankt Quirin 42.86 303 *i* P **P** **06 07 06.8 +0.9**
comp=Z,10nm,1.1s
MOTA Moosalm 42.91 303 *e*P **P** **06 07 06.6 +0.2**
comp=Z,12nm,1.1s,SNR=6.7
NBO00 NORSAR Array S 43.06 323 P **P** **06 07 06.4 -0.8**
NBO00 IAmb IAmb 06 07 09.8
comp=Z,26nm,1.0s
NC204 NORSAR Array S 43.10 323 P **P** **06 07 07.2 -0.4**
NC204 IAmb IAmb 06 07 08.5
comp=Z,49nm,1.1s
RETA Reutte 43.12 303 *e*P **P** **06 07 08.2 +0.2**
comp=Z,4.3nm,0.9s
FETA Feichten 43.21 302 *e*P **P** **06 07 09.2 +0.4**
comp=Z,14nm,1.2s,SNR=8.2
CN2 Changchun 43.29 62 *e*P **P** **06 07 13.9 +4.6**
CN2 S **S** **06 13 40.7 +6.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,2μm,17.2s
ZEA Zeya 43.37 48 *e*P **P** **06 07 12.1 +2.3**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.1s
OSSC Osservatorio P 43.44 297 IAmb IAmb 06 07 16.1
comp=Z,24nm,1.1s
FUORN Ofenpass-Fuorn 43.58 302 P **P** **06 07 11.9 0.0**
HEH HeiHe 43.69 53 *e*P **P** **06 07 13.2 +0.8**
HEH pmax pmax
comp=Z,37nm,1.1s
HEH LR LR
comp=Z,2μm,9.9s
HEH LR LR
comp=Z,1μm,12.1s
HEH LR LR

comp=Z,1µm,11.3s
DAVA Damuels 43.74 303 *e*P **P 06 07 13.2 +0.1**
comp=Z,16nm,1.0s
DAVOX Davos/Dischmat 43.82 302 P **P 06 07 14.3 +0.5**
comp=Z,6.9nm,0.8s,baz=113,slow=13,SNR=11
DAVOX LR LR 06 29 04.3
comp=Z,252nm,18.8s,baz=68,slow=41
comp=Z,6.9nm,0.8s
DOMB Dombas 44.00 324 *e*P **P 06 07 15.9 +1.1**
SKAR Skarslia 44.23 322 *e*P **P 06 07 17.4 +0.7**
GSI Gunungsitoli 44.46 136 P **P 06 07 18.6 -0.3**
BFO Black Forest 44.63 305 P **P 06 07 18.3 -1.7**
BFO IAmb IAmb 06 07 23.5
comp=Z,44nm,2.0s
BFO Black Forest 44.63 305 P **P 06 07 18.3 -1.7**
BFO pmax pmax
comp=Z,44nm,2.0s
YAK Yakutsk 44.89 36 P **P 06 07 22.3 +0.5**
comp=Z,11nm,0.4s,baz=137,slow=0.5,SNR=6.2
YAK LR LR 06 27 35.9
comp=Z,891nm,18.1s,baz=265,slow=38
comp=Z,11nm,0.4s
YAK Yakutsk 44.89 36 P **P 06 07 21.4 -0.4**
YAK Yakutsk 44.89 36*c i*P **P 06 07 21.4 -0.4**
YAK *e**PP **pP 06 07 27.3 -3.7**
YAK *e* 06 09 04.7
YAK *e*PPP PPP 06 09 43.0
YAK *e*S **S 06 13 59.5 +2.0**
YAK *e**SS **sS 06 14 16.9 +4.4**
YAK *e*SS **ScS 06 17 16.4 -0.1**
YAK *e*SSS SSS 06 18 08.9
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,19nm,1.1s
YAK smax smax
comp=E,71nm,3.0s
YAK smax smax
comp=N,68nm,3.2s
YAK MLR MLR
comp=N,455nm,16.0s
YAK MLR MLR
comp=Z,734nm,14.0s
YAK MLR MLR
comp=E,521nm,17.0s
LODK Lodwar 45.05 230 P **P 06 07 23.7 0.0**
BLS5 Blasjo 45.09 320 *e*P **P 06 07 24.7 +1.2**
PGF Pioggiola 45.26 296 *e*P **P 06 07 25.4 +0.2**
PGF pmax pmax
comp=Z,32nm,1.0s
CDF Champ du Feu 45.31 305 *e*P **P 06 07 27.0 +1.5**
CDF pmax pmax
comp=Z,8.0nm,1.0s
ECH Echery 45.42 305 P **P 06 07 23.9 -2.4**
ECH Echery 45.42 305 P **P 06 07 23.9 -2.4**
ECH pmax pmax
comp=Z,9.0nm,1.0s
SENIN Lac Senin/Sane 45.64 302 P **P 06 07 25.5 -2.8**
HINF Hinteralfeld 45.69 304 *e*P **P 06 07 28.4 -0.1**
HINF pmax pmax
comp=Z,8.0nm,0.8s
BTNL Ternell 45.74 308 *d*P **P 06 07 28.7 -0.2**
comp=Z,8.8nm,1.2s
MEM Membach 45.82 308 *d*P **P 06 07 30.8 +1.4**
comp=Z,11nm,1.0s
WLF Walferdange 45.85 307 P **P 06 07 29.0 -0.7**
WLF IAmb IAmb 06 07 36.2
comp=Z,23nm,1.0s
WLF Walferdange 45.85 307 P **P 06 07 29.0 -0.7**
WLF pmax pmax
comp=Z,23nm,1.0s
WLF Walferdange 45.85 307 *d*P **P 06 07 31.5 +1.8**
comp=Z,13nm,1.0s
HAU Haudompre 45.99 304 *e*P **P 06 07 30.9 +0.1**
HAU pmax pmax
comp=Z,15nm,1.1s
MDJ Mudanjiang 46.04 60 P **P 06 07 29.8 -1.4**
MDJ S **S 06 14 12.2 -2.3**
MDJ sS pS 06 14 26.1 +1.0
MDJ pmax pmax
comp=Z,19nm,2.4s
MDJ pmax pmax
comp=Z,410nm,3.6s
MDJ LR LR
comp=Z,830nm,13.7s
MDJ LR LR
comp=Z,2µm,15.9s
MDJ LR LR
comp=Z,3µm,17.3s
LPL La Plagne 46.20 301 *e*P **P 06 07 33.1 +0.4**
LPL pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 46.24 22 P **P 06 07 32.5 +0.2**
comp=Z,19nm,0.8s,baz=91,slow=23,SNR=38
TIXI LR LR 06 28 22.0
comp=Z,439nm,21.9s,baz=267,slow=38
comp=Z,19nm,0.8s
TIXI Tiksi 46.24 22 P **P 06 07 31.8 -0.5**
TIXI IAmb IAmb 06 07 33.7
comp=Z,24nm,0.9s
TIXI Tiksi 46.24 22*c i*P **P 06 07 32.8 +0.5**
TIXI pmax pmax
comp=Z,27nm,0.9s
BCLA Clavier 46.29 308 *d*P **P 06 07 34.4 +1.3**
BNI Bardonecchia 46.33 300 IAmb IAmb 06 07 40.4
comp=Z,32nm,1.4s
BNI Bardonecchia 46.33 300 P **P 06 07 32.4 -1.3**
MBDF Montbardon 46.34 300 *e*P **P 06 07 34.6 +0.8**
MBDF pmax pmax
comp=Z,18nm,0.7s
CABF La Chapelle 46.42 303 *e*P **P 06 07 34.7 +0.4**
CABF pmax pmax
comp=Z,42nm,1.3s
KLR Kul'dur 46.61 54 P **P 06 07 36.6 +0.9**
comp=Z,6.7nm,0.9s,baz=282,slow=9.3,SNR=12
KLR LR LR 06 28 48.0
comp=Z,994nm,18.8s,baz=276,slow=38
comp=Z,6.7nm,0.9s
KLR Kul'dur 46.61 54*c i*P **P 06 07 35.9 +0.2**
KLR pmax pmax
comp=Z,16nm,1.4s
GIVF Givet 46.64 308 *e*P **P 06 07 38.9 +3.1**
GIVF pmax pmax
comp=Z,9.0nm,1.0s
BMRD Maredsous 46.64 308 *d*P **P 06 07 37.3 +1.4**
comp=Z,6.9nm,1.0s
BMRD *d*PcP **PcP 06 09 10.7 +1.4**
SPA0 Spitsbergen Ar 46.68 347 *e*P **P 06 07 37.0 +1.2**
KSAR Wonju Array Be 46.70 70 P **P 06 07 35.4 -1.1**
KSAR Wonju Array Be 46.70 70 P **P 06 07 35.4 -1.1**
KSRS Korea Array 46.73 70 P **P 06 07 37.5 +0.8**
comp=Z,37nm,1.2s,baz=278,slow=6.6,SNR=16
KSRS LR LR 06 29 48.7
comp=Z,1µm,18.6s,baz=285,slow=40
comp=Z,37nm,1.2s
DOU Dourbes 46.78 308 *d*P **P 06 07 39.4 +2.4**
DOU *d*PcP **PcP 06 09 12.9 +3.1**
KEST Kesra 46.95 287 P **P 06 07 40.6 +2.0**
comp=Z,22nm,1.0s,baz=51,slow=2.2,SNR=6.5
KEST LR LR 06 31 42.6
comp=Z,199nm,20.1s,baz=272,slow=42
comp=Z,22nm,1.0s
KEST Kesra 46.95 287 P **P 06 07 36.2 -2.4**
BAIF Baives 47.04 308 *e*P **P 06 07 40.0 +1.1**
BAIF pmax pmax
comp=Z,30nm,1.1s
VIVF Saint-Julien-l 47.77 301 *e*P **P 06 07 46.2 +1.4**
VIVF pmax pmax
comp=Z,31nm,1.0s
LOR Lormes 47.78 304 *e*P **P 06 07 47.4 +2.6**
LOR pmax pmax
comp=Z,21nm,1.4s
USA0B Ussuriysk Arra 47.81 60⇧ *e*P **P 06 07 46.3 +1.3**
USRK Ussuriysk Ar. 47.81 60 P **P 06 07 45.1 +0.1**
comp=Z,2.8nm,0.6s,baz=270,slow=10,SNR=4.3
USRK LR LR 06 30 01.3
comp=Z,2µm,18.5s,baz=279,slow=39
comp=Z,2.8nm,0.6s
KBS Kingsbay 47.81 347 *i* P **P 06 07 44.5 -0.1**
AVF Avril sur Loir 48.22 303 *e*P **P 06 07 48.4 +0.2**
AVF pmax pmax
comp=Z,26nm,1.0s
CLF Chambon-Foret 48.68 305 P **P 06 07 52.8 +1.1**
TCF Toulx Ste Croi 49.11 303 *e*P **P 06 07 55.7 +0.6**
TCF pmax pmax
comp=Z,38nm,1.3s
CAF Calviac 49.55 301 *e*P **P 06 07 59.2 +0.8**
CAF pmax pmax
comp=Z,15nm,1.0s
RJF Les Rejaudoux 49.82 302 *e*P **P 06 08 04.1 +3.6**
RJF pmax pmax
comp=Z,11nm,1.1s
FLN La Foliniere 50.30 307 *e*P **P 06 08 04.1 +0.1**
FLN pmax pmax
comp=Z,16nm,1.0s
LFF La Frestale 50.45 302 *e*P **P 06 08 05.8 +0.6**
LFF pmax pmax
comp=Z,16nm,0.9s
JNU Nakatsue 50.51 75 LR LR 06 32 15.0
comp=Z,856nm,18.5s,baz=294,slow=39
EKA Eskdalemuir Ar 50.59 315 LR LR 06 34 11.2
comp=Z,394nm,18.3s,baz=79,slow=42
EKA Eskdalemuir Ar 50.59 315 P **P 06 08 05.1 -1.0**
MFF Saint Martin d 50.60 304 *e*P **P 06 08 07.3 +0.9**
MFF pmax pmax
comp=Z,25nm,1.1s
GRR Gorron 50.63 306 *e*P **P 06 08 06.4 -0.1**
GRR pmax pmax
comp=Z,24nm,1.1s
MBAR Mbarara 51.05 232 LR LR 06 32 10.0
comp=Z,1µm,18.1s,baz=26,slow=39
JOW Kunigami 51.10 83 LR LR 06 32 15.0
comp=Z,645nm,19.4s,baz=291,slow=39
EPF Esparros 51.27 299 *e*P **P 06 08 13.3 +1.8**
EPF pmax pmax
comp=Z,7.0nm,0.8s
SGMF Saint Gilles 51.76 306 *e*P **P 06 08 15.3 +0.3**
SGMF pmax pmax
comp=Z,26nm,1.2s
ETSF Etsaut 51.94 299 *e*P **P 06 08 17.0 +0.4**
ETSF pmax pmax
comp=Z,10.0nm,0.8s
QUIF Quistinic 52.24 306 *e*P **P 06 08 18.7 +0.1**
QUIF pmax pmax
comp=Z,23nm,1.1s
NOR Nord 53.08 349 *i* P **P 06 08 25.4 +1.0**
NOR IAmb IAmb 06 08 32.1
comp=Z,6.6nm,1.0s
YSS Yuzh-Sakhalins 54.31 54 *e*P **P 06 08 34.9 +1.1**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,1µm,14.0s
DBG Daneborg 54.56 340 *i* P **P 06 08 36.7 +1.4**
DBG IAmb IAmb 06 08 40.5
comp=Z,6.3nm,0.9s
MJB9 Matsu-Tunnel 54.75 68 P **P 06 08 38.0 +0.8**
MAJO Matsushiro 54.75 68 P **P 06 08 36.9 -0.3**
MAJO Matsushiro 54.75 68⇩ *e*P **P 06 08 37.3 +0.1**
MAJO pmax pmax
comp=Z,43nm,1.5s
MJAR Matsushiro Arr 54.75 68 P **P 06 08 37.4 +0.1**
comp=Z,32nm,1.3s,baz=290,slow=8.5,SNR=17
MJAR LR LR 06 33 22.6
comp=Z,480nm,18.7s,baz=297,slow=38
comp=Z,32nm,1.3s
ASAJ Asahikawa 55.13 58 LR LR 06 34 27.5
comp=Z,1µm,20.4s,baz=295,slow=38
SEY Seymchan 55.28 34 LR LR 06 34 51.0
comp=Z,804nm,18.0s,baz=313,slow=39
SEY Seymchan 55.28 34*d i*P **P 06 08 41.6 +1.0**
SEY pmax pmax
comp=Z,16nm,1.3s
MA2 Magadan 55.37 38 LR LR 06 31 56.7
comp=Z,315nm,19.5s,baz=280,slow=36
MA2 Magadan 55.37 38*de*P **P 06 08 43.2 +1.9**
MA2 pmax pmax
comp=Z,39nm,2.5s
ESBB Sonseca Array 55.45 297 IAmb IAmb 06 08 46.1
comp=Z,11nm,1.0s
ESDC Sonseca Array 55.45 297 P **P 06 08 42.9 +0.7**
comp=Z,9.6nm,1.0s,baz=61,slow=6.6,SNR=28
ESDC LR LR 06 36 18.1
comp=Z,116nm,18.3s,baz=66,slow=40
comp=Z,9.6nm,1.0s
PAB San Pablo 55.77 297 P **P 06 08 44.6 -0.1**
PAB IAmb IAmb 06 08 49.6
comp=Z,10nm,1.0s
PAB San Pablo 55.77 297 P **P 06 08 44.6 -0.1**
PAB pmax pmax
comp=Z,10.0nm,1.0s
PBRG Braganca 56.62 300 *e*P **P 06 08 54.2 +3.6**
LEM Lembang 56.86 131 LR LR 06 37 52.1
comp=Z,141nm,18.8s,baz=282,slow=41
MVO Moncorvo 57.06 299 *e*P **P 06 08 55.2 +1.4**
comp=Z,22nm,1.1s
BORG Borgarnes 57.25 329 LR LR 06 34 41.4
comp=Z,277nm,18.9s,baz=88,slow=37
POLO Lamas de Olo 57.51 300 *e*P **P 06 08 59.8 +2.8**
PCAB Cabril 57.55 300 *e*P **P 06 08 59.4 +2.3**
comp=Z,52nm,1.3s
PGAV Gavieira, Arco 57.62 301 *e*P **P 06 08 58.5 +0.8**
comp=Z,28nm,1.1s
MTE Manteigas 57.72 299 *e*P **P 06 09 00.4 +2.0**
comp=Z,42nm,1.4s
PVIS Viseu 57.84 299 *e*P **P 06 09 00.9 +1.7**
comp=Z,29nm,1.3s
PCBR Castelo Branco 57.89 298 *e*P **P 06 09 01.8 +2.3**
comp=Z,21nm,1.9s
PMRV Marv??o 57.99 298 *e*P **P 06 09 01.8 +1.5**
comp=Z,28nm,1.3s
PBAR Barrancos 58.24 296 *e*P **P 06 09 03.4 +1.4**
comp=Z,23nm,1.2s
PESTR Estremoz 58.36 297 *e*P **P 06 09 04.2 +1.4**
comp=Z,24nm,1.2s
PESTR Estremoz 58.36 297 P **P 06 09 00.7 -2.2**
PESTR IAmb IAmb 06 09 08.5
comp=Z,12nm,1.1s
COI Coimbra 58.40 299 *e*P **P 06 09 04.9 +1.8**
comp=Z,53nm,0.9s
COI Coimbra 58.40 299 P **P 06 09 02.0 -1.1**
COI Coimbra 58.40 299 P **P 06 09 02.0 -1.1**
COI pmax pmax
comp=Z,40nm,0.9s
PCAS Casmilo, Conde 58.52 299 *e*P **P 06 09 05.7 +1.7**
OPO Ambohidratompo 58.65 204 LR LR 06 32 33.1
comp=Z,139nm,19.8s,baz=190,slow=34
MDT Midelt 58.71 290 LR LR 06 36 22.6
comp=Z,84nm,21.8s,baz=86,slow=38
EVO Evora 58.80 297 *e*P **P 06 09 07.1 +1.2**
comp=Z,29nm,1.3s
PBEJ Beja 58.90 296 *e*P **P 06 09 06.1 -0.5**
comp=Z,22nm,1.3s
PVAQ Vaqueiros 59.05 296 *e*P **P 06 09 08.7 +1.0**
comp=Z,40nm,1.6s
PVAQ Vaqueiros 59.05 296 P **P 06 09 06.6 -1.1**
PVAQ IAmb IAmb 06 09 12.7
comp=Z,10nm,1.1s
PCVE Castro Verde 59.19 296 *e*P **P 06 09 12.4 +3.8**
comp=Z,28nm,1.5s
BILL Bilibino 59.20 26 P **P 06 09 07.9 -0.3**
BILL IAmb IAmb 06 09 10.5
comp=Z,14nm,1.2s
BILL Bilibino 59.20 26⇧ *e*P **P 06 09 08.6 +0.4**
BILL *e**PP **pP 06 09 18.8 +1.2**
BILL 06 10 00.0
BILL 06 11 20.0
BILL *e*S **S 06 17 13.4 -0.2**
BILL pmax pmax
comp=Z,10.0nm,1.7s
BILL MLR MLR
comp=Z,356nm,15.0s
PNCL Nicolau / Gran 59.34 297 *e*P **P 06 09 11.2 +1.6**
comp=Z,27nm,1.4s
DAV Davao City (W) 59.69 105 LR LR 06 38 55.4
comp=Z,172nm,18.6s,baz=325,slow=40
SUMG Summit 60.05 341 *i* P **P 06 09 16.1 +1.6**
SUMG IAmb IAmb 06 09 18.2
comp=Z,19nm,1.1s
NEEM North Greenlan 60.24 347 *i* P **P 06 09 16.8 +1.2**
NEEM IAmb IAmb 06 09 21.9
comp=Z,16nm,0.9s
PETK Petropavlovsk- 61.15 43 LR LR 06 37 49.6
comp=Z,456nm,19.0s,baz=291,slow=38
JCJ Chichijima 61.94 76 LR LR 06 40 12.1
comp=Z,170nm,18.4s,baz=124,slow=40
EUNU Eureka 62.49 355 P **P 06 09 29.7 -0.8**
KULLO Kullorsuaq 63.23 346 *i* P **P 06 09 35.9 +0.5**
KULLO IAmb IAmb 06 09 46.5
comp=Z,14nm,0.9s
KAPI Kappang 63.42 120 LR LR 06 40 36.9
comp=Z,193nm,18.9s,baz=306,slow=39
LSZ Lusaka 64.23 224 LR LR 06 41 00.3
comp=Z,478nm,19.0s,baz=22,slow=39
LSZ Lusaka 64.23 224 P **P 06 09 42.3 -0.6**
LSZ IAmb IAmb 06 09 44.4
comp=Z,12nm,1.3s
LSZ Lusaka 64.23 224 *e*P **P 06 09 42.9 0.0**
LSZ IAmb IAmb 06 09 44.0
comp=Z,128nm,1.4s
LSZ Lusaka 64.23 224 P **P 06 09 42.3 -0.6**
LSZ pmax pmax
comp=Z,12nm,1.3s
UPNV Upernavik 64.24 344 *i* P **P 06 09 46.3 +4.2**
ILULI Ilulissat 65.37 340 *i* P **P 06 09 49.7 +0.3**
DY2G Dye2 65.64 336 *i* P **P 06 09 51.4 -0.1**
SFJD Kangerlussuaq 66.67 338 LR LR 06 40 48.7
comp=Z,155nm,19.1s,baz=42,slow=38
SFJD Kangerlussuaq 66.67 338 *i* P **P 06 09 57.3 -0.5**
SIJI Sorong 69.08 108 LR LR 06 42 20.6
comp=Z,113nm,21.2s,baz=244,slow=38
MUSN Musina, Limpop 69.16 218 *e*P **P 06 10 12.5 -1.6**
MUSN IAmb IAmb 06 10 14.9
comp=Z,60nm,2.3s
MOPA Mopani 69.45 216 *e*P **P 06 10 14.2 -1.6**
MOPA IAmb IAmb 06 10 17.8
comp=Z,17nm,1.3s
SHEM Shemya Is, Ala 69.99 39 LR LR 06 42 25.0
comp=Z,264nm,20.0s,baz=296,slow=37
C24K Franklin Bluff 70.33 13 P **P 06 10 21.1 +0.5**
baz=329
ANM Nome 70.49 22 P **P 06 10 22.3 +0.5**
baz=317
D23K Nanushuk River 70.60 14 P **P 06 10 22.6 +0.2**
baz=328
D24K Happy Valley 70.79 13 P **P 06 10 24.1 +0.6**
baz=329
C26K Camden Bay 70.80 12 P **P 06 10 24.8 +1.3**
baz=332
A36M Sachs Harbour 71.03 4 P **P 06 10 24.9 0.0**
A36M Sachs Harbour 71.03 4 P **P 06 10 25.6 +0.7**
baz=349,SNR=15
D25K Kavik River 71.08 12 P **P 06 10 26.2 +0.8**
baz=331
GUMO Guam 71.21 87 LR LR 06 43 16.0
comp=Z,104nm,19.4s,baz=254,slow=37
C27K Jago River 71.25 11 P **P 06 10 27.4 +1.1**
baz=333
F21K Alatna River 71.49 16 P **P 06 10 28.3 +0.5**
baz=326
LEPH Lephalale, Lim 71.50 219 *e*P **P 06 10 28.5 0.0**
E23K Chandalar 71.58 14 P **P 06 10 29.2 +0.8**
baz=329
E24K Your Creek 71.79 14 P **P 06 10 30.6 +0.9**
baz=330
G21K Allakaket 72.07 16 P **P 06 10 32.4 +1.1**
baz=326
G22K Bettles 72.17 15 P **P 06 10 32.7 +0.9**
baz=327
COLD Coldfoot 72.18 15 P **P 06 10 31.4 -0.5**
COLD IAmb IAmb 06 11 07.3
comp=Z,13nm,0.9s
COLD Coldfoot 72.18 15 P **P 06 10 33.0 +1.1**
baz=328
E25K Arctic Village 72.28 13 P **P 06 10 33.7 +1.2**
baz=332
F24K Squaw Lake 72.39 14 P **P 06 10 34.5 +1.3**
baz=330
IMAR Indian Mountai 72.45 17 P **P 06 10 33.1 -0.5**
DBIC Dimbokro 72.65 265 P **P 06 10 34.1 -1.4**
DBIC IAmb IAmb 06 10 40.0
comp=Z,16nm,1.1s
DBIC Dimbokro 72.65 265 *e*P **P 06 10 36.0 +0.4**
DBIC IAmb IAmb 06 10 41.2
comp=Z,13nm,1.0s
DBIC Dimbokro 72.65 265 P **P 06 10 34.1 -1.4**
DBIC pmax pmax
comp=Z,16nm,1.1s
G23K Bananza Creek 72.66 15 P **P 06 10 36.2 +1.4**
baz=329
GCSA Galena City Sc 72.70 19 P **P 06 10 36.2 +1.2**
baz=324
F25K Christian Rive 72.74 13 P **P 06 10 36.6 +1.2**
baz=332
E27K Coleen River 72.89 11 P **P 06 10 38.0 +1.8**
baz=335,SNR=6.1
F26K Sheenjek River 72.91 12 P **P 06 10 37.6 +1.3**
baz=333
H21K Melozitna Rive 72.94 17 IAmb IAmb 06 10 40.4
comp=Z,30nm,1.8s
H21K Melozitna Rive 72.94 17 P **P 06 10 37.6 +1.1**
baz=327
H22K Ishtalitna Cre 73.06 16 P **P 06 10 38.1 +0.9**
baz=328
BMAR Burnt Mountain 73.07 13 P **P 06 10 35.2 -2.0**
G24K Hadweenzic Riv 73.18 14 P **P 06 10 38.7 +0.9**
baz=331
HRAO HartRAO 73.25 218 *e*P **P 06 10 38.6 -0.3**
HRAO IAmb IAmb 06 11 17.1
comp=Z,271nm,3.4s
G25K Bearman Lake 73.39 14 P **P 06 10 40.0 +0.9**
baz=332
H23K Yukon River 73.52 15 P **P 06 10 41.1 +1.2**
baz=329
TSUM Tsumeb 73.53 230 LR LR 06 45 32.9
comp=Z,390nm,18.1s,baz=8.5,slow=38
TSUM Tsumeb 73.53 230 *e*P **P 06 10 41.0 +0.3**
I21K Tanana 73.53 17 P **P 06 10 40.7 +0.7**
I21K IAmb IAmb 06 11 31.3
comp=Z,14nm,1.1s
I21K Tanana 73.53 17 P **P 06 10 41.0 +1.0**
baz=327
LBTB Lobatse 73.58 220 LR LR 06 43 51.4
comp=Z,190nm,18.9s,baz=26,slow=36
LBTB Lobatse 73.58 220 P **P 06 10 40.9 +0.1**
LBTB IAmb IAmb 06 10 45.0
comp=Z,26nm,1.4s
LBTB Lobatse 73.58 220 *e*P **P 06 10 40.0 -0.8**
LBTB IAmb IAmb 06 10 52.4
comp=Z,169nm,2.5s
LBTB Lobatse 73.58 220 P **P 06 10 40.9 +0.1**
G26K Porcupine Rive 73.64 13 P **P 06 10 41.2 +0.7**
baz=334
C36M Paulatuk 73.71 5 IAmb IAmb 06 10 42.4
comp=Z,19nm,1.2s
C36M Paulatuk 73.71 5 P **P 06 10 41.5 +0.5**
baz=350,SNR=9.4
H24K Noodor Dome 73.85 15 IAmb IAmb 06 11 29.8
comp=Z,14nm,1.4s
H24K Noodor Dome 73.85 15 P **P 06 10 43.2 +1.3**
baz=330
J20K Nowinta River 73.86 18 IAmb IAmb 06 11 38.5
comp=Z,11nm,1.1s
J20K Nowinta River 73.86 18 P **P 06 10 42.9 +1.0**
baz=326
INK Inuvik 73.88 8 LR LR 06 47 19.7
comp=Z,217nm,19.0s,baz=322,slow=39
INK Inuvik 73.88 8 P **P 06 10 42.1 +0.2**
INK Inuvik 73.88 8 P **P 06 10 43.2 +1.3**
baz=342,SNR=7.0
INK Inuvik 73.88 8 P **P 06 10 42.1 +0.2**
INK pmax pmax
comp=Z,8.0nm,0.9s
MLY Manley 73.94 16 P **P 06 10 43.2 +0.8**
baz=328
FRB Frobisher Bay 74.09 342 LR LR 06 46 41.6
comp=Z,218nm,19.1s,baz=14,slow=38
G27K Doyon Strip 74.13 12 P **P 06 10 44.3 +0.8**
baz=335
I23K Minto, Yukon-K 74.14 16 IAmb IAmb 06 10 45.9
comp=Z,16nm,1.2s
I23K Minto, Yukon-K 74.14 16 P **P 06 10 44.2 +0.7**
baz=329,SNR=8.5
TTA Tatalina 74.40 19 P **P 06 10 45.8 +0.6**
TTA IAmb IAmb 06 11 07.6
comp=Z,23nm,1.6s
TTA Tatalina 74.40 19 P **P 06 10 46.2 +1.1**
baz=324
TTA Tatalina 74.40 19 P **P 06 10 45.8 +0.6**
TTA pmax pmax
comp=Z,23nm,1.6s
MDM Murphy Dome 74.55 15 IAmb IAmb 06 11 38.0
comp=Z,18nm,1.3s
CHUM Lake Minchumin 74.55 17 P **P 06 10 47.2 +1.3**
baz=327
K20K Telida 74.56 18 P **P 06 10 45.4 -0.6**
K20K IAmb IAmb 06 11 51.8

comp=Z,11nm,1.0s
K20K Telida 74.56 18 P P 06 10 47.2 +1.2
baz=326
POKR Poker Plat Res 74.58 15 P P 06 10 45.3 -0.8
POKR IAmb IAmb 06 10 50.6
comp=Z,25nm,1.2s
POKR Poker Plat Res 74.58 15 P P 06 10 47.6 +1.6
baz=331,SNR=6.2
PRP Porcupine Dome 74.60 14 P P 06 10 46.7 +0.3
PRP Porcupine Dome 74.60 14 P P 06 10 47.0 +0.6
baz=332
BPAW Bear Paw Mtn. 74.68 17 IAmb IAmb 06 11 27.9
comp=Z,13nm,1.2s
BPAW Bear Paw Mtn. 74.68 17 P P 06 10 47.1 +0.4
baz=328
F31M Tsiigehtchic 74.68 9 P P 06 10 47.3 +0.8
baz=342,SNR=9.0
H27K Steamboat Moun 74.68 12 P P 06 10 48.0 +1.2
baz=336
NEA2 Nenana 74.69 16 P P 06 10 46.3 -0.4
NEA2 IAmb IAmb 06 11 16.9
comp=Z,13nm,1.0s
NEA2 Nenana 74.69 16 P P 06 10 47.1 +0.4
baz=330,SNR=6.7
TCOL CIGO, UAF Yank 74.70 15 P P 06 10 47.5 +0.7
TCOL IAmb IAmb 06 10 48.8
comp=Z,21nm,1.1s
TCOL CIGO, UAF Yank 74.70 15 P P 06 10 47.4 +0.7
baz=331
COLA College 74.70 15 P P 06 10 46.4 -0.4
COLA IAmb IAmb 06 10 48.8
comp=Z,22nm,1.1s
COLA College 74.70 15 P P 06 10 47.4 +0.7
baz=331
COLA College 74.70 15 *i* P P 06 10 47.3 +0.6
COLA pmax pmax
comp=Z,16nm,1.1s
G30M tAoh Zraii Nji 74.79 10 P P 06 10 48.1 +0.8
baz=340
CCB Clear Creek Bu 74.91 15 P P 06 10 48.0 +0.1
CCB IAmb IAmb 06 10 51.6
comp=Z,36nm,1.9s
IL31 74.99 15 P P 06 10 47.3 -1.1
ILAR Eielson Array 74.99 15 P P 06 10 48.9 +0.4
comp=Z,5.1nm,1.1s,baz=319,slow=4.1,SNR=25
ILAR LR LR 06 48 03.3
comp=Z,285nm,18.7s,baz=310,slow=39
comp=Z,5.1nm,1.1s
ILAR Eielson Array 74.99 15 P P 06 10 47.9 -0.6
CAST Castle Rocks 75.00 18 P P 06 10 49.3 +0.8
baz=328,SNR=14
KTH Kantishna Hill 75.16 17 IAmb IAmb 06 10 55.3
comp=Z,25nm,1.2s
SNKL Senekal, Frees 75.20 216 *e*P P 06 10 49.9 -0.4
SNKL IAmb IAmb 06 10 50.5
comp=Z,48nm,1.7s
I27K Kandik River 75.24 12 P P 06 10 51.1 +1.1
baz=336
HDA Harding Lake 75.30 15 P P 06 10 50.7 +0.4
baz=332
EPYK Eagle Plains 75.30 10 P P 06 10 51.0 +0.8
baz=340
L19K White Mountain 75.32 19 P P 06 10 50.6 +0.2
L19K IAmb IAmb 06 10 54.0
comp=Z,18nm,1.4s
L19K White Mountain 75.32 19 P P 06 10 51.3 +0.9
baz=326
L20K Farewell, AK 75.33 19 P P 06 10 51.4 +0.9
baz=326
TRF Thorofare Moun 75.39 17 P P 06 10 51.1 +0.1
baz=329
PPLA Purkeypile 75.41 18 P P 06 10 51.5 +0.4
baz=328
J25K Salcha River, 75.44 14 P P 06 10 51.1 -0.1
MCK McKinley 75.46 16 P P 06 10 50.7 -0.5
MCK IAmb IAmb 06 11 51.8
comp=Z,28nm,1.8s
MCK McKinley 75.46 16 P P 06 10 51.7 +0.5
baz=330
MCK McKinley 75.46 16 P P 06 10 50.7 -0.5
MCK pmax pmax
comp=Z,28nm,1.8s
N16K Nishlik Lake 75.60 22 P P 06 10 53.1 +1.0
baz=323
J26L Joseph Creek 75.89 14 IAmb IAmb 06 11 18.8
comp=Z,9.4nm,0.7s
J26L Joseph Creek 75.89 14 P P 06 10 54.4 +0.6
baz=334
I29M Ogilvie Camp, 76.01 11 P P 06 10 52.6 -1.7
I29M IAmb IAmb 06 10 56.6
comp=Z,15nm,1.1s
I29M Ogilvie Camp, 76.01 11 P P 06 10 55.4 +1.0
baz=338,SNR=7.1
M20K Styx River 76.03 19 P P 06 10 55.2 +0.7
baz=327
EGAK Eagle 76.08 13 P P 06 10 55.5 +0.9
baz=336
K24K Donnelly Dome 76.08 15 P P 06 10 55.3 +0.5
baz=332,SNR=8.0
SCRK Sand Creek 76.28 14 P P 06 10 57.0 +0.9
SCRK IAmb IAmb 06 11 28.2
comp=Z,12nm,1.0s
SCRK Sand Creek 76.28 14 P P 06 10 56.5 +0.5
baz=334,SNR=9.9
CUT Chulitna 76.30 17 P P 06 10 55.9 -0.1
CUT Chulitna 76.30 17 P P 06 10 56.1 +0.1
baz=329
RIDG Independent Ri 76.32 15 P P 06 10 56.4 +0.2
RIDG IAmb IAmb 06 11 31.5
comp=Z,12nm,1.0s
RIDG Independent Ri 76.32 15 P P 06 10 55.9 -0.2
baz=333
WAT1 Susitna Watana 76.33 17 P P 06 10 55.9 -0.3
baz=330
SKT Skwentna 76.35 18 P P 06 10 56.5 +0.1
SKT IAmb IAmb 06 10 57.5
comp=Z,21nm,1.1s
SKT Skwentna 76.35 18 P P 06 10 55.9 -0.4
baz=328,SNR=10
DHY Denali Highway 76.38 16 P P 06 10 56.2 -0.5
DHY IAmb IAmb 06 11 00.0
comp=Z,14nm,1.2s
DHY Denali Highway 76.38 16 P P 06 10 56.6 0.0
baz=331
O16K Kokwok River B 76.51 22 P P 06 10 57.4 +0.2
baz=323,SNR=7.2
N19K Bonanza Creek 76.56 20 P P 06 10 56.3 -1.3
N19K Bonanza Creek 76.56 20 P P 06 10 57.8 +0.2
baz=326
K27K Chicken 76.60 13 P P 06 10 58.6 +1.0
K27K IAmb IAmb 06 11 42.2
comp=Z,12nm,1.1s
K27K Chicken 76.60 13 P P 06 10 58.3 +0.6
baz=335
O17K Koliganek Bris 76.66 22 P P 06 10 58.8 +0.8
baz=324
BOSA Boshof 76.70 218 P P 06 10 58.8 0.0
comp=Z,7.0nm,0.9s,baz=43,slow=5.0,SNR=7.5
BOSA LR LR 06 46 17.3
comp=Z,114nm,19.9s,baz=20,slow=37
comp=Z,7.0nm,0.9s
BOSA Boshof 76.70 218 P P 06 10 58.2 -0.6
BOSA IAmb IAmb 06 11 12.5
comp=Z,8.6nm,0.8s
BOSA Boshof 76.70 218 *e*P P 06 10 58.1 -0.7
BOSA IAmb IAmb 06 11 06.2
comp=Z,177nm,2.9s
WAT6 Susitna Watana 76.73 16 P P 06 10 59.3 +0.7
baz=331
SPCR Spurr Chakacha 76.84 19 P P 06 11 00.3 +1.2
baz=328
J29M Klondike Camp 76.87 12 IAmb IAmb 06 11 38.9
comp=Z,17nm,1.0s
J29M Klondike Camp 76.87 12 P P 06 11 00.5 +1.2
baz=338
PAX Paxson 76.88 15 P P 06 10 60.0 +0.6
PAX IAmb IAmb 06 11 02.2
comp=Z,19nm,1.4s
PAX Paxson 76.88 15 P P 06 11 00.3 +0.9
baz=333,SNR=5.0
PAX Paxson 76.88 15 P P 06 11 00.0 +0.6
PAX pmax pmax
comp=Z,19nm,1.4s
M22K Willow 76.89 18 P P 06 10 59.7 +0.4
baz=329
SUA Susitna One 76.99 18 IAmb IAmb 06 11 41.7
comp=Z,10nm,0.9s
SUA Susitna One 76.99 18 P P 06 11 00.2 +0.2
baz=329
P16K Nushagak River 76.99 23 P P 06 11 00.7 +0.8
baz=324,SNR=5.4
DAWY Dawson 77.04 12 P P 06 11 00.7 +0.5
DAWY Dawson 77.04 12 P P 06 11 01.4 +1.2
baz=338,SNR=8.5
O19K Port Alsworth 77.12 20 P P 06 11 01.8 +1.2
baz=326
L26K Log Cabin Wild 77.27 14 P P 06 11 01.2 -0.3
L26K IAmb IAmb 06 11 05.9
comp=Z,33nm,1.6s
L26K Log Cabin Wild 77.27 14 P P 06 11 02.5 +1.0
baz=334
MENT Mentasta 77.27 14 P P 06 10 59.9 -1.6
PMR Palmer 77.27 17 P P 06 11 01.9 +0.5
PMR IAmb IAmb 06 11 09.3
comp=Z,30nm,1.6s
PMR Palmer 77.27 17 P P 06 11 02.2 +0.7
baz=330
PMR Palmer 77.27 17 P P 06 11 01.9 +0.5
PMR pmax pmax
comp=Z,30nm,1.6s
SML Sawmill 77.28 17 P P 06 11 01.1 -0.5
SML IAmb IAmb 06 11 22.7
comp=Z,19nm,0.9s
SML Sawmill 77.28 17 P P 06 11 02.4 +0.8
baz=331,SNR=5.5
SML Sawmill 77.28 17 P P 06 11 01.6 0.0
SML pmax pmax
comp=Z,19nm,0.9s
BBTS Babate 77.38 279 LR LR 06 51 59.0
comp=Z,174nm,18.3s,baz=64,slow=41
M23K Glacier View 77.43 17 P P 06 11 03.1 +0.7
baz=331
HARP HAARP 77.46 15 P P 06 11 04.0 +1.4
baz=333,SNR=7.1
CAPN Captain Cook N 77.48 19 P P 06 11 03.5 +0.8
baz=329
SCM Sheep Creek Mo 77.48 16 P P 06 11 02.8 0.0
baz=332
M24K Tolsona, Glenn 77.50 16 P P 06 11 03.6 +0.8
baz=332
P18K Big Mountain, 77.52 21 P P 06 11 03.1 +0.1
P18K IAmb IAmb 06 11 05.0
comp=Z,13nm,1.1s
P18K Big Mountain, 77.52 21 P P 06 11 03.6 +0.7
baz=326
L27K Beaver Creek, 77.53 14 P P 06 11 03.4 +0.4
BCAR Beaver Creek A 77.53 14 P P 06 11 03.3 +0.3
K29M Barlow Dome 77.55 11 P P 06 11 04.1 +0.9
baz=339,SNR=11
RC01 Rabbit Creek A 77.56 18 P P 06 11 03.0 -0.1
RC01 IAmb IAmb 06 11 38.7
comp=Z,20nm,1.3s
RC01 Rabbit Creek A 77.56 18 P P 06 11 03.9 +0.8
baz=330
KNK Knik Glacier 77.59 17 P P 06 11 03.8 +0.5
baz=331
Q16K King Salmon 77.69 22 P P 06 11 04.7 +0.9
baz=325,SNR=5.6
M26K Nabesna, AK 77.90 14 IAmb IAmb 06 11 13.0
comp=Z,30nm,1.8s
M26K Nabesna, AK 77.90 14 P P 06 11 05.7 +0.7
baz=335
UNV Unalaska Valle 78.00 30 P P 06 11 06.7 +1.1
baz=318
MAYO Mayo, Yukon 78.04 11 P P 06 11 07.0 +1.2
baz=340
KLU Klutina 78.10 16 P P 06 11 07.6 +1.3
baz=333
PWL Port Wells 78.10 17 P P 06 11 06.8 +0.6
baz=331
L29M L29M 78.14 12 P P 06 11 07.3 +1.0
baz=339
M27K Edge Creek, AK 78.16 14 P P 06 11 05.9 -0.7
M27K IAmb IAmb 06 11 09.4
comp=Z,19nm,1.1s
M27K Edge Creek, AK 78.16 14 P P 06 11 07.7 +1.1
baz=336
S12K Black Hills 78.27 26 P P 06 11 08.8 +1.7
baz=321
N25K Chitina, Valde 78.29 15 P P 06 11 08.3 +1.1
baz=334
BVCY Beaver Creek 78.30 13 P P 06 11 08.5 +1.2
baz=336
BRSE Bradley Lake S 78.47 19 P P 06 11 07.8 -0.4
baz=329
SEW Seward 78.49 18 P P 06 11 08.2 0.0
baz=330
UPI Upington 78.55 221 *e*P P 06 11 09.9 +0.8
UPI IAmb IAmb 06 11 35.9
comp=Z,30nm,1.4s
R17K Ugashik Creek 78.62 23 P P 06 11 09.8 +0.7
baz=325
M29M Somme Creek 78.70 12 P P 06 11 10.1 +0.6
baz=338
MCARA McCarthy VSAT 78.82 15 P P 06 11 10.9 +0.8
baz=335
M30M Minto, Yukon 78.86 12 IAmb IAmb 06 13 41.2
comp=Z,45nm,1.9s
M30M Minto, Yukon 78.86 12 P P 06 11 11.6 +1.3
baz=340
BMRM Bremner River 78.86 16 P P 06 11 11.4 +1.0
baz=334
YUK3 Moose Creek 78.96 14 P P 06 11 12.2 +1.0
baz=327
KEIM Keimoes 78.98 221 *e*P P 06 11 29.3 +18
EYAK Cordova Ski Ar 78.98 16 P P 06 11 12.2 +1.2
baz=333
P23K Montague Islan 79.08 17 P P 06 11 12.1 +0.6
baz=332
YUK8 Steele Glacier 79.55 13 P P 06 11 13.6 -0.8
baz=338
M31M Drury Creek, Y 79.58 11 IAmb IAmb 06 11 54.9
comp=Z,13nm,1.0s
M31M Drury Creek, Y 79.58 11 P P 06 11 14.1 -0.2
baz=342
KDAK Kodiak Island 79.63 21 LR LR 06 49 36.1
comp=Z,316nm,18.2s,baz=323,slow=38
YUK4 Talbot Arm 79.70 13 P P 06 11 14.1 -1.1
baz=338
FARO Faro, Yukon 79.71 10 P P 06 11 14.7 -0.3
baz=342
WRGLY Wrigley 79.81 5 P P 06 11 14.9 -0.5
baz=350
N30M Aishikik Lake 79.86 12 P P 06 11 15.3 -0.5
baz=340
OHAK Old Harbor 79.90 22 P P 06 11 16.1 +0.1
OHAK Old Harbor 79.90 22 P P 06 11 16.1 +0.1
baz=327
O28M Mount Upton 79.94 14 P P 06 11 16.1 -0.5
baz=337
N31M Braeburn, Yuko 80.05 12 P P 06 11 16.2 -0.6
baz=341
YUK6 Outpost Mounta 80.12 13 P P 06 11 17.2 -0.3
baz=339
SII Sitkinak Islan 80.19 22 P P 06 11 17.9 +0.3
baz=327
CHIR Chirikof Islan 80.36 23 P P 06 11 17.9 -0.6
baz=326
HYT Haines Junctio 80.38 13 IAmb IAmb 06 11 23.9
comp=Z,25nm,1.5s
HYT Haines Junctio 80.38 13 P P 06 11 18.7 0.0
baz=339
O30N Mendenhall 80.67 12 P P 06 11 20.1 -0.1
baz=340
SCHQ Schefferville 80.94 336 P P 06 11 22.2 +0.5
comp=Z,4.7nm,0.8s,baz=25,slow=3.2,SNR=8.0
SCHQ LR LR 06 46 36.9
comp=Z,248nm,20.6s,baz=48,slow=35
comp=Z,4.7nm,0.8s
YKA Yellowknife Ar 80.97 1 P P 06 11 21.9 +0.3
comp=Z,8.1nm,0.7s,baz=350,slow=5.4,SNR=138
comp=Z,8.1nm,0.7s
WHY Whitehorse 80.98 11 P P 06 11 21.8 -0.2
baz=341
PNL Peninsula 81.12 14 P P 06 11 22.9 +0.3
baz=338
P30M Million Dollar 81.14 13 P P 06 11 23.1 +0.4
baz=340
GRAN Grantham 81.24 218 *e*P P 06 11 35.9 +12
GRAN IAmb IAmb 06 11 39.2
comp=Z,11nm,1.1s
P33M Teslin, Yukon 81.72 11 P P 06 11 25.6 -0.2
P33M Teslin, Yukon 81.72 11 P P 06 11 26.0 +0.2
baz=343
PLBC Pleasant Camp 81.87 12 P P 06 11 26.4 -0.1
baz=340
SUR Sutherland 81.99 219 LR LR 06 52 08.4
comp=Z,232nm,18.8s,baz=321,slow=39
SKAG Skagway 82.04 12 P P 06 11 26.1 -1.2
SKAG Skagway 82.04 12 P P 06 11 26.8 -0.5
baz=341
P32M Atlin 82.18 11 P P 06 11 27.9 -0.3
baz=342
R33M Jennings River 82.77 10 P P 06 11 30.8 -0.6
baz=345
FCC Fort Churchill 83.63 351 P P 06 11 35.7 +0.1
FCC IAmb IAmb 06 12 04.5
comp=Z,26nm,1.4s
FCC Fort Churchill 83.63 351 P P 06 11 35.7 +0.1
FCC pmax pmax
comp=Z,26nm,1.5s
DLBC Dease Lake 83.82 10 LR LR 06 54 07.5
comp=Z,167nm,18.2s,baz=306,slow=39
DLBC Dease Lake 83.82 10 P P 06 11 35.8 -0.9
baz=345
WB0 Warramunga Arr 83.87 120 P P 06 11 35.5 -1.9
WB0 IAmb IAmb 06 11 38.2
comp=Z,17nm,1.3s
WRA Warramunga Arr 83.95 120 P P 06 11 35.7 -2.1
comp=Z,2.0nm,0.6s,baz=324,slow=4.8,SNR=27
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 83.95 120 P P 06 11 36.2 -1.6
WRA Warramunga Arr 83.95 120 P P 06 11 36.2 -1.6
WRAB Tennant Creek 83.95 120 P P 06 11 36.3 -1.6
WRAB Tennant Creek 83.95 120 *e*P P 06 11 35.7 -2.1
WRAB pmax pmax
comp=Z,19nm,1.4s
WB2 Warramunga Arr 83.96 120 P P 06 11 36.4 -1.5
WR0 Warramunga Arr 84.10 120 P P 06 11 37.0 -1.6
WR0 IAmb IAmb 06 11 40.1
comp=Z,20nm,1.4s
S34M Telegraph Cree 84.18 10 P P 06 11 37.3 -1.2
baz=344
HILA High Level 84.84 3 P P 06 11 41.6 -0.2
AS31 Alice Springs 86.17 123 P P 06 11 47.6 -1.4
ASAR Alice Springs 86.17 123 P P 06 11 47.0 -2.0
comp=Z,1.7nm,0.5s,baz=306,slow=3.6,SNR=18
comp=Z,1.7nm,0.5s
ASAR Alice Springs 86.17 123 P P 06 11 47.2 -1.7
ASAR Alice Springs 86.17 123 P P 06 11 47.3 -1.7
FFC Flin Flon 88.42 354 P P 06 11 59.3 -0.1
FFC Flin Flon 88.42 354 P P 06 11 59.3 -0.1
FFC pmax pmax
comp=Z,23nm,1.5s
BBB Bella Bella 90.17 10 LR LR 06 56 16.8
comp=Z,19nm,20.6s,baz=344,slow=38
ULM Lac du Bonnet 92.17 350 P P 06 12 18.1 +1.1
comp=Z,6.8nm,1.1s,baz=32,slow=8.1,SNR=3.7
ULM LR LR 07 00 21.7
comp=Z,120nm,18.1s,baz=16,slow=40
comp=Z,6.8nm,1.1s
NEW Newport 95.12 4 LR LR 07 00 43.1
comp=Z,212nm,18.5s,baz=359,slow=39
TZTN Tazewell 102.48 337 P Pdif 06 13 01.4 -2.4
baz=23
NHSC New Hope 104.48 333 P Pdif 06 13 10.8 -1.9
baz=26
DZM Mont Dzumac 109.09 104 *e*LR LR 06 49 45.3
comp=Z,210nm,23.4s
MNTX Cornudas Mount 111.56 354 P PKiKP 06 17 41.9 -0.2
baz=5.4
ROSC El Rosal 125.88 312 PKP PKiKP 06 18 11.9 +1.0
comp=Z,6.8nm,0.7s,baz=120,slow=4.3,SNR=4.7
QSPA South Pole Qui 126.65 180 PKP PKPdf 06 18 09.7 -0.1
comp=Z,2.4nm,1.0s,baz=313,slow=2.2,SNR=4.1
PPT2 Papeete2 141.47 70 *e*LR LR 07 04 44.6
comp=Z,199nm,24.0s
PPT2 *e*LR LR 07 04 44.7
comp=Z,165nm,21.5s
TAOE Nuku Hiva Isla 141.96 50 *e*LR LR 07 04 57.4
comp=Z,329nm,23.0s
TBI Tubuai 144.81 78 *e*LR LR 07 06 17.0
comp=Z,3μm,22.0s
TBI *e*LR LR 07 06 17.4
comp=Z,558nm,27.0s
PLCA Paso Flores 147.99 250 PKPbc PKiKP 06 18 53.9 -0.7
comp=Z,5.5nm,0.9s,baz=152,slow=3.9,SNR=8.0
RKT Rikitea 155.63 62 *e*LR LR 07 11 17.9
comp=Z,38μm,28.5s

JMA ***09*** *06:00:40.7±0.9, 45°N±3°×15°0E±°, h30km, MV4.3/10, KURILE ISLANDS REGION*

SKHL 09 06:00:39.9±0.4, 45°00N×150°00E, h54km±5km, mb4.6/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.53**	**280**	*i* P	Pn	06 01 04.0	-0.8
KUR				AMB	AMB	06 01 04.2	
	80nm,0.2s						
KUR				*i* S	Sn	06 01 21.8	-1.8
KUR				A	A	06 01 24.6	
	900nm,0.4s						
KUR				A	A	06 01 24.6	
	700nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.11**	**253**	*e*P	Pn	06 01 26.6	+0.1
YUK				AMB	AMB	06 01 28.4	
	110nm,0.3s						
YUK				*e*S	Sn	06 02 00.5	-1.9
YUK				A	A	06 02 02.8	
	210nm,0.4s						
YUK				A	A	06 02 02.8	
	170nm,0.4s						
NEM2	**Nemuro 2**	**3.47**	**243**	*e*P	Pn	06 01 31.2	-0.1
NEM2				*e*S	Sn	06 02 08.9	-2.3
NMR	**Nemuro--Hokkai**	**3.48**	**244**	*i* P	Pn	06 01 31.5	0.0
NMR				*i* S	Sn	06 02 10.5	-0.9
JRA	**Rausu**	**3.65**	**255**	*e*P	Pn	06 01 36.4	+2.6
JNK	**Nakash**	**4.05**	**251**	*e*P	Pn	06 01 40.4	+1.1
AKK	**Akkeshi**	**4.22**	**244**	*e*P	Pn	06 01 41.6	0.0
AKK				*e*S	Sn	06 02 28.7	-0.8
JAK	**Akkeshi**	**4.32**	**244**	*e*P	Pn	06 01 43.2	+0.2
JTKR	**Abashiri--Toko**	**4.48**	**259**	*e*P	Pn	06 01 47.1	+2.0
JAR	**Ashorobuto**	**4.80**	**251**	*e*P	Pn	06 01 51.7	+2.2
JKK2	**Kamakawa 2**	**5.31**	**260**	*e*P	Pn	06 01 59.2	+2.5
JCH	**Churui**	**5.36**	**246**	*e*P	Pn	06 01 58.6	+1.3
MYR	**Moyori**	**5.57**	**243**	*e*P	Pn	06 02 01.5	+1.3

PRU ***09*** *06:03:39.3±0.0, 50°35N×12°42E, h10km*

WBNET 09 06:03:40.6, 50°35N×12°42E, h5km, Ml0.5, 5C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POCW	**Potky**	**0.03**	**175**	⇓P	Pg	06 03 42.0	+0.3
POCW				S	Sg	06 03 42.9	+0.2
KRCW	**Kraslice**	**0.07**	**104**	⇓P	Pg	06 03 42.4	+0.1
KRCW				S	Sg	06 03 43.5	0.0
LBCW	**Luby**	**0.08**	**185**	⇓P	Pg	06 03 42.8	+0.3
LBCW				S	Sg	06 03 44.1	+0.3
STCW	**Studenec**	**0.11**	**145**	⇓P	Pg	06 03 43.1	+0.2
STCW				S	Sg	06 03 44.6	+0.1
NKC	**Novy Kostel**	**0.12**	**172**	*e*PG	Pg	06 03 43.3	+0.3
NKC				*e*SG	Sg	06 03 44.8	+0.1
NKC	**Novy Kostel**	**0.12**	**172**	⇓P	Pg	06 03 43.3	+0.3
NKC				S	Sg	06 03 44.9	+0.2
VAC	**Vackov**	**0.12**	**195**	*e*PG	Pg	06 03 43.1	+0.1
VAC				*e*SG	Sg	06 03 44.9	+0.2
VAC	**Vackov**	**0.12**	**195**	⇑P	Pg	06 03 43.3	+0.3
VAC				S	Sg	06 03 45.0	+0.3
KOCW	**Kopaniny**	**0.15**	**235**	⇑P	Pg	06 03 43.8	+0.2
KOCW				S	Sg	06 03 45.7	+0.2
KVC	**Kvetna**	**0.15**	**158**	⇑P	Pg	06 03 43.9	+0.2
KVC				S	Sg	06 03 46.2	+0.4
SKC	**Skalna**	**0.18**	**193**	S	Sg	06 03 47.0	+0.3
TRCW	**Trojmez**	**0.18**	**256**	⇑P	Pg	06 03 44.4	+0.2
TRCW				S	Sg	06 03 46.8	+0.1
ZHC	**Zelena Hora**	**0.29**	**195**	⇓P	Pg	06 03 46.3	+0.1
ZHC				S	Sg	06 03 50.2	+0.2
LACW	**Lazy**	**0.33**	**156**	⇑P	Pg	06 03 47.0	+0.1
LACW				S	Sg	06 03 51.8	+0.6

IDC ***09*** *06:12:15.7±1.1, 49°24S×125°34E, h0km, mb4.2/6, mbtmp4.2/6, MS3.7/15, Error ellipse: s-maj=49.3km s-min=19.5km az=94.0*

NEIC ***09*** *06:12:16.5±1.5, 49°2S±0°1×124°9E±0°1, h10km±2km,*

mb4.5/20, Error ellipse: s-maj=19.7km s-min=8.2km az=211.0

ISC 09 06:12:16.7±0.7, **49°.19S**±0°.08×**125°.1E**±0°.1, **h10**km, **n44**, σ**0.94**/28, **mb4.3**/12, **MS3.7**/14, **Western Indian-Antarctic Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H01W1 Cape Leeuwin H 16.40 327 T T 06 33 11.5
baz=153,slow=74,SNR=15
H01W2 Cape Leeuwin H 16.40 326 T T 06 33 02.5
baz=153,slow=74,SNR=13
H01W3 Cape Leeuwin H 16.41 327 T T 06 33 02.9
baz=153,slow=74,SNR=9.0
TAU Tasmania Unive 16.65 76 Pn **Pn 06 16 09.2 -0.8**
TAU IAmb IAmb 06 16 21.1
comp=Z,64nm,1.4s
NWAO Narrogin (SRO) 17.27 337 LR LR 06 21 17.6
comp=Z,90nm,18.4s,slow=31
NWAO Narrogin (SRO) 17.27 337 Pn 06 16 17.6 -0.2
NWAO IAmb IAmb 06 16 22.6
comp=Z,56nm,1.1s
NWAO Narrogin (SRO) 17.27 337 Pn 06 16 17.6 -0.2
FORT Forrest 18.53 8 P **P 06 16 32.7 -0.5**
FORT IAmb IAmb 06 16 45.6
comp=Z,24nm,1.1s
TOO Toolangi 18.78 59 P **P 06 16 34.0 -2.0**
MORW Morawa 21.25 338 P **P 06 17 01.7 -1.1**
MORW IAmb IAmb 06 17 06.2
comp=Z,23nm,1.0s
STKA Stephens Creek 21.30 42 P **P 06 17 04.4 +1.1**
comp=Z,4.8nm,0.7s,baz=194,slow=12,SNR=10
STKA LR LR 06 23 50.9
comp=Z,228nm,20.9s,baz=203,slow=33
comp=Z,4.8nm,0.7s
STKA Stephens Creek 21.30 42 P **P 06 17 04.5 +1.1**
ASAR Alice Springs 26.41 18 P **P 06 17 53.2 -0.2**
comp=Z,3.9nm,0.9s,baz=192,slow=9.3,SNR=23
ASAR LR LR 06 27 06.7
comp=Z,271nm,21.7s,baz=190,slow=34
comp=Z,3.9nm,0.9s
ASAR Alice Springs 26.41 18 P **P 06 17 52.8 -0.6**
AS31 Alice Springs 26.41 18 P **P 06 17 53.5 +0.1**
WRA Warramunga Arr 30.11 18 P **P 06 18 25.7 -0.7**
comp=Z,1.5nm,0.9s,baz=192,slow=9.3,SNR=4.9
WRA LR LR 06 29 51.5
comp=Z,272nm,19.0s,baz=175,slow=35
comp=Z,1.5nm,0.9s
WRA Warramunga Arr 30.11 18 P **P 06 18 25.1 -1.4**
WB2 Warramunga Arr 30.12 18 P **P 06 18 25.1 -1.4**
WB2 IAmb IAmb 06 18 52.7
comp=Z,6.8nm,1.1s
WR0 Warramunga Arr 30.14 18 P **P 06 18 26.4 -0.2**
WR0 IAmb IAmb 06 18 30.3
comp=Z,11nm,1.4s
WB0 Warramunga Arr 30.30 18 P **P 06 18 27.3 -0.7**
WB0 IAmb IAmb 06 18 42.0
comp=Z,9.8nm,1.4s
VNDA Vanda 31.69 166 P **P 06 18 39.5 -0.3**
comp=Z,6.6nm,0.9s,baz=315,slow=8.0,SNR=12
VNDA LR LR 06 29 22.4
comp=Z,41nm,20.2s,baz=300,slow=32
comp=Z,6.6nm,0.9s
VNDA Vanda 31.69 166 P **P 06 18 39.8 0.0**
RPZ Rata Peaks 31.76 98 LR LR 06 28 23.3
comp=Z,75nm,21.8s,baz=255,slow=31
CTA Charters Tower 33.63 38 LR LR 06 32 29.7
comp=Z,175nm,18.3s,baz=261,slow=36
MAW Mawson 35.48 216 LR LR 06 31 23.0
comp=Z,109nm,18.0s,baz=72,slow=32
BKZ Black Stump Fm 37.56 94 P **P 06 19 31.3 +0.3**
RTZ Ruatahuna 38.18 94 P **P 06 19 37.1 +0.8**
URZ Urewera 38.46 94 LR LR 06 33 05.9
comp=Z,58nm,18.2s,baz=314,slow=33
QSPA South Pole Qui 40.93 180 P **P 06 19 58.6 -0.4**
comp=Z,4.0nm,1.1s,baz=289,slow=4.4,SNR=3.5
QSPA LR LR 06 35 54.8
comp=Z,102nm,20.5s,baz=334,slow=35
comp=Z,4.0nm,1.1s
QSPA South Pole Qui 40.93 180 P **P 06 19 58.9 -0.1**
QSPA IAmb IAmb 06 19 59.8
comp=Z,14nm,1.3s
KOUNC Koumac, New Ca 42.30 62 P **P 06 20 11.2 +0.8**
OUENC Ouen Island, N 42.36 66 P **P 06 20 12.3 +1.4**
DZM Mont Dzumac 42.39 65 LR LR 06 35 32.3
comp=Z,111nm,19.5s,baz=214,slow=33
PMG Port Moresby 43.75 32 LR LR 06 39 42.8
comp=Z,100nm,18.5s,baz=268,slow=38
BELA Belgrano 2 52.59 185 P **P 06 21 29.4 -0.4**
BELA IAmb IAmb 06 22 04.0
comp=Z,5.4nm,1.4s
SNAA Sanae 53.96 198 LR LR 06 43 28.6
comp=Z,193nm,19.3s,baz=181,slow=35
SNAA Sanae 53.96 198 P **P 06 21 40.0 0.0**
SNAA IAmb IAmb 06 21 40.4
comp=Z,11nm,1.2s
H08S2 Diego Garcia H 60.33 295 T T 07 28 06.8
baz=147
H08S1 Diego Carcia H 60.34 295 T T 07 27 54.7
baz=147
H08S3 Diego Garcia H 60.35 295 T T 07 27 54.8
baz=147
PMSA Palmer Station 66.15 176 LR LR 06 52 45.7
comp=Z,48nm,18.5s,baz=114,slow=37
CMAR Chiang Mai Arr 71.24 334 P **P 06 23 37.9 +2.0**
comp=Z,1.8nm,0.7s,baz=182,slow=5.8,SNR=10.0
comp=Z,1.8nm,0.7s
MBAR Mbarara 92.38 266 LR LR 06 59 14.0
comp=Z,53nm,21.4s,baz=48,slow=30
YKA Yellowknife Ar 145.31 45 PKPbc **PKPab 06 31 53.1 -0.2**
comp=Z,3.9nm,0.8s,baz=269,slow=3.5,SNR=42

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*IDC **09** 06:15:13.1±2.7, 52°.52N×171°.75E, h0km, mb3.6/9, mbtmp3.7/10, ML2.5/1, MS3.8/2, Error ellipse: s-maj=79.8km s-min=15.3km az=179.0*
*NEIC **09** 06:15:20.3±2.2, 52°.5N±0°.2×172°.7E±0°.1, h10km±2km, mb4.1/47, Error ellipse: s-maj=33.1km s-min=13.3km az=173.0*

ISC 09 06:15:16.6±1.2, **52°.3N**±0°.2×**171°.80E**±0°.07, **h28**km, **n76**, σ**1.40**/67, **mb4.1**/30, **Near Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHEM Shemya Is, Ala 1.46 73 Pn **Pn 06 15 41.0 -0.1**
30nm,0.3s,baz=144,slow=1.8,SNR=27
SHEM Sn **Sn 06 15 59.7 +0.5**
47nm,0.3s,baz=212,slow=20,SNR=6.9
SMY Shemya 1.46 73 Pn 06 15 38.9 -2.2
ADK Adak 7.11 89 Pn 06 16 57.2 -1.5
PEA0B Petropavlovsk- 8.60 281 Pn Pn 06 17 30.7 +12
PETK Petropavlovsk- 8.60 281 Pn **Pn 06 17 18.4 -0.7**
0.3nm,0.3s,baz=94,slow=19,SNR=2.1
3.0nm,0.7s
CLES Cleveland East 11.15 80 Pn **Pn 06 17 52.3 -1.7**
SPIA Saint Paul Isl 11.44 58 Pn **Pn 06 17 54.6 -3.3**
P18K Big Mountain, 19.64 56 P **P 06 19 42.9 0.0**
P18K IAmb IAmb 06 19 58.3
comp=Z,22nm,1.5s
SVW2 Sparrevohn 19.74 51 P **P 06 19 43.9 0.0**
RDOG Red Dog Mine 19.91 28 P **Pn 06 19 48.3 +0.9**
RDOG IAmb IAmb 06 19 53.5
comp=Z,16nm,1.4s
L19K White Mountain 20.32 48 P **P 06 19 51.2 +1.1**
OHAK Old Harbor 20.57 62 P **P 06 19 52.8 0.0**
OHAK IAmb IAmb 06 20 11.4
comp=Z,11nm,1.0s
ILSW Iliamna Southw 20.76 55 P **P 06 19 56.0 +1.0**
ILSW IAmb IAmb 06 20 33.6
comp=Z,24nm,1.5s
KDAK Kodiak Island 20.94 61 P **P 06 19 56.0 -0.9**
comp=Z,8.9nm,1.0s,baz=239,slow=4.6,SNR=8.9
comp=Z,8.9nm,1.0s
KDAK Kodiak Island 20.94 61 P **P 06 19 55.9 -0.9**
K20K Telida 20.97 45 P **P 06 19 57.7 +0.5**
RSO Redoubt South 21.01 53 P **P 06 19 57.4 -0.4**
J20K Nowinta River 21.17 43 P **P 06 19 58.9 -0.5**
SPU Mount Spurr 21.44 51 P **P 06 20 02.1 -0.2**
HOM Homer 21.49 56 P **P 06 20 03.1 +0.4**
PPLA Purkeypile 21.68 47 P **P 06 20 06.0 +1.0**
CNPM China Poot 21.68 56 P **P 06 20 06.2 +1.3**
CNPM IAmb IAmb 06 20 41.4
comp=Z,17nm,1.2s
CAST Castle Rocks 21.85 45 P **P 06 20 07.6 +1.0**
IMAR Indian Mountai 21.95 38 P **P 06 20 09.6 +2.0**
SUA Susitna One 22.10 51 P **P 06 20 09.6 +0.1**
SUA IAmb IAmb 06 20 40.7
comp=Z,14nm,1.4s
H21K Melozitna Rive 22.20 39 P **P 06 20 11.9 +1.6**
KTH Kantishna Hill 22.39 45 P **P 06 20 15.2 +2.7**
RC01 Rabbit Creek A 22.55 52 P **P 06 20 14.2 +0.1**
RC01 IAmb IAmb 06 20 20.4
comp=Z,8.5nm,1.2s
TRF Thorofare Moun 22.64 46 P **P 06 20 15.7 +0.4**
TRF IAmb IAmb 06 20 24.7
comp=Z,8.5nm,1.1s
MLY Manley 22.83 42 P **P 06 20 16.4 -0.7**
MLY IAmb IAmb 06 20 23.0
comp=Z,9.9nm,1.5s
KNK Knik Glacier 23.19 51 P **P 06 20 21.1 +0.3**
KNK IAmb IAmb 06 20 29.1
comp=Z,10nm,1.2s
SML Sawmill 23.29 50 P **P 06 20 21.8 0.0**
SML IAmb IAmb 06 20 27.7
comp=Z,8.2nm,1.0s
H23K Yukon River 23.53 40 P **P 06 20 25.7 +1.6**
SCM Sheep Creek Mo 23.77 50 P **P 06 20 26.3 -0.2**
MDM Murphy Dome 23.84 43 P **P 06 20 28.3 +1.2**
DHY Denali Highway 23.88 47 P **P 06 20 27.5 -0.1**
DHY IAmb IAmb 06 20 29.2
comp=Z,8.0nm,1.4s
CCB Clear Creek Bu 23.96 43 P **P 06 20 28.8 +0.7**
H24K Noodor Dome 24.19 41 P **P 06 20 30.9 +0.6**
H24K IAmb IAmb 06 20 37.8
comp=Z,5.3nm,1.2s
M24K Tolsona, Glenn 24.33 50 P **P 06 20 32.1 +0.4**
ILAR Eielson Array 24.37 43 P **P 06 20 30.9 -1.0**
comp=Z,0.9nm,0.8s,baz=245,slow=7.6,SNR=9.1
comp=Z,0.9nm,0.8s
KLU Klutina 24.41 51 P **P 06 20 33.6 +1.2**
KLU IAmb IAmb 06 20 51.1
comp=Z,6.6nm,1.0s
PAX Paxson 24.73 48 P **P 06 20 37.5 +2.1**
PAX IAmb IAmb 06 20 57.0
comp=Z,4.5nm,1.1s
J25K Salcha River, 24.98 44 P **P 06 20 39.7 +2.2**
N25K Chitina, Valde 25.05 51 P **P 06 20 39.9 +1.7**
N25K IAmb IAmb 06 21 15.8
comp=Z,5.4nm,1.1s
PRP Porcupine Dome 25.07 42 P **P 06 20 40.1 +1.7**
PRP IAmb IAmb 06 20 58.4
comp=Z,4.4nm,1.2s
RIDG Independent Ri 25.09 46 P **P 06 20 41.1 +2.6**
RIDG IAmb IAmb 06 21 10.2
comp=Z,7.0nm,1.1s
GLB Gilahina Butte 25.42 52 P **P 06 20 41.2 -0.3**
GLB IAmb IAmb 06 20 47.7
comp=Z,4.0nm,0.7s
DOT Dot Lake 25.43 46 P **P 06 20 41.7 +0.1**
SCRK Sand Creek 25.50 46 P **P 06 20 44.6 +2.4**
SCRK IAmb IAmb 06 20 46.9
comp=Z,4.3nm,0.7s
J26L Joseph Creek 25.74 44 P **P 06 20 43.6 -0.8**
J26L IAmb IAmb 06 20 49.3
comp=Z,4.1nm,1.0s
JMM Marumori 25.99 249 P P 06 20 57.4 +11
L27K Beaver Creek, 26.39 48 P **P 06 20 53.1 +2.8**
L27K IAmb IAmb 06 20 55.7
comp=Z,4.5nm,1.1s
BCAR Beaver Creek A 26.41 48 P **P 06 20 52.1 +1.6**
EGAK Eagle 26.80 44 P **P 06 20 55.0 +1.1**
EGAK IAmb IAmb 06 21 19.8
comp=Z,5.8nm,0.9s
PCA Pinnacle 27.22 54 P **P 06 20 59.8 +2.0**
DAWY Dawson 27.52 46 P **P 06 21 01.3 +0.9**
DAWY IAmb IAmb 06 21 11.1
comp=Z,7.4nm,1.5s
BCPM Bancas Point 27.54 55 P **P 06 21 03.1 +2.4**
I29M Ogilvie Camp, 28.05 43 P **P 06 21 08.7 +3.6**
I29M IAmb IAmb 06 21 45.9
comp=Z,8.5nm,1.5s
H11N2 WAKE ISLAND Hy 32.76 189 T T 06 57 19.0
baz=5.8,slow=76,SNR=9.5
H11N3 WAKE ISLAND Hy 32.77 189 T T 06 57 21.9
baz=5.8,slow=76,SNR=9.7
H11N1 WAKE ISLAND Hy 32.78 189 T T 06 57 20.3
baz=5.8,slow=76,SNR=7.3
H11S1 WAKE ISLAND Hy 33.99 189 T T 06 59 01.4
baz=5.5,slow=76,SNR=9.3
H11S3 WAKE ISLAND Hy 34.00 189 T T 06 59 01.6
baz=5.5,slow=76,SNR=6.4
H11S2 WAKE ISLAND Hy 34.01 189 T T 06 59 05.8
baz=5.5,slow=76,SNR=5.4
YKA Yellowknife Ar 38.76 45 P **P 06 22 38.6 +0.5**
comp=Z,1.1nm,0.8s,baz=288,slow=7.8,SNR=3.8
comp=Z,1.1nm,0.8s
NRIK Noril'sk 40.54 327 LR LR 06 41 13.8
comp=Z,167nm,18.8s,baz=238,slow=39
SONM Songino Array 40.93 291 P **P 06 22 56.6 +0.1**
comp=Z,0.4nm,0.7s,baz=69,slow=8.2,SNR=2.3
comp=Z,0.4nm,0.7s
ZALV Zalesovo Beam 49.01 309 P **P 06 24 00.8 +0.3**
comp=Z,0.4nm,0.3s,baz=51,slow=7.6,SNR=1.5
comp=Z,0.4nm,0.3s
PDAR Pinedale Array 51.45 67 P **P 06 24 20.0 +0.7**
comp=Z,0.2nm,0.4s,baz=335,slow=4.1,SNR=2.3
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 54.74 303 P **P 06 24 41.3 -2.0**
comp=Z,0.4nm,0.6s,baz=53,slow=6.8,SNR=4.8
comp=Z,0.4nm,0.6s
TX31 Lajitas Ar. Si 64.16 75 P **P 06 25 49.9 +1.3**
TX32 Lajitas Array 64.16 75 P **P 06 25 50.0 +1.4**
TX32 IAmb IAmb 06 26 08.2
comp=Z,2.8nm,1.3s
TXAR Lajitas Array 64.16 75 P **P 06 25 49.9 +1.3**
NOA NORSAR Array B 65.92 350 P **P 06 25 59.3 -0.1**
comp=Z,0.5nm,0.5s,baz=13,slow=6.6,SNR=2.7
comp=Z,0.5nm,0.5s
GERES GERESS Array B 77.49 345 P **P 06 27 09.4 +0.1**
comp=Z,0.5nm,0.7s,baz=28,slow=4.6,SNR=3.6
comp=Z,0.5nm,0.7s
JTS Las Juntas de 89.90 73 LR LR 07 10 57.1
comp=Z,31nm,19.5s,slow=37

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*GCG **09** 06:18:13.5±0.4, 13°.82N×92°.36W, h139km±16km, MD4.0*
*IDC **09** 06:18:17.5±3.3, 14°.31N×90°.99W, h0km, mb3.8/4, mbtmp3.8/4, MS3.3/1, Error ellipse: s-maj=139.5km s-min=61.2km az=47.0*
*MEX **09** 06:18:18.8±0.4, 13°.51N×92°.29W, h31km±97km, MD4.2*
*NEIC **09** 06:18:21.8±2.1, 13°.93N±0°.04×92°.13W±0°.06, h10km±2km, mb4.2/17, Md4.2/13(MEX), Error ellipse: s-maj=10.0km s-min=7.3km az=262.0*

ISC 09 06:18:17.6±2.2, **13°.72N**±0°.08×**92°.24W**±0°.05, **h4**km±12km, **n56**, σ**1.90**/68, **mb4.1**/12, **Off coast of Chiapas**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SULM Suchitepequez, 0.87 48 *e*P **Pn 06 18 36.5 -0.1**
RTAL Retalhuleu 0.95 33 Pg **Pb 06 18 36.5 -0.2**
STG3 Santiaguito 3, 1.18 33 *e*P **Pg 06 18 39.6 -0.5**
THIG 1.18 359 Pg 06 18 39.7 -0.5
THIG **Sn 06 18 56.6 -0.7**
THIG 1.18 359 *e*P **Pg 06 18 39.6 -0.5**
THIG *e*S **Sn 06 18 56.2 -1.2**
FUG Fuego 3 1.53 62 *e*P **Pn 06 18 44.3 -1.6**
PCG Pacaya 1.71 67 *e*P **Pn 06 18 46.6 -1.9**
HUEH Huehuetenango 1.74 24 Pn **Pn 06 18 48.4 -0.4**
NBG Las Nubes 2.02 65 *e*P **Pn 06 18 52.9 +0.2**
NBG *e*S **Sb 06 19 19.2 -1.5**
PCIG 2.19 334 Pn 06 18 54.1 -0.6
PCIG **Sn 06 19 20.7 -1.6**
PCIG 2.19 334 *e*P **Pn 06 18 54.1 -0.6**
PCIG *e*S **Sn 06 19 20.7 -1.6**
CCIG Comitan 2.55 2 Pn **Pn 06 19 01.9 +2.1**
CCIG Comitan 2.55 2 *e*P **Pn 06 19 01.8 +1.9**
CCIG *e*S **Sb 06 19 33.4 -2.4**
SNET Serv Nac Est T 2.92 90 Pn **Pn 06 19 07.0 +2.2**
ESQI Esquipulas 2.93 73 Pn **Pn 06 19 03.4 -1.6**
TGIG 3.16 344 Pn 06 19 07.5 -0.6
TGIG **Sn 06 19 45.7 -0.6**
TGIG 3.16 344 *e*P **Pn 06 19 07.5 -0.6**
TGIG *e*S **Sn 06 19 45.7 -0.6**
PETF Flores 3.91 35 Pn **Pn 06 19 19.4 +0.9**
UXUV UXUV 4.02 333 *e*P **Pn 06 19 21.6 +1.6**
UXUV *e*S **Sn 06 20 08.5 +0.9**
HUIG Huatulco 4.26 299 *e* **Pn 06 19 24.2 +0.9**
HUIG *e* 06 20 10.6
TGUH Tegucigalpa,Un 4.83 85 Pn **Pn 06 19 34.7 +3.5**
PEIG Puerto Escondi 5.26 296 *e*P **Pn 06 19 37.8 +0.7**
PEIG *e*S **Sn 06 20 33.8 -4.4**
OXIG Oaxaca 5.47 308 Pn 06 19 44.6 +4.5
OXIG **Sn 06 20 41.9 -1.7**
VHO Vista Hermosa 5.47 308 *e*P **Pn 06 19 44.6 +4.5**
VHO *e*S **Sn 06 20 41.9 -1.7**
CNGN Cerro Negro 5.53 102 Pn **Pn 06 19 45.5 +4.8**
BOAB BOACO BROADBAN 6.52 100 Pn **Pn 06 19 57.4 +3.0**
TLIG Tlapa 7.20 303 Pn **Pn 06 20 07.7 +4.0**
TEIG Tepich 7.49 30 Pn 06 20 08.9 +1.2
TXAR Lajitas Array 18.80 328 P **P 06 22 40.3 +2.0**
TX31 Lajitas Ar. Si 18.80 328 P **P 06 22 39.0 +0.7**
TX31 IAmb IAmb 06 22 43.6
comp=Z,19nm,1.3s
TX32 Lajitas Array 18.80 328 P **P 06 22 40.4 +2.1**
Z47A Carrollton 19.76 10 P **P 06 22 48.9 +0.3**
CLNB Carlsbad 21.31 332 P **P 06 23 07.6 +2.0**
SC01 Santiago de lo 21.37 72 P **P 06 23 06.5 +0.3**
HTMS Hat Mesa 21.38 333 P **P 06 23 07.5 +1.2**
Y52A Lilburn 21.38 19 P **P 06 23 04.4 -1.9**
Y52A IAmb IAmb 06 23 09.3
comp=Z,10nm,1.0s
GDL2 Guadalupe Moun 21.48 331 P **P 06 23 09.3 +1.9**
PLAL Pickwick Lake 21.50 9 P **P 06 23 07.1 -0.3**
PLAL IAmb IAmb 06 23 27.5
comp=Z,12nm,1.4s
MNTX Cornudas Mount 21.58 328 P **P 06 23 09.7 +1.3**
MNTX IAmb IAmb 06 23 11.8
comp=Z,6.2nm,0.9s
WMOK Wichita Mounta 21.75 345 P **P 06 23 08.4 -1.7**
X51A Calhoun 21.80 17 P **P 06 23 11.5 +0.8**
X51A IAmb IAmb 06 23 36.5
comp=Z,24nm,1.4s
AMTX Amarillo 22.73 340 P **P 06 23 20.4 -0.4**
HSIG 23.09 314 P **P 06 23 26.6 +2.2**
TKL Tuckaleechee C 23.13 18 LR LR 06 33 08.6
comp=Z,70nm,19.0s,baz=205,slow=40
CRNM Carthage 24.06 329 P **P 06 23 36.3 +2.0**
ANMO Albuquerque 24.73 331 P **P 06 23 41.7 +1.4**
comp=Z,1.4nm,0.6s,baz=147,slow=5.6,SNR=11
comp=Z,1.4nm,0.6s
ANMO Albuquerque 24.73 331 P **P 06 23 41.5 +1.2**
MVCO Mesa Verde 27.53 331 P **P 06 24 06.9 +1.1**
MVCO IAmb IAmb 06 24 07.8
comp=Z,3.9nm,0.9s
P17A Butcher Ranch, 30.39 331 P **P 06 24 33.2 +2.1**
P17A IAmb IAmb 06 24 33.5
comp=Z,3.5nm,0.9s
NVAR Mina Array Bea 33.74 322 P **P 06 25 03.6 +3.0**
comp=Z,1.2nm,0.7s,baz=138,slow=8.2,SNR=4.4
comp=Z,1.2nm,0.7s
J08A Circle Bar Ran 37.15 328 P **P 06 25 30.7 +1.0**
J08A IAmb IAmb 06 25 33.8
comp=Z,4.7nm,0.6s
EGMT Eagleton 37.17 340 P **P 06 25 30.1 +0.3**
F10A Beach Ranch, E 38.44 332 P **P 06 25 41.4 +0.8**
F10A IAmb IAmb 06 25 42.1
comp=Z,7.6nm,1.1s
YKA Yellowknife Ar 51.24 347 P **P 06 27 20.6 -1.6**
comp=Z,0.6nm,0.7s,baz=150,slow=7.4,SNR=11
YKA PcP **PcP 06 28 36.4 -0.9**
comp=Z,0.5nm,0.7s,baz=153,slow=4.0,SNR=7.8
comp=Z,0.6nm,0.7s
ILAR Eielson Array 63.00 337 P **P 06 28 45.5 +0.1**
comp=Z,1.1nm,1.0s,baz=111,slow=4.9,SNR=7.9
comp=Z,1.1nm,1.0s
CMAR Chiang Mai Arr 146.18 341 PKPbc **PKPdf 06 37 59.4 +0.2**
comp=Z,1.2nm,0.3s,baz=338,slow=3.8,SNR=11

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*IDC **09** 06:31:46.8±3.6, 14°.47N×91°.12W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=190.3km s-min=71.6km az=58.0*
*MEX **09** 06:31:46.9±0.5, 13°.51N×92°.39W, h20km±24km, MD4.1*
*GCG **09** 06:31:59.9±0.4, 14°.44N×91°.42W, h0km±32km, MD4.2*

ISC 09 06:31:46.0±1.3, **13°.7N**±0°.1×**92°.34W**±0°.06, **h10**km, **n16**, σ**2.11**/20, **mb3.7**/4, **Off coast of Chiapas**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SULM Suchitepequez, 0.96 51 *e*P **Pb 06 32 04.5 -0.3**
THIG 1.21 3 *e*P Pn 06 32 07.6 -1.4
THIG *e*S **Sn 06 32 24.1 -1.3**
STG3 Santiaguito 3, 1.25 36 *e*P Pn 06 32 07.8 -2.0
FUG Fuego 3 1.63 63 *e*P Pn 06 32 12.4 -2.6
NBG Las Nubes 2.12 65 *e*P **Pn 06 32 21.1 -0.7**
PCIG 2.17 337 *e*P **Pn 06 32 22.0 -0.2**
PCIG *e*S **Sn 06 32 48.1 -1.1**
CCIG Comitan 2.58 4 *e*P **Pn 06 32 29.9 +1.9**
CCIG *e*S **Sn 06 33 02.4 +2.9**
TGIG 3.16 346 *e*P **Pn 06 32 36.2 +0.4**
TGIG *i* S **Sn 06 33 13.3 -0.4**
UXUV UXUV 4.00 334 *e*P **Pn 06 32 49.8 +2.4**
UXUV *e*S **Sn 06 33 30.0 -4.4**
PEIG Puerto Escondi 5.18 297 *e* **Pn 06 33 06.7 +2.9**
PEIG *e* 06 34 02.0
VHO Vista Hermosa 5.41 309 *e*P **Pn 06 33 07.1 +0.2**
VHO *e*S **Sn 06 34 05.0 -4.4**
ANMO Albuquerque 24.70 331 P **P 06 37 09.4 +1.8**
1.0nm,0.6s,baz=231,slow=11,SNR=6.8
1.0nm,0.6s
YKA Yellowknife Ar 51.24 347 P **P 06 40 48.1 -1.5**
0.4nm,0.7s,baz=150,slow=7.3,SNR=7.0
YKA PcP **PcP 06 42 04.6 -0.1**
0.2nm,0.7s,baz=153,slow=3.3,SNR=4.7
0.4nm,0.7s
INK Inuvik 60.64 344 P **P 06 41 56.7 -0.1**
1.7nm,0.9s,baz=119,slow=5.9,SNR=5.3
1.7nm,0.9s
ILAR Eielson Array 62.99 337 P **P 06 42 13.4 +0.7**
0.5nm,0.8s,baz=134,slow=4.7,SNR=4.1
0.5nm,0.8s
CMAR Chiang Mai Arr 146.17 341 PKPbc **PKPbc 06 51 28.6 +1.1**
1.6nm,0.5s,baz=342,slow=3.4,SNR=7.5

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*IDC **09** 06:34:42.8±38.0, 5°.74N×126°.49E, h0km, mb3.7/3, mbtmp3.7/3, MS3.7/4, Error ellipse: s-maj=648.8km s-min=239.9km az=157.0*
*MAN **09** 06:34:58.2, 5°.92N×125°.81E, h125km, mb4.5, ML3.4, MS3.2*

ISC 09 06:34:56.1±1.0, **5°.88N**±0°.09×**125°.7E**±0°.1, **h150**km, **n10**, σ**2.08**/9, **mb3.5**/3, **1C-2D, Mindanao**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GSPH General Santos 0.75 286⇓*e*P **Pn 06 35 19.8 +0.6**
GSPH *i* S **Sn 06 35 38.6 +1.9**
KCP Kidapawan 1.26 332⇓*i*P **Pn 06 35 25.0 +1.6**
KCP *i* S **Sn 06 35 40.4 -3.9**
BIPH Bislig 2.38 16⇑*i*P **Pn 06 35 37.4 +1.6**
BIPH *i* S **Sn 06 36 06.1 -0.4**
WRA Warramunga Arr 27.04 162 P **P 06 40 23.6 -1.0**
0.2nm,0.3s,baz=345,slow=9.4,SNR=6.0
0.2nm,0.3s
ASAR Alice Springs 30.45 165 P **P 06 40 54.0 -0.8**
0.4nm,0.4s,baz=345,slow=7.5,SNR=12
0.4nm,0.4s
STKA Stephens Creek 40.50 159 P **P 06 42 20.4 0.0**
0.9nm,0.4s,baz=322,slow=6.6,SNR=3.9
0.9nm,0.4s
DZM Mont Dzumac 48.63 126 LR LR 07 04 44.9
comp=Z,69nm,18.4s,baz=302,slow=38
MSVF Nonsavu 56.77 116 LR LR 07 07 47.4
comp=Z,38nm,19.3s,baz=315,slow=35
RPZ Rata Peaks 64.11 145 LR LR 07 13 40.9
comp=Z,107nm,18.5s,baz=264,slow=37
ARU Arti 72.57 328 LR LR 07 18 21.1
comp=Z,33nm,18.4s,baz=360,slow=36

IDC 09 06:41:53.6±8.2, **34°.74S**×**178°.66E**, **h105**km±72km, **mb3.5**/2, **mbtmp3.7**/3, **ML3.1**/1, **Error ellipse: s-maj=67.4km s-min=53.5km az=33.0, South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 3.73 199 P Pn 06 42 49.6 +0.5
1.4nm,0.3s,baz=23,slow=7.7,SNR=23
URZ S Sn 06 43 32.5 +0.4
8.2nm,0.5s,baz=29,slow=22,SNR=7.7
6.4nm,0.5s
ASAR Alice Springs 40.31 274 P P 06 49 20.6 -0.1
0.8nm,0.5s,baz=114,slow=8.0,SNR=29
0.8nm,0.5s
WRA Warramunga Arr 41.70 279 P P 06 49 31.9 -0.4

0.7nm,0.5s,baz=118,slow=7.8,SNR=9.2
0.7nm,0.5s

MKAR	**Makanchi Array**	**118.36**	**309**	PKP		PKiKP	07 00 28.5	+0.2
	0.1nm,0.3s,baz=228,slow=1.7,SNR=3.6							

*MOS **09** 06:50:29.4±0.0, 41°.77N×47°.45E, h10km, MPVA4.0*
*DRS **09** 06:50:32.1±0.0, 41°.75N×47°.48E, h16km, ML3.5/5*
ISC 09 06:50:31.0±1.1, 41°.78N±0°.03×47°.51E±0°.03, h4km±10km, n25, σ0s98/48, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKT	**Akhty**	**0.34**	**151**	*e*Pg	**Pg**	**06 50 38.0**	**+0.4**
	6μm,0.3s						
AKT				*i* Sg	**Sg**	**06 50 42.6**	**+0.4**
	4μm,0.2s						
URKR	**Urkarakh**	**0.40**	**14**	*e*Pg	**Pb**	**06 50 40.0**	**-0.6**
	522nm,0.2s						
URKR				*i* Sg	**Sb**	**06 50 45.9**	**-1.2**
	2μm,0.2s						
KMKR	**Kumukh**	**0.46**	**319**	*e*Pg	**Pg**	**06 50 40.7**	**+0.8**
	158nm,0.0s						
KMKR				*i* Sg	**Sg**	**06 50 47.4**	**+1.4**
	3μm,0.4s						
KSMR	**Kasumkent**	**0.50**	**111**	*e*Pg	**Pb**	**06 50 41.6**	**-0.8**
	29nm,0.1s						
KSMR				*i* Sg	**Sb**	**06 50 48.5**	**-1.5**
	7μm,0.3s						
DRN	**Derbent**	**0.66**	**68**	*e*Pg	**Pb**	**06 50 45.1**	**0.0**
	906nm,0.1s						
DRN				*i* Sg	**Sb**	**06 50 54.7**	**+0.1**
	1μm,0.3s						
GNBR	**Gunib**	**0.73**	**327**	*e*Pg	**Pg**	**06 50 45.5**	**+0.5**
	197nm,0.1s						
GNBR				*e*Sg	**Sb**	**06 50 55.6**	**-1.0**
	32nm,0.2s						
ARKR	**Arakani**	**0.90**	**335**	*e*Pg	**Pg**	**06 50 48.5**	**+0.1**
	1.0nm,0.3s						
ARKR				*e*Sg	**Sb**	**06 51 00.9**	**-0.7**
	155nm,0.4s						
LGD	**Lagodekhi**	**0.95**	**274**	P	**Pg**	**06 50 48.1**	**-1.0**
LGD				S	**Sg**	**06 50 59.6**	**-1.8**
XNZR	**Khunzakh**	**0.96**	**322**	*e*Pg	**Pg**	**06 50 49.6**	**+0.2**
	52nm,0.3s						
XNZR				*e*Sg	**Sg**	**06 51 02.6**	**+0.6**
	143nm,0.4s						
UNCR	**Uncukul**	**1.07**	**331**	*e*Pg	**Pg**	**06 50 51.6**	**+0.1**
	71nm,0.3s						
UNCR				*e*Sg	**Sb**	**06 51 06.0**	**-0.5**
	144nm,0.3s						
DDFL	**Dedoflistskaro**	**1.09**	**253**	P	**Pb**	**06 50 53.1**	**+0.6**
KRNR	**Karanay**	**1.14**	**337**	*e*Pg	**Pg**	**06 50 52.4**	**-0.3**
	23nm,0.4s						
KRNR				*e*Sg	**Sb**	**06 51 07.7**	**-0.7**
	98nm,0.4s						
MAK	**Makhachkala**	**1.18**	**360**	*e*Pg	**Pb**	**06 50 53.7**	**-0.2**
MAK				*e*Sg	**Sn**	**06 51 12.0**	**+1.4**
BTLR	**Botlikh**	**1.30**	**313**	*e*Pg	**Pg**	**06 50 55.1**	**-0.8**
BTLR				*e*Sg	**Sg**	**06 51 12.4**	**-0.3**
DBC	**Dubki**	**1.33**	**338**	*e*Pg	**Pg**	**06 50 56.1**	**-0.4**
	32nm,0.2s						
DBC				*e*Sg	**Sn**	**06 51 14.3**	**-0.4**
	59nm,0.7s						
DLMR	**Dylym**	**1.44**	**334**	*e*Pg	**Pn**	**06 50 57.8**	**0.0**
DLMR				*e*Sg	**Sn**	**06 51 18.0**	**+0.7**
DVE	**Vedeno**	**1.56**	**319**	*e*Pg	**Pb**	**06 51 00.1**	**-0.3**
DVE				*e*Sg	**Sb**	**06 51 20.5**	**+0.1**
DGRG	**David-gareji**	**1.63**	**259**	P	**Pb**	**06 51 00.9**	**+0.3**
DGRG				S	**Sg**	**06 51 24.9**	**+1.5**
GROC	**Groznyy**	**1.90**	**319**	*e*Pg	**Pb**	**06 51 06.7**	**+0.5**
GROC				*e*Sg	**Sg**	**06 51 32.7**	**+0.6**
DMNI	**Dmanisi**	**2.53**	**261**	P	**Pn**	**06 51 13.2**	**+0.3**
DMNI				S	**Sn**	**06 51 44.3**	**+0.1**
TRLG	**Trialeti**	**2.56**	**266**	P	**Pn**	**06 51 14.1**	**+0.7**
GNI	**Garni**	**2.65**	**233**	*e*Pn	**Pb**	**06 51 17.5**	**-1.6**
GNI				*e*Sn	**Sn**	**06 51 50.1**	**+2.8**
ALIG	**Mtskhetisjvari**	**2.90**	**278**	P	**Pn**	**06 51 18.4**	**+0.5**
ALIG				S	**Sb**	**06 51 57.5**	**-1.5**
DIGR	**Digorskoe uzhe**	**3.12**	**292**	*e*Pn	**Pn**	**06 51 21.6**	**+0.6**
DIGR				*e*Sn	**Sn**	**06 52 00.9**	**+2.1**
KBZ	**Khabaz**	**3.91**	**301**	*e*Pn	**Pn**	**06 51 30.1**	**-1.7**
KBZ				*e*Sn	**Sn**	**06 52 17.7**	**-0.4**

MAN 09 06:53:57.6, 15°.45N×119°.87E, h32km, mb3.8, ML2.6, MS2.1, Luzon

*HVO **09** 07:06:44.0±0.9, 18°.92N±0°.07×155°.55W±0°.03, h40km±5km, Md2.5/13, ML2.7/32(NEIC), Error ellipse: s-maj=10.9km s-min=4.6km az=175.0*
NEIC 09 07:06:42.3±0.7, 18°.96N±0°.06×155°.55W±0°.03, h51km±3km, Error ellipse: s-maj=9.1km s-min=4.2km az=171.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HPO	**Honuapo**	**0.13**	**358**		Pn	07 06 50.2	-0.1
KHU	**Kahuku**	**0.29**	**348**		Pn	07 06 51.7	-0.1
KHU					Sn	07 06 57.7	-0.8
HTC	**Hot Caves**	**0.31**	**27**		Pn	07 06 52.0	+0.2
HLP	**Hilina Pali**	**0.41**	**34**	IAML		07 06 57.0	
	comp=N,433nm,3.9s						
HLP				IAML		07 07 03.4	
	comp=E,442nm,1.6s						
HLP	**Hilina Pali**	**0.41**	**34**		Pn	07 06 53.1	+0.4
HLP	**Hilina Pali**	**0.41**	**34**		Sn	07 06 59.8	-0.3
AIN	**Ainahou**	**0.42**	**12**	IAML		07 07 00.9	
	comp=E,466nm,0.2s						
AIN	**Ainahou**	**0.42**	**12**		Pn	07 06 53.4	+0.4
AIN					Sn	07 07 00.6	0.0
SDHHI	**Sand Hill**	**0.49**	**29**		Pn	07 06 53.8	+0.1
SDHHI					Sn	07 07 01.8	-0.1
WRMHI	**West Rim**	**0.51**	**28**		Pn	07 06 53.9	0.0
KKO	**Keanakako`i**	**0.51**	**31**		Pn	07 06 54.0	+0.1
KKO					Sn	07 07 01.4	-0.9
PUH	**Pauahi**	**0.52**	**37**		Sn	07 07 00.9	-1.5
PUH	**Pauahi**	**0.52**	**37**		Pn	07 06 53.9	-0.1
PUH				IAML		07 07 04.3	
	comp=E,205nm,2.3s						
PUH				IAML		07 07 13.6	
	comp=N,422nm,1.7s						
UWE	**Uwekahuna**	**0.52**	**28**		Pn	07 06 54.1	+0.1
MWH	**Moku'aweowe**	**0.53**	**355**		Pn	07 06 54.3	-0.2
MWH					Sn	07 07 02.2	-1.0
MWH	**Moku'aweowe**	**0.53**	**355**	IAML		07 07 08.6	
	comp=E,287nm,2.4s						
MWH				IAML		07 07 08.9	
	comp=N,311nm,2.2s						
BYL	**Byron's Ledge**	**0.53**	**31**		Pn	07 06 54.1	0.0
BYL	**Byron's Ledge**	**0.53**	**31**	IAML		07 07 03.4	
	comp=N,553nm,0.7s						
BYL				IAML		07 07 12.6	
	comp=E,518nm,1.2s						
UWB	**Uwekahuna B**	**0.53**	**29**		Pn	07 06 54.1	-0.1
UWB	**Uwekahuna B**	**0.53**	**29**	IAML		07 07 01.8	
	comp=N,390nm,1.9s						
UWB				IAML		07 07 02.9	
	comp=E,246nm,2.2s						
HATHI	**Halema'uma'u T**	**0.54**	**30**		Pn	07 06 54.2	0.0
HATHI	**Halema'uma'u T**	**0.54**	**30**	IAML		07 07 16.4	
	comp=N,502nm,1.1s						
KNHH	**Kane Nui o Ham**	**0.55**	**40**		Pn	07 06 54.4	0.0
MLH	**Mauna Loa**	**0.56**	**16**		Pn	07 06 54.8	+0.2
MLH					Sn	07 07 02.6	-0.8
MLH	**Mauna Loa**	**0.56**	**16**	IAML		07 07 07.1	
	comp=N,395nm,1.7s						
MLH				IAML		07 07 15.7	
	comp=E,260nm,4.2s						
RSD	**Rainshed**	**0.57**	**27**		Pn	07 06 54.5	-0.1
RSD	**Rainshed**	**0.57**	**27**		Sn	07 07 02.5	-0.9
RSD	**Rainshed**	**0.57**	**27**	IAML		07 07 04.1	
	comp=N,430nm,1.6s						
RSD				IAML		07 07 06.8	
	comp=E,381nm,2.0s						
MLOA	**Mauna Loa Obse**	**0.58**	**358**		Sn	07 07 03.1	-1.1
STCH	**Steam Cracks**	**0.59**	**43**		Pn	07 06 54.7	-0.1
STCH	**Steam Cracks**	**0.59**	**43**	IAML		07 07 00.6	
	comp=N,329nm,4.0s						
STCH				IAML		07 07 03.4	
	comp=E,192nm,0.4s						
ALEP	**Alea Permanent**	**0.59**	**351**		Pn	07 06 55.0	-0.1
JCUZ	**Jacuzzi**	**0.60**	**45**		Sn	07 07 02.9	-1.1
CPH	**Captain Cook**	**0.63**	**327**		Pn	07 06 55.2	0.0
HMH	**Humu'ula Sheep**	**0.65**	**6**		Pn	07 06 56.2	+0.4
HMH					Sn	07 07 05.1	-0.3
HMH	**Humu'ula Sheep**	**0.65**	**6**	IAML		07 07 05.4	
	comp=N,251nm,0.1s						
HMH				IAML		07 07 15.4	
	comp=E,179nm,3.4s						
JOKA	**Jonika Flow**	**0.70**	**47**		Pn	07 06 56.0	-0.1
JOKA					Sn	07 07 04.8	-1.4
KHLU	**Kahalu`u**	**0.71**	**333**		Pn	07 06 56.5	+0.1
KHLU	**Kahalu`u**	**0.71**	**333**	IAML		07 07 03.8	
	comp=N,196nm,3.4s						
KHLU				IAML		07 07 08.4	
	comp=E,109nm,1.9s						
HPAH	**Hawaii Prepara**	**1.08**	**353**		Sn	07 07 13.6	-1.5
HLK	**Haleakala**	**1.91**	**340**	Pn	Pn	07 07 12.4	-0.3

IDC 09 07:10:35.4±2.9, 54°.19N×87°.44E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=24.6km s-min=16.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**262**	I	I	07 20 42.5	
	0.1nm,1.1s,baz=77,slow=350,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.56**	**262**	Pg	Pn	07 11 02.0	-2.4
	2.2nm,0.3s,baz=84,slow=16,SNR=12						
ZALV				Lg	Lg	07 11 25.8	
	1.9nm,0.3s,baz=79,slow=27,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.52**	**240**	Pn	Pn	07 12 13.1	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=4.5						
KURBB				Lg	Lg	07 14 01.9	
	baz=55,slow=24,SNR=1.7						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.10**	**206**	Pn	Pn	07 12 36.0	+1.8
	0.3nm,0.3s,baz=26,slow=11,SNR=19						
MKAR				Sn	Sn	07 14 04.7	-1.7
	0.2nm,0.3s,baz=29,slow=27,SNR=6.6						
MKAR				Lg	Lg	07 14 51.8	
	baz=28,slow=31,SNR=1.8						
	0.3nm,0.3s						

*IDC **09** 07:20:04.2±1.4, 18°.16S×178°.34W, h581km±10km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=31.0km s-min=19.3km az=142.0*
ISC 09 07:20:03.5±1.2, 18°.2S±0°.2×178°.3W±0°.2, h579km, n9, σ0s97/12, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.51**	**276**	P	**P**	**07 21 23.8**	**-0.4**
	33nm,0.5s,baz=99,slow=4.2,SNR=32						
MSVF				S	**S**	**07 22 30.9**	**+1.0**
	3.6nm,0.6s,baz=26,slow=21,SNR=9.0						
DZM	**Mont Dzumac**	**14.86**	**252**	P	**P**	**07 23 10.5**	**-0.5**
	9.8nm,1.1s,baz=251,slow=18,SNR=2.1						
DZM				S	S	07 25 32.8	-12
	2.9nm,0.4s,baz=307,slow=20,SNR=17						
URZ	**Urewera**	**20.43**	**190**	P	**P**	**07 24 01.2**	**-0.6**
	2.7nm,0.4s,baz=42,slow=18,SNR=1.6						
	2.7nm,0.4s						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**07 26 39.4**	**+1.2**
	1.2nm,0.5s,baz=86,slow=10,SNR=7.1						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**44.70**	**260**	P	**P**	**07 27 26.3**	**0.0**
	0.2nm,0.3s,baz=93,slow=6.9,SNR=1.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**07 27 27.6**	**+0.4**
	2.8nm,0.4s,baz=90,slow=8.1,SNR=96						
ASAR				PcP	**PcP**	**07 28 57.5**	**+1.0**
	0.7nm,0.5s,baz=104,slow=3.6,SNR=8.9						
ASAR				S	**S**	**07 33 21.8**	**-1.7**
	0.3nm,0.7s,baz=94,slow=16,SNR=4.8						
	2.8nm,0.4s						
ILAR	**Eielson Array**	**86.10**	**13**	P	**P**	**07 31 42.4**	**-0.9**
	0.2nm,0.8s,baz=220,slow=5.5,SNR=5.2						
	0.2nm,0.8s						
BRTR	**Keskin Array B**	**145.04**	**315**	PKPbc	**PKPdf**	**07 38 36.3**	**+0.4**
	0.3nm,0.4s,baz=69,slow=2.0,SNR=4.3						
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc	**PKPbc**	**07 38 44.6**	**+0.4**
	0.8nm,0.4s,baz=38,slow=3.7,SNR=7.2						

*NEIC **09** 07:31:30.9±2.3, 20°.1S±0°.2×177°.6W±0°.1, h525km±8km, mb4.2/29, Error ellipse: s-maj=22.9km s-min=16.8km az=151.0*
*IDC **09** 07:31:31.9±2.0, 20°.19S×177°.66W, h547km±16km, mb3.5/9, mbtmp4.3/12, Error ellipse: s-maj=28.5km s-min=17.0km az=119.0*
ISC 09 07:31:31.9±0.5, 20°.15S±0°.09×177°.58W±0°.08, h550km, n80, σ1s102/81, mb4.2/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.79**	**299**	P	**P**	**07 33 00.5**	**+0.4**
	3.8nm,0.4s,baz=123,slow=9.2,SNR=7.6						
MSVF				S	**S**	**07 34 10.8**	**-1.2**
	1.0nm,0.3s,baz=172,slow=23,SNR=0.8						
MSVF	**Nonsavu**	**4.79**	**299**	P	**P**	**07 33 00.4**	**+0.3**
NIUE	**Niue**	**7.29**	**83**	P	**P**	**07 33 19.6**	**-3.1**
AFI	**Afiamalu**	**8.32**	**43**	P	**P**	**07 33 31.0**	**-2.0**
RAO	**Raoul Island**	**9.07**	**182**	P	**P**	**07 33 39.7**	**-0.5**
MARNC	**Mare, Loyalty**	**13.52**	**262**	P	**P**	**07 34 25.5**	**-0.7**
OUENC	**Ouen Island, N**	**14.70**	**258**	P	**P**	**07 34 38.2**	**0.0**
DZM	**Mont Dzumac**	**15.03**	**260**	P	**P**	**07 34 42.6**	**+0.7**
	8.6nm,0.9s,baz=157,slow=20,SNR=6.3						
DZM	**Mont Dzumac**	**15.03**	**260**	P	**P**	**07 34 41.1**	**-0.7**
URZ	**Urewera**	**18.62**	**193**	P	**P**	**07 35 14.4**	**-0.8**
	6.6nm,0.3s,baz=4.1,slow=3.8,SNR=16						
CTAO	**Charters Tower**	**33.92**	**264**	P	**P**	**07 37 29.9**	**+0.1**
COEN	**Coen**	**37.96**	**273**	P	**P**	**07 38 03.4**	**+0.1**
STKA	**Stephens Creek**	**38.30**	**244**	P	**P**	**07 38 06.0**	**+0.2**
	0.6nm,0.3s,baz=89,slow=12,SNR=4.4						
	0.6nm,0.3s						
STKA	**Stephens Creek**	**38.30**	**244**	P	**P**	**07 38 06.4**	**+0.7**
BBOO	**Buckleboo**	**43.06**	**243**	P	**P**	**07 38 43.9**	**+0.2**
BBOO				IAmb	IAmb	07 38 58.3	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**44.85**	**262**	P	**P**	**07 38 56.8**	**-0.9**
WR0				IAmb	IAmb	07 39 38.6	
	comp=Z,11nm,1.5s						
AS31	**Alice Springs**	**44.98**	**256**	P	**P**	**07 38 58.7**	**0.0**
ASAR	**Alice Springs**	**44.98**	**256**	P	**P**	**07 38 58.4**	**-0.4**
	comp=Z,5.5nm,0.7s,baz=91,slow=7.3,SNR=20						
ASAR				PcP	**PcP**	**07 40 28.1**	**0.0**
	comp=Z,1.2nm,0.5s,baz=100,slow=3.9,SNR=9.4						
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**44.98**	**256**	P	**P**	**07 38 58.1**	**-0.6**
WB0	**Warramunga Arr**	**45.02**	**262**	P	**P**	**07 38 58.5**	**-0.5**
WB2	**Warramunga Arr**	**45.03**	**262**	P	**P**	**07 38 58.5**	**-0.5**
WB2				IAmb	IAmb	07 38 58.9	
	comp=Z,9.1nm,1.1s						
WRAB	**Tennant Creek**	**45.03**	**262**	P	**P**	**07 38 58.3**	**-0.9**
WRAB				IAmb	IAmb	07 39 03.8	
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**45.04**	**262**	P	**P**	**07 38 57.3**	**-1.9**
	comp=Z,2.8nm,0.4s,baz=98,slow=7.7,SNR=40						
	comp=Z,2.8nm,0.4s						
WRA	**Warramunga Arr**	**45.04**	**262**	P	**P**	**07 38 58.5**	**-0.7**
FORT	**Forrest**	**49.80**	**246**	P	**P**	**07 39 34.0**	**-0.6**
FORT				IAmb	IAmb	07 39 34.6	
	comp=Z,9.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.47**	**262**	P	**P**	**07 40 01.6**	**+0.3**
PSA00	**Pilbara Seismi**	**58.13**	**257**	P	**P**	**07 40 33.0**	**-0.6**
PSA00				IAmb	IAmb	07 41 08.8	
	comp=Z,22nm,1.4s						
NWAO	**Narrogin (SRO)**	**58.88**	**243**	P	**P**	**07 40 38.6**	**+0.2**
QSPA	**South Pole Qui**	**69.92**	**180**	P	**P**	**07 41 49.9**	**+2.1**
MJAR	**Matsushiro Arr**	**70.17**	**323**	P	**P**	**07 41 49.0**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=132,slow=5.1,SNR=5.8						
	comp=Z,2.9nm,0.7s						
PETK	**Petropavlovsk-**	**76.04**	**345**	P	**P**	**07 42 22.7**	**0.0**
	comp=Z,6.3nm,1.0s,baz=144,slow=13,SNR=1.6						
	comp=Z,6.3nm,1.0s						
USRK	**Ussuriysk Ar.**	**78.90**	**326**	P	**P**	**07 42 39.8**	**+1.4**
	comp=Z,2.9nm,0.7s,baz=89,slow=5.3,SNR=4.2						
	comp=Z,2.9nm,0.7s						
SCM	**Sheep Creek Mo**	**85.20**	**14**	P	**P**	**07 43 10.5**	**+0.5**
N25K	**Chitina, Valde**	**85.65**	**15**	P	**P**	**07 43 12.7**	**+0.4**
J20K	**Nowinta River**	**86.00**	**10**	P	**P**	**07 43 14.3**	**+0.6**
J20K				IAmb	IAmb	07 43 51.8	
	comp=Z,4.6nm,1.4s						
TRF	**Thorofare Moun**	**86.03**	**12**	P	**P**	**07 43 13.7**	**-0.4**
TRF				IAmb	IAmb	07 43 14.9	
	comp=Z,4.2nm,0.9s						
TX31	**Lajitas Ar. Si**	**86.53**	**57**	P	**P**	**07 43 19.9**	**+2.6**
TX31				IAmb	IAmb	07 44 02.6	
	comp=Z,10nm,1.4s						
TX32	**Lajitas Array**	**86.53**	**57**	P	**P**	**07 43 19.9**	**+2.6**
TXAR	**Lajitas Array**	**86.53**	**57**	P	**P**	**07 43 19.8**	**+2.6**
MLY	**Manley**	**87.38**	**11**	P	**P**	**07 43 20.2**	**0.0**
WRH	**Wood River Hil**	**87.38**	**12**	P	**P**	**07 43 20.5**	**+0.3**
WRH				IAmb	IAmb	07 43 27.1	
	comp=Z,4.9nm,1.4s						
HDA	**Harding Lake**	**87.56**	**13**	P	**P**	**07 43 21.4**	**+0.4**
HDA				IAmb	IAmb	07 43 53.4	
	comp=Z,7.1nm,1.4s						
CCB	**Clear Creek Bu**	**87.59**	**12**	P	**P**	**07 43 21.0**	**-0.2**
CCB				IAmb	IAmb	07 43 21.0	
	comp=Z,6.8nm,1.5s						
H21K	**Melozitna Rive**	**87.60**	**10**	P	**P**	**07 43 21.8**	**+0.6**
H21K				IAmb	IAmb	07 43 47.1	
	comp=Z,4.3nm,1.4s						
IMAR	**Indian Mountai**	**87.75**	**10**	P	**P**	**07 43 22.3**	**+0.4**
ILAR	**Eielson Array**	**87.89**	**13**	P	**P**	**07 43 22.2**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=218,slow=5.2,SNR=13						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**87.89**	**13**	P	**P**	**07 43 22.8**	**+0.2**
J26L	**Joseph Creek**	**88.37**	**14**	P	**P**	**07 43 26.5**	**+1.5**
J26L				IAmb	IAmb	07 44 06.2	
	comp=Z,5.0nm,1.5s						
PDAR	**Pinedale Array**	**88.44**	**43**	P	**P**	**07 43 26.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=261,slow=2.9,SNR=4.4						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**88.44**	**43**	P	**P**	**07 43 27.7**	**+1.7**
M30M	**Minto, Yukon**	**88.52**	**18**	P	**P**	**07 43 26.9**	**+1.2**
M30M				IAmb	IAmb	07 43 27.1	
	comp=Z,4.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**90.37**	**289**	P	**P**	**07 43 36.3**	**+1.1**
	comp=Z,2.2nm,0.3s,baz=108,slow=2.4,SNR=5.8						
	comp=Z,2.2nm,0.3s						
BVAR	**Borovoye Array**	**119.07**	**320**	PKP	**PKiKP**	**07 49 17.3**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=123,slow=3.4,SNR=2.4						
ARCES	**ARCESS Array B**	**128.65**	**350**	PKP	**PKiKP**	**07 49 36.0**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=343,slow=2.8,SNR=1.2						
AKASG	**Malin Array Be**	**142.90**	**332**	PKhKP	PKPpre	07 49 59.6	
	comp=Z,3.5nm,0.5s,baz=38,slow=4.4,SNR=29						
BRTR	**Keskin Array B**	**146.90**	**313**	PKPbc	**PKPbc**	**07 50 12.8**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=81,slow=2.1,SNR=7.8						
BURAR	**Bucovina Array**	**146.95**	**331**	PKPbc	**PKiKP**	**07 50 13.9**	**-1.0**
OSTC	**Ostas**	**147.75**	**343**	*e*PKP	**PKiKP**	**07 50 15.9**	**-0.4**
CLL	**Collm**	**147.81**	**348**	PKPbc	**PKiKP**	**07 50 15.7**	**-0.7**
CLL	**Collm**	**147.81**	**348**	*i* PKPbc	**PKiKP**	**07 50 15.2**	**-1.2**
	comp=Z,8.0nm,0.6s						
DPC	**Dobruska-Polom**	**147.91**	**343**	*e*PKP	**PKiKP**	**07 50 16.2**	**-0.5**
MMAI	**Mount Meron Ar**	**147.98**	**300**	PKPbc	**PKiKP**	**07 50 16.7**	**-0.8**
	comp=Z,2.4nm,0.4s,baz=76,slow=6.1,SNR=2.0						
MORC	**Moravsky Berou**	**148.08**	**341**	PKPbc	**PKiKP**	**07 50 16.2**	**-0.9**
MDUB	**Mudurnu**	**148.18**	**316**	PKPbc	**PKPbc**	**07 50 15.8**	**-0.6**
PRU	**Pruhonice**	**148.70**	**345**	*e*PKP	**PKiKP**	**07 50 17.8**	**-0.5**
GOPC	**GO Pecny, Ondr**	**148.71**	**345**	*e*PKP	**PKiKP**	**07 50 17.8**	**-0.5**
PSZ	**Piszkesteto**	**148.90**	**337**	PKPbc	**PKPbc**	**07 50 17.2**	**-0.7**
KHC	**Kasperske Hory**	**149.73**	**345**	PKPbc	**PKiKP**	**07 50 20.2**	**-0.3**
KHC	**Kasperske Hory**	**149.73**	**345**	*e*PKP	**PKiKP**	**07 50 20.3**	**-0.2**
CKRC	**Cesky Krumlov**	**149.84**	**344**	*e*PKP	**PKiKP**	**07 50 21.7**	**+1.0**
GERES	**GERESS Array B**	**149.97**	**345**	PKPbc	**PKiKP**	**07 50 20.6**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=11,slow=2.0,SNR=13						
GERES	**GERESS Array B**	**149.97**	**345**	PKPbc	**PKiKP**	**07 50 20.8**	**-0.3**
CONA	**Conrad Observa**	**150.23**	**342**	*i* PKP	**PKiKP**	**07 50 21.5**	**-0.1**
	comp=Z,2.9nm,0.6s						
RONA	**Rosalia, Austr**	**150.30**	**341**	*e*PKP	**PKiKP**	**07 50 21.5**	**-0.2**
	comp=Z,4.2nm,0.5s						
MOA	**Molln**	**150.75**	**344**	*e*PKP	**PKiKP**	**07 50 22.2**	**-0.4**
	comp=Z,1.6nm,0.5s						
KBA	**Koelnbreinsper**	**151.70**	**344**	*e*PKP	**PKiKP**	**07 50 25.4**	**+0.6**
	comp=Z,0.9nm,0.5s						
WATA	**Walderalm**	**151.88**	**347**	*e*PKP	**PKiKP**	**07 50 26.1**	**+1.0**
	comp=Z,2.0nm,0.4s						
OBKA	**Obir**	**151.90**	**342**	*e*PKP	**PKiKP**	**07 50 25.5**	**+0.3**
	comp=Z,1.9nm,0.7s						
WTTA	**Wattenberg**	**151.93**	**347**	*e*PKP	**PKiKP**	**07 50 24.6**	**-0.7**
	comp=Z,2.4nm,0.7s						
ABTA	**Abfaltersbach**	**152.22**	**345**	*e*PKP	**PKPbc**	**07 50 23.0**	**-2.6**
	comp=Z,0.8nm,0.3s						

IDC 09 07:41:48.7±553.0, 53°.34N×167°.37W, h0km, Error ellipse: s-maj=311.8km s-min=217.6km az=111.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I53US	**FAIRBANKS INFR**	**15.21**	**33**	I	I	09 16 00.0	
	0.1nm,5.3s,baz=225,slow=305,SNR=2.2						
I59US	**HAWAII INFRASO**	**34.84**	**161**	I	I	11 18

KSH LR LR
comp=N,400nm,5.0s
KSH LR LR
comp=E,330nm,5.7s
KSH LR LR
comp=Z,260nm,3.8s
MRKS Merke 4.37 27 Pg **Pn 07 45 17.3 +3.2**
comp=Z,41nm,0.3s
MRKS Lg Lg 07 46 08.6
comp=Z,137nm,0.4s
MRKS Merke 4.37 27 *e*Pg Pn 07 45 19.3 +5.2
comp=Z,41nm,0.2s
MRKS *e*Lg Lg 07 46 09.7
comp=Z,137nm,0.4s
EKS2 Erkin-Say 4.52 32 P **Pn 07 45 19.3 +3.2**
SNR=47
EKS2 Erkin-Say 4.52 32 *e*PN **Pn 07 45 16.4 +0.3**
UCH Uchtor 4.52 41 P **Pn 07 45 20.0 +3.6**
SNR=131
UCH Uchtor 4.52 41 *e*PN **Pn 07 45 16.6 +0.1**
AAK Ala-Archa 4.82 38 P **Pn 07 45 23.9 +3.7**
SNR=112
AAK Ala-Archa 4.82 38 Pn **Pn 07 45 24.0 +3.7**
comp=Z,66nm,0.4s,baz=206,slow=4.8,SNR=155
AAK Sn **Sn 07 46 23.4 +6.8**
comp=Z,7.4nm,0.3s,baz=19,slow=16,SNR=5.9
AAK LR LR 07 47 32.7
comp=Z,124nm,21.8s,baz=210,slow=42
AAK Ala-Archa 4.82 38 *ce*PN **Pn 07 45 23.7 +3.4**
AAK pmax pmax
comp=Z,49nm,0.6s
NRN Naryn 4.92 57 ⇓*i*PN **Pn 07 45 21.6 -0.2**
NRN *i* S **Sn 07 46 17.4 -1.8**
FRU1 Bishkek 5.01 37 *e*PN **Pn 07 45 23.4 +0.5**
KBK Karagaybulak 5.06 40 P **Pn 07 45 27.8 +4.2**
SNR=142
KBK Karagaybulak 5.06 40 *e*PN **Pn 07 45 23.8 +0.3**
KBK *i* S **Sn 07 46 21.2 -1.2**
CHMS Chumysh 5.22 37 P **Pn 07 45 29.1 +3.5**
SNR=54
CHMS Chumysh 5.22 37 ⇑Pn **Pn 07 45 28.4 +2.8**
comp=Z,33nm,0.5s
CHMS ⇓Sn **Sn 07 46 31.6 +5.4**
comp=Z,79nm,0.7s
CHMS Chumysh 5.22 37 PN **Pn 07 45 28.4 +2.8**
CHMS 07 46 31.5
USP Ospenovka 5.32 33 P **Pn 07 45 30.1 +3.1**
SNR=94
USP Ospenovka 5.32 33 *e*PN **Pn 07 45 27.2 +0.2**
BOOM Boomskoye usch 5.48 47 *e*PN **Pn 07 45 29.6 +0.3**
ULHL Ulahol 5.51 51 P **Pn 07 45 32.8 +3.0**
SNR=13
ULHL Ulahol 5.51 51 *e*PN **Pn 07 45 30.1 +0.3**
ULHL *e*S **Sn 07 46 31.2 -2.4**
TKM2 Tokmak 2 5.58 42 P **Pn 07 45 34.4 +3.7**
SNR=28
TKM2 Tokmak 2 5.58 42 ⇓Pn **Pn 07 45 32.9 +2.1**
comp=Z,45nm,0.5s
TKM2 ⇓Sn **Sn 07 46 41.8 +6.5**
comp=Z,103nm,0.9s
TKM2 Tokmak 2 5.58 42 PN **Pn 07 45 32.8 +2.1**
TKM2 07 46 41.8
KST Kastek 5.86 43 Pg Pn 07 45 40.2 +5.7
comp=Z,18nm,0.8s
KST Kastek 5.86 43 *e*Pg Pb 07 45 42.5 -7.1
comp=Z,16nm,0.4s
KST *e*Lg Lg 07 46 49.6
comp=Z,47nm,1.0s
DGS Degeres 5.90 41 *e*Pg Pb 07 45 44.3 -5.9
comp=Z,21nm,0.5s
DGS *e*Lg Lg 07 46 52.7
comp=Z,49nm,0.8s
MTBS Maitube 6.17 45 *e*Pg Pb 07 45 50.8 -4.0
comp=Z,11nm,0.5s
MTBS *e*Lg Lg 07 47 03.4
comp=Z,13nm,1.6s
KRBS Karabastau 6.18 37 *e*Pg Pb 07 45 51.2 -3.9
comp=Z,10nm,0.2s
KRBS *e*Lg Lg 07 47 04.3
comp=Z,21nm,1.3s
TARG Taragay, Kyrgy 6.26 61 **Pn 07 45 42.7 +2.4**
TARG Taragay, Kyrgy 6.26 61 PN **Pn 07 45 42.7 +2.4**
TNSS Tian-Shan 6.40 48 Pg Pb 07 45 51.5 -7.5
comp=Z,7.7nm,0.7s
TNSS Lg Lg 07 47 06.7
comp=Z,5.2nm,1.0s
TNSS Tian-Shan 6.40 48 *e*Pg Pb 07 45 54.4 -4.6
comp=Z,5.6nm,0.4s
TNSS *e*Lg Lg 07 47 10.1
comp=Z,7.2nm,1.1s
MDOK Medeo 6.54 47 Pn **Pn 07 45 46.3 +2.5**
comp=Z,19nm,0.7s
MDOK ⇑Lg Lg 07 47 40.9
comp=Z,51nm,0.9s
KUU Kurty 6.65 39 Pg Pb 07 45 58.0 -5.0
comp=Z,12nm,0.9s
KUU Kurty 6.65 39 *e*Pg Pb 07 46 01.6 -1.5
comp=Z,8.9nm,1.3s
KUU *e*Lg Lg 07 47 22.0
comp=Z,21nm,1.2s
BTLS Baital 6.69 22 *e*Pg **Pb 07 46 04.0 +0.2**
comp=Z,6.6nm,0.4s
BTLS *e*Lg Lg 07 47 26.5
comp=Z,25nm,0.5s
KTBS Karatobe 6.70 42 Pg Pb 07 45 58.0 -5.8
comp=Z,13nm,0.7s
KTBS Lg Lg 07 47 18.0
comp=Z,58nm,1.2s
KTBS Karatobe 6.70 42 *e*Pg Pb 07 46 01.0 -2.8
comp=Z,4.8nm,0.5s
KTBS *e*Lg Lg 07 47 21.4
comp=Z,31nm,0.9s
CHKK Chushkaly 6.96 42 *e*Pg Pb 07 46 04.5 -3.8
comp=Z,4.5nm,0.3s
CHKK *e*Lg Lg 07 47 27.1
comp=Z,12nm,0.9s
KURS Kuram 7.38 49 *e*Pg **Pb 07 46 14.5 -1.1**
comp=Z,8.5nm,1.0s
KURS *e*Lg Lg 07 47 44.3
comp=Z,10.0nm,0.6s
THN Thein Dam 7.70 145 *e*P **Pn 07 46 03.7 +4.0**
THN *e*S **Sn 07 47 30.1 +2.7**
THN IAML 07 47 38.8
comp=E,52nm,0.6s
THN IAML 07 47 39.0
comp=N,45nm,0.9s
DHRM DHARAMSHALA 8.13 143 *e*P **Pn 07 46 08.6 +2.9**
DHRM *e*S **Sn 07 47 37.0 -1.1**
DHRM IAML 07 47 42.4
comp=E,127nm,0.7s
DHRM IAML 07 47 42.6
comp=N,106nm,0.6s
GEYT Alibeck 9.77 268 Pn **Pn 07 46 26.0 -2.1**
comp=N,0.6nm,0.3s,baz=82,slow=11,SNR=2.3
GEYT Sn **Sn 07 48 15.5 -2.8**
comp=N,1.0nm,0.3s,baz=281,slow=32,SNR=1.7
GEYT LR LR 07 51 09.3
comp=N,68nm,19.1s,baz=112,slow=43
GEYT Alibeck 9.77 268 Pn **Pn 07 46 26.7 -1.5**
GEYT Alibeck 9.77 268 P **Pn 07 46 26.7 -1.5**
GYA0B ALIBECK ARRAY 9.77 268 Pn **Pn 07 46 26.9 -1.2**
MAKZ Makanchi 11.55 43 Pn **Pn 07 46 54.8 +2.4**
MAKZ Makanchi 11.55 43 ⇑P **Pn 07 46 53.0 +0.6**
comp=N,5.3nm,1.1s
MAKZ Makanchi 11.55 43 P **Pn 07 46 54.8 +2.4**
MK31 Makanchi Array 11.71 44 **Pn 07 46 57.1 +2.6**
MK31 Makanchi Array 11.71 44 ⇑P **Pn 07 46 55.6 +1.0**
comp=N,3.1nm,0.7s,baz=217,slow=10,SNR=24
MK31 Makanchi Array 11.71 44 *i* P **Pn 07 46 56.2 +1.6**
MKAR Makanchi Array 11.71 44 Pn **Pn 07 46 56.0 +1.4**
comp=N,0.3nm,0.3s,baz=230,slow=14,SNR=34
MKAR Lg Lg 07 50 13.2
comp=N,0.1nm,0.3s,baz=246,slow=33,SNR=2.2
comp=N,3.2nm,0.7s
MKAR Makanchi Array 11.71 44 Pn **Pn 07 46 57.1 +2.5**
MKAR Makanchi Array 11.71 44 P **Pn 07 46 57.1 +2.5**
AB31 Akbulak array 12.84 327 ⇑P **Pn 07 47 08.0 -2.0**
comp=N,8.3nm,0.5s,baz=137,slow=14,SNR=408
AB31 ⇓S **Sn 07 49 27.1 -6.1**
comp=N,9.6nm,0.6s
AB31 Akbulak array 12.84 327 *e*P **Pn 07 47 08.3 -1.7**
ABKAR Akbulak array 12.84 327 Pn **Pn 07 47 08.6 -1.4**
KURBB Kurchatov Arra 13.04 23 Pn **Pn 07 47 11.2 -1.4**
comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=16
KURBB Lg Lg 07 50 51.7
comp=N,0.1nm,0.3s,baz=216,slow=29,SNR=4.9
KURBB LR LR 07 52 33.5
comp=N,100nm,20.3s,baz=175,slow=39
comp=N,1.5nm,0.7s
KURK Kurchatov 13.15 23 Pn **Pn 07 47 14.1 -0.1**
KURK Kurchatov 13.15 23 ⇑P **Pn 07 47 14.5 +0.4**
KURK Kurchatov 13.15 23 P **Pn 07 47 14.1 -0.1**
BVA0 Borovoye Array 14.14 360 Pn **Pn 07 47 27.7 -0.1**
comp=N,8.1nm,1.4s,baz=167,slow=12,SNR=11
BVA0 ⇑Sn **Sn 07 50 04.8 -0.2**
comp=N,4.5nm,0.8s
BVAR Borovoye Array 14.14 360 Pn **Pn 07 47 26.0 -1.8**
comp=N,0.1nm,0.3s,baz=159,slow=10,SNR=9.6
BVAR Sn **Sn 07 50 02.4 -2.6**
comp=N,0.1nm,0.3s,baz=150,slow=18,SNR=5.5
BVAR Lg Lg 07 51 24.9
baz=202,slow=25,SNR=2.2
comp=N,1.5nm,0.5s
BVAR Borovoye Array 14.14 360 P **Pn 07 47 26.0 -1.8**
BRVK Borovoye 14.18 359 Pn **Pn 07 47 29.7 +1.5**
BRVK Borovoye 14.18 359 ⇑Pn **Pn 07 47 26.7 -1.6**
comp=N,2.7nm,0.7s
BRVK ⇑Sn **Sn 07 50 04.4 -1.5**
comp=N,4.0nm,0.8s
BRVK Borovoye 14.18 359 P **Pn 07 47 29.7 +1.5**
AKTO Aktyubinsk 14.55 327 Pn **Pn 07 47 32.1 -1.3**
comp=N,0.6nm,0.3s,baz=134,slow=14,SNR=14
AKTO Sn Sn 07 50 06.0 -8.9
comp=N,0.3nm,0.3s,baz=107,slow=16,SNR=3.9
AKTO LR LR 07 53 28.1
comp=N,67nm,18.2s,baz=224,slow=38
comp=N,4.0nm,0.6s
AKTO Aktyubinsk 14.55 327 ⇑P **Pn 07 47 30.4 -2.9**
comp=N,7.3nm,0.6s
AKTO ⇑S **Sn 07 50 10.2 -4.7**
comp=N,15nm,1.4s
AKTO Aktyubinsk 14.55 327 P **Pn 07 47 33.5 +0.1**
DANN Dangsing 15.22 130 *e*P **Pn 07 47 43.6 +0.8**
comp=N,7.8nm,0.4s
KOLN Koldanda 15.55 132 *e*P **Pn 07 47 47.0 -0.1**
DMN Daman 16.57 128 *e*P **Pn 07 47 59.4 -0.9**
JIRN Jiri 17.21 126 *e*P **Pn 07 48 07.4 -1.1**
comp=N,20nm,0.4s
ZAA0 Zalesovo Array 17.96 28 Pn **Pn 07 48 17.3 +0.2**
ZALV Zalesovo Beam 17.96 28 P **Pn 07 48 16.9 -0.2**
comp=N,0.9nm,0.3s,baz=226,slow=12,SNR=9.0
comp=N,3.7nm,0.4s
ZALV Zalesovo Beam 17.96 28 Pn **Pn 07 48 17.4 +0.2**
ZALV Zalesovo Beam 17.96 28 P **Pn 07 48 17.4 +0.2**
RAMN Ramite 17.97 127 *e*P **Pn 07 48 14.4 -3.4**
comp=N,24nm,0.5s
ARU Arti 19.26 340 P **P 07 48 33.8 +1.8**
baz=160,slow=6.8,SNR=9.3
ARU S **Sn 07 52 01.1 -7.9**
comp=N,2.0nm,0.5s,baz=340,slow=22,SNR=5.6
ARU LR LR 07 55 18.0
comp=N,14nm,20.8s,baz=138,slow=35
comp=N,6.2nm,0.6s
ARU Arti 19.26 340 P **P 07 48 33.3 +1.2**
ARU IAmb IAmb 07 48 37.0
comp=Z,6.2nm,0.7s
ARU Arti 19.26 340 *c i*P **P 07 48 33.5 +1.4**
ARU S **S 07 52 14.6 +4.2**
ARU pmax pmax
comp=Z,13nm,1.0s
ONI Oni 20.80 289 P **P 07 48 50.1 +1.1**
ONI IAmb IAmb 07 48 55.2
comp=Z,11nm,0.8s
ONI Oni 20.80 289 P **P 07 48 50.1 +1.1**
ONI pmax pmax
comp=Z,11nm,0.8s
BELG Belogornoye 20.82 318 P **P 07 48 50.1 +1.0**
comp=Z,16nm,0.6s,baz=323,slow=1.6,SNR=13
BELG S Sn 07 52 45.0 -1.7
comp=Z,3.8nm,0.6s,baz=269,slow=9.4,SNR=3.7
BELG LR LR 07 58 30.9
comp=Z,64nm,19.1s,baz=116,slow=41
comp=Z,16nm,0.6s
BELG Belogornoye 20.82 318 *i* P **P 07 48 51.0 +1.9**
BELG pmax pmax
comp=Z,7.0nm,1.4s
KBZ Khabaz 21.25 292 P **P 07 48 55.9 +2.1**
comp=Z,2.9nm,0.9s,baz=155,slow=5.0,SNR=3.9
comp=Z,2.9nm,0.9s
KBZ Khabaz 21.25 292 *ce*P **P 07 48 57.2 +3.4**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KVAR Kislovodsk Arr 21.41 293 P **P 07 48 57.8 +2.1**
comp=Z,2.9nm,0.5s,baz=108,slow=16,SNR=1.7
comp=Z,2.9nm,0.5s
KIV Kislovodsk 21.42 293 *e*P **P 07 48 55.8 +0.1**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,21nm,14.0s
VRH Novokhopyorsk 23.61 311 *e*P **P 07 49 20.8 +2.3**
VRH pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 25.14 310 *e*P P 07 49 40.0 +7.3
VSR pmax pmax
comp=Z,6.0nm,0.5s
VORR Voronezh 25.25 311 P **P 07 49 36.5 +2.8**
VORR pmax pmax
comp=Z,10.0nm,1.4s
SONM Songino Array 27.38 59 P **P 07 49 53.3 +0.1**
comp=Z,0.3nm,0.7s,baz=273,slow=11,SNR=2.1
comp=Z,0.3nm,0.7s
OBN Obninsk 27.91 317 ⇓*e*P **P 07 50 00.5 +2.9**
OBN pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 28.42 284 *ce*P P 07 50 07.9 +5.4
BRTR pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 31.19 306 P **P 07 50 28.5 +1.8**
comp=Z,1.0nm,0.6s,baz=112,slow=7.7,SNR=6.8
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 31.19 306 *ce*P **P 07 50 29.2 +2.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
NRIK Noril'sk 31.86 11 *i* P **P 07 50 33.4 +0.9**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 31.98 121 *ce*P P 07 50 29.8 -4.3
CMAR pmax pmax
comp=Z,3.0nm,0.3s
MNK Minsk 32.57 313 *i* P **P 07 50 37.6 -1.2**
comp=E,3.0nm,0.9s
MNK *i* P **P 07 50 37.6 -1.2**
comp=N,23nm,0.7s
MNK *i* P **P 07 50 37.6 -1.2**
comp=Z,4.0nm,0.6s,baz=281
MNK *i* PP **PnPn 07 51 46.9 +1.0**
MNK *i* PPP PPP 07 51 57.9
MNK *i* S **S 07 55 53.7 -0.8**
MNK *i* SS **SnSn 07 57 53.1 +5.2**
MNK *i* SSS SSS 07 58 09.5
MNK *i* LQ LQ 08 01 31.0
MNK *i* LR LR 08 04 17.1
MNK *i* LRM MLR 08 05 35.0
comp=N,198nm,16.8s
MNK *i* LRM MLR 08 06 04.0
comp=E,14nm,17.4s
MNK *i* LRM MLR 08 06 06.6
comp=Z,83nm,19.3s
MNK Minsk 32.57 313 *i* P **P 07 50 37.6 -1.2**
MNK *i* 07 51 46.9
MNK *i* PPP PPP 07 51 57.9
MNK *i* 07 53 21.5
MNK *i* S **S 07 55 53.7 -0.8**
MNK *i* SS **SnSn 07 57 53.1 +5.2**
MNK *i* SSS SSS 07 58 09.5
MNK *i* 08 01 03.0
MNK pmax pmax
comp=Z,4.0nm,0.6s
MNK pmax pmax
comp=N,23nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=N,198nm,17.0s
MNK MLR MLR
comp=E,14nm,17.0s
MNK MLR MLR
comp=Z,83nm,19.0s
FIA1 FINESS Array S 35.31 324 P **P 07 51 03.8 +1.2**
FIA1 IAmb IAmb 07 51 17.3
comp=Z,27nm,1.3s
FINES FINESS Array B 35.31 324 P **P 07 51 01.7 -0.8**
comp=Z,2.6nm,0.6s,baz=119,slow=7.9,SNR=5.5
comp=Z,2.6nm,0.6s
FINES FINESS Array B 35.31 324 P **P 07 51 03.6 +1.1**
FINES FINESS Array B 35.31 324 *ce*P **P 07 51 03.7 +1.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 38.80 337 P **P 07 51 32.4 +0.2**
comp=Z,4.6nm,0.9s,baz=116,slow=2.8,SNR=4.2
comp=Z,4.6nm,0.9s
NC303 NORSAR Array S 42.20 322 P **P 07 52 01.3 +1.0**
NB201 NORSAR Array S 42.22 322 P **P 07 52 01.8 +1.3**
NB2 NORSAR Subarra 42.26 322 P **P 07 52 01.1 +0.2**
comp=Z,1.8nm,0.8s,baz=93,slow=8.6
NOA NORSAR Array B 42.26 322 P **P 07 52 00.9 0.0**
comp=Z,0.9nm,0.5s,baz=95,slow=8.2,SNR=6.6
NOA LR LR 08 10 26.1
comp=Z,36nm,18.9s,baz=275,slow=37
comp=Z,0.9nm,0.5s
TIXI Tiksi 43.72 23 P **P 07 52 11.9 -0.7**
comp=Z,2.8nm,0.6s,baz=269,slow=24,SNR=8.1
comp=Z,2.8nm,0.6s
TIXI Tiksi 43.72 23 *ce*P **P 07 52 12.1 -0.4**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
DAVOX Davos/Dischmat 44.17 301 LR LR 08 13 27.8
comp=Z,42nm,19.6s,baz=13,slow=40
ERM Erimo 53.82 62 *ce*P P 07 53 26.8 -3.7
ERM pmax pmax
comp=Z,97nm,1.7s
ESDC Sonseca Array 56.03 296 P **P 07 53 48.4 +1.7**
comp=Z,0.8nm,0.5s,baz=58,slow=7.3,SNR=7.1
comp=Z,0.8nm,0.5s
BILL Bilibino 56.65 27 ⇓*e*P **P 07 53 49.5 -1.1**
BILL SSS SSS 08 07 47.0
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,42nm,17.0s
INK Inuvik 71.62 9 P **P 07 55 28.9 +0.1**
comp=Z,0.5nm,0.6s,baz=337,slow=10.0,SNR=4.6
comp=Z,0.5nm,0.6s
WRA Warramunga Arr 83.58 122 P **P 07 56 36.1 -0.2**
comp=Z,0.5nm,0.7s,baz=330,slow=4.8,SNR=6.8
comp=Z,0.5nm,0.7s
ASAR Alice Springs 85.93 125 P **P 07 56 48.9 +0.8**
comp=Z,0.4nm,0.8s,baz=321,slow=5.0,SNR=4.2
comp=Z,0.4nm,0.8s

IDC 09 07:46:31.1±2.6, 53°.73N×87°.13E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=24.7km s-min=14.8km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**280**	I	I	07 56 10.0	
	0.4nm,0.7s,baz=100,slow=345,SNR=16						
ZALV	**Zalesovo Beam**	**1.39**	**280**	Pg	Pg	07 46 56.2	-1.6
	2.5nm,0.3s,baz=99,slow=16,SNR=18						
ZALV				Lg	Lg	07 47 14.9	
	2.3nm,0.3s,baz=106,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.14**	**243**	Pn	Pn	07 48 04.1	+1.1
	0.1nm,0.3s,baz=61,slow=14,SNR=5.0						
KURBB				Lg	Lg	07 49 47.3	
	baz=53,slow=31,SNR=4.9						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.60**	**206**	Pn	Pn	07 48 24.4	+1.3
	0.4nm,0.3s,baz=28,slow=14,SNR=11						
MKAR				Sn	Sn	07 49 49.3	-0.6
	0.2nm,0.3s,baz=27,slow=25,SNR=1.7						
	0.5nm,0.2s						

WEL 09 07:48:48.5±1.1, 42°S±5°×17°4E±°, h3km±4km, M1.5/2, ML2.3/6, MLv1.5/2, Error ellipse: s-maj=0.0km s-min=0.0km az=115.4, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.14**	**261**	P	Pg	07 48 50.9	-0.3
KHZ				S	Sg	07 48 53.6	+0.4
GVZ	**Greta Valley S**	**0.77**	**221**	P	Pg	07 49 03.5	+0.2
GVZ				S	Sb	07 49 15.1	-0.3
THZ	**Tophouse**	**0.88**	**316**	P	Pb	07 49 06.0	-0.4
LTZ	**Lake Taylor**	**1.14**	**250**	P	Pg	07 49 09.5	-0.9
LTZ				S	Sg	07 49 25.5	+0.3
TKNZ	**Takaka Hill**	**1.48**	**337**	P	Pn	07 49 15.9	-0.1

*NNC **09** 07:59:26.8±7.2, 53°.28N×91°.42E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=60.4km s-min=30.3km az=87.0, Suspected Mining explosion.*
*IDC **09** 07:59:32.8±3.1, 53°.30N×90°.45E, h0km, mbtmp3.4/3, ML2.9/3, Error ellipse: s-maj=26.8km s-min=20.0km az=59.0*

ISC 09 07:59:27.8±3.6, 53°.8N±0°.2×90°.6E±0°.2, h0km, n9, σ1s37/10, 1C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.42**	**275**	I	I	08 20 17.8	
	baz=102,slow=325						
ZAA0	**Zalesovo Array**	**3.42**	**275**	Pn	**Pb**	**08 00 27.7**	**-1.5**
	1.6nm,0.6s,baz=103,slow=16						
ZAA0				⇑Sn	**Sg**	**08 01 18.3**	**+0.7**
	11nm,0.9s,baz=96,slow=25						
ZALV	**Zalesovo Beam**	**3.42**	**275**	Pn	**Pb**	**08 00 27.6**	**-1.6**
	1.5nm,0.3s,baz=102,slow=16,SNR=17						
ZALV				Pg	**Pg**	**08 00 35.2**	**+1.9**
	3.2nm,0.3s,baz=100,slow=16,SNR=17						
ZALV				Lg	Lg	08 01 21.5	
	2.1nm,0.3s,baz=89,slow=24,SNR=8.7						
	4.8nm,0.5s						
KURBB	**Kurchatov Arra**	**8.06**	**252**	Pn	**Pn**	**08 01 26.8**	**+0.8**
	0.2nm,0.3s,baz=66,slow=14,SNR=7.9						
KURBB				Sn	**Sn**	**08 02 57.0**	**-0.7**
	0.1nm,0.3s,baz=65,slow=25,SNR=8.5						
KURBB				Lg	Lg	08 03 39.6	
	baz=60,slow=32,SNR=1.8						
	1.3nm,0.3s						
MK31	**Makanchi Array**	**8.79**	**220**	Pn	**Pn**	**08 01 36.2**	**+0.2**
	0.7nm,0.5s,baz=41,slow=12,SNR=33						
MK31				Sn	**Sn**	**08 03 15.5**	**-0.2**
	6.1nm,1.0s						
MK31				Lg	Lg	08 04 02.9	
	23nm,1.2s						
MKAR	**Makanchi Array**	**8.79**	**220**	Pn	**Pn**	**08 01 36.5**	**+0.4**
	0.5nm,0.3s,baz=41,slow=13,SNR=33						
MKAR				Sn	Sn	08 03 09.1	-6.6
	0.1nm,0.3s,baz=32,slow=22,SNR=1.4						
MKAR				Lg	Lg	08 03 58.1	
	baz=42,slow=27,SNR=1.3						
	1.3nm,0.5s						
MAKZ	**Makanchi**	**8.90**	**222**	Lg	Lg	08 04 07.4	
	18nm,1.2s						
SONM	**Songino Array**	**11.63**	**114**	Lg	Lg	08 05 23.5	
	0.1nm,0.3s,baz=300,slow=29,SNR=3.9						
BVAR	**Borovoye Array**	**12.08**	**275**	Sn	**Sn**	**08 04 34.7**	**-1.6**
	baz=269,slow=38,SNR=2.7						

IDC 09 08:01:21.3±521.0, 53°.50N×166°.05W, h0km, Error ellipse: s-maj=263.2km s-min=208.7km az=112.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I53US	**FAIRBANKS INFR**	**14.65**	**32**	I	I	09 31 30.0	
	0.2nm,2.8s,baz=224,slow=328,SNR=8.1						
I59US	**HAWAII INFRASO**	**34.74**	**163**	I	I	11 38 30.0	
	0.1nm,11.8s,baz=349,slow=323,SNR=0.3						

*RSNC **09** 08:06:07.2±1.0, 6°.82N×73°.15W, h151km±4km, ML3.0*
*IDC **09** 08:06:11.9±6.1, 5°.92N×73°.09W, h200km±39km, Error ellipse: s-maj=946.0km s-min=100.3km az=140.0*

ISC 09 08:06:05.4±1.1, 6°.84N±0°.03×73°.12W±0°.04, h160km±7km, n30, σ1s67/58, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**193**	⇑*i*P	**Pn**	**08 06 27.5**	**+0.2**
BARC				*e*S	**Sn**	**08 06 42.7**	**-1.4**
BRRC	**Barranca, Sant**	**0.64**	**294**	⇑*i*P	**Pn**	**08 06 29.3**	**+0.7**
BRRC				*e*S	**Sn**	**08 06 46.5**	**+0.1**
BRRC				*i*		08 06 50.6	
	comp=Z,220nm,0.1s						
PAMC	**Pamplona, Colo**	**0.65**	**40**	⇑*i*P	**Pn**	**08 06 30.3**	**+1.1**

PAMC				*e*S		**Sn**	**08 06 47.3**	**-0.2**
PAMC				*i*			08 06 49.7	
	comp=Z,397nm,0.5s							
RUSC	**La Rusia**	**0.94**	**178**	*e*P		**Pn**	**08 06 31.4**	**+0.2**
RUSC				⇓*e*S		**Sn**	**08 06 50.4**	**-0.7**
RUSC				*i*			08 06 51.4	
	comp=Z,280nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	*e*P		**Pn**	**08 06 34.0**	**-0.3**
PTBC				*e*S		**Sn**	**08 06 55.8**	**-0.7**
PTBC				*i*			08 07 00.9	
	comp=Z,144nm,0.2s							
TAMC	**Tame, Arauca**	**1.38**	**107**	⇑*i*P		**Pn**	**08 06 35.9**	**+1.3**
TAMC				*e*S		**Sn**	**08 06 57.5**	**+0.5**
TAMC				*i*			08 06 59.0	
	comp=Z,53nm,0.6s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P		**Pn**	**08 06 39.9**	**+0.6**
ZARC				*e*S		**Sn**	**08 07 05.1**	**-0.3**
ZARC				*i*			08 07 11.2	
	comp=Z,155nm,0.3s							
NORC	**Norcasia**	**2.15**	**234**	*e*P		**Pn**	**08 06 43.7**	**+0.8**
NORC				*e*S		**Sn**	**08 07 11.9**	**0.0**
NORC				*i*			08 07 17.2	
	comp=Z,105nm,0.2s							
CHIC	**Chingaza**	**2.28**	**195**	*e*P		**Pn**	**08 06 45.3**	**+0.5**
CHIC				*e*S		**Sn**	**08 07 15.6**	**+0.3**
CHIC				*i*			08 07 24.9	
	comp=Z,76nm,0.4s							
ROSC	**El Rosal**	**2.32**	**211**	P		**Pn**	**08 06 47.3**	**+2.1**
	comp=Z,104nm,0.4s,baz=127,slow=23,SNR=251							
ROSC				S		**Sn**	**08 07 14.9**	**-1.1**
	comp=Z,90nm,0.3s,baz=138,slow=19,SNR=8.6							
ROSC	**El Rosal**	**2.32**	**211**	*e*P		**Pn**	**08 06 47.0**	**+1.8**
ROSC				*e*S		**Sn**	**08 07 15.9**	**-0.1**
ROSC				*i*			08 07 22.2	
	comp=Z,143nm,0.3s							
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P		**Pn**	**08 06 47.3**	**-0.3**
UREC				*e*S		**Sn**	**08 07 18.8**	**-1.6**
UREC				*i*			08 07 30.6	
	comp=Z,82nm,0.3s							
LL1C	**La Loma 1 Cana**	**2.72**	**351**	*e*P		**Pn**	**08 06 54.0**	**+4.3**
LL1C				*e*S		**Sn**	**08 07 27.0**	**+3.0**
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*e*P		**Pn**	**08 06 52.0**	**+1.5**
GUY2C				*e*S		**Sn**	**08 07 24.9**	**-0.4**
GUY2C				*i*			08 07 37.8	
	comp=Z,89nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇓*i*P		**Pn**	**08 06 50.6**	**-0.1**
PTGC				*e*S		**Sn**	**08 07 23.6**	**-2.4**
PTGC				*i*			08 07 28.9	
	comp=Z,124nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.03**	**251**	*e*P		**Pn**	**08 06 55.2**	**+1.5**
CBOC				*e*S		**Sn**	**08 07 31.9**	**+0.8**
CBOC				*i*			08 07 47.5	
	comp=Z,20nm,0.5s							
DBBC	**Dabeiba**	**3.07**	**273**	*e*P		**Pn**	**08 06 54.9**	**+0.8**
DBBC				*e*S		**Sn**	**08 07 30.3**	**-1.5**
DBBC				*i*			08 07 32.6	
	comp=Z,32nm,0.2s							
ARGC	**Ariguani, Magd**	**3.20**	**340**	*e*P		**Pn**	**08 06 57.5**	**+1.9**
ARGC				*e*S		**Sn**	**08 07 36.3**	**+1.6**
ARGC				*i*			08 07 42.7	
	comp=Z,19nm,0.3s							
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P		**Pn**	**08 07 01.7**	**+0.9**
ORTC				*e*S		**Sn**	**08 07 45.4**	**+1.5**
ORTC				*i*			08 07 51.4	
	comp=Z,56nm,0.4s							
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*P		**Pn**	**08 07 01.6**	**+0.1**
SJCC				*e*S		**Sn**	**08 07 42.1**	**-3.1**
SJCC				*i*			08 07 49.1	
	comp=Z,21nm,0.3s							
PLMC	**San Jos del P**	**3.68**	**239**	*e*P		**Pn**	**08 07 02.9**	**+1.0**
PLMC				*e*S		**Sn**	**08 07 45.9**	**0.0**
PLMC				*i*			08 07 49.1	
	comp=Z,28nm,0.2s							
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*e*P		**Pn**	**08 07 07.9**	**-0.2**
CRJC				*e*S		**Sn**	**08 07 55.2**	**-1.7**
CRJC				*i*			08 07 58.7	
	comp=Z,33nm,0.2s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P		**Pn**	**08 07 10.3**	**+0.5**
YOTC				*e*S		**Sn**	**08 08 01.2**	**+1.4**
YOTC				*i*			08 08 07.0	
	comp=Z,5.5nm,0.3s							
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P		**Pn**	**08 07 13.0**	**+1.4**
SMRC				*e*S		**Sn**	**08 08 00.4**	**-2.8**
SMRC				*i*			08 08 03.4	
	comp=Z,15nm,0.1s							
MACC	**Macarena, Meta**	**4.72**	**189**	*e*P		**Pn**	**08 07 14.2**	**-1.1**
MACC				*e*S		**Sn**	**08 08 05.5**	**-4.6**
MACC				*i*			08 08 11.4	
	comp=Z,15nm,0.3s							
URIC	**Uribia, Colomb**	**4.96**	**13**	*e*P		**Pn**	**08 07 18.0**	**-0.4**
URIC				*e*S		**Sn**	**08 08 12.6**	**-2.9**
URIC				*i*			08 08 17.0	
	comp=Z,4.1nm,0.5s							
FLOC	**Florencia**	**5.80**	**206**	*e*P		**Pn**	**08 07 30.4**	**+0.7**
FLOC				*e*S		**Sn**	**08 08 33.2**	**-2.5**
FLOC				*i*			08 08 39.3	
	comp=Z,2.3nm,0.2s							
GCUF	**Volcan Galeras**	**6.99**	**217**	*e*P		**Pn**	**08 07 48.6**	**+2.7**
GCUF				*e*S		**Sn**	**08 09 01.5**	**-3.2**
GCUF				*i*			08 09 10.5	
	comp=Z,1.5nm,0.3s							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	**08 25 35.9**	**+0.1**
	comp=Z,0.1nm,0.7s,baz=129,slow=3.9,SNR=5.4							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**08 25 38.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=116,slow=1.9,SNR=2.0							

*NEIC **09** 08:08:28.5±3.0,39.°40S±0.°02×73.°18W±0.°10,h63km±8km, mb4.2/7,ML3.6(GUC),Error ellipse: s-maj=11.2km s-min=2.3km az=97.0*
*GUC **09** 08:08:30.6±0.6,39.°39S×73.°17W,h52km±3km,ML3.6*
ISC 09 08:08:28.2±0.8,39.°38S±0.°04×73.°20W±0.°05,h65km±9km, n62,σ1°35/71,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR02	**Universidad Au**	**0.43**	**185**	*e*P	**Pn**	**08 08 40.8**	**+0.9**
LR02				*e*S	**Sn**	**08 08 48.5**	**+0.1**
LR04	**Corral**	**0.53**	**199**	P	**Pn**	**08 08 42.1**	**+1.2**
LR04				Sn	**Sn**	**08 08 50.4**	**+0.3**
LR04	**Corral**	**0.53**	**199**	⇓*i*P	**Pn**	**08 08 42.0**	**+1.2**
LR04				*e*S	**Sn**	**08 08 50.5**	**+0.3**
LC02	**Puerto Saavedr**	**0.60**	**346**	P	**Pn**	**08 08 43.2**	**+1.6**
LC02	**Puerto Saavedr**	**0.60**	**346**	⇑*i*P	**Pn**	**08 08 43.2**	**+1.6**
LC02				*e*S	**Sn**	**08 08 52.8**	**+1.4**
LC02				IAML		08 08 58.0	
	comp=E,11μm,0.5s						
LR03	**Panguipulli**	**0.71**	**111**		**Pn**	**08 08 44.1**	**+1.2**
LR03				Sn	**Sn**	**08 08 53.8**	**+0.1**
LR03	**Panguipulli**	**0.71**	**111**	⇓*i*P	**Pn**	**08 08 44.0**	**+1.2**
LR03				*e*S	**Sn**	**08 08 53.7**	**+0.1**
LR03				IAML		08 08 55.9	
	comp=N,10μm,0.3s						
BI04	**Isla Mocha**	**1.10**	**331**	*i* P	**Pn**	**08 08 49.3**	**+1.6**
BI04				*e*S	**Sn**	**08 09 03.6**	**+1.3**
BI04				IAML		08 09 04.5	
	comp=E,3μm,0.2s						
GO06	**Curarrehue**	**1.35**	**99**		**Pn**	**08 08 53.0**	**+1.9**
GO06				Sn	**Sn**	**08 09 10.3**	**+1.9**
GO06	**Curarrehue**	**1.35**	**99**	⇓*i*P	**Pn**	**08 08 53.0**	**+1.9**
GO06				*e*S	**Sn**	**08 09 10.2**	**+1.9**
LL04	**Puerto Octay**	**1.65**	**159**		**Pn**	**08 08 56.7**	**+1.7**
LL04	**Puerto Octay**	**1.65**	**159**	*e*P	**Pn**	**08 08 56.7**	**+1.7**
LL04				IAML		08 09 23.0	
	comp=N,2μm,0.3s						
LL03	**Petrohue**	**1.86**	**161**		**Pn**	**08 08 59.8**	**+2.0**
LL03	**Petrohue**	**1.86**	**161**	*e*P	**Pn**	**08 09 00.0**	**+2.2**
LL03				IAML		08 09 36.7	
	comp=E,890nm,0.5s						
LL05	**Los Muermos**	**2.04**	**186**		**Pn**	**08 09 02.4**	**+2.2**
LL05	**Los Muermos**	**2.04**	**186**	*e*P	**Pn**	**08 09 02.3**	**+2.2**
LL05				IAML		08 09 41.6	
	comp=E,542nm,0.3s						
PLCA	**Paso Flores**	**2.44**	**125**	Pn	**Pn**	**08 09 06.1**	**+0.3**
BI05	**Punta Hualpn**	**2.62**	**0**		**Pn**	**08 09 09.5**	**+1.3**
BI05	**Punta Hualpn**	**2.62**	**0**	*e*P	**Pn**	**08 09 09.4**	**+1.2**
BI05				IAML		08 09 42.0	
	comp=E,172nm,0.2s						
LL06	**Loncomilla**	**2.85**	**186**	Pn	**Pn**	**08 09 12.8**	**+1.5**
LL06	**Loncomilla**	**2.85**	**186**	*e*P	**Pn**	**08 09 12.8**	**+1.5**
LL01	**San Ignacio de**	**3.06**	**169**	Pn	**Pn**	**08 09 16.5**	**+2.4**
LL01	**San Ignacio de**	**3.06**	**169**	*e*P	**Pn**	**08 09 17.2**	**+3.2**
LL01				IAML		08 09 55.3	
	comp=N,36nm,0.4s						
LL07	**Hotel Espejo d**	**3.46**	**183**	Pn	**Pn**	**08 09 21.3**	**+1.7**
LL07	**Hotel Espejo d**	**3.46**	**183**	*e*P	**Pn**	**08 09 21.2**	**+1.7**
LL07				IAML		08 10 00.1	
	comp=E,164nm,0.2s						
GO07	**Milladeo Hill,**	**3.75**	**185**		**Pn**	**08 09 25.2**	**+1.7**
GO07	**Milladeo Hill,**	**3.75**	**185**	*e*P	**Pn**	**08 09 25.1**	**+1.6**
ML02	**Panimavida**	**3.88**	**22**		**Pn**	**08 09 26.6**	**+1.3**
ML02	**Panimavida**	**3.88**	**22**	*e*P	**Pn**	**08 09 26.7**	**+1.4**
GO05	**Huala**	**4.48**	**13**		**Pn**	**08 09 34.3**	**+0.8**
GO05	**Huala**	**4.48**	**13**	*e*P	**Pn**	**08 09 34.3**	**+0.8**
BO02	**Sierra Bellavi**	**4.97**	**24**		**Pn**	**08 09 41.7**	**+1.4**
BO02	**Sierra Bellavi**	**4.97**	**24**	*e*P	**Pn**	**08 09 41.7**	**+1.4**
BO03	**Pichilemu**	**4.97**	**12**	*e*P	**Pn**	**08 09 40.2**	**0.0**
AY01	**Puyuhuapi**	**5.06**	**176**		**Pn**	**08 09 40.1**	**-1.2**
BO01	**Tunca**	**5.26**	**19**		**Pn**	**08 09 44.2**	**+0.1**
BO01	**Tunca**	**5.26**	**19**	*e*P	**Pn**	**08 09 44.2**	**+0.1**
MT01	**Popeta**	**5.72**	**17**		**Pn**	**08 09 50.7**	**+0.2**
BO04	**La Punta**	**5.77**	**22**	Pn	**Pn**	**08 09 50.8**	**-0.4**
VA05	**Santo Domingo**	**5.85**	**13**	Pn	**Pn**	**08 09 51.2**	**-1.1**
MT09	**Talagante**	**5.87**	**18**		**Pn**	**08 09 52.0**	**-0.6**
LMEL	**Las Melosas**	**6.02**	**25**		**Pn**	**08 09 53.2**	**-1.6**
COYC	**Coyhaique**	**6.25**	**173**	Pn	**Pn**	**08 09 55.8**	**-1.8**
MT03	**Universidad Ad**	**6.26**	**21**		**Pn**	**08 09 57.8**	**-0.2**
MT05	**Renca**	**6.29**	**19**	Pn	**Pn**	**08 09 58.3**	**-0.1**
MT02	**Curacav**	**6.33**	**16**		**Pn**	**08 09 58.2**	**-0.6**
VA01	**Torpederas**	**6.46**	**12**	Pn	**Pn**	**08 10 00.5**	**-0.2**
ROC1	**El Roble**	**6.63**	**16**		**Pn**	**08 10 02.3**	**-0.9**
VA03	**San Esteban**	**6.94**	**19**	Pn	**Pn**	**08 10 06.2**	**-1.1**
CO03	**El Pedregal**	**8.76**	**14**	Pn	**Pn**	**08 10 31.9**	**-0.4**
GO04	**Tololo Observa**	**9.39**	**13**	Pn	**Pn**	**08 10 40.3**	**-0.6**
CO05	**La Serena**	**9.57**	**10**	Pn	**Pn**	**08 10 43.9**	**+0.7**
LCO	**Las Campanas**	**10.54**	**12**	Pn	**Pn**	**08 10 56.0**	**-0.7**
AC05	**El Transito**	**10.79**	**14**	Pn	**Pn**	**08 10 58.4**	**-1.5**
MG04	**Isla Riesco**	**13.53**	**176**	Pn	**Pn**	**08 11 36.1**	**-0.8**
LVC	**Limon Verde**	**17.11**	**14**	Pn	**Pn**	**08 12 22.1**	**-1.2**
PLTB	**Pedras Altas**	**17.64**	**71**		**Pn**	**08 12 27.8**	**-1.6**
PLTB				IAmb	IAmb	08 13 00.5	
	comp=Z,22nm,1.4s						
PB02	**IPOC Station P**	**18.22**	**10**	P	**Pn**	**08 12 36.5**	**-0.1**
PB02				IAmb	IAmb	08 12 53.7	
	comp=Z,30nm,1.5s						
PATCX	**Punta Patache**	**18.68**	**9**	P	**P**	**08 12 40.9**	**-0.3**
PATCX				IAmb	IAmb	08 12 45.5	
	comp=Z,17nm,1.0s						
PB08	**IPOC Station P**	**19.49**	**11**	P	**P**	**08 12 50.5**	**+0.3**
PB08				IAmb	IAmb	08 12 54.8	
	comp=Z,6.5nm,1.2s						
ITAB	**Concordia**	**21.31**	**62**	P	**P**	**08 13 09.5**	**0.0**
ITAB				IAmb	IAmb	08 13 15.9	
	comp=Z,18nm,1.4s						
TRCB	**Terra Rica**	**24.07**	**53**	P	**P**	**08 13 38.5**	**+1.1**

*IDC **09** 08:11:43.4±1.9,27.°75N×139.°79E,h516km±22km, mb3.1/14,mbtmp3.9/17,Error ellipse: s-maj=20.9km s-min=10.9km az=90.0*
ISC 09 08:11:42.3±0.8,27.°8N±0.°1×139.°9E±0.°1,h500km,n18, σ1°70/20,mb3.4/14,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.11**	**108**	S	**S**	**08 13 45.0**	**+3.8**
	131nm,0.3s,baz=272,slow=23,SNR=10						
MJAR	**Matsushiro Arr**	**8.87**	**351**	P	**P**	**08 13 47.4**	**-0.2**
	1.0nm,0.3s,baz=172,slow=11,SNR=2.7						
MJAR				S	**S**	**08 15 30.4**	**-0.1**
	1.0nm,0.4s,baz=162,slow=29,SNR=4.6						
JNU	**Nakatsue**	**9.46**	**307**	P	**P**	**08 13 53.7**	**-0.2**
	7.6nm,0.7s,baz=149,slow=6.3,SNR=4.6						
JNU				S	**S**	**08 15 47.1**	**+4.9**
	6.8nm,0.9s,baz=353,slow=21,SNR=1.8						
USRK	**Ussuriysk Ar.**	**17.60**	**341**	P	**P**	**08 15 19.8**	**+1.1**
	6.1nm,0.7s,baz=156,slow=11,SNR=7.8						
KLR	**Kul'dur**	**22.34**	**346**	P	**P**	**08 16 02.2**	**+0.4**
	0.8nm,0.4s,baz=174,slow=4.7,SNR=6.4						
	0.8nm,0.4s						
SONM	**Songino Array**	**32.85**	**317**	P	**P**	**08 17 32.8**	**-1.2**
	0.2nm,0.3s,baz=128,slow=7.9,SNR=2.4						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**47.67**	**319**	P	**P**	**08 19 31.0**	**-1.5**
	0.8nm,0.3s,baz=108,slow=9.2,SNR=3.5						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**47.74**	**187**	P	**P**	**08 19 32.9**	**-0.5**
	1.5nm,0.3s,baz=1.7,slow=7.7,SNR=30						
	1.5nm,0.3s						
MKAR	**Makanchi Array**	**48.51**	**309**	P	**P**	**08 19 38.2**	**-0.7**
	0.3nm,0.4s,baz=89,slow=11,SNR=7.3						
	0.3nm,0.4s						
NRIK	**Noril'sk**	**51.30**	**339**	P	**P**	**08 19 58.8**	**-0.2**
	2.2nm,0.4s,baz=124,slow=6.0,SNR=4.0						
	2.2nm,0.4s						
ASAR	**Alice Springs**	**51.47**	**187**	P	**P**	**08 20 00.6**	**-0.3**
	0.5nm,0.4s,baz=1.7,slow=5.2,SNR=23						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**58.08**	**29**	P	**P**	**08 20 47.0**	**+0.3**
	0.3nm,0.3s,baz=248,slow=5.6,SNR=13						
	0.3nm,0.3s						
INK	**Inuvik**	**63.25**	**25**	P	**P**	**08 21 20.7**	**-0.1**
	0.3nm,0.3s,baz=282,slow=10.0,SNR=5.2						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**72.24**	**340**	P	**P**	**08 22 15.2**	**-0.6**
	5.1nm,1.0s,baz=46,slow=5.2,SNR=8.3						
	5.1nm,1.0s						
YKA	**Yellowknife Ar**	**72.49**	**28**	P	**P**	**08 22 18.4**	**+1.1**
	0.6nm,0.5s,baz=297,slow=6.3,SNR=13						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**76.45**	**333**	P	**P**	**08 22 39.2**	**-0.5**
	1.6nm,0.3s,baz=77,slow=4.2,SNR=18						
	1.6nm,0.3s						
AKASG	**Malin Array Be**	**80.89**	**323**	P	**P**	**08 23 02.5**	**-1.2**
	0.1nm,0.3s,baz=52,slow=4.7,SNR=2.9						
	0.1nm,0.3s						
NOA	**NORSAR Array B**	**82.23**	**337**	P	**P**	**08 23 09.5**	**-1.0**
	0.8nm,0.6s,baz=56,slow=5.9,SNR=2.2						
	0.8nm,0.6s						

*INET **09** 08:22:13.7±2.2,12.°65N×88.°10W,h28km±24km,MW3.0*
*SNET **09** 08:22:14.1±0.6,12.°64N×88.°20W,h15km±4km,ML3.2*
ISC 09 08:22:12.9±2.0,13.°0N±0.°3×87.°9W±0.°2,h99km±21km,n12, σ0°66/20,1D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.30**	**2**	⇓*i*P	**Pn**	**08 22 27.4**	**0.0**
LCND				*e*S	**Sn**	**08 22 38.2**	**0.0**
ALJI	**Alcalda de J**	**0.72**	**296**	IAML		08 22 41.0	
	comp=Z,980nm,0.1s						
COEB	**Comit de Eme**	**0.78**	**308**	*e*P	**Pn**	**08 22 31.3**	**+0.2**
COEB				*e*S	**Sn**	**08 22 44.5**	**-0.3**
COEB				IAML		08 22 48.7	
	comp=Z,668nm,0.3s						
CRIN	**San Cristobal**	**0.88**	**110**	*e*P	**Pn**	**08 22 32.6**	**+0.5**
CRIN				*e*S	**Sn**	**08 22 47.2**	**+0.7**
PQSS	**Presa 15 de Se**	**0.89**	**314**	*e*P	**Pn**	**08 22 32.6**	**+0.5**
PQSS				*e*S	**Sn**	**08 22 46.7**	**+0.3**
TECO	**Alcaldia de Te**	**1.00**	**302**	*e*P	**Pn**	**08 22 33.0**	**-0.4**
TECO				*e*S	**Sn**	**08 22 47.7**	**-1.0**
SJTE	**Alcalda de S**	**1.23**	**299**	*e*S	**Sn**	**08 22 53.4**	**-0.1**
MOMN	**Momotombo**	**1.46**	**114**	*e*P	**Pn**	**08 22 39.1**	**+0.6**
MOMN				*e*S	**Sn**	**08 22 56.7**	**-1.4**
SNET	**Serv Nac Est T**	**1.46**	**298**	*e*P	**Pn**	**08 22 38.1**	**-0.6**
SNET				*e*S	**Sn**	**08 22 57.4**	**-0.8**
JAYA	**Jayaque - finc**	**1.64**	**293**	*e*P	**Pn**	**08 22 41.0**	**0.0**
JAYA				*e*S	**Sn**	**08 23 02.2**	**-0.1**
NUBE	**Las Nubes**	**2.03**	**296**	*e*P	**Pn**	**08 22 46.8**	**+0.8**
NUBE				*e*S	**Sn**	**08 23 12.2**	**+0.9**
BOAB	**BOACO BROADBAN**	**2.25**	**104**	*e*P	**Pn**	**08 22 48.4**	**-0.3**

JMA 09 08:30:27.6±0.3,35.°8N±0.°9×14.°4E±.°,h57km,MV3.7/21, FAR E OFF CENTRAL HONSHU,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.47**	**245**	*e*P	Pn	08 31 06.2	+1.3
BSO1				*e*S	Sn	08 31 35.4	+1.8
JHYU	**Hitachinakayam**	**2.58**	**284**	*e*P	Pn	08 31 08.2	+1.4
JHYU				*e*S	Sn	08 31 38.0	+1.1
JSMT	**Sammumatsuo**	**2.63**	**269**	*e*S	Sn	08 31 37.2	-1.2
JHO	**Hitachi**	**2.66**	**290**	*e*P	Pn	08 31 09.1	+1.1
ONAJ	**Iwakimizuishiy**	**2.69**	**301**	*e*P	Pn	08 31 09.5	+1.1
ONAJ				*e*S	Sn	08 31 40.5	+0.7
JMK	**Ichinoseki**	**3.75**	**329**	*e*P	Pn	08 31 23.2	+0.3
JMK				*e*S	Sn	08 32 03.8	-2.0
JOD2	**Odawara 2**	**3.78**	**264**	*e*P	Pn	08 31 25.1	+1.7
JOD2				*e*S	Sn	08 32 07.8	+1.3
JRY	**Ryogami san**	**3.89**	**275**	*e*S	Sn	08 32 11.2	+1.9
JOT	**Ohata**	**5.99**	**341**	*e*P	Pn	08 31 54.6	+1.0
JCH	**Churui**	**6.86**	**358**	*e*P	Pn	08 32 03.9	-1.6
JCH				*e*S	Sn	08 33 15.6	-6.6

IDC 09 08:33:29.9±60.0,13.°30S×167.°47E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=1011.0km s-min=114.5km az=63.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.07**	**228**	P	P	08 39 41.1	+0.1
	1.7nm,0.5s,baz=48,slow=8.7,SNR=7.7						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**32.38**	**254**	P	P	08 40 02.0	+0.4
	0.3nm,0.8s,baz=84,slow=8.5,SNR=5.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**33.38**	**247**	P	P	08 40 09.8	-0.5
	0.5nm,0.4s,baz=75,slow=9.6,SNR=15						
	0.5nm,0.4s						

IDC 09 08:45:31.9±1.7,10.°59S×161.°32E,h0km,mb3.7/4, mbtmp3.7/4,MS3.3/6,Error ellipse: s-maj=33.4km s-min=32.0km az=100.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.78**	**310**	Pn	Pn	08 46 04.7	+0.7
	1μm,0.3s,baz=168,slow=5.2,SNR=23						
HNR				LR	LR	08 46 25.5	
	comp=Z,200nm,21.2s,baz=36,slow=30						
HNR				Sn	Sn	08 46 26.4	-0.8
	6μm,0.3s,baz=1.2,slow=22,SNR=21						
DZM	**Mont Dzumac**	**12.43**	**157**	LR	LR	08 53 00.8	
	comp=Z,163nm,18.7s,baz=26,slow=36						
PMG	**Port Moresby**	**14.00**	**274**	LR	LR	08 53 29.7	
	comp=Z,78nm,20.6s,baz=89,slow=34						
CTA	**Charters Tower**	**17.32**	**235**	LR	LR	08 55 56.8	
	comp=Z,83nm,18.5s,baz=77,slow=36						
WRA	**Warramunga Arr**	**27.61**	**247**	P	P	08 51 21.5	+0.2
	0.5nm,0.7s,baz=75,slow=9.4,SNR=2.6						
WRA				LR	LR	09 01 34.3	
	comp=Z,79nm,18.2s,baz=105,slow=35						
	0.5nm,0.7s						
STKA	**Stephens Creek**	**27.96**	**218**	LR	LR	09 02 44.5	
	comp=Z,100nm,18.5s,baz=26,slow=37						
GUMO	**Guam**	**29.04**	**325**	LR	LR	09 02 46.5	
	comp=Z,24nm,19.4s,baz=171,slow=36						
ASAR	**Alice Springs**	**29.18**	**240**	P	P	08 51 34.8	-0.6
	0.3nm,0.8s,baz=62,slow=9.7,SNR=2.0						
	0.3nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**29.38**	**10**	T	T	09 21 03.9	
	baz=194,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.39**	**10**	T	T	09 21 06.7	
	baz=194,slow=76,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**29.39**	**10**	T	T	09 21 04.7	
	baz=194,slow=76,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**30.60**	**10**	T	T	09 22 22.6	
	baz=193,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**30.61**	**10**	T	T	09 22 33.9	
	baz=193,slow=76,SNR=9.3						
H11N2	**WAKE ISLAND Hy**	**30.62**	**10**	T	T	09 22 29.5	
	baz=193,slow=76,SNR=12						
SONM	**Songino Array**	**75.77**	**325**	P	P	08 57 20.5	+0.7
	1.0nm,0.5s,baz=138,slow=5.2,SNR=7.5						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**84.51**	**20**	P	P	08 58 05.8	-0.6
	0.2nm,0.5s,baz=244,slow=4.6,SNR=6.0						
	0.2nm,0.5s						

IDC 09 08:45:34.5±999.0,54.°80N×2.°41W,h0km,Error ellipse: s-maj=641.5km s-min=213.9km az=101.0,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**11.61**	**114**	I	I	09 57 30.0	
	0.1nm,0.7s,baz=307,slow=327,SNR=1.6						
I43RU	**DUBNA INFRASON**	**22.17**	**69**	I	I	11 01 10.0	
	baz=281,slow=320,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	**35.97**	**71**	I	I	12 26 10.0	
	baz=303,slow=359,SNR=5.7						

*HEL **09** 08:49:18.5±0.5,67.°19N×20.°66E,h0km,ML1.2,Explosion*
*DNK **09** 08:49:18.5±0.6,67.°20N×20.°63E,h0km,ML2.8(UPP), Suspected expl

*MEX **09** 09:03:13.7±0.5, 13°.49N×92°.24W, h10km, MD4.2*
*IDC **09** 09:03:14.5±3.2, 13°.91N×92°.77W, h0km, mb3.6/3, mbtmp3.7/4, MS3.2/3, Error ellipse: s-maj=145.3km s-min=33.4km az=42.0*
*GCG **09** 09:03:25.1±0.5, 14°.30N×91°.67W, h50km±102km, MD3.9*

ISC 09 09:03:12.8±1.2, **13°.60N**±0°.09×**92°.26W**±0.06, **h10**km, **n18, s1$30/22, mb3.6/3, MS3.1/3, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.97**	**44**	*eP*	**Pg**	**09 03 32.8**	**+1.2**
STG3	**Santiaguito 3,**	**1.29**	**31**	*eP*	**Pn**	**09 03 36.1**	**-1.0**
THIG		**1.30**	**360**	*eP*	**Pn**	**09 03 36.0**	**-1.1**
THIG				*eS*	**Sn**	**09 03 53.1**	**-1.4**
FUG	**Fuego 3**	**1.61**	**58**	*eP*	**Pn**	**09 03 40.9**	**-0.7**
NBG	**Las Nubes**	**2.10**	**62**	*eP*	**Pn**	**09 03 49.1**	**+0.8**
PCIG		**2.29**	**336**	*eP*	**Pn**	**09 03 49.9**	**-0.7**
PCIG				*i* S	**Sn**	**09 04 18.4**	**-0.5**
CCIG	**Comitan**	**2.67**	**3**	*eP*	**Pn**	**09 03 58.0**	**+1.9**
CCIG				*eS*	**Sn**	**09 04 27.4**	**-1.2**
TGIG		**3.27**	**345**	*eP*	**Pn**	**09 04 03.2**	**-1.0**
TGIG				*eS*	**Sn**	**09 04 42.9**	**-0.3**
UXUV	**UXUV**	**4.12**	**334**	*eP*	**Pn**	**09 04 17.1**	**+1.2**
UXUV				*eS*	**Sn**	**09 05 03.9**	**-0.2**
VHO	**Vista Hermosa**	**5.53**	**309**	*eP*	**Pn**	**09 04 36.1**	**+0.8**
VHO				*eS*	**Sn**	**09 05 36.0**	**-3.1**
JTS	**Las Juntas de** 9.2nm,0.8s	**7.87**	**114**	Pn	Pb	09 05 19.5	-10
JTS				Sn	**Sb**	**09 07 01.6**	**-1.7**
TKL	**Tuckaleechee C** comp=Z,72nm,19.7s,baz=193,slow=38	**23.26**	**18**	LR	LR	09 18 05.4	
ANMO	**Albuquerque** 1.2nm,0.8s,baz=174,slow=10,SNR=4.2 1.2nm,0.8s	**24.82**	**331**	P	**P**	**09 08 34.5**	**-1.1**
SADO	**Sadowa** comp=Z,56nm,19.3s,baz=302,slow=36	**33.02**	**17**	LR	LR	09 23 12.5	
LVC	**Limon Verde** comp=Z,14nm,21.4s,baz=292,slow=33	**42.64**	**147**	LR	LR	09 27 08.3	
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=138,slow=8.1,SNR=7.8	**51.36**	**347**	P	**P**	**09 12 17.0**	**-0.2**
YKA	0.4nm,0.7s,baz=158,slow=3.4,SNR=8.2 0.6nm,0.8s			PcP	**PcP**	**09 13 32.4**	**+0.5**
ILAR	**Eielson Array** 1.1nm,1.0s,baz=126,slow=4.2,SNR=7.0 1.1nm,1.0s	**63.11**	**337**	P	**P**	**09 13 41.6**	**+1.3**
CMAR	**Chiang Mai Arr** 1.6nm,0.3s,baz=339,slow=4.0,SNR=12	**146.28**	**341**	PKPbc	**PKPbc**	**09 22 55.4**	**+0.7**

IDC 09 09:04:06.3±999.0, **54°.68N**×0°.48W, **h0**km, **Error ellipse: s-maj=523.7km s-min=205.7km az=102.0, United Kingdom**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS** baz=309,slow=332,SNR=2.4	**10.55**	**118**	I	I	10 11 20.0	
I43RU	**DUBNA INFRASON** baz=280,slow=318,SNR=0.4	**21.17**	**69**	I	I	11 13 00.0	
I31KZ	**AKTYUBINSK INF** baz=299,slow=327,SNR=1.0	**34.95**	**72**	I	I	12 37 50.0	

*KRNET **09** 09:11:31.4±0.1, 41°.00N×69°.34E, h27km, mb2.4*

ISC 09 09:11:32.2±1.4, **40°.96N**±0°.05×**69°.38E**±0°.09, **h11**km±13km, **n8, σ0$98/13, 10C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent** baz=55	**0.38**	**350**	⇑*iP*	**Pg**	**09 11 39.1**	**-0.6**
TAS	baz=55			⇑*iS*	**Sg**	**09 11 44.5**	**-0.2**
BTK	**Batken** baz=29	**1.42**	**129**	⇓*iP*	**Pb**	**09 11 58.2**	**-0.5**
BTK	baz=29			⇓*iS*	**Sg**	**09 12 17.2**	**-0.6**
TRKS	**Terek-Say** baz=71	**1.44**	**66**	⇑*iP*	**Pn**	**09 11 57.9**	**-0.6**
TRKS	baz=71			⇑*iS*	**Sb**	**09 12 17.2**	**-0.5**
GAR	**Garm** baz=59	**2.08**	**160**	⇓*iP*	**Pn**	**09 12 07.5**	**+0.3**
GAR	baz=59			⇓*iS*	**Sn**	**09 12 33.8**	**+0.6**
ARK	**Arkit** baz=67	**2.12**	**66**	⇑*iP*	**Pn**	**09 12 07.5**	**-0.2**
ARK	baz=67			⇑*iS*	**Sn**	**09 12 33.7**	**-0.4**
KK31	**Karatay Array** 1.5nm,0.2s,baz=197,slow=30	**2.31**	**21**	⇑Lg	Lg	09 12 50.9	
KK31	**Karatay Array** 0.5nm,0.2s,baz=202,slow=16	**2.31**	**21**	⇑Pn	**Pg**	**09 12 18.9**	**+2.5**
OHH	**Osh** baz=99	**2.62**	**98**	⇑*iP*	**Pn**	**09 12 14.7**	**+0.1**
OHH	baz=99			⇑*iS*	**Sn**	**09 12 46.2**	**-0.3**

*IPEC **09** 09:12:04.4±0.2, 51°.58N×16°.21E, h0km, ML2.9/5, Error ellipse: s-maj=1.6km s-min=1.0km az=32.0*
*DNK **09** 09:12:05.1±0.9, 51°.76N×16°.05E, h0km±43km, ML2.0*
*PRU **09** 09:12:05.6±0.0, 51°.54N×16°.09E, h0km*
*IDC **09** 09:12:05.0±0.8, 51°.44N×16°.18E, h0km, mbtmp3.5/6, ML2.9/6, Error ellipse: s-maj=11.7km s-min=7.3km az=123.0*
*BGR **09** 09:12:05.1±0.3, 51°.56N×16°.14E, h1km, ML3.2/15, Error ellipse: s-maj=3.3km s-min=2.2km az=17.0*
*UPP **09** 09:12:06.6±3.3, 51°.70N×15°.61E, h0km, ML2.0*
*VIE **09** 09:12:08.8, 51°.33N×15°.97E, h0km, mb2.9/18, ml2.9/17, ms3.6/2 77 km WNW of Wroclaw Suspected Mining induced.*

ISC 09 09:12:02.4±0.6, **51°.64N**±0°.03×**16°.16E**±0°.02, **h0**km, **n78, σ1$50/173, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**174**	*ePg*	**Pb**	**09 12 19.0**	**-0.3**
KSP				*eSg*	**Sg**	**09 12 28.6**	**+0.4**
KSP	**Ksiaz**	**0.81**	**174**	*ePg*	**Pg**	**09 12 18.6**	**+0.8**
KSP				*eSg*	**Sg**	**09 12 28.7**	**+0.4**
OSTC	**Ostas**	**1.09**	**178**	*ePG*	**Pb**	**09 12 24.4**	**+0.3**
OSTC	comp=Z,146nm,0.3s			*eSG*	**Sg**	**09 12 37.7**	**+0.3**
UPC	**Upice**	**1.14**	**185**	*ePG*	**Pb**	**09 12 25.1**	**+0.1**
UPC	comp=Z,216nm,0.2s			*eSG*	**Sg**	**09 12 38.8**	**-0.3**
DPC	**Dobruska-Polom** comp=Z,96nm,0.4s	**1.30**	**175**	*ePG*	**Pg**	**09 12 27.8**	**+0.5**
DPC				*eSG*	**Sg**	**09 12 43.6**	**-0.5**
DPC	**Dobruska-Polom**	**1.30**	**175**	*ePg*	**Pg**	**09 12 27.8**	**+0.5**
DPC				*eSg*	**Sg**	**09 12 44.3**	**+0.2**
PVCC	**Panska Ves**	**1.50**	**223**	*ePG*	**Pg**	**09 12 31.9**	**+0.7**
PVCC	comp=Z,320nm,0.5s			*eSG*	**Sn**	**09 12 51.6**	**+0.7**
BRG	**Berggiesshubel**	**1.59**	**242**	Pn	**Pn**	**09 12 32.3**	**+0.5**
BRG				Pg	**Pg**	**09 12 34.1**	**+1.2**
BRG				Sg	**Sg**	**09 12 54.4**	**+0.9**
BRG	comp=Z,118nm,0.5s			Amp		09 12 55.3	
BRG	**Berggiesshubel**	**1.59**	**242**	*ePn*	**Pb**	**09 12 32.7**	**0.0**
BRG				*ePg*	**Pg**	**09 12 33.9**	**+0.9**
BRG				*eSg*	**Sg**	**09 12 54.6**	**+1.1**
FBE	**Freiberg**	**1.91**	**249**	*ePn*	**Pn**	**09 12 36.4**	**+0.3**
FBE				*ePg*	**Pg**	**09 12 39.8**	**+0.9**
FBE				*eSg*	**Sg**	**09 13 04.2**	**+0.7**
GOPC	**GO Pecny, Ondr**	**1.94**	**207**	*ePG*	**Pb**	**09 12 38.9**	**+0.3**
GOPC				*eSG*	**Sb**	**09 13 03.7**	**+0.3**
PRU	**Pruhonice**	**1.95**	**212**	*ePG*	**Pb**	**09 12 38.7**	**-0.1**
PRU	comp=Z,59nm,0.4s			*eSG*	**Sb**	**09 13 04.0**	**+0.4**
CLL	**Collm**	**2.00**	**262**	*ePn*	**Pn**	**09 12 38.0**	**+0.5**
CLL				*ePg*	**Pg**	**09 12 41.0**	**+0.2**
CLL				*i* x	x	09 12 45.1	
CLL	comp=Z,54nm,0.4s			*eSg*	**Sg**	**09 13 07.0**	**+0.2**
CLL	**Collm**	**2.00**	**262**	*ePn*	**Pn**	**09 12 38.3**	**+0.8**
CLL				*ePg*	**Pg**	**09 12 41.5**	**+0.7**
CLL				*eSg*	**Sg**	**09 13 06.9**	**+0.2**
MORC	**Moravsky Berou**	**2.07**	**154**	*ePN*	**Pn**	**09 12 39.2**	**+0.8**
MORC				*eSG*	**Sb**	**09 13 06.9**	**-0.1**
MORC	**Moravsky Berou**	**2.07**	**154**	*ePn*	**Pn**	**09 12 39.2**	**+0.8**
MORC				*ePg*	**Pg**	**09 12 42.7**	**+0.8**
MORC				*eSg*	**Sb**	**09 13 07.5**	**+0.4**
MORC	**Moravsky Berou** baz=335	**2.07**	**154**	*ePn*	**Pn**	**09 12 39.1**	**+0.7**
MORC	comp=Z,96nm,0.6s,baz=335			*eSg*	**Sb**	**09 13 06.8**	**-0.2**
OKC	**Ostrava-Krasne** comp=Z,84nm,0.6s	**2.21**	**144**	*eSG*	**Sg**	**09 13 12.9**	**-0.3**
OKC				*ePg*	**Pg**	**09 12 44.9**	**+0.3**
OKC				*eSg*	**Sg**	**09 13 13.0**	**-0.3**
VRAC	**Vranov** comp=Z,3.1nm,0.3s,baz=351,slow=15,SNR=14	**2.35**	**173**	Pg	**Pn**	**09 12 43.8**	**+1.5**
VRAC	comp=Z,2.9nm,0.3s,baz=232,slow=23,SNR=4.2			Lg	Lg	09 13 12.4	
VRAC	**Vranov**	**2.35**	**173**	*ePN*	**Pn**	**09 12 43.8**	**+1.5**
VRAC				*eSG*	**Sb**	**09 13 15.8**	**+0.5**
VRAC	**Vranov** baz=354	**2.35**	**173**	*ePn*	**Pn**	**09 12 43.7**	**+1.4**
VRAC	comp=Z,59nm,0.4s,baz=354			*eSg*	**Sb**	**09 13 15.8**	**+0.5**
TREC	**Trest**	**2.39**	**191**	*ePG*	**Pg**	**09 12 47.7**	**-0.5**
TREC	comp=Z,61nm,0.5s			*eSG*	**Sb**	**09 13 17.2**	**+0.8**
KRUC	**Moravsky**	**2.59**	**177**	*ePN*	**Pn**	**09 12 46.8**	**+1.2**
KRUC				*ePG*	**Pb**	**09 12 50.6**	**+0.9**
KRUC				*eSG*	**Sb**	**09 13 23.7**	**+1.7**
KRUC	**Moravsky** baz=357	**2.59**	**177**	*ePn*	**Pn**	**09 12 46.7**	**+1.2**
KRUC	**Moravsky** baz=357	**2.59**	**177**	*ePg*	**Pb**	**09 12 50.5**	**+0.9**
KRUC	comp=Z,55nm,0.6s,baz=357			*eSg*	**Sb**	**09 13 23.7**	**+1.7**
TANN	**Tannenbergstha**	**2.64**	**244**	*ePn*	**Pn**	**09 12 47.5**	**+1.2**
TANN				*ePg*	**Pg**	**09 12 54.3**	**+1.3**
TANN				*eSg*	**Sg**	**09 13 27.5**	**+0.3**
OJC	**Ojcow**	**2.71**	**120**	*ePn*	**Pn**	**09 12 47.2**	**0.0**
OJC				*ePg*	**Pg**	**09 12 55.5**	**+1.2**
OJC				*eSg*	**Sg**	**09 13 30.1**	**+0.8**
OJC	**Ojcow**	**2.71**	**120**	*ePn*	**Pn**	**09 12 47.7**	**+0.5**
OJC				*ePg*	**Pg**	**09 12 54.7**	**+0.4**
OJC				*eSg*	**Sg**	**09 13 30.2**	**+0.8**
WERD	**Werda**	**2.71**	**245**	*ePn*	**Pn**	**09 12 48.4**	**+1.2**
WERD				*ePg*	**Pg**	**09 12 55.6**	**+1.3**
WERD				*eSg*	**Sg**	**09 13 29.5**	**0.0**
NKC	**Novy Kostel**	**2.74**	**240**	*ePN*	**Pn**	**09 12 49.1**	**+1.5**
NKC				*ePG*	**Pg**	**09 12 54.8**	**-0.1**
NKC	comp=Z,95nm,0.4s			*eSG*	**Sg**	**09 13 31.2**	**+0.8**
JAVC	**Velka Javorina**	**2.95**	**160**	*ePN*	**Pn**	**09 12 51.7**	**+1.1**
JAVC	**Velka Javorina** baz=342	**2.95**	**160**	*ePn*	**Pn**	**09 12 51.6**	**+1.0**
KHC	**Kasperske Hory**	**3.01**	**214**	*ePN*	**Pn**	**09 12 52.0**	**+0.6**
KHC				*ePG*	**Pb**	**09 12 58.5**	**+1.6**
KHC	comp=Z,28nm,0.4s			*eSG*	**Sg**	**09 13 38.5**	**-0.6**
MOX	**Moxa**	**3.03**	**253**	*ePn*	**Pn**	**09 12 52.8**	**+1.2**
MOX				*ePg*	**Pg**	**09 13 01.1**	**+0.6**
MOX				*eSg*	**Sg**	**09 13 40.2**	**+0.5**
MANZ	**Manzenberg**	**3.06**	**239**	*ePn*	**Pn**	**09 12 53.2**	**+1.2**
MANZ				*ePg*	**Pg**	**09 13 01.9**	**+0.9**
MANZ				*eSg*	**Sg**	**09 13 40.2**	**-0.4**
CKRC	**Cesky Krumlov**	**3.07**	**204**	*ePN*	**Pn**	**09 12 54.6**	**+2.5**
CKRC				*ePG*	**Pg**	**09 13 00.2**	**-1.0**
CKRC	comp=Z,40nm,0.5s			*eSG*	**Sg**	**09 13 40.3**	**-0.6**
ROTZ	**Rotzenmuhle**	**3.14**	**235**	*ePn*	**Pn**	**09 12 54.4**	**+1.3**
ROTZ				*eSg*	**Sg**	**09 13 42.2**	**-0.9**
GEC2	**GERESS Array S**	**3.22**	**210**	*ePn*	**Pn**	**09 12 55.8**	**+1.5**
GEC2				*ePg*	**Pg**	**09 13 03.0**	**-1.0**
GEC2				*eSg*	**Sg**	**09 13 44.0**	**-1.7**
GERES	**GERESS Array B** comp=Z,2.6nm,0.3s,baz=31,slow=13,SNR=53	**3.22**	**210**	Pn Pg	**Pn Pb**	**09 12 54.4**	**+0.1**
GERES	comp=Z,6.0nm,0.3s,baz=32,slow=16,SNR=28			Sn	**Sn**	**09 13 31.8**	**-1.5**
GERES	comp=Z,4.7nm,0.3s,baz=33,slow=24,SNR=7.8			Lg	Lg	09 13 42.8	
LANS	**Liptovska Anna** comp=Z,4.5nm,0.3s	**3.27**	**138**	*ePN*	**Pn**	**09 12 56.4**	**+1.4**
LANS				*ePG*	**Pg**	**09 13 06.0**	**+0.9**
LANS				*eSG*	**Sg**	**09 13 47.4**	**-0.1**
MODS	**Modra-Piesok**	**3.35**	**167**	*ePN*	**Pn**	**09 12 58.2**	**+2.1**
MODS				*ePG*	**Pg**	**09 13 07.2**	**+0.6**
MODS				*eSG*	**Sg**	**09 13 49.6**	**-0.5**
NIE	**Niedzica**	**3.46**	**129**	*ePg*	**Pg**	**09 13 10.7**	**+2.1**
NIE				*eSg*	**Sg**	**09 13 54.9**	**+1.5**
ZST	**Bratislava**	**3.50**	**170**	*eSG*	**Sg**	**09 13 53.4**	**-1.6**
BSD	**Bornholm Skovb**	**3.56**	**348**	*i* P	**Pn**	**09 13 00.3**	**+1.5**
BSD				*i* S	**Sn**	**09 13 39.9**	**-1.5**
BSD	comp=Z,1.9nm,0.1s			IAML		09 13 44.7	
VYHS	**Vyhne**	**3.59**	**150**	*ePN*	**Pn**	**09 13 00.1**	**+0.7**
VYHS				*ePG*	**Pg**	**09 13 13.7**	**+2.4**
CLZ	**Clausthal**	**3.60**	**275**	*ePn*	**Pn**	**09 13 01.9**	**+2.4**
CLZ				*ePg*	**Pg**	**09 13 12.1**	**+0.7**
CLZ				*eSg*	**Sg**	**09 13 59.3**	**+1.2**
GRF	**Grafenberg Arr**	**3.70**	**240**	*ePn*	**Pn**	**09 13 02.6**	**+1.7**
GRF				*eSg*	**Sg**	**09 14 01.4**	**+0.2**
CONA	**Conrad Observa** comp=Z,2.9nm,0.4s,SNR=7.0	**3.73**	**183**	*ePn*	**Pn**	**09 13 03.1**	**+1.9**
CONA	comp=Z,17nm,0.4s			*eSg*	**Sg**	**09 14 01.1**	**-0.9**
STHS	**Stebnicka Huta**	**3.94**	**123**	*ePN*	**Pn**	**09 13 07.2**	**+3.1**
STHS				*ePG*	**Pg**	**09 13 20.9**	**+3.1**
STHS				*eSG*	**Sg**	**09 14 11.5**	**+2.7**
RONA	**Rosalia, Austr** comp=Z,2.0nm,0.4s	**3.95**	**179**	*ePn*	**Pn**	**09 13 05.5**	**+1.3**
RONA	comp=Z,11nm,0.3s			*eSg*	**Sg**	**09 14 08.8**	**-0.4**
MOA	**Molln** comp=Z,6.6nm,0.2s,SNR=8.2	**3.99**	**199**	*i* Pn	**Pn**	**09 13 06.1**	**+1.2**
MOA	comp=Z,14nm,0.5s			*eSg*	**Sg**	**09 14 09.4**	**-1.2**
BIOA	**Bad Ischl, Aus** comp=Z,2.9nm,0.2s	**4.28**	**203**	*ePn*	**Pn**	**09 13 10.0**	**+1.1**
BIOA	comp=Z,16nm,0.4s			*eSg*	**Sg**	**09 14 18.9**	**-1.0**
ARSA	**Arzberg** comp=Z,1.2nm,0.2s	**4.42**	**186**	*i* Pn	**Pn**	**09 13 13.8**	**+3.2**
ARSA	comp=Z,4.8nm,0.6s			*eSg*	**Sg**	**09 14 21.9**	**-2.3**
BLEU	**Blekinge**	**4.67**	**358**	*i* P	**Pn**	**09 13 15.8**	**+1.6**
BLEU				*i* S	**Sn**	**09 14 07.1**	**-2.0**
BJUU	**Bjuv**	**4.81**	**339**	P	**Pn**	**09 13 17.3**	**+1.2**
BJUU				S	**Sn**	**09 14 11.1**	**-1.3**
BJUU	**Bjuv**	**4.81**	**339**	*i* P	**Pn**	**09 13 16.6**	**+0.6**
BJUU				P	**Pn**	**09 13 17.3**	**+1.2**
BJUU				*i* S	**Sn**	**09 14 10.3**	**-2.0**
BJUU				S	**Sn**	**09 14 11.1**	**-1.3**
KBA	**Koelnbreinsper** comp=Z,6.0nm,0.4s,SNR=8.3	**4.93**	**203**	*i* Pn	**Pn**	**09 13 19.3**	**+1.5**
KBA	comp=Z,9.5nm,0.4s			*eSg*	**Sg**	**09 14 42.0**	**+1.4**
DEL	**Delary**	**5.02**	**345**	P	**Pn**	**09 13 20.5**	**+1.6**
DEL				S	**Sn**	**09 14 16.6**	**-1.0**
DEL	**Delary**	**5.02**	**345**	*i* P	**Pn**	**09 13 20.4**	**+1.6**
DEL				P	**Pn**	**09 13 20.5**	**+1.6**
DEL				*i* S	**Sn**	**09 14 14.7**	**-2.8**
DEL				S	**Sn**	**09 14 16.6**	**-1.0**
SOKA	**Soboth** comp=Z,0.9nm,0.2s	**5.03**	**189**	*ePn*	**Pn**	**09 13 21.9**	**+2.8**
SOKA	comp=Z,3.5nm,0.4s			*eSg*	**Sg**	**09 14 43.9**	**+0.1**
WATA	**Walderalm** comp=Z,0.9nm,0.2s	**5.25**	**216**	*i* Pn	**Pn**	**09 13 24.0**	**+1.8**
WATA	comp=Z,1.1nm,0.3s			*eSg*	**Sg**	**09 14 51.1**	**+0.3**
OBKA	**Obir** comp=Z,0.4nm,0.2s	**5.25**	**192**	*ePn*	**Pn**	**09 13 21.9**	**-0.3**
OBKA	comp=Z,3.1nm,0.5s			*eSg*	**Sg**	**09 14 50.9**	**0.0**
MYKA	**Terra Mystica** comp=Z,0.3nm,0.1s	**5.28**	**199**	*ePn*	**Pn**	**09 13 25.5**	**+2.8**
MYKA	comp=Z,4.9nm,0.5s			*eSg*	**Sg**	**09 14 52.7**	**+0.6**
WTTA	**Wattenberg** comp=Z,0.7nm,0.2s	**5.28**	**216**	*ePn*	**Pn**	**09 13 23.6**	**+0.9**
WTTA	comp=Z,7.5nm,0.4s			*eSg*	**Sg**	**09 14 51.0**	**-1.1**
MOTA	**Moosalm** comp=Z,0.4nm,0.2s	**5.42**	**219**	*ePn*	**Pn**	**09 13 26.7**	**+2.1**
MOTA	comp=Z,6.7nm,0.5s			*eSg*	**Sg**	**09 15 01.0**	**+4.6**
RETA	**Reutte** comp=Z,0.9nm,0.2s	**5.44**	**222**	*ePn*	**Pn**	**09 13 26.2**	**+1.4**
RETA	comp=Z,2.0nm,0.2s			*eSg*	**Sg**	**09 14 57.3**	**+0.1**
ABTA	**Abfaltersbach** comp=Z,0.2nm,0.1s	**5.45**	**207**	*ePn*	**Pn**	**09 13 26.5**	**+1.5**
ABTA	comp=Z,5.7nm,0.5s			*eSg*	**Sg**	**09 14 56.6**	**-0.9**
SQTA	**Sankt Quirin** comp=Z,1.1nm,0.2s	**5.48**	**218**	*i* Pn	**Pn**	**09 13 27.7**	**+2.4**
SQTA	comp=Z,0.5nm,0.2s			*eSg*	**Sg**	**09 14 59.0**	**+0.7**
FABU	**Falkenberg**	**5.73**	**341**	*i* S	**Sn**	**09 14 31.9**	**-3.2**
FETA	**Feichten** comp=Z,1.0nm,0.4s	**5.83**	**220**	*ePn*	**Pn**	**09 13 33.2**	**+3.0**
FETA	comp=Z,3.3nm,0.9s			*eSg*	**Sg**	**09 15 11.5**	**+1.9**
DAVA	**Damuels** comp=Z,0.1nm,0.1s	**5.98**	**226**	*ePn*	**Pn**	**09 13 33.4**	**+1.2**
DAVA	comp=Z,4.5nm,0.3s			*eSg*	**Sg**	**09 15 18.0**	**+3.6**
DAVOX	**Davos/Dischmat** comp=Z,0.4nm,0.3s,baz=36,slow=17,SNR=2.1	**6.37**	**223**	Pn Sn	**Pn Sn**	**09 13 40.1**	**+2.4**
DAVOX	comp=Z,0.5nm,0.3s,baz=350,slow=20,SNR=1.6			Lg	Lg	09 15 19.1	
DAVOX	comp=Z,0.6nm,0.3s,baz=159,slow=23,SNR=2.2 comp=Z,0.9nm,0.3s			Sn	**Sn**	**09 14 47.5**	**-3.7**
AKASG	**Malin Array Be** comp=Z,1.2nm,0.3s,baz=278,slow=12,SNR=9.9	**8.27**	**91**	Pn Sn	**Pn Sn**	**09 14 03.0**	**-0.5**
AKASG	comp=Z,1.0nm,0.3s,baz=273,slow=22,SNR=5.3 comp=Z,0.3nm,0.4s					**09 15 33.6**	**-3.9**
HFS	**Hagfors** comp=Z,0.3nm,0.3s,baz=167,slow=13,SNR=1.8	**8.62**	**352**	Pn Sn	**Pn Sn**	**09 14 09.8**	**+1.5**
HFS	comp=Z,0.2nm,0.3s,baz=186,slow=8.7,SNR=2.9 comp=Z,2.6nm,1.0s					**09 15 44.2**	**-2.0**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=1.6	**11.23**	**25**	Pn Sn	**Pn Sn**	**09 14 43.9**	**0.0**
FINES	comp=Z,0.1nm,0.3s,baz=207,slow=21,SNR=2.2 comp=Z,7nm,1.0s					**09 16 43.7**	**-6.3**
EKA	**Eskdalemuir Ar** baz=106,slow=14	**12.08**	**295**	Pn	**Pn**	**09 14 55.9**	**+0.3**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=1.8 comp=Z,6.9nm,1.1s	**18.48**	**10**	Pn	**P**	**09 16 19.2**	**-0.4**

*MAN **09** 09:20:15.2, 18°.24N×120°.30E, h29km, mb5.6, ML4.6, MS4.9*
MAN INTENSITY IV - LAOAG CITY PASUQUIN PAOAY AND BACARRA ILOCOS NORTE; INTENSITY III - VIGAN CITY AND SINAIT ILOCOS SUR; SARRAT ILOCOS NORTE; LA PAZ ABRA.
*NEIC **09** 09:20:16.1±1.9, 18°.07N±0°.07×120°.6E±0°.1, h37km±7km, mb4.8/77, Error ellipse: s-maj=16.9km s-min=10.3km az=93.0*
*GCMT **09** 09:20:17.1±0.3, 18°.33N±0°.02×120°.17E±0°.03, h39km±1km, MW4.9/70, Moment Tension Solution. s27,c31; s70,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.38±.20; $M_{\theta\theta}$0.58±.12; $M_{\phi\phi}$-1.96±.13; $M_{r\theta}$-1.01±.10; $M_{\theta\phi}$-1.50±.09; $M_{\phi r}$0.34±.12; Best double couple: M_o2.52500×10^{16} NP1:ϕ_s239.00000°, δ61.00000°, λ142.00000°. NP2: ϕ_s350.00000°, δ58.00000°, λ36.00000°. Principal axes: T 2.3920, Plg46.0000°, Azm204.0000°; N 0.2670, Plg44.0000°, Azm27.0000°; P -2.6590, Plg2.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **09** 09:20:18.9±2.6, 17°.96N×120°.52E, h78km±22km, mb4.1/35, mbtmp4.4/36, MS3.8/32 Error ellipse: s-maj=15.2km s-min=8.9km az=67.0*
*BJI **09** 09:20:18.6±0.0, 18°.27N×120°.15E, h40km, mb4.5/52, mB4.9/33, ML4.5/3, Ms4.4/40, Ms7 4.1/39*
*DJA **09** 09:20:21.2±0.7, 18°N±3°×12°0E±°, h89km±8km, M4.9/25, mb4.9/25, mB5.5/12, MLv4.9/1, Mw(mB)5.0/12, MwMwp5.5/2, Mwp5.6/2*

ISC 09 09:20:15.1±0.4, **18°.09N**±0°.04×**120°.51E**±0°.05, **h33**km±1km, **h33**km**:pP-P, n218,** σ1$**73**/200, **mb4.8**/94, **MS3.8**/40, **4C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.99**	**174**	⇓*eP*	**Pn**	**09 21 21.0**	**+6.9**
TGY				*eS*	**Sb**	**09 22 27.3**	**+15**
LQP	**Lukban**	**4.08**	**166**	⇑*eP*	**Pn**	**09 21 20.3**	**+4.8**
LQP				*eS*	**Sb**	**09 22 26.8**	**+11**
GQP	**Guinayangan**	**4.56**	**156**	⇑*eP*	**Pn**	**09 21 27.6**	**+5.7**
GQP				*eS*	**Sn**	**09 22 24.9**	**+11**
TWGBT	**Beinan**	**4.73**	**6**	P	**Pn**	**09 21 26.7**	**+2.5**
TWG	**Pinlang**	**4.73**	**6**		**Pn**	**09 21 25.5**	**+1.3**
TPUB	**Ta-pu**	**5.18**	**1**	Pn	**Pn**	**09 21 30.7**	**+0.2**
TPUB	**Ta-pu**	**5.18**	**1**	P	**Pn**	**09 21 31.5**	**+1.1**
YULB	**Yu-li**	**5.32**	**8**		**Pn**	**09 21 33.9**	**+1.6**
YULB	**Yu-li**	**5.32**	**8**	P	**Pn**	**09 21 34.2**	**+1.8**
SSLB	**Suanglung**	**5.68**	**4**	Pn	**Pn**	**09 21 38.8**	**+1.5**
SSLB	**Suanglung**	**5.68**	**4**	P	**Pn**	**09 21 39.1**	**+1.8**
NACB	**Ninganchiao**	**6.13**	**9**		**Pn**	**09 21 44.5**	**+1.1**
NACB	**Ninganchiao**	**6.13**	**9**	P	**Pn**	**09 21 44.6**	**+1.1**
TATO	**Taipei**	**6.91**	**7**		**Pn**	**09 21 56.0**	**+1.9**
HKPS	**Hong Kong Po S**	**7.29**	**306**	Pn	**Pn**	**09 21 56.8**	**-2.5**
SNPH	**Sibulan**	**9.09**	**163**	*eP*	Pn	09 22 31.2	+7.0
QIZ	**Qiongzhong**	**10.16**	**277**	P	**Pn**	**09 22 36.1**	**-2.7**
QIZ				PP	**PnPn**	**09 22 44.3**	**-2.2**
QIZ				S	**Sn**	**09 24 30.9**	**-0.7**
QIZ	comp=Z,73nm,1.0s			pmax	pmax		
QIZ	comp=N,480nm,15.1s			LR	LR		
QIZ	comp=E,940nm,16.7s			LR	LR		
QIZ	comp=Z,1μm,17.5s			LR	LR		
DAV	**Davao City (W)** comp=Z,869nm,19.6s,baz=82,slow=43	**12.02**	**155**	LR	LR	09 28 46.3	
KKM	**Kota Kinabalu**	**12.69**	**200**		**Pn**	**09 23 15.8**	**+2.3**
KKM	**Kota Kinabalu**	**12.69**	**200**	P	**P**	**09 23 23.8**	**-0.5**
MYLDM	**Lahad Datu**	**12.98**	**189**	Pn	**Pn**	**09 23 19.6**	**+2.2**

comp=Z,410nm,14.3s
LYN LR LR
comp=Z,380nm,16.0s
KMI Kunming 17.93 296 ⇑P **P** **09 24 25.9 +3.3**
KMI pP pwP 09 24 33.2 +2.1
KMI sP sP 09 24 38.1 +2.6
KMI pmax pmax
comp=Z,19nm,1.4s
KMI LR LR
comp=Z,660nm,12.3s
KMI LR LR
comp=Z,1μm,15.3s
KMI LR LR
comp=Z,940nm,15.8s
TIA Tai'an 18.29 351 P **P** **09 24 27.7 +1.4**
TIA pmax pmax
comp=Z,9.0nm,1.0s
TIA pmax pmax
comp=Z,220nm,3.8s
TIA LR LR
comp=Z,560nm,19.6s
TIA LR LR
comp=Z,650nm,19.4s
XAN Xi'an 18.96 329 P **Pn** **09 24 35.0 +0.4**
XAN pP sP 09 24 47.2 +0.6
XAN pmax pmax
comp=Z,21nm,1.0s
XAN pmax pmax
comp=Z,190nm,6.2s
XAN LR LR
comp=Z,430nm,7.7s
XAN LR LR
comp=Z,690nm,14.5s
XAN LR LR
comp=Z,400nm,14.4s
CRAI Chiangrai 19.14 280 P **Pn** **09 24 35.6 -1.2**
PZH PanZhiHua 19.26 299 P **Pn** **09 24 39.6 +1.3**
PZH pP **pwP** **09 24 48.4 +2.7**
PZH S **S** **09 28 09.5 -4.0**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,270nm,5.9s
PZH LR LR
comp=Z,1μm,13.1s
PZH LR LR
comp=Z,2μm,14.5s
PZH LR LR
comp=Z,2μm,14.1s
PHRA Phrae 19.26 274 P **Pn** **09 24 38.0 -0.2**
BKB Balikpapan 19.56 191 P **P** **09 24 41.7 +1.4**
BKB Balikpapan 19.56 191 P **P** **09 24 42.3 +2.0**
MTKI Muara Teweh, K 19.71 197 P **Pn** **09 24 49.4 +5.9**
CD2 Chengdu 19.84 313 P **Pn** **09 24 44.7 -0.4**
CD2 S **Sn** **09 28 26.3 -1.0**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,200nm,8.4s
CD2 LR LR
comp=Z,550nm,9.6s
CD2 LR LR
comp=Z,670nm,12.2s
CD2 LR LR
comp=Z,780nm,16.5s
HNS HongShan 19.90 346 ⇑P **Pn** **09 24 46.2 +0.6**
HNS pmax pmax
comp=Z,24nm,1.4s
HNS LR LR
comp=Z,380nm,15.9s
HNS LR LR
comp=Z,460nm,16.7s
KSRS Korea Array 20.36 17 P Pn 09 24 49.7 -1.3
comp=Z,2.5nm,0.6s,baz=202,slow=11,SNR=12
KSRS LR LR 09 33 45.8
comp=Z,223nm,19.4s,baz=205,slow=39
comp=Z,2.5nm,0.6s
CHTO Chiang Mai 20.47 275 P Pn 09 24 50.3 -2.3
CMAR Chiang Mai Arr 20.48 274 P Pn 09 24 51.0 -1.7
comp=Z,2.6nm,0.3s,baz=80,slow=10,SNR=33
CMAR PcP **PcP** **09 28 59.2 -2.4**
comp=Z,0.8nm,0.3s,baz=96,slow=0.9,SNR=1.4
CMAR LR LR 09 32 44.3
comp=Z,273nm,19.3s,baz=90,slow=36
comp=Z,2.6nm,0.3s
CMAR Chiang Mai Arr 20.48 274 P Pn 09 24 50.7 -2.0
SANI Sanana 20.73 164 P **P** **09 24 50.9 -2.1**
SANI Sanana 20.73 164 P **P** **09 24 48.8 -4.2**
SIJI Sorong 21.61 150 P **P** **09 25 00.4 -2.2**
comp=Z,8.3nm,0.6s,baz=221,slow=22,SNR=2.4
SIJI LR LR 09 33 40.0
comp=Z,133nm,21.4s,baz=16,slow=37
comp=Z,8.3nm,0.6s
JCJ Chichijima 21.90 62 LR LR 09 31 52.9
comp=Z,237nm,21.9s,baz=160,slow=32
SPSI Sidrap Palu 21.93 182 P **P** **09 25 07.2 +1.3**
comp=Z,52nm,1.0s,comp=Z,1μm
SURA Surathani 22.13 249 P **P** **09 25 10.7 +2.6**
BBKI Banjar Baru 22.14 195 P **P** **09 25 09.3 +1.1**
comp=Z,104nm,0.9s,comp=Z,11μm
BJT Baijiatuau 22.17 351 P **P** **09 25 09.2 +0.9**
BJT IAmb IAmb 09 25 32.0
comp=Z,24nm,0.8s
INU Inuyama 22.59 37 P **P** **09 25 12.3 -0.6**
INU IAmb IAmb 09 25 24.4
comp=Z,50nm,1.0s
JHJ Hachijo jima 2 22.88 45 P **P** **09 25 16.8 +0.9**
comp=Z,237nm,0.6s,baz=64,slow=22,SNR=2.1
KAPI Kappang 22.97 182 P **P** **09 25 16.1 -0.9**
comp=Z,20nm,0.7s,baz=55,slow=16,SNR=2.7
KAPI LR LR 09 34 57.3
comp=Z,358nm,20.1s,baz=2.0,slow=38
comp=Z,20nm,0.7s
KAPI Kappang 22.97 182 P **P** **09 25 18.4 +1.4**
KAPI IAmb IAmb 09 25 21.2
comp=Z,50nm,1.1s
MYKOM Kota Tinggi 23.02 227 P **P** **09 25 16.9 -0.6**
MYKOM IAmb IAmb 09 25 19.6
comp=Z,54nm,0.9s
KULM Kulim 23.20 239 P **P** **09 25 18.8 -0.6**
LZH Lanzhou 23.20 324 ⇓P **P** **09 25 21.2 +1.8**
LZH pP sP 09 25 33.1 +0.5
LZH SS **SnSn** **09 30 06.4 +2.0**
LZH pmax pmax
comp=Z,23nm,1.5s
LZH LR LR
comp=Z,570nm,13.7s
LZH LR LR
comp=Z,580nm,14.1s
LZH LR LR
comp=Z,430nm,12.0s
MND Mandalay 23.24 284 P **P** **09 25 20.2 +0.5**
IPM Ipoh 23.37 237 P **P** **09 25 20.6 -0.5**
IPM IAmb IAmb 09 25 22.1
comp=Z,47nm,1.0s
IPM Ipoh 23.37 237 P **P** **09 25 21.6 +0.5**
GUMO Guam 23.85 97 LR LR 09 35 00.8
comp=Z,240nm,18.4s,baz=286,slow=37
HHC Hu-ho-hac-te 23.95 343 *e*P **P** **09 25 28.3 +1.8**
HHC sP sP 09 25 44.8 +4.8
HHC S **S** **09 29 43.9 +2.8**
HHC sS Sn 09 29 58.3 -7.3
HHC pmax pmax
comp=Z,44nm,1.0s
HHC pmax pmax
comp=Z,460nm,5.9s
HHC LR LR
comp=Z,740nm,14.9s
HHC LR LR
comp=Z,580nm,14.7s
HHC LR LR
comp=Z,880nm,16.4s
MJAR Matsushiro Arr 24.11 37 P **P** **09 25 27.6 -0.3**
comp=Z,4.1nm,1.0s,baz=219,slow=8.3,SNR=0.9
MJAR LR LR 09 35 24.1
comp=Z,80nm,20.0s,baz=218,slow=37
comp=Z,4.1nm,1.0s
DSRI Dabo 24.21 222 P **P** **09 25 29.9 +0.9**
comp=Z,15nm,0.8s,comp=Z,12μm
PPBI Pangkal Pinang 24.61 217 P **P** **09 25 34.6 +2.0**
comp=Z,41nm,1.6s,comp=Z,5μm
CN2 Changchun 25.96 8 *e*P **P** **09 25 46.1 +1.5**
CN2 S **S** **09 30 11.1 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,400nm,14.0s
XLT XiLinHaoTe 26.00 353 *e*P **P** **09 25 47.7 +2.7**
XLT pP pP 09 25 58.4 +3.9
XLT sP sP 09 26 04.6 +6.0
XLT PP **PnPn** **09 26 31.0 +7.4**
XLT pmax pmax
comp=Z,13nm,1.0s
BKNI Bangkinang 26.04 229 P **P** **09 25 47.4 +1.8**
BKNI Bangkinang 26.04 229 P **P** **09 25 47.7 +2.1**
comp=Z,187nm,1.1s
PSI Prapat 26.05 237 P **P** **09 25 46.2 +0.3**
RPSI Rantau Prapat 26.11 237 P **P** **09 25 44.3 -2.0**
KCSI Kotacane, Aceh 26.56 240 P **P** **09 25 50.5 +0.1**
comp=Z,29nm,1.1s
SDSI Sungai Dareh 26.65 227 P **P** **09 25 51.7 +0.6**
comp=Z,24nm,0.8s,comp=Z,7μm
PWJI Pagerwojo 27.34 199 P **P** **09 25 57.7 +0.5**
comp=Z,44nm,1.5s
USRK Ussuriysk Ar. 27.76 18 P **P** **09 26 01.5 +0.7**
comp=Z,5.0nm,0.8s,baz=195,slow=9.0,SNR=2.6
USRK LR LR 09 37 45.9
comp=Z,161nm,19.5s,baz=201,slow=38
comp=Z,5.0nm,0.8s
GTA Gaotai 27.81 324 *e*P **P** **09 26 02.7 +1.2**
GTA pP pwP 09 26 12.6 +1.7
GTA sP sP 09 26 16.1 +1.1
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,160nm,4.4s
GTA LR LR
comp=Z,200nm,16.7s
GTA LR LR
comp=Z,290nm,17.4s
GTA LR LR
comp=Z,280nm,16.0s
LEM Lembang 27.84 208 LR LR 09 38 26.3
comp=Z,191nm,18.5s,baz=66,slow=39
BATI Baumata 28.29 173 LR LR 09 38 36.0
comp=Z,271nm,21.1s,baz=318,slow=39
ULN Ulaanbaatar 31.67 343 P **P** **09 26 34.8 -0.8**
SONM Songino Array 31.83 342 P **P** **09 26 37.6 +0.6**
comp=Z,1.9nm,0.8s,baz=161,slow=7.7,SNR=11
SONM PcP **PcP** **09 29 27.5 +0.1**
comp=Z,0.6nm,0.6s,baz=170,slow=2.4,SNR=2.3
comp=Z,1.9nm,0.8s
ASAJ Asahikawa 31.90 31 P **P** **09 26 37.5 +0.1**
comp=Z,6.6nm,0.7s,baz=229,slow=5.6,SNR=1.3
ASAJ LR LR 09 39 03.7
comp=Z,227nm,21.9s,baz=239,slow=35
comp=Z,6.6nm,0.7s
KLR Kul'dur 32.36 14 LR LR 09 41 22.9
comp=Z,171nm,19.3s,baz=198,slow=39
HEH HeiHe 32.56 8 *e*P P 09 26 49.6 +6.5
WMQ Urumqi 37.66 320 *e*P **P** **09 27 29.7 +2.4**
WMQ sP sP 09 27 45.6 +4.6
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=Z,340nm,15.7s
WMQ LR LR
comp=Z,140nm,19.1s
KRVT Keravat (AS076 38.23 123 LR LR 09 40 33.7
comp=Z,126nm,20.3s,baz=82,slow=32
WB0 Warramunga Arr 40.02 159 P **P** **09 27 44.9 -2.3**
WRAB Tennant Creek 40.16 160 P **P** **09 27 46.3 -2.1**
WRAB IAmb IAmb 09 27 48.3
comp=Z,16nm,1.2s
WRAB Tennant Creek 40.16 160 P **P** **09 27 46.5 -1.8**
WRA Warramunga Arr 40.16 160 P P 09 27 45.7 -2.7
comp=Z,5.5nm,0.7s,baz=340,slow=9.1,SNR=22
WRA PcP **PcP** **09 29 50.7 -1.7**
comp=Z,1.5nm,0.8s,baz=337,slow=3.4,SNR=1.7
WRA S S 09 33 45.5 -7.6
comp=Z,0.5nm,0.7s,baz=338,slow=16,SNR=1.7
comp=Z,5.5nm,0.7s
WB2 Warramunga Arr 40.17 160 P **P** **09 27 46.0 -2.4**
WR0 Warramunga Arr 40.25 159 P **P** **09 27 47.6 -1.5**
MK31 Makanchi Array 42.46 321 P **P** **09 28 07.6 +0.5**
MKAR Makanchi Array 42.46 321 P **P** **09 28 08.2 +1.2**
comp=Z,6.5nm,0.9s,baz=120,slow=7.4,SNR=35
MKAR PcP **PcP** **09 29 59.6 0.0**
comp=Z,2.0nm,0.7s,baz=95,slow=3.9,SNR=2.5
comp=Z,6.5nm,0.9s
MKAR Makanchi Array 42.46 321 P **P** **09 28 08.0 +1.0**
MAKZ Makanchi 42.66 321 P **P** **09 28 08.2 -0.4**
MAKZ IAmb IAmb 09 28 19.9
comp=Z,36nm,1.9s
MAKZ Makanchi 42.66 321 P **P** **09 28 09.8 +1.1**
MAKZ pP **pwP** **09 28 19.0 +0.6**
MAKZ sP **sP** **09 28 23.1 +0.7**
AS31 Alice Springs 43.52 162 P **P** **09 28 14.0 -1.8**
ASAR Alice Springs 43.52 162 P **P** **09 28 14.8 -1.0**
comp=Z,6.5nm,0.6s,baz=339,slow=7.1,SNR=114
ASAR S S 09 34 37.5 -5.1
comp=Z,0.5nm,0.9s,baz=342,slow=8.9,SNR=2.8
comp=Z,6.5nm,0.6s
KSH Kashi 43.94 309 P P 09 28 22.8 +3.6
KSH pP sP 09 28 30.2 -2.8
KSH pmax pmax
comp=Z,9.0nm,0.9s
NIL Nilore 44.87 300 P **P** **09 28 26.3 -0.3**
ZAA0 Zalesovo Array 45.12 331 P **P** **09 28 27.5 -0.7**
ZALV Zalesovo Beam 45.12 331 P **P** **09 28 27.7 -0.5**
comp=Z,3.7nm,0.7s,baz=118,slow=8.6,SNR=15
ZALV LR LR 09 47 50.4
comp=Z,136nm,18.9s,baz=124,slow=36
comp=Z,3.7nm,0.7s
ZALV Zalesovo Beam 45.12 331 P **P** **09 28 28.2 -0.1**
PETK Petropavlovsk- 45.32 31 P **P** **09 28 30.4 +0.5**
comp=Z,3.0nm,0.6s,baz=225,slow=3.9,SNR=2.1
PETK LR LR 09 49 01.4
comp=Z,91nm,18.9s,baz=223,slow=38
comp=Z,3.0nm,0.6s
AAK Ala-Archa 45.91 312 P **P** **09 28 35.3 +0.4**
comp=Z,2.4nm,0.7s,baz=74,slow=19,SNR=3.5
AAK LR LR 09 49 47.2
comp=Z,310nm,19.8s,baz=100,slow=38
comp=Z,2.4nm,0.7s
AAK Ala-Archa 45.91 312 P **P** **09 28 36.5 +1.5**
AAK sP **sP** **09 28 50.3 +1.6**
KURK Kurchatov 46.49 324 P **P** **09 28 39.6 +0.4**
KURK IAmb IAmb 09 28 40.8
comp=Z,14nm,0.8s
KURK Kurchatov 46.49 324 P **P** **09 28 40.1 +1.0**
KURK pP **sP** **09 28 49.3 -3.6**
KURBB Kurchatov Arra 46.50 324 P **P** **09 28 39.6 +0.4**
comp=Z,13nm,0.8s,baz=122,slow=8.1,SNR=70
comp=Z,13nm,0.8s
MA2 Magadan 46.85 21 LR LR 09 50 55.4
comp=Z,121nm,18.5s,baz=236,slow=39
MORW Morawa 47.08 185 P **P** **09 28 43.9 0.0**
HNR Honiara 47.58 122 LR LR 09 46 24.6
comp=Z,2μm,21.4s,baz=299,slow=33
KK31 Karatay Array 48.85 312 P **P** **09 28 58.3 +0.7**
KK31 IAmb IAmb 09 29 12.3
comp=Z,19nm,1.4s
KKAR Karatay Array 48.85 312 P **P** **09 28 57.8 +0.1**
KKAR Karatay Array 48.85 312 IAmb IAmb 09 29 12.3
comp=Z,19nm,1.4s
CHGR Chuyangaron 48.92 306 IAmb IAmb 09 29 35.1
comp=Z,12nm,0.9s
FORT Forrest 49.13 171 P **P** **09 28 57.6 -2.1**
NWAO Narrogin (SRO) 50.83 184 LR LR 09 51 59.7
comp=Z,53nm,21.9s,slow=38
BVAR Borovoye Array 52.09 324 P **P** **09 29 21.6 -0.3**
comp=Z,2.7nm,0.8s,baz=113,slow=11,SNR=11
BVAR LR LR 09 50 49.2
comp=Z,98nm,20.9s,baz=101,slow=35
comp=Z,2.7nm,0.8s
BRVK Borovoye 52.16 324 P **P** **09 29 22.9 +0.5**
BRVK IAmb IAmb 09 29 39.4
comp=Z,9.1nm,0.8s
BRVK Borovoye 52.16 324 P **P** **09 29 23.3 +0.9**
BRVK pP **pP** **09 29 32.6 +0.3**
BRVK sP **pwP** **09 29 36.1 +3.8**
BBOO Buckleboo 52.76 164 P **P** **09 29 25.7 -1.3**
BBOO IAmb IAmb 09 29 30.9
comp=Z,12nm,0.8s
STKA Stephens Creek 53.64 158 P **P** **09 29 32.6 -1.0**
comp=Z,7.0nm,0.7s,baz=337,slow=5.8,SNR=15
STKA LR LR 09 55 27.4
comp=Z,52nm,20.8s,baz=22,slow=39
comp=Z,7.0nm,0.7s
TIXI Tiksi 53.78 3 P **P** **09 29 33.6 -0.4**
comp=Z,1.1nm,0.4s,baz=90,slow=23,SNR=5.2
TIXI LR LR 09 54 53.9
comp=Z,194nm,18.4s,baz=179,slow=38
comp=Z,1.1nm,0.4s
TIXI Tiksi 53.78 3 P **P** **09 29 34.3 +0.3**
TIXI IAmb IAmb 09 29 45.7
comp=Z,21nm,1.4s
NRIK Noril'sk 55.12 346 P **P** **09 29 44.4 +0.6**
comp=Z,18nm,0.8s,baz=136,slow=7.1,SNR=25
comp=Z,18nm,0.8s
NRIK Noril'sk 55.12 346 P **P** **09 29 44.3 +0.6**
ABKAR Akbulak array 57.35 317 P **P** **09 29 57.8 -2.3**
ABKAR IAmb IAmb 09 30 17.1
comp=Z,15nm,1.4s
AKTO Aktyubinsk 58.78 318 P **P** **09 30 09.9 -0.2**
comp=Z,3.3nm,0.8s,baz=176,slow=6.4,SNR=4.5
comp=Z,3.3nm,0.8s
ARU Arti 59.66 325 P **P** **09 30 15.9 -0.1**
ARU sP **sP** **09 30 28.4 -1.6**
DZM Mont Dzumac 60.11 130 *e*LR LR 09 48 10.0
comp=Z,119nm,23.4s
DZM Mont Dzumac 60.11 130 LR LR 09 52 39.3
comp=Z,56nm,21.6s,baz=30,slow=32
KIRV Kirov 64.89 327 P **P** **09 30 50.4 -0.6**
comp=Z,12nm,0.6s,baz=133,slow=3.7,SNR=3.8
comp=Z,12nm,0.6s
MSVF Nonsavu 66.85 119 LR LR 09 58 17.3
comp=Z,85nm,18.8s,baz=310,slow=34
KBZ Khabaz 68.86 311 P **P** **09 31 15.5 -1.1**
comp=Z,5.1nm,0.9s,baz=178,slow=2.9,SNR=9.0
comp=Z,5.1nm,0.9s
KIV Kislovodsk 69.00 311 P **P** **09 31 18.0 +0.4**
KIV pP **pwP** **09 31 27.0 -0.8**
KIV sP **sP** **09 31 31.9 +0.2**
RAYN Ar Rayn 69.61 289 P **P** **09 31 21.9 +0.2**
RAYN IAmb IAmb 09 31 22.4
comp=Z,15nm,1.1s
RAYN Ar Rayn 69.61 289 P **P** **09 31 21.4 -0.2**
RAYN pP **pwP** **09 31 30.8 -1.0**
KLMR Klimovskoe 70.00 329 *e*P **P** **09 31 18.7 -4.5**
KLMR AMP 09 31 24.4
comp=Z,12nm,1.2s
GURO Guroymak-BITLI 70.09 305 IAmb IAmb 09 32 17.0
comp=Z,6.2nm,0.5s
TTA Tatalina 71.10 29 P **P** **09 31 31.0 +0.9**
TTA IAmb IAmb 09 31 53.9
comp=Z,14nm,1.4s
L19K White Mountain 71.68 29 IAmb IAmb 09 32 02.1
comp=Z,26nm,1.8s
J20K Nowinta River 71.86 27 IAmb IAmb 09 31 47.5
comp=Z,7.0nm,0.8s
CAST Castle Rocks 72.84 28 P **P** **09 31 41.8 +1.4**
CAST IAmb IAmb 09 31 53.1
comp=Z,11nm,0.8s
MLY Manley 73.24 26 IAmb IAmb 09 31 55.5
comp=Z,5.6nm,0.7s
BPAW Bear Paw Mtn. 73.25 27 P **P** **09 31 43.9 +1.0**
KDAK Kodiak Island 73.25 34 LR LR 10 05 03.7
comp=Z,23nm,19.7s,baz=277,slow=37
H23K Yukon River 73.64 25 IAmb IAmb 09 31 58.3
comp=Z,11nm,0.8s
I23K Minto, Yukon-K 73.81 26 IAmb IAmb 09 32 28.2
comp=Z,22nm,1.8s
NEA2 Nenana 74.01 27 IAmb IAmb 09 31 59.9
comp=Z,6.4nm,0.7s
MCK McKinley 74.20 28 P **P** **09 31 51.6 +3.2**
MCK IAmb IAmb 09 32 09.5
comp=Z,9.4nm,1.0s
WRH Wood River Hil 74.45 27 IAmb IAmb 09 32 03.3
comp=Z,32nm,1.9s
ILAR Eielson Array 74.91 26 P **P** **09 31 51.8 -0.7**
comp=Z,0.4nm,0.6s,baz=275,slow=4.7,SNR=7.3
ILAR LR LR 10 08 00.4
comp=Z,33nm,18.4s,baz=259,slow=38
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 74.94 339 P **P** **09 31 51.6 -1.0**
comp=Z,6.0nm,1.1s,baz=357,slow=5.3,SNR=6.7
comp=Z,6.0nm,1.1s
HDA Harding Lake 74.95 27 IAmb IAmb 09 32 14.1
comp=Z,31nm,1.9s
ASF Jabal al Asfar 75.33 299 P **P** **09 31 54.3 -1.3**
comp=Z,4.8nm,0.7s,baz=13,slow=18,SNR=1.6
comp=Z,4.8nm,0.7s
SCRK Sand Creek 76.30 27 IAmb IAmb 09 32 17.5
comp=Z,10nm,1.4s
BRTR Keskin Array B 76.32 308 P **P** **09 31 58.8 -2.4**
comp=Z,0.6nm,0.5s,baz=173,slow=5.5,SNR=5.8
comp=Z,0.6nm,0.5s
J26L Joseph Creek 76.36 26 IAmb IAmb 09 32 15.5
comp=Z,25nm,1.9s
FINES FINESS Array B 76.39 330 P **P** **09 32 00.0 -0.9**
comp=Z,3.5nm,0.8s,baz=63,slow=6.4,SNR=3.3
comp=Z,3.5nm,0.8s
RPZ Rata Peaks 76.96 145 LR LR 10 07 08.6
comp=Z,28nm,18.4s,baz=282,slow=37
MNK Minsk 76.98 323 *i* P **P** **09 32 02.3 -2.2**
comp=E,3.0nm,1.1s
MNK *i* P **P** **09 32 02.3 -2.2**
comp=N,32nm,0.8s
MNK *i* P **P** **09 32 02.3 -2.2**
comp=Z,11nm,0.8s,baz=257
MNK *i* PcP **pP** **09 32 13.0 -1.8**
MNK *i* PP **PP** **09 34 55.3 -2.4**
MNK *i* PPP PPP 09 36 42.6
MNK *i* S **S** **09 41 48.4 -2.0**
MNK *i* ScS **ScS** **09 42 16.2 -2.7**
MNK *i* SS **SS** **09 46 46.2 -0.8**
MNK *i* SSS SSS 09 50 10.4
MNK *i* LQ LQ 10 01 33.6
MNK *i* LR LR 10 06 48.4
MNK *i* LRM MLR 10 07 43.9
comp=Z,305nm,13.5s
MNK *i* LRM MLR 10 08 14.2
comp=E,24nm,11.0s
MNK *i* LRM MLR 10 08 14.2
comp=N,289nm,12.2s
AKASG Malin Array Be 77.02 319 P **P** **09 32 03.7 -1.1**
comp=N,2.3nm,0.8s,baz=58,slow=4.9,SNR=20
comp=N,2.3nm,0.8s
K27K Chicken 77.11 27 IAmb IAmb 09 32 20.0
comp=Z,9.3nm,1.1s
M26K Nabesna, AK 77.11 28 IAmb IAmb 09 32 34.3
comp=Z,12nm,1.1s
URZ Urewera 77.18 138 LR LR 10 06 05.2
comp=Z,30nm,20.6s,baz=27,slow=36
NACGM Naroch 77.51 324 *e*P **P** **09 32 08.0 +0.6**
comp=Z,21nm,1.1s,baz=76
BARN Barnard Glacie 78.07 30 P **P** **09 32 12.1 +1.4**
INK Inuvik 79.09 21 P **P** **09 32 15.4 -0.5**
comp=Z,2.5nm,0.7s,baz=309,slow=5.9,SNR=13
comp=Z,2.5nm,0.7s
A36M Sachs Harbour 80.10 17 P **P** **09 32 21.8 +0.5**
A36M IAmb IAmb 09 32 23.4
comp=Z,11nm,0.8s
BUR08 Bucovina Ar. S 80.33 317 P **P** **09 32 23.6 +0.4**
BUR08 IAmb IAmb 09 33 31.0
comp=Z,24nm,1.8s
MLR Muntele Rosu 80.44 315 P **P** **09 32 23.5 -0.3**
comp=Z,4.7nm,0.7s,baz=341,slow=2.3,SNR=6.9
comp=Z,4.7nm,0.7s
HFS Hagfors 82.56 331 P **P** **09 32 33.1 -1.5**
comp=Z,3.1nm,0.6s,baz=86,slow=7.7,SNR=6.3
comp=Z,3.1nm,0.6s
NB2 NORSAR Subarra 83.30 332 P **P** **09 32 37.5 -1.0**
comp=Z,5.3nm,1.1s,baz=61,slow=5.3
NOA NORSAR Array B 83.30 332 P **P** **09 32 36.1 -2.3**
comp=Z,2.5nm,0.8s,baz=68,slow=4.8,SNR=7.7
comp=Z,2.5nm,0.8s
KMBO Kilima Mbogo 83.94 267 P **P** **09 32 42.8 -0.1**
KMBO IAmb IAmb 09 32 45.2
comp=Z,17nm,1.6s
JAVC Velka Javorina 84.71 320 *e*P **P** **09 32 47.8 +1.8**
VRAC Vranov 85.20 320 P **P** **09 32 47.7 -0.6**
comp=Z,6.0nm,0.9s,baz=98,slow=8.3,SNR=4.5
comp=Z,6.0nm,0.9s
VRAC Vranov 85.20 320 *e*P **P** **09 32 48.8 +0.5**
KRUC Moravsky 85.41 320 *e*P **P** **09 32 50.1 +0.7**
BRG Berggiesshubel 86.16 323 *e*P **P** **09 32 53.1 0.0**
BRG Amp 09 32 54.0
comp=Z,5.7nm,0.9s
CONA Conrad Observa 86.18 319 *i* P **P** **09 32 54.1 +0.8**
comp=Z,7.6nm,1.2s
CLL Collm 86.52 323 *e*P **P** **09 32 55.0 +0.2**

CLL				*e*PcP	**PcP**	**09 32 59.0**	**+1.8**
CLL				*ep*P	**sP**	**09 33 07.0**	**-2.1**
ARSA	**Arzberg**	**86.65**	**319**	*eP*	**P**	**09 32 55.3**	**-0.3**
	comp=Z,2.6nm,0.7s						
GERES	**GERESS Array B**	**87.13**	**321**	P	**P**	**09 32 57.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=69,slow=6.7,SNR=4.8						
	comp=Z,0.5nm,0.4s						
MOA	**Molln**	**87.19**	**320**	*eP*	**P**	**09 32 58.6**	**+0.4**
	comp=Z,6.3nm,0.9s						
RAR	**Rarotonga**	**87.28**	**113**	LR	LR	10 06 19.8	
	comp=Z,32nm,21.2s,baz=268,slow=32						
MYKA	**Terra Mystica**	**88.08**	**319**	*e*PcP	**PcP**	**09 33 07.6**	**+3.3**
	comp=Z,10nm,1.6s						
ABTA	**Abfaltersbach**	**88.74**	**319**	*eP*	**P**	**09 33 04.1**	**-1.5**
	comp=Z,3.8nm,1.0s						
YKA	**Yellowknife Ar**	**88.81**	**22**	P	**P**	**09 33 06.2**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=310,slow=4.7						
	comp=Z,2.0nm,0.7s						
WTTA	**Wattenberg**	**89.06**	**320**	*eP*	**P**	**09 33 06.9**	**-0.4**
	comp=Z,6.5nm,0.8s						
SQTA	**Sankt Quirin**	**89.34**	**320**	*eP*	**P**	**09 33 05.8**	**-2.8**
	comp=Z,7.0nm,0.9s						
MOTA	**Moosalm**	**89.35**	**320**	*eP*	**P**	**09 33 07.4**	**-1.3**
	comp=Z,7.9nm,0.9s						
FETA	**Feichten**	**89.72**	**320**	*eP*	**P**	**09 33 10.0**	**-0.3**
	comp=Z,4.3nm,0.8s						
DAVA	**Damuels**	**90.12**	**320**	*ep*P	pP	09 33 25.4	+2.7
	comp=Z,5.8nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**90.18**	**320**	P	**P**	**09 33 12.9**	**+0.3**
FUORN				IAmb	IAmb	09 33 13.5	
	comp=Z,8.8nm,1.1s						
PPT	**Papeete**	**95.24**	**107**	LR	LR	10 06 27.6	
	comp=Z,37nm,22.0s,baz=302,slow=29						
PPT2	**Papeete2**	**95.24**	**107**	*e*LR	LR	10 04 26.5	
PPT2	comp=Z,95nm,24.8s						
	comp=Z,124nm,29.5s			*e*LR	LR	10 04 28.0	
YBH	**Yreka Blue Hor**	**96.67**	**42**	P	**P**	**09 33 39.4**	**-3.0**
TBI	**Tubuai**	**97.01**	**112**	*e*LR	LR	10 05 15.7	
	comp=Z,1µm,26.8s						
TBI				*e*LR	LR	10 05 15.7	
	comp=Z,417nm,30.0s						
VNDA	**Vanda**	**98.39**	**172**	LR	LR	10 17 17.5	
	comp=Z,24nm,21.8s,baz=330,slow=35						
TAOE	**Nuku Hiva Isla**	**101.53**	**96**	*e*LR	LR	10 07 21.3	
	comp=Z,129nm,25.5s						
CBOC	**Ciudad Bolivar**	**151.15**	**36**	*eP*	**PKPbc**	**09 40 06.1**	**-0.1**
PTBC	**PUERTO BERRIO**	**151.41**	**32**	*eP*	**PKPbc**	**09 40 06.0**	**-0.6**
PAMC	**Pamplona, Colo**	**151.56**	**28**	*eP*	**PKPbc**	**09 40 07.8**	**+0.2**
PLMC	**San Jos del P**	**151.78**	**37**	*eP*	**PKiKP**	**09 40 08.8**	**+0.8**
GUY2C	**Guyana, Caldas**	**152.03**	**36**	*eP*	**PKPbc**	**09 40 08.8**	**+0.2**
YOTC	**Yotoco, Valle**	**152.48**	**39**	*eP*	**PKPbc**	**09 40 09.2**	**0.0**
RUSC	**La Rusia**	**152.65**	**31**	*eP*	**PKiKP**	**09 40 10.9**	**+0.7**
ORTC	**Ortega, Tolima**	**153.18**	**37**	*eP*	**PKPbc**	**09 40 10.8**	**+0.2**
CHIC	**Chingaza**	**153.41**	**33**	*eP*	**PKPdf**	**09 40 04.7**	**+0.7**

*IDC **09** 09:25:41.0±1.4,31°.31N×56°.37E,h0km,mb3.6/7, mbtmp3.6/11,ML3.1/4,MS2.8/2,Error ellipse: s-maj=25.1km s-min=22.0km az=89.0*
*TEH **09** 09:25:41.8,31°.51N×56°.20E,h8km±40km,ML4.0*
ISC 09 09:25:43.0±0.6,**31°.52N**±0°.03×**56°.18E**±0°.03,**h10**km,**n74,**
σ1=**99**/74,**mb3.6/6,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.53**	**278**	Pg	**Pb**	**09 25 53.1**	**-1.4**
IBAF				Sg	**Sb**	**09 26 00.6**	**-1.6**
ZRDN	**Zarand Kerman**	**0.63**	**151**	Pg	**Pb**	**09 25 54.4**	**-1.9**
KHGB	**Koh Gabri**	**1.17**	**167**	Pg	**Pb**	**09 26 04.1**	**-1.4**
IMEH	**Mehriz**	**1.34**	**265**	Pg	**Pg**	**09 26 07.9**	**-1.0**
IMEH				Sg	**Sg**	**09 26 26.3**	**-0.1**
TPRV	**Parvadeh(Tabas**	**1.56**	**16**	Pg	**Pg**	**09 26 12.0**	**-1.1**
YZKH	**Yazd**	**1.60**	**303**	Pg	**Pg**	**09 26 12.8**	**-1.0**
TVBK	**TV Kerman**	**1.61**	**162**	Pg	**Pb**	**09 26 12.0**	**-1.1**
KRBR	**Kerman**	**1.61**	**162**	Pg	**Pg**	**09 26 12.9**	**-1.2**
ICHK	**Chekchek**	**1.67**	**296**	Pg	**Pg**	**09 26 14.2**	**-1.0**
NGRK	**Negar Kerman**	**1.93**	**166**	Pn	**Pb**	**09 26 17.6**	**-1.0**
CHMN	**Cheshme madani**	**2.03**	**144**	Pn	**Pb**	**09 26 18.9**	**-1.3**
ISAD	**Sadrabad**	**2.16**	**281**	Pn	**Pb**	**09 26 21.1**	**-1.3**
TKDS	**Koohdasht(Taba**	**2.23**	**21**	Pn	**Pb**	**09 26 21.4**	**-2.2**
TABS	**Tabas**	**2.26**	**20**	Pn	**Pb**	**09 26 22.2**	**-1.9**
TNSJ	**Nastanj**	**2.46**	**8**	Pn	**Pb**	**09 26 24.9**	**-2.6**
BSRN	**Basiran**	**2.55**	**79**	Pn	**Pn**	**09 26 25.0**	**+0.4**
ITEG	**Tejag**	**2.57**	**57**	Pn	**Pn**	**09 26 25.7**	**+0.7**
ANAR	**Anarak**	**2.66**	**309**	Pn	**Pb**	**09 26 28.0**	**-2.9**
BAGH	**Bagheran - Bir**	**2.86**	**63**	Pn	**Pn**	**09 26 29.3**	**+0.4**
AFRZ	**Afriz**	**3.06**	**51**	Pn	**Pn**	**09 26 32.3**	**+0.7**
NASN	**Na'in**	**3.13**	**295**	Pn	**Pb**	**09 26 35.3**	**-3.7**
IRAM	**Ramesheh**	**3.25**	**276**	Pn	**Pn**	**09 26 36.4**	**+2.1**
NHDN	**Nehbandan**	**3.31**	**91**	Pn	**Pn**	**09 26 35.7**	**+0.7**
IDAH	**Dahanechah**	**3.36**	**68**	Pn	**Pn**	**09 26 36.5**	**+0.7**
IMON	**Monand**	**3.39**	**60**	Pn	**Pn**	**09 26 38.1**	**+1.9**
IZEF	**Zefreh**	**3.54**	**294**	Pn	**Pb**	**09 26 41.5**	**-4.4**
KNJ	**Kolanjah**	**3.96**	**264**	Pn	**Pn**	**09 26 47.2**	**+3.0**
SHRT	**Shahrakht**	**4.07**	**58**	Pn	**Pn**	**09 26 47.1**	**+1.7**
QIR1	**Qir**	**4.08**	**223**	Pn	**Pn**	**09 26 47.0**	**+1.5**
GENO	**Geno**	**4.11**	**180**	Pn	**Pn**	**09 26 47.6**	**+1.5**
BNDS	**Bandar-Abbas**	**4.11**	**180**	Pn	**Pn**	**09 26 47.7**	**+1.6**
KRSH	**Karshahi**	**4.19**	**307**	Pn	**Pn**	**09 26 50.0**	**+2.8**
IBRJ	**Brojen**	**4.21**	**277**	Pn	**Pn**	**09 26 49.3**	**+1.8**
ISFB	**Sefidab**	**4.35**	**311**	Pn	**Pn**	**09 26 51.8**	**+2.5**
IANJ	**Anjilo**	**4.37**	**335**	Pn	**Pn**	**09 26 51.3**	**+1.7**
SHRO	**Shahrood**	**4.46**	**358**	Pn	**Pn**	**09 26 52.7**	**+1.9**
QAMS	**Qamsar**	**4.60**	**300**	Pn	**Pn**	**09 26 53.9**	**+1.0**
TBHD	**Torbat heydari**	**4.65**	**33**	Pn	**Pn**	**09 26 55.0**	**+1.5**
ILAS	**Lasjerd**	**4.70**	**326**	Pn	**Pn**	**09 26 56.0**	**+1.8**
ISHM	**Shahmirzad**	**4.91**	**331**	Pn	**Pn**	**09 26 58.9**	**+1.8**
IFIR	**Firoozkooh**	**5.00**	**326**	Pn	**Pn**	**09 27 00.6**	**+2.1**
GHVR	**GHOM**	**5.05**	**307**	Pn	**Pn**	**09 27 01.7**	**+2.7**
IVRN	**Varamin**	**5.09**	**314**	Pn	**Pn**	**09 27 02.9**	**+3.4**
TBJM	**Torbat-e-JAM**	**5.10**	**42**	Pn	**Pn**	**09 27 01.1**	**+1.5**
IMOG	**Moghan**	**5.28**	**29**	Pn	**Pn**	**09 27 04.0**	**+1.8**
DSBU	**Dashti - Bushe**	**5.30**	**235**	Pn	**Pn**	**09 27 04.3**	**+1.9**
IDMV	**Damavand**	**5.32**	**321**	Pn	**Pn**	**09 27 05.1**	**+2.2**
IGLO	**Ghaloghah**	**5.34**	**339**	Pn	**Pn**	**09 27 04.6**	**+1.6**
DAMV	**Damavand**	**5.40**	**321**	Pn	**Pn**	**09 27 06.3**	**+2.4**
IAKL	**Akhelmad**	**5.50**	**22**	Pn	**Pn**	**09 27 07.4**	**+2.1**
IPRN	**Peran**	**5.69**	**327**	Pn	**Pn**	**09 27 09.8**	**+2.1**
ISFR	**Sfrayin**	**5.72**	**15**	Pn	**Pn**	**09 27 10.4**	**+2.1**
IMYA	**Miami**	**5.81**	**33**	Pn	**Pn**	**09 27 11.1**	**+1.7**
JASK	**Jask - Hormozg**	**5.83**	**165**	Pn	**Pn**	**09 27 11.4**	**+1.8**
IKRD	**Kardeh**	**5.92**	**27**	Pn	**Pn**	**09 27 12.9**	**+1.8**
ASAO	**Ashtian**	**5.98**	**302**	Pn	**Pn**	**09 27 14.0**	**+2.1**
CHTH	**Charan**	**6.07**	**317**	Pn	**Pn**	**09 27 15.4**	**+2.3**
MRVT	**Maraveh tapeh**	**6.12**	**359**	Pn	**Pn**	**09 27 15.7**	**+2.0**
KLST	**Kelardasht - M**	**6.55**	**321**	Pn	**Pn**	**09 27 22.5**	**+2.8**
GEYT	**Alibeck**	**6.59**	**13**	Pn	**Pn**	**09 27 22.5**	**+2.5**
	0.4nm,0.3s,baz=194,slow=16,SNR=7.2						
GEYT				Sn	**Sn**	**09 28 36.9**	**+1.7**
	0.2nm,0.3s,baz=206,slow=16,SNR=1.6						
GEYT				Lg	Lg	09 29 12.6	
	0.9nm,0.3s,baz=227,slow=36,SNR=1.9						
GEYT				LR	LR	09 30 22.7	
	comp=Z,85nm,18.1s,baz=188,slow=42						
	6.1nm,0.8s						
QALM	**Alamut, Qazvin**	**6.71**	**318**	Pn	**Pn**	**09 27 24.9**	**+3.0**
SNGE	**Sanandaj**	**8.21**	**298**	Pn	**Pn**	**09 27 44.5**	**+2.1**
WSAR	**Wadi Sarin**	**8.53**	**165**	Pn	Pn	09 27 41.0	-5.7
	0.1nm,0.3s,baz=355,slow=11,SNR=2.3						
WSAR				Sn	**Sn**	**09 29 18.7**	**-4.4**
	0.2nm,0.3s,baz=265,slow=16,SNR=1.6						
	1.5nm,0.8s						
KBZ	**Khabaz**	**16.07**	**323**	Pn	**P**	**09 29 31.5**	**-1.0**
	0.1nm,0.3s,baz=334,slow=15,SNR=3.3						
	0.8nm,0.8s						
EIL	**Elat**	**18.37**	**270**	LR	LR	09 38 46.1	
	comp=Z,26nm,21.0s,baz=62,slow=42						
AKTO	**Aktyubinsk**	**18.94**	**4**	P	**Pn**	**09 30 06.1**	**+1.4**
	0.1nm,0.3s,baz=184,slow=10,SNR=3.9						
	3.3nm,0.8s						
BRTR	**Keskin Array B**	**20.03**	**300**	P	Pn	09 30 18.9	+0.8
	0.7nm,0.7s,baz=113,slow=11,SNR=2.6						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**25.19**	**45**	P	**P**	**09 31 08.9**	**+0.2**
	0.6nm,0.6s,baz=228,slow=8.1,SNR=2.0						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**25.29**	**35**	P	**P**	**09 31 09.5**	**0.0**
	1.2nm,0.7s,baz=231,slow=9.2,SNR=4.1						
	1.2nm,0.7s						
AKASG	**Malin Array Be**	**27.68**	**322**	P	**P**	**09 31 32.9**	**+1.9**
	0.1nm,0.3s,baz=131,slow=9.1,SNR=1.4						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**30.38**	**34**	P	**P**	**09 31 55.4**	**+0.4**
	1.3nm,0.6s,baz=224,slow=9.1,SNR=2.6						
	1.3nm,0.6s						
GERES	**GERESS Array B**	**36.23**	**311**	P	**P**	**09 32 47.8**	**+1.6**
	0.6nm,0.7s,baz=106,slow=10,SNR=4.1						
	0.6nm,0.7s						
TIXI	**Tiksi**	**54.97**	**22**	P	**P**	**09 35 14.0**	**+0.1**
	0.8nm,0.3s,baz=270,slow=24,SNR=5.8						
	0.8nm,0.3s						
JHJ	**Hachijo jima 2**	**68.73**	**64**	LR	LR	10 11 19.2	
	comp=Z,265nm,18.6s,baz=92,slow=40						

IDC 09 09:29:27.6±3.4,**54°.38N**×**87°.30E,h0**km,**mbtmp2.8/2, ML2.3/2,Error ellipse: s-maj=27.8km s-min=19.6km az=52.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**255**	I	I	09 39 20.0	
	baz=75,slow=347,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.52**	**255**	Pg	Pn	09 29 54.9	-1.1
	0.5nm,0.3s,baz=74,slow=16,SNR=9.3						
ZALV				Lg	Lg	09 30 16.0	
	0.7nm,0.3s,baz=73,slow=32,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.54**	**238**	Pn	Pn	09 31 04.4	-0.6
	0.1nm,0.3s,baz=53,slow=14,SNR=2.1						
KURBB				Lg	Lg	09 32 57.0	
	0.1nm,0.3s,baz=58,slow=31,SNR=2.6						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**8.23**	**205**	Pn	Pn	09 31 30.3	+2.1
	baz=25,slow=13,SNR=1.2						
MKAR				Lg	Lg	09 33 50.9	
	baz=20,slow=29,SNR=2.8						
	0.1nm,0.3s						

*IDC **09** 09:30:25.9±4.1,21°.69S×170°.74E,h0km,mb3.9/4, mbtmp3.9/4,MS3.3/9,Error ellipse: s-maj=157.6km s-min=40.8km az=150.0*
*NOU **09** 09:30:36.4,22°.12S×170°.18E,h0km,MLv4.6/12, Southeast of Loyalty Islands*
ISC 09 09:30:32.9±1.5,**22°.5S**±0°.1×**170°.6E**±0°.1,**h50**km,**n27,**
σ1=**53**/16,**mb3.9/4,MS3.5**/9,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.58**	**292**	P	**Pn**	**09 31 11.9**	**-0.2**
YATNC	**Mamie plateau,**	**3.46**	**276**	P	**Pn**	**09 31 25.1**	**+0.8**
OUENC	**Ouen Island, N**	**3.47**	**270**	P	**Pn**	**09 31 26.7**	**+2.2**
LIFNC	**LIFOU**	**3.54**	**298**	P	**Pn**	**09 31 25.6**	**+0.1**
DZM	**Mont Dzumac**	**3.87**	**275**	*e*Pn	**Pn**	**09 31 29.8**	**-0.2**
	133nm,0.8s						
DZM				*e*Sn	**Sn**	**09 32 12.8**	**-1.4**
	308nm,0.9s						
DZM	**Mont Dzumac**	**3.87**	**275**	LR	LR	09 32 19.6	
	comp=Z,83nm,21.7s,baz=72,slow=28						
DZM	**Mont Dzumac**	**3.87**	**275**	P	**Pn**	**09 31 31.9**	**+1.9**
RTV	**Rentapao**	**5.08**	**336**	P	**Pn**	**09 31 48.2**	**+1.7**
DVP	**Devils Point**	**5.23**	**334**	P	**Pn**	**09 31 50.2**	**+1.6**
KOUNC	**Kounac, New Ca**	**6.18**	**287**	P	**Pn**	**09 32 03.5**	**+1.9**
MSVF	**Nonsavu**	**8.44**	**57**	LR	LR	09 35 08.4	
	comp=Z,164nm,21.1s,baz=199,slow=36						
URZ	**Urewera**	**16.71**	**162**	LR	LR	09 39 20.0	
	comp=Z,169nm,21.3s,baz=88,slow=31						
RPZ	**Rata Peaks**	**21.20**	**179**	LR	LR	09 42 22.2	
	comp=Z,71nm,19.1s,baz=1.0,slow=33						
RAR	**Rarotonga**	**27.51**	**93**	LR	LR	09 46 57.1	
	comp=Z,20nm,18.4s,baz=256,slow=36						
ASAR	**Alice Springs**	**33.72**	**261**	P	**P**	**09 37 10.9**	**+1.2**
	0.7nm,0.8s,baz=84,slow=8.8,SNR=13						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**33.85**	**267**	P	**P**	**09 37 12.2**	**+1.4**
	0.4nm,0.5s,baz=99,slow=8.5,SNR=13						
	0.4nm,0.5s						
TBI	**Tubuai**	**36.72**	**99**	*e*LR	LR	09 47 43.3	
	comp=Z,299nm,27.5s						
TBI				*e*LR	LR	09 47 43.6	
	comp=Z,1µm,27.5s						
PPT2	**Papeete2**	**37.66**	**90**	*e*LR	LR	09 48 03.5	
	comp=Z,68nm,27.5s						
SIJI	**Sorong**	**43.85**	**294**	LR	LR	09 56 37.1	
	comp=Z,53nm,18.3s,baz=105,slow=36						
BATI	**Baumata**	**46.48**	**277**	LR	LR	09 58 46.9	
	comp=Z,109nm,19.9s,baz=310,slow=37						
TAOE	**Nuku Hiva Isla**	**49.10**	**82**	*e*LR	LR	09 53 15.6	
	comp=Z,118nm,27.9s						
ASAJ	**Asahikawa**	**71.05**	**339**	LR	LR	10 05 17.2	
	comp=Z,28nm,21.2s,baz=172,slow=30						
MAW	**Mawson**	**75.94**	**202**	LR	LR	10 12 46.4	
	comp=Z,42nm,18.2s,baz=48,slow=33						
CMAR	**Chiang Mai Arr**	**80.98**	**294**	P	**P**	**09 42 41.6**	**-1.1**
	1.0nm,0.3s,baz=133,slow=5.0,SNR=4.3						
	1.0nm,0.3s						
SONM	**Songino Array**	**90.54**	**323**	P	**P**	**09 43 27.9**	**-1.7**
	0.7nm,0.8s,baz=128,slow=6.1,SNR=3.8						
	0.7nm,0.8s						
GERES	**GERESS Array B**	**147.91**	**331**	PKPbc	**PKPdf**	**09 50 10.4**	**+0.8**
	0.7nm,0.7s,baz=35,slow=3.6,SNR=4.5						
DAVOX	**Davos/Dischmat**	**151.17**	**332**	PKPbc	**PKPbc**	**09 50 19.5**	**-1.3**
	1.4nm,0.3s,baz=348,slow=19,SNR=3.6						

*IDC **09** 09:36:31.8±1.9,51°.52N×177°.79W,h0km,mb3.0/3, mbtmp3.1/3,Error ellipse: s-maj=100.5km s-min=27.1km az=154.0*
*AEIC **09** 09:36:36.0±2.6,51°.42N±0°.07×178°.28W±0°.07,h43km±9km, ML3.3,Error ellipse: s-maj=10.7km s-min=6.1km az=176.0*
*NEIC **09** 09:36:35.9±0.7,51°.4N±0°.7×178°.3W±0°.2,h35km±18km, Error ellipse: s-maj=103.5km s-min=2.3km az=167.0*
ISC 09 09:36:36.6±0.9,**51°.9N**±0°.2×**178°.47W**±0°.07,**h35**km,**n14,**
σ1=**38**/10,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.82**	**92**		**Pn**	**09 36 51.3**	**-0.3**
ADK	**Adak**	**1.11**	**90**		**Pn**	**09 36 54.7**	**-0.9**
ADK				Sn	**Sn**	**09 37 09.8**	**+0.3**
AMKA	**Amchitka**	**1.48**	**251**		**Pn**	**09 36 60.0**	**-0.7**
AMKA					**Sn**	**09 37 18.0**	**-0.7**
GSTR	**Great Sitkin T**	**1.50**	**81**		**Pn**	**09 37 02.0**	**+0.9**
ILAR	**Eielson Array**	**20.72**	**39**	P	**P**	**09 41 12.9**	**-0.6**
	0.2nm,0.9s,baz=228,slow=11,SNR=1.6						
	0.2nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**34.08**	**205**	T	T	10 19 03.1	
	baz=17,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**34.09**	**205**	T	T	10 19 06.2	
	baz=17,slow=76,SNR=47						
H11N1	**WAKE ISLAND Hy**	**34.10**	**205**	T	T	10 19 06.7	
	baz=17,slow=76,SNR=41						
YKA	**Yellowknife Ar**	**34.73**	**47**	P	**P**	**09 43 22.8**	**0.0**
	0.2nm,0.8s,baz=278,slow=8.7,SNR=2.6						
	0.2nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**35.30**	**205**	T	T	10 20 36.9	
	baz=16,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**35.32**	**205**	T	T	10 20 34.4	
	baz=16,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**35.32**	**205**	T	T	10 20 32.7	
	baz=16,slow=76,SNR=47						
JHJ	**Hachijo jima 2**	**35.43**	**255**	P	**P**	**09 43 31.8**	**+2.7**
	193nm,0.5s,baz=53,slow=20,SNR=4.1						
PDAR	**Pinedale Array**	**45.96**	**73**	P	**P**	**09 44 54.5**	**-1.7**
	0.3nm,0.4s,baz=302,slow=5.1,SNR=3.7						
	0.3nm,0.4s						

*NEIC **09** 09:44:14.8±1.3,18°.78N±0°.07×145°.6E±0°.2,h201km±8km, mb4.5/79,Error ellipse: s-maj=20.8km s-min=10.5km az=88.0*
*IDC **09** 09:44:16.2±1.6,18°.80N×145°.48E,h222km±15km, mb3.8/28,mbtmp4.3/31,Error ellipse: s-maj=13.7km s-min=8.6km az=95.0*
ISC 09 09:44:15.3±0.4,**18°.76N**±0°.05×**145°.5E**±0°.1,**h214**km,**n123,**
σ=**75**/120,**mb4.3**/66,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.18**	**187**	P	**Pn**	**09 45 32.3**	**-0.1**
	32nm,0.3s,baz=335,slow=11,SNR=14						
GUMO				S	**S**	**09 46 32.0**	**-1.1**
	90nm,0.3s,baz=36,slow=16,SNR=6.0						
GUMO	**Guam**	**5.18**	**187**	Pn	**Pn**	**09 45 32.1**	**-0.3**
JCJ	**Chichijima**	**8.85**	**340**	Pn	**Pn**	**09 46 18.9**	**-0.5**
JOW	**Kunigami**	**17.80**	**300**	P	**P**	**09 48 07.5**	**-0.6**
	33nm,0.9s,baz=130,slow=11,SNR=1.6						
JGF	**Kuroka**	**18.27**	**338**	P	**P**	**09 48 13.6**	**+0.6**
JGF				IAmb	IAmb	09 48 15.7	
MJAR	**Matsushiro Arr**	**18.85**	**342**	P	**P**	**09 48 18.1**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=165,slow=9.4,SNR=8.3						
MAJO	**Matsushiro**	**18.85**	**342**	P	**P**	**09 48 19.6**	**+0.3**
MAJO				IAmb	IAmb	09 48 30.9	
	comp=Z,27nm,1.4s						
MJB9	**Matsu-Tunnel**	**18.85**	**342**	P	**P**	**09 48 18.8**	**-0.6**
MJB9				IAmb	IAmb	09 48 31.8	
	comp=Z,28nm,1.5s						
JMM	**Marumori**	**19.48**	**349**	P	**P**	**09 48 27.6**	**+1.6**
H11S3	**WAKE ISLAND Hy**	**20.07**	**87**	T	T	10 09 53.6	
	baz=275,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**20.08**	**87**	T	T	10 09 45.5	
	baz=275,slow=74,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**20.09**	**87**	T	T	10 09 58.0	
	baz=275,slow=74,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**20.21**	**84**	T	T	10 10 19.4	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**20.21**	**84**	T	T	10 10 22.1	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**20.23**	**84**	T	T	10 10 25.1	
	baz=266						
SIJI	**Sorong**	**24.01**	**217**	P	**P**	**09 49 11.0**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=195,slow=23,SNR=1.9						
	comp=Z,3.6nm,0.3s						
KSRS	**Korea Array**	**24.17**	**324**	P	**P**	**09 49 12.1**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=146,slow=9.8,SNR=2.4						
	comp=Z,1.2nm,0.8s						
JKA	**Kamikawa-asahi**	**25.40**	**355**	P	**P**	**09 49 23.4**	**+0.3**
ASAJ	**Asahikawa**	**25.40**	**355**	P	**P**	**09 49 23.6**	**+0.6**
	comp=Z,2.1nm,0.4s,baz=235,slow=10,SNR=7.0						
	comp=Z,2.1nm,0.4s						
KLR	**Kul'dur**	**32.36**	**343**	P	**P**	**09 50 24.6**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=161,slow=15,SNR=9.8						
	comp=Z,1.1nm,0.3s						
PETK	**Petropavlovsk-**	**35.57**	**13**	P	**P**	**09 50 52.1**	**0.0**
	comp=Z,3.5nm,0.7s,baz=188,slow=8.7,SNR=2.6						
	comp=Z,3.5nm,0.7s						
SBUM	**Sibu**	**36.40**	**248**	P	**P**	**09 50 59.6**	**0.0**
SBUM				IAmb	IAmb	09 51 02.4	
	comp=Z,6.2nm,0.7s						
KNRA	**Kununurra**	**37.98**	**207**	P	**P**	**09 51 13.6**	**+0.8**
KNRA				IAmb	IAmb	09 51 15.5	
	comp=Z,9.7nm,0.8s						
WB0	**Warramunga Arr**	**39.81**	**196**	P	**P**	**09 51 28.8**	**+0.8**
WB0				IAmb	IAmb	09 51 29.8	
	comp=Z,9.7nm,0.5s						
WR0	**Warramunga Arr**	**39.95**	**196**	P	**P**	**09 51 29.9**	**+0.8**
WR0				IAmb	IAmb	09 51 31.9	
	comp=Z,12nm,1.2s						
WRAB	**Tennant Creek**	**39.98**	**196**	P	**P**	**09 51 30.0**	**+0.7**
WRAB				IAmb	IAmb	09 51 30.8	
	comp=Z,7.2nm,0.6s						
WB2	**Warramunga Arr**	**39.99**	**196**	P	**P**	**09 51 30.4**	**+1.1**
WB2				IAmb	IAmb	09 51 31.1	
	comp=Z,17nm,1.0s						
WRA	**Warramunga Arr**	**39.99**	**196**	P	**P**	**09 51 30.0**	**+0.5**
	comp=Z,4.7nm,0.3s,baz=17,slow=8.2,SNR=47						
WRA				PcP	**PcP**	**09 53 30.2**	**0.0**
	comp=Z,3.8nm,1.0s,baz=15,slow=3.7,SNR=3.6						
WRA				ScP	**ScP**	**09 56 56.1**	**-2.8**
	comp=Z,0.8nm,0.8s,baz=7.4,slow=4.2,SNR=4.6						
	comp=Z,4.7nm,0.3s						
WRA	**Warramunga Arr**	**39.99**	**196**	P	**P**	**09 51 29.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.51**	**209**	P	**P**	**09 51 42.8**	**+1.0**
SONM	**Songino Array**	**42.99**	**321**	P	**P**	**09 51 53.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=120,slow=6.8,SNR=5.1						
	comp=Z,0.8nm,0.5s						
AS31	**Alice Springs**	**43.

comp=Z,6.0nm,0.5s
KTH Kantishna Hill 61.66 27 P P 09 54 11.2 +0.8
KTH IAmb IAmb 09 54 12.2
comp=Z,16nm,1.4s
I21K Tanana 61.68 25 P P 09 54 11.7 +1.4
I21K IAmb IAmb 09 54 45.2
comp=Z,14nm,1.5s
BPAW Bear Paw Mtn. 61.78 26 P P 09 54 12.1 +1.0
BPAW IAmb IAmb 09 54 12.3
comp=Z,5.6nm,0.6s
TRF Thorofare Moun 61.91 27 P P 09 54 12.3 +0.2
TRF IAmb IAmb 09 54 19.3
comp=Z,13nm,1.5s
PMR Palmer 61.99 29 P P 09 54 12.5 +0.1
PMR IAmb IAmb 09 54 13.2
comp=Z,5.7nm,1.0s
MLY Manley 62.14 26 P P 09 54 14.1 +0.6
MLY IAmb IAmb 09 54 15.1
comp=Z,3.5nm,0.7s
PWL Port Wells 62.21 30 P P 09 54 14.1 +0.2
SML Sawmill 62.41 29 P P 09 54 15.3 0.0
SML IAmb IAmb 09 54 16.9
comp=Z,10.0nm,1.0s
I23K Minto, Yukon-K 62.73 26 P P 09 54 18.1 +0.7
I23K IAmb IAmb 09 54 19.2
comp=Z,4.1nm,0.5s
SCM Sheep Creek Mo 62.88 29 P P 09 54 19.0 +0.5
WRH Wood River Hil 63.10 26 P P 09 54 19.8 0.0
MDM Murphy Dome 63.15 26 P P 09 54 21.1 +0.9
MDM IAmb IAmb 09 54 22.1
comp=Z,4.2nm,0.6s
EYAK Cordova Ski Ar 63.40 31 P P 09 54 21.9 +0.1
KLU Klutina 63.48 30 P P 09 54 22.1 -0.3
KLU IAmb IAmb 09 54 51.6
comp=Z,8.8nm,1.1s
H24K Noodor Dome 63.50 25 P P 09 54 23.1 +0.7
IL31 63.67 26 P P 09 54 22.8 -0.6
IL31 IAmb IAmb 09 54 23.4
comp=Z,4.1nm,0.9s
ILAR Eielson Array 63.67 26 P P 09 54 22.6 -1.0
comp=Z,2.2nm,0.8s,baz=250,slow=5.0,SNR=31
comp=Z,2.2nm,0.8s
PAX Paxson 63.94 28 P P 09 54 25.7 +0.3
PAX IAmb IAmb 09 54 26.6
comp=Z,3.9nm,0.6s
N25K Chitina, Valde 64.12 30 P P 09 54 27.5 +0.9
N25K IAmb IAmb 09 54 59.9
comp=Z,10.0nm,1.4s
RTZ Ruatahuna 64.25 153 P P 09 54 26.7 -1.0
J25K Salcha River, 64.28 27 P P 09 54 27.4 -0.2
GLB Gilahina Butte 64.47 30 P P 09 54 29.1 +0.3
GLB IAmb IAmb 09 55 05.8
comp=Z,10nm,1.3s
VRDI Verde Repeater 64.61 30 P P 09 54 29.4 -0.6
VRDI IAmb IAmb 09 54 38.1
comp=Z,9.6nm,1.2s
SCRK Sand Creek 64.76 27 P P 09 54 31.0 +0.3
J26L Joseph Creek 65.03 27 IAmb IAmb 09 54 32.9
comp=Z,2.8nm,0.7s
BMAR Burnt Mountain 65.13 24 P P 09 54 34.6 +1.7
M27K Edge Creek, AK 65.49 29 P P 09 54 36.2 +0.8
M27K IAmb IAmb 09 54 58.0
comp=Z,13nm,1.5s
L27K Beaver Creek, 65.59 29 P P 09 54 36.5 +0.5
BVAR Borovoye Array 66.32 320 P P 09 54 40.8 0.0
comp=Z,5.8nm,0.6s,baz=91,slow=7.9,SNR=29
comp=Z,5.8nm,0.6s
BRVK Borovoye 66.38 320 P P 09 54 40.9 -0.2
BRVK IAmb IAmb 09 54 42.4
comp=Z,4.2nm,0.8s
KK31 Karatay Array 66.60 310 P P 09 54 43.4 +0.6
KKAR Karatay Array 66.60 310 P P 09 54 43.1 +0.4
KKAR Karatay Array 66.60 310 IAmb IAmb 09 54 44.4
comp=Z,3.0nm,0.8s
INK Inuvik 69.39 23 P P 09 54 59.6 +0.1
comp=Z,1.9nm,0.7s,baz=297,slow=6.1,SNR=14
comp=Z,1.9nm,0.7s
ARU Arti 72.92 325 P P 09 55 20.3 -0.7
comp=Z,2.4nm,0.5s,baz=170,slow=17,SNR=5.9
comp=Z,2.4nm,0.5s
AKTO Aktyubinsk 74.21 318 P P 09 55 27.9 -0.7
comp=Z,2.3nm,0.6s,baz=97,slow=5.7,SNR=6.6
comp=Z,2.3nm,0.6s
YKA Yellowknife Ar 78.02 28 P P 09 55 49.8 0.0
comp=Z,1.9nm,0.6s,baz=288,slow=5.7,SNR=45
comp=Z,1.9nm,0.6s
BELG Belogornoye 80.05 322 P P 09 56 00.8 -0.1
comp=Z,6.2nm,0.7s,baz=348,slow=5.4,SNR=5.6
comp=Z,6.2nm,0.7s
ARCES ARCESS Array B 82.38 342 P P 09 56 12.5 -0.5
comp=Z,6.4nm,1.0s,baz=74,slow=9.5,SNR=2.1
comp=Z,6.4nm,1.0s
NVAR Mina Array Bea 83.24 52 P P 09 56 18.9 +0.6
comp=Z,4.1nm,0.8s,baz=265,slow=6.3,SNR=10
comp=Z,4.1nm,0.8s
KVAR Kislovodsk Arr 86.03 315 P P 09 56 31.9 -0.1
comp=Z,3.6nm,0.5s,baz=3.5,slow=15,SNR=3.0
comp=Z,3.6nm,0.5s
FINES FINESS Array B 86.76 335 P P 09 56 32.9 -2.1
comp=Z,1.8nm,0.5s,baz=65,slow=5.5,SNR=13
comp=Z,1.8nm,0.5s
PDAR Pinedale Array 87.91 45 P P 09 56 41.0 -0.2
comp=Z,0.3nm,0.5s,baz=22,slow=0.8,SNR=4.6
comp=Z,0.3nm,0.5s

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*SJA **09** 09:47:50.1±0.7,27.˙78S×71.˙67W,h14km±3km,ML4.3, MW3.9*
*IDC **09** 09:47:52.5±1.6,27.˙72S×71.˙63W,h0km,mbtmp3.7/4, ML3.6/4,Error ellipse: s-maj=36.0km s-min=22.2km az=96.0*
*GUC **09** 09:47:55.1±0.5,27.˙90S×71.˙30W,h28km±2km,ML3.8*
ISC 09 09:47:47.9±1.3,27.˙97S±0.˙02×71.˙79W±0.˙04,h4km±9km, n57,σ2=29/107,1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.68**	**110**	*i*	*P*	**Pn**		**09 48 03.8**	**-0.5**
AC04					*S*	**Sb**		**09 48 10.0**	**-2.1**
AC04					IAML			09 48 10.6	
	comp=E,20μm,0.2s								
AC04	**Llanos de Chal**	**0.68**	**110**		*P*	**Pn**		**09 48 03.5**	**-0.8**
AC04					*S*	**Sb**		**09 48 10.4**	**-1.6**
AC04	**Llanos de Chal**	**0.68**	**110**		*P*	**Pn**		**09 48 03.5**	**-0.8**
AC04					*S*	**Sb**		**09 48 10.4**	**-1.6**
AC06	**Mina Casimiro**	**1.42**	**65**		*P*	**Pn**		**09 48 13.7**	**-0.8**
AC06					*S*	**Sb**		**09 48 28.1**	**-5.2**
GO03	**Copiap**	**1.43**	**75**		*P*	**Pn**		**09 48 14.2**	**-0.5**
GO03					*S*	**Sb**		**09 48 28.5**	**-5.3**
GO03					IAML			09 48 36.4	
	comp=E,3μm,0.3s								
GO03	**Copiap**	**1.43**	**75**		*P*	**Pb**		**09 48 14.7**	**-0.5**
GO03					*S*	**Sb**		**09 48 31.4**	**-2.4**
GO03	**Copiap**	**1.43**	**75**		*P*	**Pb**		**09 48 14.7**	**-0.5**
GO03					*S*	**Sb**		**09 48 31.4**	**-2.4**
AC05	**El Transito**	**1.59**	**123**		*P*	**Pg**		**09 48 19.4**	**+0.9**
AC05					*S*	**Sg**		**09 48 37.8**	**-1.4**
AC05					IAML			09 48 39.4	
	comp=N,2μm,0.6s								
AC05	**El Transito**	**1.59**	**123**		*P*	**Pg**		**09 48 20.1**	**+1.6**
AC05					*S*	**Sg**		**09 48 39.3**	**+0.2**
AC05					IAML			09 48 39.6	
	comp=Z,3μm,0.6s								
AC05	**El Transito**	**1.59**	**123**		*P*	**Pg**		**09 48 20.1**	**+1.6**
AC05					*S*	**Sg**		**09 48 39.3**	**+0.2**
AC05					IAML			09 48 39.6	
	comp=Z,3μm,0.6s								
CO05	**La Serena**	**2.00**	**166**		*P*	**Pg**		**09 48 28.0**	**+1.8**
CO05					*S*	**Sg**		**09 48 52.5**	**+0.3**
CO05					IAML			09 49 02.3	
	comp=E,1μm,0.6s								
AC01	**Pan de Azucar**	**2.11**	**31**		*P*	**Pn**		**09 48 24.6**	**+0.6**
AC01					*S*	**Sb**		**09 48 52.2**	**-1.0**
AC01					IAML			09 49 01.7	
	comp=N,794nm,0.4s								
AC01	**Pan de Azucar**	**2.11**	**31**		*P*	**Pn**		**09 48 24.4**	**+0.5**
AC01					*S*	**Sg**		**09 48 58.3**	**+2.7**
AC01	**Pan de Azucar**	**2.11**	**31**		*P*	**Pn**		**09 48 24.4**	**+0.5**
AC01					*S*	**Sg**		**09 48 58.3**	**+2.7**
GO04	**Tololo Observa**	**2.36**	**159**		*P*	**Pg**		**09 48 33.0**	**-0.2**
GO04					*S*	**Sg**		**09 49 01.7**	**-2.1**
GO04	**Tololo Observa**	**2.36**	**159**		*P*	**Pg**		**09 48 33.0**	**-0.2**
GO04					*S*	**Sg**		**09 49 05.4**	**+1.6**
GO04	**Tololo Observa**	**2.36**	**159**		*P*	**Pg**		**09 48 33.0**	**-0.2**
GO04					*S*	**Sg**		**09 49 05.4**	**+1.6**
CO01	**Juntas del Tor**	**2.49**	**144**		*P*	**Pg**		**09 48 34.9**	**-0.7**
CO01					*S*	**Sb**		**09 49 04.3**	**-0.2**
CO01					IAML			09 49 11.2	
	comp=N,787nm,0.3s								
CO01	**Juntas del Tor**	**2.49**	**144**		*P*	**Pg**		**09 48 35.0**	**-0.7**
CO01					*S*	**Sg**		**09 49 07.4**	**-0.6**
CO01					*S*	**Sb**		**09 49 07.8**	**+3.2**
CO01					IAML			09 49 11.4	
	comp=Z,673nm,0.9s								
CO01	**Juntas del Tor**	**2.49**	**144**		*P*	**Pg**		**09 48 35.0**	**-0.7**
CO01					*S*	**Sg**		**09 49 07.4**	**-0.6**
CO01					*S*	**Sb**		**09 49 07.8**	**+3.2**
CO01					IAML			09 49 11.4	
	comp=Z,673nm,0.9s								
AC02	**Maricunga**	**2.62**	**65**		*P*	**Pb**		**09 48 33.7**	**-2.1**
AC02					*S*	**Sn**		**09 49 03.6**	**-0.5**
AC02					IAML			09 49 11.6	
	comp=N,2μm,0.3s								
AC02	**Maricunga**	**2.62**	**65**		*P*	**Pb**		**09 48 34.0**	**-1.8**
AC02					*S*	**Sb**		**09 49 06.4**	**-2.2**
AC02					IAML			09 49 10.5	
	comp=Z,1μm,0.4s								
AC02	**Maricunga**	**2.62**	**65**		*P*	**Pb**		**09 48 34.0**	**-1.8**
AC02					*S*	**Sb**		**09 49 06.4**	**-2.2**
AC02					IAML			09 49 10.5	
	comp=Z,1μm,0.4s								
AROD	**Rodeo**	**2.98**	**138**		*P*	**Pb**		**09 48 40.9**	**-1.0**
AROD					*S*	**Sb**		**09 49 17.4**	**-1.4**
AROD	**Rodeo**	**2.98**	**138**		*P*	**Pb**		**09 48 40.9**	**-1.0**
AROD					*S*	**Sb**		**09 49 17.4**	**-1.4**
CO03	**El Pedregal**	**3.02**	**162**		*P*	**Pb**		**09 48 42.2**	**0.0**
CO03					*S*	**Sn**		**09 49 07.4**	**-5.8**
CO03					IAML			09 49 30.4	
	comp=Z,379nm,0.5s								
CO03	**El Pedregal**	**3.02**	**162**		*P*	**Pb**		**09 48 42.2**	**0.0**
CO03					*S*	**Sn**		**09 49 07.4**	**-5.8**
CO03					IAML			09 49 30.4	
	comp=Z,379nm,0.5s								
ACDV	**Cuesta del Vie**	**3.21**	**134**		*P*	**Pb**		**09 48 46.0**	**+0.5**
ACDV					*S*	**Sb**		**09 49 24.4**	**-0.6**
ACDV	**Cuesta del Vie**	**3.21**	**134**		*P*	**Pb**		**09 48 46.0**	**+0.5**
ACDV					*S*	**Sb**		**09 49 24.4**	**-0.6**
CO02	**Combarbal**	**3.29**	**168**		*P*	**Pn**		**09 48 40.9**	**+0.5**
CO02					*P*	**Pb**		**09 48 45.8**	**-1.2**
CO02					*S*	**Sb**		**09 49 26.9**	**-0.6**
CO02					IAML			09 49 47.7	
	comp=Z,655nm,0.5s								
CO02	**Combarbal**	**3.29**	**168**		*P*	**Pn**		**09 48 40.9**	**+0.5**
CO02					*P*	**Pb**		**09 48 45.8**	**-1.2**
CO02					*S*	**Sb**		**09 49 26.9**	**-0.6**
CO02					IAML			09 49 47.7	
	comp=Z,655nm,0.5s								
PB14	**IPOC Station P**	**3.56**	**21**		*P*	**Pn**		**09 48 44.0**	**-0.2**
PB14					*S*	**Sn**		**09 49 23.7**	**-3.2**
PB14	**IPOC Station P**	**3.56**	**21**		*P*	**Pn**		**09 48 44.0**	**-0.2**
PB14					*S*	**Sn**		**09 49 23.7**	**-3.2**
RTLS	**Leoncito**	**4.39**	**151**		*P*	**Pb**		**09 49 03.9**	**-1.8**
RTLS					*S*	**Sb**		**09 49 56.4**	**-2.7**
RTLS					IAML			09 50 10.9	
	comp=Z,675nm,0.7s								
RTLS	**Leoncito**	**4.39**	**151**		*P*	**Pb**		**09 49 03.9**	**-1.8**
RTLS					*S*	**Sb**		**09 49 56.4**	**-2.7**
RTLS					IAML			09 50 10.9	
	comp=Z,675nm,0.7s								
RTLL	**Cerro Villicun**	**4.42**	**140**		*P*	**Pb**		**09 49 03.0**	**-3.2**
RTLL					*P*	**Pb**		**09 49 03.9**	**-2.3**
RTLL					*S*	**Sb**		**09 49 54.4**	**-5.4**
RTLL	**Cerro Villicun**	**4.42**	**140**		*P*	**Pb**		**09 49 03.0**	**-3.2**
RTLL					*P*	**Pb**		**09 49 03.9**	**-2.3**
RTLL					*S*	**Sb**		**09 49 54.4**	**-5.4**
PB10	**IPOC Station P**	**4.58**	**14**		*P*	**Pn**		**09 48 58.0**	**0.0**
PB10					*S*	**Sn**		**09 49 48.3**	**-3.3**
PB10	**IPOC Station P**	**4.58**	**14**		*P*	**Pn**		**09 48 58.0**	**0.0**
PB10					*S*	**Sn**		**09 49 48.3**	**-3.3**
AVFE	**Valle Fertil**	**4.64**	**126**		*P*	Pb		09 49 03.9	-6.0
AVFE					*S*	**Sn**		**09 49 56.4**	**+3.2**
AVFE					IAML			09 50 04.2	
	comp=Z,278nm,0.7s								
AVFE	**Valle Fertil**	**4.64**	**126**		*P*	Pb		09 49 03.9	-6.0
AVFE					*S*	**Sn**		**09 49 56.4**	**+3.2**
AVFE					IAML			09 50 04.2	
	comp=Z,278nm,0.7s								
CFA	**Coronel Fontan**	**4.76**	**140**		Pn	Pb		09 49 06.8	-5.1
	comp=Z,5.2nm,0.3s,baz=318,slow=13,SNR=32								
CFA					Sn	**Sb**		**09 50 04.2**	**-5.4**
	comp=Z,9.1nm,0.3s,baz=297,slow=18,SNR=3.9								
	comp=Z,10nm,0.3s								
PB15	**IPOC Station P**	**5.19**	**24**		*P*	**Pn**		**09 49 08.0**	**+1.5**
PB15					*S*	**Sn**		**09 50 06.1**	**-0.8**
PB15					IAML			09 50 34.1	
	comp=Z,332nm,0.7s								
PB15	**IPOC Station P**	**5.19**	**24**		*P*	**Pn**		**09 49 08.0**	**+1.5**
PB15					*S*	**Sn**		**09 50 06.1**	**-0.8**
PB15					IAML			09 50 34.1	
	comp=Z,332nm,0.7s								
CYA	**Choya**	**5.31**	**96**		*P*	**Pn**		**09 49 07.4**	**-0.6**
CYA					*P*	Pb		09 49 11.4	-10
CYA					*S*	**Sn**		**09 50 13.2**	**+3.5**
CYA	**Choya**	**5.31**	**96**		*P*	**Pn**		**09 49 07.4**	**-0.6**
CYA					*P*	Pb		09 49 11.4	-10
CYA					*S*	**Sn**		**09 50 13.2**	**+3.5**
PB06	**IPOC Station P**	**5.62**	**21**		*P*	**Pn**		**09 49 12.7**	**+0.3**
PB06					*S*	**Sn**		**09 50 14.3**	**-3.1**
PB06					IAML			09 50 58.4	
	comp=Z,139nm,0.6s								
PB06	**IPOC Station P**	**5.62**	**21**		*P*	**Pn**		**09 49 12.7**	**+0.3**
PB06					*S*	**Sn**		**09 50 14.3**	**-3.1**
PB06					IAML			09 50 58.4	
	comp=Z,139nm,0.6s								
LVC	**Limon Verde**	**5.94**	**27**		Pn	**Pn**		**09 49 17.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=197,slow=8.7,SNR=9.8								
LVC					Sn	**Sn**		**09 50 23.0**	**-2.7**
	comp=Z,4.0nm,0.3s,baz=240,slow=8.8,SNR=3.5								
LVC					Lg	Lg		09 50 53.2	
	comp=Z,20nm,0.3s,baz=354,slow=18,SNR=6.2								
	comp=Z,2.5nm,0.3s								
H03N1	**Juan Fernandez**	**8.20**	**227**		T	T		09 58 40.3	
	baz=55,slow=71,SNR=144								
H03N2	**Juan Fernandez**	**8.21**	**227**		T	T		09 58 42.5	
	baz=55,slow=71,SNR=131								
H03N3	**Juan Fernandez**	**8.22**	**227**		T	T		09 58 48.2	
	baz=55,slow=71,SNR=502								
CPUP	**Villa Florida**	**12.98**	**86**		Pn	**Pn**		**09 50 57.1**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=262,slow=13,SNR=1.4								
CPUP					Sn	**Sn**		**09 53 21.0**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=268,slow=13,SNR=1.3								
	comp=Z,1.1nm,0.7s								
SIV	**San Ignacio**	**15.51**	**42**		Pn	**Pn**		**09 51 28.5**	**+0.8**
	baz=222,slow=11,SNR=2.4								
	comp=Z,0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**148.12**	**37**		PKPbc	**PKPab**		**10 07 38.3**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=297,slow=3.2,SNR=3.1								
ZALV	**Zalesovo Beam**	**148.89**	**27**		PKPbc	**PKPab**		**10 07 40.8**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=338,slow=3.1,SNR=8.2								
MKAR	**Makanchi Array**	**152.33**	**40**		PKPbc	**PKiKP**		**10 07 49.2**	**+4.0**
	comp=Z,0.8nm,0.8s,baz=281,slow=1.0,SNR=3.8								

ROM 09 09:52:08.7±0.0,42.˙721N±0.˙003×13.˙204E±0.˙004, h11km,ML1.9/14,Error ellipse: s-maj=0.3km s-min=0.2km az=247.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.04**	**5**			P	Pg	09 52 11.0	0.0
T1214						S	Sg	09 52 12.3	-0.2
T1214						AML	AML		
	comp=N,3540μm,0.1s								
T1214						AML	AML		
	comp=E,2750μm,0.3s								
T1214						AML	AML		
	comp=N,3540μm,0.2s								
T1214						AML	AML		
	comp=E,2585μm,0.3s								
T1214						AML	AML		
	comp=N,3375μm,0.2s								
T1218	**Civita (PG)**	**0.08**	**232**			P	Pg	09 52 11.6	+0.3
T1218						S	Sg	09 52 13.5	+0.3
T1218						AML	AML		
	comp=E,4250μm,0.1s								
T1218						AML	AML		
	comp=N,8780μm,0.2s								
T1218						AML	AML		
	comp=E,4035μm,0.2s								
T1218						AML	AML		
	comp=N,8875μm,0.2s								
T1218						AML	AML		
	comp=E,4250μm,0.2s								
T1218						AML	AML		
	comp=N,8780μm,0.2s								
T1218						AML	AML		
	comp=N,8880μm,0.2s								
T1212	**Cascia, Frazio**	**0.12**	**285**			P	Pg	09 52 12.1	+0.4
T1212						S	Sg	09 52 14.4	+0.4
T1212						AML	AML		
	comp=E,843μm,0.9s								
T1212						AML	AML		
	comp=E,824μm,0.9s								
T1212						AML	AML		
	comp=N,866μm,0.3s								
T1212						AML	AML		
	comp=E,842μm,0.9s								
T1212						AML	AML		
	comp=N,860μm,0.2s								
T1212						AML	AML		
	comp=E,824μm,0.9s								
T1212						AML	AML		
	comp=E,842μm,1.1s								
T1212						AML	AML		
	comp=E,824μm,1.1s								
T1212						AML	AML		
	comp=N,861μm,0.2s								
SMA1	**SAN MARTINO**	**0.13**	**133**			P	Pg	09 52 12.5	+0.6
SMA1						AML	AML		
	comp=E,1036μm,0.3s								
SMA1						AML	AML		
	comp=N,752μm,1.2s								
SMA1						AML	AML		
	comp=N,752μm,0.8s								
SMA1						AML	AML		
	comp=E,1036μm,1.7s								
T1245	**Castelsantange**	**0.14**	**355**			P	Pg	09 52 12.4	+0.3
T1245						S	Sg	09 52 15.3	+0.9
T1245						AML	AML		
	comp=E,1180μm,0.3s								
T1245						AML	AML		
	comp=N,1615μm,0.3s								
LNSS	**Leonessa**	**0.17**	**226**			P	Pg	09 52 13.0	+0.5
LNSS						S	Sg	09 52 16.3	+1.2
LNSS						AML	AML		
	comp=E,2055μm,0.6s								
LNSS						AML	AML		
	comp=E,2055μm,1.4s								
LNSS						AML	AML		
	comp=N,2280μm,0.7s								
MC2	**Monte Cornacci**	**0.19**	**357**			P	Pg	09 52 13.4	+0.5
MC2						S	Sg	09 52 17.1	+1.2
MMO1	**Montemonaco**	**0.20**	**27**			P	Pg	09 52 13.4	+0.4
MMO1						S	Sg	09 52 17.0	+1.1
RM33	**Pellescritta (**	**0.21**	**178**			P	Pg	09 52 13.6	+0.4
RM33						S	Sg	09 52 17.5	+1.2
RM33						AML	AML		
	comp=N,596μm,0.4s								
RM33						AML	AML		
	comp=E,811μm,0.5s								
RM33						AML	AML		
	comp=E,811μm,1.5s								
T1241	**Roccafluvione,**	**0.21**	**51**			P	Pg	09 52 13.6	+0.4
T1241						S	Sg	09 52 17.4	+1.0
T1241						AML	AML		
	comp=E,402μm,1.1s								
T1241						AML	AML		
	comp=N,270μm,1.3s								
T1241						AML	AML		
	comp=E,402μm,0.9s								
T1216	**Preci, Frazion**	**0.22**	**321**			P	Pg	09 52 13.7	+0.4
T1216						S	Sg	09 52 17.6	+1.2
T1216						AML	AML		
	comp=E,394μm,0.3s								
T1216						AML	AML		
	comp=E,394μm,0.4s								
T1216						AML	AML		
	comp=N,512μm,0.4s								
T1216						AML	AML		
	comp=N,512μm,0.4s								
CAMP	**Campotosto**	**0.24**	**141**			P	Pg	09 52 14.2	+0.5
CAMP						S	Sg	09 52 18.2	+1.1
CAMP						AML	AML		
	comp=E,153μm,0.3s								
CAMP						AML	AML		
	comp=N,161μm,0.7s								
CAMP						AML	AML		
	comp=N,162μm,0.7s								
CAMP						AML	AML		
	comp=E,153μm,0.3s								
CAMP						AML	AML		
	comp=N,162μm,1.3s								
T1215	**Vallo di Nera,**	**0.26**	**288**			P	Pg	09 52 14.4	+0.4
T1215						S	Sg	09 52 18.7	+1.1
T1215						AML	AML		
	comp=E,294μm,0.2s								
T1215						AML	AML		
	comp=N,183μm,1.1s								
T1215						AML	AML		
	comp=E,310μm,0.2s								
T1215						AML	AML		
	comp=N,156μm,1.3s								
T1215						AML	AML		
	comp=E,294μm,0.2s								
T1215						AML	AML		
	comp=E,310μm,0.2s								
T1215						AML	AML		
	comp=N,156μm,1.3s								
T1215						AML	AML		
	comp=N,183μm,0.9s								
FDMO	**Fiordimonte**	**0.33**	**345**			P	Pg	09 52 15.5	+0.3
FDMO						S	Sb	09 52 20.9	-0.9
FDMO						AML	AML		
	comp=E,156μm,1.4s								
FDMO						AML	AML		
	comp=E,156μm,1.4s								
FDMO						AML	AML		
	comp=N,198μm,0.9s								
FDMO						AML	AML		
	comp=E,156μm,1.4s								
FDMO						AML	AML		
	comp=N,197μm,0.9s								
FDMO						AML	AML		
	comp=E,156μm,0.6s								
CESI	**CESI - Serrava**	**0.36**	**322**			P	Pg	09 52 16.4	+0.5
CESI						AML	AML		
	comp=N,244μm,0.4s								
CESI						AML	AML		
	comp=E,138μm,0.3s								
T1219	**Muccia, Frazio**	**0.36**	**337**			P	Pg	09 52 16.2	+0.3
T1219						S	Sb	09 52 22.0	-1.0
T1219						AML	AML		
	comp=N,414μm,0.3s								
T1219						AML	AML		
	comp=N,373μm,0.3s								
T1219						AML	AML		
	comp=E,360μm,0.3s								
T1219						AML	AML		
	comp=E,379μm,0.3s								
T1219						AML	AML		
	comp=E,380μm,0.4s								
T1219						AML	AML		
	comp=N,414μm,0.3s								
T1219						AML	AML		
	comp=E,359μm,0.3s								
GIGS	**Gran Sasso**	**0.38**	**135**			P	Pg	09 52 16.6	+0.3
GIGS						AML	AML		
	comp=E,65μm,1.4s								
GIGS						AML	AML		
	comp=N,54μm,1.6s								
GIGS						AML	AML		
	comp=E,65μm,0.6s								
GIGS						AML	AML		
	comp=N,54μm,0.4s								
T1220	**Camerino, Fraz**	**0.40**	**348**			P	Pg	09 52 16.9	+0.3
T1220						S	Sb	09 52 23.2	-0.7
T1220						AML	AML		
	comp=N,666μm,0.3s								
T1220						AML	AML		
	comp=E,799μm,0.3s								
T1220						AML	AML		
	comp=N,672μm,0.3s								
T1220						AML	AML		
	comp=E,792μm,0.3s								
T1220						AML	AML		
	comp=E,802μm,0.3s								

T1220				AML	AML	
	comp=E,798μm,0.3s					
T1220				AML	AML	
	comp=N,672μm,0.3s					
T1220				AML	AML	
	comp=E,798μm,1.7s					
T1220				AML	AML	
	comp=E,792μm,0.3s					
FIAM	**Fiamignano**	**0.46**	**188**	P	Pg	09 52 17.8 +0.2
FIAM				AML	AML	
	comp=E,151μm,1.3s					
FIAM				AML	AML	
	comp=N,89μm,1.1s					
ASSB	**Assisi San Ben**	**0.51**	**309**	P	Pb	09 52 19.9 +0.1
ASSB				AML	AML	
	comp=E,82μm,1.4s					
ASSB				AML	AML	
	comp=N,71μm,1.2s					
ASSB				AML	AML	
	comp=E,82μm,0.6s					
SNTG	**Esanatoglia**	**0.57**	**340**	P	Pg	09 52 19.9 +0.2
EL6	**Elcito**	**0.61**	**353**	P	Pg	09 52 20.8 +0.2

TIR ***09*** *09:53:09.3,37.°61N×21.°33E,h0km±25km,Md4.6*
BGR ***09*** *09:53:12.7±0.8,38.°03N×22.°17E,h10km,Ms4.1,Error ellipse: s-maj=54.5km s-min=15.6km az=58.0*
BJI ***09*** *09:53:13.0±0.0,38.°40N×21.°70E,h7km,mb4.6/34, mB5.1/16,Ms4.8/4,Ms7 4.4/4*
IDC ***09*** *09:53:14.6±0.6,38.°35N×21.°74E,h0km,mb4.5/30, mbtmp4.4/44,ML4.1/13,MS4.1/61,Error ellipse: s-maj=13.5km s-min=9.8km az=20.0*
MOS ***09*** *09:53:15.5±1.1,38.°33N×21.°71E,h14km,mb4.9/27, MS4.1/5,Error ellipse: s-maj=4.4km s-min=2.5km az=88.4*
UPSL ***09*** *09:53:16.5,38.°34N×21.°72E,h4km,Mw4.7,Moment Tensor Solution. s7 Moment tensor: Mrr=0.20; Mθθ=1.23; Mϕϕ=-1.04; Mrθ=0.61; Mθϕ=0.21; Mϕr=0.62; Fault plane solution: NP1:ϕs222.00000°,δ86.00000°,λ-142.00000°. NP2: ϕs129.00000°,δ52.00000°,λ-5.00000°.*
ATH ***09*** *09:53:16.5,38.°34N×21.°72E,h4km,Mw4.6,Moment Tensor Solution. s8 Moment tensor: Mrr=1.75; Mθθ=9.75; Mϕϕ=-8.00; Mrθ=2.27; Mθϕ=1.43; Mϕr=4.42; Fault plane solution: NP1:ϕs223.00000°,δ81.00000°,λ-151.00000°. NP2: ϕs128.00000°,δ61.00000°,λ-11.00000°.*
THE ***09*** *09:53:16.6,38.°36N×21.°74E,h7km,ML4.6/15 Error ellipse: s-maj=0.9km s-min=0.4km az=6.0*
SKO ***09*** *09:53:16.1,38.°36N×21.°73E,h7km,ML4.5*
PDG ***09*** *09:53:16.3±0.5,38.°34N×21.°72E,h10km,ML4.6/10,Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
MED_RC ***09*** *09:53:16.0±0.4,38.°29N×21.°75E,h10km,MW4.8/30, Moment Tensor Solution.Mantle waves: s30,c41; Duration: 1s1 Moment tensor: Scale 10^16Nm; Mrr-0.01±.07; Mθθ1.65±.05; Mϕϕ-1.65±.05; Mrθ0.38±.20; Mθϕ0.22±.06; Mϕr1.14±.18; Best double couple: M◎2.02000×10^16 NP1:ϕs222.00000°,δ83.00000°, λ-148.00000°. NP2:ϕs128.00000°,δ58.00000°, λ-8.00000°. Principal axes: T 1.8000, Plg17.0000°, Azm350.0000°; N 0.4200, Plg57.0000°, Azm232.0000°; P -2.2300, Plg27.0000°, Azm90.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GCMT ***09*** *09:53:17.6±0.3,38.°30N±0.°02×21.°79E±0.°02,h24km±1km, MW4.8/88,Moment Tensor Solution. s14,c14; s88,c113; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.50±.14; Mθθ2.35±.11; Mϕϕ-1.85±.09; Mrθ0.40±.13; Mθϕ0.07±.08; Mϕr0.69±.14; Best double couple: M◎2.27600×10^16 NP1:ϕs226.00000°,δ80.00000°,λ-157.00000°. NP2: ϕs132.00000°,δ68.00000°,λ-11.00000°. Principal axes: T 2.4100, Plg8.0000°, Azm358.0000°; N -0.2710, Plg65.0000°, Azm249.0000°; P -2.1430, Plg23.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***09*** *09:53:17.6±1.8,38.°42N±0.°05×21.°78E±0.°06,h10km±1km, mb4.9/102,Mwr4.8/44 Error ellipse: s-maj=9.3km s-min=7.0km az=132.0,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.12; Mθθ1.37; Mϕϕ-1.49; Mrθ-0.55; Mθϕ-0.34; Mϕr-0.59; Fault plane solution: M◎1.68000×10^16 NP1:ϕs51.09000°,δ89.94000°, λ-151.49000°. NP2:ϕs321.06000°,δ61.49000°, λ-0.07000°. Principal axes: T 1.5817, Plg20.0000°, Azm182.0000°; N 0.1785, Plg61.0000°, Azm51.0000°; P -1.7602, Plg20.0000°, Azm280.0000°;*
HLW ***09*** *09:53:25.6,37.°57N×21.°78E,h19km±59km,Md4.6*
ISC 09 09:53:16.5±0.6,38.°32N±0.°01×21.°74E±0.°01,h11km±3km, n737,σ1s59/724,mb4.8/125,MS4.2/57,59C-18D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.06**	**135**	P	**Pg**	**09 53 18.4**	**-0.2**
UPR				S	**Sg**	**09 53 20.8**	**+0.6**
EFP	**Efpalio**	**0.17**	**53**	P	**Pg**	**09 53 19.6**	**-0.5**
EFP				S	**Sg**	**09 53 22.4**	**-0.4**
	199μm,0.5s						
EFP	**Efpalio**	**0.17**	**53**	P	**Pg**	**09 53 19.7**	**-0.5**
EFP				S	**Sg**	**09 53 22.7**	**-0.1**
EFP				AML	AML	09 53 23.5	
EFP				AML	AML	09 53 24.1	
LAKA	**Lakka**	**0.21**	**114**	P	**Pg**	**09 53 20.6**	**-0.2**
LAKA				S	**Sg**	**09 53 24.4**	**+0.5**
	690μm,0.5s						
LAKA	**Lakka**	**0.21**	**114**	P	**Pg**	**09 53 20.7**	**-0.2**
LAKA				S	**Sg**	**09 53 24.3**	**+0.5**
LAKA				AML	AML	09 53 25.1	
LAKA				AML	AML	09 53 25.2	
SERG	**Sergoula**	**0.27**	**71**	P	**Pg**	**09 53 22.2**	**+0.2**
SERG				S	**Sg**	**09 53 26.0**	**+0.4**
SERG				AML	AML	09 53 28.4	
SERG				AML	AML	09 53 28.6	
ALIK	**Aliki, Aigiali**	**0.30**	**102**	P	**Pg**	**09 53 22.4**	**-0.2**
ALIK				S	**Sg**	**09 53 27.5**	**+0.9**
ANX	**Ano Chora**	**0.31**	**28**	P	**Pg**	**09 53 22.0**	**-0.7**
ANX				S	**Sg**	**09 53 26.9**	**+0.1**
	166μm,0.5s						
ANX	**Ano Chora**	**0.31**	**28**	P	**Pg**	**09 53 22.0**	**-0.7**
ANX				S	**Sg**	**09 53 26.8**	**0.0**
ANX				AML	AML	09 53 29.5	
ANX				AML	AML	09 53 30.4	
PVO	**Paravola**	**0.34**	**331**	P	**Pg**	**09 53 21.7**	**-1.5**
PVO				S	**Sg**	**09 53 27.5**	**-0.1**
RLS	**Riolos of Patr**	**0.34**	**219**	P	**Pg**	**09 53 23.4**	**+0.2**
RLS				S	**Sb**	**09 53 29.6**	**-0.4**
	226μm,0.3s						
RLS	**Riolos of Patr**	**0.34**	**219**	P	**Pg**	**09 53 23.5**	**+0.2**
RLS				S	**Sg**	**09 53 28.3**	**+0.5**
RLS				AML	AML	09 53 29.9	
RLS				AML	AML	09 53 31.3	
DRO	**Drossia**	**0.37**	**183**	P	**Pg**	**09 53 23.9**	**+0.1**
DRO				S	**Sb**	**09 53 30.3**	**-0.7**
	319μm,0.3s						
DRO	**Drossia**	**0.37**	**183**	P	**Pg**	**09 53 24.0**	**+0.1**
DRO				S	**Sg**	**09 53 29.3**	**+0.5**
DRO				AML	AML	09 53 31.0	
DRO				AML	AML	09 53 31.0	
KLV	**Kalavryta, Ach**	**0.43**	**130**	P	**Pg**	**09 53 24.7**	**-0.3**
KLV				S	**Sb**	**09 53 32.0**	**-0.7**
	45μm,0.6s						
KLV	**Kalavryta, Ach**	**0.43**	**130**	P	**Pg**	**09 53 24.8**	**-0.1**
KLV				S	**Sg**	**09 53 31.6**	**+0.9**
KLV				AML	AML	09 53 33.9	
	comp=E,84698μm,0.5s						
KLV				AML	AML	09 53 34.0	
	comp=N,94547μm,0.6s						
EVR	**Evrytania**	**0.59**	**6**	P	**Pg**	**09 53 27.9**	**-0.2**
EVR	**Evrytania**	**0.59**	**6**	P	**Pg**	**09 53 27.9**	**-0.2**
EVR				S	**Sg**	**09 53 35.8**	**-0.1**
EVR				AML	AML	09 53 47.1	
	comp=N,58845μm,0.7s						
EVR				AML	AML	09 53 48.9	
	comp=E,64436μm,0.8s						
DLFA	**Delphi**	**0.62**	**75**	P	**Pg**	**09 53 28.3**	**-0.2**
DLFA				S	**Sb**	**09 53 37.8**	**-0.3**
DLFA				AML	AML	09 53 42.3	
	comp=N,28473μm,0.4s						
DLFA				AML	AML	09 53 42.9	
	comp=E,28606μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.76**	**24**	P	**Pg**	**09 53 30.1**	**-1.0**
MAKR				S	**Sg**	**09 53 41.0**	**+0.1**
	comp=E,65μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.76**	**24**	P	**Pg**	**09 53 30.4**	**-0.6**
MAKR				AML	AML	09 53 47.8	
MAKR				AML	AML	09 53 50.8	
	comp=N,83145μm,0.4s						
THAL	**Thalero**	**0.79**	**111**	P	**Pg**	**09 53 31.6**	**0.0**
THAL				S	**Sb**	**09 53 43.0**	**+0.2**
	comp=N,54μm,0.4s						
THAL	**Thalero**	**0.79**	**111**	P	**Pg**	**09 53 31.6**	**0.0**
THAL				AML	AML	09 53 53.3	
THAL				AML	AML	09 53 54.9	
	comp=N,78469μm,0.4s						
AGG	**Agios Georgios**	**0.84**	**34**	Pg	**Pg**	**09 53 31.6**	**-1.1**
AGG	**Agios Georgios**	**0.84**	**34**	P	**Pg**	**09 53 30.9**	**-1.8**
AGG				S	**Sg**	**09 53 43.4**	**-0.2**
	comp=N,17μm,0.5s						
AGG	**Agios Georgios**	**0.84**	**34**	*e*P	**Pg**	**09 53 31.4**	**-1.3**
AGG	**Agios Georgios**	**0.84**	**34**	P	**Pg**	**09 53 31.6**	**-1.1**
AGG	**Agios Georgios**	**0.84**	**34**	P	**Pg**	**09 53 31.5**	**-1.1**
AXAR	**Agios Charalam**	**0.85**	**58**	P	**Pg**	**09 53 31.7**	**-1.1**
AXAR				S	**Sg**	**09 53 44.0**	**+0.1**
	comp=N,41μm,0.5s						
AXAR	**Agios Charalam**	**0.85**	**58**	P	**Pg**	**09 53 31.8**	**-1.0**
AXAR				AML	AML	09 53 48.9	
	comp=E,78436μm,0.6s						
AXAR				AML	AML	09 53 51.9	
	comp=N,90009μm,0.5s						
EVGI	**Lefkada island**	**0.90**	**290**	P	**Pg**	**09 53 32.9**	**-0.8**
NYDR	**Nydri-Lefkada**	**0.90**	**296**	P	**Pg**	**09 53 32.9**	**-0.9**
NYDR				S	**Sb**	**09 53 46.9**	**+0.7**
VLS	**Valsamata**	**0.91**	**261**	P	**Pg**	**09 53 33.3**	**-0.8**
VLS				S	**Sn**	**09 53 47.9**	**-0.6**
	comp=N,43μm,0.3s						
VLS	**Valsamata**	**0.91**	**261**	P	**Pg**	**09 53 33.3**	**-0.8**
VLS				S	**Sn**	**09 53 47.9**	**-0.6**
VLS	**Valsamata**	**0.91**	**261**	P	**Pg**	**09 53 33.3**	**-0.8**
VLS				AML	AML	09 53 48.9	
	comp=E,54853μm,0.3s						
VLS				AML	AML	09 53 49.2	
FSK	**Fiskardo**	**0.93**	**279**	P	**Pg**	**09 53 33.4**	**-1.0**
FSK				S	**Sb**	**09 53 47.9**	**+0.9**
FSK	**Fiskardo**	**0.93**	**279**	P	**Pg**	**09 53 33.5**	**-1.0**
FSK				S	**Sg**	**09 53 46.1**	**-0.4**
FSK				AML	AML	09 53 53.9	
	comp=E,64246μm,0.5s						
FSK				AML	AML	09 53 54.7	
	comp=N,48875μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.93**	**257**	P	**Pg**	**09 53 33.5**	**-0.9**
LTHK	**Lithakia**	**0.94**	**229**	P	**Pg**	**09 53 34.1**	**-0.4**
LTHK	**Lithakia**	**0.94**	**229**	P	**Pg**	**09 53 34.1**	**-0.4**
LTHK				AML	AML	09 53 55.9	
LTHK				AML	AML	09 53 56.4	
LKD2	**Lefkada island**	**0.96**	**299**	*e*P	**Pg**	**09 53 33.0**	**-2.0**
LKD2	**Lefkada island**	**0.96**	**299**	P	**Pg**	**09 53 33.4**	**-1.6**
	baz=337						
LKD2				S	**Sn**	**09 53 49.9**	**+0.1**
	baz=337						
LKD2	**Lefkada island**	**0.96**	**299**	P	**Pg**	**09 53 34.1**	**-1.0**
LKD2				AML	AML	09 53 52.9	
	comp=N,84599μm,0.9s						
LKD2				AML	AML	09 53 56.7	
	comp=E,51976μm,0.4s						
TSLK	**Tsoukalades, L**	**0.98**	**301**	P	**Pg**	**09 53 34.5**	**-0.9**
TSLK	**Tsoukalades, L**	**0.98**	**301**	P	**Pg**	**09 53 34.3**	**-1.1**
TSLK				S	**Sg**	**09 53 47.7**	**-0.5**
KEF4	**Livadi, Kephal**	**1.03**	**267**	P	**Pg**	**09 53 35.2**	**-1.1**
LOUT	**Loutraki**	**1.03**	**109**	P	**Pg**	**09 53 36.1**	**-0.2**
LOUT				S	**Sn**	**09 53 51.9**	**+0.5**
	comp=E,14μm,0.5s						
LOUT	**Loutraki**	**1.03**	**109**	P	**Pg**	**09 53 36.0**	**-0.4**
LKR	**Lokris**	**1.04**	**71**	P	**Pg**	**09 53 35.8**	**-0.8**
LKR				AML	AML	09 53 55.5	
	comp=N,24880μm,0.4s						
LKR				AML	AML	09 53 56.1	
	comp=E,14774μm,0.3s						
DMLN	**Damoulianata-K**	**1.07**	**266**	P	**Pb**	**09 53 36.0**	**-1.1**
ITM	**Ithomi**	**1.15**	**172**	Pn	**Pb**	**09 53 38.2**	**-0.3**
ITM	**Ithomi**	**1.15**	**172**	P	**Pb**	**09 53 38.2**	**-0.3**
ITM				S	**Sn**	**09 53 56.0**	**+1.6**
	comp=E,26μm,0.5s						
ITM	**Ithomi**	**1.15**	**172**	*e*P	**Pb**	**09 53 37.7**	**-0.8**
ITM	**Ithomi**	**1.15**	**172**	P	**Pg**	**09 53 38.6**	**0.0**
ITM				AML	AML	09 54 03.4	
	comp=E,57186μm,0.6s						
ITM				AML	AML	09 54 05.4	
	comp=N,48518μm,0.5s						
VIL2	**Platees**	**1.21**	**95**	P	**Pg**	**09 53 40.0**	**+0.2**
VIL2				AML	AML	09 54 00.4	
	comp=N,37233μm,1.0s						
VIL2				AML	AML	09 54 03.3	
	comp=E,51431μm,1.0s						
VILL	**Villia**	**1.25**	**97**	P	**Pn**	**09 53 39.6**	**-0.4**
VILL				S	**Sn**	**09 53 58.3**	**+1.4**
	comp=E,25μm,1.0s						
THL	**Klokotos Trika**	**1.26**	**10**	P	**Pn**	**09 53 39.6**	**-0.4**
THL	**Klokotos Trika**	**1.26**	**10**	P	**Pb**	**09 53 40.2**	**0.0**
THL				AML	AML	09 54 02.5	
	comp=E,19949μm,0.7s						
THL				AML	AML	09 54 04.1	
	comp=N,14468μm,0.6s						
EPID	**Epidavros**	**1.30**	**123**	P	**Pb**	**09 53 40.9**	**-0.1**
PYL	**PYLOS**	**1.43**	**180**	P	**Pn**	**09 53 42.7**	**+0.3**
PYL				AML	AML	09 54 10.3	
	comp=E,31737μm,1.3s						
PYL				AML	AML	09 54 12.9	
	comp=N,39610μm,0.5s						
TYRN	**Tyrnavos**	**1.44**	**15**	P	**Pn**	**09 53 42.6**	**+0.1**
KRND	**KRANIDI**	**1.46**	**130**	P	**Pn**	**09 53 43.0**	**+0.1**
KRND				S	**Sg**	**09 54 03.3**	**-0.2**
	comp=N,20μm,0.8s						
KRND	**KRANIDI**	**1.46**	**130**	P	**Pn**	**09 53 42.9**	**+0.1**
KRND				AML	AML	09 54 10.6	
	comp=N,37352μm,0.7s						
KRND				AML	AML	09 54 13.7	
	comp=E,47003μm,0.9s						
JAN	**Janina**	**1.50**	**333**	P	**Pn**	**09 53 43.4**	**0.0**
JAN				AML	AML	09 54 13.0	
	comp=E,33179μm,0.9s						
JAN				AML	AML	09 54 15.5	
	comp=N,19216μm,0.9s						
NEO	**Neokhori**	**1.52**	**49**	P	**Pn**	**09 53 43.8**	**+0.1**
NEO				AML	AML	09 54 11.4	
	comp=E,12171μm,0.5s						
NEO				AML	AML	09 54 11.5	
	comp=N,9862μm,0.4s						
XOR	**Xorichti**	**1.54**	**47**	*e*P	**Pn**	**09 53 44.1**	**+0.1**
XOR	**Xorichti**	**1.54**	**47**	P	**Pn**	**09 53 43.8**	**-0.2**
XOR				AML	AML	09 54 12.3	
	comp=N,13057μm,0.9s						
XOR				AML	AML	09 54 14.0	
	comp=E,7617μm,0.8s						
ATH	**Athens Observa**	**1.60**	**102**	P	**Pn**	**09 53 45.3**	**+0.5**
ATH				AML	AML	09 54 16.6	
	comp=E,34138μm,1.0s						
ATH				AML	AML	09 54 17.1	
	comp=N,14108μm,0.4s						
IGT	**Igoumenitsa**	**1.63**	**318**	P	**Pb**	**09 53 46.5**	**-0.1**
	baz=339						
IGT				S	**Sg**	**09 54 09.6**	**+0.8**
	baz=339						
IGT	**Igoumenitsa**	**1.63**	**318**	P	**Pb**	**09 53 46.0**	**-0.6**
IGT	**Igoumenitsa**	**1.63**	**318**	P	**Pn**	**09 53 45.5**	**+0.4**
KPRO	**Kipourio**	**1.65**	**350**	P	**Pn**	**09 53 45.9**	**+0.3**
ATHU	**Athens Univers**	**1.66**	**102**	P	**Pn**	**09 53 45.6**	**+0.1**
VLY	**Voula,Athens**	**1.69**	**106**	P	**Pn**	**09 53 46.0**	**0.0**
PTL	**Penteli**	**1.70**	**99**	P	**Pn**	**09 53 45.8**	**-0.4**
PTL				AML	AML	09 54 13.3	
	comp=N,8723μm,0.6s						
PTL				AML	AML	09 54 18.6	
	comp=E,15198μm,0.8s						
ALNA	**Alonissos**	**1.86**	**63**	P	**Pn**	**09 53 48.7**	**+0.4**
VLI	**Veliai**	**1.87**	**149**	P	**Pn**	**09 53 49.0**	**+0.6**
VLI	**Veliai**	**1.87**	**149**	P	**Pn**	**09 53 48.9**	**+0.6**
VLI				AML	AML	09 54 25.4	
	comp=N,21542μm,0.7s						
VLI				AML	AML	09 54 27.5	
	comp=E,24424μm,1.2s						
LIT	**Litokhoron**	**1.87**	**18**		**Pn**	**09 53 49.2**	**+0.7**
LIT	**Litokhoron**	**1.87**	**18**	*e*P	**Pn**	**09 53 49.5**	**+1.0**
LIT	**Litokhoron**	**1.87**	**18**	P	**Pn**	**09 53 49.2**	**+0.7**
LIT	**Litokhoron**	**1.87**	**18**	P	**Pn**	**09 53 48.8**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.88**	**80**	P	**Pn**	**09 53 48.7**	**0.0**
MNVA	**Monemvasia**	**1.94**	**147**	P	**Pn**	**09 53 50.4**	**+1.0**
MNVA				AML	AML	09 54 26.7	
	comp=E,23785μm,1.3s						
MNVA				AML	AML	09 54 27.4	
	comp=N,12562μm,1.1s						
KASA	**Kassiopi**	**2.00**	**316**	P	**Pn**	**09 53 50.8**	**+0.6**
LSK	**Leskovik**	**2.02**	**335**	P	**Pb**	**09 53 53.6**	**+0.2**
	baz=348						
LSK				S	Sg	09 54 31.2	+10
	baz=348						
KEK	**Kerkira**	**2.05**	**313**	Pn	**Pb**	**09 53 52.9**	**-0.8**
KEK	**Kerkira**	**2.05**	**313**	P	**Pn**	**09 53 50.8**	**-0.1**
SRN	**Sarande**	**2.06**	**320**	P	**Pn**	**09 53 51.2**	**+0.1**
	baz=336						
SRN				S	**Sg**	**09 54 25.6**	**+3.0**
	baz=336						
PAIG	**Paliouri**	**2.20**	**43**	*e*P	**Pn**	**09 53 52.9**	**-0.1**
PAIG	**Paliouri**	**2.20**	**43**	P	**Pn**	**09 53 53.4**	**+0.4**
PAIG	**Paliouri**	**2.20**	**43**	P	**Pn**	**09 53 52.5**	**-0.5**
KTHA	**Kythira Island**	**2.32**	**152**	*e*P	**Pb**	**09 53 58.9**	**+0.6**
KTHA	**Kythira Island**	**2.32**	**152**	P	**Pb**	**09 53 55.3**	**+0.7**
KBN	**Korca**	**2.41**	**343**		**Pb**	**09 53 59.1**	**-0.8**
KBN	**Korca**	**2.41**	**343**	P	**Pb**	**09 53 59.2**	**-0.8**
	baz=353						
KBN	**Korca**	**2.41**	**343**	P	**Pb**	**09 53 59.1**	**-0.8**
FNA	**Florina**	**2.47**	**354**	Pn	**Pb**	**09 53 58.9**	**-2.1**
FNA	**Florina**	**2.47**	**354**	*e*P	**Pb**	**09 54 00.0**	**-1.0**
FNA	**Florina**	**2.47**	**354**	P	**Pb**	**09 53 59.7**	**-1.3**
	baz=0.0						
FNA	**Florina**	**2.47**	**354**	P	**Pb**	**09 53 58.9**	**-2.1**
FNA	**Florina**	**2.47**	**354**	P	**Pn**	**09 53 57.3**	**+0.5**
THE	**Thessaloniki**	**2.49**	**22**	P	**Pb**	**09 54 01.4**	**+0.1**
	baz=22						
THE	**Thessaloniki**	**2.49**	**22**	P	**Pn**	**09 53 57.6**	**+0.6**
HORT	**Hortiatis**	**2.50**	**25**	*e*P	**Pn**	**09 53 57.0**	**-0.3**
HORT	**Hortiatis**	**2.50**	**25**	P	**Pn**	**09 53 57.9**	**+0.6**
MHLO	**Agia Marina, M**	**2.68**	**127**	P	**Pn**	**09 54 00.1**	**+0.6**
GRG	**Griva**	**2.68**	**11**	*e*P	**Pn**	**09 54 00.8**	**+1.2**
GRG	**Griva**	**2.68**	**11**	P	**Pn**	**09 54 01.5**	**+1.9**
GRG	**Griva**	**2.68**	**11**	P	**Pn**	**09 54 00.3**	**+0.7**
ANKY	**Antikythira Is**	**2.75**	**152**	P	**Pn**	**09 54 01.2**	**+0.6**
VLO	**Vlora**	**2.76**	**322**		**Pn**	**09 54 02.1**	**+1.5**
VLO	**Vlora**	**2.76**	**322**	P	**Pn**	**09 54 03.1**	**+2.4**
	baz=335						
VLO				S	**Sg**	**09 54 51.4**	**+6.4**
	baz=335						
VLO	**Vlora**	**2.76**	**322**	P	**Pn**	**09 54 02.1**	**+1.5**
SOH	**Sokhos**	**2.79**	**26**	P	**Pn**	**09 54 02.9**	**+1.7**
OHR	**Ohrid**	**2.88**	**346**	P	**Pn**	**09 54 05.2**	**-2.7**
OHR	**Ohrid**	**2.88**	**346**	*i* Pn	**Pb**	**09 54 05.6**	**-2.3**
OHR				*i* Sn	**Sb**	**09 54 43.9**	**+0.8**
OHR				*e*Lg	Lg	09 54 57.7	
	comp=N,6μm,2.1s						
OHR				*e*Lg	Lg	09 55 00.2	
	comp=E,4μm,1.3s						
KNT	**Kendrikon**	**2.97**	**17**	*e*P	**Pn**	**09 54 05.2**	**+1.6**
KNT	**Kendrikon**	**2.97**	**17**	P	**Pn**	**09 54 04.6**	**+1.0**
KNT	**Kendrikon**	**2.97**	**17**	P	**Pn**	**09 54 04.4**	**+0.8**
VAY	**Valandovo**	**3.06**	**12**	P	**Pn**	**09 54 06.7**	**+1.9**
VAY	**Valandovo**	**3.06**	**12**	*i* Pn	**Pn**	**09 54 06.6**	**+1.7**
VAY				*i* Sn	**Sn**	**09 54 38.9**	**-2.6**
VAY				*e*Lg	Lg	09 54 52.6	
	comp=N,2μm,1.2s						
VAY				*e*Lg	Lg	09 54 54.5	
	comp=E,3μm,2.2s						
SCTE	**Santa Cesarea**	**3.08**	**306**	Pn	**Pn**	**09 54 05.8**	**+0.7**
SRS	**Serrai**	**3.13**	**27**	*e*P	**Pn**	**09 54 07.1**	**+1.2**
SRS	**Serrai**	**3.13**	**27**	P	**Pn**	**09 54 06.6**	**+0.7**
APE	**Apeiranthos**	**3.26**	**111**	⇓P	**Pn**	**09 54 07.9**	**+0.3**
APE	**Apeiranthos**	**3.26**	**111**	*e*P	**Pn**	**09 54 07.9**	**+0.3**
APE	**Apeiranthos**	**3.26**	**111**	*i* P	**Pn**	**09 54 07.9**	**+0.3**
APE	**Apeiranthos**	**3.26**	**111**	P	**Pn**	**09 54 08.5**	**+0.8**
SIGR	**SIGRI**	**3.34**	**73**	*e*P	**Pn**	**09 54 08.7**	**0.0**
TIR	**Tirane**	**3.34**	**335**	⇑P	**Pn**	**09 54 10.6**	**+1.9**
TIR	**Tirane**	**3.34**	**335**		**Pn**	**09 54 09.5**	**+1.7**
TIR	**Tirane**	**3.34**	**335**	*e*P	**Pn**	**09 54 10.0**	**+1.3**
TIR	**Tirane**	**3.34**	**335**	P	**Pg**	**09 54 18.5**	**-2.1**
	baz=344						
TIR				S	**Sg**	**09 55 12.7**	**+8.8**
	baz=344						
TIR	**Tirane**	**3.34**	**335**	P	**Pn**	**09 54 10.6**	**+1.9**
CHAN	**Chania**	**3.35**	**146**	P	**Pn**	**09 54 10.0**	**+1.1**
IMMV	**Iera Moni Meta**	**3.38**	**147**	*e*P	**Pb**	**09 54 14.5**	**-1.9**
IMMV	**Iera Moni Meta**	**3.38**	**147**	P	**Pn**	**09 54 09.9**	**+0.7**
CHOS	**Chios island**	**3.40**	**88**	*e*P	**Pn**	**09 54 10.5**	**+1.0**
KNDR	**Palaiochora Ch**	**3.46**	**152**	*e*P	**Pb**	**09 54 15.3**	**-2.5**
MMB	**Musomiste**	**3.60**	**25**	*i* P	**Pn**	**09 54 14.0**	**+1.7**
SKO	**Skopje**	**3.65**	**357**	P	**Pn**	**09 54 15.3**	**+2.4**
SKO	**Skopje**	**3.65**	**357**	*i* Pn	**Pn**	**09 54 15.4**	**+2.4**
SKO				*i* Sn	**Sn**	**09 54 52.2**	**-3.9**
BOZC	**Bozcaada**	**3.69**	**64**	*e*P	**Pn**	**09 54 13.1**	**-0.3**
KKB	**Krupnik**	**3.69**	**16**	*i* P	**Pn**	**09 54 14.9**	**+1.4**
GADA	**Gvkgeada**	**3.73**	**59**	*e*P	**Pn**	**09 54 14.3**	**+0.3**
URLA	**Izmir**	**3.82**	**88**	*e*P	**Pn**	**09 54 15.9**	**+0.6**
EZN	**Ezine**	**3.87**	**66**	*e*P	**Pn**	**09 54 15.7**	**-0.3**
GVDS	**Gavdos**	**3.96**	**151**	*e*P	**Pn**	**09 54 21.1**	**+3.9**
GVD	**Gavdhos**	**3.96**	**151**	*e*P	**Pn**	**09 54 20.6**	**+3.4**
TIP	**Timpagrande**	**3.98**	**284**	⇑P	**Pn**	**09 54 18.0**	**+0.4**
TIP	**Timpagrande**	**3.98**	**284**	Pn	**Pn**	**09 54 18.3**	**+0.7**
HRKL	**Herakleio**	**4.04**	**137**	*e*P	**Pn**	**09 54 20.9**	**+2.6**
RZN	**Rozhen**	**4.07**	**33**	*i* P	**Pn**	**09 54 20.0**	**+1.2**
RDO	**Rodhopi**	**4.07**	**45**		**Pn**	**09 54 18.6**	**-0.1**
RDO	**Rodhopi**	**4.07**	**45**	*e*P	**Pn**	**09 54 18.5**	**-0.1**
ULC	**Ulcinj**	**4.11**	**333**	P	**Pn**	**09 54 20.8**	**+1.6**
ULC	**Ulcinj**	**4.11**	**333**	⇑*i*Pn	**Pn**	**09 54 19.6**	**+0.4**
ULC				*i* Sn	**Sn**	**09 55 09.1**	**+1.8**
BLCB	**Balcova**	**4.17**

KARP Karpathos 5.16 121 P Pn 09 54 38.0 +4.3
EDC Edincik 5.16 65 eP Pn 09 54 26.9 -6.8
EDRB Edirne 5.21 46 eP Pn 09 54 33.7 -0.6
MPEP Malo Peshtene 5.25 16 i P Pn 09 54 36.9 +2.0
BOVS Bovan 5.31 360 ⇑P Pn 09 54 37.0 +1.4
PLE Pljevlja 5.31 341 P Pn 09 54 37.5 +1.7
PLE Pljevlja 5.31 341 ⇑i Pn Pn 09 54 36.8 +1.0
PLE i Sn Sn 09 55 38.0 +1.0
YER Yerkesik 5.33 101 eP Pn 09 54 38.6 +2.6
UPM Unac-Piva 5.33 337 ePn Pn 09 54 36.3 +0.2
UPM Unac-Piva 5.33 337 ⇓i Pn Pn 09 54 37.2 +1.1
UPM i Sn Sn 09 55 38.5 +0.9
MANT Manisa 5.36 86 eP Pn 09 54 38.7 +2.0
KULA Kula-Manisa 5.44 86 eP Pn 09 54 40.1 +2.5
STON Ston 5.48 327 ⇑i Pn Pn 09 54 36.7 -1.4
KCTX Karacabey (Bur 5.49 67 eP Pn 09 54 38.9 +0.7
PLVB Pleven 5.51 22 ⇑P Pn 09 54 41.5 +3.0
ARG Arkhangelos 5.51 110 Pn 09 54 39.9 +1.3
ARG Arkhangelos 5.51 110 eP Pn 09 54 42.0 +3.4
ARG Arkhangelos 5.51 110 P Pn 09 54 39.9 +1.3
PHSR Pinarhisar 5.54 52 eP Pn 09 54 41.5 +2.6
DALY Dalyan (Mula) 5.70 103 eP Pn 09 54 44.4 +3.3
BBLS Lazići 5.81 343 ⇑i Pn Pn 09 54 42.3 -0.4
VAE Valguarnera 5.85 264 Pn Pn 09 54 43.8 +0.5
comp=E,5.8nm,0.3s,baz=178,slow=14,SNR=2.4
VAE Sn Sn 09 55 53.0 +2.6
comp=E,6.2nm,0.3s,baz=0.1,slow=7.5,SNR=2.3
SZH Strazhica 5.88 31 i P Pn 09 54 44.9 +1.4
MDNY Mudanya-Bursa 5.91 68 eP Pn 09 54 42.3 -1.6
DIVS Divibare 5.92 348 Pn Pn 09 54 43.5 -0.6
DIVS Divibare 5.92 348 ⇑i Pn Pn 09 54 44.3 +0.1
RAFF Raffo Rosso 5.94 262 Pn 09 54 45.2 +0.7
VLAD Vladila 6.02 19 ⇑P Pn 09 54 48.1 +2.7
APMY Acipayam-Deniz 6.04 96 eP Pn 09 54 48.8 +2.9
FETY Fethiye 6.08 104 eP Pn 09 54 51.1 +4.7
BGKT Bogazkoy 6.13 60 eP Pn 09 54 44.2 -2.8
HAPS Han Pijesak,BI 6.13 341 ⇑i Pn Pn 09 54 46.4 -0.7
TVSB Tavsanli 6.13 77 eP Pn 09 54 48.6 +1.5
CAME Cameli-Denizli 6.16 101 eP Pn 09 54 51.9 +4.3
ISK Istanbul-Kandi 6.28 62 eP Pn 09 54 49.1 +0.1
KAVV Kandilli-Istan 6.28 62 eP Pn 09 54 47.6 -1.4
TEKS Tekeris 6.44 346 ⇑i Pn Pn 09 54 49.8 -1.4
MDVR Moldovita 6.45 360 ⇑P Pn 09 54 52.8 +1.3
ADVT Abdulvahap 6.55 69 eP Pn 09 54 53.4 +0.7
CAVI Cavuskoy 6.56 71 eP Pn 09 54 53.4 +0.4
BASM Basmaki-Afyon 6.57 91 eP Pn 09 54 50.3 -2.8
AKAS Kas 6.61 106 eP Pn 09 54 59.5 +5.7
HRT Hereke 6.62 65 eP Pn 09 54 53.2 -0.5
ELL Elmali 6.68 101 Pn 09 54 59.5 +4.8
ELL Elmali 6.68 101 eP Pn 09 55 00.3 +5.6
ELL Elmali 6.68 101 P Pn 09 54 59.5 +4.8
SRKY Kupres RS 6.69 330 ⇑i Pn Pn 09 54 55.7 +0.9
CLTB Caltabellotta 6.77 266 Pn 09 54 58.3 +2.3
SHUT Suhut-Afyon 6.92 85 eP Pn 09 54 59.8 +1.8
ISP Isparta 6.95 91 i P Pn 09 54 58.4 0.0
FRGS Fruska Gora 6.98 349 ⇑P Pn 09 54 60.0 +1.3
FRGS Fruska Gora 6.98 349 ⇑i Pn Pn 09 54 58.6 -0.1
MGRS Mrkonjic Grad 7.02 332 ePn Pn 09 54 59.7 +0.5
INTR Introdacqua 7.04 304 Pn 09 55 01.1 +1.6
SAUV Serdivan-Sakar 7.07 67 eP Pn 09 54 56.9 -2.9
GZR Gura Zlata 7.11 6 ⇑P Pn 09 55 02.1 +1.6
GZR Gura Zlata 7.11 6 P Pn 09 55 02.0 +1.6
SRCK Saricakaya, Es 7.12 75 eP Pn 09 55 03.0 +2.4
GULT Gulveren 7.12 70 eP Pn 09 55 00.9 +0.2
BLY Banja Luka 7.27 333 ⇑i Pn Pn 09 55 01.5 -1.1
BZS Buzias 7.29 359 ⇑P Pn 09 55 04.2 +1.3
BZS Buzias 7.29 359 P Pn 09 55 04.1 +1.3
A050A Klekovaca 7.29 329 ⇑i Pn Pn 09 55 02.8 -0.2
CIFT Cifteler, Eski 7.35 79 eP Pn 09 55 05.9 +2.0
SURR Surduc 7.43 2 ⇑P Pn 09 55 07.1 +2.3
A052A Srbac 7.47 336 ⇑i Pn Pn 09 55 05.0 -0.4
A051A Mrakovica 7.59 333 ⇑i Pn Pn 09 55 06.2 -1.0
DEV Deva 7.60 6 ⇑P Pn 09 55 08.7 +1.4
DEV Deva 7.60 6 P Pn 09 55 08.6 +1.4
CAMP Campotosto 7.62 306 Pn 09 55 08.8 +1.2
MDUB Mudurnu 7.63 71 eP Pn 09 55 08.5 +0.7
ISR Istrita 7.68 26 ⇑P Pn 09 55 11.4 +3.1
ISR Istrita 7.68 26 P Pn 09 55 11.4 +3.1
SVRH Sivrihisar-ESK 7.72 79 eP Pn 09 55 10.5 +1.6
MLR Muntele Rosu 7.82 22 Pn Pn 09 55 11.4 +1.2
comp=E,0.3nm,0.3s,baz=199,slow=4.9,SNR=17
MLR LR LR 09 58 19.6
comp=E,906nm,19.2s,baz=224,slow=39
comp=E,32nm,0.9s
MLR Muntele Rosu 7.82 22 ⇑P Pn 09 55 13.2 +3.0
MLR Muntele Rosu 7.82 22 Pn 09 55 12.7 +2.4
MLR Muntele Rosu 7.82 22 eP Pn 09 55 13.3 +3.0
MLR Muntele Rosu 7.82 22 P Pn 09 55 13.2 +3.0
NEHR Nehoiu 7.87 24 ⇑P Pn 09 55 13.3 +2.4
HARR Harsova 7.88 34 ⇑P Pn 09 55 13.5 +2.6
HARR Harsova 7.88 34 P Pn 09 55 13.5 +2.6
TIRR Tirgusor 7.92 37 ⇑P Pn 09 55 13.8 +2.3
TIRR Tirgusor 7.92 37 ⇑P Pn 09 55 13.8 +2.3
TIRR Tirgusor 7.92 37 eP Pn 09 55 14.4 +2.9
TIRR Tirgusor 7.92 37 P Pn 09 55 13.8 +2.3
SIRR Siria 7.94 360 ⇑P Pn 09 55 14.7 +2.8
GUMA Gualdo di Mace 7.94 309 Pn 09 55 11.3 -0.6
KIZT Kizilcal 7.96 83 eP Pn 09 55 14.9 +2.6
YUVA Yuva-Kibriscik 7.98 72 eP Pn 09 55 13.2 +0.7
SEYD Seydisehir-KON 8.04 93 eP Pn 09 55 14.1 +0.7
DOPR Dopca 8.10 18 ⇑P Pn 09 55 15.6 +1.5
CESX Cesi 8.19 304 Pn 09 55 17.5 +2.3
COVR Voineasa-Covas 8.22 22 ⇑P Pn 09 55 17.8 +2.1
TPGR Topolog 8.22 35 ⇑P Pn 09 55 16.9 +1.2
CFR Carcaliu 8.35 33 ⇑P Pn 09 55 20.0 +2.6
CFR Carcaliu 8.35 33 P Pn 09 55 20.0 +2.6
PLOR Plostina 8.36 24 ⇓P Pn 09 55 20.5 +2.8
PLOR Plostina 8.36 24 P Pn 09 55 20.4 +2.8
LADK Ladik-KONYA 8.36 88 eP Pn 09 55 21.4 +3.6
VRI Vrincioaia 8.40 25 ⇓P Pn 09 55 20.8 +2.7
VRI Vrincioaia 8.40 25 eP Pn 09 55 21.4 +3.3
VRI Vrincioaia 8.40 25 P Pn 09 55 20.8 +2.7
MARR Marisel-Cluj 8.41 7 ⇑P Pn 09 55 20.9 +2.5
BOJS Bojanci 8.65 328 i Pn Pn 09 55 20.6 -0.9
BOJS eSn Sn 09 56 56.5 -2.5
BOJS Bojanci 8.65 328 ⇑i Pn Pn 09 55 20.5 -1.0
PTJ Puntijarka 8.70 332 P Pn 09 55 22.6 +0.2
CRES Cresnjev 8.83 330 ePn Pn 09 55 22.5 -1.5
KULU Kulu 8.84 82 eP Pn 09 55 24.1 -0.2
AFSR Afar-Bala (An 8.91 79 eP Pn 09 55 26.5 +1.2
TESR Tescani 8.95 22 ⇑P Pn 09 55 27.5 +1.9
CEY Cerknica 9.19 326 ⇑i Pn Pn 09 55 27.6 -1.4
SKDS Skadanscina 9.22 324 ⇑i Pn Pn 09 55 27.2 -2.3
BERE Bereket-Mersin 9.36 99 eP Pn 09 55 36.0 +4.5
BUD Budapest 9.37 349 P Pn 09 55 32.7 +1.3
BUD pmax pmax
comp=Z,70nm,0.8s
BRTR Keskin Array B 9.37 78 Pn Pn 09 55 34.4 +2.8
comp=Z,5.2nm,0.3s,baz=261,slow=12,SNR=145
comp=Z,13nm,0.5s
BRTR Keskin Array B 9.37 78 Pn 09 55 33.9 +2.3
BRTR Keskin Array B 9.37 78 i P Pn 09 55 34.4 +2.8
BRTR pmax pmax
comp=Z,14nm,0.4s
LJU Ljubljana 9.38 328 P Pn 09 55 30.8 -0.8
LJU pmax pmax
comp=Z,299nm,0.7s
KAMT Kaman 9.40 80 eP Pn 09 55 34.6 +2.6
CANT Cankiri 9.47 72 eP Pn 09 55 32.9 0.0
YAYX Yaylak 9.47 83 eP Pn 09 55 37.2 +4.2
YESY Yesilyurt 9.49 90 eP Pn 09 55 37.5 +4.3
TEVE Tevekalti-Mers 9.51 98 eP Pn 09 55 32.6 -0.8
LEF Lefka 9.51 106 eP Pn 09 55 41.9 +8.5
SWA2 9.57 160 P Pn 09 55 34.1 -0.1
baz=158
SWA2 S Sn 09 57 20.0 -1.8
baz=158
BURAR Bucovina Array 9.63 14 ⇑P Pn 09 55 36.7 +1.6
BURAR Bucovina Array 9.63 14 P Pn 09 55 36.7 +1.6
BUR08 Bucovina Ar. S 9.65 14 Pn 09 55 38.0 +2.6
AKKU Akkuyu-Mersin 9.67 99 eP Pn 09 55 37.9 +2.4
SOKA Soboth 9.70 332 Pn Pn 09 55 35.2 -0.8
comp=Z,18nm,0.5s,SNR=16
SOKA i Sn Sn 09 57 20.9 -4.2
comp=Z,13nm,0.6s
IKL Isikli 9.75 99 eP Pn 09 55 40.4 +3.7
OBKA Obir 9.75 329 Pn Pn 09 55 35.8 -0.9
comp=Z,22nm,0.9s,SNR=13
OBKA eSn Sn 09 57 24.7 -1.6
comp=Z,32nm,0.6s
OBKA Obir 9.75 329 ePn Pn 09 55 35.2 -1.5
OBKA Obir 9.75 329 ePn Pn 09 55 36.1 -0.6
OBKA eSn Sn 09 57 24.4 -1.8
OBKA eL L 09 59 57.3
comp=Z,2µm,19.6s
SRO Srobarova 9.81 346 eP Pn 09 55 47.9 +10
SRO Srobarova 9.81 346 e Pn 09 55 47.9 +10
GULA Gulagac 9.82 86 eP Pn 09 55 28.9 -8.9
SILI Silifke-Mersin 9.90 98 eP Pn 09 55 43.8 +5.1
CSS Mathiatis 9.90 106 eP Pn 09 55 43.6 +4.8
LFK Lefkose 9.94 104 eP Pn 09 55 44.5 +5.2
ARSA Arzberg 10.02 335 i Pn Pn 09 55 39.5 -0.8
comp=Z,7.0nm,0.5s
ARSA eSn Sn 09 57 36.4 +3.6
comp=Z,3.1nm,0.4s
ARSA Arzberg 10.02 335 ePn Pn 09 55 40.7 +0.3
KIZK Mersin 10.04 97 eP Pn 09 55 43.6 +2.9
ZCCA Zocca 10.08 310 Pn 09 55 42.8 +1.6
CORM Corum 10.17 75 eP Pn 09 55 44.7 +2.1
RONA Rosalia, Austr 10.18 339 ePn Pn 09 55 41.6 -0.9
comp=Z,22nm,1.2s
RONA i Sn Sn 09 57 37.2 +0.5
comp=Z,2.2nm,0.3s
KECS Kecovo 10.20 355 e Pn 09 55 52.7 +10
MYKA Terra Mystica 10.22 327 ePn Pn 09 55 42.6 -0.6
comp=Z,5.6nm,0.7s
MYKA eSn Sn 09 57 37.9 +0.1
comp=Z,16nm,0.9s
KEST Kesra 10.24 259 Pn Pn 09 55 46.6 +3.2
comp=Z,0.4nm,0.3s,baz=304,slow=11,SNR=2.3
KEST Sn Sn 09 57 36.6 -1.7
baz=309,slow=22
KEST LR LR 10 00 42.4
comp=Z,672nm,19.1s,baz=38,slow=44
TEOL Teolo 10.28 316 Pn 09 55 42.8 -1.1
UZH Uzhgorod 10.31 2 eP Pn 09 55 48.7 +4.4
UZH eS Sn 09 57 45.7 +5.9
VYHS Vyhne 10.38 349 eP Pn 09 55 45.5 +0.2
VYHS Vyhne 10.38 349 ePN Pn 09 55 45.5 +0.2
CLUD Cludinico 10.43 324 Pn 09 55 43.8 -2.2
CONA Conrad Observa 10.51 338 i Pn Pn 09 55 46.3 -0.9
comp=Z,6.8nm,1.0s
CONA eSn Sn 09 57 41.6 -3.3
comp=Z,14nm,0.9s
CIMO Cimolais 10.53 322 Pn 09 55 44.9 -2.5
MODS Modra-Piesok 10.55 344 eP Pn 09 55 47.1 -0.6
MODS Modra-Piesok 10.55 344 ePN Pn 09 55 47.1 -0.6
CRVS Cervenica-Dubn 10.58 359 eP Pn 09 55 49.8 +1.8
CRVS Cervenica-Dubn 10.58 359 ePN Pn 09 55 49.8 +1.8
YOZ Yozgat 10.66 79 eP Pn 09 55 52.3 +3.0
KBA Koelnbreinsper 10.70 328 i Pn Pn 09 55 49.8 -0.1
comp=Z,22nm,0.7s,SNR=6.4
KBA eSn Sn 09 57 49.9 +0.2
comp=Z,20nm,0.9s
KBA Koelnbreinsper 10.70 328 P Pn 09 55 49.6 -0.2
KBA Koelnbreinsper 10.70 328 ePn Pn 09 55 49.7 -0.1
KBA eSn Sn 09 57 49.2 -0.5
ABTA Abfaltersbach 10.82 324 Pn Pn 09 55 50.4 -1.0
comp=Z,14nm,0.5s,SNR=27
ABTA eSn Sn 09 57 53.0 +0.6
comp=Z,93nm,1.1s
JAVC Velka Javorina 10.93 346 ePN Pn 09 55 55.2 +2.3
LANS Liptovska Anna 10.95 352 e Pn 09 56 01.8 +8.8
MOA Molln 10.97 333 i Pn Pn 09 55 53.1 -0.2
comp=Z,10.0nm,0.5s,SNR=11
MOA eSn Sn 09 57 57.1 +1.0
comp=Z,12nm,0.7s
MOA Molln 10.97 333 ePn Pn 09 55 53.2 -0.2
MOA eSn Sn 09 57 58.2 +2.2
BIOA Bad Ischl, Aus 11.07 330 Pn Pn 09 55 54.9 +0.1
comp=Z,31nm,0.9s,SNR=6.9
BIOA eSn Sn 09 57 58.5 -0.1
comp=Z,18nm,0.8s
STHS Stebnicka Huta 11.10 358 e Pn 09 56 01.8 +6.7
KRUC Moravsky 11.40 342 ePN Pn 09 55 58.3 -1.0
RJOB Jochberg 11.45 328 ePn Pn 09 55 59.3 -0.7
RJOB eSn Sn 09 58 06.6 -1.2
VRAC Vranov 11.59 343 Pn Pn 09 56 01.3 -0.5
comp=Z,0.3nm,0.3s,baz=169,slow=14,SNR=7.7
VRAC LR LR 10 02 02.1
comp=Z,2µm,18.1s,baz=182,slow=46
comp=Z,9.6nm,1.0s
VRAC Vranov 11.59 343 ePN Pn 09 56 00.7 -1.1
WTTA Wattenberg 11.60 324 i Pn Pn 09 56 01.9 -0.2
comp=Z,8.1nm,0.4s,SNR=13
WTTA eSn Sn 09 58 09.9 -1.9
comp=Z,46nm,0.8s
WTTA Wattenberg 11.60 324 P Pn 09 56 02.4 +0.2
WTTA pmax pmax
comp=Z,43nm,0.9s
WTTA Wattenberg 11.60 324 ePn Pn 09 56 02.0 -0.2
WTTA eSn Sn 09 58 10.0 -1.8
LVV L'vov 11.61 7 eP Pn 09 56 07.8 +5.7
LVV eS Sn 09 58 20.5 +8.9
LVV MLR MLR
comp=E,700nm,7.3s
LVV MLR MLR
comp=N,1µm,8.6s
LVV MLR MLR
comp=Z,2µm,8.2s
WATA Walderalm 11.68 324 i Pn Pn 09 56 03.4 +0.2
comp=Z,27nm,0.5s,SNR=17
WATA eSn Sn 09 58 10.1 -3.6
comp=Z,36nm,0.7s
SQTA Sankt Quirin 11.77 322 i Pn Pn 09 56 04.4 -0.1
comp=Z,11nm,0.5s,SNR=12
SQTA eSn Sn 09 58 15.6 -0.3
comp=Z,32nm,1.1s
CKRC Cesky Krumlov 11.79 335 ePN Pn 09 56 05.4 +0.9
CKRC AMS AMS 10 01 10.0
comp=Z,3µm,13.4s
OKC Ostrava-Krasne 11.79 349 AMS AMS 10 02 30.0
comp=Z,2µm,11.4s
MORC Moravsky Berou 11.84 347 ePN Pn 09 56 04.7 -0.5
TREC Trest 11.85 340 AMS AMS 10 01 10.0
comp=Z,4µm,9.4s
FETA Feichten 11.87 321 i Pn Pn 09 56 04.5 -1.3
comp=Z,11nm,0.9s,SNR=12
FETA eSn Sn 09 58 18.9 +0.6
comp=Z,11nm,0.7s
MOTA Moosalm 11.91 323 i Pn Pn 09 56 06.0 -0.4
comp=Z,69nm,1.0s,SNR=26
MOTA eSn Sn 09 58 18.9 -0.4
comp=Z,29nm,0.8s
GEC2 GERESS Array S 12.01 334 P Pn 09 56 07.6 -0.1
GEC2 pmax pmax
comp=Z,17nm,2.3s
GEC2 GERESS Array S 12.01 334 ePn Pn 09 56 07.8 +0.1
comp=Z,21nm,1.1s
GEC2 eSn Sn 09 58 19.2 -2.5
GEC2 eL L 10 01 42.4
comp=Z,2µm,18.6s
GERES GERESS Array B 12.01 334 Pn Pn 09 56 07.6 -0.1
comp=Z,1.1nm,0.3s,baz=158,slow=13,SNR=30
GERES Sn Sn 09 58 19.1 -2.6
baz=154,slow=25
GERES LR LR 10 01 47.8
comp=Z,3µm,18.5s,baz=150,slow=43
comp=Z,5.8nm,0.7s
GERES GERESS Array B 12.01 334 eP Pn 09 56 07.1 -0.6
GERES pmax pmax
comp=Z,1.0nm,0.3s
PART Garmisch-Parte 12.02 323 ePn Pn 09 56 08.4 +0.7
GLL Jalalah 12.02 134 P Pn 09 56 07.5 -0.3
baz=131
ZUGS Zugspitze, Sch 12.02 323 ePn Pn 09 56 08.8 +0.8
ZUGS eSn Sn 09 58 23.8 +1.6
DAVOX Davos/Dischmat 12.15 318 Pn Pn 09 56 10.3 +0.6
comp=Z,1.6nm,0.3s,baz=147,slow=15,SNR=12
DAVOX Sn Sn 09 58 25.6 +0.4
comp=Z,0.7nm,0.3s,baz=137,slow=23,SNR=2.6
DAVOX LR LR 10 01 25.1
comp=Z,968nm,19.2s,baz=124,slow=40
comp=Z,11nm,0.6s
RETA Reutte 12.18 322 ePn Pn 09 56 09.3 -0.6
comp=Z,5.4nm,0.6s
RETA eSn Sn 09 58 25.7 0.0
comp=Z,12nm,0.6s
KHC Kasperske Hory 12.30 334 ePN Pn 09 56 11.5 0.0
KHC AMS AMS 10 01 30.0
comp=Z,4µm,13.3s
KHC Kasperske Hory 12.30 334 i P Pn 09 56 11.9 +0.4
KHC pmax pmax
comp=Z,32nm,0.8s
MMAI Mount Meron Ar 12.31 111 Pn Pn 09 56 12.5 +0.7
comp=Z,3.3nm,0.3s,baz=300,slow=12,SNR=3.8
MMAI Sn Sn 09 58 28.5 -0.5
comp=Z,1.5nm,0.3s,baz=325,slow=34,SNR=2.0
comp=Z,5.1nm,0.5s
HFRF Wahat Farafira 12.44 152 P Pn 09 56 13.8 +0.3
baz=150
DAVA Damuels 12.48 320 ePn Pn 09 56 15.2 +1.1
comp=Z,7.4nm,0.7s
DAVA i Sn Sn 09 58 30.0 -3.1
comp=Z,18nm,0.8s
DAVA Damuels 12.48 320 ePn Pn 09 56 16.2 +2.1
DAVA eSn Sn 09 58 29.5 -3.7
ISO Isola 12.50 303 P Pn 09 56 17.4 +3.1
ISO pmax pmax
comp=Z,38nm,1.6s
GOPC GO Pecny, Ondr 12.61 339 AMS AMS 10 01 40.0
comp=Z,3µm,10.2s
GOPC GO Pecny, Ondr 12.61 339 P Pn 09 56 14.6 -1.1
GOPC pmax pmax
comp=Z,20nm,1.0s
DPC Dobruska-Polom 12.63 344 ePN Pn 09 56 16.1 +0.1
DPC Dobruska-Polom 12.63 344 eP Pn 09 56 16.1 +0.1
UBR Ueberruh 12.63 321 ePn Pn 09 56 18.5 +2.4
PRU Pruhonice 12.74 339 AMS AMS 10 01 40.0
comp=Z,4µm,10.0s
PRU Pruhonice 12.74 339 P Pn 09 56 18.9 +1.3
PRU pmax pmax
comp=Z,9.0nm,1.1s
UPC Upice 12.84 343 AMS AMS 10 03 50.0
comp=Z,2µm,10.1s
OSTC Ostas 12.84 344 ePN Pn 09 56 19.5 +0.5
OSTC AMS AMS 10 02 40.0
comp=Z,3µm,7.6s
BNI Bardonecchia 13.10 306 P Pn 09 56 22.5 -0.1
KSP Ksiaz 13.10 345 P Pn 09 56 22.5 +0.1
MDBI Mazsada 13.19 118 P Pn 09 56 25.6 +1.9
PVCC Panska Ves 13.22 340 AMS AMS 10 02 00.0
comp=Z,3µm,10.0s
PVCC Panska Ves 13.22 340 P Pn 09 56 26.9 +2.8
PVCC pmax pmax
comp=Z,22nm,1.0s
SENIN Lac Senin/Sane 13.35 312 Pn 09 56 25.8 -0.2
WALJ Wala 13.37 116 P Pn 09 56 30.1 +4.0
AKASG Malin Array Be 13.47 21 Pn Pn 09 56 27.7 +0.3
comp=Z,0.7nm,0.3s,baz=211,slow=12,SNR=13
AKASG LR LR 10 01 56.3
comp=Z,730nm,19.4s,baz=202,slow=39
comp=Z,3.2nm,0.9s
AKASG Malin Array Be 13.47 21 eP Pn 09 56 28.9 +1.5
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 13.47 21 Pn 09 56 28.4 +1.0
AKBB Malin Array Si 13.47 21 P Pn 09 56 28.4 +1.0
SLE Schleitheim 13.50 319 P Pn 09 56 29.1 +1.1
SLE pmax pmax
comp=Z,24nm,1.2s
NKC Novy Kostel 13.62 334 P Pn 09 56 32.8 +3.2
NKC pmax pmax
comp=Z,12nm,0.9s
GRF Grafenberg Arr 13.63 330 eL L 10 02 59.7
comp=Z,2µm,19.6s
GRFO Grafenberg 13.63 330 P Pn 09 56 29.3 -0.4
BRG Berggiesshubel 13.71 339 Amp 10 02 40.0
comp=E,2.0nm,12.7s
BRG Berggiesshubel 13.71 339 eP Pn 09 56 30.8 +0.1
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG MLR MLR
comp=N,1µm,13.0s
BRG MLR MLR
comp=Z,3µm,10.2s
BRG MLR MLR
comp=E,2µm,12.7s
BRG Berggiesshubel 13.71 339 eP Pn 09 56 30.9 +0.1
BRG Berggiesshubel 13.71 339 Amp 09 56 34.9
comp=Z,9.6nm,1.1s
BRG Berggiesshubel 13.71 339 r 09 59 54.2
BRG Berggiesshubel 13.71 339 Amp 10 02 31.0
comp=N,1.3nm,13.0s
BRG Berggiesshubel 13.71 339 Amp 10 02 34.0
comp=Z,3.3nm,10.2s
ASF Jabal al Asfar 13.82 112 Pn Pn 09 56 32.5 0.0
comp=Z,0.2nm,0.3s,baz=327,slow=9.8,SNR=2.4
comp=Z,2.7nm,0.5s
STU Stuttgart 13.83 323 P Pn 09 56 30.4 -2.0
STU pmax pmax
comp=Z,48nm,0.8s
MBRI Mt Berech 13.84 124 P Pn 09 56 33.5 +0.8
EIL Elat 13.94 124 Pn Pn 09 56 34.1 +0.1
comp=Z,0.8nm,0.3s,baz=287,slow=18,SNR=2.1
EIL Sn Sn 09 59 01.9 -6.9
comp=Z,0.6nm,0.3s,baz=306,slow=21,SNR=1.8
EIL LR LR 10 03 25.3
comp=Z,234nm,21.4s,baz=282,slow=44
comp=Z,6.6nm,0.5s
BFO Black Forest 13.95 320 P Pn 09 56 33.7 -0.4
BFO pmax pmax
comp=Z,19nm,1.2s
BFO Black Forest 13.95 320 ePn Pn 09 56 32.5 -1.6
AQBJ Aqaba 13.97 124 P Pn 09 56 36.3 +1.9
MOX Moxa 14.26 333 P Pn 09 56 38.4 +0.1
MOX pmax pmax
comp=Z,14nm,0.8s
HDK1 Dakhla 14.30 151 P Pn 09 56 38.5 -0.5
baz=149
CLL Collm 14.37 337 Lmax 10 02 00.0
CLL Collm 14.37 337 eP Pn 09 56 37.0 -2.8
CLL Collm 14.37 337 eP Pn 09 56 37.0 -2.8
CLL Collm 14.37 337 ePP P 09 56 46.0 -0.8
CLL Collm 14.37 337 ex x 09 56 53.0
CLL Collm 14.37 337 ex x 09 57 49.0
SOC Sochi 14.56 63 eP Pn 09 56 43.9 +1.5
SOC e 09 59 29.4
SOC MLR MLR
comp=Z,165nm,17.0s
MARD Mardin 15.09 88 Pn Pn 09 56 50.3 +0.6
RUE Ruedersdorf 15.20 341 eP P 09 56 56.2 +0.2
WLF Walferdange 15.91 320 Pn Pn 09 57 00.8 +0.6
WLF Walferdange 15.91 320 P Pn 09 57 00.8 +0.6
WLF pmax pmax
comp=Z,49nm,1.3s
WLF Walferdange 15.91 320 dP Pn 09 57 01.0 +0.8
comp=Z,19nm,1.0s
BTNL Ternell 16.52 323 dP Pn 09 57 08.4 +0.3
comp=Z,13nm,1.0s
MEM Membach 16.60 323 P P 09 57 14.2 +2.7
MEM pmax pmax
comp=Z,40nm,0.9s
MEM Membach 16.60 323 dP P 09 57 13.8 +2.3
comp=Z,24nm,0.9s
SHA1 Shidzhatmaz 16.67 64 i P Pn 09 57 10.5 +0.2
RCHB Rochefort 16.68 320 dP Pn 09 57 11.2 +1.1
MNK Minsk 16.72 13 i P Pn 09 57 08.1 -2.4
comp=E,3.0nm,1.0s
MNK i P Pn 09 57 08.1 -2.4
comp=N,32nm,0.8s
MNK i P Pn 09 57 08.1 -2.4
comp=Z,14nm,0.8s,baz=197
MNK i PP sP 09 57 17.5 +0.2
MNK i PPP PPP 09 57 25.2
MNK i S Sn 10 00 14.4 -1.6
MNK i SS SnSn 10 00 28.9 -0.2
MNK i SSS SSS 10 00 41.7
MNK i LQ LQ 10 02 04.3
MNK i LR LR 10 03 20.5
MNK i LRM MLR 10 04 20.0
comp=N,504nm,10.9s
MNK i LRM MLR 10 04 22.6
comp=E,70nm,11.0s
MNK i LRM MLR 10 04 29.9
comp=Z,459nm,10.3s
MNK Minsk 16.72 13 i P Pn 09 57 08.1 -2.4
MNK i S Sn 10 00 14.4 -1.6
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,32nm,0.8s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=N,504nm,11.0s
MNK MLR MLR
comp=E,70nm,11.0s
MNK MLR MLR
comp=Z,459nm,10.0s
KIV Kislovodsk 16.74 64 eP Pn 09 57 11.2 +0.2
KIV pmax pmax
comp=Z,11nm,1.0s

KIV MLR MLR
comp=Z,171nm,13.0s
KVAR Kislovodsk Arr 16.75 64 Pn **P 09 57 12.8 -0.6**
baz=273,slow=22
comp=Z,1.8nm,0.3s
BCLA Clavier 16.81 321 *d*P **P 09 57 16.0 +2.1**
KBZ Khabaz 16.84 65 Pn **P 09 57 14.0 -0.3**
comp=Z,0.2nm,0.3s,baz=261,slow=11,SNR=6.4
KBZ LR LR 10 05 41.7
comp=Z,308nm,19.0s,baz=261,slow=44
comp=Z,2.5nm,0.7s
KBZ Khabaz 16.84 65*ce*P **P 09 57 14.2 -0.1**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
NACGM Naroch 16.93 10 *e*P **P 09 57 15.2 -0.1**
comp=Z,56nm,1.0s,baz=195
DOU Dourbes 16.97 319 *d*P **P 09 57 15.0 -0.6**
comp=Z,15nm,1.0s
BMRD Maredsous 17.00 320 *d*P **P 09 57 15.5 -0.5**
CLF Chambon-Foret 17.16 311 P **P 09 57 17.9 +0.2**
PABE Paberze 17.25 4 Pn **Pn 09 57 16.3 -0.9**
PABE IAmb IAmb 09 57 18.8
comp=Z,65nm,0.9s
PABE Paberze 17.25 4 *e*P **Pn 09 57 17.1 -0.1**
PABE IAmb IAmb 09 57 34.0
comp=Z,138nm,1.4s
IIGN Ignalina 17.30 9 *e*P **Pn 09 57 15.4 -2.4**
IDID Didziasalis 17.33 10 *e*P Pn 09 57 10.2 -8.0
ZEI Tsey 17.41 68 *e*P **P 09 57 22.4 +1.6**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
BSEG Bad Segeberg 17.47 337 P **P 09 57 21.0 -0.1**
BSEG pmax pmax
comp=Z,27nm,1.2s
ISAL Salakas 17.51 8 *e*P **P 09 57 22.0 +0.5**
ISAL IAmb IAmb 09 58 03.2
comp=Z,13nm,1.0s
VSR Storozhevoye 17.81 38 *e*P **Pn 09 57 22.8 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 17.91 77 P **Pn 09 57 25.3 -0.4**
comp=Z,0.5nm,0.3s,baz=187,slow=23,SNR=1.4
comp=Z,3.0nm,0.5s
MFF Saint Martin d 18.10 304 P **P 09 57 30.2 +2.0**
VORR Voronezh 18.12 37 *i*P **Pn 09 57 26.9 -1.1**
VORR pmax pmax
comp=Z,20nm,1.5s
LPSR Galich'ya Gora 18.62 34 *e*P **P 09 57 33.5 -0.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
VRH Novokhopyorsk 19.08 41 *e*P **P 09 57 39.1 +0.2**
VRH pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 19.56 26 *e*P **P 09 57 43.4 -0.7**
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,625nm,16.0s
ESDC Sonseca Array 20.00 282 P Pn 09 57 50.5 -0.4
comp=Z,0.6nm,0.3s,baz=75,slow=10,SNR=52
ESDC LR LR 10 05 40.9
comp=Z,405nm,19.8s,baz=88,slow=37
comp=Z,7.7nm,0.8s
ESDC Sonseca Array 20.00 282 P Pn 09 57 50.1 -0.7
MAK Makhachkala 20.06 68 *e*P Pn 09 57 51.4 -0.1
MAK *e*S Sn 10 01 39.1 +2.0
MAK pmax pmax
comp=Z,54nm,0.5s
MAK MLR MLR
comp=Z,131nm,12.0s
GUD Guadarrama 20.10 285 P Pn 09 57 51.4 -0.7
PAB San Pablo 20.31 282 P Pn 09 57 53.8 -0.7
PAB San Pablo 20.31 282 P Pn 09 57 53.8 -0.7
PAB pmax pmax
comp=Z,29nm,1.1s
VSU Vasula 20.41 8 P Pn 09 57 55.4 0.0
VSU pmax pmax
comp=Z,369nm,0.9s
VSU Vasula 20.41 8 *e*P Pn 09 57 55.5 0.0
MOS Moscow 20.43 26 *e*P **P 09 57 52.6 -0.9**
MOS *e* 09 58 15.5
MOS pmax pmax
comp=Z,35nm,0.8s
MTSE Matsula 20.45 3 *e*P **P 09 57 54.1 +0.4**
VIKU Vikbolandet 20.46 352 *e*P **P 09 57 54.0 +0.2**
ROSF Rostrenen 20.68 307 P **P 09 57 57.5 +1.1**
UPP Uppsala 21.71 354 *e*P **P 09 58 06.8 -0.5**
MEF Metsahovi 21.98 4 *e*P **P 09 58 09.3 -0.9**
PBRG Braganca 22.03 288 *e*P **P 09 58 13.4 +2.4**
comp=Z,37nm,1.6s
MDT Midelt 22.09 264 P **P 09 58 11.7 0.0**
comp=Z,6.2nm,0.9s,baz=90,slow=9.9,SNR=5.0
MDT LR LR 10 07 39.3
comp=Z,227nm,21.4s,baz=77,slow=39
comp=Z,6.2nm,0.9s
MVO Moncorvo 22.26 286 *e*P **P 09 58 14.2 +0.7**
comp=Z,50nm,1.4s
MVO *e*LR LR 10 03 40.8
comp=Z,291nm,18.0s
HFS Hagfors 22.42 349 P **P 09 58 14.0 -1.0**
comp=Z,7.8nm,0.5s,baz=158,slow=9.6,SNR=36
HFS LR LR 10 08 43.0
comp=Z,618nm,18.6s,baz=172,slow=42
comp=Z,7.8nm,0.5s
HFS Hagfors 22.42 349 P **P 09 58 14.0 -1.0**
PBAR Barrancos 22.56 279 *e*P **P 09 58 17.1 +0.4**
comp=Z,43nm,1.6s
PMRV Marv??o 22.66 282 *e*P **P 09 58 16.8 -1.0**
comp=Z,45nm,1.9s
PMRV *e*LR LR 10 05 26.2
comp=Z,327nm,18.0s
PCBR Castelo Branco 22.69 283 *e*P **P 09 58 18.0 0.0**
comp=Z,29nm,1.2s
MTE Manteigas 22.69 284 *e*P **P 09 58 17.5 -0.6**
comp=Z,45nm,1.3s
MTE *e*LR LR 10 04 51.8
comp=Z,560nm,16.0s
KONO Kongsberg 22.71 344 P **P 09 58 16.3 -1.7**
KONO IAmb IAmb 09 58 22.2
comp=Z,83nm,1.4s
KONO Kongsberg 22.71 344 P **P 09 58 16.3 -1.7**
KONO pmax pmax
comp=Z,83nm,1.4s
RAF Rauma 22.72 0 *e*P **P 09 58 17.6 -0.6**
OSL Oslo 22.74 346 *e*P **P 09 58 18.3 -0.1**
POLO Lamas de Olo 22.82 287 *e*P **P 09 58 21.6 +2.0**
comp=Z,14nm,1.5s
BELG Belogornoye 22.84 44 P **P 09 58 18.3 -1.1**
comp=Z,31nm,0.8s,baz=312,slow=3.1,SNR=16
BELG LR LR 10 07 57.6
comp=Z,228nm,20.3s,baz=313,slow=39
comp=Z,31nm,0.8s
BELG Belogornoye 22.84 44 *i*P **P 09 58 19.4 0.0**
BELG pmax pmax
comp=Z,13nm,1.5s
PESTR Estremoz 22.89 281 *e*P **P 09 58 19.4 -0.8**
comp=Z,40nm,1.5s
PESTR Estremoz 22.89 281 P **P 09 58 19.3 -0.9**
PVIS Viseu 22.93 285 *e*P **P 09 58 20.4 -0.3**
comp=Z,64nm,1.3s
PCAB Cabril 22.99 288 *e*P **P 09 58 23.5 +2.3**
comp=Z,31nm,1.2s
PGAV Gavieira, Arco 23.16 289 *e*P **P 09 58 22.7 -0.4**
comp=Z,33nm,1.6s
PGAV *e*LR LR 10 06 06.3
comp=Z,376nm,18.0s
PVAQ Vaqueiros 23.23 277 *e*P **P 09 58 23.8 +0.1**
comp=Z,45nm,1.7s
PVAQ *e*LR LR 10 05 05.3
comp=Z,166nm,18.0s
PVAQ Vaqueiros 23.23 277 P **P 09 58 24.1 +0.4**
PBEJ Beja 23.23 279 *e*P **P 09 58 23.3 -0.4**
comp=Z,24nm,1.4s
EVO Evora 23.26 280 *e*P **P 09 58 23.2 -0.8**
comp=Z,24nm,1.8s
BLS5 Blasjo 23.27 340 *e*P **P 09 58 23.8 -0.1**
FINES FINESS Array B 23.30 5 P **P 09 58 23.0 -1.1**
comp=Z,13nm,0.8s,baz=180,slow=8.1,SNR=16
FINES PcP **PcP 10 02 10.2 -0.8**
comp=Z,2.6nm,0.9s,baz=167,slow=2.4,SNR=1.7
FINES LR LR 10 08 00.3
comp=Z,723nm,20.7s,baz=200,slow=38
comp=Z,13nm,0.8s
FINES FINESS Array B 23.30 5 P **P 09 58 22.8 -1.3**
FIA1 FINESS Array S 23.30 5 P **P 09 58 23.4 -0.7**
FIA1 IAmb IAmb 09 58 48.6
comp=Z,54nm,1.4s
NC602 NORSAR Array S 23.33 347 IAmb IAmb 09 58 26.2
comp=Z,33nm,0.9s
NC602 NORSAR Array S 23.33 347 *e*P **P 09 58 23.4 -1.1**
NORES NORESS Array B 23.33 347 P **P 09 58 23.5 -1.0**
PMTG Montargil 23.35 281 *e*P **P 09 58 23.4 -1.5**
comp=Z,30nm,1.3s
PCVE Castro Verde 23.44 278 *e*P **P 09 58 26.0 +0.2**
comp=Z,30nm,1.8s
PCAS Casmilo, Conde 23.45 284 *e*P **P 09 58 25.4 -0.4**
comp=Z,32nm,1.4s
NAO01 NORSAR Array S 23.55 347 IAmb IAmb 09 58 27.6
comp=Z,41nm,0.9s
NC405 NORSAR Array S 23.66 348 IAmb IAmb 09 58 27.7
comp=Z,31nm,0.8s
NB201 NORSAR Array S 23.67 347 IAmb IAmb 09 58 29.2
comp=Z,37nm,0.8s
NB2 NORSAR Subarra 23.68 347 P **P 09 58 26.6 -1.3**
comp=Z,39nm,1.0s,baz=153,slow=10
NB2 NORSAR Subarra 23.68 347 P **P 09 58 26.6 -1.3**
slow=10
NOA NORSAR Array B 23.68 347 P **P 09 58 26.0 -1.9**
comp=Z,16nm,0.9s,baz=154,slow=9.3,SNR=40
comp=Z,16nm,0.9s
NOA NORSAR Array B 23.68 347 *e*P **P 09 58 26.8 -1.1**
NOA pmax pmax
comp=Z,19nm,0.8s
PNCL Nicolau / Gran 23.73 279 *e*P **P 09 58 28.1 -0.5**
comp=Z,48nm,1.7s
NBO00 NORSAR Array S 23.74 347 IAmb IAmb 09 58 30.0
comp=Z,27nm,1.0s
NC303 NORSAR Array S 23.82 348 IAmb IAmb 09 58 31.1
comp=Z,73nm,1.1s
EKA Eskdalemuir Ar 23.87 324 P **P 09 58 29.5 -0.3**
comp=Z,57nm,0.9s,baz=123,slow=10,SNR=49
EKA LR LR 10 09 47.7
comp=Z,533nm,20.2s,baz=131,slow=42
comp=Z,57nm,0.9s
ESK Eskdalemuir 23.88 323 P **P 09 58 30.0 +0.1**
ESK Eskdalemuir 23.88 323 P **P 09 58 30.0 +0.1**
ESK pmax pmax
comp=Z,57nm,0.9s
SKAR Skarslia 23.92 344 *e*P **P 09 58 30.7 +0.4**
NC204 NORSAR Array S 23.98 347 P **P 09 58 30.2 -0.6**
PTEO Sao Teotonio 23.99 278 *e*P **P 09 58 34.2 +3.1**
comp=Z,60nm,1.8s
HYA Hoyanger 24.84 342 *e*P **P 09 58 38.2 -0.4**
DOMB Dombas 25.00 346 *e*P **P 09 58 40.9 +0.8**
DOMB IAmb IAmb 09 58 44.6
comp=Z,36nm,0.9s
RAYN Ar Rayn 25.07 119 P **P 09 58 42.8 +1.7**
RAYN Ar Rayn 25.07 119 P **P 09 58 41.7 +0.6**
KLMR Klimovskoe 25.16 21 *e*P **P 09 58 40.4 -1.1**
KLMR AMP 09 58 45.0
comp=Z,58nm,1.6s
KLMR LQ LQ 10 06 39.0
KLMR LQ LQ 10 06 39.0
KLMR LR LR 10 07 33.2
KLMR Klimovskoe 25.16 21 *e*P **P 09 58 40.4 -1.1**
KLMR pmax pmax
comp=Z,58nm,1.6s
NSS Namsos 26.88 351 *e*P **P 09 58 57.4 +0.4**
KIRV Kirov 27.02 32 P **P 09 58 56.6 -1.7**
comp=Z,10nm,0.6s,baz=205,slow=4.5,SNR=2.9
KIRV LR LR 10 10 12.7
comp=Z,375nm,18.3s,baz=232,slow=38
comp=Z,10nm,0.6s
KIRV Kirov 27.02 32*ce*P **P 09 58 58.1 -0.2**
AKTO Aktyubinsk 28.33 53 P **P 09 59 09.6 -0.6**
comp=Z,4.4nm,0.7s,baz=264,slow=8.9,SNR=14
AKTO LR LR 10 12 40.0
comp=Z,225nm,18.8s,baz=262,slow=41
comp=Z,4.4nm,0.7s
GEYT Alibeck 28.51 79 P **P 09 59 11.2 -0.8**
comp=Z,1.8nm,0.5s,baz=301,slow=12,SNR=2.5
GEYT LR LR 10 13 34.9
comp=Z,139nm,21.5s,baz=306,slow=43
comp=Z,1.8nm,0.5s
KONS Konsvik 28.65 353 *e*P **P 09 59 12.7 -0.1**
SGF Sodankyl 29.29 4 P **P 09 59 15.0 -3.5**
AB31 Akbulak array 29.37 56 *e*P **P 09 59 19.4 0.0**
ABKAR Akbulak array 29.37 56 P **P 09 59 19.4 0.0**
ABKAR Akbulak array 29.37 56 P **P 09 59 19.6 +0.1**
ABKAR IAmb IAmb 09 59 22.7
comp=Z,5.1nm,0.7s
ARU Arti 30.32 41 P **P 09 59 27.0 -0.7**
comp=Z,3.0nm,0.5s,baz=286,slow=12,SNR=4.7
ARU LR LR 10 12 29.9
comp=Z,378nm,18.3s,baz=244,slow=38
comp=Z,3.0nm,0.5s
ARU Arti 30.32 41 *i*P **P 09 59 27.2 -0.5**
ARU 10 00 24.6
ARU S **S 10 04 30.0 +2.4**
ARU SS **SnSn 10 06 03.5 +1.7**
ARU pmax pmax
comp=Z,17nm,1.5s
ARU MLR MLR
comp=Z,347nm,16.0s
KTK1 Kautokeino 30.76 1 *e*P **P 09 59 30.9 -0.6**
ARA0 ARCESS Array S 31.34 3 *e*P **P 09 59 36.5 -0.1**
ARCES ARCESS Array B 31.34 3 P **P 09 59 35.7 -0.9**
comp=Z,5.0nm,0.8s,baz=201,slow=8.7,SNR=16
ARCES LR LR 10 13 11.0
comp=Z,855nm,18.7s,baz=184,slow=38
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 31.34 3 *e*P **P 09 59 35.5 -1.1**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
SVE Sverdlovsk 31.53 41 *e*P **P 09 59 39.0 +0.6**
SVE pmax pmax
comp=Z,17nm,1.0s
NAZ Nazwa, Dubai 31.61 105 P **P 09 59 36.7 -2.7**
MSFE Esma-Masafi 31.79 104 P **P 09 59 40.8 -0.3**
UOSS Minazif 32.04 104 P **P 09 59 41.7 -1.6**
UOSS IAmb IAmb 09 59 43.5
comp=Z,12nm,1.1s
UOSS Minazif 32.04 104 P **P 09 59 42.8 -0.5**
HATD Hatta, Dubai 32.05 105 P **P 09 59 42.6 -0.8**
ASHO Ashiyiah 32.07 105 P **P 09 59 41.5 -2.1**
WSAR Wadi Sarin 34.83 105 P **P 10 00 07.4 -0.2**
comp=Z,3.7nm,0.9s,baz=302,slow=8.2,SNR=4.7
WSAR LR LR 10 18 03.0
comp=Z,119nm,18.7s,baz=324,slow=43
comp=Z,3.7nm,0.9s
BRVK Borovoye 36.23 50 P **P 10 00 19.6 +0.3**
BRVK Borovoye 36.23 50*ce*P **P 10 00 19.9 +0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BVA0 Borovoye Array 36.29 50 *i*P **P 10 00 19.6 -0.2**
BVAR Borovoye Array 36.29 50 P **P 10 00 20.6 +0.7**
comp=Z,2.6nm,0.6s,baz=267,slow=5.3,SNR=19
BVAR LR LR 10 18 54.6
comp=Z,64nm,19.6s,baz=272,slow=42
comp=Z,2.6nm,0.6s
CHGR Chuyangaron 36.79 74 IAmb IAmb 10 00 26.1
comp=Z,29nm,0.9s
KK31 Karatay Array 36.86 67 *e*P **P 10 00 24.8 -0.1**
KKAR Karatay Array 36.86 67 P **P 10 00 25.2 +0.4**
KKAR Karatay Array 36.86 67 P **P 10 00 25.2 +0.4**
KKAR pmax pmax
comp=Z,34nm,0.6s
GAR Garm 37.58 73 IAmb IAmb 10 00 33.3
comp=Z,33nm,1.0s
EKS2 Erkin-Say 39.30 67 P **P 10 00 46.7 +1.2**
SNR=20
AML Almayashu 39.35 68 P **P 10 00 48.0 +1.7**
SNR=11
MBAR Mbarara 39.61 166 LR LR 10 19 19.0
comp=Z,257nm,18.8s,baz=12,slow=40
DBIC Dimbokro 39.66 224 P **P 10 00 49.7 +1.1**
DBIC Dimbokro 39.66 224 P **P 10 00 49.7 +1.1**
DBIC pmax pmax
comp=Z,16nm,0.9s
USP Ospenovka 39.70 66 P **P 10 00 49.0 +0.2**
SNR=6.8
TIC Toumodi 39.77 224 *i*PKP1 **P 10 00 53.3 +3.8**
comp=Z,50nm,1.1s
AAK Ala-Archa 39.82 67 P **P 10 00 51.2 +1.2**
SNR=7.0
AAK Ala-Archa 39.82 67 P **P 10 00 50.5 +0.5**
comp=Z,11nm,0.9s,baz=239,slow=5.4,SNR=11
AAK LR LR 10 21 31.4
comp=Z,95nm,19.0s,baz=278,slow=43
comp=Z,11nm,0.9s
AAK Ala-Archa 39.82 67 P **P 10 00 50.5 +0.5**
AAK Ala-Archa 39.82 67*ce*P **P 10 00 49.3 -0.7**
AAK pmax pmax
comp=Z,21nm,1.0s
KIC Kosan Boka 39.85 224 *e*PKP1 **P 10 00 53.6 +3.4**
comp=Z,2.9nm,0.4s
UCH Uchtor 39.93 67 P **P 10 00 52.2 +1.0**
SNR=7.3
CHMS Chumysh 39.93 66 P **P 10 00 51.7 +0.9**
SNR=6.1
SPITS Spitsbergen Ar 40.03 358 P **P 10 00 50.5 -0.5**
comp=Z,9.0nm,0.8s,baz=149,slow=12,SNR=5.3
SPITS LR LR 10 19 12.7
comp=Z,422nm,20.4s,baz=147,slow=39
comp=Z,9.0nm,0.8s
LIC Lamto 40.12 224 *e*PKP1 **P 10 00 54.2 +1.8**
comp=Z,63nm,0.8s
TKM2 Tokmak 2 40.56 66 *i*P **P 10 00 54.8 -1.3**
TKM2 pmax pmax
comp=Z,4.0nm,0.7s
BBTS Babate 41.15 246 LR LR 10 20 42.7
comp=Z,744nm,18.9s,baz=52,slow=40
KURBB Kurchatov Arra 41.37 54 P **P 10 01 02.4 -0.1**
comp=Z,7.5nm,0.6s,baz=281,slow=8.9,SNR=76
comp=Z,7.5nm,0.6s
KURBB Kurchatov Arra 41.37 54 P **P 10 01 01.6 -0.8**
KURK Kurchatov 41.42 54 P **P 10 01 02.1 -0.7**
KURK Kurchatov 41.42 54*ce*P **P 10 01 02.8 0.0**
KURK pmax pmax
comp=Z,23nm,1.3s
KSH Kashi 41.67 71 P **P 10 01 04.8 -0.4**
KSH pP pP 10 01 08.8 +0.2
KSH pmax pmax
comp=Z,11nm,1.5s
TARG Taragay, Kyrgy 42.43 67 P **P 10 01 13.3 +1.6**
MAKZ Makanchi 44.20 59 P **P 10 01 25.4 -0.1**
MAKZ IAmb IAmb 10 01 26.4
comp=Z,16nm,0.8s
MAKZ Makanchi 44.20 59 P **P 10 01 25.4 -0.1**
MAKZ pmax pmax
comp=Z,16nm,0.8s
MK31 Makanchi Array 44.41 59 *i*P **P 10 01 26.4 -0.8**
MK31 pmax pmax
comp=Z,37nm,0.5s
MKAR Makanchi Array 44.41 59 P **P 10 01 27.1 -0.1**
comp=Z,29nm,0.5s,baz=279,slow=6.9,SNR=415
MKAR PcP **PP 10 03 10.0 -0.6**
comp=Z,1.4nm,0.6s,baz=295,slow=3.3,SNR=2.0
MKAR LR LR 10 23 06.9
comp=Z,131nm,20.7s,baz=305,slow=40
comp=Z,29nm,0.5s
MKAR Makanchi Array 44.41 59 P **P 10 01 27.2 +0.1**
ZAA0 Zalesovo Array 44.88 48 IAmb IAmb 10 01 31.2
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 44.88 48 P **P 10 01 30.6 -0.1**
comp=Z,17nm,0.5s,baz=275,slow=8.8,SNR=43
ZALV LR LR 10 21 00.3
comp=Z,108nm,19.6s,baz=291,slow=37
comp=Z,17nm,0.5s
ZALV Zalesovo Beam 44.88 48 *i*P **P 10 01 30.7 -0.1**
ZALV pmax pmax
comp=Z,18nm,0.5s
NRIK Noril'sk 46.24 27 P **P 10 01 40.8 -0.5**
comp=Z,2.4nm,0.5s,baz=248,slow=1.9,SNR=3.9
NRIK LR LR 10 22 32.6
comp=Z,214nm,18.5s,baz=266,slow=38
comp=Z,2.4nm,0.5s
NRIK Noril'sk 46.24 27 *i*P **P 10 01 41.9 +0.6**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
DGZ Jazzator, Alta 47.17 54 *i*P **P 10 01 49.3 +0.2**
DGZ pmax pmax
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 48.58 330 LR LR 10 26 08.2
comp=Z,307nm,18.6s,baz=82,slow=41
WMQ Urumqi 48.85 61 *e*P **P 10 02 02.5 +0.4**
WMQ pP sP 10 02 07.4 +0.6
WMQ pmax pmax
comp=Z,11nm,1.1s
TULEG Thule 53.23 343 P **P 10 02 35.0 +0.5**
TULEG IAmb IAmb 10 02 37.1
comp=Z,22nm,1.4s
LSZ Lusaka 53.66 172 LR LR 10 27 20.3
comp=Z,275nm,18.6s,baz=352,slow=38
MOY Mondy 54.94 48 *e*P **P 10 02 47.7 +0.3**
EUNU Eureka 55.56 348 P **P 10 02 51.5 +0.1**
EUNU IAmb IAmb 10 02 54.2
comp=Z,36nm,1.9s
FRB Frobisher Bay 56.54 328 LR LR 10 28 01.4
comp=Z,433nm,19.4s,baz=54,slow=37
FRB Frobisher Bay 56.54 328 P **P 10 02 58.8 +0.3**
ZAK Zakamensk 56.74 49 *e*P **P 10 02 59.9 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 58.91 62 *e*P **P 10 03 15.5 -0.3**
GTA pP pP 10 03 19.4 +0.1
GTA sP sP 10 03 22.4 +1.8
GTA pmax pmax
comp=Z,6.0nm,0.7s
GTA pmax pmax
comp=Z,110nm,4.4s
GTA LR LR
comp=Z,140nm,14.5s
GTA LR LR
comp=Z,170nm,15.6s
GTA LR LR
comp=Z,160nm,16.4s
SCHQ Schefferville 59.00 318 P **P 10 03 15.6 -0.4**
comp=Z,3.4nm,0.6s,baz=84,slow=5.8,SNR=8.2
comp=Z,3.4nm,0.6s
TIXI Tiksi 59.18 21 *i*P **P 10 03 17.0 +0.1**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 59.62 51 P **P 10 03 20.2 -0.4**
comp=Z,5.1nm,1.0s,baz=280,slow=8.2,SNR=22
comp=Z,5.1nm,1.0s
SONM Songino Array 59.62 51 *e*P **P 10 03 20.4 -0.2**
SONM pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 59.89 344 LR LR 10 30 44.6
comp=Z,82nm,21.5s,baz=6.0,slow=38
ULN Ulaanbaatar 60.01 51 P **P 10 03 22.4 -0.9**
ULN IAmb IAmb 10 03 24.4
comp=Z,10nm,1.4s
ULN Ulaanbaatar 60.01 51*ce*P **P 10 03 23.2 -0.1**
ULN pmax pmax
comp=Z,18nm,2.5s
BRDH Bariadhala 60.90 83 LR LR 10 33 17.0
comp=Z,146nm,19.2s,baz=299,slow=39
LBTB Lobatse 63.11 176 LR LR 10 33 28.0
comp=Z,288nm,19.8s,baz=354,slow=38
YAK Yakutsk 64.51 30 LR LR 10 33 52.4
comp=Z,175nm,18.5s,baz=264,slow=38
TNCH TengChong 64.98 77 *e*P **P 10 03 55.9 -1.0**
TNCH pmax pmax
comp=Z,270nm,3.5s
HHC Hu-ho-hao-te 66.16 56 *e*P **P 10 04 07.2 +3.0**
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,370nm,5.7s
BOSA Boshof 66.67 177 P **P 10 04 07.8 +0.5**
comp=Z,2.3nm,0.9s,baz=326,slow=7.3,SNR=2.3
BOSA LR LR 10 35 47.2
comp=Z,336nm,20.1s,baz=2.0,slow=38
comp=Z,2.3nm,0.9s
A36M Sachs Harbour 67.56 349 IAmb IAmb 10 04 19.9
comp=Z,9.7nm,0.9s
XAN Xi'an 67.91 64 P **P 10 04 14.4 -0.9**
XAN pP sP 10 04 23.0 +2.9
XAN pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 68.92 83 P **P 10 04 20.0 -1.8**
comp=Z,0.7nm,0.3s,baz=299,slow=8.1,SNR=5.5
CMAR LR LR 10 39 42.8
comp=Z,49nm,19.6s,baz=290,slow=40
comp=Z,0.7nm,0.3s
CMAR Chiang Mai Arr 68.92 83 *i*P **P 10 04 21.2 -0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
RCBR Riachuelo 69.11 244 LR LR 10 34 45.3
comp=Z,251nm,19.6s,baz=172,slow=36
FCC Fort Churchill 69.60 330 P **P 10 04 26.3 +1.0**
FCC IAmb IAmb 10 04 48.4
comp=Z,13nm,1.6s
FCC Fort Churchill 69.60 330 P **P 10 04 26.3 +1.0**
FCC pmax pmax
comp=Z,13nm,1.6s
HEH HeiHe 70.30 41 *e*P **P 10 04 29.8 0.0**

SUR	**Sutherland**	**70.35**	**181**	LR	LR	10 37 48.5
	comp=Z,165nm,18.9s,baz=353,slow=38					
BILL	**Bilibino**	**70.66**	**13**↑	*eP*	**P**	**10 04 32.6 +0.9**
BILL				*e*		10 04 37.0
BILL				*e*		10 04 42.4
BILL				*i*		10 04 54.2
BILL				*e*		10 07 07.7
BILL				pmax	pmax	
	comp=Z,3.0nm,1.2s					
BILL				MLR	MLR	
	comp=Z,129nm,17.0s					
SADO	**Sadowa**	**70.87**	**312**	LR	LR	10 35 03.4
	comp=Z,161nm,19.6s,baz=100,slow=35					
INK	**Inuvik**	**72.08**	**351**	LR	LR	10 39 22.6
	comp=Z,74nm,19.3s,baz=298,slow=38					
INK	**Inuvik**	**72.08**	**351**	P	**P**	**10 04 40.5 +0.3**
INK				IAmb	IAmb	10 04 42.5
	comp=Z,35nm,2.0s					
INK	**Inuvik**	**72.08**	**351**	P	**P**	**10 04 40.5 +0.3**
INK				pmax	pmax	
	comp=Z,35nm,2.0s					
CN2	**Changchun**	**73.09**	**47**	*eP*	**P**	**10 04 45.8 -0.9**
CN2				pmax	pmax	
	comp=Z,10.0nm,1.3s					
KLR	**Kul'dur**	**73.15**	**40**	*ceP*	**P**	**10 04 47.1 +0.1**
KLR				pmax	pmax	
	comp=Z,9.0nm,1.7s					
YKA	**Yellowknife Ar**	**73.58**	**340**	P	**P**	**10 04 49.1 -0.1**
	comp=Z,0.8nm,0.7s,baz=30,slow=5.0,SNR=14					
	comp=Z,0.8nm,0.7s					
MA2	**Magadan**	**73.77**	**24**	LR	LR	10 41 23.5
	comp=Z,111nm,18.0s,baz=322,slow=39					
MDP	**Montagnes des**	**74.60**	**264**	LR	LR	10 37 12.8
	comp=Z,47nm,19.7s,baz=56,slow=35					
I29M	**Ogilvie Camp,**	**75.48**	**351**	IAmb	IAmb	10 05 09.2
	comp=Z,8.4nm,0.7s					
NJ2	**Nanjing**	**75.91**	**60**	*eP*	**P**	**10 05 02.9 -0.4**
NJ2				pmax	pmax	
	comp=Z,9.0nm,0.7s					
ULM	**Lac du Bonnet**	**76.14**	**324**	P	**P**	**10 05 04.0 -0.3**
	comp=Z,4.7nm,0.7s,baz=48,slow=4.8,SNR=8.1					
ULM				LR	LR	10 40 32.4
	comp=Z,162nm,18.7s,baz=32,slow=37					
	comp=Z,4.7nm,0.7s					
ULM	**Lac du Bonnet**	**76.14**	**324**	*eP*	**P**	**10 05 04.7 +0.4**
ULM				pmax	pmax	
	comp=Z,5.0nm,0.7s					
H21K	**Melozitna Rive**	**76.26**	**358**	IAmb	IAmb	10 05 34.2
	comp=Z,12nm,1.1s					
USRK	**Ussuriysk Ar.**	**76.51**	**44**	P	**P**	**10 05 05.6 -0.9**
	comp=Z,3.0nm,0.7s,baz=310,slow=5.7,SNR=3.1					
	comp=Z,3.0nm,0.7s					
I23K	**Minto, Yukon-K**	**76.63**	**356**	IAmb	IAmb	10 07 37.9
	comp=Z,5.4nm,0.6s					
I21K	**Tanana**	**76.71**	**357**	IAmb	IAmb	10 06 33.4
	comp=Z,22nm,1.8s					
MDM	**Murphy Dome**	**76.75**	**356**	IAmb	IAmb	10 05 17.3
	comp=Z,9.1nm,1.1s					
IL31		**76.85**	**355**	IAmb	IAmb	10 05 27.9
	comp=Z,25nm,2.0s					
ILAR	**Eielson Array**	**76.85**	**355**	P	**P**	**10 05 09.1 +1.0**
	comp=Z,0.9nm,0.6s,baz=345,slow=2.8,SNR=23					
ILAR				LR	LR	10 40 25.3
	comp=Z,47nm,20.8s,baz=22,slow=37					
	comp=Z,0.9nm,0.6s					
ILAR	**Eielson Array**	**76.85**	**355**	*eP*	**P**	**10 05 10.5 +2.4**
ILAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
DAWY	**Dawson**	**76.86**	**352**	P	**P**	**10 05 09.5 +1.3**
DAWY				IAmb	IAmb	10 05 24.3
	comp=Z,13nm,1.4s					
K27K	**Chicken**	**77.18**	**353**	IAmb	IAmb	10 05 17.9
	comp=Z,14nm,1.2s					
HDA	**Harding Lake**	**77.21**	**355**	IAmb	IAmb	10 05 18.8
	comp=Z,7.5nm,0.8s					
WRH	**Wood River Hil**	**77.23**	**355**	IAmb	IAmb	10 05 19.4
	comp=Z,7.8nm,0.8s					
SJG	**San Juan**	**77.38**	**283**	LR	LR	10 33 58.6
	comp=Z,73nm,21.2s,baz=46,slow=32					
SCRK	**Sand Creek**	**77.41**	**354**	IAmb	IAmb	10 05 21.5
	comp=Z,27nm,1.9s					
BPAW	**Bear Paw Mtn.**	**77.75**	**357**	IAmb	IAmb	10 05 23.0
	comp=Z,5.3nm,0.6s					
MCK	**McKinley**	**78.01**	**356**	P	**P**	**10 05 15.2 +0.5**
MCK				IAmb	IAmb	10 05 24.3
	comp=Z,12nm,1.0s					
MCK	**McKinley**	**78.01**	**356**	P	**P**	**10 05 15.2 +0.5**
MCK				pmax	pmax	
	comp=Z,12nm,1.0s					
KSRS	**Korea Array**	**78.50**	**51**	P	**P**	**10 05 16.7 -1.0**
	comp=Z,3.3nm,0.7s,baz=309,slow=4.7,SNR=11					
KSRS				LR	LR	10 43 53.3
	comp=Z,103nm,18.7s,baz=350,slow=39					
	comp=Z,3.3nm,0.7s					
KSRS	**Korea Array**	**78.50**	**51**	*eP*	**P**	**10 05 17.1 -0.6**
KSRS				pmax	pmax	
	comp=Z,3.0nm,0.7s					
DHY	**Denali Highway**	**78.57**	**355**	IAmb	IAmb	10 05 27.2
	comp=Z,10nm,0.9s					
SKT	**Skwentna**	**79.89**	**357**	IAmb	IAmb	10 05 33.8
	comp=Z,14nm,1.4s					
U49A	**Red Boiling Sp**	**79.91**	**309**	IAmb	IAmb	10 05 28.7
	comp=Z,18nm,1.1s					
M20K	**Styx River**	**80.05**	**358**	IAmb	IAmb	10 05 41.5
	comp=Z,47nm,1.9s					
YSS	**Yuzh-Sakhalins**	**80.08**	**37**	*eP*	**P**	**10 05 26.1 -0.1**
YSS				pmax	pmax	
	comp=Z,20nm,1.0s					
YSS				MLR	MLR	
	comp=Z,400nm,16.0s					
SUA	**Susitna One**	**80.37**	**356**	IAmb	IAmb	10 05 37.3
	comp=Z,16nm,1.3s					
RC01	**Rabbit Creek A**	**80.69**	**356**	IAmb	IAmb	10 05 38.8
	comp=Z,12nm,1.0s					
DLBC	**Dease Lake**	**80.75**	**345**	LR	LR	10 42 19.3
	comp=Z,168nm,20.0s,baz=10,slow=36					
ECSD	**EROS Data Cent**	**81.10**	**320**	P	**P**	**10 05 32.4 +0.6**
ECSD				IAmb	IAmb	10 05 34.7
	comp=Z,18nm,1.4s					
PETK	**Petropavlovsk-**	**81.27**	**25**	LR	LR	10 45 56.7
	comp=Z,161nm,18.8s,baz=312,slow=39					
X48A	**Hartselle**	**82.04**	**308**	IAmb	IAmb	10 05 40.3
	comp=Z,22nm,1.2s					
ASAJ	**Asahikawa**	**82.08**	**39**	LR	LR	10 44 40.8
	comp=Z,154nm,18.6s,baz=325,slow=38					
CCM	**Cathedral Cave**	**82.14**	**313**	P	**P**	**10 05 37.9 +0.5**
CCM	**Cathedral Cave**	**82.14**	**313**	P	**P**	**10 05 37.9 +0.5**
CCM				pmax	pmax	
	comp=Z,36nm,1.6s					
P38A	**Dawn**	**82.36**	**315**	IAmb	IAmb	10 05 41.5
	comp=Z,12nm,0.7s					
R40A	**Maddies Statio**	**82.57**	**314**	IAmb	IAmb	10 05 42.8
	comp=Z,20nm,1.4s					
JNU	**Nakatsue**	**83.14**	**53**	LR	LR	10 46 35.0
	comp=Z,110nm,18.2s,baz=310,slow=38					
KDAK	**Kodiak Island**	**84.13**	**357**	LR	LR	10 45 28.9
	comp=Z,52nm,21.9s,baz=9.4,slow=37					
U38A	**Gravette**	**85.07**	**313**	IAmb	IAmb	10 05 55.5
	comp=Z,14nm,1.1s					
MJAR	**Matsushiro Arr**	**85.20**	**46**	P	**P**	**10 05 52.4 -0.7**
	comp=Z,2.1nm,0.7s,baz=4.1,slow=2.4,SNR=5.5					
	comp=Z,2.1nm,0.7s					
MJA0	**Matsu Arr-Jizo**	**85.22**	**46**	*eP*	**P**	**10 05 54.9 +1.6**
MJA0				pmax	pmax	
	comp=Z,2.0nm,0.6s					
MIAR	**Mount Ida**	**85.93**	**312**	IAmb	IAmb	10 06 00.8
	comp=Z,18nm,1.4s					
T35A	**Sooner Cattle**	**85.93**	**315**	P	**P**	**10 05 57.5 +0.7**
BBB	**Bella Bella**	**86.11**	**342**	LR	LR	10 48 09.7
	comp=Z,116nm,19.0s,baz=296,slow=38					
SHEM	**Shemya Is, Ala**	**86.19**	**16**	LR	LR	10 48 35.7
	comp=Z,50nm,18.1s,baz=312,slow=38					
TUL1	**Leonard**	**86.24**	**314**	IAmb	IAmb	10 06 01.3
	comp=Z,6.0nm,0.9s					
NEW	**Newport**	**86.35**	**334**	LR	LR	10 46 48.3
	comp=Z,171nm,19.7s,baz=24,slow=37					
BOZ	**Bozeman (W)**	**86.53**	**329**	IAmb	IAmb	10 06 13.3
	comp=Z,21nm,1.8s					
QUOK	**Quay**	**86.57**	**315**	IAmb	IAmb	10 06 03.5
	comp=Z,14nm,0.7s					
DEOK	**Depew**	**86.69**	**314**	IAmb	IAmb	10 06 03.9
	comp=Z,13nm,0.9s					
PDAR	**Pinedale Array**	**87.96**	**326**	P	**P**	**10 06 07.1 +0.3**
	comp=Z,1.4nm,0.9s,baz=29,slow=3.4,SNR=7.8					
PDAR				LR	LR	10 47 50.2
	comp=Z,191nm,18.9s,baz=34,slow=37					
	comp=Z,1.4nm,0.9s					
O20A	**White River Ci**	**89.48**	**324**	IAmb	IAmb	10 06 16.5
	comp=Z,13nm,1.3s					
BGU	**Big Grassy Mou**	**90.96**	**327**	IAmb	IAmb	10 06 31.9
	comp=Z,8.9nm,1.4s					
SRU	**San Rafael Swe**	**91.35**	**325**	IAmb	IAmb	10 06 29.6
	comp=Z,8.0nm,1.2s					
ELK	**Elko**	**92.03**	**329**	LR	LR	10 49 50.1
	comp=Z,220nm,19.0s,baz=34,slow=37					
ANMO	**Albuquerque**	**92.72**	**320**	LR	LR	10 48 13.3
	comp=Z,183nm,20.5s,baz=132,slow=36					
YBH	**Yreka Blue Hor**	**93.98**	**334**	LR	LR	10 50 54.9
	comp=Z,81nm,18.1s,baz=18,slow=37					
CPUP	**Villa Florida**	**97.96**	**243**	LR	LR	10 52 25.1
	comp=Z,118nm,20.8s,baz=43,slow=36					
PFO	**Pinyon Flats O**	**98.57**	**326**	LR	LR	10 54 23.3
	comp=Z,111nm,18.8s,baz=85,slow=37					
WRA	**Warramunga Arr**	**119.59**	**93**	PKP	**PKiKP**	**10 12 07.1 +0.2**
	comp=Z,0.3nm,0.4s,baz=326,slow=1.9,SNR=1.6					
ASAR	**Alice Springs**	**121.24**	**97**	PKP	**PKPdf**	**10 12 08.3 -1.6**
	comp=Z,0.3nm,0.5s,baz=312,slow=1.6,SNR=8.6					
DZM	**Mont Dzumac**	**145.71**	**72**	PKPbc	**PKPbc**	**10 12 55.8 0.0**
	comp=Z,15nm,1.1s,baz=259,slow=22,SNR=2.8					

***ZUR 09** 09:54:51.2, 46.68N×8.51E, h6km±2km, **MLh0.5/6, 2C-2D**, Error ellipse: s-maj=5.4km s-min=0.9km az=207.0,* **Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRIMS	**Grimsel Gerste**	**0.16**	**232**	⇑Pg	Pg	09 54 54.7	+0.1
GRIMS				Sg	Sg	09 54 57.0	+0.1
NALPS	**Val Nalps**	**0.19**	**117**	⇓Pg	Pg	09 54 55.4	+0.4
BNALP	**Bannalp**	**0.20**	**344**	⇓Pg	Pg	09 54 55.5	+0.3
BNALP				Sg	Sg	09 54 58.5	+0.6
HASLI	**Hasliberg/Brie**	**0.26**	**288**	Pg	Pg	09 54 56.4	+0.2
HASLI				Sg	Sg	09 54 59.9	+0.2
FIESA	**Fiescheralp**	**0.37**	**228**	⇑Pg	Pg	09 54 58.4	0.0

*IDC **09** 10:03:11.6±9.4, 38.51N×21.84E, h0km, mb3.5/3, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=171.2km s-min=36.7km az=31.0*
*ATH **09** 10:03:11.9, 38.34N×21.72E, h16km±1km, ML3.1/9, Error ellipse: s-maj=1.5km s-min=0.8km az=102.0*
*THE **09** 10:03:12.3, 38.33N×21.73E, h8km±1km, ML3.1/11, Error ellipse: s-maj=1.2km s-min=0.4km az=76.0*
ISC 09 10:03:12.0±0.8, 38.34N±0.02×21.71E±0.02, h11km±5km, n51, σ0.68/80, mb3.4/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.08**	**134**	P	**Pg**	**10 03 14.1**	**-0.3**
UPR				S	**Sg**	**10 03 15.8**	**-0.4**
EFP	**Efpalio**	**0.17**	**60**	P	**Pg**	**10 03 15.7**	**-0.1**
EFP				S	**Sg**	**10 03 18.8**	**+0.3**
	7μm,0.4s						
EFP	**Efpalio**	**0.17**	**60**	P	**Pg**	**10 03 15.8**	**0.0**
EFP				S	**Sg**	**10 03 18.7**	**+0.3**
EFP				AML	AML	10 03 19.4	
	comp=N,14392μm,0.3s						
EFP				AML	AML	10 03 21.1	
	comp=E,13696μm,0.4s						
LAKA	**Lakka**	**0.23**	**115**	P	**Pg**	**10 03 16.4**	**-0.4**
LAKA				S	**Sg**	**10 03 19.6**	**-0.5**
	comp=E,22μm,0.3s						
LAKA	**Lakka**	**0.23**	**115**	P	**Pg**	**10 03 16.4**	**-0.4**
LAKA				S	**Sg**	**10 03 19.9**	**-0.2**
LAKA				AML	AML	10 03 20.4	
	comp=E,17263μm,0.4s						
LAKA				AML	AML	10 03 21.3	
	comp=N,6726μm,0.3s						
SERG	**Sergoula**	**0.28**	**75**	P	**Pb**	**10 03 18.6**	**-0.5**
SERG				S	**Sg**	**10 03 22.4**	**+0.8**
SERG				AML	AML	10 03 24.0	
	comp=N,17477μm,0.3s						
SERG				AML	AML	10 03 24.1	
	comp=E,9841μm,0.3s						
ANX	**Ano Chora**	**0.30**	**33**	P	**Pg**	**10 03 18.3**	**+0.1**
ANX				S	**Sg**	**10 03 23.2**	**+1.0**
	comp=E,5μm,0.4s						
ANX	**Ano Chora**	**0.30**	**33**	P	**Pg**	**10 03 18.2**	**+0.1**
ANX				S	**Sb**	**10 03 23.5**	**-1.0**
ANX				AML	AML	10 03 23.7	
	comp=E,8972μm,0.3s						
ANX				AML	AML	10 03 23.8	
	comp=N,11547μm,0.4s						
PVO	**Paravola**	**0.31**	**332**	P	**Pg**	**10 03 17.4**	**-0.8**
PVO				S	**Sg**	**10 03 23.5**	**+1.0**
ALIK	**Aliki, Aigiali**	**0.32**	**104**	P	**Pg**	**10 03 18.5**	**0.0**
ALIK				S	**Sb**	**10 03 23.6**	**-1.4**
RLS	**Riolos of Patr**	**0.34**	**214**	P	**Pg**	**10 03 19.0**	**+0.2**
RLS				S	**Sg**	**10 03 24.5**	**+1.1**
	comp=N,4μm,0.3s						
RLS	**Riolos of Patr**	**0.34**	**214**	P	**Pg**	**10 03 19.0**	**+0.2**
RLS				S	**Sg**	**10 03 24.4**	**+1.0**
RLS				AML	AML	10 03 26.3	
	comp=N,5262μm,0.3s						
RLS				AML	AML	10 03 26.4	
	comp=E,10552μm,0.3s						
DRO	**Drossia**	**0.39**	**180**	P	**Pg**	**10 03 19.4**	**-0.3**
DRO				S	**Sg**	**10 03 25.6**	**+0.8**
	comp=E,4μm,0.4s						
DRO	**Drossia**	**0.39**	**180**	P	**Pg**	**10 03 19.3**	**-0.3**
DRO				S	**Sb**	**10 03 26.0**	**-0.8**
DRO				AML	AML	10 03 31.9	
	comp=N,8630μm,0.5s						
DRO				AML	AML	10 03 33.7	
	comp=E,11578μm,0.6s						
KLV	**Kalavryta, Ach**	**0.46**	**130**	P	**Pg**	**10 03 20.5**	**-0.4**
KLV				S	**Sg**	**10 03 26.9**	**0.0**
	comp=E,1μm,0.3s						
KLV	**Kalavryta, Ach**	**0.46**	**130**	P	**Pg**	**10 03 20.5**	**-0.4**
KLV				S	**Sg**	**10 03 26.9**	**0.0**
EVR	**Evrytania**	**0.58**	**7**	P	**Pg**	**10 03 23.8**	**+0.5**
EVR				S	**Sb**	**10 03 32.8**	**+0.3**
	comp=E,1μm,0.4s						
EVR	**Evrytania**	**0.58**	**7**	P	**Pg**	**10 03 23.9**	**+0.5**
EVR				S	**Sg**	**10 03 31.2**	**+0.2**
DLFA	**Delphi**	**0.63**	**77**	P	**Pg**	**10 03 24.4**	**+0.2**
DLFA				S	**Sg**	**10 03 32.5**	**0.0**
MAKR	**Makrakomi, Fth**	**0.75**	**26**	P	**Pg**	**10 03 26.3**	**-0.1**
MAKR				S	**Sb**	**10 03 37.7**	**+0.4**
	comp=E,3μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.75**	**26**	P	**Pg**	**10 03 26.3**	**-0.1**
MAKR				S	**Sg**	**10 03 35.8**	**-0.4**
THAL	**Thalero**	**0.81**	**112**	P	**Pg**	**10 03 26.8**	**-0.8**
AGG	**Agios Georgios**	**0.83**	**35**	P	**Pg**	**10 03 27.0**	**-1.1**
AGG				S	**Sb**	**10 03 39.7**	**-0.1**
AXAR	**Agios Charalam**	**0.86**	**60**	P	**Pg**	**10 03 27.8**	**-0.6**
AXAR				S	**Sb**	**10 03 40.8**	**+0.4**
	comp=E,2μm,0.4s						
AXAR	**Agios Charalam**	**0.86**	**60**	P	**Pg**	**10 03 27.9**	**-0.6**
EVGl	**Lefkada island**	**0.88**	**289**	P	**Pg**	**10 03 28.6**	**-0.2**
EVGl				S	**Sb**	**10 03 42.0**	**+1.1**
EVGl	**Lefkada island**	**0.88**	**289**	P	**Pg**	**10 03 28.3**	**-0.6**
NYDR	**Nydri-Lefkada**	**0.88**	**295**	P	**Pg**	**10 03 28.6**	**-0.3**
NYDR				S	**Sn**	**10 03 42.4**	**-0.6**
VLS	**Valsamata**	**0.90**	**260**	P	**Pg**	**10 03 28.7**	**-0.6**
VLS				S	**Sb**	**10 03 42.8**	**+1.2**
	comp=E,1μm,0.2s						
VLS	**Valsamata**	**0.90**	**260**	P	**Pg**	**10 03 28.6**	**-0.7**
VLS				AML	AML	10 03 44.3	
	comp=N,2713μm,0.3s						
VLS				AML	AML	10 03 44.4	
	comp=E,1923μm,0.2s						
FSK	**Fiskardo**	**0.91**	**278**	P	**Pg**	**10 03 28.9**	**-0.7**
FSK				S	**Sn**	**10 03 43.6**	**-0.2**
FSK	**Fiskardo**	**0.91**	**278**	P	**Pg**	**10 03 28.8**	**-0.7**
FSK				AML	AML	10 03 45.2	
	comp=E,2873μm,0.2s						
FSK				AML	AML	10 03 50.7	
	comp=N,1281μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.92**	**256**	P	**Pg**	**10 03 28.9**	**-0.7**
LTHK	**Lithakia**	**0.94**	**228**	P	**Pg**	**10 03 29.6**	**-0.4**
LTHK				S	**Sn**	**10 03 44.0**	**-0.4**
	comp=N,2μm,0.4s						
LTHK	**Lithakia**	**0.94**	**228**	P	**Pg**	**10 03 29.2**	**-0.8**
LKD2	**Lefkada island**	**0.94**	**299**	P	**Pg**	**10 03 28.5**	**-1.6**
LKD2				AML	AML	10 03 50.8	
	comp=N,1693μm,0.8s						
LKD2				AML	AML	10 03 54.9	
	comp=E,1720μm,0.6s						
TSLK	**Tsoukalades, L**	**0.96**	**301**	P	**Pg**	**10 03 30.3**	**-0.2**
KEF4	**Livadi, Kephal**	**1.02**	**266**	P	**Pb**	**10 03 30.6**	**-0.9**
KEF3	**Kipouria, Keph**	**1.08**	**263**	P	**Pb**	**10 03 30.7**	**-2.0**
ITM	**Ithomi**	**1.17**	**172**	P	**Pb**	**10 03 34.0**	**-0.2**
ITM				S	**Sn**	**10 03 51.5**	**+1.2**
ITM	**Ithomi**	**1.17**	**172**	P	**Pb**	**10 03 33.9**	**-0.3**
THL	**Klokotos Trika**	**1.25**	**11**	P	**Pb**	**10 03 35.6**	**+0.1**
TYRN	**Tyrnavos**	**1.43**	**16**	P	**Pn**	**10 03 37.0**	**-0.9**
PYL	**PYLOS**	**1.44**	**179**	P	**Pn**	**10 03 38.3**	**+0.2**
NEO	**Neokhori**	**1.52**	**50**	P	**Pb**	**10 03 39.8**	**-0.5**
XOR	**Xorichti**	**1.54**	**48**	P	**Pn**	**10 03 39.7**	**+0.2**
IGT	**Igoumenitsa**	**1.60**	**318**	P	**Pb**	**10 03 42.0**	**+0.3**
BRTR	**Keskin Array B**	**9.38**	**78**	Pn	**Pn**	**10 05 28.6**	**+1.3**
	comp=E,0.2nm,0.3s,baz=260,slow=12,SNR=6.6						
	comp=E,0.5nm,0.4s						
FINES	**FINESS Array B**	**23.29**	**5**	P	**P**	**10 08 18.5**	**-0.9**
	comp=E,0.9nm,0.8s,baz=187,slow=9.8,SNR=1.2						
	comp=E,0.9nm,0.8s						
NOA	**NORSAR Array B**	**23.66**	**347**	P	**P**	**10 08 22.9**	**-0.3**
	comp=E,0.9nm,0.9s,baz=154,slow=9.3,SNR=2.6						
	comp=E,0.9nm,0.9s						
MKAR	**Makanchi Array**	**44.42**	**59**	P	**P**	**10 11 22.9**	**+0.2**
	comp=E,0.5nm,0.5s,baz=276,slow=7.9,SNR=11						
	comp=E,0.5nm,0.5s						

*ATH **09** 10:03:18.7, 37.57N×23.57E, h16km±2km, ML2.4/6, Error ellipse: s-maj=2.3km s-min=0.8km az=311.0*
*THE **09** 10:03:18.9, 37.58N×23.56E, h8km±1km, ML2.3/5, Error ellipse: s-maj=1.5km s-min=0.4km az=316.0*
ISC 09 10:03:18.6±0.9, 37.58N±0.02×23.55E±0.03, h16km±8km, n28, σ0.50/45, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YDRA	**Hydra**	**0.24**	**197**	P	**Pg**	**10 03 23.7**	**-0.2**
YDRA				S	**Sb**	**10 03 28.2**	**-0.4**
YDRA				AML	AML	10 03 29.0	
	comp=E,8547μm,0.2s						
YDRA				AML	AML	10 03 29.1	
	comp=N,7696μm,0.2s						
VLY	**Voula,Athens**	**0.33**	**35**	P	**Pg**	**10 03 25.4**	**-0.2**
VLY				S	**Sg**	**10 03 30.4**	**+0.1**
	comp=N,718nm,0.2s						
VLY	**Voula,Athens**	**0.33**	**35**	P	**Pg**	**10 03 25.2**	**-0.4**
VLY				S	**Sg**	**10 03 30.7**	**+0.4**
VLY				AML	AML	10 03 31.6	
	comp=E,1556μm,0.2s						
VLY				AML	AML	10 03 31.9	
	comp=N,1289μm,0.2s						
EPID	**Epidavros**	**0.34**	**276**	P	**Pg**	**10 03 25.9**	**+0.1**
EPID				S	**Sg**	**10 03 31.0**	**+0.3**
EPID	**Epidavros**	**0.34**	**276**	P	**Pg**	**10 03 25.9**	**+0.1**
EPID				S	**Sg**	**10 03 30.9**	**+0.3**
KRND	**KRANIDI**	**0.37**	**238**	P	**Pg**	**10 03 26.1**	**-0.2**
KRND				S	**Sg**	**10 03 31.8**	**+0.3**
	comp=N,1μm,0.3s						
KRND	**KRANIDI**	**0.37**	**238**	P	**Pg**	**10 03 25.8**	**-0.4**
KRND				S	**Sg**	**10 03 31.8**	**+0.3**
KRND				AML	AML	10 03 33.9	
	comp=N,1935μm,0.3s						
KRND				AML	AML	10 03 35.3	
	comp=E,2066μm,0.3s						
ATH	**Athens Observa**	**0.41**	**18**	P	**Pg**	**10 03 27.1**	**+0.1**
ATH				S	**Sg**	**10 03 33.0**	**+0.3**
	comp=E,868nm,0.3s						
ATH	**Athens Observa**	**0.41**	**18**	P	**Pg**	**10 03 27.0**	**+0.1**
ATH				S	**Sg**	**10 03 32.9**	**+0.2**
ATH				AML	AML	10 03 34.3	
	comp=N,1685μm,0.4s						
ATH				AML	AML	10 03 34.4	
	comp=E,1766μm,0.3s						
ATHU	**Athens Univers**	**0.43**	**26**	P	**Pg**	**10 03 26.9**	**-0.4**
ATHU				S	**Sg**	**10 03 33.4**	**+0.3**
	comp=E,160nm,0.2s						
ATHU	**Athens Univers**	**0.43**	**26**	P	**Pg**	**10 03 26.9**	**-0.4**
ATHU				S	**Sg**	**10 03 33.4**	**+0.3**
ATHU				AML	AML	10 03 34.9	
	comp=N,420μm,0.2s						
ATHU				AML	AML	10 03 35.1	
	comp=E,233μm,0.2s						
PTL	**Penteli**	**0.53**	**28**	P	**Pb**	**10 03 29.8**	**+0.2**
PTL				S	**Sb**	**10 03 36.9**	**-0.2**
	comp=E,318nm,0.2s						
PTL	**Penteli**	**0.53**	**28**	P	**Pb**	**10 03 29.8**	**+0.2**
PTL				S	**Sg**	**10 03 36.6**	**+0.3**
PTL				AML	AML	10 03 38.5	
	comp=E,641μm,0.2s						
PTL				AML	AML	10 03 38.8	
	comp=N,607μm,0.2s						
LOUT	**Loutraki**	**0.61**	**312**	P	**Pg**	**10 03 30.9**	**+0.2**
LOUT	**Loutraki**	**0.61**	**312**	P	**Pg**	**10 03 30.9**	**+0.2**
LOUT	**Loutraki**	**0.61**	**312**	P	**Pg**	**10 03 30.6**	**0.0**
LOUT	**Loutraki**	**0.61**	**312**	P	**Pg**	**10 03 30.7**	**0.0**
LOUT				S	**Sg**	**10 03 39.2**	**+0.3**
VILL	**Villia**	**0.61**	**342**	P	**Pg**	**10 03 30.7**	**0.0**
VIL2	**Platees**	**0.67**	**341**	P	**Pg**	**10 03 30.5**	**-1.3**
VIL2				S	**Sg**	**10 03 38.6**	**-2.0**
MNVA	**Monemvasia**	**0.98**	**205**	P	**Pb**	**10 03 37.3**	**0.0**
VLI	**Veliai**	**0.99**	**210**	P	**Pb**	**10 03 37.1**	**-0.3**
VLI	**Veliai**	**0.99**	**210**	P	**Pb**	**10 03 36.9**	**-0.5**
MHLO	**Agia Marina, M**	**1.12**	**142**	P	**Pg**	**10 03 39.9**	**-0.3**
MHLO				S	**Sn**	**10 03 56.1**	**+1.4**
KYMI	**Kymi, Euboea I**	**1.14**	**22**	P	**Pn**	**10 03 40.0**	**+0.1**
KTHA	**Kythira Island**	**1.38**	**197**	P	**Pn**	**10 03 43.2**	**0.0**
KTHA	**Kythira Island**	**1.38**	**197**	P	**Pn**	**10 03 43.1**	**-0.2**
APE	**Apeiranthos**	**1.66**	**107**	P	**Pn**	**10 03 46.9**	**-0.2**
APE				S	**Sb**	**10 04 09.3**	**-0.2**
APE	**Apeiranthos**	**1.66**	**107**	P	**Pn**	**10 03 46.9**	**-0.2**

IDC 09 10:10:51.6±2.4, 53.75N×86.81E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=20.0km s-min=12.2km az=71.0, Southwestern Siberia

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

*ASRS **09** 10:20:45.1±0.2,51°N±2°×97°.8E±0°.9,h5km,MLh4.7/11, Error ellipse: s-maj=3.5km s-min=2.0km az=7.1,confirmed*

ISC 09 10:20:43.7±1.0,50°.84N±0°.03×97°.76E±0°.02,h2km±7km, n61,σ2§11/98,mb4.1/4,3D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.28**	**213**	‖Pg	**Pg**	**10 20 49.8**	**+0.7**
KNGR				Sg	**Sg**	**10 20 52.7**	**-0.1**
KNGR	**Kungurtug, Tuv**	**0.28**	**213**	*i*PG	**Pg**	**10 20 48.8**	**-0.3**
KNGR				*e*S	**Sg**	**10 20 51.8**	**-1.0**
ORL	**Orlik**	**2.12**	**36**	PN	**Pg**	**10 21 25.2**	**+0.8**
ORL				S	**Sg**	**10 21 53.7**	**+1.8**
MOY	**Mondy**	**2.19**	**67**	‖Pg	**Pg**	**10 21 24.8**	**-0.8**
MOY				Sg	**Sg**	**10 21 54.5**	**+0.4**
MOY	**Mondy**	**2.19**	**67**	*e*PN	**Pg**	**10 21 24.7**	**-1.0**
MOY				*e*		10 21 54.8	
MOY	comp=Z,410nm,0.3s			pmax	pmax		
MOY	comp=E,2µm,0.6s			smax	smax		
KZLR	**Kyzyl**	**2.25**	**294**	Pg	**Pb**	**10 21 24.5**	**-0.5**
KZLR				Sg	**Sb**	**10 21 53.9**	**+0.7**
KZLR	**Kyzyl**	**2.25**	**294**	*e*PN	**Pb**	**10 21 25.0**	**0.0**
KZLR				*e*S	**Sg**	**10 21 55.7**	**-0.1**
ARS	**Arshan**	**3.12**	**68**	*e*PN	**Pb**	**10 21 39.0**	**-0.8**
ARS				*e*		10 22 22.0	
ARS	comp=Z,59nm,0.4s			pmax	pmax		
ARS	comp=E,2µm,0.6s			smax	smax		
ZAK	**Zakamensk**	**3.55**	**95**	Pg	**Pb**	**10 21 47.0**	**-0.2**
ZAK				Sg	**Sg**	**10 22 34.4**	**-3.2**
ZAK	**Zakamensk**	**3.55**	**95**	*e*PN	**Pn**	**10 21 40.6**	**+0.8**
ZAK				*e*		10 21 47.2	
ZAK				*e*		10 22 34.6	
ZAK	comp=Z,63nm,0.3s			pmax	pmax		
ZAK	comp=N,1µm,0.8s			smax	smax		
TLY	**Talaya**	**3.79**	**75**	*e*PN	**Pb**	**10 21 50.4**	**-0.9**
TLY				*e*		10 22 42.6	
TLY	comp=Z,24nm,0.4s			pmax	pmax		
TLY	comp=E,372nm,0.5s			smax	smax		
TBRR	**Tiberkul'**	**3.92**	**323**	PN	**Pb**	**10 21 55.0**	**+1.7**
TBRR				S	**Sb**	**10 22 45.3**	**+4.2**
BLRR	**Bol'shaya Rech**	**3.96**	**306**	PN	**Pb**	**10 21 55.5**	**+1.3**
BLRR				S	**Sb**	**10 22 46.3**	**+3.7**
IRK	**Irkutsk**	**4.30**	**68**	Pg	**Pb**	**10 22 01.0**	**+1.1**
IRK				Sg	**Sg**	**10 22 58.7**	**-3.0**
IRK	**Irkutsk**	**4.30**	**68**	*e*PN	**Pb**	**10 22 01.5**	**+1.6**
IRK				*e*		10 22 58.8	
IRK	comp=Z,399nm,0.1s			pmax	pmax		
IRK	comp=N,1µm,0.5s			smax	smax		
DJOS	**Djoyskaya Sosn**	**4.40**	**299**	Pg	**Pb**	**10 22 05.3**	**+3.6**
DJOS				Sg	**Sg**	**10 23 04.4**	**-0.6**
DJOS	**Djoyskaya Sosn**	**4.40**	**299**	PN	**Pb**	**10 22 03.9**	**+2.2**
CERR	**Cheremushki**	**4.42**	**300**	Pg	**Pb**	**10 22 04.9**	**+3.0**
CERR				Sg	**Sg**	**10 23 05.2**	**-0.2**
ORY	**Orie**	**4.46**	**340**	PN	**Pb**	**10 22 05.5**	**+2.8**
ORY				S	**Sg**	**10 23 03.5**	**-3.5**
DJO	**Djoy, Khakassi**	**4.50**	**298**	Pg	**Pb**	**10 22 07.0**	**+3.7**
DJO				Sg	**Sg**	**10 23 07.2**	**-0.8**
MINR	**Mina**	**4.60**	**333**	Pg	**Pg**	**10 22 09.8**	**-2.0**
MINR				Sg	**Sg**	**10 23 13.6**	**+2.3**
TBTR	**Tabat**	**4.83**	**298**	PN	**Pb**	**10 22 07.8**	**-1.2**
TBTR				S	**Sb**	**10 23 10.8**	**+3.2**
TRG	**Tyrgan**	**5.67**	**67**	*e*PN	**Pn**	**10 22 11.6**	**+2.8**
TRG				*e*		10 22 26.5	
GZL	**Zheleznogorsk**	**5.98**	**337**	Sg	**Sg**	**10 23 53.9**	**-1.7**
SHTK	**Zheleznogorsk-**	**6.03**	**337**	PN	Pn	10 22 19.0	+5.2
GZLN	**Zheleznogorsk**	**6.03**	**338**	Pg	**Pg**	**10 22 35.9**	**-3.3**
GZLN				Sg	**Sg**	**10 23 57.2**	**-0.1**
CUR	**Chagan-Uzun**	**6.05**	**267**	PN	Pn	**10 22 13.1**	**-1.2**
CUR				Pg	**Pb**	**10 22 33.3**	**+3.4**
CUR				Sg	**Sg**	**10 23 58.5**	**+0.5**
CUR	**Chagan-Uzun**	**6.05**	**267**	PN	**Pn**	**10 22 17.9**	**+3.6**
LUZB	**Luzhba, Kemero**	**6.13**	**301**	Pn	**Pn**	**10 22 17.6**	**+2.5**
LUZB				Pg	**Pb**	**10 22 35.0**	**+3.9**
LUZB				Sg	**Sg**	**10 23 59.1**	**-1.2**
LUZB	**Luzhba, Kemero**	**6.13**	**301**	PN	**Pn**	**10 22 19.0**	**+3.9**
ULGR	**Ulagan, Altay**	**6.22**	**272**	Pn	**Pn**	**10 22 18.9**	**+2.3**
ULGR				Pg	**Pg**	**10 22 39.7**	**-3.2**
ULGR				Sg	**Sg**	**10 24 03.7**	**+0.2**
ULGR	**Ulagan, Altay**	**6.22**	**272**	PN	Pn	10 22 22.2	+5.6
SONM	**Songino Array**	**6.40**	**115**	Pn	**Pn**	**10 22 17.6**	**-1.4**
SONM	comp=N,0.8nm,0.3s,baz=298,slow=14,SNR=7.0			Pg	**Pb**	**10 22 36.5**	**+0.8**
SONM	comp=N,4.4nm,0.3s,baz=298,slow=18,SNR=5.3			Sn	**Sn**	**10 23 32.4**	**-0.2**
SONM	comp=N,1.9nm,0.3s,baz=298,slow=16,SNR=2.1			Lg	Lg	10 24 03.8	
TASR	comp=N,11nm,0.3s,baz=304,slow=25,SNR=12 comp=N,1.2nm,0.3s **Tashtagol**	**6.42**	**291**	Pn	**Pn**	**10 22 21.9**	**+2.7**
TASR				Pg	Pb	10 22 41.2	+5.2
TASR				Sg	**Sg**	**10 24 10.1**	**+0.3**
TASR	**Tashtagol**	**6.42**	**291**	PN	**Pn**	**10 22 21.7**	**+2.5**
CHBI	**Chibit, Altay**	**6.55**	**269**	Pn	**Pn**	**10 22 23.9**	**+2.8**
CHBI				Pg	**Pg**	**10 22 45.4**	**-3.7**
CHBI				Sg	**Sg**	**10 24 16.7**	**+2.7**
CHBI	**Chibit, Altay**	**6.55**	**269**	PN	**Pn**	**10 22 24.2**	**+3.1**
ARTR	**Artybash**	**6.64**	**282**	Pn	**Pn**	**10 22 23.7**	**+1.6**
ARTR				Pg	Pg	10 22 46.5	-4.2
ARTR				Sg	**Sg**	**10 24 15.8**	**-0.9**
OGRR	**Ongureny**	**6.66**	**61**	*e*PN	Pn	10 22 28.1	+5.6
OGRR				*e*S	**Sg**	**10 24 13.0**	**-4.4**
OGRR	comp=E,476nm,1.1s			smax	smax		
DGZ	**Jazzator, Alta**	**6.72**	**264**	Pn	**Pn**	**10 22 23.7**	**+0.3**
DGZ				Pg	**Pg**	**10 22 50.2**	**-2.1**
DGZ				Sg	**Sg**	**10 24 21.0**	**+1.7**
DGZ	**Jazzator, Alta**	**6.72**	**264**	*i*PN	**Pn**	**10 22 22.8**	**-0.6**
DGZ	comp=Z,2.0nm,0.9s			pmax	pmax		
ULN	**Ulaanbaatar**	**6.76**	**113**	Pg	**Pb**	**10 22 44.2**	**+2.2**
ULN				Sg	**Sg**	**10 24 18.8**	**-1.9**
GALT	**Gorno-Altaysk,**	**7.47**	**283**	P	**Pb**	**10 22 50.1**	**-3.8**
ZALV	**Zalesovo Beam**	**8.50**	**296**	Pn	**Pn**	**10 22 48.4**	**+0.7**
ZALV	comp=Z,0.4nm,0.3s,baz=99,slow=13,SNR=4.1			Pg	Pg	10 23 16.9	-9.4
ZALV	comp=Z,0.6nm,0.3s,baz=112,slow=13,SNR=9.6			Sn	**Sn**	**10 24 23.9**	**-0.3**
ZALV	comp=Z,0.1nm,0.3s,baz=106,slow=20,SNR=1.6			Lg	Lg	10 25 05.2	
MK31	comp=Z,0.8nm,0.3s,baz=108,slow=24,SNR=6.5 comp=Z,0.7nm,0.4s **Makanchi Array**	**10.97**	**254**	*i*P	**Pn**	**10 23 20.7**	**-0.9**
MKAR	**Makanchi Array**	**10.97**	**254**	Pn	**Pn**	**10 23 24.0**	**+2.4**
MKAR	baz=64,slow=11,SNR=2.5			Lg	Lg	10 26 23.9	
MKAR	comp=Z,0.2nm,0.3s,baz=71,slow=31,SNR=1.6 comp=Z,0.2nm,0.6s **Makanchi Array**	**10.97**	**254**	P	**Pn**	**10 23 24.0**	**+2.4**
KURK	**Kurchatov**	**12.12**	**277**	P	**Pn**	**10 23 37.9**	**+0.8**
KURBB	**Kurchatov Arra**	**12.19**	**276**	Pn	**Pn**	**10 23 37.9**	**-0.2**
KURBB	comp=Z,0.1nm,0.3s,baz=87,slow=14,SNR=5.8			Lg	Lg	10 26 57.2	
HIA	baz=79,slow=30,SNR=4.2 comp=Z,0.4nm,0.5s **Hailar**	**14.21**	**88**	*i*P	**Pn**	**10 24 05.3**	**-0.4**
HIA	comp=Z,1.0nm,0.7s			pmax	pmax		
BVAR	**Borovoye Array**	**16.98**	**288**	P	**Pn**	**10 24 41.7**	**-0.4**
	baz=193,slow=38,SNR=2.4 comp=Z,0.5nm,0.4s						
BRVK	**Borovoye**	**17.04**	**288**	*i*P	**P**	**10 24 44.5**	**-0.3**
BRVK	comp=Z,1.0nm,0.9s			pmax	pmax		
NRIK	**Noril'sk**	**19.19**	**349**	*i*P	**Pn**	**10 25 10.8**	**+1.7**
NRIK	comp=Z,16nm,3.5s			pmax	pmax		
YAK	**Yakutsk**	**20.66**	**45**	*i*P	Pn	10 25 27.4	+0.8
YAK	comp=Z,5.0nm,0.9s			pmax	pmax		
ARU	**Arti**	**23.66**	**299**	P	**P**	**10 25 55.1**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=28,slow=21,SNR=5.5 comp=Z,1.5nm,0.3s						
ARU	**Arti**	**23.66**	**299**	*i*P	**P**	**10 25 53.9**	**-2.2**
ARU	comp=Z,2.0nm,1.0s			pmax	pmax		
TIXI	**Tiksi**	**25.12**	**23**	P	**P**	**10 26 07.4**	**-2.0**
	comp=Z,1.8nm,0.3s,baz=270,slow=23,SNR=3.6 comp=Z,1.8nm,0.3s						
MNK	**Minsk**	**40.94**	**303**	*i*P	**P**	**10 28 24.8**	**-2.3**
MNK	comp=E,2.0nm,0.8s			*i*P	**P**	**10 28 24.8**	**-2.3**
MNK	comp=N,33nm,0.8s			*i*P	**P**	**10 28 24.8**	**-2.3**
MNK	comp=Z,3.0nm,0.5s,baz=246			*i*PP	**PP**	**10 29 59.5**	**-1.7**
MNK				*i*PPP	PPP	10 30 26.0	
MNK				*i*S	**S**	**10 34 38.0**	**-1.5**
MNK				*i*SS	**SS**	**10 37 41.4**	**+0.9**
MNK				*i*SSS	SSS	10 38 06.8	
MNK				*i*LR	LR	10 45 32.2	
MNK	comp=Z,88nm,12.1s			*i*LRM	MLR	10 47 01.4	
MNK	comp=E,18nm,12.2s			*i*LRM	MLR	10 47 20.0	
MNK	comp=N,706nm,15.3s			*i*LRM	MLR	10 47 20.0	
MNK	**Minsk**	**40.94**	**303**	*i*P	**P**	**10 28 24.8**	**-2.3**
MNK				*i*		10 29 59.5	
MNK				*i*PPP	PPP	10 30 25.9	
MNK				*i*S	**S**	**10 34 37.9**	**-1.5**
MNK				*i*SS	**SS**	**10 37 41.3**	**+0.9**
MNK	comp=N,33nm,0.8s			pmax	pmax		
MNK	comp=Z,3.0nm,0.4s			pmax	pmax		
MNK	comp=E,2.0nm,0.9s			pmax	pmax		
MNK	comp=Z,88nm,12.0s			MLR	MLR		
MNK	comp=E,18nm,12.0s			MLR	MLR		
MNK	comp=N,706nm,15.0s			MLR	MLR		
AKASG	**Malin Array Be**	**41.90**	**298**	P	**P**	**10 28 34.3**	**-0.7**
	comp=N,0.2nm,0.4s,baz=58,slow=9.1,SNR=4.1 comp=N,0.2nm,0.4s						
AKASG	**Malin Array Be**	**41.90**	**298**	*e*P	**P**	**10 28 36.2**	**+1.1**

*IDC **09** 10:23:29.3±3.2,38°.19N×21°.55E,h0km,mb3.9/3, mbtmp3.7/6,ML3.6/3,MS3.4/3,Error ellipse: s-maj=53.8km s-min=24.8km az=22.0*
*ATH **09** 10:23:32.8,38°.35N×21°.72E,h10km±1km,ML3.4/21,Error ellipse: s-maj=1.7km s-min=0.5km az=356.0*
*THE **09** 10:23:33.0,38°.35N×21°.74E,h9km±1km,ML3.5/12,Error ellipse: s-maj=1.1km s-min=0.4km az=84.0*

ISC 09 10:23:32.6±0.8,38.36N±0°.02×21.72E±0°.02,h10km±5km, n70,σ0§63/100,mb4.1/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.09**	**143**	P	**Pg**	**10 23 34.9**	**-0.2**
UPR				S	**Sg**	**10 23 37.0**	**0.0**
EFP	**Efpalio**	**0.17**	**65**	P	**Pg**	**10 23 36.3**	**+0.1**
EFP	13µm,0.5s			S	**Sg**	**10 23 38.9**	**+0.2**
EFP	**Efpalio**	**0.17**	**65**	P	**Pg**	**10 23 36.3**	**+0.1**
EFP				S	**Sg**	**10 23 38.7**	**-0.1**
EFP	comp=E,31363µm,0.6s			AML	AML	10 23 39.4	
EFP	comp=N,22428µm,0.5s			AML	AML	10 23 39.9	
LAKA	**Lakka**	**0.24**	**119**	P	**Pg**	**10 23 37.2**	**-0.3**
LAKA				S	**Sg**	**10 23 40.6**	**-0.2**
LAKA	comp=N,39µm,0.3s **Lakka**	**0.24**	**119**	P	**Pg**	**10 23 37.2**	**-0.3**
LAKA				S	**Sg**	**10 23 40.4**	**-0.4**
LAKA	comp=E,50709µm,0.3s			AML	AML	10 23 40.9	
LAKA	comp=N,27141µm,0.3s			AML	AML	10 23 41.0	
SERG	**Sergoula**	**0.27**	**78**	P	**Pb**	**10 23 38.9**	**-0.7**
SERG				S	**Sg**	**10 23 41.5**	**-0.4**
SERG	comp=N,15042µm,0.3s			AML	AML	10 23 43.9	
SERG	comp=E,12149µm,0.3s			AML	AML	10 23 44.4	
ANX	**Ano Chora**	**0.28**	**34**	P	**Pg**	**10 23 38.7**	**+0.3**
ANX				S	**Sg**	**10 23 43.0**	**+0.7**
ANX	comp=E,11µm,0.5s **Ano Chora**	**0.28**	**34**	P	**Pg**	**10 23 38.7**	**+0.3**
ANX				S	**Sg**	**10 23 43.2**	**+0.9**
ANX	comp=E,20675µm,0.4s			AML	AML	10 23 43.8	
ANX	comp=N,24730µm,0.5s			AML	AML	10 23 44.5	
PVO	**Paravola**	**0.30**	**330**	P	**Pg**	**10 23 38.4**	**-0.2**
PVO				S	**Sb**	**10 23 44.0**	**-1.0**
ALIK	**Aliki, Aigiali**	**0.33**	**107**	P	**Pg**	**10 23 39.2**	**+0.1**
ALIK				S	**Sg**	**10 23 43.9**	**+0.4**
RLS	**Riolos of Patr**	**0.36**	**213**	P	**Pg**	**10 23 40.2**	**+0.5**
RLS				S	**Sb**	**10 23 46.0**	**-0.7**
RLS	comp=N,35µm,0.4s **Riolos of Patr**	**0.36**	**213**	P	**Pg**	**10 23 40.2**	**+0.5**
RLS				S	**Sg**	**10 23 44.8**	**+0.3**
RLS	comp=N,28720µm,0.3s			AML	AML	10 23 47.4	
RLS	comp=E,40626µm,0.4s			AML	AML	10 23 47.7	
DRO	**Drossia**	**0.41**	**181**	P	**Pg**	**10 23 40.4**	**-0.2**
DRO				S	**Sg**	**10 23 46.6**	**+0.7**
DRO	comp=E,23µm,0.3s **Drossia**	**0.41**	**181**	P	**Pg**	**10 23 40.5**	**-0.1**
DRO				S	**Sg**	**10 23 45.7**	**-0.2**
DRO	comp=N,45664µm,0.5s			AML	AML	10 23 47.5	
DRO	comp=E,51072µm,0.5s			AML	AML	10 23 52.0	
KLV	**Kalavryta, Ach**	**0.47**	**132**	P	**Pg**	**10 23 41.4**	**-0.3**
KLV				S	**Sg**	**10 23 48.1**	**+0.3**
KLV	comp=E,4µm,0.6s **Kalavryta, Ach**	**0.47**	**132**	P	**Pg**	**10 23 41.4**	**-0.3**
KLV				S	**Sg**	**10 23 48.2**	**+0.3**
KLV	comp=N,9814µm,0.7s			AML	AML	10 23 50.4	
KLV	comp=E,7855µm,0.6s			AML	AML	10 23 50.9	
EVR	**Evrytania**	**0.56**	**7**	P	**Pb**	**10 23 44.5**	**-0.1**
EVR	**Evrytania**	**0.56**	**7**	P	**Pg**	**10 23 43.7**	**+0.1**
EVR				S	**Sg**	**10 23 51.7**	**+0.7**
EVR	comp=E,5723µm,0.9s			AML	AML	10 24 00.8	
EVR	comp=N,6510µm,0.8s			AML	AML	10 24 01.1	
DLFA	**Delphi**	**0.62**	**79**	P	**Pg**	**10 23 45.0**	**+0.2**
DLFA				S	**Sg**	**10 23 52.9**	**0.0**
DLFA	comp=E,1995µm,0.3s			AML	AML	10 23 56.3	
DLFA	comp=N,2730µm,0.4s			AML	AML	10 24 00.5	
MAKR	**Makrakomi, Fth**	**0.73**	**26**	P	**Pg**	**10 23 46.8**	**0.0**
MAKR				S	**Sb**	**10 23 58.2**	**+0.7**
MAKR	comp=N,3µm,0.5s **Makrakomi, Fth**	**0.73**	**26**	P	**Pg**	**10 23 46.7**	**0.0**
MAKR				S	**Sb**	**10 23 57.1**	**-0.4**
MAKR	comp=N,10409µm,0.7s			AML	AML	10 24 00.7	
MAKR	comp=E,11214µm,0.5s			AML	AML	10 24 03.6	
THAL	**Thalero**	**0.81**	**113**	P	**Pg**	**10 23 47.8**	**-0.5**
THAL				S	**Sb**	**10 23 59.6**	**-0.2**
THAL	comp=E,3µm,0.4s **Thalero**	**0.81**	**113**	P	**Pg**	**10 23 47.9**	**-0.3**
THAL				S	**Sg**	**10 23 59.0**	**+0.2**
THAL	comp=N,7355µm,0.4s			AML	AML	10 24 06.0	
THAL	comp=E,9617µm,0.4s			AML	AML	10 24 06.8	
AGG	**Agios Georgios**	**0.82**	**36**	P	**Pg**	**10 23 47.6**	**-0.8**
AGG				S	**Sg**	**10 23 59.6**	**+0.5**
AGG	comp=E,545nm,0.5s **Agios Georgios**	**0.82**	**36**	P	**Pg**	**10 23 48.4**	**-0.1**
AGG				S	**Sb**	**10 23 59.8**	**-0.3**
AGG	comp=E,2977µm,0.6s			AML	AML	10 24 00.5	
AGG	comp=N,2493µm,0.3s			AML	AML	10 24 02.4	
AXAR	**Agios Charalam**	**0.84**	**61**	P	**Pg**	**10 23 48.4**	**-0.5**
AXAR				S	**Sb**	**10 24 00.7**	**-0.1**
AXAR	comp=N,4µm,0.4s **Agios Charalam**	**0.84**	**61**	P	**Pg**	**10 23 48.0**	**-0.9**
AXAR				S	**Sb**	**10 24 00.6**	**-0.1**
AXAR	comp=N,8845µm,0.3s			AML	AML	10 24 05.6	
AXAR	comp=E,5877µm,0.6s			AML	AML	10 24 09.0	
EVGI	**Lefkada island**	**0.87**	**288**	P	**Pg**	**10 23 49.3**	**-0.1**
EVGI	**Lefkada island**	**0.87**	**288**	P	**Pg**	**10 23 49.1**	**-0.3**
VLS	**Valsamata**	**0.90**	**259**	P	**Pg**	**10 23 49.7**	**-0.3**
VLS	comp=E,2µm,0.2s			S	**Sn**	**10 24 04.0**	**-0.4**
VLS	**Valsamata**	**0.90**	**259**	P	**Pg**	**10 23 50.1**	**+0.1**
VLS				S	**Sb**	**10 24 02.3**	**-0.1**
VLS	comp=E,4693µm,0.2s			AML	AML	10 24 05.4	
VLS	comp=N,7346µm,0.2s			AML	AML	10 24 06.1	
FSK	**Fiskardo**	**0.91**	**277**	P	**Pg**	**10 23 49.8**	**-0.3**
FSK				S	**Sn**	**10 24 04.0**	**-0.6**
FSK	**Fiskardo**	**0.91**	**277**	P	**Pg**	**10 23 50.0**	**-0.1**
FSK				S	**Sg**	**10 24 02.1**	**+0.1**
FSK	comp=E,6996µm,0.1s			AML	AML	10 24 06.6	
FSK	comp=N,4106µm,0.6s			AML	AML	10 24 10.4	
PSDA	**Pessada-Kefalo**	**0.92**	**255**	P	**Pg**	**10 23 50.3**	**-0.1**
PSDA				S	**Sb**	**10 24 02.7**	**-0.2**
LKD2	**Lefkada island**	**0.93**	**298**	P	**Pg**	**10 23 49.8**	**-0.8**
LKD2	comp=E,6162µm,0.6s			AML	AML	10 24 12.1	
LKD2	comp=N,4952µm,0.9s			AML	AML	10 24 12.8	
LTHK	**Lithakia**	**0.95**	**227**	P	**Pg**	**10 23 50.8**	**0.0**
LTHK				AML	AML	10 24 13.0	
LTHK	comp=N,12699µm,0.5s comp=E,12847µm,0.4s			AML	AML	10 24 13.4	
TSLK	**Tsoukalades, L**	**0.95**	**300**	P	**Pb**	**10 23 51.1**	**-0.1**
TSLK				S	**Sn**	**10 24 06.0**	**+0.4**
TSLK	**Tsoukalades, L**	**0.95**	**300**	P	**Pb**	**10 23 51.3**	**+0.1**
KEF4	**Livadi, Kephal**	**1.02**	**265**	P	**Pg**	**10 23 51.7**	**-0.6**
LKR	**Lokris**	**1.05**	**73**	P	**Pg**	**10 23 52.5**	**-0.3**
LKR				AML	AML	10 24 08.7	
LKR	comp=N,2159µm,0.4s comp=E,1679µm,0.3s			AML	AML	10 24 09.2	
LOUT	**Loutraki**	**1.06**	**110**	P	**Pg**	**10 23 52.5**	**-0.4**
LOUT	**Loutraki**	**1.06**	**110**	P	**Pg**	**10 23 52.6**	**-0.4**
KEF3	**Kipouria, Keph**	**1.09**	**262**	P	**Pb**	**10 23 52.9**	**-0.5**
ITM	**Ithomi**	**1.19**	**172**	P	**Pb**	**10 23 54.7**	**-0.5**
ITM	comp=E,2µm,0.6s			S	**Sn**	**10 24 12.2**	**+0.8**
ITM	**Ithomi**	**1.19**	**172**	P	**Pb**	**10 23 54.8**	**-0.4**
ITM	comp=E,5131µm,0.5s			AML	AML	10 24 18.0	
ITM	comp=N,3734µm,0.6s			AML	AML	10 24 21.1	
THL	**Klokotos Trika**	**1.23**	**11**	P	**Pn**	**10 23 55.6**	**-0.2**
VIL2	**Platees**	**1.23**	**96**	P	**Pg**	**10 23 56.4**	**+0.2**
VIL2	comp=N,2232µm,0.7s			AML	AML	10 24 19.1	
VIL2	comp=E,2924µm,0.7s			AML	AML	10 24 21.6	
EPID	**Epidavros**	**1.33**	**123**	P	**Pn**	**10 23 57.5**	**+0.2**
TYRN	**Tyrnavos**	**1.41**	**16**	P	**Pn**	**10 23 58.5**	**+0.2**
PYL	**PYLOS**	**1.46**	**179**	P	**Pb**	**10 23 59.5**	**-0.3**
NEO	**Neokhori**	**1.51**	**51**	P	**Pb**	**10 24 00.4**	**-0.3**
XOR	**Xorichti**	**1.53**	**48**	P	**Pb**	**10 24 00.6**	**-0.4**
ATH	**Athens Observa**	**1.62**	**103**	P	**Pn**	**10 24 01.7**	**+0.5**
ATHU	**Athens Univers**	**1.68**	**103**	P	**Pn**	**10 24 02.3**	**+0.4**
ATHU	comp=N,722µm,0.9s			AML	AML	10 24 30.5	
ATHU	comp=E,280µm,0.7s			AML	AML	10 24 31.0	
VLY	**Voula,Athens**	**1.72**	**106**	P	**Pb**	**10 24 03.4**	**-0.8**
PTL	**Penteli**	**1.72**	**100**	P	**Pb**	**10 24 04.1**	**-0.2**
VLI	**Veliai**	**1.90**	**149**	P	**Pb**	**10 24 06.5**	**-0.9**
OHR	**Ohrid**	**2.84**	**346**	*e*Pn	**Pb**	**10 24 22.5**	**-0.9**
VAY	**Valandovo**	**3.03**	**12**	*e*Pn	**Pb**	**10 24 24.0**	**-2.6**
SKO	**Skopje**	**3.62**	**357**	*e*Pn	**Pn**	**10 24 29.2**	**+0.6**
MLR	**Muntele Rosu**	**7.79**	**22**	Pn	**Pn**	**10 25 28.1**	**+2.1**
	comp=E,0.4nm,0.3s,baz=162,slow=10,SNR=3.9 comp=E,1.3nm,0.4s						
BRTR	**Keskin Array B**	**9.38**	**78**	Pn	**Pn**	**10 25 49.7**	**+1.8**
	comp=E,0.2nm,0.3s,baz=257,slow=14,SNR=7.3 comp=E,0.9nm,0.5s						
VRAC	**Vranov**	**11.55**	**343**	LR	LR	10 30 56.5	
	comp=E,83nm,18.8s,baz=190,slow=38						
GERES	**GERESS Array B**	**11.98**	**334**	Pn	**Pn**	**10 26 24.9**	**+1.6**
	comp=E,0.1nm,0.3s,baz=161,slow=12,SNR=2.9 comp=E,0.4nm,0.5s						
ESDC	**Sonseca Array**	**19.98**	**282**	LR	LR	10 36 32.1	
	comp=E,74nm,19.4s,baz=6.5,slow=39						
NB2	**NORSAR Subarra**	**23.64**	**347**	P	**P**	**10 28 43.4**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=154,slow=9.3						
NOA	**NORSAR Array B**	**23.64**	**347**	P	**P**	**10 28 42.8**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=153,slow=9.3,SNR=4.7 comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**23.83**	**324**	P	**P**	**10 28 43.7**	**-1.9**
	comp=Z,4.0nm,0.8s,baz=118,slow=10,SNR=7.0 comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**44.41**	**59**	P	**P**	**10 31 44.0**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=275,slow=7.2,SNR=25 comp=Z,1.8nm,0.5s						
SDV	**Santo Domingo**	**86.39**	**278**	LR	LR	11 08 09.4	
	comp=Z,66nm,21.7s,baz=90,slow=31						

*IDC **09** 10:27:30.9±0.8,15°.37N×91°.47W,h196km±7km,mb3.8/12, mbtmp4.3/14,MS3.7/1,Error ellipse: s-maj=21.0km s-min=9.7km az=54.0*
*NEIC **09** 10:27:31.6±2.3,15°.30N±0°.09×91°.82W±0°.09,h191km±7km, mb4.6/70,Error ellipse: s-maj=14.4km s-min=10.6km az=221.0*
*INET **09** 10:27:32.6±0.5,14°.95N×90°.25W,h0km±1km,MW3.8*
*GCG **09** 10:27:38.6±0.4,15°.26N×91°.62W,h131km±46km,MD4.2*

ISC 09 10:27:30.9±0.5,15.36N±0°.06×91.64W±0°.07,h195km±5km, n132,σ1§29/119,mb4.5/27,1D,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEH	**Huehuetenango**	**0.14**	**108**		**Pn**	**10 27 57.0**	**+0.1**
HUEH	**Huehuetenango**	**0.14**	**108**	*e*P	**Pn**	**10 27 56.7**	**-0.1**
HUEH				*e*S	**Sn**	**10 28 16.2**	**-0.5**
STG3	**Santiaguito 3,**	**0.65**	**174**	*e*P	**Pn**	**10 27 58.8**	**+0.4**
RTAL	**Retalhuleu**	**0.83**	**184**		**Pn**	**10 27 59.0**	**-0.1**
CCIG	**Comitan**	**1.03**	**332**		**Pn**	**10 28 00.6**	**0.0**
SULM	**Suchitepequez,**	**1.05**	**176**	*e*P	**Pn**	**10 28 01.2**	**+0.7**
FUG	**Fuego 3**	**1.19**	**140**	*e*P	**Pn**	**10 28 03.4**	**+1.6**
PCG	**Pacaya**	**1.39**	**134**	*e*P	**Pn**	**10 28 05.6**	**+2.1**
NBG	**Las Nubes**	**1.47**	**122**	*e*P	**Pn**	**10 28 06.9**	**+2.7**
PETF	**Flores**	**2.30**	**48**		**Pn**	**10 28 14.1**	**+1.8**
ESQI	**Esquipulas**	**2.36**	**109**		**Pn**	**10 28 15.6**	**+2.5**
MTO3	**Montecristo**	**2.40**	**113**		**Pn**	**10 28 15.5**	**+1.9**
SNET	**

	comp=Z,14nm,0.8s							
HPIG		**17.41**	**314**	P	**P**	**10 31 21.5**	**+0.6**
HPIG				IAmb	IAmb	10 31 25.4		
	comp=Z,16nm,0.8s							
TX31	**Lajitas Ar. Si**	**17.79**	**323**	IAmb	IAmb	10 31 28.3		
	comp=Z,17nm,0.8s							
CBOC	**Ciudad Bolivar**	**18.01**	**120**	*e*P	**Pn**	**10 31 29.2**	**-0.5**
Z38A	**Mt. Pleasant**	**18.08**	**351**	P	**Pn**	**10 31 29.6**	**-0.5**
Z38A				IAmb	IAmb	10 31 33.7		
	comp=Z,20nm,0.8s							
ZARC	**Zaragoza, Cauc**	**18.20**	**114**	*e*P	**P**	**10 31 29.5**	**+0.1**
152A	**Waverly Hall**	**18.34**	**19**	IAmb	IAmb	10 31 38.5		
	comp=Z,14nm,0.7s							
ABTX	**Abilene, Hawle**	**18.66**	**338**	IAmb	IAmb	10 31 36.7		
	comp=Z,30nm,0.9s							
YOTC	**Yotoco, Valle**	**18.82**	**125**	*e*P	**Pn**	**10 31 37.9**	**-1.2**
GUY2C	**Guyana, Caldas**	**18.90**	**121**	*e*P	**P**	**10 31 38.9**	**+1.4**
PTBC	**PUERTO BERRIO,**	**19.00**	**116**	*e*P	**P**	**10 31 37.3**	**-0.8**
OXF	**Oxford**	**19.17**	**6**	P	**P**	**10 31 40.9**	**+1.2**
OXF				IAmb	IAmb	10 31 45.9		
	comp=Z,14nm,0.6s							
MIAR	**Mount Ida**	**19.18**	**355**	P	**P**	**10 31 40.3**	**+0.5**
X37A	**Clayton**	**19.44**	**351**	P	**P**	**10 31 42.6**	**0.0**
URIC	**Uribia, Colomb**	**19.44**	**98**	P	**P**	**10 31 44.0**	**+1.2**
URIC				IAmb	IAmb	10 31 47.5		
	comp=Z,16nm,0.7s							
URIC	**Uribia, Colomb**	**19.44**	**98**	*e*P	**Pn**	**10 31 44.6**	**-1.7**
X48A	**Hartselle**	**19.45**	**11**	IAmb	IAmb	10 31 45.7		
	comp=Z,8.2nm,0.4s							
ORTC	**Ortega, Tolima**	**19.74**	**124**	*e*P	**P**	**10 31 47.8**	**+1.7**
SDDR	**Presa de Saban**	**19.77**	**77**	P	**Pn**	**10 31 50.0**	**-0.4**
CMBC	**Cumbal**	**19.78**	**135**	*e*P	**Pn**	**10 31 51.5**	**+0.6**
W45A	**Hickory Valley**	**19.83**	**6**	P	**P**	**10 31 48.2**	**+1.4**
W45A				IAmb	IAmb	10 31 52.2		
	comp=Z,30nm,1.1s							
GCUF	**Volcan Galeras**	**19.91**	**134**	*e*P	**Pn**	**10 31 54.2**	**+1.8**
CRUC	**La Cruz**	**19.95**	**132**	*e*P	**Pn**	**10 31 53.8**	**+1.0**
TULM	**Tulcn-Chalpat**	**19.97**	**136**	IAmb	IAmb	10 31 59.3		
	comp=Z,27nm,1.1s							
TULM	**Tulcn-Chalpat**	**19.97**	**136**	*e*P	**Pn**	**10 31 52.5**	**-0.8**
ROSC	**El Rosal**	**19.98**	**120**	P	**P**	**10 31 47.4**	**-1.6**
	comp=Z,11nm,0.6s,baz=307,slow=20,SNR=3.0							
BARC	**Barichara**	**20.09**	**114**	*e*P	**P**	**10 31 50.2**	**+0.2**
PAMC	**Pamplona, Colo**	**20.19**	**111**	*e*P	**P**	**10 31 51.7**	**+0.3**
SCO1	**Santiago de lo**	**20.30**	**76**	P	Pn	10 31 55.8	-1.7
RUSC	**La Rusia**	**20.50**	**115**	P	**P**	**10 31 53.8**	**-0.9**
RUSC	**La Rusia**	**20.50**	**115**	*e*P	**P**	**10 31 55.1**	**+0.4**
MNTX	**Cornudas Mount**	**20.54**	**325**	P	**P**	**10 31 53.8**	**-0.6**
CHIC	**Chingaza**	**20.59**	**119**	*e*P	**P**	**10 31 56.8**	**+1.3**
SLOR	**San Lorenzo -**	**20.60**	**140**	P	Pn	10 31 59.1	-2.0
SLOR				IAmb	IAmb	10 32 02.0		
	comp=Z,8.2nm,0.7s							
V48A	**Smith Brothers**	**20.75**	**11**	IAmb	IAmb	10 31 58.9		
	comp=Z,7.3nm,0.6s							
OK025	**Westminster Rd**	**20.77**	**347**	P	**P**	**10 31 56.1**	**-0.7**
OK025				IAmb	IAmb	10 32 39.5		
	comp=Z,36nm,1.3s							
FLOC	**Florencia**	**20.89**	**129**	*e*P	**P**	**10 32 00.3**	**+2.1**
BCOK	**Bluff Creek, N**	**20.91**	**346**	IAmb	IAmb	10 32 36.6		
	comp=Z,15nm,0.7s							
WVT	**Waverly**	**20.96**	**9**	P	**P**	**10 31 59.4**	**+0.7**
WVT				IAmb	IAmb	10 32 00.9		
	comp=Z,14nm,0.6s							
OK029	**Liberty Lake**	**21.00**	**347**	IAmb	IAmb	10 32 37.5		
	comp=Z,24nm,0.8s							
PORT	**Chimborazo Vol**	**21.01**	**142**	IAmb	IAmb	10 32 06.0		
	comp=Z,22nm,0.9s							
TAMC	**Tame, Arauca**	**21.39**	**112**	*e*P	**P**	**10 32 02.9**	**-0.7**
TKL	**Tuckaleechee C**	**21.40**	**18**	P	**P**	**10 32 03.2**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=185,slow=10,SNR=15							
	comp=Z,5.6nm,0.7s							
AMTX	**Amarillo**	**21.43**	**337**	P	**P**	**10 32 03.7**	**-0.2**
AMTX				IAmb	IAmb	10 32 04.7		
	comp=Z,12nm,0.6s							
SDV	**Santo Domingo**	**21.51**	**105**	P	**P**	**10 32 03.7**	**-1.3**
	comp=Z,4.1nm,0.4s,baz=307,slow=6.8,SNR=8.0							
	comp=Z,4.1nm,0.4s							
SDV	**Santo Domingo**	**21.51**	**105**	P	**P**	**10 32 04.2**	**-0.8**
SDV				IAmb	IAmb	10 32 15.0		
	comp=Z,9.1nm,0.8s							
U49A	**Red Boiling Sp**	**21.70**	**13**	IAmb	IAmb	10 32 08.6		
	comp=Z,9.3nm,0.6s							
T47A	**Sharon Grove**	**21.91**	**10**	IAmb	IAmb	10 32 10.3		
	comp=Z,26nm,0.7s							
CGM3	**Cape Girardeau**	**21.92**	**4**	P	**P**	**10 32 08.5**	**-0.1**
CGM3				IAmb	IAmb	10 32 10.2		
	comp=Z,17nm,0.6s							
S39A	**Bolivar**	**22.29**	**356**	IAmb	IAmb	10 32 13.4		
	comp=Z,8.0nm,0.6s							
CCM	**Cathedral Cave**	**22.61**	**1**	P	**P**	**10 32 14.5**	**-0.6**
CCM				IAmb	IAmb	10 32 16.3		
	comp=Z,33nm,1.4s							
319A	**Douglas**	**22.67**	**318**	P	**P**	**10 32 16.6**	**+0.7**
MCRA	**Macar, Loja**	**22.77**	**149**	*e*P	**P**	**10 32 18.6**	**+1.8**
USIN	**University of**	**22.79**	**8**	P	**P**	**10 32 17.9**	**+1.3**
WCI	**Wyandotte Cave**	**23.26**	**11**	P	**P**	**10 32 22.1**	**+1.2**
WCI				IAmb	IAmb	10 32 23.1		
	comp=Z,16nm,0.8s							
BAUV	**El Baul**	**23.92**	**103**	P	**P**	**10 32 27.2**	**-0.1**
UUPR	**Utuado, UPR, P**	**24.02**	**80**	P	**P**	**10 32 30.8**	**+2.7**
TUC	**Tucson**	**24.25**	**317**	P	**P**	**10 32 31.0**	**+0.9**
SJG	**San Juan**	**24.55**	**80**	P	**P**	**10 32 31.4**	**-1.5**
	comp=Z,4.9nm,0.2s,baz=334,slow=22,SNR=1.0							
	comp=Z,4.9nm,0.2s							
Q51A	**Peebles**	**24.68**	**16**	IAmb	IAmb	10 32 36.1		
	comp=Z,16nm,0.9s							
V12A	**Nelson**	**29.02**	**319**	P	**P**	**10 33 12.4**	**-0.4**
CZSB	**Cruzeiro do Su**	**29.64**	**139**	P	**P**	**10 33 20.3**	**+1.9**
CZSB				IAmb	IAmb	10 33 21.8		
	comp=Z,28nm,0.8s							
CZSB	**Cruzeiro do Su**	**29.64**	**139**	*e*P	**P**	**10 33 21.0**	**+2.6**
SADO	**Sadowa**	**31.16**	**17**	P	**P**	**10 33 31.4**	**0.0**
	comp=Z,7.4nm,0.8s,baz=210,slow=8.0,SNR=4.2							
	comp=Z,7.4nm,0.8s							
NVAR	**Mina Array Bea**	**32.85**	**319**	P	**P**	**10 33 48.3**	**+1.8**
	comp=Z,3.1nm,0.7s,baz=132,slow=8.7,SNR=13							
NVAR				pP	**pP**	**10 34 27.7**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=138,slow=9.6,SNR=2.7							
	comp=Z,3.1nm,0.7s							
ETMB	**Extrema**	**35.50**	**133**	P	**P**	**10 34 09.2**	**-0.1**
ETMB				IAmb	IAmb	10 34 10.1		
	comp=Z,4.9nm,1.1s							
ETMB	**Extrema**	**35.50**	**133**	*e*P	**P**	**10 34 09.1**	**-0.1**
PB16	**IPOC Station P**	**39.96**	**146**	P	**P**	**10 34 48.5**	**+1.2**
MNMC	**Minye Minye**	**40.57**	**147**	P	**P**	**10 34 53.5**	**+1.6**
MNMC				IAmb	IAmb	10 34 54.7		
	comp=Z,9.8nm,0.8s							
SCHQ	**Schefferville**	**43.83**	**21**	P	**P**	**10 35 17.2**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=212,slow=9.1,SNR=1.9							
	comp=Z,4.2nm,1.0s							
PTLB	**Pontes e Lacer**	**44.36**	**132**	*e*P	**P**	**10 35 21.6**	**-0.5**
BBSD	**Serra de San D**	**44.53**	**135**	*e*P	**P**	**10 35 22.8**	**-0.7**
BBRB	**Robore, Bolivi**	**45.83**	**136**	*e*P	**P**	**10 35 32.7**	**-1.1**
YKA	**Yellowknife Ar**	**49.79**	**346**	P	**P**	**10 36 03.6**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=149,slow=7.5,SNR=37							
YKA				pP	**pP**	**10 36 47.1**	**0.0**
	comp=Z,2.1nm,0.7s,baz=151,slow=7.4,SNR=12							
	comp=Z,1.9nm,0.7s							
ARAG	**Araguaiana, MT**	**50.00**	**126**	*e*P	**P**	**10 36 04.4**	**-1.4**
AQDB	**Aquidauana**	**50.15**	**134**	*e*P	**P**	**10 36 06.6**	**-0.2**
AMBA	**Amambai (Brazi**	**52.29**	**136**	*e*P	**P**	**10 36 22.4**	**-0.3**
LMEL	**Las Melosas**	**53.03**	**158**	IAmb	IAmb	10 36 30.6		
	comp=Z,11nm,0.9s							
CPUP	**Villa Florida**	**53.20**	**141**	P	**P**	**10 36 28.3**	**-1.0**
	comp=Z,6.5nm,0.8s,baz=319,slow=7.8,SNR=16							
	comp=Z,6.5nm,0.8s							
CPUP	**Villa Florida**	**53.20**	**141**	P	**P**	**10 36 28.2**	**-1.1**
CPUP				IAmb	IAmb	10 36 29.4		
	comp=Z,7.4nm,0.8s							
BO01	**Tunca**	**53.20**	**159**	IAmb	IAmb	10 36 31.2		
	comp=Z,9.6nm,0.9s							
PTGB	**Pitanga**	**55.47**	**135**	*e*P	**P**	**10 36 44.0**	**-1.8**
FRBT	**Francisco Belt**	**55.65**	**137**	*e*P	**P**	**10 36 46.2**	**-0.8**
JANB	**Januaria**	**55.68**	**121**	*e*P	**P**	**10 36 46.9**	**-0.5**
BB19B	**Bebedouro**	**55.69**	**129**	*e*P	**P**	**10 36 47.6**	**+0.3**
CRSM	**Crissiumal (Br**	**56.07**	**139**	*e*P	**P**	**10 36 48.8**	**-1.1**
MC01	**Montes Claros**	**56.84**	**122**	*e*P	**P**	**10 36 55.1**	**-0.5**
ITAB	**Concordia**	**57.12**	**138**	P	**P**	**10 36 56.6**	**-0.7**
ITAB				IAmb	IAmb	10 36 57.7		
	comp=Z,11nm,0.9s							
ITAB	**Concordia**	**57.12**	**138**	*e*P	**P**	**10 36 57.0**	**-0.2**
ALGR	**Alto Alegre (B**	**57.62**	**140**	*e*P	**P**	**10 36 59.7**	**-1.2**
DIAM	**Diamantina, MG**	**57.89**	**124**	*e*P	**P**	**10 37 02.7**	**-0.3**
BSCB	**Bom Sucesso**	**58.50**	**127**	*e*P	**P**	**10 37 07.0**	**-0.1**
CPSB	**Cacapava Do Su**	**58.51**	**141**	*e*P	**P**	**10 37 06.5**	**-0.4**
PLCA	**Paso Flores**	**59.14**	**161**	P	**P**	**10 37 11.1**	**0.0**
	comp=Z,5.0nm,0.9s,baz=338,slow=9.9,SNR=6.5							
PLCA				LR	LR	10 57 33.9		
	comp=Z,69nm,20.2s,baz=59,slow=30							
	comp=Z,5.0nm,0.9s							
INK	**Inuvik**	**59.24**	**343**	P	**P**	**10 37 11.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=137,slow=9.2,SNR=6.2							
INK				pP	**pP**	**10 37 56.0**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=137,slow=5.1,SNR=3.9							
	comp=Z,0.4nm,0.5s							
PLTB	**Pedras Altas**	**59.38**	**142**	IAmb	IAmb	10 37 13.5		
	comp=Z,10nm,0.8s							
PLTB	**Pedras Altas**	**59.38**	**142**	*e*P	**P**	**10 37 11.5**	**-1.4**
ILAR	**Eielson Array**	**61.73**	**336**	P	**P**	**10 37 27.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=105,slow=6.3,SNR=5.0							
ILAR				pP	**pP**	**10 38 13.4**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=125,slow=5.6,SNR=6.2							
	comp=Z,0.3nm,0.5s							
EKA	**Eskdalemuir Ar**	**76.66**	**36**	P	**P**	**10 38 59.5**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=275,slow=5.6,SNR=9.1							
	comp=Z,2.6nm,0.6s							
WRA	**Warramunga Arr**	**136.05**	**257**	PKP	**PKPdf**	**10 46 30.0**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=88,slow=2.9,SNR=1.6							
ASAR	**Alice Springs**	**136.44**	**252**	PKhKP	PKPpre	10 46 14.4		
	comp=Z,0.2nm,0.9s,baz=96,slow=2.3,SNR=1.5							
ASAR				PKP	**PKPdf**	**10 46 29.1**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=87,slow=2.2,SNR=2.6							
CMAR	**Chiang Mai Arr**	**144.81**	**342**	PKP	**PKPab**	**10 46 44.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=328,slow=3.2,SNR=1.6							

*IDC **09** 10:34:16.2±0.9, 5.°62S×153.°79E, h0km, mb3.8/8, mbtmp3.9/10, ML2.7/2, MS3.1/3, Error ellipse: s-maj=25.4km s-min=20.6km az=71.0*

ISC 09 10:34:21.4±0.8, 5.°76S±0.°08×153.°82E±0.°09, h35km, n14, σ1§57/15, mb3.9/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.29**	**309**	Pn	**Pn**		**10 34 55.3**	**-1.5**
	10nm,0.3s,baz=154,slow=15,SNR=2.6							
KRVT				Sn	**Sn**		**10 35 27.4**	**+3.6**
	34nm,0.3s,baz=127,slow=20,SNR=5.2							
KRVT				LR	LR		10 35 48.9	
	comp=Z,158nm,18.2s,baz=137,slow=42							
	56nm,0.6s							
HNR	**Honiara**	**7.09**	**121**	Pn	**Pn**		**10 36 02.7**	**0.0**
	81nm,0.3s,baz=315,slow=5.9,SNR=3.0							
HNR				LR	LR		10 38 43.1	
	comp=Z,764nm,21.8s,baz=314,slow=37							
PMG	**Port Moresby**	**7.53**	**241**	Pn	**Pn**		**10 36 08.3**	**-0.5**
	2.7nm,0.3s,baz=42,slow=10,SNR=5.5							
PMG				Sn	**Sn**		**10 37 32.1**	**-0.8**
	baz=86,slow=22							
PMG				LR	LR		10 39 18.5	
	comp=Z,60nm,19.0s,baz=339,slow=40							
	11nm,0.5s							
DZM	**Mont Dzumac**	**20.30**	**144**	P	**P**		**10 38 55.8**	**+1.3**
	3.7nm,0.9s,baz=115,slow=19,SNR=1.2							
	3.7nm,0.9s							
WRA	**Warramunga Arr**	**23.61**	**232**	P	**P**		**10 39 29.1**	**-0.3**
	2.0nm,0.7s,baz=56,slow=10.0,SNR=6.2							
WRA				PcP	**PcP**		**10 43 15.3**	**+1.4**
	0.7nm,0.7s,baz=45,slow=2.5,SNR=1.8							
	2.0nm,0.7s							
ASAR	**Alice Springs**	**26.16**	**225**	P	**P**		**10 39 52.4**	**-0.3**
	2.9nm,0.8s,baz=56,slow=8.8,SNR=26							
ASAR				PcP	**PcP**		**10 43 20.6**	**+1.1**
	0.8nm,0.9s,baz=53,slow=2.3,SNR=5.3							
	2.9nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**27.24**	**28**	T	T		11 08 24.5	
	baz=208							
H11S2	**WAKE ISLAND Hy**	**27.24**	**28**	T	T		11 08 27.7	
	baz=208							
H11S1	**WAKE ISLAND Hy**	**27.25**	**28**	T	T		11 08 31.2	
	baz=208							
SONM	**Songino Array**	**67.67**	**328**	P	**P**		**10 45 14.9**	**-0.3**
	0.4nm,0.6s,baz=138,slow=6.2,SNR=2.5							
	0.4nm,0.6s							
VNDA	**Vanda**	**71.85**	**178**	P	**P**		**10 45 41.5**	**+1.3**
	1.3nm,0.8s,baz=354,slow=1.9,SNR=3.5							
	1.3nm,0.8s							
MKAR	**Makanchi Array**	**81.71**	**319**	P	**P**		**10 46 36.8**	**+0.4**
	1.0nm,0.8s,baz=103,slow=5.0,SNR=10							
	1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**82.51**	**326**	P	**P**		**10 46 38.3**	**-2.0**
	0.4nm,0.4s,baz=103,slow=6.4,SNR=2.0							
	0.4nm,0.4s							
ILAR	**Eielson Array**	**82.66**	**22**	P	**P**		**10 46 39.5**	**-1.5**
	0.3nm,0.9s,baz=250,slow=4.7,SNR=1.8							
	0.3nm,0.9s							

*IDC **09** 10:40:57.8±2.2, 20.°3S±0.°5×176.°9E±0.°5, h10km, n8, σ0§61/8, mb3.9/4, South of Fiji Islands*

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.81**	**23**	Pn	**Pn**		**10 41 42.5**	**-0.3**
	5.2nm,0.3s,baz=242,slow=9.4,SNR=16							
	20nm,0.6s							
STKA	**Stephens Creek**	**33.59**	**243**	P	**P**		**10 47 37.7**	**-0.6**
	0.5nm,0.2s,baz=90,slow=7.1,SNR=1.6							
	0.5nm,0.2s							
WRA	**Warramunga Arr**	**39.89**	**263**	P	**P**		**10 48 32.6**	**+0.5**
	0.5nm,0.8s,baz=99,slow=7.8,SNR=2.9							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**39.90**	**257**	P	**P**		**10 48 32.4**	**+0.1**
	2.1nm,0.9s,baz=88,slow=9.3,SNR=18							
ASAR				PcP	**PcP**		**10 50 38.4**	**+0.4**
	0.7nm,1.0s,baz=104,slow=3.9,SNR=2.3							
	2.1nm,0.9s							
ILAR	**Eielson Array**	**89.29**	**15**	P	**P**		**10 53 54.2**	**+0.5**
	0.7nm,0.9s,baz=228,slow=4.9,SNR=5.0							
	0.7nm,0.9s							
YKA	**Yellowknife Ar**	**98.41**	**26**	P	Pdif		10 54 37.1	+1.4
	0.1nm,0.5s,baz=246,slow=4.4,SNR=1.8							
	0.1nm,0.5s							
GERES	**GERESS Array B**	**148.52**	**339**	PKPbc	**PKiKP**		**11 00 45.7**	**-0.8**
	0.2nm,0.3s,baz=34,slow=4.0,SNR=1.9							
DAVOX	**Davos/Dischmat**	**151.57**	**341**	PKPbc	**PKiKP**		**11 00 53.3**	**+0.3**
	0.7nm,0.3s,baz=194,slow=8.3,SNR=2.0							

*IDC **09** 10:41:17.4±1.4, 19.°38S×176.°11E, h0km, mb4.1/9, mbtmp4.0/10, ML4.7/1, MS3.7/1, Error ellipse: s-maj=66.7km s-min=19.2km az=148.0*
*GCMT **09** 10:41:25.0±0.4, 19.°51S±0.°04×175.°84E±0.°03, h19km±1km, MW4.8/67, Moment Tensor Solution. s19,c23; s67,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.76±. 15; $M_{\theta\theta}$0.42±.09; $M_{\phi\phi}$1.34±.10; $M_{r\theta}$-1.34±.23; $M_{\theta\phi}$0.67±.07; M_{rr}0.19±.18; Best double couple: M_o2.11500×10^{16} NP1:ϕ_s56.00000°, δ60.00000°, λ-60.00000°. NP2: ϕ_s188.00000°, δ41.00000°, λ-130.00000°. Principal axes: T 1.7760, Plg10.0000°, Azm125.0000°; N 0.6820, Plg25.0000°, Azm220.0000°; P -2.4540, Plg63.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 09 10:41:20.1±0.7, 19.°0S±0.°2×175.°97E±0.°09, h10km, n29, σ1§03/23, mb4.2/9, MS4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.36**	**57**	Pn	**Pn**		**10 41 58.1**	**-0.8**
	8.4nm,0.3s,baz=238,slow=21,SNR=6.7							
MSVF				Sn	**Sn**		**10 42 27.8**	**-0.2**
	20nm,0.3s,baz=301,slow=23,SNR=6.0							
	30nm,0.4s							
DZM	**Mont Dzumac**	**9.43**	**250**	*e*Pn	**Pn**		**10 43 37.8**	**+1.6**
	144nm,1.6s							
DZM				*e*LR	LR		10 45 49.3	
	comp=Z,1μm,25.4s							
TBI	**Tubuai**	**32.47**	**104**	*e*S	**S**		**10 53 07.3**	**+1.4**
	188nm,25.5s							
TBI				*e*LR	LR		10 56 22.7	
	comp=Z,2μm,29.2s							
TBI				*e*LR	LR		10 56 22.9	
	comp=Z,5μm,26.0s							
PPT2	**Papeete2**	**32.71**	**93**	*e*S	**S**		**10 53 11.0**	**+1.1**
	80nm,27.8s							
PPT2				*e*LR	LR		10 56 29.0	
	comp=Z,342nm,28.5s							
PPT2				*e*LR	LR		10 56 29.0	
	comp=Z,420nm,26.0s							
STKA	**Stephens Creek**	**33.43**	**241**	P	**P**		**10 47 58.4**	**-0.9**
	2.0nm,0.7s,baz=59,slow=5.9,SNR=4.2							
	2.0nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**38.38**	**346**	T	T		11 29 48.3	
	baz=166,slow=76							
H11S3	**WAKE ISLAND Hy**	**38.38**	**346**	T	T		11 29 56.3	
	baz=166							
H11S1	**WAKE ISLAND Hy**	**38.40**	**346**	T	T		11 29 57.8	
	baz=166,slow=76							
WRA	**Warramunga Arr**	**39.19**	**262**	P	**P**		**10 48 48.0**	**-0.7**
	0.9nm,0.8s,baz=96,slow=8.2,SNR=2.9							
WRA				PcP	**PcP**		**10 50 56.6**	**-1.5**
	0.9nm,0.9s,baz=91,slow=3.0,SNR=2.1							
	0.9nm,0.8s							
ASAR	**Alice Springs**	**39.35**	**256**	P	**P**		**10 48 48.6**	**-1.4**
	5.0nm,0.9s,baz=83,slow=8.6,SNR=13							
ASAR				PcP	**PcP**		**10 50 57.3**	**-1.3**
	1.1nm,0.8s,baz=104,slow=3.2,SNR=5.4							
	5.0nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**39.52**	**346**	T	T		11 31 17.3	
	baz=164							
H11N3	**WAKE ISLAND Hy**	**39.52**	**347**	T	T		11 31 13.9	
	baz=164							
H11N2	**WAKE ISLAND Hy**	**39.53**	**347**	T	T		11 31 11.6	
	baz=164							
TAOE	**Nuku Hiva Isla**	**43.66**	**83**	*e*LR	LR		11 01 31.5	
	comp=Z,171nm,28.8s							
GUMO	**Guam**	**44.60**	**314**	LR	LR		11 06 19.0	
	comp=Z,94nm,21.5s,baz=138,slow=33							
RKT	**Rikitea**	**45.79**	**104**	*e*LR	LR		11 02 33.2	
	comp=Z,61μm,29.5s							
MJAR	**Matsushiro Arr**	**65.78**	**327**	P	**P**		**10 52 07.6**	**+2.1**
	3.1nm,1.0s,baz=106,slow=6.5,SNR=2.7							
	3.1nm,1.0s							
NVAR	**Mina Array Bea**	**83.98**	**46**	P	**P**		**10 53 51.0**	**-0.1**
	0.6nm,0.5s,baz=237,slow=6.3,SNR=4.5							
	0.6nm,0.5s							
CMAR	**Chiang Mai Arr**	**84.28**	**292**	P	**P**		**10 53 52.3**	**-0.5**
	0.5nm,0.3s,baz=141,slow=4.2,SNR=4.1							
	0.5nm,0.3s							
ILAR	**Eielson Array**	**88.26**	**15**	P	**P**		**10 54 11.2**	**-0.1**
	1.2nm,0.9s,baz=232,slow=5.0,SNR=9.1							
	1.2nm,0.9s							
PDAR	**Pinedale Array**	**91.88**	**45**	P	**P**		**10 54 29.4**	**+0.4**
	0.2nm,0.6s,baz=245,slow=1.9,SNR=2.3							
	0.2nm,0.6s							
YKA	**Yellowknife Ar**	**97.62**	**26**	P	**P**		**10 54 54.2**	**-0.3**
	0.4nm,0.8s,baz=257,slow=5.1,SNR=2.7							
	0.4nm,0.8s							
CONA	**Conrad Observa**	**146.94**	**335**	*e*PKiKP	**PKiKP**		**11 01 05.7**	**+0.1**
	4.1nm,0.8s							
GERES	**GERESS Array B**	**146.99**	**338**	PKPbc	**PKPbc**		**11 01 02.5**	**-0.7**
	0.8nm,0.7s,baz=107,slow=1.3,SNR=5.8							
MOA	**Molln**	**147.62**	**337**	*e*PKiKP	**PKiKP**		**11 01 06.9**	**0.0**
	3.7nm,0.9s							
MYKA	**Terra Mystica**	**148.87**	**336**	*e*PKiKP	**PKPab**		**11 01 12.5**	**+0.4**
	6.9nm,1.1s							
RETA	**Reutte**	**149.15**	**340**	*e*PKiKP	**PKiKP**		**11 01 11.1**	**+0.9**
	4.9nm,1.2s							
FETA	**Feichten**	**149.57**	**340**	*e*PKiKP	**PKiKP**		**11 01 12.3**	**+1.1**
	9.2nm,1.1s							
DAVOX	**Davos/Dischmat**	**150.05**	**341**	PKPbc	**PKPbc**		**11 01 11.2**	**-0.2**
	2.1nm,0.6s,baz=10,slow=23,SNR=2.3							

IDC 09 10:58:22.9±1.5, 1.°43N×125.°58E, h0km, mb3.8/4, mbtmp3.8/4, MS3.0/3, Error ellipse: s-maj=170.0km s-min=21.6km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.91**	**158**	P	P		11 03 28.2	-0.4
	1.5nm,0.5s,baz=335,slow=11,SNR=11							
	1.5nm,0.5s							
ASAR	**Alice Springs**	**26.23**	**163**	P	P		11 04 01.0	+1.2
	0.7nm,0.7s,baz=339,slow=7.1,SNR=21	

WAZ	Wanganui	1.52	296	P		Pn	11 11 38.7	+0.3
ETVZ	East Tongariro	1.52	327	P		Pb	11 11 39.5	-0.2
RAHZ	Arahi	1.52	10	P		Pg	11 11 42.8	+1.8
NGZ	Ngauruhoe	1.53	324	P		Pb	11 11 39.7	-0.2
TMVZ	Te Maari	1.54	328	P		Pb	11 11 39.6	-0.4
MHGZ	Mahia Peninsul	1.54	35	P		Pn	11 11 36.5	-2.3
NNVZ	North Ngauruho	1.56	325	P		Pb	11 11 40.3	-0.2
NTVZ	North Tongarir	1.56	327	P		Pb	11 11 40.2	-0.2
MTHZ	Maungataniwha	1.57	2	P		Pn	11 11 38.6	-0.5
PKVZ	Pokaka	1.57	316	P		Pb	11 11 40.0	-0.6
WTVZ	West Tongariro	1.59	325	P		Pb	11 11 40.6	-0.3
RITZ	Rihia Road	1.60	334	P		Pb	11 11 41.1	+0.1
MRHZ	Matea Rd	1.61	350	P		Pn	11 11 39.0	-0.7
PLWZ	Palliser	1.62	224	P		Pn	11 11 36.5	-3.3
KATZ	Kakaramea	1.66	330	P		Pg	11 11 43.6	0.0
TWVZ	Taurewa	1.69	322	P		Pb	11 11 41.9	-0.8
SNGZ	Shannon Statio	1.70	15	P		Pn	11 11 39.9	-1.0
RATZ	Rangitukua	1.73	334	P		Pb	11 11 43.0	-0.3
ALRZ	Allen Road	1.89	350	P		Pg	11 11 48.0	+0.2
MUGZ	Murupara	1.94	0	P		Pn	11 11 42.8	-1.4
VRZ	Vera Road	2.02	309	P		Pb	11 11 48.4	+0.3
TCW	Tory Channel	2.04	247	P		Pn	11 11 43.1	-2.5
LREZ	Lake Rotokare	2.05	297	P		Pn	11 11 45.8	+0.1
MWZ	Matawai	2.17	16	P		Pn	11 11 45.8	-1.6
DUWZ	D'Urville Isla	2.19	259	P		Pn	11 11 46.3	-1.5
TLZ	Tolley Road	2.29	335	P		Pb	11 11 52.4	-0.4
NEZ	North Egmont	2.35	298	P		Pb	11 11 55.0	+1.1
TUWZ	Tuamarina	2.36	244	P		Pn	11 11 47.0	-3.0
KHEZ	Kahui Hut	2.40	297	P		Pb	11 11 54.3	-0.3
HIZ	Hauiti	2.41	322	P		Pb	11 11 55.3	+0.5
NBEZ	Newall Road No	2.51	296	P		Pb	11 11 56.6	+0.1
BSWZ	Blackbirch Sta	2.54	238	P		Pn	11 11 49.4	-3.0
RUGZ	Raukumara Rang	2.56	16	P		Pn	11 11 50.8	-2.0
NNZ	Nelson	2.69	252	P		Pn	11 11 52.5	-2.0
WMGZ	Waiomatatini S	2.90	27	P		Pn	11 11 55.1	-2.3
TKNZ	Takaka Hill	2.95	257	P		Pn	11 11 56.4	-1.7
MRNZ	Matariki Terra	3.19	251	P		Pn	11 11 59.2	-2.1
QRZ	Quartz Range	3.25	261	P		Pn	11 12 00.3	-1.9
LTZ	Lake Taylor	4.11	234	P		Pn	11 12 11.8	-2.3
AKCZ	Akaroa Harbour	4.48	218	P		Pn	11 12 16.0	-3.1
MQZ	McQueen's Vall	4.49	222	P		Pn	11 12 15.3	-3.9
MHCZ	Mount Hutt	4.96	230	P		Pn	11 12 21.9	-4.0
ARCZ	Arundel	5.44	228	P		Pn	11 12 29.4	-3.0
TMZ	Timaru	5.81	225	P		Pn	11 12 33.7	-3.7

IDC 09 11:13:34.5±1.8, 3°.67N×128°.16E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/2, Error ellipse: s-maj=160.8km s-min=23.1km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	4.25	323	LR	LR	11 16 20.4	
	comp=Z,37nm,19.1s,baz=61,slow=39						
WRA	Warramunga Arr	24.23	166	P	P	11 18 53.4	+0.1
	0.9nm,0.7s,baz=345,slow=10,SNR=2.8						
	0.9nm,0.7s						
ASAR	Alice Springs	27.74	169	P	P	11 19 24.9	-0.1
	0.2nm,0.6s,baz=355,slow=7.2,SNR=5.6						
	0.2nm,0.6s						
SONM	Songino Array	47.83	340	P	P	11 22 13.4	-0.7
	0.2nm,0.3s,baz=139,slow=7.1,SNR=1.9						
	0.2nm,0.3s						
MKAR	Makanchi Array	58.43	325	P	P	11 23 32.5	+0.3
	0.3nm,0.4s,baz=118,slow=8.5,SNR=8.2						
	0.3nm,0.4s						
WSAR	Wadi Sarin	69.76	293	LR	LR	11 59 33.4	
	comp=Z,154nm,18.4s,baz=132,slow=40						

*BGR **09** 11:28:24.4, 4°.09S×101°.77E, h46km, mb5.6, Ms4.6*
*BJI **09** 11:28:35.1±0.0, 1°.70S×100°.32E, h67km, mb5.4/78, mB5.3/57, Ms5.1/78, Ms7 5.0/76*
*NEIC **09** 11:28:36.2±1.9, 1°.72S±0°.06×100°.35E±0°.07, h44km±1km, mb5.6/143, Mwb5.5/32, Mww5.4/23, Error ellipse: s-maj=11.6km s-min=9.4km az=63.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.85; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-1.64; $M_{r\theta}$0.76; $M_{\theta\phi}$0.83; $M_{\phi r}$-0.30; Fault plane solution: M_o2.11000×10^{17} NP1:ϕ_s139.73000°, δ55.58000°, λ70.93000°. NP2:ϕ_s351.18000°, δ38.78000°, λ115.49000°. Principal axes: T 2.1019, Plg72.0000°, Azm1.0000°; N 0.0092, Plg16.0000°, Azm151.0000°; P -2.1111, Plg9.0000°, Azm243.0000°;*
*MOS **09** 11:28:36.7±1.1, 1°.47S×100°.49E, h65km, mb5.8/80, MS4.7/12 Error ellipse: s-maj=7.4km s-min=3.6km az=118.2*
*DJA **09** 11:28:37.1±0.2, 2°.52°×10°.0E±°, h69km±2km, M5.3/65, mB5.7/42, mb5.5/65, MLv5.8/25, Mw(mB)5.3/42, MwMwp5.2/25, Mwp5.4/25*
*IDC **09** 11:28:38.3±0.7, 1°.59S×100°.38E, h70km±5km, mb5.2/42, mbtmp5.5/45, MS4.6/74, Error ellipse: s-maj=11.9km s-min=9.4km az=46.0*
*GCMT **09** 11:28:39.2±0.1, 1°.76S±0°.01×100°.19E±0°.01, h52km, MW5.5/129, Moment Tensor Solution. s129,c241; s123,c234; Duration: 1±3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.59±.03; $M_{\theta\theta}$-0.79±.02; $M_{\phi\phi}$-0.80±.03; $M_{r\theta}$1.03±.02; $M_{\theta\phi}$0.87±.02; $M_{\phi r}$-0.56±.02; Best double couple: M_o2.01000×10^{17} NP1:ϕ_s125.00000°, δ63.00000°, λ81.00000°. NP2:ϕ_s325.00000°, δ28.00000°, λ107.00000°. Principal axes: T 1.9940, Plg71.0000°, Azm16.0000°; N 0.0280, Plg8.0000°, Azm130.0000°; P -2.0260, Plg18.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **09** 11:28:40, 1°.54S×100°.03E, h99km, mb5.6*
*NEIC **09** 11:28:44.9, 1°.61S×100°.17E, h60km, Moment Tensor Solution. Duration: 2±7 Moment tensor: Scale 10^{17}Nm; M_{rr}1.10; $M_{\theta\theta}$-0.71; $M_{\phi\phi}$-0.39; $M_{r\theta}$0.85; $M_{\theta\phi}$0.84; $M_{\phi r}$-0.43; Fault plane solution: M_o1.58000×10^{17} NP1: ϕ_s120.05000°, δ64.02000°, λ79.91000°. NP2: ϕ_s322.15000°, δ27.75000°, λ109.77000°. Principal axes: T 1.4419, Plg69.0000°, Azm10.0000°; N 0.2762, Plg9.0000°, Azm125.0000°; P -1.7180, Plg18.0000°, Azm218.0000°;*

ISC 09 11:28:36.6±0.2, 1°.69S±0°.03×100°.40E±0°.03, h57km±1km, h57km: pP-P, n1346, σ1936/1519, mb5.6/259, MS4.8/110, 69C-22D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	Padang	0.77	5	P	Pn	11 28 51.4	-0.3
PPSI	Pulau Pagai	1.14	200	P	Pn	11 28 56.8	+0.4
SDSI	Sungai Dareh	1.27	54	P	Pn	11 28 59.9	+1.6
BKNI	Bangkinang	2.10	18	Pn	Pn	11 29 12.0	+2.6
BKNI	Bangkinang	2.10	18	P	Pn	11 29 11.4	+2.0
BKNI	Bangkinang	2.10	18	P	Pn	11 29 11.2	+1.8
MASI	Maura Aman, Be	2.34	128	P	Pn	11 29 14.5	+1.7
MNSI	Mandailing Nat	2.59	342	P	Pn	11 29 17.2	+1.0
PBSI	Pulau Batu	2.66	307	P	Pn	11 29 17.1	0.0
KSI	Kapahiang	2.94	132	P	Pn	11 29 22.6	+1.6
JMBI	JAMBI	3.25	89	P	Pn	11 29 26.2	+1.1
MNAI	Manna	3.69	136	Pn	Pn	11 29 33.1	+1.9
MNAI	Manna	3.69	136	P	Pn	11 29 33.7	+2.5
MNAI	Manna	3.69	136	P	Pn	11 29 32.3	+1.1
GSI	Gunungsitoli	4.09	316	Pn	Pn	11 29 36.1	-0.7
GSI	Gunungsitoli	4.09	316	P	Pn	11 29 36.5	-0.3
GSI	Gunungsitoli	4.09	316	P	Pn	11 29 36.1	-0.7
DSRI	Dabo	4.35	74	P	Pn	11 29 41.4	+1.1
PMBI	Palembang	4.54	106	P	Pn	11 29 44.3	+1.4
RPSI	Rantau Prapat	4.59	341		Pn	11 29 44.1	+0.5
MDSI	Maura Dua	4.69	126	P	Pn	11 29 47.4	+2.4
PSI	Prapat	4.69	342	P	Pn	11 29 44.2	-0.9
PSI	Prapat	4.69	342	P	Pn	11 29 44.1	-1.0
TPRI	Tanjung Pinang	4.87	58	P	Pn	11 29 48.4	+1.0
MYKOM	Kota Tinggi	4.88	45	Pn	Pn	11 29 49.2	+1.6
LWLI	Liwa	4.93	132	P	Pn	11 29 50.6	+2.2
KLI	Kotabumi	5.46	125	P	Pn	11 30 01.4	+5.9
KLI				pmax	pmax		
	comp=Z,1μm,0.8s						
KLI	Kotabumi	5.46	125	P	Pn	11 29 57.6	+2.1
	comp=Z,1μm,0.8s,comp=Z,11μmcomp=Z,8μmcomp=Z,6.3nm						
TSI	Tuntungan	5.47	340	P	Pn	11 29 56.3	+0.7
	comp=Z,2μm,0.8s,comp=Z,20μmcomp=Z,17μmcomp=Z,9.0nm						
KASI	Kota Agung	5.59	133	P	Pn	11 29 58.2	+0.9
	comp=Z,982nm,0.8s,comp=Z,10μmcomp=Z,6.8nm						
SNSI	Sinabang, Aceh	5.75	315	P	Pn	11 29 59.1	-0.4
	comp=Z,589nm,0.7s,comp=Z,6μmcomp=Z,6μmcomp=Z,2.8nm						

PPBI	Pangkal Pinang	5.76	95	P		Pn	11 30 00.9	+1.3
	comp=Z,111nm,0.9s,comp=Z,11μmcomp=Z,10μmcomp=Z,1.7nm							
KCSI	Kotacane, Aceh	5.80	333	P		Pn	11 30 00.7	+0.5
	comp=Z,713nm,0.9s,comp=Z,10μmcomp=Z,5.6nm							
JRMM	Jerantut	5.91	21	P		Pn	11 30 05.0	+3.3
BLSI	Bandar Lampung	6.07	127	P		Pn	11 30 05.9	+2.1
	comp=Z,306nm,0.5s,comp=Z,6μmcomp=Z,2.3nm							
IPM	Ipoh	6.16	6	Pn		Pn	11 30 07.9	+2.8
IPM	Ipoh	6.16	6	P		Pn	11 30 08.0	+2.9
KULM	Kulim	6.93	2	Pn		Pn	11 30 16.8	+1.1
MLSI	Meulaboh, Aceh	7.13	326	P		Pn	11 30 17.8	-0.6
	comp=Z,924nm,0.6s,comp=Z,9μmcomp=Z,3.4nm							
CGJI	Cibinong	7.20	133	P		Pn	11 30 19.2	-0.2
	comp=Z,406nm,0.9s,comp=Z,6μmcomp=Z,1.9nm							
SBJI	Serang	7.22	128	P		Pn	11 30 21.8	+2.2
	comp=Z,340nm,0.9s,comp=Z,7μmcomp=Z,1.9nm							
LHMI	Lhok Sumawe	7.68	333	Pn		Pn	11 30 26.4	+0.4
LHMI	Lhok Sumawe	7.68	333	P		Pn	11 30 25.9	-0.1
	comp=Z,264nm,0.6s,comp=Z,4μmcomp=Z,9μmcomp=Z,3.2nm							
SKJI	Sukabumi	8.10	131	P		Pn	11 30 32.7	+1.0
	comp=Z,285nm,0.4s,comp=Z,5μm							
CNJI	Cibinong	8.73	130	P		Pn	11 30 39.8	-0.5
	comp=Z,111nm,1.0s,comp=Z,2μmcomp=Z,2μm							
LEM	Lembang	8.83	126	P		Pn	11 30 44.5	+2.7
	comp=Z,19nm,0.4s,baz=25,slow=23,SNR=3.5							
LEM				LR		LR	11 34 25.6	
	comp=Z,6μm,21.5s,baz=278,slow=39							
BBJI	Bungbulang	9.23	129	P		Pn	11 30 47.1	-0.1
CMJI	Cimerak	10.05	127	P		Pn	11 30 56.8	-1.6
	comp=Z,236nm,0.7s,comp=Z,3μmcomp=Z,4μm							
KPJI	Karang Pucung	10.19	124	P		Pn	11 31 02.2	+1.9
	comp=Z,144nm,0.6s							
SRIT	Nakonsritamara	10.24	356	P		Pn	11 31 02.9	+1.9
SURA	Surathani	10.81	356	P		Pn	11 31 11.1	+2.4
COCO	West Island	11.02	199	Pn		Pn	11 31 10.3	-1.3
COCO	West Island	11.02	199	P		Pn	11 31 10.3	-1.3
COCO	West Island	11.02	199	P		Pn	11 31 13.5	+1.9
SMRI	Semarang	11.34	118			Pn	11 31 19.9	+3.8
SMRI	Semarang	11.34	118	P		Pn	11 31 20.4	+4.3
SMRI	Semarang	11.34	118	P		Pn	11 31 17.7	+1.6
	comp=Z,213nm,1.1s							
UWJI	Ujung Watu	11.53	114	P		Pn	11 31 20.2	+1.6
	comp=Z,175nm,0.9s,comp=Z,6μm							
YOGI	Yogyakarta	11.59	122	P		Pn	11 31 20.6	+1.1
	comp=Z,145nm,1.6s							
UGM	Wanagama	11.83	122	Pn		Pn	11 31 23.5	+0.7
UGM	Wanagama	11.83	122	P		Pn	11 31 23.9	+1.1
	comp=Z,146nm,0.9s							
NGJI	Ngawi	12.39	117	P		Pn	11 31 32.5	+2.2
	comp=Z,167nm,1.0s							
TBJI	Tambak Boyo	12.51	114	P		Pn	11 31 33.5	+1.6
	comp=Z,213nm,0.9s,comp=Z,3μm							
SBUM	Sibu	12.52	71	Pn		Pn	11 31 34.5	+2.4
SBUM	Sibu	12.52	71	P		P	11 31 39.0	-3.0
BWJI	Bawean	12.91	109	P		Pn	11 31 39.2	+1.7
	comp=Z,125nm,0.9s,comp=Z,10μmcomp=Z,4μm							
PWJI	Pagerwojo	12.99	119	P		Pn	11 31 39.5	+1.0
	comp=Z,125nm,0.7s,comp=Z,55μm							
GRJI	Gresik	13.12	114	P		Pn	11 31 42.2	+1.9
	comp=Z,128nm,1.0s,comp=Z,2μmcomp=Z,2μm							
BLJI	Banyuglugur	14.46	115	P		Pn	11 32 00.5	+2.2
	comp=Z,74nm,0.5s							
MTKI	Muara Teweh, K	14.52	87	P		Pn	11 32 00.8	+1.7
	comp=Z,82nm,0.8s,comp=Z,7μm							
BBKI	Banjar Baru	14.54	97	P		P	11 32 02.1	-2.4
	comp=Z,81nm,0.5s,comp=Z,6μm							
GMJI	Gumukmas	14.55	117	P		Pn	11 32 00.7	+1.2
	comp=Z,50nm,1.0s							
ABJI	Asem Bagus	15.06	114	P		Pn	11 32 07.9	+1.8
	comp=Z,157nm,0.8s,comp=Z,3μm							
JAGI	Jajag, Banyuwa	15.27	117	Pn		Pn	11 32 08.6	-0.1
JAGI	Jajag, Banyuwa	15.27	117	P		P	11 32 11.1	-1.5
	comp=Z,81nm,1.3s							
DLV	T Lat	15.75	31	P		P	11 32 19.4	+1.3
KBKI	Kotabaru	15.84	96	P		P	11 32 19.0	+0.1
	comp=Z,3μm,0.8s							
NAYO	Nakonayok	15.92	3	P		P	11 32 19.8	0.0
SRBI	Singaraja	16.07	114	P		P	11 32 21.1	-0.4
	comp=Z,164nm,0.8s							
IGBI	Denpasar	16.30	116	P		P	11 32 24.2	+0.2
BKB	Balikpapan	16.50	89	P		P	11 32 28.3	+2.0
BKB	Balikpapan	16.50	89	P		P	11 32 27.3	+1.0
	comp=Z,220nm,0.7s,comp=Z,4μmcomp=Z,6μm							
SPMM	Sapulut	17.27	68	P		P	11 32 38.0	+3.2
KKM	Kota Kinabalu	17.56	64	P		P	11 32 40.8	+2.7
KKM	Kota Kinabalu	17.56	64	P		P	11 32 41.0	+2.9
UBPT	Khong Chiam	17.59	16	P		P	11 32 39.0	+0.8
UBPT	Khong Chiam	17.59	16	P		Pn	11 32 37.7	-0.2
TWSI	Taliwang, Sumb	17.84	114	P		P	11 32 41.6	+0.5
	comp=Z,137nm,0.9s,comp=Z,2μm							
PLAI	Plampang	18.70	113	P		P	11 32 49.6	-0.9
PLAI	Plampang	18.70	113	P		P	11 32 49.0	-1.5
	comp=Z,199nm,0.7s,comp=Z,2μmcomp=Z,2μm							
MYLDM	Lahad Datu	19.33	69	P		Pn	11 32 59.6	+0.7
SPSI	Sidrap Palu	19.48	97	P		P	11 32 59.4	+0.3
	comp=Z,110nm,0.7s							
KAPI	Kappang	19.60	100	P		Pn	11 33 01.4	-0.8
	comp=Z,66nm,0.6s,baz=292,slow=8.3,SNR=4.7							
KAPI				LR		LR	11 41 24.7	
	comp=Z,2μm,20.2s,baz=266,slow=39							
KAPI	Kappang	19.60	100	P		P	11 32 58.3	-2.1
MPSI	Mapaga	19.60	84	P		Pn	11 33 02.2	0.0
	comp=Z,168nm,0.6s,comp=Z,2μmcomp=Z,6μm							
NONG	Nongkai	19.81	8	P		P	11 33 01.9	-0.7
BKSI	Bulukumba	20.02	101	P		Pn	11 33 06.2	-0.9
	comp=Z,434nm,0.8s,comp=Z,4μmcomp=Z,3μm							
PHRA	Phrae	20.06	360	P		P	11 33 05.7	+0.4
CM31	Chiang Mai Arr	20.07	356	P		P	11 33 05.5	+0.1
CM31					IAmb	IAmb	11 33 07.8	
	comp=Z,135nm,0.8s							
CMAR	Chiang Mai Arr	20.07	356	P		P	11 33 04.9	-0.5
	comp=Z,97nm,0.7s,baz=187,slow=10,SNR=132							
CMAR					PcP	PcP	11 37 20.2	+0.9
	comp=Z,9.2nm,0.8s,baz=217,slow=2.9,SNR=9.3							
CMAR					LR	LR	11 41 25.3	
	comp=Z,3μm,20.3s,baz=180,slow=38							
CMAR	Chiang Mai Arr	20.07	356	P		P	11 33 05.0	-0.4
CMAR	Chiang Mai Arr	20.07	356	ce		P	11 33 04.9	-0.5
CMAR					pmax	pmax		
	comp=Z,107nm,0.7s							
CHTO	Chiang Mai	20.42	356	P		P	11 33 08.3	-0.9
CHTO	Chiang Mai	20.42	356	P		P	11 33 08.3	-0.9
CHTO					pmax	pmax		
	comp=Z,31nm,0.8s							
WBSI	Waikabubak, Su	20.48	113	P		P	11 33 06.5	-3.5
	comp=Z,208nm,0.7s,comp=Z,3μm							
BSSI	Bau Bau, Buton	20.53	103	P		P	11 33 11.1	+0.6
	comp=Z,313nm,1.7s,comp=Z,4μmcomp=Z,2μm							
TOLI2	Tolitoli	20.57	82	P		P	11 33 12.2	+1.3
TOLI2					IAmb	IAmb	11 33 15.7	
	comp=Z,169nm,0.6s							
TOLI2	Tolitoli	20.57	82	P		P	11 33 12.3	+1.3
APSI	Ampana	21.26	88	P		P	11 33 20.0	+1.6
	comp=Z,417nm,1.0s,comp=Z,4μmcomp=Z,4μm							
PPR	Puerto Princes	21.52	58	i	P	P	11 33 21.0	-0.1
PALK	Pallekele	21.57	295	P		P	11 33 23.1	+1.4
PALK	Pallekele	21.57	295	P		P	11 33 23.1	+1.4
PALK					pmax	pmax		
	comp=Z,47nm,1.0s							
PALK	Pallekele	21.57	295	P		P	11 33 24.2	+2.5
MRSI	Marisa	21.65	84	P		P	11 33 23.8	+1.3
	comp=Z,408nm,1.3s,comp=Z,4μmcomp=Z,4μm							
BASI	Baing, Sumba	21.77	114	P		P	11 33 25.0	+1.2
	comp=Z,267nm,0.9s							
CRAI	Chiangrai	21.78	360	P		P	11 33 22.8	-1.0
LUWI	Luwuk	22.38	89	P		P	11 33 32.4	+2.0
LUWI	Luwuk	22.38	89	P		P	11 33 31.9	+1.5
	comp=Z,447nm,0.9s,comp=Z,8μm							
QIZ	Qiongzhong	22.58	24	P		P	11 33 32.5	0.0
QIZ	Qiongzhong	22.58	24	j	P	P	11 33 32.7	+0.2
QIZ					pP	pP	11 33 46.8	+1.2
QIZ					S	S	11 37 35.4	-0.8
QIZ					SS	SnSn	11 38 16.8	+6.7
QIZ					pmax	pmax		
	comp=Z,460nm,5.4s							
QIZ					LR	LR		
	comp=Z,2μm,18.3s							
QIZ					LR	LR		
	comp=Z,1μm,11.9s							
QIZ					LR	LR		
	comp=Z,3μm,35.0s							
GTOI	Gorontalo	22.73	84	P		P	11 33 33.7	-0.4
	comp=Z,175nm,0.8s,comp=Z,1μm							
MMRI	Maumere	22.81	108	P		P	11 33 36.5	+1.5
	comp=Z,83nm,0.8s							
MND	Mandalay	23.92	350	P		P	11 33 45.5	+0.1

BATI	Baumata	24.62	111	P		P	11 33 49.5	-2.5
	comp=Z,42nm,0.5s,baz=39,slow=2.3,SNR=3.8							
BATI	Baumata	24.62	111	P		P	11 33 49.5	-2.5
	comp=Z,80nm,0.6s							
SOEI	Soe	25.05	110	P		P	11 33 54.4	-1.6
SOEI					IAmb	IAmb	11 34 05.0	
	comp=Z,77nm,0.7s							
SOEI	Soe	25.05	110	P		P	11 33 54.5	-1.5
SOEI	Soe	25.05	110	P		P	11 33 52.9	-3.1
	comp=Z,112nm,0.8s,comp=Z,1μm							
SNPH	Sibulan	25.25	64	eP		P	11 33 59.6	+1.9
CTBH	Cotabato--PC H	25.39	69	eP		P	11 34 00.7	+1.8
SANI	Sanana	25.58	91	P		P	11 34 01.1	+0.4
SANI	Sanana	25.58	91	P		P	11 34 00.2	-0.5
	comp=Z,64nm,1.4s,comp=Z,830nm							
BRDH	Bariadhala	25.67	341	P		P	11 34 00.7	-0.7
	comp=Z,200nm,0.4s,baz=46,slow=8.4,SNR=15							
BRDH					LR	LR	11 46 33.5	
	comp=Z,3μm,19.3s,baz=157,slow=42							
	comp=Z,200nm,0.4s							
RCP	Roxas	25.82	59	eP		P	11 34 04.5	+1.7
TBP	Tagbilaran	25.96	64	eP		P	11 34 04.5	+0.4
LQP	Lukban	26.18	52	eP		P	11 34 00.8	-5.5
DAV	Davao City (W)	26.59	71	P		P	11 34 10.7	+0.9
	comp=Z,117nm,0.4s,baz=100,slow=4.5,SNR=6.5							
DAV					LR	LR	11 46 13.1	
	comp=Z,2μm,20.3s,baz=268,slow=40							
	comp=Z,117nm,0.4s							
TNCH	TengChong	26.62	356	P		P	11 34 09.3	-0.8
TNCH				pP		pP	11 34 26.8	+2.5
TNCH				sP		sP	11 34 37.4	+6.3
TNCH				PP		PnPn	11 34 59.3	+5.8
TNCH				S		S	11 38 41.0	-0.2
TNCH				sS		sS	11 39 09.5	+4.4
TNCH				pmax		pmax		
	comp=Z,44nm,0.6s							
TNCH				pmax		pmax		
	comp=Z,360nm,5.5s							
TNCH				LR		LR		
	comp=Z,1μm,16.8s							
TNCH				LR		LR		
	comp=Z,1μm,13.8s							
TNCH				LR		LR		
	comp=Z,4μm,20.5s							
NLAI	Namlea	26.72	94	P		P	11 34 11.5	+0.5
	comp=Z,36nm,0.6s							
KMI	Kunming	26.75	5	P		P	11 34 11.3	0.0
KMI				pP		pP	11 34 28.6	+3.1
KMI				S		S	11 38 41.6	-1.7
KMI				pmax		pmax		
	comp=Z,23nm,1.0s							
KMI				pmax		pmax		
	comp=Z,320nm,8.1s							
KMI				LR		LR		
	comp=Z,3μm,19.8s							
KMI				LR		LR		
	comp=Z,2μm,19.0s							
KMI				LR		LR		
	comp=Z,3μm,22.4s							
PCHI	Peechi	26.83	297	eP		P	11 34 13.5	+1.6
PCHI				eS		S	11 38 47.0	+2.5
MBWA	Marble Bar	27.02	137	P		P	11 34 13.1	-0.5
MBWA	Marble Bar	27.02	137	P		P	11 34 14.1	+0.6
MBWA	Marble Bar	27.02	137	P		P	11 34 14.2	+0.6
TNTI	Ternate	27.08	85	P		P	11 34 17.2	+3.0
TNTI	Ternate	27.08	85	P		P	11 34 14.1	-0.1
	comp=Z,42nm,0.7s							
PSA00	Pilbara Seismi	27.38	138	P		P	11 34 17.3	+0.5
PZH	PanZhiHua	28.05	3	P		P	11 34 21.9	-1.0
PZH				pP		pP	11 34 38.1	+0.9
PZH				S		S	11 39 04.5	+0.8
PZH				sS		sS	11 39 30.4	+2.8
PZH				SS		SnSn	11 40 31.6	+7.8
PZH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,230nm,6.8s							
PZH				LR		LR		
	comp=Z,5μm,21.0s							
PZH				LR		LR		
	comp=Z,4μm,20.2s							
PZH				LR		LR		
	comp=Z,4μm,21.1s							
H08S2	Diego Garcia H	28.42	257	T		T	12 03 27.6	
	baz=80,slow=75,SNR=797							
H08S3	Diego Garcia H	28.43	257	T		T

LSA sP **sP** **11 35 20.3 -2.6**
PKI Pulchoki **32.47 335** *e*P **P** **11 35 02.3 +0.2**
comp=Z,29nm,0.3s
PKIN Phulchoki **32.48 335** *e*P **P** **11 35 02.3 +0.2**
comp=Z,71nm,0.4s
CD2 Chengdu **32.57 5** P **P** **11 35 01.3 -1.4**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,170nm,7.3s
CD2 LR LR
comp=Z,1μm,14.7s
CD2 LR LR
comp=Z,820nm,13.3s
CD2 LR LR
comp=Z,4μm,21.0s
DMN Daman **32.63 334** *e*P **P** **11 35 04.0 +0.5**
BLDU Balliduu **32.67 153** P **P** **11 35 05.2 +1.8**
baz=33,SNR=5.7
KKN Kakani **32.71 335** *e*P **P** **11 35 04.1 0.0**
comp=Z,25nm,0.7s
NACB Ninganchiao **32.94 37** P **P** **11 35 05.4 -0.5**
NACB IAmb IAmb 11 35 09.8
comp=Z,50nm,0.8s
NACB Ninganchiao **32.94 37** P **P** **11 35 08.1 +2.2**
ENH Enshi **32.94 15** P **P** **11 35 04.5 -1.4**
ENH IAmb IAmb 11 35 05.7
comp=Z,76nm,0.6s
ENH Enshi **32.94 15** P **P** **11 35 04.8 -1.1**
ENH Enshi **32.94 15** P **P** **11 35 04.8 -1.1**
GKN Gorkha **33.18 334** *e*P **P** **11 35 08.6 +0.5**
comp=Z,86nm,0.3s
KOLN Koldanda **33.45 332** *e*P **P** **11 35 11.2 +0.7**
KOLN Koldanda **33.45 332** *e*P **P** **11 35 11.5 +1.0**
comp=Z,37nm,0.6s
KDU Kakadu **33.60 111** P **P** **11 35 09.2 -2.6**
baz=34,SNR=8.8
MUN Mundaring **33.62 155** P **P** **11 35 14.4 +2.6**
baz=34,SNR=13
MUN Mundaring **33.62 155** P **P** **11 35 14.1 +2.3**
DANN Dangsing **33.87 333** *e*P **P** **11 35 14.3 0.0**
comp=Z,395nm,0.6s
KLBR Kellerberrin **33.97 153** P **P** **11 35 17.5 +2.6**
baz=34,SNR=4.2
KLBR Kellerberrin **33.97 153** P **P** **11 35 17.4 +2.6**
WHN Wuhan **34.70 21** P **P** **11 35 21.4 +0.3**
WHN S **S** **11 40 43.5 -3.6**
WHN pmax pmax
comp=Z,78nm,0.6s
WHN LR LR
comp=Z,9μm,15.7s
WHN LR LR
comp=Z,3μm,14.3s
WHN LR LR
comp=Z,12μm,17.5s
NWAO Narrogin (SRO) **34.87 155** LR LR 11 48 00.2
comp=Z,2μm,21.5s,slow=33
NWAO Narrogin (SRO) **34.87 155** P **P** **11 35 23.4 +0.8**
baz=35,SNR=10
NWAO P **P** **11 35 23.4 +0.8**
baz=35,SNR=10
NWAO Narrogin (SRO) **34.87 155** P **P** **11 35 22.6 +0.1**
NWAO IAmb IAmb 11 35 38.5
comp=Z,135nm,1.7s
NWAO Narrogin (SRO) **34.87 155** P **P** **11 35 24.9 +2.3**
NWAO Narrogin (SRO) **34.87 155** P **P** **11 35 22.7 +0.1**
NWAO pmax pmax
comp=Z,135nm,1.7s
H01W3 Cape Leeuwin H **35.43 160** T T 12 12 51.4
baz=335,slow=75,SNR=35
H01W2 Cape Leeuwin H **35.44 160** T T 12 12 56.5
baz=335,slow=75,SNR=28
H01W1 Cape Leeuwin H **35.44 160** T T 12 12 52.8
baz=335,slow=75,SNR=30
WRKA Warakurna **35.55 133** P **P** **11 35 29.4 +0.8**
baz=36,SNR=17
WRKA Warakurna **35.55 133** P **P** **11 35 29.2 +0.6**
KMBL Kambalda **35.83 148** P **P** **11 35 32.7 +1.7**
baz=36,SNR=6.0
KMBL Kambalda **35.83 148** P **P** **11 35 32.6 +1.7**
RKGY Rocky Gully **36.23 157** P **P** **11 35 37.2 +3.0**
baz=36,SNR=5.6
XAN Xi'an **36.43 12** P **P** **11 35 34.3 -1.7**
XAN pP pP 11 35 52.4 +1.9
XAN S **S** **11 41 06.8 -6.9**
XAN pmax pmax
comp=Z,300nm,0.6s
XAN LR LR
comp=Z,3μm,14.4s
XAN LR LR
comp=Z,1μm,17.2s
XAN LR LR
comp=Z,5μm,17.9s
XAN Xi'an **36.43 12** P **P** **11 35 34.2 -1.7**
XAN sP **pP** **11 35 52.9 +2.4**
LZH Lanzhou **37.72 5** ⇑P **P** **11 35 46.8 -0.2**
LZH pP pP 11 36 01.9 +0.3
LZH sP sP 11 36 10.0 +1.7
LZH PP **PP** **11 37 14.4 +0.3**
LZH PcP **PcP** **11 38 04.4 +1.2**
LZH S **S** **11 41 28.4 -5.0**
LZH ScP **ScP** **11 41 46.9 +0.9**
LZH sS sS 11 42 02.4 +4.7
LZH SS **SnSn** **11 44 13.5 -4.4**
LZH pmax pmax
comp=Z,43nm,1.5s
LZH LR LR
comp=Z,3μm,18.5s
LZH LR LR
comp=Z,2μm,17.5s
LZH LR LR
comp=Z,4μm,17.9s
LYN LuoYang **37.79 16** ⇑*i*P **P** **11 35 47.3 -0.1**
LYN pP pP 11 36 05.0 +3.0
LYN sP sP 11 36 09.7 +1.0
LYN PP **PnPn** **11 37 20.7 +4.4**
LYN PcP **PcP** **11 38 06.5 +3.3**
LYN S **S** **11 41 34.0 -0.2**
LYN sS sS 11 41 57.4 -1.1
LYN pmax pmax
comp=Z,200nm,0.6s
LYN pmax pmax
comp=Z,280nm,6.2s
LYN LR LR
comp=Z,2μm,18.0s
LYN LR LR
comp=Z,920nm,19.8s
LYN LR LR
comp=Z,2μm,21.6s
WB0 Warramunga Arr **37.79 121** P **P** **11 35 46.5 -1.2**
WB0 IAmb IAmb 11 35 48.5
comp=Z,48nm,0.6s
WRA Warramunga Arr **37.81 121** P **P** **11 35 47.0 -0.9**
comp=Z,27nm,0.5s,baz=303,slow=9.5,SNR=199
WRA PcP **PcP** **11 38 03.9 +0.2**
comp=Z,11nm,0.5s,baz=316,slow=2.5,SNR=12
WRA S **S** **11 41 26.8 -8.3**
comp=Z,0.6nm,0.8s,baz=294,slow=16,SNR=1.4
WRA LR LR 11 54 40.7
comp=Z,563nm,19.2s,baz=290,slow=41
WRA P3KPbc 12 06 03.0
comp=Z,0.9nm,1.0s,baz=111,slow=4.7,SNR=5.1
comp=Z,27nm,0.5s
WRA Warramunga Arr **37.81 121** P **P** **11 35 46.0 -1.9**
WRA Warramunga Arr **37.81 121** *ce*P **P** **11 35 46.7 -1.2**
WRA pmax pmax
comp=Z,36nm,0.5s
WRAB Tennant Creek **37.82 121** P **P** **11 35 47.0 -0.9**
WRAB IAmb IAmb 11 35 49.4
comp=Z,53nm,0.7s
WRAB Tennant Creek **37.82 121** P **P** **11 35 47.0 -0.9**
WRAB pmax pmax
comp=Z,53nm,0.7s
WRAB Tennant Creek **37.82 121** P **P** **11 35 46.5 -1.5**
WRAB pP **pP** **11 35 59.5 -3.0**
WB2 Warramunga Arr **37.82 121** P **P** **11 35 46.1 -1.9**
WB2 IAmb IAmb 11 35 48.4
comp=Z,52nm,0.5s
WB1 Warramunga Ar. **37.83 121** P **P** **11 35 46.7 -1.3**
NJ2 Nanjing **37.84 26** *e*P **P** **11 35 50.5 +2.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
WR0 Warramunga Arr **37.99 121** P **P** **11 35 48.2 -1.2**
WR0 IAmb IAmb 11 35 50.5
comp=Z,70nm,0.6s
GOMU GeErMu **38.05 353** P **P** **11 35 49.6 -0.4**
GOMU S **S** **11 41 37.0 -1.8**
GOMU pmax pmax
comp=Z,6.0nm,0.5s
GOMU pmax pmax
comp=Z,170nm,4.9s
GOMU LR LR
comp=Z,480nm,11.8s
GOMU LR LR
comp=Z,340nm,11.7s
GOMU LR LR
comp=Z,930nm,11.4s
SMPI Sarmi **38.30 91** P **P** **11 35 50.9 -1.1**
FORT Forrest **39.03 141** P **P** **11 35 59.5 +1.6**
baz=39,SNR=30
FORT Forrest **39.03 141** P **P** **11 35 58.6 +0.7**
FORT IAmb IAmb 11 36 30.8
comp=Z,69nm,0.7s
FORT Forrest **39.03 141** P **P** **11 35 59.1 +1.2**
JOW Kunigami **39.07 42** P **P** **11 35 58.1 -0.2**
comp=Z,21nm,0.4s,baz=189,slow=6.7,SNR=9.9
JOW LR LR 11 50 37.4
comp=Z,736nm,22.0s,baz=234,slow=34
comp=Z,21nm,0.4s
JOW Kunigami **39.07 42** P **P** **11 35 59.0 +0.7**
JOW IAmb IAmb 11 36 13.5
comp=Z,205nm,1.7s
ASAR Alice Springs **39.12 127** P **P** **11 35 59.4 +0.5**
comp=Z,48nm,0.5s,baz=305,slow=7.9,SNR=777
ASAR PcP **PcP** **11 38 08.2 +0.4**
comp=Z,20nm,0.6s,baz=302,slow=2.6,SNR=11
ASAR S **S** **11 41 52.6 -2.2**
comp=Z,1.8nm,0.6s,baz=320,slow=17,SNR=5.9
ASAR LR LR 11 52 30.6
comp=Z,1μm,21.7s,baz=311,slow=36
ASAR P3KPbc 12 05 58.2
comp=Z,0.2nm,0.5s,baz=121,slow=4.2,SNR=6.7
comp=Z,48nm,0.5s
ASAR Alice Springs **39.12 127** P **P** **11 35 59.0 +0.1**
AS31 Alice Springs **39.12 127** P **P** **11 35 58.8 -0.1**
AS01 Alice Springs **39.16 127** P **P** **11 35 59.0 -0.2**
GENI Genyem **39.76 92** P **P** **11 36 03.7 -0.5**
TIY Taiyuan **40.76 15** P **P** **11 36 16.2 +4.0**
TIY S **S** **11 42 17.2 -1.7**
TIY pmax pmax
comp=Z,460nm,4.8s
TIY LR LR
comp=Z,1μm,21.3s
TIY LR LR
comp=Z,760nm,17.9s
TIY LR LR
comp=Z,1μm,19.9s
TIA Tai'an **40.80 21** ⇓P **P** **11 36 11.7 -0.8**
TIA pmax pmax
comp=Z,37nm,0.7s
TIA pmax pmax
comp=Z,210nm,8.0s
TIA LR LR
comp=Z,2μm,16.6s
TIA LR LR
comp=Z,1μm,14.8s
TIA LR LR
comp=Z,4μm,15.5s
GTA Gaotai **40.90 359** ⇑P **P** **11 36 12.0 -1.4**
GTA pP pP 11 36 30.5 +2.4
GTA sP sP 11 36 37.0 +2.2
GTA PcP **PcP** **11 38 14.4 +1.2**
GTA ScP **ScP** **11 41 58.9 +0.7**
GTA pmax pmax
comp=Z,23nm,0.9s
GTA pmax pmax
comp=Z,240nm,5.8s
GTA LR LR
comp=Z,1μm,18.9s
GTA LR LR
comp=Z,970nm,17.1s
GTA LR LR
comp=Z,2μm,23.3s
HNS HongShan **41.09 17** ⇓P **P** **11 36 15.1 +0.2**
HNS S **S** **11 42 22.0 -1.6**
HNS pmax pmax
comp=Z,88nm,0.7s
HNS LR LR
comp=Z,1μm,15.9s
HNS LR LR
comp=Z,600nm,13.5s
HNS LR LR
comp=Z,1μm,15.1s
OOD Oodnadatta **42.58 131** P **P** **11 36 27.5 +0.3**
QIS Mount Isa **42.61 119** P **P** **11 36 26.3 -1.4**
baz=43,SNR=44
QIS Mount Isa **42.61 119** P **P** **11 36 26.6 -1.0**
MULG Mulgathing **42.75 135** P **P** **11 36 29.2 +0.6**
BTO Baotou **43.00 11** *e*P **P** **11 36 30.5 0.0**
BTO S **S** **11 42 48.6 -3.4**
BTO LR LR
comp=Z,9μm,17.9s
BTO LR LR
comp=Z,3μm,17.5s
NIL Nilore **43.46 326** P **P** **11 36 34.2 -0.1**
NIL Nilore **43.46 326** P **P** **11 36 34.2 -0.1**
NIL pmax pmax
comp=Z,151nm,0.7s
NIL Nilore **43.46 326** P **P** **11 36 34.2 -0.1**
NIL pP **pP** **11 36 48.0 -0.8**
HHC Hu-ho-hao-te **43.54 12** *e*P **P** **11 36 35.7 +0.8**
HHC sP sP 11 36 56.2 -0.2
HHC S **S** **11 43 04.4 +4.5**
HHC pmax pmax
comp=Z,51nm,0.9s
HHC pmax pmax
comp=Z,430nm,5.4s
HHC LR LR
comp=Z,3μm,20.8s
HHC LR LR
comp=Z,2μm,18.8s
HHC LR LR
comp=Z,4μm,19.6s
JSU Suzuyama **43.63 38** P **P** **11 36 35.3 -0.4**
JSU IAmb IAmb 11 36 37.4
comp=Z,66nm,0.9s
JSU Suzuyama **43.63 38** P **P** **11 36 36.2 +0.5**
BJT Baijiatuau **43.94 18** P **P** **11 36 38.0 0.0**
BJT Baijiatuau **43.94 18** P **P** **11 36 38.0 0.0**
BJT pmax pmax
comp=Z,56nm,1.0s
BJT Baijiatuau **43.94 18** P **P** **11 36 37.4 -0.6**
BJT pP **pP** **11 36 51.3 -1.5**
BJT sP **sP** **11 36 56.4 -3.1**
COEN Coen **44.01 108** P **P** **11 36 37.6 -1.3**
baz=44,SNR=4.5
COEN Coen **44.01 108** P **P** **11 36 37.2 -1.8**
DL2 Dalian **44.87 24** P **P** **11 36 46.1 +0.7**
DL2 pP **pP** **11 37 00.6 +0.2**
DL2 S **S** **11 43 15.8 -3.3**
DL2 pmax pmax
comp=Z,80nm,0.9s
DL2 LR LR
comp=Z,1μm,22.7s
DL2 LR LR
comp=Z,1μm,21.6s
DL2 LR LR
comp=Z,960nm,24.3s
JNU Nakatsue **45.01 37** P **P** **11 36 47.0 +0.4**
comp=Z,45nm,0.8s,baz=167,slow=3.6,SNR=19
JNU LR LR 11 56 32.1
comp=Z,1μm,19.9s,baz=223,slow=37
comp=Z,45nm,0.8s
JNU Nakatsue **45.01 37** P **P** **11 36 46.3 -0.4**
JNU IAmb IAmb 11 36 49.8
comp=Z,58nm,0.9s
JNU Nakatsue **45.01 37** P **P** **11 36 47.2 +0.5**
BBOO Buckleboo **45.60 137** P **P** **11 36 51.7 +0.3**
baz=46,SNR=33
BBOO Buckleboo **45.60 137** P **P** **11 36 51.8 +0.3**
BBOO IAmb IAmb 11 37 25.9
comp=Z,168nm,1.9s
BBOO Buckleboo **45.60 137** P **P** **11 36 51.9 +0.5**
LCRK Leigh Creek **45.85 132** P **P** **11 36 53.7 +0.4**
INCN Inchon **45.93 29** P **P** **11 36 52.1 -1.8**
MTSU Mount Surprise **46.08 114** P **P** **11 36 54.3 -1.0**
baz=46,SNR=25
MTSU Mount Surprise **46.08 114** P **P** **11 36 54.4 -1.0**
INKA Innaminka **46.47 128** P **P** **11 36 59.2 +0.9**
JLN Jalan Bani Buh **46.48 303** P **P** **11 36 59.5 +1.0**
SNR=13
KBL Kabul **46.51 324** P **P** **11 36 57.9 -0.9**
KBL IAmb IAmb 11 37 23.1
comp=Z,77nm,1.3s
KBL Kabul **46.51 324** P **P** **11 36 57.9 -0.9**
KBL pmax pmax
comp=Z,77nm,1.3s
KBL Kabul **46.51 324** P **P** **11 36 59.2 +0.5**
SNR=13
KSAR Wonju Array Be **46.52 30** P **P** **11 36 58.6 +0.1**
KSAR Wonju Array Be **46.52 30** P **P** **11 36 58.6 +0.1**
NGCH Negor - Chabah **46.54 308** P **P** **11 37 00.7 +1.8**
KSRS Korea Array **46.55 30** P **P** **11 36 58.9 +0.2**
comp=Z,18nm,0.6s,baz=227,slow=7.5,SNR=45
KSRS pP **pP** **11 37 16.1 +2.5**
comp=Z,18nm,0.7s,baz=225,slow=8.5,SNR=7.3
KSRS PcP **PcP** **11 38 32.8 +0.6**
comp=Z,6.8nm,0.8s,baz=208,slow=3.1,SNR=6.1
KSRS LR LR 11 57 12.7
comp=Z,715nm,19.6s,baz=220,slow=37
comp=Z,18nm,0.6s
KS19 Wonju Array Si **46.56 30** P **P** **11 36 58.7 -0.1**
KS19 IAmb IAmb 11 37 19.7
comp=Z,138nm,1.8s
GUMO Guam **46.63 70** P **P** **11 36 56.9 -2.8**
comp=Z,52nm,0.5s,baz=192,slow=5.4,SNR=6.5
GUMO LR LR 11 56 15.7
comp=Z,389nm,21.9s,baz=240,slow=36
GUMO Guam **46.63 70** P **P** **11 36 57.4 -2.3**
GUMO Guam **46.63 70** P **P** **11 36 57.4 -2.3**
GUMO pmax pmax
comp=Z,229nm,1.3s
WMQ Urumqi **46.71 347** ⇑P **P** **11 37 01.2 +1.2**
WMQ pP pP 11 37 18.5 +3.7
WMQ sP sP 11 37 24.7 +3.3
WMQ S **S** **11 43 46.5 +0.9**
WMQ pmax pmax
comp=Z,91nm,1.1s
WMQ pmax pmax
comp=Z,640nm,5.1s
WMQ LR LR
comp=Z,320nm,22.1s
WMQ LR LR
comp=Z,520nm,17.5s
WMQ LR LR
comp=Z,820nm,28.1s
WMQ Urumqi **46.71 347** P **P** **11 37 01.1 +1.2**
WMQ pP **pP** **11 37 15.0 +0.2**
WMQ sP **sP** **11 37 19.0 -2.4**
KSH Kashi **46.72 334** P **P** **11 36 59.0 -1.2**
KSH pmax pmax
comp=Z,72nm,0.7s
KSH pmax pmax
comp=Z,510nm,5.7s
WHYH Whyalla **46.78 136** P **P** **11 37 01.6 +1.0**
WUS Wushi **46.83 338** P **P** **11 37 01.4 +0.4**
WUS pP **pP** **11 37 15.0 -0.9**
WUS sP **sP** **11 37 20.4 -2.1**
WBK Wadi Bani Khal **47.05 303** P **P** **11 37 04.2 +1.4**
SNR=8.8
PMG Port Moresby **47.13 101** *ce*P **P** **11 37 02.2 -1.4**
PMG pmax pmax
comp=Z,18nm,0.7s
PMG Port Moresby **47.13 101** P **P** **11 37 02.2 -1.4**
DQM DQM **47.19 299** P **P** **11 37 04.8 +0.8**
SNR=5.9
MHTO MHTO **47.23 301** P **P** **11 37 04.6 +0.3**
SNR=7.9
XLT XiLinHaoTe **47.51 15** *e*P **P** **11 37 06.5 +0.3**
XLT pP pP 11 37 22.0 +0.8
XLT sP sP 11 37 28.1 +0.3
XLT pmax pmax
comp=Z,28nm,0.6s
XLT pmax pmax
comp=Z,160nm,4.6s
JHS Saijyo **47.65 37** P **P** **11 37 07.8 +0.5**
JHS IAmb IAmb 11 37 09.9
comp=Z,79nm,0.8s
JHS Saijyo **47.65 37** P **P** **11 37 08.2 +0.9**
JMDO Jabal Madar **47.67 303** P **P** **11 37 08.8 +1.0**
SNR=8.1
TARG Taragay, Kyrgy **47.82 337** P **P** **11 37 09.9 +0.9**
TARG Taragay, Kyrgy **47.82 337** P **P** **11 37 10.0 +0.9**
TARG pmax pmax
comp=Z,106nm,1.0s
HTT Hallett **47.94 135** P **P** **11 37 10.9 +1.2**
baz=48,SNR=26
HTT Hallett **47.94 135** P **P** **11 37 10.9 +1.2**
SMDO Samad **48.00 303** P **P** **11 37 11.5 +1.0**
SNR=10
SNY Shenyang **48.14 23** ⇓P **P** **11 37 10.8 -0.2**
SNY S **S** **11 44 06.4 +0.7**
SNY pmax pmax
comp=Z,42nm,0.9s
SNY pmax pmax
comp=Z,240nm,5.7s
SNY LR LR
comp=Z,800nm,15.9s
SNY LR LR
comp=Z,1μm,16.3s
SNY LR LR
comp=Z,2μm,15.3s
CTA Charters Tower **48.37 116** LR LR 11 58 38.2
comp=Z,792nm,21.7s,baz=276,slow=37
CTA Charters Tower **48.37 116** P **P** **11 37 12.7 -0.5**
CTAO Charters Tower **48.37 116** P **P** **11 37 12.8 -0.5**
CTAO IAmb IAmb 11 37 13.8
comp=Z,27nm,0.8s
CTAO Charters Tower **48.37 116** P **P** **11 37 12.7 -0.5**
CTAO Charters Tower **48.37 116** P **P** **11 37 12.8 -0.5**
CTAO pmax pmax
comp=Z,27nm,0.8s
CTAO Charters Tower **48.37 116** P **P** **11 37 12.2 -1.0**
CTAO pP **pP** **11 37 25.8 -2.4**
SHLS Shalkode **48.45 340** *i*P **P** **11 37 11.6 -1.9**
comp=Z,96nm,0.5s,baz=340
SHLS *e*S **S** **11 44 06.7 -3.8**
baz=340
SHLS Shalkode **48.45 340** *i*P **P** **11 37 11.6 -1.9**
SHLS *e*S **S** **11 44 06.6 -3.8**
SHLS pmax pmax
comp=Z,96nm,0.5s
BSY Bisya **48.59 303** P **P** **11 37 16.3 +1.5**
SNR=9.4
UZB Uzynbulak **48.60 339** *i*P **P** **11 37 14.4 -0.4**
comp=Z,113nm,0.5s,baz=339
UZB Uzynbulak **48.60 339** *i*P **P** **11 37 14.3 -0.4**
UZB pmax pmax
comp=Z,113nm,0.5s
DMTO DMTO **48.73 295** P **P** **11 37 17.0 +1.0**
SATY Saty **48.74 339** *i*P **P** **11 37 15.5 -0.3**
comp=Z,127nm,1.1s,baz=338
SATY *e*S **S** **11 44 13.6 -1.0**
baz=338
SATY Saty **48.74 339** *i*P **P** **11 37 15.5 -0.3**
SATY *e*S **S** **11 44 13.5 -1.0**
SATY pmax pmax
comp=Z,127nm,1.1s
QLP Quilpie **48.80 124** P **P** **11 37 16.7 +0.2**
baz=49,SNR=28
QLP Quilpie **48.80 124** P **P** **11 37 16.8 +0.4**
HOQ Hoqain **48.84 304** P **P** **11 37 18.1 +1.4**
SNR=9.9
ULHL Ulahol **48.88 336** P **P** **11 37 18.9 +1.9**
SNR=7.7
KPKS Kokpek **48.99 339** *i*P **P** **11 37 17.2 -0.5**
comp=Z,65nm,0.6s,baz=339
KPKS Kokpek **48.99 339** *i*P **P** **11 37 17.2 -0.5**
KPKS pmax pmax
comp=Z,65nm,0.6s
GAR Garm **49.03 329** P **P** **11 37 17.6 -0.5**
GAR IAmb IAmb 11 37 20.8
comp=Z,68nm,0.7s
STKA Stephens Creek **49.06 132** P **P** **11 37 19.0 +0.7**
comp=Z,39nm,0.8s,baz=306,slow=8.1,SNR=93
STKA S **S** **11 44 17.0 -2.2**
comp=Z,2.2nm,0.7s,baz=97,slow=18,SNR=3.5
STKA LR LR 11 59 00.9
comp=Z,952nm,21.9s,baz=297,slow=37
comp=Z,39nm,0.8s
STKA Stephens Creek **49.06 132** P **P** **11 37 18.8 +0.4**
baz=49,SNR=41
STKA Stephens Creek **49.06 132** P **P** **11 37 19.0 +0.7**
STKA Stephens Creek **49.06 132** P **P** **11 37 18.7 +0.4**
STKA Stephens Creek **49.06 132** *i*P **P** **11 37 18.3 0.0**
TNSS Tian-Shan **49.27 337** *e*P **P** **11 37 20.3 +0.1**
baz=337
TNSS Tian-Shan **49.27 337** *e*P **P** **11 37 20.2 +0.1**

RBK Rabkut 49.34 295 P **P** 11 37 22.1 +1.4
SNR=7.1
JCJ Chichijima 49.37 52 LR LR 11 57 22.6
comp=Z,569nm,21.1s,baz=250,slow=35
JASK Jask - Hormozg 49.38 307 P **P** 11 37 23.1 +2.3
CHGR Chuyangaron 49.38 328 P **P** 11 37 19.9 -0.9
CHGR Chuyangaron 49.38 328 P **P** 11 37 19.9 -0.9
CHGR pmax pmax
comp=Z,153nm,0.7s
ARQ Araqi 49.40 303 P **P** 11 37 22.2 +1.2
SNR=7.4
AAA Alma-Ata 49.43 337 *e*P **P** 11 37 20.4 -0.6
comp=Z,144nm,0.9s,baz=337
AAA Alma-Ata 49.43 337 *e*P **P** 11 37 20.3 -0.6
AAA pmax pmax
comp=Z,144nm,0.9s
SIMJ Simiganj 49.47 328 P **P** 11 37 20.1 -1.3
SIMJ sP **pP** 11 37 38.9 +2.6
UCH Uchtor 49.58 335 P **P** 11 37 23.4 +0.8
SNR=12
SONM Songino Array 49.59 5 P **P** 11 37 22.1 -0.1
comp=Z,102nm,0.8s,baz=186,slow=9.1,SNR=337
SONM pP **pP** 11 37 40.1 +2.8
comp=Z,52nm,0.8s,baz=188,slow=8.4,SNR=6.7
SONM PcP **PcP** 11 38 43.0 -0.1
comp=Z,14nm,0.6s,baz=188,slow=4.0,SNR=7.9
SONM ScP **ScP** 11 42 32.7 -1.2
comp=Z,2.7nm,1.0s,baz=189,slow=5.3,SNR=4.4
SONM LR LR 12 00 54.1
comp=Z,1µm,18.8s,baz=183,slow=39
comp=Z,102nm,0.8s
SONM Songino Array 49.59 5 P **P** 11 37 22.3 +0.1
SONM Songino Array 49.59 5 P **P** 11 37 22.3 +0.1
SONM pmax pmax
comp=Z,93nm,0.9s
ULN Ulaanbaatar 49.69 6 P **P** 11 37 22.9 -0.1
ULN lAmb lAmb 11 37 24.4
comp=Z,56nm,0.8s
ULN Ulaanbaatar 49.69 6*ce*P **P** 11 37 22.8 -0.1
ULN pmax pmax
comp=Z,51nm,0.7s
ULN Ulaanbaatar 49.69 6 P **P** 11 37 22.6 -0.3
ULN Ulaanbaatar 49.69 6 P **P** 11 37 22.9 -0.1
ULN sP **pP** 11 37 40.6 +2.5
TKM2 Tokmak 2 49.70 336 P **P** 11 37 24.0 +0.7
SNR=26
TKM2 Tokmak 2 49.70 336 P **P** 11 37 23.3 +0.1
SOHO SOHO 49.72 304 *i* P **P** 11 37 24.2 +0.9
SNR=7.6
SOHO SOHO 49.72 304 P **P** 11 37 24.3 +0.9
KBK Karagaybulak 49.75 335 P **P** 11 37 25.2 +1.7
SNR=18
DOK Doka 49.76 296 P **P** 11 37 24.5 +0.7
SNR=10
AML Almayashu 49.85 334 P **P** 11 37 25.3 +0.7
SNR=30
WHFO Wadi Hawf 49.86 295 P **P** 11 37 25.4 +0.7
SNR=5.8
AAK Ala-Archa 49.92 335 P **P** 11 37 25.9 +1.0
SNR=37
AAK Ala-Archa 49.92 335 LR LR 12 01 46.0
comp=Z,443nm,20.0s,baz=152,slow=40
AAK Ala-Archa 49.92 335 P **P** 11 37 25.4 +0.6
AAK lAmb lAmb 11 37 28.1
comp=Z,54nm,0.6s
AAK Ala-Archa 49.92 335*ce*P **P** 11 37 25.0 +0.1
AAK pmax pmax
comp=Z,237nm,2.5s
AAK Ala-Archa 49.92 335 P **P** 11 37 26.0 +1.1
AAK Ala-Archa 49.92 335 P **P** 11 37 26.2 +1.4
CHKK Chushkaly 49.95 338 *e*P **P** 11 37 24.5 -0.4
baz=338
CHKK Chushkaly 49.95 338 *e*P **P** 11 37 24.4 -0.4
CHMS Chumysh 50.11 336 P **P** 11 37 26.4 +0.3
SNR=42
ABTO Aybut 50.12 294 P **P** 11 37 27.6 +1.0
SNR=6.1
KUU Kurty 50.23 337 *i* P **P** 11 37 26.8 -0.2
comp=Z,195nm,1.0s,baz=337
KUU *e*S **S** 11 44 34.8 -0.4
baz=337
KUU Kurty 50.23 337 *i* P **P** 11 37 26.8 -0.2
KUU *e*S **S** 11 44 34.7 -0.4
KUU pmax pmax
comp=Z,195nm,1.0s
EKS2 Erkin-Say 50.25 335 P **P** 11 37 28.2 +0.9
SNR=280
INU Inuyama 50.28 39 P **P** 11 37 27.9 +0.4
INU lAmb lAmb 11 38 37.2
comp=Z,154nm,2.0s
INU Inuyama 50.28 39 P **P** 11 37 28.1 +0.6
UMZA Um Al Zommool 50.30 302 P **P** 11 37 28.6 +0.8
UOSS Minazif 50.33 305 P **P** 11 37 28.0 0.0
UOSS Minazif 50.33 305 P **P** 11 37 28.1 +0.1
UOSS Minazif 50.33 305 P **P** 11 37 28.7 +0.6
UOSS Minazif 50.33 305 P **P** 11 37 28.1 0.0
ALNE Al Ain 50.34 303 *i* P **P** 11 37 29.1 +1.0
SNR=15
ALNE Al Ain 50.34 303 P **P** 11 37 29.2 +1.1
SNR=23
HATD Hatta, Dubai 50.34 305 *i* P **P** 11 37 28.9 +0.8
SNR=5.5
HATD Hatta, Dubai 50.34 305 P **P** 11 37 29.2 +1.0
SNR=8.1
ASHO Ashiyiah 50.34 304 *i* P **P** 11 37 29.0 +0.8
SNR=12
ASHO Ashiyiah 50.34 304 P **P** 11 37 29.2 +1.1
SNR=5.8
MDH Madha 50.40 305 *i* P **P** 11 37 28.3 -0.3
SNR=8.7
MDH Madha 50.40 305 P **P** 11 37 28.5 -0.1
TDK Taldyqorghan 50.43 340 *e*P **P** 11 37 28.6 0.0
comp=Z,112nm,0.6s,baz=340
TDK Taldyqorghan 50.43 340 *e*P **P** 11 37 28.5 0.0
TDK pmax pmax
comp=Z,111nm,0.6s
USP Ospenovka 50.44 336 P **P** 11 37 28.9 +0.3
SNR=42
SGDS Sogindy 50.54 336 *e*P **P** 11 37 29.4 0.0
baz=336
SGDS Sogindy 50.54 336 *e*P **P** 11 37 29.3 0.0
MSFE Esma-Masafi 50.54 305 *i* P **P** 11 37 31.1 +1.4
SNR=9.0
MASF Masafi 50.55 305 P **P** 11 37 31.0 +1.3
SNR=6.3
JGF Kuroka 50.66 39 P **P** 11 37 29.6 -0.8
JGF lAmb lAmb 11 37 32.4
comp=Z,33nm,0.9s
JGF Kuroka 50.66 39 P **P** 11 37 30.5 +0.1
BANOM Banah 50.67 306 P **P** 11 37 31.5 +0.9
FAQ Al Faqa, Dubai 50.75 304 *i* P **P** 11 37 33.0 +1.8
SNR=15
FAQ Al Faqa, Dubai 50.75 304 P **P** 11 37 32.2 +1.0
SNR=10
JHJ Hachijo jima 2 50.77 43 LR LR 11 57 59.3
comp=Z,310nm,20.5s,baz=103,slow=35
ZSN Zaisan 50.79 346 *e*P **P** 11 37 31.4 +0.3
comp=Z,54nm,0.8s,baz=346
ZSN Zaisan 50.79 346 *e*P **P** 11 37 31.3 +0.2
ZSN pmax pmax
comp=Z,53nm,0.8s
NAZ Nazwa, Dubai 50.79 304 P **P** 11 37 32.6 +1.1
NAZ Nazwa, Dubai 50.79 304 P **P** 11 37 32.8 +1.3
MK31 Makanchi Array 50.84 344 P **P** 11 37 31.4 -0.1
MK31 Makanchi Array 50.84 344 *i* P **P** 11 37 30.8 -0.7
MKAR Makanchi Array 50.84 344 P **P** 11 37 31.1 -0.3
comp=Z,106nm,0.7s,baz=148,slow=7.5,SNR=804
MKAR S **S** 11 44 43.3 -0.2
comp=Z,0.6nm,0.8s,baz=147,slow=14,SNR=2.0
MKAR LR LR 12 03 14.6
comp=Z,727nm,20.9s,baz=162,slow=41
MKAR PKPPKP **P'P'df** 12 08 15.4 +0.2
comp=Z,0.3nm,0.7s,baz=18,slow=2.1,SNR=4.7
comp=Z,106nm,0.7s
MKAR Makanchi Array 50.84 344 P **P** 11 37 31.4 -0.1
MKAR Makanchi Array 50.84 344*ce*P **P** 11 37 31.2 -0.3
MKAR pmax pmax
comp=Z,107nm,0.6s
SHME Shamm 50.85 306 P **P** 11 37 33.4 +1.4
ASUD Al Ashush, Dub 50.92 304 *i* P **P** 11 37 33.5 +1.0
SNR=5.2
ASUD Al Ashush, Dub 50.92 304 P **P** 11 37 33.7 +1.3
SNR=7.3
MAKZ Makanchi 50.94 344 P **P** 11 37 32.0 -0.2
MAKZ lAmb lAmb 11 37 33.7
comp=Z,90nm,0.9s
MAKZ Makanchi 50.94 344 P **P** 11 37 32.0 -0.2
MAKZ pmax pmax
comp=Z,90nm,0.9s
MAKZ Makanchi 50.94 344 P **P** 11 37 31.9 -0.4
MAKZ sP **pP** 11 37 50.0 +2.7
UMQ Umm Al-Quwin 51.02 305 P **P** 11 37 34.5 +1.3
AJN Ajban 51.18 304 P **P** 11 37 34.5 +0.1
DZA Taraz 51.52 333 *e*P **P** 11 37 36.4 -0.4
baz=333
DZA Taraz 51.52 333 *e*P **P** 11 37 36.3 -0.4
IUG Iuzhnay 51.55 331 *e*P **P** 11 37 37.1 0.0
baz=331
IUG Iuzhnay 51.55 331 *e*P **P** 11 37 37.0 0.0
KRVT Keravat (AS076 51.62 94 LR LR 12 02 53.4
comp=Z,214nm,20.6s,baz=35,slow=40
ARPS Mount Arapiles 51.75 137 P **P** 11 37 40.3 +1.8
baz=52,SNR=20
ARPS Mount Arapiles 51.75 137 P **P** 11 37 40.1 +1.6
MAJO Matsushiro 51.78 39 P **P** 11 37 38.7 -0.1
MAJO lAmb lAmb 11 37 40.9
comp=Z,21nm,0.6s
MAJO Matsushiro 51.78 39 P **P** 11 37 39.3 +0.5
MAJO Matsushiro 51.78 39 P **P** 11 37 38.7 -0.1
MAJO pmax pmax
comp=Z,21nm,0.6s
MAJO Matsushiro 51.78 39 P **P** 11 37 38.1 -0.7
MAJO sP **pP** 11 37 56.5 +2.6
MJB9 Matsu-Tunnel 51.78 39 P **P** 11 37 39.8 +1.0
MJAR Matsushiro Arr 51.78 39 P **P** 11 37 38.4 -0.4
comp=Z,9.4nm,0.5s,baz=213,slow=8.3,SNR=43
MJAR LR LR 12 00 53.8
comp=Z,848nm,20.1s,baz=229,slow=37
comp=Z,9.4nm,0.5s
MZWR Madinat Zayed 51.79 302 P **P** 11 37 39.8 +0.8
ZAK Zakamensk 51.92 2 *e*P **P** 11 37 38.9 -0.8
ZAK *e* 11 37 56.3
ZAK pmax pmax
comp=Z,13nm,0.9s
ZAK pmax pmax
comp=Z,11nm,1.0s
CMSA Cobar Meteorol 52.01 130 P **P** 11 37 41.2 +0.6
baz=52,SNR=62
CMSA Cobar Meteorol 52.01 130 P **P** 11 37 41.6 +1.1
KK31 Karatay Array 52.06 332 P **P** 11 37 40.4 -0.3
KK31 lAmb lAmb 11 38 02.2
comp=Z,40nm,1.0s
KK31 Karatay Array 52.06 332 *i* P **P** 11 37 40.2 -0.5
KKAR Karatay Array 52.06 332 P **P** 11 37 40.4 -0.3
KKAR lAmb lAmb 11 38 02.2
comp=Z,40nm,1.0s
KKAR Karatay Array 52.06 332 P **P** 11 37 40.4 -0.3
BTLS Baital 52.09 336 *e*P **P** 11 37 40.3 -0.6
baz=336
BTLS Baital 52.09 336 *e*P **P** 11 37 40.2 -0.6
DGZ Jazzator, Alta 52.39 349 *c* P **P** 11 37 42.6 -0.6
DGZ pmax pmax
comp=Z,67nm,0.9s
RMQ Roma 52.54 122 P **P** 11 37 46.7 +2.1
baz=53,SNR=11
RMQ Roma 52.54 122 P **P** 11 37 46.1 +1.5
GHWR Ruwais 52.72 302 P **P** 11 37 46.8 +0.9
BNX BinXian 52.93 23 ⇓P **P** 11 37 46.9 -0.1
BNX pmax pmax
comp=Z,100nm,0.6s
BNX pmax pmax
comp=Z,320nm,6.7s
MDJ Mudanjiang 52.93 26 P **P** 11 37 47.0 -0.1
MDJ pP pP 11 38 03.8 +1.4
MDJ sP sP 11 38 10.6 +1.7
MDJ ScP **ScP** 11 42 45.4 -2.8
MDJ PcS **PcS** 11 42 52.6 -1.4
MDJ S **S** 11 45 13.4 +1.2
MDJ sS sS 11 45 43.6 +5.5
MDJ pmax pmax
comp=Z,37nm,0.9s
MDJ pmax pmax
comp=Z,460nm,5.9s
MDJ LR LR
comp=Z,2µm,19.7s
MDJ LR LR
comp=Z,2µm,20.2s
MDJ LR LR
comp=Z,2µm,22.0s
MDJ Mudanjiang 52.93 26 P **P** 11 37 47.7 +0.6
MDJ Mudanjiang 52.93 26 P **P** 11 37 47.4 +0.3
MDJ pP **pP** 11 38 00.9 -1.5
MDJ sP **sP** 11 38 06.6 -2.3
AULRC Lightning Ridg 52.96 126 P **P** 11 37 48.2 +0.6
MOY Mondy 53.16 0 *e*P **P** 11 37 48.3 -0.5
MOY pmax pmax
comp=Z,59nm,2.8s
HIA Hailar 53.44 16 P **P** 11 37 50.7 -0.1
HIA Hailar 53.44 16 P **P** 11 37 50.2 -0.5
BRAT Ballarat 53.58 137 P **P** 11 37 54.1 +2.1
USA0B Ussuriysk Arra 53.69 28 P **P** 11 37 52.8 +0.1
USA0B Ussuriysk Arra 53.69 28 *i* P **P** 11 37 52.5 -0.2
USRK Ussuriysk Ar. 53.69 28 P **P** 11 37 53.0 +0.3
comp=Z,125nm,0.7s,baz=226,slow=5.7,SNR=168
USRK pP **pP** 11 38 10.6 +2.7
comp=Z,41nm,0.6s,baz=232,slow=4.2,SNR=4.8
USRK LR LR 12 02 16.7
comp=Z,1µm,20.1s,baz=215,slow=38
comp=Z,125nm,0.7s
USRK Ussuriysk Ar. 53.69 28 P **P** 11 37 53.2 +0.5
USRK Ussuriysk Ar. 53.69 28 P **P** 11 37 53.2 +0.5
SLWR Sila 53.76 302 P **P** 11 37 54.3 +0.8
IRK Irkutsk 53.83 3 *e*P **P** 11 37 54.0 +0.4
IRK pmax pmax
comp=Z,86nm,2.4s
EIDS Eidsvold 54.17 120 P **P** 11 37 56.4 -0.1
baz=54,SNR=10
EIDS Eidsvold 54.17 120 P **P** 11 37 56.2 -0.3
EIDS Eidsvold 54.17 120 P **P** 11 37 56.9 +0.3
JMM Marumori 54.22 39 P **P** 11 37 56.9 +0.2
JMM lAmb lAmb 11 37 58.0
comp=Z,49nm,0.7s
AUDCS Dubbo College 54.57 129 P **P** 11 38 00.5 +1.2
TOO Toolangi 54.66 136 P **P** 11 38 02.4 +2.5
baz=55,SNR=9.2
TOO Toolangi 54.66 136 P **P** 11 38 02.3 +2.3
TOO Toolangi 54.66 136 P **P** 11 38 01.3 +1.3
TOO Toolangi 54.66 136 P **P** 11 38 02.3 +2.3
TOO pmax pmax
comp=Z,17nm,0.8s
SMRA Abu-Samra 54.74 302 P **P** 11 38 01.4 +0.7
OPO Ambohidratompo 54.75 248 LR LR 11 57 26.2
comp=Z,247nm,19.2s,baz=210,slow=32
SHMA Al-Shehemyia 55.03 303 P **P** 11 38 03.6 +0.8
KURBB Kurchatov Arra 55.36 343 P **P** 11 38 04.3 -0.4
comp=Z,123nm,0.8s,baz=163,slow=7.1,SNR=681
KURBB S **S** 11 45 45.2 +0.4
comp=Z,0.3nm,0.5s,baz=154,slow=15,SNR=1.5
KURBB LR LR 12 05 10.1
comp=Z,490nm,20.5s,baz=151,slow=40
comp=Z,123nm,0.8s
KURBB Kurchatov Arra 55.36 343 P **P** 11 38 04.1 -0.6
KURK Kurchatov 55.42 343 P **P** 11 38 04.9 -0.2
KURK Kurchatov 55.42 343*ce*P **P** 11 38 04.5 -0.6
KURK pmax pmax
comp=Z,175nm,0.7s
KURK Kurchatov 55.42 343 P **P** 11 38 04.9 -0.2
KURK Kurchatov 55.42 343 P **P** 11 38 04.9 -0.2
KURK pP **pP** 11 38 17.8 -2.4
KURK sP **sP** 11 38 23.3 -3.4
SAKB Bahrain 55.44 303 P **P** 11 38 05.4 -0.2
GEYT Alibeck 55.46 320 P **P** 11 38 05.3 -0.4
comp=Z,52nm,0.9s,baz=153,slow=8.0,SNR=60
GEYT LR LR 12 03 23.6
comp=Z,814nm,19.5s,baz=90,slow=38
comp=Z,52nm,0.9s
GEYT Alibeck 55.46 320 P **P** 11 38 05.6 -0.1
GEYT Alibeck 55.46 320 P **P** 11 38 05.6 -0.1
GYA0 ALIBECK ARRAY 55.46 320 P **P** 11 38 05.5 -0.2
GYA0B ALIBECK ARRAY 55.46 320 P **P** 11 38 05.3 -0.4
GYA0B lAmb lAmb 11 38 07.1
comp=Z,57nm,0.9s
VOI Vohitsoka 55.83 245 P **P** 11 38 10.2 +1.5
VOI lAmb lAmb 11 38 26.7
comp=Z,91nm,1.6s
VOI Vohitsoka 55.83 245 P P 11 38 15.4 +6.7
VOI Vohitsoka 55.83 245 P **P** 11 38 11.3 +2.6
AUPHS Peel High Scho 55.91 127 P **P** 11 38 10.2 +1.1
CAN Canberra 56.13 132 P **P** 11 38 10.6 0.0
CAN lAmb lAmb 11 38 13.2
comp=Z,62nm,1.0s
CAN Canberra 56.13 132 P **P** 11 38 11.8 +1.2
CAN Canberra 56.13 132 P **P** 11 38 10.6 0.0
CAN pmax pmax
comp=Z,62nm,1.0s
CAN Canberra 56.13 132 P **P** 11 38 11.4 +0.8
CAN pP **pP** 11 38 24.6 -1.3
ARMA Armidale 56.27 126 P **P** 11 38 13.0 +1.3
baz=56,SNR=33
ARMA Armidale 56.27 126 P **P** 11 38 12.9 +1.1
ARMA lAmb lAmb 11 38 14.7
comp=Z,37nm,0.8s
ARMA Armidale 56.27 126 P **P** 11 38 13.4 +1.7
AUWSH Wavell State H 56.46 122 P **P** 11 38 14.1 +1.1
HEH HeiHe 56.69 20 *e*P **P** 11 38 14.2 +0.1
HEH pmax pmax
comp=Z,30nm,1.0s
HEH LR LR
comp=Z,1µm,18.0s
HEH LR LR
comp=Z,810nm,16.7s
HEH LR LR
comp=Z,2µm,19.6s
ZAA0 Zalesovo Array 56.93 349 P **P** 11 38 15.1 -0.7
ZALV Zalesovo Beam 56.93 349 P **P** 11 38 15.2 -0.6
comp=Z,208nm,0.7s,baz=179,slow=6.1,SNR=459
ZALV S **S** 11 46 02.9 -2.6
comp=Z,0.7nm,0.5s,baz=178,slow=12,SNR=2.3
ZALV LR LR 12 06 16.2
comp=Z,515nm,20.0s,baz=154,slow=40
ZALV PKPPKP **P'P'df** 12 08 07.3 +1.2
comp=Z,0.7nm,0.4s,baz=343,slow=4.6,SNR=4.4
ZALV PKP2bc **P'P'bc** 12 08 17.7 -0.8
comp=Z,0.8nm,0.6s,baz=329,slow=2.5,SNR=4.0
comp=Z,208nm,0.7s
ZALV Zalesovo Beam 56.93 349 *i* P **P** 11 38 15.0 -0.8
ZALV pmax pmax
comp=Z,213nm,0.7s
KLR Kul'dur 57.49 24 P **P** 11 38 20.1 +0.3
comp=Z,51nm,0.7s,baz=234,slow=6.5,SNR=174
KLR pP **pP** 11 38 37.5 +2.3
comp=Z,29nm,0.7s,baz=236,slow=4.4,SNR=6.4
KLR LR LR 12 04 53.9
comp=Z,2µm,19.1s,baz=218,slow=38
comp=Z,51nm,0.7s
KLR Kul'dur 57.49 24*ce*P **P** 11 38 19.7 -0.1
KLR pmax pmax
comp=Z,60nm,0.8s
KLR MLR MLR
comp=Z,1µm,18.0s
ERM Erimo 58.17 37 P **P** 11 38 25.2 +0.5
ERM sP **sP** 11 38 44.6 -2.1
MOO Moorlands 58.25 141 P **P** 11 38 27.3 +2.0
baz=58,SNR=3.9
RAYN Ar Rayn 58.93 299 P **P** 11 38 30.2 -0.3
RAYN Ar Rayn 58.93 299 P **P** 11 38 30.2 -0.3
RAYN pmax pmax
comp=Z,16nm,0.8s
RAYN Ar Rayn 58.93 299 P **P** 11 38 30.5 0.0
RAYN Ar Rayn 58.93 299 P **P** 11 38 30.6 +0.1
RAYN Ar Rayn 58.93 299 P **P** 11 38 30.2 -0.3
RAYN pP **pP** 11 38 42.6 -3.1
ASAJ Asahikawa 59.13 34 P **P** 11 38 31.6 +0.2
comp=Z,12nm,0.4s,baz=244,slow=7.1,SNR=34
ASAJ LR LR 12 05 01.6
comp=Z,313nm,19.4s,baz=245,slow=37
comp=Z,12nm,0.4s
ASAJ Asahikawa 59.13 34 P **P** 11 38 31.9 +0.5
ASAJ pmax pmax
comp=Z,36nm,0.8s
JKA Kamikawa-asahi 59.13 34 P **P** 11 38 31.9 +0.5
JKA lAmb lAmb 11 38 43.1
comp=Z,36nm,0.8s
ZEA Zeya 59.58 18 *e*P **P** 11 38 34.9 +0.6
ZEA *e* 11 38 53.2
ZEA pmax pmax
comp=E,20nm,1.3s
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA MLR MLR
comp=N,400nm,15.0s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=Z,600nm,16.0s
HNR Honiara 59.70 100 LR LR 12 08 30.6
comp=Z,2µm,20.7s,baz=284,slow=40
BVA0 Borovoye Array 60.03 340 *i* P **P** 11 38 36.5 -0.9
BVAR Borovoye Array 60.03 340 P **P** 11 38 36.3 -1.1
comp=Z,56nm,0.6s,baz=141,slow=8.3,SNR=234
BVAR PKP2ab **P'P'ab** 12 08 25.2 +2.1
comp=Z,2.1nm,1.0s,baz=352,slow=2.9,SNR=4.7
BVAR LR LR 12 09 42.0
comp=Z,346nm,18.8s,baz=140,slow=41
comp=Z,56nm,0.6s
BRVK Borovoye 60.09 340 P **P** 11 38 37.1 -0.7
BRVK lAmb lAmb 11 38 58.6
comp=Z,53nm,0.8s
BRVK Borovoye 60.09 340 P **P** 11 38 37.1 -0.7
BRVK pmax pmax
comp=Z,53nm,0.9s
BRVK Borovoye 60.09 340 P **P** 11 38 37.0 -0.8
BRVK Borovoye 60.09 340 P **P** 11 38 36.7 -1.1
BRVK sP **pP** 11 38 55.5 +2.3
BOD Bodaibo 60.31 8 *e*P **P** 11 38 39.0 -0.2
BOD pmax pmax
comp=Z,73nm,2.0s
GRNR Gornyy 60.61 25 ⇓*i* P **P** 11 38 41.8 +0.4
GRNR pmax pmax
comp=E,7.0nm,0.8s
GRNR pmax pmax
comp=N,6.0nm,1.2s
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=N,610nm,15.0s
YSS Yuzh-Sakhalins 61.01 32 P **P** 11 38 44.4 +0.2
YSS Yuzh-Sakhalins 61.01 32 *e*P **P** 11 38 44.5 +0.3
YSS *e* 11 39 03.0
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,400nm,4.8s
YSS Yuzh-Sakhalins 61.01 32 P **P** 11 38 44.4 +0.2
YSS pP **pP** 11 38 57.9 -1.8
YSS sP **sP** 11 39 03.3 -3.0
AB31 Akbulak array 61.56 331 *i* P **P** 11 38 47.0 -0.9
ABKAR Akbulak array 61.56 331 P **P** 11 38 47.8 -0.1
ABKAR Akbulak array 61.56 331 P **P** 11 38 47.5 -0.3
ABKAR lAmb lAmb 11 38 48.8
comp=Z,166nm,1.0s
UGL Uglegorsk 62.03 30 *e*P **P** 11 38 52.1 +1.1
UGL *e* 11 39 06.4
UGL pmax pmax
comp=Z,30nm,0.9s
LKRN Lenkeran, Azer 62.13 316 P **P** 11 38 52.7 +0.8
KIBK Kibwezi 62.31 268 P **P** 11 38 55.6 +1.9
KMBO Kilima Mbogo 63.12 270 P **P** 11 38 58.5 -0.9
baz=52,slow=23,SNR=3.2
KMBO LR LR 12 03 17.0
comp=Z,11nm,19.8s,baz=92,slow=33
KMBO Kilima Mbogo 63.12 270 P **P** 11 39 01.2 +1.9
AKTO Aktyubinsk 63.27 331 LR LR 12 10 01.4
comp=Z,405nm,20.7s,baz=163,slow=39
AKTO Aktyubinsk 63.27 331 P **P** 11 38 58.0 -1.3
TYV Tymovskoe 63.50 28 *e*P **P** 11 39 02.7 +1.9
TYV *e*S **S** 11 47 33.4 +3.7
TYV pmax pmax
comp=Z,25nm,1.3s
TYV pmax pmax
comp=Z,200nm,4.0s
TYV smax smax
comp=N,500nm,5.4s
TYV smax smax
comp=E,400nm,5.4s
AKT Akhty 64.14 318 *e*P **P** 11 39 05.2 -0.1
AKT *e**PP **pP** 11 39 23.5 +2.9
AKT *e**SP **sP** 11 39 31.9 +4.9
AKT *e* 11 39 39.5
AKT pmax pmax
comp=Z,80nm,1.1s
SEKA Sheki 64.36 318 P **P** 11 39 07.6 +0.8
NAX Nakhchivan 64.63 315 P **P** 11 39 09.1 +0.5
GANJ Ganja 64.70 317 P **P** 11 39 10.0 +1.0

ZKTA Zakatala 64.95 318 P **P** **11 39 11.9 +1.4**
MAK Makhachkala 64.98 320 *e*P **P** **11 39 07.5 -3.1**
MAK *e**P **pP** **11 39 25.7 -0.3**
MAK *e**SP **sP** **11 39 33.8 +1.5**
MAK *e*S **S** **11 47 42.7 -5.6**
MAK *e**SS **sS** **11 48 16.7 +2.4**
MAK *e*SS **SS** **11 51 57.4 -3.9**
MAK pmax pmax
comp=Z,38nm,0.4s
MAK MLR MLR
comp=Z,164nm,18.0s
KOUNC Koumac, New Ca 65.01 112 P **P** **11 39 11.8 +0.5**
LODK Lodwar 65.20 275 P **P** **11 39 15.1 +2.3**
SNR=5.8
GNI Garni 65.57 316 LR LR 12 10 53.9
comp=Z,67nm,20.9s,baz=116,slow=39
GNI Garni 65.57 316 P **P** **11 39 15.2 +0.4**
GNI IAmb IAmb 11 39 17.0
comp=Z,66nm,1.1s
GNI Garni 65.57 316 P **P** **11 39 15.2 +0.4**
GNI pmax pmax
comp=Z,66nm,1.1s
GNI Garni 65.57 316 P **P** **11 39 15.3 +0.5**
GNI Garni 65.57 316 P **P** **11 39 15.7 +0.9**
GNI Garni 65.57 316 P **P** **11 39 15.2 +0.5**
GROC Groznyy 66.20 319 *e*P **P** **11 39 19.0 +0.5**
GROC *e**PP **sP** **11 39 39.3 -0.9**
GROC *e**SP **PcP** **11 39 47.1 -1.3**
GROC *e* 11 39 49.2
GROC *e*S **S** **11 48 03.9 +0.6**
GROC pmax pmax
comp=Z,283nm,0.8s
SVE Sverdlovsk 66.54 337 *e*P **P** **11 39 20.5 +0.1**
SVE pmax pmax
comp=Z,155nm,0.9s
KARS Kars 66.93 316 P **P** **11 39 24.4 +1.0**
KARS Kars 66.93 316 P **P** **11 39 24.4 +1.0**
KARS pmax pmax
comp=Z,296nm,0.8s
AKH Akhalkalaki 66.96 317 P **P** **11 39 24.4 +0.7**
ARU Arti 67.08 336 LR LR 12 11 02.4
comp=Z,437nm,21.4s,baz=132,slow=38
ARU Arti 67.08 336 P **P** **11 39 23.4 -0.4**
ARU IAmb IAmb 11 39 24.8
comp=Z,107nm,1.1s
ARU Arti 67.08 336*c i*P **P** **11 39 23.6 -0.2**
ARU *t**PP **pP** **11 39 40.6 +1.2**
ARU 11 39 50.3
ARU S **S** **11 48 14.4 +1.0**
ARU SS **SS** **11 52 28.2 -5.1**
ARU pmax pmax
comp=Z,104nm,1.0s
ARU MLR MLR
comp=Z,594nm,20.0s
ARU Arti 67.08 336 P **P** **11 39 23.1 -0.7**
DZM Mont Dzumac 67.21 113 *e*P **P** **11 39 27.5 +2.0**
comp=Z,109nm,30.4s
DZM *e*S **S** **11 48 16.6 +0.1**
comp=Z,142nm,27.6s
DZM Mont Dzumac 67.21 113 *e*LR LR 11 59 47.5
comp=Z,798nm,23.2s
DZM Mont Dzumac 67.21 113 LR LR 12 11 54.5
comp=Z,419nm,19.7s,baz=272,slow=39
ZEI Tsey 67.27 318 *e*P **P** **11 39 24.6 -1.0**
ZEI pmax pmax
comp=Z,104nm,0.8s
MARD Mardin 67.33 312 P **P** **11 39 26.7 +0.7**
YAK Yakutsk 67.34 14 P **P** **11 39 24.3 -1.1**
comp=Z,73nm,0.6s,baz=171,slow=0.6,SNR=60
YAK LR LR 12 11 55.4
comp=Z,1μm,18.4s,baz=246,slow=39
comp=Z,73nm,0.6s
YAK Yakutsk 67.34 14 P **P** **11 39 24.2 -1.2**
YAK Yakutsk 67.34 14*c i*P **P** **11 39 24.7 -0.7**
YAK *e**PP **pP** **11 39 38.7 -2.4**
YAK *e*S **S** **11 48 13.5 -2.8**
YAK *e**SS SKSac 11 49 00.5 -17
YAK *e*SS **SS** **11 52 35.8 -1.3**
YAK pmax pmax
comp=Z,161nm,0.8s
YAK pmax pmax
comp=N,30nm,1.0s
YAK pmax pmax
comp=E,24nm,0.9s
YAK pmax pmax
comp=Z,303nm,5.4s
YAK pmax pmax
comp=N,237nm,5.1s
YAK pmax pmax
comp=E,157nm,4.4s
YAK smax smax
comp=E,383nm,5.8s
YAK smax smax
comp=N,150nm,4.8s
YAK MLR MLR
comp=Z,896nm,21.0s
YAK MLR MLR
comp=N,966nm,20.0s
YAK MLR MLR
comp=E,316nm,15.0s
YAK Yakutsk 67.34 14 P **P** **11 39 24.1 -1.2**
YAK sP **pP** **11 39 42.3 +1.2**
ONI Oni 67.48 318 P **P** **11 39 27.9 +1.1**
ONI IAmb IAmb 11 39 29.2
comp=Z,44nm,0.8s
ONI Oni 67.48 318 P **P** **11 39 27.9 +1.1**
ONI pmax pmax
comp=Z,44nm,0.8s
OUENC Ouen Island, N 67.62 113 P **P** **11 39 28.6 +0.6**
LIFNC LIFOU 67.78 112 P **P** **11 39 29.9 +0.8**
LIFNC IAmb IAmb 11 40 00.2
comp=Z,146nm,1.5s
KBZ Khabaz 68.33 319 P **P** **11 39 32.6 +0.6**
comp=Z,86nm,0.8s,baz=119,slow=5.3,SNR=161
KBZ LR LR 12 13 15.9
comp=Z,220nm,21.2s,baz=104,slow=39
comp=Z,86nm,0.8s
KBZ Khabaz 68.33 319*ce*P **P** **11 39 32.1 +0.1**
KBZ pmax pmax
comp=Z,78nm,0.9s
SHA1 Shidzhatmaz 68.49 319 *i*P **P** **11 39 32.5 -0.8**
KIV Kislovodsk 68.56 319 *e*P **P** **11 39 33.4 -0.2**
KIV *e**PP **pP** **11 39 51.7 +2.7**
KIV *e* 11 42 05.7
KIV *e*S **S** **11 48 30.9 -0.9**
KIV pmax pmax
comp=Z,75nm,1.0s
KIV pmax pmax
comp=Z,39nm,3.7s
KIV MLR MLR
comp=Z,153nm,17.0s
KIV Kislovodsk 68.56 319 P **P** **11 39 34.2 +0.6**
KIV Kislovodsk 68.56 319 P **P** **11 39 34.2 +0.6**
MBAR Mbarara 69.65 270 LR LR 12 05 11.1
comp=Z,544nm,21.6s,baz=74,slow=32
MBAR Mbarara 69.65 270 P **P** **11 39 41.4 +0.4**
MBAR Mbarara 69.65 270 *i*P **P** **11 39 41.5 +0.5**
MBAR Mbarara 69.65 270 P **P** **11 39 43.0 +2.0**
MBAR Mbarara 69.65 270 P **P** **11 39 42.7 +1.7**
BELG Belogornoye 69.66 329 LR LR 12 14 44.5
comp=Z,521nm,21.9s,baz=141,slow=40
BELG Belogornoye 69.66 329 *i*P **P** **11 39 38.7 -1.3**
BELG pmax pmax
comp=Z,25nm,1.1s
EIL Elat 69.69 302 LR LR 12 10 25.6
comp=Z,610nm,19.0s,baz=94,slow=36
GAZ Gaziantep 69.96 311 P **P** **11 39 43.3 +1.0**
GAZ IAmb IAmb 11 39 44.6
comp=Z,95nm,1.1s
SOC Sochi 70.39 318 *e*P **P** **11 39 42.2 -2.5**
SOC *e**PP **pP** **11 40 00.9 +0.7**
SOC *e**SP **sP** **11 40 07.9 +1.4**
SOC *e*PPP PPP 11 44 03.8
SOC *e*S **S** **11 48 49.8 -3.3**
SOC *e*SS **SS** **11 53 25.8 +0.8**
SOC *e*SSS SSS 11 56 34.4
SOC pmax pmax
comp=Z,110nm,0.6s
SOC MLR MLR
comp=Z,125nm,16.0s
DRV Dumont d'Urvil 70.52 164 P **P** **11 39 46.1 +1.1**
DRV pP **pP** **11 39 59.3 -1.4**
MAW Mawson 70.69 194 LR LR 12 04 17.0
comp=Z,1μm,21.7s,baz=23,slow=30
MAW Mawson 70.69 194 P **P** **11 39 48.9 +2.9**
baz=71,SNR=5.2
NRIK Noril'sk 71.42 355 P **P** **11 39 49.6 -0.8**
comp=Z,60nm,0.5s,baz=142,slow=6.2,SNR=60
NRIK LR LR 12 14 56.6
comp=Z,705nm,18.4s,baz=167,slow=39
comp=Z,60nm,0.5s
NRIK Noril'sk 71.42 355 P **P** **11 39 50.0 -0.5**
NRIK IAmb IAmb 11 39 51.2
comp=Z,76nm,0.7s
NRIK Noril'sk 71.42 355*ce*P **P** **11 39 49.5 -1.0**
NRIK pmax pmax
comp=Z,66nm,0.9s
NRIK MLR MLR
comp=Z,690nm,22.0s
KIRV Kirov 72.26 335 P **P** **11 39 55.4 -0.3**
comp=Z,116nm,0.7s,baz=153,slow=0.7,SNR=48
KIRV LR LR 12 14 19.2
comp=Z,345nm,21.4s,baz=130,slow=38
comp=Z,116nm,0.7s
KIRV Kirov 72.26 335*ce*P **P** **11 39 55.5 -0.1**
VRH Novokhoyorsk 72.29 326 *e*P **P** **11 39 55.2 -0.8**
VRH pmax pmax
comp=Z,240nm,0.6s
CSS Mathiatis 72.34 307 P **P** **11 39 57.0 +0.3**
CSS IAmb IAmb 11 39 59.2
comp=Z,70nm,1.0s
ANN Anapa 72.36 318 *e*P **P** **11 39 54.7 -1.9**
ANN *e**PP **pP** **11 40 11.9 -0.4**
ANN pmax pmax
comp=Z,58nm,1.1s
LSZ Lusaka 72.39 255 LR LR 12 07 31.3
comp=Z,555nm,20.4s,baz=107,slow=32
LSZ Lusaka 72.39 255 P **P** **11 39 59.3 +1.8**
PEA0B Petropavlovsk- 72.41 32 P **P** **11 39 56.8 +0.1**
PEA0B IAmb IAmb 11 42 24.0
comp=Z,162nm,1.7s
PEA0B Petropavlovsk- 72.41 32 P **P** **11 39 56.8 +0.1**
PEA0B pmax pmax
comp=Z,161nm,1.7s
PETK Petropavlovsk- 72.41 32 P **P** **11 39 56.2 -0.5**
comp=Z,7.8nm,0.6s,baz=262,slow=2.2,SNR=28
PETK LR LR 12 12 24.5
comp=Z,316nm,20.4s,baz=247,slow=36
comp=Z,7.8nm,0.6s
MA2 Magadan 72.58 24 P **P** **11 39 58.0 +0.4**
comp=Z,34nm,0.6s,baz=227,slow=6.1,SNR=22
MA2 LR LR 12 13 34.8
comp=Z,566nm,19.0s,baz=233,slow=37
comp=Z,34nm,0.6s
MA2 Magadan 72.58 24 P **P** **11 39 57.0 -0.6**
MA2 IAmb IAmb 11 39 59.6
comp=Z,98nm,1.2s
MA2 Magadan 72.58 24*ce*P **P** **11 39 58.1 +0.5**
MA2 pmax pmax
comp=Z,204nm,2.5s
DCZ Deep Cove 72.64 137 P **P** **11 39 59.7 +1.4**
PET Petropavlovsk 72.88 33 *e*P **P** **11 40 00.4 +0.9**
PET *e*S **SKiKP** **11 49 27.3 -0.5**
PET pmax pmax
comp=Z,61nm,0.6s
PET pmax pmax
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,1μm,19.0s
MSZ Milford Sound 72.96 136 P **P** **11 40 02.8 +2.6**
MLZ Mavora Lakes 73.27 137 P **P** **11 40 02.7 +0.6**
MLZ IAmb IAmb 11 40 40.2
comp=Z,113nm,1.7s
MLZ Mavora Lakes 73.27 137 P **P** **11 40 02.7 +0.6**
BR131 Keskin Array S 73.40 312 P **P** **11 40 02.3 -0.8**
BR131 IAmb IAmb 11 40 03.7
comp=Z,52nm,0.8s
BR131 Keskin Array S 73.40 312 P **P** **11 40 02.3 -0.8**
BR131 pmax pmax
comp=Z,52nm,0.9s
BRTR Keskin Array B 73.40 312 P **P** **11 40 02.8 -0.3**
comp=Z,23nm,0.7s,baz=133,slow=7.0,SNR=110
BRTR LR LR 12 15 32.3
comp=Z,103nm,18.6s,baz=112,slow=38
comp=Z,23nm,0.7s
BRTR Keskin Array B 73.40 312 P **P** **11 40 02.3 -0.8**
BRTR Keskin Array B 73.40 312*ce*P **P** **11 40 02.5 -0.6**
BRTR pmax pmax
comp=Z,23nm,0.7s
JCZ Jackson Bay 73.41 136 P **P** **11 40 03.8 +0.8**
APZ The Paps 73.57 139 P **P** **11 40 05.3 +1.5**
VSR Storozhevoye 73.75 325 *e*P **P** **11 40 03.6 -1.0**
VSR pmax pmax
comp=Z,120nm,0.6s
VORR Voronezh 73.91 325 *e*P **P** **11 40 05.9 +0.3**
VORR pmax pmax
comp=Z,125nm,0.8s
EAZ Earnscleugh 74.05 137 P **P** **11 40 07.7 +1.1**
BR231 Keskin MP Arra 74.07 312 P **P** **11 40 07.2 +0.2**
BR231 IAmb IAmb 11 40 08.0
comp=Z,40nm,0.8s
LPSR Galich'ya Gora 74.45 326 *e*P **P** **11 40 08.6 -0.1**
LPSR pmax pmax
comp=Z,110nm,0.7s
LBZ Lake Benmore 74.46 136 P **P** **11 40 09.0 0.0**
LBZ IAmb IAmb 11 40 10.6
comp=Z,53nm,1.2s
LBZ Lake Benmore 74.46 136 P **P** **11 40 09.1 +0.1**
SIM Simferopol' 74.63 318 *e*P **P** **11 40 11.4 +1.4**
SIM *e* 11 40 25.4
SIM *e*S **S** **11 49 43.0 +1.5**
SIM pmax pmax
comp=Z,134nm,1.0s
RPZ Rata Peaks 74.92 135 LR LR 12 11 38.3
comp=Z,641nm,21.2s,baz=276,slow=34
RPZ Rata Peaks 74.92 135 P **P** **11 40 12.2 +0.5**
RPZ IAmb IAmb 11 40 13.5
comp=Z,131nm,1.4s
ODZ Otahua Downs 74.93 136 P **P** **11 40 12.4 +0.8**
INZ Inchbonnie 74.99 134 P **P** **11 40 11.8 -0.3**
INZ IAmb IAmb 11 42 42.1
comp=Z,130nm,1.6s
INZ Inchbonnie 74.99 134 P **P** **11 40 12.9 +0.8**
SEY Seymchan 75.19 22 P **P** **11 40 13.2 +0.4**
comp=Z,30nm,0.6s,baz=241,slow=6.0,SNR=83
SEY LR LR 12 15 52.6
comp=Z,682nm,19.9s,baz=170,slow=38
comp=Z,30nm,0.6s
SEY Seymchan 75.19 22*ce*P **P** **11 40 13.2 +0.4**
SEY pmax pmax
comp=Z,102nm,1.7s
OUZ Omahuta 75.33 126 P **P** **11 40 16.0 +1.8**
MDUB Mudurnu 75.41 313 P **P** **11 40 14.8 +0.2**
QRZ Quartz Range 75.42 132 P **P** **11 40 15.8 +1.2**
ELL Elmali 75.48 309 P **P** **11 40 15.2 0.0**
ELL Elmali 75.48 309 P **P** **11 40 15.2 0.0**
ELL pmax pmax
comp=Z,478nm,1.9s
TIXI Tiksi 75.49 9 P **P** **11 40 13.4 -0.9**
comp=Z,154nm,0.5s,baz=90,slow=4.4,SNR=422
TIXI LR LR 12 16 46.5
comp=Z,2μm,20.4s,baz=359,slow=38
comp=Z,154nm,0.5s
TIXI Tiksi 75.49 9 P **P** **11 40 13.7 -0.6**
TIXI Tiksi 75.49 9*ce*P **P** **11 40 13.3 -1.0**
TIXI pmax pmax
comp=Z,63nm,0.7s
TIXI MLR MLR
comp=Z,2μm,20.0s
LBTB Lobatse 75.52 245 LR LR 12 09 00.9
comp=Z,1μm,19.7s,baz=88,slow=32
LBTB Lobatse 75.52 245 P **P** **11 40 16.1 +0.5**
LBTB Lobatse 75.52 245 P **P** **11 40 16.1 +0.5**
LBTB pmax pmax
comp=Z,17nm,0.9s
PRGR Permogore 75.54 336 *e*P **P** **11 40 12.6 -2.2**
PRGR *e**PP **pP** **11 40 31.1 +0.6**
PRGR pmax pmax
comp=Z,113nm,0.7s
OXZ Oxford 75.54 134 P **P** **11 40 15.5 +0.2**
OXZ IAmb IAmb 11 40 41.1
comp=Z,30nm,0.7s
OXZ Oxford 75.54 134 P **P** **11 40 15.9 +0.7**
LTZ Lake Taylor 75.60 134 P **P** **11 40 16.0 +0.3**
BORA Eskisehir 75.81 312 P **P** **11 40 16.9 0.0**
MQZ McQueen's Vall 76.06 135 P **P** **11 40 19.6 +1.5**
NNZ Nelson 76.12 132 P **P** **11 40 18.5 -0.1**
BOSA Boshof 76.15 241 P **P** **11 40 19.9 +0.7**
comp=Z,6.4nm,0.5s,baz=92,slow=4.4,SNR=26
BOSA LR LR 12 09 03.6
comp=Z,860nm,19.5s,baz=86,slow=32
comp=Z,6.4nm,0.5s
BOSA Boshof 76.15 241 P **P** **11 40 20.5 +1.3**
BOSA IAmb IAmb 11 40 48.1
comp=Z,78nm,1.8s
BOSA Boshof 76.15 241 P **P** **11 40 20.5 +1.3**
BOSA pmax pmax
comp=Z,78nm,1.8s
MOS Moscow 76.43 329 *e*P **P** **11 40 17.7 -2.3**
MOS *e* 11 40 29.5
MOS *e**PP **pP** **11 40 36.4 +0.6**
MOS *e*S **S** **11 49 57.1 -3.8**
MOS pmax pmax
comp=Z,181nm,0.7s
MOS pmax pmax
comp=Z,300nm,0.8s
DUWZ D'Urville Isla 76.46 132 P **P** **11 40 21.0 +0.4**
OBN Obninsk 76.74 328 P **P** **11 40 21.1 -0.6**
comp=Z,22nm,0.7s,baz=359,slow=0.5,SNR=19
OBN LR LR 12 19 05.5
comp=Z,72nm,18.3s,baz=154,slow=40
comp=Z,22nm,0.7s
OBN Obninsk 76.74 328 P **P** **11 40 20.0 -1.7**
OBN Obninsk 76.74 328*d i*P **P** **11 40 21.7 0.0**
OBN 11 40 34.0
OBN *i **PP **sP** **11 40 41.9 -1.9**
OBN PPP PPP 11 45 02.0
OBN *e*S **S** **11 50 07.7 +3.4**
OBN *e**SS **pS** **11 50 24.9 +1.1**
OBN *i* SS **SS** **11 55 01.4 +0.2**
OBN pmax pmax
comp=Z,109nm,0.9s
OBN MLR MLR
comp=Z,259nm,16.0s
TCW Tory Channel 76.79 132 P **P** **11 40 22.3 -0.1**
HIZ Hauiti 76.81 129 P **P** **11 40 24.7 +2.2**
KIW Kapiti Island 77.21 131 P **P** **11 40 25.0 +0.2**
KUZ Kuaotunu 77.25 127 P **P** **11 40 25.6 +0.6**
CAW Cannon Point 77.36 132 P **P** **11 40 25.5 -0.1**
KARP Karpathos 77.39 307 P **P** **11 40 26.5 +0.6**
OGWZ Otaki Gorge 77.39 131 P **P** **11 40 26.2 +0.5**
PAWZ Paruwai Farm 77.67 132 P **P** **11 40 28.2 +0.8**
MRZ Mangatainoka R 77.68 131 P **P** **11 40 28.8 +1.5**
MTW Mount Morrison 77.69 132 P **P** **11 40 27.3 -0.2**
KLMR Klimovskoe 77.72 334 *e*P **P** **11 40 25.6 -1.5**
KLMR AMP 11 40 28.6
comp=Z,116nm,1.6s
KLMR *e*pP **sP** **11 40 46.9 -2.3**
KLMR LR LR 12 10 12.7
KLMR Klimovskoe 77.72 334 *e*P **P** **11 40 25.6 -1.5**
KLMR *e**PP **sP** **11 40 46.9 -2.3**
KLMR pmax pmax
comp=Z,116nm,1.6s
MSVF Nonsavu 77.73 108 LR LR 12 18 42.9
comp=Z,136nm,18.5s,baz=271,slow=39
MSVF Nonsavu 77.73 108 P **P** **11 40 28.4 +0.2**
MSVF Nonsavu 77.73 108 P **P** **11 40 28.4 +0.2**
MSVF pmax pmax
comp=Z,19nm,1.1s
TMWZ Te Maipa 77.98 132 P **P** **11 40 30.4 +1.3**
BKZ Black Stump Fm 78.17 130 P **P** **11 40 30.6 +0.4**
BKZ IAmb IAmb 11 40 53.3
comp=Z,40nm,0.7s
BKZ Black Stump Fm 78.17 130 P **P** **11 40 30.1 0.0**
BFZ Birch Farm 78.18 131 P **P** **11 40 30.6 +0.4**
TLCR 78.30 317 ⇑P **P** **11 40 31.0 +0.2**
TLCR 78.30 317 P **P** **11 40 30.9 +0.2**
MFTR Murfatlar 78.33 316 ⇑P **P** **11 40 31.4 +0.5**
TIRR Tirgusor 78.40 316 ⇑P **P** **11 40 31.2 -0.1**
TIRR Tirgusor 78.40 316 P **P** **11 40 31.4 +0.2**
TIRR Tirgusor 78.40 316 P **P** **11 40 31.9 +0.6**
RTZ Ruatahuna 78.47 129 P **P** **11 40 32.1 +0.2**
RTZ IAmb IAmb 11 40 56.9
comp=Z,94nm,1.5s
TPGR Topolog 78.50 316 ⇑P **P** **11 40 32.1 +0.3**
URZ Urewera 78.53 129 LR LR 12 15 39.5
comp=Z,312nm,20.9s,baz=10,slow=36
MILM Milestii Mici 78.74 318 *e*P **P** **11 40 33.5 +0.4**
comp=Z,90nm,0.7s
MILM Milestii Mici 78.74 318 ⇑P **P** **11 40 34.1 +1.0**
MILM Milestii Mici 78.74 318 P **P** **11 40 34.1 +1.0**
ICOR Ion Corvin 78.75 316 ⇑P **P** **11 40 33.9 +0.8**
CFR Carcaliu 78.77 317 ⇑P **P** **11 40 33.2 0.0**
CFR Carcaliu 78.77 317 P **P** **11 40 33.5 +0.3**
HARR Harsova 78.79 316 ⇑P **P** **11 40 33.9 +0.5**
HARR Harsova 78.79 316 P **P** **11 40 33.9 +0.5**
MWZ Matawai 78.87 129 P **P** **11 40 33.8 -0.2**
VLDR Vladesti 78.97 317 ⇑P **P** **11 40 34.7 +0.4**
HAZ Te Kaha 79.00 128 P **P** **11 40 33.7 -1.0**
SORM Soroca 79.35 320 ⇑P **P** **11 40 36.8 +0.4**
SORM Soroca 79.35 320 P **P** **11 40 36.7 +0.4**
VASR Vaslui 79.35 318 ⇓P **P** **11 40 37.1 +0.7**
MXZ Matakaoa Point 79.39 128 P **P** **11 40 37.6 +0.7**
PUZ Puketiti 79.41 128 P **P** **11 40 37.4 +0.4**
GHRR 79.47 317 ⇑P **P** **11 40 38.1 +1.0**
AKASG Malin Array Be 79.48 322 P **P** **11 40 35.9 -1.1**
AKASG LR LR 12 20 14.8
comp=Z,11nm,0.8s,baz=82,slow=4.3,SNR=96
comp=Z,218nm,20.9s,baz=108,slow=39
comp=Z,11nm,0.8s
AKASG Malin Array Be 79.48 322 P **P** **11 40 36.5 -0.5**
AKASG Malin Array Be 79.48 322*ce*P **P** **11 40 36.2 -0.8**
AKASG pmax pmax
comp=Z,16nm,0.7s
AKBB Malin Array Si 79.48 322 P **P** **11 40 36.5 -0.5**
AKBB Malin Array Si 79.48 322*ce*P **P** **11 40 36.4 -0.6**
AKBB pmax pmax
comp=Z,33nm,1.0s
RAZG Razgrad 79.54 315 ⇑P **P** **11 40 38.0 +0.4**
ADZR Andozero 79.61 337 *e*P **P** **11 40 36.3 -1.1**
ADZR *e**PP **sP** **11 40 57.6 -2.0**
ADZR pmax pmax
comp=Z,37nm,0.8s
ISR Istrita 79.85 316 ⇑P **P** **11 40 40.2 +0.9**
ISR Istrita 79.85 316 P **P** **11 40 40.2 +0.9**
VRI Vrincioaia 79.89 317 ⇓P **P** **11 40 40.6 +1.2**
VRI Vrincioaia 79.89 317 P **P** **11 40 40.6 +1.2**
PLOR Plostina 79.94 317 ⇑P **P** **11 40 40.8 +1.0**
PLOR Plostina 79.94 317 P **P** **11 40 40.7 +1.0**
SULR 79.95 316 ⇑P **P** **11 40 41.0 +1.3**
NEHR Nehoiu 80.09 317 ⇑P **P** **11 40 41.9 +1.4**
TESR Tescani 80.09 318 ⇑P **P** **11 40 41.3 +0.9**
SECR 80.16 316 ⇑P **P** **11 40 41.5 +0.6**
COVR Voineasa-Covas 80.24 317 ⇑P **P** **11 40 41.8 +0.4**
SUR Sutherland 80.30 238 LR LR 12 09 28.5
comp=Z,2μm,21.9s,baz=93,slow=30
SUR Sutherland 80.30 238 P **P** **11 40 44.6 +2.4**
MLR Muntele Rosu 80.34 317 P **P** **11 40 42.6 +0.6**
comp=Z,58nm,1.0s,baz=102,slow=2.2,SNR=41
MLR LR LR 12 20 33.6
comp=Z,162nm,21.0s,baz=85,slow=39
comp=Z,58nm,1.0s
MLR Muntele Rosu 80.34 317 ⇑P **P** **11 40 42.1 +0.1**
MLR Muntele Rosu 80.34 317 P **P** **11 40 41.6 -0.4**
MLR IAmb IAmb 11 40 44.1
comp=Z,74nm,1.0s
MLR Muntele Rosu 80.34 317 P **P** **11 40 42.8 +0.8**
DOPR Dopca 80.83 317 ⇑P **P** **11 40 45.1 +0.7**
PLVB Pleven 80.85 314 ⇓P **P** **11 40 45.3 +0.8**
MTUR Matau 80.90 316 ⇓P **P** **11 40 45.0 +0.1**
MTUR Matau 80.90 316 P **P** **11 40 45.0 +0.1**
BURAR Bucovina Array 81.29 319 ⇑P **P** **11 40 48.5 +1.5**
BURAR Bucovina Array 81.29 319 P **P** **11 40 48.1 +1.2**
BURAR IAmb IAmb 11 40 49.3
comp=Z,56nm,0.7s
BURAR Bucovina Array 81.29 319 P **P** **11 40 48.4 +1.5**
MNK Minsk 81.29 326 *i*P **P** **11 40 47.2 +0.5**
comp=E,10.0nm,0.9s
MNK *i*P **P** **11 40 47.2 +0.5**
comp=N,53nm,0.9s
MNK *i*P **P** **11 40 47.2 +0.5**
comp=Z,134nm,0.8s,baz=285
MNK *i*pP **sP** **11 41 06.2 -2.7**
MNK *i*PP **PP** **11 43 53.2 +0.3**
MNK *i*PPP PPP 11 45 43.6
MNK *i*S **S** **11 50 52.5 -0.3**
MNK *i*sS **sS** **11 51 25.5 +5.8**
MNK *i*SS **SS** **11 56 10.3 +0.8**
MNK *i*SSS SSS 11 59 37.9
MNK *i*LQ LQ 12 11 59.1
MNK *i*LR LR 12 17 06.0
MNK *i*LRM MLR 12 18 29.8
comp=E,16nm,12.9s
MNK *i*LRM MLR 12 18 31.4

	comp=Z,72nm,10.3s							
MNK				*i* LRM	MLR	12 18 33.7		
	comp=N,122nm,12.2s							
MNK	**Minsk**	**81.29**	**326**	*i* P	**P**	**11 40 47.1**	**+0.5**	
MNK				*i* *PP	**sP**	**11 41 06.2**	**-2.7**	
MNK				*i*		11 43 53.2		
MNK				*i* PPP	PPP	11 45 43.5		
MNK				*i* S	**S**	**11 50 52.5**	**-0.3**	
MNK				*i* SS	**SS**	**11 56 10.3**	**+0.8**	
MNK				*i* SSS	SSS	11 59 37.9		
MNK				pmax	pmax			
	comp=Z,134nm,0.9s							
MNK				pmax	pmax			
	comp=E,10.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,53nm,0.9s							
MNK				MLR	MLR			
	comp=Z,72nm,10.0s							
MNK				MLR	MLR			
	comp=N,122nm,12.0s							
BUR08	**Bucovina Ar. S**	**81.30**	**319**	P	**P**	**11 40 48.1**	**+1.1**	
BUR08				IAmb	IAmb	11 40 49.6		
	comp=Z,93nm,1.3s							
SHEM	**Shemya Is, Ala**	**81.53**	**36**	LR	LR	12 14 49.7		
	comp=Z,129nm,21.1s,baz=272,slow=34							
PUL	**Pulkovo**	**81.54**	**331**	*ce*P	**P**	**11 40 48.1**	**+0.3**	
PUL				pmax	pmax			
	comp=Z,176nm,0.7s							
PUL				MLR	MLR			
	comp=Z,259nm,20.0s							
VTS	**Vitosha**	**81.70**	**313**	P	**P**	**11 40 49.0**	**-0.3**	
VTS				IAmb	IAmb	11 40 50.7		
	comp=Z,33nm,0.9s							
VTS	**Vitosha**	**81.70**	**313**	P	**P**	**11 40 49.0**	**-0.3**	
VTS				pmax	pmax			
	comp=Z,33nm,0.9s							
ARCR	**ARCALIA**	**81.75**	**318**	⇑P	**P**	**11 40 49.9**	**+0.6**	
ITM	**Ithomi**	**81.83**	**308**	P	**P**	**11 40 50.2**	**+0.2**	
ITM				IAmb	IAmb	11 40 51.1		
	comp=Z,100nm,1.4s							
LIT	**Litokhoron**	**81.84**	**311**	P	**P**	**11 40 49.8**	**-0.2**	
LIT				IAmb	IAmb	11 40 50.5		
	comp=Z,55nm,0.7s							
LIT	**Litokhoron**	**81.84**	**311**	P	**P**	**11 40 49.8**	**-0.2**	
LIT				pmax	pmax			
	comp=Z,55nm,0.7s							
VAY	**Valandovo**	**81.98**	**312**	*i* P	**P**	**11 40 48.9**	**-1.7**	
NACGM	**Naroch**	**82.01**	**326**	⇓*i* P	**P**	**11 40 50.9**	**+0.5**	
	comp=Z,226nm,0.9s,baz=104							
IDID	**Didziasalis**	**82.14**	**326**	*e*P	**P**	**11 40 46.3**	**-4.8**	
CJR	**Cluj-Napoca**	**82.19**	**317**	⇑P	**P**	**11 40 52.8**	**+1.1**	
CJR	**Cluj-Napoca**	**82.19**	**317**	P	**P**	**11 40 52.8**	**+1.1**	
CBBR	**Cluj-Babes-Bol**	**82.23**	**318**	⇑P	**P**	**11 40 52.5**	**+0.6**	
VNDA	**Vanda**	**82.39**	**169**	P	**P**	**11 40 53.6**	**+1.5**	
	comp=Z,4.9nm,0.6s,baz=311,slow=6.1,SNR=52							
VNDA				LR	LR	12 12 18.6		
	comp=Z,237nm,22.0s,baz=312,slow=32							
	comp=Z,4.9nm,0.6s							
VNDA	**Vanda**	**82.39**	**169**	P	**P**	**11 40 53.3**	**+1.2**	
IIGN	**Ignalina**	**82.43**	**326**	*e*P	P	11 40 46.5	-6.2	
BMR	**Baia Mare**	**82.44**	**318**	⇑P	**P**	**11 40 54.3**	**+1.4**	
BMR	**Baia Mare**	**82.44**	**318**	P	**P**	**11 40 54.2**	**+1.4**	
MARR	**Marisel-Cluj**	**82.51**	**317**	⇑P	**P**	**11 40 54.1**	**+0.8**	
LVV	**L'vov**	**82.51**	**321**	*e*P	**P**	**11 40 53.5**	**+0.3**	
LVV				*e**PP	**pP**	**11 41 07.5**	**-1.7**	
LVV				*e*S	**S**	**11 51 06.4**	**+0.9**	
LVV				*e*PS	**PnS**	**11 51 59.0**	**-2.9**	
LVV				pmax	pmax			
	comp=Z,130nm,1.5s							
DEV	**Deva**	**82.51**	**317**	⇑P	**P**	**11 40 54.9**	**+1.6**	
DEV	**Deva**	**82.51**	**317**	P	**P**	**11 40 54.8**	**+1.6**	
GZR	**Gura Zlata**	**82.51**	**316**	⇑P	**P**	**11 40 53.4**	**0.0**	
ISAL	**Salakas**	**82.54**	**327**	*e*P	**P**	**11 40 54.3**	**+1.1**	
DJES	**Djerdap**	**82.57**	**315**	⇑P	**P**	**11 40 54.1**	**+0.5**	
LVZ	**Lovozero**	**82.62**	**340**	P	**P**	**11 40 53.3**	**-0.2**	
LVZ	**Lovozero**	**82.62**	**340**	P	**P**	**11 40 53.3**	**-0.2**	
LVZ				pmax	pmax			
	comp=Z,456nm,2.0s							
TSUM	**Tsumeb**	**82.66**	**251**	LR	LR	12 13 03.7		
	comp=Z,1µm,21.5s,baz=128,slow=32							
BILL	**Bilibino**	**82.73**	**20**	*d* P	**P**	**11 40 52.9**	**-1.0**	
BILL				*i* *PP	**pP**	**11 41 11.2**	**+1.1**	
BILL				*e**SP	**sP**	**11 41 20.0**	**+3.6**	
BILL				S	**S**	**11 51 07.0**	**-0.1**	
BILL				*e*PS	**PnS**	**11 51 57.6**	**-6.4**	
BILL				*e*SS	**SS**	**11 56 34.8**	**+4.5**	
BILL				pmax	pmax			
	comp=Z,33nm,1.7s							
BILL				MLR	MLR			
	comp=Z,671nm,21.0s							
DRGR		**82.80**	**317**	P	**P**	**11 40 55.6**	**+0.7**	
SKO	**Skopje**	**82.92**	**312**	*i* P	**P**	**11 40 55.2**	**-0.3**	
APA	**Apatity**	**82.94**	**339**	⇓*i* P	P	11 41 04.1	+9.1	
APA				*i*		11 41 17.9		
APA				pmax	pmax			
	comp=Z,13nm,0.9s							
APA				MLR	MLR			
	comp=Z,3µm,14.0s							
VSU	**Vasula**	**82.94**	**329**	*e*P	**P**	**11 40 55.4**	**+0.2**	
BOVS	**Bovan**	**82.98**	**314**	⇑P	**P**	**11 40 55.6**	**-0.2**	
SURR	**Surduc**	**83.03**	**316**	⇑P	**P**	**11 40 56.9**	**+0.9**	
MDVR	**Moldovita**	**83.15**	**315**	⇑P	**P**	**11 40 57.5**	**+0.8**	
TRPA	**Tarpa**	**83.15**	**319**	⇓P	**P**	**11 40 57.6**	**+1.1**	
OHR	**Ohrid**	**83.27**	**312**	*i* P	**P**	**11 40 57.1**	**-0.3**	
BZS	**Buzias**	**83.35**	**316**	⇑P	**P**	**11 40 58.7**	**+1.0**	
BZS	**Buzias**	**83.35**	**316**	P	**P**	**11 40 58.6**	**+1.0**	
UZH	**Uzhgorod**	**83.40**	**319**	*e*P	**P**	**11 40 59.0**	**+1.2**	
UZH				*e*		11 41 14.9		
UZH				*e*		11 41 20.7		
SIRR	**Siria**	**83.43**	**317**	⇓P	**P**	**11 40 59.1**	**+1.1**	
SBA	**Scott Base**	**83.49**	**169**	P	**P**	**11 40 59.6**	**+1.9**	
SBA				IAmb	IAmb	11 41 16.7		
	comp=Z,137nm,1.8s							
SBA	**Scott Base**	**83.49**	**169**	P	**P**	**11 40 59.6**	**+1.9**	
SBA				pmax	pmax			
	comp=Z,137nm,1.8s							
PABE	**Paberze**	**83.72**	**326**	P	**P**	**11 40 59.6**	**+0.4**	
PABE	**Paberze**	**83.72**	**326**	*e*P	**P**	**11 40 59.8**	**+0.5**	
VSVD	**Vaisvydziai**	**83.84**	**327**	*e*P	**P**	**11 41 00.9**	**+1.0**	
CRVS	**Cervenica-Dubn**	**83.99**	**319**	*e*P	**P**	**11 41 02.0**	**+1.1**	
CRVS				pmax	pmax			
	comp=Z,37nm,1.1s							
CRVS	**Cervenica-Dubn**	**83.99**	**319**	*e*P	**P**	**11 41 02.0**	**+1.1**	
FIA1	**FINESS Array S**	**84.02**	**332**	P	**P**	**11 41 01.0**	**+0.3**	
FIA1				IAmb	IAmb	11 41 02.3		
	comp=Z,72nm,1.2s							
FINES	**FINESS Array B**	**84.02**	**332**	P	**P**	**11 41 00.6**	**-0.1**	
	comp=Z,18nm,0.4s,baz=111,slow=5.5,SNR=89							
FINES				LR	LR	12 22 56.9		
	comp=Z,309nm,20.3s,baz=91,slow=39							
	comp=Z,18nm,0.4s							
FINES	**FINESS Array B**	**84.02**	**332**	P	**P**	**11 41 00.9**	**+0.2**	
FINES	**FINESS Array B**	**84.02**	**332**	*ce*P	**P**	**11 41 00.7**	**0.0**	
FINES				pmax	pmax			
	comp=Z,18nm,0.4s							
STHS	**Stebnicka Huta**	**84.22**	**320**	*e*P	**P**	**11 41 02.9**	**+0.9**	
STHS				pmax	pmax			
	comp=Z,35nm,0.8s							
STHS	**Stebnicka Huta**	**84.22**	**320**	*e*P	**P**	**11 41 02.9**	**+0.9**	
DIVS	**Divibare**	**84.27**	**314**	P	**P**	**11 41 02.8**	**+0.3**	
ELIB	**Princess Elisa**	**84.40**	**198**	*d*P	**P**	**11 41 05.4**	**+2.8**	
ELIB				*d*pP	**pP**	**11 41 21.4**	**+2.8**	
MTSE	**Matsula**	**84.48**	**329**	*e*P	**P**	**11 41 03.5**	**+0.5**	
MEF	**Metsahovi**	**84.52**	**331**	*e*P	**P**	**11 41 03.5**	**+0.3**	
FRGS	**Fruska Gora**	**84.55**	**315**	⇑P	**P**	**11 41 05.2**	**+1.4**	
KECS	**Kecovo**	**84.56**	**319**	*e*P	**P**	**11 41 04.8**	**+1.0**	
KECS				pmax	pmax			
	comp=Z,34nm,1.0s							
KECS	**Kecovo**	**84.56**	**319**	*e*P	**P**	**11 41 04.8**	**+1.0**	
PDG	**Podgorica**	**84.58**	**313**	⇑P	**P**	**11 41 04.4**	**+0.4**	
PDG	**Podgorica**	**84.58**	**313**	P	**P**	**11 41 03.8**	**-0.1**	
PDG				IAmb	IAmb	11 41 05.1		
	comp=Z,43nm,0.7s							
NIE	**Niedzica**	**84.83**	**320**	*e*P	**P**	**11 41 06.9**	**+1.7**	
PSZ	**Piszkesteto**	**84.87**	**318**	⇓P	**P**	**11 41 06.2**	**+0.8**	
PSZ	**Piszkesteto**	**84.87**	**318**	P	**P**	**11 41 06.2**	**+0.8**	
PBUR	**Paburge**	**84.95**	**326**	*e*P	**P**	**11 41 06.0**	**+0.5**	
VADS	**Vadso**	**85.20**	**341**	*e*P	**P**	**11 41 06.1**	**-0.3**	
VADS				IAmb	IAmb	11 41 07.3		
	comp=Z,54nm,1.1s							
OJC	**Ojcow**	**85.27**	**321**	P	**P**	**11 41 08.4**	**+1.1**	
LANS	**Liptovska Anna**	**85.33**	**319**	*e*P	**P**	**11 41 08.8**	**+1.2**	
LANS				pmax	pmax			
	comp=Z,5.0nm,0.9s							
LANS	**Liptovska Anna**	**85.33**	**319**	*e*P	**P**	**11 41 08.8**	**+1.2**	
MORH	**Mrgy, Hungar**	**85.49**	**316**	⇑P	**P**	**11 41 09.2**	**+0.8**	
VYHS	**Vyhne**	**85.65**	**319**	*e*P	**P**	**11 41 09.9**	**+0.7**	
VYHS				pmax	pmax			
	comp=Z,23nm,1.3s							
VYHS	**Vyhne**	**85.65**	**319**	*e*P	**P**	**11 41 09.9**	**+0.7**	
SRO	**Srobarova**	**85.91**	**318**	*e*P	**P**	**11 41 12.1**	**+1.6**	
SRO				pmax	pmax			
	comp=Z,41nm,1.1s							
SRO	**Srobarova**	**85.91**	**318**	*e*P	**P**	**11 41 12.1**	**+1.6**	
RAF	**Rauma**	**85.96**	**331**	*e*P	**P**	**11 41 10.7**	**+0.3**	
TIP	**Timpagrande**	**86.12**	**309**	⇑P	**P**	**11 41 12.5**	**+0.7**	
MATE	**Matera**	**86.29**	**311**	⇑P	**P**	**11 41 14.2**	**+1.7**	
ARA0	**ARCESS Array S**	**86.31**	**340**	*e*P	**P**	**11 41 12.4**	**+0.3**	
ARCES	**ARCESS Array B**	**86.31**	**340**	P	**P**	**11 41 11.5**	**-0.5**	
	comp=Z,9.8nm,0.4s,baz=94,slow=6.5,SNR=69							
ARCES				pP	**pP**	**11 41 30.5**	**+2.2**	
	comp=Z,16nm,0.7s,baz=98,slow=4.9,SNR=4.9							
ARCES				PP	**PP**	**11 44 32.3**	**-1.3**	
	comp=Z,9.5nm,0.8s,baz=96,slow=7.4,SNR=3.7							
ARCES				LR	LR	12 25 17.6		
	comp=Z,313nm,20.4s,baz=102,slow=39							
	comp=Z,9.8nm,0.4s							
ARCES	**ARCESS Array B**	**86.31**	**340**	P	**P**	**11 41 12.5**	**+0.4**	
ARCES	**ARCESS Array B**	**86.31**	**340**	*e*P	**P**	**11 41 11.9**	**-0.1**	
MAUC	**Maruska**	**86.42**	**319**	*e*P	**P**	**11 41 13.7**	**+0.7**	
JAVC	**Velka Javorina**	**86.46**	**319**	*e*P	**P**	**11 41 14.9**	**+1.6**	
MORC	**Moravsky Berou**	**86.65**	**320**	P	**P**	**11 41 14.2**	**0.0**	
MORC				IAmb	IAmb	11 41 16.5		
	comp=Z,46nm,1.3s							
MORC	**Moravsky Berou**	**86.65**	**320**	*e*P	**P**	**11 41 15.3**	**+1.1**	
MORC	**Moravsky Berou**	**86.65**	**320**	P	**P**	**11 41 14.2**	**0.0**	
MORC				pmax	pmax			
	comp=Z,47nm,1.3s							
MODS	**Modra-Piesok**	**86.67**	**318**	*e*P	**P**	**11 41 15.2**	**+0.9**	
MODS				pmax	pmax			
	comp=Z,40nm,0.8s							
MODS	**Modra-Piesok**	**86.67**	**318**	*e*P	**P**	**11 41 15.2**	**+0.9**	
ZST	**Bratislava**	**86.77**	**318**	*e*P	**P**	**11 41 15.7**	**+1.0**	
ZST				pmax	pmax			
	comp=Z,109nm,1.2s							
ZST	**Bratislava**	**86.77**	**318**	*e*P	**P**	**11 41 15.7**	**+1.0**	
CUC	**Castrocucco**	**86.91**	**310**	P	**P**	**11 41 15.6**	**0.0**	
CUC				IAmb	IAmb	11 41 17.0		
	comp=Z,22nm,0.9s							
KTK1	**Kautokeino**	**86.97**	**339**	*e*P	**P**	**11 41 15.3**	**0.0**	
KOGS	**Kog**	**87.17**	**316**	*i* P	**P**	**11 41 17.7**	**+1.0**	
KOGS				*i*		11 41 31.0		
KOGS				*i* pP	**sP**	**11 41 40.3**	**+1.2**	
VRAC	**Vranov**	**87.22**	**319**	P	**P**	**11 41 17.0**	**+0.1**	
	comp=Z,3.8nm,0.6s,baz=135,slow=9.8,SNR=4.1							
	comp=Z,3.8nm,0.6s							
VRAC	**Vranov**	**87.22**	**319**	*e*P	**P**	**11 41 17.6**	**+0.7**	
RONA	**Rosalia, Austr**	**87.25**	**318**	*e*P	**P**	**11 41 18.5**	**+1.4**	
	comp=Z,3.6nm,0.7s							
RONA				*e*pP	**pP**	**11 41 32.7**	**-0.6**	
	comp=Z,12nm,1.1s							
KRUC	**Moravsky**	**87.32**	**319**	*e*P	**P**	**11 41 18.1**	**+0.7**	
DPC	**Dobruska-Polom**	**87.50**	**320**	*e*P	**P**	**11 41 19.4**	**+1.1**	
DPC	**Dobruska-Polom**	**87.50**	**320**	*e*P	**P**	**11 41 19.4**	**+1.1**	
CONA	**Conrad Observa**	**87.57**	**318**	*e*P	**P**	**11 41 18.8**	**0.0**	
	comp=Z,10nm,1.2s							
CONA				*e*pP	**pP**	**11 41 32.9**	**-2.0**	
	comp=Z,6.1nm,0.7s							
ARSA	**Arzberg**	**87.74**	**317**	*e*P	**P**	**11 41 20.6**	**+1.1**	
	comp=Z,26nm,1.3s,SNR=5.6							
ARSA				*e*pP	**pP**	**11 41 34.3**	**-1.3**	
	comp=Z,24nm,1.4s							
UPP	**Uppsala**	**87.81**	**330**	*e*P	**P**	**11 41 19.4**	**0.0**	
VAE	**Valguarnera**	**87.82**	**307**	P	**P**	**11 41 20.9**	**+0.8**	
	comp=Z,16nm,0.8s,baz=192,slow=11,SNR=4.0							
VAE				LR	LR	12 24 44.1		
	comp=Z,34nm,20.7s,baz=134,slow=38							
	comp=Z,16nm,0.8s							
NVL	**N'lazarevskaya**	**87.94**	**199**	*e*P	**P**	**11 41 23.8**	**+3.9**	
NVL				*e**PP	**sP**	**11 41 39.7**	**-2.4**	
NVL				*e*S	**SKSac**	**11 51 42.7**	**-0.4**	
NVL				pmax	pmax			
	comp=Z,14nm,1.0s							
SOKA	**Soboth**	**88.02**	**317**	*e*P	**P**	**11 41 22.1**	**+1.2**	
	comp=Z,32nm,1.1s,SNR=8.6							
SOKA				*e*pP	**pP**	**11 41 35.8**	**-1.3**	
	comp=Z,16nm,1.0s							
JETT	**Jettan, Norway**	**88.07**	**340**	*e*P	**P**	**11 41 20.7**	**+0.2**	
JETT				IAmb	IAmb	11 41 21.5		
	comp=Z,27nm,0.7s							
VIKU	**Vikbolandet**	**88.12**	**329**	*e*P	**P**	**11 41 21.5**	**+0.5**	
QSPA	**South Pole Qui**	**88.28**	**180**	LR	LR	12 15 33.0		
	comp=Z,679nm,21.6s,baz=307,slow=32							
QSPA	**South Pole Qui**	**88.28**	**180**	P	**P**	**11 41 23.6**	**+1.8**	
QSPA				IAmb	IAmb	11 41 40.2		
	comp=Z,35nm,1.4s							
LJU	**Ljubljana**	**88.33**	**316**	*i* P	**P**	**11 41 23.5**	**+1.2**	
LJU				*e*		11 41 36.8		
LJU				*i* pP	**sP**	**11 41 43.7**	**-1.0**	
OBKA	**Obir**	**88.34**	**316**	*e*P	**P**	**11 41 23.5**	**+1.1**	
	comp=Z,12nm,1.4s							
OBKA				*e*pP	**pP**	**11 41 37.2**	**-1.5**	
	comp=Z,0.1nm,0.2s							
TRO	**Tromso**	**88.59**	**340**	*e*P	**P**	**11 41 23.3**	**+0.4**	
MOA	**Molln**	**88.63**	**318**	*e*P	**P**	**11 41 24.2**	**+0.5**	
	comp=Z,7.1nm,0.7s							
MOA				*i* pP	**sP**	**11 41 44.4**	**-1.7**	
	comp=Z,6.6nm,0.7s							
CKRC	**Cesky Krumlov**	**88.67**	**319**	*e*P	**P**	**11 41 25.7**	**+1.9**	
BSD	**Bornholm Skovb**	**88.78**	**325**	*e*P	**P**	**11 41 24.4**	**+0.3**	
MYKA	**Terra Mystica**	**88.98**	**317**	*e*P	**P**	**11 41 26.1**	**+0.7**	
	comp=Z,8.5nm,0.7s,SNR=5.1							
MYKA				*e*pP	**sP**	**11 41 46.2**	**-1.7**	
	comp=Z,16nm,0.7s							
BIOA	**Bad Ischl, Aus**	**89.04**	**318**	*i* P	**P**	**11 41 26.0**	**+0.4**	
	comp=Z,8.7nm,0.7s							
BIOA				*i* pP	**sP**	**11 41 45.9**	**-2.1**	
	comp=Z,7.1nm,0.5s							
ROBS	**Robic**	**89.05**	**316**	*i* P	**P**	**11 41 26.2**	**+0.6**	
BRG	**Berggiesshubel**	**89.05**	**321**	*e*P	**P**	**11 41 27.3**	**+1.7**	
BRG				Amp		11 41 28.0		
	comp=Z,29nm,0.8s							
BRG				pP	**pP**	**11 41 37.7**	**-4.0**	
BRG				Amp		11 41 42.8		
	comp=Z,14nm,0.9s							
BRG	**Berggiesshubel**	**89.05**	**321**	*e*P	**P**	**11 41 27.2**	**+1.7**	
BRG				pmax	pmax			
	comp=Z,29nm,0.9s							
BRG	**Berggiesshubel**	**89.05**	**321**	*e*P	**P**	**11 41 27.3**	**+1.7**	
	comp=Z,64nm,1.4s,baz=92,slow=4.6							
BRG				*e*pP	**pP**	**11 41 40.5**	**-1.2**	
	baz=92,slow=4.5							
GEC2	**GERESS Array S**	**89.07**	**319**	P	**P**	**11 41 27.1**	**+1.2**	
GEC2				IAmb	IAmb	11 41 58.7		
	comp=Z,25nm,0.9s							
GEC2	**GERESS Array S**	**89.07**	**319**	*e*P	**P**	**11 41 27.2**	**+1.4**	
	comp=Z,75nm,1.6s,baz=92,slow=4.6							
GEC2				*e*pP	**pP**	**11 41 40.7**	**-1.3**	
	baz=92,slow=4.5							
GERES	**GERESS Array B**	**89.07**	**319**	P	**P**	**11 41 26.7**	**+0.9**	
	comp=Z,8.6nm,0.8s,baz=92,slow=4.1,SNR=41							
	comp=Z,8.6nm,0.8s							
GERES	**GERESS Array B**	**89.07**	**319**	P	**P**	**11 41 26.3**	**+0.4**	
KHC	**Kasperske Hory**	**89.17**	**319**	P	**P**	**11 41 27.0**	**+0.8**	
KHC	**Kasperske Hory**	**89.17**	**319**	*e*P	**P**	**11 41 26.9**	**+0.7**	
KHC	**Kasperske Hory**	**89.17**	**319**	*e*P	**P**	**11 41 26.9**	**+0.7**	
KBA	**Koelnbreinsper**	**89.21**	**317**	*e*P	**P**	**11 41 26.7**	**+0.1**	
	comp=Z,11nm,1.3s							
KBA				*e*pP	**sP**	**11 41 46.1**	**-3.0**	
	comp=Z,5.8nm,0.7s							
RUE	**Ruedersdorf**	**89.25**	**322**	*e*P	**P**	**11 41 27.5**	**+1.1**	
RUE	**Ruedersdorf**	**89.25**	**322**	*e*P	**P**	**11 41 28.2**	**+1.8**	
	comp=Z,149nm,1.2s,baz=92,slow=4.6							
RUE				*e*pP	**pP**	**11 41 41.6**	**-0.9**	
	baz=92,slow=4.5							
FBE	**Freiberg**	**89.42**	**321**	*e*P	**P**	**11 41 29.1**	**+1.9**	
	comp=Z,96nm,1.6s,baz=92,slow=4.6							
FBE				*e*pP	**pP**	**11 41 42.4**	**-1.0**	
	baz=92,slow=4.5							
DEL	**Delary**	**89.47**	**326**	*e*P	**P**	**11 41 28.0**	**+0.7**	
CLUD	**Cludinico**	**89.49**	**316**	P	**P**	**11 41 28.3**	**+0.6**	
STAL	**STALIGIAL**	**89.60**	**316**	P	**P**	**11 41 28.8**	**+0.5**	
STAL				IAmb	IAmb	11 41 30.1		
	comp=Z,61nm,1.2s							
FAUS	**Fauske**	**89.65**	**337**	*e*P	**P**	**11 41 28.4**	**+0.5**	
FAUS				IAmb	IAmb	11 41 30.0		
	comp=Z,70nm,1.1s							
CLL	**Collm**	**89.67**	**321**	*i* P	**P**	**11 41 29.4**	**+1.0**	
	comp=Z,29nm,1.1s							
CLL				*i* pP	**pP**	**11 41 42.6**	**-2.0**	
CLL				*i* sP	**sP**	**11 41 46.9**	**-3.9**	
CLL				*e*S	**S**	**11 52 12.0**	**-3.3**	
CLL				*ex*	x	12 04 06.0		
CLL	**Collm**	**89.67**	**321**	*i* P	**P**	**11 41 29.4**	**+1.0**	
CLL				*i*		11 41 42.6		
CLL				*e*S	**S**	**11 52 12.0**	**-3.3**	
CLL				pmax	pmax			
	comp=Z,29nm,1.1s							
CLL	**Collm**	**89.67**	**321**	*e*P	**P**	**11 41 29.7**	**+1.3**	
	comp=Z,29nm,1.1s,baz=92,slow=4.6							
CLL				*e*pP	**pP**	**11 41 43.0**	**-1.6**	
	baz=92,slow=4.5							
STEI	**Steigen**	**89.72**	**338**	*e*P	**P**	**11 41 28.6**	**+0.3**	
ABTA	**Abfaltersbach**	**89.76**	**317**	*e*P	**P**	**11 41 28.8**	**-0.3**	
	comp=Z,14nm,1.1s							
ABTA				*i* pP	**sP**	**11 41 49.5**	**-2.0**	
	comp=Z,10nm,0.9s							
CIMO	**Cimolais**	**89.79**	**316**	P	**P**	**11 41 29.4**	**+0.3**	
CIMO				IAmb	IAmb	11 41 51.2		
	comp=Z,50nm,0.7s							
HFS	**Hagfors**	**89.80**	**330**	P	**P**	**11 41 29.2**	**+0.4**	
	comp=Z,19nm,0.7s,baz=151,slow=3.4,SNR=53							
HFS				PP	**PP**	**11 45 00.2**	**-1.5**	
	comp=Z,6.1nm,0.9s,baz=118,slow=8.3,SNR=2.8							
HFS				LR	LR	12 26 49.8		
	comp=Z,458nm,18.5s,baz=75,slow=39							
	comp=Z,19nm,0.7s							
MOR8	**Moi Rana**	**89.89**	**336**	*e*P	**P**	**11 41 29.1**	**0.0**	
TANN	**Tannenbergstha**	**89.96**	**320**	*e*P	**P**	**11 41 31.5**	**+1.5**	
	comp=Z,25nm,1.4s,baz=92,slow=4.6							
TANN				*e*pP	**pP**	**11 41 44.9**	**-1.2**	
	baz=92,slow=4.5							
WERN	**Wernitzgruen**	**90.01**	**320**	*e*P	**P**	**11 41 31.8**	**+1.7**	
	comp=Z,21nm,1.2s,baz=92,slow=4.6							
WERN				*e*pP	**pP**	**11 41 45.2**	**-1.2**	
	baz=92,slow=4.5							
GUNZ	**Gunzen**	**90.05**	**320**	*e*P	**P**	**11 41 31.9**	**+1.6**	
	comp=Z,23nm,1.2s,baz=92,slow=4.6							
GUNZ				*e*pP	**pP**	**11 41 45.2**	**-1.2**	
	baz=92,slow=4.5							
WERD	**Werda**	**90.06**	**320**	*e*P	**P**	**11 41 31.8**	**+1.4**	
	comp=Z,22nm,1.0s,baz=92,slow=4.6							
WERD				*e*pP	**pP**	**11 41 45.2**	**-1.4**	
	baz=92,slow=4.5							
ROTZ	**Rotzenmuhle**	**90.10**	**320**	*e*P	**P**	**11 41 32.4**	**+1.9**	
	comp=Z,4.8nm,1.1s,baz=92,slow=4.6							
ROTZ				*e*pP	**pP**	**11 41 45.8**	**-0.9**	
	baz=92,slow=4.5							
PLN	**Plauen**	**90.16**	**320**	*e*P	**P**	**11 41 32.3**	**+1.5**	
	comp=Z,46nm,1.6s,baz=92,slow=4.6							
PLN				*e*pP	**pP**	**11 41 45.7**	**-1.3**	
	baz=92,slow=4.5							
MANZ	**Manzenberg**	**90.17**	**320**	*e*P	**P**	**11 41 32.9**	**+2.0**	
	comp=Z,13nm,1.3s,baz=92,slow=4.6							
MANZ				*e*pP	**pP**	**11 41 46.3**	**-0.8**	
	baz=92,slow=4.5							
CTI	**Castel Tesino**	**90.33**	**316**	P	**P**	**11 41 32.9**	**+1.1**	
CTI				IAmb	IAmb	11 41 34.1		
	comp=Z,45nm,0.9s							
CTI	**Castel Tesino**	**90.33**	**316**	P	**P**	**11 41 32.9**	**+1.1**	
CTI				pmax	pmax			
	comp=Z,45nm,0.9s							
WTTA	**Wattenberg**	**90.38**	**317**	*e*P	**P**	**11 41 32.2**	**+0.1**	
	comp=Z,23nm,0.9s,SNR=6.6							
WTTA				*e*pP	**sP**	**11 41 52.3**	**-2.2**	
	comp=Z,14nm,0.7s							
SPA0	**Spitsbergen Ar**	**90.41**	**348**	*e*P	**P**	**11 41 30.9**	**-0.5**	
SPITS	**Spitsbergen Ar**	**90.41**	**348**	P	**P**	**11 41 30.5**	**-0.9**	
	comp=Z,5.7nm,0.4s,baz=112,slow=9.1,SNR=35							
SPITS				LR	LR	12 30 15.1		
	comp=Z,432nm,18.5s,baz=49,slow=41							
	comp=Z,5.7nm,0.4s							
WATA	**Walderalm**	**90.42**	**317**	*e*P	**P**	**11 41 32.3**	**+0.1**	
	comp=Z,14nm,0.7s,SNR=6.5						

KEST LR LR 12 26 18.3
comp=Z,108nm,19.5s,baz=2.0,slow=38
RETH Rethem/Aller, 91.96 323 *e*P **P 11 41 40.3 +1.3**
comp=Z,22nm,1.4s,baz=92,slow=4.6
RETH *e*pP **pP 11 41 53.6 -1.6**
baz=92,slow=4.5
STU Stuttgart 92.05 319 *e*P **P 11 41 40.8 +1.3**
comp=Z,33nm,0.7s,baz=92,slow=4.6
DOMB Dombas 92.10 332 *e*P **P 11 41 39.7 +0.2**
TNA Tin City 92.22 25 P **P 11 41 39.3 -0.6**
baz=271
SKAR Skarslia 92.48 331 *e*P **P 11 41 42.3 +1.0**
SKAR IAmb IAmb 11 41 43.8
comp=Z,21nm,1.0s
TNS Taunus Mts 92.53 320 *e*P **P 11 41 43.4 +1.6**
comp=Z,112nm,2.2s,baz=92,slow=4.6
TNS *e*pP **pP 11 41 56.8 -1.3**
baz=92,slow=4.5
KASTN Kahler Asten 92.55 321 *e*P **P 11 41 43.2 +1.4**
comp=Z,29nm,1.4s,baz=92,slow=4.6
KASTN *e*pP **pP 11 41 56.6 -1.4**
baz=92,slow=4.5
SNAA Sanae 92.56 198 LR LR 12 16 01.7
comp=Z,728nm,21.9s,baz=15,slow=31
BFO Black Forest 92.62 318 *e*P **P 11 41 43.2 +0.9**
comp=Z,12nm,1.0s,baz=92,slow=4.6
BFO *e*pP **pP 11 41 56.5 -1.9**
baz=92,slow=4.5
MOL Molde 92.80 332 *e*P **P 11 41 43.2 +0.6**
HLG Helgoland 92.83 324 *e*P **P 11 41 44.7 +1.7**
comp=Z,257nm,1.0s,baz=92,slow=4.6
IBBN Ibbenburen 92.94 322 *e*P **P 11 41 45.2 +1.6**
comp=Z,32nm,1.2s,baz=92,slow=4.6
UNV Unalaska Valle 93.19 36 P **P 11 41 44.3 -0.3**
baz=272
ANM Nome 93.34 26 P **P 11 41 45.4 +0.3**
baz=273
WLF Walferdange 94.03 319 *e*P **P 11 41 50.2 +1.5**
comp=Z,14nm,1.1s,baz=92,slow=4.6
A21K Barrow 95.74 18 P **P 11 41 55.5 -0.5**
baz=282
SDPT Sand Point 96.58 35 P **P 11 41 59.1 -1.0**
baz=277
N16K Nishlik Lake 96.80 29 P **P 11 42 01.9 +0.8**
baz=279
GCSA Galena City Sc 96.94 25 P **P 11 42 01.7 +0.2**
baz=281
O16K Kokwok River B 97.27 30 P Pdif 11 42 03.5 +0.2
baz=279
P16K Nushagak River 97.42 31 P Pdif 11 42 04.4 +0.5
baz=279
TTA Tatalina 97.67 27 P Pdif 11 42 06.0 +0.9
baz=281
JMIC Jan Mayen 97.68 342 LR LR 12 33 07.5
comp=Z,291nm,20.3s,baz=72,slow=40
O17K Koliganek Bris 97.74 30 P **P 11 42 03.8 -1.5**
baz=280
F21K Alatna River 97.76 22 P Pdif 11 42 05.3 0.0
baz=284
R16K Pilot Point 97.87 32 P **P 11 42 05.4 -0.5**
baz=279
G21K Allakaket 97.92 23 P Pdif 11 42 06.6 +0.5
baz=284
P17K Kvichak River 98.18 30 P **P 11 42 07.2 -0.1**
baz=280
J20K Nowinta River 98.22 25 P Pdif 11 42 08.4 +1.0
baz=283
D23K Nanushuk River 98.30 20 P Pdif 11 42 08.7 +1.1
baz=287
L19K White Mountain 98.35 27 P Pdif 11 42 08.5 +0.4
baz=282
H21K Melozitna Rive 98.41 24 P Pdif 11 42 09.1 +0.8
baz=285
K20K Telida 98.44 26 P Pdif 11 42 09.1 +0.7
baz=283
R17K Ugashik Creek 98.48 32 P **P 11 42 08.6 -0.1**
baz=280
RAR Rarotonga 98.56 112 LR LR 12 25 09.7
comp=Z,102nm,21.9s,baz=259,slow=34
G22K Bettles 98.58 22 P **P 11 42 08.9 0.0**
baz=286
L20K Farewell, AK 98.73 27 P Pdif 11 42 10.1 +0.4
baz=283
C24K Franklin Bluff 98.73 19 P Pdif 11 42 10.1 +0.6
baz=289
P18K Big Mountain, 98.75 30 P **P 11 42 09.1 -0.8**
baz=282
N19K Bonanza Creek 98.82 29 P Pdif 11 42 10.3 +0.1
baz=282
I21K Tanana 98.87 24 P Pdif 11 42 10.4 +0.2
baz=285
D24K Happy Valley 98.87 20 P Pdif 11 42 10.3 +0.1
baz=289
H22K Ishtalitna Cre 98.92 23 P Pdif 11 42 11.2 +0.7
baz=286
E23K Chandalar 98.94 21 P Pdif 11 42 11.1 +0.4
baz=288
COLD Coldfoot 98.98 22 P Pdif 11 42 11.3 +0.5
baz=287
O19K Port Alsworth 99.03 29 P **Pdif 11 42 11.3 +0.2**
baz=282
CHUM Lake Minchumin 99.07 25 P **Pdif 11 42 12.5 +1.3**
baz=285
EKA Eskdalemuir Ar 99.08 326 P **Pdif 11 42 10.6 -0.8**
comp=Z,4.3nm,0.9s,baz=86,slow=4.6,SNR=1.8
EKA LR LR 12 32 53.6
comp=Z,130nm,18.4s,baz=50,slow=39
comp=Z,4.3nm,0.9s
G23K Bananza Creek 99.21 22 P **Pdif 11 42 12.5 +0.7**
baz=288
M20K Styx River 99.21 27 P **Pdif 11 42 12.3 +0.3**
baz=284
CAST Castle Rocks 99.29 26 P **Pdif 11 42 13.7 +1.5**
baz=285
E24K Your Creek 99.34 21 P **Pdif 11 42 12.6 +0.2**
baz=289
PPLA Purkeypile 99.38 26 P **Pdif 11 42 13.6 +0.8**
baz=285
MLY Manley 99.42 24 P **Pdif 11 42 13.2 +0.4**
baz=286
BPAW Bear Paw Mtn. 99.58 25 P **Pdif 11 42 13.8 +0.3**
baz=286
D25K Kavik River 99.63 19 P **Pdif 11 42 14.3 +0.7**
baz=291
Q19K Cape Douglas, 99.64 30 P **Pdif 11 42 13.9 0.0**
baz=283
H23K Yukon River 99.66 23 P **Pdif 11 42 15.0 +1.2**
baz=288
P19K Oil Pt 99.69 30 P **Pdif 11 42 14.7 +0.6**
baz=283
F24K Squaw Lake 99.74 21 P **Pdif 11 42 14.8 +0.6**
baz=290
SII Sitkinak Islan 99.87 33 P **Pdif 11 42 15.6 +0.7**
baz=282
C26K Camden Bay 99.88 19 P **Pdif 11 42 15.2 +0.5**
baz=293
SKT Skwentna 99.92 27 P **Pdif 11 42 14.6 -0.4**
baz=285
I23K Minto, Yukon-K 99.94 24 P **Pdif 11 42 14.7 -0.3**
baz=288
TRF Thorofare Moun 100.06 26 P **Pdif 11 42 16.4 +0.5**
baz=287
G24K Hadweenzic Riv 100.17 22 P **Pdif 11 42 16.5 +0.4**
baz=290
OHAK Old Harbor 100.21 32 P **Pdif 11 42 16.3 -0.1**
baz=283
NEA2 Nenana 100.23 24 P **Pdif 11 42 17.2 +0.9**
baz=288
H24K Noodor Dome 100.31 23 P **Pdif 11 42 17.9 +1.2**
baz=289
E25K Arctic Village 100.35 20 P **Pdif 11 42 17.8 +0.9**
baz=292
Q20K Shuyak Island 100.35 31 P **Pdif 11 42 17.9 +0.9**
baz=284
CUT Chulitna 100.37 27 P **Pdif 11 42 16.6 -0.4**
baz=286
C27K Jago River 100.38 19 P **Pdif 11 42 17.9 +1.0**
baz=294
SUA Susitna One 100.41 28 P **Pdif 11 42 17.6 +0.2**
baz=286
F25K Christian Rive 100.52 21 P **Pdif 11 42 18.6 +0.9**
baz=292
MCK McKinley 100.55 25 P **Pdif 11 42 18.7 +0.8**
baz=288
M22K Willow 100.62 27 P **Pdif 11 42 17.6 -0.5**
baz=287
G25K Bearman Lake 100.66 22 P **Pdif 11 42 18.7 +0.5**
baz=291
POKR Poker Plat Res 100.72 24 P **Pdif 11 42 19.7 +1.2**
baz=290
BRSE Bradley Lake S 100.89 29 P **Pdif 11 42 19.4 0.0**
baz=286
RC01 Rabbit Creek A 100.99 28 P **Pdif 11 42 19.6 -0.2**
baz=287
WAT1 Susitna Watana 101.00 26 P **Pdif 11 42 20.1 +0.2**
baz=288
F26K Shoenjek River 101.01 21 P **Pdif 11 42 20.7 +0.9**
baz=293
ILAR Eielson Array 101.06 24 P **Pdif 11 42 18.1 -1.9**
comp=Z,0.5nm,0.6s,baz=290,slow=3.9,SNR=8.1
ILAR PP **PP 11 46 26.7 -2.1**
comp=Z,1.5nm,0.8s,baz=300,slow=7.7,SNR=4.3
ILAR PKKPbc **PKKPbc 11 58 31.6 -2.2**
comp=Z,1.0nm,0.6s,baz=135,slow=2.4,SNR=16
PMR Palmer 101.12 27 P **Pdif 11 42 20.5 +0.2**
baz=287
HDA Harding Lake 101.16 24 P **Pdif 11 42 20.4 -0.1**
baz=290
PRP Porcupine Dome 101.33 23 P **Pdif 11 42 21.9 +0.5**
baz=292
SEW Seward 101.41 29 P **Pdif 11 42 21.8 +0.2**
baz=287
SML Sawmill 101.42 27 P **Pdif 11 42 22.3 +0.5**
baz=288
DHY Denali Highway 101.43 25 P **Pdif 11 42 22.1 +0.2**
baz=289
WAT6 Susitna Watana 101.43 26 P **Pdif 11 42 21.8 -0.1**
baz=289
G26K Porcupine Rive 101.44 21 P **Pdif 11 42 22.6 +1.0**
baz=293
KNK Knik Glacier 101.48 27 P **Pdif 11 42 22.2 +0.2**
baz=288
E27K Coleen River 101.69 20 P **Pdif 11 42 23.5 +0.7**
baz=296
M23K Glacier View 101.69 27 P **Pdif 11 42 23.5 +0.6**
baz=289
PWL Port Wells 101.71 28 P **Pdif 11 42 23.3 +0.3**
baz=288
K24K Donnelly Dome 101.85 25 P **Pdif 11 42 24.4 +0.8**
baz=291
SCM Sheep Creek Mo 101.86 27 P **Pdif 11 42 24.8 +1.0**
baz=289
ESDC Sonseca Array 102.11 310 PKKPbc PKKPbc 11 58 29.0 -0.9
comp=Z,0.8nm,0.9s,baz=247,slow=3.1,SNR=4.4
G27K Doyon Strip 102.26 21 P **Pdif 11 42 26.8 +1.4**
baz=295
RIDG Independent Ri 102.26 24 P **Pdif 11 42 25.2 -0.2**
baz=292
M24K Tolsona, Glenn 102.28 26 P **Pdif 11 42 25.8 +0.2**
baz=290
PAX Paxson 102.28 25 P **Pdif 11 42 25.3 -0.3**
baz=291
J26L Joseph Creek 102.49 23 P **Pdif 11 42 27.3 +0.7**
baz=293
SCRK Sand Creek 102.53 24 P **Pdif 11 42 27.0 +0.3**
baz=293
H27K Steamboat Moun 102.56 21 P **Pdif 11 42 27.2 +0.5**
baz=295
KLU Klutina 102.61 27 P **Pdif 11 42 27.8 +0.7**
baz=290
HARP HAARP 102.62 26 P **Pdif 11 42 27.1 0.0**
baz=291
I27K Kandik River 102.79 22 P **Pdif 11 42 28.3 +0.5**
baz=295
N25K Chitina, Valde 103.16 26 P **Pdif 11 42 30.0 +0.4**
baz=292
L26K Log Cabin Wild 103.16 25 P **Pdif 11 42 30.2 +0.8**
baz=293
K27K Chicken 103.28 24 P **Pdif 11 42 30.5 +0.6**
baz=294
EGAK Eagle 103.32 23 P **Pdif 11 42 30.7 +0.6**
baz=296
M26K Nabesna, AK 103.55 25 P **Pdif 11 42 31.7 +0.4**
baz=293
L27K Beaver Creek, 103.78 25 P **Pdif 11 42 32.4 +0.2**
baz=294
MCARA McCarthy VSAT 103.94 26 P **Pdif 11 42 33.2 +0.3**
baz=293
M27K Edge Creek, AK 104.05 25 P **Pdif 11 42 33.9 +0.3**
baz=294
G30M tAoh Zraii Nji 104.07 20 P **Pdif 11 42 34.5 +1.0**
baz=301
A36M Sachs Harbour 104.19 13 P **Pdif 11 42 34.7 +0.9**
baz=313
EPYK Eagle Plains 104.21 20 P **Pdif 11 42 34.1 0.0**
baz=300
INK Inuvik 104.24 18 Pdiff **Pdif 11 42 33.8 -0.2**
comp=Z,1.8nm,0.8s,baz=349,slow=5.8,SNR=7.4
INK PKiKP **PKiKP 11 46 50.9 +0.4**
comp=Z,1.2nm,0.6s,baz=298,slow=3.6,SNR=5.5
INK Inuvik 104.24 18 P **Pdif 11 42 34.7 +0.6**
baz=304
DAWY Dawson 104.33 23 P **Pdif 11 42 35.2 +0.5**
baz=297
BVCY Beaver Creek 104.45 25 P **Pdif 11 42 35.7 +0.5**
baz=295
F31M Tsiigehtchic 104.65 19 P **Pdif 11 42 36.8 +0.9**
baz=303
YUK3 Moose Creek 104.90 25 P **Pdif 11 42 37.9 +0.5**
baz=295
K29M Barlow Dome 105.16 23 P **PKiKP 11 46 53.8 +1.2**
baz=299
YUK6 Outpost Mounta 106.17 26 P **PKiKP 11 46 55.1 +0.5**
baz=297
RES Resolute Bay 106.52 4 Pdiff **Pdif 11 42 43.6 -0.5**
comp=Z,0.7nm,0.6s,baz=7.8,slow=9.5,SNR=2.5
RES PKiKP **PKiKP 11 46 54.4 -0.2**
comp=Z,3.4nm,0.8s,baz=240,slow=1.7,SNR=9.3
TBI Tubuai 107.75 115 *e*LR LR 12 18 35.0
comp=Z,4µm,32.0s
TBI *e*LR LR 12 18 35.0
PPT2 Papeete2 108.53 109 *e*LR LR 12 18 56.8
comp=Z,295nm,24.5s
PPT2 *e*LR LR 12 18 57.1
comp=Z,334nm,23.0s
S31K Pelican 108.53 28 P **PKiKP 11 47 00.0 +1.3**
baz=298
R31K City Hall, Gus 108.54 27 P **PKiKP 11 47 00.3 +1.6**
baz=299
P32M Atlin 108.86 26 P **PKiKP 11 47 00.6 +1.2**
baz=301
WRGLY Wrigley 110.64 20 P **PKiKP 11 47 03.2 +0.7**
baz=312
S34M Telegraph Cree 110.89 27 P **PKiKP 11 47 04.2 +1.0**
baz=303
YKA Yellowknife Ar 113.96 17 Pdiff **Pdif 11 43 17.8 +0.4**
comp=Z,0.4nm,0.8s,baz=326,slow=4.6,SNR=3.7
YKA PKiKP **PKiKP 11 47 08.1 -0.9**
comp=Z,2.4nm,0.8s,baz=315,slow=2.0,SNR=28
YKA PKKPbc **PKKPbc 11 57 51.5 -1.7**
comp=Z,0.7nm,0.9s,baz=135,slow=3.0,SNR=5.3
HILA High Level 116.17 21 PKiKP 11 47 13.3 0.0
FRB Frobisher Bay 117.55 354 PKP **PKPdf 11 47 14.6 -1.2**
comp=Z,2.0nm,0.5s,baz=49,slow=3.5,SNR=11
TAOE Nuku Hiva Isla 118.77 101 *e*LR LR 12 23 41.0
comp=Z,300nm,22.5s
RKT Rikitea 120.77 118 *e*LR LR 12 24 36.2
comp=Z,96µm,29.0s
EDM Edmonton 121.54 23 PKPdf **PKiKP 11 47 23.9 -0.1**
EDM Edmonton 121.54 23 PKIKP **PKiKP 11 47 23.9 -0.1**
FCC Fort Churchill 121.96 9 PKPdf **PKPdf 11 47 24.0 -0.4**
FCC Fort Churchill 121.96 9 PKIKP **PKPdf 11 47 24.0 -0.4**
LTY Liberty 122.33 32 PKPdf 11 47 25.6 0.0
FFC Flin Flon 124.05 15 PKPdf **PKPdf 11 47 28.4 -0.2**
FFC Flin Flon 124.05 15 PKIKP **PKPdf 11 47 28.4 -0.2**
SCHQ Schefferville 126.00 351 PKP **PKPdf 11 47 32.3 -0.1**
comp=Z,14nm,0.8s,baz=26,slow=3.4,SNR=18
SCHQ Schefferville 126.00 351 PKiKP 11 47 32.6 -0.1
MSO Missoula 126.01 29 P **PKPdf 11 47 32.8 0.0**
baz=316
EGMT Eagleton 127.00 25 P **PKPdf 11 47 34.6 +0.1**
baz=321
MCMT McKenzie Canyo 127.98 30 PKPdf **PKiKP 11 47 38.1 +0.8**
BOZ Bozeman (W) 128.01 28 P **PKiKP 11 47 37.8 +0.5**
baz=318
DGMT Dagmar 128.81 21 P **PKPdf 11 47 38.0 +0.1**
baz=328
NVAR Mina Array Bea 129.11 39 PKP **PKiKP 11 47 40.0 +0.2**
comp=Z,2.9nm,0.7s,baz=228,slow=1.1,SNR=12
RLMT Red Lodge 129.46 27 P **PKiKP 11 47 40.3 0.0**
baz=320
LAO LASA Array 129.52 24 P **PKiKP 11 47 40.0 -0.2**
baz=325
LAO LASA Array 129.52 24 P **PKiKP 11 47 40.2 0.0**
baz=325
ULM Lac du Bonnet 129.67 14 PKP **PKPdf 11 47 39.0 -0.5**
comp=Z,12nm,0.6s,baz=356,slow=2.9,SNR=21
ULM Lac du Bonnet 129.67 14 PKIKP **PKPdf 11 47 39.0 -0.5**
HVU Hansel Valley 130.18 32 PKiKP 11 47 42.0 +0.3
HVU Hansel Valley 130.18 32 PKIKP **PKiKP 11 47 42.0 +0.3**
CWC Cottonwood Cre 130.41 41 P **PKiKP 11 47 42.1 -0.2**
baz=305
R11A Troy Canyon, C 130.85 38 P **PKiKP 11 47 43.6 +0.4**
baz=309,SNR=8.7
MDND Maddock 130.87 18 P **PKPdf 11 47 41.6 -0.2**
baz=333
MDND Maddock 130.87 18 P **PKPdf 11 47 41.6 -0.2**
baz=333
MPMC Manual Prospec 131.02 41 P **PKiKP 11 47 43.3 -0.3**
baz=306
BW06 Boulder Array 131.11 29 P **PKPdf 11 47 42.8 +0.1**
baz=319
PD31 Pinedale Array 131.11 29 PKPdf **PKiKP 11 47 43.7 +0.1**
PDAR Pinedale Array 131.11 29 PKP **PKPdf 11 47 42.0 -0.7**
comp=Z,1.9nm,0.6s,baz=70,slow=1.7,SNR=19
PDAR SKPbc **SKPbc 11 51 00.4 -2.2**
comp=Z,1.3nm,0.7s,baz=333,slow=1.7,SNR=4.2
PDAR Pinedale Array 131.11 29 PKPdf 11 47 42.9 +0.1
DUG Dugway, Tooele 131.25 34 P **PKiKP 11 47 43.7 -0.2**
baz=313
TPNV Topopah Spring 131.30 40 P **PKPdf 11 47 43.3 +0.1**
baz=308
E28A Huff 131.64 19 P **PKPdf 11 47 43.6 +0.3**
baz=331
GSC Goldstone, Bar 131.92 42 P **PKiKP 11 47 45.2 -0.1**
baz=306
BFSC Mount Baldy Ra 131.95 43 P **PKPdf 11 47 44.3 -0.1**
baz=304
RSSD Black Hills 132.51 24 P **PKPdf 11 47 45.6 +0.2**
baz=326
RSSD Black Hills 132.51 24 P **PKPdf 11 47 45.3 0.0**
baz=326
MURC Murrieta 132.62 44 P **PKPdf 11 47 46.0 +0.4**
baz=304
K22A Casper 132.63 27 P **PKPdf 11 47 45.2 -0.3**
baz=322
EYMN Ely 132.78 11 P **PKPdf 11 47 45.9 +0.4**
baz=344
EYMN Ely 132.78 11 P **PKPdf 11 47 45.4 -0.1**
baz=344
GMRC Granite Mounta 132.98 41 P **PKiKP 11 47 47.2 -0.3**
baz=307
F33A 5 Mile Ranch, 133.65 16 P **PKPdf 11 47 46.6 -0.5**
baz=337
IRM Iron Mountain 133.69 42 P **PKiKP 11 47 48.8 -0.1**
baz=307
O20A White River Ci 133.74 31 PKPdf **PKiKP 11 47 48.9 -0.1**
O20A White River Ci 133.74 31 P **PKiKP 11 47 49.3 +0.3**
baz=319
BC3 Big Chuckawall 133.78 43 P **PKiKP 11 47 49.0 -0.2**
baz=306
IKP In-Ko-Pah, Jac 133.91 44 P **PKPdf 11 47 47.9 -0.2**
baz=304
SWSC Sam W. Stewart 133.96 44 P **PKPdf 11 47 48.3 +0.2**
baz=305
E38A The Farm, Brul 134.06 11 P **PKPdf 11 47 48.4 +0.5**
baz=343
SUSD Miller 134.10 19 P **PKPdf 11 47 48.1 0.0**
baz=333
SUSD Miller 134.10 19 P **PKiKP 11 47 48.9 -0.5**
baz=333
N23A Red Feather La 134.28 28 P **PKPdf 11 47 48.6 -0.2**
baz=322
F36A Milaca 134.34 14 P **PKPdf 11 47 47.7 -0.7**
baz=340
E63A Oxbow 134.38 349 P **PKiKP 11 47 49.4 -0.4**
baz=16
E63A P **PKiKP 11 47 49.4 -0.4**
baz=16
E62A Clayton Lake 134.39 350 P **PKPdf 11 47 48.8 +0.3**
baz=14
E62A P **PKPdf 11 47 48.8 +0.3**
baz=14
GLA Glamis 134.56 43 P **PKPdf 11 47 48.9 -0.4**
baz=306
F64A Sherman 134.91 349 P **PKPdf 11 47 49.6 +0.2**
baz=16
F64A P **PKPdf 11 47 49.6 +0.2**
baz=16
E43A Lone Tree Farm 135.02 7 P **PKPdf 11 47 49.9 +0.2**
baz=350
SPMN Marine on St. 135.11 13 P **PKPdf 11 47 50.1 +0.2**
baz=341
F62A Pittston Farm, 135.16 350 P **PKPdf 11 47 49.7 -0.3**
baz=14
F62A P **PKPdf 11 47 49.7 -0.3**
baz=14
ISCO Idaho Springs 135.29 29 P **PKPdf 11 47 51.2 +0.4**
baz=322
ISCO Idaho Springs 135.29 29 P **PKPdf 11 47 51.0 +0.2**
baz=322
ECSD EROS Data Cent 135.48 18 P **PKPdf 11 47 50.8 +0.1**
baz=336
ECSD EROS Data Cent 135.48 18 P **PKPdf 11 47 51.2 +0.5**
baz=336
G40A Rib Lake 135.60 11 P **PKPdf 11 47 51.2 +0.4**
baz=345
PKME Peaks-Kenny Pk 135.66 350 P **PKPdf 11 47 51.6 +0.8**
baz=15
MVCO Mesa Verde 135.75 34 P **PKPdf 11 47 52.1 +0.4**
baz=316
K31A O'Neill 135.78 20 P **PKPdf 11 47 52.6 -0.2**
baz=332
OGNE Ogallala 135.97 25 P **PKPdf 11 47 50.2 -1.5**
baz=327
OGNE Ogallala 135.97 25 P **PKPdf 11 47 51.1 -0.7**
baz=327
I37B Waseca 136.10 14 P **PKPdf 11 47 51.6 -0.2**
baz=340
Q24A Divide 136.17 29 P **PKPdf 11 47 52.8 +0.3**
baz=322
S22A 4UR Ranch, Cre 136.25 32 P **PKPdf 11 47 53.0 +0.3**
baz=319
W18A Petrified Fore 136.50 37 P **PKiKP 11 47 54.1 -0.7**
baz=313,SNR=9.8
BMNY Brushton-Moira 136.79 355 P **PKPdf 11 47 53.5 +0.6**
baz=7.5
I40A Norwalk 136.85 12 P **PKPdf 11 47 53.7 +0.5**
baz=344
SDCO Great Sand Dun 136.94 30 P **PKPdf 11 47 53.5 -0.4**
baz=320
SDCO Great Sand Dun 136.94 30 P **PKPdf 11 47 53.9 0.0**
baz=320
PLCA Paso Flores 136.98 190 PKhKP PKPpre 11 47 46.0
comp=Z,0.9nm,0.5s,baz=71,slow=2.1,SNR=3.3
PLCA PKP **PKPdf 11 47 54.4 +0.8**
comp=Z,2.6nm,0.5s,baz=238,slow=4.1,SNR=6.3
I63A Otisfield 137.06 350 P **PKPdf 11 47 54.2 +0.7**
baz=13
I63A P **PKPdf 11 47 54.2 +0.7**
baz=13
BGNE Belgrade 137.06 21 P **PKPdf 11 47 54.0 +0.3**
baz=332
BGNE Belgrade 137.06 21 P **PKPdf 11 47 53.6 -0.1**
baz=332
I42A Draeger Farm, 137.17 10 P **PKiKP 11 47 54.7 -0.9**
baz=346
KSCO Kaye Shedlock' 137.31 27 P **PKPdf 11 47 54.6 +0.3**
baz=325
MCVT Middlebury Col 137.50 353 P **PKPdf 11 47 54.1 -0.3**
baz=9.8
K38A Parkersburg 137.55 14 P **PKPdf 11 47 55.0 +0.5**
baz=340
NCB Newcomb 137.62 354 P **PKPdf 11 47 55.5 +0.9**
baz=8.0
TUC Tucson 137.71 41 P **PKPdf 11 47 54.6 -0.6**
baz=310
WCNY West Carthage 137.74 356 P **PKPdf 11 47 54.8 +0.1**
baz=5.9
JFWS Jewell Farm 137.86 12 P **PKPdf 11 47 55.2 +0.2**
baz=344
JFWS Jewell Farm 137.86 12 P **PKPdf 11 47 55.3 +0.2**
baz=344
T25A Trinidad 137.96 30 P **PKPdf 11 47 54.9 -0.8**
baz=321
UNH University of 138.04 350 P **PKiKP 11 47 56.4 -0.9**
baz=13
SCIA State Center 138.13 15 P **PKiKP 11 47 57.4 -0.3**
baz=340
SCIA State Center 138.13 15 P **PKPdf 11 47 55.0 -0.6**
baz=340
J59A Piesco 138.15 354 P **PKiKP 11 47 57.3 -0.3**
baz=7.7
J59A P **PKiKP 11 47 57.3 -0.3**

	baz=7.7								
J58A	**Remsen**	**138.33**	**355**		P	**PKPdf**	**11 47 56.9**	**+1.0**
	baz=6.5								
J58A					P	**PKPdf**	**11 47 56.9**	**+1.0**
	baz=6.5								
J57A	**Williamstown**	**138.33**	**356**		P	**PKiKP**	**11 47 57.2**	**-0.7**
	baz=5.5								
J57A					P	**PKiKP**	**11 47 57.2**	**-0.7**
	baz=5.5								
J47A	**Sunmer**	**138.37**	**6**		P	**PKiKP**	**11 47 57.5**	**-0.6**
	baz=352								
J47A					P	**PKiKP**	**11 47 57.5**	**-0.6**
	baz=352								
N35A	**Tabor**	**138.39**	**18**		P	**PKiKP**	**11 47 57.6**	**-0.6**
	baz=336								
L40A	**Anamosa**	**138.47**	**13**		P	**PKiKP**	**11 47 57.4**	**-0.9**
	baz=342								
ANMO	**Albuquerque**	**138.53**	**34**		P	**PKPdf**	**11 47 57.4**	**+0.6**
	baz=317								
J55A	**Hilton**	**138.57**	**358**		P	**PKiKP**	**11 47 57.7**	**-0.8**
	baz=2.8								
J55A					P	**PKiKP**	**11 47 57.7**	**-0.8**
	baz=2.8								
HRV	**Adam Dziewonsk**	**138.72**	**351**		P	**PKPdf**	**11 47 57.0**	**+0.4**
	baz=12								
L42A	**Oliver, Polo**	**138.85**	**11**		P	**PKiKP**	**11 47 58.1**	**-1.0**
	baz=345								
HCNY	**Howe Caverns**	**138.90**	**354**		P	**PKiKP**	**11 47 58.6**	**-0.6**
	baz=8.0								
QUA2	**Belchertown**	**139.06**	**352**		P	**PKiKP**	**11 48 00.3**	**+0.8**
	baz=11								
L59A	**Walton**	**139.47**	**355**		P	**PKiKP**	**11 48 00.0**	**-0.4**
	baz=7.1								
L59A					P	**PKiKP**	**11 48 00.0**	**-0.4**
	baz=7.1								
M65A	**Busby, Falmout**	**139.49**	**350**		P	**PKPdf**	**11 47 59.0**	**+0.9**
	baz=14								
BINY	**Binghamton**	**139.53**	**356**		P	**PKPdf**	**11 47 59.3**	**+1.1**
	baz=5.6								
BINY	**Binghamton**	**139.53**	**356**		P	**PKPdf**	**11 47 59.2**	**+1.1**
	baz=5.6								
KSU1	**Kansas State U**	**139.65**	**21**		P	**PKPdf**	**11 47 58.6**	**+0.1**
	baz=333								
L56A	**Greenwood**	**139.69**	**358**		P	**PKiKP**	**11 47 60.0**	**-0.9**
	baz=3.2								
L56A					P	**PKiKP**	**11 47 60.0**	**-0.9**
	baz=3.2								
ERPA	**Erie**	**139.75**	**0**		P	**PKPdf**	**11 47 58.0**	**-0.6**
	baz=359								
KSPA	**Keystone Colle**	**140.16**	**356**		P	**PKPdf**	**11 48 00.2**	**+1.0**
	baz=6.0								
HDIL	**Hopedale**	**140.32**	**12**		P	**PKPdf**	**11 47 58.7**	**-0.9**
	baz=345								
M50A	**Fremont**	**140.34**	**4**		P	**PKPdf**	**11 48 00.7**	**+1.1**
	baz=355								
M50A					P	**PKPdf**	**11 48 00.7**	**+1.1**
	baz=355								
M53A	**WI Miller and**	**140.41**	**1**		P	**PKPdf**	**11 47 59.1**	**-0.7**
	baz=358								
M57A	**Sunshine Farm,**	**140.46**	**357**		P	**PKPdf**	**11 48 01.1**	**+1.2**
	baz=4.0								
M57A					P	**PKPdf**	**11 48 01.1**	**+1.2**
	baz=4.0								
PAL	**Palisades**	**140.52**	**353**		P	**PKPdf**	**11 47 59.0**	**-0.9**
	baz=9.0								
ODNJ	**Ogdensburg**	**140.52**	**354**		P	**PKPdf**	**11 48 00.6**	**+0.7**
	baz=7.9								
N47A	**Urbana**	**140.60**	**7**		P	**PKiKP**	**11 48 01.6**	**-1.0**
	baz=350								
N47A					P	**PKiKP**	**11 48 01.6**	**-1.0**
	baz=350								
AMTX	**Amarillo**	**141.09**	**29**		P	**PKPdf**	**11 48 00.4**	**-0.9**
	baz=323								
P43A	**Skaggs, Pawnee**	**141.16**	**12**		P	**PKiKP**	**11 48 03.4**	**-0.5**
	baz=344								
SSPA	**Standing Stone**	**141.20**	**358**		P	**PKPdf**	**11 48 02.4**	**+1.2**
	baz=2.8								
SSPA	**Standing Stone**	**141.20**	**358**		P	**PKPdf**	**11 48 00.2**	**-1.0**
	baz=2.8								
O48B	**Farmland**	**141.28**	**7**		P	**PKPdf**	**11 48 00.4**	**-1.0**
	baz=351								
ACSO	**Alum Creek Sta**	**141.51**	**4**		P	**PKPdf**	**11 48 02.8**	**+1.1**
	baz=355								
T35B	**Sooner Cattle**	**141.62**	**22**		P	**PKPdf**	**11 47 58.0**	**-4.1**
	baz=332,SNR=6.8								
WMOK	**Wichita Mounta**	**142.57**	**26**		P	**PKPdf**	**11 47 59.4**	**-4.5**
	baz=328,SNR=17								
TUL1	**Leonard**	**142.78**	**22**		P	**PKPdf**	**11 48 00.6**	**-3.6**
	baz=333,SNR=5.6								
U38A	**Gravette**	**142.81**	**20**		P	**PKPdf**	**11 47 59.5**	**-4.7**
	baz=335,SNR=12								
U40A	**Yellville**	**143.38**	**18**		P	PKPbc	11 48 02.3	-0.2
	baz=338,SNR=14								
U40A					P	PKPbc	11 48 02.3	-0.2
	baz=338,SNR=14								
ABTX	**Abilene, Hawle**	**143.91**	**29**		P	PKPbc	11 48 04.3	+0.2
	baz=325,SNR=8.0								
S51A	**Beattyville**	**144.03**	**5**		P	**PKPab**	**11 48 03.5**	**-0.2**
	baz=353,SNR=8.7								
S51A					P	**PKPab**	**11 48 03.5**	**-0.2**
	baz=353,SNR=8.7								
FCAR	**Ozark Folk Cen**	**144.04**	**17**			**PKPab**	**11 48 03.7**	**-0.1**
X37A	**Clayton**	**144.11**	**22**		P	**PKPab**	**11 48 04.1**	**0.0**
	baz=333,SNR=33								
LCAR	**Lake Charles**	**144.15**	**16**		P	**PKPab**	**11 48 03.8**	**-0.4**
	baz=340,SNR=13								
T47A	**Sharon Grove**	**144.19**	**10**		P	**PKPab**	**11 48 04.4**	**0.0**
	baz=347,SNR=5.4								
TX31	**Lajitas Ar. Si**	**144.21**	**38**			PKPbc	11 48 06.0	+0.8
TX32	**Lajitas Array**	**144.21**	**38**			PKPbc	11 48 05.8	+0.5
TXAR	**Lajitas Array**	**144.21**	**38**		PKPdf	PKPbc	11 48 06.0	+0.8
TXAR	**Lajitas Array**	**144.21**	**38**		PKIKP	PKPbc	11 48 06.0	+0.8
BDFB	**Brasilia**	**144.34**	**240**		PKP	**PKPdf**	**11 48 07.4**	**-0.2**
	comp=Z,14nm,0.5s,baz=115,slow=4.0,SNR=22								
BDFB	**Brasilia**	**144.34**	**240**		PKPdf	PKPbc	11 48 06.0	0.0
BDFB	**Brasilia**	**144.34**	**240**		PKIKP	PKPbc	11 48 06.0	0.0
Z35A	**Perchaven, San**	**144.43**	**26**		P	**PKPab**	**11 48 05.5**	**+0.1**
	baz=329,SNR=26								
T50A	**Nancy**	**144.51**	**7**		P	**PKPab**	**11 48 04.5**	**-1.0**
	baz=351								
T50A					P	**PKPab**	**11 48 04.5**	**-1.0**
	baz=351								
WHAR	**Wooly Hollow**	**144.54**	**18**			**PKPab**	**11 48 05.3**	**-0.4**
HPIG		**144.57**	**43**		PKPdf	PKPbc	11 48 07.1	+0.5
BLA	**Blacksburg**	**144.64**	**1**		P	**PKPab**	**11 48 05.9**	**-0.2**
	baz=359								
MIAR	**Mount Ida**	**144.80**	**20**		PKPdf	**PKPab**	**11 48 06.4**	**-0.3**
MIAR	**Mount Ida**	**144.80**	**20**		P	**PKPab**	**11 48 06.5**	**-0.2**
	baz=335,SNR=197								
MIAR	**Mount Ida**	**144.80**	**20**		P	**PKPab**	**11 48 06.7**	**0.0**
	baz=335								
MIAR	**Mount Ida**	**144.80**	**20**		PKIKP	**PKPab**	**11 48 06.4**	**-0.3**
CPUP	**Villa Florida**	**144.81**	**216**		PKP	**PKPdf**	**11 48 08.2**	**+0.2**
	comp=Z,38nm,0.6s,baz=133,slow=2.1,SNR=103								
CPUP	**Villa Florida**	**144.81**	**216**		PKPdf	**PKPdf**	**11 48 07.9**	**-0.1**
CPUP	**Villa Florida**	**144.81**	**216**		PKIKP	**PKPdf**	**11 48 07.9**	**-0.1**
T59A	**Double "B" Far**	**144.84**	**357**		P	**PKPab**	**11 48 06.6**	**-0.1**
	baz=3.6,SNR=6.3								
T59A					P	**PKPab**	**11 48 06.6**	**-0.1**
	baz=3.6,SNR=6.3								
T57A	**Hurt**	**144.86**	**360**		P	**PKPab**	**11 48 06.3**	**-0.5**
	baz=0.7,SNR=13								
T57A					P	**PKPab**	**11 48 06.3**	**-0.5**
	baz=0.7,SNR=13								
U49A	**Red Boiling Sp**	**144.88**	**9**		P	**PKPab**	**11 48 05.8**	**-1.1**
	baz=349,SNR=31								
WVT	**Waverly**	**144.89**	**12**		P	**PKPab**	**11 48 06.2**	**-0.8**
	baz=346,SNR=41								
WVT	**Waverly**	**144.89**	**12**		P	**PKPab**	**11 48 06.9**	**-0.1**
	baz=346								
UALR	**University of**	**145.00**	**18**			**PKPbc**	**11 48 06.9**	**-0.5**
X40A	**Basin Creek Fa**	**145.11**	**19**			**PKPbc**	**11 48 07.7**	**-0.1**
X40A	**Basin Creek Fa**	**145.11**	**19**		P	**PKPbc**	**11 48 07.4**	**-0.3**
	baz=337,SNR=64								
X40A					P	**PKPbc**	**11 48 07.4**	**-0.3**
	baz=337,SNR=64								
TZTN	**Tazewell**	**145.12**	**6**			**PKPbc**	**11 48 06.9**	**-0.9**
TZTN	**Tazewell**	**145.12**	**6**		P	**PKPbc**	**11 48 07.2**	**-0.6**
	baz=353,SNR=36								
TZTN	**Tazewell**	**145.12**	**6**		P	**PKPbc**	**11 48 07.3**	**-0.5**
	baz=353								
CLTN	**Cedars of Leba**	**145.20**	**10**			**PKPbc**	**11 48 07.5**	**-0.5**
U54A	**Nelsons Funny**	**145.28**	**3**		P	**PKPbc**	**11 48 07.7**	**-0.6**
	baz=356,SNR=11								
U54A					P	**PKPbc**	**11 48 07.7**	**-0.6**
	baz=356,SNR=11								
Z38A	**Mt. Pleasant**	**145.43**	**23**		P	**PKPdf**	**11 48 08.9**	**0.0**
	baz=332,SNR=34								
V48A	**Smith Brothers**	**145.46**	**10**			**PKPdf**	**11 48 08.0**	**-0.9**
V48A	**Smith Brothers**	**145.46**	**10**		P	**PKPdf**	**11 48 08.3**	**-0.5**
	baz=347,SNR=30								
U59A	**Littleton**	**145.46**	**357**		P	**PKPdf**	**11 48 08.6**	**-0.2**
	baz=3.3,SNR=6.9								
U59A					P	**PKPdf**	**11 48 08.6**	**-0.2**
	baz=3.3,SNR=6.9								
WHTX	**Lake Whitney,**	**145.47**	**27**		P	**PKPdf**	**11 48 08.2**	**-0.8**
	baz=328,SNR=8.8								
WHTX	**Lake Whitney,**	**145.47**	**27**		P	**PKPbc**	**11 48 09.1**	**+0.1**
	baz=327,SNR=8.8								
U56A	**King**	**145.50**	**1**			**PKPdf**	**11 48 08.0**	**-0.9**
U56A	**King**	**145.50**	**1**		P	**PKPdf**	**11 48 08.5**	**-0.4**
	baz=359,SNR=12								
U56A					P	**PKPdf**	**11 48 08.5**	**-0.4**
	baz=359,SNR=12								
W45A	**Hickory Valley**	**145.52**	**14**		P	**PKPdf**	**11 48 08.6**	**-0.4**
	baz=343,SNR=29								
JCT	**Junction City**	**145.55**	**32**		P	**PKPdf**	**11 48 09.2**	**0.0**
	baz=323								
JCT	**Junction City**	**145.55**	**32**		P	**PKPab**	**11 48 09.7**	**+0.1**
	baz=323								
WLAR	**White Oak Lake**	**145.74**	**20**			**PKPab**	**11 48 10.1**	**-0.1**
V51A	**Loudon**	**145.77**	**7**		P	**PKPdf**	**11 48 09.2**	**-0.2**
	baz=352,SNR=12								
V52A	**Sevierville**	**145.81**	**6**		P	**PKPdf**	**11 48 09.5**	**+0.1**
	baz=353,SNR=18								
V61A	**Roper**	**145.95**	**356**		P	**PKPdf**	**11 48 09.9**	**+0.3**
	baz=5.5								
V61A					P	**PKPdf**	**11 48 09.9**	**+0.3**
	baz=5.5								
V55A	**Taylorsville**	**145.97**	**2**		P	**PKPdf**	**11 48 10.0**	**+0.3**
	baz=357,SNR=18								
V55A					P	**PKPdf**	**11 48 10.0**	**+0.3**
	baz=357,SNR=18								
CCAR	**Cane Creek**	**145.97**	**18**	PKPbc		**PKPbc**	**11 48 10.7**	**+0.2**
CCAR	**Cane Creek**	**145.97**	**18**	P		**PKPab**	**11 48 10.8**	**-0.2**
	baz=338,SNR=12								
TKL	**Tuckaleechee C**	**145.98**	**6**	PKPbc		**PKPdf**	**11 48 09.4**	**-0.3**
TKL	**Tuckaleechee C**	**145.98**	**6**	P		**PKPdf**	**11 48 10.0**	**+0.2**
	baz=353,SNR=16								
TKL	**Tuckaleechee C**	**145.98**	**6**	PKP2		**PKPdf**	**11 48 09.4**	**-0.3**
V53A	**Saluda**	**146.06**	**5**	P		**PKPdf**	**11 48 10.2**	**+0.3**
	baz=354,SNR=25								
V53A					P	**PKPdf**	**11 48 10.2**	**+0.3**
	baz=354,SNR=25								
V58A	**Windy Hill, Pi**	**146.06**	**359**		P	**PKPbc**	**11 48 10.6**	**-0.1**
	baz=1.0,SNR=12								
V58A					P	**PKPbc**	**11 48 10.6**	**-0.1**
	baz=1.0,SNR=12								
OXF	**Oxford**	**146.08**	**15**		P	**PKPbc**	**11 48 10.4**	**-0.4**
	baz=342,SNR=28								
OXF	**Oxford**	**146.08**	**15**		P	**PKPbc**	**11 48 10.6**	**-0.3**
	baz=342								
CPCT	**Cooper Cave**	**146.10**	**7**	PKPbc		**PKPdf**	**11 48 10.1**	**+0.1**
237A	**Washetta, Mont**	**146.19**	**25**	P		**PKPab**	**11 48 11.8**	**-0.1**
	baz=330,SNR=5.8								
W50A	**Signal Mountai**	**146.23**	**8**	P		**PKPdf**	**11 48 10.4**	**+0.2**
	baz=350,SNR=9.1								
435B	**Jarrell**	**146.42**	**29**	P		**PKPdf**	**11 48 10.8**	**+0.2**
	baz=326								
435B	**Jarrell**	**146.42**	**29**	P		**PKPbc**	**11 48 12.2**	**+0.3**
	baz=326								
W52A	**Murphy**	**146.52**	**6**	P		**PKPdf**	**11 48 11.0**	**+0.3**
	baz=352,SNR=18								
CO03	**El Pedregal**	**146.56**	**194**			**PKPbc**	**11 48 12.5**	**0.0**
CNNC	**Cliffs of the**	**146.58**	**357**	P		**PKPbc**	**11 48 11.7**	**-0.5**
	baz=3.2,SNR=7.0								
CNNC	**Cliffs of the**	**146.58**	**357**	P		**PKPbc**	**11 48 12.1**	**-0.1**
	baz=3.1								
Y45A	**Yeager Farm, C**	**146.66**	**15**			**PKPbc**	**11 48 12.5**	**0.0**
Y45A	**Yeager Farm, C**	**146.66**	**15**	P		**PKPbc**	**11 48 12.1**	**-0.5**
	baz=342,SNR=17								
X48A	**Hartselle**	**146.67**	**11**	P		**PKPdf**	**11 48 11.2**	**+0.3**
	baz=346,SNR=59								
KMSC	**Kings Mountain**	**146.67**	**3**	P		**PKPdf**	**11 48 11.7**	**+0.8**
	baz=357,SNR=25								
KMSC	**Kings Mountain**	**146.67**	**3**	P		**PKPbc**	**11 48 12.2**	**-0.3**
	baz=357,SNR=25								
W57A	**Gilead**	**146.70**	**1**			**PKPbc**	**11 48 12.1**	**-0.5**
W57A	**Gilead**	**146.70**	**1**	P		**PKPbc**	**11 48 11.9**	**-0.7**
	baz=359,SNR=11								
W57A					P	**PKPbc**	**11 48 11.9**	**-0.7**
	baz=359,SNR=11								
CASEE	**Lake Jocassee**	**146.72**	**5**	P		**PKPbc**	**11 48 12.2**	**-0.5**
	baz=354,SNR=35								
FPAL	**Fort Paine**	**146.84**	**9**			**PKPbc**	**11 48 12.3**	**-0.8**
NATX	**Nacogdoches**	**146.88**	**24**	P		**PKPbc**	**11 48 13.3**	**+0.1**
	baz=332,SNR=13								
NATX	**Nacogdoches**	**146.88**	**24**	P		**PKPbc**	**11 48 13.3**	**+0.1**
	baz=332,SNR=13								
X51A	**Calhoun**	**146.92**	**8**	P		**PKPbc**	**11 48 12.6**	**-0.7**
	baz=350,SNR=21								
X51A					P	**PKPbc**	**11 48 12.6**	**-0.7**
	baz=350,SNR=21								
PAULI	**Pauline**	**146.97**	**3**	P		**PKPbc**	**11 48 12.8**	**-0.6**
	baz=356,SNR=15								
BIRD	**Birdtown, Kers**	**147.20**	**1**	P		**PKPbc**	**11 48 13.9**	**-0.2**
	baz=358,SNR=15								
143A	**Socs Landing,**	**147.21**	**19**	P		**PKPbc**	**11 48 14.2**	**0.0**
	baz=338,SNR=10								
X58A	**Rowland**	**147.30**	**360**	P		**PKPbc**	**11 48 14.2**	**-0.1**
	baz=0.6,SNR=7.0								
X58A					P	**PKPbc**	**11 48 14.2**	**-0.1**
	baz=0.6,SNR=7.0								
Y49A	**Blount Mountai**	**147.37**	**11**	P		**PKPbc**	**11 48 13.9**	**-0.6**
	baz=348,SNR=27								
833A	**Chaparral WMA,**	**147.46**	**34**	P		**PKPbc**	**11 48 14.2**	**-0.8**
	baz=321								
833A	**Chaparral WMA,**	**147.46**	**34**	P		**PKPbc**	**11 48 15.2**	**+0.3**
	baz=321								
HODGE	**Hodges**	**147.53**	**4**	P		**PKPbc**	**11 48 14.4**	**-0.6**
	baz=355,SNR=14								
JSC	**Jenkinsville**	**147.53**	**3**	P		**PKPbc**	**11 48 14.5**	**-0.5**
	baz=357,SNR=15								
Z47A	**Carrollton**	**147.66**	**13**			**PKPbc**	**11 48 14.6**	**-0.8**
Z47A	**Carrollton**	**147.66**	**13**	P		**PKPbc**	**11 48 14.7**	**-0.7**
	baz=344,SNR=30								
Y52A	**Lilburn**	**147.72**	**7**	P		**PKPbc**	**11 48 14.9**	**-0.6**
	baz=352,SNR=21								
Y52A					P	**PKPbc**	**11 48 14.9**	**-0.6**
	baz=352,SNR=21								
Y60A	**Bolivia**	**147.82**	**358**	P		**PKPbc**	**11 48 15.2**	**-0.6**
	baz=2.7								
Y60A					P	**PKPbc**	**11 48 15.2**	**-0.6**
	baz=2.7								
Y57A	**Sumter**	**147.83**	**1**			**PKPbc**	**11 48 15.0**	**-0.7**
Y57A	**Sumter**	**147.83**	**1**	P		**PKPbc**	**11 48 15.6**	**-0.1**
	baz=359,SNR=12								
Y57A					P	**PKPbc**	**11 48 15.6**	**-0.1**
	baz=359,SNR=12								
735A	**Kenedy**	**147.88**	**31**	P		**PKPbc**	**11 48 16.7**	**+0.6**
	baz=324								
VBMS	**Vicksburg**	**147.94**	**18**	P		**PKPbc**	**11 48 15.8**	**-0.3**
	baz=339								
VBMS	**Vicksburg**	**147.94**	**18**	P		**PKPbc**	**11 48 15.9**	**-0.2**
	baz=339								
HKT	**Hockley**	**147.94**	**27**	P		**PKPbc**	**11 48 15.5**	**-0.7**
	baz=328								
Y58A	**Scranton**	**147.95**	**0**	P		**PKPbc**	**11 48 15.9**	**-0.2**
	baz=360,SNR=9.9								
Y58A					P	**PKPbc**	**11 48 15.9**	**-0.2**
	baz=360,SNR=9.9								
146A	**Union**	**147.95**	**15**	P		**PKPbc**	**11 48 16.2**	**+0.1**
	baz=342,SNR=17								
LRAL	**Lakeview Retre**	**148.05**	**12**	P		**PKPbc**	**11 48 15.8**	**-0.6**
	baz=346,SNR=14								
LRAL	**Lakeview Retre**	**148.05**	**12**	P		**PKPbc**	**11 48 16.0**	**-0.4**
	baz=346,SNR=14								
Z51A	**Franklin**	**148.10**	**9**	P		**PKPbc**	**11 48 16.2**	**-0.3**
	baz=350,SNR=7.0								
342B	**Flagon Creek P**	**148.12**	**21**	P		**PKPbc**	**11 48 17.2**	**+0.6**
	baz=336,SNR=7.3								
LCO	**Las Campanas**	**148.31**	**195**			**PKPdf**	**11 48 15.5**	**+1.3**
LCO	**Las Campanas**	**148.31**	**195**	PKIKP		**PKPdf**	**11 48 15.5**	**+1.3**
441A	**DeRidder**	**148.36**	**23**	P		**PKiKP**	**11 48 18.8**	**-0.1**
	baz=334								
HAW	**Hawthorne Fire**	**148.43**	**3**	P		**PKPbc**	**11 48 16.5**	**-0.9**
	baz=356								
344A	**Westbrook Farm**	**148.58**	**18**	P		**PKPbc**	**11 48 18.4**	**+0.6**
	baz=338,SNR=8.1								
NHSC	**New Hope**	**148.74**	**1**	P		**PKPbc**	**11 48 17.6**	**-0.6**
	baz=359								
NHSC	**New Hope**	**148.74**	**1**	P		**PKPbc**	**11 48 18.0**	**-0.2**
	baz=359								
152A	**Waverly Hall**	**148.81**	**8**	P		**PKPbc**	**11 48 18.4**	**0.0**
	baz=350,SNR=13								
KVTX	**Kingsville**	**148.89**	**33**	P		**PKiKP**	**11 48 19.9**	**-0.2**
	baz=323								
346A	**Big Creek Wild**	**149.02**	**17**	P		**PKPbc**	**11 48 19.4**	**+0.5**
	baz=341,SNR=9.3								
154A	**Montrose**	**149.06**	**6**	P		**PKPbc**	**11 48 19.2**	**+0.2**
	baz=353,SNR=5.9								
250A	**Grady**	**149.22**	**11**	P		**PKPbc**	**11 48 19.8**	**+0.3**
	baz=347,SNR=8.1								
255A	**Hazlehurst**	**149.80**	**5**	P		**PKPbc**	**11 48 20.9**	**0.0**
	baz=354								
BRAL	**Brewton**	**149.84**	**13**	P		**PKiKP**	**11 48 21.6**	**-0.4**
	baz=345,SNR=5.6								
BRAL	**Brewton**	**149.84**	**13**	P		**PKPbc**	**11 48 20.7**	**-0.3**
	baz=345								
352A	**Blakely**	**149.94**	**9**	P		**PKPbc**	**11 48 21.1**	**-0.1**
	baz=350								
TIGA	**Tifton**	**150.17**	**7**	P		**PKPbc**	**11 48 21.5**	**-0.3**
	baz=352								
TIGA	**Tifton**	**150.17**	**7**	P		**PKPbc**	**11 48 21.5**	**-0.3**
	baz=352								
451A	**Vernon**	**150.64**	**11**	P		**PKPbc**	**11 48 23.0**	**0.0**
	baz=348								
456A	**Hilliard**	**151.03**	**4**	P		**PKPbc**	**11 48 23.9**	**+0.1**
	baz=355								
656A	**Willston**	**152.33**	**6**	P		**PKPbc**	**11 48 26.6**	**-0.3**
	baz=354								
LPAZ	**La Paz**	**158.85**	**212**	*eP*		PKPdf	11 48 18.1	-12
MLPR	**Magueyes Islan**	**159.65**	**323**		PKPdf	**PKPdf**	**11 48 29.3**	**-0.6**
MLPR						**PKPab**	**11 49 08.4**	**-0.1**
SDDR	**Presa de Saban**	**160.97**	**335**	*eP*		**PKPdf**	**11 48 25.8**	**-5.7**
ETMB	**Extrema**	**162.44**	**229**		PKPdf	**PKPdf**	**11 48 33.4**	**+0.3**
ETMB					PKPab	**PKPab**	**11 49 19.7**	**-1.2**
PTBC	**PUERTO BERRIO**	**172.96**	**313**	*eP*		**PKPdf**	**11 48 36.4**	**-4.1**
ROSC	**El Rosal**	**173.86**	**301**		PKP	**PKPdf**	**11 48 41.6**	**+0.2**
	comp=Z,12nm,0.7s,baz=99,slow=3.0,SNR=5.8								
NORC	**Norcasia**	**173.90**	**309**	*eP*		**PKPdf**	**11 48 35.5**	**-5.5**
MCRA	**Macar, Loja**	**173.98**	**177**	*eP*		**PKPdf**	**11 48 38.4**	**-2.6**
GUY2C	**Guyana, Caldas**	**174.50**	**310**	*eP*		**PKPdf**	**11 48 38.4**	**-3.3**
PLMC	**San Jos del P**	**175.39**	**314**	*eP*		**PKPdf**	**11 48 38.4**	**-3.1**
YOTC	**Yotoco, Valle**	**176.02**	**305**	*eP*		**PKPdf**	**11 48 39.3**	**-2.4**

IDC 09 12:16:19.7±1.3, 1°37N×124°40E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=149.1km s-min=22.1km az=67.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**156**	P	P	12 21 29.8	+0.1
	0.9nm,0.4s,baz=334,slow=10,SNR=16						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**26.55**	**160**	P	P	12 21 59.2	-0.2
	0.3nm,0.6s,baz=336,slow=7.3,SNR=13						
	0.3nm,0.6s						
SONM	**Songino Array**	**48.84**	**344**	P	P	12 25 07.1	0.0
	0.3nm,0.4s,baz=167,slow=8.6,SNR=2.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.20**	**327**	P	P	12 26 15.7	0.0
	0.1nm,0.3s,baz=128,slow=5.3,SNR=2.6						
	0.1nm,0.3s						

*HVO **09** 12:27:05.7±0.8, 19°21N±0°03×155°48W±0°02, h36km±3km, ML2.5/6, ML2.7/46(NEIC), Error ellipse: s-maj=4.8km s-min=2.7km az=163.0*

NEIC 09 12:27:04.0±0.8, 19°22N±0°02×155°49W±0°01, h43km±3km, Error ellipse: s-maj=3.1km s-min=1.1km az=196.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.09**	**81**		Pn	12 27 11.3	+0.3
HTC					Sn	12 27 15.9	0.0
KHU	**Kahuku**	**0.12**	**281**		Pn	12 27 11.7	+0.3
HPO	**Honuapo**	**0.14**	**203**		Pn	12 27 11.4	+0.2
AIN	**Ainahou**	**0.15**	**13**		Pn	12 27 12.0	+0.5
HLP	**Hilina Pali**	**0.19**	**67**		Pn	12 27 12.1	+0.5
HLP				IAML		12 27 23.5	
	comp=E,623nm,0.8s						
SDHHI	**Sand Hill**	**0.25**	**49**		Pn	12 27 12.2	0.0
SDHHI	**Sand Hill**	**0.25**	**49**	IAML		12 27 17.6	
	comp=N,2µm,0.3s						
SDHHI				IAML		12 27 17.7	
	comp=E,1µm,0.4s						
WRMHI	**West Rim**	**

JCUZ	**Jacuzzi**	**0.40**	**67**	IAML		12 27 19.9
	comp=N,621nm,0.4s					
JCUZ				IAML		12 27 20.1
	comp=E,391nm,0.7s					
CPH	**Captain Cook**	**0.48**	**303**		Sn	12 27 21.4 -0.8
JOKA	**Jonika Flow**	**0.51**	**66**		Pn	12 27 14.8 -0.2
KHLU	**Kahalu`u**	**0.53**	**314**		Pn	12 27 15.8 +0.4
KHLU	**Kahalu`u**	**0.53**	**314**		Sn	12 27 22.4 -0.9
KHLU	**Kahalu`u**	**0.53**	**314**	IAML		12 27 22.8
	comp=N,827nm,0.1s					
KHLU				IAML		12 27 23.2
	comp=E,607nm,0.1s					
POHA	**Pohakuloa**	**0.53**	**356**		Pn	12 27 15.4 -0.2
HPAH	**Hawaii Prepara**	**0.83**	**347**		Sn	12 27 29.4 -1.0
HPAH	**Hawaii Prepara**	**0.83**	**347**		Pn	12 27 19.4 +0.1
HPAH	**Hawaii Prepara**	**0.83**	**347**	IAML		12 27 28.7
	comp=E,186nm,3.0s					
MHA	**Mahukona**	**1.03**	**338**	Pn	Pn	12 27 22.0 0.0
HLK	**Haleakala**	**1.68**	**335**	Pn	Pn	12 27 30.8 -0.4

*DJA **09** 12:41:28.4±0.3,3˚N±2˚×12˚7E±˚, h68km±3km, M5.0/45, mb5.2/45, mB5.5/21, MLv5.0/16, Mw(mB)5.0/21, MwMwp5.3/1, Mwp5.5/1*

*NEIC **09** 12:41:29.7±1.8, 2.44N±0.06×127.21E±0.09, h67km±6km, mb5.0/59, Error ellipse: s-maj=12.8km s-min=8.3km az=73.0*

*IDC **09** 12:41:29.8±1.2, 2.32N×127.14E, h73km±10km, mb4.3/35, mbtmp4.7/39, MS3.6/15, Error ellipse: s-maj=13.9km s-min=6.6km az=71.0*

*BJI **09** 12:41:31.5±0.0, 2.70N×126.88E, h70km, mb4.6/50, mB5.2/24, Ms4.7/10, Ms7 4.3/10*

ISC 09 12:41:29.7±0.4,**2.46N**±0.03×**127.16E**±0.05,**h71**km±3km, **h71**km**:pP-P,n307,**σ1=**50**/331,**mb4.8**/81,**9C-4D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.69**	**173**	Pn	**Pn**	**12 41 56.8**	**-0.5**
TNTI	**Ternate**	**1.69**	**173**	P	**Pn**	**12 41 57.6**	**+0.3**
TNTI	**Ternate**	**1.69**	**173**	P	**Pn**	**12 41 56.8**	**-0.5**
TNTI				S	**Sn**	**12 42 19.5**	**+1.4**
SGSI	**Sangihe**	**2.03**	**307**	P	**Pn**	**12 42 00.2**	**-1.6**
SGSI				S	**Sn**	**12 42 24.8**	**-1.5**
GSPH	**General Santos**	**4.22**	**329**	*e*P	**Pn**	**12 42 29.4**	**-2.4**
GSPH				*i* S	**Sn**	**12 43 15.6**	**-4.3**
GTOI	**Gorontalo**	**4.52**	**246**	P	**Pn**	**12 42 37.1**	**+1.4**
GTOI				S	**Sn**	**12 43 28.0**	**+0.9**
SANI	**Sanana**	**4.63**	**195**	P	**Pn**	**12 42 36.3**	**-0.9**
SANI	**Sanana**	**4.63**	**195**	P	**Pn**	**12 42 36.0**	**-1.2**
DAV	**Davao City (W)**	**4.84**	**341**	P	**Pn**	**12 42 40.2**	**+0.1**
	318nm,0.4s,baz=101,slow=0.5,SNR=9.4						
DAV				S	**Sn**	**12 43 37.3**	**+2.4**
	338nm,0.4s,baz=282,slow=22,SNR=1.7						
DAV	**Davao City (W)**	**4.84**	**341**		**Pn**	**12 42 39.7**	**-0.4**
KCP	**Kidapawan**	**4.96**	**336**	*i*P	**Pn**	**12 42 40.8**	**-1.1**
KCP				*i* S	**Sn**	**12 43 38.8**	**+0.8**
SWI	**Sorong**	**5.27**	**129**	P	**Pn**	**12 42 45.7**	**-0.2**
	195nm,0.7s,2μm0.7nm						
SIJI	**Sorong**	**5.28**	**129**	P	**Pn**	**12 42 46.1**	**+0.1**
	60nm,0.3s,baz=341,slow=12,SNR=49						
SIJI				S	**Sn**	**12 43 44.6**	**-0.9**
	31nm,0.6s,baz=129,slow=22,SNR=1.4						
SIJI				LR	LR	12 44 56.3	
	comp=Z,1μm,21.5s,baz=316,slow=40						
CTBH	**Cotabato--PC H**	**5.55**	**329**	*i*P	**Pn**	**12 42 48.4**	**-1.4**
MRSI	**Marisa**	**5.58**	**249**	P	**Pn**	**12 42 52.0**	**+1.9**
	2μm,0.6s,15μm6.3nm						
LUWI	**Luwuk**	**5.60**	**232**	Pn	**Pn**	**12 42 50.7**	**+0.2**
LUWI	**Luwuk**	**5.60**	**232**	P	**Pn**	**12 42 52.6**	**+2.2**
LUWI	**Luwuk**	**5.60**	**232**	P	**Pn**	**12 42 50.5**	**+0.1**
	668nm,0.6s,7μm3.8nm						
NLAI	**Namlea**	**5.66**	**181**	P	**Pn**	**12 42 52.3**	**+1.0**
	62nm,0.7s,0.8nm						
BIPH	**Bislig**	**5.74**	**352**	*e*P	**Pn**	**12 42 50.4**	**-2.0**
BIPH				*i* S	**Sn**	**12 43 51.1**	**-5.8**
MSAI	**Masohi**	**6.04**	**163**	P	**Pn**	**12 42 57.7**	**+1.3**
	38nm,0.7s,3μm0.1nm						
AAI	**Ambon**	**6.20**	**170**	P	**Pn**	**12 42 59.8**	**+1.2**
	211nm,0.9s,5μm0.7nm						
CGP	**Cagayan de Oro**	**6.44**	**338**	*e*P	**Pn**	**12 43 01.4**	**-0.6**
APSI	**Ampana**	**6.45**	**239**	P	**Pn**	**12 43 03.0**	**+1.0**
	631nm,0.7s,6μm2.1nm						
TOLI2	**Tolitoli**	**6.51**	**258**	Pn	**Pn**	**12 43 02.9**	**-0.1**
TOLI2	**Tolitoli**	**6.51**	**258**	P	**Pn**	**12 43 03.3**	**+0.4**
ZCP	**Zamboanga City**	**6.74**	**311**	*e*P	**Pn**	**12 43 05.1**	**-0.9**
ZCP				*e*S	**Sn**	**12 44 15.9**	**-5.4**
FAKI	**Fak Fak**	**7.38**	**136**	Pn	**Pn**	**12 43 15.0**	**+0.1**
FAKI	**Fak Fak**	**7.38**	**136**	P	**Pn**	**12 43 14.6**	**-0.2**
	132nm,0.7s,1μm0.5nm						
MPSI	**Mapaga**	**7.56**	**254**	P	**Pn**	**12 43 17.2**	**0.0**
	176nm,1.1s,2μm0.7nm						
SNPH	**Sibulan**	**7.87**	**330**	*e*P	**Pn**	**12 43 20.9**	**-0.7**
TBP	**Tagbilaran**	**7.89**	**336**	*e*P	**Pn**	**12 43 19.9**	**-1.9**
MYLDM	**Lahad Datu**	**9.05**	**288**	Pn	**Pn**	**12 43 39.9**	**+2.3**
SPSI	**Sidrap Palu**	**9.76**	**229**	P	**Pn**	**12 43 47.4**	**0.0**
	92nm,0.5s,1μm						
RCP	**Roxas**	**10.04**	**334**	*e*P	**Pn**	**12 43 50.9**	**-0.3**
BKSI	**Bulukumba**	**10.45**	**222**	P	**Pn**	**12 43 56.9**	**+0.1**
	67nm,0.5s,1μm						
KAPI	**Kappang**	**10.48**	**225**	P	**Pn**	**12 43 56.8**	**-0.4**
	41nm,0.4s,baz=39,slow=3.3,SNR=23						
KAPI				S	**Sn**	**12 45 50.0**	**-3.1**
	8.9nm,0.4s,baz=33,slow=23,SNR=1.7						
KAPI	**Kappang**	**10.48**	**225**		**Pn**	**12 43 58.0**	**+0.8**
BSSI	**Bau Bau, Buton**	**10.83**	**218**	P	**Pn**	**12 44 02.0**	**0.0**
	65nm,0.5s						
BKB	**Balikpapan**	**10.90**	**250**		**Pn**	**12 44 00.9**	**-2.1**
BKB	**Balikpapan**	**10.90**	**250**	P	**Pn**	**12 44 03.3**	**+0.3**
	150nm,1.0s						
KKM	**Kota Kinabalu**	**11.48**	**288**	Pn	**Pn**	**12 44 09.9**	**-1.0**
KKM	**Kota Kinabalu**	**11.48**	**288**	P	**Pn**	**12 44 12.5**	**+1.6**
SOEI	**Soe**	**12.47**	**193**	P	**Pn**	**12 44 26.5**	**+2.0**
	88nm,0.9s						
MTKI	**Muara Teweh, K**	**12.72**	**255**	P	**Pn**	**12 44 27.9**	**+0.2**
	113nm,1.0s						
LQP	**Lukban**	**12.84**	**335**	*e*P	**Pn**	**12 44 28.5**	**-1.0**
BATI	**Baumata**	**13.06**	**195**	P	**Pn**	**12 44 30.4**	**-1.9**
	26nm,0.6s,baz=71,slow=18,SNR=2.4						
BBKI	**Banjar Baru**	**13.64**	**245**	P	**Pn**	**12 44 40.8**	**+0.6**
	84nm,1.1s,5μm						
PLAI	**Plampang**	**14.60**	**220**	P	**P**	**12 44 55.1**	**-2.1**
PLAI	**Plampang**	**14.60**	**220**	P	**Pn**	**12 44 53.4**	**+0.7**
	460nm,0.9s,4μm						
SBUM	**Sibu**	**14.92**	**270**	Pn	**Pn**	**12 44 57.9**	**+1.1**
TWSI	**Taliwang, Sumb**	**15.12**	**223**	P	**Pn**	**12 44 59.6**	**+0.2**
	282nm,0.9s,3μm						
MTN	**Manton Dam**	**15.71**	**166**	Pn	**Pn**	**12 45 04.7**	**-2.2**
MTN	**Manton Dam**	**15.71**	**166**	P	**Pn**	**12 45 05.4**	**-1.5**
SRBI	**Singaraja**	**15.87**	**229**	P	**Pn**	**12 45 08.6**	**-0.2**
	334nm,1.0s,3μm						
KDU	**Kakadu**	**15.95**	**161**	P	**Pn**	**12 45 09.6**	**-0.3**
DNP	**Denpasar**	**16.26**	**227**	P	**P**	**12 45 16.3**	**+0.7**
	676nm,1.2s,26μm						
ABJI	**Asem Bagus**	**16.43**	**232**	P	**Pn**	**12 45 15.0**	**-1.0**
	117nm,1.0s						
BWJI	**Bawean**	**16.67**	**240**	P	**Pn**	**12 45 18.3**	**-0.6**
	95nm,0.9s						
BLJI	**Banyuglugur**	**16.91**	**233**	P	**P**	**12 45 22.4**	**-0.4**
	520nm,0.6s,6μm						
JAGI	**Jajag, Banyuwa**	**16.91**	**230**		**P**	**12 45 23.6**	**+0.7**
JAGI	**Jajag, Banyuwa**	**16.91**	**230**	P	**P**	**12 45 24.1**	**+1.2**
JAGI	**Jajag, Banyuwa**	**16.91**	**230**	P	**P**	**12 45 23.7**	**+0.8**
	369nm,0.8s						
GMJI	**Gumukmas**	**17.34**	**232**	P	**P**	**12 45 28.7**	**+1.1**
	183nm,1.2s						
KNRA	**Kununurra**	**18.09**	**175**	P	**P**	**12 45 35.0**	**-0.9**
KNRA	**Kununurra**	**18.09**	**175**	P	**P**	**12 45 35.4**	**-0.5**
UWJI	**Ujung Watu**	**18.43**	**241**	P	**P**	**12 45 37.7**	**-2.0**
	87nm,1.0s						
NGJI	**Ngawi**	**18.46**	**238**	P	**Pn**	**12 45 41.0**	**+0.2**
	162nm,0.8s						
PWJI	**Pagerwojo**	**18.52**	**236**	P	**P**	**12 45 40.3**	**-0.3**
	116nm,1.0s						
UGM	**Wanagama**	**19.53**	**238**	P	**P**	**12 45 50.9**	**-0.8**
UGM	**Wanagama**	**19.53**	**238**	P	**Pn**	**12 45 53.6**	**0.0**
FITZ	**Fitzroy Crossi**	**20.48**	**184**	P	**P**	**12 45 59.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**20.48**	**184**	P	**P**	**12 46 01.5**	**-0.5**
KPJI	**Karang Pucung**	**20.63**	**242**	P	**P**	**12 46 03.3**	**-0.3**
	53nm,0.6s						
GUMO	**Guam**	**20.71**	**57**	LR	LR	12 53 56.4	
	comp=Z,55nm,18.1s,baz=238,slow=36						
TWGBT	**Beinan**	**21.08**	**344**	P	**P**	**12 46 06.7**	**-1.6**
TWG	**Pinlang**	**21.08**	**344**	P	**P**	**12 46 04.4**	**-4.0**
PPBI	**Pangkal Pinang**	**21.51**	**258**	P	**P**	**12 46 15.0**	**+1.9**
YULB	**Yu-li**	**21.57**	**345**	P	**P**	**12 46 09.9**	**-3.7**
YULB				IAmb	IAmb	12 46 15.7	
	comp=Z,34nm,0.6s						
YULB	**Yu-li**	**21.57**	**345**	P	**P**	**12 46 11.1**	**-2.5**
LEM	**Lembang**	**21.58**	**245**	P	**P**	**12 46 13.8**	**-0.1**
	comp=Z,22nm,0.4s,baz=32,slow=19,SNR=6.2						
	comp=Z,22nm,0.4s						
TPUB	**Ta-pu**	**21.66**	**344**	P	**P**	**12 46 11.7**	**-2.9**
TPUB	**Ta-pu**	**21.66**	**344**	P	**P**	**12 46 13.3**	**-1.2**
BBJI	**Bungbulang**	**21.82**	**243**	P	**P**	**12 46 17.4**	**+1.0**
SSLB	**Suanglung**	**22.03**	**345**	P	**P**	**12 46 16.5**	**-2.1**
SSLB				IAmb	IAmb	12 46 21.7	
	comp=Z,39nm,0.7s						
SSLB	**Suanglung**	**22.03**	**345**	P	**P**	**12 46 16.6**	**-2.0**
JMJ	**Miyako jima 2**	**22.30**	**356**	P	**P**	**12 46 19.0**	**-2.3**
COEN	**Coen**	**22.77**	**136**	P	**P**	**12 46 25.8**	**-0.7**
PMG	**Port Moresby**	**23.16**	**121**	LR	LR	12 56 26.9	
	comp=Z,209nm,20.5s,baz=294,slow=39						
WB0	**Warramunga Arr**	**23.20**	**162**	P	**P**	**12 46 28.9**	**-1.9**
WB0				IAmb	IAmb	12 46 29.8	
	comp=Z,59nm,1.0s						
CGJI	**Cibinong**	**23.25**	**247**	P	**P**	**12 46 27.3**	**-3.9**
WRAB	**Tennant Creek**	**23.35**	**163**	P	**P**	**12 46 30.3**	**-1.8**
WRAB				IAmb	IAmb	12 46 31.2	
	comp=Z,50nm,0.6s						
WRAB	**Tennant Creek**	**23.35**	**163**	P	**P**	**12 46 30.4**	**-1.7**
WRA	**Warramunga Arr**	**23.36**	**163**	P	**P**	**12 46 30.4**	**-1.8**
	comp=Z,300nm,0.5s,baz=345,slow=11,SNR=296						
WRA				PcP	**PcP**	**12 50 17.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=353,slow=2.3,SNR=2.6						
WRA				S	**S**	**12 50 36.0**	**-3.7**
	comp=Z,6.1nm,0.8s,baz=342,slow=17,SNR=7.1						
WRA				ScP	**ScP**	**12 53 50.0**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=334,slow=2.7,SNR=3.3						
WRA				LR	LR	12 56 49.4	
	comp=Z,120nm,21.0s,baz=354,slow=40						
	comp=Z,300nm,0.5s						
WRA	**Warramunga Arr**	**23.36**	**163**	P	**P**	**12 46 29.4**	**-2.8**
WB2	**Warramunga Arr**	**23.36**	**163**	P	**P**	**12 46 30.3**	**-1.9**
WB2				IAmb	IAmb	12 46 31.3	
	comp=Z,56nm,0.7s						
WR0	**Warramunga Arr**	**23.43**	**162**	P	**P**	**12 46 31.3**	**-1.6**
WR0				IAmb	IAmb	12 46 32.0	
	comp=Z,34nm,0.7s						
QIZ	**Qiongzhong**	**23.63**	**315**	P	**P**	**12 46 37.9**	**+3.2**
QIZ				LR	LR		
	comp=Z,310nm,15.1s						
QIZ				LR	LR		
	comp=Z,260nm,24.7s						
QIZ				LR	LR		
	comp=Z,150nm,16.7s						
MDSI	**Maura Dua**	**23.98**	**253**	P	**P**	**12 46 36.8**	**-1.1**
	comp=Z,38nm,0.8s						
LWLI	**Liwa**	**24.24**	**252**	P	**P**	12 46 50.5	+10
JOW	**Kunigami**	**24.26**	**2**	P	**P**	**12 46 41.2**	**+1.0**
	comp=Z,23nm,0.8s,baz=181,slow=17,SNR=4.6						
	comp=Z,23nm,0.8s						
MBWA	**Marble Bar**	**24.58**	**197**	P	**P**	**12 46 43.4**	**+0.2**
MBWA				IAmb	IAmb	12 46 44.1	
	comp=Z,51nm,1.3s						
MBWA	**Marble Bar**	**24.58**	**197**	P	**P**	**12 46 43.4**	**+0.2**
UBPT	**Khong Chiam**	**24.89**	**302**	P	**P**	**12 46 46.0**	**-0.1**
PSA00	**Pilbara Seismi**	**24.93**	**196**	P	**P**	**12 46 46.8**	**+0.4**
PSA00				IAmb	IAmb	12 46 47.4	
	comp=Z,102nm,1.6s						
MNAI	**Manna**	**25.11**	**254**	P	**P**	**12 46 49.7**	**+1.4**
KRVT	**Keravat (AS076**	**25.75**	**105**	LR	LR	12 55 08.0	
	comp=Z,200nm,19.4s,baz=45,slow=32						
QIS	**Mount Isa**	**25.93**	**152**	P	**P**	**12 46 55.8**	**+0.2**
SDSI	**Sungai Dareh**	**25.94**	**263**	P	**P**	**12 46 56.5**	**+0.8**
	comp=Z,15nm,0.9s						
MTSU	**Mount Surprise**	**26.54**	**141**	P	**P**	**12 47 01.3**	**+0.2**
KULM	**Kulim**	**26.59**	**277**	P	**P**	**12 47 00.6**	**-1.0**
AS31	**Alice Springs**	**26.79**	**166**	P	**P**	**12 47 02.0**	**-1.3**
ASAR	**Alice Springs**	**26.79**	**166**	P	**P**	**12 47 01.9**	**-1.4**
	comp=Z,10nm,0.5s,baz=346,slow=7.3,SNR=425						
ASAR				PcP	**PcP**	**12 50 25.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=358,slow=2.2,SNR=5.1						
ASAR				S	**S**	**12 51 30.8**	**-3.6**
	comp=Z,2.5nm,0.9s,baz=345,slow=18,SNR=7.4						
ASAR				ScP	**ScP**	**12 53 58.6**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=341,slow=2.8,SNR=6.7						
	comp=Z,10nm,0.5s						
ASAR	**Alice Springs**	**26.79**	**166**	P	**P**	**12 47 02.1**	**-1.1**
AS01	**Alice Springs**	**26.80**	**166**	P	**P**	**12 47 02.1**	**-1.3**
WRKA	**Warakurna**	**27.36**	**178**	P	**P**	**12 47 07.9**	**-0.5**
GIRL	**Giralia**	**27.96**	**206**	P	**P**	**12 47 15.1**	**+1.4**
GIRL	**Giralia**	**27.96**	**206**	P	**P**	**12 47 15.2**	**+1.5**
	comp=Z,148nm,1.6s						
JCJ	**Chichijima**	**28.41**	**29**	LR	LR	12 56 03.6	
	comp=Z,108nm,21.6s,baz=122,slow=31						
CTA	**Charters Tower**	**29.21**	**141**	P	**P**	**12 47 24.4**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=327,slow=9.0,SNR=2.3						
CTA				LR	LR	13 00 28.9	
	comp=Z,181nm,19.4s,baz=284,slow=39						
	comp=Z,4.6nm,0.8s						
CTAO	**Charters Tower**	**29.21**	**141**	P	**P**	**12 47 24.3**	**-0.6**
CTAO				IAmb	IAmb	12 47 50.2	
	comp=Z,38nm,1.4s						
GSI	**Gunungsitoli**	**29.59**	**268**	P	**P**	**12 47 27.0**	**-1.3**
GSI				IAmb	IAmb	12 47 29.0	
	comp=Z,24nm,0.5s						
GSI	**Gunungsitoli**	**29.59**	**268**	P	**P**	**12 47 28.7**	**+0.4**
MEEK	**Meekatharra**	**30.08**	**195**	P	**P**	**12 47 33.1**	**+0.5**
NJ2	**Nanjing**	**30.45**	**346**	P	**P**	**12 47 37.1**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,16nm,1.0s						
JNU	**Nakatsue**	**30.70**	**6**	LR	LR	12 58 26.1	
	comp=Z,54nm,21.7s,baz=180,slow=33						
PHRA	**Phrae**	**30.82**	**303**	P	**P**	**12 47 39.4**	**+0.2**
OOD	**Oodnadatta**	**31.18**	**165**	P	**P**	**12 47 41.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**31.89**	**302**	P	**P**	**12 47 48.8**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=118,slow=7.1,SNR=16						
CMAR				PcP	**PcP**	**12 50 39.2**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=162,slow=1.5,SNR=4.4						
	comp=Z,1.5nm,0.3s						
CHTO	**Chiang Mai**	**32.05**	**302**	P	**P**	**12 47 50.2**	**+0.2**
KMI	**Kunming**	**32.58**	**316**	P	**P**	**12 47 55.9**	**+1.1**
KMI				pmax	pmax		
	comp=Z,14nm,0.8s						
INKA	**Innaminka**	**32.76**	**157**	P	**P**	**12 47 55.5**	**-0.5**
FORT	**Forrest**	**33.07**	**179**	P	**P**	**12 47 57.5**	**-1.2**
FORT				IAmb	IAmb	12 47 58.4	
	comp=Z,25nm,0.7s						
FORT	**Forrest**	**33.07**	**179**	P	**P**	**12 47 58.2**	**-0.5**
MORW	**Morawa**	**33.11**	**198**	P	**P**	**12 47 58.3**	**-0.8**
MORW				IAmb	IAmb	12 48 24.6	
	comp=Z,80nm,1.9s						
MORW	**Morawa**	**33.11**	**198**	P	**P**	**12 47 59.2**	**+0.1**
MULG	**Mulgathing**	**33.22**	**169**	P	**P**	**12 47 59.0**	**-1.0**
JWT	**Wachi**	**33.54**	**12**	P	**P**	**12 48 00.9**	**-1.9**
	comp=Z,3.4nm,0.9s						
KMBL	**Kambalda**	**34.01**	**188**	P	**P**	**12 48 06.4**	**-0.5**
PZH	**PanZhiHua**	**34.15**	**317**	P	**P**	**12 48 10.8**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
RK1H	**Rockhampton Ha**	**34.31**	**140**	P	**P**	**12 48 08.9**	**-0.7**
BLDU	**Ballidu**	**34.37**	**196**	P	**P**	**12 48 09.5**	**-0.5**
LCRK	**Leigh Creek**	**34.39**	**163**	P	**P**	**12 48 09.3**	**-0.8**
LYN	**LuoYang**	**34.74**	**338**	*e*P	**P**	**12 48 09.9**	**-3.2**
LYN				pmax	pmax		
	comp=Z,20nm,0.5s						
KSRS	**Korea Array**	**34.83**	**1**	P	**P**	**12 48 14.4**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=179,slow=9.4,SNR=8.7						
KSRS				PcP	**PcP**	**12 50 46.7**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=174,slow=2.6,SNR=5.0						
KSRS				LR	LR	13 01 52.4	
	comp=Z,32nm,21.8s,baz=220,slow=35						
	comp=Z,2.0nm,0.8s						
KLBR	**Kellerberrin**	**35.03**	**194**	P	**P**	**12 48 15.7**	**0.0**
MJAR	**Matsushiro Arr**	**35.42**	**15**	P	**P**	**12 48 19.5**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=194,slow=8.6,SNR=4.5						
	comp=Z,1.9nm,0.7s						
TNCH	**TengChong**	**35.57**	**312**	*e*P	**P**	**12 48 23.3**	**+2.6**
TNCH				pmax	pmax		
	comp=Z,120nm,4.2s						
XAN	**Xi'an**	**35.73**	**334**	P	**P**	**12 48 21.2**	**-0.6**
XAN				S	**S**	**12 53 53.2**	**-0.6**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,190nm,4.0s						
MUN	**Mundaring**	**35.79**	**196**	P	**P**	**12 48 23.0**	**+0.7**
BBOO	**Buckleboo**	**36.08**	**167**	P	**P**	**12 48 23.8**	**-0.9**
BBOO	**Buckleboo**	**36.08**	**167**	P	**P**	**12 48 23.5**	**-1.2**
EIDS	**Eidsvold**	**36.10**	**141**	P	**P**	**12 48 23.9**	**-1.0**
EIDS				IAmb	IAmb	12 48 24.5	
	comp=Z,14nm,0.8s						
EIDS	**Eidsvold**	**36.10**	**141**	P	**P**	**12 48 24.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**36.43**	**194**	P	**P**	**12 48 26.9**	**-0.7**
NWAO				IAmb	IAmb	12 48 56.0	
	comp=Z,21nm,1.2s						
HNS	**HongShan**	**36.61**	**343**	P	**P**	**12 48 30.7**	**+1.6**
HNS				pmax	pmax		
	comp=Z,11nm,1.2s						
DL2	**Dalian**	**36.62**	**353**	P	**P**	**12 48 32.0**	**+2.8**
DL2				pmax	pmax		
	comp=Z,63nm,0.6s						
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**12 48 30.2**	**-0.7**
	comp=Z,7.1nm,0.3s,baz=341,slow=10,SNR=34						
STKA				LR	LR	13 04 08.1	
	comp=Z,111nm,21.6s,baz=360,slow=37						
	comp=Z,7.1nm,0.3s						
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**12 48 29.9**	**-0.9**
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**12 48 30.3**	**-0.5**
HTT	**Hallett**	**37.39**	**164**	P	**P**	**12 48 36.2**	**+0.3**
RKGY	**Rocky Gully**	**38.10**	**194**	P	**P**	**12 48 42.9**	**+1.1**
CMSA	**Cobar Meteorol**	**38.13**	**154**	P	**P**	**12 48 42.6**	**+0.5**
BJT	**Baijiatuau**	**38.69**	**346**	P	**P**	**12 48 47.7**	**+1.0**
BJT				pP	**pwP**	**12 49 05.7**	**-0.6**
BJT				sP	**sP**	**12 49 14.6**	**+3.4**
LZH	**Lanzhou**	**39.81**	**330**	P	**P**	**12 48 57.6**	**+1.3**
LZH				pP	pwP	12 49 15.2	-0.7
LZH				sP	sP	12 49 24.4	+3.6
LZH				PcP	**PcP**	**12 51 03.0**	**+1.8**
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
LZH				pmax	pmax		
	comp=Z,170nm,4.8s						
ARMA	**Armidale**	**40.18**	**146**	P	**P**	**12 48 58.9**	**-0.5**
ARMA				IAmb	IAmb	12 49 25.7	
	comp=Z,11nm,0.9s						
ARMA	**Armidale**	**40.18**	**146**	P	**P**	**12 48 59.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**40.73**	**342**	*e*P	**P**	**12 49 05.6**	**+1.9**
HHC				pmax	pmax		
	comp=Z,41nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,6.0s						
ARPS	**Mount Arapiles**	**41.36**	**162**	P	**P**	**12 49 09.2**	**+0.4**
USRK	**Ussuriysk Ar.**	**41.78**	**5**	P	**P**	**12 49 14.1**	**+2.0**
	comp=Z,8.1nm,0.9s,baz=180,slow=8.2,SNR=8.8						
	comp=Z,8.1nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**41.86**	**65**	T	T	13 33 00.9	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**41.88**	**65**	T	T	13 32 53.2	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**41.88**	**65**	T	T	13 33 39.9	
	baz=252						
MDJ	**Mudanjiang**	**42.03**	**3**	P	**P**	**12 49 17.8**	**+3.6**
MDJ				pP	pwP	12 49 34.2	+0.2
MDJ				sP	sP	12 49 41.9	+3.0
MDJ				ScP	**ScP**	**12 54 57.8**	**+5.3**
MDJ				PcS	**PcS**	**12 55 04.6**	**+4.9**
MDJ				S	**S**	**12 55 29.7**	**+1.6**
MDJ				sS	sS	12 55 56.8	+0.1
MDJ				SS	**SS**	**12 58 37.2**	**-0.7**
MDJ				pmax	pmax		
	comp=Z,11nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,160nm,6.0s						
MDJ				LR	LR		
	comp=Z,180nm,4.2s						
MDJ				LR	LR		
	comp=Z,470nm,5.6s						
MDJ				LR	LR		
	comp=Z,420nm,5.7s						
XLT	**XiLinHaoTe**	**42.42**	**348**	*e*P	**P**	**12 49 18.7**	**+1.2**
XLT				pP	pwP	12 49 36.5	-0.7
XLT				sP	sP	12 49 42.9	+0.7
XLT				pmax	pmax		
	comp=Z,11nm,0.6s						
XLT				pmax	pmax		
	comp=Z,190nm,5.0s						
H11N1	**WAKE ISLAND

MAKZ					IAmb	IAmb	12 51 24.4			
	comp=Z,6.9nm,0.6s									
MAKZ	**Makanchi**	**59.02**	**325**		P	**P**	**12 51 22.7**	**+0.5**		
MAKZ					pP	**pwP**	**12 51 42.4**	**-0.6**		
MAKZ					sP	**sP**	**12 51 50.3**	**+2.8**		
KSH	**Kashi**	**59.24**	**315**		P	**P**	**12 51 27.6**	**+3.5**		
YAK	**Yakutsk**	**59.46**	**1**		P	**P**	**12 51 24.5**	**-0.4**		
LBZ	**Lake Benmore**	**60.40**	**146**		P	**P**	**12 51 30.8**	**-0.9**		
THZ	**Tophouse**	**60.44**	**142**		P	**P**	**12 51 30.9**	**-1.3**		
RPZ	**Rata Peaks**	**60.48**	**145**		LR	LR	13 17 38.8			
	comp=Z,50nm,20.1s,baz=296,slow=36									
URZ	**Urewera**	**61.33**	**137**		LR	LR	13 19 01.8			
	comp=Z,71nm,18.1s,baz=49,slow=37									
ZAA0	**Zalesovo Array**	**61.90**	**333**		P	**P**	**12 51 41.2**	**-0.5**		
ZALV	**Zalesovo Beam**	**61.90**	**333**		P	**P**	**12 51 41.6**	**-0.2**		
	comp=Z,2.8nm,0.5s,baz=122,slow=6.6,SNR=15									
	comp=Z,2.8nm,0.5s									
KURBB	**Kurchatov Arra**	**63.03**	**328**		P	**P**	**12 51 50.1**	**+0.8**		
	comp=Z,8.0nm,0.7s,baz=127,slow=6.1,SNR=60									
	comp=Z,8.0nm,0.7s									
KURK	**Kurchatov**	**63.03**	**328**		P	**P**	**12 51 49.6**	**+0.3**		
KURK					IAmb	IAmb	12 51 50.9			
	comp=Z,16nm,0.8s									
KURK	**Kurchatov**	**63.03**	**328**		P	**P**	**12 51 50.1**	**+0.7**		
GAR	**Garm**	**63.09**	**313**		P	**P**	**12 51 51.1**	**+1.0**		
GAR					IAmb	IAmb	12 52 12.0			
	comp=Z,20nm,1.1s									
KKAR	**Karatay Array**	**64.44**	**317**		P	**P**	**12 51 58.6**	**-0.2**		
BVAR	**Borovoye Array**	**68.61**	**327**		P	**P**	**12 52 25.6**	**+0.5**		
	comp=Z,12nm,0.6s,baz=136,slow=8.2,SNR=44									
	comp=Z,12nm,0.6s									
BRVK	**Borovoye**	**68.68**	**327**		P	**P**	**12 52 26.3**	**+0.6**		
BRVK					IAmb	IAmb	12 52 27.0			
	comp=Z,16nm,0.8s									
BRVK	**Borovoye**	**68.68**	**327**		P	**P**	**12 52 26.2**	**+0.6**		
BRVK					pP	**pwP**	**12 52 45.5**	**-1.2**		
TIXI	**Tiksi**	**69.10**	**1**		P	**P**	**12 52 27.6**	**-0.2**		
	comp=Z,2.3nm,0.4s,baz=90,slow=23,SNR=9.8									
	comp=Z,2.3nm,0.4s									
TIXI	**Tiksi**	**69.10**	**1**		P	**P**	**12 52 27.6**	**-0.2**		
TIXI	**Tiksi**	**69.10**	**1**		P	**P**	**12 52 27.6**	**-0.2**		
WSAR	**Wadi Sarin**	**69.32**	**294**		P	**P**	**12 52 29.7**	**-0.4**		
	comp=Z,2.1nm,0.7s,baz=68,slow=19,SNR=2.6									
	comp=Z,2.1nm,0.7s									
DRV	**Dumont d'Urvil**	**69.58**	**175**		P	**P**	**12 52 30.0**	**-0.8**		
NRIK	**Noril'sk**	**71.75**	**346**		P	**P**	**12 52 44.2**	**+0.2**		
	comp=Z,6.6nm,0.6s,baz=147,slow=6.0,SNR=8.7									
	comp=Z,6.6nm,0.6s									
NRIK	**Noril'sk**	**71.75**	**346**		P	**P**	**12 52 44.5**	**+0.5**		
NRIK					IAmb	IAmb	12 53 04.2			
	comp=Z,14nm,1.2s									
GEYT	**Alibeck**	**72.02**	**309**		P	**P**	**12 52 47.6**	**+1.2**		
	comp=Z,6.5nm,0.8s,baz=116,slow=3.4,SNR=12									
	comp=Z,6.5nm,0.8s									
GEYT	**Alibeck**	**72.02**	**309**		P	**P**	**12 52 47.3**	**+0.9**		
GEYT					IAmb	IAmb	12 52 48.6			
	comp=Z,10.0nm,0.9s									
ABKAR	**Akbulak array**	**73.40**	**321**		P	**P**	**12 52 54.5**	**+0.3**		
ABKAR					IAmb	IAmb	12 52 55.4			
	comp=Z,10nm,0.8s									
ABKAR	**Akbulak array**	**73.40**	**321**		P	**P**	**12 52 54.4**	**+0.3**		
AKTO	**Aktyubinsk**	**74.91**	**322**		P	**P**	**12 53 03.7**	**+0.6**		
	comp=Z,12nm,0.8s,baz=106,slow=6.1,SNR=33									
	comp=Z,12nm,0.8s									
ARU	**Arti**	**76.23**	**328**		P	**P**	**12 53 10.2**	**-0.2**		
	comp=Z,6.4nm,0.5s,baz=116,slow=2.6,SNR=14									
	comp=Z,6.4nm,0.5s									
ARU	**Arti**	**76.23**	**328**		P	**P**	**12 53 08.5**	**-1.9**		
ARU					IAmb	IAmb	12 53 10.9			
	comp=Z,7.7nm,0.6s									
P16K	**Nushagak River**	**80.12**	**30**		P	**P**	**12 53 35.5**	**+3.7**		
	baz=258									
O16K	**Kokwok River B**	**80.19**	**30**		P	**P**	**12 53 36.3**	**+4.1**		
	baz=258									
RAYN	**Ar Rayn**	**81.37**	**293**		P	**P**	**12 53 39.9**	**+0.5**		
RAYN					IAmb	IAmb	12 53 41.6			
	comp=Z,26nm,0.8s									
KIRV	**Kirov**	**81.52**	**329**		P	**P**	**12 53 40.3**	**+1.0**		
	comp=Z,10nm,0.5s,baz=166,slow=4.2,SNR=4.0									
	comp=Z,10nm,0.5s									
BELG	**Belogornoye**	**81.67**	**322**		P	**P**	**12 53 40.0**	**-0.2**		
	comp=Z,11nm,0.6s,baz=98,slow=19,SNR=4.3									
	comp=Z,11nm,0.6s									
VOI	**Vohitsoka**	**81.98**	**248**		P	**P**	**12 53 42.5**	**-0.2**		
VNDA	**Vanda**	**82.12**	**173**		P	**P**	**12 53 41.8**	**-0.3**		
	comp=Z,1.4nm,0.5s,baz=315,slow=7.1,SNR=19									
VNDA					LR	LR	13 31 07.3			
	comp=Z,37nm,18.8s,baz=326,slow=36									
	comp=Z,1.4nm,0.5s									
VNDA	**Vanda**	**82.12**	**173**		P	**P**	**12 53 41.9**	**-0.3**		
MAW	**Mawson**	**82.72**	**200**		P	**P**	**12 53 46.1**	**+0.7**		
	comp=Z,5.4nm,0.7s,baz=67,slow=5.9,SNR=6.2									
	comp=Z,5.4nm,0.7s									
KDAK	**Kodiak Island**	**82.73**	**32**		P	**P**	**12 53 46.7**	**+1.0**		
	baz=263									
K20K	**Telida**	**82.77**	**26**		P	**P**	**12 53 46.5**	**+0.6**		
K20K	**Telida**	**82.77**	**26**		P	**P**	**12 53 47.3**	**+1.4**		
	baz=261									
J20K	**Nowinta River**	**82.87**	**26**		P	**P**	**12 53 48.0**	**+1.7**		
J20K					IAmb	IAmb	12 54 13.4			
	comp=Z,15nm,1.4s									
J20K	**Nowinta River**	**82.87**	**26**		P	**P**	**12 53 48.1**	**+1.8**		
	baz=261									
M20K	**Styx River**	**82.99**	**28**		P	**P**	**12 53 48.6**	**+1.5**		
M20K					IAmb	IAmb	12 54 08.4			
	comp=Z,12nm,1.1s									
M20K	**Styx River**	**82.99**	**28**		P	**P**	**12 53 48.7**	**+1.6**		
	baz=262									
IMAR	**Indian Mountai**	**83.32**	**24**		P	**P**	**12 53 49.9**	**+1.3**		
AKH	**Akhalkalaki**	**83.62**	**311**		P	**P**	**12 53 51.7**	**+0.8**		
H21K	**Melozitna Rive**	**83.66**	**24**		P	**P**	**12 53 52.2**	**+1.8**		
	baz=262									
GEVA	**Gevas**	**83.85**	**308**		P	**P**	**12 53 52.6**	**+0.5**		
GEVA					IAmb	IAmb	12 53 55.5			
	comp=Z,18nm,0.8s									
SUA	**Susitna One**	**84.06**	**29**		P	**P**	**12 53 53.0**	**+0.3**		
	baz=264									
KBZ	**Khabaz**	**84.16**	**314**		P	**P**	**12 53 54.2**	**+0.9**		
	comp=Z,1.5nm,0.7s,baz=70,slow=12,SNR=2.2									
	comp=Z,1.5nm,0.7s									
M22K	**Willow**	**84.39**	**28**		P	**P**	**12 53 55.0**	**+0.9**		
	baz=265									
COLD	**Coldfoot**	**84.89**	**23**		P	**P**	**12 53 57.5**	**+0.9**		
COLD					IAmb	IAmb	12 54 24.5			
	comp=Z,9.4nm,1.0s									
COLD	**Coldfoot**	**84.89**	**23**		P	**P**	**12 53 58.5**	**+2.0**		
	baz=264									
D23K	**Nanushuk River**	**84.89**	**21**		P	**P**	**12 53 58.7**	**+2.2**		
	baz=264									
G23K	**Bananza Creek**	**84.91**	**23**		P	**P**	**12 53 58.6**	**+1.9**		
	baz=264									
H23K	**Yukon River**	**85.02**	**24**		P	**P**	**12 53 59.5**	**+2.2**		
	baz=265									
E23K	**Chandalar**	**85.19**	**22**		P	**P**	**12 53 59.6**	**+1.5**		
	baz=265									
SML	**Sawmill**	**85.24**	**28**		P	**P**	**12 53 59.3**	**+0.8**		
	baz=266									
WAT6	**Susitna Watana**	**85.57**	**28**		P	**P**	**12 54 01.3**	**+1.1**		
	baz=267									
ILAR	**Eielson Array**	**86.06**	**25**		P	**P**	**12 54 04.8**	**+2.3**		
	comp=Z,0.4nm,0.8s,baz=246,slow=4.7,SNR=5.2									
	comp=Z,0.4nm,0.8s									
K24K	**Donnelly Dome**	**86.51**	**26**		P	**P**	**12 54 05.8**	**+1.1**		
	baz=268									
E25K	**Arctic Village**	**86.71**	**22**		P	**P**	**12 54 06.5**	**+0.9**		
	baz=268									
KLMR	**Klimovskoe**	**86.71**	**331**		*e*P	**P**	**12 54 03.1**	**-2.5**		
KLMR					AMP		12 54 04.7			
	comp=Z,14nm,1.2s									
BMAR	**Burnt Mountain**	**87.07**	**23**		P	**P**	**12 54 08.9**	**+1.5**		
C27K	**Jago River**	**87.41**	**21**		P	**P**	**12 54 10.0**	**+1.2**		
	baz=270									
BCAR	**Beaver Creek A**	**88.31**	**27**		P	**P**	**12 54 13.9**	**+0.5**		
MMAI	**Mount Meron Ar**	**90.15**	**303**		P	**P**	**12 54 23.7**	**+1.0**		
	comp=Z,6.3nm,0.8s,baz=116,slow=8.5,SNR=2.3									
	comp=Z,6.3nm,0.8s									
BRTR	**Keskin Array B**	**91.15**	**310**		P	**P**	**12 54 27.1**	**-0.2**		
	comp=Z,0.7nm,0.6s,baz=98,slow=3.2,SNR=3.6									
	comp=Z,0.7nm,0.6s									
ARCES	**ARCESS Array B**	**91.78**	**340**		P	**P**	**12 54 28.1**	**-1.3**		
	comp=Z,4.3nm,0.6s,baz=82,slow=6.5,SNR=14									
	comp=Z,4.3nm,0.6s									
QSPA	**South Pole Qui**	**92.38**	**180**		P	**P**	**12 54 33.0**	**+0.7**		
AKASG	**Malin Array Be**	**93.14**	**321**		P	**P**	**12 54 34.4**	**-1.6**		
	comp=Z,0.2nm,0.4s,baz=64,slow=4.4,SNR=4.6									
	comp=Z,0.2nm,0.4s									
FINES	**FINESS Array B**	**93.14**	**332**		P	**P**	**12 54 34.4**	**-1.4**		
	comp=Z,1.2nm,0.7s,baz=97,slow=7.3,SNR=1.3									
	comp=Z,1.2nm,0.7s									
MNK	**Minsk**	**93.40**	**325**	*i*	P	**P**	**12 54 34.4**	**-2.7**		
	comp=E,4.0nm,1.0s									
MNK				*i*	P	**P**	**12 54 34.4**	**-2.7**		
	comp=N,23nm,0.9s									
MNK				*i*	P	**P**	**12 54 34.4**	**-2.7**		
	comp=Z,7.0nm,0.8s,baz=261									
MNK				*i*	pP	**pP**	**12 54 53.8**	**-2.1**		
MNK				*i*	PP	**PP**	**12 58 19.1**	**-2.7**		
MNK				*i*	PPP	PPP	13 00 19.6			
MNK				*i*	S	**SKSac**	**13 05 02.0**	**-3.2**		
MNK				*i*	sS	**S**	**13 05 36.8**	**-2.4**		
MNK				*i*	PS	**PS**	**13 06 59.5**	**-1.9**		
MNK				*i*	SS	**SS**	**13 11 55.7**	**-0.9**		
MNK				*i*	SSS	SSS	13 15 35.5			
MNK				*i*	LR	LR	13 37 17.1			
MNK				*i*	LRM	MLR	13 37 37.8			
	comp=N,218nm,14.8s									
MNK				*i*	LRM	MLR	13 37 54.0			
	comp=E,10.0nm,11.6s									
MNK				*i*	LRM	MLR	13 37 57.2			
	comp=Z,78nm,12.2s									
MLR	**Muntele Rosu**	**96.10**	**316**		P	**P**	**12 54 49.2**	**-0.7**		
	comp=Z,2.1nm,0.3s,baz=78,slow=19,SNR=3.1									
	comp=Z,2.1nm,0.3s									
RSSD	**Black Hills**	**114.92**	**38**		P	**PKiKP**	**13 00 03.0**	**0.0**		
	baz=301									
ANMO	**Albuquerque**	**117.55**	**48**		P	**PKPdf**	**13 00 08.1**	**-0.3**		
	baz=295									
Y22A	**Socorro**	**117.59**	**49**		P	**PKiKP**	**13 00 09.6**	**+1.1**		
	baz=294									
ECSD	**EROS Data Cent**	**119.58**	**35**		P	**PKPdf**	**13 00 11.3**	**-0.5**		
	baz=307									
ECSD	**EROS Data Cent**	**119.58**	**35**		P	**PKiKP**	**13 00 12.1**	**+0.3**		
	baz=307									
MNTX	**Cornudas Mount**	**119.71**	**51**		P	**PKiKP**	**13 00 13.0**	**+0.6**		
	baz=294									
MNTX	**Cornudas Mount**	**119.71**	**51**		P	**PKiKP**	**13 00 13.6**	**+1.1**		
	baz=294									
F36A	**Milaca**	**119.93**	**32**		P	**PKPdf**	**13 00 12.2**	**-0.1**		
	baz=311									
BGNE	**Belgrade**	**120.03**	**38**		P	**PKPdf**	**13 00 12.6**	**-0.1**		
	baz=305									
D41A	**Chassel**	**121.56**	**28**		P	**PKiKP**	**13 00 15.7**	**+0.1**		
	baz=317									
TX31	**Lajitas Ar. Si**	**122.02**	**53**		P	**PKiKP**	**13 00 17.1**	**0.0**		
	baz=294									
JFWS	**Jewell Farm**	**123.65**	**32**		P	**PKPdf**	**13 00 19.5**	**-0.1**		
	baz=313									
TORD	**Torodi Ar. Bea**	**123.71**	**287**		PKP	**PKPdf**	**13 00 20.3**	**-0.1**		
	baz=52,slow=1.7									
P38A	**Dawn**	**123.92**	**37**		P	**PKPdf**	**13 00 20.0**	**-0.2**		
	baz=308									
JCT	**Junction City**	**124.55**	**50**		P	**PKPdf**	**13 00 21.9**	**+0.2**		
	baz=298									
JCT	**Junction City**	**124.55**	**50**		P	**PKiKP**	**13 00 22.4**	**+0.4**		
	baz=298									
S39A	**Bolivar**	**125.23**	**39**		P	**PKPdf**	**13 00 22.5**	**-0.3**		
	baz=308									
R40A	**Maddies Statio**	**125.52**	**38**		P	**PKPdf**	**13 00 22.4**	**-0.9**		
	baz=309									
CCM	**Cathedral Cave**	**126.29**	**37**		P	**PKPdf**	**13 00 24.4**	**-0.4**		
	baz=310									
FVM	**French Village**	**126.83**	**37**		P	**PKiKP**	**13 00 26.4**	**0.0**		
	baz=310									
735A	**Kenedy**	**126.84**	**51**		P	**PKiKP**	**13 00 27.1**	**+0.5**		
	baz=298									
MIAR	**Mount Ida**	**126.93**	**42**		P	**PKiKP**	**13 00 27.4**	**+0.7**		
	baz=305									
OLIL	**Olney**	**127.70**	**35**		P	**PKiKP**	**13 00 28.3**	**+0.3**		
	baz=313									

*IDC **09** 12:53:01.6±0.9,27.34N×65.76E,h0km,mb3.9/20, mbtmp4.0/23,ML3.9/3,MS3.8/23,Error ellipse: s-maj=21.1km s-min=15.2km az=30.0*

*NEIC **09** 12:53:03.5±1.8,27.2N±0.1×65.90E±0.09,h24km±8km, mb4.1/16,Error ellipse: s-maj=21.2km s-min=8.0km az=155.0*

*MOS **09** 12:53:06.7±1.3,27.48N×65.98E,h35km,mb4.4/24,Error ellipse: s-maj=9.9km s-min=5.5km az=87.3*

ISC 09 12:53:05.3±0.4,27.32N±0.05×65.76E±0.04,h25km,n159, σ2s71/204,mb4.2/46,MS3.8/23,6C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
NGCH	**Negor - Chabah**	**4.58**	**246**	P	**Pn**	**12 54 14.2**		**+1.2**
	SNR=6.1							
NGCH				S	**Sn**	**12 55 05.9**		**+0.4**
BHUJ	**Bhuj**	**5.36**	**138**	*e*P	**Pn**	**12 54 28.1**		**+4.4**
BHUJ				*e*S	**Sn**	**12 55 27.1**		**+2.3**
JASK	**Jask - Hormozg**	**7.21**	**260**	P	**Pn**	**12 54 50.3**		**+1.1**
	SNR=7.0							
JASK				S	**Sn**	**12 56 06.9**		**-3.4**
THW	**Thamme Wali**	**7.53**	**42**	P	**Pn**	**12 54 51.7**		**-1.8**
THW				S	**Sn**	**12 56 14.0**		**-4.1**
SARP	**Sargodha**	**7.56**	**51**	P	**Pn**	**12 54 53.2**		**-0.8**
WSAR	**Wadi Sarin**	**7.62**	**239**	Pn	**Pn**	**12 54 53.9**		**-1.0**
	5.0nm,0.3s,baz=101,slow=7.9,SNR=58							
WSAR				S	**Sn**	**12 56 13.7**		**-6.8**
	3.1nm,0.3s,baz=29,slow=8.1,SNR=7.9							
WSAR				LR	LR	12 58 57.2		
	comp=Z,328nm,18.6s,baz=73,slow=47							
	9.6nm,0.3s							
HRA	**Herat**	**7.67**	**338**		**Pn**	**12 54 55.9**		**+0.3**
JLN	**Jalan Bani Buh**	**7.73**	**230**	S	**Sn**	**12 56 19.0**		**-4.1**
KBL	**Kabul**	**7.73**	**21**	Pn	**Pn**	**12 54 55.5**		**-1.0**
KBL	**Kabul**	**7.73**	**21**	P	**Pn**	**12 54 55.5**		**-1.0**
KBL	**Kabul**	**7.73**	**21**	P	**Pn**	**12 54 56.6**		**+0.1**
	SNR=8.4							
KBL				S	**Sn**	**12 56 22.0**		**-1.3**
WBK	**Wadi Bani Khal**	**7.74**	**234**	P	**Pn**	**12 54 56.4**		**-0.1**
	SNR=13							
WBK				P	**Pn**	**12 54 56.4**		**-0.1**
	SNR=13							
WBK				S	**Sn**	**12 56 17.1**		**-6.2**
WBK				S	**Sn**	**12 56 17.1**		**-6.2**
SMDO	**Samad**	**8.17**	**240**	P	**Pn**	**12 55 03.2**		**+0.8**
	SNR=15							
SMDO				P	**Pn**	**12 55 03.2**		**+0.8**
	SNR=15							
SMDO				S	**Sn**	**12 56 28.2**		**-5.9**
SMDO				S	**Sn**	**12 56 28.2**		**-5.9**
CEP	**Cherat**	**8.37**	**38**	P	**Pn**	**12 55 05.3**		**+0.1**
HOQ	**Hoqain**	**8.49**	**246**	P	**Pn**	**12 55 07.3**		**+0.5**
	SNR=5.4							
HOQ				S	**Sn**	**12 56 35.8**		**-6.1**
JMDO	**Jabal Madar**	**8.52**	**236**	P	**Pn**	**12 55 08.6**		**+1.5**
	SNR=9.9							
JMDO				S	**Sn**	**12 56 37.8**		**-4.8**
BANOM	**Banah**	**8.58**	**263**	P	**Pn**	**12 55 07.8**		**-0.2**
BANOM	**Banah**	**8.58**	**263**	P	**Pn**	**12 55 08.4**		**+0.4**
BANOM				S	**Sn**	**12 56 40.3**		**-3.7**
SHME	**Shamm**	**8.70**	**264**	P	**Pn**	**12 55 10.9**		**+1.4**
	SNR=11							
SHME				P	**Pn**	**12 55 10.9**		**+1.4**
	SNR=11							
SHME				S	**Sn**	**12 56 43.5**		**-3.4**
SHME				S	**Sn**	**12 56 43.5**		**-3.4**
MDH	**Madha**	**8.73**	**259**	P	**Pn**	**12 55 08.8**		**-1.1**
MDH	**Madha**	**8.73**	**259**	P	**Pn**	**12 55 09.1**		**-0.8**
	SNR=8.1							
MDH				P	**Pn**	**12 55 09.1**		**-0.8**
	SNR=8.1							
MDH				S	**Sn**	**12 56 39.7**		**-7.9**
MDH				S	**Sn**	**12 56 39.7**		**-7.9**
MASF	**Masafi**	**8.83**	**259**	P	**Pn**	**12 55 11.9**		**+0.5**
MASF				P	**Pn**	**12 55 11.9**		**+0.5**
MASF				S	**Sn**	**12 56 43.5**		**-6.7**
MASF				S	**Sn**	**12 56 43.5**		**-6.7**
MSFE	**Esma-Masafi**	**8.83**	**259**	P	**Pn**	**12 55 11.4**		**0.0**
SOHO	**SOHO**	**8.90**	**251**	P	**Pn**	**12 55 12.0**		**-0.4**
SOHO	**SOHO**	**8.90**	**251**	P	**Pn**	**12 55 12.2**		**-0.2**
SOHO				P	**Pn**	**12 55 12.2**		**-0.2**
SOHO				S	**Sn**	**12 56 45.0**		**-6.9**
SOHO				S	**Sn**	**12 56 45.0**		**-6.9**
UOSS	**Minazif**	**8.91**	**257**	Pn	**Pn**	**12 55 11.1**		**-1.4**
UOSS	**Minazif**	**8.91**	**257**	P	**Pn**	**12 55 10.5**		**-2.0**
UOSS	**Minazif**	**8.91**	**257**	P	**Pn**	**12 55 11.2**		**-1.2**
UOSS				P	**Pn**	**12 55 11.2**		**-1.2**
UOSS				S	**Sn**	**12 56 44.4**		**-7.7**
UOSS				S	**Sn**	**12 56 44.4**		**-7.7**
BSY	**Bisya**	**9.00**	**241**	P	**Pn**	**12 55 14.8**		**+1.0**
BSY				P	**Pn**	**12 55 14.8**		**+1.0**
BSY				S	**Sn**	**12 56 49.2**		**-5.1**
BSY				S	**Sn**	**12 56 49.2**		**-5.1**
HATD	**Hatta, Dubai**	**9.01**	**256**	P	**Pn**	**12 55 13.4**		**-0.4**
HATD	**Hatta, Dubai**	**9.01**	**256**	P	**Pn**	**12 55 13.8**		**0.0**
HATD				P	**Pn**	**12 55 13.8**		**0.0**
HATD				S	**Sn**	**12 56 47.2**		**-7.3**
HATD				S	**Sn**	**12 56 47.2**		**-7.3**
NIL	**Nilore**	**9.03**	**44**	Pn	**Pn**	**12 55 12.0**		**-2.2**
NIL	**Nilore**	**9.03**	**44**	P	**Pn**	**12 55 12.0**		**-2.2**
CHCP	**Chirah Chowk**	**9.04**	**44**	P	**Pn**	**12 55 12.7**		**-1.6**
ASHO	**Ashiyiah**	**9.11**	**255**	P	**Pn**	**12 55 15.2**		**-0.1**
ASHO	**Ashiyiah**	**9.11**	**255**	P	**Pn**	**12 55 15.5**		**+0.1**
	SNR=12							
ASHO				P	**Pn**	**12 55 15.5**		**+0.1**
	SNR=12							
ASHO				S	**Sn**	**12 56 51.5**		**-5.6**
ASHO				S	**Sn**	**12 56 51.5**		**-5.6**
ARQ	**Araqi**	**9.25**	**247**	P	**Pn**	**12 55 19.4**		**+2.2**
	SNR=23							
ARQ				S	**Sn**	**12 56 59.0**		**-1.4**
NAZ	**Nazwa, Dubai**	**9.37**	**258**	P	**Pn**	**12 55 19.8**		**+1.0**
	SNR=11							
NAZ				P	**Pn**	**12 55 19.8**		**+1.0**
	SNR=11							
NAZ				S	**Sn**	**12 57 01.4**		**-1.9**
NAZ				S	**Sn**	**12 57 01.4**		**-1.9**
FAQ	**Al Faqa, Dubai**	**9.50**	**257**	P	**Pn**	**12 55 21.9**		**+1.3**
FAQ				P	**Pn**	**12 55 21.9**		**+1.3**
FAQ				S	**Sn**	**12 57 02.9**		**-3.6**
FAQ				S	**Sn**	**12 57 02.9**		**-3.6**
MHTO	**MHTO**	**9.50**	**230**	P	**Pn**	**12 55 22.9**		**+2.3**
	SNR=6.1							
MHTO				S	**Sn**	**12 57 03.3**		**-3.4**
ALNE	**Al Ain**	**9.59**	**252**	P	**Pn**	**12 55 23.0**		**+1.1**
ALNE	**Al Ain**	**9.59**	**252**	P	**Pn**	**12 55 23.7**		**+1.8**
	SNR=6.3							
ALNE				P	**Pn**	**12 55 23.7**		**+1.8**
	SNR=6.3							
ASUD	**Al Ashush, Dub**	**9.76**	**256**	P	**Pn**	**12 55 26.0**		**+1.9**
	SNR=5.4							
ASUD				P	**Pn**	**12 55 26.0**		**+1.9**
	SNR=5.4							
THN	**Thein Dam**	**10.03**	**57**	*e*P	**Pn**	**12 55 28.0**		**+0.2**
THN				*e*S	Sn	12 57 08.4		-11
THN				IAML		12 57 20.0		
	comp=N,92nm,0.6s							
THN				IAML		12 57 20.7		
	comp=E,116nm,0.9s							
SONA	**Sohna**	**10.07**	**82**	*e*P	**Pn**	**12 55 27.5**		**-0.9**
SONA				*ex*	**Sn**	**12 57 17.0**		**-3.5**
NDI	**New Delhi**	**10.22**	**80**	*e*P	**Pn**	**12 55 32.0**		**+1.6**
NDI				*ex*	**Sn**	**12 57 23.0**		**-1.1**
DHRM	**DHARAMSHALA**	**10.39**	**59**	*e*P	**Pn**	**12 55 32.4**		**-0.5**
DHRM				*e*S	Sn	12 57 17.7		-11
DHRM				IAML		12 57 30.6		
	comp=E,465nm,0.5s							
DHRM				IAML		12 57 31.8		
	comp=N,237nm,0.5s							
DQM	**DQM**	**10.53**	**227**	P	**Pn**	**12 55 36.1**		**+1.5**
DQM				P	**Pn**	**12 55 36.1**		**+1.5**
BHPL	**Bhopal**	**11.31**	**108**	*e*P	**Pn**	**12 55 46.2**		**+0.9**
BHPL				*ex*	**Sn**	**12 57 48.1**		**-2.9**
BHPL				IAML		12 58 21.8		
	comp=N,42nm,0.2s							
BHPL				IAML		12 58 23.1		
	comp=E,22nm,0.2s							
BHPL				IAML		12 58 51.6		
	comp=N,30nm,0.9s							
BHPL				IAML		12 58 58.2		
	comp=E,25nm,0.7s							
SIMJ	**Simiganj**	**11.63**	**13**		**Pn**	**12 55 45.3**		**-4.5**
CHGR	**Chuyangaron**	**11.66**	**13**		**Pn**	**12 55 49.0**		**-1.2**
CHGR	**Chuyangaron**	**11.66**	**13**	P	**Pn**	**12 55 49.0**		**-1.2**
GEYT	**Alibeck**	**12.38**	**331**	Pn	**Pn**	**12 55 58.0**		**-2.0**
	comp=E,0.5nm,0.3s,baz=153,slow=22,SNR=1.9							
GEYT				Lg	Lg	12 59 31.0		
	comp=E,0.4nm,0.3s,baz=160,sl

MK31	**Makanchi Array**	**23.41**	**29**	*i* P		**P**	**12 58 11.6**	**-0.7**
MKAR	**Makanchi Array**	**23.41**	**29**	P		**P**	**12 58 11.5**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=214,slow=9.6,SNR=31							
MKAR				LR		LR	13 09 19.1	
	comp=Z,336nm,20.0s,baz=242,slow=42							
	comp=Z,3.9nm,0.7s							
MKAR	**Makanchi Array**	**23.41**	**29**	P		**P**	**12 58 11.7**	**-0.6**
ZEI	**Tsey**	**23.53**	**317**	*e*P		**P**	**12 58 13.7**	**-0.1**
ZEI				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKTO	**Aktyubinsk**	**23.83**	**348**	P		**P**	**12 58 16.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=156,slow=8.1,SNR=3.5							
AKTO				LR		LR	13 08 24.2	
	comp=Z,156nm,18.9s,baz=78,slow=39							
	comp=Z,1.3nm,0.6s							
KBZ	**Khabaz**	**24.67**	**318**	P		**P**	**12 58 25.6**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=121,slow=8.2,SNR=6.3							
	comp=Z,1.9nm,0.8s							
KBZ	**Khabaz**	**24.67**	**318**	*i* P		**P**	**12 58 27.9**	**+3.9**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SHA1	**Shidzhatmaz**	**24.82**	**317**	*i* P		**P**	**12 58 27.3**	**+1.6**
KIV	**Kislovodsk**	**24.92**	**318**	*e*P		**P**	**12 58 27.6**	**+1.1**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KURBB	**Kurchatov Arra**	**25.23**	**19**	P		**P**	**12 58 28.7**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=212,slow=8.9,SNR=15							
KURBB				LR		LR	13 09 34.8	
	comp=Z,204nm,18.8s,baz=123,slow=39							
	comp=Z,1.3nm,0.3s							
KURK	**Kurchatov**	**25.34**	**19**	P		**P**	**12 58 29.8**	**-0.2**
KURK				IAmb	IAmb		12 58 58.5	
	comp=Z,6.4nm,1.0s							
KURK	**Kurchatov**	**25.34**	**19**	*ce*P		**P**	**12 58 30.4**	**+0.4**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BVAR	**Borovoye Array**	**25.91**	**6**	P		**P**	**12 58 35.2**	**0.0**
	comp=Z,5.0nm,0.8s,baz=172,slow=9.6,SNR=18							
	comp=Z,5.0nm,0.8s							
BRVK	**Borovoye**	**25.93**	**6**	P		**P**	**12 58 36.9**	**+1.5**
BRVK	**Borovoye**	**25.93**	**6**	P		**P**	**12 58 36.9**	**+1.5**
BRVK				pmax	pmax			
	comp=Z,10.0nm,1.1s							
EIL	**Elat**	**27.14**	**282**	LR		LR	13 12 27.8	
	comp=Z,251nm,19.1s,baz=97,slow=43							
DGZ	**Jazzator, Alta**	**27.87**	**31**	*i* P		**P**	**12 58 53.5**	**+0.4**
DGZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BELG	**Belogornoye**	**28.49**	**336**	LR		LR	13 14 13.1	
	comp=Z,127nm,18.2s,baz=332,slow=45							
BELG	**Belogornoye**	**28.49**	**336**	*i* P		**P**	**12 59 01.4**	**+3.0**
BELG				pmax	pmax			
	comp=Z,2.0nm,1.0s							
TNCH	**TengChong**	**29.44**	**87**	P		P	12 59 02.0	-5.4
TNCH				pP	pP		12 59 09.5	-5.7
TNCH				PP		**PnPn**	**13 00 01.0**	**-0.7**
TNCH				S	S		13 03 49.2	-11
TNCH				sS	pS		13 04 00.5	-8.6
TNCH				pmax	pmax			
	comp=Z,14nm,0.4s							
TNCH				pmax	pmax			
	comp=Z,110nm,4.4s							
TNCH				LR	LR			
	comp=N,180nm,6.0s							
TNCH				LR	LR			
	comp=E,150nm,7.6s							
TNCH				LR	LR			
	comp=Z,160nm,13.6s							
ARU	**Arti**	**29.55**	**352**	P		**P**	**12 59 06.1**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=186,slow=18,SNR=1.3							
ARU				LR		LR	13 12 13.7	
	comp=Z,243nm,19.3s,baz=166,slow=39							
	comp=Z,0.8nm,0.3s							
ARU	**Arti**	**29.55**	**352**	P		**P**	**12 59 07.2**	**-0.5**
ARU				IAmb	IAmb		12 59 13.8	
	comp=Z,0.4nm,0.2s							
ARU	**Arti**	**29.55**	**352**	*i* P		**P**	**12 59 08.0**	**+0.3**
ARU				pmax	pmax			
	comp=Z,4.0nm,1.3s							
ZAA0	**Zalesovo Array**	**30.08**	**23**	P		**P**	**12 59 12.2**	**-0.3**
ZAA0				IAmb	IAmb		12 59 18.3	
	comp=Z,2.9nm,0.6s							
ZALV	**Zalesovo Beam**	**30.08**	**23**	P		**P**	**12 59 11.1**	**-1.4**
	comp=Z,2.1nm,0.5s,baz=227,slow=8.3,SNR=10.0							
ZALV				LR		LR	13 12 22.8	
	comp=Z,160nm,19.8s,baz=175,slow=39							
	comp=Z,2.1nm,0.5s							
ZALV	**Zalesovo Beam**	**30.08**	**23**	P		**P**	**12 59 10.9**	**-1.6**
ZALV	**Zalesovo Beam**	**30.08**	**23**	*e*P		**P**	**12 59 12.9**	**+0.4**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.4s							
GTA	**Gaotai**	**30.71**	**58**	*e*P		**P**	**12 59 20.3**	**+1.9**
GTA				pP	pP		12 59 25.9	-0.4
GTA				sP	sP		12 59 29.1	-0.4
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**31.74**	**99**	P		**P**	**12 59 25.9**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=292,slow=7.7,SNR=1.7							
CMAR				LR		LR	13 13 04.6	
	comp=Z,67nm,22.0s,baz=285,slow=38							
	comp=Z,0.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**31.74**	**99**	P		**P**	**12 59 26.0**	**-1.5**
KIRV	**Kirov**	**33.27**	**344**	LR		LR	13 14 52.4	
	comp=Z,264nm,19.2s,baz=152,slow=39							
OBN	**Obninsk**	**34.93**	**331**	*e*P		**P**	**12 59 58.1**	**+3.3**
OBN				PPP		PPP	13 01 31.0	
OBN							13 02 27.0	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.9s							
AKASG	**Malin Array Be**	**36.21**	**320**	P		**P**	**13 00 04.1**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=120,slow=7.6,SNR=6.0							
	comp=Z,0.7nm,0.5s							
AKASG	**Malin Array Be**	**36.21**	**320**	*e*P		**P**	**13 00 06.9**	**+1.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKBB	**Malin Array Si**	**36.21**	**320**	*i* P		**P**	**13 00 08.6**	**+2.7**
AKBB				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MLR	**Muntele Rosu**	**36.37**	**311**	P		**P**	**13 00 06.8**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=114,slow=19,SNR=2.3							
	comp=Z,1.0nm,0.5s							
BURAR	**Bucovina Array**	**37.48**	**314**	P		**P**	**13 00 17.5**	**+0.6**
BUR08	**Bucovina Ar. S**	**37.50**	**314**	P		**P**	**13 00 18.1**	**+1.0**
BUR08				IAmb	IAmb		13 00 24.3	
	comp=Z,7.9nm,1.5s							
SONM	**Songino Array**	**37.60**	**46**	P		**P**	**13 00 18.6**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=248,slow=8.4,SNR=9.7							
SONM				LR		LR	13 19 04.0	
	comp=Z,128nm,18.4s,baz=158,slow=42							
	comp=Z,2.1nm,0.9s							
SONM	**Songino Array**	**37.60**	**46**	P		**P**	**13 00 17.2**	**-0.8**
SONM				IAmb	IAmb		13 00 21.3	
	comp=Z,2.0nm,1.1s							
ULN	**Ulaanbaatar**	**38.04**	**46**	*ce*P		**P**	**13 00 21.7**	**0.0**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.7s							
MNK	**Minsk**	**38.70**	**325**	*i* P		**P**	**13 00 25.9**	**-1.1**
	comp=E,2.0nm,0.9s							
MNK				*i* P		**P**	**13 00 25.9**	**-1.1**
	comp=N,15nm,0.8s							
MNK				*i* P		**P**	**13 00 25.9**	**-1.1**
	comp=Z,6.0nm,0.7s,baz=299							
MNK				*i* PP		**PP**	**13 01 54.6**	**-1.1**
MNK				*i* PPP		PPP	13 02 14.6	
MNK				*i* S		**S**	**13 06 23.6**	**+1.2**
MNK				*i* SS		**SS**	**13 09 13.2**	**+0.1**
MNK				*i* SSS		SSS	13 09 30.4	
MNK				*i* LR		LR	13 16 13.1	
MNK				*i* LRM		MLR	13 18 08.2	
	comp=E,13nm,18.0s							
MNK				*i* LRM		MLR	13 18 08.2	
	comp=N,246nm,16.1s							
MNK				*i* LRM		MLR	13 18 08.2	
	comp=Z,46nm,14.8s							
MNK	**Minsk**	**38.70**	**325**	*i* P		**P**	**13 00 25.9**	**-1.1**
MNK				*i*			13 01 54.5	
MNK				*i*			13 02 37.5	
MNK				*i* S		**S**	**13 06 23.5**	**+1.2**
MNK				*i*			13 10 36.3	
MNK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MNK				pmax	pmax			
	comp=N,15nm,0.8s							
MNK				pmax	pmax			
	comp=E,2.0nm,0.9s							
MNK				MLR	MLR			
	comp=Z,46nm,15.0s							
MNK				MLR	MLR			
	comp=E,13nm,18.0s							
MNK				MLR	MLR			
	comp=N,246nm,16.0s							
FINES	**FINESS Array B**	**43.17**	**333**	P		**P**	**13 01 02.1**	**-1.5**
	comp=N,4.1nm,1.1s,baz=120,slow=8.2,SNR=5.1							
	comp=N,4.1nm,1.1s							
FINES	**FINESS Array B**	**43.17**	**333**	P		**P**	**13 01 04.5**	**+0.8**
FINES	**FINESS Array B**	**43.17**	**333**	P		**P**	**13 01 04.5**	**+0.8**
VRAC	**Vranov**	**43.46**	**314**	LR		LR	13 24 41.7	
	comp=N,111nm,18.4s,baz=28,slow=44							
NRIK	**Noril'sk**	**43.95**	**11**	LR		LR	13 22 30.8	
	comp=N,132nm,19.6s,baz=224,slow=40							
NRIK	**Noril'sk**	**43.95**	**11**	*i* P		**P**	**13 01 12.2**	**+2.3**
NRIK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
GERES	**GERESS Array B**	**45.24**	**313**	P		**P**	**13 01 19.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=106,slow=10,SNR=5.2							
	comp=Z,0.5nm,0.5s							
GERES	**GERESS Array B**	**45.24**	**313**	*e*P		**P**	**13 01 23.1**	**+2.5**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CLL	**Collm**	**46.11**	**316**	*e*PP		PP	13 03 15.0	-0.5
ARCES	**ARCESS Array B**	**48.23**	**342**	P		**P**	**13 01 45.4**	**+1.8**
	comp=Z,7.6nm,1.1s,baz=143,slow=9.1,SNR=5.9							
ARCES				LR		LR	13 24 04.6	
	comp=Z,158nm,21.2s,baz=230,slow=39							
	comp=Z,7.6nm,1.1s							
NOA	**NORSAR Array B**	**49.46**	**329**	P		**P**	**13 01 54.8**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=108,slow=7.5,SNR=1.5							
	comp=Z,0.5nm,0.5s							
HEH	**HeiHe**	**51.59**	**46**	*e*P		**P**	**13 02 05.6**	**-3.8**
HEH				pmax	pmax			
	comp=Z,6.0nm,3.3s							
HEH				pmax	pmax			
	comp=Z,360nm,6.0s							
KSRS	**Korea Array**	**52.62**	**62**	P		**P**	**13 02 17.6**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=272,slow=7.1,SNR=13							
KSRS				LR		LR	13 26 53.2	
	comp=Z,66nm,18.8s,baz=35,slow=39							
	comp=Z,2.9nm,0.6s							
KSRS	**Korea Array**	**52.62**	**62**	*e*P		**P**	**13 02 18.3**	**+1.1**
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.6s							
YAK	**Yakutsk**	**54.06**	**32**	LR		LR	13 27 53.6	
	comp=Z,149nm,19.5s,baz=269,slow=39							
KLR	**Kul'dur**	**54.41**	**47**	LR		LR	13 28 58.3	
	comp=Z,105nm,18.4s,baz=253,slow=40							
KLR	**Kul'dur**	**54.41**	**47**	*ce*P		**P**	**13 02 30.7**	**+0.5**
KLR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TIXI	**Tiksi**	**55.91**	**20**	*i* P		**P**	**13 02 42.1**	**+1.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.0s							
YSS	**Yuzh-Sakhalins**	**61.98**	**49**	*ce*P		**P**	**13 03 22.2**	**-1.0**
YSS				pmax	pmax			
	comp=Z,25nm,1.7s							
ASAJ	**Asahikawa**	**62.44**	**52**	LR		LR	13 32 06.6	
	comp=Z,91nm,19.4s,baz=175,slow=38							
MA2	**Magadan**	**64.38**	**34**	LR		LR	13 33 44.1	
	comp=Z,99nm,18.9s,baz=274,slow=38							
SEY	**Seymchan**	**64.54**	**30**	*ce*P		**P**	**13 03 40.7**	**+0.8**
SEY				pmax	pmax			
	comp=Z,9.0nm,1.7s							
TSUM	**Tsumeb**	**65.70**	**231**	LR		LR	13 33 57.8	
	comp=Z,84nm,19.5s,baz=335,slow=37							
BILL	**Bilibino**	**68.78**	**23**	*e*P		P	13 04 12.3	+5.4
BILL				*e*			13 04 32.2	
BILL				S		S	13 13 32.0	+23
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,49nm,16.0s							
WRA	**Warramunga Arr**	**81.32**	**118**	P		**P**	**13 05 20.9**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=318,slow=4.4,SNR=2.0							
	comp=Z,0.3nm,0.8s							
ASAR	**Alice Springs**	**83.02**	**121**	P		**P**	**13 05 28.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=304,slow=5.2,SNR=9.2							
	comp=Z,0.5nm,0.7s							
ILAR	**Eielson Array**	**84.76**	**13**	P		**P**	**13 05 38.4**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=318,slow=4.6,SNR=1.9							
ILAR				LR		LR	13 50 16.2	
	comp=Z,52nm,18.3s,baz=138,slow=40							
	comp=Z,0.2nm,0.7s							
YKA	**Yellowknife Ar**	**90.50**	**0**	P		**P**	**13 06 06.4**	**+1.7**
	comp=Z,0.2nm,0.8s,baz=343,slow=4.8,SNR=4.2							
	comp=Z,0.2nm,0.8s							
YKA	**Yellowknife Ar**	**90.50**	**0**	*e*P		**P**	**13 06 07.4**	**+2.7**

WEL 09 12:54:48.4±0.4, 42°S±3°×17°4E±°, h14km±3km, M2.6/8, ML2.8/15, MLv2.6/8, Error ellipse: s-maj=0.0km s-min=0.0km az=115.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**219**	P	Pb	12 54 52.4	0.0
KHZ				S	Sb	12 54 55.0	0.0
KHZ	**Kahutara**	**0.12**	**219**	S	Sb	12 54 55.1	+0.1
BSWZ	**Blackbirch Sta**	**0.63**	**16**	P	Pg	12 55 00.8	0.0
BSWZ				S	Sb	12 55 09.6	-0.3
BSWZ	**Blackbirch Sta**	**0.63**	**16**	P	Pg	12 55 00.9	+0.1
BSWZ				S	Sb	12 55 09.9	0.0
GVZ	**Greta Valley S**	**0.78**	**214**	P	Pn	12 55 05.1	+0.1
GVZ	**Greta Valley S**	**0.78**	**214**	S	Sn	12 55 17.1	+0.6
THZ	**Tophouse**	**0.78**	**316**	P	Pg	12 55 02.6	-1.0
THZ				S	Sg	12 55 11.9	-2.0
THZ	**Tophouse**	**0.78**	**316**	S	Sg	12 55 12.1	-1.9
TUWZ	**Tuamarina**	**0.92**	**14**	P	Pb	12 55 06.0	-0.1
TUWZ				S	Sg	12 55 19.0	+0.7
TUWZ	**Tuamarina**	**0.92**	**14**	P	Pb	12 55 06.0	-0.2
TUWZ				S	Sn	12 55 19.1	-0.7
LTZ	**Lake Taylor**	**1.11**	**245**	P	Pb	12 55 09.2	-0.1
LTZ	**Lake Taylor**	**1.11**	**245**	S	Sn	12 55 24.6	0.0
AMCZ	**Amberley**	**1.12**	**220**	P	Pg	12 55 10.1	+0.1
AMCZ	**Amberley**	**1.12**	**220**	S	Sn	12 55 26.1	+1.3
NNZ	**Nelson**	**1.12**	**350**	P	Pb	12 55 09.1	-0.4
NNZ	**Nelson**	**1.12**	**350**	P	Pb	12 55 09.0	-0.6
MRNZ	**Matariki Terra**	**1.13**	**324**	P	Pb	12 55 09.4	-0.3
MRNZ	**Matariki Terra**	**1.13**	**324**	P	Pb	12 55 09.2	-0.5
MRNZ				S	Sg	12 55 24.9	-0.2
TCW	**Tory Channel**	**1.21**	**23**	P	Pb	12 55 11.1	+0.1
TCW				S	Sg	12 55 27.9	+0.5
PLWZ	**Palliser**	**1.42**	**59**	P	Pn	12 55 13.4	-0.4
OKCZ	**Okains Bay**	**1.46**	**197**	P	Pn	12 55 14.3	0.0
OKCZ	**Okains Bay**	**1.46**	**197**	S	Sn	12 55 33.4	+0.2
DSZ	**Denniston Nort**	**1.48**	**292**	P	Pb	12 55 15.6	-0.1
OXZ	**Oxford**	**1.54**	**229**	P	Pn	12 55 14.9	-0.6
OXZ	**Oxford**	**1.54**	**229**	S	Sn	12 55 34.4	-0.9
MQZ	**McQueen's Vall**	**1.56**	**207**	P	Pn	12 55 14.7	-0.9
MQZ	**McQueen's Vall**	**1.56**	**207**	S	Sn	12 55 34.9	-0.7
CAW	**Cannon Point**	**1.62**	**42**	P	Pn	12 55 16.4	0.0
CAW				S	Sn	12 55 34.6	-2.5
AKCZ	**Akaroa Harbour**	**1.64**	**199**	P	Pn	12 55 16.5	-0.2
AKCZ	**Akaroa Harbour**	**1.64**	**199**	S	Sn	12 55 37.5	-0.1
INZ	**Inchbonnie**	**1.67**	**255**	P	Pb	12 55 18.6	-0.3
INZ	**Inchbonnie**	**1.67**	**255**	P	Pn	12 55 17.5	+0.4
INZ				S	Sn	12 55 38.8	+0.4
WACZ	**Wakanui South**	**2.09**	**219**	P	Pn	12 55 22.5	-0.3
WACZ	**Wakanui South**	**2.09**	**219**	S	Sn	12 55 48.0	-0.6

*NEIC **09** 13:12:15.2±1.2, 10°.7S±0°.1×161°.09E±0°.08, h10km±1km, mb4.2/9, Error ellipse: s-maj=20.5km s-min=5.3km az=35.0*

*IDC **09** 13:12:20.4±2.6, 10°.75S×161°.11E, h49km±21km, mb3.6/7, mbtmp3.9/9, ML3.5/2, MS3.6/7, Error ellipse: s-maj=30.3km s-min=16.1km az=73.0*

ISC 09 13:12:16.0±0.7, 10°.80S±0°.08×161°.0E±0°.1, h18km, n30, σ2.936/28, mb4.0/10, MS3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.70**	**323**	P	**Pb**	**13 12 47.4**	**+0.6**
	4μm,0.6s,baz=125,slow=5.2,SNR=8.8						
HNR				S	**Sb**	**13 13 09.6**	**+1.8**
	7μm,0.4s,baz=186,slow=22,SNR=14						
HNR				LR	LR	13 13 36.2	
	comp=Z,6μm,20.6s,baz=184,slow=44						
HNR	**Honiara**	**1.70**	**323**	Pn	**Pn**	**13 12 43.6**	**-1.2**
KOUNC	**Koumac, New Ca**	**10.20**	**162**	Pn	**Pn**	**13 14 43.2**	**+1.6**
RABL	**Rabaul**	**10.94**	**306**	Pn	**Pn**	**13 14 51.2**	**-0.5**
KRVT	**Keravat (AS076**	**10.98**	**305**	S	**Sn**	**13 16 47.4**	**-7.3**
	57nm,0.5s,baz=269,slow=23,SNR=1.2						
LIFNC	**LIFOU**	**11.60**	**150**	Pn	**Pn**	**13 14 59.7**	**-1.0**
DZM	**Mont Dzumac**	**12.37**	**156**	P	**Pn**	**13 15 13.0**	**+1.6**
	baz=311,slow=20,SNR=1.9						
DZM				S	**Sn**	**13 17 21.8**	**-7.0**
	6.0nm,1.0s,baz=217,slow=9.9,SNR=1.6						
	6.4nm,0.9s						
MARNC	**Mare, Loyalty**	**12.59**	**148**	Pn	**Pn**	**13 15 14.9**	**+0.7**
PMG	**Port Moresby**	**13.69**	**275**	LR	LR	13 20 42.6	
	comp=Z,335nm,19.4s,baz=104,slow=36						
CTA	**Charters Tower**	**16.93**	**235**	P	**P**	**13 16 15.8**	**+1.8**
	0.5nm,0.3s,baz=65,slow=17,SNR=6.1						
CTA				LR	LR	13 22 47.4	
	comp=Z,109nm,18.3s,baz=82,slow=37						
	5.2nm,0.8s						
CTAO	**Charters Tower**	**16.93**	**235**		**P**	**13 16 14.8**	**+0.8**
CTAO				IAmb	IAmb	13 16 58.8	
	comp=Z,25nm,1.3s						
COEN	**Coen**	**17.68**	**258**	Pn	**Pn**	**13 16 21.9**	**+0.3**
MSVF	**Nonsavu**	**17.90**	**115**	LR	LR	13 22 03.1	
	comp=Z,123nm,18.3s,baz=303,slow=33						
WR0	**Warramunga Arr**	**27.05**	**247**	P	**P**	**13 17 58.4**	**+0.8**
WR0				IAmb	IAmb	13 18 33.8	
	comp=Z,4.3nm,1.1s						
WB0	**Warramunga Arr**	**27.13**	**248**	P	**P**	**13 17 59.3**	**+1.0**
WB0				IAmb	IAmb	13 18 13.0	
	comp=Z,5.9nm,1.0s						
WRAB	**Tennant Creek**	**27.21**	**247**	P	**P**	**13 18 00.8**	**+1.8**
WRAB				IAmb	IAmb	13 18 03.0	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**27.22**	**247**	P	**P**	**13 18 01.6**	**+2.4**
	comp=Z,1.5nm,0.8s,baz=77,slow=9.7,SNR=12						
WRA				LR	LR	13 29 07.0	
	comp=Z,229nm,18.3s,baz=17,slow=37						
	comp=Z,1.5nm,0.8s						
STKA	**Stephens Creek**	**27.59**	**218**	LR	LR	13 28 10.5	
	comp=Z,154nm,19.1s,baz=34,slow=34						
AS31	**Alice Springs**	**28.79**	**240**	P	**P**	**13 18 14.1**	**+0.9**
ASAR	**Alice Springs**	**28.80**	**240**	P	**P**	**13 18 14.8**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=65,slow=10,SNR=8.3						
ASAR				LR	LR	13 29 51.2	
	comp=Z,150nm,19.3s,baz=84,slow=36						
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**28.80**	**240**	P	**P**	**13 18 14.5**	**+1.3**
BKZ	**Black Stump Fm**	**31.45**	**157**	P	**P**	**13 18 37.0**	**+0.5**
PPT	**Papeete**	**48.29**	**104**	LR	LR	13 38 01.5	
	comp=Z,35nm,20.9s,baz=74,slow=32						
CMAR	**Chiang Mai Arr**	**67.76**	**295**	P	**P**	**13 23 13.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=123,slow=5.8,SNR=5.8						
	comp=Z,0.8nm,0.6s						
SONM	**Songino Array**	**75.76**	**325**	P	**P**	**13 24 01.7**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=152,slow=6.5,SNR=4.1						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**79.20**	**180**	P	**P**	**13 24 21.6**	**+1.8**
	comp=Z,1.5nm,1.1s,baz=323,slow=0.9,SNR=1.5						
	comp=Z,1.5nm,1.1s						
QSPA	**South Pole Qui**	**79.20**	**180**	P	**P**	**13 24 20.0**	**+0.2**
QSPA				IAmb	IAmb	13 24 59.9	
	comp=Z,2.0nm,1.3s						
SVW2	**Sparrevohn**	**79.40**	**20**	P	**P**	**13 24 20.7**	**0.0**
ILAR	**Eielson Array**	**84.82**	**20**	P	**P**	**13 24 49.4**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=224,slow=7.6,SNR=2.5						
	comp=Z,0.5nm,1.0s						
MKAR	**Makanchi Array**	**90.17**	**318**	P	**P**	**13 25 15.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=88,slow=5.9,SNR=7.3						
	comp=Z,0.5nm,0.6s						

*ANF **09** 13:14:35.9±0.8, 38°.45N×118°.94W, h0km, ML3.3/6, Error ellipse: s-maj=5.4km s-min=2.9km az=135.0*

*REN **09** 13:14:36.6±1.3, 38°.42N±0°.01×118°.90W±0°.02, h9km±4km, ML3.0/13, ML3.0/44(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=97.0*

NEIC 09 13:14:36.6±1.3, 38°.44N±0°.02×118°.94W±0°.02, h13km±3km, Error ellipse: s-maj=2.3km s-min=2.2km az=75.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.14**	**82**		Pg	13 14 39.5	-0.9
TVH1					Sg	13 14 41.7	-1.5
RYN	**Ryan**	**0.38**	**60**		Pg	13 14 44.0	-0.3
RYN					Sg	13 14 49.2	-0.3
RYN	**Ryan**	**0.38**	**60**	IAML		13 14 49.4	
	comp=N,3μm,0.4s						
RYN				IAML		13 14 49.7	
	comp=E,4μm,0.4s						
LHV	**Little Huntoon**	**0.39**	**118**		Pg	13 14 44.0	-0.4
LHV					Sg	13 14 49.1	-0.5
LHV	**Little Huntoon**	**0.39**	**118**	IAML		13 14 49.8	
	comp=N,5μm,0.5s						
LHV				IAML		13 14 51.2	
	comp=E,4μm,0.8s						
WAKR	**Walker**	**0.40**	**280**		Pb	13 14 45.2	-0.3
WAKR					Sb	13 14 51.4	-0.2
WAKR	**Walker**	**0.40**	**280**	IAML		13 14 51.7	
	comp=E,1μm,0.8s						
WAKR				IAML		13 14 55.7	
	comp=N,790nm,0.9s						
YERR	**Yerington**	**0.59**	**337**		Pg	13 14 48.6	+0.3
YERR					Sb	13 14 58.0	+0.7
YERR	**Yerington**	**0.59**	**337**	IAML		13 15 02.8	
	comp=E,690nm,0.6s						
YERR				IAML		13 15 04.1	
	comp=N,661nm,0.4s				

ORV	**Oroville**	**2.29**	**300**	Pn	Pn	13 15 14.3	+0.4	
ORV	comp=N,65nm,0.7s			IAML		13 15 49.3		
ORV	comp=E,86nm,0.7s			IAML		13 15 49.5		
BMN	**Battle Mountai**	**2.40**	**33**		Pn	13 15 15.5	-0.1	
WCT	**Wildcat Mounta**	**2.46**	**131**		Pn	13 15 16.0	-0.5	
VES	**Vestal, Richgr** baz=3.2	**2.59**	**183**	Sb	Sg	13 15 58.4	-1.5	
SAO	**San Andreas Ge**	**2.60**	**231**	Pn	Pn	13 15 19.0	+0.8	
TPNV	**Topopah Spring**	**2.60**	**124**	Pn	Pn	13 15 18.1	-0.3	
TPNV	comp=E,98nm,1.1s			IAML		13 16 06.6		
TPNV	comp=E,115nm,0.7s			IAML		13 16 09.5		
TPNV	**Topopah Spring** baz=306	**2.60**	**124**	Sb	Sg	13 15 59.1	-1.1	
R11A	**Troy Canyon, C**	**2.64**	**91**		Pn	13 15 18.5	-0.5	
R11A	comp=E,85nm,0.3s			IAML		13 16 00.9		
R11A	**Troy Canyon, C** baz=272	**2.64**	**91**	Pb	Pb	13 15 24.0	+0.3	
R11A	baz=272			Sb	Sb	13 15 58.5	+2.4	
MPMC	**Manual Prospec** baz=335	**2.64**	**154**	Pb	Pb	13 15 25.3	+1.5	
S11A	**Rachel**	**2.64**	**106**		Pn	13 15 18.1	-0.9	
ISA	**Isabella, Lake**	**2.79**	**172**	Pn	Pn	13 15 20.8	-0.2	
ISA	**Isabella, Lake** baz=353	**2.79**	**172**	Sb	Sg	13 16 03.8	-2.6	
PRN	**Pahroc Range**	**3.24**	**107**		Pn	13 15 27.0	-0.2	
Q12A	**Willow Creek R**	**3.27**	**78**		Pn	13 15 28.8	+1.2	
SHPR	**Sheep Range**	**3.57**	**122**		Pn	13 15 31.0	-0.8	
SPR3	**Spring Creek 3**	**3.65**	**80**	Pn	Pn	13 15 33.2	+0.2	
WVOR	**Wild Horse Val**	**4.00**	**3**	Pn	Pn	13 15 37.8	+0.2	
WVOR	comp=E,19nm,4.7s			IAML		13 16 42.7		
WVOR	comp=E,15nm,0.9s			IAML		13 16 46.0		
YBH	**Yreka Blue Hor**	**4.38**	**320**	Pn	Pn	13 15 43.4	+0.6	
CCUT	**Cedar City**	**4.50**	**100**	Pn	Pn	13 15 44.6	+0.1	
BGU	**Big Grassy Mou**	**5.19**	**60**	Pn	Pn	13 15 54.3	+0.2	
MFID	**Camas Ranch**	**5.50**	**24**	Pn	Pn	13 15 58.0	-0.3	
HVU	**Hansel Valley**	**5.79**	**53**	Pn	Pn	13 16 02.3	+0.1	

*ISN **09** 13:29:33.4±1.2, 32°.63N×47°.27E, h10km±999km, ML2.5*
*TEH **09** 13:29:35.2, 32°.65N×47°.48E, h10km±61km, ML2.7*
ISC 09 13:29:35.3±1.2, 32°.64N±0°.05×47°.46E±0°.04, h16km±11km, n9, q0965/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.16**	**286**	Pg	**Pg**	**13 29 38.7**	**-0.6**
DHL1				Sg	**Sg**	**13 29 42.8**	**+0.7**
IKFM	**Kafar-mosalman**	**0.94**	**20**	Pg	**Pg**	**13 29 53.4**	**+0.2**
IDOB	**Doab**	**1.30**	**27**	Pg	**Pg**	**13 29 59.9**	**-0.4**
IBDR	**Badra** baz=113	**1.37**	**291**	*e*Pg	**Pg**	**13 30 01.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**13 30 20.0**	**+0.5**
IBDR	comp=N,47nm,0.5s			AML	AML	13 30 25.5	
IBDR	comp=E,59nm,0.6s			AML	AML	13 30 31.5	
ILBA	**Ilam Banvizeh**	**1.44**	**314**	Pg	**Pg**	**13 30 02.6**	**-0.4**
RAFI	**Al-Rafai**	**1.46**	**232**	*e*Pg	**Pg**	**13 30 03.0**	**-0.3**
RAFI				*e*Sg	**Sg**	**13 30 23.0**	**+0.7**
RAFI	comp=E,371nm,0.2s			AML	AML	13 30 39.1	
IKOM	**Komasi**	**1.53**	**2**	Pg	**Pg**	**13 30 04.0**	**-0.8**
AMIS	**Naft Sefid**	**1.83**	**122**	Pn	**Pg**	**13 30 09.8**	**-0.6**
HSAM	**Samen**	**1.84**	**31**	Pn	**Pg**	**13 30 10.7**	**+0.1**

*IDC **09** 13:31:45.8±8.5, 22°.80N×144°.30E, h127km±78km, mb3.2/10, mbtmp3.6/10, Error ellipse: s-maj=34.7km s-min=19.4km az=92.0*
ISC 09 13:31:42.9±1.0, 22°.8N±0°.1×144°.4E±0°.2, h100km, n13, q0998/11, mb3.6/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array** 2.0nm,0.8s,baz=151,slow=8.2,SNR=6.6	**20.34**	**320**	P	**P**	**13 36 12.9**	**+1.7**
H11N1	**WAKE ISLAND Hy** baz=283,slow=74,SNR=7.8	**21.23**	**94**	T	T	13 58 36.8	
H11N2	**WAKE ISLAND Hy** baz=283,slow=74,SNR=8.4	**21.23**	**94**	T	T	13 58 32.9	
H11N3	**WAKE ISLAND Hy** baz=283,slow=74,SNR=7.3	**21.25**	**94**	T	T	13 58 38.2	
KLR	**Kul'dur** 1.6nm,0.6s,baz=165,slow=12,SNR=5.9	**28.21**	**342**	P	**P**	**13 37 25.3**	**-0.8**
SONM	**Songino Array** 0.3nm,0.6s,baz=121,slow=8.2,SNR=2.6	**39.21**	**319**	P	**P**	**13 39 01.1**	**-0.3**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=72,slow=8.6,SNR=1.9	**42.59**	**273**	P	**P**	**13 39 30.3**	**+0.9**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=15,slow=9.1,SNR=0.9	**43.57**	**194**	P	**P**	**13 39 37.2**	**+0.1**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=12,slow=7.0,SNR=0.8	**47.27**	**193**	P	**P**	**13 40 06.0**	**-0.3**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=93,slow=8.2,SNR=5.8	**54.77**	**312**	P	**P**	**13 41 01.1**	**-1.2**
MKAR	0.4nm,0.6s,baz=76,slow=6.1,SNR=2.5			PcP	**PcP**	**13 42 02.9**	**-0.7**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=267,slow=5.4,SNR=3.0	**60.59**	**27**	P	**P**	**13 41 43.0**	**+0.3**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=294,slow=5.9,SNR=2.3	**75.00**	**28**	P	**P**	**13 43 13.9**	**+0.9**
FINES	**FINESS Array B** 2.1nm,0.9s,baz=76,slow=5.9,SNR=6.4	**82.67**	**335**	P	**P**	**13 43 54.6**	**-0.4**

*NEIC **09** 13:32:38.4±2.8, 3°.81N±0°.08×128°.59E±0°.09, h10km±1km, mb4.6/40, Error ellipse: s-maj=15.7km s-min=12.2km az=53.0*
*IDC **09** 13:32:39.4±3.1, 3°.74N×128°.31E, h27km±20km, mb3.9/15, mbtmp4.0/16, ML3.9/1, MS3.6/20, Error ellipse: s-maj=31.1km s-min=12.0km az=72.0*
*DJA **09** 13:32:39.0±1.1, 4°.1N±6°×12°.9E±°, h16km±13km, M4.6/13, mb5.2/7, mb4.8/13, MLv4.6/10, Mw(mB)4.5/7*
ISC 09 13:32:37.7±0.4, 3°.80N±0°.04×128°.58E±0°.06, h10km, n114, q2900/110, mb4.4/40, MS3.6/19, 3C-3D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.04**	**268**	P	**Pn**	**13 33 22.8**	**-3.1**
SGSI				S	**Sn**	**13 34 02.2**	**-0.3**
TNTI	**Ternate**	**3.25**	**202**	Pn	**Pn**	**13 33 30.9**	**+2.2**
TNTI	**Ternate**	**3.25**	**202**	P	**Pn**	**13 33 32.1**	**+3.4**
TNTI				S	**Sn**	**13 34 11.5**	**+4.1**
GSPH	**General Santos**	**4.27**	**302**	*i*P	**Pn**	**13 33 44.1**	**+1.2**
GSPH				*i* S	**Sn**	**13 34 31.2**	**-1.6**
DAV	**Davao City (W)** 54nm,0.3s,baz=349,slow=1.6,SNR=3.7	**4.41**	**318**	Pn	Pn	13 33 49.6	+4.9
DAV	50nm,0.3s,baz=268,slow=17,SNR=4.0			Sn	**Sn**	**13 34 37.5**	**+1.3**
DAV	comp=Z,2μm,18.4s,baz=352,slow=48			LR	LR	13 36 03.0	
KCP	**Kidapawan**	**4.71**	**313**	*e*P	**Pn**	**13 33 48.5**	**-0.4**
KCP				*i* S	**Sn**	**13 34 48.2**	**+4.6**
BIPH	**Bislig**	**4.88**	**333**	*e*P	**Pn**	**13 33 52.7**	**+1.5**
BIPH				*i* S	Sn	13 34 35.4	-12
SWI	**Sorong** 34nm,1.0s,0.2nm	**5.36**	**150**	P	**Pn**	**13 33 58.6**	**+0.9**
SIJI	**Sorong** 3.9nm,0.3s,baz=344,slow=18,SNR=11	**5.36**	**150**	Pn	**Pn**	**13 33 58.8**	**+0.9**
SIJI	5.3nm,0.3s,baz=218,slow=22,SNR=9.5			Sn	**Sn**	**13 34 58.6**	**-1.2**
SIJI	comp=Z,555nm,18.7s,baz=292,slow=38 9.4nm,0.3s			LR	LR	13 36 08.8	
CTBH	**Cotabato--PC H**	**5.49**	**308**	*e*P	**Pn**	**13 34 03.9**	**+4.4**
CGP	**Cagayan de Oro**	**6.02**	**320**	*e*P	Pn	13 34 14.6	+7.8
SANI	**Sanana**	**6.36**	**204**	P	**Pn**	**13 34 12.1**	**+0.5**
	44nm,0.6s,0.2nm						
GTOI	**Gorontalo** 45nm,0.5s,784nm0.2nm	**6.39**	**241**	P	**Pn**	**13 34 14.0**	**+2.0**
NLAI	**Namlea**	**7.15**	**192**	P	**Pb**	**13 34 38.7**	**-3.3**
MRSI	**Marisa** 639nm,0.5s,7μm2.6nm	**7.41**	**244**	P	**Pn**	**13 34 27.9**	**+1.9**
LUWI	**Luwuk**	**7.54**	**230**	Pn	**Pn**	**13 34 28.8**	**+1.1**
LUWI	**Luwuk** 174nm,0.8s,5μm0.6nm	**7.54**	**230**	P	**Pn**	**13 34 28.7**	**+1.0**
FAKI	**Fak Fak**	**7.62**	**151**	Pn	**Pn**	**13 34 30.5**	**+1.6**
TOLI2	**Tolitoli**	**8.23**	**251**		**Pn**	**13 34 38.0**	**+0.7**
APSI	**Ampana** 170nm,0.7s,2μm	**8.36**	**236**	P	**Pn**	**13 34 41.6**	**+2.6**
MPSI	**Mapaga** 25nm,1.0s	**9.33**	**249**	P	**Pn**	**13 34 53.5**	**+1.1**
MYLDM	**Lahad Datu**	**10.14**	**278**		**Pn**	**13 35 05.8**	**+2.3**
SPSI	**Sidrap Palu** 30nm,0.9s	**11.71**	**229**	P	**Pn**	**13 35 25.5**	**+0.6**
KAPI	**Kappang** 1.8nm,0.3s,baz=77,slow=18,SNR=5.1	**12.43**	**225**	Pn	**Pn**	**13 35 36.1**	**+1.4**
GENI	**Genyem**	**13.21**	**119**	P	**P**	**13 35 58.6**	**+3.1**
SBUM	**Sibu**	**16.39**	**266**	Pn	**Pn**	**13 36 29.3**	**+1.3**
MTN	**Manton Dam**	**16.73**	**171**		**Pn**	**13 36 33.3**	**+1.0**
GUMO	**Guam** comp=Z,173nm,18.7s,baz=238,slow=36	**18.80**	**58**	LR	LR	13 44 09.5	
JAGI	**Jajag, Banyuwa** comp=Z,33nm,0.9s	**18.86**	**230**	P	**P**	**13 36 58.1**	**-0.1**
JAGI				IAmb	IAmb	13 37 16.0	
KNRA	**Kununurra** comp=Z,19nm,0.7s	**19.36**	**179**	P	**P**	**13 37 03.6**	**0.0**
KNRA				IAmb	IAmb	13 37 12.3	
YULB	**Yu-li**	**20.71**	**341**	P	**P**	**13 37 18.9**	**+0.6**
YULB	comp=Z,39nm,1.2s			IAmb	IAmb	13 37 26.6	
FITZ	**Fitzroy Crossi**	**21.95**	**187**	P	**P**	**13 37 31.1**	**-0.6**
KPJI	**Karang Pucung**	**22.51**	**241**	P	**P**	**13 37 41.4**	**+3.6**
PMG	**Port Moresby** comp=Z,9.8nm,0.8s,baz=320,slow=9.8,SNR=4.5	**22.70**	**125**	P	**P**	**13 37 42.3**	**+2.6**
PMG	comp=Z,141nm,18.5s,baz=310,slow=36 comp=Z,9.8nm,0.8s			LR	LR	13 46 18.4	
COEN	**Coen**	**22.83**	**141**	P	**P**	**13 37 42.8**	**+1.7**
JOW	**Kunigami** comp=Z,69nm,20.7s,baz=328,slow=33	**22.90**	**359**	LR	LR	13 45 13.7	
LEM	**Lembang** comp=Z,164nm,18.1s,baz=78,slow=40	**23.44**	**243**	LR	LR	13 48 13.2	
QIZ	**Qiongzhong**	**23.75**	**311**	P	**P**	**13 37 50.9**	**+0.5**
QIZ				pP	**pwP**	**13 38 04.2**	**+4.9**
QIZ				S	**S**	**13 42 05.2**	**-0.7**
QIZ	comp=Z,220nm,2.7s			pmax	pmax		
QIZ	comp=N,440nm,17.5s			LR	LR		
QIZ	comp=E,340nm,15.1s			LR	LR		
QIZ	comp=Z,250nm,19.9s			LR	LR		
WB0	**Warramunga Arr**	**24.11**	**166**	P	**P**	**13 37 52.5**	**-1.3**
WB0	comp=Z,16nm,0.9s			IAmb	IAmb	13 38 21.2	
WRA	**Warramunga Arr** comp=Z,5.0nm,0.7s,baz=346,slow=10,SNR=51	**24.27**	**167**	P	**P**	**13 37 53.8**	**-1.5**
WRA	comp=Z,0.4nm,0.7s,baz=342,slow=2.5,SNR=2.0			PcP	**PcP**	**13 41 35.4**	**-0.2**
WRA	comp=Z,0.8nm,0.7s,baz=6.0,slow=3.3,SNR=4.0			ScP	**ScP**	**13 45 12.4**	**-2.1**
WRA	comp=Z,107nm,18.6s,baz=349,slow=40 comp=Z,5.0nm,0.7s			LR	LR	13 48 54.4	
WRA	**Warramunga Arr**	**24.27**	**167**	P	**P**	**13 37 54.0**	**-1.3**
WB2	**Warramunga Arr**	**24.27**	**167**	P	**P**	**13 37 54.2**	**-1.1**
WB2	comp=Z,13nm,0.8s			IAmb	IAmb	13 38 23.9	
KRVT	**Keravat (AS076** comp=Z,234nm,21.9s,baz=68,slow=31	**24.78**	**109**	LR	LR	13 45 45.1	
MBWA	**Marble Bar**	**26.28**	**199**	P	**P**	**13 38 12.6**	**-0.9**
MBWA	comp=Z,17nm,1.1s			IAmb	IAmb	13 38 32.5	
AS31	**Alice Springs**	**27.79**	**169**	P	**P**	**13 38 25.3**	**-1.9**
ASAR	**Alice Springs** comp=Z,1.9nm,0.5s,baz=357,slow=8.1,SNR=58	**27.79**	**169**	P	**P**	**13 38 26.0**	**-1.1**
ASAR	comp=Z,0.8nm,0.6s,baz=357,slow=2.1,SNR=6.4			PcP	**PcP**	**13 41 42.8**	**-0.8**
ASAR	comp=Z,0.4nm,0.7s,baz=330,slow=1.7,SNR=6.2 comp=Z,1.9nm,0.5s			ScP	**ScP**	**13 45 20.3**	**-4.4**
ASAR	**Alice Springs**	**27.79**	**169**	P	**P**	**13 38 25.3**	**-1.9**
CTA	**Charters Tower** comp=Z,55nm,18.9s,baz=280,slow=35	**29.42**	**144**	LR	LR	13 50 04.3	
NJ2	**Nanjing**	**29.55**	**343**	*e*P	**P**	**13 38 43.9**	**+1.3**
NJ2	comp=Z,9.0nm,1.2s			pmax	pmax		
CM31	**Chiang Mai Arr**	**32.44**	**299**	P	**P**	**13 39 09.0**	**+0.7**
CM31	comp=Z,5.7nm,0.8s			IAmb	IAmb	13 39 13.4	
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.7s,baz=110,slow=6.9,SNR=2.3	**32.44**	**299**	P	**P**	**13 39 06.6**	**-1.7**
CMAR	comp=Z,82nm,19.1s,baz=120,slow=37 comp=Z,0.6nm,0.7s			LR	LR	13 52 38.0	
CMAR	**Chiang Mai Arr**	**32.44**	**299**	P	**P**	**13 39 08.9**	**+0.5**
CHTO	**Chiang Mai**	**32.58**	**300**	P	**P**	**13 39 09.4**	**-0.2**
KSRS	**Korea Array** comp=Z,0.9nm,0.6s,baz=174,slow=11,SNR=4.0	**33.49**	**359**	P	**P**	**13 39 18.5**	**+1.2**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.5s,baz=186,slow=11,SNR=1.9 comp=Z,0.9nm,0.5s	**33.77**	**14**	P	**P**	**13 39 20.1**	**+0.4**
HNR	**Honiara** comp=Z,1μm,20.1s,baz=268,slow=35	**33.91**	**113**	LR	LR	13 52 27.0	
FORT	**Forrest**	**34.39**	**181**	P	**P**	**13 39 24.3**	**-0.8**
BBOO	**Buckleboo**	**37.10**	**170**	P	**P**	**13 39 47.4**	**-1.0**
BBOO	comp=Z,11nm,0.8s			IAmb	IAmb	13 39 50.6	
STKA	**Stephens Creek** comp=Z,6.3nm,0.7s,baz=338,slow=10,SNR=14	**37.58**	**162**	P	**P**	**13 39 51.9**	**-0.6**
STKA	comp=Z,63nm,18.7s,baz=4.2,slow=40 comp=Z,6.3nm,0.7s			LR	LR	13 57 45.8	
STKA	**Stephens Creek**	**37.58**	**162**	P	**P**	**13 39 51.8**	**-0.7**
LZH	**Lanzhou**	**39.40**	**328**	‖P	**P**	**13 40 07.9**	**-0.1**
LZH				pP	pwP	13 40 18.9	+2.2
LZH	comp=Z,16nm,1.6s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**39.94**	**340**	*e*P	**P**	**13 40 15.8**	**+3.5**
HHC	comp=Z,11nm,0.9s			pmax	pmax		
HHC	comp=Z,520nm,5.0s			pmax	pmax		
H11S3	**WAKE ISLAND Hy** baz=253,slow=74,SNR=29	**40.02**	**66**	T	T	14 23 19.1	
H11S1	**WAKE ISLAND Hy** baz=253,slow=74,SNR=11	**40.03**	**66**	T	T	14 23 19.6	
H11S2	**WAKE ISLAND Hy** baz=253,slow=74,SNR=23	**40.03**	**66**	T	T	14 23 19.1	
BRDH	**Bariadhala** comp=Z,96nm,18.3s,baz=120,slow=39	**40.37**	**301**	LR	LR	13 58 36.2	
MDJ	**Mudanjiang**	**40.66**	**1**	P	**P**	**13 40 18.8**	**+0.7**
MDJ				pP	pwP	13 40 35.9	+9.3
MDJ				PcS	**PcS**	**13 46 07.9**	**-2.5**
MDJ				S	**S**	**13 46 27.0**	**-1.0**
MDJ				ScS	**ScS**	**13 50 14.9**	**-9.1**
MDJ	comp=Z,10.0nm,2.0s			pmax	pmax		
MDJ	comp=Z,270nm,5.1s			pmax	pmax		
MDJ	comp=N,290nm,5.7s			LR	LR		
MDJ	comp=E,570nm,5.0s			LR	LR		
MDJ	comp=Z,280nm,6.7s			LR	LR		
ASAJ	**Asahikawa** comp=Z,61nm,20.8s,baz=283,slow=35	**42.01**	**15**	LR	LR	13 57 22.8	
LSA	**Lhasa**	**43.79**	**310**	P	**P**	**13 40 43.0**	**-1.4**
GTA	**Gaotai**	**44.00**	**328**	*e*P	P	13 40 56.0	+10
GTA				pP	pwP	13 41 07.5	+13
GTA	comp=Z,4.0nm,1.1s			pmax	pmax		
DZM	**Mont Dzumac** comp=Z,94nm,18.7s,baz=22,slow=35	**45.08**	**126**	LR	LR	13 58 56.8	
KLR	**Kul'dur** comp=Z,0.9nm,0.8s,baz=197,slow=11,SNR=2.1 comp=Z,0.9nm,0.8s	**45.34**	**3**	P	**P**	**13 40 55.5**	**-0.5**
HEH	**HeiHe**	**46.30**	**359**	*e*P	**P**	**13 41 04.9**	**+1.4**
HEH	comp=Z,5.0nm,1.1s			pmax	pmax		
ULN	**Ulaanbaatar**	**47.64**	**340**	P	**P**	**13 41 12.8**	**-1.5**
SONM	**Songino Array** comp=Z,0.8nm,0.7s,baz=157,slow=7.7,SNR=3.7	**47.84**	**340**	P	**P**	**13 41 14.3**	**-1.5**
SONM	comp=Z,57nm,18.1s,baz=106,slow=41 comp=Z,0.8nm,0.7s			LR	LR	14 04 59.7	
SONM	**Songino Array**	**47.84**	**340**	P	**P**	**13 41 14.3**	**-1.5**
MSVF	**Nonsavu** comp=Z,60nm,19.4s,baz=321,slow=34	**53.27**	**115**	LR	LR	14 02 59.0	
WMQ	**Urumqi**	**53.73**	**324**	*e*P	**P**	**13 42 02.0**	**+1.8**
PETK	**Petropavlovsk-** comp=Z,3.0nm,0.9s,baz=186,slow=5.8,SNR=1.8 comp=Z,3.0nm,0.9s	**54.68**	**21**	P	**P**	**13 42 07.5**	**+0.6**
MK31	**Makanchi Array**	**58.56**	**324**	P	**P**	**13 42 32.9**	**-1.7**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.4s,baz=112,slow=7.8,SNR=21	**58.56**	**324**	P	**P**	**13 42 33.1**	**-1.5**
MKAR	comp=Z,94nm,19.1s,baz=129,slow=38 comp=Z,1.1nm,0.4s			LR	LR	14 09 26.4	
MKAR	**Makanchi Array**	**58.56**	**324**	P	**P**	**13 42 32.8**	**-1.8**
MAKZ	**Makanchi**	**58.75**	**324**	P	**P**	**13 42 34.2**	**-1.7**
MAKZ	comp=Z,6.9nm,1.1s			IAmb	IAmb	13 42 43.4	
KSH	**Kashi**	**59.30**	**314**	P	**P**	**13 42 37.4**	**-2.6**
KSH	comp=Z,5.0nm,0.6s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.6s,baz=132,slow=8.6,SNR=2.0 comp=Z,0.6nm,0.6s	**61.37**	**332**	P	**P**	**13 42 51.0**	**-2.8**
BKZ	**Black Stump Fm**	**61.42**	**139**	P	**P**	**13 42 54.0**	**-0.4**
SHEM	**Shemya Is, Ala** comp=Z,11nm,18.1s,baz=192,slow=40	**61.48**	**30**	LR	LR	14 14 11.5	
KURK	**Kurchatov**	**62.68**	**327**	P	**P**	**13 43 00.9**	**-1.7**
TIXI	**Tiksi**	**67.75**	**0**	P	**P**	**13 43 34.6**	**-0.6**
TIXI	comp=Z,2.2nm,0.8s			IAmb	IAmb	13 43 54.4	
BRVK	**Borovoye**	**68.34**	**326**	P	**P**	**13 43 37.5**	**-1.7**
ABKAR	**Akbulak array**	**73.26**	**320**	P	**P**	**13 44 07.2**	**-2.1**
ARU	**Arti**	**75.86**	**327**	P	**P**	**13 44 23.7**	**-0.5**
ARU	comp=Z,4.7nm,0.8s			IAmb	IAmb	13 44 29.8	
N19K	**Bonanza Creek**	**80.33**	**29**	P	**P**	**13 44 50.3**	**+1.2**
N19K	comp=Z,7.7nm,1.2s			IAmb	IAmb	13 45 13.2	
J20K	**Nowinta River**	**81.05**	**26**	P	**P**	**13 44 54.1**	**+1.4**
J20K	comp=Z,5.1nm,1.0s			IAmb	IAmb	13 45 09.3	
RSO	**Redoubt South**	**81.12**	**29**	P	**P**	**13 44 54.8**	**+1.3**
IMAR	**Indian Mountai**	**81.53**	**24**	P	**P**	**13 44 56.4**	**+1.1**
CAST	**Castle Rocks**	**81.84**	**27**	P	**P**	**13 44 57.9**	**+0.9**
CAST				IAmb	IAmb	13 45 12.7	
H21K	**Melozitna Rive**	**81.86**	**24**	P	**P**	**13 44 58.4**	**+1.4**
H21K	comp=Z,6.5nm,1.2s			IAmb	IAmb	13 45 01.2	
SKT	**Skwentna**	**81.91**	**28**	P	**P**	**13 44 57.6**	**+0.3**
SKT	comp=Z,4.4nm,1.2s			IAmb	IAmb	13 45 21.9	
SUA	**Susitna One**	**82.22**	**29**	P	**P**	**13 45 00.5**	**+1.4**
MLY	**Manley**	**82.63**	**25**	P	**P**	**13 45 02.1**	**+1.0**
MLY	comp=Z,6.2nm,1.1s			IAmb	IAmb	13 45 05.1	
RC01	**Rabbit Creek A**	**82.66**	**29**	P	**P**	**13 45 02.1**	**+0.8**
GNI	**Garni** comp=Z,31nm,18.5s,baz=346,slow=39	**82.85**	**310**	LR	LR	14 26 36.5	
COLD	**Coldfoot**	**83.11**	**23**	P	**P**	**13 45 04.3**	**+0.8**
I23K	**Minto, Yukon-K**	**83.23**	**25**	P	**P**	**13 45 05.0**	**+0.9**
I23K	comp=Z,5.4nm,1.1s			IAmb	IAmb	13 45 06.6	
VNDA	**Vanda** comp=Z,1.5nm,0.9s,baz=326,slow=8.5,SNR=2.2	**83.27**	**173**	P	**P**	**13 45 03.3**	**-0.7**
	comp=Z,1.5nm,0.9s						
VNDA	**Vanda**	**83.27**	**173**	P	**P**	**13 45 03.0**	**-1.0**
VNDA	comp=Z,6.1nm,1.4s			IAmb	IAmb	13 45 26.0	
MCK	**McKinley**	**83.28**	**26**	P	**P**	**13 45 05.5**	**+1.1**
ILAR	**Eielson Array** comp=Z,0.6nm,0.9s,baz=255,slow=3.5,SNR=4.0	**84.25**	**25**	P	**P**	**13 45 07.6**	**-1.8**
	comp=Z,0.6nm,0.9s						
L27K	**Beaver Creek,**	**86.45**	**27**	P	**P**	**13 45 21.7**	**+1.2**
L27K	comp=Z,4.7nm,1.2s			IAmb	IAmb	13 45 44.1	
BCAR	**Beaver Creek A**	**86.47**	**27**	P	**P**	**13 45 21.0**	**+0.4**
INK	**Inuvik** comp=Z,0.5nm,0.6s,baz=276,slow=4.6,SNR=1.5	**89.42**	**22**	P	**P**	**13 45 36.9**	**+2.5**
FINES	**FINESS Array B** comp=Z,86nm,19.1s,baz=256,slow=40	**92.64**	**332**	LR	LR	14 34 42.7	
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.8s,baz=298,slow=4.7,SNR=4.1 comp=Z,0.4nm,0.8s	**98.66**	**25**	P	**P**	**13 46 16.0**	**-1.0**

DNK 09 14:08:31.2±1.5, 56°.61N×15°.97E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLEU	**Blekinge**	**0.32**	**196**	*i* P	Pg	14 08 37.4	+0.2
BLEU				P	Pg	14 08 37.4	+0.2
BLEU				*i* S	Sg	14 08 41.9	+0.6
BLEU				S	Sb	14 08 42.0	-3.4
OSKU	**Oskarshamn**	**0.59**	**7**	P	Pg	14 08 42.0	-0.5
OSKU				S	Sg	14 08 50.0	-0.3
VXJU	**Vaexsjoe**	**0.65**	**300**	P	Pg	14 08 43.4	-0.2
BYXU	**Byxelkrok**	**0.89**	**39**	P	Pg	14 08 47.1	-1.2
EKSU	**Eksjoe**	**1.03**	**340**	P	Pg	14 08 50.4	-0.7
VSTU	**Vaestervik**	**1.10**	**16**	P	Pg	14 08 51.3	-1.0
DEL	**Delary**	**1.17**	**264**	*i* P	Pg	14 08 53.0	-0.6
DEL				P	Pb	14 08 53.1	-1.1
DEL				*i* S	Sg	14 09 08.2	-0.5
GNOU	**Gnosjoe**	**1.39**	**300**	P	Pg	14 08 56.9	-1.0
BSD	**Bornholm Skovb**	**1.61**	**202**	*i* P	Pn	14 09 00.4	-0.4
BSD				*i* S	Sn	14 09 20.8	-1.5
BSD	comp=Z,1.0nm,0.1s			IAML		14 09 23.8	
LNKU	**Linkoeping**	**1.64**	**351**	P	Pn	14 09 00.9	-0.4
LUNU	**Lund**	**1.72**	**236**	*i* S	Sn	14 09 23.6	-1.3
BJUU	**Bjuv**	**1.72**	**253**	*i* P	Pn	14 08 59.3	-3.1
BJUU				*i* S	Sn	14 09 25.2	+0.1
BORU	**Boraas**	**2.02**	**302**	*e*S	Sn	14 09 32.5	-0.1
ONAU	**Onsala**	**2.35**	**291**	*e*S	Sn	14 09 40.2	-0.3

BER 09 14:09:07.9±1.1, 61°.25N×10°.49E, h0km±85km, ML1.4, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NC204	**NORSAR Array S**	**0.14**	**77**	*e*P	Pg	14 09 10.2	-0.3
NC204				*e*S	Sg	14 09 12.1	-0.1
NC204	comp=Z,484nm,0.3s			IAML		14 09 13.6	
NBO00	**NORSAR Array S**	**0.26**	**147**	*e*P	Pg	14 09 11.7	-1.1
NBO00				*e*S	Sg	14 09 15.4	-0.7
NBO00	comp=Z,106nm,0.6s			IAML		14 09 18.3	
NC303	**NORSAR Array S**	**0.43**	**92**	*e*P	Pg	14 09 15.5	-0.6
NC303				*e*S	Sg	14 09 21.4	-0.1
NC303	comp=Z,22nm,0.6s			IAML		14 09 25.9	
NB201	**NORSAR Array S**	**0.44**	**116**	*e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.26**	**122**	I	I	15 02 50.0	
	0.1nm,0.8s,baz=309,slow=335,SNR=1.8						
I37NO	**I37NO**	**16.96**	**19**	I	I	16 02 20.0	
	baz=214,slow=329,SNR=1.6						
I48TN	**KESRA INFRASON**	**18.48**	**164**	I	I	16 05 50.0	
	baz=355,slow=292,SNR=0.6						
I43RU	**DUBNA INFRASON**	**9.55**	**68**	I	I	16 16 20.0	
	baz=279,slow=316,SNR=1.0						
I31KZ	**AKTYUBINSK INF**	**33.20**	**73**	I	I	17 37 30.0	
	baz=302,slow=320,SNR=0.5						

*NNC **09** 14:31:04.0±0.3,43.°14N×78.°21E,h0km±3km,mb2.4,*
mpv2.7,Error ellipse: s-maj=3.9km s-min=2.8km az=27.0
*SOME **09** 14:31:12.6,43.°15N×78.°20E,h10km*
*KRNET **09** 14:31:12.5±0.1,43.°09N×78.°27E,h16km,mb2.1*
ISC 09 14:31:09.6±0.9,**43.°17N**±0.°02×**78.°24E**±0.°02,**h7**km±7km,
n54,σ3s12/72,14C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.14**	**90**	P	Pg	14 31 07.5	-5.2
	20nm,0.1s						
ZHN				S	**Sg**	**14 31 10.0**	**-4.8**
	246nm,0.2s						
ZHN	**Zhinishke**	**0.14**	**90**	*e*P	Pg	14 31 07.5	-5.2
	20nm,0.1s						
ZHN				*e*S	**Sg**	**14 31 09.9**	**-4.8**
	225nm,0.3s						
ZHN	**Zhinishke**	**0.14**	**90**	*e*P	**Pg**	**14 31 16.1**	**+3.4**
	62nm,0.1s						
ZHN				*e*S	**Sg**	**14 31 18.6**	**+3.8**
	740nm,0.2s						
SATY	**Saty**	**0.16**	**132**	P	Pg	14 31 07.6	-5.4
	46nm,0.1s						
SATY				S	**Sg**	**14 31 10.3**	**-5.1**
	419nm,0.1s						
SATY	**Saty**	**0.16**	**132**	*e*P	Pg	14 31 07.6	-5.4
	46nm,0.1s						
SATY				*e*S	**Sg**	**14 31 10.2**	**-5.2**
	419nm,0.1s						
SATY	**Saty**	**0.16**	**132**	*e*P	**Pg**	**14 31 16.2**	**+3.2**
	182nm,0.2s						
SATY				*e*S	**Sg**	**14 31 18.8**	**+3.4**
	1µm,0.1s						
KURS	**Kuram**	**0.32**	**351**	P	Pg	14 31 11.0	-5.0
	5.4nm,0.1s						
KURS				S	**Sg**	**14 31 16.0**	**-4.4**
	8.8nm,0.2s						
KURS	**Kuram**	**0.32**	**351**	*e*P	Pg	14 31 11.0	-5.0
	5.4nm,0.1s						
KURS				*e*S	**Sg**	**14 31 15.9**	**-4.4**
	8.8nm,0.2s						
KURS	**Kuram**	**0.32**	**351**	*e*P	**Pb**	**14 31 19.6**	**+1.8**
	20nm,0.1s						
KURS				*e*S	**Sb**	**14 31 24.5**	**+1.3**
	42nm,0.2s						
KPKS	**Kokpek**	**0.44**	**47**	P	Pg	14 31 13.1	-5.1
	9.5nm,0.2s						
KPKS				S	**Sg**	**14 31 19.7**	**-4.3**
	25nm,0.3s						
KPKS	**Kokpek**	**0.44**	**47**	*e*P	Pg	14 31 13.1	-5.1
	9.5nm,0.2s						
KPKS				*e*S	**Sg**	**14 31 19.7**	**-4.3**
	25nm,0.3s						
KPKS	**Kokpek**	**0.44**	**47**	*e*P	**Pb**	**14 31 21.8**	**+2.0**
	41nm,0.1s						
KPKS				*e*S	**Sb**	**14 31 28.2**	**+1.6**
	87nm,0.3s						
ANVS	**Anan'yevo**	**0.57**	**228**	⇑*i*P	**Pb**	**14 31 22.8**	**+0.7**
	baz=36						
ANVS				⇑*i*S	**Sb**	**14 31 30.4**	**0.0**
	baz=36						
UZB	**Uzynbulak**	**0.57**	**92**	P	Pg	14 31 15.2	-5.5
	3.3nm,0.1s						
UZB				S	**Sg**	**14 31 23.2**	**-5.0**
	21nm,0.1s						
UZB	**Uzynbulak**	**0.57**	**92**	*e*P	Pg	14 31 15.2	-5.5
	3.3nm,0.1s						
UZB				*e*S	**Sg**	**14 31 23.2**	**-5.0**
	21nm,0.1s						
UZB	**Uzynbulak**	**0.57**	**92**	*e*P	**Pb**	**14 31 23.6**	**+1.6**
	20nm,0.1s						
UZB				*e*S	**Sb**	**14 31 31.5**	**+1.1**
	0.8nm,0.2s						
PRZ	**Przheval'sk**	**0.69**	**170**	⇑*i*P	**Pg**	**14 31 23.9**	**+0.9**
	baz=71						
PRZ				⇑*i*S	**Sg**	**14 31 32.4**	**+0.3**
	baz=71						
MDOK	**Medeo**	**0.87**	**270**	Pg	Pg	14 31 20.0	-6.4
	2.4nm,0.1s						
MDOK	**Medeo**	**0.87**	**270**	*e*P	Pg	14 31 20.0	-6.4
	2.4nm,0.1s						
MDOK				*e*S	**Sg**	**14 31 31.4**	**-6.4**
	7.2nm,0.2s						
MDOK	**Medeo**	**0.87**	**270**	*e*P	**Pb**	**14 31 28.6**	**+1.4**
	4.8nm,0.3s						
MDOK				*e*S	**Sb**	**14 31 39.9**	**+0.7**
	21nm,0.4s						
SHLS	**Shalkode**	**0.89**	**90**	P	**Pg**	**14 31 26.6**	**-0.2**
	1.0nm,0.1s						
SHLS	**Shalkode**	**0.89**	**90**	*e*P	**Pg**	**14 31 26.9**	**+0.1**
	1.1nm,0.1s						
SHLS				*e*S	**Sn**	**14 31 43.1**	**+1.2**
	4.1nm,0.5s						
SHLS	**Shalkode**	**0.89**	**90**	*e*P	Pn	14 31 35.7	+7.0
	2.6nm,0.1s						
SHLS				*e*S	Sn	14 31 52.1	+10
	14nm,0.4s						
TNSS	**Tian-Shan**	**0.96**	**263**	P	Pg	14 31 21.6	-6.5
	2.2nm,0.2s						
TNSS	**Tian-Shan**	**0.96**	**263**	*e*P	Pg	14 31 21.6	-6.5
	2.2nm,0.2s						
TNSS				*e*S	**Sg**	**14 31 34.0**	**-6.6**
	2.9nm,0.3s						
TNSS	**Tian-Shan**	**0.96**	**263**	*e*P	**Pb**	**14 31 29.9**	**+1.2**
	8.5nm,0.2s						
TNSS				*e*S	**Sb**	**14 31 42.5**	**+0.7**
	10.0nm,0.2s						
CHKK	**Chushkaly**	**1.14**	**307**	*e*P	**Pn**	**14 31 34.0**	**+2.0**
	2.9nm,0.1s						
CHKK				*e*S	**Sn**	**14 31 49.1**	**+1.2**
	13nm,0.2s						
KTBS	**Karatobe**	**1.26**	**296**	P	Pn	14 31 27.4	-6.3
	0.6nm,0.2s						
KTBS	**Karatobe**	**1.26**	**296**	*e*P	Pn	14 31 27.4	-6.3
	0.6nm,0.2s						
KTBS				*e*S	**Sb**	**14 31 44.0**	**-6.2**
	7.6nm,0.2s						
KTBS	**Karatobe**	**1.26**	**296**	*e*P	**Pg**	**14 31 35.9**	**+2.1**
	4.9nm,0.2s						
KTBS				*e*S	**Sn**	**14 31 52.4**	**+1.6**
	13nm,0.5s						
KDJ	**Kajisay**	**1.30**	**217**	⇑*i*P	**Pg**	**14 31 35.7**	**+1.1**
	baz=20						
KDJ				⇑*i*S	**Sn**	**14 31 52.8**	**+0.8**
	baz=20						
MTBS	**Maitube**	**1.33**	**269**	P	Pn	14 31 27.8	-6.8
	1.2nm,0.2s						
MTBS	**Maitube**	**1.33**	**269**	*e*P	Pn	14 31 27.8	-6.8
	1.2nm,0.2s						
MTBS				*e*S	**Sb**	**14 31 44.7**	**-7.4**
	3.3nm,0.2s						
MTBS	**Maitube**	**1.33**	**269**	*e*P	**Pg**	**14 31 36.6**	**+1.5**
	2.4nm,0.3s						
MTBS				*e*S	**Sg**	**14 31 53.9**	**+1.6**
	18nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.47**	**193**	⇑*i*P	**Pg**	**14 31 38.6**	**+0.7**
	baz=95						
TARG				⇑*i*S	**Sg**	**14 31 57.9**	**+0.9**
	baz=95						
KUU	**Kurty**	**1.56**	**298**	P	Pn	14 31 32.8	-5.0
KUU	**Kurty**	**1.56**	**298**	*e*P	Pn	14 31 32.8	-5.0
	1.1nm,0.1s						
KUU				*e*S	**Sn**	**14 31 53.3**	**-5.0**
	5.8nm,0.2s						
KUU	**Kurty**	**1.56**	**298**	*e*P	**Pg**	**14 31 41.5**	**+1.9**
	3.7nm,0.2s						
KUU				*e*S	**Sg**	**14 32 02.2**	**+2.4**
	14nm,0.4s						
KTMS	**Ketmen**	**1.57**	**79**	*e*P	**Pg**	**14 31 41.9**	**+2.2**
	2.2nm,0.2s						
KTMS				*e*S	**Sg**	**14 32 02.7**	**+2.7**
	5.8nm,0.1s						
DJR	**Jarkent**	**1.62**	**43**	P	Pn	14 31 34.3	-4.3
	1.8nm,0.2s						
DJR	**Jarkent**	**1.62**	**43**	*e*P	**Pn**	**14 31 34.9**	**-3.7**
	1.8nm,0.2s						
DJR				*e*S	**Sn**	**14 31 56.9**	**-2.9**
	2.6nm,0.1s						
DJR	**Jarkent**	**1.62**	**43**	*e*P	**Pg**	**14 31 43.2**	**+2.5**
	6.4nm,0.2s						
DJR				*e*S	**Sg**	**14 32 04.8**	**+3.2**
	14nm,0.3s						
KST	**Kastek**	**1.67**	**266**	*e*P	**Pg**	**14 31 43.5**	**+1.8**
	1.8nm,0.3s						
KST				*e*S	**Sg**	**14 32 05.5**	**+2.0**
	9.1nm,0.3s						
ULHL	**Ulahol**	**1.74**	**239**	⇑*i*P	**Pg**	**14 31 44.1**	**+1.1**
	baz=41						
ULHL				⇑*i*S	**Sg**	**14 32 07.1**	**+1.6**
	baz=41						
DGS	**Degeres**	**1.81**	**273**	P	Pn	14 31 36.7	-4.5
	0.8nm,0.3s						
DGS	**Degeres**	**1.81**	**273**	*e*P	Pn	14 31 36.7	-4.5
	0.8nm,0.3s						
DGS				*e*S	**Sn**	**14 32 00.0**	**-4.5**
	4.1nm,0.3s						
DGS	**Degeres**	**1.81**	**273**	*e*P	**Pg**	**14 31 45.5**	**+1.2**
	2.9nm,0.3s						
DGS				*e*S	**Sg**	**14 32 08.9**	**+1.2**
	11nm,0.3s						
BOOM	**Boomskoye usch**	**1.82**	**249**	⇑*i*P	**Pg**	**14 31 46.1**	**+1.5**
	baz=52						
BOOM				⇑*i*S	**Sg**	**14 32 10.6**	**+2.4**
	baz=52						
TDK	**Taldyqorghan**	**1.84**	**4**	*e*P	**Pg**	**14 31 47.5**	**+2.6**
	23nm,0.1s						
TDK				*e*S	**Sg**	**14 32 12.4**	**+3.8**
	41nm,0.3s						
KRBS	**Karabastau**	**1.94**	**287**	P	Pn	14 31 39.2	-3.9
	0.7nm,0.4s						
KRBS	**Karabastau**	**1.94**	**287**	*e*P	Pn	14 31 39.1	-3.9
	0.7nm,0.4s						
KRBS				*e*S	**Sn**	**14 32 04.2**	**-3.6**
	3.2nm,0.2s						
KRBS	**Karabastau**	**1.94**	**287**	*e*P	**Pg**	**14 31 47.7**	**+0.8**
	2.5nm,0.3s						
KRBS				*e*S	**Sg**	**14 32 13.1**	**+1.0**
	13nm,0.3s						
TKM2	**Tokmak 2**	**1.95**	**264**	⇑*i*P	**Pg**	**14 31 48.3**	**+1.2**
	baz=66						
TKM2				⇑*i*S	**Sg**	**14 32 14.4**	**+2.0**
	baz=66						
NRN	**Naryn**	**2.40**	**225**	⇓*i*P	**Pb**	**14 31 54.3**	**+0.9**
	baz=26						
NRN				⇓*i*S	**Sb**	**14 32 24.4**	**+1.1**
	baz=26						

*KRNET **09** 14:32:55.9±0.1,43.°17N×78.°01E,h35km,mb1.9*
*NNC **09** 14:33:13.1±0.4,43.°14N×78.°20E,h1km±2km,mpv2.9,*
Error ellipse: s-maj=2.1km s-min=0.9km az=62.0
*SOME **09** 14:33:13.1,43.°12N×78.°22E,h10km*
ISC 09 14:33:00.0±1.0,**42.°99N**±0.°06×**77.°83E**±0.°05,**h10**km,**n12,**
σ2s43/16,8C,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.24**	**209**	⇑*i*P	**Pb**	**14 33 06.4**	**+1.4**
	baz=13						
ANVS				⇑*i*S	**Sb**	**14 33 14.2**	**+5.8**
	baz=13						
SATY	**Saty**	**0.43**	**81**	P	Pn	14 33 16.7	+4.3
	36nm,0.1s						
SATY				S	**Sb**	**14 33 19.4**	**+3.0**
	208nm,0.1s						
SATY	**Saty**	**0.43**	**81**	*e*P	Pn	14 33 16.7	+4.3
	36nm,0.1s						
SATY				*e*S	**Sb**	**14 33 19.4**	**+3.0**
	208nm,0.1s						
ZHN	**Zhinishke**	**0.48**	**68**	*e*P	Pn	14 33 16.6	+3.5
	12nm,0.0s						
ZHN				*e*S	**Sb**	**14 33 19.0**	**+1.2**
	164nm,0.5s						
KURS	**Kuram**	**0.55**	**27**	P	Pn	14 33 20.2	+6.1
	3.6nm,0.1s						
KURS				S	**Sn**	**14 33 25.1**	**+1.7**
	5.9nm,0.2s						
KURS	**Kuram**	**0.55**	**27**	*e*P	Pn	14 33 20.2	+6.1
	3.6nm,0.1s						
KURS				*e*S	**Sn**	**14 33 25.1**	**+1.7**
	5.9nm,0.2s						
PRZ	**Przheval'sk**	**0.66**	**140**	⇑*i*P	**Pg**	**14 33 10.6**	**-2.3**
	baz=56						
PRZ				⇑*i*S	**Sg**	**14 33 20.9**	**-0.7**
	baz=56						
KPKS	**Kokpek**	**0.79**	**53**	P	Pn	14 33 22.2	+5.0
	6.3nm,0.2s						
KPKS				S	**Sn**	**14 33 28.8**	**-0.3**
	12nm,0.3s						
KPKS	**Kokpek**	**0.79**	**53**	*e*P	Pn	14 33 22.1	+4.8
	6.3nm,0.2s						
KPKS				*e*S	**Sn**	**14 33 28.4**	**-0.7**
	12nm,0.3s						
UZB	**Uzynbulak**	**0.89**	**80**	*e*P	Pn	14 33 24.3	+5.6
	4.5nm,0.1s						
UZB				*e*S	**Sn**	**14 33 32.2**	**+0.5**
	8.9nm,0.1s						
KDJ	**Kajisay**	**0.99**	**209**	⇑*i*P	**Pg**	**14 33 18.1**	**-0.9**
	baz=10.0						
KDJ				⇑*i*S	**Sn**	**14 33 34.0**	**-0.2**
	baz=10.0						
BOOM	**Boomskoye usch**	**1.48**	**251**	⇑*i*P	**Pn**	**14 33 24.1**	**-2.8**
	baz=47						
BOOM				⇑*i*S	**Sn**	**14 33 45.0**	**-1.3**
	baz=47						

*IDC **09** 15:26:07.9±1.3,7.°04N×125.°50E,h0km,mb3.4/4,*
mbtmp3.4/4,Error ellipse: s-maj=76.5km s-min=25.2km
az=74.0
*MAN **09** 15:26:36.0,6.°32N×125.°59E,h251km,mb4.3,ML3.1,*
MS2.8
ISC 09 15:26:35.6±1.1,**6.°6N**±0.°2×**125.°9E**±0.°3,**h250**km,**n7,**
σ2s79/7,mb3.0/4,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.87**	**297**	‖*e*P	**Pn**	**15 27 10.0**	**0.0**
GSPH	**General Santos**	**1.05**	**241**	‖*i*P	**Pn**	**15 27 10.6**	**-0.5**
TGY	**Tagaytay City**	**8.89**	**327**	‖*e*P	**S**	**15 30 24.2**	**+3.3**
WRA	**Warramunga Arr**	**27.67**	**163**	P	**P**	**15 32 03.3**	**+2.5**
	1.0nm,0.9s,baz=333,slow=11,SNR=2.1						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**31.10**	**166**	P	**P**	**15 32 32.1**	**+1.1**
	0.2nm,0.5s,baz=343,slow=6.7,SNR=10						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**54.72**	**325**	P	**P**	**15 35 35.8**	**-3.6**
	0.2nm,0.4s,baz=119,slow=7.6,SNR=4.6						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**82.89**	**26**	P	**P**	**15 38 32.2**	**+0.1**
	0.2nm,0.5s,baz=256,slow=4.5,SNR=6.9						
	0.2nm,0.5s						

MAN 09 15:29:40.3,15.°35N×120.°11E,h24km,mb4.1,ML2.9,
MS2.5,Luzon

*REN **09** 15:58:17.2±1.2,38.°39N±0.°01×118.°90W±0.°02,h9km±4km,*
ML2.9/15,ML2.8/42(NEIC),Error ellipse: s-maj=1.9km
s-min=1.6km az=62.0
NEIC 09 15:58:17.4±1.0,**38.°396N**±0.°010×**118.°89W**±0.°02,
h14km±4km,**Error ellipse: s-maj=2.1km s-min=0.9km**
az=125.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.11**	**57**		Pg	15 58 20.9	-0.3
TVH1					Sg	15 58 23.2	-0.4
LHV	**Little Huntoon**	**0.33**	**115**		Pg	15 58 24.6	+0.4
LHV					Sb	15 58 29.7	-0.7
LHV	**Little Huntoon**	**0.33**	**115**	IAML		15 58 29.9	
	comp=N,5µm,0.4s						
LHV				IAML		15 58 30.0	
	comp=E,3µm,0.2s						
RYN	**Ryan**	**0.37**	**51**		Pg	15 58 25.2	+0.2
RYN					Sg	15 58 30.7	+0.6
RYN	**Ryan**	**0.37**	**51**	IAML		15 58 30.9	
	comp=E,3µm,0.3s						
RYN				IAML		15 58 30.9	
	comp=N,2µm,0.3s						
WAKR	**Walker**	**0.45**	**284**		Pg	15 58 26.4	0.0
WAKR					Sg	15 58 32.6	+0.2
WAKR	**Walker**	**0.45**	**284**	IAML		15 58 33.0	
	comp=N,680nm,0.6s						
WAKR				IAML		15 58 33.5	
	comp=E,570nm,0.4s						
YERR	**Yerington**	**0.65**	**335**		Pg	15 58 30.2	0.0
YERR					Sb	15 58 39.5	-0.3
YERR	**Yerington**	**0.65**	**335**	IAML		15 58 39.8	
	comp=E,506nm,0.3s						
YERR				IAML		15 58 40.2	
	comp=N,418nm,0.5s						
BENR	**Benton**	**0.72**	**160**		Pg	15 58 31.2	-0.3
MDYM	**Dry Creek**	**0.74**	**188**		Pg	15 58 31.8	-0.1
MDYM					Sb	15 58 42.5	0.0
MCBM	**Casa Benchmark**	**0.75**	**181**		Pg	15 58 31.9	-0.2
MCBM					Sb	15 58 42.4	-0.2
MLAC	**Mammoth, Mammo**	**0.77**	**177**		Pg	15 58 32.4	0.0
MLAC					Sb	15 58 43.2	+0.2
MDPB	**Devils Postpil**	**0.78**	**191**		Pg	15 58 32.1	-0.5
MDPB	**Devils Postpil**	**0.78**	**191**		Sb	15 58 43.1	-0.3
MDPB	**Devils Postpil**	**0.78**	**191**	IAML		15 58 42.9	
	comp=E,224nm,0.6s						
MDPB	**Devils Postpil**	**0.78**	**191**	IAML		15 58 43.2	
	comp=N,163nm,0.5s						
OMMB	**Old Mammoth Mi**	**0.79**	**187**		Pg	15 58 32.3	-0.5
OMMB					Sg	15 58 43.1	-0.1
KVN	**Kaiserville**	**0.90**	**43**		Pg	15 58 34.6	-0.3
KVN					Sb	15 58 47.0	+0.1
KVN	**Kaiserville**	**0.90**	**43**	IAML		15 58 50.3	
	comp=E,564nm,0.4s						
KVN				IAML		15 58 51.0	
	comp=N,428nm,0.5s						
VCNR	**Virginia City**	**1.08**	**327**		Pb	15 58 37.8	-0.2
VCNR					Sg	15 58 52.8	+0.4
VCNR	**Virginia City**	**1.08**	**327**	IAML		15 58 54.2	
	comp=E,347nm,0.5s						
CMB	**Columbia Colle**	**1.23**	**253**		Pn	15 58 40.3	-0.1
CMB	**Columbia Colle**	**1.23**	**253**	IAML		15 58 56.6	
	comp=E,173nm,0.2s						
CMB				IAML		15 58 57.0	
	comp=N,152nm,0.2s						
DSP	**Deep Springs**	**1.25**	**144**		Pb	15 58 41.2	+0.3
TPH	**Tonopah**	**1.35**	**103**		Pn	15 58 42.3	+0.2
MZP	**Montezuma Peak**	**1.38**	**120**		Pn	15 58 42.1	-0.4
Q09A	**Carvers**	**1.41**	**71**		Pn	15 58 43.0	+0.1
Q09A				IAML		15 59 12.3	
	comp=E,292nm,0.5s						
LCH	**Last Change Ra**	**1.52**	**139**		Pn	15 58 44.3	-0.1
LCH				IAML		15 59 09.2	
	comp=E,84nm,0.3s						
AFDM	**Forest Hills D**	**1.72**	**289**		Pn	15 58 47.6	+0.5
GRAC	**Grapevine Rang**	**1.85**	**139**		Pn	15 58 49.0	+0.2
GRAC				IAML		15 59 21.1	
	comp=N,77nm,0.5s						
GRAC				IAML		15 59 23.0	
	comp=E,86nm,0.7s						
BEKR	**Beckworth**	**1.86**	**323**		Pn	15 58 48.7	-0.4
ORV	**Oroville**	**2.34**	**300**	Pn	Pn	15 58 55.5	0.0
ORV				IAML		15 59 31.4	
	comp=E,44nm,0.6s						
ORV				IAML		15 59 31.4	
	comp=N,46nm,0.5s						
BMN	**Battle Mountai**	**2.41**	**32**		Pn	15 58 56.2	-0.4
TPNV	**Topopah Spring**	**2.54**	**124**	Pn	Pn	15 58 58.2	-0.3
TPNV				IAML		15 59 46.0	
	comp=N,62nm,0.9s						
TPNV				IAML		15 59 46.9	
	comp=N,48nm,1.2s						
S11A	**Rachel**	**2.59**	**106**	Pn	Pn	15 58 59.3	+0.2
R11A	**Troy Canyon, C**	**2.60**	**90**		Pn	15 58 59.0	-0.3
R11A	**Troy Canyon, C**	**2.60**	**90**	IAML		15 59 43.7	
	comp=N,26nm,0.9s						
GDXM	**Geysers**	**3.09**	**279**	Pn	Pn	15 59 05.2	-0.7
MCCM	**Marconi Confer**	**3.15**	**267**	Pn	Pn	15 59 05.8	-0.8
PRN	**Pahroc Range**	**3.19**	**107**		Pn	15 59 07.8	+0.4
Q12A	**Willow Creek R**	**3.24**	**77**		Pn	15 59 08.7	+0.7
SHPR	**Sheep Range**	**3.52**	**121**	Pn	Pn	15 59 11.4	-0.5
SPR3	**Spring Creek 3**	**3.62**	**79**	Pn	Pn	15 59 13.3	0.0
CCUT	**Cedar City**	**4.45**	**99**	Pn	Pn	15 59 25.3	+0.6
BGU	**Big Grassy Mou**	**5.18**	**59**	Pn	Pn	15 59 34.0	-0.7

*NNC **09** 16:01:01.4±0.3,44.°22N×79.°07E,h0km,mb2.8,mpv2.7,*
Error ellipse: s-maj=4.7km s-min=1.3km az=130.0
*SOME **09** 16:01:03.5,44.°15N×79.°05E,h10km*
ISC 09 16:01:02.2±1.2,**44.°19N**±0.°03×**79.°07E**±0.°03,**h4**km±11km,
n37,σ0s57/62,4C,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.54**	**75**	P	**Pb**	**16 01 13.9**	**-0.3**
	7.6nm,0.1s						
DJR				S	**Sg**	**16 01 21.3**	**+1.9**
	20nm,0.2s						
DJR	**Jarkent**	**0.54**	**75**	*e*P	**Pb**	**16 01 13.9**	**-0.3**
	7.6nm,0.1s						
DJR				*e*S	**Sg**	**16 01 21.3**	**+1.9**
	20nm,0.1s						
KPKS	**Kokpek**	**0.78**	**201**	P	**Pg**	**16 01 17.5**	**+0.4**
	6.2nm,0.1s						
KPKS				S	**Sg**	**16 01 27.4**	**+0.2**
	36nm,0.2s						
KPKS	**Kokpek**	**0.78**	**201**	*e*P	**Pg**	**16 01 17.5**	**+0.4**
	6.9nm,0.1s						
KPKS				*e*S	**Sg**	**16 01 27.6**	**+0.4**
	36nm,0.3s						
ARXS	**Arharly**	**0.89**	**272**	*e*P	**Pb**	**16 01 20.2**	**-0.2**
ARXS				*e*S	**Sb**	**16 01 32.1**	**-0.6**
TDK	**Taldyqorghan**	**0.94**	**330**	*e*P	**Pb**	**16 01 21.2**	**+0.2**
	12nm,0.2s						
TDK				*e*S	**Sb**	**16 01 33.9**	**0.0**
	20nm,0.3s						
KURS	**Kuram**	**0.96**	**223**	P	**Pb**	**16 01 21.2**	**-0.2**
	0.9nm,0.1s						
KURS				S	**Sb**	**16 01 33.7**	**-0.9**
	6.2nm,0.2s						
KURS	**Kuram**	**0.96**	**223**	*e*P	**Pb**	**16 01 21.2**	**-0.2**
	0.9nm,0.1s						
KURS				*e*S	**Sb**	**16 01 33.7**	**-0.9**
	6.2nm,0.2s						
UZB	**Uzynbulak**	**1.05**	**182**	P	**Pg**	**16 01 22.2**	**0.0**
	2.8nm,0.1s						
UZB				S	**Sg**	**16 01 35.4**	**-0.4**
	6.3nm,0.2s						
UZB	**Uzynbulak**	**1.05**	**182**	*e*P	**Pg**	**16 01 22.2**	**0.0**
	2.8nm,0.1s						
UZB				*e*S	**Sg**	**16 01 35.4**	**-0.4**
	6.3nm,0.2s						
SHLS	**Shalkode**	**1.07**	**165**	P	**Pn**	**16 01 24.8**	**+0.6**
	5.0nm,0.2s						
SHLS				S	**Sn**	**16 01 39.9**	**+0.2**
	8.8nm,0.1s						
SHLS	**Shalkode**	**1.07**	**165**	*e*P	**Pn**	**16 01 24.8**	**+0.6**
	5.0nm,0.2s						
SHLS				*e*S	**Sn**	**16 01 39.9**	**+0.2**
	8.8nm,0.1s						
ZHN	**Zhinishke**	**1.12**	**204**	P	**Pg**	**16 01 23.6**	**-0.1**
	1.5nm,0.1s						
ZHN				S	**Sg**	**16 01 37.8**	**-0.4**
	29nm,0.3s						
ZHN	**Zhinishke**	**1.12**	**204**	*e*P	**Pg**	**16 01 23.6**	**-0.1**
	1.5nm,0.1s						
ZHN				*e*S	**Sg**	**16 01 37.8**	**-0.4**
	29nm,0.3s						
KTMS	**Ketmen**	**1.19**	**128**	P	**Pg**	**16 01 24.9**	**-0.1**
	5.0nm,0.2s						
KTMS				S	**Sg**	**16 01 39.9**	**-0

CHKK	**Chushkaly**	**1.54**	**258**	*e*P	**Pb**	**16 01 31.1**	**-0.2**
	5.6nm,0.3s						
CHKK				*e*S	**Sb**	**16 01 50.9**	**-0.3**
	16nm,0.3s						
KTBS	**Karatobe**	**1.79**	**255**	P	**Pb**	**16 01 35.2**	**-0.4**
	3.2nm,0.3s						
KTBS				S	**Sb**	**16 01 58.1**	**-0.3**
	31nm,0.7s						
KTBS	**Karatobe**	**1.79**	**255**	*e*P	**Pb**	**16 01 35.2**	**-0.4**
	3.2nm,0.3s						
KTBS				*e*S	**Sb**	**16 01 58.1**	**-0.3**
	31nm,0.7s						
MDOK	**Medeo**	**1.79**	**236**	Pg	**Pb**	**16 01 36.0**	**+0.3**
	1.0nm,0.2s						
MDOK				Lg	Lg	16 01 59.0	
	7.1nm,0.4s						
MDOK	**Medeo**	**1.79**	**236**	*e*P	**Pb**	**16 01 36.0**	**+0.3**
	1.0nm,0.2s						
MDOK				*e*S	**Sg**	**16 01 59.0**	**-0.7**
	7.1nm,0.4s						
TNSS	**Tian-Shan**	**1.93**	**234**	P	**Pb**	**16 01 38.0**	**-0.2**
	1.4nm,0.4s						
TNSS				S	**Sb**	**16 02 03.0**	**+0.2**
	1.9nm,0.6s						
TNSS	**Tian-Shan**	**1.93**	**234**	*e*P	**Pb**	**16 01 38.0**	**-0.2**
	1.4nm,0.4s						
TNSS				*e*S	**Sb**	**16 02 03.0**	**+0.2**
	1.9nm,0.6s						
KUU	**Kurty**	**1.99**	**262**	Pg	**Pb**	**16 01 38.8**	**-0.2**
	1.9nm,0.3s						
KUU				Lg	Lg	16 02 04.2	
	16nm,0.4s						
KUU	**Kurty**	**1.99**	**262**	*e*P	**Pb**	**16 01 38.8**	**-0.2**
	1.9nm,0.3s						
KUU				*e*S	**Sb**	**16 02 04.2**	**0.0**
	16nm,0.4s						
MTBS	**Maitube**	**2.19**	**242**	Pg	**Pb**	**16 01 41.6**	**-0.8**
	4.0nm,0.4s						
MTBS				Lg	Lg	16 02 09.0	
	18nm,0.3s						
MTBS	**Maitube**	**2.19**	**242**	*e*Pg	**Pb**	**16 01 42.4**	**-0.1**
	7.4nm,0.7s						
MTBS				*e*Lg	Lg	16 02 10.4	
	18nm,0.2s						
KRBS	**Karabastau**	**2.50**	**260**	Pg	**Pb**	**16 01 48.2**	**+0.5**
	0.6nm,0.4s						
KRBS				Lg	Lg	16 02 20.0	
	5.3nm,0.2s						
KRBS	**Karabastau**	**2.50**	**260**	*e*Pg	**Pb**	**16 01 48.2**	**+0.5**
	0.6nm,0.4s						
KRBS				*e*Lg	Lg	16 02 20.0	
	5.3nm,0.2s						
KST	**Kastek**	**2.53**	**244**	Pg	**Pb**	**16 01 49.0**	**+0.8**
	1.5nm,0.8s						
KST				Lg	Lg	16 02 21.4	
	5.7nm,0.7s						
KST	**Kastek**	**2.53**	**244**	*e*Pg	**Pb**	**16 01 49.0**	**+0.8**
	1.5nm,0.8s						
KST				*e*Lg	Lg	16 02 21.4	
	5.7nm,0.7s						
SGDS	**Sogindy**	**3.30**	**259**	Lg	Lg	16 02 43.3	
	1.0nm,0.2s						
MAKZ	**Makanchi**	**3.32**	**37**	⇑Pn	**Pg**	**16 02 04.8**	**-0.9**
	0.1nm,0.2s						
MAKZ				⇑Lg	Lg	16 02 46.3	
	0.4nm,0.3s						
MK31	**Makanchi Array**	**3.45**	**40**	⇑Pn	**Pb**	**16 02 02.3**	**-1.5**
	0.1nm,0.3s						
MK31				⇑Lg	Lg	16 02 46.5	
	0.4nm,0.3s						

*DRS **09** 16:01:20.9±0.0, 40°78N×49°68E, h22km*
MOS 09 16:01:18.4±0.0, 40°95N×49°21E, h2km, MPVA3.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**1.05**	**309**	*e*Pg	Pn	16 01 42.6	+2.4
	2.0nm,0.2s						
KSMR				*e*Sg	Sn	16 01 59.4	+4.0
	18nm,0.5s						
AKT	**Akhty**	**1.24**	**296**	*e*Pg	Pn	16 01 45.0	+2.2
	94nm,0.2s						
AKT				*e*Sg	Sn	16 02 04.2	+4.1
	145nm,0.5s						
DRN	**Derbent**	**1.27**	**329**	*e*Pg	Pn	16 01 45.2	+2.2
	57nm,0.3s						
DRN				*e*Sg	Sn	16 02 04.0	+3.3
	363nm,0.3s						
URKR	**Urkarakh**	**1.70**	**316**	*e*Pg	Pg	16 01 52.1	+1.1
	46nm,0.4s						
URKR				*e*Sg	Sg	16 02 17.0	+4.0
	98nm,0.4s						
KMKR	**Kumukh**	**1.98**	**307**	*e*Pn	Pg	16 01 56.6	+0.2
	6.0nm,0.0s						
KMKR				*e*Sn	Sg	16 02 24.9	+3.0
	41nm,0.5s						
GNBR	**Gunib**	**2.22**	**311**	*e*Pn	Pb	16 01 59.6	+0.5
	18nm,0.5s						
GNBR				*e*Sn	Sg	16 02 30.3	+0.7
	28nm,0.6s						
ARKR	**Arakani**	**2.34**	**316**	*e*Pn	Pb	16 02 02.1	+0.7
	1.0nm,0.7s						
ARKR				*e*Sn	Sg	16 02 34.3	+0.6
	25nm,0.6s						
MAK	**Makhachkala**	**2.38**	**328**	*e*Pn	Pg	16 02 04.4	+0.3
MAK				*e*Sn	Sg	16 02 34.5	-0.4
BUJR	**Buynaksk**	**2.45**	**321**	*e*Pn	Pg	16 02 05.0	-0.3
BUJR				*e*Sn	Sg	16 02 36.1	-0.9
XNZR	**Khunzakh**	**2.46**	**311**	*e*Pn	Pb	16 02 03.9	+0.5
	17nm,0.5s						
XNZR				*e*Sn	Sg	16 02 37.4	-0.1
	25nm,0.6s						
UNCR	**Uncukul**	**2.53**	**315**	*e*Pn	Pb	16 02 04.9	+0.5
UNCR				*e*Sn	Sg	16 02 39.5	0.0
KRNR	**Karanay**	**2.55**	**318**	*e*Pn	Pb	16 02 04.9	+0.1
KRNR				*e*Sn	Sg	16 02 38.5	-1.8
KANR	**Karaman**	**2.59**	**331**	*e*Pn	Pb	16 02 05.2	-0.3
KANR				*e*Sn	Sb	16 02 38.9	+1.2
DBC	**Dubki**	**2.73**	**320**	*e*Pn	Pb	16 02 07.2	-0.7
DBC				*e*Sn	Sg	16 02 44.1	-1.9
BTLR	**Botlikh**	**2.82**	**309**	*e*Pn	Pg	16 02 15.1	+2.7
BTLR				*e*Sn	Sg	16 02 51.1	+2.2
DLMR	**Dylym**	**2.86**	**319**	*e*Pn	Pb	16 02 10.0	-0.2
DLMR				*e*Sn	Sb	16 02 45.3	-0.4
DVE	**Vedeno**	**3.06**	**312**	*e*Pn	Pb	16 02 13.8	+0.3
DVE				*e*Sn	Sb	16 02 49.9	-1.3
LACR	**Lac**	**4.12**	**299**	*e*Pn	Pg	16 02 35.0	-2.4
LACR				*e*Sn	Sg	16 03 28.1	-2.7
ZEI	**Tsey**	**4.37**	**297**	*e*Pn	Pb	16 02 32.6	-3.4
ZEI				*e*Sn	Sb	16 03 31.2	+2.0
KBZ	**Khabaz**	**5.44**	**303**	*e*Pn	Pn	16 02 43.2	+2.8
KBZ				*e*Sn	Sb	16 03 52.8	-7.0
SHA1	**Shidzhatmaz**	**5.60**	**302**	*e*Pn	Pn	16 02 44.8	+2.0
SHA1				*e*Sn	Sn	16 03 55.9	+8.0

IDC 09 16:25:36.3±1.9, 0°92S×124°35E, h0km, mb2.9/3, mbtmp3.0/3, Error ellipse: s-maj=179.7km s-min=28.7km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.29**	**153**	P	P	16 30 25.2	+0.6
	0.7nm,1.0s,baz=328,slow=12,SNR=4.7 0.7nm,1.0s						
ASAR	**Alice Springs**	**24.44**	**158**	P	P	16 30 56.6	-0.4
	0.1nm,0.5s,baz=343,slow=7.7,SNR=6.7 0.1nm,0.5s						
MKAR	**Makanchi Array**	**60.10**	**328**	P	P	16 35 45.4	-0.1
	0.1nm,0.5s,baz=148,slow=6.3,SNR=1.8 0.1nm,0.5s						

*IDC **09** 17:06:25.3±1.1, 10°28S×161°15E, h0km, mb3.9/8, mbtmp3.9/10, ML3.4/2, MS3.3/11, Error ellipse: s-maj=28.2km s-min=21.7km az=117.0*
*NEIC **09** 17:06:30.9±1.6, 10°2S±0°1×161°0E±0°1, h28km±2km, mb4.4/18, Error ellipse: s-maj=17.9km s-min=11.2km az=223.0*
ISC 09 17:06:27.7±0.7, 10°25S±0°09×161°02E±0°10, h10km, n47, σ0°86/33, mb4.3/16, MS3.2/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.33**	**307**	Pn	**Pn**	**17 06 52.9**	**+0.5**
	10μm,0.3s,baz=185,slow=8.3,SNR=167						
HNR				Sn	**Sb**	**17 07 11.1**	**+1.1**
	7μm,0.3s,baz=104,slow=7.2,SNR=6.0						
HNR	**Honiara**	**1.33**	**307**	Pn	**Pn**	**17 06 52.6**	**+0.3**
LIFNC	**LIFOU**	**12.06**	**151**	Pn	**Pn**	**17 09 21.0**	**+1.2**
DZM	**Mont Dzumac**	**12.86**	**157**	Pn	**Pn**	**17 09 30.0**	**-0.7**
	0.1nm,0.3s,baz=302,slow=9.5,SNR=1.8						
DZM				Sn	Sn	17 11 48.2	-5.8
	0.1nm,0.3s,baz=64,slow=16,SNR=1.7						
DZM				LR	LR	17 13 31.0	
	comp=Z,129nm,19.4s,baz=26,slow=33 5.8nm,1.0s						
MARNC	**Mare, Loyalty**	**13.04**	**150**	Pn	**Pn**	**17 09 34.8**	**+1.6**
PMG	**Port Moresby**	**13.69**	**272**	LR	LR	17 14 38.9	
	comp=Z,249nm,19.8s,baz=98,slow=36						
CTA	**Charters Tower**	**17.28**	**234**	P	**Pn**	**17 10 29.5**	**+0.3**
	0.1nm,0.3s,baz=64,slow=11,SNR=2.0						
CTA				LR	LR	17 16 43.5	
	comp=Z,67nm,18.1s,baz=50,slow=36 4.4nm,0.9s						
CTAO	**Charters Tower**	**17.28**	**234**	Pn	**Pn**	**17 10 28.5**	**-0.7**
CTAO				IAmb	IAmb	17 10 48.4	
	comp=Z,24nm,1.4s						
COEN	**Coen**	**17.84**	**256**	P	**Pn**	**17 10 36.6**	**+0.4**
MSVF	**Nonsavu**	**18.11**	**116**	LR	LR	17 17 25.5	
	comp=Z,70nm,19.2s,baz=305,slow=37						
WR0	**Warramunga Arr**	**27.29**	**246**	P	**P**	**17 12 12.2**	**-0.5**
WR0				IAmb	IAmb	17 12 36.0	
	comp=Z,9.4nm,1.4s						
WB0	**Warramunga Arr**	**27.37**	**247**	P	**P**	**17 12 12.0**	**-1.4**
WB0				IAmb	IAmb	17 12 20.6	
	comp=Z,5.9nm,0.8s						
WB2	**Warramunga Arr**	**27.46**	**246**	P	**P**	**17 12 13.9**	**-0.3**
WB2				IAmb	IAmb	17 12 20.9	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**27.47**	**246**	P	**P**	**17 12 13.9**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=74,slow=9.6,SNR=16						
WRA				PcP	**PcP**	**17 15 31.9**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=68,slow=3.1,SNR=1.9						
WRA				LR	LR	17 23 35.7	
	comp=Z,60nm,18.7s,baz=190,slow=37 comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**27.47**	**246**		**P**	**17 12 13.9**	**-0.4**
STKA	**Stephens Creek**	**28.05**	**217**	P	**P**	**17 12 19.5**	**+0.2**
	comp=Z,0.7nm,0.2s,baz=360,slow=15,SNR=1.2 comp=Z,0.7nm,0.2s						
STKA	**Stephens Creek**	**28.05**	**217**	P	**P**	**17 12 19.6**	**+0.3**
GUMO	**Guam**	**28.59**	**326**	LR	LR	17 23 11.5	
	comp=Z,64nm,21.2s,baz=118,slow=35						
AS31	**Alice Springs**	**29.10**	**239**	P	P	17 12 26.1	-2.7
H11S2	**WAKE ISLAND Hy**	**29.10**	**11**	T	T	17 41 23.6	
	baz=194,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.10**	**11**	T	T	17 41 19.2	
	baz=194,slow=76,SNR=5.7						
ASAR	**Alice Springs**	**29.10**	**239**	P	**P**	**17 12 28.2**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=66,slow=10,SNR=4.4 comp=Z,0.4nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**29.11**	**11**	T	T	17 41 23.9	
	baz=194,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**30.32**	**11**	T	T	17 42 55.6	
	baz=193,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.33**	**11**	T	T	17 43 08.0	
	baz=193,slow=76,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**30.34**	**11**	T	T	17 42 59.3	
	baz=193,slow=76,SNR=8.5						
URZ	**Urewera**	**31.41**	**155**	LR	LR	17 25 19.6	
	comp=Z,50nm,18.3s,baz=32,slow=36						
BBOO	**Buckleboo**	**32.14**	**222**	P	**P**	**17 12 55.8**	**+0.2**
DAV	**Davao City (W)**	**39.26**	**295**	LR	LR	17 29 23.6	
	comp=Z,26nm,18.8s,baz=302,slow=35						
PPT	**Papeete**	**48.39**	**104**	LR	LR	17 31 03.8	
	comp=Z,34nm,21.5s,baz=239,slow=31						
MAJO	**Matsushiro**	**51.25**	**336**	P	**P**	**17 15 29.9**	**-1.9**
MJB9	**Matsu-Tunnel**	**51.26**	**336**	P	**P**	**17 15 31.0**	**-0.8**
PETK	**Petropavlovsk-**	**63.16**	**358**	LR	LR	17 45 32.1	
	comp=Z,111nm,18.3s,baz=211,slow=37						
CMAR	**Chiang Mai Arr**	**67.55**	**295**	P	**P**	**17 17 24.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=117,slow=5.2,SNR=2.1 comp=Z,0.3nm,0.8s						
SONM	**Songino Array**	**75.33**	**325**	P	**P**	**17 18 12.2**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=143,slow=6.2,SNR=13 comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**75.33**	**325**	P	**P**	**17 18 13.0**	**+1.6**
SONM				IAmb	IAmb	17 18 22.4	
	comp=Z,2.0nm,0.7s						
BRDH	**Bariadhala**	**75.38**	**297**	LR	LR	17 53 12.2	
	comp=Z,63nm,18.6s,baz=256,slow=37						
YAK	**Yakutsk**	**76.08**	**345**	P	**P**	**17 18 14.1**	**-1.1**
BILL	**Bilibino**	**78.17**	**2**	P	**P**	**17 18 26.6**	**-0.2**
BILL				IAmb	IAmb	17 18 37.8	
	comp=Z,8.2nm,0.9s						
SVW2	**Sparrevohn**	**78.87**	**20**	P	**P**	**17 18 31.9**	**+1.0**
SVW2				IAmb	IAmb	17 18 34.3	
	comp=Z,5.5nm,0.8s						
CAST	**Castle Rocks**	**81.67**	**19**	P	**P**	**17 18 45.9**	**-0.1**
CAST				IAmb	IAmb	17 18 48.2	
	comp=Z,3.2nm,0.7s						
MCK	**McKinley**	**82.93**	**20**	P	**P**	**17 18 52.4**	**-0.1**
MCK				IAmb	IAmb	17 19 03.1	
	comp=Z,4.8nm,0.9s						
IMAR	**Indian Mountai**	**82.96**	**17**	P	**P**	**17 18 53.4**	**+0.8**
H21K	**Melozitna Rive**	**83.01**	**18**	P	**P**	**17 18 53.1**	**+0.2**
H21K				IAmb	IAmb	17 19 01.9	
	comp=Z,6.1nm,1.3s						
ILAR	**Eielson Array**	**84.29**	**20**	P	**P**	**17 18 58.8**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=232,slow=5.4,SNR=10 comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**89.78**	**318**	P	**P**	**17 19 26.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=100,slow=5.6,SNR=5.4 comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**96.41**	**28**	P	P	17 19 54.0	-2.7
	comp=Z,0.3nm,0.7s,baz=260,slow=5.1,SNR=6.3 comp=Z,0.3nm,0.7s						

*NIC **09** 17:49:47.9±0.0, 36°08N×31°19E, h49km±15km, Ml2.7/3*
*DDA **09** 17:49:47.8±0.0, 36°28N×31°05E, h33km±1km, ML2.1*
ISC 09 17:49:47.1±1.3, 36°15N±0°04×31°19E±0°03, h27km±14km, n21, σ1°82/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.71**	**284**	P	**Pn**	**17 50 02.4**	**+1.0**
AKUM				S	**Sn**	**17 50 15.3**	**+4.0**
AKUM				*i* AML	AML	17 50 16.0	
	comp=E,198nm,0.4s						
AKUM				*i* AML	AML	17 50 19.0	
	comp=N,189nm,0.3s						
KEPZ	**Antalya-Kepez**	**0.82**	**24**	P	**Pn**	**17 50 03.2**	**+0.3**
KEPZ				S	**Sb**	**17 50 14.7**	**+1.3**
KEPZ				*i* AML	AML	17 50 15.0	
	comp=N,69nm,0.2s						
KEPZ				*i* AML	AML	17 50 15.0	
	comp=E,88nm,0.2s						
KORT	**Korkueli**	**1.09**	**322**	P	**Pn**	**17 50 04.5**	**-2.1**
KORT				*i* AML	AML	17 50 30.0	
	comp=N,44nm,0.4s						
KORT				*i* AML	AML	17 50 32.0	
	comp=E,32nm,0.5s						
ELL	**Elmali**	**1.20**	**300**	P	**Pb**	**17 50 09.1**	**0.0**
AKAS	**Kas**	**1.29**	**274**	P	**Pn**	**17 50 10.0**	**+0.6**
AKAS				S	**Sb**	**17 50 26.3**	**-0.6**
AKAS				*i* AML	AML	17 50 27.0	
	comp=E,70nm,0.4s						
AKAS				*i* AML	AML	17 50 29.0	
	comp=N,130nm,0.3s						
KSL	**Kastellorizon**	**1.30**	**270**	P	**Pn**	**17 50 09.9**	**+0.4**
KSL				S	**Sb**	**17 50 26.7**	**-0.6**
KSL				AML	AML	17 50 28.1	
	0.1nm,0.5s						
KSL				AML	AML	17 50 28.1	
	0.1nm,0.5s						
KSL				AML	AML	17 50 31.6	
	0.1nm,0.4s						
KSL				AML	AML	17 50 31.6	
	0.1nm,0.4s						
SEDI	**Konya, Seydise**	**1.37**	**19**	P	**Pb**	**17 50 12.1**	**-0.1**
SEDI				S	**Sb**	**17 50 29.8**	**+0.4**
SEDI				*i* AML	AML	17 50 30.0	
	comp=E,53nm,0.5s						
SEDI				*i* AML	AML	17 50 31.0	
	comp=N,46nm,0.7s						
AKMS	**Akamas**	**1.47**	**140**	P	**Pn**	**17 50 11.6**	**-0.1**
AKMS				S	**Sn**	**17 50 30.1**	**+0.1**
AKMS				AML	AML	17 50 37.6	
	0.3nm,0.3s						
AKMS				AML	AML	17 50 37.6	
	0.3nm,0.3s						
AKMS				AML	AML	17 50 42.4	
	0.5nm,0.4s						
AKMS				AML	AML	17 50 42.4	
	0.5nm,0.4s						
ALFC	**Alefka**	**1.52**	**131**	P	**Pn**	**17 50 12.2**	**-0.3**
ALFC				S	**Sn**	**17 50 31.3**	**0.0**
ALFC				AML	AML	17 50 39.9	
	0.5nm,0.2s						
ALFC				AML	AML	17 50 39.9	
	0.5nm,0.2s						
ALFC				AML	AML	17 50 42.9	
	0.4nm,0.2s						
ALFC				AML	AML	17 50 42.9	
	0.4nm,0.2s						
GOLH	**Golhisar**	**1.70**	**310**	P	**Pb**	**17 50 18.0**	**+0.3**
GOLH				*i* AML	AML	17 50 45.0	
	comp=N,27nm,0.6s						
GOLH				*i* AML	AML	17 50 51.0	
	comp=E,30nm,0.5s						
KKBE	**Karaman, Kazim**	**1.76**	**52**	P	**Pb**	**17 50 18.6**	**-0.2**
KKBE				S	**Sb**	**17 50 41.9**	**+1.3**
KKBE				*i* AML	AML	17 50 44.0	
	comp=N,40nm,0.7s						
KKBE				*i* AML	AML	17 50 45.0	
	comp=E,65nm,0.4s						
BAGO	**Egridir - ISPA**	**1.86**	**350**	P	**Pb**	**17 50 19.5**	**-1.0**
BAGO				S	**Sn**	**17 50 32.8**	**-7.2**
BAGO				*i* AML	AML	17 50 47.0	
	comp=N,10nm,0.4s						
BAGO				*i* AML	AML	17 50 49.0	
	comp=E,9.4nm,0.3s						
KMER	**Konya-Meram**	**1.87**	**30**	P	**Pn**	**17 50 19.5**	**+2.1**
KMER				S	**Sb**	**17 50 43.7**	**+0.2**
KMER				*i* AML	AML	17 50 44.0	
	comp=E,38nm,1.0s						
KMER				*i* AML	AML	17 50 45.0	
	comp=N,55nm,0.7s						
DOGA	**KONYA_Doganhis**	**1.99**	**11**	P	**Pb**	**17 50 21.4**	**-1.2**
DOGA				S	**Sb**	**17 50 45.6**	**-1.4**
DOGA				*i* AML	AML	17 50 47.0	
	comp=N,80nm,0.4s						
DOGA				*i* AML	AML	17 50 47.0	
	comp=E,43nm,0.6s						
ATHAL	**Athalassa**	**2.06**	**119**	S	**Sn**	**17 50 44.7**	**+0.1**
CSS	**Mathiatis**	**2.11**	**124**	P	**Pn**	**17 50 19.7**	**-0.9**
CSS				S	**Sn**	**17 50 46.1**	**+0.2**
YVAC	**Isparta, Yalva**	**2.12**	**1**	P	**Pn**	**17 50 22.4**	**+1.7**
YVAC				S	**Sn**	**17 50 47.9**	**+1.6**
YVAC				*i* AML	AML	17 50 50.0	
	comp=N,9.5nm,0.6s						
YVAC				*i* AML	AML	17 50 54.0	
	comp=E,18nm,0.5s						
ASGA	**Asgata**	**2.16**	**129**	S	**Sn**	**17 50 46.6**	**-0.6**
MVOU	**Mavrovouni**	**2.29**	**119**	P	**Pn**	**17 50 23.0**	**-0.1**
KDHN	**Kadinhani**	**2.48**	**17**	P	**Pn**	**17 50 27.0**	**+1.2**
KDHN				*i* AML	AML	17 50 58.0	
	comp=N,7.8nm,0.4s						
KDHN				*i* AML	AML	17 50 58.0	
	comp=E,8.1nm,0.9s						
ALIN	**Konya, Altinte**	**2.53**	**32**	P	**Pn**	**17 50 28.4**	**+1.9**
ALIN				*i* AML	AML	17 51 00.0	
	comp=N,7.7nm,0.3s						

*NOU **09** 17:55:10.2, 42°55S×173°82E, h0km, MLv3.5/7, South Island, New Zealand*
*WEL **09** 17:55:12.3±0.7, 42°S±5°×17°4E±°, h4km±4km, M3.0/19, ML3.4/9, MLv3.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=130.9, confirmed*
ISC 09 17:55:10.2±1.6, 42°50S±0°04×173°86E±0°04, h2km±15km, n48, σ0°93/53, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**290**	P	**Pg**	**17 55 14.9**	**-0.2**
KHZ	**Kahutara**	**0.26**	**290**	P	**Pg**	**17 55 14.8**	**-0.2**
KHZ				S	**Sg**	**17 55 17.5**	**-0.9**
GVZ	**Greta Valley S**	**0.77**	**233**	P	**Pb**	**17 55 27.3**	**+1.0**
GVZ				S	**Sb**	**17 55 39.2**	**+2.1**
BSWZ	**Blackbirch Sta**	**0.79**	**1**	P	**Pg**	**17 55 26.3**	**+0.9**
BSWZ				S	**Sb**	**17 55 37.0**	**-0.7**
CMWZ	**Cape Campbell**	**0.80**	**19**	P	**Pb**	**17 55 28.4**	**+1.7**
THZ	**Tophouse**	**1.03**	**316**	P	**Pg**	**17 55 29.4**	**-0.5**
THZ				S	**Sb**	**17 55 42.9**	**-1.7**
TUWZ	**Tuamarina**	**1.08**	**3**	P	**Pg**	**17 55 31.6**	**+0.8**
AMCZ	**Amberley**	**1.11**	**233**	P	**Pg**	**17 55 32.5**	**+0.9**
LTZ	**Lake Taylor**	**1.21**	**256**	P	**Pg**	**17 55 33.4**	**+0.1**
LTZ				S	**Sb**	**17 55 49.0**	**-0.8**
TCW	**Tory Channel**	**1.33**	**14**	P	**Pn**	**17 55 34.9**	**-0.8**
NNZ	**Nelson**	**1.34**	**344**	P	**Pg**	**17 55 35.1**	**-0.7**
SNZO	**South Karori**	**1.35**	**28**	P	**Pn**	**17 55 35.4**	**-0.6**
MRNZ	**Matariki Terra**	**1.38**	**323**	P	**Pn**	**17 55 36.1**	**-0.5**
PLWZ	**Palliser**	**1.40**	**48**	P	**Pn**	**17 55 35.9**	**-0.8**
MQZ	**McQueen's Vall**	**1.49**	**216**	P	**Pn**	**17 55 36.8**	**-1.2**
AKCZ	**Akaroa Harbour**	**1.53**	**207**	P	**Pn**	**17 55 38.0**	**-0.6**
OXZ	**Oxford**	**1.57**	**238**	P	**Pn**	**17 55 37.9**	**-1.2**
TKNZ	**Takaka Hill**	**1.62**	**335**	P	**Pn**	**17 55 39.6**	**-0.1**
PAWZ	**Paruwai Farm**	**1.62**	**47**	P	**Pn**	**17 55 38.8**	**-0.9**
CAW	**Cannon Point**	**1.66**	**33**	P	**Pn**	**17 55 39.7**	**-0.6**
DUWZ	**D'Urville Isla**	**1.70**	**2**	P	**Pn**	**17 55 41.0**	**+0.2**
DSZ	**Denniston Nort**	**1.71**	**296**	P	**Pn**	**17 55 41.4**	**+0.4**
TRWZ	**Traveller**	**1.75**	**52**	P	**Pn**	**17 55 41.0**	**-0.5**
RACZ	**Rakaia**	**1.76**	**225**	P	**Pn**	**17 55 40.6**	**-0.9**
INZ	**Inchbonnie**	**1.80**	**262**	P	**Pn**	**17 55 41.7**	**-0.5**
KIW	**Kapiti Island**	**1.82**	**26**	P	**Pn**	**17 55 42.1**	**-0.4**
MTW	**Mount Morrison**	**1.82**	**43**	P	**Pn**	**17 55 41.4**	**-1.0**
OGWZ	**Otaki Gorge**	**1.95**	**31**	P	**Pn**	**17 55 43.6**	**-0.7**
QRZ	**Quartz Range**	**1.95**	**329**	P	**Pn**	**17 55 44.8**	**+0.5**
QRZ	**Quartz Range**	**1.95**	**329**	P	**Pn**	**17 55 44.6**	**+0.3**
MHCZ	**Mount Hutt**	**1.97**	**238**	P	**Pn**	**17 55 43.3**	**-1.3**
HOWZ	**Holdsworth Sta**	**2.03**	**38**	P	**Pn**	**17 55 44.5**	**-0.9**
WACZ	**Wakanui South**	**2.06**	**225**	P	**Pn**	**17 55 45.0**	**-0.8**
MRZ	**Mangatainoka R**	**2.25**	**36**	P	**Pn**	**17 55 47.3**	**-1.0**
WVZ	**Waitaha Valley**	**2.37**	**255**	P	**Pn**	**17 55 49.9**	**-0.2**
RPZ	**Rata Peaks**	**2.38**	**239**	P	**Pn**	**17 55 49.5**	**-0.8**
RPZ	**Rata Peaks**	**2.38**	**239**	P	**Pn

Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	889nm,0.3s,baz=101,slow=11,SNR=4416						
RES	**Resolute Bay**	**0.71**	**300**	Pg	**Pn**	**17 55 50.8**	**+0.3**
RES				Lg	Lg	17 56 00.2	
	5μm,0.3s,baz=31,slow=18,SNR=46						
RES	**Resolute Bay**	**0.71**	**300**		**Pn**	**17 55 50.5**	**+0.1**
RES	**Resolute Bay**	**0.71**	**300**	PG	**Pn**	**17 55 51.1**	**+0.7**
RES				SG	**Sn**	**17 56 00.9**	**-0.6**
RES				Trac		17 56 04.8	
	comp=Z,27μm,0.3s						
RES	**Resolute Bay**	**0.71**	**300**	P	**Pn**	**17 55 50.5**	**+0.1**
EUNU	**Eureka**	**5.90**	**10**	Pn	**Pn**	**17 57 00.3**	**-1.3**
EUNU	**Eureka**	**5.90**	**10**	PN	**Pn**	**17 57 00.4**	**-1.2**
EUNU				SN	**Sn**	**17 58 03.5**	**-5.7**
EUNU				LG	Lg	17 58 38.9	
EUNU				Trac		17 59 02.2	
	comp=Z,9μm,1.7s						
ILON	**Igloolik, Nuna**	**6.01**	**141**	PN	**Pn**	**17 57 03.6**	**+0.5**
ILON				SN	**Sn**	**17 58 05.6**	**-6.2**
ILON				LG	Lg	17 58 41.3	
ILON				Trac		17 59 01.0	
	comp=Z,3μm,0.5s						
TULEG	**Thule**	**6.35**	**59**		**Pn**	**17 57 06.0**	**-1.8**
TULEG	**Thule**	**6.35**	**59**	*i* P	**Pn**	**17 57 06.3**	**-1.4**
TULEG				*i* S	**Sn**	**17 58 11.4**	**-8.8**
TULEG				IAML		17 59 12.8	
	comp=Z,1μm,1.7s						
I18DK	**QAANAAQ INFRAS**	**6.45**	**50**	Pn	**Pn**	**17 57 07.2**	**-2.0**
	baz=256,slow=24						
CB31	**Cambridge Bay**	**6.54**	**223**	PN	**Pn**	**17 57 11.2**	**+0.7**
CB31				SN	**Sn**	**17 58 21.7**	**-3.2**
CB31				LG	Lg	17 59 03.7	
CB31				Trac		17 59 07.3	
	comp=Z,4μm,0.2s						
CLRN	**Clyde River**	**8.19**	**106**	PN	**Pn**	**17 57 32.3**	**-0.6**
CLRN				SN	Sn	17 58 55.6	-10
CLRN				LG	Lg	17 59 47.5	
CLRN				Trac		18 00 00.6	
	comp=Z,3μm,0.9s						
KULLO	**Kullorsuaq**	**9.39**	**72**	*i* P	**Pn**	**17 57 48.4**	**-1.1**
KULLO				*i* S	Sn	17 59 23.5	-11
KULLO				IAML		18 00 12.2	
	comp=Z,324nm,0.8s						
KULLO	**Kullorsuaq**	**9.39**	**72**	PN	**Pn**	**17 57 47.8**	**-1.7**
KULLO				SN	Sn	17 59 25.1	-10
KULLO				Trac		18 00 12.6	
	comp=Z,394nm,0.6s						
A36M	**Sachs Harbour**	**9.68**	**272**	Pn	**Pn**	**17 57 52.8**	**-0.5**
A36M	**Sachs Harbour**	**9.68**	**272**	PN	**Pn**	**17 57 53.5**	**+0.2**
A36M				SN	**Sn**	**17 59 35.8**	**-6.0**
A36M				LG	Lg	18 00 39.9	
A36M				Trac		18 00 57.2	
	comp=Z,2μm,1.0s						
A36M	**Sachs Harbour**	**9.68**	**272**	P	**Pn**	**17 57 53.5**	**+0.2**
	baz=61,SNR=557						
A36M				S	**Sn**	**17 59 34.6**	**-7.3**
	baz=61						
KUKN	**Kugluktuk,NWT**	**9.73**	**239**	PN	**Pn**	**17 57 54.3**	**+0.1**
KUKN				SN	**Sn**	**17 59 38.0**	**-5.4**
KUKN				LG	Lg	18 00 43.1	
KUKN				Trac		18 00 43.4	
	comp=Z,3μm,1.1s						
ALE	**Alert**	**9.97**	**22**	PN	**Pn**	**17 57 54.8**	**-2.5**
ALE				SN	Sn	17 59 37.9	-11
ALE				LG	Lg	18 00 45.2	
ALE				Trac		18 00 48.5	
	comp=Z,3μm,0.8s						
UPNV	**Upernavik**	**10.32**	**81**	*i* P	**Pn**	**17 58 00.9**	**-1.2**
UPNV				*i* S	Sn	17 59 44.0	-14
UPNV				IAML		18 00 12.2	
	comp=Z,168nm,1.0s						
NEEM	**North Greenlan**	**10.39**	**53**	*i* P	**Pn**	**17 58 00.2**	**-3.2**
NEEM				IAML		18 01 14.8	
	comp=Z,486nm,0.9s						
C36M	**Paulatuk**	**10.90**	**259**	Pn	**Pn**	**17 58 09.4**	**-0.6**
C36M	**Paulatuk**	**10.90**	**259**	PN	**Pn**	**17 58 10.8**	**+0.7**
C36M				SN	**Sn**	**18 00 03.4**	**-8.4**
C36M				LG	Lg	18 01 18.4	
C36M				Trac		18 01 18.8	
	comp=Z,1μm,1.1s						
C36M	**Paulatuk**	**10.90**	**259**	P	**Pn**	**17 58 09.9**	**-0.2**
	baz=49,SNR=66						
C36M				S	**Sn**	**18 00 05.5**	**-6.4**
	baz=49						
NUUG	**Nuugaatsiaq**	**11.72**	**84**	*i* P	**Pn**	**17 58 20.2**	**-1.1**
NUUG				*i* S	Sn	18 00 19.5	-12
NUUG				IAML		18 00 33.9	
	comp=Z,88nm,0.9s						
FRB	**Frobisher Bay**	**13.51**	**129**	Pn	**Pn**	**17 58 42.0**	**-3.8**
	comp=Z,22nm,0.3s,baz=326,slow=12,SNR=188						
FRB				Sn	Sn	18 01 01.8	-14
	comp=Z,33nm,0.3s,baz=260,slow=19,SNR=8.9						
FRB				Lg	Lg	18 02 29.8	
	baz=240,slow=22						
FRB				LR	LR	18 04 02.2	
	comp=Z,646nm,20.0s,baz=338,slow=38						
	comp=Z,39nm,0.3s						
FRB	**Frobisher Bay**	**13.51**	**129**	PN	**Pn**	**17 58 42.1**	**-3.6**
FRB				SN	Sn	18 01 03.0	-13
FRB				LG	Lg	18 02 35.2	
FRB				Trac		18 02 46.3	
	comp=Z,2μm,1.0s						
ILULI	**Ilulissat**	**13.68**	**91**		**Pn**	**17 58 47.3**	**-0.6**
ILULI	**Ilulissat**	**13.68**	**91**	*i* P	**Pn**	**17 58 47.7**	**-0.3**
ILULI	**Ilulissat**	**13.68**	**91**	PN	**Pn**	**17 58 46.2**	**-1.8**
ILULI				SN	Sn	18 01 05.9	-14
ILULI				Trac		18 02 50.4	
	comp=Z,25nm,0.5s						
ILULI	**Ilulissat**	**13.68**	**91**	P	**Pn**	**17 58 47.3**	**-0.6**
INK	**Inuvik**	**14.14**	**266**	Pn	**Pn**	**17 58 53.0**	**-1.3**
	comp=Z,22nm,0.3s,baz=34,slow=17,SNR=418						
INK				Sn	Sn	18 01 19.8	-11
	comp=Z,17nm,0.3s,baz=302,slow=20,SNR=9.1						
INK				Lg	Lg	18 02 52.6	
	comp=Z,4.8nm,0.3s,baz=163,slow=23,SNR=1.6						
INK				LR	LR	18 05 04.1	
	comp=Z,992nm,18.9s,baz=42,slow=40						
	comp=Z,147nm,0.8s						
INK	**Inuvik**	**14.14**	**266**	Pn	**Pn**	**17 58 52.4**	**-1.9**
INK	**Inuvik**	**14.14**	**266**	PN	**Pn**	**17 58 52.8**	**-1.6**
INK				SN	**Sn**	**18 01 23.1**	**-7.9**
INK				LG	Lg	18 02 53.5	
INK				Trac		18 03 10.9	
	comp=Z,1μm,1.9s						
INK	**Inuvik**	**14.14**	**266**	P	**Pn**	**17 58 52.8**	**-1.6**
	baz=47,SNR=202						
INK				S	Sn	18 01 19.1	-12
	baz=47						
YKA	**Yellowknife Ar**	**14.24**	**225**	Pn	**Pn**	**17 58 52.9**	**-2.8**
	comp=Z,12nm,0.3s,baz=151,slow=10,SNR=233						
YKA				Sn	Sn	18 01 22.6	-11
	baz=24,slow=22						
YKA				Lg	Lg	18 02 51.1	
	comp=Z,27nm,0.3s,baz=28,slow=28,SNR=5.4						
	comp=Z,47nm,0.5s						
YKA	**Yellowknife Ar**	**14.24**	**225**	Pn	**Pn**	**17 58 52.0**	**-3.7**
F31M	**Tsiigehtchic**	**14.81**	**263**	P	**Pn**	**17 59 01.2**	**-2.2**
	baz=44,SNR=38						
F31M				S	Sn	18 01 35.6	-12
	baz=44						
SUMG	**Summit**	**15.06**	**70**	*i* P	**Pn**	**17 59 02.7**	**-4.4**
SUMG				*i* S	**Sn**	**18 01 44.3**	**-10**
SFJD	**Kangerlussuaq**	**15.35**	**97**	Pn	**Pn**	**17 59 10.0**	**-0.6**
	comp=Z,4.8nm,0.3s,baz=310,slow=12,SNR=25						
SFJD				Sn	**Sn**	**18 01 49.7**	**-11**
	comp=Z,1.7nm,0.3s,baz=29,slow=5.4,SNR=1.6						
SFJD				LR	LR	18 04 57.4	
	comp=Z,841nm,18.1s,baz=322,slow=37						
	comp=Z,17nm,0.6s						
SFJD	**Kangerlussuaq**	**15.35**	**97**		**Pn**	**17 59 09.0**	**-1.6**
SFJD	**Kangerlussuaq**	**15.35**	**97**	*i* P	**Pn**	**17 59 10.0**	**-0.6**
SFJD	**Kangerlussuaq**	**15.35**	**97**	PN	**Pn**	**17 59 10.0**	**-0.6**
SFJD				SN	Sn	18 01 46.1	-14
SFJD				Trac		18 04 23.0	
	comp=Z,348nm,5.1s						
SFJD	**Kangerlussuaq**	**15.35**	**97**	P	**Pn**	**17 59 10.0**	**-0.6**
WRGLY	**Wrigley**	**15.50**	**240**	P	**Pn**	**17 59 10.1**	**-2.6**
	baz=32,SNR=65						
WRGLY				S	**Sn**	**18 01 54.0**	**-10**
	baz=32						
FCC	**Fort Churchill**	**15.66**	**183**	Pn	**Pn**	**17 59 10.9**	**-3.8**
FCC				IAmb	IAmb	17 59 19.9	
	comp=Z,119nm,0.7s						
FCC	**Fort Churchill**	**15.66**	**183**	PN	**Pn**	**17 59 10.9**	**-3.8**
FCC				SN	Sn	18 01 55.4	-13
FCC				LG	Lg	18 03 45.1	
FCC				Trac		18 04 15.3	
	comp=Z,3μm,1.6s						
G30M	**tAoh Zraii Nji**	**15.81**	**265**	P	**Pn**	**17 59 14.1**	**-2.7**
	baz=44						
G30M				S	Sn	18 01 58.1	-14
	baz=44						
C27K	**Jago River**	**16.02**	**279**	P	**Pn**	**17 59 17.0**	**-2.4**
	baz=50						
C27K				S	Sn	18 02 02.4	-14
	baz=50						
C26K	**Camden Bay**	**16.16**	**281**	P	**Pn**	**17 59 19.8**	**-1.3**
	baz=50						
C26K				S	Sn	18 02 07.9	-12
	baz=50						
EPYK	**Eagle Plains**	**16.40**	**264**	Pn	**Pn**	**17 59 21.6**	**-2.7**
EPYK				IAmb	IAmb	17 59 29.4	
	comp=Z,249nm,1.1s						
EPYK	**Eagle Plains**	**16.40**	**264**	PN	**Pn**	**17 59 22.9**	**-1.4**
EPYK				SN	**Sn**	**18 02 15.4**	**-11**
EPYK				LG	Lg	18 04 10.4	
EPYK				Trac		18 04 25.9	
	comp=Z,4μm,2.6s						
EPYK	**Eagle Plains**	**16.40**	**264**	P	**Pn**	**17 59 21.6**	**-2.7**
	baz=42,SNR=120						
E27K	**Coleen River**	**16.42**	**273**	P	**Pn**	**17 59 22.1**	**-2.4**
	baz=46,SNR=62						
E27K				S	Sn	18 02 15.0	-11
	baz=46						
DY2G	**Dye2**	**16.91**	**94**	*i* P	**Pn**	**17 59 30.8**	**0.0**
D25K	**Kavik River**	**16.94**	**280**	P	**Pn**	**17 59 29.6**	**-1.4**
	baz=49						
C24K	**Franklin Bluff**	**17.29**	**283**	P	**Pn**	**17 59 34.7**	**-0.7**
	baz=49						
C24K				S	Sn	18 02 36.4	-11
	baz=49						
G27K	**Doyon Strip**	**17.41**	**270**	P	**Pn**	**17 59 34.9**	**-2.1**
	baz=43						
G27K				S	Sn	18 02 37.6	-13
	baz=43						
F26K	**Sheenjek River**	**17.45**	**274**	P	**Pn**	**17 59 36.1**	**-1.4**
	baz=45						
F26K				S	Sn	18 02 38.9	-13
	baz=45						
E25K	**Arctic Village**	**17.54**	**277**	P	**Pn**	**17 59 37.1**	**-1.4**
	baz=46,SNR=37						
I29M	**Ogilvie Camp,**	**17.59**	**263**	Pn	**Pn**	**17 59 35.9**	**-3.4**
I29M	**Ogilvie Camp,**	**17.59**	**263**	P	**Pn**	**17 59 37.0**	**-2.2**
	baz=40,SNR=340						
D24K	**Happy Valley**	**17.70**	**282**	P	**Pn**	**17 59 39.7**	**-0.8**
	baz=48						
BMAR	**Burnt Mountain**	**17.76**	**274**	P	**Pn**	**17 59 39.8**	**-1.5**
H27K	**Steamboat Moun**	**17.81**	**269**	P	**Pn**	**17 59 39.8**	**-2.1**
	baz=42,SNR=153						
F25K	**Christian Rive**	**17.93**	**275**	P	**Pn**	**17 59 42.2**	**-1.2**
	baz=45						
NBC3	**NorthernBC 3**	**18.07**	**230**	PN	**Pn**	**17 59 44.6**	**-0.5**
NBC3				SN	Sn	18 02 52.0	-14
NBC3				LG	Lg	18 05 05.0	
NBC3				Trac		18 05 30.8	
	comp=Z,1μm,1.1s						
J29M	**Klondike Camp**	**18.28**	**261**	P	**Pn**	**17 59 45.7**	**-1.9**
J29M				IAmb	IAmb	17 59 56.4	
	comp=Z,151nm,0.7s						
J29M	**Klondike Camp**	**18.28**	**261**	P	**Pn**	**17 59 47.0**	**-0.7**
	baz=38						
I27K	**Kandik River**	**18.30**	**267**	P	**Pn**	**17 59 46.3**	**-1.7**
	baz=41						
A21K	**Barrow**	**18.31**	**293**		**Pn**	**17 59 45.4**	**-2.5**
A21K				IAmb	IAmb	17 59 55.5	
	comp=Z,189nm,0.8s						
A21K	**Barrow**	**18.31**	**293**	P	**P**	**17 59 48.6**	**+0.6**
	baz=51,SNR=8.8						
D23K	**Nanushuk River**	**18.32**	**283**	P	**P**	**17 59 48.3**	**+0.1**
	baz=47,SNR=104						
NBC2	**NorthernBC 2**	**18.33**	**233**	PN	**Pn**	**17 59 47.5**	**-0.8**
NBC2				SN	Sn	18 03 01.3	-11
NBC2				LG	Lg	18 05 12.1	
NBC2				Trac		18 05 16.2	
	comp=Z,2μm,1.4s						
MAYO	**Mayo, Yukon**	**18.34**	**257**	P	**Pn**	**17 59 47.2**	**-1.2**
MAYO	**Mayo, Yukon**	**18.34**	**257**	P	**Pn**	**17 59 46.8**	**-1.7**
	baz=36,SNR=24						
HILA	**High Level**	**18.35**	**224**		**Pn**	**17 59 46.4**	**-2.1**
E24K	**Your Creek**	**18.36**	**279**	P	**Pn**	**17 59 47.3**	**-1.3**
	baz=46						
KOTAN	**Kotaneelee Air**	**18.36**	**236**	P	**Pn**	**17 59 46.5**	**-2.2**
	baz=27,SNR=47						
DBG	**Daneborg**	**18.47**	**55**	*i* P	**P**	**17 59 43.8**	**-6.0**
FYU	**Fort Yukon**	**18.56**	**273**	P	**P**	**17 59 50.3**	**-0.6**
K29M	**Barlow Dome**	**18.57**	**259**	P	**P**	**17 59 50.8**	**-0.3**
	baz=37						
F24K	**Squaw Lake**	**18.59**	**277**	P	**Pn**	**17 59 51.7**	**+0.3**
	baz=44						
SAKN	**Sanikiluaq**	**18.63**	**156**	PN	**P**	**17 59 49.8**	**-1.8**
SAKN				SN	Sn	18 03 07.2	-13
SAKN				LG	Lg	18 05 13.2	
SAKN				Trac		18 05 47.1	
	comp=Z,84nm,0.2s						
G25K	**Bearman Lake**	**18.65**	**274**	P	**P**	**17 59 51.5**	**-0.4**
	baz=43						
FARO	**Faro, Yukon**	**18.80**	**252**		**P**	**17 59 53.1**	**-0.5**
FARO				IAmb	IAmb	18 00 04.8	
	comp=Z,119nm,1.0s						
FARO	**Faro, Yukon**	**18.80**	**252**	P	**P**	**17 59 52.5**	**-1.1**
	baz=34,SNR=84						
EGAK	**Eagle**	**18.82**	**265**	P	**P**	**17 59 52.7**	**-1.0**
EGAK				IAmb	IAmb	18 00 05.2	
	comp=Z,91nm,0.8s						
EGAK	**Eagle**	**18.82**	**265**	P	**P**	**17 59 51.3**	**-2.3**
	baz=39,SNR=58						
DAWY	**Dawson**	**18.90**	**262**	P	**P**	**17 59 54.2**	**-0.4**
DAWY				IAmb	IAmb	18 00 08.7	
	comp=Z,169nm,1.0s						
DAWY	**Dawson**	**18.90**	**262**	PN	**P**	**17 59 54.6**	**-0.1**
DAWY				SN	Sn	18 03 14.7	-12
DAWY				LG	Lg	18 05 27.7	
DAWY				Trac		18 05 54.2	
	comp=Z,966nm,2.1s						
DAWY	**Dawson**	**18.90**	**262**	P	**P**	**17 59 54.0**	**-0.6**
	baz=38,SNR=70						
G24K	**Hadweenzic Riv**	**19.07**	**275**	P	**P**	**17 59 56.4**	**-0.1**
	baz=43,SNR=25						
M31M	**Drury Creek, Y**	**19.09**	**253**	P	**P**	**17 59 56.5**	**-0.3**
M31M	**Drury Creek, Y**	**19.09**	**253**	P	**P**	**17 59 57.0**	**+0.2**
	baz=34,SNR=132						
NBC6	**NorthernBC 6**	**19.18**	**230**	PN	**P**	**17 59 57.6**	**-0.1**
NBC6				SN	Sn	18 03 22.2	-11
NBC6				LG	Lg	18 05 41.8	
NBC6				Trac		18 06 15.1	
	comp=Z,3μm,1.1s						
FNBB	**Fort Nelson**	**19.25**	**233**	PN	**P**	**17 59 58.1**	**-0.4**
FNBB				SN	Sn	18 03 22.1	-13
FNBB				LG	Lg	18 05 41.7	
L29M	**L29M**	**19.33**	**259**	P	**P**	**17 59 59.1**	**-0.3**
	baz=36,SNR=59						
M30M	**Minto, Yukon**	**19.41**	**256**	P	**P**	**18 00 00.8**	**+0.5**
M30M				IAmb	IAmb	18 00 15.9	
	comp=Z,114nm,0.8s						
M30M	**Minto, Yukon**	**19.41**	**256**	P	**P**	**18 00 00.8**	**+0.5**
	baz=35						
COLD	**Coldfoot**	**19.42**	**279**	P	**Pn**	**18 00 01.7**	**+0.3**
COLD	**Coldfoot**	**19.42**	**279**	P	**Pn**	**18 00 01.1**	**-0.3**
	baz=44,SNR=27						
PRP	**Porcupine Dome**	**19.43**	**271**	P	**Pn**	**18 00 01.8**	**+0.1**
PRP	**Porcupine Dome**	**19.43**	**271**	P	**Pn**	**18 00 01.5**	**-0.2**
	baz=41,SNR=66						
WTLY	**Watson Lake, Y**	**19.48**	**243**	P	**Pn**	**18 00 02.6**	**+0.3**
WTLY				IAmb	IAmb	18 00 15.1	
	comp=Z,111nm,0.9s						
WTLY	**Watson Lake, Y**	**19.48**	**243**	P	**Pn**	**18 00 03.0**	**+0.7**
	baz=29,SNR=30						
J26L	**Joseph Creek**	**19.68**	**267**	P	**Pn**	**18 00 04.3**	**-0.4**
J26L				IAmb	IAmb	18 00 18.6	
	comp=Z,112nm,1.1s						
J26L	**Joseph Creek**	**19.68**	**267**	P	**P**	**18 00 03.6**	**+0.3**
	baz=39						
F22K	**John River**	**19.75**	**281**	P	**Pn**	**18 00 04.9**	**-0.5**
	baz=44						
G23K	**Bananza Creek**	**19.75**	**277**	P	**Pn**	**18 00 05.8**	**+0.4**
	baz=43						
H24K	**Noodor Dome**	**19.83**	**274**	P	**Pn**	**18 00 06.9**	**+0.6**
H24K				IAmb	IAmb	18 00 19.3	
	comp=Z,76nm,0.8s						
H24K	**Noodor Dome**	**19.83**	**274**	P	**Pn**	**18 00 06.0**	**-0.3**
	baz=41						
ANGG	**Ammassalik, Gr**	**19.89**	**87**	P	**Pn**	**18 00 06.7**	**-0.3**
M29M	**Somme Creek**	**19.96**	**258**	P	**Pn**	**18 00 08.3**	**+0.3**
	baz=35,SNR=103						
KJKQ	**Kuujjuarapik**	**20.03**	**155**	PN	**P**	**18 00 06.1**	**-0.9**
KJKQ				SN	S	18 03 35.9	-16
KJKQ				LG	Lg	18 05 52.7	
KJKQ				Trac		18 06 28.4	
	comp=Z,940nm,1.1s						
N31M	**Braeburn, Yuko**	**20.06**	**253**	P	Pn	18 00 10.3	+1.3
N31M	**Braeburn, Yuko**	**20.06**	**253**	P	Pn	18 00 09.9	+0.8
	baz=33,SNR=28						
FFC	**Flin Flon**	**20.06**	**196**	P	Pn	18 00 08.4	-0.6
FFC				IAmb	IAmb	18 00 20.9	
	comp=Z,86nm,0.8s						
FFC	**Flin Flon**	**20.06**	**196**	P	Pn	18 00 08.4	-0.7
FFC				pmax	pmax		
	comp=Z,86nm,0.8s						
FL31	**Flin Flon Arra**	**20.07**	**196**	PN	Pn	18 00 08.7	-0.4
FL31				SN	S	18 03 41.5	-11
FL31				LG	Lg	18 06 02.8	
FL31				Trac		18 06 09.2	
	comp=Z,1μm,1.1s						
J25K	**Salcha River,**	**20.09**	**269**	P	Pn	18 00 09.9	+0.5
J25K				IAmb	IAmb	18 00 23.6	
	comp=Z,102nm,0.8s						
J25K	**Salcha River,**	**20.09**	**269**	P	Pn	18 00 09.8	+0.4
	baz=39						
SCRK	**Sand Creek**	**20.21**	**267**	P	Pn	18 00 11.3	+0.4
SCRK				IAmb	IAmb	18 00 25.0	
	comp=Z,98nm,0.9s						
SCRK	**Sand Creek**	**20.21**	**267**	P	Pn	18 00 10.3	-0.6
	baz=38,SNR=53						
POKR	**Poker Plat Res**	**20.25**	**272**	P	Pn	18 00 10.9	-0.4
POKR				IAmb	IAmb	18 00 24.5	
	comp=Z,308nm,1.8s						
POKR	**Poker Plat Res**	**20.25**	**272**	P	Pn	18 00 11.5	+0.1
	baz=40,SNR=16						
H23K	**Yukon River**	**20.29**	**275**	P	Pn	18 00 11.5	-0.2
H23K	**Yukon River**	**20.29**	**275**	P	Pn	18 00 11.8	+0.1
	baz=41,SNR=24						
F21K	**Alatna River**	**20.30**	**281**	P	Pn	18 00 11.3	-0.6
	baz=43,SNR=69						
BCAR	**Beaver Creek A**	**20.34**	**263**	P	Pn	18 00 12.1	-0.3
L27K	**Beaver Creek,**	**20.36**	**263**	P	Pn	18 00 12.2	-0.4
L27K				IAmb	IAmb	18 00 25.4	
	comp=Z,98nm,0.8s						
L27K	**Beaver Creek,**	**20.36**	**263**	P	Pn	18 00 12.6	0.0
	baz=36						
IL31		**20.37**	**271**	P	Pn	18 00 12.7	+0.1
IL31				IAmb	IAmb	18 00 25.6	
	comp=Z,118nm,0.9s						
ILAR	**Eielson Array**	**20.37**	**271**	P	Pn	18 00 13.4	+0.7
	comp=Z,19nm,0.6s,baz=38,slow=8.8,SNR=196						
ILAR				LR	LR	18 08 50.3	
	comp=Z,756nm,19.7s,baz=30,slow=39						
	comp=Z,19nm,0.6s						
ILAR	**Eielson Array**	**20.37**	**271**	P	Pn	18 00 12.6	-0.1
ILAR	**Eielson Array**	**20.37**	**271**	P	Pn	18 00 12.6	-0.1
P33M	**Teslin, Yukon**	**20.39**	**248**	P	Pn	18 00 13.6	+0.6
P33M				IAmb	IAmb	18 00 26.4	
	comp=Z,69nm,0.8s						
P33M	**Teslin, Yukon**	**20.39**	**248**	P	Pn	18 00 13.8	+0.8
	baz=30,SNR=20						
NBC5	**NorthernBC 5**	**20.43**	**231**	PN	Pn	18 00 12.9	-0.7
NBC5				SN	**S**	**18 03 51.8**	**-8.2**
NBC5				LG	Lg	18 06 19.5	
NBC5				Trac		18 06 44.3	
	comp=Z,4μm,1.9s						
DOT	**Dot Lake**	**20.49**	**266**	P	Pn	18 00 14.7	+0.6
DOT				IAmb	IAmb	18 00 28.7	
	comp=Z,135nm,0.8s						
SCO	**Scoresbysund**	**20.49**	**65**	P	Pn	18 00 13.0	-1.0
SCO				IAmb	IAmb	18 00 24.8	
	comp=Z,125nm,1.0s						
SCO	**Scoresbysund**	**20.49**	**65**	P	Pn	18 00 13.0	-1.0
SCO				pmax	pmax		
	comp=Z,125nm,1.0s						
WHY	**Whitehorse**	**20.53**	**251**	P	Pn	18 00 14.3	-0.4
WHY				IAmb	IAmb	18 00 28.5	
	comp=Z,78nm,0.9s						
WHY	**Whitehorse**	**20.53**	**251**	PN	Pn	18 00 14.8	+0.2
WHY				SN	**S**	**18 03 53.7**	**-8.0**
WHY				LG	Lg	18 06 21.3	
WHY				Trac		18 06 53.2	
	comp=Z,1μm,3.5s						
WHY	**Whitehorse**	**20.53**	**251**	P	Pn	18 00 15.2	+0.5
	baz=32,SNR=15						
COLA	**College**	**20.56**	**272**	P	Pn	18 00 14.3	-0.5
COLA				IAmb	IAmb	18 00 27.6	
	comp=Z,109nm,0.9s						
COLA	**College**	**20.56**	**272**	P	Pn	18 00 14.9	+0.1
	baz=40						
COLA	**College**	**20.56**	**272**	*i* P	Pn	18 00 14.8	0.0
COLA				pmax	pmax		
	comp=Z,56nm,0.8s						
TCOL	**CIGO, UAF Yank**	**20.56**	**272**	P	Pn	18 00 14.9	+0.1
TCOL				IAmb	IAmb	18 00 27.6	
	comp=Z,108nm,0.9s						
TCOL	**CIGO, UAF Yank**	**20.56**	**272**	P	Pn	18 00 14.7	-0.2
	baz=40,SNR=5.6						
MDM	**Murphy Dome**	**20.59**	**272**	P	Pn	18 00 15.4	0.0
BVCY	**Beaver Creek**	**20.63**	**261**	PN	Pn	18 00 17.0	+1.3
BVCY				SN	**S**	**18 03 56.7**	**-6.9**
BVCY	**Beaver Creek**	**20.63**	**261**	P	Pn	18 00 16.0	+0.3
	baz=35,SNR=22						
RIDG	**Independent Ri**	**20.63**	**267**	P	Pn	18 00 15.9	+0.1
RIDG	**Independent Ri**	**20.63**	**267**	P	Pn	18 00 15.9	+0.1
	baz=38,SNR=33						
R33M	**Jennings River**	**20.64**	**244**	P	Pn	18 00 16.9	+0.8
	baz=29						
HDA	**Harding Lake**	**20.67**	**270**	P	Pn	18 00 15.8	-0.4
HDA				IAmb	IAmb	18 00 22.2	
	comp=Z,127nm,0.8s						
HDA	**Harding Lake**	**20.67**	**270**	P	Pn	18 00 16.7	+0.5
	baz=39,SNR=108						
CCB	**Clear Creek Bu**	**20.72**	**271**	P	Pn	18 00 16.5	-0.3
CCB				IAmb	IAmb	18 00 29.0	
	comp=Z,80nm,0.8s						
H22K	**Ishtalitna Cre**	**20.73**	**277**	P	Pn	18 00 17.5	+0.6
	baz=41,SNR=76						
O30N	**Mendenh

HYT **Haines Junctio** 21.07 254 PN **P** 18 00 21.6 +3.3
HYT SN **S** 18 04 09.1 -3.3
HYT LG Lg 18 06 35.3
HYT Trac 18 06 46.3
comp=Z,2µm,3.9s
HYT Haines Junctio 21.07 254 P **P** 18 00 21.8 +3.5
baz=32,SNR=64
NEA2 Nenana 21.11 273 P **P** 18 00 20.9 +2.3
NEA2 Nenana 21.11 273 P **P** 18 00 21.6 +3.0
baz=39,SNR=35
YUK2 White River 21.14 260 PN **P** 18 00 22.8 +3.7
YUK2 SN **S** 18 04 08.6 -5.4
YUK2 LG Lg 18 06 43.2
P32M Atlin 21.15 248 P **P** 18 00 22.1 +2.9
baz=30,SNR=19
YUK6 Outpost Mounta 21.19 255 PN **P** 18 00 23.7 +3.9
YUK6 SN **S** 18 04 09.8 -5.4
YUK6 Outpost Mounta 21.19 255 P **P** 18 00 23.2 +3.4
baz=33,SNR=32
M26K Nabesna, AK 21.21 263 P **P** 18 00 23.3 +3.5
M26K Nabesna, AK 21.21 263 P **P** 18 00 23.6 +3.8
baz=35
MLY Manley 21.22 275 P **P** 18 00 22.5 +2.7
MLY IAmb IAmb 18 00 35.7
comp=Z,62nm,0.8s
MLY Manley 21.22 275 P **P** 18 00 22.8 +3.0
baz=40,SNR=69
DLBC Dease Lake 21.26 242 P **P** 18 00 24.4 +4.0
comp=Z,171nm,0.7s,baz=27,slow=9.1,SNR=428
DLBC S **S** 18 04 12.5 -3.9
comp=Z,10nm,0.7s,baz=21,slow=27,SNR=1.6
DLBC Lg Lg 18 06 49.4
comp=Z,1.1nm,0.3s,baz=310,slow=23,SNR=2.5
DLBC LR LR 18 09 24.2
comp=Z,730nm,18.5s,baz=31,slow=39
DLBC Dease Lake 21.26 242 P **P** 18 00 23.8 +3.4
DLBC Dease Lake 21.26 242 PN **P** 18 00 24.5 +4.1
DLBC SN **S** 18 04 14.8 -1.5
DLBC LG Lg 18 06 45.6
DLBC Trac 18 07 10.6
comp=Z,1µm,2.4s
DLBC Dease Lake 21.26 242 P **P** 18 00 24.4 +4.0
baz=27,SNR=76
YUK8 Steele Glacier 21.27 258 PN **P** 18 00 24.2 +3.5
YUK8 SN **S** 18 04 09.8 -7.0
YUK8 LG Lg 18 06 43.2
YUK8 Trac 18 07 06.5
comp=Z,912nm,1.9s
YUK8 Steele Glacier 21.27 258 P **P** 18 00 24.2 +3.5
baz=33,SNR=45
H21K Melozitna Rive 21.29 278 P **P** 18 00 23.0 +2.4
H21K IAmb IAmb 18 00 40.5
comp=Z,75nm,0.8s
H21K Melozitna Rive 21.29 278 P **P** 18 00 23.2 +2.6
baz=40
IMAR Indian Mountai 21.30 279 P **P** 18 00 22.0 +1.4
Q32M Nakina River 21.35 245 P **P** 18 00 24.8 +3.3
baz=29,SNR=10
KBS Kingsbay 21.39 31 P **P** 18 00 20.8 -0.7
KBS Kingsbay 21.39 31 *i* P **P** 18 00 21.0 -0.5
KBS pmax pmax
comp=Z,63nm,1.1s
PAX Paxson 21.42 266 P **P** 18 00 24.9 +2.9
PAX Paxson 21.42 266 P **P** 18 00 25.5 +3.4
baz=36,SNR=80
PAX Paxson 21.42 266 P **P** 18 00 24.9 +2.9
PAX pmax pmax
comp=Z,354nm,1.0s
I21K Tanana 21.44 276 P **P** 18 00 24.6 +2.4
I21K Tanana 21.44 276 P **P** 18 00 25.5 +3.4
baz=40
YUK7 Dusty Glacier 21.48 255 PN **P** 18 00 26.9 +4.0
YUK7 SN **S** 18 04 14.7 -6.1
YUK7 LG Lg 18 06 52.7
YUK7 Trac 18 07 12.3
comp=Z,932nm,2.3s
P30M Million Dollar 21.52 253 P **P** 18 00 26.0 +2.9
baz=31
BWN Browne 21.54 272 P **P** 18 00 23.7 +0.5
SKAG Skagway 21.68 250 P **P** 18 00 26.8 +2.1
SKAG Skagway 21.68 250 P **P** 18 00 28.2 +3.5
baz=30,SNR=8.7
NBC4 NorthernBC 4 21.74 226 PN **P** 18 00 26.7 +1.2
NBC4 SN **S** 18 04 19.3 -6.3
NBC4 LG Lg 18 06 55.9
NBC4 Trac 18 07 05.0
comp=Z,3µm,2.0s
MCK McKinley 21.75 271 P **P** 18 00 27.3 +1.8
MCK McKinley 21.75 271 P **P** 18 00 28.3 +2.9
baz=38,SNR=53
MCK McKinley 21.75 271 P **P** 18 00 27.3 +1.8
MCK pmax pmax
comp=Z,252nm,1.1s
O29M Mount Kennedy 21.79 255 P **P** 18 00 29.2 +3.1
baz=32
HARP HAARP 21.80 265 P **P** 18 00 29.1 +3.1
baz=36,SNR=25
O28M Mount Upton 21.82 257 P **P** 18 00 30.2 +3.7
baz=33,SNR=12
DHY Denali Highway 21.85 268 P **P** 18 00 29.1 +2.4
DHY Denali Highway 21.85 268 P **P** 18 00 29.5 +2.7
baz=37,SNR=56
VIMO Victor Mine 21.91 166 PN **P** 18 00 28.9 +1.7
VIMO SN **S** 18 04 23.7 -5.2
VIMO Trac 18 07 15.7
comp=Z,481nm,0.9s
WAPA Wapiti River 21.94 224 P **P** 18 00 29.7 +2.0
PLBC Pleasant Camp 21.94 251 PN **P** 18 00 31.1 +3.6
PLBC Pleasant Camp 21.94 251 P **P** 18 00 30.7 +3.1
baz=30,SNR=21
BARN Barnard Glacie 21.97 259 P **P** 18 00 32.3 +4.3
BARN IAmb IAmb 18 00 44.1
comp=Z,100nm,0.8s
RND Reindeer 21.98 270 P **P** 18 00 30.0 +1.9
RND Reindeer 21.98 270 P **P** 18 00 30.0 +1.9
RND pmax pmax
comp=Z,33nm,0.8s
S34M Telegraph Cree 22.00 243 P **P** 18 00 31.1 +2.9
baz=27,SNR=19
BPAW Bear Paw Mtn. 22.01 273 P **P** 18 00 30.6 +2.3
BPAW IAmb IAmb 18 00 42.8
comp=Z,99nm,1.0s
BPAW Bear Paw Mtn. 22.01 273 P **P** 18 00 30.6 +2.3
baz=38,SNR=37
MCARA McCarthy VSAT 22.06 261 P **P** 18 00 31.1 +2.2
MCARA McCarthy VSAT 22.06 261 P **P** 18 00 32.0 +3.2
baz=34,SNR=26
SCHQ Schefferville 22.10 138 P **P** 18 00 29.4 0.0
comp=Z,59nm,1.0s,baz=357,slow=12,SNR=26
SCHQ S **S** 18 04 22.9 -10
comp=Z,60nm,0.7s,baz=156,slow=9.9,SNR=5.3
SCHQ Lg Lg 18 07 02.5
comp=Z,9.0nm,0.3s,baz=236,slow=16,SNR=5.1
SCHQ LR LR 18 09 11.8
comp=Z,764nm,19.4s,baz=14,slow=37
comp=Z,59nm,1.0s
SCHQ Schefferville 22.10 138 P **P** 18 00 28.8 -0.5
SCHQ IAmb IAmb 18 00 37.9
comp=Z,103nm,1.1s
GLB Gilahina Butte 22.22 262 P **P** 18 00 33.8 +3.1
N25K Chitina, Valde 22.30 263 P **P** 18 00 34.8 +3.3
N25K IAmb IAmb 18 00 49.8
comp=Z,82nm,0.9s
N25K Chitina, Valde 22.30 263 P **P** 18 00 35.0 +3.5
baz=34,SNR=18
VRDI Verde Repeater 22.30 261 P **P** 18 00 35.2 +3.5
VRDI IAmb IAmb 18 00 50.0
comp=Z,148nm,1.0s
M24K Tolsona, Glenn 22.31 266 P **P** 18 00 34.9 +3.3
M24K Tolsona, Glenn 22.31 266 P **P** 18 00 34.6 +3.0
baz=35,SNR=11
BESE Bessie Mountai 22.33 248 P **P** 18 00 33.8 +2.0
TRF Thorofare Moun 22.34 272 P **P** 18 00 34.1 +2.1
TRF IAmb IAmb 18 00 46.3
comp=Z,106nm,0.8s
TRF Thorofare Moun 22.34 272 P **P** 18 00 34.7 +2.7
baz=37,SNR=46
WAT6 Susitna Watana 22.35 268 P **P** 18 00 35.1 +3.0
baz=36,SNR=59
BCPM Bancas Point 22.37 256 P **P** 18 00 34.8 +2.7
BCPM IAmb IAmb 18 00 54.3
comp=Z,105nm,0.8s
WAT1 Susitna Watana 22.37 269 P **P** 18 00 34.8 +2.6
baz=36
PCA Pinnacle 22.41 256 P **P** 18 00 35.7 +3.0
PCA IAmb IAmb 18 00 43.8
comp=Z,133nm,0.9s
PINM Pinnacle 22.41 256 P **P** 18 00 36.4 +3.8
baz=32,SNR=25
KTH Kantishna Hill 22.43 273 P **P** 18 00 35.2 +2.4
JIS Juneau Island 22.48 247 P **P** 18 00 36.1 +2.9
JIS IAmb IAmb 18 00 48.7
comp=Z,126nm,0.9s
R32K Eaglecrest 22.51 247 P **P** 18 00 36.4 +2.8
baz=28
CHUM Lake Minchumin 22.54 274 P **P** 18 00 36.7 +2.7
baz=38,SNR=45
SPITS Spitsbergen Ar 22.55 31 P **P** 18 00 34.1 +0.2
comp=Z,3.1nm,0.5s,baz=337,slow=1.9,SNR=8.2
SPITS LR LR 18 08 56.8
comp=Z,776nm,20.3s,baz=278,slow=36
comp=Z,3.1nm,0.5s
SPITS Spitsbergen Ar 22.55 31 P **P** 18 00 34.1 +0.2
SPITS pmax pmax
comp=Z,152nm,1.1s
PNL Peninsula 22.55 255 P **P** 18 00 36.6 +2.5
baz=31
SPB2 Spitsbergen Ar 22.55 31 P **P** 18 00 34.5 +0.5
SPB2 IAmb IAmb 18 00 51.2
comp=Z,126nm,1.0s
T35M Bob Quinn 22.63 240 P **P** 18 00 38.3 +3.3
baz=26,SNR=17
BRLDA Berland Lookou 22.65 220 P **P** 18 00 37.0 +1.7
R31K City Hall, Gus 22.70 249 P **P** 18 00 38.0 +2.4
baz=29
KLU Klutina 22.75 264 P **P** 18 00 38.8 +2.5
KLU Klutina 22.75 264 P **P** 18 00 38.8 +2.5
baz=34,SNR=28
J20K Nowinta River 22.81 276 P **P** 18 00 38.6 +1.8
J20K Nowinta River 22.81 276 P **P** 18 00 38.6 +1.8
baz=38
EDM Edmonton 22.83 213 P **P** 18 00 38.5 +1.4
EDM Edmonton 22.83 213 P **P** 18 00 38.5 +1.4
EDM pmax pmax
comp=Z,251nm,0.8s
BMRM Bremner River 22.83 262 P **P** 18 00 38.5 +1.4
BMRM Bremner River 22.83 262 P **P** 18 00 38.7 +1.6
baz=34,SNR=9.6
SCM Sheep Creek Mo 22.85 266 P **P** 18 00 38.7 +1.4
SCM Sheep Creek Mo 22.85 266 P **P** 18 00 39.4 +2.0
baz=35,SNR=17
SCM Sheep Creek Mo 22.85 266 P **P** 18 00 38.7 +1.4
SCM pmax pmax
comp=Z,186nm,1.1s
CAST Castle Rocks 22.85 273 P **P** 18 00 39.3 +2.0
CAST Castle Rocks 22.85 273 P **P** 18 00 39.1 +1.8
baz=37,SNR=40
M23K Glacier View 22.99 267 P **P** 18 00 41.4 +2.7
baz=35,SNR=31
DIV Divide 23.01 264 P **P** 18 00 41.0 +2.0
DIV IAmb IAmb 18 00 55.8
comp=Z,92nm,0.9s
GCSA Galena City Sc 23.09 280 P **P** 18 00 42.3 +2.6
baz=39,SNR=13
SML Sawmill 23.14 267 P **P** 18 00 42.0 +1.7
SML Sawmill 23.14 267 P **P** 18 00 42.3 +2.0
baz=35,SNR=36
CUT Chulitna 23.18 270 P **P** 18 00 42.3 +1.7
CUT Chulitna 23.18 270 P **P** 18 00 42.3 +1.7
baz=36,SNR=84
S31K Pelican 23.22 249 P **P** 18 00 42.7 +1.7
baz=28
JMIC Jan Mayen 23.30 56 P **P** 18 00 42.7 +1.0
comp=Z,25nm,0.4s,baz=216,slow=22,SNR=1.0
comp=Z,25nm,0.4s
PPLA Purkeypile 23.30 273 P **P** 18 00 43.6 +1.6
PPLA IAmb IAmb 18 01 01.0
comp=Z,100nm,1.0s
PPLA Purkeypile 23.30 273 P **P** 18 00 44.1 +2.1
baz=36,SNR=23
GHO Glory Hole Cre 23.33 268 P **P** 18 00 43.7 +1.5
K20K Telida 23.44 275 P **P** 18 00 45.7 +2.5
K20K Telida 23.44 275 P **P** 18 00 46.1 +2.9
baz=37
EYAK Cordova Ski Ar 23.49 263 P **P** 18 00 45.5 +1.7
EYAK Cordova Ski Ar 23.49 263 P **P** 18 00 46.9 +3.1
baz=33,SNR=12
KNK Knik Glacier 23.50 267 P **P** 18 00 45.5 +1.6
KNK Knik Glacier 23.50 267 P **P** 18 00 47.1 +3.2
baz=34,SNR=24
PMR Palmer 23.54 268 P **P** 18 00 46.1 +1.9
PMR IAmb IAmb 18 01 00.8
comp=Z,78nm,1.0s
PMR Palmer 23.54 268 P **P** 18 00 46.8 +2.6
baz=35,SNR=12
PMR Palmer 23.54 268 P **P** 18 00 46.1 +1.9
PMR pmax pmax
comp=Z,78nm,1.0s
WRAK Wrangell Islan 23.64 242 P **P** 18 00 48.6 +3.5
baz=26
M22K Willow 23.67 269 P **P** 18 00 47.6 +2.1
M22K Willow 23.67 269 P **P** 18 00 48.2 +2.7
baz=35
SKT Skwentna 23.87 271 P **P** 18 00 49.1 +1.6
SKT IAmb IAmb 18 01 03.2
comp=Z,115nm,1.1s
SKT Skwentna 23.87 271 P **P** 18 00 49.7 +2.2
baz=35,SNR=36
PWL Port Wells 23.93 266 P **P** 18 00 51.8 +3.8
PWL Port Wells 23.93 266 P **P** 18 00 51.5 +3.5
baz=34,SNR=9.0
SUA Susitna One 24.08 269 P **P** 18 00 52.0 +2.5
SUA IAmb IAmb 18 01 06.5
comp=Z,110nm,1.0s
SUA Susitna One 24.08 269 P **P** 18 00 53.1 +3.5
baz=34,SNR=30
U33K Whale Pass 24.10 243 P **P** 18 00 52.6 +3.1
baz=26
L20K Farewell, AK 24.10 274 P **P** 18 00 51.8 +2.1
baz=36
RC01 Rabbit Creek A 24.12 268 P **P** 18 00 52.8 +3.0
RC01 Rabbit Creek A 24.12 268 P **P** 18 00 53.3 +3.5
baz=34,SNR=18
FIS Fire Island 24.20 268 P **P** 18 00 52.6 +2.1
ULM Lac du Bonnet 24.22 185 P **P** 18 00 53.2 +2.4
comp=Z,9.8nm,0.5s,baz=358,slow=9.2,SNR=21
ULM S **S** 18 05 13.4 +4.6
comp=Z,21nm,0.7s,baz=176,slow=12,SNR=2.2
ULM Lg Lg 18 08 07.8
comp=Z,5.8nm,0.3s,baz=97,slow=22,SNR=5.2
ULM LR LR 18 10 25.5
comp=Z,760nm,18.7s,baz=7.5,slow=37
comp=Z,9.8nm,0.5s
ULM Lac du Bonnet 24.22 185 P **P** 18 00 52.7 +1.9
ULM IAmb IAmb 18 01 18.7
comp=Z,72nm,0.9s
ULM Lac du Bonnet 24.22 185 P **P** 18 00 52.7 +1.9
ULM pmax pmax
comp=Z,72nm,0.9s
TTA Tatalina 24.31 276 P **P** 18 00 54.1 +2.5
TTA IAmb IAmb 18 01 12.9
comp=Z,44nm,0.8s
TTA Tatalina 24.31 276 P **P** 18 00 54.6 +3.0
baz=36,SNR=19
TTA Tatalina 24.31 276 P **P** 18 00 54.1 +2.5
TTA pmax pmax
comp=Z,44nm,0.8s
M20K Styx River 24.38 272 P **P** 18 00 53.8 +1.5
M20K IAmb IAmb 18 01 06.3
comp=Z,70nm,0.8s
M20K Styx River 24.38 272 P **P** 18 00 54.1 +1.7
baz=35
P23K Montague Islan 24.40 264 P **P** 18 00 55.4 +3.0
baz=32
V35K Ketchikan 24.45 240 P **P** 18 00 56.5 +3.6
baz=24
L19K White Mountain 24.61 274 P **P** 18 00 56.0 +1.8
L19K White Mountain 24.61 274 P **P** 18 00 56.4 +2.1
baz=35,SNR=12
O22K Cooper Landing 24.62 267 P **P** 18 00 56.5 +2.1
O22K Cooper Landing 24.62 267 P **P** 18 00 57.8 +3.5
baz=33
SPU Mount Spurr 24.67 270 P **P** 18 00 56.3 +1.4
SPCR Spurr Chakacha 24.70 270 P **P** 18 00 57.6 +2.5
baz=34
M19K Big River Lodg 24.71 273 P **P** 18 00 56.9 +1.7
M19K Big River Lodg 24.71 273 P **P** 18 00 57.3 +2.2
baz=35
CAPN Captain Cook N 24.77 269 P **P** 18 00 56.7 +1.0
CAPN Captain Cook N 24.77 269 P **P** 18 00 58.1 +2.4
baz=34
SEW Seward 24.87 266 P **P** 18 01 00.2 +3.7
SEW Seward 24.87 266 P **P** 18 01 00.5 +4.0
baz=33,SNR=9.8
BORG Borgarnes 24.93 75 P **P** 18 00 57.8 +0.7
comp=Z,30nm,0.9s,baz=345,slow=16,SNR=2.4
BORG LR LR 18 10 35.0
comp=Z,526nm,18.7s,baz=310,slow=36
comp=Z,30nm,0.9s
TNA Tin City 25.34 290 P **P** 18 01 04.0 +3.2
TNA IAmb IAmb 18 01 16.4
comp=Z,32nm,0.8s
TNA Tin City 25.34 290 P **P** 18 01 02.9 +2.1
baz=38,SNR=8.4
RSO Redoubt South 25.46 270 P **P** 18 01 04.5 +2.3
ANM Nome 25.48 286 P **P** 18 01 04.8 +2.7
ANM Nome 25.48 286 P **P** 18 01 03.9 +1.8
baz=37
ANM Nome 25.48 286 P **P** 18 01 04.8 +2.7
ANM pmax pmax
comp=Z,28nm,0.8s
BRSE Bradley Lake S 25.52 267 P **P** 18 01 05.4 +2.9
baz=32,SNR=12
BRLK Bradley Lake 25.54 267 P **P** 18 01 05.2 +2.5
BRLK IAmb IAmb 18 01 20.7
comp=Z,84nm,0.9s
N19K Bonanza Creek 25.64 272 P **P** 18 01 05.9 +2.2
N19K IAmb IAmb 18 01 20.8
comp=Z,68nm,0.9s
N19K Bonanza Creek 25.64 272 P **P** 18 01 05.8 +2.1
baz=34,SNR=14
SVW2 Sparrevohn 25.70 273 P **P** 18 01 05.8 +1.7
SVW2 IAmb IAmb 18 01 18.6
comp=Z,41nm,0.8s
O20K Slope Mountain 25.75 269 P **P** 18 01 07.2 +2.5
baz=33
HOM Homer 25.84 268 P **P** 18 01 07.9 +2.6
HOM Homer 25.84 268 P **P** 18 01 08.6 +3.3
baz=32
CNPM China Poot 25.84 267 P **P** 18 01 09.2 +3.8
ILSW Iliamna Southw 25.97 270 P **P** 18 01 08.7 +2.0
ILSW IAmb IAmb 18 01 24.1
comp=Z,70nm,1.0s
O19K Port Alsworth 26.11 271 P **P** 18 01 10.3 +2.5
O19K IAmb IAmb 18 01 42.7
comp=Z,52nm,0.9s
O19K Port Alsworth 26.11 271 P **P** 18 01 11.1 +3.3
baz=33,SNR=9.0
AGMN Agassiz Nation 26.18 185 P **P** 18 01 10.8 +2.3
AGMN Agassiz Nation 26.18 185 P **P** 18 01 10.7 +2.2
baz=2.0
AGMN Agassiz Nation 26.18 185 P **P** 18 01 11.2 +2.6
baz=2.2,SNR=11
P19K Oil Pt 26.27 269 P **P** 18 01 10.7 +1.3
P19K Oil Pt 26.27 269 P **P** 18 01 12.4 +3.0
baz=32
DGMT Dagmar 26.45 198 P **P** 18 01 13.1 +2.1
DGMT Dagmar 26.45 198 P **P** 18 01 13.8 +2.8
baz=7.0
DGMT Dagmar 26.45 198 P **P** 18 01 14.0 +2.9
baz=7.2
EYMN Ely 26.49 178 P **P** 18 01 13.3 +1.9
EYMN IAmb IAmb 18 01 29.7
comp=Z,75nm,0.8s
EYMN Ely 26.49 178 P **P** 18 01 13.8 +2.4
baz=359
EYMN Ely 26.49 178 P **P** 18 01 14.1 +2.7
baz=360
BBB Bella Bella 26.57 233 P **P** 18 01 15.9 +4.0
comp=Z,38nm,0.9s,baz=58,slow=16,SNR=3.7
comp=Z,38nm,0.9s
MDND Maddock 26.76 191 P **P** 18 01 15.0 +1.1
MDND Maddock 26.76 191 P **P** 18 01 18.1 +4.2
baz=4.4
Q20K Shuyak Island 26.94 267 P **P** 18 01 18.3 +3.0
baz=31
WALA Waterton Lakes 26.97 212 P **P** 18 01 17.2 +1.4
WALA IAmb IAmb 18 01 33.9
comp=Z,92nm,1.0s
Q19K Cape Douglas, 27.00 269 P **P** 18 01 17.3 +1.3
Q19K Cape Douglas, 27.00 269 P **P** 18 01 18.2 +2.3
baz=32,SNR=5.9
P18K Big Mountain, 27.04 271 P **P** 18 01 17.8 +1.6
P18K IAmb IAmb 18 01 30.8
comp=Z,51nm,0.9s
P18K Big Mountain, 27.04 271 P **P** 18 01 18.6 +2.3
baz=32,SNR=9.3
N16K Nishlik Lake 27.08 275 P **P** 18 01 19.7 +3.1
baz=33
O17K Koliganek Bris 27.22 273 P **P** 18 01 21.0 +3.2
baz=32,SNR=7.1
D41A Chassel 27.43 174 P **P** 18 01 20.5 +0.7
D41A Chassel 27.43 174 P **P** 18 01 22.0 +2.1
baz=358
EGMT Eagleton 27.44 205 P **P** 18 01 22.8 +2.8
EGMT Eagleton 27.44 205 P **P** 18 01 24.0 +4.0
baz=10
P17K Kvichak River 27.53 272 P **P** 18 01 23.4 +2.8
baz=32
O16K Kokwok River B 27.64 274 P **P** 18 01 24.2 +2.6
baz=32
KDAK Kodiak Island 27.70 266 P **P** 18 01 25.6 +3.5
comp=Z,16nm,0.8s,baz=49,slow=5.6,SNR=14
comp=Z,16nm,0.8s
KDAK Kodiak Island 27.70 266 P **P** 18 01 24.7 +2.5
KDAK Kodiak Island 27.70 266 P **P** 18 01 25.1 +3.0
baz=30
KDAK Kodiak Island 27.70 266 *i* P **P** 18 01 24.9 +2.8
KDAK pmax pmax
comp=Z,65nm,0.9s
E38A The Farm, Brul 27.83 178 P **P** 18 01 23.3 -0.1
E38A IAmb IAmb 18 01 42.9
comp=Z,61nm,1.2s
E38A The Farm, Brul 27.83 178 P **P** 18 01 25.4 +2.0
baz=359
E28A Huff 28.09 192 P **P** 18 01 27.6 +1.8
P16K Nushagak River 28.09 273 P **P** 18 01 27.1 +1.5
baz=32
NEW Newport 28.23 216 P **P** 18 01 30.2 +3.2
comp=Z,8.5nm,0.8s,baz=22,slow=7.9,SNR=11
NEW Lg Lg 18 10 24.5
comp=Z,1.6nm,0.3s,baz=277,slow=15,SNR=3.7
NEW LR LR 18 12 49.9
comp=Z,1µm,18.4s,baz=10.0,slow=36
comp=Z,8.5nm,0.8s
NEW Newport 28.23 216 P **P** 18 01 29.1 +2.1
NEW IAmb IAmb 18 01 43.5
comp=Z,51nm,0.8s
NEW Newport 28.23 216 P **P** 18 01 29.1 +2.1
NEW pmax pmax
comp=Z,51nm,0.9s
OHAK Old Harbor 28.38 267 P **P** 18 01 31.0 +2.8
OHAK IAmb IAmb 18 02 26.6
comp=Z,44nm,1.0s
OHAK Old Harbor 28.38 267 P **P** 18 01 30.9 +2.8
baz=30
LAO LASA Array 28.39 200 P **P** 18 01 29.6 +1.1
LAO IAmb IAmb 18 02 06.0
comp=Z,52nm,0.8s
LAO LASA Array 28.39 200 P **P** 18 01 31.2 +2.7
baz=7.7
LAO LASA Array 28.39 200 P **P** 18 01 31.5 +3.0
baz=7.9
LATQ La Tuque 28.39 151 P **P** 18 01 29.7 +1.3
LATQ IAmb IAmb 18 01 44.3
comp=Z,94nm,1.6s
B08A Colville Reser 28.50 219 P **P** 18 01 30.3 +0.9
B08A IAmb IAmb 18 01 45.6
comp=Z,34nm,1.1s
F36A Milaca 28.58 181 P **P** 18 01 30.6 +0.6
F36A IAmb IAmb 18 02 14.4
comp=Z,25nm,0.7s
F36A Milaca 28.58 181 P **P** 18 01 32.2 +2.1
baz=0.6
F33A 5 Mile Ranch, 28.64 185 P **P** 18 01 30.9 +0.3
F33A IAmb IAmb 18 02 30.1
comp=Z,69nm,1.4s
F33A 5 Mile Ranch, 28.64 185 P **P** 18 01 33.2 +2.6
baz=2.1
B06A Marblemount 28.73 222 P **P** 18 01 31.1 -0.2
B06A IAmb IAmb 18 02 16.8
comp=Z,77nm,1.8s
R17K Ugashik Creek 28.86 270 P **P** 18 01 34.6 +2.2
baz=30
C09A Chrisman Ranch 28.86 217 P **P** 18 01 34.8 +2.1
C09A IAmb IAmb 18 01 48.7
comp=Z,30nm,0.9s
PGC Sidney 28.97 225 P **P** 18 01 36.0 +2.6

PGC IAmb IAmb 18 02 39.1
comp=Z,65nm,1.2s
HRY Holter Researc 28.99 208 P **P** **18 01 35.6 +1.8**
MSO Missoula 29.15 211 P **P** **18 01 35.5 +0.2**
MSO Missoula 29.15 211 P **P** **18 01 38.1 +2.8**
baz=12
G40A Rib Lake 29.19 177 P **P** **18 01 36.6 +1.1**
G40A IAmb IAmb 18 01 50.9
comp=Z,34nm,0.6s
G40A Rib Lake 29.19 177 P **P** **18 01 38.0 +2.5**
baz=359,SNR=6.9
SII Sitkinak Islan 29.20 267 P **P** **18 01 38.0 +2.4**
baz=29
SPMN Marine on St. 29.21 180 P **P** **18 01 37.2 +1.5**
SPMN IAmb IAmb 18 02 33.7
comp=Z,31nm,0.6s
SPMN Marine on St. 29.21 180 P **P** **18 01 38.8 +3.1**
baz=0.3
D62A Allapoint, All 29.22 146 P **P** **18 01 37.2 +1.5**
D62A IAmb IAmb 18 02 35.0
comp=Z,80nm,1.6s
D62A Allapoint, All 29.22 146 P **P** **18 01 37.2 +1.5**
baz=347
D62A P **P** **18 01 37.2 +1.5**
baz=347
BILL Bilibino 29.31 311 P **P** **18 01 37.7 +1.4**
BILL IAmb IAmb 18 01 39.3
comp=Z,42nm,1.2s
BILL Bilibino 29.31 311 *d i* P **P** **18 01 37.9 +1.5**
BILL *j* *PP sP 18 01 49.2 +8.6
BILL *e* 18 02 31.0
BILL SS **SnSn** **18 07 57.0 +2.8**
BILL pmax pmax
comp=Z,57nm,1.7s
TRQ Mont Tremblant 29.31 154 P **P** **18 01 38.0 +1.3**
TRQ IAmb IAmb 18 02 36.1
comp=Z,34nm,1.1s
E62A Clayton Lake 29.60 147 P **P** **18 01 40.7 +1.6**
baz=348
E62A P **P** **18 01 40.7 +1.6**
baz=348
GCMT Greycliff 29.63 205 P **P** **18 01 41.4 +1.7**
D08A Wollman Farm, 29.69 218 P **P** **18 01 41.4 +1.4**
D08A IAmb IAmb 18 01 57.8
comp=Z,36nm,1.3s
LTY Liberty 29.80 220 P **P** **18 01 42.5 +1.5**
LRM Limekiln Ridge 29.94 208 P **P** **18 01 43.8 +1.3**
E63A Oxbow 29.96 145 P **P** **18 01 43.8 +1.5**
baz=347
E63A P **P** **18 01 43.8 +1.5**
baz=347
BOZ Bozeman (W) 30.06 207 P **P** **18 01 44.8 +1.4**
BOZ IAmb IAmb 18 01 59.3
comp=Z,68nm,1.1s
BOZ Bozeman (W) 30.06 207 P **P** **18 01 47.0 +3.6**
baz=10
BOZ Bozeman (W) 30.06 207 P **P** **18 01 44.8 +1.4**
BOZ pmax pmax
comp=Z,68nm,1.2s
E09A Wood Farm, Sta 30.09 216 P **P** **18 01 45.2 +1.7**
CHIR Chirikof Islan 30.23 267 P **P** **18 01 46.2 +1.5**
baz=29
RLMT Red Lodge 30.25 204 P **P** **18 01 45.7 +0.5**
RLMT IAmb IAmb 18 02 54.1
comp=Z,27nm,0.8s
RLMT Red Lodge 30.25 204 P **P** **18 01 48.7 +3.6**
baz=9.1
E08A Dider Farm, El 30.27 218 P **P** **18 01 47.3 +2.3**
E08A IAmb IAmb 18 02 00.4
comp=Z,44nm,1.1s
SADO Sadowa 30.27 161 LR LR 18 13 51.9
comp=Z,618nm,19.0s,baz=330,slow=36
I37A Lemond, Waseca 30.42 181 P **P** **18 01 48.0 +1.5**
I37A IAmb IAmb 18 02 43.9
comp=Z,57nm,1.1s
I37B Waseca 30.42 181 P **P** **18 01 49.0 +2.5**
baz=0.5
HAWA Hanford 30.44 218 P **P** **18 01 47.7 +1.1**
F10A Beach Ranch, E 30.47 215 P **P** **18 01 49.1 +2.2**
LON Longmire 30.49 221 P **P** **18 01 47.7 +0.6**
LON Longmire 30.49 221 P **P** **18 01 47.7 +0.6**
LON pmax pmax
comp=Z,18nm,1.0s
F64A Sherman 30.51 146 P **P** **18 01 47.8 +0.6**
F64A IAmb IAmb 18 01 50.1
comp=Z,49nm,1.2s
F64A Sherman 30.51 146 P **P** **18 01 49.4 +2.2**
baz=348
F64A P **P** **18 01 49.4 +2.2**
baz=348
I40A Norwalk 30.56 177 P **P** **18 01 47.4 -0.3**
I40A IAmb IAmb 18 02 41.3
comp=Z,33nm,0.6s
BMNY Brushton-Moira 30.68 154 P **P** **18 01 50.0 +1.3**
baz=351
RSSD Black Hills 30.75 196 P **P** **18 01 51.9 +2.3**
RSSD IAmb IAmb 18 02 05.9
comp=Z,42nm,0.8s
RSSD Black Hills 30.75 196 P **P** **18 01 52.6 +2.9**
baz=6.0,SNR=26
RSSD Black Hills 30.75 196 P **P** **18 01 52.6 +2.9**
baz=6.2
RSSD Black Hills 30.75 196 P **P** **18 01 51.9 +2.3**
RSSD pmax pmax
comp=Z,42nm,0.9s
ECSD EROS Data Cent 30.76 186 P **P** **18 01 51.9 +2.5**
ECSD IAmb IAmb 18 02 55.6
comp=Z,24nm,0.9s
ECSD EROS Data Cent 30.76 186 P **P** **18 01 52.4 +3.0**
baz=2.1,SNR=11
ECSD EROS Data Cent 30.76 186 P **P** **18 01 52.4 +3.0**
baz=2.3,SNR=11
FRNY Flat Rock 30.80 153 P **P** **18 01 51.9 +2.2**
baz=350
YNR Norris Junctio 30.81 206 P **P** **18 01 52.8 +2.7**
G62A West of Eustis 30.82 149 P **P** **18 01 51.4 +1.4**
baz=349
G62A P **P** **18 01 51.4 +1.4**
baz=349
YMR Madison River 30.89 206 P **P** **18 01 53.3 +2.5**
YMR IAmb IAmb 18 02 51.6
comp=Z,21nm,0.8s
MCMT McKenzie Canyo 30.97 209 P **P** **18 01 54.4 +2.9**
F07A Phinny Hill Vi 30.99 219 P **P** **18 01 53.6 +2.2**
F07A IAmb IAmb 18 02 07.1
comp=Z,32nm,1.0s
H17A Grant Village 31.11 205 P **P** **18 01 54.3 +1.5**
ARCES ARCESS Array B 31.13 37 P **P** **18 01 52.9 +0.4**
comp=Z,3.0nm,0.6s,baz=344,slow=7.6,SNR=9.1
comp=Z,3.0nm,0.6s
PLID Pearl Lake 31.15 213 P **P** **18 01 53.9 +0.8**
G65A Princeton 31.28 145 P **P** **18 01 55.5 +1.6**
baz=347
G65A P **P** **18 01 55.5 +1.6**
baz=347
H62A Milan 31.37 150 P **P** **18 01 56.1 +1.3**
baz=349
H62A P **P** **18 01 56.1 +1.3**
baz=349
G08A Pilot Rock 31.41 217 P **P** **18 01 56.2 +0.9**
JFWS Jewell Farm 31.54 177 P **P** **18 01 58.6 +2.3**
baz=359
BCYI Bear Canyon 31.55 209 P **P** **18 01 58.6 +2.0**
NCB Newcomb 31.57 154 P **P** **18 01 59.2 +2.7**
NCB IAmb IAmb 18 03 04.1
comp=Z,19nm,0.8s
NCB Newcomb 31.57 154 P **P** **18 01 58.9 +2.3**
baz=351
BMO Blue Mountains 31.58 215 P **P** **18 01 58.6 +1.9**
BMO Blue Mountains 31.58 215 P **P** **18 01 58.6 +1.9**
BMO pmax pmax
comp=Z,62nm,1.1s
K38A Parkersburg 31.79 180 P **P** **18 02 00.5 +2.0**
baz=0.1
HOOD Mount Hood Mea 31.84 221 P **P** **18 01 58.3 -0.8**
HOOD IAmb IAmb 18 02 15.2
comp=Z,31nm,1.0s
TIXI Tiksi 31.96 337 LR LR 18 15 12.1
comp=Z,419nm,21.1s,baz=179,slow=37
TIXI Tiksi 31.96 337 P **P** **18 01 59.8 +0.1**
TIXI Tiksi 31.96 337 *ce* P **P** **18 01 59.7 0.0**
TIXI pmax pmax
comp=Z,29nm,1.7s
SDPT Sand Point 31.97 272 P **P** **18 02 01.5 +1.6**
baz=28
S12K Black Hills 32.09 274 P **P** **18 02 02.9 +1.9**
baz=29
ACCN Adirondack Com 32.22 154 P **P** **18 02 03.9 +1.6**
baz=351
L44A Lake County Fo 32.33 174 P **P** **18 02 06.1 +2.9**
baz=358
L40A Anamosa 32.38 178 P **P** **18 02 07.3 +3.7**
L40A Anamosa 32.38 178 P **P** **18 02 06.3 +2.7**
baz=359
HLID Hailey 32.42 210 P **P** **18 02 06.0 +1.8**
HLID IAmb IAmb 18 02 20.2
comp=Z,44nm,1.0s
HLID Hailey 32.42 210 P **P** **18 02 07.3 +3.1**
baz=11
K22A Casper 32.42 199 P **P** **18 02 06.8 +2.5**
K22A Casper 32.42 199 P **P** **18 02 06.9 +2.7**
baz=7.0,SNR=5.5
K22A Casper 32.42 199 P **P** **18 02 07.3 +3.1**
baz=7.2,SNR=5.5
SCIA State Center 32.53 181 P **P** **18 02 05.9 +0.9**
ECR Eagle Creek 32.53 206 P **P** **18 02 05.8 +0.6**
K57A Scipio Center 32.55 158 P **P** **18 02 07.5 +2.3**
baz=352
BW06 Boulder Array 32.61 204 P **P** **18 02 07.7 +1.7**
BW06 Boulder Array 32.61 204 P **P** **18 02 07.9 +1.9**
baz=8.6
PD31 Pinedale Array 32.61 204 P **P** **18 02 07.0 +1.0**
PDAR Pinedale Array 32.61 204 P **P** **18 02 08.7 +2.7**
comp=Z,1.0nm,0.3s,baz=20,slow=5.3,SNR=15
PDAR Lg Lg 18 12 41.0
comp=Z,0.2nm,0.3s,baz=34,slow=39,SNR=3.1
PDAR LR LR 18 15 46.8
comp=Z,903nm,18.2s,baz=10,slow=37
comp=Z,1.0nm,0.3s
PDAR Pinedale Array 32.61 204 P **P** **18 02 07.5 +1.5**
I07A Izee 32.68 217 P **P** **18 02 09.9 +3.5**
I07A IAmb IAmb 18 02 24.1
comp=Z,27nm,0.9s
MFID Camas Ranch 32.76 212 P **P** **18 02 07.2 0.0**
MFID IAmb IAmb 18 02 25.4
comp=Z,33nm,1.2s
AHID Auburn Hatcher 32.78 206 P **P** **18 02 09.2 +1.8**
AHID IAmb IAmb 18 02 23.2
comp=Z,30nm,1.0s
ERPA Erie 32.83 163 P **P** **18 02 09.9 +2.3**
baz=354
BINY Binghamton 33.13 157 P **P** **18 02 13.2 +3.0**
baz=352
BGNE Belgrade 33.13 188 P **P** **18 02 11.1 +0.8**
PINE Pine Mountain 33.20 219 P **P** **18 02 15.4 +4.3**
PINE IAmb IAmb 18 02 28.1
comp=Z,32nm,0.9s
J08A Circle Bar Ran 33.22 216 P **P** **18 02 14.2 +3.0**
J08A IAmb IAmb 18 02 28.7
comp=Z,37nm,0.9s
L59A Walton 33.24 156 P **P** **18 02 14.0 +2.8**
baz=352
L59A P **P** **18 02 14.0 +2.8**
baz=352
L61B Northampton 33.26 153 P **P** **18 02 14.4 +3.1**
baz=350
L61B Northampton 33.26 153 P **P** **18 02 13.4 +2.1**
baz=350
ALLY Alegheny Colle 33.29 163 P **P** **18 02 12.5 +0.9**
ALLY Alegheny Colle 33.29 163 P **P** **18 02 13.2 +1.6**
baz=354
M52A Chesterland 33.30 165 P **P** **18 02 14.4 +2.7**
baz=355
M52A P **P** **18 02 14.4 +2.7**
baz=355
HRV Adam Dziewonsk 33.35 151 P **P** **18 02 14.4 +2.3**
baz=350
M53A WI Miller and 33.45 164 P **P** **18 02 15.3 +2.3**
M53A WI Miller and 33.45 164 P **P** **18 02 15.9 +2.9**
baz=354
N35A Tabor 33.60 184 P **P** **18 02 15.5 +1.1**
N35A Tabor 33.60 184 P **P** **18 02 17.1 +2.8**
baz=1.5
N38A Joes South For 33.64 181 P **P** **18 02 16.5 +1.8**
N38A Joes South For 33.64 181 P **P** **18 02 17.5 +2.8**
baz=0.3
N49A Columbus Grove 33.74 169 P **P** **18 02 17.8 +2.3**
N49A Columbus Grove 33.74 169 P **P** **18 02 18.1 +2.6**
baz=356
N49A P **P** **18 02 18.1 +2.6**
baz=356
OGNE Ogallala 33.78 193 P **P** **18 02 16.8 +0.8**
OGNE IAmb IAmb 18 03 29.1
comp=Z,20nm,0.6s
OGNE Ogallala 33.78 193 P **P** **18 02 18.4 +2.4**
baz=4.6
OGNE Ogallala 33.78 193 P **P** **18 02 18.7 +2.7**
baz=4.8
N51A Ashland 33.85 166 P **P** **18 02 19.5 +2.9**
baz=355
N51A P **P** **18 02 19.5 +2.9**
baz=355
M57A Sunshine Farm, 33.86 159 P **P** **18 02 18.7 +2.1**
baz=353
M57A P **P** **18 02 18.7 +2.1**
baz=353
PSDB Penn State Uni 33.92 161 P **P** **18 02 19.3 +2.2**
baz=353
HVU Hansel Valley 33.96 208 P **P** **18 02 20.2 +2.5**
HVU IAmb IAmb 18 02 33.4
comp=Z,36nm,1.0s
HVU Hansel Valley 33.96 208 P **P** **18 02 20.2 +2.5**
HVU pmax pmax
comp=Z,36nm,1.0s
HWUT Hardware Ranch 33.98 206 P **P** **18 02 20.4 +2.5**
HWUT IAmb IAmb 18 02 34.5
comp=Z,41nm,0.9s
N53A Lisbon 34.07 164 P **P** **18 02 20.3 +1.8**
N53A IAmb IAmb 18 02 31.5
comp=Z,29nm,1.0s
N53A Lisbon 34.07 164 P **P** **18 02 20.8 +2.4**
baz=354
N53A P **P** **18 02 20.8 +2.4**
baz=354
N23A Red Feather La 34.11 198 P **P** **18 02 20.0 +0.8**
N23A IAmb IAmb 18 02 35.1
comp=Z,38nm,1.1s
N23A Red Feather La 34.11 198 P **P** **18 02 23.0 +3.8**
baz=6.6,SNR=5.5
WVOR Wild Horse Val 34.15 215 P **P** **18 02 19.5 +0.3**
WVOR Wild Horse Val 34.15 215 P **P** **18 02 19.5 +0.3**
WVOR pmax pmax
comp=Z,18nm,1.2s
SFIN Lafayette 34.15 173 P **P** **18 02 18.9 -0.2**
SFIN IAmb IAmb 18 02 31.1
comp=Z,20nm,0.9s
SFIN Lafayette 34.15 173 P **P** **18 02 21.9 +2.7**
baz=357
SFIN Lafayette 34.15 173 P **P** **18 02 22.5 +3.4**
baz=358
K05A Summer Lake 34.23 218 P **P** **18 02 20.4 +0.4**
BRIGG Briggsdale 34.30 196 P **P** **18 02 21.5 +1.0**
BRIGG IAmb IAmb 18 02 37.5
comp=Z,39nm,0.9s
O44A Mansfield 34.34 174 P **P** **18 02 20.5 -0.2**
O44A IAmb IAmb 18 02 32.7
comp=Z,20nm,0.9s
O48B Farmland 34.35 170 P **P** **18 02 22.8 +1.9**
baz=356
O48B Farmland 34.35 170 P **P** **18 02 24.4 +3.5**
baz=357
TRNY Table Rock, Ra 34.36 155 P **P** **18 02 20.9 -0.1**
ODNJ Ogdensburg 34.38 156 P **P** **18 02 23.1 +2.1**
ODNJ IAmb IAmb 18 02 24.8
comp=Z,49nm,1.5s
ODNJ Ogdensburg 34.38 156 P **P** **18 02 23.8 +2.7**
baz=352
SPUT South Promonto 34.38 207 P **P** **18 02 21.6 +0.2**
SPUT IAmb IAmb 18 02 37.1
comp=Z,33nm,1.1s
N58A Sunbury 34.40 158 P **P** **18 02 23.1 +1.8**
N58A IAmb IAmb 18 02 32.8
comp=Z,35nm,1.1s
N58A Sunbury 34.40 158 P **P** **18 02 23.9 +2.6**
baz=353
N58A P **P** **18 02 23.9 +2.6**
baz=353
TCUT Toone Canyon 34.45 206 P **P** **18 02 24.4 +2.5**
TCUT IAmb IAmb 18 02 39.3
comp=Z,28nm,0.8s
UPAO U. Pittsburgh 34.46 163 P **P** **18 02 24.2 +2.4**
baz=354
O49A Covington 34.46 169 P **P** **18 02 24.6 +2.8**
O49A IAmb IAmb 18 02 38.6
comp=Z,44nm,1.0s
O49A Covington 34.46 169 P **P** **18 02 24.7 +2.8**
baz=356
O49A P **P** **18 02 24.7 +2.8**
baz=356
SSPA Standing Stone 34.49 160 P **P** **18 02 23.6 +1.6**
SSPA IAmb IAmb 18 03 29.3
comp=Z,73nm,1.9s
SSPA Standing Stone 34.49 160 P **P** **18 02 24.2 +2.2**
baz=353
SSPA Standing Stone 34.49 160 P **P** **18 02 24.6 +2.6**
baz=353
ACSO Alum Creek Sta 34.50 167 P **P** **18 02 24.4 +2.3**
ACSO IAmb IAmb 18 02 34.0
comp=Z,37nm,1.0s
ACSO Alum Creek Sta 34.50 167 P **P** **18 02 24.8 +2.7**
baz=356
ACSO Alum Creek Sta 34.50 167 P **P** **18 02 25.5 +3.3**
baz=356
PAL Palisades 34.54 155 P **P** **18 02 25.5 +3.1**
baz=351
PAL Palisades 34.54 155 P **P** **18 02 25.8 +3.4**
baz=351
O53A New Philadelph 34.60 165 P **P** **18 02 25.1 +2.1**
O53A IAmb IAmb 18 02 35.6
comp=Z,72nm,1.5s
O53A New Philadelph 34.60 165 P **P** **18 02 26.0 +3.0**
baz=355
O52A Adamsville 34.69 165 P **P** **18 02 26.4 +2.7**
O52A IAmb IAmb 18 02 35.3
comp=Z,45nm,1.1s
O52A Adamsville 34.69 165 P **P** **18 02 25.8 +2.0**
baz=355
O52A P **P** **18 02 25.8 +2.0**
baz=355
O54A Avella 34.73 163 P **P** **18 02 25.8 +1.7**
O54A Avella 34.73 163 P **P** **18 02 25.8 +1.7**
baz=354
O54A P **P** **18 02 25.8 +1.7**
baz=354
LUPA Lehigh Univers 34.77 157 P **P** **18 02 26.3 +1.8**
LUPA IAmb IAmb 18 02 36.8
comp=Z,19nm,0.8s
RDMU Red Mountain 34.78 203 P **P** **18 02 25.3 +0.5**
RDMU IAmb IAmb 18 02 41.4
comp=Z,45nm,1.0s
P38A Dawn 34.81 181 P **P** **18 02 26.7 +1.9**
P38A IAmb IAmb 18 02 38.3
comp=Z,27nm,0.7s
P38A Dawn 34.81 181 P **P** **18 02 27.3 +2.4**
baz=0.5,SNR=8.4
P43A Skaggs, Pawnee 34.82 176 P **P** **18 02 26.3 +1.4**
baz=359
BGU Big Grassy Mou 34.83 208 P **P** **18 02 27.9 +2.7**
BGU IAmb IAmb 18 02 41.0
comp=Z,23nm,1.0s
P40A Paris 34.90 179 P **P** **18 02 27.4 +1.7**
P40A IAmb IAmb 18 02 37.8
comp=Z,40nm,1.4s
P40A Paris 34.90 179 P **P** **18 02 27.9 +2.2**
baz=360
P46A Rosedale 34.91 173 P **P** **18 02 26.8 +1.2**
P46A IAmb IAmb 18 02 37.6
comp=Z,33nm,0.9s
P46A Rosedale 34.91 173 P **P** **18 02 28.5 +2.9**
baz=358
MOD Modoc Plateau 34.94 217 P **P** **18 02 29.9 +3.8**
MOD IAmb IAmb 18 02 43.2
comp=Z,42nm,0.9s
JLU Jordanelle 34.96 205 P **P** **18 02 26.6 +0.1**
O20A White River Ci 35.08 201 P **P** **18 02 29.9 +2.5**
O20A IAmb IAmb 18 02 45.7
comp=Z,36nm,1.0s
O20A White River Ci 35.08 201 P **P** **18 02 31.3 +3.9**
baz=7.5,SNR=6.2
P49A Miami Univ. Ec 35.09 169 P **P** **18 02 29.6 +2.3**
P49A IAmb IAmb 18 02 39.6
comp=Z,73nm,1.4s
P49A Miami Univ. Ec 35.09 169 P **P** **18 02 29.3 +2.0**
baz=356
P49A Miami Univ. Ec 35.09 169 P **P** **18 02 30.1 +2.8**
baz=356
P48A Milroy 35.13 170 P **P** **18 02 29.5 +1.8**
P48A IAmb IAmb 18 02 39.2
comp=Z,26nm,0.9s
P48A Milroy 35.13 170 P **P** **18 02 29.9 +2.3**
baz=357
P48A P **P** **18 02 29.9 +2.3**
baz=357
P52A Corning 35.15 166 P **P** **18 02 29.9 +2.2**
baz=355
ISCO Idaho Springs 35.17 198 P **P** **18 02 29.8 +1.5**
ISCO Idaho Springs 35.17 198 P **P** **18 02 31.6 +3.3**
baz=6.0
ISCO Idaho Springs 35.17 198 P **P** **18 02 31.8 +3.4**
baz=6.2
ISCO Idaho Springs 35.17 198 P **P** **18 02 29.8 +1.5**
ISCO pmax pmax
comp=Z,8.0nm,0.9s
P51A Williamsport 35.24 167 P **P** **18 02 30.4 +1.9**
P51A Williamsport 35.24 167 P **P** **18 02 31.5 +3.0**
baz=356,SNR=5.3
P51A P **P** **18 02 31.5 +3.0**
baz=356,SNR=5.3
MVL Millersville 35.27 158 P **P** **18 02 28.2 -0.5**
MVL IAmb IAmb 18 02 40.5
comp=Z,62nm,1.4s
MCWV Mont Chateau 35.29 163 P **P** **18 02 30.8 +1.8**
MCWV IAmb IAmb 18 02 41.5
comp=Z,65nm,1.4s
MCWV Mont Chateau 35.29 163 P **P** **18 02 31.5 +2.5**
baz=354
MCWV Mont Chateau 35.29 163 P **P** **18 02 32.1 +3.2**
baz=354
ELK Elko 35.30 210 LR LR 18 17 25.6
comp=Z,2μm,18.5s,baz=16,slow=37
ELK Elko 35.30 210 P **P** **18 02 31.8 +2.5**
ELK Elko 35.30 210 P **P** **18 02 31.8 +2.5**
ELK pmax pmax
comp=Z,63nm,1.0s
P53A Whipple 35.34 165 P **P** **18 02 30.6 +1.1**
P53A IAmb IAmb 18 02 41.9
comp=Z,78nm,1.5s
P53A Whipple 35.34 165 P **P** **18 02 32.0 +2.5**
baz=355
P53A P **P** **18 02 32.0 +2.5**
baz=355
KSU1 Kansas State U 35.38 185 P **P** **18 02 31.4 +1.6**
KSU1 IAmb IAmb 18 02 45.9
comp=Z,39nm,0.8s
KSU1 Kansas State U 35.38 185 P **P** **18 02 32.5 +2.7**
baz=1.9,SNR=5.6
KSU1 Kansas State U 35.38 185 P **P** **18 02 32.5 +2.7**
baz=2.0,SNR=5.6
YBH Yreka Blue Hor 35.51 220 LR LR 18 17 18.1
comp=Z,427nm,20.9s,baz=16,slow=37
DUG Dugway, Tooele 35.52 207 P **P** **18 02 34.0 +2.8**
DUG Dugway, Tooele 35.52 207 P **P** **18 02 34.6 +3.5**
baz=9.4,SNR=15
DUG Dugway, Tooele 35.52 207 P **P** **18 02 34.0 +2.8**
DUG pmax pmax
comp=Z,78nm,0.9s
MPU Maple Canyon 35.56 206 P **P** **18 02 32.9 +1.4**
Q44A Meyer Farm, Va 35.57 175 P **P** **18 02 31.8 +0.5**
Q44A IAmb IAmb 18 02 42.9
comp=Z,53nm,1.3s
NC204 NORSAR Array S 35.67 54 P **P** **18 02 32.2 +0.1**
NLU North Lily Min 35.67 206 P **P** **18 02 33.9 +1.3**
NLU IAmb IAmb 18 02 49.1
comp=Z,37nm,0.9s
Q51A Peebles 35.67 168 P **P** **18 02 32.3 0.0**
Q51A IAmb IAmb 18 02 44.0
comp=Z,30nm,1.0s
Q51A Peebles 35.67 168 P **P** **18 02 33.5 +1.2**
baz=356
Q51A P **P** **18 02 33.5 +1.2**
baz=356
KSCO Kaye Shedlock' 35.74 193 P **P** **18 02 35.6 +2.6**
baz=4.6
KSCO Kaye Shedlock' 35.74 193 P **P** **18 02 36.1 +3.1**
baz=4.8
OLIL Olney 35.76 174 P **P** **18 02 34.2 +1.2**
OLIL Olney 35.76 174 P **P** **18 02 35.3 +2.3**
baz=358

CBKS Cedar Bluff 35.78 190 P **P** **18 02 34.1 +0.9**
CBKS IAmb IAmb 18 02 49.2
comp=Z,28nm,0.9s
CBKS Cedar Bluff 35.78 190 P **P** **18 02 35.5 +2.3**
baz=3.3
CBKS Cedar Bluff 35.78 190 P **P** **18 02 36.4 +3.1**
baz=3.5
CBKS Cedar Bluff 35.78 190 P **P** **18 02 34.1 +0.9**
CBKS pmax pmax
comp=Z,28nm,0.9s
P18A Preston Nutter 35.79 204 P **P** **18 02 36.5 +2.9**
P18A IAmb IAmb 18 03 06.6
comp=Z,18nm,0.8s
SDMD Soldier's Deli 35.80 159 P **P** **18 02 33.8 +0.4**
Q52A Bidwell 35.80 166 P **P** **18 02 34.8 +1.4**
Q52A Bidwell 35.80 166 P **P** **18 02 35.7 +2.3**
baz=355,SNR=5.2
Q52A P **P** **18 02 35.7 +2.3**
baz=355,SNR=5.2
NC303 NORSAR Array S 35.84 53 P **P** **18 02 31.8 -1.7**
NC303 IAmb IAmb 18 02 46.5
comp=Z,39nm,1.0s
Q54A Coxs Mills 35.88 164 P **P** **18 02 36.4 +2.3**
Q54A Coxs Mills 35.88 164 P **P** **18 02 36.3 +2.3**
baz=355
Q54A P **P** **18 02 36.3 +2.3**
baz=355
BMN Battle Mountai 35.89 213 P **P** **18 02 38.0 +3.7**
BMN Battle Mountai 35.89 213 P **P** **18 02 38.0 +3.7**
BMN pmax pmax
comp=Z,49nm,0.9s
Q56A Snyder Ridge, 35.95 162 P **P** **18 02 37.0 +2.3**
Q56A IAmb IAmb 18 02 46.8
comp=Z,49nm,1.1s
Q56A Snyder Ridge, 35.95 162 P **P** **18 02 37.4 +2.7**
baz=354,SNR=8.3
Q56A P **P** **18 02 37.4 +2.7**
baz=354,SNR=8.3
Q24A Divide 35.97 197 P **P** **18 02 36.6 +1.5**
Q24A IAmb IAmb 18 02 51.5
comp=Z,26nm,1.1s
Q24A Divide 35.97 197 P **P** **18 02 37.8 +2.6**
baz=5.9
NB2 NORSAR Subarra 35.98 54 P **P** **18 02 34.9 +0.2**
comp=Z,34nm,0.9s,baz=327,slow=7.9
NB2 NORSAR Subarra 35.98 54 P **P** **18 02 34.9 +0.2**
baz=327,slow=7.9
NOA NORSAR Array B 35.98 54 P **P** **18 02 35.1 +0.3**
comp=Z,7.4nm,0.8s,baz=322,slow=6.5,SNR=14
NOA LR LR 18 17 05.1
comp=Z,356nm,18.6s,baz=340,slow=36
NB201 NORSAR Array S 35.98 54 P **P** **18 02 33.7 -1.0**
NB201 IAmb IAmb 18 02 48.0
comp=Z,29nm,0.9s
P17A Butcher Ranch, 35.99 204 P **P** **18 02 38.0 +2.8**
NC405 NORSAR Array S 36.02 53 P **P** **18 02 35.9 +0.9**
NC405 IAmb IAmb 18 02 47.2
comp=Z,27nm,0.8s
R32A Long Quarter, 36.13 188 P **P** **18 02 37.8 +1.6**
R32A IAmb IAmb 18 02 51.2
comp=Z,57nm,1.2s
R32A Long Quarter, 36.13 188 P **P** **18 02 38.6 +2.4**
baz=2.8
R40A Maddies Statio 36.14 180 P **P** **18 02 37.7 +1.4**
R40A IAmb IAmb 18 02 50.4
comp=Z,22nm,0.9s
R40A Maddies Statio 36.14 180 P **P** **18 02 38.1 +1.8**
baz=360,SNR=11
TMUT Trail Mountain 36.22 205 P **P** **18 02 39.7 +2.4**
R49A Shelbyville 36.31 170 P **P** **18 02 39.8 +2.1**
R49A IAmb IAmb 18 03 45.4
comp=Z,64nm,1.8s
R49A Shelbyville 36.31 170 P **P** **18 02 40.3 +2.6**
baz=357
R49A P **P** **18 02 40.3 +2.6**
baz=357
NORES NORESS Array B 36.32 54 P **P** **18 02 37.7 +0.1**
WCI Wyandotte Cave 36.33 172 P **P** **18 02 39.5 +1.6**
WCI IAmb IAmb 18 03 56.2
comp=Z,36nm,1.4s
WCI Wyandotte Cave 36.33 172 P **P** **18 02 39.5 +1.6**
WCI pmax pmax
comp=Z,36nm,1.5s
SRU San Rafael Swe 36.33 204 P **P** **18 02 40.9 +2.8**
SRU IAmb IAmb 18 02 53.9
comp=Z,37nm,0.9s
SRU San Rafael Swe 36.33 204 P **P** **18 02 40.9 +2.8**
SRU pmax pmax
comp=Z,37nm,0.9s
R50A Paris 36.36 169 P **P** **18 02 38.9 +0.7**
R50A Paris 36.36 169 P **P** **18 02 40.1 +1.9**
baz=356
R50A P **P** **18 02 40.1 +1.9**
baz=356
CCM Cathedral Cave 36.38 178 P **P** **18 02 39.7 +1.4**
CCM IAmb IAmb 18 02 49.6
comp=Z,94nm,1.7s
CCM Cathedral Cave 36.38 178 P **P** **18 02 40.4 +2.1**
baz=359,SNR=7.8
CCM Cathedral Cave 36.38 178 P **P** **18 02 40.6 +2.3**
baz=360
CCM Cathedral Cave 36.38 178 P **P** **18 02 39.7 +1.4**
CCM pmax pmax
comp=Z,94nm,1.7s
R53A Hurricane 36.45 166 P **P** **18 02 41.2 +2.3**
baz=355
R53A P **P** **18 02 41.2 +2.3**
baz=355
FVM French Village 36.46 177 P **P** **18 02 42.3 +3.3**
FVM French Village 36.46 177 P **P** **18 02 42.3 +3.3**
FVM pmax pmax
comp=Z,17nm,1.1s
NRIK Noril'sk 36.54 360 P **P** **18 02 39.8 +0.4**
comp=Z,5.5nm,0.8s,baz=13,slow=7.6,SNR=8.7
NRIK LR LR 18 17 57.4
comp=Z,526nm,19.4s,baz=9.0,slow=37
comp=Z,5.5nm,0.8s
NRIK Noril'sk 36.54 360 P **P** **18 02 39.7 +0.3**
NRIK IAmb IAmb 18 02 41.4
comp=Z,41nm,1.6s
NRIK Noril'sk 36.54 360*ce*P **P** **18 02 38.5 -0.9**
NRIK pmax pmax
comp=Z,9.0nm,1.2s
SEY Seymchan 36.56 316*ce*P **P** **18 02 40.2 +0.6**
SEY pmax pmax
comp=Z,31nm,1.3s
Q16A Castle Valley 36.59 205 P **P** **18 02 41.7 +1.3**
R55A Marlinton 36.63 163 P **P** **18 02 42.8 +2.2**
PV21 Cone Mtn., Par 36.71 202 P **P** **18 02 43.2 +1.8**
PV21 IAmb IAmb 18 02 58.2
comp=Z,18nm,0.7s
PV22 Blue Mesa, Par 36.72 201 P **P** **18 02 43.2 +1.8**
S39A Bolivar 36.74 181 P **P** **18 02 41.6 +0.2**
S39A Bolivar 36.74 181 P **P** **18 02 43.1 +1.7**
baz=0.4
S44A Carbondale 36.77 176 P **P** **18 02 42.3 +0.7**
S44A Carbondale 36.77 176 P **P** **18 02 43.0 +1.4**
baz=358
PV07 Paradox Valley 36.80 201 P **P** **18 02 43.5 +1.3**
PV23 Carpenter Ridg 36.82 202 P **P** **18 02 43.2 +0.8**
PV04 Paradox Valley 36.87 202 P **P** **18 02 43.2 +0.5**
PV04 IAmb IAmb 18 04 01.2
comp=Z,47nm,1.0s
PV15 Paradox Valley 36.88 201 P **P** **18 02 42.1 -0.8**
SPR3 Spring Creek 3 36.90 209 P **P** **18 02 45.0 +1.9**
SPR3 IAmb IAmb 18 03 00.4
comp=Z,37nm,1.0s
PV10 Paradox Valley 36.90 202 P **P** **18 02 43.0 -0.1**
PV14 Lion Creek, Pa 36.90 202 P **P** **18 02 43.6 +0.6**
PV14 IAmb IAmb 18 03 05.2
comp=Z,18nm,0.6s
PV20 West Nyswonger 36.93 202 P **P** **18 02 43.9 +0.7**
BEKR Beckworth 36.93 217 P **P** **18 02 44.1 +0.9**
BEKR IAmb IAmb 18 02 59.5
comp=Z,31nm,1.1s
PV11 David Mesa, Pa 36.96 202 P **P** **18 02 44.4 +0.9**
PV11 IAmb IAmb 18 02 59.2
comp=Z,68nm,1.4s
PV03 Paradox Valley 37.00 202 P **P** **18 02 45.0 +1.1**
PV18 Skein Mesa, Pa 37.01 202 P **P** **18 02 44.6 +0.6**
PV02 Paradox Valley 37.03 201 P **P** **18 02 44.3 +0.1**
PV02 IAmb IAmb 18 02 59.9
comp=Z,49nm,1.1s
S51A Beattyville 37.04 168 P **P** **18 02 46.0 +2.1**
S51A IAmb IAmb 18 03 00.3
comp=Z,25nm,0.8s
S51A Beattyville 37.04 168 P **P** **18 02 46.1 +2.1**
baz=356
S51A P **P** **18 02 46.1 +2.1**
baz=356
PV01 Paradox Valley 37.09 201 P **P** **18 02 46.0 +1.3**
PV01 IAmb IAmb 18 03 01.1
comp=Z,29nm,1.0s
PV13 Radium Mtn., P 37.09 201 P **P** **18 02 46.2 +1.5**
PV13 IAmb IAmb 18 03 01.0
comp=Z,59nm,1.0s
PV05 Paradox Valley 37.20 202 P **P** **18 02 43.4 -2.2**
SDCO Great Sand Dun 37.20 197 P **P** **18 02 44.4 -1.3**
SDCO Great Sand Dun 37.20 197 P **P** **18 02 48.2 +2.6**
baz=5.9
MGMO Mountain Grove 37.27 180 P **P** **18 02 47.6 +1.6**
S22A 4UR Ranch, Cre 37.31 199 P **P** **18 02 47.9 +1.2**
S22A 4UR Ranch, Cre 37.31 199 P **P** **18 02 48.9 +2.3**
baz=6.5
HFS Hagfors 37.33 52 LR LR 18 19 24.1
comp=Z,407nm,18.0s,baz=292,slow=38
KVN Kaiserville 37.38 214 P **P** **18 02 48.8 +1.8**
KVN IAmb IAmb 18 03 03.2
comp=Z,27nm,1.0s
KVN Kaiserville 37.38 214 P **P** **18 02 48.8 +1.8**
KVN pmax pmax
comp=Z,27nm,1.0s
JSRW J. Sargeant Re 37.41 161 P **P** **18 02 48.4 +1.4**
T47A Sharon Grove 37.53 173 P **P** **18 02 49.5 +1.4**
T47A IAmb IAmb 18 02 59.4
comp=Z,25nm,0.8s
T47A Sharon Grove 37.53 173 P **P** **18 02 50.3 +2.2**
baz=358,SNR=6.2
T35B Sooner Cattle 37.56 185 P **P** **18 02 50.2 +1.8**
baz=1.8
T35A Sooner Cattle 37.56 185 P **P** **18 02 49.5 +1.1**
KAN14 Manchester OK 37.56 187 P **P** **18 02 48.4 0.0**
KAN14 IAmb IAmb 18 03 04.3
comp=Z,33nm,0.5s
MTPU Mount Pierson 37.57 206 P **P** **18 02 48.9 0.0**
T50A Nancy 37.59 170 P **P** **18 02 50.2 +1.6**
T50A IAmb IAmb 18 03 00.3
comp=Z,27nm,0.9s
T50A Nancy 37.59 170 P **P** **18 02 50.8 +2.2**
baz=357
T50A P **P** **18 02 50.8 +2.2**
baz=357
BLA Blacksburg 37.67 164 P **P** **18 02 50.5 +1.1**
BLA IAmb IAmb 18 03 02.1
comp=Z,51nm,1.2s
BLA Blacksburg 37.67 164 P **P** **18 02 51.6 +2.2**
baz=355
BLA Blacksburg 37.67 164 P **P** **18 02 52.1 +2.7**
baz=355
BLA Blacksburg 37.67 164 P **P** **18 02 50.5 +1.1**
BLA pmax pmax
comp=Z,51nm,1.2s
EKA Eskdalemuir Ar 37.68 69 LR LR 18 16 24.6
comp=Z,516nm,20.8s,baz=335,slow=33
EKA Eskdalemuir Ar 37.68 69 P **P** **18 02 49.7 +0.5**
R11A Troy Canyon, C 37.70 210 P **P** **18 02 50.9 +1.1**
R11A Troy Canyon, C 37.70 210 P **P** **18 02 53.0 +3.2**
baz=10,SNR=6.8
OK032 Salt Plains WL 37.72 187 P **P** **18 02 50.6 +0.9**
OK032 IAmb IAmb 18 03 06.8
comp=Z,30nm,0.5s
T25A Trinidad 37.72 196 P **P** **18 02 53.6 +3.6**
baz=5.3
T57A Hurt 37.98 163 P **P** **18 02 54.2 +2.3**
T57A Hurt 37.98 163 P **P** **18 02 53.9 +2.0**
baz=354
T57A P **P** **18 02 53.9 +2.0**
baz=354
NV11 Mina Array Sit 37.99 213 P **P** **18 02 55.4 +3.2**
U38A Gravette 38.00 182 P **P** **18 02 52.9 +0.9**
baz=0.8
MVCO Mesa Verde 38.00 201 P **P** **18 02 55.1 +2.8**
MVCO IAmb IAmb 18 03 18.8
comp=Z,41nm,1.3s
MVCO Mesa Verde 38.00 201 P **P** **18 02 55.8 +3.5**
baz=7.1
NVAR Mina Array Bea 38.02 214 P **P** **18 02 55.5 +3.1**
comp=Z,2.4nm,0.6s,baz=16,slow=6.3,SNR=11
NVAR PP **PnPn** **18 04 22.0 +1.6**
comp=Z,5.5nm,0.8s,baz=14,slow=9.5,SNR=4.3
comp=Z,2.4nm,0.6s
U49A Red Boiling Sp 38.06 171 P **P** **18 02 54.2 +1.6**
U49A Red Boiling Sp 38.06 171 P **P** **18 02 55.0 +2.5**
baz=357
T60A Surry 38.06 159 P **P** **18 02 54.1 +1.6**
T60A IAmb IAmb 18 03 05.3
comp=Z,50nm,0.8s
T60A Surry 38.06 159 P **P** **18 02 54.5 +2.0**
baz=353
T60A P **P** **18 02 54.5 +2.0**
baz=353
OK044 Pawnee Station 38.11 186 P **P** **18 02 53.7 +0.7**
TZTN Tazewell 38.13 168 P **P** **18 02 55.5 +2.3**
TZTN IAmb IAmb 18 03 05.2
comp=Z,24nm,0.8s
TZTN Tazewell 38.13 168 P **P** **18 02 55.8 +2.5**
baz=356
TZTN Tazewell 38.13 168 P **P** **18 02 55.8 +2.5**
baz=356
T59A Double "B" Far 38.15 160 P **P** **18 02 55.6 +2.3**
T59A IAmb IAmb 18 03 06.0
comp=Z,38nm,1.2s
T59A Double "B" Far 38.15 160 P **P** **18 02 56.0 +2.7**
baz=354
T59A P **P** **18 02 56.0 +2.7**
baz=354
RAF Rauma 38.17 46 *e*P P 18 03 03.1 +10
U54A Nelsons Funny 38.26 166 P **P** **18 02 56.4 +2.0**
U54A Nelsons Funny 38.26 166 P **P** **18 02 56.6 +2.2**
baz=355
U54A P **P** **18 02 56.6 +2.2**
baz=355
RLO Rose Lookout 38.28 183 P **P** **18 02 55.3 +0.9**
RLO IAmb IAmb 18 03 59.6
comp=Z,23nm,0.8s
QUOK Quay 38.31 185 P **P** **18 02 56.3 +1.6**
QUOK IAmb IAmb 18 03 06.3
comp=Z,35nm,1.2s
LCAR Lake Charles 38.36 178 P **P** **18 02 56.3 +1.2**
LCAR Lake Charles 38.36 178 P **P** **18 02 56.6 +1.5**
baz=359,SNR=6.0
WVT Waverly 38.37 174 P **P** **18 02 56.6 +1.4**
baz=358
WVT Waverly 38.37 174 P **P** **18 02 57.5 +2.4**
baz=358
S11A Rachel 38.42 210 P **P** **18 02 56.6 +0.8**
S11A IAmb IAmb 18 03 12.7
comp=Z,75nm,1.0s
OK033 Mehan 38.44 186 P **P** **18 02 57.5 +1.7**
OK033 IAmb IAmb 18 03 06.7
comp=Z,112nm,1.8s
CLTN Cedars of Leba 38.46 172 P **P** **18 02 57.9 +2.0**
OK053 SW of W Deep R 38.47 185 P **P** **18 02 57.4 +1.4**
OK053 IAmb IAmb 18 03 31.5
comp=Z,33nm,1.1s
OK034 N. Norfolk Rd. 38.47 185 P **P** **18 02 57.2 +1.1**
OK034 IAmb IAmb 18 03 30.8
comp=Z,35nm,0.8s
OK052 Battle Ridge R 38.49 186 P **P** **18 02 57.6 +1.4**
ELIS Ellis County 38.51 189 P **P** **18 02 57.3 +0.9**
ELIS IAmb IAmb 18 03 12.8
comp=Z,24nm,0.5s
FCAR Ozark Folk Cen 38.54 179 P **P** **18 02 57.6 +1.0**
TUL1 Leonard 38.55 184 P **P** **18 02 58.3 +1.6**
TUL1 Leonard 38.55 184 P **P** **18 02 58.5 +1.8**
baz=1.4
TUL1 Leonard 38.55 184 P **P** **18 02 59.0 +2.3**
baz=1.5
PRN Pahroc Range 38.56 209 P **P** **18 03 00.5 +3.6**
MZP Montezuma Peak 38.59 212 P **P** **18 02 57.9 +0.5**
FIA0 FINESS Array S 38.60 43 P **P** **18 02 56.9 0.0**
FIA0 FINESS Array S 38.60 43 P **P** **18 02 56.9 0.0**
FINES FINESS Array B 38.60 43 P **P** **18 02 56.9 0.0**
comp=Z,2.4nm,0.5s,baz=344,slow=9.9,SNR=36
FINES PP **PP** **18 04 25.4 +0.5**
comp=Z,13nm,0.9s,baz=347,slow=11,SNR=4.3
FINES LR LR 18 18 42.6
comp=Z,793nm,18.2s,baz=318,slow=36
comp=Z,2.4nm,0.5s
FINES FINESS Array B 38.60 43 P **P** **18 02 57.1 +0.3**
DEOK Depew 38.63 185 P **P** **18 02 58.3 +0.9**
DEOK IAmb IAmb 18 03 24.2
comp=Z,29nm,1.1s
KNB Kanab 38.66 206 P **P** **18 03 00.0 +2.1**
KNB IAmb IAmb 18 03 14.5
comp=Z,62nm,1.1s
KNB Kanab 38.66 206 P **P** **18 03 00.0 +2.1**
LCMT Little Creek M 38.72 207 P **P** **18 03 02.0 +3.7**
LCMT IAmb IAmb 18 03 15.3
comp=Z,38nm,0.8s
U59A Littleton 38.74 161 P **P** **18 03 00.7 +2.4**
V48A Smith Brothers 38.79 173 P **P** **18 03 00.1 +1.4**
V48A Smith Brothers 38.79 173 P **P** **18 03 01.4 +2.7**
baz=358
V51A Loudon 38.83 169 P **P** **18 03 01.4 +2.3**
V51A IAmb IAmb 18 03 10.7
comp=Z,32nm,0.9s
V51A Loudon 38.83 169 P **P** **18 03 01.4 +2.3**
baz=356
V52A Sevierville 38.83 168 P **P** **18 03 01.5 +2.4**
V52A IAmb IAmb 18 03 11.6
comp=Z,52nm,1.2s
V52A Sevierville 38.83 168 P **P** **18 03 01.9 +2.8**
baz=356
V55A Taylorsville 38.97 165 P **P** **18 03 02.5 +2.3**
baz=355
V55A P **P** **18 03 02.5 +2.3**
baz=355
TKL Tuckaleechee C 39.01 169 LR LR 18 19 23.1
comp=Z,600nm,19.5s,baz=0.5,slow=37
TKL Tuckaleechee C 39.01 169 P **P** **18 03 03.1 +2.6**
baz=356
V53A Saluda 39.05 167 P **P** **18 03 03.3 +2.3**
V53A IAmb IAmb 18 03 13.8
comp=Z,126nm,1.5s
V53A Saluda 39.05 167 P **P** **18 03 04.0 +3.1**
baz=356,SNR=5.2
V53A P **P** **18 03 04.0 +3.1**
baz=356,SNR=5.2
LCH Last Change Ra 39.09 212 P **P** **18 03 04.4 +3.0**
TPNV Topopah Spring 39.17 211 P **P** **18 03 04.7 +2.6**
TPNV IAmb IAmb 18 03 18.3
comp=Z,47nm,0.9s
TPNV Topopah Spring 39.17 211 P **P** **18 03 05.8 +3.7**
baz=10.0
TPNV Topopah Spring 39.17 211 P **P** **18 03 04.7 +2.6**
TPNV pmax pmax
comp=Z,47nm,1.0s
CPCT Cooper Cave 39.17 170 P **P** **18 03 04.5 +2.5**
GRAC Grapevine Rang 39.28 212 P **P** **18 03 03.9 +1.0**
GRAC Grapevine Rang 39.28 212 P **P** **18 03 06.2 +3.3**
baz=10
W45A Hickory Valley 39.30 176 P **P** **18 03 03.3 +0.3**
W45A IAmb IAmb 18 03 14.7
comp=Z,60nm,1.0s
W45A Hickory Valley 39.30 176 P **P** **18 03 04.8 +1.8**
baz=359
SWET Sewanee 39.34 171 P **P** **18 03 05.0 +1.6**
SWET IAmb IAmb 18 03 14.4
comp=Z,37nm,1.0s
WCT Wildcat Mounta 39.38 211 P **P** **18 03 06.3 +2.5**
W50A Signal Mountai 39.39 171 P **P** **18 03 05.4 +1.6**
baz=357
SHPR Sheep Range 39.46 209 P **P** **18 03 08.4 +3.8**
VIKU Vikbolandet 39.46 51 *e*P P 18 03 12.7 +8.6
PLAL Pickwick Lake 39.50 174 P **P** **18 03 06.4 +1.7**
W52A Murphy 39.56 169 P **P** **18 03 06.5 +1.4**
W52A Murphy 39.56 169 P **P** **18 03 08.3 +3.1**
baz=356
HEL Helsinki 39.57 44 P **P** **18 03 07.7 +2.7**
HEL pmax pmax
comp=Z,58nm,0.9s
KMSC Kings Mountain 39.67 166 P **P** **18 03 08.7 +2.7**
KMSC Kings Mountain 39.67 166 P **P** **18 03 08.7 +2.7**
baz=355
KMSC Kings Mountain 39.67 166 P **P** **18 03 08.9 +2.9**
baz=355
BG3 Lake Jocassee 39.71 168 P **P** **18 03 07.6 +1.1**
CASEE Lake Jocassee 39.71 168 P **P** **18 03 08.6 +2.1**
baz=356
FURC Furnace Creek, 39.73 211 P **P** **18 03 09.4 +2.8**
baz=10
W57A Gilead 39.75 164 P **P** **18 03 08.8 +2.1**
W57A IAmb IAmb 18 03 19.2
comp=Z,49nm,1.4s
W57A Gilead 39.75 164 P **P** **18 03 09.2 +2.4**
baz=355
W57A P **P** **18 03 09.2 +2.4**
baz=355
AMTX Amarillo 39.79 192 P **P** **18 03 10.7 +3.5**
baz=4.0
WMOK Wichita Mounta 39.80 188 P **P** **18 03 09.8 +2.6**
baz=2.6,SNR=6.8
WMOK Wichita Mounta 39.80 188 P **P** **18 03 09.8 +2.6**
baz=2.8,SNR=6.8
WMOK Wichita Mounta 39.80 188 P **P** **18 03 09.5 +2.3**
WMOK pmax pmax
comp=Z,31nm,0.6s
CNNC Cliffs of the 39.84 161 P **P** **18 03 08.4 +0.9**
baz=354
X37A Clayton 39.86 184 P **P** **18 03 10.5 +2.8**
X37A Clayton 39.86 184 P **P** **18 03 09.8 +2.1**
baz=1.2
MIAR Mount Ida 39.88 181 P **P** **18 03 09.2 +1.4**
MIAR IAmb IAmb 18 03 19.3
comp=Z,62nm,1.6s
MIAR Mount Ida 39.88 181 P **P** **18 03 09.5 +1.7**
baz=0.4
MIAR Mount Ida 39.88 181 P **P** **18 03 09.7 +1.8**
baz=0.6
MIAR Mount Ida 39.88 181 P **P** **18 03 09.3 +1.4**
MIAR pmax pmax
comp=Z,63nm,1.6s
CWC Cottonwood Cre 39.93 213 P **P** **18 03 11.7 +3.2**
baz=11
X40A Basin Creek Fa 39.94 180 P **P** **18 03 09.7 +1.4**
OXF Oxford 39.94 176 P **P** **18 03 10.7 +2.4**
OXF IAmb IAmb 18 03 22.9
comp=Z,33nm,0.8s
OXF Oxford 39.94 176 P **P** **18 03 10.6 +2.2**
baz=359
OXF Oxford 39.94 176 P **P** **18 03 11.2 +2.9**
baz=359
OXF Oxford 39.94 176 P **P** **18 03 10.7 +2.4**
OXF pmax pmax
comp=Z,33nm,0.9s
PAULI Pauline 39.95 166 P **P** **18 03 11.1 +2.7**
PAULI IAmb IAmb 18 03 21.1
comp=Z,85nm,1.3s
PAULI Pauline 39.95 166 P **P** **18 03 11.3 +2.8**
baz=356
MA2 Magadan 39.96 315 LR LR 18 21 17.2
comp=Z,193nm,20.3s,baz=38,slow=39
MA2 Magadan 39.96 315 P **P** **18 03 08.9 +0.6**
MA2 IAmb IAmb 18 03 10.6
comp=Z,115nm,1.8s
MA2 Magadan 39.96 315*ce*P **P** **18 03 08.2 -0.1**
MA2 pmax pmax
comp=Z,66nm,1.7s
WUAZ Wupatki 39.98 204 P **P** **18 03 12.7 +3.9**
baz=7.9
GWY Greenwater Val 39.98 211 P **P** **18 03 10.7 +1.9**
FPAL Fort Paine 40.03 171 P **P** **18 03 10.9 +1.8**
X51A Calhoun 40.04 170 P **P** **18 03 11.7 +2.6**
baz=357
X51A P **P** **18 03 11.7 +2.6**
baz=357
ANMO Albuquerque 40.06 198 LR LR 18 19 12.5
comp=Z,403nm,19.3s,baz=110,slow=35
ANMO Albuquerque 40.06 198 P **P** **18 03 11.4 +1.9**
ANMO Albuquerque 40.06 198 P **P** **18 03 12.9 +3.3**
baz=5.8
ANMO Albuquerque 40.06 198 P **P** **18 03 13.5 +3.9**
baz=5.9
ANMO Albuquerque 40.06 198*ce*P **P** **18 03 11.9 +2.3**
ANMO pmax pmax
comp=Z,8.0nm,1.7s
X48A Hartselle 40.06 173 P **P** **18 03 10.9 +1.5**
X48A Hartselle 40.06 173 P **P** **18 03 10.8 +1.4**
baz=358
V12A Nelson 40.19 209 P **P** **18 03 13.7 +3.2**
V12A IAmb IAmb 18 03 27.5
comp=Z,76nm,0.9s
SHOC Shoshone, Teco 40.21 210 P **P** **18 03 14.1 +3.6**
baz=9.8
BIRD Birdtown, Kers 40.22 164 P **P** **18 03 12.3 +1.6**
baz=355
MPMC Manual Prospec 40.22 212 P **P** **18 03 14.3 +3.4**

baz=10,SNR=7.3
QSM Queen of Sheba 40.23 211 P P 18 03 13.4 +2.7
QSM IAmb IAmb 18 03 26.9
comp=Z,41nm,1.0s
X58A Rowland 40.40 163 P P 18 03 14.8 +2.7
X58A IAmb IAmb 18 03 24.3
comp=Z,41nm,0.9s
X58A Rowland 40.40 163 P P 18 03 14.8 +2.7
baz=355
X58A P P 18 03 14.8 +2.7
baz=355
HODGE Hodges 40.51 167 P P 18 03 15.7 +2.6
HODGE IAmb IAmb 18 03 25.5
comp=Z,50nm,1.1s
HODGE Hodges 40.51 167 P P 18 03 15.7 +2.6
baz=356,SNR=5.2
JSC Jenkinsville 40.53 166 P P 18 03 13.3 +0.1
JSC IAmb IAmb 18 03 26.0
comp=Z,77nm,1.4s
JSC Jenkinsville 40.53 166 P P 18 03 13.5 +0.3
baz=355
JSC Jenkinsville 40.53 166 P P 18 03 13.3 +0.1
JSC pmax pmax
comp=Z,77nm,1.4s
Y45A Yeager Farm, C 40.58 176 P P 18 03 15.1 +1.4
Y45A IAmb IAmb 18 03 28.9
comp=Z,49nm,0.9s
Y45A Yeager Farm, C 40.58 176 P P 18 03 16.5 +2.8
baz=359,SNR=6.3
TUQ Turquoise Moun 40.62 210 P P 18 03 17.8 +3.7
baz=9.6
VES Vestal, Richgr 40.67 214 P P 18 03 18.4 +4.0
baz=11
Y49A Blount Mountai 40.68 172 P P 18 03 15.8 +1.4
Y49A IAmb IAmb 18 03 26.2
comp=Z,59nm,1.6s
Y49A Blount Mountai 40.68 172 P P 18 03 16.1 +1.7
baz=358
W13A Hualapai Mount 40.68 207 P P 18 03 15.8 +1.1
ISA Isabella, Lake 40.75 213 P P 18 03 17.7 +2.5
ISA Isabella, Lake 40.75 213 P P 18 03 19.0 +3.8
baz=11
ISA Isabella, Lake 40.75 213 P P 18 03 17.7 +2.5
ISA pmax pmax
comp=Z,17nm,1.0s
MSTX Muleshoe 40.77 193 P P 18 03 19.6 +4.3
baz=4.3
Y52A Lilburn 40.78 169 P P 18 03 18.0 +2.8
Y52A Lilburn 40.78 169 P P 18 03 16.5 +1.2
baz=356
Y52A P P 18 03 16.5 +1.2
baz=356
X18A Snowflake 40.80 202 P P 18 03 17.5 +1.9
LRMC Laurel Mtn Rad 40.82 212 P P 18 03 19.9 +4.1
baz=10
Y57A Sumter 40.85 164 P P 18 03 17.5 +1.7
Y57A IAmb IAmb 18 03 28.2
comp=Z,56nm,1.1s
GSC Goldstone, Bar 40.87 211 P P 18 03 19.6 +3.5
GSC Goldstone, Bar 40.87 211 P P 18 03 20.7 +4.6
baz=9.9
GSC Goldstone, Bar 40.87 211 P P 18 03 19.6 +3.5
GSC pmax pmax
comp=Z,23nm,1.0s
SHEM Shemya Is, Ala 41.03 292 LR LR 18 21 26.5
comp=Z,78nm,21.4s,baz=65,slow=38
YAK Yakutsk 41.06 331 LR LR 18 22 29.0
comp=Z,99nm,18.2s,baz=295,slow=39
YAK Yakutsk 41.06 331 P P 18 03 17.4 +0.1
YAK Yakutsk 41.06 331 *c* **P P 18 03 16.9 -0.4**
YAK *e*S S **18 09 29.8 +0.5**
YAK *e*SS SS **18 12 23.5 -7.4**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=E,172nm,5.2s
YAK smax smax
comp=N,140nm,3.7s
Z38A Mt. Pleasant 41.18 183 P P 18 03 19.7 +1.1
Z38A Mt. Pleasant 41.18 183 P P 18 03 20.5 +2.0
baz=1.0
CCAC Calif City Air 41.19 212 P P 18 03 20.4 +1.7
CCAC IAmb IAmb 18 03 35.7
comp=Z,63nm,0.9s
GMRC Granite Mounta 41.22 209 P P 18 03 23.5 +4.4
baz=9.4,SNR=7.5
HEC Hector,Ludlow 41.27 210 P P 18 03 23.9 +4.5
baz=9.6,SNR=8.1
Z51A Franklin 41.27 171 P P 18 03 21.1 +1.8
Z51A IAmb IAmb 18 03 30.8
comp=Z,38nm,1.0s
Z51A Franklin 41.27 171 P P 18 03 21.0 +1.7
baz=357
Z47A Carrollton 41.28 174 P P 18 03 21.1 +1.7
baz=358
SMMC Simmler 41.33 215 P P 18 03 21.9 +2.1
baz=11
KLMR Klimovskoe 41.40 33 *e*P **P 18 03 17.0 -3.1**
KLMR AMP 18 03 32.7
comp=Z,66nm,1.1s
KLMR LR LR 18 19 47.4
KLMR Klimovskoe 41.40 33 *e*P **P 18 03 16.9 -3.1**
KLMR pmax pmax
comp=Z,66nm,1.1s
HAW Hawthorne Fire 41.42 166 P P 18 03 23.0 +2.5
baz=356
EDW2 Edwards Air Fo 41.45 212 P P 18 03 24.7 +3.8
baz=10
LRAL Lakeview Retre 41.48 173 P P 18 03 22.0 +0.9
LRAL Lakeview Retre 41.48 173 P P 18 03 22.9 +1.9
baz=358
LRAL Lakeview Retre 41.48 173 P P 18 03 23.3 +2.2
baz=358
PRGR Permogore 41.50 29 *e*P **P 18 03 20.6 -0.3**
PRGR pmax pmax
comp=Z,15nm,0.6s
VSU Vasula 41.51 44 *i* P **P 18 03 22.4 +1.4**
PKM Mcpherson Peak 41.72 214 P P 18 03 26.1 +2.9
baz=11
Y14A Wickenburg 41.72 206 P P 18 03 24.7 +1.6
IRM Iron Mountain 41.77 209 P P 18 03 27.3 +3.8
baz=9.1
NHSC New Hope 41.77 164 P P 18 03 27.9 +4.5
baz=355
146A Union 41.82 176 P P 18 03 24.9 +1.1
146A IAmb IAmb 18 03 39.3
comp=Z,62nm,1.0s
146A Union 41.82 176 P P 18 03 25.9 +2.1
baz=359
152A Waverly Hall 41.93 170 P P 18 03 25.9 +1.1
152A Waverly Hall 41.93 170 P P 18 03 26.4 +1.7
baz=357
ABTX Abilene, Hawle 41.94 189 P P 18 03 27.2 +2.3
ABTX Abilene, Hawle 41.94 189 P P 18 03 27.1 +2.2
baz=2.9
ABTX Abilene, Hawle 41.94 189 P P 18 03 27.7 +2.8
baz=3.0
BFSC Mount Baldy Ra 42.03 212 P P 18 03 30.3 +4.6
baz=10.0,SNR=6.3
BELC Belle Mtn. Jos 42.04 210 P P 18 03 29.7 +3.9
baz=9.4
BLYC Blythe 42.09 208 P P 18 03 27.8 +1.8
BC3 Big Chuckawall 42.31 209 P P 18 03 32.2 +4.3
baz=9.1,SNR=9.5
237A Washetta, Mont 42.45 184 P P 18 03 32.0 +3.1
baz=1.3
PFO Pinyon Flats O 42.48 210 LR LR 18 21 15.0
comp=Z,231nm,21.0s,baz=0,0,slow=36
PFO Pinyon Flats O 42.48 210 P P 18 03 31.0 +1.6
PFO Pinyon Flats O 42.48 210 *i* P **P 18 03 33.3 +3.9**
PFO pmax pmax
comp=Z,12nm,1.0s
250A Grady 42.56 172 P P 18 03 30.8 +1.0
250A Grady 42.56 172 P P 18 03 31.7 +1.8
baz=358
SCZ2 Santa Cruz Isl 42.56 214 P P 18 03 33.2 +3.3
baz=11
121A Cookes Peak, D 42.57 199 P P 18 03 33.3 +3.1
121A Cookes Peak, D 42.57 199 P P 18 03 33.3 +3.1
baz=6.0,SNR=6.4
121A Cookes Peak, D 42.57 199 P P 18 03 34.4 +4.2
baz=6.2,SNR=6.4

ELS Elsinore Mount 42.58 211 P P 18 03 32.1 +1.9
NATX Nacogdoches 42.67 183 P P 18 03 32.6 +1.8
NATX IAmb IAmb 18 03 43.2
comp=Z,70nm,1.1s
NATX Nacogdoches 42.67 183 P P 18 03 34.0 +3.2
baz=0.8
NATX Nacogdoches 42.67 183 P P 18 03 34.1 +3.4
baz=1.0
DUN6 Lazy B Ranch 42.67 201 P P 18 03 33.1 +2.2
DUN6 IAmb IAmb 18 03 47.1
comp=Z,32nm,0.9s
255A Hazlehurst 42.79 167 P P 18 03 34.8 +3.0
baz=356
GLA Glamis 42.82 208 P P 18 03 36.2 +4.2
baz=8.8
113A Mohawk Valley, 42.97 207 P P 18 03 34.8 +1.6
SWSC Sam W. Stewart 43.05 209 P P 18 03 37.8 +4.0
baz=9.1
TUC Tucson 43.08 203 P P 18 03 37.4 +3.2
TUC Tucson 43.08 203 P P 18 03 39.0 +4.7
baz=7.2
TUC Tucson 43.08 203 P P 18 03 37.4 +3.2
TUC pmax pmax
comp=Z,11nm,0.9s
MONP2 Monument Peak 43.19 210 P P 18 03 39.7 +4.5
baz=9.3
MNTX Cornudas Mount 43.20 196 P P 18 03 37.0 +1.9
MNTX Cornudas Mount 43.20 196 P P 18 03 37.2 +2.1
baz=5.0
MNTX Cornudas Mount 43.20 196 P P 18 03 38.2 +3.1
baz=5.2
TIGA Tifton 43.21 169 P P 18 03 36.7 +1.6
baz=356
TIGA Tifton 43.21 169 P P 18 03 37.5 +2.3
baz=357
YUH Yuha Desert 43.36 209 P P 18 03 38.1 +1.8
IKP In-Ko-Pah, Jac 43.38 209 P P 18 03 42.0 +5.4
baz=9.2
BAR Barrett 43.43 210 P P 18 03 39.1 +2.1
214A Organ Pipe Nat 43.66 205 P P 18 03 41.6 +2.8
214A Organ Pipe Nat 43.66 205 P P 18 03 42.1 +3.3
baz=7.9
435B Jarrell 43.70 186 P P 18 03 40.6 +1.5
435B Jarrell 43.70 186 P P 18 03 41.9 +2.8
baz=2.1
PABE Paberze 43.74 47 P **18 03 39.2 0.0**
PABE IAmb IAmb 18 03 51.9
comp=Z,50nm,0.9s
PABE Paberze 43.74 47 *e*P P 18 03 50.7 +12
JCT Junction City 44.09 189 P P 18 03 44.1 +1.9
JCT Junction City 44.09 189 P P 18 03 44.8 +2.5
baz=2.8
JCT Junction City 44.09 189 P P 18 03 45.2 +3.0
baz=2.9
JCT Junction City 44.09 189 P P 18 03 44.1 +1.9
JCT pmax pmax
comp=Z,19nm,1.1s
ISAL Salakas 44.10 46 *e*P P 18 03 55.1 +13
BSTI Sart Tilman 44.19 65 *d*P **P 18 03 45.9 +3.1**
BMRD Maredsous 44.26 66 *d*P **P 18 03 43.7 +0.4**
BGES Gesves 44.26 65 *dx* P 18 03 52.9 +9.5
MEM Membach 44.28 64 *d*P **P 18 03 44.4 +0.9**
MEM *dx* x 18 03 53.4
BCLA Clavier 44.28 65 *d*P **P 18 03 45.2 +1.7**
BTNL Ternell 44.33 64 *d*P **P 18 03 46.3 +2.3**
BTNL *dx* x 18 03 53.7
IIGN Ignalina 44.33 46 *e*P **P 18 03 46.0 +2.1**
DOU Dourbes 44.40 66 *d*P **P 18 03 45.9 +1.4**
PET Petropavlovsk 44.42 305 P **P 18 03 45.7 +1.1**
PET Petropavlovsk 44.42 305 *e*P **P 18 03 46.0 +1.4**
PET *e*S **S 18 10 20.8 +2.0**
PET pmax pmax
comp=Z,120nm,1.0s
PET MLR MLR
comp=Z,200nm,15.0s
IDID Didziasalis 44.47 45 *e*P P 18 03 52.2 +7.3
HKT Hockley 44.49 184 P P 18 03 48.5 +3.1
baz=1.3
BHOU Houvegnez 44.51 65 *dx* P 18 03 57.8 +12
PEA0B Petropavlovsk- 44.55 306 *c e*P **P 18 03 46.8 +1.1**
PETK Petropavlovsk- 44.55 306 P **P 18 03 46.5 +0.7**
comp=Z,12nm,0.9s,baz=100,slow=4.5,SNR=12
PETK LR LR 18 23 37.9
comp=Z,264nm,21.8s,baz=22,slow=38
comp=Z,12nm,0.9s
NACGM Naroch 44.86 46 *e*P P 18 03 59.9 +12
comp=Z,101nm,0.9s,baz=336
NACGM Naroch 44.86 46 *e*P **P 18 03 47.5 -0.6**
comp=Z,15nm,0.8s,baz=341
KIRV Kirov 44.95 27 LR LR 18 24 03.1
comp=Z,398nm,18.6s,baz=337,slow=38
KIRV Kirov 44.95 27 *c e*P **P 18 03 47.8 -0.9**
WLF Walferdange 45.19 65 *dx* P 18 04 00.6 +10
CLL Collm 45.30 58 P **P 18 03 52.2 +0.6**
CLL IAmb IAmb 18 04 07.4
comp=Z,22nm,1.1s
CLL Collm 45.30 58 *e*P **P 18 03 52.0 +0.4**
comp=Z,18nm,1.0s
CLL *i* x x 18 04 03.6
comp=Z,18nm,1.0s
CLL *e*PP **PP 18 05 38.0 +0.8**
CLL Collm 45.30 58 *e*P **P 18 03 52.0 +0.4**
CLL *i* 18 04 03.6
CLL pmax pmax
comp=Z,18nm,1.0s
TX31 Lajitas Ar. Si 45.43 194 P P 18 03 55.1 +2.1
TX31 Lajitas Ar. Si 45.43 194 P P 18 03 56.0 +2.9
baz=4.2,SNR=9.1
TX32 Lajitas Array 45.43 194 P P 18 03 55.3 +2.2
TXAR Lajitas Array 45.43 194 P P 18 03 55.6 +2.5
TXAR Lajitas Array 45.43 194 P P 18 03 55.6 +2.5
MNK Minsk 45.45 45 *i* P **P 18 03 51.0 -1.8**
comp=E,2.0nm,1.2s
MNK *i* P **P 18 03 51.0 -1.8**
comp=N,33nm,0.8s
MNK *i* P **P 18 03 51.0 -1.8**
comp=Z,6.0nm,0.8s,baz=341
MNK *i* PP **PP 18 05 37.1 -1.7**
MNK *i* PPP PPP 18 06 15.7
MNK *i* S **S 18 10 32.3 -1.5**
MNK *i* SS **SS 18 13 56.6 +0.2**
MNK *i* SSS SSS 18 14 42.6
MNK *i* LQ LQ 18 17 52.1
MNK *i* LR LR 18 21 13.7
MNK *i* LRM MLR 18 22 25.9
comp=E,45nm,16.0s
MNK *i* LRM MLR 18 22 27.1
comp=N,681nm,17.9s
MNK *i* LRM MLR 18 22 31.6
comp=Z,650nm,19.2s
MNK Minsk 45.45 45 *i* P P 18 04 04.1 +11
comp=E,2.0nm,0.9s
MNK *i* P P 18 04 04.1 +11
comp=N,27nm,0.8s
MNK *i* P P 18 04 04.1 +11
comp=Z,34nm,0.8s,baz=156
MNK *i* PP **PcP 18 05 30.6 -0.9**
MNK *i* LRM MLR 18 19 44.2
comp=Z,252nm,9.3s
MNK *i* LRM MLR 18 19 50.0
comp=E,34nm,10.0s
MNK *i* LRM MLR 18 19 53.5
comp=N,255nm,12.9s
MNK Minsk 45.45 45 *i* P **P 18 03 51.0 -1.8**
MNK *i* 18 05 37.0
MNK *i* PPP PPP 18 06 15.7
MNK *i* S **S 18 10 32.2 -1.5**
MNK *i* 18 13 47.9
MNK *i* SSS SSS 18 14 42.6
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK pmax pmax
comp=N,33nm,0.8s
MNK MLR MLR
comp=E,45nm,16.0s
MNK MLR MLR
comp=N,681nm,18.0s
MNK MLR MLR
comp=Z,650nm,19.0s
BRG Berggiesshubel 45.92 58 *e*P **P 18 03 57.4 +0.8**
BRG Amp 18 03 59.5
comp=Z,6.3nm,1.0s
BRG Berggiesshubel 45.92 58 P P 18 04 09.1 +13

BRG Amp 18 04 09.9
comp=Z,13nm,1.0s
BRG Berggiesshubel 45.92 58 *e*P **P 18 03 57.3 +0.8**
BRG 18 04 09.0
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,13nm,1.0s
MOS Moscow 46.00 37 *e*P P 18 03 50.7 -6.5
NKC Novy Kostel 46.17 59 *e*P **P 18 03 59.7 +1.1**
NKC *ex* x 18 04 09.3
NKC Novy Kostel 46.17 59 *e*P **P 18 03 59.7 +1.1**
NKC *e* 18 04 09.3
833A Chaparral WMA, 46.22 188 P **P 18 04 01.7 +2.6**
baz=2.7
GRA1 Grafenberg Arr 46.38 61 P **P 18 04 01.1 +0.8**
GRA1 IAmb IAmb 18 04 16.4
comp=Z,24nm,0.8s
GRF Grafenberg Arr 46.38 61 P **P 18 04 01.1 +0.8**
GRF pmax pmax
comp=Z,24nm,0.8s
GRF Grafenberg Arr 46.38 61 *e*P **P 18 04 01.7 +1.4**
comp=Z,25nm,0.9s,baz=338,slow=7.5
GRF *e*pP **sP 18 04 10.1 +5.6**
GRFO Grafenberg 46.38 61 P **P 18 04 01.1 +0.8**
GRFO IAmb IAmb 18 04 14.2
comp=Z,24nm,0.9s
GRFO Grafenberg 46.38 61 P **P 18 04 01.1 +0.8**
GRFO pmax pmax
comp=Z,24nm,0.9s
OBN Obninsk 46.43 38 P **P 18 04 01.0 +0.6**
OBN Obninsk 46.43 38 *e*P **P 18 04 00.3 -0.2**
OBN *e*PP **sP 18 04 09.2 +4.5**
OBN *i* S **S 18 10 52.0 +4.3**
OBN *i* SS **ScS 18 13 59.1 +4.3**
OBN pmax pmax
comp=Z,28nm,1.7s
OBN MLR MLR
comp=Z,379nm,16.0s
KSP Ksiaz 46.48 56 *e*P **P 18 04 02.7 +1.7**
KSP Ksiaz 46.48 56 *e*P P 18 04 10.8 +10
DWPF Disney Wildern 46.65 166 P **P 18 04 05.9 +3.4**
baz=356
ECH Echery 46.78 65 P **P 18 04 03.7 +0.3**
ECH Echery 46.78 65 P **P 18 04 03.7 +0.3**
ECH pmax pmax
comp=Z,14nm,1.0s
PRU Pruhonice 46.88 58 *e*P **P 18 04 05.7 +1.6**
PRU *ex* x 18 04 13.4
PRU Pruhonice 46.88 58 *e*P **P 18 04 05.7 +1.6**
PRU *e* 18 04 13.4
BOD Bodaibo 46.92 341 *e*P **P 18 04 03.1 -1.2**
BOD pmax pmax
comp=Z,36nm,1.7s
DPC Dobruska-Polom 46.95 56 *e*P **P 18 04 06.2 +1.5**
DPC *ex* x 18 04 14.0
DPC Dobruska-Polom 46.95 56 *e*P **P 18 04 06.2 +1.5**
DPC *e* 18 04 14.0
KRLC Kraliky 47.31 56 *e*P **P 18 04 09.1 +1.6**
KRLC *ex* x 18 04 16.7
KRLC Kraliky 47.31 56 *e*P **P 18 04 09.1 +1.6**
KRLC *e* 18 04 16.7
KHC Kasperske Hory 47.46 59 *e*P **P 18 04 10.5 +1.8**
KHC *ex* x 18 04 18.5
KHC Kasperske Hory 47.46 59 *i* P **P 18 04 09.1 +0.4**
KHC pmax pmax
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 47.76 59 P **P 18 04 12.5 +1.5**
GERES GERESS Array B 47.76 59 P **P 18 04 12.6 +1.5**
comp=Z,1.5nm,0.8s,baz=353,slow=6.7,SNR=11
comp=Z,1.5nm,0.8s
GERES GERESS Array B 47.76 59 P **P 18 04 12.0 +0.9**
GERES GERESS Array B 47.76 59 P **P 18 04 12.0 +0.9**
MORC Moravsky Berou 47.76 55 P **P 18 04 11.1 +0.1**
MORC IAmb IAmb 18 04 24.5
comp=Z,23nm,1.0s
MORC Moravsky Berou 47.76 55 *e*P **P 18 04 12.3 +1.3**
MORC *e* 18 04 22.9
MORC Moravsky Berou 47.76 55 P **P 18 04 11.1 +0.1**
MORC pmax pmax
comp=Z,23nm,1.0s
OJC Ojcow 47.84 53 P **P 18 04 12.2 +0.6**
OJC IAmb IAmb 18 04 24.6
comp=Z,17nm,1.0s
OJC Ojcow 47.84 53 P **P 18 04 12.2 +0.6**
OJC pmax pmax
comp=Z,17nm,1.0s
SVE Sverdlovsk 47.88 20 *e*P **P 18 04 13.3 +1.5**
SVE pmax pmax
comp=Z,26nm,1.0s
CKRC Cesky Krumlov 47.92 58 *e*P **P 18 04 14.3 +2.0**
VRAC Vranov 47.99 56 ⇑P **P 18 04 13.4 +0.6**
VRAC Vranov 47.99 56 *e*P **P 18 04 14.0 +1.2**
VRAC *e* 18 04 24.8
VRAC Vranov 47.99 56 ⇑P **P 18 04 13.4 +0.6**
ARU Arti 48.08 21 LR LR 18 26 19.2
comp=Z,440nm,19.5s,baz=339,slow=38
ARU Arti 48.08 21 P **P 18 04 14.0 +0.6**
ARU IAmb IAmb 18 04 27.0
comp=Z,39nm,1.2s
ARU Arti 48.08 21 *c i*P **P 18 04 14.6 +1.3**
ARU 18 05 40.8
ARU 18 06 03.9
ARU S **S 18 11 15.2 +4.0**
ARU pmax pmax
comp=Z,39nm,1.8s
KRUC Moravsky 48.17 57 *e*P **P 18 04 15.4 +1.2**
KRUC *e* 18 04 26.1
SRIG Santa Rosalia 48.17 204 P **P 18 04 15.0 +0.6**
SRIG IAmb IAmb 18 04 30.6
comp=Z,32nm,1.1s
DAVA Damuels 48.31 63 *i* P **P 18 04 16.9 +1.5**
comp=Z,8.4nm,1.3s
RETA Reutte 48.34 62 *i* P **P 18 04 15.9 +0.3**
comp=Z,13nm,1.5s
SENIN Lac Senin/Sane 48.54 66 P **P 18 04 17.5 +0.2**
PGAV Gavieira, Arco 48.60 82 *i* LQ LQ 18 04 29.2
WATA Walderalm 48.67 61 *e*P **P 18 04 19.5 +1.3**
comp=Z,6.3nm,1.0s
SQTA Sankt Quirin 48.69 62 *e*P **P 18 04 18.9 +0.6**
comp=Z,12nm,1.3s
WTTA Wattenberg 48.75 61 *e*P **P 18 04 20.4 +1.5**
comp=Z,14nm,1.6s
FETA Feichten 48.76 62 *e*P **P 18 04 19.6 +0.6**
comp=Z,7.2nm,1.0s
LANS Liptovska Anna 48.78 54 *e*P **P 18 04 20.4 +1.5**
LANS *e* 18 04 31.8
LANS pmax pmax
comp=Z,15nm,0.7s
LANS Liptovska Anna 48.78 54 *e*P **P 18 04 20.4 +1.5**
LANS *e* 18 04 31.8
DAVOX Davos/Dischmat 48.78 63 LR LR 18 26 59.5
comp=Z,397nm,18.1s,baz=322,slow=39
PCAB Cabril 48.91 81 *e*P **P 18 04 21.3 +1.3**
comp=Z,44nm,0.9s
PCAB *i* LQ LQ 18 04 33.1
STHS Stebnicka Huta 48.91 52 *e* P 18 04 32.1 +12
MODS Modra-Piesok 49.02 56 *e* P 18 04 33.8 +13
FUORN Ofenpass-Fuorn 49.03 63 P **P 18 04 22.8 +1.7**
CONA Conrad Observa 49.12 58 *e*P **P 18 04 22.9 +1.3**
comp=Z,6.5nm,1.2s
PBRG Braganca 49.16 80 *e*P **P 18 04 23.4 +1.5**
comp=Z,21nm,1.6s
PBRG *i* LQ LQ 18 04 34.9
VYHS Vyhne 49.26 55 *e*P **P 18 04 23.5 +1.0**
VYHS *e* 18 04 34.4
VYHS pmax pmax
comp=Z,15nm,1.0s
VYHS Vyhne 49.26 55 *e*P **P 18 04 23.5 +1.0**
VYHS *e* 18 04 34.4
POLO Lamas de Olo 49.28 81 *i* LQ LQ 18 04 35.5
AKASG Malin Array Be 49.32 45 P **P 18 04 22.9 -0.1**
comp=Z,1.3nm,0.4s,baz=341,slow=7.4,SNR=19
AKASG LR LR 18 24 46.5
comp=Z,676nm,20.0s,baz=325,slow=36
comp=Z,1.3nm,0.4s
AKASG Malin Array Be 49.32 45 P **P 18 04 22.7 -0.3**
AKBB Malin Array Si 49.32 45 P **P 18 04 22.4 -0.6**
AKBB Malin Array Si 49.32 45 P **P 18 04 22.4 -0.6**
AKBB pmax pmax
comp=Z,16nm,1.0s
PVRL Vila Real 49.40 81 *e*P **P 18 04 24.8 +1.1**
PVRL *i* LQ LQ 18 04 36.7
AK05 Malin Array Si 49.40 46 P **P 18 04 23.4 -0.2**

AK05 IAmb IAmb 18 04 35.4
comp=Z,16nm,0.8s
RONA Rosalia, Austr 49.43 57 *e*P **P 18 04 25.6 +1.7**
comp=Z,7.2nm,0.9s
ZEA Zeya 49.44 330 *e*P **P 18 04 24.6 +0.8**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,1.1s
CRVS Cervenica-Dubn 49.44 52 *e* P 18 04 36.4 +12
ABTA Abfaltersbach 49.45 61 *e*pP pP 18 04 27.3 +0.1
comp=Z,7.2nm,1.2s
ARSA Arzberg 49.68 58 *e*P **P 18 04 27.7 +1.9**
comp=Z,3.4nm,0.8s
MVO Moncorvo 49.68 81 *e*P **P 18 04 27.1 +1.1**
comp=Z,18nm,1.0s
MVO *i* LQ LQ 18 04 38.5
CLUD Cludinico 49.81 61 P **P 18 04 27.3 +0.5**
MYKA Terra Mystica 49.82 60 *e*P **P 18 04 26.5 -0.5**
comp=Z,15nm,1.7s
PVIS Viseu 49.87 82 *e*P **P 18 04 28.2 +0.8**
comp=Z,35nm,1.0s
PVIS *i* LQ LQ 18 04 40.0
UZH Uzhgorod 49.88 52 *e*P **P 18 04 25.2 -2.0**
UZH *e* 18 04 36.6
CTI Castel Tesino 49.90 62 P **P 18 04 28.1 +0.6**
CTI IAmb IAmb 18 04 39.7
comp=Z,28nm,1.2s
CTI Castel Tesino 49.90 62 P **P 18 04 28.2 +0.6**
CTI pmax pmax
comp=Z,28nm,1.2s
PSZ Piszkesteto 50.03 54 ⇑P **P 18 04 28.3 -0.2**
PSZ Piszkesteto 50.03 54 P **P 18 04 29.0 +0.5**
PSZ IAmb IAmb 18 04 42.4
comp=Z,25nm,0.9s
PSZ Piszkesteto 50.03 54 ⇑P **P 18 04 28.3 -0.2**
SOKA Soboth 50.10 59 *e*P **P 18 04 27.3 -1.8**
comp=Z,8.2nm,1.5s
OBKA Obir 50.15 59 *e*P **P 18 04 28.5 -1.0**
comp=Z,18nm,2.0s
VORR Voronezh 50.18 37 P **P 18 04 27.0 -2.5**
VORR pmax pmax
comp=Z,10.0nm,1.0s
MTE Manteigas 50.26 82 *e*P **P 18 04 31.8 +1.5**
comp=Z,43nm,1.0s
MTE *i* LQ LQ 18 04 43.4
MTE Manteigas 50.26 82 P **P 18 04 30.1 -0.2**
MTE IAmb IAmb 18 04 44.3
comp=Z,30nm,0.8s
PCAS Casmilo, Conde 50.33 83 *e*P **P 18 04 32.8 +2.0**
comp=Z,27nm,0.9s
PCAS *i* LQ LQ 18 04 43.8
TRPA Tarpa 50.41 52 ⇓P **P 18 04 32.4 +1.2**
TEOL Teolo 50.55 62 P **P 18 04 32.8 +0.4**
VSR Storozhevoye 50.61 37 *e*P P 18 04 41.0 +8.2
VSR pmax pmax
comp=Z,20nm,1.0s
BELG Belogornoye 50.75 30 LR LR 18 26 04.0
comp=Z,374nm,20.3s,baz=332,slow=36
BELG Belogornoye 50.75 30 *i* P **P 18 04 32.6 -1.1**
BELG pmax pmax
comp=Z,3.0nm,1.0s
PCBR Castelo Branco 50.80 82 *e*P **P 18 04 35.5 +1.2**
comp=Z,34nm,1.1s
GRNR Gornyy 50.92 322 ⇓*i*P **P 18 04 35.5 +0.4**
GRNR pmax pmax
comp=E,4.0nm,0.8s
GRNR pmax pmax
comp=N,6.0nm,1.1s
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=N,170nm,15.0s
GRNR MLR MLR
comp=Z,150nm,15.0s
VRH Novokhopyorsk 51.04 35 *e*P P 18 04 45.1 +9.2
VRH pmax pmax
comp=Z,60nm,1.0s
LPIG La Paz 51.16 201 LR LR 18 27 23.0
comp=Z,307nm,21.5s,baz=10,slow=37
PMRV Marv??o 51.21 82 *e*P **P 18 04 38.6 +1.2**
comp=Z,17nm,1.9s
PMRV *i* LQ LQ 18 04 50.5
PMTG Montargil 51.32 83 *e*P **P 18 04 38.1 -0.1**
comp=Z,30nm,1.3s
PMTG *i* LQ LQ 18 04 50.8
MORH Mrgy, Hungar 51.37 56 ⇑P **P 18 04 38.6 +0.2**
VLC Villacollemand 51.37 64 P **P 18 04 39.0 +0.4**
VLC IAmb IAmb 18 04 59.6
comp=Z,44nm,1.3s
MESR Meseseni 51.42 52 ⇑P **P 18 04 38.1 -0.9**
BUR08 Bucovina Ar. S 51.43 50 P **P 18 04 40.2 +1.1**
BUR08 IAmb IAmb 18 04 58.5
comp=Z,45nm,2.0s
BUR01 Bucovina Ar. S 51.46 50 ⇑P **P 18 04 40.7 +1.4**
BURAR Bucovina Array 51.46 50 ⇑P **P 18 04 40.3 +1.0**
BURAR Bucovina Array 51.46 50 P **P 18 04 39.7 +0.4**
BURAR Bucovina Array 51.46 50 ⇑P **P 18 04 40.3 +1.0**
SORM Soroca 51.60 47 ⇑P **P 18 04 40.6 +0.4**
SORM Soroca 51.60 47 ⇑P **P 18 04 40.6 +0.4**
ARCR ARCALIA 51.78 51 ⇑P **P 18 04 43.3 +1.7**
EVO Evora 51.88 83 *e*P **P 18 04 43.8 +1.3**
comp=Z,25nm,1.2s
EVO *i* LQ LQ 18 04 54.9
ZAIG Zacatecas 51.89 192 P **P 18 04 44.6 +1.6**
ESBB Sonseca Array 51.90 79 P **P 18 04 43.8 +1.1**
ESBB IAmb IAmb 18 04 56.5
comp=Z,23nm,0.8s
ESDC Sonseca Array 51.90 79 P **P 18 04 43.2 +0.6**
comp=Z,4.3nm,0.8s,baz=337,slow=8.1,SNR=36
ESDC LR LR 18 25 45.2
comp=Z,167nm,18.0s,baz=332,slow=35
comp=Z,4.3nm,0.8s
ESDC Sonseca Array 51.90 79 P **P 18 04 43.4 +0.7**
MARR Marisel-Cluj 51.91 52 ⇑P **P 18 04 44.3 +1.6**
PAB San Pablo 51.91 79 P **P 18 04 43.8 +1.0**
PAB IAmb IAmb 18 04 56.7
comp=Z,28nm,0.8s
PAB San Pablo 51.91 79 P **P 18 04 43.8 +1.0**
PAB pmax pmax
comp=Z,28nm,0.9s
ZAA0 Zalesovo Array 51.98 2 P **P 18 04 43.2 +0.2**
ZALV Zalesovo Beam 51.98 2 P **P 18 04 43.3 +0.3**
comp=Z,14nm,0.7s,baz=353,slow=7.9,SNR=66
ZALV LR LR 18 27 09.7
comp=Z,184nm,21.6s,baz=4.5,slow=36
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 51.98 2 P **P 18 04 42.9 -0.1**
ZALV Zalesovo Beam 51.98 2 P **P 18 04 42.9 -0.1**
SIRR Siria 51.98 53 ⇑P **P 18 04 44.4 +1.3**
PNCL Nicolau / Gran 52.14 84 *e*P **P 18 04 46.8 +2.5**
comp=Z,26nm,1.2s
PNCL *i* LQ LQ 18 04 57.0
OSSC Osservatorio P 52.17 63 P **P 18 04 44.5 -0.1**
OSSC IAmb IAmb 18 05 44.4
comp=Z,29nm,1.3s
BRVK Borovoye 52.36 13 P **P 18 04 46.8 +1.0**
BRVK IAmb IAmb 18 05 00.0
comp=Z,38nm,0.8s
BRVK Borovoye 52.36 13*ce*P **P 18 04 44.7 -1.1**
BRVK pmax pmax
comp=Z,46nm,1.7s
BRVK Borovoye 52.36 13 P **P 18 04 47.2 +1.4**
PBEJ Beja 52.40 83 *e*P **P 18 04 47.4 +1.1**
comp=Z,26nm,1.0s
PBEJ *i* LQ LQ 18 04 59.6
BVA0 Borovoye Array 52.40 13 *i* P **P 18 04 47.1 +1.0**
BVAR Borovoye Array 52.40 13 LR LR 18 30 37.2
comp=Z,415nm,18.1s,baz=349,slow=40
PBAR Barrancos 52.48 82 *e*P **P 18 04 48.0 +1.1**
comp=Z,37nm,1.1s
PBAR *i* LQ LQ 18 05 00.0
SURR Surduc 52.57 53 ⇓P **P 18 04 49.3 +1.8**
BZS Buzias 52.59 54 ⇑P **P 18 04 48.2 +0.6**
BZS Buzias 52.59 54 ⇑P **P 18 04 48.2 +0.6**
FRGS Fruska Gora 52.63 55 ⇑P **P 18 04 49.5 +1.5**
PCVE Castro Verde 52.72 83 *e*P **P 18 04 49.6 +0.9**
comp=Z,26nm,1.4s
PCVE *i* LQ LQ 18 05 01.4
MURB Monte Urbino 52.73 62 P **P 18 04 49.8 +1.0**
TESR Tescani 52.81 49 ⇑P **P 18 04 49.5 +0.2**
HEH HeiHe 52.81 329 *e*P **P 18 04 49.2 0.0**
HEH sP **sP 18 04 57.4 +3.9**
HEH pmax pmax
comp=Z,33nm,1.1s
HEH pmax pmax
comp=Z,370nm,6.0s
HEH LR LR
comp=Z,220nm,15.0s
HEH LR LR
comp=Z,210nm,14.9s
HEH LR LR
comp=Z,410nm,15.2s
PVAQ Vaqueiros 53.02 83 *i* LQ LQ 18 05 02.0
GZR Gura Zlata 53.06 53 ⇓P **P 18 04 51.2 0.0**
GZR Gura Zlata 53.06 53 ⇓P **P 18 04 51.2 0.0**
KLR Kul'dur 53.17 325 LR LR 18 30 41.1
comp=Z,153nm,18.2s,baz=29,slow=40
KLR Kul'dur 53.17 325*ce*P **P 18 04 49.8 -2.1**
KLR pmax pmax
comp=Z,48nm,1.7s
CESX Cesi 53.36 63 P **P 18 04 53.2 -0.1**
MDVR Moldovita 53.41 54 ⇓P **P 18 04 53.0 -0.7**
PLOR Plostina 53.44 49 ⇑P **P 18 04 55.4 +1.5**
PLOR Plostina 53.44 49 ⇑P **P 18 04 55.4 +1.5**
VRI Vrincioaia 53.44 49 ⇑P **P 18 04 54.8 +0.9**
VRI Vrincioaia 53.44 49 ⇑P **P 18 04 54.8 +0.9**
YSS Yuzh-Sakhalins 53.47 315 *e*P **P 18 04 53.1 -0.9**
YSS pmax pmax
comp=Z,30nm,0.8s
MLR Muntele Rosu 53.64 50 LR LR 18 27 50.5
comp=Z,530nm,20.3s,baz=330,slow=36
MLR Muntele Rosu 53.64 50 ⇑P **P 18 04 56.4 +0.9**
MLR Muntele Rosu 53.64 50 ⇑P **P 18 04 56.4 +0.9**
AKTO Aktyubinsk 53.94 23 LR LR 18 30 47.8
comp=Z,590nm,18.8s,baz=348,slow=39
AKTO Aktyubinsk 53.94 23 P **P 18 04 57.5 0.0**
MOY Mondy 53.94 350 *e*P **P 18 04 59.1 +1.5**
MOY pmax pmax
comp=Z,38nm,2.2s
INTR Introdacqua 54.24 62 P **P 18 05 01.4 +1.4**
CFR Carcaliu 54.39 48 ⇑P **P 18 04 59.8 -1.0**
CFR Carcaliu 54.39 48 ⇑P **P 18 04 59.8 -1.0**
CART Cartagena 54.64 77 P **P 18 05 02.1 -0.6**
CART IAmb IAmb 18 05 16.6
comp=Z,18nm,0.8s
TPGR Topolog 54.75 48 ⇑P **P 18 05 01.6 -1.9**
HIA Hailar 54.77 335 P **P 18 05 04.0 +0.4**
HIA IAmb IAmb 18 05 05.4
comp=Z,53nm,1.7s
HIA Hailar 54.77 335 P **P 18 05 04.0 +0.4**
HIA pmax pmax
comp=Z,53nm,1.7s
KURK Kurchatov 55.09 7 P **P 18 05 05.6 -0.2**
KURK IAmb IAmb 18 05 07.4
comp=Z,31nm,1.1s
KURK Kurchatov 55.09 7*ce*P **P 18 05 05.7 -0.1**
KURK pmax pmax
comp=Z,38nm,1.3s
KURK Kurchatov 55.09 7 P **P 18 05 06.4 +0.6**
ZAK Zakamensk 55.10 348 *e*P **P 18 05 07.0 +0.9**
ZAK pmax pmax
comp=Z,18nm,1.3s
KURBB Kurchatov Arra 55.18 7 P **P 18 05 04.5 -1.9**
AB31 Akbulak array 55.30 22 *i* P **P 18 05 08.0 +0.6**
ABKAR Akbulak array 55.30 22 P **P 18 05 07.2 -0.2**
ABKAR IAmb IAmb 18 05 20.8
comp=Z,15nm,0.8s
BRZS Berezniki 55.56 11 *e*P P 18 05 18.1 +8.8
BRZS pmax pmax
comp=Z,24nm,1.8s
ASAJ Asahikawa 56.23 315 LR LR 18 32 57.7
comp=Z,132nm,18.1s,baz=320,slow=40
DGZ Jazzator, Alta 56.25 360 *i* P **P 18 05 14.6 +0.3**
DGZ pmax pmax
comp=Z,21nm,0.9s
AVE Averroes 56.97 85 P **P 18 05 19.2 -0.3**
FNA Florina 57.14 56 P **P 18 05 21.6 +0.9**
FNA Florina 57.14 56 P **P 18 05 21.6 +0.9**
FNA pmax pmax
comp=Z,30nm,0.5s
KBN Korca 57.16 56 P **P 18 05 20.5 -0.4**
KBN Korca 57.16 56 P **P 18 05 20.5 -0.4**
KBN pmax pmax
comp=Z,101nm,0.7s
BNX BinXian 57.23 328 ⇑P **P 18 05 20.9 -0.3**
BNX pmax pmax
comp=Z,18nm,1.0s
BNX pmax pmax
comp=Z,170nm,3.9s
ULN Ulaanbaatar 57.36 344 P **P 18 05 23.0 +0.7**
ULN Ulaanbaatar 57.36 344*ce*P **P 18 05 21.6 -0.7**
ULN pmax pmax
comp=Z,54nm,1.7s
ULN Ulaanbaatar 57.36 344 P **P 18 05 23.4 +1.1**
SONM Songino Array 57.44 345 P **P 18 05 24.3 +1.4**
comp=Z,21nm,0.9s,baz=0.4,slow=5.8,SNR=126
comp=Z,21nm,0.9s
SONM Songino Array 57.44 345 P **P 18 05 23.9 +1.2**
SONM IAmb IAmb 18 05 25.4
comp=Z,46nm,1.2s
SONM Songino Array 57.44 345 P **P 18 05 24.0 +1.2**
SONM pmax pmax
comp=Z,46nm,1.2s
PETF Flores 57.45 177 P **P 18 05 24.4 +1.4**
PETF IAmb IAmb 18 05 27.5
comp=Z,33nm,1.0s
MDJ Mudanjiang 58.00 326 P **P 18 05 26.6 0.0**
MDJ IAmb IAmb 18 05 27.7
comp=Z,42nm,1.2s
MDJ Mudanjiang 58.00 326 P **P 18 05 26.6 0.0**
MDJ pP sP 18 05 31.9 +1.0
MDJ sP pP 18 05 33.6 +3.9
MDJ S **S 18 13 24.8 -1.8**
MDJ sS sS 18 13 32.6 +0.9
MDJ ScS **ScS 18 15 14.9 -0.8**
MDJ pmax pmax
comp=Z,35nm,1.6s
MDJ pmax pmax
comp=Z,180nm,6.3s
MDJ LR LR
comp=Z,480nm,5.0s
MDJ LR LR
comp=Z,250nm,6.0s
MDJ LR LR
comp=Z,370nm,5.6s
USA0B Ussuriysk Arra 58.03 323 P **P 18 05 27.1 +0.3**
USA0B Ussuriysk Arra 58.03 323 *i* P **P 18 05 26.9 +0.1**
USRK Ussuriysk Ar. 58.03 323 P **P 18 05 27.2 +0.4**
comp=Z,26nm,0.8s,baz=11,slow=7.8,SNR=31
USRK LR LR 18 31 30.8
comp=Z,138nm,21.1s,baz=358,slow=37
comp=Z,26nm,0.8s
USRK Ussuriysk Ar. 58.03 323 P **P 18 05 26.8 0.0**
USRK Ussuriysk Ar. 58.03 323 P **P 18 05 26.8 0.0**
LIT Litokhoron 58.04 55 P **P 18 05 26.4 -0.6**
LIT Litokhoron 58.04 55 P **P 18 05 26.4 -0.6**
LIT pmax pmax
comp=Z,131nm,0.7s
SJG San Juan 58.09 150 LR LR 18 30 43.1
comp=Z,139nm,19.5s,baz=340,slow=36
MDT Midelt 58.18 82 LR LR 18 29 03.5
comp=Z,102nm,19.4s,baz=354,slow=35
KIV Kislovodsk 58.24 37 *e*P **P 18 05 31.1 +2.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,237nm,17.0s
SHA1 Shidzhatmaz 58.45 37 *i* P **P 18 05 30.5 +0.5**
KBZ Khabaz 58.49 37 P **P 18 05 32.1 +2.1**
comp=Z,9.0nm,0.8s,baz=316,slow=5.8,SNR=16
comp=Z,9.0nm,0.8s
KBZ Khabaz 58.49 37*ce*P **P 18 05 31.1 +1.1**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 59.08 4 P **P 18 05 33.8 -0.4**
MAKZ Makanchi 59.08 4 P **P 18 05 33.8 -0.4**
MAKZ pmax pmax
comp=Z,76nm,1.9s
MK31 Makanchi Array 59.10 4 P **P 18 05 33.9 -0.4**
MK31 IAmb IAmb 18 05 35.4
comp=Z,19nm,1.1s
MK31 Makanchi Array 59.10 4 P **P 18 05 33.9 -0.4**
MK31 pmax pmax
comp=Z,19nm,1.1s
MKAR Makanchi Array 59.10 4 P **P 18 05 34.2 -0.1**
comp=Z,16nm,0.9s,baz=28,slow=5.5,SNR=124
MKAR LR LR 18 32 42.5
comp=Z,246nm,21.1s,baz=355,slow=38
comp=Z,16nm,0.9s
MKAR Makanchi Array 59.10 4 P **P 18 05 33.8 -0.6**
MKAR Makanchi Array 59.10 4 P **P 18 05 33.8 -0.6**
GROC Groznyy 59.46 34 *e*P **P 18 05 34.4 -2.4**
GROC *e* 18 06 22.7
GROC pmax pmax
comp=Z,41nm,0.7s
ZEI Tsey 59.57 36 *e*P **P 18 05 38.2 +0.4**
ZEI pmax pmax
comp=Z,15nm,1.1s
ONI Oni 59.69 36 P **P 18 05 39.6 +1.1**
ONI IAmb IAmb 18 05 52.9
comp=Z,12nm,0.9s
ONI Oni 59.69 36 P **P 18 05 39.6 +1.1**
ONI pmax pmax
comp=Z,12nm,0.9s
XLT XiLinHaoTe 60.48 337 ⇑*i*P **P 18 05 44.9 +1.0**
XLT pP sP 18 05 50.1 +1.9
XLT sP pP 18 05 52.2 +5.2
XLT pmax pmax
comp=Z,16nm,1.5s
XLT pmax pmax
comp=Z,94nm,5.1s
BTLS Baital 60.56 11 *e*P **P 18 05 43.5 -0.8**
BTLS pmax pmax
comp=Z,13nm,0.9s
BR131 Keskin Array S 60.73 46 P **P 18 05 46.3 +0.6**
BR131 IAmb IAmb 18 05 59.6
comp=Z,14nm,0.9s
BR131 Keskin Array S 60.73 46 P **P 18 05 46.3 +0.6**
BR131 pmax pmax
comp=Z,14nm,0.9s
BRTR Keskin Array B 60.73 46 P **P 18 05 46.0 +0.3**
comp=Z,1.1nm,0.8s,baz=4.9,slow=4.0,SNR=4.8
comp=Z,1.1nm,0.8s
AKT Akhty 61.44 33 *e*P **P 18 05 50.7 +0.2**
AKT *e* 18 06 32.7
AKT pmax pmax
comp=Z,23nm,0.9s
KARS Kars 61.55 37 P **P 18 05 51.3 +0.1**
KARS Kars 61.55 37 P **P 18 05 51.3 +0.1**
KARS pmax pmax
comp=Z,87nm,1.0s
WMQ Urumqi 62.13 360 *e*P **P 18 05 56.1 +1.1**
WMQ pP sP 18 06 03.9 +4.5
WMQ pmax pmax
comp=Z,42nm,0.9s
WMQ pmax pmax
comp=Z,310nm,5.9s
WMQ LR LR
comp=Z,330nm,20.9s
SGDS Sogindy 62.18 11 *e*P **P 18 05 54.6 -0.8**
SGDS pmax pmax
comp=Z,28nm,2.1s
GNI Garni 62.28 36 LR LR 18 34 30.7
comp=Z,104nm,18.8s,baz=346,slow=38
KK31 Karatay Array 62.29 14 P **P 18 05 56.9 +0.8**
KK31 Karatay Array 62.29 14 *i* P **P 18 05 56.8 +0.8**
KKAR Karatay Array 62.29 14 P **P 18 05 57.0 +1.0**
KKAR Karatay Array 62.29 14 P **P 18 05 56.7 +0.7**
KKAR Karatay Array 62.29 14 P **P 18 05 56.7 +0.7**
USP Ospenovka 62.36 11 P **P 18 05 57.7 +1.2**
SNR=29
MDOK Medeo 62.58 9 P **P 18 05 57.4 -0.7**
CHMS Chumysh 62.64 10 P **P 18 05 59.6 +1.2**
SNR=10
SHLS Shalkode 62.67 7 *e*P **P 18 05 58.6 -0.1**
SHLS pmax pmax
comp=Z,22nm,1.4s
TKM2 Tokmak 2 62.76 10 P **P 18 05 57.3 -2.1**
EKS2 Erkin-Say 62.92 11 P **P 18 06 01.8 +1.4**
SNR=13
KIP Kipapa 62.96 252 P **P 18 06 01.8 +1.1**
KIP Kipapa 62.96 252*ce*P **P 18 06 03.5 +2.8**
KIP pmax pmax
comp=Z,32nm,1.0s
AAK Ala-Archa 62.98 11 P **P 18 06 02.5 +1.7**
SNR=18
AAK Ala-Archa 62.98 11 LR LR 18 36 52.7
comp=Z,315nm,18.2s,baz=356,slow=39
AAK Ala-Archa 62.98 11 P **P 18 06 02.2 +1.3**
AAK Ala-Archa 62.98 11*ce*P **P 18 06 00.2 -0.7**
AAK pmax pmax
comp=Z,47nm,1.7s
AAK Ala-Archa 62.98 11 P **P 18 06 02.6 +1.7**
AAK P **P 18 06 02.6 +1.7**
KBK Karagaybulak 62.99 10 P **P 18 06 02.5 +1.6**
SNR=7.8
IUG Iuzhnay 63.21 14 *e*P **P 18 06 02.2 -0.1**
UCH Uchtor 63.39 11 P **P 18 06 06.0 +2.0**
SNR=8.2
AML Almayashu 63.45 11 P **P 18 06 06.2 +1.9**
SNR=17
HHC Hu-ho-hao-te 63.95 340 *e*P **P 18 06 08.7 +1.5**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,340nm,5.8s
TARG Taragay, Kyrgy 64.04 8 P **P 18 06 09.4 +1.3**
TARG Taragay, Kyrgy 64.04 8 P **P 18 06 09.4 +1.3**
TARG pmax pmax
comp=Z,80nm,2.0s
JTS Las Juntas de 64.17 172 LR LR 18 35 25.7
comp=Z,150nm,18.9s,slow=37
BJT Baijiatuao 64.31 336 P **P 18 06 09.7 +0.3**
BJT IAmb IAmb 18 06 10.6
comp=Z,14nm,0.8s
BJT Baijiatuau 64.31 336 P **P 18 06 09.7 +0.3**
BJT pmax pmax
comp=Z,14nm,0.8s
MARD Mardin 64.39 40 P **P 18 06 12.0 +1.8**
MARD IAmb IAmb 18 06 24.4
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 64.39 316 P **P 18 06 10.1 +0.1**
comp=Z,13nm,0.9s,baz=2.5,slow=7.2,SNR=20
MJAR LR LR 18 38 38.9
comp=Z,99nm,18.4s,baz=44,slow=40
comp=Z,13nm,0.9s
KS19 Wonju Array Si 65.22 325 P **P 18 06 16.1 +0.6**
KSRS Korea Array 65.26 325 P **P 18 06 16.2 +0.6**
comp=Z,14nm,0.9s,baz=2.2,slow=6.6,SNR=30
KSRS LR LR 18 37 07.0
comp=Z,254nm,19.1s,baz=105,slow=38
comp=Z,14nm,0.9s
KSAR Wonju Array Be 65.28 325 P **P 18 06 15.4 -0.4**
KSAR Wonju Array Be 65.28 325 P **P 18 06 15.4 -0.4**
INCN Inchon 65.43 326 P **P 18 06 16.7 -0.1**
INCN Inchon 65.43 326 P **P 18 06 16.7 -0.1**
INCN pmax pmax
comp=Z,38nm,1.1s
KSH Kashi 66.17 10 P **P 18 06 25.5 +3.8**
KSH sP sP 18 06 34.6 +8.6
KSH pmax pmax
comp=Z,24nm,0.8s
GTA Gaotai 66.23 350 ⇑P **P 18 06 22.6 +0.5**
GTA pP sP 18 06 32.2 +5.8
GTA sP pP 18 06 35.8 +11
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,230nm,5.8s
GTA LR LR
comp=Z,330nm,16.7s
GTA LR LR
comp=Z,250nm,15.6s
GTA LR LR
comp=Z,320nm,18.2s
GEYT Alibeck 66.30 25 P **P 18 06 23.8 +1.3**
comp=Z,11nm,0.8s,baz=308,slow=7.3,SNR=24
GEYT LR LR 18 38 23.7
comp=Z,286nm,21.5s,baz=14,slow=39
comp=Z,11nm,0.8s
GEYT Alibeck 66.30 25 P **P 18 06 23.6 +1.2**
GEYT Alibeck 66.30 25 P **P 18 06 23.6 +1.2**
GEYT pmax pmax
comp=Z,28nm,0.9s
GYA0B ALIBECK ARRAY 66.30 25 P **P 18 06 23.4 +0.9**
GYA0B IAmb IAmb 18 06 36.8
comp=Z,25nm,0.8s
GAR Garm 66.36 14 P **P 18 06 24.1 +1.2**
TJN Taejon 66.40 326*ce*P **P 18 06 23.3 +0.3**
CHGR Chuyangaron 66.62 16 P **P 18 06 25.4 +0.9**
CHGR Chuyangaron 66.62 16 P **P 18 06 25.4 +0.9**
CHGR pmax pmax
comp=Z,107nm,0.8s
SDV Santo Domingo 66.63 156 LR LR 18 35 36.6

comp=Z,100nm,19.6s,baz=360,slow=36
BAUV El Baul 66.88 154 P **P** **18 06 27.0 +0.7**
HNS HongShan 67.05 337 ⇑P **P** **18 06 27.9 +0.7**
HNS pmax pmax
comp=Z,31nm,1.1s
ZARC Zaragoza, Cauc 67.59 161 *e*P **P** **18 06 32.1 +1.3**
PAMC Pamplona, Colo 67.95 159 *e*P P 18 06 44.6 +11
TIA Tai'an 67.96 334 ⇓P **P** **18 06 33.0 +0.1**
TIA pmax pmax
comp=Z,9.0nm,0.9s
BARC Barichara 68.64 159 *e*P **P** **18 06 37.9 +0.2**
JNU Nakatsue 69.02 322 LR LR 18 38 17.7
comp=Z,110nm,20.2s,baz=30,slow=37
CBOC Ciudad Bolivar 69.11 162 *e*P **P** **18 06 41.7 +1.2**
LZH Lanzhou 69.31 346 ⇑P **P** **18 06 42.9 +1.4**
LZH sP sP 18 06 52.0 +6.1
LZH pmax pmax
comp=Z,34nm,1.5s
RUSC La Rusia 69.34 159 P **P** **18 06 43.6 +1.3**
RUSC IAmb IAmb 18 06 53.4
comp=Z,40nm,1.5s
RUSC La Rusia 69.34 159 *e*P **P** **18 06 44.6 +2.2**
NORC Norcasia 69.50 161 *e*P **P** **18 06 43.6 +0.8**
GOMU GeErMu 69.63 354 P **P** **18 06 45.4 +1.6**
GOMU pP sP 18 06 49.0 +0.8
GOMU sP pP 18 06 53.2 +6.2
GOMU pmax pmax
comp=Z,22nm,1.1s
GOMU pmax pmax
comp=Z,130nm,6.0s
GUY2C Guyana, Caldas 69.80 162 *e*P **P** **18 06 47.4 +2.3**
LYN LuoYang 70.11 338 ⇑*i*P **P** **18 06 47.2 +0.9**
LYN sP sP 18 06 53.0 +2.4
LYN pmax pmax
comp=Z,20nm,1.0s
LYN LR LR
comp=Z,280nm,16.5s
LYN LR LR
comp=Z,210nm,15.1s
LYN LR LR
comp=Z,300nm,16.1s
HRA Herat 70.25 22 P **P** **18 06 48.7 +1.2**
ROSC El Rosal 70.27 161 P **P** **18 06 51.2 +3.4**
comp=Z,7.0nm,0.3s,baz=16,slow=8.9,SNR=4.0
comp=Z,7.0nm,0.3s
ROSC El Rosal 70.27 161 P **P** **18 06 48.1 +0.2**
ROSC IAmb IAmb 18 07 07.1
comp=Z,17nm,0.9s
ROSC El Rosal 70.27 161 P **P** **18 06 48.1 +0.2**
ROSC pmax pmax
comp=Z,17nm,1.0s
CHIC Chingaza 70.53 160 *e*P **P** **18 06 50.3 +0.8**
KBL Kabul 70.70 16 P **P** **18 06 50.7 +0.5**
KBL IAmb IAmb 18 07 03.9
comp=Z,17nm,0.9s
KBL Kabul 70.70 16 P **P** **18 06 50.7 +0.5**
KBL pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 70.70 16 P **P** **18 06 51.2 +1.0**
SNR=10
KBL P **P** **18 06 51.2 +1.0**
SNR=10
EIL Elat 70.73 47 LR LR 18 38 46.0
comp=Z,79nm,21.7s,baz=12,slow=37
XAN Xi'an 70.95 341 P **P** **18 06 51.5 0.0**
XAN pP sP 18 07 01.1 +5.2
XAN S **S** **18 16 00.5 -6.3**
XAN pmax pmax
comp=Z,11nm,1.3s
XAN pmax pmax
comp=Z,310nm,5.7s
XAN LR LR
comp=Z,220nm,6.1s
XAN LR LR
comp=Z,240nm,7.7s
XAN LR LR
comp=Z,250nm,10.0s
NJ2 Nanjing 71.85 332 *e*P **P** **18 06 56.9 0.0**
NJ2 pmax pmax
comp=Z,27nm,0.7s
NIL Nilore 71.87 12 P **P** **18 06 57.4 +0.3**
NIL IAmb IAmb 18 07 10.2
comp=Z,20nm,1.0s
NIL Nilore 71.87 12 P **P** **18 06 57.4 +0.3**
NIL pmax pmax
comp=Z,20nm,1.0s
TULM Tulcn-Chalpat 74.07 165 P **P** **18 07 11.0 +0.3**
TULM IAmb IAmb 18 07 44.6
comp=Z,32nm,1.3s
BOAV Boa Vista 74.34 147 P **P** **18 07 12.6 +0.8**
BOAV IAmb IAmb 18 07 23.7
comp=Z,10nm,0.8s
CD2 Chengdu 74.46 345 P **P** **18 07 13.8 +1.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
ENH Enshi 74.63 340 P **P** **18 07 13.3 -0.1**
ENH IAmb IAmb 18 07 14.7
comp=Z,64nm,1.8s
JOW Kunigami 75.61 323 LR LR 18 42 44.7
comp=Z,138nm,20.3s,baz=252,slow=37
LSA Lhasa 76.19 357 P **P** **18 07 24.0 +1.1**
LSA IAmb IAmb 18 07 35.7
comp=Z,36nm,1.3s
LSA Lhasa 76.19 357 P **P** **18 07 24.0 +1.1**
LSA pmax pmax
comp=Z,36nm,1.3s
DANN Dangsing 77.54 3 *e*P **P** **18 07 30.5 +0.2**
comp=Z,91nm,0.9s
GKN Gorkha 77.90 3 *e*P **P** **18 07 31.8 -0.3**
comp=Z,54nm,1.0s
KOLN Koldanda 78.11 3 *e*P **P** **18 07 33.4 0.0**
comp=Z,1.3nm,0.7s
KKN Kakani 78.11 2 *e*P **P** **18 07 33.1 -0.3**
JIRN Jiri 78.25 1 *e*P **P** **18 07 34.8 +0.4**
DMN Daman 78.29 2 *e*P **P** **18 07 34.9 +0.4**
SMRA Abu-Samra 78.32 34 P **P** **18 07 35.7 +1.4**
PKIN Phulchoki 78.33 2 *e*P **P** **18 07 34.5 -0.2**
PKI Pulchoki 78.33 2 *e*P **P** **18 07 34.5 -0.3**
JRN Qarnain Island 78.42 32 P **P** **18 07 35.8 +0.9**
MASF Masafi 78.45 29 P **P** **18 07 35.9 +0.8**
TAPN Taplejung 78.56 360 *e*P **P** **18 07 36.1 +0.1**
comp=Z,86nm,1.1s
GYA Guiyang 78.66 342 ⇓P **P** **18 07 37.9 +1.6**
GYA pmax pmax
comp=Z,42nm,0.9s
RAYN Ar Rayn 78.67 39 P **P** **18 07 37.0 +0.7**
RAYN Ar Rayn 78.67 39 P **P** **18 07 37.0 +0.7**
RAYN pmax pmax
comp=Z,5.0nm,0.9s
UOSS Minazif 78.88 29 P **P** **18 07 37.9 +0.5**
UOSS Minazif 78.88 29 P **P** **18 07 39.7 +2.3**
RAMN Ramite 78.96 1 *e*P **P** **18 07 38.2 +0.1**
comp=Z,39nm,0.9s
PZH PanZhiHua 78.97 347 P **P** **18 07 38.3 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.3s
HATD Hatta, Dubai 78.99 29 P **P** **18 07 38.7 +0.7**
SNR=5.1
ODAN Odare 79.05 0 *e*P **P** **18 07 39.3 +0.7**
ASHO Ashiyiah 79.12 29 P **P** **18 07 39.4 +0.6**
SNR=6.7
ALNE Al Ain 79.70 29 P **P** **18 07 42.8 +0.9**
SNR=8.2
SOHO SOHO 79.72 28 P **P** **18 07 41.8 -0.2**
MZWR Madinat Zayed 79.73 31 P **P** **18 07 43.5 +1.5**
MACA Manacapuru-AM 79.78 148 P **P** **18 07 43.4 +1.1**
MACA IAmb IAmb 18 07 54.6
comp=Z,22nm,0.8s
KMI Kunming 80.27 346 ⇑P **P** **18 07 45.9 +0.6**
KMI sP PcP 18 07 56.0 +3.6
KMI pmax pmax
comp=Z,16nm,1.3s
SHL Shillong 80.30 356 P **P** **18 07 45.1 -0.2**
SHL IAmb IAmb 18 07 46.4
comp=Z,36nm,1.3s
SHL Shillong 80.30 356 P **P** **18 07 45.1 -0.2**
SHL pmax pmax
comp=Z,36nm,1.3s
SHL Shillong 80.30 356 P **P** **18 07 45.8 +0.5**
SNR=9.1
TNCH TengChong 80.61 350 P **P** **18 07 48.1 +1.1**
TNCH pP pP 18 07 50.3 +0.1
TNCH S **S** **18 17 54.9 +1.0**
TNCH sS SKSac 18 18 02.6 -2.6
TNCH pmax pmax
comp=Z,41nm,1.2s
TNCH pmax pmax
comp=Z,170nm,5.6s
TNCH LR LR
comp=Z,190nm,4.3s
TNCH LR LR
comp=Z,210nm,5.3s
TNCH LR LR
comp=Z,100nm,5.7s
WSAR Wadi Sarin 80.87 27 LR LR 18 51 09.0
comp=Z,64nm,18.2s,baz=10.0,slow=41
SMDO Samad 80.97 27 P **P** **18 07 51.0 +2.1**
SNR=7.2
BSY Bisya 81.18 28 P **P** **18 07 50.2 +0.3**
SNR=12
WBK Wadi Bani Khal 81.53 26 P **P** **18 07 52.3 +0.6**
JMDO Jabal Madar 81.66 27 P **P** **18 07 52.7 +0.3**
ATAH Atahualpa 81.81 166 LR LR 18 45 17.6
comp=Z,113nm,20.6s,baz=358,slow=36
JLN Jalan Bani Buh 82.04 26 P **P** **18 07 55.3 +1.0**
SNR=6.4
DOK Doka 84.83 32 P **P** **18 08 09.8 +1.1**
SNR=6.4
SAML Samuel 85.12 151 P **P** **18 08 10.6 +0.5**
SAML Samuel 85.12 151 P **P** **18 08 10.6 +0.5**
SAML pmax pmax
comp=Z,9.0nm,1.2s
CRAI Chiangrai 85.28 348 P **P** **18 08 10.6 -0.4**
CRAI IAmb IAmb 18 08 12.3
comp=Z,16nm,0.9s
WHFO Wadi Hawf 85.46 32 P **P** **18 08 12.6 +0.6**
ETMB Extrema 85.60 154 P **P** **18 08 12.7 +0.2**
ETMB IAmb IAmb 18 08 13.9
comp=Z,10.0nm,0.9s
QIZ Qiongzhong 85.73 339 P **P** **18 08 12.6 -0.7**
QIZ S **S** **18 18 39.6 -6.0**
QIZ pmax pmax
comp=Z,41nm,1.7s
QIZ LR LR
comp=Z,300nm,12.7s
QIZ LR LR
comp=Z,240nm,16.7s
QIZ LR LR
comp=Z,260nm,36.6s
NNA Nana 86.72 165 LR LR 18 49 20.5
comp=Z,50nm,20.6s,baz=347,slow=37
CHTO Chiang Mai 86.76 349 P **P** **18 08 17.8 -0.6**
CHTO IAmb IAmb 18 08 19.1
comp=Z,16nm,1.2s
CHTO Chiang Mai 86.76 349 P **P** **18 08 17.8 -0.6**
CHTO pmax pmax
comp=Z,16nm,1.3s
PHRA Phrae 87.01 348 P **P** **18 08 19.1 -0.4**
RCBR Riachuelo 87.06 124 LR LR 18 44 20.9
comp=Z,75nm,19.0s,baz=134,slow=34
CM31 Chiang Mai Arr 87.12 349 P **P** **18 08 19.7 -0.4**
CM31 IAmb IAmb 18 08 21.3
comp=Z,23nm,1.2s
CMAR Chiang Mai Arr 87.12 349 P **P** **18 08 20.0 -0.1**
comp=Z,8.4nm,1.0s,baz=349,slow=5.7,SNR=43
CMAR PP **PP** **18 11 43.0 0.0**
comp=Z,4.1nm,1.1s,baz=358,slow=8.3,SNR=6.9
CMAR LR LR 18 51 09.0
comp=Z,49nm,19.5s,baz=340,slow=38
comp=Z,8.4nm,1.0s
CMAR Chiang Mai Arr 87.12 349 P **P** **18 08 19.5 -0.6**
CMAR Chiang Mai Arr 87.12 349 *i*P **P** **18 08 20.0 -0.1**
CMAR pmax pmax
comp=Z,9.0nm,1.0s
PTLB Pontes e Lacer 92.08 148 P **P** **18 08 44.7 +1.5**
PTLB IAmb IAmb 18 08 55.8
comp=Z,7.1nm,1.1s
SIV San Ignacio 92.34 150 LR LR 18 49 28.3
comp=Z,90nm,21.6s,baz=286,slow=35
BDFB Brasilia 94.10 137 P **P** **18 08 54.2 +1.5**
comp=Z,1.4nm,0.4s,baz=178,slow=7.3,SNR=3.1
comp=Z,1.4nm,0.4s
LVC Limon Verde 97.94 158 LR LR 18 58 19.2
comp=Z,56nm,18.2s,baz=345,slow=38
MBAR Mbarara 99.16 58 LR LR 18 58 12.9
comp=Z,176nm,18.5s,baz=342,slow=38
WRA Warramunga Arr 120.06 307 PKP **PKPdf** **18 14 24.1 -0.5**
comp=Z,1.8nm,0.7s,baz=356,slow=2.1,SNR=15
AS31 Alice Springs 123.75 307 **PKPdf** **18 14 30.9 -0.8**
ASAR Alice Springs 123.75 307 PKP **PKPdf** **18 14 31.5 -0.1**
comp=Z,3.8nm,0.7s,baz=8.4,slow=2.2,SNR=35
ASAR Alice Springs 123.75 307 **PKPdf** **18 14 30.7 -0.9**
ASAR Alice Springs 123.75 307 PKIKP **PKPdf** **18 14 30.7 -0.9**
BOSA Boshof 124.75 71 PKP **PKPdf** **18 14 33.6 +0.1**
comp=Z,8.8nm,1.3s,baz=0.0,slow=7.1,SNR=1.9
STKA Stephens Creek 129.87 296 PKP **PKiKP** **18 14 43.6 -0.2**
comp=Z,1.8nm,0.7s,baz=20,slow=13,SNR=4.9
QSPA South Pole Qui 164.28 180 **PKPab** **18 16 32.1 +1.7**

ROM 09 18:04:44.8±0.0, 42.806N±0.002×13.150E±0.003,
h10km, ML2.8/53, 36C-14D, Error ellipse: s-maj=0.2km
s-min=0.1km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.06**	**29**	⇑P		Pg	18 04 47.3	+0.2
T1245				S		Sg	18 04 48.8	0.0
T1245				AML		AML		
	comp=E,51550μm,0.7s							
T1245				AML		AML		
	comp=N,69800μm,0.2s							
T1245				AML		AML		
	comp=E,51600μm,0.7s							
T1245				AML		AML		
	comp=N,71300μm,1.1s							
T1245				AML		AML		
	comp=E,56750μm,0.2s							
T1245				AML		AML		
	comp=E,51600μm,1.3s							
T1214	**Arquata del Tr**	**0.06**	**137**	⇑P		Pg	18 04 47.5	+0.4
T1214				S		Sg	18 04 49.0	+0.1
T1214				AML		AML		
	comp=N,35950μm,0.2s							
T1214				AML		AML		
	comp=E,29150μm,0.2s							
T1214				AML		AML		
	comp=E,30750μm,0.2s							
T1214				AML		AML		
	comp=E,29100μm,0.2s							
T1214				AML		AML		
	comp=N,35950μm,0.3s							
T1214				AML		AML		
	comp=E,29150μm,0.2s							
T1214				AML		AML		
	comp=N,35250μm,0.3s							
T1212	**Cascia, Frazio**	**0.10**	**235**	P		Pg	18 04 47.9	+0.5
T1212				S		Sg	18 04 49.8	+0.5
T1212				AML		AML		
	comp=N,28400μm,0.3s							
T1212				AML		AML		
	comp=E,17350μm,0.3s							
T1212				AML		AML		
	comp=E,16400μm,0.6s							
T1212				AML		AML		
	comp=N,28800μm,0.3s							
T1212				AML		AML		
	comp=E,17350μm,0.3s							
T1212				AML		AML		
	comp=N,28400μm,0.3s							
T1212				AML		AML		
	comp=E,16400μm,0.6s							
T1212				AML		AML		
	comp=N,28850μm,0.3s							
T1212				AML		AML		
	comp=E,16400μm,1.4s							
T1212				AML		AML		
	comp=N,28850μm,1.7s							
T1212				AML		AML		
	comp=E,17350μm,1.7s							
T1212				AML		AML		
	comp=N,28400μm,1.7s							
MC2	**Monte Cornacci**	**0.11**	**16**	⇑P		Pg	18 04 48.0	+0.3
MC2				S		Sg	18 04 50.5	+0.6
T1216	**Preci, Frazion**	**0.13**	**311**	⇑P		Pg	18 04 48.3	+0.4
T1216				S		Sg	18 04 50.7	+0.7
T1216				AML		AML		
	comp=E,11450μm,0.1s							
T1216				AML		AML		
	comp=N,16150μm,0.2s							
T1216				AML		AML		
	comp=E,11450μm,0.1s							
T1218	**Civita (PG)**	**0.14**	**191**	⇑P		Pg	18 04 48.6	+0.6
T1218				S		Sg	18 04 51.3	+0.9
T1218				AML		AML		
	comp=N,17800μm,0.3s							
T1218				AML		AML		
	comp=E,11650μm,0.2s							
T1218				AML		AML		
	comp=N,18000μm,0.3s							
T1218				AML		AML		
	comp=N,17850μm,0.3s							
T1218				AML		AML		
	comp=E,11200μm,0.2s							
MMO1	**Montemonaco**	**0.16**	**54**	⇑P		Pg	18 04 48.9	+0.5
MMO1				S		Sg	18 04 51.8	+0.8
FEMA	**Monte Fema**	**0.17**	**335**	⇑P		Pg	18 04 49.1	+0.5
FEMA				S		Sg	18 04 52.1	+0.8
FEMA				AML		AML		
	comp=N,6520μm,0.3s							
FEMA				AML		AML		
	comp=E,10900μm,0.3s							
FEMA				AML		AML		
	comp=N,6520μm,1.7s							
T1215	**Vallo di Nera,**	**0.21**	**269**	⇑P		Pg	18 04 49.7	+0.6
T1215				S		Sg	18 04 53.2	+1.0
T1215				AML		AML		
	comp=E,1720μm,0.8s							
T1215				AML		AML		
	comp=E,1640μm,0.8s							
T1215				AML		AML		
	comp=N,1670μm,0.1s							
T1215				AML		AML		
	comp=E,1720μm,0.8s							
T1215				AML		AML		
	comp=N,1685μm,0.1s							
T1215				AML		AML		
	comp=E,1640μm,0.8s							
T1241	**Roccafluvione,**	**0.21**	**76**	⇑P		Pg	18 04 49.9	+0.6
T1241				S		Sg	18 04 53.6	+1.3
T1241				AML		AML		
	comp=E,28500μm,1.6s							
T1241				AML		AML		
	comp=N,18500μm,1.6s							
T1241				AML		AML		
	comp=E,28500μm,1.6s							
T1241				AML		AML		
	comp=N,18500μm,1.6s							
T1241				AML		AML		
	comp=N,2795μm,1.5s							
T1241				AML		AML		
	comp=E,28500μm,0.4s							
T1241				AML		AML		
	comp=E,3645μm,0.2s							
T1241				AML		AML		
	comp=N,2795μm,0.5s							
T1241				AML		AML		
	comp=N,18500μm,0.4s							
LNSS	**Leonessa**	**0.22**	**202**	⇑P		Pg	18 04 50.0	+0.6
LNSS				S		Sg	18 04 54.0	+1.5
LNSS				AML		AML		
	comp=N,8740μm,0.3s							
LNSS				AML		AML		
	comp=E,18150μm,0.3s							
SMA1	**SAN MARTINO**	**0.22**	**142**	⇑P		Pg	18 04 50.0	+0.6
SMA1				S		Sg	18 04 53.9	+1.3
SMA1				AML		AML		
	comp=N,3645μm,0.3s							
SMA1				AML		AML		
	comp=E,4515μm,0.4s							
SMA1				AML		AML		
	comp=N,3645μm,1.7s							
FDMO	**Fiordimonte**	**0.23**	**349**	⇑P		Pg	18 04 50.1	+0.5
FDMO				AML		AML		
	comp=N,3415μm,1.5s							
FDMO				AML		AML		
	comp=N,3415μm,0.5s							
FDMO				AML		AML		
	comp=E,2980μm,0.2s							
FDMO	**Fiordimonte**	**0.23**	**349**	P		Pg	18 04 50.0	+0.4
CESI	**CESI - Serrava**	**0.27**	**318**	⇑P		Pg	18 04 50.8	+0.6
CESI				S		Sb	18 04 55.4	-1.0
CESI				AML		AML		
	comp=E,6510μm,0.4s							
CESI				AML		AML		
	comp=N,8480μm,0.5s							
GUMA	**Gualdo di Mace**	**0.29**	**28**	IAmb		IAmb	18 04 58.3	
	comp=Z,1μm,0.4s							
GUMA	**Gualdo di Mace**	**0.29**	**28**	⇑P		Pb	18 04 51.5	-0.6
GUMA				S		Sb	18 04 56.5	-0.4
GUMA				AML		AML		
	comp=N,9945μm,0.3s							
GUMA				AML		AML		
	comp=E,7515μm,0.6s							
GUMA				AML		AML		
	comp=E,9470μm,0.5s							
GUMA				AML		AML		
	comp=E,7515μm,1.4s							
GUMA				AML		AML		
	comp=N,9485μm,0.4s							
GUMA	**Gualdo di Mace**	**0.29**	**28**	P		Pg	18 04 51.1	+0.5
RM33	**Pellescritta (**	**0.30**	**171**	⇑P		Pg	18 04 51.3	+0.5
RM33				S		Sb	18 04 56.5	-0.8
RM33				AML		AML		
	comp=E,1730μm,0.9s							
RM33				AML		AML		
	comp=N,1610μm,0.4s							
RM33				AML		AML		
	comp=E,1730μm,0.8s							
RM33				AML		AML		
	comp=E,1715μm,0.9s							
RM33				AML		AML		
	comp=E,1715μm,1.1s							
RM33				AML		AML		
	comp=E,1730μm,1.2s							
RM33				AML		AML		
	comp=N,1580μm,0.3s							
T1220	**Camerino, Fraz**	**0.31**	**352**	⇑P		Pg	18 04 51.4	+0.4
T1220				S		Sb	18 04 56.5	-0.9
T1220				AML		AML		
	comp=N,8340μm,1.2s							
T1220				AML		AML		
	comp=E,11500μm,0.3s							
T1220				AML		AML		
	comp=N,8350μm,1.3s							
T1220				AML		AML		
	comp=N,8340μm,1.3s							
T1220				AML		AML		
	comp=N,8350μm,1.3s							
T1220				AML		AML		
	comp=N,8340μm,0.7s							
T1220				AML		AML		
	comp=N,8350μm,0.7s							
T1220				AML		AML		
	comp=E,11500μm,0.3s							
CAMP	**Campotosto**	**0.33**	**145**	⇑P		Pg	18 04 51.8	+0.4
CAMP				S		Sb	18 04 57.1	-1.1
CAMP				AML		AML		
	comp=N,702μm,0.2s							
CAMP				AML		AML		
	comp=E,1935μm,0.2s							
ARRO	**Arrone**	**0.36**	**231**	P		Pg	18 04 52.5	+0.6
ARRO				S		Sb	18 04 58.2	-0.8
ARRO				AML		AML		
	comp=E,1575μm,1.2s							
ARRO				AML		AML		
	comp=N,1270μm,1.4s							
ARRO				AML		AML		
	comp=E,1575μm,0.8s							
ARRO				AML		AML		
	comp=N,1270μm,0.6s							
SEF1	**Sefro**	**0.37**	**336**	⇑P		Pg	18 04 52.5	+0.4
SEF1				S		Sb	18 04 58.7	-0.6
SEF1				AML		AML		
	comp=N,4130μm,1.6s							
SEF1				AML		AML		
	comp=E,4335μm,1.2s							
SEF1				AML		AML		
	comp=N,4125μm,1.6s							
SEF1				AML		AML		
	comp=E,4335μm,0.8s							
T1247	**Pizzolo (AQ)**	**0.38**	**163**	⇑P		Pg	18 04 52.7	+0.4
T1247				AML		AML		
	comp=E,1675μm,0.9s							
T1247				AML		AML		
	comp=N,1660μm,0.3s							
T1247				AML		AML		

comp=E,1675μm,1.1s
TERO Teramo 0.38 119 P Pg 18 04 52.6 +0.2
TERO S Sb 18 04 58.6 -1.0
TERO AML AML
comp=N,1640μm,0.4s
TERO AML AML
comp=E,1245μm,0.5s
TERO AML AML
comp=E,1295μm,0.5s
TERO AML AML
comp=N,1715μm,0.5s
TERO AML AML
comp=N,1640μm,1.6s
TERO AML AML
comp=N,1715μm,1.5s
OFFI Offida 0.41 72 ⇑P Pb 18 04 54.4 +0.2
OFFI AML AML
comp=N,1255μm,1.4s
OFFI AML AML
comp=N,1255μm,0.6s
OFFI AML AML
comp=E,1090μm,0.5s
MOMA Monte Martano 0.43 270 ⇓P Pb 18 04 53.9 -0.5
MOMA AML AML
comp=E,1031μm,0.4s
MOMA AML AML
comp=E,1031μm,0.4s
MOMA AML AML
comp=E,1025μm,0.4s
MOMA AML AML
comp=N,606μm,0.4s
MOMA AML AML
comp=E,1025μm,1.6s
MOMA AML AML
comp=E,1031μm,1.6s
MOMA AML AML
comp=N,664μm,0.4s
ASSB Assisi San Ben 0.43 303 ⇑P Pg 18 04 53.5 +0.3
ASSB S Sb 18 05 00.3 -0.7
ASSB AML AML
comp=E,1715μm,0.2s
ASSB AML AML
comp=N,1365μm,0.4s
ASSB AML AML
comp=N,1365μm,1.6s
ASSB AML AML
comp=E,1715μm,1.8s
GAG1 Gagliole 0.44 352 ⇑P Pg 18 04 53.9 +0.5
GAG1 AML AML
comp=E,3520μm,0.2s
GAG1 AML AML
comp=N,3965μm,0.1s
CESX Cesi 0.46 245 ⇓P Pg 18 04 54.2 +0.4
CESX AML AML
comp=N,918μm,0.4s
CESX AML AML
comp=E,592μm,0.4s
GIGS Gran Sasso 0.47 139 P Pg 18 04 53.9 -0.1
GIGS S Sg 18 05 01.1 +0.8
GIGS AML AML
comp=N,230μm,0.5s
GIGS AML AML
comp=E,295μm,0.4s
SNTG Esanatoglia 0.47 341 P Pg 18 04 54.0 0.0
SNTG S Sb 18 05 02.1 -0.2
SNTG AML AML
comp=N,948μm,1.2s
SNTG AML AML
comp=N,829μm,1.6s
SNTG AML AML
comp=N,829μm,0.4s
SNTG AML AML
comp=N,948μm,0.8s
SNTG AML AML
comp=E,1190μm,1.5s
SNTG AML AML
comp=E,1062μm,1.5s
EL6 Elcito 0.52 356 ⇑P Pg 18 04 55.2 +0.2
EL6 S Sb 18 05 04.0 +0.3
EL6 AML AML
comp=N,1395μm,1.2s
EL6 AML AML
comp=E,1610μm,0.9s
EL6 AML AML
comp=E,1610μm,1.1s
EL6 AML AML
comp=N,1395μm,0.8s
ATCC AVT- Casa Cast 0.53 316 ⇑P Pg 18 04 55.4 +0.3
ATCC AML AML
comp=E,1650μm,0.2s
ATCC AML AML
comp=N,1270μm,0.2s
FIAM Fiamignano 0.54 183 ⇑P Pg 18 04 55.3 +0.1
FIAM AML AML
comp=E,584μm,0.6s
FIAM AML AML
comp=N,515μm,0.4s
FIAM AML AML
comp=E,584μm,1.4s
FIAM AML AML
comp=N,515μm,1.6s
TRTR Tortoreto Alta 0.56 90 ⇑P Pb 18 04 57.4 +0.8
FOSV Fossato di Vic 0.56 330 ⇑P Pg 18 04 55.9 +0.1
FOSV AML AML
comp=E,660μm,0.4s
FOSV AML AML
comp=N,773μm,0.7s
FOSV AML AML
comp=E,660μm,1.6s
CING Cingoli 0.57 3 ⇑P Pg 18 04 56.0 +0.1
CING AML AML
comp=E,1295μm,0.1s
CING AML AML
comp=N,1024μm,0.1s
FAGN Fagnano 0.63 149 ⇓P Pg 18 04 57.0 +0.1
FAGN AML AML
comp=N,1244μm,0.5s
FAGN AML AML
comp=E,1180μm,0.4s
MURB Monte Urbino 0.65 315 P Pg 18 04 57.5 +0.2
MURB S Sb 18 05 08.2 +0.9
MURB AML AML
comp=E,1855μm,0.2s
MURB AML AML
comp=N,1540μm,1.5s
MURB AML AML
comp=N,1540μm,1.5s
MURB AML AML
comp=E,1970μm,0.2s
MURB AML AML
comp=N,1985μm,1.5s
MURB AML AML
comp=N,1985μm,0.5s
MURB AML AML
comp=N,1540μm,0.5s
MURB AML AML
comp=E,1850μm,0.2s
VCEL Villa Celiera 0.66 129 ⇓P Pg 18 04 57.8 +0.4
VCEL S Sb 18 05 08.2 +0.7
VCEL AML AML
comp=E,714μm,0.3s
VCEL AML AML
comp=E,714μm,1.7s
VCEL AML AML
comp=N,763μm,0.5s
PP3 Marolino 0.66 30 P Pg 18 04 57.5 -0.1
PP3 AML AML
comp=E,4440μm,0.3s
PP3 AML AML
comp=N,4180μm,1.2s
PP3 AML AML
comp=N,4620μm,0.4s
PP3 AML AML
comp=E,4505μm,0.3s
PP3 AML AML
comp=N,4180μm,1.2s
PP3 AML AML
comp=N,4620μm,1.6s
PP3 AML AML
comp=E,4440μm,0.4s
ATFO Monte Foce - G 0.70 323 ⇑P Pg 18 04 58.3 0.0
ATFO AML AML
comp=E,384μm,1.1s
ATFO AML AML
comp=E,384μm,0.9s
ATFO AML AML
comp=N,456μm,0.2s
ATTE AVT- Monte Tez 0.70 304 ⇑P Pb 18 04 59.3 +0.2
ATTE AML AML
comp=E,236μm,0.4s
ATTE AML AML
comp=N,238μm,0.3s
SRES S.Oreste - Sor 0.74 220 P Pb 18 04 59.4 -0.3
SRES AML AML
comp=E,195μm,1.5s
SRES AML AML
comp=N,252μm,0.4s
T0110 Collepietro 0.74 141 ⇑P Pg 18 04 58.8 -0.3
T0110 AML AML
comp=N,806μm,0.3s
T0110 AML AML
comp=E,811μm,0.5s
MGAB Montegabbione 0.77 278 ⇑P Pb 18 05 00.8 +0.6
MGAB AML AML
comp=E,310μm,0.5s
MGAB AML AML
comp=N,430μm,0.9s
MGAB AML AML
comp=N,430μm,0.6s
MGAB AML AML
comp=E,354μm,0.5s
MGAB AML AML
comp=E,310μm,1.5s
FRON Frontone 0.78 337 ⇓P Pg 18 04 59.6 -0.1
FRON AML AML
comp=E,383μm,1.2s
FRON AML AML
comp=N,488μm,0.4s
ATVO AVT- Monte Val 0.79 317 ⇑P Pg 18 04 59.9 -0.2
ATVO AML AML
comp=E,201μm,1.3s
ATVO AML AML
comp=N,193μm,0.8s
ATVO AML AML
comp=E,201μm,0.7s
ATVO AML AML
comp=N,193μm,1.2s
AOI Ancona 0.81 24 P Pb 18 05 01.2 +0.2
AOI AML AML
comp=E,479μm,0.3s
AOI AML AML
comp=N,391μm,0.8s
AOI AML AML
comp=N,391μm,1.2s
COR1 Corinaldo 0.83 352 ⇓P Pb 18 05 01.8 +0.5
COR1 AML AML
comp=E,398μm,0.8s
COR1 AML AML
comp=N,661μm,0.4s
COR1 AML AML
comp=N,662μm,0.4s
ATMI Monte Miggiano 0.83 310 S Sb 18 05 13.6 +1.0
ATMI AML AML
comp=N,482μm,0.4s
ATMI AML AML
comp=E,414μm,0.5s
ATPI Pietralunga - 0.84 320 ⇓P Pg 18 05 01.0 -0.1
ATPI S Sb 18 05 13.9 +0.9
ATPI AML AML
comp=N,201μm,1.4s
ATPI AML AML
comp=E,184μm,0.4s
ATPI AML AML
comp=N,201μm,0.6s
PIEI Pieia 0.86 329 ⇓P Pg 18 05 00.9 -0.4
PIEI S Sn 18 05 14.4 -1.1
PIEI AML AML
comp=E,324μm,0.2s
PIEI AML AML
comp=N,212μm,1.5s
CERT Cerreto 0.87 188 ⇑P Pb 18 05 01.7 -0.2
CERT AML AML
comp=E,739μm,0.5s
CERT AML AML
comp=N,406μm,1.3s
CERT AML AML
comp=E,739μm,1.5s
BADI Badiali 0.97 317 ⇓P Pg 18 05 03.3 0.0
BADI S Sn 18 05 18.9 +0.8
INTR Introdacqua 0.97 145 ⇓P Pg 18 05 02.8 -0.7
INTR AML AML
comp=N,294nm,0.9s
INTR AML AML
comp=N,402μm,0.8s
INTR AML AML
comp=E,271μm,0.4s
INTR AML AML
comp=N,402μm,1.2s
INTR AML AML
comp=E,301nm,0.4s
PE3 Peglio 1.01 332 ⇓P Pb 18 05 04.6 +0.2
CAFI Castiglion Fio 1.01 301 ⇓P Pb 18 05 04.6 +0.3
CAFI AML AML
comp=E,157μm,0.6s
CAFI AML AML
comp=N,154μm,1.5s
CAFI AML AML
comp=N,154μm,0.5s
CAFI AML AML
comp=E,157μm,1.4s
PARC Parchiule 1.07 322 ⇓P Pg 18 05 05.2 -0.2
PARC AML AML
comp=E,228μm,0.7s
PARC AML AML
comp=N,150μm,0.9s
PARC AML AML
comp=E,228μm,1.3s
PARC AML AML
comp=N,150μm,1.1s
LPEL Lama dei Pelig 1.08 134 ⇑P Pg 18 05 03.3 -2.1
PESA Pesaro 1.16 349 ⇓P Pg 18 05 07.8 +0.8
CPGN Carpegna, Ital 1.16 329 ⇑P Pn 18 05 07.8 +0.6

*BJI **09** 18:20:39.1±0.0, 10.65S×161.98E, h31km, mb4.6/28, mB5.3/17, Ms4.9/1, Ms7 4.5/2*
*GCMT **09** 18:20:42.9±0.4, 10.82S±0.03×161.59E±0.03, h32km, MW4.9/51, Moment Tensor Solution. s32,c37; s51,c66; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 2.94±.21; Mθθ -1.59±.14; Mφφ -1.34±.13; Mrθ 0.32±.18; Mrφ 1.86±.10; Mθφ -0.33±.17; Best double couple: Ms 3.16800×10¹⁶ NP1: φs 313.00000°, δ 49.00000°, λ 91.00000°. NP2: φs 133.00000°, δ 41.00000°, λ 89.00000°. Principal axes: T 2.9730, Plg86.0000°, Azm49.0000°; N 0.3990, Plg0.0000°, Azm313.0000°; P -3.3620, Plg4.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 18:20:42.9±1.4, 10.74S±0.08×161.6E±0.1, h36km±7km, mb4.9/75 Error ellipse: s-maj=16.6km s-min=10.3km az=59.0*
*IDC **09** 18:20:44.2±2.5, 10.83S×161.66E, h58km±21km, mb4.1/17, mbtmp4.4/20, ML4.9/4, MS3.9/19, Error ellipse: s-maj=18.6km s-min=14.0km az=81.0*
*NOU **09** 18:21:04.2, 11.37S×161.52E, h213km, mb4.5/26, Solomon Islands*

ISC 09 18:20:41.8±0.3, 10.76S±0.05×161.80E±0.06, h36km, n169, σ1s61/161, mb4.8/65, MS4.0/20, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
HNR	**Honiara**	**2.25**	**306**	P		**Pn**	**18 21 17.7**	**+1.2**
	4μm,0.3s,baz=159,slow=6.0,SNR=28							
HNR					S	**Sn**	**18 21 48.2**	**+5.3**
	24μm,0.3s,baz=172,slow=17,SNR=12							
HNR					LR	LR	18 22 13.5	
	comp=Z,33μm,19.4s,baz=136,slow=41							
HNR	**Honiara**	**2.25**	**306**			**Pn**	**18 21 15.3**	**-1.2**
KOUNC	**Koumac, New Ca**	**10.03**	**166**	Pn		**Pn**	**18 23 04.4**	**+1.0**
LIFNC	**LIFOU**	**11.26**	**153**			**Pn**	**18 23 19.5**	**-0.7**
RABL	**Rabaul**	**11.56**	**304**	Pn		**Pn**	**18 23 22.6**	**-1.8**
DZM	**Mont Dzumac**	**12.10**	**159**	*e*P		**Pn**	**18 23 35.9**	**+4.0**
DZM				*e*LR		LR	18 26 20.0	
	comp=Z,954nm,22.6s							
DZM	**Mont Dzumac**	**12.10**	**159**	P		**Pn**	**18 23 33.7**	**+1.9**
	2.0nm,0.3s,baz=40,slow=8.5,SNR=38							
DZM					S	**Sn**	**18 25 40.9**	**-4.8**
	2.8nm,0.5s,baz=295,slow=23,SNR=1.3							
DZM					LR	LR	18 27 38.0	
	comp=Z,785nm,19.3s,baz=2.0,slow=34							
	8.3nm,0.5s							
DZM	**Mont Dzumac**	**12.10**	**159**			**Pn**	**18 23 30.9**	**-0.9**
MARNC	**Mare, Loyalty**	**12.23**	**151**	Pn		**Pn**	**18 23 34.7**	**+1.2**
ONTNC	**Ouen Toro**	**12.32**	**159**	Pn		**Pn**	**18 23 33.8**	**-1.0**
OUENC	**Ouen Island, N**	**12.56**	**158**	Pn		**Pn**	**18 23 33.8**	**-4.2**
PMG	**Port Moresby**	**14.48**	**274**	LR		LR	18 29 45.4	
	comp=Z,909nm,18.2s,baz=111,slow=38							
PMG	**Port Moresby**	**14.48**	**274**	Pn		**Pn**	**18 24 01.4**	**-2.8**
PMG	**Port Moresby**	**14.48**	**274**	P		P	18 24 18.1	+7.6
TARA	**Tarawa**	**16.35**	**43**	Pn		**Pn**	**18 24 27.2**	**-1.5**
TARA				IAmb		IAmb	18 24 32.9	
	comp=Z,96nm,0.7s							
RK1H	**Rockhampton Ha**	**16.56**	**219**	P		**P**	**18 24 35.2**	**+1.7**
TV1H	**Townsville Har**	**16.77**	**238**	P		**P**	**18 24 39.1**	**+3.2**
MSVF	**Nonsavu**	**17.20**	**116**	P		**P**	**18 24 42.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=255,slow=6.2,SNR=9.8							
MSVF					LR	LR	18 30 12.4	
	comp=Z,327nm,21.4s,baz=302,slow=33							
	comp=Z,11nm,0.8s							
MSVF	**Nonsavu**	**17.20**	**116**	Pn		**Pn**	**18 24 39.1**	**-0.4**
CTA	**Charters Tower**	**17.61**	**236**	P		**P**	**18 24 44.9**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=60,slow=12,SNR=18							
CTA					LR	LR	18 31 03.6	
	comp=Z,475nm,19.0s,baz=56,slow=36							
	comp=Z,30nm,0.8s							
CTA	**Charters Tower**	**17.61**	**236**	P		**P**	**18 24 48.2**	**+2.9**
CTAO	**Charters Tower**	**17.61**	**236**	P		**Pn**	**18 24 42.8**	**-1.7**
CTAO	**Charters Tower**	**17.61**	**236**	P		**P**	**18 24 48.1**	**+2.8**
EIDS	**Eidsvold**	**17.73**	**214**	P		**Pn**	**18 24 44.5**	**-1.5**
EIDS	**Eidsvold**	**17.73**	**214**	P		**P**	**18 24 48.6**	**+2.1**
PATS	**Pohnpei**	**17.82**	**349**	P		**P**	**18 24 47.8**	**+0.2**
AUBSH	**Beerwah State**	**18.06**	**206**	P		**P**	**18 24 51.6**	**+1.5**
DGTI	**Dogotuki**	**18.29**	**109**	P		Pn	18 25 03.1	+10
MTSU	**Mount Surprise**	**18.44**	**245**	P		**Pn**	**18 24 58.1**	**+3.4**
COEN	**Coen**	**18.47**	**258**	P		**P**	**18 24 53.2**	**-1.5**
COEN	**Coen**	**18.47**	**258**	P		**Pn**	**18 25 00.0**	**+4.9**
AUWSH	**Wavell State H**	**18.50**	**205**	P		**Pn**	**18 24 57.2**	**+1.9**
TAVE	**Taveuni**	**18.73**	**110**	P		Pn	18 25 07.3	+9.1
RMQ	**Roma**	**19.91**	**216**	P		**Pn**	**18 25 13.6**	**+1.3**
ARMA	**Armidale**	**21.73**	**204**	P		**P**	**18 25 28.2**	**-1.9**
AULRC	**Lightning Ridg**	**22.62**	**213**	P		**P**	**18 25 42.5**	**+2.9**
AUPHS	**Peel High Scho**	**22.63**	**205**	P		**P**	**18 25 41.6**	**+1.8**
QLP	**Quilpie**	**22.86**	**224**	P		**P**	**18 25 44.1**	**+1.9**
QIS	**Mount Isa**	**23.46**	**243**	P		**P**	**18 25 49.4**	**+1.1**
SMPI	**Sarmi**	**24.52**	**289**	P		**P**	**18 25 58.0**	**-0.2**
	comp=Z,111nm,1.0s							
CMSA	**Cobar Meteorol**	**25.50**	**213**	P		**P**	**18 26 08.8**	**+2.0**
INKA	**Innaminka**	**26.01**	**227**	P		**P**	**18 26 12.8**	**+1.2**
WR0	**Warramunga Arr**	**27.79**	**248**	P		**P**	**18 26 27.6**	**-0.1**
WB0	**Warramunga Arr**	**27.88**	**248**	P		**P**	**18 26 28.3**	**-0.2**
WB0					IAmb	IAmb	18 26 43.8	
	comp=Z,15nm,0.8s							
WB2	**Warramunga Arr**	**27.96**	**248**	P		**P**	**18 26 29.2**	**-0.1**
WB2					IAmb	IAmb	18 26 45.7	
	comp=Z,21nm,1.2s							
WB1	**Warramunga Ar.**	**27.97**	**248**	P		**P**	**18 26 29.9**	**+0.6**
WRA	**Warramunga Arr**	**27.97**	**248**	P		**P**	**18 26 28.6**	**-0.8**
	comp=Z,5.8nm,0.8s,baz=77,slow=9.6,SNR=14							
WRA					LR	LR	18 37 32.4	
	comp=Z,828nm,18.2s,baz=32,slow=36							
	comp=Z,5.8nm,0.8s							
WRA	**Warramunga Arr**	**27.97**	**248**	P		**P**	**18 26 26.4**	**-2.9**
STKA	**Stephens Creek**	**28.11**	**219**	P		**P**	**18 26 28.8**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=68,slow=19,SNR=2.0							
	comp=Z,1.2nm,0.5s							
STKA	**Stephens Creek**	**28.11**	**219**	P		**P**	**18 26 30.9**	**+0.5**
STKA	**Stephens Creek**	**28.11**	**219**	P		**P**	**18 26 30.6**	**+0.2**
LCRK	**Leigh Creek**	**29.40**	**225**	P		**P**	**18 26 43.0**	**+1.1**
GUMO	**Guam**	**29.45**	**325**	LR		LR	18 37 32.2	
	comp=Z,269nm,21.7s,baz=141,slow=34							
AS31	**Alice Springs**	**29.50**	**241**	P		**P**	**18 26 41.6**	**-1.4**
ASAR	**Alice Springs**	**29.50**	**241**	P		**P**	**18 26 41.8**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=64,slow=9.8,SNR=48							
ASAR					LR	LR	18 38 16.4	
	comp=Z,627nm,19.0s,baz=68,slow=36							
	comp=Z,1.3nm,0.5s							
OOD	**Oodnadatta**	**29.81**	**232**	P		**P**	**18 26 46.0**	**+0.5**
TOO	**Toolangi**	**30.46**	**206**	P		**P**	**18 26 52.2**	**+0.9**
TOO					IAmb	IAmb	18 26 54.9	
	comp=Z,30nm,1.6s							
URZ	**Urewera**	**30.63**	**156**	LR		LR	18 37 47.4	
	comp=Z,284nm,18.6s,baz=68,slow=33							
BKZ	**Black Stump Fm**	**31.18**	**158**	P		**P**	**18 26 59.5**	**+1.9**
BKZ					IAmb	IAmb	18 28 02.8	
	comp=Z,25nm,1.2s							
SIJI	**Sorong**	**31.89**	**286**	LR		LR	18 41 37.4	
	comp=Z,161nm,19.5s,baz=102,slow=39							
BBOO	**Buckleboo**	**32.28**	**223**	P		**P**	**18 27 07.5**	**+0.1**
BBOO					IAmb	IAmb	18 27 27.2	
	comp=Z,14nm,1.0s							
MULG	**Mulgathing**	**32.29**	**229**	P		**P**	**18 27 07.9**	**+0.5**
KNRA	**Kununurra**	**32.51**	**258**	P		**P**	**18 27 08.5**	**-0.9**
KNRA	**Kununurra**	**32.51**	**258**	P		**P**	**18 27 10.1**	**+0.7**
SANI	**Sanana**	**36.58**	**281**	P		**P**	**18 27 44.6**	**-0.2**
	comp=Z,29nm,1.0s							
FORT	**Forrest**	**37.09**	**232**	P		**P**	**18 27 47.8**	**-1.1**
FORT					IAmb	IAmb	18 27 58.8	
	comp=Z,38nm,1.4s							
APSI	**Ampana**	**41.07**	**281**	P		**P**	**18 28 23.5**	**+1.2**
MBWA	**Marble Bar**	**41.63**	**250**	P		**P**	**18 28 24.3**	**-2.6**
MBWA					IAmb	IAmb	18 29 49.8	
	comp=Z,38nm,1.4s							
TOLI2	**Tolitoli**	**42.46**	**284**	P		**P**	**18 28 31.2**	**-2.5**
PCI	**Palu**	**42.82**	**280**	P		**P**	**18 28 33.7**	**-3.0**
MYLDM	**Lahad Datu**	**45.92**	**288**	P		**P**	**18 29 00.9**	**-0.5**
MORW	**Morawa**	**46.38**	**240**	P		**P**	**18 29 05.1**	**+0.1**
MORW					IAmb	IAmb	18 29 43.3	
	comp=Z,30nm,1.4s							
NWAO	**Narrogin (SRO)**	**46.44**	**235**	LR		LR	18 49 08.8	
	comp=Z,224nm,18.1s,slow=37							
NWAO	**Narrogin (SRO)**	**46.44**	**235**	P		**P**	**18 29 05.9**	**+0.5**
JAGI	**Jajag, Banyuwa**	**47.00**	**268**	P		**P**	**18 29 06.9**	**-3.1**
JAGI	**Jajag, Banyuwa**	**47.00**	**268**	P		P	18 29 16.9	+6.9
PPT2	**Papeete2**	**47.53**	**104**	*e*LR		LR	18 42 44.5	
	comp=Z,167nm,21.2s							
PPT2				*e*LR		LR	18 42 45.2	
	comp=Z,173nm,25.0s							
TBI	**Tubuai**	**48.04**	**112**	*e*LR		LR	18 42 58.7	
	comp=Z,494nm,29.8s							
TBI				*e*LR		LR	18 42 58.7	
	comp=Z,2μm,23.8s							
KKM	**Kota Kinabalu**	**48.35**	**288**	P		**P**	**18 29 18.9**	**-1.6**
SBUM	**Sibu**	**51.04**	**282**	P		**P**	**18 29 40.6**	**-0.3**
INU	**Inuyama**	**51.50**	**334**	P		**P**	**18 29 44.4**	**+0.5**
INU				pP		**pP**	**18 29 52.1**	**-2.6**
JGF	**Kuroka**	**51.57**	**335**	P		**P**	**18 29 44.7**	**+0.2**
JMN	**Monobe**	**51.60**	**330**	P		**P**	**18 29 45.4**	**+0.6**
MJAR	**Matsushiro Arr**	**52.02**	**336**	P		**P**	**18 29 47.1**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=170,slow=8.6,SNR=5.0							
MJAR					LR	LR	18 50 48.9	
	comp=Z,65nm,21.9s,baz=100,slow=35							
	comp=Z,2.5nm,0.6s							
MAJO	**Matsushiro**	**52.03**	**336**	P		**P**	**18 29 47.7**	**-0.2**
MAJO	**Matsushiro**	**52.03**	**336**	P		**P**	**18 29 47.5**	**-0.4**
MAJO				pP		**pP**	**18 29 56.2**	**-2.5**
MAJO				sP		**sP**	**18 30 00.5**	**-2.1**
MJB9	**Matsu-Tunnel**	**52.03**	**336**	P		**P**	**18 29 48.9**	**+1.0**
JNU	**Nakatsue**	**52.66**	**327**	P		**P**	**18 29 53.0**	**+0.3**
	comp=Z,6.8nm,0.8s,baz=180,slow=2.0,SNR=4.2							
JNU					LR	LR	18 52 43.8	
	comp=Z,87nm,18.0s,baz=92,slow=36							
	comp=Z,6.8nm,0.8s							
TAOE	**Nuku Hiva Isla**	**57.17**	**94**	*e*LR		LR	18 47 12.5	
	comp=Z,193nm,24.8s							
JKA	**Kamikawa-asahi**	**57.33**	**344**	P		**P**	**18 30 26.6**	**+0.4**
ASAJ	**Asahikawa**	**57.33**	**344**	P		**P**	**18 30 26.4**	**+0.2**
	comp=Z,11nm,0.7s,baz=116,slow=7.1,SNR=6.3							
ASAJ					LR	LR	18 52 26.2	
	comp=Z,163nm,21.7s,baz=176,slow=33							
	comp=Z,11nm,0.7s							
KSRS	**Korea Array**	**57.52**	**328**	P		**P**	**18 30 27.9**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=138,slow=7.1,SNR=7.9							
KSRS					LR	LR	18 53 41.9	
	comp=Z,97nm,20.9s,baz=115,slow=34							
	comp=Z,2.9nm,0.8s							
KSAR	**Wonju Array Be**	**57.53**	**328**	P		**P**	**18 30 25.8**	**-1.9**
NJ2	**Nanjing**	**59.14**	**318**	*e*P		**P**	**18 30 39.6**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**61.02**	**336**	P		**P**	**18 30 52.2**	**+0.5**
	comp=Z,11nm,1.0s,baz=121,slow=7.2,SNR=5.9							
	comp=Z,11nm,1.0s							
RKT	**Rikitea**	**61.32**	**110**	*e*LR		LR	18 49 07.8	
	comp=Z,58μm,27.8s							

PETK Petropavlovsk- 63.70 357 P **P** **18 31 10.3 +0.8**
comp=Z,2.4nm,0.8s,baz=128,slow=9.6,SNR=2.3
PETK LR LR 18 54 02.1
comp=Z,82nm,21.6s,baz=170,slow=31
comp=Z,2.4nm,0.8s
GSI Gunungsitoli 64.97 277 P **P** **18 31 17.9 -0.8**
GSI IAmb IAmb 18 31 41.6
comp=Z,21nm,1.1s
KLR Kul'dur 65.32 339 LR LR 18 58 01.2
comp=Z,88nm,20.9s,baz=180,slow=34
VNDA Vanda 66.75 180 P **P** **18 31 28.4 -0.6**
comp=Z,4.0nm,0.8s,baz=350,slow=6.7,SNR=14
comp=Z,4.0nm,0.8s
VNDA Vanda 66.75 180 P **P** **18 31 30.6 +1.7**
VNDA IAmb IAmb 18 31 31.7
comp=Z,6.5nm,0.9s
VNDA Vanda 66.75 180 P **P** **18 31 30.1 +1.1**
VNDA pP **pP** **18 31 38.0 -1.6**
XAN Xi'an 67.10 314 P **P** **18 31 31.6 -0.3**
XAN pmax pmax
comp=Z,8.0nm,0.6s
HEH HeiHe 67.77 337 *e*P **P** **18 31 34.9 -0.8**
HEH pmax pmax
comp=Z,7.0nm,1.0s
HEH pmax pmax
comp=Z,370nm,6.8s
CCD Concordia, Ant 67.79 190 P **P** **18 31 36.8 +0.8**
CCD pP **pP** **18 31 44.8 -1.9**
CRAI Chiangrai 67.81 297 P **P** **18 31 36.1 -0.6**
CMAR Chiang Mai Arr 68.46 295 P **P** **18 31 40.5 -0.3**
comp=Z,2.4nm,0.8s,baz=121,slow=4.7,SNR=20
CMAR LR LR 19 01 01.1
comp=Z,25nm,20.4s,baz=310,slow=35
comp=Z,2.4nm,0.8s
CMAR Chiang Mai Arr 68.46 295 P **P** **18 31 40.0 -0.8**
PZH PanZhiHua 69.07 304 P **P** **18 31 47.2 +2.6**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.7s
HHC Hu-ho-hao-te 69.14 321 *e*P **P** **18 31 46.8 +2.1**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.3s
TNCH TengChong 71.17 301 P **P** **18 31 58.8 +1.3**
TNCH pP pP 18 32 08.6 0.0
TNCH S **S** **18 41 10.6 -1.9**
TNCH sS pS 18 41 26.7 +0.6
TNCH pmax pmax
comp=Z,8.0nm,0.4s
TNCH pmax pmax
comp=Z,64nm,5.0s
TNCH LR LR
comp=Z,110nm,6.9s
LZH Lanzhou 71.72 314 *e*P P 18 32 09.4 +8.7
LZH pP PcP 18 32 20.3 +0.7
LZH pmax pmax
comp=Z,7.0nm,1.6s
ULN Ulaanbaatar 75.83 325 P **P** **18 32 24.5 0.0**
ULN IAmb IAmb 18 32 26.1
comp=Z,14nm,1.2s
GTA Gaotai 76.09 315 *e*P **P** **18 32 26.4 +0.3**
GTA pP pP 18 32 33.5 -3.7
GTA sP PcP 18 32 38.7 +0.5
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,6.2s
GTA LR LR
comp=Z,180nm,16.7s
GTA LR LR
comp=Z,250nm,18.5s
GTA LR LR
comp=Z,190nm,17.8s
SONM Songino Array 76.18 325 P **P** **18 32 26.7 +0.3**
comp=Z,5.4nm,0.8s,baz=144,slow=5.9,SNR=37
SONM LR LR 19 03 53.9
comp=Z,82nm,21.7s,baz=35,slow=34
comp=Z,5.4nm,0.8s
SONM Songino Array 76.18 325 P **P** **18 32 26.5 0.0**
YAK Yakutsk 76.77 345 LR LR 19 04 32.3
comp=Z,47nm,20.6s,baz=106,slow=34
YAK Yakutsk 76.77 345 P **P** **18 32 28.8 -0.5**
P18K Big Mountain, 77.96 21 P **P** **18 32 36.2 +0.2**
P18K IAmb IAmb 18 32 47.1
comp=Z,24nm,1.4s
BILL Bilibino 78.66 2 P **P** **18 32 40.6 +1.0**
BILL IAmb IAmb 18 32 50.1
comp=Z,15nm,1.1s
SVW2 Sparrevohn 79.09 20 P **P** **18 32 43.8 +1.5**
QSPA South Pole Qui 79.25 180 P **P** **18 32 44.0 +0.8**
M19K Big River Lodg 80.07 19 P **P** **18 32 49.6 +2.1**
L19K White Mountain 80.12 19 P **P** **18 32 49.0 +1.2**
TTA Tatalina 80.31 18 P **P** **18 32 49.7 +0.8**
TTA IAmb IAmb 18 33 02.8
comp=Z,14nm,1.5s
M20K Styx River 80.47 20 P **P** **18 32 51.2 +1.4**
M20K IAmb IAmb 18 32 52.7
comp=Z,21nm,1.5s
SUA Susitna One 81.00 21 P **P** **18 32 54.2 +1.5**
SUA IAmb IAmb 18 33 06.1
comp=Z,26nm,1.4s
K20K Telida 81.23 19 P **P** **18 32 55.5 +1.8**
K20K IAmb IAmb 18 32 57.0
comp=Z,16nm,1.4s
J20K Nowinta River 81.80 18 P **P** **18 32 58.3 +1.6**
J20K IAmb IAmb 18 33 08.3
comp=Z,13nm,1.2s
CAST Castle Rocks 81.90 19 P **P** **18 32 58.1 +0.9**
BPAW Bear Paw Mtn. 82.73 19 P **P** **18 33 02.3 +0.7**
BPAW IAmb IAmb 18 33 12.4
comp=Z,25nm,1.8s
MCK McKinley 83.15 20 P **P** **18 33 04.6 +0.8**
MCK IAmb IAmb 18 33 14.7
comp=Z,20nm,1.1s
I21K Tanana 83.17 18 P **P** **18 33 05.0 +1.2**
I21K IAmb IAmb 18 33 15.3
comp=Z,11nm,1.1s
H21K Melozitna Rive 83.27 17 P **P** **18 33 05.6 +1.3**
H21K IAmb IAmb 18 33 18.7
comp=Z,10nm,1.4s
BWN Browne 83.27 19 P **P** **18 33 05.3 +0.9**
MLY Manley 83.45 18 P **P** **18 33 06.5 +1.1**
MLY IAmb IAmb 18 33 16.8
comp=Z,7.6nm,1.1s
MDM Murphy Dome 84.19 19 P **P** **18 33 09.7 +0.6**
MDM IAmb IAmb 18 33 44.1
comp=Z,13nm,1.4s
HDA Harding Lake 84.25 20 P **P** **18 33 10.4 +1.0**
HDA IAmb IAmb 18 33 25.0
comp=Z,8.1nm,1.0s
M26K Nabesna, AK 84.43 23 P **P** **18 33 12.2 +1.8**
M26K IAmb IAmb 18 33 36.9
comp=Z,29nm,1.8s
IL31 84.51 20 P **P** **18 33 10.9 +0.3**
IL31 IAmb IAmb 18 33 21.6
comp=Z,13nm,1.4s
ILAR Eielson Array 84.51 20 P **P** **18 33 10.8 +0.1**
comp=Z,2.1nm,0.9s,baz=243,slow=4.9,SNR=19
comp=Z,2.1nm,0.9s
L26K Log Cabin Wild 84.67 22 P **P** **18 33 11.4 -0.1**
L26K IAmb IAmb 18 33 15.2
comp=Z,5.9nm,1.0s
M27K Edge Creek, AK 84.83 23 P **P** **18 33 13.4 +0.8**
M27K IAmb IAmb 18 33 16.1
comp=Z,19nm,1.2s
J25K Salcha River, 84.92 20 P **P** **18 33 13.8 +1.0**
J25K IAmb IAmb 18 33 23.8
comp=Z,7.0nm,1.0s
SCRK Sand Creek 85.00 21 P **P** **18 33 14.5 +1.2**
SCRK IAmb IAmb 18 35 29.6
comp=Z,24nm,2.0s
L27K Beaver Creek, 85.25 22 P **P** **18 33 15.8 +1.3**
BCAR Beaver Creek A 85.27 22 P **P** **18 33 16.3 +1.7**
WMQ Urumqi 86.16 316 *e*P **P** **18 33 17.5 -2.0**
WMQ pmax pmax
comp=Z,10.0nm,1.1s
EGAK Eagle 86.47 21 P **P** **18 33 21.7 +1.2**
DAWY Dawson 86.72 22 P **P** **18 33 22.4 +0.7**
I29M Ogilvie Camp, 87.81 21 P **P** **18 33 27.8 +0.9**
I29M IAmb IAmb 18 33 41.3
comp=Z,16nm,1.3s
DSP Deep Springs 88.81 52 P **P** **18 33 34.4 +2.1**
DSP IAmb IAmb 18 33 52.2
comp=Z,5.7nm,1.2s
NVAR Mina Array Bea 88.82 51 P **P** **18 33 33.2 +0.6**
comp=Z,1.4nm,0.6s,baz=237,slow=6.3,SNR=8.7
comp=Z,1.4nm,0.6s
KVN Kaiserville 89.13 50 P **P** **18 33 35.3 +1.3**
KVN IAmb IAmb 18 33 58.2
comp=Z,17nm,1.8s
YUH Yuha Desert 89.32 57 P **P** **18 33 36.2 +1.4**
YUH IAmb IAmb 18 33 38.0
comp=Z,4.8nm,1.1s
MK31 Makanchi Array 90.67 317 P **P** **18 33 39.8 -1.1**
MKAR Makanchi Array 90.67 317 P **P** **18 33 40.0 -0.9**
comp=Z,1.4nm,0.5s,baz=91,slow=6.2,SNR=25
comp=Z,1.4nm,0.5s
MKAR Makanchi Array 90.67 317 P **P** **18 33 39.5 -1.3**
SHPR Sheep Range 90.80 53 P **P** **18 33 42.1 +0.3**
R11A Troy Canyon, C 90.88 51 P **P** **18 33 43.0 +0.9**
R11A IAmb IAmb 18 34 25.2
comp=Z,7.2nm,1.6s
ZALV Zalesovo Beam 91.07 325 P **P** **18 33 41.0 -1.4**
comp=Z,0.3nm,0.3s,baz=111,slow=6.5,SNR=4.0
comp=Z,0.3nm,0.3s
PRN Pahroc Range 91.08 52 P **P** **18 33 45.3 +2.2**
PRN IAmb IAmb 18 33 46.6
comp=Z,7.0nm,1.0s
PLID Pearl Lake 92.09 45 P **P** **18 33 48.9 +1.2**
PLID IAmb IAmb 18 33 52.2
comp=Z,2.9nm,0.8s
YKA Yellowknife Ar 96.51 28 P **P** **18 34 07.5 +0.2**
comp=Z,1.0nm,0.7s,baz=260,slow=4.9,SNR=13
comp=Z,1.0nm,0.7s
ROSC El Rosal 124.16 91 PKP **PKiKP** **18 39 38.8 +0.3**
comp=Z,5.0nm,0.5s,baz=201,slow=5.8,SNR=4.6
AKASG Malin Array Be 124.46 325 PKP **PKPdf** **18 39 36.5 -0.7**
comp=Z,0.4nm,0.5s,baz=47,slow=1.9,SNR=4.2
CPUP Villa Florida 127.04 135 PKP **PKPdf** **18 39 42.1 -0.8**
comp=Z,5.7nm,0.8s,baz=275,slow=1.6,SNR=12
BDFB Brasilia 140.51 131 PKP **PKPdf** **18 40 08.2 -0.4**
comp=Z,5.2nm,0.6s,baz=213,slow=5.7,SNR=7.1
ESDC Sonseca Array 148.54 339 PKPab **PKiKP** **18 40 27.4 +0.6**
comp=Z,1.1nm,1.1s,baz=11,slow=2.7,SNR=4.1

*IDC **09** 18:40:33.7±1.2, 62.5°S×158.7°W, h0km, mb4.1/5, mbtmp4.0/6, ML3.5/1, MS3.8/23, Error ellipse: s-maj=39.1km s-min=26.4km az=38.0*
*NEIC **09** 18:40:35.0±1.1, 62.7°S±0.2×158.4°W±0.2, h10km±1km, mb4.2/7, Error ellipse: s-maj=33.5km s-min=14.6km az=188.0*
ISC 09 18:40:34.9±0.9, 62.6°S±0.1×158.6°W±0.2, h10km, n43, σ0s86/16, mb4.3/7, MS3.9/22, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**18.72**	**202**	P	**P**	**18 44 51.6**	**-1.4**
SBA				IAmb	IAmb	18 45 25.7	
	comp=Z,26nm,1.4s						
VNDA	**Vanda**	**19.44**	**205**	P	**Pn**	**18 45 03.4**	**+1.2**
VNDA	comp=Z,0.1nm,0.3s,baz=69,slow=14,SNR=11			LR	LR	18 50 31.3	
	comp=Z,238nm,21.1s,baz=60,slow=31						
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**19.44**	**205**	P	**P**	**18 45 00.8**	**-0.2**
QSPA	**South Pole Qui**	**27.50**	**180**	P	**P**	**18 46 21.4**	**+0.3**
QSPA	comp=Z,3.0nm,1.1s,baz=32,slow=7.4,SNR=4.1			LR	LR	18 55 16.9	
	comp=Z,164nm,21.2s,baz=48,slow=32						
	comp=Z,3.0nm,1.1s						
QSPA	**South Pole Qui**	**27.50**	**180**	P	**P**	**18 46 20.3**	**-0.8**
QSPA	comp=Z,7.1nm,1.2s			IAmb	IAmb	18 46 22.8	
	comp=Z,199nm,21.2s,baz=248,slow=31						
URZ	**Urewera**	**28.55**	**317**	LR	LR	18 55 21.8	
RAR	**Rarotonga**	**41.39**	**358**	LR	LR	19 01 32.3	
	comp=Z,119nm,18.0s,baz=150,slow=30						
SNAA	**Sanae**	**44.94**	**169**	LR	LR	19 06 33.8	
	comp=Z,131nm,19.3s,baz=184,slow=35						
PPT	**Papeete**	**45.44**	**12**	LR	LR	19 02 21.4	
	comp=Z,146nm,21.9s,baz=182,slow=29						
MAW	**Mawson**	**46.67**	**200**	LR	LR	19 06 21.4	
	comp=Z,73nm,21.5s,baz=172,slow=33						
DZM	**Mont Dzumac**	**46.96**	**313**	LR	LR	19 05 13.3	
	comp=Z,165nm,21.1s,baz=180,slow=32						
MSVF	**Nonsavu**	**47.72**	**329**	LR	LR	19 09 12.7	
	comp=Z,56nm,18.2s,baz=174,slow=36						
RPN	**Rapa Nui**	**47.83**	**66**	LR	LR	19 03 42.7	
	comp=Z,74nm,21.5s,baz=298,slow=29						
LIFNC	**LIFOU**	**47.90**	**315**	P	**P**	**18 49 13.0**	**+0.1**
STKA	**Stephens Creek**	**48.43**	**280**	P	**P**	**18 49 16.0**	**-1.0**
STKA	comp=Z,0.9nm,0.7s,baz=162,slow=16,SNR=2.2			LR	LR	19 06 59.6	
	comp=Z,115nm,18.9s,baz=40,slow=33						
	comp=Z,0.9nm,0.7s						
STKA	**Stephens Creek**	**48.43**	**280**	P	**P**	**18 49 17.3**	**+0.3**
STKA	comp=Z,1.8nm,1.1s			IAmb	IAmb	18 49 22.3	
PLCA	**Paso Flores**	**53.94**	**110**	LR	LR	19 08 36.1	
	comp=Z,66nm,20.0s,baz=202,slow=31						
H03S2	**Juan Fernandez**	**55.89**	**99**	T	T	19 50 59.8	
	baz=211,slow=74,SNR=516						
H03S1	**Juan Fernandez**	**55.91**	**99**	T	T	19 51 01.1	
	baz=211,slow=74,SNR=520						
H03S3	**Juan Fernandez**	**55.91**	**99**	T	T	19 51 00.4	
	baz=211,slow=74,SNR=488						
H03N3	**Juan Fernandez**	**56.21**	**98**	T	T	19 51 17.9	
	baz=209,slow=73,SNR=131						
H03N2	**Juan Fernandez**	**56.22**	**98**	T	T	19 51 18.5	
	baz=209,slow=73,SNR=238						
H03N1	**Juan Fernandez**	**56.23**	**98**	T	T	19 51 16.7	
	baz=209,slow=73,SNR=112						
CTA	**Charters Tower**	**56.58**	**292**	LR	LR	19 11 12.5	
	comp=Z,60nm,20.0s,baz=102,slow=33						
H01W1	**Cape Leeuwin H**	**58.47**	**254**	T	T	19 54 14.4	
	baz=145,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**58.48**	**254**	T	T	19 54 15.4	
	baz=145,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**58.49**	**254**	T	T	19 54 15.6	
	baz=145,slow=75,SNR=15						
ASAR	**Alice Springs**	**58.95**	**278**	P	**P**	**18 50 33.8**	**-0.4**
ASAR	comp=Z,2.0nm,0.6s,baz=153,slow=6.9,SNR=36			LR	LR	19 11 57.0	
	comp=Z,120nm,21.3s,baz=118,slow=32						
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**58.95**	**278**	P	**P**	**18 50 35.4**	**+1.2**
AS31	**Alice Springs**	**58.95**	**278**	P	**P**	**18 50 35.5**	**+1.3**
AS31				IAmb	IAmb	18 50 37.3	
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**61.98**	**281**	P	**P**	**18 50 54.2**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=152,slow=5.8,SNR=7.8						
WRA				LR	LR	19 15 39.2	
	comp=Z,48nm,19.0s,baz=147,slow=34						
	comp=Z,1.9nm,0.8s						
LVC	**Limon Verde**	**70.02**	**101**	LR	LR	19 14 06.3	
	comp=Z,59nm,21.2s,baz=252,slow=29						
CPUP	**Villa Florida**	**71.91**	**112**	P	**P**	**18 51 58.6**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=212,slow=3.9,SNR=1.8						
CPUP				LR	LR	19 18 11.0	
	comp=Z,58nm,21.4s,baz=216,slow=31						
	comp=Z,1.0nm,0.4s						
MNMC	**Minye Minye**	**72.73**	**98**	P	**P**	**18 52 02.9**	**-0.5**
MNMC				IAmb	IAmb	18 52 12.7	
	comp=Z,18nm,1.4s						
NNA	**Nana**	**75.63**	**88**	LR	LR	19 17 37.0	
	comp=Z,63nm,18.9s,baz=218,slow=29						
ATAH	**Atahualpa**	**79.17**	**85**	LR	LR	19 21 24.7	
	comp=Z,64nm,18.3s,baz=251,slow=31						
SUR	**Sutherland**	**85.33**	**179**	LR	LR	19 27 06.2	
	comp=Z,178nm,21.1s,baz=170,slow=33						
BOSA	**Boshof**	**89.03**	**183**	LR	LR	19 31 41.4	
	comp=Z,94nm,18.3s,baz=158,slow=34						
LBTB	**Lobatse**	**92.61**	**184**	LR	LR	19 33 14.1	
	comp=Z,81nm,18.2s,baz=167,slow=34						
TSUM	**Tsumeb**	**98.39**	**176**	LR	LR	19 34 13.2	
	comp=Z,132nm,19.5s,baz=163,slow=33						
ILAR	**Eielson Array**	**127.38**	**6**	PKP	**PKiKP**	**18 59 38.7**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=213,slow=1.4,SNR=2.4						
MKAR	**Makanchi Array**	**143.04**	**274**	PKhKP	PKPpre	19 00 01.5	
	comp=Z,0.1nm,0.4s,baz=132,slow=2.1,SNR=1.9						
ZALV	**Zalesovo Beam**	**146.90**	**285**	PKPbc	**PKPab**	**19 00 17.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=127,slow=3.0,SNR=1.5						

NOU 09 18:43:59.9, 19.44S×169.61E, h17km, MLv4.1/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.99**	**325**	P	Pn	18 44 33.2	+0.5
DVP	**Devils Point**	**2.17**	**321**	P	Pn	18 44 35.2	-0.1
MARNC	**Mare, Loyalty**	**2.51**	**216**	P	Pn	18 44 39.6	-0.4
LIFNC	**LIFOU**	**2.59**	**239**	P	Pn	18 44 40.4	-0.7
YATNC	**Mamie plateau,**	**3.64**	**224**	P	Pn	18 44 55.9	+0.4
OUENC	**Ouen Island, N**	**3.93**	**221**	P	Pn	18 44 59.7	+0.2
DZM	**Mont Dzumac**	**3.95**	**228**	P	Pn	18 45 00.3	+0.4
ONTNC	**Ouen Toro**	**4.11**	**225**	P	Pn	18 45 02.1	+0.2
KOUNC	**Koumac, New Ca**	**5.13**	**257**	P	Pn	18 45 16.2	+0.3

*KRSC **09** 19:15:28.8±1.5, 48.66°N×156.26°E, h16km±20km, Ml4.2*
*IDC **09** 19:15:30.5±3.3, 48.71°N×154.89°E, h76km±32km, mb3.2/3, mbtmp3.7/5, Error ellipse: s-maj=46.0km s-min=21.8km az=126.0*
ISC 09 19:15:26.5±1.3, 48.5°N±0.1×155.2°E±0.2, h36km, n27, σ2s11/25, mb3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.31**	**14**	*e*P	**Pn**	**19 16 02.6**	**+0.6**
SKR				*e*S	**Sn**	**19 16 27.9**	**-1.3**
KDTR	**Khodutka, Kamc**	**3.83**	**28**	*e*P	**Pn**	**19 16 24.1**	**+1.3**
KDTR				*e*S	**Sn**	**19 17 05.2**	**-1.5**
MTVR	**Mutnovka**	**4.46**	**24**	*e*P	**Pn**	**19 16 33.8**	**+2.1**
MTVR				*e*S	**Sn**	**19 17 22.2**	**-0.1**
GRL	**Gorelyy**	**4.49**	**23**	*e*P	**Pn**	**19 16 34.5**	**+2.4**
RUS	**Russkaya**	**4.51**	**27**	*e*P	**Pn**	**19 16 33.1**	**+1.0**
RUS				*e*S	**Sn**	**19 17 21.6**	**-1.7**
PETK	**Petropavlovsk-**	**4.92**	**18**	P	**Pn**	**19 16 40.0**	**+2.2**
	2.0nm,0.5s,baz=185,slow=13,SNR=10.0						
PETK				S	**Sn**	**19 17 33.7**	**+0.2**
	1.0nm,0.4s,baz=197,slow=6.0,SNR=1.2						
DALK	**Dalny**	**5.11**	**25**	*e*P	**Pn**	**19 16 42.7**	**+2.3**
DALK				*e*S	**Sn**	**19 17 38.1**	**+0.1**
UGLR	**Uglovaya**	**5.29**	**24**	*e*P	**Pn**	**19 16 45.3**	**+2.4**
KOK	**Koryaka**	**5.31**	**23**	*e*P	**Pn**	**19 16 46.8**	**+3.5**
SMAR	**Somma**	**5.33**	**24**	*e*P	**Pn**	**19 16 44.2**	**+0.6**
KRER	**Koryakskii**	**5.35**	**23**	*e*P	**Pn**	**19 16 46.5**	**+2.6**
KRX	**Arik**	**5.37**	**22**	*e*P	**Pn**	**19 16 46.7**	**+2.6**
GNL	**Ganaly**	**5.53**	**17**	*e*P	**Pn**	**19 16 50.2**	**+4.0**
SPN	**Mys Shipunski**	**5.56**	**31**	*e*P	**Pn**	**19 16 47.8**	**+1.2**
SPN				*e*S	**Sn**	**19 17 47.5**	**-1.7**
ASAJ	**Asahikawa**	**9.75**	**248**	P	**Pn**	**19 17 46.0**	**+1.9**
	14nm,0.8s,baz=61,slow=15,SNR=9.0						
H11N2	**WAKE ISLAND Hy 30.16**	**158**		T	T	19 53 27.5	
	baz=344,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy 30.18**	**158**		T	T	19 53 29.0	
	baz=344,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy 30.18**	**158**		T	T	19 53 28.4	
	baz=344,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy 31.29**	**159**		T	T	19 54 50.4	
	baz=345,slow=76,SNR=119						
H11S3	**WAKE ISLAND Hy 31.30**	**159**		T	T	19 54 49.3	
	baz=345,slow=76,SNR=170						
H11S2	**WAKE ISLAND Hy 31.30**	**159**		T	T	19 54 49.5	
	baz=345,slow=76,SNR=92						
MKAR	**Makanchi Array**	**47.44**	**297**	P	**P**	**19 23 54.0**	**-3.3**
	0.3nm,0.7s,baz=73,slow=9.7,SNR=4.0						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**54.15**	**257**	P	**P**	**19 24 47.2**	**-0.9**
	0.9nm,0.6s,baz=31,slow=7.4,SNR=7.9						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**74.28**	**200**	P	**P**	**19 27 00.1**	**+0.2**
	0.2nm,0.5s,baz=14,slow=5.3,SNR=4.7						
	0.2nm,0.5s						
H03N2	**Juan Fernandez**	**137.33**	**90**	T	T	22 07 53.9	
	baz=310,slow=77,SNR=21						
H03N1	**Juan Fernandez**	**137.34**	**90**	T	T	22 07 54.9	
	baz=310,slow=77,SNR=25						
H03N3	**Juan Fernandez**	**137.34**	**90**	T	T	22 07 56.7	
	baz=310,slow=77,SNR=22						

*BJI **09** 19:19:59.1±0.0, 53.07°N×169.72°W, h80km, mb4.7/62, mB5.3/37, Ms5.0/16, Ms7 4.5/15*
*NEIC **09** 19:20:03.3±1.7, 53.09°N±0.0°×169.87°W±0.0°, h81km±4km, mb5.4/581, ML5.2/6, Mwb5.2/14, Mww5.2/20, ML5.2(AEIC), Error ellipse: s-maj=11.6km s-min=7.4km az=168.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.27; $M_{\theta\theta}$3.55; $M_{\phi\phi}$-3.28; $M_{r\theta}$-6.83; $M_{\theta\phi}$0.85; $M_{\phi r}$-4.69; Fault plane solution: $M_0$9.01000×10^{16} NP1:ϕ_s50.78000°, δ87.23000°, λ-110.66000°. NP2:ϕ_s313.47000°, δ20.84000°, λ-7.81000°. Principal axes: T 9.7351, Plg39.0000°, Azm159.0000°; N -1.7019, Plg21.0000°, Azm52.0000°; P -8.0332, Plg44.0000°, Azm300.0000°;*
*NEIC **09** 19:20:03.7, 52.98°N×169.82W, h80km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^{16}Nm; M_{rr}6.18; $M_{\theta\theta}$-5.49; $M_{\phi\phi}$-0.69; $M_{r\theta}$-4.48; $M_{\theta\phi}$-1.73; $M_{\phi r}$-2.73; Fault plane solution: $M_0$8.05000×10^{16} NP1: ϕ_s243.58000°, δ65.42000°, λ83.06000°. NP2:ϕ_s79.88000°, δ25.48000°, λ104.79000°. Principal axes: T 8.1854, Plg69.0000°, Azm140.0000°; N -0.2622, Plg6.0000°, Azm246.0000°; P -7.9232, Plg20.0000°, Azm339.0000°;*
*MOS **09** 19:20:03.4±1.1, 53.04°N×169.92W, h102km, mb5.1/145 Error ellipse: s-maj=6.2km s-min=4.1km az=89.7*
*AEIC **09** 19:20:04.8±5.2, 52.49°N±0.07°×169.48W±0.10°, h73km±3km, Error ellipse: s-maj=11.4km s-min=7.4km az=152.0*
*IDC **09** 19:20:04.1±0.5, 53.09°N×169.91W, h90km±3km, mb4.5/40, mbtmp4.8/43, MS4.0/80, Error ellipse: s-maj=9.7km s-min=7.5km az=173.0*
*GCMT **09** 19:20:06.3±0.1, 52.96°N±0.01°×169.71W±0.02, h88km±1km, MW5.3/133, Moment Tensor Solution. s105, c161; s133, c238; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.03±.02; $M_{\theta\theta}$-0.12±.02; $M_{\phi\phi}$0.14±.02; $M_{r\theta}$-0.91±.01; $M_{\theta\phi}$0.18±.02; $M_{\phi r}$-0.42±.01; Best double couple: $M_0$1.02800×10^{17} NP1:ϕ_s65.00000°, δ89.00000°, λ-78.00000°. NP2:ϕ_s162.00000°, δ12.00000°, λ-173.00000°. Principal axes: T 1.0470, Plg42.0000°, Azm144.0000°; N -0.0370, Plg12.0000°, Azm245.0000°; P -1.0090, Plg45.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **09** 19:20:09.4, 54.72°N×170.62W, h33km, mb5.2*
ISC 09 19:20:04.0±0.2, 53.04°N±0.04°×169.87°W±0.03, h92km±1km, h92km:pP-P, n1850, σ1s07/2015, mb5.2/509, 55C-36D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.21**	**184**	Pn	**Pn**	**19 20 16.3**	**-0.9**
CLES				IAML		19 20 27.6	
	comp=E,186μm,1.0s						
CLES				IAML		19 20 36.5	
	comp=N,176μm,1.1s						
NIKH	**Nikolski High**	**0.62**	**96**	Pn	**Pn**	**19 20 18.8**	**-1.1**
NIKH	**Nikolski High**	**0.62**	**96**		**Sn**	**19 20 30.0**	**-1.8**
NIKH	**Nikolski High**	**0.62**	**96**	P	**Pn**	**19 20 18.9**	**-1.0**
	baz=251,SNR=1000						
NIKH				S	**Sn**	**19 20 29.9**	**-1.8**
	baz=251						
NIKH	**Nikolski High**	**0.62**	**96**	P	**Pn**	**19 20 19.1**	**-0.8**
UNV	**Unalaska Valle**	**2.17**	**67**	Pn	**Pn**	**19 20 38.9**	**+0.5**
UNV	**Unalaska Valle**	**2.17**	**67**		**Sn**	**19 21 06.0**	**+1.3**
UNV	**Unalaska Valle**	**2.17**	**67**	P	**Pn**	**19 20 39.4**	**+1.0**
	baz=242,SNR=387						
UNV				S	**Sn**	**19 21 05.4**	**+0.6**
	baz=242						
UNV	**Unalaska Valle**	**2.17**	**67**	P	**Pn**	**19 20 39.7**	**+1.3**
AKUT	**Akutan**	**2.68**	**64**	Pn	**Pn**	**19 20 46.2**	**+1.1**
AKUT				IAML		19 21 32.2	
	comp=E,11μm,1.0s						
AKUT				IAML		19 21 34.2	
	comp=N,9μm,0.9s						
GSTR	**Great Sitkin T**	**3.89**	**258**		**Pn**	**19 21 03.1**	**+1.5**
SPIA	**Saint Paul Isl**	**4.16**	**357**	Pn	**Pn**	**19 21 08.7**	**+3.6**
SPIA	**Saint Paul Isl**	**4.16**	**357**	P	**Pn**	**19 21 09.3**	**+4.2**
	baz=176,SNR=48						
SPIA				S	**Sn**	**19 21 56.3**	**+3.9**
	baz=176						
ADK	**Adak**	**4.33**	**257**	Pn	**Pn**	**19 21 08.6**	**+1.2**
ADK				IAML		19 22 11.7	
	comp=N,2μm,1.4s						
ADK	**Adak**	**4.33**	**257**	P	**Pn**	**19 21 09.1**	**+1.7**
ADK	**Adak**	**4.33**	**257**	P	**Pn**	**19 21 08.6**	**+1.2**
KIWB	**Kanaga Island**	**4.61**	**258**		**Pn**	**19 21 12.5**	**+1.2**
HAG	**Hague Volcano**	**5.21**	**61**	P	**Pn**	**19 21 22.1**	**+2.7**
S12K	**Black Hills**	**5.29**	**57**	P	**Pn**	**19 21 22.1**	**+1.6**
	baz=240,SNR=29						

S12K					S		Sn	19 22 20.7	+0.6
	baz=240								
SDPT	Sand Point	5.98	63		Pn		Pn	19 21 29.9	+0.1
SDPT	Sand Point	5.98	63		P		Pn	19 21 30.4	+0.6
	baz=248,SNR=42								
SDPT					S		Sn	19 22 34.4	-2.4
	baz=248								
AMKA	Amchitka	6.86	260		Pn		Pn	19 21 42.6	+0.7
R16K	Pilot Point	8.35	52		P		Pn	19 22 04.0	+2.0
	baz=240,SNR=11								
CHIR	Chirikof Islan	8.76	66		Pn		Pn	19 22 06.1	-1.6
CHIR	Chirikof Islan	8.76	66		P		Pn	19 22 06.6	-1.1
	baz=256,SNR=7.9								
CHIR					S		Sn	19 23 38.4	-6.2
	baz=256								
P16K	Nushagak River	8.95	43		P		Pn	19 22 13.2	+2.9
	baz=231,SNR=198								
R17K	Ugashik Creek	8.96	54		P		Pn	19 22 10.9	+0.5
	baz=243								
O16K	Kokwok River B	9.26	40		P		Pn	19 22 16.9	+2.4
	baz=228								
Q16K	King Salmon	9.33	47		P		Pn	19 22 18.3	+3.0
	baz=237,SNR=50								
Q17K	Contact Creek	9.47	51		P		Pn	19 22 18.9	+1.4
	baz=241								
N16K	Nishlik Lake	9.62	35		P		Pn	19 22 22.4	+3.0
	baz=223								
P17K	Kvichak River	9.70	45		P		Pn	19 22 22.8	+2.3
	baz=235								
SHEM	Shemya Is, Ala	9.70	275		P		Pn	19 22 20.2	-0.3
	comp=N,87nm,0.9s,baz=5.3,slow=3.2,SNR=4.0								
SMY	Shemya	9.70	275		Pn		Pn	19 22 22.2	+1.7
SMY	Shemya	9.70	275		P		Pn	19 22 22.2	+1.7
SII	Sitkinak Islan	9.72	62				Pn	19 22 18.8	-1.9
SII	Sitkinak Islan	9.72	62		P		Pn	19 22 19.0	-1.7
	baz=254,SNR=24								
SII	Sitkinak Islan	9.72	62		P		Pn	19 22 18.9	-1.8
O17K	Koliganek Bris	9.77	41		P		Pn	19 22 23.5	+2.1
	baz=230,SNR=110								
Q18K	Katmai Nardscr	10.06	50		P		Pn	19 22 27.4	+1.9
	baz=241								
P18K	Big Mountain,	10.33	46				Pn	19 22 30.1	+1.0
P18K	Big Mountain,	10.33	46		P		Pn	19 22 31.4	+2.3
	baz=237,SNR=156								
OHAK	Old Harbor	10.37	60		Pn		Pn	19 22 26.5	-3.1
OHAK	Old Harbor	10.37	60		P		Pn	19 22 27.1	-2.5
	baz=252,SNR=12								
GAMB	Gambell	10.81	356				Pn	19 22 38.4	+2.9
GAMB	Gambell	10.81	356		P		Pn	19 22 39.2	+3.7
	baz=174,SNR=14								
Q19K	Cape Douglas,	10.82	51				Pn	19 22 35.8	+0.1
Q19K	Cape Douglas,	10.82	51		P		Pn	19 22 36.4	+0.7
	baz=243,SNR=27								
KDAK	Kodiak Island	10.90	57		P		Pn	19 22 34.1	-2.7
	comp=N,58nm,0.5s,baz=182,slow=3.5,SNR=81								
KDAK					S		Sn	19 24 28.8	-7.8
	comp=N,18nm,0.4s,baz=303,slow=22,SNR=1.5								
KDAK	Kodiak Island	10.90	57				Pn	19 22 33.9	-2.9
KDAK	Kodiak Island	10.90	57		P		Pn	19 22 35.3	-1.6
	baz=250								
KDAK	Kodiak Island	10.90	57	*i*	P		Pn	19 22 33.6	-3.2
O19K	Port Alsworth	11.15	44		Pn		Pn	19 22 40.9	+0.8
O19K	Port Alsworth	11.15	44		P		Pn	19 22 41.9	+1.8
	baz=236,SNR=44								
SVW2	Sparrevohn	11.19	38				Pn	19 22 41.9	+1.2
Q20K	Shuyak Island	11.29	53		P		Pn	19 22 41.2	-0.8
	baz=247,SNR=9.6								
P19K	Oil Pt	11.34	48				Pn	19 22 44.1	+1.3
P19K	Oil Pt	11.34	48		P		Pn	19 22 44.1	+1.3
	baz=240								
N19K	Bonanza Creek	11.44	41				Pn	19 22 46.3	+2.2
N19K	Bonanza Creek	11.44	41		P		Pn	19 22 46.4	+2.2
	baz=233								
ILSW	Iliamna Southw	11.54	46				Pn	19 22 45.0	-0.6
ANM	Nome	11.79	10		Pn		Pn	19 22 51.7	+2.9
ANM	Nome	11.79	10		P		Pn	19 22 52.4	+3.7
	baz=193,SNR=86								
ANM	Nome	11.79	10		P		Pn	19 22 51.7	+2.9
O20K	Slope Mountain	11.82	47		P		Pn	19 22 51.0	+1.7
	baz=240,SNR=15								
RSO	Redoubt South	11.95	45				Pn	19 22 51.7	+0.6
HOM	Homer	12.06	49		P		Pn	19 22 52.1	-0.3
	baz=243								
M19K	Big River Lodg	12.15	37				Pn	19 22 55.6	+2.0
M19K	Big River Lodg	12.15	37		P		Pn	19 22 55.9	+2.4
	baz=229								
L19K	White Mountain	12.16	35				Pn	19 22 55.3	+1.5
L19K	White Mountain	12.16	35		P		Pn	19 22 56.0	+2.2
	baz=227								
CNPM	China Poot	12.20	50		Pn		Pn	19 22 52.5	-1.8
TTA	Tatalina	12.31	31				Pn	19 22 55.2	-0.6
TTA	Tatalina	12.31	31		P		Pn	19 22 58.0	+2.2
	baz=222,SNR=174								
TTA	Tatalina	12.31	31		P		Pn	19 22 55.2	-0.6
BRLK	Bradley Lake	12.46	50				Pn	19 22 56.0	-1.8
BRSE	Bradley Lake S	12.51	50		P		Pn	19 22 58.2	-0.3
	baz=245,SNR=16								
N20K	Mount Spurr	12.57	42		P		Pn	19 23 01.8	+2.5
	baz=236								
SPCR	Spurr Chakacha	12.57	42		P		Pn	19 23 01.8	+2.5
	baz=236,SNR=11								
M20K	Styx River	12.60	39				Pn	19 23 00.2	+0.5
M20K	Styx River	12.60	39		P		Pn	19 23 02.4	+2.7
	baz=232								
TNA	Tin City	12.60	4		Pn		Pn	19 23 02.6	+3.1
TNA	Tin City	12.60	4		P		Pn	19 23 02.6	+3.1
	baz=185,SNR=39								
SPU	Mount Spurr	12.62	43				Pn	19 23 00.9	+0.9
L20K	Farewell, AK	12.70	36		P		Pn	19 23 03.0	+2.0
	baz=228								
CAPN	Captain Cook N	12.79	45				Pn	19 23 03.6	+1.5
CAPN	Captain Cook N	12.79	45		P		Pn	19 23 04.8	+2.7
	baz=240								
K20K	Telida	13.23	32		Pn		Pn	19 23 08.9	+1.0
K20K	Telida	13.23	32		P		Pn	19 23 10.1	+2.1
	baz=225								
SEW	Seward	13.26	50		Pn		Pn	19 23 06.0	-2.2
SEW	Seward	13.26	50		P		Pn	19 23 06.6	-1.7
	baz=246,SNR=55								
SKT	Skwentna	13.27	40				Pn	19 23 09.3	+0.8
SKT	Skwentna	13.27	40		P		Pn	19 23 11.2	+2.8
	baz=235,SNR=45								
O22K	Cooper Landing	13.29	48				Pn	19 23 06.7	-2.0
O22K	Cooper Landing	13.29	48		P		Pn	19 23 07.3	-1.3
	baz=244,SNR=61								
SUA	Susitna One	13.31	43				Pn	19 23 08.8	-0.3
SUA	Susitna One	13.31	43		P		Pn	19 23 10.3	+1.3
	baz=238,SNR=45								
FIS	Fire Island	13.37	45				Pn	19 23 09.8	0.0
GCSA	Galena City Sc	13.48	24		P		Pn	19 23 13.7	+2.5
	baz=215								
RC01	Rabbit Creek A	13.55	46		Pn		Pn	19 23 10.9	-1.2
RC01	Rabbit Creek A	13.55	46		P		Pn	19 23 11.7	-0.4
	baz=241,SNR=28								
PPLA	Purkeypile	13.57	36		Pn		Pn	19 23 14.2	+1.7
PPLA	Purkeypile	13.57	36		P		Pn	19 23 14.5	+1.9
	baz=230,SNR=39								
M22K	Willow	13.71	43				Pn	19 23 14.3	+0.1
J20K	Nowinta River	13.80	30		Pn		Pn	19 23 16.1	+0.8
J20K	Nowinta River	13.80	30		P		Pn	19 23 17.5	+2.2
	baz=222								
CAST	Castle Rocks	13.94	35		Pn		Pn	19 23 18.7	+1.5
CAST	Castle Rocks	13.94	35		P		Pn	19 23 19.4	+2.2
	baz=229,SNR=207								
CUT	Chulitna	14.00	40				Pn	19 23 19.1	+1.2
CUT	Chulitna	14.00	40		P		P	19 23 20.5	-2.4
	baz=236,SNR=14								
PMR	Palmer	14.05	44		Pn		Pn	19 23 18.3	-0.2
PMR	Palmer	14.05	44		P		Pn	19 23 18.9	+0.4
	baz=241,SNR=14								
PMR	Palmer	14.05	44		P		Pn	19 23 18.3	-0.2
PWL	Port Wells	14.07	48		Pn		Pn	19 23 16.1	-2.8
PWL	Port Wells	14.07	48		P		Pn	19 23 16.7	-2.1
	baz=245,SNR=28								
CHUM	Lake Minchumin	14.17	33		P		P	19 23 22.5	-2.3
	baz=227,SNR=53								
P23K	Montague Islan	14.17	52		P		Pn	19 23 18.1	-2.1
	baz=249,SNR=8.0								
GHO	Glory Hole Cre	14.22	44				Pn	19 23 19.2	-1.7
KNK	Knik Glacier	14.25	46				Pn	19 23 19.1	-2.1
KNK	Knik Glacier	14.25	46		P		Pn	19 23 20.5	-0.7
	baz=243,SNR=83								
KTH	Kantishna Hill	14.43	36				Pn	19 23 22.8	-0.8
SML	Sawmill	14.48	44				Pn	19 23 23.4	-0.9
SML	Sawmill	14.48	44		P		Pn	19 23 24.0	-0.2
	baz=241,SNR=71								
Q23K	Middleton Isla	14.51	55		P		Pn	19 23 24.0	-0.5
	baz=253								
TRF	Thorofare Moun	14.59	37				Pn	19 23 25.7	-0.1
TRF	Thorofare Moun	14.59	37		P		Pn	19 23 26.7	+0.9
	baz=232,SNR=74								
M23K	Glacier View	14.73	45		P		Pn	19 23 26.7	-0.7
	baz=242,SNR=297								
BPAW	Bear Paw Mtn.	14.75	34				Pn	19 23 27.9	+0.3
BPAW	Bear Paw Mtn.	14.75	34		P		Pn	19 23 29.3	+1.6
	baz=229,SNR=331								
WAT1	Susitna Watana	14.90	40		P		Pn	19 23 30.4	+0.8
	baz=238								
SCM	Sheep Creek Mo	14.92	45				Pn	19 23 28.1	-1.8
SCM	Sheep Creek Mo	14.92	45		P		Pn	19 23 28.9	-1.0
	baz=243,SNR=200								
SCM	Sheep Creek Mo	14.92	45		P		Pn	19 23 28.1	-1.8
RND	Reindeer	15.10	38				Pn	19 23 31.9	-0.2
RND	Reindeer	15.10	38		P		Pn	19 23 31.9	-0.2
WAT6	Susitna Watana	15.10	42		P		Pn	19 23 31.7	-0.5
	baz=240,SNR=50								
EYAK	Cordova Ski Ar	15.13	51				Pn	19 23 30.5	-1.9
EYAK	Cordova Ski Ar	15.13	51		P		Pn	19 23 30.2	-2.3
	baz=250,SNR=25								
EYAK	Cordova Ski Ar	15.13	51		P		Pn	19 23 32.0	-0.5
I21K	Tanana	15.17	30		P		P	19 23 34.8	-1.0
I21K	Tanana	15.17	30		P		P	19 23 34.9	-1.0
	baz=224								
MCK	McKinley	15.25	37				Pn	19 23 33.5	-0.5
MCK	McKinley	15.25	37		P		Pn	19 23 34.4	+0.4
	baz=234,SNR=96								
MCK	McKinley	15.25	37		P		Pn	19 23 33.5	-0.5
IMAR	Indian Mountai	15.27	26		P		P	19 23 35.8	-1.1
H21K	Melozitna Rive	15.28	27		P		P	19 23 36.0	-1.0
H21K	Melozitna Rive	15.28	27		P		P	19 23 36.5	-0.6
	baz=222								
BWN	Browne	15.32	35				Pn	19 23 34.1	-0.7
DIV	Divide	15.32	49		Pn		Pn	19 23 33.1	-1.9
KLU	Klutina	15.39	47		Pn		Pn	19 23 33.5	-2.4
KLU	Klutina	15.39	47		P		Pn	19 23 33.7	-2.1
	baz=246,SNR=64								
RDOG	Red Dog Mine	15.43	10		P		Pn	19 23 37.0	+0.8
	baz=195								
MLY	Manley	15.45	31		P		Pn	19 23 37.1	+0.7
MLY	Manley	15.45	31		P		P	19 23 38.3	-0.7
	baz=227,SNR=157								
DHY	Denali Highway	15.49	41				Pn	19 23 36.4	-0.7
DHY	Denali Highway	15.49	41		P		Pn	19 23 37.3	+0.2
	baz=239,SNR=60								
M24K	Tolsona, Glenn	15.53	45		P		Pn	19 23 36.5	-1.0
M24K	Tolsona, Glenn	15.53	45		P		Pn	19 23 37.5	0.0
	baz=244,SNR=72								
NEA2	Nenana	15.71	34		P		Pn	19 23 39.3	-0.5
NEA2	Nenana	15.71	34		P		Pn	19 23 40.6	+0.8
	baz=232,SNR=72								
G21K	Allakaket	15.75	25		P		P	19 23 42.3	+0.1
	baz=218								
BMRM	Bremner River	15.80	50		Pn		Pn	19 23 38.7	-2.3
BMRM	Bremner River	15.80	50		P		Pn	19 23 39.5	-1.5
	baz=250,SNR=43								
H22K	Ishtalitna Cre	15.85	28		P		P	19 23 43.9	+0.5
	baz=224,SNR=98								
I23K	Minto, Yukon-K	15.96	33		P		Pn	19 23 42.9	0.0
I23K	Minto, Yukon-K	15.96	33		P		P	19 23 44.5	-0.2
	baz=230,SNR=117								
WRH	Wood River Hil	15.98	36		P		Pn	19 23 41.4	-1.7
N25K	Chitina, Valde	16.02	48		Pn		Pn	19 23 40.6	-3.2
N25K	Chitina, Valde	16.02	48		P		Pn	19 23 42.9	-0.8
	baz=248,SNR=64								
HARP	HAARP	16.09	45		P		Pn	19 23 45.0	+0.6
	baz=245,SNR=77								
CCB	Clear Creek Bu	16.18	35		P		Pn	19 23 43.8	-1.9
PAX	Paxson	16.20	43		P		Pn	19 23 44.9	-1.1
PAX	Paxson	16.20	43		P		Pn	19 23 45.6	-0.4
	baz=242,SNR=68								
PAX	Paxson	16.20	43		P		Pn	19 23 44.9	-1.1
MDM	Murphy Dome	16.22	34		P		Pn	19 23 45.5	-0.7
TCOL	CIGO, UAF Yank	16.30	35		P		Pn	19 23 46.7	-0.3
TCOL	CIGO, UAF Yank	16.30	35		P		Pn	19 23 47.2	+0.2
	baz=233,SNR=13								
COLA	College	16.30	35		P		Pn	19 23 47.5	+0.4
COLA	College	16.30	35		P		Pn	19 23 47.1	+0.1
	baz=233								
COLA	College	16.30	35		P		P	19 23 48.0	-0.4
COLA	College	16.30	35	*i*	P		Pn	19 23 46.9	-0.1
F21K	Alatna River	16.31	23		P		P	19 23 49.9	+1.4
	baz=217								
GLB	Gilahina Butte	16.32	49				Pn	19 23 45.5	-1.9
H23K	Yukon River	16.35	31				Pn	19 23 48.0	+0.3
H23K	Yukon River	16.35	31		P		P	19 23 49.8	+0.8
	baz=227,SNR=89								
HDA	Harding Lake	16.35	37		P		Pn	19 23 46.6	-1.1
HDA	Harding Lake	16.35	37		P		Pn	19 23 47.3	-0.4
	baz=236,SNR=52								
VRDI	Verde Repeater	16.41	50				Pn	19 23 46.7	-2.0
K24K	Donnelly Dome	16.47	40		P		Pn	19 23 49.3	0.0
	baz=240,SNR=47								
IL31		16.58	36		P		Pn	19 23 48.7	-1.8
ILAR	Eielson Array	16.58	36		P		Pn	19 23 48.8	-1.8
	comp=N,10nm,0.5s,baz=235,slow=11,SNR=134								
ILAR					S		Sn	19 26 51.2	-2.8
	comp=N,1.5nm,0.7s,baz=239,slow=5.3,SNR=1.4								
ILAR					PcP		PcP	19 28 35.9	+0.7
	comp=N,4.5nm,0.5s,baz=284,slow=2.9,SNR=12								
ILAR					ScP		ScP	19 32 00.7	-0.5
	comp=N,4.7nm,0.8s,baz=281,slow=3.1,SNR=23								
ILAR	Eielson Array	16.58	36				Pn	19 23 47.9	-2.7
POKR	Poker Plat Res	16.59	34		P		Pn	19 23 49.2	-1.4
POKR	Poker Plat Res	16.59	34		P		Pn	19 23 49.6	-1.0
	baz=233,SNR=21								
MCARA	McCarthy VSAT	16.66	49		P		Pn	19 23 50.5	-1.0
MCARA	McCarthy VSAT	16.66	49		P		Pn	19 23 50.9	-0.7
	baz=251,SNR=75								
RIDG	Independent Ri	16.81	41				Pn	19 23 52.4	-1.0
RIDG	Independent Ri	16.81	41		P		P	19 23 54.2	+0.1
	baz=241,SNR=45								
G23K	Bananza Creek	16.82	28		P		P	19 23 55.5	+1.3
	baz=224								
F22K	John River	16.85	24		P		P	19 23 55.2	+0.8
	baz=219								
H24K	Noodor Dome	16.88	32		P		P	19 23 54.7	-0.1
H24K	Noodor Dome	16.88	32		P		P	19 23 55.7	+0.8
	baz=230,SNR=123								
MENT	Mentasta	16.91	44		P		Pn	19 23 53.8	-0.9
M26K	Nabesna, AK	17.02	46		P		Pn	19 23 54.8	-1.2
M26K	Nabesna, AK	17.02	46		P		Pn	19 23 55.5	-0.4
	baz=248								
J25K	Salcha River,	17.04	38		P		Pn	19 23 55.2	-1.1
J25K	Salcha River,	17.04	38		P		Pn	19 23 55.5	-0.8
	baz=238								
DOT	Dot Lake	17.07	41				Pn	19 23 55.5	-1.2
L26K	Log Cabin Wild	17.10	44		P		Pn	19 23 56.6	-0.4
L26K	Log Cabin Wild	17.10	44		P		Pn	19 23 56.8	-0.2
	baz=246,SNR=73								
COLD	Coldfoot	17.14	26		P		P	19 23 59.2	+1.5
COLD	Coldfoot	17.14	26		P		P	19 23 59.6	+1.9
	baz=223,SNR=71								
BARN	Barnard Glacie	17.20	51		P		Pn	19 23 57.6	-0.8
SCRK	Sand Creek	17.25	40		P		Pn	19 23 57.5	-1.5
SCRK	Sand Creek	17.25	40		P		Pn	19 23 57.8	-1.1
	baz=242,SNR=56								
PRP	Porcupine Dome	17.48	35		P		P	19 23 59.9	-1.7
PRP	Porcupine Dome	17.48	35		P		P	19 24 00.7	-0.8
	baz=235,SNR=49								
M27K	Edge Creek, AK	17.49	47		P		P	19 24 00.8	-0.8
M27K	Edge Creek, AK	17.49	47		P		P	19 24 00.8	-0.8
	baz=250								
G24K	Hadweenzic Riv	17.56	30		P		Pn	19 24 02.8	+0.3
	baz=229								
PCA	Pinnacle	17.66	55		P		P	19 24 03.0	-0.6
J26L	Joseph Creek	17.66	39		P		P	19 24 02.1	-1.4
J26L	Joseph Creek	17.66	39		P		P	19 24 02.6	-0.9
	baz=241								
PINM	Pinnacle	17.66	55		P		P	19 24 03.7	+0.1
	baz=259,SNR=26								
L27K	Beaver Creek,	17.76	45		P		P	19 24 03.0	-1.5
L27K	Beaver Creek,	17.76	45		P		P	19 24 04.0	-0.5
	baz=248								
BCAR	Beaver Creek A	17.78	45		P		P	19 24 03.9	-0.8
O28M	Mount Upton	17.83	53		P		Pn	19 24 05.9	-0.2
	baz=257								
BCPM	Bancas Point	17.95	55		P		P	19 24 05.9	-0.7
YUK3	Moose Creek	17.95	49		P		P	19 24 05.9	-0.9
	baz=253								
F24K	Squaw Lake	17.99	28		P		Pn	19 24 08.6	+0.9
	baz=226,SNR=44								
PNL	Peninsula	18.02	56		P		P	19 24 07.3	-0.2
	baz=261,SNR=9.5								
PNL	Peninsula	18.02	56		P		Pn	19 24 08.8	+0.7
G25K	Bearman Lake	18.02	31		P		Pn	19 24 08.3	+0.3
	baz=231								
YUK8	Steele Glacier	18.15	51		P		P	19 24 09.1	+0.1
	baz=256								
FYU	Fort Yukon	18.18	32		P		Pn	19 24 09.7	-0.2
E24K	Your Creek	18.21	26		P		Pn	19 24 10.3	-0.1
	baz=224								
D23K	Nanushuk River	18.34	22		P		Pn	19 24 11.9	+0.1
	baz=218,SNR=38								
O29M	Mount Kennedy	18.52	54		P		Pn	19 24 14.2	0.0
	baz=260								
F25K	Christian Rive	18.68	29		P		Pn	19 24 15.5	-0.5
	baz=230,SNR=74								
YUK4	Talbot Arm	18.69	51		P		Pn	19 24 15.6	-0.6
	baz=257								
EGAK	Eagle	18.71	40		P		P	19 24 14.6	-0.3
EGAK	Eagle	18.71	40		P		P	19 24 15.1	+0.2
	baz=244,SNR=109								
YUK6	Outpost Mounta	18.74	53		P		P	19 24 15.6	+0.1
	baz=258								
PET	Petropavlovsk	18.86	283		P		Pn	19 24 18.2	+0.1
PET	Petropavlovsk	18.86	283		P		Pn	19 24 17.6	-0.5
PET	Petropavlovsk	18.86	283	*eP*			Pn	19 24 19.6	+1.5
PET				*eS*			S	19 27 41.3	-4.5
PET				pmax			pmax		
	comp=Z,75nm,0.7s								
PET				MLR			MLR		
	comp=Z,200nm,10.0s								
BILL	Bilibino	18.87	332		P		Pn	19 24 19.1	+0.9
BILL	Bilibino	18.87	332	*cP*			Pn	19 24 19.6	+1.5
BILL				*eS*			S	19 27 38.1	-7.7
BILL				pmax			pmax		
	comp=Z,387nm,1.4s								
BILL				MLR			MLR		
	comp=Z,153nm,15.0s								
BMAR	Burnt Mountain	18.90	31		P		P	19 24 16.8	-0.2
I27K	Kandik River	18.91	37		P		P	19 24 16.4	-0.7
	baz=241								
D24K	Happy Valley	18.91	23		P		Pn	19 24 18.2	-0.5
	baz=221								
M29M	Somme Creek	19.03	48		P		P	19 24 18.8	+0.2
	baz=254								
E25K	Arctic Village	19.05	28		P		Pn	19 24 19.9	-0.4
	baz=229,SNR=58								
HYT	Haines Junctio	19.13	53		P		P	19 24 20.0	+0.4
HYT	Haines Junctio	19.13	53		P		P	19 24 19.9	+0.2
	baz=260								
DAWY	Dawson	19.14	43		P		P	19 24 19.1	-0.5
DAWY	Dawson	19.14	43		P		P	19 24 19.2	-0.5
	baz=248,SNR=52								
F26K	Sheenjek River	19.20	30		P		Pn	19 24 21.2	-0.8
	baz=232								
H27K	Steamboat Moun	19.25	36		P		P	19 24 21.3	+0.5
	baz=240								
A21K	Barrow	19.27	13				P	19 24 21.3	+0.4
A21K	Barrow	19.27	13		P		Pn	19 24 22.2	-0.7
	baz=204,SNR=16								
P30M	Million Dollar	19.30	55		P		Pn	19 24 22.7	-0.6
	baz=262								
L29M	L29M	19.36	46		P		P	19 24 22.2	+0.2
	baz=253,SNR=31								
C24K	Franklin Bluff	19.37	22		P		P	19 24 22.7	+0.7
	baz=220								
PEA0B	Petropavlovsk-	19.40	283		P		P	19 24 23.0	+0.5
PEA0B	Petropavlovsk-	19.40	283	*ceP*			P	19 24 21.9	-0.6
PETK	Petropavlovsk-	19.40	283		P		P	19 24 22.3	-0.2
	comp=Z,24nm,0.7s,baz=91,slow=14,SNR=23								
PETK					LR		LR	19 31 37.2	
	comp=Z,226nm,20.6s,baz=92,slow=36								
PETK					ScP		ScP	19 32 07.6	+0.2
	comp=Z,23nm,1.0s,baz=111,slow=3.3,SNR=13								
N30M	Aishikik Lake	19.44	51		P		P	19 24 23.5	+0.5
	baz=258								
G27K	Doyon Strip	19.50	34		P		P	19 24 23.2	-0.3
	baz=238								
PLBC	Pleasant Camp	19.53	57		P		P	19 24 23.4	-0.5
	baz=265,SNR=24								
S31K	Pelican	19.54	62		P		P	19 24 24.5	+0.6
	baz=269,SNR=18								
J29M	Klondike Camp	19.75	42		P		P	19 24 26.4	+0.1
J29M	Klondike Camp	19.75	42		P		Pn	19 24 27.9	-0.8
	baz=249,SNR=23								
R31K	City Hall, Gus	19.81	61		P		P	19 24 27.4	+0.6
	baz=268								
O30N	Mendenhall	19.81	54		P		P	19 24 27.6	+0.7
	baz=261,SNR=52								
M30M	Minto, Yukon	19.82	48		P

MA2	**Magadan**	**22.52**	**303**		P		**P**		**19 24 57.3**	**+1.5**
MA2	**Magadan**	**22.52**	**303**	*ce*	P		**P**		**19 24 55.4**	**-0.4**
MA2					pmax		pmax			
	comp=Z,63nm,1.7s									
F31M	**Tsiigehtchic**	**22.55**	**36**		P		**P**		**19 24 54.1**	**-1.9**
	baz=248,SNR=14									
DLBC	**Dease Lake**	**22.81**	**60**		P		**P**		**19 24 59.9**	**+1.0**
	comp=Z,43nm,0.4s,baz=237,slow=8.2,SNR=90									
DLBC					LR		LR		19 33 52.7	
	comp=Z,271nm,18.0s,baz=276,slow=36									
	comp=Z,43nm,0.4s									
DLBC	**Dease Lake**	**22.81**	**60**		P		**P**		**19 25 00.2**	**+1.3**
DLBC	**Dease Lake**	**22.81**	**60**		P		**P**		**19 25 01.7**	**+2.8**
	baz=273,SNR=48									
T35M	**Bob Quinn**	**22.83**	**64**		P		**P**		**19 25 00.5**	**+1.5**
	baz=276,SNR=5.8									
INK	**Inuvik**	**22.96**	**34**		P		**P**		**19 24 58.4**	**-1.7**
	comp=Z,52nm,0.7s,baz=233,slow=10,SNR=147									
INK					PcP		**PcP**		**19 28 47.9**	**+1.3**
	comp=Z,9.0nm,0.5s,baz=265,slow=1.9,SNR=14									
INK					S		**S**		**19 28 59.9**	**-2.9**
	comp=Z,7.4nm,1.0s,baz=339,slow=13,SNR=2.8									
INK					LR		LR		19 34 03.8	
	comp=Z,200nm,20.7s,baz=254,slow=37									
	comp=Z,52nm,0.7s									
INK	**Inuvik**	**22.96**	**34**		P		**P**		**19 24 58.1**	**-2.0**
INK	**Inuvik**	**22.96**	**34**		P		**P**		**19 24 58.5**	**-1.6**
	baz=246,SNR=73									
WTLY	**Watson Lake, Y**	**23.38**	**56**		P		**P**		**19 25 04.8**	**+0.5**
WTLY	**Watson Lake, Y**	**23.38**	**56**		P		**P**		**19 25 03.9**	**-0.3**
	baz=270,SNR=16									
LIRD	**Liard River Hi**	**24.77**	**58**		P		**P**		**19 25 17.5**	**+0.6**
	baz=274									
BBB	**Bella Bella**	**25.12**	**75**		P		**P**		**19 25 19.0**	**-0.9**
	comp=Z,29nm,0.7s,baz=250,slow=11,SNR=2.6									
BBB					LR		LR		19 34 55.9	
	comp=Z,148nm,18.1s,baz=296,slow=36									
	comp=Z,29nm,0.7s									
KOTAN	**Kotaneelee Air**	**25.75**	**56**		P		**P**		**19 25 26.8**	**+1.2**
	baz=274,SNR=7.2									
WRGLY	**Wrigley**	**25.95**	**49**		P		**P**		**19 25 27.9**	**+0.5**
	baz=268									
C36M	**Paulatuk**	**26.54**	**35**		P		**P**		**19 25 30.6**	**-2.0**
C36M					PcP		**PcP**		**19 28 54.4**	**-0.1**
C36M	**Paulatuk**	**26.54**	**35**		P		**P**		**19 25 32.7**	**0.0**
	baz=255,SNR=26									
A36M	**Sachs Harbour**	**26.97**	**29**		P		**P**		**19 25 36.1**	**-0.4**
A36M							**PcP**		**19 28 55.6**	**+0.1**
A36M	**Sachs Harbour**	**26.97**	**29**		P		**P**		**19 25 36.7**	**+0.2**
	baz=249									
WAPA	**Wapiti River**	**29.22**	**65**		P		**P**		**19 25 58.6**	**+1.8**
WAPA					IAmb		IAmb		19 25 59.4	
	comp=Z,162nm,1.8s									
HILA	**High Level**	**29.55**	**58**		P		**P**		**19 25 60.0**	**+0.4**
YKA	**Yellowknife Ar**	**30.04**	**50**		P		**P**		**19 26 03.1**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=271,slow=8.0									
YKA					PcP		**PcP**		**19 29 05.2**	**+1.9**
	comp=Z,3.9nm,0.5s,baz=282,slow=3.2,SNR=12									
YKA					ScP		**ScP**		**19 32 37.8**	**+0.9**
	comp=Z,3.2nm,0.7s,baz=288,slow=3.5,SNR=14									
YKA					LR		LR		19 38 38.4	
	comp=Z,338nm,21.5s,baz=314,slow=37									
	comp=Z,3.9nm,0.6s									
E03A	**Lebam**	**30.15**	**83**		P		**P**		**19 26 03.1**	**-1.8**
E03A					IAmb		IAmb		19 26 08.7	
	comp=Z,133nm,1.7s									
B06A	**Marblemount**	**30.45**	**79**		P		**P**		**19 26 08.4**	**+0.8**
BRLDA	**Berland Lookou**	**30.59**	**67**		P		**P**		**19 26 09.7**	**+0.8**
YSS	**Yuzh-Sakhalins**	**30.59**	**278**		P		**P**		**19 26 09.0**	**+0.1**
YSS					IAmb		IAmb		19 26 30.0	
	comp=Z,102nm,1.6s									
YSS	**Yuzh-Sakhalins**	**30.59**	**278**	*e*	P		**P**		**19 26 09.0**	**+0.1**
YSS					pmax		pmax			
	comp=Z,20nm,1.0s									
D05A	**Enumclaw**	**30.78**	**81**		P		**P**		**19 26 10.1**	**-0.4**
D05A					IAmb		IAmb		19 26 16.2	
	comp=Z,110nm,1.3s									
LON	**Longmire**	**31.10**	**82**		P		**P**		**19 26 14.1**	**+0.7**
LON	**Longmire**	**31.10**	**82**		P		**P**		**19 26 14.1**	**+0.7**
LON					pmax		pmax			
	comp=Z,10.0nm,0.7s									
COR	**Corvallis**	**31.32**	**87**		P		**P**		**19 26 17.4**	**+2.2**
COR					pP		**pP**		**19 26 37.2**	**+1.1**
COR					ScP		**ScP**		**19 32 41.8**	**+0.4**
LTY	**Liberty**	**31.53**	**80**		P		**P**		**19 26 18.4**	**+1.1**
B08A	**Colville Reser**	**31.80**	**78**		P		**P**		**19 26 20.7**	**+1.2**
B08A					IAmb		IAmb		19 26 21.9	
	comp=Z,38nm,0.7s									
HOOD	**Mount Hood Mea**	**31.92**	**84**		P		**P**		**19 26 20.8**	**0.0**
HOOD					IAmb		IAmb		19 26 24.5	
	comp=Z,92nm,1.4s									
KEKH	**Kekaha**	**31.97**	**162**		P		**P**		**19 26 21.3**	**+0.2**
KEKH					IAmb		IAmb		19 26 22.9	
	comp=Z,69nm,0.9s									
TIXI	**Tiksi**	**32.01**	**328**		P		**P**		**19 26 21.2**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=90,slow=20,SNR=13									
TIXI					PcP		**PcP**		**19 29 08.5**	**+0.1**
	comp=Z,12nm,0.7s,baz=90,slow=20,SNR=11									
TIXI					ScP		**ScP**		**19 32 43.5**	**+0.2**
	comp=Z,66nm,0.8s,baz=90,slow=20,SNR=95									
TIXI					LR		LR		19 39 28.8	
	comp=Z,325nm,21.7s,baz=1.0,slow=36									
	comp=Z,3.0nm,0.5s									
TIXI	**Tiksi**	**32.01**	**328**		P		**P**		**19 26 21.3**	**+0.3**
TIXI							**PcP**		**19 29 08.2**	**-0.2**
TIXI	**Tiksi**	**32.01**	**328**	*ce*	P		**P**		**19 26 20.5**	**-0.5**
TIXI					pmax		pmax			
	comp=Z,41nm,2.5s									
ASAJ	**Asahikawa**	**32.16**	**273**		LR		LR		19 38 30.6	
	comp=Z,150nm,21.9s,baz=70,slow=34									
DBO	**Dodson Butte**	**32.16**	**89**		P		**P**		**19 26 24.5**	**+1.7**
DBO					IAmb		IAmb		19 26 26.3	
	comp=Z,44nm,0.8s									
YAK	**Yakutsk**	**32.51**	**310**		P		**P**		**19 26 25.1**	**-0.3**
	comp=Z,19nm,0.6s,baz=64,slow=1.4,SNR=22									
YAK					pP		**pP**		**19 26 45.7**	**+0.1**
	comp=Z,15nm,0.7s,baz=126,slow=5.4,SNR=3.0									
YAK					PcP		**PcP**		**19 29 10.3**	**+0.3**
	comp=Z,30nm,0.5s,baz=158,slow=0.5,SNR=17									
	comp=Z,19nm,0.6s									
YAK	**Yakutsk**	**32.51**	**310**		P		**P**		**19 26 24.6**	**-0.9**
YAK					IAmb		IAmb		19 26 50.2	
	comp=Z,50nm,0.9s									
YAK							**PcP**		**19 29 09.6**	**-0.3**
YAK	**Yakutsk**	**32.51**	**310**	*e*	P		**P**		**19 26 23.5**	**-2.0**
YAK				*e*	*PP		**pP**		**19 26 44.0**	**-1.7**
YAK				*e*					19 27 37.7	
YAK				*e*					19 29 09.5	
YAK				*e*	S		**S**		**19 31 30.8**	**-2.6**
YAK				*e*	*SS		**sS**		**19 32 08.3**	**-1.3**
YAK				*e*	SS		**SnSn**		**19 33 31.1**	**-5.1**
YAK				*e*					19 36 42.8	
YAK					pmax		pmax			
	comp=Z,36nm,0.9s									
YAK					pmax		pmax			
	comp=N,4.0nm,1.1s									
YAK					pmax		pmax			
	comp=E,13nm,1.3s									
YAK					pmax		pmax			
	comp=Z,290nm,4.7s									
YAK					pmax		pmax			
	comp=N,223nm,4.3s									
YAK					pmax		pmax			
	comp=E,53nm,1.6s									
YAK					smax		smax			
	comp=E,141nm,4.5s									
YAK					smax		smax			
	comp=N,130nm,5.1s									
YAK	**Yakutsk**	**32.51**	**310**		P		**P**		**19 26 24.7**	**-0.7**
YAK					pP		**pP**		**19 26 45.6**	**0.0**
YAK					PcP		**PcP**		**19 29 10.0**	**+0.1**
YAK					ScP		**ScP**		**19 32 44.5**	**-0.6**
GRNR	**Gornyy**	**32.57**	**288**	*ij*	P		**P**		**19 26 25.3**	**-0.9**
GRNR					pmax		pmax			
	comp=N,3.0nm,0.8s									
GRNR					pmax		pmax			
	comp=Z,10.0nm,0.8s									
OPA	**Opana**	**32.59**	**159**		P		**P**		**19 26 26.1**	**-0.5**
OPA	**Opana**	**32.59**	**159**		P		**P**		**19 26 26.1**	**-0.5**
OPA					pmax		pmax			
	comp=Z,367nm,1.5s									
HUMO	**Hull Mountain**	**32.63**	**89**		P		**P**		**19 26 29.0**	**+2.2**
HAWA	**Hanford**	**32.64**	**81**		P		**P**		**19 26 28.1**	**+1.2**
HAWA					IAmb		IAmb		19 26 29.3	
	comp=Z,34nm,0.7s									
F07A	**Phinny Hill Vi**	**32.66**	**82**		P		**P**		**19 26 27.8**	**+0.8**
F07A					IAmb		IAmb		19 26 31.3	
	comp=Z,68nm,1.5s									
D08A	**Wollman Farm,**	**32.67**	**80**		P		**P**		**19 26 27.9**	**+0.8**
D08A							**PcP**		**19 29 12.7**	**+2.0**
C09A	**Chrisman Ranch**	**32.69**	**78**		P		**P**		**19 26 28.2**	**+1.0**
KIP	**Kipapa**	**32.85**	**159**		P		**P**		**19 26 28.6**	**-0.2**
KIP	**Kipapa**	**32.85**	**159**		P		**P**		**19 26 30.3**	**+1.4**
	comp=Z,158nm,1.6s									
KIP	**Kipapa**	**32.85**	**159**	*ce*	P		**P**		**19 26 27.3**	**-1.5**
KIP					pmax		pmax			
	comp=Z,413nm,2.5s									
KIP	**Kipapa**	**32.85**	**159**		P		**P**		**19 26 30.2**	**+1.4**
E08A	**Dider Farm, El**	**32.87**	**81**		P		**P**		**19 26 29.7**	**+0.8**
E08A					IAmb		IAmb		19 26 31.0	
	comp=Z,76nm,1.7s									
HON	**Honolulu**	**32.95**	**159**		P		**P**		**19 26 30.4**	**+0.7**
HON	**Honolulu**	**32.95**	**159**		P		**P**		**19 26 30.4**	**+0.7**
HON					pmax		pmax			
	comp=Z,161nm,0.8s									
NEW	**Newport**	**33.15**	**77**		LR		LR		19 39 02.4	
	comp=Z,88nm,18.1s,baz=300,slow=34									
NEW	**Newport**	**33.15**	**77**		P		**P**		**19 26 32.1**	**+0.8**
NEW					IAmb		IAmb		19 26 33.8	
	comp=Z,67nm,1.1s									
NEW	**Newport**	**33.15**	**77**		P		**P**		**19 26 32.1**	**+0.8**
NEW					pmax		pmax			
	comp=Z,67nm,1.1s									
EDM	**Edmonton**	**33.15**	**66**		P		**P**		**19 26 32.1**	**+0.8**
EDM	**Edmonton**	**33.15**	**66**		P		**P**		**19 26 32.1**	**+0.8**
EDM					pmax		pmax			
	comp=Z,64nm,0.6s									
PINE	**Pine Mountain**	**33.18**	**86**		P		**P**		**19 26 33.8**	**+2.0**
PINE					IAmb		IAmb		19 26 35.8	
	comp=Z,65nm,1.1s									
KHMM	**Horse Mountain**	**33.18**	**93**		P		**P**		**19 26 34.1**	**+2.3**
KHMM					IAmb		IAmb		19 26 35.3	
	comp=Z,81nm,0.9s									
KMPM	**Mount Pierce**	**33.23**	**94**		P		**P**		**19 26 35.2**	**+3.0**
KMPM					IAmb		IAmb		19 26 35.7	
	comp=Z,72nm,0.9s									
YBH	**Yreka Blue Hor**	**33.29**	**91**		LR		LR		19 37 05.8	
	comp=Z,117nm,19.8s,baz=304,slow=31									
YBH	**Yreka Blue Hor**	**33.29**	**91**		P		**P**		**19 26 35.3**	**+2.7**
YBH					IAmb		IAmb		19 26 36.2	
	comp=Z,47nm,0.8s									
YBH	**Yreka Blue Hor**	**33.29**	**91**		P		**P**		**19 26 35.3**	**+2.7**
YBH					pmax		pmax			
	comp=Z,47nm,0.9s									
E09A	**Wood Farm, Sta**	**33.40**	**80**		P		**P**		**19 26 34.3**	**+0.8**
G08A	**Pilot Rock**	**33.55**	**82**		P		**P**		**19 26 35.9**	**+0.9**
KHLH	**Kahului Airpor**	**33.71**	**157**		P		**P**		**19 26 36.5**	**+0.2**
K05A	**Summer Lake**	**33.81**	**88**		P		**P**		**19 26 39.6**	**+2.3**
I07A	**Izee**	**33.88**	**85**		P		**P**		**19 26 39.4**	**+1.6**
I07A					IAmb		IAmb		19 26 41.3	
	comp=Z,40nm,1.1s									
HLK	**Haleakala**	**33.89**	**157**		P		**P**		**19 26 38.8**	**+0.5**
F10A	**Beach Ranch, E**	**34.23**	**80**		P		**P**		**19 26 41.8**	**+1.0**
MHA	**Mahukona**	**34.52**	**156**		P		**P**		**19 26 43.8**	**+0.5**
MHA	**Mahukona**	**34.52**	**156**		P		**P**		**19 26 43.8**	**+0.5**
MOD	**Modoc Plateau**	**34.64**	**88**		P		**P**		**19 26 46.2**	**+1.8**
MOD					IAmb		IAmb		19 26 47.4	
	comp=Z,56nm,0.8s									
WALA	**Waterton Lakes**	**34.64**	**74**		P		**P**		**19 26 45.0**	**+0.6**
WALA					IAmb		IAmb		19 26 47.8	
	comp=Z,47nm,1.4s									
HPAH	**Hawaii Prepara**	**34.72**	**156**		P		**P**		**19 26 45.7**	**+0.5**
HOPS	**Hopland Field**	**34.75**	**95**		P		**P**		**19 26 46.7**	**+1.5**
BMO	**Blue Mountains**	**34.78**	**82**		P		**P**		**19 26 45.9**	**+0.4**
BMO	**Blue Mountains**	**34.78**	**82**		P		**P**		**19 26 45.9**	**+0.4**
BMO					pmax		pmax			
	comp=Z,11nm,1.0s									
J08A	**Circle Bar Ran**	**34.90**	**85**		P		**P**		**19 26 48.1**	**+1.5**
J08A					IAmb		IAmb		19 26 50.6	
	comp=Z,26nm,0.7s									
GDXM	**Geysers**	**35.03**	**95**		P		**P**		**19 26 50.1**	**+2.4**
GDXM					IAmb		IAmb		19 26 51.1	
	comp=Z,64nm,1.1s									
WVOR	**Wild Horse Val**	**35.34**	**86**		P		**P**		**19 26 51.9**	**+1.6**
WVOR					IAmb		IAmb		19 26 53.2	
	comp=Z,79nm,1.1s									
WVOR	**Wild Horse Val**	**35.34**	**86**		P		**P**		**19 26 51.9**	**+1.6**
WVOR					pmax		pmax			
	comp=Z,79nm,1.2s									
ORV	**Oroville**	**35.34**	**93**		P		**P**		**19 26 51.1**	**+0.8**
ORV	**Oroville**	**35.34**	**93**		P		**P**		**19 26 51.1**	**+0.8**
ORV					pmax		pmax			
	comp=Z,26nm,1.0s									
PLID	**Pearl Lake**	**35.43**	**81**		P		**P**		**19 26 51.1**	**-0.2**
MSO	**Missoula**	**35.73**	**77**		P		**P**		**19 26 53.7**	**0.0**
MSO							**PcP**		**19 29 20.2**	**+0.5**
RES	**Resolute Bay**	**35.90**	**26**		P		**P**		**19 26 54.4**	**-0.2**
RES							**PcP**		**19 29 19.8**	**+0.3**
KLR	**Kul'dur**	**35.96**	**288**		P		**P**		**19 26 54.6**	**-0.8**
	comp=Z,3.3nm,0.5s,baz=61,slow=8.7,SNR=17									
KLR					PcP		**PcP**		**19 29 20.4**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=31,slow=5.1,SNR=4.2									
KLR					LR		LR		19 41 35.1	
	comp=Z,187nm,20.4s,baz=67,slow=36									
	comp=Z,3.3nm,0.5s									
KLR	**Kul'dur**	**35.96**	**288**	*ce*	P		**P**		**19 26 54.2**	**-1.2**
KLR					pmax		pmax			
	comp=Z,11nm,1.3s									
AFDM	**Forest Hills D**	**36.04**	**93**		P		**P**		**19 26 56.0**	**-0.3**
ZEA	**Zeya**	**36.42**	**297**	*e*	P		**P**		**19 26 59.5**	**+0.2**
ZEA					pmax		pmax			
	comp=E,10.0nm,1.4s									
ZEA					pmax		pmax			
	comp=Z,10.0nm,1.1s									
MFID	**Camas Ranch**	**36.46**	**83**		P		**P**		**19 27 00.5**	**+0.5**
VCNR	**Virginia City**	**36.62**	**91**		P		**P**		**19 27 03.3**	**+1.8**
CMB	**Columbia Colle**	**36.98**	**94**		P		**P**		**19 27 05.3**	**+1.0**
CMB					IAmb		IAmb		19 27 07.1	
	comp=Z,46nm,1.2s									
CMB	**Columbia Colle**	**36.98**	**94**		P		**P**		**19 27 05.3**	**+1.0**
CMB					pmax		pmax			
	comp=Z,46nm,1.2s									
HRY	**Holter Researc**	**37.03**	**76**		P		**P**		**19 27 05.3**	**+0.6**
YERR	**Yerington**	**37.06**	**91**		P		**P**		**19 27 05.9**	**+0.7**
LRM	**Limekiln Ridge**	**37.14**	**77**		P		**P**		**19 27 05.3**	**-0.6**
EUNU	**Eureka**	**37.16**	**17**		P		**P**		**19 27 07.3**	**+1.9**
EUNU					IAmb		IAmb		19 28 04.1	
	comp=Z,71nm,2.0s									
SAO	**San Andreas Ge**	**37.17**	**96**		P		**P**		**19 27 06.8**	**+0.9**
SAO					IAmb		IAmb		19 27 08.2	
	comp=Z,43nm,1.0s									
SAO	**San Andreas Ge**	**37.17**	**96**		P		**P**		**19 27 06.8**	**+0.9**
SAO					pmax		pmax			
	comp=Z,43nm,1.0s									
HLID	**Hailey**	**37.22**	**82**		P		**P**		**19 27 07.1**	**+0.6**
HLID	**Hailey**	**37.22**	**82**		P		**P**		**19 27 07.8**	**+1.3**
	baz=304,SNR=25									
WAKR	**Walker**	**37.25**	**92**		P		**P**		**19 27 08.3**	**+1.5**
BMN	**Battle Mountai**	**37.38**	**88**		P		**P**		**19 27 08.8**	**+1.0**
BMN					IAmb		IAmb		19 27 10.2	
	comp=Z,60nm,1.2s									
BMN	**Battle Mountai**	**37.38**	**88**		P		**P**		**19 27 08.8**	**+1.0**
BMN					pmax		pmax			
	comp=Z,60nm,1.2s									
BCYI	**Bear Canyon**	**37.40**	**80**		P		**P**		**19 27 08.7**	**+0.7**
MCMT	**McKenzie Canyo**	**37.45**	**79**		P		**P**		**19 27 09.3**	**+0.8**
BBGB	**Big Mountain B**	**37.54**	**96**		P		**P**		**19 27 10.5**	**+1.3**
EGMT	**Eagleton**	**37.55**	**73**		P		**P**		**19 27 09.4**	**+0.3**
EGMT					IAmb		IAmb		19 27 12.9	
	comp=Z,59nm,0.8s									
EGMT	**Eagleton**	**37.55**	**73**		P		**P**		**19 27 10.5**	**+1.4**
	baz=300,SNR=24									
KVN	**Kaiserville**	**37.71**	**90**		P		**P**		**19 27 12.0**	**+1.3**
KVN					IAmb		IAmb		19 27 13.2	
	comp=Z,53nm,0.8s									
KVN							**PcP**		**19 29 26.3**	**+0.5**
RYN	**Ryan**	**37.72**	**91**		P		**P**		**19 27 12.1**	**+1.3**
BOZ	**Bozeman (W)**	**37.74**	**77**		P		**P**		**19 27 11.4**	**+0.6**
BOZ					IAmb		IAmb		19 27 12.5	
	comp=Z,25nm,0.7s									
BOZ							**PcP**		**19 29 25.6**	**-0.3**
BOZ	**Bozeman (W)**	**37.74**	**77**		P		**P**		**19 27 11.8**	**+0.9**
	baz=303,SNR=38									
BOZ	**Bozeman (W)**	**37.74**	**77**		P		**P**		**19 27 11.4**	**+0.6**
BOZ									19 29 25.6	
BOZ					pmax		pmax			
	comp=Z,25nm,0.7s									
H11N2	**WAKE ISLAND Hy**	**37.79**	**217**		T		T		20 07 56.1	
	baz=24,slow=76,SNR=148									
H11N3	**WAKE ISLAND Hy**	**37.80**	**217**		T		T		20 07 56.7	
	baz=24,slow=76,SNR=196									
H11N1	**WAKE ISLAND Hy**	**37.81**	**217**		T		T		20 08 03.3	
	baz=24,slow=76,SNR=124									
HEH	**HeiHe**	**37.92**	**292**	*e*	P		**P**		**19 27 11.2**	**-0.9**
HEH					pP		**pwP**		**19 27 34.5**	**-1.0**
HEH					PcP		**PcP**		**19 29 25.7**	**-0.3**
HEH					S		**S**		**19 32 54.7**	**-2.0**
HEH					ScP		**ScP**		**19 33 04.2**	**-0.8**
HEH					pmax		pmax			
	comp=Z,10.0nm,0.9s									
HEH					pmax		pmax			
	comp=Z,360nm,4.9s									
PMPB	**Monarch Peak**	**37.92**	**96**		P		**P**		**19 27 13.7**	**+1.4**
PMPB					IAmb		IAmb		19 27 18.4	
	comp=Z,45nm,0.8s									
LHV	**Little Huntoon**	**37.97**	**92**		P		**P**		**19 27 14.6**	**+2.0**
NVAR	**Mina Array Bea**	**37.98**	**91**		P		**P**		**19 27 14.2**	**+1.2**
	comp=Z,72nm,0.7s,baz=298,slow=8.2,SNR=271									
NVAR					PcP		**PcP**		**19 29 27.9**	**+1.1**
	comp=Z,4.1nm,0.8s,baz=322,slow=2.8,SNR=4.0									
NVAR					ScP		**ScP**		**19 33 06.8**	**+1.0**
	comp=Z,10nm,0.9s,baz=285,slow=3.7,SNR=21									
MDPB	**Devils Postpil**	**38.03**	**93**		P		**P**		**19 27 15.0**	**+1.6**
NV11	**Mina Array Sit**	**38.07**	**91**		P		**P**		**19 27 15.8**	**+2.2**
NV11					IAmb		IAmb		19 27 17.2	
	comp=Z,43nm,0.8s									
OMMB	**Old Mammoth Mi**	**38.09**	**93**		P		**P**		**19 27 15.9**	**+2.0**
ELK	**Elko**	**38.39**	**86**		LR		LR		19 40 05.6	
	comp=Z,292nm,21.1s,baz=300,slow=31									
ELK	**Elko**	**38.39**	**86**		P		**P**		**19 27 17.4**	**+1.0**
ELK	**Elko**	**38.39**	**86**		P		**P**		**19 27 17.4**	**+1.0**
ELK					pmax		pmax			
	comp=Z,17nm,0.8s									
Q09A	**Carvers**	**38.40**	**90**		P		**P**		**19 27 18.2**	**+1.7**
USRK	**Ussuriysk Ar.**	**38.46**	**281**		P		**P**		**19 27 14.8**	**-1.9**
	comp=Z,4.3nm,0.5s,baz=59,slow=9.4,SNR=14									
USRK					PcP		**PcP**		**19 29 29.0**	**+1.2**
	comp=Z,12nm,0.8s,baz=65,slow=3.2,SNR=13									
USRK					ScP		**ScP**		**19 33 07.5**	**+0.4**
	comp=Z,4.6nm,0.6s,baz=52,slow=4.1,SNR=8.8									
	comp=Z,4.3nm,0.5s									
USRK	**Ussuriysk Ar.**	**38.46**	**281**		P		**P**		**19 27 15.3**	**-1.4**
USRK					PcP		**PcP**		**19 29 28.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**38.46**	**281**		P		**P**		**19 27 15.3**	**-1.4**
USRK									19 29 28.8	
FFC	**Flin Flon**	**38.64**	**59**		P		**P**		**19 27 18.2**	**+0.2**
FFC					IAmb		IAmb		19 27 19.9	
	comp=Z,30nm,0.6s									
FFC	**Flin Flon**	**38.64**	**59**		P		**P**		**19 27 18.2**	**+0.2**
FFC					pmax		pmax			
	comp=Z,30nm,0.6s									
FFC	**Flin Flon**	**38.64**	**59**		P		**P**		**19 27 18.4**	**+0.4**
YMR	**Madison River**	**38.65**	**78**		P		**P**		**19 27 19.5**	**+1.0**
YMR					IAmb		IAmb		19 27 20.9	
	comp=Z,35nm,0.7s									
VOG	**Valley Oaks Go**	**38.71**	**95**		P		**P**		**19 27 20.7**	**+2.0**
	baz=312									
GCMT	**Greycliff**	**38.79**	**76**		P		**P**		**19 27 20.2**	**+0.6**
GCMT							**PcP**		**19 29 29.9**	**+0.9**
YNR	**Norris Junctio**	**38.79**	**78**		P		**P**		**19 27 21.1**	**+1.4**
YNR					IAmb		IAmb		19 27 22.7	
	comp=Z,42nm,0.9s									
TPH	**Tonopah**	**38.86**	**91**		P		**P**		**19 27 21.8**	**+1.4**
TPH	**Tonopah**	**38.86**	**91**		P		**P**		**19 27 21.8**	**+1.4**
DSP	**Deep Springs**	**38.87**	**92**		P		**P**		**19 27 21.9**	**+1.8**
YUF	**Upper Falls**	**38.89**	**78**		P		**P**		**19 27 21.3**	**+0.7**
TIN	**Tinemaha, Big**	**38.92**	**93**		P		**P**		**19 27 23.0**	**+2.3**
	baz=311,SNR=20									
H11S1	**WAKE ISLAND Hy**	**38.99**	**217**		T		T		20 08 59.1	
	baz=23,slow=76,SNR=540									
H11S2	**WAKE ISLAND Hy**	**39.00**	**217**		T		T

ISA Isabella, Lake 39.69 95 P **P** **19 27 27.7 +0.6**
ISA IAmb IAmb 19 27 29.1
comp=Z,49nm,0.8s
ISA Isabella, Lake 39.69 95 P **P** **19 27 28.2 +1.1**
baz=312,SNR=16
ISA Isabella, Lake 39.69 95 P **P** **19 27 27.7 +0.6**
ISA pmax pmax
comp=Z,49nm,0.8s
SPUT South Promonto 39.72 83 P **P** **19 27 28.0 +0.6**
SBC Santa Barbara 39.78 97 P **P** **19 27 28.6 +0.9**
baz=313
ARVC Arvin 39.84 96 P **P** **19 27 29.0 +0.8**
baz=313
ALE Alert 39.98 11 P **P** **19 27 30.1 +1.2**
ALE pP **pwP** **19 27 52.5 +0.3**
ALE ScP **ScP** **19 33 12.4 0.0**
SPR3 Spring Creek 3 40.02 88 P **P** **19 27 31.7 +1.6**
SPR3 IAmb IAmb 19 27 32.4
comp=Z,14nm,0.7s
MPMC Manual Prospec 40.02 94 P **P** **19 27 31.5 +1.5**
baz=312,SNR=44
S11A Rachel 40.03 90 P **P** **19 27 30.1 +0.1**
S11A IAmb IAmb 19 27 32.0
comp=Z,35nm,0.6s
WCT Wildcat Mounta 40.06 92 P **P** **19 27 31.4 +1.3**
HWUT Hardware Ranch 40.07 82 P **P** **19 27 31.3 +1.0**
FURC Furnace Creek, 40.13 93 P **P** **19 27 32.4 +1.8**
baz=311,SNR=33
SCZ2 Santa Cruz Isl 40.13 98 P **P** **19 27 31.9 +1.2**
baz=314,SNR=5.4
TPNV Topopah Spring 40.18 92 P **P** **19 27 32.6 +1.3**
TPNV Topopah Spring 40.18 92 P **P** **19 27 32.5 +1.3**
baz=311,SNR=44
TPNV Topopah Spring 40.18 92 P **P** **19 27 32.6 +1.3**
TPNV pmax pmax
comp=Z,120nm,0.8s
DUG Dugway, Tooele 40.19 85 P **P** **19 27 31.4 +0.2**
DUG IAmb IAmb 19 27 33.5
comp=Z,29nm,0.9s
DUG Dugway, Tooele 40.19 85 P **P** **19 27 32.5 +1.3**
baz=308,SNR=23
DUG Dugway, Tooele 40.19 85 P **P** **19 27 31.4 +0.2**
DUG pmax pmax
comp=Z,29nm,0.9s
OSI Osito Audit: C 40.25 96 P **P** **19 27 33.2 +1.5**
baz=313,SNR=5.1
BNX BinXian 40.29 286 ⇓P **P** **19 27 30.0 -1.8**
BNX pmax pmax
comp=Z,14nm,0.7s
BNX pmax pmax
comp=Z,280nm,5.3s
LRMC Laurel Mtn Rad 40.29 94 P **P** **19 27 33.1 +1.0**
baz=312,SNR=16
LAO LASA Array 40.30 73 P **P** **19 27 32.9 +0.9**
LAO IAmb IAmb 19 27 35.6
comp=Z,35nm,0.8s
LAO LASA Array 40.30 73 P **P** **19 27 32.1 +0.1**
baz=303,SNR=7.1
LAO LASA Array 40.30 73 P **P** **19 27 33.1 +1.1**
baz=303,SNR=7.1
CCAC Calif City Air 40.31 95 P **P** **19 27 31.8 -0.4**
GWY Greenwater Val 40.43 93 P **P** **19 27 34.4 +1.0**
QSM Queen of Sheba 40.46 93 P **P** **19 27 34.3 +0.9**
TCUT Toone Canyon 40.46 83 P **P** **19 27 34.3 +0.6**
DGMT Dagmar 40.49 69 P **P** **19 27 33.9 +0.4**
DGMT IAmb IAmb 19 27 35.4
comp=Z,133nm,1.8s
DGMT Dagmar 40.49 69 P **P** **19 27 32.7 -0.8**
baz=302,SNR=7.2
DGMT Dagmar 40.49 69 P **P** **19 27 34.0 +0.4**
baz=302,SNR=7.2
EDW2 Edwards Air Fo 40.51 95 P **P** **19 27 34.9 +1.0**
baz=313,SNR=19
CTU Camp Tracy 40.52 84 **P** **19 27 34.4 +0.4**
JGF Kuroka 40.57 266 P **P** **19 27 36.3 +2.0**
BW06 Boulder Array 40.58 80 P **P** **19 27 35.1 +0.6**
BW06 IAmb IAmb 19 27 36.2
comp=Z,35nm,0.7s
BW06 Boulder Array 40.58 80 P **P** **19 27 35.5 +0.9**
baz=306,SNR=56
PD31 Pinedale Array 40.58 80 P **P** **19 27 35.1 +0.6**
PD31 IAmb IAmb 19 27 36.2
comp=Z,31nm,0.7s
PDAR Pinedale Array 40.58 80 P **P** **19 27 35.2 +0.7**
comp=Z,28nm,0.6s,baz=292,slow=4.4,SNR=356
PDAR ScP **ScP** **19 33 15.9 +0.2**
comp=Z,2.1nm,0.9s,baz=225,slow=0.8,SNR=6.4
PDAR LR LR 19 42 19.6
comp=Z,115nm,18.0s,baz=316,slow=33
comp=Z,28nm,0.6s
PDAR Pinedale Array 40.58 80 P **P** **19 27 35.0 +0.4**
PRN Pahroc Range 40.60 90 P **P** **19 27 36.1 +1.4**
SNCC San Nicolas Is 40.72 99 P **P** **19 27 36.6 +1.0**
SNCC San Nicolas Is 40.72 99 P **P** **19 27 36.6 +1.0**
baz=314
DECC Green Verdugo 40.74 96 P **P** **19 27 36.7 +1.0**
baz=313,SNR=7.0
FCC Fort Churchill 40.75 51 P **P** **19 27 35.1 -0.3**
FCC IAmb IAmb 19 27 36.6
comp=Z,22nm,0.6s
FCC Fort Churchill 40.75 51 P **P** **19 27 35.1 -0.3**
FCC pmax pmax
comp=Z,22nm,0.6s
JLU Jordanelle 40.75 84 P **P** **19 27 36.4 +0.3**
NLU North Lily Min 40.78 85 P **P** **19 27 36.3 +0.1**
JHJ Hachijo jima 2 40.81 261 LR LR 19 41 22.3
comp=Z,260nm,20.4s,baz=133,slow=31
SHOC Shoshone, Teco 40.86 93 P **P** **19 27 37.9 +1.2**
baz=312,SNR=12
PASC Pasadena Art C 40.88 96 P **P** **19 27 37.5 +0.6**
PASC IAmb IAmb 19 27 39.0
comp=Z,54nm,0.9s
GSC Goldstone, Bar 40.94 94 P **P** **19 27 38.4 +1.0**
GSC Goldstone, Bar 40.94 94 P **P** **19 27 38.9 +1.5**
baz=312,SNR=81
GSC Goldstone, Bar 40.94 94 P **P** **19 27 38.4 +1.0**
GSC pmax pmax
comp=Z,148nm,0.9s
MPU Maple Canyon 41.01 84 P **P** **19 27 39.0 +1.0**
RRX Edison Barstow 41.12 95 P **P** **19 27 39.9 +1.2**
baz=313
SHPR Sheep Range 41.13 91 P **P** **19 27 39.5 +0.4**
FMP Fort Macarthur 41.13 97 P **P** **19 27 39.7 +0.8**
baz=314
BFSC Mount Baldy Ra 41.15 96 P **P** **19 27 40.3 +1.1**
baz=313,SNR=47
CIS Catalina Islan 41.28 97 P **P** **19 27 40.8 +0.7**
baz=314,SNR=5.2
BOD Bodaibo 41.34 308 *e*P **P** **19 27 39.7 -0.6**
BOD pmax pmax
comp=Z,91nm,1.9s
TUQ Turquoise Moun 41.38 93 P **P** **19 27 42.2 +1.1**
baz=312,SNR=7.4
TCRU Three Creeks R 41.40 87 P **P** **19 27 42.4 +1.0**
WTNK Soaring Height 41.43 91 P **P** **19 27 42.3 +0.9**
WTNK IAmb IAmb 19 27 44.0
comp=Z,20nm,1.2s
CCUT Cedar City 41.53 89 P **P** **19 27 43.1 +0.7**
HEC Hector,Ludlow 41.54 94 P **P** **19 27 43.4 +1.1**
baz=313,SNR=45
BBRC Big Bear Solar 41.58 95 P **P** **19 27 44.2 +1.3**
baz=313
TULEG Thule 41.60 20 P **P** **19 27 42.6 +0.4**
MVU Marysvale 41.61 87 P **P** **19 27 44.2 +1.2**
MSU Marysvale 41.63 87 P **P** **19 27 44.5 +1.3**
MSU Marysvale 41.63 87 P **P** **19 27 44.5 +1.3**
ELS Elsinore Mount 41.70 96 P **P** **19 27 44.2 +0.5**
TMUT Trail Mountain 41.71 85 P **P** **19 27 44.9 +1.0**
TMUT IAmb IAmb 19 27 46.7
comp=Z,52nm,0.8s
V12A Nelson 41.83 92 P **P** **19 27 46.1 +1.4**
V12A IAmb IAmb 19 27 47.4
comp=Z,75nm,1.1s
MURC Murrieta 41.87 96 P **P** **19 27 45.9 +0.9**
baz=314,SNR=14
P17A Butcher Ranch, 41.88 84 P **P** **19 27 46.3 +1.1**
RDMU Red Mountain 41.90 82 P **P** **19 27 46.5 +1.1**
RDMU IAmb IAmb 19 27 49.2
comp=Z,58nm,1.0s
MTPU Mount Pierson 41.92 87 P **P** **19 27 47.5 +1.7**
LCMT Little Creek M 41.95 89 P **P** **19 27 47.0 +1.2**
LCMT IAmb IAmb 19 27 48.3
comp=Z,31nm,0.8s
Q16A Castle Valley 41.97 85 P **P** **19 27 46.9 +0.9**
Q16A IAmb IAmb 19 27 48.5
comp=Z,39nm,1.0s
GMRC Granite Mounta 41.98 93 P **P** **19 27 47.3 +1.3**
baz=313,SNR=91
P18A Preston Nutter 42.08 84 P **P** **19 27 47.7 +0.7**
KNB Kanab 42.20 89 P **P** **19 27 49.2 +1.3**
KNB Kanab 42.20 89 P **P** **19 27 49.2 +1.3**
KNB pmax pmax
comp=Z,22nm,0.7s
PKCU Pink Cliffs 42.23 88 P **P** **19 27 49.7 +1.5**
PKCU IAmb IAmb 19 27 50.9
comp=Z,27nm,0.7s
SRU San Rafael Swe 42.24 85 P **P** **19 27 48.8 +0.7**
SRU San Rafael Swe 42.24 85 P **P** **19 27 48.8 +0.7**
SRU pmax pmax
comp=Z,26nm,0.8s
PFO Pinyon Flats O 42.30 95 LR LR 19 41 50.9
comp=Z,165nm,20.4s,baz=242,slow=31
PFO Pinyon Flats O 42.30 95 P **P** **19 27 49.2 +0.6**
PFO IAmb IAmb 19 27 50.7
comp=Z,97nm,1.3s
PFO Pinyon Flats O 42.30 95 P **P** **19 27 49.2 +0.6**
baz=314,SNR=11
PFO Pinyon Flats O 42.30 95 *i*P **P** **19 27 46.5 -2.1**
PFO pmax pmax
comp=Z,77nm,1.0s
PFO Pinyon Flats O 42.30 95 P **P** **19 27 49.5 +0.9**
PFO ScP **ScP** **19 33 22.9 +0.3**
TPFO Pinon Flats 42.31 95 P **P** **19 27 49.1 +0.5**
baz=314,SNR=9.0
BELC Belle Mtn. Jos 42.31 95 P **P** **19 27 49.6 +0.9**
baz=313,SNR=18
PMD Palm Desert 42.33 95 P **P** **19 27 49.3 +0.6**
PMD IAmb IAmb 19 27 50.5
comp=Z,57nm,0.9s
109C Camp Elliot, M 42.42 97 P **P** **19 27 50.5 +1.1**
109C Camp Elliot, M 42.42 97 P **P** **19 27 50.9 +1.5**
baz=314,SNR=12
K22A Casper 42.44 78 P **P** **19 27 48.4 -1.3**
K22A IAmb IAmb 19 27 51.2
comp=Z,28nm,0.7s
K22A Casper 42.44 78 P **P** **19 27 48.7 -1.0**
baz=307,SNR=13
K22A Casper 42.44 78 P **P** **19 27 50.0 +0.3**
baz=307,SNR=13
CN2 Changchun 42.55 285 *e*P **P** **19 27 49.3 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
RWWY Rawlins 42.62 79 P **P** **19 27 50.7 -0.6**
RWWY IAmb IAmb 19 27 52.4
comp=Z,40nm,0.8s
NEE2 Needles Airpor 42.62 93 P **P** **19 27 52.2 +1.2**
baz=313,SNR=7.4
HIA Hailar 42.69 294 P **P** **19 27 51.3 -0.2**
HIA IAmb IAmb 19 28 13.9
comp=Z,76nm,1.9s
HIA Hailar 42.69 294 P **P** **19 27 51.3 -0.2**
HIA pmax pmax
comp=Z,76nm,1.9s
IRM Iron Mountain 42.72 94 P **P** **19 27 53.0 +1.2**
baz=313,SNR=56
BAR Barrett 42.83 97 P **P** **19 27 53.6 +0.9**
MONP2 Monument Peak 42.83 96 P **P** **19 27 54.2 +1.2**
baz=314,SNR=26
W13A Hualapai Mount 42.84 92 P **P** **19 27 53.8 +0.7**
W13A IAmb IAmb 19 27 55.2
comp=Z,59nm,0.9s
BC3 Big Chuckawall 42.88 95 P **P** **19 27 54.0 +0.8**
baz=314,SNR=19
O20A White River Ci 42.96 82 P **P** **19 27 54.4 +0.4**
O20A White River Ci 42.96 82 P **P** **19 27 54.8 +0.8**
baz=308,SNR=57
RSSD Black Hills 43.03 74 P **P** **19 27 54.0 -0.5**
RSSD Black Hills 43.03 74 P **P** **19 27 54.8 +0.4**
baz=306,SNR=15
RSSD Black Hills 43.03 74 P **P** **19 27 54.7 +0.3**
baz=306
RSSD Black Hills 43.03 74 P **P** **19 27 54.0 -0.5**
RSSD Black Hills 43.03 74 P **P** **19 27 54.5 +0.1**
RSSD PcP **PcP** **19 29 43.6 +0.6**
RSSD ScP **ScP** **19 33 25.8 +0.4**
SWSC Sam W. Stewart 43.16 96 P **P** **19 27 56.5 +1.1**
baz=314,SNR=13
IKP In-Ko-Pah, Jac 43.18 96 P **P** **19 27 56.7 +1.0**
baz=314,SNR=22
YUH Yuha Desert 43.30 96 P **P** **19 27 57.0 +0.5**
YUH IAmb IAmb 19 27 58.6
comp=Z,67nm,1.0s
BLYC Blythe 43.37 94 P **P** **19 27 58.0 +1.0**
MDND Maddock 43.41 67 P **P** **19 27 57.5 +0.3**
MDND Maddock 43.41 67 P **P** **19 27 57.9 +0.7**
baz=304
E28A Huff 43.52 69 P **P** **19 27 58.6 +0.4**
E28A IAmb IAmb 19 28 01.8
comp=Z,56nm,1.0s
E28A Huff 43.52 69 P **P** **19 27 58.1 0.0**
baz=305
PV23 Carpenter Ridg 43.57 84 P **P** **19 27 59.6 +0.6**
GLA Glamis 43.67 95 P **P** **19 27 59.8 +0.2**
GLA Glamis 43.67 95 P **P** **19 28 00.7 +1.2**
baz=314,SNR=28
GLA Glamis 43.67 95 P **P** **19 27 59.8 +0.2**
GLA pmax pmax
comp=Z,103nm,1.0s
PV11 David Mesa, Pa 43.75 84 P **P** **19 28 00.3 0.0**
PV07 Paradox Valley 43.80 84 P **P** **19 28 00.8 +0.1**
PV07 IAmb IAmb 19 28 02.6
comp=Z,41nm,1.1s
JCJ Chichijima 43.80 253 LR LR 19 44 51.0
comp=Z,94nm,19.4s,baz=69,slow=34
N23A Red Feather La 43.86 79 P **P** **19 28 01.6 +0.4**
N23A Red Feather La 43.86 79 P **P** **19 28 02.1 +0.9**
baz=308,SNR=15
PV13 Radium Mtn., P 43.87 84 P **P** **19 28 01.9 +0.5**
PHWY Pilot Hill 43.90 79 P **P** **19 28 01.2 -0.3**
PV15 Paradox Valley 43.96 84 P **P** **19 28 02.0 -0.1**
PV15 IAmb IAmb 19 28 04.0
comp=Z,42nm,0.9s
WUAZ Wupatki 44.07 89 P **P** **19 28 03.3 +0.4**
WUAZ IAmb IAmb 19 28 05.3
comp=Z,65nm,0.7s
WUAZ Wupatki 44.07 89 P **P** **19 28 04.2 +1.4**
baz=312,SNR=7.1
ULM Lac du Bonnet 44.11 62 P **P** **19 28 02.5 -0.3**
comp=Z,13nm,0.4s,baz=310,slow=8.2,SNR=25
ULM PcP **PcP** **19 29 46.2 0.0**
comp=Z,5.9nm,0.6s,baz=315,slow=2.9,SNR=3.2
ULM ScP **ScP** **19 33 30.1 +0.7**
comp=Z,4.2nm,0.7s,baz=326,slow=4.1,SNR=5.7
comp=Z,13nm,0.4s
ULM Lac du Bonnet 44.11 62 P **P** **19 28 02.4 -0.4**
ULM IAmb IAmb 19 28 05.2
comp=Z,155nm,2.0s
Y14A Wickenburg 44.16 92 P **P** **19 28 03.1 -0.4**
113A Mohawk Valley, 44.51 94 P **P** **19 28 06.3 +0.1**
113A IAmb IAmb 19 28 08.1
comp=Z,61nm,1.2s
MVCO Mesa Verde 44.69 85 P **P** **19 28 07.8 0.0**
MVCO Mesa Verde 44.69 85 P **P** **19 28 08.2 +0.4**
baz=311,SNR=8.9
ISCO Idaho Springs 44.74 80 P **P** **19 28 08.1 -0.2**
ISCO Idaho Springs 44.74 80 P **P** **19 28 09.2 +0.9**
baz=309,SNR=14
ISCO Idaho Springs 44.74 80 P **P** **19 28 09.2 +0.9**
baz=309,SNR=14
ISCO Idaho Springs 44.74 80 P **P** **19 28 08.1 -0.2**
ISCO pmax pmax
comp=Z,9.0nm,0.7s
NOR Nord 44.83 5 P **P** **19 28 08.4 +0.2**
NOR pmax pmax
comp=Z,13nm,1.7s
BRIGG Briggsdale 45.02 79 P **P** **19 28 10.6 +0.3**
BRIGG IAmb IAmb 19 28 12.3
comp=Z,41nm,0.6s
KSRS Korea Array 45.03 276 P **P** **19 28 10.4 +0.2**
comp=Z,6.9nm,0.6s,baz=54,slow=7.4,SNR=30
KSRS pP **pwP** **19 28 33.5 -0.4**
comp=Z,6.0nm,0.6s,baz=55,slow=7.3,SNR=6.7
KSRS PcP **PcP** **19 29 50.4 +0.8**
comp=Z,6.0nm,0.9s,baz=56,slow=3.7,SNR=8.0
KSRS ScP **ScP** **19 33 34.5 +1.0**
comp=Z,3.3nm,0.8s,baz=57,slow=4.6,SNR=7.9
KSRS LR LR 19 45 57.5
comp=Z,61nm,21.7s,baz=60,slow=34
comp=Z,6.9nm,0.6s
KS19 Wonju Array Si 45.03 276 P **P** **19 28 10.3 +0.1**
KS19 IAmb IAmb 19 29 29.6
comp=Z,90nm,1.8s
KSAR Wonju Array Be 45.06 276 P **P** **19 28 09.4 -1.0**
KSAR Wonju Array Be 45.06 276 P **P** **19 28 09.5 -1.0**
AGMN Agassiz Nation 45.22 65 P **P** **19 28 11.9 +0.3**
AGMN Agassiz Nation 45.22 65 P **P** **19 28 12.2 +0.6**
baz=305,SNR=18
AGMN Agassiz Nation 45.22 65 P **P** **19 28 12.6 +1.0**
baz=305,SNR=18
D32A Dogwood Acres, 45.25 67 P **P** **19 28 11.4 -0.5**
D32B Dogwood Acres, 45.25 67 P **P** **19 28 11.8 -0.1**
baz=306
W18A Petrified Fore 45.33 88 P **P** **19 28 13.8 +0.9**
W18A IAmb IAmb 19 28 15.2
comp=Z,44nm,0.8s
W18A Petrified Fore 45.33 88 P **P** **19 28 13.8 +0.9**
baz=312,SNR=27
S22A 4UR Ranch, Cre 45.34 83 P **P** **19 28 13.9 +0.9**
S22A 4UR Ranch, Cre 45.34 83 P **P** **19 28 14.4 +1.3**
baz=311,SNR=23
Q24A Divide 45.55 81 P **P** **19 28 14.5 -0.2**
Q24A Divide 45.55 81 P **P** **19 28 15.5 +0.7**
baz=310,SNR=6.3
X18A Snowflake 45.60 89 P **P** **19 28 16.0 +0.9**
X18A IAmb IAmb 19 28 17.6
comp=Z,41nm,1.0s
214A Organ Pipe Nat 45.66 94 P **P** **19 28 16.1 +0.8**
214A Organ Pipe Nat 45.66 94 P **P** **19 28 16.4 +1.1**
baz=315,SNR=60
NRIK Noril'sk 45.69 331 P **P** **19 28 15.5 +0.5**
comp=Z,8.7nm,0.6s,baz=77,slow=9.0,SNR=12
NRIK ScP **ScP** **19 33 36.2 +0.6**
comp=Z,2.6nm,0.7s,baz=85,slow=4.2,SNR=4.7
NRIK LR LR 19 48 21.8
comp=Z,240nm,20.6s,baz=60,slow=37
comp=Z,8.7nm,0.6s
NRIK Noril'sk 45.69 331 P **P** **19 28 15.2 +0.1**
NRIK IAmb IAmb 19 28 18.3
comp=Z,61nm,1.6s
NRIK Noril'sk 45.69 331 *ce*P **P** **19 28 13.0 -2.1**
NRIK pmax pmax
comp=Z,13nm,1.1s
SUSD Miller 45.76 71 P **P** **19 28 16.0 -0.1**
SUSD Miller 45.76 71 P **P** **19 28 15.9 -0.1**
baz=307
SUSD Miller 45.76 71 P **P** **19 28 16.1 +0.2**
baz=307
TJN Taejon 46.08 275 P **P** **19 28 18.0 -0.5**
TJN Taejon 46.08 275 P **P** **19 28 19.3 +0.8**
TJN Taejon 46.08 275 *ce*P **P** **19 28 17.3 -1.2**
SDCO Great Sand Dun 46.13 82 P **P** **19 28 20.1 +0.7**
SDCO Great Sand Dun 46.13 82 P **P** **19 28 20.4 +1.1**
baz=311,SNR=6.4
SDCO Great Sand Dun 46.13 82 P **P** **19 28 20.4 +1.1**
baz=311,SNR=6.4
OGNE Ogallala 46.14 77 P **P** **19 28 19.3 +0.2**
OGNE IAmb IAmb 19 28 21.2
comp=Z,41nm,0.8s
OGNE Ogallala 46.14 77 P **P** **19 28 19.9 +0.8**
baz=309,SNR=8.8
OGNE Ogallala 46.14 77 P **P** **19 28 19.5 +0.4**
baz=309,SNR=8.8
JNU Nakatsue 46.17 269 P **P** **19 28 19.3 0.0**
comp=Z,13nm,0.9s,baz=25,slow=6.1,SNR=8.4
JNU pP **pP** **19 28 42.2 +1.4**
comp=Z,11nm,0.7s,baz=18,slow=3.2,SNR=2.8
JNU LR LR 19 46 33.8
comp=Z,163nm,20.5s,baz=48,slow=34
comp=Z,13nm,0.9s
JNU Nakatsue 46.17 269 P **P** **19 28 19.8 +0.5**
JNU IAmb IAmb 19 29 21.8
comp=Z,42nm,1.2s
F33A 5 Mile Ranch, 46.42 68 P **P** **19 28 20.6 -0.5**
F33A IAmb IAmb 19 28 22.0
comp=Z,42nm,1.3s
F33A 5 Mile Ranch, 46.42 68 P **P** **19 28 21.1 0.0**
baz=307,SNR=7.7
TUC Tucson 46.63 92 P **P** **19 28 23.4 +0.4**
TUC IAmb IAmb 19 28 25.4
comp=Z,46nm,0.9s
TUC Tucson 46.63 92 P **P** **19 28 24.0 +1.1**
baz=314
TUC Tucson 46.63 92 P **P** **19 28 23.4 +0.4**
TUC pmax pmax
comp=Z,46nm,0.9s
TUC Tucson 46.63 92 P **P** **19 28 24.1 +1.1**
TUC pP **pP** **19 28 45.1 +0.2**
K31A O'Neill 46.99 73 P **P** **19 28 25.4 -0.3**
K31A IAmb IAmb 19 28 27.4
comp=Z,62nm,1.2s
K31A O'Neill 46.99 73 P **P** **19 28 25.9 +0.2**
baz=309
KSCO Kaye Shedlock' 47.02 79 P **P** **19 28 26.6 +0.5**
KSCO IAmb IAmb 19 28 28.1
comp=Z,49nm,0.6s
KSCO Kaye Shedlock' 47.02 79 P **P** **19 28 27.4 +1.3**
baz=310,SNR=8.5
KSCO Kaye Shedlock' 47.02 79 P **P** **19 28 27.2 +1.1**
baz=310,SNR=8.5
T25A Trinidad 47.19 82 P **P** **19 28 28.2 +0.8**
T25A IAmb IAmb 19 28 29.6
comp=Z,58nm,0.9s
T25A Trinidad 47.19 82 P **P** **19 28 28.7 +1.3**
baz=311,SNR=8.9
ANMO Albuquerque 47.43 86 LR LR 19 45 49.2
comp=Z,222nm,22.0s,baz=39,slow=33
ANMO Albuquerque 47.43 86 P **P** **19 28 29.6 +0.3**
ANMO Albuquerque 47.43 86 P **P** **19 28 30.0 +0.7**
baz=313,SNR=16
ANMO Albuquerque 47.43 86 P **P** **19 28 29.9 +0.6**
baz=313
ANMO Albuquerque 47.43 86 *ce*P **P** **19 28 27.0 -2.3**
ANMO pmax pmax
comp=Z,20nm,1.3s
ANMO Albuquerque 47.43 86 P **P** **19 28 30.1 +0.7**
ANMO pP **pP** **19 28 52.2 +0.9**
ANMO PcP **PcP** **19 29 59.9 +1.6**
ANMO PP **PP** **19 30 23.1 +2.0**
ANMO ScP **ScP** **19 33 45.2 +1.4**
DUN6 Lazy B Ranch 47.48 90 P **P** **19 28 30.9 +1.2**
DUN6 IAmb IAmb 19 28 31.9
comp=Z,97nm,0.9s
ECSD EROS Data Cent 47.53 70 P **P** **19 28 28.9 -0.8**
ECSD EROS Data Cent 47.53 70 P **P** **19 28 29.2 -0.6**
baz=308,SNR=17
ECSD EROS Data Cent 47.53 70 P **P** **19 28 29.2 -0.6**
baz=308,SNR=17
JSU Suzuyama 47.55 268 P **P** **19 28 30.2 +0.1**
JSU IAmb IAmb 19 29 55.8
comp=Z,104nm,1.6s
SBM South Baldy 47.65 88 P **P** **19 28 33.5 +2.3**
Y22F Passcal Instru 47.74 87 P **P** **19 28 30.6 -1.1**
baz=313
Y22D IRIS PASSCAL I 47.74 87 P **P** **19 28 31.9 +0.2**
Y22D IRIS PASSCAL I 47.74 87 P **P** **19 28 30.2 -1.5**
baz=313
EYMN Ely 47.79 63 P **P** **19 28 31.6 -0.1**
EYMN IAmb IAmb 19 28 34.5
comp=Z,25nm,0.6s
EYMN Ely 47.79 63 P **P** **19 28 32.0 +0.3**
baz=307,SNR=12
EYMN Ely 47.79 63 P **P** **19 28 31.4 -0.3**
baz=307,SNR=12
Y22A Socorro 47.81 87 P **P** **19 28 34.0 +1.7**
baz=314,SNR=49
XLT XiLinHaoTe 47.88 290 *e*P **P** **19 28 32.8 +0.2**
XLT pmax pmax
comp=Z,9.0nm,1.9s
XLT pmax pmax
comp=Z,380nm,5.7s
CRNM Carthage 47.94 87 P **P** **19 28 34.1 +0.8**
F36A Milaca 47.95 66 P **P** **19 28 32.9 -0.1**
F36A Milaca 47.95 66 P **P** **19 28 33.2 +0.3**
baz=308,SNR=9.5
BGNE Belgrade 48.11 74 P **P** **19 28 34.1 -0.2**
BGNE Belgrade 48.11 74 P **P** **19 28 34.4 +0.1**
baz=309
319A Douglas 48.19 92 P **P** **19 28 35.2 +0.1**
319A IAmb IAmb 19 28 37.4
comp=Z,35nm,1.0s
121A Cookes Peak, D 48.28 89 P **P** **19 28 36.9 +1.0**
121A IAmb IAmb 19 28 38.2
comp=Z,51nm,0.8s
121A Cookes Peak, D 48.28 89 P **P** **19 28 37.4 +1.4**
baz=314,SNR=35
121A Cookes Peak, D 48.28 89 P **P** **19 28 36.7 +0.7**
baz=314,SNR=35

E38A The Farm, Brul 48.57 64 P P 19 28 37.5 -0.2
E38A IAmb IAmb 19 28 39.0
comp=Z,40nm,0.7s
E38A The Farm, Brul 48.57 64 P P 19 28 38.0 +0.3
baz=308,SNR=11
FRB Frobisher Bay 48.61 36 LR LR 19 50 15.7
comp=Z,304nm,19.7s,baz=301,slow=37
SPMN Marine on St. 48.74 66 P P 19 28 38.8 -0.2
SPMN IAmb IAmb 19 28 39.7
comp=Z,19nm,0.7s
SPMN Marine on St. 48.74 66 P P 19 28 38.4 -0.6
baz=308
SPMN Marine on St. 48.74 66 P P 19 28 39.0 -0.1
baz=308
L34A Svendsen Farm, 48.78 72 P P 19 28 39.1 -0.3
L34A Svendsen Farm, 48.78 72 P P 19 28 38.9 -0.5
baz=310
CBKS Cedar Bluff 48.86 77 P P 19 28 40.3 +0.2
CBKS IAmb IAmb 19 28 42.1
comp=Z,53nm,0.8s
CBKS pP 19 29 01.3 -0.9
CBKS Cedar Bluff 48.86 77 P P 19 28 41.0 +0.9
baz=311,SNR=12
CBKS Cedar Bluff 48.86 77 P P 19 28 40.4 +0.3
baz=311,SNR=12
HSIG 48.87 95 P P 19 28 40.3 +0.1
HSIG IAmb IAmb 19 28 41.5
comp=Z,22nm,0.7s
N33A J Bar K, Exete 48.95 74 P P 19 28 40.3 -0.4
SPA0 Spitsbergen Ar 48.99 358 eP P 19 28 41.1 +0.6
SPITS Spitsbergen Ar 48.99 358 LR LR 19 49 14.5
comp=Z,234nm,20.3s,baz=323,slow=36
I37A Lemond, Waseca 49.17 68 P P 19 28 42.1 -0.2
I37B Waseca 49.17 68 P P 19 28 42.4 +0.1
baz=309,SNR=6.8
SRIG Santa Rosalia 49.34 98 P P 19 28 44.0 +0.2
SRIG IAmb IAmb 19 28 45.4
comp=Z,68nm,1.1s
R32A Long Quarter, 49.72 77 P P 19 28 46.9 +0.2
R32A IAmb IAmb 19 28 49.8
comp=Z,73nm,1.3s
R32A Long Quarter, 49.72 77 P P 19 28 45.7 -0.9
baz=312
D41A Chassel 49.90 62 P P 19 28 48.5 +0.7
D41A Chassel 49.90 62 P P 19 28 48.6 +0.8
baz=309
N35A Tabor 49.91 73 P P 19 28 48.2 +0.1
N35A Tabor 49.91 73 P P 19 28 48.4 +0.4
baz=311,SNR=9.5
G40A Rib Lake 50.15 65 P P 19 28 49.2 -0.5
G40A IAmb IAmb 19 28 50.7
comp=Z,35nm,1.1s
G40A Rib Lake 50.15 65 P P 19 28 50.0 +0.3
baz=309,SNR=5.1
CPRX Cap Rock 50.30 86 P P 19 28 52.1 +0.9
MSTX Muleshoe 50.31 84 P P 19 28 51.5 +0.2
MSTX IAmb IAmb 19 28 55.5
comp=Z,34nm,0.8s
MSTX Muleshoe 50.31 84 P P 19 28 51.9 +0.6
baz=314,SNR=14
MSTX Muleshoe 50.31 84 P P 19 28 51.9 +0.6
baz=314,SNR=14
MNTX Cornudas Mount 50.32 88 P P 19 28 52.3 +1.0
MNTX Cornudas Mount 50.32 88 P P 19 28 52.5 +1.2
baz=315,SNR=108
MNTX Cornudas Mount 50.32 88 P P 19 28 52.3 +1.0
baz=315,SNR=108
ULN Ulaanbaatar 50.34 300 P P 19 28 50.5 -0.8
ULN IAmb IAmb 19 30 09.9
comp=Z,25nm,0.7s
ULN Ulaanbaatar 50.34 300 ceP P 19 28 50.0 -1.3
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 50.34 300 P P 19 28 51.2 -0.2
ULN pP pP 19 29 13.4 +0.4
ULN PcP PcP 19 30 09.1 +0.4
ULN ScP ScP 19 33 55.6 -0.3
AMTX Amarillo 50.34 83 P P 19 28 51.7 +0.2
AMTX IAmb IAmb 19 29 39.2
comp=Z,51nm,0.9s
AMTX Amarillo 50.34 83 P P 19 28 51.4 0.0
baz=313
AMTX Amarillo 50.34 83 P P 19 28 51.9 +0.4
baz=313
K38A Parkersburg 50.39 69 P P 19 28 51.4 -0.2
K38A IAmb IAmb 19 28 54.2
comp=Z,42nm,1.2s
K38A Parkersburg 50.39 69 P P 19 28 51.0 -0.6
baz=310
KSU1 Kansas State U 50.50 75 P P 19 28 51.2 -1.3
KSU1 IAmb IAmb 19 28 54.4
comp=Z,22nm,0.6s
KSU1 Kansas State U 50.50 75 P P 19 28 51.8 -0.7
baz=312
KSU1 Kansas State U 50.50 75 P P 19 28 52.2 -0.4
baz=311
GDL2 Guadalupe Moun 50.58 87 P P 19 28 54.1 +0.8
SCIA State Center 50.62 70 P P 19 28 53.2 -0.1
SCIA IAmb IAmb 19 28 54.5
comp=Z,37nm,0.9s
SCIA State Center 50.62 70 P P 19 28 53.3 -0.1
baz=310
SCIA State Center 50.62 70 P P 19 28 53.0 -0.4
baz=310
ZAK Zakamensk 50.69 304 eP P 19 28 53.8 -0.1
ZAK pmax pmax
comp=Z,4.0nm,1.6s
SONM Songino Array 50.70 300 P P 19 28 54.1 0.0
comp=Z,3.2nm,0.6s,baz=68,slow=4.5,SNR=29
SONM pP pP 19 29 16.6 +0.8
comp=Z,8.9nm,1.1s,baz=61,slow=6.3,SNR=8.6
SONM PcP PcP 19 30 10.4 +0.4
comp=Z,20nm,0.6s,baz=64,slow=2.5,SNR=35
SONM ScP ScP 19 33 57.3 -0.1
comp=Z,13nm,0.6s,baz=50,slow=3.6,SNR=48
comp=Z,3.2nm,0.6s
SONM Songino Array 50.70 300 P P 19 28 53.4 -0.6
SONM IAmb IAmb 19 30 11.3
comp=Z,24nm,0.6s
NOKA Waynoka 50.79 79 P 19 28 54.8 +0.1
NOKA IAmb IAmb 19 28 55.7
comp=Z,33nm,0.8s
I40A Norwalk 50.79 66 P P 19 28 54.8 +0.2
I40A IAmb IAmb 19 28 58.6
comp=Z,48nm,1.2s
I40A Norwalk 50.79 66 P P 19 28 54.9 +0.2
baz=310
CLNB Carlsbad 50.83 87 P P 19 28 55.4 +0.2
HTMS Hat Mesa 50.83 86 P P 19 28 55.4 +0.2
OK035 E0210 Rd and N 50.87 79 P 19 28 55.4 +0.1
ELIS Ellis County 50.88 80 P P 19 28 55.5 0.0
ELIS IAmb IAmb 19 28 56.8
comp=Z,46nm,0.8s
U32A Winter Ranch, 50.92 79 P 19 28 55.8 +0.1
U32A Winter Ranch, 50.92 79 P P 19 28 55.8 +0.1
baz=313
F42A Maple Grove Fa 50.95 63 P P 19 28 56.0 +0.2
F42A Maple Grove Fa 50.95 63 P P 19 28 56.4 +0.5
baz=310
MOY Mondy 51.00 307 eP P 19 28 58.6 +2.4
MOY pmax pmax
comp=Z,40nm,1.4s
OK038 West end E0370 51.00 79 P 19 28 56.4 +0.1
OK038 IAmb IAmb 19 28 58.9
comp=Z,41nm,0.9s
OK032 Salt Plains WL 51.10 78 P P 19 28 56.8 -0.2
E43A Lone Tree Farm 51.17 62 P P 19 28 57.6 +0.2
E43A Lone Tree Farm 51.17 62 P P 19 28 57.9 +0.4
baz=310,SNR=9.7
N38A Joes South For 51.34 71 P P 19 28 57.9 -0.8
N38A Joes South For 51.34 71 P P 19 28 58.4 -0.4
baz=311,SNR=9.3
CROK Carrier 51.44 78 P P 19 28 58.8 -0.7
CROK IAmb IAmb 19 29 00.6
comp=Z,39nm,0.7s
CSTR Hydro, Custer 51.60 80 P P 19 29 01.2 +0.3
CSTR IAmb IAmb 19 29 04.1
comp=Z,6.4nm,1.4s
JFWS Jewell Farm 51.63 67 P P 19 29 00.1 -0.7
JFWS IAmb IAmb 19 29 04.3
comp=Z,84nm,1.6s
JFWS Jewell Farm 51.63 67 P P 19 29 00.2 -0.7
baz=311
JFWS Jewell Farm 51.63 67 P P 19 29 00.1 -0.7
baz=310
JFWS Jewell Farm 51.63 67 P P 19 29 00.2 -0.7
pmax pmax
comp=Z,84nm,1.6s
L40A Anamosa 51.64 69 P P 19 29 00.5 -0.6
L40A IAmb IAmb 19 29 02.6
comp=Z,64nm,1.5s
L40A Anamosa 51.64 69 P P 19 29 00.4 -0.6
baz=311
BLOK Blackwell 51.72 78 P 19 29 01.7 +0.1
BLOK IAmb IAmb 19 29 03.7
comp=Z,105nm,1.7s
I42A Draeger Farm, 51.73 65 P P 19 29 01.3 -0.3
I42A IAmb IAmb 19 29 02.4
comp=Z,62nm,1.2s
I42A Draeger Farm, 51.73 65 P P 19 29 01.4 -0.3
baz=311
SFJD Kangerlussuaq 51.90 26 LR LR 19 54 56.9
comp=Z,199nm,18.3s,baz=316,slow=40
P38A Dawn 51.94 72 P P 19 29 02.4 -0.8
P38A Dawn 51.94 72 P P 19 29 02.7 -0.5
baz=312,SNR=13
H43A Windswept, Lux 51.98 64 P P 19 29 02.4 -1.0
H43A Windswept, Lux 51.98 64 P P 19 29 03.7 +0.2
baz=311
T35A Sooner Cattle 52.02 77 P P 19 29 03.2 -0.7
T35B Sooner Cattle 52.02 77 P P 19 29 04.0 +0.1
baz=313
OK045 Pawnee Station 52.10 78 P P 19 29 03.9 -0.6
OK045 IAmb IAmb 19 29 27.5
comp=Z,36nm,0.7s
OK048 Pawnee Station 52.11 78 P P 19 29 04.4 -0.2
OK048 IAmb IAmb 19 29 05.6
comp=Z,32nm,0.8s
OK046 Pawnee Station 52.14 78 P 19 29 04.5 -0.3
OK046 IAmb IAmb 19 29 05.9
comp=Z,40nm,0.8s
WMOK Wichita Mounta 52.17 81 P 19 29 05.2 +0.2
WMOK IAmb IAmb 19 29 06.7
comp=Z,42nm,0.8s
WMOK Wichita Mounta 52.17 81 P P 19 29 05.6 +0.5
baz=314,SNR=36
WMOK Wichita Mounta 52.17 81 P P 19 29 05.1 +0.1
baz=314,SNR=36
WMOK Wichita Mounta 52.17 81 P P 19 29 05.2 +0.1
WMOK pmax pmax
comp=Z,42nm,0.8s
OK044 Pawnee Station 52.23 78 P 19 29 04.8 -0.6
OK044 IAmb IAmb 19 29 08.7
comp=Z,36nm,1.0s
OK029 Liberty Lake 52.23 79 P 19 29 05.5 +0.1
BCOK Bluff Creek, N 52.23 79 P 19 29 04.7 -0.7
BCOK IAmb IAmb 19 29 06.3
comp=Z,32nm,0.6s
JOW Kunigami 52.24 265 LR LR 19 47 42.8
comp=Z,83nm,21.9s,baz=283,slow=32
OK033 Mehan 52.37 78 P 19 29 05.4 -1.0
OK033 IAmb IAmb 19 29 07.1
comp=Z,41nm,0.7s
HHC Hu-ho-hao-te 52.40 290 eP P 19 29 06.2 -0.6
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,440nm,5.1s
QUOK Quay 52.42 78 P 19 29 06.2 -0.6
QUOK IAmb IAmb 19 29 07.3
comp=Z,21nm,0.8s
OK025 Westminster Rd 52.45 79 P P 19 29 06.5 -0.6
OK025 IAmb IAmb 19 29 07.8
comp=Z,24nm,0.6s
OK053 SW of W Deep R 52.48 78 P 19 29 06.7 -0.6
OK053 IAmb IAmb 19 29 07.9
comp=Z,28nm,0.8s
OK052 Battle Ridge R 52.48 78 P P 19 29 07.1 -0.2
OK052 IAmb IAmb 19 29 08.0
comp=Z,33nm,0.7s
OK031 S. Brethren Rd 52.49 78 P P 19 29 07.3 0.0
OK031 IAmb IAmb 19 29 08.1
comp=Z,44nm,0.7s
OK030 Cody Creek RV 52.54 78 P P 19 29 07.1 -0.6
OK030 IAmb IAmb 19 29 08.4
comp=Z,38nm,0.8s
L42A Oliver, Polo 52.55 68 P P 19 29 07.0 -0.8
L42A IAmb IAmb 19 31 00.2
comp=Z,31nm,1.2s
E46A Sault Ste Mari 52.60 60 P P 19 29 08.2 +0.2
E46A Sault Ste Mari 52.60 60 P P 19 29 08.4 +0.4
baz=311,SNR=7.5
FNO Franklin 52.63 79 P 19 29 08.5 +0.1
N41A Harden Midland 52.75 70 P P 19 29 08.7 -0.5
N41A IAmb IAmb 19 29 11.4
comp=Z,60nm,1.2s
N41A Harden Midland 52.75 70 P P 19 29 08.1 -1.0
baz=312,SNR=8.5
DEOK Depew 52.76 78 P 19 29 09.6 +0.2
DEOK IAmb IAmb 19 29 12.3
comp=Z,35nm,1.1s
X34A Smith Ranch, M 52.83 80 P 19 29 10.7 +0.8
X34A IAmb IAmb 19 29 16.7
comp=Z,30nm,0.9s
P40A Paris 52.85 72 P P 19 29 09.0 -1.0
P40A Paris 52.85 72 P P 19 29 09.3 -0.6
baz=312,SNR=36
LPIG La Paz 52.90 99 LR LR 19 46 00.5
comp=Z,108nm,20.2s,baz=308,slow=29
HNS HongShan 52.91 285 ⇓P P 19 29 10.8 +0.4
HNS pP pP 19 29 33.1 +0.7
HNS PcP PcP 19 30 18.6 +0.4
HNS S S 19 36 34.9 +2.6
HNS pmax pmax
comp=Z,20nm,1.0s
TX31 Lajitas Ar. Si 53.04 89 P P 19 29 12.1 +0.5
TX31 Lajitas Ar. Si 53.04 89 P P 19 29 12.4 +0.8
baz=316,SNR=167
TX32 Lajitas Array 53.04 89 P P 19 29 12.1 +0.5
TXAR Lajitas Array 53.04 89 P P 19 29 12.1 +0.5
TXAR Lajitas Array 53.04 89 P P 19 29 12.1 +0.5
ABTX Abilene, Hawle 53.12 83 P P 19 29 12.6 +0.5
ABTX Abilene, Hawle 53.12 83 P P 19 29 13.0 +0.9
baz=315,SNR=11
ABTX Abilene, Hawle 53.12 83 P P 19 29 13.0 +0.9
baz=315,SNR=11
TUL1 Leonard 53.13 77 P P 19 29 11.7 -0.4
TUL1 Leonard 53.13 77 P P 19 29 12.0 -0.1
baz=313
GUMO Guam 53.17 240 LR LR 19 49 20.7
comp=Z,56nm,21.0s,baz=43,slow=33
S39A Bolivar 53.36 74 P P 19 29 11.8 -2.0
RLO Rose Lookout 53.41 77 P P 19 29 13.4 -0.8
RLO IAmb IAmb 19 29 14.4
comp=Z,17nm,0.8s
L44A Lake County Fo 53.41 66 P P 19 29 13.7 -0.4
L44A IAmb IAmb 19 29 16.3
comp=Z,50nm,1.1s
L44A Lake County Fo 53.41 66 P P 19 29 14.6 +0.5
baz=312
SLBS Sierra La Lagu 53.43 99 P P 19 29 14.4 -0.1
SLBS IAmb IAmb 19 29 16.3
comp=Z,44nm,0.9s
SLBS Sierra La Lagu 53.43 99 P P 19 29 14.8 +0.3
BTO Baotou 53.44 291 eP P 19 29 14.4 0.0
BTO LR LR
comp=Z,2µm,21.1s
BTO LR LR
comp=Z,2µm,14.1s
R40A Maddies Statio 53.56 73 P P 19 29 13.5 -1.7
R40A IAmb IAmb 19 29 14.4
comp=Z,30nm,0.6s
R40A Maddies Statio 53.56 73 P P 19 29 13.8 -1.4
baz=313,SNR=20
HPIG 53.58 93 P P 19 29 15.8 +0.1
HPIG IAmb IAmb 19 29 17.3
comp=Z,30nm,1.0s
U38A Gravette 53.60 76 P P 19 29 14.3 -1.2
U38A IAmb IAmb 19 29 15.4
comp=Z,16nm,0.6s
U38A Gravette 53.60 76 P P 19 29 14.5 -1.0
baz=314
LOOK Love County 53.64 80 P 19 29 16.1 +0.2
LOOK IAmb IAmb 19 29 17.4
comp=Z,68nm,0.7s
HDIL Hopedale 53.73 69 P P 19 29 15.6 -0.8
HDIL IAmb IAmb 19 29 17.0
comp=Z,59nm,1.0s
HDIL Hopedale 53.73 69 P P 19 29 15.8 -0.6
baz=312
HDIL Hopedale 53.73 69 P P 19 29 15.5 -0.8
baz=312
M44A Midewin, Midew 53.87 67 P P 19 29 16.8 -0.6
M44A IAmb IAmb 19 29 19.6
comp=Z,43nm,1.1s
M44A Midewin, Midew 53.87 67 P P 19 29 17.0 -0.4
baz=312
HHAR Hobbs 53.97 76 P P 19 29 16.9 -1.3
Z35A Perchaven, San 54.06 81 P P 19 29 18.7 -0.2
Z35A IAmb IAmb 19 29 19.9
comp=Z,40nm,0.8s
Z35A Perchaven, San 54.06 81 P P 19 29 18.9 +0.1
baz=315
FW06 Azle 54.13 81 P P 19 29 19.8 +0.4
FW06 IAmb IAmb 19 29 20.7
comp=Z,64nm,0.7s
NJ2 Nanjing 54.16 277 eP P 19 29 20.1 +0.5
NJ2 pmax pmax
comp=Z,11nm,0.6s
P43A Skaggs, Pawnee 54.22 70 P P 19 29 18.9 -1.1
P43A IAmb IAmb 19 29 20.1
comp=Z,28nm,0.6s
X37A Clayton 54.30 78 P 19 29 20.8 +0.3
X37A Clayton 54.30 78 P P 19 29 21.1 +0.5
baz=314,SNR=16
CCM Cathedral Cave 54.31 72 P P 19 29 18.9 -1.8
CCM Cathedral Cave 54.31 72 P P 19 29 19.2 -1.5
baz=313,SNR=5.3
CCM Cathedral Cave 54.31 72 P P 19 29 19.9 -0.8
baz=313
CCM Cathedral Cave 54.31 72 P P 19 29 18.9 -1.8
CCM pmax pmax
comp=Z,9.0nm,0.7s
CCM Cathedral Cave 54.31 72 P P 19 29 19.2 -1.5
CCM PcP PcP 19 30 23.0 -0.6
CCM ScP ScP 19 34 12.9 -0.2
MGMO Mountain Grove 54.34 74 P P 19 29 18.9 -2.0
J47A Sunmer 54.40 64 P P 19 29 21.3 +0.1
O44A Mansfield 54.47 69 P P 19 29 20.8 -0.9
O44A IAmb IAmb 19 29 21.7
comp=Z,15nm,0.6s
O44A Mansfield 54.47 69 P P 19 29 21.1 -0.7
baz=313
SLM Saint Louis 54.50 71 P P 19 29 20.5 -1.5
SLM IAmb IAmb 19 29 22.1
comp=Z,27nm,0.8s
SLM Saint Louis 54.50 71 P P 19 29 20.5 -1.5
SLM pmax pmax
comp=Z,27nm,0.8s
JCT Junction City 54.55 85 P P 19 29 22.1 -0.4
JCT Junction City 54.55 85 P P 19 29 22.6 0.0
baz=316,SNR=29
JCT Junction City 54.55 85 P P 19 29 22.6 0.0
baz=316,SNR=29
JCT Junction City 54.55 85 P P 19 29 22.1 -0.4
JCT pmax pmax
comp=Z,70nm,0.7s
U40A Yellville 54.55 75 P P 19 29 21.3 -1.1
baz=314,SNR=17
U40A P P 19 29 21.3 -1.1
baz=314,SNR=17
FVM French Village 54.84 72 P P 19 29 23.3 -1.1
FVM IAmb IAmb 19 29 24.3
comp=Z,23nm,0.7s
FVM French Village 54.84 72 P P 19 29 23.7 -0.7
baz=314,SNR=10
FVM French Village 54.84 72 P P 19 29 23.3 -1.1
FVM pmax pmax
comp=Z,23nm,0.7s
WHTX Lake Whitney, 54.88 82 P P 19 29 25.1 +0.3
WHTX Lake Whitney, 54.88 82 P P 19 29 25.7 +0.9
baz=315,SNR=9.0
WHTX Lake Whitney, 54.88 82 P P 19 29 25.1 +0.3
baz=315,SNR=9.0
I49A Point Hope 54.99 62 P P 19 29 26.9 +1.4
baz=313
I49A P P 19 29 26.9 +1.4
baz=313
Q44A Meyer Farm, Va 55.01 70 P P 19 29 25.6 -0.1
Q44A IAmb IAmb 19 29 26.2
comp=Z,24nm,0.9s
Q44A Meyer Farm, Va 55.01 70 P P 19 29 25.0 -0.6
baz=313
SFIN Lafayette 55.08 68 P P 19 29 25.4 -0.8
SFIN IAmb IAmb 19 29 27.0
comp=Z,67nm,1.4s
SFIN Lafayette 55.08 68 P P 19 29 25.2 -0.9
baz=313,SNR=5.3
SFIN Lafayette 55.08 68 P P 19 29 26.4 +0.2
baz=313,SNR=5.3
SCHQ Schefferville 55.16 43 P P 19 29 25.8 -0.7
comp=Z,9.5nm,0.9s,baz=284,slow=6.6,SNR=18
SCHQ PcP PcP 19 30 27.7 +1.2
comp=Z,3.8nm,0.5s,baz=290,slow=7.3,SNR=1.8
SCHQ LR LR 19 54 39.3
comp=Z,108nm,21.8s,baz=32,slow=38
comp=Z,9.5nm,0.9s
SCHQ Schefferville 55.16 43 P P 19 29 25.6 -0.9
SCHQ IAmb IAmb 19 29 27.7
comp=Z,114nm,1.9s
FCAR Ozark Folk Cen 55.30 75 P P 19 29 26.4 -1.4
FCAR IAmb IAmb 19 29 27.2
comp=Z,25nm,0.6s
MIAR Mount Ida 55.38 77 P P 19 29 28.1 -0.3
MIAR IAmb IAmb 19 29 31.4
comp=Z,49nm,1.2s
MIAR Mount Ida 55.38 77 P P 19 29 28.7 +0.2
baz=315,SNR=13
MIAR Mount Ida 55.38 77 P P 19 29 28.7 +0.2
baz=314,SNR=13
MIAR Mount Ida 55.38 77 P P 19 29 28.1 -0.3
MIAR pmax pmax
comp=Z,49nm,1.2s
Z38A Mt. Pleasant 55.45 79 P P 19 29 28.5 -0.4
Z38A IAmb IAmb 19 29 31.1
comp=Z,15nm,0.6s
Z38A Mt. Pleasant 55.45 79 P P 19 29 29.2 +0.3
baz=315
L48A N Adams 55.48 64 P P 19 29 28.8 -0.2
L48A IAmb IAmb 19 29 29.8
comp=Z,49nm,1.2s
L48A N Adams 55.48 64 P P 19 29 29.0 -0.1
baz=313
L48A P P 19 29 29.0 -0.1
baz=313
N47A Urbana 55.52 66 P P 19 29 28.1 -1.2
N47A IAmb IAmb 19 29 50.0
comp=Z,24nm,0.9s
N47A Urbana 55.52 66 P P 19 29 28.4 -0.9
baz=313
N47A P P 19 29 28.4 -0.9
baz=313
JMIC Jan Mayen 55.56 7 LR LR 19 51 38.6
comp=Z,175nm,21.9s,baz=258,slow=34
WHAR Wooly Hollow 55.62 75 P P 19 29 29.4 -0.7
OLIL Olney 55.65 70 P P 19 29 29.9 -0.4
AAM Ann Arbor 55.66 64 P P 19 29 30.3 0.0
baz=313
435B Jarrell 55.66 83 P P 19 29 30.7 +0.2
435B Jarrell 55.66 83 P P 19 29 31.6 +1.1
baz=316,SNR=7.1
435B Jarrell 55.66 83 P P 19 29 30.6 +0.2
baz=316
S44A Carbondale 55.71 71 P P 19 29 29.9 -0.8
S44A IAmb IAmb 19 29 30.6
comp=Z,23nm,0.7s
S44A Carbondale 55.71 71 P P 19 29 29.4 -1.3
baz=314
LCAR Lake Charles 55.74 74 P P 19 29 29.4 -1.5
LCAR IAmb IAmb 19 29 30.9
comp=Z,52nm,1.9s
CGM3 Cape Girardeau 55.75 72 P P 19 29 29.6 -1.4
CGM3 IAmb IAmb 19 29 43.2
comp=Z,236nm,0.1s
X40A Basin Creek Fa 55.86 77 P P 19 29 31.4 -0.4
X40A IAmb IAmb 19 29 33.8
comp=Z,60nm,1.9s
K50A Casco 55.89 63 P P 19 29 31.9 -0.1
K50A IAmb IAmb 19 29 34.6
comp=Z,56nm,1.1s
UALR University of 55.95 76 P P 19 29 31.9 -0.6
PARMO Parma 56.13 73 P P 19 29 32.8 -1.0
LYN LuoYang 56.19 284 ⇑P P 19 29 34.5 +0.3
LYN pP pP 19 29 56.4 +0.1
LYN pmax pmax
comp=Z,10.0nm,1.3s
BLO Bloomington 56.23 68 P P 19 29 33.3 -1.1
BLO IAmb IAmb 19 29 36.6

comp=Z,21nm,0.8s
BLO Bloomington 56.23 68 P P 19 29 33.3 -1.1
BLO pmax pmax
comp=Z,21nm,0.8s
O48B Farmland 56.24 66 P P 19 29 33.5 -1.0
baz=314,SNR=6.5
O48B Farmland 56.24 66 P P 19 29 32.7 -1.8
baz=314,SNR=6.5
WLAR White Oak Lake 56.26 77 P P 19 29 34.8 +0.1
N49A Columbus Grove 56.32 65 P P 19 29 34.1 -0.9
N49A lAmb lAmb 19 29 36.0
comp=Z,16nm,0.6s
N49A Columbus Grove 56.32 65 P P 19 29 34.6 -0.5
baz=314
N49A P P 19 29 34.6 -0.5
baz=314
833A Chaparral WMA, 56.35 87 P P 19 29 35.7 +0.3
833A Chaparral WMA, 56.35 87 P P 19 29 36.2 +0.8
baz=317,SNR=12
833A Chaparral WMA, 56.35 87 P P 19 29 35.7 +0.3
baz=317,SNR=12
SADO Sadowa 56.36 59 LR LR 19 53 01.6
comp=Z,85nm,19.7s,baz=306,slow=35
SADO Sadowa 56.36 59 P P 19 29 35.5 +0.3
SADO lAmb lAmb 19 29 36.4
comp=Z,40nm,0.8s
USIN University of 56.42 70 P P 19 29 35.4 -0.4
H06N1 SOCORRO T-PHAS 56.52 104 T T 20 30 34.9
SNR=8.9
P48A Milroy 56.65 67 P P 19 29 36.7 -0.7
P48A Milroy 56.65 67 P P 19 29 36.4 -0.9
baz=314,SNR=8.1
P48A P P 19 29 36.4 -0.9
baz=314,SNR=8.1
NATX Nacogdoches 56.71 80 P P 19 29 38.7 +0.8
baz=316
ZAA0 Zalesovo Array 56.73 317 P P 19 29 37.6 -0.1
ZALV Zalesovo Beam 56.73 317 P P 19 29 37.3 -0.4
comp=Z,2.9nm,0.7s,baz=41,slow=7.4,SNR=11
ZALV PcP PcP 19 30 33.0 +0.4
comp=Z,4.4nm,0.5s,baz=45,slow=4.7,SNR=12
ZALV ScP ScP 19 34 24.2 +0.8
comp=Z,1.0nm,0.5s,baz=38,slow=5.6,SNR=3.7
ZALV LR LR 19 54 21.7
comp=Z,227nm,21.1s,baz=44,slow=36
comp=Z,2.9nm,0.7s
ZALV Zalesovo Beam 56.73 317 P P 19 29 37.0 -0.7
O49A Covington 56.74 66 P P 19 29 37.2 -0.9
baz=314
O49A P P 19 29 37.2 -0.9
baz=314
CCAR Cane Creek 56.89 76 P P 19 29 39.5 +0.4
P49A Miami Univ. Ec 56.99 67 P P 19 29 38.1 -1.6
P49A lAmb lAmb 19 29 39.6
comp=Z,21nm,0.5s
P49A Miami Univ. Ec 56.99 67 P P 19 29 38.8 -1.0
baz=314,SNR=7.8
P49A Miami Univ. Ec 56.99 67 P P 19 29 38.8 -1.0
baz=314,SNR=7.8
WCI Wyandotte Cave 57.02 69 P P 19 29 39.7 -0.3
WCI lAmb lAmb 19 29 42.3
comp=Z,28nm,1.1s
WCI Wyandotte Cave 57.02 69 P P 19 29 39.9 -0.1
baz=314
WCI Wyandotte Cave 57.02 69 P P 19 29 39.6 -0.3
baz=314
WCI Wyandotte Cave 57.02 69 P P 19 29 39.7 -0.3
WCI pmax pmax
comp=Z,28nm,1.1s
IVI Ivigtut 57.06 29 P P 19 29 40.0 +0.2
IVI pP pP 19 30 02.4 +0.5
ARA0 ARCESS Array S 57.22 354 *e*P **P 19 29 42.4 +1.4**
ARCES ARCESS Array B 57.22 354 P **P 19 29 41.1 +0.1**
comp=Z,3.2nm,0.5s,baz=14,slow=7.4,SNR=17
ARCES PcP PcP 19 30 34.0 -0.3
comp=Z,6.4nm,0.9s,baz=5.9,slow=2.7,SNR=5.9
ARCES ScP ScP 19 34 24.7 -0.7
comp=Z,6.3nm,1.1s,baz=5.3,slow=5.2,SNR=1.5
ARCES LR LR 19 54 07.9
comp=Z,262nm,21.8s,baz=1.0,slow=36
comp=Z,3.2nm,0.5s
HKT Hockley 57.31 83 P P 19 29 42.2 +0.1
HKT lAmb lAmb 19 29 43.9
comp=Z,20nm,0.9s
HKT Hockley 57.31 83 P P 19 29 42.5 +0.4
baz=316
HKT Hockley 57.31 83 P P 19 29 42.2 +0.1
HKT pmax pmax
comp=Z,20nm,1.0s
HKT Hockley 57.31 83 P P 19 29 43.1 +1.1
N51A Ashland 57.31 64 P P 19 29 41.8 -0.2
N51A lAmb lAmb 19 29 43.1
comp=Z,25nm,0.6s
N51A Ashland 57.31 64 P P 19 29 42.3 +0.3
baz=314
N51A P P 19 29 42.3 +0.3
baz=314
DELO Deloro Mine 57.32 58 P P 19 29 42.4 +0.4
T47A Sharon Grove 57.42 70 P P 19 29 42.3 -0.5
T47A lAmb lAmb 19 29 43.8
comp=Z,40nm,0.9s
T47A Sharon Grove 57.42 70 P P 19 29 42.5 -0.3
baz=315,SNR=12
M52A Chesterland 57.43 63 P P 19 29 42.5 -0.4
baz=314
M52A P P 19 29 42.5 -0.4
baz=314
ACSO Alum Creek Sta 57.46 65 P P 19 29 42.7 -0.4
ACSO lAmb lAmb 19 29 45.3
comp=Z,30nm,1.2s
ACSO Alum Creek Sta 57.46 65 P P 19 29 42.4 -0.7
baz=314
ACSO Alum Creek Sta 57.46 65 P P 19 29 43.1 0.0
baz=314
TRO Tromso 57.47 356 *e*P **P 19 29 43.9 +1.2**
JETT Jettan, Norway 57.49 356 *e*P **P 19 29 44.2 +1.3**
JETT lAmb lAmb 19 29 46.3
comp=Z,20nm,0.7s
W45A Hickory Valley 57.52 73 P P 19 29 43.0 -0.6
W45A Hickory Valley 57.52 73 P P 19 29 43.6 0.0
baz=315,SNR=6.4
R49A Shelbyville 57.60 68 P P 19 29 44.2 +0.1
baz=315
R49A P P 19 29 44.2 +0.1
baz=315
WVT Waverly 57.61 72 P P 19 29 43.5 -0.7
WVT Waverly 57.61 72 P P 19 29 44.1 -0.1
baz=315
WVT Waverly 57.61 72 P P 19 29 43.9 -0.3
baz=315
WVT Waverly 57.61 72 P P 19 29 43.5 -0.7
WVT pmax pmax
comp=Z,17nm,1.1s
WVT Waverly 57.61 72 P P 19 29 44.1 -0.1
WVT PcP PcP 19 30 36.2 -0.2
J54A Appleton 57.66 60 P P 19 29 44.4 0.0
J54A Appleton 57.66 60 P P 19 29 45.6 +1.2
baz=314,SNR=7.8
J54A P P 19 29 45.6 +1.2
baz=314,SNR=7.8
TRQ Mont Tremblant 57.67 55 P P 19 29 43.8 -0.8
TRQ lAmb lAmb 19 29 45.0
comp=Z,43nm,1.0s
ERPA Erie 57.76 62 P P 19 29 45.1 0.0
baz=314
MEDO Medina 57.83 60 P P 19 29 46.3 +0.7
OXF Oxford 57.85 74 P P 19 29 45.4 -0.4
OXF Oxford 57.85 74 P P 19 29 45.8 0.0
baz=315,SNR=14
OXF Oxford 57.85 74 P P 19 29 45.8 0.0
baz=315,SNR=14
OXF Oxford 57.85 74 P P 19 29 45.4 -0.4
OXF pmax pmax
comp=Z,113nm,1.0s
M53A WI Miller and 57.86 63 P P 19 29 45.8 -0.1
baz=314
WHN Wuhan 57.93 279 ⇓P **P 19 29 44.3 -2.1**
P51A Williamsport 57.94 66 P P 19 29 45.7 -0.8
P51A lAmb lAmb 19 30 39.1
comp=Z,16nm,0.8s
143A Socs Landing, 57.97 77 P P 19 29 46.7 0.0
ALLY Alegheny Colle 58.00 62 P P 19 29 46.5 -0.4
ALLY Alegheny Colle 58.00 62 P P 19 29 47.0 +0.2
baz=315
LVZ Lovozero 58.00 349 P P 19 29 46.1 -0.4
LVZ Lovozero 58.00 349 P P 19 29 46.1 -0.4
LVZ pmax pmax
comp=Z,94nm,1.2s
LVZ Lovozero 58.00 349 P P 19 29 46.8 +0.3
LVZ pP pP 19 30 09.4 +0.7
KIF Kilpisjarvi 58.02 355 *e*P **P 19 29 46.4 -0.1**
PECO Prince Edward 58.05 58 P P 19 29 46.7 -0.4
R50A Paris 58.08 68 P P 19 29 47.5 0.0
R50A lAmb lAmb 19 29 50.0
comp=Z,27nm,1.1s
R50A Paris 58.08 68 P P 19 29 47.1 -0.3
baz=315
R50A P P 19 29 47.1 -0.3
baz=315
J55A Hilton 58.09 59 P P 19 29 47.4 +0.1
J55A Hilton 58.09 59 P P 19 29 47.5 +0.1
baz=315
J55A P P 19 29 47.5 +0.1
baz=315
Q51A Peebles 58.10 66 P P 19 29 47.2 -0.4
Q51A lAmb lAmb 19 30 10.4
comp=Z,28nm,0.8s
Q51A Peebles 58.10 66 P P 19 29 47.9 +0.3
baz=315,SNR=6.4
Q51A P P 19 29 47.9 +0.3
baz=315,SNR=6.4
O52A Adamsville 58.16 64 P P 19 29 47.5 -0.5
O52A lAmb lAmb 19 29 48.7
comp=Z,46nm,1.1s
O52A Adamsville 58.16 64 P P 19 29 48.2 +0.1
baz=315,SNR=7.3
O52A P P 19 29 48.2 +0.1
baz=315,SNR=7.3
N53A Lisbon 58.22 63 P P 19 29 48.2 -0.2
N53A lAmb lAmb 19 30 40.2
comp=Z,80nm,1.7s
N53A Lisbon 58.22 63 P P 19 29 48.8 +0.4
baz=315
N53A P P 19 29 48.8 +0.4
baz=315
Y45A Yeager Farm, C 58.23 75 P P 19 29 48.0 -0.6
Y45A Yeager Farm, C 58.23 75 P P 19 29 48.6 +0.1
baz=316
PLAL Pickwick Lake 58.28 73 P P 19 29 48.2 -0.7
PLAL lAmb lAmb 19 29 49.1
comp=Z,25nm,0.6s
WVNY West Valley, N 58.28 61 P P 19 29 49.0 +0.2
WVNY West Valley, N 58.28 61 P P 19 29 49.5 +0.6
baz=315,SNR=7.4
P52A Corning 58.34 65 P P 19 29 47.7 -1.6
baz=315
O53A New Philadelph 58.41 64 P P 19 29 49.5 -0.2
O53A lAmb lAmb 19 29 51.6
comp=Z,50nm,1.4s
O53A New Philadelph 58.41 64 P P 19 29 48.6 -1.1
baz=315
MMNY Mt. Morris Dam 58.42 60 P P 19 29 49.4 -0.3
MMNY lAmb lAmb 19 29 51.0
comp=Z,31nm,0.7s
HEF Hetta 58.46 354 *e*P **P 19 29 50.0 +0.4**
V48A Smith Brothers 58.47 71 P P 19 29 49.3 -0.8
CLTN Cedars of Leba 58.50 71 P P 19 29 49.6 -0.8
CLTN lAmb lAmb 19 29 53.2
comp=Z,22nm,0.8s
U49A Red Boiling Sp 58.51 70 P P 19 29 49.4 -1.1
U49A lAmb lAmb 19 29 51.2
comp=Z,44nm,1.4s
U49A Red Boiling Sp 58.51 70 P P 19 29 49.9 -0.6
baz=315,SNR=6.7
ZAIG Zacatecas 58.55 93 P P 19 29 50.9 -0.3
ZAIG lAmb lAmb 19 29 52.8
comp=Z,28nm,1.1s
J56A Wolcott 58.58 59 P P 19 29 50.4 -0.4
J56A Wolcott 58.58 59 P P 19 29 50.4 -0.4
baz=315
J56A P P 19 29 50.4 -0.4
baz=315
XAN Xi'an 58.62 286 P P 19 29 50.7 -0.6
XAN pP pP 19 30 12.5 -1.3
XAN PcP PcP 19 30 40.1 -0.4
MNTQ Montreal, Queb 58.64 55 P P 19 29 50.2 -0.9
MNTQ lAmb lAmb 19 29 52.7
comp=Z,28nm,0.9s
BMNY Brushton-Moira 58.67 56 P P 19 29 50.8 -0.7
baz=315,SNR=8.0
DGZ Jazzator, Alta 58.67 312 *i* P **P 19 29 50.0 -1.6**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
T50A Nancy 58.69 69 P P 19 29 51.1 -0.5
T50A lAmb lAmb 19 30 13.3
comp=Z,18nm,0.8s
T50A Nancy 58.69 69 P P 19 29 51.2 -0.5
baz=315
T50A P P 19 29 51.2 -0.5
baz=315
WCNY West Carthage 58.70 57 P P 19 29 51.8 +0.1
baz=315,SNR=8.8
Q52A Bidwell 58.74 66 P P 19 29 51.5 -0.5
baz=315
Q52A P P 19 29 51.5 -0.5
baz=315
LONY Lake Ozonia 58.79 56 P P 19 29 51.0 -1.3
LONY lAmb lAmb 19 29 54.2
comp=Z,18nm,0.8s
LONY Lake Ozonia 58.79 56 P P 19 29 51.4 -0.9
baz=315
VBMS Vicksburg 58.84 77 P P 19 29 51.3 -1.4
VBMS lAmb lAmb 19 29 54.5
comp=Z,51nm,1.1s
VBMS Vicksburg 58.84 77 P P 19 29 53.0 +0.2
baz=316
VBMS Vicksburg 58.84 77 P P 19 29 51.7 -1.0
baz=316
P53A Whipple 58.85 65 P P 19 29 52.6 -0.2
P53A lAmb lAmb 19 29 55.2
comp=Z,25nm,0.7s
P53A Whipple 58.85 65 P P 19 29 53.0 +0.2
baz=315,SNR=6.8
P53A P P 19 29 53.0 +0.2
baz=315,SNR=6.8
UPAO U. Pittsburgh 58.89 63 P P 19 29 52.6 -0.4
baz=315
O54A Avella 58.91 63 P P 19 29 52.7 -0.5
O54A lAmb lAmb 19 29 55.8
comp=Z,37nm,0.9s
O54A Avella 58.91 63 P P 19 29 52.7 -0.5
baz=315
O54A P P 19 29 52.7 -0.5
baz=315
SSLB Suanglung 58.91 269 P P 19 29 53.2 -0.2
SSLB Suanglung 58.91 269 P P 19 29 53.2 -0.2
J57A Williamstown 58.93 58 P P 19 29 53.5 +0.3
J57A Williamstown 58.93 58 P P 19 29 53.9 +0.7
baz=315,SNR=7.0
J57A P P 19 29 53.9 +0.7
baz=315,SNR=7.0
S51A Beattyville 58.95 68 P P 19 29 52.1 -1.4
S51A lAmb lAmb 19 30 16.0
comp=Z,19nm,1.0s
S51A Beattyville 58.95 68 P P 19 29 53.4 -0.1
baz=315
S51A P P 19 29 53.4 -0.1
baz=315
YULB Yu-li 59.00 268 P P 19 29 53.8 -0.2
YULB lAmb lAmb 19 29 57.1
comp=Z,32nm,0.7s
YULB Yu-li 59.00 268 P P 19 29 54.5 +0.5
L56A Greenwood 59.02 60 P P 19 29 54.5 +0.4
L56A Greenwood 59.02 60 P P 19 29 54.4 +0.4
baz=315,SNR=17
L56A P P 19 29 54.4 +0.4
baz=315,SNR=17
PSDB Penn State Uni 59.11 62 P P 19 29 54.7 +0.2
baz=315
FRNY Flat Rock 59.13 55 P P 19 29 53.5 -1.1
FRNY lAmb lAmb 19 29 54.7
comp=Z,66nm,1.4s
FRNY Flat Rock 59.13 55 P P 19 29 53.7 -0.9
baz=316
K57A Scipio Center 59.14 59 P P 19 29 55.0 +0.2
K57A Scipio Center 59.14 59 P P 19 29 54.6 -0.2
baz=315,SNR=7.1
X48A Hartselle 59.26 73 P P 19 29 54.4 -1.3
X48A lAmb lAmb 19 29 55.4
comp=Z,17nm,0.6s
X48A Hartselle 59.26 73 P P 19 29 54.7 -0.9
baz=316,SNR=6.4
344A Westbrook Farm 59.26 78 P P 19 29 56.1 +0.4
344A Westbrook Farm 59.26 78 P P 19 29 55.8 +0.1
baz=316
STEI Steigen 59.29 358 *e*P **P 19 29 55.9 +0.5**
J58A Remsen 59.33 58 P P 19 29 56.1 +0.1
J58A Remsen 59.33 58 P P 19 29 56.5 +0.4
baz=316,SNR=9.6
J58A P P 19 29 56.5 +0.4
baz=316,SNR=9.6
SWET Sewanee 59.35 71 P P 19 29 55.7 -0.6
SWET lAmb lAmb 19 30 17.1
comp=Z,52nm,1.8s
R53A Hurricane 59.37 66 P P 19 29 56.5 +0.2
R53A lAmb lAmb 19 29 59.7
comp=Z,56nm,1.2s
R53A Hurricane 59.37 66 P P 19 29 56.3 -0.1
baz=316,SNR=6.7
R53A P P 19 29 56.3 -0.1
baz=316,SNR=6.7
146A Union 59.39 75 P P 19 29 55.7 -0.9
146A Union 59.39 75 P P 19 29 56.5 -0.1
baz=316
NCB Newcomb 59.43 57 P P 19 29 56.3 -0.5
NCB lAmb lAmb 19 29 57.1
comp=Z,79nm,1.6s
NCB Newcomb 59.43 57 P P 19 29 56.7 -0.1
baz=316,SNR=5.3
Q54A Coxs Mills 59.51 65 P P 19 29 57.6 +0.2
Q54A lAmb lAmb 19 30 19.2
comp=Z,21nm,0.9s
Q54A Coxs Mills 59.51 65 P P 19 29 57.4 0.0
baz=316,SNR=6.0
Q54A P P 19 29 57.4 0.0
baz=316,SNR=6.0
Z47A Carrollton 59.56 74 P P 19 29 56.8 -1.0
Z47A Carrollton 59.56 74 P P 19 29 57.2 -0.5
baz=316
TWG Pinlang 59.57 268 P P 19 29 57.3 -0.6
TWG lAmb lAmb 19 32 05.5
comp=Z,42nm,1.1s
MCWV Mont Chateau 59.57 64 P P 19 29 57.9 +0.2
MCWV Mont Chateau 59.57 64 P P 19 29 57.8 +0.1
baz=316
MCWV Mont Chateau 59.57 64 P P 19 29 56.7 -1.1
baz=315
J59A Piesco 59.65 57 P P 19 29 58.1 -0.2
J59A lAmb lAmb 19 30 00.7
comp=Z,16nm,0.8s
J59A Piesco 59.65 57 P P 19 29 57.8 -0.5
baz=316
J59A P P 19 29 57.8 -0.5
baz=316
D62A Allapoint, All 59.71 51 P P 19 29 57.9 -0.6
D62A Allapoint, All 59.71 51 P P 19 29 58.6 0.0
baz=317,SNR=8.6
D62A P P 19 29 58.6 0.0
baz=317,SNR=8.6
W50A Signal Mountai 59.71 71 P P 19 29 58.2 -0.6
W50A lAmb lAmb 19 29 59.6
comp=Z,22nm,0.9s
W50A Signal Mountai 59.71 71 P P 19 29 58.2 -0.6
baz=316,SNR=5.9
TZTN Tazewell 59.75 68 P P 19 29 58.5 -0.6
TZTN lAmb lAmb 19 30 01.9
comp=Z,19nm,0.9s
TZTN Tazewell 59.75 68 P P 19 29 58.7 -0.3
baz=316
TZTN Tazewell 59.75 68 P P 19 29 58.1 -0.9
baz=316
BINY Binghamton 59.80 59 P P 19 29 59.2 -0.1
BINY Binghamton 59.80 59 P P 19 29 59.9 +0.6
baz=316,SNR=17
BINY Binghamton 59.80 59 P P 19 29 58.3 -1.0
baz=316,SNR=17
E62A Clayton Lake 59.82 52 P P 19 29 59.1 -0.3
E62A Clayton Lake 59.82 52 P P 19 29 59.0 -0.3
baz=317,SNR=6.0
E62A P P 19 29 59.0 -0.3
baz=317,SNR=6.0
M57A Sunshine Farm, 59.82 60 P P 19 29 59.8 +0.4
M57A lAmb lAmb 19 30 00.9
comp=Z,31nm,0.8s
M57A Sunshine Farm, 59.82 60 P P 19 30 00.1 +0.6
baz=316,SNR=7.6
M57A P P 19 30 00.1 +0.6
baz=316,SNR=7.6
V51A Loudon 59.83 70 P P 19 29 59.0 -0.5
V51A lAmb lAmb 19 30 48.6
comp=Z,15nm,0.7s
V51A Loudon 59.83 70 P P 19 29 59.1 -0.5
baz=316
FAUS Fauske 59.84 358 *e* **P 19 29 59.1 0.0**
GTA Gaotai 59.91 296 ⇓P **P 19 29 59.3 -0.9**
GTA PcP **PcP 19 30 45.8 +0.1**
GTA ScP **ScP 19 34 38.5 +0.5**
GTA S **S 19 38 01.4 -3.6**
GTA pmax pmax
comp=Z,10.0nm,0.7s
GTA pmax pmax
comp=Z,220nm,6.2s
GTA LR LR
comp=Z,200nm,17.1s
GTA LR LR
comp=Z,200nm,16.7s
GTA LR LR
comp=Z,340nm,18.5s
VT1 Waterbury 59.91 55 P P 19 29 59.8 -0.2
baz=316
SSPA Standing Stone 59.92 62 P P 19 30 00.3 +0.2
SSPA Standing Stone 59.92 62 P P 19 30 00.0 -0.1
baz=316,SNR=15
SSPA Standing Stone 59.92 62 P P 19 29 58.5 -1.7
baz=316
SSPA Standing Stone 59.92 62 P P 19 30 00.1 -0.1
SSPA pP pP 19 30 22.1 -0.6
CPCT Cooper Cave 59.98 70 P P 19 30 00.2 -0.4
CPCT lAmb lAmb 19 30 02.8
comp=Z,36nm,1.6s
FPAL Fort Paine 60.02 71 P P 19 30 00.0 -0.9
FPAL lAmb lAmb 19 30 03.2
comp=Z,16nm,0.7s
Y49A Blount Mountai 60.05 73 P P 19 30 00.1 -1.0
Y49A lAmb lAmb 19 30 00.8
comp=Z,16nm,0.6s
Y49A Blount Mountai 60.05 73 P P 19 30 00.2 -0.9
baz=316,SNR=6.0
LZH Lanzhou 60.06 291 ⇑P **P 19 30 01.8 +0.4**
LZH pP pP 19 30 24.0 +0.3
LZH PcP **PcP 19 30 44.0 -2.4**
LZH ScP **ScP 19 34 39.5 +0.7**
LZH pmax pmax
comp=Z,21nm,1.6s
LZH LR LR
comp=Z,300nm,14.4s
LZH LR LR
comp=Z,400nm,13.1s
LZH LR LR
comp=Z,200nm,12.7s
ACCN Adirondack Com 60.13 57 P P 19 30 01.2 -0.3
ACCN lAmb lAmb 19 30 02.9
comp=Z,46nm,1.2s
ACCN Adirondack Com 60.13 57 P P 19 30 01.2 -0.3
baz=316
F62A Pittston Farm, 60.13 52 P P 19 30 00.8 -0.7
F62A lAmb lAmb 19 30 01.7
comp=Z,26nm,0.7s
F62A Pittston Farm, 60.13 52 P P 19 30 01.2 -0.3
baz=317,SNR=9.2
F62A P P 19 30 01.2 -0.3
baz=317,SNR=9.2
V52A Sevierville 60.23 69 P P 19 30 01.9 -0.4
V52A lAmb lAmb 19 30 09.3
comp=Z,38nm,1.5s
V52A Sevierville 60.23 69 P P 19 30 02.0 -0.3
baz=316
HCNY Howe Caverns 60.26 58 P P 19 30 03.0 +0.6
baz=316,SNR=9.8
TKL Tuckaleechee C 60.26 69 LR LR 19 53 50.2
comp=Z,173nm,21.6s,baz=336,slow=34
TKL Tuckaleechee C 60.26 69 P P 19 30 02.2 -0.3
TKL Tuckaleechee C 60.26 69 P P 19 30 02.9 +0.3
baz=316
TKL Tuckaleechee C 60.26 69 P P 19 30 02.2 -0.3
TKL pmax pmax
comp=Z,116nm,1.9s
L59A Walton 60.29 58 P P 19 30 03.0 +0.3

L59A **Walton** **60.29** **58** P **P** **19 30 03.4 +0.6**
baz=316,SNR=14
L59A P **P** **19 30 03.4 +0.6**
baz=316,SNR=14
LRAL **Lakeview Retre** **60.30** **74** P **P** **19 30 02.4 -0.4**
LRAL **Lakeview Retre** **60.30** **74** P **P** **19 30 02.2 -0.7**
baz=316,SNR=5.5
LRAL **Lakeview Retre** **60.30** **74** P **P** **19 30 01.5 -1.3**
baz=316,SNR=5.5
G62A **West of Eustis** **60.35** **53** P **P** **19 30 02.8 -0.3**
G62A **West of Eustis** **60.35** **53** P **P** **19 30 03.1 +0.1**
baz=317,SNR=7.1
G62A P **P** **19 30 03.1 +0.1**
baz=317,SNR=7.1
Q56A **Snyder Ridge,** **60.37** **64** P **P** **19 30 03.3 0.0**
Q56A IAmb IAmb 19 30 05.6
comp=Z,15nm,0.8s
Q56A **Snyder Ridge,** **60.37** **64** P **P** **19 30 02.9 -0.3**
baz=316
Q56A P **P** **19 30 02.9 -0.3**
baz=316
KSPA **Keystone Colle** **60.37** **59** P **P** **19 30 03.6 +0.3**
KSPA IAmb IAmb 19 30 05.9
comp=Z,24nm,0.8s
KSPA **Keystone Colle** **60.37** **59** P **P** **19 30 03.5 +0.3**
baz=316,SNR=8.4
N58A **Sunbury** **60.39** **61** P **P** **19 30 03.2 -0.2**
N58A IAmb IAmb 19 30 27.6
comp=Z,33nm,1.1s
N58A **Sunbury** **60.39** **61** P **P** **19 30 03.9 +0.5**
baz=316
N58A P **P** **19 30 03.9 +0.5**
baz=316
R55A **Marlinton** **60.41** **65** P **P** **19 30 03.9 +0.4**
R55A IAmb IAmb 19 30 06.2
comp=Z,49nm,1.4s
R55A **Marlinton** **60.41** **65** P **P** **19 30 03.7 +0.1**
baz=316
R55A P **P** **19 30 03.7 +0.1**
baz=316
X51A **Calhoun** **60.43** **71** P **P** **19 30 03.7 0.0**
X51A IAmb IAmb 19 30 04.5
comp=Z,39nm,1.3s
X51A **Calhoun** **60.43** **71** P **P** **19 30 03.5 -0.1**
baz=316
X51A P **P** **19 30 03.5 -0.1**
baz=316
E63A **Oxbow** **60.48** **51** P **P** **19 30 03.4 -0.5**
baz=317,SNR=6.8
E63A P **P** **19 30 03.4 -0.5**
baz=317,SNR=6.8
PQI **Presque Isle** **60.49** **51** P **P** **19 30 03.0 -0.9**
H62A **Milan** **60.52** **54** P **P** **19 30 03.9 -0.3**
H62A IAmb IAmb 19 30 04.5
comp=Z,32nm,0.7s
H62A **Milan** **60.52** **54** P **P** **19 30 04.2 0.0**
baz=317,SNR=8.1
H62A P **P** **19 30 04.2 0.0**
baz=317,SNR=8.1
W52A **Murphy** **60.58** **70** P **P** **19 30 04.0 -0.7**
W52A IAmb IAmb 19 30 07.2
comp=Z,45nm,1.5s
W52A **Murphy** **60.58** **70** P **P** **19 30 04.1 -0.6**
baz=316
P57A **Homestead Farm** **60.68** **63** P **P** **19 30 05.7 +0.4**
P57A IAmb IAmb 19 30 08.2
comp=Z,20nm,0.8s
P57A **Homestead Farm** **60.68** **63** P **P** **19 30 05.9 +0.6**
baz=316,SNR=5.7
P57A P **P** **19 30 05.9 +0.6**
baz=316,SNR=5.7
F63A **Nahmakanta, Br** **60.69** **52** P **P** **19 30 04.9 -0.4**
F63A **Nahmakanta, Br** **60.69** **52** P **P** **19 30 05.1 -0.2**
baz=317,SNR=6.8
F63A P **P** **19 30 05.1 -0.2**
baz=317,SNR=6.8
J61A **Chester** **60.72** **56** P **P** **19 30 05.7 +0.1**
J61A IAmb IAmb 19 30 07.0
comp=Z,30nm,1.1s
J61A **Chester** **60.72** **56** P **P** **19 30 05.5 0.0**
baz=317
J61A P **P** **19 30 05.5 0.0**
baz=317
U54A **Nelsons Funny** **60.73** **67** P **P** **19 30 05.9 +0.1**
U54A IAmb IAmb 19 30 08.8
comp=Z,40nm,1.1s
U54A **Nelsons Funny** **60.73** **67** P **P** **19 30 06.3 +0.5**
baz=316
U54A P **P** **19 30 06.3 +0.5**
baz=316
V53A **Saluda** **60.79** **69** P **P** **19 30 06.3 +0.1**
V53A IAmb IAmb 19 30 48.3
comp=Z,25nm,1.3s
V53A **Saluda** **60.79** **69** P **P** **19 30 06.7 +0.5**
baz=316
V53A P **P** **19 30 06.7 +0.5**
baz=316
PAGS **Pennsylvania G** **60.83** **61** P **P** **19 30 06.5 +0.2**
PAGS IAmb IAmb 19 30 07.4
comp=Z,35nm,0.8s
PKME **Peaks-Kenny Pk** **60.92** **53** P **P** **19 30 06.7 -0.1**
baz=317
PKME **Peaks-Kenny Pk** **60.92** **53** P **P** **19 30 05.9 -0.9**
baz=317
F64A **Sherman** **60.93** **52** P **P** **19 30 06.1 -0.8**
F64A **Sherman** **60.93** **52** P **P** **19 30 06.7 -0.2**
baz=317,SNR=8.2
F64A P **P** **19 30 06.7 -0.2**
baz=317,SNR=8.2
BATG **Bathurst New B** **60.95** **49** P **P** **19 30 06.8 -0.2**
ENH **Enshi** **61.01** **283** P **P** **19 30 06.3 -1.4**
ENH IAmb IAmb 19 30 50.6
comp=Z,84nm,1.9s
ENH **Enshi** **61.01** **283** P **P** **19 30 09.0 +1.3**
ENH **Enshi** **61.01** **283** P **P** **19 30 08.4 +0.7**
ENH PcP **PcP** **19 30 49.7 -0.4**
BLA **Blacksburg** **61.01** **66** P **P** **19 30 07.2 -0.5**
BLA IAmb IAmb 19 30 30.9
comp=Z,52nm,1.2s
BLA **Blacksburg** **61.01** **66** P **P** **19 30 07.2 -0.5**
baz=316
BLA **Blacksburg** **61.01** **66** P **P** **19 30 06.1 -1.6**
baz=316
BLA **Blacksburg** **61.01** **66** P **P** **19 30 07.2 -0.5**
BLA pmax pmax
comp=Z,52nm,1.2s
NPNY **Mohonk Preserv** **61.07** **58** P **P** **19 30 08.0 +0.1**
baz=317
Z51A **Franklin** **61.15** **72** P **P** **19 30 07.2 -1.4**
Z51A IAmb IAmb 19 30 11.1
comp=Z,24nm,1.1s
Z51A **Franklin** **61.15** **72** P **P** **19 30 07.6 -1.0**
baz=317
I63A **Otisfield** **61.18** **54** P **P** **19 30 08.7 0.0**
I63A IAmb IAmb 19 30 10.1
comp=Z,44nm,1.1s
I63A **Otisfield** **61.18** **54** P **P** **19 30 08.5 -0.1**
baz=317
I63A P **P** **19 30 08.5 -0.1**
baz=317
MVL **Millersville** **61.19** **61** P **P** **19 30 09.2 +0.4**
MVL IAmb IAmb 19 30 11.6
comp=Z,20nm,0.7s
BG3 **Lake Jocassee** **61.21** **69** P **P** **19 30 09.2 +0.1**
BG3 IAmb IAmb 19 30 11.7
comp=Z,31nm,1.4s
CASEE **Lake Jocassee** **61.21** **69** P **P** **19 30 08.5 -0.5**
baz=317
WVL **Waterville** **61.26** **53** P **P** **19 30 09.0 -0.1**
LUPA **Lehigh Univers** **61.27** **60** P **P** **19 30 09.1 -0.2**
L61B **Northampton** **61.31** **57** P **P** **19 30 09.5 0.0**
baz=317
L61B **Northampton** **61.31** **57** P **P** **19 30 08.3 -1.3**
baz=317
ODNJ **Ogdensburg** **61.32** **59** P **P** **19 30 09.8 +0.2**
ODNJ IAmb IAmb 19 30 11.1
comp=Z,22nm,0.7s
ODNJ **Ogdensburg** **61.32** **59** P **P** **19 30 10.2 +0.6**
baz=317,SNR=5.5
ADZR **Andozero** **61.33** **346** *e*P **P** **19 30 08.0 -1.3**
ADZR *e**PP **pP** **19 30 31.9 +0.2**
ADZR pmax pmax
comp=Z,19nm,0.8s
SDMD **Soldier's Deli** **61.36** **62** P **P** **19 30 10.8 +0.9**
K62A **Royalston** **61.38** **56** P **P** **19 30 09.8 -0.1**
K62A IAmb IAmb 19 30 11.4
comp=Z,31nm,0.9s
K62A **Royalston** **61.38** **56** P **P** **19 30 09.9 -0.1**
baz=317
K62A P **P** **19 30 09.9 -0.1**
baz=317
BRNY **Black Rk. Fore** **61.38** **58** P **P** **19 30 09.5 -0.5**
baz=317
Y52A **Lilburn** **61.39** **71** P **P** **19 30 09.2 -1.0**
Y52A IAmb IAmb 19 30 12.0
comp=Z,15nm,0.7s
Y52A **Lilburn** **61.39** **71** P **P** **19 30 08.7 -1.5**
baz=317
Y52A P **P** **19 30 08.7 -1.5**
baz=317
S57A **Dark Hollow, R** **61.42** **64** P **P** **19 30 10.8 +0.5**
S57A IAmb IAmb 19 30 11.9
comp=Z,43nm,1.2s
S57A **Dark Hollow, R** **61.42** **64** P **P** **19 30 11.0 +0.6**
baz=317,SNR=6.3
S57A P **P** **19 30 11.0 +0.6**
baz=317,SNR=6.3
KSCT **Kent School, K** **61.43** **58** P **P** **19 30 10.6 +0.3**
KSCT IAmb IAmb 19 30 12.6
comp=Z,77nm,1.6s
TRNY **Table Rock, Ra** **61.47** **59** P **P** **19 30 10.2 -0.5**
TRNY IAmb IAmb 19 30 12.1
comp=Z,99nm,1.9s
250A **Grady** **61.49** **74** P **P** **19 30 10.1 -0.9**
250A **Grady** **61.49** **74** P **P** **19 30 10.2 -0.7**
baz=317
V55A **Taylorsville** **61.55** **67** P **P** **19 30 11.4 +0.1**
V55A IAmb IAmb 19 30 14.1
comp=Z,32nm,1.2s
V55A **Taylorsville** **61.55** **67** P **P** **19 30 11.1 -0.2**
baz=317
V55A P **P** **19 30 11.1 -0.2**
baz=317
BRAL **Brewton** **61.63** **75** P **P** **19 30 10.9 -0.9**
baz=317
BRNJ **Basking Ridge** **61.63** **59** P **P** **19 30 12.2 +0.5**
BRNJ **Basking Ridge** **61.63** **59** P **P** **19 30 12.5 +0.8**
baz=317,SNR=5.3
WUPA **West Chester U** **61.63** **61** P **P** **19 30 13.0 +1.2**
U56A **King** **61.66** **67** P **P** **19 30 12.0 0.0**
U56A **King** **61.66** **67** P **P** **19 30 12.3 +0.3**
baz=317,SNR=6.8
U56A P **P** **19 30 12.3 +0.3**
baz=317,SNR=6.8
KURK **Kurchatov** **61.67** **318** P **P** **19 30 11.4 -0.4**
KURK IAmb IAmb 19 30 13.3
comp=Z,20nm,0.7s
KURK **Kurchatov** **61.67** **318** *ce*P **P** **19 30 11.1 -0.7**
KURK pmax pmax
comp=Z,21nm,0.7s
KURK **Kurchatov** **61.67** **318** P **P** **19 30 11.6 -0.2**
KURK pP **pP** **19 30 35.4 +1.3**
TUPA **Temple Univers** **61.68** **60** P **P** **19 30 12.6 +0.5**
baz=317,SNR=11
PAL **Palisades** **61.74** **59** P **P** **19 30 12.6 +0.2**
baz=317
PAL **Palisades** **61.74** **59** P **P** **19 30 11.5 -0.9**
baz=317
UNH **University of** **61.75** **55** P **P** **19 30 12.3 -0.1**
baz=317
KURBB **Kurchatov Arra** **61.78** **318** LR LR 19 57 57.4
comp=Z,308nm,20.8s,baz=143,slow=37
PANJ **Princeton** **61.78** **60** P **P** **19 30 13.2 +0.5**
baz=317
G65A **Princeton** **61.79** **52** P **P** **19 30 12.5 -0.2**
G65A IAmb IAmb 19 30 13.1
comp=Z,27nm,0.7s
G65A **Princeton** **61.79** **52** P **P** **19 30 12.3 -0.4**
baz=318
G65A P **P** **19 30 12.3 -0.4**
baz=318
T57A **Hurt** **61.81** **65** P **P** **19 30 13.3 +0.3**
T57A IAmb IAmb 19 30 15.7
comp=Z,20nm,0.9s
T57A **Hurt** **61.81** **65** P **P** **19 30 12.5 -0.5**
baz=317,SNR=5.5
T57A P **P** **19 30 12.5 -0.5**
baz=317,SNR=5.5
HRV **Adam Dziewonsk** **61.83** **56** P **P** **19 30 13.4 +0.3**
baz=317
HRV **Adam Dziewonsk** **61.83** **56** P **P** **19 30 11.5 -1.5**
baz=317
FOR **Fordham** **61.85** **59** P **P** **19 30 13.1 -0.1**
baz=317
R58B **Mineral** **61.85** **64** P **P** **19 30 13.6 +0.4**
R58B IAmb IAmb 19 30 16.1
comp=Z,21nm,1.0s
R58B **Mineral** **61.85** **64** P **P** **19 30 13.8 +0.6**
baz=317
R58B P **P** **19 30 13.8 +0.6**
baz=317
152A **Waverly Hall** **61.88** **72** P **P** **19 30 12.1 -1.4**
152A IAmb IAmb 19 30 13.1
comp=Z,15nm,0.7s
152A **Waverly Hall** **61.88** **72** P **P** **19 30 12.4 -1.2**
baz=317,SNR=5.4
WSPT **Westport, CT** **61.91** **58** P **P** **19 30 13.8 +0.3**
WSPT IAmb IAmb 19 30 14.9
comp=Z,28nm,0.9s
PAULI **Pauline** **61.97** **69** P **P** **19 30 13.7 -0.3**
baz=317
KMSC **Kings Mountain** **62.01** **68** P **P** **19 30 13.8 -0.5**
KMSC IAmb IAmb 19 30 37.8
comp=Z,35nm,1.1s
KMSC **Kings Mountain** **62.01** **68** P **P** **19 30 14.1 -0.2**
baz=317
KMSC **Kings Mountain** **62.01** **68** P **P** **19 30 13.9 -0.4**
baz=317
WES **Weston** **62.04** **56** P **P** **19 30 14.7 +0.3**
WES IAmb IAmb 19 30 15.7
comp=Z,33nm,0.8s
WES **Weston** **62.04** **56** P **P** **19 30 14.7 +0.3**
WES pmax pmax
comp=Z,33nm,0.8s
JSRW **J. Sargeant Re** **62.05** **64** P **P** **19 30 14.9 +0.4**
HODGE **Hodges** **62.15** **69** P **P** **19 30 14.9 -0.4**
HODGE IAmb IAmb 19 30 16.0
comp=Z,26nm,1.1s
HODGE **Hodges** **62.15** **69** P **P** **19 30 15.0 -0.2**
baz=317,SNR=9.0
GGN **Saint George** **62.19** **51** P **P** **19 30 15.0 -0.4**
EMMW **East Machias** **62.21** **52** P **P** **19 30 15.5 0.0**
EMMW **East Machias** **62.21** **52** P **P** **19 30 15.5 0.0**
baz=318,SNR=10
PRGR **Permogore** **62.26** **342** *e*P **P** **19 30 13.3 -2.2**
PRGR *e**PP **pP** **19 30 37.0 -0.9**
PRGR pmax pmax
comp=Z,15nm,0.9s
M63A **Gales Ferry** **62.40** **57** P **P** **19 30 16.5 -0.3**
M63A **Gales Ferry** **62.40** **57** P **P** **19 30 16.5 -0.3**
baz=318
M63A P **P** **19 30 16.5 -0.3**
baz=318
LMN **Caledonia Moun** **62.59** **49** P **P** **19 30 17.6 -0.4**
352A **Blakely** **62.63** **73** P **P** **19 30 18.2 -0.3**
352A **Blakely** **62.63** **73** P **P** **19 30 18.4 -0.2**
baz=317
JSC **Jenkinsville** **62.67** **69** P **P** **19 30 18.9 +0.1**
JSC IAmb IAmb 19 30 41.1
comp=Z,32nm,1.1s
JSC **Jenkinsville** **62.67** **69** P **P** **19 30 18.6 -0.2**
baz=317
JSC **Jenkinsville** **62.67** **69** P **P** **19 30 18.9 +0.1**
JSC pmax pmax
comp=Z,32nm,1.1s
W57A **Gilead** **62.75** **67** P **P** **19 30 18.9 -0.4**
W57A IAmb IAmb 19 30 21.8
comp=Z,39nm,1.4s
W57A **Gilead** **62.75** **67** P **P** **19 30 18.8 -0.4**
baz=317
W57A P **P** **19 30 18.8 -0.4**
baz=317
T59A **Double "B" Far** **62.76** **64** P **P** **19 30 19.2 -0.1**
T59A IAmb IAmb 19 30 22.5
comp=Z,33nm,0.8s
T59A **Double "B" Far** **62.76** **64** P **P** **19 30 19.7 +0.5**
baz=317,SNR=7.1
T59A P **P** **19 30 19.7 +0.5**
baz=317,SNR=7.1
V58A **Windy Hill, Pi** **62.76** **66** P **P** **19 30 19.9 +0.6**
V58A **Windy Hill, Pi** **62.76** **66** P **P** **19 30 20.2 +0.9**
baz=317,SNR=6.4
V58A P **P** **19 30 20.2 +0.9**
baz=317,SNR=6.4
154A **Montrose** **62.85** **71** P **P** **19 30 19.2 -0.7**
baz=317
BIRD **Birdtown, Kers** **62.86** **68** P **P** **19 30 19.7 -0.3**
WMQ **Urumqi** **62.88** **307** *e*P **P** **19 30 20.3 +0.2**
WMQ pP pwP 19 30 44.4 -0.4
WMQ sP PcP 19 30 55.5 -2.0
WMQ PP **PP** **19 32 42.5 +3.6**
WMQ pmax pmax
comp=Z,16nm,1.7s
WMQ LR LR
comp=Z,140nm,22.3s
SVE **Sverdlovsk** **62.95** **332** *e*P **P** **19 30 20.7 +0.4**
SVE pmax pmax
comp=Z,44nm,1.8s
BVAR **Borovoye Array** **62.98** **324** LR LR 19 59 36.4
comp=Z,303nm,19.6s,baz=20,slow=38
M65A **Busby, Falmout** **62.99** **56** P **P** **19 30 19.7 -1.0**
baz=318
BRVK **Borovoye** **62.99** **324** P **P** **19 30 20.6 0.0**
BRVK **Borovoye** **62.99** **324** *ce*P **P** **19 30 20.0 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.6s
BRVK **Borovoye** **62.99** **324** P **P** **19 30 20.8 +0.2**
BRVK pP **pP** **19 30 43.7 +0.7**
BRVK PcP **PcP** **19 30 58.4 +0.6**
T60A **Surry** **63.08** **63** P **P** **19 30 21.3 -0.1**
T60A **Surry** **63.08** **63** P **P** **19 30 22.1 +0.7**
baz=318,SNR=5.3
T60A P **P** **19 30 22.1 +0.7**
baz=318,SNR=5.3
U59A **Littleton** **63.08** **65** P **P** **19 30 21.8 +0.3**
U59A IAmb IAmb 19 30 23.0
comp=Z,35nm,1.2s
U59A **Littleton** **63.08** **65** P **P** **19 30 21.6 +0.2**
baz=317,SNR=5.9
U59A P **P** **19 30 21.6 +0.2**
baz=317,SNR=5.9
MK31 **Makanchi Array** **63.13** **313** P **P** **19 30 20.4 -1.2**
MK31 **Makanchi Array** **63.13** **313** *i* P **P** **19 30 20.0 -1.6**
MKAR **Makanchi Array** **63.13** **313** P **P** **19 30 20.6 -1.0**
comp=Z,2.0nm,0.6s,baz=48,slow=6.9,SNR=30
MKAR pP **pP** **19 30 44.5 +0.3**
comp=Z,2.0nm,0.6s,baz=50,slow=6.3,SNR=4.3
MKAR LR LR 19 58 39.8
comp=Z,190nm,20.3s,baz=105,slow=37
MKAR PKP2bc **P'P'df** **19 59 25.0 +2.3**
comp=Z,0.5nm,0.8s,baz=228,slow=1.7,SNR=3.0
comp=Z,2.0nm,0.6s
MKAR **Makanchi Array** **63.13** **313** P **P** **19 30 20.3 -1.4**
HAW **Hawthorne Fire** **63.15** **70** P **P** **19 30 21.8 -0.2**
baz=318
MAKZ **Makanchi** **63.25** **313** P **P** **19 30 21.3 -1.2**
MAKZ **Makanchi** **63.25** **313** P **P** **19 30 21.3 -1.2**
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
MAKZ **Makanchi** **63.25** **313** P **P** **19 30 21.7 -0.8**
MAKZ pP **pP** **19 30 45.2 +0.2**
TIGA **Tifton** **63.44** **72** P **P** **19 30 22.3 -1.6**
baz=318
255A **Hazlehurst** **63.72** **71** P **P** **19 30 25.0 -0.7**
255A **Hazlehurst** **63.72** **71** P **P** **19 30 25.1 -0.6**
baz=318
CNNC **Cliffs of the** **63.85** **66** P **P** **19 30 24.9 -1.5**
baz=318
CD2 **Chengdu** **63.88** **287** P **P** **19 30 27.5 +0.6**
CD2 pP pP 19 30 49.1 -0.5
CD2 pmax pmax
comp=Z,20nm,1.1s
ARU **Arti** **63.89** **332** LR LR 20 00 08.0
comp=Z,209nm,21.9s,baz=350,slow=38
ARU **Arti** **63.89** **332** P **P** **19 30 26.2 -0.2**
ARU IAmb IAmb 19 30 56.4
comp=Z,30nm,0.7s
ARU **Arti** **63.89** **332** *ce*P **P** **19 30 26.8 +0.4**
ARU pmax pmax
comp=Z,61nm,2.5s
ARU **Arti** **63.89** **332** P **P** **19 30 26.9 +0.4**
KLMR **Klimovskoe** **64.06** **345** *e*P **P** **19 30 24.5 -3.0**
KLMR AMP 19 30 28.4
comp=Z,62nm,2.0s
KLMR *e*pP **pP** **19 30 49.6 -0.5**
KLMR **Klimovskoe** **64.06** **345** *e*P **P** **19 30 24.5 -3.0**
KLMR *e**PP **pP** **19 30 49.5 -0.5**
KLMR pmax pmax
comp=Z,62nm,2.0s
NHSC **New Hope** **64.15** **69** P **P** **19 30 27.0 -1.5**
baz=318
KIRV **Kirov** **64.27** **338** LR LR 20 01 51.0
comp=Z,356nm,18.9s,baz=356,slow=39
KIRV **Kirov** **64.27** **338** *ce*P **P** **19 30 27.3 -1.5**
TLIG **Tlapa** **64.93** **94** P **P** **19 30 33.5 -0.4**
TLIG IAmb IAmb 19 30 35.6
comp=Z,42nm,1.0s
GOMU **GeErMu** **64.95** **297** P **P** **19 30 33.9 -0.3**
GOMU pmax pmax
comp=Z,5.0nm,0.5s
GOMU pmax pmax
comp=Z,210nm,6.1s
AKN **Aaknes** **65.10** **2** *e*P **P** **19 30 34.8 +0.5**
FIA1 **FINESS Array S** **65.16** **352** P **P** **19 30 34.6 -0.1**
FIA1 IAmb IAmb 19 30 36.4
comp=Z,21nm,0.7s
FIA0 **FINESS Array S** **65.16** **352** P **P** **19 30 34.1 -0.5**
FIA0 **FINESS Array S** **65.16** **352** P **P** **19 30 34.2 -0.5**
FINES **FINESS Array B** **65.16** **352** P **P** **19 30 34.2 -0.5**
comp=Z,15nm,0.6s,baz=16,slow=7.5,SNR=60
FINES LR LR 20 01 03.2
comp=Z,306nm,18.9s,baz=342,slow=38
comp=Z,15nm,0.6s
FINES **FINESS Array B** **65.16** **352** P **P** **19 30 34.0 -0.6**
FINES **FINESS Array B** **65.16** **352** *i* P **P** **19 30 34.7 +0.1**
FINES pmax pmax
comp=Z,15nm,0.6s
GYA **Guiyang** **65.49** **282** ⇓ *i* P **P** **19 30 37.1 -0.4**
GYA pP pP 19 31 00.3 +0.1
GYA S **S** **19 39 14.2 -0.9**
GYA SS **SS** **19 43 28.1 -1.6**
GYA pmax pmax
comp=Z,15nm,1.5s
GYA pmax pmax
comp=Z,330nm,5.2s
GYA LR LR
comp=Z,190nm,4.4s
GYA LR LR
comp=Z,110nm,7.5s
GYA LR LR
comp=Z,120nm,5.8s
KRVT **Keravat (AS076** **65.52** **223** LR LR 19 53 56.9
comp=Z,65nm,20.4s,baz=173,slow=31
RAF **Rauma** **65.91** **354** *e*P **P** **19 30 39.1 -0.3**
NC204 **NORSAR Array S** **66.03** **360** P **P** **19 30 40.3 -0.1**
NC204 IAmb IAmb 19 31 33.7
comp=Z,83nm,1.8s
NC303 **NORSAR Array S** **66.08** **359** P **P** **19 30 40.9 +0.3**
NC405 **NORSAR Array S** **66.19** **359** P **P** **19 30 40.5 -0.9**
NB201 **NORSAR Array S** **66.26** **359** P **P** **19 30 41.7 0.0**
NB201 IAmb IAmb 19 32 52.0
comp=Z,111nm,1.9s
NB2 **NORSAR Subarra** **66.27** **359** P **P** **19 30 42.1 +0.3**
comp=Z,4.0nm,0.7s,baz=360,slow=6.2
NB2 **NORSAR Subarra** **66.27** **359** P **P** **19 30 42.1 +0.3**
baz=360,slow=6.2
NOA **NORSAR Array B** **66.27** **359** P **P** **19 30 40.8 -1.0**
comp=Z,4.9nm,0.7s,baz=0.2,slow=6.3,SNR=23
NOA ScP 19 35 05.6
comp=Z,1.0nm,0.8s,baz=351,slow=5.0,SNR=3.3
NOA PKKP **PKKPdf** **19 50 53.6 +1.3**
comp=Z,1.9nm,0.8s,baz=326,slow=7.9,SNR=3.5
NOA LR LR 19 58 46.4
comp=Z,92nm,20.8s,baz=0.0,slow=35
comp=Z,4.9nm,0.7s
NOA **NORSAR Array B** **66.27** **359** P **PKKPdf** **19 50 53.6 +1.3**
MEF **Metsahovi** **66.52** **352** *e*P **P** **19 30 42.7 -0.6**
NC602 **NORSAR Array S** **66.57** **359** P **P** **19 30 43.4 -0.3**
NC602 IAmb IAmb 19 32 53.5
comp=Z,76nm,1.7s
NC602 **NORSAR Array S** **66.57** **359** *e*P **P** **19 30 45.7 +2.0**
SKAR **Skarslia** **66.62** **1** *e*P **P** **19 30 44.2 +0.1**
TAOE **Nuku Hiva Isla** **66.65** **148** *e*LR LR 19 50 53.5
comp=Z,609nm,27.2s
TAOE **Nuku Hiva Isla** **66.65** **148** *e*T T 20 42 55.8
comp=Z,63nm,0.2s
TAOE **Nuku Hiva Isla** **66.65** **148** P **P** **19 30 44.3 -0.5**

TAOE Nuku Hiva Isla 66.65 148 P **P** **19 30 44.6 -0.2**
HFS Hagfors 67.14 358 LR LR 20 01 38.3
comp=Z,158nm,18.4s,baz=295,slow=37
DWPF Disney Wildern 67.16 73 P **P** **19 30 46.5 -1.4**
baz=319
UPP Uppsala 67.30 356 *eP* **P** **19 30 47.1 -1.2**
HNR Honiara 67.34 213 LR LR 19 53 16.2
comp=Z,721nm,21.0s,baz=27,slow=30
BLS5 Blasjo 67.86 2 *eP* **P** **19 30 52.0 +0.2**
VSU Vasula 68.04 351 *iP* **P** **19 30 53.0 0.0**
VSU pmax pmax
comp=Z,90nm,0.7s
VSU Vasula 68.04 351 *eP* **P** **19 30 52.8 -0.2**
MTSE Matsula 68.05 352 *eP* **P** **19 30 52.6 -0.4**
PZH PanZhiHua 68.35 285 P **P** **19 30 55.5 -0.1**
PZH pP **pP** **19 31 18.2 -0.4**
PZH pmax pmax
comp=Z,30nm,1.4s
PZH pmax pmax
comp=Z,210nm,6.3s
VIKU Vikbolandet 68.69 356 *eP* **P** **19 30 56.0 -1.0**
KMI Kunming 68.81 284 ⇓P **P** **19 30 58.7 +0.1**
KMI pP pP 19 31 20.3 -1.3
KMI pmax pmax
comp=Z,15nm,1.5s
WUS Wushi 68.88 311 P **P** **19 30 58.6 -0.1**
WUS pP **PcP** **19 31 22.5 -0.1**
TEIG Tepich 69.09 84 P **P** **19 30 59.9 -0.2**
TEIG IAmb IAmb 19 31 01.4
comp=Z,29nm,0.7s
TEIG Tepich 69.09 84 P **P** **19 31 00.3 +0.2**
TARG Taragay, Kyrgy 69.09 312 P **P** **19 31 00.9 +0.5**
TARG Taragay, Kyrgy 69.09 312 P **P** **19 31 00.9 +0.5**
TARG pmax pmax
comp=Z,9.0nm,0.6s
DAV Davao City (W) 69.21 253 LR LR 19 56 59.5
comp=Z,70nm,20.6s,baz=79,slow=32
QIZ Qiongzhong 69.22 274 P P 19 30 54.2 -6.8
QIZ S **S** **19 40 04.1 +4.3**
QIZ sS **SKiKP** **19 40 40.7 -0.8**
QIZ pmax pmax
comp=Z,330nm,3.6s
QIZ LR LR
comp=N,260nm,10.4s
QIZ LR LR
comp=E,190nm,11.9s
QIZ LR LR
comp=Z,210nm,24.7s
MOS Moscow 69.24 344 *eP* **P** **19 30 58.7 -1.8**
MOS *e* 19 31 27.3
MOS pmax pmax
comp=Z,30nm,0.8s
SLIT Slitere, Latvi 69.25 353 *eP* **P** **19 31 00.8 +0.3**
AKTO Aktyubinsk 69.28 330 LR LR 20 05 09.8
comp=Z,260nm,18.5s,baz=210,slow=39
USP Ospenovka 69.30 315 P **P** **19 31 01.6 +0.4**
SNR=20
CHMS Chumysh 69.41 315 P **P** **19 31 02.2 +0.4**
SNR=9.1
KBK Karagaybulak 69.60 315 P **P** **19 31 03.5 +0.3**
SNR=17
ABKAR Akbulak array 69.71 328 P **P** **19 31 02.9 -0.6**
ABKAR Akbulak array 69.71 328 P **P** **19 31 03.3 -0.2**
ABKAR IAmb IAmb 19 31 34.1
comp=Z,39nm,1.4s
CCIG Comitan 69.80 90 P **P** **19 31 04.8 +0.1**
CCIG IAmb IAmb 19 31 07.1
comp=Z,95nm,1.5s
AAK Ala-Archa 69.81 315 P **P** **19 31 04.9 +0.4**
SNR=23
AAK Ala-Archa 69.81 315 LR LR 20 03 49.9
comp=Z,204nm,18.3s,baz=14,slow=38
AAK Ala-Archa 69.81 315 P **P** **19 31 04.2 -0.3**
AAK Ala-Archa 69.81 315 *ceP* **P** **19 31 04.3 -0.2**
AAK pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 69.81 315 P **P** **19 31 04.8 +0.4**
AAK pP **pP** **19 31 28.3 +1.0**
TAVE Taveuni 70.00 190 P **P** **19 31 07.0 +1.5**
OBN Obninsk 70.02 344 LR LR 20 05 39.2
comp=Z,55nm,19.1s,baz=354,slow=39
OBN Obninsk 70.02 344 P **P** **19 31 04.0 -1.2**
OBN Obninsk 70.02 344 ⇓*iP* **P** **19 31 03.5 -1.7**
OBN *i* 19 31 26.5
OBN *i* *PP **pwP** **19 31 33.5 +3.0**
OBN *e*SP **sP** **19 31 40.1 +2.2**
OBN *i* 19 33 38.4
OBN S **S** **19 40 10.0 +2.0**
OBN *e*SS **sS** **19 40 45.9 -1.2**
OBN SSS SSS 19 47 49.0
OBN pmax pmax
comp=Z,69nm,1.7s
OBN MLR MLR
comp=Z,217nm,13.0s
EKS2 Erkin-Say 70.10 315 P **P** **19 31 06.6 +0.4**
SNR=13
UCH Uchtor 70.14 315 P **P** **19 31 07.2 +0.4**
SNR=6.8
SOR Soroa 70.27 78 P **P** **19 31 07.4 0.0**
SOR Soroa 70.27 78 P **P** **19 31 07.4 0.0**
SOR pmax pmax
comp=Z,138nm,1.6s
BELG Belogornoye 70.35 337 LR LR 20 04 54.3
comp=Z,271nm,19.2s,baz=51,slow=38
BELG Belogornoye 70.35 337 *iP* **P** **19 31 06.2 -1.1**
BELG pmax pmax
comp=Z,4.0nm,0.9s
AML Almayashu 70.56 315 P **P** **19 31 10.0 +0.7**
SNR=10.0
VAH Vaihoa 70.65 157 *eP* **P** **19 31 09.7 +0.2**
comp=Z,117nm,1.1s
PETF Flores 70.68 87 P **P** **19 31 09.9 0.0**
PETF IAmb IAmb 19 31 11.2
comp=Z,37nm,0.9s
DEL Delary 70.81 358 *eP* **P** **19 31 09.9 -0.2**
PBUR Paburge 70.87 353 *eP* **P** **19 31 10.7 +0.2**
ISAL Salakas 70.95 350 *eP* **P** **19 31 12.3 +1.3**
KK31 Karatay Array 71.09 318 P **P** **19 31 11.4 -0.7**
KK31 Karatay Array 71.09 318 P **P** **19 31 11.4 -0.7**
KK31 pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 71.09 318 P **P** **19 31 11.1 -1.0**
KKAR Karatay Array 71.09 318 P **P** **19 31 11.5 -0.6**
KKAR Karatay Array 71.09 318 P **P** **19 31 11.5 -0.6**
KKAR pmax pmax
comp=Z,11nm,0.8s
IDID Didziasalis 71.14 350 *eP* **P** **19 31 07.3 -4.8**
IIGN Ignalina 71.16 350 *eP* P 19 31 05.5 -6.7
PABE Paberze 71.22 352 P **P** **19 31 12.4 -0.1**
PABE Paberze 71.22 352 *eP* **P** **19 31 12.7 +0.1**
MSVF Nonsavu 71.25 192 P **P** **19 31 13.8 +0.7**
comp=Z,22nm,1.0s,baz=355,slow=4.1,SNR=12
MSVF LR LR 19 55 49.0
comp=Z,117nm,20.4s,baz=7.9,slow=30
comp=Z,22nm,1.0s
MSVF Nonsavu 71.25 192 P **P** **19 31 12.9 -0.2**
MSVF Nonsavu 71.25 192 P **P** **19 31 14.9 +1.7**
MSVF Nonsavu 71.25 192 *iP* **P** **19 31 14.2 +1.0**
MSVF pmax pmax
comp=Z,22nm,1.0s
MSVF Nonsavu 71.25 192 P **P** **19 31 14.2 +1.0**
MSVF pP **pP** **19 31 35.3 -1.4**
MSVF sP **sP** **19 31 45.6 -1.0**
TNCH TengChong 71.34 287 ⇓P **P** **19 31 14.1 +0.1**
TNCH PcP **PcP** **19 31 33.3 0.0**
TNCH pP pP 19 31 36.7 -0.5
TNCH sP sP 19 31 46.7 -0.4
TNCH S **S** **19 40 16.2 -8.5**
TNCH sS pS 19 40 55.8 +3.9
TNCH SS **SS** **19 44 56.0 -4.0**
TNCH pmax pmax
comp=Z,24nm,1.2s
TNCH pmax pmax
comp=Z,140nm,4.7s
EKA Eskdalemuir Ar 71.44 8 LR LR 20 01 28.8
comp=Z,345nm,20.6s,baz=338,slow=35
EKA Eskdalemuir Ar 71.44 8 P **P** **19 31 12.9 -1.0**
NACGM Naroch 71.54 350 *eP* **P** **19 31 14.2 -0.4**
comp=Z,17nm,0.7s,baz=10.0
KSH Kashi 71.70 312 P **P** **19 31 19.6 +3.7**
KSH pP pwP 19 31 43.7 +2.5
KSH pmax pmax
comp=Z,13nm,0.5s
MNK Minsk 71.82 349 *iP* **P** **19 31 16.7 +0.5**
comp=E,3.0nm,1.2s
MNK *iP* **P** **19 31 16.7 +0.5**
comp=N,16nm,0.8s
MNK *iP* **P** **19 31 16.7 +0.5**
comp=Z,28nm,0.8s,baz=191
MNK *ip* **pP** **19 31 39.9 +0.6**
MNK *iPP* **PP** **19 33 57.1 +1.2**
MNK *iPPP* PPP 19 35 41.2
MNK *iS* **S** **19 40 30.8 +1.9**
MNK *isS* **SKSac** **19 41 11.0 -0.1**
MNK *iScS* **ScS** **19 41 13.9 +0.9**
MNK *iSS* **SS** **19 45 09.7 +4.4**
MNK *iSSS* SSS 19 48 29.9
MNK *iLR* LR 20 03 35.2
MNK *iLRM* MLR 20 05 13.0
comp=Z,257nm,21.2s
MNK *iLRM* MLR 20 05 21.5
comp=N,322nm,17.0s
MNK *iLRM* MLR 20 05 41.8
comp=E,23nm,17.0s
MNK Minsk 71.82 349 *iP* **P** **19 31 16.7 +0.5**
MNK *i*PP **pP** **19 31 39.8 +0.6**
MNK *i* 19 33 57.0
MNK *iPPP* PPP 19 35 41.1
MNK *iS* **S** **19 40 30.8 +1.9**
MNK *i*SS **SKSac** **19 41 11.0 -0.1**
MNK *i* 19 41 13.8
MNK *iSS* **SS** **19 45 09.7 +4.4**
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.2s
MNK pmax pmax
comp=Z,28nm,0.8s
MNK MLR MLR
comp=Z,257nm,21.0s
MNK MLR MLR
comp=N,322nm,17.0s
MNK MLR MLR
comp=E,23nm,17.0s
LSA Lhasa 71.89 295 P **P** **19 31 17.8 +0.2**
LSA Lhasa 71.89 295 P **P** **19 31 17.8 +0.2**
LSA pmax pmax
comp=Z,17nm,0.7s
LSA Lhasa 71.89 295 P **P** **19 31 18.5 +0.9**
LPSR Galich'ya Gora 72.01 342 *eP* **P** **19 31 16.2 -1.1**
LPSR *e*SP **pwP** **19 31 44.8 +2.2**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
PMG Port Moresby 72.15 225 P **P** **19 31 18.5 -0.2**
comp=Z,8.9nm,0.8s,baz=328,slow=2.0,SNR=5.3
PMG LR LR 20 00 39.8
comp=Z,36nm,18.7s,baz=20,slow=34
comp=Z,8.9nm,0.8s
PMG Port Moresby 72.15 225 P **P** **19 31 18.6 0.0**
PMG Port Moresby 72.15 225 P **P** **19 31 20.7 +2.1**
PMG Port Moresby 72.15 225 *ceP* **P** **19 31 18.4 -0.2**
PMG pmax pmax
comp=Z,16nm,1.3s
PPT Papeete 72.47 160 P **P** **19 31 21.2 +0.7**
comp=Z,14nm,0.5s,baz=251,slow=6.1,SNR=3.9
PPT LR LR 19 55 15.4
comp=Z,222nm,21.4s,baz=357,slow=29
comp=Z,14nm,0.5s
PPT2 Papeete2 72.49 160 *eP* **P** **19 31 20.0 -0.6**
comp=Z,49nm,1.4s
PPT2 *eS* **S** **19 40 36.2 -1.2**
comp=Z,172nm,29.2s
PPT2 Papeete2 72.49 160 *e*LR LR 19 53 35.7
comp=Z,566nm,26.5s
PPT2 *e*LR LR 19 53 36.3
comp=Z,446nm,28.2s
PPTF Pamatai, Papee 72.49 160 P **P** **19 31 21.4 +0.8**
TIAR Tiarei 72.51 159 *eP* **P** **19 31 20.9 +0.2**
comp=Z,23nm,0.9s
SWI Sorong 72.53 244 P **P** **19 31 21.1 +0.2**
SWI pmax pmax
comp=Z,52nm,0.8s
TVO Taravao 72.75 159 *eP* **P** **19 31 22.0 -0.1**
comp=Z,28nm,1.0s
TVO *epP* **pP** **19 31 44.3 -1.4**
comp=Z,16nm,1.1s
VRH Novokhopyorsk 72.78 340 *eP* **P** **19 31 19.7 -2.3**
VRH *e*SP **pwP** **19 31 49.2 +2.0**
VRH pmax pmax
comp=Z,6.0nm,0.8s
VORR Voronezh 72.84 342 P **P** **19 31 22.9 +0.6**
VORR pmax pmax
comp=Z,20nm,1.4s
VSR Storozhevoye 73.28 341 *eP* **P** **19 31 22.8 -2.1**
VSR *e*SP **pwP** **19 31 52.8 +2.6**
VSR pmax pmax
comp=Z,30nm,1.7s
FAKI Fak Fak 73.72 242 P **P** **19 31 27.6 -0.3**
FAKI IAmb IAmb 19 31 31.3
comp=Z,23nm,0.7s
FAKI Fak Fak 73.72 242 P **P** **19 31 28.1 +0.1**
GKP Gorka Klasztor 73.90 356 *eP* **P** **19 31 29.1 +0.6**
GKP Gorka Klasztor 73.90 356 P **P** **19 31 28.8 +0.3**
GKP pmax pmax
comp=Z,52nm,0.6s
GKP Gorka Klasztor 73.90 356 *eP* **P** **19 31 28.9 +0.5**
CRAI Chiangrai 73.96 282 P **P** **19 31 29.2 -0.2**
NONG Nongkai 73.99 279 P **P** **19 31 31.1 +1.6**
RAR Rarotonga 74.45 170 P **P** **19 31 31.5 -0.4**
comp=Z,14nm,0.9s,baz=256,slow=4.2,SNR=6.2
RAR LR LR 19 55 37.4
comp=Z,254nm,20.7s,baz=319,slow=29
comp=Z,14nm,0.9s
RETH Rethem/Aller, 74.59 0 *eP* **P** **19 31 33.5 +1.0**
comp=Z,17nm,0.9s,baz=1.1,slow=5.7
GAR Garm 74.60 315 P **P** **19 31 32.7 -0.3**
GAR IAmb IAmb 19 31 35.1
comp=Z,38nm,0.6s
SHL Shillong 74.70 292 P **P** **19 31 32.7 -1.1**
SHL IAmb IAmb 19 31 34.0
comp=Z,92nm,1.9s
SHL Shillong 74.70 292 P **P** **19 31 32.7 -1.1**
SHL pmax pmax
comp=Z,91nm,1.9s
UBPT Khong Chiam 74.75 275 P **P** **19 31 34.4 +0.4**
UBPT Khong Chiam 74.75 275 P **P** **19 31 34.4 +0.4**
comp=Z,35nm,0.8s
FLTG Flechtingen 75.00 359 *eP* **P** **19 31 35.2 +0.3**
comp=Z,24nm,1.2s,baz=1.1,slow=5.7
IBBN Ibbenburen 75.01 2 *eP* **P** **19 31 35.8 +0.9**
comp=Z,28nm,0.7s,baz=1.1,slow=5.7
MND Mandalay 75.06 287 P **P** **19 31 35.1 -0.6**
comp=Z,4.6nm,1.1s
ASSE Asse, Remlinge 75.20 360 *eP* **P** **19 31 36.8 +0.8**
comp=Z,26nm,1.4s,baz=1.1,slow=5.7
CHGR Chuyangaron 75.37 316 P **P** **19 31 36.7 -0.7**
CHGR Chuyangaron 75.37 316 P **P** **19 31 36.7 -0.7**
CHGR pmax pmax
comp=Z,59nm,0.6s
PHRA Phrae 75.38 281 P **P** **19 31 37.3 -0.3**
AKASG Malin Array Be 75.39 348 P **P** **19 31 36.2 -0.9**
comp=Z,14nm,0.5s,baz=17,slow=5.9,SNR=11.8
AKASG pP **pP** **19 32 00.0 -0.4**
comp=Z,4.5nm,0.6s,baz=17,slow=5.5,SNR=2.2
AKASG PKiKP **PKiKP** **19 37 25.8 +0.9**
comp=Z,0.2nm,0.5s,baz=45,slow=1.1,SNR=4.2
AKASG LR LR 20 09 35.6
comp=Z,232nm,19.4s,baz=342,slow=39
comp=Z,14nm,0.5s
AKASG Malin Array Be 75.39 348 P **P** **19 31 35.6 -1.6**
AKBB Malin Array Si 75.39 348 P **P** **19 31 36.1 -1.0**
AKBB IAmb IAmb 19 31 37.2
comp=Z,19nm,0.6s
AKBB Malin Array Si 75.39 348 *ceP* **P** **19 31 35.7 -1.4**
AKBB pmax pmax
comp=Z,16nm,0.6s
AK05 Malin Array Si 75.47 348 P **P** **19 31 36.6 -1.0**
CLZ Clausthal 75.49 360 *eP* **P** **19 31 38.9 +1.1**
comp=Z,14nm,0.8s,baz=1.1,slow=5.7
KKM Kota Kinabalu 75.54 261 P **P** **19 31 38.7 0.0**
TAPN Taplejung 75.60 296 *eP* **P** **19 31 38.7 -0.4**
comp=Z,28nm,0.7s
GTTG Gottingen 75.79 0 *eP* **P** **19 31 40.6 +1.1**
comp=Z,19nm,0.8s,baz=1.1,slow=5.7
BUG Bochum--Univer 75.87 2 *eP* **P** **19 31 40.4 +0.5**
comp=Z,15nm,1.0s,baz=1.1,slow=5.7
CHTO Chiang Mai 75.90 282 P **P** **19 31 39.6 -1.0**
CHTO Chiang Mai 75.90 282 P **P** **19 31 39.6 -1.0**
CHTO pmax pmax
comp=Z,2.0nm,1.8s
CLL Collm 76.00 358 P **P** **19 31 40.3 -0.3**
CLL Collm 76.00 358 *eP* **P** **19 31 41.0 +0.4**
comp=Z,15nm,0.7s
CLL *es*P **sP** **19 32 13.0 -0.8**
CLL *e*(PP) 19 34 43.0
CLL *ex* x 19 36 50.0
CLL Collm 76.00 358 *eP* **P** **19 31 41.0 +0.4**
CLL pmax pmax
comp=Z,15nm,0.7s
CLL Collm 76.00 358 *eP* **P** **19 31 41.0 +0.4**
comp=Z,15nm,0.7s,baz=1.1,slow=5.7
NEUB Neuenburg 76.12 359 *eP* **P** **19 31 41.8 +0.5**
comp=Z,44nm,1.4s,baz=1.1,slow=5.7
KASTN Kahler Asten 76.12 1 *eP* **P** **19 31 42.1 +0.7**
comp=Z,34nm,1.6s,baz=1.1,slow=5.7
JIRN Jiri 76.17 298 *eP* **P** **19 31 42.1 -0.4**
comp=Z,16nm,0.4s
CM31 Chiang Mai Arr 76.18 282 P **P** **19 31 41.8 -0.3**
CMAR Chiang Mai Arr 76.18 282 P **P** **19 31 42.0 -0.2**
comp=Z,10nm,0.8s,baz=27,slow=6.6,SNR=65
CMAR LR LR 20 07 30.0
comp=Z,64nm,20.4s,baz=40,slow=37
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 76.18 282 P **P** **19 31 41.8 -0.3**
CMAR Chiang Mai Arr 76.18 282 P **P** **19 31 42.0 -0.2**
FBE Freiberg 76.38 358 *eP* **P** **19 31 43.6 +0.9**
comp=Z,26nm,0.8s,baz=1.1,slow=5.7
BRG Berggiesshubel 76.41 358 *iP* **P** **19 31 43.6 +0.6**
BRG Amp 19 31 44.8
comp=Z,14nm,0.8s
BRG Berggiesshubel 76.41 358 *iP* **P** **19 31 43.6 +0.6**
BRG 19 32 06.9
BRG pmax pmax
comp=Z,14nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 76.41 358 *eP* **P** **19 31 43.5 +0.6**
comp=Z,25nm,1.1s,baz=1.1,slow=5.7
SANI Sanana 76.42 248 P **P** **19 31 43.0 -0.5**
RAMN Ramite 76.52 297 *eP* **P** **19 31 43.4 -0.9**
comp=Z,22nm,0.5s
AAI Ambon 76.55 245 P **P** **19 31 44.5 +0.3**
AAI pmax pmax
comp=Z,39nm,0.8s
OSTC Ostas 76.65 356 *eP* **P** **19 31 44.7 +0.3**
PKI Pulchoki 76.66 298 *eP* **P** **19 31 44.3 -0.9**
PKIN Phulchoki 76.66 298 *eP* **P** **19 31 44.1 -1.0**
comp=Z,11nm,0.5s
MEM Membach 76.67 3 P **P** **19 31 44.8 +0.4**
MEM pmax pmax
comp=Z,33nm,1.5s
MEM Membach 76.67 3 *dP* **P** **19 31 44.9 +0.5**
BSTI Sart Tilman 76.68 3 *dP* **P** **19 31 44.9 +0.4**
comp=Z,6.1nm,0.6s
MOX Moxa 76.69 359 P **P** **19 31 45.0 +0.5**
MOX pmax pmax
comp=Z,24nm,1.6s
MOX Moxa 76.69 359 *eP* **P** **19 31 45.3 +0.8**
comp=Z,33nm,1.3s,baz=1.1,slow=5.7
BTNL Ternell 76.70 3 *dP* **P** **19 31 45.7 +1.1**
UPC Upice 76.71 356 *eP* **P** **19 31 45.4 +0.7**
UPC Upice 76.71 356 *eP* **P** **19 31 45.4 +0.7**
GKN Gorkha 76.72 299 *eP* **P** **19 31 44.5 -0.8**
PVCC Panska Ves 76.74 357 *eP* **P** **19 31 45.3 +0.5**
PVCC Panska Ves 76.74 357 *eP* **P** **19 31 45.3 +0.5**
DMN Daman 76.79 298 *eP* **P** **19 31 45.1 -0.7**
OJC Ojcow 76.79 354 *eP* **P** **19 31 45.7 +0.6**
OJC Ojcow 76.79 354 P **P** **19 31 45.2 0.0**
OJC IAmb IAmb 19 31 47.8
comp=Z,90nm,1.9s
OJC Ojcow 76.79 354 P **P** **19 31 45.2 0.0**
OJC pmax pmax
comp=Z,90nm,1.9s
TOLI2 Tolitoli 76.80 254 P **P** **19 31 48.3 +2.6**
BCLA Clavier 76.84 3 *dP* **P** **19 31 44.8 -0.5**
LVV L'vov 76.85 351 *eP* **P** **19 31 45.1 -0.3**
DPC Dobruska-Polom 76.85 356 *eP* **P** **19 31 46.2 +0.7**
DPC Dobruska-Polom 76.85 356 *eP* **P** **19 31 46.2 +0.7**
BGES Gesves 76.86 3 *dP* **P** **19 31 45.8 +0.2**
comp=Z,14nm,0.8s
WERD Werda 76.87 359 *eP* **P** **19 31 46.4 +0.7**
comp=Z,32nm,1.9s,baz=1.1,slow=5.7
TANN Tannenbergstha 76.90 358 *eP* **P** **19 31 46.5 +0.7**
comp=Z,53nm,2.0s,baz=1.1,slow=5.7
DANN Dangsing 76.91 300 *eP* **P** **19 31 46.1 -0.4**
BHOU Houvegnez 76.92 3 *dP* **P** **19 31 46.5 +0.7**
BMRD Maredsous 76.94 4 *dP* **P** **19 31 46.2 +0.3**
comp=Z,16nm,0.7s
GUNZ Gunzen 76.96 359 *eP* **P** **19 31 47.0 +0.9**
comp=Z,20nm,1.4s,baz=1.1,slow=5.7
WERN Wernitzgruen 77.03 359 *eP* **P** **19 31 47.6 +1.1**
comp=Z,32nm,1.3s,baz=1.1,slow=5.7
NKC Novy Kostel 77.09 358 *eP* **P** **19 31 47.3 +0.5**
NKC Novy Kostel 77.09 358 *eP* **P** **19 31 47.3 +0.5**
RCHB Rochefort 77.10 3 *dP* **P** **19 31 46.9 +0.1**
comp=Z,11nm,0.7s
BRDH Bariadhala 77.10 290 LR LR 20 09 13.3
comp=Z,92nm,18.2s,baz=83,slow=38
TNS Taunus Mts 77.11 1 P **P** **19 31 47.5 +0.5**
TNS pmax pmax
comp=Z,16nm,1.4s
TNS Taunus Mts 77.11 1 *eP* **P** **19 31 47.7 +0.7**
comp=Z,9.8nm,0.7s,baz=1.1,slow=5.7
KRLC Kraliky 77.11 356 *eP* **P** **19 31 47.4 +0.4**
KRLC Kraliky 77.11 356 *eP* **P** **19 31 47.4 +0.4**
DOU Dourbes 77.14 4 *dP* **P** **19 31 47.2 +0.2**
comp=Z,9.1nm,0.6s
GIVF Givet 77.14 4 *eP* **P** **19 31 48.0 +0.9**
GIVF pmax pmax
comp=Z,15nm,1.0s
BAIF Baives 77.16 4 *eP* **P** **19 31 47.1 -0.1**
BAIF pmax pmax
comp=Z,9.0nm,0.5s
OKC Ostrava-Krasne 77.28 355 *eP* **P** **19 31 48.5 +0.7**
OKC Ostrava-Krasne 77.28 355 *eP* **P** **19 31 48.5 +0.7**
PRU Pruhonice 77.28 357 *eP* **P** **19 31 48.3 +0.4**
PRU Pruhonice 77.28 357 *eP* **P** **19 31 48.3 +0.4**
MANZ Manzenberg 77.34 359 *eP* **P** **19 31 49.0 +0.8**
comp=Z,6.5nm,1.7s,baz=1.1,slow=5.7
GOPC GO Pecny, Ondr 77.35 357 *eP* **P** **19 31 48.9 +0.6**
GOPC GO Pecny, Ondr 77.35 357 *eP* **P** **19 31 48.9 +0.6**
MORC Moravsky Berou 77.37 355 P **P** **19 31 48.0 -0.4**
MORC Moravsky Berou 77.37 355 *eP* **P** **19 31 48.7 +0.3**
MORC Moravsky Berou 77.37 355 P **P** **19 31 48.0 -0.4**
MORC pmax pmax
comp=Z,11nm,0.7s
LUWI Luwuk 77.41 251 P **P** **19 31 48.0 -1.1**
LUWI IAmb IAmb 19 32 12.9
comp=Z,42nm,0.6s
LUWI Luwuk 77.41 251 P **P** **19 31 48.5 -0.5**
STHS Stebnicka Huta 77.49 353 *eP* **P** **19 31 49.4 +0.3**
STHS pmax pmax
comp=Z,14nm,0.8s
STHS Stebnicka Huta 77.49 353 *eP* **P** **19 31 49.4 +0.3**
ROTZ Rotzenmuhle 77.56 359 *eP* **P** **19 31 50.4 +1.0**
comp=Z,9.6nm,1.6s,baz=1.1,slow=5.7
DZM Mont Dzumac 77.57 202 *eP* **P** **19 31 51.3 +1.5**
comp=Z,65nm,23.2s
DZM *eS* **S** **19 41 33.0 -0.7**
comp=Z,93nm,36.5s
DZM Mont Dzumac 77.57 202 *e*LR LR 19 55 58.5
comp=Z,488nm,33.6s
DZM Mont Dzumac 77.57 202 P **P** **19 31 49.9 +0.1**
comp=Z,10nm,1.0s,baz=20,slow=19,SNR=3.7
DZM LR LR 20 03 47.4
comp=Z,147nm,18.7s,baz=16,slow=34
comp=Z,10nm,1.0s
WLF Walferdange 77.62 3 *dP* **P** **19 31 50.5 +0.8**
WLF Walferdange 77.62 3 *eP* **P** **19 31 50.9 +1.1**
comp=Z,58nm,1.8s,baz=1.1,slow=5.7
GRA1 Grafenberg Arr 77.64 359 P **P** **19 31 50.9 +1.0**
GRF Grafenberg Arr 77.64 359 P **P** **19 31 50.9 +1.0**
GRF pmax pmax
comp=Z,21nm,0.7s
GRF Grafenberg Arr 77.64 359 *eP* **P** **19 31 51.2 +1.3**
comp=Z,73nm,1.5s,baz=1.1,slow=5.7
GRFO Grafenberg 77.64 359 P **P** **19 31 50.2 +0.3**
GRFO Grafenberg 77.64 359 P **P** **19 31 50.2 +0.3**
GRFO pmax pmax
comp=Z,19nm,0.7s
MAUC Maruska 77.76 355 *eP* **P** **19 31 51.3 +0.7**
NIL Nilore 77.77 310 P **P** **19 31 50.8 -0.1**
NIL Nilore 77.77 310 P **P** **19 31 50.8 -0.1**
NIL pmax pmax
comp=Z,22nm,0.8s

LANS Liptovska Anna 77.88 354 *e*P **P 19 31 52.7 +1.4**
LANS pmax pmax
comp=Z,14nm,0.7s
LANS Liptovska Anna 77.88 354 *e*P **P 19 31 52.7 +1.4**
VRAC Vranov 77.88 356 LR LR 20 08 03.2
comp=Z,218nm,18.3s,baz=326,slow=37
VRAC Vranov 77.88 356 ⇓P **P 19 31 52.1 +0.8**
VRAC Vranov 77.88 356 *e*P **P 19 31 51.9 +0.6**
VRAC Vranov 77.88 356 ⇓P **P 19 31 52.1 +0.8**
TREC Trest 77.94 356 *e*P **P 19 31 52.1 +0.5**
TREC Trest 77.94 356 *e*P **P 19 31 52.1 +0.5**
CRVS Cervenica-Dubn 77.98 352 *e*P **P 19 31 52.4 +0.6**
CRVS pmax pmax
comp=Z,16nm,1.0s
CRVS Cervenica-Dubn 77.98 352 *e*P **P 19 31 52.4 +0.6**
SORM Soroca 78.02 348 ⇓P **P 19 31 51.3 -0.7**
SORM Soroca 78.02 348 ⇓P **P 19 31 51.3 -0.7**
TBI Tubuai 78.11 161 *e*P **P 19 31 53.5 +0.9**
comp=Z,372nm,26.0s
TBI *e*S **S 19 41 38.5 -0.6**
comp=Z,703nm,35.0s
TBI Tubuai 78.11 161 *e*LR LR 19 56 09.8
comp=Z,5µm,27.0s
TBI *e*LR LR 19 56 12.6
comp=Z,2µm,29.2s
TBI Tubuai 78.11 161 *e*T T 20 57 20.7
comp=Z,6.6nm,0.2s
KRUC Moravsky 78.14 356 *e*P **P 19 31 53.0 +0.4**
KHC Kasperske Hory 78.17 358 P **P 19 31 53.1 +0.3**
KHC Kasperske Hory 78.17 358 *e*P **P 19 31 53.6 +0.7**
KHC Kasperske Hory 78.17 358 *i*P **P 19 31 52.7 -0.2**
KHC pmax pmax
comp=Z,22nm,1.0s
FLN La Foliniere 78.18 7 *e*P **P 19 31 52.9 +0.1**
FLN pmax pmax
comp=Z,144nm,2.0s
UZH Uzhgorod 78.18 352 *e*P **P 19 31 53.0 +0.1**
UZH *e* 19 32 00.0
JAVC Velka Javorina 78.28 355 *e*P **P 19 31 55.1 +1.6**
ROSF Rostrenen 78.36 9 *e*P **P 19 31 53.9 0.0**
ROSF pmax pmax
comp=Z,105nm,1.7s
LDF La Druitiere 78.37 7 *e*P **P 19 31 53.2 -0.7**
LDF pmax pmax
comp=Z,16nm,0.5s
ORTG Ortega, Santa 78.44 88 P **P 19 31 54.4 -0.5**
ORTG IAmb IAmb 19 31 56.7
comp=Z,48nm,1.1s
GEC2 GERESS Array S 78.45 358 P **P 19 31 55.0 +0.5**
GEC2 GERESS Array S 78.45 358 P **P 19 31 54.6 +0.1**
GEC2 pmax pmax
comp=Z,16nm,1.5s
GEC2 GERESS Array S 78.45 358 *e*P **P 19 31 55.2 +0.7**
comp=Z,27nm,1.6s,baz=1.1,slow=5.7
GERES GERESS Array B 78.45 358 P **P 19 31 53.9 -0.6**
comp=Z,5.7nm,0.6s,baz=20,slow=4.3,SNR=58
GERES LR LR 20 07 24.6
comp=Z,179nm,18.9s,baz=324,slow=36
comp=Z,5.7nm,0.6s
GERES GERESS Array B 78.45 358 P **P 19 31 54.2 -0.2**
GERES GERESS Array B 78.45 358 P **P 19 31 54.3 -0.2**
CKRC Cesky Krumlov 78.46 357 *e*P **P 19 31 55.7 +1.3**
SGMF Saint Gilles 78.51 9 *e*P **P 19 31 54.7 0.0**
SGMF pmax pmax
comp=Z,91nm,1.5s
GRR Gorron 78.52 7 *e*P **P 19 31 54.2 -0.5**
GRR pmax pmax
comp=Z,88nm,1.6s
STU Stuttgart 78.56 1 P **P 19 31 55.3 +0.3**
STU Stuttgart 78.56 1 P **P 19 31 55.3 +0.3**
STU pmax pmax
comp=Z,18nm,0.8s
STU Stuttgart 78.56 1 *e*P **P 19 31 55.8 +0.8**
comp=Z,63nm,0.9s,baz=1.1,slow=5.7
VYHS Vyhne 78.58 354 *e*P **P 19 31 55.8 +0.7**
VYHS pmax pmax
comp=Z,33nm,1.4s
VYHS Vyhne 78.58 354 *e*P **P 19 31 55.8 +0.7**
SMOL Smolenice 78.64 355 *e*P **P 19 31 56.9 +1.5**
SMOL pmax pmax
comp=Z,18nm,1.3s
DUNO Dulce Nombre, 78.64 88 P **P 19 31 56.0 0.0**
DUNO IAmb IAmb 19 31 57.0
comp=Z,40nm,0.8s
TRPA Tarpa 78.66 352 ⇑P **P 19 31 56.3 +0.8**
MODS Modra-Piesok 78.78 355 *e*P **P 19 31 57.5 +1.3**
MODS pmax pmax
comp=Z,79nm,1.2s
MODS Modra-Piesok 78.78 355 *e*P **P 19 31 57.5 +1.3**
BUR08 Bucovina Ar. S 78.88 350 P **P 19 31 56.8 -0.1**
CDF Champ du Feu 78.90 2 *e*P **P 19 31 56.8 -0.2**
CDF pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 78.90 314 P **P 19 31 55.6 -1.8**
KBL Kabul 78.90 314 P **P 19 31 55.6 -1.8**
KBL pmax pmax
comp=Z,11nm,0.8s
BURAR Bucovina Array 78.90 350 ⇑P **P 19 31 57.1 +0.1**
BURAR Bucovina Array 78.90 350 P **P 19 31 56.5 -0.5**
BURAR Bucovina Array 78.90 350 ⇑P **P 19 31 57.1 +0.1**
ZST Bratislava 78.97 355 *e*P **P 19 31 58.3 +1.1**
ZST pmax pmax
comp=Z,55nm,0.8s
ZST Bratislava 78.97 355 *e*P **P 19 31 58.3 +1.1**
BFO Black Forest 79.00 1 P **P 19 31 56.8 -0.6**
BFO IAmb IAmb 19 31 59.8
comp=Z,52nm,1.6s
BFO Black Forest 79.00 1 P **P 19 31 56.8 -0.6**
BFO pmax pmax
comp=Z,52nm,1.6s
PSZ Piszkesteto 79.08 353 P **P 19 31 58.4 +0.5**
PSZ Piszkesteto 79.08 353 P **P 19 31 58.4 +0.5**
PSZ pmax pmax
comp=Z,23nm,1.2s
CLF Chambon-Foret 79.09 5 P **P 19 31 57.6 -0.3**
CLF IAmb IAmb 19 31 59.2
comp=Z,38nm,0.7s
ECH Echery 79.09 2 P **P 19 31 57.5 -0.4**
ECH Echery 79.09 2 P **P 19 31 57.5 -0.4**
ECH pmax pmax
comp=Z,48nm,1.7s
MAK Makhachkala 79.11 333 *e*P **P 19 31 56.7 -1.3**
MAK *e**PP **pP 19 32 20.2 -1.2**
MAK *e**SP **sP 19 32 30.0 -1.1**
MAK *e* 19 34 54.4
MAK *e*S **S 19 41 49.1 -0.6**
MAK *e**SS **sS 19 42 29.6 +0.1**
MAK *e*SSS SSS 19 50 24.8
MAK pmax pmax
comp=Z,187nm,2.1s
MILM Milestii Mici 79.15 347 *e*P **P 19 31 55.0 -3.2**
comp=Z,140nm,2.6s
MILM Milestii Mici 79.15 347 ⇑P **P 19 31 58.5 +0.3**
MILM Milestii Mici 79.15 347 ⇑P **P 19 31 58.5 +0.3**
FUR Furstenfeldbru 79.17 359 *e*P **P 19 31 59.4 +1.1**
comp=Z,125nm,1.6s,baz=1.1,slow=5.7
HAU Haudompre 79.28 3 *e*P **P 19 31 58.8 -0.2**
HAU pmax pmax
comp=Z,10.0nm,0.6s
SRO Srobarova 79.28 354 *e*P **P 19 32 00.5 +1.6**
SRO Srobarova 79.28 354 *e*P **P 19 32 00.5 +1.6**
CONA Conrad Observa 79.29 356 *i*P **P 19 31 59.7 +0.5**
comp=Z,47nm,1.4s,SNR=11
KIV Kislovodsk 79.41 337 ⇑P **P 19 32 00.3 +0.4**
KIV Kislovodsk 79.41 337 P **P 19 32 00.2 +0.4**
KIV Kislovodsk 79.41 337 *e*P **P 19 31 59.7 -0.1**
KIV pmax pmax
comp=Z,14nm,1.1s
MOA Molln 79.43 357 *i*P **P 19 31 59.6 -0.2**
comp=Z,16nm,1.4s
HINF Hinteralfeld 79.48 2 *e*P **P 19 32 00.3 +0.2**
HINF pmax pmax
comp=Z,12nm,0.6s
RONA Rosalia, Austr 79.50 356 *e*P **P 19 32 01.0 +0.8**
comp=Z,5.8nm,0.5s,SNR=5.9
SOP Sopron 79.51 356 P **P 19 32 01.4 +1.2**
SOP pmax pmax
comp=Z,21nm,1.4s
ARCR ARCALIA 79.52 350 ⇑P **P 19 32 01.0 +0.8**
VASR Vaslui 79.56 348 ⇑P **P 19 31 59.4 -1.1**
KBZ Khabaz 79.58 336 P **P 19 32 01.2 +0.6**
comp=Z,5.9nm,0.8s,baz=23,slow=1.4,SNR=13
KBZ LR LR 20 09 42.5
comp=Z,175nm,19.9s,baz=345,slow=38
comp=Z,5.9nm,0.8s
KBZ Khabaz 79.58 336 *ce*P **P 19 32 00.5 -0.1**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
BIOA Bad Ischl, Aus 79.60 358 *e*P **P 19 32 01.4 +0.7**
comp=Z,12nm,0.6s,SNR=8.3
SHA1 Shidzhatmaz 79.62 337 *i*P **P 19 32 01.1 -0.1**
RETA Reutte 79.85 360 *e*P **P 19 32 02.6 +0.4**
comp=Z,7.7nm,0.5s,SNR=5.4
LOR Lormes 79.93 4 *e*P **P 19 32 02.3 -0.2**
LOR pmax pmax
comp=Z,10.0nm,0.7s
ARSA Arzberg 79.98 356 *e*P **P 19 32 03.0 +0.3**
comp=Z,28nm,1.2s,SNR=7.6
MOTA Moosalm 79.99 359 *e*P **P 19 32 03.6 +0.6**
comp=Z,11nm,0.5s,SNR=6.8
WATA Walderalm 80.00 359 *i*P **P 19 32 03.5 +0.5**
comp=Z,16nm,0.5s,SNR=6.8
MARR Marisel-Cluj 80.05 351 ⇑P **P 19 32 03.2 0.0**
DAVA Damuels 80.05 0 *i*P **P 19 32 04.0 +0.7**
comp=Z,20nm,1.4s
WTTA Wattenberg 80.07 359 *i*P **P 19 32 04.1 +0.7**
comp=Z,24nm,0.5s,SNR=14
WTTA Wattenberg 80.07 359 P **P 19 32 04.3 +0.9**
WTTA pmax pmax
comp=Z,48nm,0.6s
SQTA Sankt Quirin 80.11 359 *i*P **P 19 32 04.3 +0.7**
comp=Z,22nm,0.7s,SNR=9.2
SSF Saint Saulge 80.12 5 *e*P **P 19 32 03.3 -0.2**
SSF pmax pmax
comp=Z,15nm,0.6s
GHRR 80.18 348 ⇑P **P 19 32 04.5 +0.7**
ZEI Tsey 80.22 335 *e*P **P 19 32 03.4 -0.9**
ZEI pmax pmax
comp=Z,8.0nm,0.7s
KBA Koelnbreinsper 80.22 358 *i*P **P 19 32 05.4 +1.1**
comp=Z,37nm,0.6s,SNR=19
KBA Koelnbreinsper 80.22 358 P **P 19 32 05.4 +1.1**
KBA pmax pmax
comp=Z,63nm,1.2s
SIM Simferopol' 80.25 343 *e*P **P 19 32 07.5 +3.3**
SIM S **S 19 42 03.0 +1.3**
SIM pmax pmax
comp=Z,28nm,1.0s
VLDR Vladesti 80.30 347 ⇑P **P 19 32 04.9 +0.5**
GEYT Alibeck 80.31 323 P **P 19 32 04.7 0.0**
comp=Z,6.3nm,0.7s,baz=345,slow=5.2,SNR=16
comp=Z,6.3nm,0.7s
GEYT Alibeck 80.31 323 P **P 19 32 04.5 -0.2**
GEYT Alibeck 80.31 323 P **P 19 32 04.5 -0.2**
GEYT pmax pmax
comp=Z,13nm,1.1s
GYA0B ALIBECK ARRAY 80.31 323 P **P 19 32 04.4 -0.4**
FETA Feichten 80.32 360 *e*P **P 19 32 05.3 +0.6**
comp=Z,18nm,0.7s,SNR=9.1
OZUR 80.34 349 ⇑P **P 19 32 04.7 0.0**
MFF Saint Martin d 80.35 7 *e*P **P 19 32 04.6 -0.1**
MFF pmax pmax
comp=Z,12nm,0.6s
AVF Avril sur Loir 80.38 5 *e*P **P 19 32 04.6 -0.3**
AVF pmax pmax
comp=Z,19nm,0.8s
AKT Akhty 80.42 332 *e*P **P 19 32 05.4 +0.1**
AKT *e**PP **pP 19 32 29.8 +1.1**
AKT pmax pmax
comp=Z,22nm,0.6s
VRI Vrincioaia 80.45 348 ⇑P **P 19 32 04.7 -0.7**
VRI Vrincioaia 80.45 348 ⇑P **P 19 32 04.7 -0.7**
PLOR Plostina 80.48 348 ⇑P **P 19 32 05.8 +0.3**
PLOR Plostina 80.48 348 ⇑P **P 19 32 05.8 +0.3**
DOPR Dopca 80.51 349 ⇑P **P 19 32 06.4 +0.7**
ODBI Odobesti 80.52 348 ⇑P **P 19 32 06.4 +0.8**
COVR Voineasa-Covas 80.54 349 ⇓P **P 19 32 05.9 +0.1**
SMF Signal de Mont 80.55 4 *e*P **P 19 32 05.6 -0.2**
SMF pmax pmax
comp=Z,20nm,0.7s
DAVOX Davos/Dischmat 80.56 0 LR LR 20 10 08.1
comp=Z,136nm,18.3s,baz=323,slow=37
ABTA Abfaltersbach 80.57 358 *e*P **P 19 32 06.6 +0.5**
comp=Z,16nm,0.6s,SNR=9.2
SOKA Soboth 80.57 357 *i*P **P 19 32 06.8 +0.8**
comp=Z,56nm,1.4s,SNR=8.0
SIRR Siria 80.58 352 ⇓P **P 19 32 06.1 +0.1**
BGF Bois d'Agland 80.59 5 *e*P **P 19 32 07.0 +1.0**
BGF pmax pmax
comp=Z,19nm,0.9s
SLCR Slobozia Conac 80.59 348 ⇑P **P 19 32 06.2 +0.2**
PERS Pernice 80.61 357 *i*P **P 19 32 06.9 +0.6**
MYKA Terra Mystica 80.67 358 *i*P **P 19 32 07.4 +0.9**
comp=Z,14nm,0.8s
CABF La Chapelle 80.67 3 *e*P **P 19 32 07.4 +0.8**
CABF pmax pmax
comp=Z,28nm,0.7s
FUORN Ofenpass-Fuorn 80.72 360 P **P 19 32 07.7 +0.6**
OBKA Obir 80.76 357 *i*P **P 19 32 07.8 +0.7**
comp=Z,36nm,1.2s
SBUM Sibu 80.78 262 P **P 19 32 07.9 +0.4**
TCF Toulx Ste Croi 80.82 6 *e*P **P 19 32 06.9 -0.4**
TCF pmax pmax
comp=Z,12nm,1.0s
TLCR 80.85 347 ⇑P **P 19 32 07.5 +0.1**
TLCR 80.85 347 ⇑P **P 19 32 07.5 +0.1**
CLUD Cludinico 80.86 358 P **P 19 32 08.0 +0.5**
MORH Mrgy, Hungar 80.86 354 ⇑P **P 19 32 06.7 -0.7**
MLR Muntele Rosu 80.92 349 LR LR 20 10 06.9
comp=Z,231nm,22.0s,baz=350,slow=37
MLR Muntele Rosu 80.92 349 ⇓P **P 19 32 08.6 +0.7**
MLR Muntele Rosu 80.92 349 P **P 19 32 08.3 +0.4**
MLR Muntele Rosu 80.92 349 ⇓P **P 19 32 08.6 +0.7**
CFR Carcaliu 80.95 347 ⇑P **P 19 32 07.5 -0.4**
CFR Carcaliu 80.95 347 ⇑P **P 19 32 07.5 -0.4**
CIMO Cimolais 81.01 358 P **P 19 32 08.2 -0.1**
CIMO IAmb IAmb 19 32 33.3
comp=Z,30nm,1.7s
SURR Surduc 81.05 352 ⇑P **P 19 32 08.2 -0.3**
STAL STALIGIAL 81.06 358 P **P 19 32 08.7 +0.1**
STAL IAmb IAmb 19 32 13.4
comp=Z,44nm,1.4s
BZS Buzias 81.23 352 ⇓P **P 19 32 08.8 -0.6**
BZS Buzias 81.23 352 ⇓P **P 19 32 08.8 -0.6**
CTI Castel Tesino 81.28 359 P **P 19 32 09.6 -0.2**
CTI Castel Tesino 81.28 359 P **P 19 32 09.6 -0.2**
CTI pmax pmax
comp=Z,16nm,0.5s
GZR Gura Zlata 81.35 351 ⇑P **P 19 32 10.2 +0.1**
GZR Gura Zlata 81.35 351 ⇑P **P 19 32 10.2 +0.1**
HARR Harsova 81.46 347 ⇓P **P 19 32 10.8 +0.2**
HARR Harsova 81.46 347 ⇓P **P 19 32 10.8 +0.2**
TLBR Topalu 81.58 347 ⇑P **P 19 32 11.7 +0.4**
AKH Akhalkalaki 81.61 335 P **P 19 32 12.0 +0.2**
AKH IAmb IAmb 19 32 14.1
comp=Z,67nm,1.4s
AKH Akhalkalaki 81.61 335 P **P 19 32 12.0 +0.2**
AKH pmax pmax
comp=Z,67nm,1.4s
TIRR Tirgusor 81.62 347 ⇓P **P 19 32 11.5 0.0**
TIRR Tirgusor 81.62 347 P **P 19 32 11.7 +0.2**
TIRR IAmb IAmb 19 32 12.7
comp=Z,33nm,0.6s
TIRR Tirgusor 81.62 347 P **P 19 32 11.7 +0.2**
TIRR pmax pmax
comp=Z,33nm,0.6s
RKT Rikitea 81.67 148 *e*LR LR 19 57 51.1
comp=Z,102µm,28.8s
RKT Rikitea 81.67 148 *e*T T 21 01 51.3
comp=Z,2.8nm,0.3s
SALO Salr 81.72 360 P **P 19 32 12.2 +0.1**
BOJS Bojanci 81.74 356 *i*P **P 19 32 11.9 -0.2**
RJF Les Rejaudoux 81.76 6 *e*P **P 19 32 12.0 -0.2**
RJF pmax pmax
comp=Z,31nm,1.4s
LPL La Plagne 81.78 2 *e*P **P 19 32 14.5 +1.9**
LPL pmax pmax
comp=Z,20nm,1.3s
FRGS Fruska Gora 81.83 353 ⇑P **P 19 32 13.6 +0.9**
HRA Herat 81.87 319 P **P 19 32 12.5 -0.8**
TEOL Teolo 81.97 359 P **P 19 32 13.2 -0.1**
HUMR Humele 81.98 349 ⇑P **P 19 32 12.0 -1.4**
MDVR Moldovita 82.05 352 ⇑P **P 19 32 10.3 -3.5**
LFF La Frestale 82.07 7 *e*P **P 19 32 13.7 -0.1**
LFF pmax pmax
comp=Z,20nm,0.5s
CTA Charters Tower 82.13 221 P **P 19 32 13.6 -0.7**
comp=Z,7.8nm,0.8s,baz=22,slow=7.7,SNR=8.4
CTA LR LR 20 04 35.4
comp=Z,62nm,20.4s,baz=28,slow=32
comp=Z,7.8nm,0.8s
CAF Calviac 82.17 6 *e*P **P 19 32 14.5 +0.1**
CAF pmax pmax
comp=Z,8.0nm,0.7s
BNI Bardonecchia 82.24 2 P **P 19 32 15.6 +0.7**
BNI IAmb IAmb 19 32 17.2
comp=Z,108nm,1.9s
BNI Bardonecchia 82.24 2 P **P 19 32 15.6 +0.7**
BNI pmax pmax
comp=Z,108nm,1.9s
COPA Copaceanca 82.34 349 ⇑P **P 19 32 14.4 -0.9**
ORIF Oris-en-Rattie 82.35 3 *e*P **P 19 32 15.9 +0.4**
ORIF pmax pmax
comp=Z,8.0nm,0.5s
KAPI Kappang 82.37 251 P **P 19 32 17.0 +1.2**
KAPI IAmb IAmb 19 32 20.9
comp=Z,46nm,1.5s
KAPI Kappang 82.37 251 P **P 19 32 17.0 +1.2**
KAPI pmax pmax
comp=Z,46nm,1.5s
VIVF Saint-Julien-l 82.37 4 *e*P **P 19 32 15.7 +0.2**
VIVF pmax pmax
comp=Z,8.0nm,0.6s
GNI Garni 82.47 334 LR LR 20 15 03.0
comp=Z,116nm,19.1s,baz=14,slow=40
MBDF Montbardon 82.57 2 *e*P **P 19 32 17.7 +1.0**
MBDF pmax pmax
comp=Z,13nm,0.7s
MTN Manton Dam 82.69 237 P **P 19 32 16.9 -0.4**
ZIMR 82.79 349 ⇓P **P 19 32 16.7 -0.9**
ZIMR 82.79 349 ⇓P **P 19 32 16.7 -0.9**
ZCCA Zocca 82.99 359 P **P 19 32 18.9 +0.2**
ZCCA IAmb IAmb 19 32 21.9
comp=Z,122nm,1.6s
MSSA Maissana 83.02 0 P **P 19 32 18.1 -0.8**
ISO Isola 83.12 2 P **P 19 32 20.6 +1.2**
ISO pmax pmax
comp=Z,34nm,1.4s
PLVB Pleven 83.15 349 ⇑P **P 19 32 20.0 +0.5**
AOPR Arecibo Observ 83.15 69 P **P 19 32 18.7 -1.2**
AOPR IAmb IAmb 19 32 46.1
comp=Z,43nm,1.0s
BOVS Bovan 83.19 352 ⇑P **P 19 32 16.5 -3.2**
SBF Sospel 83.45 2 *e*P **P 19 32 21.0 -0.1**
SBF pmax pmax
comp=Z,14nm,0.5s
OBIP Obispado Ponce 83.48 69 P **P 19 32 22.2 +0.6**
OBIP IAmb IAmb 19 32 23.5
comp=Z,24nm,0.8s
GCPR Guaynabo City 83.56 68 P **P 19 32 22.2 +0.2**
GCPR IAmb IAmb 19 32 25.3
comp=Z,42nm,1.1s
SJG San Juan 83.68 68 LR LR 20 07 11.9
comp=Z,36nm,21.7s,baz=342,slow=34
SJPF Ste Jean 83.73 8 *e*P **P 19 32 22.9 +0.4**
SJPF pmax pmax
comp=Z,41nm,1.6s
MTLF Montolieu 83.76 6 *e*P **P 19 32 22.8 +0.2**
MTLF pmax pmax
comp=Z,84nm,1.6s
OSSC Osservatorio P 83.81 359 P **P 19 32 22.1 -0.9**
EPF Esparros 83.94 7 *e*P **P 19 32 23.3 -0.3**
EPF pmax pmax
comp=Z,38nm,1.4s
LMR La Mourre 83.96 3 *e*P **P 19 32 24.8 +1.2**
LMR pmax pmax
comp=Z,144nm,2.0s
ETSF Etsaut 84.00 8 *e*P **P 19 32 24.2 +0.3**
ETSF pmax pmax
comp=Z,17nm,0.7s
VTS Vitosha 84.05 350 P **P 19 32 23.2 -1.1**
VTS Vitosha 84.05 350 P **P 19 32 23.2 -1.1**
VTS pmax pmax
comp=Z,6.0nm,0.7s
MURB Monte Urbino 84.06 358 P **P 19 32 24.5 +0.3**
PBRG Braganca 84.42 13 *e*P **P 19 32 26.1 +0.1**
comp=Z,31nm,1.7s
CASP Castiglione da 84.55 359 P **P 19 32 26.6 0.0**
CASP IAmb IAmb 19 32 28.7
comp=Z,17nm,0.6s
POLO Lamas de Olo 84.70 13 *e*P **P 19 32 27.9 +0.4**
comp=Z,13nm,1.9s
CESX Cesi 84.71 358 P **P 19 32 27.3 -0.2**
CESX IAmb IAmb 19 32 28.5
comp=Z,74nm,1.7s
LATE Laterza 84.72 359 P **P 19 32 27.6 +0.1**
LATE IAmb IAmb 19 32 29.5
comp=Z,66nm,1.4s
PGF Pioggiola 84.79 1 *e*P **P 19 32 28.1 +0.1**
PGF pmax pmax
comp=Z,34nm,0.9s
MVO Moncorvo 85.01 13 *e*P **P 19 32 29.2 +0.1**
comp=Z,26nm,2.1s
RDO Rodhopi 85.25 348 P **P 19 32 30.5 +0.3**
RDO IAmb IAmb 19 32 32.7
comp=Z,33nm,1.0s
QIS Mount Isa 85.33 227 P **P 19 32 33.1 +2.5**
comp=Z,11nm,1.1s
PVIS Viseu 85.33 14 *e*P **P 19 32 30.7 +0.1**
comp=Z,16nm,2.1s
BR131 Keskin Array S 85.39 342 P **P 19 32 31.0 -0.1**
BR131 Keskin Array S 85.39 342 P **P 19 32 31.0 -0.1**
BR131 pmax pmax
comp=Z,11nm,1.1s
BRTR Keskin Array B 85.39 342 P **P 19 32 30.7 -0.4**
comp=Z,2.1nm,0.7s,baz=7.0,slow=2.0,SNR=14
BRTR LR LR 20 18 31.4
comp=Z,172nm,18.1s,baz=357,slow=41
comp=Z,2.1nm,0.7s
KULM Kulim 85.50 273 P **P 19 32 31.2 -0.6**
KULM IAmb IAmb 19 32 33.0
comp=Z,22nm,0.8s
BORA Eskisehir 85.80 344 P **P 19 32 33.3 +0.3**
BORA IAmb IAmb 19 32 36.1
comp=Z,25nm,0.6s
BNN Bunyan 85.81 340 P **P 19 32 33.4 +0.2**
BNN IAmb IAmb 19 32 35.0
comp=Z,72nm,1.4s
IPM Ipoh 85.92 272 P **P 19 32 33.6 -0.2**
IPM IAmb IAmb 19 32 36.2
comp=Z,34nm,0.6s
IPM Ipoh 85.92 272 P **P 19 32 34.4 +0.6**
MARD Mardin 86.16 336 P **P 19 32 35.0 +0.1**
MARD IAmb IAmb 19 32 38.4
comp=Z,18nm,0.5s
PCBR Castelo Branco 86.25 13 *e*P **P 19 32 34.9 -0.2**
MYKOM Kota Tinggi 86.34 268 P **P 19 32 36.0 +0.1**
ESBB Sonseca Array 86.86 11 P **P 19 32 37.4 -0.7**
ESDC Sonseca Array 86.86 11 P **P 19 32 37.8 -0.4**
comp=Z,5.8nm,0.7s,baz=341,slow=4.7,SNR=45
ESDC LR LR 20 13 38.3
comp=Z,198nm,18.2s,baz=338,slow=37
comp=Z,5.8nm,0.7s
ESDC Sonseca Array 86.86 11 P **P 19 32 37.7 -0.4**
RMQ Roma 86.99 216 P **P 19 32 40.3 +1.6**
comp=Z,13nm,1.2s
WB0 Warramunga Arr 87.01 231 P **P 19 32 38.2 -0.7**
WB0 IAmb IAmb 19 33 04.8
comp=Z,49nm,1.8s
WR0 Warramunga Arr 87.10 231 P **P 19 32 38.4 -1.0**
WRAB Tennant Creek 87.17 231 P **P 19 32 41.4 +1.7**
WB2 Warramunga Arr 87.18 231 P **P 19 32 39.1 -0.6**
WB2 IAmb IAmb 19 33 05.8
comp=Z,49nm,1.8s
WRA Warramunga Arr 87.18 231 P **P 19 32 38.9 -0.9**
comp=Z,6.5nm,0.9s,baz=33,slow=5.7,SNR=27
WRA pP **pP 19 33 02.8 -1.2**
comp=Z,2.7nm,0.8s,baz=39,slow=5.7,SNR=4.4
WRA LR LR 20 12 57.2
comp=Z,20nm,18.0s,baz=48,slow=36
comp=Z,6.5nm,0.9s
WRA Warramunga Arr 87.18 231 P **P 19 32 39.5 -0.3**
WRA Warramunga Arr 87.18 231 P **P 19 32 39.5 -0.3**
PESTR Estremoz 87.19 14 *e*P **P 19 32 39.3 -0.4**
WB1 Warramunga Ar. 87.19 231 P **P 19 32 41.9 +2.1**
EVO Evora 87.45 14 *e*P **P 19 32 40.6 -0.4**
comp=Z,18nm,2.0s
LHMI Lhok Sumawe 87.78 276 P **P 19 32 43.4 +0.5**
PNCL Nicolau / Gran 87.79 15 *e*P **P 19 32 42.0 -0.6**
PBAR Barrancos 87.94 13 *e*P **P 19 32 43.0 -0.3**
comp=Z,18nm,1.8s
PTEO Sao Teotonio 88.31 15 *e*P **P 19 32 44.8 -0.3**
SDV Santo Domingo 88.48 77 LR LR 20 13 38.2

comp=Z,35nm,20.1s,baz=292,slow=36
SDV Santo Domingo 88.48 77 P **P** **19 32 45.7 -0.8**
SDV IAmb IAmb 19 32 49.5
comp=Z,18nm,1.0s
SDV Santo Domingo 88.48 77 *e*P **P** **19 32 46.5 +0.1**
PAMC Pamplona, Colo 88.49 80 *e*P **P** **19 32 46.8 -0.1**
PSI Prapat 88.51 273 P **P** **19 32 47.0 +0.5**
PSI Prapat 88.51 273 P **P** **19 32 46.3 -0.2**
HYB Hyderabad 88.56 297 *e*P **P** **19 32 45.7 -0.9**
GUY2C Guyana, Caldas 88.58 83 *e*P **P** **19 32 47.8 +0.6**
RPSI Rantau Prapat 88.59 273 P **P** **19 32 46.3 -0.4**
PVAQ Vaqueiros 88.60 14 *e*P **P** **19 32 46.4 -0.1**
comp=Z,24nm,1.9s
QLP Quilpie 88.76 220 P **P** **19 32 49.3 +2.2**
BARC Barichara 88.79 81 *e*P **P** **19 32 48.2 +0.2**
YOTC Yotoco, Valle 88.97 85 *e*P **P** **19 32 49.7 +1.0**
BKNI Bangkinang 89.19 269 P **P** **19 32 51.7 +2.2**
comp=Z,132nm,0.9s
RUSC La Rusia 89.41 81 P **P** **19 32 50.9 -0.2**
RUSC IAmb IAmb 19 32 54.6
comp=Z,32nm,0.8s
RUSC La Rusia 89.41 81 *e*P **P** **19 32 51.2 0.0**
ROSC El Rosal 89.51 83 P **P** **19 32 51.9 +0.4**
comp=Z,9.9nm,0.7s,baz=325,slow=16,SNR=5.5
ROSC LR LR 20 12 34.4
comp=Z,52nm,21.9s,baz=140,slow=35
comp=Z,9.9nm,0.7s
BAUV El Baul 89.95 75 P **P** **19 32 52.0 -1.1**
CHIC Chingaza 90.03 82 *e*P **P** **19 32 53.0 -0.9**
GSI Gunungsitoli 90.51 273 P **P** **19 32 55.6 0.0**
GSI IAmb IAmb 19 32 57.4
comp=Z,24nm,0.7s
GSI Gunungsitoli 90.51 273 P **P** **19 32 58.5 +2.8**
AS31 Alice Springs 90.59 230 P **P** **19 32 55.8 0.0**
ASAR Alice Springs 90.59 230 P **P** **19 32 55.9 +0.1**
comp=Z,9.1nm,0.8s,baz=32,slow=4.2,SNR=96
ASAR pP **pP** **19 33 19.9 -0.2**
comp=Z,6.2nm,0.7s,baz=38,slow=4.3,SNR=6.9
ASAR PKKP **PKKPdf** **19 50 18.0 +0.3**
comp=Z,1.7nm,1.3s,baz=206,slow=2.4,SNR=4.7
ASAR LR LR 20 09 08.9
comp=Z,50nm,20.2s,baz=345,slow=32
comp=Z,9.1nm,0.8s
ASAR Alice Springs 90.59 230 P **P** **19 32 55.4 -0.4**
LEM Lembang 90.92 260 LR LR 20 14 59.0
comp=Z,66nm,19.0s,baz=245,slow=36
INKA Innaminka 91.18 222 P **P** **19 32 59.7 +1.4**
FLOC Florencia 91.29 86 *e*P **P** **19 32 58.8 -0.6**
URZ Urewera 91.62 190 LR LR 20 07 43.1
comp=Z,114nm,20.8s,baz=120,slow=31
PORT Chimborazo Vol 91.82 90 P **P** **19 33 02.9 +0.4**
PORT IAmb IAmb 19 33 30.5
comp=Z,17nm,1.0s
WSAR Wadi Sarin 93.17 316 LR LR 20 18 38.3
comp=Z,39nm,19.7s,baz=48,slow=38
MCRA Macar, Loja 93.41 93 P **P** **19 33 08.5 -0.6**
MCRA IAmb IAmb 19 33 10.9
comp=Z,12nm,1.1s
MDT Midelt 93.55 12 LR LR 20 19 25.2
comp=Z,67nm,19.3s,baz=360,slow=38
STKA Stephens Creek 94.52 220 P **P** **19 33 14.1 +0.4**
comp=Z,0.8nm,0.2s,baz=61,slow=7.2,SNR=3.9
STKA LR LR 20 11 41.0
comp=Z,90nm,19.6s,baz=25,slow=33
comp=Z,0.8nm,0.2s
STKA Stephens Creek 94.52 220 P **P** **19 33 13.4 -0.2**
EIL Elat 94.84 338 LR LR 20 19 46.9
comp=Z,48nm,20.5s,baz=28,slow=38
RPN Rapa Nui 95.55 129 LR LR 20 06 18.2
comp=Z,72nm,19.4s,baz=316,slow=29
PALK Pallekele 95.68 290 P **P** **19 33 18.9 -0.7**
PALK Pallekele 95.68 290 P **P** **19 33 18.9 -0.7**
PALK pmax pmax
comp=Z,15nm,0.6s
RPZ Rata Peaks 97.76 194 LR LR 20 10 21.8
comp=Z,124nm,21.6s,baz=10,slow=31
RAYN Ar Rayn 97.80 328 P **P** **19 33 27.9 -1.2**
RAYN Ar Rayn 97.80 328 P **P** **19 33 27.9 -1.2**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 119.17 17 PKPdf **PKPdf** **19 38 41.5 -0.9**
DBIC Dimbokro 119.17 17 PKIKP **PKPdf** **19 38 41.5 -0.9**
LODK Lodwar 119.87 331 PKPdf **PKiKP** **19 38 44.4 +0.5**
JANB Januaria 123.03 70 *e*P **PKiKP** **19 38 50.1 +0.1**
KMBO Kilima Mbogo 123.57 327 PKP **PKPdf** **19 38 50.2 -0.9**
comp=Z,2.0nm,0.6s,baz=38,slow=20,SNR=4.4
KMBO Kilima Mbogo 123.57 327 PKPdf **PKiKP** **19 38 51.8 +0.4**
KMBO Kilima Mbogo 123.57 327 PKIKP **PKiKP** **19 38 51.8 +0.4**
CPUP Villa Florida 124.01 89 PKP **PKPdf** **19 38 50.4 -0.8**
comp=Z,1.5nm,0.7s,baz=245,slow=1.4,SNR=3.2
KIBK Kibwezi 124.44 325 **PKiKP** **19 38 52.8 -0.1**
MBAR Mbarara 125.00 335 **PKPdf** **19 38 53.3 -0.5**
MBAR Mbarara 125.00 335 PKIKP **PKPdf** **19 38 53.3 -0.5**
PLCA Paso Flores 126.33 111 PKP **PKPdf** **19 38 55.4 +0.1**
comp=Z,5.2nm,0.8s,baz=218,slow=3.4,SNR=10
PLCA pPKP **pPKPdf** **19 39 19.9 -0.9**
comp=Z,6.9nm,1.0s,baz=268,slow=2.9,SNR=4.3
NAN01 Guarapari, ES 127.63 68 *e*P **PKiKP** **19 38 58.7 -0.3**
SJMB Sao Joao De Ma 127.72 69 *e*P **PKPdf** **19 38 58.5 -0.1**
CPSB Cacapava Do Su 129.32 90 *e*P **PKiKP** **19 39 01.7 -0.3**
QSPA South Pole Qui 142.80 180 PKPpre 19 39 20.8
TSUM Tsumeb 145.74 347 **PKPdf** **19 39 31.7 -0.1**
LBTB Lobatse 149.68 331 **PKPbc** **19 39 43.3 +0.4**
LBTB Lobatse 149.68 331 PKP2 **PKPbc** **19 39 43.3 +0.4**
POGA Pongola 149.74 320 **PKPbc** **19 39 43.1 +0.3**
MAW Mawson 151.20 219 PKPbc **PKPbc** **19 39 44.8 -0.2**
comp=Z,6.8nm,0.8s,baz=138,slow=3.6,SNR=7.0
BOSA Boshof 153.16 329 PKPbc **PKiKP** **19 39 51.0 0.0**
comp=Z,32nm,0.5s,baz=27,slow=2.3,SNR=33
BOSA Boshof 153.16 329 **PKiKP** **19 39 50.9 0.0**
BOSA Boshof 153.16 329 PKIKP **PKPbc** **19 39 50.9 +0.1**
ELIB Princess Elisa 160.16 192 *d*PKPdf **PKPdf** **19 39 51.5 +0.5**
ELIB *d*PKP **PKPab** **19 40 30.8 -1.0**

IDC 09 19:23:10.4±6.1, 17°.66S×178°.94W, h619km±24km, mb2.7/2, mbtmp3.6/3, Error ellipse: s-maj=143.1km s-min=92.6km az=128.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.87**	**268**	P	P	19 24 30.4	-0.1
	6.2nm,0.7s,baz=79,slow=18,SNR=7.2						
WRA	**Warramunga Arr**	**44.18**	**259**	P	P	19 30 27.3	+0.8
	0.5nm,0.4s,baz=97,slow=7.9,SNR=10						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.37**	**254**	P	P	19 30 27.2	-0.8
	0.7nm,0.6s,baz=87,slow=7.8,SNR=18						
	0.7nm,0.6s						
AKASG	**Malin Array Be**	**140.10**	**332**	PKP	PKPdf	19 41 28.8	-0.8
	0.1nm,0.2s,baz=43,slow=4.1,SNR=5.5						

*IDC **09** 19:31:31.3±2.0, 11°.43S×163°.74E, h0km, mb3.9/4, mbtmp4.0/5, ML5.0/2, Error ellipse: s-maj=47.2km s-min=23.9km az=50.0*
*NEIC **09** 19:31:35.6±1.1, 11°.4S±0°.1×163°.9E±0°.2, h35km±15km, mb4.3/8, Error ellipse: s-maj=28.8km s-min=12.6km az=58.0*

ISC 09 19:31:35.3±1.3, 11°.5S±0°.1×163°.9E±0°.2, h35km, n19, σ0s95/20, mb4.0/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.34**	**297**	Pn	**Pn**	**19 32 38.7**	**-0.2**
	849nm,0.3s,baz=138,slow=6.6,SNR=25						
HNR				Sn	**Sn**	**19 33 28.8**	**+0.4**
	5.9nm,0.3s,baz=134,slow=23,SNR=0.8						
HNR	**Honiara**	**4.34**	**297**	Pn	**Pn**	**19 32 38.3**	**-0.6**
KOUNC	**Koumac, New Ca**	**9.04**	**177**	Pn	**Pn**	**19 33 44.6**	**+1.2**
DZM	**Mont Dzumac**	**10.83**	**167**	Pn	**Pn**	**19 34 09.1**	**+1.0**
	1.3nm,0.3s,baz=340,slow=15,SNR=37						
DZM				Sn	**Sn**	**19 36 06.0**	**-2.2**
	0.1nm,0.3s,baz=79,slow=12,SNR=2.0						
	4.3nm,0.4s						
DZM	**Mont Dzumac**	**10.83**	**167**	Pn	**Pn**	**19 34 08.9**	**+0.8**
OUENC	**Ouen Island, N**	**11.26**	**166**	Pn	**Pn**	**19 34 13.9**	**+0.1**
PATS	**Pohnpei**	**19.00**	**343**	P	**P**	**19 35 53.0**	**-1.1**
COEN	**Coen**	**20.32**	**261**	P	Pn	19 36 09.4	-1.5
COEN				IAmb	IAmb	19 36 38.5	
	comp=Z,23nm,1.4s						
WB0	**Warramunga Arr**	**29.51**	**250**	P	**P**	**19 37 36.4**	**-0.3**
WB0				IAmb	IAmb	19 37 38.0	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**29.59**	**250**	P	**P**	**19 37 37.3**	**0.0**
WB2				IAmb	IAmb	19 37 37.6	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**29.60**	**250**	P	**P**	**19 37 37.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=80,slow=9.4,SNR=12						
	comp=Z,1.3nm,0.6s						
WRA	**Warramunga Arr**	**29.60**	**250**	P	**P**	**19 37 36.8**	**-0.7**
ASAR	**Alice Springs**	**30.95**	**243**	P	**P**	**19 37 49.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=61,slow=10,SNR=10						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**30.95**	**243**	P	**P**	**19 37 49.7**	**+0.3**
KNRA	**Kununurra**	**34.34**	**259**	P	**P**	**19 38 18.4**	**-0.7**
VNDA	**Vanda**	**66.05**	**180**	P	**P**	**19 42 19.9**	**+1.7**
	comp=Z,3.8nm,0.7s,baz=352,slow=5.3,SNR=18						
	comp=Z,3.8nm,0.7s						
VNDA	**Vanda**	**66.05**	**180**	P	**P**	**19 42 19.2**	**+1.1**
SBA	**Scott Base**	**66.40**	**179**	P	**P**	**19 42 20.0**	**-0.4**
SONM	**Songino Array**	**77.92**	**324**	P	**P**	**19 43 30.5**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=134,slow=6.2,SNR=2.9						
	comp=Z,0.4nm,0.8s						

*IDC **09** 19:43:44.0±0.7, 74°.33N×92°.21W, h0km, mb3.8/11, mbtmp3.9/15, ML4.3/4, MS3.3/1, Error ellipse: s-maj=15.0km s-min=8.9km az=23.0*
*NEIC **09** 19:43:45.7±2.4, 74°.4N±0°.1×92°.2W±0°.3, h17km±6km, Error ellipse: s-maj=17.0km s-min=11.3km az=157.0*
*OTT **09** 19:43:46.1±0.2, 74°.32N×92°.24W, h18km, MN4.4/4, 88km southeast from Resolute, Nu. Aftershock*

ISC 09 19:43:44.5±0.4, 74°.23N±0°.05×92°.36W±0°.04, h10km, n252, σ1s96/234, mb4.2/40, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**0.83**	**305**	Pg	**Pb**	**19 44 01.4**	**+0.5**
	187nm,0.3s,baz=106,slow=11,SNR=1326						
RES				Lg	Lg	19 44 09.5	
	600nm,0.3s,baz=58,slow=15,SNR=25						
RES	**Resolute Bay**	**0.83**	**305**	PG	**Pn**	**19 44 01.6**	**-0.6**
RES				SG	**Sg**	**19 44 11.0**	**-0.1**
RES				Trac		19 44 14.4	
	comp=Z,2μm,0.2s						
ILON	**Igloolik, Nuna**	**5.88**	**141**	PN	**Pn**	**19 45 14.5**	**+3.1**
ILON				SN	**Sn**	**19 46 16.4**	**-2.4**
ILON				LG	Lg	19 46 58.2	
ILON				Trac		19 46 59.7	
	comp=Z,188nm,0.3s						
EUNU	**Eureka**	**6.00**	**10**	Pn	**Pn**	**19 45 11.5**	**-1.7**
TULEG	**Thule**	**6.36**	**58**	Pn	**Pn**	**19 45 16.6**	**-1.4**
TULEG	**Thule**	**6.36**	**58**	IAML		19 46 40.7	
	comp=Z,67nm,1.1s						
TULEG	**Thule**	**6.36**	**58**	*i*P	**Pn**	**19 45 17.4**	**-0.6**
TULEG	**Thule**	**6.36**	**58**	*i*S	Sn	19 46 20.6	-10
KULLO	**Kullorsuaq**	**9.38**	**71**	*i*S	Sn	19 47 28.6	-16
KULLO	**Kullorsuaq**	**9.38**	**71**	*i*P	**Pn**	**19 45 59.9**	**+0.6**
KUKN	**Kugluktuk,NWT**	**9.72**	**240**	PN	**Pn**	**19 46 04.6**	**+0.4**
KUKN				SN	**Sn**	**19 47 48.0**	**-5.3**
KUKN				LG	Lg	19 48 52.0	
KUKN				Trac		19 48 59.8	
	comp=Z,182nm,0.5s						
A36M	**Sachs Harbour**	**9.74**	**273**	Pn	**Pn**	**19 46 04.0**	**-0.3**
A36M	**Sachs Harbour**	**9.74**	**273**	P	**Pn**	**19 46 05.3**	**+1.0**
	baz=61,SNR=22						
UPNV	**Upernavik**	**10.28**	**80**	IAML		19 47 58.1	
	comp=Z,5.2nm,0.5s						
UPNV	**Upernavik**	**10.28**	**80**	*e*P	Pn	19 46 16.9	+5.1
UPNV	**Upernavik**	**10.28**	**80**	*i*S	Sn	19 47 54.5	-12
NEEM	**North Greenlan**	**10.41**	**53**	*i*S	Sn	19 47 53.7	-17
NEEM	**North Greenlan**	**10.41**	**53**	*i*P	**Pn**	**19 46 14.0**	**+0.2**
C36M	**Paulatuk**	**10.93**	**260**	Pn	**Pn**	**19 46 20.6**	**-0.1**
C36M	**Paulatuk**	**10.93**	**260**	P	**Pn**	**19 46 20.8**	**+0.2**
	baz=49,SNR=15						
FRB	**Frobisher Bay**	**13.39**	**129**	Pn	**Pn**	**19 46 52.6**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=343,slow=12,SNR=21						
FRB				Sn	Sn	19 49 13.0	-10
	comp=Z,2.2nm,0.3s,baz=66,slow=22,SNR=5.8						
FRB				Lg	Lg	19 50 42.0	
	comp=Z,2.6nm,0.3s,baz=220,slow=19,SNR=1.2						
	comp=Z,12nm,0.7s						
FRB	**Frobisher Bay**	**13.39**	**129**	PN	**Pn**	**19 46 53.8**	**-0.5**
FRB				SN	Sn	19 49 13.8	-9.1
FRB				LG	Lg	19 50 50.8	
FRB				Trac		19 50 57.3	
	comp=Z,232nm,1.2s						
INK	**Inuvik**	**14.19**	**266**	Pn	**Pn**	**19 47 03.0**	**-2.2**
	comp=Z,1.4nm,0.3s,baz=37,slow=17,SNR=44						
INK				Sn	Sn	19 49 31.4	-11
	comp=Z,2.2nm,0.3s,baz=145,slow=12,SNR=6.2						
	comp=Z,7.1nm,0.7s						
INK	**Inuvik**	**14.19**	**266**	Pn	**Pn**	**19 47 03.3**	**-1.9**
INK	**Inuvik**	**14.19**	**266**	PN	**Pn**	**19 47 04.1**	**-1.0**
INK				SN	Sn	19 49 33.1	-9.2
INK				Trac		19 50 41.8	
	comp=Z,56nm,1.6s						
INK	**Inuvik**	**14.19**	**266**	P	**Pn**	**19 47 03.2**	**-1.9**
	baz=47,SNR=12						
YKA	**Yellowknife Ar**	**14.20**	**226**	Pn	**Pn**	**19 47 03.2**	**-2.1**
	comp=Z,2.7nm,0.3s,baz=15,slow=11,SNR=91						
YKA				Sn	Sn	19 49 31.9	-11
	comp=Z,1.8nm,0.3s,baz=27,slow=11,SNR=3.3						
YKA				Lg	Lg	19 51 01.6	
	comp=Z,2.1nm,0.3s,baz=21,slow=25,SNR=4.1						
	comp=Z,7.2nm,0.8s						
F31M	**Tsiigehtchic**	**14.86**	**264**	P	**Pn**	**19 47 11.8**	**-2.3**
	baz=44,SNR=6.8						
SUMG	**Summit**	**15.04**	**70**	*i*S	Sn	19 49 44.0	-20
SUMG	**Summit**	**15.04**	**70**	*i*P	**Pn**	**19 47 15.0**	**-2.1**
SFJD	**Kangerlussuaq**	**15.27**	**97**	Pn	**Pn**	**19 47 20.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=38,slow=15,SNR=1.3						
	comp=Z,2.2nm,0.5s						
WRGLY	**Wrigley**	**15.50**	**241**	P	**Pn**	**19 47 22.1**	**-0.6**
	baz=32,SNR=11						
FCC	**Fort Churchill**	**15.55**	**183**	Pn	**Pn**	**19 47 21.9**	**-1.5**
FCC				IAmb	IAmb	19 47 36.0	
	comp=Z,13nm,0.6s						
FCC	**Fort Churchill**	**15.55**	**183**	PN	**Pn**	**19 47 22.1**	**-1.3**
FCC				SN	**Sn**	**19 50 06.2**	**-9.1**
FCC				LG	Lg	19 51 57.9	
FCC				Trac		19 52 19.1	
	comp=Z,212nm,1.4s						
G30M	**tAoh Zraii Nji**	**15.86**	**266**	P	**Pn**	**19 47 25.4**	**-2.1**
	baz=44,SNR=22						
C27K	**Jago River**	**16.10**	**280**	P	**Pn**	**19 47 28.9**	**-1.6**
	baz=50						
C26K	**Camden Bay**	**16.24**	**281**	P	**Pn**	**19 47 31.4**	**-0.8**
	baz=51						
EPYK	**Eagle Plains**	**16.45**	**265**		**Pn**	**19 47 33.2**	**-1.8**
EPYK				IAmb	IAmb	19 47 40.4	
	comp=Z,28nm,1.2s						
EPYK	**Eagle Plains**	**16.45**	**265**	P	**Pn**	**19 47 33.1**	**-1.8**
	baz=42						
E27K	**Coleen River**	**16.48**	**274**	P	**Pn**	**19 47 33.4**	**-2.0**
	baz=46						
D25K	**Kaik River**	**17.02**	**281**	P	**Pn**	**19 47 40.5**	**-1.6**
	baz=49						
C24K	**Franklin Bluff**	**17.38**	**284**	P	**Pn**	**19 47 44.2**	**-2.3**
	baz=49						
G27K	**Doyon Strip**	**17.47**	**271**	P	**Pn**	**19 47 44.8**	**-3.0**
	baz=43						
F26K	**Sheenjek River**	**17.52**	**275**	P	**Pn**	**19 47 46.4**	**-2.0**
	baz=45						
E25K	**Arctic Village**	**17.61**	**277**	P	**Pn**	**19 47 48.0**	**-1.6**
	baz=46,SNR=5.4						
I29M	**Ogilvie Camp,**	**17.64**	**264**			**19 47 48.2**	**-1.6**
I29M	**Ogilvie Camp,**	**17.64**	**264**	P	**Pn**	**19 47 48.3**	**-1.6**
	baz=40						
BMAR	**Burnt Mountain**	**17.83**	**275**	Pn	**Pn**	**19 47 50.5**	**-1.7**
H27K	**Steamboat Moun**	**17.86**	**269**	P	**Pn**	**19 47 49.5**	**-3.2**
	baz=42						
F25K	**Christian Rive**	**18.00**	**276**	P	**Pn**	**19 47 53.6**	**-0.8**
	baz=45						
HILA	**High Level**	**18.30**	**224**		**Pn**	**19 47 58.2**	**+0.2**
J29M	**Klondike Camp**	**18.32**	**262**	P	**P**	**19 47 58.8**	**+0.4**
KOTAN	**Kotaneelee Air**	**18.34**	**237**	P	**Pn**	**19 47 58.7**	**+0.1**
	baz=27						
I27K	**Kandik River**	**18.36**	**268**	P	**Pn**	**19 47 56.7**	**-2.0**
	baz=41						
MAYO	**Mayo, Yukon**	**18.37**	**258**	P	**Pn**	**19 47 55.5**	**-3.4**
A21K	**Barrow**	**18.41**	**293**	P	**Pn**	**19 47 58.2**	**-1.0**
	baz=51						
D23K	**Nanushuk River**	**18.41**	**283**	P	**P**	**19 47 59.5**	**+0.2**
	baz=47						
E24K	**Your Creek**	**18.43**	**280**	P	**P**	**19 47 58.0**	**-1.6**
	baz=46						
DBG	**Daneborg**	**18.49**	**55**	*i*S	Sn	19 51 02.4	-24
DBG	**Daneborg**	**18.49**	**55**	*i*P	**P**	**19 47 55.0**	**-5.1**
K29M	**Barlow Dome**	**18.61**	**260**	P	**P**	**19 48 00.3**	**-1.4**
	baz=37						
FYU	**Fort Yukon**	**18.63**	**273**	P	**P**	**19 48 00.3**	**-1.4**
F24K	**Squaw Lake**	**18.66**	**278**	P	**P**	**19 48 01.3**	**-0.8**
	baz=44						
G25K	**Bearman Lake**	**18.72**	**275**	P	**P**	**19 48 01.0**	**-1.7**
	baz=43						
E23K	**Chandalar**	**18.75**	**280**	P	**P**	**19 48 01.9**	**-1.3**
	baz=45						
FARO	**Faro, Yukon**	**18.82**	**252**	P	**P**	**19 48 04.2**	**+0.3**
FARO	**Faro, Yukon**	**18.82**	**252**	P	**P**	**19 48 02.4**	**-1.5**
	baz=34						
EGAK	**Eagle**	**18.86**	**266**		**P**	**19 48 03.1**	**-1.2**
EGAK	**Eagle**	**18.86**	**266**	P	**P**	**19 48 02.6**	**-1.7**
	baz=39						
DAWY	**Dawson**	**18.94**	**262**	P	**P**	**19 48 05.1**	**-0.1**
DAWY				IAmb	IAmb	19 48 21.4	
	comp=Z,20nm,1.4s						
DAWY	**Dawson**	**18.94**	**262**	P	**P**	**19 48 03.5**	**-1.7**
	baz=38,SNR=6.4						
M31M	**Drury Creek, Y**	**19.11**	**253**	P	**Pn**	**19 48 08.4**	**+0.5**
M31M				IAmb	IAmb	19 48 11.2	
	comp=Z,14nm,0.7s						
M31M	**Drury Creek, Y**	**19.11**	**253**	P	**P**	**19 48 06.3**	**-0.8**
	baz=34						
G24K	**Hadweenzic Riv**	**19.14**	**276**	P	**P**	**19 48 06.5**	**-0.9**
	baz=43						
L29M	**L29M**	**19.36**	**259**	P	**P**	**19 48 09.3**	**-0.6**
	baz=36						
M30M	**Minto, Yukon**	**19.44**	**257**	P	**Pn**	**19 48 12.1**	**+0.3**
M30M	**Minto, Yukon**	**19.44**	**257**	P	**P**	**19 48 10.2**	**-0.5**
	baz=35						
LIRD	**Liard River Hi**	**19.46**	**239**	P	**Pn**	**19 48 13.0**	**+1.0**
	baz=27						
WTLY	**Watson Lake, Y**	**19.48**	**243**	P	**Pn**	**19 48 12.1**	**-0.2**
WTLY				IAmb	IAmb	19 48 26.0	
	comp=Z,22nm,1.2s						
WTLY	**Watson Lake, Y**	**19.48**	**243**	P	**Pn**	**19 48 12.8**	**+0.5**
	baz=29						
PRP	**Porcupine Dome**	**19.49**	**271**	P	**P**	**19 48 10.6**	**-0.7**
PRP	**Porcupine Dome**	**19.49**	**271**	P	**P**	**19 48 11.7**	**+0.4**
	baz=41						
COLD	**Coldfoot**	**19.50**	**279**		**P**	**19 48 10.1**	**-1.2**
COLD	**Coldfoot**	**19.50**	**279**	P	**P**	**19 48 10.5**	**-0.7**
	baz=44						
J26L	**Joseph Creek**	**19.73**	**268**	P	**P**	**19 48 13.1**	**-0.8**
J26L	**Joseph Creek**	**19.73**	**268**	P	**P**	**19 48 14.0**	**+0.1**
	baz=39						
G23K	**Bananza Creek**	**19.83**	**278**	P	**Pn**	**19 48 15.9**	**-0.5**
	baz=43						
F22K	**John River**	**19.83**	**281**	P	**P**	**19 48 14.7**	**-0.1**
	baz=44						
H24K	**Noodor Dome**	**19.89**	**274**	P	**P**	**19 48 16.4**	**+0.8**
H24K	**Noodor Dome**	**19.89**	**274**	P	**Pn**	**19 48 17.1**	**-0.1**
	baz=41						
FFC	**Flin Flon**	**19.96**	**196**	P	**P**	**19 48 17.7**	**+1.3**
FFC				IAmb	IAmb	19 48 44.0	
	comp=Z,13nm,1.1s						
M29M	**Somme Creek**	**20.00**	**259**	P	**P**	**19 48 17.7**	**+0.8**
	baz=35						
N31M	**Braeburn, Yuko**	**20.08**	**254**	P	**P**	**19 48 18.8**	**+1.1**
N31M				IAmb	IAmb	19 48 40.7	
	comp=Z,19nm,1.0s						
N31M	**Braeburn, Yuko**	**20.08**	**254**	P	Pn	19 48 18.9	-0.5
	baz=33						
J25K	**Salcha River,**	**20.14**	**270**	P	**P**	**19 48 18.2**	**-0.2**
J25K	**Salcha River,**	**20.14**	**270**	P	**P**	**19 48 18.8**	**+0.4**
	baz=39						
SCRK	**Sand Creek**	**20.26**	**267**		**P**	**19 48 17.9**	**-1.8**
SCRK	**Sand Creek**	**20.26**	**267**	P	**P**	**19 48 19.8**	**+0.1**
	baz=38						
POKR	**Poker Plat Res**	**20.32**	**272**	P	**P**	**19 48 19.8**	**-0.4**
	baz=40						
H23K	**Yukon River**	**20.36**	**276**	P	**P**	**19 48 20.8**	**+0.2**
H23K	**Yukon River**	**20.36**	**276**	P	Pn	19 48 22.0	-0.7
	baz=41						
F21K	**Alatna River**	**20.38**	**282**	P	**P**	**19 48 21.3**	**+0.4**
	baz=43						
BCAR	**Beaver Creek A**	**20.39**	**263**	P	**P**	**19 48 21.4**	**+0.4**
P33M	**Teslin, Yukon**	**20.40**	**248**	P	**P**	**19 48 20.4**	**-0.8**
P33M				IAmb	IAmb	19 49 01.4	
	comp=Z,6.5nm,0.9s						
P33M	**Teslin, Yukon**	**20.40**	**248**	P	**P**	**19 48 22.5**	**+1.3**
	baz=30						
L27K	**Beaver Creek,**	**20.40**	**263**	P	**P**	**19 48 22.1**	**+1.0**
L27K				IAmb	IAmb	19 48 36.0	
	comp=Z,9.5nm,1.3s						
L27K	**Beaver Creek,**	**20.40**	**263**	P	**P**	**19 48 22.4**	**+1.3**
	baz=36						
IL31		**20.43**	**271**	P	**P**	**19 48 21.3**	**-0.1**
ILAR	**Eielson Array**	**20.43**	**271**	P	**P**	**19 48 20.3**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=126,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**20.43**	**271**	P	**P**	**19 48 22.0**	**+0.6**
N30M	**Aishikik Lake**	**20.45**	**255**	P	**P**	**19 48 22.8**	**+1.2**
	baz=33						
SCO	**Scoresbysund**	**20.49**	**65**	P	**P**	**19 48 19.9**	**-2.0**
WHY	**Whitehorse**	**20.54**	**252**	P	**P**	**19 48 21.7**	**-1.1**
WHY				IAmb	IAmb	19 48 43.4	
	comp=Z,11nm,1.2s						
WHY	**Whitehorse**	**20.54**	**252**	P	Pn	19 48 24.3	-0.7
	baz=32						
COLA	**College**	**20.62**	**272**	P	**P**	**19 48 22.9**	**-0.5**
TCOL	**CIGO, UAF Yank**	**20.62**	**272**	P	**P**	**19 48 22.6**	**-0.8**
R33M	**Jennings River**	**20.64**	**245**	P	Pn	19 48 26.1	-0.1
	baz=29						
MDM	**Murphy Dome**	**20.66**	**273**	P	**P**	**19 48 23.2**	**-0.6**
RIDG	**Independent Ri**	**20.68**	**267**	P	Pn	19 48 26.1	-0.4
RIDG				IAmb	IAmb	19 48 49.8	
	comp=Z,7.1nm,0.8s						
RIDG	**Independent Ri**	**20.68**	**267**	P	Pn	19 48 26.1	-0.5
	baz=38						
HDA	**Harding Lake**	**20.73**	**271**	P	**P**	**19 48 25.1**	**+0.5**
HDA				IAmb	IAmb	19 49 03.4	
	comp=Z,11nm,1.2s						
HDA	**Harding Lake**	**20.73**	**271**	P

baz=27,SNR=6.5
NRS Narsarsuaq 21.28 103 P P 19 48 29.7 -0.9
MLY Manley 21.29 275 P P 19 48 31.3 +0.6
MLY Manley 21.29 275 P P 19 48 33.3 +2.7
baz=40
YUK8 Steele Glacier 21.30 258 P P 19 48 33.8 +2.6
baz=33
H21K Melozitna Rive 21.37 278 P P 19 48 33.8 +2.3
H21K Melozitna Rive 21.37 278 P P 19 48 35.2 +3.7
baz=40
IMAR Indian Mountai 21.38 280 P P 19 48 31.3 -0.2
PAX Paxson 21.47 267 P P 19 48 32.8 +0.1
PAX IAmb IAmb 19 48 37.7
comp=Z,16nm,1.0s
PAX Paxson 21.47 267 P P 19 48 33.7 +1.0
baz=36,SNR=9.9
I21K Tanana 21.51 277 P P 19 48 28.9 -4.1
I21K IAmb IAmb 19 48 53.4
comp=Z,11nm,0.8s
I21K Tanana 21.51 277 P P 19 48 36.3 +3.3
baz=40
P30M Million Dollar 21.55 253 P P 19 48 36.0 +2.5
baz=31
BWN Browne 21.61 273 P P 19 48 32.5 -1.5
BWN IAmb IAmb 19 48 45.8
comp=Z,13nm,1.0s
SKAG Skagway 21.69 250 P P 19 48 36.4 +1.5
SKAG IAmb IAmb 19 48 41.3
comp=Z,7.9nm,0.8s
SKAG Skagway 21.69 250 P P 19 48 36.4 +1.5
baz=30
MCK McKinley 21.81 271 P P 19 48 38.5 +2.2
MCK IAmb IAmb 19 48 40.2
comp=Z,15nm,1.3s
MCK McKinley 21.81 271 P P 19 48 39.0 +2.7
baz=38
O29M Mount Kennedy 21.82 255 P P 19 48 39.1 +2.6
baz=32
HARP HAARP 21.85 266 P P 19 48 39.0 +2.3
baz=36
O28M Mount Upton 21.85 258 P P 19 48 39.7 +2.7
baz=33
WAPA Wapiti River 21.90 224 P 19 48 40.1 +2.8
DHY Denali Highway 21.91 269 P P 19 48 38.9 +1.4
DHY IAmb IAmb 19 48 41.6
comp=Z,13nm,1.1s
DHY Denali Highway 21.91 269 P P 19 48 39.1 +1.7
baz=37,SNR=6.0
PLBC Pleasant Camp 21.96 252 P P 19 48 41.2 +3.3
baz=30
SCHQ Schefferville 21.98 138 P P 19 48 40.3 +2.2
comp=Z,5.2nm,0.9s,baz=351,slow=10.0,SNR=3.1
comp=Z,5.2nm,0.9s
SCHQ Schefferville 21.98 138 P P 19 48 39.1 +1.0
SCHQ IAmb IAmb 19 48 52.4
comp=Z,17nm,1.3s
BARN Barnard Glacie 22.00 260 P P 19 48 40.0 +1.5
BARN IAmb IAmb 19 49 13.4
comp=Z,10nm,1.0s
BPAW Bear Paw Mtn. 22.08 274 P P 19 48 40.6 +1.4
BPAW Bear Paw Mtn. 22.08 274 P P 19 48 41.1 +2.0
baz=38
MCARA McCarthy VSAT 22.10 262 P P 19 48 41.1 +1.7
MCARA IAmb IAmb 19 48 59.4
comp=Z,17nm,1.2s
RDOG Red Dog Mine 22.25 291 P P 19 48 40.9 0.0
baz=43
GLB Gilahina Butte 22.27 263 P 19 48 42.9 +1.7
GLB IAmb IAmb 19 48 56.4
comp=Z,11nm,1.4s
N25K Chitina, Valde 22.34 264 P P 19 48 43.5 +1.4
N25K IAmb IAmb 19 49 00.5
comp=Z,7.2nm,1.1s
VRDI Verde Repeater 22.34 262 P P 19 48 42.6 +0.4
VRDI IAmb IAmb 19 49 11.8
comp=Z,12nm,1.2s
M24K Tolsona, Glenn 22.36 266 P P 19 48 43.3 +1.0
baz=35
TRF Thorofare Moun 22.40 272 P P 19 48 45.0 +2.2
TRF IAmb IAmb 19 48 55.3
comp=Z,12nm,1.4s
TRF Thorofare Moun 22.40 272 P P 19 48 42.6 -0.2
baz=37
WAT6 Susitna Watana 22.40 268 P P 19 48 43.7 +0.9
baz=36
WAT1 Susitna Watana 22.42 270 P P 19 48 44.0 +1.1
baz=36
PCA Pinnacle 22.44 257 P P 19 48 43.1 0.0
PINM Pinnacle 22.44 257 P P 19 48 44.3 +1.2
baz=32
KTH Kantishna Hill 22.49 273 P P 19 48 45.9 +2.3
KTH IAmb IAmb 19 49 14.1
comp=Z,9.3nm,1.2s
BRLDA Berland Lookou 22.59 220 P P 19 48 47.9 +3.0
T35M Bob Quinn 22.62 241 P P 19 48 49.4 +4.4
baz=26
SPITS Spitsbergen Ar 22.62 31 P P 19 48 45.6 +0.8
comp=Z,7.6nm,0.9s,baz=225,slow=9.4,SNR=2.9
comp=Z,7.6nm,0.9s
EDM Edmonton 22.76 214 P P 19 48 49.0 +2.5
KLU Klutina 22.80 265 P P 19 48 48.5 +1.6
KLU IAmb IAmb 19 49 10.0
comp=Z,7.3nm,1.0s
KLU Klutina 22.80 265 P P 19 48 48.0 +1.1
baz=34
J20K Nowinta River 22.88 277 P P 19 48 49.9 +2.3
J20K Nowinta River 22.88 277 P P 19 48 51.3 +3.7
baz=38
SCM Sheep Creek Mo 22.90 267 P P 19 48 46.7 -1.2
SCM Sheep Creek Mo 22.90 267 P P 19 48 49.1 +1.1
baz=35
CAST Castle Rocks 22.92 274 P P 19 48 47.3 -0.8
CAST IAmb IAmb 19 48 55.8
comp=Z,6.3nm,1.2s
CAST Castle Rocks 22.92 274 P P 19 48 50.5 +2.4
baz=37
M23K Glacier View 23.04 267 P P 19 48 50.5 +1.2
baz=35
SML Sawmill 23.20 268 P P 19 48 52.7 +1.7
baz=35
S31K Pelican 23.23 249 P P 19 48 53.1 +1.9
baz=28
CUT Chulitna 23.24 271 P P 19 48 53.1 +1.8
CUT Chulitna 23.24 271 P P 19 48 53.9 +2.6
baz=36
PPLA Purkeypile 23.36 273 P P 19 48 53.9 +1.1
PPLA IAmb IAmb 19 49 26.7
comp=Z,6.5nm,1.1s
PPLA Purkeypile 23.36 273 P P 19 48 56.1 +3.3
baz=36
GHO Glory Hole Cre 23.39 268 P P 19 48 52.9 0.0
GHO IAmb IAmb 19 49 35.2
comp=Z,13nm,1.1s
K20K Telida 23.51 276 P P 19 48 56.1 +2.0
K20K IAmb IAmb 19 49 19.7
comp=Z,6.5nm,1.1s
K20K Telida 23.51 276 P P 19 48 57.4 +3.3
baz=37
EYAK Cordova Ski Ar 23.54 263 P P 19 48 56.1 +1.8
baz=33
KNK Knik Glacier 23.55 267 P P 19 48 56.4 +1.9
KNK IAmb IAmb 19 49 22.2
comp=Z,8.6nm,0.9s
KNK Knik Glacier 23.55 267 P P 19 48 57.1 +2.6
baz=34
WRAK Wrangell Islan 23.63 243 P P 19 48 59.8 +4.5
baz=26
SKT Skwentna 23.93 271 P P 19 48 59.8 +1.6
SKT IAmb IAmb 19 49 05.0
comp=Z,9.5nm,1.4s
SKT Skwentna 23.93 271 P P 19 49 00.6 +2.5
baz=35
ULM Lac du Bonnet 24.11 186 P P 19 49 01.2 +1.3
comp=Z,0.8nm,0.4s,baz=351,slow=14,SNR=1.8
comp=Z,0.8nm,0.4s
SUA Susitna One 24.14 270 P P 19 49 01.3 +1.1
SUA IAmb IAmb 19 49 43.2
comp=Z,12nm,1.3s
SUA Susitna One 24.14 270 P P 19 49 02.7 +2.5
baz=34
RC01 Rabbit Creek A 24.17 268 P P 19 48 59.6 -0.8
RC01 IAmb IAmb 19 49 39.1
comp=Z,8.6nm,1.2s
RC01 Rabbit Creek A 24.17 268 P P 19 49 03.6 +3.2
baz=34
TTA Tatalina 24.38 277 P P 19 49 02.9 +0.6
TTA Tatalina 24.38 277 P P 19 49 06.3 +4.0
baz=36
M20K Styx River 24.45 273 P P 19 49 03.6 +0.6
M20K Styx River 24.45 273 P P 19 49 05.8 +2.8
baz=35
P23K Montague Islan 24.45 264 P P 19 49 05.2 +2.3
baz=32
L19K White Mountain 24.67 275 P P 19 49 05.2 +0.3
L19K IAmb IAmb 19 49 21.5
comp=Z,9.0nm,1.4s
M19K Big River Lodg 24.77 274 P P 19 49 05.5 -0.4
M19K IAmb IAmb 19 49 48.2
comp=Z,4.2nm,1.1s
RSO Redoubt South 25.52 270 P P 19 49 10.9 -1.9
BRLK Bradley Lake 25.60 268 P P 19 49 15.5 +2.2
EYMN Ely 26.37 179 P P 19 49 21.4 +1.0
BBB Bella Bella 26.54 234 LR LR 20 01 26.5
comp=Z,56nm,19.1s,baz=27,slow=40
WALA Waterton Lakes 26.90 212 P P 19 49 26.9 +1.6
WALA IAmb IAmb 19 50 09.9
comp=Z,10.0nm,1.2s
Q19K Cape Douglas, 27.06 269 P P 19 49 25.5 -1.0
P18K Big Mountain, 27.10 271 P P 19 49 26.1 -0.8
P18K IAmb IAmb 19 49 32.6
comp=Z,12nm,1.4s
P18K Big Mountain, 27.10 271 P P 19 49 29.4 +2.5
baz=32
BOZ Bozeman (W) 29.98 208 P P 19 49 56.5 +3.7
baz=10
RSSD Black Hills 30.66 197 P P 19 50 03.0 +4.1
baz=6.2
BCYI Bear Canyon 31.48 210 P P 19 50 06.0 -0.1
K22A Casper 32.33 200 P P 19 50 16.8 +3.3
baz=7.2
HLID Hailey 32.35 211 P P 19 50 17.7 +4.0
baz=11
PDAR Pinedale Array 32.52 204 P P 19 50 17.0 +1.7
comp=Z,0.1nm,0.5s,baz=66,slow=7.2,SNR=2.5
comp=Z,0.1nm,0.5s
SSPA Standing Stone 34.35 160 P P 19 50 33.1 +2.1
baz=353
UNV Unalaska Valle 35.01 276 P P 19 50 41.2 +4.7
baz=27
FINES FINESS Array B 38.65 43 P P 19 51 07.5 +0.1
comp=Z,5.2nm,1.1s,baz=46,slow=6.0,SNR=2.4
comp=Z,5.2nm,1.1s
ESDC Sonseca Array 51.86 79 P P 19 52 52.0 -0.5
comp=Z,0.8nm,0.8s,baz=341,slow=10,SNR=4.6
comp=Z,0.8nm,0.8s
ZALV Zalesovo Beam 52.10 2 P P 19 52 53.9 0.0
comp=Z,0.3nm,0.4s,baz=23,slow=8.1,SNR=2.2
comp=Z,0.3nm,0.4s
SONM Songino Array 57.57 345 P P 19 53 34.2 +0.4
comp=Z,0.5nm,0.8s,baz=357,slow=5.0,SNR=4.3
comp=Z,0.5nm,0.8s
MKAR Makanchi Array 59.22 4 P P 19 53 44.5 -0.7
comp=Z,0.2nm,0.6s,baz=2.6,slow=3.8,SNR=2.9
comp=Z,0.2nm,0.6s
GEYT Alibeck 66.39 25 P P 19 54 33.7 +0.6
comp=Z,0.4nm,0.4s,baz=294,slow=4.6,SNR=1.7
comp=Z,0.4nm,0.4s
ASAR Alice Springs 123.87 307 PKP PKPdf 20 02 42.1 +0.2
comp=Z,0.4nm,0.7s,baz=0.9,slow=2.7,SNR=6.4

*TRN **09** 20:00:06.0, 18°.47N×65°.96W, h112km*
*NEIC **09** 20:00:07.7±0.7, 18°.3N±0°.1×66°.06W±0°.02, h120km±4km, ML3.7/46, Md3.2/37(RSPR), Error ellipse: s-maj=15.0km s-min=2.0km az=175.0*
*RSPR **09** 20:00:08.2, 18°.30N×66°.06W, h119km, MD3.1/18*
ISC 09 20:00:06.7±1.4, 18°.29N±0°.09×66°.04W±0°.03, h126km±7km, n81, σ0s58/92, 8C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**0.05**	**297**	***i*Pg**	**Pn**	**20 00 23.8**	**0.0**
GCPR	**Guaynabo City**	**0.05**	**297**	***e*S**	**Sn**	**20 00 36.1**	**-0.6**
GCPR	**Guaynabo City**	**0.05**	**297**		**Pn**	**20 00 23.8**	**0.0**
GCPR					**Sn**	**20 00 36.1**	**-0.6**
CBYP	**Canovanas**	**0.17**	**95**	***i*P**	**Pn**	**20 00 24.0**	**-0.1**
CBYP	**Canovanas**	**0.17**	**95**	***e*S**	**Sn**	**20 00 37.3**	**+0.2**
CBYP	**Canovanas**	**0.17**	**95**		**Pn**	**20 00 24.0**	**-0.1**
CBYP					**Sn**	**20 00 37.3**	**+0.2**
SJG	**San Juan**	**0.20**	**212**		**Pn**	**20 00 24.0**	**-0.1**
SJG				IAML		20 00 39.3	
	1µm,0.3s						
SJG	**San Juan**	**0.20**	**212**	***e*P**	**Pn**	**20 00 24.4**	**+0.3**
SJG				***e*S**	**Sn**	**20 00 36.3**	**-0.9**
HUMP	**Col San Antoni**	**0.23**	**129**	***i*P**	**Pn**	**20 00 24.6**	**+0.4**
HUMP	**Col San Antoni**	**0.23**	**129**	***e*S**	**Sn**	**20 00 37.1**	**-0.1**
HUMP	**Col San Antoni**	**0.23**	**129**		**Pn**	**20 00 24.6**	**+0.4**
HUMP					**Sn**	**20 00 37.1**	**-0.1**
HUMP	**Col San Antoni**	**0.23**	**129**	IAML		20 00 38.5	
	comp=E,2µm,0.2s						
HUMP				IAML		20 00 39.9	
	comp=N,2µm,0.2s						
IGPR	**InterUniversit**	**0.33**	**192**	***e*P**	**Pn**	**20 00 24.6**	**+0.2**
IGPR	**InterUniversit**	**0.33**	**192**	***e*S**	**Sn**	**20 00 37.5**	**-0.3**
IGPR	**InterUniversit**	**0.33**	**192**		**Pn**	**20 00 24.6**	**+0.2**
IGPR					**Sn**	**20 00 37.5**	**-0.3**
EMPR	**Esperanza - Ma**	**0.51**	**292**	***i*eP**	**Pn**	**20 00 25.5**	**+0.2**
EMPR	**Esperanza - Ma**	**0.51**	**292**	***e*S**	**Sn**	**20 00 39.2**	**-0.1**
EMPR	**Esperanza - Ma**	**0.51**	**292**		**Pn**	**20 00 25.5**	**+0.2**
EMPR					**Sn**	**20 00 39.2**	**-0.1**
EMPR	**Esperanza - Ma**	**0.51**	**292**	IAML		20 00 42.0	
	comp=E,1µm,0.5s						
EMPR				IAML		20 00 43.9	
	comp=N,1µm,0.3s						
CELP	**Cerrillos**	**0.56**	**248**	***i*eP**	**Pn**	**20 00 26.1**	**+0.4**
CELP	**Cerrillos**	**0.56**	**248**	***e*S**	**Sn**	**20 00 39.7**	**-0.3**
CELP	**Cerrillos**	**0.56**	**248**		**Pn**	**20 00 26.1**	**+0.4**
CELP					**Sn**	**20 00 39.7**	**-0.3**
CELP	**Cerrillos**	**0.56**	**248**	IAML		20 00 40.7	
	comp=E,2µm,0.4s						
CELP				IAML		20 00 40.8	
	comp=N,1µm,0.3s						
OBIP	**Obispado Ponce**	**0.59**	**246**	***i*eP**	**Pn**	**20 00 26.3**	**+0.4**
OBIP	**Obispado Ponce**	**0.59**	**246**	***e*S**	**Sn**	**20 00 40.3**	**-0.1**
OBIP	**Obispado Ponce**	**0.59**	**246**		**Pn**	**20 00 26.3**	**+0.4**
OBIP					**Sn**	**20 00 40.3**	**-0.1**
OBIP	**Obispado Ponce**	**0.59**	**246**	IAML		20 00 41.0	
	comp=E,2µm,0.7s						
OBIP				IAML		20 00 41.3	
	comp=N,1µm,0.7s						
UUPR	**Utuado, UPR, P**	**0.65**	**267**	***i*eP**	**Pn**	**20 00 26.6**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.65**	**267**		**Pn**	**20 00 26.6**	**+0.3**
AOPR	**Arecibo Observ**	**0.69**	**275**	***i*eP**	**Pn**	**20 00 26.6**	**0.0**
AOPR	**Arecibo Observ**	**0.69**	**275**		**Pn**	**20 00 26.6**	**0.0**
AOPR					**Sn**	**20 00 40.9**	**-0.7**
AOPR	**Arecibo Observ**	**0.69**	**275**	***e*P**	**Pn**	**20 00 26.6**	**0.0**
AOPR				***e*S**	**Sn**	**20 00 40.9**	**-0.7**
CUPR	**Culebra, Puert**	**0.71**	**88**	***i*P**	**Pn**	**20 00 27.0**	**+0.3**
CUPR	**Culebra, Puert**	**0.71**	**88**	***e*S**	**Sn**	**20 00 41.5**	**-0.4**
CUPR	**Culebra, Puert**	**0.71**	**88**		**Pn**	**20 00 27.0**	**+0.3**
CUPR					**Sn**	**20 00 41.5**	**-0.4**
CUPR	**Culebra, Puert**	**0.71**	**88**	IAML		20 00 43.9	
	comp=E,782nm,0.3s						
GBPR	**Guanica, Bosqu**	**0.86**	**249**	***i*eP**	**Pn**	**20 00 28.5**	**+0.5**
GBPR	**Guanica, Bosqu**	**0.86**	**249**	***e*S**	**Sn**	**20 00 44.0**	**-0.1**
GBPR	**Guanica, Bosqu**	**0.86**	**249**		**Pn**	**20 00 28.5**	**+0.5**
GBPR					**Sn**	**20 00 44.0**	**-0.1**
LSP	**Las Mesas**	**1.00**	**264**	***i*eP**	**Pn**	**20 00 29.9**	**+0.6**
LSP	**Las Mesas**	**1.00**	**264**	***e*S**	**Sn**	**20 00 46.6**	**+0.2**
LSP	**Las Mesas**	**1.00**	**264**		**Pn**	**20 00 29.9**	**+0.6**
LSP					**Sn**	**20 00 46.6**	**+0.2**
MLPR	**Magueyes Islan**	**1.01**	**252**	***i*eP**	**Pn**	**20 00 28.8**	**-0.5**
MLPR	**Magueyes Islan**	**1.01**	**252**	***e*S**	**Sn**	**20 00 45.6**	**-0.8**
MLPR	**Magueyes Islan**	**1.01**	**252**		**Pn**	**20 00 28.8**	**-0.5**
MLPR					**Sn**	**20 00 45.6**	**-0.8**
AGPR	**Aguadilla, PR**	**1.04**	**280**	***i*eP**	**Pn**	**20 00 29.6**	**0.0**
AGPR	**Aguadilla, PR**	**1.04**	**280**	***e*S**	**Sn**	**20 00 46.4**	**-0.6**
AGPR	**Aguadilla, PR**	**1.04**	**280**		**Pn**	**20 00 29.6**	**0.0**
AGPR					**Sn**	**20 00 46.4**	**-0.6**
AGPR	**Aguadilla, PR**	**1.04**	**280**	IAML		20 00 46.6	
	comp=E,1µm,0.2s						
AGPR				IAML		20 00 48.4	
	comp=N,1µm,0.3s						
PRSN	**Puerto Rico Se**	**1.06**	**266**		**Pn**	**20 00 30.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.06**	**255**	***i*eP**	**Pn**	**20 00 30.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.06**	**255**	***e*S**	**Sn**	**20 00 47.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.06**	**255**		**Pn**	**20 00 30.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.06**	**255**		**Sn**	**20 00 47.1**	**-0.1**
SJVI	**Gifft Hill Sch**	**1.20**	**88**	***i*eP**	**Pn**	**20 00 32.4**	**+1.1**
SJVI	**Gifft Hill Sch**	**1.20**	**88**	***e*S**	**Sn**	**20 00 50.7**	**+0.8**
SJVI	**Gifft Hill Sch**	**1.20**	**88**		**Pn**	**20 00 32.4**	**+1.1**
SJVI					**Sn**	**20 00 50.7**	**+0.8**
SJVI	**Gifft Hill Sch**	**1.20**	**88**	IAML		20 00 53.7	
	comp=N,519nm,0.3s						
IDE	**Isla Desecheo**	**1.37**	**274**	***i*eP**	**Pn**	**20 00 33.3**	**+0.2**
IDE	**Isla Desecheo**	**1.37**	**274**	***e*S**	**Sn**	**20 00 53.1**	**0.0**
IDE	**Isla Desecheo**	**1.37**	**274**		**Pn**	**20 00 33.3**	**+0.2**
IDE					**Sn**	**20 00 53.1**	**0.0**
PCDR	**Punta Cana, DR**	**2.24**	**276**	Pn	**Pn**	**20 00 44.1**	**+0.7**
SABA	**Saba**	**2.74**	**104**	Pn	**Pn**	**20 00 50.5**	**+0.7**
SABA				IAML		20 01 32.6	
	comp=N,158nm,0.5s						
SABA				IAML		20 01 39.5	
	comp=E,263nm,0.6s						
SABA	**Saba**	**2.74**	**104**	***e*P**	**Pn**	**20 00 50.5**	**+0.7**
SMRT	**St. Maarten**	**2.82**	**94**		**Pn**	**20 00 51.0**	**+0.1**
SMRT				IAML		20 01 25.9	
	comp=E,388nm,0.3s						
SMRT				IAML		20 01 27.2	
	comp=N,248nm,0.2s						
SMRT	**St. Maarten**	**2.82**	**94**	***e*P**	**Pn**	**20 00 49.8**	**-1.2**
SMRT				***e*S**	**Sn**	**20 01 22.9**	**-2.1**
MBFL	**Flemmings, Mon**	**3.96**	**112**	***e*P**	**Pn**	**20 01 06.3**	**+0.5**
MLYT	**Lee's Yard**	**3.98**	**112**	***e*P**	**Pn**	**20 01 06.2**	**0.0**
ANWB	**Willy Bob**	**4.09**	**98**	***e*P**	**Pn**	**20 01 07.0**	**-0.7**
ANBD	**Bethesda, Anti**	**4.25**	**106**	***e*P**	**Pn**	**20 01 09.9**	**+0.1**
ANBD	**Bethesda, Anti**	**4.25**	**106**	***e*S**	**Sn**	**20 01 57.4**	**-1.4**
GDHS	**Morne Mazeau,**	**4.54**	**115**	Pn	**Pn**	**20 01 14.5**	**+0.8**
GDHS				IAML		20 01 56.3	
	comp=E,122nm,1.5s						
GDHS				IAML		20 02 28.0	
	comp=N,128nm,0.5s						
SC01	**Santiago de lo**	**4.59**	**285**		**Pn**	**20 01 15.0**	**+0.8**
ABD	**La Joyeuse, An**	**4.70**	**112**	***e*P**	**Pn**	**20 01 16.2**	**+0.4**
CBE	**Ff, Capester**	**4.77**	**117**	Pn	**Pn**	**20 01 17.6**	**+0.8**
CBE				IAML		20 02 46.6	
	comp=E,92nm,2.8s						
CBE	**Ff, Capester**	**4.77**	**117**	***e*P**	**Pn**	**20 01 17.0**	**+0.2**
SDDR	**Presa de Saban**	**5.03**	**279**	Pn	**Pn**	**20 01 20.9**	**+0.7**
SDDR				IAML		20 04 19.1	
	comp=E,65nm,4.0s						
SDDR				IAML		20 04 30.7	
	comp=E,47nm,3.8s						
SDDR	**Presa de Saban**	**5.03**	**279**	***e*P**	**Pn**	**20 01 21.1**	**+0.9**
SDDR	**Presa de Saban**	**5.03**	**279**	***e*S**	**Sn**	**20 02 16.6**	**-0.8**
MAGL	**Barre de l'ile**	**5.10**	**116**	***e*P**	**Pn**	**20 01 22.7**	**+1.5**
BIM	**Bigot**	**6.06**	**127**	***e*P**	**Pn**	**20 01 34.3**	**+0.2**

*IDC **09** 20:06:56.8±0.7, 51°.62N×15°.94E, h0km, mb3.2/1, mbtmp3.4/9, ML2.7/7, Error ellipse: s-maj=13.5km s-min=7.1km az=104.0*
*DNK **09** 20:06:56.6±1.4, 51°.49N×15°.82E, h23km±57km, ML1.7*
*PRU **09** 20:06:57.8±0.0, 51°.53N×16°.06E, h0km*
*IPEC **09** 20:06:57.0±0.2, 51°.55N×16°.15E, h1km, ML2.8/5, Error ellipse: s-maj=2.0km s-min=1.1km az=36.0*
*BGR **09** 20:06:57.8±0.3, 51°.52N×16°.11E, h1km, ML3.1/15, Error ellipse: s-maj=3.3km s-min=1.1km az=16.0*
*VIE **09** 20:06:59.8, 51°.38N×15°.92E, h0km, mb2.9/9, ml2.8/13, ms3.9/1 82 km WNW of Wroclaw Suspected Mining induced.*
ISC 09 20:06:54.9±0.6, 51°.65N±0°.03×16°.14E±0°.02, h0km, n78, σ1s27/165, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**173**	***i*Pg**	**Pg**	**20 07 11.0**	**+0.7**
KSP				***e*Sg**	**Sg**	**20 07 20.6**	**-0.3**
KSP	**Ksiaz**	**0.81**	**173**	***e*Pg**	**Pg**	**20 07 11.1**	**+0.7**
KSP				***e*Sg**	**Sg**	**20 07 19.8**	**-1.0**
OSTC	**Ostas**	**1.09**	**178**	***e*PG**	**Pg**	**20 07 16.3**	**+0.5**
OSTC				***e*SG**	**Sg**	**20 07 29.3**	**-0.6**
	comp=Z,102nm,0.6s						
UPC	**Upice**	**1.14**	**184**	***e*PG**	**Pg**	**20 07 17.2**	**+0.4**
UPC				***e*SG**	**Sg**	**20 07 30.7**	**-0.9**
DPC	**Dobruska-Polom**	**1.30**	**175**	***e*PG**	**Pg**	**20 07 19.8**	**0.0**
DPC				***e*SG**	**Sg**	**20 07 35.2**	**-1.5**
	comp=Z,77nm,0.7s						
DPC	**Dobruska-Polom**	**1.30**	**175**	***e*Pg**	**Pg**	**20 07 19.9**	**0.0**
DPC				***e*Sg**	**Sg**	**20 07 35.5**	**-1.2**
PVCC	**Panska Ves**	**1.50**	**222**	***e*PG**	**Pn**	**20 07 23.6**	**+0.6**
PVCC				***e*SG**	**Sg**	**20 07 42.7**	**-0.2**
	comp=Z,219nm,0.3s						
BRG	**Berggiesshubel**	**1.58**	**242**	Pn	**Pn**	**20 07 24.3**	**0.0**
BRG				Pg	**Pg**	**20 07 26.0**	**+0.7**
BRG				Sg	**Sn**	**20 07 46.0**	**+0.7**
BRG				Amp		20 07 47.2	
	comp=Z,95nm,0.4s						
BRG	**Berggiesshubel**	**1.58**	**242**	***e*Pn**	**Pn**	**20 07 24.2**	**0.0**
BRG				***e*Pg**	**Pg**	**20 07 26.0**	**+0.7**
BRG				***e*Sg**	**Sn**	**20 07 46.1**	**+0.7**
KRLC	**Kraliky**	**1.62**	**165**	***e*PG**	**Pn**	**20 07 25.1**	**-0.3**
KRLC				***e*SG**	**Sn**	**20 07 45.5**	**-1.0**
	comp=Z,78nm,0.6s						
FBE	**Freiberg**	**1.90**	**249**	***e*Pg**	**Pb**	**20 07 31.4**	**+1.1**
FBE				***e*Sg**	**Sb**	**20 07 55.8**	**+1.2**
GOPC	**GO Pecny, Ondr**	**1.94**	**207**	***e*PN**	**Pn**	**20 07 29.6**	**+0.5**
GOPC				***e*PG**	**Pb**	**20 07 31.3**	**+0.2**
GOPC				***e*SG**	**Sn**	**20 07 54.8**	**+0.7**
	comp=Z,60nm,0.7s						
PRU	**Pruhonice**	**1.94**	**212**	***e*PG**	**Pb**	**20 07 31.2**	**0.0**
PRU				***e*SG**	**Sn**	**20 07 55.1**	**+0.8**
	comp=Z,55nm,0.3s						
CLL	**Collm**	**1.99**	**261**	***i*Pn**	**Pn**	**20 07 30.1**	**+0.2**
	comp=Z,20nm,0.5s						
CLL				***e*Pg**	**Pb**	**20 07 33.0**	**+1.0**
CLL				***i*x**	x	20 07 36.8	
CLL				***e*Sg**	**Sg**	**20 07 59.0**	**+0.1**
	comp=Z,34nm,0.5s						
CLL	**Collm**	**1.99**	**261**	***e*Pn**	**Pn**	**20 07 30.2**	**+0.4**
CLL				***e*Pg**	**Pg**	**20 07 33.9**	**+0.8**
CLL				***e*Sg**	**Sg**	**20 07 59.6**	**+0.7**
MORC	**Moravsky Berou**	**2.07**	**154**	***e*PN**	**Pn**	**20 07 31.3**	**+0.3**
MORC				***e*SG**	**Sb**	**20 07 59.2**	**-0.5**
MORC	**Moravsky Berou**	**2.07**	**154**	***e*Pn**	**Pn**	**20 07 31.4**	**+0.4**
MORC				***e*Pg**	**Pg**	**20 07 34.9**	**+0.3**
MORC				***e*Sg**	**Sb**	**20 08 00.2**	**+0.5**
MORC	**Moravsky Berou**	**2.07**	**154**	***e*Pn**	**Pn**	**20 07 31.3**	**+0.3**
	baz=334						
MORC				***e*Sg**	**Sb**	**20 07 59.1**	**-0.6**
	comp=Z,54nm,0.7s,baz=334						
OKC	**Ostrava-Krasne**	**2.21**	**144**	***e*SG**	**Sb**	**20 08 04.2**	**+0.5**
	comp=Z,64nm,0.5s						
OKC	**Ostrava-Krasne**	**2.21**	**144**	***e*Pn**	**Pn**	**20 07 33.5**	**+0.6**
OKC				***e*Pg**	**Pg**	**20 07 37.6**	**+0.2**
OKC				***e*Sg**	**Sb**	**20 08 04.3**	**+0.6**
VRAC	**Vranov**	**2.36**	**173**	Pn	**Pn**	**20 07 35.6**	**+0.7**
	comp=Z,3.0nm,0.3s,baz=343,slow=14,SNR=22						
VRAC				Pg	**Pg**	**20 07 40.8**	**+0.7**
	comp=Z,4.6nm,0.3s,baz=351,slow=18,SNR=13						
VRAC				Lg	Lg	20 08 07.1	
	comp=Z,6.4nm,0.3s,baz=84,slow=20,SNR=12						
	comp=Z,7.5nm,0.4s						
VRAC	**Vranov**	**2.36**	**173**	***e*PN**	**Pn**	**20 07 35.5**	**+0.6**
VRAC				***e*SG**	**Sb**	**20 08 07.6**	**-0.3**
VRAC	**Vranov**	**2.36**	**173**	***e*Pn**	**Pn**	**20 07 35.5**	**+0.6**
	baz=353						
VRAC				***e*Sg**	**Sb**	**20 08 07.6**	**-0.3**
	comp=Z,38nm,0.6s,baz=353						
TREC	**Trest**	**2.39**	**190**	***e*PN**	**Pn**	**20 07 35.9**	**+0.5**
TREC				***e*PG**	**Pb**	**20 07 39.3**	**+0.5**
TREC				***e*SG**	**Sb**	**20 08 09.2**	**+0.3**
	comp=Z,32nm,0.6s						
MAUC	**Maruska**	**2.52**	**154**	***e*PG**	**Pb**	**20 07 42.2**	**+1.1**
MAUC				***e*SG**	**Sg**	**20 08 15.2**	**-0.7**
KRUC	**Moravsky**	**2.59**	**176**	***e*PN**	**Pn**	**20 07 38.9**	**+0.8**
KRUC				***e*PG**	**Pb**	**20 07 42.6**	**+0.3**
KRUC				***e*SG**	**Sb**	**20 08 15.1**	**+0.5**
KRUC	**Moravsky**	**2.59**	**176**	***e

OJC	**Ojcow**	**2.72**	**120**	*e*Pn	**Pn**	**20 07 40.4**	**+0.5**
OJC				*e*Pg	**Pg**	**20 07 48.3**	**+1.3**
OJC				*e*Sg	**Sg**	**20 08 23.7**	**+1.5**
NKC	**Novy Kostel**	**2.73**	**240**	*e*PN	**Pn**	**20 07 40.9**	**+0.8**
NKC				*e*PG	**Pg**	**20 07 47.6**	**+0.3**
NKC				*e*SG	**Sg**	**20 08 22.4**	**-0.3**
	comp=Z,90nm,0.7s						
JAVC	**Velka Javorina**	**2.96**	**160**	*e*PN	**Pn**	**20 07 44.0**	**+0.8**
JAVC	**Velka Javorina**	**2.96**	**160**	*e*Pn	**Pn**	**20 07 44.0**	**+0.8**
	baz=341						
KHC	**Kasperske Hory**	**3.00**	**214**	*e*PN	**Pn**	**20 07 43.9**	**+0.1**
KHC				*e*PG	**Pb**	**20 07 50.4**	**+1.1**
KHC				*e*SG	**Sg**	**20 08 29.5**	**-1.9**
	comp=Z,23nm,0.6s						
MOX	**Moxa**	**3.02**	**252**	*e*Pn	**Pn**	**20 07 44.5**	**+0.5**
MOX				*e*Pg	**Pg**	**20 07 52.9**	**0.0**
MOX				*e*Sg	**Sg**	**20 08 32.5**	**+0.5**
MANZ	**Manzenberg**	**3.05**	**239**	*e*Pn	**Pn**	**20 07 45.2**	**+0.8**
MANZ				*e*Pg	**Pg**	**20 07 54.1**	**+0.7**
MANZ				*e*Sg	**Sg**	**20 08 33.3**	**+0.4**
CKRC	**Cesky Krumlov**	**3.06**	**203**	*e*PN	**Pn**	**20 07 46.5**	**+1.9**
CKRC				*e*PG	**Pb**	**20 07 52.3**	**+2.0**
CKRC				*e*SG	**Sb**	**20 08 30.5**	**+2.3**
	comp=Z,24nm,0.6s						
ROTZ	**Rotzenmuhle**	**3.13**	**235**	*e*Pn	**Pn**	**20 07 46.3**	**+0.8**
ROTZ				*e*Pg	**Pg**	**20 07 55.8**	**+0.9**
ROTZ				*e*Sg	**Sg**	**20 08 34.1**	**-1.4**
GEC2	**GERESS Array S**	**3.21**	**210**	*e*Pn	**Pn**	**20 07 47.8**	**+1.0**
GEC2				*e*Pg	**Pg**	**20 07 56.1**	**-0.4**
GEC2				*e*Sg	**Sb**	**20 08 35.5**	**+2.9**
GERES	**GERESS Array B**	**3.21**	**210**	Pn	**Pn**	**20 07 47.4**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=32,slow=12,SNR=51						
GERES				Pg	**Pb**	**20 07 54.2**	**+1.3**
	comp=Z,3.9nm,0.3s,baz=28,slow=16,SNR=26						
GERES				Lg	Lg	20 08 33.1	
	comp=Z,4.4nm,0.3s,baz=32,slow=25,SNR=5.3						
	comp=Z,4.6nm,0.8s						
LANS	**Liptovska Anna**	**3.28**	**138**	*e*PN	**Pn**	**20 07 48.9**	**+1.3**
LANS				*e*PG	**Pg**	**20 07 58.0**	**+0.2**
LANS				*e*SG	**Sg**	**20 08 40.6**	**+0.3**
MODS	**Modra-Piesok**	**3.36**	**167**	*e*PN	**Pn**	**20 07 51.2**	**+2.6**
MODS				*e*PG	**Pg**	**20 07 59.1**	**-0.1**
MODS				*e*SG	**Sg**	**20 08 42.3**	**-0.4**
NIE	**Niedzica**	**3.46**	**128**	*e*P	**Pg**	**20 08 01.4**	**+0.1**
NIE				*e*S	**Sg**	**20 08 46.3**	**+0.1**
ZST	**Bratislava**	**3.51**	**169**	*e*SG	**Sg**	**20 08 45.5**	**-2.1**
BSD	**Bornholm Skovb**	**3.55**	**349**	*i* P	**Pn**	**20 07 52.5**	**+1.2**
BSD				*i* S	**Sn**	**20 08 34.1**	**+0.2**
BSD				IAML		20 08 37.4	
	comp=Z,0.8nm,0.1s						
CLZ	**Clausthal**	**3.59**	**275**	*e*Pn	**Pn**	**20 07 54.0**	**+2.1**
CLZ				*e*Pg	**Pg**	**20 08 04.0**	**+0.3**
CLZ				*e*Sg	**Sg**	**20 08 52.3**	**+2.0**
VYHS	**Vyhne**	**3.60**	**150**	*e*PN	**Pn**	**20 07 52.3**	**+0.3**
VYHS				*e*PG	**Pg**	**20 08 05.2**	**+1.3**
VYHS				*e*SG	**Sg**	**20 08 52.5**	**+2.0**
GRF	**Grafenberg Arr**	**3.69**	**240**	*e*Pn	**Pn**	**20 07 54.3**	**+1.0**
GRF				*e*Pg	**Pg**	**20 08 06.1**	**+0.4**
GRF				*e*Sg	**Sg**	**20 08 52.0**	**-1.5**
CONA	**Conrad Observa**	**3.73**	**183**	*i* Pn	**Pn**	**20 07 54.5**	**+0.8**
	comp=Z,2.3nm,0.3s,SNR=7.5						
CONA				Sg	**Sg**	**20 08 52.8**	**-1.8**
	comp=Z,17nm,0.3s						
STHS	**Stebnicka Huta**	**3.94**	**122**	*e*PN	**Pn**	**20 07 57.3**	**+0.6**
STHS				*e*PG	**Pg**	**20 08 12.0**	**+1.5**
STHS				*e*SG	**Sg**	**20 09 04.3**	**+2.7**
RONA	**Rosalia, Austr**	**3.95**	**179**	*e*Sg	**Sg**	**20 08 59.4**	**-2.4**
	comp=Z,12nm,0.5s						
MOA	**Molln**	**3.99**	**198**	*i* Pn	**Pn**	**20 07 58.0**	**+0.7**
	comp=Z,7.0nm,0.3s,SNR=5.3						
MOA				Sg	**Sg**	**20 09 00.7**	**-2.3**
	comp=Z,16nm,0.4s						
BIOA	**Bad Ischl, Aus**	**4.28**	**203**	*i* Pn	**Pn**	**20 08 02.0**	**+0.6**
	comp=Z,4.6nm,0.3s						
BIOA				*e*Sg	**Sg**	**20 09 11.5**	**-0.8**
	comp=Z,22nm,0.4s						
LUNU	**Lund**	**4.30**	**339**	*i* P	**Pn**	**20 08 02.0**	**+0.4**
LUNU				*i* S	**Sn**	**20 08 50.8**	**-1.7**
CRVS	**Cervenica-Dubn**	**4.38**	**127**	*e*PG	**Pg**	**20 08 21.4**	**+2.6**
ARSA	**Arzberg**	**4.42**	**185**	*i* Pn	**Pn**	**20 08 04.6**	**+1.4**
	comp=Z,2.6nm,0.3s						
ARSA				Sg	**Sg**	**20 09 15.1**	**-1.6**
	comp=Z,15nm,0.8s						
BLEU	**Blekinge**	**4.67**	**358**	*i* P	**Pn**	**20 08 08.8**	**+2.1**
BLEU				*i* S	**Sn**	**20 09 00.3**	**-1.3**
BJUU	**Bjuv**	**4.81**	**339**	*i* P	**Pn**	**20 08 09.8**	**+1.4**
BJUU				*i* S	**Sn**	**20 09 01.6**	**-3.3**
KBA	**Koelnbreinsper**	**4.92**	**203**	*e*Pn	**Pn**	**20 08 11.4**	**+1.1**
	comp=Z,6.0nm,0.4s,SNR=7.1						
KBA				Sg	**Sg**	**20 09 31.7**	**-1.3**
	comp=Z,15nm,0.6s						
DEL	**Delary**	**5.02**	**345**	*i* P	**Pn**	**20 08 12.0**	**+0.6**
DEL				*i* S	**Sn**	**20 09 08.2**	**-1.8**
SOKA	**Soboth**	**5.03**	**189**	*i* Pn	**Pn**	**20 08 12.6**	**+1.0**
	comp=Z,1.1nm,0.3s						
SOKA				*e*Sg	**Sg**	**20 09 34.7**	**-1.5**
	comp=Z,8.0nm,1.0s						
WATA	**Walderalm**	**5.24**	**216**	*i* Pn	**Pn**	**20 08 15.9**	**+1.3**
	comp=Z,2.1nm,0.4s						
WTTA	**Wattenberg**	**5.28**	**216**	*i* Pn	**Pn**	**20 08 16.5**	**+1.3**
	comp=Z,1.9nm,0.4s						
WTTA				Sg	**Sg**	**20 09 44.4**	**-0.1**
	comp=Z,6.8nm,0.5s						
MOTA	**Moosalm**	**5.41**	**219**	*i* Pn	**Pn**	**20 08 17.8**	**+0.8**
	comp=Z,1.7nm,0.4s						
MOTA				*e*Sg	**Sg**	**20 09 49.4**	**+0.7**
	comp=Z,6.6nm,0.5s						
RETA	**Reutte**	**5.44**	**222**	*e*Pn	**Pn**	**20 08 18.0**	**+0.7**
	comp=Z,1.2nm,0.3s						
ABTA	**Abfaltersbach**	**5.45**	**207**	*e*Pn	**Pn**	**20 08 18.9**	**+1.4**
	comp=Z,1.3nm,0.3s						
SQTA	**Sankt Quirin**	**5.47**	**218**	*i* Pn	**Pn**	**20 08 19.7**	**+1.9**
	comp=Z,1.5nm,0.3s						
FETA	**Feichten**	**5.83**	**220**	*i* Pn	**Pn**	**20 08 24.3**	**+1.6**
	comp=Z,0.5nm,0.3s						
FETA				Sg	**Sg**	**20 09 58.2**	**-3.8**
	comp=Z,3.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**6.37**	**223**	Pn	**Pn**	**20 08 29.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=12,slow=19,SNR=1.9						
DAVOX				Lg	Lg	20 10 13.8	
	comp=Z,0.3nm,0.3s,baz=337,slow=18,SNR=1.8						
	comp=Z,1.1nm,0.4s						
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**20 08 56.1**	**0.0**
	comp=Z,0.9nm,0.5s,baz=278,slow=12,SNR=13						
AKASG				Sn	**Sn**	**20 10 26.1**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=272,slow=23,SNR=2.2						
HFS	**Hagfors**	**8.62**	**352**	Pn	**Pn**	**20 08 59.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=174,slow=16,SNR=1.8						
HFS				Sn	Sn	20 10 29.1	-10
	comp=Z,0.2nm,0.3s,baz=170,slow=35,SNR=0.9						
	comp=Z,2.1nm,0.7s						
NOA	**NORSAR Array B**	**9.80**	**346**	Pn	**Pn**	**20 09 16.0**	**-1.1**
	baz=150,slow=12,SNR=2.1						
	comp=Z,0.7nm,0.8s						
FINES	**FINESS Array B**	**11.23**	**25**	Pn	**Pn**	**20 09 35.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=194,slow=16,SNR=1.4						
FINES				Sn	**Sn**	**20 11 37.3**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=208,slow=21,SNR=4.1						
	comp=Z,3.9nm,1.0s						
EKA	**Eskdalemuir Ar**	**12.07**	**295**	Pn	**Pn**	**20 09 45.2**	**-2.8**
	baz=103,slow=13						
ARCES	**ARCESS Array B**	**18.49**	**10**	P	**P**	**20 11 12.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=182,slow=11,SNR=2.5						
	comp=Z,5.1nm,1.0s						
YKA	**Yellowknife Ar**	**59.74**	**336**	P	**P**	**20 17 02.6**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=27,slow=7.2,SNR=2.7						
	comp=Z,0.2nm,0.6s						

TAP 09 20:25:07.5, 24.43N×121.93E, h19km, ML2.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.14**	**278**	P	Pg	20 25 11.8	+0.1
	baz=286						
EWUT				S	Sg	20 25 14.5	-0.1
	baz=286						
ENA	**Nanau**	**0.17**	**271**	*i* P	Pg	20 25 12.1	-0.1
	baz=270						
ENA				*i* S	Sg	20 25 15.2	-0.1
	baz=270						
TWC	**Suao**	**0.20**	**338**	*i* P	Pg	20 25 12.7	+0.1
	baz=344						
TWC				S	Sg	20 25 16.1	+0.2
	baz=344						
NDS	**Dongshan**	**0.29**	**317**	P	Pg	20 25 13.9	0.0
	baz=316						
NDS				S	Sb	20 25 18.7	+0.3
	baz=316						
ILA	**Ilan**	**0.38**	**334**	P	Pb	20 25 15.6	-0.1
	baz=329						
ILA				*i* S	Sb	20 25 22.3	+0.9
	baz=329						
TWE	**Neicheng**	**0.38**	**321**	*i* P	Pg	20 25 15.6	0.0
	baz=321						
TWE				*i* S	Sg	20 25 21.1	+0.1
	baz=321						
LATG	**Datong**	**0.39**	**287**	P	Pg	20 25 15.7	0.0
	baz=287						
LATG				S	Sb	20 25 21.4	-0.2
	baz=287						
ETL	**Fush Village**	**0.39**	**227**	P	Pg	20 25 15.7	0.0
	baz=227						
ENTT	**Nioudou**	**0.40**	**303**	*i* P	Pb	20 25 16.0	-0.1
	baz=303						
ENTT				*i* S	Sb	20 25 22.0	+0.1
	baz=303						
NACB	**Ninganchiao**	**0.40**	**231**	P	Pg	20 25 15.5	-0.3
	baz=234						
NACB				S	Sb	20 25 21.8	-0.1
	baz=234						
FUSB	**Fushanzhiwuyua**	**0.46**	**317**	P	Pb	20 25 17.2	+0.1
	baz=316						
FUSB				S	Sb	20 25 23.7	+0.1
	baz=316						
TWD	**Chiawan**	**0.46**	**222**	*i* P	Pb	20 25 17.1	0.0
	baz=227						
TWD				S	Sb	20 25 23.9	+0.3
	baz=227						
ETLH	**Xiulin Townshi**	**0.47**	**242**	P	Pg	20 25 16.7	-0.3
	baz=251						
ETLH				S	Sb	20 25 23.9	+0.1
	baz=251						
NNSB	**Datong**	**0.50**	**270**	P	Pg	20 25 17.6	-0.2
	baz=277						
NNSB				S	Sg	20 25 24.5	0.0
	baz=277						
NNSH	**Datong**	**0.50**	**270**	P	Pg	20 25 17.2	-0.6
	baz=277						
NNSH				S	Sg	20 25 24.7	+0.1
	baz=277						
NNS	**Nan Shan**	**0.51**	**272**	*i* P	Pb	20 25 18.0	0.0
	baz=273						
NNS				*i* S	Sg	20 25 24.6	-0.2
	baz=273						
NWLT	**Wulai**	**0.53**	**312**	P	Pb	20 25 18.2	0.0
	baz=306						
NWLT				S	Sb	20 25 24.4	+0.1
	baz=306						
TIPB	**Shuangxi**	**0.55**	**350**	P	Pg	20 25 18.7	+0.1
	baz=349						
TIPB				S	Sb	20 25 26.3	+0.1
	baz=349						
NSK	**Sanguang**	**0.58**	**296**	*i* P	Pg	20 25 19.3	+0.1
	baz=296						
NSK				*i* S	Sb	20 25 26.8	-0.2
	baz=296						
TWB1	**Santiao Chiao**	**0.58**	**5**	P	Pn	20 25 20.4	-0.5
	baz=357						
TWB1				S	Sg	20 25 27.1	+0.1
	baz=357						
NHDH	**Xindian Distri**	**0.65**	**325**	P	Pg	20 25 20.9	+0.5
	baz=316						
NHDH				S	Sg	20 25 30.2	+1.1
	baz=316						
SXI1	**Grass Mountain**	**0.67**	**356**	P	Pg	20 25 20.9	+0.1
	baz=358						
SXI1				S	Sg	20 25 30.6	+0.9
	baz=358						
WHF	**Hehuan Shan**	**0.67**	**246**	*i* P	Pg	20 25 21.1	+0.1
	baz=253						
WHF				S	Sg	20 25 31.0	+1.0
	baz=253						
TWT	**Tachien**	**0.71**	**256**	*i* P	Pn	20 25 22.7	-0.1
	baz=258						
TWT				*i* S	Sn	20 25 32.8	-0.5
	baz=258						
ESL	**Shilin**	**0.76**	**217**	*i* P	Pg	20 25 22.4	-0.1
	baz=225						
ESL				S	Sn	20 25 33.7	-0.6
	baz=225						
NFF	**Wufeng Townshi**	**0.77**	**286**	P	Pn	20 25 23.2	-0.3
	baz=292						
NFF				S	Sg	20 25 33.1	+0.2
	baz=292						
CHGB	**Renai**	**0.78**	**242**	P	Pg	20 25 23.0	+0.1
	baz=250						
CHGB				S	Sn	20 25 34.4	-0.7
	baz=250						
TWS1	**Kuangyinshan**	**0.82**	**325**	P	Pn	20 25 24.5	+0.4
	baz=317						
TWS1				S	Sn	20 25 37.0	+1.2
	baz=317						
YM08	**YM08**	**0.82**	**338**	P	Pn	20 25 24.0	-0.1
	baz=326						
OWD	**Renai**	**0.83**	**236**	P	Pb	20 25 23.6	0.0
	baz=238						
OWD				S	Sn	20 25 35.6	-0.7
	baz=238						
ANP	**Anpu**	**0.85**	**334**	P	Pn	20 25 24.8	+0.3
	baz=333						
WUSB	**Renai**	**0.86**	**240**	P	Pg	20 25 24.3	-0.1
	baz=248						
WUSB				S	Sn	20 25 36.8	-0.1
	baz=248						
LIOB	**Emei**	**0.86**	**285**	P	Pn	20 25 25.5	+0.8
	baz=285						
NSTT	**Nanjuang**	**0.87**	**284**	*i* P	Pn	20 25 25.5	+0.7
	baz=278						
NSTT				S	Sn	20 25 38.0	+0.9
	baz=278						
EGFH	**Guangfu**	**0.88**	**212**	P	Pg	20 25 24.8	0.0
	baz=228						
EGFH				S	Sn	20 25 39.5	+2.2
	baz=228						
WHP	**Taichung City**	**0.91**	**261**	P	Pn	20 25 26.2	+0.8
	baz=269						
WHP				S	Sn	20 25 38.0	-0.1
	baz=269						
VWDT	**VWDT**	**0.98**	**227**	P	Pn	20 25 26.5	+0.2
	baz=235						
VWDT				S	Sn	20 25 40.4	+0.6
	baz=235						
WCS	**Beigang Elemen**	**1.00**	**249**	P	Pn	20 25 26.6	0.0
	baz=257						
HGSD	**Ruisui**	**1.04**	**207**	P	Pg	20 25 28.9	+1.1
	baz=224						
EHY	**Hungye**	**1.07**	**212**	P	Pn	20 25 27.6	0.0
	baz=224						
EHY				S	Sg	20 25 43.9	+1.5
	baz=224						
SMLT	**Sun Moon Lake**	**1.09**	**240**	P	Pg	20 25 30.1	+1.4
	baz=241						
SSLB	**Suanglung**	**1.10**	**235**	P	Pn	20 25 28.3	+0.3
	baz=238						
SSLB				S	Sg	20 25 43.3	0.0
	baz=238						
TYC	**Yuchr**	**1.11**	**242**	*i* P	Pg	20 25 29.8	+0.7
	baz=249						
YULB	**Yu-li**	**1.18**	**210**	P	Pn	20 25 28.9	-0.2
	baz=211						
WHYT	**Xinyi Township**	**1.22**	**234**	P	Pg	20 25 30.7	-0.5
	baz=242						
WHYT				S	Sg	20 25 47.5	+0.2
	baz=242						
ALS	**Alishan**	**1.38**	**229**	*i* P	Pg	20 25 34.5	+0.4
	baz=219						
ALS				*i* S	Sg	20 25 53.5	+1.3
	baz=219						
CHN5	**Tsauling**	**1.41**	**235**	P	Pg	20 25 35.0	+0.2
	baz=238						
CHN5				S	Sg	20 25 55.8	+2.5
	baz=238						
ELDTW	**Lidau**	**1.49**	**214**	*i* P	Pb	20 25 35.2	+0.6
	baz=218						
ELDTW				S	Sg	20 25 54.8	-0.9
	baz=218						
WCKO	**Fanlu**	**1.56**	**231**	P	Pg	20 25 37.3	-0.3
	baz=235						
WCKO				S	Sg	20 25 58.6	+0.6
	baz=235						
CHN4	**Tsaushan**	**1.63**	**229**	*i* P	Pb	20 25 37.9	+0.9
	baz=233						
CHN4				*i* S	Sg	20 26 01.6	+1.5
	baz=233						
TPUB	**Ta-pu**	**1.64**	**227**	S	Sg	20 25 59.9	-0.5
	baz=231						

JMA 09 20:25:14.3±0.1, 24.5N±0.7×123.6E±0.3, h53km±1km, MV1.9/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**141**	P	Pn	20 25 22.7	-0.1
IRIF				S	Sn	20 25 28.7	0.0
JKRS	**Kuro-shima**	**0.41**	**121**	P	Pn	20 25 25.0	+0.2
JKRS				S	Sn	20 25 32.8	+0.5
HATJ	**Hateruma jima**	**0.42**	**158**	P	Pn	20 25 24.8	-0.2
HATJ				*e*S	Sn	20 25 32.5	-0.1
JIJ	**Ishigaki jima**	**0.47**	**100**	*i* P	Pn	20 25 25.4	-0.2
JIJ				S	Sn	20 25 33.5	-0.1
YOJ	**Yonaguni jima**	**0.56**	**272**	P	Pn	20 25 26.6	0.0
YOJ				*e*S	Sn	20 25 35.3	-0.1
YOJ	**Yonaguni jima**	**0.56**	**272**	P	Pn	20 25 26.3	-0.2
	baz=77						
YOJ				*e*S	Sn	20 25 35.2	-0.2
	baz=77						
JYNG	**Yonagunijimaku**	**0.62**	**270**	P	Pn	20 25 27.4	+0.2
JYNG				S	Sn	20 25 36.9	+0.2
JISG	**Ishigakijimahi**	**0.64**	**77**	*i* P	Pn	20 25 27.5	+0.1
JISG				S	Sn	20 25 37.4	+0.5
JTJ	**Tarama**	**0.99**	**79**	P	Pn	20 25 32.6	+0.5
JTJ				S	Sn	20 25 46.1	+0.9
JIRB	**Irabujima**	**1.46**	**75**	P	Pn	20 25 38.8	+0.5

*IDC **09** 20:25:52.0±2.8, 35.58N×77.80E, h75km±26km, mb3.5/17, mbtmp3.9/22, Error ellipse: s-maj=18.0km s-min=13.0km az=38.0*

*NEIC **09** 20:25:53.3±1.1, 35.68N±0.10×77.83E±0.07, h82km±12km, mb4.1/14, Error ellipse: s-maj=14.4km s-min=7.7km az=161.0*

*NNC **09** 20:26:03.3±5.2, 36.35N×78.01E, h128km±38km, mb3.5, mpv4.5, Error ellipse: s-maj=51.2km s-min=22.4km az=170.0*

ISC 09 20:25:52.5±0.5, 35.67N±0.04×77.91E±0.05, h82km, n86, σ2.529/100, mb3.9/19, 6C-6D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.71**	**210**	*e*P	**Pn**	**20 26 51.1**	**+3.7**
THN				*i* x	x	20 26 58.4	
THN				*e*S	**Sn**	**20 27 31.2**	**+1.3**
THN				IAML		20 27 35.5	
	comp=N,181nm,0.7s						
JMU	**Jammu**	**3.86**	**221**	*e*S	**Sn**	**20 27 35.8**	**+2.2**
CHCP	**Chirah Chowk**	**4.32**	**244**	P	**Pn**	**20 26 58.2**	**+2.4**
NIL	**Nilore**	**4.33**	**244**	Pn	**Pn**	**20 26 58.1**	**+2.2**
NIL				Sn	**Sn**	**20 27 44.1**	**-1.2**
BHK	**Bhakra**	**4.42**	**197**	*e*P	**Pn**	**20 27 00.8**	**+3.6**
BHK				*e*S	**Sn**	**20 27 49.1**	**+1.6**
BHK				IAML		20 27 53.8	
	comp=E,219nm,0.7s						
CEP	**Cherat**	**5.27**	**251**	P	**Pn**	**20 27 10.3**	**+1.5**
DDI	**Dehra Dun**	**5.34**	**179**	*e*P	**Pn**	**20 27 13.7**	**+4.0**
DDI				*e*S	**Sn**	**20 28 09.2**	**-0.6**
DDI				IAML		20 28 13.4	
	comp=N,457nm,0.0s						
DDI				IAML		20 28 14.1	
	comp=E,304nm,0.2s						
THW	**Thamme Wali**	**5.86**	**242**	P	**Pn**	**20 27 16.9**	**+0.2**
TARG	**Taragay, Kyrgy**	**6.05**	**359**		**Pn**	**20 27 22.4**	**+2.7**
LGTI	**Lohaghat**	**6.51**	**162**	*e*P	**Pn**	**20 27 30.0**	**+4.3**
LGTI				*e*S	**Sn**	**20 28 33.4**	**-5.1**
LGTI				IAML		20 28 40.8	
	comp=N,84nm,0.5s						
LGTI				IAML		20 28 41.1	
	comp=E,52nm,0.4s						
ULHL	**Ulahol**	**6.69**	**349**	P	**Pn**	**20 27 31.8**	**+3.6**
	SNR=8.7						
GAR	**Garm**	**6.90**	**301**		**Pn**	**20 27 28.7**	**-2.3**
NDI	**New Delhi**	**6.99**	**185**	*e*P	**Pn**	**20 27 34.4**	**+2.1**
NDI				*e*P	**Pn**	**20 27 35.0**	**+2.7**
NDI				*e*S	**Sn**	**20 28 46.0**	**-4.3**
NDI				*e*S	**Sn**	**20 28 48.0**	**-2.3**
UCH	**Uchtor**	**7.06**	**339**	P	**Pn**	**20 27 35.5**	**+2.1**
	SNR=15						
KBK	**Karagaybulak**	**7.34**	**343**	P	**Pn**	**20 27 39.6**	**+2.6**
	SNR=16						
KBL	**Kabul**	**7.35**	**264**	Pn	**Pn**	**20 27 36.5**	**-0.8**
AAK	**Ala-Archa**	**7.44**	**340**	P	**Pn**	**20 27 41.0**	**+2.6**
	SNR=18						
AAK	**Ala-Archa**	**7.44**	**340**	P	**Pn**	**20 27 40.0**	**+1.6**
	comp=E,10nm,0.3s,baz=150,slow=6.8,SNR=39						
AAK				S	**Sn**	**20 29 02.7**	**+1.4**
	comp=E,8.8nm,0.6s,baz=126,slow=14,SNR=1.4						
AAK	**Ala-Archa**	**7.44**	**340**	Pn	**Pn**	**20 27 40.8**	**+2.3**
TKM2	**Tokmak 2**	**7.46**	**347**	⇓P	**Pn**	**20 27 43.1**	**+4.5**
	comp=E,7.6nm,0.7s						
MDOK	**Medeo**	**7.51**	**355**	⇓P	**Pn**	**20 27 43.0**	**+3.7**
	comp=E,6.7nm,0.4s						
CHGR	**Chuyangaron**	**7.59**	**296**	Pn	**Pn**	**20 27 37.8**	**-2.7**
KUDL	**Kundal**	**7.60**	**189**	*e*P	**Pn**	**20 27 42.3**	**+1.8**
SIMJ	**Simiganj**	**7.70**	**295**		**Pn**	**20 27 39.5**	**-2.5**
CHMS	**Chumysh**	**7.71**	**342**	P	**Pn**	**20 27 44.3**	**+2.2**
	SNR=9.7						
CHMS	**Chumysh**	**7.71**	**342**	⇓P	**Pn**	**20 27 44.2**	**+2.2**
	comp=E,7.8nm,0.8s						
KHET	**Khetri**	**7.78**	**194**	*e*P	**Pn**	**20 27 44.3**	**+1.2**
MRKS	**Merke**	**7.94**	**334**	Pg	Pn	20 27 51.2	+6.1
	comp=E,2.9nm,0.2s						
MRKS				Lg	Lg	20 29 14.9	
	comp=E,8.7nm,0.1s						
USP	**Ospenovka**	**8.03**	**342**	P	**Pn**	**20 27 50.0**	**+3.7**
	SNR=6.5						
DZA	**Taraz**	**8.82**	**327**	Pg	**Pn**	**20 28 01.5**	**+4.3**
	comp=E,54nm,0.1s						
DZA				Lg	Lg	20 29 32.2	
	comp=E,74nm,0.2s						
IUG	**Iuzhnay**	**8.91**	**319**	Pg	**Pn**	**20 28 00.9**	**+2.5**
	comp=E,8.6nm,0.2s						
IUG				Lg	Lg	20 29 31.3	
	comp=E,33nm,0.2s						
KK31	**Karatay Array**	**9.37**	**325**	Pn	**Pn**	**20 28 04.4**	**-0.1**
KK31	**Karatay Array**	**9.37**	**325**	⇑P	**Pn**	**20 28 04.8**	**+0.2**
	comp=E,1.0nm,0.2s,baz=131,slow=13,SNR=72						
KK31				⇓S	**Sn**	**20 29 43.5**	**-4.6**
	comp=E,3.9nm,0.3s						
KKAR	**Karatay Array**	**9.37**	**325**	Pn	**Pn**	**20 28 04.6**	**

BRVK IAmb IAmb 20 30 26.0
comp=Z,8.1nm,0.8s
BRVK Borovoye 18.20 345 ⇑P **Pn 20 30 00.3 +0.9**
comp=Z,5.4nm,0.7s
ZAA0 Zalesovo Array 18.90 13 P **P 20 30 07.2 +0.9**
ZAA0 Zalesovo Array 18.90 13 ⇓P **P 20 30 07.8 +1.5**
comp=Z,0.7nm,0.9s
ZALV Zalesovo Beam 18.90 13 P **P 20 30 07.0 +0.7**
comp=Z,1.3nm,0.5s,baz=217,slow=10,SNR=7.3
ZALV Zalesovo Beam 18.90 13 P **P 20 30 06.9 +0.6**
AB31 Akbulak array 18.90 321 ⇑P **Pn 20 30 08.2 +0.3**
comp=Z,1.4nm,0.6s,baz=124,slow=12,SNR=39
ABKAR **Akbulak array 18.90 321** P **P 20 30 06.2 -0.2**
AKTO Aktyubinsk 20.61 322 P **P 20 30 24.4 -0.5**
comp=Z,0.9nm,0.3s,baz=102,slow=11,SNR=4.3
AKTO S **S 20 34 06.4 -4.2**
comp=Z,0.5nm,0.5s,baz=73,slow=6.9,SNR=1.6
comp=Z,0.9nm,0.3s
AKTO Aktyubinsk 20.61 322 P **P 20 30 22.8 -2.1**
WSAR Wadi Sarin 20.82 239 P **P 20 30 24.3 -3.0**
comp=Z,1.1nm,0.8s,baz=328,slow=15,SNR=1.3
comp=Z,1.1nm,0.8s
SONM Songino Array 24.33 51 P **P 20 31 04.7 +2.2**
comp=Z,2.6nm,0.7s,baz=240,slow=9.8,SNR=23
comp=Z,2.6nm,0.7s
SONM Songino Array 24.33 51 P **P 20 31 03.1 +0.6**
ARU Arti 24.56 334 P **P 20 31 04.7 +0.4**
comp=Z,2.0nm,0.4s,baz=125,slow=7.0,SNR=7.2
comp=Z,2.0nm,0.4s
ARU Arti 24.56 334 P **P 20 31 02.6 -1.7**
ARU IAmb IAmb 20 31 19.3
comp=Z,13nm,1.5s
CRAI Chiangrai 25.03 122 P **P 20 31 08.8 -0.2**
CRAI IAmb IAmb 20 31 12.2
comp=Z,2.7nm,0.6s
CHTO Chiang Mai 25.05 127 P **P 20 31 09.8 +0.6**
CHTO IAmb IAmb 20 31 11.5
comp=Z,3.4nm,0.5s
CMAR Chiang Mai Arr 25.31 127 P **P 20 31 11.6 +0.1**
comp=Z,3.0nm,0.7s,baz=313,slow=10,SNR=27
comp=Z,3.0nm,0.7s
PHRA Phrae 26.12 125 P **P 20 31 20.0 +1.1**
UBPT Khong Chiam 31.94 122 P **P 20 32 11.3 +0.9**
BR131 Keskin Array S 34.99 290 P **P 20 32 37.0 0.0**
BRTR Keskin Array B 34.99 290 P **P 20 32 37.9 +0.9**
comp=Z,0.8nm,0.6s,baz=104,slow=10,SNR=4.7
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 34.99 290 P **P 20 32 38.5 +1.5**
AKASG **Malin Array Be 37.82 309** P **P 20 33 01.3 +0.5**
comp=Z,0.6nm,0.3s,baz=76,slow=7.1,SNR=16
comp=Z,0.6nm,0.3s
AKBB Malin Array Si 37.82 309 P **P 20 33 00.1 -0.7**
AKBB IAmb IAmb 20 33 28.4
comp=Z,3.4nm,1.1s
AK05 Malin Array Si 37.83 309 P **P 20 33 00.4 -0.4**
AK05 IAmb IAmb 20 33 41.5
comp=Z,8.2nm,1.4s
FINES FINESS Array B 41.33 325 P **P 20 33 30.4 +0.7**
comp=Z,0.9nm,0.4s,baz=110,slow=9.0,SNR=14
comp=Z,0.9nm,0.4s
FINES FINESS Array B 41.33 325 P **P 20 33 30.7 +1.0**
ARCES **ARCESS Array B 44.09 336** P **P 20 33 53.2 +1.1**
comp=Z,1.5nm,0.4s,baz=101,slow=8.3,SNR=21
comp=Z,1.5nm,0.4s
GERES GERESS Array B 47.94 307 P **P 20 34 23.6 +0.9**
comp=Z,0.2nm,0.3s,baz=92,slow=8.9,SNR=2.2
comp=Z,0.2nm,0.3s
NOA NORSAR Array B 48.40 323 P **P 20 34 25.5 -0.4**
comp=Z,0.7nm,0.6s,baz=90,slow=7.5,SNR=1.8
comp=Z,0.7nm,0.6s
ESDC Sonseca Array 62.74 301 P **P 20 36 07.7 -1.3**
comp=Z,0.2nm,0.4s,baz=61,slow=6.8,SNR=5.3
comp=Z,0.2nm,0.4s
ILAR Eielson Array 73.92 18 P **P 20 37 18.2 -0.1**
comp=Z,0.3nm,0.8s,baz=339,slow=2.0,SNR=2.3
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 76.90 126 P **P 20 37 36.6 +0.7**
comp=Z,0.4nm,0.5s,baz=317,slow=4.2,SNR=5.3
comp=Z,0.4nm,0.5s
ASAR Alice Springs 79.30 129 P **P 20 37 49.5 +0.3**
comp=Z,0.7nm,0.6s,baz=315,slow=5.7,SNR=11
comp=Z,0.7nm,0.6s
BOSA Boshof 80.93 225 P **P 20 37 58.8 +0.9**
comp=Z,1.0nm,0.4s,baz=20,slow=3.5,SNR=5.4
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 81.65 6 P **P 20 38 01.8 +0.6**
comp=Z,0.9nm,0.6s,baz=341,slow=5.3,SNR=21
comp=Z,0.9nm,0.6s

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*TUL **09** 20:39:59.9±0.3,36°.703N±0°.005×97°.67W±0°.01,h8km±5km, ML3.5,mb_Lg3.6/117(NEIC),ML3.5/76(NEIC), Mwr3.2/11(SLM),Error ellipse: s-maj=1.3km s-min=0.5km az=118.0*

*ANF **09** 20:39:59.5±0.4,36°.70N×97°.68W,h5km,ML4.0/11,Error ellipse: s-maj=6.8km s-min=2.9km az=167.0*

*NEIC **09** 20:39:59.7±0.3,36°.702N±0°.008×97°.672W±0°.009, h5km±5km,Error ellipse: s-maj=1.5km s-min=0.4km az=219.0*

*NEIC **09** 20:39:59,36°.70N×97°.67W,h2km,Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr=0.74; Mθθ6.33; Mϕϕ-5.60; Mrθ1.43; Mθϕ-5.49; Mϕr2.08; Fault plane solution: M=8.51000×10¹³ NP1:ϕ=155.00000°, δ75.00000°,λ-10.00000°. NP2:ϕ=248.00000°,δ80.00000°, λ-165.00000°. Principal axes: T 8.5123, Plg4.0000°, Azm21.0000°; N 0.0047, Plg72.0000°, Azm279.0000°; P -8.5170, Plg18.0000°, Azm112.0000°;*

ISC 09 20:40:00.1±0.9,36.70N±0°.02×97.68W±0°.02,h14km±7km, n147,σ1§26/135,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GC02	**Grant County #**	**0.21**	**316**	Pg	**Pg**	**20 40 04.4**	**-0.4**
CROK	**Carrier**	**0.31**	**232**	Pg	**Pg**	**20 40 06.2**	**-0.3**
CROK				Sg	**Sg**	**20 40 11.1**	**+0.2**
CROK				IAML		20 40 12.8	
	comp=N,73μm,0.3s						
CROK				IAML		20 40 13.0	
	comp=E,57μm,0.4s						
KAN14	**Manchester OK**	**0.35**	**318**	Pg	**Pg**	**20 40 06.7**	**-0.5**
KAN14				Sg	**Sg**	**20 40 11.7**	**-0.3**
KAN14				IAML		20 40 12.1	
	comp=N,6μm,0.5s						
KAN14				IAML		20 40 12.1	
	comp=E,6μm,0.5s						
KAN13	**South Haven SW**	**0.35**	**27**		**Pg**	**20 40 07.0**	**-0.3**
KAN13				IAML		20 40 17.7	
	comp=E,4μm,0.4s						
KAN17	**Caldwell West**	**0.35**	**348**	Pg	**Pg**	**20 40 07.0**	**-0.2**
KAN17				Sg	**Sg**	**20 40 12.1**	**0.0**
KAN17				IAML		20 40 14.0	
	comp=E,7μm,0.5s						
KAN17				IAML		20 40 14.0	
	comp=N,4μm,0.6s						
BLOK	**Blackwell**	**0.38**	**80**	Pg	**Pg**	**20 40 07.3**	**-0.4**
BLOK				Sg	**Sg**	**20 40 12.7**	**-0.1**
BLOK				IAML		20 40 15.0	
	comp=E,3μm,0.2s						
BLOK				IAML		20 40 15.0	
	comp=N,3μm,0.6s						
KAN09	**Caldwell North**	**0.44**	**6**		**Pg**	**20 40 08.6**	**-0.2**
KAN09				IAML		20 40 19.6	
	comp=N,6μm,0.3s						
KAN09				IAML		20 40 21.5	
	comp=E,4μm,0.2s						
OK032	**Salt Plains WL**	**0.44**	**284**		**Pg**	**20 40 08.5**	**-0.4**
OK032				Sg	**Sg**	**20 40 15.0**	**+0.1**
OK032				IAML		20 40 15.2	
	comp=E,7μm,0.2s						
KAN01	**Argonia South**	**0.46**	**352**		**Pg**	**20 40 09.0**	**-0.3**
KAN01				Sg	**Sg**	**20 40 15.4**	**0.0**
KAN01				IAML		20 40 17.3	
	comp=N,2μm,0.4s						
KAN01				IAML		20 40 17.7	
	comp=E,4μm,0.7s						
KS20	**Mayfield South**	**0.54**	**10**		**Pg**	**20 40 10.4**	**-0.3**
KAN10	**Anthony SW Sta**	**0.54**	**322**	Pg	**Pg**	**20 40 10.0**	**-0.8**
KAN06	**Argonia West S**	**0.57**	**345**		**Pg**	**20 40 11.0**	**-0.2**
KAN06				IAML		20 40 20.8	
	comp=E,3μm,0.6s						
KAN08	**Anthony NE Sta**	**0.58**	**336**		**Pg**	**20 40 11.2**	**-0.3**
KAN08				IAML		20 40 21.6	
	comp=N,2μm,0.8s						
KS21	**Milan North St**	**0.59**	**1**		**Pg**	**20 40 11.3**	**-0.3**
OK050	**Pawnee Station**	**0.63**	**118**		**Pg**	**20 40 12.1**	**-0.4**
OK048	**Pawnee Station**	**0.65**	**115**		**Pg**	**20 40 12.3**	**-0.4**
OK048				IAML		20 40 31.3	
	comp=N,2μm,0.9s						
KAN12	**Harper NE Stat**	**0.65**	**337**		**Pg**	**20 40 12.6**	**-0.3**
OK045	**Pawnee Station**	**0.65**	**112**		**Pg**	**20 40 12.4**	**-0.3**
OK045				IAML		20 40 27.8	
	comp=N,2μm,0.2s						
OK045				IAML		20 40 31.6	
	comp=N,2μm,0.6s						
OK046	**Pawnee Station**	**0.69**	**116**	Pg	**Pg**	**20 40 13.0**	**-0.5**
OK046				IAML		20 40 32.0	
	comp=N,2μm,0.8s						
OK044	**Pawnee Station**	**0.78**	**114**	Pg	**Pg**	**20 40 14.7**	**-0.5**
OK035	**E0210 Rd and N**	**0.83**	**271**	Pg	**Pg**	**20 40 15.6**	**-0.6**
OK033	**Mehan**	**0.88**	**137**		**Pg**	**20 40 16.6**	**-0.5**
OK033				IAML		20 40 32.5	
	comp=N,2μm,0.7s						
OK033				IAML		20 40 34.4	
	comp=N,2μm,0.6s						
OK038	**West end E0370**	**0.89**	**256**	Pg	**Pg**	**20 40 16.6**	**-0.6**
OK029	**Liberty Lake**	**0.92**	**169**		**Pg**	**20 40 17.1**	**-0.6**
OK029				IAML		20 40 37.8	
	comp=N,3μm,0.8s						
OK029				IAML		20 40 47.9	
	comp=N,1μm,0.7s						
QUOK	**Quay**	**0.94**	**124**	Pg	**Pg**	**20 40 17.6**	**-0.6**
QUOK				IAML		20 40 36.0	
	comp=N,2μm,0.3s						
QUOK				IAML		20 40 36.4	
	comp=E,2μm,0.2s						
T35A	**Sooner Cattle**	**0.96**	**76**		**Pg**	**20 40 17.9**	**-0.6**
T35B	**Sooner Cattle**	**0.96**	**76**	P	**Pg**	**20 40 18.0**	**-0.6**
	baz=257						
T35B				S	**Sg**	**20 40 30.6**	**-0.5**
	baz=257						
OK053	**SW of W Deep R**	**0.99**	**133**		**Pg**	**20 40 18.5**	**-0.7**
OK053				IAML		20 40 37.6	
	comp=E,2μm,0.6s						
OK053				IAML		20 40 39.8	
	comp=E,2μm,0.3s						
OK052	**Battle Ridge R**	**0.99**	**135**		**Pg**	**20 40 18.6**	**-0.6**
OK052				IAML		20 40 36.1	
	comp=E,2μm,0.5s						
OK031	**S. Brethren Rd**	**1.00**	**137**		**Pg**	**20 40 18.8**	**-0.6**
OK031				IAML		20 40 38.3	
	comp=E,2μm,0.7s						
OK031				IAML		20 40 38.6	
	comp=E,1μm,0.5s						
NOKA	**Waynoka**	**1.01**	**267**		**Pg**	**20 40 18.8**	**-0.8**
NOKA				IAML		20 40 36.2	
	comp=E,4μm,0.2s						
NOKA				IAML		20 40 39.2	
	comp=N,4μm,0.4s						
OK034	**N. Norfolk Rd.**	**1.03**	**131**		**Pg**	**20 40 19.4**	**-0.7**
OK034				IAML		20 40 38.9	
	comp=N,1μm,0.5s						
OK034				IAML		20 40 40.3	
	comp=N,869nm,0.7s						
BCOK	**Bluff Creek, N**	**1.04**	**177**	Pg	**Pg**	**20 40 19.4**	**-0.7**
BCOK				IAML		20 40 37.8	
	comp=N,765nm,0.5s						
BCOK				IAML		20 40 42.5	
	comp=E,2μm,0.7s						
OK030	**Cody Creek RV**	**1.05**	**137**		**Pg**	**20 40 19.6**	**-0.7**
OK030				IAML		20 40 45.1	
	comp=E,2μm,0.5s						
U32A	**Winter Ranch,**	**1.11**	**254**		**Pg**	**20 40 20.7**	**-0.9**
U32A	**Winter Ranch,**	**1.11**	**254**	P	**Pg**	**20 40 20.6**	**-1.0**
U32A	baz=73			S	**Sg**	**20 40 35.8**	**-0.3**
	baz=73						
OK009	**Oakdale Elemen**	**1.13**	**170**	Pg	**Pg**	**20 40 21.2**	**-0.7**
OK025	**Westminster Rd**	**1.15**	**166**		**Pg**	**20 40 21.4**	**-0.8**
OK025				IAML		20 40 41.0	
	comp=E,2μm,0.3s						
DEOK	**Depew**	**1.28**	**132**		**Pn**	**20 40 23.4**	**-0.2**
DEOK				IAML		20 40 44.2	
	comp=N,1μm,0.2s						
DEOK				IAML		20 40 46.7	
	comp=E,1μm,0.4s						
CSTR	**Hydro, Custer**	**1.33**	**218**		**Pn**	**20 40 24.5**	**+0.2**
CSTR				IAML		20 40 45.4	
	comp=E,353nm,0.6s						
CSTR				IAML		20 40 46.6	
	comp=N,229nm,0.5s						
FNO	**Franklin**	**1.45**	**171**		**Pn**	**20 40 26.5**	**+0.5**
ELIS	**Ellis County**	**1.54**	**246**		**Pb**	**20 40 28.5**	**0.0**
TUL1	**Leonard**	**1.71**	**117**		**Pn**	**20 40 30.4**	**+0.9**
TUL1				IAmb_Lg		20 40 55.0	
	comp=Z,167nm,0.9s						
TUL1	**Leonard**	**1.71**	**117**	P	**Pn**	**20 40 30.4**	**+0.9**
	baz=298						
TUL1				S	**Sb**	**20 40 53.2**	**+0.5**
	baz=298						
TUL1	**Leonard**	**1.71**	**117**	P	**Pn**	**20 40 30.7**	**+1.2**
	baz=298						
TUL1				S	**Sb**	**20 40 53.8**	**+1.1**
	baz=298						
R32A	**Long Quarter,**	**1.91**	**335**		**Pb**	**20 40 34.1**	**-0.6**
R32A				IAmb_Lg		20 41 00.9	
	comp=Z,252nm,0.9s						
R32A	**Long Quarter,**	**1.91**	**335**	P	**Pn**	**20 40 33.0**	**+0.7**
	baz=154						
R32A				S	**Sb**	**20 40 58.7**	**+0.2**
	baz=154						
X34A	**Smith Ranch, M**	**2.10**	**184**	Pn	**Pn**	**20 40 35.2**	**+0.4**
X34A				IAmb_Lg		20 41 08.7	
	comp=Z,255nm,0.7s						
WMOK	**Wichita Mounta**	**2.15**	**205**		**Pn**	**20 40 36.6**	**+1.1**
WMOK				IAmb_Lg		20 41 10.6	
	comp=Z,267nm,0.9s						
WMOK	**Wichita Mounta**	**2.15**	**205**	P	**Pn**	**20 40 36.6**	**+1.1**
	baz=24						
WMOK				S	**Sn**	**20 41 04.5**	**+2.4**
	baz=24						
WMOK	**Wichita Mounta**	**2.15**	**205**	P	**Pn**	**20 40 36.7**	**+1.1**
	baz=24						
WMOK				Sb	**Sb**	**20 41 06.5**	**+1.1**
	baz=24						
RLO	**Rose Lookout**	**2.20**	**103**		**Pn**	**20 40 36.0**	**-0.3**
KSU1	**Kansas State U**	**2.54**	**19**		**Pn**	**20 40 41.3**	**+0.4**
KSU1	**Kansas State U**	**2.54**	**19**	P	**Pn**	**20 40 42.2**	**+1.2**
	baz=200						
KSU1				S	**Sn**	**20 41 13.7**	**+1.9**
	baz=200						
KSU1	**Kansas State U**	**2.54**	**19**	Sb	**Sb**	**20 41 19.2**	**+2.5**
	baz=200						
U38A	**Gravette**	**2.66**	**95**	Pn	**Pn**	**20 40 43.1**	**+0.5**
U38A	**Gravette**	**2.66**	**95**	P	**Pn**	**20 40 43.3**	**+0.7**
	baz=277						
CBKS	**Cedar Bluff**	**2.67**	**323**		**Pn**	**20 40 43.3**	**+0.6**
CBKS	**Cedar Bluff**	**2.67**	**323**	P	**Pn**	**20 40 43.7**	**+0.9**
	baz=142						
CBKS				S	**Sn**	**20 41 17.7**	**+2.7**
	baz=142						
CBKS	**Cedar Bluff**	**2.67**	**323**	Pg	**Pg**	**20 40 50.0**	**-1.3**
	baz=142						
CBKS				Sb	**Sb**	**20 41 22.2**	**+1.8**
	baz=142						
LOOK	**Love County**	**2.73**	**171**		**Pn**	**20 40 43.8**	**+0.3**
LOOK				IAmb_Lg		20 41 24.5	
	comp=Z,98nm,0.7s						
X37A	**Clayton**	**2.82**	**138**		**Pn**	**20 40 45.2**	**+0.5**
X37A				IAmb_Lg		20 41 30.7	
	comp=Z,126nm,0.8s						
X37A	**Clayton**	**2.82**	**138**	P	**Pn**	**20 40 46.3**	**+1.6**
	baz=319						
HHAR	**Hobbs**	**3.04**	**97**		**Pn**	**20 40 48.8**	**+1.0**
HHAR	**Hobbs**	**3.04**	**97**	P	**Pn**	**20 40 48.2**	**+0.4**
	baz=279						
Z35A	**Perchaven, San**	**3.38**	**174**	Pn	**Pn**	**20 40 52.5**	**+0.1**
Z35A	**Perchaven, San**	**3.38**	**174**	P	**Pn**	**20 40 52.5**	**+0.1**
	baz=354						
S39A	**Bolivar**	**3.61**	**73**	Pn	**Pn**	**20 40 55.7**	**0.0**
S39A				IAmb_Lg		20 42 00.1	
	comp=Z,176nm,0.8s						
S39A	**Bolivar**	**3.61**	**73**	P	**Pn**	**20 40 55.9**	**+0.2**
	baz=255						
FW03	**Perrin-Whitt E**	**3.66**	**185**	IAmb_Lg		20 42 02.6	
	comp=Z,84nm,0.7s						
FW06	**Azle**	**3.72**	**178**	Pn	**Pn**	**20 40 57.4**	**+0.4**
FW06				IAmb_Lg		20 42 01.9	
	comp=Z,65nm,0.7s						
MIAR	**Mount Ida**	**3.97**	**122**		**Pn**	**20 41 00.9**	**+0.4**
MIAR				IAmb_Lg		20 42 07.6	
	comp=Z,122nm,0.8s						
MIAR	**Mount Ida**	**3.97**	**122**	Pb	**Pb**	**20 41 11.3**	**+1.5**
	baz=304						
FW07	**Weatherford**	**3.98**	**181**	IAmb_Lg		20 42 14.5	
	comp=Z,106nm,1.0s						
N33A	**J Bar K, Exete**	**4.04**	**2**		**Pn**	**20 41 01.8**	**+0.2**
N33A				IAmb_Lg		20 42 18.4	
	comp=Z,106nm,0.8s						
Z38A	**Mt. Pleasant**	**4.08**	**146**	Pn	**Pn**	**20 41 02.3**	**+0.2**
MGMO	**Mountain Grove**	**4.36**	**82**		**Pn**	**20 41 06.8**	**+0.9**
MGMO				IAmb_Lg		20 42 25.5	
	comp=Z,87nm,0.7s						
ABTX	**Abilene, Hawle**	**4.37**	**202**		**Pn**	**20 41 06.3**	**+0.1**
ABTX				IAmb_Lg		20 42 19.0	
	comp=Z,82nm,1.1s						
ABTX	**Abilene, Hawle**	**4.37**	**202**	Pb	**Pb**	**20 41 15.8**	**-0.9**
	baz=21						
P38A	**Dawn**	**4.38**	**47**		**Pn**	**20 41 06.7**	**+0.5**
P38A				IAmb_Lg		20 42 20.0	
	comp=Z,166nm,0.8s						
N35A	**Tabor**	**4.45**	**20**	Pn	**Pn**	**20 41 07.2**	**0.0**
X40A	**Basin Creek Fa**	**4.52**	**118**	Pn	**Pn**	**20 41 08.5**	**+0.4**
KSCO	**Kaye Shedlock'**	**4.55**	**302**	IAmb_Lg		20 42 27.6	
	comp=Z,163nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.55**	**302**	S	**Sg**	**20 42 22.6**	**-3.5**
	baz=119						
FCAR	**Ozark Folk Cen**	**4.55**	**99**		**Pn**	**20 41 08.6**	**-0.1**
FCAR				IAmb_Lg		20 42 34.7	
	comp=Z,85nm,0.8s						
R40A	**Maddies Statio**	**4.58**	**68**		**Pn**	**20 41 09.3**	**+0.3**
R40A				IAmb_Lg		20 42 36.1	
	comp=Z,124nm,0.9s						
WHAR	**Wooly Hollow**	**4.59**	**106**		**Pn**	**20 41 09.0**	**-0.1**
WHAR				IAmb_Lg		20 42 29.6	
	comp=Z,70nm,0.7s						
WHTX	**Lake Whitney,**	**4.70**	**178**		**Pn**	**20 41 11.4**	**+0.8**
WHTX	**Lake Whitney,**	**4.70**	**178**	P	**Pn**	**20 41 11.7**	**+1.1**
	baz=358						
BGNE	**Belgrade**	**4.72**	**356**		**Pn**	**20 41 11.0**	**+0.1**
BGNE				IAmb_Lg		20 42 39.3	
	comp=Z,183nm,0.7s						
UALR	**University of**	**4.74**	**112**	IAmb_Lg		20 42 39.7	
	comp=Z,74nm,0.8s						
WLAR	**White Oak Lake**	**4.79**	**127**	IAmb_Lg		20 42 39.8	
	comp=Z,75nm,0.7s						
237A	**Washetta, Mont**	**4.93**	**161**	IAmb_Lg		20 42 47.8	
	comp=Z,86nm,0.9s						
MSTX	**Muleshoe**	**4.98**	**238**		**Pb**	**20 41 29.8**	**+2.7**
MSTX				IAmb_Lg		20 42 48.2	
	comp=Z,85nm,0.8s						
P40A	**Paris**	**5.26**	**56**		**Pg**	**20 41 36.8**	**-4.0**
P40A				IAmb_Lg		20 42 53.8	
	comp=Z,148nm,0.8s						
CCM	**Cathedral Cave**	**5.30**	**73**		**Pb**	**20 41 36.8**	**+4.3**
CCM	**Cathedral Cave**	**5.30**	**73**	P	**Pg**	**20 41 37.6**	**-3.9**
	baz=257						
LCAR	**Lake Charles**	**5.30**	**95**	Pn	**Pn**	**20 41 18.3**	**-0.5**
LCAR				IAmb_Lg		20 42 52.8	
	comp=Z,88nm,0.9s						
L34A	**Svendsen Farm,**	**5.36**	**10**		**Pn**	**20 41 18.9**	**-0.7**
L34A				IAmb_Lg		20 42 58.7	
	comp=Z,140nm,0.8s						
N38A	**Joes South For**	**5.36**	**39**	Pn	**Pn**	**20 41 18.9**	**-0.8**
N38A				IAmb_Lg		20 43 02.0	
	comp=Z,143nm,0.7s						
T25A	**Trinidad**	**5.42**	**277**		**Pn**	**20 41 21.1**	**+0.5**
T25A				IAmb_Lg		20 43 06.5	
	comp=Z,109nm,0.8s						
OGNE	**Ogallala**	**5.44**	**323**	Pn	**Pn**	**20 41 18.8**	**-2.0**
OGNE				IAmb_Lg		20 43 08.0	
	comp=Z,125nm,0.7s						
NATX	**Nacogdoches**	**5.52**	**152**	Pn	**Pn**	**20 41 20.4**	**-1.5**
NATX				IAmb_Lg		20 43 07.2	
	comp=Z,72nm,0.8s						
CCAR	**Cane Creek**	**5.57**	**118**	IAmb_Lg		20 43 08.9	
	comp=Z,76nm,0.8s						
PBMO	**Poplar Bluff**	**5.82**	**87**	IAmb_Lg		20 43 07.2	
	comp=Z,92nm,0.8s						
435B	**Jarrell**	**5.90**	**179**	Pn	**Pn**	**20 41 25.6**	**-1.5**
435B				IAmb_Lg		20 43 20.0	
	comp=Z,81nm,0.8s						
K31A	**O'Neill**	**5.98**	**352**	Pn	**Pn**	**20 41 27.0**	**-1.1**
SCIA	**State Center**	**6.25**	**32**		**Pb**	**20 41 52.5**	**+3.9**
SCIA				IAmb_Lg		20 43 29.4	
	comp=Z,107nm,0.9s						
SDCO	**Great Sand Dun**	**6.33**	**282**		**Pn**	**20 41 34.8**	**+1.5**
Q24A	**Divide**	**6.33**	**293**	Pn	**Pn**	**20 41 32.0**	**-1.3**
Q24A				IAmb_Lg		20 43 30.8	
	comp=Z,59nm,0.7s						
CGM3	**Cape Girardeau**	**6.44**	**82**	IAmb_Lg		20 43 25.3	
	comp=Z,111nm,0.9s						
JCT	**Junction City**	**6.45**	**197**		**Pn**	**20 41 34.4**	**-0.3**
HTMS	**Hat Mesa**	**6.47**	**231**	Pn	**Pn**	**20 41 34.3**	**-0.8**
143A	**Socs Landing,**	**6.52**	**126**	IAmb_Lg		20 43 37.0	
	comp=Z,60nm,1.1s						
N41A	**Harden Midland**	**6.67**	**51**	Pg	**Pb**	**20 41 57.1**	**+1.3**
HALT	**Halls**	**6.78**	**94**	IAmb_Lg		20 43 34.1	
	comp=Z,83nm,0.8s						
ISCO	**Idaho Springs**	**6.97**	**299**		**Pn**	**20 41 41.2**	**-0.9**
ISCO				IAmb_Lg		20 43 59.4	
	comp=Z,38nm,0.8s						
K38A	**Parkersburg**	**7.04**	**31**	IAmb_Lg		20 43 51.0	
	comp=Z,110nm,1.0s						
W45A	**Hickory Valley**	**7.06**	**100**	IAmb_Lg		20 43 48.5	
	comp=Z,70nm,0.9s						
ECSD	**EROS Data Cent**	**7.08**	**6**	Pn	**Pn**	**20 41 42.8**	**-0.4**
OXF	**Oxford**	**7.08**	**106**	Pn	**Pn**	**20 41 43.2**	**-0.1**
OXF				IAmb_Lg		20 43 52.4	
	comp=Z,59nm,0.9s						
GDL2	**Guadalupe Moun**	**7.12**	**233**		**Pn**	**20 41 42.5**	**-1.4**
Y45A	**Yeager Farm, C**	**7.22**	**111**	IAmb_Lg		20 44 00.0	
	comp=Z,42nm,0.8s						
L40A	**Anamosa**	**7.33**	**41**	Pn	**Pn**	**20 41 46.4**	**-0.3**
L40A				IAmb_Lg		20 43 52.1	
	comp=Z,92nm,0.8s						
PHWY	**Pilot Hill**	**7.61**	**310**	Pn	**Pn**	**20 41 50.6**	**-0.2**
PHWY				IAmb_Lg		20 44 14.7	
	comp=Z,48nm,0.7s						
N23A	**Red Feather La**	**7.70**	**306**	Pn	**Pn**	**20 41 52.1**	**+0.1**
SUSD	**Miller**	**7.80**	**353**	IAmb_Lg		20 44 17.8	
	comp=Z,68nm,0.8s						
735A	**Kenedy**	**7.82**	**181**	IAmb_Lg		20 44 21.5	
	comp=Z,47nm,0.7s						
PLAL	**Pickwick Lake**	**7.98**	**100**	Pn	**Pn**	**20 41 55.6**	**-0.1**
I37A	**Lemond, Waseca**	**8.00**	**23**	IAmb_Lg		20 44 23.4	
	comp=Z,51nm,0.9s						
O44A	**Mansfield**	**8.01**	**62**	IAmb_Lg		20 44 15.4	
	comp=Z,95nm,0.8s						
MNTX	**Cornudas Mount**	**8.10**	**234**	IAmb_Lg		20 44 17.7	
	comp=Z,39nm,0.8s						
JFWS	**Jewell Farm**	**8.44**	**40**	IAmb_Lg		20 44 33.0	
	comp=Z,53nm,0.8s						
833A	**Chaparral WMA,**	**8.47**	**190**	IAmb_Lg		20 44 37.6	
	comp=Z,38nm,1.0s						
M44A	**Midewin, Midew**	**8.84**	**55**	IAmb_Lg		20 44 49.9	
	comp=Z,63nm,0.8s						
RSSD	**Black Hills**	**8.86**	**329**	Pn	**Pn**	**20 42 07.3**	**-0.6**
RSSD				IAmb_Lg		20 44 48.3	
	comp=Z,57nm,1.0s						
TX31

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARMO	**Marston**	**0.02**	**185**		Pg	21 01 55.0	+0.4
CATM	**Catron**	**0.07**	**14**		Pg	21 01 56.4	+1.3
NMMO	**New Madrid**	**0.10**	**67**		Pg	21 01 55.1	-0.4
NMMO					Sg	21 01 57.2	0.0
WALK	**Watson Lake**	**0.10**	**95**		Pg	21 01 55.1	-0.4
WALK					Sg	21 01 57.1	-0.1
PGVM	**Portageville**	**0.10**	**209**		Pg	21 01 55.2	-0.4
PGVM					Sg	21 01 57.2	-0.1
PENMO	**Penman**	**0.10**	**162**		Pg	21 01 55.1	-0.4
PENMO					Sg	21 01 57.1	-0.2
PARMO	**Parma**	**0.13**	**329**	Pg	Pg	21 01 55.8	-0.2
PARMO				Sg	Sg	21 01 58.2	+0.1
PARMO	comp=N,2μm,0.3s			IAML		21 01 58.6	
PARMO	comp=E,2μm,0.1s			IAML		21 01 58.6	
PVMO	**Portageville**	**0.14**	**191**		Pg	21 01 55.7	-0.4
PVMO					Sg	21 01 58.1	-0.1
PVMO	comp=N,2μm,0.2s			IAML		21 01 58.5	
POBM	**Portage Bay**	**0.14**	**178**		Pg	21 01 55.8	-0.4
POBM					Sg	21 01 58.3	+0.1
KEWM	**Kewanee**	**0.16**	**22**		Pg	21 01 56.3	-0.2
KEWM					Sg	21 01 59.0	+0.2
PPLM	**Point Pleasant**	**0.16**	**155**		Pg	21 01 56.1	-0.3
PPLM					Sg	21 01 58.9	+0.1
COKM	**Charter Oak**	**0.17**	**344**		Pg	21 01 56.5	-0.1
COKM					Sg	21 01 59.4	+0.4
SJMO	**Saint John's B**	**0.17**	**62**		Pg	21 01 59.4	+2.7
TOPM	**Tallapoosa**	**0.18**	**263**		Pg	21 01 56.6	-0.3
WADM	**Wardell**	**0.21**	**210**		Pg	21 01 57.1	-0.2
WADM					Sg	21 02 00.6	+0.3
MLDM	**Malden**	**0.22**	**291**		Sg	21 02 00.8	+0.3
HENM	**Henderson Moun**	**0.23**	**43**		Pg	21 01 57.5	-0.2
HENM					Sg	21 02 01.1	+0.3
MATM	**Matthews**	**0.23**	**13**		Pg	21 01 57.5	-0.2
MATM					Sg	21 02 01.2	+0.3
WYBT	**Wynnburg**	**0.24**	**146**		Pg	21 01 57.7	-0.2
WYBT					Sg	21 02 01.7	+0.5
DWDM	**Dogwood**	**0.28**	**30**		Pg	21 01 58.5	-0.3
DWDM					Sg	21 02 02.8	+0.2
FLPT	**Flippin**	**0.31**	**116**		Pg	21 01 59.0	-0.2
BETM	**Bethany**	**0.32**	**281**		Pg	21 01 59.3	-0.2
BETM					Sg	21 02 04.0	+0.2
HICK	**Hickman**	**0.35**	**91**		Pg	21 01 59.6	-0.4
HICK				Sg	Sg	21 02 04.8	+0.1
HICK	comp=E,342nm,0.4s			IAML		21 02 08.0	
BRGM	**Braggadocio**	**0.38**	**204**		Pg	21 02 00.2	-0.2
BRGM					Sg	21 02 05.8	+0.4
CHRM	**Charleston**	**0.39**	**39**		Pg	21 02 00.4	-0.3
MIST	**Miston**	**0.40**	**161**		Pg	21 02 00.7	-0.2
GLAT	**Glass**	**0.41**	**132**	Pg	Pg	21 02 00.8	-0.3
GLAT				Sg	Sg	21 02 06.4	-0.2
GLAT	comp=N,514nm,0.2s			IAML		21 02 07.2	
GLST	**Glass**	**0.41**	**132**		Pg	21 02 01.0	-0.1
GLST					Sg	21 02 07.2	+0.5
LNXT	**Lenox**	**0.47**	**162**	Pg	Pg	21 02 02.0	-0.2
LNXT	comp=N,190nm,0.5s			IAML		21 02 16.1	
GNAR	**Gosnell**	**0.65**	**206**	Pg	Pg	21 02 05.3	-0.2
GNAR				Sg	Sg	21 02 13.7	-0.4
GNAR	comp=E,230nm,0.2s			IAML		21 02 14.7	
GNAR	comp=N,194nm,0.5s			IAML		21 02 16.3	
PBMO	**Poplar Bluff**	**0.66**	**291**	Pg	Pg	21 02 05.0	-0.7
PBMO				Sg	Sg	21 02 13.7	-0.6
PBMO	comp=N,179nm,0.2s			IAML		21 02 15.1	
UTMT	**University of**	**0.68**	**107**	Pg	Pg	21 02 05.3	-0.9
UTMT	comp=N,161nm,0.6s			IAML		21 02 18.4	
UTMT	comp=E,141nm,0.5s			IAML		21 02 20.6	
HALT	**Halls**	**0.69**	**157**	Pg	Pg	21 02 05.7	-0.7
LPAR	**Lepanto**	**1.07**	**209**		Pb	21 02 14.0	+0.2
S44A	**Carbondale**	**1.19**	**16**		Pb	21 02 14.6	-1.3
S44A	**Carbondale**	**1.19**	**16**	Pg	Pb	21 02 14.2	-1.6
S44A	**Carbondale**	**1.19**	**16**	IAML		21 02 30.5	
S44A	comp=N,115nm,0.3s			IAML		21 02 33.3	
SFTN	comp=E,122nm,0.1s **Shelby Forest**	**1.22**	**194**		Pg	21 02 16.6	0.0
HBAR	**Harrisburg**	**1.28**	**219**		Pn	21 02 15.3	-1.8
HBAR	comp=Z,33nm,0.8s			IAmb_Lg		21 02 33.7	
LCAR	**Lake Charles**	**1.29**	**249**		Pn	21 02 16.1	-1.2
LCAR	comp=N,54nm,0.2s			IAML		21 02 37.6	
MET	**Memphis--Engin**	**1.44**	**189**		Pg	21 02 22.1	+1.4
W45A	**Hickory Valley**	**1.44**	**164**		Pn	21 02 19.0	-0.4
W45A	**Hickory Valley**	**1.44**	**164**		Pn	21 02 18.6	-0.8
WVT	**Waverly**	**1.54**	**105**		Pn	21 02 20.1	-0.7
FVM	**French Village**	**1.56**	**337**		Pn	21 02 20.4	-0.6
CCM	**Cathedral Cave**	**1.96**	**321**	Pn	Pn	21 02 27.2	+0.6
PLAL	**Pickwick Lake**	**2.03**	**140**	Pn	Pn	21 02 27.0	-0.5
PWLA	**Pickwick Lake**	**2.04**	**140**		Pn	21 02 28.6	+1.0
T47A	**Sharon Grove**	**2.10**	**77**	Pn	Pn	21 02 26.0	-2.5
MGMO	**Mountain Grove**	**2.17**	**287**	Pn	Pn	21 02 29.2	-0.3
V48A	**Smith Brothers**	**2.44**	**108**		Pb	21 02 35.6	-1.5
R40A	**Maddies Statio** comp=Z,15nm,0.9s	**2.70**	**311**	IAmb_Lg		21 03 17.1	
P43A	**Skaggs, Pawnee**	**3.09**	**2**		Pn	21 02 38.6	-3.5
P40A	**Paris** comp=Z,16nm,1.3s	**3.52**	**328**	IAmb_Lg		21 03 49.1	
MIAR	**Mount Ida**	**3.76**	**239**	Pn	Pn	21 02 51.8	+0.5
Y49A	**Blount Mountai**	**3.78**	**134**	Pn	Pn	21 02 52.1	+0.5
DYTN	**Dayton**	**3.86**	**105**		Pn	21 02 51.0	-1.6
T50A	**Nancy** comp=Z,13nm,0.8s	**3.90**	**82**	IAmb_Lg		21 04 01.1	
CPCT	**Cooper Cave** comp=Z,4.8nm,0.8s	**4.31**	**103**	IAmb_Lg		21 04 14.6	
V51A	**Loudon** comp=Z,10nm,1.1s	**4.36**	**98**	IAmb_Lg		21 04 09.8	

IDC 09 21:30:42.0±8.2,**6°32S**×**147°96E**,**h89**km±51km,**mb3.7**/2,
mbtmp3.9/4,**ML3.9**/1,**MS3.0**/3,**Error ellipse:**
s-maj=72.3km s-min=59.4km az=74.0,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 19nm,0.4s,baz=22,slow=14,SNR=13	**3.17**	**194**	P	Pn	21 31 29.3	-0.5
PMG	66nm,0.5s,baz=7.7,slow=19,SNR=5.6			S	Sn	21 32 07.3	+0.6
PMG	comp=Z,78nm,18.6s,baz=125,slow=50			LR	LR	21 33 19.1	
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=46,slow=11,SNR=11 1.8nm,0.6s	**18.93**	**223**	P	P	21 34 55.5	-0.6
ASAR	**Alice Springs** 4.0nm,0.5s,baz=52,slow=8.9,SNR=126 4.0nm,0.5s	**21.91**	**217**	P	P	21 35 28.8	+0.5
STKA	**Stephens Creek** 1.2nm,0.5s,baz=0.0,slow=11,SNR=4.8 1.2nm,0.5s	**26.11**	**192**	P	P	21 36 07.8	+0.1
JNU	**Nakatsue** comp=Z,46nm,18.8s,baz=354,slow=35	**42.45**	**339**	LR	LR	21 55 37.6	
KSRS	**Korea Array** comp=Z,14nm,18.3s,baz=310,slow=36	**47.39**	**338**	LR	LR	21 59 02.2	

*ISK **09** 21:42:08.7,38°.89N×43°.56E,h1km,ML2.8/12*
*DDA **09** 21:42:10.2±0.0,38°.92N×43°.49E,h8km±3km,ML2.2*
ISC 09 21:42:10.3±0.9,**38°.91N**±0°.02×**43°.53E**±0°.03,**h8**km±7km,
n25,**s92**/**37**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**22**	P	**Pg**	**21 42 12.4**	**-0.3**
VMUR				S	**Sg**	**21 42 14.6**	**+0.2**
ERCV	**ERCIS-VAN**	**0.19**	**307**	Pg	**Pg**	**21 42 14.2**	**0.0**
ERCV				Sg	**Sg**	**21 42 18.6**	**+1.7**
VANB	**Van**	**0.33**	**199**	Pg	**Pb**	**21 42 17.8**	**-0.7**
OZAP	**Van, Ozalp-Mer**	**0.44**	**124**	P	**Pg**	**21 42 18.8**	**-0.1**
OZAP	comp=E,282nm,0.9s			*i* AML	AML	21 42 27.0	
OZAP	comp=N,407nm,0.9s			*i* AML	AML	21 42 28.0	
ADCV	**BITLIS_Adilcev**	**0.64**	**261**	P	**Pg**	**21 42 22.3**	**-0.3**
ADCV				S	**Sb**	**21 42 32.9**	**0.0**
ADCV	comp=N,222nm,0.5s			*i* AML	AML	21 42 35.0	
ADCV	comp=E,226nm,0.5s			*i* AML	AML	21 42 35.0	
DYDN	**Diyadin**	**0.65**	**11**	P	**Pg**	**21 42 22.0**	**-0.9**
DYDN				S	**Sb**	**21 42 32.6**	**-0.6**
DYDN	comp=E,129nm,0.2s			*i* AML	AML	21 42 33.0	
DYDN	comp=N,117nm,0.4s			*i* AML	AML	21 42 35.0	
GEVA	**Gevas**	**0.70**	**212**	P	**Pg**	**21 42 22.8**	**-1.0**
GEVA				S	**Sb**	**21 42 34.8**	**+0.1**
GEVA	comp=E,128nm,0.6s			*i* AML	AML	21 42 38.0	
GEVA	comp=N,118nm,0.5s			*i* AML	AML	21 42 39.0	
AKDM	**Akdamar-Van**	**0.72**	**217**	Pg	**Pg**	**21 42 23.2**	**-1.0**
AKDM				Sg	**Sb**	**21 42 34.6**	**-0.6**
AGRB	**Hanur-Agry**	**0.79**	**328**	Pg	**Pg**	**21 42 24.9**	**-0.6**
MLAZ	**Malazgirt-MUS**	**0.80**	**287**	Pg	**Pg**	**21 42 25.0**	**-0.7**
MLAZ				Sg	**Sb**	**21 42 38.2**	**+0.7**
KOTA	**Agri, Merkez-K**	**0.93**	**344**	P	**Pg**	**21 42 27.4**	**-0.8**
KOTA				S	**Sb**	**21 42 41.0**	**-0.3**
KOTA	comp=N,42nm,0.2s			*i* AML	AML	21 42 42.0	
KOTA	comp=E,34nm,0.3s			*i* AML	AML	21 42 43.0	
IGDI	**IGDIR**	**1.05**	**24**	P	**Pg**	**21 42 29.6**	**-0.9**
IGDI	comp=E,53nm,0.4s			*i* AML	AML	21 42 49.0	
IGDI	comp=N,69nm,0.5s			*i* AML	AML	21 42 50.0	
TASB	**TASBURUN-IGDIR**	**1.21**	**27**	Pn	**Pg**	**21 42 32.6**	**-0.9**
TASB				Sn	**Sn**	**21 42 50.6**	**+0.5**
BLIS	**Bitlis-Merkez**	**1.21**	**246**	P	**Pg**	**21 42 31.7**	**-1.8**
BLIS				S	**Sb**	**21 42 49.2**	**-0.2**
BLIS	comp=N,131nm,0.4s			*i* AML	AML	21 42 50.0	
BLIS	comp=E,111nm,0.4s			*i* AML	AML	21 42 51.0	
PERV	**Siirt/Pervari-**	**1.23**	**219**	P	**Pn**	**21 42 34.4**	**+0.5**
PERV				S	**Sn**	**21 42 52.9**	**+2.1**
PERV	comp=E,128nm,0.5s			*i* AML	AML	21 42 55.0	
PERV	comp=N,188nm,0.5s			*i* AML	AML	21 42 56.0	
DIGO	**Kars**	**1.51**	**356**	P	**Pg**	**21 42 39.1**	**-0.2**
GNI	**Garni**	**1.56**	**37**	Pn	**Pb**	**21 42 38.6**	**-0.8**
VRTB	**Varto-Mus**	**1.63**	**280**	Pn	**Pb**	**21 42 40.4**	**-0.3**
CUKT	**Cukurca**	**1.66**	**178**	Pn	**Pn**	**21 42 39.9**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**1.69**	**310**	Pn	**Pb**	**21 42 41.1**	**-0.6**
KARS	**Kars**	**1.75**	**349**	Pn	**Pb**	**21 42 41.8**	**-1.0**
SENK	**Senkaya-Erzuru**	**1.89**	**332**	Pn	**Pb**	**21 42 44.2**	**-0.9**
BNGB	**Bingl**	**2.22**	**273**	Pn	**Pb**	**21 42 48.7**	**-2.1**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	Pn	**Pn**	**21 42 50.7**	**+1.0**
MAZI	**Mazidag**	**2.83**	**240**	Pn	**Pn**	**21 42 56.6**	**+0.8**

*NIED **09** 21:52:30.2,35°.80N×136°.92E,h10km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.46; Mθθ1.72; Mφφ-2.18; Mrθ-0.03; Mθφ-0.79; Mφr0.30; Fault plane solution: M₀2.13000×10¹⁴ NP1: φs146.00000°,δ88.00000°,λ-7.00000°. NP2:φs236.00000°, δ83.00000°,λ-178.00000°.*
*JMA **09** 21:52:30.2±0.0,35°.80N±0°.09×136°.9E±0°.1,h10km, MV3.8/20,FUKUI GIFU BORDER REGION*
JMA Felt III J1 at FUKUI GIFU BORDER REGION.
ISC 09 21:52:30.5±1.0,**35°.79N**±0°.04×**136°.95E**±0°.06,**h10**km,**n11**,
s0°57/**14**,**Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.27**	**222**	*i* P	**Pg**	**21 52 35.4**	**-0.5**
JYTA				S	**Sg**	**21 52 38.8**	**-0.7**
JGF	**Kuroka**	**0.38**	**120**	P	**Pg**	**21 52 37.9**	**-0.1**
INU	**Inuyama**	**0.45**	**173**	P	**Pg**	**21 52 39.0**	**-0.2**
JICN	**Ichinomiyachia**	**0.50**	**190**	*i* P	**Pg**	**21 52 40.3**	**+0.1**
JGN	**Niukaw**	**0.52**	**34**	*i* P	**Pg**	**21 52 40.5**	**-0.1**
JGN				S	**Sg**	**21 52 47.7**	**+0.2**
JTT	**Ttatey**	**0.87**	**21**	P	**Pg**	**21 52 46.9**	**-0.2**
JTT				S	**Sb**	**21 52 58.9**	**-0.4**
MAJO	**Matsushiro**	**1.26**	**53**	P	**Pg**	**21 52 54.7**	**0.0**
JSG	**Sagara**	**1.51**	**138**	P	**Pg**	**21 52 59.2**	**-0.1**
JSD	**Sado**	**2.47**	**25**	P	**Pb**	**21 53 14.3**	**-0.7**
JHS	**Saijyo**	**3.23**	**257**	P	**Pn**	**21 53 22.6**	**+1.3**
JMN	**Monobe**	**3.26**	**232**	P	**Pn**	**21 53 22.4**	**+0.7**

*TEH **09** 21:53:30.9,28°.51N×57°.35E,h8km±77km,ML2.7*
*OMAN **09** 21:53:33.6±0.6,28°.20N×57°.67E,h10km±17km,ml2.8/5, Error ellipse: s-maj=33.6km s-min=3.6km az=5.0*
ISC 09 21:53:33.1±1.4,**28°.47N**±0°.05×**57°.60E**±0°.08,**h43**km,**n22**,
s0°93/**29**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.53**	**169**	Pg	**Pn**	**21 53 43.5**	**-1.0**
IBND	**Bandar-abas**	**1.38**	**223**	Pg	**Pn**	**21 53 55.7**	**-0.3**
CHMN	**Cheshme madani**	**1.39**	**358**	Pg	**Pn**	**21 53 57.1**	**+0.7**
NGRK	**Negar Kerman**	**1.39**	**327**	Pg	**Pn**	**21 53 55.1**	**-1.3**
GENO	**Geno**	**1.65**	**230**	Pg	**Pn**	**21 53 58.9**	**-0.9**
KHGB	**Koh Gabri**	**2.13**	**333**	Pn	**Pn**	**21 54 07.8**	**+1.3**
JASK	**Jask - Hormozg** SNR=25	**2.61**	**175**	P	**Pn**	**21 54 14.6**	**+1.8**
SHME	**Shamm** SNR=5.4	**2.74**	**209**	P	**Pn**	**21 54 14.4**	**-0.2**
SHME				S	**Sn**	**21 54 45.4**	**-1.1**
BANOM	**Banah**	**2.79**	**205**	P	**Pn**	**21 54 15.6**	**+0.2**
BANOM				S	**Sn**	**21 54 47.6**	**-0.2**
MASF	**Masafi**	**3.34**	**203**	S	**Sn**	**21 55 01.4**	**-0.1**
UOSS	**Minazif**	**3.73**	**200**	P	**Pn**	**21 54 28.3**	**+0.1**
UOSS				S	**Sn**	**21 55 10.6**	**-0.3**
ASHO	**Ashiyiah**	**4.02**	**200**	P	**Pn**	**21 54 33.4**	**+1.2**
FAQ	**Al Faqa, Dubai**	**4.12**	**206**	S	**Sn**	**21 55 20.1**	**-0.5**
ASUD	**Al Ashush, Dub** SNR=12	**4.33**	**208**	P	**Pn**	**21 54 37.1**	**+0.6**
ASUD				S	**Sn**	**21 55 26.0**	**+0.2**
SOHO	**SOHO**	**4.42**	**193**	S	**Sn**	**21 55 27.5**	**-0.5**
HOQ	**Hoqain**	**4.88**	**183**	P	**Pn**	**21 54 43.4**	**-0.6**
HOQ				S	**Sn**	**21 55 37.9**	**-1.3**
BSY	**Bisya**	**5.71**	**184**	P	**Pn**	**21 54 55.5**	**-0.1**
BSY				S	**Sn**	**21 56 00.6**	**+0.8**
WBK	**Wadi Bani Khal**	**5.97**	**168**	P	**Pn**	**21 54 59.5**	**+0.5**
UMZA	**Um Al Zommool**	**6.14**	**202**	P	**Pn**	**21 55 02.5**	**+1.1**
GHWR	**Ruwais**	**6.17**	**224**	P	**Pn**	**21 55 03.9**	**+2.1**
JLN	**Jalan Bani Buh**	**6.50**	**165**	P	**Pn**	**21 55 06.5**	**+0.2**
JLN				S	**Sn**	**21 56 18.3**	**-1.0**
MHTO	**MHTO**	**7.46**	**177**	P	**Pn**	**21 55 19.4**	**-0.1**

*LDG **09** 22:10:55.6±0.1,37°.96N×8°.99W,h2km,Ml2.5/3,Error ellipse: s-maj=2.8km s-min=1.8km az=72.0*
*MDD **09** 22:10:55.5±0.4,37°.96N×9°.04W,h11km,mb_Lg3.1/23, Error ellipse: s-maj=3.7km s-min=2.2km az=71.0*
*SFS **09** 22:10:56.0,37°.94N×9°.00W,h9km,ML3.6/15,MLv3.3/15*
*INMG **09** 22:10:56.1±2.1,37°.94N×9°.00W,h7km±3km,MD2.9,ML2.8, Error ellipse: s-maj=4.2km s-min=1.7km az=79.0*
*CNRM **09** 22:10:59.5,37°.77N×8°.90W,h51km,ml2.5*
ISC 09 22:10:55.0±0.9,**37°.98N**±0°.01×**8°.95W**±0°.03,**h18**km±4km,
n99,**s156**/186,**2C-6D**,**Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSINE	**Sines**	**0.07**	**106**	*e*Pg	**Pg**	**22 10 58.2**	**-0.2**
PSINE				*e*Sg	**Sg**	**22 11 00.4**	**-0.3**
PSINE	3μm,0.2s			A	A	22 11 00.6	
PNCL	**Nicolau / Gran** 807nm,0.3s	**0.35**	**68**	*e*Pg	**Pb**	**22 11 03.8**	**+0.9**
PNCL				*e*Sg	**Sb**	**22 11 09.4**	**+1.3**
PNCL				A	A	22 11 10.2	
PNCL	**Nicolau / Gran**	**0.35**	**68**	S	**Sb**	**22 11 09.4**	**+1.3**
PNCL				P	**Pb**	**22 11 03.7**	**+0.8**
PTEO	**Sao Teotonio**	**0.47**	**158**	*i* Pg	**Pg**	**22 11 04.2**	**-0.3**
PTEO				*e*Sg	**Sg**	**22 11 10.7**	**-0.1**
PTEO				A	A	22 11 11.4	
PSETU	**Setºbal** 339nm,0.3s	**0.56**	**6**	*e*Pg	**Pn**	**22 11 07.8**	**-0.3**
PSETU				A	A	22 11 20.4	
PALJ	**Aljezur** 1μm,0.3s	**0.67**	**170**	*e*Pg	**Pb**	**22 11 07.9**	**-0.2**
PALJ				*e*Sg	**Sb**	**22 11 16.8**	**-0.2**
PALJ	503nm,0.8s			A	A	22 11 21.6	
MORF	**Marmelete**	**0.71**	**161**	*e*P	**Pb**	**22 11 08.6**	**-0.3**
MORF				*e*S	**Sb**	**22 11 17.8**	**-0.5**
MORF	comp=E,873nm,0.1s			IAML		22 11 22.2	
MORF	**Marmelete**	**0.71**	**161**	*i*Pg	**Pb**	**22 11 08.6**	**-0.3**
MORF				*e*Sg	**Sb**	**22 11 18.3**	**-0.1**
MORF	comp=E,517nm,0.1s			A	A	22 11 19.2	
PCVE	**Castro Verde**	**0.80**	**115**	*e*P	**Pg**	**22 11 10.7**	**+0.1**
PCVE				*e*S	**Sn**	**22 11 22.6**	**-0.2**
PCVE	comp=E,195nm,0.1s			A	A	22 11 25.0	
PCVE	**Castro Verde**	**0.80**	**115**	P	**Pg**	**22 11 10.7**	**+0.1**
PFVI	**Vila Bisbo**	**0.85**	**174**	*e*P	**Pb**	**22 11 11.1**	**-0.1**
PFVI				*e*S	**Sb**	**22 11 21.9**	**-0.4**
PFVI	comp=E,234nm,0.2s			A	A	22 11 24.6	
PFVI	**Vila Bisbo**	**0.85**	**174**	P	**Pb**	**22 11 11.3**	**0.0**
PFVI				S	**Sb**	**22 11 22.2**	**-0.1**
PFVI	**Vila Bisbo**	**0.85**	**174**	S	**Sb**	**22 11 22.2**	**-0.1**
PFVI				P	**Pb**	**22 11 11.2**	**-0.1**
PBEJ	**Beja**	**0.85**	**86**	*e*P	**Pn**	**22 11 12.3**	**+0.1**
PBEJ				*e*S	**Sn**	**22 11 25.3**	**+1.1**
PBEJ	comp=E,268nm,0.2s			A	A	22 11 26.9	
PLAGO	**Lagos**	**0.90**	**167**	*e*P	**Pg**	**22 11 12.7**	**+0.1**
PLAGO				*e*S	**Sb**	**22 11 23.9**	**+0.1**
PLAGO	comp=E,380nm,0.3s			A	A	22 11 29.9	
EVO	**Evora**	**0.92**	**53**	*e*P	**Pn**	**22 11 13.6**	**+0.5**
EVO				*e*S	**Sn**	**22 11 26.9**	**+1.0**
EVO	comp=E,437nm,0.1s			A	A	22 11 28.8	
EVO	**Evora**	**0.92**	**53**	P	**Pn**	**22 11 13.7**	**+0.7**
PSVI	**Cabo S. Vicent**	**0.95**	**182**	*e*S	**Sg**	**22 11 26.4**	**+0.3**
PBEN	**Benavente**	**0.97**	**6**	*e*S	**Sn**	**22 11 28.2**	**+1.1**
PMAFR	**Mafra**	**1.01**	**345**	*e*P	**Pn**	**22 11 14.8**	**+0.4**
PMAFR				*e*S	**Sn**	**22 11 28.5**	**+0.4**
PMAFR	comp=E,268nm,0.2s			A	A	22 11 29.5	
PMAFR	**Mafra**	**1.01**	**345**	P	**Pn**	**22 11 14.8**	**+0.4**
PMAFR				S	**Sn**	**22 11 28.7**	**+0.5**
PALBU	**Albufeira**	**1.04**	**148**	*e*P	**Pg**	**22 11 15.3**	**+0.1**
PALBU				*e*S	**Sg**	**22 11 29.4**	**+0.5**
PALBU	comp=E,442nm,0.8s			A	A	22 11 32.4	
PVAQ	**Vaqueiros**	**1.13**	**120**	*e*P	**Pb**	**22 11 16.4**	**+0.4**
PVAQ				*e*S	**Sg**	**22 11 33.1**	**+1.4**
PVAQ	comp=E,202nm,0.3s			A	A	22 11 36.6	
PVAQ	**Vaqueiros**	**1.13**	**120**	P	**Pg**	**22 11 17.0**	**+0.1**
PVAQ	**Vaqueiros**	**1.13**	**120**	P	**Pg**	**22 11 17.0**	**+0.1**
PVAQ				S	**Sg**	**22 11 32.1**	**+0.8**
PVAQ	**Vaqueiros**	**1.13**	**120**	P	**Pb**	**22 11 16.4**	**+0.4**
PMTG	**Montargil**	**1.23**	**27**	*e*P	**Pb**	**22 11 17.9**	**+0.2**
PMTG				*e*S	**Sg**	**22 11 35.6**	**+0.8**
PMTG	comp=E,102nm,0.1s			A	A	22 11 38.0	
EGRO	**El Granado**	**1.24**	**110**	P	**Pb**	**22 11 18.3**	**+0.3**
EGRO	**El Granado**	**1.24**	**110**	Pg	**Pb**	**22 11 18.2**	**+0.3**
EGRO				Sg	**Sg**	**22 11 35.9**	**+0.7**
EGRO				*i* Vmb_Lg		22 11 41.7	
PSANT	**Santarm**	**1.28**	**9**	*e*S	**Sg**	**22 11 36.9**	**+0.5**
PESTR	**Estremoz**	**1.39**	**50**	*e*P	**Pb**	**22 11 20.7**	**+0.3**
PESTR				S	**Sg**	**22 11 39.9**	**0.0**
PESTR	comp=E,98nm,0.2s			A	A	22 11 41.9	
PESTR	**Estremoz**	**1.39**	**50**	P	**Pg**	**22 11 21.7**	**0.0**
PESTR	**Estremoz**	**1.39**	**50**	P	**Pg**	**22 11 21.7**	**0.0**
PESTR				S	**Sg**	**22 11 41.1**	**+1.2**
PESTR	**Estremoz**	**1.39**	**50**	P	**Pb**	**22 11 20.7**	**+0.3**
PESTR				S	**Sg**	**22 11 40.2**	**+0.3**
PBAR	**Barrancos**	**1.52**	**82**	*e*Pn	**Pb**	**22 11 22.6**	**-0.1**
PBAR	**Barrancos**	**1.52**	**82**	*e*Pg	**Pg**	**22 11 24.2**	**-0.1**
PBAR				*e*Sg	**Sg**	**22 11 45.1**	**+1.1**
PBAR	comp=E,103nm,0.5s			A	A	22 11 47.3	
PBAR	**Barrancos**	**1.52**	**82**	P	**Pb**	**22 11 22.9**	**+0.2**
PSBE	**So Bento**	**1.54**	**4**	*e*Pn	**Pb**	**22 11 23.4**	**+0.4**
PSBE				*e*Sg	**Sg**	**22 11 45.0**	**+0.3**
PSBE	comp=E,46nm,0.2s			A	A	22 11 50.7	
EBAD	**Badajoz**	**1.71**	**62**	P	**Pn**	**22 11 24.5**	**+0.6**
EBAD	**Badajoz**	**1.71**	**62**	Pn	**Pn**	**22 11 24.4**	**+0.5**
EBAD				Sn	**Sb**	**22 11 47.7**	**+0.8**
EBAD				Sg	**Sg**	**22 11 50.5**	**+0.5**
EMIN	**Mina Concepcio**	**1.81**	**96**	P	**Pn**	**22 11 26.2**	**+0.9**
EMIN	**Mina Concepcio**	**1.81**	**96**	Pn	**Pn**	**22 11 26.2**	**+0.9**
EMIN				Pg	**Pg**	**22 11 29.3**	**-0.6**
EMIN				Sn	**Sb**	**22 11 50.6**	**+0.6**
EMIN				Sg	**Sg**	**22 11 53.6**	**+0.2**
EMIN				*i* Vmb_Lg		22 11 57.4	
PMRV	**Marv??o**	**1.89**	**40**	*e*Pn	**Pn**	**22 11 27.2**	**+0.7**
PMRV				*e*Sn	**Sn**	**22 11 50.4**	**+0.5**
PMRV				*e*Sg	**Sg**	**22 11 55.7**	**-0.3**
PMRV	comp=E,42nm,0.3s			A	A	22 11 58.6	
PCAS	**Casmilo, Conde**	**2.10**	**9**	*e*Pn	**Pn**	**22 11 30.8**	**+1.5**
PCAS	**Casmilo, Conde**	**2.10**	**9**	*e*Pg	**Pg**	**22 11 36.0**	**+0.6**
PCAS				*e*Sn	**Sb**	**22 11 57.1**	**-1.3**
PCAS				A	A	22 12 07.1	
PCBR	**Castelo Branco**	**2.18**	**31**	*e*Pn	**Pn**	**22 11 32.4**	**+1.9**
PCBR				*e*Sn	**Sb**	**22 11 59.8**	**-1.0**
PCBR	comp=E,37nm,0.3s			A	A	22 12 09.7	
COI	**Coimbra**	**2.27**	**10**	*e*Pg	**Pg**	**22 11 39.1**	**+0.6**
COI				*e*Sn	**Sn**	**22 12 00.8**	**+1.8**
COI				*e*Sg	**Sg**	**22 12 07.7**	**-0.2**
COI	comp=E,44nm,

EMIJ					Sn	Sn	22 12 31.2	-1.2	
EMIJ					*i* Vmb_Lg		22 13 07.1		
SMIR	**Smir Dam**	**3.66**	**128**		P	Pn	**22 11 53.3**	**+2.5**	
PCAB	**Cabril**	**3.79**	**10**		*e*Pn	Pn	**22 11 53.6**	**+1.0**	
PCAB					*e*Sn	Sn	**22 12 37.4**	**+0.6**	
PCAB					A	A	22 12 39.7		
	comp=E,9.1nm,0.3s								
PAB	**San Pablo**	**3.92**	**65**		P	Pn	**22 11 55.7**	**+1.3**	
PAB	**San Pablo**	**3.92**	**65**		Pn	Pn	**22 11 55.5**	**+1.1**	
PAB					Sn	Sn	**22 12 38.8**	**-1.2**	
PAB					Sg	Sb	**22 12 55.5**	**+4.7**	
PAB					*i* Vmb_Lg		22 13 04.8		
EGOR	**Sierra Gorda,**	**3.94**	**101**		Sn	Sn	**22 12 42.7**	**+2.1**	
EGOR					*i* Vmb_Lg		22 13 07.2		
ELOB	**Lobios**	**3.94**	**10**		Pn	Pn	**22 11 55.2**	**+0.5**	
ELOB					Sn	Sn	**22 12 38.2**	**-2.4**	
ELOB					*i* Vmb_Lg		22 12 42.0		
PGAV	**Gavieira, Arco**	**4.02**	**7**	*e*Pn	Pn	Pn	**22 11 56.6**	**+0.8**	
PGAV				*e*Sn	Sn	Sn	**22 12 40.6**	**-1.8**	
PGAV				A	A	A	22 13 17.6		
	comp=E,6.0nm,0.5s								
PSIM	**Granatula de C**	**4.16**	**77**	Pn	Pn	Pn	**22 11 56.9**	**-0.9**	
PSIM				Sn	Sn	Sn	**22 12 42.9**	**-3.1**	
PBRG	**Braganca**	**4.18**	**23**	*e*Pn	Pn	Pn	**22 11 58.8**	**+0.8**	
PBRG				*e*Sn	Sn	Sn	**22 12 45.8**	**-0.6**	
PBRG				*e*Sg	Sg	Sg	**22 13 11.4**	**+2.1**	
PBRG				A	A	A	22 13 17.2		
	comp=E,5.6nm,0.4s								
ESDC	**Sonseca Array**	**4.24**	**65**	Pn	Pn	Pn	**22 11 59.8**	**+1.0**	
ESDC				Sn	Sn	Sn	**22 12 45.0**	**-3.0**	
ESDC				Sg	Sg	Sg	**22 13 06.6**	**-4.6**	
ESDC				*i* Vmb_Lg			22 13 19.8		
ECAL	**Calabor**	**4.31**	**23**	Pn	Pn	Pn	**22 12 00.5**	**+0.8**	
ECAL				Sn	Sn	Sn	**22 12 46.3**	**-3.2**	
ECAL				Sg	Sg	Sg	**22 13 13.0**	**-0.3**	
ECAL				*i* Vmb_Lg			22 13 17.6		
ELGU	**Los Guajares,**	**4.38**	**103**	P	Pn	Pn	**22 12 03.2**	**+2.4**	
ELGU	**Los Guajares,**	**4.38**	**103**	Pn	Pn	Pn	**22 12 03.1**	**+2.4**	
ELGU				Sn	Sn	Sn	**22 12 50.1**	**-1.2**	
ELGU				*i* Vmb_Lg			22 13 34.9		
EQUE	**Quentar**	**4.44**	**98**	Pn	Pn	Pn	**22 12 03.2**	**+1.6**	
EQUE				Sn	Sn	Sn	**22 12 54.3**	**+1.5**	
EQUE				*i* Vmb_Lg			22 13 26.2		
GUD	**Guadarrama**	**4.57**	**53**	Pn	Pn	Pn	**22 12 04.2**	**+0.8**	
GUD				Sn	Sn	Sn	**22 12 54.9**	**-1.2**	
GUD				Sg	Sg	Sg	**22 13 18.9**	**-2.8**	
GUD				*i* Vmb_Lg			22 13 24.9		
EQES	**Quesada**	**4.65**	**90**	Pn	Pn	Pn	**22 12 05.2**	**+0.7**	
EQES				Sn	Sn	Sn	**22 12 58.7**	**+0.6**	
EQES				Sg	Sg	Sg	**22 13 19.4**	**-5.0**	
EQES				*i* Vmb_Lg			22 13 41.2		
EAGO	**Agolada(Pontev**	**4.86**	**7**	Pn	Pn	Pn	**22 12 07.6**	**+0.2**	
EAGO				Sn	Sn	Sn	**22 12 58.6**	**-4.6**	
EAGO				*i* Vmb_Lg			22 13 04.3		
ZHG	**ZHG**	**4.89**	**157**	P	Pn	Pn	**22 12 09.8**	**+2.0**	
ZHG				S	Sn	Sn	**22 13 02.8**	**-1.3**	
EMAZ	**Mazaricos**	**4.97**	**360**	Pn	Pn	Pn	**22 12 08.8**	**+0.1**	
EMAZ				Sn	Sn	Sn	**22 13 01.8**	**-3.8**	
EMAZ				*i* Vmb_Lg			22 13 06.2		
UCM	**Universidad Co**	**5.01**	**61**	P	Pn	Pn	**22 12 10.7**	**+1.4**	
EPON	**Pontenova**	**5.51**	**14**	Sn	Sn	Sn	**22 13 15.7**	**-3.5**	
EZAR	**Zarzadilla de**	**5.73**	**89**	Pn	Pn	Pn	**22 12 20.7**	**+1.4**	
EZAR				*i* Vmb_Lg			22 14 04.8		
ETOB	**Tobarra**	**5.86**	**81**	P	Pn	Pn	**22 12 22.2**	**+1.2**	
ETOB	**Tobarra**	**5.86**	**81**	Pn	Pn	Pn	**22 12 21.4**	**+0.4**	
ETOB				Sn	Sn	Sn	**22 13 26.2**	**-1.5**	
ETOB				Sg	Sg	Sg	**22 14 00.8**	**-2.2**	
ETOB				*i* Vmb_Lg			22 14 14.8		
EARI	**Arriondas**	**6.03**	**27**	Pn	Pn	Pn	**22 12 24.2**	**+0.8**	
EARI				Sn	Sn	Sn	**22 13 30.3**	**-1.6**	
ETOR	**Torete**	**6.04**	**60**	Pn	Pn	Pn	**22 12 24.2**	**+0.6**	
ETOR				Sn	Sn	Sn	**22 13 29.6**	**-2.8**	
ETOR				*i* Vmb_Lg			22 13 56.0		
ETOR				Sg	Sg	Sg	**22 14 09.4**	**+0.5**	
MD31	**MD31**	**6.14**	**145**	P	Pn	Pn	**22 12 25.8**	**+0.9**	
MD31				S	Sn	Sn	**22 13 31.9**	**-2.8**	
MDT	**Midelt**	**6.25**	**144**	P	Pn	Pn	**22 12 26.6**	**+0.1**	
MDT	**Midelt**	**6.25**	**144**	P	Pn	Pn	**22 12 26.6**	**+0.1**	
MDT				S	Sn	Sn	**22 13 34.0**	**-3.5**	
JBK	**JBK**	**6.31**	**123**	P	Pn	Pn	**22 12 29.0**	**+1.6**	
JBK				S	Sn	Sn	**22 13 37.9**	**-1.2**	
OUK	**Oukaimeden**	**6.81**	**172**	P	Pn	Pn	**22 12 36.8**	**+2.4**	
OUK				S	Sn	Sn	**22 13 48.2**	**-3.5**	
OUZM	**OUZ**	**7.28**	**165**	P	Pn	Pn	**22 12 42.8**	**+2.2**	
OUZM				S	Sn	Sn	**22 14 00.9**	**-2.0**	
SJPF	**Ste Jean**	**7.80**	**46**	*e*Pn	Pn	Pn	**22 12 48.3**	**+0.7**	
SJPF				*e*Sn	Sn	Sn	**22 14 11.3**	**-4.2**	
	comp=E,0.2nm,0.2s								
ETSF	**Etsaut**	**8.06**	**50**	*e*Pn	Pn	Pn	**22 12 52.7**	**+1.4**	
ETSF				*e*Sn	Sn	Sn	**22 14 18.0**	**-4.0**	
	comp=E,0.2nm,0.3s								
EPF	**Esparros**	**8.69**	**52**	*e*Pn	Pn	Pn	**22 13 00.7**	**+0.9**	
EPF				*e*Sn	Sn	Sn	**22 14 32.9**	**-4.4**	
	comp=E,0.3nm,0.2s								
MTLF	**Montolieu**	**10.03**	**54**	*e*Pn	Pn	Pn	**22 13 19.5**	**+1.3**	

*NNC **09** 22:27:19.4±2.3, 37.˚23N×67.˚90E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=27.6km s-min=8.0km az=168.0*
*IDC **09** 22:27:19.9±6.8, 37.˚20N×68.˚36E, h23km±44km, mb3.4/8, mbtmp3.7/13, ML3.5/4, MS3.2/3, Error ellipse: s-maj=41.7km s-min=15.3km az=162.0*
ISC 09 22:27:19.7±0.6, 37.˚04N±0.˚06×68.˚29E±0.˚05, h35km, n39, σ2s 91/43, mb3.3/6, 2C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.36**	**136**	P		P	Pn	**22 28 25.9**	**+2.3**
CEP				S		S	Sn	**22 29 21.0**	**+7.7**
THW	**Thamme Wali**	**5.09**	**145**	P		P	Pn	**22 28 34.2**	**+0.6**
IUG	**Iuzhnay**	**5.28**	**14**	Pg		Pg	Pn	**22 28 39.3**	**+3.1**
	12nm,0.3s								
IUG				Lg		Lg	Lg	22 30 08.5	
	88nm,1.2s								
CHCP	**Chirah Chowk**	**5.28**	**128**	P		P	Pn	**22 28 39.0**	**+2.8**
KK31	**Karatay Array**	**6.29**	**15**	⇓Pn		P	Pn	**22 28 52.1**	**+2.1**
	0.9nm,0.3s,baz=199,slow=14,SNR=34								
KK31				⇓Sn		S	Sn	**22 30 03.4**	**+2.7**
	4.7nm,0.5s,baz=199,slow=23								
KK31				⇓Lg		Lg	Lg	22 30 38.7	
	15nm,0.7s,baz=197,slow=29								
AML	**Almayashu**	**6.58**	**38**	P		Pn	Pn	**22 28 56.2**	**+1.9**
	SNR=9.6								
MRKS	**Merke**	**6.85**	**32**	Pg		Pn	Pn	**22 28 59.9**	**+2.2**
	8.1nm,0.5s								
MRKS				Lg		Lg	Lg	22 30 43.2	
	7.5nm,1.3s								
UCH	**Uchtor**	**7.06**	**41**	P		Pn	Pn	**22 29 03.3**	**+2.3**
	SNR=19								
AAK	**Ala-Archa**	**7.35**	**39**	P		Pn	Pn	**22 29 07.0**	**+2.3**
	SNR=8.8								
AAK	**Ala-Archa**	**7.35**	**39**	Pn		Pn	Pn	**22 29 05.7**	**+1.1**
	1.9nm,0.3s,baz=215,slow=5.3,SNR=27								
AAK				Sn		Sn	Sn	**22 30 23.4**	**-3.5**
	baz=218,slow=19								
	3.2nm,0.3s								
KBK	**Karagaybulak**	**7.59**	**40**	P		P	Pn	**22 29 10.9**	**+2.9**
	SNR=16								
CHMS	**Chumysh**	**7.74**	**38**	P		Pn	Pn	**22 29 12.1**	**+2.1**
	SNR=5.8								
CHMS	**Chumysh**	**7.74**	**38**	⇑Pn		Pn	Pn	**22 29 08.1**	**-1.9**
	7.8nm,1.0s								
CHMS				⇓Sn		Sn	Sn	**22 30 39.9**	**+3.5**
	15nm,1.1s								
CHMS				⇑Lg		Lg	Lg	22 31 26.3	
	22nm,1.1s								
GEYT	**Alibeck**	**8.14**	**279**	Pn		Pn	Pn	**22 29 14.8**	**-0.6**
	0.6nm,0.3s,baz=102,slow=12,SNR=3.3								
GEYT				Sn		Sn	Sn	**22 30 46.3**	**+0.1**
	1.8nm,0.3s,baz=8.1,slow=18,SNR=8.3								
GEYT				LR		LR	LR	22 32 48.6	
	comp=Z,67nm,21.8s,baz=185,slow=40								
	1.8nm,0.4s								
GYA0B	**ALIBECK ARRAY**	**8.14**	**279**	⇓Pn		P	Pn	**22 29 13.5**	**-1.9**
GYA0B				⇓Sn		Sn	Sn	**22 30 46.8**	**+0.6**
GYA0B				⇓Lg		Lg	Lg	22 31 34.5	
KST	**Kastek**	**8.40**	**42**	Pg		Pn	Pn	**22 29 21.5**	**+2.5**
	2.4nm,0.6s								
KST				Lg		Lg	Lg	22 31 20.2	
	8.1nm,1.5s								
AB31	**Akbulak array**	**13.64**	**336**	⇓P		Pn	Pn	**22 30 29.6**	**-0.9**
	0.6nm,0.3s,baz=163,slow=12,SNR=85								
MKAR	**Makanchi Array**	**14.25**	**42**	Pn		Pn	Pn	**22 30 35.4**	**-3.5**
	0.1nm,0.3s,baz=232,slow=12,SNR=14								
	2.0nm,1.0s								
AKTO	**Aktyubinsk**	**15.29**	**334**	Pn		Pn	Pn	**22 30 49.0**	**-3.9**
	0.3nm,0.3s,baz=160,slow=8.7,SNR=3.4								
	0.4nm,0.3s								
KURBB	**Kurchatov Arra**	**15.44**	**25**	Pn		Pn	Pn	**22 30 49.6**	**-5.1**
	1.5nm,0.2s,baz=218,slow=12,SNR=1.4								
DANN	**Dangsing**	**15.62**	**119**	*e*P		Pn	Pn	**22 30 52.9**	**-4.7**
	4.9nm,0.4s								
BVAR	**Borovoye Array**	**16.05**	**5**	Pn		Pn	Pn	**22 31 01.7**	**-0.9**
	baz=192,slow=9.8,SNR=3.3								
GKN	**Gorkha**	**16.45**	**119**	*e*P		Pn	Pn	**22 31 03.4**	**-4.6**
	3.9nm,0.3s								
DMN	**Daman**	**17.02**	**119**	*e*P		Pn	Pn	**22 31 12.1**	**-3.2**
	5.0nm,0.4s								
PKIN	**Phulchoki**	**17.24**	**118**	*e*P		Pn	Pn	**22 31 14.5**	**-3.6**
	3.8nm,0.4s								
PKI	**Pulchoki**	**17.25**	**118**	*e*P		Pn	Pn	**22 31 14.7**	**-3.6**
	3.3nm,0.3s								
JIRN	**Jiri**	**17.75**	**117**	*e*P		Pn	Pn	**22 31 20.6**	**-3.9**
	3.8nm,0.4s								
RAMN	**Ramite**	**18.47**	**118**	*e*P		P	P	**22 31 30.3**	**-2.6**
	3.5nm,0.3s								
TAPN	**Taplejung**	**19.03**	**115**	*e*P		P	P	**22 31 36.9**	**-2.2**
	4.8nm,0.5s								
ZALV	**Zalesovo Beam**	**20.41**	**29**	P		P	P	**22 31 53.8**	**+0.3**
	1.4nm,0.4s,baz=225,slow=10,SNR=10								
	1.4nm,0.4s								
ARU	**Arti**	**20.47**	**344**	P		P	P	**22 31 52.8**	**-1.4**
	0.8nm,0.4s,baz=122,slow=15,SNR=3.2								
	0.8nm,0.4s								
BELG	**Belogornoye**	**21.13**	**323**	P		P	P	**22 32 01.1**	**-0.2**
	2.6nm,0.3s,baz=189,slow=0.9,SNR=6.9								
	2.6nm,0.3s								
BRTR	**Keskin Array B**	**27.20**	**286**	P		P	P	**22 33 02.2**	**+1.9**
	0.3nm,0.8s,baz=111,slow=7.9,SNR=2.7								
	0.3nm,0.8s								
SONM	**Songino Array**	**29.84**	**57**	P		P	P	**22 33 23.3**	**-0.3**
	0.2nm,0.3s,baz=254,slow=10,SNR=3.2								
	0.2nm,0.3s								
FINES	**FINESS Array B**	**35.83**	**327**	P		P	P	**22 34 16.6**	**+1.0**
	1.7nm,0.9s,baz=123,slow=7.0,SNR=5.6								
	1.7nm,0.9s								
NOA	**NORSAR Array B**	**42.64**	**323**	P		P	P	**22 35 14.7**	**+2.1**
	0.2nm,0.4s,baz=98,slow=7.9,SNR=1.4								
	0.2nm,0.4s								
YAK	**Yakutsk**	**44.80**	**36**	LR		LR	LR	22 54 43.3	
	comp=Z,46nm,18.5s,baz=20,slow=37								
KSRS	**Korea Array**	**46.75**	**70**	LR		LR	LR	22 58 35.0	
	comp=Z,35nm,19.1s,baz=305,slow=40								
YKA	**Yellowknife Ar**	**80.78**	**1**	P		P	P	**22 39 30.1**	**+0.9**
	0.2nm,0.5s,baz=350,slow=5.5,SNR=5.7								
	0.2nm,0.5s								

IDC 09 22:32:37.2±6.1, 1.˚68N×124.˚42E, h430km±78km, mb2.9/7, mbtmp3.7/7, Error ellipse: s-maj=46.6km s-min=17.9km az=75.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**156**	P		P	P	22 37 13.0	+0.6
	0.2nm,0.4s,baz=333,slow=10,SNR=4.8								
	0.2nm,0.4s								
ASAR	**Alice Springs**	**26.83**	**160**	P		P	P	22 37 40.6	-0.6
	0.1nm,0.3s,baz=335,slow=9.9,SNR=7.7								
	0.1nm,0.3s								
USRK	**Ussuriysk Ar.**	**42.87**	**8**	P		P	P	22 39 56.3	+0.5
	1.3nm,0.3s,baz=192,slow=7.0,SNR=15								
	1.3nm,0.3s								
SONM	**Songino Array**	**48.55**	**344**	P		P	P	22 40 39.0	-0.6
	0.8nm,0.8s,baz=159,slow=8.5,SNR=6.3								
	0.8nm,0.8s								
MKAR	**Makanchi Array**	**57.96**	**327**	P		P	P	22 41 46.8	-0.2
	1.2nm,0.4s,baz=126,slow=7.9,SNR=29								
MKAR					PcP	PcP	PcP	22 42 35.4	+1.8
	0.3nm,0.5s,baz=119,slow=4.3,SNR=4.3								
	1.2nm,0.4s								
ZALV	**Zalesovo Beam**	**61.40**	**335**	P		P	P	22 42 09.2	-0.6
	0.4nm,0.3s,baz=126,slow=7.3,SNR=3.6								
	0.4nm,0.3s								
ILAR	**Eielson Array**	**87.94**	**25**	P		P	P	22 44 38.0	-1.6
	0.2nm,0.6s,baz=258,slow=6.2,SNR=4.2								
	0.2nm,0.6s								

*NNC **09** 22:46:36.0±2.3, 41.˚74N×83.˚85E, h3km±8km, mb3.9, mpv3.5, Error ellipse: s-maj=38.2km s-min=12.7km az=18.0*
*SOME **09** 22:46:37.4, 41.˚55N×83.˚48E, h10km*
ISC 09 22:46:35.9±3.2, 41.˚6N±0.˚1×83.˚6E±0.˚1, h10km, n36, σ3s 11/40, 7C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.06**	**309**	Pg		Pg	Pg	**22 47 34.1**	**-0.4**
	24nm,0.3s								
KTMS				Lg		Lg	Lg	22 48 14.5	
	16nm,0.5s								
KTMS	**Ketmen**	**3.06**	**309**	*e*Pg		Pg	Pg	**22 47 34.1**	**-0.4**
	24nm,0.3s								
KTMS				*e*Lg		Lg	Lg	22 48 14.5	
	16nm,0.5s								
SHLS	**Shalkode**	**3.47**	**299**	Pg		Pg	Pb	**22 47 36.5**	**-0.9**
	12nm,0.4s								
SHLS				Lg		Lg	Lg	22 48 19.2	
	910nm,0.5s								
SHLS	**Shalkode**	**3.47**	**299**	*e*Pg		Pb	Pb	**22 47 36.3**	**-1.2**
	17nm,0.3s								
SHLS				*e*Lg		Lg	Lg	22 48 18.2	
	910nm,0.5s								
UZB	**Uzynbulak**	**3.75**	**296**	Pg		Pg	Pg	**22 47 45.6**	**-2.3**
	10nm,0.5s								
UZB				Lg		Lg	Lg	22 48 34.4	
	20nm,0.3s								
UZB	**Uzynbulak**	**3.75**	**296**	*e*Pg		Pg	Pg	**22 47 45.9**	**-2.0**
	9.5nm,0.3s								
UZB				*e*Lg		Lg	Lg	22 48 34.4	
	20nm,0.3s								
DJR	**Jarkent**	**3.94**	**316**	Pg		Pg	Pg	**22 47 49.7**	**-1.7**
	7.5nm,0.9s								
DJR				Lg		Lg	Lg	22 48 41.5	
	24nm,0.7s								
DJR	**Jarkent**	**3.94**	**316**	*e*Pg		Pg	Pg	**22 47 49.7**	**-1.7**
	7.5nm,0.9s								
DJR				*e*Lg		Lg	Lg	22 48 41.5	
	24nm,0.7s								
KPKS	**Kokpek**	**4.11**	**299**	Pg		Pg	Pb	**22 47 51.2**	**+2.8**
	19nm,0.6s								
KPKS				Lg		Lg	Lg	22 48 44.6	
	34nm,0.4s								
KPKS	**Kokpek**	**4.11**	**299**	*e*Pg		Pg	Pg	**22 47 52.7**	**-2.0**
	20nm,0.5s								
KPKS				*e*Lg		Lg	Lg	22 48 46.3	
	59nm,0.5s								
SATY	**Saty**	**4.14**	**293**	Pg		Pg	Pg	**22 47 52.6**	**-2.7**
	22nm,0.7s								
SATY				Lg		Lg	Lg	22 48 46.0	
	46nm,0.9s								
SATY	**Saty**	**4.14**	**293**	*e*Pg		Pg	Pg	**22 47 52.6**	**-2.7**
	22nm,0.7s								
SATY				*e*Lg		Lg	Lg	22 48 46.0	
	46nm,0.9s								
ZHN	**Zhinishke**	**4.16**	**294**	Pg		Pg	Pg	**22 47 52.7**	**-3.0**
	6.9nm,0.2s								
ZHN				Lg		Lg	Lg	22 48 46.0	
	31nm,0.3s								
ZHN	**Zhinishke**	**4.16**	**294**	*e*Pg		Pg	Pg	**22 47 52.7**	**-3.0**
	6.9nm,0.2s								
ZHN				*e*Lg		Lg	Lg	22 48 46.0	
	31nm,0.3s								
KURS	**Kuram**	**4.46**	**297**	Pg		Pg	Pg	**22 47 59.0**	**-2.4**
	13nm,0.9s								
KURS				Lg		Lg	Lg	22 48 57.0	
	13nm,1.2s								
KURS	**Kuram**	**4.46**	**297**	*e*Pg		Pg	Pg	**22 47 59.0**	**-2.4**
	13nm,0.9s								
KURS				*e*Lg		Lg	Lg	22 48 57.0	
	13nm,1.2s								
ARXS	**Arharly**	**5.01**	**304**	*e*Pg		Pg	Pg	**22 48 10.3**	**-1.6**
	6.1nm,0.3s								
ARXS				*e*Lg		Lg	Lg	22 49 16.3	
	8.8nm,0.9s								
TDK	**Taldyqorghan**	**5.12**	**314**	*e*Pg		Pg	Pg	**22 48 12.6**	**-1.4**
	13nm,0.3s								
TDK				*e*Lg		Lg	Lg	22 49 20.6	
	62nm,0.9s								
MDOK	**Medeo**	**5.12**	**290**	⇑Pn		Pn	Pn	**22 47 55.1**	**+2.2**
	1.8nm,0.4s								
MDOK				Pg		Pg	Pg	**22 48 12.0**	**-2.0**
	7.5nm,1.4s								
MDOK				⇑Sn		Sn	Sn	**22 48 57.5**	**+5.3**
	5.1nm,0.4s								
MDOK				Lg		Lg	Lg	22 49 23.1	
	11nm,0.5s								
MDOK	**Medeo**	**5.12**	**290**	*e*Pg		Pg	Pg	**22 48 11.8**	**-2.3**
	8.7nm,0.6s								
MDOK				*e*Lg		Lg	Lg	22 49 18.8	
	15nm,0.8s								
TNSS	**Tian-Shan**	**5.16**	**289**	*e*Pg		Pg	Pg	**22 48 12.1**	**-2.8**
	2.3nm,0.4s								
TNSS				*e*Lg		Lg	Lg	22 49 19.6	
	7.8nm,0.4s								
MK31	**Makanchi Array**	**5.31**	**350**	Pn		Pn	Pb	**22 48 07.0**	**-1.8**
	0.1nm,0.3s,baz=189,slow=13,SNR=12								
MK31				⇑Sn		Sb	Sb	**22 49 06.9**	**-5.6**
	2.9nm,0.5s								
MK31				⇑Lg		Lg	Lg	22 49 29.4	
	19nm,0.6s,baz=183,slow=29								
MAKZ	**Makanchi**	**5.37**	**348**	⇑Pn		Pb	Pb	**22 48 08.0**	**-1.7**
	2.7nm,1.2s								
MAKZ				⇑Sn		Sn	Sn	**22 49 05.7**	**+7.8**
	3.0nm,0.6s								
MAKZ				⇑Lg		Lg	Lg	22 49 28.5	
	14nm,0.8s								
CHKK	**Chushkaly**	**5.39**	**297**	Pg		Pg	Pg	**22 48 14.9**	**-4.3**
	2.2nm,0.4s								
CHKK				Lg		Lg	Lg	22 49 24.8	
	15nm,0.8s								
CHKK	**Chushkaly**	**5.39**	**297**	*e*Pg		Pg	Pg	**22 48 14.9**	**-4.3**
	2.2nm,0.4s								
CHKK				*e*Lg		Lg	Lg	22 49 24.8	
	15nm,0.8s								
KTBS	**Karatobe**	**5.55**	**295**	Pg		Pg	Pg	**22 48 17.5**	**-4.7**
	8.2nm,0.9s								
KTBS				Lg		Lg	Lg	22 49 29.2	
	19nm,0.5s								
KTBS	**Karatobe**	**5.55**	**295**	*e*Pg		Pg	Pg	**22 48 18.8**	**-3.4**
	3.2nm,0.7s								
KTBS				*e*Lg		Lg	Lg	22 49 30.9	
	21nm,0.5s								
MTBS	**Maitube**	**5.55**	**289**	Pg		Pg	Pg	**22 48 20.9**	**-1.3**
	4.2nm,0.5s								
MTBS	**Maitube**	**5.55**	**289**	*e*Pg		Pg	Pg	**22 48 20.9**	**-1.3**
	4.2nm,0.5s								
MTBS				*e*Lg		Lg	Lg	22 49 34.6	
	8.0nm,0.8s								
KUU	**Kurty**	**5.84**	**296**	Pg		Pg	Pg	**22 48 23.5**	**-4.3**
	3.2nm,1.1s								
KUU				Lg		Lg	Lg	22 49 39.6	
	7.8nm,0.8s								
KUU	**Kurty**	**5.84**	**296**	*e*Pg		Pg	Pg	**22 48 25.7**	**-2.1**
	2.2nm,0.4s								
KUU				*e*Lg		Lg	Lg	22 49 43.0	
	7.8nm,0.8s								
KST	**Kastek**	**5.87**	**287**	Pg		Pg	Pg	**22 48 24.9**	**-3.4**
	5.2nm,0.7s								
KST	**Kastek**	**5.87**	**287**	*e*Pg		Pg	Pg	**22 48 24.9**	**-3.4**
	5.2nm,0.7s								
KST				*e*Lg		Lg	Lg	22 49 41.9	
	15nm,0.9s								
ZSN	**Zaisan**	**5.94**	**8**	*e*Pg		Pg	Pg	**22 48 28.7**	**-1.0**
	2.0nm,1.0s								
ZSN				*e*Lg		Lg	Lg	22 49 48.2	
	21nm,1.1s								
KRBS	**Karabastau**	**6.24**	**293**	Pg		Pg	Pg	**22 48 32.9**	**-2.4**
	2.2nm,0.7s								
KRBS	**Karabastau**	**6.24**	**293**	*e*Pg		Pg	Pg	**22 48 32.9**	**-2.4**
	2.2nm,0.7s								
KRBS				*e*Lg		Lg	Lg	22 49 55.1	
	5.2nm,0.5s								

WEL 09 22:55:04.9±0.5, 42.˚5S±4.˚×17.˚3E±.˚, h5km, M1.8/3, ML2.5/5, MLv1.8/3, Error ellipse: s-maj=0.0km s-min=0.0km az=165.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.37**	**57**	P		Pg	Pg	22 55 12.2	+0.2
BSWZ				S		Sg	Sg	22 55 17.6	+0.8
THZ	**Tophouse**	**0.44**	**290**	S		Sg	Sg	22 55 19.7	+0.4
KHZ	**Kahutara**	**0.50**	**174**	S		Sg	Sg	22 55 17.3	-3.8
NNZ	**Nelson**	**0.70**	**355**	P		Pb	Pb	22 55 19.0	-0.5
MRNZ	**Matariki Terra**	**0.74**	**314**	S		Sb	Sb	22 55 30.2	-0.4
GVZ	**Greta Valley S**	**1.10**	**197**	P		Pb	Pb	22 55 26.2	-0.1

*NOU **09** 22:56:00.5, 42.˚04S×178.˚09E, h133km, MLv4.4/10, Off E. Coast of S. Island, N.Z.*
*WEL

KRVZ	**Karewarewa**	**3.49**	**329**	P	**Pn**	**22 56 54.5 +3.0**
WTVZ	**West Tongariro**	**3.49**	**328**	P	**Pn**	**22 56 54.5 +2.9**
RITZ	**Rihia Road**	**3.51**	**332**	P	**Pn**	**22 56 54.7 +3.0**
NNZ	**Nelson**	**3.55**	**283**	P	**Pn**	**22 56 54.8 +2.6**
RTZ	**Ruatahuna**	**3.57**	**348**	P	**Pn**	**22 56 53.9 +1.4**
TWVZ	**Taurewa**	**3.59**	**327**	P	**Pn**	**22 56 55.6 +2.8**
RAGZ	**Rawiri**	**3.63**	**353**	P	**Pn**	**22 56 55.0 +1.5**
MUGZ	**Murupara**	**3.74**	**346**	P	**Pn**	**22 56 56.5 +1.6**
GVZ	**Greta Valley S**	**3.74**	**255**	P	**Pn**	**22 56 56.3 +1.4**
MWZ	**Matawai**	**3.78**	**355**	P	**Pn**	**22 56 56.2 +0.7**
VRZ	**Vera Road**	**3.85**	**320**	P	**Pn**	**22 56 59.6 +3.2**
URZ	**Urewera**	**3.90**	**350**	P	**Pn**	**22 56 58.3 +1.3**
TKNZ	**Takaka Hill**	**3.90**	**284**	P	**Pn**	**22 56 59.3 +2.2**
TWGZ	**Tauwhareparae**	**3.92**	**0**	P	**Pn**	**22 56 59.0 +1.5**
MRNZ	**Matariki Terra**	**3.96**	**279**	P	**Pn**	**22 57 00.0 +2.2**
TARZ	**Mount Tarawera**	**4.02**	**343**	P	**Pn**	**22 57 01.5 +2.6**
NEZ	**North Egmont**	**4.08**	**313**	P	**Pn**	**22 57 04.4 +4.8**
DREZ	**Durham Road**	**4.08**	**314**	P	**Pn**	**22 56 58.0 -1.6**
MQZ	**McQueen's Vall**	**4.21**	**246**	P	**Pn**	**22 57 02.3 +1.0**
MQZ				S	**Sn**	**22 57 48.1 -2.4**
QRZ	**Quartz Range**	**4.28**	**286**	P	**Pn**	**22 57 05.1 +2.9**
QRZ	**Quartz Range**	**4.28**	**286**	P	**Pn**	**22 57 04.7 +2.5**
CTZ	**Chatham Island**	**4.30**	**114**	P	**Pn**	**22 57 03.5 +1.0**
HIZ	**Hauiti**	**4.30**	**325**	P	**Pn**	**22 57 04.5 +1.9**
HIZ	**Hauiti**	**4.30**	**325**	P	**Pn**	**22 57 05.2 +2.6**
HAZ	**Te Kaha**	**4.35**	**358**	P	**Pn**	**22 57 04.1 +0.9**
KMRZ	**Kaimai**	**4.53**	**339**	P	**Pn**	**22 57 09.1 +3.3**
MXZ	**Matakaoa Point**	**4.55**	**3**	P	**Pn**	**22 57 06.4 +0.5**
DSZ	**Denniston Nort**	**4.61**	**272**	P	**Pn**	**22 57 09.0 +2.2**
RPZ	**Rata Peaks**	**5.32**	**250**	P	**Pn**	**22 57 18.2 +1.6**
ODZ	**Otahua Downs**	**6.07**	**239**	P	**Pn**	**22 57 30.4 +3.5**
JCZ	**Jackson Bay**	**7.00**	**251**	P	**Pn**	**22 57 42.3 +2.6**
SYZ	**Scrubby Hill**	**7.72**	**232**	P	**Pn**	**22 57 51.6 +2.1**

*NEIC **09** 23:06:14.0±1.0, 3°.6N±0°.1×128°.3E±0°.1, h10km±2km, mb4.1/10, Error ellipse: s-maj=27.1km s-min=6.0km az=50.0*
*IDC **09** 23:06:16.2±1.1, 2°.10N×125°.18E, h0km, mb3.7/6, mbtmp3.8/6, Error ellipse: s-maj=206.5km s-min=18.2km az=67.0*

ISC 09 23:06:18.3±1.1, **3°.6N**±0°.1×**128°.4E**±0°.1, **h45**km, **n19**, σ1§**24**/18, **mb4.1**/10, **North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**7.53**	**149**	Pn	**Pn**	**23 08 07.3**	**+1.6**
FAKI				Sn	**Sn**	**23 09 30.0**	**+0.2**
TOLI2	**Tolitoli**	**7.97**	**252**	Pn	**Pn**	**23 08 13.6**	**+2.0**
MTN	**Manton Dam**	**16.55**	**170**	Pn	**Pn**	**23 10 04.9**	**-2.4**
MTN				IAmb	IAmb	23 10 11.9	
	comp=Z,18nm,1.1s						
JAGI	**Jajag, Banyuwa**	**18.56**	**230**	P	**P**	**23 10 29.5**	**-2.1**
KNRA	**Kununurra**	**19.14**	**179**	P	**P**	**23 10 37.0**	**-0.9**
KNRA				IAmb	IAmb	23 10 48.5	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**23.95**	**166**	P	**P**	**23 11 28.4**	**-0.1**
WRA	**Warramunga Arr**	**24.10**	**166**	P	**P**	**23 11 30.0**	**0.0**
	comp=Z,1.5nm,0.7s,baz=336,slow=11,SNR=6.4						
	comp=Z,1.5nm,0.7s						
WRA	**Warramunga Arr**	**24.10**	**166**	P	**P**	**23 11 28.5**	**-1.4**
WB2	**Warramunga Arr**	**24.11**	**166**	P	**P**	**23 11 29.6**	**-0.4**
WB2				IAmb	IAmb	23 11 32.6	
	comp=Z,5.1nm,0.9s						
ASAR	**Alice Springs**	**27.62**	**169**	P	**P**	**23 12 00.7**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=355,slow=7.8,SNR=6.1						
	comp=Z,0.4nm,0.5s						
CM31	**Chiang Mai Arr**	**32.36**	**299**	P	**P**	**23 12 43.7**	**-0.1**
CM31				IAmb	IAmb	23 12 51.9	
	comp=Z,3.9nm,1.0s						
STKA	**Stephens Creek**	**37.44**	**161**	P	**P**	**23 13 28.2**	**+0.8**
	comp=Z,0.6nm,0.2s,baz=328,slow=9.5,SNR=3.6						
	comp=Z,0.6nm,0.2s						
SONM	**Songino Array**	**47.97**	**340**	P	**P**	23 14 59.5	+6.7
	comp=Z,0.3nm,0.5s,baz=147,slow=9.1,SNR=4.8						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**58.62**	**325**	P	**P**	**23 16 10.4**	**-0.4**
MK31				IAmb	IAmb	23 16 18.6	
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**58.62**	**325**	P	**P**	**23 16 10.2**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=118,slow=8.0,SNR=33						
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**58.62**	**325**	P	**P**	**23 16 10.3**	**-0.6**
MAKZ	**Makanchi**	**58.80**	**324**	P	**P**	**23 16 11.6**	**-0.5**
MAKZ				IAmb	IAmb	23 16 20.0	
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**61.47**	**332**	P	P	23 16 35.7	+5.5
	comp=Z,0.3nm,0.3s,baz=123,slow=8.3,SNR=2.2						
	comp=Z,0.3nm,0.3s						
QSPA	**South Pole Qui**	**93.49**	**180**		**P**	**23 19 29.6**	**+0.6**

*DDA **09** 23:11:29.9±0.0, 38°.46N×45°.61E, h8km±5km, ML2.5*
*NSSP **09** 23:11:30.6, 38°.47N×45°.55E, h8km, Ms3.9*
*TEH **09** 23:11:31.7, 38°.40N×45°.34E, h7km±86km, ML3.3*
*AZER **09** 23:11:32.3±0.1, 38°.54N×45°.46E, h2km, Error ellipse: s-maj=2.5km s-min=0.7km az=247.0*

ISC 09 23:11:32.8±1.1, **38°.50N**±0°.02×**45°.47E**±0°.02, **h6**km±10km, **n65**, σ1§**78**/104, **9C-7D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHB	**Shabestar**	**0.25**	**152**	Pg	**Pg**	**23 11 36.3**	**-1.4**
IMRD	**Marand**	**0.28**	**41**	Pg	**Pb**	**23 11 40.2**	**-0.2**
ORD	**Ordubad**	**0.59**	**44**	P	**Pb**	**23 11 46.2**	**+0.5**
	SNR=277						
ORD				S	**Sn**	**23 11 56.0**	**-1.9**
ITBZ	**Tabriz**	**0.60**	**117**	Pg	**Pg**	**23 11 43.8**	**-0.5**
NAX	**Nakhchivan**	**0.67**	**2**	P	**Pn**	**23 11 47.4**	**-1.6**
	SNR=83						
NAX				S	**Sn**	**23 11 58.5**	**-1.4**
TAB1	**Tabriz**	**0.82**	**123**	Pg	**Pg**	**23 11 48.8**	**+0.2**
SBZ	**Shahbuz**	**0.90**	**4**	P	**Pn**	**23 11 51.2**	**-0.9**
	SNR=61						
SBZ				S	**Sn**	**23 12 05.8**	**+0.3**
IAZR	**Azarshahr**	**0.92**	**154**	Pg	**Pg**	**23 11 48.9**	**-1.5**
TVRZ	**Varzaqan**	**0.94**	**89**	Pg	**Pb**	**23 11 51.5**	**-0.1**
MAKU	**Maku**	**1.05**	**324**	Pg	**Pg**	**23 11 52.0**	**-1.0**
OZAP	**Van, Ozalp-Mer**	**1.17**	**278**	P	**Pg**	**23 11 53.9**	**-1.4**
OZAP				S	**Sb**	**23 12 11.4**	**+0.3**
OZAP				*i* AML	AML	23 12 13.0	
	comp=E,92nm,0.6s						
OZAP				*i* AML	AML	23 12 20.0	
	comp=N,100nm,1.0s						
GRS	**Goris**	**1.20**	**34**	⇓*i* P	**Pn**	**23 11 57.0**	**+0.6**
GRS				⇓*i* S	**Sn**	**23 12 15.2**	**+2.1**
IHRS	**Heris**	**1.25**	**98**	Pg	**Pb**	**23 11 56.9**	**0.0**
YOVA	**Hakkari_Yksek**	**1.30**	**226**	P	**Pg**	**23 11 54.8**	**-3.1**
YOVA				S	**Sn**	**23 12 16.0**	**+0.3**
YOVA				*i* AML	AML	23 12 17.0	
	comp=N,138nm,0.8s						
YOVA				*i* AML	AML	23 12 20.0	
	comp=E,129nm,0.6s						
HYR	**Heyderabad**	**1.31**	**339**	P	**Pn**	**23 11 57.3**	**-0.4**
HYR				S	**Sn**	**23 12 18.2**	**+2.7**
VMUR	**Van-Muradiye**	**1.56**	**289**	P	**Pg**	**23 12 02.0**	**-0.8**
VMUR				S	**Sg**	**23 12 25.9**	**+2.9**
VMUR				*i* AML	AML	23 12 27.0	
	comp=E,72nm,0.6s						
VMUR				*i* AML	AML	23 12 31.0	
	comp=N,82nm,0.8s						
NRKZ	**NAREK**	**1.62**	**337**	⇑*i* P	**Pg**	**23 12 02.7**	**-1.3**
NRKZ				⇑*i* S	**Sg**	**23 12 25.6**	**+0.6**
STKZ		**1.65**	**37**	⇓*i* P	**Pg**	**23 12 04.8**	**+0.5**
STKZ				⇓*i* S	**Sg**	**23 12 28.9**	**+3.1**
QRD	**Qoradiz**	**1.73**	**56**	P	**Pg**	**23 12 06.0**	**0.0**
	SNR=19						
QRD				S	**Sg**	**23 12 30.9**	**+2.5**
DYDN	**Diyadin**	**1.73**	**307**	P	**Pg**	**23 12 05.5**	**-0.6**
GNI	**Garni**	**1.74**	**341**	⇑*i* P	**Pg**	**23 12 05.4**	**-0.8**
GNI				⇓*i* S	**Sg**	**23 12 30.9**	**+2.1**
IGDI	**IGDIR**	**1.74**	**322**	P	**Pb**	**23 12 04.2**	**-1.1**
IGDI				S	**Sg**	**23 12 30.3**	**+1.5**
IGDI				*i* AML	AML	23 12 35.0	
	comp=N,67nm,0.3s						
IGDI				*i* AML	AML	23 12 39.0	
	comp=E,52nm,0.3s						
MAHB	**Mahabad**	**1.74**	**174**	Pg	**Pn**	**23 12 02.1**	**-1.6**
IHSH	**Hashtrud**	**1.85**	**130**	Pn	**Pn**	**23 12 06.1**	**+0.6**
ISRB	**Sarab**	**1.86**	**111**	Pn	**Pb**	**23 12 07.0**	**-0.4**
GEVA	**Gevas**	**1.90**	**265**	P	**Pn**	**23 12 06.6**	**+0.6**
GEVA				*i* AML	AML	23 12 37.0	
	comp=N,36nm,0.5s						
GEVA				*i* AML	AML	23 12 43.0	
	comp=E,37nm,0.6s						
KAPZ	**Kaputan**	**1.91**	**342**	⇑*i* P	**Pg**	**23 12 08.3**	**-1.2**
KAPZ				⇑*i* S	**Sg**	**23 12 37.5**	**+3.1**
GRMI	**Germi**	**1.92**	**80**	Pn	**Pn**	**23 12 07.2**	**+0.9**
METS	**Metsamor**	**1.97**	**327**	⇑*i* P	**Pb**	**23 12 07.5**	**-1.6**
METS				⇑*i* S	**Sg**	**23 12 36.1**	**0.0**
BLQ	**Beylaqan**	**2.03**	**53**	P	**Pg**	**23 12 10.9**	**-0.9**
	SNR=35						
BLQ				S	**Sg**	**23 12 39.6**	**+1.5**
AGDM	**Agdam**	**2.05**	**38**	P	**Pg**	**23 12 11.8**	**-0.3**
	SNR=27						
AGDM				S	**Sg**	**23 12 41.2**	**+2.6**
VNNZ	**Vanand**	**2.05**	**322**	⇑*i* P	**Pg**	**23 12 11.9**	**-0.2**
VNNZ				⇓*i* S	**Sg**	**23 12 44.9**	**+6.2**
ARUZ	**Aruch**	**2.08**	**329**	⇓*i* P	**Pg**	**23 12 11.4**	**-1.2**
ARUZ				⇑*i* S	**Sg**	**23 12 43.5**	**+3.9**
KOTA	**Agri, Merkez-K**	**2.19**	**307**	P	**Pb**	**23 12 12.9**	**-0.1**
KOTA				S	**Sg**	**23 12 46.2**	**+3.1**
KOTA				*i* AML	AML	23 12 47.0	
	comp=N,20nm,1.8s						
KOTA				*i* AML	AML	23 12 50.0	
	comp=E,27nm,0.9s						
BRDA	**Brd**	**2.20**	**36**	P	**Pg**	**23 12 14.1**	**-0.9**
	SNR=12						
BRDA				S	**Sg**	**23 12 47.0**	**+3.4**
YRD	**Yardimli**	**2.21**	**78**	P	**Pb**	**23 12 13.8**	**+0.5**
	SNR=34						
YRD				S	**Sg**	**23 12 45.3**	**+1.6**
GDB	**GEDABAY**	**2.23**	**6**	P	**Pg**	**23 12 14.2**	**-1.3**
	SNR=11						
GDB				S	**Sg**	**23 12 44.8**	**+0.4**
GANJ	**Ganja**	**2.24**	**17**	P	**Pb**	**23 12 13.7**	**0.0**
	SNR=31						
GANJ				S	**Sg**	**23 12 46.0**	**+1.1**
LRK	**Lerik**	**2.25**	**86**	P	**Pb**	**23 12 13.7**	**-0.3**
	SNR=68						
LRK				S	**Sg**	**23 12 46.6**	**+1.3**
GLBA	**Cilalabad**	**2.40**	**71**	P	**Pb**	**23 12 16.1**	**-0.3**
	SNR=18						
GLBA				S	**Sg**	**23 12 51.6**	**+1.7**
ZRD	**Zardab**	**2.47**	**43**	P	**Pg**	**23 12 19.1**	**-1.1**
	SNR=11						
ZRD				S	**Sg**	**23 12 51.4**	**-0.7**
QZX	**Qazax, Azerbai**	**2.55**	**358**	P	**Pb**	**23 12 17.9**	**-1.2**
	SNR=28						
QZX				S	**Sg**	**23 12 52.8**	**-2.1**
MNGR	**Mingechevir, A**	**2.59**	**28**	P	**Pg**	**23 12 20.6**	**-1.8**
MNGR				S	**Sg**	**23 12 54.5**	**-1.4**
LKRN	**Lenkeran, Azer**	**2.60**	**84**	P	**Pb**	**23 12 19.3**	**-0.6**
LKRN				S	**Sb**	**23 12 54.0**	**+2.0**
ASTR	**Astara**	**2.60**	**88**	P	**Pb**	**23 12 18.9**	**-1.0**
	SNR=19						
ASTR				S	**Sg**	**23 12 56.0**	**-0.6**
KDMR	**Kurdemir**	**2.81**	**47**	P	**Pb**	**23 12 24.2**	**+0.7**
KDMR				S	**Sb**	**23 12 58.6**	**+0.5**
SEKA	**Sheki**	**3.01**	**26**	P	**Pb**	**23 12 27.1**	**+0.1**
	SNR=17						
SEKA				S	**Sg**	**23 13 07.1**	**-2.5**
QBL	**Gabala**	**3.05**	**36**	P	**Pb**	**23 12 25.4**	**-2.1**
QBL				S	**Sb**	**23 13 05.0**	**0.0**
IML	**Ismayilli**	**3.10**	**42**	P	**Pb**	**23 12 27.9**	**-0.5**
IML				S	**Sb**	**23 13 08.1**	**+1.5**
ZNJK	**Zanjan**	**3.14**	**125**	Pn	**Pn**	**23 12 21.9**	**-1.2**
ZKTA	**Zakatala**	**3.25**	**15**	P	**Pb**	**23 12 32.0**	**+1.0**
ZKTA				S	**Sb**	**23 13 11.1**	**+0.2**
PQL	**Pirkuli**	**3.32**	**46**	P	**Pb**	**23 12 28.8**	**-3.4**
PQL				S	**Sb**	**23 13 11.3**	**-1.7**
GBS	**Qobustan**	**3.37**	**52**	P	**Pb**	**23 12 29.1**	**-3.8**
XNQ	**Khinaliq**	**3.37**	**37**	P	**Pb**	**23 12 31.2**	**-1.9**
XNQ				S	**Sb**	**23 13 12.3**	**-2.0**
ATGJ	**Altiaghaj**	**3.56**	**48**	P	**Pb**	**23 12 33.9**	**-2.5**
QUBA	**Quba, Azerbaij**	**3.68**	**38**	P	**Pb**	**23 12 36.6**	**-1.6**
QUBA				S	**Sb**	**23 13 19.4**	**-3.7**
SIZA	**Siyzn**	**3.69**	**45**	P	**Pn**	**23 12 32.8**	**+2.4**
QSAR	**Qusar**	**3.69**	**35**	P	**Pb**	**23 12 35.1**	**-3.4**
IDHR	**Dehrash**	**3.87**	**169**	Pn	**Pn**	**23 12 34.0**	**+1.0**
JIR1	**Jirandeh**	**3.88**	**116**	Pn	**Pn**	**23 12 35.7**	**+2.6**
IGHG	**Ghaleghazi**	**4.26**	**168**	Pn	**Pn**	**23 12 39.5**	**+1.0**
IRAZ	**Razeghan**	**4.72**	**130**	Pn	**Pn**	**23 12 45.7**	**+0.9**
ILBA	**Ilam Banvizeh**	**4.90**	**173**	Pn	**Pn**	**23 12 47.5**	**+0.4**
IKFM	**Kafar-mosalman**	**5.33**	**158**	Pn	**Pn**	**23 12 53.9**	**+1.1**
ASAO	**Ashtian**	**5.39**	**136**	Pn	**Pn**	**23 12 53.1**	**-0.8**

*IDC **09** 23:33:27.6±5.0, 38°.03N×21°.34E, h0km, mb3.6/4, mbtmp3.7, ML3.3/3, Error ellipse: s-maj=84.9km s-min=28.2km az=31.0*
*ATH **09** 23:33:32.8, 38°.32N×21°.69E, h14km±1km, ML3.1/18, Error ellipse: s-maj=1.5km s-min=0.8km az=29.0*
*THE **09** 23:33:33.1, 38°.33N×21°.70E, h0km±1km, ML3.1/29, Error ellipse: s-maj=1.7km s-min=0.5km az=164.0*
*BEO **09** 23:33:35.8±0.8, 38°.37N×21°.47E, h0km, ML3.3/5*

ISC 09 23:33:32.9±0.8, **38°.32N**±0°.01×**21°.68E**±0°.02, **h10**km±6km, **n113**, σ1§**24**/156, **mb3.7**/4, **4C-2D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.09**	**116**	P	**Pg**	**23 33 35.0**	**-0.4**
EFP	**Efpalio**	**0.20**	**59**	P	**Pg**	**23 33 36.8**	**-0.4**
EFP				S	**Sg**	**23 33 40.3**	**+0.3**
	11μm,0.2s						
EFP	**Efpalio**	**0.20**	**59**	P	**Pg**	**23 33 36.7**	**-0.4**
EFP				S	**Sg**	**23 33 40.3**	**+0.3**
EFP				AML	AML	23 33 40.5	
	comp=E,27384μm,0.2s						
EFP				AML	AML	23 33 40.7	
	comp=N,47538μm,0.3s						
LAKA	**Lakka**	**0.25**	**110**	P	**Pg**	**23 33 37.4**	**-0.6**
LAKA	**Lakka**	**0.25**	**110**	P	**Pg**	**23 33 37.2**	**-0.8**
LAKA				S	**Sg**	**23 33 41.2**	**-0.1**
LAKA				AML	AML	23 33 42.4	
	comp=E,6313μm,0.3s						
LAKA				AML	AML	23 33 42.5	
	comp=N,4146μm,0.3s						
SERG	**Sergoula**	**0.31**	**73**	P	**Pg**	**23 33 39.8**	**+0.7**
SERG				S	**Sg**	**23 33 44.3**	**+1.1**
	comp=N,6μm,0.3s						
SERG	**Sergoula**	**0.31**	**73**	P	**Pg**	**23 33 39.7**	**+0.6**
SERG				S	**Sg**	**23 33 44.4**	**+1.1**
SERG				AML	AML	23 33 44.6	
	comp=N,18208μm,0.4s						
SERG				AML	AML	23 33 47.8	
	comp=E,9321μm,0.2s						
RLS	**Riolos of Patr**	**0.32**	**213**	P	**Pg**	**23 33 39.9**	**+0.7**
RLS				S	**Sb**	**23 33 44.9**	**-1.0**
	comp=E,4μm,0.4s						
RLS	**Riolos of Patr**	**0.32**	**213**	P	**Pg**	**23 33 39.5**	**+0.2**
RLS				S	**Sg**	**23 33 44.0**	**+0.5**
RLS				AML	AML	23 33 47.8	
	comp=E,5578μm,0.3s						
RLS				AML	AML	23 33 51.5	
	comp=N,8840μm,0.6s						
PVO	**Paravola**	**0.32**	**337**	P	**Pg**	**23 33 38.4**	**-0.9**
PVO				S	**Sg**	**23 33 44.4**	**+0.8**
	comp=N,16μm,0.2s						
PVO	**Paravola**	**0.32**	**337**	P	**Pg**	**23 33 38.6**	**-0.7**
PVO				S	**Sg**	**23 33 44.4**	**+0.8**
ANX	**Ano Chora**	**0.33**	**35**	P	**Pg**	**23 33 39.2**	**-0.3**
ANX				S	**Sg**	**23 33 44.5**	**+0.6**
	comp=N,10μm,0.2s						
ANX	**Ano Chora**	**0.33**	**35**	P	**Pg**	**23 33 39.1**	**-0.3**
ANX				S	**Sg**	**23 33 44.7**	**+0.8**
ANX				AML	AML	23 33 44.8	
	comp=N,23725μm,0.2s						
ANX				AML	AML	23 33 45.6	
	comp=E,16437μm,0.2s						
ALIK	**Aliki, Aigiali**	**0.34**	**101**	P	**Pg**	**23 33 39.5**	**-0.2**
ALIK				S	**Sg**	**23 33 43.9**	**-0.4**
DRO	**Drossia**	**0.37**	**177**	P	**Pg**	**23 33 40.5**	**+0.2**
DRO				S	**Sg**	**23 33 45.0**	**-0.2**
	comp=E,9μm,0.5s						
DRO	**Drossia**	**0.37**	**177**	P	**Pg**	**23 33 40.4**	**+0.2**
DRO				AML	AML	23 33 52.5	
	comp=E,22103μm,0.5s						
DRO				AML	AML	23 33 52.6	
	comp=N,14572μm,0.5s						
KLV	**Kalavryta, Ach**	**0.46**	**127**	P	**Pg**	**23 33 41.5**	**-0.5**
KLV				S	**Sg**	**23 33 48.1**	**0.0**
	comp=N,615nm,0.2s						
KLV	**Kalavryta, Ach**	**0.46**	**127**	P	**Pg**	**23 33 41.1**	**-0.9**
KLV				AML	AML	23 33 51.4	
	comp=E,1509μm,0.3s						
KLV				AML	AML	23 33 52.8	
	comp=N,1336μm,0.3s						
EVR	**Evrytania**	**0.60**	**9**	P	**Pg**	**23 33 45.0**	**+0.4**
EVR				S	**Sb**	**23 33 54.0**	**-0.2**
	comp=N,2μm,0.2s						
EVR	**Evrytania**	**0.60**	**9**	P	**Pg**	**23 33 44.7**	**+0.1**
EVR				S	**Sg**	**23 33 52.7**	**+0.2**
EVR				AML	AML	23 33 58.0	
	comp=N,2717μm,0.2s						
EVR				AML	AML	23 33 59.7	
	comp=E,2949μm,0.3s						
DLFA	**Delphi**	**0.66**	**76**	P	**Pg**	**23 33 45.5**	**-0.2**
DLFA				S	**Sg**	**23 33 54.9**	**+0.6**
DLFA				AML	AML	23 33 58.1	
	comp=N,2850μm,0.3s						
DLFA				AML	AML	23 33 58.7	
	comp=E,2066μm,0.2s						
MAKR	**Makrakomi, Fth**	**0.77**	**27**	P	**Pg**	**23 33 47.4**	**-0.4**
MAKR				S	**Sb**	**23 33 59.5**	**+0.4**
	comp=E,5μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.77**	**27**	P	**Pg**	**23 33 47.2**	**-0.7**
MAKR				AML	AML	23 34 00.9	
	comp=E,10238μm,0.2s						
MAKR				AML	AML	23 34 02.4	
	comp=N,9349μm,0.3s						
THAL	**Thalero**	**0.82**	**110**	P	**Pg**	**23 33 47.8**	**-1.0**
THAL				S	**Sb**	**23 34 00.2**	**-0.3**
	comp=N,3μm,0.3s						
THAL	**Thalero**	**0.82**	**110**	P	**Pg**	**23 33 47.7**	**-1.0**
THAL				AML	AML	23 34 07.2	
	comp=E,5200μm,0.3s						
THAL				AML	AML	23 34 08.6	
	comp=N,4330μm,0.4s						
EVGI	**Lefkada island**	**0.86**	**291**	P	**Pg**	**23 33 49.0**	**-0.5**
EVGI				S	**Sb**	**23 34 01.1**	**-0.5**
	comp=N,1μm,0.4s						
EVGI	**Lefkada island**	**0.86**	**291**	P	**Pg**	**23 33 49.2**	**-0.3**
AGGG	**Agios Georgios**	**0.86**	**36**	P	**Pg**	**23 33 48.3**	**-1.2**
AGG				S	**Sg**	**23 34 00.6**	**-0.2**
	comp=N,1μm,0.3s						
AGG	**Agios Georgios**	**0.86**	**36**	P	**Pg**	**23 33 48.0**	**-1.5**
NYDR	**Nydri-Lefkada**	**0.86**	**297**	P	**Pg**	**23 33 49.2**	**-0.4**
NYDR				S	**Sn**	**23 34 03.2**	**-0.7**
	comp=N,815nm,0.4s						
VLS	**Valsamata**	**0.87**	**261**	P	**Pg**	**23 33 49.7**	**-0.1**
VLS				S	**Sn**	**23 34 03.8**	**-0.3**
	comp=N,2μm,0.2s						
VLS	**Valsamata**	**0.87**	**261**	P	**Pg**	**23 33 49.6**	**-0.2**
VLS				AML	AML	23 34 05.2	
	comp=N,4094μm,0.2s						
VLS				AML	AML	23 34 05.3	
	comp=E,5762μm,0.2s						
AXAR	**Agios Charalam**	**0.88**	**60**	P	**Pb**	**23 33 50.3**	**-0.1**
AXAR	**Agios Charalam**	**0.88**	**60**	P	**Pg**	**23 33 48.6**	**-1.3**
AXAR				AML	AML	23 34 03.5	
	comp=N,8181μm,0.3s						
AXAR				AML	AML	23 34 04.2	
	comp=E,5718μm,0.3s						
FSK	**Fiskardo**	**0.89**	**279**	P	**Pg**	**23 33 49.6**	**-0.5**
FSK				S	**Sn**	**23 34 03.9**	**-0.6**
	comp=E,1μm,0.4s						
FSK	**Fiskardo**	**0.89**	**279**	P	**Pg**	**23 33 49.6**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.89**	**257**	P	**Pg**	**23 33 49.8**	**-0.3**
PSDA				S	**Sn**	**23 34 04.2**	**-0.3**
	comp=E,6μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.89**	**257**	P	**Pg**	**23 33 49.8**	**-0.3**
LTHK	**Lithakia**	**0.91**	**228**	P	**Pg**	**23 33 50.6**	**+0.2**
LTHK				S	**Sn**	**23 34 04.9**	**0.0**
	comp=E,2μm,0.5s						
LTHK	**Lithakia**	**0.91**	**228**	P	**Pg**	**23 33 50.5**	**+0.2**
LKD2	**Lefkada island**	**0.93**	**300**	P	**Pg**	**23 33 49.4**	**-1.4**
LKD2				S	**Sb**	**23 34 03.3**	**-0.3**
	comp=E,1μm,0.4s						
LKD2	**Lefkada island**	**0.93**	**300**	P	**Pg**	**23 33 49.4**	**-1.4**
DRAG	**Dragano-Lefkad**	**0.94**	**293**	P	**Pg**	**23 33 51.1**	**+0.1**
DRAG				S	**Sn**	**23 34 05.1**	**-0.7**
	comp=E,1μm,0.4s						
TSLK	**Tsoukalades, L**	**0.95**	**302**	P	**Pg**	**23 33 51.1**	**-0.1**
TSLK				S	**Sb**	**23 34 04.4**	**+0.3**
	comp=E,1μm,0.4s						
TSLK	**Tsoukalades, L**	**0.95**	**302**	P	**Pg**	**23 33 50.6**	**-0.6**
KEF4	**Livadi, Kephal**	**0.99**	**267**	P	**Pg**	**23 33 51.3**	**-0.8**
KEF3	**Kipouria, Keph**	**1.06**	**264**	P	**Pg**	**23 33 51.4**	**-1.9**
LOUT	**Loutraki**	**1.07**	**108**	P	**Pg**	**23 33 52.4**	**-1.1**
LOUT				S	**Sn**	**23 34 10.1**	**+1.1**
	comp=E,562nm,0.5s						
LOUT	**Loutraki**	**1.07**	**108**	P	**Pg**	**23 33 51.9**	**-1.6**
ITM	**Ithomi**	**1.16**	**170**	P	**Pb**	**23 33 54.8**	**-0.3**
ITM				S	**Sn**	**23 34 12.1**	**+0

PRVS	**Prvonek**	**4.19**	**4**	*e*Pn		**Pn**	**23 34 41.0**	**+4.0**
VTS	**Vitosha**	**4.45**	**15**	⇓P		**Pn**	**23 34 40.4**	**-0.3**
VTS	**Vitosha**	**4.45**	**15**	*e*Pn		**Pn**	**23 34 42.8**	**+2.2**
VTS	**Vitosha**	**4.45**	**15**	*e*Pn		**Pn**	**23 34 43.2**	**+2.6**
VTS				*e*Sn		**Sn**	**23 35 34.0**	**+1.4**
VTS				*e*Sn		**Sn**	**23 35 34.3**	**+1.7**
PDG	**Podgorica**	**4.50**	**336**	*e*Pn		**Pn**	**23 34 44.0**	**+2.8**
PDG				*e*Sn		**Sn**	**23 35 33.5**	**-0.1**
SELS	**Selova**	**4.91**	**355**	*e*Pn		**Pn**	**23 34 49.6**	**+2.8**
TREB	**Trebinje**	**5.07**	**331**	*e*Pn		**Pn**	**23 34 49.6**	**+0.6**
TREB				*e*Sn		**Sn**	**23 35 48.1**	**+0.5**
SJES	**Sjenica**	**5.10**	**346**	*e*Pn		**Pn**	**23 34 52.5**	**+3.0**
BOVS	**Bovan**	**5.31**	**0**	⇑P		**Pn**	**23 34 54.6**	**+2.4**
BOVS	**Bovan**	**5.31**	**0**	*e*Pn		**Pn**	**23 34 55.0**	**+2.8**
IVAS	**Ivanjica**	**5.37**	**348**	*e*Pn		**Pn**	**23 34 54.8**	**+1.6**
IVAS				*e*Sn		**Sn**	**23 35 56.5**	**+1.3**
STON	**Ston**	**5.46**	**328**	*e*Pn		**Pn**	**23 34 55.4**	**+1.1**
STON				*e*Sn		**Sn**	**23 35 55.4**	**-1.8**
ZAGS	**Zajecar**	**5.50**	**4**	*e*Pn		**Pn**	**23 34 58.0**	**+3.1**
GRUS	**Gruza**	**5.61**	**353**	*e*Pn		**Pn**	**23 34 58.3**	**+1.9**
DIVS	**Divibare**	**5.91**	**348**	*e*Pn		**Pn**	**23 35 02.1**	**+1.5**
DIVS				*e*Sn		**Sn**	**23 36 09.2**	**+0.8**
TRUS	**Trudelj**	**5.97**	**351**	*e*Pn		**Pn**	**23 35 05.6**	**+4.2**
FRGS	**Fruska Gora**	**6.97**	**349**	⇑P		Pn	23 35 02.6	-12
MLR	**Muntele Rosu**	**7.83**	**23**	⇑P		Pn	23 35 32.5	+5.4
PLOR	**Plostina**	**8.38**	**25**	⇓P		Pn	23 35 40.0	+5.6
BRTR	**Keskin Array B**	**9.41**	**78**	Pn		**Pn**	**23 35 51.2**	**+2.5**
	comp=N,0.1nm,0.3s,baz=258,slow=13,SNR=2.3 comp=N,0.3nm,0.4s							
GERES	**GERESS Array B**	**11.99**	**334**	Pn		**Pn**	**23 36 22.7**	**-1.3**
	comp=N,0.1nm,0.3s,baz=124,slow=16,SNR=1.8 comp=N,0.2nm,0.6s							
AKASG	**Malin Array Be**	**13.48**	**21**	Pn		**Pn**	**23 36 45.6**	**+1.5**
	comp=N,0.1nm,0.3s,baz=210,slow=13,SNR=1.6							
FINES	**FINESS Array B**	**23.31**	**5**	P		**P**	**23 38 39.5**	**-1.3**
	comp=N,2.0nm,0.9s,baz=187,slow=9.7,SNR=4.4 comp=N,2.0nm,0.9s							
NOA	**NORSAR Array B**	**23.67**	**347**	P		**P**	**23 38 44.4**	**0.0**
	comp=N,0.5nm,0.7s,baz=160,slow=9.1,SNR=1.8 comp=N,0.5nm,0.7s							
MKAR	**Makanchi Array**	**44.44**	**59**	P		**P**	**23 41 44.1**	**+0.1**
	comp=N,0.5nm,0.4s,baz=277,slow=7.9,SNR=13 comp=N,0.5nm,0.4s							
ZALV	**Zalesovo Beam**	**44.91**	**48**	P		**P**	**23 41 45.4**	**-2.2**
	comp=N,0.5nm,0.4s,baz=278,slow=10.0,SNR=3.0 comp=N,0.5nm,0.4s							

***IDC* 09 23:42:11.2±3.2, 10°.49S×161°.23E, *h*0km, mb3.5/5, mbtmp3.5/5, MS3.3/2, Error ellipse: s-maj=111.1km s-min=33.7km az=130.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.65**	**310**	LR	LR	23 42 55.3	
	comp=Z,410nm,20.9s,baz=163,slow=27						
PMG	**Port Moresby**	**13.91**	**273**	LR	LR	23 50 15.0	
	comp=Z,71nm,18.9s,baz=36,slow=35						
WRA	**Warramunga Arr**	**27.56**	**247**	P	P	23 47 59.0	-1.3
	0.4nm,0.6s,baz=74,slow=9.4,SNR=1.4 0.4nm,0.6s						
ASAR	**Alice Springs**	**29.15**	**240**	P	P	23 48 15.4	+1.0
	0.2nm,0.5s,baz=61,slow=10,SNR=1.8 0.2nm,0.5s						
RAR	**Rarotonga**	**38.89**	**111**	LR	LR	00 04 36.2	
	comp=Z,51nm,18.2s,baz=282,slow=35						
SONM	**Songino Array**	**75.65**	**325**	P	P	23 53 59.8	+1.4
	0.5nm,0.6s,baz=141,slow=7.1,SNR=4.4 0.5nm,0.6s						
ILAR	**Eielson Array**	**84.45**	**20**	P	P	23 54 44.9	-0.6
	0.2nm,0.6s,baz=242,slow=5.0,SNR=2.5 0.2nm,0.6s						
MKAR	**Makanchi Array**	**90.11**	**318**	P	P	23 55 12.2	-1.1
	0.3nm,0.8s,baz=107,slow=5.7,SNR=2.1 0.3nm,0.8s						

*ISK **10** 00:00:03.5, 34°.30N×26°.26E, h13km, ML3.6/24*
*HLW **10** 00:00:04.8, 34°.63N×26°.18E, h31km±20km, Md4.3, Ml4.1*
*ATH **10** 00:00:05.9, 34°.36N×26°.16E, h9km±3km, ML3.3/4, Error ellipse: s-maj=5.1km s-min=1.8km az=334.0*
*DDA **10** 00:00:06.4±0.0, 34°.77N×26°.28E, h6km±4km, ML2.9*
*THE **10** 00:00:07.1, 34°.42N×26°.21E, h12km±1km, ML3.0/3, Error ellipse: s-maj=1.8km s-min=1.0km az=354.0*
*IDC **10** 00:00:10.6±6.7, 34°.81N×26°.11E, h52km±51km, mb3.3/6, mbtmp3.4/10, ML3.3/4, Error ellipse: s-maj=59.9km s-min=21.9km az=179.0*
*GII **10** 00:00:11.8±0.0, 33°.97N×27°.00E, h1km, MD3.2/2, Mm3.5/3*
ISC 10 00:00:06.8±1.1, 34°.36N±0°.03×26°.26E±0°.04, h35km±4km, n89, σ1°71/126, mb3.5/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.75**	**357**	P	**Pn**	**00 00 20.1**	**-0.9**
ZKR				S	**Sn**	**00 00 31.4**	**+0.3**
	2μm,0.6s						
ZKR	**Zakros**	**0.75**	**357**	Pg	**Pn**	**00 00 20.0**	**-0.9**
ZKR				Sg	**Sn**	**00 00 31.4**	**+0.3**
ZKR	**Zakros**	**0.75**	**357**	P	**Pn**	**00 00 19.9**	**-1.0**
ZKR				S	**Sn**	**00 00 31.2**	**+0.1**
ZKR				AML	AML	00 00 35.6	
	comp=E,4714μm,0.5s						
ZKR				AML	AML	00 00 38.3	
	comp=N,2424μm,0.6s						
FRMA	**Ierapetra Chan**	**0.78**	**326**	P	**Pn**	**00 00 19.8**	**-1.6**
FRMA				S	**Sn**	**00 00 29.9**	**-2.0**
FRMA	**Ierapetra Chan**	**0.78**	**326**	P	**Pn**	**00 00 19.6**	**-1.8**
FRMA				S	**Sn**	**00 00 29.4**	**-2.5**
FRMA				AML	AML	00 00 31.9	
	comp=E,7464μm,0.7s						
FRMA				AML	AML	00 00 32.7	
	comp=N,6078μm,0.6s						
STIA	**Sitia Lasithi**	**0.85**	**350**	P	**Pn**	**00 00 21.7**	**-0.6**
STIA				S	**Sn**	**00 00 33.4**	**-0.1**
STIA	**Sitia Lasithi**	**0.85**	**350**	P	**Pn**	**00 00 21.4**	**-0.9**
STIA				S	**Sn**	**00 00 33.0**	**-0.5**
STIA				AML	AML	00 00 37.5	
	comp=E,6162μm,0.9s						
STIA				AML	AML	00 00 41.3	
	comp=N,5188μm,0.7s						
HRKL	**Herakleio**	**1.34**	**315**	P	**Pn**	**00 00 29.0**	**-0.1**
HRKL				S	**Sn**	**00 00 46.1**	**+0.4**
HRKL	**Herakleio**	**1.34**	**315**	Pn	**Pn**	**00 00 29.3**	**+0.2**
HRKL	**Herakleio**	**1.34**	**315**	P	**Pn**	**00 00 29.0**	**-0.1**
KSTL	**Kastelli Herak**	**1.36**	**314**	P	Pn	00 00 25.7	-3.5
KSTL				AML	AML	00 00 42.9	
	comp=N,2393μm,1.0s						
KSTL				AML	AML	00 00 45.3	
	comp=E,1204μm,1.3s						
KARP	**Karpathos**	**1.39**	**32**	P	**Pn**	**00 00 31.0**	**+1.2**
KARP				S	**Sn**	**00 00 48.4**	**+1.5**
	comp=E,635nm,0.4s						
KARP	**Karpathos**	**1.39**	**32**	Pn	**Pn**	**00 00 30.9**	**+1.2**
KARP				Sn	**Sn**	**00 00 49.7**	**+2.8**
KARP	**Karpathos**	**1.39**	**32**	P	**Pn**	**00 00 31.8**	**+2.1**
KARP				S	**Sn**	**00 00 49.7**	**+2.8**
TMBK	**Timbaki Herakl**	**1.42**	**300**	P	**Pn**	**00 00 30.4**	**+0.3**
TMBK				S	**Sn**	**00 00 48.4**	**+0.8**
	comp=E,348nm,0.7s						
TMBK	**Timbaki Herakl**	**1.42**	**300**	P	**Pn**	**00 00 30.4**	**+0.3**
GVDS	**Gavdos**	**1.86**	**286**	Pn	**Pn**	**00 00 36.4**	**+0.3**
GVD	**Gavdhos**	**1.86**	**285**	P	**Pn**	**00 00 36.5**	**+0.3**
GVD	**Gavdhos**	**1.86**	**285**	Pn	**Pn**	**00 00 36.2**	**+0.1**
GVD	**Gavdhos**	**1.86**	**285**	P	**Pn**	**00 00 36.4**	**+0.3**
IMMV	**Iera Moni Meta**	**2.17**	**301**	Pn	**Pn**	**00 00 40.8**	**+0.3**
IMMV	**Iera Moni Meta**	**2.17**	**301**	P	**Pn**	**00 00 40.1**	**-0.3**
THT2	**Imerovigli**	**2.18**	**342**	Pn	**Pn**	**00 00 41.3**	**+0.7**
KNDR	**Palaiochora Ch**	**2.29**	**293**	Pn	**Pn**	**00 00 42.9**	**+0.8**
NIS1	**Nisyros Isl.**	**2.35**	**18**	Pn	**Pn**	**00 00 43.8**	**+0.8**
ARG	**Arkhangelos**	**2.40**	**39**	Pn	**Pn**	**00 00 44.3**	**+0.8**
ARG	**Arkhangelos**	**2.40**	**39**	P	**Pn**	**00 00 45.6**	**+2.1**
DAT	**Datca**	**2.59**	**24**	Pn	**Pn**	**00 00 46.7**	**+0.4**
APE	**Apeiranthos**	**2.77**	**348**	Pn	**Pn**	**00 00 49.6**	**+0.9**
BODT	**Bodrum**	**2.82**	**17**	Pn	**Pn**	**00 00 50.5**	**+1.1**
MATC	**Matruh**	**3.12**	**165**	P	**Pn**	**00 00 55.8**	**+2.3**
	baz=164						
MATC				S	**Sn**	**00 01 32.4**	**+3.0**
	baz=164						
DALY	**Dalyan (Mula)**	**3.13**	**38**	Pn	**Pn**	**00 00 54.9**	**+1.3**
MLSB	**Milas**	**3.17**	**22**	Pn	**Pn**	**00 00 55.1**	**+0.8**
YER	**Yerkesik**	**3.22**	**30**	Pn	**Pn**	**00 00 56.1**	**+1.2**
FETY	**Fethiye**	**3.23**	**45**	Pn	**Pn**	**00 00 55.7**	**+0.7**
KTHA	**Kythira Island**	**3.23**	**307**	Pn	**Pn**	**00 00 55.8**	**+0.8**
AKAS	**Kas**	**3.31**	**55**	Pn	**Pn**	**00 00 57.0**	**+0.8**
AKAS	**Kas**	**3.31**	**55**	P	**Pn**	**00 00 57.9**	**+1.7**
AKAS				S	**Sn**	**00 01 34.9**	**+0.6**
AKAS				*i* AML	AML	00 01 39.0	
	comp=E,88nm,0.3s						
AKAS				*i* AML	AML	00 01 40.0	
	comp=E,105nm,0.3s						
MULA	**Mugla, Merkez-**	**3.33**	**29**	P	**Pn**	**00 00 57.8**	**+1.3**
MULA				*i* AML	AML	00 01 38.0	
	comp=E,31nm,0.7s						
GCAM	**G?zelcaml?**	**3.42**	**13**	Pn	**Pn**	**00 00 59.3**	**+1.7**
CAME	**Cameli-Denizli**	**3.57**	**43**	Pn	**Pn**	**00 01 01.0**	**+1.2**
CAEL	**Denizli, Camel**	**3.71**	**41**	P	**Pn**	**00 01 04.1**	**+2.3**
CAEL				S	**Sn**	**00 01 45.5**	**+1.3**
CAEL				*i* AML	AML	00 01 47.0	
	comp=E,89nm,0.5s						
CAEL				*i* AML	AML	00 01 58.0	
	comp=E,96nm,0.6s						
TAVA	**DENIZLI_Tavas**	**3.77**	**34**	P	**Pn**	**00 01 03.8**	**+1.2**
TAVA				S	**Sn**	**00 01 45.4**	**-0.3**
TAVA				*i* AML	AML	00 01 49.0	
	comp=E,30nm,0.3s						
TAVA				*i* AML	AML	00 01 51.0	
	comp=E,22nm,0.4s						
ELL	**Elmali**	**3.81**	**50**	Pn	**Pn**	**00 01 04.4**	**+1.3**
AKUM	**Antalya-Kumluc**	**3.87**	**58**	P	**Pn**	**00 01 05.4**	**+1.7**
AKUM				S	**Sn**	**00 01 48.4**	**+0.6**
AKUM				*i* AML	AML	00 01 51.0	
	comp=E,34nm,0.6s						
AKUM				*i* AML	AML	00 01 51.0	
	comp=E,43nm,0.3s						
GOLH	**Golhisar**	**3.92**	**42**	P	**Pn**	**00 01 06.2**	**+1.6**
GOLH				*i* AML	AML	00 01 51.0	
	comp=E,50nm,0.5s						
GOLH				S	**Sn**	**00 01 51.1**	**+1.6**
GOLH				*i* AML	AML	00 01 52.0	
	comp=E,40nm,0.5s						
APMY	**Acipayam-Deniz**	**3.96**	**38**	Pn	**Pn**	**00 01 06.7**	**+1.5**
KORT	**Korkueli**	**4.24**	**50**	Pn	**Pn**	**00 01 10.5**	**+1.5**
KORT	**Korkueli**	**4.24**	**50**	P	**Pn**	**00 01 11.2**	**+2.2**
KORT				S	**Sn**	**00 02 01.1**	**+3.7**
KORT				*i* AML	AML	00 02 02.0	
	comp=E,52nm,0.5s						
KORT				*i* AML	AML	00 02 04.0	
	comp=E,44nm,0.6s						
ITM	**Ithomi**	**4.51**	**310**	Pn	**Pn**	**00 01 14.2**	**+1.6**
BRDR	**BURDUR-Merkez**	**4.53**	**42**	P	**Pn**	**00 01 14.3**	**+1.3**
BRDR				S	**Sn**	**00 02 04.9**	**+0.5**
BRDR				*i* AML	AML	00 02 07.0	
	comp=E,13nm,0.7s						
BRDR				*i* AML	AML	00 02 08.0	
	comp=E,12nm,0.5s						
KULA	**Kula-Manisa**	**4.57**	**24**	Pn	**Pn**	**00 01 15.3**	**+1.8**
PASA	**Karahalli, USA**	**4.75**	**32**	P	**Pn**	**00 01 16.4**	**+0.3**
PASA				S	**Sn**	**00 02 07.8**	**-2.1**
PASA				*i* AML	AML	00 02 08.0	
	comp=E,6.7nm,0.3s						
PASA				*i* AML	AML	00 02 09.0	
	comp=E,8.1nm,0.3s						
SWA2		**5.15**	**188**	P	**Pn**	**00 01 23.1**	**+1.7**
	baz=187						
SWA2				S	**Sn**	**00 02 19.6**	**0.0**
	baz=187						
HMYD	**Mayadein**	**5.96**	**139**	P	**Pn**	**00 01 34.8**	**+2.2**
	baz=139						
HNAT	**Natroun**	**5.99**	**141**	P	**Pn**	**00 01 35.4**	**+2.3**
	baz=141						
RYAN	**Fayoum**	**6.28**	**146**	P	**Pn**	**00 01 39.0**	**+2.1**
	baz=146						
KOT	**Kottamia**	**6.47**	**132**	P	**Pn**	**00 01 41.0**	**+1.4**
	baz=132						
HSAF	**As Saff**	**6.52**	**135**	P	**Pn**	**00 01 42.6**	**+2.3**
	baz=136						
GLL	**Jalalah**	**6.64**	**134**	P	**Pn**	**00 01 43.6**	**+1.6**
	baz=135						
NBNS	**Bani Suef**	**7.16**	**142**	P	**Pn**	**00 01 51.0**	**+2.0**
	baz=142						
NBNS				S	**Sn**	**00 03 08.4**	**-0.6**
	baz=142						
HFRF	**Wahat Farafira**	**7.40**	**166**	P	**Pn**	**00 01 54.1**	**+1.8**
	baz=165						
OFRI	**`Ofer**	**7.49**	**101**	Pn	**Pn**	**00 01 55.0**	**+1.4**
SLTI	**Sal'it**	**7.65**	**104**	Pn	**Pn**	**00 01 56.8**	**+1.1**
SLTI				Sn	**Sn**	**00 03 18.4**	**-2.7**
KZIT	**Kziot**	**7.68**	**114**	Pn	**Pn**	**00 01 56.1**	**0.0**
KZIT				Sn	**Sn**	**00 03 18.6**	**-3.2**
TAMRE	**El Minia**	**7.76**	**148**	P	**Pn**	**00 01 59.7**	**+2.3**
	baz=148						
AMAZ	**Amatzia**	**7.80**	**109**	Pn	**Pn**	**00 01 58.7**	**+0.9**
AMAZ				Sn	**Sn**	**00 03 22.8**	**-2.1**
MMLI	**Mount Malkishu**	**7.89**	**102**	Pn	**Pn**	**00 02 00.0**	**+0.9**
MMLI				Sn	**Sn**	**00 03 24.5**	**-2.7**
BRTR	**Keskin Array B**	**7.96**	**46**	P	**Pn**	**00 02 01.4**	**+1.3**
	comp=E,0.1nm,0.3s,baz=210,slow=15,SNR=1.3						
BRTR				S	**Sn**	**00 03 27.2**	**-1.7**
	comp=E,0.6nm,0.5s,baz=221,slow=25,SNR=5.2 comp=E,0.2nm,0.4s						
HMDT	**Nahal Hemdat**	**8.03**	**103**	Pn	**Pn**	**00 02 02.0**	**+1.0**
HMDT				Sn	**Sn**	**00 03 28.6**	**-2.0**
RMNI	**Mount Ramon**	**8.10**	**115**	Pn	**Pn**	**00 02 02.8**	**+0.8**
DSI	**Dead Sea**	**8.15**	**107**	Pn	**Pn**	**00 02 03.4**	**+0.8**
DSI				Sn	**Sn**	**00 03 30.9**	**-2.6**
MSBI	**Mazada**	**8.23**	**109**	Pn	**Pn**	**00 02 04.2**	**+0.5**
MSBI				Sn	**Sn**	**00 03 32.7**	**-2.8**
KRMI	**Paran Flat**	**8.32**	**118**	Pn	**Pn**	**00 02 05.9**	**+0.9**
KRMI				Sn	**Sn**	**00 03 34.0**	**-3.8**
GHAJ	**Ghor Haditha**	**8.40**	**109**	Pn	**Pn**	**00 02 07.0**	**+1.0**
GHAJ				Sn	**Sn**	**00 03 36.4**	**-3.2**
PRNI	**Paran**	**8.40**	**116**	Pn	**Pn**	**00 02 07.1**	**+1.0**
PRNI				Sn	**Sn**	**00 03 35.8**	**-4.0**
ZFRI	**Zfri**	**8.44**	**114**	Pn	**Pn**	**00 02 06.8**	**+0.3**
ZFRI				Sn	**Sn**	**00 03 36.4**	**-4.0**
HRFI	**Mount Harif**	**8.59**	**118**	Pn	**Pn**	**00 02 08.4**	**+0.7**
HRFI				Sn	**Sn**	**00 03 41.6**	**-2.8**
MBRI	**Mt Berech**	**8.64**	**119**	Pn	**Pn**	**00 02 10.3**	**+0.9**
MBRI				Sn	**Sn**	**00 03 43.0**	**-2.6**
EIL	**Elat**	**8.73**	**120**	Pn	**Pn**	**00 02 11.3**	**+0.7**
EIL				Sn	**Sn**	**00 03 44.6**	**-3.2**
KBZ	**Khabaz**	**15.93**	**49**	P	**Pn**	**00 03 47.0**	**-1.2**
	baz=235,slow=6.9,SNR=2.4 comp=E,1.0nm,0.9s						
AKASG	**Malin Array Be**	**16.47**	**7**	P	**Pn**	**00 03 52.0**	**-3.0**
	comp=E,0.4nm,0.3s,baz=193,slow=11,SNR=5.0 comp=E,0.3nm,0.4s						
GERES	**GERESS Array B**	**17.22**	**331**	P	**Pn**	**00 04 03.1**	**-1.4**
	comp=E,0.1nm,0.3s,baz=146,slow=12,SNR=1.6 comp=E,0.1nm,0.3s						
ESDC	**Sonseca Array**	**24.64**	**291**	P	**P**	**00 05 23.0**	**-1.1**
	comp=E,0.2nm,0.5s,baz=87,slow=9.1,SNR=4.7 comp=E,0.2nm,0.5s						
GEYT	**Alibeck**	**25.90**	**73**	P	**P**	**00 05 39.3**	**+3.8**
	comp=E,0.7nm,0.4s,baz=306,slow=5.0,SNR=1.2 comp=E,0.7nm,0.4s						
FINES	**FINESS Array B**	**27.10**	**360**	P	**P**	**00 05 45.7**	**-0.2**
	comp=E,3.6nm,1.0s,baz=171,slow=9.6,SNR=1.5 comp=E,3.6nm,1.0s						
MKAR	**Makanchi Array**	**43.46**	**56**	P	**P**	**00 08 07.2**	**+0.8**
	comp=E,0.5nm,0.7s,baz=264,slow=7.6,SNR=5.5 comp=E,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**44.90**	**46**	P	**P**	**00 08 16.1**	**-1.7**
	comp=E,0.7nm,0.4s,baz=254,slow=10,SNR=5.1 comp=E,0.7nm,0.4s						
SONM	**Songino Array**	**59.29**	**51**	P	**P**	**00 10 06.1**	**+1.1**
	comp=E,0.1nm,0.4s,baz=278,slow=7.1,SNR=1.7 comp=E,0.1nm,0.4s						

*NNC **10** 00:13:42.2±17.0, 36°.98N×69°.78E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=144.4km s-min=130.7km az=36.0*
*IDC **10** 00:13:47.1±8.5, 36°.83N×70°.37E, h211km±53km, mb3.6/2, mbtmp3.7/8, MS3.5/1, Error ellipse: s-maj=85.0km s-min=39.1km az=173.0*
ISC 10 00:13:46.7±2.5, 36°.9N±0°.2×70°.3E±0°.2, h200km, n17, σ0°71/19, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.90**	**26**	P	**Pn**	**00 15 12.9**	**0.0**
	SNR=23						
KK31	**Karatay Array**	**6.25**	**2**	⇑Pn	**Pn**	**00 15 17.1**	**0.0**
	0.9nm,0.2s,baz=196,slow=15,SNR=32						
KK31				⇑Sn	**Sn**	**00 16 28.4**	**-0.3**
	5.6nm,0.7s,baz=190,slow=25,SNR=6.0						
UCH	**Uchtor**	**6.29**	**30**	P	**Pn**	**00 15 18.1**	**0.0**
	SNR=15						
EKS2	**Erkin-Say**	**6.40**	**24**	P	**Pn**	**00 15 20.2**	**+1.1**
	SNR=9.3						
AAK	**Ala-Archa**	**6.63**	**28**	P	**Pn**	**00 15 23.5**	**+1.3**
	SNR=5.3						
AAK	**Ala-Archa**	**6.63**	**28**	P	**Pn**	**00 15 22.1**	**-0.1**
	3.0nm,0.5s,baz=211,slow=5.7,SNR=19						
AAK				S	**Sn**	**00 16 38.4**	**+0.4**
	4.6nm,0.4s,baz=10,slow=21,SNR=14						
CHMS	**Chumysh**	**7.04**	**28**	⇓Pn	**Pn**	**00 15 27.0**	**-0.3**
	2.1nm,0.5s						
CHMS				⇓Sn	**Sn**	**00 16 46.6**	**-0.7**
	7.5nm,0.7s						
USP	**Ospenovka**	**7.18**	**26**	P	**Pn**	**00 15 29.2**	**0.0**
	SNR=8.3						
TKM2	**Tokmak 2**	**7.32**	**32**	⇑Pn	**Pn**	**00 15 30.6**	**-0.6**
	4.2nm,0.5s						
MKAR	**Makanchi Array**	**13.37**	**38**	P	**Pn**	**00 16 49.8**	**+1.2**
	0.3nm,0.7s,baz=215,slow=7.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**14.99**	**21**	P	**Pn**	**00 17 09.1**	**+0.5**
	0.1nm,0.3s,baz=208,slow=10,SNR=4.1						
BVAR	**Borovoye Array**	**16.17**	**0**	P	**P**	**00 17 23.0**	**+0.7**
	0.4nm,0.4s,baz=178,slow=10,SNR=8.3						
AKTO	**Aktyubinsk**	**16.18**	**331**	P	**P**	**00 17 23.3**	**+0.9**
	1.1nm,0.3s,baz=144,slow=8.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**19.85**	**26**	P	**P**	**00 18 01.3**	**-0.9**
	1.1nm,0.3s,baz=217,slow=10,SNR=11						
FINES	**FINESS Array B**	**36.86**	**326**	P	**P**	**00 20 34.8**	**-0.7**
	3.6nm,0.9s,baz=105,slow=11,SNR=4.4 3.6nm,0.9s						
ARCES	**ARCESS Array B**	**40.59**	**338**	P	**P**	**00 21 06.3**	**0.0**
	2.4nm,0.8s,baz=115,slow=8.1,SNR=5.0 2.4nm,0.8s						
MBAR	**Mbarara**	**52.23**	**234**	LR	LR	00 47 19.1	
	comp=Z,46nm,18.7s,baz=334,slow=38						

*IDC **10** 00:19:46.8±3.0, 23°.13N×93°.91E, h74km±32km, mb3.3/3, mbtmp3.5/5, Error ellipse: s-maj=35.0km s-min=17.8km az=31.0*
ISC 10 00:19:44.9±1.1, 23°.3N±0°.2×93°.98E±0°.08, h50km, n5, σ1°12/6, mb3.6/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.24**	**254**	P	**Pn**	**00 20 19.7**	**+0.1**
	50nm,0.3s,baz=268,slow=16,SNR=1.5						
BRDH				S	**Sn**	**00 20 46.7**	**+0.6**
	68nm,0.3s,baz=91,slow=23,SNR=6.1						
CMAR	**Chiang Mai Arr**	**6.69**	**135**	P	**Pn**	**00 21 21.5**	**+0.8**
	0.6nm,0.3s,baz=307,slow=14,SNR=5.2						
MKAR	**Makanchi Array**	**25.26**	**341**	P	**P**	**00 25 07.3**	**+1.0**
	0.6nm,0.7s,baz=156,slow=9.7,SNR=9.0 0.6nm,0.7s						
ASAR	**Alice Springs**	**60.69**	**138**	P	**P**	**00 29 50.1**	**-1.3**
	0.5nm,0.5s,baz=318,slow=6.8,SNR=9.9 0.5nm,0.5s						
GERES	**GERESS Array B**	**66.56**	**315**	P	**P**	**00 30 29.5**	**-0.4**
	0.3nm,0.5s,baz=101,slow=9.3,SNR=2.6 0.3nm,0.5s						

*NEIC **10** 00:54:55.9±1.7, 55°.2N±0°.1×160°.42W±0°.09, h71km±7km, ML3.7/14, ML3.1(AEIC), Error ellipse: s-maj=20.9km s-min=4.4km az=161.0*
*AEIC **10** 00:54:56.4±2.5, 55°.4N±0°.1×160°.6W±0°.1, h66km±5km, Error ellipse: s-maj=18.9km s-min=10.2km az=159.0*
ISC 10 00:54:54.9±1.9, 55°.2N±0°.1×160°.50W±0°.08, h77km±12km, n63, σ0°99/66, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.14**	**5**		**Pn**	**00 55 06.5**	**+0.4**
SDPT				Sn	**Sn**	**00 55 14.2**	**0.0**
SDPT				IAML		00 55 14.6	
	comp=N,5μm,0.4s						
SDPT	**Sand Point**	**0.14**	**5**	P	**Pn**	**00 55 06.5**	**+0.4**
	baz=274						
SDPT				S	**Sn**	**00 55 14.3**	**0.0**
	baz=274						
S12K	**Black Hills**	**1.02**	**300**	P	**Pn**	**00 55 14.0**	**-0.1**
	baz=111						
S12K				S	**Sn**	**00 55 27.5**	**-0.8**
	baz=111						
VNFG	**Fog Glacier, M**	**1.20**	**26**	P	**Pn**	**00 55 16.5**	**+0.1**
	baz=211						
CHIR	**Chirikof Islan**	**2.84**	**76**		**Pn**	**00 55 38.2**	**+0.2**
CHIR				IAML		00 56 32.0	
	comp=E,146nm,2.1s						
CHIR				IAML		00 57 16.2	
	comp=N,147nm,3.6s						
CHIR	**Chirikof Islan**	**2.84**	**76**	P	**Pn**	**00 55 38.2**	**+0.2**
	baz=262						
R16K	**Pilot Point**	**2.87**	**33**	P	**Pn**	**00 55 38.3**	**-0.1**
	baz=218						
AKUT	**Akutan**	**3.25**	**253**	Pn	**Pn**	**00 55 44.9**	**+1.4**
AKUT				IAML		00 57 13.1	
	comp=N,90nm,5.0s						
UNV	**Unalaska Valle**	**3.76**	**251**	

IL31		**11.73**	**30**	Pn		**Pn**	**00 57 36.6**	**-2.4**

*WEL **10** 00:59:16.9±0.5, 42°S±3°×17°4E±°, h5km, M2.9/11, ML3.1/11, MLv2.9/11, Error ellipse: s-maj=0.0km s-min=0.0km az=164.6, confirmed*
*NOU **10** 00:59:21.0, 41.99S×174.03E, h55km, MLv3.5/6, Cook Strait, New Zealand*
ISC 10 00:59:17.0±0.9, 41.73S±0.03×174.32E±0.02, h8km±6km, n32, σ1§02/43, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**256**	P	**Pg**	**00 59 17.9**	**-1.2**
BSWZ	**Blackbirch Sta**	**0.33**	**272**	P	**Pg**	**00 59 23.4**	**-0.1**
TUWZ	**Tuamarina**	**0.41**	**317**	P	**Pg**	**00 59 25.1**	**+0.1**
TUWZ				S	**Sg**	**00 59 31.8**	**+1.5**
TCW	**Tory Channel**	**0.52**	**357**	P	**Pg**	**00 59 26.7**	**-0.3**
TCW				S	**Sb**	**00 59 36.3**	**+0.3**
PLWZ	**Palliser**	**0.72**	**77**	P	**Pg**	**00 59 31.4**	**+0.5**
PLWZ				S	**Sn**	**00 59 43.6**	**-1.2**
CAW	**Cannon Point**	**0.84**	**42**	P	**Pb**	**00 59 32.6**	**-1.2**
CAW				S	**Sn**	**00 59 47.4**	**-0.2**
NNZ	**Nelson**	**0.87**	**306**	P	**Pb**	**00 59 33.5**	**-0.8**
KHZ	**Kahutara**	**0.90**	**220**	P	**Pb**	**00 59 34.5**	**-0.2**
KHZ	**Kahutara**	**0.90**	**220**	P	**Pb**	**00 59 34.3**	**-0.4**
KHZ				S	**Sn**	**00 59 48.5**	**-0.4**
PAWZ	**Paruwai Farm**	**0.90**	**68**	P	**Pb**	**00 59 34.1**	**-0.8**
PAWZ				S	**Sn**	**00 59 49.0**	**-0.2**
DUWZ	**D'Urville Isla**	**0.97**	**342**	P	**Pb**	**00 59 35.7**	**-0.4**
DUWZ				S	**Sn**	**00 59 50.4**	**-0.5**
KIW	**Kapiti Island**	**0.98**	**27**	P	**Pb**	**00 59 34.8**	**-1.3**
KIW				S	**Sn**	**00 59 50.5**	**-0.5**
THZ	**Tophouse**	**1.05**	**268**	P	**Pb**	**00 59 36.9**	**-0.6**
MTW	**Mount Morrison**	**1.06**	**58**	P	**Pb**	**00 59 36.5**	**-1.1**
MTW				S	**Sg**	**00 59 52.6**	**+1.5**
TRWZ	**Traveller**	**1.08**	**73**	P	**Pg**	**00 59 38.5**	**+0.7**
OGWZ	**Otaki Gorge**	**1.12**	**36**	P	**Pn**	**00 59 36.8**	**-2.1**
OGWZ				S	**Sg**	**00 59 54.9**	**+2.0**
MRNZ	**Matariki Terra**	**1.22**	**285**	P	**Pn**	**00 59 39.9**	**-0.3**
MRNZ				S	**Sg**	**00 59 57.5**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.23**	**48**	P	**Pn**	**00 59 39.4**	**-1.0**
TMWZ	**Te Maipa**	**1.34**	**63**	P	**Pn**	**00 59 39.9**	**-2.0**
GVZ	**Greta Valley S**	**1.56**	**217**	P	**Pb**	**00 59 46.3**	**+0.2**
QRZ	**Quartz Range**	**1.62**	**303**	P	**Pb**	**00 59 47.1**	**0.0**
QRZ	**Quartz Range**	**1.62**	**303**	P	**Pb**	**00 59 46.7**	**-0.4**
BFZ	**Birch Farm**	**1.79**	**55**	P	**Pg**	**00 59 53.7**	**+2.3**
BFZ	**Birch Farm**	**1.79**	**55**	P	**Pn**	**00 59 47.1**	**-1.1**
LTZ	**Lake Taylor**	**1.85**	**235**	P	**Pn**	**00 59 48.3**	**-0.7**
DSZ	**Denniston Nort**	**1.88**	**269**	P	**Pb**	**00 59 51.6**	**0.0**
DVHZ	**Dannevirke**	**2.00**	**45**	P	**Pn**	**00 59 50.6**	**-0.4**
WAZ	**Wanganui**	**2.04**	**15**	P	**Pb**	**00 59 54.9**	**+0.7**
TSZ	**Takapari Road**	**2.08**	**37**	P	**Pn**	**00 59 51.6**	**-0.6**
KHEZ	**Kahui Hut**	**2.44**	**355**	P	**Pb**	**01 00 01.3**	**+0.5**
BKZ	**Black Stump Fm**	**3.05**	**34**	P	**Pb**	**01 00 11.7**	**+0.2**
HIZ	**Hauiti**	**3.24**	**8**	P	**Pb**	**01 00 13.4**	**-1.3**

IDC 10 01:16:59.8±1.8, 0.66N×126.07E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=195.7km s-min=22.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.03**	**159**	P	P	01 21 55.0	-1.2
	0.4nm,0.3s,baz=337,slow=11,SNR=5.7 0.4nm,0.3s						
ASAR	**Alice Springs**	**25.36**	**163**	P	P	01 22 29.6	+0.8
	0.4nm,0.3s,baz=344,slow=12,SNR=7.9 0.4nm,0.3s						
MKAR	**Makanchi Array**	**59.71**	**327**	P	P	01 27 06.5	+0.1
	0.5nm,0.5s,baz=122,slow=7.5,SNR=9.3 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.97**	**328**	P	P	01 27 34.5	-0.4
	0.3nm,0.3s,baz=120,slow=7.1,SNR=2.9 0.3nm,0.3s						

*IDC **10** 01:42:24.1±1.0, 37.33N×141.80E, h0km, mb3.5/7, mbtmp3.5/8, ML2.4/1, Error ellipse: s-maj=25.3km s-min=22.6km az=144.0*
*JMA **10** 01:42:27.3±0.2, 37.4N±0.4×141.7E±0.9, h33km±2km, MV3.8/40, E OFF FUKUSHIMA PREF*
*NIED **10** 01:42:27.3, 37.37N×141.66E, h33km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.63; Mθθ1.24; Mφφ1.39; Mrθ-0.65; Mθφ2.17; Mφr1.44; Fault plane solution: M₀3.52000×10¹⁴ NP1: φs198.00000°, δ57.00000°, λ-125.00000°. NP2: φs70.00000°, δ46.00000°, λ-49.00000°.*
ISC 10 01:42:25.3±3.1, 37.35N±0.05×141.71E±0.08, h10km±19km, n28, σ0§95/28, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.67**	**272**	*i* P	**Pb**	**01 42 39.4**	**+0.3**
JFK				*e*S	**Sg**	**01 42 47.7**	**+0.8**
JMST	**Minamisoumatoc**	**0.75**	**300**	*i* P	**Pb**	**01 42 40.6**	**0.0**
JMST				S	**Sb**	**01 42 50.3**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.77**	**252**	*i* P	**Pb**	**01 42 40.9**	**+0.1**
ONAJ				*e*S	**Sb**	**01 42 50.7**	**-0.6**
JMM	**Marumori**	**0.89**	**306**	*i* P	**Pb**	**01 42 42.9**	**-0.1**
JMM				S	**Sb**	**01 42 54.1**	**-0.8**
JFFD	**Fukushimafurud**	**0.95**	**255**	P	**Pb**	**01 42 43.8**	**-0.2**
JFFD				S	**Sb**	**01 42 55.2**	**-1.4**
JIO	**Ouri**	**1.14**	**346**	*i* P	**Pn**	**01 42 46.9**	**-0.6**
JIO				*e*S	**Sb**	**01 43 00.7**	**-1.5**
JHO	**Hitachi**	**1.17**	**232**	*i* P	**Pn**	**01 42 47.2**	**-0.6**
JHO				*e*S	**Sb**	**01 43 01.3**	**-1.6**
JOU	**Okura**	**1.31**	**321**	*i* P	**Pb**	**01 42 50.2**	**+0.1**
JOU				S	**Sb**	**01 43 06.9**	**-0.2**
JYS	**Shirataka**	**1.57**	**304**	P	**Pb**	**01 42 54.2**	**-0.3**
JFY	**Yanaizu**	**1.60**	**273**	P	**Pb**	**01 42 54.4**	**-0.6**
JMK	**Ichinoseki**	**1.65**	**347**	*i* P	**Pb**	**01 42 55.0**	**-0.8**
MJAR	**Matsushiro Arr**	**2.92**	**255**	Pn	**Pn**	**01 43 12.9**	**+1.1**
	0.5nm,0.3s,baz=82,slow=15,SNR=13						
MJAR				Sn	**Sb**	**01 43 50.8**	**-2.4**
	1.1nm,0.3s,baz=102,slow=31,SNR=5.7 2.2nm,0.3s						
SONM	**Songino Array**	**27.81**	**303**	P	**P**	**01 48 14.6**	**-0.1**
	0.3nm,0.5s,baz=99,slow=8.8,SNR=1.7 0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	02 17 44.0	
	baz=315,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	02 17 46.9	
	baz=315,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	02 17 46.1	
	baz=315,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**28.83**	**124**	T	T	02 18 36.6	
	baz=316,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	02 18 36.6	
	baz=316,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.85**	**124**	T	T	02 18 37.7	
	baz=316,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**01 50 16.4**	**+0.9**
	0.6nm,0.6s,baz=100,slow=7.9,SNR=3.6 0.6nm,0.6s						
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**01 50 34.9**	**+0.7**
	0.6nm,0.7s,baz=86,slow=11,SNR=8.2 0.6nm,0.7s						
ILAR	**Eielson Array**	**49.10**	**33**	P	**P**	**01 51 11.9**	**-0.7**
	0.5nm,0.7s,baz=263,slow=6.5,SNR=6.2 0.5nm,0.7s						
WRA	**Warramunga Arr**	**57.40**	**188**	P	**P**	**01 52 14.3**	**+0.2**
	0.6nm,0.5s,baz=3.0,slow=7.3,SNR=4.9 0.6nm,0.5s						
ASAR	**Alice Springs**	**61.13**	**188**	P	**P**	**01 52 39.7**	**-0.2**
	0.2nm,0.7s,baz=5.7,slow=4.7,SNR=1.7 0.2nm,0.7s						
PDAR	**Pinedale Array**	**77.28**	**46**	P	**P**	**01 54 21.6**	**+1.3**
	0.2nm,0.5s,baz=291,slow=2.8,SNR=3.6 0.2nm,0.5s						
H03N2	**Juan Fernandez**	**146.82**	**96**	T	T	04 46 13.0	
	baz=293,slow=76,SNR=6.3						
H03N3	**Juan Fernandez**	**146.83**	**96**	T	T	04 46 14.7	
	baz=293,slow=76,SNR=8.2						
H03N1	**Juan Fernandez**	**146.84**	**96**	T	T	04 46 15.8	
	baz=293,slow=76,SNR=8.3						

*WEL **10** 01:53:30.3±0.8, 35°S±6°×17°9E±°, h228km±11km, M4.1/24, mB4.2/3, ML4.4/18, MLv4.2/24, Mw(mB)3.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=102.4, confirmed*
*IDC **10** 01:53:30.9±6.3, 35°29S×179°15E, h234km±60km, mb3.2/2, mbtmp3.7/3, Error ellipse: s-maj=91.4km s-min=33.0km az=11.0*
ISC 10 01:53:28.7±1.1, 34°96S±0°07×179°1E±0°1, h200km, n58, σ2§22/83, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.67**	**193**	P	**Pn**	**01 54 16.0**	**+1.6**
MXZ				S	**Sn**	**01 54 51.5**	**+1.2**
WMGZ	**Waiomatatini S**	**2.90**	**190**	P	**Pn**	**01 54 18.9**	**+1.8**
WMGZ				S	**Sn**	**01 54 57.6**	**+2.5**
HAZ	**Te Kaha**	**2.98**	**200**	P	**Pn**	**01 54 20.7**	**+2.7**
HAZ				S	**Sn**	**01 55 00.9**	**+4.2**
PKGZ	**Pakihiroa**	**3.03**	**195**	P	**Pn**	**01 54 20.0**	**+1.3**
PKGZ				S	**Sn**	**01 55 00.1**	**+2.2**
PUZ	**Puketiti**	**3.17**	**192**	P	**Pn**	**01 54 21.3**	**+1.0**
PUZ				S	**Sn**	**01 55 02.5**	**+1.6**
GRZ	**Great Barrier**	**3.22**	**245**	P	**Pn**	**01 54 22.0**	**+1.1**
TWGZ	**Tauwhareparae**	**3.33**	**195**	P	**Pn**	**01 54 23.7**	**+1.5**
TWGZ				S	**Sn**	**01 55 07.4**	**+3.0**
CNGZ	**Carnagh Statio**	**3.59**	**191**	P	**Pn**	**01 54 26.5**	**+1.3**
MWZ	**Matawai**	**3.59**	**200**	P	**Pn**	**01 54 26.8**	**+1.4**
TKGZ	**Te Karaka**	**3.61**	**196**	P	**Pn**	**01 54 26.5**	**+0.9**
TKGZ				S	**Sn**	**01 55 12.4**	**+2.1**
URZ	**Urewera**	**3.65**	**205**	P	**Pn**	**01 54 27.7**	**+1.6**
	12nm,0.4s,baz=128,slow=3.4,SNR=15						
URZ				S	**Sn**	**01 55 10.8**	**-0.4**
	41nm,0.3s,baz=155,slow=22,SNR=15						
URZ	**Urewera**	**3.65**	**205**	P	**Pn**	**01 54 27.4**	**+1.3**
URZ				S	**Sn**	**01 55 13.5**	**+2.2**
RAGZ	**Rawiri**	**3.77**	**200**	P	**Pn**	**01 54 30.3**	**+2.7**
RAGZ				S	**Sn**	**01 55 16.9**	**+2.8**
MBAZ	**Motutapu North**	**3.84**	**241**	P	**Pn**	**01 54 31.1**	**+2.7**
RIGZ	**Rimuhau**	**3.88**	**195**	P	**Pn**	**01 54 30.2**	**+1.2**
RIGZ				S	**Sn**	**01 55 18.7**	**+2.2**
MUGZ	**Murupara**	**3.97**	**207**	S	**Sn**	**01 55 21.2**	**+2.9**
WCZ	**Waipu Caves**	**3.98**	**254**	P	**Pn**	**01 54 31.4**	**+1.2**
RTZ	**Ruatahuna**	**4.02**	**204**	P	**Pn**	**01 54 31.3**	**+0.6**
RTZ				S	**Sn**	**01 55 21.8**	**+2.3**
SNGZ	**Shannon Statio**	**4.06**	**200**	P	**Pn**	**01 54 32.9**	**+1.8**
SNGZ				S	**Sn**	**01 55 22.4**	**+2.0**
RAHZ	**Arahi**	**4.26**	**201**	P	**Pn**	**01 54 34.3**	**+0.7**
RAHZ				S	**Sn**	**01 55 27.5**	**+2.6**
MTHZ	**Maungataniwha**	**4.28**	**204**	P	**Pn**	**01 54 35.9**	**+2.0**
MTHZ				S	**Sn**	**01 55 27.2**	**+1.9**
MHGZ	**Mahia Peninsul**	**4.29**	**192**	P	**Pn**	**01 54 36.3**	**+2.3**
MHGZ				S	**Sn**	**01 55 22.6**	**-2.8**
WHHZ	**Waihua**	**4.37**	**199**	P	**Pn**	**01 54 37.0**	**+2.1**
WHHZ				S	**Sn**	**01 55 28.6**	**+1.4**
MRHZ	**Matea Rd**	**4.42**	**208**	P	**Pn**	**01 54 37.5**	**+1.9**
OUZ	**Omahuta**	**4.50**	**265**	P	**Pn**	**01 54 37.7**	**+1.0**
NMHZ	**Naumai**	**4.51**	**203**	P	**Pn**	**01 54 37.8**	**+0.9**
NMHZ				S	**Sn**	**01 55 33.5**	**+2.9**
ARHZ	**Aropaoanui**	**4.61**	**201**	P	**Pn**	**01 54 38.4**	**+0.4**
ARHZ				S	**Sn**	**01 55 34.1**	**+1.4**
BKZ	**Black Stump Fm**	**4.68**	**205**	P	**Pn**	**01 54 40.5**	**+1.6**
BKZ				S	**Sn**	**01 55 35.4**	**+1.0**
HIZ	**Hauiti**	**4.91**	**222**	P	**Pn**	**01 54 45.3**	**+3.5**
TMVZ	**Te Maari**	**4.95**	**212**	P	**Pn**	**01 54 45.2**	**+2.7**
CKHZ	**Cape Kidnapper**	**4.95**	**198**	P	**Pn**	**01 54 43.4**	**+1.0**
CKHZ				S	**Sn**	**01 55 41.3**	**+0.7**
ETVZ	**East Tongariro**	**4.96**	**212**	P	**Pn**	**01 54 44.9**	**+2.3**
OTVZ	**Oturere**	**5.00**	**212**	P	**Pn**	**01 54 45.7**	**+2.5**
SNVZ	**South Ngauruho**	**5.03**	**212**	P	**Pn**	**01 54 45.3**	**+1.7**
BHHZ	**Black Hill Sta**	**5.12**	**207**	P	**Pn**	**01 54 45.2**	**+0.6**
KAHZ	**Kahuranaki**	**5.13**	**199**	P	**Pn**	**01 54 45.1**	**+0.4**
KAHZ				S	**Sn**	**01 55 46.1**	**+1.2**
KRHZ	**Kereru**	**5.15**	**204**	P	**Pn**	**01 54 44.8**	**-0.1**
KRHZ				S	**Sn**	**01 55 44.7**	**-0.5**
PXZ	**Pawanui**	**5.36**	**199**	P	**Pn**	**01 54 47.6**	**+0.1**
PXZ				S	**Sn**	**01 55 48.8**	**-1.1**
TSZ	**Takapari Road**	**5.66**	**205**	P	**Pn**	**01 54 51.7**	**+0.3**
TSZ				S	**Sn**	**01 55 56.7**	**-0.3**
ANWZ	**Angora Road**	**5.87**	**200**	P	**Pn**	**01 56 01.4**	**-0.3**
POWZ	**Post Office Ro**	**6.02**	**205**	P	**Pn**	**01 56 05.6**	**+0.2**
PRWZ	**Pori Road**	**6.10**	**203**	P	**Pn**	**01 56 04.2**	**-3.1**
BFZ	**Birch Farm**	**6.13**	**201**	P	**Pn**	**01 56 06.6**	**-1.5**
TIWZ	**Tintock**	**6.33**	**203**	P	**Pn**	**01 56 10.6**	**-2.1**
CPWZ	**Castlepoint**	**6.36**	**200**	P	**Pn**	**01 56 11.8**	**-1.5**
HOWZ	**Holdsworth Sta**	**6.56**	**204**	P	**Pn**	**01 56 14.7**	**-3.3**
TMWZ	**Te Maipa**	**6.63**	**201**	P	**Pn**	**01 56 14.4**	**-5.3**
KIW	**Kapiti Island**	**6.75**	**208**	P	**Pn**	**01 56 20.0**	**-2.4**
MTW	**Mount Morrison**	**6.80**	**203**	P	**Pn**	**01 56 17.3**	**-6.3**
TRWZ	**Traveller**	**6.96**	**202**	P	**Pn**	**01 56 22.5**	**-4.9**
PAWZ	**Paruwai Farm**	**7.03**	**203**	P	**Pn**	**01 56 23.7**	**-5.3**
ASAR	**Alice Springs**	**40.66**	**274**	P	**P**	**02 00 49.4**	**-0.2**
	0.8nm,0.5s,baz=116,slow=8.2,SNR=16 0.8nm,0.5s						
WRA	**Warramunga Arr**	**42.07**	**279**	P	**P**	**02 01 00.5**	**-0.6**
	0.6nm,0.5s,baz=118,slow=7.7,SNR=6.9 0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**122.38**	**312**	PKP	**PKPdf**	**02 11 57.3**	**-2.1**
	0.5nm,0.4s,baz=115,slow=2.0,SNR=7.4						
BVAR	**Borovoye Array**	**127.85**	**314**	PKP	**PKPdf**	**02 12 08.9**	**-0.9**
	0.4nm,0.5s,baz=90,slow=5.8,SNR=2.8						
FINES	**FINESS Array B**	**148.42**	**335**	PKPbc	**PKPdf**	**02 12 48.9**	**+2.1**
	2.5nm,0.9s,baz=48,slow=2.8,SNR=12						
BRTR	**Keskin Array B**	**152.22**	**290**	PKPbc	**PKPbc**	**02 12 59.1**	**-1.5**
	0.7nm,0.4s,baz=158,slow=4.2,SNR=13						
AKASG	**Malin Array Be**	**153.11**	**315**	PKPbc	**PKPbc**	**02 13 00.5**	**-1.5**
	0.4nm,0.4s,baz=49,slow=2.7,SNR=7.9						

*IDC **10** 02:24:23.1±2.6, 10.61S×161.41E, h59km±21km, mb3.4/5, mbtmp3.8/6, ML3.8/1, MS3.0/1, Error ellipse: s-maj=32.1km s-min=15.3km az=58.0*
ISC 10 02:24:23.2±1.0, 10.7S±0.1×161.4E±0.2, h61km, n8, σ1§78/9, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.89**	**310**	P	**Pn**	**02 24 53.3**	**0.0**
	3µm,0.4s,baz=147,slow=5.7,SNR=6.8						
HNR				S	**Sn**	**02 25 15.2**	**-0.8**
	8µm,0.3s,baz=357,slow=23,SNR=12						
HNR				LR	LR	02 25 23.7	
	comp=Z,528nm,18.4s,baz=75,slow=33						
DZM	**Mont Dzumac**	**12.32**	**159**	P	**Pn**	**02 27 18.5**	**+2.4**
	0.5nm,0.3s,baz=306,slow=19,SNR=15						
DZM				S	**Sn**	**02 29 28.6**	**-3.2**
	5.1nm,1.1s,baz=301,slow=21,SNR=1.4 1.6nm,0.3s						
WRA	**Warramunga Arr**	**27.65**	**247**	P	**P**	**02 30 06.6**	**+1.1**
	0.4nm,0.6s,baz=75,slow=9.2,SNR=1.8 0.4nm,0.6s						
STKA	**Stephens Creek**	**27.94**	**218**	LR	LR	02 41 04.3	
	comp=Z,32nm,20.2s,baz=25,slow=36						
ASAR	**Alice Springs**	**29.21**	**240**	P	**P**	**02 30 19.2**	**-0.3**
	0.1nm,0.3s,baz=60,slow=10,SNR=2.6 0.1nm,0.3s						
SONM	**Songino Array**	**75.89**	**325**	P	**P**	**02 36 04.0**	**+0.6**
	0.8nm,0.6s,baz=140,slow=5.9,SNR=6.1 0.8nm,0.6s						
ILAR	**Eielson Array**	**84.56**	**20**	P	**P**	**02 36 48.8**	**-0.7**
	0.8nm,1.0s,baz=245,slow=4.7,SNR=7.7 0.8nm,1.0s						
MKAR	**Makanchi Array**	**90.35**	**318**	P	**P**	**02 37 17.4**	**-0.5**
	0.3nm,0.4s,baz=95,slow=6.0,SNR=5.8 0.3nm,0.4s						

*ISN **10** 02:28:02.8±1.0, 33.43N×46.54E, h12km±4km, ML2.9*
*TEH **10** 02:28:03.4, 33.47N×46.52E, h21km±28km, ML3.0*
ISC 10 02:28:03.4±1.0, 33.45N±0.03×46.51E±0.03, h13km±10km, n37, σ1§12/45, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.31**	**305**	Pg	**Pg**	**02 28 10.1**	**+0.4**
ILBA				Sg	**Sb**	**02 28 15.6**	**-0.2**
IBDR	**Badra**	**0.59**	**235**	*e*Pg	**Pg**	**02 28 15.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**02 28 23.0**	**+0.2**
IBDR				AML	AML	02 28 31.4	
	comp=N,589nm,0.6s						
IBDR				AML	AML	02 28 35.2	
	comp=E,595nm,0.5s						
IGHG	**Ghaleghazi**	**0.88**	**3**	Pg	**Pg**	**02 28 20.5**	**+0.1**
KCHF	**Cheshme Sefid,**	**0.93**	**28**	Pg	**Pb**	**02 28 20.7**	**-0.8**
DHL1	**Dehloran**	**1.00**	**140**	Pg	**Pg**	**02 28 22.5**	**-0.2**
DHL1				Sg	**Sn**	**02 28 37.2**	**0.0**
KER	**Kermanshah**	**1.07**	**29**	Pg	**Pg**	**02 28 23.8**	**-0.1**
IKOM	**Komasi**	**1.10**	**49**	Pg	**Pn**	**02 28 23.9**	**-0.7**
IKOM				Sg	**Sn**	**02 28 39.0**	**-0.8**
IKFM	**Kafar-mosalman**	**1.12**	**86**	Pg	**Pn**	**02 28 23.9**	**-0.9**
IKFM				Sg	**Sg**	**02 28 40.2**	**+0.8**
IDHR	**Dehrash**	**1.25**	**355**	Pg	**Pg**	**02 28 26.9**	**-0.6**
IDOB	**Doab**	**1.43**	**76**	Pg	**Pb**	**02 28 29.6**	**-0.5**
IDOB				Sg	**Sg**	**02 28 49.6**	**+0.1**
ILIN	**Lien**	**1.51**	**14**	Pg	**Pg**	**02 28 32.3**	**-0.2**
RAFI	**Al-Rafai**	**1.75**	**191**	*e*Pn	**Pb**	**02 28 35.0**	**-0.4**
RAFI				*e*Sn	**Sb**	**02 28 58.0**	**+0.7**
RAFI				AML	AML	02 29 01.6	
	comp=E,158nm,0.4s						
SNGE	**Sanandaj**	**1.78**	**23**	Pg	**Pb**	**02 28 36.1**	**+0.1**
BHD	**Baghdad**	**1.79**	**265**	*e*Pn	**Pb**	**02 28 35.0**	**-1.1**
BHD				*e*Sn	**Sg**	**02 29 00.0**	**-1.0**
HAGD	**Aghdareh**	**2.57**	**57**	Pn	**Pb**	**02 28 47.1**	**-2.5**
KHMZ	**Khomeyn**	**2.89**	**83**	Pn	**Pn**	**02 28 50.9**	**+1.5**
AMIS	**Naft Sefid**	**2.94**	**126**	Pn	**Pn**	**02 28 51.6**	**+1.7**
ASAO	**Ashtian**	**3.12**	**68**	Pn	**Pn**	**02 28 54.5**	**+2.0**
IRAZ	**Razeghan**	**3.43**	**54**	Pn	**Pn**	**02 28 58.7**	**+1.9**
ZNJK	**Zanjan**	**3.67**	**28**	Pn	**Pn**	**02 29 02.0**	**+1.9**
IPIR	**Pirpir**	**3.76**	**101**	Pn	**Pn**	**02 29 02.2**	**+0.9**
SHK1	**Shahrekord**	**3.85**	**106**	Pn	**Pn**	**02 29 02.9**	**+0.4**
QAMS	**Qamsar**	**4.09**	**85**	Pn	**Pn**	**02 29 06.9**	**+1.1**
IKLH	**Kolahrood**	**4.24**	**90**	Pn	**Pn**	**02 29 08.4**	**+0.4**
THKV	**Tehran--Karaj**	**4.36**	**54**	Pn	**Pn**	**02 29 11.1**	**+1.6**
GIDE	**GILAN DEYLAMAN**	**4.45**	**38**	Pn	**Pn**	**02 29 12.3**	**+1.7**
QALM	**Alamut, Qazvin**	**4.51**	**48**	Pn	**Pn**	**02 29 13.6**	**+1.9**
CHTH	**Charan**	**4.53**	**56**	Pn	**Pn**	**02 29 12.9**	**+1.0**
IVRN	**Varamin**	**4.59**	**69**	Pn	**Pn**	**02 29 13.5**	**+1.0**
KRSH	**Karshahi**	**4.72**	**82**	Pn	**Pn**	**02 29 15.4**	**+1.0**
ISFB	**Sefidab**	**4.85**	**78**	Pn	**Pn**	**02 29 17.5**	**+1.4**
IZEF	**Zefreh**	**4.91**	**95**	Pn	**Pn**	**02 29 17.5**	**+0.3**
DAMV	**Damavand**	**5.00**	**63**	Pn	**Pn**	**02 29 19.9**	**+1.5**
IRAM	**Ramesheh**	**5.22**	**107**	Pn	**Pn**	**02 29 21.8**	**+0.4**
NASN	**Na'in**	**5.32**	**95**	Pn	**Pn**	**02 29 24.3**	**+1.4**
IFIR	**Firoozkooh**	**5.60**	**65**	Pn	**Pn**	**02 29 27.5**	**+0.9**
DSBU	**Dashti - Bushe**	**6.51**	**140**	Pn	**Pn**	**02 29 38.9**	**0.0**

*WEL **10** 02:51:00.38°41S×175°93E, h195km, ML4.7, Mw4.5, Moment Tensor Solution. s5 Moment tensor: Scale 10¹⁵ Nm; Mrr6.36; Mθθ-2.53; Mφφ-3.83; Mrθ2.68; Mθφ-5.07; Mφr0.79; Fault plane solution: M₀7.91000×10¹⁵ NP1: φs205.00000°, δ38.00000°, λ65.00000°. NP2: φs56.00000°, δ56.00000°, λ109.00000°. Principal axes: T -866.7200, Plg72.0000°, Azm12.0000°; N 151.9300, Plg15.0000°, Azm225.0000°; P 714.7900, Plg9.0000°, Azm133.0000°;*
*NOU **10** 02:51:50.4, 38°50S×175°81E, h195km, MLv4.8/16, North Island, New Zealand*
*IDC **10** 02:51:50.3±0.4, 37°93S×176°16E, h188km±4km, mb4.0/8, mbtmp4.5/8, Error ellipse: s-maj=21.9km s-min=12.9km az=36.0*
*NEIC **10** 02:51:51.3±1.9, 38°58S±0°06×175°92E±0°08, h187km±3km, mb4.5/14, Error ellipse: s-maj=9.1km s-min=8.1km az=62.0*
*WEL **10** 02:51:53.1±0.5, 38°S±3°×17°6E±°, h168km±4km, M4.7/133, mB5.3/5, ML3.6/10, MLv4.7/133, Mw(mB)4.7/5, Error ellipse: s-maj=0.0km s-min=0.0km az=80.0, confirmed*
ISC 10 02:51:51.4±0.6, 38°51S±0°04×175°85E±0°04, h191km±4km, n252, σ1§32/267, mb4.4/15, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUTZ	**Kaahu Road**	**0.03**	**309**	P	**Pn**	**02 52 16.5**	**-0.1**
WHTZ	**Whakaora**	**0.18**	**153**	P	**Pn**	**02 52 16.8**	**+0.1**
WATZ	**Wairara**	**0.22**	**205**	P	**Pn**	**02 52 16.9**	**+0.1**
WPRZ	**Whakapapataran**	**0.24**	**93**	P	**Pn**	**02 52 16.5**	**-0.3**
GRRZ	**Galatos Road**	**0.26**	**52**	P	**Pn**	**02 52 16.5**	**-0.3**
TLZ	**Tolley Road**	**0.30**	**306**	P	**Pn**	**02 52 16.9**	**0.0**
HRRZ	**Handcock Road**	**0.36**	**71**	P	**Pn**	**02 52 16.7**	**-0.4**
RATZ	**Rangitukua**	**0.36**	**190**	P	**Pn**	**02 52 17.1**	**0.0

DREZ Durham Road 1.46 242 P Pn 02 52 24.9 +1.0
LREZ Lake Rotokare 1.48 229 P Pn 02 52 25.2 +1.1
CKHZ Cape Kidnapper 1.49 141 P Pn 02 52 25.1 +0.9
MKAZ Moumakai 1.50 338 P Pn 02 52 23.9 -0.5
RIGZ Rimuhau 1.51 98 P Pn 02 52 24.3 -0.1
KAHZ Kahuranaki 1.51 149 P Pn 02 52 25.3 +0.9
KNZ Kokohu 1.51 110 P Pn 02 52 24.4 0.0
RUGZ Raukumara Rang 1.54 70 P Pn 02 52 22.9 -1.9
TSZ Takapari Road 1.55 177 P Pn 02 52 25.3 +0.5
NEZ North Egmont 1.57 240 P Pn 02 52 26.0 +1.0
TKGZ Te Karaka 1.57 88 P Pn 02 52 24.5 -0.4
PKE Pukeiti 1.61 244 P Pn 02 52 26.2 +0.9
WPHZ Waipukurau 1.62 164 P Pn 02 52 26.0 +0.6
KHZ Kahui Hut 1.64 241 P Pn 02 52 25.5 +0.1
KHEZ Kahui Hut 1.64 241 P Pn 02 52 26.5 +0.8
HAZ Te Kaha 1.70 64 P Pn 02 52 24.3 -1.9
TWGZ Tauwhareparae 1.71 79 P Pn 02 52 25.7 -0.6
PXZ Pawanui 1.71 153 P Pn 02 52 25.4 -0.9
ETAZ East Tamaki Re 1.72 334 P Pn 02 52 25.8 -0.6
NBEZ Newall Road No 1.73 243 P Pn 02 52 27.3 +0.9
MHGZ Mahia Peninsul 1.73 113 P Pn 02 52 26.7 +0.3
AWAZ Awhitu Peninsu 1.73 326 P Pn 02 52 26.2 -0.3
KUZ Kuaotunu 1.76 357 P Pn 02 52 25.8 -1.0
KUZ Kuaotunu 1.76 357 P Pn 02 52 25.9 -1.0
NMEZ Namu Road 1.79 239 P Pn 02 52 27.8 +0.8
WIAZ Waiheke Island 1.80 341 P Pn 02 52 26.7 -0.6
DVHZ Dannevirke 1.81 172 P Pn 02 52 27.4 +0.2
CNGZ Carnagh Statio 1.85 90 P Pn 02 52 27.7 0.0
EPAZ Eden Park BICE 1.85 331 P Pn 02 52 27.2 -0.6
PKGZ Pakihiroa 1.86 71 P Pn 02 52 26.8 -1.1
PRHZ Porangahau 1.86 161 P Pn 02 52 28.1 +0.4
WTAZ Waiatarua 1.87 327 P Pn 02 52 27.9 -0.1
HBAZ Herne Bay Bore 1.88 331 P Pn 02 52 27.4 -0.6
POWZ Post Office Ro 1.88 182 P Pn 02 52 28.2 +0.2
MBAZ Motutapu North 1.89 336 P Pn 02 52 27.5 -0.6
PUZ Puketiti 1.94 78 P Pn 02 52 27.4 -1.3
ANWZ Angora Road 2.01 166 P Pn 02 52 29.7 +0.4
RVAZ Riverhead Bore 2.01 329 P Pn 02 52 28.8 -0.5
PRWZ Pori Road 2.05 177 P Pn 02 52 30.0 +0.3
WMGZ Waiomatatini S 2.13 72 P Pn 02 52 29.5 -1.2
MXZ Matakaoa Point 2.15 65 Pn Pn 02 52 29.7 -1.3
MXZ Matakaoa Point 2.15 65 P Pn 02 52 30.2 -0.7
MXZ Matakaoa Point 2.15 65 P Pn 02 52 29.8 -1.1
MRZ Mangatainoka R 2.16 186 Pn Pn 02 52 30.7 -0.3
MRZ Sn Sn 02 52 59.6 -2.3
MRZ Mangatainoka R 2.16 186 P Pn 02 52 30.9 0.0
BFZ Birch Farm 2.19 172 Pn 02 52 30.6 -0.7
BFZ Birch Farm 2.19 172 P Pn 02 52 31.1 -0.2
BFZ Birch Farm 2.19 172 P Pn 02 52 31.2 -0.1
TIWZ Tintock 2.27 352 P Pn 02 52 32.0 -0.1
GRZ Great Barrier 2.27 352 P Pn 02 52 31.4 -0.8
OGWZ Otaki Gorge 2.37 193 P Pn 02 52 33.2 0.0
HOWZ Holdsworth Sta 2.40 186 P Pn 02 52 33.2 -0.4
CPWZ Castlepoint 2.41 174 P Pn 02 52 34.0 +0.3
KIW Kapiti Island 2.46 197 P Pn 02 52 33.9 -0.4
TMWZ Te Maipa 2.60 179 P Pn 02 52 35.3 -0.5
MTW Mount Morrison 2.66 186 P Pn 02 52 35.9 -0.7
CAW Cannon Point 2.67 193 P Pn 02 52 36.2 -0.4
DUWZ D'Urville Isla 2.73 212 P Pn 02 52 36.8 -0.6
WCZ Waipu Caves 2.83 334 P Pn 02 52 38.1 -0.5
PAWZ Paruwai Farm 2.89 186 P Pn 02 52 38.4 -0.9
TRWZ Traveller 2.89 182 P Pn 02 52 38.5 -0.7
WEL Wellington 2.90 196 P Pn 02 52 38.8 -0.4
SNZO South Karori 2.94 197 Pn 02 52 38.9 -0.8
SNZO South Karori 2.94 197 P Pn 02 52 39.1 -0.6
MSWZ Moikau Station 2.94 189 Pn Pn 02 52 38.4 -1.5
TCW Tory Channel 2.96 204 Pn 02 52 39.5 -0.5
TCW Tory Channel 2.96 204 P Pn 02 52 39.5 -0.5
BHW Baring Head 2.99 194 Pn 02 52 39.7 -0.8
PLWZ Palliser 3.09 188 Pn Pn 02 52 40.5 -1.1
PLWZ Palliser 3.09 188 P Pn 02 52 40.6 -1.1
TUWZ Tuamarina 3.27 206 Pn 02 52 42.6 -1.1
TUWZ Tuamarina 3.27 206 P Pn 02 52 42.8 -0.9
NNZ Nelson 3.31 214 Pn 02 52 43.0 -1.3
NNZ Nelson 3.31 214 P Pn 02 52 43.1 -1.1
TKNZ Takaka Hill 3.37 221 Pn 02 52 43.1 -1.8
TKNZ Takaka Hill 3.37 221 P Pn 02 52 43.5 -1.5
QRZ Quartz Range 3.46 227 Pn 02 52 44.1 -1.9
QRZ Quartz Range 3.46 227 P Pn 02 52 44.5 -1.6
QRZ Quartz Range 3.46 227 P Pn 02 52 44.4 -1.6
CMWZ Cape Campbell 3.47 201 Pn 02 52 45.7 -0.5
CMWZ Cape Campbell 3.47 201 P Pn 02 52 46.4 +0.1
BSWZ Blackbirch Sta 3.54 205 Pn 02 52 46.2 -0.9
BSWZ Blackbirch Sta 3.54 205 P Pn 02 52 46.4 -0.7
MRNZ Matariki Terra 3.74 218 Pn Pn 02 52 47.9 -1.6
MRNZ Matariki Terra 3.74 218 P Pn 02 52 47.9 -1.7
OUZ Omahuta 3.75 330 Pn Pn 02 52 49.4 -0.3
OUZ Omahuta 3.75 330 P Pn 02 52 49.3 -0.4
OUZ Omahuta 3.75 330 P Pn 02 52 49.5 -0.3
THZ Tophouse 3.96 214 Pn 02 52 51.0 -1.3
THZ Tophouse 3.96 214 P Pn 02 52 51.0 -1.3
KHZ Kahutara 4.28 204 Pn Pn 02 52 55.3 -1.1
KHZ Kahutara 4.28 204 P Pn 02 52 55.7 -0.7
KHZ Kahutara 4.28 204 P Pn 02 52 55.7 -0.7
DSZ Denniston Nort 4.48 223 Pn 02 52 56.9 -2.1
DSZ Denniston Nort 4.48 223 P Pn 02 52 56.8 -2.1
GVZ Greta Valley S 4.94 205 Pn 02 53 03.3 -1.5
GVZ Greta Valley S 4.94 205 P Pn 02 53 03.6 -1.2
LTZ Lake Taylor 5.06 211 Pn Pn 02 53 04.7 -1.7
LTZ Lake Taylor 5.06 211 P Pn 02 53 04.0 -2.4
AMCZ Amberley 5.26 206 Pn 02 53 06.9 -1.9
AMCZ Amberley 5.26 206 P Pn 02 53 07.0 -1.8
INZ Inchbonnie 5.38 217 Pn Pn 02 53 07.6 -2.9
INZ Inchbonnie 5.38 217 P Pn 02 53 07.8 -2.6
OXZ Oxford 5.61 210 Pn 02 53 10.9 -2.5
OXZ Oxford 5.61 210 P Pn 02 53 10.9 -2.5
MQZ McQueen's Vall 5.73 204 Pn 02 53 12.3 -2.6
MQZ McQueen's Vall 5.73 204 P Pn 02 53 12.4 -2.5
AKCZ Akaroa Harbour 5.80 202 P Pn 02 53 13.8 -2.1
RACZ Rakaia 5.92 207 P Pn 02 53 14.8 -2.6
WACZ Wakanui South 6.21 208 P Pn 02 53 18.8 -2.4
RPZ Rata Peaks 6.34 213 P Pn 02 53 21.2 -1.7
161nm,0.3s,baz=278,slow=1.3,SNR=144
RPZ S Sn 02 54 29.0 -6.2
42nm,0.3s,baz=213,slow=11,SNR=3.6
RPZ Rata Peaks 6.34 213 P Pn 02 53 21.5 -1.4
RPZ Rata Peaks 6.34 213 P Pn 02 53 21.2 -1.7
GCSZ Gaunt Creek Bo 6.37 219 P Pn 02 53 21.0 -2.3
ARCZ Arundel 6.48 211 P Pn 02 53 21.9 -2.8
TMZ Timaru 6.91 210 P Pn 02 53 27.4 -2.9
LBZ Lake Benmore 7.25 214 Pn 02 53 32.9 -1.9
ODZ Otahua Downs 7.60 209 Pn Pn 02 53 37.3 -2.0
ODZ Otahua Downs 7.60 209 P Pn 02 53 37.7 -1.6
ODZ Otahua Downs 7.60 209 P Pn 02 53 37.0 -2.3
CTZ Chatham Island 7.72 135 P Pn 02 53 41.2 +0.4
CTZ Chatham Island 7.72 135 P Pn 02 53 42.6 +1.8
HHSZ Highcliff Hill 8.34 206 P Pn 02 53 48.0 -1.0
TUZ Tuapeka 8.75 210 P Pn 02 53 53.5 -0.8
MLZ Mavora Lakes 8.95 218 P Pn 02 53 54.7 -2.4
WHZ Wether Hill Ro 9.42 216 P Pn 02 54 01.0 -2.1
SYZ Scrubby Hill 9.43 210 P Pn 02 54 02.3 -0.9
SYZ Scrubby Hill 9.43 210 P Pn 02 54 02.2 -0.9
DCZ Deep Cove 9.50 220 P Pn 02 54 02.7 -1.4
APZ The Paps 10.13 212 P Pn 02 54 10.5 -1.8
PYZ Puysegur Point 10.22 219 P Pn 02 54 11.7 -1.8
96nm,1.1s
PYZ Puysegur Point 10.22 219 P Pn 02 54 12.0 -1.5
DZM Mont Dzumac 18.27 331 P P 02 55 51.2 +0.3
13nm,0.9s,baz=256,slow=23,SNR=5.5
MSVF Nonsavu 20.79 6 P P 02 56 17.0 -0.9
13nm,0.6s,baz=164,slow=9.8,SNR=9.5
MSVF Nonsavu 20.79 6 P P 02 56 17.4 -0.6
STKA Stephens Creek 28.65 273 P P 02 57 32.5 +2.3
2.0nm,0.7s,baz=118,slow=10,SNR=5.2
2.0nm,0.7s
CTA Charters Tower 31.47 297 P P 02 57 54.5 -0.7
12nm,1.1s,baz=134,slow=8.5,SNR=3.7
12nm,1.1s
COEN Coen 37.84 301 P P 02 58 50.6 +0.9
COEN IAmb IAmb 02 58 51.9
comp=Z,9.8nm,0.8s
AS31 Alice Springs 38.51 280 P P 02 58 56.3 +1.0
AS31 IAmb IAmb 02 58 57.6
comp=Z,7.2nm,0.8s
ASAR Alice Springs 38.51 280 P P 02 58 56.5 +1.1
comp=Z,16nm,0.8s,baz=127,slow=8.7,SNR=179
ASAR PcP PcP 03 01 02.4 -1.8
comp=Z,2.3nm,0.9s,baz=122,slow=4.2,SNR=5.3
ASAR S S 03 04 36.5 -0.2
comp=Z,0.9nm,0.7s,baz=128,slow=14,SNR=8.1
comp=Z,16nm,0.8s

VNDA Vanda 39.57 185 P P 02 59 07.0 +3.5
comp=Z,2.7nm,0.7s,baz=6.1,slow=7.3,SNR=12
VNDA PcP PcP 03 01 06.6 +0.1
comp=Z,2.4nm,1.0s,baz=303,slow=6.5,SNR=4.1
comp=Z,2.7nm,0.7s
WB2 Warramunga Arr 40.27 285 P P 02 59 10.2 +0.4
WB2 IAmb IAmb 02 59 10.9
comp=Z,6.6nm,0.8s
WRAB Tennant Creek 40.28 285 P P 02 59 12.1 +2.1
WRAB IAmb IAmb 02 59 19.2
comp=Z,19nm,0.8s
WRA Warramunga Arr 40.28 285 P P 02 59 10.1 +0.1
comp=Z,5.2nm,0.7s,baz=128,slow=6.8,SNR=31
WRA PcP PcP 03 01 07.2 -2.7
comp=Z,1.0nm,0.8s,baz=124,slow=3.0,SNR=2.9
comp=Z,5.2nm,0.7s
WRA Warramunga Arr 40.28 285 P P 02 59 10.0 0.0
WB0 Warramunga Arr 40.34 286 P P 02 59 10.8 +0.4
MTN Manton Dam 47.10 290 P P 03 00 04.8 +0.4
MTN IAmb IAmb 03 00 13.7
comp=Z,31nm,1.2s
FITZ Fitzroy Crossi 48.01 280 P P 03 00 11.8 +0.5
MORW Morawa 49.83 262 P P 03 00 25.6 +0.5
MORW IAmb IAmb 03 01 05.5
comp=Z,23nm,1.3s
QSPA South Pole Qui 51.62 180 P P 03 00 41.6 +3.5
comp=Z,6.7nm,0.6s,baz=22,slow=1.9,SNR=18
QSPA PcP PcP 03 01 49.8 +0.8
comp=Z,2.0nm,0.6s,baz=350,slow=2.2,SNR=4.4
comp=Z,6.7nm,0.6s
QSPA South Pole Qui 51.62 180 P P 03 00 41.3 +3.3
QSPA IAmb IAmb 03 00 42.6
comp=Z,7.0nm,0.7s
GIRL Giralia 54.42 268 P P 03 01 00.3 +1.3
BELA Belgrano 2 62.41 173 P P 03 01 55.2 +1.8
BELA IAmb IAmb 03 01 56.3
comp=Z,7.8nm,0.7s
TROLL Troll, Antarti 69.68 182 P P 03 02 41.5 +1.6
SNAA Sanae 70.12 180 P P 03 02 44.0 +1.5
VNA3 Neumayer Olymp 70.48 178 P P 03 02 46.2 +1.5
VNA2 Neumayer--Watz 70.85 179 P P 03 02 48.5 +1.7
baz=170,slow=6.0
VNA1 Neumayer--Stat 71.11 179 P P 03 02 50.5 +2.1
PLCA Paso Flores 80.54 135 P P 03 03 44.8 +2.3
comp=Z,2.4nm,0.8s,baz=233,slow=6.9,SNR=5.7
comp=Z,2.4nm,0.8s
KSAR Wonju Array Be 87.55 324 P P 03 04 18.1 +0.7
KS19 Wonju Array Si 87.61 324 P P 03 04 18.4 +0.7
CMAR Chiang Mai Arr 91.52 292 P P 03 04 37.2 +0.8
comp=Z,1.0nm,0.3s,baz=145,slow=2.9,SNR=5.8
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 114.95 29 PKP PKPdf 03 10 06.2 -2.1
comp=Z,0.5nm,0.7s,baz=258,slow=2.0,SNR=8.2
MKAR Makanchi Array 118.95 308 PKP PKPdf 03 10 14.6 -2.1
comp=Z,1.1nm,0.6s,baz=208,slow=1.9,SNR=17
NRIK Noril'sk 124.85 334 PKP PKPdf 03 10 25.7 -1.6
comp=Z,1.7nm,0.4s,baz=116,slow=1.4,SNR=4.1
GEYT Alibeck 131.93 290 PKP PKPdf 03 10 40.5 -1.4
comp=Z,2.0nm,0.6s,baz=190,slow=7.3,SNR=4.4
KBZ Khabaz 144.55 294 PKP PKPab 03 11 02.5 -1.1
comp=Z,7.2nm,0.9s,baz=160,slow=1.2,SNR=9.5
KLMR Klimovskoe 144.94 324 *e*PKPdf PKPbc 03 11 00.2 -4.2
KLMR AMP 03 11 04.4
comp=Z,73nm,1.6s
ARCES ARCESS Array B 145.11 342 PKP PKPdf 03 11 02.9 -1.9
comp=Z,7.6nm,0.9s,baz=57,slow=3.5,SNR=16
FINES FINESS Array B 150.40 331 PKPbc PKPbc 03 11 17.4 -1.7
comp=Z,3.0nm,0.3s,baz=47,slow=3.3,SNR=62
BRTR Keskin Array B 150.80 284 PKPbc PKPbc 03 11 19.7 -1.3
comp=Z,7.6nm,0.8s,baz=148,slow=5.7,SNR=35
AKASG Malin Array Be 153.53 308 PKPbc PKPbc 03 11 24.6 -1.9
comp=Z,1.2nm,0.5s,baz=66,slow=2.5,SNR=17

*GCMT **10** 03:01:30.5±0.1,48.77S±0.01×126.37E±0.02,h12km, MW5.3/100,Moment Tensor Solution. s60,c95; s100,c186; Duration: 1*10 Moment tensor: Scale 10^17 Nm; Mrr-0.72±.02; Mθθ 1.05±.01; Mϕϕ-0.32±.02; Mrθ0.05±.05; Mrϕ0.42±.02; Mθϕ0.18±.06; Best double couple: M0 0.98200×10^17 NP1:ϕs233.00000°,δ52.00000°, λ-121.00000°. NP2:ϕs97.00000°,δ47.00000°, λ-56.00000°. Principal axes: T 1.1710, Plg3.0000°, Azm344.0000°; N -0.3730, Plg24.0000°, Azm253.0000°; P -0.7940, Plg66.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **10** 03:01:31.2±0.5,48.69S×126.38E,h0km,mb4.9/14, mbtmp4.9/14,MS4.5/44 Error ellipse: s-maj=25.2km s-min=13.5km az=100.0*

*NEIC **10** 03:01:32.5±1.9,48.78S±0.09×126.4E±0.2,h10km±1km, mb5.2/49,Error ellipse: s-maj=16.7km s-min=14.7km az=97.0*

ISC 10 03:01:31.1±1.3,48.79S±0.05×126.43E±0.05,h0km±7km, n503,σ1§25/502,mb5.1/64,MS4.7/62,6C-4D,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AUALB	St Joseph's Co	15.16	332	P		Pn	03 05 05.0	-1.4
	106nm,1.1s							
TAU	Tasmania Unive	15.68	76			Pn	03 05 12.1	-1.2
TAU				IAmb		IAmb	03 05 18.7	
	comp=Z,170nm,1.3s							
TAU	Tasmania Unive	15.68	76	P		Pn	03 05 15.3	+2.0
AUHPC	Hawkesdale P12	15.69	53	P		P	03 05 15.8	-1.8
RKGY	Rocky Gully	15.81	330	P		Pn	03 05 12.3	-2.7
	baz=16,SNR=33							
RKGY	Rocky Gully	15.81	330	P		Pn	03 05 12.6	-2.4
MOO	Moorlands	15.83	74	P		P	03 05 17.8	-1.5
	baz=16,SNR=15							
MOO	Moorlands	15.83	74	P		P	03 05 19.0	-0.2
CORO	Coronation Par	16.33	71	P		P	03 05 25.4	+0.7
ARPS	Mount Arapiles	16.47	49	P		Pn	03 05 24.9	+1.4
	baz=16,SNR=26							
ARPS	Mount Arapiles	16.47	49	P		P	03 05 26.2	-0.1
AULHS	Lilydale High	16.49	71	P		P	03 05 26.7	+0.2
H01W1	Cape Leeuwin H	16.60	322	T		T	03 22 18.0	
	baz=148,slow=74,SNR=133							
H01W2	Cape Leeuwin H	16.60	322	T		T	03 22 19.8	
	baz=148,slow=74,SNR=82							
H01W3	Cape Leeuwin H	16.61	322	T		T	03 22 19.3	
	baz=148,slow=74,SNR=76							
GEXS	Deakin Univers	16.70	57	P		P	03 05 29.6	+0.8
BRAT	Ballarat	16.97	55	P		Pn	03 05 30.8	+1.1
NWAO	Narrogin (SRO)	17.29	333	LR		LR	03 10 26.4	
	comp=Z,8μm,21.9s,slow=31							
NWAO	Narrogin (SRO)	17.29	333	P		Pn	03 05 31.4	-2.4
	baz=17,SNR=9.0							
NWAO				P		Pn	03 05 31.4	-2.4
	baz=17,SNR=9.0							
NWAO	Narrogin (SRO)	17.29	333			Pn	03 05 32.3	-1.5
NWAO				IAmb		IAmb	03 05 36.5	
	comp=Z,209nm,1.2s							
NWAO	Narrogin (SRO)	17.29	333			Pn	03 05 32.9	-0.9
NWAO				IAmb		IAmb	03 05 36.4	
	comp=Z,166nm,1.2s							
NWAO	Narrogin (SRO)	17.29	333	P		Pn	03 05 34.5	+0.7
NWAO	Narrogin (SRO)	17.29	333	P		Pn	03 05 34.3	+0.5
BBOO	Buckleboo	17.53	28	P		Pn	03 05 35.1	-1.8
	baz=18,SNR=8.5							
BBOO	Buckleboo	17.53	28	Pn		Pn	03 05 36.0	-0.9
BBOO	Buckleboo	17.53	28	P		Pn	03 05 37.5	+0.6
KMBL	Kambalda	17.75	347	P		Pn	03 05 37.8	-1.7
	baz=18,SNR=9.0							
KMBL	Kambalda	17.75	347	P		Pn	03 05 40.1	+0.6
TOO	Toolangi	17.81	58	P		P	03 05 42.1	+0.9
	baz=18,SNR=5.3							
TOO	Toolangi	17.81	58			Pn	03 05 38.4	-1.9
TOO	Toolangi	17.81	58	P		P	03 05 43.2	+2.0
WHYH	Whyalla	17.83	32	P		Pn	03 05 40.6	+0.1
HTT	Hallett	17.97	36	P		Pn	03 05 42.8	+0.5
	baz=18,SNR=11							
HTT	Hallett	17.97	36	P		Pn	03 05 42.8	+0.5
FORT	Forrest	18.04	5	P		Pn	03 05 41.0	-2.2
	baz=18,SNR=30							
FORT	Forrest	18.04	5	P		Pn	03 05 42.6	-0.5
FORT	Forrest	18.04	5	P		Pn	03 05 43.0	-0.1
KLBR	Kellerberrin	18.39	336	P		P	03 05 45.0	-2.6
	baz=18,SNR=14							
KLBR	Kellerberrin	18.39	336	P		P	03 05 45.0	-2.6
MUN	Mundaring	18.48	332	P		P	03 05 48.0	-0.6
	baz=18,SNR=5.8							
MUN	Mundaring	18.48	332	P		P	03 05 46.9	-1.7

CASY Casey 19.38 199 P 03 05 57.9 -0.3
MULG Mulgathing 19.38 20 P P 03 05 56.3 -2.2
BLDU Ballidu 19.61 334 P P 03 05 59.0 -1.9
baz=19,SNR=8.3
BLDU Ballidu 19.61 334 P P 03 06 00.3 -0.6
MILA Mila 20.28 63 P Pn 03 06 09.7 -0.5
baz=20,SNR=3.7
MILA Mila 20.28 63 P Pn 03 06 11.1 +0.9
AUSMG Snowy Mountain 20.40 61 P P 03 06 09.1 -0.5
LCRK Leigh Creek 20.41 30 P P 03 06 09.4 -0.2
STKA Stephens Creek 20.41 40 P P 03 06 09.2 -0.5
comp=Z,13nm,0.8s,baz=190,slow=7.8,SNR=23
STKA LR LR 03 12 30.6
comp=Z,2μm,21.6s,baz=206,slow=32
comp=Z,13nm,0.8s
STKA Stephens Creek 20.41 40 P P 03 06 10.0 +0.3
baz=20,SNR=21
STKA Stephens Creek 20.41 40 P 03 06 09.2 -0.5
STKA Stephens Creek 20.41 40 P P 03 06 09.5 -0.2
MORW Morawa 21.25 334 P P 03 06 17.1 -1.7
baz=21,SNR=18
MORW Morawa 21.25 334 P P 03 06 18.5 -0.3
MORW Morawa 21.25 334 P P 03 06 18.7 -0.1
OOD Oodnadatta 22.16 22 P P 03 06 27.5 -1.0
AUUHS Ulladulla High 22.21 62 P P 03 06 31.9 +2.8
CMSA Cobar Meteorol 22.56 47 P P 03 06 33.8 +1.0
baz=23,SNR=18
MEEK Meekatharra 22.94 342 P P 03 06 36.2 -0.7
baz=23,SNR=23
MEEK Meekatharra 22.94 342 P P 03 06 36.4 -0.5
WOLH Wollongong Har 23.12 61 P P 03 06 41.0 +2.3
WRKA Warakurna 23.76 4 P P 03 06 43.7 -1.5
baz=24,SNR=12
WRKA Warakurna 23.76 4 P P 03 06 43.9 -1.3
INKA Innaminka 23.76 33 P P 03 06 44.9 -0.2
MGCD Mangrove Creek 24.13 59 P P 03 06 48.8 +0.3
baz=24,SNR=4.7
MGCD Mangrove Creek 24.13 59 P P 03 06 51.2 +2.6
AULRC Lightning Ridg 25.41 48 P P 03 07 02.0 +1.8
comp=Z,68nm,1.3s
AUPHS Peel High Scho 25.59 55 P P 03 07 02.8 +0.9
ASAR Alice Springs 25.77 16 P P 03 07 02.1 -1.4
comp=Z,40nm,1.0s,baz=190,slow=9.0,SNR=203
ASAR PcP PcP 03 10 33.0 -0.4
comp=Z,7.7nm,1.0s,baz=184,slow=1.7,SNR=5.4
ASAR LR LR 03 16 12.1
comp=Z,2μm,21.0s,baz=196,slow=34
comp=Z,40nm,1.0s
ASAR Alice Springs 25.77 16 P P 03 07 01.9 -1.6
AS31 Alice Springs 25.77 16 P P 03 07 02.1 -1.5
AS01 Alice Springs 25.78 16 P P 03 07 02.5 -1.1
QLP Quilpie 26.15 38 P P 03 07 07.3 +0.3
baz=26,SNR=27
QLP Quilpie 26.15 38 P P 03 07 07.3 +0.3
ARMA Armidale 26.52 55 P P 03 07 11.7 +1.2
baz=27,SNR=5.4
ARMA Armidale 26.52 55 P P 03 07 11.2 +0.7
ARMA Armidale 26.52 55 P P 03 07 11.4 +0.9
WHZ Wether Hill Ro 28.04 100 P P 03 07 23.9 +0.1
WHZ IAmb IAmb 03 07 28.0
comp=Z,44nm,1.1s
RMQ Roma 28.24 46 P P 03 07 26.6 +0.8
baz=28,SNR=4.9
RMQ Roma 28.24 46 P P 03 07 26.2 +0.4
MLZ Mavora Lakes 28.34 99 P P 03 07 26.9 +0.3
MLZ IAmb IAmb 03 07 34.5
comp=Z,72nm,1.4s
WRA Warramunga Arr 29.48 15 P P 03 07 35.1 -1.7
comp=Z,9.9nm,1.0s,baz=197,slow=8.3,SNR=20
WRA PcP PcP 03 10 41.5 -0.9
comp=Z,5.8nm,1.0s,baz=201,slow=1.8,SNR=5.1
WRA LR LR 03 18 16.7
comp=Z,3μm,21.5s,baz=184,slow=34
comp=Z,9.9nm,1.0s
WRA Warramunga Arr 29.48 15 P P 03 07 34.6 -2.2
WB2 Warramunga Arr 29.48 15 P P 03 07 35.1 -1.8
WRAB Tennant Creek 29.49 15 P P 03 07 36.3 -0.6
WR0 Warramunga Arr 29.50 16 P P 03 07 35.4 -1.6
WR0 IAmb IAmb 03 07 37.6
comp=Z,39nm,1.3s
WB0 Warramunga Arr 29.66 15 P P 03 07 36.6 -1.8
AUBSH Beerwah State 30.04 53 P P 03 07 43.7 +2.0
QIS Mount Isa 30.09 25 P P 03 07 41.8 -0.5
baz=30,SNR=17
QIS Mount Isa 30.09 25 P P 03 07 41.6 -0.7
EIDS Eidsvold 30.31 48 P P 03 07 42.9 -1.2
EIDS Eidsvold 30.31 48 P P 03 07 46.3 +2.2
comp=Z,13nm,1.2s
FITZ Fitzroy Crossi 30.62 359 P P 03 07 46.8 -0.2
FITZ Fitzroy Crossi 30.62 359 P P 03 07 47.5 +0.6
RPZ Rata Peaks 30.93 98 P P 03 07 50.6 +1.1
comp=Z,44nm,1.1s,baz=207,slow=5.0,SNR=8.1
RPZ LR LR 03 17 53.8
comp=Z,347nm,18.8s,baz=244,slow=32
comp=Z,44nm,1.1s
RPZ Rata Peaks 30.93 98 P P 03 07 47.8 -1.6
RPZ IAmb IAmb 03 07 52.8
comp=Z,44nm,1.1s
GD1S Gladstone Soft 31.63 47 P P 03 07 58.4 +2.6
comp=Z,61nm,0.6s
VNDA Vanda 31.85 166 P P 03 07 57.9 +0.7
comp=Z,18nm,1.0s,baz=316,slow=8.4,SNR=34
VNDA LR LR 03 20 04.3
comp=Z,4μm,18.3s,baz=328,slow=35
comp=Z,18nm,1.0s
VNDA Vanda 31.85 166 P P 03 07 57.6 +0.3
VNDA IAmb IAmb 03 08 00.1
comp=Z,20nm,0.9s
CTA Charters Tower 32.77 36 LR LR 03 21 38.5
comp=Z,2μm,18.1s,baz=203,slow=37
CTAO Charters Tower 32.77 36 P P 03 08 03.9 -2.0
CTAO IAmb IAmb 03 08 08.8
comp=Z,38nm,1.2s
CTAO Charters Tower 32.77 36 P P 03 08 07.5 +1.6
comp=Z,28nm,1.4s
SBA Scott Base 32.87 165 P P 03 08 07.2 +1.0
SBA IAmb IAmb 03 08 49.3
comp=Z,37nm,1.4s
KNRA Kununurra 33.08 4 P P 03 08 06.2 -2.2
baz=33,SNR=4.4
KNRA Kununurra 33.08 4 P P 03 08 06.3 -2.2
KNRA IAmb IAmb 03 08 08.9
comp=Z,54nm,1.4s
KNRA Kununurra 33.08 4 P P 03 08 07.8 -0.7
KHZ Kahutara 33.14 97 P P 03 08 06.8 -2.0
MTSU Mount Surprise 33.85 32 P P 03 08 15.5 +0.3
baz=34,SNR=7.0
MTSU Mount Surprise 33.85 32 P P 03 08 15.6 +0.3
MAW Mawson 36.32 215 P P 03 08 35.9 -0.1
comp=Z,30nm,0.9s,baz=83,slow=9.4,SNR=4.8
MAW LR LR 03 21 06.7
comp=Z,840nm,18.6s,baz=86,slow=32
comp=Z,30nm,0.9s
MAW Mawson 36.32 215 P P 03 08 34.6 -1.4
KDU Kakadu 36.35 10 P P 03 08 36.7 -0.1
BKZ Black Stump Fm 36.70 94 P P 03 08 39.6 -0.1
BKZ IAmb IAmb 03 08 53.2
comp=Z,47nm,1.4s
BKZ Black Stump Fm 36.70 94 P P 03 08 41.2 +1.5
RTZ Ruatahuna 37.31 94 P P 03 08 43.9 -1.1
RTZ IAmb IAmb 03 08 47.2
comp=Z,71nm,1.1s
COEN Coen 37.39 27 P P 03 08 45.4 -0.2
baz=37,SNR=4.7
COEN Coen 37.39 27 P P 03 08 44.3 -1.3
COEN IAmb IAmb 03 08 46.5
comp=Z,103nm,1.8s
COEN Coen 37.39 27 P P 03 08 45.5 -0.2
URZ Urewera 37.59 93 LR LR 03 23 17.6
comp=Z,172nm,18.3s,baz=316,slow=35
BATI Baumata 38.53 356 LR LR 03 23 51.9
comp=Z,5μm,21.5s,baz=198,slow=35
KOUNC Koumac, New Ca 41.32 61 P P 03 09 17.8 -0.7
KOUNC IAmb IAmb 03 09 39.1
comp=Z,62nm,1.3s
KOUNC Koumac, New Ca 41.32 61 P P 03 09 21.2 +2.7
QSPA South Pole Qui 41.33 180 P P 03 09 19.3 +1.0
comp=Z,25nm,1.1s,baz=335,slow=3.6,SNR=28
QSPA PcP PcP 03 11 17.8 +1.3
comp=Z,9.5nm,0.9s,baz=280,slow=2.8,SNR=3.6
QSPA LR LR 03 25 26.8
comp=Z,2μm,20.0s,baz=338,slow=35
comp=Z,25nm,1.1s
DZM Mont Dzumac 41.41 64 *e*S S 03 15 33.5 -1.8
comp=Z,73nm,26.9s
DZM *e*SS SS 03 18 38.6 -0.3

comp=Z,162nm,27.9s
DZM eLR LR 03 20 41.4
comp=Z,189nm,22.8s
DZM Mont Dzumac 41.41 64 LR LR 03 24 53.3
comp=Z,142nm,18.6s,baz=240,slow=34
YATNC Mamie plateau, 41.69 65 P **P** **03 09 23.2 +1.7**
PMG Port Moresby 42.94 31 LR LR 03 27 14.5
comp=Z,749nm,18.9s,baz=205,slow=36
PMG Port Moresby 42.94 31 P **P** **03 09 31.5 -0.2**
PMG IAmb IAmb 03 09 41.6
comp=Z,31nm,0.8s
PMG Port Moresby 42.94 31 P **P** **03 09 32.8 +1.1**
CMJI Cimerak 43.60 334 P **P** **03 09 37.3 +0.3**
comp=Z,72nm,1.6s
BKSI Bulukumba 43.65 351 P **P** **03 09 37.8 +0.4**
comp=Z,25nm,1.4s
KPJI Karang Pucung 43.89 335 P **P** **03 09 39.6 +0.3**
comp=Z,44nm,1.1s
KAPI Kappang 43.99 350 LR LR 03 26 18.3
comp=Z,1µm,22.0s,baz=160,slow=34
KAPI Kappang 43.99 350 P **P** **03 09 39.8 -0.4**
KAPI IAmb IAmb 03 09 42.5
comp=Z,50nm,1.2s
KAPI Kappang 43.99 350 P **P** **03 09 40.9 +0.7**
LEM Lembang 44.75 333 LR LR 03 28 54.4
comp=Z,854nm,18.0s,baz=166,slow=37
SPSI Sidrap Palu 45.03 351 P **P** **03 09 49.6 +1.2**
comp=Z,38nm,1.0s,comp=Z,4µm
NLAI Namlea 45.39 1 P **P** **03 09 51.9 +0.6**
comp=Z,15nm,1.1s
SMPI Sarmi 47.81 17 P P 03 10 19.4 +9.1
SIJI Sorong 47.92 7 LR LR 03 29 56.5
comp=Z,626nm,21.9s,baz=180,slow=36
MDSI Maura Dua 48.05 330 P **P** **03 10 13.5 +1.3**
comp=Z,20nm,1.3s
ELIB Princess Elisa 48.23 204 *d*P **P** **03 10 13.9 +0.7**
comp=Z,94nm,1.0s
ELIB *d*x x 03 10 21.1
HNR Honiara 48.24 47 LR LR 03 28 27.7
comp=Z,7µm,20.3s,baz=207,slow=34
MRSI Marisa 49.23 354 P **P** **03 10 22.3 +1.0**
comp=Z,27nm,1.4s
MPSI Mapaga 49.26 351 P **P** **03 10 22.3 +0.8**
comp=Z,22nm,1.0s
GTOI Gorontalo 49.32 355 P **P** **03 10 24.0 +2.0**
comp=Z,11nm,0.9s
KRVT Keravat (AS076 49.41 35 LR LR 03 31 38.4
comp=Z,574nm,18.5s,baz=337,slow=37
TOLI2 Tolitoli 49.95 353 P **P** **03 10 25.8 -0.9**
TOLI2 IAmb IAmb 03 10 27.9
comp=Z,21nm,1.0s
TOLI2 Tolitoli 49.95 353 P **P** **03 10 26.7 0.0**
MSVF Nonsavu 51.80 72 LR LR 03 28 42.9
comp=Z,152nm,19.9s,baz=164,slow=32
MSVF Nonsavu 51.80 72 P **P** **03 10 41.0 +0.2**
MSVF IAmb IAmb 03 10 49.8
comp=Z,51nm,1.6s
MSVF Nonsavu 51.80 72 P **P** **03 10 42.6 +1.7**
SDSI Sungai Dareh 52.31 328 P **P** **03 10 44.4 -0.1**
comp=Z,18nm,1.4s
SBUM Sibu 52.51 342 P **P** **03 10 45.0 -1.0**
BELA Belgrano 2 53.06 185 P **P** **03 10 48.8 -0.6**
BELA IAmb IAmb 03 11 05.9
comp=Z,26nm,1.0s
TROLL Troll, Antarti 53.24 199 P **P** **03 10 52.2 +1.2**
SNAA Sanae 54.60 197 P **P** **03 11 02.3 +1.5**
SNAA Sanae 54.60 197 P **P** **03 11 01.8 +0.9**
comp=Z,112nm,1.0s,baz=141,slow=7.8,SNR=53
SNAA LR LR 03 33 07.3
comp=Z,3µm,20.1s,baz=153,slow=35
comp=Z,112nm,1.0s
SNAA Sanae 54.60 197 P **P** **03 11 00.8 -0.1**
DAV Davao City (W) 55.63 359 LR LR 03 34 11.4
comp=Z,598nm,21.3s,baz=173,slow=35
GSI Gunungsitoli 55.80 324 P **P** **03 11 10.4 +0.4**
GSI Gunungsitoli 55.80 324 P **P** **03 11 12.1 +2.1**
GSI Gunungsitoli 55.80 324 P **P** **03 11 10.4 +0.4**
comp=Z,91nm,1.3s,comp=Z,3µm
VNA2 Neumayer--Watz 56.09 197 P **P** **03 11 12.8 +1.3**
baz=147,slow=8.0
VNA3 Neumayer Olymp 56.24 196 P **P** **03 11 13.6 +1.0**
VNA1 Neumayer--Stat 56.48 197 P **P** **03 11 16.0 +1.8**
RPSI Rantau Prapat 56.57 326 P **P** **03 11 14.8 -0.7**
RPSI IAmb IAmb 03 11 16.6
comp=Z,40nm,1.4s
PSI Prapat 56.67 326 LR LR 03 32 29.0
comp=Z,667nm,20.1s,baz=142,slow=33
PSI Prapat 56.67 326 P **P** **03 11 15.8 -0.6**
KCSI Kotacane, Aceh 57.76 326 P **P** **03 11 24.4 +0.4**
comp=Z,49nm,1.3s,comp=Z,794nm
KULM Kulim 58.38 329 P **P** **03 11 27.3 -0.9**
H08S2 Diego Garcia H 60.98 294 T T 04 17 46.0
baz=142,slow=76,SNR=26
H08S1 Diego Carcia H 61.00 294 T T 04 17 44.1
baz=142,slow=76,SNR=23
H08S3 Diego Garcia H 61.00 294 T T 04 17 47.5
baz=142,slow=76,SNR=27
PATS Pohnpei 62.04 36 P **P** **03 11 55.0 +1.6**
baz=62,SNR=3.1
RAR Rarotonga 63.77 93 LR LR 03 37 08.9
comp=Z,105nm,18.9s,baz=238,slow=34
GUMO Guam 64.23 20 LR LR 03 38 57.4
comp=Z,282nm,21.7s,baz=209,slow=35
UBPT Khong Chiam 66.45 338 P **P** **03 12 21.4 -0.7**
UBPT Khong Chiam 66.45 338 P **P** **03 12 23.5 +1.3**
PMSA Palmer Station 66.48 175 LR LR 03 40 01.3
comp=Z,1µm,20.1s,baz=148,slow=35
NAYO Nakonayok 66.66 333 P **P** **03 12 25.2 +1.7**
VOI Vohitsoka 67.12 263 P **P** **03 12 25.0 -1.8**
VOI Vohitsoka 67.12 263 P **P** **03 12 27.6 +0.9**
TBI Tubuai 69.03 102 *e*S **S** **03 21 43.4 -1.2**
comp=Z,336nm,26.0s
QIZ Qiongzhong 69.12 343 P **P** **03 12 40.4 +1.4**
QIZ S **S** **03 21 52.2 +6.8**
QIZ LR LR
comp=Z,530nm,27.1s
QIZ LR LR
comp=Z,330nm,22.3s
QIZ LR LR
comp=Z,810nm,24.7s
NONG Nongkai 69.72 336 P **P** **03 12 43.8 +1.1**
PHRA Phrae 70.94 334 P **P** **03 12 50.3 +0.1**
CMAR Chiang Mai Arr 71.29 332 P **P** **03 12 52.3 0.0**
comp=Z,15nm,0.9s,baz=182,slow=5.4,SNR=60
CMAR LR LR 03 46 20.6
comp=Z,375nm,18.0s,baz=165,slow=38
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 71.29 332 P **P** **03 12 51.2 -1.1**
CHTO Chiang Mai 71.62 333 P **P** **03 12 53.6 -0.7**
CHTO IAmb IAmb 03 12 56.0
comp=Z,19nm,1.1s
TPUB Ta-pu 71.95 354 P **P** **03 12 56.1 -0.1**
TPUB Ta-pu 71.95 354 P **P** **03 12 57.9 +1.7**
SSLB Suanglung 72.42 355 P **P** **03 12 59.1 +0.2**
SSLB Suanglung 72.42 355 P **P** **03 13 00.4 +1.4**
CRAI Chiangrai 72.54 334 P **P** **03 13 00.0 +0.2**
CRAI IAmb IAmb 03 13 02.5
comp=Z,25nm,1.1s
PPT2 Papeete2 73.07 97 *e*S **S** **03 22 30.4 -1.4**
comp=Z,49nm,24.5s
PPT2 Papeete2 73.07 97 *e*LR LR 03 35 22.6
comp=Z,146nm,24.8s
PPT2 *e*LR LR 03 35 22.7
comp=Z,217nm,25.2s
PPT Papeete 73.08 97 LR LR 03 36 57.1
comp=Z,105nm,20.7s,baz=191,slow=29
PCHI Peechi 73.67 308 *e*P P 03 12 55.4 -11
PCHI *e*S **S** **03 22 39.3 +0.9**
SUR Sutherland 75.57 237 LR LR 03 40 35.1
comp=Z,135nm,19.6s,baz=158,slow=31
BOSA Boshof 75.83 243 P **P** **03 13 19.1 -0.2**
comp=Z,7.3nm,1.1s,baz=140,slow=7.7,SNR=3.2
BOSA LR LR 03 40 05.6
comp=Z,181nm,19.7s,baz=160,slow=30
comp=Z,7.3nm,1.1s
KMI Kunming 76.57 338 ⇓P **P** **03 13 24.9 +1.5**
KMI pP 03 13 26.0
KMI PcP **PcP** **03 13 32.7 -2.2**
KMI S **S** **03 23 09.1 -1.5**
KMI pmax pmax
comp=Z,26nm,1.0s
KMI pmax pmax
comp=Z,160nm,4.9s
KMI LR LR
comp=Z,230nm,12.1s
KMI LR LR
comp=Z,440nm,19.2s
KMI LR LR
comp=Z,520nm,21.3s
JCJ Chichijima 76.85 14 LR LR 03 46 01.1
comp=Z,220nm,21.9s,baz=215,slow=35
GYA Guiyang 76.97 342 ⇓P **P** **03 13 27.3 +1.8**
GYA S **S** **03 23 13.7 -1.0**
GYA pmax pmax
comp=Z,20nm,1.6s
GYA pmax pmax
comp=Z,370nm,5.5s
GYA LR LR
comp=Z,490nm,25.9s
GYA LR LR
comp=Z,330nm,20.0s
GYA LR LR
comp=Z,680nm,25.0s
TNCH TengChong 77.61 334 ⇑P **P** **03 13 30.8 +1.6**
TNCH pP 03 13 34.8
TNCH sP PcP 03 13 37.2 -2.2
TNCH S **S** **03 23 23.7 +1.8**
TNCH sS 03 23 29.2
TNCH pmax pmax
comp=Z,270nm,3.9s
TNCH LR LR
comp=Z,630nm,11.1s
TNCH LR LR
comp=Z,460nm,9.8s
TNCH LR LR
comp=Z,580nm,25.4s
BRDH Bariadhala 77.64 327 LR LR 03 46 33.9
comp=Z,329nm,20.4s,baz=172,slow=35
PZH PanZhiHua 78.14 338 P **P** **03 13 34.7 +2.7**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,5.1s
LBTB Lobatse 78.30 246 LR LR 03 43 30.5
comp=Z,97nm,18.9s,baz=131,slow=32
RKT Rikitea 78.36 112 *e*LR LR 03 37 50.3
comp=Z,131µm,28.0s
HYB Hyderabad 78.44 314 *e*P **P** **03 13 34.4 +0.6**
HYB *e*S **S** **03 23 28.6 -2.3**
HYB IVMs_BB IVMs_BB 03 41 28.9
comp=Z,227nm,20.0s
SSE Sheshan 79.67 355 P **P** **03 13 40.7 +0.6**
SSE S **S** **03 23 44.4 +1.2**
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,78nm,3.7s
SSE LR LR
comp=Z,190nm,23.4s
SSE LR LR
comp=Z,99nm,23.3s
WHN Wuhan 79.72 349 ⇑P **P** **03 13 41.9 +1.5**
WHN sP **PcP** **03 13 48.1 0.0**
WHN S **S** **03 23 42.0 -1.7**
WHN pmax pmax
comp=Z,120nm,1.3s
WHN LR LR
comp=Z,2µm,24.5s
ENH Enshi 80.15 345 P **P** **03 13 44.1 +1.3**
SHL Shillong 80.21 329 P **P** **03 13 43.2 -0.3**
SHL IAmb IAmb 03 13 58.3
comp=Z,28nm,1.0s
NJ2 Nanjing 80.77 353 *e*P **P** **03 13 46.9 +0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
JNU Nakatsue 81.65 4 LR LR 03 48 36.5
comp=Z,190nm,21.9s,baz=174,slow=35
CD2 Chengdu 81.89 340 P **P** **03 13 52.5 +0.4**
CD2 pP PcP 03 13 56.9 -0.8
CD2 S **S** **03 24 10.2 +3.6**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,250nm,10.0s
CD2 LR LR
comp=Z,540nm,22.2s
CD2 LR LR
comp=Z,660nm,20.6s
CD2 LR LR
comp=Z,500nm,21.6s
ODAN Odare 83.01 325 *e*P **P** **03 13 57.4 -0.9**
comp=Z,5.8nm,1.1s
TAPN Taplejung 83.33 326 *e*P **P** **03 14 00.1 +0.1**
comp=Z,63nm,1.0s
RAMN Ramite 83.39 325 *e*P **P** **03 13 59.2 -1.1**
comp=Z,34nm,0.9s
LYN LuoYang 83.90 348 *e*P **P** **03 14 03.1 +0.7**
LYN SKS **SKSac** **03 24 22.3 -3.9**
LYN S **S** **03 24 27.5 +0.7**
LYN pmax pmax
comp=Z,20nm,1.5s
LYN pmax pmax
comp=Z,340nm,6.7s
LYN LR LR
comp=Z,260nm,16.1s
LYN LR LR
comp=Z,200nm,13.7s
LYN LR LR
comp=Z,300nm,19.7s
XAN Xi'an 83.93 345 P **P** **03 14 03.6 +1.0**
XAN S **S** **03 24 32.6 +5.4**
XAN pmax pmax
comp=Z,34nm,1.3s
XAN pmax pmax
comp=Z,290nm,5.5s
XAN LR LR
comp=Z,430nm,18.4s
XAN LR LR
comp=Z,220nm,9.2s
XAN LR LR
comp=Z,760nm,24.5s
JIRN Jiri 84.18 325 *e*P **P** **03 14 03.7 -0.8**
PKI Pulchoki 84.40 324 *e*P **P** **03 14 04.4 -1.1**
comp=Z,73nm,1.1s
PKIN Phulchoki 84.41 324 *e*P **P** **03 14 04.3 -1.2**
DMN Daman 84.55 324 *e*P **P** **03 14 05.7 -0.5**
KKN Kakani 84.65 324 *e*P **P** **03 14 06.1 -0.5**
comp=Z,13nm,1.0s
TIA Tai'an 85.04 352 P **P** **03 14 08.9 +0.8**
TIA pmax pmax
comp=Z,17nm,1.3s
GKN Gorkha 85.09 324 *e*P **P** **03 14 08.1 -0.7**
KOLN Koldanda 85.29 323 *e*P **P** **03 14 09.1 -0.8**
comp=Z,6.2nm,0.8s
MAJO Matsushiro 85.61 9 P **P** **03 14 12.3 +1.3**
MJAR Matsushiro Arr 85.61 9 P **P** **03 14 10.6 -0.4**
comp=Z,8.2nm,1.0s,baz=191,slow=6.2,SNR=11
MJAR LR LR 03 50 26.9
comp=Z,208nm,20.5s,baz=160,slow=34
comp=Z,8.2nm,1.0s
TAOE Nuku Hiva Isla 85.66 98 *e*S **S** **03 24 42.3 -3.3**
comp=Z,59nm,27.1s
TAOE Nuku Hiva Isla 85.66 98 *e*LR LR 03 41 12.8
comp=Z,201nm,21.7s
DANN Dangsing 85.74 323 *e*P **P** **03 14 11.0 -1.2**
comp=Z,106nm,0.9s
KSRS Korea Array 85.88 1 P **P** **03 14 12.6 +0.3**
comp=Z,3.7nm,0.9s,baz=189,slow=4.6,SNR=6.8
KSRS LR LR 03 51 13.3
comp=Z,195nm,21.9s,baz=190,slow=35
comp=Z,3.7nm,0.9s
HNS HongShan 86.45 351 ⇑P **P** **03 14 16.4 +1.4**
HNS pmax pmax
comp=Z,29nm,1.5s
LZH Lanzhou 86.87 342 ⇑P **P** **03 14 19.2 +1.8**
LZH sP 03 14 25.7
LZH S **S** **03 24 59.1 +2.7**
LZH pmax pmax
comp=Z,47nm,1.5s
LZH pmax pmax
comp=Z,390nm,6.9s
LZH LR LR
comp=Z,360nm,16.8s
LZH LR LR
comp=Z,340nm,14.1s
LZH LR LR
comp=Z,350nm,14.8s
TSUM Tsumeb 87.51 244 LR LR 03 47 40.5
comp=Z,227nm,19.2s,baz=152,slow=32
RPN Rapa Nui 89.51 133 LR LR 03 47 02.4
comp=Z,209nm,18.1s,baz=192,slow=30
PLCA Paso Flores 89.60 167 P **P** **03 14 30.9 +0.3**
comp=Z,12nm,1.2s,baz=175,slow=5.4,SNR=7.0
PLCA LR LR 03 51 09.7
comp=Z,503nm,19.8s,baz=183,slow=33
comp=Z,12nm,1.2s
PLCA Paso Flores 89.60 167 P **P** **03 14 29.4 -1.1**
PLCA IAmb IAmb 03 14 33.8
comp=Z,24nm,1.3s
BTO Baotou 90.19 348 *e*P **P** **03 14 31.4 -1.6**
BTO LR LR
comp=Z,1µm,12.5s
BTO LR LR
comp=Z,1µm,10.2s
HHC Hu-ho-hao-te 90.22 349 *e*P **P** **03 14 34.5 +1.4**
HHC pmax pmax
comp=Z,34nm,1.0s
HHC pmax pmax
comp=Z,390nm,5.9s
HHC LR LR
comp=Z,530nm,15.2s
HHC LR LR
comp=Z,740nm,14.6s
HHC LR LR
comp=Z,580nm,16.5s
GTA Gaotai 90.94 340 ⇑P **P** **03 14 37.3 +0.8**
GTA pP 03 14 41.3
GTA sP 03 14 44.5
GTA pmax pmax
comp=Z,13nm,1.3s
GTA pmax pmax
comp=Z,200nm,6.2s
GTA LR LR
comp=Z,460nm,19.3s
GTA LR LR
comp=Z,360nm,17.1s
GTA LR LR
comp=Z,620nm,20.0s
CN2 Changchun 92.22 359 P **P** **03 14 41.8 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,400nm,23.0s
CN2 LR LR
comp=Z,200nm,23.0s
CN2 LR LR
comp=Z,500nm,20.0s
USRK Ussuriysk Ar. 92.74 4 LR LR 03 54 09.4
comp=Z,255nm,21.9s,baz=164,slow=34
XLT XiLinHaoTe 92.76 353 ⇑P **P** **03 14 45.8 +1.0**
XLT pP 03 14 50.1
XLT sP 03 14 55.6
XLT SS SS 03 32 05.5 +1.1
XLT pmax pmax
comp=Z,13nm,1.5s
XLT pmax pmax
comp=Z,270nm,4.6s
MBAR Mbarara 93.31 265 LR LR 03 49 37.9
comp=Z,55nm,18.4s,baz=111,slow=31
ASAJ Asahikawa 93.61 12 LR LR 03 58 23.6
comp=Z,92nm,18.4s,baz=126,slow=36
WSAR Wadi Sarin 93.69 301 LR LR 03 51 26.7
comp=Z,634nm,18.4s,baz=150,slow=32
KLR Kul'dur 97.75 4 LR LR 03 57 46.8
comp=Z,204nm,21.1s,baz=200,slow=35
SONM Songino Array 97.80 347 P Pdif 03 15 07.9 +0.1
comp=Z,2.0nm,1.0s,baz=183,slow=3.5,SNR=9.0
SONM PKKPbc **PKKPbc** **03 31 43.9 +1.0**
comp=Z,0.5nm,0.8s,baz=321,slow=2.0,SNR=3.5
SONM LR LR 04 02 34.6
comp=Z,250nm,18.9s,baz=180,slow=38
comp=Z,2.0nm,1.0s
WMQ Urumqi 98.29 333 *e*P Pdif 03 15 10.6 +0.6
WMQ LR LR
comp=Z,290nm,20.7s
HEH HeiHe 98.67 1 *e*P Pdif 03 15 13.2 +1.8
HEH pmax pmax
comp=Z,4.0nm,1.4s
CFA Coronel Fontan 98.90 167 LR LR 03 57 43.2
comp=Z,366nm,20.2s,baz=183,slow=34
SIV San Ignacio 115.16 172 PKKPab PKKPab 03 30 56.1 -1.8
comp=Z,1.3nm,0.8s,baz=24,slow=0.5,SNR=4.7
KBZ Khabaz 117.56 306 PKP **PKiKP** **03 20 19.1 +0.9**
comp=Z,2.3nm,0.8s,baz=73,slow=11,SNR=3.8
BRTR Keskin Array B 120.15 297 PKP **PKPdf** **03 20 22.6 -1.0**
comp=Z,1.4nm,0.8s,baz=156,slow=5.8,SNR=7.0
BRTR PP **PP** **03 21 46.7 -2.6**
comp=Z,2.2nm,1.1s,baz=107,slow=9.3,SNR=4.7
O16K Kokwok River B 124.16 37 P **PKiKP** **03 20 31.1 +0.5**
baz=231
Q17K Contact Creek 124.21 39 P **PKiKP** **03 20 30.8 -0.2**
baz=231
N16K Nishlik Lake 124.46 35 P **PKiKP** **03 20 32.3 +1.0**
baz=231
TNA Tin City 124.66 27 P **PKiKP** **03 20 31.9 +0.5**
baz=227
ANM Nome 124.79 29 P **PKiKP** **03 20 32.8 +1.0**
baz=228
O19K Port Alsworth 126.03 37 P **PKiKP** **03 20 34.4 0.0**
baz=233
N19K Bonanza Creek 126.34 37 P **PKiKP** **03 20 35.1 0.0**
baz=234
L19K White Mountain 127.00 35 P **PKiKP** **03 20 36.4 +0.1**
baz=234
TTA Tatalina 127.00 34 P **PKiKP** **03 20 37.3 +0.9**
baz=234
L20K Farewell, AK 127.54 35 P **PKiKP** **03 20 37.9 +0.5**
baz=235
K20K Telida 127.97 34 P **PKiKP** **03 20 38.3 +0.1**
baz=236
SUA Susitna One 128.20 37 P **PKiKP** **03 20 39.1 +0.3**
baz=237
CAST Castle Rocks 128.75 35 P **PKPdf** **03 20 38.7 -0.4**
baz=237
PMR Palmer 128.92 38 P **PKiKP** **03 20 40.7 +0.6**
baz=238
CHUM Lake Minchumin 128.92 34 P **PKiKP** **03 20 39.9 -0.1**
baz=237
AKASG Malin Array Be 129.17 306 PKP **PKPdf** **03 20 40.1 -0.1**
comp=Z,2.3nm,0.8s,baz=70,slow=1.9,SNR=12
AKASG PP **PP** **03 22 52.2 +2.8**
comp=Z,2.1nm,1.0s,baz=108,slow=5.0,SNR=5.7
TRF Thorofare Moun 129.45 35 P **PKiKP** **03 20 41.4 0.0**
baz=238
BPAW Bear Paw Mtn. 129.53 34 P **PKPdf** **03 20 40.3 -0.2**
baz=238
KLMR Klimovskoe 129.54 321 *e*PKPdf **PKPdf** **03 20 40.0 -0.6**
KLMR AMP 03 20 51.3
comp=Z,30nm,1.5s
M23K Glacier View 129.59 38 P **PKiKP** **03 20 41.6 +0.1**
baz=239
G21K Allakaket 129.91 31 P **PKiKP** **03 20 42.0 0.0**
baz=238
WAT6 Susitna Watana 129.99 37 P **PKiKP** **03 20 43.1 +0.6**
baz=239
MLY Manley 130.11 33 P **PKiKP** **03 20 42.6 +0.1**
baz=239
MCK McKinley 130.11 35 P **PKiKP** **03 20 42.6 +0.1**
baz=239
F21K Alatna River 130.29 30 P **PKiKP** **03 20 42.7 0.0**
baz=239
H22K Ishtalitna Cre 130.32 32 P **PKiKP** **03 20 43.1 +0.2**
baz=239
BMRM Bremner River 130.47 40 P **PKiKP** **03 20 44.3 +1.0**
baz=240
NEA2 Nenana 130.50 34 P **PKiKP** **03 20 43.3 +0.1**
baz=240
G22K Bettles 130.80 31 P **PKiKP** **03 20 44.8 +1.1**
baz=240
HDA Harding Lake 131.21 35 P **PKiKP** **03 20 45.4 +0.7**
baz=241
K24K Donnelly Dome 131.37 36 P **PKiKP** **03 20 46.3 +1.2**
baz=242
COLD Coldfoot 131.40 31 P **PKiKP** **03 20 46.4 +1.4**
baz=241
ILAR Eielson Array 131.41 35 PKP **PKPdf** **03 20 44.3 +0.2**
comp=Z,1.3nm,0.8s,baz=302,slow=2.4,SNR=10
EDW2 Edwards Air Fo 131.44 82 P **PKiKP** **03 20 46.3 +0.2**
baz=233
J25K Salcha River, 131.91 35 P **PKiKP** **03 20 47.5 +1.4**
baz=243
L26K Log Cabin Wild 131.97 38 P **PKiKP** **03 20 48.4 +2.1**
baz=243
E23K Chandalar 131.99 30 P **PKiKP** **03 20 48.0 +1.7**
baz=242
G24K Hadweenzic Riv 132.09 32 P **PKiKP** **03 20 48.3 +1.9**
baz=243
SCRK Sand Creek 132.16 37 P **PKiKP** **03 20 48.4 +1.7**
baz=243
BELC Belle Mtn. Jos 132.21 84 P **PKiKP** **03 20 48.1 +0.3**
baz=232

PRP	Porcupine Dome	132.26	34	P		PKiKP	03 20 48.4	+1.5	
	baz=243								
F24K	Squaw Lake	132.32	31	P		PKiKP	03 20 48.5	+1.6	
	baz=243								
J26L	Joseph Creek	132.56	36	P		PKiKP	03 20 48.3	+0.8	
	baz=244								
CRVS	Cervenica-Dubn	132.56	300	*e*PKP		PKiKP	03 20 48.4	+0.5	
ROSC	El Rosal	132.77	151	PKP		PKPdf	03 20 48.7	-0.1	
	comp=Z,1.5nm,0.3s,baz=232,slow=16,SNR=3.7								
C24K	Franklin Bluff	133.04	28	P		PKiKP	03 20 48.8	+0.6	
	baz=244								
F25K	Christian Rive	133.13	32	P		PKiKP	03 20 48.1	-0.4	
	baz=245								
YUK4	Talbot Arm	133.21	41	P		PKiKP	03 20 50.5	+1.4	
	baz=245								
NVAR	Mina Array Bea	133.32	77	PKP		PKiKP	03 20 49.9	-0.1	
	comp=Z,3.9nm,0.9s,baz=215,slow=3.4,SNR=12								
E25K	Arctic Village	133.38	31	P		PKiKP	03 20 48.9	-0.1	
	baz=245								
G26K	Porcupine Rive	133.52	33	P		PKiKP	03 20 49.9	+0.7	
	baz=246								
EGAK	Eagle	133.61	36	P		PKiKP	03 20 49.7	+0.2	
	baz=246								
F26K	Sheenjek River	133.70	32	P		PKiKP	03 20 50.2	+0.6	
	baz=246								
I27K	Kandik River	133.77	35	P		PKiKP	03 20 50.5	+0.6	
	baz=246								
VYHS	Vyhne	133.87	298	*e*PKP		PKiKP	03 20 51.0	+0.5	
N30M	Aishikik Lake	133.94	42	P		PKiKP	03 20 50.6	+0.2	
	baz=246								
L29M	L29M	134.16	39	P		PKiKP	03 20 50.5	-0.2	
	baz=247								
C27K	Jago River	134.59	29	P		PKiKP	03 20 52.3	+0.9	
	baz=248								
K29M	Barlow Dome	134.70	38	P		PKPdf	03 20 51.1	+0.6	
	baz=248								
E27K	Coleen River	134.78	32	P		PKiKP	03 20 51.4	-0.5	
	baz=249								
I29M	Ogilvie Camp,	134.95	36	P		PKiKP	03 20 52.0	-0.2	
	baz=248								
RONA	Rosalia, Austr	134.98	296	*e*PKP		PKiKP	03 20 52.1	-0.8	
	comp=Z,5.8nm,1.2s								
R11A	Troy Canyon, C	135.03	79	P		PKiKP	03 20 52.9	-0.6	
	baz=236								
ARSA	Arzberg	135.22	295	*e*PKiKP		PKiKP	03 20 53.8	+0.4	
	comp=Z,4.7nm,1.1s								
SOKA	Soboth	135.24	294	*e*PKP		PKiKP	03 20 52.8	-0.7	
	comp=Z,11nm,1.4s								
CONA	Conrad Observa	135.35	296	*ep*PKiKP		PKiKP	03 20 57.3	+3.6	
	comp=Z,6.4nm,1.8s								
OBKA	Obir	135.45	294	*e*PKP		PKPdf	03 20 52.1	-0.3	
	comp=Z,14nm,1.7s								
FINES	FINESS Array B	135.64	317	PKP		PKiKP	03 20 53.0	-0.6	
	comp=Z,4.9nm,0.9s,baz=77,slow=3.4,SNR=7.7								
KRLC	Kraliky	135.80	299	*e*PKP		PKPdf	03 20 53.2	+0.3	
FARO	Faro, Yukon	135.87	41	P		PKPdf	03 20 53.2	+0.6	
	baz=249								
EPYK	Eagle Plains	135.92	35	P		PKiKP	03 20 53.8	-0.4	
	baz=251								
DLBC	Dease Lake	136.01	47	P		PKiKP	03 20 54.6	-0.1	
	baz=248								
MYKA	Terra Mystica	136.06	294	*i* PKP		PKPdf	03 20 53.1	-0.4	
	comp=Z,5.7nm,1.2s								
DPC	Dobruska-Polom	136.19	300	*e*PKP		PKPdf	03 20 53.5	-0.1	
CKRC	Cesky Krumlov	136.68	297	*e*PKP		PKPdf	03 20 55.0	+0.5	
121A	Cookes Peak, D	136.73	91	P		PKPdf	03 20 55.9	+0.5	
	baz=232								
ABTA	Abfaltersbach	136.80	293	*e*PKP		PKPdf	03 20 55.3	+0.4	
	comp=Z,6.3nm,0.9s								
GERES	GERESS Array B	137.05	297	PKhKP		PKPpre	03 20 48.2		
	comp=Z,1.2nm,1.0s,baz=117,slow=1.3,SNR=4.7								
GERES				PKP		PKPdf	03 20 54.7	-0.6	
	comp=Z,1.9nm,0.9s,baz=114,slow=1.2,SNR=10								
KHC	Kasperske Hory	137.25	297	*e*PKP		PKiKP	03 21 02.1	+4.7	
F31M	Tsiigehtchic	137.36	34	P		PKPdf	03 20 55.6	+0.5	
	baz=254								
TX31	Lajitas Ar. Si	137.40	98	P		PKPdf	03 20 56.2	-0.4	
	baz=228								
WTTA	Wattenberg	137.57	294	*i* PKP		PKPdf	03 20 55.6	-0.8	
	comp=Z,10.0nm,1.2s								
WATA	Walderalm	137.64	294	*e*PKiKP		PKiKP	03 20 58.3	-0.1	
	comp=Z,7.9nm,1.3s								
INK	Inuvik	137.67	33	PKP		PKPdf	03 20 55.9	+0.2	
	comp=Z,7.4nm,1.1s,baz=229,slow=2.5,SNR=9.0								
INK	Inuvik	137.67	33	P		PKiKP	03 20 56.9	-0.7	
	baz=255								
BRG	Berggiesshubel	137.78	299	*e*PKP		PKiKP	03 20 57.7	-0.7	
BRG				Amp			03 20 59.4		
	comp=Z,3.9nm,1.1s								
BRG	Berggiesshubel	137.78	299	P		PKiKP	03 21 05.6	+7.2	
BRG				Amp			03 21 06.4		
	comp=Z,6.0nm,1.0s								
MNTX	Cornudas Mount	137.80	94	P		PKPdf	03 20 57.4	+0.3	
	baz=231								
MNTX	Cornudas Mount	137.80	94	P		PKiKP	03 20 58.4	-0.7	
	baz=231								
SQTA	Sankt Quirin	137.81	293	*e*PKiKP		PKiKP	03 20 59.3	+0.5	
	comp=Z,12nm,1.1s								
DUG	Dugway, Tooele	137.84	79	P		PKiKP	03 20 58.2	-0.9	
	baz=238								
MOTA	Moosalm	137.93	293	*e*PKiKP		PKiKP	03 20 59.3	+0.3	
	comp=Z,6.9nm,0.8s								
FETA	Feichten	138.01	293	*e*PKiKP		PKiKP	03 20 59.6	+0.3	
	comp=Z,9.6nm,1.0s								
RETA	Reutte	138.20	293	*e*PKP		PKPdf	03 20 58.1	+0.7	
	comp=Z,8.4nm,1.2s								
CLL	Collm	138.50	300	*e*PKPdf		PKiKP	03 21 00.0	+0.2	
CLL				*e*SKPdf		SKPdf	03 24 33.0	-0.6	
DAVA	Damuels	138.65	293	*i* PKiKP		PKiKP	03 21 01.1	+0.6	
	comp=Z,7.5nm,0.9s								
MVCO	Mesa Verde	139.03	85	P		PKiKP	03 21 00.8	-0.9	
	baz=236								
ANMO	Albuquerque	139.07	90	P		PKPdf	03 21 00.1	+0.5	
	baz=234								
833A	Chaparral WMA,	139.50	103	P		PKPdf	03 21 00.7	+0.3	
	baz=227								
O20A	White River Ci	140.79	82	P		PKPdf	03 21 03.6	+1.0	
	baz=239								
MSTX	Muleshoe	140.93	94	P		PKPdf	03 21 02.3	-0.6	
	baz=233								
BOZ	Bozeman (W)	141.24	72	P		PKiKP	03 21 04.7	-1.2	
	baz=244								
PDAR	Pinedale Array	141.25	77	PKP		PKPdf	03 21 00.7	-2.7	
	comp=Z,1.5nm,1.0s,baz=270,slow=1.8,SNR=4.4								
ABTX	Abilene, Hawle	142.15	98	P		PKPdf	03 21 06.4	+1.4	
	baz=231								
ABTX	Abilene, Hawle	142.15	98	P		PKiKP	03 21 07.1	-0.9	
	baz=231								
AMTX	Amarillo	142.19	93	P		PKPdf	03 21 06.1	+1.0	
	baz=233								
ISCO	Idaho Springs	142.34	84	P		PKPdf	03 21 04.2	-1.3	
	baz=239								
ISCO	Idaho Springs	142.34	84	P		PKiKP	03 21 06.9	-1.6	
	baz=239								
NOA	NORSAR Array B	142.41	314	PKP		PKPdf	03 21 03.8	-0.8	
	comp=Z,1.8nm,0.9s,baz=103,slow=2.4,SNR=3.8								
RLMT	Red Lodge	142.53	74	P		PKPdf	03 21 06.6	+1.1	
	baz=244								
K22A	Casper	143.16	79	P		PKPbc	03 21 04.6	+1.0	
	baz=242								
ESDC	Sonseca Array	143.87	274	PKP		PKPbc	03 21 05.5	-0.1	
	comp=Z,3.1nm,1.0s,baz=108,slow=1.2,SNR=13								
KSCO	Kaye Shedlock'	143.89	87	P		PKPbc	03 21 06.4	+0.6	
	baz=238								
WMOK	Wichita Mounta	144.02	96	P		PKPbc	03 21 06.7	+0.6	
	baz=233								
WMOK	Wichita Mounta	144.02	96	P		PKPdf	03 21 09.2	+1.0	
	baz=233								
YKA	Yellowknife Ar	144.40	44	PKP		PKPbc	03 21 06.3	-0.2	
	comp=Z,20nm,1.0s,baz=264,slow=3.1,SNR=87								
NATX	Nacogdoches	144.84	104	P		PKPab	03 21 08.3	-0.4	
	baz=229								
NATX	Nacogdoches	144.84	104	P		PKPdf	03 21 10.5	+0.8	
	baz=229								
U32A	Winter Ranch,	144.84	93	P		PKPab	03 21 08.0	-0.6	
	baz=235								
441A	DeRidder	145.10	106	P		PKPbc	03 21 08.7	-1.0	
	baz=228								
PBAR	Barrancos	145.11	270	*e*PKP		PKPdf	03 21 10.4	+0.4	
LAO	LASA Array	145.11	73	P		PKPbc	03 21 09.0	-0.4	
	baz=247								
LAO	LASA Array	145.11	73	P		PKPdf	03 21 11.2	+1.4	
	baz=247								
OGNE	Ogallala	145.28	84	P		PKPab	03 21 10.1	-0.1	
	baz=240								
RSSD	Black Hills	145.45	78	P		PKPbc	03 21 10.7	0.0	
	baz=244								
RSSD	Black Hills	145.45	78	P		PKPab	03 21 11.2	+0.3	
	baz=244								
PCVE	Castro Verde	145.47	268	*e*PKP		PKPdf	03 21 09.8	-0.8	
PBEJ	Beja	145.57	269	*e*PKP		PKPbc	03 21 11.0	0.0	
Z38A	Mt. Pleasant	145.59	101	P		PKPab	03 21 11.6	+0.2	
	baz=231								
CBKS	Cedar Bluff	145.70	89	P		PKPdf	03 21 09.6	-1.4	
	baz=238								
PESTR	Estremoz	145.84	271	*e*PKP		PKPab	03 21 12.4	+0.1	
PTEO	Sao Teotonio	145.88	268	*e*PKP		PKPab	03 21 12.8	+0.4	
EVO	Evora	145.94	270	*e*PKP		PKPab	03 21 13.0	+0.4	
PNCL	Nicolau / Gran	146.06	269	*e*PKP		PKPab	03 21 13.6	+0.5	
342B	Flagon Creek P	146.07	106	P		PKPdf	03 21 11.3	-0.5	
	baz=228								
X37A	Clayton	146.16	99	P		PKPdf	03 21 11.7	-0.2	
	baz=232								
R32A	Long Quarter,	146.17	91	P		PKPbc	03 21 12.3	-0.5	
	baz=237								
PCBR	Castelo Branco	146.28	272	*e*PKP		PKPbc	03 21 13.2	+0.1	
MTE	Manteigas	146.60	273	*e*PKP		PKPbc	03 21 14.5	+0.4	
MVO	Moncorvo	146.64	275	*e*PKP		PKiKP	03 21 16.5	-0.5	
TUL1	Leonard	146.68	97	P		PKPdf	03 21 12.5	-0.2	
	baz=234								
PBRG	Braganca	146.76	276	*e*PKP		PKiKP	03 21 16.8	-0.4	
T35B	Sooner Cattle	146.79	95	P		PKPdf	03 21 12.4	-0.5	
	baz=235								
PVIS	Viseu	146.99	273	*e*PKP		PKPab	03 21 16.8	+0.1	
DGMT	Dagmar	147.05	71	P		PKPdf	03 21 13.0	0.0	
	baz=250								
DGMT	Dagmar	147.05	71	P		PKPbc	03 21 14.7	-0.4	
	baz=250								
PCAS	Cascais, Conde	147.06	272	*e*PKP		PKPbc	03 21 14.5	-0.9	
344A	Westbrook Farm	147.13	108	P		PKPdf	03 21 13.7	+0.1	
	baz=227								
MIAR	Mount Ida	147.31	101	P		PKPdf	03 21 13.9	0.0	
	baz=232								
PCAB	Cabril	147.56	275	*e*PKP		PKPdf	03 21 13.6	-0.5	
VBMS	Vicksburg	147.78	107	P		PKPdf	03 21 14.5	-0.2	
	baz=228								
U38A	Gravette	147.91	97	P		PKPdf	03 21 14.7	-0.1	
	baz=234								
S39A	Bolivar	149.32	96	P		PKPdf	03 21 17.8	+0.7	
	baz=236								
MDND	Maddock	149.74	74	P		PKPdf	03 21 17.8	+0.4	
	baz=251								
MDND	Maddock	149.74	74	P		PKiKP	03 21 22.8	-0.3	
	baz=251								
Z47A	Carrollton	149.97	108	P		PKPdf	03 21 17.3	-0.8	
	baz=228								
ECSD	EROS Data Cent	150.12	83	P		PKPdf	03 21 16.1	-2.0	
	baz=245								
ECSD	EROS Data Cent	150.12	83	P		PKPbc	03 21 23.2	0.0	
	baz=245								
P38A	Dawn	150.23	93	P		PKPdf	03 21 17.8	-0.6	
	baz=239								
R40A	Maddies Statio	150.35	96	P		PKPdf	03 21 17.9	-0.7	
	baz=237								
W45A	Hickory Valley	150.52	104	P		PKPdf	03 21 17.9	-1.1	
	baz=232								
LRAL	Lakeview Retre	150.53	110	P		PKPdf	03 21 18.1	-1.0	
	baz=228								
LRAL	Lakeview Retre	150.53	110	P		PKiKP	03 21 24.8	-0.4	
	baz=228								
CCM	Cathedral Cave	150.89	97	P		PKPdf	03 21 18.9	-0.5	
	baz=236								
CCM	Cathedral Cave	150.89	97	P		PKPbc	03 21 25.1	-0.1	
	baz=236								
P40A	Paris	151.16	94	P		PKPdf	03 21 19.7	-0.2	
	baz=239								
F33A	5 Mile Ranch,	151.17	80	P		PKPdf	03 21 19.5	-0.1	
	baz=248								
FVM	French Village	151.39	98	P		PKPdf	03 21 19.8	-0.4	
	baz=236								
X48A	Hartselle	151.43	108	P		PKPdf	03 21 18.9	-1.5	
	baz=230								
Y49A	Blount Mountai	151.44	109	P		PKPdf	03 21 19.9	-0.6	
	baz=229								
TIGA	Tifton	151.50	116	P		PKPdf	03 21 20.2	-0.5	
	baz=234								
152A	Waverly Hall	151.68	113	P		PKPdf	03 21 19.5	-1.4	
	baz=226								
Z51A	Franklin	151.85	112	P		PKPdf	03 21 20.1	-1.1	
	baz=227								
456A	Hilliard	151.89	119	P		PKPdf	03 21 19.9	-1.3	
	baz=222								
S44A	Carbondale	151.99	100	P		PKPdf	03 21 20.6	-0.6	
	baz=235								
WVT	Waverly	151.99	104	P		PKPdf	03 21 20.7	-0.5	
	baz=232								
WVT	Waverly	151.99	104	P		PKPbc	03 21 27.3	-0.5	
	baz=232								
I37B	Waseca	152.35	85	P		PKPdf	03 21 21.1	-0.4	
	baz=246								
V48A	Smith Brothers	152.39	106	P		PKPdf	03 21 21.5	-0.3	
	baz=232								
154A	Montrose	152.62	115	P		PKPdf	03 21 22.6	+0.4	
	baz=225								
ULM	Lac du Bonnet	152.77	71	PKPbc		PKPbc	03 21 27.9	-1.1	
	comp=Z,4.9nm,0.7s,baz=258,slow=1.7,SNR=7.5								
Q44A	Meyer Farm, Va	152.81	98	P		PKPdf	03 21 22.0	-0.4	
	baz=237								
X51A	Calhoun	152.88	110	P		PKPdf	03 21 21.4	-1.2	
	baz=229								
X51A				P		PKPdf	03 21 21.4	-1.2	
	baz=229								
Y52A	Lilburn	152.90	112	P		PKPdf	03 21 21.9	-0.7	
	baz=228								
Y52A				P		PKPdf	03 21 21.9	-0.7	
	baz=228								
L40A	Anamosa	152.95	90	P		PKPdf	03 21 21.4	-1.1	
	baz=243								
T47A	Sharon Grove	152.97	103	P		PKPdf	03 21 21.7	-0.9	
	baz=234								
F36A	Milaca	152.98	81	P		PKPdf	03 21 20.4	-1.9	
	baz=249								
W50A	Signal Mountai	153.00	108	P		PKPdf	03 21 21.4	-1.4	
	baz=230								
SPMN	Marine on St.	153.22	83	P		PKPdf	03 21 21.9	-0.8	
	baz=248								
OLIL	Olney	153.32	99	P		PKPdf	03 21 21.7	-1.3	
	baz=237								
HDIL	Hopedale	153.50	95	P		PKPdf	03 21 23.1	-0.2	
	baz=240								
HDIL	Hopedale	153.50	95	P		PKiKP	03 21 31.2	+0.1	
	baz=240								
U49A	Red Boiling Sp	153.53	106	P		PKPdf	03 21 23.0	-0.5	
	baz=232								
O44A	Mansfield	153.84	96	P		PKPdf	03 21 23.8	0.0	
	baz=239								
JFWS	Jewell Farm	153.97	89	P		PKPdf	03 21 24.0	+0.1	
	baz=244								
V51A	Loudon	153.99	108	P		PKPdf	03 21 23.2	-1.0	
	baz=231								
HAW	Hawthorne Fire	154.03	116	P		PKPdf	03 21 23.1	-1.2	
	baz=225								
WCI	Wyandotte Cave	154.22	102	P		PKPdf	03 21 24.0	-0.4	
	baz=235								
WCI	Wyandotte Cave	154.22	102	P		PKiKP	03 21 32.8	+0.2	
	baz=235								
HODGE	Hodges	154.25	114	P		PKPdf	03 21 24.0	-0.5	
	baz=227								
CASEE	Lake Jocassee	154.35	112	P		PKPdf	03 21 23.8	-0.9	
	baz=229								
T50A	Nancy	154.44	106	P		PKPdf	03 21 24.0	-0.8	
	baz=233								
T50A				P		PKPdf	03 21 24.0	-0.8	
	baz=233								
V52A	Sevierville	154.49	109	P		PKPdf	03 21 23.7	-1.2	
	baz=230								
PAULI	Pauline	154.92	113	P		PKPdf	03 21 25.1	-0.4	
	baz=228								
G40A	Rik Lake	154.94	84	P		PKPdf	03 21 23.1	-2.1	
	baz=249								
R49A	Shelbyville	154.97	103	P		PKPdf	03 21 24.2	-1.2	
	baz=235								
R49A				P		PKPdf	03 21 24.2	-1.2	
	baz=235								
SUMG	Summit	155.18	349	*i* P		PKPdf	03 21 35.0	+10	
I42A	Draeger Farm,	155.26	88	P		PKPdf	03 21 24.6	-1.0	
	baz=246								
KMSC	Kings Mountain	155.43	113	P		PKPdf	03 21 24.5	-1.6	
	baz=228								
P48A	Milroy	155.46	100	P		PKPdf	03 21 24.7	-1.3	
	baz=237								
P48A				P		PKPdf	03 21 24.7	-1.3	
	baz=237								
R50A	Paris	155.51	104	P		PKPdf	03 21 24.6	-1.5	
	baz=235								
R50A				P		PKPdf	03 21 24.6	-1.5	
	baz=235								
S51A	Beattyville	155.60	106	P		PKPdf	03 21 25.7	-0.6	
	baz=233								
S51A				P		PKPdf	03 21 25.7	-0.6	
	baz=233								
O48B	Farmland	156.06	99	P		PKPdf	03 21 25.9	-1.0	
	baz=239								
W57A	Gilead	156.24	115	P		PKPdf	03 21 26.4	-0.8	
	baz=227								
W57A				P		PKPdf	03 21 26.4	-0.8	
	baz=227								
Y60A	Bolivia	156.48	120	P		PKPdf	03 21 27.0	-0.5	
	baz=224								
Y60A				P		PKPdf	03 21 27.0	-0.5	
	baz=224								
O49A	Covington	156.56	100	P		PKPdf	03 21 26.2	-1.3	
	baz=238								
O49A				P		PKPdf	03 21 26.2	-1.3	
	baz=238								
Q51A	Peebles	156.57	103	P		PKPdf	03 21 25.2	-2.3	
	baz=236								
Q51A				P		PKPdf	03 21 25.2	-2.3	
	baz=236								
U56A	King	156.80	112	P		PKPdf	03 21 27.5	-0.5	
	baz=229								
U56A				P		PKPdf	03 21 27.5	-0.5	
	baz=229								
P51A	Williamsport	157.01	103	P		PKPdf	03 21 27.6	-0.5	
	baz=236								
P51A				P		PKPdf	03 21 27.6	-0.5	
	baz=236								
N49A	Columbus Grove	157.04	99	P		PKPdf	03 21 28.1	0.0	
	baz=240								
N49A				P		PKPdf	03 21 28.1	0.0	
	baz=240								
R53A	Hurricane	157.06	106	P		PKPdf	03 21 27.8	-0.4	
	baz=234								
R53A				P		PKPdf	03 21 27.8	-0.4	
	baz=234								
V58A	Windy Hill, Pi	157.20	115	P		PKPdf	03 21 28.0	-0.5	
	baz=228								
V58A				P		PKPdf	03 21 28.0	-0.5	
	baz=228								
Q52A	Bidwell	157.22	105	P		PKPdf	03 21 27.7	-0.7	
	baz=235								
Q52A				P		PKPdf	03 21 27.7	-0.7	
	baz=235								
ACSO	Alum Creek Sta	157.46	101	P		PKPdf	03 21 28.5	-0.2	
	baz=238								
G45A	Suttons Bay	157.86	88	P		PKPdf	03 21 29.1	+0.2	
	baz=249								
G45A				P		PKPdf	03 21 29.1	+0.2	
	baz=249								
T57A	Hurt	157.91	113	P		PKPdf	03 21 29.5	+0.2	
	baz=230								
T57A				P		PKPdf	03 21 29.5	+0.2	
	baz=230								
P53A	Whipple	158.08	105	P		PKPdf	03 21 28.8	-0.7	
	baz=236								
P53A				P		PKPdf	03 21 28.8	-0.7	
	baz=236								
O52A	Adamsville	158.14	103	P		PKPdf	03 21 27.5	-2.0	
	baz=237								
O52A				P		PKPdf	03 21 27.5	-2.0	
	baz=237								
Q54A	Coxs Mills	158.15	106	P		PKPdf	03 21 29.2	-0.4	
	baz=235								
Q54A				P		PKPdf	03 21 29.2	-0.4	
	baz=235								
R55A	Marlinton	158.18	109	P		PKPdf	03 21 29.0	-0.7	
	baz=233								
R55A				P		PKPdf	03 21 29.0	-0.7	
	baz=233								
N51A	Ashland	158.22	100	P		PKPdf	03 21 28.1	-1.4	
	baz=239								
N51A				P		PKPdf	03 21 28.1	-1.4	
	baz=239								
E46A	Sault Ste Mari	159.20	85	P		PKPdf	03 21 27.2	-3.3	
	baz=252								
Q56A	Snyder Ridge,	159.22	108	P		PKPdf	03 21 29.5	-1.4	
	baz=234								
Q56A				P		PKPdf	03 21 29.5	-1.4	
	baz=234								
R58B	Mineral	159.37	113	P		PKPdf	03 21 30.6	-0.4	
	baz=231								
R58B				P		PKPdf	03 21 30.6	-0.4	
	baz=231								
UPAO	U. Pittsburgh	159.51	104	P		PKPdf	03 21 30.6	-0.5	
	baz=237								
P57A	Homestead Farm	160.22	109	P		PKPdf	03 21 32.1	+0.2	
	baz=234								
P57A				P		PKPdf	03 21 32.1	+0.2	
	baz=234								
SDMD	Soldier's Deli	160.90	111	P		PKPdf	03 21 32.7	0.0	
	baz=233								
ODNJ	Ogdensburg	163.27	110	P		PKPdf	03 21 35.3	+0.3	
	baz=236								
J57A	Williamstown	163.57	101	P		PKPdf	03 21 35.4	+0.2	
	baz=243								
J57A				P		PKPdf	03 21 35.4	+0.2	
	baz=243								
J58A	Remsen	164.01	102	P		PKPdf	03 21 34.8	-0.8	
	baz=243								
J58A				P		PKPdf	03 21 34.8	-0.8	
	baz=243								
HCNY	Howe Caverns	164.26	105	P		PKPdf	03 21 35.7	-0.2	
	baz=240								
ACCN	Adirondack Com	165.06	104	P		PKPdf	03 21 36.1	-0.5	
	baz=242								
FRNY	Flat Rock	165.74	99	P		PKPdf	03 21 36.5	-0.6	
	baz=247								

IDC 10 03:07:32.9±5.0, 48.49S×125.76E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=320.8km s-min=81.9km az=101.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	16.09	323	T	T	03 28 18.6	
	baz=147						
H01W2	Cape Leeuwin H	16.09	323	T	T	03 28 22.3	
	baz=147						
H01W3	Cape Leeuwin H	16.10	323	T	T	03 28 20.2	
	baz=147						
ASAR	Alice Springs	25.60	17	P	P	03 13 03.7

TKM2	**Tokmak 2**	**7.47**	**29**	P		**Pn**	**03 15 30.6**	**+1.3**
	SNR=8.5							
TKM2	**Tokmak 2**	**7.47**	**29**	⇑P		**Pn**	**03 15 30.4**	**+1.1**
	8.2nm,0.5s							
TKM2				⇑S		**Sn**	**03 16 51.9**	**-1.0**
	9.7nm,0.8s							
MKAR	**Makanchi Array**	**13.47**	**36**	P		**Pn**	**03 16 47.3**	**-0.6**
	1.9nm,0.9s,baz=212,slow=11,SNR=12							
AB31	**Akbulak array**	**14.97**	**332**	P		**P**	**03 17 11.2**	**+2.7**
	0.5nm,0.3s,baz=151,slow=12,SNR=25							
AB31				⇑S		**Sn**	**03 19 51.9**	**-0.9**
	0.3nm,0.3s,baz=151,slow=23,SNR=6.7							
AKTO	**Aktyubinsk**	**16.66**	**331**	⇓P		**Pn**	**03 17 29.9**	**+2.4**
	3.0nm,0.7s							
ZALV	**Zalesovo Beam**	**20.05**	**25**	P		**P**	**03 18 03.1**	**-1.0**
	2.3nm,0.3s,baz=221,slow=12,SNR=13							
	2.3nm,0.3s							
OBN	**Obninsk**	**29.77**	**320**	LR		LR	03 33 33.5	
	comp=Z,41nm,21.9s,baz=202,slow=39							
AKASG	**Malin Array Be**	**32.74**	**309**	P		**P**	**03 20 00.1**	**-1.0**
	0.3nm,0.6s,baz=105,slow=9.4,SNR=1.8							
	0.3nm,0.6s							
FINES	**FINESS Array B**	**37.35**	**326**	P		**P**	**03 20 39.2**	**-1.2**
	2.4nm,0.9s,baz=115,slow=9.3,SNR=3.4							
	2.4nm,0.9s							
NOA	**NORSAR Array B**	**44.23**	**323**	P		**P**	**03 21 34.2**	**-2.6**
	1.3nm,1.0s,baz=99,slow=7.9,SNR=1.8							
	1.3nm,1.0s							

NEIC ***10*** *04:53:55.1±1.8, 15.˚73S±0.˚05×72.˚11W±0.˚09, h4km±6km, mb4.6/14, Mwr4.5/20, Error ellipse: s-maj=13.7km s-min=6.0km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=3.55; Mθθ=4.74; Mϕϕ=-1.19; Mrθ=6.79; Mθϕ=1.56; Mϕr=0.20; Fault plane solution: M₀=8.17000×10¹⁵ NP1:φs=56.90000°, δ=18.23000°, λ=-119.76000°. NP2:φs=267.94000°, δ=74.24000°, λ=-80.72000°. Principal axes: T 8.7608, Plg29.0000°, Azm350.0000°; N -1.3449, Plg9.0000°, Azm85.0000°; P -7.4158, Plg60.0000°, Azm191.0000°;*

IDC ***10*** *04:53:55.5±0.9, 15.˚47S×71.˚65W, h0km, mb4.0/3, mbtmp4.0/3, MS4.0/36 Error ellipse: s-maj=43.3km s-min=29.9km az=71.0*

VAO ***10*** *04:53:58.6±0.4, 15.˚63S×71.˚64W, h10km, mb4.2*

ISC 10 04:53:55.5±0.6, 15.˚66S±0.˚05×71.˚97W±0.˚08, h10km, n143, σ1§40/110, mb4.5/6, MS4.1/38, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**3.07**	**129**	Pn	**Pn**	**04 54 46.6**	**+2.0**
PB18				Sn	**Sn**	**04 55 22.3**	**+0.7**
PB18	**Visviri**	**3.07**	**129**	*i* P	**Pb**	**04 54 48.5**	**-2.0**
AP01	**Chacalluta**	**3.12**	**150**	Pn	**Pn**	**04 54 45.3**	**+0.6**
AP01				Sn	**Sn**	**04 55 23.0**	**+0.9**
AP01	**Chacalluta**	**3.12**	**150**	*e*P	**Pn**	**04 54 46.3**	**+1.5**
AP01				*e*S	**Sn**	**04 55 24.7**	**+2.6**
PB12	**IPOC Station P**	**3.34**	**152**	Pn	**Pn**	**04 54 48.7**	**+0.9**
PB12					**Sb**	**04 55 34.6**	**-1.0**
PB12	**IPOC Station P**	**3.34**	**152**	*e*P	**Pn**	**04 54 48.3**	**+0.4**
PB12				*e*S	**Sn**	**04 55 30.8**	**+3.2**
PB12				IAML		04 55 44.7	
	comp=N,168nm,0.6s						
PB16	**IPOC Station P**	**3.56**	**139**	Pn	**Pn**	**04 54 53.4**	**+2.1**
PB16	**IPOC Station P**	**3.56**	**139**	*e*P	**Pn**	**04 54 53.4**	**+2.1**
PB16				*e*S	**Sb**	**04 55 40.9**	**-1.5**
PB16				IAML		04 55 54.8	
	comp=E,289nm,0.9s						
LPAZ	**La Paz**	**3.75**	**100**	Pn	**Pn**	**04 54 56.4**	**+2.3**
MNMC	**Minye Minye**	**4.13**	**147**	Pn	**Pn**	**04 54 59.0**	**0.0**
MNMC	**Minye Minye**	**4.13**	**147**	⇓*e*P	**Pn**	**04 54 59.5**	**+0.5**
PSGC	**Pisagua**	**4.30**	**156**	*e*P	**Pn**	**04 55 02.6**	**+1.5**
PSGC				*e*S	**Sn**	**04 55 51.7**	**+0.3**
PSGCX	**Pisagua**	**4.30**	**156**	Pn	**Pn**	**04 55 01.2**	**+0.1**
PB11	**IPOC Station P**	**4.64**	**152**	Pn	**Pn**	**04 55 06.1**	**+0.2**
PB11	**IPOC Station P**	**4.64**	**152**	*e*P	**Pn**	**04 55 06.6**	**+0.7**
GO01	**Chusmiza**	**4.79**	**147**	Pn	**Pn**	**04 55 09.2**	**+1.0**
GO01	**Chusmiza**	**4.79**	**147**	*e*P	**Pn**	**04 55 11.2**	**+3.0**
TA02	**Huaiquique**	**4.91**	**159**	Pn	**Pn**	**04 55 09.3**	**-0.2**
TA01	**Diego Aracena**	**5.17**	**161**	Pn	**Pn**	**04 55 11.8**	**-1.2**
PB08	**IPOC Station P**	**5.21**	**149**	Pn	**Pn**	**04 55 14.6**	**+0.7**
PATCX	**Punta Patache**	**5.42**	**162**	Pn	**Pn**	**04 55 16.3**	**-0.3**
PB01	**IPOC Station P**	**5.86**	**157**	Pn	**Pn**	**04 55 22.1**	**-0.4**
PB02	**IPOC Station P**	**5.97**	**161**	Pn	**Pn**	**04 55 23.3**	**-0.8**
PB07	**IPOC Station P**	**6.35**	**162**	Pn	**Pn**	**04 55 28.2**	**-1.2**
PB09	**IPOC Station P**	**6.63**	**157**	Pn	**Pn**	**04 55 33.2**	**-0.1**
PB03	**IPOC Station P**	**6.70**	**162**	Pn	**Pn**	**04 55 33.4**	**-0.8**
PB04	**IPOC Station P**	**6.86**	**166**	Pn	**Pn**	**04 55 34.9**	**-1.5**
PB06	**IPOC Station P**	**7.37**	**162**	Pn	**Pn**	**04 55 43.1**	**-0.3**
LVC	**Limon Verde**	**7.50**	**158**	LR	LR	04 58 56.7	
	comp=E,1μm,21.8s,baz=337,slow=40						
LVC	**Limon Verde**	**7.50**	**158**	Pn	**Pn**	**04 55 45.0**	**-0.3**
LVC	**Limon Verde**	**7.50**	**158**	*e*P	**Pn**	**04 55 45.9**	**+0.5**
PB15	**IPOC Station P**	**7.88**	**163**	Pn	**Pn**	**04 55 49.8**	**-0.6**
CZSB	**Cruzeiro do Su**	**7.91**	**355**	Pn	**Pn**	**04 55 50.9**	**+0.2**
PB10	**IPOC Station P**	**7.93**	**171**	Pn	**Pn**	**04 55 49.8**	**-1.1**
ETMB	**Extrema**	**8.08**	**45**	Pn	**Pn**	**04 55 53.2**	**+0.3**
ETMB	**Extrema**	**8.08**	**45**	*e*P	**Pn**	**04 55 53.8**	**+0.9**
AF01	**San Pedro de A**	**8.09**	**154**	Pn	**Pn**	**04 55 53.9**	**+0.5**
PB14	**IPOC Station P**	**9.04**	**171**	Pn	**Pn**	**04 56 04.0**	**-2.6**
BBSD	**Serra de San D**	**11.01**	**100**	*e*P	**Pn**	**04 56 31.2**	**-2.0**
AC02	**Maricunga**	**11.44**	**167**	Pn	**Pn**	**04 56 39.5**	**0.3**
TBTG	**Tabatinga, AM**	**11.58**	**10**	Pn	**Pn**	**04 56 39.6**	**-1.3**
TBTG	**Tabatinga, AM**	**11.58**	**10**	*e*P	**Pn**	**04 56 41.9**	**+0.9**
VBST	**Vila Bela da S**	**11.60**	**86**	*e*P	**Pn**	**04 56 41.3**	**0.0**
VILB	**Vilhena**	**11.72**	**78**	Pn	**Pn**	**04 56 42.5**	**-0.5**
VILB	**Vilhena**	**11.72**	**78**	*e*P	**Pn**	**04 56 41.4**	**-1.6**
AC06	**Mina Casimiro**	**11.74**	**173**	Pn	**Pn**	**04 56 39.9**	**-3.3**
BBRB	**Robore, Bolivi**	**11.93**	**104**	*e*P	**Pn**	**04 56 43.6**	**-2.2**
PTLB	**Pontes e Lacer**	**12.37**	**91**	Pn	**Pn**	**04 56 53.3**	**+1.5**
PTLB	**Pontes e Lacer**	**12.37**	**91**	*e*P	**Pn**	**04 56 50.2**	**-1.6**
POCN	**Pocone**	**14.67**	**96**	*e*P	**Pn**	**04 57 21.2**	**-2.1**
MURT	**Porto Murtinho**	**14.86**	**116**	*e*P	**Pn**	**04 57 24.4**	**-1.4**
CO03	**El Pedregal**	**15.16**	**176**	P	**P**	**04 57 33.3**	**-1.7**
CO03				IAmb	IAmb	04 57 39.5	
	comp=Z,35nm,1.4s						
CHSH	**Refugio Sur-Vo**	**15.63**	**334**	Pn	**Pn**	**04 57 36.8**	**+0.2**
CHSH				IAmb	IAmb	04 57 50.7	
	comp=Z,14nm,1.0s						
NBRS	**Nobres**	**15.70**	**87**	*e*P	**Pn**	**04 57 35.1**	**-2.0**
ZON	**Zonda**	**16.10**	**170**	Pn	**Pn**	**04 57 42.3**	**+0.1**
AQDB	**Aquidauana**	**16.20**	**110**	*e*P	**Pn**	**04 57 43.5**	**+0.2**
CFA	**Coronel Fontan**	**16.24**	**169**	LR	LR	05 03 46.3	
	comp=Z,336nm,19.8s,baz=300,slow=36						
ANTJ	**Antonio Joao (**	**16.37**	**115**	*e*P	**Pn**	**04 57 46.6**	**+0.9**
RVDE	**Rio Verde (Bra**	**16.60**	**104**	*e*P	**Pn**	**04 57 48.0**	**-0.6**
MACA	**Manacapuru-AM**	**16.66**	**43**	Pn	**Pn**	**04 57 48.5**	**-0.9**
MACA				IAmb	IAmb	04 57 55.1	
	comp=Z,17nm,1.0s						
MACA	**Manacapuru-AM**	**16.66**	**43**	*e*P	**Pn**	**04 57 49.5**	**+0.1**
PULU	**Pululahua**	**16.86**	**337**	Pn	**Pn**	**04 57 49.8**	**-2.4**
PULU				IAmb	IAmb	04 58 33.7	
	comp=Z,112nm,1.4s						
TULM	**Tulcn-Chalpat**	**17.25**	**340**	*e*P	**P**	**04 58 00.6**	**+1.9**
FLOC	**Florencia**	**17.51**	**348**	*e*P	**P**	**04 58 02.8**	**+1.7**
MT05	**Renca**	**17.70**	**177**		**Pn**	**04 58 01.5**	**-0.7**
MT05				IAmb	IAmb	04 58 21.6	
	comp=Z,38nm,1.1s						
MACC	**Macarena, Meta**	**17.78**	**354**	*e*P	**P**	**04 58 05.3**	**+1.2**
NPGB	**Novo Progresso**	**18.39**	**64**	*e*P	**P**	**04 58 11.1**	**+0.2**
MECA	**Mercedes**	**18.60**	**139**	*e*P	**Pn**	**04 58 15.4**	**+2.1**
DVLD	**Doverlandia**	**19.05**	**96**	*e*P	**P**	**04 58 17.4**	**-0.8**
ARAG	**Araguaiana, MT**	**19.41**	**93**	*e*P	**P**	**04 58 20.3**	**-1.8**
ITTB	**Itaituba**	**19.51**	**57**	*e*P	**P**	**04 58 22.6**	**-0.5**
ITQB	**Itaqui**	**19.85**	**137**	P	**P**	**04 58 21.7**	**+0.5**
ITQB				IAmb	IAmb	04 58 45.3	
	comp=Z,57nm,1.3s						
SNDB	**Serra Nova Dou**	**20.41**	**82**	*e*P	**P**	**04 58 31.3**	**-1.7**
PCMB	**Pacaembu**	**20.49**	**110**	*e*P	**P**	**04 58 33.8**	**0.0**
ROSC	**El Rosal**	**20.50**	**353**	LR	LR	05 06 57.6	
	comp=Z,998nm,21.3s,baz=212,slow=38						
UNIS	**Unistalda (Bra**	**20.52**	**133**	*e*P	**P**	**04 58 33.6**	**-0.4**
PLMC	**San Jos del P**	**20.87**	**348**	*e*P	**P**	**04 58 37.2**	**-0.8**
ITRB	**Iturama**	**20.98**	**104**	*e*P	**P**	**04 58 38.7**	**-0.4**
GUY2C	**Guyana, Caldas**	**21.02**	**351**	*e*P	**P**	**04 58 39.9**	**-0.1**
BOAV	**Boa Vista**	**21.21**	**33**	*e*P	**P**	**04 58 42.7**	**+1.1**
NORC	**Norcasia**	**21.28**	**352**	*e*P	**P**	**04 58 43.9**	**+1.5**
RUSC	**La Rusia**	**21.44**	**357**	P	**P**	**04 58 44.9**	**+0.3**
RUSC				IAmb	IAmb	04 58 53.6	
	comp=Z,40nm,1.5s						
CBOC	**Ciudad Bolivar**	**21.75**	**349**	*e*P	**P**	**04 58 48.7**	**+1.2**
ALGR	**Alto Alegre (B**	**21.84**	**130**	*e*P	**P**	**04 58 50.8**	**+2.5**
MALB	**Monte Alegre**	**22.20**	**54**	*e*P	**P**	**04 58 52.2**	**-0.1**
FRTB	**Fartura**	**22.45**	**113**	*e*P	**P**	**04 58 54.9**	**0.0**
DBBC	**Dabeiba**	**22.91**	**349**	*e*P	**P**	**04 59 02.5**	**+2.6**
BDFB	**Brasilia**	**23.07**	**93**	P	**P**	**04 58 59.9**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=252,slow=13,SNR=3.1						
	comp=Z,1.7nm,0.7s						
GO06	**Curarrehue**	**23.84**	**179**	P	**P**	**04 59 07.0**	**-2.1**
GO06				IAmb	IAmb	04 59 42.7	
	comp=Z,21nm,1.3s						
SDV	**Santo Domingo**	**24.42**	**3**	P	**P**	**04 59 15.2**	**+0.5**
SDV				IAmb	IAmb	04 59 23.5	
	comp=Z,12nm,1.0s						
SDV	**Santo Domingo**	**24.42**	**3**	*e*P	**P**	**04 59 16.8**	**+2.2**
BAUV	**El Baul**	**24.75**	**9**	P	**P**	**04 59 17.2**	**-0.2**
SMTB	**Santa Maria do**	**24.75**	**77**	*e*P	**P**	**04 59 18.7**	**+1.2**
MCPB	**Macapa, AP**	**24.85**	**54**	*e*P	**P**	**04 59 19.6**	**+1.2**
PLCA	**Paso Flores**	**25.02**	**177**	P	**P**	**04 59 22.6**	**+2.8**
	comp=Z,9.7nm,1.1s,baz=357,slow=9.7,SNR=8.5						
PLCA				LR	LR	05 11 22.1	
	comp=Z,142nm,18.1s,baz=2.0,slow=42						
	comp=Z,9.7nm,1.1s						
PLCA	**Paso Flores**	**25.02**	**177**	P	**P**	**04 59 20.2**	**+0.4**
PLCA				IAmb	IAmb	04 59 27.3	
	comp=Z,25nm,1.4s						
PLCA	**Paso Flores**	**25.02**	**177**	*e*P	**P**	**04 59 22.3**	**+2.5**
LL04	**Puerto Octay**	**25.17**	**181**	P	**P**	**04 59 20.3**	**-0.7**
LL05	**Los Muermos**	**25.69**	**183**	P	**P**	**04 59 26.1**	**+0.4**
MDP	**Montagnes des**	**28.14**	**44**	LR	LR	05 11 40.9	
	comp=Z,1μm,18.8s,baz=211,slow=38						
JTS	**Las Juntas de**	**28.81**	**333**	LR	LR	05 12 42.9	
	comp=Z,225nm,19.2s,slow=39						
SJG	**San Juan**	**34.04**	**10**	LR	LR	05 15 59.8	
	comp=Z,277nm,18.3s,baz=183,slow=39						
RPN	**Rapa Nui**	**36.48**	**245**	LR	LR	05 12 02.2	
	comp=Z,408nm,19.5s,baz=81,slow=30						
RCBR	**Riachuelo**	**36.70**	**79**	LR	LR	05 17 08.8	
	comp=Z,485nm,20.4s,baz=36,slow=38						
CMIG	**Matias Romero**	**39.62**	**324**	LR	LR	05 15 46.6	
	comp=Z,141nm,20.2s,baz=118,slow=33						
PMSA	**Palmer Station**	**49.37**	**176**	LR	LR	05 23 00.5	
	comp=Z,60nm,18.8s,baz=308,slow=35						
TKL	**Tuckaleechee C**	**52.24**	**348**	LR	LR	05 28 41.3	
	comp=Z,158nm,18.4s,baz=167,slow=40						
LPIG	**La Paz**	**54.43**	**316**	LR	LR	05 23 00.7	
	comp=Z,41nm,18.4s,baz=43,slow=32						
RKT	**Rikitea**	**59.51**	**252**	*e*LR	LR	05 21 34.2	
	comp=Z,46μm,27.8s						
ANMO	**Albuquerque**	**60.04**	**328**	LR	LR	05 32 20.4	
	comp=Z,53nm,18.7s,baz=190,slow=38						
SADO	**Sadowa**	**60.49**	**354**	LR	LR	05 32 42.9	
	comp=Z,94nm,19.4s,baz=120,slow=39						
BBTS	**Babate**	**62.52**	**64**	LR	LR	05 30 31.2	
	comp=Z,252nm,19.1s,baz=264,slow=35						
TAOE	**Nuku Hiva Isla**	**66.74**	**267**	*e*LR	LR	05 24 48.7	
	comp=Z,151nm,25.6s						
ULM	**Lac du Bonnet**	**68.91**	**344**	LR	LR	05 39 20.2	
	comp=Z,75nm,18.5s,baz=64,slow=40						
ELK	**Elko**	**68.98**	**326**	LR	LR	05 34 24.0	
	comp=Z,72nm,19.6s,baz=92,slow=35						
SCHQ	**Schefferville**	**70.34**	**3**	LR	LR	05 38 38.2	
	comp=Z,86nm,18.4s,baz=230,slow=38						
TBI	**Tubuai**	**72.69**	**250**	*e*LR	LR	05 27 40.7	
	comp=Z,367nm,29.0s						
YBH	**Yreka Blue Hor**	**73.83**	**323**	LR	LR	05 36 47.5	
	comp=Z,66nm,18.3s,baz=96,slow=35						
PPT2	**Papeete2**	**73.87**	**256**	*e*LR	LR	05 28 10.5	
	comp=Z,135nm,25.0s						
PPT2				*e*LR	LR	05 28 11.7	
	comp=Z,132nm,23.5s						
NEW	**Newport**	**75.26**	**331**	LR	LR	05 41 01.9	
	comp=Z,54nm,19.1s,baz=91,slow=38						
FRB	**Frobisher Bay**	**79.19**	**2**	LR	LR	05 40 33.6	
	comp=Z,102nm,21.4s,baz=223,slow=35						
MDT	**Midelt**	**80.35**	**52**	LR	LR	05 40 22.3	
	comp=Z,119nm,19.7s,baz=348,slow=35						
VNDA	**Vanda**	**82.06**	**190**	LR	LR	05 37 23.3	
	comp=Z,114nm,18.9s,baz=162,slow=32						
RAR	**Rarotonga**	**82.47**	**250**	LR	LR	05 33 53.4	
	comp=Z,76nm,21.5s,baz=92,slow=29						
BBB	**Bella Bella**	**83.16**	**329**	LR	LR	05 45 14.6	
	comp=Z,96nm,18.7s,baz=56,slow=37						
ESDC	**Sonseca Array**	**83.81**	**46**	LR	LR	05 41 28.1	
	comp=Z,106nm,18.6s,baz=326,slow=34						
SFJD	**Kangerlussuaq**	**83.91**	**8**	LR	LR	05 45 03.7	
	comp=Z,68nm,19.2s,baz=148,slow=37						
SUR	**Sutherland**	**84.07**	**122**	LR	LR	05 40 48.5	
	comp=Z,96nm,18.7s,baz=288,slow=34						
TSUM	**Tsumeb**	**84.56**	**108**	LR	LR	05 42 14.7	
	comp=Z,81nm,18.2s,baz=326,slow=34						
YKA	**Yellowknife Ar**	**84.75**	**342**	P	**P**	**05 06 29.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=138,slow=4.9,SNR=13						
	comp=Z,0.7nm,0.7s						
DLBC	**Dease Lake**	**87.71**	**333**	LR	LR	05 49 44.3	
	comp=Z,56nm,18.6s,baz=103,slow=38						
BOSA	**Boshof**	**88.79**	**119**	LR	LR	05 45 23.7	
	comp=Z,122nm,18.9s,baz=219,slow=35						
BORG	**Borgarnes**	**88.87**	**19**	LR	LR	05 45 48.8	
	comp=Z,76nm,19.0s,baz=134,slow=35						
LBTB	**Lobatse**	**90.14**	**116**	LR	LR	05 44 44.7	
	comp=Z,139nm,20.0s,baz=180,slow=34						
MAW	**Mawson**	**90.72**	**164**	LR	LR	05 49 40.5	
	comp=Z,66nm,18.2s,baz=241,slow=37						
RES	**Resolute Bay**	**91.30**	**354**	LR	LR	05 51 33.5	
	comp=Z,66nm,19.1s,baz=56,slow=38						
ASAR	**Alice Springs**	**133.45**	**213**	PKP	**PKiKP**	**05 13 15.8**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=113,slow=2.1,SNR=5.6						
WRA	**Warramunga Arr**	**136.18**	**217**	PKP	**PKPdf**	**05 13 18.1**	**0.0**
	comp=Z,0.8nm,0.9s,baz=162,slow=1.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**137.70**	**20**	PKP	**PKiKP**	**05 13 21.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=343,slow=4.5,SNR=4.6						
MKAR	**Makanchi Array**	**142.29**	**29**	PKhKP	PKPpre	05 13 25.7	
	comp=Z,0.5nm,0.8s,baz=300,slow=2.6,SNR=3.1						
MJAR	**Matsushiro Arr**	**146.06**	**314**	PKPbc	**PKiKP**	**05 13 38.0**	**-1.5**
	comp=Z,9.3nm,1.0s,baz=48,slow=2.5,SNR=9.2						
SONM	**Songino Array**	**147.88**	**2**	PKPbc	**PKPbc**	**05 13 41.8**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=335,slow=1.2,SNR=14						
KSRS	**Korea Array**	**152.04**	**325**	PKPbc	**PKiKP**	**05 13 54.1**	**+2.3**
	comp=Z,3.2nm,0.9s,baz=52,slow=2.0,SNR=3.7						

HVO ***10*** *05:07:16.9±2.0, 20.˚27N±0.˚02×155.˚72W±0.˚04, h16km±3km, ML2.7/3, ML2.7/38(NEIC), Error ellipse: s-maj=5.8km s-min=1.9km az=63.0*

NEIC 10 05:07:14.8±0.7, 20.˚26N±0.˚04×155.˚74W±0.˚07, h42km±5km, Error ellipse: s-maj=11.1km s-min=3.5km az=61.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	**Mahukona**	**0.17**	**244**	Pg	Pn	05 07 22.1	0.0
HPAH	**Hawaii Prepara**	**0.23**	**170**		Pn	05 07 22.8	+0.1
POHA	**Pohakuloa**	**0.54**	**159**		Pn	05 07 26.4	0.0
POHA	**Pohakuloa**	**0.54**	**159**		Sn	05 07 33.8	-0.8
HUH	**Hualalai**	**0.58**	**189**		Pn	05 07 27.3	+0.3
KHLU	**Kahalu`u**	**0.68**	**192**		Pn	05 07 28.0	-0.2
KHLU					Sn	05 07 36.7	-1.0
HLK	**Haleakala**	**0.68**	**316**		Pn	05 07 28.1	-0.2
HLK				IAML		05 07 40.4	
	comp=E,214nm,4.2s						
HLK	**Haleakala**	**0.68**	**316**		Sn	05 07 37.1	-0.9
HLK	**Haleakala**	**0.68**	**316**	IAML		05 07 36.3	
	comp=N,212nm,3.6s						
HMH	**Humu'ula Sheep**	**0.70**	**160**		Pn	05 07 28.6	0.0
HMH					Sn	05 07 37.2	-1.3
HMH	**Humu'ula Sheep**	**0.70**	**160**	IAML		05 07 39.9	
	comp=N,218nm,2.0s						
ALEP	**Alea Permanent**	**0.72**	**173**		Pn	05 07 29.2	+0.3
ALEP					Sn	05 07 38.6	-0.4
MLOA	**Mauna Loa Obse**	**0.74**	**168**	Pg	Pn	05 07 29.4	+0.2
MLOA				IAML		05 07 44.1	
	comp=N,232nm,2.8s						
MLOA	**Mauna Loa Obse**	**0.74**	**168**		Sn	05 07 39.7	+0.1
MWH	**Moku'aweowe**	**0.79**	**170**		Pn	05 07 29.6	-0.3
MWH	**Moku'aweowe**	**0.79**	**170**	IAML		05 07 48.9	
	comp=E,233nm,1.3s						
MWH				IAML		05 07 53.1	
	comp=N,189nm,2.1s						
CPH	**Captain Cook**	**0.79**	**192**		Pn	05 07 29.5	0.0
MLH	**Mauna Loa**	**0.83**	**156**		Pn	05 07 30.2	-0.1
MLH	**Mauna Loa**	**0.83**	**156**	IAML		05 07 40.5	
	comp=E,193nm,0.3s						
MLH				IAML		05 08 00.3	
	comp=N,188nm,3.2s						
KHLH	**Kahului Airpor**	**0.90**	**315**	Pg	Pn	05 07 31.3	+0.3
KHLH				IAML		05 07 48.7	
	comp=N,137nm,3.9s						
RSD	**Rainshed**	**0.91**	**151**	IAML		05 07 43.4	
	comp=N,321nm,0.1s						
AIN	**Ainahou**	**0.93**	**163**	IAML		05 07 57.4	
	comp=E,214nm,4.0s						
AIN				IAML		05 08 05.8	
	comp=N,323nm,3.3s						
UWE	**Uwekahuna**	**0.94**	**153**		Pn	05 07 31.4	-0.2
UWB	**Uwekahuna B**	**0.94**	**152**		Pn	05 07 31.3	-0.3
UWB	**Uwekahuna B**	**0.94**	**152**	IAML		05 07 51.8	
	comp=E,166nm,1.9s						
UWB				IAML		05 07 57.6	
	comp=N,288nm,1.8s						
WRMHI	**West Rim**	**0.95**	**154**		Pn	05 07 31.5	-0.3
PUH	**Pauahi**	**1.01**	**151**	IAML		05 07 40.5	
	comp=N,248nm,2.4s						
PUH				IAML		05 07 44.6	
	comp=E,183nm,0.2s						
KHU	**Kahuku**	**1.02**	**173**		Pn	05 07 32.8	0.0
KHU	**Kahuku**	**1.02**	**173**	IAML		05 07 44.6	
	comp=N,186nm,4.1s						
KHU				IAML		05 07 56.9	
	comp=E,159nm,3.1s						
HLP	**Hilina Pali**	**1.04**	**157**	IAML		05 07 45.0	
	comp=N,362nm,0.1s						
HLP				IAML		05 07 55.3	
	comp=E,322nm,3.3s						
HON	**Honolulu**	**2.36**	**297**		Pn	05 07 51.5	+0.4
KEKH	**Kekaha**	**4.08**	**295**		Pn	05 08 14.5	-0.1

IDC ***10*** *05:29:30.1±2.4, 11.˚05S×123.˚20E, h0km, mb3.9/2, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=205.8km s-min=32.1km az=52.0*

DJA ***10*** *05:29:33.1±0.5, 11.˚5S±3.˚×12.˚4E±.˚, h10km, M3.8/5, mb4.3/1, MLv3.6/5*

ISC 10 05:29:32.0±1.0, 10.˚69S±0.˚07×123.˚85E±0.˚08, h10km, n7, σ1§88/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.51**	**339**	P	**Pg**	**05 29 42.1**	**+0.2**
BATI				S	**Sb**	**05 29 49.2**	**-1.3**
SOEI	**Soe**	**1.01**	**24**	P	**Pg**	**05 29 51.3**	**-0.2**
SOEI				S	**Sb**	**05 30 05.4**	**+0.3**
BASI	**Baing, Sumba**	**3.25**	**278**	P	**Pn**	**05 30 23.3**	**+0.3**
WRA	**Warramunga Arr**	**13.67**	**134**	Pn	**Pn**	**05 32 48.1**	**+2.1**
	0.1nm,0.3s,baz=301,slow=14,SNR=2.9						
WRA				Sn	Sn	05 35 12.0	-6.2
	baz=308,slow=24,SNR=4.9						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**16.08**	**145**	Pn	**Pn**	**05 33 19.5**	**+1.2**
	0.2nm,0.3s,baz=318,slow=12,SNR=6.4						
ASAR				Sn	**Sn**	**05 36 12.8**	**-4.0**
	0.1nm,0.3s,baz=322,slow=23,SNR=8.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**68.19**	**331**	P	**P**	**05 40 33.0**	**+0.4**
	1.1nm,0.7s,baz=137,slow=7.9,SNR=14						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**72.38**	**337**	P	**P**	**05 40 57.2**	**-0.8**
	0.5nm,0.5s,baz=134,slow=4.2,SNR=2.6						
	0.5nm,0.5s						

**IDC 10 05:45:13.8±2.2, 3.˚50S×154.˚26E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=82.9km s-min=28.0km az=116.0, North of Sol

Azm1.0000°; P -10.5607, Plg41.0000°, Azm255.0000°;
NEIC ***10*** *06:14:05.6,4.4S,149.1E,h611km,Moment Tensor Solution. Duration: 23s9 Moment tensor: Scale 10^{20}Nm; M_{rr}0.00; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-0.17; $M_{r\theta}$0.08; $M_{\theta\phi}$0.32; $M_{\phi r}$-0.95;*
Fault plane solution: $M_0$1.00000×10^{20} NP1: ϕ_s180.14000°,δ87.80000°,λ108.67000°. NP2: ϕ_s276.64000°,δ18.79000°,λ6.85000°. Principal axes: T 0.9049, Plg44.0000°, Azm109.0000°; N 0.1987, Plg19.0000°, Azm359.0000°; P -1.1036, Plg40.0000°, Azm253.0000°;

ISC 10 06:13:47.7±0.2,4°41N±0.02×122°56E±0.02,h628km±1km, h630km:pP-P,n2652,σ1§83/3196,mb6.5/391,199C-204D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZCP	**Zamboanga City**	**2.55**	**349**	*ieP*	**P**	**06 15 07.5**	**+0.5**
ZCP				*eS*	**S**	**06 16 15.2**	**+3.7**
GSPH	**General Santos**	**2.90**	**55**	*ieP*	**P**	**06 15 08.6**	**-0.3**
SGSI	**Sangihe**	**3.04**	**104**	P	**P**	**06 15 08.3**	**-1.2**
CTBH	**Cotabato--PC H**	**3.25**	**31**	*iP*	**P**	**06 15 10.3**	**-0.4**
PAGZ	**Pagadian**	**3.51**	**13**	*ieP*	**P**	**06 15 12.6**	**+0.4**
PAGZ				*eS*	**S**	**06 16 27.0**	**+6.0**
KCP	**Kidapawan**	**3.60**	**44**	*ieP*	**P**	**06 15 11.3**	**-1.5**
KCP				*i* S	**S**	**06 16 29.0**	**+6.9**
TOLI2	**Tolitoli**	**3.73**	**209**	P	**P**	**06 15 13.9**	**+0.3**
GTOI	**Gorontalo**	**3.78**	**173**	P	**P**	**06 15 12.9**	**-1.0**
MRSI	**Marisa**	**3.96**	**189**	P	**P**	**06 15 16.3**	**+1.2**
DAV	**Davao City (W)**	**4.00**	**49**	P	**P**	**06 15 14.5**	**-0.8**
	36μm,0.7s,baz=160,slow=0.9,SNR=194						
DAV				S	**S**	**06 16 33.4**	**+6.8**
	25μm,0.6s,baz=90,slow=24,SNR=38						
DAV	**Davao City (W)**	**4.00**	**49**	*iP*	**P**	**06 15 14.3**	**-0.9**
DAV	**Davao City (W)**	**4.00**	**49**	P	**P**	**06 15 13.8**	**-1.5**
MYLDM	**Lahad Datu**	**4.12**	**281**	P	**P**	**06 15 18.1**	**+2.0**
MYLDM	**Lahad Datu**	**4.12**	**281**	*iP*	**P**	**06 15 18.2**	**+2.1**
DCPH	**Dipolog City**	**4.22**	**11**	*iP*	**P**	**06 15 16.7**	**0.0**
DCPH				*i* S	**S**	**06 16 29.4**	**+0.2**
BUKP	**Musuan**	**4.25**	**36**	*eP*	**P**	**06 15 16.5**	**-0.5**
BUKP				*i* S	**S**	**06 16 33.9**	**+4.2**
CGP	**Cagayan de Oro**	**4.54**	**28**	*eP*	**P**	**06 15 19.1**	**+0.1**
LSIP	**Lazi, Siquijor**	**4.80**	**13**	*eP*	**P**	**06 15 20.6**	**-0.3**
LSIP				*eS*	**S**	**06 16 32.1**	**-4.9**
MPSI	**Mapaga**	**4.85**	**213**	P	**P**	**06 15 21.2**	**-0.1**
BIPH	**Bislig**	**5.32**	**45**	*eP*	**P**	**06 15 22.5**	**-2.4**
BIPH				*eS*	**S**	**06 16 41.0**	**-3.2**
APSI	**Ampana**	**5.37**	**190**	P	**P**	**06 15 26.0**	**+0.7**
	68μm,0.9s,177nm						
CNOP	**Candoni, Negro**	**5.38**	**1**	*eP*	**P**	**06 15 24.4**	**-1.0**
CNOP				*i* S	**S**	**06 16 42.8**	**-2.3**
TBP	**Tagbilaran**	**5.40**	**14**	*iP*	**P**	**06 15 24.5**	**-1.0**
LUWI	**Luwuk**	**5.42**	**178**	P	**P**	**06 15 24.1**	**-1.6**
LUWI	**Luwuk**	**5.42**	**178**	P	**P**	**06 15 23.8**	**-1.9**
	70μm,1.3s,758μm510μm485nm						
TABP	**Talibon, Bohol**	**5.91**	**17**	*iP*	**P**	**06 15 29.8**	**+0.2**
TABP				*eS*	**S**	**06 16 47.3**	**-5.5**
TNTI	**Ternate**	**6.01**	**127**	P	**P**	**06 15 28.9**	**-1.7**
TNTI	**Ternate**	**6.01**	**127**	P	**P**	**06 15 28.8**	**-1.7**
	40μm,0.7s,715μm709μm588nm						
LLP	**Lapu-Lapu**	**6.03**	**13**	*iP*	**P**	**06 15 29.1**	**-1.5**
LLP				*i* S	**S**	**06 16 54.0**	**-0.7**
SPMM	**Sapulut**	**6.09**	**273**	P	**P**	**06 15 32.0**	**+0.8**
MSLP	**Maasin**	**6.12**	**22**	*eP*	**P**	**06 15 29.1**	**-2.4**
JAP	**San Jose, Anti**	**6.32**	**354**	*eP*	**P**	**06 15 33.4**	**+0.3**
JAP				*eS*	**S**	**06 17 02.9**	**+3.7**
KKM	**Kota Kinabalu**	**6.53**	**285**	P	**P**	**06 15 35.3**	**+0.3**
KKM	**Kota Kinabalu**	**6.53**	**285**	*iP*	**P**	**06 15 35.7**	**+0.7**
PPR	**Puerto Princes**	**6.55**	**325**	*eP*	**P**	**06 15 36.3**	**+1.2**
RCP	**Roxas**	**7.10**	**1**	*eP*	**P**	**06 15 37.9**	**-2.0**
SMKI	**Samarinda**	**7.21**	**228**	P	**P**	**06 15 40.9**	**0.0**
	126μm,1.0s,420nm						
SANI	**Sanana**	**7.28**	**152**	P	**P**	**06 15 39.7**	**-1.8**
	22μm,0.8s,301μm197μm424nm						
MMPH	**Masbate**	**7.96**	**7**	*eP*	**P**	**06 15 47.2**	**-0.5**
BKB	**Balikpapan**	**7.99**	**225**	P	**P**	**06 15 49.6**	**+1.6**
BKB	**Balikpapan**	**7.99**	**225**	P	**P**	**06 15 47.0**	**-1.0**
	160μm,1.0s,919μm564nm						
SPSI	**Sidrap Palu**	**8.78**	**199**	P	**P**	**06 15 55.8**	**+0.4**
	34μm,1.1s,380μm428μm						
NLAI	**Namlea**	**8.85**	**149**	P	**P**	**06 15 58.1**	**+2.0**
	15μm,0.7s,320μm						
MTKI	**Muara Teweh, K**	**9.33**	**235**	P	**P**	**06 16 01.4**	**+0.7**
	46μm,1.4s,523μm276μm						
GQP	**Guinayangan**	**9.43**	**359**	*eP*	**P**	**06 16 00.9**	**-0.7**
GQP				*eS*	**S**	**06 17 48.4**	**-3.0**
LUBP	**Lubang**	**9.54**	**346**	*eP*	**P**	**06 16 02.4**	**-0.2**
LUBP				*i* S	**S**	**06 17 53.2**	**-0.1**
LQP	**Lukban**	**9.69**	**354**	*eP*	**P**	**06 16 02.7**	**-1.6**
TGY	**Tagaytay City**	**9.76**	**351**	*eP*	**P**	**06 16 04.4**	**-0.4**
KAPI	**Kappang**	**9.78**	**197**	P	**P**	**06 16 04.3**	**-0.7**
	1μm,1.0s,baz=358,slow=3.5,SNR=86						
KAPI	**Kappang**	**9.78**	**197**	P	**P**	**06 16 04.5**	**-0.5**
KAPI	**Kappang**	**9.78**	**197**	*iP*	**P**	**06 16 04.1**	**-0.9**
KAPI	**Kappang**	**9.78**	**197**	*diP*	**P**	**06 16 03.5**	**-1.5**
KAPI	**Kappang**	**9.78**	**197**	P	**P**	**06 16 04.8**	**-0.2**
KAPI				P	**P**	**06 16 04.8**	**-0.2**
JCNP	**Jose Panganiba**	**9.81**	**1**	*iP*	**P**	**06 16 04.4**	**-0.9**
JCNP				*i* S	**S**	**06 17 55.5**	**-2.6**
AAI	**Ambon**	**9.82**	**145**	P	**P**	**06 16 05.9**	**+0.5**
	16μm,0.8s,226μm209μm						
BKSI	**Bulukumba**	**9.97**	**194**	P	**P**	**06 16 05.3**	**-1.6**
	8μm,0.8s,130μm302μm						
SWI	**Sorong**	**10.15**	**121**	P	**P**	**06 16 08.0**	**-0.6**
	17μm,1.0s,223μm445μm						
SIJI	**Sorong**	**10.15**	**121**	P	**P**	**06 16 08.3**	**-0.4**
	4μm,0.7s,baz=312,slow=8.8,SNR=270						
SIJI				S	**S**	**06 18 03.7**	**-0.6**
	1μm,0.8s,baz=28,slow=21,SNR=1.4						
SIJI				ScP	**ScP**	**06 23 45.1**	**-1.5**
	123nm,0.9s,baz=108,slow=6.6,SNR=2.5						
SIJI				ScS	**ScS**	**06 27 24.1**	**+2.2**
	142nm,1.0s,baz=198,slow=23,SNR=14						
QVP	**Quezon City--P**	**10.26**	**351**	*iP*	**P**	**06 16 09.4**	**-0.3**
QVP				*i* S	**S**	**06 18 05.1**	**-1.0**
SBUM	**Sibu**	**10.51**	**260**	P	**P**	**06 16 13.8**	**+1.6**
SBUM	**Sibu**	**10.51**	**260**	*iP*	**P**	**06 16 13.7**	**+1.6**
SBUM	**Sibu**	**10.51**	**260**	P	**P**	**06 16 14.0**	**+1.8**
BSSI	**Bau Bau, Buton**	**10.69**	**191**	P	**P**	**06 16 12.5**	**-1.4**
	24μm,1.0s,227μm264μm						
BBKI	**Banjar Baru**	**10.99**	**225**	P	**P**	**06 16 16.8**	**-0.1**
	39μm,1.3s,519μm198μm						
BNDI	**Bandanaira**	**11.51**	**140**	P	**P**	**06 16 21.6**	**-0.3**
	99μm,1.1s,929μm334μm						
FAKI	**Fak Fak**	**12.11**	**127**	P	**P**	**06 16 27.7**	**+0.1**
FAKI	**Fak Fak**	**12.11**	**127**	P	**P**	**06 16 27.1**	**-0.5**
	43μm,0.9s,551μm254μm						
I39PW	**PALAU INFRASON**	**12.31**	**75**	P	**P**	**06 16 30.0**	**+0.5**
	baz=223,slow=13,SNR=3.5						
MMRI	**Maumere**	**12.97**	**181**	P	**P**	**06 16 36.9**	**+1.1**
MMRI	**Maumere**	**12.97**	**181**	P	**P**	**06 16 36.2**	**+0.4**
	24μm,1.1s,422μm314μm						
PBKI	**Pangkalan Bun**	**12.98**	**237**	P	**P**	**06 16 36.7**	**+0.8**
	45μm,1.3s,427μm						
RKPI	**Ransiki, Papua**	**13.01**	**117**	P	**P**	**06 16 36.5**	**+0.3**
	45μm,1.5s,642μm268μm						
APYP	**Conner**	**13.43**	**355**	*eP*	**P**	**06 16 38.6**	**-1.5**
SGCP	**Gonzaga**	**13.75**	**358**	*eP*	**P**	**06 16 43.1**	**-0.2**
SGCP				*eS*	**S**	**06 19 09.3**	**+2.6**
PLAI	**Plampang**	**13.99**	**200**	P	**P**	**06 16 45.0**	**-0.6**
	129μm,0.8s,190μm						
SOEI	**Soe**	**14.18**	**173**	P	**P**	**06 16 47.2**	**-0.2**
SOEI	**Soe**	**14.18**	**173**	P	**P**	**06 16 47.0**	**-0.4**
	15μm,0.9s,206μm259μm						
BWJI	**Bawean**	**14.21**	**224**	P	**P**	**06 16 48.0**	**+0.4**
	32μm,1.3s,359μm355μm						
TWSI	**Taliwang, Sumb**	**14.24**	**203**	P	**P**	**06 16 47.2**	**-0.7**
	45μm,0.8s,437μm217μm						
WBSI	**Waikabubak, Su**	**14.31**	**193**	P	**P**	**06 16 46.5**	**-2.1**
	40μm,0.5s,423μm93μm						
SRBI	**Singaraja**	**14.42**	**211**	P	**P**	**06 16 48.8**	**-0.7**
	18μm,1.0s,188μm296μm						
BATI	**Baumata**	**14.56**	**176**	P	**P**	**06 16 51.6**	**+0.7**
	20μm,0.6s,baz=354,slow=0.7,SNR=366						
BATI				S	**S**	**06 19 18.3**	**-2.0**
	17μm,0.7s,baz=76,slow=21,SNR=14						
BATI				ScP	**ScP**	**06 23 53.3**	**0.0**
	435nm,0.6s,baz=225,slow=20,SNR=2.2						
BATI				ScS	**ScS**	**06 27 24.2**	**-7.5**
	415nm,1.0s,baz=109,slow=1.9,SNR=3.8						
BATI	**Baumata**	**14.56**	**176**	P	**P**	**06 16 51.4**	**+0.5**
	41μm,0.8s,383μm205μm						
BAKI	**Biak**	**14.63**	**112**	P	P	06 17 00.8	+9.3
BASI	**Baing, Sumba**	**14.67**	**188**	P	**P**	**06 16 50.3**	**-1.5**
	44μm,0.6s,410μm76μm						
ABJI	**Asem Bagus**	**14.70**	**214**	P	**P**	**06 16 51.4**	**-0.7**
	29μm,1.2s,289μm320μm						
DNP	**Denpasar**	**14.93**	**209**	P	**P**	**06 16 55.7**	**+1.5**
DNP	**Denpasar**	**14.93**	**209**	P	**P**	**06 16 55.2**	**+1.0**
	94μm,1.1s,962μm299μm						
SRPI	**Serui, Papua**	**15.02**	**114**	P	**P**	**06 16 54.5**	**-0.6**
	15μm,0.6s,162μm180μm						
BLJI	**Banyuglugur**	**15.03**	**217**	P	**P**	**06 16 55.9**	**+0.8**
	10μm,0.8s,121μm367μm						
IGBI	**Denpasar**	**15.08**	**209**	P	**P**	**06 16 55.7**	**+0.1**
	35μm,0.9s,454μm165μm						
SAUI	**Saumlaki**	**15.09**	**145**	P	**P**	**06 16 54.6**	**-1.0**
SAUI	**Saumlaki**	**15.09**	**145**	P	**P**	**06 16 55.9**	**+0.3**
	51μm,1.1s,591μm428μm						
GRJI	**Gresik**	**15.10**	**222**	P	**P**	**06 16 55.5**	**-0.2**
	15μm,1.2s,149μm227μm						
JAGI	**Jajag, Banyuwa**	**15.30**	**213**	P	**P**	**06 16 58.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**15.30**	**213**	P	**P**	**06 16 57.7**	**+0.1**
	71μm,1.0s,685μm303μm						
TBJI	**Tambak Boyo**	**15.46**	**224**	P	**P**	**06 16 59.6**	**+0.6**
	14μm,0.9s,237μm400μm						
GMJI	**Gumukmas**	**15.54**	**216**	P	**P**	**06 16 59.1**	**-0.7**
	22μm,1.4s,353μm271μm						
DLV	**T Lat**	**15.81**	**299**	*iP*	**P**	**06 17 03.6**	**+1.2**
UWJI	**Ujung Watu**	**15.82**	**227**	P	**P**	**06 17 02.9**	**+0.6**
	25μm,1.2s,411μm974μm						
NGJI	**Ngawi**	**16.12**	**223**	P	**P**	**06 17 07.0**	**+2.0**
	29μm,1.1s,232μm480μm						
PWJI	**Pagerwojo**	**16.36**	**221**	P	**P**	**06 17 06.7**	**-0.6**
	10μm,0.9s,208μm318μm						
SMRI	**Semarang**	**16.61**	**227**	P	**P**	**06 17 11.2**	**+1.6**
SMRI	**Semarang**	**16.61**	**227**	P	**P**	**06 17 10.8**	**+1.2**
	25μm,1.2s,301μm442μm						
UGM	**Wanagama**	**17.15**	**224**	P	**P**	**06 17 15.5**	**+0.9**
UGM	**Wanagama**	**17.15**	**224**	P	**P**	**06 17 14.6**	**+0.1**
	26μm,1.1s,440μm411μm						
YOGI	**Yogyakarta**	**17.25**	**225**	P	**P**	**06 17 15.2**	**-0.2**
	16μm,0.9s,185μm200μm						
SMPI	**Sarmi**	**17.34**	**111**	P	**P**	**06 17 16.4**	**+0.2**
	9μm,1.1s,100μm333μm						
PPBI	**Pangkal Pinang**	**17.67**	**249**	P	**P**	**06 17 20.1**	**+0.9**
	13μm,1.1s,133μm402μm						
KPJI	**Karang Pucung**	**17.92**	**229**	P	**P**	**06 17 22.6**	**+1.1**
	22μm,0.9s,226μm462μm						
TPRI	**Tanjung Pinang**	**18.35**	**260**	P	**P**	**06 17 26.9**	**+1.5**
	8μm,1.2s,154μm397μm						
TWG	**Pinlang**	**18.36**	**356**	P	**P**	**06 17 25.1**	**-0.2**
CMJI	**Cimerak**	**18.58**	**229**	P	**P**	**06 17 24.9**	**-2.5**
	4μm,0.9s,83μm369μm						
DSRI	**Dabo**	**18.62**	**255**	P	**P**	**06 17 28.5**	**+0.7**
	10μm,1.3s,152μm392μm						
LEM	**Lembang**	**18.64**	**233**	P	**P**	**06 17 30.0**	**+1.9**
	7μm,0.7s,baz=32,slow=9.2,SNR=327						
LEM				S	**S**	**06 20 27.3**	**+0.7**
	2μm,1.1s,baz=293,slow=22,SNR=1.4						
LEM				ScP	**ScP**	**06 24 00.7**	**-1.2**
	1μm,1.0s,baz=342,slow=9.2,SNR=3.8						
LEM				ScS	**ScS**	**06 27 42.6**	**-1.5**
	371nm,1.1s,baz=153,slow=17,SNR=3.2						
MYKOM	**Kota Tinggi**	**18.87**	**263**	P	**P**	**06 17 31.4**	**+1.3**
MYKOM	**Kota Tinggi**	**18.87**	**263**	*iP*	**P**	**06 17 31.5**	**+1.4**
MYKOM	**Kota Tinggi**	**18.87**	**263**	P	**P**	**06 17 32.0**	**+1.9**
TPUB	**Ta-pu**	**18.87**	**354**	P	**P**	**06 17 30.9**	**+0.9**
YULB	**Yu-li**	**18.91**	**356**	P	**P**	**06 17 29.1**	**-1.2**
GENI	**Genyem**	**18.92**	**111**	P	**P**	**06 17 29.7**	**-0.9**
	14μm,1.2s,142μm377μm						
CBJI	**Citeko**	**19.02**	**236**	P	**P**	**06 17 33.4**	**+1.9**
	27μm,1.1s,367μm451μm						
TNG	**Tangerang**	**19.06**	**237**	P	P	06 17 39.8	+8.0
TNG				P	**P**	**06 17 33.1**	**+1.3**
	14μm,1.2s,297μm451μm						
QIZ	**Qiongzhong**	**19.11**	**320**	*iP*	**P**	**06 17 33.1**	**+0.9**
QIZ				S	**S**	**06 20 35.0**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,870nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,20μm,3.5s						
MTN	**Manton Dam**	**19.14**	**154**	P	**P**	**06 17 31.8**	**-0.7**
	baz=19,SNR=509						
MTN	**Manton Dam**	**19.14**	**154**	P	**P**	**06 17 32.4**	**-0.1**
MTN	**Manton Dam**	**19.14**	**154**	*iP*	**P**	**06 17 31.8**	**-0.7**
PMBI	**Palembang**	**19.22**	**248**	P	**P**	**06 17 35.9**	**+2.6**
PMBI	**Palembang**	**19.22**	**248**	P	**P**	**06 17 35.9**	**+2.6**
	23μm,1.4s,295μm430μm						
CNJI	**Cibinong**	**19.31**	**233**	P	**P**	**06 17 32.9**	**-1.2**
	7μm,0.8s,62μm139μm						
SSLB	**Suanglung**	**19.32**	**356**	P	**P**	**06 17 33.6**	**-0.5**
SBJI	**Serang**	**19.46**	**238**	P	**P**	**06 17 37.0**	**+1.5**
	23μm,1.1s,285μm						
HKPS	**Hong Kong Po S**	**19.54**	**336**	P	**P**	**06 17 36.5**	**+0.4**
HKC	**Hong Kong Obse**	**19.55**	**336**	*iP*	**P**	**06 17 38.0**	**+1.9**
SKJI	**Sukabumi**	**19.59**	**235**	P	**P**	**06 17 35.9**	**-0.8**
	7μm,0.7s,62μm6μm						
KDU	**Kakadu**	**19.64**	**150**	P	**P**	**06 17 36.2**	**-0.7**
	baz=20,SNR=1000						
KDU	**Kakadu**	**19.64**	**150**	*iP*	**P**	**06 17 36.2**	**-0.7**
MCO	**Taipa Grande**	**19.65**	**334**	P	**P**	**06 17 30.0**	**-7.0**
NACB	**Ninganchiao**	**19.67**	**357**	P	**P**	**06 17 35.7**	**-1.5**
BLSI	**Bandar Lampung**	**19.84**	**241**	P	**P**	**06 17 39.7**	**+0.8**
	31μm,0.8s,356μm357μm						
JMBI	**JAMBI**	**19.84**	**253**	P	**P**	**06 17 41.0**	**+2.1**
	12μm,1.0s,175μm						
YOJ	**Yonaguni jima**	**19.94**	**1**	P	**P**	**06 17 40.5**	**+0.9**
YOJ	**Yonaguni jima**	**19.94**	**1**	*iP*	**P**	**06 17 40.3**	**+0.7**
YOJ				*i*S	**ScP**	**06 24 03.9**	**-0.5**
YOJ	**Yonaguni jima**	**19.94**	**1**	P	**P**	**06 17 40.5**	**+0.9**
KLI	**Kotabumi**	**19.95**	**243**	P	**P**	**06 17 40.9**	**+1.1**
KLI	**Kotabumi**	**19.95**	**243**	P	**P**	**06 17 40.8**	**+1.0**
	33μm,0.9s,290μm425μm						
UBPT	**Khong Chiam**	**19.98**	**304**	P	**P**	**06 17 40.4**	**+0.3**
UBPT	**Khong Chiam**	**19.98**	**304**	*i*P	**P**	**06 17 40.7**	**+0.6**
UBPT				*i*S	**ScP**	**06 24 05.1**	**+0.4**
CGJI	**Cibinong**	**20.09**	**237**	P	**P**	**06 17 40.8**	**-0.3**
	11μm,0.7s,202μm342μm						
KNMB	**Chin-men Tao**	**20.34**	**349**	P	**P**	**06 17 43.8**	**+0.7**
MDSI	**Maura Dua**	**20.38**	**245**	P	**P**	**06 17 43.6**	**-0.2**
	7μm,0.9s,134μm416μm						
TATO	**Taipei**	**20.47**	**357**	P	**P**	**06 17 43.5**	**-0.9**
KASI	**Kota Agung**	**20.57**	**241**	P	**P**	**06 17 45.4**	**0.0**
	21μm,1.0s,174μm366μm						
LWLI	**Liwa**	**20.72**	**243**	P	**P**	**06 17 47.9**	**+1.0**
	35μm,1.1s,323μm401μm						
KNRA	**Kununurra**	**20.88**	**163**	P	**P**	**06 17 48.2**	**0.0**
	baz=21,SNR=628						
KNRA	**Kununurra**	**20.88**	**163**	P	**P**	**06 17 48.6**	**+0.4**
MNAI	**Manna**	**21.44**	**246**	P	**P**	**06 17 53.8**	**+0.5**
MNAI	**Manna**	**21.44**	**246**	P	**P**	**06 17 53.6**	**+0.4**
	39μm,0.8s,375μm396μm						
IPM	**Ipoh**	**21.47**	**271**	P	**P**	**06 17 53.5**	**0.0**
IPM	**Ipoh**	**21.47**	**271**	*iP*	**P**	**06 17 54.2**	**+0.6**
IPM				*i*S	**ScP**	**06 24 08.7**	**+0.1**
IPM	**Ipoh**	**21.47**	**271**	P	**P**	**06 17 55.0**	**+1.4**
MASI	**Maura Aman, Be**	**21.65**	**250**	P	**P**	**06 17 55.9**	**+0.8**
	19μm,0.7s,201μm168μm						
SDSI	**Sungai Dareh**	**21.78**	**256**	P	**P**	**06 17 57.4**	**+1.2**
	8μm,1.1s,107μm381μm						
KULM	**Kulim**	**21.85**	**273**	P	**P**	**06 17 57.8**	**+0.9**
KULM	**Kulim**	**21.85**	**273**	*iP*	**P**	**06 17 57.5**	**+0.6**
KULM	**Kulim**	**21.85**	**273**	P	**P**	**06 17 59.0**	**+2.1**
BKNI	**Bangkinang**	**21.88**	**260**	P	**P**	**06 17 59.0**	**+1.8**
BKNI	**Bangkinang**	**21.88**	**260**	P	**P**	**06 17 58.5**	**+1.3**
	33μm,1.0s,342μm372μm						
XMI	**Christmas Isla**	**22.37**	**229**	*iP*	**P**	**06 18 00.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**22.57**	**172**	P	**P**	**06 18 03.7**	**+0.5**
PDSI	**Padang**	**22.71**	**257**	P	**P**	**06 18 04.1**	**-0.4**
	6μm,0.8s,156μm363μm						
JMZ	**Minamidaito 2**	**22.85**	**20**	P	**P**	**06 18 05.7**	**+0.2**
JMZ	**Minamidaito 2**	**22.85**	**20**	*iP*	**P**	**06 18 05.7**	**+0.2**
SRIT	**Sonsritamara**	**23.18**	**281**	P	**P**	**06 18 10.2**	**+1.5**
MNSI	**Mandailing Nat**	**23.24**	**262**	P	**P**	**06 18 08.9**	**-0.3**
	7μm,0.8s,113μm321μm						
PPSI	**Pulau Pagai**	**23.64**	**253**	P	**P**	**06 18 12.6**	**-0.1**
	15μm,0.8s,180μm293μm						
PSI	**Prapat**	**23.65**	**267**	P	**P**	**06 18 12.6**	**-0.3**
	4μm,0.9s,baz=77,slow=8.3,SNR=453						
PSI				S	**S**	**06 21 42.7**	**-3.0**
	254nm,0.9s,baz=232,slow=4.8,SNR=1.4						
PSI				ScP	**ScP**	**06 24 10.4**	**-4.0**
	494nm,0.9s,baz=213,slow=12,SNR=5.9						
PSI				ScS	**ScS**	**06 27 58.5**	**-4.2**
	93nm,0.9s,baz=97,slow=22,SNR=4.9						
PSI				P3KPbc		06 51 22.2	
	17nm,0.9s,baz=243,slow=7.4,SNR=12						
	4μm,0.9s						
RPSI	**Rantau Prapat**	**23.66**	**267**	P	**P**	**06 18 13.5**	**+0.6**
RPSI	**Rantau Prapat**	**23.66**	**267**	P	**S**	**06 21 42.7**	**-2.9**
GUMO	**Guam**	**23.82**	**66**	P	**P**	**06 18 13.5**	**-0.7**
	781nm,0.3s,baz=189,slow=3.8,SNR=68						
GUMO				ScS	ScS	06 28 03.0	0.0
	169nm,0.8s,baz=26,slow=20,SNR=2.3						
GUMO	**Guam**	**23.82**	**66**	P	**P**	**06 18 13.1**	**-1.2**
GUMO	**Guam**	**23.82**	**66**	*iP*	**P**	**06 18 12.6**	**-1.7**
GULI	**GuiLin**	**23.84**	**332**	*i*P	**P**	**06 18 18.2**	**+3.9**
GULI				pmax	pmax		
	comp=Z,300nm,0.8s						
TSI	**Tuntungan**	**23.96**	**269**	P	**P**	**06 18 17.9**	**+2.3**
	5μm,0.9s,124μm304μm						
PBSI	**Pulau Batu**	**24.66**	**260**	P	**P**	**06 18 21.2**	**-0.6**
	16μm,1.4s,226μm323μm						
KCSI	**Kotacane, Aceh**	**24.75**	**269**	P	**P**	**06 18 22.5**	**-0.1**
	9μm,1.1s,108μm314μm						
GSI	**Gunungsitoli**	**25.14**	**264**	P	**P**	**06 18 25.8**	**-0.2**
	19μm,1.0s,248μm283μm						
CNSH	**ChangSha**	**25.35**	**340**	*iP*	**P**	**06 18 25.6**	**-2.0**
LHMI	**Lhok Sumawe**	**25.54**	**273**	P	**P**	**06 18 30.8**	**+1.3**
LHMI	**Lhok Sumawe**	**25.54**	**273**	P	**P**	**06 18 29.6**	**+0.1**
	11μm,0.7s,185μm315μm						
MBWA	**Marble Bar**	**25.57**	**186**	P	**P**	**06 18 29.5**	**-0.1**
MBWA	**Marble Bar**	**25.57**	**186**	*iP*	**P**	**06 18 29.3**	**-0.3**
MBWA	**Marble Bar**	**25.57**	**186**	P	**P**	**06 18 29.5**	**-0.1**
MANU	**Manus Island**	**25.60**	**104**	P	**P**	**06 18 29.6**	**-0.5**
MANU	**Manus Island**	**25.60**	**104**	*iP*	**P**	**06 18 30.2**	**+0.2**
PHRA	**Phrae**	**25.93**	**304**	P	**P**	**06 18 34.3**	**+1.4**
MLSI	**Meulaboh, Aceh**	**26.09**	**271**	P	**P**	**06 18 34.4**	**+0.1**
	7μm,0.8s,56μm4μm						
SNSI	**Sinabang, Aceh**	**26.27**	**267**	P	**P**	**06 18 35.5**	**-0.4**
	8μm,1.2s,105μm162μm						
SSE	**Sheshan**	**26.57**	**357**	P	**P**	**06 18 40.5**	**+2.3**
SSE				sP	**sP**	**06 21 20.2**	**-7.0**
SSE				S	**S**	**06 22 31.0**	**+0.3**
SSE				PcS	**PcS**	**06 25 22.2**	**-0.5**
SSE				ScS	**ScS**	**06 28 14.2**	**0.0**
SSE				pmax	pmax		
	comp=Z,4μm,4.0s						
GYA	**Guiyang**	**26.68**	**327**	*iP*	**P**	**06 18 41.4**	**+1.9**
GYA				sP	sP	06 21 27.1	-1.5
GYA				S	**S**	**06 22 33.6**	**+0.8**
GYA				ScP	**ScP**	**06 24 27.3**	**+4.3**
GYA				ScS	**ScS**	**06 28 18.1**	**+2.9**
GYA				pmax	pmax		
	comp=Z,1μm,0.7s						
GYA				pmax	pmax		
	comp=Z,15μm,3.5s						
WB0	**Warramunga Arr**	**26.70**	**155**	P	**P**	**06 18 38.9**	**-0.7**
CRAI	**Chiangrai**	**26.72**	**308**	P	**P**	**06 18 40.5**	**+0.8**
I07AU	**WARRAMUNGA IN**	**26.82**	**155**	P	**P**	**06 18 36.9**	**-3.7**
	baz=332,slow=12,SNR=3.0						
WRAB	**Tennant Creek**	**26.82**	**155**	P	**P**	**06 18 40.0**	**-0.6**
WRAB	**Tennant Creek**	**26.82**	**155**	*iP*	**P**	**06 18 39.7**	**-0.9**
WRAB	**Tennant Creek**	**26.82**	**155**	*ceP*	**P**	**06 18 39.7**	**-

WRKA **Warakurna** 29.80 169 ⇑P **P** **06 19 06.6 +0.3**
QIS **Mount Isa** 29.93 147 P **P** **06 19 07.6 +0.1**
baz=30,SNR=1000
AS31 **Alice Springs** 30.02 159 P **P** **06 19 08.6 +0.4**
ASAR **Alice Springs** 30.02 159 P **P** **06 19 08.3 +0.1**
comp=Z,2μm,0.7s,baz=338,slow=7.2,SNR=2057
ASAR S **S** **06 23 23.1 -1.2**
comp=Z,2μm,0.9s,baz=343,slow=17,SNR=21
ASAR ScP **ScP** **06 24 32.9 -0.7**
comp=Z,490nm,0.6s,baz=335,slow=2.4,SNR=4.9
ASAR P3KPbc 06 50 47.8
comp=Z,3.7nm,0.7s,baz=145,slow=4.0,SNR=12
ASAR P4KPbc 06 57 48.0
comp=Z,0.9nm,0.6s,baz=345,slow=3.9,SNR=5.6
comp=Z,2μm,0.7s
ASAR Alice Springs 30.02 159 P **P** **06 19 07.9 -0.3**
PBA Port Blair 30.37 286 P **P** **06 19 12.1 +0.8**
PBA Port Blair 30.37 286 *e*P **P** **06 19 12.3 +1.0**
PBA Port Blair 30.37 286 ⇑P **P** **06 19 09.8 -1.5**
PBA Port Blair 30.37 286 P **P** **06 19 13.2 +1.9**
SNR=35
COCO West Island 30.44 237 P **P** **06 19 11.0 -0.9**
COCO West Island 30.44 237 P **P** **06 19 11.0 -0.9**
DGPR DIGLIPUR 30.52 288 *e*P **P** **06 19 12.4 -0.1**
JTU Tsushima 30.62 11 P **P** **06 19 12.8 -0.4**
JTU IAmb IAmb 06 19 21.7
comp=Z,3μm,1.3s
JTU Tsushima 30.62 11 ⇑P **P** **06 19 13.3 +0.1**
KRVT Keravat (AS076 30.68 106 P **P** **06 19 13.8 -0.3**
comp=Z,5μm,0.9s,baz=200,slow=1.0,SNR=77
comp=Z,5μm,0.9s
RABL Rabaul 30.78 106 P **P** **06 19 16.1 +1.2**
RABL Rabaul 30.78 106 ⇑P **P** **06 19 16.1 +1.2**
TNCH TengChong 30.89 314 ⇓P **P** **06 19 17.2 +1.4**
TNCH PcP **PcP** **06 21 54.5 +2.3**
TNCH sP sP 06 22 06.4 -1.3
TNCH S **S** **06 23 38.5 +0.7**
TNCH ScP **ScP** **06 24 39.3 +2.7**
TNCH ScS **ScS** **06 28 36.2 +0.7**
TNCH pmax pmax
comp=Z,2μm,1.7s
TNCH pmax pmax
comp=Z,24μm,3.9s
JMN Monobe 31.01 19 P **P** **06 19 16.3 -0.2**
JMN Monobe 31.01 19 P **P** **06 19 16.2 -0.4**
JMN Monobe 31.01 19 ⇑P **P** **06 19 16.2 -0.4**
MTSU Mount Surprise 31.02 137 P **P** **06 19 16.9 +0.1**
baz=31,SNR=810
MEEK Meekatharra 31.10 187 P **P** **06 19 17.5 +0.1**
baz=31,SNR=1000
LYN LuoYang 31.42 344 ⇓*i*P **P** **06 19 20.4 +0.5**
LYN sP sP 06 22 09.3 -2.8
LYN S **S** **06 23 43.9 -1.3**
LYN ScP **ScP** **06 24 43.3 +5.3**
LYN ScS **ScS** **06 28 35.6 -1.9**
LYN pmax pmax
comp=Z,1μm,0.7s
LYN pmax pmax
comp=Z,17μm,3.7s
CD2 Chengdu 31.76 328 P **P** **06 19 23.3 +0.4**
CD2 sP sP 06 22 13.0 -2.2
CD2 S **S** **06 23 49.7 -0.9**
CD2 SS **SS** **06 27 06.2 +3.8**
CD2 pmax pmax
comp=Z,4μm,0.8s
CD2 pmax pmax
comp=Z,10μm,4.3s
JHS Saijyo 31.96 16 P **P** **06 19 24.5 -0.1**
JHS IAmb IAmb 06 19 34.2
comp=Z,2μm,1.1s
JHS Saijyo 31.96 16 ⇑P **P** **06 19 24.1 -0.5**
TIA Tai'an 32.04 352 P **P** **06 19 24.9 -0.3**
TIA sP **sP** **06 22 19.4 +1.9**
TIA S **S** **06 23 53.1 -1.5**
TIA ScS **ScS** **06 28 43.7 +3.1**
TIA pmax pmax
comp=Z,280nm,1.0s
TIA pmax pmax
comp=Z,17μm,6.8s
XAN Xi'an 32.09 338 ⇓*i*P **P** **06 19 25.8 +0.1**
XAN S **S** **06 24 01.1 +5.5**
XAN pmax pmax
comp=Z,2μm,1.0s
XAN pmax pmax
comp=Z,4μm,4.7s
XAN Xi'an 32.09 338 P **P** **06 19 25.9 +0.1**
XAN ScP **ScP** **06 24 39.5 -0.9**
TJN Taejon 32.12 7 *i*P **P** **06 19 26.1 +0.3**
JAD Aida 32.22 18 P **P** **06 19 26.0 -0.7**
JIE Ise 32.59 22 P **P** **06 19 29.0 -0.8**
JHJ2 Mitsune 32.78 27 P **P** **06 19 31.2 -0.2**
JHJ2 Mitsune 32.78 27 ⇑P **P** **06 19 31.2 -0.2**
JWT Wachi 32.93 20 P **P** **06 19 32.2 -0.5**
INCN Inchon 33.12 6 ⇑P **P** **06 19 37.0 +2.6**
INCN Inchon 33.12 6 P **P** **06 19 36.9 +2.6**
INCN pP **PP** **06 21 15.9 -1.3**
KSAR Wonju Array Be 33.23 8 P **P** **06 19 35.5 +0.3**
KSAR Wonju Array Be 33.23 8 P **P** **06 19 35.5 +0.3**
KSRS Korea Array 33.25 8 P **P** **06 19 36.2 +1.0**
comp=Z,234nm,0.7s,baz=185,slow=9.3,SNR=113
KSRS ScP **ScP** **06 24 43.4 -0.8**
comp=Z,107nm,0.8s,baz=184,slow=4.1,SNR=6.3
KSRS P3KPbc 06 50 34.0
comp=Z,5.6nm,0.8s,baz=360,slow=4.7,SNR=9.8
comp=Z,234nm,0.7s
KS19 Wonju Array Si 33.29 8 P **P** **06 19 35.9 +0.3**
KS19 IAmb IAmb 06 19 45.7
comp=Z,1μm,0.9s
JSG Sagara 33.41 24 P **P** **06 19 36.3 -0.4**
JSG Sagara 33.41 24 ⇑P **P** **06 19 36.6 -0.1**
INU Inuyama 33.56 22 P **P** **06 19 37.0 -0.9**
INU IAmb IAmb 06 19 46.8
comp=Z,3μm,1.1s
INU Inuyama 33.56 22 ⇑P **P** **06 19 36.9 -1.1**
INU Inuyama 33.56 22 P **P** **06 19 37.3 -0.6**
HJU Haeju 33.60 5 P **P** **06 19 41.0 +2.8**
HJU pP **pP** **06 21 19.9 +1.1**
HJU S **S** **06 24 18.1 +0.1**
HJU AmB
comp=Z,51μm,7.4s
HNS HongShan 33.61 349 ⇓P **P** **06 19 38.4 +0.1**
HNS sP **sP** **06 22 31.7 +0.2**
HNS S **S** **06 24 16.9 -1.3**
HNS ScP **ScP** **06 24 50.5 +5.0**
HNS ScS **ScS** **06 28 52.4 +3.6**
HNS pmax pmax
comp=Z,2μm,1.0s
HNS pmax pmax
comp=Z,18μm,6.5s
CTA Charters Tower 33.69 137 P **P** **06 19 39.8 +0.5**
comp=Z,1μm,0.7s,baz=322,slow=9.1,SNR=531
CTA S **S** **06 24 18.6 -1.3**
comp=Z,57nm,0.6s,baz=233,slow=20,SNR=0.9
CTA ScP **ScP** **06 24 50.1 +3.9**
comp=Z,956nm,0.9s,baz=310,slow=2.5,SNR=8.2
comp=Z,1μm,0.7s
CTAO Charters Tower 33.69 137 P **P** **06 19 40.0 +0.8**
CTAO Charters Tower 33.69 137 ⇑P **P** **06 19 39.6 +0.4**
CTAO Charters Tower 33.69 137 P **P** **06 19 40.0 +0.8**
CTAO pmax pmax
comp=Z,10μm,1.2s
CTAO Charters Tower 33.69 137 P **P** **06 19 39.9 +0.7**
CTAO pP **PP** **06 21 23.1 +0.4**
MORW Morawa 33.87 190 P **P** **06 19 40.9 +0.3**
baz=34,SNR=751
MORW Morawa 33.87 190 P **P** **06 19 40.8 +0.2**
MORW Morawa 33.87 190 ⇓P **P** **06 19 40.9 +0.2**
JGF Kuroka 33.91 22 P **P** **06 19 39.6 -1.3**
JGF IAmb IAmb 06 19 51.5
comp=Z,4μm,1.7s
JGF Kuroka 33.91 22 P **P** **06 19 39.4 -1.5**
JGF Kuroka 33.91 22 ⇑P **P** **06 19 39.4 -1.5**
JOD2 Odawara 2 34.29 24 P **P** **06 19 41.9 -2.2**
DL2 Dalian 34.34 359 P **P** **06 19 44.1 -0.3**
DL2 pP **pP** **06 21 19.5 -6.0**
DL2 sP **sP** **06 22 35.0 -3.2**
DL2 S **S** **06 24 25.7 -3.5**
DL2 ScS **ScS** **06 28 50.4 -2.4**
DL2 pmax pmax
comp=Z,3μm,0.7s
DL2 pmax pmax
comp=Z,16μm,3.5s
TIY Taiyuan 34.41 346 ⇓P **P** **06 19 45.0 -0.1**
TIY S **S** **06 24 28.2 -2.3**
TIY pmax pmax
comp=Z,100nm,0.5s
TIY pmax pmax
comp=Z,14μm,6.1s
PYAG Pyongyang 34.60 4 P **P** **06 19 49.3 +2.8**
PYAG pP **PP** **06 21 31.1 +0.3**
PYAG S **S** **06 24 33.8 +0.7**
PYAG AmB
comp=Z,11μm,2.4s
JRY Ryogami san 34.87 24 P **P** **06 19 47.0 -1.9**
BRDH Bariadhala 34.98 304 P **P** **06 19 52.1 +2.1**
comp=Z,3μm,0.7s,baz=96,slow=7.1,SNR=147
BRDH S **S** **06 24 38.9 -0.4**
comp=Z,123nm,0.5s,baz=174,slow=23,SNR=1.4
BRDH ScP **ScP** **06 24 49.8 -1.1**
comp=Z,616nm,0.8s,baz=339,slow=22,SNR=8.7
MAJO Matsushiro 35.06 22 P **P** **06 19 48.6 -1.8**
MAJO Matsushiro 35.06 22 ⇑P **P** **06 19 48.6 -1.8**
MAJO Matsushiro 35.06 22 *i*P **P** **06 19 48.8 -1.6**
MAJO pmax pmax
comp=Z,4μm,1.4s
MAJO Matsushiro 35.06 22 P **P** **06 19 48.8 -1.6**
MAJO ScP **ScP** **06 24 48.9 -1.9**
MAT Matsushiro 35.06 22 P **P** **06 19 48.7 -1.7**
MJAR Matsushiro Arr 35.06 22 P **P** **06 19 48.7 -1.7**
comp=Z,458nm,0.8s,baz=192,slow=8.5,SNR=191
MJAR PcP **PcP** **06 22 06.7 +3.0**
comp=Z,80nm,0.7s,baz=178,slow=3.8,SNR=1.8
MJAR S **S** **06 24 40.7 +0.6**
comp=Z,109nm,0.9s,baz=204,slow=5.5,SNR=4.4
MJAR ScP **ScP** **06 24 49.4 -1.5**
comp=Z,97nm,0.8s,baz=217,slow=7.9,SNR=4.7
MJAR P3KPbc 06 50 33.6
comp=Z,7.7nm,0.9s,baz=23,slow=4.7,SNR=7.5
comp=Z,458nm,0.8s
MJB9 Matsu-Tunnel 35.06 22 P **P** **06 19 49.9 -0.5**
BLDU Ballidu 35.28 189 P **P** **06 19 52.1 -0.1**
baz=36,SNR=661
FORT Forrest 35.39 172 P **P** **06 19 53.6 +0.5**
baz=36,SNR=1000
FORT Forrest 35.39 172 P **P** **06 19 54.3 +1.2**
FORT Forrest 35.39 172 ⇑P **P** **06 19 53.5 +0.4**
FORT ⇑S **S** **06 24 49.6 +4.6**
SUJ Sinuiju 35.57 3 P **P** **06 19 54.9 +0.5**
SUJ pP **pP** **06 21 36.6 0.0**
SUJ S **S** **06 24 44.1 -3.4**
SUJ AmB
comp=Z,12μm,3.2s
KMBL Kambalda 35.59 181 P **P** **06 19 55.1 +0.3**
baz=36,SNR=1000
HHU Hamhung 35.64 7 P **P** **06 19 55.3 +0.3**
HHU pP **PP** **06 21 39.7 -0.5**
HHU S **S** **06 24 48.9 +0.4**
HHU AmB
comp=Z,3μm,1.2s
PATS Pohnpei 35.65 84 P **P** **06 19 55.9 +0.3**
baz=36,SNR=16
PATS Pohnpei 35.65 84 P **P** **06 19 55.1 -0.5**
BJT Baijiatuau 35.91 352 IAmb IAmb 06 20 06.1
comp=Z,1μm,0.7s
BJT Baijiatuau 35.91 352 P **P** **06 19 57.4 +0.1**
LZH Lanzhou 35.93 334 ⇓P **P** **06 19 58.9 +1.2**
LZH sP sP 06 22 49.4 -2.8
LZH S **S** **06 24 46.5 -6.9**
LZH ScP **ScP** **06 24 54.7 +0.4**
LZH sS **sS** **06 27 55.2 -5.2**
LZH SS **SS** **06 28 07.6 -4.3**
LZH ScS **ScS** **06 29 00.2 -2.0**
LZH pmax pmax
comp=Z,4μm,1.7s
LZH pmax pmax
comp=Z,14μm,5.8s
KLBR Kellerberrin 36.10 187 P **P** **06 19 59.0 +0.1**
baz=36,SNR=1000
SHL Shillong 36.17 309 P **P** **06 20 00.1 +0.2**
SHL Shillong 36.17 309 *e*P **P** **06 20 01.0 +1.2**
SHL IAmb IAmb 06 20 09.7
comp=Z,9μm,1.1s
SHL Shillong 36.17 309 P **P** **06 20 00.1 +0.2**
SHL Shillong 36.17 309 P **P** **06 20 00.7 +0.8**
SNR=2777
JSD Sado 36.40 21 P **P** **06 20 00.7 -0.7**
JSD Sado 36.40 21 ⇑P **P** **06 20 00.4 -1.0**
MUN Mundaring 36.69 189 P **P** **06 20 04.0 +0.2**
baz=37,SNR=325
JMM Marumori 37.23 24 P **P** **06 20 07.6 -0.4**
JMM Marumori 37.23 24 P **P** **06 20 07.2 -0.8**
JMM Marumori 37.23 24 ⇑P **P** **06 20 07.2 -0.8**
SNY Shenyang 37.26 1 ⇑P **P** **06 20 07.9 -0.4**
SNY S **S** **06 25 06.8 -5.7**
SNY ScS **ScS** **06 29 09.2 +0.1**
SNY pmax pmax
comp=Z,23μm,3.5s
QLP Quilpie 37.27 147 P **P** **06 20 09.0 +0.4**
baz=37,SNR=201
QLP Quilpie 37.27 147 ⇑P **P** **06 20 08.9 +0.2**
JYA Atsumi 37.43 22 *e*P **P** **06 20 09.6 -0.2**
NWAO Narrogin (SRO) 37.48 187 P **P** **06 20 10.8 +0.6**
baz=38,SNR=632
NWAO P **P** **06 20 10.8 +0.6**
baz=38,SNR=632
NWAO Narrogin (SRO) 37.48 187 P **P** **06 20 10.8 +0.6**
NWAO Narrogin (SRO) 37.48 187 P **P** **06 20 10.8 +0.6**
NWAO IAmb IAmb 06 20 19.9
comp=Z,4μm,1.0s
NWAO Narrogin (SRO) 37.48 187 P **P** **06 20 10.8 +0.6**
NWAO pmax pmax
comp=Z,4μm,1.0s
NWAO Narrogin (SRO) 37.48 187 P **P** **06 20 10.9 +0.6**
NWAO P **P** **06 20 10.9 +0.6**
NWAO Narrogin (SRO) 37.48 187 P **P** **06 20 11.0 +0.8**
HHC Hu-ho-hao-te 37.60 346 *e*P **P** **06 20 11.5 +0.3**
HHC sP sP 06 23 03.0 -3.5
HHC S **S** **06 25 17.9 +0.2**
HHC sS sS 06 28 24.8 -1.5
HHC pmax pmax
comp=Z,340nm,0.8s
HHC pmax pmax
comp=Z,28μm,6.4s
CAL Calcutta 37.70 302 *e*P **P** **06 20 13.5 +1.4**
BTO Baotou 37.76 344 *e*P **P** **06 20 12.8 +0.3**
BTO S **S** **06 25 20.3 +0.2**
LSA Lhasa 38.92 314 P **P** **06 20 24.4 +1.9**
LSA pmax pmax
comp=Z,3μm,0.6s
LSA Lhasa 38.92 314 P **P** **06 20 24.1 +1.7**
LSA Lhasa 38.92 314 P **P** **06 20 21.9 -0.5**
LSA P **P** **06 20 21.9 -0.5**
LSA Lhasa 38.92 314 P **P** **06 20 24.3 +1.9**
RKGY Rocky Gully 39.17 187 P **P** **06 20 25.0 +1.2**
baz=39,SNR=427
BBOO Buckleboo 39.17 162 P **P** **06 20 24.0 +0.2**
baz=39,SNR=1000
BBOO Buckleboo 39.17 162 P **P** **06 20 24.2 +0.4**
CN2 Changchun 39.31 3 P **P** **06 20 22.9 -1.8**
CN2 PP **PP** **06 22 10.6 -3.3**
CN2 PcP **PcP** **06 22 15.2 -1.6**
CN2 ScP **ScP** **06 25 10.8 +4.0**
CN2 S **S** **06 25 43.6 +1.3**
CN2 ScS **ScS** **06 29 20.8 -0.4**
CN2 pmax pmax
comp=Z,210nm,0.6s
CN2 pmax pmax
comp=Z,14μm,8.0s
SLGI Shiliguri 39.44 308 *e*P **P** **06 20 27.1 +1.1**
HNR Honiara 39.71 110 P **P** **06 20 27.3 -1.2**
comp=Z,37μm,0.6s,baz=214,slow=2.4,SNR=102
HNR ScP **ScP** **06 25 10.9 +1.8**
comp=Z,9μm,0.9s,baz=18,slow=2.9,SNR=3.0
HNR S **S** **06 25 46.3 -2.8**
comp=Z,4μm,0.8s,baz=144,slow=18,SNR=1.3
HNR Honiara 39.71 110 P **P** **06 20 27.5 -0.9**
HNR Honiara 39.71 110 ⇑P **P** **06 20 27.2 -1.2**
HNR Honiara 39.71 110 P **P** **06 20 27.5 -0.9**
HNR pmax pmax
comp=Z,9μm,0.8s
HNR Honiara 39.71 110 P **P** **06 20 27.2 -1.2**
HNR ScP **ScP** **06 25 09.8 +0.8**
XLT XiLinHaoTe 39.74 353 ⇓*i*P **P** **06 20 28.4 +0.1**
XLT pP pP 06 22 10.9 -2.5
XLT PcP **PcP** **06 22 23.7 +5.3**
XLT S **S** **06 25 52.3 +3.5**
XLT sS sS 06 28 57.8 -1.7
XLT pmax pmax
comp=Z,490nm,1.0s
XLT pmax pmax
comp=Z,19μm,4.2s
RMQ Roma 39.83 142 P **P** **06 20 29.3 +0.1**
baz=40,SNR=158
JTM Tenmabayashi 39.85 22 P **P** **06 20 28.6 -0.5**
JTM Tenmabayashi 39.85 22 P **P** **06 20 28.5 -0.6**
JTM Tenmabayashi 39.85 22 ⇑P **P** **06 20 28.6 -0.5**
H01W3 Cape Leeuwin H 39.88 191 P **P** **06 20 31.4 +2.2**
baz=28,slow=5.2,SNR=334
H01W1 Cape Leeuwin H 39.89 191 P **P** **06 20 31.4 +2.2**
baz=28,slow=5.2,SNR=500
H01W2 Cape Leeuwin H 39.90 191 P **P** **06 20 31.5 +2.2**
baz=28,slow=5.2,SNR=389
BOK Bokaro 40.26 302 *e*P **P** **06 20 33.5 +0.9**
BOK IAmb IAmb 06 20 36.9
comp=Z,2μm,1.0s
JOT Ohata 40.36 22 P **P** **06 20 32.6 -0.6**
STKA Stephens Creek 40.38 155 P **P** **06 20 33.9 +0.4**
comp=Z,2μm,0.8s,baz=330,slow=8.0,SNR=1366
STKA S **S** **06 25 56.0 -2.3**
comp=Z,338nm,0.8s,baz=223,slow=22,SNR=2.1
STKA P4KPbc 06 58 35.6
comp=Z,2.0nm,0.4s,baz=345,slow=5.5,SNR=5.9
comp=Z,2μm,0.8s
STKA Stephens Creek 40.38 155 P **P** **06 20 33.9 +0.4**
baz=41,SNR=1000
STKA Stephens Creek 40.38 155 P **P** **06 20 34.0 +0.6**
STKA IAmb IAmb 06 20 45.1
comp=Z,2μm,0.9s
STKA Stephens Creek 40.38 155*c* *i*P **P** **06 20 33.4 -0.1**
GTA Gaotai 40.48 333 ⇓P **P** **06 20 35.2 +0.9**
GTA PP **pP** **06 22 19.8 -0.3**
GTA PcP **PP** **06 22 23.0 -1.8**
GTA sP sP 06 23 26.3 -4.5
GTA ScP **ScP** **06 25 15.9 +4.2**
GTA S **S** **06 26 00.3 +0.6**
GTA sS sS 06 29 11.1 -0.1
GTA SS **SS** **06 29 21.3 -4.6**
GTA ScS **ScS** **06 29 31.0 +2.2**
GTA pmax pmax
comp=Z,1μm,1.0s
GTA pmax pmax
comp=Z,10μm,8.4s
USA0B Ussuriysk Arra 40.48 10 P **P** **06 20 33.6 -0.4**
USA0B IAmb IAmb 06 20 43.1
comp=Z,2μm,0.7s
USA0B Ussuriysk Arra 40.48 10*c* *i*P **P** **06 20 33.3 -0.8**
USRK Ussuriysk Ar. 40.48 10 P **P** **06 20 33.8 -0.2**
comp=Z,598nm,0.5s,baz=195,slow=6.2,SNR=413
USRK ScP **ScP** **06 25 15.3 +3.9**
comp=Z,310nm,1.1s,baz=227,slow=3.3,SNR=6.7
USRK S **S** **06 25 56.4 -3.0**
comp=Z,44nm,0.9s,baz=285,slow=2.8,SNR=1.7
USRK PKPPKP **P'P'df** **06 52 32.8 -2.9**
comp=Z,5.6nm,1.0s,baz=321,slow=2.4,SNR=4.5
comp=Z,598nm,0.5s
MDJ Mudanjiang 40.51 8 P **P** **06 20 34.7 +0.5**
MDJ S **S** **06 25 58.3 -1.5**
MDJ sS sS 06 29 12.1 +0.8
MDJ pmax pmax
comp=Z,1μm,0.8s
MDJ pmax pmax
comp=Z,27μm,5.5s
MDJ Mudanjiang 40.51 8 P **P** **06 20 34.8 +0.5**
MDJ ScP **ScP** **06 25 10.4 -1.2**
EIDS Eidsvold 40.53 138 P **P** **06 20 34.3 -0.5**
baz=41,SNR=539
EIDS Eidsvold 40.53 138 P **P** **06 20 34.5 -0.2**
EIDS Eidsvold 40.53 138 ⇑P **P** **06 20 34.3 -0.5**
VIS Vishakhapatnam 40.60 292 *e*P **P** **06 20 36.7 +1.3**
VIS IAmb IAmb 06 20 39.7
comp=Z,3μm,1.1s
GOMU GeErMu 40.65 325 P **P** **06 20 37.7 +1.7**
GOMU PcP **PcP** **06 22 24.2 +2.3**
GOMU SS SS 06 29 23.0 -6.3
GOMU pmax pmax
comp=Z,220nm,0.8s
HTT Hallett 40.70 159 P **P** **06 20 36.7 +0.7**
baz=41,SNR=1000
HTT Hallett 40.70 159 ⇑P **P** **06 20 36.6 +0.7**
HTT Hallett 40.70 159 P **P** **06 20 36.5 +0.5**
RAGD RAYAGADA 40.88 294 ⇓*i*P **P** **06 20 39.1 +1.4**
JHSG JHARSUGUGA 41.36 298 *e*P **P** **06 20 42.5 +1.1**
BNX BinXian 41.38 5 ⇓P **P** **06 20 40.7 -0.4**
BNX pP **PcP** **06 22 24.2 +0.6**
BNX PP **PP** **06 22 30.1 -2.7**
BNX S **S** **06 26 16.0 +3.8**
BNX pmax pmax
comp=Z,5μm,3.5s
ERM Erimo 41.71 23 P **P** **06 20 43.2 -0.5**
ERM IAmb IAmb 06 20 57.5
comp=Z,1μm,0.8s
ERM Erimo 41.71 23 ⇑P **P** **06 20 43.6 -0.1**
ERM Erimo 41.71 23*c* *e*P **P** **06 20 43.6 -0.1**
ERM pmax pmax
comp=Z,652nm,0.8s
ERM Erimo 41.71 23 P **P** **06 20 43.7 0.0**
PALK Pallekele 41.73 276 P **P** **06 20 44.6 +0.2**
PALK IAmb IAmb 06 20 48.3
comp=Z,5μm,1.4s
PALK Pallekele 41.73 276 ⇓P **P** **06 20 44.8 +0.4**
PALK Pallekele 41.73 276 P **P** **06 20 44.6 +0.2**
PALK pmax pmax
comp=Z,5μm,1.4s
PALK Pallekele 41.73 276 P **P** **06 20 45.9 +1.4**
PALK P **P** **06 20 45.9 +1.4**
PALK Pallekele 41.73 276 P **P** **06 20 44.7 +0.2**
PALK ScP **ScP** **06 25 16.5 -0.6**
CMSA Cobar Meteorol 42.00 150 P **P** **06 20 47.1 +1.0**
baz=42,SNR=1000
TEY Ternei 42.29 15⇑ *e*P **P** **06 20 47.8 -0.4**
TEY *e* 06 22 33.0
TEY pmax pmax
comp=N,90nm,1.0s
TEY pmax pmax
comp=Z,130nm,1.1s
TEY pmax pmax
comp=Z,300nm,2.9s
MDRS Chennai 42.64 284 *e*P **P** **06 20 52.7 +1.2**
MDRS IAmb IAmb 06 20 55.7
comp=Z,2μm,1.0s
VJD Vijayawada 42.83 290 *i*P **P** **06 20 53.8 +0.9**
VJD *i*pP **pP** **06 22 35.3 -5.4**
VAR Varanasi 43.24 303 *e*P **P** **06 20 56.6 +0.6**
ASAJ Asahikawa 43.30 21 P **P** **06 20 56.2 +0.1**
comp=Z,1μm,0.7s,baz=232,slow=8.2,SNR=285
ASAJ S **S** **06 26 36.9 -2.8**
comp=Z,174nm,1.0s,baz=91,slow=26,SNR=2.5
comp=Z,1μm,0.7s
ASAJ Asahikawa 43.30 21 P **P** **06 20 55.7 -0.4**
JKA Kamikawa-asahi 43.30 21 P **P** **06 20 55.8 -0.3**
JKA IAmb IAmb 06 21 04.9
comp=Z,2μm,0.6s
VLK Valmikinagar 43.34 306 *e*P **P** **06 20 58.1 +1.4**
JMP Maruseppu 43.49 22 P **P** **06 20 57.2 -0.4**
ARMA Armidale 44.41 143 P **P** **06 21 06.6 +1.6**
baz=45,SNR=1000
ARMA Armidale 44.41 143 P **P** **06 21 07.0 +2.0**
ARMA Armidale 44.41 143 ⇑P **P** **06 21 06.5 +1.6**
SALM Salem 44.47 282 ⇓*i*P **P** **06 21 06.8 +1.3**
SALM IAmb IAmb 06 21 10.5
comp=Z,2μm,1.1s
YUK Yuzh-Kuril'sk 44.48 24*c* *i*P **P** **06 21 04.5 -0.6**
YUK *i* *PP **pP** **06 22 50.8 -3.3**
YUK *i* 06 23 01.9
YUK *i*S **S** **06 26 49.7 -6.5**
YUK *i*SS **SS** **06 30 29.3 -0.5**
YUK pmax pmax
comp=Z,5μm,1.1s
ARPS Mount Arapiles 44.75 158 P **P** **06 21 07.5 +0.3**
baz=45,SNR=577
HIA Hailar 44.76 357 IAmb IAmb 06 21 16.5
comp=Z,2μm,0.9s
HIA Hailar 44.76 357 P **P** **06 21 07.2 0.0**
HIA ScP **ScP** **06 25 31.6 +2.8**
KWAJ Kwajalein Atol 44.94 82 P **P** **06 21 09.9 +0.8**
KWAJ ScP **ScP** **06 25 27.9 -2.4**
HYB Hyderabad 44.98 290 ⇓*e*P **P** **06 21 10.0 +0.6**
HYB IVmB_BB 06 21 13.5
comp=Z,31μm,5.8s
HYB *e*pP **pP** **06 22 59.7 +0.7**
HYB *e*PP **PP** **06 23 07.1 +1.1**
HYB *e*S **S** **06 27 04.3 +0.3**

HYB eScS **ScS** **06 29 54.3 -3.7**
HYB eSS **SS** **06 30 39.0 +0.4**
HYB Hyderabad 44.98 290 eP **P** **06 21 10.5 +1.0**
HYB IAmb IAmb 06 21 13.0
comp=Z,3μm,0.5s
KOD Kodaikanal 45.07 280 eP **P** **06 21 11.1 +0.6**
ULN Ulaanbaatar 45.30 345 P **P** **06 21 11.3 -0.2**
ULN IAmb IAmb 06 21 20.9
comp=Z,1μm,0.8s
ULN Ulaanbaatar 45.30 345 ⇑P **P** **06 21 11.7 +0.3**
ULN Ulaanbaatar 45.30 345 deP **P** **06 21 11.5 0.0**
ULN pmax pmax
comp=Z,2μm,0.8s
ULN Ulaanbaatar 45.30 345 P **P** **06 21 10.5 -1.0**
ULN Ulaanbaatar 45.30 345 P **P** **06 21 11.8 +0.3**
ULN pP **pP** **06 23 01.6 +0.8**
ULN ScP **ScP** **06 25 31.4 +0.2**
BRCI Bahraich 45.30 305 eP **P** **06 21 12.8 +1.1**
H11S3 WAKE ISLAND Hy 45.30 68 P **P** **06 21 12.8 +1.1**
baz=236,slow=6.6,SNR=59
H11S1 WAKE ISLAND Hy 45.32 68 P **P** **06 21 12.9 +1.1**
baz=236,slow=6.6,SNR=54
H11S2 WAKE ISLAND Hy 45.32 68 P **P** **06 21 12.9 +1.2**
baz=236,slow=6.6,SNR=73
KLR Kul'dur 45.34 8 P **P** **06 21 11.0 -0.5**
comp=Z,256nm,0.6s,baz=193,slow=7.3,SNR=63
KLR S **S** **06 27 03.7 -4.2**
comp=Z,51nm,1.0s,baz=318,slow=11,SNR=1.4
comp=Z,256nm,0.6s
KLR Kul'dur 45.34 8 ceP **P** **06 21 10.7 -0.8**
KLR pmax pmax
comp=Z,1μm,1.2s
SONM Songino Array 45.44 345 P **P** **06 21 12.7 +0.1**
comp=Z,602nm,0.7s,baz=159,slow=8.4,SNR=617
SONM ScP **ScP** **06 25 33.1 +1.3**
comp=Z,204nm,0.9s,baz=162,slow=4.7,SNR=4.4
SONM S **S** **06 27 11.6 +1.9**
comp=Z,28nm,0.8s,baz=189,slow=7.3,SNR=1.3
SONM PKPPKP **P'P'df** **06 52 24.3 -5.9**
comp=Z,6.2nm,0.9s,baz=341,slow=0.6,SNR=4.4
SONM P4KPbc 06 58 51.5
comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=2.9
comp=Z,602nm,0.7s
SONM Songino Array 45.44 345 P **P** **06 21 12.6 +0.1**
SONM IAmb IAmb 06 21 22.4
comp=Z,2μm,0.8s
WAKE Wake Island 45.45 67 P **P** **06 21 12.5 -0.4**
WAKE IAmb IAmb 06 21 32.6
comp=Z,2μm,1.1s
WAKE Wake Island 45.45 67 ⇑P **P** **06 21 12.8 0.0**
WAKE Wake Island 45.45 67 P **P** **06 21 13.1 +0.2**
WAKE pP **pP** **06 23 00.5 -0.4**
WAKE ScP **ScP** **06 25 31.6 -0.7**
TRD Trivandrum 45.48 278 eP **P** **06 21 13.6 +0.4**
TRD IAmb IAmb 06 21 16.5
comp=Z,5μm,1.1s
H11N1 WAKE ISLAND Hy 45.76 67 P **P** **06 21 15.7 +0.7**
baz=248,slow=9.7,SNR=98
H11N2 WAKE ISLAND Hy 45.77 67 P **P** **06 21 15.9 +0.8**
baz=248,slow=9.7,SNR=52
H11N3 WAKE ISLAND Hy 45.78 67 P **P** **06 21 15.9 +0.8**
baz=248,slow=9.7,SNR=165
YSS Yuzh-Sakhalins 45.83 19 P **P** **06 21 14.4 -0.9**
YSS IAmb IAmb 06 21 23.1
comp=Z,3μm,1.3s
YSS Yuzh-Sakhalins 45.83 19 ⇑P **P** **06 21 14.5 -0.9**
YSS Yuzh-Sakhalins 45.83 19 oeP **P** **06 21 14.4 -0.9**
YSS e 06 22 45.8
YSS e*PP **pP** **06 23 06.2 +0.8**
YSS e 06 23 13.1
YSS e*SP **sP** **06 24 17.7 +3.0**
YSS eS **S** **06 27 12.7 -2.2**
YSS e 06 29 58.3
YSS e*SS **sS** **06 30 32.0 -0.2**
YSS eSS **SS** **06 30 53.1 +2.0**
YSS pmax pmax
comp=Z,1μm,1.2s
YSS pmax pmax
comp=Z,19μm,4.5s
YSS pmax pmax
comp=N,8μm,4.4s
YSS pmax pmax
comp=Z,7μm,12.1s
YSS pmax pmax
comp=N,3μm,11.4s
YSS smax smax
comp=E,14μm,13.2s
YSS Yuzh-Sakhalins 45.83 19 P **P** **06 21 14.9 -0.4**
HEH HeiHe 45.86 4 eP **P** **06 21 15.6 +0.1**
HEH ScP **ScP** **06 25 34.3 +1.0**
HEH S **S** **06 27 14.8 -0.4**
HEH ScS **ScS** **06 29 59.6 -2.8**
HEH pmax pmax
comp=E,3μm,0.9s
HEH pmax pmax
comp=E,26μm,3.7s
MGCD Mangrove Creek 46.16 146 P **P** **06 21 19.7 +1.7**
baz=46,SNR=254
PCHI Peechi 46.19 280 ⇓eP **P** **06 21 18.9 +0.3**
PCHI eS **S** **06 27 20.4 -0.5**
CAN Canberra 46.68 150 P **P** **06 21 23.4 +1.4**
CAN Canberra 46.68 150 ⇑P **P** **06 21 23.0 +1.1**
CAN Canberra 46.68 150 P **P** **06 21 23.4 +1.4**
CAN pmax pmax
comp=Z,11μm,0.9s
CAN Canberra 46.68 150 P **P** **06 21 23.3 +1.4**
CAN ScP **ScP** **06 25 37.3 +0.2**
TOO Toolangi 46.90 155 P **P** **06 21 24.6 +1.1**
baz=47,SNR=350
TOO Toolangi 46.90 155 P **P** **06 21 24.7 +1.1**
TOO Toolangi 46.90 155 ⇑P **P** **06 21 24.6 +1.1**
TOO Toolangi 46.90 155 P **P** **06 21 24.7 +1.1**
TOO pmax pmax
comp=Z,6μm,1.2s
JHNI Jhansi 47.10 301 iP **P** **06 21 24.1 -1.2**
JHNI IAmb IAmb 06 21 27.0
comp=Z,1μm,0.7s
AKL Akola 47.11 294 eP **P** **06 21 26.0 +0.6**
AKL IAmb IAmb 06 21 29.0
comp=Z,5μm,0.5s
LGTI Lohaghat 47.12 307 eP **P** **06 21 25.9 +0.6**
LGTI IAmb IAmb 06 21 29.2
comp=Z,2μm,0.6s
BHPL Bhopal 47.40 298 eP **P** **06 21 28.2 +0.6**
BHPL IAmb IAmb 06 21 36.3
comp=Z,46μm,3.0s
UGL Uglegorsk 47.50 17 ⇑iP **P** **06 21 27.9 +0.2**
UGL e 06 23 17.8
UGL eS **S** **06 27 36.2 -1.6**
UGL eSS **ScS** **06 30 12.3 -1.1**
UGL pmax pmax
comp=Z,700nm,0.8s
UGL pmax pmax
comp=Z,26μm,3.2s
UGL smax smax
comp=E,34μm,6.6s
UGL smax smax
comp=N,17μm,7.4s
GRNR Gornyy 47.64 12 ⇑iP **P** **06 21 29.1 +0.3**
GRNR e 06 22 53.3
GRNR eS **S** **06 27 44.1 +4.3**
GRNR smax smax
comp=E,40nm,1.1s
GRNR MLR MLR
comp=E,4μm,15.0s
GRNR MLR MLR
comp=N,7μm,16.0s
MNGI Mangalore 47.88 283 eP **P** **06 21 31.4 +0.2**
MNGI IAmb IAmb 06 21 34.3
comp=Z,713nm,0.7s
CIT Chita 48.04 353 eP **P** **06 21 34.0 +2.2**
CIT e 06 22 52.2
CIT eS **S** **06 27 44.5 -0.8**
CIT e 06 28 02.9
CIT e 06 30 20.7
CIT pmax pmax
comp=Z,4μm,2.6s
MILA Mila 48.13 151 P **P** **06 21 33.1 +0.4**
baz=48,SNR=118
MILA Mila 48.13 151 ⇑P **P** **06 21 33.2 +0.5**
ZAK Zakamensk 48.60 344 eP **P** **06 21 36.2 +0.1**
ZAK pmax pmax
comp=Z,966nm,1.0s
GOA Goa 49.14 287 eP **P** **06 21 40.2 -0.2**
GOA IAmb IAmb 06 21 43.8
comp=Z,1μm,0.5s
HMDM Hanimaadhoo 49.19 275 P **P** **06 21 41.4 +0.6**
HMDM Hanimaadhoo 49.19 275 P **P** **06 21 41.7 +0.9**
SNR=71
DDI Dehra Dun 49.22 307 eP **P** **06 21 40.8 -0.1**
DDI IAmb IAmb 06 21 44.0
comp=Z,8μm,1.5s
SONA Sohna 49.25 304 eP **P** **06 21 40.8 -0.3**
TYV Tymovskoe 49.27 17 eP **P** **06 21 41.2 +0.5**
TYV eS **S** **06 28 04.9 +3.1**
TYV pmax pmax
comp=Z,240nm,0.9s
TYV pmax pmax
comp=Z,5μm,2.7s
TYV smax smax
comp=N,17μm,7.1s
TYV smax smax
comp=E,21μm,7.1s
NDI New Delhi 49.29 304 eP **P** **06 21 40.4 -1.0**
NDI eP P 06 21 42.0 +0.6
NDI eS **S** **06 28 01.0 -2.0**
ZEA Zeya 49.32 4 eP **P** **06 21 41.0 -0.1**
ZEA e 06 23 51.6
ZEA eS **S** **06 28 05.9 +3.4**
ZEA e 06 30 24.2
ZEA pmax pmax
comp=E,300nm,2.0s
ZEA pmax pmax
comp=N,5μm,3.4s
ZEA pmax pmax
comp=Z,8μm,3.6s
ZEA pmax pmax
comp=E,190nm,0.7s
ZEA pmax pmax
comp=N,330nm,1.0s
ZEA pmax pmax
comp=Z,720nm,0.9s
ZEA MLR MLR
comp=N,9μm,16.0s
ZEA MLR MLR
comp=E,4μm,16.0s
MNCI Minicoy 49.33 277 P **P** **06 21 42.0 +0.1**
MNCI IAmb IAmb 06 22 01.4
comp=Z,4μm,0.9s
MNCI Minicoy 49.33 277 ⇑P **P** **06 21 42.2 +0.4**
MNCY Minicoy 49.35 277 eP **P** **06 21 42.3 +0.2**
MNCY IAmb IAmb 06 21 45.3
comp=Z,2μm,1.5s
POO Poona 49.58 291 eP **P** **06 21 43.3 -0.5**
KAAM Kaadhehdhoo 49.66 267 P **P** **06 21 43.6 -0.7**
KAAM IAmb IAmb 06 21 47.4
comp=Z,1μm,0.8s
KAAM Kaadhehdhoo 49.66 267 P **P** **06 21 44.8 +0.5**
KAAM P P 06 21 47.0 +2.6
SNR=13
KUDL Kundal 49.71 304 eP **P** **06 21 44.0 -0.4**
WMQ Urumqi 49.84 327 ⇓P **P** **06 21 45.8 +0.6**
WMQ PcP **PcP** **06 22 51.1 -2.8**
WMQ pP pwP 06 23 39.6 -0.5
WMQ sP sP 06 24 45.0 -1.6
WMQ ScP **ScP** **06 25 53.3 +2.7**
WMQ S **S** **06 28 10.3 +0.2**
WMQ sS sS 06 31 32.4 +0.6
WMQ pmax pmax
comp=Z,2μm,1.1s
WMQ pmax pmax
comp=Z,18μm,5.1s
WMQ Urumqi 49.84 327 P **P** **06 21 46.4 +1.1**
WMQ pP **pwP** **06 23 39.0 -1.0**
WMQ ScP **ScP** **06 25 51.9 +1.3**
LHI Lord Howe Isla 49.85 138 P **P** **06 21 46.6 +1.2**
baz=50,SNR=51
LHI Lord Howe Isla 49.85 138 P **P** **06 21 46.0 +0.6**
LHI IAmb IAmb 06 21 57.4
comp=Z,4μm,0.9s
LHI Lord Howe Isla 49.85 138 ⇑P **P** **06 21 46.0 +0.6**
LHI Lord Howe Isla 49.85 138 P **P** **06 21 46.9 +1.5**
comp=Z,6μm,1.2s,comp=Z,51μm
IRK Irkutsk 50.03 345 eP **P** **06 21 45.9 -0.4**
IRK eS **S** **06 28 15.4 +3.2**
IRK pmax pmax
comp=Z,2μm,2.2s
NOUC Port Laguerre 50.25 123 P **P** **06 21 49.1 +0.7**
DZM Mont Dzumac 50.35 123 eP **P** **06 21 49.3 0.0**
comp=Z,10μm,1.4s
DZM epP **pP** **06 23 40.6 -1.4**
DZM esP **sP** **06 24 47.8 -2.6**
DZM eSS **SKiKP** **06 32 05.2 -7.4**
DZM Mont Dzumac 50.35 123 P **P** **06 21 49.7 +0.3**
comp=Z,1μm,1.0s,baz=154,slow=3.8,SNR=177
DZM ScP **ScP** **06 25 56.4 +3.2**
comp=Z,234nm,0.9s,baz=43,slow=15,SNR=3.0
DZM S **S** **06 28 17.3 -0.3**
comp=Z,33nm,1.0s,baz=239,slow=22,SNR=1.2
comp=Z,1μm,1.0s
DZM Mont Dzumac 50.35 123 P **P** **06 21 49.5 +0.2**
DZM IAmb IAmb 06 22 01.4
comp=Z,3μm,1.0s
DZM Mont Dzumac 50.35 123 ⇑P **P** **06 21 49.6 +0.3**
DZM Mont Dzumac 50.35 123 P **P** **06 21 50.0 +0.7**
DZM pP **pwP** **06 23 44.6 -0.8**
TARA Tarawa 50.38 92 ⇑P **P** **06 21 50.3 +0.7**
TARA Tarawa 50.38 92 P **P** **06 21 50.5 +1.0**
TARA ScP **ScP** **06 25 55.0 +1.6**
AJM Ajmer 50.74 301 ⇓iP **P** **06 21 51.9 -0.1**
AJM IAmb IAmb 06 21 54.8
comp=Z,1μm,0.7s
NKL Nikolayevsk 50.82 14 eP P 06 21 45.2 -6.8
NKL eS **S** **06 28 17.0 -5.6**
NKL eSS SS 06 31 39.9 -30
NKL pmax pmax
comp=N,3μm,1.1s
NKL pmax pmax
comp=E,1μm,1.1s
NKL pmax pmax
comp=Z,9μm,1.0s
NKL smax smax
comp=E,4μm,4.0s
NKL smax smax
comp=N,5μm,3.3s
BHK Bhakra 50.93 307 eP **P** **06 21 54.2 +0.9**
BHK IAmb IAmb 06 21 55.8
comp=Z,2μm,0.8s
DGAR Diego Garcia 51.37 257 P **P** **06 21 55.9 -0.7**
DGAR IAmb IAmb 06 22 06.6
comp=Z,5μm,1.1s
DGAR Diego Garcia 51.37 257 ⇓P **P** **06 21 56.0 -0.6**
DGAR Diego Garcia 51.37 257 ceP **P** **06 21 56.8 +0.2**
DGAR pmax pmax
comp=Z,3μm,1.0s
DGAR Diego Garcia 51.37 257 P **P** **06 21 56.8 +0.2**
DGAR P **P** **06 21 56.8 +0.2**
DGAR Diego Garcia 51.37 257 P **P** **06 21 56.1 -0.6**
H08S2 Diego Garcia H 51.37 257 P **P** **06 21 56.0 -0.4**
baz=44,slow=8.8,SNR=1131
H08S3 Diego Garcia H 51.38 257 P **P** **06 21 55.9 -0.5**
baz=44,slow=8.8,SNR=1731
H08S1 Diego Carcia H 51.39 257 P **P** **06 21 56.1 -0.5**
baz=44,slow=8.8,SNR=1934
MOO Moorlands 51.72 157 P **P** **06 21 59.8 +1.2**
baz=52,SNR=117
MOO Moorlands 51.72 157 P **P** **06 22 00.8 +2.1**
comp=Z,1μm,0.9s,comp=Z,17μm
THN Thein Dam 51.87 308 iP **P** **06 22 00.1 +0.2**
TAU Tasmania Unive 52.17 157 P **P** **06 22 03.4 +1.6**
TAU IAmb IAmb 06 22 14.2
comp=Z,2μm,0.9s
TAU Tasmania Unive 52.17 157 ⇑P **P** **06 22 02.7 +0.9**
TAU Tasmania Unive 52.17 157 P **P** **06 22 03.4 +1.6**
TAU pmax pmax
comp=Z,2μm,1.0s
TAU Tasmania Unive 52.17 157 P **P** **06 22 02.8 +1.0**
TAU ScP **ScP** **06 26 03.0 +2.6**
JMU Jammu 52.61 308 ⇓iP **P** **06 22 06.5 +1.3**
WUS Wushi 53.32 320 P **P** **06 22 11.3 +1.0**
WUS pP **pwP** **06 24 07.7 -0.3**
BOD Bodaibo 53.69 354 eP **P** **06 22 12.4 +0.1**
BOD pmax pmax
comp=Z,3μm,1.4s
ZSN Zaisan 53.73 329 iP **P** **06 22 13.1 +0.1**
baz=329
ZSN eS **S** **06 29 01.9 +0.4**
baz=329
ZSN Zaisan 53.73 329 diP **P** **06 22 13.0 +0.1**
ZSN eS **S** **06 29 01.8 +0.4**
DGZ Jazzator, Alta 54.01 332 diP **P** **06 22 15.6 +0.6**
DGZ pmax pmax
comp=Z,722nm,0.9s
SKR Severo-Kuril's 54.01 26 eP **P** **06 22 15.4 +0.7**
SKR eS **S** **06 29 03.5 -1.4**
SKR eSS SKiKP 06 32 32.8 +17
SKR pmax pmax
comp=Z,330nm,1.3s
SKR pmax pmax
comp=Z,10μm,16.7s
SHLS Shalkode 54.21 322 ⇓iP **P** **06 22 15.4 -1.0**
comp=Z,508nm,1.0s,baz=322
SHLS eS **S** **06 29 05.7 -2.4**
baz=322
SHLS Shalkode 54.21 322 diP **P** **06 22 15.4 -1.0**
SHLS eS **S** **06 29 05.7 -2.4**
SHLS pmax pmax
comp=Z,508nm,1.0s
NIL Nilore 54.24 309 P **P** **06 22 16.3 -0.4**
NIL IAmb IAmb 06 22 24.6
comp=Z,4μm,1.4s
NIL Nilore 54.24 309 P **P** **06 22 16.3 -0.4**
NIL pmax pmax
comp=Z,4μm,1.4s
NIL Nilore 54.24 309 P **P** **06 22 16.4 -0.4**
NIL Nilore 54.24 309 P **P** **06 22 17.2 +0.5**
NIL pP **pP** **06 24 11.9 -1.0**
BHUJ Bhuj 54.34 295 eP **P** **06 22 17.6 +0.1**
BHUJ IAmb IAmb 06 22 21.3
comp=Z,1μm,1.0s
UZB Uzynbulak 54.48 322 ⇓iP **P** **06 22 18.9 +0.6**
baz=322
UZB eS **S** **06 29 12.0 +0.4**
baz=322
UZB Uzynbulak 54.48 322 diP **P** **06 22 18.9 +0.6**
UZB eS **S** **06 29 12.0 +0.4**
KSH Kashi 54.66 316 P **P** **06 22 21.5 +1.9**
KSH PcP **PcP** **06 23 12.4 -0.1**
KSH pP pP 06 24 14.3 -1.4
KSH sP sP 06 25 22.5 0.0
KSH S **S** **06 29 16.0 +2.0**
KSH ScS **ScS** **06 31 04.5 0.0**
KSH pmax pmax
comp=Z,900nm,1.1s
KSH pmax pmax
comp=Z,16μm,7.9s
MK31 Makanchi Array 54.67 327 P **P** **06 22 19.8 +0.3**
MK31 Makanchi Array 54.67 327 P **P** **06 22 19.8 +0.3**
MK31 pmax pmax
comp=Z,873nm,0.7s
MKAR Makanchi Array 54.67 327 P **P** **06 22 19.9 +0.4**
comp=Z,562nm,0.4s,baz=122,slow=7.5,SNR=2665
MKAR PcP **PcP** **06 23 12.8 +0.6**
comp=Z,382nm,0.6s,baz=124,slow=4.1,SNR=5.3
MKAR ScP **ScP** **06 26 13.3 +1.8**
comp=Z,636nm,1.0s,baz=126,slow=6.2,SNR=6.3
MKAR S **S** **06 29 13.1 -0.7**
comp=Z,21nm,0.7s,baz=107,slow=8.2,SNR=1.7
MKAR PKPPKP P'P'df 06 51 58.7 -20
comp=Z,3.0nm,1.0s,baz=315,slow=2.4,SNR=5.2
comp=Z,562nm,0.4s
MKAR Makanchi Array 54.67 327 P **P** **06 22 19.8 +0.3**
NFK Norfolk Island 54.80 130 P **P** **06 22 21.8 +1.1**
baz=55,SNR=36
NFK Norfolk Island 54.80 130 ⇑P **P** **06 22 21.1 +0.5**
NFK Norfolk Island 54.80 130 P **P** **06 22 22.8 +2.1**
comp=Z,8μm,1.4s,comp=Z,76μm
SATY Saty 54.81 321 ⇓iP **P** **06 22 21.4 +0.8**
comp=Z,538nm,0.8s,baz=321
SATY eS **S** **06 29 17.4 +1.5**
baz=321
SATY Saty 54.81 321 diP **P** **06 22 21.4 +0.8**
SATY eS **S** **06 29 17.4 +1.5**
SATY pmax pmax
comp=Z,538nm,0.8s
KPKS Kokpek 54.85 322 ⇓iP **P** **06 22 21.4 +0.4**
comp=Z,737nm,1.2s,baz=322
KPKS eS **S** **06 29 17.6 +1.1**
baz=322
KPKS Kokpek 54.85 322 diP **P** **06 22 21.3 +0.4**
KPKS eS **S** **06 29 17.5 +1.1**
KPKS pmax pmax
comp=Z,737nm,1.2s
MAKZ Makanchi 54.85 327 P **P** **06 22 20.7 0.0**
MAKZ IAmb IAmb 06 22 30.9
comp=Z,5μm,1.6s
MAKZ Makanchi 54.85 327 ⇓P **P** **06 22 20.0 -0.7**
MAKZ Makanchi 54.85 327 P **P** **06 22 20.9 +0.2**
MAKZ Makanchi 54.85 327 P **P** **06 22 21.0 +0.3**
MDOK Medeo 55.72 321 P **P** **06 22 27.6 +0.7**
TNSS Tian-Shan 55.72 321 iP **P** **06 22 28.1 +0.9**
baz=321
TNSS Tian-Shan 55.72 321 iP **P** **06 22 28.1 +0.9**
ULHL Ulahol 55.77 319 P **P** **06 22 28.4 +1.0**
SNR=48
KNDC Almaty 55.79 321 P **P** **06 22 27.9 +0.5**
AAA Alma-Ata 55.82 321 eP **P** **06 22 28.5 +1.0**
comp=Z,1μm,1.1s,baz=321
AAA eS **S** **06 29 30.5 +1.7**
baz=321
AAA Alma-Ata 55.82 321 eP **P** **06 22 28.7 +1.1**
TDK Taldyqorghan 55.85 323 ⇓iP **P** **06 22 28.4 +0.8**
comp=Z,682nm,0.6s,baz=323
TDK eS **S** **06 29 30.1 +1.1**
baz=323
TDK Taldyqorghan 55.85 323 diP **P** **06 22 28.4 +0.8**
TDK eS **S** **06 29 30.1 +1.1**
TDK pmax pmax
comp=Z,682nm,0.6s
CHKK Chushkaly 56.11 322 ⇓iP **P** **06 22 29.5 +0.1**
baz=322
CHKK Chushkaly 56.11 322 ⇓iP **P** **06 22 29.5 +0.1**
PEA0B Petropavlovsk- 56.46 25 P **P** **06 22 31.6 0.0**
PEA0B IAmb IAmb 06 22 42.5
comp=Z,4μm,1.6s
PEA0B Petropavlovsk- 56.46 25 ceP **P** **06 22 32.0 +0.4**
PETK Petropavlovsk- 56.46 25 P **P** **06 22 31.1 -0.5**
comp=Z,183nm,0.8s,baz=198,slow=2.8,SNR=59
PETK PKPPKP P'P'df 06 51 59.3 -16
comp=Z,17nm,1.0s,baz=79,slow=9.2,SNR=8.8
comp=Z,183nm,0.8s
TKM2 Tokmak 2 56.52 320 P **P** **06 22 33.2 +0.8**
SNR=134
TKM2 Tokmak 2 56.52 320 iP **P** **06 22 33.0 +0.5**
TKM2 pmax pmax
comp=Z,670nm,0.5s
KUU Kurty 56.53 321 ⇓iP **P** **06 22 32.8 +0.4**
comp=Z,649nm,0.5s,baz=321
KUU eS **S** **06 29 38.8 +1.0**
baz=321
KUU Kurty 56.53 321 diP **P** **06 22 32.7 +0.4**
KUU eS **S** **06 29 38.7 +1.0**
KUU pmax pmax
comp=Z,649nm,0.5s
PET Petropavlovsk 56.80 25 P **P** **06 22 33.8 -0.1**
PET IAmb IAmb 06 22 42.5
comp=Z,3μm,1.2s
PET Petropavlovsk 56.80 25 ⇑P **P** **06 22 33.7 -0.1**
PET Petropavlovsk 56.80 25 oeP **P** **06 22 34.0 +0.2**
PET e*PP **pP** **06 24 28.6 -3.0**
PET e*SP **sP** **06 25 33.9 -5.0**
PET eS **S** **06 29 40.6 -0.1**
PET e 06 31 15.9
PET pmax pmax
comp=Z,3μm,1.2s
PET pmax pmax
comp=Z,21μm,12.3s
PET pmax pmax
comp=Z,22μm,15.0s
PET smax smax
comp=E,21μm,12.4s
PET smax smax
comp=E,25μm,17.8s
PET smax smax
comp=N,20μm,19.1s
PET smax smax
comp=N,18μm,15.4s
PET Petropavlovsk 56.80 25 P **P** **06 22 34.0 +0.2**
PET pP **pP** **06 24 33.9 +2.3**
KBK Karagaybulak 56.81 319 P **P** **06 22 35.4 +1.0**
SNR=28
UCH Uchtor 56.89 319 P **P** **06 22 36.4 +1.0**
SNR=569
AAK Ala-Archa 57.10 319 P **P** **06 22 37.3 +0.9**
SNR=276

AAK	Ala-Arcna	57.10 319		P4KPbc				06 59 42.1	
	comp=N,9,3nm,0.7s,baz=148,slow=8.6,SNR=10								
AAK	Ala-Archa	57.10 319		P		P		06 22 36.6	+0.3
AAK	Ala-Archa	57.10 319		⇓P		P		06 22 37.1	+0.7
AAK	Ala-Archa	57.10 319	*de*	P		P		06 22 37.0	+0.6
AAK				pmax	pmax				
	comp=Z,1μm,1.7s								
AAK	Ala-Archa	57.10 319	*i*	P		P		06 22 36.2	-0.2
	SNR=391								
AAK	Ala-Archa	57.10 319		P		P		06 22 35.4	-0.9
AAK				P		P		06 22 35.4	-0.9
AAK	Ala-Archa	57.10 319		P		P		06 22 37.3	+0.9
AAK				ScP		ScP		06 26 22.0	-0.5
CHMS	Chumysh	57.10 320		P		P		06 22 36.9	+0.7
	SNR=10								
CHMS	Chumysh	57.10 320	*i*	P		P		06 22 36.1	-0.1
CHMS				pmax	pmax				
	comp=Z,336nm,0.6s								
AML	Almayashu	57.39 318		P		P		06 22 39.6	+1.0
	SNR=86								
USP	Ospenovka	57.39 320		P		P		06 22 39.3	+1.1
	SNR=21								
SGDS	Sogindy	57.39 320	⇓	*i*	P	P		06 22 38.4	+0.1
	baz=320								
SGDS				*e*	S	S		06 29 50.5	+1.5
	baz=320								
SGDS	Sogindy	57.39 320		*d*	P	P		06 22 38.3	+0.1
SGDS				*e*	S	S		06 29 50.4	+1.5
EKS2	Erkin-Say	57.58 319		P		P		06 22 40.5	+1.0
	SNR=58								
YAK	Yakutsk	57.73	4	P		P		06 22 39.7	-0.4
	comp=Z,943nm,0.7s,baz=6.6,slow=0.6,SNR=72								
	comp=Z,943nm,0.7s								
YAK	Yakutsk	57.73	4	P		P		06 22 39.7	-0.4
YAK	Yakutsk	57.73	4	⇓P		P		06 22 39.6	-0.4
YAK	Yakutsk	57.73	4	*e*P		P		06 22 39.5	-0.5
YAK				*e*				06 23 25.1	
YAK				*e**PP		pP		06 24 36.8	-1.7
YAK				*e*				06 24 57.0	
YAK				*e*S		S		06 29 49.8	-2.5
YAK				*e*				06 31 27.1	
YAK				pmax	pmax				
	comp=Z,4μm,0.9s								
YAK				pmax	pmax				
	comp=N,1μm,1.1s								
YAK				pmax	pmax				
	comp=E,397nm,1.1s								
YAK				pmax	pmax				
	comp=Z,3μm,2.2s								
YAK				pmax	pmax				
	comp=N,2μm,2.0s								
YAK				pmax	pmax				
	comp=E,860nm,2.3s								
YAK				smax	smax				
	comp=E,15μm,3.8s								
YAK				smax	smax				
	comp=N,10μm,3.6s								
YAK	Yakutsk	57.73	4	P		P		06 22 39.8	-0.2
KBL	Kabul	57.83 308		P		P		06 22 41.0	-0.5
KBL				IAmb	IAmb			06 22 50.9	
	comp=Z,2μm,0.7s								
KBL	Kabul	57.83 308		P		P		06 22 41.1	-0.5
KBL				pmax	pmax				
	comp=Z,2μm,0.7s								
KBL	Kabul	57.83 308		P		P		06 22 41.8	+0.3
	SNR=868								
KBL				P		P		06 22 41.8	+0.3
	SNR=868								
FUNA	Funafuti	57.92 103		P		P		06 22 42.4	+0.2
FUNA				IAmb	IAmb			06 22 54.5	
	comp=Z,7μm,1.0s								
FUNA	Funafuti	57.92 103	⇑	P		P		06 22 42.6	+0.4
FUNA	Funafuti	57.92 103		P		P		06 22 42.3	+0.2
FUNA				pP		pwP		06 24 43.0	+0.1
SEM	Semipalatinsk	57.96 329	⇓	*i*	P	P		06 22 41.3	-0.9
	comp=Z,551nm,1.6s,baz=329								
SEM				*e*S		S		06 29 54.7	-1.4
	baz=329								
SEM	Semipalatinsk	57.96 329		*d*	*i*	P		06 22 41.2	-0.9
SEM				*e*S		S		06 29 54.6	-1.4
SEM				pmax	pmax				
	comp=Z,551nm,1.6s								
ZAA0	Zalesovo Array	58.15 335		P		P		06 22 41.7	-1.3
ZALV	Zalesovo Beam	58.15 335		P		P		06 22 42.1	-0.9
	comp=Z,302nm,0.6s,baz=123,slow=6.0,SNR=333								
ZALV				S		S		06 29 56.4	-1.5
	comp=Z,186nm,1.0s,baz=132,slow=10,SNR=6.5								
ZALV				PKPPKP		P'P'df		06 52 18.2	+5.6
	comp=Z,12nm,0.7s,baz=326,slow=1.7,SNR=3.6								
ZALV				P4KPbc				06 59 47.7	
	comp=Z,1.4nm,0.6s,baz=132,slow=2.2,SNR=3.7								
	comp=Z,302nm,0.6s								
ZALV	Zalesovo Beam	58.15 335		P		P		06 22 41.6	-1.4
GAR	Garm	58.43 314		P		P		06 22 45.4	0.0
GAR				IAmb	IAmb			06 22 54.8	
	comp=Z,3μm,0.8s								
BTLS	Baital	58.52 321	⇓	*i*	P	P		06 22 45.6	-0.1
	baz=321								
BTLS				*e*S		S		06 30 04.3	+1.4
	baz=321								
BTLS	Baital	58.52 321		*d*	*i*	P		06 22 45.6	-0.1
BTLS				*e*S		S		06 30 04.3	+1.4
KURK	Kurchatov	58.98 329		P		P		06 22 48.7	+0.1
KURK				IAmb	IAmb			06 22 57.9	
	comp=Z,2μm,0.7s								
KURK	Kurchatov	58.98 329	⇑	P		P		06 22 48.4	-0.2
KURK	Kurchatov	58.98 329	*de*	P		P		06 22 48.3	-0.3
KURK				pmax	pmax				
	comp=Z,1μm,0.7s								
KURK	Kurchatov	58.98 329		P		P		06 22 48.7	+0.1
MSVF	Nonsavu	58.98 114		PKPPKP		P'P'df		06 51 48.8	-25
	comp=Z,2.2nm,0.4s,baz=164,slow=10,SNR=4.3								
MSVF	Nonsavu	58.98 114		P		P		06 22 50.2	+0.9
MSVF				IAmb	IAmb			06 23 02.0	
	comp=Z,2μm,1.0s								
MSVF	Nonsavu	58.98 114	⇑	P		P		06 22 50.1	+0.8
MSVF	Nonsavu	58.98 114		P		P		06 22 50.2	+0.8
MSVF				pmax	pmax				
	comp=Z,2μm,1.0s								
MSVF	Nonsavu	58.98 114		P		P		06 22 50.4	+1.0
MA2	Magadan	59.14 16		PKPPKP		P'P'df		06 51 48.4	-22
	comp=Z,7.6nm,0.8s,baz=54,slow=8.5,SNR=4.9								
MA2	Magadan	59.14 16	⇑	P		P		06 22 49.9	+0.3
MA2	Magadan	59.14 16	*ce*	P		P		06 22 49.8	+0.3
MA2				pmax	pmax				
	comp=Z,712nm,0.8s								
MA2	Magadan	59.14 16		P		P		06 22 50.0	+0.5
CHGR	Chuyangaron	59.14 313		P		P		06 22 50.2	+0.1
CHGR				IAmb	IAmb			06 23 00.5	
	comp=Z,3μm,1.0s								
CHGR	Chuyangaron	59.14 313		P		P		06 22 50.2	+0.1
CHGR				pmax	pmax				
	comp=Z,3μm,1.0s								
AIS	Amsterdam Isla	59.21 221	⇑	P		P		06 22 52.2	+1.9
AIS	Amsterdam Isla	59.21 221		P		P		06 22 50.6	+0.3
SIMJ	Simiganj	59.25 313		P		P		06 22 50.9	0.0
SIMJ				pP		pwP		06 24 52.3	-1.5
DZA	Taraz	59.29 318		*e*P		P		06 22 51.1	+0.1
	baz=318								
DZA	Taraz	59.29 318		*e*P		P		06 22 51.0	+0.1
IUG	luzhnay	59.86 317	⇓	*i*	P	P		06 22 55.3	+0.5
	comp=Z,474nm,0.6s,baz=317								
IUG				*e*S		S		06 30 21.9	+2.0
	baz=317								
IUG	luzhnay	59.86 317		*d*	*i*	P		06 22 55.3	+0.5
IUG				*e*S		S		06 30 21.9	+2.0
IUG				pmax	pmax				
	comp=Z,474nm,0.6s								
KK31	Karatay Array	59.93 318		P		P		06 22 55.0	-0.1
KK31	Karatay Array	59.93 318		*i*	P	P		06 22 55.4	+0.3
KKAR	Karatay Array	59.93 318		P		P		06 22 54.7	-0.4
KKAR	Karatay Array	59.93 318		P		P		06 22 55.2	0.0
KKAR				IAmb	IAmb			06 23 04.8	
	comp=Z,779nm,0.7s								
KKAR	Karatay Array	59.93 318	⇓	P		P		06 22 55.0	-0.1
KKAR	Karatay Array	59.93 318		P		P		06 22 54.7	-0.4
KKAR				pmax	pmax				
	comp=Z,779nm,0.7s								
TAS	Tashkent	60.04 316		P		P		06 22 56.7	+0.8
TAS				pmax	pmax				
	comp=Z,3μm,0.8s								
MIDW	Midway	61.64 60		P		P		06 23 06.6	+0.1
MIDW				IAmb	IAmb			06 23 15.8	
	comp=Z,6μm,1.4s								
MIDW	Midway	61.64 60	⇑	P		P		06 23 06.5	-0.1
MIDW	Midway	61.64 60		P		P		06 23 06.4	-0.1
FUTU	Fugatoga	61.67 109		P		P		06 23 08.5	+1.5
BRZS	Berezniki	61.76 326	*e*	P		P		06 23 16.6	+10
BRZS				pmax	pmax				
	comp=Z,579nm,2.0s								
OUZ	Omahuta	62.00 134		P		P		06 23 09.8	+1.1
OUZ				IAmb	IAmb			06 23 21.5	
	comp=Z,3μm,1.2s								
OUZ	Omahuta	62.00 134	⇑	P		P		06 23 09.8	+1.1
NGCH	Negor - Chabah	62.35 296		P		P		06 23 11.4	+0.2
	SNR=158								
SEY	Seymchan	62.37 15		PKPPKP		P'P'df		06 52 10.4	+4.8
	comp=Z,11nm,0.9s,baz=67,slow=1.9,SNR=4.7								
SEY	Seymchan	62.37 15	*ce*	P		P		06 23 10.8	+0.2
SEY				pmax	pmax				
	comp=Z,2μm,1.3s								
ROCAM	Rodrigues Isla	62.92 245		P		P		06 23 15.3	+0.4
ROCAM				pP		pwP		06 25 20.1	+0.4
JLN	Jalan Bani Buh	63.51 292		P		P		06 23 18.0	-0.7
	SNR=200								
JLN				P		P		06 23 18.0	-0.7
	SNR=200								
DCZ	Deep Cove	63.55 147		P		P		06 23 18.8	+0.4
DCZ				IAmb	IAmb			06 23 35.0	
	comp=Z,3μm,1.0s								
FOZ	Fox Glacier	63.91 144		P		P		06 23 20.8	+0.1
FOZ				IAmb	IAmb			06 23 32.2	
	comp=Z,2μm,1.0s								
WBK	Wadi Bani Khal	63.96 293		P		P		06 23 21.2	-0.4
	SNR=257								
WBK				P		P		06 23 21.2	-0.4
	SNR=257								
MKAZ	Moumakai	64.00 135		P		P		06 23 22.9	+1.4
MLZ	Mavora Lakes	64.03 146		P		P		06 23 21.5	0.0
MLZ				IAmb	IAmb			06 23 32.7	
	comp=Z,1μm,0.9s								
SMY	Shemya	64.03 32		P		P		06 23 21.0	-0.3
SMY	Shemya	64.03 32		P		P		06 23 21.0	-0.3
SMY				pmax	pmax				
	comp=Z,11μm,2.0s								
QRZ	Quartz Range	64.09 140		P		P		06 23 23.0	+1.0
QRZ				IAmb	IAmb			06 23 34.1	
	comp=Z,5μm,1.1s								
DSZ	Denniston Nort	64.12 141		P		P		06 23 22.8	+0.6
DSZ				IAmb	IAmb			06 23 34.0	
	comp=Z,5μm,1.2s								
WKZ	Wanaka	64.21 145		P		P		06 23 22.8	+0.1
WKZ				IAmb	IAmb			06 23 35.7	
	comp=Z,2μm,1.0s								
KUZ	Kuaotunu	64.23 134		P		P		06 23 24.1	+1.2
WHZ	Wether Hill Ro	64.25 146		P		P		06 23 22.3	-0.6
WHZ				IAmb	IAmb			06 23 34.0	
	comp=Z,3μm,1.2s								
KHEZ	Kahui Hut	64.28 138		P		P		06 23 24.9	+1.7
INZ	Inchbonnie	64.44 142		P		P		06 23 23.2	-0.8
INZ				IAmb	IAmb			06 23 36.4	
	comp=Z,2μm,0.9s								
HIZ	Hauiti	64.47 137		P		P		06 23 26.0	+1.6
BVA0	Borovoye Array	64.52 328	*i*	P		P		06 23 23.8	-0.6
BVAR	Borovoye Array	64.52 328		S		S		06 31 12.8	-3.2
	comp=Z,45nm,0.9s,baz=79,slow=5.2,SNR=2.9								
BVAR				P4KPbc				07 00 13.2	
	comp=Z,3.8nm,0.8s,baz=108,slow=4.8,SNR=7.2								
TOZ	Tahuroa Road	64.54 136		P		P		06 23 26.3	+1.5
BRVK	Borovoye	64.59 328		P		P		06 23 24.1	-0.7
BRVK	Borovoye	64.59 328	⇓	P		P		06 23 24.5	-0.3
BRVK	Borovoye	64.59 328	*i*	P		P		06 23 24.6	-0.3
BRVK				pmax	pmax				
	comp=Z,1μm,1.1s								
BRVK	Borovoye	64.59 328		P		P		06 23 24.6	-0.2
BRVK				pP		pP		06 25 28.9	+2.6
VRZ	Vera Road	64.70 137		P		P		06 23 27.3	+1.5
MHTO	MHTO	64.73 291		P		P		06 23 26.0	-0.4
	SNR=321								
MHTO				P		P		06 23 26.0	-0.4
	SNR=321								
JMDO	Jabal Madar	64.73 293		P		P		06 23 26.0	-0.4
	SNR=267								
JMDO				P		P		06 23 26.0	-0.4
	SNR=267								
RPZ	Rata Peaks	64.75 143		P		P		06 23 26.0	-0.1
	comp=Z,932nm,0.7s,baz=300,slow=2.4,SNR=307								
RPZ				PP		PP		06 26 03.0	+2.9
	comp=Z,300nm,0.8s,baz=189,slow=18,SNR=3.2								
	comp=Z,932nm,0.7s								
TLZ	Tolley Road	64.85 136		P		P		06 23 28.5	+1.7
SMDO	Samad	64.86 293		P		P		06 23 27.1	-0.2
	SNR=193								
SMDO				P		P		06 23 27.1	-0.2
	SNR=193								
KMRZ	Kaimai	64.90 135		P		P		06 23 33.4	+6.3
DQM	DQM	65.04 290		P		P		06 23 28.5	+0.2
	SNR=182								
DQM				P		P		06 23 28.5	+0.2
	SNR=182								
TGRZ	Tauranga	65.07 135		P		P		06 23 31.0	+2.9
KUTZ	Kaahu Road	65.12 136		P		P		06 23 32.7	+4.2
TWVZ	Taurewa	65.13 137		P		P		06 23 30.2	+1.5
WAZ	Wanganui	65.16 138		P		P		06 23 29.5	+0.8
WATZ	Wairara	65.16 136		P		P		06 23 30.4	+1.7
PKVZ	Pokaka	65.18 137		P		P		06 23 29.3	+0.4
KARZ	Kaharoa	65.19 135		P		P		06 23 31.5	+2.5
UTU	Utuhina	65.23 136		P		P		06 23 33.8	+4.6
GRRZ	Galatos Road	65.25 136		P		P		06 23 31.6	+2.3
WTVZ	West Tongariro	65.26 137		P		P		06 23 30.4	+0.9
KATZ	Kakaramea	65.26 137		P		P		06 23 31.2	+1.7
RATZ	Rangitukua	65.27 137		P		P		06 23 31.1	+1.7
ODZ	Otahua Downs	65.27 144	⇑	P		P		06 23 29.7	+0.5
KRVZ	Karewarewa	65.28 137		P		P		06 23 30.7	+1.1
LIRZ	Lichensteins R	65.28 135		P		P		06 23 33.0	+3.5
NNVZ	North Ngauruho	65.28 137		P		P		06 23 30.6	+0.9
NGZ	Ngauruhoe	65.30 137		P		P		06 23 30.4	+0.6
WHTZ	Whakaora	65.30 136		P		P		06 23 32.5	+2.9
FWVZ	Far West T-bar	65.30 137		P		P		06 23 31.1	+1.2
MTVZ	Mangateitei	65.31 137		P		P		06 23 35.9	+6.2
NTVZ	North Tongarir	65.31 137		P		P		06 23 31.0	+1.3
TUWZ	Tuamarina	65.32 140		P		P		06 23 28.3	-1.3
DRZ	Dome Shelter	65.32 137		P		P		06 23 32.9	+2.8
TRVZ	Turoa	65.32 137		P		P		06 23 30.6	+0.7
OMRZ	Omania	65.32 136		P		P		06 23 31.7	+2.0
SNVZ	South Ngauruho	65.33 137		P		P		06 23 30.9	+0.9
HSRZ	Hossack Road	65.33 136		P		P		06 23 31.8	+2.0
OPRZ	Ohinepanea	65.33 135		P		P		06 23 31.1	+1.4
OTVZ	Oturere	65.33 137		P		P		06 23 30.7	+0.8
TMVZ	Te Maari	65.34 137		P		P		06 23 31.1	+1.2
WHVZ	Whangaehu Hut	65.34 137		P		P		06 23 33.0	+2.9
JASK	Jask - Hormozg	65.35 296		P		P		06 23 30.6	+0.5
	SNR=413								
ETVZ	East Tongariro	65.35 137		P		P		06 23 31.1	+1.0
WNVZ	Wahianoa	65.37 137		P		P		06 23 30.7	+0.6
WPRZ	Whakapapatarin	65.37 136		P		P		06 23 32.6	+2.5
RITZ	Rihia Road	65.38 137		P		P		06 23 31.4	+1.3
TUVZ	Tukino	65.38 137		P		P		06 23 31.0	+0.7
HLRZ	Highlands Stat	65.38 136		P		P		06 23 33.7	+3.6
HRRZ	Handcock Road	65.39 136		P		P		06 23 31.9	+1.7
MKRZ	Makatiti	65.41 136		P		P		06 23 36.3	+6.0
TARZ	Mount Tarawera	65.48 136		P		P		06 23 33.1	+2.3
MARZ	Manawahe	65.48 135		P		P		06 23 35.2	+4.4
MOVZ	Moawhango	65.51 137		P		P		06 23 30.6	-0.4
ALRZ	Allen Road	65.52 136		P		P		06 23 31.9	+1.0
PRRZ	Plateau Road	65.52 136		P		P		06 23 33.7	+2.7
RRRZ	Republican Roa	65.53 136		P		P		06 23 32.7	+1.6
GVZ	Greta Valley S	65.55 142		P		P		06 23 32.0	+0.9
KHZ	Kahutara	65.57 141		P		P		06 23 30.6	-0.5
KHZ				IAmb	IAmb			06 23 41.5	
	comp=Z,2μm,1.0s								
KHZ	Kahutara	65.57 141	⇑	P		P		06 23 29.9	-1.2
EDRZ	Edgecumbe	65.58 135		P		P		06 23 33.8	+2.3
HOQ	Hoqain	65.58 294		P		P		06 23 31.6	-0.1
	SNR=296								
HOQ				P		P		06 23 31.6	-0.1
	SNR=296								
BSY	Bisya	65.60 293		P		P		06 23 31.3	-0.5
	SNR=252								
BSY				P		P		06 23 31.3	-0.5
	SNR=252								
WHRZ	Whale Island	65.63 135		P		P		06 23 34.6	+2.9
WIZ	White Island	65.63 135		P		P		06 23 33.7	+2.1
MRHZ	Matea Rd	65.69 136		P		P		06 23 31.8	-0.3
SNZO	South Karori	65.75 139	⇑	P		P		06 23 30.9	-1.3
SNZO	South Karori	65.75 139		P		P		06 23 31.1	-1.1
BHHZ	Black Hill Sta	65.76 137		P		P		06 23 32.0	-0.5
MUGZ	Murupara	65.77 136		P		P		06 23 33.8	+1.3
WEL	Wellington	65.78 139		P		P		06 23 31.8	-0.7
BKZ	Black Stump Fm	65.90 137		P		P		06 23 33.0	-0.4
URZ	Urewera	65.91 135	⇓	P		P		06 23 31.7	-1.6
URZ	Urewera	65.91 135		P		P		06 23 32.4	-0.9
TSZ	Takapari Road	65.96 138		P		P		06 23 33.4	-0.3
KWHZ	Kaweka Forest	65.97 137		P		P		06 23 33.8	0.0
RTZ	Ruatahuna	65.98 136		P		P		06 23 33.3	-0.6
RTZ	Ruatahuna	65.98 136		P		P		06 23 34.1	+0.1
MTHZ	Maungataniwha	66.00 136		P		P		06 23 33.8	-0.2
POWZ	Post Office Ro	66.00 138		P		P		06 23 33.2	-0.6
MRZ	Mangatainoka R	66.00 138		IAmb	IAmb			06 23 45.2	
	comp=Z,6μm,1.5s								
MRZ	Mangatainoka R	66.00 138		P		P		06 23 33.0	-0.8
MCQ	Macquarie Isla	66.04 158		P		P		06 23 35.2	+1.4
	baz=66,SNR=12								
MCQ	Macquarie Isla	66.04 158		IAmb	IAmb			06 23 46.2	
	comp=Z,3μm,0.9s								
MCQ	Macquarie Isla	66.04 158	⇑	P		P		06 23 35.4	+1.6
KRHZ	Kereru	66.04 137		P		P		06 23 33.7	-0.5
PNHZ	Pukenui	66.06 137		P		P		06 23 33.9	-0.3
HOWZ	Holdsworth Sta	66.08 139		P		P		06 23 33.6	-0.8
NMHZ	Naumai	66.08 136		P		P		06 23 35.3	+0.7
RAO	Raoul Island	66.12 125	⇑	P		P		06 23 33.9	-1.0
RAO	Raoul Island	66.12 125		P		P		06 23 35.7	+0.9
RAO	Raoul Island	66.12 125		P		P		06 23 35.2	+0.3
HAZ	Te Kaha	66.16 135		P		P		06 23 34.4	-0.5
MCHZ	McNeill Hill	66.17 137		P		P		06 23 35.5	+0.6
RUGZ	Raukumara Rang	66.18 135		P		P		06 23 34.0	-1.2
PRWZ	Pori Road	66.21 138		P		P		06 23 34.8	-0.4
DVHZ	Dannevirke	66.22 138		P		P		06 23 35.0	-0.2
RAGZ	Rawiri	66.23 135		P		P		06 23 35.4	0.0
MWZ	Matawai	66.24 135		P		P		06 23 35.2	-0.2
PAWZ	Paruwai Farm	66.26 139		P		P		06 23 35.0	-0.5
TIWZ	Tintock	66.26 138		P		P		06 23 35.8	+0.3
ARQ	Araqi	66.28 293		P		P		06 23 35.8	-0.2
	SNR=153								
ARQ				P		P		06 23 35.8	-0.2
	SNR=153								
WPHZ	Waipukurau	66.29 137		P		P		06 23 35.8	+0.1
ARHZ	Aropaoanui	66.29 136		P		P		06 23 36.0	+0.3
SOHO	SOHO	66.35 294	*i*	P		P		06 23 35.2	-1.1
	SNR=134								
WHHZ	Waihua	66.37 136		P		P		06 23 37.3	+1.1
PKGZ	Pakihiroa	66.42 135		P		P		06 23 37.0	+0.4
TMWZ	Te Maipa	66.42 139		P		P		06 23 35.9	-0.6
TRWZ	Traveller	66.44 139		P		P		06 23 36.3	-0.2
MXZ	Matakaoa Point	66.45 134		IAmb	IAmb			06 23 47.8	
	comp=Z,3μm,0.9s								
BFZ	Birch Farm	66.45 138		IAmb	IAmb			06 23 47.4	
	comp=Z,4μm,1.0s								
BFZ	Birch Farm	66.45 138		P		P		06 23 36.2	-0.5
KAHZ	Kahuranaki	66.46 137		P		P		06 23 36.8	0.0
TWGZ	Tauwhareparae	66.48 135		P		P		06 23 37.4	+0.4
ANWZ	Angora Road	66.50 138		P		P		06 23 36.7	-0.2
TKGZ	Te Karaka	66.51 135		P		P		06 23 37.3	+0.2
PRHZ	Porangahau	66.52 138		P		P		06 23 37.2	+0.1
CKHZ	Cape Kidnapper	66.53 137		P		P		06 23 37.4	+0.2
CPWZ	Castlepoint	66.53 138		P		P		06 23 38.1	+0.9
PXZ	Pawanui	66.56 137		P		P		06 23 37.2	-0.1
RIGZ	Rimuhau	66.57 136		P		P		06 23 37.4	-0.1
PUZ	Puketiti	66.63 135		P		P		06 23 37.4	-0.5
WMGZ	Waiomatatini S	66.64 134		P		P		06 23 37.8	0.0
KNZ	Kokohu	66.65 136		P		P		06 23 38.0	+0.1
MDH	Madha	66.69 296	*i*	P		P		06 23 36.1	-2.3
	SNR=82								
MDH	Madha	66.69 296		P		P		06 23 37.8	-0.7
	SNR=86								
MDH				P		P		06 23 37.8	-0.7
	SNR=86								
UOSS	Minazif	66.73 295		P		P		06 23 37.5	-1.2
UOSS	Minazif	66.73 295	⇓	P		P		06 23 37.2	-1.6
UOSS	Minazif	66.73 295	*i*	P		P		06 23 36.6	-2.1
	SNR=192								
UOSS	Minazif	66.73 295		P		P		06 23 37.8	-0.9
BANOM	Banah	66.76 296	*i*	P		P		06 23 37.4	-1.5
	SNR=84								
BANOM	Banah	66.76 296		P		P		06 23 39.0	+0.1
	SNR=143								
CNGZ	Carnagh Statio	66.78 135		P		P		06 23 39.0	+0.3
HATD	Hatta, Dubai	66.79 295	*i*	P		P		06 23 38.1	-1.0
	SNR=240								
HATD	Hatta, Dubai	66.79 295		P		P		06 23 39.0	-0.1
	SNR=273								
HATD				P		P		06 23 39.0	-0.1
	SNR=273								
MSFE	Esma-Masafi	66.82 296	*i*	P		P		06 23 38.3	-1.0
	SNR=186								
MASF	Masafi	66.82 296		P		P		06 23 40.3	+1.0
	SNR=259								
MASF				P		P		06 23 40.3	+1.0
	SNR=259								
ASHO	Ashiyiah	66.84 295	*i*	P		P		06 23 38.6	-0.8
	SNR=490								
ASHO	Ashiyiah	66.84 295		P		P		06 23 39.1	-0.4
	SNR=245								
ASHO				P		P		06 23 39.1	-0.4
	SNR=245								
MHGZ	Mahia Peninsul	66.87 136		P		P		06 23 39.8	+0.5
SHME	Shamm	66.91 296		P		P		06 23 39.7	-0.1
	SNR=140	

SNR=15
MSEY Mahe Island 67.62 263 P P 06 23 43.8 -0.6
MSEY pP **pwP 06 25 50.7 -0.2**
AJN Ajban 67.80 295 *i* P **P 06 23 44.6 -0.6**
SNR=141
AJN Ajban 67.80 295 P P 06 23 44.9 -0.3
SNR=514
RBK Rabkut 68.06 287 P P 06 23 46.2 -0.7
SNR=187
RBK P **P 06 23 46.2 -0.7**
SNR=187
DOK Doka 68.17 288 P P 06 23 47.0 -0.6
SNR=553
DOK P **P 06 23 47.0 -0.6**
SNR=553
WHFO Wadi Hawf 68.48 287 P P 06 23 48.2 -1.3
SNR=277
WHFO P **P 06 23 48.2 -1.3**
SNR=277
KIWB Kanaga Island 68.50 35 P P 06 23 48.5 -0.4
ADK Adak 68.78 35 ⇑P **P 06 23 49.6 -1.0**
ADK Adak 68.78 35 P P 06 23 49.5 -1.0
ADK pP **pP 06 25 56.0 +0.2**
NRIK Noril'sk 68.82 347 P P 06 23 50.0 -0.4
comp=Z,449nm,0.5s,baz=131,slow=6.0,SNR=160
NRIK S **S 06 32 04.3 -1.4**
comp=Z,90nm,1.1s,baz=353,slow=20,SNR=8.0
NRIK PKPPKP **P'P'df 06 51 57.6 +2.7**
comp=Z,3.7nm,0.4s,baz=329,slow=4.2,SNR=8.2
comp=Z,449nm,0.5s
NRIK Noril'sk 68.82 347 P P 06 23 50.3 -0.1
NRIK IAmb IAmb 06 23 59.2
comp=Z,1μm,0.8s
NRIK Noril'sk 68.82 347 *de*P **P 06 23 49.8 -0.7**
NRIK pmax pmax
comp=Z,964nm,0.6s
ABTO Aybut 68.92 287 P P 06 23 51.1 -1.1
SNR=228
ABTO P **P 06 23 51.1 -1.1**
SNR=228
AB31 Akbulak array 69.01 321 *e*P **P 06 23 51.4 -0.6**
ABKAR Akbulak array 69.01 321 P P 06 23 51.2 -0.8
ABKAR IAmb IAmb 06 24 01.2
comp=Z,675nm,0.7s
ABKAR Akbulak array 69.01 321 ⇓P **P 06 23 51.6 -0.4**
MZR Muzera 69.04 293 *i* P **P 06 23 52.6 -0.2**
SNR=904
MZR Muzera 69.04 293 P P 06 23 52.5 -0.2
SNR=443
BILL Bilibino 70.00 16 *d i*P **P 06 23 56.4 -1.1**
BILL *i* 06 24 19.3
BILL *i* *PP **pP 06 26 02.9 -0.6**
BILL *i* 06 26 47.7
BILL *i* S **S 06 32 17.2 -2.0**
BILL pmax pmax
comp=Z,151nm,1.3s
BILL Bilibino 70.00 16 P P 06 23 56.7 -0.8
PAF Port-aux-Franc 70.10 213 P P 06 23 59.9 +1.5
PAF IAmb IAmb 06 24 09.7
comp=Z,2μm,0.9s
PAF Port-aux-Franc 70.10 213 ⇓P **P 06 23 59.2 +0.8**
PAF Port-aux-Franc 70.10 213 P P 06 23 59.9 +1.5
PAF pmax pmax
comp=Z,2μm,0.9s
PAF Port-aux-Franc 70.10 213 P P 06 23 59.8 +1.5
PAF pP **pwP 06 26 05.2 -0.6**
RER Riviere de l'E 70.19 246 P P 06 23 59.9 +0.2
RER pP **pwP 06 26 07.0 -2.6**
NIUE Niue 70.37 112 P P 06 24 01.7 +1.1
baz=70,SNR=64
NIUE Niue 70.37 112 P P 06 24 00.1 -0.5
NIUE Niue 70.37 112 ⇓P **P 06 24 01.8 +1.1**
NIUE Niue 70.37 112 P P 06 24 02.3 +1.7
comp=Z,6μm,1.5s,comp=Z,72μm
AKTO Aktyubinsk 70.56 322 P P 06 24 00.9 -0.3
comp=Z,467nm,0.4s,baz=101,slow=4.1,SNR=932
AKTO S **S 06 32 28.4 +2.3**
comp=Z,53nm,1.0s,baz=14,slow=23,SNR=9.4
comp=Z,467nm,0.4s
AKTO Aktyubinsk 70.56 322 P P 06 24 01.2 0.0
SLWR Sila 70.75 294 P P 06 24 02.6 -0.2
CASY Casey 71.06 185 P P 06 24 04.1 +0.5
CASY Casey 71.06 185 ⇑P **P 06 24 04.0 +0.3**
CASY Casey 71.06 185 P P 06 24 03.8 +0.1
SVE Sverdlovsk 71.23 329 *c i*P **P 06 24 04.2 -0.7**
SVE *e* 06 26 55.3
SVE *e* 06 28 45.6
SVE *e*S **S 06 32 29.4 -3.9**
SVE *e* 06 40 38.7
SVE pmax pmax
comp=Z,1μm,0.8s
SHMA Al-Shehemyia 71.53 296 P P 06 24 07.1 -0.2
SMRA Abu-Samra 71.59 294 P P 06 24 07.4 -0.2
SAKB Bahrain 71.93 296 P P 06 24 09.4 -0.2
ARU Arti 72.16 328 P P 06 24 09.1 -1.2
comp=Z,327nm,0.6s,baz=116,slow=1.9,SNR=289
ARU S **S 06 32 43.0 -0.7**
comp=Z,77nm,0.8s,baz=283,slow=22,SNR=10
comp=Z,327nm,0.6s
ARU Arti 72.16 328 P P 06 24 09.0 -1.2
ARU IAmb IAmb 06 24 18.7
comp=Z,640nm,0.7s
ARU Arti 72.16 328 ⇓P **P 06 24 09.1 -1.2**
ARU Arti 72.16 328 *d i*P **P 06 24 09.0 -1.3**
ARU 06 24 22.7
ARU *PP **pP 06 26 14.9 -0.9**
ARU 06 27 00.0
ARU PPP PPP 06 28 47.7
ARU S **S 06 32 44.4 +0.7**
ARU 06 33 15.8
ARU SSS SSS 06 41 03.3
ARU pmax pmax
comp=Z,953nm,1.3s
NIKH Nikolski High 73.67 36 P P 06 24 18.2 -0.8
NIKH Nikolski High 73.67 36 P P 06 24 18.2 -0.8
baz=255
SPIA Saint Paul Isl 74.06 31 P P 06 24 21.0 -0.1
baz=253
SBV Sambava 74.23 255 ⇓*i*P **P 06 24 21.9 -1.0**
SBV Sambava 74.23 255 P P 06 24 22.9 +0.1
SNR=119
UNV Unalaska Valle 75.25 35 P P 06 24 26.9 -0.9
UNV IAmb IAmb 06 24 35.7
comp=Z,2μm,0.7s
UNV Unalaska Valle 75.25 35 P P 06 24 26.9 -0.9
baz=257,SNR=226
GAMB Gambell 75.49 25 P P 06 24 28.9 0.0
baz=250
AKT Akhty 75.73 312 ⇓*i*P **P 06 24 30.9 0.0**
AKT *e* 06 24 39.7
AKT *e**PP **pwP 06 26 41.9 -1.8**
AKT *e* 06 27 30.9
AKT *e**SP **sP 06 27 40.3 -1.3**
AKT *e*S **S 06 33 22.7 -0.7**
AKT *e* 06 33 48.0
AKT pmax pmax
comp=Z,426nm,0.6s
AKUT Akutan 75.74 35 P P 06 24 29.8 -0.7
AKUT Akutan 75.74 35 ⇑P **P 06 24 29.6 -0.8**
MAK Makhachkala 76.08 313 *c i*P **P 06 24 33.3 +0.7**
MAK *e**PP **pwP 06 26 44.8 -0.8**
MAK *e* 06 27 35.2
MAK *e**SP **sP 06 27 46.1 +2.8**
MAK *e*S **S 06 33 28.2 +1.5**
MAK *e*SS **SS 06 38 39.9 +1.4**
MAK *e*SSS SSS 06 42 08.9
MAK pmax pmax
comp=Z,2μm,1.9s
RAYN Ar Rayn 76.39 293 P P 06 24 34.0 -0.8
RAYN IAmb IAmb 06 24 44.3
comp=Z,1μm,0.8s
RAYN Ar Rayn 76.39 293 ⇓P **P 06 24 34.3 -0.6**
RAYN Ar Rayn 76.39 293 P P 06 24 34.0 -0.8
RAYN pmax pmax
comp=Z,1μm,0.8s
RAYN Ar Rayn 76.39 293 *i* P **P 06 24 34.2 -0.6**
SNR=867
BELG Belogornoye 77.34 323 S S 06 33 36.5 -3.0
comp=Z,300nm,1.1s,baz=5.0,slow=18,SNR=8.5
BELG Belogornoye 77.34 323 *d i*P **P 06 24 38.2 -1.0**
BELG pmax pmax
comp=Z,179nm,1.0s
GROC Groznyy 77.35 313 *e*P **P 06 24 39.5 0.0**
GROC *e* 06 24 46.5
GROC *e*PP **pP 06 26 49.2 +1.8**
GROC *e* 06 27 45.4
GROC *e**SP **sP 06 27 52.0 +0.9**
GROC *e*S **S 06 33 38.8 -1.3**
GROC pmax pmax
comp=Z,2μm,1.2s
KIRV Kirov 77.50 329 S **S 06 33 37.1 -3.9**
comp=Z,131nm,1.1s,baz=194,slow=22,SNR=14
KIRV Kirov 77.50 329 *ce*P **P 06 24 38.6 -1.3**
TNA Tin City 77.60 24 P **P 06 24 39.2 -1.1**
TNA Tin City 77.60 24 P P 06 24 40.4 0.0
baz=253
TNA Tin City 77.60 24 ⇑P **P 06 24 40.1 -0.2**
OPO Ambohidratompo 77.61 250 S **S 06 33 45.8 +1.8**
comp=Z,9.3nm,1.0s,baz=247,slow=18,SNR=5.5
ABPO Ambohimpanom 77.64 250 ⇓P **P 06 24 41.1 -0.6**
GNI Garni 77.86 310 S **S 06 33 45.7 -0.2**
comp=Z,20nm,0.9s,baz=205,slow=20,SNR=1.2
GNI Garni 77.86 310 P **P 06 24 42.5 0.0**
GNI Garni 77.86 310 *e*P **P 06 24 43.0 +0.5**
GNI Garni 77.86 310 ⇑P **P 06 24 43.0 +0.5**
GNI Garni 77.86 310 P P 06 24 42.5 0.0
GNI pmax pmax
comp=Z,861nm,1.0s
GNI Garni 77.86 310 P P 06 24 43.2 +0.7
S12K Black Hills 78.14 34 P P 06 24 42.0 -1.5
baz=260,SNR=31
TASB TASBURUN-IGDIR 78.23 310 *e*P **P 06 24 44.9 +0.5**
ANM Nome 78.37 25 P P 06 24 44.8 +0.3
baz=256
VOI Vohitsoka 78.51 247 IAmb IAmb 06 24 55.5
comp=Z,2μm,0.7s
VOI Vohitsoka 78.51 247 P P 06 24 45.3 -0.9
VOI Vohitsoka 78.51 247 P P 06 24 47.0 +0.8
SNR=194
CUKT Cukurca 78.55 307 *e*P **P 06 24 45.9 -0.3**
KIP Kipapa 78.56 69 *ce*P **P 06 24 47.2 +0.8**
KIP pmax pmax
comp=Z,535nm,1.7s
OPA Opana 78.56 69 IAmb IAmb 06 24 56.9
comp=Z,3μm,1.2s
OPA Opana 78.56 69 P P 06 24 49.9 +3.5
OPA pmax pmax
comp=Z,3μm,1.2s
HON Honolulu 78.58 69 P P 06 24 48.5 +2.0
ZEI Tsey 78.70 313 *e*P **P 06 24 43.7 -3.3**
ZEI pmax pmax
comp=Z,1μm,1.3s
VANB Van 78.80 308 *e*P **P 06 24 47.3 -0.2**
AKH Akhalkalaki 78.90 311 IAmb IAmb 06 24 52.9
comp=Z,3μm,1.1s
AKH Akhalkalaki 78.90 311 *e*P **P 06 24 48.9 +0.9**
AKH Akhalkalaki 78.90 311 P P 06 24 48.9 +0.9
NCK Nalchik 78.97 313 *i* P **P 06 24 47.9 -0.3**
NCK pmax pmax
comp=Z,424nm,1.0s
SDPT Sand Point 78.97 35 IAmb IAmb 06 24 57.5
comp=Z,4μm,1.0s
SDPT Sand Point 78.97 35 P P 06 24 47.0 -0.8
baz=262,SNR=234
ONI Oni 79.01 312 *e*P **P 06 24 49.0 +0.5**
GEVA Gevas 79.04 308 IAmb IAmb 06 25 02.2
comp=Z,1μm,0.8s
ATD Arta Tunnel 79.07 281 IAmb IAmb 06 25 05.9
comp=Z,1μm,1.0s
ATD Arta Tunnel 79.07 281 ⇓P **P 06 24 50.1 +0.9**
AKDM Akdamar-Van 79.11 308 *e*P **P 06 24 49.8 +0.6**
KARS Kars 79.16 310 IAmb IAmb 06 25 03.1
comp=Z,3μm,0.8s
KARS Kars 79.16 310 *e*P **P 06 24 50.2 +0.9**
KARS Kars 79.16 310 P P 06 24 50.3 +0.9
AGRB Hanur-Agry 79.17 309 *e*P **P 06 24 50.3 +0.8**
MLAZ Malazgirt-MUS 79.48 309 *e*P **P 06 24 51.8 +0.6**
KBZ Khabaz 79.50 314 P P 06 24 50.5 -0.4
comp=Z,297nm,0.9s,baz=114,slow=3.3,SNR=114
KBZ pP **pP 06 27 01.8 +1.8**
comp=Z,52nm,0.8s,baz=334,slow=20,SNR=1.5
KBZ S **S 06 34 00.3 -2.0**
comp=Z,14nm,0.9s,baz=8.9,slow=20,SNR=1.4
KBZ PKKPbc **PKKPbc 06 43 34.8 -0.5**
comp=Z,6.3nm,0.9s,baz=202,slow=6.2,SNR=4.6
comp=Z,297nm,0.9s
KBZ Khabaz 79.50 314 *ce*P **P 06 24 50.3 -0.5**
KBZ pmax pmax
comp=Z,360nm,1.0s
NEY Neytrino 79.59 313 *i* P **P 06 24 51.5 -0.1**
NEY pmax pmax
comp=Z,125nm,1.0s
KVAR Kislovodsk Arr 79.66 314 S **S 06 34 04.8 +0.6**
comp=Z,68nm,1.2s,baz=190,slow=15,SNR=3.4
KIV Kislovodsk 79.66 314 P **P 06 24 50.6 -1.3**
KIV Kislovodsk 79.66 314 *e*P **P 06 24 51.3 -0.6**
KIV Kislovodsk 79.66 314 ⇓P **P 06 24 51.3 -0.6**
KIV Kislovodsk 79.66 314 *e*P **P 06 24 51.5 -0.4**
KIV *e**PP **pP 06 26 59.0 -2.1**
KIV *e* 06 28 01.8
KIV *e*PPP PPP 06 29 55.3
KIV *e*S **S 06 34 04.5 +0.3**
KIV *e*SS **SS 06 39 34.7 +2.9**
KIV *e*SSS SSS 06 43 01.6
KIV pmax pmax
comp=Z,3μm,4.4s
KIV pmax pmax
comp=Z,237nm,0.6s
KIV MLR MLR
comp=Z,2μm,19.0s
KIV Kislovodsk 79.66 314 *i* P **P 06 24 51.5 -0.4**
SNR=60
SHA1 Shidzhatmaz 79.67 314 *d i*P **P 06 24 51.2 -0.9**
SENK Senkaya-Erzuru 79.71 310 *e*P **P 06 24 52.9 +0.5**
XMAS Kiritimati 79.87 89 ⇑P **P 06 24 54.6 +1.1**
PRGR Permogore 79.93 332 *e*P **P 06 24 51.7 -1.0**
PRGR *e**PP **pwP 06 27 05.4 -2.5**
PRGR *e*S **S 06 34 00.3 -5.7**
PRGR pmax pmax
comp=Z,1μm,0.9s
CRZF Crozet Islands 80.06 222 ⇓P **P 06 24 53.9 +0.2**
KOPR Koprukoy-ERZUR 80.06 310 *e*P **P 06 24 54.6 +0.4**
RAR Rarotonga 80.14 112 P **P 06 24 55.4 +0.7**
RAR Rarotonga 80.14 112 ⇓P **P 06 24 55.6 +1.0**
RAR Rarotonga 80.14 112 P P 06 24 55.4 +0.7
RAR pmax pmax
comp=Z,1μm,1.2s
CHGN Chignik 80.25 34 P P 06 24 52.8 -1.7
CHGN IAmb IAmb 06 25 02.1
comp=Z,3μm,1.5s
CHGN Chignik 80.25 34 P P 06 24 53.5 -1.0
baz=263,SNR=78
SVAN Silvan-Diyarba 80.50 308 *e*P **P 06 24 56.5 +0.2**
N16K Nishlik Lake 80.59 29 P P 06 24 57.1 +0.9
baz=262
HUH Hualalai 80.63 71 IAmb IAmb 06 25 08.1
comp=Z,5μm,1.6s
P16K Nushagak River 80.80 31 P P 06 24 57.6 +0.3
baz=263,SNR=672
O16K Kowoi River B 80.82 30 P P 06 24 57.6 +0.3
baz=263
VRH Novokhopyorsk 80.84 321 *e*P **P 06 24 57.0 -0.6**
VRH *e**PP **pP 06 27 04.4 -2.8**
VRH *e*S **S 06 34 08.7 -6.9**
VRH pmax pmax
comp=Z,1μm,0.7s
VRH pmax pmax
comp=Z,1μm,0.7s
VRH smax smax
comp=N,5μm,6.0s
R16K Pilot Point 80.85 32 P P 06 24 56.7 -0.9
baz=264,SNR=73
MWH Moku'aweowe 80.86 71 IAmb IAmb 06 25 09.5
comp=Z,4μm,1.2s
MLOA Mauna Loa Obse 80.88 71 IAmb IAmb 06 25 09.6
comp=Z,4μm,1.2s
POHA Pohakuloa 80.91 71 ⇑P **P 06 24 60.0 +1.0**
CHOM Cayeli-Rize 80.94 311 *e*P **P 06 24 58.5 +0.1**
HMH Humu'ula Sheep 80.96 71 IAmb IAmb 06 25 09.6
comp=Z,3μm,1.2s
MAZI Mazidag 81.08 307 *e*P **P 06 24 59.2 -0.2**
NPH North Pit 81.16 71 IAmb IAmb 06 25 12.1
comp=Z,2μm,1.2s
STCH Steam Cracks 81.31 71 IAmb IAmb 06 25 11.2
comp=Z,3μm,1.1s
DYBB Diyarbakir 81.33 308 *e*P **P 06 25 00.8 +0.2**
O17K Koliganek Bris 81.34 30 P P 06 25 00.3 +0.3
baz=264,SNR=224
BAYT Aydıntepe-Bayb 81.39 310 *e*P **P 06 25 01.6 +0.6**
Q16K King Salmon 81.45 31 P P 06 24 59.6 -1.0
baz=264,SNR=125
R17K Ugashik Creek 81.50 32 P P 06 25 00.2 -0.7
baz=265
KTUT Trabzon 81.69 311 *e*P **P 06 25 02.1 -0.1**
ERZN Erzincan 81.69 309 *e*P **P 06 25 02.9 +0.4**
CHIR Chirikof Islan 81.77 34 IAmb IAmb 06 25 11.2
comp=Z,2μm,0.8s
CHIR Chirikof Islan 81.77 34 P P 06 25 02.3 +0.1
baz=266,SNR=45
SOC Sochi 81.79 313 *d i*P **P 06 25 01.6 -1.1**
SOC *e* 06 28 22.0
SOC *i* S **S 06 34 19.8 -5.7**
SOC *e*SS **SS 06 40 03.3 +0.4**
SOC pmax pmax
comp=Z,524nm,1.0s
Q17K Contact Creek 81.82 32 P P 06 25 01.4 -1.3
baz=265,SNR=1000
GCSA Galena City Sc 82.00 25 P P 06 25 03.7 +0.5
baz=263
TTA Tatalina 82.18 27 P P 06 25 04.6 +0.2
baz=264,SNR=462
TTA Tatalina 82.18 27 ⇑P **P 06 25 04.4 +0.1**
TTA Tatalina 82.18 27 ⇑P **P 06 25 04.4 +0.1**
SVW2 Sparrevohn 82.22 29 IAmb IAmb 06 25 13.7
comp=Z,3μm,1.8s
ANKE Ethiopia-Afar 82.22 279 *e*P **P 06 25 08.1 +2.2**
ANKE *e*S **SKSac 06 34 20.6 -8.0**
DESE Dese 82.23 281 *e*P **P 06 25 08.1 +2.2**
DESE *e*S **S 06 34 29.1 -2.4**
P18K Big Mountain, 82.25 31 IAmb IAmb 06 25 12.6
comp=Z,2μm,1.6s
P18K Big Mountain, 82.25 31 P P 06 25 03.8 -0.9
baz=266,SNR=66
Q18K Katmai Hardscr 82.31 32 P P 06 25 03.7 -1.4
baz=266,SNR=220
URFA Urfa 82.37 307 *e*P **P 06 25 09.2 +3.3**
VORR Voronezh 82.44 321 ⇑*e*P **P 06 25 04.9 -0.8**
VORR *i* *PP **pP 06 27 18.2 +1.7**
VORR *e* 06 28 16.8
VORR *i* S **S 06 34 27.5 -4.0**
VORR SS **SS 06 40 22.5 +11**
VORR *e* 06 43 43.7
VORR pmax pmax
comp=Z,1μm,0.7s
VSR Storozhevoye 82.44 321 *e*P **P 06 25 04.9 -0.9**
VSR *e*S **S 06 34 25.9 -5.7**
VSR pmax pmax
comp=Z,1μm,1.0s
VSR pmax pmax
comp=Z,1μm,1.2s
VSR smax smax
comp=N,6μm,6.7s
ESPY Espiye-Giresun 82.47 311 *e*P **P 06 25 05.4 -0.8**
SII Sitkinak Islan 82.62 34 P P 06 25 06.9 +0.3
baz=267,SNR=155
LPSR Galich'ya Gora 82.65 322 *e*P **P 06 25 06.2 -0.6**
LPSR *e**PP **pP 06 27 16.1 -1.2**
LPSR *e*S **SKSac 06 34 23.9 -5.1**
LPSR pmax pmax
comp=Z,1μm,0.8s
LPSR pmax pmax
comp=Z,1μm,0.8s
LPSR smax smax
comp=E,7μm,10.2s
L19K White Mountain 82.65 28 IAmb IAmb 06 25 15.9
comp=Z,917nm,1.0s
L19K White Mountain 82.65 28 P P 06 25 06.8 +0.2
baz=266,SNR=140
N19K Bonanza Creek 82.73 29 IAmb IAmb 06 25 17.4
comp=Z,2μm,1.2s
N19K Bonanza Creek 82.73 29 P P 06 25 07.3 +0.1
baz=266
O19K Port Alsworth 82.77 30 IAmb IAmb 06 25 15.6
comp=Z,4μm,2.0s
O19K Port Alsworth 82.77 30 P P 06 25 06.6 -0.6
baz=266,SNR=86
KLMR Klimovskoe 82.78 331 ⇓*i*P **P 06 25 06.1 -1.2**
KLMR *e*P **P 06 25 06.1 -1.2**
KLMR *e*P **P 06 25 06.1 -1.2**
KLMR AMP 06 25 12.0
comp=Z,2μm,1.2s
KLMR *e*pP **pP 06 27 20.0 +2.0**
KLMR *e*S **S 06 34 28.5 -6.0**
KLMR *e*S **S 06 34 28.5 -6.0**
KLMR Klimovskoe 82.78 331 *d i*P **P 06 25 06.0 -1.2**
KLMR *e**PP **pP 06 27 19.9 +2.0**
KLMR *e*S **S 06 34 28.4 -6.0**
KLMR pmax pmax
comp=Z,2μm,1.2s
A21K Barrow 82.90 19 P P 06 25 08.2 +0.6
baz=263,SNR=190
MAW Mawson 82.98 199 P P 06 25 08.6 +0.6
comp=Z,104nm,0.5s,baz=68,slow=5.3,SNR=159
MAW pP **pwP 06 27 22.6 +0.4**
comp=Z,102nm,1.1s,baz=27,slow=6.0,SNR=2.7
MAW S **S 06 34 30.6 -5.6**
comp=Z,60nm,1.2s,baz=237,slow=18,SNR=2.6
MAW PKKPbc **PKKPbc 06 43 31.6 +3.0**
comp=Z,19nm,0.7s,baz=264,slow=4.2,SNR=7.8
MAW PKPPKP **P'P'df 06 51 28.8 -0.6**
comp=Z,8.7nm,0.7s,baz=230,slow=5.3,SNR=5.0
comp=Z,104nm,0.5s
MAW Mawson 82.98 199 P P 06 25 08.2 +0.1
baz=83,SNR=113
MAW Mawson 82.98 199 ⇓P **P 06 25 07.9 -0.2**
Q19K Cape Douglas, 83.03 31 IAmb IAmb 06 25 16.5
comp=Z,906nm,0.6s
Q19K Cape Douglas, 83.03 31 P P 06 25 07.4 -1.2
baz=267,SNR=43
K20K Telida 83.10 27 IAmb IAmb 06 25 18.1
comp=Z,840nm,0.8s
K20K Telida 83.10 27 P P 06 25 09.2 +0.3
baz=266
J20K Nowinta River 83.12 26 IAmb IAmb 06 25 18.2
comp=Z,2μm,1.2s
J20K Nowinta River 83.12 26 P P 06 25 09.3 +0.4
baz=266
L20K Farewell, AK 83.13 28 P P 06 25 09.2 +0.2
baz=266,SNR=118
OHAK Old Harbor 83.14 33 IAmb IAmb 06 25 18.4
comp=Z,2μm,0.8s
OHAK Old Harbor 83.14 33 P P 06 25 08.9 -0.2
baz=268,SNR=95
AAE Adis Abeba 83.21 279 *e*P **P 06 25 13.1 +2.3**
AAE *e*S **SKSac 06 34 31.1 -3.7**
P19K Oil Pt 83.28 31 P P 06 25 08.5 -1.4
baz=267,SNR=29
ILSW Iliamna Southw 83.34 30 IAmb IAmb 06 25 18.4
comp=Z,416nm,0.9s
DARE Darende-Malaty 83.43 308 *e*P **P 06 25 11.7 +0.6**
M20K Styx River 83.44 28 P P 06 25 10.5 -0.1
baz=267
ANN Anapa 83.46 314 *d i*P **P 06 25 09.8 -1.2**
ANN *e**PP **pP 06 27 19.2 -3.0**
ANN *e*SP 06 28 20.0
ANN *e* 06 28 34.1
ANN *e*S **SKSac 06 34 33.3 -1.2**
ANN *e*SS **SS 06 40 25.1 -1.9**
ANN pmax pmax
comp=Z,2μm,0.7s
ANN pmax pmax
comp=Z,4μm,1.4s
MOS Moscow 83.52 325 *e*P **P 06 25 08.0 -3.0**
MOS *e**PP **pP 06 27 18.4 -3.8**
MOS *e**SP **sP 06 28 19.4 -5.8**
MOS *i* S **SKSac 06 34 32.2 -2.3**
MOS *e*SS **SS 06 40 28.6 +1.2**
MOS *e*SSS SSS 06 44 01.5
MOS pmax pmax
comp=Z,2μm,1.3s
MOS pmax pmax
comp=N,552nm,1.2s
MOS pmax pmax
comp=E,424nm,1.2s
MOS pmax pmax
comp=Z,4μm,1.8s
MOS pmax pmax
comp=N,900nm,1.5s
MOS pmax pmax
comp=E,500nm,1.4s
RSDY Resadiye-TOKAT 83.54 310 *e*P **P 06 25 11.8 +0.3**
ADZR Andozero 83.54 334 *e*P **P 06 25 10.0 -0.9**
ADZR *e**PP **pwP 06 27 26.8 0.0**
ADZR *e* 06 28 34.4

ADZR eS S 06 34 35.1 -6.7
ADZR pmax pmax
comp=Z,303nm,0.6s
KDAK Kodiak Island 83.54 32 P P 06 25 10.6 -0.5
KDAK Kodiak Island 83.54 32 P P 06 25 10.7 -0.4
baz=268
KDAK Kodiak Island 83.54 32 ⇓P P 06 25 10.7 -0.4
KDAK Kodiak Island 83.54 32 *c* *i*P P 06 25 10.7 -0.4
KDAK pmax pmax
comp=Z,150nm,0.9s
G21K Allakaket 83.55 24 P P 06 25 11.3 +0.3
baz=266
RSO Redoubt South 83.56 30 P P 06 25 10.0 -1.4
O20K Slope Mountain 83.61 30 P P 06 25 09.8 -1.7
baz=268,SNR=17
F21K Alatna River 83.61 23 P P 06 25 11.2 -0.1
baz=266,SNR=275
GAZ Gaziantep 83.66 307 P P 06 25 12.5 +0.2
GAZ lAmb lAmb 06 25 22.2
comp=Z,1µm,1.1s
GAZ Gaziantep 83.66 307 *e*P P 06 25 12.4 +0.2
GAZ Gaziantep 83.66 307 ⇓P P 06 25 12.3 +0.1
Q20K Shuyak Island 83.67 32 P P 06 25 11.1 -0.6
baz=268,SNR=33
H21K Melozitna Rive 83.79 25 lAmb lAmb 06 25 21.4
comp=Z,2µm,1.7s
H21K Melozitna Rive 83.79 25 P P 06 25 12.4 +0.2
baz=267,SNR=217
SVSK Karacayir 83.79 310 *e*P P 06 25 13.3 +0.6
DILA Dilla 83.84 276 *e*P P 06 25 15.4 +1.7
DILA eS SKSac 06 34 34.9 -3.7
N20K Mount Spurr 83.85 29 P P 06 25 11.4 -1.3
baz=268,SNR=148
SPCR Spurr Chakacha 83.85 29 P P 06 25 11.3 -1.4
baz=268,SNR=57
CHUM Lake Minchumin 83.91 26 P P 06 25 12.8 0.0
baz=268,SNR=349
PPLA Purkeypile 83.93 27 P P 06 25 12.5 -0.6
baz=268,SNR=142
CAST Castle Rocks 84.00 27 lAmb lAmb 06 25 22.8
comp=Z,984nm,0.8s
CAST Castle Rocks 84.00 27 P P 06 25 12.7 -0.6
baz=268,SNR=422
ASF Jabal al Asfar 84.01 302 PKKPbc PKKPbc 06 43 30.6 +5.8
comp=Z,19nm,0.8s,baz=299,slow=1.4,SNR=6.6
HOM Homer 84.09 31 lAmb lAmb 06 25 23.4
comp=Z,894nm,0.8s
HOM Homer 84.09 31 P P 06 25 12.2 -1.5
baz=269,SNR=21
I21K Tanana 84.11 25 lAmb lAmb 06 25 24.0
comp=Z,921nm,1.1s
I21K Tanana 84.11 25 P P 06 25 13.9 +0.2
baz=268,SNR=278
OBN Obninsk 84.11 325 S S 06 34 41.0 -6.7
comp=Z,16nm,0.9s,baz=304,slow=23,SNR=12
OBN Obninsk 84.11 325 ⇓P P 06 25 13.1 -0.8
OBN Obninsk 84.11 325 P P 06 25 13.0 -1.0
OBN lAmb lAmb 06 25 21.5
comp=Z,5µm,1.8s
OBN Obninsk 84.11 325 ⇓P P 06 25 12.9 -1.0
OBN Obninsk 84.11 325 *d* *i*P P 06 25 12.8 -1.1
OBN *i* *P pP 06 27 27.0 +1.7
OBN *i* 06 28 39.9
OBN *i* S SKSac 06 34 34.0 -4.2
OBN pmax pmax
comp=Z,1µm,1.3s
TOKT Tokat 84.14 310 *e*P P 06 25 14.4 -0.1
SKT Skwentna 84.20 28 P P 06 25 12.6 -1.7
SKT Skwentna 84.20 28 P P 06 25 12.6 -1.7
baz=268,SNR=103
SARI SarD1z-Kayseri 84.26 308 *e*P P 06 25 15.4 0.0
MQOL MQOL 84.27 290 *i*P P 06 25 15.0 -0.5
CAPN Captain Cook N 84.36 29 lAmb lAmb 06 25 26.7
comp=Z,2µm,1.4s
CAPN Captain Cook N 84.36 29 P P 06 25 14.8 -0.2
baz=269,SNR=22
G22K Bettles 84.37 23 P P 06 25 14.7 -0.3
baz=268
H22K Ishtalitna Cre 84.39 24 P P 06 25 15.5 +0.4
baz=268
BRLK Bradley Lake 84.47 30 lAmb lAmb 06 25 25.2
comp=Z,731nm,0.6s
BPAW Bear Paw Mtn. 84.50 26 lAmb lAmb 06 25 24.7
comp=Z,665nm,0.9s
BPAW Bear Paw Mtn. 84.50 26 P P 06 25 15.1 -0.6
baz=269,SNR=273
BRSE Bradley Lake S 84.55 31 P P 06 25 14.7 -1.4
baz=269,SNR=77
SUA Susitna One 84.57 29 P P 06 25 14.6 -1.6
baz=269
MLY Manley 84.63 25 P P 06 25 16.1 -0.3
baz=269,SNR=493
VNDA Vanda 84.65 172 P P 06 25 16.1 0.0
comp=Z,179nm,0.9s,baz=319,slow=6.2,SNR=522
VNDA pP pwP 06 27 30.8 -0.8
comp=Z,58nm,0.8s,baz=333,slow=2.3,SNR=1.8
VNDA S S 06 34 46.8 -5.3
comp=Z,7.5nm,0.9s,baz=144,slow=13,SNR=1.3
VNDA PKKPbc PKKPbc 06 43 29.6 +4.6
comp=Z,13nm,1.0s,baz=223,slow=3.5,SNR=5.0
VNDA PKPPKP P'P'df 06 51 19.2 -6.7
comp=Z,4.9nm,1.1s,baz=216,slow=5.8,SNR=4.1
comp=Z,179nm,0.9s
BNN Bunyan 84.70 308 lAmb lAmb 06 25 27.0
comp=Z,1µm,0.9s
BNN Bunyan 84.70 308 *e*P P 06 25 16.8 -0.6
KIBK Kibwezi 84.72 267 P P 06 25 18.6 +0.6
SNR=221
D23K Nanushuk River 84.74 21 P P 06 25 17.4 +0.6
baz=269
HWQ Hawqa 84.75 304 *e*P P 06 25 17.4 -0.3
KOZT Kozan 84.75 307 *e*P P 06 25 17.1 -0.4
CUT Chulitna 84.80 28 lAmb lAmb 06 25 26.1
comp=Z,2µm,1.6s
CUT Chulitna 84.80 28 P P 06 25 15.4 -1.8
baz=270,SNR=42
TRF Thorofare Moun 84.80 27 P P 06 25 16.2 -1.2
baz=269,SNR=258
FIS Fire Island 84.82 29 lAmb lAmb 06 25 25.1
comp=Z,715nm,0.7s
CEYT Ceyhan 84.83 307 *e*P P 06 25 17.8 -0.1
RCY Rachaya 84.86 303 *e*P P 06 25 18.4 +0.1
M22K Willow 84.87 28 lAmb lAmb 06 25 25.2
comp=Z,1µm,0.8s
M22K Willow 84.87 28 P P 06 25 15.7 -1.8
baz=270
COLD Coldfoot 84.89 23 P P 06 25 17.7 +0.2
baz=269,SNR=380
G23K Bananza Creek 84.95 24 P P 06 25 18.2 +0.3
baz=269
BHL Bhannes 85.00 304 *e*P P 06 25 18.6 -0.3
RC01 Rabbit Creek A 85.05 29 P P 06 25 17.0 -1.5
baz=270,SNR=288
O22K Cooper Landing 85.06 30 lAmb lAmb 06 25 36.2
comp=Z,925nm,0.6s
O22K Cooper Landing 85.06 30 P P 06 25 17.0 -1.4
baz=270,SNR=82
DIKM Dikmen 85.08 311 ⇓P P 06 25 18.3 -0.8
DIKM Dikmen 85.08 311 *e*P P 06 25 18.2 -0.8
YOZ Yozgat 85.09 309 *e*P P 06 25 18.4 -0.9
E23K Chandalar 85.12 22 P P 06 25 18.9 +0.2
baz=270
KSLA Kassala 85.12 285 *i*P P 06 25 19.5 -0.3
H23K Yukon River 85.14 24 lAmb lAmb 06 25 29.0
comp=Z,986nm,0.8s
H23K Yukon River 85.14 24 P P 06 25 18.9 +0.1
baz=270
LVZ Lovozero 85.15 338 P P 06 25 17.4 -1.5
LVZ Lovozero 85.15 338 ⇓P P 06 25 17.6 -1.2
LVZ Lovozero 85.15 338 *ce*P P 06 25 19.0 +0.2
LVZ pmax pmax
comp=Z,444nm,0.8s
GHAJ Ghor Haditha 85.17 301 lAmb lAmb 06 25 22.7
comp=Z,1µm,0.8s
BWN Browne 85.17 26 lAmb lAmb 06 25 28.7
comp=Z,951nm,0.9s
SEW Seward 85.20 30 P P 06 25 16.3 -2.8
SEW Seward 85.20 30 P P 06 25 17.7 -1.4
baz=270,SNR=69
I23K Minto, Yukon-K 85.21 25 lAmb lAmb 06 25 28.3
comp=Z,1µm,0.7s
I23K Minto, Yukon-K 85.21 25 P P 06 25 18.9 -0.2
baz=270,SNR=519
UJAP Al Uja 85.23 302 *e*P P 06 25 19.9 0.0
MMLI Mount Malkishu 85.25 302 *e*P P 06 25 20.6 +0.5
PMR Palmer 85.34 29 P P 06 25 18.3 -1.4
baz=271,SNR=67
NEA2 Nenana 85.34 26 P P 06 25 18.5 -1.3
baz=270,SNR=325
KARA Karaisali 85.37 307 *e*P P 06 25 19.9 -0.6
MCK McKinley 85.41 27 lAmb lAmb 06 25 28.5
comp=Z,971nm,1.0s
MCK McKinley 85.41 27 P P 06 25 18.9 -1.2
baz=271,SNR=567
D24K Happy Valley 85.41 21 P P 06 25 20.3 +0.3
baz=270
KMBO Kilima Mbogo 85.41 269 P P 06 25 20.2 -1.3
comp=Z,8.1nm,0.9s,baz=58,slow=23,SNR=112
KMBO pP pP 06 27 33.0 -0.3
comp=Z,1.6nm,1.0s,baz=92,slow=24,SNR=1.7
KMBO S SKSac 06 34 49.4 +0.9
comp=Z,0.1nm,0.6s,baz=200,slow=24,SNR=6.5
KMBO Kilima Mbogo 85.41 269 P P 06 25 21.4 0.0
KMBO lAmb lAmb 06 25 31.5
comp=Z,847nm,1.1s
KMBO Kilima Mbogo 85.41 269 ⇓*i*P P 06 25 21.9 +0.4
KMBO lAmb lAmb 06 25 31.6
comp=Z,3µm,1.1s
KMBO Kilima Mbogo 85.41 269 P P 06 25 21.5 0.0
KMBO pmax pmax
comp=Z,847nm,1.2s
KMBO Kilima Mbogo 85.41 269 *i* P P 06 25 21.9 +0.4
SNR=315
C24K Franklin Bluff 85.45 20 P P 06 25 20.0 -0.1
baz=270
KOZK Kozakli-Nevseh 85.45 309 *e*P P 06 25 20.9 -0.1
WAT1 Susitna Watana 85.59 27 P P 06 25 19.6 -1.4
baz=271
SBA Scott Base 85.60 171 P P 06 25 21.7 +1.0
SBA Scott Base 85.60 171 P P 06 25 21.7 +1.0
SBA pmax pmax
comp=Z,673nm,1.2s
CORM Corum 85.60 310 *e*P P 06 25 21.4 -0.3
APA Apatity 85.63 337 ⇓*i*P P 06 25 20.4 -0.6
APA *i* *PP pP 06 27 30.0 -3.8
APA *i* 06 28 32.0
APA *i* S S 06 34 58.0 -3.8
APA pmax pmax
comp=Z,200nm,1.0s
KNK Knik Glacier 85.67 29 P P 06 25 20.2 -1.2
KNK lAmb lAmb 06 25 29.3
comp=Z,786nm,0.8s
KNK Knik Glacier 85.67 29 P P 06 25 20.6 -0.7
baz=271,SNR=114
SML Sawmill 85.72 28 lAmb lAmb 06 25 29.9
comp=Z,727nm,0.8s
SML Sawmill 85.72 28 P P 06 25 20.6 -1.1
baz=271,SNR=181
PWL Port Wells 85.74 29 lAmb lAmb 06 27 48.4
comp=Z,691nm,1.0s
PWL Port Wells 85.74 29 P P 06 25 20.7 -1.0
baz=271,SNR=100
WRH Wood River Hil 85.77 26 lAmb lAmb 06 25 29.7
comp=Z,657nm,0.9s
EIL Elat 85.77 299 PKKPbc PKKPbc 06 43 22.1 +1.6
comp=Z,16nm,0.7s,baz=312,slow=2.1,SNR=8.6
EIL Elat 85.77 299 *e*P P 06 25 22.6 +0.1
F24K Squaw Lake 85.78 23 P P 06 25 22.1 +0.2
baz=271
SIM Simferopol' 85.81 315 *e*P P 06 25 22.6 +0.2
SIM *e* 06 28 59.0
SIM *e*PPP PPP 06 31 00.0
SIM *e* 06 34 46.0
SIM *e*S S 06 35 02.0 -2.5
SIM *e*SS SS 06 40 59.0 -2.2
SIM pmax pmax
comp=Z,1µm,0.7s
SIM pmax pmax
comp=Z,2µm,7.5s
SIM pmax pmax
comp=Z,2µm,7.7s
H24K Noodor Dome 85.82 24 lAmb lAmb 06 25 33.3
comp=Z,494nm,0.8s
H24K Noodor Dome 85.82 24 P P 06 25 22.0 -0.1
baz=271
TCOL CIGO, UAF Yank 85.86 25 lAmb lAmb 06 25 31.5
comp=Z,553nm,0.7s
TCOL CIGO, UAF Yank 85.86 25 P P 06 25 20.6 -1.5
baz=272,SNR=94
COLA College 85.86 25 P P 06 25 20.5 -1.6
COLA lAmb lAmb 06 25 31.5
comp=Z,556nm,0.7s
COLA College 85.86 25 P P 06 25 20.7 -1.4
baz=272
COLA College 85.86 25 ⇑P P 06 25 20.4 -1.8
COLA College 85.86 25 *c* *i*P P 06 25 20.3 -1.8
COLA pmax pmax
comp=Z,15nm,0.5s
CCB Clear Creek Bu 85.89 26 P P 06 25 20.6 -1.7
CCB lAmb lAmb 06 25 30.2
comp=Z,407nm,0.6s
G24K Hadweenzic Riv 85.96 24 P P 06 25 22.8 +0.2
baz=272
WAT6 Susitna Watana 85.97 28 P P 06 25 22.0 -1.0
baz=272,SNR=464
GULA Gulagac 85.98 308 *e*P P 06 25 22.8 -0.7
M23K Glacier View 86.00 28 P P 06 25 21.9 -1.1
baz=272,SNR=191
BZK Bozkurt 86.01 312 *e*P P 06 25 20.4 -3.0
BZK Bozkurt 86.01 312 ⇓P P 06 25 20.4 -3.0
POKR Poker Flat Res 86.03 25 P P 06 25 21.4 -1.6
baz=272,SNR=32
DHY Denali Highway 86.12 27 P P 06 25 22.8 -0.9
baz=272,SNR=187
KIZK Mersin 86.14 306 *e*P P 06 25 23.1 -1.0
EREN Erenkoy 86.16 305 *e*P P 06 25 23.7 -0.5
SCM Sheep Creek Mo 86.19 28 lAmb lAmb 06 27 47.4
comp=Z,849nm,1.2s
SCM Sheep Creek Mo 86.19 28 P P 06 25 23.0 -1.0
baz=272,SNR=67
P23K Montague Islan 86.23 30 P P 06 25 23.2 -0.8
baz=272,SNR=26
HDA Harding Lake 86.26 26 lAmb lAmb 06 25 32.2
comp=Z,944nm,0.8s
HDA Harding Lake 86.26 26 P P 06 25 22.2 -1.9
baz=272,SNR=750
ILAR Eielson Array 86.28 25 P P 06 25 22.1 -2.1
comp=Z,46nm,0.6s,baz=261,slow=4.3,SNR=453
ILAR pP pP 06 27 38.4 +1.8
comp=Z,6.7nm,0.8s,baz=238,slow=5.2,SNR=2.1
ILAR S SKSac 06 34 55.7 +4.5
comp=Z,17nm,1.1s,baz=89,slow=2.0,SNR=4.6
ILAR PKKPbc PKKPbc 06 43 17.6 -3.2
comp=Z,3.2nm,0.4s,baz=92,slow=1.4,SNR=11
ILAR SKKPbc SKKPbc 06 45 56.4 -3.1
comp=Z,17nm,1.0s,baz=36,slow=1.6,SNR=6.9
ILAR PKPPKP P'P'df 06 51 24.6 +0.5
comp=Z,6.6nm,0.9s,baz=74,slow=2.0,SNR=9.2
comp=Z,46nm,0.6s
D25K Kavik River 86.28 21 P P 06 25 23.9 -0.2
baz=273
YAYX Yaylak 86.29 309 *e*P P 06 25 23.6 -1.3
SILI Silifke-Mersin 86.32 306 *e*P P 06 25 24.2 -0.8
KAMT Kaman 86.34 309 *e*P P 06 25 23.7 -1.5
CANT Cankiri 86.36 310 *e*P P 06 25 24.2 -1.0
BR131 Keskin Array S 86.38 309 *d* *i*P P 06 25 23.7 -1.7
BRTR Keskin Array B 86.38 309 P P 06 25 23.9 -1.6
comp=Z,98nm,0.9s,baz=119,slow=4.1,SNR=200
BRTR pP pP 06 27 38.7 -0.1
comp=Z,29nm,0.9s,baz=140,slow=6.1,SNR=2.2
BRTR PP PP 06 29 00.1 +1.2
comp=Z,48nm,0.7s,baz=113,slow=6.4,SNR=2.5
BRTR PKKPbc PKKPbc 06 43 17.5 -2.1
comp=Z,4.9nm,0.8s,baz=199,slow=3.8,SNR=4.2
BRTR PKPPKP P'P'df 06 51 27.3 +1.6
comp=Z,8.8nm,1.1s,baz=222,slow=1.7,SNR=8.4
comp=Z,98nm,0.9s
BRTR Keskin Array B 86.38 309 *i* P P 06 25 23.8 -1.6
BRTR pmax pmax
comp=Z,103nm,0.9s
YESY Yesilyurt 86.39 307 *e*P P 06 25 24.6 -0.9
SERE Sereflikochisa 86.48 309 *e*P P 06 25 24.4 -1.4
G25K Bearman Lake 86.50 23 P P 06 25 25.4 +0.3
baz=273
IKL Isikli 86.52 306 *e*P P 06 25 24.2 -1.7
AKKU Akkuyu-Mersin 86.63 306 *e*P P 06 25 24.9 -1.5
E25K Arctic Village 86.64 22 P P 06 25 26.2 +0.3
baz=273,SNR=585
F25K Christian Rive 86.64 23 P P 06 25 26.3 +0.5
baz=273,SNR=172
LFK Lefkose 86.69 305 *e*P P 06 25 26.4 -0.4
M24K Tolsona, Glenn 86.72 28 lAmb lAmb 06 25 35.5
comp=Z,1µm,0.8s
M24K Tolsona, Glenn 86.72 28 P P 06 25 26.3 -0.1
baz=273,SNR=145
C26K Camden Bay 86.76 20 P P 06 25 27.1 +0.8
baz=274
Q23K Middleton Isla 86.79 31 P P 06 25 26.5 -0.1
baz=273
K24K Donnelly Dome 86.81 26 P P 06 25 25.7 -1.1
baz=273,SNR=271
PRP Porcupine Dome 86.81 25 P P 06 25 25.0 -1.8
baz=274,SNR=126
AFSR Afar-Bala (An 86.84 309 *e*P P 06 25 26.6 -0.9
FYU Fort Yukon 86.86 24 lAmb lAmb 06 27 57.5
comp=Z,1µm,1.2s
CSS Mathiatis 86.87 305 lAmb lAmb 06 25 36.2
comp=Z,515nm,0.8s
CSS Mathiatis 86.87 305 *e*P P 06 25 26.8 -0.9
KLU Klutina 86.88 29 lAmb lAmb 06 25 35.3
comp=Z,416nm,0.7s
KLU Klutina 86.88 29 P P 06 25 26.4 -0.8
baz=273,SNR=165
BERE Bereket-Mersin 86.88 306 *e*P P 06 25 27.2 -0.6
KULU Kulu 86.91 309 *e*P P 06 25 26.6 -1.3
J25K Salcha River, 86.94 26 P P 06 25 25.6 -1.7
baz=274
LODK Lodwar 86.96 273 P P 06 25 28.9 +0.4
SNR=66
DIV Divide 86.97 29 lAmb lAmb 06 25 35.9
comp=Z,646nm,0.7s
VADS Vadso 86.97 340 *e*P P 06 25 28.0 +0.7
VADS *e*pP pP 06 27 41.4 +0.5
VADS *e*SKSac SKSac 06 34 53.7 -1.4
PAX Paxson 87.00 27 P P 06 25 27.0 -0.7
baz=274,SNR=384
EYAK Cordova Ski Ar 87.02 30 lAmb lAmb 06 28 02.1
comp=Z,1µm,1.7s
EYAK Cordova Ski Ar 87.02 30 P P 06 25 27.4 -0.3
baz=274,SNR=28
ANTO Ankara 87.03 310 P P 06 25 27.2 -1.1
ANTO Ankara 87.03 310 P P 06 25 27.2 -1.1
ANTO pmax pmax
comp=Z,471nm,1.4s
HARP HAARP 87.18 28 P P 06 25 28.3 -0.2
baz=274,SNR=102
C27K Jago River 87.20 20 P P 06 25 28.6 +0.3
baz=275
F26K Sheenjek River 87.20 22 P P 06 25 28.9 +0.4
baz=275
RIDG Independent Ri 87.22 26 lAmb lAmb 06 25 36.6
comp=Z,588nm,0.8s
RIDG Independent Ri 87.22 26 P P 06 25 27.8 -0.9
baz=274,SNR=151
PUL Pulkovo 87.35 330 *ce*P P 06 25 29.4 +0.1
PUL pmax pmax
comp=Z,737nm,0.8s
G26K Porcupine Rive 87.41 23 P P 06 25 29.8 +0.4
baz=275
MSF Maaselka 87.45 336 P P 06 25 28.1 -1.5
MSF pmax pmax
comp=Z,524nm,0.5s
LADK Ladik-KONYA 87.46 308 *e*P P 06 25 28.6 -1.9
KONT Konya--Tatoy 87.48 308 *e*P P 06 25 28.5 -1.9
N25K Chitina, Valde 87.50 29 P P 06 25 29.8 -0.3
baz=275,SNR=127
HOPEN Hopen 87.50 347 *e*P P 06 25 29.6 -0.1
HOPEN *e*pP pP 06 27 44.6 +1.1
HOPEN *e*sP sP 06 28 45.0 -1.4
HOPEN *e*SKSac SKSac 06 34 54.8 -3.3
BMRM Bremner River 87.55 29 lAmb lAmb 06 28 00.4
comp=Z,677nm,1.0s
BMRM Bremner River 87.55 29 P P 06 25 29.7 -0.6
baz=275,SNR=148
SCRK Sand Creek 87.58 26 lAmb lAmb 06 25 38.6
comp=Z,1µm,1.8s
SCRK Sand Creek 87.58 26 P P 06 25 29.8 -0.7
baz=275,SNR=302
J26L Joseph Creek 87.72 26 lAmb lAmb 06 25 39.5
comp=Z,475nm,0.8s
J26L Joseph Creek 87.72 26 P P 06 25 30.4 -0.6
baz=275
KIZT Kizilcal 87.79 309 *e*P P 06 25 30.7 -1.3
KEV Kevo 87.82 340 P P 06 25 30.1 -1.1
KEV Kevo 87.82 340 ⇓P P 06 25 30.0 -1.3
KEV Kevo 87.82 340 P P 06 25 30.1 -1.1
KEV pmax pmax
comp=Z,218nm,0.9s
GLB Gilahina Butte 87.89 29 P P 06 25 30.9 -0.9
GLB lAmb lAmb 06 28 00.6
comp=Z,632nm,1.1s
SEYD Seydisehir-KON 87.93 307 *e*P P 06 25 31.5 -1.2
L26K Log Cabin Wild 87.96 27 P P 06 25 31.9 -0.3
baz=276,SNR=106
KDZE Karadeniz Ereo 87.96 311 ⇑P P 06 25 32.0 -0.6
KDZE Karadeniz Ereo 87.96 311 *e*P P 06 25 30.5 -2.1
SVRH Sivrihisar-ESK 88.03 309 *e*P P 06 25 31.8 -1.3
VRDI Verde Repeater 88.09 29 P P 06 25 32.1 -0.8
E27K Coleen River 88.11 22 P P 06 25 32.9 +0.1
baz=277
M26K Nabesna, AK 88.18 28 P P 06 25 32.8 -0.4
baz=276,SNR=13
MDUB Mudurnu 88.21 310 *e*P P 06 25 32.3 -1.6
G27K Doyon Strip 88.26 23 P P 06 25 33.5 +0.1
baz=277
MCARA McCarthy VSAT 88.28 29 lAmb lAmb 06 25 50.7
comp=Z,410nm,0.7s
MCARA McCarthy VSAT 88.28 29 P P 06 25 33.5 -0.1
baz=276,SNR=40
SGF Sodankyl 88.28 337 P P 06 25 33.5 +0.1
SGF pmax pmax
comp=Z,213nm,0.8s
ARA0 ARCESS Array S 88.37 340 *e*P P 06 25 33.7 -0.1
ARA0 *e*pP pP 06 27 48.8 +0.7
ARA0 *e*SKSac SKSac 06 35 02.7 -0.7
ARCES ARCESS Array B 88.37 340 P P 06 25 32.1 -1.8
comp=Z,152nm,0.7s,baz=86,slow=4.0,SNR=115
ARCES pP pP 06 27 49.5 +1.4
comp=Z,148nm,0.9s,baz=72,slow=7.8,SNR=4.3
ARCES S SKSac 06 35 07.2 +3.8
comp=Z,60nm,1.2s,baz=76,slow=5.1,SNR=4.7
ARCES ScS ScS 06 35 31.2 +0.7
comp=Z,83nm,1.1s,baz=84,slow=12,SNR=5.5
ARCES PKKPbc PKKPbc 06 43 13.5 -2.4
comp=Z,7.2nm,0.5s,baz=256,slow=3.3,SNR=19
comp=Z,152nm,0.7s
H27K Steamboat Moun 88.38 24 P P 06 25 34.6 +0.5
baz=277
CIFT Cifteler, Eski 88.39 309 *e*P P 06 25 33.1 -1.6
I27K Kandik River 88.42 24 P P 06 25 34.6 +0.3
baz=277
L27K Beaver Creek, 88.64 27 lAmb lAmb 06 25 44.3
comp=Z,471nm,0.9s
L27K Beaver Creek, 88.64 27 P P 06 25 35.5 +0.2
baz=277,SNR=193
PURM Purcari 88.68 316 ⇑P P 06 25 35.2 -0.5
M27K Edge Creek, AK 88.71 28 lAmb lAmb 06 25 44.4
comp=Z,899nm,1.7s
M27K Edge Creek, AK 88.71 28 P P 06 25 35.8 0.0
baz=277,SNR=34
EGAK Eagle 88.72 25 lAmb lAmb 06 25 43.7
comp=Z,458nm,1.0s
EGAK Eagle 88.72 25 P P 06 25 35.0 -0.5
baz=278,SNR=70
GULT Guleren 88.73 310 *e*P P 06 25 34.6 -1.7
AKASG Malin Array Be 88.74 321 P P 06 25 34.1 -1.9
comp=Z,72nm,0.6s,baz=63,slow=4.6,SNR=324
AKASG pP pP 06 27 50.0 -0.2
comp=Z,7.5nm,0.5s,baz=68,slow=3.9,SNR=2.8
AKASG S SKSac 06 35 11.2 +5.0
comp=Z,41nm,1.0s,baz=65,slow=6.4,SNR=6.1
AKASG PKKP PKKPdf 06 43 02.2 -5.5
comp=Z,1.5nm,0.5s,baz=284,slow=3.2,SNR=4.6
AKASG PKKPbc PKKPbc 06 43 12.4 -1.8
comp=Z,1.7nm,0.3s,baz=283,slow=2.8,SNR=7.9
AKASG SKKPbc SKKPbc 06 45 56.5 +3.3
comp=Z,10nm,0.9s,baz=266,slow=3.1,SNR=6.7
AKASG PKPPKP P'P'df 06 51 15.6 -4.8
comp=Z,2.1nm,0.9s,baz=267,slow=3.3,SNR=4.5
comp=Z,72nm,0.6s
AKASG Malin Array Be 88.74 321 lAmb lAmb 06 28 08.3
comp=Z,746nm,1.2s
AKASG Malin Array Be 88.74 321 *i* P P 06 25 34.0 -1.9
AKASG pmax pmax
comp=Z,91nm,0.6s
AKBB Malin Array Si 88.74 321 lAmb lAmb 06 28 08.3
comp=Z,789nm,1.2s
AKBB Malin Array Si 88.74 321 *ce*P P 06 25 34.1 -1.8

AKBB pmax pmax
comp=Z,178nm,1.0s
HAMF Hammerfest 88.81 341 *e*P **P** **06 25 34.3 -1.5**
HAMF IVmB_BB 06 25 37.5
comp=Z,5µm,2.4s
HAMF *e*pP **pP** **06 27 50.8 +0.5**
HAMF *e*SKSac **SKSac** **06 35 05.5 -0.4**
BORA Eskisehir 88.82 310 IAmb IAmb 06 28 10.2
comp=Z,712nm,1.4s
OUL Oulu 88.84 335 P P **06 25 35.6 -0.5**
OUL pmax pmax
comp=Z,316nm,1.1s
SAUV Serdivan-Sakar 88.85 311 *e*P **P** **06 25 34.9 -1.8**
SHUT Suhut-Afyon 88.86 308 *e*P **P** **06 25 35.0 -2.0**
BCK Bucak 88.91 307 *e*P **P** **06 25 33.9 -3.3**
BCK Bucak 88.91 307 P P **06 25 34.7 -2.5**
JAWL J.Aulia 88.92 285 *i* P **P** **06 25 37.6 +0.1**
ISP Isparta 88.94 308 **pP** **06 27 56.2 +4.5**
ISP IAmb IAmb 06 28 04.7
comp=Z,854nm,1.5s
ISP Isparta 88.94 308 *e*P **P** **06 25 34.7 -2.6**
BARN Barnard Glacie 88.97 29 IAmb IAmb 06 25 46.0
comp=Z,830nm,0.7s
SPB2 Spitsbergen Ar 89.00 349 IAmb IAmb 06 25 45.1
comp=Z,2µm,1.1s
SPA0 Spitsbergen Ar 89.00 349 *e*P **P** **06 25 36.0 -0.7**
SPA0 *e*pP **pP** **06 27 50.8 -0.5**
SPA0 *e*SKSac **SKSac** **06 35 05.4 -1.5**
SPITS Spitsbergen Ar 89.00 349 S **SKSac** **06 35 03.9 -3.0**
comp=Z,3.0nm,0.5s,baz=111,slow=8.3,SNR=0.8
SPITS PKKPbc PKKPbc 06 43 15.7 +1.2
comp=Z,15nm,0.8s,baz=133,slow=3.7,SNR=7.4
SPITS Spitsbergen Ar 89.00 349 P **P** **06 25 37.1 +0.4**
SPITS pmax pmax
comp=Z,7.0nm,0.3s
MRWI Hamdab 89.07 289 *i* P **P** **06 25 38.3 +0.1**
KORT Korkueli 89.14 307 *e*P **P** **06 25 35.4 -2.9**
MNK Minsk 89.16 324 *i* P **P** **06 25 35.8 -2.0**
comp=E,64nm,0.9s
MNK *i* P **P** **06 25 35.8 -2.0**
comp=N,145nm,0.9s
MNK *i* P **P** **06 25 35.8 -2.0**
comp=Z,858nm,1.0s,baz=84
MNK *i* pP **pP** **06 27 46.8 -5.3**
MNK *i* sP sP 06 28 43.3 -11
MNK *i* PP **PP** **06 29 17.5 -2.5**
MNK *i* PPP PPP 06 31 20.2
MNK *i* S **SKSac** **06 35 07.4 -1.2**
MNK *i* sS sS 06 39 16.5 -16
MNK *i* PS 06 39 21.9
MNK *i* SS SS 06 41 30.8 -18
MNK *i* SSS SSS 06 45 11.0
MNK Minsk 89.16 324 *i* P **P** **06 25 35.8 -2.0**
MNK *i* *PP **pP** **06 27 46.8 -5.3**
MNK *i* 06 29 17.5
MNK *i* PPP PPP 06 31 20.2
MNK *i* S **SKSac** **06 35 07.4 -1.2**
MNK pmax pmax
comp=N,145nm,0.9s
MNK pmax pmax
comp=E,64nm,0.9s
MNK pmax pmax
comp=Z,858nm,1.0s
KTK1 Kautokeino 89.25 339 *e*P **P** **06 25 37.5 -0.5**
KTK1 IVmB_BB 06 25 38.8
comp=Z,2µm,0.7s
KTK1 *e*pP **pP** **06 27 52.5 +0.1**
KTK1 *e*SKSac **SKSac** **06 35 07.3 -1.2**
FINES FINESS Array B 89.26 331 P **P** **06 25 36.3 -1.8**
comp=Z,221nm,0.6s,baz=67,slow=3.8,SNR=322
FINES pP **pP** **06 27 56.1 +3.6**
comp=Z,26nm,0.8s,baz=101,slow=9.9,SNR=1.4
FINES S **SKSac** **06 35 05.5 -3.3**
comp=Z,20nm,1.0s,baz=23,slow=10,SNR=1.5
FINES PKKPbc **PKKPbc** **06 43 15.4 +2.0**
comp=Z,4.9nm,0.5s,baz=247,slow=0.8,SNR=3.9
comp=Z,221nm,0.6s
FINES FINESS Array B 89.26 331 *i* P **P** **06 25 36.2 -1.9**
FINES pmax pmax
comp=Z,219nm,0.6s
CAVI Cavuskoy 89.26 310 *e*P **P** **06 25 37.2 -1.5**
PPT Papeete 89.28 108 P **P** **06 25 42.0 +2.9**
comp=Z,264nm,0.9s,baz=337,slow=1.6,SNR=17
PPT S **SKSac** **06 35 12.2 +1.6**
comp=Z,20nm,0.8s,baz=70,slow=20,SNR=1.7
PPT2 Papeete2 89.28 108 *e*PKP1 **P** **06 25 41.9 +2.7**
comp=Z,2µm,1.5s
PPT2 *es*P **sP** **06 28 51.9 -2.2**
PPT2 *es*S **S** **06 35 37.0 -0.6**
PPTF Pamatai, Papee 89.29 108 ⇓P **P** **06 25 42.8 +3.5**
ADVT Abdulvahap 89.32 310 *e*P **P** **06 25 37.4 -1.5**
VSU Vasula 89.32 328 *i* P **P** **06 25 38.4 0.0**
VSU pmax pmax
comp=Z,525nm,0.7s
VSU Vasula 89.32 328 *e*P **P** **06 25 38.5 0.0**
HRT Hereke 89.34 311 *e*P **P** **06 25 37.2 -1.8**
KIS Kishinev 89.36 317 ⇓*i*P **P** **06 25 36.9 -2.0**
comp=Z,2µm,5.5s
KIS *e*pP **pP** **06 27 54.0 +0.6**
KIS Kishinev 89.36 317 *e*PP PP 06 29 28.0 +6.2
comp=Z,3µm,5.4s
KIS *e*SKS **SKSac** **06 35 06.0 -4.0**
KIS *e*S **SKKSac** **06 35 30.0 +4.7**
comp=Z,7µm,21.0s
KIS *es*S sS 06 39 33.0 -1.7
KIS M M 06 49 58.0
comp=Z,2µm,19.4s
KIS Kishinev 89.36 317 *d i*P **P** **06 25 36.9 -2.0**
KIS *e**PP **pP** **06 27 54.0 +0.6**
KIS *e* 06 29 28.0
KIS *e* 06 35 06.0
KIS *e*S **SKKSac** **06 35 30.0 +4.7**
KIS pmax pmax
comp=Z,2µm,5.5s
KIS pmax pmax
comp=Z,3µm,5.4s
KIS smax smax
comp=N,7µm,31.0s
MILM Milestii Mici 89.37 317 ⇓*i*P **P** **06 25 37.7 -1.3**
comp=N,800nm,1.7s
MILM *i* pP **pP** **06 27 55.0 +1.5**
MILM Milestii Mici 89.37 317 ⇓*i*PP PP 06 29 28.0 +6.1
comp=N,7µm,3.8s
MILM Milestii Mici 89.37 317 ⇑P **P** **06 25 38.4 -0.6**
MILM Milestii Mici 89.37 317 *d i*P **P** **06 25 37.7 -1.3**
MILM *i* *PP **pP** **06 27 55.0 +1.5**
MILM *i* 06 29 28.0
MILM *i* 06 35 07.0
MILM *i* S **S** **06 35 31.0 -6.1**
MILM *e* 06 45 31.0
MILM pmax pmax
comp=Z,3µm,6.3s
MILM pmax pmax
comp=Z,7µm,3.8s
MILM smax smax
comp=N,21µm,12.2s
BJO1 Bjornoya 89.38 345 *e*P **P** **06 25 39.2 +0.8**
BJO1 *ep*P **pP** **06 27 53.0 0.0**
BJO1 *e*SKSac **SKSac** **06 35 08.9 -0.2**
BJO1 *i* 06 39 31.3
YUK3 Moose Creek 89.44 28 P **P** **06 25 39.0 -0.2**
baz=278
TIAR Tiarei 89.50 108 *e*PKP1 **P** **06 25 42.2 +2.0**
comp=N,72nm,0.8s
ELL Elmali 89.52 307 *e*P **P** **06 25 38.1 -2.0**
ELL Elmali 89.52 307 ⇓P **P** **06 25 38.9 -1.2**
ELL Elmali 89.52 307 P **P** **06 25 38.1 -2.0**
HSPB Hornsund (broa 89.52 348 *e*P **P** **06 25 37.4 -1.6**
HSPB *ep*P **pP** **06 27 55.3 +1.6**
HSPB *e*SKS **SKSac** **06 35 09.9 +0.1**
HSPB *e*S **ScS** **06 35 42.2 +2.4**
HSPB *es*S **sS** **06 39 39.2 +2.9**
TLCR 89.55 315 ⇑P **P** **06 25 38.9 -1.0**
TLCR 89.55 315 P **P** **06 25 38.8 -1.0**
SORM Soroca 89.56 318 ⇑P **P** **06 25 38.6 -1.2**
SORM Soroca 89.56 318 P **P** **06 25 38.5 -1.2**
DAWY Dawson 89.58 26 IAmb IAmb 06 25 48.1
comp=Z,2µm,1.8s
DAWY Dawson 89.58 26 P **P** **06 25 39.4 -0.2**
baz=279,SNR=105
DAWY Dawson 89.58 26 ⇑P **P** **06 25 39.1 -0.6**
KBS Kingsbay 89.59 350 P **P** **06 25 39.0 -0.3**
KBS Kingsbay 89.59 350 *i* P **P** **06 25 39.7 +0.3**
KBS Kingsbay 89.59 350 *ce*P **P** **06 25 39.2 -0.2**
KBS pmax pmax
comp=Z,349nm,1.7s
TVO Taravao 89.60 108 *e*PKP1 **P** **06 25 42.7 +2.0**
comp=Z,318nm,0.8s
TVSB Tavsanli 89.62 309 *e*P **P** **06 25 39.1 -1.4**
GEDZ Gediz 89.70 309 *e*P **P** **06 25 39.4 -1.4**
O28M Mount Upton 89.72 29 P **P** **06 25 40.5 -0.1**
baz=278
IDID Didziasalis 89.72 325 *e*P P 06 25 35.1 -5.3
GEMT Gemlik 89.74 310 *e*P **P** **06 25 36.8 -4.0**
NACGM Naroch 89.75 325 ⇓*i*P **P** **06 25 40.1 -0.4**
comp=Z,825nm,0.9s,baz=83
KLYT Kilyos 89.77 311 *e*P **P** **06 25 39.1 -1.8**
HYBA Heybeliada-Ist 89.77 311 *e*P **P** **06 25 36.2 -4.8**
ISK Istanbul-Kandi 89.78 311 *e*P **P** **06 25 38.5 -2.5**
ISK Istanbul-Kandi 89.78 311 P **P** **06 25 39.4 -1.6**
KAVV Kandilli-Istan 89.78 311 *e*P **P** **06 25 39.3 -1.7**
EFOR EFORIE 89.79 314 ⇓P **P** **06 25 40.7 -0.2**
PINM Pinnacle 89.79 30 P **P** **06 25 40.5 -0.2**
baz=278,SNR=72
LEOM Leova 89.81 316 ⇓P **P** **06 25 39.7 -1.3**
LEOM Leova 89.81 316 P **P** **06 25 39.6 -1.3**
I29M Ogilvie Camp, 89.82 24 IAmb IAmb 06 25 49.7
comp=Z,722nm,1.1s
I29M Ogilvie Camp, 89.82 24 P **P** **06 25 40.3 -0.4**
baz=280,SNR=130
MANR Mangalia 89.85 314 ⇓P **P** **06 25 40.2 -1.0**
YUK8 Steele Glacier 89.85 29 P **P** **06 25 41.6 +0.4**
baz=279
TPGR Topolog 89.86 315 ⇑P **P** **06 25 40.3 -1.0**
TBI Tubuai 89.87 113 *e*P **P** **06 25 43.8 +2.0**
comp=Z,2µm,1.2s
TBI *ep*P **pP** **06 27 54.2 -0.7**
comp=Z,436nm,1.1s
TBI *es*P **sP** **06 28 54.6 -2.0**
TBI *e*S **S** **06 35 36.9 -5.6**
TIRR Tirgusor 89.91 314 ⇓P **P** **06 25 41.3 -0.2**
TIRR Tirgusor 89.91 314 ⇓P **P** **06 25 41.3 -0.2**
TIRR Tirgusor 89.91 314 P **P** **06 25 40.1 -1.4**
TIRR IAmb IAmb 06 28 14.6
comp=Z,857nm,1.2s
TIRR Tirgusor 89.91 314 *e*P **P** **06 25 39.4 -2.1**
TIRR Tirgusor 89.91 314 P **P** **06 25 41.2 -0.2**
MFTR Murfatlar 89.93 314 ⇑P **P** **06 25 40.6 -0.9**
APMY Acipayam-Deniz 89.93 307 *e*P **P** **06 25 39.6 -2.3**
GIUM Giurgiulesti 89.94 315 ⇑P **P** **06 25 40.9 -0.7**
MDNY Mudanya-Bursa 89.98 310 *e*P **P** **06 25 40.1 -1.8**
BGKT Bogazkoy 89.98 311 *e*P **P** **06 25 40.6 -1.3**
VLDR Vladesti 89.99 316 ⇑P **P** **06 25 41.3 -0.5**
IIGN Ignalina 90.01 325 *e*P P 06 25 33.9 -7.9
J29M Klondike Camp 90.02 25 IAmb IAmb 06 25 51.4
comp=Z,622nm,0.9s
J29M Klondike Camp 90.02 25 P **P** **06 25 42.1 +0.4**
baz=280,SNR=85
CFR Carcaliu 90.02 315 ⇓P **P** **06 25 40.6 -1.4**
CFR Carcaliu 90.02 315 P **P** **06 25 40.6 -1.4**
SIMA Simav-Kutahya 90.03 309 *e*P P 06 25 34.5 -7.8
ISAL Salakas 90.03 326 *e*P **P** **06 25 42.9 +1.1**
SCTR Scanteiesti 90.07 316 ⇓P **P** **06 25 42.5 +0.3**
VASR Vaslui 90.10 317 ⇑P **P** **06 25 41.7 -0.7**
BCPM Bancas Point 90.12 30 IAmb IAmb 06 25 51.0
comp=Z,554nm,0.9s
JETT Jettan, Norway 90.13 340 *e*P **P** **06 25 40.6 -1.4**
JETT *ep*P **pP** **06 27 57.2 +0.4**
JETT *e*SKSac **SKSac** **06 35 12.9 -0.7**
TLBR Topalu 90.16 315 ⇑P **P** **06 25 41.9 -0.8**
IAS Iasi 90.20 317 ⇑P **P** **06 25 42.7 -0.1**
IAS Iasi 90.20 317 *e*P **P** **06 25 41.4 -1.4**
IAS Iasi 90.20 317 P **P** **06 25 42.7 -0.1**
HARR Harsova 90.22 315 ⇑P **P** **06 25 42.1 -0.9**
HARR Harsova 90.22 315 P **P** **06 25 42.0 -0.9**
SLCR Slobozia Conac 90.23 316 ⇓P **P** **06 25 42.2 -0.7**
IZVR Izvoarele 90.24 316 ⇑P **P** **06 25 42.6 -0.4**
BIR Birlad 90.26 316 ⇓P **P** **06 25 43.3 +0.2**
BIR Birlad 90.26 316 P **P** **06 25 43.3 +0.2**
MEF Metsahovi 90.26 330 *e*P **P** **06 25 42.4 -0.3**
M29M Somme Creek 90.27 27 P **P** **06 25 43.4 +0.5**
baz=280,SNR=34
EPYK Eagle Plains 90.27 23 P **P** **06 25 41.9 -0.9**
baz=282,SNR=136
PNL Peninsula 90.28 30 P **P** **06 25 42.7 -0.2**
baz=279,SNR=8.7
L29M L29M 90.30 27 P **P** **06 25 43.5 +0.5**
baz=280
KULA Kula-Manisa 90.33 308 *e*P **P** **06 25 42.4 -1.4**
G30M tAoh Zraii Nji 90.34 23 P **P** **06 25 42.1 -1.0**
baz=282
YUK4 Talbot Arm 90.37 28 P **P** **06 25 43.7 +0.1**
baz=280
ICOR Ion Corvin 90.38 314 ⇓P **P** **06 25 43.7 0.0**
KCTX Karacabey (Bur 90.39 310 *e*P **P** **06 25 42.9 -1.0**
GHRR 90.43 316 ⇑P **P** **06 25 43.3 -0.6**
K29M Barlow Dome 90.43 26 P **P** **06 25 43.7 +0.1**
baz=281
DALY Dalyan (Mula) 90.51 307 *e*P **P** **06 25 43.6 -0.9**
YUK6 Outpost Mounta 90.58 29 P **P** **06 25 44.7 +0.1**
baz=280
O29M Mount Kennedy 90.58 29 P **P** **06 25 44.6 +0.2**
baz=280
TRO Tromso 90.61 340 *e*P **P** **06 25 42.2 -2.0**
TRO *ep*P **pP** **06 27 59.9 +0.9**
TRO *e*SKSac **SKSac** **06 35 15.5 -0.7**
DRBR Darabani 90.71 318 ⇑P **P** **06 25 44.7 -0.4**
ODBI Odobesti 90.71 316 ⇑P **P** **06 25 45.3 +0.1**
MEH Mehetia 90.74 108 *e*PKP1 **P** **06 25 47.2 +1.3**
comp=Z,183nm,1.2s
MEH *ep*P **pP** **06 27 58.3 -0.9**
comp=Z,111nm,1.2s
CRLT Corlu 90.76 311 *e*P **P** **06 25 43.7 -1.8**
PRD Provadia 90.77 313 *i* P **P** **06 25 45.5 0.0**
YER Yerkesik 90.78 307 *e*P **P** **06 25 43.7 -2.1**
YER Yerkesik 90.78 307 P **P** **06 25 45.0 -0.8**
MTSE Matsula 90.80 329 *e*P **P** **06 25 45.1 -0.1**
GRER 90.81 315 ⇓P **P** **06 25 45.8 +0.1**
BALB Balikesir 90.82 310 IAmb IAmb 06 28 19.0
comp=Z,508nm,1.4s
BALB Balikesir 90.82 310 *e*P **P** **06 25 44.1 -1.7**
PHSR Pinarhisar 90.86 312 *e*P **P** **06 25 43.4 -2.6**
PGOR Pogoanele 90.87 315 ⇑P **P** **06 25 45.3 -0.6**
TESR Tescani 90.90 317 ⇓P **P** **06 25 45.3 -0.7**
VRI Vrincioaia 90.93 316 ⇑P **P** **06 25 46.0 -0.2**
VRI Vrincioaia 90.93 316 *e*P **P** **06 25 45.4 -0.8**
VRI Vrincioaia 90.93 316 P **P** **06 25 46.0 -0.2**
VAH Vaihoa 90.96 105 *e*P **P** **06 25 48.7 +1.8**
comp=Z,385nm,1.0s
BISRR Bisoca 90.98 316 ⇑P **P** **06 25 46.4 -0.1**
PLOR Plostina 90.98 316 ⇑P **P** **06 25 46.1 -0.4**
PLOR Plostina 90.98 316 P **P** **06 25 46.1 -0.4**
M30M Minto, Yukon 91.00 27 P **P** **06 25 46.4 +0.2**
baz=282,SNR=47
HYT Haines Junctio 91.01 29 P **P** **06 25 46.5 +0.1**
baz=281
INK Inuvik 91.04 21 IAmb IAmb 06 25 54.1
comp=Z,1µm,1.6s
INK Inuvik 91.04 21 P **P** **06 25 45.3 -1.0**
baz=285
INK Inuvik 91.04 21 ⇑P **P** **06 25 45.2 -1.0**
INK Inuvik 91.04 21 P **P** **06 25 45.5 -0.7**
INK pmax pmax
comp=Z,542nm,1.4s
N30M Aishikik Lake 91.09 28 P **P** **06 25 46.9 +0.3**
baz=281
ISR Istrita 91.15 315 P **P** **06 25 47.8 +0.5**
ISR pmax pmax
comp=Z,264nm,1.4s
MLSB Milas 91.16 307 *e*P **P** **06 25 46.6 -0.9**
F31M Tsqehtchic 91.18 22 P **P** **06 25 45.8 -1.0**
baz=284
MAYO Mayo, Yukon 91.19 26 P **P** **06 25 47.1 +0.1**
baz=282,SNR=30
VSVD Vaisvydziai 91.20 326 *e*P **P** **06 25 47.5 +0.3**
RKY Sarkoy-Tekirda 91.23 311 *e*P **P** **06 25 48.7 +0.9**
PABE Paberze 91.26 326 IAmb IAmb 06 28 21.9
comp=Z,2µm,1.3s
PABE Paberze 91.26 326 *e*P **P** **06 25 47.9 +0.4**
NEHR Nehoiu 91.28 316 ⇓P **P** **06 25 48.1 +0.2**
COVR Voineasa-Covas 91.29 316 ⇓P **P** **06 25 47.0 -0.9**
RAZG Razgrad 91.37 314 ⇑P **P** **06 25 48.3 0.0**
RAF Rauma 91.39 331 *e*P **P** **06 25 47.2 -0.7**
P30M Million Dollar 91.41 30 P **P** **06 25 48.1 -0.1**
baz=281,SNR=40
SULR 91.41 315 ⇑P **P** **06 25 48.3 -0.1**
EDRB Edirne 91.42 312 *e*P **P** **06 25 47.1 -1.4**
JMB Yambol 91.46 313 *i* P **P** **06 25 48.3 -0.4**
MLR Muntele Rosu 91.52 316 S **SKSac** **06 35 23.4 +0.9**
comp=Z,55nm,1.0s,baz=12,slow=22,SNR=8.4
MLR PKKPbc PKKPbc 06 43 06.5 -0.9
comp=Z,15nm,0.7s,baz=232,slow=6.1,SNR=7.3
MLR Muntele Rosu 91.52 316 ⇑P **P** **06 25 48.3 -0.8**
MLR Muntele Rosu 91.52 316 IAmb IAmb 06 28 25.0
comp=Z,1µm,1.6s
MLR Muntele Rosu 91.52 316 *e*P **P** **06 25 47.8 -1.3**
MLR Muntele Rosu 91.52 316 P **P** **06 25 48.3 -0.8**
GCAM G?zelcaml? 91.54 308 *e*P **P** **06 25 47.9 -1.3**
OZUR 91.55 316 ⇑P **P** **06 25 49.2 +0.1**
BODT Bodrum 91.56 307 *e*P **P** **06 25 47.6 -1.7**
N31M Braeburn, Yuko 91.70 28 P **P** **06 25 49.6 +0.1**
baz=282,SNR=234
O30N Mendenhall 91.70 29 P **P** **06 25 49.4 -0.1**
baz=282,SNR=151
BURAR Bucovina Array 91.72 318 ⇓P **P** **06 25 49.4 -0.5**
BURAR Bucovina Array 91.72 318 IAmb IAmb 06 25 57.2
comp=Z,402nm,0.8s
BURAR Bucovina Array 91.72 318 P **P** **06 25 49.4 -0.5**
BUR08 Bucovina Ar. S 91.72 318 IAmb IAmb 06 25 59.6
comp=Z,330nm,0.8s
ERIK Erikli-Kesan 91.74 311 *e*P **P** **06 25 47.9 -2.1**
SZH Strazhica 91.83 313 *i* P **P** **06 25 48.8 -1.6**
PLBC Pleasant Camp 91.84 30 P **P** **06 25 49.7 -0.4**
baz=282,SNR=14
DOPR Dopca 91.84 316 ⇓P **P** **06 25 49.4 -1.0**
KARP Karpathos 91.85 306 IAmb IAmb 06 28 30.0
comp=Z,1µm,1.2s
MBAR Mbarara 91.87 270 S **SKSac** **06 35 24.4 -1.4**
comp=Z,2.2nm,0.4s,baz=334,slow=12,SNR=0.8
MBAR PKKPbc PKKPbc 06 43 07.6 +2.3
comp=Z,12nm,0.6s,baz=320,slow=1.2,SNR=6.2
MBAR Mbarara 91.87 270 P **P** **06 25 50.7 -0.7**
MBAR Mbarara 91.87 270 ⇓P **P** **06 25 50.7 -0.7**
MBAR Mbarara 91.87 270 *ce*P **P** **06 25 51.3 -0.1**
MBAR pmax pmax
comp=Z,146nm,1.7s
URLA Izmir 91.96 309 *e*P **P** **06 25 48.7 -2.5**
EZN Ezine 91.99 310 *e*P **P** **06 25 50.6 -0.6**
ENEZ Enez 92.00 311 *e*P **P** **06 25 47.6 -3.6**
NOR Nord 92.03 354 *i* P **P** **06 25 50.1 -0.4**
NOR Nord 92.03 354 ⇑P **P** **06 25 48.8 -1.8**
NOR Nord 92.03 354 P **P** **06 25 49.9 -0.7**
NOR pmax pmax
comp=Z,43nm,1.7s
ALN Alexandroupoli 92.06 311 P **P** **06 25 50.1 -1.4**
ALN Alexandroupoli 92.06 311 *e*P **P** **06 25 48.7 -2.8**
ALN Alexandroupoli 92.06 311 ⇓P **P** **06 25 50.3 -1.2**
ALN Alexandroupoli 92.06 311 P **P** **06 25 50.1 -1.4**
ALN pmax pmax
comp=Z,219nm,1.3s
LVV L'vov 92.16 320 *e*P **P** **06 25 50.0 -1.7**
LVV *e**PP **pP** **06 28 06.0 -0.7**
LVV *e* 06 29 45.7
LVV *e* 06 35 24.3
LVV *eS* **S** **06 35 57.8 -3.8**
LVV *eSS* **SS** **06 42 39.8 +8.5**
LVV pmax pmax
comp=Z,850nm,1.6s
LVV MLR MLR
comp=N,3µm,19.0s
LVV MLR MLR
comp=E,4µm,19.0s
LVV MLR MLR
comp=Z,6µm,19.0s
MTUR Matau 92.17 315 ⇑P **P** **06 25 51.1 -1.0**
MTUR Matau 92.17 315 P **P** **06 25 51.1 -1.0**
M31M Drury Creek, Y 92.18 27 P **P** **06 25 51.3 -0.3**
M31M IAmb IAmb 06 26 00.1
comp=Z,328nm,0.8s
M31M Drury Creek, Y 92.18 27 P **P** **06 25 51.2 -0.3**
baz=284,SNR=185
BOZC Bozcaada 92.19 310 *e*P **P** **06 25 50.3 -1.9**
S31K Pelican 92.21 32 P **P** **06 25 51.9 +0.1**
baz=282,SNR=30
COPA Copaceanca 92.22 314 ⇑P **P** **06 25 51.2 -1.0**
GADA Gvkgeada 92.27 310 *e*P **P** **06 25 50.4 -2.1**
CNG Changalane 92.27 244 *e*P **P** **06 25 53.2 +0.4**
CNG IAmb IAmb 06 26 01.1
comp=Z,113nm,0.9s
PVL Pavlikeni 92.27 313 *i* P **P** **06 25 51.9 -0.5**
DIM Dimitrovgrad 92.29 312 *i* P **P** **06 25 52.5 0.0**
PBUR Paburge 92.30 326 *e*P **P** **06 25 53.5 +1.3**
STFAR Stefanesti-Arg 92.30 315 ⇑P **P** **06 25 52.4 -0.2**
WHY Whitehorse 92.31 29 P **P** **06 25 52.5 +0.1**
baz=283,SNR=343
HUMR Humele 92.33 315 ⇑P **P** **06 25 51.8 -0.9**
SKAG Skagway 92.35 30 IAmb IAmb 06 26 03.4
comp=Z,612nm,0.8s
SKAG Skagway 92.35 30 P **P** **06 25 52.8 +0.4**
baz=283,SNR=133
SKAG Skagway 92.35 30 ⇑P **P** **06 25 52.7 +0.4**
R31K City Hall, Gus 92.37 31 P **P** **06 25 52.5 +0.1**
baz=282
STEI Steigen 92.37 339 *e*P **P** **06 25 52.3 0.0**
STEI *ep*P **pP** **06 28 07.0 -0.3**
STEI *e*SKSac **SKSac** **06 35 25.8 -0.2**
ARCR ARCALIA 92.38 317 ⇓P **P** **06 25 52.7 -0.2**
RDO Rodhopi 92.41 311 ⇓P **P** **06 25 51.7 -1.4**
KDZ Kurdzhali 92.43 312 *e*P **P** **06 25 50.9 -2.3**
ARR Arges 92.45 316 ⇑P **P** **06 25 52.3 -1.0**
MDB Medias 92.51 316 ⇑P **P** **06 25 54.1 +0.6**
MDB Medias 92.51 316 P **P** **06 25 54.1 +0.6**
FAUS Fauske 92.52 338 *e*P **P** **06 25 53.0 0.0**
FAUS *ep*P **pP** **06 28 08.4 +0.4**
FAUS *e*SKSac **SKSac** **06 35 26.9 0.0**
A36M Sachs Harbour 92.55 17 P **P** **06 25 52.2 -0.8**
baz=292
FARO Faro, Yukon 92.64 27 P **P** **06 25 53.8 0.0**
baz=284,SNR=689
ZKR Zakros 92.67 305 *e*P **P** **06 25 52.9 -1.6**
PLVB Pleven 92.76 314 ⇓P **P** **06 25 53.6 -1.1**
POGA Pongola 92.76 243 *e*P **P** **06 25 55.3 +0.3**
POGA IAmb IAmb 06 26 03.7
comp=Z,606nm,1.3s
MOPA Mopani 92.81 247 *i* P **P** **06 25 53.7 -1.7**
MOPA Mopani 92.81 247 *e*P **P** **06 25 53.9 -1.4**
MOPA IAmb IAmb 06 26 03.2
comp=Z,304nm,0.7s
VLAD Vladila 92.82 314 ⇓P **P** **06 25 54.4 -0.5**
BMR Baia Mare 92.86 318 ⇓P **P** **06 25 54.6 -0.4**
BMR Baia Mare 92.86 318 P **P** **06 25 54.6 -0.4**
SIT Sitka 92.88 32 P **P** **06 25 54.9 +0.1**
baz=283,SNR=26
SIT Sitka 92.88 32 P **P** **06 25 53.5 -1.4**
PLD Plovdiv 92.89 312 *e*P **P** **06 25 53.5 -1.8**
PLD Plovdiv 92.89 312 *i* P **P** **06 25 54.5 -0.8**
LOF Lofoten 92.92 339 *e*P **P** **06 25 53.9 -0.9**
LOF *ep*P **pP** **06 28 09.9 +0.1**
LOF *e*SKSac **SKSac** **06 35 29.0 +0.1**
RZN Rozhen 92.94 312 *i* P **P** **06 25 54.8 -1.0**
CJR Cluj-Napoca 92.95 317 ⇑P **P** **06 25 55.4 -0.2**
CJR Cluj-Napoca 92.95 317 P **P** **06 25 55.3 -0.2**
CBBR Cluj-Babes-Bol 92.97 317 ⇓P **P** **06 25 55.9 +0.4**
R32K Eaglecrest 93.03 31 P **P** **06 25 55.8 +0.3**
baz=283,SNR=69
JIS Juneau Island 93.10 31 IAmb IAmb 06 26 05.4
comp=Z,575nm,0.8s
P32M Atlin 93.12 30 P **P** **06 25 56.1 +0.1**
baz=284,SNR=90
HAGI HAGI 93.15 244 *e*P **P** **06 25 57.5 +0.5**
HAGI IAmb IAmb 06 26 05.0
comp=Z,256nm,0.8s
PGB Panagyurishte 93.22 313 *i* P **P** **06 25 56.6 -0.3**
MOR8 Moi Rana 93.22 337 *e*P **P** **06 25 54.8 -1.5**
MOR8 *ep*P **pP** **06 28 10.8 -0.6**
MOR8 *e*SKSac **SKSac** **06 35 29.4 -1.4**
MARR Marisel-Cluj 93.28 317 ⇑P **P** **06 25 56.6 -0.5**
MESR Meseseni 93.31 318 ⇑P **P** **06 25 56.7 -0.4**
P33M Teslin, Yukon 93.41 29 IAmb IAmb 06 26 06.0
comp=Z,494nm,1.0s
P33M Teslin, Yukon 93.41 29 P **P** **06 25 57.1 -0.3**
baz=285,SNR=202
TRPA Tarpa 93.41 319 ⇓P **P** **06 25 56.8 -0.7**
UZH Uzhgorod 93.48 319 *e*P **P** **06 25 57.4 -0.4**
UZH *e* 06 29 15.8
UZH *e* 06 29 15.4
UZH *eS* **S** **06 36 09.4 -3.8**
UZH pmax pmax
comp=Z,50nm,1.1s
DRGR 93.54 317 ⇑P **P** **06 25 57.8 -0.5**

DRGR		**93.54**	**317**	*e*P		**P**	**06 25 57.1**	**-1.1**
DRGR		**93.54**	**317**	P		**P**	**06 25 57.7**	**-0.5**
SRE	**Strehaia**	**93.56**	**315**	⇑P		**P**	**06 25 58.6**	**+0.3**
SRE	**Strehaia**	**93.56**	**315**	P		**P**	**06 25 58.6**	**+0.3**
DEV	**Deva**	**93.56**	**316**	⇑P		**P**	**06 25 57.6**	**-0.7**
DEV	**Deva**	**93.56**	**316**	P		**P**	**06 25 57.5**	**-0.7**
UPP	**Uppsala**	**93.65**	**331**	*e*P		**P**	**06 25 57.1**	**-1.2**
MMB	**Musomiste**	**93.69**	**312**	*i* P		**P**	**06 25 57.9**	**-1.1**
STOK	**Stokkvaagen**	**93.71**	**338**	*e*SKSac		**SKSac**	**06 35 33.2**	**0.0**
GZR	**Gura Zlata**	**93.74**	**316**	⇑P		**P**	**06 25 58.6**	**-0.5**
BEL	**Belsk**	**93.80**	**322**	*e*P		**P**	**06 25 58.6**	**-0.6**
BEL				*e*pP		**pP**	**06 28 16.0**	**+1.8**
BEL				*e*SKS		**SKSac**	**06 35 33.8**	**-0.6**
BEL				*e*S		**S**	**06 36 13.3**	**-2.5**
BEL				*e*sS		**sS**	**06 40 23.4**	**+4.7**
BEL	**Belsk**	**93.80**	**322**	⇓P		**P**	**06 25 58.6**	**-0.6**
BEL	**Belsk**	**93.80**	**322**	P		**P**	**06 25 58.8**	**-0.4**
BEL				pmax	pmax			
	comp=Z,621nm,0.8s							
SRS	**Serrai**	**93.86**	**312**	P		**P**	**06 25 58.1**	**-1.7**
SRS				pmax	pmax			
	comp=Z,80nm,0.7s							
VTS	**Vitosha**	**93.88**	**313**	⇑P		**P**	**06 25 58.5**	**-1.5**
VTS	**Vitosha**	**93.88**	**313**	*i* P		**P**	**06 25 58.9**	**-1.1**
RMGR	**Halanga-Turnu**	**93.92**	**315**	⇓P		**P**	**06 26 00.1**	**+0.2**
C36M	**Paulatuk**	**93.95**	**19**	IAmb	IAmb		06 26 07.3	
	comp=Z,452nm,0.8s							
C36M	**Paulatuk**	**93.95**	**19**	P		**P**	**06 25 58.6**	**-0.9**
	baz=294							
CRVS	**Cervenica-Dubn**	**93.97**	**320**	*e*P		**P**	**06 26 00.0**	**-0.1**
CRVS				*e*			06 28 16.4	
CRVS				*e*S		**S**	**06 36 11.2**	**-6.3**
CRVS	**Cervenica-Dubn**	**93.97**	**320**	*e*P		**P**	**06 26 00.0**	**-0.1**
CRVS				*e*			06 28 16.4	
CRVS				*e*S		**S**	**06 36 11.2**	**-6.3**
CRVS				*e*			06 40 16.4	
PAIG	**Paliouri**	**93.99**	**310**	P		**P**	**06 25 59.6**	**-0.7**
PAIG				pmax	pmax			
	comp=Z,426nm,1.0s							
Q32M	**Nakina River**	**94.00**	**30**	P		**P**	**06 26 00.4**	**+0.2**
	baz=285							
STHS	**Stebnicka Huta**	**94.01**	**320**	*e*P		**P**	**06 25 59.5**	**-0.8**
STHS	**Stebnicka Huta**	**94.01**	**320**	*e*P		**P**	**06 25 59.5**	**-0.8**
DJES	**Djerdap**	**94.05**	**315**	⇓P		**P**	**06 25 59.7**	**-0.9**
SOH	**Sokhos**	**94.09**	**311**	P		**P**	**06 25 59.7**	**-1.2**
SOH				pmax	pmax			
	comp=Z,85nm,1.1s							
KKB	**Krupnik**	**94.12**	**312**	*i* P		**P**	**06 26 00.2**	**-0.7**
SURR	**Surduc**	**94.12**	**316**	⇑P		**P**	**06 25 59.9**	**-1.0**
MUSN	**Musina, Limpop**	**94.15**	**248**	*i* P		**P**	**06 26 01.0**	**-0.5**
MUSN	**Musina, Limpop**	**94.15**	**248**	*e*P		**P**	**06 26 01.1**	**-0.5**
MUSN				IAmb	IAmb		06 26 09.6	
	comp=Z,716nm,1.0s							
CRLN	**Carolina, Mapu**	**94.19**	**244**	*e*P		**P**	**06 26 00.6**	**-1.2**
CRLN				IAmb	IAmb		06 26 10.9	
	comp=Z,163nm,1.0s							
T33K	**Petersburg**	**94.20**	**32**	P		**P**	**06 26 00.6**	**-0.3**
	baz=285,SNR=32							
U33K	**Whale Pass**	**94.29**	**33**	P		**P**	**06 26 01.3**	**+0.1**
	baz=284,SNR=30							
QSPA	**South Pole Qui**	**94.32**	**180**	P		**P**	**06 26 01.1**	**-0.2**
	comp=Z,74nm,0.9s,baz=313,slow=1.3,SNR=189							
QSPA				pP		**pwP**	**06 28 18.9**	**-1.5**
	comp=Z,120nm,1.0s,baz=112,slow=1.7,SNR=4.6							
QSPA				S		**SKSac**	**06 35 33.6**	**-3.1**
	comp=Z,65nm,1.0s,baz=336,slow=6.6,SNR=3.2							
	comp=Z,74nm,0.9s							
QSPA	**South Pole Qui**	**94.32**	**180**	P		**P**	**06 26 01.4**	**+0.1**
QSPA				IAmb	IAmb		06 28 29.3	
	comp=Z,410nm,1.2s							
QSPA	**South Pole Qui**	**94.32**	**180**	⇑P		**P**	**06 26 01.2**	**-0.2**
HORT	**Hortiatis**	**94.32**	**311**	*e*P		**P**	**06 25 58.7**	**-3.2**
KNT	**Kendrikon**	**94.38**	**312**	*e*P		**P**	**06 25 59.4**	**-2.7**
KNT	**Kendrikon**	**94.38**	**312**	P		**P**	**06 25 59.0**	**-3.1**
KNT				pmax	pmax			
	comp=Z,260nm,0.9s							
NWCL	**Newcastle**	**94.39**	**243**	*e*P		**P**	**06 26 01.9**	**-0.7**
NWCL				IAmb	IAmb		06 26 11.2	
	comp=Z,368nm,0.7s							
THE	**Thessaloniki**	**94.41**	**311**	P		**P**	**06 26 01.3**	**-0.9**
THE				pmax	pmax			
	comp=Z,86nm,0.9s							
GVD	**Gavdhos**	**94.44**	**305**	*e*P		**P**	**06 26 00.6**	**-1.9**
CRAG	**Craig**	**94.45**	**34**	P		**P**	**06 26 01.8**	**-0.2**
	baz=284							
CRAG	**Craig**	**94.45**	**34**	⇑P		**P**	**06 26 04.5**	**+2.5**
VIKU	**Vikbolandet**	**94.48**	**330**	*e*P		**P**	**06 26 01.9**	**-0.2**
BZS	**Buzias**	**94.50**	**316**	⇓P		**P**	**06 26 01.3**	**-1.3**
BZS	**Buzias**	**94.50**	**316**	*e*P		P	06 25 57.4	-5.1
BZS	**Buzias**	**94.50**	**316**	P		**P**	**06 26 01.2**	**-1.3**
R33M	**Jennings River**	**94.53**	**29**	P		**P**	**06 26 03.0**	**+0.4**
	baz=286							
MDVR	**Moldovita**	**94.59**	**315**	⇑P		**P**	**06 26 02.3**	**-0.7**
VAY	**Valandovo**	**94.59**	**312**	*i* P		**P**	**06 26 00.7**	**-2.3**
VAY				*e*S		**SKSac**	**06 35 33.5**	**-5.5**
NIE	**Niedzica**	**94.61**	**320**	*e*P		**P**	**06 26 02.8**	**-0.2**
NIE				*e*pP		**pP**	**06 28 20.3**	**+2.1**
NIE				*e*SKS		**SKSac**	**06 35 39.2**	**+0.3**
NIE				*e*S		**ScS**	**06 36 29.4**	**+6.1**
NIE				*e*sS		**sS**	**06 40 31.3**	**+5.8**
NIE	**Niedzica**	**94.61**	**320**	P		**P**	**06 26 02.9**	**-0.1**
NIE				pmax	pmax			
	comp=Z,96nm,1.0s							
WRAK	**Wrangell Islan**	**94.63**	**33**	P		**P**	**06 26 02.9**	**0.0**
	baz=285,SNR=43							
KECS	**Kecovo**	**94.69**	**319**	*e*P		**P**	**06 26 03.1**	**-0.2**
KECS	**Kecovo**	**94.69**	**319**	*e*P		**P**	**06 26 03.1**	**-0.2**
KNDR	**Palaiochora Ch**	**94.71**	**306**	*e*P		**P**	**06 26 02.4**	**-1.3**
NSS	**Namsos**	**94.75**	**336**	*e*P		**P**	**06 26 03.1**	**-0.1**
NSS				*e*pP		**pP**	**06 28 18.7**	**+0.3**
NSS				*e*SKSac		**SKSac**	**06 35 37.6**	**-1.2**
NSS				IVMs_BB	IVMs_BB		07 14 43.6	
	comp=Z,7μm,4.2s							
OJC	**Ojcow**	**94.76**	**321**	*e*P		**P**	**06 26 03.0**	**-0.6**
OJC				*e*pP		**pP**	**06 28 20.1**	**+1.3**
OJC				*e*S		**S**	**06 36 30.2**	**+6.1**
OJC				*e*sS		**sS**	**06 40 29.4**	**+2.5**
OJC	**Ojcow**	**94.76**	**321**	IAmb	IAmb		06 26 06.8	
	comp=Z,213nm,0.9s							
OJC	**Ojcow**	**94.76**	**321**	⇓P		**P**	**06 26 02.6**	**-1.0**
BOVS	**Bovan**	**94.81**	**314**	⇓P		**P**	**06 26 02.8**	**-1.2**
STIP	**Stip**	**94.81**	**312**	*i* P		**P**	**06 26 01.2**	**-2.8**
LIT	**Litokhoron**	**94.86**	**311**	IAmb	IAmb		06 26 18.1	
	comp=Z,172nm,0.9s							
LIT	**Litokhoron**	**94.86**	**311**	*e*P		**P**	**06 26 01.9**	**-2.4**
LIT	**Litokhoron**	**94.86**	**311**	⇓P		**P**	**06 26 01.6**	**-2.8**
LIT	**Litokhoron**	**94.86**	**311**	P		**P**	**06 26 02.5**	**-1.8**
LIT				pmax	pmax			
	comp=Z,220nm,0.9s							
S34M	**Telegraph Cree**	**94.86**	**31**	P		**P**	**06 26 04.2**	**+0.3**
	baz=286,SNR=76							
BANR	**Banloc**	**94.88**	**316**	⇓P		**P**	**06 26 03.7**	**-0.5**
KSTD	**Kokstad**	**95.02**	**240**	*e*P		**P**	**06 26 05.1**	**-0.4**
KSTD				IAmb	IAmb		06 26 14.5	
	comp=Z,1μm,2.5s							
KTHA	**Kythira Island**	**95.05**	**307**	*e*P		**P**	**06 26 03.2**	**-2.1**
BSZH	**Besenyszg**	**95.08**	**318**	⇑P		**P**	**06 26 04.6**	**-0.5**
AGG	**Agios Georgios**	**95.17**	**310**	*e*P		**P**	**06 26 03.7**	**-2.1**
AGG	**Agios Georgios**	**95.17**	**310**	⇓P		**P**	**06 26 03.5**	**-2.2**
PSZ	**Piszkesteto**	**95.19**	**319**	⇓P		**P**	**06 26 05.0**	**-0.8**
PSZ	**Piszkesteto**	**95.19**	**319**	P		**P**	**06 26 04.9**	**-0.8**
LANS	**Liptovska Anna**	**95.20**	**320**	*e*P		**P**	**06 26 05.9**	**+0.2**
LANS	**Liptovska Anna**	**95.20**	**320**	*e*PDIFF		**P**	**06 26 05.9**	**+0.2**
LANS				*e*			06 42 56.9	
DLBC	**Dease Lake**	**95.27**	**30**	IAmb	IAmb		06 26 14.9	
	comp=Z,342nm,1.0s							
DLBC	**Dease Lake**	**95.27**	**30**	P		**P**	**06 26 06.0**	**+0.2**
	baz=287							
SKO	**Skopje**	**95.31**	**313**	*i* P		**P**	**06 26 05.1**	**-1.2**
SKO				*e*S		**SKSac**	**06 35 39.4**	**-3.4**
V35K	**Ketchikan**	**95.31**	**34**	P		**P**	**06 26 05.5**	**-0.5**
	baz=286							
WTLY	**Watson Lake, Y**	**95.36**	**28**	P		**P**	**06 26 06.4**	**+0.2**
	baz=288,SNR=185							
LSZ	**Lusaka**	**95.36**	**255**	SKiKP		**SKiKP**	**06 33 19.9**	**-0.1**
	comp=Z,18nm,0.6s,baz=233,slow=19,SNR=6.3							
LSZ				S		**SKSac**	**06 35 42.8**	**-1.4**
	comp=Z,14nm,0.8s,baz=299,slow=23,SNR=13							
LSZ	**Lusaka**	**95.36**	**255**	P		**P**	**06 26 06.0**	**-1.2**
LSZ				IAmb	IAmb		06 26 24.5	
	comp=Z,256nm,0.8s							
LSZ	**Lusaka**	**95.36**	**255**	⇓P		**P**	**06 26 05.9**	**-1.2**
LSZ				⇓P		**P**	**06 26 06.0**	**-1.2**
LSZ	**Lusaka**	**95.36**	**255**	*i* P		**P**	**06 26 06.5**	**-0.7**
LSZ	**Lusaka**	**95.36**	**255**	*e*P		**P**	**06 26 06.4**	**-0.7**
LSZ				IAmb	IAmb		06 26 20.7	
	comp=Z,3μm,1.0s							
LSZ	**Lusaka**	**95.36**	**255**	P		**P**	**06 26 06.0**	**-1.2**
LSZ				pmax	pmax			
	comp=Z,256nm,0.8s							
DIB	**Dawson Inlet,**	**95.38**	**36**	IAmb	IAmb		06 26 16.6	
	comp=Z,793nm,1.7s							
H02S1	**DAWSON INLET T**	**95.38**	**36**	P		**P**	**06 26 07.3**	**+1.0**
	SNR=72							
HFS	**Hagfors**	**95.46**	**332**	PKKPbc	PKKPbc		06 42 55.5	-2.1
	comp=Z,4.3nm,0.4s,baz=205,slow=3.6,SNR=10.0							
FNA	**Florina**	**95.58**	**312**	*e*P		**P**	**06 26 04.6**	**-3.0**
FNA	**Florina**	**95.58**	**312**	⇑P		**P**	**06 26 05.0**	**-2.6**
GKP	**Gorka Klasztor**	**95.58**	**324**	*e*P		**P**	**06 26 06.6**	**-0.6**
GKP				*e*pP		**pP**	**06 28 24.9**	**+2.4**
GKP				*e*SKS		**SKSac**	**06 35 44.4**	**+0.9**
GKP				*e*S		**ScS**	**06 36 38.2**	**+7.2**
GKP				*e*sS		**sS**	**06 40 39.7**	**+5.1**
GKP	**Gorka Klasztor**	**95.58**	**324**	*e*P		**P**	**06 26 08.1**	**+1.0**
T35M	**Bob Quinn**	**95.58**	**32**	P		**P**	**06 26 07.4**	**+0.2**
	baz=287							
VYHS	**Vyhne**	**95.76**	**319**	*e*P		**P**	**06 26 07.1**	**-1.1**
VYHS				*e*			06 28 23.9	
VYHS				*e*S		**S**	**06 36 29.6**	**-3.2**
VYHS	**Vyhne**	**95.76**	**319**	*e*PDIFF		**P**	**06 26 07.1**	**-1.1**
VYHS				*e*			06 28 23.9	
VYHS				*e*S		**S**	**06 36 29.6**	**-3.2**
VYHS				*e*			06 40 32.4	
VYHS				*e*			06 42 55.8	
VYHS				*e*			06 51 10.1	
ITM	**Ithomi**	**95.80**	**308**	IAmb	IAmb		06 28 50.6	
	comp=Z,281nm,1.2s							
ITM	**Ithomi**	**95.80**	**308**	*e*P		**P**	**06 26 06.0**	**-2.6**
ITM	**Ithomi**	**95.80**	**308**	⇓P		**P**	**06 26 07.0**	**-1.6**
FRGS	**Fruska Gora**	**95.84**	**316**	⇓P		**P**	**06 26 09.0**	**+0.3**
FRGS	**Fruska Gora**	**95.84**	**316**	*e*P		**P**	**06 26 07.6**	**-1.0**
BUD	**Budapest**	**95.86**	**318**	P		**P**	**06 26 07.9**	**-0.7**
BUD				pmax	pmax			
	comp=Z,211nm,1.0s							
OKC	**Ostrava-Krasne**	**95.88**	**321**	*e*PDIFF		**P**	**06 26 08.4**	**-0.3**
OKC				*ex*	x		06 28 29.9	
OKC				*e*PKKP		**PKKPdf**	**06 42 55.2**	**0.0**
OKC	**Ostrava-Krasne**	**95.88**	**321**	*e*P		**P**	**06 26 08.4**	**-0.3**
TBLU	**Trondheim**	**95.92**	**335**	*e*pP		**pP**	**06 28 23.9**	**0.0**
TBLU				*e*SKSac		**SKSac**	**06 35 43.9**	**-1.0**
DIVS	**Divibare**	**95.93**	**315**	⇓P		**P**	**06 26 07.8**	**-1.4**
DIVS	**Divibare**	**95.93**	**315**	*e*P		**P**	**06 26 07.3**	**-1.9**
OHR	**Ohrid**	**95.94**	**312**	*i* P		**P**	**06 26 08.0**	**-1.3**
OHR				*e*S		**SKSac**	**06 35 42.3**	**-3.9**
KBN	**Korca**	**96.05**	**311**	P		**P**	**06 26 08.4**	**-1.3**
KBN				pmax	pmax			
	comp=Z,98nm,1.1s							
NC405	**NORSAR Array S**	**96.06**	**333**	IAmb	IAmb		06 26 13.1	
	comp=Z,159nm,0.8s							
LEPH	**Lephalale, Lim**	**96.12**	**247**	*e*P		**P**	**06 26 08.9**	**-1.5**
LEPH				IAmb	IAmb		06 26 21.9	
	comp=Z,297nm,1.2s							
TEKS	**Tekeris**	**96.16**	**316**	*e*P		**P**	**06 26 08.0**	**-2.1**
MAUC	**Maruska**	**96.20**	**321**	*e*pP		**pP**	**06 28 32.8**	**+7.3**
MAUC				*e*PKKP		**PKKPdf**	**06 42 54.5**	**-0.2**
SRO	**Srobarova**	**96.26**	**319**	*e*P		**P**	**06 26 11.2**	**+0.8**
SRO				*e*			06 28 28.7	
SRO				*e*			06 30 21.5	
SRO	**Srobarova**	**96.26**	**319**	*e*PDIFF		**P**	**06 26 11.1**	**+0.7**
SRO				*e*			06 28 28.7	
SRO				*e*PP		**PP**	**06 30 21.5**	**+6.9**
NC602	**NORSAR Array S**	**96.27**	**333**	*e*Pdif		**P**	**06 26 08.9**	**-1.2**
NC602				IVmB_BB			06 26 12.4	
	comp=Z,2μm,3.0s							
NC602				*e*pP		**pP**	**06 28 25.6**	**+0.1**
NC602				*e*SKSac		**SKSac**	**06 35 46.4**	**-0.5**
NC602				*i*			06 40 33.8	
NC602				*e*SS		**SS**	**06 43 30.1**	**+2.0**
NC602				IVMs_BB	IVMs_BB		07 12 55.1	
	comp=Z,7μm,22.0s							
NORES	**NORESS Array B**	**96.27**	**333**	P		**P**	**06 26 11.1**	**+1.0**
MORC	**Moravsky Berou**	**96.28**	**321**	⇓P		**P**	**06 26 10.0**	**-0.6**
MORC	**Moravsky Berou**	**96.28**	**321**	*e*PDIFF		**P**	**06 26 08.9**	**-1.6**
MORC				*e*pP		**pP**	**06 28 24.8**	**-1.1**
MORC				*e*SKS		**SKSac**	**06 35 45.3**	**-2.2**
MORC				*e*PKKP		**PKKPdf**	**06 42 51.5**	**-3.1**
MORC	**Moravsky Berou**	**96.28**	**321**	P		**P**	**06 26 09.9**	**-0.6**
SNKL	**Senekal, Frees**	**96.29**	**242**	*e*P		**P**	**06 26 09.8**	**-1.4**
SNKL				IAmb	IAmb		06 26 20.2	
	comp=Z,310nm,0.9s							
NB2	**NORSAR Subarra**	**96.31**	**333**	P		**P**	**06 26 08.7**	**-1.7**
	comp=Z,89nm,0.8s,baz=70,slow=4.6							
NB2				PKKP		**PKKPdf**	**06 42 53.2**	**-1.5**
	comp=Z,14nm,0.9s,baz=253,slow=2.4							
NB2				SKKP		**SKKPbc**	**06 45 34.1**	**-1.8**
	comp=Z,37nm,0.8s,baz=214,slow=4.0							
NOA	**NORSAR Array B**	**96.31**	**333**	P		**P**	**06 26 08.1**	**-2.3**
	comp=Z,52nm,0.7s,baz=68,slow=4.6,SNR=98							
NOA				pP		**pP**	**06 28 26.6**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=67,slow=4.6,SNR=2.9							
NOA				PP	PP		06 30 03.8	-11
	comp=Z,23nm,0.8s,baz=69,slow=5.9,SNR=4.4							
NOA				PKKPbc		**PKKPbc**	**06 42 58.3**	**+2.8**
	comp=Z,5.0nm,0.7s,baz=66,slow=2.6,SNR=7.4							
NOA				SKKPbc	SKKPbc		06 45 37.3	+1.4
	comp=Z,6.1nm,0.9s,baz=253,slow=2.2,SNR=5.2							
	comp=Z,52nm,0.7s							
RUBB	**Prince Rupert**	**96.35**	**34**	IAmb	IAmb		06 26 20.3	
	comp=Z,176nm,0.9s							
BSD	**Bornholm Skovb**	**96.38**	**327**	*i* P		**P**	**06 26 08.4**	**-2.3**
BSD	**Bornholm Skovb**	**96.38**	**327**	⇑P		**P**	**06 26 10.5**	**-0.2**
BSD	**Bornholm Skovb**	**96.38**	**327**	P		**P**	**06 26 11.4**	**+0.7**
BSD				pmax	pmax			
	comp=Z,354nm,1.1s							
BSD	**Bornholm Skovb**	**96.38**	**327**	*e*P		**P**	**06 26 11.7**	**+1.0**
MORH	**Mrgy, Hungar**	**96.41**	**317**	⇓P		**P**	**06 26 10.0**	**-1.1**
JAVC	**Velka Javorina**	**96.42**	**320**	*e*PDIFF		**P**	**06 26 10.2**	**-1.0**
JAVC				*e*pP		**pP**	**06 28 26.1**	**-0.4**
JAVC				*e*SKS		**SKSac**	**06 35 48.8**	**+0.5**
DEL	**Delary**	**96.53**	**328**	*e*P		**P**	**06 26 11.5**	**+0.1**
WDLM	**Western Deep L**	**96.54**	**244**	*e*P		**P**	**06 26 11.9**	**-0.5**
WDLM				IAmb	IAmb		06 26 22.0	
	comp=Z,85nm,1.0s							
TIR	**Tirane**	**96.59**	**312**	⇑P		**P**	**06 26 11.6**	**-0.5**
TIR	**Tirane**	**96.59**	**312**	IAmb	IAmb		06 26 28.9	
	comp=Z,172nm,1.0s							
TIR	**Tirane**	**96.59**	**312**	⇑P		**P**	**06 26 12.2**	**+0.1**
TIR	**Tirane**	**96.59**	**312**	P		**P**	**06 26 11.5**	**-0.5**
PRYS	**Parys**	**96.61**	**244**	*e*P		**P**	**06 26 11.7**	**-1.0**
PRYS				IAmb	IAmb		06 26 21.6	
	comp=Z,167nm,0.8s							
WRGLY	**Wrigley**	**96.62**	**25**	Pdiff		**P**	**06 26 11.7**	**+0.1**
	baz=294							
HAPS	**Han Pijesak,Bl**	**96.67**	**315**	*e*P		**P**	**06 26 12.7**	**+0.2**
KRLC	**Kraliky**	**96.68**	**321**	*e*PDIFF		**P**	**06 26 11.6**	**-0.7**
KRLC				*ex*	x		06 28 34.3	
KRLC				*e*PKKP		**PKKPdf**	**06 42 52.6**	**-1.2**
KRLC	**Kraliky**	**96.68**	**321**	*e*P		**P**	**06 26 11.6**	**-0.7**
KSP	**Ksiaz**	**96.78**	**322**	*e*P		**P**	**06 26 12.1**	**-0.6**
KSP				*e*pP		**pP**	**06 28 29.6**	**+1.5**
KSP				*e*S		**S**	**06 36 48.7**	**+7.5**
KSP				*e*sS		**sS**	**06 40 50.4**	**+4.9**
KSP	**Ksiaz**	**96.78**	**322**	⇓P		**P**	**06 26 12.0**	**-0.6**
KSP	**Ksiaz**	**96.78**	**322**	P		**P**	**06 26 12.3**	**-0.3**
KSP				pmax	pmax			
	comp=Z,232nm,1.0s							
MODS	**Modra-Piesok**	**96.80**	**320**	*e*P		**P**	**06 26 13.2**	**+0.4**
MODS				*e*			06 28 28.3	
MODS				*e*S		**S**	**06 36 38.3**	**-3.2**
MODS	**Modra-Piesok**	**96.80**	**320**	*e*PDIFF		**P**	**06 26 13.2**	**+0.4**
MODS				*e*			06 28 28.3	
MODS				*e*S		**S**	**06 36 38.3**	**-3.2**
MODS				*e*			06 40 38.7	
MODS				*e*			06 42 53.2	
MODS				*e*			06 51 10.5	
PDG	**Podgorica**	**96.81**	**313**	⇑P		**P**	**06 26 12.3**	**-0.7**
PDG	**Podgorica**	**96.81**	**313**	⇑P		**P**	**06 26 11.6**	**-1.4**
LIRD	**Liard River Hi**	**96.88**	**29**	Pdiff		**P**	**06 26 13.0**	**+0.1**
	baz=291							
DOMB	**Dombas**	**96.89**	**334**	*e*Pdif		**P**	**06 26 13.1**	**+0.2**
DOMB				*e*SKSac		**SKSac**	**06 35 49.8**	**-0.3**
DOMB				*i*			06 40 35.2	
DOMB				*e*SS		**SS**	**06 43 37.5**	**+0.8**
DPC	**Dobruska-Polom**	**96.89**	**322**	*e*PDIFF		**P**	**06 26 12.1**	**-1.1**
DPC				*ex*	x		06 28 35.1	
DPC				*e*PKKP		**PKKPdf**	**06 42 51.3**	**-2.2**
DPC	**Dobruska-Polom**	**96.89**	**322**	*e*P		**P**	**06 26 12.1**	**-1.1**
OSTC	**Ostas**	**96.90**	**322**	*e*PDIFF		**P**	**06 26 12.4**	**-0.8**
OSTC				*ex*	x		06 28 35.5	
OSTC				*e*PKKP		**PKKPdf**	**06 42 49.6**	**-3.8**
OSL	**Oslo**	**96.93**	**332**	*e*SKSac		**SKSac**	**06 35 51.9**	**+1.6**
OSL				*i*			06 40 43.6	
OSL				*e*SS		**SS**	**06 43 35.4**	**-1.9**
ZST	**Bratislava**	**96.95**	**319**	*e*P		**P**	**06 26 14.2**	**+0.7**
ZST				*e*			06 28 32.0	
ZST				*e*S		**S**	**06 36 45.6**	**+2.8**
ZST	**Bratislava**	**96.95**	**319**	*e*PDIFF		**P**	**06 26 14.1**	**+0.6**
ZST				*e*			06 28 32.0	
ZST				*e*S		**S**	**06 36 45.6**	**+2.8**
ZST				*e*			06 40 46.7	
ZST				*e*			06 42 51.4	
KEK	**Kerkira**	**96.97**	**311**	⇑P		**P**	**06 26 13.9**	**+0.1**
VRAC	**Vranov**	**96.99**	**321**	PKKPbc	PKKPbc		06 42 56.7	+3.5
	comp=Z,16nm,0.9s,baz=239,slow=4.6,SNR=6.1							
VRAC	**Vranov**	**96.99**	**321**	⇑P		**P**	**06 26 13.8**	**+0.1**
VRAC	**Vranov**	**96.99**	**321**	*e*PDIFF		**P**	**06 26 12.9**	**-0.8**
VRAC				*e*pP		**pP**	**06 28 29.9**	**+0.7**
VRAC				*e*SKS		**SKSac**	**06 35 49.9**	**-1.2**
VRAC				*e*PKKP		**PKKPbc**	**06 42 50.9**	**-2.3**
VRAC	**Vranov**	**96.99**	**321**	P		**P**	**06 26 13.7**	**+0.1**
KSR	**Koster**	**97.00**	**245**	*e*P		**P**	**06 26 15.0**	**+0.6**
KSR				IAmb	IAmb		06 26 36.5	
	comp=Z,50nm,1.0s							
ELIB	**Princess Elisa**	**97.03**	**198**	*d*P		**P**	**06 26 14.0**	**+0.5**
	comp=Z,283nm,0.6s							
ELIB				*dx*	x		06 26 20.1	
ELIB				*d*pP		**pwP**	**06 28 34.3**	**+1.4**
UPC	**Upice**	**97.04**	**322**	*e*PDIFF		**P**	**06 26 13.3**	**-0.5**
UPC				*ex*	x		06 28 36.3	
UPC				*e*SKS		**SKSac**	**06 35 53.6**	**+2.3**
UPC				*e*PKKP		**PKKPdf**	**06 42 56.1**	**+3.0**
UPC	**Upice**	**97.04**	**322**	*e*P		**P**	**06 26 13.3**	**-0.5**
UPC				*e*			06 35 53.6	
VLO	**Vlora**	**97.04**	**312**	IAmb	IAmb		06 26 23.1	
	comp=Z,238nm,1.1s							
KRUC	**Moravsky**	**97.18**	**320**	*e*PDIFF	Pdif		06 26 13.4	-1.1
KRUC				*e*pP	pP		06 28 28.7	-1.3
KRUC				*e*SKS	**SKSac**		**06 35 50.9**	**-1.1**
KRUC				*e*PKKP	**PKKPbc**		**06 42 51.0**	**-1.6**
KRUC	**Moravsky**	**97.18**	**320**	P	Pdif		06 26 14.2	-0.3
KRUC				pmax	pmax			
	comp=Z,122nm,1.4s							
MOL	**Molde**	**97.33**	**335**	*e*Pdif	Pdif		06 26 14.8	0.0
MOL				*e*pP	pP		06 28 30.0	-0.3
MOL				*e*SKSac	**SKSac**		**06 35 49.5**	**-2.6**
MOL				*i*			06 40 40.4	
MOL				*e*SS	**SS**		**06 43 45.6**	**+3.1**
MOL				IVMs_BB	IVMs_BB		07 11 00.4	
	comp=Z,6μm,5.1s							
HCY	**Herceg Novi**	**97.36**	**314**	*e*P	Pdif		06 26 13.5	-1.9
TREB	**Trebinje**	**97.40**	**314**	*e*P	Pdif		06 26 14.2	-1.4
RGN	**Rugen**	**97.

BRG PP PP 06 30 38.5 +9.4
BRG Amp 06 30 44.5
comp=Z,153nm,1.3s
BRG Berggiesshubel 98.20 323 SKiKP **SKiKP 06 33 33.0 +9.0**
BRG Berggiesshubel 98.20 323 sS **sS 06 40 59.0 +1.1**
BRG PKKP 06 42 54.4
BRG Amp 06 42 60.0
comp=Z,21nm,0.8s
BRG Berggiesshubel 98.20 323 SS SS 06 44 07.0 +12
BRG Amp 06 49 25.0
comp=Z,14nm,38.7s
BRG Amp 06 49 28.0
comp=E,14nm,34.9s
BRG Amp 06 49 37.0
comp=N,18nm,25.1s
BRG PKPPKP **P'P'df 06 51 03.2 +0.7**
BRG Amp 06 51 11.4
comp=Z,32nm,1.6s
BRG PKPPKP' 07 08 18.1
BRG Amp 07 08 23.6
comp=Z,5.7nm,0.7s
BRG Berggiesshubel 98.20 323 *i* P Pdif 06 26 18.4 -0.6
BRG SP sP 06 29 35.0 -1.6
BRG 06 30 38.4
BRG 06 35 54.0
BRG S **S 06 36 53.0 -0.2**
BRG SS SS 06 44 07.0 +12
BRG pmax pmax
comp=Z,15nm,1.1s
BRG pmax pmax
comp=Z,153nm,1.3s
BRG Berggiesshubel 98.20 323 *e*Pdiff Pdif 06 26 19.0 0.0
baz=72,slow=4.5
BRG *e*pP pP 06 28 41.6 +7.0
baz=72,slow=4.6
BRG *e*PKKPbc **PKKPdf 06 42 52.0 +1.0**
baz=251,slow=2.9
ARSA Arzberg 98.23 319 *e*Pdiff Pdif 06 26 18.3 -1.0
comp=Z,70nm,1.3s,SNR=19
ARSA *e*pP pP 06 28 34.3 -0.5
comp=Z,52nm,1.2s
ARSA *e*P'P' **P'P'df 06 51 02.5 -0.3**
comp=Z,8.9nm,1.3s
ARSA Arzberg 98.23 319 ⇓P Pdif 06 26 19.1 -0.1
SOE Somerset East 98.26 238 pP 06 28 36.0 +2.2
SOE Somerset East 98.26 238 ⇓P **P 06 26 23.2 +3.4**
SOE Somerset East 98.26 238 *e*P **P 06 26 20.8 +1.0**
SOE IAmb IAmb 06 26 31.8
comp=Z,150nm,1.3s
A050A Klekovaca 98.27 316 *e*P Pdif 06 26 18.6 -0.9
HVD Gariep Dam 98.31 240 *e*P **P 06 26 20.7 +0.6**
HVD IAmb IAmb 06 26 28.1
comp=Z,84nm,0.9s
SWZ Schweizer 98.43 243 *e*P **P 06 26 21.6 +0.9**
SWZ IAmb IAmb 06 26 29.8
comp=Z,262nm,1.7s
HYA Hoyanger 98.50 334 *e*SKSac **SKSac 06 35 58.4 +0.4**
BOSA Boshof 98.51 242 P Pdif 06 26 19.7 -1.3
comp=Z,7.9nm,0.6s,baz=111,slow=2.8,SNR=19
BOSA pP pP 06 28 33.8 -1.3
comp=Z,16nm,0.7s,baz=89,slow=4.7,SNR=2.1
BOSA PKKPbc **PKKPdf 06 42 51.9 +1.3**
comp=Z,15nm,0.6s,baz=281,slow=2.7,SNR=11
BOSA SKKPbc SKKPbc 06 45 35.5 +5.6
comp=Z,23nm,1.0s,baz=289,slow=2.6,SNR=4.8
BOSA PKPPKP **P'P'df 06 51 03.9 +0.6**
comp=Z,4.1nm,0.8s,baz=352,slow=4.8,SNR=3.0
comp=Z,7.9nm,0.6s
BOSA Boshof 98.51 242 ⇑P Pdif 06 26 20.9 -0.1
BOSA Boshof 98.51 242 *i* P Pdif 06 26 20.4 -0.6
BOSA Boshof 98.51 242 *e*P Pdif 06 26 20.7 -0.3
BOSA IAmb IAmb 06 26 33.2
comp=Z,544nm,2.1s
GCIS Gornji Cirnik 98.53 317 *i* Pdif Pdif 06 26 20.0 -0.6
FBE Freiberg 98.54 323 *e*Pdiff **P 06 26 20.7 +0.2**
baz=72,slow=4.5
FBE *e*pP **pP 06 28 43.6 +7.5**
baz=72,slow=4.6
CKRC Cesky Krumlov 98.57 321 *e*PDIFF **P 06 26 21.3 +0.5**
CKRC *ex* x 06 28 42.2
CKRC *e*SKS **SKSac 06 35 59.6 +0.6**
CKRC *e*PKKP **PKKPdf 06 42 53.9 +3.5**
HOMB Homborsund 98.62 331 *e*Pdif Pdif 06 26 17.4 -3.3
HOMB *e*pP pP 06 28 34.3 -2.0
HOMB *e* 06 33 30.0
HOMB *e*SKSac **SKSac 06 35 57.4 -1.3**
HOMB *i* 06 41 01.7
HOMB *e*SS **SS 06 44 01.2 +0.6**
CLL Collm 98.63 323 *i* Pdif Pdif 06 26 20.1 -0.8
comp=Z,154nm,1.4s
CLL *ex* x 06 27 18.0
CLL *e*pP pP 06 28 37.0 +0.5
comp=Z,286nm,1.6s
CLL *e*sP sP 06 29 37.0 -1.5
CLL *ex* x 06 30 14.0
CLL *e*PP **PP 06 30 32.0 -0.3**
comp=Z,401nm,1.8s
CLL *ex* x 06 31 49.0
comp=Z,102nm,1.3s
CLL *e*pPP 06 32 24.0
CLL *e*PPP PPP 06 32 44.0
comp=Z,699nm,2.5s
CLL *e*sPP 06 33 33.0
CLL *ex* x 06 34 04.0
comp=Z,68nm,1.2s
CLL *e*PPPP 06 34 29.0
CLL *e*SKSac **SKSac 06 35 55.0 -4.1**
CLL *e*SKSacmax 06 36 01.0
CLL *e*Sdif **ScS 06 36 53.0 -3.6**
comp=N,25μm,29.3s
CLL *e*Sdif **ScS 06 36 53.0 -3.6**
comp=E,10μm,31.8s
CLL *e*SP **SP 06 38 25.0 -2.6**
CLL *e*sSKSac sSKSac 06 40 22.0 +5.8
CLL *e*sS sS 06 41 01.0 -0.5
CLL *e*PKKPdf **PKKPdf 06 42 53.0 +2.7**
comp=Z,33nm,1.1s
CLL *e*sPPS 06 43 02.0
CLL *e*SS **SS 06 44 02.0 +0.8**
CLL *e*pPKKPdf 06 45 11.0
CLL *e*SKKPdf **SKKPdf 06 45 25.0 -1.5**
CLL *ex* x 06 45 57.0
CLL *e*PKKSdf PKKSdf 06 46 28.0 +0.8
CLL *e*SSS SSS 06 47 47.0
CLL *e*SSSS 06 51 30.0
CLL *e*SSSSS 06 54 22.0
CLL LmH 11 02 00.0
comp=N,1μm,20.5s
CLL LmH 11 02 00.0
comp=E,900nm,20.8s
CLL LmV 11 04 00.0
comp=Z,2μm,18.4s
CLL Collm 98.63 323 *i* P Pdif 06 26 20.5 -0.4
CLL *e**PP pP 06 28 37.0 +0.5
CLL *e* 06 35 55.0
CLL *e*S **ScS 06 36 53.0 -3.6**
CLL pmax pmax
comp=Z,154nm,1.4s
CLL Collm 98.63 323 *e*Pdiff Pdif 06 26 20.5 -0.4
baz=72,slow=4.5
CLL *e*pP pP 06 28 43.1 +6.6
baz=72,slow=4.6
CRES Cresnjev 98.65 317 *e*P Pdif 06 26 19.6 -1.5
SOKA Soboth 98.71 318 *e*Pdiff Pdif 06 26 20.7 -0.7
comp=Z,33nm,0.8s,SNR=19
SOKA *e*pP pP 06 28 36.4 -0.6
comp=Z,40nm,1.0s
SOKA *e*PP **PP 06 30 32.5 -0.7**
comp=Z,50nm,0.9s
SOKA *e*SKS **SKSac 06 36 00.1 +0.2**
comp=Z,83nm,1.7s
SOKA *e*PKKP **PKKPbc 06 42 46.1 -2.4**
comp=Z,26nm,1.0s
BOJS Bojanci 98.88 317 *e*P Pdif 06 26 21.4 -0.7
MOA Molln 98.88 320 *e*Pdiff Pdif 06 26 20.2 -2.0
comp=Z,171nm,1.1s,SNR=44
MOA *e*pP pP 06 28 36.6 -1.1
comp=Z,84nm,1.2s
MOA *e*PP **PP 06 30 34.2 -0.1**
comp=Z,162nm,1.1s
MOA *e*PKKP **PKKPbc 06 42 45.4 -2.6**
comp=Z,43nm,0.8s
TULEG Thule 98.90 3 *i* P **P 06 26 22.1 +0.5**
TULEG Thule 98.90 3 ⇑P Pdif 06 26 20.8 -0.8
BUFB Buffelsbos 98.93 236 *e*P **P 06 26 22.6 0.0**

BUFB IAmb IAmb 06 26 34.3
comp=Z,147nm,1.3s
KHC Kasperske Hory 98.94 321 *e*PDIFF Pdif 06 26 21.2 -1.2
KHC *ex* x 06 28 44.0
KHC *e*PP **PP 06 30 37.5 +2.7**
KHC *e*SKS **SKSac 06 36 00.8 -0.1**
KHC *e*PKKP **PKKPbc 06 42 44.3 -3.6**
KHC Kasperske Hory 98.94 321 ⇑P Pdif 06 26 22.0 -0.4
KHC ⇑P **P 06 26 22.9 +0.5**
KHC Kasperske Hory 98.94 321 *i* P Pdif 06 26 22.1 -0.3
KHC pmax pmax
comp=Z,88nm,1.0s
GEC2 GERESS Array S 98.95 321 *e*Pdiff Pdif 06 26 22.2 -0.3
baz=72,slow=4.5
GEC2 *e*pP pP 06 28 45.0 +6.9
baz=72,slow=4.6
GEC2 *e*PKKPbc **PKKPdf 06 42 49.8 0.0**
baz=251,slow=2.9
GERES GERESS Array B 98.95 321 P Pdif 06 26 21.1 -1.4
comp=Z,30nm,0.8s,baz=72,slow=8.6,SNR=72
GERES pP pP 06 28 37.7 -0.5
comp=Z,5.5nm,0.8s,baz=79,slow=6.9,SNR=1.4
GERES PP PP 06 30 26.2 -8.7
comp=Z,14nm,0.8s,baz=74,slow=4.9,SNR=2.3
GERES PKKPbc **PKKPbc 06 42 40.9 -7.1**
comp=Z,4.1nm,0.7s,baz=243,slow=1.2,SNR=5.1
GERES SKKPbc SKKPbc 06 45 33.0 +4.1
comp=Z,11nm,0.8s,baz=222,slow=1.8,SNR=7.1
GERES PKPPKP P'P'df 06 51 09.7 +8.4
comp=Z,3.2nm,1.0s,baz=252,slow=1.3,SNR=7.1
comp=Z,30nm,0.8s
MUD Monsted U'grnd 98.98 329 *i* P Pdif 06 26 21.4 -0.8
MUD Monsted U'grnd 98.98 329 ⇑P **P 06 26 22.9 +0.5**
MUD Monsted U'grnd 98.98 329 P **P 06 26 23.0 +0.7**
KROM Kromhout 99.03 236 *e*P **Pdif 06 26 23.3 +0.3**
KROM IAmb IAmb 06 26 34.5
comp=Z,340nm,2.1s
OBKA Obir 99.07 318 *e*Pdiff **Pdif 06 26 22.4 -0.6**
comp=Z,40nm,1.0s,SNR=7.5
OBKA *e*pP **pP 06 28 37.2 -1.6**
comp=Z,57nm,1.4s
OBKA Obir 99.07 318 *e*P **PKKPbc 06 42 45.9 -1.6**
comp=Z,24nm,0.8s
OBKA Obir 99.07 318 *e*P **Pdif 06 26 22.5 -0.6**
ROSN Rosenhof 99.10 236 *e*P **Pdif 06 26 23.4 +0.1**
ROSN IAmb IAmb 06 26 34.9
comp=Z,81nm,1.0s
BLS5 Blasjo 99.13 332 *e*Pdif **Pdif 06 26 22.7 -0.2**
BLS5 *e*pP **pP 06 28 39.0 +0.3**
BLS5 *e*SKSac **SKSac 06 36 01.6 +0.3**
BLS5 *e* 06 41 07.9
BLS5 *e*SS **SS 06 44 05.9 -1.8**
BLS5 IVMs_BB IVMs_BB 07 14 27.9
comp=Z,6μm,15.2s
GRAF Camdeboo Natio 99.16 238 *e*P **Pdif 06 26 25.0 +1.2**
GRAF IAmb IAmb 06 26 37.8
comp=Z,72nm,0.9s
SUE Sulen 99.17 334 *e*Pdif **Pdif 06 26 21.3 -1.7**
SUE *e*pP **pP 06 28 38.8 +0.1**
SUE *e*SKSac **SKSac 06 35 59.4 -1.9**
SUE *e* 06 41 03.6
SUE *e*SS **SS 06 44 12.5 +4.4**
LJU Ljubljana 99.22 318 *e*Pdiff **Pdif 06 26 22.8 -0.9**
LJU *e* 06 30 44.8
LJU *e* 06 32 32.5
LJU *e*SKSac **SKSac 06 36 00.1 -2.2**
LJU *e*Sdiff **ScS 06 37 00.4 -1.5**
LJU *e*sS **sS 06 41 03.6 -3.3**
LJU *e* 06 44 23.5
BER Bergen 99.22 333 *e*pP **pP 06 28 38.2 -0.8**
BER *e*SKSac **SKSac 06 35 59.8 -1.8**
BER *e*SS **SS 06 44 11.9 +3.1**
TANN Tannenbergstha 99.24 323 *e*Pdiff **Pdif 06 26 23.6 -0.1**
baz=72,slow=4.5
TANN *e*pP **pP 06 28 46.4 +7.0**
baz=72,slow=4.6
TANN *e*PKKPbc **PKKPdf 06 42 49.5 +0.3**
baz=251,slow=2.9
BSEG Bad Segeberg 99.30 326 P **Pdif 06 26 23.8 +0.1**
BSEG pmax pmax
comp=Z,248nm,0.9s
BSEG Bad Segeberg 99.30 326 *e*Pdiff **Pdif 06 26 24.2 +0.4**
baz=72,slow=4.5
BSEG *e*pP **pP 06 28 47.2 +7.7**
baz=72,slow=4.6
BSEG *e*PKKPbc **PKKPdf 06 42 48.8 -0.2**
baz=251,slow=2.9
NKC Novy Kostel 99.30 322 *e*PDIFF **Pdif 06 26 23.5 -0.4**
NKC *ex* x 06 28 44.5
NKC *e*PKKP **PKKPbc 06 42 43.8 -3.1**
NKC Novy Kostel 99.30 322 *e*P **Pdif 06 26 23.5 -0.4**
GBAS Gorenja Brezov 99.31 318 *e*Pdiff **Pdif 06 26 23.8 -0.2**
WERD Werda 99.32 323 *e*Pdiff **Pdif 06 26 23.9 -0.1**
baz=72,slow=4.5
WERD *e*pP **pP 06 28 46.8 +7.1**
baz=72,slow=4.6
WERD *e*PKKPbc **PKKPdf 06 42 49.1 0.0**
baz=251,slow=2.9
WERN Wernitzgruen 99.33 322 *e*Pdiff **Pdif 06 26 24.2 +0.1**
baz=72,slow=4.5
WERN *e*pP **pP 06 28 46.9 +7.1**
baz=72,slow=4.6
WERN *e*PKKPbc **PKKPdf 06 42 49.2 +0.1**
baz=251,slow=2.9
BIOA Bad Ischl, Aus 99.33 320 *i* Pdiff **Pdif 06 26 22.0 -2.2**
comp=Z,48nm,1.1s,SNR=10.0
BIOA *e*PP **PP 06 30 37.0 -0.7**
comp=Z,80nm,1.4s
BIOA *e*SKS **SKSac 06 36 03.4 +0.6**
comp=Z,63nm,1.1s
BIOA *e*PKKP **PKKPbc 06 42 45.5 -1.3**
comp=Z,40nm,0.6s
GUNZ Gunzen 99.33 322 *e*Pdiff **Pdif 06 26 24.2 +0.1**
baz=72,slow=4.5
GUNZ *e*pP **pP 06 28 46.9 +7.2**
baz=72,slow=4.6
GUNZ *e*PKKPbc **PKKPdf 06 42 49.2 +0.1**
baz=251,slow=2.9
FLTG Flechtingen 99.33 325 *e*Pdiff **Pdif 06 26 23.5 -0.4**
baz=72,slow=4.5
FLTG *e*pP **pP 06 28 46.6 +6.9**
baz=72,slow=4.6
MRVN Minervino Murg 99.35 313 ⇑P **Pdif 06 26 23.7 -0.7**
CEY Cerknica 99.37 318 *e*P **Pdif 06 26 23.0 -1.4**
TIP Timpagrande 99.38 311 ⇓P **Pdif 06 26 23.8 -0.8**
NEUB Neuenburg 99.39 323 *e*Pdiff **Pdif 06 26 24.3 0.0**
baz=72,slow=4.5
NEUB *e*pP **pP 06 28 46.9 +6.9**
baz=72,slow=4.6
JAVS Javornik 99.57 318 *e*Pdiff **Pdif 06 26 24.3 -1.0**
JAVS *e*pP **pP 06 28 39.4 -1.7**
MANZ Manzenberg 99.59 322 *e*Pdiff **Pdif 06 26 25.4 +0.2**
baz=72,slow=4.5
MANZ *e*pP **pP 06 28 48.1 +7.1**
baz=72,slow=4.6
MANZ *e*PKKPbc **PKKPdf 06 42 48.4 -0.2**
baz=251,slow=2.9
ROTZ Rotzenmuhle 99.60 322 *e*Pdiff **Pdif 06 26 25.5 +0.3**
baz=72,slow=4.5
ROTZ *e*pP **pP 06 28 48.2 +7.2**
baz=72,slow=4.6
MYKA Terra Mystica 99.64 319 *i* Pdiff **Pdif 06 26 23.0 -2.6**
comp=Z,26nm,0.7s,SNR=7.3
MYKA *e*pP **pP 06 28 39.1 -2.2**
comp=Z,24nm,1.0s
MYKA Terra Mystica 99.64 319 *i* P **PKKPbc 06 42 45.5 -0.4**
comp=Z,36nm,0.6s
MOX Moxa 99.67 323 P **Pdif 06 26 25.1 -0.5**
MOX pmax pmax
comp=Z,84nm,1.7s
MOX Moxa 99.67 323 *e*Pdiff **Pdif 06 26 25.5 0.0**
baz=72,slow=4.5
MOX *e*pP **pP 06 28 48.1 +6.8**
baz=72,slow=4.6
MOX *e*PKKPbc **PKKPdf 06 42 48.0 -0.3**
baz=251,slow=2.9
KBA Koelnbreinsper 99.70 319 *i* Pdiff **Pdif 06 26 24.6 -1.4**
comp=Z,31nm,0.9s,SNR=10.0
KBA *e*SKS **SKSac 06 36 05.2 +0.3**
comp=Z,133nm,1.2s
KBA *i* PKKP **PKKPbc 06 42 45.1 -0.8**
comp=Z,26nm,0.6s
KBA *e*SKKP **SKKPbc 06 45 23.9 -3.1**
comp=Z,20nm,1.3s
KBA *i* P'P' **P'P'df 06 50 57.1 -3.1**
comp=Z,17nm,1.6s

KBA Koelnbreinsper 99.70 319 ⇑P **Pdif 06 26 25.4 -0.6**
KBA Koelnbreinsper 99.70 319 P **Pdif 06 26 25.6 -0.4**
KBA pmax pmax
comp=Z,47nm,1.1s
SKDS Skadanscina 99.70 317 *e*P **Pdif 06 26 24.3 -1.5**
ASSE Asse, Remlinge 99.73 325 *e*Pdiff **Pdif 06 26 26.1 +0.4**
baz=72,slow=4.5
ASSE *e*pP **pP 06 28 48.6 +7.2**
baz=72,slow=4.6
BFON Badsfontein, M 99.85 239 *e*P **Pdif 06 26 28.0 +1.1**
BFON IAmb IAmb 06 26 38.5
comp=Z,66nm,0.8s
PTCC Patocco-Chiusa 99.89 318 ⇑P **Pdif 06 26 26.4 -0.3**
NRDL Niedersach Rie 99.93 325 *e*Pdiff **Pdif 06 26 27.4 +0.9**
baz=72,slow=4.5
NRDL *e*pP pP 06 28 50.2 +8.0
baz=72,slow=4.6
ROOI Rooidraai Farm 99.95 238 *e*P **Pdif 06 26 26.9 -0.4**
CLZ Clausthal 100.00 324 *e*Pdiff **Pdif 06 26 27.5 +0.5**
baz=72,slow=4.5
CLZ *e*pP pP 06 28 50.1 +7.4
baz=72,slow=4.6
GRF Grafenberg Arr 100.23 322 P **Pdif 06 26 28.5 +0.4**
GRF pmax pmax
comp=Z,67nm,0.8s
GRF Grafenberg Arr 100.23 322 *e*Pdiff **Pdif 06 26 28.3 +0.3**
baz=72,slow=4.5
GRF *e*pP pP 06 28 51.0 +7.2
baz=72,slow=4.6
GRF *e*PKKPbc **PKKPdf 06 42 46.6 -0.8**
baz=251,slow=2.9
RETH Rethem/Aller, 100.26 325 *e*Pdiff **Pdif 06 26 28.5 +0.4**
baz=72,slow=4.5
RETH *e*pP pP 06 28 51.5 +7.7
baz=72,slow=4.6
GTTG Gottingen 100.34 324 *e*Pdiff **Pdif 06 26 28.8 +0.3**
baz=72,slow=4.5
GTTG *e*pP pP 06 28 51.8 +7.5
baz=72,slow=4.6
ABTA Abfaltersbach 100.35 319 *e*Pdiff **Pdif 06 26 27.1 -1.7**
comp=Z,36nm,0.9s,SNR=12
ABTA *e*pP **pPdif 06 28 42.6 -1.8**
comp=Z,50nm,1.4s
ABTA Abfaltersbach 100.35 319 *e*P **PKKPbc 06 42 42.9 -1.0**
comp=Z,74nm,1.4s
BRAK Brakfontein 100.53 239 *e*P **Pdif 06 26 30.3 +0.4**
YKA Yellowknife Ar 100.56 23 P **Pdif 06 26 28.8 -0.4**
comp=Z,8.7nm,0.8s,baz=302,slow=4.5,SNR=42
YKA pP pP 06 28 45.0 +1.5
comp=Z,14nm,0.9s,baz=297,slow=4.8,SNR=2.3
YKA PP **PKiKP 06 30 49.2 -2.1**
comp=Z,22nm,0.9s,baz=303,slow=6.5,SNR=3.8
YKA SKiKP **SKiKP 06 33 27.9 -0.1**
comp=Z,7.4nm,0.8s,baz=305,slow=2.0,SNR=3.0
YKA S **SKSac 06 36 13.5 +5.5**
comp=Z,21nm,1.1s,baz=306,slow=5.2,SNR=4.4
YKA PKPPKP **P'P'df 06 51 02.5 +5.3**
comp=Z,1.2nm,0.7s,baz=113,slow=2.0,SNR=5.6
FUR Furstenfeldbru 100.69 321 P **Pdif 06 26 30.9 +0.7**
FUR pmax pmax
comp=Z,73nm,0.9s
FUR Furstenfeldbru 100.69 321 *e*Pdiff **Pdif 06 26 30.0 -0.2**
baz=72,slow=4.5
FUR *e*pP pP 06 28 52.9 +6.9
baz=72,slow=4.6
FUR *e*PKKPbc **PKKPdf 06 42 44.9 -1.6**
baz=251,slow=2.9
WTTA Wattenberg 100.75 320 *i* Pdiff **Pdif 06 26 29.6 -1.1**
comp=Z,64nm,0.7s,SNR=27
WTTA *e*pP **pPdif 06 28 45.2 -1.1**
comp=Z,139nm,1.4s
WTTA *e*SKS **SKSac 06 36 10.0 0.0**
comp=Z,144nm,0.9s
WTTA Wattenberg 100.75 320 *e*P **PKKPbc 06 42 45.3 +2.3**
comp=Z,49nm,1.3s
WTTA Wattenberg 100.75 320 P **Pdif 06 26 29.5 -1.1**
WTTA pmax pmax
comp=Z,112nm,1.3s
WATA Walderalm 100.77 320 *e*Pdiff **Pdif 06 26 29.5 -1.2**
comp=Z,117nm,1.8s,SNR=20
WATA *e*pP **pPdif 06 28 44.7 -1.6**
comp=Z,103nm,1.1s
WATA *i* PKKP **PKKPbc 06 42 43.6 +0.7**
comp=Z,19nm,0.6s
NVL N'lazarevskaya 100.90 198 ⇑ *i* P **Pdif 06 26 39.8 +9.3**
NVL *e* 06 30 47.2
NVL *i* S **SKSac 06 36 15.9 +6.7**
NVL *e**SS **pS 06 40 13.5 +3.9**
NVL *e*SS SS 06 44 44.8 +13
NVL pmax pmax
comp=Z,32nm,0.8s
SQTA Sankt Quirin 101.04 320 *i* Pdiff **Pdif 06 26 30.7 -1.2**
comp=Z,50nm,0.7s,SNR=23
SQTA *e*pPdiff **pPdif 06 28 44.0 -3.4**
comp=Z,104nm,1.3s
SQTA *e*PP **PP 06 30 48.5 -2.0**
comp=Z,136nm,1.3s
SQTA *e*SKS **SKSac 06 36 11.4 +0.1**
comp=Z,356nm,1.5s
SQTA *i* PKKP **PKKPdf 06 42 45.4 -0.6**
comp=Z,71nm,0.8s
SQTA *i* SKKP **SKKPbc 06 45 21.6 -1.9**
comp=Z,33nm,1.0s
MOTA Moosalm 101.07 320 *e*Pdiff **Pdif 06 26 30.6 -1.4**
comp=Z,55nm,0.8s,SNR=16
MOTA *e*pPdiff **pPdif 06 28 45.1 -2.5**
comp=Z,73nm,1.0s
MOTA *i* PKKP **PKKPbc 06 42 43.6 +1.5**
comp=Z,88nm,0.8s
GRAN Grantham 101.13 238 *e*P **Pdif 06 26 33.2 +0.7**
KULLO Kullorsuaq 101.13 360 *i* P **Pdif 06 26 31.2 -0.3**
RETA Reutte 101.24 320 *i* Pdiff **Pdif 06 26 31.4 -1.3**
comp=Z,36nm,1.4s
RETA *e*pPdiff **pPdif 06 28 46.0 -2.3**
comp=Z,41nm,1.4s
RETA Reutte 101.24 320 *e*P **PKKPbc 06 42 41.2 -0.3**
comp=Z,37nm,1.1s
IBBN Ibbenburen 101.33 325 *e*Pdiff **Pdif 06 26 33.4 +0.5**
baz=72,slow=4.5
IBBN *e*pP pP 06 28 56.7 +8.0
baz=72,slow=4.6
KASTN Kahler Asten 101.37 324 *e*Pdiff **Pdif 06 26 33.5 +0.4**
baz=72,slow=4.5
KASTN *e*pP pP 06 28 56.5 +7.6
baz=72,slow=4.6
FETA Feichten 101.42 320 *e*Pdiff **Pdif 06 26 32.9 -0.7**
comp=Z,40nm,0.9s,SNR=18
FETA *e*pPdiff **pPdif 06 28 47.6 -1.6**
comp=Z,69nm,1.1s
FETA *e*PP **PP 06 30 50.8 -2.5**
comp=Z,86nm,1.3s
FETA *e*SKS **SKSac 06 36 12.8 -0.3**
comp=Z,170nm,1.1s
FETA *i* PKKP **PKKPbc 06 42 41.0 0.0**
comp=Z,73nm,1.4s
FETA *e*SKKP **SKKPbc 06 45 21.0 -1.6**
comp=Z,28nm,0.9s
FETA *e*P'P' **P'P'df 06 50 55.9 -0.9**
comp=Z,26nm,1.6s
VAE Valguarnera 101.58 309 SKKPbc SKKPbc 06 45 20.9 -0.7
comp=Z,15nm,0.9s,baz=146,slow=6.7,SNR=3.1
SCO Scoresbysund 101.59 349 *i* P **Pdif 06 26 33.8 +0.2**
SCO Scoresbysund 101.59 349 ⇑P **Pdif 06 26 36.0 +2.4**
SCO Scoresbysund 101.59 349 P **Pdif 06 26 36.6 +3.0**
SCO pmax pmax
comp=Z,87nm,2.8s
UBR Ueberruh 101.60 320 *e*Pdiff **Pdif 06 26 33.7 -0.6**
baz=72,slow=4.5
UBR *e*pP pP 06 28 56.5 +6.5
baz=72,slow=4.6
MERW Merweville 101.66 238 *e*P **Pdif 06 26 36.1 +1.1**
TNS Taunus Mts 101.72 323 P **Pdif 06 26 35.3 +0.6**
TNS pmax pmax
comp=Z,46nm,1.6s
TNS Taunus Mts 101.72 323 *e*Pdiff **Pdif 06 26 35.0 +0.3**
baz=72,slow=4.5
FRAZ Fraserburg 101.79 238 *e*P **Pdif 06 26 38.0 +2.4**
STU Stuttgart 101.79 322 P **Pdif 06 26 36.3 +1.3**
STU pmax pmax
comp=Z,76nm,1.0s
STU Stuttgart 101.79 322 *e*Pdiff **Pdif 06 26 34.9 -0.1**
baz=72,slow=4.5
STU *e*pP pP 06 28 57.8 +7.0
baz=72,slow=4.6
STU *e*PKKPbc **PKKPbc 06 42 42.0 +2.1**
baz=251,slow=2.9
DAVA Damuels 101.88 320 *e*Pdiff **Pdif 06 26 35.1 -0.5**

comp=Z,49nm,1.4s
DAVA *i* pPdiff **pPdif** 06 28 49.8 -1.4
comp=Z,37nm,1.1s
DAVA Damuels 101.88 320 ⇓P **Pdif** 06 26 36.1 +0.4
DAVA ⇑P **Pdif** 06 26 37.4 +1.8
BUG Bochum--Univer 101.95 325 P **Pdif** 06 26 36.6 +1.0
BUG pmax pmax
comp=Z,63nm,0.9s
BUG Bochum--Univer 101.95 325 *e*Pdiff **Pdif** 06 26 35.8 +0.2
baz=72,slow=4.5
UPI Upington 102.03 242 *e*P **Pdif** 06 26 36.1 -0.5
DAVOX Davos/Dischmat 102.05 320 S **SKSac** 06 36 16.9 +0.8
comp=Z,49nm,0.9s,baz=182,slow=22,SNR=8.6
DAVOX PKKPbc PKKPbc 06 42 46.7 +7.4
comp=Z,18nm,0.7s,baz=198,slow=12,SNR=6.1
DAVOX SKKPbc **SKKPbc** 06 45 24.9 +3.9
comp=Z,19nm,1.0s,baz=52,slow=3.4,SNR=4.3
SUMG Summit 102.19 354 *i* P **Pdif** 06 26 40.4 +3.6
KEIM Keimoes 102.27 242 *e*P **Pdif** 06 26 39.0 +1.4
SUR Sutherland 102.27 238 pP 06 29 00.7
comp=Z,36nm,0.9s,baz=124,slow=3.8,SNR=3.7
SUR PP **PKiKP** 06 30 53.0 -2.6
comp=Z,83nm,1.0s,baz=111,slow=7.0,SNR=4.6
SUR Sutherland 102.27 238 ⇑P **Pdif** 06 26 48.5 +11
NLWA Neilton Lookou 102.40 40 ⇓P **Pdif** 06 26 39.3 +1.5
MATJ Matjiesfontein 102.43 237 *e*P **Pdif** 06 26 41.6 +3.3
BFO Black Forest 102.48 321 ⇓P **Pdif** 06 26 38.6 +0.4
BFO Black Forest 102.48 321 P **Pdif** 06 26 37.0 -1.2
BFO pmax pmax
comp=Z,30nm,1.3s
BFO Black Forest 102.48 321 *e*Pdiff **Pdif** 06 26 37.6 -0.5
baz=72,slow=4.5
BFO *e*PKKPbc **PKKPbc** 06 42 39.8 +1.9
baz=251,slow=2.9
SLE Schleitheim 102.59 321 P **Pdif** 06 26 38.3 -0.3
SLE pmax pmax
comp=Z,17nm,0.8s
AUGR Augrabies 102.83 242 *e*P **Pdif** 06 26 42.7 +2.6
UPNV Upernavik 102.94 360 *e*P **Pdif** 06 26 39.7 +0.2
BTNL Ternell 102.95 324 *d*Pdif **Pdif** 06 26 41.6 +1.5
MEM Membach 103.01 324 P **Pdif** 06 26 42.8 +2.4
MEM pmax pmax
comp=Z,54nm,1.0s
MEM Membach 103.01 324 *d*Pdif **Pdif** 06 26 42.2 +1.8
ELIM Elim 103.04 236 *e*P **Pdif** 06 26 44.3 +3.4
CDF Champ du Feu 103.11 322 *e*P **Pdif** 06 26 40.2 -0.8
CDF pmax pmax
comp=Z,48nm,1.0s
BHOU Houvegnez 103.11 324 *d*Pdif **Pdif** 06 26 42.7 +1.8
BEBN Eben Emael 103.13 324 *d*Pdif **Pdif** 06 26 43.8 +3.0
TROLL Troll, Antarti 103.16 196 Pdiff **Pdif** 06 26 43.3 +2.5
RKT Rikitea 103.17 113 *e*P **Pdif** 06 26 42.6 +0.9
RKT *ep*P **sPdif** 06 28 54.8 -1.0
RKT *es*P **sPdif** 06 29 55.2 -1.8
ECH Echery 103.25 322 ⇑P **Pdif** 06 26 41.9 +0.3
ECH Echery 103.25 322 P **Pdif** 06 26 42.3 +0.7
ECH pmax pmax
comp=Z,149nm,1.2s
BSTI Sart Tilman 103.28 324 *d*Pdif **Pdif** 06 26 43.1 +1.6
WLF Walferdange 103.30 323 *d*Pdif **Pdif** 06 26 43.8 +2.1
WLF Walferdange 103.30 323 *e*Pdiff **Pdif** 06 26 42.4 +0.7
baz=72,slow=4.5
ARMS Ukamas 103.38 242 *e*P **Pdif** 06 26 44.6 +2.0
CER Ceres 103.50 237 *e*P **Pdif** 06 26 44.1 +1.2
BCLA Clavier 103.50 324 *d*Pdif **Pdif** 06 26 44.8 +2.2
HINF Hinteralfeld 103.60 321 *e*P **Pdif** 06 26 43.9 +0.8
HINF pmax pmax
comp=Z,13nm,0.8s
BGES Gesves 103.64 324 *d*Pdif **Pdif** 06 26 45.7 +2.5
RCHB Rochefort 103.65 324 *d*Pdif **Pdif** 06 26 44.3 +1.1
HAU Haudompre 103.84 322 *e*P **Pdif** 06 26 47.7 +3.5
HAU pmax pmax
comp=Z,61nm,1.5s
BMRD Maredsous 103.86 324 *d*Pdif **Pdif** 06 26 45.8 +1.7
GIVF Givet 103.91 324 *e*P **Pdif** 06 26 46.2 +1.8
GIVF pmax pmax
comp=Z,35nm,1.1s
MONC Moncucco Torin 103.92 318 ⇑P **Pdif** 06 26 45.4 +0.8
DOU Dourbes 104.05 324 *d*Pdif **Pdif** 06 26 47.3 +2.3
NUUG Nuugaatsiaq 104.14 359 *e*P **Pdif** 06 26 46.0 +1.0
BIGH Upper Bighouse 104.25 334 *e*P **Pdif** 06 26 48.0 +2.3
PNT Penticton 104.28 37 ⇓P **Pdif** 06 26 47.8 +1.6
PNT ⇓P **Pdif** 06 26 50.2 +4.1
PNT ⇓P **Pdif** 06 26 51.6 +5.5
BAIF Baives 104.29 324 *e*P **Pdif** 06 26 47.9 +1.8
BAIF pmax pmax
comp=Z,26nm,1.0s
MCD Coleburn Disti 104.47 333 *e*P **Pdif** 06 26 47.5 +0.7
DRUM Mains of Drumt 104.49 332 *e*P **Pdif** 06 26 47.3 +0.6
CABF La Chapelle 104.54 320 *e*P **Pdif** 06 26 48.4 +1.0
CABF pmax pmax
comp=Z,87nm,1.7s
LPL La Plagne 104.54 319 *e*P **Pdif** 06 26 47.9 +0.3
LPL pmax pmax
comp=Z,35nm,1.0s
SBF Sospel 104.68 317 *e*P **Pdif** 06 26 50.4 +2.3
SBF pmax pmax
comp=Z,15nm,0.7s
BNI Bardonecchia 104.75 319 P **Pdif** 06 26 50.7 +2.2
BNI pmax pmax
comp=Z,33nm,1.0s
SNAA Sanae 104.79 195 Pdiff **Pdif** 06 26 49.3 +1.4
SNAA Sanae 104.79 195 Pdiff **Pdif** 06 26 50.2 +2.3
comp=Z,9.1nm,0.5s,baz=211,slow=5.6,SNR=49
SNAA PP **PP** 06 31 17.1 -0.2
comp=Z,48nm,1.0s,baz=126,slow=7.6,SNR=5.4
SNAA PKKPbc **PKKPbc** 06 42 30.1 -1.6
comp=Z,6.3nm,0.4s,baz=217,slow=9.5,SNR=7.5
SNAA SKKPbc SKKPbc 06 45 15.6 +0.2
comp=Z,17nm,0.7s,baz=293,slow=10,SNR=7.3
SNAA Sanae 104.79 195 *e*P **Pdif** 06 26 47.9 0.0
KOMG Komaggas 105.27 240 *e*P **Pdif** 06 26 52.6 +1.7
ORIF Oris-en-Rattie 105.33 319 *e*P **Pdif** 06 26 51.0 0.0
ORIF pmax pmax
comp=Z,18nm,0.7s
EBL Broad Law 105.36 332 *e*P **Pdif** 06 26 51.4 +0.6
HAWA Hanford 105.53 39 ⇓P **Pdif** 06 26 56.9 +5.2
TSUM Tsumeb 105.58 251 PP **PP** 06 31 23.7 -1.1
comp=Z,17nm,0.8s,baz=88,slow=4.8,SNR=3.5
TSUM PKKPbc **PKKPdf** 06 42 33.5 -4.0
comp=Z,13nm,1.0s,baz=332,slow=0.5,SNR=4.9
TSUM Tsumeb 105.58 251 *e*P **Pdif** 06 26 52.0 -0.6
EKA Eskdalemuir Ar 105.66 331 P **Pdif** 06 26 53.0 +1.0
LOR Lormes 105.67 322 P **Pdif** 06 26 51.4 -0.9
SMF Signal de Mont 105.94 321 *e*P **Pdif** 06 26 54.6 +1.0
SMF pmax pmax
comp=Z,9.0nm,0.6s
WIN Windhoek 105.96 248 *e*P **Pdif** 06 26 54.6 +0.3
SSF Saint Saulge 105.98 322 *e*P **Pdif** 06 26 54.9 +1.2
SSF pmax pmax
comp=Z,24nm,1.2s
BORG Borgarnes 106.05 345 PP **PP** 06 31 30.8 +4.7
comp=Z,45nm,0.9s,baz=57,slow=4.7,SNR=5.2
SSB Saint Sauveur 106.06 320 ⇑P **Pdif** 06 26 55.0 +0.9
VIVF Saint-Julien-l 106.14 319 *e*P **Pdif** 06 26 55.4 +0.9
VIVF pmax pmax
comp=Z,18nm,0.8s
AVF Avril sur Loir 106.19 321 *e*P **Pdif** 06 26 55.7 +1.1
AVF pmax pmax
comp=Z,17nm,1.0s
ILULI Ilulissat 106.40 358 *i* P **PKiKP** 06 31 02.8 +0.9
VNA2 Neumayer--Watz 106.42 195 PKKPdf **PKKPab** 06 42 49.4 +5.8
baz=321,slow=5.0
VNA2 Neumayer--Watz 106.42 195 Pdiff **Pdif** 06 26 56.6 +1.5
baz=122,slow=5.0
AUSN Aus 106.53 244 *e*P **Pdif** 06 26 57.4 +0.6
VNA3 Neumayer Olymp 106.81 194 PKKPdf **PKKPab** 06 42 47.8 +5.9
VNA3 Neumayer Olymp 106.81 194 Pdiff **Pdif** 06 26 59.0 +2.1
VNA1 Neumayer--Stat 106.82 195 PKKPdf **PKKPab** 06 42 48.2 +6.5
HLM1 Long Mynd 107.03 329 *e*P **Pdif** 06 26 57.7 -0.5
TCF Toulx Ste Croi 107.12 321 *e*P **Pdif** 06 27 03.1 +4.3
TCF pmax pmax
comp=Z,24nm,1.2s
WVOR Wild Horse Val 107.71 43 ⇑P **Pdif** 06 27 02.3 +0.6
WVOR Wild Horse Val 107.71 43 P **Pdif** 06 27 03.3 +1.6
CAF Calviac 107.80 320 *e*P **Pdif** 06 27 05.3 +3.4
CAF pmax pmax
comp=Z,11nm,0.8s
RJF Les Rejaudoux 107.98 321 *e*P **Pdif** 06 27 06.6 +3.9
RJF pmax pmax
comp=Z,97nm,1.6s
MTLF Montolieu 108.38 318 *e*P **Pdif** 06 27 07.3 +2.9
MTLF pmax pmax
comp=Z,92nm,1.8s
MFF Saint Martin d 108.43 322 *e*P **Pdif** 06 27 06.2 +1.6
MFF pmax pmax
comp=Z,46nm,1.3s
SFJD Kangerlussuaq 108.59 357 *i* P **Pdif** 06 27 06.3 +1.5
SFJD Kangerlussuaq 108.59 357 *i* P **PKiKP** 06 31 06.1 +0.1
ANGG Ammassalik, Gr 108.66 351 *i* P **PKiKP** 06 31 07.0 +0.8
MSO Missoula 108.80 37 PKiKP **PKiKP** 06 31 06.7 -0.5
baz=299
DY2G Dye2 108.82 355 *i* P **Pdif** 06 27 08.3 +2.1
DY2G Dye2 108.82 355 *i* P **PKiKP** 06 31 06.6 -0.3
SET Setif 108.86 310 P PP 06 32 02.0 +15
ISOG Tortoq, Green 108.92 352 *i* P **PKiKP** 06 31 04.5 -2.2
SGMF Saint Gilles 109.06 325 *e*P **Pdif** 06 27 11.9 +4.6
SGMF pmax pmax
comp=Z,92nm,1.5s
SMMC Simmler 109.38 50 PKiKP **PKiKP** 06 31 08.2 -0.3
baz=290
MLAC Mammoth, Mammt 109.42 48 PKiKP **PKiKP** 06 31 08.0 -0.8
baz=292
ROSF Rostrenen 109.43 325 *e*P **Pdif** 06 27 13.5 +4.5
ROSF pmax pmax
comp=Z,155nm,1.8s
VOG Valley Oaks Go 109.49 49 PKiKP **PKiKP** 06 31 08.4 -0.2
baz=291
NVAR Mina Array Bea 109.51 47 Pdiff **Pdif** 06 27 10.1 +0.2
comp=Z,8.3nm,0.7s,baz=282,slow=4.4,SNR=19
NVAR PKiKP **PKiKP** 06 31 09.8 +0.8
comp=Z,28nm,0.8s,baz=242,slow=2.2,SNR=10
NVAR PP **PP** 06 31 47.3 -4.8
comp=Z,30nm,0.8s,baz=271,slow=5.0,SNR=3.5
NVAR SKKPbc SKKPbc 06 45 02.9 +2.5
comp=Z,13nm,0.8s,baz=119,slow=4.2,SNR=5.0
PKM Mcpherson Peak 109.66 51 PKiKP **PKiKP** 06 31 08.4 -0.9
baz=290
VES Vestal, Richgr 109.89 49 PKiKP **PKiKP** 06 31 09.2 -0.3
baz=291
SBC Santa Barbara 109.89 51 PKiKP **PKiKP** 06 31 08.5 -1.0
baz=290
HLID Hailey 110.03 40 PKiKP **PKiKP** 06 31 09.3 -0.5
baz=297
TIN Tinemaha, Big 110.08 48 PKiKP **PKiKP** 06 31 10.1 +0.2
baz=292
SCZ2 Santa Cruz Isl 110.11 52 PKiKP **PKiKP** 06 31 09.4 -0.6
baz=290
ARVC Arvin 110.33 50 PKiKP **PKiKP** 06 31 10.0 -0.3
baz=291
ISA Isabella, Lake 110.41 49 PKiKP **PKiKP** 06 31 09.6 -1.0
baz=292
SNCC San Nicolas Is 110.45 52 PKiKP **PKiKP** 06 31 10.4 -0.2
baz=290
OSI Osito Audit: C 110.60 51 PKiKP **PKiKP** 06 31 10.6 -0.3
baz=291
EGMT Eagleton 110.64 35 PKiKP **PKiKP** 06 31 09.8 -0.8
baz=303
GRAC Grapevine Rang 110.74 48 PKiKP **PKiKP** 06 31 10.0 -1.1
baz=293
BOZ Bozeman (W) 110.80 38 PKiKP **PKiKP** 06 31 10.8 -0.3
baz=300
MPMC Manual Prospec 111.01 49 PKiKP **PKiKP** 06 31 11.6 -0.2
baz=292
DECC Green Verdugo 111.03 51 PKiKP **PKiKP** 06 31 11.3 -0.4
baz=291
EDW2 Edwards Air Fo 111.06 50 PKiKP **PKiKP** 06 31 11.7 0.0
baz=292
LRMC Laurel Mtn Rad 111.08 49 PKiKP **PKiKP** 06 31 12.8 +0.9
baz=292
FMP Fort Macarthur 111.25 51 PKiKP **PKiKP** 06 31 12.3 +0.3
baz=291
CIS Catalina Islan 111.27 52 PKiKP **PKiKP** 06 31 11.9 -0.3
baz=291
FURC Furnace Creek, 111.32 48 PKiKP **PKiKP** 06 31 11.9 -0.2
baz=293
R11A Troy Canyon, C 111.50 46 PKiKP **PKiKP** 06 31 12.5 -0.1
baz=295
BFSC Mount Baldy Ra 111.56 51 PKiKP **PKiKP** 06 31 12.4 -0.5
baz=292
TPNV Topopah Spring 111.58 47 PKiKP **PKiKP** 06 31 13.5 +0.6
baz=294
GSC Goldstone, Bar 111.81 49 PKiKP **PKiKP** 06 31 12.9 -0.4
baz=293
RRX Edison Barstow 111.83 50 PKiKP **PKiKP** 06 31 13.2 0.0
baz=292
H17A Grant Village 112.05 38 PKiKP **PKiKP** 06 31 13.6 -0.1
baz=301
BBRC Big Bear Solar 112.11 50 PKiKP **PKiKP** 06 31 13.7 -0.3
baz=292
MURC Murrieta 112.15 51 PKiKP **PKiKP** 06 31 13.6 -0.3
baz=292
EANR 'Ain N'Sour 112.19 312 P **PKiKP** 06 31 15.0 +1.1
HEC Hector,Ludlow 112.35 50 PKiKP **PKiKP** 06 31 14.0 -0.3
baz=293
TUQ Turquoise Moun 112.42 49 PKiKP **PKiKP** 06 31 13.0 -1.5
baz=293
109C Camp Elliot, M 112.48 52 PKiKP **PKiKP** 06 31 14.2 -0.2
baz=292
DUG Dugway, Tooele 112.63 43 PKiKP **PKiKP** 06 31 14.1 -0.6
baz=297
DUG Dugway, Tooele 112.63 43 P **Pdif** 06 27 25.8 +2.2
PFO Pinyon Flats O 112.71 51 PKKPbc PKKPbc 06 42 06.2 +0.1
comp=Z,12nm,1.0s,baz=125,slow=1.9,SNR=4.8
PFO Pinyon Flats O 112.71 51 PKiKP **PKiKP** 06 31 14.3 -0.7
baz=292
TPFO Pinon Flats 112.72 51 PKiKP **PKiKP** 06 31 14.0 -1.1
baz=292
GMRC Granite Mounta 112.88 49 PKiKP **PKiKP** 06 31 14.1 -1.2
baz=293
BELC Belle Mtn. Jos 112.92 50 PKiKP **PKiKP** 06 31 15.0 -0.5
baz=292
MONP2 Monument Peak 113.01 52 PKiKP **PKiKP** 06 31 15.0 -0.7
baz=292
IKP In-Ko-Pah, Jac 113.35 52 PKiKP **PKiKP** 06 31 15.2 -1.0
baz=292
LAO LASA Array 113.38 34 P **PKiKP** 06 31 16.9 +1.0
baz=305,SNR=20
LAO LASA Array 113.38 34 PKiKP **PKiKP** 06 31 15.7 -0.2
baz=305
DGMT Dagmar 113.42 32 P **PKiKP** 06 31 14.8 -1.0
baz=308
DGMT Dagmar 113.42 32 PKiKP **PKiKP** 06 31 15.5 -0.4
baz=308
BC3 Big Chuckawall 113.47 50 PKiKP **PKiKP** 06 31 15.9 -0.6
baz=293
SWSC Sam W. Stewart 113.48 51 PKiKP **PKiKP** 06 31 16.1 -0.3
baz=293
IRM Iron Mountain 113.51 50 PKiKP **PKiKP** 06 31 16.6 +0.1
baz=293
BW06 Boulder Array 113.52 39 PKiKP **PKiKP** 06 31 17.0 +0.5
baz=301
PDAR Pinedale Array 113.52 39 Pdiff **Pdif** 06 27 30.9 +3.3
comp=Z,5.4nm,0.9s,baz=232,slow=1.7,SNR=6.9
PDAR PKiKP **PKiKP** 06 31 16.8 +0.3
comp=Z,16nm,0.6s,baz=24,slow=4.0,SNR=13
PDAR PP **PP** 06 32 21.9 +1.9
comp=Z,20nm,1.0s,baz=251,slow=4.5,SNR=1.7
PDAR SKiKP **SKiKP** 06 33 52.5 -1.0
comp=Z,6.8nm,0.6s,baz=132,slow=1.3,SNR=1.3
PDAR PKKPbc **PKKPbc** 06 42 01.4 -2.4
comp=Z,8.9nm,0.5s,baz=119,slow=6.5,SNR=26
PDAR SKKPbc SKKPbc 06 44 34.9 -14
comp=Z,8.8nm,0.8s,baz=132,slow=3.7,SNR=3.5
NEE2 Needles Airpor 113.67 49 PKiKP **PKiKP** 06 31 16.9 +0.2
NRS Narsarsuaq 113.95 354 *i* P **PKiKP** 06 31 15.0 -1.4
ESDC Sonseca Array 114.17 317 Pdiff **Pdif** 06 27 34.8 +4.4
comp=Z,1.1nm,0.9s,baz=23,slow=4.8,SNR=4.7
ESDC PKP **PKiKP** 06 31 18.3 +0.7
comp=Z,4.9nm,0.6s,baz=30,slow=2.1,SNR=14
ESDC PP **PP** 06 32 23.6 -0.8
comp=Z,17nm,0.8s,baz=63,slow=5.5,SNR=6.4
ESDC PKKPbc **PKKPbc** 06 42 02.5 +1.1
comp=Z,6.1nm,0.8s,baz=258,slow=3.6,SNR=8.4
ESDC SKKPbc SKKPbc 06 44 50.2 +3.6
comp=Z,21nm,0.9s,baz=266,slow=3.7,SNR=10
IVI Ivigtut 114.18 355 *i* P PKPdf 06 31 15.8 -1.0
GLA Glamis 114.19 51 PKiKP PKPdf 06 31 16.6 -1.2
baz=293
PAB San Pablo 114.49 317 PKPdf 06 31 17.5 -0.7
PAB San Pablo 114.49 317 PKiKP PKPdf 06 31 17.5 -0.7
PBRG Braganca 114.93 320 *e*PKPdf PKPdf 06 31 18.9 -0.1
PBRG Braganca 114.93 320 *e*PP **PP** 06 32 31.8 +2.2
PBRG *i* LQ LQ 06 34 30.6
MVO Moncorvo 115.45 320 *e*PKPdf **PKiKP** 06 31 22.1 +2.1
MVO Moncorvo 115.45 320 *e*PP **PP** 06 32 30.9 -2.3
MVO *i* LQ LQ 06 34 34.3
K22A Casper 115.48 38 P **PKPdf** 06 31 18.9 -1.2
baz=304
K22A Casper 115.48 38 PKiKP **PKPdf** 06 31 19.5 -0.7
baz=304
O20A White River Ci 115.72 41 PKiKP **PKPdf** 06 31 20.4 -0.4
baz=301
WUAZ Wupatki 115.76 47 PKiKP **PKPdf** 06 31 20.2 -0.8
baz=297
PCAB Cabril 115.79 321 *e*PKPdf **PKiKP** 06 31 20.7 +0.1
PCAB Cabril 115.79 321 *e*PP **PP** 06 32 34.6 -0.9
PCAB *i* LQ LQ 06 34 37.6
PGAV Gavieira, Arco 115.80 321 *e*PKPdf **PKiKP** 06 31 20.9 +0.2
PGAV Gavieira, Arco 115.80 321 *e*PP **PP** 06 32 37.5 +1.9
PGAV *i* LQ LQ 06 34 33.6
POLO Lamas de Olo 115.82 320 *e*PKPdf **PKiKP** 06 31 21.2 +0.4
POLO Lamas de Olo 115.82 320 *e*PP PP 06 32 26.9 -8.9
POLO *i* LQ LQ 06 34 36.3
PVRL Vila Real 115.83 320 *e*PKPdf **PKiKP** 06 31 21.2 +0.5
PVRL Vila Real 115.83 320 *e*PP **PP** 06 32 40.1 +4.3
PVRL *i* LQ LQ 06 34 37.8
RSSD Black Hills 116.13 36 P **PKPdf** 06 31 20.3 -1.2
baz=306
RSSD Black Hills 116.13 36 PKiKP **PKPdf** 06 31 20.8 -0.6
baz=306
RSSD Black Hills 116.13 36 PKiKP **PKPdf** 06 31 21.1 -0.3
MTE Manteigas 116.18 319 *e*PKPdf **PKiKP** 06 31 21.8 +0.3
MTE Manteigas 116.18 319 *e*PP **PP** 06 32 32.9 -5.4
MTE *i* LQ LQ 06 34 38.3
MDND Maddock 116.19 30 P **PKPdf** 06 31 20.7 -0.5
baz=312,SNR=50
MDND Maddock 116.19 30 PKiKP **PKiKP** 06 31 21.2 0.0
baz=312
214A Organ Pipe Nat 116.19 51 PKiKP **PKPdf** 06 31 21.6 0.0
baz=294
PVIS Viseu 116.24 320 *e*PKPdf **PKPdf** 06 31 20.7 -0.8
PVIS Viseu 116.24 320 *e*PP **PP** 06 32 40.1 +1.5
ULM Lac du Bonnet 116.28 26 Pdiff **Pdif** 06 27 51.8 +12
comp=Z,3.6nm,0.8s,baz=329,slow=2.7,SNR=4.1
ULM PKP **PKPdf** 06 31 20.2 -1.0
comp=Z,45nm,0.6s,baz=311,slow=0.4,SNR=18
ULM SKP **SKPdf** 06 33 58.0 -0.2
comp=Z,45nm,0.9s,baz=306,slow=5.7,SNR=3.2
ULM PKKPbc **PKKPbc** 06 41 53.0 -1.5
comp=Z,24nm,0.6s,baz=119,slow=2.9,SNR=6.4
ULM SKKP **SKKPdf** 06 44 49.2 -5.0
comp=Z,12nm,0.7s,baz=250,slow=1.4,SNR=3.5
PCBR Castelo Branco 116.43 319 *e*PKPdf **PKiKP** 06 31 22.3 +0.5
PCBR Castelo Branco 116.43 319 *e*PP **PP** 06 32 43.4 +3.5
PCBR *i* LQ LQ 06 34 42.1
E28A Huff 116.46 32 P **PKPdf** 06 31 21.3 -0.5
baz=310,SNR=11
PTO Porto 116.46 321 *e*LQ LQ 06 31 22.3
PTO Porto 116.46 321 *e*PKPdf **PKiKP** 06 31 22.3 +0.4
PTO *i* LQ LQ 06 34 44.2
PTO Porto 116.46 321 *e*PKiKP **PKiKP** 06 31 22.1 +0.2
PMRV Marv??o 116.59 318 *e*PKPdf **PKiKP** 06 31 22.6 +0.4
PMRV Marv??o 116.59 318 *e*PP **PP** 06 32 40.4 -0.6
PMRV *i* LQ LQ 06 34 36.8
N23A Red Feather La 116.80 40 PKiKP **PKPdf** 06 31 22.4 -0.5
baz=303
COI Coimbra 116.84 320 *e*PKPdf **PKiKP** 06 31 25.5 +2.9
COI Coimbra 116.84 320 *e*PP **PP** 06 32 43.0 +0.3
COI *i* LQ LQ 06 34 45.8
COI Coimbra 116.84 320 *e*PKiKP **PKiKP** 06 31 25.5 +2.9
PCAS Casmilo, Conde 116.98 320 *e*PKPdf **PKiKP** 06 31 23.3 +0.4
PCAS Casmilo, Conde 116.98 320 *e*PP **PP** 06 32 45.5 +1.8
PCAS *i* LQ LQ 06 34 48.2
PBAR Barrancos 116.99 317 *e*PKPdf **PKiKP** 06 31 23.4 +0.4
PBAR Barrancos 116.99 317 *e*PP **PP** 06 32 40.5 -3.3
PBAR *i* LQ LQ 06 34 43.6
PESTR Estremoz 117.01 318 *e*PKPdf **PKiKP** 06 31 23.3 +0.3
PESTR Estremoz 117.01 318 *e*PP **PP** 06 32 43.8 -0.1
PESTR *i* LQ LQ 06 34 43.0
PESTR Estremoz 117.01 318 P **PKiKP** 06 31 25.9 +2.9
MVCO Mesa Verde 117.02 44 PKiKP **PKiKP** 06 31 23.4 0.0
baz=300
W18A Petrified Fore 117.13 47 PKiKP **PKiKP** 06 31 23.8 +0.1
baz=298
SFS San Fernando 117.26 315 PKiKP **PKiKP** 06 31 26.3 +2.8
PMTG Montargil 117.33 318 *e*PKPdf **PKPdf** 06 31 23.2 -0.4
PMTG Montargil 117.33 318 *e*PP **PP** 06 32 46.6 +0.6
PMTG *i* LQ LQ 06 34 46.5
PSBE So Bento 117.47 319 *e*PKPdf **PKPdf** 06 31 23.6 -0.3
PSBE So Bento 117.47 319 *e*PP **PP** 06 32 46.9 -0.1
PSBE *i* LQ LQ 06 34 48.2
EVO Evora 117.47 318 *e*PKPdf **PKiKP** 06 31 24.1 +0.2
EVO Evora 117.47 318 *e*PP **PP** 06 32 48.5 +1.5
EVO *i* LQ LQ 06 34 51.1
TUC Tucson 117.60 50 **PKiKP** 06 31 24.8 +0.3
TUC Tucson 117.60 50 PKiKP **PKPdf** 06 31 24.2 -0.3
baz=296
TUC Tucson 117.60 50 PKiKP **PKiKP** 06 31 24.8 +0.3
ISCO Idaho Springs 117.61 40 P **PKPdf** 06 31 24.0 -0.5
baz=303
ISCO Idaho Springs 117.61 40 PKiKP **PKPdf** 06 31 23.9 -0.6
baz=303
ISCO Idaho Springs 117.61 40 PKiKP **PKPdf** 06 31 24.4 -0.1
PBEJ Beja 117.63 317 *e*PKPdf **PKiKP** 06 31 24.7 +0.4
PBEJ Beja 117.63 317 *e*PP **PP** 06 32 47.3 -0.9
PBEJ *i* LQ LQ 06 34 51.5
AGMN Agassiz Nation 117.69 28 PKPdf **PKPdf** 06 31 23.3 -0.7
MDT Midelt 117.78 311 PKKPbc PKKPbc 06 41 52.7 +3.8
comp=Z,12nm,0.6s,baz=287,slow=2.0,SNR=6.0
MDT Midelt 117.78 311 P **PKiKP** 06 31 26.6 +1.7
PVAQ Vaqueiros 117.85 317 *e*PKPdf **PKPdf** 06 31 23.9 -0.7
PVAQ Vaqueiros 117.85 317 *e*PP **PP** 06 32 49.6 -0.1
PVAQ *i* LQ LQ 06 34 49.9
PVAQ Vaqueiros 117.85 317 P **PKiKP** 06 31 27.9 +3.3
PACT Alcochete 117.89 318 *e*PKPdf PKiKP 06 31 46.3 +22
PACT Alcochete 117.89 318 *e*PP **PP** 06 32 54.9 +5.1
PACT *i* LQ LQ 06 33 48.5
S22A 4UR Ranch, Cre 117.89 43 PKiKP **PKPdf** 06 31 24.5 -0.7
baz=301
PCVE Castro Verde 117.95 317 *e*PKPdf **PKiKP** 06 31 25.4 +0.5
PCVE Castro Verde 117.95 317 *e*PP **PP** 06 32 54.3 +4.0
PCVE *i* LQ LQ 06 34 51.6
D32B Dogwood Acres, 117.96 30 P **PKPdf** 06 31 23.1 -1.4
baz=314,SNR=11
PNCL Nicolau / Gran 118.03 318 *e*PKPdf **PKiKP** 06 31 25.4 +0.4
PNCL Nicolau / Gran 118.03 318 *e*PP **PP** 06 32 54.9 +4.0
PNCL *i* LQ LQ 06 34 48.6
ARF Arif 118.08 309 P **PKiKP** 06 31 27.0 +1.5
PMAFR Mafra 118.08 319 *e*PKPdf **PKiKP** 06 31 25.5 +0.4
PMAFR Mafra 118.08 319 *e*PP **PP** 06 32 51.5 +0.3
PMAFR *i* LQ LQ 06 34 53.9
LIS Lisbon 118.13 319 *e*PKPdf **PKiKP** 06 31 26.0 +0.8
LIS *e*PP **PP** 06 32 52.2 +0.8
LIS *e*SKSac **SKSac** 06 37 22.5 +0.8
LIS *e*SS **SS** 06 48 22.9 +3.0
Q24A Divide 118.37 41 PKiKP **PKPdf** 06 31 25.4 -0.7
baz=303
PTEO Sao Teotonio 118.46 317 *e*PKPdf **PKiKP** 06 31 27.8 +1.9
PTEO Sao Teotonio 118.46 317 *e*PP **PP** 06 32 58.3 +4.5
PTEO *i* LQ LQ 06 34 59.2
GOLM Goulmima 118.53 310 P **PKiKP** 06 31 28.0 +1.6
MORF Marmelete 118.54 317 *e*PKPdf **PKiKP** 06 31 26.7 +0.6
MORF *e*PP **PP** 06 32 55.2 +0.9
MORF *e*SKSac **SKSac** 06 37 24.3 +1.0
MORF *e*SS **SKKSdf** 06 48 28.3 +1.4
MORF Marmelete 118.54 317 *e*PKPdf **PKiKP** 06 31 26.8 +0.7
MORF Marmelete 118.54 317 *e*PP **PP** 06 32 57.2 +2.8
MORF *i* LQ LQ 06 34 53.4
MORF Marmelete 118.54 317 *e*PKiKP **PKiKP** 06 31 26.3 +0.2
PFVI Vila Bisbo 118.75 317 *e*PKPdf **PKiKP** 06 31 27.0 +0.6
PFVI Vila Bisbo 118.75 317 *e*PP **PP** 06 32 58.4 +2.7
PFVI *i* LQ LQ 06 35 00.0
SUSD Miller 118.78 33 P **PKPdf** 06 31 25.3 -0.9
baz=311
SUSD Miller 118.78 33 PKiKP **PKPdf** 06 31 25.4 -0.8
baz=311
SDCO Great Sand Dun 118.79 42 P **PKPdf** 06 31 25.2 -1.7
baz=302
SDCO Great Sand Dun 118.79 42 PKiKP **PKPdf** 06 31 25.8 -1.1
baz=302
OGNE Ogallala 119.20 38 P **PKPdf** 06 31 26.0 -1.2
baz=307
OGNE Ogallala 119.20 38 PKiKP **PKPdf** 06 31 26.4 -0.8
baz=307
F33A 5 Mile Ranch, 119.22 30 P **PKPdf** 06 31 26.0 -1.0
baz=314
TZRR Tazzarine 119.40 309 P **PKiKP** 06 31 28.0 0.0
PMSA Palmer Station 119.57 177 PKP **PKiKP** 06 31 27.1 0.0
comp=Z,20nm,0.5s,baz=130,slow=0.5,SNR=8.7
PMSA PKKPbc **PKKPbc** 06 41 42.0 -1.1
comp=Z,37nm,1.2s,baz=173,slow=7.2,SNR=8.2
ANMO Albuquerque 119.57 45 **PKiKP** 06 31 28.4 0.0

ANMO **Albuquerque** 119.57 45 P PKiKP 06 31 29.1 +0.7
baz=300
ANMO **Albuquerque** 119.57 45 PKiKP PKPdf 06 31 27.7 -0.6
baz=300
ANMO **Albuquerque** 119.57 45*c* *i*PKIKP PKPdf 06 31 27.9 -0.4
ANMO pmax pmax
comp=Z,63nm,0.8s
Y22D IRIS PASSCAL I 119.67 47 P PKiKP 06 31 29.3 +0.8
baz=299
Y22D IRIS PASSCAL I 119.67 47 PKiKP PKPdf 06 31 28.5 0.0
baz=299
Y22F Passcal Instru 119.67 47 PKiKP PKPdf 06 31 28.3 -0.1
baz=299
Y22A Socorro 119.71 47 P PKiKP 06 31 29.7 +1.0
baz=299
ZGR Zagora 119.73 308 P PKiKP 06 31 29.0 +0.2
121A Cookes Peak, D 119.77 49 P PKiKP 06 31 29.4 +0.5
baz=298
121A Cookes Peak, D 119.77 49 PKiKP PKiKP 06 31 28.9 0.0
baz=298
T25A Trinidad 119.85 42 PKiKP PKPdf 06 31 28.5 -0.3
baz=303
KSCO Kaye Shedlock' 119.97 40 P PKPdf 06 31 27.9 -1.0
baz=305
KSCO Kaye Shedlock' 119.97 40 PKiKP PKPdf 06 31 28.4 -0.5
baz=305
K31A O'Neill 120.08 34 P PKPdf 06 31 27.9 -0.9
baz=311
OUZM OUZ 120.27 310 P PKiKP 06 31 30.0 +0.2
SCHQ Schefferville 120.45 6 PKP PKPdf 06 31 28.8 -0.4
comp=Z,78nm,0.8s,baz=25,slow=2.8,SNR=31
SCHQ PP PP 06 33 12.3 +6.1
comp=Z,44nm,0.7s,baz=9.4,slow=5.6,SNR=6.1
SCHQ PKKPbc PKKPbc 06 41 39.6 -0.5
comp=Z,19nm,0.6s,baz=199,slow=5.4,SNR=7.5
SCHQ SKKPbc SKKPbc 06 44 31.2 +3.4
comp=Z,33nm,0.8s,baz=208,slow=2.9,SNR=6.6
ECSD EROS Data Cent 120.50 32 P PKPdf 06 31 28.2 -1.4
baz=313
ECSD EROS Data Cent 120.50 32 PKiKP PKPdf 06 31 28.9 -0.7
baz=313
F36A Milaca 120.56 29 P PKPdf 06 31 29.0 -0.6
baz=317
E38A The Farm, Brul 120.91 27 P PKPdf 06 31 29.6 -0.6
baz=319
KIDD KIDD Seismic O 121.08 49 P PKPdf 06 31 30.2 -1.0
baz=298
BGNE Belgrade 121.21 35 P PKPdf 06 31 30.2 -0.8
baz=311
BGNE Belgrade 121.21 35 PKiKP PKPdf 06 31 30.0 -1.0
baz=311
LPIG La Paz 121.26 58 PKKPbc PKKPbc 06 41 42.7 +6.7
comp=Z,58nm,0.9s,baz=180,slow=3.0,SNR=7.3
SPMN Marine on St. 121.37 29 P PKPdf 06 31 30.9 -0.3
baz=318
SPMN Marine on St. 121.37 29 PKiKP PKPdf 06 31 31.0 -0.2
baz=318
SLBS Sierra La Lagu 121.72 59 PKPdf 06 31 32.5 -0.1
L34A Svendsen Farm, 121.83 33 P PKPdf 06 31 31.3 -0.9
baz=313
D41A Chassel 121.85 25 P PKPdf 06 31 31.5 -0.5
baz=323
CBKS Cedar Bluff 121.90 38 P PKPdf 06 31 32.0 -0.5
baz=308
CBKS Cedar Bluff 121.90 38 PKiKP PKPdf 06 31 31.7 -0.7
baz=308
I37B Waseca 121.96 30 P PKPdf 06 31 31.6 -0.7
baz=316
MNTX Cornudas Mount 121.96 48 P PKiKP 06 31 33.2 +0.2
baz=299
MNTX Cornudas Mount 121.96 48 PKiKP PKPdf 06 31 32.3 -0.4
baz=299
N33B J Bar K, Exete 122.04 35 P PKPdf 06 31 32.0 -0.7
baz=311
H06N1 SOCORRO T-PHASE 122.44 64 PKP PKiKP 06 31 36.9 +2.8
SNR=12
H06S1 SOCORRO T 122.50 65 PKP PKiKP 06 31 34.5 +0.2
SNR=34
H06E1 SOCORRO T-PHASE 122.52 65 PKP PKiKP 06 31 35.3 +0.9
SNR=48
G40A Rib Lake 122.55 27 P PKPdf 06 31 33.0 -0.5
baz=320
MSTX Muleshoe 122.68 45 P PKPdf 06 31 33.7 -0.5
baz=303
MSTX Muleshoe 122.68 45 PKiKP PKPdf 06 31 33.7 -0.5
baz=303
R32A Long Quarter, 122.77 38 P PKPdf 06 31 34.0 -0.1
baz=309
AMTX Amarillo 122.94 43 P PKPdf 06 31 34.6 0.0
baz=304
AMTX Amarillo 122.94 43 PKiKP PKPdf 06 31 34.3 -0.4
baz=304
N35A Tabor 122.99 34 P PKPdf 06 31 34.0 -0.4
baz=313
E43A Lone Tree Farm 123.05 24 P PKPdf 06 31 33.8 -0.6
baz=324
F42A Maple Grove Fa 123.07 25 P PKPdf 06 31 34.1 -0.3
baz=323
K38A Parkersburg 123.27 31 P PKPdf 06 31 34.6 -0.3
baz=316
I40A Norwalk 123.40 28 P PKPdf 06 31 34.0 -1.2
baz=319
SCIA State Center 123.57 32 P PKPdf 06 31 34.7 -0.8
baz=316
SCIA State Center 123.57 32 PKiKP PKPdf 06 31 34.4 -1.2
baz=316
KSU1 Kansas State U 123.60 36 P PKPdf 06 31 35.2 -0.5
baz=311
KSU1 Kansas State U 123.60 36 PKiKP PKPdf 06 31 34.4 -1.2
baz=311
U32A Winter Ranch, 123.84 40 P PKPdf 06 31 36.3 +0.1
baz=307
E46A Sault Ste Mari 124.11 22 P PKiKP 06 31 36.7 0.0
baz=327
I42A Draeger Farm, 124.19 27 P PKPdf 06 31 36.0 -0.6
baz=321
H43A Windswept, Lux 124.25 26 P PKPdf 06 31 36.4 -0.4
baz=322
JFWS Jewell Farm 124.32 29 P PKPdf 06 31 36.0 -0.9
baz=319
JFWS Jewell Farm 124.32 29 PKiKP PKPdf 06 31 35.7 -1.2
baz=319
N38A Joes South For 124.35 33 P PKPdf 06 31 36.5 -0.6
baz=315
TX31 Lajitas Ar. Si 124.40 50 P PKPdf 06 31 37.4 -0.2
baz=299
L40A Anamosa 124.48 30 P PKPdf 06 31 36.3 -0.9
baz=318
G45A Suttons Bay 124.68 24 P PKPdf 06 31 36.9 -0.6
baz=325
G45A P PKPdf 06 31 36.9 -0.6
baz=325
WMOK Wichita Mounta 124.97 42 P PKPdf 06 31 37.9 -0.5
baz=307
WMOK Wichita Mounta 124.97 42 PKiKP PKPdf 06 31 37.4 -1.0
baz=307
WMOK Wichita Mounta 124.97 42 PKIKP PKPdf 06 31 37.0 -1.4
P38A Dawn 125.01 34 P PKPdf 06 31 37.8 -0.5
baz=314
T35B Sooner Cattle 125.07 38 P PKPdf 06 31 38.4 -0.2
baz=310
I45A Fountain 125.26 25 P PKPdf 06 31 38.5 -0.1
baz=324
I45A P PKPdf 06 31 38.5 -0.1
baz=324
GLMI Grayling 125.27 23 P PKPdf 06 31 38.4 -0.3
baz=326
GLMI Grayling 125.27 23 PKiKP PKPdf 06 31 37.8 -0.9
baz=326
L42A Oliver, Polo 125.29 29 P PKPdf 06 31 37.8 -1.0
baz=319
K43A Burlington 125.38 28 P PKPdf 06 31 38.3 -0.7
baz=321
ABTX Abilene, Hawle 125.61 44 P PKPdf 06 31 39.6 -0.2
baz=305
ABTX Abilene, Hawle 125.61 44 PKiKP PKPdf 06 31 38.3 -1.4
baz=305
N41A Harden Midland 125.66 31 P PKPdf 06 31 38.7 -0.9
baz=318
RPN Rapa Nui 125.66 120 PKP PKiKP 06 31 41.1 +0.7
comp=Z,116nm,0.8s,baz=340,slow=0.9,SNR=8.7
RPN SKPbc SKiKP 06 34 02.5 -15
comp=Z,185nm,0.8s,baz=260,slow=4.4,SNR=6.0
P40A Paris 125.89 33 P PKPdf 06 31 39.3 -0.8
baz=316
L44A Lake County Fo 125.99 28 P PKPdf 06 31 39.7 -0.4
baz=321
L44A Lake County Fo 125.99 28 PKiKP PKPdf 06 31 39.1 -1.1
baz=321
PMPST Porto Santo, M 126.11 317 *e*PKPdf PKiKP 06 31 41.4 +0.3
PMPST Porto Santo, M 126.11 317 *e*PP PP 06 33 45.1 +0.5
PMPST *i* LQ LQ 06 35 49.3
PMPS Porto Santo 126.12 317 *e*PKPdf PKiKP 06 31 43.6 +2.5
PMPS Porto Santo 126.12 317 *e*PP PP 06 33 47.8 +3.2
PMPS *i* LQ LQ 06 35 49.8
TUL1 Leonard 126.16 39 P PKPdf 06 31 40.2 -0.5
baz=310
TUL1 Leonard 126.16 39 PKiKP PKPdf 06 31 39.9 -0.7
baz=310
KIC Kosan Boka 126.31 281 *e*PKIKP PKPdf 06 31 41.2 -0.3
comp=Z,122nm,0.5s
DBIC Dimbokro 126.37 282 *e*P PKPdf 06 31 41.2 -0.4
DBIC Dimbokro 126.37 282 PKIKP PKPdf 06 31 40.0 -1.6
S39A Bolivar 126.46 35 P PKPdf 06 31 40.7 -0.4
baz=314
LOOK Love County 126.47 41 PKPdf 06 31 40.3 -1.0
J47A Sunmer 126.50 25 P PKPdf 06 31 41.0 -0.1
baz=325
J47A P PKPdf 06 31 41.0 -0.1
baz=325
TIC Toumodi 126.54 282 *e*PKIKP PKPdf 06 31 41.5 -0.5
comp=Z,624nm,0.8s
M44A Midewin, Midew 126.54 28 P PKPdf 06 31 41.0 -0.2
baz=321
HDIL Hopedale 126.57 30 P PKPdf 06 31 40.8 -0.5
baz=319
HDIL Hopedale 126.57 30 PKiKP PKPdf 06 31 40.6 -0.7
baz=319
LIC Lamto 126.62 281 *e*PKIKP PKPdf 06 31 41.6 -0.5
comp=Z,227nm,0.4s
R40A Maddies Statio 126.64 34 P PKPdf 06 31 41.1 -0.4
baz=315
U38A Gravette 126.68 37 P PKPdf 06 31 41.6 -0.1
baz=312
JCT Junction City 126.68 47 P PKPdf 06 31 41.2 -0.6
baz=303
JCT Junction City 126.68 47 PKiKP PKPdf 06 31 41.1 -0.8
baz=303
PMAR Madeira 126.71 317 *e*PKPdf PKiKP 06 31 43.9 +1.3
PMAR Madeira 126.71 317 *e*PP PP 06 33 47.9 -0.8
PMAR *i* LQ LQ 06 35 54.4
I49A Point Hope 126.72 23 P PKPdf 06 31 41.3 -0.2
baz=328
I49A P PKPdf 06 31 41.3 -0.2
baz=328
FUL Funchal 126.74 317 *e*PKPdf PKiKP 06 31 43.5 +1.1
FUL Funchal 126.74 317 *e*PP PP 06 33 51.7 +3.0
FUL *i* LQ LQ 06 35 51.6
Z35A Perchaven, San 126.82 42 P PKPdf 06 31 40.1 -1.9
baz=307,SNR=5.2
PMOZ Porto Moniz, M 126.84 317 *e*PKPdf PKiKP 06 31 45.7 +2.9
PMOZ Porto Moniz, M 126.84 317 *e*PP PP 06 33 47.4 -2.1
PMOZ *i* LQ LQ 06 35 52.0
L46A Eue Claire 126.86 27 P PKPdf 06 31 40.9 -0.9
baz=323
L46A P PKPdf 06 31 40.9 -0.9
baz=323
HHAR Hobbs 127.05 37 P PKPdf 06 31 41.6 -0.8
baz=312
P43A Skaggs, Pawnee 127.14 31 P PKPdf 06 31 41.9 -0.5
baz=318
X37A Clayton 127.27 40 P PKPdf 06 31 42.0 -0.8
baz=310
O44A Mansfield 127.28 30 P PKPdf 06 31 41.8 -0.9
baz=320
CCM Cathedral Cave 127.38 34 P PKPdf 06 31 42.6 -0.3
baz=316
CCM Cathedral Cave 127.38 34 PKiKP PKPdf 06 31 41.7 -1.2
baz=316
WHTX Lake Whitney, 127.48 44 P PKPdf 06 31 42.6 -0.7
baz=306
WHTX Lake Whitney, 127.48 44 PKiKP PKPdf 06 31 43.0 -0.2
baz=306
SLM Saint Louis 127.51 32 P PKPdf 06 31 42.2 -0.9
baz=317
U40A Yellville 127.65 36 P PKPdf 06 31 42.7 -0.8
baz=313
U40A P PKPdf 06 31 42.7 -0.8
baz=313
D62A Allapoint, All 127.71 10 P PKPdf 06 31 42.6 -0.6
baz=345
D62A P PKPdf 06 31 42.6 -0.6
baz=345
L48A N Adams 127.73 25 P PKPdf 06 31 43.1 -0.4
baz=325
L48A P PKPdf 06 31 43.1 -0.4
baz=325
AAM Ann Arbor 127.76 24 P PKPdf 06 31 42.9 -0.6
baz=326
AAM Ann Arbor 127.76 24 PKiKP PKPdf 06 31 42.1 -1.4
baz=326
SFIN Lafayette 127.77 29 P PKPdf 06 31 42.8 -0.8
baz=322
SFIN Lafayette 127.77 29 PKiKP PKPdf 06 31 42.8 -0.8
baz=322
K50A Casco 127.78 23 P PKPdf 06 31 42.9 -0.6
baz=328
K50A P PKPdf 06 31 42.9 -0.6
baz=328
FVM French Village 127.88 33 P PKPdf 06 31 44.2 +0.3
baz=317
Q44A Meyer Farm, Va 127.95 31 P PKPdf 06 31 43.1 -0.8
baz=319
N47A Urbana 128.03 27 P PKPdf 06 31 43.5 -0.5
baz=323
N47A P PKPdf 06 31 43.5 -0.5
baz=323
E62A Clayton Lake 128.07 11 P PKPdf 06 31 43.3 -0.7
baz=345
E62A P PKPdf 06 31 43.3 -0.7
baz=345
435B Jarrell 128.10 45 P PKPdf 06 31 43.8 -0.7
baz=305
435B Jarrell 128.10 45 PKiKP PKPdf 06 31 43.8 -0.7
baz=305
833A Chaparral WMA, 128.14 49 P PKPdf 06 31 44.1 -0.5
baz=302
833A Chaparral WMA, 128.14 49 PKiKP PKPdf 06 31 44.1 -0.5
baz=302
P46A Rosedale 128.31 29 P PKPdf 06 31 43.2 -1.5
baz=321,SNR=5.6
Z38A Mt. Pleasant 128.36 41 P PKPdf 06 31 44.7 -0.2
baz=309,SNR=6.4
BART Pico Bartolome 128.42 327 *e*PP PP 06 34 02.7 +3.5
MIAR Mount Ida 128.43 38 P PKPdf 06 31 45.3 +0.3
baz=312,SNR=6.8
MIAR Mount Ida 128.43 38 PKiKP PKPdf 06 31 44.6 -0.4
baz=312
MIAR Mount Ida 128.43 38 PKIKP PKiKP 06 31 45.6 -0.1
E63A Oxbow 128.46 10 P PKPdf 06 31 44.9 +0.2
baz=346
E63A P PKPdf 06 31 44.9 +0.2
baz=346
PGRON Lagoa das Cont 128.54 327 *e*PP PP 06 34 08.3 +8.4
OLIL Olney 128.55 31 P PKPdf 06 31 44.4 -0.7
baz=320,SNR=22
PCALD Caldeiras da R 128.58 328 *e*PP PP 06 34 05.7 +5.6
237A Washetta, Mont 128.60 42 P PKPdf 06 31 44.6 -0.8
baz=308,SNR=20
N49A Columbus Grove 128.67 26 P PKPdf 06 31 44.0 -1.3
baz=325
N49A P PKPdf 06 31 44.0 -1.3
baz=325
PSET Sete Cidades 128.68 328 *e*PP PP 06 34 04.8 +4.0
F62A Pittston Farm, 128.68 11 P PKPdf 06 31 42.6 -2.5
baz=344,SNR=10.0
F62A P PKPdf 06 31 42.6 -2.5
baz=344,SNR=10.0
PDA Ponta Delgada 128.71 328 *e*PKP PKiKP 06 31 48.6 +2.4
PDA Ponta Delgada 128.71 328 *e*PP PP 06 34 12.9 +12
S44A Carbondale 128.72 32 P PKPdf 06 31 44.6 -0.9
baz=318,SNR=8.8
PAGU Agualva, Azore 128.73 330 *e*PP PP 06 34 04.0 +3.0
PBMO Poplar Bluff 128.75 34 P PKPdf 06 31 45.3 -0.3
baz=316,SNR=23
PSCM Serra do Cume 128.75 330 *e*PP PP 06 34 05.7 +4.5
M50A Fremont 128.76 25 P PKPdf 06 31 44.5 -0.9
baz=326
M50A P PKPdf 06 31 44.5 -0.9
baz=326
O48B Farmland 128.78 27 P PKPdf 06 31 44.6 -1.0
baz=324
O48B Farmland 128.78 27 PKiKP PKPdf 06 31 43.8 -1.7
baz=324
PSBA Serra de Santa 128.80 330 *e*PKP PKiKP 06 31 48.9 +2.5
PSBA Serra de Santa 128.80 330 *e*PP PP 06 34 05.9 +4.4
J54A Appleton 128.81 20 P PKPdf 06 31 44.7 -0.7
baz=332
J54A P PKPdf 06 31 44.7 -0.7
baz=332
LONY Lake Ozonia 128.82 16 PKiKP PKPdf 06 31 44.0 -1.5
baz=338
LCAR Lake Charles 128.84 35 P PKPdf 06 31 44.2 -1.5
baz=315,SNR=23
ADH Angra Heroismo 128.84 330 *e*PKP PKiKP 06 31 47.1 +0.7
ADH Angra Heroismo 128.84 330 *e*PP PP 06 34 02.7 +1.0
FRNY Flat Rock 128.88 15 P PKPdf 06 31 44.6 -1.0
baz=339
PGRA Graciosa 128.92 331 *e*PP PP 06 34 12.5 +10
PSMN Pico do Norte, 128.93 327 *e*PKP PKiKP 06 31 48.7 +2.0
PSMN Pico do Norte, 128.93 327 *e*PP PP 06 34 09.8 +7.4
SRBC Serra Branca 128.95 331 *e*PKP PKiKP 06 31 47.8 +1.1
SRBC Serra Branca 128.95 331 *e*PP PP 06 34 09.8 +7.4
USHA Ushuaia 128.95 172 PKP PKiKP 06 31 45.9 -0.2
comp=Z,96nm,1.0s,baz=262,slow=1.9,SNR=10
USHA PP PP 06 34 01.6 -0.4
comp=Z,31nm,0.8s,baz=24,slow=2.6,SNR=5.1
USHA SKPbc SKiKP 06 34 09.2 -14
comp=Z,652nm,1.0s,baz=183,slow=5.3,SNR=11
PSMA Santa Maria 128.97 327 *e*PKP PKiKP 06 31 48.2 +1.5
PSMA Santa Maria 128.97 327 *e*PP PP 06 34 10.1 +7.4
F64A Sherman 129.01 10 P PKPdf 06 31 45.3 -0.4
baz=346
F64A P PKPdf 06 31 45.3 -0.4
baz=346
735A Kenedy 129.02 47 P PKPdf 06 31 45.8 -0.5
baz=304
F63A Nahmakanta, Br 129.03 11 P PKPdf 06 31 45.1 -0.7
baz=345
F63A P PKPdf 06 31 45.1 -0.7
baz=345
J55A Hilton 129.09 19 P PKPdf 06 31 45.0 -1.0
baz=334,SNR=19
J55A P PKPdf 06 31 45.0 -1.0
baz=334,SNR=19
WCNY West Carthage 129.11 17 P PKPdf 06 31 45.7 -0.4
baz=336
O49A Covington 129.20 27 P PKPdf 06 31 46.1 -0.2
baz=324
O49A P PKPdf 06 31 46.1 -0.2
baz=324
G62A West of Eustis 129.22 12 P PKPdf 06 31 45.5 -0.8
baz=343
G62A P PKPdf 06 31 45.5 -0.8
baz=343
PMAN Manadas 129.28 330 *e*PP PP 06 34 11.6 +7.0
P48A Milroy 129.29 28 P PKPdf 06 31 45.3 -1.2
baz=323,SNR=19
P48A P PKPdf 06 31 45.3 -1.2
baz=323,SNR=19
ROSA Rosais 129.29 330 *e*PP PP 06 34 10.5 +5.9
M52A Chesterland 129.32 23 P PKPdf 06 31 44.3 -2.2
baz=329,SNR=26
M52A P PKPdf 06 31 44.3 -2.2
baz=329,SNR=26
ERPA Erie 129.35 22 P PKPdf 06 31 45.5 -1.1
baz=330,SNR=22
ERPA Erie 129.35 22 PKiKP PKPdf 06 31 45.6 -0.9
baz=330
J56A Wolcott 129.39 18 P PKPdf 06 31 46.0 -0.5
baz=335,SNR=19
J56A P PKPdf 06 31 46.0 -0.5
baz=335,SNR=19
PKME Peaks-Kenny Pk 129.42 11 P PKPdf 06 31 46.0 -0.6
baz=345,SNR=18
PKME Peaks-Kenny Pk 129.42 11 PKiKP PKPdf 06 31 44.8 -1.7
baz=345
N51A Ashland 129.44 24 P PKPdf 06 31 45.8 -1.0
baz=327,SNR=14
N51A P PKPdf 06 31 45.8 -1.0
baz=327,SNR=14
PID Ribeirinha 129.45 330 *e*PP PP 06 34 11.6 +6.0
PPNO Prainha do Nor 129.50 330 *e*PP PP 06 34 11.5 +5.5
NATX Nacogdoches 129.51 42 P PKPdf 06 31 45.5 -1.6
baz=309
NATX Nacogdoches 129.51 42 PKiKP PKPdf 06 31 44.9 -2.2
baz=309
NCB Newcomb 129.52 16 P PKPdf 06 31 45.2 -1.6
baz=338,SNR=17
J57A Williamstown 129.53 18 P PKPdf 06 31 45.7 -1.1
baz=336,SNR=28
J57A P PKPdf 06 31 45.7 -1.1
baz=336,SNR=28
T45B Paducah 129.55 33 P PKPdf 06 31 46.8 -0.3
baz=318,SNR=8.6
PICO Pico 129.55 330 *e*PP PP 06 34 10.9 +4.5
P49A Miami Univ. Ec 129.56 27 P PKPdf 06 31 46.5 -0.6
baz=324,SNR=51
P49A Miami Univ. Ec 129.56 27 PKiKP PKPdf 06 31 45.1 -1.9
baz=324
VT1 Waterbury 129.56 14 P PKPdf 06 31 45.7 -1.2
baz=340,SNR=19
PCED Cedros 129.59 331 *e*PP PP 06 34 12.7 +6.2
WVNY West Valley, N 129.59 20 P PKPdf 06 31 45.1 -1.9
baz=332,SNR=31
PCAN Candelaria 129.61 330 *e*PP PP 06 34 13.0 +6.3
HOR Horta 129.63 331 *e*PP PP 06 34 09.6 +2.8
M53A WI Miller and 129.68 23 PKiKP PKPdf 06 31 46.6 -0.6
baz=329
KVTX Kingsville 129.68 48 P PKPdf 06 31 47.7 +0.1
baz=303
ALLY Alegheny Colle 129.70 22 P PKPdf 06 31 47.0 -0.3
baz=330,SNR=12
H62A Milan 129.70 13 P PKPdf 06 31 47.5 +0.3
baz=342,SNR=25
H62A P PKPdf 06 31 47.5 +0.3
baz=342,SNR=25
ACSO Alum Creek Sta 129.76 25 P PKPdf 06 31 47.7 +0.3
baz=326,SNR=33
ACSO Alum Creek Sta 129.76 25 PKiKP PKPdf 06 31 46.4 -1.0
baz=326
LNXT Lenox 129.76 34 P PKPdf 06 31 47.7 +0.2
baz=317,SNR=7.4
G65A Princeton 129.78 9 P PKPdf 06 31 47.4 +0.1
baz=347,SNR=17
G65A P PKPdf 06 31 47.4 +0.1
baz=347,SNR=17
J58A Remsen 129.78 17 P PKPdf 06 31 47.0 -0.3
baz=337,SNR=16
J58A P PKPdf 06 31 47.0 -0.3
baz=337,SNR=16
HKT Hockley 129.81 45 PKPdf 06 31 47.6 0.0
HKT Hockley 129.81 45 P PKPdf 06 31 47.7 +0.1
baz=306
HKT Hockley 129.81 45 PKIKP PKPdf 06 31 47.6 0.0
WCI Wyandotte Cave 129.84 30 PKPpre 06 31 32.7
WCI Wyandotte Cave 129.84 30 P PKiKP 06 31 48.6 +0.1
baz=321,SNR=28
WCI Wyandotte Cave 129.84 30 PKiKP PKPdf 06 31 47.4 -0.2
baz=321
WCI Wyandotte Cave 129.84 30 PKHKP PKPpre 06 31 32.7
MCVT Middlebury Col 129.86 15 P PKiKP 06 31 48.0 -0.3
baz=340,SNR=21
H07N1 FLORES T-PHASE 129.87 334 *e*PKP PKiKP 06 31 49.0 +0.5
H07N1 FLORES T-PHASE 129.87 334 *e*PP PP 06 34 09.4 +1.2
J59A Piesco 129.91 16 P PKPdf 06 31 47.8 +0.2
baz=338,SNR=19
J59A P PKPdf 06 31 47.8 +0.2
baz=338,SNR=19
CCAR Cane Creek 129.96 38 P PKPdf 06 31 47.3 -0.6
baz=313,SNR=27
PAOC Oil Creek Stat 129.98 22 P PKPdf 06 31 47.2 -0.6
baz=331
K57A Scipio Center 129.99 18 P PKPdf 06 31 48.2 +0.4
baz=335,SNR=24
H07S1 FLORES T-PHASE 130.16 333 *e*PP PP 06 34 13.1 +3.0
L56A Greenwood 130.18 20 P PKPdf 06 31 48.1 -0.1
baz=333,SNR=25
L56A P PKPdf 06 31 48.1 -0.1
baz=333,SNR=25
ACCN Adirondack Com 130.21 15 P PKiKP 06 31 49.1 0.0
baz=339,SNR=24
EMMW East Machias 130.28 9 P PKPdf 06 31 48.1 -0.1
baz=347,SNR=21
I63A Otisfield 130.33 12 P PKPdf 06 31 48.4 +0.1
baz=343,SNR=79
I63A P PKPdf 06 31 48.4 +0.1
baz=343,SNR=79
PAMR Moraine State 130.33 23 P PKPdf 06 31 47.6 -0.9
baz=330
I62A Tamworth 130.33 13 P PKiKP 06 31 49.0 -0.3
baz=342,SNR=22

I62A P PKiKP 06 31 49.0 -0.3
baz=342,SNR=22
O52A Adamsville 130.34 25 P **PKPdf** 06 31 48.5 +0.1
baz=327,SNR=36
O52A P **PKPdf** 06 31 48.5 +0.1
baz=327,SNR=36
R49A Shelbyville 130.34 29 P **PKPdf** 06 31 48.8 +0.3
baz=323,SNR=28
R49A P **PKPdf** 06 31 48.8 +0.3
baz=323,SNR=28
P51A Williamsport 130.34 26 P **PKPdf** 06 31 48.7 +0.2
baz=326
P51A P **PKPdf** 06 31 48.7 +0.2
baz=326
T47A Sharon Grove 130.38 31 P **PKPdf** 06 31 48.9 +0.3
baz=320,SNR=15
O53A New Philadelph 130.48 24 PKiKP **PKPdf** 06 31 47.5 -1.3
baz=328
J61A Chester 130.54 14 P **PKiKP** 06 31 49.3 -0.4
baz=340,SNR=28
J61A P **PKiKP** 06 31 49.3 -0.4
baz=340,SNR=28
Q51A Peebles 130.59 27 P **PKiKP** 06 31 50.0 0.0
baz=325,SNR=26
Q51A P **PKiKP** 06 31 50.0 0.0
baz=325,SNR=26
W45A Hickory Valley 130.61 35 P **PKiKP** 06 31 50.4 +0.3
baz=316,SNR=32
P52A Corning 130.62 25 PKiKP **PKPdf** 06 31 48.8 -0.2
baz=327
BINY Binghamton 130.63 18 P **PKPdf** 06 31 49.4 +0.4
baz=335,SNR=24
BINY Binghamton 130.63 18 PKiKP **PKPdf** 06 31 49.3 +0.3
baz=335
WVT Waverly 130.65 33 P **PKPdf** 06 31 49.4 +0.3
baz=318,SNR=23
WVT Waverly 130.65 33 PKiKP **PKPdf** 06 31 48.1 -1.1
baz=318
HCNY Howe Caverns 130.65 16 P **PKiKP** 06 31 49.6 -0.4
baz=338,SNR=14
PSDB Penn State Uni 130.66 21 P **PKPdf** 06 31 48.1 -1.0
baz=332
R50A Paris 130.74 28 P **PKPdf** 06 31 48.6 -0.7
baz=324,SNR=19
R50A P **PKPdf** 06 31 48.6 -0.7
baz=324,SNR=19
UPAO U. Pittsburgh 130.75 23 P **PKPdf** 06 31 49.0 -0.2
baz=330
O54A Avella 130.87 23 P **PKPdf** 06 31 48.7 -0.8
baz=329,SNR=8.4
O54A P **PKPdf** 06 31 48.7 -0.8
baz=329,SNR=8.4
L59A Walton 130.93 17 P **PKPdf** 06 31 49.3 -0.3
baz=336,SNR=27
L59A P **PKPdf** 06 31 49.3 -0.3
baz=336,SNR=27
OXF Oxford 130.95 35 P **PKPdf** 06 31 49.3 -0.5
baz=316,SNR=18
OXF Oxford 130.95 35 PKiKP **PKPdf** 06 31 47.8 -2.0
baz=316
143A Socs Landing, 131.00 39 P **PKiKP** 06 31 50.8 -0.2
baz=313,SNR=9.6
M57A Sunshine Farm, 131.04 20 P **PKiKP** 06 31 50.9 +0.1
baz=334,SNR=40
M57A P **PKiKP** 06 31 50.9 +0.1
baz=334,SNR=40
P53A Whipple 131.05 25 P **PKiKP** 06 31 50.5 -0.4
baz=328,SNR=16
P53A P **PKiKP** 06 31 50.5 -0.4
baz=328,SNR=16
Q52A Bidwell 131.12 26 P **PKPdf** 06 31 49.2 -0.7
baz=326,SNR=17
Q52A P **PKPdf** 06 31 49.2 -0.7
baz=326,SNR=17
441A DeRidder 131.13 42 P **PKPdf** 06 31 51.0 -0.2
baz=310,SNR=42
UNH University of 131.18 13 P **PKPdf** 06 31 50.0 0.0
baz=342,SNR=20
K62A Royalston 131.26 15 P **PKiKP** 06 31 50.8 -0.4
baz=340,SNR=20
K62A P **PKiKP** 06 31 50.8 -0.4
baz=340,SNR=20
342B Flagon Creek P 131.29 41 P **PKPdf** 06 31 50.4 -0.1
baz=311,SNR=21
Y45A Yeager Farm, C 131.33 36 P **PKPdf** 06 31 50.4 -0.1
baz=315,SNR=21
L61B Northampton 131.34 15 P **PKPdf** 06 31 49.7 -0.7
baz=340,SNR=8.2
L61B Northampton 131.34 15 PKiKP **PKPdf** 06 31 50.2 -0.1
baz=340
SSPA Standing Stone 131.41 21 PKPpre 06 31 40.8
SSPA Standing Stone 131.41 21 P **PKiKP** 06 31 51.1 -0.4
baz=332,SNR=22
SSPA Standing Stone 131.41 21 PKiKP **PKPdf** 06 31 50.1 -0.4
baz=332
U49A Red Boiling Sp 131.43 31 P **PKPdf** 06 31 50.1 -0.6
baz=321
V48A Smith Brothers 131.48 32 P **PKPdf** 06 31 50.7 -0.1
baz=319,SNR=40
PABK Blue Knob Stat 131.48 22 P **PKPdf** 06 31 50.5 -0.2
baz=331
T50A Nancy 131.50 29 P **PKPdf** 06 31 50.2 -0.6
baz=322
T50A P **PKPdf** 06 31 50.2 -0.6
baz=322
MCWV Mont Chateau 131.53 23 P **PKPdf** 06 31 50.1 -0.6
baz=330
MCWV Mont Chateau 131.53 23 PKiKP **PKPdf** 06 31 50.3 -0.4
baz=330
HRV Adam Dziewonsk 131.57 14 **PKPdf** 06 31 46.1 -4.6
HRV Adam Dziewonsk 131.57 14 P **PKiKP** 06 31 51.3 -0.5
baz=341,SNR=15
HRV Adam Dziewonsk 131.57 14 PKiKP **PKPdf** 06 31 50.8 +0.1
baz=341
HRV Adam Dziewonsk 131.57 14 PKIKP **PKPdf** 06 31 46.1 -4.6
QUA2 Belchertown 131.59 15 P **PKPdf** 06 31 51.1 +0.4
baz=340,SNR=9.6
NPNY Mohonk Preserv 131.59 17 P **PKiKP** 06 31 51.6 -0.3
baz=338,SNR=16
S51A Beattyville 131.60 28 P **PKPdf** 06 31 50.4 -0.5
baz=324,SNR=18
S51A P **PKPdf** 06 31 50.4 -0.5
baz=324,SNR=18
N58A Sunbury 131.63 20 P **PKiKP** 06 31 51.7 -0.3
baz=334,SNR=16
N58A P **PKiKP** 06 31 51.7 -0.3
baz=334,SNR=16
Q54A Coxs Mills 131.71 24 P **PKiKP** 06 31 51.7 -0.5
baz=328,SNR=19
Q54A P **PKiKP** 06 31 51.7 -0.5
baz=328,SNR=19
WES Weston 131.74 14 P **PKPdf** 06 31 50.7 -0.3
baz=341
R53A Hurricane 131.78 26 P **PKPdf** 06 31 51.4 +0.2
baz=326,SNR=7.7
R53A P **PKPdf** 06 31 51.4 +0.2
baz=326,SNR=7.7
VBMS Vicksburg 131.88 38 P **PKPdf** 06 31 51.1 -0.5
baz=313,SNR=22
VBMS Vicksburg 131.88 38 PKiKP **PKPdf** 06 31 50.8 -0.7
baz=313
BRNY Black Rk. Fore 131.94 17 P **PKiKP** 06 31 52.2 -0.4
baz=338,SNR=27
ODNJ Ogdensburg 132.07 17 P **PKPdf** 06 31 51.7 0.0
baz=337
344A Westbrook Farm 132.26 39 P **PKPdf** 06 31 52.7 +0.4
baz=312,SNR=18
L64A Middleborough 132.28 14 P **PKPdf** 06 31 51.9 -0.2
baz=342,SNR=18
L64A P **PKPdf** 06 31 51.9 -0.2
baz=342,SNR=18
Q56A Snyder Ridge, 132.32 23 P **PKPdf** 06 31 52.4 +0.1
baz=330,SNR=21
Q56A P **PKPdf** 06 31 52.4 +0.1
baz=330,SNR=21
X48A Hartselle 132.32 34 P **PKPdf** 06 31 52.4 0.0
baz=318,SNR=11
PAL Palisades 132.35 17 P **PKiKP** 06 31 52.9 -0.5
baz=338,SNR=7.5
PAL Palisades 132.35 17 PKiKP **PKPdf** 06 31 50.1 -2.1
baz=338
P57A Homestead Farm 132.38 22 P **PKPdf** 06 31 52.3 0.0
baz=332,SNR=18
P57A P **PKPdf** 06 31 52.3 0.0
baz=332,SNR=18
BRNJ Basking Ridge 132.45 18 P **PKPdf** 06 31 51.3 -1.1
baz=337,SNR=20
146A Union 132.48 37 P **PKiKP** 06 31 53.5 -0.5
baz=315,SNR=16
FOR Fordham 132.49 17 P **PKPdf** 06 31 52.2 -0.3
baz=338,SNR=15
M63A Gales Ferry 132.49 15 P **PKPdf** 06 31 51.5 -1.0
baz=340
M63A P **PKPdf** 06 31 51.5 -1.0
baz=340
TZTN Tazewell 132.51 29 PKiKP **PKPdf** 06 31 51.1 -1.6
baz=324
R55A Marlinton 132.60 24 P **PKPdf** 06 31 53.4 +0.5
baz=329,SNR=18
R55A P **PKPdf** 06 31 53.4 +0.5
baz=329,SNR=18
Z47A Carrollton 132.66 36 P **PKiKP** 06 31 53.7 -0.6
baz=316,SNR=15
M65A Busby, Falmout 132.68 13 PKiKP **PKPdf** 06 31 51.8 -1.0
baz=342
W50A Signal Mountai 132.68 31 P **PKPdf** 06 31 53.7 +0.6
baz=321,SNR=18
PANJ Princeton 132.69 18 P **PKPdf** 06 31 51.9 -1.0
baz=336,SNR=18
V51A Loudon 132.70 30 P **PKPdf** 06 31 51.7 -1.4
baz=322
SDMD Soldier's Deli 132.86 21 P **PKPdf** 06 31 52.7 -0.5
baz=333
PSUB Penn St. - Bra 132.87 19 P **PKPdf** 06 31 52.6 -0.7
baz=335
EFI East Falkland 132.89 179 PKiKP **PKPdf** 06 31 50.3 -2.6
GEDE Greenville 132.91 19 P **PKPdf** 06 31 51.9 -1.4
baz=335
V52A Sevierville 133.04 29 P **PKPdf** 06 31 53.6 -0.1
baz=323
346A Big Creek Wild 133.10 38 P **PKPdf** 06 31 53.5 -0.4
baz=314
TKL Tuckaleechee C 133.10 30 P **PKPdf** 06 31 53.1 -0.8
baz=323
Y49A Blount Mountai 133.12 34 P **PKPdf** 06 31 54.6 +0.7
baz=319
P61A Hammonton 133.31 18 P **PKiKP** 06 31 54.7 -0.7
baz=336
P61A P **PKiKP** 06 31 54.7 -0.7
baz=336
U54A Nelsons Funny 133.33 27 P **PKiKP** 06 31 55.2 -0.5
baz=326
U54A P **PKiKP** 06 31 55.2 -0.5
baz=326
BLA Blacksburg 133.38 25 P **PKPdf** 06 31 54.4 +0.1
baz=328
BLA Blacksburg 133.38 25 PKiKP **PKPdf** 06 31 54.0 -0.4
baz=328
LRAL Lakeview Retre 133.40 35 PKiKP **PKPdf** 06 31 53.6 -0.8
baz=318
X51A Calhoun 133.41 32 P **PKPdf** 06 31 54.9 +0.4
baz=321
X51A P **PKPdf** 06 31 54.9 +0.4
baz=321
CBN Corbin Frederi 133.74 22 P **PKPdf** 06 31 55.3 +0.4
baz=332
CBN Corbin Frederi 133.74 22 PKiKP **PKPdf** 06 31 54.4 -0.5
baz=332
R58B Mineral 133.76 22 P **PKiKP** 06 31 55.8 -0.6
baz=331
R58B P **PKiKP** 06 31 55.8 -0.6
baz=331
T57A Hurt 134.05 24 P **PKPdf** 06 31 55.9 +0.4
baz=329
T57A P **PKPdf** 06 31 55.9 +0.4
baz=329
KMSC Kings Mountain 134.69 28 PKiKP **PKPdf** 06 31 55.8 -1.0
baz=326
BRAL Brewton 134.72 37 PKiKP **PKPdf** 06 31 54.6 -2.3
baz=316
BBTS Babate 135.25 296 SKPbc **SKPbc** 06 34 30.3 -1.3
comp=Z,438nm,0.9s,baz=99,slow=4.5,SNR=8.7
CNNC Cliffs of the 136.12 24 PKiKP **PKPdf** 06 31 58.0 -1.4
baz=330
TIGA Tifton 136.50 33 PKiKP **PKPdf** 06 31 58.7 -1.5
baz=320
NHSC New Hope 136.91 28 PKiKP **PKPdf** 06 31 59.7 -1.3
baz=326
ASCN Ascension 137.05 263 PKPpre 06 31 52.4
H10N1 ASCENSION HYDR 137.17 263 PKhKP PKPpre 06 31 53.7
baz=217,slow=74,SNR=19
H10N2 ASCENSION HYDR 137.18 263 PKhKP PKPpre 06 31 54.9
baz=217,slow=74,SNR=13
H10N3 ASCENSION HYDR 137.19 263 PKhKP PKPpre 06 31 55.2
baz=217,slow=74,SNR=11
H10S2 ASCENSION HYDR 137.28 262 PKP **PKPdf** 06 32 00.4 -1.4
baz=219,slow=74,SNR=5.5
H10S3 ASCENSION HYDR 137.30 262 PKP **PKPdf** 06 32 01.0 -0.8
baz=1.2,slow=74,SNR=4.6
DWPF Disney Wildern 140.25 34 **PKPdf** 06 32 02.3 -4.8
DWPF Disney Wildern 140.25 34 PKiKP **PKPdf** 06 32 06.2 -1.0
baz=321
TEIG Tepich 141.05 50 **PKPdf** 06 32 04.4 -4.4
SACV Santiago Islan 141.34 301 **PKPdf** 06 32 05.8 -3.6
PLCA Paso Flores 141.96 164 PKhKP PKPpre 06 32 06.5
comp=Z,59nm,0.6s,baz=212,slow=4.8,SNR=100
PLCA SKPbc **SKPbc** 06 34 49.2 -0.3
comp=Z,114nm,0.8s,baz=260,slow=2.5,SNR=5.7
PLCA Paso Flores 141.96 164 *eP* **PKPdf** 06 32 08.6 -1.4
BBSR BB Station 142.77 10 **PKPdf** 06 32 10.4 -1.2
SOR Sorosa 143.18 42 PKiKP PKPbc 06 32 11.6 +0.5
H03S2 Juan Fernandez 144.55 148 PKPbc **PKPab** 06 32 15.9 +0.6
baz=328,slow=5.8,SNR=105
H03S1 Juan Fernandez 144.55 148 PKPbc **PKPab** 06 32 15.9 +0.5
baz=328,slow=5.8,SNR=81
H03S3 Juan Fernandez 144.56 148 PKPbc **PKPab** 06 32 15.8 +0.4
baz=328,slow=5.8,SNR=90
H03N3 Juan Fernandez 144.84 148 PKPbc **PKPab** 06 32 16.7 +0.1
baz=165,slow=18,SNR=181
H03N2 Juan Fernandez 144.85 148 PKPbc **PKPab** 06 32 16.6 +0.1
baz=165,slow=18,SNR=213
H03N1 Juan Fernandez 144.86 148 PKPbc **PKPab** 06 32 16.3 -0.2
baz=165,slow=18,SNR=153
TGUH Tegucigalpa,Un 145.17 58 *eP* **PKPbc** 06 32 17.1 -0.4
CRIN San Cristobal 146.02 60 *eP* **PKPbc** 06 32 20.2 +0.4
TRQA Tornquist 146.26 174 **PKPdf** 06 32 18.1 +0.7
TRQA Tornquist 146.26 174 PKIKP **PKPdf** 06 32 18.1 +0.7
TRQA Tornquist 146.26 174 *eP* **PKPdf** 06 32 17.1 -0.3
CNGN Cerro Negro 146.41 60 *eP* **PKPdf** 06 32 19.3 +1.0
PAYG Puerto Ayora 146.98 84 **PKPbc** 06 32 21.3 -1.1
PAYG Puerto Ayora 146.98 84 *eP* **PKPbc** 06 32 21.6 -0.8
ACON Acoyapa 147.97 59 *eP* **PKPbc** 06 32 23.2 -1.7
JTS Las Juntas de 148.94 62 PKP **PKPdf** 06 32 23.0 +0.6
JTS PKPbc **PKiKP** 06 32 27.9 -0.3
JTS pPKP **pPKPdf** 06 34 44.4 -1.1
JTS Las Juntas de 148.94 62 **PKPdf** 06 32 22.5 0.0
JTS Las Juntas de 148.94 62 PKHKP PKPpre 06 32 22.5
JTS Las Juntas de 148.94 62 *eP* **PKPdf** 06 32 22.3 -0.1
NEJ Negril 149.48 42 *i* P **PKPbc** 06 32 26.5 -1.9
LPA La Plata 149.65 179 *ce* PKP **PKPab** 06 32 33.2 -3.0
LPA SKIKP 06 34 59.1
LPA SDIFF 06 44 01.8
HDC Heredia 149.81 62 *eP* **PKPdf** 06 32 22.3 -1.7
MTDJ Mount Denham 150.02 41 *e* P **PKPbc** 06 32 28.8 -1.1
MCJ Malvern 150.14 41 *i* P **PKPbc** 06 32 29.9 -0.2
GTBY Guantanamo Bay 150.22 35 *eP* **PKPbc** 06 32 29.8 -0.3
PRVC Isla de Provid 150.39 53 *eP* **PKPbc** 06 32 30.3 -0.4
STH Stony Hill 150.60 40 *i* P **PKPbc** 06 32 30.4 -0.6
PCJ Portland Cotta 150.62 41 *i* P **PKPbc** 06 32 30.0 -1.0
HOJ Hope 150.69 40 *i* P **PKiKP** 06 32 31.5 -0.1
CFA Coronel Fontan 151.11 161 PKP **PKPdf** 06 32 25.4 0.0
comp=Z,50nm,0.7s,baz=227,slow=1.9,SNR=83
CFA PKPbc **PKPbc** 06 32 31.1 -0.8
comp=Z,321nm,0.6s,baz=217,slow=2.3,SNR=87
CFA SKP **SKPdf** 06 35 00.2 -0.3
comp=Z,235nm,0.8s,baz=237,slow=2.2,SNR=6.1
BRU2 Volcan 151.61 62 *eP* **PKPdf** 06 32 28.4 +1.7
LCO Las Campanas 152.49 154 **PKPdf** 06 32 29.2 +1.4
LCO Las Campanas 152.49 154 PKIKP **PKPdf** 06 32 29.2 +1.4
PLTB Pedras Altas 152.56 187 *eP* **PKPdf** 06 32 26.2 -1.2
SDDR Presa de Saban 153.04 30 *eP* **PKPdf** 06 32 28.5 0.0
PNME Penonome 153.82 61 *eP* **PKPdf** 06 32 29.7 0.0
CPSB Cacapava Do Su 153.87 188 *eP* **PKPdf** 06 32 28.7 -0.7
BCIP Isla Barro Col 153.91 59 PKIKP **PKPdf** 06 32 29.4 -0.4
BCIP Isla Barro Col 153.91 59 *eP* **PKPdf** 06 32 26.5 -3.3
AZU Azuero 154.19 62 *eP* **PKPdf** 06 32 29.6 -0.6
CNLB Canela 154.46 193 *eP* **PKPdf** 06 32 28.9 -1.3
ITQB Itaqui 154.87 182 *eP* **PKPdf** 06 32 30.3 -0.4
UPD2 Meteti 155.77 58 *eP* **PKPdf** 06 32 30.8 -1.5
SJG San Juan 156.02 21 PKP **PKPdf** 06 32 32.5 0.0
comp=Z,17nm,0.7s,baz=38,slow=6.5,SNR=8.8
SJG PKPab **PKPab** 06 33 05.6 +1.9
comp=Z,139nm,0.7s,baz=36,slow=11,SNR=6.1
SJG San Juan 156.02 21 **PKPdf** 06 32 31.5 -1.0
ITAB Concordia 156.75 192 *eP* **PKPdf** 06 32 33.9 +0.6
LCBC Los crdobas, 156.98 55 *eP* **PKPdf** 06 32 35.1 +1.2
SMRT St. Maarten 157.00 14 *eP* **PKPdf** 06 32 34.8 +1.0
ALF01 Guarapari-ES 157.12 224 *eP* **PKPdf** 06 32 32.6 -1.2
DUB01 Friburgo-RJ 157.16 218 *eP* **PKPdf** 06 32 33.3 -0.7
SMRC Santa Marta, M 157.23 47 *eP* **PKPdf** 06 32 35.1 +1.0
FLF1 Flavio Alfaro- 157.26 80 *eP* **PKPdf** 06 32 36.4 +2.1
SJCC San Jacinto, C 157.31 51 *eP* **PKPdf** 06 32 34.1 -0.2
SABA Saba 157.37 15 *eP* **PKPdf** 06 32 36.4 +2.1
SABA Saba 157.37 15 *e* **PKPab** 06 33 11.9 +2.3
SEUS St. Eustatius 157.56 14 *eP* **PKPdf** 06 32 36.2 +1.8
SEUS St. Eustatius 157.56 14 *e* **PKPab** 06 33 15.2 +4.9
ANWB Willy Bob 157.64 11 *eP* **PKPdf** 06 32 31.5 -3.0
ANWB Willy Bob 157.64 11 *e* **PKPab** 06 32 33.9 -0.7
VAS01 Vassouras-RJ 157.66 216 *eP* **PKPdf** 06 32 32.8 -1.8
TIJ01 Guaruva-PR 157.69 200 *eP* **PKPdf** 06 32 32.9 -1.7
RIB01 Linhares ES 157.73 227 *eP* **PKPdf** 06 32 33.7 -0.9
TUMC Tumaco 157.84 74 *eP* **PKPdf** 06 32 36.3 +1.4
PET01 Itanhaem-SP 157.95 205 *eP* **PKPdf** 06 32 34.3 -0.5
PARB Paraibuna 158.00 210 *eP* **PKPdf** 06 32 34.3 -0.7
GR1C Gorgona, Isla 158.01 71 *eP* **PKPdf** 06 32 34.7 -0.4
ARGC Ariguani, Magd 158.06 50 *eP* **PKPdf** 06 32 35.4 +0.2
DBBC Dabeiba 158.09 59 *eP* **PKPdf** 06 32 36.2 +0.8
PAC1 Pacto, Paraso 158.16 78 *eP* **PKPdf** 06 32 33.7 -1.9
CPUP Villa Florida 158.21 180 PKP **PKPdf** 06 32 35.4 +0.4
comp=Z,26nm,0.9s,baz=155,slow=0.7,SNR=51
CPUP PKPab **PKPab** 06 33 13.7 +0.6
comp=Z,149nm,1.0s,baz=172,slow=4.4,SNR=10
CPUP pPKP **pPKPdf** 06 34 55.9 -2.7
comp=Z,26nm,0.7s,baz=210,slow=5.8,SNR=1.5
CPUP PP **PP** 06 36 53.5 -0.6
comp=Z,137nm,1.1s,baz=183,slow=5.4,SNR=2.8
CPUP Villa Florida 158.21 180 *eP* **PKPdf** 06 32 34.0 -1.0
ANBD Bethesda, Anti 158.25 11 *eP* **PKPdf** 06 32 40.5 +5.2
UREC San Jos de Ur 158.27 56 *eP* **PKPdf** 06 32 34.1 -1.4
CRJC Cerrejon, Guaj 158.29 45 *eP* **PKPdf** 06 32 36.1 +0.6
URIC Uribia, Colomb 158.41 42 *eP* **PKPdf** 06 32 35.0 -0.6
MBFL Flemmings, Mon 158.45 13 *eP* **PKPdf** 06 32 36.2 +0.7
MLYT Lee's Yard 158.48 13 *eP* **PKPdf** 06 32 37.2 +1.6
RCBR Riachuelo 158.51 265 PKP **PKPdf** 06 32 36.1 +0.3
comp=Z,26nm,0.9s,baz=85,slow=1.5,SNR=11
RCBR PKPab **PKPab** 06 33 15.4 +0.3
comp=Z,391nm,0.9s,baz=238,slow=4.3,SNR=26
RCBR pPKP **pPKPdf** 06 34 59.3 -0.1
comp=Z,20nm,0.9s,baz=249,slow=7.7,SNR=0.8
RCBR Riachuelo 158.51 265 *eP* **PKPdf** 06 32 33.7 -2.1
CUSE Cuicocha Este 158.54 78 *eP* **PKPdf** 06 32 36.9 +0.6
SPB Sao Paulo 158.63 206 *eP* **PKPdf** 06 32 34.3 -1.3
SJMB Sao Joao De Ma 158.70 227 *eP* **PKPdf** 06 32 35.2 -0.6
LVC Limon Verde 158.77 149 PKPab **PKPab** 06 33 19.4 +3.3
comp=Z,112nm,0.8s,baz=215,slow=4.3,SNR=6.3
LVC pPKP **pPKPdf** 06 34 57.4 -2.5
comp=Z,21nm,0.6s,baz=275,slow=18,SNR=1.2
LL1C La Loma 1 Cana 158.78 49 *eP* **PKPdf** 06 32 35.4 -0.6
CBOC Ciudad Bolivar 158.83 61 *eP* **PKPdf** 06 32 35.8 -0.5
ABD La Joyeuse, An 158.86 11 *eP* **PKPdf** 06 32 37.7 +1.7
ABD La Joyeuse, An 158.86 11 *e* **PKPab** 06 33 18.4 +2.3
GUA01 Guaratinga, BA 158.89 234 *eP* **PKPdf** 06 32 33.6 -2.5
CMBC Cumbal 158.94 76 *eP* **PKPdf** 06 32 38.3 +1.5
ZARC Zaragoza, Cauc 158.97 56 *eP* **PKPdf** 06 32 34.9 -1.4
ATAH Atahualpa 158.97 98 PKP **PKPdf** 06 32 38.1 +1.3
comp=Z,118nm,0.9s,baz=159,slow=3.1,SNR=65
ATAH PKPab **PKPab** 06 33 21.1 +3.5
comp=Z,472nm,1.1s,baz=175,slow=7.9,SNR=4.1
ATAH pPKP **pPKPdf** 06 34 58.6 -1.8
comp=Z,48nm,1.0s,baz=125,slow=13,SNR=0.9
PLMC San Jos del P 159.02 64 *eP* **PKPdf** 06 32 36.5 0.0
H05N1 Guadeloupe/Mar 159.09 10 PKP **PKPdf** 06 32 34.2 -2.1
SNR=29
PTGB Pitanga 159.16 194 *eP* **PKPdf** 06 32 34.3 -2.1
CBE Ff, Capester 159.23 11 *eP* **PKPdf** 06 32 36.4 -0.1
GCUF Volcan Galeras 159.33 75 *eP* **PKPdf** 06 32 37.0 -0.3
YOTC Yotoco, Valle 159.35 66 *eP* **PKPdf** 06 32 36.2 -0.6
NNA Nana 159.38 113 PKP **PKPdf** 06 32 37.5 +0.8
comp=Z,88nm,0.8s,baz=306,slow=1.6,SNR=49
NNA PKPab **PKPab** 06 33 21.9 +3.0
comp=Z,108nm,0.7s,baz=291,slow=3.0,SNR=5.1
NNA pPKP **pPKPdf** 06 34 59.1 -1.3
comp=Z,16nm,0.7s,baz=276,slow=9.6,SNR=0.8
NNA SKP **SKPdf** 06 35 09.2 -1.6
comp=Z,91nm,0.9s,baz=2.2,slow=3.0,SNR=4.2
NNA Nana 159.38 113 *eP* **PKPdf** 06 32 36.6 -0.2
MAGL Barre de l'ile 159.41 11 *eP* **PKPdf** 06 32 35.7 -1.0
MAGL Barre de l'ile 159.41 11 *e* PKPab 06 33 27.4 +8.9
CRUC La Cruz 159.61 73 *eP* **PKPab** 06 33 22.4 +2.1
NIZA Niza - Manizal 159.68 63 *eP* **PKPdf** 06 32 37.5 +0.1
RCLB Rio Claro- Sao 159.69 207 *eP* **PKPdf** 06 32 35.8 -1.2
GUY2C Guyana, Caldas 159.69 62 *eP* **PKPdf** 06 32 36.4 -1.3
FRTB Fartura 159.70 201 *eP* **PKPdf** 06 32 35.2 -1.7
PTBC PUERTO BERRIO 159.82 57 *eP* **PKPdf** 06 32 35.2 -2.0
NORC Norcasia 159.97 61 *eP* **PKPdf** 06 32 38.5 +1.1
BRRC Barranca, Sant 160.13 55 *eP* **PKPdf** 06 32 37.1 -0.4
ORTC Ortega, Tolima 160.38 65 *eP* **PKPdf** 06 32 36.3 -1.6
FDF Fort de France 160.62 11 *eP* **PKPdf** 06 32 40.8 +2.7
FDF Fort de France 160.62 11 *e* **PKPab** 06 33 26.7 +2.8
FDF Fort de France 160.62 11 PKIKP **PKPdf** 06 32 38.0 -0.1
DIAM Diamantina, MG 160.72 223 *eP* **PKPdf** 06 32 38.8 +0.5
ROSC El Rosal 160.79 62 PKP **PKPdf** 06 32 39.0 +0.2
comp=Z,50nm,0.9s,baz=168,slow=3.1,SNR=26
ROSC PKPab **PKPab** 06 33 27.4 +1.9
comp=Z,62nm,0.6s,baz=158,slow=21,SNR=5.7
ROSC pPKP **pPKPdf** 06 35 01.5 -1.1
comp=Z,41nm,0.6s,baz=66,slow=22,SNR=0.8
ROSC PP **PP** 06 37 13.6 +3.2
comp=Z,71nm,0.8s,baz=152,slow=6.1,SNR=5.0
ROSC El Rosal 160.79 62 PKIKP **PKPdf** 06 32 39.0 +0.2
ROSC El Rosal 160.79 62 *eP* **PKPdf** 06 32 38.3 -0.4
GARC Garzon, Huila 160.80 70 *eP* **PKPdf** 06 32 38.0 -0.7
PAMC Pamplona, Colo 160.81 53 *eP* **PKPdf** 06 32 38.0 -0.9
FLOC Florencia 160.85 72 *eP* **PKPdf** 06 32 39.0 +0.6
BIM Bigot 160.85 11 *eP* **PKPdf** 06 32 39.7 +1.4
BIM Bigot 160.85 11 *e* **PKPab** 06 33 25.6 +0.7
BARC Barichara 160.85 55 *eP* **PKPdf** 06 32 37.8 -0.8
NBCL Cascavel-CE 160.91 270 *eP* **PKPdf** 06 32 36.3 -2.1
MPOM Morne Pois Mar 160.96 10 *eP* **PKPdf** 06 32 40.0 +1.7
MPOM Morne Pois Mar 160.96 10 *e* **PKPab** 06 33 32.5 +7.2
TRCB Terra Rica 161.15 194 *eP* **PKPdf** 06 32 37.7 -0.8
RUSC La Rusia 161.32 57 *eP* **PKPdf** 06 32 38.0 -1.4
SLBI Saint Lucia, B 161.35 11 *eP* **PKPdf** 06 32 38.6 -0.1
SLBI Saint Lucia, B 161.35 11 *e* **PKPab** 06 33 26.8 -0.2
SDV Santo Domingo 161.35 45 PKP **PKPdf** 06 32 38.8 -0.3
comp=Z,160nm,0.8s,baz=57,slow=0.4,SNR=110
SDV PKPab **PKPab** 06 33 27.5 0.0
comp=Z,347nm,0.7s,baz=218,slow=2.6,SNR=8.5
SDV SKP **SKPdf** 06 35 13.1 +0.1
comp=Z,58nm,0.7s,baz=15,slow=8.2,SNR=3.5
SDV Santo Domingo 161.35 45 **PKPdf** 06 32 38.1 -1.0
SDV Santo Domingo 161.35 45 *eP* **PKPdf** 06 32 37.4 -1.7
CHIC Chiningaza 161.41 61 *eP* **PKPdf** 06 32 38.5 -0.9
MCLT Moule a Chique 161.66 11 *eP* **PKPdf** 06 32 39.7 +0.6
MCLT Moule a Chique 161.66 11 *e* **PKPab** 06 33 30.0 +1.6
PCMB Pacaembu 161.89 199 *eP* **PKPdf** 06 32 37.8 -1.4
SVB Belmont 162.03 12 *eP* **PKPdf** 06 32 41.0 +1.5
SVB Belmont 162.03 12 *e* **PKPab** 06 33 32.0 +2.0
MACC Macarena, Meta 162.35 69 *eP* **PKPdf** 06 32 39.0 -0.9
BBGH Gun Hill 162.43 7 *eP* **PKPdf** 06 32 37.8 -2.1
GCMP Grenada, Carri 162.75 13 *eP* **PKPdf** 06 32 39.8 -0.3
GCMP Grenada, Carri 162.75 13 *e* **PKPab** 06 33 34.9 +1.8
PTGC Puerto Gaitan, 163.00 60 *eP* **PKPdf** 06 32 35.7 -4.8
BAUV El Baul 163.03 39 *eP* **PKPdf** 06 32 41.4 +0.9
BAUV El Baul 163.03 39 *e* **PKPab** 06 33 41.3 +6.7
GRGR Grenville 163.04 14 *eP* **PKPdf** 06 32 45.6 +5.2
GRGR Grenville 163.04 14 *e* **PKPab** 06 33 33.4 -1.1
GRGR Grenville 163.04 14 *e* **PKPab** 06 33 33.5 -0.9
GRGR Grenville 163.04 14 *eP* **PKPdf** 06 32 36.3 -4.2
JANB Januaria 163.31 230 *eP* **PKPdf** 06 32 39.9 -0.9
ITRB Iturama 163.31 204 *eP* **PKPdf** 06 32 39.7 -0.9
GUVC San Jose del G 163.32 66 *eP* **PKPdf** 06 32 39.3 -1.5
IPMB Ipameri, GO 163.77 213 *eP* **PKPdf** 06 32 40.1 -1.0
AQDB Aquidauana 163.94 186 *eP* **PKPdf** 06 32 39.0 -2.1
TOSP Speyside 164.09 11 *eP* **PKPdf** 06 32 40.1 -1.3
TOSP Speyside 164.09 11 *e* **PKPab** 06 33 46.4 +7.3
LPAZ La Paz 164.20 139 *eP* **PKPdf** 06 32 40.6 -1.6
LPAZ La Paz 164.20 139 *eP* **PKPdf** 06 32 39.3 -2.9
CZSB Cruzeiro do Su 164.46 103 *eP* **PKPdf** 06 32 39.7 -2.1
TRN Trinidad (W) 164.53 15 *eP* **PKPdf** 06 32 41.5 -0.3
TRN Trinidad (W) 164.53 15 *e* **PKPab** 06 33 42.5 +1.5
C2SB Chapadao do Su 165.04 197 *eP* **PKPdf** 06 32 40.7 -1.5
SDBA SAO DESIDERIO 165.28 237 *eP* **PKPdf** 06 32 40.3 -2.3
BDFB Brasilia 165.50 219 PKP **PKPdf** 06 32 42.6 -0.1
comp=Z,17nm,0.6s,baz=100,slow=1.8,SNR=24
BDFB PKPab **PKPab** 06 33 46.8 +1.2

comp=Z,45nm,0.7s,baz=40,slow=4.2,SNR=5.5
BDFB pPKP **pPKPdf 06 35 05.7 -1.0**
comp=Z,40nm,0.9s,baz=300,slow=18,SNR=1.1
BDFB Brasilia 165.50 219 PKPdf 06 32 41.8 -0.9
BDFB Brasilia 165.50 219 *eP* **PKPdf 06 32 41.1 -1.6**
ROSB Rosrio 166.63 276 *eP* **PKPdf 06 32 41.6 -1.9**
PP1B Ponte de Pedra 166.66 191 *eP* **PKPdf 06 32 40.9 -2.5**
TBTG Tabatinga, AM 167.56 89 *eP* **PKPdf 06 32 42.4 -1.8**
SIV San Ignacio 167.95 163 PKP **PKPdf 06 32 44.7 +0.3**
comp=Z,41nm,0.8s,baz=141,slow=1.5,SNR=15.4
SIV PKPab **PKPab 06 33 57.4 +1.2**
comp=Z,41nm,0.5s,baz=204,slow=4.8,SNR=8.9
SIV SKP **SKPdf 06 35 19.2 +1.5**
comp=Z,49nm,0.9s,baz=40,slow=2.6,SNR=4.2
SALV Santo Antonio 168.46 188 *eP* **PKPdf 06 32 43.5 -1.2**
PTLB Pontes e Lacer 168.91 171 *eP* **PKPdf 06 32 43.1 -1.9**
SMTB Santa Maria do 169.27 245 *eP* **PKPdf 06 32 42.6 -2.8**
MDP Montagnes des 169.41 333 PKP **PKPdf 06 32 46.2 +0.8**
comp=Z,36nm,0.9s,baz=344,slow=2.3,SNR=6.4
MDP PKPab **PKPab 06 34 02.4 -0.3**
comp=Z,49nm,0.6s,baz=81,slow=1.8,SNR=6.1
MDP pPKP **pPKPdf 06 35 10.7 +1.1**
comp=Z,26nm,0.8s,baz=94,slow=1.8,SNR=1.3
SGCB São Gabriel d 169.51 66 *eP* **PKPdf 06 32 43.5 -1.9**
ETMB Extrema 169.77 122 *eP* **PKPdf 06 32 43.4 -2.2**
SNDB Serra Nova Dou 170.34 219 *eP* **PKPdf 06 32 44.4 -1.5**
TMAB Tom-Au,PA,Br 170.46 282 *eP* **PKPdf 06 32 44.2 -1.8**
VILB Vilhena 171.09 162 *eP* **PKPdf 06 32 44.4 -1.9**
PRPB Parauapebas 172.21 257 *eP* **PKPdf 06 32 44.8 -2.1**
BOAV Boa Vista 172.57 25 *eP* **PKPdf 06 32 44.8 -2.2**
BOAV Boa Vista 172.57 25 *eP* **PKPdf 06 32 45.2 -1.9**
PDRB Porto dos Gac 172.81 186 *eP* **PKPdf 06 32 45.4 -1.6**
MCPB Macapa, AP 173.29 307 *eP* **PKPdf 06 32 44.9 -2.4**
CLDB Colider 173.38 194 *eP* **PKPdf 06 32 45.3 -2.0**
MALB Monte Alegre 175.94 309 *eP* **PKPdf 06 32 46.1 -2.0**
MACA Manacapuru-AM 176.53 69 *eP* **PKPdf 06 32 46.1 -2.1**
NPGB Novo Progresso 176.67 218 *eP* **PKPdf 06 32 46.5 -1.7**
ITTB Itaituba 178.30 271 *eP* **PKPdf 06 32 46.8 -1.7**

ANF ***10*** *06:22:29.8±0.5, 36°.40N×98°.13W, h4km±3km, ML4.0/13, Error ellipse: s-maj=2.5km s-min=2.2km az=42.0*
TUL ***10*** *06:22:29.6±0.3, 36°.417N±0°.010×98°.14W±0°.01, h6km±2km, ML3.3, mb_Lg3.4/91(NEIC), ML3.5/50(NEIC), Error ellipse: s-maj=1.6km s-min=1.0km az=137.0*
NEIC ***10*** *06:22:30.2±0.4, 36°.42N±0°.01×98°.13W±0°.01, h4km±2km, Error ellipse: s-maj=1.7km s-min=1.5km az=139.0*
ISC 10 06:22:29.7±1.0, 36°.40N±0°.02×98°.13W±0°.02, h6km±9km, n121, σ0§74/117, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.15**	**48**	Pg	**Pg**	**06 22 33.2**	**+0.3**
CROK				Sg	**Sg**	**06 22 35.7**	**+0.7**
CROK				IAML		06 22 36.0	
	comp=E,21μm,0.5s						
CROK				IAML		06 22 36.0	
	comp=N,26μm,0.4s						
OK032	**Salt Plains WL**	**0.41**	**350**	Pg	**Pg**	**06 22 37.6**	**0.0**
GC02	**Grant County #**	**0.50**	**25**	Pg	**Pg**	**06 22 39.2**	**-0.1**
GC02				Sg	**Sg**	**06 22 46.0**	**+0.2**
OK038	**West end E0370**	**0.50**	**279**	Pg	**Pg**	**06 22 39.2**	**-0.2**
OK038				IAML		06 22 53.9	
	comp=N,5μm,0.3s						
OK035	**E0210 Rd and N**	**0.56**	**303**	Pg	**Pg**	**06 22 40.5**	**-0.1**
OK035				Sg	**Sg**	**06 22 48.0**	**+0.2**
OK035				IAML		06 22 50.9	
	comp=N,3μm,0.3s						
KAN14	**Manchester OK**	**0.57**	**13**	Pg	**Pg**	**06 22 40.5**	**-0.1**
KAN14				IAML		06 22 48.8	
	comp=E,2μm,0.2s						
KAN14				Sg	**Sg**	**06 22 48.0**	**-0.1**
NOKA	**Waynoka**	**0.69**	**290**	Pg	**Pg**	**06 22 42.6**	**-0.4**
NOKA				Sg	**Sg**	**06 22 52.1**	**+0.1**
NOKA				IAML		06 22 54.8	
	comp=N,5μm,0.3s						
NOKA				IAML		06 22 56.3	
	comp=E,3μm,0.3s						
KAN17	**Caldwell West**	**0.70**	**24**	Pg	**Pg**	**06 22 42.6**	**-0.6**
KAN17				Sg	**Sg**	**06 22 52.5**	**+0.1**
KAN17				IAML		06 22 52.9	
	comp=N,2μm,0.2s						
KAN17				IAML		06 22 53.0	
	comp=E,3μm,0.3s						
U32A	**Winter Ranch,**	**0.71**	**268**	Pg	**Pg**	**06 22 43.0**	**-0.3**
U32A				Sg	**Sg**	**06 22 52.8**	**+0.3**
U32A	**Winter Ranch,**	**0.71**	**268**	P	**Pg**	**06 22 43.0**	**-0.3**
	baz=87,SNR=82						
U32A				S	**Sb**	**06 22 53.6**	**-1.0**
	baz=87						
KAN13	**South Haven SW**	**0.80**	**40**	Pg	**Pg**	**06 22 44.6**	**-0.5**
KAN13				Sg	**Sg**	**06 22 55.5**	**0.0**
KAN01	**Argonia South**	**0.80**	**21**	Pg	**Pg**	**06 22 44.9**	**-0.3**
OK029	**Liberty Lake**	**0.81**	**138**	Pg	**Pg**	**06 22 45.2**	**-0.2**
OK029				Sg	**Sg**	**06 22 56.4**	**+0.5**
OK029				IAML		06 22 59.0	
	comp=E,2μm,0.4s						
OK029				IAML		06 22 59.3	
	comp=E,2μm,0.5s						
BLOK	**Blackwell**	**0.81**	**64**	Pg	**Pg**	**06 22 45.1**	**-0.2**
BLOK				Sg	**Sg**	**06 22 56.3**	**+0.3**
BLOK				IAML		06 22 56.5	
	comp=E,2μm,0.3s						
BLOK				IAML		06 22 56.8	
	comp=N,4μm,0.2s						
KAN08	**Anthony NE Sta**	**0.83**	**9**	Pg	**Pg**	**06 22 45.3**	**-0.4**
KAN08				Sg	**Sg**	**06 22 56.1**	**-0.4**
KAN09	**Caldwell North**	**0.84**	**29**	Pg	**Pg**	**06 22 45.3**	**-0.6**
BCOK	**Bluff Creek, N**	**0.85**	**151**	Pg	**Pg**	**06 22 46.0**	**-0.1**
BCOK				IAmb_Lg	**Sg**	**06 22 57.6**	**+0.4**
	comp=Z,115nm,1.0s						
BCOK				Sg	**Sg**	**06 22 57.6**	**+0.4**
BCOK				IAML		06 23 00.3	
	comp=E,820nm,0.5s						
BCOK				IAML		06 23 07.4	
	comp=N,522nm,0.6s						
KAN06	**Argonia West S**	**0.87**	**14**	Pg	**Pg**	**06 22 45.8**	**-0.6**
KAN06				Sg	**Sg**	**06 22 57.7**	**-0.1**
CSTR	**Hydro, Custer**	**0.88**	**211**	Pg	**Pg**	**06 22 46.7**	**0.0**
CSTR				Sg	**Sg**	**06 22 59.1**	**+0.9**
CSTR				IAML		06 23 02.0	
	comp=N,150nm,0.3s						
CSTR				IAML		06 23 11.4	
	comp=E,164nm,0.7s						
KAN12	**Harper NE Stat**	**0.90**	**6**	Pg	**Pg**	**06 22 46.6**	**-0.4**
KAN12				Sg	**Sg**	**06 22 58.5**	**-0.2**
OK050	**Pawnee Station**	**0.92**	**90**	Pg	**Pg**	**06 22 47.0**	**-0.5**
OK050				Sg	**Sg**	**06 22 59.7**	**+0.3**
OK050				IAML		06 23 05.2	
	comp=E,977nm,0.2s						
OK050				IAML		06 23 06.8	
	comp=E,1μm,0.2s						
KS20	**Mayfield South**	**0.94**	**29**	Pg	**Pg**	**06 22 47.2**	**-0.6**
OK048	**Pawnee Station**	**0.95**	**89**	Pg	**Pg**	**06 22 47.5**	**-0.6**
KS21	**Milan North St**	**0.96**	**23**	Pg	**Pg**	**06 22 47.4**	**-0.7**
OK046	**Pawnee Station**	**0.98**	**90**	Pg	**Pg**	**06 22 48.1**	**-0.5**
OK046				IAML		06 23 07.2	
	comp=E,1μm,0.2s						
OK033	**Mehan**	**1.02**	**110**	Pg	**Pg**	**06 22 48.9**	**-0.4**
OK033				IAML		06 23 08.8	
	comp=E,1μm,0.2s						
OK025	**Westminster Rd**	**1.04**	**142**	Pg	**Pg**	**06 22 49.3**	**-0.4**
OK025				IAML		06 23 04.0	
	comp=E,1μm,0.4s						
OK025				IAML		06 23 04.0	
	comp=E,2μm,0.5s						
ELIS	**Ellis County**	**1.10**	**252**	Pg	**Pg**	**06 22 50.3**	**-0.5**
ELIS				IAML		06 23 17.5	
	comp=E,1μm,0.3s						
ELIS				IAML		06 23 19.7	
	comp=N,1μm,0.3s						
OK031	**S. Brethren Rd**	**1.13**	**113**	Pg	**Pg**	**06 22 51.0**	**-0.5**
OK031				IAML		06 23 10.4	
	comp=N,2μm,0.4s						
OK052	**Battle Ridge R**	**1.15**	**111**	Pg	**Pg**	**06 22 51.1**	**-0.6**
OK053	**SW of W Deep R**	**1.15**	**109**	Pg	**Pg**	**06 22 51.0**	**-0.8**
QUOK	**Quay**	**1.17**	**101**	Pg	**Pg**	**06 22 51.5**	**-0.6**
QUOK				IAML		06 23 12.2	
	comp=N,1μm,0.2s						
QUOK				IAML		06 23 15.5	
	comp=E,1μm,0.2s						
OK030	**Cody Creek RV**	**1.18**	**113**	Pg	**Pg**	**06 22 51.8**	**-0.6**
OK030				IAML		06 23 10.2	
	comp=E,1μm,0.2s						
OK034	**N. Norfolk Rd.**	**1.21**	**109**	Pg	**Pg**	**06 22 52.2**	**-0.7**
OK034				IAML		06 23 13.0	
	comp=E,1μm,0.3s						
FNO	**Franklin**	**1.29**	**153**	Pg	**Pn**	**06 22 53.5**	**-0.8**
FNO				IAML		06 23 12.3	
	comp=N,1μm,0.2s						
FNO				IAML		06 23 12.4	
	comp=E,1μm,0.4s						
T35A	**Sooner Cattle**	**1.39**	**68**		**Pn**	**06 22 55.5**	**-0.3**
T35B	**Sooner Cattle**	**1.39**	**68**	P	**Pn**	**06 22 55.5**	**-0.4**
	baz=249						
DEOK	**Depew**	**1.43**	**113**		**Pn**	**06 22 56.1**	**-0.2**
WMOK	**Wichita Mounta**	**1.75**	**198**	Pn	**Pn**	**06 23 00.6**	**-0.1**
WMOK				IAmb_Lg		06 23 25.1	
	comp=Z,141nm,0.7s						
WMOK	**Wichita Mounta**	**1.75**	**198**	P	**Pn**	**06 23 00.5**	**-0.1**
	baz=17,SNR=314						
WMOK				S	**Sb**	**06 23 24.4**	**0.0**
	baz=17						
WMOK	**Wichita Mounta**	**1.75**	**198**	P	**Pn**	**06 23 00.6**	**-0.1**
	baz=17						
WMOK				S	**Sb**	**06 23 24.5**	**0.0**
	baz=17						
X34A	**Smith Ranch, M**	**1.81**	**172**	Pn	**Pn**	**06 23 02.7**	**+1.1**
X34A				IAmb_Lg		06 23 31.0	
	comp=Z,161nm,0.8s						
TUL1	**Leonard**	**1.95**	**104**	Pn	**Pn**	**06 23 03.7**	**+0.3**
TUL1				IAmb_Lg		06 23 33.1	
	comp=Z,167nm,0.9s						
TUL1	**Leonard**	**1.95**	**104**	P	**Pn**	**06 23 03.8**	**+0.3**
	baz=286,SNR=86						
TUL1	**Leonard**	**1.95**	**104**	P	**Pn**	**06 23 03.8**	**+0.3**
	baz=286						
TUL1				S	**Sb**	**06 23 30.3**	**-0.1**
	baz=286						
R32A	**Long Quarter,**	**2.07**	**347**	Pn	**Pn**	**06 23 05.8**	**+0.7**
R32A	**Long Quarter,**	**2.07**	**347**	P	**Pn**	**06 23 06.0**	**+0.9**
	baz=167,SNR=118						
R32A				S	**Sb**	**06 23 34.0**	**+0.2**
	baz=167						
RLO	**Rose Lookout**	**2.52**	**95**	IAmb_Lg		06 23 47.7	
	comp=Z,71nm,0.8s						
LOOK	**Love County**	**2.53**	**162**	Pn	**Pn**	**06 23 12.1**	**+0.7**
LOOK				IAmb_Lg		06 23 54.9	
	comp=Z,84nm,0.9s						
CBKS	**Cedar Bluff**	**2.73**	**332**	S	**Sn**	**06 23 49.0**	**+1.5**
	baz=152						
CBKS	**Cedar Bluff**	**2.73**	**332**	S	**Sn**	**06 23 49.0**	**+1.5**
	baz=152						
X37A	**Clayton**	**2.88**	**128**	Pn	**Pn**	**06 23 16.9**	**+0.6**
X37A				IAmb_Lg		06 24 05.6	
	comp=Z,159nm,0.9s						
X37A	**Clayton**	**2.88**	**128**	P	**Pn**	**06 23 17.0**	**+0.7**
	baz=310,SNR=31						
KSU1	**Kansas State U**	**2.95**	**24**	IAmb_Lg		06 24 09.3	
	comp=Z,97nm,0.8s						
KSU1	**Kansas State U**	**2.95**	**24**	Sb	**Sg**	**06 24 02.1**	**-2.4**
	baz=205						
U38A	**Gravette**	**3.02**	**88**	Pn	**Pn**	**06 23 18.7**	**+0.6**
U38A				IAmb_Lg		06 24 11.8	
	comp=Z,122nm,0.9s						
AMTX	**Amarillo**	**3.27**	**243**	IAmb_Lg		06 24 16.3	
	comp=Z,157nm,0.8s						
AMTX	**Amarillo**	**3.27**	**243**	Pb	**Pb**	**06 23 28.8**	**+0.5**
	baz=61						
AMTX				Sb	**Sg**	**06 24 11.8**	**-3.0**
	baz=61						
FW03	**Perrin-Whitt E**	**3.36**	**179**	IAmb_Lg		06 24 23.6	
	comp=Z,41nm,0.8s						
HHAR	**Hobbs**	**3.38**	**91**	Pn	**Pn**	**06 23 24.0**	**+0.9**
HHAR				IAmb_Lg		06 24 19.6	
	comp=Z,75nm,0.8s						
FW06	**Azle**	**3.45**	**172**	Pn	**Pn**	**06 23 24.7**	**+0.6**
FW06				IAmb_Lg		06 24 28.7	
	comp=Z,46nm,1.0s						
FW07	**Weatherford**	**3.70**	**176**	IAmb_Lg		06 24 37.1	
	comp=Z,30nm,0.7s						
ABTX	**Abilene, Hawle**	**3.97**	**199**	Pn	**Pn**	**06 23 31.3**	**0.0**
ABTX				IAmb_Lg		06 24 35.7	
	comp=Z,74nm,0.8s						
S39A	**Bolivar**	**4.05**	**70**	Pn	**Pn**	**06 23 32.5**	**+0.2**
S39A				IAmb_Lg		06 24 39.0	
	comp=Z,95nm,0.7s						
S39A	**Bolivar**	**4.05**	**70**	P	**Pn**	**06 23 32.8**	**+0.4**
	baz=253,SNR=6.2						
Z38A	**Mt. Pleasant**	**4.06**	**140**	IAmb_Lg		06 24 41.5	
	comp=Z,49nm,0.7s						
MIAR	**Mount Ida**	**4.15**	**115**	Pn	**Pn**	**06 23 34.1**	**+0.5**
MIAR				IAmb_Lg		06 24 47.3	
	comp=Z,90nm,0.8s						
MIAR	**Mount Ida**	**4.15**	**115**	P	**Pn**	**06 23 34.4**	**+0.7**
	baz=298,SNR=16						
MIAR	**Mount Ida**	**4.15**	**115**	P	**Pn**	**06 23 34.8**	**+1.2**
	baz=298						
MIAR				Sb	**Sg**	**06 24 40.5**	**-2.5**
	baz=298						
U40A	**Yellville**	**4.25**	**89**	P	**Pn**	**06 23 35.4**	**+0.3**
	baz=272,SNR=7.2						
U40A				P	**Pn**	**06 23 35.4**	**+0.3**
	baz=272,SNR=7.2						
N33A	**J Bar K, Exete**	**4.36**	**7**	Pn	**Pn**	**06 23 36.2**	**-0.4**
KSCO	**Kaye Shedlock'**	**4.42**	**307**	Pn	**Pn**	**06 23 36.2**	**-1.3**
KSCO				IAmb_Lg		06 25 00.3	
	comp=Z,96nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.42**	**307**	S	**Sn**	**06 24 30.0**	**+0.6**
	baz=125						
WHTX	**Lake Whitney,**	**4.44**	**173**	Pn	**Pn**	**06 23 37.9**	**+0.2**
WHTX	**Lake Whitney,**	**4.44**	**173**	P	**Pn**	**06 23 37.8**	**+0.2**
	baz=353,SNR=16						
WHTX	**Lake Whitney,**	**4.44**	**173**	P	**Pn**	**06 23 37.9**	**+0.2**
	baz=353						
X40A	**Basin Creek Fa**	**4.72**	**112**	Pn	**Pn**	**06 23 41.8**	**+0.3**
MGMO	**Mountain Grove**	**4.76**	**79**	Pn	**Pn**	**06 23 41.5**	**-0.6**
237A	**Washetta, Mont**	**4.79**	**156**	Pn	**Pn**	**06 23 42.2**	**-0.3**
P38A	**Dawn**	**4.85**	**47**	Pn	**Pn**	**06 23 43.9**	**+0.7**
P38A				IAmb_Lg		06 25 13.6	
	comp=Z,58nm,0.8s						
N35A	**Tabor**	**4.86**	**23**	P	**Pn**	**06 23 43.4**	**0.0**
	baz=204						
WHAR	**Wooly Hollow**	**4.87**	**101**	Pn	**Pn**	**06 23 43.8**	**+0.2**
WHAR				IAmb_Lg		06 25 16.4	
	comp=Z,45nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.88**	**94**	Pn	**Pn**	**06 23 44.6**	**+0.9**
FCAR				IAmb_Lg		06 25 03.8	
	comp=Z,46nm,0.7s						
WLAR	**White Oak Lake**	**4.92**	**122**	IAmb_Lg		06 25 07.0	
	comp=Z,63nm,0.7s						
UALR	**University of**	**4.98**	**107**	Pn	**Pn**	**06 23 45.9**	**+0.8**
UALR				IAmb_Lg		06 25 13.8	
	comp=Z,72nm,1.1s						
BGNE	**Belgrade**	**5.00**	**360**	Pn	**Pn**	**06 23 45.2**	**-0.2**
BGNE				IAmb_Lg		06 25 16.4	
	comp=Z,76nm,0.7s						
BGNE	**Belgrade**	**5.00**	**360**	P	**Pn**	**06 23 45.1**	**-0.2**
	baz=180						
BGNE	**Belgrade**	**5.00**	**360**	P	**Pn**	**06 23 45.5**	**+0.2**
	baz=180						
R40A	**Maddies Statio**	**5.03**	**66**	Pn	**Pn**	**06 23 45.5**	**-0.3**
R40A				IAmb_Lg		06 25 17.5	
	comp=Z,48nm,0.7s						
T25A	**Trinidad**	**5.10**	**280**	IAmb_Lg		06 25 11.0	
	comp=Z,64nm,0.9s						
OGNE	**Ogallala**	**5.47**	**327**	IAmb_Lg		06 25 29.8	
	comp=Z,78nm,0.7s						
OGNE	**Ogallala**	**5.47**	**327**	P	**Pn**	**06 23 53.7**	**+1.8**
	baz=145						
435B	**Jarrell**	**5.62**	**175**	IAmb_Lg		06 25 44.7	
	comp=Z,41nm,0.7s						
LCAR	**Lake Charles**	**5.64**	**91**	Pn	**Pn**	**06 23 55.1**	**+1.0**
CCM	**Cathedral Cave**	**5.73**	**71**	Pn	**Pn**	**06 23 55.4**	**0.0**
CCM				IAmb_Lg		06 25 30.7	
	comp=Z,61nm,0.8s						
CCAR	**Cane Creek**	**5.76**	**114**	IAmb_Lg		06 25 43.0	
	comp=Z,77nm,0.8s						
SDCO	**Great Sand Dun**	**6.05**	**285**	Pn	**Pn**	**06 23 59.0**	**-1.0**
JCT	**Junction City**	**6.07**	**194**	Pn	**Pn**	**06 24 01.2**	**+1.0**
Q24A	**Divide**	**6.13**	**297**	IAmb_Lg		06 25 51.2	
	comp=Z,64nm,1.0s						
PBMO	**Poplar Bluff**	**6.20**	**84**	IAmb_Lg		06 25 49.7	
	comp=Z,64nm,0.7s						
K31A	**O'Neill**	**6.23**	**356**	IAmb_Lg		06 25 57.3	
	comp=Z,62nm,0.7s						
FVM	**French Village**	**6.34**	**73**	Pn	**Pn**	**06 24 04.8**	**+1.0**
FVM				IAmb_Lg		06 25 50.0	
	comp=Z,50nm,0.9s						
GDL2	**Guadalupe Moun**	**6.65**	**233**	Pn	**Pn**	**06 24 07.2**	**-0.9**
SLM	**Saint Louis**	**6.65**	**68**	IAmb_Lg		06 26 01.3	
	comp=Z,52nm,0.9s						
143A	**Socs Landing,**	**6.66**	**122**	IAmb_Lg		06 26 04.8	
	comp=Z,44nm,0.8s						
ISCO	**Idaho Springs**	**6.81**	**302**	IAmb_Lg		06 26 05.2	
	comp=Z,35nm,0.8s						
CGM3	**Cape Girardeau**	**6.85**	**80**	IAmb_Lg		06 26 14.5	
	comp=Z,26nm,0.7s						
S44A	**Carbondale**	**7.21**	**77**	Pn	**Pn**	**06 24 15.8**	**+0.1**
S44A				IAmb_Lg		06 26 23.6	
	comp=Z,44nm,0.8s						
OXF	**Oxford**	**7.36**	**102**	IAmb_Lg		06 26 23.3	
	comp=Z,31nm,0.8s						
W45A	**Hickory Valley**	**7.37**	**97**	IAmb_Lg		06 26 23.2	
	comp=Z,36nm,0.8s						
ECSD	**EROS Data Cent**	**7.41**	**9**	Pn	**Pn**	**06 24 16.9**	**-1.6**
PHWY	**Pilot Hill**	**7.53**	**313**	IAmb_Lg		06 26 37.4	
	comp=Z,32nm,0.8s						
L40A	**Anamosa**	**7.79**	**41**	IAmb_Lg		06 26 41.5	
	comp=Z,56nm,0.7s						
SUSD	**Miller**	**8.06**	**356**	IAmb_Lg		06 26 50.9	
	comp=Z,32nm,0.8s						
I37A	**Lemond, Waseca**	**8.42**	**24**	IAmb_Lg		06 27 02.3	
	comp=Z,32nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.45**	**215**	P	**Pn**	**06 24 33.2**	**+0.3**
	baz=32						
121A	**Cookes Peak, D**	**8.86**	**247**	IAmb_Lg		06 27 15.0	
	comp=Z,20nm,1.3s						
JFWS	**Jewell Farm**	**8.89**	**41**	IAmb_Lg		06 27 29.0	
	comp=Z,48nm,0.7s						
K22A	**Casper**	**9.00**	**316**	IAmb_Lg		06 27 27.4	
	comp=Z,38nm,1.1s						
I40A	**Norwalk**	**9.43**	**35**	IAmb_Lg		06 27 45.4	
	comp=Z,23nm,0.8s						
F33A	**5 Mile Ranch,**	**9.53**	**8**	IAmb_Lg		06 27 33.6	
	comp=Z,18nm,1.2s						

MAN ***10*** *06:25:40.7, 4°.23N×122°.87E, h657km, mb5.4, ML4.3, MS4.6*
MAN INTENSITY II - MATI DAVAO ORIENTAL.
DJA ***10*** *06:25:40.8±0.5, 4°.4N±11°×12°.3E±°, h630km, M5.2/9, mb5.1/1, MLv5.3/9*
IDC ***10*** *06:25:44.0±0.7, 4°.36N×122°.61E, h626km±9km, mb4.2/33, mbtmp5.2/36, Error ellipse: s-maj=12.1km s-min=7.0km az=68.0*
NEIC ***10*** *06:25:44.5±1.4, 4°.33N±0°.09×122°.63E±0°.09, h624km±8km, mb5.1/60, Error ellipse: s-maj=14.1km s-min=11.3km az=51.0*
ISC 10 06:25:43.3±0.3, 4°.33N±0°.05×122°.62E±0°.05, h615km, n194, σ1§15/200, mb5.0/58, 5C-7D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**2.90**	**41**	*eP*	**P**	**06 27 03.3**	**+0.1**
GSPH	**General Santos**	**2.90**	**53**	*iP*	**P**	**06 27 04.7**	**+1.4**
SGSI	**Sangihe**	**2.97**	**102**	P	**P**	**06 27 00.7**	**-2.8**
CTBH	**Cotabato--PC H**	**3.29**	**29**	*iP*	**P**	**06 27 06.3**	**+0.9**
DDMP	**Don Marcelino,**	**3.55**	**60**	*eP*	**P**	**06 27 06.3**	**-0.6**
DDMP				*eS*	**S**	**06 28 13.8**	**-1.2**
KCP	**Kidapawan**	**3.62**	**43**	*eP*	**P**	**06 27 08.0**	**+0.5**
TOLI2	**Tolitoli**	**3.69**	**210**	P	**P**	**06 27 08.2**	**+0.4**
GTOI	**Gorontalo**	**3.69**	**174**	P	**P**	**06 27 03.8**	**-4.1**
MRSI	**Marisa**	**3.89**	**190**	P	**P**	**06 27 07.2**	**-1.9**
DAV	**Davao City (W)**	**4.01**	**47**	P	**P**	**06 27 10.4**	**+0.5**
	886nm,0.5s,baz=271,slow=2.7,SNR=8.9						
DAV				S	**S**	**06 28 23.3**	**+2.8**
	347nm,0.5s,baz=158,slow=24,SNR=1.0						
DAV	**Davao City (W)**	**4.01**	**47**	P	**P**	**06 27 10.9**	**+1.0**
MYLDM	**Lahad Datu**	**4.19**	**282**	P	**P**	**06 27 12.9**	**+1.8**
BUKP	**Musuan**	**4.28**	**34**	*eP*	**P**	**06 27 12.2**	**+0.3**
BUKP				*eS*	**S**	**06 28 24.4**	**+0.3**
BUKP	**Musuan**	**4.28**	**34**	*eP*	**P**	**06 27 12.6**	**+0.7**
MATI	**Mati**	**4.45**	**54**	*eP*	**P**	**06 27 13.6**	**+0.6**
MATI				*eS*	**S**	**06 28 24.9**	**-1.3**
CGP	**Cagayan de Oro**	**4.58**	**27**	*eP*	**P**	**06 27 14.6**	**+0.6**
MPSI	**Mapaga**	**4.81**	**215**	P	**P**	**06 27 12.1**	**-3.6**
SNPH	**Sibulan**	**5.02**	**7**	*eP*	**P**	**06 27 15.8**	**-1.5**
APSI	**Ampana**	**5.30**	**191**	P	**P**	06 27 12.5	-7.0
BIPH	**Bislig**	**5.34**	**44**	*eS*	**S**	**06 28 37.7**	**-0.8**
BIPH	**Bislig**	**5.34**	**44**	*eP*	**P**	06 27 09.6	-10
LUWI	**Luwuk**	**5.34**	**178**	P	**P**	**06 27 16.8**	**-3.1**
LUWI	**Luwuk**	**5.34**	**178**	P	**P**	06 27 13.2	-6.6
TNTI	**Ternate**	**5.91**	**127**	P	**P**	06 27 14.7	-10
LLP	**Lapu-Lapu**	**6.09**	**13**	*eP*	**P**	06 27 13.1	-13
JAP	**San Jose, Anti**	**6.41**	**354**	*eP*	**P**	**06 27 29.7**	**+1.0**
KKM	**Kota Kinabalu**	**6.60**	**285**	P	**P**	**06 27 30.7**	**+0.2**
PPR	**Puerto Princes**	**6.64**	**325**	*iP*	**P**	**06 27 32.1**	**+1.3**
KAPI	**Kappang**	**9.72**	**197**	P	**P**	**06 28 01.0**	**+1.4**
	92nm,0.9s,baz=19,slow=16,SNR=5.0						
KAPI	**Kappang**	**9.72**	**197**	P	**P**	**06 28 00.4**	**+0.8**
SIJI	**Sorong**	**10.06**	**121**	P	**P**	**06 28 03.8**	**+0.7**
	64nm,0.3s,baz=333,slow=17,SNR=14						
SBUM	**Sibu**	**10.55**	**260**	P	**P**	**06 28 09.4**	**+1.6**
FAKI	**Fak Fak**	**12.02**	**127**	P	**P**	**06 28 23.1**	**+0.8**
MMRI	**Maumere**	**12.89**	**182**	P	**P**	**06 28 32.6**	**+1.8**
SOEI	**Soe**	**14.09**	**173**	P	**P**	**06 28 43.7**	**+1.0**
BATI	**Baumata**	**14.48**	**176**	P	**P**	**06 28 47.0**	**+0.8**
	1μm,0.6s,baz=360,slow=1.3,SNR=20						
SAUI	**Saumlaki**	**14.99**	**145**	P	**P**	**06 28 50.9**	**0.

ASAR **Alice Springs** 29.93 159 P P 06 31 00.0 -3.7
MEEK **Meekatharra** 31.03 187 P P 06 31 13.7 +0.7
baz=31,SNR=7.8
JMN **Monobe** 31.07 18 P P 06 31 13.8 +0.5
JHS **Saijyo** 32.03 16 P P 06 31 23.1 +1.7
XAN **Xi'an** 32.19 338 P P 06 31 22.9 +0.1
KSRS **Korea Array** 33.32 8 P P 06 31 33.0 +0.9
comp=Z,6.7nm,0.9s,baz=184,slow=9.5,SNR=4.1
comp=Z,6.7nm,0.9s
CTA **Charters Tower** 33.59 137 P P 06 31 36.9 +2.2
comp=Z,65nm,0.8s,baz=309,slow=8.3,SNR=15
comp=Z,65nm,0.8s
MORW **Morawa** 33.80 190 P P 06 31 37.0 +0.6
baz=34,SNR=5.5
MORW **Morawa** 33.80 190 P P 06 31 35.7 -0.6
MJAR **Matsushiro Arr** 35.12 22 P P 06 31 45.4 -1.8
comp=Z,8.8nm,0.8s,baz=192,slow=9.6,SNR=3.8
comp=Z,8.8nm,0.8s
FORT **Forrest** 35.30 172 P P 06 31 49.1 +0.4
KMBL **Kambalda** 35.51 181 P P 06 31 50.9 +0.4
baz=36,SNR=12
PATS **Pohnpei** 35.60 84 P P 06 31 53.6 +2.1
BJT **Baijiatuao** 36.00 352 P P 06 31 54.8 +0.4
BJT IAmb IAmb 06 32 54.9
comp=Z,57nm,1.3s
BJT **Baijiatuao** 36.00 352 P P 06 31 54.6 +0.2
KLBR **Kellerberrin** 36.02 187 P P 06 31 54.8 +0.2
baz=36,SNR=18
SHL **Shillong** 36.26 309 P P 06 31 57.1 +0.2
QLP **Quilpie** 37.17 147 P P 06 32 05.1 +0.9
baz=37,SNR=5.0
NWAO **Narrogin (SRO)** 37.41 187 P P 06 32 04.7 -1.2
LSA **Lhasa** 39.02 314 P P 06 32 20.8 +1.3
LSA **Lhasa** 39.02 314 P P 06 32 21.3 +1.8
BBOO **Buckleboo** 39.08 162 P P 06 32 20.2 +0.8
baz=39,SNR=13
BBOO **Buckleboo** 39.08 162 P P 06 32 20.1 +0.7
RKGY **Rocky Gully** 39.10 187 P P 06 32 20.9 +1.4
baz=39,SNR=5.5
HNR **Honiara** 39.63 110 P P 06 32 24.1 0.0
comp=Z,1μm,0.4s,baz=232,slow=7.4,SNR=4.7
HNR **Honiara** 39.63 110 P P 06 32 24.0 -0.1
HNR **Honiara** 39.63 110 P P 06 32 24.0 -0.1
JTM **Tenmabayashi** 39.91 22 P P 06 32 25.9 0.0
JTM IAmb IAmb 06 33 28.1
comp=Z,167nm,1.4s
STKA **Stephens Creek** 40.28 155 P P 06 32 29.9 +0.9
comp=Z,26nm,0.3s,baz=345,slow=6.6,SNR=22
comp=Z,26nm,0.3s
STKA **Stephens Creek** 40.28 155 P P 06 32 30.0 +0.9
baz=40,SNR=11
STKA **Stephens Creek** 40.28 155 P P 06 32 30.0 +0.9
STKA IAmb IAmb 06 33 20.8
comp=Z,67nm,1.4s
EIDS **Eidsvold** 40.44 138 P P 06 32 31.0 +0.6
baz=41,SNR=6.8
EIDS **Eidsvold** 40.44 138 P P 06 32 30.5 +0.2
USA0B **Ussuriysk Arra** 40.55 10 P P 06 32 30.8 -0.2
USA0B IAmb IAmb 06 32 37.8
comp=Z,104nm,1.6s
USRK **Ussuriysk Ar.** 40.55 10 P P 06 32 31.3 +0.3
comp=Z,13nm,0.6s,baz=197,slow=5.8,SNR=20
comp=Z,13nm,0.6s
HTT **Hallett** 40.60 159 P P 06 32 32.8 +1.2
baz=41,SNR=8.7
CMSA **Cobar Meteorol** 41.90 150 P P 06 32 43.7 +1.9
baz=42,SNR=8.1
ASAJ **Asahikawa** 43.36 21 P P 06 32 52.5 -0.4
comp=Z,7.6nm,0.4s,baz=246,slow=7.3,SNR=6.3
comp=Z,7.6nm,0.4s
ARMA **Armidale** 44.31 143 P P 06 33 03.2 +2.6
baz=44,SNR=5.7
ARMA **Armidale** 44.31 143 P P 06 33 03.0 +2.4
ARMA IAmb IAmb 06 33 04.3
comp=Z,86nm,0.9s
ARPS **Mount Arapiles** 44.65 158 P P 06 33 03.6 +0.6
baz=45,SNR=26
HYB **Hyderabad** 45.06 290 *e*P P 06 33 06.7 +0.2
ULN **Ulaanbaatar** 45.39 345 P P 06 33 08.4 -0.2
SONM **Songino Array** 45.53 345 P P 06 33 10.1 +0.5
comp=Z,4.5nm,0.3s,baz=161,slow=9.2,SNR=21
SONM PcP PcP 06 34 2.2 -0.8
comp=Z,14nm,1.1s,baz=178,slow=2.8,SNR=3.8
comp=Z,4.5nm,0.3s
SONM **Songino Array** 45.53 345 P P 06 33 10.3 +0.6
SONM IAmb IAmb 06 34 37.8
comp=Z,86nm,1.5s
MGCD **Mangrove Creek** 46.06 146 P P 06 33 16.1 +2.3
baz=46,SNR=6.6
CAN **Canberra** 46.58 150 P P 06 33 18.4 +0.8
CAN **Canberra** 46.58 150 P P 06 33 19.5 +1.9
HMDM **Hanimaadhoo** 49.25 275 P P 06 33 37.7 0.0
WMQ **Urumqi** 49.94 327 P P 06 33 43.3 +0.9
DZM **Mont Dzumac** 50.26 123 P P 06 33 45.9 +0.8
DZM IAmb IAmb 06 34 58.3
comp=Z,109nm,1.7s
DZM **Mont Dzumac** 50.26 123 P P 06 33 45.5 +0.4
NIL **Nilore** 54.34 309 P P 06 34 14.4 +0.5
NIL IAmb IAmb 06 34 49.0
comp=Z,290nm,1.7s
NIL **Nilore** 54.34 309 P P 06 34 14.4 +0.5
TARG **Taragay, Kyrgy** 54.60 320 P P 06 34 16.5 +0.5
MK31 **Makanchi Array** 54.77 327 P P 06 34 17.0 +0.3
MKAR **Makanchi Array** 54.77 327 P P 06 34 16.9 +0.2
comp=Z,40nm,0.4s,baz=124,slow=7.4,SNR=97
MKAR PcP PcP 06 35 08.8 -0.6
comp=Z,14nm,0.5s,baz=139,slow=3.4,SNR=7.9
comp=Z,40nm,0.4s
MKAR **Makanchi Array** 54.77 327 P P 06 34 17.0 +0.3
MAKZ **Makanchi** 54.95 327 P P 06 34 18.0 +0.1
MAKZ **Makanchi** 54.95 327 P P 06 34 18.1 +0.1
PETK **Petropavlovsk-** 56.51 25 P P 06 34 28.5 +0.1
comp=Z,4.0nm,0.7s,baz=81,slow=21,SNR=6.7
comp=Z,4.0nm,0.7s
PETK **Petropavlovsk-** 56.51 25 P P 06 34 29.1 +0.7
AAK **Ala-Archa** 57.19 319 P P 06 34 34.0 +0.5
comp=Z,8.6nm,0.6s,baz=104,slow=4.7,SNR=6.3
AAK PcP PcP 06 35 19.6 +0.4
comp=Z,7.8nm,0.5s,baz=123,slow=2.7,SNR=5.8
comp=Z,8.6nm,0.6s
AAK **Ala-Archa** 57.19 319 P P 06 34 34.0 +0.5
KBL **Kabul** 57.92 308 P P 06 34 39.2 +0.5
ZAAO **Zalesovo Array** 58.25 335 P P 06 34 39.6 -0.6
ZALV **Zalesovo Beam** 58.25 335 P P 06 34 39.5 -0.8
comp=Z,10nm,0.5s,baz=133,slow=5.6,SNR=11
comp=Z,10nm,0.5s
GAR **Garm** 58.52 314 P P 06 34 42.8 +0.2
GAR IAmb IAmb 06 34 45.4
comp=Z,311nm,1.5s
KURBB **Kurchatov Arra** 59.07 329 P P 06 34 45.9 +0.1
comp=Z,21nm,0.5s,baz=134,slow=6.7,SNR=55
comp=Z,21nm,0.5s
KURK **Kurchatov** 59.08 329 P P 06 34 46.0 +0.2
KURK IAmb IAmb 06 34 46.5
comp=Z,72nm,0.5s
KURK **Kurchatov** 59.08 329 P P 06 34 45.9 +0.1
CHGR **Chuyangaron** 59.24 313 P P 06 34 47.4 +0.1
CHGR IAmb IAmb 06 34 50.0
comp=Z,316nm,1.6s
SIMJ **Simiganj** 59.35 313 P P 06 34 48.0 0.0
KK31 **Karatay Array** 60.02 318 P P 06 34 52.6 +0.3
KK31 IAmb IAmb 06 34 53.8
comp=Z,243nm,1.9s
KKAR **Karatay Array** 60.02 318 P P 06 34 52.2 -0.1
DCZ **Deep Cove** 63.45 147 P P 06 35 14.7 +0.4
DCZ IAmb IAmb 06 35 23.5
comp=Z,106nm,1.7s
MLZ **Mavora Lakes** 63.93 146 P P 06 35 17.5 0.0
MLZ IAmb IAmb 06 35 18.9
comp=Z,119nm,1.7s
DSZ **Denniston Nort** 64.02 141 P P 06 35 18.8 +0.7
DSZ IAmb IAmb 06 36 13.0
comp=Z,97nm,1.3s
WHZ **Wether Hill Ro** 64.15 147 P P 06 35 18.6 -0.2
WHZ IAmb IAmb 06 36 30.4
comp=Z,118nm,1.6s
WSAR **Wadi Sarin** 64.43 294 P P 06 35 20.6 -0.4
comp=Z,12nm,0.8s,baz=195,slow=4.0,SNR=4.6
comp=Z,12nm,0.8s
LBZ **Lake Benmore** 64.52 144 P P 06 35 22.1 +0.9
LBZ IAmb IAmb 06 35 22.9
comp=Z,42nm,0.7s
BVAR **Borovoye Array** 64.61 328 P P 06 35 21.4 -0.2
comp=Z,8.0nm,0.4s,baz=144,slow=9.1,SNR=25
comp=Z,8.0nm,0.4s
RPZ **Rata Peaks** 64.65 143 P P 06 35 22.8 +0.7

BRVK **Borovoye** 64.69 328 P P 06 35 22.1 0.0
BRVK **Borovoye** 64.69 328 P P 06 35 21.7 -0.3
THZ **Tophouse** 64.73 140 P P 06 35 23.0 +0.4
OXZ **Oxford** 65.03 142 P P 06 35 24.2 -0.2
MQZ **McQueen's Vall** 65.61 142 P P 06 35 28.6 +0.7
MQZ IAmb IAmb 06 37 17.0
comp=Z,94nm,1.5s
SNZO **South Karori** 65.65 139 P P 06 35 27.0 -1.2
BHW **Baring Head** 65.81 139 P P 06 35 28.5 -0.7
BHW IAmb IAmb 06 37 15.7
comp=Z,275nm,1.5s
RTZ **Ruatahuna** 65.89 136 P P 06 35 30.5 +0.6
RTZ IAmb IAmb 06 35 31.6
comp=Z,46nm,0.7s
MXZ **Matakaoa Point** 66.35 134 P P 06 35 33.3 +0.6
MXZ IAmb IAmb 06 35 33.9
comp=Z,51nm,0.7s
BFZ **Birch Farm** 66.36 138 P P 06 35 32.7 +0.1
BFZ IAmb IAmb 06 35 35.2
comp=Z,164nm,1.8s
GEYT **Alibeck** 67.33 309 P P 06 35 39.1 +0.3
comp=Z,14nm,0.7s,baz=145,slow=5.4,SNR=4.0
comp=Z,14nm,0.7s
TIXI **Tiksi** 67.35 2 P P 06 35 37.4 -0.7
comp=Z,12nm,0.4s,baz=270,slow=22,SNR=14
comp=Z,12nm,0.4s
TIXI **Tiksi** 67.35 2 P P 06 35 37.3 -0.8
NRIK **Noril'sk** 68.91 347 P P 06 35 47.8 +0.1
comp=Z,29nm,0.8s,baz=140,slow=5.3,SNR=6.8
comp=Z,29nm,0.8s
ABKAR **Akbulak array** 69.11 321 P P 06 35 49.4 +0.2
AKTO **Aktyubinsk** 70.66 322 P P 06 35 58.3 -0.1
comp=Z,30nm,0.5s,baz=84,slow=3.5,SNR=48
comp=Z,30nm,0.5s
DRV **Dumont d'Urvil** 71.92 173 P P 06 36 05.0 -0.3
ARU **Arti** 72.26 328 P P 06 36 06.9 -0.6
comp=Z,19nm,0.5s,baz=38,slow=3.0,SNR=5.8
comp=Z,19nm,0.5s
ARU **Arti** 72.26 328 P P 06 36 07.2 -0.3
ARU IAmb IAmb 06 36 43.4
comp=Z,93nm,1.2s
RAYN **Ar Rayn** 76.48 293 P P 06 36 32.1 +0.2
KIRV **Kirov** 77.59 329 P P 06 36 36.6 -0.5
comp=Z,30nm,0.5s,baz=137,slow=0.1,SNR=5.2
comp=Z,30nm,0.5s
OPO **Ambohidratompo** 77.63 250 P P 06 36 38.6 +0.2
comp=Z,10nm,0.5s,baz=72,slow=4.3,SNR=17
comp=Z,10nm,0.5s
ABPO **Ambohimpanom** 77.67 250 P P 06 36 38.0 -0.6
VOI **Vohitsoka** 78.53 247 P P 06 36 42.3 -0.8
VOI IAmb IAmb 06 36 43.2
comp=Z,34nm,0.7s
GEVA **Gevas** 79.14 308 P P 06 36 46.8 +0.8
GEVA IAmb IAmb 06 36 47.4
comp=Z,42nm,0.6s
ASF **Jabal al Asfar** 84.10 302 P P 06 37 12.1 +0.8
comp=Z,21nm,0.6s,baz=80,slow=2.5,SNR=16
comp=Z,21nm,0.6s
VNDA **Vanda** 84.56 172 P P 06 37 11.8 -0.6
comp=Z,11nm,0.9s,baz=317,slow=4.7,SNR=6.6
comp=Z,11nm,0.9s
MMAI **Mount Meron Ar** 85.33 303 P P 06 37 17.4 +0.2
comp=Z,12nm,0.7s,baz=83,slow=6.8,SNR=4.6
comp=Z,12nm,0.7s
ARCES **ARCESS Array B** 88.47 340 P P 06 37 29.2 -1.8
comp=Z,8.1nm,0.8s,baz=88,slow=6.2,SNR=4.1
comp=Z,8.1nm,0.8s
AKASG **Malin Array Be** 88.83 321 P P 06 37 31.6 -1.5
comp=Z,3.1nm,0.6s,baz=58,slow=4.4,SNR=5.8
comp=Z,3.1nm,0.6s
SPITS **Spitsbergen Ar** 89.09 349 P P 06 37 33.1 -0.8
comp=Z,9.6nm,0.4s,baz=96,slow=8.5,SNR=15
comp=Z,9.6nm,0.4s
FINES **FINESS Array B** 89.36 331 P P 06 37 34.0 -1.3
comp=Z,8.6nm,0.5s,baz=55,slow=6.0,SNR=6.7
comp=Z,8.6nm,0.5s
HFS **Hagfors** 95.56 332 P P 06 38 01.5 -2.2
comp=Z,7.9nm,0.6s,baz=108,slow=4.8,SNR=4.6
comp=Z,7.9nm,0.6s
Q54A **Coxs Mills** 131.76 25 PKPdf 06 43 45.9 -2.1
Q56A **Snyder Ridge,** 132.37 23 PKPdf 06 43 43.7 -5.6
P57A **Homestead Farm** 132.43 22 PKPdf 06 43 48.8 -0.5
TKL **Tuckaleechee C** 133.15 30 SKPbc SKPbc 06 46 20.4 -1.9
comp=Z,5.8nm,0.9s,baz=319,slow=5.6,SNR=5.3
CMIG **Matias Romero** 137.28 59 SKPbc SKPbc 06 46 34.3 -1.2
comp=Z,15nm,0.9s,baz=13,slow=3.6,SNR=6.0

IDC 10 06:37:47.6±3.3, 54°37'N×87°04'E, h0km, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=30.7km s-min=18.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**253**	I	I	06 47 00.0	
	0.6nm,0.9s,baz=74,slow=339,SNR=26						
ZALV	**Zalesovo Beam**	**1.37**	**253**	Pg	Pg	06 38 11.6	-2.3
	4.2nm,0.3s,baz=73,slow=16,SNR=67						
ZALV				Lg	Lg	06 38 31.6	
	3.4nm,0.3s,baz=70,slow=26,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.41**	**238**	Pn	Pn	06 39 24.1	+1.0
	0.2nm,0.3s,baz=53,slow=14,SNR=3.0						
	2.4nm,0.5s						
MKAR	**Makanchi Array**	**8.16**	**204**	Pn	Pn	06 39 48.8	+1.5
	0.2nm,0.3s,baz=26,slow=14,SNR=8.6						
	1.0nm,0.8s						

*NEIC **10** 06:49:23.5±2.7, 15°.17N±0°.10×144°.65E±0°.08, h10km±1km, mb4.7/15, Error ellipse: s-maj=16.1km s-min=12.4km az=179.0*
*IDC **10** 06:49:32.2±0.4, 13°.70N×144°.63E, h134km±3km, mb4.0/17, mbtmp4.4/17, Error ellipse: s-maj=18.1km s-min=12.1km az=86.0*

ISC 10 06:49:33.0±0.6, 13°6N±0°.1×144°6E±0°.1, h150km, n46, σ1°44/43, mb4.3/21, 3C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.27**	**100**	P	Pn	06 49 51.8	-1.7
	3μm,0.3s,baz=87,slow=4.2,SNR=563						
GUMO				S	Sn	06 50 05.9	-3.1
	3μm,0.3s,baz=58,slow=22,SNR=42						
PATS	**Pohnpei**	**15.09**	**115**	Pn	P	06 53 02.2	+1.9
H11N1	**WAKE ISLAND Hy**	**22.18**	**71**	T	T	07 17 28.7	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**22.19**	**71**	T	T	07 17 25.8	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**22.20**	**71**	T	T	07 17 29.0	
	baz=257						
JNU	**Nakatsue**	**23.08**	**329**	P	P	06 54 27.0	+1.4
	17nm,0.9s,baz=75,slow=7.1,SNR=3.7						
	17nm,0.9s						
MJAR	**Matsushiro Arr**	**23.52**	**347**	P	P	06 54 29.8	+0.3
	10.0nm,0.8s,baz=172,slow=9.8,SNR=15						
	10.0nm,0.8s						
YULB	**Yu-li**	**24.10**	**297**	P	P	06 54 34.8	-0.1
SSLB	**Suanglung**	**24.53**	**298**	P	P	06 54 38.7	-0.2
COEN	**Coen**	**27.45**	**183**	P	P	06 55 23.7	+19
KSRS	**Korea Array**	**28.00**	**331**	P	P	06 55 09.6	-0.2
	1.9nm,0.5s,baz=144,slow=9.6,SNR=7.2						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**34.86**	**197**	P	P	06 56 10.7	+0.6
	2.8nm,0.8s,baz=20,slow=9.1,SNR=12						
	2.8nm,0.8s						
KLR	**Kul'dur**	**37.04**	**346**	P	P	06 56 29.3	+1.0
	3.4nm,0.7s,baz=117,slow=5.7,SNR=4.5						
	3.4nm,0.7s						
ASAR	**Alice Springs**	**38.52**	**196**	P	P	06 56 41.8	+0.7
	0.7nm,0.4s,baz=18,slow=12,SNR=13						
	0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**44.05**	**283**	P	P	06 57 27.6	+1.2
	2.4nm,0.3s,baz=87,slow=5.9,SNR=7.2						
	2.4nm,0.3s						
STKA	**Stephens Creek**	**45.34**	**184**	P	P	06 57 36.9	+0.7
	1.4nm,0.4s,baz=4.1,slow=9.8,SNR=3.5						
	1.4nm,0.4s						
SONM	**Songino Array**	**46.54**	**325**	P	P	06 57 46.8	+1.1
	3.0nm,0.8s,baz=136,slow=7.9,SNR=5.8						
	3.0nm,0.8s						
MK31	**Makanchi Array**	**61.27**	**316**	P	P	06 59 30.8	-1.7
MKAR	**Makanchi Array**	**61.27**	**316**		P	06 59 31.1	-1.4
MKAR	**Makanchi Array**	**61.27**	**316**	P4KPbc	P	06 59 31.5	-1.0
	19nm,0.6s,baz=127,slow=3.3,SNR=40						
MAKZ	**Makanchi**	**61.49**	**316**		P	06 59 31.5	-2.4
KURBB	**Kurchatov Arra**	**64.42**	**320**	P	P	06 59 53.2	0.0
	8.4nm,0.7s,baz=103,slow=6.9,SNR=36						
	8.4nm,0.7s						

ILAR **Eielson Array** 68.64 25 P P 07 00 18.9 -0.8
1.5nm,0.5s,baz=251,slow=5.7,SNR=37
1.5nm,0.5s
BVAR **Borovoye Array** 69.73 322 P P 07 00 27.4 +0.7
2.9nm,0.5s,baz=99,slow=8.1,SNR=14
2.9nm,0.5s
INK **Inuvik** 74.42 22 P P 07 00 54.4 +0.1
1.9nm,0.8s,baz=246,slow=4.3,SNR=6.6
1.9nm,0.8s
A36M **Sachs Harbour** 77.19 19 P P 07 01 09.8 0.0
A36M IAmb IAmb 07 01 11.6
comp=Z,6.9nm,0.8s
YKA **Yellowknife Ar** 82.94 27 P P 07 01 41.3 +0.4
comp=Z,1.6nm,0.6s,baz=287,slow=5.4,SNR=19
comp=Z,1.6nm,0.6s
BEKR **Beckworth** 85.19 50 P P 07 01 54.0 +0.9
BMO **Blue Mountains** 86.14 45 P P 07 01 59.1 +1.6
KVN **Kaiserville** 87.09 51 P P 07 02 04.7 +2.3
KVN IAmb IAmb 07 02 05.1
comp=Z,3.7nm,0.9s
NVAR **Mina Array Bea** 87.10 51 P P 07 02 03.9 +1.4
comp=Z,3.7nm,0.8s,baz=267,slow=5.8,SNR=9.4
comp=Z,3.7nm,0.8s
WALA **Waterton Lakes** 87.19 40 P P 07 02 04.7 +2.2
MFID **Camas Ranch** 87.56 46 P P 07 02 06.1 +1.7
HLID **Hailey** 88.50 46 P P 07 02 09.8 +0.8
HLID IAmb IAmb 07 02 12.0
comp=Z,4.1nm,1.0s
ELK **Elko** 88.74 48 P P 07 02 11.9 +1.7
TPNV **Topopah Spring** 89.06 52 P P 07 02 13.1 +1.3
HRY **Holter Researc** 89.26 42 P P 07 02 13.8 +1.5
FINES **FINESS Array B** 91.01 335 P P 07 02 19.1 -0.9
comp=Z,2.8nm,0.9s,baz=49,slow=5.8,SNR=3.9
comp=Z,2.8nm,0.9s
FINES **FINESS Array B** 91.01 335 P P 07 02 17.4 -2.6
PDAR **Pinedale Array** 92.12 45 P P 07 02 25.9 0.0
comp=Z,0.5nm,0.6s,baz=259,slow=1.8,SNR=4.7
comp=Z,0.5nm,0.6s
PDAR **Pinedale Array** 92.12 45 P P 07 02 26.7 +0.8
KIC **Kosan Boka** 143.65 301 ⇑*i*PKP1 PKPdf 07 08 49.3 -1.9
comp=Z,3.2nm,0.4s
TIC **Toumodi** 143.72 302 ⇑*e*PKP1 PKPdf 07 08 49.6 -1.7
comp=Z,2.6nm,0.4s
LIC **Lamto** 143.96 301 ⇑*i*PKP1 PKPdf 07 08 50.4 -1.3
comp=Z,21nm,0.5s
CFA **Coronel Fontan** 145.00 126 PKPbc PKiKP 07 08 54.7 -2.2
comp=Z,5.9nm,0.6s,baz=244,slow=4.0,SNR=17
LVC **Limon Verde** 146.99 111 PKPbc PKiKP 07 09 01.4 -0.3
comp=Z,5.3nm,0.8s,baz=97,slow=7.4,SNR=4.0

*IDC **10** 07:04:47.1±2.7, 53°.59N×87°.88E, h0km, mbtmp3.4/3, ML2.8/3, Error ellipse: s-maj=24.9km s-min=13.7km az=59.0*

ISC 10 07:04:51.7±4.2, 53°7N±0°.2×87°7E±0°.2, h35km, n5, σ0s39/6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**280**	I	I	07 17 20.0	
	0.2nm,0.9s,baz=95,slow=339,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.74**	**280**	Pg	Pn	07 05 19.2	-0.2
	3.3nm,0.3s,baz=103,slow=16,SNR=43						
ZALV				Lg	Lg	07 05 44.9	
	4.2nm,0.3s,baz=108,slow=27,SNR=16						
KURBB	**Kurchatov Arra**	**6.43**	**245**	Pn	Pn	07 06 24.1	+0.2
	0.2nm,0.3s,baz=62,slow=14,SNR=18						
KURBB				Lg	Lg	07 08 13.2	
	0.1nm,0.3s,baz=63,slow=32,SNR=7.0						
	2.4nm,0.5s						
MKAR	**Makanchi Array**	**7.73**	**209**	Pn	Pn	07 06 41.4	-0.3
	0.2nm,0.3s,baz=30,slow=13,SNR=9.2						
MKAR				Sn	Sn	07 08 08.1	+0.1
	0.1nm,0.3s,baz=30,slow=24,SNR=2.7						
MKAR				Lg	Lg	07 08 48.1	
	0.1nm,0.3s,baz=36,slow=31,SNR=7.3						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**10.38**	**273**	Pn	Pn	07 07 18.4	+0.5
	baz=82,slow=15,SNR=4.7						
BVAR				Sn	Sn	07 09 12.7	-0.3
	baz=78,slow=23,SNR=3.7						
	0.7nm,0.5s						

IDC 10 07:10:17.6±4.0, 53°.88N×88°.38E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=40.9km s-min=21.4km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.10**	**273**	I	I	07 24 04.0	
	0.1nm,0.8s,baz=89,slow=341,SNR=7.6						
ZALV	**Zalesovo Beam**	**2.10**	**273**	Pn	Pn	07 10 54.8	+0.8
	1.4nm,0.3s,baz=90,slow=13,SNR=21						
ZALV				Lg	Lg	07 11 23.8	
	3.3nm,0.3s,baz=100,slow=22,SNR=17						
	7.2nm,0.5s						
KURBB	**Kurchatov Arra**	**6.87**	**246**	Pn	Pn	07 12 00.0	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=7.4						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**8.09**	**211**	Pn	Pn	07 12 16.8	+0.6
	0.1nm,0.3s,baz=33,slow=13,SNR=5.2						
	0.2nm,0.4s						

*NNC **10** 07:12:38.5±0.4, 50°.00N×78°.66E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=7.0km s-min=2.0km az=77.0, Suspected Mining explosion.*
*IDC **10** 07:12:40.0±0.9, 50°.06N×78°.82E, h0km, mbtmp2.6/3, ML2.2/3, Error ellipse: s-maj=15.3km s-min=6.1km az=59.0*

ISC 10 07:12:39.7±0.8, 50°03N±0°.05×78°74E±0°.07, h0km, n19, σ1°32/34, 26C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.58**	**346**	⇑P	Pg	07 12 50.4	-0.4
KUR07				⇑S	Sb	07 12 59.4	-2.0
KUR06	**Kurchatov Arra**	**0.60**	**346**	⇑P	Pg	07 12 50.7	-0.4
KUR06				⇑S	Sg	07 12 59.7	+0.9
KUR14	**Kurchatov Arra**	**0.60**	**351**	⇑P	Pg	07 12 50.6	-0.5
KUR14				⇑S	Sg	07 12 59.6	+0.7
KUR15	**Kurchatov Arra**	**0.61**	**349**	⇑P	Pg	07 12 50.9	-0.4
KUR15				⇑S	Sb	07 13 00.3	-1.9
KURBB	**Kurchatov Arra**	**0.61**	**347**	Pg	Pg	07 12 50.9	-0.6
	1.5nm,0.3s,baz=165,slow=17,SNR=115						
KURBB				Lg	Lg	07 13 00.3	
	2.0nm,0.3s,baz=176,slow=32,SNR=15						
KURBB	**Kurchatov Arra**	**0.61**	**347**	⇑P	Pg	07 12 50.8	-0.7
	18nm,0.4s						
KURBB				⇓S	Sg	07 12 59.9	+0.5
	35nm,0.5s						
KUR16	**Kurchatov Arra**	**0.62**	**346**	⇓P	Pg	07 12 51.2	-0.4
KUR16				⇑S	Sb	07 13 00.9	-1.8
KUR05	**Kurchatov Arra**	**0.63**	**348**	⇑P	Pg	07 12 51.2	-0.6
KUR05				⇑S	Sg	07 13 00.2	+0.2
KUR17	**Kurchatov Arra**	**0.63**	**344**	⇑P	Pg	07 12 51.2	-0.5
KUR17				⇓S	Sg	07 13 01.0	+1.0
KUR04	**Kurchatov Arra**	**0.65**	**349**	⇑P	Pg	07 12 51.5	-0.6
KUR04				⇑S	Sg	07 13 00.9	+0.4
KURK	**Kurchatov**	**0.70**	**354**	⇑P	Pg	07 12 52.1	-0.9
	6.0nm,0.4s						
KURK				⇑S	Sg	07 13 02.4	+0.4
	32nm,0.7s						
MAKZ	**Makanchi**	**3.87**	**145**	⇓Pg	Pb	07 13 48.4	-0.5
	1.9nm,0.7s						
MAKZ				⇑Lg	Lg	07 14 40.2	
	7.5nm,0.6s						
MK31	**Makanchi Array**	**4.00**	**142**	⇓Pn	Pn	07 13 43.0	+0.8
	0.1nm,0.2s,baz=58,slow=20,SNR=32						
MK31				⇑Pg	Pb	07 13 51.3	+0.2
	0.3nm,0.2s,baz=325,slow=14,SNR=11						
MK31				⇑Sn	Sn	07 14 31.4	+1.5
	1.1nm,0.5s,baz=64,slow=60,SNR=4.4						
MK31				⇑Lg	Lg	07 14 46.1	
	7.0nm,0.5s,baz=330,slow=29,SNR=11						
MKAR	**Makanchi Array**	**4.00**	**142**	Pn	Pn	07 13 42.9	+0.6
	0.3nm,0.3s,baz=321,slow=10,SNR=23						
MKAR				Pg	Pb	07 13 50.1	-1.0
	0.6nm,0.3s,baz=323,slow=14,SNR=14						
MKAR				Sn	Sn	07 14 25.5	-4.4
	0.3nm,0.3s,baz=301,slow=17,SNR=2.3						
MKAR				Lg	Lg	07 14 46.2	
	1.9nm,0.3s,baz=334,slow=27,SNR=16						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**5.43**	**41**	Pn	Pn	07 14 03.5	+1.7

0.4nm,0.3s,baz=229,slow=14,SNR=7.6
0.8nm,0.3s
I46RU ZALESOVO INFRA 5.43 41 I I 07 45 30.0
baz=221,slow=320,SNR=4.1
BVA0 Borovoye Array 6.02 303 ⇑Pg **Pb 07 14 27.7 +2.3**
1.8nm,1.0s,baz=108,slow=15,SNR=4.3
BVA0 ⇑Sn **Sn 07 15 17.9 -1.5**
2.1nm,0.7s,baz=111,slow=22,SNR=5.3
BVA0 ⇑Lg Lg 07 15 49.1
1.7nm,0.6s
BVAR Borovoye Array 6.02 303 Pn **Pn 07 14 10.4 +0.5**
baz=104,slow=15,SNR=2.2
BVAR Sn **Sn 07 15 18.5 -0.9**
0.1nm,0.3s,baz=111,slow=24,SNR=6.9
BVAR Lg Lg 07 15 46.7
0.1nm,0.3s,baz=112,slow=24,SNR=3.2
0.3nm,0.4s
BRVK Borovoye 6.09 303 ⇑Sn **Sn 07 15 20.4 -0.8**
1.4nm,0.5s
BRVK ⇑Lg Lg 07 15 48.8
2.1nm,0.7s

IDC 10 07:24:12.4±2.7, 53°.92N×86°.63E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=22.7km s-min=13.2km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**272**	I	I	07 32 10.0	
	baz=89,slow=342,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.07**	**272**	Pg	Pg	07 24 31.8	-1.2
	0.6nm,0.3s,baz=90,slow=17,SNR=10						
ZALV				Lg	Lg	07 24 48.2	
	1.7nm,0.3s,baz=95,slow=31,SNR=10						
KURBB	**Kurchatov Arra**	**5.97**	**240**	Pn	Pn	07 25 42.9	+0.9
	0.1nm,0.3s,baz=56,slow=13,SNR=6.5						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**7.66**	**203**	Pn	Pn	07 26 06.3	+1.1
	0.1nm,0.3s,baz=27,slow=13,SNR=5.2						
	0.2nm,0.3s						

IDC 10 07:25:01.4±3.4, 54°.60N×86°.52E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=26.7km s-min=16.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**237**	I	I	07 33 30.0	
	baz=57,slow=338,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.20**	**237**	Pg	Pg	07 25 22.5	-1.8
	0.7nm,0.3s,baz=59,slow=16,SNR=5.1						
ZALV				Lg	Lg	07 25 39.9	
	2.6nm,0.3s,baz=55,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.29**	**234**	Pn	Pn	07 26 36.1	+0.7
	0.2nm,0.3s,baz=49,slow=14,SNR=6.8						
KURBB				Lg	Lg	07 28 24.4	
	0.1nm,0.3s,baz=53,slow=31,SNR=6.3						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**8.27**	**201**	Pn	Pn	07 27 03.9	+1.4
	0.1nm,0.3s,baz=22,slow=12,SNR=2.0						
MKAR				Lg	Lg	07 29 25.6	
	baz=26,slow=28,SNR=5.1						
	0.1nm,0.3s						

IDC 10 07:43:08.0±2.7, 53°.95N×86°.66E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=21.7km s-min=13.1km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**271**	I	I	07 51 10.0	
	baz=88,slow=334,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.09**	**271**	Pg	Pg	07 43 27.9	-1.0
	0.8nm,0.3s,baz=87,slow=13,SNR=9.2						
ZALV				Lg	Lg	07 43 44.0	
	2.5nm,0.3s,baz=94,slow=31,SNR=25						
KURBB	**Kurchatov Arra**	**6.00**	**240**	Pn	Pn	07 44 39.1	+1.2
	0.1nm,0.3s,baz=56,slow=13,SNR=5.4						
KURBB				Lg	Lg	07 46 18.8	
	baz=48,slow=34,SNR=3.3						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.68**	**203**	Pn	Pn	07 45 02.0	+0.8
	0.1nm,0.3s,baz=22,slow=14,SNR=4.8						
MKAR				Lg	Lg	07 47 13.4	
	baz=22,slow=29,SNR=5.7						
	0.1nm,0.3s						

*NNC **10** 07:48:19.7±0.9, 51°.86N×75°.56E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=37.2km s-min=4.5km az=28.0, Suspected Mining explosion.*
*IDC **10** 07:48:22.3±1.3, 51°.83N×75°.65E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=30.5km s-min=11.0km az=30.0*
ISC 10 07:48:21.5±1.1, 51°.7N±0°.1×75°.48E±0°.06, h0km, n11, σ0s.94/10, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.22**	**119**	Pg	**Pb**	**07 49 01.5**	**-0.9**
	0.3nm,0.3s,baz=303,slow=19,SNR=17						
KURBB				Lg	Lg	07 49 31.5	
	0.4nm,0.3s,baz=309,slow=29,SNR=13						
KURBB	**Kurchatov Arra**	**2.22**	**119**	⇑Pg	**Pb**	**07 49 01.6**	**-0.9**
	4.6nm,0.8s						
KURBB				⇓Lg	Lg	07 49 31.6	
	35nm,0.7s						
KURK	**Kurchatov**	**2.22**	**116**	⇑Pg	**Pn**	**07 48 60.0**	**+0.4**
	1.9nm,0.5s						
KURK				⇑Lg	Lg	07 49 28.4	
	13nm,0.7s						
BVA0	**Borovoye Array**	**3.38**	**295**	⇓Pg	**Pb**	**07 49 21.1**	**-1.1**
	1.5nm,0.8s,baz=110,slow=16,SNR=8.1						
BVA0				⇑Lg	Lg	07 50 06.8	
	7.7nm,0.7s,baz=110,slow=27,SNR=7.6						
BVAR	**Borovoye Array**	**3.38**	**295**	Pn	**Pn**	**07 49 16.6**	**+1.1**
	baz=104,slow=13,SNR=4.5						
BVAR				Lg	Lg	07 50 07.5	
	0.2nm,0.3s,baz=101,slow=30,SNR=12						
	0.7nm,0.5s						
BRVK	**Borovoye**	**3.45**	**295**	⇑Pg	**Pb**	**07 49 22.6**	**-0.9**
	4.5nm,1.1s						
BRVK				⇓Lg	Lg	07 50 08.2	
	11nm,0.8s						
ZALV	**Zalesovo Beam**	**6.08**	**65**	Pn	**Pn**	**07 49 53.2**	**+0.6**
	0.2nm,0.3s,baz=252,slow=14,SNR=5.0						
	1.0nm,0.5s						
I46RU	**ZALESOVO INFRA**	**6.08**	**65**	I	I	08 22 46.8	
	baz=247,slow=338,SNR=17						
MAKZ	**Makanchi**	**6.50**	**137**	⇓Lg	Lg	07 51 49.0	
	5.2nm,0.8s						
MK31	**Makanchi Array**	**6.65**	**135**	⇑Pn	**Pn**	**07 50 00.2**	**-0.3**
	1.5nm,0.9s,baz=319,slow=12,SNR=4.0						
MK31				⇑Sn	**Sn**	**07 51 17.7**	**+0.8**
	1.7nm,0.8s						
MK31				⇑Lg	Lg	07 51 49.5	
	3.3nm,0.7s,baz=321,slow=27,SNR=6.4						
MKAR	**Makanchi Array**	**6.65**	**135**	Pn	**Pn**	**07 50 00.7**	**+0.2**
	0.1nm,0.3s,baz=318,slow=12,SNR=4.7						
MKAR				Lg	Lg	07 51 50.0	
	0.3nm,0.3s,baz=321,slow=27,SNR=9.3						
	0.5nm,0.7s						

*NEIC **10** 07:51:04.9±2.9, 6°.75S±0°.06×129°.5E±0°.1, h164km±10km, mb4.1/12, Error ellipse: s-maj=18.3km s-min=6.0km az=112.0*
*DJA **10** 07:51:05.7±0.4, 7°.S±4°×13°.0E±°, h198km±8km, M4.4/6, mb4.5/4, mB5.2/3, MLv4.3/6, Mw(mB)4.6/3*
*IDC **10** 07:51:06.5±2.4, 6°.73S×129°.80E, h174km±22km, mb3.7/7, mbtmp4.2/9, MS4.5/1, Error ellipse: s-maj=42.3km s-min=15.1km az=67.0*
ISC 10 07:51:07.2±0.5, 6°.80S±0°.05×129°.79E±0°.06, h200km, n38, σ3s.09/42, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.91**	**128**	Pn	**Pn**	**07 51 42.9**	**-1.9**
SAUI	**Saumlaki**	**1.91**	**128**	P	**Pn**	**07 51 42.2**	**-2.6**
SAUI				S	**Sn**	**07 52 07.6**	**-6.4**
BNDI	**Bandanaira**	**2.26**	**3**	P	**Pn**	**07 51 46.9**	**-1.6**
MSAI	**Masohi**	**3.53**	**346**	P	**Pn**	**07 52 03.2**	**-0.1**
NLAI	**Namlea**	**4.43**	**323**	P	**Pn**	**07 52 14.8**	**+0.3**
FAKI	**Fak Fak**	**4.56**	**33**		**Pn**	**07 52 13.4**	**-2.8**
FAKI	**Fak Fak**	**4.56**	**33**	P	**Pn**	**07 52 12.7**	**-3.4**
SIJI	**Sorong**	**6.07**	**14**	P	**Pn**	**07 52 33.0**	**-2.5**
	17nm,0.3s,baz=353,slow=23,SNR=5.1						
SIJI				S	**Sn**	**07 53 36.9**	**-8.4**
	23nm,0.3s,baz=263,slow=23,SNR=2.9						
MTN	**Manton Dam**	**6.16**	**168**		**Pn**	**07 52 34.1**	**-2.4**
BATI	**Baumata**	**6.94**	**240**	S	**Sn**	**07 53 57.1**	**-8.7**
	60nm,0.4s,baz=287,slow=15,SNR=3.9						
KNRA	**Kununurra**	**8.88**	**186**		**Pn**	**07 53 08.5**	**-3.5**
SPSI	**Sidrap Palu**	**10.37**	**285**	P	**P**	**07 53 36.0**	**-2.7**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.94**	**199**	Pn	**Pn**	**07 53 47.8**	**-3.6**
WB0	**Warramunga Arr**	**13.65**	**161**	Pn	**Pn**	**07 54 10.1**	**-2.8**
WRA	**Warramunga Arr**	**13.80**	**162**	P	**Pn**	**07 54 11.8**	**-3.0**
	4.0nm,0.5s,baz=336,slow=13,SNR=56						
WRA				S	S	07 56 37.0	-11
	11nm,0.8s,baz=337,slow=22,SNR=12						
WRA				LR	LR	08 00 04.6	
	comp=Z,2μm,20.8s,baz=326,slow=39						
WB2	**Warramunga Arr**	**13.80**	**162**	Pn	**Pn**	**07 54 12.6**	**-2.2**
WR0	**Warramunga Arr**	**13.88**	**161**	Pn	**Pn**	**07 54 13.9**	**-1.8**
COEN	**Coen**	**14.96**	**119**	P	**P**	**07 54 32.1**	**+2.3**
COEN				IAmb	IAmb	07 54 34.4	
	comp=Z,7.1nm,0.8s						
BBKI	**Banjar Baru**	**15.25**	**282**	P	**P**	**07 54 35.7**	**+2.7**
AS31	**Alice Springs**	**17.23**	**167**	P	**Pn**	**07 54 56.5**	**+0.2**
AS31				IAmb	IAmb	07 54 58.8	
	comp=Z,8.8nm,0.9s						
ASAR	**Alice Springs**	**17.23**	**167**	P	**Pn**	**07 54 57.0**	**+0.6**
	comp=Z,16nm,0.7s,baz=345,slow=8.9,SNR=161						
ASAR				S	**S**	**07 58 02.4**	**-1.6**
	comp=Z,4.4nm,0.8s,baz=352,slow=26,SNR=6.6						
ASAR				ScP	**ScP**	**08 02 47.7**	**+4.1**
	comp=Z,1.1nm,0.8s,baz=353,slow=1.4,SNR=6.1						
PSA00	**Pilbara Seismi**	**17.56**	**212**	P	**P**	**07 54 57.8**	**-0.5**
PSA00				IAmb	IAmb	07 55 02.0	
	comp=Z,7.7nm,0.8s						
FORT	**Forrest**	**23.92**	**184**	P	**P**	**07 56 03.6**	**+0.7**
BBOO	**Buckleboo**	**26.53**	**168**	P	**P**	**07 56 27.5**	**+1.0**
STKA	**Stephens Creek**	**27.28**	**158**	P	**P**	**07 56 35.2**	**+2.0**
	comp=Z,2.9nm,0.5s,baz=328,slow=9.5,SNR=13						
	comp=Z,2.9nm,0.5s						
STKA	**Stephens Creek**	**27.28**	**158**	P	**P**	**07 56 35.8**	**+2.6**
CAN	**Canberra**	**33.43**	**151**	P	**P**	**07 57 30.2**	**+2.9**
CMAR	**Chiang Mai Arr**	**39.44**	**310**	P	**P**	**07 58 19.1**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=133,slow=7.4,SNR=9.1						
	comp=Z,1.5nm,0.3s						
SONM	**Songino Array**	**58.18**	**342**	P	**P**	**08 00 43.7**	**+3.3**
	comp=Z,0.5nm,0.5s,baz=154,slow=6.4,SNR=5.7						
	comp=Z,0.5nm,0.5s						
MK31	**Makanchi Array**	**67.94**	**327**	P	**P**	**08 01 45.7**	**+1.2**
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**08 01 46.5**	**+2.0**
	comp=Z,1.7nm,0.4s,baz=116,slow=8.2,SNR=46						
	comp=Z,1.7nm,0.4s						
MAKZ	**Makanchi**	**68.12**	**327**	P	**P**	**08 01 47.2**	**+1.7**
MAKZ				IAmb	IAmb	08 01 48.5	
	comp=Z,2.1nm,0.5s						
ZALV	**Zalesovo Beam**	**71.31**	**334**	P	**P**	**08 02 05.6**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=103,slow=3.2,SNR=3.9						
	comp=Z,1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**72.23**	**329**	P	**P**	**08 02 12.0**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=125,slow=5.0,SNR=12						
	comp=Z,1.6nm,0.6s						
KURK	**Kurchatov**	**72.23**	**329**	P	**P**	**08 02 11.1**	**+0.7**
KURK				IAmb	IAmb	08 02 14.6	
	comp=Z,3.7nm,0.9s						
ABKAR	**Akbulak array**	**82.22**	**322**	P	**P**	**08 03 07.1**	**+1.2**
QSPA	**South Pole Qui**	**83.18**	**180**	P	**P**	**08 03 12.7**	**+1.9**
QSPA				IAmb	IAmb	08 03 49.3	
	comp=Z,5.0nm,1.5s						
ILAR	**Eielson Array**	**93.25**	**25**	P	**P**	**08 03 59.9**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=286,slow=4.8,SNR=4.8						
	comp=Z,0.4nm,0.8s						

IDC 10 08:35:14.8±3.1, 53°.50N×87°.51E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.3km s-min=16.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**287**	I	I	08 46 05.9	
	baz=105,slow=337,SNR=5.6						
ZALV	**Zalesovo Beam**	**1.66**	**287**	Pg	Pn	08 35 44.6	-0.6
	0.6nm,0.3s,baz=109,slow=13,SNR=8.0						
ZALV				Lg	Lg	08 36 08.1	
	1.0nm,0.3s,baz=104,slow=24,SNR=9.6						
KURBB	**Kurchatov Arra**	**6.24**	**246**	Pn	Pn	08 36 47.5	-0.5
	0.1nm,0.3s,baz=59,slow=13,SNR=2.3						
KURBB				Lg	Lg	08 38 33.3	
	baz=62,slow=33,SNR=2.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.50**	**209**	Pn	Pn	08 37 07.4	+1.9
	0.1nm,0.3s,baz=24,slow=16,SNR=4.7						
	0.2nm,0.4s						

*NEIC **10** 08:41:11.7±3.8, 18°.30N±0°.08×103°.12W±0°.07, h53km±7km, mb4.4/27, Md4.4/38(MEX), Error ellipse: s-maj=12.9km s-min=7.5km az=216.0*
*MEX **10** 08:41:13.2±0.7, 18°.22N×103°.10W, h44km±7km, MD4.3*
*IDC **10** 08:41:14.2±1.4, 20°.02N×102°.14W, h0km, mb3.9/7, mbtmp4.0/9, ML4.1/2, Error ellipse: s-maj=43.3km s-min=23.3km az=37.0*
ISC 10 08:41:10.7±0.8, 18°.25N±0°.05×103°.13W±0°.04, h55km±7km, n81, σ2s.07/114, mb4.3/19, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.20**	**280**		**Pn**	**08 41 19.3**	**-0.3**
MMIG					**Sn**	**08 41 25.7**	**-0.3**
MMIG	**Aquila**	**0.20**	**280**	*eP*	**Pn**	**08 41 19.3**	**-0.3**
MMIG				*eS*	**Sn**	**08 41 25.7**	**-0.3**
ZIIG	**Zihuatanejo**	**1.71**	**112**		**Pn**	**08 41 38.6**	**+0.5**
ZIIG					**Sn**	**08 41 58.5**	**-0.5**
ZIIG	**Zihuatanejo**	**1.71**	**112**	*eP*	**Pn**	**08 41 38.6**	**+0.5**
ZIIG				*eS*	**Sn**	**08 41 58.5**	**-0.5**
CJM	**Chamela**	**2.19**	**305**	*eP*	**Pn**	**08 41 46.4**	**+1.6**
CJM				*eS*	**Sn**	**08 42 13.0**	**+2.2**
MOIG	**Morelia**	**2.32**	**52**	Pn	**Pn**	**08 41 46.3**	**-0.4**
MOIG	**Morelia**	**2.32**	**52**	*eP*	**Pn**	**08 41 46.0**	**-0.8**
MOIG				*eS*	**Sn**	**08 42 13.2**	**-1.1**
ARIG	**Puente Sto Nin**	**2.65**	**89**		**Pn**	**08 41 51.4**	**+0.4**
ARIG					**Sn**	**08 42 25.1**	**+3.1**
ARIG	**Puente Sto Nin**	**2.65**	**89**	*eP*	**Pn**	**08 41 51.4**	**+0.4**
ARIG				*eS*	**Sn**	**08 42 21.1**	**-0.8**
CAIG	**El Cayaco**	**2.98**	**113**		**Pn**	**08 41 56.7**	**+1.2**
CAIG					**Sn**	**08 42 28.9**	**-1.2**
CAIG	**El Cayaco**	**2.98**	**113**	*eP*	**Pn**	**08 41 56.7**	**+1.2**
CAIG				*eS*	**Sn**	**08 42 28.9**	**-1.2**
IGIG	**Irapuato, Guan**	**3.02**	**34**		**Pn**	**08 41 54.6**	**-1.6**
IGIG					**Sn**	**08 42 31.2**	**0.0**
IGIG	**Irapuato, Guan**	**3.02**	**34**	*eP*	**Pn**	**08 41 55.9**	**-0.4**
IGIG				*i S*	**Sn**	**08 42 31.2**	**0.0**
ANIG	**Ahuacatlan**	**3.08**	**335**		**Pn**	**08 41 55.9**	**-1.1**
ANIG					**Sn**	**08 42 37.6**	**+4.9**
ANIG	**Ahuacatlan**	**3.08**	**335**	*eP*	**Pn**	**08 41 55.9**	**-1.1**
ANIG				*eS*	**Sn**	**08 42 35.7**	**+3.0**
MEIG	**Mezcala**	**3.36**	**95**		**Pn**	**08 42 02.0**	**+1.2**
MEIG					**Sn**	**08 42 41.2**	**+1.8**
MEIG	**Mezcala**	**3.36**	**95**	*eP*	**Pn**	**08 42 02.0**	**+1.2**
MEIG				*eS*	**Sn**	**08 42 40.3**	**+0.8**
PLIG	**Platanillo**	**3.45**	**87**		**Pn**	**08 42 03.2**	**+1.1**
PLIG					**Sn**	**08 42 49.1**	**+7.3**
PLIG	**Platanillo**	**3.45**	**87**	*eP*	**Pn**	**08 42 03.2**	**+1.1**
PLIG				*eS*	**Sn**	**08 42 41.7**	**-0.2**
JRQG	**Juriquilla Cam**	**3.52**	**46**	*eP*	**Pn**	**08 42 01.9**	**-1.2**
JRQG				*i S*	**Sn**	**08 42 46.1**	**+2.5**
UNM	**Universidad Na**	**3.90**	**73**	Pn	**Pn**	**08 42 10.0**	**+1.7**
YAIG	**Yautepec**	**3.91**	**80**		**Pn**	**08 42 09.5**	**+1.2**
YAIG					**Sn**	**08 43 00.0**	**+7.0**
YAIG	**Yautepec**	**3.91**	**80**	*eP*	**Pn**	**08 42 09.5**	**+1.2**
YAIG				*eS*	**Sn**	**08 42 51.1**	**-2.0**
PPIG	**Popocatepetl**	**4.35**	**79**		**Pn**	**08 42 16.6**	**+1.9**
PPIG					**Sn**	**08 43 04.3**	**-0.2**
PPM	**Popocatepetl**	**4.35**	**79**	*eP*	**Pn**	**08 42 16.6**	**+1.8**
PPM				*eS*	**Sn**	**08 43 04.3**	**-0.2**
TLIG	**Tlapa**	**4.40**	**98**	Pn	**Pn**	**08 42 18.6**	**+3.5**
TLIG	**Tlapa**	**4.40**	**98**	*eP*	**Pn**	**08 42 17.2**	**+2.1**
TLIG				*eS*	**Sn**	**08 43 05.7**	**+0.4**
ZAIG	**Zacatecas**	**4.53**	**7**	Pn	**Pn**	**08 42 15.9**	**-1.0**
FTIG	**Fresnillo de T**	**4.77**	**93**		**Pn**	**08 42 22.0**	**+1.8**
FTIG					**Sn**	**08 43 20.7**	**+6.5**
FTIG	**Fresnillo de T**	**4.77**	**93**	*eP*	**Pn**	**08 42 22.0**	**+1.8**
FTIG				*eS*	**Sn**	**08 43 11.9**	**-2.4**
HLIG	**Huajuapan de L**	**5.09**	**94**		**Pn**	**08 42 26.7**	**+2.0**
HLIG					**Sn**	**08 43 21.9**	**-0.4**
HLIG	**Huajuapan de L**	**5.09**	**94**	*eP*	**Pn**	**08 42 26.7**	**+2.0**
HLIG				*eS*	**Sn**	**08 43 21.9**	**-0.4**
PNIG	**Pinotepa**	**5.13**	**110**		**Pn**	**08 42 27.0**	**+2.0**
PNIG					**Sn**	**08 43 23.4**	**+0.5**
PNIG	**Pinotepa**	**5.13**	**110**	*eP*	**Pn**	**08 42 27.0**	**+2.0**
PNIG				*eS*	**Sn**	**08 43 23.4**	**+0.5**
TXIG	**Tlaxiaco**	**5.21**	**100**		**Pn**	**08 42 28.9**	**+2.5**
TXIG					**Sn**	**08 43 29.9**	**+4.6**
TXIG	**Tlaxiaco**	**5.21**	**100**	*eP*	**Pn**	**08 42 28.9**	**+2.5**
TXIG				*eS*	**Sn**	**08 43 24.3**	**-1.0**
YOIG	**Yosondua**	**5.51**	**104**		**Pn**	**08 42 33.3**	**+2.9**
YOIG					**Sn**	**08 43 33.7**	**+1.1**
YOIG	**Yosondua**	**5.51**	**104**	*eP*	**Pn**	**08 42 33.3**	**+2.9**
YOIG				*eS*	**Sn**	**08 43 33.7**	**+1.1**
CMIG	**Matias Romero**	**7.95**	**97**	Pn	**Pn**	**08 43 05.7**	**+2.1**
	1.1nm,0.3s,baz=273,slow=14,SNR=43						
CMIG				Sn	**Sn**	**08 44 31.7**	**-0.6**
	0.4nm,0.3s,baz=332,slow=17,SNR=1.7						
CMIG				Lg	Lg	08 45 15.9	
	2.1nm,0.3s,baz=45,slow=13,SNR=5.0						
	4.4nm,0.4s						
SLBS	**Sierra La Lagu**	**8.35**	**312**	Pn	**Pn**	**08 43 11.9**	**+2.8**
LPIG	**La Paz**	**8.87**	**312**	Pn	**Pn**	**08 43 19.9**	**+3.6**
	6.8nm,0.3s,baz=220,slow=19,SNR=7.6						
	18nm,0.3s						
HPIG		**8.95**	**345**	Pn	**Pn**	**08 43 19.0**	**+1.4**
TX32	**Lajitas Array**	**11.04**	**358**	Pn	**Pn**	**08 43 46.7**	**+0.6**
TXAR	**Lajitas Array**	**11.04**	**358**	Pn	**Pn**	**08 43 47.0**	**+1.0**
TX31	**Lajitas Ar. Si**	**11.04**	**358**	Pn	**Pn**	**08 43 46.0**	**0.0**
WHAR	**Wooly Hollow**	**19.51**	**27**	P	**P**	**08 45 32.9**	**-0.5**
FCAR	**Ozark Folk Cen**	**20.09**	**27**	P	**P**	**08 45 38.6**	**-1.1**
LRAL	**Lakeview Retre**	**20.66**	**41**	P	**P**	**08 45 43.9**	**-2.0**
LRAL					IAmb	IAmb	08 45 45.5
	comp=Z,16nm,1.2s						
LCAR	**Lake Charles**	**20.67**	**28**	P	**P**	**08 45 43.9**	**-2.1**
CCM	**Cathedral Cave**	**22.30**	**25**	P	**P**	**08 46 00.7**	**-2.8**
WVT	**Waverly**	**22.36**	**34**	P	**P**	**08 46 01.6**	**-2.5**
FPAL	**Fort Paine**	**22.52**	**40**	P	**P**	**08 46 03.1**	**-2.7**
FPAL					IAmb	IAmb	08 46 32.5
	comp=Z,23nm,1.4s						
P40A	**Paris**	**23.28**	**22**	P	**P**	**08 46 11.0**	**-2.5**
P40A					IAmb	IAmb	08 46 12.8
	comp=Z,17nm,1.1s						
CPCT	**Cooper Cave**	**23.79**	**40**	P	**P**	**08 46 16.2**	**-2.1**
N38A	**Joes South For**	**24.02**	**19**	P	**P**	**08 46 18.7**	**-1.8**
TKL	**Tuckaleechee C**	**24.38**	**41**	P	**P**	**08 46 19.6**	**-4.2**
	comp=Z,5.5nm,0.8s,baz=202,slow=10.0,SNR=4.7						
TKL	**Tuckaleechee C**	**24.38**	**41**	P	**P**	**08 46 22.4**	**-1.4**
TKL					IAmb	IAmb	08 46 34.4
	comp=Z,6.6nm,0.7s						
HODGE	**Hodges**	**24.50**	**45**	P	**P**	**08 46 24.1**	**-0.7**
HODGE					IAmb	IAmb	08 46 50.2
	comp=Z,14nm,1.4s						
V52A	**Sevierville**	**24.61**	**41**	P	**P**	**08 46 23.8**	**-2.1**
V52A					IAmb	IAmb	08 47 03.0
	comp=Z,12nm,1.2s						
N41A	**Harden Midland**	**24.75**	**23**	P	**P**	**08 46 25.2**	**-1.8**
V53A	**Saluda**	**25.00**	**42**	P	**P**	**08 46 27.3**	**-2.1**
V53A					IAmb	IAmb	08 47 00.3
	comp=Z,20nm,1.5s						
PDAR	**Pinedale Array**	**25.04**	**349**	P	**P**	**08 46 27.7**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=158,slow=8.5,SNR=6.1						
	comp=Z,0.7nm,0.8s						
KMSC	**Kings Mountain**	**25.64**	**45**	P	**P**	**08 46 33.9**	**-1.4**
KMSC					IAmb	IAmb	08 46 52.7
	comp=Z,10nm,1.0s						
YKA	**Yellowknife Ar**	**44.92**	**352**	P	**P**	**08 49 17.6**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=166,slow=6.9,SNR=5.3						
	comp=Z,0.3nm,0.7s						
INK	**Inuvik**	**53.58**	**346**	P	**P**	**08 50 25.7**	**0.0**
	comp=Z,1.6nm,0.8s,baz=136,slow=6.4,SNR=7.4						
	comp=Z,1.6nm,0.8s						
INK	**Inuvik**	**53.58**	**346**	P	**P**	**08 50 25.6**	**0.0**
INK					IAmb	IAmb	08 50 26.6
	comp=Z,4.6nm,1.2s						
OHAK	**Old Harbor**	**53.67**	**329**	P	**P**	**08 50 28.4**	**+1.8**
SUA	**Susitna One**	**54.50**	**334**	P	**P**	**08 50 33.6**	**+0.9**
ILAR	**Eielson Array**	**54.87**	**339**	P	**P**	**08 50 35.9**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=142,slow=8.0,SNR=9.5						
	comp=Z,0.7nm,0.9s						
A36M	**Sachs Harbour**	**55.27**	**352**	P	**P**	**08 50 37.2**	**-0.7**
A36M					IAmb	IAmb	08 50 54.5
	comp=Z,5.2nm,1.2s						
TRF	**Thorofare Moun**	**55.35**	**336**	P	**P**	**08 50 40.1**	**+1.2**
M20K	**Styx River**	**55.70**	**334**	P	**P**	**08 50 42.2**	**+0.9**
M20K					IAmb	IAmb	08 50 43.1
	comp=Z,3.2nm,0.9s						
N19K	**Bonanza Creek**	**55.79**	**332**	P	**P**	**08 50 42.7**	**+0.7**
N19K					IAmb	IAmb	08 50 43.6
	comp=Z,4.7nm,0.9s						
SVW2	**Sparrevohn**	**56.39**	**332**	P	**P**	**08 50 46.8**	**+0.6**
SVW2					IAmb	I

STKA	**Stephens Creek**	**29.41**	**201**	P	**P**	**08 58 11.2**	**-0.3**
STKA				IAmb	IAmb	08 58 44.4	
	comp=Z,1.8nm,1.4s						
FITZ	**Fitzroy Crossi**	**30.55**	**242**	P	**P**	**08 58 21.2**	**-0.6**
MBWA	**Marble Bar**	**36.86**	**240**	P	**P**	**08 59 15.5**	**-0.9**
PSA00	**Pilbara Seismi**	**36.92**	**240**	P	**P**	**08 59 15.6**	**-1.4**
QRZ	**Quartz Range**	**39.82**	**158**	P	**P**	**08 59 36.8**	**-4.2**
KSRS	**Korea Array**	**48.25**	**332**	P	**P**	**09 00 49.7**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=152,slow=8.3,SNR=2.9						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.63**	**295**	P	**P**	**09 02 07.2**	**+2.6**
	comp=Z,1.0nm,0.4s,baz=104,slow=6.6,SNR=1.5						
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**66.66**	**327**	P	**P**	**09 02 58.8**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=149,slow=6.4,SNR=6.4						
	comp=Z,0.5nm,0.4s						
SONM	**Songino Array**	**66.66**	**327**	P	**P**	**09 02 57.5**	**-0.2**
SONM				IAmb	IAmb	09 02 59.4	
	comp=Z,1.8nm,1.4s						
VNDA	**Vanda**	**72.99**	**178**	P	**P**	**09 03 35.0**	**-0.8**
VNDA				IAmb	IAmb	09 03 47.9	
	comp=Z,4.1nm,1.4s						
MK31	**Makanchi Array**	**80.79**	**319**	P	**P**	**09 04 20.3**	**+0.2**
MK31				IAmb	IAmb	09 04 22.2	
	comp=Z,2.6nm,1.4s						
MKAR	**Makanchi Array**	**80.79**	**319**	P	**P**	**09 04 21.1**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=91,slow=8.5,SNR=7.3						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**80.79**	**319**	P	**P**	**09 04 19.7**	**-0.5**
ZALV	**Zalesovo Beam**	**81.51**	**326**	P	**P**	**09 04 23.7**	**0.0**
	comp=Z,0.9nm,0.4s,baz=101,slow=6.1,SNR=3.9						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**81.51**	**326**	P	**P**	**09 04 22.9**	**-0.8**
QSPA	**South Pole Qui**	**85.35**	**180**	P	**P**	**09 04 43.7**	**+0.3**
QSPA				IAmb	IAmb	09 05 27.1	
	comp=Z,4.9nm,1.4s						
YKA	**Yellowknife Ar**	**94.83**	**28**	P	**P**	**09 05 29.7**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=283,slow=5.6,SNR=2.2						
	comp=Z,0.1nm,0.4s						

IDC 10 08:53:29.0±643.0, 57°27N×18°56E, h0km, Error ellipse: s-maj=249.5km s-min=169.6km az=57.0, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASONI**	**10.19**	**85**	I	I	09 57 20.0	
	baz=280,slow=317,SNR=0.6						
I37NO	**I37NO**	**11.85**	**0**	I	I	10 08 30.0	
	baz=180,slow=332,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**24.00**	**90**	I	I	11 20 10.0	
	baz=305,slow=327,SNR=1.2						

WEL 10 09:25:43.4±0.3, 42°S±2°×17°4E±°, h8km±3km, M2.6/13, ML2.8/20, MLv2.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=119.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**212**	P	Pb	09 25 51.4	-0.6
KHZ				S	Sb	09 25 57.5	-0.3
BSWZ	**Blackbirch Sta**	**0.40**	**9**	P	Pg	09 25 51.7	+0.5
BSWZ				S	Sb	09 25 57.8	-1.1
CMWZ	**Cape Campbell**	**0.48**	**41**	P	Pb	09 25 53.9	-0.1
TUWZ	**Tuamarina**	**0.69**	**9**	P	Pg	09 25 57.1	+0.4
TUWZ				S	Sb	09 26 06.9	-0.4
THZ	**Tophouse**	**0.75**	**297**	P	Pg	09 25 57.8	0.0
THZ				S	Sg	09 26 07.4	-0.2
NNZ	**Nelson**	**0.94**	**341**	P	Pg	09 26 01.4	-0.2
NNZ				S	Sg	09 26 13.0	-0.8
TCW	**Tory Channel**	**0.97**	**22**	P	Pg	09 26 01.9	-0.1
TCW				S	Sn	09 26 17.3	+0.1
GVZ	**Greta Valley S**	**1.02**	**213**	P	Pn	09 26 03.7	-0.3
GVZ				S	Sn	09 26 19.2	+0.6
MRNZ	**Matariki Terra**	**1.05**	**312**	P	Pg	09 26 03.7	+0.1
MRNZ				S	Sn	09 26 18.8	-0.5
PLWZ	**Palliser**	**1.22**	**64**	P	Pb	09 26 05.7	-1.0
TKNZ	**Takaka Hill**	**1.25**	**330**	P	Pn	09 26 06.8	-0.3
TKNZ				S	Sb	09 26 23.0	-0.3
DUWZ	**D'Urville Isla**	**1.31**	**4**	P	Pn	09 26 07.8	-0.2
DUWZ				S	Sn	09 26 26.5	+0.8
LTZ	**Lake Taylor**	**1.31**	**239**	P	Pn	09 26 08.0	-0.1
LTZ				S	Sn	09 26 26.0	+0.2
CAW	**Cannon Point**	**1.38**	**44**	P	Pn	09 26 08.4	-0.5
PAWZ	**Paruwai Farm**	**1.42**	**60**	P	Pn	09 26 08.3	-1.2
KIW	**Kapiti Island**	**1.50**	**34**	P	Pn	09 26 10.7	+0.1
DSZ	**Denniston Nort**	**1.53**	**283**	P	Pb	09 26 12.3	+0.3
MTW	**Mount Morrison**	**1.59**	**54**	P	Pn	09 26 10.6	-1.3
QRZ	**Quartz Range**	**1.60**	**323**	P	Pb	09 26 13.1	-0.1
OGWZ	**Otaki Gorge**	**1.66**	**39**	P	Pn	09 26 12.2	-0.5
OKCZ	**Okains Bay**	**1.70**	**198**	P	Pn	09 26 12.3	-1.1
OXZ	**Oxford**	**1.77**	**226**	P	Pn	09 26 13.1	-1.3
MQZ	**McQueen's Vall**	**1.80**	**207**	P	Pn	09 26 12.8	-1.9
INZ	**Inchbonnie**	**1.84**	**250**	P	Pn	09 26 15.6	+0.3
AKCZ	**Akaroa Harbour**	**1.88**	**200**	P	Pn	09 26 14.5	-1.2
MRZ	**Mangatainoka R**	**1.98**	**43**	P	Pn	09 26 16.1	-1.0
RACZ	**Rakaia**	**2.02**	**216**	P	Pn	09 26 16.5	-1.2
MHCZ	**Mount Hutt**	**2.17**	**228**	P	Pn	09 26 18.5	-1.3
WACZ	**Wakanui South**	**2.33**	**217**	P	Pn	09 26 20.7	-1.2
WVZ	**Waitaha Valley**	**2.45**	**246**	P	Pn	09 26 23.7	+0.1
RPZ	**Rata Peaks**	**2.57**	**231**	P	Pn	09 26 24.3	-1.1
ARCZ	**Arundel**	**2.66**	**225**	P	Pn	09 26 25.3	-1.2
LREZ	**Lake Rotokare**	**2.69**	**10**	P	Pn	09 26 25.9	-1.0
GCSZ	**Gaunt Creek Bo**	**2.83**	**244**	P	Pn	09 26 28.9	+0.1
TMZ	**Timaru**	**3.05**	**221**	P	Pn	09 26 31.0	-0.9
TRVZ	**Turoa**	**3.11**	**26**	P	Pn	09 26 30.7	-2.3
ODZ	**Otahua Downs**	**3.72**	**217**	P	Pn	09 26 39.5	-1.6
RRRZ	**Republican Roa**	**4.30**	**30**	P	Pn	09 26 49.7	+0.6
TOZ	**Tahuroa Road**	**4.57**	**17**	P	Pn	09 26 53.5	+0.8

IDC 10 09:27:22.2±4.2, 14°63N×143°57E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=166.9km s-min=28.9km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.34**	**349**	P	P	09 32 21.1	-0.6
	0.5nm,0.6s,baz=166,slow=9.9,SNR=2.6						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**35.53**	**195**	P	P	09 34 20.9	-0.2
	0.8nm,0.9s,baz=14,slow=9.5,SNR=3.9						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**59.87**	**316**	P	P	09 37 30.1	+0.3
	0.5nm,0.9s,baz=86,slow=5.7,SNR=3.7						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**63.02**	**320**	P	P	09 37 50.9	-0.1
	0.9nm,0.7s,baz=99,slow=6.9,SNR=5.6						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**68.34**	**322**	P	P	09 38 25.4	+0.1
	0.5nm,0.5s,baz=79,slow=7.5,SNR=2.4						
	0.5nm,0.5s						

IDC 10 09:27:35.8±2.9, 53°60N×87°77E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.2km s-min=14.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**283**	I	I	09 39 40.4	
	baz=98,slow=348,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.79**	**283**	Pg	Pb	09 28 09.0	-0.4
	2.1nm,0.3s,baz=100,slow=18,SNR=18						
ZALV				Lg	Lg	09 28 32.4	
	2.3nm,0.3s,baz=105,slow=27,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.42**	**246**	Pn	Pn	09 29 11.2	-0.3
	0.1nm,0.3s,baz=65,slow=15,SNR=1.9						
KURBB				Lg	Lg	09 30 58.3	
	baz=60,slow=28,SNR=1.5						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**7.66**	**209**	Pn	Pn	09 29 30.0	+1.4
	0.2nm,0.3s,baz=28,slow=14,SNR=14						
MKAR				Sn	Sn	09 30 56.9	+0.8
	0.1nm,0.3s,baz=30,slow=28,SNR=4.2						
MKAR				Lg	Lg	09 31 37.8	
	baz=29,slow=31,SNR=3.1						
	0.3nm,0.4s						

*AZER **10** 09:31:35.5±0.1, 40°.49N×51°.99E, h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*TEH **10** 09:31:35.8, 40°.54N×52°.00E, h60km, ML3.7*
ISC 10 09:31:36.6±1.7, 40°56N±0°06×51°95E±0°06, h111km±34km, n57, σ1§01/75, 3C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATGJ	**Altiaghaj**	**2.31**	**278**	Pn	**Pn**	**09 32 14.2**	**+0.5**
ATGJ				Sn	**Sn**	**09 32 42.2**	**+0.2**
ATGJ	**Altiaghaj**	**2.31**	**278**	Pn	**Pn**	**09 32 14.1**	**+0.5**
SIZA	**Siyzn**	**2.37**	**284**	Pn	**Pn**	**09 32 14.6**	**+0.2**
SIZA				Sn	**Sn**	**09 32 44.9**	**+1.4**
SIZA	**Siyzn**	**2.37**	**284**	Pn	**Pn**	**09 32 14.6**	**+0.2**
PQL	**Pirkuli**	**2.56**	**276**	Pn	**Pn**	**09 32 16.8**	**-0.2**
PQL				Sn	**Sn**	**09 32 49.1**	**+1.2**
PQL	**Pirkuli**	**2.56**	**276**	Pn	**Pn**	**09 32 16.7**	**-0.2**
QUBA	**Quba, Azerbaij**	**2.73**	**288**	Pn	**Pn**	**09 32 19.9**	**+0.7**
QUBA				Sn	**Sn**	**09 32 52.2**	**+0.4**
QUB	**Quba**	**2.84**	**288**	Pn	**Pn**	**09 32 20.6**	**+0.1**
IML	**Ismayilli**	**2.87**	**276**	Pn	**Pn**	**09 32 22.8**	**+1.9**
IML				Sn	**Sn**	**09 32 56.4**	**+1.2**
QSAR	**Qusar**	**2.94**	**290**	Pn	**Pn**	**09 32 22.4**	**+0.5**
	SNR=4.8						
QSAR				Sn	**Sn**	**09 32 56.9**	**+0.1**
QSAR	**Qusar**	**2.94**	**290**	Pn	**Pn**	**09 32 22.4**	**+0.5**
XNQ	**Khinaliq**	**2.95**	**283**	Pn	**Pn**	**09 32 22.0**	**-0.2**
	SNR=7.8						
XNQ				Sn	**Sn**	**09 32 56.6**	**-0.6**
XNQ	**Khinaliq**	**2.95**	**283**	Pn	**Pn**	**09 32 21.9**	**-0.2**
GLBA	**Clilabad**	**3.03**	**245**	Pn	**Pn**	**09 32 23.6**	**+0.5**
GLBA				Sn	**Sn**	**09 32 59.0**	**+0.2**
GLBA	**Clilabad**	**3.03**	**245**	Pn	**Pn**	**09 32 23.3**	**+0.2**
LKRN	**Lenkeran, Azer**	**3.06**	**234**	Pn	**Pn**	**09 32 23.5**	**0.0**
LKRN				Sn	**Sn**	**09 32 59.6**	**+0.2**
LKRN	**Lenkeran, Azer**	**3.06**	**234**	Pn	**Pn**	**09 32 23.5**	**0.0**
QBL	**Gabala**	**3.15**	**278**	Pn	**Pn**	**09 32 24.1**	**-0.4**
QBL				Sn	**Sn**	**09 32 59.9**	**-1.7**
ASTR	**Astara**	**3.15**	**232**	Pn	**Pn**	**09 32 22.4**	**-2.2**
ASTR				Sn	**Sn**	**09 33 00.2**	**-1.5**
ASTR	**Astara**	**3.15**	**232**	Pn	**Pn**	**09 32 22.4**	**-2.2**
ZRD	**Zardab**	**3.27**	**266**	Pn	**Pn**	**09 32 26.5**	**+0.4**
ZRD				Sn	**Sn**	**09 33 05.8**	**+1.4**
ZRD	**Zardab**	**3.27**	**266**	Pn	**Pn**	**09 32 26.5**	**+0.4**
YRD	**Yardimli**	**3.29**	**241**	Pn	**Pn**	**09 32 26.0**	**-0.7**
YRD				Sn	**Sn**	**09 33 04.1**	**-1.3**
YRD	**Yardimli**	**3.29**	**241**	Pn	**Pn**	**09 32 26.0**	**-0.7**
LRK	**Lerik**	**3.38**	**237**	Pn	**Pn**	**09 32 28.1**	**+0.2**
LRK	**Lerik**	**3.38**	**237**	Pn	**Pn**	**09 32 28.0**	**+0.2**
SEKA	**Sheki**	**3.66**	**282**	Sn	**Sn**	**09 33 13.2**	**-0.7**
LHJ2	**Lahijan - Gila**	**3.69**	**204**	Pn	**Pn**	**09 32 31.4**	**-0.5**
QRD	**Qoradiz**	**3.72**	**254**	Pn	**Pn**	**09 32 32.8**	**+0.6**
QRD				Sn	**Sn**	**09 33 14.0**	**-1.2**
QRD	**Qoradiz**	**3.72**	**254**	Pn	**Pn**	**09 32 32.7**	**+0.6**
AGDM	**Agdam**	**3.73**	**265**	Pn	**Pn**	**09 32 32.1**	**-0.2**
AGDM				Sn	**Sn**	**09 33 15.7**	**+0.3**
KLST	**Kelardasht - M**	**4.09**	**190**	Pn	**Pn**	**09 32 37.0**	**-0.6**
MZPU	**Pul - Mazandar**	**4.12**	**184**	Pn	**Pn**	**09 32 37.6**	**-0.3**
ZKTA	**Zakatala**	**4.17**	**287**	Pn	**Pn**	**09 32 38.4**	**+0.2**
ZKTA				Sn	**Sn**	**09 33 25.0**	**-1.0**
QALM	**Alamut, Qazvin**	**4.25**	**194**	Pn	**Pn**	**09 32 39.5**	**0.0**
GANJ	**Ganja**	**4.28**	**273**	Pn	**Pn**	**09 32 38.5**	**-1.3**
GANJ				Sn	**Sn**	**09 33 26.4**	**-2.4**
GANJ	**Ganja**	**4.28**	**273**	Pn	**Pn**	**09 32 38.4**	**-1.3**
ISRB	**Sarab**	**4.30**	**232**	Pn	**Pn**	**09 32 41.1**	**+0.8**
IGLO	**Ghaloghah**	**4.31**	**159**	Pn	**Pn**	**09 32 39.8**	**-0.6**
IPRN	**Peran**	**4.32**	**176**	Pn	**Pn**	**09 32 40.1**	**-0.3**
MRVT	**Maraveh tapeh**	**4.33**	**131**	Pn	**Pn**	**09 32 40.0**	**-0.5**
IHRS	**Heris**	**4.41**	**241**	Pn	**Pn**	**09 32 42.8**	**+1.1**
GDB	**GEDABAY**	**4.71**	**274**	Pn	**Pn**	**09 32 40.0**	**+0.2**
GDB				Sn	**Sn**	**09 33 37.0**	**-2.4**
GDB	**GEDABAY**	**4.71**	**274**	Pn	**Pn**	**09 32 45.9**	**+0.2**
ISHM	**Shahmirzad**	**4.86**	**167**	Pn	**Pn**	**09 32 48.6**	**+0.7**
ORD	**Ordubad**	**4.87**	**252**	Pn	**Pn**	**09 32 49.2**	**+1.5**
ORD				Sn	**Sn**	**09 33 44.6**	**+1.6**
ORD	**Ordubad**	**4.87**	**252**	Pn	**Pn**	**09 32 49.2**	**+1.5**
IFIR	**Firoozkooh**	**4.95**	**172**	Pn	**Pn**	**09 32 50.4**	**+1.3**
IDMV	**Damavand**	**4.97**	**179**	Pn	**Pn**	**09 32 51.3**	**+1.9**
QZX	**Qazax, Azerbai**	**5.01**	**278**	Sn	**Sn**	**09 33 45.3**	**-1.1**
SBZ	**Shahbuz**	**5.05**	**259**	Pn	**Pn**	**09 32 50.4**	**+0.2**
SBZ				Sn	**Sn**	**09 33 47.7**	**+0.3**
SBZ	**Shahbuz**	**5.05**	**259**	Pn	**Pn**	**09 32 50.3**	**+0.2**
IVRN	**Varamin**	**5.56**	**182**	Pn	**Pn**	**09 32 59.1**	**+2.0**
ISFR	**Sfrayin**	**5.88**	**125**	Pn	**Pn**	**09 33 02.0**	**+0.3**
IEMG	**Emamgholi**	**6.09**	**119**	Pn	**Pn**	**09 33 04.3**	**-0.3**
AB31	**Akbulak array**	**10.38**	**30**	⇑P	Pn	09 33 55.6	-6.5
	0.3nm,0.5s,baz=210,slow=13,SNR=21						
AB31				⇑S	Sn	09 35 45.3	-11
	0.4nm,0.3s,baz=213,slow=24,SNR=6.0						
AKTO	**Aktyubinsk**	**10.75**	**21**	⇓P	Pn	09 34 01.4	-5.8
	1.2nm,0.6s						
AKTO				⇑S	Sn	09 35 54.4	-11
	1.1nm,0.6s						

WEL 10 09:39:17.9±0.3, 42°S±2°×17°4E±°, h12km±3km, M3.0/17, ML3.0/19, MLv3.0/17, Error ellipse: s-maj=0.0km s-min=0.0km az=117.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.13**	**215**	P	Pb	09 39 21.8	-0.5
KHZ				S	Sg	09 39 24.7	+1.1
BSWZ	**Blackbirch Sta**	**0.62**	**16**	P	Pb	09 39 30.4	-0.3
CMWZ	**Cape Campbell**	**0.70**	**38**	P	Pg	09 39 31.8	+0.2
THZ	**Tophouse**	**0.77**	**315**	P	Pg	09 39 32.7	-0.2
THZ				S	Sg	09 39 42.7	-0.3
GVZ	**Greta Valley S**	**0.80**	**214**	P	Pn	09 39 34.6	-0.4
GVZ				S	Sn	09 39 47.1	+0.3
TUWZ	**Tuamarina**	**0.91**	**14**	P	Pb	09 39 35.5	-0.1
NNZ	**Nelson**	**1.11**	**350**	P	Pb	09 39 38.7	-0.3
NNZ				S	Sb	09 39 53.3	0.0
LTZ	**Lake Taylor**	**1.12**	**244**	P	Pb	09 39 39.0	-0.3
LTZ				S	Sb	09 39 53.2	-0.6
MRNZ	**Matariki Terra**	**1.12**	**324**	P	Pb	09 39 39.2	-0.1
MRNZ				S	Sg	09 39 54.2	+0.1
AMCZ	**Amberley**	**1.13**	**220**	P	Pb	09 39 39.3	-0.2
TCW	**Tory Channel**	**1.20**	**24**	P	Pn	09 39 40.2	-0.3
TCW				S	Sb	09 39 56.0	+0.1
WEL	**Wellington**	**1.32**	**40**	P	Pn	09 39 42.1	-0.2
TKNZ	**Takaka Hill**	**1.37**	**338**	P	Pb	09 39 43.5	0.0
TKNZ				S	Sb	09 40 01.5	+0.5
PLWZ	**Palliser**	**1.41**	**59**	P	Pn	09 39 42.7	-0.8
OKCZ	**Okains Bay**	**1.48**	**197**	P	Pn	09 39 43.6	-0.8
DSZ	**Denniston Nort**	**1.48**	**292**	P	Pb	09 39 45.0	-0.4
DUWZ	**D'Urville Isla**	**1.52**	**8**	P	Pn	09 39 45.1	+0.2
OXZ	**Oxford**	**1.56**	**229**	P	Pn	09 39 44.3	-1.2
MQZ	**McQueen's Vall**	**1.57**	**207**	P	Pn	09 39 44.0	-1.6
CAW	**Cannon Point**	**1.61**	**42**	P	Pn	09 39 45.5	-0.6
PAWZ	**Paruwai Farm**	**1.62**	**56**	P	Pn	09 39 45.2	-1.2
AKCZ	**Akaroa Harbour**	**1.65**	**199**	P	Pn	09 39 45.8	-1.0
INZ	**Inchbonnie**	**1.68**	**255**	P	Pn	09 39 47.1	0.0
QRZ	**Quartz Range**	**1.70**	**330**	P	Pb	09 39 48.8	-0.3
KIW	**Kapiti Island**	**1.73**	**34**	P	Pn	09 39 47.8	-0.1
RACZ	**Rakaia**	**1.80**	**217**	P	Pn	09 39 47.4	-1.4
MTW	**Mount Morrison**	**1.81**	**51**	P	Pn	09 39 47.6	-1.3
OGWZ	**Otaki Gorge**	**1.88**	**38**	P	Pn	09 39 49.3	-0.6
MHCZ	**Mount Hutt**	**1.95**	**231**	P	Pn	09 39 49.7	-1.2
HOWZ	**Holdsworth Sta**	**1.99**	**46**	P	Pn	09 39 50.5	-0.9
TMWZ	**Te Maipa**	**2.07**	**55**	P	Pn	09 39 50.9	-1.6
WACZ	**Wakanui South**	**2.10**	**218**	P	Pn	09 39 51.7	-1.2
MRZ	**Mangatainoka R**	**2.20**	**42**	P	Pn	09 39 53.1	-1.1
WVZ	**Waitaha Valley**	**2.27**	**249**	P	Pn	09 39 55.3	0.0
RPZ	**Rata Peaks**	**2.36**	**233**	P	Pn	09 39 55.7	-0.8
ARCZ	**Arundel**	**2.44**	**227**	P	Pn	09 39 56.4	-1.1
WAZ	**Wanganui**	**2.75**	**22**	P	Pn	09 40 03.4	+1.6
TMZ	**Timaru**	**2.83**	**222**	P	Pn	09 40 01.9	-1.1
TSZ	**Takapari Road**	**2.85**	**39**	P	Pn	09 40 01.9	-1.4
KHEZ	**Kahui Hut**	**3.02**	**5**	P	Pb	09 40 09.2	-2.5
PKVZ	**Pokaka**	**3.28**	**24**	P	Pn	09 40 10.0	+0.8
VRZ	**Vera Road**	**3.29**	**15**	P	Pn	09 40 11.0	+1.7
WNVZ	**Wahianoa**	**3.33**	**27**	P	Pn	09 40 10.8	+0.9
BHHZ	**Black Hill Sta**	**3.36**	**34**	P	Pn	09 40 09.5	-0.9
NGZ	**Ngauruhoe**	**3.46**	**26**	P	Pn	09 40 12.6	+0.8
ODZ	**Otahua Downs**	**3.49**	**217**	P	Pn	09 40 10.5	-1.6
NNVZ	**North Ngauruho**	**3.51**	**26**	P	Pn	09 40 13.4	+0.9
ETVZ	**East Tongariro**	**3.54**	**27**	P	Pn	09 40 13.0	+0.2
TMVZ	**Te Maari**	**3.55**	**27**	P	Pn	09 40 13.1	+0.1
NTVZ	**North Tongarir**	**3.56**	**26**	P	Pn	09 40 13.8	+0.7
BKZ	**Black Stump Fm**	**3.81**	**36**	P	Pn	09 40 14.4	-2.1
HIZ	**Hauiti**	**3.90**	**14**	P	Pn	09 40 19.2	+1.5
TLZ	**Tolley Road**	**4.23**	**21**	P	Pn	09 40 22.4	+0.1
AWAZ	**Awhitu Peninsu**	**5.29**	**9**	P	Pn	09 40 38.1	+1.3

*NNC **10** 09:40:36.2±1.0, 51°.52N×75°.27E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=29.2km s-min=6.7km az=28.0, Suspected Mining explosion.*
*IDC **10** 09:40:37.0±1.3, 51°.76N×75°.64E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=30.5km s-min=9.5km az=31.0*
ISC 10 09:40:37.0±1.1, 51°8N±0°1×75°57E±0°06, h0km, n11, σ1§04/12, 8C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.19**	**120**	Pg	**Pn**	**09 41 15.1**	**+0.5**
	0.4nm,0.3s,baz=304,slow=18,SNR=27						
KURBB				Lg	Lg	09 41 46.3	
	0.4nm,0.3s,baz=306,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**2.19**	**120**	⇑Pg	**Pb**	**09 41 17.4**	**+0.1**
	2.9nm,0.4s						
KURBB				⇑Lg	Lg	09 41 46.4	
	24nm,0.6s						
KURK	**Kurchatov**	**2.19**	**118**	⇑Pg	**Pb**	**09 41 16.9**	**-0.5**
	3.6nm,0.8s						
KURK				⇑Lg	Lg	09 41 46.5	
	9.3nm,0.5s						
BVA0	**Borovoye Array**	**3.41**	**294**	⇓Pg	**Pb**	**09 41 39.1**	**+0.8**
	3.0nm,0.8s,baz=121,slow=16,SNR=5.8						
BVA0				⇓Lg	Lg	09 42 21.8	
	5.7nm,1.1s,baz=114,slow=29,SNR=4.9						
BVAR	**Borovoye Array**	**3.41**	**294**	Pn	**Pn**	**09 41 32.5**	**+1.1**
	baz=110,slow=15,SNR=2.9						
BVAR				Lg	Lg	09 42 24.7	
	0.2nm,0.3s,baz=112,slow=28,SNR=7.0						
	1.1nm,0.5s						
BRVK	**Borovoye**	**3.48**	**294**	⇓Pg	**Pb**	**09 41 37.7**	**-1.8**
	3.5nm,1.1s						
BRVK				⇑Lg	Lg	09 42 22.6	
	7.0nm,0.9s						
I46RU	**ZALESOVO INFRA**	**6.02**	**65**	I	I	10 14 50.0	
	baz=248,slow=335,SNR=6.0						
ZALV	**Zalesovo Beam**	**6.02**	**65**	Pn	**Pn**	**09 42 07.2**	**+0.1**
	0.1nm,0.3s,baz=248,slow=14,SNR=3.1						
	0.4nm,0.3s						
MAKZ	**Makanchi**	**6.49**	**137**	⇑Sn	**Sn**	**09 43 28.2**	**-0.3**
	0.9nm,0.7s						
MAKZ				⇑Lg	Lg	09 43 59.0	
	2.6nm,0.7s						
MK31	**Makanchi Array**	**6.64**	**136**	⇑Pn	**Pn**	**09 42 15.5**	**-0.2**
	0.3nm,0.5s,baz=320,slow=11,SNR=3.9						
MK31				⇓Sn	**Sn**	**09 43 33.7**	**+1.6**
	0.6nm,0.6s,baz=317,slow=26,SNR=4.0						
MK31				⇓Lg	Lg	09 44 04.5	
	1.6nm,0.6s,baz=320,slow=24,SNR=8.9						
MKAR	**Makanchi Array**	**6.64**	**136**	Pn	**Pn**	**09 42 14.9**	**-0.9**
	0.1nm,0.3s,baz=327,slow=10,SNR=5.0						
MKAR				Sn	**Sn**	**09 43 31.2**	**-0.8**
	0.1nm,0.3s,baz=316,slow=24,SNR=4.4						
MKAR				Lg	Lg	09 44 04.2	
	0.2nm,0.3s,baz=325,slow=27,SNR=9.4						
	0.5nm,0.8s						

*IDC **10** 09:45:34.4±2.9, 53°.71N×88°.26E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=24.7km s-min=17.5km az=57.0*
*NNC **10** 09:45:36.3±3.6, 53°.62N×87°.99E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=26.4km s-min=14.3km az=66.0, Suspected Mining explosion.*
ISC 10 09:45:35.2±3.8, 53°8N±0°1×88°0E±0°2, h0km, n9, σ1§20/11, 8C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**277**	I	I	09 58 27.2	
	0.2nm,1.1s,baz=94,slow=344,SNR=2.9

7.5nm,0.3s
CHMS Chumysh 3.72 98 ⇑Pg Pb 09 51 30.2 +0.7
3.1nm,0.6s
CHMS ⇑Lg Lg 09 52 20.8
4.5nm,0.4s
KRBS Karabastau 4.31 87 Pg Pb 09 51 41.5 +1.9
4.0nm,0.6s
KRBS Lg Lg 09 52 38.4
6.1nm,0.5s
TKM2 Tokmak 2 4.34 98 ⇑Lg Lg 09 52 40.4
4.6nm,0.6s
DGS Degeres 4.41 93 Pg Pb 09 51 44.2 +2.8
3.2nm,0.3s
DGS Lg Lg 09 52 42.4
16nm,0.8s
KST Kastek 4.58 95 Pg Pg 09 51 47.6 -3.2
2.6nm,0.4s
KST Lg Lg 09 52 48.4
8.2nm,0.6s
KUU Kurty 4.79 85 Pg Pb 09 51 51.2 +3.4
2.1nm,0.4s
KUU Lg Lg 09 52 54.5
12nm,0.5s

BJI ***10*** *10:01:30.5±0.0, 14°.84N×144°.50E, h10km, mb4.8/62, mB5.5/64, Ms5.3/74, Ms7 5.1/72*
IDC ***10*** *10:01:31.4±0.5, 14°.70N×144°.32E, h0km, mb4.6/28, mbtmp4.6/29, ML4.3/1, MS4.9/73, Error ellipse: s-maj=18.8km s-min=10.2km az=73.0*
MOS ***10*** *10:01:32.7±0.9, 14°.66N×144°.22E, h21km, mb5.2/62, MS5.0/17, Error ellipse: s-maj=10.7km s-min=4.8km az=116.7*
DJA ***10*** *10:01:32.8±0.3, 15°.N±4°.×14°.4E±°, h10km, M5.1/29, mB5.8/16, mb5.0/29, MLv4.8/1, Mw(mB)5.3/16*
NEIC ***10*** *10:01:33.1±1.7, 14°.69N±0°.08×144°.34E±0°.09, h10km±1km, mb5.2/148, Ms_20 5.1/177, Mww5.7, Error ellipse: s-maj=14.5km s-min=13.7km az=247.0*
KLM ***10*** *10:01:36, 14°.64N×144°.57E, h39km, mb5.2*
GCMT ***10*** *10:01:38.1±0.3, 14°.53N±0°.03×144°.12E±0°.02, h20km±1km, MW5.8/109, Moment Tensor Solution. s24,c25; s109,c182; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr=6.10±.39; Mθθ 1.40±.20; Mφφ 4.71±.24; Mrθ-0.92±.53; Mrφ 0.71±.13; Mθφ 0.44±.39; Best double couple: M0 5.54900×10^17 NP1:φs 184.0000°, δ47.00000°, λ-100.00000°. NP2:φs 19.00000°, δ44.00000°, λ-79.00000°. Principal axes: T 4.8620, Plg1.0000°, Azm281.0000°; N 1.3830, Plg7.0000°, Azm191.0000°; P -6.2350, Plg82.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***10*** *10:01:40, 14°.59N×144°.24E, h16km, Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 10^17 Nm; Mrr=4.28; Mθθ 0.62; Mφφ 3.66; Mrθ-0.72; Mθφ 0.85; Mφr 0.37; Fault plane solution: M0 4.18000×10^17 NP1:φs 24.00000°, δ44.00000°, λ-76.00000°. NP2:φs 185.00000°, δ47.00000°, λ-102.00000°. Principal axes: T 3.8874, Plg1.0000°, Azm284.0000°; N 0.5269, Plg9.0000°, Azm194.0000°; P -4.4143, Plg81.0000°, Azm22.0000°;*
ISC 10 10:01:35.6±0.2, 14°.60N±0°.04×144°.30E±0°.04, h27km, n638, σ1s 56/556, mb 5.1/170, MS 5.1/194, 22C-9D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.15**	**151**	Pn		**Pn**	**10 01 55.0**	**-0.8**
	2μm,0.3s,baz=281,slow=2.1,SNR=516							
GUMO				Sn		**Sn**	**10 02 10.8**	**+0.1**
	1μm,0.3s,baz=359,slow=23,SNR=8.8							
GUMO	**Guam**	**1.15**	**151**	Pn		**Pn**	**10 01 54.9**	**-1.0**
GUMO	**Guam**	**1.15**	**151**	P		**Pn**	**10 01 54.9**	**-1.0**
JCJ	**Chichijima**	**12.59**	**351**	LR		LR	10 08 13.1	
	comp=Z,4μm,21.7s,baz=174,slow=32							
PATS	**Pohnpei**	**15.78**	**118**			**Pn**	**10 05 15.0**	**-1.0**
MANU	**Manus Island**	**16.82**	**169**	Pn		**Pn**	**10 05 28.6**	**-0.7**
SMPI	**Sarmi**	**17.39**	**199**	P		**P**	**10 05 37.5**	**-0.1**
	83nm,1.8s,3μm							
GENI	**Genyem**	**17.57**	**194**	P		**P**	**10 05 40.5**	**+1.0**
	161nm,1.9s							
JHJ	**Hachijo jima 2**	**18.89**	**348**	LR		LR	10 12 00.9	
	comp=Z,6μm,19.8s,baz=159,slow=34							
JOW	**Kunigami**	**19.28**	**312**	P		**P**	**10 05 58.3**	**0.0**
	1.3nm,0.3s,baz=198,slow=11,SNR=3.5							
JOW				LR		LR	10 11 41.8	
	comp=Z,11μm,20.9s,baz=144,slow=32							
	33nm,0.9s							
JOW	**Kunigami**	**19.28**	**312**	P		**P**	**10 05 56.0**	**-2.4**
DAV	**Davao City (W)**	**19.84**	**250**	LR		LR	10 11 52.8	
	comp=Z,5μm,21.1s,baz=78,slow=31							
DAV	**Davao City (W)**	**19.84**	**250**	P		**P**	**10 06 01.9**	**-2.7**
SWI	**Sorong**	**20.07**	**221**	P		Pn	10 06 09.6	+0.7
	104nm,2.3s,2μm							
SIJI	**Sorong**	**20.07**	**221**	P		Pn	10 06 10.6	+1.7
	16nm,0.8s,baz=14,slow=13,SNR=7.2							
SIJI				LR		LR	10 12 12.0	
	comp=Z,6μm,21.8s,baz=35,slow=32							
RABL	**Rabaul**	**20.23**	**157**	P		**P**	**10 06 08.6**	**-0.2**
KRVT	**Keravat (AS076**	**20.29**	**157**	P		Pn	10 06 12.8	+1.3
	60nm,0.8s,baz=347,slow=5.3,SNR=5.6							
KRVT				LR		LR	10 15 03.1	
	comp=Z,644nm,18.1s,baz=114,slow=40							
JSG	**Sagara**	**20.73**	**346**	P		**P**	**10 06 09.9**	**-4.2**
JSG				IAmb		IAmb	10 06 25.2	
	comp=Z,118nm,1.1s							
JSU	**Suzuyama**	**21.07**	**325**	P		**P**	**10 06 13.9**	**-3.9**
JSU				IAmb		IAmb	10 06 34.0	
	comp=Z,267nm,1.7s							
FAKI	**Fak Fak**	**21.11**	**215**	P		**P**	**10 06 17.3**	**-1.0**
FAKI				IAmb		IAmb	10 06 33.8	
	comp=Z,155nm,1.0s							
FAKI	**Fak Fak**	**21.11**	**215**	P		**P**	**10 06 20.1**	**+1.8**
	comp=Z,168nm,0.9s,comp=Z,4μm							
JMN	**Monobe**	**21.26**	**335**	P		**P**	**10 06 19.2**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**21.80**	**77**	T		T	10 29 19.0	
	baz=262,slow=75,SNR=378							
H11S1	**WAKE ISLAND Hy**	**21.82**	**77**	T		T	10 29 15.8	
	baz=262,slow=75,SNR=188							
H11S2	**WAKE ISLAND Hy**	**21.82**	**77**	T		T	10 29 13.8	
	baz=262,slow=75,SNR=126							
JGF	**Kuroka**	**21.82**	**345**	P		**P**	**10 06 24.0**	**-1.8**
JNU	**Nakatsue**	**22.11**	**329**	P		**P**	**10 06 28.3**	**-0.7**
	comp=Z,34nm,0.9s,baz=129,slow=8.2,SNR=9.6							
JNU				LR		LR	10 13 58.3	
	comp=Z,963nm,19.1s,baz=186,slow=34							
	comp=Z,34nm,0.9s							
JNU	**Nakatsue**	**22.11**	**329**	P		**P**	**10 06 26.2**	**-2.7**
JNU				IAmb		IAmb	10 06 39.1	
	comp=Z,124nm,1.2s							
H11N1	**WAKE ISLAND Hy**	**22.17**	**74**	T		T	10 29 42.8	
	baz=259,slow=75,SNR=34							
H11N2	**WAKE ISLAND Hy**	**22.18**	**74**	T		T	10 29 58.9	
	baz=259,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**22.18**	**74**	T		T	10 29 52.1	
	baz=259,slow=75,SNR=36							
MJAR	**Matsushiro Arr**	**22.52**	**347**	P		**P**	**10 06 33.2**	**-0.1**
	comp=Z,26nm,1.0s,baz=170,slow=9.4,SNR=26							
MJAR				LR		LR	10 14 17.8	
	comp=Z,2μm,18.3s,baz=161,slow=34							
	comp=Z,26nm,1.0s							
MAJO	**Matsushiro**	**22.52**	**347**			**P**	**10 06 31.9**	**-1.4**
MAJO				IAmb		IAmb	10 06 35.2	
	comp=Z,91nm,1.2s							
MAJO	**Matsushiro**	**22.52**	**347**	IAMs_20		IAMs_20	10 14 40.0	
	comp=Z,5μm,18.0s							
MAJO	**Matsushiro**	**22.52**	**347**	⇑*e*P		**P**	**10 06 32.2**	**-1.1**
MJB9	**Matsu-Tunnel**	**22.52**	**347**	P		**P**	**10 06 32.9**	**-0.4**
MJB9				IAmb		IAmb	10 06 36.6	
	comp=Z,90nm,1.2s							
TGY	**Tagaytay City**	**22.64**	**272**	⇑*i*P		**S**	**10 10 49.2**	**+7.7**
JHS	**Saijyo**	**22.67**	**336**	P		**P**	**10 06 31.5**	**-3.4**
JHS				IAmb		IAmb	10 06 35.6	
	comp=Z,142nm,1.6s							
NACB	**Ninganchiao**	**23.41**	**297**	IAMs_20		IAMs_20	10 17 10.7	
	comp=Z,5μm,18.0s							
YULB	**Yu-li**	**23.41**	**295**	P		**P**	**10 06 41.1**	**-1.5**
YULB				IAmb		IAmb	10 06 50.6	
	comp=Z,148nm,1.8s							
YULB				IAMs_20		IAMs_20	10 15 14.0	
	comp=Z,6μm,20.0s							
TWG	**Pinlang**	**23.45**	**294**	IAMs_20		IAMs_20	10 13 50.7	
	comp=Z,7μm,20.0s							
TATO	**Taipei**	**23.78**	**299**	P		**P**	**10 06 45.6**	**-0.5**
SSLB	**Suanglung**	**23.84**	**296**	P		**P**	**10 06 45.5**	**-1.3**
SSLB				IAMs_20		IAMs_20	10 14 07.1	
	comp=Z,8μm,20.0s							
TPUB	**Ta-pu**	**23.97**	**295**	P		**P**	**10 06 47.3**	**-0.7**
TPUB				IAmb		IAmb	10 07 05.5	
	comp=Z,156nm,1.6s							
TPUB				IAMs_20		IAMs_20	10 13 49.8	
	comp=Z,9μm,20.0s							
PMG	**Port Moresby**	**24.02**	**173**	P		**P**	**10 06 49.6**	**+1.2**
	comp=Z,50nm,0.9s,baz=335,slow=4.7,SNR=10							
PMG				LR		LR	10 16 43.7	
	comp=Z,1μm,18.1s,baz=356,slow=38							
	comp=Z,50nm,0.9s							
PMG	**Port Moresby**	**24.02**	**173**	P		**P**	**10 06 48.8**	**+0.4**
PMG				IAmb		IAmb	10 06 59.1	
	comp=Z,77nm,1.1s							
PMG	**Port Moresby**	**24.02**	**173**	*ce*P		**P**	**10 06 50.0**	**+1.6**
PMG				pmax		pmax		
	comp=Z,62nm,1.0s							
SAUI	**Saumlaki**	**25.88**	**211**	P		**P**	**10 07 05.3**	**-0.1**
MRSI	**Marisa**	**26.19**	**240**	P		**P**	**10 07 07.3**	**-0.9**
KNMB	**Chin-men Tao**	**26.27**	**296**	IAMs_20		IAMs_20	10 16 08.7	
	comp=Z,5μm,19.0s							
LUWI	**Luwuk**	**26.38**	**236**	P		**P**	**10 07 08.3**	**-1.6**
LUWI	**Luwuk**	**26.38**	**236**	P		**P**	**10 07 11.2**	**+1.3**
	comp=Z,83nm,1.4s,comp=Z,3μm							
TJN	**Taejon**	**26.45**	**328**	*ce*P		**P**	**10 07 11.7**	**+1.4**
SSE	**Sheshan**	**26.80**	**312**	P		**P**	**10 07 12.6**	**-1.0**
SSE				S		**S**	**10 11 49.0**	**+0.8**
SSE				pmax		pmax		
	comp=Z,9.0nm,1.3s							
SSE				pmax		pmax		
	comp=Z,440nm,6.3s							
SSE				LR		LR		
	comp=Z,1μm,20.6s							
SSE				LR		LR		
	comp=Z,2μm,24.0s							
TOLI2	**Tolitoli**	**26.83**	**242**	P		**P**	**10 07 15.3**	**+1.3**
KSRS	**Korea Array**	**27.02**	**330**	P		**P**	**10 07 14.7**	**-0.7**
	comp=Z,7.4nm,0.8s,baz=146,slow=9.5,SNR=17							
KSRS				LR		LR	10 17 28.3	
	comp=Z,3μm,19.0s,baz=145,slow=36							
	comp=Z,7.4nm,0.8s							
KSAR	**Wonju Array Be**	**27.02**	**330**	P		**P**	**10 07 14.1**	**-1.4**
KSAR	**Wonju Array Be**	**27.02**	**330**	P		**P**	**10 07 14.1**	**-1.4**
KS19	**Wonju Array Si**	**27.08**	**330**	P		**P**	**10 07 14.6**	**-1.4**
INCN	**Inchon**	**27.67**	**329**	IAMs_20		IAMs_20	10 18 26.7	
	comp=Z,4μm,18.0s							
HNR	**Honiara**	**28.48**	**146**	LR		LR	10 18 49.2	
	comp=Z,31μm,20.5s,baz=320,slow=36							
HNR	**Honiara**	**28.48**	**146**	P		**P**	**10 07 28.1**	**-0.6**
HNR				IAMs_20		IAMs_20	10 17 26.7	
	comp=Z,4μm,22.0s							
HNR	**Honiara**	**28.48**	**146**	P		**P**	**10 07 28.1**	**-0.6**
HNR				pmax		pmax		
	comp=Z,111nm,1.2s							
HNR				MLR		MLR		
	comp=Z,4μm,22.0s							
KKM	**Kota Kinabalu**	**28.88**	**256**	P		**P**	**10 07 30.6**	**-1.8**
KKM				IAmb		IAmb	10 07 52.5	
	comp=Z,44nm,1.4s							
KKM				IAMs_20		IAMs_20	10 20 40.1	
	comp=Z,4μm,19.0s							
NJ2	**Nanjing**	**29.00**	**311**	*e*P		**P**	**10 07 31.9**	**-1.3**
NJ2				S		**S**	**10 12 23.8**	**+1.0**
NJ2				sS		**pS**	**10 12 28.8**	**-1.3**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,380nm,3.9s							
NJ2				LR		LR		
	comp=Z,2μm,12.3s							
NJ2				LR		LR		
	comp=Z,2μm,13.3s							
NJ2				LR		LR		
	comp=Z,5μm,23.3s							
ASAJ	**Asahikawa**	**29.45**	**358**	P		**P**	**10 07 37.4**	**+0.4**
	comp=Z,7.7nm,0.7s,baz=198,slow=9.4,SNR=7.0							
ASAJ				LR		LR	10 18 49.1	
	comp=Z,2μm,21.9s,baz=180,slow=35							
	comp=Z,7.7nm,0.7s							
HKPS	**Hong Kong Po S**	**29.57**	**289**	IAMs_20		IAMs_20	10 19 53.2	
	comp=Z,4μm,19.0s							
KAPI	**Kappang**	**31.18**	**233**	LR		LR	10 18 59.2	
	comp=Z,1μm,21.9s,baz=34,slow=34							
KAPI	**Kappang**	**31.18**	**233**	P		**P**	**10 07 50.2**	**-2.4**
TARA	**Tarawa**	**31.19**	**112**	IAMs_20		IAMs_20	10 20 42.6	
	comp=Z,4μm,19.0s							
USRK	**Ussuriysk Ar.**	**31.31**	**343**	P		**P**	**10 07 53.6**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=168,slow=7.4,SNR=2.5							
USRK				LR		LR	10 19 02.3	
	comp=Z,1μm,21.4s,baz=145,slow=34							
	comp=Z,2.9nm,0.8s							
USRK	**Ussuriysk Ar.**	**31.31**	**343**	P		**P**	**10 07 52.6**	**-0.9**
USRK	**Ussuriysk Ar.**	**31.31**	**343**	P		**P**	**10 07 52.6**	**-0.9**
USA0B	**Ussuriysk Arra**	**31.31**	**343**	P		**P**	**10 07 53.6**	**+0.1**
USA0B				IAmb		IAmb	10 08 15.9	
	comp=Z,81nm,2.0s							
USA0B	**Ussuriysk Arra**	**31.31**	**343**	P		**P**	**10 07 53.6**	**+0.1**
USA0B				pmax		pmax		
	comp=Z,81nm,2.0s							
WHN	**Wuhan**	**31.75**	**305**	⇑P		**P**	**10 07 57.2**	**-0.3**
WHN				S		**S**	**10 13 09.0**	**+3.1**
WHN				LR		LR		
	comp=Z,4μm,13.3s							
WHN				LR		LR		
	comp=Z,5μm,12.8s							
WHN				LR		LR		
	comp=Z,13μm,19.3s							
BATI	**Baumata**	**32.03**	**221**	LR		LR	10 19 38.9	
	comp=Z,2μm,21.2s,baz=62,slow=34							
YSS	**Yuzh-Sakhalins**	**32.28**	**358**	*e*P		**P**	**10 08 03.0**	**+1.1**
YSS				*e*			10 09 16.2	
YSS				*e*S		**S**	**10 13 16.0**	**+2.2**
YSS				pmax		pmax		
	comp=Z,30nm,1.3s							
TIA	**Tai'an**	**32.45**	**316**	P		**P**	**10 08 03.3**	**-0.3**
TIA				S		**S**	**10 13 18.4**	**+1.6**
TIA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
TIA				pmax		pmax		
	comp=Z,540nm,5.1s							
TIA				LR		LR		
	comp=Z,4μm,17.8s							
TIA				LR		LR		
	comp=Z,4μm,19.0s							
TIA				LR		LR		
	comp=Z,6μm,17.9s							
QIZ	**Qiongzhong**	**33.24**	**282**	IAMs_20		IAMs_20	10 18 45.8	
	comp=Z,3μm,20.0s							
QIZ	**Qiongzhong**	**33.24**	**282**	P		**P**	**10 08 11.6**	**+0.8**
QIZ				S		**S**	**10 13 31.4**	**+1.9**
QIZ				pmax		pmax		
	comp=Z,780nm,3.5s							
QIZ				LR		LR		
	comp=Z,2μm,20.7s							
QIZ				LR		LR		
	comp=Z,2μm,19.1s							
QIZ				LR		LR		
	comp=Z,4μm,28.7s							
CN2	**Changchun**	**33.26**	**335**	P		**P**	**10 08 07.6**	**-3.0**
CN2				S		**S**	**10 13 25.2**	**-4.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=Z,2μm,15.0s							
CN2				LR		LR		
	comp=Z,2μm,15.0s							
CN2				LR		LR		
	comp=Z,3μm,16.0s							
KNRA	**Kununurra**	**33.78**	**208**	P		**P**	**10 08 14.6**	**-0.8**
KNRA				IAmb		IAmb	10 08 36.3	
	comp=Z,43nm,1.2s							
SBUM	**Sibu**	**33.88**	**252**	P		**P**	**10 08 15.2**	**-1.1**
SBUM				IAmb		IAmb	10 08 25.4	
	comp=Z,36nm,1.3s							
SBUM	**Sibu**	**33.88**	**252**	P		**P**	**10 08 19.0**	**+2.6**
CTA	**Charters Tower**	**34.53**	**177**	LR		LR	10 23 05.3	
	comp=Z,522nm,21.1s,baz=1.5,slow=37							
CTA	**Charters Tower**	**34.53**	**177**	P		**P**	**10 08 23.8**	**+2.0**
CTA				pmax		pmax		
	comp=Z,33nm,2.5s							
CTAO	**Charters Tower**	**34.53**	**177**	P		**P**	**10 08 22.0**	**+0.2**
CTAO	**Charters Tower**	**34.53**	**177**	P		**P**	**10 08 22.0**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,130nm,1.9s							
CTAO				MLR		MLR		
	comp=Z,1μm,20.0s							
HNS	**HongShan**	**34.72**	**316**	⇓P		**P**	**10 08 22.4**	**-1.0**
HNS				PP		**PnPn**	**10 09 36.4**	**-3.3**
HNS				S		**S**	**10 13 52.6**	**+0.7**
HNS				pmax		pmax		
	comp=Z,20nm,1.4s							
HNS				pmax		pmax		
	comp=Z,560nm,7.7s							
HNS				LR		LR		
	comp=Z,3μm,15.9s							
HNS				LR		LR		
	comp=Z,5μm,16.7s							
HNS				LR		LR		
	comp=Z,5μm,16.7s							
LYN	**LuoYang**	**34.88**	**310**	⇑*i*P		**P**	**10 08 24.5**	**-0.3**
LYN				PP		**PP**	**10 09 46.5**	**+2.3**
LYN				S		**S**	**10 13 54.6**	**+0.1**
LYN				pmax		pmax		
	comp=Z,30nm,2.2s							
LYN				pmax		pmax		
	comp=Z,600nm,6.2s							
LYN				LR		LR		
	comp=Z,2μm,17.1s							
LYN				LR		LR		
	comp=Z,890nm,14.3s							
LYN				LR		LR		
	comp=Z,2μm,15.2s							
BJT	**Baijiatuau**	**35.30**	**321**	P		**P**	**10 08 27.8**	**-0.6**
BJT				IAmb		IAmb	10 08 41.6	
	comp=Z,56nm,1.4s							
BJT	**Baijiatuau**	**35.30**	**321**	P		**P**	**10 08 27.8**	**-0.6**
BJT				pmax		pmax		
	comp=Z,56nm,1.4s							
BJT				MLR		MLR		
	comp=Z,2μm,22.0s							
WB0	**Warramunga Arr**	**35.52**	**196**	P		**P**	**10 08 30.3**	**-0.1**
WB0				IAmb		IAmb	10 08 39.9	
	comp=Z,29nm,1.1s							
ENH	**Enshi**	**35.58**	**302**	P		**P**	**10 08 29.0**	**-2.0**
ENH				IAMs_20		IAMs_20	10 21 50.9	
	comp=Z,4μm,20.0s							
WR0	**Warramunga Arr**	**35.66**	**196**	P		**P**	**10 08 31.0**	**-0.6**
WR0				IAmb		IAmb	10 08 45.2	
	comp=Z,66nm,1.6s							
WRAB	**Tennant Creek**	**35.69**	**196**	P		**P**	**10 08 31.5**	**-0.3**
WRAB				IAmb		IAmb	10 08 41.4	
	comp=Z,47nm,1.1s							
WRAB	**Tennant Creek**	**35.69**	**196**	*ce*P		**P**	**10 08 32.4**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,44nm,2.5s							
WB2	**Warramunga Arr**	**35.70**	**196**	P		**P**	**10 08 31.0**	**-0.9**
WB2				IAmb		IAmb	10 08 41.5	
	comp=Z,48nm,1.1s							
WRA	**Warramunga Arr**	**35.70**	**196**	P		**P**	**10 08 32.1**	**+0.1**
	comp=Z,7.9nm,0.9s,baz=16,slow=9.4,SNR=34							
WRA				LR		LR	10 23 44.3	
	comp=Z,1μm,19.2s,baz=28,slow=37							
	comp=Z,7.9nm,0.9s							
WRA	**Warramunga Arr**	**35.70**	**196**	P		**P**	**10 08 31.0**	**-1.0**
WRA	**Warramunga Arr**	**35.70**	**196**	*i* P		**P**	**10 08 32.0**	**+0.1**
WRA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
KLR	**Kul'dur**	**36.03**	**346**	LR		LR	10 22 25.0	
	comp=Z,4μm,19.3s,baz=155,slow=35							
KLR	**Kul'dur**	**36.03**	**346**	*ce*P		**P**	**10 08 34.3**	**-0.2**
KLR				pmax		pmax		
	comp=Z,27nm,2.5s							
TYV	**Tymovskoe**	**36.19**	**358**	*e*P		**P**	**10 08 34.6**	**-1.2**
TYV				*e*S		**S**	**10 14 16.1**	**+2.0**
TYV				pmax		pmax		
	comp=Z,12nm,1.2s							
TYV				pmax		pmax		
	comp=Z,400nm,2.6s							
TYV				smax		smax		
	comp=N,700nm,5.9s							
TIY	**Taiyuan**	**36.42**	**315**	P		**P**	**10 08 38.4**	**+0.3**
TIY				PP		**PP**	**10 10 05.1**	**+3.9**
TIY				S		**S**	**10 14 18.3**	**+0.1**
TIY				pmax		pmax		
	comp=N,650nm,6.1s							
TIY				LR		LR		
	comp=N,2μm,19.2s							
TIY				LR		LR		
	comp=N,4μm,18.5s							
TIY				LR		LR		
	comp=N,5μm,18.6s							
GRNR	**Gornyy**	**36.63**	**352**	⇑*i*P		**P**	**10 08 38.8**	**-0.8**
GRNR				pmax		pmax		
	comp=N,4.0nm,1.1s							
GRNR				pmax		pmax		
	comp=Z,7.0nm,1.2s							
GYA	**Guiyang**	**37.03**	**295**	⇓P		**P**	**10 08 45.9**	**+2.4**
GYA				PP		**PnPn**	**10 10 08.7**	**+0.2**
GYA				S		**S**	**10 14 29.6**	**+1.7**
GYA				pmax		pmax		
	comp=Z,14nm,1.1s							
GYA				pmax		pmax		
	comp=Z,880nm,4.4s							
GYA				LR		LR		
	comp=Z,3μm,17.2s							
GYA				LR		LR		
	comp=Z,3μm,19.6s							
GYA				LR		LR		
	comp=Z,6μm,18.8s							
XAN	**Xi'an**	**37.34**	**308**	P		**P**	**10 08 44.4**	**-1.5**
XAN				PP		**PnPn**	**10 10 17.2**	**+5.1**
XAN				S		**S**	**10 14 33.4**	**+1.1**
XAN				pmax		pmax		
	comp=Z,12nm,1.0s							
XAN				pmax		pmax		
	comp=Z,430nm,8.2s							
XAN				LR		LR		
	comp=Z,2μm,15.8s							
XAN				LR		LR		
	comp=Z,3μm,17.2s							
XAN				LR		LR		
	comp=Z,5μm,19.2s							
FITZ	**Fitzroy Crossi**	**37.34**	**210**	P		**P**	**10 08 46.7**	**+0.7**
XLT	**XiLinHaoTe**	**37.84**	**326**	⇓*i*P		**P**	**10 08 49.4**	**-0.7**
XLT				sP		pP	10 08 57.2	+0.3
XLT				PP		**PP**	**10 10 18.1**	**+1.4**
XLT				S		**S**	**10 14 43.9**	**+4.3**
XLT				pmax		pmax		
	comp=Z,14nm,1.1s							
XLT				pmax		pmax		
	comp=Z,550nm,4.9s							
XLT				LR		LR		
	comp=Z,2μm,20.4s							
XLT				LR		LR		
	comp=Z,3μm,18.7s							
HEH	**HeiHe**	**38.12**	**342**	*e*P		**P**	**10 08 51.2**	**-1.0**
HEH				pP		**sP**	**10 09 01.5**	**-0.3**
HEH				S		**S**	**10 14 43.5**	**0.0**
HEH				pmax		pmax		
	comp=Z,42nm,1.6s							
HEH				pmax		pmax		
	comp=Z,470nm,4.0s							
HEH				LR		LR		
	comp=Z,2μm,16.2s							
HEH				LR		LR		
	comp=Z,3μm,15.1s							
HEH				LR		LR		
	comp=Z,4μm,16.4s							
HHC	**Hu-ho-hao-te**	**38.65**	**319**	*e*P		**P**	**10 08 56.0**	**-1.0**
HHC				PP		**PnPn**	**10 10 28.5**	**+0.7**
HHC				S		**S**	**10 14 51.8**	**-0.2**
HHC				SS		**SnSn**	**10 17 33.0**	**-8.1**
HHC				pmax		pmax		
	comp=Z,40nm,1.0s							
HHC				pmax		pmax		
	comp=Z,1μm,5.3s							
HHC				LR		LR		
	comp=Z,3μm,20.9s							
HHC				LR		LR		
	comp=Z,6μm,19.0s							
HHC				LR		LR		
	comp=Z,7μm,19.7s							
AS31	**

ASAR	**Alice Springs**	**39.37**	**195**	P	**P**	**10 09 01.7**	**-1.3**
ASAR	**Alice Springs**	**39.37**	**195**	P	**P**	**10 09 01.7**	**-1.3**
BTO	**Baotou**	**39.51**	**318**	*eP*	**P**	**10 09 03.2**	**-1.0**
BTO				PP	**PP**	**10 10 39.4**	**+4.3**
BTO				LR	LR		
	comp=Z,14µm,17.9s						
BTO				LR	LR		
	comp=Z,9µm,16.9s						
PETK	**Petropavlovsk-**	**39.86**	**13**	LR	LR	10 23 13.3	
	comp=Z,1µm,21.5s,baz=199,slow=33						
PET	**Petropavlovsk**	**39.99**	**13**	*eP*	P	10 09 14.7	+7.0
PET				*eS*	**S**	**10 15 16.1**	**+4.6**
PET				MLR	MLR		
	comp=Z,1µm,21.0s						
HIA	**Hailar**	**40.00**	**335**	P	**P**	**10 09 06.2**	**-1.8**
HIA	**Hailar**	**40.00**	**335**	P	**P**	**10 09 06.2**	**-1.8**
HIA				pmax	pmax		
	comp=Z,35nm,1.4s						
HIA				MLR	MLR		
	comp=Z,2µm,20.0s						
EIDS	**Eidsvold**	**40.28**	**170**	P	**P**	**10 09 11.6**	**+1.2**
KMI	**Kunming**	**40.32**	**292**	⇓P	**P**	**10 09 11.1**	**-0.2**
KMI				sP	pP	10 09 15.9	-2.3
KMI				PP	**PnPn**	**10 10 49.2**	**+1.1**
KMI				pmax	pmax		
	comp=Z,16nm,2.4s						
KMI				pmax	pmax		
	comp=Z,660nm,6.3s						
KMI				LR	LR		
	comp=Z,2µm,19.5s						
KMI				LR	LR		
	comp=Z,2µm,21.7s						
KMI				LR	LR		
	comp=Z,3µm,22.3s						
CD2	**Chengdu**	**40.50**	**301**	P	**P**	**10 09 11.7**	**-0.8**
CD2				pP	pP	10 09 15.1	-4.3
CD2				sP	sP	10 09 16.4	-5.8
CD2				S	**S**	**10 15 21.3**	**+1.3**
CD2				SS	**SS**	**10 18 17.7**	**-2.4**
CD2				pmax	pmax		
	comp=Z,30nm,1.3s						
CD2				pmax	pmax		
	comp=Z,610nm,5.7s						
CD2				LR	LR		
	comp=Z,1µm,14.7s						
CD2				LR	LR		
	comp=Z,1µm,9.6s						
CD2				LR	LR		
	comp=Z,4µm,22.6s						
ZEA	**Zeya**	**41.29**	**345**	*eP*	**P**	**10 09 18.1**	**-0.4**
ZEA				*eS*	**S**	**10 15 27.1**	**-3.9**
ZEA				*e*		10 18 29.3	
ZEA				pmax	pmax		
	comp=N,100nm,4.3s						
ZEA				pmax	pmax		
	comp=Z,300nm,5.1s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				smax	smax		
	comp=N,400nm,10.2s						
PZH	**PanZhiHua**	**41.39**	**294**	P	**P**	**10 09 21.7**	**+1.7**
PZH				pmax	pmax		
	comp=N,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=N,100nm,4.2s						
MYKOM	**Kota Tinggi**	**41.92**	**256**	P	**P**	**10 09 24.6**	**+0.4**
LZH	**Lanzhou**	**41.96**	**308**	⇑P	**P**	**10 09 25.0**	**+0.5**
LZH				pP	pP	10 09 29.7	-1.8
LZH				sP	sP	10 09 32.0	-2.2
LZH				PP	**PP**	**10 11 00.4**	**-1.5**
LZH				S	**S**	**10 15 40.2**	**-1.6**
LZH				pmax	pmax		
	comp=N,46nm,1.5s						
LZH				pmax	pmax		
	comp=N,740nm,6.9s						
LZH				LR	LR		
	comp=N,2µm,16.5s						
LZH				LR	LR		
	comp=N,2µm,16.8s						
LZH				LR	LR		
	comp=N,3µm,17.5s						
LEM	**Lembang**	**42.15**	**242**	LR	LR	10 27 52.5	
	comp=N,891nm,21.6s,baz=26,slow=38						
CRAI	**Chiangrai**	**42.19**	**284**	P	**P**	**10 09 26.1**	**-0.3**
PHRA	**Phrae**	**42.35**	**282**	P	**P**	**10 09 25.7**	**-2.0**
DZM	**Mont Dzumac**	**42.42**	**149**	*eP*	**P**	**10 09 32.9**	**+4.6**
	comp=N,104nm,1.2s						
DZM				*eS*	**S**	**10 15 51.9**	**+3.3**
	comp=N,1µm,33.7s						
DZM				*e*LR	LR	10 21 13.6	
	comp=N,5µm,26.4s						
DZM	**Mont Dzumac**	**42.42**	**149**	P	**P**	**10 09 28.4**	**+0.1**
	comp=N,11nm,1.0s,baz=16,slow=8.5,SNR=3.0						
DZM				LR	LR	10 26 16.8	
	comp=N,2µm,20.6s,baz=6.0,slow=35						
	comp=N,11nm,1.0s						
DZM	**Mont Dzumac**	**42.42**	**149**	P	**P**	**10 09 26.2**	**-2.0**
DZM				IAmb	IAmb	10 09 42.6	
	comp=Z,41nm,1.1s						
MBWA	**Marble Bar**	**42.95**	**215**	P	**P**	**10 09 31.8**	**-0.7**
PSA00	**Pilbara Seismi**	**43.22**	**214**	P	**P**	**10 09 35.1**	**+0.4**
PSA00				IAmb	IAmb	10 09 44.4	
	comp=Z,69nm,1.1s						
CHTO	**Chiang Mai**	**43.56**	**282**	P	**P**	**10 09 37.1**	**-0.4**
CHTO				IAMs_20	IAMs_20	10 29 59.1	
	comp=Z,2µm,18.0s						
CHTO	**Chiang Mai**	**43.56**	**282**	P	**P**	**10 09 37.1**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CHTO				MLR	MLR		
	comp=Z,2µm,18.0s						
CM31	**Chiang Mai Arr**	**43.57**	**282**	P	**P**	**10 09 38.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**43.57**	**282**	P	**P**	**10 09 38.0**	**+0.4**
	comp=Z,18nm,1.0s,baz=79,slow=7.2,SNR=26						
CMAR				LR	LR	10 28 34.5	
	comp=Z,1µm,18.0s,baz=90,slow=37						
	comp=Z,18nm,1.0s						
CMAR	**Chiang Mai Arr**	**43.57**	**282**	P	**P**	**10 09 37.6**	**0.0**
CMAR	**Chiang Mai Arr**	**43.57**	**282**	*ce*P	**P**	**10 09 38.0**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,12nm,0.8s						
IPM	**Ipoh**	**43.77**	**261**	P	**P**	**10 09 40.1**	**+0.8**
IPM				IAmb	IAmb	10 09 47.5	
	comp=Z,26nm,0.9s						
KULM	**Kulim**	**43.91**	**262**	P	**P**	**10 09 39.7**	**-0.7**
KULM	**Kulim**	**43.91**	**262**	P	**P**	**10 09 41.0**	**+0.6**
MDSI	**Maura Dua**	**44.06**	**247**	P	**P**	**10 09 41.8**	**+0.2**
TNCH	**TengChong**	**44.12**	**291**	⇓P	**P**	**10 09 41.6**	**-0.6**
TNCH				pP	pP	10 09 44.7	-4.5
TNCH				sP	pwP	10 09 54.2	+0.1
TNCH				S	**S**	**10 16 15.0**	**+1.2**
TNCH				pmax	pmax		
	comp=Z,160nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,620nm,4.4s						
TNCH				LR	LR		
	comp=Z,990nm,19.6s						
TNCH				LR	LR		
	comp=Z,1µm,16.7s						
TNCH				LR	LR		
	comp=Z,3µm,22.7s						
SHEM	**Shemya Is, Ala**	**44.78**	**25**	LR	LR	10 28 32.5	
	comp=Z,387nm,18.5s,baz=226,slow=36						
SDSI	**Sungai Dareh**	**45.14**	**254**	P	**P**	**10 09 52.0**	**+1.8**
	comp=Z,9.9nm,0.5s						
MA2	**Magadan**	**45.15**	**5**	P	**P**	**10 09 50.1**	**+0.4**
MA2	**Magadan**	**45.15**	**5**	P	**P**	**10 09 50.1**	**+0.4**
MA2				pmax	pmax		
	comp=Z,146nm,1.7s						
MA2				MLR	MLR		
	comp=Z,1µm,19.0s						
ULN	**Ulaanbaatar**	**45.24**	**325**	P	**P**	**10 09 50.8**	**0.0**
ULN	**Ulaanbaatar**	**45.24**	**325**	*ce*P	**P**	**10 09 50.5**	**-0.3**
ULN				pmax	pmax		
	comp=Z,20nm,1.3s						
ULN	**Ulaanbaatar**	**45.24**	**325**	P	**P**	**10 09 50.8**	**0.0**
SONM	**Songino Array**	**45.59**	**325**	P	**P**	**10 09 52.6**	**-0.9**
	comp=Z,7.8nm,0.8s,baz=139,slow=7.9,SNR=27						
SONM				LR	LR	10 28 51.1	
	comp=Z,4µm,19.6s,baz=124,slow=36						
	comp=Z,7.8nm,0.8s						
SONM	**Songino Array**	**45.59**	**325**	P	**P**	**10 09 53.1**	**-0.3**
SONM	**Songino Array**	**45.59**	**325**	P	**P**	**10 09 53.2**	**-0.3**
SONM				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**46.09**	**311**	⇓P	**P**	**10 09 57.0**	**-0.6**
GTA				sP	pwP	10 10 08.6	-1.2
GTA				S	**S**	**10 16 40.9**	**-1.0**
GTA				SS	**ScS**	**10 19 55.8**	**+4.0**
GTA				pmax	pmax		
	comp=Z,23nm,1.5s						
GTA				pmax	pmax		
	comp=Z,430nm,6.2s						
GTA				LR	LR		
	comp=Z,2µm,18.9s						
GTA				LR	LR		
	comp=Z,2µm,21.8s						
GTA				LR	LR		
	comp=Z,3µm,22.9s						
PSI	**Prapat**	**46.26**	**260**	LR	LR	10 28 18.9	
	comp=Z,2µm,20.6s,baz=64,slow=35						
PSI	**Prapat**	**46.26**	**260**	P	**P**	**10 10 00.1**	**+0.9**
PSI				pmax	pmax		
	comp=Z,17nm,1.1s						
PSI				MLR	MLR		
	comp=Z,2µm,21.0s						
MSVF	**Nonsavu**	**46.26**	**133**	LR	LR	10 28 52.7	
	comp=Z,1µm,18.3s,baz=310,slow=35						
MSVF	**Nonsavu**	**46.26**	**133**	P	**P**	**10 09 59.8**	**+0.7**
MSVF	**Nonsavu**	**46.26**	**133**	P	**P**	**10 09 59.8**	**+0.7**
MSVF				pmax	pmax		
	comp=Z,71nm,1.7s						
STKA	**Stephens Creek**	**46.29**	**183**	P	**P**	**10 09 59.3**	**+0.3**
	comp=Z,5.8nm,0.9s,baz=349,slow=8.3,SNR=12						
STKA				LR	LR	10 31 32.8	
	comp=Z,1µm,18.1s,baz=6.2,slow=39						
	comp=Z,5.8nm,0.9s						
STKA	**Stephens Creek**	**46.29**	**183**	P	**P**	**10 09 58.6**	**-0.3**
STKA	**Stephens Creek**	**46.29**	**183**	P	**P**	**10 09 58.6**	**-0.3**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
RPSI	**Rantau Prapat**	**46.29**	**260**	P	**P**	**10 10 00.1**	**+0.7**
RPSI				IAMs_20	IAMs_20	10 28 39.4	
	comp=Z,2µm,21.0s						
FORT	**Forrest**	**47.75**	**199**	P	**P**	**10 10 10.5**	**+0.2**
BBOO	**Buckleboo**	**47.80**	**189**	P	**P**	**10 10 10.1**	**-0.6**
BBOO				IAmb	IAmb	10 10 26.6	
	comp=Z,18nm,0.9s						
ZIRO	**ZIRO**	**48.50**	**294**	*eP*	P	10 10 10.2	-6.4
ZIRO				*eS*	**S**	**10 17 08.9**	**-7.7**
YAK	**Yakutsk**	**48.50**	**351**	LR	LR	10 29 48.3	
	comp=Z,2µm,19.9s,baz=159,slow=35						
YAK	**Yakutsk**	**48.50**	**351**	P	**P**	**10 10 15.0**	**-0.8**
YAK				IAMs_20	IAMs_20	10 29 27.2	
	comp=Z,2µm,20.0s						
YAK	**Yakutsk**	**48.50**	**351**	*d* iP	**P**	**10 10 14.8**	**-1.0**
YAK				*e**PP	**pP**	**10 10 20.9**	**-1.9**
YAK				*e*		10 11 39.8	
YAK				*e*		10 12 06.6	
YAK				*eS	**S**	**10 17 16.0**	**+0.9**
YAK				*e**SS	**pS**	**10 17 24.5**	**+1.3**
YAK				*e*		10 20 08.7	
YAK				pmax	pmax		
	comp=Z,56nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,24nm,1.2s						
YAK				pmax	pmax		
	comp=Z,312nm,6.8s						
YAK				pmax	pmax		
	comp=N,255nm,6.5s						
YAK				pmax	pmax		
	comp=E,265nm,5.3s						
YAK				smax	smax		
	comp=E,377nm,4.7s						
YAK				smax	smax		
	comp=N,164nm,4.0s						
YAK				MLR	MLR		
	comp=Z,2µm,16.0s						
YAK				MLR	MLR		
	comp=N,1µm,16.0s						
YAK				MLR	MLR		
	comp=E,654nm,16.0s						
SEY	**Seymchan**	**48.60**	**5**	*ce*P	**P**	**10 10 17.1**	**+0.5**
SEY				pmax	pmax		
	comp=Z,27nm,1.3s						
ZAK	**Zakamensk**	**48.69**	**326**	*eP*	**P**	**10 10 16.4**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,19nm,1.3s						
BOD	**Bodaibo**	**48.78**	**339**	*eP*	**P**	**10 10 16.6**	**-1.4**
BOD				pmax	pmax		
	comp=Z,28nm,2.3s						
GOMU	**GeErMu**	**49.00**	**305**	P	**P**	**10 10 21.0**	**+0.4**
GOMU				pP	pP	10 10 24.2	-3.4
GOMU				sP	sP	10 10 27.9	-2.4
GOMU				PP	**PP**	**10 12 15.9**	**+1.7**
GOMU				S	**S**	**10 17 22.7**	**-1.1**
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,380nm,3.5s						
GOMU				LR	LR		
	comp=Z,1µm,18.6s						
GOMU				LR	LR		
	comp=Z,690nm,19.2s						
GOMU				LR	LR		
	comp=Z,880nm,18.3s						
SAIH	**SAIHA**	**49.09**	**287**	*eP*	**P**	**10 10 16.6**	**-4.5**
SAIH				*eS*	**S**	**10 17 23.1**	**-1.7**
IRK	**Irkutsk**	**49.20**	**329**	*eP*	**P**	**10 10 18.1**	**-3.3**
IRK				pmax	pmax		
	comp=Z,99nm,3.0s						
TEZP	**TEZPUR**	**49.37**	**293**	*eP*	**P**	**10 10 21.3**	**-1.7**
SHL	**Shillong**	**50.15**	**291**	P	**P**	**10 10 28.2**	**-1.0**
SHL				IAmb	IAmb	10 10 30.4	
	comp=Z,24nm,0.9s						
SHL	**Shillong**	**50.15**	**291**	P	**P**	**10 10 28.2**	**-1.0**
SHL				pmax	pmax		
	comp=Z,24nm,0.9s						
SHL	**Shillong**	**50.15**	**291**	P	**P**	**10 10 28.6**	**-0.6**
	SNR=10						
BRDH	**Bariadhala**	**50.33**	**287**	LR	LR	10 32 44.9	
	comp=Z,3µm,18.4s,baz=115,slow=37						
MOY	**Mondy**	**50.60**	**326**	*eP*	**P**	**10 10 31.3**	**-0.8**
MOY				pmax	pmax		
	comp=Z,74nm,4.0s						
LSA	**Lhasa**	**51.05**	**296**	P	**P**	**10 10 34.9**	**-1.4**
LSA				IAmb	IAmb	10 10 49.6	
	comp=Z,17nm,0.8s						
LSA	**Lhasa**	**51.05**	**296**	P	**P**	**10 10 36.2**	**-0.1**
LSA	**Lhasa**	**51.05**	**296**	P	**P**	**10 10 34.9**	**-1.4**
LSA				pmax	pmax		
	comp=Z,17nm,0.8s						
LSA	**Lhasa**	**51.05**	**296**	P	**P**	**10 10 37.1**	**+0.8**
MORW	**Morawa**	**51.29**	**212**	P	**P**	**10 10 37.2**	**-0.2**
MORW				IAmb	IAmb	10 10 46.4	
	comp=Z,22nm,1.1s						
TOO	**Toolangi**	**51.91**	**179**		**P**	**10 10 40.8**	**-1.2**
TOO				IAmb	IAmb	10 10 59.8	
	comp=Z,47nm,1.4s						
TOO	**Toolangi**	**51.91**	**179**	P	**P**	**10 10 40.8**	**-1.2**
TOO				pmax	pmax		
	comp=Z,47nm,1.5s						
SLGI	**Shiliguri**	**53.29**	**293**	IAMs_20	IAMs_20	10 35 10.3	
	comp=Z,2µm,10.6s						
NWAO	**Narrogin (SRO)**	**53.88**	**208**	LR	LR	10 34 46.0	
	comp=Z,456nm,19.8s,slow=37						
NWAO	**Narrogin (SRO)**	**53.88**	**208**	P	**P**	**10 10 58.0**	**+1.5**
NWAO				pmax	pmax		
	comp=Z,23nm,1.7s						
TAPN	**Taplejung**	**53.94**	**293**	*eP*	**P**	**10 10 56.5**	**-1.1**
	comp=Z,74nm,1.0s						
ODAN	**Odare**	**54.22**	**293**	*eP*	**P**	**10 10 57.5**	**-2.0**
SPIA	**Saint Paul Isl**	**54.55**	**28**	P	**P**	**10 11 00.1**	**-1.0**
UNV	**Unalaska Valle**	**54.78**	**33**	P	**P**	**10 11 01.1**	**-1.7**
RAMN	**Ramite**	**54.92**	**293**	*eP*	**P**	**10 11 02.8**	**-1.9**
	comp=Z,60nm,1.1s						
KIP	**Kipapa**	**55.03**	**74**	*ce*P	**P**	**10 11 08.0**	**+2.8**
KIP				pmax	pmax		
	comp=Z,119nm,2.5s						
BILL	**Bilibino**	**55.26**	**10**	P	**P**	**10 11 05.4**	**-0.7**
BILL	**Bilibino**	**55.26**	**10**	*c* iP	**P**	**10 11 05.6**	**-0.5**
BILL				*i*		10 11 19.1	
BILL				*i*		10 12 06.1	
BILL				*i* S	**S**	**10 18 49.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,24nm,1.3s						
BILL				MLR	MLR		
	comp=Z,600nm,18.0s						
JIRN	**Jiri**	**55.30**	**294**	*eP*	**P**	**10 11 06.5**	**-1.0**
PKI	**Pulchoki**	**55.99**	**294**	*eP*	**P**	**10 11 10.7**	**-1.8**
PKIN	**Phulchoki**	**56.00**	**294**	*eP*	**P**	**10 11 10.8**	**-1.7**
WMQ	**Urumqi**	**56.04**	**313**	⇓P	**P**	**10 11 12.4**	**+0.1**
WMQ				pP	pP	10 11 20.1	+0.8
WMQ				sP	pwP	10 11 25.4	+0.7
WMQ				PcP	**PcP**	**10 12 11.3**	**+1.0**
WMQ				S	**S**	**10 19 03.0**	**+3.7**
WMQ				pmax	pmax		
	comp=Z,55nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,430nm,4.5s						
WMQ				LR	LR		
	comp=Z,2µm,18.3s						
WMQ				LR	LR		
	comp=Z,2µm,18.3s						
WMQ				LR	LR		
	comp=Z,3µm,22.5s						
KKN	**Kakani**	**56.10**	**294**	*eP*	**P**	**10 11 11.3**	**-1.8**
DMN	**Daman**	**56.26**	**294**	*eP*	**P**	**10 11 12.9**	**-1.4**
	comp=Z,5.4nm,0.3s						
GKN	**Gorkha**	**56.68**	**294**	*eP*	**P**	**10 11 15.8**	**-1.3**
VLK	**Valmikinagar**	**57.36**	**293**	*eP*	**P**	**10 11 20.2**	**-1.5**
VLK				IAMs_20	IAMs_20	10 34 45.3	
	comp=Z,2µm,26.4s						
DANN	**Dangsing**	**57.45**	**294**	*eP*	**P**	**10 11 21.7**	**-1.1**
	comp=Z,82nm,0.7s						
KOLN	**Koldanda**	**57.59**	**294**	*eP*	**P**	**10 11 21.4**	**-2.3**
	comp=Z,9.8nm,1.0s						
JHSG	**JHARSUGUGA**	**57.65**	**287**	*eP*	**P**	**10 11 22.8**	**-1.1**
JHSG				IAMs_20	IAMs_20	10 37 19.7	
	comp=Z,2µm,34.3s						
RAGD	**RAYAGADA**	**58.15**	**284**	*eP*	**P**	**10 11 28.1**	**+0.7**
ZSN	**Zaisan**	**58.79**	**317**	*eP*	**P**	**10 11 31.2**	**-0.4**
	comp=Z,24nm,1.8s,baz=317						
ZSN	**Zaisan**	**58.79**	**317**	*eP*	**P**	**10 11 31.1**	**-0.4**
ZSN				pmax	pmax		
	comp=Z,24nm,1.8s						
BRCI	**Bahraich**	**59.38**	**294**	IAMs_20	IAMs_20	10 39 34.3	
	comp=Z,2µm,21.1s						
MK31	**Makanchi Array**	**60.38**	**316**	P	**P**	**10 11 42.0**	**-0.5**
MK31				IAmb	IAmb	10 11 45.0	
	comp=Z,17nm,1.0s						
MK31	**Makanchi Array**	**60.38**	**316**	P	**P**	**10 11 42.0**	**-0.5**
MK31				pmax	pmax		
	comp=Z,17nm,1.0s						
MKAR	**Makanchi Array**	**60.38**	**316**	P	**P**	**10 11 42.2**	**-0.3**
	comp=Z,16nm,0.9s,baz=94,slow=6.6,SNR=67						
MKAR				LR	LR	10 38 57.7	
	comp=Z,2µm,18.2s,baz=97,slow=37						
	comp=Z,16nm,0.9s						
MKAR	**Makanchi Array**	**60.38**	**316**	P	**P**	**10 11 41.7**	**-0.8**
MKAR	**Makanchi Array**	**60.38**	**316**	P	**P**	**10 11 41.7**	**-0.8**
ZAA0	**Zalesovo Array**	**60.48**	**324**	P	**P**	**10 11 41.8**	**-1.2**
ZAA0				IAmb	IAmb	10 12 00.4	
	comp=Z,17nm,1.1s						
ZALV	**Zalesovo Beam**	**60.48**	**324**	P	**P**	**10 11 41.9**	**-1.1**
	comp=Z,5.6nm,0.7s,baz=106,slow=7.1,SNR=21						
ZALV				LR	LR	10 38 41.4	
	comp=Z,2µm,18.0s,baz=109,slow=37						
	comp=Z,5.6nm,0.7s						
ZALV	**Zalesovo Beam**	**60.48**	**324**	P	**P**	**10 11 41.5**	**-1.5**
ZALV	**Zalesovo Beam**	**60.48**	**324**	P	**P**	**10 11 41.5**	**-1.5**
LGTI	**Lohaghat**	**60.53**	**296**	IAMs_20	IAMs_20	10 38 16.4	
	comp=Z,1µm,18.5s						
MAKZ	**Makanchi**	**60.60**	**316**	P	**P**	**10 11 43.1**	**-0.8**
MAKZ				IAmb	IAmb	10 11 46.4	
	comp=Z,27nm,0.9s						
MAKZ				IAMs_20	IAMs_20	10 38 36.5	
	comp=Z,2µm,19.0s						
MAKZ	**Makanchi**	**60.60**	**316**	P	**P**	**10 11 43.1**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,27nm,1.0s						
MAKZ				MLR	MLR		
	comp=Z,2µm,19.0s						
URZ	**Urewera**	**60.92**	**151**	LR	LR	10 36 22.7	
	comp=Z,1µm,20.6s,baz=56,slow=34						
MXZ	**Matakaoa Point**	**60.94**	**149**	IAMs_20	IAMs_20	10 36 05.7	
	comp=Z,1µm,20.0s						
QRZ	**Quartz Range**	**61.04**	**156**	IAMs_20	IAMs_20	10 36 17.4	
	comp=Z,915nm,19.0s						
RTZ	**Ruatahuna**	**61.14**	**151**	P	**P**	**10 11 48.0**	**+0.2**
RTZ				IAmb	IAmb	10 12 16.0	
	comp=Z,31nm,1.2s						
O16K	**Kokwok River B**	**61.35**	**29**	P	**P**	**10 11 47.9**	**-0.9**
	baz=249						
BKZ	**Black Stump Fm**	**61.36**	**152**	P	**P**	**10 11 48.8**	**-0.4**
BKZ				IAmb	IAmb	10 11 50.3	
	comp=Z,24nm,1.2s						
BKZ				IAMs_20	IAMs_20	10 35 18.7	
	comp=Z,1µm,21.0s						
DSZ	**Denniston Nort**	**61.55**	**157**	IAMs_20	IAMs_20	10 40 02.7	
	comp=Z,1µm,19.0s						
NNZ	**Nelson**	**61.72**	**155**	IAMs_20	IAMs_20	10 39 02.1	
	comp=Z,1µm,20.0s						
SHLS	**Shalkode**	**61.84**	**311**	*eP*	**P**	**10 11 49.9**	**-2.8**
	baz=311						
SHLS	**Shalkode**	**61.84**	**311**	*eP*	**P**	**10 11 49.8**	**-2.8**
O17K	**Koliganek Bris**	**61.88**	**29**	P	**P**	**10 11 52.1**	**-0.3**
	baz=250						
UZB	**Uzynbulak**	**62.16**	**311**	*eP*	**P**	**10 11 54.1**	**-0.7**
	comp=Z,28nm,1.6s,baz=311						
UZB	**Uzynbulak**	**62.16**	**311**	*eP*	**P**	**10 11 54.0**	**-0.7**
UZB				pmax	pmax		
	comp=Z,28nm,1.6s						
JHNI	**Jhansi**	**62.20**	**291**	*eP*	**P**	**10 11 55.0**	**-0.2**
INZ	**Inchbonnie**	**62.26**	**158**	IAMs_20	IAMs_20	10 33 39.5	
	comp=Z,1µm,22.0s						
SNZO	**South Karori**	**62.34**	**155**	IAMs_20	IAMs_20	10 37 00.5	
	comp=Z,2µm,20.0s						
SEM	**Semipalatinsk**	**62.38**	**320**	*eP*	**P**	**10 11 54.7**	**-1.5**
	comp=Z,13nm,1.4s,baz=320						
SEM	**Semipalatinsk**	**62.38**	**320**	*eP*	**P**	**10 11 54.6**	**-1.6**
SEM				pmax	pmax		
	comp=Z,13nm,1.4s						
FOZ	**Fox Glacier**	**62.39**	**159**	IAMs_20	IAMs_20	10 33 14.9	
	comp=Z,1µm,22.0s						
KPKS	**Kokpek**	**62.44**	**312**	*eP*	**P**	**10 11 55.6**	**-1.0**
	comp=Z,26nm,1.9s,baz=312						
KPKS	**Kokpek**	**62.44**	**312**	*eP*	**P**	**10 11 55.6**	**-1.0**
KPKS				pmax	pmax		
	comp=Z,26nm,1.9s						
BFZ	**Birch Farm**	**62.48**	**153**	IAMs_20	IAMs_20	10 37 57.3	
	comp=Z,1µm,21.0s						
BHW	**Baring Head**	**62.49**	**154**	IAMs_20	IAMs_20	10 37 54.6	
	comp=Z,2µm,20.0s						
SATY	**Saty**	**62.60**	**311**	*eP*	**P**	**10 11 57.1**	**-0.6**
	comp=Z,28nm,1.5s,baz=311						
SATY	**Saty**	**62.60**	**311**	*eP*	**P**	**10 11 57.1**	**-0.6**
SATY				pmax	pmax		
	comp=Z,28nm,1.5s						
LTZ	**Lake Taylor**	**62.62**	**157**	IAMs_20	IAMs_20	10 37 02.0	
	comp=Z,2µm,21.0s						
PALK	**Pallekele**	**62.70**	**271**	P	**P**	**10 11 58.0**	**-0.7**
KHZ	**Kahutara**	**62.79**	**156**	IAMs_20	IAMs_20	10 37 20.7	
	comp=Z,1µm,21.0s						
TDK	**Taldyqorghan**	**62.80**	**313**	*eP*	**P**	**10 11 58.6**	**-0.3**
	baz=313						
TDK	**Taldyqorghan**	**62.80**	**313**	*eP*	**P**	**10 11 58.6**	**-0.3**
TARG	**Taragay, Kyrgy**	**62.93**	**310**	P	**P**	**10 12 00.4**	**+0.2**
TARG				IAmb	IAmb	10 12 27.9	
	comp=Z,38nm,1.5s						
TARG	**Taragay, Kyrgy**	**62.93**	**310**	P	**P**	**10 12 00.4**	**+0.2**
TARG				pmax	pmax		
	comp=Z,38nm,1.5s						
RPZ	**Rata Peaks**

comp=Z,7nm,1.3s
KURK Kurchatov 63.46 320 P **P** **10 12 02.6 -0.5**
KURBB Kurchatov Arra 63.50 320 P **P** **10 12 02.5 -0.8**
comp=Z,34nm,0.9s,baz=101,slow=6.8,SNR=80
KURBB LR LR 10 39 54.4
comp=Z,3μm,20.5s,baz=119,slow=36
comp=Z,34nm,0.9s
KDAK Kodiak Island 63.51 32 LR LR 10 39 24.0
comp=Z,334nm,19.5s,baz=259,slow=36
TNSS Tian-Shan 63.66 311 *eP* **P** **10 12 05.2 +0.1**
baz=311
TNSS Tian-Shan 63.66 311 *eP* **P** **10 12 05.2 +0.1**
AAA Alma-Ata 63.70 311 *eP* **P** **10 12 05.1 +0.2**
baz=311
AAA Alma-Ata 63.70 311 *eP* **P** **10 12 05.1 +0.2**
BHK Bhakra 63.80 298 *eP* **P** **10 12 05.0 -0.6**
BHK IAmb IAmb 10 12 08.4
comp=Z,28nm,0.4s
KUDL Kundal 63.87 294 *eP* **P** **10 12 05.8 -0.3**
ODZ Otahua Downs 64.00 160 IAMs_20 IAMs_20 10 37 34.6
comp=Z,997nm,22.0s
AKL Akola 64.02 286 *eP* **P** **10 12 03.2 -4.1**
AKL IAmb IAmb 10 12 08.2
comp=Z,29nm,1.4s
AKL IAMs_20 IAMs_20 10 37 17.0
comp=Z,2μm,26.4s
KUU Kurty 64.17 312 *eP* **P** **10 12 07.1 -0.9**
comp=Z,27nm,1.1s,baz=312
KUU Kurty 64.17 312 *eP* **P** **10 12 07.0 -0.9**
KUU pmax pmax
comp=Z,27nm,1.1s
KSH Kashi 64.19 307 P **P** **10 12 10.3 +2.0**
KSH PcP **PcP** **10 12 45.1 +2.0**
KSH S **S** **10 20 46.7 +2.5**
KSH SS **SS** **10 24 57.8 +4.1**
KSH pmax pmax
comp=Z,13nm,1.5s
KSH pmax pmax
comp=Z,420nm,5.6s
KSH LR LR
comp=Z,840nm,18.2s
KSH LR LR
comp=Z,2μm,20.3s
KSH LR LR
comp=Z,2μm,21.3s
SALM Salem 64.25 276 *eP* **P** **10 12 08.9 +0.1**
SALM IAMs_20 IAMs_20 10 34 55.8
comp=Z,2μm,29.0s
THN Thein Dam 64.36 299 *eP* **P** **10 12 06.8 -2.5**
M20K Styx River 64.41 28 P **P** **10 12 07.9 -1.4**
M20K Styx River 64.41 28 P **P** **10 12 10.2 +0.9**
baz=252
KHET Khetri 64.48 294 *eP* **P** **10 12 10.8 +0.6**
J20K Nowinta River 64.71 25 P **P** **10 12 10.1 -0.9**
J20K IAmb IAmb 10 12 27.7
comp=Z,28nm,1.6s
J20K IAMs_20 IAMs_20 10 40 24.1
comp=Z,1μm,20.0s
J20K Nowinta River 64.71 25 P **P** **10 12 11.4 +0.4**
baz=250
BRLK Bradley Lake 64.88 30 P **P** **10 12 11.8 -0.5**
NRIK Noril'sk 65.00 341 P **P** **10 12 12.2 -0.6**
comp=Z,17nm,1.0s,baz=109,slow=9.4,SNR=12
NRIK LR LR 10 41 25.6
comp=Z,2μm,18.0s,baz=122,slow=37
comp=Z,17nm,1.0s
NRIK Noril'sk 65.00 341 P **P** **10 12 12.6 -0.2**
NRIK Noril'sk 65.00 341 *ce*P **P** **10 12 12.4 -0.4**
CAPN Captain Cook N 65.01 29 IAMs_20 IAMs_20 10 39 16.1
comp=Z,1μm,18.0s
PPLA Purkeypile 65.13 27 P **P** **10 12 12.0 -2.0**
PPLA IAmb IAmb 10 12 29.3
comp=Z,22nm,1.3s
PPLA Purkeypile 65.13 27 P **P** **10 12 14.8 +0.8**
baz=253
SKT Skwentna 65.16 28 P **P** **10 12 13.4 -0.6**
baz=254
KOD Kodaikanal 65.22 275 *eP* **P** **10 12 15.4 -0.2**
CAST Castle Rocks 65.34 26 P **P** **10 12 14.6 -0.6**
CAST IAMs_20 IAMs_20 10 33 20.7
comp=Z,806nm,19.0s
CAST Castle Rocks 65.34 26 P **P** **10 12 14.8 -0.3**
baz=253
SGDS Sogindy 65.38 311 *eP* **P** **10 12 14.9 -1.0**
baz=311
SGDS Sogindy 65.38 311 *eP* **P** **10 12 14.9 -1.0**
RAR Rarotonga 65.42 122 LR LR 10 34 50.8
comp=Z,896nm,21.5s,baz=294,slow=30
AAK Ala-Archa 65.44 310 P **P** **10 12 16.2 -0.2**
comp=Z,3.9nm,1.0s,baz=116,slow=7.2,SNR=7.5
AAK LR LR 10 42 06.2
comp=Z,2μm,20.1s,baz=74,slow=37
comp=Z,3.9nm,1.0s
AAK Ala-Archa 65.44 310 P **P** **10 12 14.9 -1.5**
AAK Ala-Archa 65.44 310 *ce*P **P** **10 12 17.0 +0.6**
AAK pmax pmax
comp=Z,11nm,1.7s
AAK Ala-Archa 65.44 310 P **P** **10 12 16.6 +0.2**
AAK Ala-Archa 65.44 310 P **P** **10 12 16.8 +0.5**
IMAR Indian Mountai 65.49 23 P **P** **10 12 14.9 -1.2**
O22K Cooper Landing 65.62 30 P **P** **10 12 16.7 -0.3**
AJM Ajmer 65.62 293 *ex* **P** **10 12 13.2 -4.5**
AJM IAmb IAmb 10 12 18.4
comp=Z,22nm,1.2s
H21K Melozitna Rive 65.74 24 P **P** **10 12 17.8 0.0**
H21K IAmb IAmb 10 12 24.4
comp=Z,19nm,1.7s
H21K IAMs_20 IAMs_20 10 40 22.4
comp=Z,873nm,21.0s
RC01 Rabbit Creek A 65.76 29 IAMs_20 IAMs_20 10 39 33.0
comp=Z,1μm,20.0s
RC01 Rabbit Creek A 65.76 29 P **P** **10 12 16.8 -1.1**
baz=256
CUT Chulitna 65.85 28 P **P** **10 12 17.5 -0.9**
CUT IAmb IAmb 10 12 50.3
comp=Z,25nm,1.2s
CUT IAMs_20 IAMs_20 10 37 12.4
comp=Z,1μm,22.0s
KTH Kantishna Hill 65.87 26 P **P** **10 12 18.1 -0.6**
KTH IAmb IAmb 10 13 00.8
comp=Z,17nm,1.3s
KTH IAMs_20 IAMs_20 10 35 14.9
comp=Z,1μm,22.0s
BTLS Baital 65.89 313 *eP* **P** **10 12 18.4 -0.7**
comp=Z,26nm,1.9s,baz=313
BTLS Baital 65.89 313 *eP* **P** **10 12 18.3 -0.7**
BTLS pmax pmax
comp=Z,26nm,1.9s
I21K Tanana 65.92 24 IAMs_20 IAMs_20 10 40 40.0
comp=Z,1μm,22.0s
BPAW Bear Paw Mtn. 66.00 26 P **P** **10 12 18.5 -1.0**
BPAW IAmb IAmb 10 12 34.6
comp=Z,17nm,1.3s
BPAW IAMs_20 IAMs_20 10 40 54.3
comp=Z,927nm,21.0s
BPAW Bear Paw Mtn. 66.00 26 P **P** **10 12 20.0 +0.6**
baz=253
PCHI Peechi 66.25 275‖ *eP* **P** **10 12 21.4 -0.4**
PCHI *eS* **S** **10 21 12.1 +2.3**
PWL Port Wells 66.37 30 P **P** **10 12 21.6 -0.2**
baz=257
MLY Manley 66.37 25 P **P** **10 12 21.1 -0.8**
MLY IAMs_20 IAMs_20 10 41 14.0
comp=Z,954nm,19.0s
MLY Manley 66.37 25 P **P** **10 12 21.5 -0.3**
baz=253
NIL Nilore 66.39 301 P **P** **10 12 22.1 -0.4**
NIL Nilore 66.39 301 IAMs_20 IAMs_20 10 42 28.6
comp=Z,1μm,21.0s
NIL Nilore 66.39 301 P **P** **10 12 22.1 -0.4**
NIL pmax pmax
comp=Z,51nm,1.1s
NIL MLR MLR
comp=Z,1μm,21.0s
NIL Nilore 66.39 301 P **P** **10 12 22.0 -0.6**
KNK Knik Glacier 66.44 29 IAMs_20 IAMs_20 10 39 41.9
comp=Z,1μm,20.0s
KNK Knik Glacier 66.44 29 P **P** **10 12 21.8 -0.5**
baz=257
A21K Barrow 66.58 18 P **P** **10 12 23.8 +0.9**
SML Sawmill 66.58 29 IAMs_20 IAMs_20 10 38 56.8
comp=Z,882nm,19.0s
SML Sawmill 66.58 29 P **P** **10 12 22.3 -0.9**
baz=257
WAT1 Susitna Watana 66.72 27 P **P** **10 12 22.7 -1.4**
baz=256
NEA2 Nenana 66.94 25 IAMs_20 IAMs_20 10 41 12.1
comp=Z,921nm,21.0s
I23K Minto, Yukon-K 66.97 25 IAmb IAmb 10 12 33.0
comp=Z,22nm,1.5s
I23K IAMs_20 IAMs_20 10 40 48.8
comp=Z,862nm,19.0s
I23K Minto, Yukon-K 66.97 25 P **P** **10 12 26.6 +1.0**
baz=254
WAT6 Susitna Watana 67.03 28 P **P** **10 12 25.2 -1.0**
baz=257
SCM Sheep Creek Mo 67.06 29 P **P** **10 12 25.8 -0.5**
baz=258
H23K Yukon River 67.08 24 IAmb IAmb 10 13 25.8
comp=Z,37nm,1.9s
H23K IAMs_20 IAMs_20 10 41 45.7
comp=Z,900nm,20.0s
H23K Yukon River 67.08 24 P **P** **10 12 26.4 +0.1**
baz=254
G23K Bananza Creek 67.14 23 P **P** **10 12 26.6 -0.1**
baz=253
COLD Coldfoot 67.23 23 P **P** **10 12 27.2 0.0**
COLD IAmb IAmb 10 13 00.2
comp=Z,22nm,2.0s
COLD Coldfoot 67.23 23 P **P** **10 12 27.2 0.0**
baz=253
WRH Wood River Hil 67.32 26 P **P** **10 12 26.1 -1.7**
WRH IAmb IAmb 10 12 46.9
comp=Z,21nm,1.6s
MDM Murphy Dome 67.38 25 IAMs_20 IAMs_20 10 40 52.7
comp=Z,1μm,22.0s
TCOL CIGO, UAF Yank 67.51 25 IAMs_20 IAMs_20 10 41 26.2
comp=Z,941nm,20.0s
COLA College 67.52 25 IAMs_20 IAMs_20 10 42 07.2
comp=Z,1μm,22.0s
D23K Nanushuk River 67.59 21 P **P** **10 12 29.8 +0.3**
baz=252
KLU Klutina 67.64 29 P **P** **10 12 30.8 +0.8**
baz=259
E23K Chandalar 67.69 22 P **P** **10 12 30.8 +0.6**
baz=253
H24K Noodor Dome 67.74 24 IAmb IAmb 10 12 37.1
comp=Z,21nm,1.7s
H24K Noodor Dome 67.74 24 P **P** **10 12 30.4 -0.2**
baz=256
POKR Poker Flat Res 67.75 25 IAMs_20 IAMs_20 10 41 14.4
comp=Z,955nm,21.0s
ILAR Eielson Array 67.89 26 P **P** **10 12 29.1 -2.4**
comp=Z,2.8nm,1.0s,baz=246,slow=5.1,SNR=14
comp=Z,2.8nm,1.0s
E24K Your Creek 68.10 22 P **P** **10 12 32.7 0.0**
baz=254
G24K Hadweenzic Riv 68.12 23 P **P** **10 12 32.8 0.0**
baz=256
PAX Paxson 68.13 28 P **P** **10 12 32.9 -0.2**
baz=259
F24K Squaw Lake 68.17 23 P **P** **10 12 33.6 +0.4**
baz=255
D24K Happy Valley 68.28 21 P **P** **10 12 34.3 +0.5**
baz=253
N25K Chitina, Valde 68.29 29 IAMs_20 IAMs_20 10 40 39.9
comp=Z,1μm,21.0s
C24K Franklin Bluff 68.49 20 P **P** **10 12 35.4 +0.4**
baz=253
J25K Sasha River, 68.50 26 IAmb IAmb 10 13 16.1
comp=Z,22nm,2.0s
RIDG Independent Ri 68.55 27 IAMs_20 IAMs_20 10 40 26.8
comp=Z,1μm,22.0s
RIDG Independent Ri 68.55 27 P **P** **10 12 35.0 -0.6**
baz=259
PRP Porcupine Dome 68.62 25 IAMs_20 IAMs_20 10 42 33.4
comp=Z,1μm,21.0s
GLB Gilahina Butte 68.63 29 IAMs_20 IAMs_20 10 38 45.0
comp=Z,964nm,20.0s
IUG Iuzhnay 68.73 310 *eP* **P** **10 12 36.8 -0.5**
baz=310
IUG Iuzhnay 68.73 310 *eP* **P** **10 12 36.7 -0.5**
VRDI Verde Repeater 68.77 30 IAMs_20 IAMs_20 10 38 35.7
comp=Z,849nm,22.0s
BVAR Borovoye Array 68.80 321 LR LR 10 44 05.6
comp=Z,2μm,18.4s,baz=96,slow=37
BRVK Borovoye 68.86 322 P **P** **10 12 36.5 -1.2**
BRVK Borovoye 68.86 322 *ce*P **P** **10 12 37.3 -0.4**
BRVK pmax pmax
comp=Z,40nm,1.3s
BRVK Borovoye 68.86 322 P **P** **10 12 37.1 -0.6**
MENT Mentasta 68.91 28 P **P** **10 12 36.9 -1.0**
SCRK Sand Creek 68.97 27 P **P** **10 12 37.4 -1.0**
SCRK IAmb IAmb 10 13 00.0
comp=Z,31nm,2.0s
SCRK IAMs_20 IAMs_20 10 40 51.8
comp=Z,1μm,21.0s
SCRK Sand Creek 68.97 27 P **P** **10 12 37.4 -1.0**
baz=260
MCARA McCarthy VSAT 69.00 29 P **P** **10 12 38.0 -0.4**
MCARA IAmb IAmb 10 12 45.6
comp=Z,37nm,1.6s
MCARA IAMs_20 IAMs_20 10 37 56.7
comp=Z,882nm,22.0s
MCARA McCarthy VSAT 69.00 29 P **P** **10 12 38.3 -0.1**
baz=262
F25K Christian Rive 69.02 23 P **P** **10 12 38.6 +0.1**
baz=257
L26K Log Cabin Wild 69.09 28 P **P** **10 12 38.5 -0.6**
L26K IAmb IAmb 10 12 45.7
comp=Z,19nm,1.6s
L26K IAMs_20 IAMs_20 10 41 15.2
comp=Z,779nm,19.0s
L26K Log Cabin Wild 69.09 28 P **P** **10 12 39.4 +0.4**
baz=261
M26K Nabesna, AK 69.16 28 IAMs_20 IAMs_20 10 40 43.9
comp=Z,1μm,20.0s
D25K Kavik River 69.17 21 P **P** **10 12 39.4 0.0**
baz=256
E25K Arctic Village 69.17 22 P **P** **10 12 39.6 +0.2**
baz=257
J26L Joseph Creek 69.24 26 IAmb IAmb 10 12 45.8
comp=Z,39nm,1.9s
J26L Joseph Creek 69.24 26 P **P** **10 12 39.3 -0.7**
baz=260
CHGR Chuyangaron 69.50 306 P **P** **10 12 41.2 -0.9**
CHGR pmax pmax
comp=Z,73nm,1.7s
G26K Porcupine Rive 69.60 24 P **P** **10 12 43.1 +1.1**
baz=259
F26K Sheenjek River 69.61 23 P **P** **10 12 42.6 +0.5**
baz=258
BARN Barnard Glacie 69.61 30 IAMs_20 IAMs_20 10 39 04.9
comp=Z,1μm,21.0s
M27K Edge Creek, AK 69.67 29 IAMs_20 IAMs_20 10 40 35.4
comp=Z,1μm,21.0s
L27K Beaver Creek, 69.79 28 P **P** **10 12 43.1 -0.2**
L27K IAMs_20 IAMs_20 10 38 57.4
comp=Z,834nm,22.0s
L27K Beaver Creek, 69.79 28 P **P** **10 12 43.6 +0.3**
baz=262
BCAR Beaver Creek A 69.81 28 P **P** **10 12 42.7 -0.7**
C26K Camden Bay 69.81 20 P **P** **10 12 45.1 +1.9**
baz=257
KBL Kabul 69.83 302 P **P** **10 12 43.9 -0.4**
KBL IAmb IAmb 10 13 10.2
comp=Z,26nm,1.1s
KBL Kabul 69.83 302 P **P** **10 12 43.9 -0.4**
KBL pmax pmax
comp=Z,26nm,1.2s
KBL Kabul 69.83 302 P **P** **10 12 43.4 -1.0**
HMDM Hanimaadhoo 70.09 272 P **P** 10 12 41.0 -5.0
C27K Jago River 70.15 21 P **P** **10 12 45.8 +0.4**
baz=258
I27K Kandik River 70.23 25 P **P** **10 12 46.5 +0.5**
baz=262
YUK3 Moose Creek 70.27 29 P **P** **10 12 46.4 -0.1**
baz=264
O28M Mount Upton 70.30 30 P **P** **10 12 47.1 +0.4**
baz=265
H27K Steamboat Moun 70.36 24 P **P** **10 12 46.9 +0.1**
baz=262
YUK8 Steele Glacier 70.55 30 P **P** **10 12 48.9 +0.6**
baz=265
E27K Coleen River 70.64 22 P **P** **10 12 49.3 +0.9**
baz=261
DAWY Dawson 70.99 27 P **P** **10 12 50.4 -0.3**
DAWY IAmb IAmb 10 12 56.8
comp=Z,25nm,1.8s
DAWY Dawson 70.99 27 P **P** **10 12 50.7 0.0**
baz=264
O29M Mount Kennedy 71.05 31 P **P** **10 12 51.7 +0.5**
baz=266
YUK4 Talbot Arm 71.09 30 P **P** **10 12 52.4 +0.9**
baz=266
M29M Somme Creek 71.26 29 P **P** **10 12 52.9 +0.5**
baz=266
L29M L29M 71.47 28 P **P** **10 12 54.7 +1.1**
baz=266
J29M Klondike Camp 71.53 27 IAMs_20 IAMs_20 10 37 49.6
comp=Z,1μm,22.0s
I29M Ogilvie Camp, 71.58 26 IAMs_20 IAMs_20 10 43 41.1
comp=Z,860nm,19.0s
HYT Haines Junctio 71.61 30 P **P** **10 12 55.1 +0.5**
baz=267
K29M Barlow Dome 71.79 27 P **P** **10 12 56.3 +0.7**
baz=266
P30M Million Dollar 71.85 31 P **P** **10 12 56.5 +0.5**
baz=268
M30M Minto, Yukon 72.04 29 IAMs_20 IAMs_20 10 39 07.1
comp=Z,909nm,22.0s
M30M Minto, Yukon 72.04 29 P **P** **10 12 57.2 +0.1**
baz=267
EPYK Eagle Plains 72.31 25 IAMs_20 IAMs_20 10 45 07.0
comp=Z,1μm,22.0s
EPYK Eagle Plains 72.31 25 P **P** **10 12 58.5 -0.1**
baz=266
N31M Braeburn, Yuko 72.47 30 P **P** **10 12 59.0 -0.6**
N31M IAmb IAmb 10 13 06.8
comp=Z,24nm,1.2s
N31M Braeburn, Yuko 72.47 30 P **P** **10 13 01.0 +1.4**
baz=268
G30M tAoh Zraii Nji 72.55 24 P **P** **10 13 00.3 +0.4**
baz=266
PPT Papeete 72.62 114 LR LR 10 37 36.0
comp=Z,2μm,21.4s,baz=328,slow=30
PPT2 Papeete2 72.63 114 *e*S **S** **10 22 26.5 +1.4**
comp=Z,955nm,20.0s
PPT2 Papeete2 72.63 114 *e*LR LR 10 35 09.9
comp=Z,3μm,29.0s
PPT2 *e*LR LR 10 35 12.5
comp=Z,4μm,23.5s
WHY Whitehorse 72.89 31 P **P** **10 13 02.5 +0.3**
WHY Whitehorse 72.89 31 P **P** **10 13 02.3 +0.1**
baz=269
BESE Bessie Mountai 72.90 33 P **P** **10 13 02.2 0.0**
BESE IAmb IAmb 10 13 06.1
comp=Z,17nm,1.1s
M31M Drury Creek, Y 73.15 29 IAMs_20 IAMs_20 10 41 19.4
comp=Z,847nm,21.0s
M31M Drury Creek, Y 73.15 29 P **P** **10 13 03.6 0.0**
baz=269
F31M Tsiigehtchic 73.54 23 P **P** **10 13 04.9 -0.8**
baz=268
FARO Faro, Yukon 73.64 29 P **P** **10 13 05.9 -0.5**
baz=270
INK Inuvik 73.64 23 P **P** **10 13 05.8 -0.5**
comp=Z,8.6nm,1.2s,baz=268,slow=7.6,SNR=12
comp=Z,8.6nm,1.2s
INK Inuvik 73.64 23 P **P** **10 13 05.6 -0.7**
INK IAmb IAmb 10 13 07.7
comp=Z,23nm,1.4s
INK Inuvik 73.64 23 P **P** **10 13 05.6 -0.7**
INK pmax pmax
comp=Z,23nm,1.5s
CRAG Craig 73.91 36 P **P** **10 13 08.1 0.0**
P33M Teslin, Yukon 73.92 31 P **P** **10 13 07.3 -0.9**
P33M IAmb IAmb 10 13 29.6
comp=Z,30nm,1.9s
SVE Sverdlovsk 74.45 325 *eP* **P** **10 13 10.7 -0.6**
SVE pmax pmax
comp=Z,40nm,1.6s
SVE MLR MLR
comp=Z,3μm,20.0s
TBI Tubuai 74.94 119 *e*LR LR 10 36 11.6
comp=Z,15μm,31.0s
TBI *e*LR LR 10 36 16.8
comp=Z,32μm,29.2s
ABKAR Akbulak array 75.43 318 P **P** **10 13 16.4 -0.7**
ABKAR IAmb IAmb 10 13 34.7
comp=Z,21nm,1.2s
ABKAR Akbulak array 75.43 318 P **P** **10 13 16.1 -0.9**
DLBC Dease Lake 75.43 33 LR LR 10 43 28.7
comp=Z,311nm,20.9s,baz=278,slow=33
DLBC Dease Lake 75.43 33 P **P** **10 13 16.8 -0.2**
DLBC Dease Lake 75.43 33 P **P** **10 13 17.6 +0.6**
baz=274
HRA Herat 75.43 302 P **P** **10 13 17.1 -0.6**
HRA IAmb IAmb 10 13 19.0
comp=Z,46nm,1.6s
ARU Arti 75.62 325 LR LR 10 48 38.6
comp=Z,2μm,18.6s,baz=87,slow=37
ARU Arti 75.62 325 P **P** **10 13 17.0 -1.1**
ARU Arti 75.62 325 *d i*P **P** **10 13 17.4 -0.6**
ARU 10 13 29.9
ARU 10 16 04.0
ARU S **S** **10 23 00.0 +2.6**
ARU SS **SS** **10 27 49.8 +1.3**
ARU pmax pmax
comp=Z,34nm,1.6s
WTLY Watson Lake, Y 75.93 31 IAmb IAmb 10 13 27.1
comp=Z,30nm,1.4s
WTLY Watson Lake, Y 75.93 31 P **P** **10 13 20.3 +0.4**
baz=275
A36M Sachs Harbour 76.37 19 IAmb IAmb 10 13 27.0
comp=Z,15nm,1.1s
A36M Sachs Harbour 76.37 19 P **P** **10 13 22.4 +0.4**
baz=275
AKTO Aktyubinsk 76.54 319 LR LR 10 47 59.1
comp=Z,3μm,20.0s,baz=67,slow=36
C36M Paulatuk 77.03 21 P **P** **10 13 24.9 -0.8**
C36M Paulatuk 77.03 21 P **P** **10 13 25.5 -0.2**
baz=277
BBB Bella Bella 77.14 39 LR LR 10 41 25.1
comp=Z,1μm,20.7s,baz=265,slow=31
NGCH Negor - Chabah 77.82 293 P **P** **10 13 31.5 +0.5**
WRGLY Wrigley 78.10 28 P **P** **10 13 31.8 0.0**
baz=279
GEYT Alibeck 78.21 306 P **P** **10 13 32.3 -0.7**
comp=Z,1.8nm,0.3s,baz=57,slow=5.5,SNR=7.7
GEYT LR LR 10 50 10.6
comp=Z,1μm,21.7s,baz=82,slow=37
comp=Z,1.8nm,0.3s
GEYT Alibeck 78.21 306 P **P** **10 13 33.3 +0.2**
GEYT IAmb IAmb 10 13 46.8
comp=Z,25nm,1.2s
GEYT Alibeck 78.21 306 P **P** **10 13 33.3 +0.2**
GEYT pmax pmax
comp=Z,25nm,1.3s
GYA0B ALIBECK ARRAY 78.21 306 P **P** **10 13 33.1 0.0**
GYA0B IAmb IAmb 10 13 46.8
comp=Z,26nm,1.2s
KOTAN Kotaneelee Air 78.29 31 P **P** **10 13 32.9 -0.1**
baz=279
TAOE Nuku Hiva Isla 78.44 102 *e*LR LR 10 37 52.9
comp=Z,4μm,23.4s
JLN Jalan Bani Buh 79.99 290 P **P** **10 13 41.8 -1.2**
KIRV Kirov 80.20 328 LR LR 10 52 08.0
comp=Z,1μm,18.0s,baz=88,slow=38
KIRV Kirov 80.20 328 *ce*P **P** **10 13 44.1 +0.7**
WBK Wadi Bani Khal 80.29 291 P **P** **10 13 44.1 -0.6**
JASK Jask - Hormozg 80.62 294 P **P** **10 13 47.0 +0.6**
SNR=5.6
JMDO Jabal Madar 81.13 291 P **P** **10 13 48.7 -0.5**
PRGR Permogore 81.35 331 *eP* **P** **10 13 47.1 -2.4**
PRGR pmax pmax
comp=Z,12nm,0.9s
MHTO MHTO 81.54 289 P **P** **10 13 50.4 -0.9**
SNR=5.0
HOQ Hoqain 81.59 292 P **P** **10 13 50.7 -0.9**
SNR=6.0
BSY Bisya 81.86 291 P **P** **10 13 52.3 -0.7**
SHME Shamm 82.10 295 P **P** **10 13 53.5 -0.7**
MDH Madha 82.12 294 P **P** **10 13 52.1 -2.3**
MDH Madha 82.12 294 P **P** **10 13 52.9 -1.5**
DQM DQM 82.16 289 P **P** **10 13 54.1 -0.6**
SOHO SOHO 82.17 293 P **P** **10 13 53.5 -1.0**
YKA Yellowknife Ar 82.22 27 P **P** **10 13 53.5 -0.6**
comp=Z,5.2nm,1.0s,baz=287,slow=5.7,SNR=29
comp=Z,5.2nm,1.0s
MASF Masafi 82.23 294 P **P** **10 13 54.5 -0.5**
MSFE Esma-Masafi 82.23 294 *i* P **P** **10 13 54.5 -0.5**
SNR=7.1
UOSS Minazif 82.28 294 *i* P **P** **10 13 54.2 -1.0**
SNR=7.5
UOSS Minazif 82.28 294 P **P** **10 13 54.4 -0.8**
ARQ Araqi 82.35 292 P **P** **10 13 55.5 -0.1**
SNR=5.3
HATD Hatta, Dubai 82.37 294 P **P** **10 13 55.2 -0.5**

HATD	Hatta, Dubai	82.37	294		P		P	10 13 55.4	-0.3	
ASHO	Ashiyiah	82.47	293	*i*	P		P	10 13 53.8	-2.4	
	SNR=5.1									
ASHO	Ashiyiah	82.47	293		P		P	10 13 56.0	-0.3	
BELG	Belogornoye	82.59	322		LR		LR	10 52 18.0		
	comp=Z,1µm,18.5s,baz=82,slow=37									
YBH	Yreka Blue Hor	82.62	49		LR		LR	10 43 01.1		
	comp=Z,1µm,21.5s,baz=298,slow=30									
UMQ	Umm Al-Quwin	82.64	294		P		P	10 13 57.4	+0.4	
NAZ	Nazwa, Dubai	82.75	294		P		P	10 13 56.4	-1.2	
NAZ	Nazwa, Dubai	82.75	294		P		P	10 13 57.0	-0.6	
FAQ	Al Faqa, Dubai	82.87	294	*i*	P		P	10 13 58.5	+0.2	
	SNR=5.5									
FAQ	Al Faqa, Dubai	82.87	294		P		P	10 13 58.5	+0.2	
ALNE	Al Ain	82.88	293		P		P	10 13 57.8	-0.6	
ALNE	Al Ain	82.88	293		P		P	10 13 59.0	+0.6	
	SNR=6.0									
SPITS	Spitsbergen Ar	82.97	351		LR		LR	10 53 00.3		
	comp=Z,828nm,18.1s,baz=18,slow=37									
ASUD	Al Ashush, Dub	83.13	294		P		P	10 13 58.7	-0.9	
ASUD	Al Ashush, Dub	83.13	294		P		P	10 13 59.7	+0.1	
AJN	Ajban	83.45	294		P		P	10 14 00.7	-0.6	
AJN	Ajban	83.45	294		P		P	10 14 00.6	-0.6	
RES	Resolute Bay	83.70	13		LR		LR	10 51 37.3		
	comp=Z,269nm,21.4s,baz=322,slow=36									
RES	Resolute Bay	83.70	13		IAmb		IAmb	10 14 11.0		
	comp=Z,16nm,0.9s									
RES	Resolute Bay	83.70	13		P		P	10 14 00.1	-1.4	
RES					pmax		pmax			
	comp=Z,21nm,0.9s									
UMZA	Um Al Zommool	83.71	292		P		P	10 14 01.2	-1.4	
ADZR	Andozero	83.87	335	*e*	P		P	10 14 00.9	-1.7	
ADZR					pmax		pmax			
	comp=Z,53nm,1.5s									
KLMR	Klimovskoe	84.40	332	*e*	P		P	10 14 00.3	-5.1	
KLMR					AMP			10 14 06.3		
	comp=Z,39nm,1.2s									
KLMR					LQ		LQ	10 42 02.8		
KLMR					LQ		LQ	10 42 02.8		
KLMR					LR		LR	10 46 03.9		
KLMR					AMP			10 54 41.0		
	comp=Z,2µm,14.6s									
KLMR	Klimovskoe	84.40	332	*e*	P		P	10 14 00.2	-5.2	
KLMR					pmax		pmax			
	comp=Z,39nm,1.2s									
KLMR					MLR		MLR			
	comp=Z,2µm,15.0s									
MZWR	Madinat Zayed	84.61	293		P		P	10 14 07.4	+0.2	
NEW	Newport	84.84	42		LR		LR	10 46 38.7		
	comp=Z,769nm,20.1s,baz=284,slow=32									
NEW	Newport	84.84	42		IAMs_20		IAMs_20	10 46 16.4		
	comp=Z,1µm,21.0s									
DMTO	DMTO	85.06	287		P		P	10 14 07.9	-1.6	
MAK	Makhachkala	85.06	313	*e*	P		P	10 14 03.8	-5.3	
MAK				*e*				10 24 24.9		
MAK				*e*	SS		SS	10 30 03.9	-6.2	
MAK				*e*	SSS		SSS	10 33 34.5		
MAK					pmax		pmax			
	comp=Z,53nm,0.6s									
MAK					MLR		MLR			
	comp=Z,1µm,18.0s									
MZR	Muzera	85.15	292	*i*	P		P	10 14 08.5	-1.4	
	SNR=7.7									
MZR	Muzera	85.15	292		P		P	10 14 08.9	-1.1	
	SNR=5.8									
AKT	Akhty	85.29	311	*e*	P		P	10 14 10.3	-0.1	
AKT				*e*				10 14 13.3		
AKT					pmax		pmax			
	comp=Z,22nm,1.6s									
WVOR	Wild Horse Val	85.39	47		IAMs_20		IAMs_20	10 45 04.6		
	comp=Z,964nm,20.0s									
GHWR	Ruwais	85.46	293		P		P	10 14 10.9	-0.5	
DOK	Doka	85.60	288		P		P	10 14 11.0	-1.2	
RBK	Rabkut	85.80	287		P		P	10 14 12.2	-1.1	
ARCES	ARCESS Array B	85.96	342		P		P	10 14 13.0	+0.1	
	comp=Z,16nm,1.1s,baz=57,slow=4.5,SNR=6.1									
ARCES					LR		LR	10 57 32.2		
	comp=Z,606nm,18.3s,baz=72,slow=39									
	comp=Z,16nm,1.1s									
ARCES	ARCESS Array B	85.96	342		P		P	10 14 13.1	+0.1	
ARCES	ARCESS Array B	85.96	342		P		P	10 14 13.1	+0.1	
ARCES					pmax		pmax			
	comp=Z,113nm,1.6s									
WHFO	Wadi Hawf	86.10	287		P		P	10 14 13.1	-1.7	
GROC	Groznyy	86.20	314	*e*	P		P	10 14 10.1	-4.7	
GROC					pmax		pmax			
	comp=Z,21nm,0.6s									
VRH	Novokhopyorsk	86.44	322	*e*	P		P	10 14 11.9	-3.8	
VRH					pmax		pmax			
	comp=Z,20nm,0.3s									
SLWR	Sila	86.48	294		P		P	10 14 15.8	-0.7	
PLID	Pearl Lake	86.49	44		P		P	10 14 15.4	-1.0	
WALA	Waterton Lakes	86.64	40		IAmb		IAmb	10 14 31.0		
	comp=Z,25nm,1.5s									
ABTO	Aybut	86.67	287		P		P	10 14 16.6	-1.1	
SHMA	Al-Shehemyia	86.68	296		P		P	10 14 17.1	-0.3	
NVAR	Mina Array Bea	86.72	51		P		P	10 14 19.2	+1.5	
	comp=Z,1.3nm,0.7s,baz=295,slow=4.9,SNR=3.8									
NVAR					PP		PP	10 17 41.3	+1.4	
	comp=Z,0.7nm,0.6s,baz=270,slow=7.3,SNR=3.9									
	comp=Z,1.3nm,0.7s									
TULEG	Thule	86.93	7		P		P	10 14 18.0	+0.3	
MFID	Camas Ranch	87.10	46		P		P	10 14 18.7	-0.6	
MFID					IAmb		IAmb	10 14 30.9		
	comp=Z,14nm,1.1s									
RKT	Rikitea	87.37	115	*e*	LR		LR	10 42 02.1		
	comp=Z,515µm,27.8s									
LPSR	Galich'ya Gora	87.59	324	*e*	P		P	10 14 16.6	-4.7	
LPSR					pmax		pmax			
	comp=Z,10.0nm,0.8s									
ZEI	Tsey	87.65	314	*e*	P		P	10 14 18.5	-3.6	
ZEI					pmax		pmax			
	comp=Z,7.0nm,1.3s									
VORR	Voronezh	87.76	323	*e*	P		P	10 14 21.6	-0.5	
VORR					pmax		pmax			
	comp=Z,10.0nm,1.3s									
GNI	Garni	87.84	311		LR		LR	10 57 04.9		
	comp=Z,1µm,19.8s,baz=66,slow=38									
VSR	Storozhevoye	87.95	323	*e*	P		P	10 14 18.8	-4.2	
VSR					pmax		pmax			
	comp=Z,10.0nm,1.1s									
OBN	Obninsk	87.96	327		LR		LR	10 55 28.5		
	comp=Z,268nm,19.9s,baz=58,slow=37									
OBN	Obninsk	87.96	327	*i*	P		P	10 14 21.2	-1.8	
OBN				*i*				10 14 26.3		
OBN					pmax		pmax			
	comp=Z,9.0nm,1.4s									
ONI	Oni	88.03	313		P		P	10 14 23.1	-0.6	
ONI					IAmb		IAmb	10 14 50.2		
	comp=Z,27nm,1.6s									
ONI	Oni	88.03	313		P		P	10 14 23.1	-0.6	
ONI					pmax		pmax			
	comp=Z,27nm,1.6s									
HLID	Hailey	88.03	46		P		P	10 14 23.1	-0.8	
HLID	Hailey	88.03	46		P		P	10 14 23.8	-0.1	
	baz=288									
KBZ	Khabaz	88.06	315		P		P	10 14 24.2	+0.5	
	comp=Z,1.9nm,0.9s,baz=71,slow=6.9,SNR=2.8									
KBZ					LR		LR	10 57 43.3		
	comp=Z,800nm,18.9s,baz=72,slow=38									
	comp=Z,1.9nm,0.9s									
KVAR	Kislovodsk Arr	88.13	315		LR		LR	10 57 24.7		
	comp=Z,485nm,19.5s,baz=272,slow=38									
KIV	Kislovodsk	88.14	315	*e*	P		P	10 14 23.9	-0.3	
KIV					pmax		pmax			
	comp=Z,7.0nm,1.0s									
KIV					MLR		MLR			
	comp=Z,890nm,20.0s									
ELK	Elko	88.32	48		LR		LR	10 47 07.6		
	comp=Z,1µm,21.7s,baz=274,slow=31									
ELK	Elko	88.32	48		P		P	10 14 24.1	-1.3	
ELK	Elko	88.32	48		P		P	10 14 24.1	-1.3	
ELK					pmax		pmax			
	comp=Z,7.0nm,1.1s									
R11A	Troy Canyon, C	88.79	51		P		P	10 14 27.8	+0.2	
	baz=288									
BOZ	Bozeman (W)	89.25	43		P		P	10 14 29.8	+0.2	
	baz=290									
SPR3	Spring Creek 3	89.52	50		P		P	10 14 29.3	-1.8	
SPR3					IAmb		IAmb	10 15 19.3		
	comp=Z,12nm,1.5s									
PFO	Pinyon Flats O	89.52	55		LR		LR	10 51 06.1		
	comp=Z,311nm,19.0s,baz=272,slow=33									
EGMT	Eagleton	89.59	40		IAMs_20		IAMs_20	10 47 14.9		
	comp=Z,997nm,20.0s									

HVU	Hansel Valley	89.75	47		IAmb		IAmb	10 15 00.1		
	comp=Z,14nm,1.3s									
FINES	FINESS Array B	90.02	335		P		P	10 14 31.1	-1.4	
	comp=Z,4.3nm,0.8s,baz=218,slow=21,SNR=6.6									
FINES					LR		LR	10 57 42.5		
	comp=Z,1µm,20.1s,baz=66,slow=38									
	comp=Z,4.3nm,0.8s									
MSEY	Mahe Island	90.03	265		IAMs_20		IAMs_20	10 51 07.3		
	comp=Z,863nm,20.0s									
SPUT	South Promonto	90.14	47		P		P	10 14 33.0	-0.8	
SPUT					IAmb		IAmb	10 15 08.0		
	comp=Z,15nm,1.4s									
DUG	Dugway, Tooele	90.25	48		IAMs_20		IAMs_20	10 46 50.1		
	comp=Z,956nm,21.0s									
DUG	Dugway, Tooele	90.25	48		P		P	10 14 34.3	0.0	
	baz=289									
SOC	Sochi	90.29	315	*e*	P		P	10 14 30.0	-4.2	
SOC				*e*				10 18 05.3		
SOC				*e*	PPP		PPP	10 20 01.5		
SOC				*e*	S		SKSac	10 25 00.1	-3.7	
SOC				*e*	SS		SS	10 31 28.2	+2.0	
SOC					MLR		MLR			
	comp=Z,656nm,16.0s									
IRM	Iron Mountain	90.40	55		P		P	10 14 37.3	+2.2	
	baz=288									
AHID	Auburn Hatcher	90.58	45		P		P	10 14 34.1	-1.8	
AHID					IAmb		IAmb	10 14 49.6		
	comp=Z,18nm,1.6s									
AHID					IAMs_20		IAMs_20	10 50 01.7		
	comp=Z,660nm,22.0s									
HWUT	Hardware Ranch	90.66	47		P		P	10 14 36.1	-0.2	
HWUT					IAmb		IAmb	10 14 50.4		
	comp=Z,16nm,1.4s									
SZCU	Shurtz Canyon	90.90	51		IAmb		IAmb	10 17 49.1		
	comp=Z,30nm,1.6s									
FFC	Flin Flon	91.25	32		P		P	10 14 37.6	-0.8	
FFC					IAmb		IAmb	10 14 39.2		
	comp=Z,13nm,1.4s									
FFC	Flin Flon	91.25	32		P		P	10 14 37.7	-0.8	
FFC					pmax		pmax			
	comp=Z,13nm,1.4s									
ANN	Anapa	91.38	317	*e*	P		P	10 14 36.8	-2.4	
ANN					pmax		pmax			
	comp=Z,11nm,0.7s									
PDAR	Pinedale Array	91.64	45		P		P	10 14 41.0	+0.1	
	comp=Z,0.6nm,0.8s,baz=259,slow=4.2,SNR=1.9									
PDAR					LR		LR	10 48 21.3		
	comp=Z,417nm,21.7s,baz=306,slow=31									
	comp=Z,0.6nm,0.8s									
PDAR	Pinedale Array	91.64	45		P		P	10 14 39.3	-1.6	
RAYN	Ar Rayn	92.09	295		IAMs_20		IAMs_20	11 00 03.0		
	comp=Z,599nm,22.0s									
VNDA	Vanda	92.51	176		LR		LR	10 53 00.1		
	comp=Z,194nm,21.3s,baz=344,slow=33									
MNK	Minsk	92.73	328	*i*	P		P	10 14 48.0	+2.7	
	comp=E,1.0nm,1.0s									
MNK				*i*	P		P	10 14 48.0	+2.7	
	comp=N,21nm,1.0s									
MNK				*i*	P		P	10 14 48.0	+2.7	
	comp=Z,10.0nm,1.0s,baz=60									
MNK				*i*	PP		PP	10 18 29.3	+2.4	
MNK				*i*	PPP		PPP	10 20 28.7		
MNK				*i*	SKS			10 24 40.1		
MNK				*i*	S		SKSac	10 25 21.2	+4.0	
MNK				*i*	SKKS		ScS	10 26 05.2	+15	
MNK				*i*	SS		SS	10 32 06.2	+5.4	
MNK				*i*	SSS		SSS	10 35 25.3		
MNK				*i*	LQ		LQ	10 48 26.3		
MNK				*i*	LR		LR	10 53 23.7		
MNK				*i*	LRM		MLR	10 57 46.4		
	comp=E,116nm,20.0s									
MNK				*i*	LRM		MLR	10 58 04.8		
	comp=N,858nm,19.3s									
MNK				*i*	LRM		MLR	10 58 11.8		
	comp=Z,1µm,19.3s									
MNK	Minsk	92.73	328	*i*	P		P	10 14 47.9	+2.7	
MNK				*i*				10 18 29.3		
MNK				*i*	PPP		PPP	10 20 28.7		
MNK				*i*	S		SKSac	10 25 21.2	+4.0	
MNK				*i*	SS		SS	10 32 06.1	+5.4	
MNK					pmax		pmax			
	comp=N,21nm,1.0s									
MNK					pmax		pmax			
	comp=Z,10.0nm,1.0s									
MNK					pmax		pmax			
	comp=E,1.0nm,1.0s									
MNK					MLR		MLR			
	comp=E,116nm,20.0s									
MNK					MLR		MLR			
	comp=N,858nm,19.0s									
MNK					MLR		MLR			
	comp=Z,1µm,19.0s									
NACGM	Naroch	93.08	329	*e*	P		P	10 14 38.0	-8.9	
	comp=Z,9.0nm,1.0s,baz=59									
AKASG	Malin Array Be	93.87	325		P		P	10 14 48.8	-1.9	
	comp=Z,0.2nm,0.4s,baz=49,slow=5.1,SNR=8.9									
AKASG					LR		LR	10 59 10.6		
	comp=Z,2µm,18.7s,baz=65,slow=37									
	comp=Z,0.2nm,0.4s									
AKASG	Malin Array Be	93.87	325		P		P	10 14 49.4	-1.3	
AKASG	Malin Array Be	93.87	325		P		P	10 14 49.4	-1.3	
AKASG					pmax		pmax			
	comp=Z,6.0nm,1.4s									
AKBB	Malin Array Si	93.87	325	*c*	eP		P	10 14 52.8	+2.2	
SMCO	Snowmass	94.81	48		P		P	10 14 54.0	-1.8	
N23A	Red Feather La	94.86	46		P		P	10 14 53.7	-2.1	
N23A					IAmb		IAmb	10 15 00.1		
	comp=Z,14nm,1.4s									
ISCO	Idaho Springs	95.53	47		P		P	10 14 56.6	-2.3	
ISCO					IAmb		IAmb	10 15 13.3		
	comp=Z,16nm,2.0s									
ISCO	Idaho Springs	95.53	47		P		P	10 14 56.6	-2.3	
ISCO					pmax		pmax			
	comp=Z,15nm,2.0s									
HFS	Hagfors	95.65	338		LR		LR	10 58 48.9		
	comp=Z,451nm,20.6s,baz=44,slow=36									
ILULI	Ilulissat	95.69	5		P		P	10 14 58.1	-0.4	
ILULI	Ilulissat	95.69	5		P		P	10 14 58.1	-0.4	
ILULI					pmax		pmax			
	comp=Z,21nm,0.5s									
NOA	NORSAR Array B	95.91	339		P		P	10 14 59.9	+0.1	
	comp=Z,0.8nm,0.7s,baz=48,slow=4.0,SNR=1.9									
NOA					LR		LR	10 59 35.0		
	comp=Z,584nm,20.9s,baz=65,slow=36									
	comp=Z,0.8nm,0.7s									
BRTR	Keskin Array B	95.97	313		LR		LR	11 02 00.2		
	comp=Z,859nm,21.7s,baz=44,slow=38									
ULM	Lac du Bonnet	96.72	34		LR		LR	11 00 51.0		
	comp=Z,530nm,18.1s,baz=300,slow=37									
ANMO	Albuquerque	96.85	51		LR		LR	10 54 21.3		
	comp=Z,338nm,20.0s,baz=10,slow=33									
LPIG	La Paz	97.65	63		LR		LR	10 53 14.9		
	comp=Z,604nm,19.7s,baz=300,slow=32									
SFJD	Kangerlussuaq	97.89	6		LR		LR	11 01 56.8		
	comp=Z,148nm,18.8s,baz=346,slow=37									
ATD	Arta Tunnel	97.97	284		LR		LR	10 59 27.0		
	comp=Z,116nm,19.4s,baz=40,slow=36									
MLR	Muntele Rosu	98.36	321		LR		LR	11 03 05.6		
	comp=Z,1µm,18.7s,baz=66,slow=38									
EIL	Elat	98.96	304		LR		LR	11 03 54.6		
	comp=Z,436nm,20.4s,baz=69,slow=38									
CRVS	Cervenica-Dubn	99.10	326	*e*	P		Pdif	10 15 14.7	+0.3	
CRVS	Cervenica-Dubn	99.10	326	*e*	PDIFF		Pdif	10 15 14.6	+0.2	
ECSD	EROS Data Cent	99.70	40		IAMs_20		IAMs_20	10 52 58.5		
	comp=Z,694nm,21.0s									
VYHS	Vyhne	100.75	327	*e*	P		Pdif	10 15 20.9	-0.9	
VYHS	Vyhne	100.75	327	*e*	PDIFF		Pdif	10 15 20.9	-0.9	
JCT	Junction City	103.80	53		IAMs_20		IAMs_20	10 57 36.5		
	comp=Z,701nm,21.0s									
TUL1	Leonard	104.22	47		IAMs_20		IAMs_20	10 55 23.6		
	comp=Z,521nm,21.0s									
KIBK	Kibwezi	106.31	272		IAMs_20		IAMs_20	11 02 50.0		
	comp=Z,550nm,21.0s									
KMBO	Kilima Mbogo	106.78	273		IAMs_20		IAMs_20	11 01 54.0		
	comp=Z,685nm,21.0s									
LODK	Lodwar	107.39	278		IAMs_20		IAMs_20	10 58 01.8		
	comp=Z,727nm,22.0s									
BCIP	Isla Barro Col	130.27	64		IAMs_20		IAMs_20	11 21 55.9		
	comp=Z,446nm,20.0s									
PLCA	Paso Flores	140.05	137		PKP		PKiKP	10 21 04.0	-0.4	
	comp=Z,1.2nm,0.9s,baz=211,slow=16,SNR=1.9									
CO02	Combarbal	143.72	123				PKPbc	10 21 07.2	+0.8	
AC04	Llanos de Chal	144.54	118		PKPdf		PKPbc	10 21 09.2	+0.3	
LCO	Las Campanas	144.63	120				PKPbc	10 21 09.6	+0.1	
LCO	Las Campanas	144.63	120		PKIKP		PKPbc	10 21 09.6	+0.1	
TBTG	Tabatinga, AM	144.75	76		PKPdf		PKPab	10 21 09.2	-0.7	
CO01	Juntas del Tor	144.85	122		PKPdf		PKPab	10 21 09.1	-1.0	
AC05	El Transito	145.04	120		PKPbc		PKPab	10 21 10.8	+0.2	
AC06	Mina Casimiro	145.37	117		PKPbc		PKPbc	10 21 11.6	0.0	
GO03	Copiap	145.41	118		PKPbc		PKPbc	10 21 10.7	-1.1	
ZON	Zonda	145.47	125				PKPab	10 21 12.4	+0.3	
ZON	Zonda	145.47	125		PKIKP		PKPab	10 21 12.4	+0.3	
LVC	Limon Verde	147.59	109		PKPbc		PKPbc	10 21 19.7	+1.0	
	comp=Z,4.1nm,0.7s,baz=154,slow=1.5,SNR=4.9									
LPAZ	La Paz	148.71	97				PKPdf	10 21 19.8	+1.5	
LPAZ	La Paz	148.71	97		PKP2		PKPdf	10 21 19.8	+1.5	
ETMB	Extrema	149.82	84				PKPbc	10 21 24.0	-0.2	
SIV	San Ignacio	155.49	97		PKPab		PKPab	10 21 54.4	+0.9	
	comp=Z,2.1nm,1.0s,baz=210,slow=1.4,SNR=4.5									

*IDC **10** 10:05:42.3±0.7, 6.75N×73.01W, h159km±11km, mb3.4/4, mbtmp4.0/6, MS3.8/1, Error ellipse: s-maj=39.4km s-min=7.7km az=131.0*
*RSNC **10** 10:05:43.1±1.2, 6.82N×73.13W, h154km±5km, ML3.6, Mw3.9*
*NEIC **10** 10:05:43.2±2.1, 6.83N±0.08×73.0W±0.1, h140km±11km, mb4.3/12, Error ellipse: s-maj=16.2km s-min=10.4km az=120.0*

ISC 10 10:05:42.8±0.7, 6.82N±0.03×73.11W±0.03, h152km±5km, n61, σ1$49/92, mb4.2/10, 7C-7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BARC	Barichara	0.24	198	⇑*i*P		Pn	10 06 03.8	+0.2
BARC				*e*S		Sn	10 06 18.9	-0.7
BARC				*i*			10 06 20.2	
	comp=Z,3µm,0.2s							
PAMC	Pamplona, Colo	0.65	38	⇓*i*P		Pn	10 06 06.7	+0.9
PAMC				*e*S		Sn	10 06 23.8	+0.6
PAMC				*i*			10 06 26.9	
	comp=Z,590nm,0.3s							
BRRC	Barranca, Sant	0.66	295	⇑*i*P		Pn	10 06 05.8	+0.5
BRRC				*e*S		Sn	10 06 22.7	+0.4
BRRC				*i*			10 06 27.5	
	comp=Z,528nm,0.1s							
RUSC	La Rusia	0.93	179			Pn	10 06 07.4	-0.3
RUSC	La Rusia	0.93	179	⇑*i*P		Pn	10 06 07.7	0.0
RUSC				*e*S		Sn	10 06 26.1	-0.6
RUSC				*i*			10 06 27.8	
	comp=Z,392nm,0.3s							
TAMC	Tame, Arauca	1.36	106	⇓*i*P		Pn	10 06 12.2	+1.1
TAMC				*i*			10 06 33.0	
	comp=Z,384nm,0.4s							
TAMC				*e*S		Sn	10 06 33.8	+1.0
PTBC	PUERTO BERRIO,	1.37	258	⇑*e*P		Pn	10 06 10.2	-0.9
PTBC				*e*S		Sn	10 06 31.5	-1.3
PTBC				*i*			10 06 34.1	
	comp=Z,658nm,0.3s							
ZARC	Zaragoza, Cauc	1.86	291	*e*P		Pn	10 06 16.2	-0.2
ZARC				*e*S		Sn	10 06 42.2	-0.1
ZARC				*i*			10 06 47.7	
	comp=Z,872nm,0.4s							
CHIC	Chingaza	2.27	196	⇑*e*P		Pn	10 06 21.8	+0.2
CHIC				*e*S		Sn	10 06 51.2	-0.2
CHIC				*i*			10 06 58.4	
	comp=Z,345nm,0.5s							
ROSC	El Rosal	2.31	212	P		Pn	10 06 23.9	+1.8
	comp=Z,237nm,0.4s,baz=346,slow=4.4,SNR=404							
ROSC				S		Sn	10 06 52.5	+0.2
	comp=Z,593nm,0.5s,baz=119,slow=18,SNR=11							
ROSC	El Rosal	2.31	212	Pn		Pn	10 06 23.6	+1.5
ROSC	El Rosal	2.31	212	⇑*i*P		Pn	10 06 23.6	+1.5
ROSC				*e*S		Sn	10 06 54.3	+1.9
ROSC				*i*			10 06 60.0	
	comp=Z,464nm,0.4s							
UREC	San Jos de Ur	2.58	291	*e*P		Pn	10 06 23.8	-1.2
UREC				*e*S		Sn	10 06 55.9	-1.6
UREC				*i*			10 07 03.9	
	comp=Z,325nm,0.1s							
LL1C	La Loma 1 Cana	2.74	351	*e*P		Pn	10 06 27.6	+0.7
LL1C				*e*S		Sn	10 07 04.9	+3.8
GUY2C	Guyana, Caldas	2.75	235	*e*P		Pn	10 06 28.1	+0.5
GUY2C				*e*S		Sn	10 07 01.7	-0.4
GUY2C					IAML		10 07 10.5	
	comp=Z,603nm,0.3s							
PTGC	Puerto Gaitan,	2.78	160	⇑*i*P		Pn	10 06 26.9	-0.6
PTGC				*e*S		Sn	10 07 00.0	-2.1
PTGC				*i*			10 07 00.3	
	comp=Z,188nm,0.4s							
CBOC	Ciudad Bolivar	3.04	252	⇓*e*P		Pn	10 06 31.6	+0.6
CBOC				*e*S		Sn	10 07 08.6	+0.5
CBOC				*i*			10 07 20.6	
	comp=Z,123nm,0.6s							
DBBC	Dabeiba	3.09	274	⇓*i*P		Pn	10 06 31.5	+0.1
DBBC				*e*S		Sn	10 07 08.2	-0.7
DBBC				*i*			10 07 11.0	
	comp=Z,159nm,0.2s							
SDV	Santo Domingo	3.19	50	P		Pn	10 06 33.4	+0.5
	comp=Z,108nm,0.3s,baz=209,slow=6.6,SNR=89							
SDV				S		Sn	10 07 11.1	-0.6
	comp=Z,94nm,0.

comp=Z,1.7nm,0.8s
PB12 IPOC Station P 25.43 174 P **P** **10 10 58.4 +1.8**
PB12 IAmb IAmb 10 11 22.5
comp=Z,9.6nm,1.2s
HODGE Hodges 28.56 344 P **P** **10 11 26.4 +2.0**
HODGE IAmb IAmb 10 11 51.7
comp=Z,9.9nm,1.2s
LVC Limon Verde 29.54 172 LR LR 10 26 04.9
comp=Z,176nm,20.8s,baz=294,slow=42
Y49A Blount Mountai 29.59 337 P **P** **10 11 35.1 +1.6**
V48A Smith Brothers 31.41 338 P **P** **10 11 51.6 +2.0**
V48A IAmb IAmb 10 12 01.7
comp=Z,8.7nm,1.3s
WVT Waverly 32.13 337 P **P** **10 11 57.0 +1.1**
WVT IAmb IAmb 10 12 33.9
comp=Z,6.4nm,1.4s
P52A Corning 33.66 347 P **P** **10 12 10.8 +1.7**
FVM French Village 34.77 336 P **P** **10 12 19.2 +0.4**
CCM Cathedral Cave 35.17 335 P **P** **10 12 23.1 +0.9**
CCM IAmb IAmb 10 12 23.2
comp=Z,5.1nm,0.7s
SFIN Lafayette 35.68 342 P **P** **10 12 27.6 +1.1**
TXAR Lajitas Array 36.47 312 P **P** **10 12 34.1 +0.6**
TX31 Lajitas Ar. Si 36.47 312 P **P** **10 12 34.3 +0.8**
TX31 IAmb IAmb 10 12 48.5
comp=Z,10.0nm,1.4s
TX32 Lajitas Array 36.47 312 P **P** **10 12 34.7 +1.2**
ULM Lac du Bonnet 47.29 340 P **P** **10 13 59.9 -0.9**
comp=Z,1.6nm,0.3s,baz=145,slow=6.8,SNR=4.9
comp=Z,1.6nm,0.3s
PDAR Pinedale Array 48.08 324 P **P** **10 14 06.5 -0.8**
comp=Z,3nm,0.5s,baz=104,slow=6.3,SNR=4.1
comp=Z,0.3nm,0.5s
YKA Yellowknife Ar 63.27 340 P **P** **10 15 54.6 -0.4**
comp=Z,1.0nm,0.6s,baz=133,slow=6.2,SNR=15
comp=Z,1.0nm,0.6s
INK Inuvik 73.03 340 P **P** **10 16 55.1 -0.6**
comp=Z,0.4nm,0.4s,baz=117,slow=4.1,SNR=4.5
comp=Z,0.4nm,0.4s
ASAR Alice Springs 149.12 234 PKPbc **PKPdf** **10 25 11.7 +1.9**
comp=Z,0.3nm,0.7s,baz=124,slow=3.9,SNR=4.1
WRA Warramunga Arr 150.35 241 PKPbc **PKPbc** **10 25 15.7 -1.5**
comp=Z,0.2nm,0.4s,baz=106,slow=2.8,SNR=7.0

IDC 10 10:12:02.5±460.0, 56°92N×18°31E, h0km, Error ellipse: s-maj=175.4km s-min=153.0km az=1.0, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.55**	**201**	I	I	11 04 30.0	
	baz=18,slow=341,SNR=1.0						
I43RU	**DUBNA INFRASONI**	**0.36**	**83**	I	I	11 17 50.0	
	baz=280,slow=314,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**24.14**	**89**	I	I	12 40 00.0	
	baz=303,slow=323,SNR=1.3						

IDC 10 10:19:32.5±2.0, 63°33S×167°27W, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=61.4km s-min=31.2km az=69.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**17.20**	**202**	P	Pn	10 23 32.6	-1.1
	0.1nm,0.3s,baz=63,slow=17,SNR=8.4						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**26.77**	**180**	P	P	10 25 14.1	+0.4
	2.6nm,0.9s,baz=38,slow=2.8,SNR=7.3						
	2.6nm,0.9s						
H01W1	**Cape Leeuwin H**	**54.44**	**262**	T	T	11 28 23.4	
	baz=146,slow=76,SNR=8.0						
H01W2	**Cape Leeuwin H**	**54.44**	**262**	T	T	11 28 23.9	
	baz=146,slow=76,SNR=6.2						
H01W3	**Cape Leeuwin H**	**54.45**	**262**	T	T	11 28 20.8	
	baz=146,slow=76,SNR=6.7						
ASAR	**Alice Springs**	**55.23**	**287**	P	P	10 29 07.6	+0.5
	0.3nm,0.7s,baz=144,slow=6.7,SNR=4.5						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**58.33**	**290**	P	P	10 29 28.4	-0.7
	0.5nm,1.0s,baz=162,slow=6.0,SNR=2.1						
	0.5nm,1.0s						
H03S2	**Juan Fernandez**	**59.63**	**105**	T	T	11 34 24.0	
	baz=209,slow=74,SNR=88						
H03S1	**Juan Fernandez**	**59.64**	**105**	T	T	11 34 32.4	
	baz=209,slow=74,SNR=88						
H03S3	**Juan Fernandez**	**59.65**	**105**	T	T	11 34 31.7	
	baz=209,slow=74,SNR=90						
H03N3	**Juan Fernandez**	**59.96**	**105**	T	T	11 34 50.2	
	baz=217,slow=76,SNR=62						
H03N2	**Juan Fernandez**	**59.97**	**105**	T	T	11 34 47.2	
	baz=217,slow=76,SNR=92						
H03N1	**Juan Fernandez**	**59.98**	**105**	T	T	11 34 38.8	
	baz=217,slow=76,SNR=63						
ILAR	**Eielson Array**	**128.69**	**11**	PKP	PKPdf	10 38 39.4	-0.4
	0.7nm,0.9s,baz=204,slow=2.0,SNR=4.8						

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*IDC **10** 10:33:58.7±1.4, 37°24N×142°24E, h0km, mb3.4/4, mbtmp3.5/7, ML3.1/3, Error ellipse: s-maj=32.2km s-min=22.9km az=120.0*
*JMA **10** 10:34:02.1±0.2, 37°4N±0°5×142°0E±0°9, h33km±3km, MV3.3/39, E OFF FUKUSHIMA PREF*
ISC 10 10:34:00.5±3.5, 37°34N±0°04×142°07E±0°07, h13km±22km, n24, σ1§26/30, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.95**	**272**	P	**Pb**	**10 34 19.0**	**+0.2**
JFK				S	**Sb**	**10 34 30.6**	**-0.7**
JMST	**Minamisoumatoc**	**1.01**	**293**	P	**Pb**	**10 34 19.7**	**-0.2**
JMST				S	**Sb**	**10 34 32.2**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.04**	**257**	P	**Pb**	**10 34 20.3**	**-0.1**
ONAJ				*e*S	**Sb**	**10 34 33.5**	**-0.4**
JIKH	**Ishinomakikobu**	**1.08**	**334**	P	**Pn**	**10 34 20.4**	**-0.9**
JIKH				*e*S	**Sb**	**10 34 33.6**	**-1.6**
JMM	**Marumori**	**1.14**	**298**	P	**Pn**	**10 34 21.8**	**-0.4**
JMM				*e*S	**Sb**	**10 34 35.5**	**-1.3**
JIO	**Ouri**	**1.25**	**333**	*i* P	**Pn**	**10 34 23.1**	**-0.6**
JIO				*e*S	**Sn**	**10 34 38.0**	**-2.4**
JOU	**Okura**	**1.51**	**313**	*i* P	**Pn**	**10 34 28.2**	**+0.9**
JOU				S	**Sn**	**10 34 46.6**	**-0.3**
JMK	**Ichinoseki**	**1.75**	**338**	P	**Pn**	**10 34 31.0**	**+0.5**
JYS	**Shirataka**	**1.81**	**300**	P	**Pb**	**10 34 33.5**	**0.0**
JYS				*e*S	**Sn**	**10 34 55.4**	**+1.1**
JFY	**Yanaizu**	**1.88**	**273**	P	**Pb**	**10 34 34.3**	**-0.4**
JFY				*e*S	**Sn**	**10 34 56.6**	**+0.6**
JYK	**Kaneyama**	**2.08**	**320**	P	**Pn**	**10 34 35.7**	**+0.7**
JYK				*e*S	**Sn**	**10 35 01.2**	**+0.5**
MJAR	**Matsushiro Arr**	**3.19**	**257**	Pn	**Pn**	**10 34 53.0**	**+2.7**
	0.2nm,0.3s,baz=80,slow=14,SNR=4.1						
MJAR				Sn	**Sb**	**10 35 33.4**	**-2.4**
	0.3nm,0.3s,baz=22,slow=17,SNR=5.7						
	1.4nm,0.4s						
JHJ	**Hachijo jima 2**	**4.60**	**205**	Pn	**Pn**	**10 35 08.9**	**-0.9**
	19nm,0.3s,baz=68,slow=21,SNR=1.5						
JHJ				Sn	**Sn**	**10 36 00.4**	**-2.7**
	39nm,0.3s,baz=250,slow=22,SNR=4.8						
	83nm,0.5s						
ASAJ	**Asahikawa**	**6.79**	**3**	Pn	**Pn**	**10 35 40.9**	**+1.2**
	0.4nm,0.3s,baz=74,slow=21,SNR=1.6						
	5.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.86**	**122**	T	T	11 08 58.2	
	baz=315,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.87**	**122**	T	T	11 08 55.0	
	baz=315,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**27.88**	**122**	T	T	11 08 56.4	
	baz=315,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	11 09 56.8	
	baz=317,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	11 09 56.5	
	baz=317,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.61**	**124**	T	T	11 09 52.5	
	baz=317,slow=75,SNR=13						
ZALV	**Zalesovo Beam**	**42.10**	**312**	P	**P**	**10 41 52.7**	**+0.7**
	0.5nm,0.5s,baz=61,slow=12,SNR=2.4						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.40**	**302**	P	**P**	**10 42 11.6**	**+0.9**
	0.3nm,0.7s,baz=92,slow=8.5,SNR=1.8						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**48.96**	**33**	P	**P**	**10 42 47.0**	**+0.8**
	0.4nm,0.8s,baz=280,slow=5.4,SNR=4.9						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.43**	**189**	P	**P**	**10 43 48.6**	**-0.3**
	0.2nm,0.5s,baz=7.2,slow=7.1,SNR=1.5						
	0.2nm,0.5s						

*IDC **10** 10:34:42.5±1.4, 4°77S×94°23E, h0km, mb3.7/8, mbtmp3.7/9, ML3.8/1, Error ellipse: s-maj=42.1km s-min=23.2km az=51.0*
ISC 10 10:34:44.3±1.3, 4°7S±0°2×94°4E±0°2, h10km, n12, σ1§36/9, mb3.6/8, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.70**	**32**	Pn	**Pn**	**10 36 49.3**	**-1.2**
	1.1nm,0.3s,baz=333,slow=11,SNR=2.3						
	3.1nm,0.4s						
H08S2	**Diego Garcia H**	**21.94**	**261**	T	T	11 01 44.5	
	baz=84						
H08S3	**Diego Garcia H**	**21.95**	**261**	T	T	11 01 49.6	
	baz=84						
H08S1	**Diego Garcia H**	**21.96**	**261**	T	T	11 01 49.4	
	baz=84						
CMAR	**Chiang Mai Arr**	**23.41**	**11**	P	**P**	**10 39 53.6**	**-0.1**
	1.7nm,0.4s,baz=192,slow=8.3,SNR=7.6						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**41.76**	**115**	P	**P**	**10 42 35.0**	**+0.7**
	0.7nm,0.8s,baz=284,slow=9.1,SNR=4.0						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**42.53**	**120**	P	**P**	**10 42 39.7**	**-0.8**
	0.3nm,1.0s,baz=312,slow=8.6,SNR=2.5						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**52.33**	**350**	P	**P**	**10 43 56.5**	**+0.1**
	0.6nm,0.8s,baz=150,slow=9.6,SNR=4.5						
	0.6nm,0.8s						
SONM	**Songino Array**	**53.33**	**10**	P	**P**	**10 44 05.8**	**+1.9**
	0.8nm,0.7s,baz=180,slow=9.4,SNR=6.2						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**58.94**	**353**	P	**P**	**10 44 44.5**	**+0.9**
	2.0nm,0.6s,baz=177,slow=6.8,SNR=10						
	2.0nm,0.6s						
BRTR	**Keskin Array B**	**71.06**	**315**	P	**P**	**10 46 01.1**	**-1.9**
	0.5nm,0.8s,baz=131,slow=7.4,SNR=2.2						
	0.5nm,0.8s						
AKASG	**Malin Array Be**	**78.22**	**324**	P	**P**	**10 46 44.8**	**+0.6**
	0.1nm,0.3s,baz=85,slow=4.7,SNR=5.5						
	0.1nm,0.3s						

IDC 10 10:38:00.4±384.0, 56°07N×17°58E, h0km, Error ellipse: s-maj=155.5km s-min=126.6km az=14.0, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.60**	**200**	I	I	11 22 10.0	
	baz=16,slow=334,SNR=0.7						
I43RU	**DUBNA INFRASONI**	**0.90**	**78**	I	I	11 47 10.0	
	baz=276,slow=315,SNR=0.9						
I37NO	**I37NO**	**13.07**	**2**	I	I	11 59 20.0	
	baz=178,slow=335,SNR=1.2						
I31KZ	**AKTYUBINSK INF**	**24.59**	**86**	I	I	13 10 10.0	
	baz=301,slow=353,SNR=1.2						

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*DDA **10** 11:11:08.9±0.0, 39°61N×44°13E, h7km±3km, ML2.2*
*ISK **10** 11:11:09.4, 39°69N×44°00E, h23km, ML2.7/12*
ISC 10 11:11:10.3±1.2, 39°65N±0°03×44°08E±0°04, h20km±5km, n21, σ1§86/32, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGDI	**IGDIR**	**0.22**	**359**	P	**Pg**	**11 11 14.6**	**-1.2**
IGDI				S	**Sb**	**11 11 18.9**	**-0.1**
IGDI				*i* AML	AML	11 11 20.0	
	comp=N,919nm,0.5s						
IGDI				*i* AML	AML	11 11 20.0	
	comp=E,484nm,0.2s						
DYDN	**Diyadin**	**0.32**	**251**	P	**Pg**	**11 11 15.6**	**-1.9**
DYDN				S	**Sb**	**11 11 21.3**	**-1.1**
DYDN				*i* AML	AML	11 11 22.0	
	comp=N,808nm,0.3s						
DYDN				*i* AML	AML	11 11 23.0	
	comp=E,418nm,0.4s						
TASB	**TASBURUN-IGDIR**	**0.35**	**20**	Pg	**Pb**	**11 11 17.5**	**-0.5**
TASB				Sg	**Sb**	**11 11 23.4**	**+0.2**
KOTA	**Agri, Merkez-K**	**0.69**	**283**	P	**Pb**	**11 11 22.9**	**-0.9**
KOTA				S	**Sn**	**11 11 34.8**	**-0.7**
GNI	**Garni**	**0.71**	**45**	Pg	**Pn**	**11 11 24.5**	**-0.9**
GNI				Sg	**Sn**	**11 11 35.3**	**-0.6**
VMUR	**Van-Muradiye**	**0.77**	**211**	P	**Pb**	**11 11 24.1**	**-1.0**
VMUR				S	**Sb**	**11 11 35.0**	**-0.2**
VMUR				*i* AML	AML	11 11 39.0	
	comp=N,59nm,1.0s						
VMUR				*i* AML	AML	11 11 39.0	
	comp=E,83nm,0.5s						
AGRB	**Hanur-Agry**	**0.84**	**265**	Pg	**Pb**	**11 11 25.4**	**-1.0**
AGRB				Sg	**Sb**	**11 11 36.9**	**-0.5**
DIGO	**Kars**	**0.94**	**325**	P	**Pb**	**11 11 27.0**	**-1.0**
DIGO				S	**Sn**	**11 11 46.6**	**+5.0**
DIGO				*i* AML	AML	11 11 49.0	
	comp=N,251nm,0.8s						
DIGO				*i* AML	AML	11 11 51.0	
	comp=E,204nm,1.0s						
OZAP	**Van, Ozalp-Mer**	**0.99**	**184**	P	**Pn**	**11 11 29.6**	**+0.3**
OZAP				S	**Sn**	**11 11 45.4**	**+2.5**
OZAP				*i* AML	AML	11 11 50.0	
	comp=E,63nm,0.6s						
VANB	**Van**	**1.19**	**207**	Pn	**Pg**	**11 11 32.3**	**-1.0**
KARS	**Kars**	**1.24**	**322**	Pn	**Pn**	**11 11 30.7**	**-2.0**
EATA	**Eleskirt**	**1.24**	**280**	P	**Pg**	**11 11 32.8**	**-1.7**
EATA				S	**Sg**	**11 11 52.5**	**+1.7**
EATA				*i* AML	AML	11 11 55.0	
	comp=N,30nm,0.4s						
EATA				*i* AML	AML	11 11 59.0	
	comp=E,39nm,0.5s						
MLAZ	**Malazgirt-MUS**	**1.29**	**247**	Pn	**Pn**	**11 11 32.0**	**-1.4**
AKDM	**Akdamar-Van**	**1.58**	**213**	Pn	**Pn**	**11 11 36.7**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.61**	**305**	Pn	**Pn**	**11 11 36.1**	**-1.7**
HOMI	**Horasan**	**1.72**	**284**	P	**Pb**	**11 11 41.1**	**-0.3**
HOMI				S	**Sg**	**11 12 11.7**	**+5.8**
HOMI				*i* AML	AML	11 12 14.0	
	comp=N,34nm,0.6s						
HOMI				*i* AML	AML	11 12 15.0	
	comp=E,37nm,0.9s						
KOPR	**Koprukoy-ERZUR**	**1.75**	**282**	Pn	**Pn**	**11 11 38.4**	**-1.3**
VRTB	**Varto-Mus**	**2.09**	**257**	Pn	**Pn**	**11 11 43.4**	**-1.0**
DAGI	**Agillar**	**2.18**	**311**	P	**Pg**	**11 11 52.4**	**+0.1**
CUKT	**Cukurca**	**2.43**	**189**	Pn	**Pn**	**11 11 49.2**	**+0.2**
BNGB	**Bingl**	**2.72**	**257**	Pn	**Pn**	**11 11 52.1**	**-0.9**

ROM 10 11:12:06.3±0.1, 43°041N±0°004×13°235E±0°006, h9km, ML1.4/7, 2C-2D, Error ellipse: s-maj=0.4km s-min=0.3km az=45.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.06**	**337**	P	Pg	11 12 08.6	+0.2
CSP1				S	Sg	11 12 09.9	0.0
CSP1				AML	AML		
	comp=E,284μm,0.5s						
CSP1				AML	AML		
	comp=N,366μm,0.6s						
CSP1				AML	AML		
	comp=E,285μm,0.5s						
CSP1				AML	AML		
	comp=N,364μm,0.6s						
FDMO	**Fiordimonte**	**0.11**	**268**	‖P	Pg	11 12 09.2	+0.3
FDMO				S	Sg	11 12 11.1	+0.3
FDMO				AML	AML		
	comp=E,138μm,0.6s						
FDMO				AML	AML		
	comp=N,160μm,0.2s						
T1220	**Camerino, Fraz**	**0.13**	**303**	P	Pg	11 12 09.8	+0.6
T1220				S	Sg	11 12 12.3	+1.0
T1220				AML	AML		
	comp=E,709μm,0.5s						
T1220				AML	AML		
	comp=N,711μm,1.4s						
T1220				AML	AML		
	comp=E,674μm,0.5s						
T1220				AML	AML		
	comp=E,710μm,0.5s						
T1220				AML	AML		
	comp=E,673μm,0.5s						
T1220				AML	AML		
	comp=N,702μm,1.4s						
T1220				AML	AML		
	comp=N,710μm,1.4s						
MC2	**Monte Cornacci**	**0.13**	**194**	⇑P	Pg	11 12 09.8	+0.4
MC2				S	Sg	11 12 12.2	+0.6
MMO1	**Montemonaco**	**0.16**	**154**	‖P	Pg	11 12 10.3	+0.6
MMO1				S	Sg	11 12 13.2	+1.1
T1219	**Muccia, Frazio**	**0.17**	**275**	P	Pg	11 12 10.5	+0.6
T1219				S	Sg	11 12 13.4	+1.0
T1245	**Castelsantange**	**0.19**	**190**	P	Pg	11 12 10.8	+0.5
T1245				S	Sg	11 12 14.4	+1.4
T1245				AML	AML		
	comp=E,101μm,1.0s						
T1245				AML	AML		
	comp=E,101μm,1.0s						
T1245				AML	AML		
	comp=N,120μm,1.5s						
T1245				AML	AML		
	comp=E,101μm,1.0s						
T1245				AML	AML		
	comp=N,120μm,0.5s						
T1216	**Preci, Frazion**	**0.22**	**226**	S	Sg	11 12 19.8	+6.0
T1216				AML	AML		
	comp=N,189μm,0.8s						
T1216				AML	AML		
	comp=E,130μm,1.5s						
CESI	**CESI - Serrava**	**0.24**	**262**	P	Pg	11 12 12.0	+0.8
CESI				S	Sg	11 12 16.4	+1.8
CESI				AML	AML		
	comp=E,91μm,1.6s						
CESI				AML	AML		
	comp=E,91μm,1.6s						
CESI				AML	AML		
	comp=N,83μm,1.2s						
CESI				AML	AML		
	comp=N,83μm,0.8s						
T1214	**Arquata del Tr**	**0.28**	**184**	⇑P	Pg	11 12 12.7	+0.7
T1214				S	Sb	11 12 17.7	-0.8
T1214				AML	AML		
	comp=N,101μm,1.5s						
T1214				AML	AML		
	comp=N,101μm,0.5s						
T1214				AML	AML		
	comp=E,105μm,1.3s						
EL6	**Elcito**	**0.30**	**341**	AML	AML		
	comp=N,154μm,1.6s						
EL6				AML	AML		
	comp=E,150μm,1.4s						
EL6				AML	AML		
	comp=E,150μm,0.6s						
EL6				AML	AML		
	comp=N,154μm,0.4s						
RM33	**Pellescritta (**	**0.53**	**182**	AML	AML		
	comp=E,182μm,1.3s						
RM33				AML	AML		
	comp=E,182μm,0.7s						
RM33				AML	AML		
	comp=N,180μm,1.0s						
T1247	**Pizzolo (AQ)**	**0.60**	**175**	P	Pg	11 12 17.9	0.0

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*ZUR **10** 11:13:06.2, 46°08N×8°44E, h19km±1km, MLh1.0/23, Error ellipse: s-maj=2.2km s-min=1.3km az=191.0*
STR 10 11:13:05.8±1.3, 46°N±13°×°±°, h8km, MLv1.3/4, 2C-2D, Error ellipse: s-maj=0.0km s-min=0.0km az=175.5, preliminary, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VARE	**Varese**	**0.27**	**125**	Pg	Pb	11 13 13.1	0.0
VARE				Sg	Sb	11 13 17.7	-0.2
VARE	**Varese**	**0.27**	**125**	‖P	Pb	11 13 13.1	+0.1
MMK	**Mattmark**	**0.34**	**275**	Pg	Pg	11 13 13.2	+0.6
SIMPL	**Simplonpass**	**0.37**	**306**	Pg	Pg	11 13 13.9	+0.7
MUGIO	**Muggio**	**0.43**	**104**	Pg	Pb	11 13 15.1	-0.5
FUSIO	**Fusio**	**0.46**	**19**	⇑Pg	Pg	11 13 14.8	0.0
FUSIO				Sg	Sg	11 13 20.3	-0.5
FUSIO	**Fusio**	**0.46**	**19**	⇑P	Pg	11 13 14.8	0.0
EMBD	**Embd, Matterta**	**0.47**	**294**	Pg	Pb	11 13 15.8	-0.6
EMBD	**Embd, Matterta**	**0.47**	**294**	Sg	Sg	11 13 21.3	+0.1
FIESA	**Fiescheralp**	**0.47**	**330**	Pg	Pg	11 13 15.8	+0.7
TRAV	**Traversella**	**0.71**	**224**	‖P	Pg	11 13 18.9	-0.6
DIX	**Grande Dixence**	**0.73**	**275**	Pg	Pg	11 13 19.8	-0.1
DIX	**Grande Dixence**	**0.73**	**275**	Sg	Sg	11 13 28.9	-0.4

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*IDC **10** 11:22:14.8±1.1, 28°34N×105°23E, h0km, mb3.5/5, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=35.0km s-min=19.8km az=67.0*
ISC 10 11:22:16.4±1.0, 28°4N±0°1×105°3E±0°2, h10km, n7, σ0§81/7, mb3.4/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.46**	**212**	Pn	**Pn**	**11 25 00.7**	**+0.5**
	0.4nm,0.3s,baz=17,slow=10,SNR=5.1						
SONM	**Songino Array**	**19.44**	**2**	P	**Pn**	**11 26 45.4**	**+1.0**
	0.1nm,0.3s,baz=179,slow=14,SNR=2.8						
	1.1nm,1.2s						
KSRS	**Korea Array**	**21.01**	**59**	P	**P**	**11 27 00.3**	**+0.1**
	1.3nm,0.8s,baz=251,slow=8.4,SNR=2.8						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**25.72**	**322**	P	**P**	**11 27 47.0**	**0.0**
	0.8nm,0.9s,baz=116,slow=11,SNR=5.3						
	0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**30.04**	**325**	P	**P**	**11 28 24.4**	**-1.1**
	0.1nm,0.3s,baz=134,slow=9.5,SNR=2.4						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**55.65**	**146**	P	**P**	**11 31 52.4**	**-0.5**
	0.6nm,0.5s,baz=335,slow=8.4,SNR=24						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**58.64**	**149**	P	**P**	**11 32 13.9**	**-0.1**
	0.4nm,0.5s,baz=331,slow=6.8,SNR=12						
	0.4nm,0.5s						

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*NNC **10** 11:26:57.6±1.0, 44°72N×79°61E, h0km, mb2.7, mpv2.9, Error ellipse: s-maj=8.1km s-min=6.9km az=118.0*
*SOME **10** 11:26:58.7, 44°67N×79°60E, h10km*
ISC 10 11:26:58.0±1.3, 44°71N±0°04×79°65E±0°04, h6km±13km, n21, σ0§63/36, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.39**	**165**	P	**Pg**	**11 27 05.1**	**-0.4**
	10nm,0.2s						
DJR				S	**Sg**	**11 27 10.0**	**-0.6**
	24nm,0.3s						
DJR	**Jarkent**	**0.39**	**165**	*e*P	**Pg**	**11 27 05.1**	**-0.4**
	10nm,0.2s						
DJR				*e*S	**Sg**	**11 27 10.0**	**-0.6**
	24nm,0.3s						
TDK	**Taldyqorghan**	**0.93**	**289**	*e*P	**Pg**	**11 27 15.8**	**0.0**
	23nm,0.2s						
TDK				*e*S	**Sg**	**11 27 27.9**	**-0.1**
	34nm,0.2s						
KTMS	**Ketmen**	**1.36**	**158**	*e*P	**Pn**	**11 27 23.6**	**0.0**
	1.0nm,0.5s						
KTMS				*e*S	**Sg**	**11 27 41.6**	**0.0**
	5.6nm,0.4s						
ARXS	**Arharly**	**1.39**	**250**	P	**Pn**	**11 27 24.0**	**0.0**
ARXS				S	**Sb**	**11 27 42.1**	**-0.4**
ARXS	**Arharly**	**1.39**	**250**	*e*P	**Pn**	**11 27 23.8**	**-0.3**
	2.4nm,0.2s						
ARXS				*e*S	**Sb**	**11 27 41.8**	**-0.7**
	9.8nm,0.5s						
KPKS	**Kokpek**	**1.42**	**210**	P	**Pn**	**11 27 24.1**	**-0.3**
	11nm,0.1s						
KPKS				S	**Sb**	**11 27 42.5**	**-0.8**
	6.8nm,0.3s						
KPKS	**Kokpek**	**1.42**	**210**	*e*P	**Pn**	**11 27 24.1**	**-0.3**
	11nm,0.2s						
KPKS				*e*S	**Sb**	**11 27 42.5**	**-0.8**
	6.8nm,0.3s						
SHLS	**Shalkode**	**1.55**	**185**	P	**Pg**	**11 27 28.1**	**+0.4**
	2.7nm,0.2s						
SHLS				S	**Sg**	**11 27 49.5**	**+1.6**
	60nm,0.3s						
SHLS	**Shalkode**	**1.55**	**185**	*e*P	**Pg**	**11 27 27.8**	**+0.1**
	2.1nm,0.3s						
SHLS				*e*S	**Sg**	**11 27 48.8**	**+0.9**
	60nm,0.3s						
UZB	**Uzynbulak**	**1.62**	**196**	P	**Pg**

	7.3nm,0.1s							
ZHN				*e*S		**Sg**	**11 27 55.1**	**+0.3**
	32nm,0.3s							
SATY	**Saty**	**1.88**	**209**	P		**Pb**	**11 27 32.5**	**-0.2**
	2.3nm,0.1s							
SATY				S		**Sb**	**11 27 56.8**	**+0.4**
	8.0nm,0.1s							
SATY	**Saty**	**1.88**	**209**	*e*P		**Pb**	**11 27 32.5**	**-0.2**
	2.3nm,0.1s							
SATY				*e*S		**Sb**	**11 27 56.8**	**+0.4**
	8.0nm,0.1s							
KOTS	**Kotyrbulak**	**2.35**	**232**	Pg		**Pb**	**11 27 41.4**	**+0.6**
KOTS				Lg		Lg	11 28 11.8	
KOTS	**Kotyrbulak**	**2.35**	**232**	*e*Pg		**Pb**	**11 27 41.4**	**+0.6**
	1.2nm,0.3s							
KOTS				*e*Lg		Lg	11 28 11.8	
	9.9nm,0.4s							
KTBS	**Karatobe**	**2.35**	**246**	Pg		**Pb**	**11 27 40.4**	**-0.4**
	1.4nm,0.3s							
KTBS				Lg		Lg	11 28 10.5	
	13nm,0.4s							
KTBS	**Karatobe**	**2.35**	**246**	*e*Pg		**Pb**	**11 27 41.1**	**+0.3**
	1.4nm,0.3s							
KTBS				*e*Lg		Lg	11 28 11.9	
	13nm,0.4s							
MAKZ	**Makanchi**	**2.66**	**37**	⇑Pg		**Pb**	**11 27 47.5**	**+1.4**
	2.7nm,1.4s							
MAKZ				⇓Lg		Lg	11 28 20.7	
	1.6nm,0.6s							
MK31	**Makanchi Array**	**2.79**	**41**	⇑Pg		**Pb**	**11 27 47.6**	**-0.7**
	0.1nm,0.2s,baz=214,slow=15,SNR=7.0							
MK31				⇑Lg		Lg	11 28 23.1	
	0.9nm,0.5s,baz=219,slow=29,SNR=13							

HLW ***10*** *11:27:06.0,32.˚15N×30.˚12E,h23*$^{km}_{\pm}$*6km,Md2.9,Ml3.5*
GII ***10*** *11:27:13.9±0.0,31.˚94N×30.˚74E,h10km,Mm3.1/4*
ISC 10 11:27:07.2±2.6,31.˚9N±0.˚1×30.˚3E±0.˚1,h10km,n24,
σ1°77/33,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNAT	**Natroun**	**2.31**	**173**	P	**Pn**	**11 27 46.0**	**+0.8**
	baz=170						
HNAT				S	**Sn**	**11 28 14.4**	**+0.7**
	baz=170						
KOT	**Kottamia**	**2.39**	**146**	P	**Pn**	**11 27 47.6**	**+1.2**
	baz=146						
KOT				S	**Sn**	**11 28 16.4**	**+0.6**
	baz=146						
HHAG	**Hagoal**	**2.50**	**142**	P	**Pn**	**11 27 49.2**	**+1.2**
	baz=141						
HSAF	**As Saff**	**2.54**	**155**	P	**Pn**	**11 27 49.2**	**+0.7**
	baz=153						
RYAN	**Fayoum**	**2.84**	**180**	P	**Pn**	**11 27 52.5**	**-0.1**
	baz=177						
NBNS	**Bani Suef**	**3.41**	**165**	P	**Pn**	**11 28 00.7**	**+0.3**
	baz=163						
KZIT	**Kziot**	**3.64**	**105**	Pn	**Pn**	**11 28 05.5**	**+1.8**
KZIT				Sn	**Sn**	**11 28 44.9**	**-1.8**
AMAZ	**Amatzia**	**3.95**	**95**	Sn	**Sn**	**11 28 52.2**	**-2.1**
HRDS	**Abu Rudays**	**4.12**	**140**	P	**Pn**	**11 28 10.7**	**+0.5**
	baz=140						
KRMI	**Paran Flat**	**4.20**	**114**	Pn	**Pn**	**11 28 13.6**	**+2.2**
KRMI				Sn	**Sn**	**11 28 58.9**	**-1.7**
TAMRE	**El Minia**	**4.27**	**173**	P	**Pn**	**11 28 12.4**	**+0.1**
	baz=170						
PRNI	**Paran**	**4.33**	**110**	Pn	**Pn**	**11 28 15.2**	**+2.1**
PRNI				Sn	**Sn**	**11 29 02.1**	**-1.5**
DSI	**Dead Sea**	**4.34**	**93**	Pn	**Pn**	**11 28 16.1**	**+2.9**
MSBI	**Mazada**	**4.35**	**97**	Pn	**Pn**	**11 28 16.0**	**+2.6**
MSBI				Sn	**Sn**	**11 29 01.9**	**-2.3**
SLUM	**Salum**	**4.36**	**266**	P	Pn	11 28 08.7	-4.8
	baz=263						
MMLI	**Mount Malkishu**	**4.37**	**82**	Pn	**Pn**	**11 28 14.3**	**+0.7**
MMLI				Sn	**Sn**	**11 29 02.1**	**-2.5**
ZFRI	**Zfri**	**4.39**	**107**	Sn	**Sn**	**11 29 03.0**	**-2.2**
HMDT	**Nahal Hemdat**	**4.44**	**84**	Pn	**Pn**	**11 28 16.2**	**+1.6**
HMDT				Sn	**Sn**	**11 29 03.7**	**-2.7**
HRFI	**Mount Harif**	**4.48**	**114**	Pn	**Pn**	**11 28 18.2**	**+3.0**
HRFI				Sn	**Sn**	**11 29 05.8**	**-1.6**
MBRI	**Mt Berech**	**4.50**	**117**	Pn	**Pn**	**11 28 17.8**	**+2.3**
MBRI				Sn	**Sn**	**11 29 06.9**	**-1.0**
EIL	**Elat**	**4.59**	**118**	Sn	**Sn**	**11 29 08.2**	**-1.8**
ASUT		**4.65**	**166**	P	**Pn**	**11 28 17.9**	**+0.4**
	baz=164						
HKAT	**Jabal Katrina**	**4.66**	**136**	P	**Pn**	**11 28 18.0**	**+0.2**
	baz=136						
HKAT				S	**Sn**	**11 29 11.7**	**-0.4**
	baz=136						
SWA2		**4.96**	**239**	P	Pn	11 28 18.9	-3.0
	baz=236						

JMA 10 11:36:25.7±0.1,24.˚1N±0.˚8×123.˚3E±0.˚3,h32km±1km,
MV1.2/8,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**330**	P	Pb	11 36 35.3	-0.2
YOJ				*e*S	Sb	11 36 42.0	-0.1
HATJ	**Hateruma jima**	**0.50**	**92**	*e*S	Sb	11 36 43.0	-0.3
IRIF	**Iriomote-Funau**	**0.50**	**58**	P	Pb	11 36 35.9	-0.3
IRIF				S	Sb	11 36 43.3	-0.2
JKRS	**Kuro-shima**	**0.70**	**76**	P	Pn	11 36 39.0	-0.3
JKRS				*e*S	Sb	11 36 48.9	0.0
JIJ	**Ishigaki jima**	**0.85**	**70**	P	Pn	11 36 41.6	+0.1
JIJ				S	Sn	11 36 52.1	-0.8
JISG	**Ishigakijimahi**	**1.09**	**62**	*e*P	Pn	11 36 44.8	+0.1
JISG				*e*S	Sn	11 36 59.0	+0.4

TAP 10 11:37:15.2,24.˚32N×121.˚74E,h11km,ML1.5,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.01**	**180**	*e*P	Pg	11 37 17.2	+0.1
	baz=150						
ENA	**Nanau**	**0.11**	**0**	*i* P	Pg	11 37 18.2	+0.2
	baz=4.0						
ENA				S	Sg	11 37 20.2	+0.3
	baz=4.0						
EWUT	**Wuta**	**0.13**	**15**	*i* P	Pg	11 37 18.5	+0.2
	baz=24						
EWUT				S	Sg	11 37 20.9	+0.4
	baz=24						
ETL	**Fush Village**	**0.19**	**214**	*i* P	Pg	11 37 19.7	+0.4
	baz=214						
ETL				S	Sg	11 37 22.9	+0.7
	baz=214						
NACB	**Ninganchiao**	**0.20**	**222**	P	Pg	11 37 19.8	+0.4
	baz=216						
NACB				S	Sg	11 37 22.9	+0.6
	baz=216						
ETLH	**Xiulin Townshi**	**0.26**	**244**	P	Pg	11 37 21.2	+0.6
	baz=244						
ETLH				*e*S	Sg	11 37 25.2	+0.9
	baz=244						
TWD	**Chiawan**	**0.27**	**209**	*i* P	Pg	11 37 21.0	+0.2
	baz=208						
TWD				*e*S	Sg	11 37 25.2	+0.6
	baz=208						
LATG	**Datong**	**0.29**	**318**	P	Pg	11 37 21.7	+0.6
	baz=317						
LATG				S	Sg	11 37 25.9	+0.8
	baz=317						
TWC	**Suao**	**0.30**	**19**	P	Pg	11 37 21.6	+0.3
	baz=16						
TWC				*e*S	Sg	11 37 26.2	+0.8
	baz=16						
NNSB	**Datong**	**0.34**	**288**	P	Pg	11 37 22.8	+0.7
	baz=288						
NNSB				S	Sg	11 37 27.4	+0.6
	baz=288						
NNSH	**Datong**	**0.34**	**288**	*e*P	Pb	11 37 22.8	-0.6
	baz=288						
NNSH				*e*S	Sg	11 37 27.3	+0.6
	baz=288						
ENTT	**Nioudou**	**0.35**	**333**	P	Pb	11 37 23.1	-0.6
	baz=334						
ENTT				S	Sg	11 37 28.0	+0.9
	baz=334						
NNS	**Nan Shan**	**0.36**	**290**	*e*P	Pb	11 37 23.1	-0.6
	baz=289						
NNS				*e*S	Sg	11 37 27.8	+0.7
	baz=289						

ETM	**Tongmen**	**0.42**	**213**	*e*P		Pg	11 37 23.6	+0.1
	baz=213							
ETM				*e*S		Sg	11 37 29.4	+0.3
	baz=213							
FUSB	**Fushanzhiwuyua**	**0.46**	**342**	P		Pb	11 37 24.9	-0.5
	baz=342							
FUSB				S		Sg	11 37 31.2	+0.8
	baz=342							
WHF	**Hehuan Shan**	**0.47**	**248**	*e*S		Sb	11 37 32.0	-0.9
	baz=248							
NSK	**Sanguang**	**0.50**	**315**	P		Pg	11 37 25.2	+0.3
	baz=316							
NSK				S		Sg	11 37 32.3	+0.8
	baz=316							
NWLT	**Wulai**	**0.50**	**334**	*e*P		Pb	11 37 25.8	-0.3
	baz=334							
NWLT				S		Sg	11 37 32.5	+0.7
	baz=334							
ESL	**Shilin**	**0.58**	**209**	*e*P		Pg	11 37 26.3	-0.1
	baz=208							
CHGB	**Renai**	**0.58**	**243**	P		Pb	11 37 27.3	-0.2
	baz=236							
CHGB				*e*S		Sb	11 37 35.4	-0.5
	baz=236							
OWD	**Renai**	**0.63**	**235**	*e*P		Pg	11 37 27.6	+0.1
	baz=230							
TIPB	**Shuangxi**	**0.65**	**7**	*e*S		Sg	11 37 36.8	+0.3
	baz=357							
WUSB	**Renai**	**0.66**	**240**	*e*P		Pb	11 37 28.7	-0.1
	baz=231							
WUSB				*e*S		Sb	11 37 38.4	+0.4
	baz=231							
SSLB	**Suanglung**	**0.89**	**234**	*e*P		Pg	11 37 32.2	-0.2
	baz=233							

IDC ***10*** *12:22:30.5±14.0,31.˚86S×179.˚90W,h279km±81km,*
mb3.5/4,mbtmp4.2/5,Error ellipse: s-maj=182.0km
s-min=29.2km az=44.0
WEL ***10*** *12:23:53.7,38.˚S±18.˚×17.˚8E±1.˚1,h49km±16km,M2.5/21,*
ML2.5/23,MLv2.5/21,Error ellipse: s-maj=0.0km
s-min=0.0km az=170.0
ISC 10 12:22:33.0±2.8,32.˚2S±0.˚2×179.˚9W±0.˚3,h300km,n42,
σ1°79/41,mb3.6/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.53**	**195**	P	**Pn**	**12 23 59.3**	**+2.7**
WMGZ	**Waiomatatini S**	**5.76**	**193**	P	**Pn**	**12 23 59.9**	**+0.6**
HAZ	**Te Kaha**	**5.84**	**198**	P	**Pn**	**12 24 01.2**	**+0.9**
PKGZ	**Pakihiroa**	**5.90**	**196**	P	**Pn**	**12 24 03.5**	**+2.5**
PUZ	**Puketiti**	**6.03**	**194**	P	**Pn**	**12 24 02.2**	**-0.4**
RUGZ	**Raukumara Rang**	**6.07**	**198**	P	**Pn**	**12 24 03.5**	**+0.4**
TWGZ	**Tauwhareparae**	**6.19**	**196**	P	**Pn**	**12 24 04.2**	**-0.3**
OPRZ	**Ohinepanea**	**6.32**	**206**	P	**Pn**	**12 24 09.2**	**+3.2**
MARZ	**Manawahe**	**6.40**	**205**	P	**Pn**	**12 24 10.2**	**+3.2**
CNGZ	**Carnagh Statio**	**6.44**	**193**	P	**Pn**	**12 24 10.0**	**+2.6**
MWZ	**Matawai**	**6.46**	**198**	P	**Pn**	**12 24 07.2**	**-0.5**
TKGZ	**Te Karaka**	**6.47**	**196**	P	**Pn**	**12 24 07.3**	**-0.5**
URZ	**Urewera**	**6.50**	**201**	P	**Pn**	**12 24 09.4**	**+1.2**
	8.6nm,0.3s,baz=28,slow=2.1,SNR=70						
URZ				S	S	12 25 19.5	-5.6
	13nm,0.3s,baz=73,slow=16,SNR=18						
URZ	**Urewera**	**6.50**	**201**	P	**Pn**	**12 24 08.1**	**-0.1**
KMRZ	**Kaimai**	**6.56**	**210**	P	Pn	12 24 18.1	+9.1
RAGZ	**Rawiri**	**6.64**	**198**	P	**Pn**	**12 24 11.7**	**+1.8**
RIGZ	**Rimuhau**	**6.75**	**196**	P	**Pn**	**12 24 12.1**	**+0.8**
MUGZ	**Murupara**	**6.81**	**202**	P	**Pn**	**12 24 13.3**	**+1.4**
RTZ	**Ruatahuna**	**6.87**	**201**	P	**Pn**	**12 24 14.2**	**+1.4**
HRRZ	**Handcock Road**	**6.90**	**206**	P	**Pn**	**12 24 16.0**	**+2.9**
SNGZ	**Shannon Statio**	**6.92**	**198**	P	**Pn**	**12 24 15.1**	**+1.8**
ALRZ	**Allen Road**	**7.03**	**205**	P	**Pn**	**12 24 16.6**	**+1.9**
KNZ	**Kokohu**	**7.07**	**195**	P	**Pn**	**12 24 16.7**	**+1.7**
RAHZ	**Arahi**	**7.12**	**199**	P	**Pn**	**12 24 17.3**	**+1.6**
TLZ	**Tolley Road**	**7.14**	**210**	P	**Pn**	**12 24 20.3**	**+4.2**
MHGZ	**Mahia Peninsul**	**7.15**	**194**	P	**Pn**	**12 24 18.2**	**+2.2**
WHHZ	**Waihua**	**7.23**	**198**	P	**Pn**	**12 24 18.8**	**+1.7**
MRHZ	**Matea Rd**	**7.25**	**203**	P	**Pn**	**12 24 18.2**	**+0.9**
NMHZ	**Naumai**	**7.37**	**200**	P	**Pn**	**12 24 19.2**	**+0.4**
ARHZ	**Aropaoanui**	**7.47**	**199**	P	**Pn**	**12 24 20.7**	**+0.7**
BKZ	**Black Stump Fm**	**7.53**	**202**	P	**Pn**	**12 24 19.1**	**-1.6**
MCHZ	**McNeill Hill**	**7.72**	**200**	P	**Pn**	**12 24 22.5**	**-0.5**
ETVZ	**East Tongariro**	**7.77**	**206**	P	**Pn**	**12 24 25.0**	**+1.3**
SNVZ	**South Ngauruho**	**7.84**	**206**	P	**Pn**	**12 24 25.7**	**+1.1**
BHHZ	**Black Hill Sta**	**7.96**	**203**	P	**Pn**	**12 24 25.9**	**-0.1**
MOVZ	**Moawhango**	**7.99**	**205**	P	**Pn**	**12 24 26.0**	**-0.4**
KAHZ	**Kahuranaki**	**8.00**	**198**	P	**Pn**	**12 24 26.1**	**-0.3**
RPZ	**Rata Peaks**	**13.50**	**209**	P	**P**	**12 25 30.3**	**-3.1**
	7.5nm,0.9s,baz=113,slow=20,SNR=2.2						
RPZ				S	S	12 27 47.5	-15
	11nm,1.1s,baz=115,slow=22,SNR=2.3						
STKA	**Stephens Creek**	**32.51**	**260**	P	**P**	**12 28 36.4**	**+0.1**
	1.3nm,0.5s,baz=92,slow=9.1,SNR=4.8						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**41.41**	**270**	P	**P**	**12 29 50.1**	**-0.8**
	1.2nm,0.4s,baz=109,slow=7.8,SNR=39						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**42.57**	**275**	P	**P**	**12 29 59.4**	**-0.9**
	2.8nm,0.3s,baz=115,slow=7.6,SNR=69						
	2.8nm,0.3s						
QSPA	**South Pole Qui**	**57.90**	**180**	P	**P**	**12 31 55.9**	**+2.0**
	1.8nm,1.1s,baz=45,slow=8.6,SNR=2.3						
	1.8nm,1.1s						

IDC ***10*** *12:23:25.1±1.0,52.˚48N×171.˚71E,h0km,mb3.8/12,*
mbtmp3.8/13,ML2.8/1,Error ellipse: s-maj=30.0km
s-min=14.6km az=169.0
NEIC ***10*** *12:23:25.5±2.6,52.˚3N±0.˚2×171.˚6E±0.˚1,h10km±1km,*
mb4.2/56,Error ellipse: s-maj=25.5km s-min=11.4km
az=180.0
ISC 10 12:23:29.6±0.7,52.˚5N±0.˚1×171.˚58E±0.˚05,h35km,n95,
σ1°44/91,mb4.1/35,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.56**	**79**	Pn	**Pn**	**12 23 53.7**	**-1.2**
	84nm,0.3s,baz=240,slow=12,SNR=98						
SHEM				Sn	**Sn**	**12 24 12.3**	**-1.5**
	85nm,0.3s,baz=204,slow=20,SNR=7.9						
SMY	**Shemya**	**1.56**	**79**	Pn	**Pn**	**12 23 53.8**	**-1.1**
AMKA	**Amchitka**	**4.90**	**100**	Pn	**Pn**	**12 24 39.3**	**-1.4**
ADK	**Adak**	**7.25**	**90**	Pn	**Pn**	**12 25 10.3**	**-2.5**
GSTR	**Great Sitkin T**	**7.60**	**88**	Pn	**Pn**	**12 25 15.3**	**-2.5**
PET	**Petropavlovsk**	**7.87**	**279**	Pn	**Pn**	**12 25 18.4**	**-3.0**
PEA0B	**Petropavlovsk-**	**8.44**	**280**	Pn	**Pn**	**12 25 27.8**	**-1.5**
PETK	**Petropavlovsk-**	**8.44**	**280**	Pn	**Pn**	**12 25 30.8**	**+1.5**
	0.5nm,0.3s,baz=92,slow=18,SNR=9.6						
PETK				Sn	**Sn**	**12 26 59.4**	**-3.9**
	0.3nm,0.3s,baz=109,slow=12,SNR=1.0						
	2.5nm,0.6s						
PETK	**Petropavlovsk-**	**8.44**	**280**	Pn	**Pn**	**12 25 25.9**	**-3.4**
CLES	**Cleveland East**	**11.27**	**81**	Pn	**Pn**	**12 26 04.7**	**-3.2**
SPIA	**Saint Paul Isl**	**11.49**	**59**	Pn	**Pn**	**12 26 08.3**	**-2.7**
SEY	**Seymchan**	**14.61**	**323**	Pn	**P**	**12 26 57.9**	**-1.5**
	0.1nm,0.3s,baz=32,slow=22,SNR=1.9						
P18K	**Big Mountain,**	**19.69**	**56**	P	**P**	**12 27 54.7**	**-0.8**
P18K				IAmb	IAmb	12 28 04.4	
	comp=Z,10nm,1.1s						
SVW2	**Sparrevohn**	**19.77**	**51**	P	**P**	**12 27 54.9**	**-1.5**
TTA	**Tatalina**	**20.02**	**46**	P	**P**	**12 27 58.5**	**-0.5**
Q19K	**Port Alsworth**	**20.24**	**54**	P	**P**	**12 28 00.2**	**-1.2**
O19K				IAmb	IAmb	12 28 06.3	
	comp=Z,12nm,1.4s						
N19K	**Bonanza Creek**	**20.25**	**52**	P	**P**	**12 27 58.8**	**-2.8**
N19K				IAmb	IAmb	12 28 41.0	
	comp=Z,12nm,1.4s						
L19K	**White Mountain**	**20.34**	**48**	P	**P**	**12 28 00.6**	**-1.9**
Q19K	**Cape Douglas,**	**20.47**	**58**	P	**P**	**12 28 03.6**	**-0.4**
OHAK	**Old Harbor**	**20.63**	**63**	P	**P**	**12 28 05.2**	**-0.5**
P19K	**Oil Pt**	**20.73**	**56**	P	**P**	**12 28 05.8**	**-1.0**
ILSW	**Iliamna Southw**	**20.80**	**55**	P	**P**	**12 28 06.3**	**-1.4**
ILSW				IAmb	IAmb	12 28 27.0	
	comp=Z,19nm,1.3s						
K20K	**Telida**	**20.98**	**45**	P	**P**	**12 28 09.3**	**-0.2**
KDAK	**Kodiak Island**	**21.00**	**61**	P	**P**	**12 28 08.5**	**-1.1**
	comp=Z,3.5nm,0.4s,baz=282,slow=3.4,SNR=11						
	comp=Z,3.5nm,0.4s						
KDAK	**Kodiak Island**	**21.00**	**61**	P	**P**	**12 28 08.7**	**-1.0**
KDAK				IAmb	IAmb	12 28 14.1	
	comp=Z,29nm,1.3s						
RSO	**Redoubt South**	**21.05**	**54**	P	**P**	**12 28 10.7**	**+0.3**
M20K	**Styx River**	**21.07**	**50**	P	**P**	**12 28 09.1**	**-1.4**
M20K				IAmb	IAmb	12 28 30.5	
	comp=Z,12nm,1.5s						
J20K	**Nowinta River**	**21.18**	**43**	P	**P**	**12 28 12.3**	**+0.8**
CAST	**Castle Rocks**	**21.86**	**46**	P	**P**	**12 28 17.5**	**-1.4**
IMAR	**Indian Mountai**	**21.94**	**39**	P	**P**	**12 28 21.7**	**+2.0**
SUA	**Susitna One**	**22.14**	**51**	P	**P**	**12 28 21.3**	**-0.7**
H21K	**Melozitna Rive**	**22.19**	**40**	P	**P**	**12 28 22.0**	**-0.4**
FIS	**Fire Island**	**22.35**	**52**	P	**P**	**12 28 23.9**	**-0.3**
KTH	**Kantishna Hill**	**22.40**	**46**	P	**P**	**12 28 25.0**	**+0.2**
KTH				IAmb	IAmb	12 28 43.1	
	comp=Z,5.9nm,1.0s						
BPAW	**Bear Paw Mtn.**	**22.49**	**44**	P	**P**	**12 28 26.6**	**+0.9**
O22K	**Cooper Landing**	**22.54**	**54**	P	**P**	**12 28 26.7**	**+0.5**
MLY	**Manley**	**22.83**	**42**	P	**P**	**12 28 30.7**	**+1.4**
MCK	**McKinley**	**23.31**	**46**	P	**P**	**12 28 35.3**	**+1.3**
MCK				IAmb	IAmb	12 28 39.2	
	comp=Z,5.1nm,0.8s						
SML	**Sawmill**	**23.32**	**51**	P	**P**	**12 28 35.1**	**+0.9**
SML				IAmb	IAmb	12 28 40.4	
	comp=Z,9.4nm,1.0s						
NEA2	**Nenana**	**23.42**	**43**	P	**P**	**12 28 37.3**	**+2.2**
NEA2				IAmb	IAmb	12 28 41.8	
	comp=Z,4.9nm,1.0s						
I23K	**Minto, Yukon-K**	**23.43**	**42**	P	**P**	**12 28 36.3**	**+1.2**
WRH	**Wood River Hil**	**23.81**	**44**	P	**P**	**12 28 38.2**	**-0.6**
MDM	**Murphy Dome**	**23.85**	**43**	P	**P**	**12 28 38.0**	**-1.2**
MDM				IAmb	IAmb	12 28 47.4	
	comp=Z,6.4nm,1.1s						
CCB	**Clear Creek Bu**	**23.96**	**44**	P	**P**	**12 28 41.7**	**+1.4**
CCB				IAmb	IAmb	12 28 47.0	
	comp=Z,4.9nm,1.0s						
H24K	**Noodor Dome**	**24.19**	**41**	P	**P**	**12 28 44.1**	**+1.7**
H24K				IAmb	IAmb	12 28 50.8	
	comp=Z,5.6nm,1.1s						
POKR	**Poker Plat Res**	**24.21**	**43**	P	**P**	**12 28 43.2**	**+0.6**
POKR				IAmb	IAmb	12 28 48.8	
	comp=Z,5.8nm,0.7s						
M24K	**Tolsona, Glenn**	**24.36**	**50**	P	**P**	**12 28 45.6**	**+1.6**
IL31		**24.38**	**44**	P	**P**	**12 28 43.9**	**-0.1**
ILAR	**Eielson Array**	**24.38**	**44**	P	**P**	**12 28 43.2**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=247,slow=7.6,SNR=21						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**24.38**	**44**	P	**P**	**12 28 44.6**	**+0.6**
KLU	**Klutina**	**24.45**	**52**	P	**P**	**12 28 44.6**	**-0.2**
KLU				IAmb	IAmb	12 28 50.5	
	comp=Z,8.8nm,1.1s						
J25K	**Salcha River,**	**24.99**	**44**	P	**P**	**12 28 48.7**	**-1.0**
PRP	**Porcupine Dome**	**25.08**	**42**	P	**P**	**12 28 50.1**	**-0.4**
PRP				IAmb	IAmb	12 29 26.8	
	comp=Z,7.3nm,1.3s						
N25K	**Chitina, Valde**	**25.08**	**51**	P	**P**	**12 28 51.9**	**+1.4**
N25K				IAmb	IAmb	12 29 03.9	
	comp=Z,8.6nm,1.2s						
GLB	**Gilahina Butte**	**25.46**	**52**	P	**P**	**12 28 55.7**	**+1.8**
GLB				IAmb	IAmb	12 29 00.7	
	comp=Z,5.5nm,0.8s						
SCRK	**Sand Creek**	**25.51**	**46**	P	**P**	**12 28 55.1**	**+0.6**
SCRK				IAmb	IAmb	12 28 59.9	
	comp=Z,5.2nm,0.8s						
VRDI	**Verde Repeater**	**25.63**	**52**	P	**P**	**12 28 56.2**	**+0.6**
VRDI				IAmb	IAmb	12 29 02.9	
	comp=Z,7.0nm,0.8s						
J26L	**Joseph Creek**	**25.75**	**45**	P	**P**	**12 28 56.1**	**-0.6**
J26L				IAmb	IAmb	12 29 02.1	
	comp=Z,6.2nm,1.4s						
MCARA	**McCarthy VSAT**	**25.84**	**52**	P	**P**	**12 28 58.5**	**+1.1**
MCARA				IAmb	IAmb	12 29 05.0	
	comp=Z,9.3nm,0.9s						
BMAR	**Burnt Mountain**	**25.85**	**38**	P	**P**	**12 28 55.7**	**-1.7**
M27K	**Edge Creek, AK**	**26.38**	**50**	P	**P**	**12 29 02.4**	**0.0**
M27K				IAmb	IAmb	12 29 22.3	
	comp=Z,5.7nm,1.1s						
L27K	**Beaver Creek,**	**26.42**	**48**	P	**P**	**12 29 03.6**	**+1.0**
L27K				IAmb	IAmb	12 29 17.9	
	comp=Z,9.5nm,1.4s						
BCAR	**Beaver Creek A**	**26.43**	**48**	P	**P**	**12 29 01.7**	**-1.1**
BARN	**Barnard Glacie**	**26.50**	**53**	P	**P**	**12 29 04.6**	**+1.0**
BARN				IAmb	IAmb	12 29 12.2	
	comp=Z,5.5nm,0.7s						
EGAK	**Eagle**	**26.81**	**44**	P	**P**	**12 29 03.7**	**-2.4**
JSD	**Sado**	**27.24**	**251**	P	**P**	**12 29 09.9**	**-0.2**
DAWY	**Dawson**	**27.54**	**46**	P	**P**	**12 29 13.2**	**+0.5**
DAWY				IAmb	IAmb	12 29 20.7	
	comp=Z,2.4nm,0.8s						
HYT	**Haines Junctio**	**28.54**	**53**	P	**P**	**12 29 20.9**	**-0.9**
HYT				IAmb	IAmb	12 29 43.2	
	comp=Z,7.1nm,1.3s						
EPYK	**Eagle Plains**	**28.76**	**41**	P	**P**	**12 29 24.2**	**+0.7**
EPYK				IAmb	IAmb	12 29 40.6	
	comp=Z,9.8nm,1.4s						
JSG	**Sagara**	**29.65**	**246**	P	**P**	**12 29 30.7**	**-0.9**
SKAG	**Skagway**	**29.82**	**55**	P	**P**	**12 29 32.5**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**32.86**	**188**	T	T	13 05 45.4	
	baz=5.9,slow=76,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**32.87**	**188**	T	T	13 05 34.1	
	baz=5.9,slow=76,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**32.88**	**188**	T	T	13 05 34.1	
	baz=5.9,slow=76,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**34.09**	**188**	T	T	13 07 12.4	
	baz=5.7,slow=76,SNR=4.3						
H11S3	**WAKE ISLA

	7.8nm,0.3s									
KPKS	**Kokpek**	**1.41**	**210**		P		**Pn**	**12 25 08.3**	**-0.4**	
	5.0nm,0.1s									
KPKS					S		**Sb**	**12 25 26.8**	**-0.6**	
	3.6nm,0.3s									
KPKS	**Kokpek**	**1.41**	**210**		*e*P		**Pn**	**12 25 08.3**	**-0.4**	
KPKS	5.0nm,0.1s									
	3.6nm,0.3s				*e*S		**Sb**	**12 25 26.8**	**-0.6**	
SHLS	**Shalkode**	**1.54**	**185**		*e*P		**Pb**	**12 25 11.0**	**-0.4**	
SHLS	0.9nm,0.2s									
	2.1nm,0.8s				*e*S		**Sn**	**12 25 31.2**	**+0.3**	
UZB	**Uzynbulak**	**1.61**	**197**		P		**Pb**	**12 25 12.9**	**+0.3**	
UZB	2.4nm,0.2s				S		**Sg**	**12 25 34.6**	**+0.7**	
	8.4nm,0.4s									
UZB	**Uzynbulak**	**1.61**	**197**		*e*P		**Pb**	**12 25 12.9**	**+0.3**	
UZB	2.4nm,0.2s				*e*S		**Sg**	**12 25 34.6**	**+0.7**	
	8.4nm,0.4s									
ZHN	**Zhinishke**	**1.76**	**211**		*e*P		**Pb**	**12 25 15.2**	**0.0**	
ZHN	3.3nm,0.2s				*e*S		**Sb**	**12 25 38.3**	**+0.7**	
	12nm,0.4s									
SATY	**Saty**	**1.86**	**210**		P		**Pb**	**12 25 17.2**	**+0.3**	
SATY	1.3nm,0.2s				S		**Sb**	**12 25 41.6**	**+1.0**	
	5.8nm,0.2s									
SATY	**Saty**	**1.86**	**210**		*e*P		**Pb**	**12 25 16.4**	**-0.5**	
SATY	1.3nm,0.1s				*e*S		**Sb**	**12 25 40.4**	**-0.2**	
	5.8nm,0.2s									
KOTS	**Kotyrbulak**	**2.34**	**233**		Pg		**Pb**	**12 25 25.7**	**+0.5**	
KOTS	1.8nm,0.4s				Lg		Lg	12 25 56.6		
	4.6nm,0.3s									
KOTS	**Kotyrbulak**	**2.34**	**233**		*e*Pg		**Pb**	**12 25 25.7**	**+0.5**	
KOTS	1.8nm,0.4s				*e*Lg		Lg	12 25 56.6		
	4.6nm,0.3s									
MK31	**Makanchi Array**	**2.80**	**40**	⇑	Pg		**Pg**	**12 25 36.3**	**+0.3**	
MK31	0.1nm,0.2s				Lg		Lg	12 26 12.5		
	0.3nm,0.3s,baz=216,slow=25,SNR=9.9									

BJI ***10*** *12:44:44.7±0.0,37.85N×21.11E, h6km, mb4.6/24, mB5.1/8, Ms4.5/1, Ms7 4.4/2*
IDC ***10*** *12:44:50.7±0.6,38.36N×21.80E, h0km, mb4.3/28, mbtmp4.2/37, ML3.8/9, MS3.4/2, Error ellipse: s-maj=13.5km s-min=10.5km az=2.0*
TIR ***10*** *12:44:51.7, 38.01N×21.30E, h0km±3km, Md4.5*
MOS ***10*** *12:44:51.6±1.0, 38.26N×21.70E, h19km, mb4.5/13, Error ellipse: s-maj=5.4km s-min=3.0km az=78.4*
PDG ***10*** *12:44:52.0±0.5, 38.33N×21.74E, h12km, ML4.3/10, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
THE ***10*** *12:44:52.3, 38.34N×21.73E, h6km, ML4.2/21, Error ellipse: s-maj=0.8km s-min=0.3km az=240.0*
UPSL ***10*** *12:44:52.3, 38.34N×21.72E, h10km, Mw4.1, Moment Tensor Solution. s7 Moment tensor: Mrr-0.06; Mθθ1.04; Mϕϕ-0.98; Mrθ-0.27; Mθϕ-0.76; Mϕr1.12; Fault plane solution: NP1:ϕs154.00000°, δ86.00000°, λ-41.00000°. NP2:ϕs247.00000°, δ49.00000°, λ-175.00000°.*
ATH ***10*** *12:44:52.3, 38.32N×21.72E, h4km±2km, ML4.2/22 Error ellipse: s-maj=2.4km s-min=0.7km az=263.0*
NEIC ***10*** *12:44:53.2±1.9, 38.43N±0.05×21.71E±0.03, h10km±1km, mb4.5/55, Error ellipse: s-maj=8.3km s-min=3.1km az=190.0*
BEO ***10*** *12:44:57.5±0.9, 38.67N×21.76E, h0km, ML3.6/5*
ISC 10 12:44:52.3±0.6, 38°33'N±0.01×21°73'E±0.01, h11km±3km, n462, σ1♀41/542, mb4.5/70, 39C-19D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.07**	**135**	P		**Pg**	**12 44 53.9**	**-0.7**
UPR				S		**Sg**	**12 44 56.4**	**0.0**
EFP	**Efpalio**	**0.17**	**56**	P		**Pg**	**12 44 55.8**	**-0.3**
EFP				S		**Sg**	**12 44 58.0**	**-0.7**
	160μm,0.3s							
EFP	**Efpalio**	**0.17**	**56**	P		**Pg**	**12 44 55.7**	**-0.4**
EFP				S		**Sg**	**12 44 58.4**	**-0.4**
EFP				AML	AML		12 44 59.0	
EFP				AML	AML		12 45 00.0	
LAKA	**Lakka**	**0.22**	**115**	P		**Pg**	**12 44 56.6**	**-0.3**
LAKA				S		**Sg**	**12 45 00.0**	**-0.1**
	304μm,0.4s							
LAKA	**Lakka**	**0.22**	**115**	P		**Pg**	**12 44 56.1**	**-0.8**
LAKA				S		**Sg**	**12 44 59.6**	**-0.5**
LAKA				AML	AML		12 45 00.2	
LAKA				AML	AML		12 45 00.4	
SERG	**Sergoula**	**0.27**	**72**	P		**Pg**	**12 44 58.6**	**+0.7**
SERG	**Sergoula**	**0.27**	**72**	P		**Pg**	**12 44 58.2**	**+0.3**
SERG				S		**Sg**	**12 45 02.6**	**+0.9**
SERG				AML	AML		12 45 03.3	
SERG				AML	AML		12 45 06.8	
ANX	**Ano Chora**	**0.30**	**30**	P		**Pg**	**12 44 58.2**	**-0.3**
ANX				S		**Sg**	**12 45 02.6**	**0.0**
	73μm,0.4s							
ANX	**Ano Chora**	**0.30**	**30**	P		**Pg**	**12 44 58.1**	**-0.3**
ANX				S		**Sg**	**12 45 03.1**	**+0.5**
ANX				AML	AML		12 45 04.5	
ANX				AML	AML		12 45 05.4	
ALIK	**Aliki, Aigiali**	**0.31**	**103**	P		**Pg**	**12 44 58.6**	**0.0**
ALIK				S		**Sg**	**12 45 03.5**	**+0.7**
PVO	**Paravola**	**0.33**	**331**	P		**Pg**	**12 44 57.6**	**-1.3**
PVO				S		**Sg**	**12 45 03.3**	**+0.1**
	126μm,0.3s							
PVO	**Paravola**	**0.33**	**331**	P		**Pg**	**12 44 57.8**	**-1.0**
PVO				S		**Sg**	**12 45 03.7**	**+0.5**
RLS	**Riolos of Patr**	**0.34**	**217**	P		**Pg**	**12 44 59.5**	**+0.4**
RLS				S		**Sb**	**12 45 05.1**	**-0.7**
	53μm,0.5s							
RLS	**Riolos of Patr**	**0.34**	**217**	P		**Pg**	**12 44 59.5**	**+0.4**
RLS				S		**Sg**	**12 45 02.9**	**-0.8**
RLS				AML	AML		12 45 05.8	
RLS				AML	AML		12 45 07.2	
	comp=E,76982μm,0.5s							
DRO	**Drossia**	**0.38**	**182**	P		**Pg**	**12 44 59.8**	**0.0**
DRO				S		**Sb**	**12 45 06.2**	**-0.7**
	comp=E,73μm,0.5s							
DRO	**Drossia**	**0.38**	**182**	P		**Pg**	**12 44 60.0**	**+0.2**
DRO				S		**Sg**	**12 45 04.8**	**-0.1**
DRO				AML	AML		12 45 07.1	
DRO				AML	AML		12 45 10.5	
KLV	**Kalavryta, Ach**	**0.44**	**131**	P		**Pg**	**12 45 00.6**	**-0.4**
KLV				S		**Sg**	**12 45 07.5**	**+0.7**
	comp=E,12μm,0.3s							
KLV	**Kalavryta, Ach**	**0.44**	**131**	P		**Pg**	**12 45 00.7**	**-0.3**
KLV				S		**Sg**	**12 45 07.2**	**+0.4**
KLV				AML	AML		12 45 09.1	
	comp=N,28081μm,0.3s							
KLV				AML	AML		12 45 11.1	
	comp=E,20677μm,0.4s							
EVR	**Evrytania**	**0.59**	**6**	P		**Pg**	**12 45 03.9**	**+0.1**
EVR				S		**Sb**	**12 45 12.7**	**-0.3**
	comp=E,19μm,0.7s							
EVR	**Evrytania**	**0.59**	**6**	P		**Pg**	**12 45 04.1**	**+0.3**
EVR				S		**Sg**	**12 45 11.7**	**+0.1**
EVR				AML	AML		12 45 20.3	
	comp=E,39457μm,0.7s							
EVR				AML	AML		12 45 20.6	
	comp=N,34414μm,0.7s							
DLFA	**Delphi**	**0.62**	**76**	P		**Pg**	**12 45 04.3**	**-0.1**
DLFA				S		**Sg**	**12 45 13.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.75**	**25**	P		**Pg**	**12 45 06.3**	**-0.5**
MAKR				S		**Sb**	**12 45 17.7**	**0.0**
	comp=N,30μm,0.5s							
MAKR	**Makrakomi, Fth**	**0.75**	**25**	P		**Pg**	**12 45 06.2**	**-0.7**
MAKR				S		**Sg**	**12 45 16.8**	**+0.2**
MAKR				AML	AML		12 45 22.9	
	comp=N,59506μm,0.5s							
MAKR				AML	AML		12 45 23.1	
	comp=E,61793μm,0.5s							
THAL	**Thalero**	**0.80**	**111**	P		**Pg**	**12 45 06.8**	**-0.8**
THAL	**Thalero**	**0.80**	**111**	P		**Pg**	**12 45 06.6**	**-1.0**
THAL				S		**Sb**	**12 45 18.9**	**+0.1**
THAL				AML	AML		12 45 28.6	
	comp=N,27389μm,0.4s							
THAL				AML	AML		12 45 30.1	
	comp=E,43407μm,0.5s							
AGG	**Agios Georgios**	**0.84**	**34**			**Pg**	**12 45 07.3**	**-1.2**

AGG	**Agios Georgios**	**0.84**	**34**	P		**Pg**	**12 45 07.0**	**-1.5**
AGG				S		**Sb**	**12 45 20.0**	**-0.1**
	comp=E,9μm,0.3s							
AGG	**Agios Georgios**	**0.84**	**34**	P		**Pg**	**12 45 07.3**	**-1.2**
AGG	**Agios Georgios**	**0.84**	**34**	P		**Pg**	**12 45 07.5**	**-1.0**
AGG				S		**Sg**	**12 45 19.4**	**0.0**
AGG				AML	AML		12 45 21.2	
	comp=E,18508μm,0.3s							
AGG				AML	AML		12 45 21.5	
	comp=N,17322μm,0.4s							
AXAR	**Agios Charalam**	**0.85**	**59**	P		**Pg**	**12 45 07.4**	**-1.3**
AXAR				S		**Sb**	**12 45 20.3**	**-0.2**
AXAR	**Agios Charalam**	**0.85**	**59**	P		**Pg**	**12 45 07.9**	**-0.8**
AXAR				S		**Sb**	**12 45 20.7**	**+0.2**
AXAR				AML	AML		12 45 28.8	
	comp=N,63385μm,0.5s							
AXAR				AML	AML		12 45 29.2	
	comp=E,56794μm,0.4s							
EVGI	**Lefkada island**	**0.89**	**289**	P		**Pg**	**12 45 08.5**	**-0.9**
EVGI				S		**Sb**	**12 45 22.1**	**+0.5**
	comp=E,13μm,0.4s							
EVGI	**Lefkada island**	**0.89**	**289**	P		**Pg**	**12 45 08.8**	**-0.7**
EVGI				S		**Sg**	**12 45 21.0**	**0.0**
NYDR	**Nydri-Lefkada**	**0.89**	**296**	P		**Pg**	**12 45 08.5**	**-1.0**
NYDR				S		**Sg**	**12 45 21.3**	**+0.2**
	comp=E,13μm,0.6s							
VLS	**Valsamata**	**0.91**	**261**	P		**Pg**	**12 45 08.9**	**-0.9**
VLS				S		**Sb**	**12 45 23.0**	**+0.9**
	comp=E,27μm,0.3s							
VLS	**Valsamata**	**0.91**	**261**	P		**Pg**	**12 45 08.9**	**-0.9**
VLS				S		**Sb**	**12 45 23.0**	**+0.9**
VLS	**Valsamata**	**0.91**	**261**	P		**Pg**	**12 45 09.0**	**-0.9**
VLS				S		**Sg**	**12 45 21.7**	**0.0**
VLS				AML	AML		12 45 25.2	
	comp=N,69429μm,0.4s							
VLS				AML	AML		12 45 25.3	
	comp=E,37240μm,0.3s							
FSK	**Fiskardo**	**0.92**	**278**	P		**Pg**	**12 45 09.2**	**-0.9**
FSK				S		**Sn**	**12 45 23.7**	**-0.7**
	comp=E,19μm,0.2s							
FSK	**Fiskardo**	**0.92**	**278**	P		**Pg**	**12 45 09.4**	**-0.7**
PSDA	**Pessada-Kefalo**	**0.93**	**257**	P		**Pg**	**12 45 09.3**	**-0.8**
PSDA				S		**Sn**	**12 45 24.0**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.93**	**257**	P		**Pg**	**12 45 09.5**	**-0.6**
LTHK	**Lithakia**	**0.94**	**229**	P		**Pg**	**12 45 09.8**	**-0.5**
LTHK	**Lithakia**	**0.94**	**229**	P		**Pg**	**12 45 10.0**	**-0.3**
LKD2	**Lefkada island**	**0.95**	**299**	P		**Pg**	**12 45 08.9**	**-1.8**
LKD2	**Lefkada island**	**0.95**	**299**	P		**Pg**	**12 45 09.2**	**-1.5**
	baz=328							
LKD2				S		**Sn**	**12 45 25.3**	**+0.1**
	baz=328							
LKD2	**Lefkada island**	**0.95**	**299**	P		**Pg**	**12 45 09.4**	**-1.3**
LKD2				AML	AML		12 45 28.8	
	comp=N,27976μm,0.4s							
LKD2				AML	AML		12 45 29.3	
	comp=E,26419μm,0.7s							
DRAG	**Dragano-Lefkad**	**0.97**	**292**	P		**Pg**	**12 45 09.9**	**-1.1**
DRAG				S		**Sn**	**12 45 25.2**	**-0.4**
	comp=E,16μm,0.4s							
TSLK	**Tsoukalades, L**	**0.97**	**301**	P		**Pg**	**12 45 09.8**	**-1.2**
TSLK				S		**Sg**	**12 45 23.9**	**+0.2**
	comp=E,15μm,0.6s							
TSLK	**Tsoukalades, L**	**0.97**	**301**	P		**Pg**	**12 45 10.5**	**-0.5**
TSLK				AML	AML		12 45 31.6	
	comp=N,25595μm,0.7s							
TSLK				AML	AML		12 45 32.7	
	comp=E,34829μm,0.6s							
KEF4	**Livadi, Kephal**	**1.03**	**266**	P		**Pg**	**12 45 11.1**	**-0.9**
KEF4				S		**Sn**	**12 45 26.9**	**0.0**
KEF4	**Livadi, Kephal**	**1.03**	**266**	P		**Pg**	**12 45 11.2**	**-0.9**
LOUT	**Loutraki**	**1.04**	**109**	P		**Pg**	**12 45 11.1**	**-1.2**
LOUT				S		**Sn**	**12 45 27.1**	**-0.3**
LOUT	**Loutraki**	**1.04**	**109**	P		**Pg**	**12 45 11.8**	**-0.6**
DMLN	**Damoulianata-K**	**1.07**	**265**	P		**Pb**	**12 45 11.7**	**-1.1**
KEF3	**Kipouria, Keph**	**1.09**	**264**	P		**Pb**	**12 45 11.8**	**-1.3**
KEF3				S		**Sn**	**12 45 29.2**	**+0.6**
KEF3	**Kipouria, Keph**	**1.09**	**264**	P		**Pb**	**12 45 11.8**	**-1.3**
ITM	**Ithomi**	**1.16**	**172**	Pn		**Pb**	**12 45 14.2**	**-0.1**
ITM	**Ithomi**	**1.16**	**172**	P		**Pb**	**12 45 13.9**	**-0.4**
ITM				S		**Sn**	**12 45 31.4**	**+1.1**
	comp=E,10μm,0.5s							
ITM	**Ithomi**	**1.16**	**172**	P		**Pb**	**12 45 14.1**	**-0.2**
ITM				AML	AML		12 45 34.9	
	comp=N,20807μm,0.6s							
ITM				AML	AML		12 45 36.0	
	comp=E,18464μm,0.3s							
VIL2	**Platees**	**1.22**	**95**	P		**Pg**	**12 45 16.0**	**+0.3**
VIL2				S		**Sn**	**12 45 33.4**	**+1.6**
VIL2				AML	AML		12 45 37.6	
	comp=E,28967μm,0.6s							
VIL2				AML	AML		12 45 38.5	
	comp=N,13596μm,0.8s							
THL	**Klokotos Trika**	**1.25**	**10**	P		**Pn**	**12 45 15.3**	**-0.4**
THL	**Klokotos Trika**	**1.25**	**10**	P		**Pg**	**12 45 16.6**	**+0.2**
THL				AML	AML		12 45 36.9	
	comp=E,11890μm,0.7s							
THL				AML	AML		12 45 41.2	
	comp=N,6234μm,0.7s							
VILL	**Villia**	**1.26**	**97**	P		**Pn**	**12 45 15.3**	**-0.6**
KLMT	**Kalamata**	**1.29**	**168**	P		**Pb**	**12 45 16.9**	**+0.3**
EPID	**Epidavros**	**1.31**	**123**	P		**Pn**	**12 45 16.0**	**-0.6**
EPID	**Epidavros**	**1.31**	**123**	P		**Pn**	**12 45 16.7**	**+0.2**
PYL	**PYLOS**	**1.43**	**179**	P		**Pn**	**12 45 18.4**	**+0.2**
PYL	**PYLOS**	**1.43**	**179**	P		**Pb**	**12 45 19.3**	**+0.3**
TYRN	**Tyrnavos**	**1.43**	**16**	P		**Pn**	**12 45 17.9**	**-0.3**
TYRN	**Tyrnavos**	**1.43**	**16**	P		**Pb**	**12 45 19.1**	**+0.1**
TYRN				AML	AML		12 45 44.3	
	comp=E,8767μm,0.5s							
TYRN				AML	AML		12 45 48.5	
	comp=N,6700μm,0.6s							
LRSO	**Larissa Observ**	**1.44**	**21**	P		**Pn**	**12 45 18.4**	**+0.2**
LRSO				S		**Sg**	**12 45 38.0**	**-0.5**
	comp=N,8μm,0.8s							
LRSO	**Larissa Observ**	**1.44**	**21**	P		**Pg**	**12 45 19.6**	**-0.2**
KRND	**KRANIDI**	**1.47**	**130**	P		**Pn**	**12 45 18.8**	**+0.1**
KRND	**KRANIDI**	**1.47**	**130**	P		**Pb**	**12 45 19.8**	**+0.1**
JAN	**Janina**	**1.49**	**333**	P		**Pg**	**12 45 20.8**	**0.0**
NEO	**Neokhori**	**1.52**	**50**	P		**Pn**	**12 45 19.1**	**-0.4**
NEO	**Neokhori**	**1.52**	**50**	P		**Pb**	**12 45 20.2**	**-0.3**
XOR	**Xorichti**	**1.54**	**47**	P		**Pn**	**12 45 19.9**	**+0.2**
XOR				S		**Sb**	**12 45 40.4**	**0.0**
	comp=N,4μm,0.7s							
XOR	**Xorichti**	**1.54**	**47**	P		**Pb**	**12 45 20.4**	**-0.5**
ATH	**Athens Observa**	**1.61**	**102**	P		**Pn**	**12 45 20.9**	**+0.3**
ATH				S		**Sn**	**12 45 41.9**	**+0.6**
	comp=N,5μm,0.6s							
ATH	**Athens Observa**	**1.61**	**102**	P		**Pn**	**12 45 20.9**	**+0.3**
ATH				S		**Sn**	**12 45 41.9**	**+0.6**
ATH	**Athens Observa**	**1.61**	**102**	P		**Pn**	**12 45 21.2**	**+0.6**
ATH				AML	AML		12 45 52.7	
	comp=E,9952μm,0.7s							
ATH				AML	AML		12 45 53.1	
	comp=N,6980μm,0.6s							
IGT	**Igoumenitsa**	**1.62**	**318**	P		**Pg**	**12 45 24.0**	**+0.6**
	baz=334							
IGT				S		**Sg**	**12 45 46.5**	**+2.1**
	baz=334							
IGT	**Igoumenitsa**	**1.62**	**318**	P		**Pg**	**12 45 23.9**	**+0.6**
IGT				S		**Sg**	**12 45 46.5**	**+2.1**
IGT	**Igoumenitsa**	**1.62**	**318**	*e*Pn		**Pg**	**12 45 22.9**	**-0.5**
IGT				*e*Sn		**Sg**	**12 45 44.2**	**-0.2**
IGT	**Igoumenitsa**	**1.62**	**318**	P		**Pb**	**12 45 22.8**	**+0.6**
KPRO	**Kipourio**	**1.65**	**350**	P		**Pb**	**12 45 23.2**	**+0.6**
ATHU	**Athens Univers**	**1.66**	**102**	P		**Pn**	**12 45 21.5**	**+0.1**
ATHU				S		**Sn**	**12 45 43.4**	**+0.7**
ATHU	**Athens Univers**	**1.66**	**102**	P		**Pn**	**12 45 21.8**	**+0.5**
VLY	**Voula,Athens**	**1.70**	**106**	P		**Pn**	**12 45 22.0**	**+0.1**
VLY				S		**Sb**	**12 45 45.0**	**+0.1**
	comp=N,5μm,0.7s							
VLY	**Voula,Athens**	**1.70**	**106**	P		**Pn**	**12 45 22.6**	**+0.8**
PTL	**Penteli**	**1.71**	**99**	P		**Pb**	**12 45 23.4**	**-0.3**
DION	**Dionisos Attik**	**1.76**	**98**	P		**Pb**	**12 45 23.8**	**-0.8**
DION				AML	AML		12 45 55.4	
	comp=E,9639μm,0.4s							
DION				AML	AML		12 45 56.6	
	comp=N,8168μm,0.5s							
LIT	**Litokhoron**	**1.86**	**18**			**Pn**	**12 45 23.7**	**-0.4**
LIT	**Litokhoron**	**1.86**	**18**	P		**Pn**	**12 45 23.7**	**-0.4**
VLI	**Veliai**	**1.88**	**149**	P		**Pn**	**12 45 24.9**	**+0.6**
VLI	**Veliai**	**1.88**	**149**	P		**Pn**	**12 45 25.3**	**+1.1**
VLI				AML	AML		12 46 00.6	
	comp=N,8484μm,1.1s							
VLI				AML	AML		12 46 02.1	
	comp=E,7586μm,0.8s							

KYMI	**Kymi, Euboea I**	**1.89**	**80**	P		**Pn**	**12 45 24.6**	**+0.2**
KZN	**Kozani**	**1.97**	**1**	P		**Pb**	**12 45 28.2**	**0.0**
LSK	**Leskovik**	**2.02**	**335**	P		**Pg**	**12 45 30.7**	**-0.2**
	baz=346							
LSK				S		**Sg**	**12 45 58.0**	**+0.9**
	baz=346							
KEK	**Kerkira**	**2.04**	**313**			**Pn**	**12 45 25.9**	**-0.6**
SRN	**Sarande**	**2.05**	**320**	P		**Pn**	**12 45 27.9**	**+1.3**
	baz=333							
SRN				S		**Sg**	**12 45 56.8**	**-1.3**
	baz=333							
NEST	**Nestorio**	**2.15**	**346**	P		**Pb**	**12 45 31.3**	**+0.1**
PAIG	**Paliouri**	**2.20**	**43**	P		**Pn**	**12 45 28.7**	**-0.1**
PAIG	**Paliouri**	**2.20**	**43**	P		**Pn**	**12 45 28.7**	**-0.1**
KBN	**Korca**	**2.40**	**343**			**Pn**	**12 45 31.3**	**-0.3**
KBN	**Korca**	**2.40**	**343**	P		**Pg**	**12 45 37.7**	**-0.6**
	baz=352							
KBN				S		**Sg**	**12 46 12.6**	**+3.1**
	baz=352							
KBN	**Korca**	**2.40**	**343**	P		**Pn**	**12 45 31.3**	**-0.3**
FNA	**Florina**	**2.46**	**354**			**Pn**	**12 45 33.0**	**+0.6**
FNA	**Florina**	**2.46**	**354**	P		**Pb**	**12 45 35.7**	**-0.9**
	baz=1.0							
FNA	**Florina**	**2.46**	**354**	P		**Pn**	**12 45 33.0**	**+0.6**
FNA	**Florina**	**2.46**	**354**	*e*Pn		**Pb**	**12 45 35.1**	**-1.5**
FNA				*e*Sn		**Sn**	**12 46 01.4**	**-1.1**
THE	**Thessaloniki**	**2.49**	**22**	P		**Pn**	**12 45 33.5**	**+0.8**
THE	**Thessaloniki**	**2.49**	**22**	P		**Pn**	**12 45 33.5**	**+0.8**
HORT	**Hortiatis**	**2.50**	**25**	P		**Pn**	**12 45 33.3**	**+0.3**
OUR	**Ouranopolis**	**2.66**	**40**	P		**Pn**	**12 45 34.8**	**-0.2**
OUR	**Ouranopolis**	**2.66**	**40**	P		**Pn**	**12 45 34.8**	**-0.2**
GRG	**Griva**	**2.67**	**11**	P		**Pn**	**12 45 36.0**	**+0.7**
GRG	**Griva**	**2.67**	**11**	P		**Pn**	**12 45 36.0**	**+0.7**
MHLO	**Agia Marina, M**	**2.69**	**127**	P		**Pn**	**12 45 36.3**	**+0.9**
VLO	**Vlora**	**2.75**	**322**	Pn		**Pn**	**12 45 34.3**	**-1.9**
VLO	**Vlora**	**2.75**	**322**	P		**Pn**	**12 45 34.3**	**-1.9**
SOH	**Sokhos**	**2.79**	**26**	P		**Pn**	**12 45 38.8**	**+1.9**
OHR	**Ohrid**	**2.87**	**346**	P		**Pb**	**12 45 43.0**	**+0.5**
OHR	**Ohrid**	**2.87**	**346**	*i* Pn		**Pb**	**12 45 41.7**	**-1.7**
KNT	**Kendrikon**	**2.97**	**17**	P		**Pn**	**12 45 40.9**	**+1.6**
KOKK	**Kokkinochori,**	**3.04**	**35**	P		**Pn**	**12 45 40.6**	**+0.3**
VAY	**Valandovo**	**3.06**	**12**	P		**Pn**	**12 45 43.5**	**+3.0**
VAY	**Valandovo**	**3.06**	**12**	*i* Pn		**Pn**	**12 45 43.3**	**+2.8**
VAY				*i* Sn		**Sn**	**12 46 18.8**	**+1.7**
SCTE	**Santa Cesarea**	**3.07**	**305**	Pn		**Pn**	**12 45 41.6**	**+0.9**
SCTE	**Santa Cesarea**	**3.07**	**305**	P		**Pn**	**12 45 41.6**	**+0.9**
	baz=315							
SCTE				S		**Sn**	**12 46 18.8**	**+1.4**
	baz=315							
SRS	**Serrai**	**3.13**	**27**	P		**Pn**	**12 45 41.9**	**+0.3**
SRS	**Serrai**	**3.13**	**27**	P		**Pn**	**12 45 41.9**	**+0.3**
SRS	**Serrai**	**3.13**	**27**	*e*Pn		**Pn**	**12 45 42.2**	**+0.6**
SRS				*e*Sn		**Sn**	**12 46 18.2**	**-0.8**
APE	**Apeiranthos**	**3.27**	**111**	⇑P		**Pn**	**12 45 44.0**	**+0.5**
APE	**Apeiranthos**	**3.27**	**111**	P		**Pn**	**12 45 43.9**	**+0.5**
APE	**Apeiranthos**	**3.27**	**111**	*de*P		**Pn**	**12 45 44.0**	**+0.5**
TIR	**Tirane**	**3.34**	**335**			**Pn**	**12 45 44.6**	**+0.3**
TIR	**Tirane**	**3.34**	**335**	P		**Pb**	**12 45 50.1**	**-1.3**
	baz=343							
TIR				S		**Sb**	**12 46 30.3**	**-1.7**
	baz=343							
TIR	**Tirane**	**3.34**	**335**	P		**Pn**	**12 45 44.6**	**+0.3**
SIGR	**SIGRI**	**3.34**	**73**	P		**Pn**	**12 45 44.5**	**0.0**
STIP	**Stip**	**3.38**	**6**	*i* Pn		**Pb**	**12 45 48.9**	**-3.3**
CHOS	**Chios island**	**3.40**	**88**	P		**Pn**	**12 45 46.1**	**+0.7**
KAVA	**Kavala**	**3.42**	**38**	P		**Pn**	**12 45 45.3**	**+0.2**
SAP3	**Santorini-Thir**	**3.45**	**122**	P		**Pn**	**12 45 47.1**	**+1.2**
MMB	**Musomiste**	**3.60**	**25**	P		**Pn**	**12 45 49.5**	**+1.5**
SKO	**Skopje**	**3.64**	**357**	*i* Pn		**Pn**	**12 45 52.4**	**+3.8**
KKB	**Krupnik**	**3.68**	**16**	P		**Pn**	**12 45 52.2**	**+3.1**
KKB				S		**Sn**	**12 46 34.1**	**+1.6**
EZN	**Ezine**	**3.88**	**66**	P		**Pn**	**12 45 51.5**	**-0.3**
TIP	**Timpagrande**	**3.98**	**284**	⇑P		**Pn**	**12 45 54.3**	**+1.1**
TIP				⇓S		**Sn**	**12 46 42.9**	**+3.1**
TIP	**Timpagrande**	**3.98**	**284**	Pn		**Pn**	**12 45 54.5**	**+1.3**
RDO	**Rodhopi**	**4.07**	**45**	Pn		**Pn**	**12 45 54.5**	**+0.1**
RDO	**Rodhopi**	**4.07**	**45**	P		**Pn**	**12 45 54.4**	**+0.1**
ULC	**Ulcinj**	**4.10**	**333**	P		**Pn**	**12 45 57.8**	**+3.0**
ULC	**Ulcinj**	**4.10**	**333**	*i* Pn		**Pn**	**12 45 55.9**	**+1.1**
ULC				*i* Sn		**Sn**	**12 46 44.9**	**+2.2**
PRVS	**Prvonek**	**4.18**	**4**	*e*Pn		**Pn**	**12 45 58.0**	**+2.0**
PRVS				*e*Sn		**Sn**

INTR Introdacqua 7.03 304 Pn 12 46 37.3 +2.2
GZR Gura Zlata 7.10 6 ⇑P Pn 12 46 38.6 +2.5
GZR Gura Zlata 7.10 6 P Pn 12 46 38.6 +2.5
BLY Banja Luka 7.26 333 *e*Pn Pn 12 46 37.8 -0.4
A050A Klekovaca 7.28 329 *e*Pn Pn 12 46 38.7 +0.1
BZS Buzias 7.28 359 ⇑P Pn 12 46 42.0 +3.5
BZS Buzias 7.28 359 P Pn 12 46 42.0 +3.5
ARR Arges 7.36 16 ⇑P Pn 12 46 42.7 +3.1
SURR Surduc 7.42 2 ⇑P Pn 12 46 43.5 +3.1
SECR 7.44 24 ⇑P Pn 12 46 44.5 +3.7
AQU L'Aquila 7.52 305 Pn 12 46 43.6 +1.7
AQU L'Aquila 7.52 305 P Pn 12 46 43.6 +1.7
A051A Mrakovica 7.59 333 *e*Pn Pn 12 46 42.1 -0.7
MDUB Mudurnu 7.64 71 Pn Pn 12 46 44.3 +0.8
MLR Muntele Rosu 7.81 22 Pn Pn 12 46 48.0 +2.1
comp=E,0.5nm,0.3s,baz=166,slow=7.1,SNR=9.8
MLR Sn **Sn** 12 48 11.2 -3.3
baz=204,slow=14
comp=E,28nm,1.2s
MLR Muntele Rosu 7.81 22 ⇑P Pn 12 46 49.1 +3.1
MLR Muntele Rosu 7.81 22 Pn 12 46 46.6 +0.6
MLR Muntele Rosu 7.81 22 P Pn 12 46 49.0 +3.1
NEHR Nehoiu 7.87 24 ⇓P Pn 12 46 50.2 +3.6
HARR Harsova 7.87 34 ⇑P Pn 12 46 49.2 +2.5
HARR Harsova 7.87 34 P Pn 12 46 49.1 +2.5
GUMA Gualdo di Mace 7.93 309 Pn Pn 12 46 48.6 +1.1
NRCA Norcia 7.95 307 Pn 12 46 49.3 +1.6
FDMO Fiordimonte 8.07 308 Pn 12 46 50.5 +1.1
DOPR Dopca 8.10 18 ⇑P Pn 12 46 52.2 +2.4
BISRR Bisoca 8.11 26 ⇓P Pn 12 46 52.6 +2.6
CESX Cesi 8.18 304 Pn Pn 12 46 49.8 -1.0
MORH Mrgy, Hungar 8.20 345 ⇑P Pn 12 46 54.6 +3.5
COVR Voineasa-Covas 8.21 22 ⇓P Pn 12 46 54.0 +2.7
OZUR 8.32 20 ⇑P Pn 12 46 55.7 +2.8
PLOR Plostina 8.36 24 ⇓P Pn 12 46 56.1 +2.8
PLOR Plostina 8.36 24 P Pn 12 46 56.1 +2.8
VRI Vrincioaia 8.39 25 ⇑P Pn 12 46 57.4 +3.6
VRI Vrincioaia 8.39 25 P Pn 12 46 57.4 +3.6
MARR Marisel-Cluj 8.40 7 ⇑P Pn 12 46 56.6 +2.6
MURB Monte Urbino 8.54 308 Pn 12 46 58.1 +2.2
BOJS Bojanci 8.64 328 *e*Pn Pn 12 46 57.1 0.0
CRES Cresnjev 8.82 330 *e*Pn Pn 12 46 59.1 -0.5
CEY Cerknica 9.18 326 *e*Pn Pn 12 47 03.5 -1.1
SKDS Skadanscina 9.21 324 *e*Pn Pn 12 47 04.0 -1.1
BR131 Keskin Array S 9.38 78 Pn Pn 12 47 08.6 +0.6
BR131 Keskin Array S 9.38 78 *c i*P Pn 12 47 09.7 +2.3
BRTR Keskin Array B 9.38 78 Pn Pn 12 47 09.9 +2.5
comp=E,1.4nm,0.3s,baz=262,slow=12,SNR=44
BRTR LR LR 12 50 16.7
comp=E,84nm,20.4s,baz=278,slow=35
comp=E,5.8nm,0.5s
BRTR Keskin Array B 9.38 78 Pn 12 47 10.2 +2.8
BRTR Keskin Array B 9.38 78 *i*P Pn 12 47 09.8 +2.3
BRTR pmax pmax
comp=Z,6.0nm,0.5s
BURAR Bucovina Array 9.62 14 ⇑P Pn 12 47 14.2 +3.4
BURAR Bucovina Array 9.62 14 Pn Pn 12 47 09.8 -0.9
BURAR Bucovina Array 9.62 14 P Pn 12 47 14.1 +3.4
BUR08 Bucovina Ar. S 9.65 14 Pn Pn 12 47 11.1 0.0
PSZ Piszkesteto 9.68 353 ⇑P Pn 12 47 15.1 +3.7
PSZ Piszkesteto 9.68 353 Pn 12 47 10.5 -1.0
PSZ Piszkesteto 9.68 353 P Pn 12 47 15.1 +3.7
SOKA Soboth 9.69 332 *e*Pn Pn 12 47 11.6 -0.1
comp=Z,3.0nm,0.3s
SABO M.te Sabotino 9.73 324 Pn 12 47 12.1 -0.1
OBKA Obir 9.74 329 *i* Pn Pn 12 47 12.3 0.0
comp=Z,5.4nm,0.5s
OBKA Obir 9.74 329 *e*Pn Pn 12 47 10.1 -2.2
ARSA Arzberg 10.01 335 *e*Pn Pn 12 47 16.6 +0.6
comp=Z,1.4nm,0.2s
MYKA Terra Mystica 10.21 327 *e*Pn Pn 12 47 19.1 +0.3
comp=Z,2.2nm,0.5s
TEOL Teolo 10.27 316 Pn Pn 12 47 18.4 -1.1
UZH Uzhgorod 10.30 2 *e*P Pn 12 47 24.0 +4.1
STAL STALIGIAL 10.36 323 Pn Pn 12 47 21.0 +0.3
VYHS Vyhne 10.37 349 *e*P Pn 12 47 27.0 +6.1
VYHS *e* 12 49 20.4
VYHS Vyhne 10.37 349 *e*PN Pn 12 47 27.0 +6.1
VYHS *e*SN **Sn** 12 49 20.4 +3.3
CLUD Cludinico 10.42 324 Pn 12 47 20.8 -0.8
CONA Conrad Observa 10.50 338 *e*Pn Pn 12 47 24.3 +1.6
comp=Z,1.1nm,0.4s
CIMO Cimolais 10.52 322 Pn 12 47 22.4 -0.6
MODS Modra-Piesok 10.54 344 *e*P Pn 12 47 29.3 +6.0
MODS *e* 12 49 19.7
MODS Modra-Piesok 10.54 344 *e*PN Pn 12 47 29.3 +6.0
MODS *e*SN **Sn** 12 49 19.7 -1.6
KBA Koelnbreinsper 10.69 328 *e*Pn Pn 12 47 25.1 -0.4
comp=Z,4.7nm,0.5s
CTI Castel Tesino 10.73 319 Pn 12 47 26.0 +0.1
CTI Castel Tesino 10.73 319 P Pn 12 47 26.0 +0.1
SALO Salr 11.06 315 Pn Pn 12 47 28.4 -2.0
STHS Stebnicka Huta 11.09 358 *e*P Pn 12 47 40.4 +10
STHS Stebnicka Huta 11.09 358 *e*PN Pn 12 47 40.4 +10
WTTA Wattenberg 11.59 324 *e*Pn Pn 12 47 37.2 -0.6
comp=Z,6.3nm,0.5s
WATA Walderalm 11.67 324 *e*Pn Pn 12 47 38.9 0.0
comp=Z,7.3nm,0.5s
FUORN Ofenpass-Fuorn 11.83 318 Pn Pn 12 47 39.8 -1.3
FETA Feichten 11.86 321 *e*Pn Pn 12 47 42.9 +1.5
comp=Z,3.2nm,0.6s
MOTA Moosalm 11.90 323 *e*Pn Pn 12 47 41.4 -0.6
comp=Z,3.9nm,0.5s
GEC2 GERESS Array S 12.00 334 Pn Pn 12 47 44.7 +1.4
GERES GERESS Array B 12.00 334 Pn Pn 12 47 44.1 +0.8
comp=Z,0.4nm,0.3s,baz=156,slow=15,SNR=10
GERES Sn **Sn** 12 49 57.0 -0.2
comp=Z,0.3nm,0.3s,baz=151,slow=23,SNR=6.3
comp=Z,1.6nm,0.5s
GERES GERESS Array B 12.00 334 Pn Pn 12 47 43.9 +0.6
DAVOX Davos/Dischmat 12.14 318 Pn Pn 12 47 46.6 +1.4
comp=Z,0.6nm,0.3s,baz=169,slow=22,SNR=3.1
DAVOX Sn **Sn** 12 49 57.1 -3.4
comp=Z,0.4nm,0.3s,baz=198,slow=13,SNR=2.4
comp=Z,1.4nm,0.3s
KHC Kasperske Hory 12.29 334 Pn Pn 12 47 46.6 -0.5
KHC Kasperske Hory 12.29 334 *e*PN Pn 12 47 47.6 +0.5
KHC *e*SN **Sn** 12 50 03.6 -0.5
KHC Kasperske Hory 12.29 334 ⇑*e*P Pn 12 47 48.3 +1.1
KHC pmax pmax
comp=Z,4.0nm,1.0s
MMAI Mount Meron Ar 12.32 111 Pn Pn 12 47 47.8 +0.1
comp=Z,1.8nm,0.3s,baz=305,slow=18,SNR=4.4
comp=Z,9.4nm,0.8s
SENIN Lac Senin/Sane 13.34 312 Pn 12 48 02.6 +0.9
GHAJ Ghor Haditha 13.35 118 Pn Pn 12 48 02.9 +1.2
AKASG Malin Array Be 13.46 21 Pn Pn 12 48 03.3 +0.2
comp=Z,0.6nm,0.3s,baz=207,slow=12,SNR=3.0
comp=Z,0.3nm,0.3s
AKASG Malin Array Be 13.46 21 Pn Pn 12 48 01.2 -1.9
AKASG Malin Array Be 13.46 21 *i*P P 12 48 08.0 -4.5
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 13.46 21 ⇓*e*P Pn 12 48 04.1 +1.0
BFO Black Forest 13.94 320 Pn Pn 12 48 09.6 -0.1
BFO Black Forest 13.94 320 P Pn 12 48 09.6 -0.1
EIL Elat 13.95 124 Pn Pn 12 48 10.1 +0.2
comp=Z,0.6nm,0.3s,baz=7.2,slow=20,SNR=1.4
EIL Sn **Sn** 12 50 39.0 -5.7
comp=Z,0.5nm,0.3s,baz=233,slow=20,SNR=1.7
comp=Z,1.3nm,0.3s
CLL Collm 14.36 337 *e*PP P 12 48 25.0 +2.6
CLL *i* x x 12 48 31.2
CLL Collm 14.36 337 *e*P P 12 48 25.0 +2.6
WLF Walferdange 15.90 320 Pn Pn 12 48 35.8 -0.1
WLF IAmb IAmb 12 49 12.0
comp=Z,37nm,1.5s
WLF Walferdange 15.90 320 P Pn 12 48 35.8 -0.1
WLF pmax pmax
comp=Z,37nm,1.5s
SHA1 Shidzhatmaz 16.68 64 ⇑*e*P Pn 12 48 45.9 -0.2
MNK Minsk 16.71 13 *i*P Pn 12 48 44.5 -1.7
comp=E,1.0nm,0.8s
MNK *i*P Pn 12 48 44.5 -1.7
comp=N,17nm,0.8s
MNK *i*P Pn 12 48 44.5 -1.7
comp=Z,10.0nm,0.8s,baz=197
MNK *i*PP **sP** 12 48 53.9 +0.7
MNK *i*S **Sn** 12 51 51.5 -0.2
MNK *i*SS **SnSn** 12 52 06.0 +1.3
MNK Minsk 16.71 13 *i*P Pn 12 48 44.5 -1.7
MNK *i*S **Sn** 12 51 51.4 -0.2
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.8s
GEVA Gevas 16.74 83 Pn Pn 12 48 45.9 -1.0
KIV Kislovodsk 16.74 64 *e*P P 12 48 48.2 -0.8
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 16.84 65 Pn P 12 48 50.4 +0.3
baz=280,slow=7.4,SNR=2.8
comp=Z,1.4nm,0.8s
KBZ Khabaz 16.84 65 ⇑*e*P P 12 48 50.6 +0.6
NACGM Naroch 16.93 10 *e*P P 12 48 51.4 +0.5
comp=Z,15nm,0.8s,baz=194
PABE Paberze 17.25 4 Pn 12 48 53.5 +0.6
PABE IAmb IAmb 12 49 02.1
comp=Z,23nm,1.0s
ZEI Tsey 17.42 68 *e*P P 12 48 56.2 -0.4
ZEI pmax pmax
comp=Z,3.0nm,0.6s
VSR Storozhevoye 17.81 38 *e*P P 12 49 00.6 0.0
VSR pmax pmax
comp=Z,10.0nm,1.0s
CART Cartagena 17.93 275 P P 12 49 02.2 +0.1
CART IAmb IAmb 12 49 38.6
comp=Z,43nm,1.2s
VORR Voronezh 18.12 37 *e*P Pn 12 49 02.5 -1.3
VORR pmax pmax
comp=Z,10.0nm,1.4s
LPSR Galich'ya Gora 18.62 34 *e*P Pn 12 49 10.4 +0.6
LPSR pmax pmax
comp=Z,20nm,0.9s
VRH Novokhopyorsk 19.08 41 *e*P P 12 49 15.0 +0.4
VRH pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 19.56 26 *e*P P 12 49 19.5 -0.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
ESBB Sonseca Array 19.99 282 P Pn 12 49 26.3 -0.2
ESDC Sonseca Array 19.99 282 P Pn 12 49 25.9 -0.6
comp=Z,7.9nm,0.9s,baz=76,slow=10,SNR=29
comp=Z,7.9nm,0.9s
ESDC Sonseca Array 19.99 282 P Pn 12 49 26.0 -0.5
PAB San Pablo 20.30 282 P P 12 49 29.2 +1.1
PAB San Pablo 20.30 282 P P 12 49 29.2 +1.1
PAB pmax pmax
comp=Z,11nm,1.0s
VSU Vasula 20.41 8 ⇑*e*P Pn 12 49 30.4 -0.7
VSU pmax pmax
comp=Z,68nm,0.8s
MDT Midelt 22.08 264 P P 12 49 49.3 +1.9
comp=Z,3.5nm,0.7s,baz=100,slow=17,SNR=3.3
comp=Z,3.5nm,0.7s
HFS Hagfors 22.41 349 P P 12 49 49.7 -0.9
comp=Z,4.1nm,0.5s,baz=156,slow=11,SNR=25
comp=Z,4.1nm,0.5s
MTE Manteigas 22.68 284 P P 12 49 53.9 +0.2
MTE IAmb IAmb 12 49 59.5
comp=Z,15nm,1.0s
BELG Belogornoye 22.84 44 P P 12 49 55.5 +0.4
comp=Z,11nm,0.7s,baz=247,slow=1.5,SNR=9.8
comp=Z,11nm,0.7s
BELG Belogornoye 22.84 44 *ce*P P 12 49 56.4 +1.3
BELG pmax pmax
comp=Z,3.0nm,0.8s
PESTR Estremoz 22.88 281 P P 12 49 55.2 -0.5
PVAQ Vaqueiros 23.22 277 P P 12 49 58.5 -0.8
FINES FINESS Array B 23.30 5 P P 12 49 58.7 -1.1
comp=Z,1.4nm,0.4s,baz=184,slow=8.7,SNR=14
FINES PcP **PcP** 12 53 46.8 +0.1
comp=Z,1.5nm,0.7s,baz=149,slow=7.8,SNR=1.1
comp=Z,1.4nm,0.4s
FIA1 FINESS Array S 23.30 5 P P 12 49 58.7 -1.1
FIA1 IAmb IAmb 12 50 05.0
comp=Z,28nm,1.4s
NC602 NORSAR Array S 23.32 347 P P 12 49 59.8 -0.3
NC602 IAmb IAmb 12 50 43.3
comp=Z,38nm,1.4s
NORES NORESS Array B 23.32 347 P P 12 49 59.7 -0.4
NAO01 NORSAR Array S 23.54 347 P P 12 50 02.3 0.0
NAO01 IAmb IAmb 12 50 44.1
comp=Z,25nm,1.2s
NC405 NORSAR Array S 23.65 348 P P 12 50 02.2 -1.2
NC405 IAmb IAmb 12 50 39.2
comp=Z,34nm,1.4s
NB201 NORSAR Array S 23.66 347 P P 12 50 03.1 -0.4
NB2 NORSAR Subarra 23.67 347 P P 12 50 03.3 -0.3
comp=Z,12nm,1.1s,baz=154,slow=10
NOA NORSAR Array B 23.67 347 P P 12 50 03.2 -0.3
comp=Z,1.9nm,0.7s,baz=160,slow=9.8,SNR=12
comp=Z,1.9nm,0.7s
NBO00 NORSAR Array S 23.74 347 P P 12 50 03.2 -1.0
NC303 NORSAR Array S 23.81 348 P P 12 50 04.6 -0.3
NC303 IAmb IAmb 12 50 06.0
comp=Z,10nm,0.7s
EKA Eskdalemuir Ar 23.86 324 P P 12 50 05.2 -0.2
comp=Z,6.0nm,0.5s,baz=124,slow=9.5,SNR=18
comp=Z,6.0nm,0.5s
ESK Eskdalemuir 23.87 323 P P 12 50 05.4 -0.1
ESK IAmb IAmb 12 50 15.9
comp=Z,25nm,1.1s
ESK Eskdalemuir 23.87 323 P P 12 50 05.4 -0.1
ESK pmax pmax
comp=Z,25nm,1.1s
NC204 NORSAR Array S 23.97 347 P P 12 50 06.7 +0.3
NC204 IAmb IAmb 12 50 38.4
comp=Z,31nm,1.2s
RAYN Ar Rayn 25.08 119 P P 12 50 18.0 +1.1
RAYN Ar Rayn 25.08 119 P P 12 50 18.0 +1.1
RAYN pmax pmax
comp=Z,3.0nm,0.9s
KLMR Klimovskoe 25.16 21 *e*P P 12 50 08.3 -8.9
KLMR AMP 12 50 27.2
comp=Z,12nm,1.2s
KLMR Klimovskoe 25.16 21 *e*P P 12 50 08.2 -9.0
KLMR pmax pmax
comp=Z,12nm,1.2s
KIRV Kirov 27.01 32 ⇓*e*P P 12 50 34.2 +0.2
AKTO Aktyubinsk 28.33 53 P P 12 50 45.8 -0.1
comp=Z,4.3nm,0.8s,baz=267,slow=9.0,SNR=12
AKTO LR LR 13 03 48.5
comp=Z,164nm,18.7s,baz=202,slow=40
comp=Z,4.3nm,0.8s
AB31 Akbulak array 29.37 56 *e*P P 12 50 54.2 -1.0
ABKAR Akbulak array 29.37 56 P P 12 50 55.7 +0.5
TORD Torodi Ar. Bea 30.75 221 P P 12 51 08.3 +0.7
comp=Z,11nm,0.7s,baz=31,slow=9.4,SNR=73
comp=Z,11nm,0.7s
ARCES ARCESS Array B 31.33 3 P P 12 51 11.8 -0.5
comp=Z,2.8nm,0.7s,baz=188,slow=8.2,SNR=9.3
comp=Z,2.8nm,0.7s
ARCES ARCESS Array B 31.33 3 P P 12 51 11.8 -0.5
ARCES ARCESS Array B 31.33 3 P P 12 51 11.8 -0.5
ARCES pmax pmax
comp=Z,27nm,1.3s
BRVK Borovoye 36.23 50 P P 12 51 55.8 +0.7
BRVK Borovoye 36.23 50 ⇑*e*P P 12 51 55.7 +0.7
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BVA0 Borovoye Array 36.29 50 *i*P P 12 51 55.9 +0.3
CHGR Chuyangaron 36.80 74 P P 12 52 00.9 +0.7
CHGR Chuyangaron 36.80 74 P P 12 52 00.9 +0.7
CHGR pmax pmax
comp=Z,14nm,0.7s
KK31 Karatay Array 36.87 67 P P 12 52 01.4 +0.8
KK31 Karatay Array 36.87 67 *i*P P 12 52 01.0 +0.4
KKAR Karatay Array 36.87 67 P P 12 52 01.4 +0.8
KKAR Karatay Array 36.87 67 P P 12 52 01.4 +0.8
GAR Garm 37.59 73 P P 12 52 07.6 +0.7
DBIC Dimbokro 39.66 224 P P 12 52 25.0 +0.7
DBIC IAmb IAmb 12 52 25.5
comp=Z,8.5nm,0.8s
DBIC Dimbokro 39.66 224 P P 12 52 25.0 +0.7
DBIC pmax pmax
comp=Z,9.0nm,0.8s
TIC Toumodi 39.77 224 ⇑*e*P P 12 52 25.3 +0.1
comp=Z,14nm,0.7s
AAK Ala-Archa 39.83 67 P P 12 52 27.1 +1.4
AAK IAmb IAmb 12 52 29.5
comp=Z,10nm,1.1s
AAK Ala-Archa 39.83 67 *ce*P P 12 52 26.9 +1.2
AAK pmax pmax
comp=Z,7.0nm,0.8s
KIC Kosan Boka 39.85 224 ⇑*e*P P 12 52 26.3 +0.4
comp=Z,5.9nm,0.4s
SPITS Spitsbergen Ar 40.02 358 P P 12 52 24.7 -2.0
comp=Z,7.8nm,0.8s,baz=162,slow=11,SNR=6.0
comp=Z,7.8nm,0.8s
LIC Lamto 40.12 224 ⇑*e*P P 12 52 28.8 +0.7
comp=Z,36nm,0.6s
KURK Kurchatov 41.42 54 P P 12 52 38.4 -0.2
KURK IAmb IAmb 12 52 39.5
comp=Z,8.4nm,1.1s
KURK Kurchatov 41.42 54 *i*P P 12 52 37.3 -1.2
KURK pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 41.68 71 P P 12 52 41.3 +0.3
KSH sP sP 12 52 49.8 +3.8
KSH pmax pmax
comp=Z,4.0nm,1.1s
TARG Taragay, Kyrgy 42.43 67 P P 12 52 46.5 -1.0
TARG Taragay, Kyrgy 42.43 67 P P 12 52 46.5 -1.0
TARG pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 44.20 59 P 12 53 00.1 -1.1
MAKZ IAmb IAmb 12 53 02.3
comp=Z,8.5nm,0.7s
MAKZ Makanchi 44.20 59 P P 12 53 00.1 -1.1
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 44.41 59 P P 12 53 03.3 +0.5
MK31 Makanchi Array 44.41 59 *i*P P 12 53 01.8 -1.1
MK31 pmax pmax
comp=Z,23nm,0.5s
MKAR Makanchi Array 44.41 59 P P 12 53 03.3 +0.4
comp=Z,19nm,0.5s,baz=278,slow=7.0,SNR=253
MKAR PcP **PcP** 12 54 47.4 +0.9
comp=Z,0.3nm,0.5s,baz=277,slow=3.6,SNR=1.7
MKAR S **S** 12 59 35.6 -1.8
comp=Z,0.1nm,0.3s,baz=141,slow=22,SNR=2.4
comp=Z,19nm,0.5s
MKAR Makanchi Array 44.41 59 P 12 53 02.8 -0.1
ZAA0 Zalesovo Array 44.88 48 P 12 53 06.5 +0.1
ZALV Zalesovo Beam 44.88 48 P P 12 53 06.4 0.0
comp=Z,10nm,0.5s,baz=274,slow=8.7,SNR=62
comp=Z,10nm,0.5s
DGZ Jazzator, Alta 47.17 54 *ce*P P 12 53 25.3 +0.5
DGZ pmax pmax
comp=Z,5.0nm,0.8s
WMQ Urumqi 48.85 61 *e*P P 12 53 38.6 +0.8
WMQ pmax pmax
comp=Z,13nm,0.7s
FRB Frobisher Bay 56.53 328 P P 12 54 34.8 +0.7
comp=Z,1.8nm,0.5s,baz=67,slow=8.1,SNR=6.0
comp=Z,1.8nm,0.5s
GTA Gaotai 58.91 62 *e*P P 12 54 51.3 -0.2
GTA sP sP 12 55 04.9 +8.3
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA pmax pmax
comp=Z,120nm,5.8s
GTA LR LR
comp=Z,130nm,14.5s
GTA LR LR
comp=Z,120nm,15.6s
GTA LR LR
comp=Z,210nm,19.3s
SCHQ Schefferville 58.99 318 P P 12 54 52.0 +0.4
comp=Z,4.9nm,1.0s,baz=78,slow=5.8,SNR=6.2
comp=Z,4.9nm,1.0s
SCHQ Schefferville 58.99 318 P P 12 54 50.4 -1.2
SCHQ IAmb IAmb 12 55 00.8
comp=Z,5.4nm,1.1s
SONM Songino Array 59.63 51 P P 12 54 56.4 +0.1
comp=Z,1.2nm,0.8s,baz=277,slow=7.0,SNR=8.6
comp=Z,1.2nm,0.8s
SONM Songino Array 59.63 51 P P 12 54 56.4 +0.1
SONM Songino Array 59.63 51 P P 12 54 56.4 +0.1
SONM pmax pmax
comp=Z,2.0nm,1.1s
ULN Ulaanbaatar 60.02 51 ⇓*e*P P 12 54 58.5 -0.5
ULN pmax pmax
comp=Z,2.0nm,1.2s
LMN Caledonia Moun 61.64 308 P P 12 55 09.7 -0.2
BATG Bathurst New B 61.77 309 P P 12 55 12.2 +1.5
HHC Hu-ho-hao-te 66.16 56 *e*P P 12 55 40.4 +0.5
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,260nm,4.4s
PZH PanZhiHua 66.65 74 P P 12 55 44.1 +0.8
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.2s
A36M Sachs Harbour 67.55 349 P P 12 55 49.5 +1.5
A36M IAmb IAmb 12 55 55.2
comp=Z,4.0nm,0.9s
KMI Kunming 68.15 75 ⇓P P 12 55 53.2 +0.3
KMI pmax pmax
comp=Z,12nm,0.6s
CMAR Chiang Mai Arr 68.93 83 P P 12 55 56.8 -0.7
comp=Z,0.6nm,0.4s,baz=306,slow=7.7,SNR=1.5
comp=Z,0.6nm,0.4s
C36M Paulatuk 69.71 348 P P 12 56 01.8 +0.2
C36M IAmb IAmb 12 56 05.1
comp=Z,1.9nm,0.8s
HEH HeiHe 70.30 41 *e*P P 12 56 05.5 0.0
HEH pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 70.65 13 *i*P P 12 56 08.7 +1.3
BILL *i* 12 56 26.3
BILL pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 72.07 351 P P 12 56 16.8 +0.9
comp=Z,0.4nm,0.4s,baz=91,slow=19,SNR=2.4
comp=Z,0.4nm,0.4s
INK Inuvik 72.07 351 P P 12 56 16.9 +0.9
INK IAmb IAmb 12 56 51.4
comp=Z,5.2nm,1.5s
INK Inuvik 72.07 351 P P 12 56 16.9 +1.0
INK pmax pmax
comp=Z,5.0nm,1.5s
CN2 Changchun 73.09 47 P P 12 56 24.8 +2.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KLR Kul'dur 73.15 40 P P 12 56 22.0 -0.7
comp=Z,2.0nm,0.8s,baz=337,slow=3.5,SNR=6.5
comp=Z,2.0nm,0.8s
KLR Kul'dur 73.15 40 ⇑*e*P P 12 56 22.5 -0.2
KLR pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 73.57 340 P P 12 56 25.5 +0.6
comp=Z,0.4nm,0.6s,baz=48,slow=6.9,SNR=5.7
comp=Z,0.4nm,0.6s
EPYK Eagle Plains 74.31 351 P P 12 56 29.3 0.0
EPYK IAmb IAmb 12 56 33.1
comp=Z,3.0nm,1.1s
NJ2 Nanjing 75.92 60 *e*P P 12 56 38.2 -0.9
NJ2 pmax pmax
comp=Z,14nm,0.5s
ULM Lac du Bonnet 76.14 324 P P 12 56 40.1 +0.2
comp=Z,4.2nm,0.8s,baz=45,slow=5.5,SNR=7.9
comp=Z,4.2nm,0.8s
ULM Lac du Bonnet 76.14 324 P P 12 56 39.7 -0.3
ULM IAmb IAmb 12 56 47.8
comp=Z,4.2nm,0.8s
H21K Melozitna Rive 76.26 358 P P 12 56 42.6 +2.2
H21K IAmb IAmb 12 56 46.0
comp=Z,3.8nm,0.8s
R53A Hurricane 76.39 308 P P 12 56 42.8 +1.1
USA0B Ussuriysk Arra 76.51 44 P P 12 56 41.5 -0.8
USA0B Ussuriysk Arra 76.51 44 P P 12 56 41.5 -0.8
USA0B pmax pmax
comp=Z,9.0nm,0.8s
USRK Ussuriysk Ar. 76.51 44 P P 12 56 41.5 -0.7
comp=Z,1.5nm,0.7s,baz=50,slow=7.7,SNR=2.3
comp=Z,1.5nm,0.7s
USRK Ussuriysk Ar. 76.51 44 P P 12 56 42.6 +0.4
USRK Ussuriysk Ar. 76.51 44 P P 12 56 42.6 +0.4
MDM Murphy Dome 76.74 356 P P 12 56 43.7 +0.4
MDM IAmb IAmb 12 56 54.3
comp=Z,4.5nm,1.3s
ILAR Eielson Array 76.84 355 P P 12 56 44.5 +0.7
comp=Z,0.5nm,0.8s,baz=352,slow=2.4,SNR=5.3
comp=Z,0.5nm,0.8s
ILAR Eielson Array 76.84 355 P P 12 56 45.1 +1.3
ILAR Eielson Array 76.84 355 P P 12 56 45.1 +1.3
DAWY Dawson 76.85 352 P P 12 56 44.1 +0.2
DAWY IAmb IAmb 12 57 03.1
comp=Z,2.1nm,0.8s

J26L Joseph Creek 76.85 354 P P 12 56 44.4 +0.5
J26L IAmb IAmb 12 56 46.3
comp=Z,7.4nm,1.4s
HDA Harding Lake 77.21 355 P P 12 56 44.9 -0.9
HDA IAmb IAmb 12 57 09.1
comp=Z,4.8nm,1.1s
GCPR Guaynabo City 77.21 283 P P 12 56 45.4 -1.2
WRH Wood River Hil 77.22 355 P P 12 56 45.4 -0.5
WRH IAmb IAmb 12 56 50.2
comp=Z,3.4nm,0.8s
KSRS Korea Array 78.50 51 P P 12 56 52.6 -0.8
comp=Z,1.6nm,0.7s,baz=311,slow=4.5,SNR=4.1
comp=Z,1.6nm,0.7s
ASAJ Asahikawa 82.08 39 P P 12 57 12.6 0.0
comp=Z,20nm,1.1s,baz=47,slow=8.1,SNR=3.5
comp=Z,20nm,1.1s
KDAK Kodiak Island 84.13 357 P P 12 57 24.1 +1.2
comp=Z,4.3nm,0.7s,baz=278,slow=6.8,SNR=1.7
comp=Z,4.3nm,0.7s
MJAR Matsushiro Arr 85.20 46 P P 12 57 29.1 +0.3
comp=Z,2.6nm,0.8s,baz=221,slow=12,SNR=4.0
comp=Z,2.6nm,0.8s
PDAR Pinedale Array 87.95 326 P P 12 57 42.1 -0.3
comp=Z,0.7nm,0.8s,baz=66,slow=3.7,SNR=6.1
comp=Z,0.7nm,0.8s
WRA Warramunga Arr 119.60 93 PKP PKPdf 13 03 40.9 -1.6
comp=Z,3.9nm,0.9s,baz=349,slow=1.9,SNR=1.4
ASAR Alice Springs 121.25 97 PKP PKPdf 13 03 45.3 -0.3
comp=Z,0.2nm,0.5s,baz=300,slow=1.3,SNR=5.3
DZM Mont Dzumac 145.72 72 PKPbc PKPdf 13 04 31.4 +0.2
comp=Z,5.1nm,0.8s,baz=217,slow=10,SNR=2.1

IDC 10 12:48:21.3±1.9, 4.80N×122.20E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=289.0km s-min=24.2km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.33**	**154**	P		P		12 54 08.3	+0.1
	1.7nm,0.3s,baz=332,slow=9.8,SNR=45 1.7nm,0.3s								
ASAR	**Alice Springs**	**30.51**	**159**	P		P		12 54 36.4	-0.1
	0.5nm,0.5s,baz=336,slow=7.9,SNR=26 0.5nm,0.5s								
MKAR	**Makanchi Array**	**54.16**	**327**	P		P		12 57 48.4	-0.1
	0.5nm,0.3s,baz=126,slow=7.4,SNR=10 0.5nm,0.3s								

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*NEIC **10** 12:54:56.2±2.3, 18.41N×107.145E±0.2, h199km±8km, mb4.4/41, Error ellipse: s-maj=22.5km s-min=10.5km az=83.0*
*IDC **10** 12:54:57.5±3.9, 18.34N×146.34E, h198km±30km, mb2.8/3, mbtmp3.5/4, Error ellipse: s-maj=271.5km s-min=25.6km az=111.0*
ISC 10 12:54:56.0±0.5, 18.45N±0.06×145.6E±0.1, h200km, n55, σ1°36/56, mb4.2/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.88**	**189**	P		P	**Pn**	**12 56 12.1**	**+3.1**
	14nm,0.3s,baz=18,slow=20,SNR=1.5								
GUMO				S			**Sn**	**12 57 08.6**	**+2.2**
	27nm,0.3s,baz=3.4,slow=19,SNR=2.5								
GUMO	**Guam**	**4.88**	**189**	Pn			**Pn**	**12 56 08.4**	**-0.5**
JCJ	**Chichijima**	**9.18**	**340**	Pn			**Pn**	**12 57 05.5**	**+1.0**
JMZ	**Minamidaito 2**	**15.22**	**301**	P			**Pn**	**12 58 19.3**	**-1.6**
JHJ2	**Mitsune**	**15.51**	**341**				**Pn**	**12 58 21.7**	**-2.6**
PATS	**Pohnpei**	**16.91**	**131**	P			**P**	**12 58 38.0**	**-2.0**
JSG	**Sagara**	**17.47**	**339**	P			**P**	**12 58 44.1**	**-1.8**
JMN	**Monobe**	**18.49**	**328**	P			**P**	**12 58 57.5**	**+0.3**
JGF	**Kuroka**	**18.59**	**338**	P			**P**	**12 58 57.4**	**-0.8**
JGF				IAmb			IAmb	12 59 29.5	
	comp=Z,14nm,1.1s								
MAJO	**Matsushiro**	**19.18**	**342**	P			**P**	**12 59 05.8**	**+1.3**
MAJO				IAmb			IAmb	12 59 42.5	
	comp=Z,22nm,1.2s								
MJB9	**Matsu-Tunnel**	**19.18**	**342**	P			**P**	**12 59 05.9**	**+1.4**
MJB9				IAmb			IAmb	12 59 43.9	
	comp=Z,21nm,1.2s								
JMM	**Marumori**	**19.81**	**349**	P			**P**	**12 59 09.9**	**-1.3**
MANU	**Manus Island**	**20.43**	**175**	P			**P**	**12 59 16.3**	**-1.8**
MANU				IAmb			IAmb	12 59 29.8	
	comp=Z,37nm,1.1s								
JKA	**Kamikawa-asahi**	**25.72**	**355**	P			**P**	**13 00 08.4**	**+0.6**
PMG	**Port Moresby**	**27.71**	**177**	P			**P**	**13 00 24.5**	**-1.4**
PMG				IAmb			IAmb	13 01 07.4	
	comp=Z,6.0nm,0.6s								
USA0B	**Ussuriysk Arra**	**28.11**	**339**	P			**P**	**13 00 28.8**	**-0.4**
USA0B				IAmb			IAmb	13 00 43.3	
	comp=Z,18nm,1.2s								
USRK	**Ussuriysk Ar.**	**28.11**	**339**	P			**P**	**13 00 28.9**	**-0.2**
CTAO	**Charters Tower**	**38.30**	**179**	P			**P**	**13 01 56.5**	**-0.8**
CTAO				IAmb			IAmb	13 02 38.4	
	comp=Z,22nm,1.3s								
WB0	**Warramunga Arr**	**39.54**	**197**	P			**P**	**13 02 07.6**	**-0.1**
WB0				IAmb			IAmb	13 02 18.9	
	comp=Z,9.8nm,1.4s								
WR0	**Warramunga Arr**	**39.69**	**196**	P			**P**	**13 02 07.0**	**-1.9**
WR0				IAmb			IAmb	13 02 38.6	
	comp=Z,8.8nm,1.5s								
WB2	**Warramunga Arr**	**39.72**	**197**	P			**P**	**13 02 07.6**	**-1.6**
WB2				IAmb			IAmb	13 02 11.0	
	comp=Z,8.0nm,1.3s								
WRA	**Warramunga Arr**	**39.72**	**197**	P			**P**	**13 02 11.5**	**+2.3**
	comp=Z,0.3nm,0.4s,baz=20,slow=8.7,SNR=6.7 comp=Z,0.3nm,0.4s								
WRA	**Warramunga Arr**	**39.72**	**197**	P			**P**	**13 02 08.7**	**-0.5**
AS31	**Alice Springs**	**43.39**	**196**	P			**P**	**13 02 39.1**	**+0.2**
ASAR	**Alice Springs**	**43.39**	**196**	P			**P**	**13 02 41.3**	**+2.4**
	comp=Z,0.3nm,1.0s,baz=19,slow=6.1,SNR=6.4 comp=Z,0.3nm,1.0s								
UNV	**Unalaska Valle**	**50.90**	**34**	P			**P**	**13 03 37.1**	**+0.6**
UNV				IAmb			IAmb	13 03 59.4	
	comp=Z,35nm,1.4s								
KDAK	**Kodiak Island**	**59.61**	**33**	P			**P**	**13 04 40.4**	**+1.8**
J20K	**Nowinta River**	**60.72**	**26**	P			**P**	**13 04 47.3**	**+1.2**
CAST	**Castle Rocks**	**61.35**	**27**	P			**P**	**13 04 52.0**	**+1.6**
IMAR	**Indian Mountai**	**61.48**	**24**	P			**P**	**13 04 50.9**	**-0.2**
I21K	**Tanana**	**61.92**	**25**	P			**P**	**13 04 54.0**	**-0.1**
I21K				IAmb			IAmb	13 05 13.5	
	comp=Z,4.8nm,1.4s								
BPAW	**Bear Paw Mtn.**	**62.01**	**26**	P			**P**	**13 04 55.7**	**+1.0**
BPAW				IAmb			IAmb	13 05 36.5	
	comp=Z,5.4nm,1.4s								
MLY	**Manley**	**62.38**	**25**	P			**P**	**13 04 58.9**	**+1.7**
MLY				IAmb			IAmb	13 05 43.3	
	comp=Z,4.0nm,1.4s								
SCM	**Sheep Creek Mo**	**63.10**	**29**	P			**P**	**13 05 01.6**	**-0.4**
SCM				IAmb			IAmb	13 05 09.4	
	comp=Z,13nm,1.4s								
WRH	**Wood River Hil**	**63.33**	**26**	P			**P**	**13 05 03.5**	**+0.1**
WRH				IAmb			IAmb	13 05 34.4	
	comp=Z,4.9nm,1.4s								
M24K	**Tolsona, Glenn**	**63.69**	**29**	P			**P**	**13 05 05.3**	**-0.5**
KLU	**Klutina**	**63.69**	**30**	P			**P**	**13 05 05.0**	**-1.0**
KLU				IAmb			IAmb	13 05 25.8	
	comp=Z,11nm,1.5s								
H24K	**Noodor Dome**	**63.74**	**25**	P			**P**	**13 05 08.0**	**+1.8**
ILAR	**Eielson Array**	**63.90**	**26**	P			**P**	**13 05 07.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=267,slow=4.5,SNR=2.9 comp=Z,0.2nm,0.6s								
BMRM	**Bremner River**	**64.24**	**31**	P			**P**	**13 05 10.4**	**+0.9**
BMRM				IAmb			IAmb	13 05 42.6	
	comp=Z,13nm,1.4s								
J25K	**Salcha River,**	**64.51**	**26**	P			**P**	**13 05 11.5**	**+0.3**
J25K				IAmb			IAmb	13 05 20.7	
	comp=Z,5.6nm,1.4s								
SCRK	**Sand Creek**	**64.99**	**27**	P			**P**	**13 05 14.6**	**+0.3**
MCARA	**McCarthy VSAT**	**65.05**	**30**	P			**P**	**13 05 14.0**	**-0.7**
MCARA				IAmb			IAmb	13 05 41.7	
	comp=Z,6.1nm,1.1s								
TUWZ	**Tuamarina**	**65.10**	**157**	P			**P**	**13 05 14.0**	**-1.1**
J26L	**Joseph Creek**	**65.26**	**27**	P			**P**	**13 05 17.1**	**+1.1**
BMAR	**Burnt Mountain**	**65.38**	**23**	P			**P**	**13 05 19.4**	**+2.7**
BCAR	**Beaver Creek A**	**65.84**	**28**	P			**P**	**13 05 21.2**	**+1.4**
PCA	**Pinnacle**	**66.28**	**32**	P			**P**	**13 05 24.5**	**+1.9**
PCA				IAmb			IAmb	13 05 46.7	
	comp=Z,12nm,0.9s								
INK	**Inuvik**	**69.63**	**23**	P			**P**	**13 05 43.8**	**+0.5**
C36M	**Paulatuk**	**73.01**	**22**	P			**P**	**13 06 04.7**	**+1.2**
ABKAR	**Akbulak array**	**73.48**	**317**	P			**P**	**13 06 06.8**	**+0.2**
PGC	**Sidney**	**76.98**	**43**	P			**P**	**13 06 27.0**	**+0.5**
HRY	**Holter Researc**	**85.05**	**42**	P			**P**	**13 07 09.8**	**+0.5**
PD31	**Pinedale Array**	**88.05**	**45**	P			**P**	**13 07 24.0**	**-0.2**
PDAR	**Pinedale Array**	**88.05**	**45**	P			**P**	**13 07 23.5**	**-0.7**

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*IDC **10** 13:32:16.3±0.7, 6.75N×72.95W, h165km±10km, mb3.5/5, mbtmp4.1/8, Error ellipse: s-maj=34.2km s-min=7.6km az=130.0*
*NEIC **10** 13:32:16.3±1.4, 6.79N±0.08×73.00W±0.09, h154km±9km, mb4.1/32, Error ellipse: s-maj=14.2km s-min=10.3km az=122.0*
*RSNC **10** 13:32:17.8±1.2, 6.80N×73.13W, h151km±4km, ML3.8, Mw4.1*
ISC 10 13:32:16.2±0.6, 6.82N±0.03×73.10W±0.04, h157km±5km, n87, σ1°42/119, mb4.1/19, 1C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**201**	⇓*i*	P		**Pn**	**13 32 38.1**	**+0.4**
BARC					eS		**Sn**	**13 32 53.5**	**-0.6**
BARC					*i*			13 32 54.7	
	comp=Z,2μm,0.4s								
PAMC	**Pamplona, Colo**	**0.65**	**37**	*i*	P		**Pn**	**13 32 40.9**	**+1.1**
PAMC					eS		**Sn**	**13 32 58.2**	**+0.5**
PAMC					*i*			13 33 00.4	
	comp=Z,1μm,0.5s								
BRRC	**Barranca, Sant**	**0.68**	**295**	⇑*i*	P		**Pn**	**13 32 40.0**	**+0.7**
BRRC					eS		**Sn**	**13 32 57.3**	**+0.4**
BRRC					*i*			13 33 00.9	
	comp=Z,2μm,0.5s								
RUSC	**La Rusia**	**0.92**	**179**				**Pn**	**13 32 41.5**	**-0.1**
RUSC	**La Rusia**	**0.92**	**179**	⇓*i*	P		**Pn**	**13 32 41.9**	**+0.3**
RUSC					eS		**Sn**	**13 33 00.7**	**-0.3**
RUSC					*i*			13 33 01.8	
	comp=Z,717nm,0.4s								
TAMC	**Tame, Arauca**	**1.35**	**106**	⇓*i*	P		**Pn**	**13 32 46.3**	**+1.4**
TAMC					*i*			13 33 07.2	
	comp=Z,433nm,0.4s								
TAMC					eS		**Sn**	**13 33 08.1**	**+1.3**
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	*e*	P		**Pn**	**13 32 44.7**	**-0.4**
PTBC					eS		**Sn**	**13 33 06.0**	**-1.3**
PTBC					*i*			13 33 08.2	
	comp=Z,550nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*	P		**Pn**	**13 32 50.7**	**+0.3**
ZARC					eS		**Sn**	**13 33 15.9**	**-0.7**
ZARC					*i*			13 33 23.8	
	comp=Z,458nm,0.1s								
CHIC	**Chingaza**	**2.26**	**196**	*i*	P		**Pn**	**13 32 55.7**	**+0.5**
CHIC					eS		**Sn**	**13 33 25.3**	**-0.1**
CHIC					*i*			13 33 33.5	
	comp=Z,336nm,0.4s								
ROSC	**El Rosal**	**2.31**	**212**	P			**Pn**	**13 32 57.6**	**+1.8**
	comp=Z,256nm,0.3s,baz=80,slow=9.6,SNR=77								
ROSC					S		**Sn**	**13 33 28.0**	**+1.7**
	comp=Z,455nm,0.3s,baz=134,slow=20,SNR=12								
ROSC	**El Rosal**	**2.31**	**212**				**Pn**	**13 32 57.3**	**+1.5**
ROSC	**El Rosal**	**2.31**	**212**	⇓*i*	P		**Pn**	**13 32 57.6**	**+1.8**
ROSC					eS		**Sn**	**13 33 28.6**	**+2.3**
ROSC					*i*			13 33 34.1	
	comp=Z,909nm,0.6s								
UREC	**San Jos de Ur**	**2.59**	**291**	*e*	P		**Pn**	**13 32 58.0**	**-0.8**
UREC					eS		**Sn**	**13 33 29.1**	**-2.6**
UREC					*i*			13 33 40.5	
	comp=Z,505nm,0.2s								
LL1C	**La Loma 1 Cana**	**2.75**	**350**	*e*	P		**Pn**	**13 33 02.6**	**+1.9**
LL1C					eS		**Sn**	**13 33 38.5**	**+3.3**
LL1C					*i*			13 33 45.8	
	comp=Z,2μm,0.3s								
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*e*	P		**Pn**	**13 33 02.1**	**+0.8**
GUY2C					eS		**Sn**	**13 33 37.1**	**+1.0**
GUY2C						IAML		13 33 44.4	
	comp=Z,362nm,0.3s								
PTGC	**Puerto Gaitan,**	**2.77**	**160**	*i*	P		**Pn**	**13 33 00.9**	**-0.1**
PTGC					eS		**Sn**	**13 33 34.2**	**-1.5**
PTGC					*i*			13 33 39.3	
	comp=Z,151nm,0.2s								
LL5C	**La Loma 5 El P**	**2.98**	**348**	*e*	P		**Pn**	**13 33 04.7**	**+1.1**
LL5C					eS		**Sn**	**13 33 42.5**	**+2.1**
LL5C					*i*			13 33 44.3	
	comp=Z,621nm,0.3s								
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*e*	P		**Pn**	**13 33 05.7**	**+1.0**
CBOC					eS		**Sn**	**13 33 42.3**	**+0.2**
CBOC					*i*			13 33 51.5	
	comp=Z,98nm,0.5s								
DBBC	**Dabeiba**	**3.10**	**274**	*e*	P		**Pn**	**13 33 06.1**	**+0.9**
DBBC					eS		**Sn**	**13 33 42.7**	**-0.4**
DBBC					*i*			13 33 45.7	
	comp=Z,143nm,0.4s								
SDV	**Santo Domingo**	**3.19**	**50**	P			**Pn**	**13 33 07.3**	**+0.9**
	comp=Z,193nm,0.3s,baz=218,slow=5.0,SNR=219								
SDV					S		**Sn**	**13 33 44.5**	**-0.8**
	comp=Z,77nm,0.4s,baz=233,slow=20,SNR=13								
SDV	**Santo Domingo**	**3.19**	**50**				**Pn**	**13 33 06.9**	**+0.5**
ARGC	**Ariguani, Magd**	**3.23**	**339**	*e*	P		**Pn**	**13 33 07.9**	**+1.1**
ARGC					eS		**Sn**	**13 33 47.1**	**+1.0**
ARGC					*i*			13 34 00.4	
	comp=Z,128nm,0.3s								
ORTC	**Ortega, Tolima**	**3.60**	**217**	*e*	P		**Pn**	**13 33 12.0**	**+0.5**
ORTC					eS		**Sn**	**13 33 55.5**	**+1.0**
ORTC					*i*			13 34 02.2	
	comp=Z,320nm,0.3s								
SJCC	**San Jacinto, C**	**3.69**	**326**	*e*	P		**Pn**	**13 33 12.4**	**-0.3**
SJCC					eS		**Sn**	**13 33 53.2**	**-3.4**
SJCC					*i*			13 33 59.1	
	comp=Z,128nm,0.3s								
PLMC	**San Jos del P**	**3.70**	**239**	*e*	P		**Pn**	**13 33 13.4**	**+0.6**
PLMC					eS		**Sn**	**13 33 54.5**	**-2.3**
PLMC					*i*			13 33 57.6	
	comp=Z,91nm,0.7s								
LCBC	**Los crdobas,**	**3.82**	**302**	*e*	P		**Pn**	**13 33 14.8**	**+0.4**
LCBC					eS		**Sn**	**13 34 00.9**	**+1.3**
LCBC					*i*			13 34 02.8	
	comp=Z,129nm,0.4s								
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	*e*	P		**Pn**	**13 33 18.2**	**-0.9**
CRJC					eS		**Sn**	**13 34 06.5**	**-1.7**
CRJC					*i*			13 34 12.4	
	comp=Z,180nm,0.2s								
GUVC	**San Jose del G**	**4.27**	**174**	*e*	P		**Pn**	**13 33 20.4**	**+0.1**
GUVC					eS		**Sn**	**13 34 08.8**	**-1.3**
GUVC					*i*			13 34 15.6	
	comp=Z,108nm,0.2s								
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*	P		**Pn**	**13 33 20.4**	**-0.2**
YOTC					eS		**Sn**	**13 34 12.3**	**+1.6**
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*	P		**Pn**	**13 33 22.7**	**0.0**
SMRC					eS		**Sn**	**13 34 11.3**	**-3.3**
SMRC					*i*			13 34 14.2	
	comp=Z,100nm,0.3s								
MACC	**Macarena, Meta**	**4.70**	**189**	*e*	P		**Pn**	**13 33 24.8**	**-1.1**
MACC					eS		**Sn**	**13 34 17.4**	**-2.9**
MACC					*i*			13 34 22.5	
	comp=Z,65nm,0.5s								
URIC	**Uribia, Colomb**	**4.97**	**13**				**Pn**	**13 33 28.0**	**-1.4**
URIC	**Uribia, Colomb**	**4.97**	**13**	*e*	P		**Pn**	**13 33 28.2**	**-1.2**
URIC					eS		**Sn**	**13 34 22.5**	**-4.1**
URIC					*i*			13 34 28.8	
	comp=Z,30nm,0.6s								
GARC	**Garzon, Huila**	**5.18**	**208**	*e*	P		**Pn**	**13 33 31.9**	**-0.5**
GARC					eS		**Sn**	**13 34 26.8**	**-5.2**
GARC					*i*			13 34 34.2	
	comp=Z,104nm,0.3s								
BAUV	**El Baul**	**5.43**	**67**				**Pn**	**13 33 33.6**	**-1.9**
FLOC	**Florencia**	**5.79**	**206**	*e*	P		**Pn**	**13 33 40.4**	**+0.1**
FLOC					eS		**Sn**	**13 34 42.8**	**-3.3**
FLOC					*i*			13 34 51.5	
	comp=Z,15nm,0.5s								
HATO	**Hato, Curacao**	**6.71**	**37**	Pn			**Pn**	**13 33 51.0**	**-1.5**
GCUF	**Volcan Galeras**	**6.99**	**218**	*e*	P		**Pn**	**13 33 59.8**	**+3.2**
GCUF					eS		**Sn**	**13 35 13.0**	**-2.3**
BCIP	**Isla Barro Col**	**7.07**	**290**	Pn			**Pn**	**13 33 56.0**	**-1.3**
TULM	**Tulcn-Chalpat**	**7.66**	**218**				**Pn**	**13 34 03.9**	**-1.6**
PULU	**Pululahua**	**8.64**	**219**	Pn			**Pn**	**13 34 19.1**	**+0.6**
CVTR	**Volcan Turrial**	**11.02**	**288**	Pn			**Pn**	**13 34 50.7**	**+0.7**
MTDJ	**Mount Denham**	**12.14**	**340**	Pn			**Pn**	**13 35 06.6**	**+2.4**
GTBY	**Guantanamo Bay**	**13.18**	**352**	P			**P**	**13 35 21.7**	**-0.1**
BOAV	**Boa Vista**	**13.28**	**109**	Pn			**Pn**	**13 35 16.9**	**-1.9**
ATAH	**Atahualpa**	**14.83**	**201**	P			**Pn**	**13 35 39.5**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=13,slow=5.9,SNR=2.2								
ETMB	**Extrema**	**17.89**	**157**	P			**P**	**13 36 13.0**	**-0.9**
ETMB				IAmb			IAmb	13 36 14.2	
	comp=Z,3.6nm,0.7s								
CCM	**Cathedral Cave**	**35.19**	**335**	P			**P**	**13 38 55.2**	**0.0**
TX31	**Lajitas Ar. Si**	**36.48**	**312**	P			**P**	**13 39 07.6**	**+1.1**
TX31				IAmb			IAmb	13 39 07.7	
	comp=Z,2.2nm,0.7s								
TX32	**Lajitas Array**	**36.48**	**312**	P			**P**	**13 39 07.6**	**+1.0**
TXAR	**Lajitas Array**	**36.48**	**312**	P			**P**	**13 39 07.2**	**+0.7**
P40A	**Paris**	**36.76**	**335**	P			**P**	**13 39 08.4**	**-0.2**
P40A				IAmb			IAmb	13 39 09.8	
	comp=Z,5.5nm,0.8s								
P38A	**Dawn**	**37.48**	**334**	P			**P**	**13 39 15.1**	**+0.4**
BATG	**Bathurst New B**	**40.76**	**7**	P			**P**	**13 39 42.9**	**+1.1**
SDCO	**Great Sand Dun**	**42.57**	**321**	P			**P**	**13 39 58.1**	**+1.1**
EYMN	**Ely**	**43.88**	**342**	P			**P**	**13 40 07.3**	**+0.3**
PV13	**Radium Mtn., P**	**44.92**	**319**	P			**P**	**13 40 16.7**	**+0.9**
PV13				IAmb			IAmb	13 40 23.1	
	comp=Z,2.5nm,0.8s								
ULM	**Lac du Bonnet**	**47.30**	**340**	P			**P**	**13 40 33.4**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=139,slow=6.7,SNR=5.9 comp=Z,1.9nm,0.4s								
ULM	**Lac du Bonnet**	**47.30**	**340**	P			**P**	**13 40 33.3**	**-0.4**
ULM				IAmb			IAmb	13 40 34.8	
	comp=Z,2.8nm,0.8s								
PDAR	**Pinedale Array**	**48.10**	**324**	P			**P**	**13 40 40.7**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=126,slow=9.0,SNR=6.5 comp=Z,0.3nm,0.4s								
PDAR	**Pinedale Array**	**48.10**	**324**	P			**P**	**13 40 41.1**	**+0.7**
SCHQ	**Schefferville**	**48.14**	**5**	P			**P**	**13 40 41.0**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=195,slow=15,SNR=1.3 comp=Z,2.2nm,0.8s								
SCHQ	**Schefferville**	**48.14**	**5**	P			**P**	**13 40 41.2**	**+0.9**
BGU	**Big Grassy Mou**	**49.16**	**320**	P			**P**	**13 40 48.9**	**+0.4**
DGMT	**Dagmar**	**49.16**	**333**	P			**P**	**13 40 48.4**	**+0.2**
HRY	**Holter Researc**	**51.79**	**327**	P			**P**	**13 41 09.1**	**+1.0**
FFC	**Flin Flon**	**53.10**	**339**	P			**P**	**13 41 17.4**	**+0.1**
FFC				IAmb			IAmb	13 41 27.7	
	comp=Z,6.2nm,1.4s								
FCC	**Fort Churchill**	**54.28**	**347**	P			**P**	**13 41 24.1**	**-1.8**
FCC				IAmb			IAmb	13 41 24.5	
	comp=Z,2.1nm,0.6s								
F10A	**Beach Ranch, E**	**54.44**	**323**	P			**P**	**13 41 27.6**	**+0.2**
G08A	**Pilot Rock**	**55.13**	**322**	P			**P**	**13 41 33.2**	**+0.8**
G08A				IAmb			IAmb	13 41 46.5	
	comp=Z,4.9nm,1.4s								
EDM	**Edmonton**	**56.64**	**332**	P			**P**	**13 41 42.9**	**0.0**
EDM				IAmb			IAmb	13 42 24.4	
	comp=Z,3.4nm,0.9s								
YKA	**Yellowknife Ar**	**63.28**	**340**	P			**P**	**13 42 27.4**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=133,slow=6.5,SNR=23 comp=Z,1.3nm,0.6s								
M30M	**Minto, Yukon**	**72.05**	**334**	P			**P**	**13 43 23.5**	**+0.6**
A36M	**Sachs Harbour**	**72.44**	**345**	P			**P**	**13 43 24.9**	**-0.1**
A36M				IAmb			IAmb	13 43 26.0	
	comp=Z,3.7nm,0.8s								
INK	**Inuvik**	**73.04**	**340**	P			**P**	**13 43 29.3**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=119,slow=6.6,SNR=4.7 comp=Z,1.5nm,1.0s								
INK	**Inuvik**	**73.04**	**340**	P			**P**	**13 43 28.9**	**+0.3**
INK				IAmb			IAmb	13 43 29.4	
	comp=Z,3.0nm,1.2s								
M27K	**Edge Creek, AK**	**74.22**	**333**	P			**P**	**13 43 37.6**	**+1.8**
M27K				IAmb			IAmb	13 44 01.4	
	comp=Z,7.3nm,1.4s								
BMAR	**Burnt Mountain**	**76.67**	**338**	P			**P**	**13 43 50.3**	**+0.7**
HDA	**Harding Lake**	**76.93**	**335**	P			**P**	**13 43 51.2**	**+0.2**
SUA	**Susitna One**	**78.15**	**331**	P			**P**	**13 43 58.8**	**+0.8**
SUA				IAmb			IAmb	13 44 05.4	
	comp=Z,8.7nm,1.4s								
PPLA	**Purkeypile**	**79.00**	**333**	P			**P**	**13 44 03.0**	**+0.3**
PPLA				IAmb			IAmb	13 44 28.7	
	comp=Z,10.0nm,1.4s								
J20K	**Nowinta River**	**80.00**	**334**	P			**P**	**13 44 08.3**	**+0.4**
J20K				IAmb			IAmb	13 44 40.3	
	comp=Z,5.1nm,1.4s								
L19K	**White Mountain**	**80.16**	**332**	P			**P**	**13 44 08.7**	**-0.2**
L19K				IAmb			IAmb	13 44 43.0	
	comp=Z,5.8nm,1.4s								
SVW2	**Sparrevohn**	**80.44**	**331**	P			**P**	**13 44 10.1**	**-0.1**
SVW2				IAmb			IAmb	13 44 16.3	
	comp=Z,5.6nm,1.3s								
ARCES	**ARCESS Array B**	**86.67**	**20**	P			**P**	**13 44 42.2**	**+0.4**
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc			**PKPbc**	**13 51 45.8**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=117,slow=3.7,SNR=8.6								
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc			**PKPbc**	**13 51 48.4**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=107,slow=2.8,SNR=7.1								

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*IDC **10** 13:48:34.5±1.1, 14.74N×144.40E, h0km, mb3.8/8, mbtmp3.8/8, MS3.5/2, Error ellipse: s-maj=40.6km s-min=14.5km az

GUMO	**Guam**	**1.20**	**151**	Pn		Pn		13 54 11.0	+0.6
	42nm,0.3s,baz=328,slow=13,SNR=5.3								
GUMO				Sn		Sn		13 54 26.8	-0.6
	92nm,0.3s,baz=350,slow=23,SNR=20								
H11S3	**WAKE ISLAND Hy**	**21.82**	**77**	T		T		14 21 34.6	
	baz=261								
H11S1	**WAKE ISLAND Hy**	**21.84**	**77**	T		T		14 21 32.7	
	baz=261								
H11S2	**WAKE ISLAND Hy**	**21.84**	**77**	T		T		14 21 31.3	
	baz=261								
WRA	**Warramunga Arr**	**35.73**	**196**	P		P		14 00 47.0	0.0
	0.5nm,0.9s,baz=18,slow=9.8,SNR=3.1								
	0.5nm,0.9s								
DZM	**Mont Dzumac**	**42.48**	**149**	LR		LR		14 17 59.7	
	comp=Z,67nm,18.2s,baz=192,slow=34								
SONM	**Songino Array**	**45.54**	**325**	P		P		14 02 07.4	-0.6
	0.2nm,0.5s,baz=113,slow=9.6,SNR=2.6								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**60.33**	**316**	P		P		14 03 57.3	+0.2
	0.3nm,0.8s,baz=89,slow=6.4,SNR=2.4								
	0.3nm,0.8s								

KRSC 10 14:08:14.5±1.3, 50.55N×159.97E, h51km±34km, MI3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.74**	**317**	*eP*	Pn	14 08 44.6	+2.4
KDTR				*eS*	Sn	14 09 05.2	+2.0
RUS	**Russkaya**	**2.10**	**335**	*eP*	Pn	14 08 49.7	+2.6
RUS				*eS*	Sn	14 09 14.0	+2.0
MTVR	**Mutnovka**	**2.24**	**331**	*eP*	Pn	14 08 52.1	+2.8
MTVR				*eS*	Sn	14 09 18.7	+3.0
GRL	**Gorelyy**	**2.33**	**330**	*eP*	Pn	14 08 54.2	+3.7
GRL				*eS*	Sn	14 09 21.7	+3.7
SKR	**Severo-Kuril's**	**2.46**	**275**	*eP*	Pn	14 08 53.4	+1.3
SPN	**Mys Shipunski**	**2.56**	**1**	*eP*	Pn	14 08 56.4	+2.9
SPN				*eS*	Sn	14 09 26.0	+2.7
KRMR	**Karymshinskiy**	**2.56**	**334**	*eP*	Pn	14 08 56.6	+3.1
KRMR				*eS*	Sn	14 09 27.5	+4.1
DALK	**Dalny**	**2.60**	**344**	*eP*	Pn	14 08 57.0	+3.0
DALK				*eS*	Sn	14 09 26.6	+2.2
PET	**Petropavlovsk**	**2.61**	**342**	*eP*	Pn	14 08 57.0	+2.8
PET				*eS*	Sn	14 09 27.4	+2.7
NLC	**Nalytchevo**	**2.66**	**352**	*eP*	Pn	14 08 59.0	+4.2
NLC				*eS*	Sn	14 09 30.6	+4.8
INSR	**Institute**	**2.66**	**342**	*eS*	Sn	14 09 29.5	+3.6
UGLR	**Uglovaya**	**2.76**	**346**	*eP*	Pn	14 08 59.6	+3.3
UGLR				*eS*	Sn	14 09 31.6	+3.1
SDLR	**Sedlovina**	**2.82**	**347**	*eP*	Pn	14 09 00.1	+2.9
AVH	**Avacha**	**2.83**	**345**	*eP*	Pn	14 09 01.4	+4.1
KRER	**Koryakskii**	**2.87**	**345**	*eP*	Pn	14 09 01.5	+3.6
KRER				*eS*	Sn	14 09 35.1	+3.9
KOK	**Koryaka**	**2.87**	**344**	*eP*	Pn	14 09 01.8	+3.9
KOK				*eS*	Sn	14 09 35.4	+4.2
KRX	**Arik**	**2.94**	**344**	*eP*	Pn	14 09 02.1	+3.4
KRX				*eS*	Sn	14 09 36.8	+4.0
GNL	**Ganaly**	**3.39**	**339**	*eP*	Pn	14 09 08.6	+3.6
GNL				*eS*	Sn	14 09 47.7	+3.7
TUMD	**Tumrok D**	**4.67**	**3**	*eP*	Pn	14 09 26.5	+4.0
TUMD				*eS*	Sn	14 10 18.3	+2.9
BKI	**Bering**	**5.91**	**36**	*eP*	Pn	14 09 42.9	+3.5
KBTR	**Krutoberegovo**	**5.92**	**16**	*eP*	Pn	14 09 43.4	+3.9

NEIC ***10*** *14:18:27.9±1.6, 5.46S×147.1E±0.1, h167km±12km, mb4.3/12, Error ellipse: s-maj=18.1km s-min=12.4km az=100.0*

IDC ***10*** *14:18:31.7±3.2, 5.98S×147.62E, h214km±19km, mb3.4/2, mbtmp4.0/4, Error ellipse: s-maj=50.6km s-min=27.3km az=122.0*

ISC 10 14:18:26.9±0.9, 5.53S±0.07×147.0E±0.1, h150km, n22, σ1ᵍ91/25, mb4.2/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.48**	**6**	Pn	**Pn**	**14 19 21.0**	**+0.5**
PMG	**Port Moresby**	**3.85**	**178**	P	**Pn**	**14 19 27.5**	**+2.2**
	20nm,0.3s,baz=3.2,slow=7.0,SNR=46						
PMG				S	**Sn**	**14 20 11.4**	**+0.7**
	50nm,0.4s,baz=15,slow=19,SNR=17						
PMG	**Port Moresby**	**3.85**	**178**	Pn	**Pn**	**14 19 27.3**	**+2.0**
RABL	**Rabaul**	**5.32**	**76**	Pn	**Pn**	**14 19 45.0**	**+0.5**
COEN	**Coen**	**9.18**	**204**	Pn	**Pn**	**14 20 39.6**	**+3.5**
CTAO	**Charters Tower**	**14.49**	**183**	P	**P**	**14 21 48.4**	**+0.9**
MTN	**Manton Dam**	**17.26**	**244**		**P**	**14 22 10.7**	**+1.6**
WB0	**Warramunga Arr**	**18.73**	**220**	P	**P**	**14 22 34.6**	**+0.4**
WR0	**Warramunga Arr**	**18.78**	**219**	P	**P**	**14 22 35.1**	**+0.4**
WR0				IAmb	IAmb	14 22 36.1	
	comp=Z,8.2nm,0.8s						
WRAB	**Tennant Creek**	**18.88**	**220**	P	**P**	**14 22 36.2**	**+0.3**
WRAB				IAmb	IAmb	14 22 37.4	
	comp=Z,9.2nm,0.8s						
WB2	**Warramunga Arr**	**18.88**	**220**	P	**P**	**14 22 36.3**	**+0.4**
WB2				IAmb	IAmb	14 22 37.5	
	comp=Z,9.1nm,0.9s						
WRA	**Warramunga Arr**	**18.89**	**220**	P	**P**	**14 22 36.7**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=50,slow=12,SNR=52						
WRA				S	**S**	**14 26 00.6**	**-2.3**
	comp=Z,0.7nm,0.7s,baz=41,slow=20,SNR=5.6						
KNRA	**Kununurra**	**20.54**	**239**	P	**P**	**14 22 54.2**	**+0.4**
KNRA				IAmb	IAmb	14 23 13.3	
	comp=Z,24nm,1.2s						
AS31	**Alice Springs**	**22.00**	**214**	P	**P**	**14 23 09.1**	**-0.2**
ASAR	**Alice Springs**	**22.00**	**214**	P	**P**	**14 23 09.3**	**0.0**
	comp=Z,3.7nm,0.7s,baz=49,slow=8.6,SNR=72						
ASAR				S	**S**	**14 26 58.6**	**-3.2**
	comp=Z,0.4nm,0.8s,baz=32,slow=20,SNR=2.4						
	comp=Z,3.7nm,0.7s						
ASAR	**Alice Springs**	**22.00**	**214**	P	**P**	**14 23 08.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**24.31**	**237**	P	**P**	**14 23 32.3**	**+1.6**
ARMA	**Armidale**	**25.14**	**171**	P	**P**	**14 23 36.3**	**-2.0**
ARMA				IAmb	IAmb	14 24 01.1	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**26.70**	**190**	P	**P**	**14 23 47.0**	**-5.2**
	comp=Z,0.6nm,0.4s,baz=16,slow=14,SNR=3.2						
	comp=Z,0.6nm,0.4s						
BBOO	**Buckleboo**	**29.00**	**199**	P	**P**	**14 24 10.9**	**-1.7**
CAN	**Canberra**	**29.70**	**177**	P	**P**	**14 24 17.5**	**-1.4**
CAN				IAmb	IAmb	14 24 27.7	
	comp=Z,16nm,1.3s						
TOO	**Toolangi**	**31.92**	**182**	P	**P**	**14 24 38.0**	**-0.3**

IDC ***10*** *14:19:24.0±0.6, 50.26N×173.58W, h0km, mb4.3/30, mbtmp4.3/32, ML4.1/2, MS3.8/8, Error ellipse: s-maj=19.3km s-min=11.0km az=178.0*

MOS ***10*** *14:19:25.4±0.8, 50.31N×173.59W, h19km, mb4.7/54, Error ellipse: s-maj=7.5km s-min=5.3km az=94.4*

NEIC ***10*** *14:19:27.8±1.2, 50.34N±0.08×173.60W±0.09, h21km±5km, mb4.5/215, ML4.0(AEIC), Error ellipse: s-maj=12.2km s-min=7.8km az=169.0*

AEIC ***10*** *14:19:29.2±1.4, 50.24N±0.08×173.53W±0.08, h11km±3km, Error ellipse: s-maj=11.8km s-min=7.9km az=178.0*

ISC 10 14:19:29.2±0.4, 50.29N±0.06×173.57W±0.04, h35km, n623, σ1ᵍ03/620, mb4.5/147, MS4.0/10, 11C-10D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**2.39**	**320**		**Pn**	**14 20 04.0**	**-1.9**
ADK	**Adak**	**2.53**	**310**		**Pn**	**14 20 05.5**	**-2.3**
ADK	**Adak**	**2.53**	**310**	P	**Pn**	**14 20 05.5**	**-2.3**
KIWB	**Kanaga Island**	**2.75**	**306**		**Pn**	**14 20 09.0**	**-1.8**
CLES	**Cleveland East**	**3.42**	**41**	Pn	**Pn**	**14 20 19.0**	**-1.0**
NIKH	**Nikolski High**	**3.98**	**46**	Pn	**Pn**	**14 20 25.4**	**-2.3**
NIKH	**Nikolski High**	**3.98**	**46**	P	**Pn**	**14 20 25.5**	**-2.3**
	baz=231						
AMKA	**Amchitka**	**4.65**	**286**	Pn	**Pn**	**14 20 34.8**	**-2.0**
UNV	**Unalaska Valle**	**5.63**	**48**		**Pn**	**14 20 48.3**	**-2.0**
UNV	**Unalaska Valle**	**5.63**	**48**	P	**Pn**	**14 20 48.3**	**-2.0**
	baz=234						
AKUT	**Akutan**	**6.15**	**48**	Pn	**Pn**	**14 20 56.7**	**-0.7**
SPIA	**Saint Paul Isl**	**7.17**	**15**	Pn	**Pn**	**14 21 10.0**	**-1.5**
SPIA	**Saint Paul Isl**	**7.17**	**15**	P	**Pn**	**14 21 11.4**	**-0.1**
	baz=198						
SHEM	**Shemya Is, Ala**	**8.07**	**292**	Pn	**Pn**	**14 21 23.1**	**-0.7**
	14nm,0.3s,baz=130,slow=1.6,SNR=22						
SHEM				Sn	**Sn**	**14 22 49.7**	**-4.1**
	1.6nm,0.3s,baz=301,slow=21,SNR=1.4						
	23nm,0.3s						
SMY	**Shemya**	**8.07**	**292**	Pn	**Pn**	**14 21 22.9**	**-0.9**
SMY	**Shemya**	**8.07**	**292**	P	**Pn**	**14 21 22.9**	**-0.9**
S12K	**Black Hills**	**8.80**	**48**	P	**Pn**	**14 21 31.8**	**-2.1**
	baz=237						
SDPT	**Sand Point**	**9.40**	**52**		**Pn**	**14 21 40.8**	**-1.2**
SDPT	**Sand Point**	**9.40**	**52**	P	**Pn**	**14 21 40.0**	**-2.0**
	baz=243						
CHGN	**Chignik**	**10.87**	**51**		**Pn**	**14 22 00.3**	**-1.8**
CHGN	**Chignik**	**10.87**	**51**	P	**Pn**	**14 21 59.9**	**-2.2**
	baz=243						
CHIR	**Chirikof Islan**	**12.12**	**56**	Pn	**Pn**	**14 22 16.4**	**-2.8**
CHIR	**Chirikof Islan**	**12.12**	**56**	P	**Pn**	**14 22 16.5**	**-2.7**
	baz=251						
R17K	**Ugashik Creek**	**12.48**	**47**	P	**Pn**	**14 22 22.2**	**-2.0**
	baz=242						
P16K	**Nushagak River**	**12.54**	**40**	P	**Pn**	**14 22 24.0**	**-0.9**
	baz=233,SNR=6.1						
O16K	**Kokwok River B**	**12.85**	**38**	P	**Pn**	**14 22 28.7**	**-0.5**
	baz=231						
Q17K	**Contact Creek**	**13.03**	**45**	P	**Pn**	**14 22 29.9**	**-1.7**
	baz=240						
SII	**Sitkinak Islan**	**13.13**	**54**	Pn	**Pn**	**14 22 29.9**	**-3.1**
N16K	**Nishlik Lake**	**13.19**	**34**	P	**Pn**	**14 22 32.6**	**-1.2**
	baz=226						
O17K	**Koliganek Bris**	**13.36**	**38**	P	**Pn**	**14 22 34.5**	**-1.6**
	baz=232						
Q18K	**Katmai Hardscr**	**13.62**	**45**	P	**Pn**	**14 22 37.6**	**-2.1**
	baz=240						
OHAK	**Old Harbor**	**13.83**	**52**	Pn	**Pn**	**14 22 37.7**	**-4.7**
OHAK	**Old Harbor**	**13.83**	**52**	P	**Pn**	**14 22 40.6**	**-1.9**
	baz=249						
P18K	**Big Mountain,**	**13.91**	**42**		**Pn**	**14 22 43.1**	**-0.6**
P18K	**Big Mountain,**	**13.91**	**42**	P	**Pn**	**14 22 41.8**	**-1.9**
	baz=237						
Q19K	**Cape Douglas,**	**14.38**	**45**	Pn	**Pn**	**14 22 47.9**	**-2.1**
Q19K	**Cape Douglas,**	**14.38**	**45**	P	**Pn**	**14 22 47.7**	**-2.3**
	baz=242						
KDAK	**Kodiak Island**	**14.39**	**51**	Pn	**Pn**	14 22 44.9	-5.2
	0.7nm,0.3s,baz=187,slow=2.9,SNR=20						
KDAK	**Kodiak Island**	**14.39**	**51**	P	**Pn**	**14 22 48.1**	**-2.1**
	baz=248						
KDAK	**Kodiak Island**	**14.39**	**51**	*eP*	**Pn**	**14 22 46.8**	**-3.3**
O19K	**Port Alsworth**	**14.74**	**40**	P	**Pn**	**14 22 53.0**	**-1.8**
	baz=237						
SVW2	**Sparrevohn**	**14.77**	**36**		**Pn**	**14 22 55.2**	**-0.2**
Q20K	**Shuyak Island**	**14.81**	**48**	P	**Pn**	**14 22 53.6**	**-2.3**
	baz=245						
P19K	**Oil Pt**	**14.91**	**43**	Pn	**Pn**	**14 22 56.9**	**-0.3**
P19K	**Oil Pt**	**14.91**	**43**	P	**Pn**	**14 22 55.3**	**-1.9**
	baz=240						
ANM	**Nome**	**14.96**	**14**	Pn	**Pn**	**14 22 57.9**	**+0.1**
ANM	**Nome**	**14.96**	**14**	P	**Pn**	**14 22 57.8**	**+0.1**
	baz=201,SNR=8.3						
ANM	**Nome**	**14.96**	**14**	P	**Pn**	**14 22 57.9**	**+0.1**
N19K	**Bonanza Creek**	**15.02**	**38**		**Pn**	**14 22 58.3**	**-0.4**
N19K	**Bonanza Creek**	**15.02**	**38**	P	**Pn**	**14 22 57.3**	**-1.5**
	baz=234						
ILSW	**Iliamna Southw**	**15.12**	**42**	Pn	**Pn**	**14 22 59.5**	**-0.6**
ILSW				IAmb	IAmb	14 23 20.9	
	comp=Z,11nm,1.0s						
O20K	**Slope Mountain**	**15.39**	**42**	P	**Pn**	**14 23 01.9**	**-1.7**
	baz=240						
RSO	**Redoubt South**	**15.54**	**41**	Pn	**Pn**	**14 23 04.0**	**-1.5**
TNA	**Tin City**	**15.59**	**9**	P	**P**	**14 23 10.2**	**+0.3**
HOM	**Homer**	**15.62**	**45**	Pn	**Pn**	**14 23 07.4**	**+0.9**
L19K	**White Mountain**	**15.74**	**34**	Pn	**Pn**	**14 23 07.3**	**-0.7**
L19K	**White Mountain**	**15.74**	**34**	P	**Pn**	**14 23 07.0**	**-0.9**
	baz=230						
TTA	**Tatalina**	**15.85**	**30**	Pn	**Pn**	**14 23 09.2**	**-0.3**
TTA	**Tatalina**	**15.85**	**30**	P	**Pn**	**14 23 08.6**	**-0.9**
	baz=225,SNR=9.3						
TTA	**Tatalina**	**15.85**	**30**	P	**Pn**	**14 23 09.2**	**-0.3**
TTA				pmax	pmax		
	comp=Z,23nm,1.3s						
BRLK	**Bradley Lake**	**16.02**	**45**		**P**	**14 23 14.6**	**-0.1**
BRLK				IAmb	IAmb	14 23 15.7	
	comp=Z,27nm,0.9s						
BRSE	**Bradley Lake S**	**16.07**	**45**	P	**Pn**	**14 23 10.6**	**-1.7**
	baz=244						
N20K	**Mount Spurr**	**16.16**	**39**	P	**Pn**	**14 23 12.1**	**-1.4**
	baz=237						
M20K	**Styx River**	**16.18**	**36**	P	**Pn**	**14 23 12.8**	**-1.0**
	baz=234						
SPU	**Mount Spurr**	**16.21**	**40**	P	**P**	**14 23 16.7**	**-0.1**
L20K	**Farewell, AK**	**16.28**	**34**	P	**Pn**	**14 23 14.2**	**-0.7**
	baz=231						
CAPN	**Captain Cook N**	**16.37**	**42**	P	**Pn**	**14 23 14.4**	**-1.6**
	baz=240						
K20K	**Telida**	**16.79**	**31**		**Pn**	**14 23 20.7**	**-0.6**
K20K	**Telida**	**16.79**	**31**	P	**Pn**	**14 23 20.4**	**-0.9**
	baz=228						
SEW	**Seward**	**16.81**	**45**	P	**Pn**	**14 23 19.2**	**-2.4**
	baz=245						
SKT	**Skwentna**	**16.86**	**38**		**P**	**14 23 23.0**	**-1.0**
SKT	**Skwentna**	**16.86**	**38**	P	**Pn**	**14 23 21.2**	**-1.0**
	baz=236						
SUA	**Susitna One**	**16.89**	**40**	P	**Pn**	**14 23 20.9**	**-1.9**
	baz=239						
GCSA	**Galena City Sc**	**16.95**	**25**	P	**Pn**	**14 23 22.5**	**-0.8**
	baz=219,SNR=10						
RC01	**Rabbit Creek A**	**17.13**	**42**	P	**Pn**	**14 23 24.0**	**-1.7**
	baz=242						
PPLA	**Purkeypile**	**17.15**	**34**		**Pn**	**14 23 26.0**	**+0.1**
PPLA	**Purkeypile**	**17.15**	**34**	P	**Pn**	**14 23 25.1**	**-0.8**
	baz=233						
M22K	**Willow**	**17.30**	**40**	P	**Pn**	**14 23 26.3**	**-1.4**
	baz=239						
J20K	**Nowinta River**	**17.33**	**29**	Pn	**Pn**	**14 23 26.9**	**-1.0**
J20K	**Nowinta River**	**17.33**	**29**	P	**Pn**	**14 23 26.7**	**-1.3**
	baz=226						
PET	**Petropavlovsk**	**17.41**	**290**	*eP*	**P**	**14 23 30.7**	**+0.7**
CAST	**Castle Rocks**	**17.51**	**33**	Pn	**Pn**	**14 23 29.4**	**-0.9**
CAST	**Castle Rocks**	**17.51**	**33**	P	**Pn**	**14 23 29.4**	**-0.9**
	baz=232,SNR=13						
CUT	**Chulitna**	**17.59**	**38**		**P**	**14 23 31.6**	**-0.4**
CUT				IAmb	IAmb	14 23 43.8	
	comp=Z,30nm,1.1s						
CUT	**Chulitna**	**17.59**	**38**	P	**Pn**	**14 23 29.1**	**-2.1**
	baz=237						
PMR	**Palmer**	**17.63**	**41**	P	**P**	**14 23 32.8**	**+0.3**
PMR	**Palmer**	**17.63**	**41**	P	**Pn**	**14 23 29.8**	**-1.9**
	baz=241						
PMR	**Palmer**	**17.63**	**41**	P	**P**	**14 23 32.8**	**+0.3**
PMR				pmax	pmax		
	comp=Z,13nm,1.5s						
PWL	**Port Wells**	**17.64**	**44**		**P**	**14 23 33.2**	**+0.6**
PWL	**Port Wells**	**17.64**	**44**	P	**Pn**	**14 23 28.8**	**-3.1**
	baz=245						
CHUM	**Lake Minchumin**	**17.73**	**32**	P	**Pn**	**14 23 31.9**	**-1.0**
	baz=230						
GHO	**Glory Hole Cre**	**17.80**	**40**	Pn	**Pn**	**14 23 32.1**	**-1.9**
KNK	**Knik Glacier**	**17.83**	**42**	P	**P**	**14 23 35.7**	**+1.0**
KNK	**Knik Glacier**	**17.83**	**42**	P	**Pn**	**14 23 31.8**	**-2.4**
	baz=243						
PEA0B	**Petropavlovsk-**	**17.98**	**290**	P	**Pn**	**14 23 36.2**	**+0.1**
PEA0B				IAmb	IAmb	14 23 40.3	
	comp=Z,37nm,1.0s						
PEA0B	**Petropavlovsk-**	**17.98**	**290**	P	**Pn**	**14 23 36.2**	**+0.1**
PEA0B				pmax	pmax		
	comp=Z,37nm,1.0s						
PETK	**Petropavlovsk-**	**17.98**	**290**	P	**Pn**	**14 23 35.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=100,slow=13,SNR=13						
	comp=Z,12nm,0.8s						
KTH	**Kantishna Hill**	**18.00**	**34**	P	**Pn**	**14 23 35.9**	**-0.5**
SML	**Sawmill**	**18.07**	**41**	P	**Pn**	**14 23 36.7**	**-0.5**
SML				IAmb	IAmb	14 23 46.2	
	comp=Z,26nm,1.0s						
SML	**Sawmill**	**18.07**	**41**	P	**Pn**	**14 23 35.2**	**-2.0**
	baz=242						
SML	**Sawmill**	**18.07**	**41**	P	**Pn**	**14 23 36.7**	**-0.5**
SML				pmax	pmax		
	comp=Z,25nm,1.0s						
TRF	**Thorofare Moun**	**18.17**	**35**		**Pn**	**14 23 38.3**	**-0.3**
TRF	**Thorofare Moun**	**18.17**	**35**	P	**Pn**	**14 23 36.8**	**-1.8**
	baz=235,SNR=6.3						
BPAW	**Bear Paw Mtn.**	**18.32**	**32**		**P**	**14 23 40.0**	**-0.1**
BPAW	**Bear Paw Mtn.**	**18.32**	**32**	P	**P**	**14 23 38.6**	**-1.5**
	baz=232,SNR=13						
M23K	**Glacier View**	**18.32**	**41**	P	**P**	**14 23 38.7**	**-1.4**
	baz=243						
WAT1	**Susitna Watana**	**18.49**	**38**	P	**P**	**14 23 40.7**	**-1.3**
	baz=239						
SCM	**Sheep Creek Mo**	**18.50**	**41**	P	**P**	**14 23 40.7**	**-1.5**
SCM				IAmb	IAmb	14 23 52.0	
	comp=Z,23nm,0.8s						
SCM	**Sheep Creek Mo**	**18.50**	**41**	P	**P**	**14 23 41.1**	**-1.1**
	baz=244,SNR=8.0						
SCM	**Sheep Creek Mo**	**18.50**	**41**	P	**P**	**14 23 40.7**	**-1.5**
SCM				pmax	pmax		
	comp=Z,23nm,0.8s						
EYAK	**Cordova Ski Ar**	**18.68**	**46**	P	**P**	**14 23 43.3**	**-0.8**
	baz=249						
WAT6	**Susitna Watana**	**18.68**	**39**	P	**P**	**14 23 43.2**	**-1.1**
	baz=241						
I21K	**Tanana**	**18.70**	**29**	P	**Pn**	**14 23 44.4**	**-0.4**
I21K	**Tanana**	**18.70**	**29**	P	**Pn**	**14 23 44.5**	**-0.2**
	baz=228						
IMAR	**Indian Mountai**	**18.75**	**26**	P	**Pn**	**14 23 45.3**	**-0.1**
H21K	**Melozitna Rive**	**18.78**	**27**	P	**Pn**	**14 23 45.9**	**+0.1**
H21K				IAmb	IAmb	14 23 48.3	
	comp=Z,36nm,1.1s						
H21K	**Melozitna Rive**	**18.78**	**27**	P	**Pn**	**14 23 45.5**	**-0.3**
	baz=225						
MCK	**McKinley**	**18.83**	**35**		**Pn**	**14 23 46.2**	**-0.2**
MCK	**McKinley**	**18.83**	**35**	P	**Pn**	**14 23 46.0**	**-0.5**
	baz=236,SNR=8.7						
MCK	**McKinley**	**18.83**	**35**	P	**Pn**	**14 23 46.2**	**-0.2**
MCK				pmax	pmax		
	comp=Z,16nm,1.0s						
DIV	**Divide**	**18.89**	**44**	P	**P**	**14 23 46.0**	**-0.4**
KLU	**Klutina**	**18.96**	**43**	P	**P**	**14 23 46.0**	**-1.3**
	baz=247						
MLY	**Manley**	**18.99**	**30**		**Pn**	**14 23 48.0**	**-0.4**
MLY	**Manley**	**18.99**	**30**	P	**P**	**14 23 47.2**	**-0.3**
	baz=230,SNR=12						
DHY	**Denali Highway**	**19.07**	**38**	P	**Pn**	**14 23 49.3**	**-0.2**
DHY	**Denali Highway**	**19.07**	**38**	P	**P**	**14 23 47.9**	**-0.6**
	baz=240						
M24K	**Tolsona, Glenn**	**19.11**	**41**	P	**P**	**14 23 48.9**	**+0.1**
M24K				IAmb	IAmb	14 23 59.4	
	comp=Z,49nm,1.1s						
M24K	**Tolsona, Glenn**	**19.11**	**41**	P	**P**	**14 23 48.2**	**-0.7**
	baz=245						
G21K	**Allakaket**	**19.21**	**25**	P	**P**	**14 23 48.7**	**-1.1**
	baz=222						
NEA2	**Nenana**	**19.28**	**33**	P	**P**	**14 23 50.4**	**-0.2**
NEA2	**Nenana**	**19.28**	**33**	P	**P**	**14 23 49.2**	**-1.4**
	baz=234						
BMRM	**Bremner River**	**19.36**	**45**	P	**Pn**	**14 23 52.1**	**-0.7**
BMRM				IAmb	IAmb	14 24 04.3	
	comp=Z,23nm,0.8s						
BMRM	**Bremner River**	**19.36**	**45**	P	**P**	**14 23 49.6**	**-1.9**
	baz=250						
H22K	**Ishtalitna Cre**	**19.37**	**28**	P	**P**	**14 23 51.7**	**+0.1**
	baz=227						
I23K	**Minto, Yukon-K**	**19.52**	**31**	P	**P**	**14 23 53.4**	**+0.2**
I23K				IAmb	IAmb	14 24 00.6	
	comp=Z,16nm,0.8s						
I23K	**Minto, Yukon-K**	**19.52**	**31**	P	**P**	**14 23 52.8**	**-0.4**
	baz=232,SNR=21						
WRH	**Wood River Hil**	**19.55**	**34**	P	**P**	**14 23 52.4**	**-1.2**
N25K	**Chitina, Valde**	**19.59**	**44**	P	**P**	**14 23 53.7**	**-0.4**
N25K	**Chitina, Valde**	**19.59**	**44**	P	**P**	**14 23 53.2**	**-1.0**
	baz=248						
HARP	**HAARP**	**19.67**	**41**	P	**P**	**14 23 53.8**	**-1.1**
	baz=245,SNR=5.6						
F21K	**Alatna River**	**19.75**	**23**	P	**P**	**14 23 56.1**	**+0.4**
	baz=221						
CCB	**Clear Creek Bu**	**19.76**	**34**	P	**P**	**14 23 54.4**	**-1.4**
MDM	**Murphy Dome**	**19.79**	**33**	P	**P**	**14 23 55.9**	**-0.2**
PAX	**Paxson**	**19.79**	**39**	P	**P**	**14 23 55.6**	**-0.7**
PAX	**Paxson**	**19.79**	**39**	P	**P**	**14 23 55.4**	**-0.9**
	baz=243						
PAX	**Paxson**	**19.79**	**39**	P	**P**	**14 23 55.6**	**-0.7**
PAX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TCOL	**CIGO, UAF Yank**	**19.86**	**33**	P	**P**	**14 23 56.0**	**-0.9**
	baz=235						
COLA	**College**	**19.87**	**33**	P	**P**	**14 23 56.4**	**-0.6**
	baz=235						
COLA	**College**	**19.87**	**33**	*de*P	**P**	**14 23 57.7**	**+0.7**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GLB	**Gilahina Butte**	**19.89**	**45**	P	**P**	**14 23 56.7**	**-0.6**
GLB				IAmb	IAmb	14 24 09.1	
	comp=Z,29nm,1.4s						
H23K	**Yukon River**	**19.89**	**30**		**Pn**	**14 23 58.6**	**-0.4**
H23K				IAmb	IAmb	14 24 10.0	
	comp=Z,18nm,1.1s						
H23K	**Yukon River**	**19.89**	**30**	P	**P**	**14 23 57.2**	**0.0**
	baz=230						
HDA	**Harding Lake**	**19.93**	**35**	P	**P**	**14 23 57.1**	**-0.6**
HDA	**Harding Lake**	**19.93**	**35**	P	**P**	**14 23 57.5**	**-0.2**
	baz=238,SNR=15						
VRDI	**Verde Repeater**	**19.97**	**45**		**P**	**14 23 57.5**	**-0.9**
VRDI				IAmb	IAmb	14 24 07.7	
	comp=Z,24nm,1.1s						
G22K	**Bettles**	**20.05**	**26**	P	**P**	**14 23 59.2**	**+0.3**
	baz=225						
**K

G24K Hadweenzic Riv 21.09 29 P P 14 24 10.6 +0.4
baz=232
PCA Pinnacle 21.17 50 P P 14 24 11.1 -0.1
PCA IAmb IAmb 14 24 38.7
comp=Z,29nm,0.8s
PINM Pinnacle 21.17 50 P P 14 24 10.7 -0.5
baz=258,SNR=6.2
J26L Joseph Creek 21.25 37 P P 14 24 10.3 -1.7
J26L IAmb IAmb 14 24 22.1
comp=Z,22nm,0.6s
J26L Joseph Creek 21.25 37 P P 14 24 11.3 -0.8
baz=242
L27K Beaver Creek, 21.34 41 P P 14 24 13.3 +0.4
L27K IAmb IAmb 14 24 17.6
comp=Z,12nm,0.7s
L27K Beaver Creek, 21.34 41 P P 14 24 12.6 -0.3
baz=248
BCAR Beaver Creek A 21.36 41 P P 14 24 12.7 -0.5
O28M Mount Upton 21.36 48 P P 14 24 13.7 +0.2
baz=256
E23K Chandalar 21.37 25 P P 14 24 13.2 -0.2
baz=226
BCPM Bancas Point 21.45 50 P P 14 24 13.5 -0.6
BCPM IAmb IAmb 14 24 27.0
comp=Z,34nm,0.9s
F24K Squaw Lake 21.49 27 P P 14 24 14.5 0.0
baz=230
PNL Peninsula 21.51 51 P P 14 24 14.4 -0.3
baz=260
YUK3 Moose Creek 21.51 45 P P 14 24 15.7 +0.7
baz=253
G25K Bearman Lake 21.56 30 P P 14 24 15.7 +0.4
baz=234
E24K Your Creek 21.69 26 P P 14 24 17.4 +0.7
baz=228
YUK8 Steele Glacier 21.69 47 P P 14 24 17.4 +0.4
baz=255
FYU Fort Yukon 21.73 31 P P 14 24 18.0 +1.0
FYU IAmb IAmb 14 24 25.2
comp=Z,44nm,1.5s
D23K Nanushuk River 21.75 22 P P 14 24 17.9 +0.6
baz=222
O29M Mount Kennedy 22.04 50 P P 14 24 22.4 +1.8
baz=259
F25K Christian Rive 22.21 28 P P 14 24 23.1 +0.8
baz=233
YUK4 Talbot Arm 22.23 47 P P 14 24 24.0 +1.3
baz=256
MIDW Midway 22.23 189 P P 14 24 23.9 +1.2
MA2 Magadan 22.24 308 P P 14 24 22.4 -0.2
comp=Z,8.9nm,1.1s,baz=125,slow=14,SNR=3.1
MA2 LR LR 14 32 46.3
comp=Z,62nm,21.6s,baz=80,slow=36
comp=Z,8.9nm,1.1s
MA2 Magadan 22.24 308⇓ *e*P P 14 24 23.8 +1.2
MA2 pmax pmax
comp=Z,14nm,1.1s
YUK6 Outpost Mounta 22.27 48 P P 14 24 25.3 +2.1
baz=258
SEY Seymchan 22.28 318 P P 14 24 22.9 -0.1
comp=Z,12nm,0.8s,baz=112,slow=9.5,SNR=31
comp=Z,12nm,0.8s
SEY Seymchan 22.28 318⇓ *e*P P 14 24 22.8 -0.2
SEY pmax pmax
comp=Z,16nm,0.8s
EGAK Eagle 22.30 37 P P 14 24 23.0 -0.2
EGAK IAmb IAmb 14 24 41.3
comp=Z,20nm,1.0s
EGAK Eagle 22.30 37 P P 14 24 23.1 -0.1
baz=245,SNR=14
D24K Happy Valley 22.35 23 P P 14 24 23.8 +0.1
baz=225
G26K Porcupine Rive 22.42 31 P P 14 24 24.9 +0.5
baz=237
BMAR Burnt Mountain 22.44 29 P P 14 24 24.4 -0.3
A21K Barrow 22.49 14 P P 14 24 23.8 -1.3
A21K IAmb IAmb 14 24 25.6
comp=Z,30nm,0.9s
A21K Barrow 22.49 14 P P 14 24 24.0 -1.2
baz=209
I27K Kandik River 22.49 35 P P 14 24 25.5 +0.2
baz=243
E25K Arctic Village 22.55 27 P P 14 24 26.6 +0.6
baz=232,SNR=12
M29M Somme Creek 22.60 44 P P 14 24 25.2 -1.4
baz=254
HYT Haines Junctio 22.66 48 P P 14 24 27.6 +0.4
HYT IAmb IAmb 14 24 35.2
comp=Z,34nm,1.4s
HYT Haines Junctio 22.66 48 P P 14 24 26.6 -0.6
baz=259
DAWY Dawson 22.73 40 P P 14 24 27.8 0.0
DAWY IAmb IAmb 14 24 33.8
comp=Z,19nm,1.1s
DAWY Dawson 22.73 40 P P 14 24 26.9 -0.9
baz=249,SNR=20
F26K Sheenjek River 22.73 29 P P 14 24 28.0 +0.2
baz=235
C24K Franklin Bluff 22.79 22 P P 14 24 28.6 +0.2
baz=224
P30M Million Dollar 22.80 50 P P 14 24 29.3 +0.7
baz=261
H27K Steamboat Moun 22.82 34 P P 14 24 28.8 0.0
baz=242
L29M L29M 22.94 43 P P 14 24 29.7 -0.4
baz=253
N30M Aishikik Lake 22.99 47 P P 14 24 30.3 -0.2
baz=258
PLBC Pleasant Camp 23.00 52 P P 14 24 29.8 -0.8
baz=263,SNR=6.3
G27K Doyon Strip 23.06 32 P P 14 24 30.4 -0.8
baz=240
D25K Kavik River 23.10 24 P P 14 24 31.1 -0.6
baz=228
O30N Mendenhall 23.33 49 P P 14 24 34.7 +0.7
baz=260
M30M Minto, Yukon 23.38 44 P P 14 24 33.1 -1.4
baz=256
SIT Sitka 23.40 58 P P 14 24 34.2 -0.3
baz=270
K29M Barlow Dome 23.43 41 P P 14 24 34.5 -0.5
baz=252
SKAG Skagway 23.53 52 P P 14 24 35.8 0.0
SKAG IAmb IAmb 14 24 49.2
comp=Z,14nm,0.9s
SKAG Skagway 23.53 52 P P 14 24 34.5 -1.2
baz=264
N31M Braeburn, Yuko 23.61 47 P P 14 24 35.8 -0.8
baz=259
I29M Ogilvie Camp, 23.64 37 P P 14 24 37.0 +0.1
I29M IAmb IAmb 14 24 39.0
comp=Z,18nm,0.9s
I29M Ogilvie Camp, 23.64 37 P P 14 24 35.9 -1.0
baz=248
E27K Coleen River 23.80 29 P P 14 24 38.7 +0.3
baz=238
WHY Whitehorse 23.90 49 P P 14 24 39.3 -0.2
baz=262,SNR=7.2
C27K Jago River 24.02 25 P P 14 24 39.8 -0.6
baz=232
MAYO Mayo, Yukon 24.05 42 P P 14 24 39.1 -1.6
baz=254
P32M Atlin 24.36 52 P P 14 24 43.6 -0.1
baz=266,SNR=5.3
M31M Drury Creek, Y 24.39 46 P P 14 24 44.9 +1.0
M31M IAmb IAmb 14 24 47.1
comp=Z,11nm,0.9s
M31M Drury Creek, Y 24.39 46 P P 14 24 44.3 +0.4
baz=259,SNR=6.8
EPYK Eagle Plains 24.63 35 P P 14 24 46.4 +0.3
EPYK IAmb IAmb 14 24 49.4
comp=Z,19nm,0.9s
EPYK Eagle Plains 24.63 35 P P 14 24 46.2 +0.1
baz=248,SNR=12
T33K Petersburg 24.70 59 P P 14 24 47.1 +0.5
baz=272
P33M Teslin, Yukon 24.86 51 P P 14 24 49.3 +1.1
P33M IAmb IAmb 14 24 51.1
comp=Z,27nm,1.2s
P33M Teslin, Yukon 24.86 51 P P 14 24 47.8 -0.4
baz=265,SNR=11
FARO Faro, Yukon 24.88 46 P P 14 24 49.1 +0.8
FARO IAmb IAmb 14 24 50.6
comp=Z,9.4nm,0.9s
FARO Faro, Yukon 24.88 46 P P 14 24 47.7 -0.6
baz=260,SNR=8.4
G30M tAoh Zraii Nji 25.06 34 P P 14 24 50.1 +0.2
baz=247
Q32M Nakina River 25.06 54 P P 14 24 49.9 -0.3
baz=268
DIB Dawson Inlet, 25.36 67 P P 14 24 53.2 +0.6
DIB IAmb IAmb 14 25 15.2
comp=Z,13nm,1.1s
V35K Ketchikan 25.56 62 P P 14 24 54.0 -0.4
baz=276
S34M Telegraph Cree 25.65 56 P P 14 24 54.9 -0.5
baz=271
R33M Jennings River 25.75 53 P P 14 24 55.6 -0.7
baz=268
F31M Tsiigehtchic 26.12 34 P P 14 24 59.3 -0.1
baz=249,SNR=13
T35M Bob Quinn 26.17 58 P P 14 24 59.1 -1.0
baz=274
DLBC Dease Lake 26.23 55 P P 14 24 60.0 -0.7
comp=Z,6.1nm,1.1s,baz=289,slow=10,SNR=6.0
comp=Z,6.1nm,1.1s
DLBC Dease Lake 26.23 55 P P 14 25 00.3 -0.4
DLBC IAmb IAmb 14 25 30.1
comp=Z,16nm,1.4s
DLBC Dease Lake 26.23 55 P P 14 24 59.3 -1.3
baz=271
INK Inuvik 26.52 32 P P 14 25 03.5 +0.5
comp=Z,15nm,0.9s,baz=234,slow=9.1,SNR=52
INK PcP PcP 14 28 26.9 +0.2
comp=Z,1.3nm,0.8s,baz=138,slow=2.4,SNR=3.2
INK LR LR 14 36 19.1
comp=Z,88nm,19.1s,baz=248,slow=38
comp=Z,15nm,0.9s
INK Inuvik 26.52 32 P P 14 25 03.5 +0.5
INK IAmb IAmb 14 25 05.0
comp=Z,12nm,0.8s
INK Inuvik 26.52 32 P P 14 25 03.6 +0.5
baz=248,SNR=19
WTLY Watson Lake, Y 26.86 51 P P 14 25 07.2 +0.9
baz=269,SNR=7.7
YSS Yuzh-Sakhalins 28.75 280 *e*P P 14 25 23.0 -0.2
YSS pmax pmax
comp=Z,10.0nm,1.1s
WRGLY Wrigley 29.51 45 P P 14 25 29.8 0.0
baz=268,SNR=7.8
C36M Paulatuk 30.11 33 P P 14 25 35.5 +0.5
C36M IAmb IAmb 14 25 37.0
comp=Z,12nm,1.1s
C36M Paulatuk 30.11 33 P P 14 25 34.9 -0.1
baz=257,SNR=13
A36M Sachs Harbour 30.48 27 P P 14 25 39.4 +1.2
A36M Sachs Harbour 30.48 27 P P 14 25 39.1 +0.9
baz=251,SNR=19
YAK Yakutsk 32.61 313 P P 14 25 55.9 -1.2
YAK Yakutsk 32.61 313 *de*P P 14 25 56.0 -1.0
YAK *e**PP pP 14 25 59.2 -6.3
YAK *e* 14 27 07.4
YAK *e* 14 28 42.7
YAK *e*S S 14 31 11.7 +1.6
YAK *e**SS sS 14 31 23.9 -0.3
YAK *e*SS SnSn 14 33 01.5 -4.4
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=Z,45nm,3.1s
YAK smax smax
comp=N,128nm,4.9s
YAK smax smax
comp=E,94nm,6.2s
YKA Yellowknife Ar 33.59 46 P P 14 26 06.1 +0.5
comp=E,1.9nm,0.8s,baz=274,slow=9.8,SNR=24
YKA PcP PcP 14 28 45.6 +0.4
comp=E,0.8nm,0.6s,baz=279,slow=3.2,SNR=7.1
comp=E,1.9nm,0.8s
YKA Yellowknife Ar 33.59 46 P P 14 26 05.8 +0.2
YKA Yellowknife Ar 33.59 46 *i* P P 14 26 06.5 +0.9
YKA pmax pmax
comp=Z,4.0nm,1.0s
H11N2 WAKE ISLAND Hy 34.22 214 T T 15 02 24.8
baz=22
H11N3 WAKE ISLAND Hy 34.22 214 T T 15 02 19.9
baz=22
H11N1 WAKE ISLAND Hy 34.23 214 T T 15 02 26.8
baz=22
KLR Kul'dur 34.67 290 P P 14 26 14.9 -0.2
comp=Z,3.4nm,0.7s,baz=71,slow=9.9,SNR=9.6
comp=Z,3.4nm,0.7s
KLR Kul'dur 34.67 290⇑ *e*P P 14 26 15.3 +0.2
KLR pmax pmax
comp=Z,16nm,2.5s
B08A Colville Reser 34.75 72 P P 14 26 16.5 +0.6
B08A IAmb IAmb 14 26 26.4
comp=Z,6.7nm,0.8s
H11S1 WAKE ISLAND Hy 35.41 214 T T 15 03 56.2
baz=22
H11S2 WAKE ISLAND Hy 35.43 214 T T 15 03 47.6
baz=22
H11S3 WAKE ISLAND Hy 35.43 214 T T 15 03 44.6
baz=22
HAWA Hanford 35.47 75 P P 14 26 22.8 +0.8
HAWA IAmb IAmb 14 26 31.8
comp=Z,9.3nm,0.8s
D08A Wollman Farm, 35.55 74 P P 14 26 23.1 +0.4
D08A IAmb IAmb 14 26 32.3
comp=Z,3.9nm,0.7s
C09A Chrisman Ranch 35.63 72 P P 14 26 23.8 +0.4
C09A IAmb IAmb 14 26 28.1
comp=Z,7.4nm,1.1s
ZEA Zeya 35.67 299 *e*P P 14 26 23.1 -0.6
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 36.13 71 P P 14 26 28.1 +0.4
comp=Z,3.5nm,0.8s,baz=284,slow=5.0,SNR=6.3
comp=Z,3.5nm,0.8s
E09A Wood Farm, Sta 36.27 74 P P 14 26 29.4 +0.5
E09A IAmb IAmb 14 26 38.5
comp=Z,5.0nm,0.8s
EDM Edmonton 36.43 61 P P 14 26 30.5 +0.2
EDM IAmb IAmb 14 26 31.3
comp=Z,6.5nm,0.9s
EDM Edmonton 36.43 61 P P 14 26 30.5 +0.2
EDM pmax pmax
comp=Z,7.0nm,0.9s
USA0B Ussuriysk Arra 36.75 282 P P 14 26 34.1 +1.1
USA0B IAmb IAmb 14 26 35.5
comp=Z,8.8nm,0.8s
USA0B Ussuriysk Arra 36.75 282 P P 14 26 34.1 +1.1
USA0B pmax pmax
comp=Z,9.0nm,0.8s
USRK Ussuriysk Ar. 36.75 282 P P 14 26 33.3 +0.3
comp=Z,4.6nm,0.8s,baz=72,slow=14,SNR=3.0
comp=Z,4.6nm,0.8s
USRK Ussuriysk Ar. 36.75 282 P P 14 26 33.7 +0.8
HEH HeiHe 36.85 293 *e*P P 14 26 32.7 -1.1
HEH pmax pmax
comp=Z,8.0nm,0.9s
HEH pmax pmax
comp=Z,260nm,5.7s
F10A Beach Ranch, E 37.08 74 P P 14 26 36.4 +0.4
WVOR Wild Horse Val 37.95 80 P P 14 26 44.0 +0.6
WVOR Wild Horse Val 37.95 80 P P 14 26 44.0 +0.6
WVOR pmax pmax
comp=Z,6.0nm,1.1s
VCNR Virginia City 39.01 85 P P 14 26 52.5 +0.1
VCNR IAmb IAmb 14 27 16.6
comp=Z,9.9nm,1.2s
HLID Hailey 40.01 76 P P 14 27 01.2 +0.6
HLID Hailey 40.01 76 P P 14 27 00.5 -0.1
baz=301,SNR=6.2
LRM Limekiln Ridge 40.09 72 P P 14 27 01.8 +0.4
BCYI Bear Canyon 40.26 75 P P 14 27 02.8 +0.1
MCMT McKenzie Canyo 40.34 74 P P 14 27 03.4 -0.1
NVAR Mina Array Bea 40.37 85 P P 14 27 04.4 +0.7
comp=Z,3.4nm,1.1s,baz=284,slow=7.9,SNR=5.8
comp=Z,3.4nm,1.1s
NVAR Mina Array Bea 40.37 85 P P 14 27 04.2 +0.5
BOZ Bozeman (W) 40.70 72 P P 14 27 06.2 -0.1
BOZ Bozeman (W) 40.70 72 P P 14 27 04.8 -1.5
baz=300
BOZ Bozeman (W) 40.70 72 P P 14 27 06.2 -0.1
BOZ pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 41.00 80 P P 14 27 09.1 +0.1
ELK Elko 41.00 80 P P 14 27 09.1 +0.1
ELK pmax pmax
comp=Z,2.0nm,0.9s
LCH Last Change Ra 41.49 86 P P 14 27 13.1 +0.2
ISA Isabella, Lake 41.91 89 P P 14 27 15.2 -1.0
baz=308
H17A Grant Village 41.95 73 P P 14 27 17.1 +0.3
H17A Grant Village 41.95 73 P P 14 27 16.1 -0.6
baz=302
LKWY Lake 41.97 73 P P 14 27 17.5 +0.6
LKWY Lake 41.97 73 P P 14 27 17.5 +0.6
LKWY pmax pmax
comp=Z,4.0nm,0.8s
HVU Hansel Valley 41.98 77 P P 14 27 17.6 +0.7
HVU Hansel Valley 41.98 77 P P 14 27 17.6 +0.7
HVU pmax pmax
comp=Z,4.0nm,1.0s
R11A Troy Canyon, C 42.15 83 P P 14 27 18.5 +0.2
R11A Troy Canyon, C 42.15 83 P P 14 27 18.4 +0.1
baz=306
MPMC Manual Prospec 42.30 88 P P 14 27 20.1 +0.5
baz=308
RLMT Red Lodge 42.38 71 P P 14 27 20.3 +0.2
RLMT IAmb IAmb 14 27 24.2
comp=Z,9.6nm,1.1s
RLMT Red Lodge 42.38 71 P P 14 27 20.1 0.0
baz=301
TPNV Topopah Spring 42.55 86 P P 14 27 22.1 +0.5
TPNV IAmb IAmb 14 27 31.8
comp=Z,6.4nm,0.9s
TPNV Topopah Spring 42.55 86 P P 14 27 21.4 -0.2
baz=307
TPNV Topopah Spring 42.55 86 P P 14 27 22.1 +0.5
TPNV pmax pmax
comp=Z,6.0nm,0.9s
SPR3 Spring Creek 3 42.57 82 P P 14 27 22.0 +0.1
SPR3 IAmb IAmb 14 27 24.5
comp=Z,2.2nm,0.9s
GWY Greenwater Val 42.75 87 P P 14 27 23.5 +0.3
HWUT Hardware Ranch 42.84 77 P P 14 27 24.0 +0.2
DUG Dugway, Tooele 42.84 79 P P 14 27 24.3 +0.4
DUG Dugway, Tooele 42.84 79 P P 14 27 23.6 -0.2
baz=305
DUG Dugway, Tooele 42.84 79 P P 14 27 24.3 +0.4
DUG pmax pmax
comp=Z,7.0nm,1.2s
KSRS Korea Array 43.01 276 P P 14 27 25.4 +0.4
comp=Z,2.3nm,0.8s,baz=63,slow=8.1,SNR=6.1
comp=Z,2.3nm,0.8s
PRN Pahroc Range 43.05 84 P P 14 27 26.2 +0.7
PRN IAmb IAmb 14 27 27.3
comp=Z,13nm,1.0s
SHOC Shoshone, Teco 43.18 87 P P 14 27 25.5 -1.0
baz=308
GSC Goldstone, Bar 43.20 88 P P 14 27 27.2 +0.4
GSC IAmb IAmb 14 27 28.4
comp=Z,8.5nm,1.1s
GSC Goldstone, Bar 43.20 88 P P 14 27 25.9 -0.8
baz=309
GSC Goldstone, Bar 43.20 88 P P 14 27 27.2 +0.4
GSC pmax pmax
comp=Z,8.0nm,1.1s
NLU North Lily Min 43.45 79 P P 14 27 28.6 -0.2
BW06 Boulder Array 43.45 74 P P 14 27 28.8 -0.1
BW06 IAmb IAmb 14 27 29.9
comp=Z,6.4nm,0.8s
BW06 Boulder Array 43.45 74 P P 14 27 29.3 +0.5
baz=303,SNR=9.2
PD31 Pinedale Array 43.45 74 P P 14 27 28.7 -0.1
PD31 IAmb IAmb 14 27 29.8
comp=Z,5.9nm,0.8s
PDAR Pinedale Array 43.45 74 P P 14 27 29.1 +0.3
comp=Z,6.8nm,0.9s,baz=304,slow=4.3,SNR=43
comp=Z,6.8nm,0.9s
PDAR Pinedale Array 43.45 74 P P 14 27 28.8 -0.1
JLU Jordanelle 43.47 78 P P 14 27 29.1 0.0
JLU IAmb IAmb 14 27 30.6
comp=Z,7.6nm,1.0s
MPU Maple Canyon 43.69 79 P P 14 27 31.2 +0.4
HEC Hector,Ludlow 43.80 88 P P 14 27 31.9 +0.3
baz=309
CCUT Cedar City 44.04 83 P P 14 27 33.6 0.0
MSU Marysvale 44.22 81 P P 14 27 35.2 +0.1
MSU Marysvale 44.22 81 P P 14 27 35.2 +0.1
GMRC Granite Mounta 44.26 88 P P 14 27 35.7 +0.4
baz=309
FCC Fort Churchill 44.29 47 P P 14 27 35.3 +0.2
FCC IAmb IAmb 14 27 35.8
comp=Z,5.3nm,0.7s
FCC Fort Churchill 44.29 47 P P 14 27 35.3 +0.2
FCC pmax pmax
comp=Z,5.0nm,0.7s
TMUT Trail Mountain 44.37 79 P P 14 27 36.7 +0.3
TMUT IAmb IAmb 14 27 38.0
comp=Z,4.6nm,0.9s
LCMT Little Creek M 44.44 83 P P 14 27 37.2 +0.5
LCMT IAmb IAmb 14 27 38.5
comp=Z,5.2nm,1.0s
PFO Pinyon Flats O 44.49 90 P P 14 27 36.9 -0.2
comp=Z,2.8nm,0.8s,baz=316,slow=6.3,SNR=3.8
comp=Z,2.8nm,0.8s
PFO Pinyon Flats O 44.49 90 P P 14 27 37.3 +0.2
PFO IAmb IAmb 14 27 38.4
comp=Z,8.5nm,1.3s
PFO Pinyon Flats O 44.49 90 P P 14 27 36.5 -0.6
baz=310
PFO Pinyon Flats O 44.49 90 P P 14 27 37.3 +0.2
PFO pmax pmax
comp=Z,8.0nm,1.3s
MTPU Mount Pierson 44.49 82 P P 14 27 38.0 +0.5
TPFO Pinon Flats 44.50 90 P P 14 27 36.4 -0.8
baz=310
PMD Palm Desert 44.52 89 P P 14 27 37.2 -0.1
PMD IAmb IAmb 14 27 38.4
comp=Z,5.3nm,1.1s
BELC Belle Mtn. Jos 44.54 89 P P 14 27 35.7 -1.8
baz=310
P17A Butcher Ranch, 44.56 79 P P 14 27 38.1 +0.4
P17A IAmb IAmb 14 27 39.2
comp=Z,4.5nm,0.9s
Q16A Castle Valley 44.62 80 P P 14 27 38.7 +0.5
Q16A IAmb IAmb 14 27 40.0
comp=Z,9.2nm,0.8s
RDMU Red Mountain 44.67 77 P P 14 27 39.1 +0.5
RDMU IAmb IAmb 14 27 40.1
comp=Z,13nm,1.0s
KNB Kanab 44.70 83 P P 14 27 39.5 +0.6
KNB IAmb IAmb 14 27 40.2
comp=Z,5.2nm,0.9s
KNB Kanab 44.70 83 P P 14 27 39.5 +0.6
KNB pmax pmax
comp=Z,5.0nm,0.9s
P18A Preston Nutter 44.78 78 P P 14 27 40.2 +0.5
P18A IAmb IAmb 14 27 41.4
comp=Z,9.5nm,1.0s
SRU San Rafael Swe 44.91 79 P P 14 27 40.6 +0.1
SRU IAmb IAmb 14 27 43.0
comp=Z,8.9nm,1.1s
SRU San Rafael Swe 44.91 79 P P 14 27 40.6 +0.1
SRU pmax pmax
comp=Z,9.0nm,1.1s
TULEG Thule 44.96 19 P P 14 27 41.0 +0.7
TULEG IAmb IAmb 14 27 42.3
comp=Z,12nm,1.2s
TULEG Thule 44.96 19 *i* P P 14 27 41.5 +1.3
TULEG IAmb IAmb 14 27 43.1
comp=Z,5.7nm,0.9s
IRM Iron Mountain 44.99 88 P P 14 27 40.9 -0.1
baz=310
W13A Hualapai Mount 45.20 86 P P 14 27 43.1 +0.2
W13A IAmb IAmb 14 27 52.3
comp=Z,3.6nm,0.9s
IKP In-Ko-Pah, Jac 45.33 90 P P 14 27 43.8 0.0
baz=311
K22A Casper 45.38 73 P P 14 27 43.1 -1.1
baz=304
BLYC Blythe 45.64 88 P P 14 27 46.2 +0.1
BLYC IAmb IAmb 14 27 55.5
comp=Z,6.5nm,1.1s
O20A White River Ci 45.75 77 P P 14 27 46.8 -0.4
O20A White River Ci 45.75 77 P P 14 27 46.3 -0.9
baz=306,SNR=7.2
RSSD Black Hills 46.07 70 P P 14 27 47.8 -1.9
baz=304
RSSD Black Hills 46.07 70 P P 14 27 49.0 -0.7
PV23 Carpenter Ridg 46.25 79 P P 14 27 51.2 -0.1

PV23 IAmb IAmb 14 28 00.3
comp=Z,6.0nm,0.8s
PV10 Paradox Valley 46.28 79 P **P** **14 27 51.7 +0.2**
PV10 IAmb IAmb 14 27 52.8
comp=Z,10nm,0.9s
PV11 David Mesa, Pa 46.43 79 P **P** **14 27 52.6 0.0**
PV07 Paradox Valley 46.49 79 P **P** **14 27 52.7 -0.4**
PV07 IAmb IAmb 14 27 53.9
comp=Z,8.7nm,1.2s
WUAZ Wupatki 46.55 84 P **P** **14 27 53.8 +0.3**
WUAZ IAmb IAmb 14 27 54.9
comp=Z,5.5nm,0.8s
WUAZ Wupatki 46.55 84 P **P** **14 27 52.5 -0.9**
baz=309
PV13 Radium Mtn., P 46.55 79 P **P** **14 27 53.5 -0.1**
PV15 Paradox Valley 46.65 79 P **P** **14 27 54.1 -0.3**
PV15 IAmb IAmb 14 27 55.0
comp=Z,8.5nm,0.9s
N23A Red Feather La 46.73 74 P **P** **14 27 54.6 -0.4**
N23A IAmb IAmb 14 27 56.7
comp=Z,9.5nm,1.1s
N23A Red Feather La 46.73 74 P **P** **14 27 54.4 -0.6**
baz=306
NRIK Noril'sk 46.99 331 P **P** **14 27 56.3 0.0**
comp=Z,4.8nm,0.7s,baz=50,slow=8.1,SNR=4.0
comp=Z,4.8nm,0.7s
NRIK Noril'sk 46.99 331 P **P** **14 27 56.7 +0.4**
NRIK IAmb IAmb 14 28 18.2
comp=Z,13nm,1.4s
NRIK Noril'sk 46.99 331⇑ *e*P **P** **14 27 56.8 +0.5**
NRIK pmax pmax
comp=Z,7.0nm,0.9s
MVCO Mesa Verde 47.33 80 P **P** **14 27 59.5 -0.1**
MVCO IAmb IAmb 14 28 00.8
comp=Z,11nm,1.4s
MVCO Mesa Verde 47.33 80 P **P** **14 27 57.9 -1.7**
baz=308
ULM Lac du Bonnet 47.47 58 P **P** **14 27 59.6 -0.7**
comp=Z,2.1nm,0.6s,baz=332,slow=7.6,SNR=3.4
comp=Z,2.1nm,0.6s
ISCO Idaho Springs 47.58 75 P **P** **14 27 59.9 -1.7**
baz=307
ISCO Idaho Springs 47.58 75 P **P** **14 28 00.7 -0.9**
NEEM North Greenlan 47.69 14 *i*P **P** **14 28 02.6 +0.6**
NEEM IAmb IAmb 14 28 04.3
comp=Z,8.4nm,0.7s
NOR Nord 47.77 4 *i*P **P** **14 28 02.3 +0.1**
NOR IAmb IAmb 14 28 04.2
comp=Z,3.9nm,1.0s
214A Organ Pipe Nat 47.90 89 P **P** **14 28 04.0 +0.1**
baz=311
S22A 4UR Ranch, Cre 48.05 78 P **P** **14 28 05.7 +0.3**
S22A IAmb IAmb 14 28 07.2
comp=Z,6.1nm,1.1s
S22A 4UR Ranch, Cre 48.05 78 P **P** **14 28 05.4 +0.1**
baz=308
X18A Snowflake 48.07 84 P **P** **14 28 05.8 +0.4**
X18A IAmb IAmb 14 28 06.9
comp=Z,4.3nm,1.0s
KULLO Kullorsuaq 48.47 19 *i*P **P** **14 28 08.6 +0.9**
KULLO IAmb IAmb 14 28 10.3
comp=Z,12nm,0.8s
SDCO Great Sand Dun 48.88 77 P **P** **14 28 11.5 -0.2**
SDCO IAmb IAmb 14 28 13.0
comp=Z,4.9nm,1.2s
SDCO Great Sand Dun 48.88 77 P **P** **14 28 11.4 -0.3**
baz=308,SNR=5.1
TUC Tucson 48.97 87 P **P** **14 28 12.4 +0.2**
TUC IAmb IAmb 14 28 13.4
comp=Z,3.7nm,0.8s
TUC Tucson 48.97 87 P **P** **14 28 11.8 -0.4**
baz=311
TUC Tucson 48.97 87 P **P** **14 28 12.4 +0.2**
TUC pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 49.70 300 P **P** **14 28 17.9 +0.3**
ULN IAmb IAmb 14 28 20.4
comp=Z,5.9nm,0.8s
ULN Ulaanbaatar 49.70 300 *d i*P **P** **14 28 17.8 +0.2**
ULN pmax pmax
comp=Z,6.0nm,0.8s
UPNV Upernavik 49.88 20 *i*P **P** **14 28 19.9 +1.5**
UPNV IAmb IAmb 14 28 20.3
comp=Z,22nm,0.8s
T25A Trinidad 49.94 77 P **P** **14 28 20.0 +0.3**
T25A Trinidad 49.94 77 P **P** **14 28 19.5 -0.2**
baz=309,SNR=9.5
ANMO Albuquerque 50.03 81 P **P** **14 28 20.7 +0.3**
ANMO IAmb IAmb 14 28 21.6
comp=Z,5.3nm,1.2s
ANMO Albuquerque 50.03 81 P **P** **14 28 20.5 +0.2**
baz=310
ANMO Albuquerque 50.03 81⇑ *e*P **P** **14 28 20.9 +0.5**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 50.08 300 P **P** **14 28 21.2 +0.7**
comp=Z,4.9nm,0.8s,baz=43,slow=9.1,SNR=39
SONM PcP **PcP** **14 29 39.4 -0.3**
comp=Z,1.2nm,0.9s,baz=52,slow=2.4,SNR=2.8
comp=Z,4.9nm,0.8s
SONM Songino Array 50.08 300 P **P** **14 28 21.0 +0.5**
SONM IAmb IAmb 14 28 22.3
comp=Z,5.4nm,0.8s
SONM Songino Array 50.08 300 P **P** **14 28 21.0 +0.5**
SONM pmax pmax
comp=Z,5.0nm,0.8s
ZAK Zakamensk 50.33 304 *e*P **P** **14 28 23.0 +0.7**
ZAK pmax pmax
comp=Z,12nm,1.0s
ECSD EROS Data Cent 50.70 66 P **P** **14 28 23.6 -1.5**
baz=306
121A Cookes Peak, D 50.74 84 P **P** **14 28 25.9 +0.1**
121A IAmb IAmb 14 28 26.9
comp=Z,4.9nm,0.8s
121A Cookes Peak, D 50.74 84 P **P** **14 28 25.7 -0.1**
baz=311
HHC Hu-ho-hao-te 51.18 290 *e*P **P** **14 28 30.4 +1.5**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,320nm,4.9s
SPITS Spitsbergen Ar 51.65 357 P **P** **14 28 32.2 +0.4**
FRB Frobisher Bay 52.18 33 LR LR 14 53 45.0
comp=Z,158nm,18.4s,baz=32,slow=40
FRB Frobisher Bay 52.18 33 P **P** **14 28 36.5 +0.7**
FRB pmax pmax
comp=Z,11nm,0.9s
NJ2 Nanjing 52.20 277 *e*P **P** **14 28 35.8 -0.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
DAG Danmarks Havn 52.21 7 P **P** **14 28 40.0 +4.1**
MNTX Cornudas Mount 52.82 83 P **P** **14 28 41.1 0.0**
MNTX IAmb IAmb 14 28 41.8
comp=Z,3.5nm,0.8s
MNTX Cornudas Mount 52.82 83 P **P** **14 28 41.4 +0.3**
baz=312,SNR=5.2
MSTX Muleshoe 52.99 79 P **P** **14 28 42.1 -0.3**
MSTX Muleshoe 52.99 79 P **P** **14 28 42.0 -0.3**
baz=311
AMTX Amarillo 53.08 78 P **P** **14 28 42.7 -0.3**
AMTX IAmb IAmb 14 28 43.8
comp=Z,10nm,1.1s
AMTX Amarillo 53.08 78 P **P** **14 28 42.4 -0.7**
baz=310
GDL2 Guadalupe Moun 53.14 82 P **P** **14 28 43.1 -0.4**
HTMS Hat Mesa 53.42 81 P **P** **14 28 45.3 -0.3**
SUMG Summit 53.52 15 *i*P **P** **14 28 46.0 -0.1**
SUMG IAmb IAmb 14 28 48.1
comp=Z,35nm,1.2s
DBG Daneborg 54.40 9 *i*P **P** **14 28 51.1 -0.8**
DBG IAmb IAmb 14 28 52.8
comp=Z,6.4nm,0.6s
WMOK Wichita Mounta 54.99 76 P **P** **14 28 56.5 -0.4**
WMOK IAmb IAmb 14 28 57.6
comp=Z,7.3nm,0.8s
WMOK Wichita Mounta 54.99 76 P **P** **14 28 56.7 -0.2**
baz=311,SNR=10
WMOK Wichita Mounta 54.99 76 P **P** **14 28 56.5 -0.4**
WMOK pmax pmax
comp=Z,7.0nm,0.8s
TX31 Lajitas Ar. Si 55.50 84 P **P** **14 29 00.4 -0.4**
TX32 Lajitas Array 55.50 84 P **P** **14 29 00.2 -0.5**
TX32 IAmb IAmb 14 29 01.6
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 55.50 84 P **P** **14 29 00.2 -0.5**
TXAR Lajitas Array 55.50 84 P **P** **14 29 00.2 -0.5**

ABTX Abilene, Hawle 55.84 79 P **P** **14 29 02.6 -0.4**
ABTX Abilene, Hawle 55.84 79 P **P** **14 29 02.6 -0.4**
baz=312
SSLB Suanglung 56.52 268 P **P** **14 29 07.3 -0.7**
M44A Midewin, Midew 57.12 63 P **P** **14 29 12.1 +0.2**
ZALV Zalesovo Beam 57.15 316 P **P** **14 29 10.7 -1.3**
comp=Z,0.4nm,0.5s,baz=230,slow=34,SNR=2.1
comp=Z,0.4nm,0.5s
WHTX Lake Whitney, 57.64 78 P **P** **14 29 15.5 -0.2**
WHTX Lake Whitney, 57.64 78 P **P** **14 29 15.8 0.0**
baz=313
SCO Scoresbysund 57.80 11 P **P** **14 29 17.2 +0.9**
SCO Scoresbysund 57.80 11 P **P** **14 29 17.2 +0.9**
SCO pmax pmax
comp=Z,30nm,1.2s
SFIN Lafayette 58.32 64 P **P** **14 29 19.3 -1.1**
baz=311
MIAR Mount Ida 58.33 73 P **P** **14 29 19.0 -1.6**
baz=312
DGZ Jazzator, Alta 58.78 311⇑ *e*P **P** **14 29 24.0 +0.3**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
833A Chaparral WMA, 58.92 82 P **P** **14 29 23.5 -1.2**
baz=314
GTA Gaotai 59.04 296 *e*P **P** **14 29 26.0 +0.4**
GTA pP pP 14 29 31.8 -2.7
GTA sP sP 14 29 35.3 -2.6
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,5.1s
GTA LR LR
comp=N,97nm,15.6s
GTA LR LR
comp=E,150nm,16.4s
GTA LR LR
comp=Z,190nm,16.4s
ARA0 ARCESS Array S 59.67 352 *e*P **P** **14 29 30.2 +0.8**
ARCES ARCESS Array B 59.67 352 P **P** **14 29 29.7 +0.4**
comp=Z,4.7nm,0.6s,baz=21,slow=7.3,SNR=27
ARCES LR LR 14 56 43.7
comp=Z,244nm,20.2s,baz=258,slow=38
comp=Z,4.7nm,0.6s
ARCES ARCESS Array B 59.67 352 P **P** **14 29 29.8 +0.4**
ARCES ARCESS Array B 59.67 352 P **P** **14 29 29.8 +0.4**
ARCES pmax pmax
comp=Z,31nm,1.4s
JETT Jettan, Norway 60.03 354 *e*P **P** **14 29 33.2 +1.3**
TRO Tromso 60.04 355 *e*P **P** **14 29 33.2 +1.3**
LVZ Lovozero 60.25 348 P **P** **14 29 33.8 +0.4**
LVZ Lovozero 60.25 348 P **P** **14 29 33.8 +0.4**
KTK1 Kautokeino 60.37 353 *e*P **P** **14 29 34.9 +0.8**
SGF Sodankyl 61.62 351 P **P** **14 29 43.3 +0.7**
O53A New Philadelph 61.73 60 P **P** **14 29 42.5 -1.4**
baz=314
STEI Steigen 61.92 356 *e*P **P** **14 29 45.0 +0.4**
KURK Kurchatov 62.13 317 P **P** **14 29 46.6 +0.3**
KURK IAmb IAmb 14 29 49.1
comp=Z,6.9nm,0.8s
KURK Kurchatov 62.13 317⇓ *e*P **P** **14 29 46.5 +0.2**
KURK pmax pmax
comp=Z,7.0nm,0.8s
LONY Lake Ozonia 62.26 53 P **P** **14 29 46.8 -0.5**
baz=314
J57A Williamstown 62.37 55 P **P** **14 29 48.0 -0.1**
L56A Greenwood 62.43 57 P **P** **14 29 48.2 -0.3**
FAUS Fauske 62.46 356 *e*P **P** **14 29 49.2 +0.9**
WMQ Urumqi 62.69 306 *e*P P 14 29 55.7 +5.4
WMQ sP sP 14 30 03.2 +0.5
WMQ pmax pmax
comp=Z,18nm,0.7s
NCB Newcomb 62.90 53 P **P** **14 29 51.2 -0.3**
MCWV Mont Chateau 62.90 60 P **P** **14 29 50.8 -0.8**
baz=314
J59A Piesco 63.11 54 P **P** **14 29 52.6 -0.4**
J59A IAmb IAmb 14 30 02.2
comp=Z,5.5nm,0.8s
M57A Sunshine Farm, 63.22 57 P **P** **14 29 53.5 -0.3**
BINY Binghamton 63.22 56 P **P** **14 29 53.6 -0.2**
BINY Binghamton 63.22 56 P **P** **14 29 53.5 -0.3**
baz=315
D62A Allapoint, All 63.24 48 P **P** **14 29 53.7 -0.1**
D62A IAmb IAmb 14 29 54.1
comp=Z,5.8nm,0.8s
MK31 Makanchi Array 63.27 312 P **P** **14 29 53.8 -0.2**
MK31 IAmb IAmb 14 29 56.3
comp=Z,3.4nm,1.1s
MK31 Makanchi Array 63.27 312⇑ *i*P **P** **14 29 54.0 0.0**
MKAR Makanchi Array 63.27 312 P **P** **14 29 53.8 -0.3**
comp=Z,3.5nm,0.8s,baz=54,slow=6.2,SNR=26
comp=Z,3.5nm,0.8s
MKAR Makanchi Array 63.27 312 *i*P **P** **14 29 54.2 +0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
SSPA Standing Stone 63.30 58 P **P** **14 29 53.8 -0.5**
SSPA Standing Stone 63.30 58 P **P** **14 29 53.4 -0.9**
baz=315
E62A Clayton Lake 63.35 48 P **P** **14 29 54.4 -0.2**
MAKZ Makanchi 63.41 312 P **P** **14 29 54.3 -0.7**
MAKZ IAmb IAmb 14 29 55.9
comp=Z,3.0nm,0.9s
MAKZ Makanchi 63.41 312 P **P** **14 29 54.3 -0.7**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
ACCN Adirondack Com 63.60 53 P **P** **14 29 56.1 -0.1**
Q56A Snyder Ridge, 63.70 60 P **P** **14 29 56.2 -0.7**
MOR8 Moi Rana 63.71 356 *e*P **P** **14 29 56.6 0.0**
R55A Marlinton 63.71 61 P **P** **14 29 56.7 -0.4**
L59A Walton 63.73 55 P **P** **14 29 57.2 +0.1**
N59A Sunbury 63.79 57 P **P** **14 29 57.1 -0.4**
BRVK Borovoye 63.83 323 P **P** **14 29 58.0 +0.4**
BRVK IAmb IAmb 14 29 59.0
comp=Z,4.4nm,0.8s
BRVK Borovoye 63.83 323⇓ *e*P **P** **14 29 58.3 +0.7**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
G62A West of Eustis 63.87 50 P **P** **14 29 57.6 -0.4**
OUL Oulu 63.98 351 P **P** **14 29 58.8 +0.5**
PRGR Permogore 64.11 340 *e*P **P** **14 29 58.7 -0.5**
PRGR pmax pmax
comp=Z,15nm,0.6s
BLA Blacksburg 64.29 62 P **P** **14 29 59.8 -1.1**
baz=315
F64A Sherman 64.46 48 P **P** **14 30 01.2 -0.6**
WUPA West Chester U 65.03 57 P **P** **14 30 03.6 -2.0**
PAL Palisades 65.17 55 P **P** **14 30 06.0 -0.5**
baz=316
ARU Arti 65.22 331 P **P** **14 30 07.1 +0.6**
ARU Arti 65.22 331 *c i*P **P** **14 30 07.0 +0.4**
ARU 14 32 29.2
ARU S **S** **14 38 51.9 +4.9**
ARU SS **SS** **14 43 03.0 +4.1**
ARU pmax pmax
comp=Z,12nm,1.3s
KMSC Kings Mountain 65.22 64 P **P** **14 30 05.8 -1.2**
baz=315
KIRV Kirov 65.94 337 LR LR 15 01 57.6
comp=Z,132nm,18.6s,baz=305,slow=39
KIRV Kirov 65.94 337⇑ *e*P **P** **14 30 12.6 +1.5**
T59A Double "B" Far 66.07 61 P **P** **14 30 12.2 -0.2**
T59A IAmb IAmb 14 30 12.7
comp=Z,5.4nm,0.7s
LMN Caledonia Moun 66.14 46 P **P** **14 30 12.5 -0.2**
PZH PanZhiHua 66.81 284 P **P** **14 30 19.2 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
FIA1 FINESS Array S 67.51 350 P **P** **14 30 21.6 +0.5**
FINES FINESS Array B 67.51 350 P **P** **14 30 21.6 +0.4**
comp=Z,6.0nm,0.8s,baz=6.9,slow=9.8,SNR=9.6
comp=Z,6.0nm,0.8s
FINES FINESS Array B 67.51 350 *i*P **P** **14 30 21.7 +0.6**
FINES pmax pmax
comp=Z,6.0nm,0.9s
PMG Port Moresby 68.57 222 P **P** **14 30 28.0 -0.3**
PMG Port Moresby 68.57 222 P **P** **14 30 28.0 -0.3**
PMG pmax pmax
comp=Z,10.0nm,1.0s
NC204 NORSAR Array S 68.73 358 P **P** **14 30 29.7 +0.8**
NC303 NORSAR Array S 68.77 357 P **P** **14 30 29.4 +0.3**
NC405 NORSAR Array S 68.87 357 P **P** **14 30 29.8 +0.1**
NB201 NORSAR Array S 68.94 357 P **P** **14 30 31.6 +1.4**
NB2 NORSAR Subarra 68.96 358 P **P** **14 30 31.0 +0.7**
comp=Z,3.1nm,0.6s,baz=4.7,slow=6.9

NB2 NORSAR Subarra 68.96 358 P **P** **14 30 31.0 +0.7**
slow=6.9
NOA NORSAR Array B 68.96 358 P **P** **14 30 31.5 +1.2**
comp=Z,4.6nm,0.8s,baz=2.9,slow=6.4,SNR=12
comp=Z,4.6nm,0.8s
TKM2 Tokmak 2 69.33 313 P **P** **14 30 34.4 +1.3**
SNR=6.2
USP Ospenovka 69.58 314 P **P** **14 30 35.7 +1.3**
SNR=21
CHMS Chumysh 69.67 313 P **P** **14 30 36.2 +1.2**
SNR=5.3
KBK Karagaybulak 69.84 313 P **P** **14 30 37.3 +1.1**
SNR=8.5
AAK Ala-Archa 70.07 313 P **P** **14 30 38.9 +1.3**
SNR=13
AAK Ala-Archa 70.07 313 P **P** **14 30 38.5 +0.9**
AAK Ala-Archa 70.07 313 P **P** **14 30 38.5 +0.9**
AAK pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 70.38 314 P **P** **14 30 40.8 +1.3**
SNR=14
ABKAR Akbulak array 70.75 326 P **P** **14 30 42.0 +0.6**
AML Almayashu 70.83 313 P **P** **14 30 44.1 +1.5**
SNR=12
KK31 Karatay Array 71.52 316 P **P** **14 30 46.7 +0.5**
KK31 IAmb IAmb 14 30 47.7
comp=Z,5.4nm,0.9s
KK31 Karatay Array 71.52 316 P **P** **14 30 46.7 +0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 71.52 316 P **P** **14 30 46.3 +0.1**
KKAR Karatay Array 71.52 316 P **P** **14 30 46.3 +0.1**
BELG Belogornoye 71.91 335⇓ *e*P **P** **14 30 49.9 +1.5**
BELG pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 71.99 342 *i*P **P** **14 30 49.3 +0.5**
OBN pmax pmax
comp=Z,7.0nm,0.8s
RAR Rarotonga 72.23 166 LR LR 14 56 04.5
comp=Z,79nm,21.0s,baz=351,slow=30
CRAI Chiangrai 72.23 280 P **P** **14 30 50.9 +0.1**
SHL Shillong 73.54 290 P **P** **14 30 58.7 0.0**
SHL pmax pmax
comp=Z,16nm,0.9s
LPSR Galich'ya Gora 73.86 340 *e*P **P** **14 30 59.9 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
DZM Mont Dzumac 74.18 199 P **P** **14 31 02.6 +0.5**
COEN Coen 74.36 224 P **P** **14 31 04.6 +1.4**
COEN IAmb IAmb 14 31 35.9
comp=Z,10nm,1.3s
CMAR Chiang Mai Arr 74.45 280 P **P** **14 31 04.1 +0.2**
comp=Z,1.9nm,0.7s,baz=27,slow=6.6,SNR=11
comp=Z,1.9nm,0.7s
VRH Novokhopyorsk 74.52 338 *e*P **P** **14 31 03.0 -0.8**
VRH pmax pmax
comp=Z,7.0nm,0.8s
VORR Voronezh 74.67 340 P **P** **14 31 05.1 +0.5**
VORR pmax pmax
comp=Z,10.0nm,1.4s
GAR Garm 74.88 314 P **P** **14 31 06.7 +0.4**
VSR Storozhevoye 75.10 339 *e*P **P** **14 31 06.4 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.4s
CHGR Chuyangaron 75.69 314 P **P** **14 31 11.1 +0.2**
CHGR Chuyangaron 75.69 314 P **P** **14 31 11.1 +0.2**
CHGR pmax pmax
comp=Z,33nm,0.8s
AKASG Malin Array Be 77.52 345 P **P** **14 31 21.2 +0.4**
comp=Z,2.2nm,0.6s,baz=19,slow=5.7,SNR=12
AKASG LR LR 15 10 38.7
comp=Z,87nm,19.1s,baz=329,slow=40
comp=Z,2.2nm,0.6s
AKASG Malin Array Be 77.52 345 P **P** **14 31 21.3 +0.4**
AKBB Malin Array Si 77.52 345 P **P** **14 31 20.8 -0.1**
AKBB IAmb IAmb 14 31 21.6
comp=Z,4.8nm,0.7s
AKBB Malin Array Si 77.52 345⇓ *e*P **P** **14 31 20.7 -0.2**
SBUM Sibu 78.06 259 P **P** **14 31 24.3 -0.1**
SBUM IAmb IAmb 14 31 28.0
comp=Z,2.4nm,0.7s
CLL Collm 78.62 356 *e*P **P** **14 31 27.0 0.0**
comp=Z,5.0nm,0.9s
CLL Collm 78.62 356 *e*P **P** **14 31 27.0 0.0**
CLL pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 79.08 312 P **P** **14 31 29.4 -0.7**
KBL IAmb IAmb 14 31 30.4
comp=Z,5.3nm,0.9s
KBL Kabul 79.08 312 P **P** **14 31 29.4 -0.7**
KBL pmax pmax
comp=Z,5.0nm,0.9s
KRLC Kraliky 79.62 353 P **P** **14 31 33.5 +0.9**
KRLC pmax pmax
comp=Z,5.0nm,1.9s
STHS Stebnicka Huta 79.86 350 *e*P **P** **14 31 33.1 -0.7**
STHS Stebnicka Huta 79.86 350 *e*P **P** **14 31 33.1 -0.7**
KIV Kislovodsk 80.96 334 *e*P **P** **14 31 40.4 +0.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 81.02 352 *e*P **P** **14 31 41.3 +1.2**
VYHS Vyhne 81.02 352 *e*P **P** **14 31 41.3 +1.2**
GERES GERESS Array B 81.05 355 P **P** **14 31 40.4 +0.1**
comp=Z,0.6nm,0.7s,baz=34,slow=5.0,SNR=4.4
comp=Z,0.6nm,0.7s
GERES GERESS Array B 81.05 355 P **P** **14 31 41.0 +0.7**
GEYT Alibeck 81.08 321 P **P** **14 31 41.4 +0.8**
comp=Z,7.4nm,0.9s,baz=327,slow=4.4,SNR=13
comp=Z,7.4nm,0.9s
GEYT Alibeck 81.08 321 P **P** **14 31 41.0 +0.4**
GEYT IAmb IAmb 14 31 42.4
comp=Z,7.6nm,0.9s
GEYT Alibeck 81.08 321 P **P** **14 31 41.0 +0.4**
GEYT pmax pmax
comp=Z,8.0nm,0.9s
GYA0 ALIBECK ARRAY 81.08 321 P **P** **14 31 40.0 -0.6**
GYA0 pmax pmax
comp=Z,7.0nm,0.8s
GYA0B ALIBECK ARRAY 81.08 321 P **P** **14 31 41.0 +0.4**
GYA0B IAmb IAmb 14 31 46.5
comp=Z,6.8nm,0.8s
BUR08 Bucovina Ar. S 81.11 347 P **P** **14 31 41.1 +0.4**
BUR08 IAmb IAmb 14 31 42.6
comp=Z,8.0nm,1.4s
KBZ Khabaz 81.11 334 P **P** **14 31 41.6 +1.1**
comp=Z,2.9nm,1.0s,baz=86,slow=3.2,SNR=4.4
comp=Z,2.9nm,1.0s
KBZ Khabaz 81.11 334⇑ *e*P **P** **14 31 40.8 +0.2**
BURAR Bucovina Array 81.14 347 P **P** **14 31 41.5 +0.7**
BURAR IAmb IAmb 14 31 43.1
comp=Z,5.3nm,1.3s
BURAR Bucovina Array 81.14 347 P **P** **14 31 41.5 +0.7**
BURAR pmax pmax
comp=Z,5.0nm,1.3s
KBA Koelnbreinsper 82.83 355 P **P** **14 31 51.3 +1.5**
KBA pmax pmax
comp=Z,10.0nm,1.9s
MLR Muntele Rosu 83.11 346 P **P** **14 31 53.0 +1.8**
MLR Muntele Rosu 83.11 346 P **P** **14 31 53.0 +1.8**
MLR pmax pmax
comp=Z,12nm,1.0s
WRA Warramunga Arr 83.65 228 P **P** **14 31 54.6 +0.6**
comp=Z,0.6nm,0.9s,baz=32,slow=5.6,SNR=2.9
comp=Z,0.6nm,0.9s
BNI Bardonecchia 85.04 360 P **P** **14 32 03.5 +2.4**
BNI Bardonecchia 85.04 360 P **P** **14 32 03.5 +2.4**
BNI pmax pmax
comp=Z,14nm,0.9s
DIVS Divibare 85.25 350 P **P** **14 32 02.8 +0.7**
FITZ Fitzroy Crossi 86.51 236 P **P** **14 32 08.0 -0.4**
ASAR Alice Springs 87.04 227 P **P** **14 32 10.2 -0.8**
comp=Z,1.5nm,0.9s,baz=41,slow=4.6,SNR=9.2
comp=Z,1.5nm,0.9s
ASAR Alice Springs 87.04 227 P **P** **14 32 09.9 -1.0**
BR131 Keskin Array S 87.22 339⇓ *e*P **P** **14 32 12.4 +0.4**
BRTR Keskin Array B 87.23 339 P **P** **14 32 11.6 -0.4**
comp=Z,1.1nm,0.8s,baz=355,slow=4.5,SNR=4.2
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 87.23 339 P **P** **14 32 12.1 +0.1**
SJVI Gifft Hill Sch 87.51 64 P **P** **14 32 13.7 +0.3**
ESDC Sonseca Array 89.95 8 P **P** **14 32 24.0 -0.7**
comp=Z,0.9nm,0.7s,baz=343,slow=4.7,SNR=5.1
comp=Z,0.9nm,0.7s
PLCA Paso Flores 127.48 111 PKP **PKPdf** **14 38 29.5 -0.3**
comp=Z,1.3nm,0.8s,baz=231,slow=3.6,SNR=3.2
MAW Mawson 147.62 217 PKPbc **PKPbc** **14 39 08.4 0.0**

comp=Z,8.8nm,0.9s,baz=59,slow=0.2,SNR=12

WEL 10 14:20:38.0±0.3, 42°S±2°×17°4E±°, h9km±2km, M2.5/12, ML2.7/20, MLv2.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=126.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.32**	**11**	P	Pg	14 20 44.9	+0.6
BSWZ				S	Sg	14 20 49.5	+1.0
CMWZ	**Cape Campbell**	**0.42**	**49**	P	Pb	14 20 47.7	+0.1
KHZ	**Kahutara**	**0.43**	**206**	P	Pb	14 20 47.3	-0.5
KHZ				S	Sb	14 20 53.9	-0.6
TUWZ	**Tuamarina**	**0.61**	**11**	P	Pg	14 20 50.2	+0.5
TUWZ				S	Sb	14 20 59.2	-0.2
THZ	**Tophouse**	**0.71**	**291**	P	Pg	14 20 51.8	+0.1
THZ				S	Sg	14 21 01.2	+0.2
NNZ	**Nelson**	**0.86**	**339**	P	Pg	14 20 54.3	-0.3
NNZ				S	Sg	14 21 05.8	-0.1
TCW	**Tory Channel**	**0.89**	**24**	P	Pg	14 20 55.0	-0.1
MRNZ	**Matariki Terra**	**1.00**	**309**	P	Pg	14 20 57.1	0.0
MRNZ				S	Sb	14 21 10.5	-0.2
WEL	**Wellington**	**1.04**	**45**	P	Pn	14 20 58.6	-0.2
GVZ	**Greta Valley S**	**1.09**	**211**	P	Pn	14 20 59.5	-0.1
GVZ				S	Sn	14 21 15.6	+0.7
TKNZ	**Takaka Hill**	**1.17**	**328**	P	Pb	14 20 60.0	-0.5
TKNZ				S	Sn	14 21 16.3	-0.4
PLWZ	**Palliser**	**1.19**	**68**	P	Pb	14 20 59.8	-0.8
DUWZ	**D'Urville Isla**	**1.23**	**5**	P	Pb	14 21 00.9	-0.5
DUWZ				S	Sb	14 21 17.4	0.0
CAW	**Cannon Point**	**1.32**	**47**	P	Pn	14 21 02.3	-0.4
LTZ	**Lake Taylor**	**1.36**	**236**	P	Pn	14 21 03.1	-0.1
LTZ				S	Sg	14 21 21.7	+0.1
AMCZ	**Amberley**	**1.43**	**216**	P	Pn	14 21 04.1	0.0
KIW	**Kapiti Island**	**1.44**	**36**	P	Pn	14 21 04.3	+0.1
DSZ	**Denniston Nort**	**1.51**	**280**	P	Pg	14 21 06.7	-0.3
DSZ				S	Sg	14 21 26.5	-0.1
QRZ	**Quartz Range**	**1.53**	**321**	P	Pb	14 21 06.1	-0.5
MTW	**Mount Morrison**	**1.55**	**56**	P	Pn	14 21 04.5	-1.2
OGWZ	**Otaki Gorge**	**1.59**	**41**	P	Pn	14 21 05.9	-0.4
OKCZ	**Okains Bay**	**1.78**	**197**	P	Pn	14 21 08.2	-0.8
TMWZ	**Te Maipa**	**1.82**	**60**	P	Pn	14 21 08.0	-1.6
OXZ	**Oxford**	**1.83**	**224**	P	Pn	14 21 09.0	-0.8
INZ	**Inchbonnie**	**1.88**	**247**	P	Pn	14 21 11.2	+1.0
MQZ	**McQueen's Vall**	**1.88**	**206**	P	Pn	14 21 08.3	-2.0
MQZ				S	Sn	14 21 31.7	-2.4
MRZ	**Mangatainoka R**	**1.92**	**45**	P	Pn	14 21 09.8	-1.0
AKCZ	**Akaroa Harbour**	**1.96**	**199**	P	Pn	14 21 10.4	-1.0
WACZ	**Wakanui South**	**2.39**	**216**	P	Pn	14 21 16.0	-1.4

TIR 10 14:20:41.4, 40°08N×19°94E, h4km±1km, Md2.3, Ml1.8, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.21**	**166**	P	Pg	14 20 45.3	-0.1
	baz=166						
SRN				S	Sg	14 20 49.3	+1.2
	baz=166						
SRN				AMP			
	comp=N,0.7nm,0.3s,baz=166						
LSK	**Leskovik**	**0.51**	**82**	P	Pg	14 20 51.8	+0.6
	baz=82						
LSK				S	Sb	14 20 59.7	-1.1
	baz=82						
IGT	**Igoumenitsa**	**0.63**	**151**	P	Pb	14 20 54.2	-0.7
	baz=151						
IGT				S	Sb	14 21 03.8	-0.2
	baz=151						
SCTE	**Santa Cesarea**	**1.13**	**270**	P	Pg	14 21 03.0	0.0
	baz=271						
SCTE				S	Sn	14 21 19.8	+0.1
	baz=271						
SCTE				AMP			
	comp=N,0.1nm,0.4s,baz=271						
FNA	**Florina**	**1.30**	**57**	P	Pg	14 21 06.3	-0.1
	baz=57						
FNA				S	Sn	14 21 25.0	+0.8
	baz=57						

ROM 10 14:22:00.0±0.1, 42°878N±0°004×13°179E±0°004, h5km, Md0.6/2, 1C-2D, Error ellipse: s-maj=0.4km s-min=0.1km az=23.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.02**	**163**	⇓P	Pg	14 22 01.0	-0.2
T1245				S	Sg	14 22 01.6	-0.3
T1245				END			
MC2	**Monte Cornacci**	**0.04**	**14**	⇑P	Pg	14 22 01.2	-0.1
MC2				S	Sg	14 22 02.3	0.0
MC2				END			
MMO1	**Montemonaco**	**0.11**	**79**	P	Pg	14 22 02.6	+0.3
MMO1				S	Sg	14 22 04.8	+0.9
T1216	**Preci, Frazion**	**0.12**	**276**	P	Pg	14 22 02.8	+0.3
T1216				S	Sg	14 22 05.3	+1.2
T1214	**Arquata del Tr**	**0.12**	**170**	⇓P	Pg	14 22 03.0	+0.5
T1214				S	Sg	14 22 05.3	+1.1
CESI	**CESI - Serrava**	**0.24**	**302**	P	Pg	14 22 05.4	+0.7
CESI				S	Sg	14 22 09.5	+1.6
T1215	**Vallo di Nera,**	**0.24**	**252**	P	Pg	14 22 05.3	+0.6
T1215				S	Sg	14 22 09.2	+1.3
T1220	**Camerino, Fraz**	**0.24**	**344**	P	Pg	14 22 05.2	+0.4
T1220				S	Sg	14 22 09.4	+1.5

*IDC **10** 14:28:20.4±3.4, 0°59S×98°57E, h0km, mb3.5/5, mbtmp3.5/6, ML4.0/1, Error ellipse: s-maj=135.4km s-min=23.3km az=59.0*

ISC 10 14:28:25.5±3.1, 0°5S±0°4×98°7E±0°7, h32km, n9, σ0§44/6, mb3.5/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.84**	**1**	P		**Pn**	**14 32 44.2**	**+0.4**
	0.2nm,0.3s,baz=184,slow=12,SNR=1.3 0.5nm,0.3s						
H08S2	**Diego Garcia H**	**27.09**	**254**	T	T		15 01 59.9	
	baz=76,slow=75,SNR=27						
H08S3	**Diego Garcia H**	**27.09**	**254**	T	T		15 02 00.5	
	baz=76,slow=75,SNR=35						
H08S1	**Diego Carcia H**	**27.10**	**254**	T	T		15 02 01.4	
	baz=76,slow=75,SNR=12						
WRA	**Warramunga Arr**	**39.86**	**121**	P		**P**	**14 35 56.5**	**-0.1**
	0.1nm,0.3s,baz=304,slow=8.9,SNR=1.3 0.1nm,0.3s						
ASAR	**Alice Springs**	**41.17**	**127**	P		**P**	**14 36 07.6**	**+0.3**
	0.2nm,0.7s,baz=306,slow=7.4,SNR=1.8 0.2nm,0.7s						
SONM	**Songino Array**	**48.61**	**7**	P		**P**	**14 37 06.0**	**-0.3**
	0.4nm,0.7s,baz=188,slow=7.1,SNR=4.5 0.4nm,0.7s						
MKAR	**Makanchi Array**	**49.26**	**345**	P		**P**	**14 37 11.5**	**+0.3**
	0.6nm,0.5s,baz=147,slow=8.1,SNR=8.6 0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**55.48**	**350**	P		**P**	**14 37 56.8**	**-0.4**
	0.9nm,0.3s,baz=156,slow=6.8,SNR=4.9 0.9nm,0.3s						

*AUST **10** 14:44:35.3±0.2, 32°28S×138°15E, h10km, Error ellipse: s-maj=2.9km s-min=2.4km az=100.0*

*IDC **10** 14:44:38.0±4.4, 31°76S×138°34E, h0km, mbtmp3.5/4, ML3.6/4, Error ellipse: s-maj=58.7km s-min=15.2km az=31.0*

ISC 10 14:44:34.8±1.3, 32°26S±0°04×138°10E±0°04, h17km±10km, n16, σ1§99/29, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**1.36**	**150**	P		**Pb**	**14 44 59.7**	**-0.1**
	baz=1.3,SNR=103						
HTT				S		**Sg**	**14 45 18.1**	**-0.6**
	baz=1.3						
BBOO	**Buckleboo**	**1.81**	**252**	P		**Pb**	**14 45 07.5**	**0.0**
	baz=1.8,SNR=103						
BBOO				S		**Sb**	**14 45 31.3**	**+1.5**
	baz=1.8,SNR=18						
LCRK	**Leigh Creek**	**1.81**	**3**	P		**Pg**	**14 45 08.4**	**-1.1**
	baz=1.8,SNR=132						
LCRK				S		**Sg**	**14 45 33.7**	**+0.6**
	baz=1.8,SNR=6.8						

AUMAR	**Marden Senior**	**2.66**	**170**	P		**Pn**	**14 45 18.3**	**+1.4**
	baz=2.6						
STKA	**Stephens Creek**	**2.99**	**84**	Pn		**Pn**	**14 45 23.1**	**+1.6**
	13nm,0.3s,baz=277,slow=17,SNR=46						
STKA				Pg		**Pb**	**14 45 29.0**	**+1.4**
	19nm,0.3s,baz=267,slow=15,SNR=70						
STKA				Sn		**Sn**	**14 45 58.4**	**+1.5**
	12nm,0.3s,baz=288,slow=20,SNR=6.2						
STKA				Lg		Lg	14 46 06.5	
	13nm,0.3s,baz=300,slow=20,SNR=8.5 3.1nm,0.3s						
STKA	**Stephens Creek**	**2.99**	**84**	P		**Pn**	**14 45 22.9**	**+1.5**
	baz=2.9,SNR=10						
STKA				S		**Sn**	**14 45 58.7**	**+1.8**
	baz=2.9						
MULG	**Mulgathing**	**3.98**	**299**	P		**Pn**	**14 45 37.9**	**+2.9**
	baz=4.0,SNR=9.4						
MULG				S		**Sn**	**14 46 23.8**	**+2.5**
	baz=4.0,SNR=4.7						
OOD	**Oodnadatta**	**4.92**	**334**	P		**Pn**	**14 45 49.4**	**+1.6**
	baz=5.0,SNR=4.1						
OOD				S		**Sn**	**14 46 45.5**	**+1.1**
	baz=5.0						
INKA	**Innaminka**	**5.05**	**28**	P		**Pn**	**14 45 51.6**	**+1.9**
	baz=5.1,SNR=11						
INKA				S		**Sn**	**14 46 49.9**	**+2.1**
	baz=5.1						
ARPS	**Mount Arapiles**	**5.46**	**147**	P		**Pn**	**14 45 54.7**	**-0.6**
	baz=5.4,SNR=16						
ARPS				S		**Sn**	**14 46 56.2**	**-1.4**
	baz=5.4						
CMSA	**Cobar Meteorol**	**6.50**	**86**	P		**Pn**	**14 46 10.8**	**+1.2**
	baz=6.4						
TOO	**Toolangi**	**8.06**	**133**	P		**Pn**	**14 46 31.1**	**+0.1**
	baz=8.0,SNR=4.4						
ASAR	**Alice Springs**	**9.33**	**336**	Pn		**Pn**	**14 46 49.7**	**+1.2**
	0.3nm,0.3s,baz=153,slow=12,SNR=14						
ASAR				Sn		**Sn**	**14 48 29.8**	**-3.3**
	0.5nm,0.3s,baz=158,slow=23,SNR=9.5						
ASAR				Lg		Lg	14 49 24.9	
	baz=155,slow=24 0.3nm,0.3s						
ASPA	**Alice Springs**	**9.33**	**336**	P		**Pn**	**14 46 50.8**	**+2.3**
	baz=9.4						
ASPA				S		**Sn**	**14 48 30.3**	**-2.8**
	baz=9.4						
WRA	**Warramunga Arr**	**12.72**	**344**	Pn		**Pn**	**14 47 34.0**	**-0.9**
	0.4nm,0.3s,baz=164,slow=12,SNR=5.1						
WRA				Sn		**Sn**	**14 49 51.5**	**-4.7**
	0.1nm,0.3s,baz=159,slow=24,SNR=1.3 0.4nm,0.3s						
CTA	**Charters Tower**	**14.15**	**33**	Pn		**Pn**	**14 47 53.3**	**-1.2**
	0.1nm,0.3s,baz=214,slow=18,SNR=2.5 3.2nm,0.9s						

*IDC **10** 14:47:02.3±0.9, 56°23N×163°24E, h0km, mb3.7/12, mbtmp3.9/16, ML4.1/3, MS3.2/5, Error ellipse: s-maj=26.1km s-min=13.3km az=153.0*

*KRSC **10** 14:47:03.6±1.4, 55°99N×163°54E, h51km±17km, Mc4.7, Ml4.6*

*MOS **10** 14:47:05.6±0.9, 56°05N×163°48E, h44km, mb4.3/14, Error ellipse: s-maj=7.6km s-min=5.0km az=62.3*

*NEIC **10** 14:47:07.3±1.1, 56°2N±0°1×163°1E±0°1, h35km±2km, mb4.2/37, Error ellipse: s-maj=20.3km s-min=7.7km az=147.0*

ISC 10 14:47:05.1±1.1, 56°01N±0°03×163°51E±0°03, h27km±8km, n163, σ1§48/193, mb4.2/40, 5C-7D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.43**	**298**	PN		**Pb**	**14 47 14.2**	**-0.1**
KBTR	**Krutoberegovo**	**0.43**	**298**	*eP*		**Pb**	**14 47 14.2**	**-0.1**
KBG	**Krutoberegovo**	**0.51**	**299**	PN		**Pb**	**14 47 15.3**	**-0.3**
KBG				S		**Sb**	**14 47 22.7**	**0.0**
KBG	**Krutoberegovo**	**0.51**	**299**	*eP*		**Pb**	**14 47 15.3**	**-0.3**
KBG				*eS*		**Sb**	**14 47 22.7**	**0.0**
SMKR	**Semkarok**	**1.27**	**298**	PN		**Pb**	**14 47 27.8**	**-0.7**
SMKR	**Semkarok**	**1.27**	**298**	*eP*		**Pb**	**14 47 27.8**	**-0.7**
CIRR	**Tsirk**	**1.55**	**275**	PN		**Pb**	**14 47 32.2**	**-1.0**
CIRR				S		**Sb**	**14 47 52.0**	**-0.5**
CIRR	**Tsirk**	**1.55**	**275**	*eP*		**Pb**	**14 47 32.2**	**-1.0**
CIRR				*eS*		**Sb**	**14 47 52.0**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.58**	**269**	PN		**Pn**	**14 47 32.6**	**+1.1**
BZGR				S		**Sn**	**14 47 52.2**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.58**	**269**	*eP*		**Pn**	**14 47 32.6**	**+1.1**
BZGR				*eS*		**Sn**	**14 47 52.2**	**+1.1**
BKI	**Bering**	**1.61**	**119**	PN		**Pn**	**14 47 32.2**	**+0.4**
BKI				S		**Sn**	**14 47 51.9**	**+0.2**
BKI	**Bering**	**1.61**	**119**	*eP*		**Pn**	**14 47 32.2**	**+0.4**
BKI				*eS*		**Sn**	**14 47 51.9**	**+0.2**
KLY	**Klyuchi**	**1.63**	**282**	PN		**Pn**	**14 47 31.3**	**-0.7**
KLY				S		**Sn**	**14 47 50.2**	**-1.8**
KLY	**Klyuchi**	**1.63**	**282**	*eP*		**Pn**	**14 47 31.3**	**-0.7**
KLY				*eS*		**Sn**	**14 47 50.2**	**-1.8**
KRSR	**Krestovskiy**	**1.66**	**278**	PN		**Pn**	**14 47 33.1**	**+0.5**
KRSR				S		**Sn**	**14 47 53.1**	**+0.1**
KRSR	**Krestovskiy**	**1.66**	**278**	*eP*		**Pn**	**14 47 33.1**	**+0.5**
KRSR				*eS*		**Sn**	**14 47 53.1**	**+0.1**
BZP	**Bezymyannyi-Pe**	**1.67**	**268**	*eP*		**Pn**	**14 47 33.7**	**+1.0**
BZP				*eS*		**Sn**	**14 47 54.7**	**+1.3**
BZWR	**Bezymyannyi-We**	**1.69**	**270**	PN		**Pn**	**14 47 34.4**	**+1.3**
BZWR				S		**Sb**	**14 47 55.8**	**-0.8**
BZWR	**Bezymyannyi-We**	**1.69**	**270**	*eP*		**Pn**	**14 47 34.4**	**+1.3**
BZWR				*eS*		**Sb**	**14 47 55.8**	**-0.8**
BZMR	**Bezymyannaya**	**1.70**	**269**	PN		**Pn**	**14 47 34.3**	**+1.2**
BZMR				S		**Sn**	**14 47 55.6**	**+1.6**
BZMR	**Bezymyannaya**	**1.70**	**269**	*eP*		**Pn**	**14 47 34.3**	**+1.2**
BZMR				*eS*		**Sn**	**14 47 55.6**	**+1.6**
KIRR	**Kirishev**	**1.78**	**269**	PN		**Pb**	**14 47 35.8**	**-1.3**
KIRR				S		**Sb**	**14 47 58.2**	**-0.9**
KIRR	**Kirishev**	**1.78**	**269**	*eP*		**Pb**	**14 47 35.8**	**-1.3**
KIRR				*eS*		**Sb**	**14 47 58.2**	**-0.9**
KMNR	**Kamenistaya**	**1.86**	**264**	PN		**Pn**	**14 47 36.9**	**+1.6**
KMNR				S		**Sn**	**14 47 59.7**	**+1.8**
KMNR	**Kamenistaya**	**1.86**	**264**	*eP*		**Pn**	**14 47 36.9**	**+1.6**
KMNR				*eS*		**Sn**	**14 47 59.7**	**+1.8**
TUMD	**Tumrok D**	**1.94**	**247**	*eP*		**Pn**	**14 47 37.5**	**+1.2**
TUMD				*eS*		**Sn**	**14 48 00.8**	**+1.0**
TUMR	**Tumrok**	**2.04**	**250**	PN		**Pn**	**14 47 37.5**	**-0.3**
TUMR				S		**Sn**	**14 48 00.8**	**-1.6**
KOZ	**Kozyrevsk**	**2.04**	**273**	PN		**Pb**	**14 47 39.8**	**-1.7**
KOZ	**Kozyrevsk**	**2.04**	**273**	*eP*		**Pb**	**14 47 39.8**	**-1.7**
SRDR	**Sredinnyy**	**2.14**	**280**	PN		**Pn**	**14 47 40.9**	**+1.7**
SRDR				S		**Sn**	**14 48 06.6**	**+1.8**
SRDR	**Sredinnyy**	**2.14**	**280**	*eP*		**Pn**	**14 47 40.9**	**+1.7**
SRDR				*eS*		**Sn**	**14 48 06.6**	**+1.8**
ESO	**Esso**	**2.70**	**270**	PN		**Pn**	**14 47 48.9**	**+2.1**
ESO	**Esso**	**2.70**	**270**	*eP*		**Pn**	**14 47 48.9**	**+2.1**
OSSR	**Ossora**	**3.26**	**356**	PN		**Pn**	**14 47 55.2**	**+0.8**
OSSR				S		**Sn**	**14 48 30.9**	**-1.3**
OSSR	**Ossora**	**3.26**	**356**	*eP*		**Pn**	**14 47 55.2**	**+0.8**
OSSR				*eS*		**Sn**	**14 48 30.9**	**-1.3**
SPN	**Mys Shipunski**	**3.55**	**216**	PN		**Pn**	**14 47 58.2**	**-0.3**
SPN	**Mys Shipunski**	**3.55**	**216**	*eP*		**Pn**	**14 47 58.2**	**-0.3**
SPN				*eS*		**Sn**	**14 48 36.4**	**-3.1**
PALN	**Palana**	**3.63**	**330**	PN		**Pn**	**14 48 01.4**	**+1.9**
PALN	**Palana**	**3.63**	**330**	*eP*		**Pn**	**14 48 01.4**	**+1.9**
NLC	**Nalytchevo**	**3.73**	**222**	PN		**Pn**	**14 48 02.5**	**+1.6**
NLC				S		**Sn**	**14 48 44.2**	**+0.2**
NLC	**Nalytchevo**	**3.73**	**222**	*eP*		**Pn**	**14 48 02.5**	**+1.6**
NLC				*eS*		**Sn**	**14 48 44.2**	**+0.2**
SDLR	**Sedlovina**	**3.83**	**226**	PN		**Pn**	**14 48 03.7**	**+1.3**
SDLR	**Sedlovina**	**3.83**	**226**	*eP*		**Pn**	**14 48 03.7**	**+1.3**
KRER	**Koryakskii**	**3.87**	**228**	PN		**Pn**	**14 48 05.1**	**+2.1**
KRER	**Koryakskii**	**3.87**	**228**	*eP*		**Pn**	**14 48 05.1**	**+2.1**
KRX	**Arik**	**3.87**	**229**	PN		**Pn**	**14 48 04.7**	**+1.7**
KRX	**Arik**	**3.87**	**229**	*eP*		**Pn**	**14 48 04.7**	**+1.7**
SMAR	**Somma**	**3.88**	**227**	PN		**Pn**	**14 48 04.2**	**+1.0**
SMAR	**Somma**	**3.88**	**227**	*eP*		**Pn**	**14 48 04.2**	**+1.0**
AVH	**Avacha**	**3.90**	**227**	PN		**Pn**	**14 48 05.1**	**+1.8**
AVH	**Avacha**	**3.90**	**227**	*eP*		**Pn**	**14 48 05.1**	**+1.8**
UGLR	**Uglovaya**	**3.91**	**226**	PN		**Pn**	**14 48 04.9**	**+1.5**
UGLR	**Uglovaya**	**3.91**	**226**	*eP*		**Pn**	**14 48 04.9**	**+1.5**
GNL	**Ganaly**	**3.97**	**237**	PN		**Pn**	**14 48 06.4**	**+2.2**
GNL	**Ganaly**	**3.97**	**237**	*eP*		**Pn**	**14 48 06.4**	**+2.2**
DALK	**Dalny**	**4.07**	**225**	PN		**Pn**	**14 48 06.5**	**+0.9**
DALK	**Dalny**	**4.07**	**225**	*eP*		**Pn**	**14 48 06.5**	**+0.9**
DALK				*eS*		**Sn**	**14 48 50.9**	**-1.4**
INSR	**Institute**	**4.11**	**226**	*eS*		**Sn**	**14 48 53.0**	**-0.1**
PET	**Petropavlovsk**	**4.12**	**225**			**Pn**	**14 48 07.5**	**+1.3**
PET	**Petropavlovsk**	**4.12**	**225**	*ce*	PN	**Pn**	**14 48 07.5**	**+1.3**
PET	**Petropavlovsk**	**4.12**	**225**	*e*	P	**Pn**	**14 48 07.7**	**+1.6**
PET				*e*	S	**Sn**	**14 48 52.5**	**-0.8**
PEA0B	**Petropavlovsk-**	**4.46**	**232**		Pn	**Pn**	**14 48 12.2**	**+1.3**
PEA0B	**Petropavlovsk-**	**4.46**	**232**	‖ *e*	PN	**Pn**	**14 48 13.2**	**+2.3**
PETK	**Petropavlovsk-**	**4.46**	**232**		Pn	**Pn**	**14 48 12.1**	**+1.2**
	2.6nm,0.3s,baz=66,slow=13,SNR=29							
PETK					Sn	**Sn**	**14 49 07.7**	**+5.9**
	2.5nm,0.3s,baz=34,slow=15,SNR=4.7							
PETK					LR	LR	14 50 25.4	
	comp=Z,202nm,22.0s,baz=6.6,slow=45							
KRMR	**Karymshinskiy**	**4.47**	**227**		PN	**Pn**	**14 48 13.6**	**+2.5**
KRMR	**Karymshinskiy**	**4.47**	**227**	*e*	P	**Pn**	**14 48 13.6**	**+2.5**
RUS	**Russkaya**	**4.63**	**221**		PN	**Pn**	**14 48 14.6**	**+1.4**
RUS	**Russkaya**	**4.63**	**221**	*e*	P	**Pn**	**14 48 14.6**	**+1.4**
TILK	**Tilichiki**	**4.66**	**16**		PN	**Pn**	**14 48 16.0**	**+2.4**
TILK	**Tilichiki**	**4.66**	**16**	*e*	P	**Pn**	**14 48 16.0**	**+2.4**
GRL	**Gorelyy**	**4.71**	**225**		PN	**Pn**	**14 48 16.8**	**+2.4**
GRL	**Gorelyy**	**4.71**	**225**	*e*	P	**Pn**	**14 48 16.8**	**+2.4**
MTVR	**Mutnovka**	**4.71**	**224**		PN	**Pn**	**14 48 16.2**	**+1.6**
MTVR	**Mutnovka**	**4.71**	**224**	*e*	P	**Pn**	**14 48 16.2**	**+1.6**
MTVR				*e*	S	**Sn**	**14 49 08.0**	**-0.4**
APC	**Apacha**	**4.82**	**233**		PN	**Pn**	**14 48 18.9**	**+3.0**
APC	**Apacha**	**4.82**	**233**	*e*	P	**Pn**	**14 48 18.9**	**+3.0**
SHEM	**Shemya Is, Ala**	**7.00**	**114**		Pn	Pn	14 48 50.6	+4.8
	2.7nm,0.3s,baz=82,slow=23,SNR=1.6							
SHEM					LR	LR	14 50 46.1	
	comp=Z,57nm,18.6s,baz=264,slow=31 23nm,0.6s							
MA2	**Magadan**	**7.69**	**303**		LR	LR	14 52 18.8	
	comp=Z,232nm,18.3s,baz=74,slow=42							
BILL	**Bilibino**	**12.14**	**5**	*i*	PN	**Pn**	**14 49 54.4**	**-1.7**
BILL					pmax	pmax		
	comp=Z,3.0nm,1.1s							
JKA	**Kamikawa-asahi**	**17.85**	**237**		P	**Pn**	**14 51 12.2**	**+0.8**
ASAJ	**Asahikawa**	**17.85**	**237**		P	**P**	**14 51 13.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=83,slow=7.2,SNR=8.2 comp=Z,10nm,0.7s							
ASAJ	**Asahikawa**	**17.85**	**237**		P	**Pn**	**14 51 12.2**	**+0.8**
ASAJ					pmax	pmax		
	comp=Z,86nm,1.5s							
YAK	**Yakutsk**	**18.26**	**303**		P	**Pn**	**14 51 15.6**	**-0.6**
	baz=158,slow=2.0,SNR=7.4							
YAK					LR	LR	14 58 53.7	
	comp=Z,91nm,18.4s,baz=130,slow=40 comp=Z,1.5nm,0.3s							
YAK	**Yakutsk**	**18.26**	**303**		P	**Pn**	**14 51 15.3**	**-1.0**
YAK					IAmb	IAmb	14 51 33.6	
	comp=Z,10nm,0.9s							
YAK	**Yakutsk**	**18.26**	**303**	*e*	P	**Pn**	**14 51 15.5**	**-0.7**
YAK				*e*	S	**Sn**	**14 54 37.4**	**-1.7**
YAK					pmax	pmax		
	comp=Z,13nm,1.0s							
YAK					pmax	pmax		
	comp=E,7.0nm,1.3s							
YAK					pmax	pmax		
	comp=N,2.0nm,1.3s							
YAK					pmax	pmax		
	comp=Z,222nm,4.1s							
YAK					smax	smax		
	comp=E,149nm,5.9s							
YAK					smax	smax		
	comp=N,93nm,6.4s							
ERM	**Erimo**	**19.24**	**232**		P	**P**	**14 51 25.9**	**-1.2**
ERM	**Erimo**	**19.24**	**232**		P	**P**	**14 51 25.9**	**-1.2**
ERM					pmax	pmax		
	comp=Z,83nm,1.4s							
KLR	**Kul'dur**	**20.30**	**264**		P	**P**	**14 51 39.6**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=33,slow=10,SNR=2.8 comp=Z,0.4nm,0.3s							
KLR	**Kul'dur**	**20.30**	**264**	⇑ *e*	P	**P**	**14 51 39.2**	**+0.5**
KLR					pmax	pmax		
	comp=Z,3.0nm,1.3s							
L19K	**White Mountain**	**21.94**	**57**		P	**P**	**14 51 59.0**	**+2.8**
HEH	**HeiHe**	**22.22**	**270**	*e*	P	**P**	**14 51 59.1**	**-0.2**
HEH					pmax	pmax		
	comp=Z,3.0nm,1.2s							
HEH					pmax	pmax		
	comp=Z,300nm,5.6s							
N19K	**Bonanza Creek**	**22.22**	**60**		P	**P**	**14 52 01.0**	**+1.6**
N19K					IAmb	IAmb	14 52 23.1	
	comp=Z,8.0nm,1.2s							
K20K	**Telida**	**22.27**	**53**		P	**P**	**14 52 01.2**	**+1.5**
IMAR	**Indian Mountai**	**22.52**	**46**		P	**P**	**14 52 03.2**	**+0.8**
H21K	**Melozitna Rive**	**22.88**	**47**		P	**P**	**14 52 08.4**	**+2.2**
Q19K	**Cape Douglas,**	**22.93**	**65**		P	**P**	**14 52 08.2**	**+1.4**
ILSW	**Iliamna Southw**	**22.99**	**62**		P	**P**	**14 52 10.0**	**+2.4**
ILSW					IAmb	IAmb	14 52 45.0	
	comp=Z,13nm,1.4s							
P19K	**Oil Pt**	**23.00**	**63**		P	**P**	**14 52 10.5**	**+2.9**
PPLA	**Purkeypile**	**23.13**	**55**		P	**P**	**14 52 11.2**	**+2.3**
PPLA					IAmb	IAmb	14 52 52.2	
	comp=Z,13nm,1.4s							
CAST	**Castle Rocks**	**23.16**	**53**		P	**P**	**14 52 11.0**	**+2.0**
USRK	**Ussuriysk Ar.

ULN	**Ulaanbaatar**	**34.85**	**281**	⇓*e*P	**P**	**14 53 54.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.5s						
SONM	**Songino Array**	**35.23**	**281**	P	**P**	**14 53 56.4**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=52,slow=8.5,SNR=7.1						
	comp=Z,1.1nm,0.8s						
SONM	**Songino Array**	**35.23**	**281**	P	**P**	**14 53 56.7**	**-0.3**
SONM				lAmb	lAmb	14 53 56.8	
	comp=Z,2.1nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**36.31**	**175**	T	T	15 32 51.9	
	baz=357,slow=76,SNR=564						
H11N3	**WAKE ISLAND Hy**	**36.33**	**175**	T	T	15 33 01.8	
	baz=357,slow=76,SNR=439						
H11N1	**WAKE ISLAND Hy**	**36.33**	**175**	T	T	15 32 57.7	
	baz=357,slow=76,SNR=813						
YKA	**Yellowknife Ar**	**39.68**	**46**	P	**P**	**14 54 35.2**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=254,slow=3.7,SNR=2.5						
	comp=Z,0.1nm,0.4s						
DGZ	**Jazzator, Alta**	**44.19**	**295**	⇓*e*P	**P**	**14 55 10.9**	**-0.7**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA	**Gaotai**	**44.27**	**276**	*e*P	**P**	**14 55 11.2**	**-1.1**
GTA				pP	pP	14 55 18.6	-1.6
GTA				sP	sP	14 55 21.5	-1.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURK	**Kurchatov**	**47.90**	**301**	P	**P**	**14 55 39.2**	**-1.2**
KURK				lAmb	lAmb	14 55 40.3	
	comp=Z,4.2nm,1.1s						
KURK	**Kurchatov**	**47.90**	**301**	⇓*e*P	**P**	**14 55 39.1**	**-1.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
MK31	**Makanchi Array**	**48.69**	**295**	P	**P**	**14 55 44.8**	**-1.9**
MK31				lAmb	lAmb	14 55 46.8	
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**48.69**	**295**	⇓*e*P	**P**	**14 55 45.7**	**-1.0**
MKAR	**Makanchi Array**	**48.69**	**295**	P	**P**	**14 55 45.0**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=56,slow=6.9,SNR=15						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.69**	**295**	P	**P**	**14 55 44.5**	**-2.2**
MKAR	**Makanchi Array**	**48.69**	**295**	*i* P	**P**	**14 55 45.5**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**55.56**	**297**	⇑*e*P	**P**	**14 56 37.0**	**-1.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
KK31	**Karatay Array**	**57.19**	**300**	P	**P**	**14 56 48.5**	**-1.0**
KK31				lAmb	lAmb	14 56 49.0	
	comp=Z,3.1nm,0.8s						
KK31	**Karatay Array**	**57.19**	**300**	P	**P**	**14 56 48.5**	**-1.0**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KKAR	**Karatay Array**	**57.19**	**300**	P	**P**	**14 56 48.3**	**-1.2**
KKAR	**Karatay Array**	**57.19**	**300**	P	**P**	**14 56 48.3**	**-1.2**
ABKAR	**Akbulak array**	**57.40**	**311**	P	**P**	**14 56 49.9**	**-0.9**
FINES	**FINESS Array B**	**58.21**	**338**	P	**P**	**14 56 55.8**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=47,slow=6.1,SNR=3.6						
	comp=Z,2.3nm,0.9s						
FINES	**FINESS Array B**	**58.21**	**338**	*i* P	**P**	**14 56 56.5**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BELG	**Belogornoye**	**59.76**	**320**	⇓*e*P	**P**	**14 57 07.8**	**+0.7**
BELG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.70**	**259**	P	**P**	**14 57 14.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=17,slow=6.0,SNR=4.3						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**60.70**	**259**	*ce*P	**P**	**14 57 16.2**	**+2.1**
CHGR	**Chuyangaron**	**61.23**	**297**	P	**P**	**14 57 16.3**	**-1.2**
CHGR	**Chuyangaron**	**61.23**	**297**	P	**P**	**14 57 16.3**	**-1.2**
CHGR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SCHQ	**Schefferville**	**62.13**	**30**	P	**P**	**14 57 24.8**	**+1.6**
LPSR	**Galich'ya Gora**	**62.53**	**326**	*e*P	**P**	**14 57 25.0**	**-0.9**
LPSR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR	**Storozhevoye**	**63.64**	**325**	*e*P	**P**	**14 57 33.2**	**-0.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
AKASG	**Malin Array Be**	**67.10**	**330**	P	**P**	**14 57 55.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=28,slow=6.1,SNR=16						
	comp=Z,0.6nm,0.3s						
AKBB	**Malin Array Si**	**67.10**	**330**	⇑*e*P	**P**	**14 57 53.7**	**-2.0**

*IDC **10** 14:54:52.0±1.2,3°.39S×152°.66E,h0km,mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=49.8km s-min=15.6km az=113.0*

ISC 10 14:54:57.4±1.2,3°.4S±0°.1×152°.6E±0°.3,h35km,n9, σ1♀04/10,mb3.6/8,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.09**	**214**	Pn		**Pn**	**14 55 15.3**	**-0.9**
	138nm,0.3s,baz=155,slow=14,SNR=76							
KRVT				Sn		**Sn**	**14 55 30.7**	**+0.6**
	858nm,0.3s,baz=76,slow=23,SNR=14							
WRA	**Warramunga Arr**	**24.27**	**226**	P		**P**	**15 00 10.9**	**-0.6**
	1.5nm,0.6s,baz=53,slow=10,SNR=10							
	1.5nm,0.6s							
ASAR	**Alice Springs**	**27.09**	**220**	P		**P**	**15 00 36.5**	**-0.5**
	0.4nm,0.8s,baz=52,slow=8.9,SNR=1.8							
	0.4nm,0.8s							
PETK	**Petropavlovsk-**	**56.45**	**4**	P		**P**	**15 04 34.5**	**-1.1**
	2.7nm,0.9s,baz=180,slow=13,SNR=1.9							
	2.7nm,0.9s							
SONM	**Songino Array**	**65.05**	**328**	P		**P**	**15 05 34.9**	**+0.5**
	0.6nm,1.0s,baz=134,slow=6.7,SNR=3.1							
	0.6nm,1.0s							
VNDA	**Vanda**	**74.23**	**178**	P		**P**	**15 06 31.4**	**+1.1**
	0.7nm,0.8s,baz=356,slow=5.3,SNR=1.8							
	0.7nm,0.8s							
MKAR	**Makanchi Array**	**79.16**	**319**	P		**P**	**15 06 59.0**	**+0.2**
	0.3nm,0.8s,baz=106,slow=9.7,SNR=2.4							
	0.3nm,0.8s							
ZALV	**Zalesovo Beam**	**79.89**	**326**	P		**P**	**15 07 04.1**	**+1.6**
	0.3nm,0.4s,baz=108,slow=4.7,SNR=2.0							
	0.3nm,0.4s							
ILAR	**Eielson Array**	**80.93**	**22**	P		**P**	**15 07 07.3**	**-0.5**
	0.5nm,0.9s,baz=240,slow=6.6,SNR=7.2							
	0.5nm,0.9s							

*NEIC **10** 14:56:26.9±1.2,8°.71S±0°.06×160°.4E±0°.1,h66km±6km, mb4.5/57, Error ellipse: s-maj=16.8km s-min=7.5km az=105.0*

*IDC **10** 14:56:27.4±1.2,8°.66S×160°.11E,h71km±11km,mb3.8/11, mbtmp4.1/14,MS3.2/2,Error ellipse: s-maj=24.5km s-min=18.3km az=141.0*

ISC 10 14:56:25.2±0.5,8°.56S±0°.07×160°.25E±0°.08,h50km,n87, σ1♀15/82,mb4.4/38,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.91**	**199**	P		**Pn**	**14 56 43.4**	**+1.6**
	29μm,0.3s,baz=192,slow=4.3,SNR=381							
HNR				S		**Sn**	**14 56 56.3**	**+2.3**
	95μm,0.4s,baz=121,slow=18,SNR=22							
RABL	**Rabaul**	**9.13**	**298**	Pn		**Pn**	**14 58 38.2**	**+3.7**
PMG	**Port Moresby**	**12.96**	**265**	LR		LR	15 04 12.3	
	comp=Z,120nm,20.8s,baz=64,slow=36							
DZM	**Mont Dzumac**	**14.69**	**157**	P		**Pn**	**14 59 51.7**	**+1.4**
	6.8nm,0.7s,baz=359,slow=8.8,SNR=9.9							
DZM	**Mont Dzumac**	**14.69**	**157**			**Pn**	**14 59 51.9**	**+1.6**
COEN	**Coen**	**17.58**	**251**	P		**P**	**15 00 29.7**	**+2.4**
CTA	**Charters Tower**	**17.73**	**228**	P		**Pn**	**15 00 29.2**	**+0.5**
	11nm,1.1s,baz=63,slow=9.6,SNR=3.6							
CTA				LR		LR	15 06 13.4	
	comp=Z,88nm,21.3s,baz=62,slow=33							
CTAO	**Charters Tower**	**17.73**	**228**	P		**Pn**	**15 00 29.5**	**+0.8**
CTAO				lAmb		lAmb	15 00 32.5	
	comp=Z,28nm,1.4s							
EIDS	**Eidsvold**	**18.86**	**206**	Pn		**P**	**15 00 41.7**	**+0.4**
EIDS				lAmb		lAmb	15 00 44.0	
	comp=Z,15nm,0.7s							
MSVF	**Nonsavu**	**19.57**	**120**	P		**Pn**	**15 00 52.6**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=211,slow=22,SNR=2.0							
ARMA	**Armidale**	**23.19**	**199**	P		**P**	**15 01 27.2**	**-0.7**
ARMA				lAmb		lAmb	15 01 28.7	
	comp=Z,20nm,0.7s							
WR0	**Warramunga Arr**	**27.32**	**243**	P		**P**	**15 02 05.0**	**-0.6**
WR0				lAmb		lAmb	15 02 31.4	
	comp=Z,10nm,1.4s							
WB0	**Warramunga Arr**	**27.39**	**243**	P		**P**	**15 02 05.0**	**-1.2**
WB2	**Warramunga Arr**	**27.48**	**243**	P		**P**	**15 02 06.4**	**-0.7**
WRA	**Warramunga Arr**	**27.50**	**243**	P		**P**	**15 02 06.0**	**-1.2**
	comp=Z,4.5nm,0.8s,baz=68,slow=8.9,SNR=11							
	comp=Z,4.5nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**27.63**	**13**	T		T	15 30 48.6	
	baz=194,slow=76,SNR=558							
H11S3	**WAKE ISLAND Hy**	**27.63**	**13**	T		T	15 30 46.8	
	baz=194,slow=76,SNR=56							
H11S1	**WAKE ISLAND Hy**	**27.64**	**13**	T		T	15 30 48.0	
	baz=194,slow=76,SNR=261							
CAN	**Canberra**	**28.55**	**199**	P		**P**	**15 02 15.9**	**-0.5**
CAN				lAmb		lAmb	15 02 16.7	
	comp=Z,9.3nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**28.85**	**13**	T		T	15 32 28.2	
	baz=190							
H11N3	**WAKE ISLAND Hy**	**28.86**	**13**	T		T	15 32 28.8	
	baz=190							
H11N2	**WAKE ISLAND Hy**	**28.87**	**13**	T		T	15 32 29.6	
	baz=190							
STKA	**Stephens Creek**	**28.96**	**214**	P		**P**	**15 02 18.5**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=30,slow=15,SNR=3.5							
	comp=Z,1.9nm,0.5s							
AS31	**Alice Springs**	**29.35**	**236**	P		**P**	**15 02 21.9**	**-1.7**
ASAR	**Alice Springs**	**29.35**	**236**	P		**P**	**15 02 21.7**	**-2.0**
	comp=Z,2.0nm,0.7s,baz=64,slow=10.0,SNR=11							
ASAR				PcP		**PcP**	**15 05 27.8**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=66,slow=2.9,SNR=3.2							
	comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**29.35**	**236**	P		**P**	**15 02 21.9**	**-1.7**
KNRA	**Kununurra**	**31.56**	**254**	P		**P**	**15 02 42.4**	**-0.8**
TOO	**Toolangi**	**31.82**	**203**	P		**P**	**15 02 44.6**	**-0.7**
TOO				lAmb		lAmb	15 02 53.8	
	comp=Z,14nm,1.2s							
BBOO	**Buckleboo**	**32.91**	**219**	P		**P**	**15 02 53.3**	**-1.6**
BBOO				lAmb		lAmb	15 02 54.0	
	comp=Z,11nm,0.7s							
FITZ	**Fitzroy Crossi**	**34.93**	**251**	P		**P**	**15 03 11.6**	**-0.9**
FORT	**Forrest**	**37.28**	**229**	P		**P**	**15 03 30.9**	**-1.7**
PSA00	**Pilbara Seismi**	**40.97**	**247**	P		**P**	**15 04 01.7**	**-1.8**
PSA00				lAmb		lAmb	15 04 45.0	
	comp=Z,25nm,1.3s							
MBWA	**Marble Bar**	**40.99**	**248**	P		**P**	**15 04 01.6**	**-2.1**
MBWA				lAmb		lAmb	15 04 35.4	
	comp=Z,21nm,1.3s							
MORW	**Morawa**	**46.20**	**238**	P		**P**	**15 04 44.0**	**-1.5**
NWAO	**Narrogin (SRO)**	**46.51**	**232**	P		**P**	**15 04 45.7**	**-2.2**
UGM	**Wanagama**	**49.19**	**267**	P		**P**	**15 05 07.4**	**-1.5**
HON	**Honolulu**	**50.62**	**53**	P		**P**	**15 05 18.1**	**-1.4**
CMAR	**Chiang Mai Arr**	**66.16**	**294**	P		**P**	**15 07 07.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=138,slow=5.6,SNR=1.9							
	comp=Z,0.3nm,0.3s							
UNV	**Unalaska Valle**	**68.23**	**20**	P		**P**	**15 07 20.4**	**-0.1**
VNDA	**Vanda**	**68.93**	**180**	P		**P**	**15 07 23.6**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=323,slow=7.9,SNR=6.4							
	comp=Z,1.9nm,0.7s							
VNDA	**Vanda**	**68.93**	**180**	P		**P**	**15 07 23.6**	**-1.0**
SONM	**Songino Array**	**73.52**	**325**	P		**P**	**15 07 54.5**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=144,slow=5.2,SNR=3.3							
	comp=Z,0.7nm,0.7s							
SONM	**Songino Array**	**73.52**	**325**	P		**P**	**15 07 54.4**	**+1.5**
OHAK	**Old Harbor**	**75.73**	**24**	P		**P**	**15 08 05.8**	**+0.4**
P18K	**Big Mountain,**	**76.48**	**22**	P		**P**	**15 08 09.6**	**-0.1**
P18K				lAmb		lAmb	15 08 21.3	
	comp=Z,10nm,1.4s							
BILL	**Bilibino**	**76.53**	**2**	P		**P**	**15 08 10.1**	**+0.4**
BILL				lAmb		lAmb	15 08 11.3	
	comp=Z,4.3nm,0.9s							
Q19K	**Cape Douglas,**	**76.75**	**23**	P		**P**	**15 08 11.2**	**+0.1**
P19K	**Oil Pt**	**77.40**	**22**	P		**P**	**15 08 15.2**	**+0.4**
SVW2	**Sparrevohn**	**77.56**	**20**	P		**P**	**15 08 16.4**	**+0.7**
SVW2				lAmb		lAmb	15 08 17.7	
	comp=Z,3.5nm,0.8s							
L19K	**White Mountain**	**78.58**	**20**	P		**P**	**15 08 21.9**	**+0.6**
L19K				lAmb		lAmb	15 08 23.3	
	comp=Z,4.1nm,1.1s							
SUA	**Susitna One**	**79.53**	**22**	P		**P**	**15 08 26.8**	**+0.2**
RC01	**Rabbit Creek A**	**79.66**	**22**	P		**P**	**15 08 27.4**	**+0.2**
K20K	**Telida**	**79.66**	**19**	P		**P**	**15 08 27.8**	**+0.7**
K20K				lAmb		lAmb	15 08 48.7	
	comp=Z,6.7nm,1.4s							
PWL	**Port Wells**	**80.04**	**23**	P		**P**	**15 08 29.2**	**-0.1**
KNK	**Knik Glacier**	**80.34**	**22**	P		**P**	**15 08 31.2**	**+0.3**
KNK				lAmb		lAmb	15 09 10.2	
	comp=Z,17nm,1.4s							
GHO	**Glory Hole Cre**	**80.39**	**22**	P		**P**	**15 08 31.4**	**+0.2**
GHO				lAmb		lAmb	15 08 54.5	
	comp=Z,12nm,1.2s							
TRF	**Thorofare Moun**	**80.98**	**20**	P		**P**	**15 08 33.2**	**-1.3**
TRF				lAmb		lAmb	15 08 49.8	
	comp=Z,12nm,1.4s							
SCM	**Sheep Creek Mo**	**81.03**	**22**	P		**P**	**15 08 34.4**	**-0.2**
QSPA	**South Pole Qui**	**81.42**	**180**	P		**P**	**15 08 37.0**	**+0.2**
I21K	**Tanana**	**81.58**	**18**	P		**P**	**15 08 37.5**	**+0.1**
I21K				lAmb		lAmb	15 08 39.9	
	comp=Z,6.4nm,1.4s							
IMAR	**Indian Mountai**	**81.59**	**17**	P		**P**	**15 08 37.8**	**+0.4**
MCK	**McKinley**	**81.63**	**20**	P		**P**	**15 08 37.4**	**-0.3**
MCK				lAmb		lAmb	15 08 38.3	
	comp=Z,5.6nm,1.0s							
H21K	**Melozitna Rive**	**81.65**	**18**	P		**P**	**15 08 38.2**	**+0.5**
MLY	**Manley**	**81.87**	**19**	P		**P**	**15 08 39.1**	**+0.1**
I23K	**Minto, Yukon-K**	**82.39**	**19**	P		**P**	**15 08 42.2**	**+0.6**
I23K				lAmb		lAmb	15 09 14.0	
	comp=Z,5.0nm,1.4s							
CCB	**Clear Creek Bu**	**82.59**	**20**	P		**P**	**15 08 42.0**	**-0.6**
MDM	**Murphy Dome**	**82.64**	**20**	P		**P**	**15 08 42.4**	**-0.6**
H23K	**Yukon River**	**82.77**	**19**	P		**P**	**15 08 44.2**	**+0.6**
H23K				lAmb		lAmb	15 08 56.0	
	comp=Z,7.6nm,1.5s							
BARN	**Barnard Glacie**	**82.82**	**25**	P		**P**	**15 08 45.6**	**+1.4**
BARN				lAmb		lAmb	15 08 49.1	
	comp=Z,6.5nm,1.2s							
ILAR	**Eielson Array**	**82.98**	**20**	P		**P**	**15 08 44.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=247,slow=5.2,SNR=12							
	comp=Z,0.9nm,0.6s							
J25K	**Salcha River,**	**83.41**	**21**	P		**P**	**15 08 46.8**	**-0.2**
J25K				lAmb		lAmb	15 08 51.4	
	comp=Z,6.4nm,1.5s							
M27K	**Edge Creek, AK**	**83.43**	**23**	P		**P**	**15 08 47.6**	**+0.4**
M27K				lAmb		lAmb	15 09 24.9	
	comp=Z,4.0nm,1.1s							
SCRK	**Sand Creek**	**83.53**	**22**	P		**P**	**15 08 48.1**	**+0.4**
BCAR	**Beaver Creek A**	**83.85**	**23**	P		**P**	**15 08 49.9**	**+0.7**
J26L	**Joseph Creek**	**83.98**	**21**	P		**P**	**15 08 50.4**	**+0.4**
J26L				lAmb		lAmb	15 09 27.9	
	comp=Z,4.8nm,1.3s							
MAW	**Mawson**	**84.95**	**202**	P		**P**	**15 08 53.4**	**-1.3**
MAW				lAmb		lAmb	15 08 54.4	
	comp=Z,4.7nm,0.6s							
DAWY	**Dawson**	**85.28**	**23**	P		**P**	**15 08 56.6**	**+0.1**
BMAR	**Burnt Mountain**	**85.32**	**19**	P		**P**	**15 08 57.1**	**+0.5**
N31M	**Braeburn, Yuko**	**85.50**	**26**	P		**P**	**15 08 58.8**	**+1.2**
N31M				lAmb		lAmb	15 08 59.4	
	comp=Z,5.0nm,0.9s							
M30M	**Minto, Yukon**	**85.58**	**24**	P		**P**	**15 08 58.6**	**+0.7**
M30M				lAmb		lAmb	15 09 35.6	
	comp=Z,3.4nm,1.4s							
HEBO	**Mount Hebo**	**86.30**	**43**	P		**P**	**15 09 01.3**	**-0.7**
EPYK	**Eagle Plains**	**87.40**	**21**	P		**P**	**15 09 07.7**	**+0.9**
EPYK				lAmb		lAmb	15 09 46.3	
	comp=Z,2.8nm,1.1s							
MKAR	**Makanchi Array**	**88.04**	**318**	P		**P**	**15 09 10.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=98,slow=5.2,SNR=4.4							
	comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	**88.04**	**318**	P		**P**	**15 09 10.4**	**+0.1**
NVAR	**Mina Array Bea**	**88.63**	**51**	P		**P**	**15 09 14.4**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=251,slow=2.8,SNR=2.2							
	comp=Z,0.3nm,0.4s							
YKA	**Yellowknife Ar**	**95.29**	**28**	P		**P**	**15 09 43.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=257,slow=4.9,SNR=7.3							
	comp=Z,0.6nm,0.7s							
PDAR	**Pinedale Array**	**95.89**	**48**	P		**P**	**15 09 47.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=255,slow=2.9,SNR=4.8							
	comp=Z,0.5nm,0.7s							

*VAO **10** 14:59:40.7±2.0,31°.70S×71°.18W,h43km±10km,mb4.9*

*IDC **10** 14:59:47.4±2.8,31°.35S×70°.69W,h63km±23km,mb4.3/5, mbtmp4.6/9,ML4.6/4,MS3.2/2,Error ellipse: s-maj=29.9km s-min=17.7km az=113.0*

*SJA **10** 14:59:48.5±0.7,31°.33S×70°.91W,h91km±3km,ML4.7, MW4.6*

*GUC **10** 14:59:49.7±0.8,31°.34S×70°.94W,h93km±3km,ML4.9*

*NEIC **10** 14:59:49.3±1.9,31°.35S±0°.04×70°.92W±0°.09,h88km±4km, Error ellipse: s-maj=10.5km s-min=6.2km az=89.0,*

Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=1.60; Mθθ=5.03; Mϕϕ=6.64; Mrθ=-1.68; Mrϕ=2.19; Mθϕ=2.52; Fault plane solution: M₀7.07000×10¹⁵ NP1: ϕs=148.10000°,δ82.44000°,λ-151.69000°. NP2: ϕs=54.05000°,δ61.96000°,λ-8.57000°. Principal axes: T 7.5716, Plg14.0000°, Azm278.0000°; N -1.1510, Plg61.0000°, Azm162.0000°; P -6.4206, Plg25.0000°, Azm15.0000°;

*NEIC **10** 14:59:49,31°.34S×70°.94W,h93km*

ISC 10 14:59:48.4±0.5,31°.32S±0°.02×70°.88W±0°.03,h86km±4km, n221,σ1♀73/293,mb4.9/14,2C-26D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.16**	**319**	Pn		**Pn**	**15 00 02.5**	**+1.6**
CO02	**Combarbal**	**0.16**	**319**	⇑*i*P		**Pn**	**15 00 02.7**	**+1.7**
CO02				*i* S		**Sn**	**15 00 12.3**	**+2.1**
CO02				lAML			15 00 13.3	
	comp=E,204μm,0.3s							
CO02	**Combarbal**	**0.16**	**319**	*e*P		**Pn**	**15 00 02.3**	**+1.4**
CO02				*e*S		**Sn**	**15 00 12.5**	**+2.3**
CO02				lAML			15 00 14.2	
	comp=Z,26μm,0.3s							
CO02	**Combarbal**	**0.16**	**319**	*e*P		**Pn**	**15 00 02.3**	**+1.4**
CO02				*e*S		**Sn**	**15 00 12.5**	**+2.3**
CO02				lAML			15 00 14.2	
	comp=Z,26μm,0.3s							
CO03	**El Pedregal**	**0.51**	**19**			**Pn**	**15 00 04.5**	**+1.5**
CO03	**El Pedregal**	**0.51**	**19**	⇑*i*P		**Pn**	**15 00 04.6**	**+1.7**
CO03				*i* S		**Sn**	**15 00 15.6**	**+1.9**
CO03	**El Pedregal**	**0.51**	**19**	*e*P		**Pn**	**15 00 04.5**	**+1.5**
CO03				*e*S		**Sn**	**15 00 15.9**	**+2.2**
CO03				lAML			15 00 16.2	
	comp=Z,81μm,1.6s							
CO03	**El Pedregal**	**0.51**	**19**	*e*P		**Pn**	**15 00 04.5**	**+1.5**
CO03				*e*S		**Sn**	**15 00 15.9**	**+2.2**
CO03				lAML			15 00 16.2	
	comp=Z,81μm,1.6s							
GO04	**Tololo Observa**	**1.15**	**3**			**Pn**	**15 00 11.3**	**+1.5**
GO04	**Tololo Observa**	**1.15**	**3**	⇓*i*P		**Pn**	**15 00 11.5**	**+1.7**
GO04				*i* S		**Sn**	**15 00 27.7**	**+1.8**
GO04	**Tololo Observa**	**1.15**	**3**	*e*P		**Pn**	**15 00 11.6**	**+1.7**
GO04				*e*S		**Sn**	**15 00 28.0**	**+2.1**
GO04	**Tololo Observa**	**1.15**	**3**	*e*P		**Pn**	**15 00 11.6**	**+1.7**
GO04				*e*S		**Sn**	**15 00 28.0**	**+2.1**
VA06	**Catapilco**	**1.28**	**196**	Pn		**Pn**	**15 00 12.8**	**+1.6**
VA06	**Catapilco**	**1.28**	**196**	⇓*i*P		**Pn**	**15 00 12.9**	**+1.7**
VA06				*i* S		**Sn**	**15 00 29.7**	**+1.3**
VA06				lAML			15 00 33.7	
	comp=E,50μm,0.4s							
RTLS	**Leoncito**	**1.43**	**110**	*e*P		**Pn**	**15 00 15.5**	**+2.2**
RTLS				*e*S		**Sn**	**15 00 35.5**	**+3.3**
RTLS				lAML			15 00 36.5	
	comp=Z,8μm,0.3s							
RTLS	**Leoncito**	**1.43**	**110**	*e*P		**Pn**	**15 00 15.5**	**+2.2**
RTLS				*e*S		**Sn**	**15 00 35.5**	**+3.3**
RTLS				lAML			15 00 36.5	
	comp=Z,8μm,0.3s							
CO05	**La Serena**	**1.43**	**347**			**Pn**	**15 00 14.8**	**+1.7**
CO05	**La Serena**	**1.43**	**347**	⇓*i*P		**Pn**	**15 00 14.9**	**+1.8**
CO05				*i* S		**Sn**	**15 00 33.6**	**+1.8**
CO05				lAML			15 00 35.9	
	comp=E,24μm,0.1s							
VA03	**San Esteban**	**1.46**	**169**			**Pn**	**15 00 15.2**	**+1.6**
VA03	**San Esteban**	**1.46**	**169**	⇓*i*P		**Pn**	**15 00 15.3**	**+1.8**
VA03				*i* S		**Sn**	**15 00 34.7**	**+2.1**
VA03				lAML			15 00 35.7	
	comp=E,46μm,0.3s							
VA03	**San Esteban**	**1.46**	**169**	*e*P		**Pn**	**15 00 15.4**	**+1.8**
VA03				*e*S		**Sn**	**15 00 36.2**	**+3.6**
VA03				lAML			15 00 38.8	
	comp=Z,14μm,0.9s							
VA03	**San Esteban**	**1.46**	**169**	*e*P		**Pn**	**15 00 15.4**	**+1.8**
VA03				*e*S		**Sn**	**15 00 36.2**	**+3.6**
VA03				lAML			15 00 38.8	
	comp=Z,14μm,0.9s							
CO01	**Juntas del Tor**	**1.50**	**27**			**Pn**	**15 00 16.2**	**+1.9**
CO01	**Juntas del Tor**	**1.50**	**27**	⇓*i*P		**Pn**	**15 00 16.4**	**+2.2**
CO01				*i* S		**Sn**	**15 00 36.3**	**+2.5**
CO01				lAML			15 00 36.8	
	comp=N,7μm,0.4s							
CO01	**Juntas del Tor**	**1.50**	**27**	*e*P		**Pn**	**15 00 16.5**	**+2.2**
CO01				*e*S		**Sn**	**15 00 36.5**	**+2.7**

SJA eS Sn 15 01 00.5 +16
SJA IAML 15 01 05.0
comp=Z,2µm,0.3s
RTLL Cerro Villicun 2.06 91 eP **Pn 15 00 22.9 +1.7**
RTLL eS **Sn 15 00 48.4 +2.1**
RTLL Cerro Villicun 2.06 91 eP **Pn 15 00 22.9 +1.7**
RTLL eS **Sn 15 00 48.4 +2.1**
FCH Farellones 2.06 166 ⇓iP **Pn 15 00 23.8 +2.2**
FCH i S **Sn 15 00 49.9 +3.1**
FCH IAML 15 00 52.5
comp=N,5µm,0.4s
MT05 Renca 2.07 177 **Pn 15 00 22.8 +1.4**
MT05 Renca 2.07 177 ⇓iP **Pn 15 00 23.0 +1.6**
MT05 i S **Sn 15 00 48.2 +1.7**
MT05 IAML 15 00 50.4
comp=N,16µm,0.5s
MT05 Renca 2.07 177 eP **Pn 15 00 23.0 +1.6**
MT05 eS **Sn 15 00 49.0 +2.5**
MT05 IAML 15 00 57.8
comp=Z,4µm,1.0s
MT05 Renca 2.07 177 eP **Pn 15 00 23.0 +1.6**
MT05 eS **Sn 15 00 49.0 +2.5**
MT05 IAML 15 00 57.8
comp=Z,4µm,1.0s
MT03 Universidad Ad 2.19 172 Pn **Pn 15 00 24.6 +1.6**
MT03 Universidad Ad 2.19 172 ⇓iP **Pn 15 00 24.7 +1.7**
MT03 i S **Sn 15 00 51.2 +1.7**
MT03 IAML 15 00 58.5
comp=E,11µm,0.4s
MT03 Universidad Ad 2.19 172 eP **Pn 15 00 24.8 +1.7**
MT03 eS **Sn 15 00 53.5 +4.1**
MT03 IAML 15 00 56.6
comp=Z,4µm,0.2s
MT03 Universidad Ad 2.19 172 eP **Pn 15 00 24.8 +1.7**
MT03 eS **Sn 15 00 53.5 +4.1**
MT03 IAML 15 00 56.6
comp=Z,4µm,0.2s
CFA Coronel Fontan 2.27 98 P **Pn 15 00 26.1 +1.9**
comp=Z,1µm,0.3s,baz=252,slow=7.7,SNR=1150
CFA S **Sn 15 00 52.9 +1.4**
comp=Z,2µm,0.5s,baz=93,slow=15,SNR=14
LCO Las Campanas 2.31 4 Pn **Pn 15 00 26.2 +1.4**
VA05 Santo Domingo 2.41 195 **Pn 15 00 26.7 +0.8**
VA05 Santo Domingo 2.41 195 ⇓iP **Pn 15 00 26.6 +0.7**
VA05 i S **Sn 15 00 55.8 +1.2**
VA05 IAML 15 01 06.1
comp=E,19µm,0.4s
MT09 Talagante 2.45 182 **Pn 15 00 27.5 +0.9**
MT09 Talagante 2.45 182 ⇓iP **Pn 15 00 27.7 +1.1**
MT09 i S **Sn 15 00 56.4 +0.7**
MT09 IAML 15 01 04.6
comp=E,6µm,0.4s
AC05 El Transito 2.53 12 ⇓iP **Pn 15 00 30.0 +2.3**
AC05 i S **Sn 15 00 60.0 +2.1**
AC05 IAML 15 01 01.1
comp=N,10µm,0.5s
AC05 El Transito 2.53 12 eP **Pn 15 00 29.9 +2.2**
AC05 eS **Sn 15 01 00.5 +2.7**
AC05 IAML 15 01 06.8
comp=Z,5µm,0.5s
AC05 El Transito 2.53 12 eP **Pn 15 00 29.9 +2.2**
AC05 eS **Sn 15 01 00.5 +2.7**
AC05 IAML 15 01 06.8
comp=Z,5µm,0.5s
MT01 Popeta 2.55 187 **Pn 15 00 28.7 +1.0**
MT01 Popeta 2.55 187 ⇓iP **Pn 15 00 28.8 +1.0**
MT01 i S **Sn 15 00 59.3 +1.2**
MT01 IAML 15 01 06.5
comp=N,5µm,0.4s
MT01 Popeta 2.55 187 eP **Pn 15 00 29.0 +1.2**
MT01 eS **Sn 15 01 00.2 +2.2**
MT01 IAML 15 01 05.5
comp=Z,5µm,0.8s
MT01 Popeta 2.55 187 eP **Pn 15 00 29.0 +1.2**
MT01 eS **Sn 15 01 00.2 +2.2**
MT01 IAML 15 01 05.5
comp=Z,5µm,0.8s
LMEL Las Melosas 2.58 167 ⇓iP **Pn 15 00 30.6 +2.2**
LMEL i S **Sn 15 01 00.5 +1.5**
LMEL IAML 15 01 04.6
comp=N,5µm,0.3s
BO04 La Punta 2.67 175 **Pn 15 00 30.3 +0.9**
BO04 La Punta 2.67 175 ⇓iP **Pn 15 00 30.5 +1.1**
BO04 eS **Sn 15 01 01.0 +0.1**
BO04 IAML 15 01 10.1
comp=N,4µm,0.4s
BO01 Tunca 3.06 183 Pn **Pn 15 00 35.1 +0.4**
BO01 Tunca 3.06 183 ⇓iP **Pn 15 00 35.4 +0.7**
BO01 i S **Sn 15 01 09.9 -0.5**
BO01 IAML 15 01 26.3
comp=E,2µm,0.6s
BO01 Tunca 3.06 183 eP **Pn 15 00 35.7 +1.0**
BO01 eS **Sn 15 01 12.5 +2.1**
BO01 IAML 15 01 23.9
comp=Z,2µm,0.7s
BO01 Tunca 3.06 183 eP **Pn 15 00 35.7 +1.0**
BO01 eS **Sn 15 01 12.5 +2.1**
BO01 IAML 15 01 23.9
comp=Z,2µm,0.7s
AC04 Llanos de Chal 3.11 357 ⇓iP **Pn 15 00 37.0 +1.6**
AC04 i S **Sn 15 01 13.3 +1.7**
AC04 IAML 15 01 24.9
comp=N,4µm,0.5s
AC04 Llanos de Chal 3.11 357 eP **Pn 15 00 37.0 +1.6**
AC04 eS **Sn 15 01 14.4 +2.8**
AC04 IAML 15 01 25.5
comp=Z,3µm,1.1s
AC04 Llanos de Chal 3.11 357 eP **Pn 15 00 37.0 +1.6**
AC04 eS **Sn 15 01 14.4 +2.8**
AC04 IAML 15 01 25.5
comp=Z,3µm,1.1s
BO03 Pichilemu 3.29 196 ⇓iP **Pn 15 00 37.3 -0.5**
BO02 Sierra Bellavi 3.46 179 Pn **Pn 15 00 40.7 +0.6**
BO02 Sierra Bellavi 3.46 179 ⇓iP **Pn 15 00 41.0 +0.9**
BO02 i S **Sn 15 01 20.6 +0.6**
BO02 Sierra Bellavi 3.46 179 eP **Pn 15 00 41.3 +1.2**
BO02 eS **Sn 15 01 21.1 +1.0**
BO02 IAML 15 01 31.5
comp=Z,2µm,0.6s
BO02 Sierra Bellavi 3.46 179 eP **Pn 15 00 41.3 +1.2**
BO02 eS **Sn 15 01 21.1 +1.0**
BO02 IAML 15 01 31.5
comp=Z,2µm,0.6s
GO03 Copiap 3.76 9 **Pn 15 00 45.4 +1.2**
GO03 Copiap 3.76 9 ⇓iP **Pn 15 00 45.6 +1.4**
GO03 i S **Sn 15 01 28.4 +1.0**
GO03 Copiap 3.76 9 eP **Pn 15 00 45.8 +1.6**
GO03 eS **Sn 15 01 30.2 +2.8**
GO03 Copiap 3.76 9 eP **Pn 15 00 45.8 +1.6**
GO03 eS **Sn 15 01 30.2 +2.8**
GO05 Huala 3.78 193 **Pn 15 00 43.8 -0.6**
GO05 Huala 3.78 193 ⇓iP **Pn 15 00 43.9 -0.5**
GO05 Huala 3.78 193 eP **Pn 15 00 44.5 +0.1**
GO05 eS **Sn 15 01 27.9 +0.2**
GO05 Huala 3.78 193 eP **Pn 15 00 44.5 +0.1**
GO05 eS **Sn 15 01 27.9 +0.2**
AC06 Mina Casimiro 3.98 7 **Pn 15 00 48.2 +1.0**
RFA San Rafael 3.99 150 eP **Pn 15 00 48.9 +1.6**
RFA eS Sn 15 01 22.4 -11
RFA San Rafael 3.99 150 eP **Pn 15 00 48.9 +1.6**
RFA eS Sn 15 01 22.4 -11
ML02 Panimavida 4.45 186 Pn **Pn 15 00 52.9 -0.5**
ML02 Panimavida 4.45 186 ⇓iP **Pn 15 00 53.6 +0.1**
ML02 i S **Sn 15 01 43.2 -0.8**
AC02 Maricunga 4.73 19 Pn **Pn 15 00 57.1 -0.7**
AC02 Maricunga 4.73 19 ⇓iP **Pn 15 00 59.3 +1.5**
AC02 Maricunga 4.73 19 eP **Pn 15 00 59.0 +1.3**
AC02 IAML 15 02 18.4
comp=Z,531nm,0.3s
AC02 Maricunga 4.73 19 eP **Pn 15 00 59.0 +1.3**
AC02 IAML 15 02 18.4
comp=Z,531nm,0.3s
AC01 Pan de Azucar 5.16 3 Pn **Pn 15 01 02.3 -0.9**
BI05 Punta Hualpn 5.74 199 Pn **Pn 15 01 09.3 -1.7**
PB14 IPOC Station P 6.69 4 Pn **Pn 15 01 22.0 -2.3**
PB10 IPOC Station P 7.79 2 **Pn 15 01 37.7 -1.3**
PB15 IPOC Station P 8.18 9 **Pn 15 01 42.5 -2.1**
GO06 Curarrehue 8.26 183 **Pn 15 01 44.2 -1.2**
LR04 Corral 8.79 193 **Pn 15 01 50.5 -2.0**
LVC Limon Verde 8.86 12 P **Pn 15 01 51.3 -2.6**
comp=Z,6.8nm,0.3s,baz=165,slow=9.3,SNR=21
LVC S **Sn 15 03 27.5 -4.7**
comp=Z,53nm,0.7s,baz=133,slow=18,SNR=1.5
comp=Z,14nm,0.3s
LVC Limon Verde 8.86 12 **Pn 15 01 51.0 -2.9**
PLCA Paso Flores 9.39 178 P **Pn 15 02 00.4 -0.5**
comp=Z,0.6nm,0.3s,baz=339,slow=12,SNR=20
PLCA LR LR 15 06 25.1
comp=Z,54nm,19.4s,baz=16,slow=42
comp=Z,1.5nm,0.3s
PLCA Paso Flores 9.39 178 Pn **Pn 15 02 00.2 -0.6**
PB09 IPOC Station P 9.60 9 **Pn 15 02 01.7 -2.2**
LL04 Puerto Octay 9.65 187 Pn **Pn 15 02 02.1 -2.2**
TRQA Tornquist 9.94 135 **Pn 15 02 07.7 -0.5**
LL05 Los Muermos 10.28 191 Pn **Pn 15 02 09.7 -3.1**
GO01 Chusmiza 11.71 8 Pn **Pn 15 02 29.6 -3.2**
MNMC Minye Minye 12.20 6 **Pn 15 02 36.0 -3.2**
ITQB Itaqui 12.40 86 **Pn 15 02 39.1 -2.6**
ITQB Itaqui 12.40 86 eP **Pn 15 02 38.8 -2.9**
CPUP Villa Florida 12.88 71 P **Pn 15 02 45.3 -2.8**
comp=Z,1.6nm,0.3s,baz=245,slow=12,SNR=9.9
CPUP S **Sn 15 05 06.0 -3.6**
comp=Z,16nm,0.7s,baz=261,slow=8.6,SNR=3.6
comp=Z,3.8nm,0.4s
CPUP Villa Florida 12.88 71 **Pn 15 02 45.4 -2.7**
CPUP Villa Florida 12.88 71 eP **Pn 15 02 45.7 -2.3**
PB16 IPOC Station P 12.99 6 **Pn 15 02 46.4 -3.8**
AZCA Azaras, Argent 13.35 80 eP **Pn 15 02 51.7 -2.6**
UNIS Unistalda (Bra 13.86 85 eP **Pn 15 02 59.2 -1.8**
PLTB Pedras Altas 14.74 96 eP Pn 15 03 07.5 -4.9
CPSB Cacapava Do Su 15.01 91 eP **Pn 15 03 12.7 -3.1**
LPAZ La Paz 15.18 10 P **Pn 15 03 16.8 -1.8**
LPAZ IAmb IAmb 15 03 25.7
comp=Z,52nm,0.9s
FRBT Francisco Belt 16.52 76 eP **Pn 15 03 34.4 -0.5**
ITAB Concordia 16.85 81 eP **Pn 15 03 38.4 -0.6**
AQDB Aquidauana 17.39 55 P **Pn 15 03 45.3 -0.2**
AQDB Aquidauana 17.39 55 eP **Pn 15 03 45.1 -0.4**
SIV San Ignacio 17.69 33 P **P 15 03 48.6 -0.4**
comp=Z,0.4nm,0.3s,baz=213,slow=11,SNR=110
comp=Z,40nm,0.7s
PTGB Pitanga 17.86 73 eP **Pn 15 03 51.0 -0.2**
TRCB Terra Rica 18.32 67 P **P 15 03 56.1 +0.3**
TRCB Terra Rica 18.32 67 eP **P 15 03 56.0 +0.1**
RVDE Rio Verde (Bra 18.89 53 eP **P 15 04 02.8 +0.7**
PTLB Pontes e Lacer 19.10 37 P **P 15 04 05.0 +0.6**
PTLB IAmb IAmb 15 04 06.9
comp=Z,28nm,1.0s
PTLB Pontes e Lacer 19.10 37 eP **P 15 04 05.0 +0.6**
VBST Vila Bela da S 19.45 33 eP **P 15 04 08.8 +0.5**
POCN Pocone 19.50 45 eP **Pn 15 04 09.7 -1.0**
PP1B Ponte de Pedra 19.93 50 eP **P 15 04 13.8 +0.3**
PCMB Pacaembu 20.02 66 eP **P 15 04 14.3 -0.1**
PTET Porto Estrela 20.23 41 eP **P 15 04 16.5 -0.1**
FRTB Fartura 20.51 72 eP **P 15 04 19.8 +0.1**
C2SB Chapadao do Su 20.54 57 eP **P 15 04 21.1 +1.1**
SALV Santo Antonio 20.68 46 eP **P 15 04 21.4 -0.1**
VILB Vilhena 20.76 31 P **P 15 04 22.6 +0.2**
VILB IAmb IAmb 15 04 26.4
comp=Z,79nm,0.8s
VILB Vilhena 20.76 31 eP **P 15 04 22.6 +0.2**
ITRB Iturama 21.80 63 eP **P 15 04 32.8 -0.6**
ETMB Extrema 21.84 12 P **P 15 04 33.7 -0.2**
ETMB IAmb IAmb 15 04 38.6
comp=Z,79nm,1.0s
ETMB Extrema 21.84 12 eP **P 15 04 35.4 +1.5**
ARAG Araguaiana, MT 23.34 53 eP **P 15 04 47.6 -1.6**
SAML Samuel 23.39 19 P **P 15 04 49.5 -0.2**
SAML IAmb IAmb 15 04 51.4
comp=Z,27nm,0.7s
CZSB Cruzeiro do Su 23.54 355 P **P 15 04 51.5 +0.5**
CZSB IAmb IAmb 15 04 55.5
comp=Z,25nm,0.8s
CZSB Cruzeiro do Su 23.54 355 eP **P 15 04 50.2 -0.8**
USHA Ushuaia 23.56 176 P **P 15 04 52.4 +1.5**
comp=Z,21nm,0.5s,baz=319,slow=5.3,SNR=3.2
comp=Z,21nm,0.5s
PDRB Porto dos Gac 23.58 37 eP **P 15 04 50.4 -1.0**
IPMB Ipameri, GO 24.45 62 eP **P 15 04 59.3 0.0**
CLDB Colider 24.68 38 eP **P 15 05 01.4 0.0**
PMNB Patos De Minas 25.49 66 eP **P 15 05 09.5 +0.7**
BDFB Brasilia 26.06 58 P **P 15 05 14.2 +0.2**
comp=Z,36nm,0.7s,baz=233,slow=8.3,SNR=38
comp=Z,36nm,0.7s
BDFB Brasilia 26.06 58 P **P 15 05 13.8 -0.2**
BDFB IAmb IAmb 15 05 15.0
comp=Z,33nm,0.7s
SNDB Serra Nova Dou 26.41 48 eP **P 15 05 17.6 +0.6**
DIAM Diamantina, MG 27.81 69 eP **P 15 05 29.8 +0.1**
NPGB Novo Progresso 28.18 34 eP **P 15 05 32.2 -0.7**
TEFE Tefe 28.29 13 eP **P 15 05 35.1 +1.3**
JANB Januaria 29.19 62 eP **P 15 05 41.6 -0.3**
SJMB Sao Joao De Ma 29.60 72 eP **P 15 05 45.3 -0.1**
BSFB Barra de Sao F 29.81 72 eP **P 15 05 47.2 -0.1**
ITTB Itaituba 30.36 31 eP **P 15 05 51.9 -0.3**
SDBA SAO DESIDERIO 30.45 58 eP **P 15 05 53.1 0.0**
SMTB Santa Maria do 31.13 49 eP **P 15 05 59.9 +0.8**
SGCB SÃo Gabriel d 31.25 7 eP **P 15 06 00.3 +0.3**
PRPB Parauapebas 31.86 43 eP **P 15 06 05.5 +0.1**
MALB Monte Alegre 33.25 31 eP **P 15 06 17.1 -0.4**
PMSA Palmer Station 33.74 175 P **P 15 06 19.3 -1.9**
PMSA IAmb IAmb 15 06 46.2
comp=Z,63nm,1.3s
BOAV Boa Vista 34.95 18 P **P 15 06 32.7 +0.5**
BOAV IAmb IAmb 15 06 33.9
comp=Z,22nm,0.8s
BOAV Boa Vista 34.95 18 eP **P 15 06 32.9 +0.6**
MCPB Macapa, AP 35.59 34 eP **P 15 06 38.0 +0.3**
RUSC La Rusia 37.07 356 P **P 15 06 52.6 +1.8**
SDV Santo Domingo 39.98 0 P **P 15 07 15.1 +0.2**
SDV IAmb IAmb 15 07 16.7
comp=Z,16nm,1.1s
BAUV El Baul 40.13 4 P **P 15 07 16.3 +0.4**
BAUV IAmb IAmb 15 07 17.7
comp=Z,38nm,0.9s
RCBR Riachuelo 41.42 60 LR LR 15 24 20.6
comp=Z,69nm,19.0s,baz=140,slow=36
TOSP Speyside 43.52 15 P **P 15 07 44.8 +1.3**
SVB Belmont 45.29 13 P **P 15 07 57.7 +0.1**
MCLT Moule a Chique 45.78 14 P **P 15 08 01.7 +0.2**
MPOM Morne Pois Mar 46.51 13 P **P 15 08 07.5 +0.3**
BIM Bigot 46.54 13 P **P 15 08 07.6 +0.1**
FDF Fort de France 46.74 13 P **P 15 08 08.3 -0.7**
MLPR Magueyes Islan 49.15 5 P **P 15 08 27.2 -0.3**
MLPR IAmb IAmb 15 08 28.2
comp=Z,45nm,0.8s
CRPR Cabo Rojo, PR 49.18 5 P **P 15 08 28.1 +0.4**
OBIP Obispado Ponce 49.25 5 P **P 15 08 28.5 +0.2**
BELA Belgrano 2 49.34 171 P **P 15 08 30.1 +1.7**
VNA3 Neumayer Olymp 51.48 159 P **P 15 08 46.1 +1.5**
VNA2 Neumayer--Watz 52.11 158 P **P 15 08 50.8 +1.5**
baz=285,slow=8.0
SNAA Sanae 53.70 159 P **P 15 09 02.6 +1.5**
SNAA Sanae 53.70 159 P **P 15 09 02.5 +1.5**
SNAA IAmb IAmb 15 09 03.5
comp=Z,15nm,0.7s
TROLL Troll, Antarti 55.41 159 P **P 15 09 15.0 +1.5**
VNDA Vanda 66.91 191 P **P 15 10 30.0 -0.8**
DBIC Dimbokro 73.40 71 P **P 15 11 10.0 -1.5**
MAW Mawson 75.46 163 P **P 15 11 23.9 +1.3**
comp=Z,4.4nm,0.8s,baz=214,slow=7.5,SNR=5.1
comp=Z,3.4nm,0.8s
NVAR Mina Array Bea 82.27 324 P **P 15 12 03.6 +3.2**
comp=Z,0.6nm,0.6s,baz=150,slow=6.3,SNR=2.6
comp=Z,0.6nm,0.6s
TORD Torodi Ar. Bea 82.37 70 P **P 15 12 02.3 +1.0**
comp=Z,2.9nm,0.6s,baz=272,slow=4.6,SNR=3.9
comp=Z,2.9nm,0.6s
ASAR Alice Springs 120.39 206 PKP **PKiKP 15 18 30.5 +0.1**
comp=Z,0.8nm,0.5s,baz=132,slow=1.7,SNR=31
WRA Warramunga Arr 123.57 209 PKP **PKiKP 15 18 37.2 +0.5**
comp=Z,1.7nm,0.4s,baz=154,slow=1.7,SNR=47
ZALV Zalesovo Beam 151.44 31 PKPbc **PKiKP 15 19 33.5 +1.4**
comp=Z,7.3nm,0.5s,baz=300,slow=3.0,SNR=40
KSH Kashi 151.90 64 PKPbc **PKiKP 15 19 35.4 +1.6**
MKAR Makanchi Array 154.23 46 PKPbc **PKiKP 15 19 39.5 +1.3**
comp=Z,0.7nm,0.6s,baz=304,slow=2.0,SNR=9.4
MKAR PKPab **pPKPdf 15 19 54.3 -0.9**
comp=Z,2.2nm,0.8s,baz=290,slow=3.7,SNR=14
MJAR Matsushiro Arr 155.36 290 PKPab **PKPab 15 20 00.6 +3.0**
comp=Z,2.1nm,0.8s,baz=91,slow=2.7,SNR=3.5
WMQ Urumqi 159.00 48 eP **PKPdf 15 19 35.6 -0.6**
WMQ LR LR
comp=N,2µm,18.5s
WMQ LR LR
comp=E,2µm,20.1s
WMQ LR LR
comp=Z,2µm,20.1s
HHC Hu-ho-hao-te 170.29 349 eP **PKPdf 15 19 43.9 -2.3**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,220nm,5.7s
NJ2 Nanjing 171.67 278 eP **PKPdf 15 19 45.8 -1.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PZH PanZhiHua 171.95 125 PKP **PKPdf 15 19 46.1 -1.4**
CD2 Chengdu 175.38 94 ePKP **PKPdf 15 19 47.5 -1.0**

*BJI **10** 15:27:11.6±0.0, 10°.10S×161°.06E, h20km, mb5.6/82, mB6.1/74, Ms6.1/98, Ms7 5.9/94*
*NEIC **10** 15:27:14.8±1.4, 10°.11S±0°.07×161°.03E±0°.06, h26km±1km, mb6.2/401, Ms_20 6.4/411, Mwb6.2/47, Mww6.3, Error ellipse: s-maj=13.0km s-min=9.3km az=207.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr2.15; Mθθ-0.69; Mφφ-1.46; Mrθ-0.25; Mφ1.34; Mφr0.28; Fault plane solution: M₀2.36000×10¹⁸ NP1: φs144.08000°, δ40.39000°, λ91.54000°. NP2: φs322.05000°, δ49.62000°, λ88.69000°. Principal axes: T 2.1770, Plg85.0000°, Azm221.0000°; N 0.3238, Plg1.0000°, Azm323.0000°; P -2.5008, Plg5.0000°, Azm53.0000°;*
*MOS **10** 15:27:16.0±0.8, 10°.14S×160°.97E, h55km, mb6.2/68, MS6.2/38 Error ellipse: s-maj=6.2km s-min=5.0km az=104.0*
*IDC **10** 15:27:17.9±1.0, 10°.17S×161°.01E, h57km±8km, mb5.5/37, mbtmp5.7/42, MS6.1/61, Error ellipse: s-maj=10.9km s-min=7.8km az=54.0*
*GCMT **10** 15:27:17.8±0.1, 10°.21S×161°.03E, h32km, MW6.3/161, Moment Tensor Solution. s161,c383; s150,c484; Duration: 3s3 Moment tensor: Scale 10¹⁸Nm; Mrr3.06±.02; Mθθ-1.03±.01; Mφφ-2.04±.01; Mrθ-0.35±.02; Mφ 1.34±.01; Mφr0.15±.02; Best double couple: M₀3.03800×10¹⁸ NP1:φs322.00000°,δ48.00000°, λ85.00000°. NP2:φs149.00000°,δ42.00000°,λ95.00000°. Principal axes: T 3.0900, Plg85.0000°, Azm186.0000°; N -0.1160, Plg4.0000°, Azm325.0000°; P -2.9850, Plg3.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 15:27:22, 10°.23S×161°.09E, h30km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10¹⁸Nm; Mrr3.98; Mθθ-1.44; Mφφ-2.54; Mrθ-0.23; Mφ1.42; Mφr-0.10; Fault plane solution: M₀3.78000×10¹⁸ NP1: φs149.00000°, δ45.00000°, λ95.00000°. NP2: φs322.00000°, δ45.00000°, λ85.00000°. Principal axes: T 3.9917, Plg87.0000°, Azm152.0000°; N -0.4788, Plg3.0000°, Azm326.0000°; P -3.5128, Plg0.0000°, Azm56.0000°;*

ISC 10 15:27:15.5±0.3, 10°.18S±0°.03×161°.02E±0°.03, h40km±2km, h41km:pP-P, n1830, σ1950/2021, mb6.1/386, MS6.3/336, 148C-62D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.29**	**305**	P	**Pn**	**15 27 38.2**	**+1.1**
	132µm,0.3s,baz=143,slow=3.0,SNR=1533						
HNR				S	**Sn**	**15 27 56.0**	**+2.9**
	125µm,0.3s,baz=42,slow=6.9,SNR=12						
HNR	**Honiara**	**1.29**	**305**		**Pn**	**15 27 38.0**	**+0.9**
HNR	**Honiara**	**1.29**	**305**	⇓P	**Pn**	**15 27 38.2**	**+1.1**
HNR	**Honiara**	**1.29**	**305**	P	**Pn**	**15 27 38.0**	**+0.9**
RABL	**Rabaul**	**10.61**	**304**	Pn	**Pn**	**15 29 42.8**	**-2.3**
RABL	**Rabaul**	**10.61**	**304**	⇓P	**Pn**	**15 29 48.0**	**+2.9**
KRVT	**Keravat (AS076**	**10.66**	**303**	P	**Pn**	**15 29 48.8**	**+3.0**
	68nm,0.6s,baz=175,slow=15,SNR=1.8						
KRVT				S	**Sn**	**15 31 45.8**	**+1.9**
	1µm,1.1s,baz=279,slow=13,SNR=1.2						
KRVT				LR	LR	15 34 32.2	
	comp=Z,155µm,19.6s,baz=265,slow=41						
DZM	**Mont Dzumac**	**12.91**	**157**	*e*Pn	**Pn**	**15 30 16.6**	**-0.1**
	2µm,1.7s						
DZM				*e*Sn	**Sn**	**15 32 31.0**	**-8.2**
	756nm,1.1s						
DZM				*e*LR	LR	15 33 15.4	
	comp=Z,208µm,22.9s						
DZM	**Mont Dzumac**	**12.91**	**157**	P	**Pn**	**15 30 19.6**	**+2.9**
	157nm,0.5s,baz=9.4,slow=10.0,SNR=149						
DZM				S	**Sn**	**15 32 36.4**	**-2.8**
	78nm,0.4s,baz=58,slow=18,SNR=3.7						
DZM				LR	LR	15 34 36.4	
	comp=Z,136µm,20.1s,baz=319,slow=34						
DZM	**Mont Dzumac**	**12.91**	**157**	Pn	**Pn**	**15 30 17.7**	**+1.0**
DZM	**Mont Dzumac**	**12.91**	**157**	⇑P	**Pn**	**15 30 18.4**	**+1.7**
PMG	**Port Moresby**	**13.68**	**272**	P	**Pn**	**15 30 29.0**	**+2.0**
	50nm,1.2s,baz=87,slow=10,SNR=52						
PMG				LR	LR	15 35 26.4	
	comp=Z,200µm,21.7s,baz=108,slow=36						
PMG	**Port Moresby**	**13.68**	**272**	Pn	**Pn**	**15 30 29.8**	**+2.8**
PMG	**Port Moresby**	**13.68**	**272**	*d*iP	**P**	**15 30 31.6**	**-3.4**
PMG				pmax	pmax		
	comp=Z,546nm,1.7s						
MANU	**Manus Island**	**15.79**	**300**	Pn	**Pn**	**15 30 55.1**	**0.0**
MANU	**Manus Island**	**15.79**	**300**	⇑P	**P**	**15 30 58.0**	**-0.5**
TARA	**Tarawa**	**16.49**	**47**	Pn	**Pn**	**15 31 02.9**	**-1.1**
TARA				IAmb	IAmb	15 31 06.7	
	comp=Z,2µm,1.4s						
TARA	**Tarawa**	**16.49**	**47**	⇓P	**Pn**	**15 31 01.2**	**-2.9**
PATS	**Pohnpei**	**17.12**	**351**	P	**P**	**15 31 13.2**	**-0.1**
	baz=17,SNR=9.2						
PATS	**Pohnpei**	**17.12**	**351**	P	**Pn**	**15 31 12.7**	**+0.7**
CTA	**Charters Tower**	**17.31**	**234**	P	**P**	**15 31 17.0**	**+1.7**
	comp=Z,143nm,0.9s,baz=57,slow=14,SNR=39						
CTA				LR	LR	15 37 38.1	
	comp=Z,149µm,18.2s,baz=60,slow=36						
CTAO	**Charters Tower**	**17.31**	**234**		**P**	**15 31 16.3**	**+1.0**
CTAO	**Charters Tower**	**17.31**	**234**	⇓P	**P**	**15 31 16.5**	**+1.1**
CTAO	**Charters Tower**	**17.31**	**234**	P	**P**	**15 31 16.3**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,836nm,1.2s						
EIDS	**Eidsvold**	**17.81**	**211**	P	**P**	**15 31 22.9**	**+2.1**
	baz=18,SNR=42						
EIDS	**Eidsvold**	**17.81**	**211**		**P**	**15 31 22.5**	**+1.8**
EIDS	**Eidsvold**	**17.81**	**211**	⇓P	**P**	**15 31 21.6**	**+0.8**
COEN	**Coen**	**17.84**	**256**	P	**P**	**15 31 23.4**	**+2.1**
	baz=18,SNR=48						
COEN	**Coen**	**17.84**	**256**	P	**P**	**15 31 23.4**	**+2.1**
MTSU	**Mount Surprise**	**18.01**	**242**	P	**P**	**15 31 26.0**	**+2.9**
	baz=18,SNR=100						
FUNA	**Funafuti**	**18.01**	**86**	Pn	**P**	**15 31 24.8**	**+1.7**
FUNA				IAmb	IAmb	15 31 31.8	
	comp=Z,4µm,2.0s						
FUNA	**Funafuti**	**18.01**	**86**	⇑P	**P**	**15 31 24.8**	**+1.7**
MSVF	**Nonsavu**	**18.14**	**116**	P	**Pn**	**15 31 26.6**	**+1.9**
	comp=Z,260nm,1.1s,baz=282,slow=6.0,SNR=68						
MSVF				LR	LR	15 36 56.6	
	comp=Z,57µm,21.8s,baz=303,slow=32						
MSVF	**Nonsavu**	**18.14**	**116**		**Pn**	**15 31 25.9**	**+1.3**
MSVF	**Nonsavu**	**18.14**	**116**	⇑P	**Pn**	**15 31 26.6**	**+1.9**
MSVF	**Nonsavu**	**18.14**	**116**	*c*iP	**Pn**	**15 31 26.2**	**+1.5**
MSVF				pmax	pmax		
	comp=Z,332nm,1.1s						
MSVF				MLR	MLR		
	comp=Z,37µm,16.0s						
NFK	**Norfolk Island**	**19.85**	**162**	P	**Pn**	**15 31 46.0**	**+1.0**
	baz=20,SNR=6.2						
RMQ	**Roma**	**19.93**	**214**	P	**Pn**	**15 31 46.4**	**+0.4**
	baz=20,SNR=78						
LHI	**Lord Howe Isla**	**21.31**	**185**	P	**P**	**15 31 59.3**	**+0.4**
LHI	**Lord Howe Isla**	**21.31**	**185**	⇑P	**P**	**15 32 00.1**	**+1.2**
ARMA	**Armidale**	**21.95**	**202**	P	**P**	**15 32 07.2**	**+1.2**
	baz=22,SNR=40						
ARMA	**Armidale**	**21.95**	**202**	P	**P**	**15 32 07.0**	**+1.0**
ARMA	**Armidale**	**21.95**	**202**	⇑P	**P**	**15 32 07.1**	**+1.2**
GENI	**Genyem**	**22.04**	**289**	P	**P**	**15 32 06.4**	**-0.5**
	comp=Z,463nm,1.2s,comp=Z,11µmcomp=Z,44µm						
QLP	**Quilpie**	**22.75**	**222**	P	**P**	**15 32 15.2**	**+0.8**
	baz=23,SNR=58						
QLP	**Quilpie**	**22.75**	**222**	⇑P	**P**	**15 32 15.2**	**+0.8**
QIS	**Mount Isa**	**23.05**	**241**	P	**P**	**15 32 19.0**	**+1.3**
	baz=23,SNR=155						
SMPI	**Sarmi**	**23.61**	**289**	P	**P**	**15 32 22.0**	**-1.1**
	comp=Z,2µm,1.3s,comp=Z,26µmcomp=Z,45µm						
CMSA	**Cobar Meteorol**	**25.56**	**212**	P	**P**	**15 32 41.7**	**+0.9**
	baz=26,SNR=150						

SRPI **Serui, Papua** 25.97 287 P **P** 15 32 44.1 -0.6
comp=Z,155nm,1.4s,comp=Z,7µmcomp=Z,21µm
AFI **Afiamalu** 26.85 101 P **P** 15 32 54.0 +1.2
AFI IAMs_20 IAMs_20 15 41 00.8
comp=Z,97µm,20.0s
AFI **Afiamalu** 26.85 101 P **P** 15 32 54.0 +1.2
AFI pmax pmax
comp=Z,335nm,1.2s
WR0 **Warramunga Arr** 27.31 246 P **P** 15 32 57.3 +0.5
WR0 IAmb IAmb 15 33 27.9
comp=Z,737nm,1.6s
CAN **Canberra** 27.32 202 P **P** 15 32 57.5 +0.8
CAN IAmb IAmb 15 33 35.4
comp=Z,625nm,1.7s
CAN IAMs_20 IAMs_20 15 42 39.9
comp=Z,111µm,20.0s
CAN **Canberra** 27.32 202 ⇓P **P** 15 32 58.0 +1.3
CAN **Canberra** 27.32 202 P **P** 15 32 57.5 +0.8
CAN pmax pmax
comp=Z,625nm,1.7s
CAN MLR MLR
comp=Z,111µm,20.0s
RAO **Raoul Island** 27.35 137 P **P** 15 32 57.1 +0.1
RAO **Raoul Island** 27.35 137 P **P** 15 32 57.1 +0.1
RAO pmax pmax
comp=Z,2µm,1.6s
WB0 **Warramunga Arr** 27.39 247 P **P** 15 32 57.9 +0.4
OUZ **Omahuta** 27.43 157 IAMs_20 IAMs_20 15 41 54.5
comp=Z,86µm,20.0s
OUZ **Omahuta** 27.43 157 ⇑P **P** 15 32 59.1 +1.5
WRAB **Tennant Creek** 27.48 246 P **P** 15 32 58.9 +0.7
WRAB IAmb IAmb 15 33 28.5
comp=Z,1µm,1.8s
WRAB **Tennant Creek** 27.48 246 IAMs_20 IAMs_20 15 43 00.8
comp=Z,73µm,22.0s
WRAB **Tennant Creek** 27.48 246 ⇑P **P** 15 32 58.6 +0.3
WRAB **Tennant Creek** 27.48 246*c i* P **P** 15 32 59.9 +1.7
WRAB pmax pmax
comp=Z,581nm,1.7s
WRAB MLR MLR
comp=Z,77µm,16.0s
WB2 **Warramunga Arr** 27.48 246 P **P** 15 32 58.6 +0.3
WB2 IAmb IAmb 15 33 28.5
comp=Z,1µm,1.6s
WRA **Warramunga Arr** 27.49 246 P **P** 15 32 58.8 +0.4
comp=Z,205nm,0.9s,baz=74,slow=9.2,SNR=171
WRA PcP **PcP** 15 36 16.1 -0.1
comp=Z,25nm,0.7s,baz=71,slow=2.9,SNR=5.4
WRA ScP **ScP** 15 39 54.2 +0.4
comp=Z,14nm,0.9s,baz=74,slow=3.4,SNR=5.7
WRA LR LR 15 43 23.1
comp=Z,73µm,21.3s,baz=28,slow=35
WRA PKiKP **PKiKP** 15 43 53.0 -0.3
comp=Z,0.8nm,0.4s,baz=357,slow=0.8,SNR=6.7
WRA P3KPbc 16 05 29.6
comp=Z,2.3nm,0.7s,baz=249,slow=2.7,SNR=21
comp=Z,205nm,0.9s
RKPI **Ransiki, Papua** 28.03 286 P **P** 15 33 03.0 -0.2
comp=Z,373nm,1.1s,comp=Z,7µmcomp=Z,28µm
KDU **Kakadu** 28.08 262 P **P** 15 33 04.0 +0.4
baz=28,SNR=57
KDU **Kakadu** 28.08 262 ⇑P **P** 15 33 03.7 0.0
STKA **Stephens Creek** 28.09 217 P **P** 15 33 05.6 +2.0
comp=Z,86nm,0.9s,baz=25,slow=9.4,SNR=78
STKA LR LR 15 44 26.4
comp=Z,92µm,18.5s,baz=45,slow=37
comp=Z,86nm,0.9s
STKA **Stephens Creek** 28.09 217 P **P** 15 33 04.8 +1.3
baz=28,SNR=46
STKA **Stephens Creek** 28.09 217 P **P** 15 33 04.4 +0.8
STKA **Stephens Creek** 28.09 217*c i* P **P** 15 33 04.2 +0.6
GUMO **Guam** 28.54 326 P **P** 15 33 07.5 -0.2
comp=Z,67nm,0.9s,baz=120,slow=14,SNR=2.0
GUMO LR LR 15 44 01.2
comp=Z,26µm,20.8s,baz=144,slow=35
comp=Z,67nm,0.9s
GUMO **Guam** 28.54 326 P **P** 15 33 06.4 -1.3
GUMO IAmb IAmb 15 34 03.4
comp=Z,698nm,1.3s
MILA **Mila** 28.82 200 P **P** 15 33 11.6 +1.5
baz=29,SNR=14
MILA **Mila** 28.82 200 ⇑P **P** 15 33 11.9 +1.8
H11S2 **WAKE ISLAND Hy** 29.04 11 T T 16 02 22.9
baz=194,slow=76,SNR=320
H11S3 **WAKE ISLAND Hy** 29.04 11 T T 16 02 03.0
baz=194,slow=76,SNR=231
H11S1 **WAKE ISLAND Hy** 29.06 11 T T 16 02 33.7
baz=194,slow=76,SNR=536
AS31 **Alice Springs** 29.12 239 P **P** 15 33 12.5 -0.4
ASAR **Alice Springs** 29.13 239 P **P** 15 33 12.8 -0.1
comp=Z,113nm,0.8s,baz=64,slow=10,SNR=196
ASAR PcP **PcP** 15 36 20.4 +0.2
comp=Z,12nm,0.9s,baz=111,slow=3.2,SNR=2.3
ASAR ScP **ScP** 15 39 59.2 +0.3
comp=Z,7.0nm,0.8s,baz=67,slow=2.9,SNR=4.2
ASAR PKiKP **PKiKP** 15 43 53.0 -1.3
comp=Z,0.6nm,0.8s,baz=109,slow=1.3,SNR=4.5
ASAR LR LR 15 44 46.6
comp=Z,194µm,18.6s,baz=64,slow=36
ASAR P3KPbc 16 05 21.9
comp=Z,4.2nm,0.7s,baz=240,slow=4.1,SNR=61
comp=Z,113nm,0.8s
ASAR **Alice Springs** 29.13 239 P **P** 15 33 12.5 -0.4
MTN **Manton Dam** 29.39 262 P **P** 15 33 16.5 +1.1
baz=29,SNR=13
MTN **Manton Dam** 29.39 262 P **P** 15 33 15.8 +0.4
MTN **Manton Dam** 29.39 262 ⇑P **P** 15 33 15.9 +0.6
SAUI **Saumlaki** 29.42 272 P **P** 15 33 15.6 0.0
SAUI IAmb IAmb 15 34 16.1
comp=Z,392nm,0.9s
SAUI **Saumlaki** 29.42 272 P **P** 15 33 17.2 +1.6
comp=Z,397nm,1.0s,comp=Z,11µmcomp=Z,38µm
NIUE **Niue** 29.43 111 P **P** 15 33 15.7 +0.1
NIUE IAmb IAmb 15 33 41.7
comp=Z,615nm,1.8s
FAKI **Fak Fak** 29.46 282 P **P** 15 33 15.7 -0.2
FAKI **Fak Fak** 29.46 282 P **P** 15 33 16.6 +0.7
comp=Z,86nm,1.1s,comp=Z,4µmcomp=Z,22µm
H11N1 **WAKE ISLAND Hy** 30.27 11 T T 16 03 57.7
baz=192,slow=76,SNR=1321
H11N3 **WAKE ISLAND Hy** 30.27 11 T T 16 03 55.8
baz=192,slow=76,SNR=546
H11N2 **WAKE ISLAND Hy** 30.29 11 T T 16 03 57.0
baz=192,slow=76,SNR=1137
TOO **Toolangi** 30.65 205 P **P** 15 33 27.8 +1.6
baz=31,SNR=44
TOO **Toolangi** 30.65 205 P **P** 15 33 27.2 +1.0
TOO IAmb IAmb 15 33 30.1
comp=Z,387nm,1.4s
TOO **Toolangi** 30.65 205 ⇑P **P** 15 33 27.6 +1.4
TOO **Toolangi** 30.65 205 P **P** 15 33 27.2 +1.0
TOO pmax pmax
comp=Z,387nm,1.5s
HTT **Hallett** 30.78 218 P **P** 15 33 28.6 +1.1
baz=31,SNR=163
HTT **Hallett** 30.78 218 ⇑P **P** 15 33 28.4 +0.9
HIZ **Hauiti** 30.82 159 P **P** 15 33 28.6 +1.0
HIZ IAmb IAmb 15 34 01.8
comp=Z,675nm,1.5s
SIJI **Sorong** 30.99 286 LR LR 15 47 47.1
comp=Z,44µm,20.0s,baz=118,slow=40
SWI **Sorong** 31.00 286 P **P** 15 33 29.8 +0.2
SWI pmax pmax
comp=Z,86nm,0.9s
SWI **Sorong** 31.00 286 P **P** 15 33 28.6 -1.0
comp=Z,74nm,0.7s,comp=Z,2µmcomp=Z,22µm
BNDI **Bandanaira** 31.35 278 P **P** 15 33 33.3 +0.7
comp=Z,1µm,1.7s,comp=Z,15µmcomp=Z,23µm
MXZ **Matakaoa Point** 31.39 153 P **P** 15 33 32.8 0.0
MXZ IAmb IAmb 15 33 47.7
comp=Z,385nm,1.6s
URZ **Urewera** 31.47 155 P **P** 15 33 34.4 +1.0
comp=Z,26nm,0.6s,baz=354,slow=2.2,SNR=26
URZ LR LR 15 44 45.9
comp=Z,33µm,19.3s,baz=46,slow=33
comp=Z,26nm,0.6s
ARPS **Mount Arapiles** 31.65 210 P **P** 15 33 36.5 +1.5
baz=32,SNR=18
I39PW **PALAU INFRASON** 31.70 303 I I 18 41 20.0
baz=122,slow=326,SNR=0.6
RTZ **Ruatahuna** 31.72 156 P **P** 15 33 35.6 -0.1
KNRA **Kununurra** 31.88 257 P **P** 15 33 38.0 +0.7
baz=32,SNR=262
KNRA **Kununurra** 31.88 257 P **P** 15 33 37.5 +0.2
BKZ **Black Stump Fm** 32.00 157 P **P** 15 33 38.5 +0.4
BKZ IAmb IAmb 15 33 43.0
comp=Z,137nm,0.7s
BKZ IAMs_20 IAMs_20 15 44 16.3
comp=Z,90µm,22.0s
QRZ **Quartz Range** 32.17 163 P **P** 15 33 40.3 +0.7
BBOO **Buckleboo** 32.18 222 P **P** 15 33 40.6 +0.8
baz=32,SNR=244
BBOO **Buckleboo** 32.18 222 P **P** 15 33 40.5 +0.8
TKNZ **Takaka Hill** 32.49 163 P **P** 15 33 43.4 +1.0
MSAI **Masohi** 32.56 280 P **P** 15 33 44.1 +0.8
comp=Z,20nm,0.7s,comp=Z,310nm
MRNZ **Matariki Terra** 32.77 164 P **P** 15 33 45.4 +0.7
NNZ **Nelson** 32.78 163 P **P** 15 33 45.4 +0.6
DSZ **Denniston Nort** 32.84 165 P **P** 15 33 46.4 +0.9
DSZ IAmb IAmb 15 33 48.2
comp=Z,273nm,1.2s
MRZ **Mangatainoka R** 32.98 159 P **P** 15 33 46.9 +0.2
MRZ IAmb IAmb 15 34 17.8
comp=Z,607nm,1.8s
TCW **Tory Channel** 33.05 161 P **P** 15 33 47.2 0.0
TUWZ **Tuamarina** 33.14 162 P **P** 15 33 48.4 +0.4
THZ **Tophouse** 33.15 164 P **P** 15 33 48.1 -0.1
THZ IAmb IAmb 15 33 50.2
comp=Z,287nm,1.2s
AAI **Ambon** 33.20 279 P **P** 15 33 47.2 -1.6
comp=Z,159nm,0.9s,comp=Z,4µmcomp=Z,24µm
AAI pP **pP** 15 33 59.5 -0.1
comp=Z,159nm,0.9s,comp=Z,4µmcomp=Z,24µm
BFZ **Birch Farm** 33.23 159 P **P** 15 33 48.5 -0.3
BFZ IAmb IAmb 15 34 13.3
comp=Z,426nm,1.6s
BHW **Baring Head** 33.41 161 P **P** 15 33 49.8 -0.6
BHW IAmb IAmb 15 33 52.6
comp=Z,574nm,1.4s
CMWZ **Cape Campbell** 33.52 162 P **P** 15 33 51.8 +0.5
KHZ **Kahutara** 33.93 163 P **P** 15 33 54.3 -0.6
KHZ IAmb IAmb 15 33 56.3
comp=Z,310nm,1.2s
KHZ IAMs_20 IAMs_20 15 45 40.6
comp=Z,48µm,21.0s
FOZ **Fox Glacier** 34.09 169 P **P** 15 33 56.6 +0.4
FOZ IAmb IAmb 15 33 58.8
comp=Z,340nm,1.0s
GVZ **Greta Valley S** 34.30 164 P **P** 15 33 58.2 +0.1
GVZ IAmb IAmb 15 34 02.4
comp=Z,662nm,1.8s
MOO **Moorlands** 34.34 198 P **P** 15 34 00.9 +2.4
baz=34,SNR=8.6
NLAI **Namlea** 34.36 279 P **P** 15 33 59.1 +0.1
comp=Z,140nm,1.6s,comp=Z,8µm
OXZ **Oxford** 34.38 166 P **P** 15 33 58.6 -0.2
WRKA **Warakurna** 34.39 240 P **P** 15 33 58.9 -0.3
baz=34,SNR=122
WRKA **Warakurna** 34.39 240 ⇑P **P** 15 33 58.9 -0.3
RPZ **Rata Peaks** 34.53 167 P **P** 15 34 00.4 +0.4
comp=Z,112nm,0.6s,baz=358,slow=2.5,SNR=41
RPZ LR LR 15 46 22.5
comp=Z,19µm,20.3s,baz=330,slow=33
comp=Z,112nm,0.6s
RPZ **Rata Peaks** 34.53 167 P **P** 15 34 00.3 +0.3
RPZ IAmb IAmb 15 34 02.1
comp=Z,229nm,1.0s
TAU **Tasmania Unive** 34.73 198 P **P** 15 34 02.5 +0.7
TAU IAmb IAmb 15 34 06.5
comp=Z,412nm,1.4s
TAU **Tasmania Unive** 34.73 198 ⇑P **P** 15 34 04.3 +2.5
TAU **Tasmania Unive** 34.73 198 P **P** 15 34 02.5 +0.7
TAU pmax pmax
comp=Z,412nm,1.5s
MQZ **McQueen's Vall** 34.90 165 P **P** 15 34 03.1 -0.1
MQZ IAmb IAmb 15 34 05.0
comp=Z,433nm,1.2s
LBZ **Lake Benmore** 34.99 169 P **P** 15 34 03.6 -0.4
FITZ **Fitzroy Crossi** 35.15 253 P **P** 15 34 05.5 -0.2
FITZ **Fitzroy Crossi** 35.15 253 ⇓P **P** 15 34 06.1 +0.4
WKZ **Wanaka** 35.20 170 P **P** 15 34 06.1 +0.2
TNTI **Ternate** 35.21 286 P **P** 15 34 06.3 0.0
TNTI **Ternate** 35.21 286 P **P** 15 34 05.9 -0.4
comp=Z,91nm,1.7s,comp=Z,3µmcomp=Z,9µm
ODZ **Otahua Downs** 35.71 168 ⇑P **P** 15 34 09.4 -0.8
SANI **Sanana** 35.72 281 P **P** 15 34 10.7 0.0
comp=Z,302nm,1.3s,comp=Z,7µmcomp=Z,20µm
SANI pP **pP** 15 34 20.3 -1.2
comp=Z,302nm,1.3s,comp=Z,7µmcomp=Z,20µm
WHZ **Wether Hill Ro** 36.08 172 P **P** 15 34 13.6 +0.2
SOEI **Soe** 36.19 267 P **P** 15 34 15.2 +0.4
SOEI IAmb IAmb 15 34 43.0
comp=Z,430nm,1.0s
SOEI **Soe** 36.19 267 P **P** 15 34 15.2 +0.4
comp=Z,518nm,1.1s,comp=Z,8µmcomp=Z,30µm
BATI **Baumata** 36.75 267 P **P** 15 34 20.2 +0.6
comp=Z,867nm,1.0s,comp=Z,10µmcomp=Z,24µm
FORT **Forrest** 36.84 231 P **P** 15 34 20.6 +0.6
baz=37,SNR=14
FORT **Forrest** 36.84 231 P **P** 15 34 19.5 -0.5
FORT IAmb IAmb 15 34 33.1
comp=Z,754nm,1.6s
FORT **Forrest** 36.84 231 ⇑P **P** 15 34 21.3 +1.3
MMRI **Maumere** 38.27 269 P **P** 15 34 31.9 -0.6
MMRI **Maumere** 38.27 269 P **P** 15 34 31.7 -0.7
comp=Z,877nm,0.9s,comp=Z,11µmcomp=Z,19µm
LUWI **Luwuk** 39.09 281 P **P** 15 34 39.5 +0.2
LUWI **Luwuk** 39.09 281 P **P** 15 34 39.7 +0.5
comp=Z,690nm,1.1s,comp=Z,14µmcomp=Z,18µm
RAR **Rarotonga** 39.20 111 P **P** 15 34 40.7 +0.6
comp=Z,34nm,1.2s,baz=89,slow=3.2,SNR=8.3
RAR LR LR 15 47 41.0
comp=Z,25µm,21.8s,baz=282,slow=31
comp=Z,34nm,1.2s
RAR **Rarotonga** 39.20 111 P **P** 15 34 40.9 +0.8
RAR **Rarotonga** 39.20 111 P **P** 15 34 40.9 +0.8
RAR pmax pmax
comp=Z,217nm,1.7s
DAV **Davao City (W)** 39.23 295 LR LR 15 49 01.4
comp=Z,13µm,21.4s,baz=93,slow=33
GTOI **Gorontalo** 39.31 284 P **P** 15 34 41.6 +0.5
comp=Z,151nm,1.6s,comp=Z,3µmcomp=Z,6µm
JOHN **Johnston Islan** 39.55 48 P **P** 15 34 43.4 +0.5
BASI **Baing, Sumba** 39.78 266 P **P** 15 34 45.5 +0.5
comp=Z,708nm,1.0s,comp=Z,10µmcomp=Z,18µm
APSI **Ampana** 40.20 281 P **P** 15 34 49.2 +0.6
comp=Z,914nm,1.4s,comp=Z,14µmcomp=Z,18µm
APSI pP **pP** 15 34 58.3 -1.2
comp=Z,914nm,1.4s,comp=Z,14µmcomp=Z,18µm
MRSI **Marisa** 40.29 283 P **P** 15 34 48.0 -1.3
comp=Z,147nm,1.1s,comp=Z,3µmcomp=Z,15µm
MRSI pP **pP** 15 34 57.4 -2.8
comp=Z,147nm,1.1s,comp=Z,3µmcomp=Z,15µm
BSSI **Bau Bau, Buton** 40.30 272 P **P** 15 34 49.1 -0.2
comp=Z,689nm,0.9s,comp=Z,12µmcomp=Z,20µm
BKSI **Bulukumba** 40.78 274 P **P** 15 34 53.5 +0.2
comp=Z,175nm,1.3s,comp=Z,5µmcomp=Z,20µm
BKSI pP **pP** 15 35 02.5 -1.5
comp=Z,175nm,1.3s,comp=Z,5µmcomp=Z,20µm
WBSI **Waikabubak, Su** 40.99 267 P **P** 15 34 54.5 -0.6
comp=Z,606nm,0.9s,comp=Z,5µmcomp=Z,15µm
MBWA **Marble Bar** 41.10 250 P **P** 15 34 56.2 +0.3
MBWA IAmb IAmb 15 35 01.3
comp=Z,330nm,0.8s
MBWA **Marble Bar** 41.10 250 ⇑P **P** 15 34 56.2 +0.3
KAPI **Kappang** 41.20 274 LR LR 15 54 59.1
comp=Z,7µm,18.4s,baz=90,slow=40
JCJ **Chichijima** 41.32 334 P **P** 15 34 57.8 +0.3
comp=Z,360nm,0.8s,baz=125,slow=8.2,SNR=3.9
JCJ LR LR 15 50 14.7
comp=Z,13µm,21.9s,baz=151,slow=33
comp=Z,360nm,0.8s
JCJ **Chichijima** 41.32 334 P **P** 15 34 56.5 -0.9
JCJ IAmb IAmb 15 35 00.8
comp=Z,377nm,0.8s
JCJ **Chichijima** 41.32 334 ⇑P **P** 15 34 56.5 -0.9
SPSI **Sidrap Palu** 41.37 276 P **P** 15 34 57.3 -0.8
comp=Z,247nm,1.4s,comp=Z,5µmcomp=Z,23µm
SPSI pP **pP** 15 35 07.1 -2.0
comp=Z,247nm,1.4s,comp=Z,5µmcomp=Z,23µm
TOLI2 **Tolitoli** 41.58 283 P **P** 15 34 57.9 -2.0
KMBL **Kambalda** 41.91 234 P **P** 15 35 03.8 +1.4
baz=42,SNR=18
MPSI **Mapaga** 42.22 282 P **P** 15 35 03.6 -1.5
comp=Z,134nm,1.5s,comp=Z,4µmcomp=Z,17µm
PLAI **Plampang** 42.65 268 P **P** 15 35 07.5 -1.1
comp=Z,977nm,0.9s,comp=Z,10µmcomp=Z,18µm
XMAS **Kiritimati** 43.10 76 P **P** 15 35 12.3 +0.1
XMAS **Kiritimati** 43.10 76 ⇓P **P** 15 35 13.6 +1.3
MEEK **Meekatharra** 43.20 242 P **P** 15 35 13.9 +0.9
baz=43,SNR=195
MIDW **Midway** 43.52 28 P **P** 15 35 15.6 +0.2
MIDW IAMs_20 IAMs_20 15 49 29.3
comp=Z,38µm,21.0s
TWSI **Taliwang, Sumb** 43.53 268 P **P** 15 35 15.0 -0.8
comp=Z,287nm,1.2s,comp=Z,6µmcomp=Z,19µm
BKB **Balikpapan** 44.73 279 P **P** 15 35 26.8 +1.4
BKB **Balikpapan** 44.73 279 P **P** 15 35 27.6 +2.2
comp=Z,538nm,1.3s,comp=Z,8µmcomp=Z,26µm
MYLDM **Lahad Datu** 45.01 288 P **P** 15 35 27.6 0.0
MYLDM IAmb IAmb 15 35 59.4
comp=Z,279nm,1.0s
MYLDM **Lahad Datu** 45.01 288 ⇑P **P** 15 35 28.5 +0.9
DNP **Denpasar** 45.19 268 P **P** 15 35 29.6 +0.6
comp=Z,1µm,0.9s
IGBI **Denpasar** 45.23 268 P **P** 15 35 28.7 -0.7
comp=Z,805nm,0.9s,comp=Z,7µmcomp=Z,10µm
SRBI **Singaraja** 45.24 269 P **P** 15 35 28.8 -0.7
comp=Z,602nm,1.2s,comp=Z,9µmcomp=Z,16µm
KLBR **Kellerberrin** 45.30 235 P **P** 15 35 30.0 +0.3
baz=45,SNR=25
BLDU **Ballidu** 45.87 237 P **P** 15 35 34.6 +0.4
baz=46,SNR=66
MORW **Morawa** 46.01 239 P **P** 15 35 35.8 +0.4
baz=46,SNR=50
MORW **Morawa** 46.01 239 P **P** 15 35 35.6 +0.3
MORW IAmb IAmb 15 35 48.3
comp=Z,356nm,1.2s
MORW **Morawa** 46.01 239 ⇑P **P** 15 35 35.7 +0.4
NWAO **Narrogin (SRO)** 46.15 234 LR LR 15 55 09.7
comp=Z,103µm,19.9s,slow=36
NWAO **Narrogin (SRO)** 46.15 234 P **P** 15 35 37.4 +1.0
baz=46,SNR=35
NWAO P **P** 15 35 37.4 +1.0
baz=46,SNR=35
NWAO **Narrogin (SRO)** 46.15 234 P **P** 15 35 37.3 +1.0
NWAO IAmb IAmb 15 35 50.5
comp=Z,477nm,1.6s
NWAO **Narrogin (SRO)** 46.15 234 P **P** 15 35 37.2 +0.8
NWAO IAmb IAmb 15 35 50.5
comp=Z,345nm,1.6s
NWAO **Narrogin (SRO)** 46.15 234 P **P** 15 35 37.3 +1.0
NWAO pmax pmax
comp=Z,477nm,1.6s
NWAO MLR MLR
comp=Z,97µm,19.0s
ABJI **Asem Bagus** 46.24 269 P **P** 15 35 37.4 +0.1
comp=Z,432nm,1.2s,comp=Z,10µmcomp=Z,18µm
JAGI **Jajag, Banyuwa** 46.25 268 P **P** 15 35 36.6 -0.8
JAGI **Jajag, Banyuwa** 46.25 268 P **P** 15 35 36.9 -0.5
comp=Z,1µm,1.1s,comp=Z,10µmcomp=Z,13µm
BBKI **Banjar Baru** 46.29 275 P **P** 15 35 39.2 +1.4
comp=Z,509nm,1.6s,comp=Z,11µmcomp=Z,29µm
GIRL **Giralia** 46.37 248 P **P** 15 35 39.0 +0.7
baz=46,SNR=14
GIRL **Giralia** 46.37 248 P **P** 15 35 39.9 +1.7
GIRL **Giralia** 46.37 248 ⇓P **P** 15 35 40.9 +2.6
MUN **Mundaring** 46.68 235 P **P** 15 35 41.2 +0.7
baz=47,SNR=25
MTKI **Muara Teweh, K** 46.75 278 P **P** 15 35 41.6 +0.2
comp=Z,133nm,1.4s,comp=Z,5µmcomp=Z,20µm
SPMM **Sapulut** 46.77 286 P **P** 15 35 42.0 +0.4
BLJI **Banyuglugur** 46.88 269 P **P** 15 35 41.3 -1.0
comp=Z,364nm,0.9s,comp=Z,7µmcomp=Z,16µm
RKGY **Rocky Gully** 46.92 232 P **P** 15 35 43.7 +1.3
baz=47,SNR=6.6
GMJI **Gumukmas** 46.97 268 P **P** 15 35 41.8 -1.2
comp=Z,202nm,0.9s,comp=Z,4µm
KKM **Kota Kinabalu** 47.45 288 P **P** 15 35 46.9 0.0
KKM IAmb IAmb 15 36 10.7
comp=Z,186nm,1.0s
KKM **Kota Kinabalu** 47.45 288 ⇑P **P** 15 35 46.9 0.0
JHJ **Hachijo jima 2** 47.58 336 LR LR 15 55 48.8
comp=Z,9µm,19.7s,baz=126,slow=36
BWJI **Bawean** 48.05 271 P **P** 15 36 05.1 +14
GRJI **Gresik** 48.08 270 P **P** 15 35 49.9 -1.7
comp=Z,118nm,1.1s,comp=Z,3µmcomp=Z,11µm
PPT **Papeete** 48.41 104 P **P** 15 35 55.3 +1.1
comp=Z,84nm,0.9s,baz=91,slow=15,SNR=9.7
PPT LR LR 15 51 42.5
comp=Z,33µm,21.2s,baz=257,slow=30
comp=Z,84nm,0.9s
PPT2 **Papeete2** 48.41 104 *e*P **P** 15 35 54.1 -0.2
comp=Z,116nm,1.0s
PPT2 *e*S **S** 15 42 54.7 +2.1
comp=Z,12µm,32.0s
PPT2 *e*SS **SS** 15 46 25.8 +3.0
comp=Z,10µm,27.8s
PPT2 *e*LQ LQ 15 47 38.9
comp=Z,35µm,28.8s
PPT2 *e*LR LR 15 49 41.2
comp=Z,45µm,22.5s
PPT2 *e*LR LR 15 49 41.3
comp=Z,56µm,22.2s
PPTF **Pamatai, Papee** 48.42 104 P **P** 15 35 54.6 +0.2
PPTF IAmb IAmb 15 36 08.2
comp=Z,148nm,1.0s
PPTF IAMs_20 IAMs_20 15 51 31.4
comp=Z,31µm,20.0s
PPTF **Pamatai, Papee** 48.42 104 ⇓P **P** 15 35 57.1 +2.7
PWJI **Pagerwojo** 48.61 268 P **P** 15 35 54.6 -1.1
comp=Z,348nm,1.0s,comp=Z,6µm
JOW **Kunigami** 48.62 320 LR LR 15 54 06.2
comp=Z,11µm,21.9s,baz=128,slow=33
JOW **Kunigami** 48.62 320 P **P** 15 35 56.3 +0.7
JOW IAmb IAmb 15 36 09.6
comp=Z,229nm,1.3s
JOW **Kunigami** 48.62 320 ⇓P **P** 15 35 57.1 +1.5
TIAR **Tiarei** 48.63 104 *e*P **P** 15 35 57.2 +1.3
comp=Z,9.6nm,0.8s
TVO **Taravao** 48.73 105 *e*P **P** 15 35 58.8 +2.1
comp=Z,54nm,1.0s
TBI **Tubuai** 48.96 112 *e*S **S** 15 43 02.0 +1.9
comp=Z,36µm,35.5s
TBI *e*SS **SS** 15 46 34.7 +3.4
comp=Z,20µm,37.5s
TBI *e*LQ LQ 15 47 52.5
comp=Z,247µm,31.0s
TBI *e*LR LR 15 49 56.0
comp=Z,169µm,25.2s
TBI *e*LR LR 15 49 56.4
comp=Z,735µm,23.0s
NGJI **Ngawi** 49.02 269 P **P** 15 35 59.9 +1.0
comp=Z,467nm,1.1s,comp=Z,11µmcomp=Z,28µm
H01W1 **Cape Leeuwin H** 49.21 232 P **P** 15 36 02.8 +3.0
baz=103,slow=6.5,SNR=12
H01W3 **Cape Leeuwin H** 49.22 232 P **P** 15 36 02.9 +3.1
baz=103,slow=6.5,SNR=8.1
H01W2 **Cape Leeuwin H** 49.22 232 P **P** 15 36 03.5 +3.6
baz=103,slow=6.5,SNR=7.2
PBKI **Pangkalan Bun** 49.54 275 P **P** 15 36 03.2 +0.3
comp=Z,306nm,1.0s,comp=Z,5µm
JSG **Sagara** 49.59 335 P **P** 15 36 03.2 +0.4
UWJI **Ujung Watu** 49.65 270 P **P** 15 36 03.3 -0.4
comp=Z,283nm,0.9s,comp=Z,7µm
JOD2 **Odawara 2** 49.73 336 P **P** 15 36 03.8 -0.2
MEH **Mehetia** 49.86 105 *e*P **P** 15 36 07.2 +1.9
comp=Z,54nm,1.1s
UGM **Wanagama** 49.88 268 P **P** 15 36 05.3 -0.2
UGM **Wanagama** 49.88 268 P **P** 15 36 04.9 -0.6
comp=Z,571nm,1.1s,comp=Z,10µmcomp=Z,21µm
JIE **Ise** 49.97 334 P **P** 15 36 06.5 +0.7
KEKH **Kekaha** 50.06 50 P **P** 15 36 07.0 +0.3
KEKH IAmb IAmb 15 36 10.1
comp=Z,230nm,0.9s
SMRI **Semarang** 50.06 269 P **P** 15 36 07.0 +0.1
SMRI **Semarang** 50.06 269 P **P** 15 36 05.8 -1.1
comp=Z,513nm,1.2s,comp=Z,11µmcomp=Z,25µm
YOGI **Yogyakarta** 50.12 268 P **P** 15 36 07.2 -0.1
comp=Z,820nm,1.2s,comp=Z,9µm
SBUM **Sibu** 50.18 282 P **P** 15 36 07.0 -0.8
SBUM **Sibu** 50.18 282 ⇑P **P** 15 36 07.9 +0.1
VAH **Vaihoa** 50.26 101 *e*P **P** 15 36 09.6 +1.3
comp=Z,193nm,1.3s
JRY **Ryogami san** 50.47 337 P **P** 15 36 09.6 +0.1
YOJ **Yonaguni jima** 50.61 313 P **P** 15 36 10.8 0.0
YOJ IAmb IAmb 15 36 17.0
comp=Z,256nm,0.9s
YOJ **Yonaguni jima** 50.61 313 ⇑P **P** 15 36 11.6 +0.8
YOJ **Yonaguni jima** 50.61 313 P **P** 15 36 10.8 0.0
YOJ pmax pmax
comp=Z,256nm,0.9s
INU **Inuyama** 50.65 335 P **P** 15 36 11.2 +0.3
INU IAmb IAmb 15 36 16.2
comp=Z,168nm,0.8s
INU **Inuyama** 50.65 335 ⇑P **P** 15 36 11.5 +0.6
JGF **Kuroka** 50.73 335 P **P** 15 36 10.8 -0.7
JGF IAmb IAmb 15 36 28.4
comp=Z,324nm,1.5s
JGF **Kuroka** 50.73 335 P **P** 15 36 12.1 +0.6

JGF Kuroka 50.73 335 ⇑P P 15 36 11.7 +0.1
JMN Monobe 50.73 331 P P 15 36 11.2 -0.3
JMN IAmb IAmb 15 36 17.2
comp=Z,338nm,1.0s
JMN Monobe 50.73 331 P P 15 36 12.5 +0.9
JMN Monobe 50.73 331 ⇑P P 15 36 12.2 +0.7
JSU Suzuyama 50.75 326 P P 15 36 11.3 -0.5
JSU IAmb IAmb 15 36 17.1
comp=Z,152nm,0.8s
JSU Suzuyama 50.75 326 ⇑P P 15 36 12.2 +0.4
KIP Kipapa 51.04 52 P P 15 36 13.9 -0.1
KIP Kipapa 51.04 52 IAMs_20 IAMs_20 15 53 09.7
comp=Z,27µm,21.0s
KIP Kipapa 51.04 52 *de*P P 15 36 15.2 +1.1
KIP pmax pmax
comp=Z,296nm,1.7s
OPA Opana 51.19 52 P P 15 36 15.6 +0.4
OPA Opana 51.19 52 P P 15 36 15.6 +0.4
OPA pmax pmax
comp=Z,660nm,0.9s
MJAR Matsushiro Arr 51.19 336 P P 15 36 14.5 -0.5
comp=Z,50nm,0.7s,baz=166,slow=8.5,SNR=45
MJAR LR LR 15 57 53.9
comp=Z,6µm,19.9s,baz=153,slow=36
comp=Z,50nm,0.7s
MAJO Matsushiro 51.20 336 P P 15 36 14.0 -1.0
MAJO Matsushiro 51.20 336 ⇓P P 15 36 14.3 -0.7
MAJO Matsushiro 51.20 336 *c* *i*P P 15 36 14.5 -0.5
MAJO pmax pmax
comp=Z,68nm,0.9s
MAT Matsushiro 51.20 336 P P 15 36 14.7 -0.3
MJB9 Matsu-Tunnel 51.20 336 P P 15 36 15.3 +0.2
YULB Yu-li 51.22 311 P P 15 36 15.3 -0.1
JGN Niukaw 51.28 335 P P 15 36 15.7 0.0
JWT Wachi 51.30 333 P P 15 36 16.0 +0.2
JMM Marumori 51.41 340 P P 15 36 16.8 +0.2
JMM Marumori 51.41 340 ⇑P P 15 36 17.2 +0.7
NACB Ninganchiao 51.46 312 P P 15 36 17.2 0.0
NACB IAmb IAmb 15 36 32.9
comp=Z,193nm,0.9s
KPJI Karang Pucung 51.52 269 P P 15 36 17.7 -0.1
comp=Z,481nm,0.8s,comp=Z,7µmcomp=Z,22µm
JAD Aida 51.58 332 P P 15 36 18.4 +0.5
TPUB Ta-pu 51.66 311 P P 15 36 18.6 -0.2
TPUB IAmb IAmb 15 36 41.9
comp=Z,170nm,0.9s
SSLB Suanglung 51.70 311 P P 15 36 18.9 -0.1
KHLU Kahalu`u 51.74 55 P P 15 36 19.2 -0.3
KHLU IAmb IAmb 15 36 21.4
comp=Z,264nm,1.0s
JNU Nakatsue 51.76 328 P P 15 36 18.9 -0.4
comp=Z,203nm,0.9s,baz=201,slow=1.8,SNR=24
comp=Z,203nm,0.9s
JNU Nakatsue 51.76 328 P P 15 36 19.6 +0.2
JNU IAmb IAmb 15 36 24.6
comp=Z,220nm,1.0s
JNU Nakatsue 51.76 328 P P 15 36 19.7 +0.4
JNU Nakatsue 51.76 328 ⇑P P 15 36 19.8 +0.4
KHU Kahuku 51.79 56 P P 15 36 19.8 -0.2
KHU Kahuku 51.79 56 P P 15 36 19.8 -0.2
KHU pmax pmax
comp=Z,749nm,0.8s
HUH Hualalai 51.83 55 P P 15 36 20.6 +0.2
HUH IAmb IAmb 15 36 32.0
comp=Z,438nm,1.1s
YHNB Yeheng 51.92 312 P P 15 36 21.3 +0.6
YHNB IAmb IAmb 15 36 33.2
comp=Z,208nm,0.9s
MWH Moku'aweowe 51.92 55 P P 15 36 21.2 -0.2
MWH IAmb IAmb 15 36 33.1
comp=Z,363nm,1.1s
CMJI Cimerak 51.94 268 P P 15 36 18.9 -2.0
comp=Z,382nm,0.9s,comp=Z,6µmcomp=Z,19µm
MLOA Mauna Loa Obse 51.97 55 P P 15 36 21.8 +0.3
MLOA IAmb IAmb 15 36 23.3
comp=Z,297nm,0.8s
AIN Ainahou 51.98 56 P P 15 36 21.6 +0.3
KHLH Kahului Airpor 51.99 53 P P 15 36 21.6 +0.4
TATO Taipei 52.02 313 P P 15 36 22.6 +1.2
TATO IAmb IAmb 15 36 26.5
comp=Z,188nm,0.8s
MHA Mahukona 52.04 54 P P 15 36 22.1 +0.6
MHA Mahukona 52.04 54 P P 15 36 22.1 +0.6
HLK Haleakala 52.06 54 P P 15 36 22.8 +0.8
HLK IAmb IAmb 15 36 24.2
comp=Z,383nm,0.9s
HLP Hilina Pali 52.06 56 P P 15 36 22.4 +0.5
HLP IAmb IAmb 15 36 33.7
comp=Z,296nm,0.9s
HMH Humu'ula Sheep 52.08 55 P P 15 36 22.4 +0.2
MLH Mauna Loa 52.10 56 P P 15 36 22.9 +0.6
MLH IAmb IAmb 15 36 24.3
comp=Z,337nm,0.9s
POHA Pohakuloa 52.11 55 P P 15 36 23.1 +0.7
POHA Pohakuloa 52.11 55 IAMs_20 IAMs_20 15 54 43.2
comp=Z,42µm,20.0s
POHA Pohakuloa 52.11 55 ⇑P P 15 36 22.6 +0.1
HPAH Hawaii Prepara 52.12 55 P P 15 36 22.7 +0.4
HPAH IAmb IAmb 15 36 24.0
comp=Z,258nm,0.9s
JHS Saijyo 52.12 331 P P 15 36 22.2 +0.2
JHS Saijyo 52.12 331 P P 15 36 22.9 +0.9
JHS Saijyo 52.12 331 ⇑P P 15 36 22.4 +0.4
PUH Pauahi 52.17 56 P P 15 36 23.1 +0.4
PUH IAmb IAmb 15 36 24.4
comp=Z,220nm,0.8s
STCH Steam Cracks 52.26 56 P P 15 36 23.4 +0.1
STCH IAmb IAmb 15 36 25.0
comp=Z,287nm,0.7s
JCJI Jatiwangi 52.27 270 P P 15 36 23.7 +0.2
comp=Z,848nm,1.5s,comp=Z,14µm
JSD Sado 52.48 337 P P 15 36 24.5 0.0
JSD Sado 52.48 337 P P 15 36 24.9 +0.4
JSD Sado 52.48 337 ⇓P P 15 36 25.2 +0.7
LEM Lembang 52.87 269 LR LR 16 02 11.7
comp=Z,11µm,19.0s,baz=88,slow=40
LEM Lembang 52.87 269 P P 15 36 28.1 0.0
comp=Z,640nm,1.2s,comp=Z,8µmcomp=Z,15µm
CNJI Cibinong 53.29 268 P P 15 36 29.4 -1.6
comp=Z,221nm,1.1s,comp=Z,2µm
JTU Tsushima 53.63 327 P P 15 36 33.4 +0.4
JTU IAmb IAmb 15 37 35.1
comp=Z,520nm,1.7s
JTU Tsushima 53.63 327 ⇓P P 15 36 35.6 +2.6
CBJI Citeko 53.68 269 P P 15 36 32.1 -1.8
comp=Z,445nm,0.9s,comp=Z,10µm
SKJI Sukabumi 53.89 269 P P 15 36 34.5 -0.9
comp=Z,329nm,1.0s,comp=Z,3µm
JTM Tenmabayashi 53.96 341 P P 15 36 35.4 0.0
JTM IAmb IAmb 15 37 16.1
comp=Z,215nm,1.2s
JTM Tenmabayashi 53.96 341 ⇑P P 15 36 35.5 +0.2
KNMB Chin-men Tao 54.01 310 P P 15 36 36.4 +0.4
XMI Christmas Isla 54.37 264 ⇓P P 15 36 40.8 +1.9
ERM Erimo 54.47 344 P P 15 36 39.5 +0.4
ERM IAmb IAmb 15 37 44.9
comp=Z,270nm,1.6s
ERM Erimo 54.47 344 IAMs_20 IAMs_20 15 55 47.6
comp=Z,29µm,22.0s
ERM Erimo 54.47 344 ⇓*e*P P 15 36 40.6 +1.6
ERM pmax pmax
comp=Z,49nm,0.9s
CGJI Cibinong 54.80 269 P P 15 36 39.7 -2.3
comp=Z,649nm,1.0s,comp=Z,9µm
PPBI Pangkal Pinang 55.07 274 P P 15 36 43.9 -0.1
comp=Z,148nm,1.3s,comp=Z,3µm
YUK Yuzh-Kuril'sk 55.69 347 *e*P P 15 36 47.7 -0.1
YUK *e* 15 37 46.8
YUK *e* 15 38 52.3
YUK *e*PPP PPP 15 40 05.8
YUK *e*S S 15 44 31.4 0.0
YUK *e* 15 46 33.5
YUK *e*SS SS 15 48 18.8 +1.4
YUK pmax pmax
comp=Z,611nm,1.8s
YUK pmax pmax
comp=Z,550nm,1.2s
YUK pmax pmax
comp=N,368nm,1.4s
YUK pmax pmax
comp=N,2µm,1.9s
YUK MLR MLR
comp=N,17µm,19.0s
YUK MLR MLR
comp=Z,13µm,19.0s
YUK MLR MLR
comp=Z,7µm,18.0s
JEW Eniwo 55.72 343 *e*P P 15 36 48.8 +0.8
KLI Kotabumi 55.87 271 P P 15 36 48.8 -0.9
comp=E,195nm,0.6s,comp=E,7µm
JSH Shimam 55.97 341 P P 15 36 50.2 +0.5
SSE Sheshan 56.06 319 P P 15 36 52.1 +1.4
SSE S S 15 44 38.6 +1.8
SSE pmax pmax
comp=E,8.0nm,0.6s
SSE pmax pmax
comp=E,1µm,9.7s
SSE LR LR
comp=E,2µm,17.9s
SSE LR LR
comp=E,2µm,16.5s
TJN Taejon 56.11 327 P P 15 36 52.0 +1.0
TJN Taejon 56.11 327 *c* *i*P P 15 36 51.5 +0.5
KASI Kota Agung 56.13 270 P P 15 36 48.6 -3.0
comp=E,204nm,0.9s,comp=E,3µm
JMP Maruseppu 56.27 345 P P 15 36 53.1 +1.1
PMBI Palembang 56.27 273 P P 15 36 52.9 +0.3
comp=E,303nm,0.9s,comp=E,6µmcomp=E,14µm
JKA Kamikawa-asahi 56.57 344 P P 15 36 55.2 +1.1
JKA IAmb IAmb 15 36 59.7
comp=Z,204nm,0.9s
ASAJ Asahikawa 56.57 344 P P 15 36 55.3 +1.2
comp=Z,198nm,0.9s,baz=216,slow=11,SNR=43
ASAJ LR LR 15 58 42.4
comp=Z,29µm,21.8s,baz=179,slow=33
comp=Z,198nm,0.9s
ASAJ Asahikawa 56.57 344 P P 15 36 55.6 +1.5
MDSI Maura Dua 56.60 271 P P 15 36 53.8 -1.1
comp=Z,115nm,1.6s,comp=Z,2µm
LWLI Liwa 56.63 271 P P 15 36 53.9 -1.4
comp=Z,263nm,1.0s,comp=Z,3µm
KSRS Korea Array 56.63 329 P P 15 36 54.9 +0.2
comp=Z,95nm,1.0s,baz=145,slow=7.2,SNR=53
KSRS LR LR 15 59 41.2
comp=Z,8µm,20.4s,baz=135,slow=34
comp=Z,95nm,1.0s
KSAR Wonju Array Be 56.65 329 P P 15 36 55.1 +0.3
KSAR Wonju Array Be 56.65 329 P P 15 36 55.1 +0.3
KS19 Wonju Array Si 56.70 329 P P 15 36 55.3 +0.1
KS19 IAmb IAmb 15 37 08.5
comp=Z,462nm,1.9s
DSRI Dabo 56.93 276 P P 15 36 57.9 +0.6
comp=Z,103nm,1.6s,comp=Z,3µmcomp=Z,14µm
TPRI Tanjung Pinang 57.27 278 P P 15 36 59.3 -0.4
INCN Inchon 57.33 328 P P 15 37 00.3 +0.6
INCN IAmb IAmb 15 37 05.7
comp=Z,257nm,0.9s
INCN Inchon 57.33 328 ⇑P P 15 36 59.8 +0.2
INCN Inchon 57.33 328 P P 15 37 00.3 +0.6
INCN pmax pmax
comp=Z,257nm,1.0s
JMBI JAMBI 57.62 275 P P 15 37 04.2 +2.0
TAOE Nuku Hiva Isla 57.97 94 *e*P P 15 37 04.3 -0.4
comp=Z,562nm,1.3s
TAOE *e*S S 15 45 04.3 +1.5
comp=Z,9µm,26.9s
TAOE *e*SS SS 15 48 56.9 +2.4
comp=Z,7µm,31.3s
TAOE *e*LR LR 15 54 06.0
comp=Z,42µm,24.0s
TAOE Nuku Hiva Isla 57.97 94 *e*T T 16 39 08.5
comp=Z,40nm,0.2s
TAOE Nuku Hiva Isla 57.97 94 P P 15 37 05.7 +0.9
TAOE Nuku Hiva Isla 57.97 94 ⇑P P 15 37 06.4 +1.7
MYKOM Kota Tinggi 58.13 279 ⇑P P 15 37 05.8 +0.1
QIZ Qiongzhong 58.20 300 P P 15 37 06.9 +0.8
QIZ Qiongzhong 58.20 300 P P 15 37 06.4 +0.3
QIZ S S 15 45 06.2 +0.8
QIZ pmax pmax
comp=Z,3µm,12.7s
QIZ LR LR
comp=Z,6µm,20.2s
QIZ LR LR
comp=Z,8µm,24.9s
QIZ LR LR
comp=Z,17µm,22.3s
NJ2 Nanjing 58.20 318 ⇑P P 15 37 06.3 +0.4
NJ2 pP pP 15 37 15.2 -2.1
NJ2 sP sP 15 37 20.7 -1.0
NJ2 S S 15 45 02.8 -2.2
NJ2 sS pS 15 45 20.8 +1.9
NJ2 SS SS 15 48 58.2 +0.7
NJ2 pmax pmax
comp=Z,90nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,4.9s
NJ2 LR LR
comp=Z,7µm,18.0s
NJ2 LR LR
comp=Z,5µm,19.8s
NJ2 LR LR
comp=Z,9µm,20.8s
HJU Haeju 58.22 328 P P 15 37 06.7 +0.8
HJU pP sP 15 37 25.5 +3.5
HJU S S 15 45 05.3 +0.3
HJU AmB
comp=Z,476nm,1.3s
HJU AMS AMS
comp=Z,5µm,12.0s
KSI Kapahiang 58.29 272 P P 15 37 05.4 -1.6
MASI Maura Aman, Be 58.73 273 P P 15 37 08.7 -1.3
comp=Z,210nm,1.4s,comp=Z,4µmcomp=Z,7µm
HHU Hamhung 58.73 330 P P 15 37 10.2 +0.9
HHU S S 15 45 13.5 +2.0
HHU AmB
comp=Z,807nm,1.9s
HHU AMS AMS
comp=Z,8µm,20.4s
PYAG Pyongyang 58.96 328 P P 15 37 12.1 +1.1
PYAG pP sP 15 37 31.5 +4.5
PYAG S S 15 45 15.8 +1.3
PYAG AmB
comp=Z,795nm,1.0s
PYAG AMS AMS
comp=Z,7µm,16.9s
YSS Yuzh-Sakhalins 59.17 346 P P 15 37 13.0 +0.7
YSS IAmb IAmb 15 37 17.5
comp=Z,152nm,1.0s
YSS IAMs_20 IAMs_20 15 58 20.0
comp=Z,23µm,22.0s
YSS Yuzh-Sakhalins 59.17 346 ⇑P P 15 37 13.4 +1.2
YSS Yuzh-Sakhalins 59.17 346 *ce*P P 15 37 13.2 +0.9
YSS *e*'PP pP 15 37 25.0 +1.5
YSS *e*S S 15 45 13.9 -3.1
YSS *e*'SS sS 15 45 33.6 -2.1
YSS pmax pmax
comp=Z,3µm,5.5s
YSS pmax pmax
comp=N,900nm,5.9s
YSS pmax pmax
comp=N,130nm,1.0s
YSS smax smax
comp=N,2µm,12.5s
TEY Ternei 59.22 340 ⇓*e*P P 15 37 12.9 +0.2
TEY pmax pmax
comp=Z,60nm,0.8s
TEY pmax pmax
comp=N,30nm,0.8s
TEY pmax pmax
comp=E,30nm,0.8s
SDSI Sungai Dareh 59.93 275 P P 15 37 17.9 -0.3
comp=E,129nm,1.4s,comp=E,3µm
CNSH ChangSha 60.13 311 ⇑P P 15 37 19.3 0.0
CNSH S S 15 45 31.5 +1.4
CNSH LR LR
comp=E,4µm,19.4s
CNSH LR LR
comp=E,7µm,21.1s
CNSH LR LR
comp=E,8µm,22.2s
USA0B Ussuriysk Arra 60.19 336 P P 15 37 19.6 +0.2
USA0B Ussuriysk Arra 60.19 336 *c* *i*P P 15 37 19.8 +0.4
USRK Ussuriysk Ar. 60.19 336 P P 15 37 19.7 +0.3
comp=E,247nm,0.9s,baz=146,slow=6.0,SNR=97
USRK LR LR 16 01 42.8
comp=E,8µm,20.2s,baz=130,slow=34
comp=E,247nm,0.9s
SUJ Sinuiju 60.39 328 P P 15 37 21.7 +0.9
SUJ pP sP 15 37 41.7 +4.7
SUJ S S 15 45 34.0 +1.0
SUJ AmB
SUJ AMS AMS
comp=Z,9µm,15.2s
WHN Wuhan 60.40 314 ⇑P P 15 37 22.0 +1.0
WHN sP pP 15 37 33.4 +0.8
WHN S S 15 45 30.7 -2.7
WHN sS pS 15 45 45.5 -2.0
WHN pmax pmax
comp=Z,1µm,2.2s
WHN pmax pmax
comp=Z,5µm,9.7s
WHN LR LR
comp=Z,11µm,16.6s
WHN LR LR
comp=Z,21µm,19.7s
WHN LR LR
comp=Z,27µm,21.5s
BKNI Bangkinang 60.56 276 P P 15 37 22.9 +0.4
BKNI Bangkinang 60.56 276 P P 15 37 24.2 +1.7
comp=Z,173nm,1.7s,comp=Z,5µm
UBPT Khong Chiam 60.56 294 ⇑P P 15 37 23.9 +1.5
GULI GuiLin 60.63 307 P P 15 37 26.5 +3.7
GULI S S 15 45 36.7 0.0
GULI pmax pmax
comp=Z,30nm,1.1s
GULI LR LR
comp=Z,5µm,21.7s
GULI LR LR
comp=Z,5µm,21.7s
GULI LR LR
comp=Z,10µm,21.7s
SKR Severo-Kuril's 60.76 356 *e*P P 15 37 23.4 +0.3
SKR *e* 15 38 06.0
SKR *e* 15 39 35.4
SKR pmax pmax
comp=Z,800nm,7.5s
SKR MLR MLR
comp=Z,3µm,19.0s
PDSI Padang 60.88 275 P P 15 37 23.2 -1.6
comp=Z,50nm,0.7s,comp=Z,2µm
PPSI Pulau Pagai 60.99 272 P P 15 37 24.8 -0.6
comp=Z,380nm,1.5s,comp=Z,5µm
DL2 Dalian 61.07 326 P P 15 37 25.8 +0.3
DL2 S S 15 45 42.3 +0.6
DL2 SS SS 15 49 40.9 -1.3
DL2 pmax pmax
comp=Z,120nm,1.0s
DL2 pmax pmax
comp=Z,2µm,10.1s
DL2 LR LR
comp=Z,3µm,15.2s
DL2 LR LR
comp=Z,9µm,20.9s
DL2 LR LR
comp=Z,9µm,19.9s
UGL Uglegorsk 61.32 346 ⇑*i*P P 15 37 28.2 +1.3
UGL *i* S S 15 45 46.8 +2.3
UGL pmax pmax
comp=Z,180nm,1.1s
UGL pmax pmax
comp=Z,4µm,10.5s
UGL smax smax
comp=N,5µm,8.5s
UGL smax smax
comp=E,3µm,8.5s
IPM Ipoh 61.49 281 P P 15 37 28.5 -0.4
IPM IAmb IAmb 15 37 49.6
comp=Z,166nm,1.4s
IPM Ipoh 61.49 281 ⇑P P 15 37 28.7 -0.2
MDJ Mudanjiang 61.51 335 P P 15 37 28.8 +0.5
MDJ IAmb IAmb 15 37 32.5
comp=Z,183nm,1.1s
MDJ Mudanjiang 61.51 335 P P 15 37 28.3 0.0
MDJ sP pP 15 37 40.4 +0.8
MDJ S S 15 45 48.1 +1.0
MDJ sS sS 15 46 04.1 -2.2
MDJ SS SS 15 49 54.2 +5.2
MDJ pmax pmax
comp=Z,110nm,1.0s
MDJ pmax pmax
comp=Z,3µm,11.1s
MDJ LR LR
comp=Z,11µm,22.8s
MDJ LR LR
comp=Z,11µm,22.8s
MDJ LR LR
comp=Z,10µm,22.0s
TIA Tai'an 61.94 321 P P 15 37 30.7 -0.7
TIA S S 15 45 50.5 -2.4
TIA sS pS 15 46 06.6 -0.4
TIA ScS ScS 15 47 20.8 +0.5
TIA pmax pmax
comp=Z,35nm,0.9s
TIA pmax pmax
comp=Z,2µm,12.8s
TIA LR LR
comp=Z,3µm,16.7s
TIA LR LR
comp=Z,3µm,17.8s
TIA LR LR
comp=Z,9µm,22.0s
KULM Kulim 62.06 282 P P 15 37 32.2 -0.5
KULM Kulim 62.06 282 ⇑P P 15 37 32.3 -0.3
MNSI Mandailing Nat 62.08 276 P P 15 37 32.2 -0.6
comp=Z,126nm,0.8s,comp=Z,4µm
SNY Shenyang 62.13 329 ⇓P P 15 37 34.3 +1.8
SNY S S 15 45 55.8 +0.8
SNY pmax pmax
comp=Z,41nm,1.1s
SNY pmax pmax
comp=Z,3µm,10.4s
SNY LR LR
comp=Z,10µm,22.9s
SNY LR LR
comp=Z,8µm,22.4s
SNY LR LR
comp=Z,15µm,24.1s
RKT Rikitea 62.24 111 *e*P P 15 37 34.4 +0.7
RKT comp=Z,135nm,1.1s *e*S S 15 45 59.0 +1.8
RKT comp=Z,805µm,30.0s *e*SS SS 15 50 03.6 +2.6
RKT comp=Z,1304µm,32.5s *e*LQ LQ 15 53 27.9
RKT comp=Z,3784µm,31.8s *e*LR LR 15 56 05.5
comp=Z,8377µm,25.2s
CN2 Changchun 62.70 332 P P 15 37 36.1 -0.2
CN2 PcP PcP 15 38 15.4 +0.6
CN2 S S 15 45 58.5 -3.7
CN2 pmax pmax
comp=Z,170nm,1.0s
CN2 pmax pmax
comp=Z,3µm,10.0s
CN2 LR LR
comp=Z,7µm,18.0s
CN2 LR LR
comp=Z,5µm,18.0s
CN2 LR LR
comp=Z,6µm,21.0s
TYV Tymovskoe 62.86 347 *e*P P 15 37 38.8 +1.6
TYV *e*S S 15 46 08.2 +4.4
TYV pmax pmax
comp=Z,2µm,3.1s
TYV pmax pmax
comp=Z,75nm,1.1s
TYV smax smax
comp=N,5µm,8.1s
PET Petropavlovsk 62.99 358 P P 15 37 38.0 0.0
PET Petropavlovsk 62.99 358 ⇑P P 15 37 38.4 +0.4
PET Petropavlovsk 62.99 358 *e*P P 15 37 38.4 +0.4
PET *e* 15 37 58.7
PET *e* 15 39 54.3
PET *e*S S 15 46 08.4 +3.0
PET pmax pmax
comp=Z,293nm,1.3s
PET pmax pmax
comp=Z,3µm,13.6s
PEA0B Petropavlovsk- 63.10 358 P P 15 37 39.4 +0.6
PEA0B IAmb IAmb 15 37 42.4
comp=Z,286nm,1.1s
PEA0B Petropavlovsk- 63.10 358 *c* *i*P P 15 37 39.6 +0.8
PETK Petropavlovsk- 63.10 358 P P 15 37 39.4 +0.5
comp=Z,80nm,0.8s,baz=171,slow=6.5,SNR=55
PETK LR LR 16 00 22.5
comp=Z,23µm,22.0s,baz=166,slow=32

comp=Z,80nm,0.8s
RPSI Rantau Prapat 63.12 278 P **P** **15 37 38.8 -1.0**
RPSI IAmb IAmb 15 37 56.5
comp=Z,246nm,1.6s
PSI Prapat 63.15 278 LR LR 16 06 42.5
comp=Z,7µm,21.6s,baz=116,slow=38
PSI Prapat 63.15 278 P **P** **15 37 38.8 -1.3**
PSI pmax pmax
comp=Z,246nm,1.6s
PBSI Pulau Batu 63.19 275 P **P** **15 37 41.5 +1.3**
comp=Z,332nm,1.6s,comp=Z,7µm
AMKA Amchitka 63.32 13 P **P** **15 37 40.5 +0.2**
BNX BinXian 63.34 334 ⇑P **P** **15 37 40.0 -0.5**
BNX pP **pP** **15 37 52.8 +1.0**
BNX sP **sP** **15 37 54.2 -2.4**
BNX PP **PP** **15 40 00.9 +0.6**
BNX S **S** **15 46 09.1 -0.9**
BNX pmax pmax
comp=Z,50nm,0.5s
BNX pmax pmax
comp=Z,2µm,5.4s
BNX LR LR
comp=Z,9µm,19.5s
BNX LR LR
comp=Z,4µm,18.0s
BNX LR LR
comp=Z,8µm,22.0s
TSI Tuntungan 63.65 279 P **P** **15 37 41.7 -1.6**
comp=Z,224nm,1.1s
SHEM Shemya Is, Ala 63.66 9 LR LR 16 02 51.8
comp=Z,11µm,19.4s,baz=192,slow=34
SMY Shemya 63.66 9 P **P** **15 37 42.9 +0.4**
SMY Shemya 63.66 9 P **P** **15 37 42.9 +0.4**
SMY pmax pmax
comp=Z,959nm,1.5s
ENH Enshi 63.79 311 P **P** **15 37 43.8 -0.1**
LYN LuoYang 63.98 316 *e*P **P** **15 37 45.0 0.0**
LYN pP pP 15 37 57.4 +0.8
LYN S **S** **15 46 16.5 -2.0**
LYN sS pS 15 46 32.6 -0.1
LYN ScS **ScS** **15 47 39.2 +3.3**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN pmax pmax
comp=Z,2µm,10.1s
LYN LR LR
comp=Z,4µm,19.7s
LYN LR LR
comp=Z,9µm,20.0s
GYA Guiyang 64.12 306 ⇑P **P** **15 37 48.8 +2.5**
GYA sP sP 15 38 01.4 -0.8
GYA PcP **PcP** **15 38 25.1 +3.9**
GYA PP **PP** **15 40 06.0 -1.8**
GYA S **S** **15 46 20.3 -0.5**
GYA SS **SS** **15 50 33.9 +3.2**
GYA pmax pmax
comp=Z,43nm,1.5s
GYA pmax pmax
comp=Z,3µm,12.2s
GYA LR LR
comp=Z,3µm,18.3s
GYA LR LR
comp=Z,5µm,21.5s
GYA LR LR
comp=Z,9µm,20.7s
GSI Gunungsitoli 64.15 276 P **P** **15 37 45.5 -1.0**
GSI IAmb IAmb 15 37 53.0
comp=Z,164nm,0.9s
GSI Gunungsitoli 64.15 276 P **P** **15 37 45.4 -1.2**
comp=Z,196nm,1.0s,comp=Z,4µm
HNS HongShan 64.19 320 ⇑P **P** **15 37 46.3 0.0**
HNS S **S** **15 46 15.1 -5.9**
HNS pmax pmax
comp=Z,110nm,1.9s
HNS pmax pmax
comp=Z,2µm,10.2s
HNS LR LR
comp=Z,5µm,19.1s
HNS LR LR
comp=Z,2µm,23.5s
HNS LR LR
comp=Z,7µm,19.1s
GRNR Gornyy 64.36 343 ⇑*i*P **P** **15 37 47.8 +0.6**
GRNR *e* 15 40 18.1
GRNR *e*S **S** **15 46 25.0 +2.4**
GRNR *e*SS **SS** **15 50 27.3 -6.0**
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=Z,70nm,0.8s
GRNR smax smax
comp=E,3.0nm,0.8s
KCSI Kotacane, Aceh 64.43 279 P **P** **15 37 46.3 -2.1**
comp=E,80nm,1.1s,comp=E,2µm
KLR Kul'dur 64.51 339 LR LR 16 03 27.5
comp=E,10µm,21.3s,baz=146,slow=34
KLR Kul'dur 64.51 339*c i*P **P** **15 37 48.7 +0.5**
KLR pmax pmax
comp=Z,220nm,1.3s
KIWB Kanaga Island 64.59 15 P **P** **15 37 49.5 +0.9**
ADK Adak 64.74 15 P **P** **15 37 50.3 +0.7**
ADK Adak 64.74 15 IAMs_20 IAMs_20 15 59 29.6
comp=Z,18µm,22.0s
ADK Adak 64.74 15 ⇑P **P** **15 37 50.9 +1.3**
ADK Adak 64.74 15 P **P** **15 37 50.3 +0.7**
ADK pmax pmax
comp=Z,958nm,1.4s
BJT Baijiatuau 64.94 323 P **P** **15 37 52.0 +0.8**
BJT Baijiatuau 64.94 323 P **P** **15 37 52.0 +0.8**
BJT pmax pmax
comp=Z,82nm,1.3s
GSTR Great Sitkin T 65.09 15 P **P** **15 37 52.9 +0.9**
NKL Nikolayevsk 65.43 347 *e*P **P** **15 37 51.6 -2.4**
NKL *e* 15 40 16.1
NKL *e*S **S** **15 46 35.7 +0.1**
NKL pmax pmax
comp=E,84nm,0.9s
NKL pmax pmax
comp=N,142nm,1.1s
NKL pmax pmax
comp=Z,416nm,1.2s
NKL smax smax
comp=E,626nm,4.1s
NKL smax smax
comp=N,1µm,7.8s
NKL MLR MLR
comp=N,19µm,17.0s
NKL MLR MLR
comp=E,11µm,17.0s
NKL MLR MLR
comp=Z,31µm,18.0s
CASY Casey 65.54 200 P **P** **15 37 55.4 +0.7**
CASY IAmb IAmb 15 37 58.2
comp=Z,458nm,1.8s
CASY Casey 65.54 200 ⇓P **P** **15 37 55.4 +0.7**
SNSI Sinabang, Aceh 65.60 277 P **P** **15 37 54.3 -1.7**
comp=Z,90nm,1.6s,comp=Z,2µm
LHMI Lhok Sumawe 65.62 280 P **P** **15 37 55.0 -1.1**
comp=Z,151nm,1.1s,comp=Z,4µm
TIY Taiyuan 65.83 319 P **P** **15 37 58.9 +1.8**
TIY S **S** **15 46 39.0 -2.3**
TIY pmax pmax
comp=Z,2µm,11.0s
TIY LR LR
comp=Z,6µm,20.6s
TIY LR LR
comp=Z,4µm,23.4s
TIY LR LR
comp=Z,7µm,23.4s
MLSI Meulaboh, Aceh 65.93 279 P **P** **15 37 56.5 -1.6**
comp=Z,103nm,0.8s
XAN Xi'an 66.15 314 P **P** **15 37 59.2 0.0**
XAN pP sP 15 38 13.7 -1.5
XAN S **S** **15 46 40.6 -4.7**
XAN SS **SS** **15 51 06.0 +4.1**
XAN pmax pmax
comp=Z,100nm,0.7s
XAN pmax pmax
comp=Z,2µm,6.2s
XAN LR LR
comp=Z,5µm,22.0s
XAN LR LR
comp=Z,5µm,20.6s
XAN LR LR
comp=Z,8µm,19.9s
PHRA Phrae 66.39 295 P **P** **15 38 01.3 +0.3**
KMI Kunming 66.73 303 ⇑P **P** **15 38 04.2 +0.9**
KMI pP pP 15 38 12.1 -2.8
KMI S **S** **15 46 52.8 -0.2**
KMI pmax pmax
comp=Z,57nm,2.1s
KMI pmax pmax
comp=Z,2µm,11.8s
KMI LR LR
comp=Z,4µm,21.1s
KMI LR LR
comp=Z,5µm,23.5s
KMI LR LR
comp=Z,9µm,22.3s
CRAI Chiangrai 66.87 297 P **P** **15 38 04.2 +0.1**
HEH HeiHe 66.94 337 *e*P **P** **15 38 03.3 -0.5**
HEH sP **sP** **15 38 19.0 -0.4**
HEH S **S** **15 46 54.8 +0.7**
HEH SS **SS** **15 51 10.8 -2.7**
HEH pmax pmax
comp=Z,270nm,0.8s
HEH pmax pmax
comp=Z,3µm,5.5s
HEH LR LR
comp=Z,9µm,21.5s
HEH LR LR
comp=Z,10µm,20.5s
HEH LR LR
comp=Z,9µm,22.8s
VNDA Vanda 67.32 180 P **P** **15 38 07.0 +1.1**
comp=Z,59nm,0.9s,baz=342,slow=6.6,SNR=120
VNDA LR LR 16 04 51.6
comp=Z,8µm,18.2s,baz=1.0,slow=34
VNDA PKP2bc **P'P'df** **16 06 31.2 -1.5**
comp=Z,3.9nm,1.3s,baz=212,slow=3.7,SNR=2.5
comp=Z,59nm,0.9s
VNDA Vanda 67.32 180 P **P** **15 38 06.9 +1.1**
VNDA Vanda 67.32 180 P **P** **15 38 07.0 +1.1**
XLT XiLinHaoTe 67.52 326 ⇓*i*P **P** **15 38 09.3 +1.5**
XLT S **S** **15 47 00.8 -0.7**
XLT sS sS 15 47 21.3 -0.2
XLT pmax pmax
comp=Z,220nm,1.4s
XLT pmax pmax
comp=Z,2µm,3.9s
XLT LR LR
comp=Z,720nm,20.4s
XLT LR LR
comp=Z,6µm,20.4s
XLT LR LR
comp=Z,10µm,23.8s
CM31 Chiang Mai Arr 67.52 295 P **P** **15 38 09.0 +0.8**
CMAR Chiang Mai Arr 67.52 295 P **P** **15 38 09.1 +0.9**
comp=Z,10nm,0.8s,baz=117,slow=4.8,SNR=52
CMAR PKP2bc **P'P'df** **16 06 29.9 -2.6**
comp=Z,1.1nm,0.8s,baz=301,slow=3.5,SNR=6.1
CMAR LR LR 16 06 39.2
comp=Z,3µm,21.1s,baz=120,slow=35
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 67.52 295 P **P** **15 38 08.5 +0.3**
CHTO Chiang Mai 67.64 295 P **P** **15 38 09.2 +0.3**
CHTO Chiang Mai 67.64 295 P **P** **15 38 09.2 +0.3**
CHTO pmax pmax
comp=Z,126nm,1.3s
SBA Scott Base 67.72 179 P **P** **15 38 10.3 +1.9**
SBA IAmb IAmb 15 38 12.2
comp=Z,146nm,1.1s
SBA Scott Base 67.72 179 P **P** **15 38 10.3 +1.9**
SBA pmax pmax
comp=Z,146nm,1.2s
NIKH Nikolski High 67.97 19 P **P** **15 38 10.8 +0.5**
NIKH Nikolski High 67.97 19 P **P** **15 38 11.1 +0.9**
baz=212,SNR=25
NIKH S **S** **15 47 08.7 +2.3**
baz=212
PZH PanZhiHua 68.11 304 ⇓P **P** **15 38 13.4 +1.5**
PZH pP **pP** **15 38 21.8 -1.7**
PZH PcP **PcP** **15 38 39.9 +2.1**
PZH S **S** **15 47 05.5 -3.9**
PZH sS **pS** **15 47 22.7 -1.1**
PZH ScS **ScS** **15 48 08.3 -0.2**
PZH pmax pmax
comp=Z,30nm,1.7s
PZH pmax pmax
comp=Z,2µm,6.3s
PZH LR LR
comp=Z,6µm,18.4s
PZH LR LR
comp=Z,5µm,19.6s
PZH LR LR
comp=Z,5µm,18.7s
HHC Hu-ho-hao-te 68.22 322 *e*P **P** **15 38 14.8 +2.5**
HHC S **S** **15 47 09.8 -0.3**
HHC ScS **ScS** **15 48 08.8 +0.1**
HHC SS **SS** **15 51 36.4 +2.5**
HHC pmax pmax
comp=Z,76nm,1.2s
HHC pmax pmax
comp=Z,4µm,9.3s
HHC LR LR
comp=Z,10µm,20.3s
HHC LR LR
comp=Z,7µm,20.9s
HHC LR LR
comp=Z,14µm,20.9s
CD2 Chengdu 68.42 309 P **P** **15 38 13.7 +0.1**
CD2 pP pP 15 38 27.3 +2.0
CD2 PP **PP** **15 40 43.1 -2.1**
CD2 S **S** **15 47 08.4 -4.3**
CD2 pmax pmax
comp=Z,130nm,0.7s
CD2 pmax pmax
comp=Z,3µm,10.3s
CD2 LR LR
comp=Z,2µm,16.2s
CD2 LR LR
comp=Z,1µm,14.2s
CD2 LR LR
comp=Z,7µm,23.0s
BTO Baotou 69.03 321 *e*P **P** **15 38 17.6 +0.3**
BTO S **S** **15 47 20.6 +0.9**
BTO LR LR
comp=Z,15µm,19.6s
BTO LR LR
comp=Z,12µm,17.7s
HIA Hailar 69.39 333 P **P** **15 38 19.2 0.0**
HIA IAmb IAmb 15 38 24.5
comp=Z,215nm,0.8s
HIA Hailar 69.39 333 P **P** **15 38 19.3 0.0**
HIA pmax pmax
comp=Z,215nm,0.8s
UNV Unalaska Valle 69.48 20 P **P** **15 38 19.5 -0.1**
UNV Unalaska Valle 69.48 20 P **P** **15 38 20.1 +0.5**
baz=214,SNR=49
UNV S **S** **15 47 26.1 +2.0**
baz=214
ZEA Zeya 69.83 339 *e*P **P** **15 38 22.4 +0.6**
ZEA *e*S **S** **15 47 30.6 +2.3**
ZEA pmax pmax
comp=N,120nm,0.8s
ZEA pmax pmax
comp=E,70nm,0.8s
ZEA pmax pmax
comp=Z,220nm,0.7s
ZEA pmax pmax
comp=E,600nm,8.9s
ZEA pmax pmax
comp=N,700nm,7.7s
ZEA pmax pmax
comp=N,700nm,7.4s
ZEA smax smax
comp=E,900nm,10.3s
ZEA smax smax
comp=N,1µm,11.4s
AKUT Akutan 69.96 20 P **P** **15 38 22.6 +0.1**
AKUT Akutan 69.96 20 ⇑P **P** **15 38 23.2 +0.6**
MA2 Magadan 70.01 354 P **P** **15 38 23.0 +0.1**
comp=N,113nm,1.0s,baz=153,slow=5.8,SNR=29
MA2 LR LR 16 05 07.9
comp=N,13µm,21.7s,baz=174,slow=32
comp=N,113nm,1.0s
MA2 Magadan 70.01 354 P **P** **15 38 22.6 -0.2**
MA2 IAmb IAmb 15 38 25.4
comp=Z,177nm,1.1s
MA2 Magadan 70.01 354 ⇑P **P** **15 38 22.8 0.0**
MA2 Magadan 70.01 354*c i*P **P** **15 38 22.3 -0.5**
MA2 pmax pmax
comp=Z,262nm,1.3s
TNCH TengChong 70.22 301 ⇑P **P** **15 38 24.9 -0.1**
TNCH pP pP 15 38 32.2 -4.5
TNCH sP sP 15 38 38.4 -2.5
TNCH PP **PP** **15 40 56.7 -4.3**
TNCH S **S** **15 47 33.1 -1.3**
TNCH sS pS 15 47 47.2 -1.3
TNCH SS **SS** **15 52 09.1 +3.7**
TNCH pmax pmax
comp=Z,50nm,1.9s
TNCH pmax pmax
comp=Z,2µm,9.8s
TNCH LR LR
comp=Z,2µm,19.9s
TNCH LR LR
comp=Z,2µm,23.1s
TNCH LR LR
comp=Z,6µm,26.7s
LZH Lanzhou 70.78 314 ⇑P **P** **15 38 29.0 +0.8**
LZH PcP **PcP** **15 38 49.0 +0.2**
LZH S **S** **15 47 37.6 -2.9**
LZH SS **SS** **15 52 19.0 +5.4**
LZH pmax pmax
comp=Z,70nm,1.5s
LZH pmax pmax
comp=Z,1µm,6.9s
LZH LR LR
comp=Z,4µm,17.2s
LZH LR LR
comp=Z,7µm,16.5s
LZH LR LR
comp=Z,10µm,17.9s
SPIA Saint Paul Isl 71.17 16 P **P** **15 38 30.2 +0.3**
SPIA Saint Paul Isl 71.17 16 P **P** **15 38 30.9 +1.0**
baz=210
SPIA S **S** **15 47 46.2 +2.5**
baz=210
PBA Port Blair 71.23 286 *e*P **P** **15 38 29.6 -1.5**
DGPR DIGLIPUR 71.45 288 *e*P **P** **15 38 31.2 -1.3**
S12K Black Hills 72.50 21 P **P** **15 38 38.4 +0.4**
baz=218,SNR=69
S12K S **S** **15 48 00.7 +1.5**
baz=218
SDPT Sand Point 72.79 22 P **P** **15 38 39.4 -0.2**
SDPT Sand Point 72.79 22 P **P** **15 38 39.7 +0.1**
baz=220,SNR=37
SEY Seymchan 73.20 356 P **P** **15 38 42.4 +0.5**
comp=Z,57nm,0.8s,baz=156,slow=5.9,SNR=79
SEY LR LR 16 08 24.0
comp=Z,10µm,20.4s,baz=172,slow=34
comp=Z,57nm,0.8s
SEY Seymchan 73.20 356*ce*P **P** **15 38 42.6 +0.7**
SEY pmax pmax
comp=Z,189nm,1.2s
LKP Lekhapani 73.29 303 *e*P **P** **15 38 42.2 -1.1**
IMP Imphal 74.03 299 *e*P **P** **15 38 46.7 -1.1**
MOKO MOKOCHONG 74.05 301 *e*P **P** **15 38 47.6 -0.3**
SAIH SAIHA 74.11 297 *e*P **P** **15 38 47.8 -0.6**
CIT Chita 74.15 332 *e*P **P** **15 38 49.5 +1.7**
CIT *e* 15 39 04.9
CIT *e* 15 39 13.0
CIT *e*S **S** **15 48 18.8 +0.6**
CIT *e* 15 48 54.3
CIT pmax pmax
comp=Z,674nm,2.6s
CHGN Chignik 74.28 22 P **P** **15 38 48.2 -0.1**
CHGN IAmb IAmb 15 38 50.9
comp=Z,195nm,1.1s
CHGN Chignik 74.28 22 P **P** **15 38 48.6 +0.3**
baz=222,SNR=18
CHGN S **S** **15 48 16.9 -2.3**
baz=222
ULN Ulaanbaatar 74.92 326 P **P** **15 38 52.6 0.0**
ULN Ulaanbaatar 74.92 326 ⇑P **P** **15 38 53.0 +0.5**
ULN Ulaanbaatar 74.92 326*c i*P **P** **15 38 53.4 +0.8**
ULN pmax pmax
comp=Z,326nm,1.3s
CHIR Chirikof Islan 74.99 24 P **P** **15 38 53.0 +0.5**
CHIR IAmb IAmb 15 38 55.8
comp=Z,352nm,1.2s
CHIR Chirikof Islan 74.99 24 P **P** **15 38 53.3 +0.8**
baz=224
ITAN ITANAGAR 75.00 302 *e*P **P** **15 38 53.8 +0.6**
ZIRO ZIRO 75.02 302 *e*P **P** **15 38 53.3 -0.2**
GTA Gaotai 75.15 315 ⇑P **P** **15 38 53.7 -0.3**
GTA pP pP 15 39 04.8 -0.5
GTA sP sP 15 39 10.6 +0.4
GTA S **S** **15 48 32.2 +2.2**
GTA sS pS 15 48 45.2 +0.5
GTA SS **SS** **15 53 21.7 +1.5**
GTA pmax pmax
comp=Z,73nm,1.0s
GTA pmax pmax
comp=Z,2µm,8.7s
GTA LR LR
comp=Z,3µm,20.7s
GTA LR LR
comp=Z,4µm,21.8s
GTA LR LR
comp=Z,6µm,20.4s
SONM Songino Array 75.27 325 P **P** **15 38 55.2 +0.6**
comp=Z,137nm,0.8s,baz=139,slow=4.7,SNR=213
SONM LR LR 16 11 57.1
comp=Z,8µm,20.0s,baz=123,slow=36
comp=Z,137nm,0.8s
SONM Songino Array 75.27 325 P **P** **15 38 55.0 +0.4**
SONM IAmb IAmb 15 39 00.5
comp=Z,162nm,0.9s
BRDH Bariadhala 75.35 297 LR LR 16 11 36.5
comp=Z,2µm,21.5s,baz=156,slow=35
R16K Pilot Point 75.53 22 P **P** **15 38 56.3 +0.8**
baz=222,SNR=35
TEZP TEZPUR 75.60 301 *e*P **P** **15 38 55.7 -1.0**
R17K Ugashik Creek 76.02 22 P **P** **15 38 59.2 +0.8**
baz=223
R17K S **S** **15 48 39.0 +0.4**
baz=223
YAK Yakutsk 76.02 345 LR LR 16 09 49.3
comp=Z,12µm,21.9s,baz=142,slow=34
YAK Yakutsk 76.02 345 P **P** **15 38 58.0 -0.3**
YAK IAMs_20 IAMs_20 16 09 03.6
comp=Z,15µm,22.0s
YAK Yakutsk 76.02 345 ⇑P **P** **15 38 58.0 -0.3**
YAK Yakutsk 76.02 345*ce*P **P** **15 38 57.9 -0.3**
YAK *e* 15 39 07.0
YAK *e**PP **pP** **15 39 09.1 -0.9**
YAK *e* 15 41 42.5
YAK *e*S **S** **15 48 38.5 +0.1**
YAK pmax pmax
comp=Z,709nm,1.1s
YAK pmax pmax
comp=E,44nm,1.5s
YAK pmax pmax
comp=N,96nm,1.3s
SHL Shillong 76.04 300 P **P** **15 38 59.5 +0.1**
SHL Shillong 76.04 300 *e*P **P** **15 38 59.3 -0.2**
SHL IAmb IAmb 15 39 09.2
comp=Z,50nm,0.9s
SHL Shillong 76.04 300 P **P** **15 38 59.5 +0.1**
SHL pmax pmax
comp=Z,69nm,0.9s
SII Sitkinak Islan 76.08 24 P **P** **15 38 59.3 +0.5**
SII Sitkinak Islan 76.08 24 P **P** **15 38 59.7 +0.9**
baz=226
SII S **S** **15 48 39.9 +0.5**
baz=226
P16K Nushagak River 76.47 20 P **P** **15 39 01.1 +0.2**
baz=222,SNR=57
GAMB Gambell 76.62 12 P **P** **15 39 02.0 +0.4**
GAMB IAmb IAmb 15 39 05.3
comp=Z,341nm,1.6s
GAMB IAMs_20 IAMs_20 16 07 48.8
comp=Z,14µm,21.0s
GAMB Gambell 76.62 12 P **P** **15 39 02.6 +0.9**
baz=208,SNR=14
GAMB S **S** **15 48 45.4 +0.5**
baz=208
GAMB Gambell 76.62 12 ⇓P **P** **15 39 03.1 +1.4**
Q17K Contact Creek 76.65 22 P **P** **15 39 02.6 +0.5**
baz=224,SNR=110
Q17K S **S** **15 48 45.8 0.0**
baz=224
Q16K King Salmon 76.68 21 P **P** **15 39 02.2 +0.1**

baz=223,SNR=14
Q16K S **S** **15 48 45.9 +0.2**
baz=223
O16K **Kokwok River B** **76.86 20** P **P** **15 39 03.0 -0.1**
baz=221
O16K S **S** **15 48 46.1 -1.6**
baz=221
OHAK **Old Harbor** **76.90 24** P **P** **15 39 04.2 +0.9**
OHAK IAmb IAmb 15 39 07.0
comp=Z,259nm,1.0s
OHAK **Old Harbor** **76.90 24** P **P** **15 39 04.5 +1.1**
baz=226
OHAK S **S** **15 48 49.0 +0.7**
baz=226
P17K **Kvichak River** **77.13 21** P **P** **15 39 04.3 -0.3**
baz=223
Q18K **Katmai Hardscr** **77.25 22** P **P** **15 39 06.0 +0.5**
baz=224,SNR=195
Q18K S **S** **15 48 52.8 +0.5**
baz=224
N16K **Nishlik Lake** **77.30 19** P **P** **15 39 07.3 +1.6**
baz=221,SNR=83
N16K S **S** **15 48 55.5 +2.9**
baz=221
O17K **Koliganek Bris** **77.33 20** P **P** **15 39 06.1 +0.4**
baz=222,SNR=75
O17K S **S** **15 48 53.0 +0.2**
baz=222
GOMU **GeErMu** **77.41 311** P **P** **15 39 09.0 +1.8**
GOMU pP PcP 15 39 12.9 -4.7
GOMU sP pP 15 39 16.1 -2.4
GOMU S **S** **15 49 01.0 +5.5**
GOMU SS **SS** **15 54 01.8 +6.8**
GOMU LR LR
comp=Z,3µm,19.3s
GOMU LR LR
comp=Z,3µm,19.3s
GOMU LR LR
comp=Z,4µm,19.6s
KDAK **Kodiak Island** **77.56 23** P **P** **15 39 08.0 +0.9**
comp=Z,200nm,0.8s,baz=257,slow=4.2,SNR=132
KDAK LR LR 16 10 14.9
comp=Z,17µm,18.9s,baz=247,slow=33
comp=Z,200nm,0.8s
KDAK **Kodiak Island** **77.56 23** P **P** **15 39 08.0 +0.9**
KDAK IAmb IAmb 15 39 09.3
comp=Z,225nm,0.8s
KDAK **Kodiak Island** **77.56 23** IAMs_20 IAMs_20 16 09 53.8
comp=Z,20µm,20.0s
KDAK **Kodiak Island** **77.56 23** P **P** **15 39 08.0 +0.9**
baz=227
KDAK S **S** **15 48 55.8 +0.4**
baz=227
KDAK **Kodiak Island** **77.56 23** ⇑P **P** **15 39 08.0 +0.9**
KDAK ⇑P **P** **15 39 08.1 +0.9**
KDAK **Kodiak Island** **77.56 23***c* *i*P **P** **15 39 07.9 +0.8**
KDAK pmax pmax
comp=Z,273nm,0.8s
P18K **Big Mountain,** **77.70 21** P **P** **15 39 07.9 0.0**
P18K IAMs_20 IAMs_20 16 07 11.5
comp=Z,20µm,22.0s
P18K **Big Mountain,** **77.70 21** P **P** **15 39 08.2 +0.3**
baz=224,SNR=110
P18K S **S** **15 48 55.0 -2.0**
baz=224
BOD **Bodaibo** **77.83 336** *e*P **P** **15 39 08.3 -0.3**
BOD pmax pmax
comp=Z,149nm,1.3s
Q19K **Cape Douglas,** **77.95 22** P **P** **15 39 09.6 +0.3**
Q19K IAMs_20 IAMs_20 16 06 57.1
comp=Z,28µm,22.0s
Q19K **Cape Douglas,** **77.95 22** P **P** **15 39 09.9 +0.6**
baz=226
Q19K S **S** **15 49 00.9 +1.2**
baz=226
LSA **Lhasa** **77.98 303** P **P** **15 39 12.5 +1.8**
LSA LR LR
comp=Z,4µm,22.1s
LSA LR LR
comp=Z,4µm,21.3s
LSA LR LR
comp=Z,10µm,22.9s
BILL **Bilibino** **78.11 2** P **P** **15 39 09.8 -0.1**
BILL IAmb IAmb 15 39 14.0
comp=Z,333nm,1.0s
BILL **Bilibino** **78.11 2***d* *i*P **P** **15 39 10.3 +0.3**
BILL *i* 15 39 18.4
BILL *i* *PP **sP** **15 39 25.6 0.0**
BILL *i* 15 42 03.4
BILL *i* S **S** **15 48 52.3 -8.7**
BILL *i* SS **SS** **15 54 02.6 -1.0**
BILL pmax pmax
comp=Z,341nm,1.0s
BILL MLR MLR
comp=Z,5µm,18.0s
Q20K **Shuyak Island** **78.20 23** P **P** **15 39 11.8 +1.2**
baz=227,SNR=17
Q20K S **S** **15 49 04.4 +2.1**
baz=227
ZAK **Zakamensk** **78.38 326** *e*P **P** **15 39 12.0 +0.1**
ZAK pmax pmax
comp=Z,137nm,1.3s
O19K **Port Alsworth** **78.60 21** P **P** **15 39 12.4 -0.4**
O19K IAMs_20 IAMs_20 16 07 40.3
comp=Z,21µm,22.0s
O19K **Port Alsworth** **78.60 21** P **P** **15 39 13.0 +0.2**
baz=225,SNR=35
O19K S **S** **15 49 05.3 -1.2**
baz=225
P19K **Oil Pt** **78.61 22** P **P** **15 39 12.9 0.0**
P19K IAMs_20 IAMs_20 16 09 42.5
comp=Z,14µm,20.0s
P19K **Oil Pt** **78.61 22** P **P** **15 39 13.4 +0.5**
baz=226
P19K S **S** **15 49 08.2 +1.5**
baz=226
ANM **Nome** **78.72 14** P **P** **15 39 13.9 +0.6**
ANM IAMs_20 IAMs_20 16 10 31.2
comp=Z,13µm,20.0s
ANM **Nome** **78.72 14** P **P** **15 39 14.6 +1.2**
baz=214,SNR=61
ANM S **S** **15 49 10.2 +2.6**
baz=214
ANM **Nome** **78.72 14** P **P** **15 39 14.0 +0.6**
ANM pmax pmax
comp=Z,166nm,1.2s
SVW2 **Sparrevohn** **78.82 20** P **P** **15 39 14.7 +0.7**
IRK **Irkutsk** **78.85 328** *e*P **P** **15 39 13.1 -1.3**
IRK *e*S **S** **15 49 01.6 -7.9**
IRK pmax pmax
comp=Z,252nm,2.0s
ILSW **Iliamna Southw** **78.87 22** P **P** **15 39 14.2 -0.2**
ILSW IAmb IAmb 15 39 17.0
comp=Z,731nm,1.5s
TNA **Tin City** **78.98 13** P **P** **15 39 15.3 +0.6**
TNA IAmb IAmb 15 39 18.2
comp=Z,178nm,1.1s
TNA **Tin City** **78.98 13** P **P** **15 39 15.7 +0.9**
baz=211,SNR=19
TNA S **S** **15 49 12.2 +1.8**
baz=211
TNA **Tin City** **78.98 13** ⇑P **P** **15 39 15.6 +0.9**
TNA ⇓P **PcP** **15 39 15.9 -7.3**
N19K **Bonanza Creek** **78.98 20** P **P** **15 39 15.1 0.0**
N19K IAMs_20 IAMs_20 16 09 08.4
comp=Z,22µm,20.0s
N19K **Bonanza Creek** **78.98 20** P **P** **15 39 15.6 +0.5**
baz=225
N19K S **S** **15 49 11.6 +0.7**
baz=225
O20K **Slope Mountain** **79.13 22** P **P** **15 39 16.4 +0.6**
baz=226,SNR=30
O20K S **S** **15 49 12.1 -0.3**
baz=226
HOM **Homer** **79.20 22** P **P** **15 39 16.8 +0.7**
HOM **Homer** **79.20 22** P **P** **15 39 17.4 +1.3**
baz=227,SNR=21
HOM S **S** **15 49 12.7 -0.2**
baz=227
CNPM **China Poot** **79.27 23** P **P** **15 39 17.1 +0.6**
RSO **Redoubt South** **79.35 21** P **P** **15 39 16.8 -0.3**
BRLK **Bradley Lake** **79.56 23** P **P** **15 39 18.4 +0.3**
BRSE **Bradley Lake S** **79.60 23** P **P** **15 39 19.4 +1.0**
baz=226,SNR=52
BRSE S **S** **15 49 19.9 +2.7**
baz=228
QSPA **South Pole Qui** **79.81 180** PKKPbc PKKPbc 15 58 04.8 -4.1
comp=Z,2.0nm,0.9s,baz=225,slow=1.4,SNR=2.7
QSPA LR LR 16 11 04.2
comp=Z,8µm,20.8s,baz=8.0,slow=33
L19K **White Mountain** **79.84 19** P **P** **15 39 20.1 +0.5**
L19K IAmb IAmb 15 39 23.7
comp=Z,242nm,0.8s
L19K IAMs_20 IAMs_20 16 09 39.8
comp=Z,12µm,20.0s
L19K **White Mountain** **79.84 19** P **P** **15 39 21.2 +1.6**
baz=224
L19K S **S** **15 49 20.8 +1.1**
baz=224
TTA **Tatalina** **80.02 18** P **P** **15 39 21.2 +0.6**
TTA IAmb IAmb 15 39 24.4
comp=Z,250nm,1.2s
TTA **Tatalina** **80.02 18** P **P** **15 39 21.8 +1.2**
baz=223,SNR=169
TTA S **S** **15 49 23.0 +1.3**
baz=223
TTA **Tatalina** **80.02 18** ⇑P **P** **15 39 21.0 +0.4**
TTA **Tatalina** **80.02 18** P **P** **15 39 21.2 +0.6**
TTA pmax pmax
comp=Z,251nm,1.2s
N20K **Mount Spurr** **80.05 21** P **P** **15 39 20.5 -0.3**
baz=227,SNR=54
N20K S **S** **15 49 20.8 -1.3**
baz=227
SPCR **Spurr Chakacha** **80.05 21** P **P** **15 39 20.7 -0.1**
baz=227,SNR=21
SPCR S **S** **15 49 21.1 -0.9**
baz=227
SPU **Mount Spurr** **80.09 21** P **P** **15 39 20.9 -0.1**
CAPN **Captain Cook N** **80.13 22** P **P** **15 39 22.3 +1.2**
CAPN IAMs_20 IAMs_20 16 08 29.8
comp=Z,20µm,22.0s
CAPN **Captain Cook N** **80.13 22** P **P** **15 39 22.2 +1.2**
baz=228,SNR=77
CAPN S **S** **15 49 24.3 +1.6**
baz=228
TAPN **Taplejung** **80.14 300** *e*P **P** **15 39 23.3 +1.0**
M20K **Styx River** **80.20 20** IAMs_20 IAMs_20 16 08 55.5
comp=Z,19µm,22.0s
M20K **Styx River** **80.20 20** P **P** **15 39 22.1 +0.5**
baz=226
ODAN **Odare** **80.27 300** *e*P **P** **15 39 24.1 +1.1**
MOY **Mondy** **80.28 327** *e*P **P** **15 39 22.5 +0.2**
MOY pmax pmax
comp=Z,236nm,3.1s
SEW **Seward** **80.33 23** P **P** **15 39 22.8 +0.6**
SEW IAmb IAmb 15 39 38.5
comp=Z,266nm,1.1s
SEW **Seward** **80.33 23** P **P** **15 39 23.0 +0.9**
baz=229,SNR=46
SEW S **S** **15 49 24.2 -0.6**
baz=229
L20K **Farewell, AK** **80.37 19** P **P** **15 39 23.8 +1.3**
baz=225
L20K S **S** **15 49 27.6 +2.3**
baz=225
O22K **Cooper Landing** **80.47 22** P **P** **15 39 23.6 +0.6**
O22K **Cooper Landing** **80.47 22** P **P** **15 39 23.7 +0.7**
baz=229,SNR=55
O22K S **S** **15 49 26.9 +0.6**
baz=229
FIS **Fire Island** **80.72 22** P **P** **15 39 25.3 +1.0**
FIS IAMs_20 IAMs_20 16 09 23.5
comp=Z,25µm,21.0s
BOK **Bokaro** **80.74 296** *e*P **P** **15 39 27.1 +1.8**
BOK IAmb IAmb 15 39 35.6
comp=Z,23nm,0.9s
SUA **Susitna One** **80.75 21** P **P** **15 39 24.4 -0.2**
SUA IAmb IAmb 15 39 30.3
comp=Z,273nm,1.1s
SUA **Susitna One** **80.75 21** P **P** **15 39 24.3 -0.3**
baz=228,SNR=174
SUA S **S** **15 49 29.9 +0.5**
baz=228
SKT **Skwentna** **80.82 21** P **P** **15 39 23.9 -0.9**
SKT IAMs_20 IAMs_20 16 11 34.8
comp=Z,19µm,20.0s
SKT **Skwentna** **80.82 21** P **P** **15 39 24.2 -0.7**
baz=227,SNR=36
SKT S **S** **15 49 28.4 -1.6**
baz=227
RC01 **Rabbit Creek A** **80.86 22** P **P** **15 39 25.6 +0.5**
RC01 IAmb IAmb 15 39 28.3
comp=Z,394nm,1.2s
RC01 **Rabbit Creek A** **80.86 22** P **P** **15 39 25.8 +0.7**
baz=229,SNR=91
RC01 S **S** **15 49 31.7 +1.3**
baz=229
K20K **Telida** **80.94 19** P **P** **15 39 26.3 +0.8**
K20K IAmb IAmb 15 39 29.5
comp=Z,410nm,1.4s
K20K IAMs_20 IAMs_20 16 09 51.0
comp=Z,13µm,21.0s
K20K **Telida** **80.94 19** P **P** **15 39 26.7 +1.3**
baz=225
K20K S **S** **15 49 33.3 +2.2**
baz=225
RAMN **Ramite** **80.97 299** *e*P **P** **15 39 27.6 +0.8**
P23K **Montague Islan** **81.05 23** P **P** **15 39 27.0 +0.9**
baz=231,SNR=5.3
P23K S **S** **15 49 35.0 +2.7**
baz=231
GCSA **Galena City Sc** **81.10 17** P **P** **15 39 27.5 +1.3**
baz=222,SNR=42
GCSA S **S** **15 49 33.8 +1.1**
baz=222
Q23K **Middleton Isla** **81.12 24** IAMs_20 IAMs_20 16 17 16.9
comp=Z,10µm,18.0s
Q23K **Middleton Isla** **81.12 24** P **P** **15 39 27.7 +1.3**
baz=232
M22K **Willow** **81.16 21** P **P** **15 39 26.7 +0.1**
M22K **Willow** **81.16 21** P **P** **15 39 26.9 +0.3**
baz=229,SNR=114
M22K S **S** **15 49 33.3 -0.1**
baz=229
PPLA **Purkeypile** **81.22 20** P **P** **15 39 27.6 +0.4**
PPLA IAmb IAmb 15 39 29.8
comp=Z,181nm,1.2s
PPLA **Purkeypile** **81.22 20** P **P** **15 39 27.1 0.0**
baz=226,SNR=49
PPLA S **S** **15 49 34.8 +0.4**
baz=226
PWL **Port Wells** **81.24 23** P **P** **15 39 27.4 +0.3**
PWL IAMs_20 IAMs_20 16 08 59.9
comp=Z,21µm,22.0s
PWL **Port Wells** **81.24 23** P **P** **15 39 27.5 +0.3**
baz=230,SNR=68
PWL S **S** **15 49 34.9 +0.5**
baz=230
PMR **Palmer** **81.42 22** P **P** **15 39 28.4 +0.4**
PMR IAmb IAmb 15 39 31.2
comp=Z,224nm,0.9s
PMR **Palmer** **81.42 22** P **P** **15 39 28.5 +0.5**
baz=230,SNR=108
PMR S **S** **15 49 38.5 +2.5**
baz=230
PMR **Palmer** **81.42 22** P **P** **15 39 28.4 +0.4**
PMR pmax pmax
comp=Z,224nm,0.9s
J20K **Nowinta River** **81.50 18** P **P** **15 39 28.8 +0.4**
J20K IAMs_20 IAMs_20 16 11 10.6
comp=Z,16µm,20.0s
J20K **Nowinta River** **81.50 18** P **P** **15 39 29.7 +1.3**
baz=224,SNR=229
J20K S **S** **15 49 39.8 +2.9**
baz=224
JIRN **Jiri** **81.52 300** *e*P **P** **15 39 30.7 +0.9**
CUT **Chulitna** **81.55 21** P **P** **15 39 28.6 0.0**
CUT IAMs_20 IAMs_20 16 11 58.1
comp=Z,19µm,20.0s
CUT **Chulitna** **81.55 21** P **P** **15 39 28.8 +0.2**
baz=228,SNR=88
CUT S **S** **15 49 36.1 -1.3**
baz=228
KNK **Knik Glacier** **81.55 22** P **P** **15 39 29.3 +0.6**
KNK IAmb IAmb 15 39 32.3
comp=Z,215nm,1.2s
KNK **Knik Glacier** **81.55 22** P **P** **15 39 29.5 +0.8**
baz=230,SNR=44
KNK S **S** **15 49 40.8 +3.2**
baz=230
VIS **Vishakhapatnam** **81.55 290** *e*P **P** **15 39 30.7 +1.0**
VIS IAmb IAmb 15 39 47.1
comp=Z,50nm,0.5s
GHO **Glory Hole Cre** **81.61 22** P **P** **15 39 29.5 +0.4**
GHO IAmb IAmb 15 39 32.5
comp=Z,222nm,0.9s
CAST **Castle Rocks** **81.62 19** P **P** **15 39 29.1 0.0**
CAST IAmb IAmb 15 39 31.8
comp=Z,268nm,0.9s
CAST IAMs_20 IAMs_20 16 11 16.3
comp=Z,16µm,20.0s
CAST **Castle Rocks** **81.62 19** P **P** **15 39 29.3 +0.2**
baz=227,SNR=395
CAST S **S** **15 49 36.9 -1.3**
baz=227
PALK **Pallekele** **81.82 279** P **P** **15 39 31.6 +0.3**
PALK **Pallekele** **81.82 279** P **P** **15 39 31.6 +0.3**
PALK pmax pmax
comp=Z,119nm,1.1s
PALK MLR MLR
comp=Z,6µm,22.0s
SML **Sawmill** **81.84 22** P **P** **15 39 30.5 +0.2**
SML **Sawmill** **81.84 22** P **P** **15 39 31.3 +0.9**
baz=230,SNR=61
SML S **S** **15 49 42.7 +2.0**
baz=230
CHUM **Lake Minchumin** **81.87 19** P **P** **15 39 31.2 +0.9**
baz=226,SNR=131
CHUM S **S** **15 49 40.2 -0.5**
baz=226
EYAK **Cordova Ski Ar** **82.04 24** P **P** **15 39 31.9 +0.7**
EYAK **Cordova Ski Ar** **82.04 24** P **P** **15 39 32.1 +0.8**
baz=233,SNR=22
EYAK S **S** **15 49 43.7 +1.2**
baz=233
M23K **Glacier View** **82.06 22** P **P** **15 39 32.0 +0.6**
baz=231,SNR=28
M23K S **S** **15 49 45.4 +2.6**
baz=231
KTH **Kantishna Hill** **82.09 20** P **P** **15 39 31.3 -0.4**
KTH IAmb IAmb 15 39 34.6
comp=Z,245nm,0.9s
KTH IAMs_20 IAMs_20 16 11 39.8
comp=Z,20µm,20.0s
JHSG **JHARSUGUDA** **82.11 294** *e*P **P** **15 39 32.6 +0.1**
JHSG IAmb IAmb 15 39 43.0
comp=Z,238nm,1.4s
PKI **Pulchoki** **82.16 300** *e*P **P** **15 39 34.6 +1.5**
RDOG **Red Dog Mine** **82.17 13** IAMs_20 IAMs_20 16 17 49.1
comp=Z,13µm,22.0s
PKIN **Phulchoki** **82.18 300** *e*P **P** **15 39 34.7 +1.6**
SCM **Sheep Creek Mo** **82.23 22** P **P** **15 39 32.9 +0.5**
SCM IAmb IAmb 15 39 55.4
comp=Z,355nm,1.4s
SCM **Sheep Creek Mo** **82.23 22** P **P** **15 39 33.5 +1.2**
baz=231,SNR=28
SCM S **S** **15 49 45.9 +1.2**
baz=231
SCM **Sheep Creek Mo** **82.23 22** P **P** **15 39 32.9 +0.5**
SCM pmax pmax
comp=Z,355nm,1.4s
TRF **Thorofare Moun** **82.24 20** P **P** **15 39 32.1 -0.4**
TRF IAmb IAmb 15 39 37.1
comp=Z,143nm,0.8s
TRF IAMs_20 IAMs_20 16 10 43.6
comp=Z,22µm,21.0s
TRF **Thorofare Moun** **82.24 20** P **P** **15 39 32.4 -0.1**
baz=228,SNR=104
KKN **Kakani** **82.33 300** *e*P **P** **15 39 35.3 +1.4**
DIV **Divide** **82.38 23** P **P** **15 39 33.2 0.0**
DIV IAmb IAmb 15 39 36.6
comp=Z,145nm,0.9s
WAT1 **Susitna Watana** **82.42 21** P **P** **15 39 33.7 +0.4**
baz=230
WAT1 S **S** **15 49 46.2 -0.4**
baz=230
DMN **Daman** **82.43 300** *e*P **P** **15 39 36.3 +1.8**
BPAW **Bear Paw Mtn.** **82.44 19** P **P** **15 39 33.0 -0.3**
BPAW IAmb IAmb 15 39 35.8
comp=Z,290nm,1.4s
BPAW IAMs_20 IAMs_20 16 10 27.7
comp=Z,16µm,21.0s
BPAW **Bear Paw Mtn.** **82.44 19** P **P** **15 39 33.4 0.0**
baz=228,SNR=129
BPAW S **S** **15 49 45.5 -1.2**
baz=228
KLU **Klutina** **82.55 23** P **P** **15 39 34.5 +0.5**
KLU IAmb IAmb 15 39 39.6
comp=Z,119nm,0.8s
KLU IAMs_20 IAMs_20 16 12 18.7
comp=Z,16µm,20.0s
KLU **Klutina** **82.55 23** P **P** **15 39 35.1 +1.0**
baz=232,SNR=89
KLU S **S** **15 49 50.7 +2.7**
baz=232
WAT6 **Susitna Watana** **82.55 21** P **P** **15 39 34.8 +0.7**
baz=231,SNR=94
WAT6 S **S** **15 49 48.0 -0.2**
baz=231
RND **Reindeer** **82.69 20** P **P** **15 39 34.7 -0.1**
RND IAmb IAmb 15 39 37.7
comp=Z,252nm,1.1s
RND IAMs_20 IAMs_20 16 13 04.7
comp=Z,11µm,20.0s
RND **Reindeer** **82.69 20** P **P** **15 39 34.7 -0.1**
RND pmax pmax
comp=Z,252nm,1.1s
BMRM **Bremner River** **82.74 24** P **P** **15 39 35.2 +0.1**
BMRM IAmb IAmb 15 39 38.4
comp=Z,164nm,0.9s
BMRM **Bremner River** **82.74 24** P **P** **15 39 35.9 +0.8**
baz=234,SNR=49
BMRM S **S** **15 49 52.5 +2.5**
baz=234
M24K **Tolsona, Glenn** **82.83 22** P **P** **15 39 36.4 +0.9**
M24K IAMs_20 IAMs_20 16 10 04.0
comp=Z,14µm,22.0s
M24K **Tolsona, Glenn** **82.83 22** P **P** **15 39 37.2 +1.7**
baz=232,SNR=96
M24K S **S** **15 49 53.3 +2.5**
baz=232
I21K **Tanana** **82.87 18** P **P** **15 39 36.2 +0.7**
I21K IAMs_20 IAMs_20 16 11 23.0
comp=Z,13µm,21.0s
I21K **Tanana** **82.87 18** P **P** **15 39 36.7 +1.2**
baz=226
I21K S **S** **15 49 51.6 +0.7**
baz=226
MCK **McKinley** **82.88 20** P **P** **15 39 35.5 -0.2**
MCK **McKinley** **82.88 20** P **P** **15 39 35.9 +0.3**
baz=230,SNR=405
MCK S **S** **15 49 48.1 -3.0**
baz=230
MCK **McKinley** **82.88 20** P **P** **15 39 35.5 -0.2**
MCK pmax pmax
comp=Z,584nm,1.0s
PAF **Port-aux-Franc** **82.89 221** P **P** **15 39 37.0 +1.0**
PAF IAMs_20 IAMs_20 16 11 23.2
comp=Z,19µm,20.0s
PAF **Port-aux-Franc** **82.89 221** ⇓P **P** **15 39 37.5 +1.5**
PAF **Port-aux-Franc** **82.89 221** P **P** **15 39 37.0 +1.0**
PAF pmax pmax
comp=Z,342nm,1.0s
IMAR **Indian Mountai** **82.91 17** P **P** **15 39 35.9 +0.2**
GKN **Gorkha** **82.94 300** *e*P **P** **15 39 38.0 +1.0**
H21K **Melozitna Rive** **82.95 18** P **P** **15 39 36.2 +0.2**
H21K IAmb IAmb 15 39 39.9
comp=Z,206nm,1.1s
H21K IAMs_20 IAMs_20 16 11 04.2
comp=Z,13µm,20.0s
H21K **Melozitna Rive** **82.95 18** P **P** **15 39 36.8 +0.8**
baz=226
H21K S **S** **15 49 52.0 +0.2**
baz=226
BWN **Browne** **82.99 20** P **P** **15 39 36.4 +0.2**
BWN IAMs_20 IAMs_20 16 10 58.5
comp=Z,23µm,22.0s
DHY **Denali Highway** **83.00 21** P **P** **15 39 36.0 -0.4**
DHY IAMs_20 IAMs_20 16 13 15.5
comp=Z,22µm,20.0s
DHY **Denali Highway** **83.00 21** P **P** **15 39 37.1 +0.6**
baz=231,SNR=70
DHY S **S** **15 49 53.0 +0.4**
baz=231
N25K **Chitina, Valde** **83.12 23** P **P** **15 39 37.6 +0.5**
N25K IAmb IAmb 15 39 40.7
comp=Z,211nm,0.9s
N25K IAMs_20 IAMs_20 16 11 27.8
comp=Z,23µm,20.0s

N25K **Chitina, Valde** 83.12 23 P **P** 15 39 37.8 +0.8
baz=234,SNR=152
N25K S **S** 15 49 54.4 +0.6
baz=234
MLY **Manley** 83.15 19 P **P** 15 39 37.3 +0.2
MLY IAmb IAmb 15 39 40.2
comp=Z,221nm,1.1s
MLY IAMs_20 IAMs_20 16 15 07.8
comp=Z,15µm,20.0s
MLY **Manley** 83.15 19 P **P** 15 39 37.2 +0.1
baz=228,SNR=223
MLY S **S** 15 49 53.4 -0.5
baz=228
GLB **Gilahina Butte** 83.33 23 P **P** 15 39 38.1 0.0
GLB IAmb IAmb 15 39 41.5
comp=Z,180nm,0.8s
GLB IAMs_20 IAMs_20 16 10 42.5
comp=Z,24µm,21.0s
VRDI **Verde Repeater** 83.35 24 P **P** 15 39 38.3 -0.1
VRDI IAmb IAmb 15 39 41.7
comp=Z,82nm,0.7s
VRDI IAMs_20 IAMs_20 16 09 57.9
comp=Z,23µm,22.0s
G21K **Allakaket** 83.36 17 P **P** 15 39 38.7 +0.7
baz=225
G21K S **S** 15 49 58.0 +2.2
baz=225
HARP **HAARP** 83.39 22 P **P** 15 39 39.4 +1.1
baz=233,SNR=48
NEA2 **Nenana** 83.40 19 P **P** 15 39 38.0 -0.3
NEA2 IAMs_20 IAMs_20 16 11 52.3
comp=Z,14µm,20.0s
NEA2 **Nenana** 83.40 19 P **P** 15 39 38.0 -0.3
baz=229,SNR=211
VLK **Valmikinagar** 83.42 299 *e*P **P** 15 39 39.2 0.0
MDRS **Chennai** 83.43 284 *e*P **P** 15 39 40.9 +1.4
MDRS IAmb IAmb 15 39 43.2
comp=Z,518nm,2.4s
H22K **Ishtalitna Cre** 83.54 18 P **P** 15 39 39.8 +0.8
baz=227
H22K S **S** 15 49 58.2 +0.4
baz=227
MCARA **McCarthy VSAT** 83.61 24 P **P** 15 39 38.9 -0.6
MCARA IAmb IAmb 15 39 57.2
comp=Z,149nm,0.9s
MCARA IAMs_20 IAMs_20 16 09 20.8
comp=Z,21µm,22.0s
MCARA **McCarthy VSAT** 83.61 24 P **P** 15 39 40.3 +0.9
baz=235,SNR=42
MCARA S **S** 15 50 00.0 +1.4
baz=235
PAX **Paxson** 83.61 22 P **P** 15 39 39.8 +0.3
PAX **Paxson** 83.61 22 P **P** 15 39 39.9 +0.3
baz=233,SNR=28
PAX S **S** 15 49 58.5 -0.3
baz=233
PAX **Paxson** 83.61 22 P **P** 15 39 39.8 +0.3
PAX pmax pmax
comp=Z,109nm,1.3s
WRH **Wood River Hil** 83.64 20 P **P** 15 39 38.7 -0.8
WRH IAmb IAmb 15 39 42.1
comp=Z,174nm,1.1s
VAR **Varanasi** 83.65 297 *e*P **P** 15 39 39.0 -1.5
I23K **Minto, Yukon-K** 83.67 19 P **P** 15 39 39.4 -0.2
I23K IAMs_20 IAMs_20 16 12 49.0
comp=Z,15µm,20.0s
I23K **Minto, Yukon-K** 83.67 19 P **P** 15 39 39.6 0.0
baz=229,SNR=39
I23K S **S** 15 49 58.0 -0.9
baz=229
MAW **Mawson** 83.75 202 P **P** 15 39 40.6 +0.5
comp=Z,150nm,0.9s,baz=100,slow=6.2,SNR=162
MAW LR LR 16 11 44.8
comp=Z,20µm,21.9s,baz=90,slow=32
comp=Z,150nm,0.9s
MAW **Mawson** 83.75 202 P **P** 15 39 40.6 +0.5
baz=84,SNR=165
MAW **Mawson** 83.75 202 P **P** 15 39 40.5 +0.3
KOLN **Koldanda** 83.76 300 *e*P **P** 15 39 41.9 +0.6
DANN **Dangsing** 83.78 300 *e*P **P** 15 39 42.3 +0.9
CCB **Clear Creek Bu** 83.85 20 P **P** 15 39 40.0 -0.5
CCB IAmb IAmb 15 39 43.0
comp=Z,102nm,1.0s
F21K **Alatna River** 83.86 16 P **P** 15 39 41.1 +0.4
baz=225
F21K S **S** 15 50 02.2 +1.2
baz=225
MDM **Murphy Dome** 83.91 19 P **P** 15 39 40.2 -0.7
MDM IAmb IAmb 15 39 43.4
comp=Z,153nm,1.0s
MDM IAMs_20 IAMs_20 16 12 06.8
comp=Z,19µm,20.0s
BARN **Barnard Glacie** 83.97 24 P **P** 15 39 42.0 +0.4
BARN IAMs_20 IAMs_20 16 11 25.4
comp=Z,14µm,20.0s
TCOL **CIGO, UAF Yank** 83.97 20 P **P** 15 39 41.0 -0.2
TCOL **CIGO, UAF Yank** 83.97 20 P **P** 15 39 40.7 -0.5
baz=230,SNR=56
TCOL S **S** 15 49 59.9 -2.1
baz=230
COLA **College** 83.98 20 P **P** 15 39 41.0 -0.2
COLA **College** 83.98 20 IAMs_20 IAMs_20 16 11 58.2
comp=Z,24µm,21.0s
COLA **College** 83.98 20 P **P** 15 39 40.7 -0.5
baz=230
COLA S **S** 15 50 01.1 -0.9
baz=230
COLA **College** 83.98 20 *c i*P **P** 15 39 41.0 -0.2
COLA pmax pmax
comp=Z,157nm,0.8s
HDA **Harding Lake** 83.98 20 P **P** 15 39 41.0 -0.3
HDA IAMs_20 IAMs_20 16 12 46.4
comp=Z,14µm,21.0s
HDA **Harding Lake** 83.98 20 P **P** 15 39 41.4 +0.1
baz=231,SNR=164
HDA S **S** 15 50 02.3 +0.1
baz=231
HDA S **S** 15 50 02.3 +0.1
baz=231
K24K **Donnelly Dome** 84.01 21 P **P** 15 39 42.2 +0.7
baz=232,SNR=97
K24K S **S** 15 50 05.6 +3.0
baz=232
PCA **Pinnacle** 84.03 26 P **P** 15 39 42.1 +0.4
PINM **Pinnacle** 84.03 26 P **P** 15 39 42.8 +1.1
baz=238,SNR=76
PINM S **S** 15 50 05.6 +2.6
baz=238
H23K **Yukon River** 84.06 18 P **P** 15 39 41.7 0.0
H23K IAmb IAmb 15 39 45.3
comp=Z,143nm,0.9s
H23K IAMs_20 IAMs_20 16 16 42.2
comp=Z,13µm,19.0s
H23K **Yukon River** 84.06 18 P **P** 15 39 42.3 +0.6
baz=229
H23K S **S** 15 50 02.7 -0.2
baz=229
PNL **Peninsula** 84.17 26 P **P** 15 39 43.1 +0.7
baz=239,SNR=31
PNL S **S** 15 50 07.1 +2.8
baz=239
M26K **Nabesna, AK** 84.20 23 P **P** 15 39 42.6 +0.1
M26K IAmb IAmb 15 39 59.7
comp=Z,115nm,0.9s
M26K IAMs_20 IAMs_20 16 11 34.2
comp=Z,18µm,20.0s
M26K **Nabesna, AK** 84.20 23 P **P** 15 39 43.2 +0.7
baz=235
M26K S **S** 15 50 08.1 +3.5
baz=235
G22K **Bettles** 84.21 17 P **P** 15 39 42.6 +0.2
baz=227
BCPM **Bancas Point** 84.22 26 P **P** 15 39 43.5 +0.9
BCPM IAMs_20 IAMs_20 16 10 26.9
comp=Z,21µm,20.0s
IL31 84.23 20 P **P** 15 39 41.9 -0.6
IL31 IAmb IAmb 15 39 45.0
comp=Z,306nm,1.4s
ILAR **Eielson Array** 84.23 20 P **P** 15 39 42.2 -0.3
comp=Z,22nm,0.4s,baz=243,slow=5.0,SNR=184
ILAR PKKPbc **PKKPdf** 15 57 54.7 +4.0
comp=Z,1.4nm,0.7s,baz=336,slow=1.7,SNR=22
ILAR PKPPKP **P'P'df** 16 06 00.7 +1.3
comp=Z,0.3nm,0.8s,baz=45,slow=1.8,SNR=4.2
ILAR LR LR 16 12 45.4
comp=Z,21µm,20.5s,baz=204,slow=32
comp=Z,22nm,0.4s

MENT **Mentasta** 84.24 22 P **P** 15 39 43.3 +0.6
MENT IAmb IAmb 15 39 46.4
comp=Z,101nm,0.9s
POKR **Poker Plat Res** 84.27 19 P **P** 15 39 42.1 -0.7
POKR **Poker Plat Res** 84.27 19 P **P** 15 39 42.0 -0.7
baz=231,SNR=34
RIDG **Independent Ri** 84.31 21 P **P** 15 39 43.2 +0.2
RIDG IAmb IAmb 15 39 46.5
comp=Z,252nm,1.3s
RIDG **Independent Ri** 84.31 21 P **P** 15 39 43.7 +0.7
baz=233,SNR=87
RIDG S **S** 15 50 06.3 +0.7
baz=233
O28M **Mount Upton** 84.42 25 P **P** 15 39 45.1 +1.1
baz=238
O28M S **S** 15 50 09.9 +2.6
baz=238
F22K **John River** 84.43 16 P **P** 15 39 43.9 +0.4
baz=226
L26K **Log Cabin Wild** 84.43 22 P **P** 15 39 44.3 +0.7
L26K IAmb IAmb 15 39 47.5
comp=Z,88nm,0.8s
L26K IAMs_20 IAMs_20 16 13 32.3
comp=Z,13µm,20.0s
L26K **Log Cabin Wild** 84.43 22 P **P** 15 39 44.7 +1.0
baz=235,SNR=115
L26K S **S** 15 50 08.9 +2.1
baz=235
G23K **Bananza Creek** 84.50 18 P **P** 15 39 44.6 +0.7
baz=228,SNR=88
G23K S **S** 15 50 10.8 +3.4
baz=228
DIB **Dawson Inlet,** 84.50 34 P **P** 15 39 45.4 +1.2
DIB IAmb IAmb 15 39 47.8
comp=Z,148nm,1.0s
DOT **Dot Lake** 84.53 22 P **P** 15 39 44.6 +0.5
DOT IAmb IAmb 15 39 47.6
comp=Z,141nm,0.8s
H24K **Noodor Dome** 84.59 19 IAMs_20 IAMs_20 16 16 19.7
comp=Z,16µm,19.0s
H24K **Noodor Dome** 84.59 19 P **P** 15 39 44.4 +0.1
baz=230
H24K S **S** 15 50 07.3 -1.0
baz=230
M27K **Edge Creek, AK** 84.61 23 P **P** 15 39 45.5 +0.8
M27K IAMs_20 IAMs_20 16 11 13.2
comp=Z,21µm,21.0s
M27K **Edge Creek, AK** 84.61 23 P **P** 15 39 45.9 +1.2
baz=236
M27K S **S** 15 50 12.1 +3.2
baz=236
J25K **Salcha River,** 84.65 20 P **P** 15 39 44.6 -0.2
J25K IAmb IAmb 15 39 48.1
comp=Z,204nm,1.2s
J25K IAMs_20 IAMs_20 16 14 39.2
comp=Z,17µm,20.0s
J25K **Salcha River,** 84.65 20 P **P** 15 39 45.2 +0.4
baz=233
J25K S **S** 15 50 09.2 +0.2
baz=233
S31K **Pelican** 84.74 28 P **P** 15 39 46.0 +0.7
baz=242,SNR=23
S31K S **S** 15 50 13.9 +3.9
baz=242
SIT **Sitka** 84.75 29 P **P** 15 39 46.3 +1.1
SIT **Sitka** 84.75 29 P **P** 15 39 46.2 +0.9
baz=242,SNR=7.6
SIT S **S** 15 50 11.9 +1.9
baz=242
SIT **Sitka** 84.75 29 P **P** 15 39 46.3 +1.1
SIT pmax pmax
comp=Z,62nm,1.0s
SCRK **Sand Creek** 84.75 21 P **P** 15 39 45.4 +0.1
SCRK IAmb IAmb 15 39 49.0
comp=Z,128nm,0.9s
SCRK IAMs_20 IAMs_20 16 13 37.6
comp=Z,23µm,20.0s
SCRK **Sand Creek** 84.75 21 P **P** 15 39 45.8 +0.4
baz=234,SNR=152
SCRK S **S** 15 50 10.1 -0.1
baz=234
COLD **Coldfoot** 84.80 17 P **P** 15 39 46.3 +1.0
COLD IAmb IAmb 15 39 60.0
comp=Z,207nm,1.8s
COLD **Coldfoot** 84.80 17 P **P** 15 39 46.6 +1.2
baz=228,SNR=83
COLD S **S** 15 50 11.5 +1.3
baz=228
YUK3 **Moose Creek** 84.85 24 P **P** 15 39 46.8 +0.8
baz=237,SNR=136
YUK3 S **S** 15 50 12.9 +1.5
baz=237
O29M **Mount Kennedy** 84.85 26 P **P** 15 39 46.9 +1.0
baz=239
YUK8 **Steele Glacier** 84.86 25 P **P** 15 39 47.6 +1.4
baz=238,SNR=261
YUK8 S **S** 15 50 12.6 +0.9
baz=238
L27K **Beaver Creek,** 85.02 23 P **P** 15 39 47.3 +0.7
L27K IAmb IAmb 15 39 50.8
comp=Z,267nm,1.2s
L27K IAMs_20 IAMs_20 16 11 37.8
comp=Z,20µm,21.0s
L27K **Beaver Creek,** 85.02 23 P **P** 15 39 47.8 +1.1
baz=236
L27K S **S** 15 50 13.8 +1.0
baz=236
BVCY **Beaver Creek** 85.03 23 P **P** 15 39 47.8 +1.1
baz=237,SNR=67
BVCY S **S** 15 50 12.3 -0.6
baz=237
BCAR **Beaver Creek A** 85.04 23 P **P** 15 39 47.5 +0.8
SALM **Salem** 85.10 283 *e*P **P** 15 39 49.0 +0.9
SALM IAmb IAmb 15 39 52.1
comp=Z,71nm,1.0s
RPN **Rapa Nui** 85.12 117 LR LR 16 09 23.8
comp=Z,7µm,21.7s,baz=271,slow=30
CRAG **Craig** 85.13 31 P **P** 15 39 48.6 +1.3
baz=244
CRAG S **S** 15 50 17.3 +3.4
baz=244
PRP **Porcupine Dome** 85.15 20 P **P** 15 39 46.6 -0.7
PRP IAMs_20 IAMs_20 16 13 23.1
comp=Z,23µm,20.0s
PRP **Porcupine Dome** 85.15 20 P **P** 15 39 46.7 -0.7
baz=232,SNR=30
R31K **City Hall, Gus** 85.19 28 P **P** 15 39 48.3 +0.9
baz=242
R31K S **S** 15 50 17.6 +3.3
baz=242
J26L **Joseph Creek** 85.21 21 P **P** 15 39 48.5 +0.8
J26L IAMs_20 IAMs_20 16 11 54.0
comp=Z,23µm,21.0s
J26L **Joseph Creek** 85.21 21 P **P** 15 39 48.6 +1.0
baz=234
WMQ **Urumqi** 85.22 316 ⇓P **P** 15 39 49.9 +1.8
WMQ pP pP 15 39 56.6 -3.0
WMQ sP pwP 15 40 00.4 -2.0
WMQ PP **PP** **15 43 03.4 -2.8**
WMQ SKS **SKSac** **15 50 07.3 -2.7**
WMQ S **ScS** **15 50 23.6 -2.2**
WMQ pmax pmax
comp=Z,42nm,1.9s
WMQ pmax pmax
comp=Z,1µm,9.9s
WMQ LR LR
comp=Z,4µm,18.3s
WMQ LR LR
comp=Z,4µm,21.3s
WMQ LR LR
comp=Z,4µm,22.9s
G24K **Hadweenzic Riv** 85.26 18 P **P** 15 39 48.8 +1.0
baz=231
G24K S **S** 15 50 13.4 -1.5
baz=231
YUK6 **Outpost Mounta** 85.27 25 P **P** 15 39 49.2 +1.0
baz=239
YUK6 S **S** 15 50 18.5 +2.8
baz=239
YUK4 **Talbot Arm** 85.36 25 P **P** 15 39 50.4 +1.9
baz=239,SNR=268
PLBC **Pleasant Camp** 85.40 27 P **P** 15 39 49.3 +0.8
baz=241,SNR=48
PLBC S **S** 15 50 16.7 +0.3
baz=241
U33K **Whale Pass** 85.41 31 P **P** 15 39 50.0 +1.4
baz=244,SNR=11
U33K S **S** 15 50 18.0 +1.3
baz=244
JCC **Jacoby Creek,** 85.44 47 IAMs_20 IAMs_20 16 14 01.0
comp=Z,9µm,19.0s
P30M **Million Dollar** 85.46 26 P **P** 15 39 49.8 +0.9
baz=241
P30M S **S** 15 50 16.3 -0.9
baz=241
MCCM **Marconi Confer** 85.50 50 P **P** 15 39 50.9 +1.4
MCCM IAMs_20 IAMs_20 16 09 13.9
comp=Z,17µm,22.0s
E23K **Chandalar** 85.52 17 P **P** 15 39 49.9 +0.8
baz=228
KOD **Kodaikanal** 85.54 281 *e*P **P** 15 39 50.6 0.0
KOD IAmb IAmb 15 39 56.9
comp=Z,49nm,0.8s
HYT **Haines Junctio** 85.57 26 P **P** 15 39 50.6 +1.1
HYT IAmb IAmb 15 39 53.6
comp=Z,127nm,0.9s
HYT **Haines Junctio** 85.57 26 P **P** 15 39 50.6 +1.1
baz=240,SNR=88
HYT S **S** 15 50 17.2 -1.2
baz=240
HOPS **Hopland Field** 85.60 49 P **P** 15 39 50.9 +0.9
HOPS IAmb IAmb 15 40 24.6
comp=Z,212nm,1.4s
HOPS IAMs_20 IAMs_20 16 15 08.7
comp=Z,20µm,18.0s
F24K **Squaw Lake** 85.66 17 P **P** 15 39 51.1 +1.4
baz=230
F24K S **S** 15 50 17.4 -1.5
baz=230
BESE **Bessie Mountai** 85.67 28 P **P** 15 39 51.3 +1.3
R32K **Eaglecrest** 85.69 29 P **P** 15 39 50.5 +0.5
baz=243
R32K S **S** 15 50 24.8 +5.4
baz=243
TRD **Trivandrum** 85.70 279 *e*P **P** 15 39 52.5 +1.4
G25K **Bearman Lake** 85.73 18 P **P** 15 39 50.7 +0.7
baz=232
JIS **Juneau Island** 85.76 29 P **P** 15 39 50.9 +0.7
JIS IAMs_20 IAMs_20 16 09 33.5
comp=Z,19µm,22.0s
T33K **Petersburg** 85.80 30 P **P** 15 39 50.9 +0.4
baz=244
D23K **Nanushuk River** 85.84 16 P **P** 15 39 51.7 +1.2
baz=227
D23K S **S** 15 50 18.6 -1.8
baz=227
E24K **Your Creek** 85.85 17 P **P** 15 39 51.6 +0.9
baz=230
V35K **Ketchikan** 85.85 32 P **P** 15 39 51.2 +0.3
baz=246,SNR=6.8
V35K S **S** 15 50 20.9 -0.1
baz=246
SKAG **Skagway** 85.87 27 P **P** 15 39 51.6 +0.8
SKAG **Skagway** 85.87 27 P **P** 15 39 51.6 +0.8
baz=242,SNR=25
SKAG S **S** 15 50 22.2 +1.2
baz=242
SKAG **Skagway** 85.87 27 ⇑P **P** 15 39 51.8 +1.0
SKAG ⇓P **PcP** 15 39 52.1 -1.4
FYU **Fort Yukon** 85.88 19 P **P** 15 39 51.6 +0.9
FYU IAmb IAmb 15 39 54.5
comp=Z,214nm,1.7s
FYU IAMs_20 IAMs_20 16 14 19.9
comp=Z,18µm,20.0s
HYB **Hyderabad** 85.93 288 ⇑*e*P **P** 15 39 51.0 -1.2
HYB IVmB_BB 15 39 53.0
comp=Z,740nm,5.6s
HYB *e* 15 50 12.9
HYB IVMs_BB IVMs_BB 16 11 25.9
comp=Z,790nm,24.6s
HYB **Hyderabad** 85.93 288 *e*P **P** 15 39 52.3 +0.2
HYB IAmb IAmb 15 40 08.8
comp=Z,132nm,1.4s
WRAK **Wrangell Islan** 85.93 31 IAMs_20 IAMs_20 16 12 08.4
comp=Z,21µm,20.0s
WRAK **Wrangell Islan** 85.93 31 P **P** 15 39 51.3 +0.1
baz=245,SNR=7.3
WRAK S **S** 15 50 22.9 +1.1
baz=245
HOLB **Holberg** 85.98 37 P **P** 15 39 53.0 +1.3
HOLB IAmb IAmb 15 39 55.6
comp=Z,130nm,0.8s
M29M **Somme Creek** 86.00 24 P **P** 15 39 52.6 +1.0
baz=239
M29M S **S** 15 50 24.4 +1.9
baz=239
N30M **Aishikik Lake** 86.06 25 P **P** 15 39 52.6 +0.8
baz=240
N30M S **S** 15 50 24.3 +1.3
baz=240
A21K **Barrow** 86.10 13 P **P** 15 39 52.0 +0.3
A21K IAMs_20 IAMs_20 16 12 36.5
comp=Z,13µm,22.0s
A21K **Barrow** 86.10 13 P **P** 15 39 52.0 +0.3
baz=222
GRNB **Grenville Isla** 86.14 34 P **P** 15 39 53.6 +1.3
GRNB IAmb IAmb 15 40 22.4
comp=Z,217nm,1.8s
O30N **Mendenhall** 86.15 26 P **P** 15 39 52.9 +0.6
baz=241,SNR=58
O30N S **S** 15 50 23.6 -0.3
baz=241
RUBB **Prince Rupert** 86.17 33 P **P** 15 39 53.4 +1.0
RUBB IAmb IAmb 15 40 25.6
comp=Z,269nm,1.8s
SAO **San Andreas Ge** 86.22 52 P **P** 15 39 53.6 +0.5
SAO IAmb IAmb 15 39 57.1
comp=Z,229nm,1.3s
SAO IAMs_20 IAMs_20 16 15 15.1
comp=Z,14µm,19.0s
SAO **San Andreas Ge** 86.22 52 ⇑P **P** 15 39 55.0 +1.8
SAO ⇓P **P** 15 39 55.0 +1.8
SAO **San Andreas Ge** 86.22 52 P **P** 15 39 53.7 +0.5
SAO pmax pmax
comp=Z,229nm,1.3s
EGAK **Eagle** 86.22 21 P **P** 15 39 53.0 +0.6
EGAK IAmb IAmb 15 39 56.5
comp=Z,200nm,1.0s
EGAK **Eagle** 86.22 21 P **P** 15 39 53.4 +0.9
baz=237,SNR=120
EGAK S **S** 15 50 27.1 +2.8
baz=237
F25K **Christian Rive** 86.38 18 P **P** 15 39 54.9 +1.5
baz=232
F25K S **S** 15 50 26.4 +0.4
baz=232
D24K **Happy Valley** 86.46 16 P **P** 15 39 54.7 +1.1
baz=229
L29M **L29M** 86.47 23 P **P** 15 39 55.1 +1.3
baz=239
L29M S **S** 15 50 28.7 +1.7
baz=239
DAWY **Dawson** 86.48 22 P **P** 15 39 54.8 +1.0
DAWY **Dawson** 86.48 22 P **P** 15 39 54.9 +1.0
baz=238,SNR=196
DAWY **Dawson** 86.48 22 ⇑P **P** 15 39 54.5 +0.7
DAWY ⇑P **P** 15 39 54.8 +1.0
BBGB **Big Mountain B** 86.48 52 P **P** 15 39 56.5 +1.9
I27K **Kandik River** 86.52 21 P **P** 15 39 55.4 +1.3
baz=236
I27K S **S** 15 50 29.0 +1.6
baz=236
BBB **Bella Bella** 86.55 36 P **P** 15 39 54.9 +0.6
comp=Z,19nm,0.8s,baz=238,slow=8.2,SNR=4.7
BBB LR LR 16 11 24.0
comp=Z,12µm,21.0s,baz=261,slow=31
comp=Z,19nm,0.8s
BBB **Bella Bella** 86.55 36 P **P** 15 39 55.1 +0.8
BBB IAmb IAmb 15 40 04.0
comp=Z,137nm,1.4s
G26K **Porcupine Rive** 86.57 19 P **P** 15 39 55.3 +1.2
baz=234
BMAR **Burnt Mountain** 86.61 18 P **P** 15 39 55.6 +1.2
WHY **Whitehorse** 86.62 26 P **P** 15 39 54.9 +0.2
WHY **Whitehorse** 86.62 26 P **P** 15 39 55.1 +0.4
baz=242,SNR=28
WHY S **S** 15 50 31.4 +2.7
baz=242
WHY **Whitehorse** 86.62 26 ⇓P **P** 15 39 55.4 +0.7
N31M **Braeburn, Yuko** 86.63 25 P **P** 15 39 55.1 +0.5
N31M IAmb IAmb 15 39 58.7
comp=Z,134nm,0.8s
N31M IAMs_20 IAMs_20 16 11 56.5
comp=Z,22µm,20.0s

N31M Braeburn, Yuko 86.63 25 P P 15 39 55.6 +1.0
baz=242,SNR=72
N31M S S 15 50 32.2 +3.7
baz=242
YBH Yreka Blue Hor 86.65 47 P P 15 39 56.4 +1.2
comp=Z,72nm,0.9s,baz=324,slow=0.6,SNR=58
YBH LR LR 16 11 08.0
comp=Z,8µm,21.7s,baz=264,slow=30
comp=Z,72nm,0.9s
YBH Yreka Blue Hor 86.65 47 P P 15 39 56.5 +1.2
YBH IAmb IAmb 15 39 59.5
comp=Z,222nm,1.2s
P32M Atlin 86.66 28 P P 15 39 55.1 +0.3
baz=244,SNR=23
P32M S S 15 50 33.1 +4.2
baz=244
PCHI Peechi 86.67 281⇑ *e*P **P 15 39 56.0 +0.2**
PCHI *e*S **S 15 50 32.3 +1.5**
DBO Dodson Butte 86.68 45 P P 15 39 56.3 +0.9
DBO IAmb IAmb 15 39 59.5
comp=Z,147nm,1.2s
E25K Arctic Village 86.73 18 P P 15 39 56.3 +1.3
baz=232
E25K S S 15 50 31.2 +1.9
baz=232
M30M Minto, Yukon 86.73 24 P P 15 39 55.8 +0.7
M30M IAmb IAmb 15 39 59.1
comp=Z,105nm,1.0s
M30M IAMs_20 IAMs_20 16 13 55.3
comp=Z,15µm,20.0s
M30M Minto, Yukon 86.73 24 P P 15 39 56.1 +1.0
baz=241,SNR=109
M30M S S 15 50 32.7 +3.2
baz=241
SNCC San Nicolas Is 86.84 56 P P 15 39 57.3 +1.0
SNCC San Nicolas Is 86.84 56 P P 15 39 57.5 +1.2
baz=256,SNR=14
C24K Franklin Bluff 86.86 16 P P 15 39 56.7 +1.1
baz=229
C24K S S 15 50 30.7 +0.3
baz=229
H27K Steamboat Moun 86.90 20 P P 15 39 56.9 +1.0
baz=236
H27K S S 15 50 33.5 +2.5
baz=236
F26K Sheenjek River 86.90 18 P P 15 39 57.5 +1.7
baz=234
F26K S S 15 50 32.8 +1.8
baz=234
ORV Oroville 86.93 49 P P 15 39 57.0 +0.4
ORV IAmb IAmb 15 40 00.1
comp=Z,115nm,1.2s
ORV IAMs_20 IAMs_20 16 10 20.8
comp=Z,12µm,21.0s
ORV Oroville 86.93 49 P P 15 39 57.0 +0.4
ORV pmax pmax
comp=Z,115nm,1.2s
SCZ2 Santa Cruz Isl 86.94 55 P P 15 39 57.7 +1.0
baz=256,SNR=7.2
SMMC Simmler 86.98 54 P P 15 39 58.4 +1.5
baz=255,SNR=13
SBC Santa Barbara 86.98 54 P P 15 39 58.3 +1.4
baz=256
OZB Mount Ozzard 87.00 39 P P 15 39 57.8 +1.1
OZB IAmb IAmb 15 40 10.1
comp=Z,348nm,1.9s
PKM Mcpherson Peak 87.02 54 P P 15 39 58.4 +1.0
baz=256,SNR=41
PKM S S 15 50 34.5 +0.8
baz=256
LGTI Lohaghat 87.03 300 *e*P **P 15 39 56.5 -0.7**
LGTI IAmb IAmb 15 40 13.6
comp=Z,39nm,0.9s
Q32M Nakina River 87.05 28 P P 15 39 57.3 +0.3
baz=245
Q32M S S 15 50 36.1 +3.1
baz=245
COR Corvallis 87.07 44 IAMs_20 IAMs_20 16 11 10.2
comp=Z,13µm,20.0s
K29M Barlow Dome 87.08 23 P P 15 39 57.6 +0.7
baz=240
K29M S S 15 50 36.7 +3.8
baz=240
J29M Klondike Camp 87.12 22 P P 15 39 58.0 +1.0
J29M IAMs_20 IAMs_20 16 14 05.5
comp=Z,22µm,21.0s
J29M Klondike Camp 87.12 22 P P 15 39 58.5 +1.5
baz=239,SNR=60
J29M S S 15 50 36.9 +3.7
baz=239
S34M Telegraph Cree 87.16 30 P P 15 39 57.8 +0.6
baz=246,SNR=25
S34M S S 15 50 39.8 +6.1
baz=246
AFDM Forest Hills D 87.16 50 P P 15 39 58.3 +0.6
AFDM IAmb IAmb 15 40 01.3
comp=Z,227nm,1.5s
BUCK Buck Mountain 87.17 44 P P 15 39 57.8 0.0
G27K Doyon Strip 87.18 19 P P 15 39 58.2 +1.0
baz=236
G27K S S 15 50 35.7 +2.0
baz=236
T35M Bob Quinn 87.22 31 P P 15 39 58.1 +0.5
baz=247,SNR=9.5
T35M S S 15 50 39.3 +4.9
baz=247
D25K Kavik River 87.24 16 P P 15 39 58.0 +0.5
baz=232
DGZ Jazzator, Alta 87.30 321 *ce*P **P 15 39 57.9 -0.4**
DGZ pmax pmax
comp=Z,57nm,1.6s
DGZ MLR MLR
comp=Z,8µm,22.0s
DGAR Diego Garcia 87.31 263 IAMs_20 IAMs_20 16 15 45.0
comp=Z,11µm,21.0s
P33M Teslin, Yukon 87.34 27 P P 15 39 57.9 -0.3
P33M Teslin, Yukon 87.34 27 P P 15 39 58.3 +0.1
baz=244,SNR=15
P33M S S 15 50 39.1 +3.6
baz=244
BCW Bitter Crk WRg 87.35 54 P P 15 40 00.3 +1.5
CMB Columbia Colle 87.37 51 P P 15 39 59.2 +0.4
CMB IAmb IAmb 15 40 02.3
comp=Z,162nm,1.6s
CMB IAMs_20 IAMs_20 16 13 58.5
comp=Z,17µm,19.0s
CMB Columbia Colle 87.37 51 P P 15 39 59.2 +0.4
CMB pmax pmax
comp=Z,162nm,1.6s
E03A Lebam 87.48 42 P P 15 40 00.2 +1.2
E03A IAmb IAmb 15 40 03.0
comp=Z,152nm,1.1s
NLWA Neilton Lookou 87.54 41 IAMs_20 IAMs_20 16 12 02.4
comp=Z,20µm,20.0s
M31M Drury Creek, Y 87.54 25 P P 15 39 58.9 -0.2
M31M Drury Creek, Y 87.54 25 P P 15 39 59.3 +0.3
baz=243,SNR=44
M31M S S 15 50 40.9 +3.6
baz=243
I29M Ogilvie Camp, 87.56 21 P P 15 39 59.4 +0.4
I29M IAMs_20 IAMs_20 16 12 39.9
comp=Z,18µm,22.0s
I29M Ogilvie Camp, 87.56 21 P P 15 39 60.0 +1.0
baz=239,SNR=67
I29M S S 15 50 39.4 +2.1
baz=239
MAYO Mayo, Yukon 87.59 24 P P 15 39 60.0 +0.8
MAYO Mayo, Yukon 87.59 24 P P 15 40 00.5 +1.3
baz=242,SNR=36
MAYO S S 15 50 41.5 +3.8
baz=242
JHNI Jhansi 87.63 296⇑ *i*P **P 15 39 57.4 -2.9**
JHNI IAmb IAmb 15 40 01.9
comp=Z,21nm,1.1s
VOG Valley Oaks Go 87.71 53 P P 15 40 01.1 +0.7
baz=256,SNR=5.8
CIS Catalina Islan 87.78 56 P P 15 40 01.4 +0.5
baz=256,SNR=18
CIS S S 15 50 42.8 +2.0
baz=256
CLRS Cowichan Lake 87.81 40 P P 15 40 01.1 +0.5
OSI Osito Audit: C 87.82 54 P P 15 40 01.7 +0.7
baz=256,SNR=6.8
OSI S S 15 50 44.2 +3.0
baz=256
VES Vestal, Richgr 87.83 53 P P 15 40 01.3 +0.3
baz=256,SNR=15
VES S S 15 50 43.9 +2.8
baz=256
R33M Jennings River 87.84 28 P P 15 40 01.3 +0.6
baz=246
R33M S S 15 50 43.8 +3.3
baz=246
ARVC Arvin 87.86 54 P P 15 40 02.1 +1.0
baz=256,SNR=15
ARVC S S 15 50 45.2 +3.8
baz=256
BEKR Beckworth 87.86 49 P P 15 40 01.6 +0.3
BEKR IAmb IAmb 15 40 05.0
comp=Z,147nm,1.2s
DLBC Dease Lake 87.91 29 P P 15 40 01.0 +0.1
comp=Z,33nm,1.0s,baz=235,slow=3.6,SNR=24
DLBC LR LR 16 12 05.6
comp=Z,19µm,21.0s,baz=264,slow=31
comp=Z,33nm,1.0s
DLBC Dease Lake 87.91 29 P P 15 40 00.9 0.0
DLBC IAmb IAmb 15 40 04.8
comp=Z,154nm,1.6s
DLBC Dease Lake 87.91 29 P P 15 40 01.2 +0.3
baz=247,SNR=33
DLBC S S 15 50 42.9 +1.9
baz=247
FMP Fort Macarthur 87.95 55 P P 15 40 01.8 +0.3
baz=256
FMP S S 15 50 44.4 +2.1
baz=256
E27K Coleen River 87.97 18 P P 15 40 02.2 +1.2
baz=236
E27K S S 15 50 43.7 +2.5
baz=236
B04A Port Angeles 87.97 41 P P 15 40 02.2 +0.9
B04A IAmb IAmb 15 40 05.2
comp=Z,274nm,1.9s
FARO Faro, Yukon 87.99 25 P P 15 40 01.8 +0.6
FARO Faro, Yukon 87.99 25 P P 15 40 01.3 +0.1
baz=244,SNR=20
FARO S S 15 50 44.5 +2.9
baz=244
C26K Camden Bay 88.01 16 P P 15 40 02.5 +1.5
baz=233
C26K S S 15 50 42.4 +1.0
baz=233
AKL Akola 88.02 291⇑ *i*P **P 15 40 00.7 -1.5**
AKL IAmb IAmb 15 40 04.0
comp=Z,12nm,0.8s
DECC Green Verdugo 88.05 55 P P 15 40 02.3 +0.2
baz=256,SNR=5.3
DECC S S 15 50 44.5 +1.2
baz=256
PASC Pasadena Art C 88.15 55 P P 15 40 01.9 -0.7
PASC IAmb IAmb 15 40 06.1
comp=Z,168nm,1.1s
BHPL Bhopal 88.16 294 *e*P **P 15 40 02.9 0.0**
BHPL IAmb IAmb 15 40 04.7
comp=Z,9.6nm,1.9s
C27K Jago River 88.17 17 P P 15 40 03.0 +1.2
baz=234
C27K S S 15 50 45.1 +2.1
baz=234
PGC Sidney 88.19 40 P P 15 40 02.6 +0.3
PGC IAmb IAmb 15 40 06.5
comp=Z,83nm,1.1s
ZSN Zaisan 88.23 319 *e*P **P 15 40 02.2 -0.4**
baz=319
ZSN *e*S **SKSac 15 50 25.6 -2.7**
baz=319
ZSN Zaisan 88.23 319 *e*P **P 15 40 02.2 -0.4**
ZSN *e*S **SKSac 15 50 25.6 -2.7**
VCNR Virginia City 88.25 50 P P 15 40 03.0 -0.1
ISA Isabella, Lake 88.27 53 P P 15 40 03.3 +0.1
ISA Isabella, Lake 88.27 53 P P 15 40 03.7 +0.5
baz=256,SNR=38
ISA S S 15 50 45.5 +0.1
baz=256
ISA Isabella, Lake 88.27 53 P P 15 40 03.3 +0.1
ISA pmax pmax
comp=Z,367nm,1.7s
MDPB Devils Postpil 88.27 51 P P 15 40 03.1 -0.3
MDPB IAmb IAmb 15 40 07.1
comp=Z,87nm,0.9s
MOD Modoc Plateau 88.43 47 P P 15 40 03.8 -0.1
MOD IAmb IAmb 15 40 07.8
comp=Z,157nm,1.2s
MLAC Mammoth, Mammo 88.45 51 P P 15 40 04.7 +0.5
baz=256
EDW2 Edwards Air Fo 88.47 54 P P 15 40 05.0 +0.9
baz=257,SNR=58
EDW2 S S 15 50 46.9 -0.5
baz=257
PINE Pine Mountain 88.48 45 P P 15 40 04.9 +0.8
BFSC Mount Baldy Ra 88.59 55 P P 15 40 05.3 +0.5
baz=257,SNR=59
BFSC S S 15 50 49.4 +0.7
baz=257
EPYK Eagle Plains 88.63 21 P P 15 40 05.0 +0.8
EPYK IAMs_20 IAMs_20 16 13 03.4
comp=Z,22µm,22.0s
EPYK Eagle Plains 88.63 21 P P 15 40 04.9 +0.8
baz=241,SNR=115
EPYK S S 15 50 44.4 -3.1
baz=241
ELS Elsinore Mount 88.64 56 P P 15 40 05.2 +0.2
ELS IAmb IAmb 15 40 08.7
comp=Z,198nm,1.6s
LON Longmire 88.70 42 P P 15 40 05.1 +0.2
LON IAmb IAmb 15 40 08.4
comp=Z,178nm,1.9s
LON Longmire 88.70 42 P P 15 40 05.1 +0.2
LON pmax pmax
comp=Z,178nm,2.0s
D05A Enumclaw 88.70 42 P P 15 40 04.8 0.0
D05A IAmb IAmb 15 40 36.7
comp=Z,243nm,1.4s
109C Camp Elliot, M 88.73 56 P P 15 40 05.1 -0.2
109C Camp Elliot, M 88.73 56 P P 15 40 06.2 +0.9
baz=257,SNR=12
CWC Cottonwood Cre 88.76 53 P P 15 40 06.1 +0.6
baz=256
CWC S S 15 50 47.5 -2.8
baz=256
TIN Tinemaha, Big 88.79 52 P P 15 40 06.6 +1.0
baz=256,SNR=5.9
TIN S S 15 50 51.1 +0.7
baz=256
MURC Murrieta 88.82 56 P P 15 40 06.2 +0.4
baz=257,SNR=20
LRMC Laurel Mtn Rad 88.85 54 P P 15 40 06.9 +0.9
baz=257,SNR=20
LRMC S S 15 50 49.5 -1.6
baz=257
LHV Little Huntoon 88.86 51 P P 15 40 06.2 +0.4
CCX Cicese 88.87 57 P P 15 40 06.4 +0.5
CCX IAmb IAmb 15 40 09.9
comp=Z,199nm,1.2s
RYN Ryan 88.94 51 P P 15 40 06.2 -0.2
RYN IAmb IAmb 15 40 10.2
comp=Z,137nm,1.1s
BAR Barrett 89.04 57 P P 15 40 06.7 -0.1
BAR IAmb IAmb 15 40 10.5
comp=Z,172nm,1.1s
NVAR Mina Array Bea 89.06 51 P P 15 40 08.3 +1.3
comp=Z,55nm,0.7s,baz=243,slow=6.6,SNR=115
NVAR PKKPbc **PKKPbc 15 57 46.2 0.0**
comp=Z,0.9nm,0.6s,baz=86,slow=3.6,SNR=5.0
NVAR LR LR 16 15 45.7
comp=Z,18µm,18.6s,baz=264,slow=33
comp=Z,55nm,0.7s
NVAR Mina Array Bea 89.06 51 P P 15 40 07.6 +0.6
DSP Deep Springs 89.06 52 P P 15 40 07.5 +0.8
DDI Dehra Dun 89.08 301 *e*P **P 15 40 08.0 +0.9**
G30M tAoh Zraii Nji 89.10 20 P P 15 40 06.9 +0.5
baz=241
G30M S S 15 50 48.6 -3.3
baz=241
MPMC Manual Prospec 89.14 53 P P 15 40 08.3 +0.8
baz=257,SNR=96
MPMC S S 15 50 53.5 -0.4
baz=257
WTLY Watson Lake, Y 89.14 28 P P 15 40 06.5 -0.1
WTLY Watson Lake, Y 89.14 28 P P 15 40 06.6 0.0
baz=248,SNR=19
NV11 Mina Array Sit 89.17 51 P P 15 40 09.4 +1.9
BBRC Big Bear Solar 89.19 55 P P 15 40 08.4 +0.6
baz=257
BBRC S S 15 50 52.2 -2.3
baz=257
RRX Edison Barstow 89.26 55 P P 15 40 08.6 +0.8
baz=257
LCH Last Change Ra 89.28 52 P P 15 40 08.1 +0.1
LCH IAmb IAmb 15 40 11.6
comp=Z,102nm,1.2s
MONP2 Monument Peak 89.30 57 P P 15 40 09.3 +1.1
baz=258,SNR=96
MONP2 S S 15 50 52.7 -2.8
baz=258
KVN Kaiserville 89.36 50 P P 15 40 08.3 -0.1
KVN Kaiserville 89.36 50 P P 15 40 08.3 -0.1
KVN pmax pmax
comp=Z,576nm,1.7s
B06A Marblemount 89.40 40 P P 15 40 08.4 +0.3
B06A IAmb IAmb 15 40 10.9
comp=Z,143nm,1.7s
PFO Pinyon Flats O 89.42 56 P P 15 40 10.0 +1.3
comp=Z,44nm,0.9s,baz=259,slow=3.6,SNR=47
PFO LR LR 16 13 30.5
comp=Z,35µm,19.7s,baz=296,slow=31
comp=Z,44nm,0.9s
PFO Pinyon Flats O 89.42 56 P P 15 40 09.0 +0.3
PFO IAmb IAmb 15 40 12.5
comp=Z,120nm,1.1s
PFO Pinyon Flats O 89.42 56 P P 15 40 09.4 +0.8
baz=257,SNR=29
PFO S S 15 50 52.9 -3.6
baz=257
PFO Pinyon Flats O 89.42 56 *ce*P **P 15 40 09.5 +0.8**
PFO pmax pmax
comp=Z,203nm,1.2s
TPFO Pinon Flats 89.42 56 P P 15 40 09.6 +0.8
baz=257,SNR=35
TPFO S S 15 50 54.1 -2.5
baz=257
GRAC Grapevine Rang 89.45 52 P P 15 40 09.6 +1.0
GRAC Grapevine Rang 89.45 52 P P 15 40 10.1 +1.4
baz=257,SNR=26
NDI New Delhi 89.45 299 *e*P **P 15 40 06.5 -2.3**
PMD Palm Desert 89.50 56 P P 15 40 09.5 +0.6
PMD IAmb IAmb 15 40 12.6
comp=Z,151nm,1.2s
IKP In-Ko-Pah, Jac 89.50 57 P P 15 40 10.3 +1.2
baz=258,SNR=43
IKP S S 15 50 56.0 -1.2
baz=258
GSC Goldstone, Bar 89.51 54 P P 15 40 09.6 +0.6
GSC IAmb IAmb 15 40 12.9
comp=Z,175nm,1.2s
GSC Goldstone, Bar 89.51 54 P P 15 40 09.8 +0.7
baz=257,SNR=63
GSC S S 15 50 54.5 -2.7
baz=257
GSC Goldstone, Bar 89.51 54 P P 15 40 09.6 +0.6
GSC pmax pmax
comp=Z,175nm,1.3s
RMX La Rumorosa 89.52 57 P P 15 40 10.0 +0.8
RMX IAmb IAmb 15 40 13.4
comp=Z,184nm,1.1s
I07A Izee 89.56 45 P P 15 40 09.9 +0.8
LTY Liberty 89.58 42 P P 15 40 09.6 +0.5
MZP Montezuma Peak 89.59 52 P P 15 40 09.8 +0.2
MZP IAmb IAmb 15 40 13.2
comp=Z,202nm,1.5s
YUH Yuha Desert 89.65 57 P P 15 40 09.6 -0.1
YUH IAmb IAmb 15 40 13.7
comp=Z,173nm,1.1s
FURC Furnace Creek, 89.72 53 P P 15 40 11.1 +1.3
baz=257,SNR=39
FURC S S 15 50 54.7 -4.1
baz=257
F07A Phinny Hill Vi 89.72 43 P P 15 40 09.1 -0.5
MK31 Makanchi Array 89.74 318 P P 15 40 09.4 -0.3
MK31 Makanchi Array 89.74 318 *de*P **P 15 40 09.6 -0.1**
MKAR Makanchi Array 89.74 318 P P 15 40 10.1 +0.4
comp=Z,11nm,0.4s,baz=99,slow=5.8,SNR=117
MKAR S **SKSac 15 50 35.5 -1.8**
comp=Z,1.2nm,0.9s,baz=150,slow=6.0,SNR=5.0
MKAR PKPPKP **P'P'df 16 05 51.5 +0.6**
comp=Z,0.3nm,0.6s,baz=359,slow=0.6,SNR=3.6
MKAR LR LR 16 20 03.7
comp=Z,4µm,21.4s,baz=96,slow=35
comp=Z,11nm,0.4s
MKAR Makanchi Array 89.74 318 P P 15 40 09.0 -0.8
MKAR Makanchi Array 89.74 318 *ce*P **P 15 40 09.3 -0.4**
MKAR pmax pmax
comp=Z,11nm,0.4s
WVOR Wild Horse Val 89.76 47 P P 15 40 09.7 -0.4
WVOR IAMs_20 IAMs_20 16 17 05.7
comp=Z,14µm,19.0s
WVOR Wild Horse Val 89.76 47 ⇑P **P 15 40 11.0 +0.9**
WVOR Wild Horse Val 89.76 47 P P 15 40 09.7 -0.4
WVOR pmax pmax
comp=Z,544nm,1.5s
HEC Hector,Ludlow 89.78 55 P P 15 40 11.4 +1.1
baz=258,SNR=76
HEC S S 15 50 57.3 -2.4
baz=258
TPH Tonopah 89.80 51 P P 15 40 10.5 0.0
TPH Tonopah 89.80 51 P P 15 40 10.5 0.0
TPH pmax pmax
comp=Z,831nm,1.4s
GWY Greenwater Val 89.81 53 P P 15 40 10.4 -0.1
GWY IAmb IAmb 15 40 14.1
comp=Z,244nm,1.4s
SWSC Sam W. Stewart 89.82 57 P P 15 40 11.5 +1.1
baz=258,SNR=49
SWSC S S 15 51 00.2 +0.3
baz=258
BELC Belle Mtn. Jos 89.88 56 P P 15 40 11.9 +1.1
baz=258,SNR=167
BELC S S 15 50 58.5 -2.2
baz=258
MAKZ Makanchi 89.95 318 P P 15 40 10.4 -0.3
MAKZ Makanchi 89.95 318 ⇑P **P 15 40 09.5 -1.2**
MAKZ Makanchi 89.95 318 P P 15 40 10.4 -0.3
MAKZ pmax pmax
comp=Z,47nm,1.0s
MAKZ MLR MLR
comp=Z,5µm,21.0s
WCT Wildcat Mounta 89.98 53 P P 15 40 11.4 +0.3
WCT IAmb IAmb 15 40 15.1
comp=Z,198nm,1.1s
GOA Goa 90.01 286 *e*P **P 15 40 07.2 -4.4**
SHOC Shoshone, Teco 90.06 54 P P 15 40 12.6 +1.1
baz=258,SNR=27
SHOC S S 15 50 59.8 -2.3
baz=258
J08A Circle Bar Ran 90.10 46 P P 15 40 11.7 0.0
J08A IAmb IAmb 15 40 15.6
comp=Z,221nm,1.1s
HAWA Hanford 90.12 43 P P 15 40 11.9 +0.4
HAWA IAmb IAmb 15 40 15.4
comp=Z,84nm,0.9s
HAWA IAMs_20 IAMs_20 16 13 27.7
comp=Z,14µm,20.0s
HAWA Hanford 90.12 43 ⇑P **P 15 40 12.7 +1.2**
HAWA ⇑P **PcP 15 40 12.9 +0.2**
ZAA0 Zalesovo Array 90.16 325 P P 15 40 10.3 -1.2
ZALV Zalesovo Beam 90.16 325 P P 15 40 10.6 -0.9
comp=Z,15nm,0.7s,baz=99,slow=4.7,SNR=28
ZALV PKKPbc **PKKPdf 15 57 40.0 +0.1**
comp=Z,1.2nm,0.5s,baz=286,slow=2.5,SNR=6.0
ZALV LR LR 16 23 17.9
comp=Z,3µm,18.4s,baz=98,slow=37
comp=Z,15nm,0.7s
ZALV Zalesovo Beam 90.16 325 P P 15 40 09.6 -1.9
ZALV Zalesovo Beam 90.16 325 *i*P **P 15 40 10.6 -0.9**
ZALV pmax pmax
comp=Z,14nm,0.6s
F31M Tsiigehtchic 90.17 21 P P 15 40 11.6 +0.4
baz=243
F31M S S 15 51 03.3 +1.7
baz=243
SFX San Felipe 90.21 59 P P 15 40 12.7 +0.4
SFX IAmb IAmb 15 40 16.2
comp=Z,145nm,1.2s
G08A Pilot Rock 90.23 44 P P 15 40 12.8 +0.5
G08A IAmb IAmb 15 40 16.1
comp=Z,227nm,1.5s
TUQ Turquoise Moun 90.24 54 P P 15 40 13.3 +0.8
baz=258,SNR=14
TUQ S S 15 51 04.5 +0.5
baz=258

BC3	**Big Chuckawall**	**90.25**	**56**	P	**P**	**15 40 13.8**	**+1.2**
	baz=258,SNR=111						
BC3				S	**S**	**15 51 00.6**	**-3.5**
	baz=258						
TPNV	**Topopah Spring**	**90.31**	**53**	P	**P**	**15 40 13.3**	**+0.5**
TPNV				IAmb	IAmb	15 40 16.7	
	comp=Z,148nm,0.9s						
TPNV				IAMs_20	IAMs_20	16 12 05.4	
	comp=Z,19µm,22.0s						
TPNV	**Topopah Spring**	**90.31**	**53**	P	**P**	**15 40 14.0**	**+1.2**
	baz=258,SNR=94						
TPNV				S	**S**	**15 51 00.6**	**-4.1**
	baz=258						
TPNV	**Topopah Spring**	**90.31**	**53**	⇑P	**P**	**15 40 14.0**	**+1.2**
TPNV	**Topopah Spring**	**90.31**	**53**	P	**P**	**15 40 13.3**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,149nm,1.0s						
GMRC	**Granite Mounta**	**90.32**	**55**	P	**P**	**15 40 14.0**	**+1.1**
	baz=258,SNR=132						
GMRC				S	**S**	**15 51 03.7**	**-1.1**
	baz=258						
BMN	**Battle Mountai**	**90.33**	**49**	P	**P**	**15 40 12.8**	**0.0**
BMN				IAmb	IAmb	15 40 16.9	
	comp=Z,155nm,1.0s						
BMN	**Battle Mountai**	**90.33**	**49**	P	**P**	**15 40 12.9**	**0.0**
BMN				pmax	pmax		
	comp=Z,155nm,1.0s						
E08A	**Dider Farm, El**	**90.46**	**43**	P	**P**	**15 40 13.6**	**+0.5**
E08A				IAmb	IAmb	15 40 17.0	
	comp=Z,138nm,1.0s						
POO	**Poona**	**90.53**	**289**	*e*P	**P**	**15 40 11.8**	**-2.3**
IRM	**Iron Mountain**	**90.60**	**56**	P	**P**	**15 40 15.4**	**+1.3**
	baz=258,SNR=159						
IRM				S	**S**	**15 51 07.4**	**+0.1**
	baz=258						
INK	**Inuvik**	**90.63**	**20**	P	**P**	**15 40 13.8**	**+0.4**
	comp=Z,22nm,0.8s,baz=241,slow=4.8,SNR=54						
INK				LR	LR	16 16 58.2	
	comp=Z,25µm,20.3s,baz=230,slow=33 comp=Z,22nm,0.8s						
INK	**Inuvik**	**90.63**	**20**	P	**P**	**15 40 13.5**	**+0.1**
INK	**Inuvik**	**90.63**	**20**	P	**P**	**15 40 13.6**	**+0.3**
	baz=244						
INK				S	**S**	**15 51 05.9**	**0.0**
	baz=244						
GLA	**Glamis**	**90.64**	**57**	P	**P**	**15 40 15.5**	**+1.1**
	baz=258,SNR=35						
GLA				S	**S**	**15 51 04.0**	**-3.6**
	baz=258						
BHK	**Bhakra**	**90.68**	**302**	⇑*i*P	**P**	**15 40 13.2**	**-1.3**
D08A	**Wollman Farm,**	**90.69**	**42**	P	**P**	**15 40 14.8**	**+0.6**
D08A				IAmb	IAmb	15 40 17.9	
	comp=Z,117nm,1.0s						
B08A	**Colville Reser**	**90.74**	**41**	P	**P**	**15 40 13.9**	**-0.5**
B08A				IAmb	IAmb	15 40 17.4	
	comp=Z,91nm,0.9s						
SHLS	**Shalkode**	**90.80**	**314**	*e*P	**P**	**15 40 12.9**	**-2.0**
	baz=314						
SHLS				*e*S	**SKSac**	**15 50 38.4**	**-5.5**
	baz=314						
SHLS	**Shalkode**	**90.80**	**314**	*e*P	**P**	**15 40 12.8**	**-2.1**
SHLS				*e*S	**SKSac**	**15 50 38.3**	**-5.5**
S11A	**Rachel**	**90.85**	**52**	P	**P**	**15 40 14.8**	**-0.5**
S11A				IAmb	IAmb	15 40 19.1	
	comp=Z,138nm,0.9s						
SHPR	**Sheep Range**	**91.07**	**53**	P	**P**	**15 40 16.2**	**-0.2**
SHPR				IAmb	IAmb	15 40 20.6	
	comp=Z,83nm,0.9s						
E09A	**Wood Farm, Sta**	**91.08**	**43**	P	**P**	**15 40 16.4**	**+0.4**
UZB	**Uzymbulak**	**91.11**	**314**	*e*P	**P**	**15 40 15.7**	**-0.7**
	baz=314						
UZB	**Uzymbulak**	**91.11**	**314**	*e*P	**P**	**15 40 15.7**	**-0.7**
R11A	**Troy Canyon, C**	**91.12**	**51**	P	**P**	**15 40 16.8**	**+0.2**
R11A				IAmb	IAmb	15 40 21.1	
	comp=Z,154nm,1.1s						
R11A	**Troy Canyon, C**	**91.12**	**51**	P	**P**	**15 40 17.7**	**+1.1**
	baz=258,SNR=172						
R11A				S	**S**	**15 51 12.5**	**+0.5**
	baz=258						
WTNK	**Soaring Height**	**91.12**	**54**	P	**P**	**15 40 16.6**	**+0.1**
WTNK				IAmb	IAmb	15 40 20.3	
	comp=Z,31nm,0.8s						
NEE2	**Needles Airpor**	**91.15**	**55**	P	**P**	**15 40 17.7**	**+1.1**
	baz=258,SNR=12						
NEE2				S	**S**	**15 51 14.2**	**+2.1**
	baz=258						
V12A	**Nelson**	**91.16**	**54**	P	**P**	**15 40 16.8**	**0.0**
V12A				IAmb	IAmb	15 40 20.6	
	comp=Z,110nm,0.9s						
AJM	**Ajmer**	**91.27**	**297**	⇑*i*P	**P**	**15 40 15.7**	**-1.7**
AJM				IAmb	IAmb	15 40 19.5	
	comp=Z,12nm,0.8s						
BMO	**Blue Mountains**	**91.27**	**45**	P	**P**	**15 40 17.3**	**+0.3**
BMO				IAMs_20	IAMs_20	16 12 54.3	
	comp=Z,14µm,22.0s						
BMO	**Blue Mountains**	**91.27**	**45**	P	**P**	**15 40 17.3**	**+0.3**
BMO				pmax	pmax		
	comp=Z,302nm,1.5s						
C09A	**Chrisman Ranch**	**91.29**	**42**	P	**P**	**15 40 17.3**	**+0.4**
C09A				IAmb	IAmb	15 40 20.2	
	comp=Z,87nm,0.8s						
PRN	**Pahroc Range**	**91.34**	**52**	P	**P**	**15 40 17.5**	**-0.1**
H06N1	**SOCORRO T-PHAS**	**91.37**	**71**	T	T	17 20 56.4	
	SNR=16						
H06S1	**SOCORRO T**	**91.37**	**71**	T	T	17 20 44.5	
	SNR=87						
KOTAN	**Kotaneelee Air**	**91.37**	**29**	P	**P**	**15 40 17.5**	**+0.5**
	baz=252						
H06E1	**SOCORRO T-PHAS**	**91.41**	**71**	T	T	17 20 59.1	
	SNR=13						
KPKS	**Kokpek**	**91.42**	**314**	*e*P	**P**	**15 40 17.0**	**-0.8**
	comp=Z,71nm,2.1s,baz=314						
KPKS				*e*S	**SKSac**	**15 50 45.0**	**-2.3**
	baz=314						
KPKS	**Kokpek**	**91.42**	**314**	*e*P	**P**	**15 40 18.9**	**+1.1**
113A	**Mohawk Valley,**	**91.46**	**57**	P	**P**	**15 40 18.3**	**+0.3**
PIX	**Pinacate**	**91.48**	**58**	P	**P**	**15 40 18.5**	**+0.3**
SATY	**Saty**	**91.53**	**313**	*e*P	**P**	**15 40 17.8**	**-0.6**
	baz=313						
SATY	**Saty**	**91.53**	**313**	*e*P	**P**	**15 40 17.7**	**-0.6**
ZHN	**Zhinishke**	**91.53**	**313**	*e*P	**P**	**15 40 17.8**	**-0.6**
	comp=Z,49nm,2.0s,baz=314						
ZHN	**Zhinishke**	**91.53**	**313**	*e*P	**P**	**15 40 17.7**	**-0.6**
ZHN				pmax	pmax		
	comp=Z,49nm,2.0s						
F10A	**Beach Ranch, E**	**91.57**	**44**	P	**P**	**15 40 18.8**	**+0.4**
BELA	**Belgrano 2**	**91.64**	**177**	P	**P**	**15 40 17.3**	**-0.8**
BELA				IAmb	IAmb	15 40 19.2	
	comp=Z,134nm,1.2s						
SRIG	**Santa Rosalia**	**91.74**	**63**	P	**P**	**15 40 19.4**	**-0.1**
ELK	**Elko**	**91.87**	**49**	LR	LR	16 14 01.7	
	comp=Z,15µm,21.5s,baz=226,slow=30						
ELK	**Elko**	**91.87**	**49**	P	**P**	**15 40 20.1**	**0.0**
ELK				IAmb	IAmb	15 40 24.1	
	comp=Z,127nm,1.2s						
ELK				IAMs_20	IAMs_20	16 13 40.1	
	comp=Z,15µm,21.0s						
ELK	**Elko**	**91.87**	**49**	P	**P**	**15 40 20.1**	**0.0**
ELK				pmax	pmax		
	comp=Z,127nm,1.2s						
SEM	**Semipalatinsk**	**91.94**	**321**	*e*P	**P**	**15 40 18.4**	**-1.8**
	comp=Z,44nm,1.2s,baz=321						
SEM				LR	LR	16 21 27.9	
	comp=Z,2µm,17.1s,baz=321						
SEM	**Semipalatinsk**	**91.94**	**321**	*e*P	**P**	**15 40 18.4**	**-1.8**
SEM				pmax	pmax		
	comp=Z,44nm,1.2s						
SEM				MLR	MLR		
	comp=Z,2µm,17.0s						
TDK	**Taldyqorghan**	**91.95**	**315**	*e*P	**P**	**15 40 19.5**	**-0.6**
	comp=Z,102nm,1.7s,baz=315						
TDK				LR	LR	16 21 27.9	
	comp=Z,3µm,18.6s,baz=315						
TDK	**Taldyqorghan**	**91.95**	**315**	*e*P	**P**	**15 40 19.4**	**-0.6**
TDK				pmax	pmax		
	comp=Z,102nm,1.7s						
TDK				MLR	MLR		
	comp=Z,3µm,19.0s						
MFID	**Camas Ranch**	**91.99**	**46**	P	**P**	**15 40 21.0**	**+0.6**
MFID				IAmb	IAmb	15 40 24.4	
	comp=Z,136nm,1.0s						
MFID				IAMs_20	IAMs_20	16 19 02.7	
	comp=Z,11µm,19.0s						
214A	**Organ Pipe Nat**	**92.10**	**58**	P	**P**	**15 40 21.6**	**+0.5**
214A				IAmb	IAmb	15 40 52.4	
	comp=Z,141nm,1.6s						
214A	**Organ Pipe Nat**	**92.10**	**58**	P	**P**	**15 40 22.9**	**+1.8**
	baz=259,SNR=24						
214A				S	**S**	**15 51 24.4**	**+3.5**
	baz=259						
NEW	**Newport**	**92.15**	**41**	P	**P**	**15 40 21.3**	**+0.3**
	comp=Z,78nm,0.7s,baz=240,slow=4.4,SNR=83						
NEW				LR	LR	16 15 35.5	
	comp=Z,13µm,19.8s,baz=264,slow=31 comp=Z,78nm,0.7s						
NEW	**Newport**	**92.15**	**41**	IAMs_20	IAMs_20	16 15 04.4	
	comp=Z,13µm,20.0s						
JMU	**Jammu**	**92.19**	**303**	*e*P	**P**	**15 40 20.7**	**-0.7**
SPR3	**Spring Creek 3**	**92.21**	**51**	P	**P**	**15 40 22.2**	**+0.4**
SPR3				IAmb	IAmb	15 40 25.7	
	comp=Z,252nm,1.4s						
PLID	**Pearl Lake**	**92.22**	**45**	P	**P**	**15 40 21.3**	**-0.3**
PLID				IAmb	IAmb	15 40 25.5	
	comp=Z,150nm,1.2s						
PLID				IAMs_20	IAMs_20	16 13 22.4	
	comp=Z,15µm,22.0s						
Y14A	**Wickenburg**	**92.30**	**56**	P	**P**	**15 40 22.2**	**+0.2**
WAPA	**Wapiti River**	**92.48**	**34**	P	**P**	**15 40 22.4**	**+0.1**
MDOK	**Medeo**	**92.53**	**313**	P	**P**	**15 40 21.8**	**-1.2**
TNSS	**Tian-Shan**	**92.57**	**313**	*e*P	**P**	**15 40 24.2**	**+0.6**
	baz=313						
TNSS	**Tian-Shan**	**92.57**	**313**	*e*P	**P**	**15 40 24.1**	**+0.6**
WRGLY	**Wrigley**	**92.59**	**26**	P	**P**	**15 40 23.3**	**+0.7**
	baz=253						
WRGLY				S	**S**	**15 51 25.4**	**+1.6**
	baz=253						
KSH	**Kashi**	**92.61**	**310**	P	**P**	**15 40 24.7**	**+1.3**
KSH				pP	pP	15 40 34.1	-0.9
KSH				PP	**PP**	**15 44 12.4**	**+6.9**
KSH				SKS	**SKSac**	**15 50 55.3**	**+1.1**
KSH				S	**ScS**	**15 51 27.9**	**+0.5**
KSH				SS	**SS**	**15 57 42.8**	**+4.5**
KSH				pmax	pmax		
	comp=Z,15nm,1.1s						
KSH				pmax	pmax		
	comp=Z,2µm,13.9s						
KSH				LR	LR		
	comp=Z,2µm,17.9s						
KSH				LR	LR		
	comp=Z,3µm,22.0s						
KSH				LR	LR		
	comp=Z,5µm,21.8s						
AAA	**Alma-Ata**	**92.63**	**313**	*e*P	**P**	**15 40 22.9**	**-0.4**
	baz=313						
AAA	**Alma-Ata**	**92.63**	**313**	*e*P	**P**	**15 40 22.9**	**-0.4**
CCUT	**Cedar City**	**92.69**	**52**	P	**P**	**15 40 24.9**	**+1.0**
CCUT				IAmb	IAmb	15 40 28.3	
	comp=Z,119nm,1.2s						
CHKK	**Chushkaly**	**92.70**	**314**	*e*P	**P**	**15 40 23.8**	**+0.1**
	baz=314						
CHKK	**Chushkaly**	**92.70**	**314**	*e*P	**P**	**15 40 23.7**	**+0.1**
LPIG	**La Paz**	**92.90**	**66**	P	**P**	**15 40 25.1**	**+0.2**
	comp=Z,17nm,0.3s,baz=261,slow=1.8,SNR=10						
LPIG				LR	LR	16 13 06.7	
	comp=Z,15µm,21.5s,baz=261,slow=30 comp=Z,17nm,0.3s						
SZCU	**Shurtz Canyon**	**92.91**	**52**	P	**P**	**15 40 25.4**	**+0.4**
SZCU				IAmb	IAmb	15 40 29.2	
	comp=Z,152nm,1.4s						
KNB	**Kanab**	**93.01**	**53**	P	**P**	**15 40 25.9**	**+0.6**
KNB	**Kanab**	**93.01**	**53**	P	**P**	**15 40 26.0**	**+0.6**
KNB				pmax	pmax		
	comp=Z,173nm,1.3s						
KURK	**Kurchatov**	**93.03**	**321**	P	**P**	**15 40 23.8**	**-1.1**
KURK	**Kurchatov**	**93.03**	**321**	*ce*P	**P**	**15 40 23.0**	**-1.8**
KURK				pmax	pmax		
	comp=Z,75nm,1.4s						
HLID	**Hailey**	**93.03**	**46**	P	**P**	**15 40 25.9**	**+0.6**
HLID				IAMs_20	IAMs_20	16 17 58.5	
	comp=Z,12µm,20.0s						
HLID	**Hailey**	**93.03**	**46**	P	**P**	**15 40 26.6**	**+1.2**
	baz=259,SNR=119						
HLID				S	**S**	**15 51 30.4**	**+1.3**
	baz=259						
KURBB	**Kurchatov Arra**	**93.06**	**321**	LR	LR	16 23 05.7	
	comp=Z,5µm,20.9s,baz=87,slow=36						
SLBS	**Sierra La Lagu**	**93.15**	**67**	P	**P**	**15 40 26.3**	**+0.2**
SLBS				IAmb	IAmb	15 40 30.0	
	comp=Z,67nm,0.9s						
SLBS	**Sierra La Lagu**	**93.15**	**67**	IAMs_20	IAMs_20	16 12 40.8	
	comp=Z,15µm,21.0s						
SLBS	**Sierra La Lagu**	**93.15**	**67**	⇑P	**P**	**15 40 27.4**	**+1.2**
SLBS				⇓P	**PcP**	**15 40 27.9**	**+1.1**
HSIG		**93.16**	**61**	P	**P**	**15 40 26.5**	**+0.4**
HSIG				IAmb	IAmb	15 40 29.6	
	comp=Z,108nm,1.2s						
KUU	**Kurty**	**93.17**	**314**	*e*P	**P**	**15 40 24.8**	**-1.0**
	comp=Z,65nm,1.3s,baz=314						
KUU				*e*S	**SKSac**	**15 50 54.4**	**-2.5**
	baz=314						
KUU				LR	LR	16 22 22.9	
	comp=Z,2µm,17.8s,baz=314						
KUU	**Kurty**	**93.17**	**314**	*e*P	**P**	**15 40 24.7**	**-1.0**
KUU				*e*S	**SKSac**	**15 50 54.4**	**-2.5**
KUU				pmax	pmax		
	comp=Z,65nm,1.3s						
KUU				MLR	MLR		
	comp=Z,2µm,18.0s						
ELIB	**Princess Elisa**	**93.44**	**192**	*d*P	**P**	**15 40 24.3**	**-2.4**
ELIB				*db*P	**pP**	**15 40 35.8**	**-2.5**
ELIB				*ds*P	**pwP**	**15 40 40.4**	**-0.3**
TKM2	**Tokmak 2**	**93.52**	**313**	P	**P**	**15 40 28.4**	**+0.8**
	SNR=6.4						
TKM2	**Tokmak 2**	**93.52**	**313**	P	P	15 40 22.6	-5.0
BGU	**Big Grassy Mou**	**93.55**	**49**	P	**P**	**15 40 28.2**	**+0.4**
BGU				IAmb	IAmb	15 40 31.6	
	comp=Z,147nm,1.8s						
DUG	**Dugway, Tooele**	**93.59**	**50**	IAMs_20	IAMs_20	16 16 24.5	
	comp=Z,12µm,20.0s						
DUG	**Dugway, Tooele**	**93.59**	**50**	P	**P**	**15 40 28.5**	**+0.6**
	baz=260,SNR=7.7						
DUG				S	**S**	**15 51 35.6**	**+1.6**
	baz=260						
ROCAM	**Rodrigues Isla**	**93.69**	**249**	IAMs_20	IAMs_20	16 18 56.2	
	comp=Z,11µm,20.0s						
NRIK	**Noril'sk**	**93.71**	**340**	P	**P**	**15 40 27.2**	**-0.4**
	comp=Z,15nm,0.9s,baz=100,slow=4.8,SNR=18						
NRIK				LR	LR	16 21 51.9	
	comp=Z,16µm,21.0s,baz=104,slow=35 comp=Z,15nm,0.9s						
NRIK	**Noril'sk**	**93.71**	**340**	P	**P**	**15 40 26.3**	**-1.3**
NRIK				IAmb	IAmb	15 40 53.9	
	comp=Z,74nm,1.2s						
NRIK	**Noril'sk**	**93.71**	**340**	*ce*P	**P**	**15 40 27.0**	**-0.6**
NRIK				pmax	pmax		
	comp=Z,56nm,1.4s						
NRIK				MLR	MLR		
	comp=Z,16µm,21.0s						
MSU	**Marysvale**	**93.78**	**52**	P	**P**	**15 40 26.6**	**-2.3**
MSU	**Marysvale**	**93.78**	**52**	P	**P**	**15 40 26.6**	**-2.3**
TUC	**Tucson**	**93.86**	**58**	P	**P**	**15 40 29.4**	**+0.1**
TUC	**Tucson**	**93.86**	**58**	IAMs_20	IAMs_20	16 16 54.8	
	comp=Z,18µm,19.0s						
TUC	**Tucson**	**93.86**	**58**	P	**P**	**15 40 30.2**	**+1.0**
	baz=260						
TUC				S	**S**	**15 51 36.4**	**-0.1**
	baz=260						
TUC	**Tucson**	**93.86**	**58**	⇑P	**P**	**15 40 30.6**	**+1.3**
TUC				⇑P	**PcP**	**15 40 30.7**	**+1.0**
TUC	**Tucson**	**93.86**	**58**	P	**P**	**15 40 29.4**	**+0.1**
TUC				pmax	pmax		
	comp=Z,31nm,0.9s						
BCYI	**Bear Canyon**	**93.89**	**46**	P	**P**	**15 40 29.5**	**+0.2**
WUAZ	**Wupatki**	**93.90**	**55**	P	**P**	**15 40 28.9**	**-0.6**
WUAZ				IAmb	IAmb	15 41 01.3	
	comp=Z,133nm,1.8s						
WUAZ	**Wupatki**	**93.90**	**55**	P	**P**	**15 40 30.6**	**+1.1**
	baz=260,SNR=10						
WUAZ				S	**S**	**15 51 38.2**	**+1.2**
	baz=260						
MSO	**Missoula**	**93.97**	**43**	P	**P**	**15 40 29.0**	**-0.5**
MSO				IAMs_20	IAMs_20	16 18 22.2	
	comp=Z,15µm,19.0s						
MSO	**Missoula**	**93.97**	**43**	P	**P**	**15 40 29.6**	**+0.1**
	baz=260,SNR=9.9						
NLU	**North Lily Min**	**94.10**	**50**	P	**P**	**15 40 30.6**	**+0.3**
CHMS	**Chumysh**	**94.15**	**313**	P	**P**	**15 40 31.9**	**+1.6**
	SNR=6.6						
CHMS	**Chumysh**	**94.15**	**313**	P	**P**	**15 40 28.4**	**-1.9**
UCH	**Uchtor**	**94.19**	**312**	P	**P**	**15 40 32.7**	**+1.7**
	SNR=6.7						
C36M	**Paulatuk**	**94.20**	**20**	P	**P**	**15 40 29.8**	**-0.1**
C36M				IAmb	IAmb	15 40 32.6	
	comp=Z,110nm,1.1s						
C36M				IAMs_20	IAMs_20	16 16 33.0	
	comp=Z,13µm,22.0s						
C36M	**Paulatuk**	**94.20**	**20**	P	**P**	**15 40 29.7**	**-0.1**
	baz=252						
C36M				S	**S**	**15 51 37.9**	**+0.1**
	baz=252						
AAK	**Ala-Archa**	**94.27**	**312**	LR	LR	16 23 29.6	
	comp=Z,4µm,21.7s,baz=100,slow=36						
AAK	**Ala-Archa**	**94.27**	**312**	P	**P**	**15 40 30.7**	**-0.3**
AAK	**Ala-Archa**	**94.27**	**312**	‖*e*P	**P**	**15 40 31.9**	**+0.9**
SGDS	**Sogindy**	**94.31**	**313**	*e*P	**P**	**15 40 30.8**	**-0.3**
	baz=313						
SGDS	**Sogindy**	**94.31**	**313**	*e*P	**P**	**15 40 30.7**	**-0.3**
MCMT	**McKenzie Canyo**	**94.37**	**45**	P	**P**	**15 40 31.9**	**+0.4**
USP	**Ospenovka**	**94.38**	**313**	P	**P**	**15 40 33.0**	**+1.7**
	SNR=6.8						
WALA	**Waterton Lakes**	**94.40**	**41**	P	**P**	**15 40 31.4**	**0.0**
HILA	**High Level**	**94.44**	**31**	P	**P**	**15 40 30.7**	**-0.5**
MPU	**Maple Canyon**	**94.45**	**50**	P	**P**	**15 40 31.9**	**-0.1**
MPU				IAmb	IAmb	15 41 03.6	
	comp=Z,95nm,1.5s						
Q16A	**Castle Valley**	**94.62**	**51**	P	**P**	**15 40 32.9**	**+0.1**
A36M	**Sachs Harbour**	**94.66**	**17**	P	**P**	**15 40 32.1**	**+0.2**
A36M				IAmb	IAmb	15 41 02.1	
	comp=Z,80nm,0.9s						
A36M				IAMs_20	IAMs_20	16 20 07.3	
	comp=Z,17µm,20.0s						
A36M	**Sachs Harbour**	**94.66**	**17**	P	**P**	**15 40 31.9**	**0.0**
	baz=252						
A36M				S	**S**	**15 51 41.9**	**+0.3**
	baz=252						
HWUT	**Hardware Ranch**	**94.76**	**49**	IAMs_20	IAMs_20	16 15 11.4	
	comp=Z,12µm,22.0s						
AML	**Almayashu**	**94.77**	**312**	P	**P**	**15 40 35.2**	**+1.6**
	SNR=10.0						
SMAI	**San Martin Ant**	**94.78**	**164**	P	**P**	**15 40 33.5**	**+0.8**
LRM	**Limekiln Ridge**	**94.81**	**44**	P	**P**	**15 40 33.2**	**-0.3**
X18A	**Snowflake**	**94.90**	**56**	P	**P**	**15 40 34.0**	**-0.1**
BTLS	**Baital**	**94.99**	**315**	*e*P	**P**	**15 40 33.0**	**-1.1**
	baz=315						
BTLS	**Baital**	**94.99**	**315**	*e*P	**P**	**15 40 32.9**	**-1.1**
P17A	**Butcher Ranch,**	**95.04**	**51**	P	**P**	**15 40 35.4**	**+0.7**
W18A	**Petrified Fore**	**95.16**	**55**	P	**P**	**15 40 36.1**	**+0.8**
	baz=261						
W18A				S	**S**	**15 51 51.7**	**+3.7**
	baz=261						
DUN6	**Lazy B Ranch**	**95.31**	**58**	P	**P**	**15 40 36.6**	**+0.6**
DUN6				IAmb	IAmb	15 40 39.7	
	comp=Z,179nm,1.4s						
BOZ	**Bozeman (W)**	**95.35**	**45**	IAMs_20	IAMs_20	16 15 44.1	
	comp=Z,12µm,21.0s						
BOZ	**Bozeman (W)**	**95.35**	**45**	P	**P**	**15 40 36.5**	**+0.6**
	baz=261,SNR=32						
HRY	**Holter Researc**	**95.38**	**44**	P	**P**	**15 40 36.3**	**+0.4**
EDM	**Edmonton**	**95.47**	**37**	P	**P**	**15 40 36.1**	**0.0**
EDM				IAmb	IAmb	15 40 38.6	
	comp=Z,72nm,0.9s						
EDM	**Edmonton**	**95.47**	**37**	P	**P**	**15 40 36.1**	**0.0**
EDM				pmax	pmax		
	comp=Z,72nm,0.9s						
CRZF	**Crozet Islands**	**95.54**	**221**	IAMs_20	IAMs_20	16 19 58.1	
	comp=Z,13µm,19.0s						
SNOW	**Snow King Moun**	**95.64**	**47**	IAMs_20	IAMs_20	16 17 49.0	
	comp=Z,12µm,20.0s						
YMR	**Madison River**	**95.67**	**46**	P	**P**	**15 40 38.3**	**+0.8**
YMR				IAmb	IAmb	15 40 41.9	
	comp=Z,81nm,1.0s						
YNR	**Norris Junctio**	**95.88**	**46**	P	**P**	**15 40 39.3**	**+0.8**
YNR				IAmb	IAmb	15 40 53.9	
	comp=Z,79nm,1.3s						
H17A	**Grant Village**	**95.90**	**46**	P	**P**	**15 40 40.1**	**+1.5**
	baz=262,SNR=20						
LKWY	**Lake**	**96.05**	**46**	P	**P**	**15 40 39.7**	**+0.5**
LKWY	**Lake**	**96.05**	**46**	P	**P**	**15 40 39.7**	**+0.5**
LKWY				pmax	pmax		
	comp=Z,76nm,1.4s						
PV10	**Paradox Valley**	**96.19**	**52**	P	**P**	**15 40 40.0**	**-0.1**
PV23	**Carpenter Ridg**	**96.22**	**52**	P	**P**	**15 40 40.0**	**-0.2**
PV23				IAmb	IAmb	15 40 47.1	
	comp=Z,197nm,1.7s						
PV11	**David Mesa, Pa**	**96.31**	**52**	P	**P**	**15 40 39.7**	**-0.7**
PV11				IAmb	IAmb	15 40 46.4	
	comp=Z,160nm,1.7s						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**15 40 39.8**	**-0.1**
	comp=Z,41nm,0.7s,baz=259,slow=4.9,SNR=237						
YKA				PKiKP	**PKiKP**	**15 45 17.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=259,slow=1.5,SNR=4.4						
YKA				PKKPbc	**PKKPbc**	**15 57 24.9**	**-2.9**
	comp=Z,0.7nm,0.8s,baz=72,slow=2.4,SNR=4.5						
YKA				LR	LR	16 17 12.2	
	comp=Z,15µm,21.8s,baz=294,slow=31 comp=Z,41nm,0.7s						
121A	**Cookes Peak, D**	**96.40**	**58**	P	**P**	**15 40 39.9**	**-1.1**
121A	**Cookes Peak, D**	**96.40**	**58**	P	**P**	**15 40 41.8**	**+0.8**
	baz=262						
121A	**Cookes Peak, D**	**96.40**	**58**	P	**P**	**15 40 42.1**	**+1.1**
	baz=262						
BW06	**Boulder Array**	**96.41**	**48**	IAMs_20	IAMs_20	16 16 30.3	
	comp=Z,10µm,22.0s						
BW06	**Boulder Array**	**96.41**	**48**	P	**P**	**15 40 41.7**	**+0.9**
	baz=262,SNR=7.3						
PDAR	**Pinedale Array**	**96.41**	**48**	P	**P**	**15 40 41.7**	**+0.8**
	comp=Z,17nm,0.9s,baz=239,slow=2.6,SNR=8.1						
PDAR				PP	**PP**	**15 44 32.5**	**-2.6**
	comp=Z,1.3nm,0.9s,baz=255,slow=4.5,SNR=4.0						
PDAR				PKKPbc	**PKKPbc**	**15 57 23.3**	**-4.0**
	comp=Z,0.7nm,0.8s,baz=92,slow=4.7,SNR=3.9						
PDAR				PKPPKP	**P'P'df**	**16 05 39.7**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=95,slow=3.6,SNR=3.8						
PDAR				LR	LR	16 17 02.7	
	comp=Z,8µm,21.6s,baz=279,slow=31 comp=Z,17nm,0.9s						
MVCO	**Mesa Verde**	**96.45**	**53**	P	**P**	**15 40 42.0**	**+0.8**
	baz=262						
PV07	**Paradox Valley**	**96.50**	**52**	P	**P**	**15 40 40.6**	**-0.8**
NVL	**N'lazarevskaya**	**96.57**	**190**	*e*P	**P**	**15 40 39.6**	**-

SNAA IAmb IAmb 15 40 47.8
comp=Z,150nm,2.0s
SNAA IAMs_20 IAMs_20 16 22 12.2
comp=Z,12µm,20.0s
SNAA Sanae 97.62 185 ⇓*e*P Pdif 15 40 46.4 +0.8
SNAA pmax pmax
comp=Z,77nm,2.5s
SNAA MLR MLR
comp=Z,9µm,18.0s
CHGR Chuyangaron 97.72 308 P **P** **15 40 45.7 -1.0**
ANMO Albuquerque 97.81 56 P Pdif 15 40 48.5 +1.1
comp=Z,19nm,0.8s,baz=330,slow=4.6,SNR=22
ANMO LR LR 16 16 34.9
comp=Z,15µm,21.6s,baz=12,slow=30
comp=Z,19nm,0.8s
ANMO Albuquerque 97.81 56 P **P** **15 40 47.4 +0.1**
ANMO Albuquerque 97.81 56 IAMs_20 IAMs_20 16 16 13.0
comp=Z,16µm,21.0s
ANMO Albuquerque 97.81 56 P Pdif 15 40 48.5 +1.1
baz=263
ANMO Albuquerque 97.81 56 P Pdif 15 40 47.7 +0.3
baz=263
ANMO Albuquerque 97.81 56 *ce*P Pdif 15 40 48.6 +1.2
ANMO pmax pmax
comp=Z,29nm,0.9s
S22A 4UR Ranch, Cre 97.84 53 P Pdif 15 40 47.9 +0.3
baz=263
RWWY Rawlins 98.00 49 IAMs_20 IAMs_20 16 19 03.7
comp=Z,9µm,20.0s
PMSA Palmer Station 98.00 162 LR LR 16 17 48.6
comp=Z,7µm,21.5s,baz=224,slow=31
PMSA Palmer Station 98.00 162 *e*P Pdif 15 40 48.7 +1.4
MNTX Cornudas Mount 98.31 59 P **P** **15 40 49.5 0.0**
MNTX Cornudas Mount 98.31 59 P Pdif 15 40 50.0 +0.5
baz=263
MNTX Cornudas Mount 98.31 59 Pdiff Pdif 15 40 50.0 +0.6
baz=263
BVA0 Borovoye Array 98.42 322 *i* P **P** **15 40 45.6 -3.8**
BVAR Borovoye Array 98.42 322 LR LR 16 26 17.8
comp=Z,3µm,20.9s,baz=83,slow=36
BRVK Borovoye 98.49 322 P **P** **15 40 48.2 -1.5**
BRVK Borovoye 98.49 322 *ce*P **P** **15 40 49.1 -0.6**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK MLR MLR
comp=Z,5µm,22.0s
VNA3 Neumayer Olymp 98.51 183 Pdiff Pdif 15 40 51.7 +2.1
K22A Casper 98.61 48 P Pdif 15 40 51.9 +1.2
baz=264
K22A Casper 98.61 48 Pdiff Pdif 15 40 50.8 +0.1
baz=264
VNA2 Neumayer--Watz 98.69 184 Pdiff Pdif 15 40 51.6 +1.3
baz=168,slow=6.0
N23A Red Feather La 98.87 50 Pdiff Pdif 15 40 52.9 +0.8
baz=264
SDCO Great Sand Dun 98.89 53 P Pdif 15 40 53.0 +0.8
baz=264
SDCO Great Sand Dun 98.89 53 Pdiff Pdif 15 40 52.5 +0.3
baz=264
ISCO Idaho Springs 99.01 51 P **Pdif** **15 40 53.8 +1.0**
baz=264
ISCO Idaho Springs 99.01 51 Pdiff **Pdif** **15 40 53.2 +0.4**
baz=264
LAO LASA Array 99.21 44 P **Pdif** **15 40 53.4 +0.2**
LAO IAmb IAmb 15 40 57.2
comp=Z,114nm,1.1s
LAO IAMs_20 IAMs_20 16 20 07.2
comp=Z,11µm,20.0s
LAO LASA Array 99.21 44 P **Pdif** **15 40 54.7 +1.5**
baz=265
LAO LASA Array 99.21 44 Pdiff **Pdif** **15 40 54.0 +0.8**
baz=265
GDL2 Guadalupe Moun 99.23 59 **Pdif** **15 40 53.6 -0.1**
PHWY Pilot Hill 99.27 50 IAMs_20 IAMs_20 16 22 55.3
comp=Z,8µm,19.0s
Q24A Divide 99.28 52 Pdiff **Pdif** **15 40 54.1 +0.1**
baz=264
TX31 Lajitas Ar. Si 99.51 62 P **Pdif** **15 40 54.5 -0.4**
TX31 Lajitas Ar. Si 99.51 62 P **Pdif** **15 40 55.9 +1.0**
baz=264
TX32 Lajitas Array 99.51 62 P **Pdif** **15 40 54.3 -0.7**
TXAR Lajitas Array 99.51 62 **Pdif** **15 40 54.5 -0.4**
TXAR Lajitas Array 99.51 62 P **Pdif** **15 40 54.6 -0.4**
T25A Trinidad 99.69 54 Pdiff **Pdif** **15 40 56.6 +0.9**
baz=265
RSSD Black Hills 100.55 47 IAMs_20 IAMs_20 16 19 06.8
comp=Z,12µm,21.0s
RSSD Black Hills 100.55 47 Pdiff **Pdif** **15 40 59.6 +0.3**
baz=266
DGMT Dagmar 100.71 42 IAMs_20 IAMs_20 16 27 10.7
comp=Z,9µm,18.0s
DGMT Dagmar 100.71 42 P **Pdif** **15 40 59.8 +0.1**
baz=267
DGMT Dagmar 100.71 42 Pdiff **Pdif** **15 41 00.1 +0.4**
baz=267
MSTX Muleshoe 100.73 57 P **Pdif** **15 41 00.9 +0.6**
baz=265
MSTX Muleshoe 100.73 57 Pdiff **Pdif** **15 41 00.5 +0.2**
baz=265
KSCO Kaye Shedlock' 101.25 52 Pdiff **Pdif** **15 41 03.1 +0.6**
baz=266
AMTX Amarillo 101.70 56 IAMs_20 IAMs_20 16 20 36.3
comp=Z,16µm,20.0s
AMTX Amarillo 101.70 56 P **Pdif** **15 41 05.3 +0.7**
baz=266
AMTX Amarillo 101.70 56 Pdiff **Pdif** **15 41 04.7 +0.1**
baz=266
OGNE Ogallala 101.82 50 Pdiff **Pdif** **15 41 05.8 +0.8**
baz=267
FFC Flin Flon 102.28 36 IAMs_20 IAMs_20 16 19 50.3
comp=Z,9µm,20.0s
UNM Universidad Na 102.48 72 IAMs_20 IAMs_20 16 28 02.9
comp=Z,7µm,18.0s
JCT Junction City 102.96 61 P **Pdif** **15 41 10.6 +0.3**
baz=266
JCT Junction City 102.96 61 Pdiff **Pdif** **15 41 10.5 +0.3**
baz=266
E28A Huff 103.01 44 P **Pdif** **15 41 11.3 +1.3**
baz=269
ABTX Abilene, Hawle 103.24 59 P **Pdif** **15 41 12.6 +1.2**
baz=266
ABTX Abilene, Hawle 103.24 59 Pdiff **Pdif** **15 41 12.1 +0.7**
baz=266
CBKS Cedar Bluff 103.49 52 Pdiff **Pdif** **15 41 13.6 +1.2**
baz=268
MDND Maddock 103.76 43 Pdiff **Pdif** **15 41 14.6 +1.3**
baz=270
WMOK Wichita Mounta 104.08 57 P **Pdif** **15 41 15.2 +0.1**
baz=267
WMOK Wichita Mounta 104.08 57 Pdiff **Pdif** **15 41 14.8 -0.3**
baz=267
SUSD Miller 104.20 47 Pdiff **Pdif** **15 41 15.8 +0.5**
baz=270
MSEY Mahe Island 104.40 262 IAMs_20 IAMs_20 16 31 05.7
comp=Z,10µm,18.0s
KVTX Kingsville 104.42 64 IAMs_20 IAMs_20 16 19 06.6
comp=Z,10µm,22.0s
BGNE Belgrade 104.77 50 Pdiff **Pdif** **15 41 18.1 +0.1**
baz=269
435B Jarrell 104.89 61 Pdiff **Pdif** **15 41 18.8 +0.1**
baz=267
OK029 Liberty Lake 105.20 56 IAMs_20 IAMs_20 16 20 05.8
comp=Z,15µm,22.0s
ARU Arti 105.31 326 IAMs_20 IAMs_20 16 30 40.9
comp=Z,8µm,20.0s
ARU Arti 105.31 326 *c*P **Pdif** **15 41 20.1 +0.2**
ARU S **SKSac** **15 51 55.4 -1.4**
ARU pmax pmax
comp=Z,15nm,1.5s
ARU MLR MLR
comp=Z,8µm,22.0s
OK033 Mehan 105.63 55 IAMs_20 IAMs_20 16 20 42.1
comp=Z,17µm,22.0s
OK031 S. Brethren Rd 105.71 55 IAMs_20 IAMs_20 16 20 21.4
comp=Z,16µm,22.0s
OK052 Battle Ridge R 105.74 55 IAMs_20 IAMs_20 16 21 30.2
comp=Z,12µm,21.0s
OK053 SW of W Deep R 105.75 55 IAMs_20 IAMs_20 16 21 30.5
comp=Z,12µm,21.0s
OK030 Cody Creek RV 105.75 56 IAMs_20 IAMs_20 16 20 45.3
comp=Z,15µm,22.0s
OK034 N. Norfolk Rd. 105.81 55 IAMs_20 IAMs_20 16 20 12.9
comp=Z,16µm,22.0s
ECSD EROS Data Cent 105.89 47 PKiKP **PKiKP** **15 45 35.9 +0.6**
baz=271
ULM Lac du Bonnet 106.14 41 Pdiff **Pdif** **15 41 23.9 +0.1**
comp=Z,6.1nm,0.5s,baz=290,slow=6.2,SNR=10
ULM PP **PP** **15 45 44.0 -4.0**
comp=Z,4.6nm,0.6s,baz=294,slow=6.8,SNR=7.1
AGMN Agassiz Nation 106.26 43 IAMs_20 IAMs_20 16 30 57.7
comp=Z,7µm,18.0s
GEYT Alibeck 106.34 307 PP **PP** **15 45 50.0 0.0**
comp=Z,1.7nm,0.6s,baz=117,slow=5.0,SNR=1.8
TUL1 Leonard 106.56 56 IAMs_20 IAMs_20 16 21 31.6
comp=Z,9µm,22.0s
VOI Vohitsoka 108.06 243 IAMs_20 IAMs_20 16 25 05.0
comp=Z,14µm,21.0s
ABPO Ambohimpanom 108.59 246 IAMs_20 IAMs_20 16 25 40.1
comp=Z,13µm,21.0s
EYMN Ely 109.20 43 IAMs_20 IAMs_20 16 28 12.6
comp=Z,10µm,20.0s
KBS Kingsbay 109.61 354 IAMs_20 IAMs_20 16 29 19.6
comp=Z,8µm,21.0s
CCM Cathedral Cave 110.16 53 PKiKP **PKiKP** **15 45 43.8 +0.4**
baz=273
JFWS Jewell Farm 110.58 48 IAMs_20 IAMs_20 16 34 20.4
comp=Z,6µm,18.0s
JFWS Jewell Farm 110.58 48 PKiKP **PKiKP** **15 45 44.7 +0.7**
baz=275
NEEM North Greenlan 110.72 7 *i* P **PKiKP** **15 45 44.7 +0.9**
NEEM IAMs_20 IAMs_20 16 34 31.4
comp=Z,9µm,19.3s
VBMS Vicksburg 110.95 59 PKiKP **PKiKP** **15 45 44.7 -0.3**
baz=271
SNET Serv Nac Est T 111.39 79 IAMs_20 IAMs_20 16 21 34.2
comp=Z,8µm,20.0s
HDIL Hopedale 111.50 50 IAMs_20 IAMs_20 16 27 07.0
comp=Z,15µm,20.0s
KULLO Kullorsuaq 112.09 10 *i* P **PKiKP** **15 45 44.1 -1.9**
KULLO IAMs_20 IAMs_20 16 30 38.1
comp=Z,9µm,19.3s
L44A Lake County Fo 112.37 49 PKiKP **PKiKP** **15 45 48.0 +0.5**
baz=277
HQIL Hanson Quary C 112.46 49 IAMs_20 IAMs_20 16 27 18.8
comp=Z,18µm,20.0s
LVZ Lovozero 112.55 341 IAMs_20 IAMs_20 16 40 09.2
comp=Z,7µm,20.0s
TEIG Tepich 112.78 72 IAMs_20 IAMs_20 16 26 37.9
comp=Z,7µm,20.0s
APA Apatity 113.13 341 ⇓ *i* PKiKP PKiKP 15 46 01.5 +13
APA pmax pmax
comp=Z,10.0nm,1.5s
SFIN Lafayette 113.18 50 PKiKP **PKiKP** **15 45 49.9 +0.8**
baz=276
TGUH Tegucigalpa,Un 113.31 79 IAMs_20 IAMs_20 16 25 38.3
comp=Z,9µm,19.0s
UPNV Upernavik 113.66 11 *i* P **PKiKP** **15 45 48.7 -0.3**
UPNV IAMs_20 IAMs_20 16 29 44.5
comp=Z,11µm,21.4s
LRAL Lakeview Retre 113.88 58 PKiKP **PKiKP** **15 45 51.1 +0.5**
baz=273
KLMR Klimovskoe 113.89 333 *e*PKiKP **PKiKP** **15 45 49.8 0.0**
KLMR LQ LQ 16 21 55.8
KLMR LQ LQ 16 21 55.8
KLMR LR LR 16 27 09.2
KLMR AMP 16 35 18.4
comp=Z,5µm,16.3s
KLMR Klimovskoe 113.89 333 *i* PKiKP **PKiKP** **15 45 49.8 0.0**
KLMR MLR MLR
comp=Z,5µm,16.0s
WCI Wyandotte Cave 114.04 53 PKiKP **PKiKP** **15 45 51.2 +0.4**
baz=276
MAK Makhachkala 114.05 313 *i* P **Pdif** **15 41 59.2 +0.1**
MAK *i* 15 45 51.0
MAK *e* 15 46 45.2
MAK *e*PPP PPP 15 49 13.4
MAK *e* 15 52 36.2
MAK *e*PS **PS** **15 56 23.6 +0.3**
MAK pmax pmax
comp=Z,218nm,1.2s
HOPE Hope Point 114.09 169 IAMs_20 IAMs_20 16 34 02.1
comp=Z,8µm,20.0s
AKT Akhty 114.10 311 *i* PKiKP **PKiKP** **15 45 51.9 +0.9**
AKT *e* 15 46 47.6
AKT pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 114.30 344 PKP PKPdf 15 45 49.3 -1.1
comp=Z,3.1nm,0.5s,baz=58,slow=2.0,SNR=30
GLMI Grayling 114.36 45 IAMs_20 IAMs_20 16 33 57.7
comp=Z,7µm,19.0s
GLMI Grayling 114.36 45 PKiKP **PKiKP** **15 45 51.7 +0.5**
baz=280
P49A Miami Univ. Ec 115.10 51 PKiKP **PKPdf** **15 45 53.3 +0.5**
baz=278
JTS Las Juntas de 115.19 83 IAMs_20 IAMs_20 16 23 49.7
comp=Z,12µm,20.0s
GROC Groznyy 115.25 313 *i* PKiKP **PKPdf** **15 45 54.0 +1.1**
GROC *e* 15 46 12.3
GROC *e* 15 46 53.2
HDC Heredia 115.98 84 IAMs_20 IAMs_20 16 24 06.6
comp=Z,10µm,20.0s
VRH Novokhopyorsk 116.08 322 *e*PKiKP **PKPdf** **15 45 52.7 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
S51A Beattyville 116.22 53 **PKPdf** **15 45 53.0 -2.1**
ACSO Alum Creek Sta 116.32 50 PKiKP **PKiKP** **15 45 56.0 +0.9**
baz=279
TKL Tuckaleechee C 116.32 55 **PKPdf** **15 45 54.1 -1.2**
TKL Tuckaleechee C 116.32 55 PKiKP **PKPdf** **15 45 54.1 -1.2**
TZTN Tazewell 116.40 54 PKiKP **PKiKP** **15 45 56.0 +0.6**
baz=277
V52A Sevierville 116.44 55 **PKPdf** **15 45 54.5 -1.0**
SUMG Summit 116.56 6 *i* P **PKPdf** **15 45 55.1 0.0**
ZEI Tsey 116.69 313 *i* PKiKP **PKiKP** **15 45 57.6 +1.6**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
MOS Moscow 116.83 328 *i* PKiKP **PKPdf** **15 45 54.1 -1.5**
MOS *e* 15 47 03.0
MOS MLR MLR
comp=Z,6µm,24.0s
TIGA Tifton 116.87 60 PKiKP **PKPdf** **15 45 56.4 -0.1**
baz=274
ONI Oni 117.06 313 PKPdf **PKPdf** **15 45 55.6 -1.0**
ONI Oni 117.06 313 PKiKP **PKPdf** **15 45 55.6 -1.0**
P52A Corning 117.06 51 PKiKP **PKiKP** **15 45 56.6 0.0**
baz=280
V53A Saluda 117.10 55 **PKPdf** **15 45 55.3 -1.6**
CFA Coronel Fontan 117.17 133 PKP **PKPdf** **15 45 57.1 -0.1**
comp=Z,1.3nm,0.3s,baz=267,slow=1.8,SNR=5.1
KBZ Khabaz 117.22 314 PKP **PKPdf** **15 45 56.7 0.0**
comp=Z,2.3nm,0.8s,baz=99,slow=13,SNR=4.8
LPSR Galich'ya Gora 117.27 324 *e*PKiKP **PKPdf** **15 45 56.0 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 117.32 314 *i* P **Pdif** **15 42 14.5 +0.7**
KIV *i* 15 45 57.7
KIV *e* 15 47 08.3
KIV *e*PS **PS** **15 56 53.3 +0.1**
KIV *e*SS SS 16 03 16.1 +0.3
KIV pmax pmax
comp=Z,9.0nm,1.1s
RAYN Ar Rayn 117.32 291 ⇑ PKiKP **PKiKP** **15 45 58.6 +1.0**
TRQA Tornquist 117.42 143 IAMs_20 IAMs_20 16 36 01.5
comp=Z,5µm,18.0s
VORR Voronezh 117.42 323 *e*PKiKP **PKPdf** **15 45 56.6 -0.2**
VORR pmax pmax
comp=Z,53nm,0.4s
ILULI Ilulissat 117.50 12 IAMs_20 IAMs_20 16 32 32.9
comp=Z,9µm,20.0s
ILULI Ilulissat 117.50 12 *i* P **PKPdf** **15 45 54.8 -1.7**
ILULI IAMs_20 IAMs_20 16 27 23.6
comp=Z,15µm,30.7s
VSR Storozhevoye 117.60 323 *e*PKiKP **PKPdf** **15 45 55.2 -2.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 117.63 328 IAMs_20 IAMs_20 16 43 35.5
comp=Z,6µm,19.0s
OBN Obninsk 117.63 328 *i* PKiKP **PKiKP** **15 45 57.7 +0.6**
OBN *i* 15 47 10.8
OBN *i* SS SS 16 03 15.0 -3.7
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,6µm,20.0s
O53A New Philadelph 117.65 50 **PKPdf** **15 45 56.3 -1.4**
O53A New Philadelph 117.65 50 PKiKP **PKiKP** **15 45 57.9 +0.1**
baz=280
P53A Whipple 117.65 51 **PKPdf** **15 45 56.4 -1.3**
M53A WI Miller and 117.83 48 PKiKP **PKiKP** **15 45 58.1 +0.1**
baz=282
N53A Lisbon 117.83 49 **PKPdf** **15 45 57.2 -0.9**
Q54A Coxs Mills 118.17 51 **PKPdf** **15 45 57.4 -1.3**
ERPA Erie 118.19 48 PKiKP **PKiKP** **15 45 59.0 +0.3**
baz=282
O54A Avella 118.29 50 **PKPdf** **15 45 57.4 -1.5**
V55A Taylorsville 118.36 55 **PKPdf** **15 45 57.9 -1.2**
KMSC Kings Mountain 118.36 56 PKiKP **PKPdf** **15 45 59.0 -0.2**
baz=278
BLA Blacksburg 118.79 53 **PKPdf** **15 45 58.9 -1.1**
BLA Blacksburg 118.79 53 PKiKP **PKPdf** **15 45 59.8 -0.2**
baz=280
BLA Blacksburg 118.79 53 PKiKP **PKPdf** **15 45 58.9 -1.1**
BLA MLR MLR
comp=Z,15µm,20.0s
R55A Marlinton 118.84 52 **PKPdf** **15 45 59.1 -1.1**
GURO Guroymak-BITLI 118.89 308 PKPdf **PKPdf** **15 45 59.9 -0.4**
DWPF Disney Wildern 118.98 64 IAMs_20 IAMs_20 16 35 23.7
comp=Z,9µm,19.0s
FINES FINESS Array B 119.22 337 PKP **PKPdf** **15 45 58.9 -1.1**
comp=Z,5.3nm,0.8s,baz=89,slow=4.2,SNR=10
ATD Arta Tunnel 119.37 278 *e*P **PKiKP** **15 46 03.9 +2.1**
SFJD Kangerlussuaq 119.40 14 *i* P **PKPdf** **15 45 58.8 -1.4**
SFJD IAMs_20 IAMs_20 16 36 37.5
comp=Z,9µm,18.0s
W57A Gilead 119.45 55 **PKPdf** **15 46 00.5 -0.8**
SOC Sochi 119.49 314 *i* PKiKP **PKPdf** **15 45 59.0 -2.1**
SOC *e* 15 47 20.7
SOC *e*PPP PPP 15 49 52.6
SOC *e* 15 52 48.0
SOC *e*PS **PS** **15 57 07.3 -5.4**
SOC *e*SS SS 16 03 39.1 -4.7
MMNY Mt. Morris Dam 119.55 47 **PKPdf** **15 46 00.7 -0.6**
SCO Scoresbysund 119.73 1 *i* P **PKPdf** **15 46 00.0 -0.7**
SCO IAMs_20 IAMs_20 16 37 40.3
comp=Z,6µm,17.9s
T57A Hurt 119.74 53 **PKPdf** **15 46 00.4 -1.4**
L56A Greenwood 119.94 47 **PKPdf** **15 46 00.6 -1.5**
V58A Windy Hill, Pi 120.06 55 **PKPdf** **15 46 01.6 -0.8**
SSPA Standing Stone 120.06 49 **PKPdf** **15 46 01.0 -1.3**
SSPA Standing Stone 120.06 49 PKiKP **PKiKP** **15 46 02.8 +0.4**
baz=283
BCIP Isla Barro Col 120.08 85 IAMs_20 IAMs_20 16 26 50.2
comp=Z,7µm,20.0s
P57A Homestead Farm 120.22 50 **PKPdf** **15 46 01.9 -0.7**
M57A Sunshine Farm, 120.45 48 PKPdf **PKPdf** **15 46 02.1 -0.9**
VSU Vasula 120.71 334 *e*P **PKiKP** **15 46 03.6 +0.5**
ANN Anapa 120.73 316 *i* PKiKP **PKPdf** **15 46 02.6 -0.8**
ANN *e* 15 47 27.6
ANN *e*PS **PS** **15 57 20.6 -3.0**
ANN pmax pmax
comp=Z,25nm,0.8s
PB03 IPOC Station P 120.80 123 **PKPdf** **15 46 03.8 -0.7**
DY2G Dye2 120.80 12 *i* P **PKPdf** **15 46 01.9 -1.4**
DY2G IAMs_20 IAMs_20 16 29 51.7
comp=Z,10µm,27.2s
N58A Sunbury 120.88 48 PKPdf **PKPdf** **15 46 02.6 -1.2**
CBN Corbin Frederi 120.98 51 PKiKP **PKiKP** **15 46 04.9 +0.7**
baz=282
BINY Binghamton 121.06 47 **PKPdf** **15 46 03.2 -1.0**
BINY Binghamton 121.06 47 PKiKP **PKiKP** **15 46 04.6 +0.3**
baz=286
T59A Double "B" Far 121.08 53 PKPdf **PKPdf** **15 46 03.2 -1.1**
LVC Limon Verde 121.23 124 PP **PP** **15 47 35.6 -0.3**
comp=Z,5.0nm,0.8s,baz=232,slow=5.4,SNR=4.6
LVC Limon Verde 121.23 124 *e*P **PKiKP** **15 46 05.9 +0.2**
J58A Remsen 121.23 45 PKPdf **PKPdf** **15 46 03.2 -1.3**
GCUF Volcan Galeras 121.33 95 *e*P **PKPdf** **15 46 03.3 -2.9**
LONY Lake Ozonia 121.34 44 IAMs_20 IAMs_20 16 33 18.3
comp=Z,12µm,21.0s
LONY Lake Ozonia 121.34 44 PKiKP **PKPdf** **15 46 04.3 -0.3**
baz=288
MVL Millersville 121.35 49 **PKPdf** **15 46 03.4 -1.3**
T60A Surry 121.69 53 **PKPdf** **15 46 04.1 -1.4**
SCHQ Schefferville 121.70 30 PKP **PKPdf** **15 46 04.4 -0.6**
comp=Z,16nm,0.9s,baz=227,slow=2.3,SNR=13
SCHQ PKKPbc **PKKPab** **15 56 04.7 +0.3**
comp=Z,5.6nm,0.7s,baz=100,slow=1.4,SNR=5.5
SCHQ Schefferville 121.70 30 PKPdf **PKPdf** **15 46 04.1 -1.0**
L59A Walton 121.74 46 **PKPdf** **15 46 04.4 -1.1**
J59A Piesco 121.75 45 **PKPdf** **15 46 04.1 -1.4**
NCB Newcomb 121.79 44 PKPdf **PKPdf** **15 46 04.2 -1.4**
PTAC Punta Ardita, 121.83 88 *e*P **PKiKP** **15 46 08.2 +1.6**
KIBK Kibwezi 121.88 261 **PKPdf** **15 46 05.3 -1.4**
KIBK IAMs_20 IAMs_20 16 36 14.1
comp=Z,11µm,20.0s
WUPA West Chester U 121.92 49 **PKPdf** **15 46 04.5 -1.4**
LUPA Lehigh Univers 121.92 48 **PKPdf** **15 46 04.8 -1.1**
LPA La Plata 121.95 142 *ce*PDIFF **Pdif** **15 42 32.0 -2.5**
LPA PP **PP** **15 47 33.9 -5.6**
LPA PPP PPP 15 50 14.0
LPA SKS **SKSac** **15 53 00.5 -2.6**
LPA PS **PS** **15 57 35.1 +0.9**
ANKE Ethiopia-Afar 122.22 275 *e*P **PKPdf** **15 46 06.2 -1.5**
MNMC Minye Minye 122.23 120 PKPdf **PKPdf** **15 46 06.5 -1.0**
ODNJ Ogdensburg 122.36 48 **PKPdf** **15 46 06.0 -0.7**
MNK Minsk 122.36 330 *i* PKP **PKPdf** **15 46 05.3 -1.0**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKPdf** **15 46 05.3 -1.0**
comp=N,29nm,1.0s
MNK *i* PKP **PKPdf** **15 46 05.3 -1.0**
comp=Z,18nm,1.0s,baz=58
MNK *i* pPKP **pPKPdf** **15 46 20.4 +2.0**
MNK *i* sPKP 15 46 27.6
MNK *i* PP PP 15 47 33.5 -8.7
MNK *i* SKP 15 49 03.9
MNK *i* PKS PKSdf 15 49 07.4 -35
MNK *i* PPP PPP 15 50 17.9
MNK *i* SKS 15 52 08.1
MNK *i* SKKS SKKSac 15 54 12.7 -26
MNK *i* SP SP 15 57 08.2 -24
MNK *i* PS **PS** **15 57 25.1 -13**
MNK *i* SS **SS** **16 04 21.4 +1.9**
MNK *i* SSS SSS 16 08 52.9
MNK *i* LQ LQ 16 27 36.9
MNK *i* LR LR 16 32 17.0
MNK *i* LRM MLR 16 37 10.0
comp=E,1µm,20.0s
MNK *i* LRM MLR 16 38 07.0
comp=Z,8µm,20.5s
MNK *i* LRM MLR 16 38 11.9
comp=N,5µm,20.5s
MNK Minsk 122.36 330 *i* PKIKP **PKPdf** **15 46 05.2 -1.0**
MNK *i* 15 46 20.4
MNK *i* 15 46 27.5
MNK *i* PPP PPP 15 50 17.8
MNK *i* PS **PS** **15 57 25.0 -13**
MNK *i* SS SS 16 04 21.3 +1.9
MNK *i* SSS SSS 16 08 52.9
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,18nm,1.0s
MNK pmax pmax
comp=N,29nm,1.0s
MNK MLR MLR
comp=E,1µm,20.0s
MNK MLR MLR
comp=Z,8µm,21.0s
MNK MLR MLR
comp=N,5µm,21.0s
BOSA Boshof 122.44 227 PKP **PKPdf** **15 46 07.1 -0.4**
comp=N,21nm,0.6s,baz=137,slow=1.4,SNR=43
BOSA PKKPbc **PKKPbc** **15 56 02.1 -0.5**
comp=N,4.0nm,0.7s,baz=332,slow=3.6,SNR=11
BOSA Boshof 122.44 227 PKPdf **PKPdf** **15 46 06.7 -0.8**
DESE Dese 122.47 277 *e*P **PKPdf** **15 46 08.1 +0.1**
IDID Didziasalis 122.48 331 *e*P **PKPdf** **15 46 00.5 -6.0**
BRNJ Basking Ridge 122.49 48 **PKPdf** **15 46 06.5 -0.5**
TRNY Table Rock, Ra 122.62 47 **PKPdf** **15 46 06.1 -1.1**
ISAL Salakas 122.63 331 *e*P **PKiKP** **15 46 09.2 +2.3**
PB16 IPOC Station P 122.65 119 **PKPdf** **15 46 07.6 -1.0**
VT1 Waterbury 122.67 43 IAMs_20 IAMs_20 16 32 46.7
comp=Z,11µm,21.0s
NACGM Naroch 122.69 331 *e*PKP **PKiKP** **15 46 07.1 +0.1**
comp=Z,52nm,1.2s,baz=57
IIGN Ignalina 122.71 331 *e*P **PKPdf** **15 45 59.4 -7.5**
YOTC Yotoco, Valle 122.81 92 *e*P **PKPdf** **15 46 05.8 -2.7**
PAL Palisades 122.89 48 **PKPdf** **15 46 06.7 -1.0**
PAL Palisades 122.89 48 PKiKP **PKPdf** **15 46 07.4 -0.3**
baz=286
PAL Palisades 122.89 48 PKiKP **PKPdf** **15 46 06.7 -1.0**
PAL MLR MLR
comp=Z,23µm,20.0s
SIM Simferopol' 122.92 317 *i* PKIKP **PKiKP** **15 46 10.8 +2.9**
SIM pmax pmax
comp=Z,21nm,0.7s

KMBO **Kilima Mbogo** 122.93 262 PP **PP** 15 47 45.6 -2.4
comp=Z,0.1nm,0.4s,baz=107,slow=19,SNR=3.2
KMBO **Kilima Mbogo** 122.93 262 PKPdf **PKPdf** 15 46 08.4 -0.5
KMBO **Kilima Mbogo** 122.93 262 IAMs_20 IAMs_20 16 39 17.9
comp=Z,6μm,18.0s
KMBO **Kilima Mbogo** 122.93 262 PKIKP **PKPdf** 15 46 08.4 -0.5
KMBO MLR MLR
comp=Z,6μm,18.0s
KMBO **Kilima Mbogo** 122.93 262 *e*P **PKiKP** 15 46 09.7 +0.6
KSCT **Kent School, K** 122.98 47 **PKPdf** 15 46 06.8 -1.0
ISOG **Isortoq, Green** 123.01 10 *i* P **PKPdf** 15 46 05.9 -1.3
ISOG IAMs_20 IAMs_20 16 35 02.5
comp=Z,13μm,20.4s
AAE **Adis Abeba** 123.11 274 *e*P **PKiKP** 15 46 10.4 +0.9
J61A **Chester** 123.14 45 **PKPdf** 15 46 08.1 0.0
ANGG **Ammassalik, Gr** 123.16 9 *i* P **PKPdf** 15 46 04.6 -2.8
ANGG IAMs_20 IAMs_20 16 33 00.6
comp=Z,12μm,20.9s
FURI **Furi** 123.19 274 IAMs_20 IAMs_20 16 36 38.5
comp=Z,6μm,22.0s
FURI **Furi** 123.19 274 *e*P **PKiKP** 15 46 12.0 +2.3
DIKM **Dikmen** 123.19 313 ⇑P PKiKP 15 46 19.3 +11
DILA **Dilla** 123.27 271 *e*P **PKPdf** 15 46 07.4 -2.1
LBNH **Lisbon** 123.27 43 IAMs_20 IAMs_20 16 32 31.8
comp=Z,11μm,22.0s
GARC **Garzon, Huila** 123.33 94 *e*P PKPdf 15 45 57.5 -12
L61B **Northampton** 123.33 46 **PKPdf** 15 46 08.0 -0.5
L61B **Northampton** 123.33 46 PKiKP **PKPdf** 15 46 08.3 -0.2
baz=288
BNN **Bunyan** 123.54 310 PKPdf **PKPdf** 15 46 08.7 -0.6
AKASG **Malin Array Be** 123.56 325 PKP **PKPdf** 15 46 07.9 -0.8
comp=Z,12nm,0.7s,baz=58,slow=2.1,SNR=39
AKASG PP **PP** 15 47 51.1 +0.6
comp=Z,6.5nm,1.0s,baz=51,slow=6.0,SNR=5.8
AKASG **Malin Array Be** 123.56 325 PKPdf **PKPdf** 15 46 07.4 -1.3
AKBB **Malin Array Si** 123.56 325 PKPdf **PKPdf** 15 46 07.7 -0.9
AKBB **Malin Array Si** 123.56 325 ⇓*i*PKIKP **PKPdf** 15 46 07.8 -0.9
CZSB **Cruzeiro do Su** 123.63 106 **PKPdf** 15 46 08.6 -1.3
CZSB **Cruzeiro do Su** 123.63 106 *e*P **PKiKP** 15 46 10.9 +0.7
H62A **Milan** 123.67 43 PKPdf **PKPdf** 15 46 08.6 -0.6
PABE **Paberze** 123.67 332 PKPdf **PKPdf** 15 46 08.7 -0.1
PABE IAMs_20 IAMs_20 16 41 38.8
comp=Z,11μm,22.0s
PABE **Paberze** 123.67 332 *e*P **PKPdf** 15 46 08.6 -0.1
G62A **West of Eustis** 123.84 42 PKPdf **PKPdf** 15 46 08.8 -0.6
UCCT **U. Connecticut** 123.86 46 PKPdf **PKPdf** 15 46 08.6 -1.0
E62A **Clayton Lake** 123.95 40 PKPdf **PKPdf** 15 46 08.7 -0.9
GUY2C **Guyana, Caldas** 123.97 91 *e*P **PKPdf** 15 46 09.9 -1.3
D62A **Allapoint, All** 124.06 39 **PKPdf** 15 46 08.5 -1.3
HRV **Adam Dziewonsk** 124.10 45 IAMs_20 IAMs_20 16 39 18.5
comp=Z,10μm,19.0s
HRV **Adam Dziewonsk** 124.10 45 PKiKP **PKPdf** 15 46 09.8 -0.2
baz=289
HRV **Adam Dziewonsk** 124.10 45 ⇑PKIKP **PKPdf** 15 46 10.0 0.0
LBTB **Lobatse** 124.22 230 PKPdf **PKPdf** 15 46 10.0 -0.9
LBTB **Lobatse** 124.22 230 PKIKP **PKPdf** 15 46 10.0 -0.9
BRYW **Bryant College** 124.31 46 **PKPdf** 15 46 09.8 -0.6
NB2 **NORSAR Subarra** 124.58 343 PKPdf **PKPdf** 15 46 09.3 -1.1
comp=Z,2.1nm,0.6s,baz=36,slow=1.8
NOA **NORSAR Array B** 124.58 343 PKP **PKPdf** 15 46 09.6 -0.8
comp=Z,5.7nm,0.9s,baz=37,slow=1.9,SNR=10
PKME **Peaks-Kenny Pk** 124.64 41 **PKPdf** 15 46 09.9 -1.0
PKME **Peaks-Kenny Pk** 124.64 41 PKiKP **PKPdf** 15 46 10.8 -0.1
baz=293
LPAZ **La Paz** 124.71 118 *e*P **PKPdf** 15 46 11.5 -1.2
LPAZ **La Paz** 124.71 118 *e*P **PKPdf** 15 46 12.5 -0.2
IVI **Ivigtut** 124.74 17 *i* P **PKPdf** 15 46 08.9 -1.7
IVI IAMs_20 IAMs_20 16 30 57.8
comp=Z,16μm,6.1s
ZARC **Zaragoza, Cauc** 124.78 88 *e*P **PKPdf** 15 46 10.7 -1.4
PQI **Presque Isle** 124.88 39 **PKPdf** 15 46 10.2 -1.2
ROSC **El Rosal** 124.94 91 PKP **PKPdf** 15 46 12.9 0.0
comp=Z,12nm,0.5s,baz=122,slow=16,SNR=5.4
MACC **Macarena, Meta** 124.94 95 *e*P **PKPdf** 15 46 10.7 -1.8
BR131 **Keskin Array S** 124.94 312 PKPdf **PKPdf** 15 46 11.0 -0.8
BR131 **Keskin Array S** 124.94 312 ⇓*i*PKIKP **PKPdf** 15 46 11.4 -0.5
BRTR **Keskin Array B** 124.94 312 PKP **PKPdf** 15 46 11.1 -0.8
comp=Z,4.7nm,0.8s,baz=113,slow=2.8,SNR=9.7
BRTR PP **PP** 15 48 01.1 +0.6
comp=Z,4.2nm,1.0s,baz=140,slow=5.7,SNR=2.8
BRTR **Keskin Array B** 124.94 312 PKPdf **PKPdf** 15 46 11.2 -0.6
BRTR **Keskin Array B** 124.94 312 PKIKP **PKPdf** 15 46 11.3 -0.6
PURM **Purcari** 125.05 321 ⇑P **PKPdf** 15 46 11.8 +0.1
M65A **Busby, Falmout** 125.05 46 PKiKP **PKiKP** 15 46 12.3 +0.1
baz=290
SORM **Soroca** 125.26 323 ⇑P **PKPdf** 15 46 11.4 -0.6
SORM **Soroca** 125.26 323 ⇑PKIKP **PKPdf** 15 46 11.4 -0.6
CHIC **Chingaza** 125.48 92 *e*P **PKPdf** 15 46 12.3 -1.7
NRS **Narsarsuaq** 125.52 15 *i* P **PKPdf** 15 46 09.8 -2.3
NRS IAMs_20 IAMs_20 16 33 28.5
comp=Z,20μm,21.0s
MILM **Milestii Mici** 125.54 321 ⇑P **PKPdf** 15 46 12.2 -0.4
MILM **Milestii Mici** 125.54 321 ⇑PKIKP **PKPdf** 15 46 12.2 -0.4
LODK **Lodwar** 125.68 267 *e*P **PKPdf** 15 46 08.1 -5.8
BATG **Bathurst New B** 125.81 38 **PKPdf** 15 46 12.1 -1.0
EMMW **East Machias** 126.05 41 IAMs_20 IAMs_20 16 33 39.7
comp=Z,13μm,22.0s
KONO **Kongsberg** 126.18 342 IAMs_20 IAMs_20 16 42 56.3
comp=Z,7μm,22.0s
TLCR 126.29 319 ⇑P **PKiKP** 15 46 14.6 +0.1
TLCR 126.29 319 ⇑PKIKP **PKiKP** 15 46 14.6 +0.1
ITQB **Itaqui** 126.29 139 PKPdf **PKPdf** 15 46 14.1 -0.5
ITQB **Itaqui** 126.29 139 *e*P **PKiKP** 15 46 16.1 +1.1
BARC **Barichara** 126.31 89 *e*P **PKiKP** 15 46 15.7 -0.1
RUSC **La Rusia** 126.31 90 PKPdf **PKPdf** 15 46 14.2 -1.5
RUSC **La Rusia** 126.31 90 *e*P **PKPdf** 15 46 13.2 -2.5
TPGR **Topolog** 126.68 319 ⇑P **PKiKP** 15 46 18.5 +3.1
CFR **Carcaliu** 126.73 320 ⇑P **PKPdf** 15 46 15.0 +0.1
CFR **Carcaliu** 126.73 320 ⇑PKIKP **PKPdf** 15 46 15.0 +0.1
GHRR 126.79 321 ⇓P **PKiKP** 15 46 15.8 +0.3
LSZ **Lusaka** 126.86 242 PKPdf **PKPdf** 15 46 15.7 -0.5
LSZ **Lusaka** 126.86 242 IAMs_20 IAMs_20 16 41 20.0
comp=Z,10μm,18.0s
LSZ **Lusaka** 126.86 242 PKIKP **PKPdf** 15 46 15.7 -0.5
LSZ MLR MLR
comp=Z,10μm,18.0s
LVV **L'vov** 126.88 326 *i* PKIKP **PKPdf** 15 46 14.7 -0.4
LVV *e* 15 48 09.6
LVV *e* 15 53 14.3
LVV *e*PS **PS** 15 58 02.7 -15
LVV *e*SS SS 16 05 21.8 +5.3
PAMC **Pamplona, Colo** 126.88 88 *e*P **PKPdf** 15 46 15.6 -1.1
TESR **Tescani** 127.05 322 ⇑P **PKiKP** 15 46 18.6 +2.6
CRJC **Cerrejon, Guaj** 127.07 84 *e*P **PKPdf** 15 46 14.8 -1.8
LMN **Caledonia Moun** 127.24 39 PKPdf **PKPdf** 15 46 15.5 -0.4
VRI **Vrincioaia** 127.30 321 ⇑P **PKPdf** 15 46 16.0 -0.1
VRI **Vrincioaia** 127.30 321 ⇑PKIKP **PKPdf** 15 46 16.0 -0.1
TBTG **Tabatinga, AM** 127.31 103 *e*P **PKiKP** 15 46 17.3 -0.2
BUR08 **Bucovina Ar. S** 127.36 324 PKPdf **PKPdf** 15 46 16.4 +0.2
BURAR **Bucovina Array** 127.36 324 ⇑P **PKiKP** 15 46 17.6 +0.8
BURAR **Bucovina Array** 127.36 324 PKPdf **PKPdf** 15 46 16.5 +0.2
BURAR **Bucovina Array** 127.36 324 ⇑PKIKP **PKiKP** 15 46 17.6 +0.8
NEHR **Nehoiu** 127.77 321 ⇑P **PKiKP** 15 46 18.6 +1.1
CPSB **Cacapava Do Su** 127.79 142 *e*P **PKiKP** 15 46 18.5 +0.4
MLR **Muntele Rosu** 127.96 321 ⇑P **PKPdf** 15 46 17.4 -0.1
MLR **Muntele Rosu** 127.96 321 PKPdf **PKPdf** 15 46 17.2 -0.3
MLR **Muntele Rosu** 127.96 321 ⇑PKIKP **PKPdf** 15 46 17.4 -0.1
CPUP **Villa Florida** 127.98 135 PKP **PKPdf** 15 46 17.2 -0.7
comp=Z,7.0nm,0.9s,baz=251,slow=1.3,SNR=12
CPUP **Villa Florida** 127.98 135 PKPdf **PKPdf** 15 46 17.1 -0.9
CPUP **Villa Florida** 127.98 135 *e*P **PKiKP** 15 46 18.5 -0.1
URIC **Uribia, Colomb** 127.99 83 *e*P **PKPdf** 15 46 16.4 -1.8
DOPR **Dopca** 128.07 322 ⇑P **PKiKP** 15 46 18.2 0.0
UZH **Uzhgorod** 128.48 326 *e*PKIKP **PKPdf** 15 46 17.6 -0.6
UZH *e* 15 46 35.4
STHS **Stebnicka Huta** 128.60 327 *e*PKIKP **PKPdf** 15 46 18.3 -0.1
STHS **Stebnicka Huta** 128.60 327 *e*PKP **PKPdf** 15 46 18.3 -0.1
TRPA **Tarpa** 128.62 325 ⇓P **PKPdf** 15 46 18.4 -0.1
SDDR **Presa de Saban** 128.79 74 IAMs_20 IAMs_20 16 35 54.3
comp=Z,10μm,20.0s
GRTK **Grand Turk** 128.79 71 IAMs_20 IAMs_20 16 38 39.3
comp=Z,8μm,20.0s
ARR **Arges** 128.83 321 ⇑P **PKiKP** 15 46 21.0 +1.3
RGN **Rugen** 128.87 336 IAMs_20 IAMs_20 16 43 11.9
comp=Z,11μm,22.0s
OJC **Ojcow** 128.87 329 PKPdf **PKPdf** 15 46 18.8 -0.1
OJC **Ojcow** 128.87 329 PKIKP **PKPdf** 15 46 18.8 -0.1
ETMB **Extrema** 128.98 111 PKPdf **PKPdf** 15 46 19.0 -1.1
ETMB **Extrema** 128.98 111 *e*P **PKPdf** 15 46 19.6 -0.5
HUMR **Humele** 129.02 320 ⇑P **PKiKP** 15 46 20.0 0.0
SDV **Santo Domingo** 129.09 87 PKP **PKPdf** 15 46 20.5 -0.1
comp=Z,43nm,0.8s,baz=258,slow=3.2,SNR=23
SDV **Santo Domingo** 129.09 87 PKPdf **PKPdf** 15 46 19.4 -1.2
SDV **Santo Domingo** 129.09 87 IAMs_20 IAMs_20 16 36 44.0
comp=Z,6μm,19.0s
SDV **Santo Domingo** 129.09 87 *e*P **PKPdf** 15 46 20.9 +0.4
NIE **Niedzica** 129.10 328 *e*PKP **PKiKP** 15 46 20.9 +0.8
MBAR **Mbarara** 129.39 261 IAMs_20 IAMs_20 16 41 44.4
comp=Z,8μm,19.0s
MBAR **Mbarara** 129.39 261 ⇑*i*PKIKP **PKPdf** 15 46 21.4 +0.2
MBAR **Mbarara** 129.39 261 *e*P **PKPdf** 15 46 20.1 -1.1
GBN **Guysborough** 129.47 38 PKPdf **PKPdf** 15 46 20.1 0.0
PLVB **Pleven** 129.79 319 ⇑P **PKiKP** 15 46 22.3 +0.7
OKC **Ostrava-Krasne** 129.95 329 *e*PP **PP** 15 48 35.9 +3.3
OKC *e*SS SS 16 05 55.1 +0.8
OKC AMS AMS 16 40 10.0
comp=Z,8μm,24.5s
GZR **Gura Zlata** 129.95 322 ⇓P **PKPdf** 15 46 21.5 +0.3
GZR **Gura Zlata** 129.95 322 ⇓PKIKP **PKPdf** 15 46 21.5 +0.3
CNLB **Canela** 130.13 143 *e*P **PKiKP** 15 46 23.0 +0.1
SIRR **Siria** 130.14 324 ⇓P **PKPdf** 15 46 18.0 -3.5
SURR **Surduc** 130.15 323 ⇑P **PKPdf** 15 46 21.8 +0.4
RUE **Ruedersdorf** 130.19 334 *e*P **PKiKP** 15 46 22.2 +0.2
KSP **Ksiaz** 130.19 331 *e*PKP **PKiKP** 15 46 22.8 +0.6
KSP *e*L L 16 42 52.0
comp=Z,16μm,23.7s
PSZ **Piszkesteto** 130.20 326 ⇑P **PKPdf** 15 46 21.6 0.0
PSZ **Piszkesteto** 130.20 326 **PKPdf** 15 46 21.6 0.0
PSZ IAMs_20 IAMs_20 16 45 32.3
comp=Z,8μm,21.0s
PSZ **Piszkesteto** 130.20 326 PKIKP **PKPdf** 15 46 21.6 0.0
PSZ MLR MLR
comp=Z,8μm,21.0s
MORC **Moravsky Berou** 130.29 330 ⇓P **PKiKP** 15 46 23.3 +0.8
MORC **Moravsky Berou** 130.29 330 PKPdf **PKPdf** 15 46 21.8 +0.2
MORC **Moravsky Berou** 130.29 330 *e*PKP **PKiKP** 15 46 22.4 -0.1
MORC **Moravsky Berou** 130.29 330 ⇓PKIKP **PKiKP** 15 46 23.3 +0.8
MAUC **Maruska** 130.41 329 *e*PKP **PKiKP** 15 46 23.2 +0.5
MAUC AMS AMS 16 40 40.0
comp=Z,15μm,26.5s
OSTC **Ostas** 130.42 331 *e*PKP **PKiKP** 15 46 23.1 +0.4
OSTC *e*PP **PP** 15 48 37.4 +1.7
OSTC *e*PKS **PKSab** 15 49 40.8 -5.6
OSTC *e*SS SS 16 06 06.2 +6.1
OSTC AMS AMS 16 42 20.0
comp=Z,14μm,24.0s
VYHS **Vyhne** 130.43 328 *e*PKIKP **PKiKP** 15 46 22.7 -0.1
VYHS **Vyhne** 130.43 328 *e*PKP **PKiKP** 15 46 22.7 -0.1
KRLC **Kraliky** 130.47 330 *e*PKP **PKPdf** 15 46 22.2 +0.2
KRLC *e*PP **PP** 15 48 36.7 +0.7
KRLC *e*SS SS 16 06 05.9 +5.1
KRLC AMS AMS 16 45 10.0
comp=Z,8μm,21.8s
KRLC **Kraliky** 130.47 330 *e*PKIKP **PKPdf** 15 46 22.2 +0.2
KRLC *e* 15 48 36.7
KRLC *e*SS SS 16 06 05.9 +5.1
KRLC MLR MLR
comp=Z,8μm,21.8s
BSEG **Bad Segeberg** 130.49 338 *e*PKPdf **PKiKP** 15 46 24.3 +1.7
baz=43,slow=1.9
DPC **Dobruska-Polom** 130.51 331 *e*PKP **PKPdf** 15 46 22.1 0.0
DPC *e*PP **PP** 15 48 35.2 -1.1
DPC *e*PKS **PKSbc** 15 49 40.0 -6.8
DPC *e*SS SS 16 05 52.4 -8.8
DPC AMS AMS 16 42 40.0
comp=Z,12μm,23.6s
DPC **Dobruska-Polom** 130.51 331 *e*PKIKP **PKPdf** 15 46 22.1 0.0
DPC *e* 15 48 35.2
DPC *e*SS SS 16 05 52.4 -8.8
DPC MLR MLR
comp=Z,12μm,23.6s
BZS **Buzias** 130.52 323 ⇑P **PKPdf** 15 46 22.2 0.0
BZS **Buzias** 130.52 323 ⇑PKIKP **PKPdf** 15 46 22.2 0.0
UPC **Upice** 130.55 331 *e*PKP **PKiKP** 15 46 23.1 +0.2
UPC *e*PP **PP** 15 48 31.6 -4.9
UPC *e*PKS PKSbc 15 49 37.9 -9.0
UPC AMS AMS 16 42 40.0
comp=Z,16μm,23.5s
UPC **Upice** 130.55 331 *e*PKIKP **PKiKP** 15 46 23.1 +0.2
UPC MLR MLR
comp=Z,16μm,23.5s
JAVC **Velka Javorina** 130.81 329 *e*PKP **PKiKP** 15 46 23.4 -0.2
SIV **San Ignacio** 130.89 121 PKP **PKPdf** 15 46 23.4 -0.3
comp=Z,2.3nm,0.7s,baz=267,slow=3.0,SNR=12
SIV SKPbc **SKPbc** 15 49 43.4 -1.6
comp=Z,3.5nm,0.8s,baz=242,slow=5.7,SNR=3.0
MDVR **Moldovita** 130.91 322 ⇓P **PKPdf** 15 46 23.2 +0.2
VTS **Vitosha** 131.05 319 ⇓P **PKiKP** 15 46 24.2 -0.1
VTS **Vitosha** 131.05 319 ⇑PKIKP **PKiKP** 15 46 24.3 -0.1
VRAC **Vranov** 131.06 330 ⇑P **PKiKP** 15 46 25.0 +1.0
VRAC **Vranov** 131.06 330 *e*PKP **PKPdf** 15 46 23.2 +0.1
VRAC **Vranov** 131.06 330 ⇑PKIKP **PKiKP** 15 46 25.0 +1.0
SGCB **SZo Gabriel d** 131.13 99 *e*P **PKPdf** 15 46 24.4 +0.2
HLG **Helgoland** 131.17 339 *e*PKPdf **PKiKP** 15 46 25.7 +1.7
baz=43,slow=1.9
PVCC **Panska Ves** 131.21 332 *e*PKP **PKPdf** 15 46 23.6 +0.3
PVCC *e*PP **PP** 15 48 41.7 +1.0
PVCC AMS AMS 16 44 00.0
comp=Z,10μm,21.3s
PVCC **Panska Ves** 131.21 332 *e*PKIKP **PKPdf** 15 46 23.6 +0.3
PVCC *e* 15 48 41.7
PVCC MLR MLR
comp=Z,10μm,21.3s
BRG **Berggiesshubel** 131.26 333 *e*PKP **PKPdf** 15 46 23.5 +0.1
BRG Amp 15 46 28.3
comp=Z,34nm,1.5s
BRG **Berggiesshubel** 131.26 333 PP PP 15 48 45.0 +4.0
BRG SKP **SKPab** 15 49 48.1 +2.4
BRG Amp 15 49 53.9
comp=Z,26nm,1.0s
BRG **Berggiesshubel** 131.26 333 SS SS 16 06 03.0 -7.2
BRG SKPSKP 16 08 39.0
BRG Amp 16 08 42.1
comp=Z,15nm,1.6s
BRG **Berggiesshubel** 131.26 333 *e*PKIKP **PKPdf** 15 46 23.5 +0.1
BRG 15 48 45.0
BRG SS SS 16 06 03.0 -7.2
BRG pmax pmax
comp=Z,34nm,1.5s
BRG pmax pmax
comp=Z,26nm,1.0s
BRG **Berggiesshubel** 131.26 333 *e*PKPdf **PKiKP** 15 46 25.7 +1.4
baz=43,slow=1.9
MODS **Modra-Piesok** 131.31 328 *e*PKIKP **PKiKP** 15 46 25.9 +1.3
MODS **Modra-Piesok** 131.31 328 *e*PKP **PKiKP** 15 46 25.9 +1.3
KRUC **Moravsky** 131.32 330 *e*PKP **PKPdf** 15 46 23.2 -0.4
FLTG **Flechtingen** 131.35 336 *e*PKPdf **PKiKP** 15 46 25.8 +1.4
baz=43,slow=1.9
CLL **Collm** 131.37 334 PKPdf **PKPdf** 15 46 23.7 +0.1
CLL IAMs_20 IAMs_20 16 45 07.2
comp=Z,9μm,22.0s
CLL **Collm** 131.37 334 *e*PKPpre PKPpre 15 46 23.0
CLL *i* PKPdf pPKPdf 15 46 31.9 -3.5
CLL *ex* x 15 46 46.0
CLL *e*PP **PP** 15 48 43.0 +1.4
CLL *i* SKPbc **SKPab** 15 49 47.9 +1.8
comp=Z,98nm,1.8s
CLL *e*SKPdf **SKiKP** 15 49 57.0 -0.6
comp=Z,144nm,2.4s
CLL *e*(PKSdf) 15 50 04.0
CLL *i* pSKPdf 15 50 08.7
CLL *ex* x 15 50 21.0
CLL *ex* x 15 50 39.0
CLL *e*PPP PPP 15 51 30.0
CLL *e*SKKSac **SKKSac** 15 55 36.0 +0.6
CLL *e*SKSP 15 58 42.0
CLL *e*PS **PS** 15 58 54.0 -2.4
CLL *e*PPS PPS 16 00 30.0
CLL *ex* x 16 01 48.0
CLL *e*PPPrev 16 02 42.0
CLL *e*SS **SS** 16 06 12.0 +0.6
CLL *ex* x 16 07 36.0
CLL *e*SSS SSS 16 10 48.0
CLL *ex* x 16 12 00.0
CLL Lmax 16 44 00.0
CLL **Collm** 131.37 334 PKIKP **PKPdf** 15 46 23.7 +0.1
CLL MLR MLR
comp=Z,9μm,22.0s
CLL **Collm** 131.37 334 *e*PKPdf **PKiKP** 15 46 25.9 +1.3
baz=43,slow=1.9
FBE **Freiberg** 131.49 333 *e*PKPdf **PKiKP** 15 46 26.3 +1.5
baz=43,slow=1.9
BOVS **Bovan** 131.51 321 ⇑P **PKPdf** 15 46 22.4 -1.7
ZST **Bratislava** 131.52 328 *e*PKIKP **PKiKP** 15 46 26.9 +2.0
ZST **Bratislava** 131.52 328 *e*PKP **PKiKP** 15 46 26.9 +2.0
GOPC **GO Pecny, Ondr** 131.53 331 *e*PKP **PKPdf** 15 46 24.2 +0.2
GOPC *e*PP **PP** 15 48 45.3 +2.4
GOPC *e*SS SS 16 06 27.7 +14
GOPC AMS AMS 16 45 00.0
comp=Z,12μm,21.3s
GOPC **GO Pecny, Ondr** 131.53 331 *e*PKIKP **PKPdf** 15 46 24.2 +0.2
GOPC *e* 15 48 45.3
GOPC MLR MLR
comp=Z,12μm,21.3s
PRU **Pruhonice** 131.60 332 *e*PKP **PKiKP** 15 46 24.7 -0.3
PRU *e*PP **PP** 15 48 43.9 +0.7
PRU *e*SS SS 16 06 03.4 -11
PRU AMS AMS 16 44 00.0
comp=Z,10μm,21.4s
PRU **Pruhonice** 131.60 332 *e*PKIKP **PKiKP** 15 46 24.7 -0.3
PRU *e* 15 48 43.9
PRU MLR MLR
comp=Z,10μm,21.4s
TREC **Trest** 131.62 330 *e*PP **PP** 15 48 45.3 +1.9
TREC AMS AMS 16 43 30.0
comp=Z,12μm,23.7s
BAUV **El Baul** 131.64 87 PKPdf **PKPdf** 15 46 24.4 -0.7
NRDL **Niedersach Rie** 131.68 337 *e*PKPdf **PKiKP** 15 46 26.6 +1.5
baz=43,slow=1.9
ASSE **Asse, Remlinge** 131.73 336 *e*PKPdf **PKiKP** 15 46 26.5 +1.4
baz=43,slow=1.9
RETH **Rethem/Aller,** 131.78 337 *e*PKPdf **PKiKP** 15 46 26.6 +1.3
baz=43,slow=1.9
FRGS **Fruska Gora** 131.84 323 ⇑P **PKiKP** 15 46 25.7 0.0
MORH **Mrgy, Hungar** 131.90 325 ⇑P **PKiKP** 15 46 27.1 +1.3
NEUB **Neuenburg** 131.97 334 *e*PKPdf **PKiKP** 15 46 27.1 +1.4
baz=43,slow=1.9
CLZ **Clausthal** 132.07 336 *e*PKPdf **PKiKP** 15 46 27.4 +1.4
baz=43,slow=1.9
SAML **Samuel** 132.08 112 PKPdf **PKPdf** 15 46 25.2 -0.8
SAML **Samuel** 132.08 112 PKIKP **PKPdf** 15 46 25.2 -0.8
TANN **Tannenbergstha** 132.25 333 *e*PKPdf **PKiKP** 15 46 27.6 +1.2
baz=43,slow=1.9
RONA **Rosalia, Austr** 132.25 328 *e*PKP **PKPdf** 15 46 25.0 -0.4
comp=Z,27nm,1.5s
WERD **Werda** 132.29 333 *e*PKPdf **PKiKP** 15 46 27.6 +1.1
baz=43,slow=1.9
DIVS **Divibare** 132.32 322 PKPdf **PKPdf** 15 46 25.7 -0.1
CONA **Conrad Observa** 132.33 329 *e*PKP **PKPdf** 15 46 25.5 -0.1
comp=Z,34nm,1.4s
GUNZ **Gunzen** 132.34 333 *e*PKPdf **PKiKP** 15 46 27.8 +1.2
baz=43,slow=1.9
WERN **Wernitzgruen** 132.38 333 *e*PKPdf **PKiKP** 15 46 27.9 +1.2
baz=43,slow=1.9
NKC **Novy Kostel** 132.38 333 *e*PKP **PKPdf** 15 46 25.1 -0.5
NKC *e*PKS **PKSab** 15 49 54.0 -0.7
NKC AMS AMS 16 46 00.0
comp=Z,9μm,21.4s
NKC **Novy Kostel** 132.38 333 *e*PKIKP **PKPdf** 15 46 25.1 -0.5
NKC MLR MLR
comp=Z,9μm,21.4s
MOX **Moxa** 132.45 334 *e*PKPdf **PKiKP** 15 46 27.7 +1.0
baz=43,slow=1.9
MOX *e*L L 16 45 56.0
comp=Z,7μm,22.0s
GTTG **Gottingen** 132.47 336 *e*PKPdf **PKiKP** 15 46 28.0 +1.3
baz=43,slow=1.9
BBSR **BB Station** 132.48 55 IAMs_20 IAMs_20 16 36 12.1
comp=Z,8μm,22.0s
CKRC **Cesky Krumlov** 132.51 331 *e*PKP **PKiKP** 15 46 27.0 0.0
CKRC *e*PP PP 15 48 39.5 -10
CKRC *e*PKS **PKSbc** 15 49 53.5 -0.5
CKRC *e*SS SS 16 05 56.1 -30
TRIS **Tristan da Cun** 132.58 187 IAMs_20 IAMs_20 16 42 21.7
comp=Z,6μm,18.0s
PTGB **Pitanga** 132.62 138 *e*P **PKPdf** 15 46 26.6 -0.3
KHC **Kasperske Hory** 132.64 331 **PKPdf** 15 46 26.3 +0.2
KHC **Kasperske Hory** 132.64 331 *e*PKP **PKPdf** 15 46 26.3 +0.2
KHC *ex* x 15 46 34.0
KHC *e*PP **PP** 15 48 51.4 +1.4
KHC *e*PKS **PKSbc** 15 49 49.3 -5.2
KHC *e*SS SS 16 06 17.3 -10
KHC AMS AMS 16 44 20.0
comp=Z,14μm,23.0s
KHC **Kasperske Hory** 132.64 331 *de*PKIKP **PKiKP** 15 46 27.5 +0.2
MANZ **Manzenberg** 132.71 333 *e*PKPdf **PKiKP** 15 46 28.4 +1.1
baz=43,slow=1.9
IBBN **Ibbenburen** 132.72 338 *e*PKPdf **PKiKP** 15 46 28.6 +1.3
baz=43,slow=1.9
AQDB **Aquidauana** 132.75 130 PKPdf **PKPdf** 15 46 27.1 0.0
AQDB **Aquidauana** 132.75 130 *e*P **PKPdf** 15 46 27.7 +0.5
PTLB **Pontes e Lacer** 132.77 122 PKPdf **PKPdf** 15 46 26.9 -0.3
PTLB **Pontes e Lacer** 132.77 122 *e*P **PKPdf** 15 46 27.7 +0.4
GEC2 **GERESS Array S** 132.78 331 PKPdf **PKPdf** 15 46 26.9 +0.4
GEC2 **GERESS Array S** 132.78 331 *e*PKPdf **PKiKP** 15 46 28.3 +0.7
baz=43,slow=1.9
GERES **GERESS Array B** 132.78 331 PKP **PKPdf** 15 46 25.8 -0.6
comp=Z,4.3nm,0.6s,baz=72,slow=2.2,SNR=22
GERES **GERESS Array B** 132.78 331 **PKPdf** 15 46 26.9 +0.4
GERES **GERESS Array B** 132.78 331 PKIKP **PKPdf** 15 46 26.9 +0.4
ROTZ **Rotzenmuhle** 132.83 333 *e*PKPdf **PKiKP** 15 46 28.6 +1.0
baz=43,slow=1.9
ARSA **Arzberg** 132.94 328 *e*PKP **PKPdf** 15 46 26.3 -0.5
comp=Z,6.3nm,1.1s
VILB **Vilhena** 133.06 118 *e*P **PKiKP** 15 46 28.7 -0.4
FNA **Florina** 133.15 318 **PKPdf** 15 46 26.6 -0.8
FNA **Florina** 133.15 318 PKIKP **PKPdf** 15 46 26.6 -0.8
ESK **Eskdalemuir** 133.29 348 IAMs_20 IAMs_20 16 47 35.5
comp=Z,8μm,20.0s
GRA1 **Grafenberg Arr** 133.32 333 IAMs_20 IAMs_20 16 45 50.0
comp=Z,9μm,22.0s
GRF **Grafenberg Arr** 133.32 333 *e*PKPdf **PKiKP** 15 46 29.8 +1.2
baz=43,slow=1.9
GRF *e*L L 16 47 10.1
comp=Z,7μm,21.9s
GRFO **Grafenberg** 133.32 333 IAMs_20 IAMs_20 16 46 24.0
comp=Z,10μm,22.0s
KASTN **Kahler Asten** 133.35 337 *e*PKPdf **PKiKP** 15 46 29.7 +1.1
baz=43,slow=1.9
TRCB **Terra Rica** 133.52 135 *e*P **PKPdf** 15 46 29.0 +0.4
SOKA **Soboth** 133.57 328 *e*PKP **PKPdf** 15 46 27.5 -0.5
comp=Z,11nm,0.9s
BIOA **Bad Ischl, Aus** 133.60 330 *e*PKP **PKPdf** 15 46 27.5 -0.4
comp=Z,4.2nm,0.6s
TIR **Tirane** 133.86 319 IAMs_20 IAMs_20 16 57 40.9
comp=Z,5μm,20.0s
KBA **Koelnbreinsper** 134.17 329 *e*PKP **PKPdf** 15 46 28.9 -0.3
comp=Z,14nm,1.1s
MYKA **Terra Mystica** 134.32 329 *e*PKP **PKPdf** 15 46 28.9 -0.6
comp=Z,17nm,1.5s
BTNL **Ternell** 134.71 338 *d*PKP **PKPdf** 15 46 30.4 +0.5
BTNL *d*PKiKP **PKiKP** 15 46 32.5 +1.1
MEM **Membach** 134.74 338 *d*PKP **PKPdf** 15 46 30.5 +0.5
MEM *d*PKiKP **PKiKP** 15 46 32.8 +1.4
ABTA **Abfaltersbach** 134.81 330 *e*PKP **PKPdf** 15 46 29.9 -0.4
comp=Z,19nm,1.1s
WATA **Walderalm** 134.86 331 *e*PKP **PKPdf** 15 46 30.4 -0.1
comp=Z,12nm,0.9s
WTTA **Wattenberg** 134.88 331 *e*PKP **PKPdf** 15 46 30.0 -0.6
comp=Z,16nm,1.0s
STAL **STALIGIAL** 135.04 329 PKPdf **PKPdf** 15 46 30.3 -0.4
PP1B **Ponte de Pedra** 135.06 128 *e*P **PKPdf** 15 46 32.0 +0.5
MOTA **Moosalm** 135.08 331 *e*PKP **PKPdf** 15 46 30.6 -0.3
comp=Z,13nm,0.7s
SQTA **Sankt Quirin** 135.12 331 *e*PKP **PKPdf** 15 46 31.2 +0.2
comp=Z,6.9nm,0.7s
RETA **Reutte** 135.14 332 *e*PKP **PKPdf** 15 46 31.0 +0.1
comp=Z,7.7nm,0.7s
CIMO **Cimolais** 135.15 329 **PKPdf** 15 46 30.5 -0.4
FRTB **Fartura** 135.22 138 *e*P **PKPdf** 15 46 32.5 +0.7
BGES **Gesves** 135.26 338 *d*PKP **PKPdf** 15 46 31.6 +0.7
BGES *d*PKiKP **PKiKP** 15 46 33.4 +1.0
SALV **Santo Antonio** 135.36 125 *e*P **PKPdf** 15 46 32.6 +0.5
RCHB **Rochefort** 135.40 338 *d*PKP **PKPdf** 15 46 31.6 +0.4
BMRD **Maredsous** 135.45 338 *d*PKP **PKPdf** 15 46 31.8 +0.5
WLF **Walferdange** 135.45 337 IAMs_20 IAMs_20 16 46 25.9
comp=Z,8μm,22.0s
WLF **Walferdange** 135.45 337 *d*PKP **PKPdf** 15 46 31.4 +0.1
WLF *d*PKiKP **PKiKP** 15 46 35.5 +2.7
FETA **Feichten** 135.49 331 *e*PKP **PKPdf** 15 46 31.6 -0.1
comp=Z,13nm,0.9s
BFO **Black Forest** 135.60 334 IAMs_20 IAMs_20 16 47 57.0
comp=Z,6μm,21.0s
DOU **Dourbes** 135.68 338 *d*PKP **PKPdf** 15 46 32.5 +0.8
DOU *d*PKiKP **PKiKP** 15 46 34.8 +1.5
DAVA **Damuels** 135.69 332 *e*PKP **PKPdf** 15 46 32.3 +0.3
comp=Z,14nm,0.9s

	comp=Z,6µm,20.0s						
ECH	Echery	136.19	335	IAMs_20	IAMs_20	16 49 06.4	
	comp=Z,8µm,22.0s						
SPB	Sao Paulo	136.40	141	IAMs_20	IAMs_20	16 39 44.3	
	comp=Z,5µm,20.0s						
MACA	Manacapuru-AM	136.41	106	*e*P	PKPdf	15 46 34.5	+0.3
SABA	Saba	136.49	75	IAMs_20	IAMs_20	16 45 10.1	
	comp=Z,6µm,20.0s						
TUE	Stuetta	136.54	332	IAMs_20	IAMs_20	16 50 19.1	
	comp=Z,8µm,21.0s						
SMRT	St. Maarten	136.62	75	IAMs_20	IAMs_20	16 43 36.5	
	comp=Z,8µm,20.0s						
PDRB	Porto dos Gac	136.68	119	*e*P	PKPdf	15 46 35.2	+0.6
SEUS	St. Eustatius	136.75	75	IAMs_20	IAMs_20	16 40 33.3	
	comp=Z,5µm,20.0s						
TIP	Timpagrande	137.02	318	⇑P	PKiKP	15 46 36.3	-0.2
NRCA	Norcia	137.09	325		PKPdf	15 46 34.3	-0.4
VAO	Valinhos	137.12	141	*e*P	PKPdf	15 46 35.7	+0.3
ITRB	Iturama	137.14	134	*e*P	PKPdf	15 46 36.0	+0.6
MURB	Monte Urbino	137.15	326		PKPdf	15 46 34.9	+0.1
AQU	L'Aquila	137.23	324	IAMs_20	IAMs_20	16 55 03.4	
	comp=Z,6µm,20.0s						
ZCCA	Zocca	137.25	328		PKPdf	15 46 35.1	+0.2
VLC	Villacollemand	137.68	328	IAMs_20	IAMs_20	16 49 14.7	
	comp=Z,11µm,22.0s						
CLDB	Colider	137.84	119	*e*P	PKPdf	15 46 36.6	-0.2
ANWB	Willy Bob	137.87	75	IAMs_20	IAMs_20	16 41 50.7	
	comp=Z,5µm,20.0s						
BOAV	Boa Vista	138.03	98	PKPdf	PKPdf	15 46 37.0	-0.1
BOAV	Boa Vista	138.03	98	*e*P	PKPdf	15 46 34.8	-2.3
BOAV	Boa Vista	138.03	98	*e*P	PKPdf	15 46 37.7	+0.6
CBE	Ff, Capester	138.14	77	IAMs_20	IAMs_20	16 43 24.8	
	comp=Z,9µm,20.0s						
ABD	La Joyeuse, An	138.23	77	IAMs_20	IAMs_20	16 42 54.8	
	comp=Z,6µm,19.0s						
CLF	Chambon-Foret	138.26	339	IAMs_20	IAMs_20	16 54 56.7	
	comp=Z,6µm,20.0s						
MAGL	Barre de l'ile	138.45	77	IAMs_20	IAMs_20	16 42 14.3	
	comp=Z,8µm,21.0s						
ARAG	Araguaiana, MT	138.54	128	*e*P	PKPdf	15 46 38.5	+0.4
SVN	Savane Anatole	138.60	79	IAMs_20	IAMs_20	16 46 34.4	
	comp=Z,6µm,20.0s						
FDF	Fort de France	138.62	79	IAMs_20	IAMs_20	16 45 54.0	
	comp=Z,6µm,21.0s						
GDSD	La Dsirade Is	138.64	77	IAMs_20	IAMs_20	16 45 25.3	
	comp=Z,5µm,21.0s						
BIM	Bigot	138.70	80	IAMs_20	IAMs_20	16 49 04.2	
	comp=Z,6µm,20.0s						
BNI	Bardonecchia	138.84	332	PKPdf	PKPdf	15 46 37.1	-0.8
BNI				IAMs_20	IAMs_20	16 55 02.2	
	comp=Z,6µm,20.0s						
BNI	Bardonecchia	138.84	332	PKIKP	PKPdf	15 46 37.1	-0.8
BNI				MLR	MLR		
	comp=Z,6µm,20.0s						
ILAM	Ilet Lapin Mar	138.89	79	IAMs_20	IAMs_20	16 42 57.9	
	comp=Z,7µm,22.0s						
MPOM	Morne Pois Mar	138.91	80	IAMs_20	IAMs_20	16 46 58.6	
	comp=Z,7µm,20.0s						
SSB	Saint Sauveur	139.61	334	IAMs_20	IAMs_20	16 50 56.1	
	comp=Z,10µm,21.0s						
VAS01	Vassouras-RJ	139.80	144	*e*P	PKPdf	15 46 39.2	-1.0
NPGB	Novo Progresso	139.94	114	*e*P	PKPdf	15 46 41.4	+0.7
BBGH	Gun Hill	140.18	82	IAMs_20	IAMs_20	16 40 49.4	
	comp=Z,6µm,21.0s						
ITTB	Itaituba	140.65	110	*e*P	PKPdf	15 46 42.5	+0.6
SNDB	Serra Nova Dou	141.07	124	*e*P	PKPdf	15 46 43.0	+0.3
BDFB	Brasilia	141.46	131	PKP	PKPdf	15 46 42.2	-1.2
	comp=Z,10.0nm,0.8s,baz=135,slow=2.6,SNR=7.7						
BDFB	Brasilia	141.46	131	*e*P	PKPdf	15 46 43.3	-0.2
DIAM	Diamantina, MG	142.65	139	*e*P	PKPdf	15 46 46.0	+0.4
MALB	Monte Alegre	142.90	107	*e*P	PKPdf	15 46 43.0	-3.0
RIB01	Linhares ES	143.88	144	*e*P	PKPab	15 46 44.4	-0.2
SJMB	Sao Joao De Ma	143.89	143	*e*P	PKPbc	15 46 45.5	+0.1
MAHO	Mahon	143.91	329	IAMs_20	IAMs_20	16 56 06.4	
	comp=Z,5µm,20.0s						
CMAH	Djebel Manchou	144.46	322	P	PKPab	15 46 46.2	-0.2
JANB	Januaria	144.52	135	*e*P	PKPab	15 46 46.5	-0.7
ABSA	Djebel Ababsia	144.65	322	P	PKPab	15 46 46.2	-1.0
CKFL	Kef-Lekhel	145.03	322	P	PKPdf	15 46 49.3	+0.1
PRPB	Parauapebas	145.26	117	*e*P	PKPbc	15 46 49.8	0.0
CASM	Ain Smara	145.26	322	P	PKPab	15 46 49.4	0.0
DFRA	Djebel Bou Aff	145.43	323	P	PKPab	15 46 50.7	+0.6
MCPB	Macapa, AP	145.47	106	*e*P	PKPab	15 46 50.7	0.0
SMTB	Santa Maria do	145.81	123	*e*P	PKPbc	15 46 51.4	-0.1
SDBA	SAO DESIDERIO	145.84	130	*e*P	PKPdf	15 46 51.3	+0.2
MDP	Montagnes des	146.28	96	PKPbc	PKPbc	15 46 52.8	-0.2
	comp=Z,110nm,0.7s,baz=260,slow=4.5,SNR=42						
GUA01	Guaratinga, BA	146.36	142	*e*P	PKPbc	15 46 52.6	-0.5
PBRG	Braganca	146.71	343	*e*PKP	PKPbc	15 46 54.0	+0.5
PBRG	Braganca	146.71	343	*e*PP	PP	15 50 15.3	-0.9
PGAV	Gavieira, Arco	146.97	345	*e*PKP	PKPab	15 46 55.1	-0.6
PGAV	Gavieira, Arco	146.97	345	*e*SS	SS	16 09 22.3	+7.6
PGAV	Gavieira, Arco	146.97	345	*e*LR	LR	16 40 00.3	
	comp=Z,6µm,18.0s						
PCAB	Cabril	147.15	345	*e*PKP	PKPab	15 46 56.0	-0.3
MVO	Moncorvo	147.39	343	*e*PKP	PKPbc	15 46 55.5	+0.1
MVO	Moncorvo	147.39	343	*e*SS	SS	16 09 30.6	+11
MVO	Moncorvo	147.39	343	*e*LR	LR	16 40 21.0	
	comp=Z,6µm,18.0s						
POLO	Lamas de Olo	147.40	344	*e*PKP	PKPbc	15 46 56.3	+0.8
POLO	Lamas de Olo	147.40	344	*e*PP	PP	15 50 22.7	+2.4
PVRL	Vila Real	147.47	343	*e*PKP	PKPab	15 46 55.5	-0.1
ESBB	Sonseca Array	147.73	338		PKPbc	15 46 55.4	-1.0
ESDC	Sonseca Array	147.73	338	PKPbc	PKPbc	15 46 56.0	-0.4
	comp=Z,10nm,0.9s,baz=0.9,slow=2.4,SNR=23						
ESDC				PP	PP	15 50 17.3	-5.0
	comp=Z,5.1nm,1.0s,baz=6.9,slow=7.1,SNR=4.4						
PAB	San Pablo	147.98	338	IAMs_20	IAMs_20	16 58 42.1	
	comp=Z,7µm,20.0s						
PAB	San Pablo	147.98	338	⇓PKP2	PKPbc	15 46 57.8	+0.7
PVIS	Viseu	148.05	344	*e*PKP	PKPbc	15 46 57.5	+0.3
MTE	Manteigas	148.24	343	*e*PKP	PKiKP	15 46 59.0	-0.5
MTE	Manteigas	148.24	343	*e*LR	LR	16 41 00.1	
	comp=Z,6µm,20.0s						
MTE	Manteigas	148.24	343		PKPbc	15 46 57.7	-0.1
MTE				IAMs_20	IAMs_20	16 56 40.4	
	comp=Z,8µm,20.0s						
CART	Cartagena	148.27	332	IAMs_20	IAMs_20	16 54 55.4	
	comp=Z,7µm,22.0s						
TMAB	Tom-Au,PA,Br	148.44	112	*e*P	PKPdf	15 46 55.7	+0.2
COI	Coimbra	148.66	344	*e*PKP	PKPbc	15 46 58.8	+0.1
COI	Coimbra	148.66	344	PKPdf	PKPdf	15 46 55.5	+0.5
COI				IAMs_20	IAMs_20	16 58 36.4	
	comp=Z,7µm,20.0s						
COI	Coimbra	148.66	344	PKIKP	PKPdf	15 46 55.5	+0.5
COI				MLR	MLR		
	comp=Z,7µm,20.0s						
PCBR	Castelo Branco	148.74	343	*e*PKP	PKPbc	15 46 58.3	-0.7
PCBR	Castelo Branco	148.74	343	*e*PP	PP	15 50 37.0	+9.0
PCAS	Casmilo, Conde	148.83	344	*e*PKP	PKiKP	15 47 00.3	-0.3
PCAS	Casmilo, Conde	148.83	344	*e*PP	PP	15 50 38.0	+9.5
PMRV	Marv??o	149.10	342	*e*PKP	PKPbc	15 46 59.9	0.0
PMRV	Marv??o	149.10	342	*e*PP	PP	15 50 33.9	+3.8
PMRV	Marv??o	149.10	342	*e*LR	LR	16 40 07.6	
	comp=Z,5µm,20.0s						
PSBE	So Bento	149.41	344	*e*PKP	PKiKP	15 47 02.0	+0.1
PMTG	Montargil	149.67	343	*e*PKP	PKPbc	15 47 00.6	-0.7
PESTR	Estremoz	149.67	342	*e*PKP	PKPbc	15 47 01.3	-0.1
PESTR	Estremoz	149.67	342		PKPbc	15 47 00.8	-0.6
PMAFR	Mafra	150.06	345	*e*PKP	PKiKP	15 47 03.7	+0.5
PMAFR	Mafra	150.06	345	*e*PP	PP	15 50 38.0	+2.3
EVO	Evora	150.11	343	*e*PKP	PKPbc	15 47 02.5	+0.1
EVO	Evora	150.11	343	*e*PP	PP	15 50 36.4	+0.5
PBAR	Barrancos	150.13	341	*e*PKP	PKiKP	15 47 03.1	-0.2
PBAR	Barrancos	150.13	341	*e*PP	PP	15 50 39.3	+3.2
LIS	Lisbon	150.25	344	*e*PKPdf	PKPdf	15 46 57.4	-0.3
LIS				*e*PP	PP	15 50 38.2	+1.5
LIS				IAMs_20	IAMs_20	17 00 48.0	
	comp=E,8µm,15.0s						
LIS	Lisbon	150.25	344	*e*PKP	PKPdf	15 46 59.2	+1.6
LIS	Lisbon	150.25	344	*e*PP	PP	15 50 36.6	-0.1
LIS	Lisbon	150.25	344	*e*PKIKP	PKPdf	15 46 57.3	-0.3
LIS				*e*		15 50 38.2	
PBEJ	Beja	150.53	342	*e*PKP	PKiKP	15 47 04.0	-0.2
PNCL	Nicolau / Gran	150.65	343	*e*PKP	PKiKP	15 47 04.4	0.0
PNCL	Nicolau / Gran	150.65	343	*e*PP	PP	15 50 41.4	+2.4
SHEL	Horse Pasture	150.91	207	PKPdf	PKPdf	15 46 59.2	-0.1
SHEL	Horse Pasture	150.91	207	IAMs_20	IAMs_20	16 47 58.5	
	comp=Z,8µm,21.0s						
SHEL	Horse Pasture	150.91	207	PKIKP	PKPdf	15 46 59.2	-0.1
SHEL				MLR	MLR		
	comp=Z,8µm,21.0s						
PCVE	Castro Verde	150.95	342	*e*PKP	PKPdf	15 46 58.9	+0.2
PCVE	Castro Verde	150.95	342	*e*PP	PP	15 50 50.0	+9.2
PVAQ	Vaqueiros	151.06	341	*e*PKP	PKPdf	15 47 00.6	+1.7
PVAQ	Vaqueiros	151.06	341	*e*PP	PP	15 50 49.9	+8.5
PVAQ	Vaqueiros	151.06	341	*e*LR	LR	16 40 13.1	
	comp=Z,6µm,18.0s						
PTEO	Sao Teotonio	151.23	343	*e*PKP	PKPdf	15 47 00.3	+1.2
MORF	Marmelete	151.43	343	*e*PKPdf	PKPdf	15 46 59.2	-0.3
MORF				IAMs_20	IAMs_20	17 00 49.9	
	comp=Z,11µm,19.5s						
MORF	Marmelete	151.43	343	*e*PKP	PKPdf	15 47 01.3	+1.8
MORF	Marmelete	151.43	343	*e*PKIKP	PKPdf	15 46 59.2	-0.3
PFVI	Vila Nisbo	151.54	343	*e*PKP	PKiKP	15 47 07.5	+1.0
ROSB	Rosario	151.79	116	*e*P	PKPdf	15 47 00.9	+0.2
AVE	Averroes	154.65	337	IAMs_20	IAMs_20	17 01 47.8	
	comp=Z,7µm,20.0s						
NBCL	Cascavel-CE	156.03	126	*e*P	PKPdf	15 47 06.9	+0.2
RCBR	Riachuelo	156.83	133	PKP	PKPdf	15 47 08.3	+0.5
	comp=Z,11nm,0.9s,baz=264,slow=2.4,SNR=4.0						
RCBR	Riachuelo	156.83	133	IAMs_20	IAMs_20	17 00 36.4	
	comp=Z,6µm,19.0s						
RCBR	Riachuelo	156.83	133	*e*P	PKPdf	15 47 08.2	+0.4
PMPST	Porto Santo, M	157.08	354	*e*PKP	PKPdf	15 47 08.5	+1.0
PMPST	Porto Santo, M	157.08	354	*e*PP	PP	15 51 17.1	+2.0
PMPS	Porto Santo	157.10	354	*e*PKP	PKPdf	15 47 06.2	-1.3
PMOZ	Porto Moniz, M	157.41	356	*e*PKP	PKPdf	15 47 08.4	+0.3
PMOZ	Porto Moniz, M	157.41	356	*e*PP	PP	15 51 18.6	+1.6
PMOZ	Porto Moniz, M	157.41	356	*e*SS	SS	16 11 14.4	+5.2
PMOZ	Porto Moniz, M	157.41	356	*e*LR	LR	16 40 48.3	
	comp=Z,5µm,22.0s						
PMAR	Madeira	157.49	355	*e*PKP	PKPdf	15 47 08.0	-0.3
PMAR	Madeira	157.49	355	*e*PP	PP	15 51 19.8	+2.3
TORD	Torodi Ar. Bea	159.54	280	PKP	PKPdf	15 47 10.3	-0.7
	comp=Z,8.9nm,0.9s,baz=48,slow=2.3,SNR=14						
TORD				PKPab	PKPab	15 47 49.6	+0.3
	comp=Z,15nm,1.1s,baz=196,slow=2.5,SNR=5.1						
KIC	Kosan Toka	165.41	256⇑	*e*PKIKP	PKPdf	15 47 15.5	-1.4
	comp=Z,3.9nm,0.5s						
DBIC	Dimbokro	165.60	257		PKPdf	15 47 15.7	-1.2
DBIC	Dimbokro	165.60	257	⇑PKIKP	PKPdf	15 47 16.6	-0.4
LIC	Lamto	165.64	255⇑	*e*PKIKP	PKPdf	15 47 15.6	-1.4
	comp=Z,40nm,1.0s						
TIC	Toumodi	165.75	257⇑	*e*PKIKP	PKPdf	15 47 15.7	-1.5
	comp=Z,31nm,1.0s						

*IDC **10** 15:28:12.2±4.5,53°.34N×165°.55W, h0km, mb3.5/3, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=72.8km s-min=46.5km az=99.0*
*NEIC **10** 15:28:13.3±2.1,53°.3N±0°.1×166°.24W±0°.07, h32km±6km, mb3.9/30, ML4.5/6, ML4.3(AEIC), Error ellipse: s-maj=16.5km s-min=4.4km az=165.0*
*AEIC **10** 15:28:13.6±2.2,53°.29N±0°.08×166°.26W±0°.08, h28km±5km, Error ellipse: s-maj=11.4km s-min=7.4km az=175.0*

ISC 10 15:28:14.4±0.7, 53°.29N±0°.07×166°.18W±0°.06, h48km, n121, σ1§56/117, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNV	Unalaska Valle	0.59	341		Pn	15 28 25.2	-1.5
UNV	Unalaska Valle	0.59	341		Sn	15 28 33.0	-2.5
UNV	Unalaska Valle	0.59	341	P	Pn	15 28 25.2	-1.5
	baz=166						
UNV				S	Sn	15 28 33.0	-2.5
	baz=166						
AKUT	Akutan	0.88	16	Pn	Pn	15 28 29.6	-0.8
AKUT				IAML		15 28 42.0	
	comp=E,22µm,0.2s						
AKUT				IAML		15 28 42.2	
	comp=N,13µm,0.4s						
NIKH	Nikolski High	1.65	260		Sn	15 28 59.5	-1.3
NIKH	Nikolski High	1.65	260	Pn	Pn	15 28 39.7	-1.2
NIKH	Nikolski High	1.65	260	P	Pn	15 28 39.9	-0.9
	baz=76						
NIKH				S	Sn	15 29 00.3	-0.5
	baz=76						
CLES	Cleveland East	2.29	260	Pn	Pn	15 28 49.3	-0.4
CLES				IAML		15 29 07.1	
	comp=N,3µm,0.3s						
CLES				IAML		15 29 19.4	
	comp=E,4µm,0.3s						
S12K	Black Hills	3.41	43	P	Pn	15 29 05.9	+0.9
	baz=228						
SDPT	Sand Point	3.92	56	Pn	Pn	15 29 12.6	+0.5
SDPT				IAML		15 30 12.2	
	comp=N,635nm,0.7s						
SDPT	Sand Point	3.92	56	P	Pn	15 29 12.8	+0.7
	baz=240						
SPIA	Saint Paul Isl	4.54	331		Pn	15 29 20.0	-0.5
SPIA	Saint Paul Isl	4.54	331	P	Pn	15 29 20.1	-0.3
	baz=148						
CHGN	Chignik	5.41	53		Pn	15 29 33.0	+0.6
CHGN	Chignik	5.41	53	P	Pn	15 29 33.5	+1.1
	baz=240						
GSTR	Great Sitkin T	6.13	263	Pn	Pn	15 29 42.9	+0.6
ADK	Adak	6.56	262	Pn	Pn	15 29 48.3	+0.1
CHIR	Chirikof Islan	6.64	63	Pn	Pn	15 29 49.0	-0.3
KIWB	Kanaga Island	6.84	262		Pn	15 29 50.4	-1.7
P16K	Nushagak River	7.34	35	P	Pn	15 30 00.8	+1.9
	baz=222						
SII	Sitkinak Islan	7.64	60	Pn	Pn	15 30 01.9	-1.1
O17K	Koliganek Bris	8.21	34	P	Pn	15 30 12.4	+1.7
	baz=222						
Q18K	Katmai Hardscr	8.24	45	P	Pn	15 30 13.2	+1.8
	baz=235						
OHAK	Old Harbor	8.35	57	Pn	Pn	15 30 11.2	-1.4
P18K	Big Mountain,	8.62	40	P	Pn	15 30 18.3	+2.0
	baz=230						
KDAK	Kodiak Island	8.92	54	Pn	Pn	15 30 19.0	-1.5
	comp=N,2.2nm,0.3s,baz=245,slow=4.9,SNR=132						
KDAK				Sn	Sn	15 31 54.6	-4.8
	comp=N,0.4nm,0.3s,baz=3.8,slow=22,SNR=1.6						
	comp=N,5.4nm,0.3s						
KDAK	Kodiak Island	8.92	54	Pn	Pn	15 30 19.2	-1.3
Q19K	Cape Douglas,	8.99	46	Pn	Pn	15 30 22.3	+0.9
AMKA	Amchitka	9.10	264	Pn	Pn	15 30 21.9	-1.0
O19K	Port Alsworth	9.49	38		Pn	15 30 29.5	+1.2
ILSW	Iliamna Southw	9.81	42		Pn	15 30 31.8	-1.0
N19K	Bonanza Creek	9.86	35		Pn	15 30 33.3	-0.1
CNPM	China Poot	10.36	47	Pn	Pn	15 30 39.1	-1.0
BRLK	Bradley Lake	10.63	46	Pn	Pn	15 30 42.4	-1.5
L19K	White Mountain	10.76	30		Pn	15 30 45.8	+0.2
GAMB	Gambell	10.90	347	Pn	Pn	15 30 47.2	-0.3
SPU	Mount Spurr	10.98	38		Pn	15 30 49.2	+0.4
TTA	Tatalina	11.04	25	Pn	Pn	15 30 49.9	+0.3
ANM	Nome	11.32	2	Pn	Pn	15 30 53.9	+0.7
SEW	Seward	11.43	47	Pn	Pn	15 30 53.2	-1.5
SUA	Susitna One	11.65	39		Pn	15 30 57.8	-0.1
SKT	Skwentna	11.69	36	Pn	Pn	15 30 59.4	+1.0
RC01	Rabbit Creek A	11.83	42		Pn	15 30 58.5	-1.7
K20K	Telida	11.90	27		Pn	15 31 01.6	+0.3
PPLA	Purkeypile	12.11	32	Pn	Pn	15 31 03.8	-0.4
PWL	Port Wells	12.28	45	Pn	Pn	15 31 03.5	-3.0
TNA	Tin City	12.34	357	Pn	Pn	15 31 07.8	+0.7
CUT	Chulitna	12.42	36	Pn	Pn	15 31 07.4	-0.8
KNK	Knik Glacier	12.52	42		Pn	15 31 07.1	-2.6
CAST	Castle Rocks	12.53	30	Pn	Pn	15 31 10.1	+0.3
GHO	Glory Hole Cre	12.54	41	Pn	Pn	15 31 07.7	-2.3
J20K	Nowinta River	12.55	25	Pn	Pn	15 31 10.3	+0.3
SML	Sawmill	12.79	41	Pn	Pn	15 31 11.7	-1.6
TRF	Thorofare Moun	13.12	33	Pn	Pn	15 31 17.6	-0.2
SCM	Sheep Creek Mo	13.20	42		Pn	15 31 16.3	-2.8
EYAK	Cordova Ski Ar	13.27	49	Pn	Pn	15 31 16.7	-3.2
BPAW	Bear Paw Mtn.	13.36	30	Pn	Pn	15 31 21.9	+0.7
DIV	Divide	13.51	46		Pn	15 31 20.2	-3.0
KLU	Klutina	13.61	45		Pn	15 31 21.5	-3.2
M24K	Tolsona, Glenn	13.81	42		Pn	15 31 24.8	-2.5
DHY	Denali Highway	13.88	38		Pn	15 31 25.0	-3.4
I21K	Tanana	13.91	25		Pn	15 31 29.9	+1.3
BMRM	Bremner River	13.96	48		Pn	15 31 26.2	-3.1
H21K	Melozitna Rive	14.09	23	P	Pn	15 31 32.0	+0.9
MLY	Manley	14.13	28	Pn	Pn	15 31 31.5	0.0
IMAR	Indian Mountai	14.15	21	Pn	Pn	15 31 33.6	+1.8
N25K	Chitina, Valde	14.23	46		Pn	15 31 30.2	-2.8
GLB	Gilahina Butte	14.50	47		Pn	15 31 33.6	-2.9
WRH	Wood River Hil	14.52	32	Pn	Pn	15 31 36.0	-0.8
PAX	Paxson	14.54	40	Pn	Pn	15 31 36.0	-1.1
VRDI	Verde Repeater	14.57	48		Pn	15 31 34.5	-3.2
I23K	Minto, Yukon-K	14.61	29		Pn	15 31 36.9	-0.9
MDM	Murphy Dome	14.81	31	Pn	Pn	15 31 40.0	-0.6
MCARA	McCarthy VSAT	14.83	48	Pn	Pn	15 31 38.3	-2.4
H23K	Yukon River	15.06	27	Pn	Pn	15 31 43.9	+0.2
H23K				IAmb	IAmb	15 31 57.0	
	comp=Z,6.9nm,1.2s						
IL31		15.11	33	Pn	Pn	15 31 42.6	-1.8
ILAR	Eielson Array	15.11	33	Pn	Pn	15 31 42.6	-1.9
	comp=Z,0.1nm,0.3s,baz=216,slow=13,SNR=10						
	comp=Z,0.2nm,0.5s						
RIDG	Independent Ri	15.20	38	Pn	Pn	15 31 44.7	-0.9
RIDG				IAmb	IAmb	15 32 05.4	
	comp=Z,17nm,1.5s						
MENT	Mentasta	15.21	42	Pn	Pn	15 31 43.3	-2.6
MENT				IAmb	IAmb	15 32 05.4	
	comp=Z,4.2nm,0.6s						
M26K	Nabesna, AK	15.26	44	Pn	Pn	15 31 43.6	-2.9
M26K				IAmb	IAmb	15 31 56.5	
	comp=Z,5.3nm,0.5s						
BARN	Barnard Glacie	15.32	50	Pn	Pn	15 31 45.3	-2.2
BARN				IAmb	IAmb	15 32 06.0	
	comp=Z,6.6nm,0.8s						
L26K	Log Cabin Wild	15.41	42	Pn	Pn	15 31 47.0	-1.3
L26K				IAmb	IAmb	15 31 56.4	
	comp=Z,6.1nm,0.5s						
DOT	Dot Lake	15.44	39	Pn	Pn	15 31 48.6	-0.2
PCA	Pinnacle	15.71	54	Pn	Pn	15 31 51.1	-1.1
M27K	Edge Creek, AK	15.71	45	Pn	Pn	15 31 50.5	-1.9
BCPM	Bancas Point	15.98	55	Pn	Pn	15 31 55.2	-0.4
L27K	Beaver Creek,	16.04	43	Pn	Pn	15 31 54.5	-2.0
BCAR	Beaver Creek A	16.06	43	Pn	Pn	15 31 54.5	-2.2
J26L	Joseph Creek	16.09	37	Pn	Pn	15 31 55.7	-1.5
J26L				IAmb	IAmb	15 32 07.4	
	comp=Z,3.9nm,0.5s						
FYU	Fort Yukon	16.82	30	P	P	15 32 08.7	+1.1
HYT	Haines Junctio	17.21	53		Pn	15 32 11.3	+0.2
HYT				IAmb	IAmb	15 32 23.2	
	comp=Z,5.0nm,0.7s						
DAWY	Dawson	17.46	41	Pn	Pn	15 32 12.7	-1.4
BMAR	Burnt Mountain	17.59	28		Pn	15 32 15.6	-0.2
SIT	Sitka	17.93	65	P	P	15 32 20.0	0.0
M30M	Minto, Yukon	18.00	47	P	P	15 32 20.9	+0.1
SKAG	Skagway	18.05	58	P	Pn	15 32 22.4	+1.1
SKAG				IAmb	IAmb	15 32 26.1	
	comp=Z,7.6nm,1.0s						
N31M	Braeburn, Yuko	18.17	51	P	Pn	15 32 23.9	+1.0
N31M				IAmb	IAmb	15 32 36.4	
	comp=Z,5.4nm,0.7s						
WHY	Whitehorse	18.44	54	P	Pn	15 32 26.8	+0.6
M31M	Drury Creek, Y	18.98	49	Pn	Pn	15 32 33.3	+0.7
M31M				IAmb	IAmb	15 32 42.7	
	comp=Z,7.7nm,0.7s						
P33M	Teslin, Yukon	19.39	56		Pn	15 32 38.1	+0.5
P33M				IAmb	IAmb	15 32 39.1	
	comp=Z,6.6nm,0.9s						
FARO	Faro, Yukon	19.46	50	P	P	15 32 36.8	0.0
FARO				IAmb	IAmb	15 32 48.6	
	comp=Z,6.8nm,0.7s						
EPYK	Eagle Plains	19.51	36	P	P	15 32 37.3	0.0
EPYK				IAmb	IAmb	15 32 44.4	
	comp=Z,5.4nm,0.9s						
DLBC	Dease Lake	20.75	61	P	Pn	15 32 55.7	+2.1
	comp=Z,2.6nm,0.9s,baz=270,slow=14,SNR=5.1						
INK	Inuvik	21.51	33	P	P	15 32 59.0	+0.2
	comp=Z,2.0nm,0.5s,baz=243,slow=10,SNR=9.6						
	comp=Z,2.0nm,0.5s						
INK	Inuvik	21.51	33	P	P	15 32 59.0	+0.2
INK				IAmb	IAmb

YKA	**Yellowknife Ar**	**21.41**	**15**	P	**P**	**15 48 47.1**	**+1.0**	
	comp=Z,1.2nm,0.8s,baz=205,slow=11,SNR=5.7							
	comp=Z,1.2nm,0.8s							
MCARA	**McCarthy VSAT**	**21.45**	**338**	P	**P**	**15 48 44.9**	**-1.8**	
MCARA				IAmb	IAmb	15 49 07.7		
	comp=Z,18nm,1.4s							
ILAR	**Eielson Array**	**25.23**	**340**	P	**P**	**15 49 27.7**	**+3.4**	
	comp=Z,1.1nm,1.1s,baz=143,slow=9.1,SNR=4.8							
	comp=Z,1.1nm,1.1s							
H11N3	**WAKE ISLAND Hy**	**59.69**	**270**	T	T	16 58 42.0		
	baz=51,slow=75,SNR=34							
H11N2	**WAKE ISLAND Hy**	**59.69**	**270**	T	T	16 58 42.7		
	baz=51,slow=75,SNR=21							
H11N1	**WAKE ISLAND Hy**	**59.71**	**270**	T	T	16 58 43.8		
	baz=51,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy**	**60.59**	**269**	T	T	16 59 47.5		
	baz=50,slow=75,SNR=19							
H11S2	**WAKE ISLAND Hy**	**60.60**	**269**	T	T	16 59 53.2		
	baz=50,slow=75,SNR=17							
H11S3	**WAKE ISLAND Hy**	**60.61**	**269**	T	T	16 59 51.1		
	baz=50,slow=75,SNR=10							

ROM 10 15:44:13.5±0.0,42°882N±0.003×13°146E±0.004, h11km,ML1.7/7,Error ellipse: s-maj=0.3km s-min=0.3km az=220.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.04**	**130**	P	Pg	15 44 16.1	+0.3
T1245				S	Sg	15 44 17.6	+0.2
T1245				AML	AML		
	comp=E,1365μm,0.1s						
T1245				AML	AML		
	comp=E,1380μm,0.1s						
T1245				AML	AML		
	comp=N,1395μm,0.3s						
T1245				AML	AML		
	comp=N,1315μm,0.3s						
MC2	**Monte Cornacci**	**0.04**	**47**	P	Pg	15 44 16.2	+0.3
MC2				S	Sg	15 44 18.0	+0.4
NRCA	**Norcia**	**0.05**	**206**	P	Pg	15 44 16.1	+0.3
NRCA				S	Sg	15 44 17.6	+0.1
NRCA				AML	AML		
	comp=E,2505μm,0.2s						
NRCA				AML	AML		
	comp=N,2320μm,0.1s						
NRCA				AML	AML		
	comp=E,2510μm,0.2s						
NRCA				AML	AML		
	comp=E,2685μm,0.2s						
NRCA				AML	AML		
	comp=N,2320μm,0.1s						
NRCA				AML	AML		
	comp=N,2400μm,0.1s						
T1216	**Preci, Frazion**	**0.09**	**275**	P	Pg	15 44 16.7	+0.5
T1216				S	Sg	15 44 18.7	+0.5
T1216				AML	AML		
	comp=E,400μm,1.6s						
T1216				AML	AML		
	comp=N,640μm,0.2s						
T1216				AML	AML		
	comp=N,640μm,1.8s						
MMO1	**Montemonaco**	**0.13**	**83**	P	Pg	15 44 17.2	+0.4
MMO1				S	Sg	15 44 19.7	+0.6
T1212	**Cascia, Frazio**	**0.15**	**210**	P	Pg	15 44 17.6	+0.5
T1212				S	Sg	15 44 20.2	+0.8
T1212				AML	AML		
	comp=N,446μm,0.3s						
T1212				AML	AML		
	comp=E,573μm,0.2s						
T1212				AML	AML		
	comp=N,448μm,0.3s						
T1212				AML	AML		
	comp=E,552μm,0.2s						
FDMO	**Fiordimonte**	**0.16**	**344**	P	Pg	15 44 17.7	+0.6
FDMO				S	Sg	15 44 20.3	+0.6
FDMO				AML	AML		
	comp=E,91μm,0.4s						
FDMO				AML	AML		
	comp=N,99μm,1.1s						
FDMO				AML	AML		
	comp=E,91μm,1.6s						
FDMO				AML	AML		
	comp=N,99μm,0.9s						
T1219	**Muccia, Frazio**	**0.20**	**330**	P	Pg	15 44 18.4	+0.6
T1219				S	Sg	15 44 22.0	+1.1
T1219				AML	AML		
	comp=N,152μm,0.3s						
T1219				AML	AML		
	comp=E,161μm,0.6s						
T1241	**Roccafluvione,**	**0.21**	**97**	P	Pg	15 44 18.5	+0.4
T1241				S	Sg	15 44 22.2	+1.1
T1241				AML	AML		
	comp=N,298μm,0.1s						
T1241				AML	AML		
	comp=E,225μm,0.2s						
CESI	**CESI - Serrava**	**0.22**	**305**	P	Pg	15 44 18.8	+0.6
CESI				S	Sg	15 44 22.5	+1.2
CESI				AML	AML		
	comp=E,156μm,1.1s						
CESI				AML	AML		
	comp=N,392μm,0.1s						
CESI				AML	AML		
	comp=E,156μm,0.9s						
T1220	**Camerino, Fraz**	**0.23**	**350**	P	Pg	15 44 19.0	+0.6
SMA1	**SAN MARTINO**	**0.29**	**151**	P	Pg	15 44 19.9	+0.5
LNSS	**Leonessa**	**0.29**	**196**	P	Pg	15 44 19.7	+0.3
LNSS				AML	AML		
	comp=E,102μm,1.3s						
LNSS				AML	AML		
	comp=N,121μm,0.1s						
RM33	**Pellescritta (**	**0.38**	**172**	P	Pb	15 44 21.7	-0.6
TERO	**Teramo**	**0.42**	**127**	P	Pg	15 44 21.9	0.0
FAGN	**Fagnano**	**0.70**	**152**	S	Sb	15 44 37.3	0.0
VIVA	**Pratoni del Vi**	**1.17**	**194**	S	Sn	15 44 51.6	-0.1
LRP	**Arpino**	**1.28**	**165**	P	Pn	15 44 35.8	-1.5

WEL 10 15:54:56.6±0.6,42°S±3°×17°4E±°,h7km±4km,M2.5/6, ML2.8/10,MLv2.5/6,Error ellipse: s-maj=0.0km s-min=0.0km az=118.6,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**246**	P	Pg	15 55 01.4	0.0
KHZ				S	Sg	15 55 05.5	+0.9
BSWZ	**Blackbirch Sta**	**0.60**	**3**	P	Pg	15 55 08.6	+0.4
BSWZ				S	Sb	15 55 17.6	-0.5
CMWZ	**Cape Campbell**	**0.63**	**26**	P	Pb	15 55 10.6	+0.7
GVZ	**Greta Valley S**	**0.88**	**222**	P	Pb	15 55 13.8	-0.3
GVZ				S	Sn	15 55 27.5	-0.9
THZ	**Tophouse**	**0.89**	**308**	P	Pg	15 55 13.3	-0.3
THZ				S	Sg	15 55 25.5	+0.3
TUWZ	**Tuamarina**	**0.89**	**5**	P	Pg	15 55 13.9	+0.2
TUWZ				S	Sb	15 55 27.5	+1.1
NNZ	**Nelson**	**1.15**	**343**	P	Pg	15 55 17.9	-0.7
NNZ				S	Sg	15 55 32.8	-0.8
TCW	**Tory Channel**	**1.16**	**17**	P	Pg	15 55 17.8	-0.9
MRNZ	**Matariki Terra**	**1.22**	**318**	P	Pb	15 55 19.8	-0.2
MRNZ				S	Sn	15 55 37.5	+0.7
AMCZ	**Amberley**	**1.23**	**225**	P	Pb	15 55 18.8	-1.2
WEL	**Wellington**	**1.25**	**34**	P	Pn	15 55 19.2	-1.1
LTZ	**Lake Taylor**	**1.25**	**248**	P	Pb	15 55 19.2	-1.2
PLWZ	**Palliser**	**1.29**	**55**	P	Pn	15 55 19.2	-1.9
TKNZ	**Takaka Hill**	**1.44**	**333**	P	Pn	15 55 23.2	+0.1
TKNZ				S	Sg	15 55 43.7	+0.8
OKCZ	**Okains Bay**	**1.52**	**202**	P	Pn	15 55 22.1	-2.1
DUWZ	**D'Urville Isla**	**1.52**	**2**	P	Pn	15 55 24.4	+0.3
DUWZ				S	Sn	15 55 44.0	-0.1
CAW	**Cannon Point**	**1.52**	**38**	P	Pn	15 55 22.6	-1.6
DSZ	**Denniston Nort**	**1.62**	**290**	P	Pn	15 55 25.5	0.0
DSZ				S	Sg	15 55 48.9	+0.3
MQZ	**McQueen's Vall**	**1.64**	**212**	P	Pn	15 55 23.0	-2.8
MQZ				S	Sn	15 55 43.3	-3.7
KIW	**Kapiti Island**	**1.66**	**29**	P	Pn	15 55 25.6	-0.5
OXZ	**Oxford**	**1.66**	**232**	P	Pn	15 55 23.8	-2.3
OXZ				S	Sn	15 55 44.7	-3.1
AKCZ	**Akaroa Harbour**	**1.69**	**203**	P	Pn	15 55 24.3	-2.2
AKCZ				S	Sn	15 55 46.2	-2.4
MTW	**Mount Morrison**	**1.70**	**48**	P	Pn	15 55 24.6	-2.0
QRZ	**Quartz Range**	**1.79**	**326**	P	Pn	15 55 28.5	+0.7
QRZ				S	Sb	15 55 52.4	+0.2
OGWZ	**Otaki Gorge**	**1.80**	**34**	P	Pn	15 55 26.8	-1.2
INZ	**Inchbonnie**	**1.82**	**256**	P	Pn	15 55 26.6	-1.6
MHCZ	**Mount Hutt**	**2.06**	**233**	P	Pn	15 55 29.4	-2.3
WACZ	**Wakanui South**	**2.19**	**221**	P	Pn	15 55 31.1	-2.2
WVZ	**Waitaha Valley**	**2.41**	**251**	P	Pn	15 55 35.6	-0.8
RPZ	**Rata Peaks**	**2.47**	**235**	P	Pn	15 55 35.3	-2.0
RPZ				S	Sn	15 56 05.8	-1.9
ARCZ	**Arundel**	**2.54**	**229**	P	Pn	15 55 36.1	-2.1
TMZ	**Timaru**	**2.92**	**224**	P	Pn	15 55 41.7	-1.7
LBZ	**Lake Benmore**	**3.37**	**231**	P	Pn	15 55 48.4	-1.3
ODZ	**Otahua Downs**	**3.58**	**219**	P	Pn	15 55 50.0	-2.4

*MOS **10** 16:21:54.8±0.8,27°54N×139°99E,h476km, mb5.0/98, Error ellipse: s-maj=7.6km s-min=4.2km az=113.7*
*JMA **10** 16:21:55.0±0.2,27°7N±0°9×14°1E±°,h490km±2km, MD5.5/75,MV4.7/75, W OFF OGASAWARA*
JMA Felt I J1 at W OFF OGASAWARA .
*BJI **10** 16:21:55.1±0.0,27°57N×139°98E,h478km, mb5.2/74, mB5.3/20*
*NEIC **10** 16:21:55.6±1.4,27°60N±0°08×140°0E±0°1,h462km±5km, mb4.8/329,Error ellipse: s-maj=13.3km s-min=12.1km az=97.0*
*IDC **10** 16:21:56.3±0.3,27°57N×140°02E,h476km±3km,mb4.2/28, mbtmp5.1/36,Error ellipse: s-maj=9.0km s-min=6.0km az=89.0*

ISC 10 16:21:56.0±0.3,27°56N±0°03×140°05E±0°04,h474km±2km, h474km:pP-P,n1130,σ1s05/1229,mb4.8/313,37C-86D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.96**	**103**	P	**P**	**16 22 57.6**	**-0.8**
CBIJ				*e*S	**S**	**16 23 45.2**	**-3.9**
CBIJ	**Chichi jima**	**1.96**	**103**	A	A	16 22 57.6	
	comp=E,15nm,1.0s,comp=E,17nm,2.0s						
JCJ	**Chichijima**	**1.96**	**103**	P	**P**	**16 23 00.8**	**+2.3**
	3μm,0.3s,baz=21,slow=10,SNR=747						
JCJ				S	**S**	**16 23 49.8**	**+0.7**
	5μm,0.5s,baz=272,slow=20,SNR=9.4						
JCJ	**Chichijima**	**1.96**	**103**	P	**P**	**16 22 57.3**	**-1.1**
JHH2	**Haha-jima-NKT2**	**2.11**	**116**	P	**P**	**16 22 58.9**	**-0.4**
JHH2				*e*S	**S**	**16 23 48.6**	**-2.0**
JHH2	**Haha-jima-NKT2**	**2.11**	**116**	A	A	16 22 58.9	
	comp=E,40nm,0.4s,comp=E,35nm,1.1s						
JAOM	**Aogashimamukai**	**4.89**	**357**	*e*P	**P**	**16 23 20.8**	**+0.3**
JAOM				*e*S	**S**	**16 24 28.0**	**-1.5**
JHCJ	**Hachijojimakas**	**5.50**	**358**	*e*P	**P**	**16 23 26.5**	**+0.4**
JHJ2	**Mitsune**	**5.54**	**358**	P	**P**	**16 23 25.9**	**-0.5**
JHJ2	**Mitsune**	**5.54**	**358**	P	**P**	**16 23 26.3**	**-0.1**
JHJ	**Hachijo jima 2**	**5.54**	**358**	P	**P**	**16 23 26.4**	**-0.2**
	422nm,0.4s,baz=260,slow=22,SNR=16						
JHJ				S	**S**	**16 24 38.1**	**-2.5**
	239nm,0.3s,baz=47,slow=23,SNR=5.5						
TK02	**Tokai 2**	**6.66**	**343**	*e*P	**P**	**16 23 39.2**	**+1.8**
TTO1	**TONANKAI O.B.S**	**6.66**	**336**	*e*P	**P**	**16 23 40.2**	**+2.8**
BSO1	**Boso 1**	**7.11**	**6**	P	**P**	**16 23 42.2**	**+0.5**
BSO1				*e*S	**S**	**16 25 07.8**	**-0.8**
BSO3	**Boso 3**	**7.23**	**3**	P	**P**	**16 23 43.0**	**-0.2**
BSO3				*e*S	**S**	**16 25 08.7**	**-2.6**
JTNC	**Tanabenakahech**	**7.31**	**330**	*e*P	**P**	**16 23 46.1**	**+1.6**
JTNC				*e*S	**S**	**16 25 14.6**	**+1.1**
JIE	**Ise**	**7.39**	**338**	*e*P	**P**	**16 23 46.6**	**+1.4**
JIE				*e*S	**S**	**16 25 15.3**	**+0.5**
JKN2	**Miekihoku**	**7.40**	**335**	*e*P	**P**	**16 23 46.9**	**+1.5**
JKN2				*e*S	**S**	**16 25 16.2**	**+1.1**
BSO4	**Boso 4**	**7.41**	**2**	*e*P	**P**	**16 23 45.2**	**-0.1**
BSO4				*e*S	**S**	**16 25 12.9**	**-2.1**
HMMJ	**Hamamatsu 2**	**7.54**	**345**	*e*P	**P**	**16 23 47.5**	**+0.7**
HMMJ				*e*S	**S**	**16 25 16.1**	**-1.6**
JOD2	**Odawara 2**	**7.72**	**354**	P	**P**	**16 23 48.1**	**-0.6**
JOD2				*e*S	**S**	**16 25 18.6**	**-2.7**
JNY	**Yasuok**	**7.99**	**347**	*e*P	**P**	**16 23 52.0**	**+0.4**
JAO	**Obara**	**8.04**	**343**	*e*P	**P**	**16 23 52.9**	**+0.8**
JAO				*e*S	**S**	**16 25 26.7**	**-0.8**
JMN	**Monobe**	**8.12**	**321**	P	**P**	**16 23 54.9**	**+1.9**
JEG	**Eigenji**	**8.17**	**338**	P	**P**	**16 23 55.7**	**+2.3**
JEG				*e*S	**S**	**16 25 30.8**	**+0.8**
INU	**Inuyama**	**8.18**	**342**	P	**P**	**16 23 54.2**	**+0.7**
JTO	**Tosashimizu**	**8.20**	**312**	P	**P**	**16 23 56.1**	**+2.3**
JTO				*e*S	**S**	**16 25 33.8**	**+3.4**
JHU	**Hanno**	**8.29**	**356**	P	**P**	**16 23 53.4**	**-1.3**
JGF	**Kuroka**	**8.34**	**345**	P	**P**	**16 23 55.5**	**+0.3**
JRY	**Ryogami san**	**8.48**	**354**	P	**P**	**16 23 56.1**	**-0.7**
JRY				*e*S	**S**	**16 25 31.6**	**-4.5**
JYT	**Yasato**	**8.64**	**1**	*e*P	**P**	**16 23 57.7**	**-0.6**
JYT				*e*S	**S**	**16 25 34.4**	**-4.6**
JAG	**Ashikaga**	**8.85**	**357**	P	**P**	**16 23 59.3**	**-1.4**
JHO	**Hitachi**	**9.03**	**3**	P	**P**	**16 24 02.3**	**-0.2**
JHO				*e*S	**S**	**16 25 43.2**	**-3.5**
MJAR	**Matsushiro Arr**	**9.09**	**351**	P	**P**	**16 24 02.2**	**-1.0**
	40nm,0.8s,baz=169,slow=11,SNR=46						
MJAR				S	**S**	**16 25 45.0**	**-2.8**
	40nm,0.8s,baz=174,slow=15,SNR=8.0						
MAJO	**Matsushiro**	**9.09**	**351**	P	**P**	**16 24 02.3**	**-0.9**
MAJO	**Matsushiro**	**9.09**	**351**	*c iP*	**P**	**16 24 03.0**	**-0.2**
MJB9	**Matsu-Tunnel**	**9.09**	**351**	P	**P**	**16 24 03.5**	**+0.2**
JSU	**Suzuyama**	**9.23**	**297**	P	**P**	**16 24 06.5**	**+1.6**
JHS	**Saijyo**	**9.49**	**323**	P	**P**	**16 24 09.1**	**+1.6**
JHS	**Saijyo**	**9.49**	**323**	*e*P	**P**	**16 24 09.1**	**+1.6**
JAMN	**Amaminishikomi**	**9.64**	**277**	P	**P**	**16 24 11.5**	**+2.2**
JNU	**Nakatsue**	**9.67**	**307**	P	**P**	**16 24 11.7**	**+2.2**
	315nm,0.9s,baz=108,slow=5.6,SNR=80						
JNU	**Nakatsue**	**9.67**	**307**	P	**P**	**16 24 11.5**	**+2.0**
JFK	**Kawauchi**	**9.80**	**4**	P	**P**	**16 24 11.3**	**+0.4**
JMM	**Marumori**	**10.29**	**3**	P	**P**	**16 24 16.6**	**+0.5**
JOW	**Kunigami**	**10.51**	**269**	P	**P**	**16 24 20.5**	**+1.9**
	241nm,0.3s,baz=112,slow=21,SNR=256						
JTM	**Tenmabayashi**	**13.22**	**3**	P	**P**	**16 24 48.1**	**+0.6**
TJN	**Taejon**	**13.89**	**312**	*ce*P	**P**	**16 24 54.0**	**-0.7**
KSRS	**Korea Array**	**14.20**	**317**	P	**P**	**16 24 57.4**	**-0.6**
	19nm,0.8s,baz=131,slow=11,SNR=40						
KSRS				ScP	**ScP**	**16 32 28.9**	**0.0**
	2.2nm,0.8s,baz=64,slow=2.9,SNR=4.6						
KSAR	**Wonju Array Be**	**14.21**	**317**	P	**P**	**16 24 56.6**	**-1.6**
KSAR	**Wonju Array Be**	**14.21**	**317**	P	**P**	**16 24 56.6**	**-1.6**
KS19	**Wonju Array Si**	**14.26**	**317**	P	**P**	**16 24 57.1**	**-1.5**
GUMO	**Guam**	**14.61**	**161**	P	**P**	**16 25 03.5**	**+0.8**
	58nm,0.5s,baz=343,slow=4.9,SNR=6.6						
ERM	**Erimo**	**14.64**	**9**	*e*P	**P**	**16 25 02.6**	**0.0**
ERM				pmax	pmax		
	comp=Z,45nm,0.8s						
INCN	**Inchon**	**15.02**	**315**	P	**P**	**16 25 05.7**	**-1.0**
ASAJ	**Asahikawa**	**16.65**	**6**	P	**P**	**16 25 24.6**	**+0.8**
	comp=Z,26nm,0.6s,baz=215,slow=13,SNR=19						
ASAJ				ScP	**ScP**	**16 32 34.1**	**+0.7**
	comp=Z,15nm,0.9s,baz=243,slow=4.5,SNR=3.1						
ASAJ	**Asahikawa**	**16.65**	**6**	P	**P**	**16 25 24.1**	**+0.3**
JKA	**Kamikawa-asahi**	**16.65**	**6**	P	**P**	**16 25 24.1**	**+0.3**
YHNB	**Yeheng**	**17.02**	**264**	P	**P**	**16 25 26.7**	**-1.3**
YULB	**Yu-li**	**17.43**	**260**	P	**P**	**16 25 30.9**	**-1.3**
SSLB	**Suanglung**	**17.62**	**262**	P	**P**	**16 25 33.2**	**-0.8**
TWG	**Pinlang**	**17.81**	**259**	P	**P**	**16 25 34.4**	**-1.5**
USA0B	**Ussuriysk Arra**	**17.82**	**341**	P	**P**	**16 25 36.0**	**+0.3**
USA0B	**Ussuriysk Arra**	**17.82**	**341**	*d iP*	**P**	**16 25 35.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**17.82**	**341**	P	**P**	**16 25 36.1**	**+0.4**
	comp=Z,63nm,0.6s,baz=159,slow=8.6,SNR=153						
USRK				ScP	**ScP**	**16 32 35.9**	**0.0**
	comp=Z,3.9nm,0.7s,baz=190,slow=2.3,SNR=7.7						
USRK	**Ussuriysk Ar.**	**17.82**	**341**	P	**P**	**16 25 35.4**	**-0.3**
NJ2	**Nanjing**	**18.92**	**289**	⇓P	**P**	**16 25 45.1**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,60nm,0.8s						
MDJ	**Mudanjiang**	**18.97**	**337**	P	**P**	**16 25 46.8**	**+0.4**
MDJ	**Mudanjiang**	**18.97**	**337**	P	**P**	**16 25 47.1**	**+0.7**
MDJ				S	**S**	**16 28 56.5**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,76nm,1.2s						
YSS	**Yuzh-Sakhalins**	**19.47**	**6**	P	**P**	**16 25 51.7**	**+0.7**
YSS	**Yuzh-Sakhalins**	**19.47**	**6**	*e*P	**P**	**16 25 51.9**	**+1.0**
YSS				*e*S	**S**	**16 29 04.0**	**+1.6**
YSS				pmax	pmax		
	comp=Z,60nm,0.6s						
YSS				smax	smax		
	comp=E,30nm,1.2s						
SNY	**Shenyang**	**19.60**	**321**	⇓P	**P**	**16 25 51.7**	**-0.4**
SNY				pmax	pmax		
	comp=E,500nm,1.0s						
KNMB	**Chin-men Tao**	**19.71**	**266**	P	**P**	**16 25 53.4**	**0.0**
CN2	**Changchun**	**20.03**	**328**	P	**P**	**16 25 55.8**	**-0.3**
CN2				ScP	**ScP**	**16 32 40.2**	**-0.7**
CN2				pmax	pmax		
	comp=E,60nm,0.9s						
BNX	**BinXian**	**20.74**	**334**	⇓P	**P**	**16 26 02.6**	**+0.1**
BNX				pmax	pmax		
	comp=E,85nm,0.8s						
BNX				pmax	pmax		
	comp=E,2μm,11.3s						
TIA	**Tai'an**	**21.25**	**300**	P	**P**	**16 26 07.0**	**-0.3**
TIA				pmax	pmax		
	comp=E,310nm,0.9s						
KLR	**Kul'dur**	**22.56**	**346**	P	**P**	**16 26 19.6**	**+0.7**
	comp=E,6.8nm,0.4s,baz=164,slow=8.2,SNR=41						
KLR				ScP	**ScP**	**16 32 46.9**	**-0.3**
	comp=E,19nm,0.8s,baz=314,slow=3.5,SNR=32						
	comp=E,6.8nm,0.4s						
KLR	**Kul'dur**	**22.56**	**346**	*d iP*	**P**	**16 26 19.5**	**+0.5**
KLR				pmax	pmax		
	comp=Z,31nm,1.7s						
WHN	**Wuhan**	**22.65**	**284**	⇓*iP*	**P**	**16 26 20.3**	**+0.3**
WHN				ScP	**ScP**	**16 32 48.5**	**+0.8**
WHN				pmax	pmax		
	comp=Z,300nm,1.1s						
BJT	**Baijiatuan**	**23.33**	**308**	P	**P**	**16 26 24.8**	**-1.2**
BJT	**Baijiatuan**	**23.33**	**308**	P	**P**	**16 26 24.8**	**-1.2**
HNS	**HongShan**	**23.46**	**301**	⇓P	**P**	**16 26 26.8**	**-0.4**
HNS				PcP	**PcP**	**16 29 57.9**	**+1.0**
HNS				ScP	**ScP**	**16 32 50.5**	**+0.7**
HNS				pmax	pmax		
	comp=Z,68nm,1.1s						
LYN	**LuoYang**	**24.59**	**293**	⇓*iP*	**P**	**16 26 36.9**	**-0.4**
LYN				pmax	pmax		
	comp=Z,40nm,1.3s						
HEH	**HeiHe**	**24.63**	**340**	⇓P	**P**	**16 26 37.9**	**+0.5**
HEH				PcP	**PcP**	**16 29 59.6**	**+0.4**
HEH				S	**S**	**16 30 24.6**	**+0.4**
HEH				ScP	**ScP**	**16 32 52.4**	**-0.4**
HEH				ScS	**ScS**	**16 36 38.9**	**-2.3**
HEH				pmax	pmax		
	comp=Z,100nm,0.9s						
XLT	**XiLinHaoTe**	**25.25**	**316**	⇑*iP*	**P**	**16 26 42.6**	**-0.5**
XLT				PcP	**PcP**	**16 30 01.5**	**+0.6**
XLT				ScP	**ScP**	**16 32 55.2**	**+0.4**
XLT				pmax	pmax		
	comp=Z,18nm,1.2s						
HIA	**Hailar**	**26.73**	**330**	P	**P**	**16 26 56.1**	**+0.2**
HIA	**Hailar**	**26.73**	**330**	P	**P**	**16 26 56.2**	**+0.2**
ENH	**Enshi**	**26.85**	**283**	P	**P**	**16 26 56.9**	**-0.5**
HHC	**Hu-ho-hao-te**	**26.90**	**307**	*e*P	**P**	**16 26 57.4**	**-0.3**
HHC				pmax	pmax		
	comp=Z,68nm,0.8s						
HHC				pmax	pmax		
	comp=Z,410nm,6.9s						
XAN	**Xi'an**	**27.44**	**291**	P	**P**	**16 27 02.4**	**-0.1**
XAN				S	**S**	**16 31 17.1**	**+8.2**
XAN				pmax	pmax		
	comp=Z,75nm,0.8s						
XAN				pmax	pmax		
	comp=Z,2μm,11.5s						
ZEA	**Zeya**	**27.80**	**344**	*e*P	**P**	**16 27 05.9**	**+0.5**
ZEA				*e*		16 31 12.2	
ZEA				pmax	pmax		
	comp=E,20nm,1.1s						
ZEA				pmax	pmax		
	comp=N,40nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,70nm,0.8s						
BTO	**Baotou**	**27.92**	**306**	*e*P	**P**	**16 27 07.0**	**+0.2**
PEA0B	**Petropavlovsk-**	**28.69**	**22**	P	**P**	**16 27 13.8**	**+0.7**
PEA0B	**Petropavlovsk-**	**28.69**	**22**	P	**P**	**16 27 13.9**	**+0.7**
PETK	**Petropavlovsk-**	**28.69**	**22**	P	**P**	**16 27 14.1**	**+1.0**
	comp=Z,4.2nm,0.6s,baz=200,slow=6.2,SNR=14						
	comp=Z,4.2nm,0.6s						
PET	**Petropavlovsk**	**28.95**	**23**	P	**P**	**16 27 16.4**	**+1.0**
PET	**Petropavlovsk**	**28.95**	**23**	*de*P	**P**	**16 27 16.7**	**+1.3**
PET				pmax	pmax		
	comp=Z,77nm,1.2s						
SIJI	**Sorong**	**29.50**	**198**	P	**P**	**16 27 19.2**	**-1.6**
	comp=Z,8.5nm,0.9s,baz=117,slow=14,SNR=3.1						
	comp=Z,8.5nm,0.9s						
GYA	**Guiyang**	**29.72**	**276**	⇑P	**P**	**16 27 22.9**	**+0.2**
GYA				pmax	pmax		
	comp=Z,60nm,1.3s						
KKM	**Kota Kinabalu**	**31.16**	**231**	P	**P**	**16 27 35.8**	**+0.5**
FAKI	**Fak Fak**	**31.22**	**195**	P	**P**	**16 27 35.2**	**-0.5**
GTOI	**Gorontalo**	**31.37**	**214**	P	**P**	**16 27 34.8**	**-2.1**
	comp=Z,4.9nm,0.8s						
CD2	**Chengdu**	**31.76**	**285**	P	**P**	**16 27 38.5**	**-1.7**
CD2				pP	pP	16 29 00.0	-1.6
CD2				PP	**PP**	**16 29 09.5**	**-2.7**
CD2				sP	sP	16 29 55.9	+0.1
CD2				S	**S**	**16 32 14.6**	**-1.3**
CD2				pmax	pmax		
	comp=Z,190nm,0.4s						
LZH	**Lanzhou**	**31.77**	**295**	⇓P	**P**	**16 27 40.4**	**+0.1**
LZH				pP	pwP	16 29 06.7	-1.3
LZH				PcP	**PcP**	**16 30 19.0**	**+1.2**
LZH				ScP	**ScP**	**16 33 16.9**	**+1.1**
LZH				ScS	**ScS**	**16 37 15.6**	**+0.1**
LZH				pmax	pmax		
	comp=Z,68nm,1.6s						
MRSI	**Marisa**	**32.05**	**216**	P	**P**	**16 27 42.5**	**-0.2**
	comp=Z,21nm,1.0s						
TOLI2	**Tolitoli**	**32.14**	**218**	P	**P**	**16 27 41.7**	**-1.8**
TOLI2				IAmb	IAmb	16 29 11.3	
	comp=Z,41nm,1.4s						
SANI	**Sanana**	**32.41**	**207**	P	**P**	**16 27 43.7**	**-2.1**
	comp=Z,22nm,0.7s						
ULN	**Ulaanbaatar**	**32.69**	**317**	P	**P**	**16 27 47.0**	**-1.0**
ULN	**Ulaanbaatar**	**32.69**	**317**	*d iP*	**P**	**16 27 48.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,94nm,1.3s						
ULN	**Ulaanbaatar**	**32.69**	**317**	P	**P**	**16 27 48.4**	**+0.4**
ULN	**Ula

YAK smax smax
comp=E,49nm,2.0s
YAK Yakutsk 35.15 352 P P 16 28 07.8 -0.6
GTA Gaotai 35.31 300 ⇓P P 16 28 10.0 -0.2
GTA PcP PcP 16 30 28.8 +0.9
GTA ScP ScP 16 33 28.8 +0.6
GTA ScS ScS 16 37 32.3 -1.8
GTA pmax pmax
comp=E,47nm,0.9s
BOD Bodaibo 35.35 336 *eP* **P 16 28 09.8 -0.3**
BOD pmax pmax
comp=Z,42nm,0.9s
SHEM Shemya Is, Ala 35.64 36 P P 16 28 13.3 +0.7
comp=Z,78nm,0.6s,baz=316,slow=7.6,SNR=9.6
comp=Z,78nm,0.6s
SMY Shemya 35.64 36 P P 16 28 14.2 +1.6
SMY Shemya 35.64 36 P P 16 28 14.2 +1.6
SMY pmax pmax
comp=Z,72nm,0.7s
ZAK Zakamensk 36.01 319 *eP* **P 16 28 15.5 -0.4**
ZAK pmax pmax
comp=Z,42nm,1.1s
SEY Seymchan 36.29 10 P P 16 28 18.5 +0.7
comp=Z,13nm,0.7s,baz=180,slow=8.1,SNR=52
SEY ScP **ScP 16 33 30.5 -0.7**
comp=Z,2.2nm,0.5s,baz=209,slow=3.9,SNR=10.0
comp=Z,13nm,0.7s
SEY Seymchan 36.29 10⇑ *eP* **P 16 28 18.7 +0.9**
SEY pmax pmax
comp=Z,9.0nm,0.6s
IRK Irkutsk 36.31 323 *eP* **P 16 28 17.5 -0.7**
IRK pmax pmax
comp=Z,80nm,0.8s
SBUM Sibu 36.49 232 P P 16 28 20.4 +0.2
CRAI Chiangrai 36.88 267 P P 16 28 23.6 +0.2
CRAI IAmb IAmb 16 28 25.1
comp=Z,39nm,1.1s
TNCH TengChong 37.20 276 P P 16 28 26.4 +0.2
TNCH S S 16 33 36.4 -2.2
TNCH pmax pmax
comp=Z,71nm,0.8s
MTKI Muara Teweh, K 37.25 225 P P 16 28 27.0 +0.5
comp=Z,68nm,0.8s,comp=Z,5um
PMG Port Moresby 37.39 168 ScP ScP 16 33 35.1 -1.0
comp=Z,6.8nm,0.8s,baz=0.0,slow=3.0,SNR=3.1
PMG Port Moresby 37.39 168 P P 16 28 28.1 +0.6
PMG Port Moresby 37.39 168 P P 16 28 28.1 +0.6
PMG pmax pmax
comp=Z,9.0nm,0.9s
PHRA Phrae 37.61 265 P P 16 28 29.1 -0.2
AMKA Amchitka 37.86 40 P P 16 28 31.8 +0.9
MOY Mondy 37.87 320 *eP* **P 16 28 31.1 -0.1**
MOY pmax pmax
comp=Z,23nm,1.9s
CHTO Chiang Mai 38.63 266 P P 16 28 37.4 -0.4
CHTO IAmb IAmb 16 28 38.8
comp=Z,31nm,0.8s
CHTO Chiang Mai 38.63 266 P P 16 28 37.4 -0.4
CHTO pmax pmax
comp=Z,31nm,0.9s
CM31 Chiang Mai Arr 38.76 265 P P 16 28 38.6 -0.2
CMAR Chiang Mai Arr 38.76 265 P P 16 28 39.0 +0.2
comp=Z,9.7nm,0.7s,baz=56,slow=8.3,SNR=66
CMAR PcP **PcP 16 30 39.5 +0.8**
comp=Z,7.0nm,0.9s,baz=68,slow=1.6,SNR=18
CMAR ScP **ScP 16 33 42.4 +0.9**
comp=Z,7.0nm,1.1s,baz=44,slow=2.4,SNR=15
comp=Z,9.7nm,0.7s
CMAR Chiang Mai Arr 38.76 265 P P 16 28 38.5 -0.3
CMAR PcP **PcP 16 30 39.5 +0.8**
GOMU GeErMu 39.08 294 P P 16 28 41.6 0.0
GOMU pmax pmax
comp=Z,92nm,0.9s
MMRI Maumere 39.91 208 P P 16 28 47.7 -0.4
comp=Z,37nm,0.8s
KIWB Kanaga Island 40.09 41 P P 16 28 49.8 +0.7
SOEI Soe 40.12 205 P P 16 28 49.4 -0.5
SOEI IAmb IAmb 16 29 54.8
comp=Z,58nm,1.5s
ADK Adak 40.37 41 P P 16 28 51.8 +0.5
ADK Adak 40.37 41 P P 16 28 51.8 +0.5
ADK pmax pmax
comp=Z,64nm,0.8s
ADK Adak 40.37 41 P P 16 28 51.9 +0.5
GSTR Great Sitkin T 40.80 41 P P 16 28 55.3 +0.5
MTN Manton Dam 41.09 193 P P 16 28 57.2 -0.3
MTN IAmb IAmb 16 29 27.9
comp=Z,60nm,1.7s
COEN Coen 41.38 175 P P 16 29 00.9 +1.0
TWSI Taliwang, Sumb 42.49 215 P P 16 29 07.5 -1.2
comp=Z,17nm,1.0s
LSA Lhasa 42.72 285 P P 16 29 11.8 +0.8
LSA IAmb IAmb 16 29 12.8
comp=Z,18nm,0.8s
LSA Lhasa 42.72 285 P P 16 29 11.8 +0.8
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 42.72 285 P P 16 29 12.1 +1.1
LSA Lhasa 42.72 285 P P 16 29 12.0 +1.1
SRBI Singaraja 42.82 218 P P 16 29 11.5 +0.2
comp=Z,21nm,0.9s
SHL Shillong 42.92 279 P P 16 29 12.1 -0.1
SHL Shillong 42.92 279 P P 16 29 12.1 -0.1
SHL pmax pmax
comp=Z,71nm,0.9s
SHL Shillong 42.92 279 P P 16 29 12.2 0.0
SNR=16
BILL Bilibino 43.45 14 P P 16 29 16.1 +0.6
BILL IAmb IAmb 16 29 17.2
comp=Z,54nm,0.8s
BILL Bilibino 43.45 14 *d* iP **P 16 29 16.0 +0.6**
BILL *i* *PP **pP 16 30 42.5 -0.6**
BILL *i* 16 30 52.6
BILL *i* 16 31 06.9
BILL pmax pmax
comp=Z,53nm,0.7s
BILL Bilibino 43.45 14 P P 16 29 16.1 +0.6
BILL ScP **ScP 16 33 58.1 -1.1**
KULM Kulim 43.51 247 P P 16 29 16.6 -0.1
KULM IAmb IAmb 16 29 17.9
comp=Z,20nm,0.6s
IPM Ipoh 43.67 245 P P 16 29 17.2 -0.8
IPM IAmb IAmb 16 29 18.6
comp=Z,16nm,0.7s
KNRA Kununurra 44.35 196 P P 16 29 23.3 +0.2
KNRA IAmb IAmb 16 29 47.5
comp=Z,23nm,1.0s
WMQ Urumqi 44.76 306 *eP* **P 16 29 26.8 +0.6**
WMQ pP pP 16 30 53.4 -0.6
WMQ PcP **PcP 16 30 59.0 +0.5**
WMQ ScP **ScP 16 34 08.8 +3.6**
WMQ pmax pmax
comp=Z,110nm,1.3s
WMQ Urumqi 44.76 306 P P 16 29 26.7 +0.6
NIKH Nikolski High 45.27 41 P P 16 29 29.8 -0.1
NIKH Nikolski High 45.27 41 P P 16 29 29.7 -0.1
baz=257
UGM Wanagama 45.39 223 P P 16 29 30.6 -0.7
DGZ Jazzator, Alta 45.57 314 *d* iP **P 16 29 32.8 +0.4**
DGZ pmax pmax
comp=Z,112nm,1.1s
SPIA Saint Paul Isl 45.67 35 P P 16 29 33.6 +0.8
SPIA Saint Paul Isl 45.67 35 P P 16 29 33.4 +0.6
baz=251
KPJI Karang Pucung 45.93 226 P P 16 29 34.5 -0.9
comp=Z,37nm,0.9s
PSI Prapat 46.35 245 P P 16 29 38.9 +0.1
PSI pmax pmax
comp=Z,21nm,0.8s
LEM Lembang 46.39 227 P P 16 29 39.4 +0.3
LEM pmax pmax
comp=Z,55nm,0.9s
LEM Lembang 46.39 227 P P 16 29 38.9 -0.2
comp=Z,55nm,0.9s
RPSI Rantau Prapat 46.41 245 P P 16 29 38.9 -0.2
RPSI IAmb IAmb 16 29 40.0
comp=Z,21nm,0.8s
SDSI Sungai Dareh 46.68 239 P P 16 29 41.1 -0.1
comp=Z,15nm,0.9s
UNV Unalaska Valle 46.84 41 P P 16 29 41.5 -0.3
UNV IAmb IAmb 16 29 47.5
comp=Z,20nm,0.8s
UNV Unalaska Valle 46.84 41 P P 16 29 42.3 +0.5
baz=258
KCSI Kotacane, Aceh 46.87 247 P P 16 29 41.0 -1.6
comp=Z,15nm,1.0s
ZSN Zaisan 47.00 310 ⇓P P 16 29 43.8 +0.6
baz=310
ZSN *i* S **S 16 36 01.3 +2.3**
baz=310
ZSN Zaisan 47.00 310 *d* iP **P 16 29 43.7 +0.6**
MNSI Mandailing Nat 47.03 242 P P 16 29 43.2 -0.6
comp=Z,35nm,1.0s
MDSI Maura Dua 47.04 233 P P 16 29 43.3 -0.6
comp=Z,67nm,1.1s
AKUT Akutan 47.32 40 P P 16 29 45.3 -0.1
AKUT IAmb IAmb 16 29 48.8
comp=Z,38nm,0.9s
WB0 Warramunga Arr 47.37 187 P P 16 29 45.8 -0.4
FITZ Fitzroy Crossi 47.49 199 P P 16 29 47.9 +0.7
WRAB Tennant Creek 47.54 187 *eP* **P 16 29 47.7 +0.2**
WRAB pmax pmax
comp=Z,22nm,2.5s
WR0 Warramunga Arr 47.54 187 P P 16 29 46.9 -0.6
GAMB Gambell 47.55 27 P P 16 29 48.0 +1.1
baz=244
WB2 Warramunga Arr 47.55 187 P P 16 29 47.0 -0.6
WRA Warramunga Arr 47.55 187 P P 16 29 47.2 -0.4
comp=Z,3.9nm,0.3s,baz=7.1,slow=7.6,SNR=132
WRA pP **pP 16 31 18.1 +1.2**
comp=Z,3.3nm,0.6s,baz=7.2,slow=8.1,SNR=2.4
WRA ScP **ScP 16 34 16.2 -0.8**
comp=Z,12nm,0.9s,baz=0.8,slow=4.4,SNR=13
WRA S **S 16 36 03.6 -3.5**
comp=Z,2.9nm,0.9s,baz=5.3,slow=14,SNR=5.5
comp=Z,3.9nm,0.3s
CTAO Charters Tower 47.75 172 P P 16 29 47.8 -1.3
CTAO IAmb IAmb 16 30 21.6
comp=Z,49nm,1.7s
CTAO Charters Tower 47.75 172 P P 16 29 47.8 -1.3
CTAO pmax pmax
comp=Z,49nm,1.7s
ZAA0 Zalesovo Array 47.89 319 P P 16 29 49.1 -0.7
ZAA0 IAmb IAmb 16 29 50.4
comp=Z,61nm,0.9s
ZALV Zalesovo Beam 47.89 319 P P 16 29 49.3 -0.5
comp=Z,30nm,0.3s,baz=110,slow=7.1,SNR=223
ZALV PcP **PcP 16 31 08.9 -0.4**
comp=Z,11nm,0.3s,baz=133,slow=4.0,SNR=12
ZALV ScP **ScP 16 34 17.6 -0.4**
comp=Z,3.2nm,0.7s,baz=124,slow=3.7,SNR=4.3
comp=Z,30nm,0.3s
ZALV Zalesovo Beam 47.89 319 P P 16 29 49.1 -0.7
GSI Gunungsitoli 48.31 245 P P 16 29 52.8 -0.8
GSI Gunungsitoli 48.31 245 P P 16 29 52.7 -0.8
comp=Z,82nm,1.0s
SNSI Sinabang, Aceh 48.68 247 P P 16 29 56.2 -0.1
comp=Z,44nm,1.3s
MK31 Makanchi Array 48.71 309 P P 16 29 56.1 0.0
MK31 IAmb IAmb 16 29 57.4
comp=Z,46nm,0.8s
MK31 Makanchi Array 48.71 309 *d* iP **P 16 29 56.2 +0.1**
MKAR Makanchi Array 48.71 309 P P 16 29 56.3 +0.2
comp=Z,17nm,0.3s,baz=88,slow=10,SNR=545
MKAR PcP **PcP 16 31 12.2 -0.3**
comp=Z,9.1nm,0.7s,baz=74,slow=5.4,SNR=5.3
MKAR ScP **ScP 16 34 21.4 -0.3**
comp=Z,4.2nm,0.6s,baz=78,slow=4.4,SNR=8.5
comp=Z,17nm,0.3s
MKAR Makanchi Array 48.71 309 P P 16 29 56.0 -0.1
MKAR Makanchi Array 48.71 309 *i* P **P 16 29 56.2 +0.2**
MKAR pmax pmax
comp=Z,19nm,0.3s
MAKZ Makanchi 48.93 309 P P 16 29 57.7 0.0
MAKZ Makanchi 48.93 309 P P 16 29 57.9 +0.2
MAKZ Makanchi 48.93 309 P P 16 29 58.1 +0.4
S12K Black Hills 49.72 39 P P 16 30 02.5 -0.9
baz=260,SNR=8.6
TNA Tin City 49.77 25 P P 16 30 04.7 +1.2
TNA Tin City 49.77 25 P P 16 30 04.9 +1.4
baz=246
SEM Semipalatinsk 50.25 314 ⇓P P 16 30 07.2 -0.4
comp=Z,50nm,0.4s,baz=314
SEM Semipalatinsk 50.25 314 *d* iP **P 16 30 07.1 -0.5**
SEM pmax pmax
comp=Z,50nm,0.4s
ANM Nome 50.41 27 P P 16 30 09.7 +1.4
ANM Nome 50.41 27 P P 16 30 09.8 +1.6
baz=250
ANM Nome 50.41 27 P P 16 30 09.7 +1.4
ANM pmax pmax
comp=Z,17nm,0.8s
SDPT Sand Point 50.55 40 P P 16 30 08.9 -0.5
SDPT Sand Point 50.55 40 P P 16 30 09.2 -0.3
baz=262,SNR=22
SHLS Shalkode 50.75 305 ⇓P P 16 30 09.3 -2.0
baz=305
SHLS Shalkode 50.75 305 *d* iP **P 16 30 09.3 -2.0**
WUS Wushi 51.06 302 P P 16 30 14.4 +0.8
WUS pP **pP 16 31 45.8 +1.1**
UZB Uzynbulak 51.07 305 ⇓P P 16 30 14.0 +0.3
comp=Z,16nm,0.5s,baz=305
UZB Uzynbulak 51.07 305 *d* iP **P 16 30 14.0 +0.3**
UZB pmax pmax
comp=Z,16nm,0.5s
AS31 Alice Springs 51.27 187 P P 16 30 14.4 -0.8
ASAR Alice Springs 51.27 187 P P 16 30 14.8 -0.4
comp=Z,2.0nm,0.5s,baz=358,slow=5.1,SNR=155
ASAR PcP **PcP 16 31 23.0 +0.7**
comp=Z,4.0nm,0.9s,baz=7.9,slow=3.7,SNR=12
ASAR pP **pP 16 31 48.5 +2.2**
comp=Z,1.1nm,0.5s,baz=7.9,slow=7.1,SNR=1.5
ASAR ScP **ScP 16 34 32.6 -0.3**
comp=Z,2.6nm,0.7s,baz=7.1,slow=4.3,SNR=6.9
ASAR S **S 16 36 55.0 -3.0**
comp=Z,0.9nm,0.8s,baz=14,slow=17,SNR=6.6
comp=Z,2.0nm,0.5s
ASAR Alice Springs 51.27 187 P P 16 30 14.6 -0.6
KPKS Kokpek 51.30 305 ⇓P P 16 30 15.5 +0.2
comp=Z,14nm,0.4s,baz=305
KPKS Kokpek 51.30 305 *d* iP **P 16 30 15.5 +0.2**
KPKS pmax pmax
comp=Z,14nm,0.4s
KURK Kurchatov 51.30 314 P P 16 30 14.8 -0.3
KURK Kurchatov 51.30 314 P P 16 30 14.8 -0.3
KURK pmax pmax
comp=Z,258nm,1.2s
KURK Kurchatov 51.30 314 P P 16 30 15.2 +0.1
KURK Kurchatov 51.30 314 ⇓P P 16 30 15.0 0.0
TDK Taldyqorghan 51.43 307 ⇓P P 16 30 17.0 +0.8
comp=Z,42nm,0.5s,baz=307
TDK Taldyqorghan 51.43 307 *d* iP **P 16 30 16.9 +0.8**
TDK pmax pmax
comp=Z,42nm,0.5s
ZHN Zhinishke 51.50 305 *eP* **P 16 30 16.9 +0.1**
baz=305
ZHN Zhinishke 51.50 305 *eP* **P 16 30 16.9 +0.1**
SATY Saty 51.53 305 ⇓P P 16 30 17.5 +0.5
baz=305
SATY Saty 51.53 305 *d* iP **P 16 30 17.5 +0.5**
NRIK Noril'sk 51.53 339 P P 16 30 16.4 0.0
comp=Z,33nm,0.6s,baz=111,slow=8.9,SNR=54
NRIK PcP **PcP 16 31 23.1 +0.5**
comp=Z,6.8nm,0.5s,baz=121,slow=5.5,SNR=2.1
NRIK ScP **ScP 16 34 32.8 -0.5**
comp=Z,6.4nm,0.7s,baz=128,slow=3.6,SNR=6.7
comp=Z,33nm,0.6s
NRIK Noril'sk 51.53 339 P P 16 30 16.0 -0.4
NRIK IAmb IAmb 16 30 17.4
comp=Z,48nm,0.9s
NRIK Noril'sk 51.53 339 *d* iP **P 16 30 16.2 -0.2**
NRIK pmax pmax
comp=Z,55nm,0.9s
CHGN Chignik 51.83 39 P P 16 30 18.1 -0.6
CHGN Chignik 51.83 39 P P 16 30 18.3 -0.4
baz=263,SNR=12
MBWA Marble Bar 52.27 204 P P 16 30 22.1 -0.4
N16K Nishlik Lake 52.28 33 P P 16 30 23.4 +1.4
baz=260
P16K Nushagak River 52.43 35 P P 16 30 24.4 +1.4
baz=261,SNR=12
R16K Pilot Point 52.44 37 P P 16 30 22.9 -0.3
baz=263
O16K Kokwok River B 52.46 34 P P 16 30 24.3 +1.0
baz=261
CHKK Chushkaly 52.50 306 ⇓P P 16 30 24.3 +0.4
baz=306
CHKK Chushkaly 52.50 306 ⇓P P 16 30 24.3 +0.4
MDOK Medeo 52.51 305 *i* P **P 16 30 25.1 +1.0**
baz=305
MDOK Medeo 52.51 305 *i* P **P 16 30 25.1 +1.0**
TNSS Tian-Shan 52.59 305 *i* P **P 16 30 26.3 +1.2**
baz=305
TNSS Tian-Shan 52.59 305 *i* P **P 16 30 26.2 +1.2**
AAA Alma-Ata 52.60 305 *eP* **P 16 30 26.0 +1.3**
comp=Z,136nm,0.9s,baz=305
AAA Alma-Ata 52.60 305 *eP* **P 16 30 26.0 +1.3**
AAA pmax pmax
comp=Z,136nm,0.9s
KUU Kurty 52.97 306 *i* P **P 16 30 27.6 +0.3**
comp=Z,130nm,0.8s,baz=306
KUU Kurty 52.97 306 *i* P **P 16 30 27.5 +0.3**
KUU pmax pmax
comp=Z,130nm,0.8s
O17K Koliganek Bris 52.99 34 P P 16 30 28.1 +1.1
baz=262,SNR=12
Q16K King Salmon 53.07 36 P P 16 30 28.0 +0.4
baz=263
R17K Ugashik Creek 53.09 37 P P 16 30 27.9 +0.1
baz=264
ULHL Ulahol 53.18 304 P P 16 30 30.0 +0.9
SNR=15
P17K Kvichak River 53.24 35 P P 16 30 29.9 +1.0
baz=263
CHIR Chirikof Islan 53.34 39 P P 16 30 30.5 +0.9
CHIR Chirikof Islan 53.34 39 P P 16 30 30.7 +1.0
baz=266
Q17K Contact Creek 53.42 36 P P 16 30 29.7 -0.6
baz=264,SNR=6.1
TKM2 Tokmak 2 53.59 305 P P 16 30 32.6 +0.7
SNR=66
TKM2 Tokmak 2 53.59 305 P P 16 30 32.0 0.0
EIDS Eidsvold 53.69 168 P P 16 30 33.0 +0.5
KSH Kashi 53.71 300 P P 16 30 36.8 +4.1
KSH PcP **PcP 16 31 34.0 +2.4**
KSH pmax pmax
comp=Z,78nm,0.8s
P18K Big Mountain, 53.88 35 P P 16 30 33.9 +0.4
P18K IAmb IAmb 16 30 35.0
comp=Z,27nm,0.8s
P18K Big Mountain, 53.88 35 P P 16 30 34.0 +0.5
baz=264,SNR=12
Q18K Katmai Hardscr 53.92 36 P P 16 30 33.0 -0.9
baz=264,SNR=8.6
SVW2 Sparrevohn 53.92 33 P P 16 30 34.9 +1.2
GCSA Galena City Sc 53.97 28 P P 16 30 34.4 +0.5
baz=258
TTA Tatalina 54.01 31 P P 16 30 35.1 +0.8
TTA Tatalina 54.01 31 P P 16 30 35.2 +0.9
baz=260,SNR=8.0
TTA Tatalina 54.01 31 P P 16 30 35.1 +0.8
TTA pmax pmax
comp=Z,23nm,1.6s
KBK Karagaybulak 54.09 304 P P 16 30 36.4 +0.9
SNR=76
SII Sitkinak Islan 54.19 38 P P 16 30 36.1 +0.4
SII IAmb IAmb 16 30 37.4
comp=Z,60nm,1.0s
SII Sitkinak Islan 54.19 38 P P 16 30 36.2 +0.5
baz=267
CHMS Chumysh 54.20 305 P P 16 30 36.5 +0.5
SNR=22
CHMS Chumysh 54.20 305 P P 16 30 34.8 -1.3
SGDS Sogindy 54.24 305 ⇓P P 16 30 36.7 +0.3
baz=305
SGDS Sogindy 54.24 305 *d* iP **P 16 30 36.6 +0.2**
USP Ospenovka 54.36 305 P P 16 30 37.2 0.0
SNR=36
N19K Bonanza Creek 54.42 33 P P 16 30 38.3 +1.0
N19K Bonanza Creek 54.42 33 P P 16 30 38.5 +1.2
baz=263
L19K White Mountain 54.42 32 P P 16 30 38.3 +1.1
L19K White Mountain 54.42 32 P P 16 30 38.4 +1.2
baz=262
AAK Ala-Archa 54.43 304 P P 16 30 38.4 +0.6
SNR=29
AAK Ala-Archa 54.43 304 P P 16 30 37.9 +0.1
AAK IAmb IAmb 16 30 38.8
comp=Z,40nm,0.5s
AAK Ala-Archa 54.43 304 *d* iP **P 16 30 38.2 +0.4**
AAK pmax pmax
comp=Z,74nm,1.7s
AAK Ala-Archa 54.43 304 *i* P **P 16 30 38.4 +0.6**
SNR=39
AAK Ala-Archa 54.43 304 P P 16 30 38.3 +0.5
AAK Ala-Archa 54.43 304 ⇓P P 16 30 38.2 +0.4
AAK ScP **ScP 16 34 45.7 -1.1**
O19K Port Alsworth 54.43 34 P P 16 30 38.2 +1.0
O19K IAmb IAmb 16 30 39.3
comp=Z,49nm,0.8s
O19K Port Alsworth 54.43 34 P P 16 30 38.4 +1.1
baz=264,SNR=21
UCH Uchtor 54.46 304 P P 16 30 39.7 +1.3
SNR=111
BTLS Baital 54.51 307 ⇓P P 16 30 38.5 +0.3
comp=Z,27nm,0.3s,baz=307
BTLS Baital 54.51 307 *d* iP **P 16 30 38.4 +0.3**
BTLS pmax pmax
comp=Z,27nm,0.3s
Q19K Cape Douglas, 54.65 36 P P 16 30 38.2 -0.7
Q19K IAmb IAmb 16 30 59.1
comp=Z,69nm,1.2s
Q19K Cape Douglas, 54.65 36 P P 16 30 38.4 -0.5
baz=265
OHAK Old Harbor 54.72 38 P P 16 30 39.4 0.0
OHAK IAmb IAmb 16 30 40.0
comp=Z,18nm,0.6s
OHAK Old Harbor 54.72 38 P P 16 30 39.4 0.0
baz=267
L20K Farewell, AK 54.91 31 P P 16 30 42.0 +1.3
baz=263
P19K Oil Pt 54.92 35 P P 16 30 41.1 +0.3
P19K IAmb IAmb 16 30 41.9
comp=Z,54nm,0.8s
P19K Oil Pt 54.92 35 P P 16 30 41.2 +0.3
baz=265
K20K Telida 54.94 30 P P 16 30 42.5 +1.6
baz=262
EKS2 Erkin-Say 54.95 304 P P 16 30 42.1 +0.6
SNR=12
ILSW Iliamna Southw 54.99 34 P P 16 30 41.2 -0.2
ILSW IAmb IAmb 16 30 45.1
comp=Z,11nm,0.8s
J20K Nowinta River 55.03 29 P P 16 30 42.8 +1.3
J20K IAmb IAmb 16 30 44.0
comp=Z,37nm,1.1s
J20K Nowinta River 55.03 29 P P 16 30 43.1 +1.7
baz=261
AML Almayashu 55.08 304 P P 16 30 44.0 +1.3
SNR=91
BRZS Berezniki 55.11 313 *eP* P 16 30 52.0 +10
BRZS pmax pmax
comp=Z,38nm,0.9s
KDAK Kodiak Island 55.13 37 P P 16 30 42.4 +0.2
KDAK IAmb IAmb 16 30 43.5
comp=Z,91nm,1.4s
KDAK Kodiak Island 55.13 37 P P 16 30 42.5 +0.2
baz=267
KDAK Kodiak Island 55.13 37 *de* P **P 16 30 42.6 +0.3**
KDAK pmax pmax
comp=Z,53nm,1.1s
KDAK Kodiak Island 55.13 37 P P 16 30 42.5 +0.2
M20K Styx River 55.19 32 P P 16 30 43.8 +1.1
baz=264
RSO Redoubt South 55.23 34 P P 16 30 43.1 -0.1
O20K Slope Mountain 55.26 34 P P 16 30 43.3 0.0
baz=266
Q20K Shuyak Island 55.28 36 P P 16 30 43.3 0.0
baz=267
IMAR Indian Mountai 55.49 27 P P 16 30 45.4 +0.7
N20K Mount Spurr 55.56 33 P P 16 30 46.1 +0.8
baz=265,SNR=8.1
SPCR Spurr Chakacha 55.56 33 P P 16 30 46.0 +0.7
baz=265
SPU Mount Spurr 55.63 33 P P 16 30 46.6 +0.8
A21K Barrow 55.66 20 P P 16 30 46.6 +0.9
A21K IAmb IAmb 16 30 47.6
comp=Z,38nm,0.8s
A21K Barrow 55.66 20 P P 16 30 46.8 +1.1
baz=254
G21K Allakaket 55.67 26 P P 16 30 47.2 +1.2
baz=260
PPLA Purkeypile 55.73 31 P P 16 30 47.5 +0.9
PPLA Purkeypile 55.73 31 P P 16 30 47.8 +1.2
baz=264,SNR=8.2
CHUM Lake Minchumin 55.79 30 P P 16 30 48.1 +1.3
baz=263,SNR=9.4

F21K Alatna River 55.81 26 P P 16 30 47.6 +0.7
baz=260

H21K Melozitna Rive 55.82 27 P P 16 30 48.3 +1.3
H21K IAmb IAmb 16 30 49.5
comp=Z,26nm,0.9s

H21K Melozitna Rive 55.82 27 P P 16 30 48.4 +1.4
baz=262

CAST Castle Rocks 55.84 30 P P 16 30 48.2 +1.1
CAST IAmb IAmb 16 30 49.5
comp=Z,46nm,1.3s

CAST Castle Rocks 55.84 30 P P 16 30 48.5 +1.3
baz=264,SNR=30

CNPM China Poot 55.93 35 P P 16 30 47.4 -0.4
CNPM IAmb IAmb 16 30 48.6
comp=Z,50nm,1.1s

SKT Skwentna 55.95 32 P P 16 30 47.9 0.0
SKT IAmb IAmb 16 30 49.0
comp=Z,17nm,0.5s

SKT Skwentna 55.95 32 P P 16 30 48.2 +0.2
baz=265,SNR=15

CAPN Captain Cook N 56.04 33 P P 16 30 49.7 +1.2
CAPN IAmb IAmb 16 30 50.7
comp=Z,46nm,0.8s

CAPN Captain Cook N 56.04 33 P P 16 30 49.7 +1.2
baz=266

I21K Tanana 56.09 28 P P 16 30 50.3 +1.4
I21K IAmb IAmb 16 30 52.0
comp=Z,31nm,0.9s

I21K Tanana 56.09 28 P P 16 30 50.5 +1.6
baz=263

BRLK Bradley Lake 56.12 35 P P 16 30 48.6 -0.5
BRLK IAmb IAmb 16 30 51.3
comp=Z,23nm,0.7s

BRSE Bradley Lake S 56.19 35 P P 16 30 50.0 +0.3
baz=267

SUA Susitna One 56.28 33 P P 16 30 50.2 -0.2
SUA IAmb IAmb 16 30 52.2
comp=Z,25nm,0.8s

SUA Susitna One 56.28 33 P P 16 30 50.2 -0.2
baz=266,SNR=18

F22K John River 56.35 25 P P 16 30 51.9 +1.2
baz=261

KTH Kantishna Hill 56.37 30 P P 16 30 51.3 +0.4

BPAW Bear Paw Mtn. 56.40 29 P P 16 30 51.7 +0.7

BPAW Bear Paw Mtn. 56.40 29 P P 16 30 52.2 +1.2
baz=264,SNR=23

BVA0 Borovoye Array 56.41 317 *i* P P 16 30 50.7 -0.6

H22K Ishtalitna Cre 56.44 27 P P 16 30 53.0 +1.7
baz=263,SNR=21

BRVK Borovoye 56.48 317 P P 16 31 51.7 0.0

BRVK Borovoye 56.48 317 *d i* P P 16 30 51.8 0.0
BRVK pmax pmax
comp=Z,157nm,1.0s

BRVK Borovoye 56.48 317 P P 16 30 52.1 +0.3

BRVK Borovoye 56.48 317 ⇓P P 16 30 52.0 +0.3

FIS Fire Island 56.52 33 P P 16 30 52.3 +0.4

G22K Bettles 56.52 26 P P 16 30 52.9 +1.1
baz=262

CUT Chulitna 56.57 32 P P 16 30 52.3 +0.1
CUT IAmb IAmb 16 30 53.2
comp=Z,49nm,1.3s

CUT Chulitna 56.57 32 P P 16 30 52.4 +0.2
baz=266

MLY Manley 56.60 28 P P 16 30 53.5 +1.1

MLY Manley 56.60 28 P P 16 30 53.7 +1.3
baz=264,SNR=19

M22K Willow 56.60 32 P P 16 30 52.2 -0.2
M22K IAmb IAmb 16 30 53.2
comp=Z,57nm,0.8s

M22K Willow 56.60 32 P P 16 30 52.5 +0.1
baz=267,SNR=5.8

TRF Thorofare Moun 56.64 30 P P 16 30 53.0 +0.1

TRF Thorofare Moun 56.64 30 P P 16 30 53.4 +0.5
baz=265,SNR=17

DZA Taraz 56.71 305 ⇓*e* P P 16 30 53.9 +0.3
baz=305

DZA Taraz 56.71 305 *de* P P 16 30 53.8 +0.3

O22K Cooper Landing 56.73 34 P P 16 30 53.1 -0.2

O22K Cooper Landing 56.73 34 P P 16 30 53.3 0.0
baz=268

RC01 Rabbit Creek A 56.75 33 P P 16 30 53.2 -0.3
RC01 IAmb IAmb 16 30 54.3
comp=Z,28nm,0.5s

RC01 Rabbit Creek A 56.75 33 P P 16 30 53.5 0.0
baz=267,SNR=13

SEW Seward 56.85 34 P P 16 30 54.0 -0.2
SEW IAmb IAmb 16 30 55.2
comp=Z,33nm,1.0s

SEW Seward 56.85 34 P P 16 30 54.1 0.0
baz=268,SNR=5.3

NIL Nilore 56.93 294 P P 16 30 55.6 +0.3

NIL Nilore 56.93 294 P P 16 30 55.6 +0.3
NIL pmax pmax
comp=Z,244nm,1.5s

NIL Nilore 56.93 294 P P 16 30 56.1 +0.8

NIL Nilore 56.93 294 P P 16 30 56.1 +0.8
NIL pP pP 16 32 30.4 +1.4

PMR Palmer 57.06 33 P P 16 30 55.4 -0.2
PMR IAmb IAmb 16 30 56.4
comp=Z,26nm,0.8s

PMR Palmer 57.06 33 P P 16 30 55.6 0.0
baz=268,SNR=13

PMR Palmer 57.06 33 P P 16 30 55.4 -0.2
PMR pmax pmax
comp=Z,26nm,0.8s

COLD Coldfoot 57.07 26 P P 16 30 56.8 +1.2
COLD IAmb IAmb 16 30 57.9
comp=Z,22nm,0.9s

COLD Coldfoot 57.07 26 P P 16 30 56.8 +1.2
baz=263,SNR=39

G23K Bananza Creek 57.08 26 P P 16 30 57.3 +1.6
baz=264

D23K Nanushuk River 57.13 24 P P 16 30 57.8 +1.8
baz=261

GHO Glory Hole Cre 57.17 32 P P 16 30 56.5 0.0
GHO IAmb IAmb 16 30 57.5
comp=Z,20nm,0.6s

H23K Yukon River 57.18 27 P P 16 30 57.6 +1.2
H23K IAmb IAmb 16 30 58.9
comp=Z,19nm,0.8s

H23K Yukon River 57.18 27 P P 16 30 57.9 +1.5
baz=264

I23K Minto, Yukon-K 57.19 28 P P 16 30 57.3 +0.9
I23K IAmb IAmb 16 30 59.1
comp=Z,32nm,1.3s

I23K Minto, Yukon-K 57.19 28 P P 16 30 57.4 +1.0
baz=265,SNR=18

MCK McKinley 57.27 30 P P 16 30 57.2 +0.1
MCK IAmb IAmb 16 30 58.3
comp=Z,42nm,0.9s

MCK McKinley 57.27 30 P P 16 30 57.3 +0.2
baz=266,SNR=35

MCK McKinley 57.27 30 P P 16 30 57.2 +0.1
MCK pmax pmax
comp=Z,42nm,0.9s

KK31 Karatay Array 57.27 305 P P 16 30 57.6 +0.2

KK31 Karatay Array 57.27 305 *i* P P 16 30 56.9 -0.5

KKAR Karatay Array 57.27 305 P P 16 30 57.6 +0.2

KKAR Karatay Array 57.27 305 P P 16 30 57.6 +0.2

NEA2 Nenana 57.27 29 P P 16 30 57.4 +0.4
NEA2 IAmb IAmb 16 30 58.8
comp=Z,27nm,0.8s

NEA2 Nenana 57.27 29 P P 16 30 57.8 +0.8
baz=266,SNR=28

RND Reindeer 57.28 30 P P 16 30 57.1 -0.1
RND IAmb IAmb 16 30 58.1
comp=Z,19nm,0.6s

RND Reindeer 57.28 30 P P 16 30 57.1 -0.1
RND pmax pmax
comp=Z,19nm,0.6s

KNK Knik Glacier 57.38 33 P P 16 30 58.0 +0.1

KNK Knik Glacier 57.38 33 P P 16 30 58.1 +0.3
baz=268,SNR=28

WAT1 Susitna Watana 57.39 31 P P 16 30 57.8 -0.1
baz=267

E23K Chandalar 57.40 25 P P 16 30 59.4 +1.4
baz=263

PWL Port Wells 57.42 33 P P 16 30 58.1 0.0

PWL Port Wells 57.42 33 P P 16 30 58.2 0.0
baz=269,SNR=19

SML Sawmill 57.45 32 P P 16 30 58.4 0.0
SML IAmb IAmb 16 30 59.6
comp=Z,41nm,0.8s

SML Sawmill 57.45 32 P P 16 30 58.6 +0.2
baz=268,SNR=23

SML Sawmill 57.45 32 P P 16 30 58.4 0.0
pmax pmax
comp=Z,41nm,0.8s

MDM Murphy Dome 57.66 29 P P 16 30 59.9 +0.2

WRH Wood River Hil 57.68 29 P P 16 30 60.0 +0.1

M23K Glacier View 57.74 32 P P 16 31 00.6 +0.3
baz=269,SNR=18

WAT6 Susitna Watana 57.75 31 P P 16 31 00.9 +0.3
baz=268,SNR=21

IUG Iuzhnay 57.77 304 ⇓*i* P P 16 31 01.8 +0.8
comp=Z,18nm,0.3s,baz=304

IUG Iuzhnay 57.77 304 *d i* P P 16 31 01.7 +0.8
IUG pmax pmax
comp=Z,18nm,0.3s

TCOL CIGO, UAF Yank 57.81 29 P P 16 31 01.9 +1.2
baz=267

COLA College 57.81 29 P P 16 31 01.3 +0.7
baz=267

COLA College 57.81 29 ⇓*e* P P 16 31 01.5 +0.9
COLA pmax pmax
comp=Z,15nm,1.0s

COLA College 57.81 29 P P 16 31 01.7 +1.1

CCB Clear Creek Bu 57.82 29 P P 16 31 00.1 -0.7

E24K Your Creek 57.82 25 P P 16 31 02.4 +1.6
baz=264

D24K Happy Valley 57.82 24 P P 16 31 02.2 +1.6
baz=263

H24K Noodor Dome 57.86 28 P P 16 31 02.0 +0.9

H24K Noodor Dome 57.86 28 P P 16 31 02.4 +1.3
baz=266,SNR=25

P23K Montague Islan 57.88 34 P P 16 31 01.8 +0.6
baz=270

SCM Sheep Creek Mo 57.93 32 P P 16 31 02.0 +0.4

SCM Sheep Creek Mo 57.93 32 P P 16 31 02.3 +0.6
baz=269,SNR=17

SCM Sheep Creek Mo 57.93 32 P P 16 31 02.0 +0.4
SCM pmax pmax
comp=Z,48nm,0.5s

C24K Franklin Bluff 57.93 23 P P 16 31 02.6 +1.1
baz=263

DHY Denali Highway 57.94 31 P P 16 31 01.9 +0.2
DHY IAmb IAmb 16 31 03.3
comp=Z,12nm,0.5s

DHY Denali Highway 57.94 31 P P 16 31 02.2 +0.4
baz=268,SNR=17

F24K Squaw Lake 57.99 26 P P 16 31 03.5 +1.6
baz=265

POKR Poker Plat Res 58.00 28 P P 16 31 02.8 +0.8
POKR IAmb IAmb 16 31 04.3
comp=Z,20nm,0.8s

POKR Poker Plat Res 58.00 28 P P 16 31 03.1 +1.1
baz=267,SNR=9.6

G24K Hadweenzic Riv 58.09 27 P P 16 31 04.1 +1.5
baz=266

GAR Garm 58.12 301 P P 16 31 03.5 0.0

HDA Harding Lake 58.18 29 P P 16 31 02.6 -0.6

HDA Harding Lake 58.18 29 P P 16 31 02.9 -0.3
baz=268,SNR=21

IL31 58.22 29 P P 16 31 02.8 -0.6

ILAR Eielson Array 58.22 29 P P 16 31 03.0 -0.4
comp=Z,4.7nm,0.4s,baz=250,slow=5.6,SNR=155
ILAR pP pP 16 32 39.5 +1.8
comp=Z,1.9nm,0.9s,baz=254,slow=5.8,SNR=3.2
ILAR S S 16 38 27.1 -0.9
comp=Z,0.5nm,0.9s,baz=250,slow=9.1,SNR=4.3
comp=Z,4.7nm,0.4s

ILAR Eielson Array 58.22 29 P P 16 31 02.8 -0.7

M24K Tolsona, Glenn 58.48 32 P P 16 31 06.2 +0.8
M24K IAmb IAmb 16 31 08.2
comp=Z,32nm,1.2s

M24K Tolsona, Glenn 58.48 32 P P 16 31 06.2 +0.8
baz=269,SNR=9.5

KLU Klutina 58.60 33 P P 16 31 06.7 +0.5
KLU IAmb IAmb 16 31 07.8
comp=Z,30nm,0.7s

KLU Klutina 58.60 33 P P 16 31 06.9 +0.7
baz=270,SNR=18

G25K Bearman Lake 58.64 27 P P 16 31 08.0 +1.8
baz=267

K24K Donnelly Dome 58.67 30 P P 16 31 07.1 +0.5
baz=269,SNR=12

DIV Divide 58.67 33 P P 16 31 07.5 +0.8

EYAK Cordova Ski Ar 58.70 34 P P 16 31 07.4 +0.7
EYAK IAmb IAmb 16 31 08.0
comp=Z,24nm,0.6s

EYAK Cordova Ski Ar 58.70 34 P P 16 31 07.5 +0.7
baz=271,SNR=5.9

D25K Kavik River 58.71 23 P P 16 31 08.0 +1.2
baz=265

PAX Paxson 58.80 31 P P 16 31 08.0 +0.4
PAX IAmb IAmb 16 31 09.4
comp=Z,29nm,1.2s

PAX Paxson 58.80 31 P P 16 31 08.1 +0.5
baz=270,SNR=15

PAX Paxson 58.80 31 P P 16 31 08.0 +0.4
PAX pmax pmax
comp=Z,29nm,1.2s

PRP Porcupine Dome 58.82 28 P P 16 31 06.9 -0.9

PRP Porcupine Dome 58.82 28 P P 16 31 07.1 -0.6
baz=268,SNR=13

F25K Christian Rive 58.86 26 P P 16 31 09.7 +1.9
baz=267

J25K Salcha River, 58.86 29 P P 16 31 06.7 -1.2

J25K Salcha River, 58.86 29 P P 16 31 07.7 -0.2
baz=269

E25K Arctic Village 58.91 25 P P 16 31 09.9 +1.7
baz=267,SNR=63

HARP HAARP 58.95 32 P P 16 31 09.5 +1.0
baz=271,SNR=25

FYU Fort Yukon 58.97 27 P P 16 31 10.0 +1.5
FYU IAmb IAmb 16 31 11.1
comp=Z,29nm,1.0s

CHGR Chuyangaron 59.08 300 P P 16 31 10.0 +0.1

CHGR Chuyangaron 59.08 300 P P 16 31 10.0 +0.1
CHGR pmax pmax
comp=Z,233nm,0.8s

RIDG Independent Ri 59.09 30 P P 16 31 09.3 -0.1

RIDG Independent Ri 59.09 30 P P 16 31 09.6 +0.1
baz=270,SNR=12

STKA Stephens Creek 59.13 178 P P 16 31 09.9 -0.1
comp=Z,2.8nm,0.4s,baz=331,slow=5.4,SNR=7.7
STKA pP pP 16 32 45.6 +0.5
comp=Z,2.3nm,0.5s,baz=5.1,slow=8.0,SNR=2.5
comp=Z,2.8nm,0.4s

STKA Stephens Creek 59.13 178 P P 16 31 09.7 -0.3

FORT Forrest 59.13 192 P P 16 31 09.6 -0.5
FORT IAmb IAmb 16 31 10.7
comp=Z,18nm,0.8s

SIMJ Simiganj 59.19 300 P P 16 31 10.8 +0.1

N25K Chitina, Valde 59.23 33 P P 16 31 11.2 +0.7
N25K IAmb IAmb 16 31 12.1
comp=Z,15nm,0.6s

N25K Chitina, Valde 59.23 33 P P 16 31 11.3 +0.9
baz=272,SNR=14

BMRM Bremner River 59.24 33 P P 16 31 11.2 +0.6

BMRM Bremner River 59.24 33 P P 16 31 11.4 +0.8
baz=272,SNR=37

BMAR Burnt Mountain 59.26 26 P P 16 31 12.2 +1.6

C26K Camden Bay 59.26 23 P P 16 31 12.3 +1.9
baz=266

F26K Sheenjek River 59.43 25 P P 16 31 13.7 +2.0
baz=268

DOT Dot Lake 59.44 30 P P 16 31 11.9 +0.1
DOT IAmb IAmb 16 31 13.0
comp=Z,33nm,0.9s

SCRK Sand Creek 59.47 30 P P 16 31 12.0 0.0
SCRK IAmb IAmb 16 31 13.3
comp=Z,40nm,1.0s

SCRK Sand Creek 59.47 30 P P 16 31 12.4 +0.3
baz=271,SNR=38

PALK Pallekele 59.54 262 P P 16 31 13.1 -0.2
PALK IAmb IAmb 16 31 14.5
comp=Z,35nm,1.3s

PALK Pallekele 59.54 262 P P 16 31 13.1 -0.2
PALK pmax pmax
comp=Z,35nm,1.3s

PALK Pallekele 59.54 262 P P 16 31 10.9 -2.4

G26K Porcupine Rive 59.56 26 P P 16 31 14.0 +1.5
baz=269

MENT Mentasta 59.60 31 P P 16 31 13.8 +0.9
MENT IAmb IAmb 16 31 14.7
comp=Z,26nm,0.5s

GLB Gilahina Butte 59.61 33 P P 16 31 13.7 +0.7
GLB IAmb IAmb 16 31 14.7
comp=Z,27nm,1.0s

J26L Joseph Creek 59.64 29 P P 16 31 13.2 0.0
baz=271

C27K Jago River 59.66 23 P P 16 31 14.7 +1.5
baz=268

L26K Log Cabin Wild 59.77 31 P P 16 31 14.9 +1.0

L26K Log Cabin Wild 59.77 31 P P 16 31 15.0 +1.0
baz=272,SNR=53

VRDI Verde Repeater 59.79 33 P P 16 31 14.7 +0.3
VRDI IAmb IAmb 16 31 15.4
comp=Z,13nm,0.6s

M26K Nabesna, AK 59.96 32 P P 16 31 15.8 +0.5

M26K Nabesna, AK 59.96 32 P P 16 31 16.1 +0.8
baz=272,SNR=12

MCARA McCarthy VSAT 59.99 33 P P 16 31 16.0 +0.5
MCARA IAmb IAmb 16 31 17.3
comp=Z,32nm,0.8s

MCARA McCarthy VSAT 59.99 33 P P 16 31 16.4 +1.0
baz=273,SNR=17

KBL Kabul 60.11 296 P P 16 31 16.6 -0.4
KBL IAmb IAmb 16 31 18.3
comp=Z,70nm,1.0s

KBL Kabul 60.11 296 P P 16 31 16.6 -0.4
KBL pmax pmax
comp=Z,70nm,1.0s

KBL Kabul 60.11 296 P P 16 31 17.2 +0.2

BBOO Buckleboo 60.16 184 P P 16 31 16.8 -0.1
BBOO IAmb IAmb 16 31 40.9
comp=Z,32nm,1.5s

G27K Doyon Strip 60.40 26 P P 16 31 19.3 +1.2
baz=271

E27K Coleen River 60.40 25 P P 16 31 19.5 +1.3
baz=270

I27K Kandik River 60.45 28 P P 16 31 19.2 +0.7
baz=272

H27K Steamboat Moun 60.46 27 P P 16 31 20.1 +1.5
baz=272

L27K Beaver Creek, 60.46 31 P P 16 31 19.2 +0.6

L27K Beaver Creek, 60.46 31 P P 16 31 19.5 +0.9
baz=273

M27K Edge Creek, AK 60.48 32 P P 16 31 19.6 +0.7
M27K IAmb IAmb 16 31 20.8
comp=Z,24nm,1.1s

M27K Edge Creek, AK 60.48 32 P P 16 31 19.8 +0.9
baz=274

BCAR Beaver Creek A 60.48 31 P P 16 31 19.5 +0.7

EGAK Eagle 60.67 29 P P 16 31 19.7 -0.2

EGAK Eagle 60.67 29 P P 16 31 20.0 +0.1
baz=273,SNR=14

BARN Barnard Glacie 60.67 33 P P 16 31 20.7 +0.5

BVCY Beaver Creek 60.95 32 P P 16 31 22.8 +0.9
baz=274,SNR=8.8

YUK3 Moose Creek 61.19 32 P P 16 31 24.4 +0.7
baz=275,SNR=19

O28M Mount Upton 61.41 33 P P 16 31 26.1 +0.9
baz=276

PCA Pinnacle 61.45 34 P P 16 31 25.9 +0.6
PCA IAmb IAmb 16 31 27.0
comp=Z,28nm,0.9s

PINM Pinnacle 61.45 34 P P 16 31 26.1 +0.8
baz=276,SNR=7.6

DAWY Dawson 61.48 30 P P 16 31 25.9 +0.5

DAWY Dawson 61.48 30 P P 16 31 26.1 +0.8
baz=275,SNR=11

LHI Lord Howe Isla 61.49 162 P P 16 31 25.5 -0.2

YUK8 Steele Glacier 61.57 33 P P 16 31 27.4 +1.2
baz=276,SNR=9.6

SVE Sverdlovsk 61.70 322 *ce* P P 16 31 26.9 +0.1
SVE *eS* S 16 39 11.4 -0.4
SVE pmax pmax
comp=Z,70nm,1.0s

BCPM Bancas Point 61.78 34 P P 16 31 27.9 +0.7
BCPM IAmb IAmb 16 31 29.4
comp=Z,29nm,1.1s

I29M Ogilvie Camp, 61.84 28 P P 16 31 28.3 +0.7
I29M IAmb IAmb 16 31 29.5
comp=Z,24nm,1.0s

I29M Ogilvie Camp, 61.84 28 P P 16 31 28.4 +0.8
baz=275,SNR=21

PNL Peninsula 61.93 35 P P 16 31 29.2 +0.8
baz=277,SNR=5.4

J29M Klondike Camp 61.96 29 P P 16 31 30.0 +1.5
J29M IAmb IAmb 16 31 30.6
comp=Z,38nm,0.8s

J29M Klondike Camp 61.96 29 P P 16 31 29.6 +1.1
baz=276,SNR=5.6

M29M Somme Creek 62.06 31 P P 16 31 30.8 +1.5
baz=276

YUK4 Talbot Arm 62.10 33 P P 16 31 31.1 +1.5
baz=277,SNR=21

L29M L29M 62.14 31 P P 16 31 31.3 +1.7
baz=276

O29M Mount Kennedy 62.26 34 P P 16 31 32.4 +1.8
baz=278

YUK6 Outpost Mounta 62.28 33 P P 16 31 32.2 +1.3
baz=277,SNR=7.6

K29M Barlow Dome 62.33 30 P P 16 31 32.3 +1.3
baz=276,SNR=22

EPYK Eagle Plains 62.39 27 P P 16 31 32.0 +0.8

EPYK Eagle Plains 62.39 27 P P 16 31 32.4 +1.1
baz=276,SNR=56

G30M tAoh Zraii Nji 62.53 26 P P 16 31 32.9 +0.8
baz=276

HYT Haines Junctio 62.72 33 P P 16 31 34.8 +1.2
HYT IAmb IAmb 16 31 36.0
comp=Z,21nm,1.1s

HYT Haines Junctio 62.72 33 P P 16 31 34.9 +1.4
baz=278,SNR=16

M30M Minto, Yukon 62.81 31 P P 16 31 35.2 +1.1

M30M Minto, Yukon 62.81 31 P P 16 31 35.3 +1.3
baz=278,SNR=15

N30M Aishikik Lake 62.83 32 P P 16 31 35.3 +1.1
baz=278

ARU Arti 62.89 322 P P 16 31 34.2 -0.4

ARU Arti 62.89 322 *d i* P P 16 31 34.4 -0.2
ARU 16 32 06.7
ARU S S 16 39 29.9 +3.4
ARU SS SS 16 43 37.7 -4.2
ARU pmax pmax
comp=Z,96nm,0.9s

ARU Arti 62.89 322 ⇓P P 16 31 34.4 -0.2

MAYO Mayo, Yukon 63.08 30 P P 16 31 36.9 +1.2
baz=278

P30M Million Dollar 63.09 34 P P 16 31 37.6 +1.7
baz=279

INK Inuvik 63.39 25 P P 16 31 37.8 +0.2
comp=Z,5.8nm,0.4s,baz=284,slow=6.5,SNR=32
comp=Z,5.8nm,0.4s

INK Inuvik 63.39 25 P P 16 31 37.7 +0.1

INK Inuvik 63.39 25 P P 16 31 37.8 +0.2
baz=278,SNR=13

AB31 Akbulak array 63.41 314 *i* P P 16 31 36.6 -1.5

ABKAR Akbulak array 63.41 314 P P 16 31 37.6 -0.5

ABKAR Akbulak array 63.41 314 P P 16 31 37.6 -0.5
ABKAR IAmb IAmb 16 31 38.8
comp=Z,66nm,0.8s

O30N Mendenhall 63.41 33 P P 16 31 38.9 +0.9
baz=279,SNR=8.3

F31M Tsiigehtchic 63.43 25 P P 16 31 38.0 +0.2
baz=278,SNR=7.1

N31M Braeburn, Yuko 63.44 32 P P 16 31 39.4 +1.2
N31M IAmb IAmb 16 31 40.5
comp=Z,44nm,1.1s

N31M Braeburn, Yuko 63.44 32 P P 16 31 39.6 +1.5
baz=279,SNR=16

PLBC Pleasant Camp 63.49 35 P P 16 31 39.6 +1.2
baz=280,SNR=23

S31K Pelican 63.82 36 P P 16 31 41.6 +1.1
baz=281

NWAO Narrogin (SRO) 63.95 201 P P 16 31 41.3 -0.3
NWAO IAmb IAmb 16 32 40.3
comp=Z,41nm,1.4s

NWAO Narrogin (SRO) 63.95 201 P P 16 31 41.5 -0.1
NWAO IAmb IAmb 16 32 40.3
comp=Z,36nm,1.4s

NWAO Narrogin (SRO) 63.95 201 P P 16 31 41.5 -0.1
NWAO pmax pmax
comp=Z,36nm,1.4s

M31M Drury Creek, Y 63.97 31 P P 16 31 42.2 +0.7
M31M IAmb IAmb 16 31 43.4
comp=Z,27nm,1.0s

M31M Drury Creek, Y 63.97 31 P P 16 31 42.5 +1.0
baz=280,SNR=19

SKAG Skagway 64.01 34 P P 16 31 43.0 +1.3
baz=281

WHY Whitehorse 64.01 33 P P 16 31 42.7 +0.8
WHY IAmb IAmb 16 31 44.1
comp=Z,19nm,0.8s

WHY Whitehorse 64.01 33 P P 16 31 43.2 +1.3

baz=280,SNR=18
AKTO Aktyubinsk 64.37 315 P P 16 31 43.0 -1.2
BESE Bessie Mountai 64.42 35 P P 16 31 45.2 +0.8
BESE IAmb IAmb 16 31 46.1
comp=Z,15nm,0.7s
FARO Faro, Yukon 64.45 31 P P 16 31 45.6 +1.1
baz=281,SNR=20
R32K Eaglecrest 64.65 36 P P 16 31 47.2 +1.4
baz=282,SNR=5.2
JIS Juneau Island 64.72 36 P P 16 31 47.6 +1.4
P32M Atlin 64.79 34 P P 16 31 48.0 +1.2
baz=282,SNR=7.1
XMAS Kiritimati 64.79 102 P P 16 31 48.4 +0.9
TOO Toolangi 64.99 175 P P 16 31 48.8 +0.6
TOO IAmb IAmb 16 33 14.7
comp=Z,42nm,1.8s
TOO Toolangi 64.99 175 P P 16 31 48.8 +0.6
P33M Teslin, Yukon 65.11 33 P P 16 31 49.6 +0.8
P33M Teslin, Yukon 65.11 33 P P 16 31 49.7 +0.9
baz=282,SNR=11
A36M Sachs Harbour 65.49 20 P P 16 31 51.4 +0.5
A36M IAmb IAmb 16 31 52.9
comp=Z,36nm,0.8s
A36M Sachs Harbour 65.49 20 P P 16 31 51.5 +0.6
baz=284,SNR=19
Q32M Nakina River 65.65 35 P P 16 31 53.5 +1.1
baz=283
MNCI Minicoy 65.84 267 P P 16 31 54.0 0.0
U33K Whale Pass 65.87 38 P P 16 31 54.7 +1.2
baz=284
CRAG Craig 66.03 38 P P 16 31 55.8 +1.3
CRAG Craig 66.03 38 P P 16 31 55.9 +1.4
baz=284
R33M Jennings River 66.20 34 P P 16 31 57.0 +1.2
baz=284
WRAK Wrangell Islan 66.22 37 P P 16 31 55.7 0.0
WRAK Wrangell Islan 66.22 37 P P 16 31 56.0 +0.4
baz=284
S34M Telegraph Cree 66.48 36 P P 16 31 58.8 +1.5
baz=285,SNR=5.6
C36M Paulatuk 66.54 23 P P 16 31 57.4 0.0
C36M IAmb IAmb 16 31 58.4
comp=Z,20nm,0.9s
C36M Paulatuk 66.54 23 P P 16 31 57.4 0.0
baz=286,SNR=13
DLBC Dease Lake 66.92 35 P P 16 32 01.5 +1.4
DLBC IAmb IAmb 16 32 02.7
comp=Z,34nm,1.4s
DLBC Dease Lake 66.92 35 P P 16 32 01.5 +1.4
baz=285,SNR=8.2
DIB Dawson Inlet, 66.97 41 P P 16 32 00.9 +0.4
DIB IAmb IAmb 16 32 01.7
comp=Z,29nm,0.6s
T35M Bob Quinn 67.19 36 P P 16 32 03.4 +1.6
baz=286,SNR=5.9
KIRV Kirov 67.24 325*d* *i*P P **16 32 01.9 -0.1**
GEYT Alibeck 67.65 302 P P 16 32 05.5 +0.5
comp=Z,23nm,0.9s,baz=40,slow=2.5,SNR=27
comp=Z,23nm,0.9s
GEYT Alibeck 67.65 302 P P 16 32 05.3 +0.3
GEYT Alibeck 67.65 302 P P 16 32 05.3 +0.3
GYA0B ALIBECK ARRAY 67.65 302 P P 16 32 05.2 +0.2
GYA0B IAmb IAmb 16 32 06.6
comp=Z,25nm,1.0s
HG4B Hotspring 67.97 41 P P 16 32 06.9 +0.3
PRGR Permogore 68.18 329 *e*P P **16 32 04.5 -3.2**
PRGR pmax pmax
comp=Z,51nm,0.7s
GRNB Grenville Isla 68.23 40 P P 16 32 09.1 +0.8
NGCH Negor - Chabah 69.48 289 P P 16 32 17.7 +1.4
KAAM Kaadhehdhoo 69.51 259 P P 16 32 14.0 -2.6
SPA0 Spitsbergen Ar 69.58 349 *e*P P **16 32 16.6 +0.6**
SPB2 Spitsbergen Ar 69.58 349 P P 16 32 16.2 +0.2
SPITS Spitsbergen Ar 69.58 349 P P 16 32 16.3 +0.3
SPITS pmax pmax
comp=Z,289nm,1.8s
ALE Alert 69.61 3 P P 16 32 16.8 +0.8
EUNU Eureka 69.70 8 P P 16 32 17.2 +0.5
KBS Kingsbay 69.78 351 P P 16 32 17.9 +0.8
KBS Kingsbay 69.78 351 P P 16 32 17.9 +0.8
KBS pmax pmax
comp=Z,148nm,1.6s
BELG Belogornoye 70.08 319*d* *i*P P **16 32 19.1 -0.2**
BELG pmax pmax
comp=Z,17nm,1.0s
HSPB Hornsund (broa 70.46 349 *e*P P **16 32 22.1 +0.9**
ADZR Andozero 70.55 333 *e*P P **16 32 21.2 -0.7**
ADZR pmax pmax
comp=Z,57nm,0.9s
VADS Vadso 71.02 340 *e*P P **16 32 25.1 +0.5**
VADS IAmb IAmb 16 32 25.7
comp=Z,40nm,0.9s
KLMR Klimovskoe 71.22 329 *e*P P **16 32 23.9 -2.1**
KLMR AMP 16 32 26.6
comp=Z,55nm,1.3s
KLMR Klimovskoe 71.22 329 *e*P P **16 32 23.8 -2.2**
KLMR pmax pmax
comp=Z,55nm,1.3s
KEV Kevo 71.91 340 P P 16 32 29.8 0.0
KEV Kevo 71.91 340 P P 16 32 29.8 0.0
KEV pmax pmax
comp=Z,124nm,1.5s
JASK Jask - Hormozg 72.03 290 P P 16 32 32.5 +1.1
RES Resolute Bay 72.05 13 P P 16 32 30.7 +0.1
RES Resolute Bay 72.05 13 P P 16 32 30.7 +0.1
RES pmax pmax
comp=Z,9.0nm,1.2s
JLN Jalan Bani Buh 72.16 286 P P 16 32 32.3 +0.2
SNR=18
WBK Wadi Bani Khal 72.35 287 P P 16 32 34.0 +0.7
SNR=8.2
HAMF Hammerfest 72.39 342 *e*P P **16 32 33.0 +0.4**
ARA0 ARCESS Array S 72.47 340 *e*P P **16 32 33.8 +0.6**
ARA0 IAmb IAmb 16 32 34.3
comp=Z,28nm,0.7s
ARCES ARCESS Array B 72.47 340 P P 16 32 33.3 +0.2
comp=Z,14nm,0.6s,baz=74,slow=8.4,SNR=60
comp=Z,14nm,0.6s
ARCES ARCESS Array B 72.47 340 P P 16 32 33.5 +0.4
ARCES ARCESS Array B 72.47 340 P P 16 32 33.6 +0.4
ARCES pmax pmax
comp=Z,64nm,1.3s
OZB Mount Ozzard 72.50 44 P P 16 32 34.8 +1.0
YKA Yellowknife Ar 72.63 28 P P 16 32 34.5 +0.3
comp=Z,18nm,0.6s,baz=295,slow=6.1,SNR=228
YKA pP **pwP 16 34 17.5 -1.6**
comp=Z,2.0nm,0.8s,baz=296,slow=6.2,SNR=3.1
comp=Z,18nm,0.6s
YKA Yellowknife Ar 72.63 28 P P 16 32 34.0 -0.1
SMDO Samad 72.96 287 P P 16 32 37.1 +0.2
SNR=7.8
JMDO Jabal Madar 73.18 287 P P 16 32 38.4 +0.3
SNR=6.7
BANOM Banah 73.31 291 *i*P P **16 32 39.9 +1.1**
SNR=8.6
BANOM Banah 73.31 291 P P 16 32 39.6 +0.7
SNR=5.8
HOQ Hoqain 73.38 288 P P 16 32 39.8 +0.6
SNR=31
SHME Shamm 73.39 291 P P 16 32 40.4 +1.2
SNR=13
KTK1 Kautokeino 73.44 340 *e*P P **16 32 39.1 +0.4**
KTK1 IAmb IAmb 16 32 39.6
comp=Z,33nm,1.0s
MDH Madha 73.56 290 *i*P P **16 32 39.4 -0.8**
SNR=6.0
MDH Madha 73.56 290 P P 16 32 39.8 -0.4
SNR=6.0
WAPA Wapiti River 73.59 36 P P 16 32 40.0 +0.1
WAPA IAmb IAmb 16 32 41.0
comp=Z,33nm,1.2s
MASF Masafi 73.64 290 P P 16 32 41.7 +0.9
SNR=17
MSFE Esma-Masafi 73.65 290 *i*P P **16 32 41.4 +0.6**
SNR=17
UOSS Minazif 73.77 290 P P 16 32 41.0 -0.5
UOSS Minazif 73.77 290 *i*P P **16 32 41.6 +0.2**
SNR=17
UOSS Minazif 73.77 290 P P 16 32 41.7 +0.2
SOHO SOHO 73.82 289 *i*P P **16 32 42.0 +0.4**
SNR=8.4
SOHO SOHO 73.82 289 P P 16 32 42.1 +0.4
HATD Hatta, Dubai 73.88 290 *i*P P **16 32 43.0 +0.9**
SNR=29
HATD Hatta, Dubai 73.88 290 P P 16 32 42.8 +0.7
SNR=19
VRH Novokhopyorsk 73.93 320 *e*P P **16 32 40.7 -1.1**
VRH pmax pmax
comp=Z,60nm,0.8s
AKT Akhty 73.94 309 ‖ *i*P P **16 32 42.3 +0.1**
AKT *e* 16 32 55.4
AKT *e**SP **sP 16 35 09.9 -1.8**
AKT *e* 16 35 33.6
AKT pmax pmax
comp=Z,70nm,0.9s
JETT Jettan, Norway 73.94 341 *e*P P **16 32 42.0 +0.4**
UMQ Umm Al-Quwin 74.00 291 P P 16 32 43.8 +1.1
ASHO Ashiyiah 74.00 290 *i*P P **16 32 43.0 +0.2**
SNR=26
ASHO Ashiyiah 74.00 290 P P 16 32 43.3 +0.5
SNR=14
B04A Port Angeles 74.07 44 P P 16 32 44.1 +1.4
NLWA Neilton Lookou 74.11 45 P P 16 32 44.8 +1.8
NLWA IAmb IAmb 16 32 45.7
comp=Z,42nm,1.1s
ARQ Araqi 74.14 288 P P 16 32 44.2 +0.6
SNR=15
NAZ Nazwa, Dubai 74.21 290 *i*P P **16 32 44.1 +0.2**
SNR=13
NAZ Nazwa, Dubai 74.21 290 P P 16 32 44.3 +0.3
SNR=9.6
MOS Moscow 74.24 325 *e*P P **16 32 42.0 -1.5**
MOS pmax pmax
comp=Z,76nm,0.9s
LKRN Lenkeran, Azer 74.26 306 P P 16 32 43.9 -0.1
TRO Tromso 74.31 342 *e*P P **16 32 43.8 +0.2**
FAQ Al Faqa, Dubai 74.36 290 *i*P P **16 32 45.0 +0.2**
SNR=22
FAQ Al Faqa, Dubai 74.36 290 P P 16 32 45.0 +0.2
SNR=9.9
SEKA Sheki 74.41 309 P P 16 32 44.8 -0.1
QRZ Quartz Range 74.42 155 P P 16 32 45.3 +0.7
ALNE Al Ain 74.50 289 *i*P P **16 32 46.1 +0.5**
SNR=12
ALNE Al Ain 74.50 289 P P 16 32 46.2 +0.5
SNR=16
RADR Rader Ridge 74.54 46 P P 16 32 46.9 +1.4
RADR IAmb IAmb 16 34 34.6
comp=Z,361nm,1.4s
GROC Groznyy 74.58 311 *e*P P **16 32 45.6 -0.1**
GROC pmax pmax
comp=Z,68nm,0.8s
BKZ Black Stump Fm 74.59 151 P P 16 32 45.6 -0.1
BKZ IAmb IAmb 16 32 55.5
comp=Z,25nm,1.3s
TULEG Thule 74.61 7 P P 16 32 45.8 +0.6
ASUD Al Ashush, Dub 74.63 290 *i*P P **16 32 47.0 +0.6**
SNR=18
ASUD Al Ashush, Dub 74.63 290 P P 16 32 46.9 +0.6
SNR=18
E03A Lebam 74.64 45 P P 16 32 47.5 +1.5
ZKTA Zakatala 74.64 309 P P 16 32 46.0 -0.1
DQM DQM 74.64 285 P P 16 32 46.7 +0.2
MNGR Mingechevir, A 74.66 308 P P 16 32 46.1 -0.1
TKNZ Takaka Hill 74.76 155 P P 16 32 47.2 +0.6
LPSR Galich'ya Gora 74.91 322 *e*P P **16 32 45.6 -1.8**
LPSR pmax pmax
comp=Z,50nm,1.1s
AJN Ajban 74.94 290 *i*P P **16 32 48.0 0.0**
SNR=6.0
AJN Ajban 74.94 290 P P 16 32 48.3 +0.2
SNR=6.5
OBN Obninsk 75.06 325 P P 16 32 48.0 -0.1
OBN Obninsk 75.06 325 *i*P P **16 32 47.8 -0.3**
OBN *i* 16 32 58.9
OBN pmax pmax
comp=Z,69nm,1.3s
NNZ Nelson 75.08 155 P P 16 32 48.5 +0.2
VORR Voronezh 75.16 321 *e*P P **16 32 48.9 +0.1**
VORR pmax pmax
comp=Z,40nm,0.4s
GANJ Ganja 75.24 308 P P 16 32 49.1 -0.4
D05A Enumclaw 75.36 44 P P 16 32 50.3 +0.3
VSR Storozhevoye 75.38 320 *e*P P **16 32 49.4 -0.6**
VSR pmax pmax
comp=Z,80nm,1.0s
TUWZ Tuamarina 75.48 154 P P 16 32 50.1 -0.4
UMZA Um Al Zommool 75.54 288 P P 16 32 51.3 -0.1
LON Longmire 75.66 45 P P 16 32 52.4 +0.6
LON IAmb IAmb 16 32 53.4
comp=Z,23nm,1.3s
LON Longmire 75.66 45 P P 16 32 52.4 +0.6
LON pmax pmax
comp=Z,23nm,1.3s
BUCK Buck Mountain 75.97 47 P P 16 32 55.4 +1.7
ZEI Tsey 76.02 311 *e*P P **16 32 51.3 -2.8**
ZEI pmax pmax
comp=Z,21nm,1.0s
LTY Liberty 76.14 44 P P 16 32 55.0 +0.6
LTY IAmb IAmb 16 32 55.7
comp=Z,9.3nm,0.6s
MZWR Madinat Zayed 76.19 290 P P 16 32 54.8 -0.3
KBZ Khabaz 76.30 312 P P 16 32 55.7 +0.5
comp=Z,38nm,0.8s,baz=98,slow=3.6,SNR=79
comp=Z,38nm,0.8s
KBZ Khabaz 76.30 312*d* *i*P P **16 32 55.6 +0.4**
KBZ pmax pmax
comp=Z,53nm,0.9s
KIV Kislovodsk 76.34 313 ‖ P P **16 32 56.0 +0.4**
KIV Kislovodsk 76.34 313 P P 16 32 55.6 0.0
KIV IAmb IAmb 16 32 58.1
comp=Z,28nm,0.9s
KIV Kislovodsk 76.34 313 *e*P P **16 32 55.7 +0.1**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 76.34 313 *i*P P **16 32 56.0 +0.4**
SNR=9.1
KIV Kislovodsk 76.34 313 P P 16 32 56.1 +0.4
ONI Oni 76.41 311 P P 16 32 56.8 +0.8
ONI IAmb IAmb 16 32 58.1
comp=Z,45nm,1.2s
ONI Oni 76.41 311 P P 16 32 56.8 +0.8
ONI pmax pmax
comp=Z,45nm,1.2s
NAX Nakhchivan 76.42 307 P P 16 32 56.1 -0.1
STEI Steigen 76.43 341 *e*P P **16 32 55.6 +0.1**
STEI IAmb IAmb 16 33 02.5
comp=Z,184nm,1.6s
B08A Colville Reser 76.48 42 P P 16 32 56.9 +0.6
B08A IAmb IAmb 16 32 58.1
comp=Z,25nm,0.8s
JRN Qarnain Island 76.56 291 P P 16 32 56.6 -0.4
FIA1 FINESS Array S 76.68 333 P P 16 32 56.5 -0.5
FINES FINESS Array B 76.68 333 P P 16 32 56.8 -0.2
comp=Z,40nm,0.4s,baz=65,slow=5.2,SNR=401
comp=Z,40nm,0.4s
FINES FINESS Array B 76.68 333 P P 16 32 56.6 -0.5
JCC Jacoby Creek, 76.69 51 P P 16 32 58.9 +1.4
LBZ Lake Benmore 76.72 158 P P 16 32 58.1 +0.7
LBZ IAmb IAmb 16 33 46.4
comp=Z,79nm,1.7s
FAUS Fauske 76.78 341 *e*P P **16 32 57.6 +0.1**
AKH Akhalkalaki 76.88 310 P P 16 32 59.7 +0.9
AKH Akhalkalaki 76.88 310 P P 16 32 59.7 +0.9
AKH pmax pmax
comp=Z,83nm,1.0s
GHWR Ruwais 76.94 290 P P 16 32 59.0 -0.2
G06A Carlson Farm, 77.05 46 P P 16 33 00.4 +0.9
F07A Phinny Hill Vi 77.20 45 P P 16 33 00.9 +0.7
F07A IAmb IAmb 16 33 02.5
comp=Z,19nm,1.0s
HAWA Hanford 77.23 44 P P 16 33 00.5 +0.1
HAWA IAmb IAmb 16 33 02.0
comp=Z,10nm,0.6s
D08A Wollman Farm, 77.31 43 P P 16 33 01.6 +0.8
D08A IAmb IAmb 16 33 02.6
comp=Z,26nm,1.0s
C09A Chrisman Ranch 77.36 43 P P 16 33 01.8 +0.7
C09A IAmb IAmb 16 33 02.5
comp=Z,20nm,0.6s
ODZ Otahua Downs 77.46 158 P P 16 33 02.1 +0.8
E08A Dider Farm, El 77.47 44 P P 16 33 02.5 +0.8
PINE Pine Mountain 77.48 47 P P 16 33 03.4 +1.3
KARS Kars 77.50 309 P P 16 33 02.0 -0.1
KARS Kars 77.50 309 P P 16 33 02.0 -0.1
KARS pmax pmax
comp=Z,56nm,0.8s
EDM Edmonton 77.57 36 P P 16 33 02.5 +0.4
EDM IAmb IAmb 16 33 03.7
comp=Z,23nm,1.0s
EDM Edmonton 77.57 36 P P 16 33 02.5 +0.4
EDM pmax pmax
comp=Z,23nm,1.0s
SHMA Al-Shehemyia 77.74 293 P P 16 33 03.1 -0.4
DMTO DMTO 77.79 284 P P 16 33 03.8 -0.1
MOR8 Moi Rana 77.84 340 *e*P P **16 33 01.9 -1.4**
MOR8 IAmb IAmb 16 33 02.8
comp=Z,35nm,0.8s
SLWR Sila 77.88 291 P P 16 33 04.4 +0.1
K05A Summer Lake 77.98 48 P P 16 33 05.9 +1.1
K05A IAmb IAmb 16 33 07.2
comp=Z,21nm,0.8s
E09A Wood Farm, Sta 78.03 44 P P 16 33 05.6 +0.9
E09A IAmb IAmb 16 33 06.8
comp=Z,18nm,0.9s
SAKB Bahrain 78.03 293 P P 16 33 03.9 -1.2
MEF Metsahovi 78.06 333 *e*P P **16 33 04.2 -0.3**
VSU Vasula 78.06 330*c* *i*P P **16 33 04.4 -0.2**
VSU pmax pmax
comp=Z,144nm,1.0s
VSU Vasula 78.06 330 *e*P P **16 33 05.0 +0.5**
DOK Doka 78.11 285 P P 16 33 05.2 -0.4
DOK P P **16 33 06.0 +0.3**
SNR=5.2
I07A Izee 78.28 46 P P 16 33 07.2 +1.0
SMRA Abu-Samra 78.32 292 P P 16 33 06.2 -0.4
SOC Sochi 78.44 313 *e*P P **16 33 04.7 -2.2**
SOC *e* 16 36 10.1
SOC *e*PPP PPP 16 38 07.9
SOC *e*S **S 16 42 21.3 -2.2**
SOC pmax pmax
comp=Z,36nm,0.8s
GEVA Gevas 78.51 307 P P 16 33 08.0 +0.3
GEVA IAmb IAmb 16 33 09.0
comp=Z,48nm,1.4s
RBK Rabkut 78.52 284 P P 16 33 07.5 -0.4
RAF Rauma 78.63 334 *e*P P **16 33 06.3 -1.3**
WHFO Wadi Hawf 78.72 284 P P 16 33 08.2 -0.8
MOD Modoc Plateau 78.74 49 P P 16 33 09.5 +0.6
F10A Beach Ranch, E 78.84 44 P P 16 33 10.2 +1.0
ORV Oroville 78.98 51 P P 16 33 10.2 +0.2
ORV IAmb IAmb 16 33 11.3
comp=Z,16nm,0.8s
ORV Oroville 78.98 51 P P 16 33 10.2 +0.2
ORV pmax pmax
comp=Z,16nm,0.8s
GURO Guroymak-BITLI 79.13 308 P P 16 33 11.6 +0.6
GURO IAmb IAmb 16 33 12.7
comp=Z,20nm,0.8s
MTSE Matsula 79.17 332 *e*P P **16 33 10.9 +0.3**
J08A Circle Bar Ran 79.28 47 P P 16 33 12.6 +1.0
J08A IAmb IAmb 16 33 13.8
comp=Z,29nm,0.7s
WALA Waterton Lakes 79.32 40 P P 16 33 12.5 +0.8
WALA IAmb IAmb 16 33 13.8
comp=Z,14nm,0.8s
BMO Blue Mountains 79.32 45 P P 16 33 12.6 +0.8
BMO IAmb IAmb 16 33 13.7
comp=Z,16nm,0.8s
BMO Blue Mountains 79.32 45 P P 16 33 12.6 +0.8
BMO pmax pmax
comp=Z,16nm,0.8s
ANN Anapa 79.33 315 *e*P P **16 33 09.6 -2.1**
ANN *e**PP **pP 16 34 51.2 -2.7**
ANN *e*S **S 16 42 31.2 -1.5**
ANN pmax pmax
comp=Z,78nm,0.8s
ABTO Aybut 79.37 284 P P 16 33 12.2 -0.2
WVOR Wild Horse Val 79.60 48 P P 16 33 14.2 +0.8
WVOR Wild Horse Val 79.60 48 P P 16 33 14.2 +0.8
WVOR pmax pmax
comp=Z,8.0nm,0.6s
BEKR Beckworth 79.63 50 P P 16 33 14.2 +0.6
MNK Minsk 79.72 327 *i*P P **16 33 13.2 -0.4**
comp=E,2.0nm,1.0s
MNK *i*P P **16 33 13.2 -0.4**
comp=N,22nm,1.0s
MNK *i*P P **16 33 13.2 -0.4**
comp=Z,53nm,1.0s,baz=57
MNK *i*pP **pP 16 34 55.9 -0.4**
MNK *i*sP **sP 16 35 44.9 -0.4**
MNK *i*PP **PP 16 36 22.0 -0.2**
MNK *i*PPP PPP 16 38 14.7
MNK *i*S **S 16 42 32.5 -3.9**
MNK *i*sS **sS 16 45 40.6 +2.0**
MNK *i*SS **SS 16 47 59.2 +2.2**
MNK *i*SSS SSS 16 51 29.9
MNK Minsk 79.72 327 *i*P P **16 33 13.1 -0.4**
MNK *i**PP **pP 16 34 55.9 -0.4**
MNK *i**SP **sP 16 35 44.8 -0.4**
MNK *i* 16 36 22.0
MNK *i*PPP PPP 16 38 14.6
MNK *i*S **S 16 42 32.5 -3.9**
MNK *i*SS **SS 16 47 59.1 +2.2**
MNK *i*SSS SSS 16 51 29.9
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,53nm,1.0s
MNK pmax pmax
comp=N,22nm,1.0s
NSS Namsos 79.73 340 *e*P P **16 33 13.0 -0.4**
NSS IAmb IAmb 16 33 14.2
comp=Z,27nm,0.7s
IDID Didziasalis 79.81 328 *e*P P 16 33 08.6 -5.4
ISAL Salakas 79.96 328 *e*P P **16 33 15.7 +0.9**
PLID Pearl Lake 80.02 44 P P 16 33 15.7 0.0
NACGM Naroch 80.03 327 *e*P P **16 33 15.2 0.0**
comp=N,2µm,1.0s
IIGN Ignalina 80.04 328 *e*P P 16 33 07.4 -7.8
SUMG Summit 80.12 360 *i*P P **16 33 16.0 +0.1**
MSO Missoula 80.42 42 P P 16 33 17.5 0.0
MSO Missoula 80.42 42 P P 16 33 17.8 +0.2
baz=300
CMB Columbia Colle 80.45 52 P P 16 33 18.3 +0.5
CMB Columbia Colle 80.45 52 P P 16 33 18.3 +0.5
CMB pmax pmax
comp=Z,8.0nm,0.7s
SLIT Slitere, Latvi 80.47 331 *e*P P **16 33 16.2 -1.1**
MARD Mardin 80.57 307 P P 16 33 18.8 +0.2
VSVD Vaisvydziai 80.73 329 *e*P P **16 33 18.4 -0.4**
MFID Camas Ranch 80.95 46 P P 16 33 21.4 +1.0
MFID IAmb IAmb 16 33 22.5
comp=Z,24nm,0.8s
UPP Uppsala 80.96 334 *e*P P **16 33 18.9 -1.0**
PABE Paberze 81.00 329 P P 16 33 19.9 -0.3
PABE Paberze 81.00 329 *e*P P **16 33 20.1 -0.1**
AKASG Malin Array Be 81.11 323 P P 16 33 20.4 -0.5
comp=Z,4.5nm,0.3s,baz=48,slow=5.4,SNR=108
comp=Z,4.5nm,0.3s
AKASG Malin Array Be 81.11 323 P P 16 33 20.2 -0.7
AKASG IAmb IAmb 16 33 21.7
comp=Z,35nm,1.4s
AKBB Malin Array Si 81.11 323 P P 16 33 20.1 -0.7
AKBB Malin Array Si 81.11 323*d* *i*P P **16 33 20.2 -0.7**
SIM Simferopol' 81.31 316 *e*P P **16 33 23.5 +1.4**
SIM pmax pmax
comp=Z,77nm,0.9s
SCO Scoresbysund 81.39 354 P P 16 33 22.7 +0.8
SCO Scoresbysund 81.39 354 P P 16 33 22.7 +0.8
SCO pmax pmax
comp=Z,82nm,1.7s
BMN Battle Mountai 81.49 49 P P 16 33 24.2 +0.9
BMN Battle Mountai 81.49 49 P P 16 33 24.2 +0.9
BMN pmax pmax
comp=Z,21nm,1.5s
KVN Kaiserville 81.56 50 P P 16 33 24.3 +0.6
KVN IAmb IAmb 16 33 25.1
comp=Z,12nm,0.6s
KVN Kaiserville 81.56 50 P P 16 33 24.3 +0.6
KVN pmax pmax
comp=Z,12nm,0.6s
PBUR Paburge 81.61 330 *e*P P **16 33 22.8 -0.6**
NVAR Mina Array Bea 81.71 51 P P 16 33 25.6 +1.1
comp=Z,7.4nm,0.5s,baz=295,slow=5.8,SNR=46
NVAR pP **pP 16 35 09.2 +1.3**
comp=Z,1.7nm,0.6s,baz=284,slow=3.6,SNR=2.5
comp=Z,7.4nm,0.5s
NVAR Mina Array Bea 81.71 51 P P 16 33 24.9 +0.4
HRY Holter Researc 81.72 41 P P 16 33 25.1 +0.8
HLID Hailey 81.77 45 P P 16 33 25.6 +0.9
HLID IAmb IAmb 16 33 26.9
comp=Z,11nm,0.7s
HLID Hailey 81.77 45 P P 16 33 25.9 +1.2

baz=300,SNR=19
NV11 Mina Array Sit 81.81 51 P P 16 33 26.4 +1.4
LRM Limekiln Ridge 81.82 42 P P 16 33 25.8 +0.8
BCYI Bear Canyon 82.02 44 P P 16 33 26.6 +0.6
MCMT McKenzie Canyo 82.09 43 P P 16 33 26.8 +0.4
TOKA Tokat 82.10 311 P P 16 33 26.8 +0.5
TOKA IAmb IAmb 16 33 27.8
comp=Z,24nm,0.8s
VIKU Vikbolandet 82.21 334 *e*P P 16 33 24.9 -1.5
EGMT Eagleton 82.22 39 P P 16 33 27.3 +0.5
EGMT IAmb IAmb 16 33 28.4
comp=Z,25nm,0.8s
EGMT Eagleton 82.22 39 P P 16 33 28.0 +1.3
baz=303
NC405 NORSAR Array S 82.24 337 P P 16 33 24.8 -1.8
NC303 NORSAR Array S 82.28 338 P P 16 33 25.7 -1.0
NC303 IAmb IAmb 16 33 27.0
comp=Z,30nm,0.8s
PKM Mcpherson Peak 82.32 55 P P 16 33 28.8 +1.1
baz=298
FFC Flin Flon 82.34 31 P P 16 33 27.1 0.0
FFC Flin Flon 82.34 31 P P 16 33 27.1 0.0
FFC pmax pmax
comp=Z,14nm,1.2s
VES Vestal, Richgr 82.39 54 P P 16 33 28.3 +0.5
baz=299
TIN Tinemaha, Big 82.42 52 P P 16 33 29.2 +1.1
baz=299
BOZ Bozeman (W) 82.42 42 P P 16 33 28.4 +0.4
BOZ IAmb IAmb 16 33 29.7
comp=Z,9.5nm,0.7s
BOZ Bozeman (W) 82.42 42 P P 16 33 28.9 +1.0
baz=302,SNR=17
BOZ Bozeman (W) 82.42 42 P P 16 33 28.4 +0.4
BOZ pmax pmax
comp=Z,9.0nm,0.7s
NB201 NORSAR Array S 82.43 337 P P 16 33 26.6 -1.0
DOMB Dombas 82.44 339 *e*P P 16 33 27.3 -0.3
NC204 NORSAR Array S 82.45 338 P P 16 33 27.1 -0.6
DSP Deep Springs 82.45 52 P P 16 33 29.5 +1.5
NB2 NORSAR Subarra 82.47 338 P P 16 33 26.2 -1.5
comp=Z,12nm,0.5s,baz=46,slow=5.1
NB2 NORSAR Subarra 82.47 338 P P 16 33 26.2 -1.5
slow=5.1
NOA NORSAR Array B 82.47 338 P P 16 33 26.9 -0.9
comp=Z,18nm,0.7s,baz=46,slow=4.9,SNR=52
comp=Z,18nm,0.7s
NC602 NORSAR Array S 82.57 337 P P 16 33 26.8 -1.4
NC602 NORSAR Array S 82.57 337 *e*P P 16 33 27.2 -1.0
NORES NORESS Array B 82.57 337 P P 16 33 27.2 -1.0
NBO00 NORSAR Array S 82.62 338 P P 16 33 26.8 -1.6
TPH Tonopah 82.63 51 P P 16 33 29.6 +0.4
TPH Tonopah 82.63 51 P P 16 33 29.6 +0.4
TPH pmax pmax
comp=Z,61nm,0.9s
ELK Elko 82.65 48 P P 16 33 30.1 +0.8
ELK Elko 82.65 48 P P 16 33 30.1 +0.8
ELK pmax pmax
comp=Z,12nm,1.0s
NAO01 NORSAR Array S 82.72 337 P P 16 33 27.7 -1.3
LCH Last Change Ra 82.74 52 P P 16 33 30.4 +0.7
LCH IAmb IAmb 16 33 31.5
comp=Z,9.8nm,0.8s
CWC Cottonwood Cre 82.82 53 P P 16 33 30.3 +0.1
baz=299
ISA Isabella, Lake 82.92 54 P P 16 33 30.7 +0.2
baz=299
SORM Soroca 83.00 321 ⇑P P 16 33 30.2 -0.4
SORM Soroca 83.00 321 ⇑P P 16 33 30.2 -0.4
FCC Fort Churchill 83.00 25 P P 16 33 29.9 -0.5
FCC Fort Churchill 83.00 25 P P 16 33 29.9 -0.5
FCC pmax pmax
comp=Z,8.0nm,0.9s
PURM Purcari 83.02 319 ⇓P P 16 33 30.5 -0.2
GRAC Grapevine Rang 83.05 52 P P 16 33 32.3 +1.1
baz=299
GAZ Gaziantep 83.15 308 P P 16 33 31.9 +0.3
GAZ IAmb IAmb 16 33 33.3
comp=Z,38nm,1.0s
RAYN Ar Rayn 83.22 293 P P 16 33 32.4 +0.2
RAYN Ar Rayn 83.22 293 ⇓P P 16 33 32.5 +0.2
RAYN Ar Rayn 83.22 293 *i* P P 16 33 32.9 +0.6
SNR=159
RAYN Ar Rayn 83.22 293 P P 16 33 33.0 +0.7
OSI Osito Audit: C 83.24 55 P P 16 33 33.3 +1.1
baz=299
BNN Bunyan 83.25 310 P P 16 33 32.1 -0.1
SNCC San Nicolas Is 83.31 56 P P 16 33 33.9 +1.4
baz=299
YMR Madison River 83.32 43 P P 16 33 33.8 +1.2
YMR IAmb IAmb 16 33 35.2
comp=Z,27nm,0.8s
MPMC Manual Prospec 83.42 53 P P 16 33 34.0 +0.8
baz=299,SNR=9.6
GCMT Greycliff 83.48 41 P P 16 33 34.0 +0.8
LRMC Laurel Mtn Rad 83.57 53 P P 16 33 34.5 +0.6
baz=299
R11A Troy Canyon, C 83.61 50 P P 16 33 34.7 +0.6
R11A Troy Canyon, C 83.61 50 P P 16 33 35.1 +0.9
baz=300,SNR=14
EDW2 Edwards Air Fo 83.64 54 P P 16 33 35.2 +1.1
baz=299,SNR=7.2
FURC Furnace Creek, 83.67 52 P P 16 33 35.3 +1.1
baz=300
WCT Wildcat Mounta 83.67 52 P P 16 33 34.7 +0.4
WCT IAmb IAmb 16 33 35.9
comp=Z,21nm,1.5s
DECC Green Verdugo 83.70 55 P P 16 33 35.1 +0.7
baz=299
H17A Grant Village 83.70 43 PcP PcP 16 33 37.4 -0.2
H17A Grant Village 83.70 43 P P 16 33 37.6 +3.0
baz=303,SNR=10
HVU Hansel Valley 83.72 46 P P 16 33 34.9 +0.3
HVU IAmb IAmb 16 33 36.8
comp=Z,16nm,0.7s
HVU Hansel Valley 83.72 46 P P 16 33 34.9 +0.3
HVU pmax pmax
comp=Z,17nm,0.7s
TPNV Topopah Spring 83.86 52 P P 16 33 35.7 +0.3
TPNV IAmb IAmb 16 33 37.0
comp=Z,16nm,0.8s
TPNV Topopah Spring 83.86 52 P P 16 33 36.1 +0.7
baz=300,SNR=14
TPNV Topopah Spring 83.86 52 P P 16 33 35.7 +0.3
TPNV pmax pmax
comp=Z,17nm,0.8s
GWY Greenwater Val 83.94 52 P P 16 33 36.1 +0.3
GWY IAmb IAmb 16 33 37.3
comp=Z,15nm,0.8s
BGU Big Grassy Mou 84.00 47 P P 16 33 36.4 +0.4
HYA Hoyanger 84.01 339 *e*P P 16 33 35.3 -0.1
CIS Catalina Islan 84.05 55 P P 16 33 36.5 +0.3
baz=299
RLMT Red Lodge 84.08 42 P P 16 33 37.5 +1.1
RLMT Red Lodge 84.08 42 P P 16 33 37.9 +1.5
baz=304,SNR=27
VASR Vaslui 84.15 320 ⇑P P 16 33 35.7 -0.6
BFSC Mount Baldy Ra 84.19 54 P P 16 33 37.3 +0.3
baz=300
AHID Auburn Hatcher 84.25 44 P P 16 33 38.0 +0.7
AHID IAmb IAmb 16 33 39.1
comp=Z,11nm,0.8s
GSC Goldstone, Bar 84.28 53 P P 16 33 37.8 +0.4
GSC IAmb IAmb 16 33 39.1
comp=Z,16nm,0.8s
GSC Goldstone, Bar 84.28 53 P P 16 33 38.2 +0.8
baz=300,SNR=12
GSC Goldstone, Bar 84.28 53 P P 16 33 37.8 +0.4
GSC pmax pmax
comp=Z,16nm,0.8s
BR131 Keskin Array S 84.29 312 P P 16 33 36.5 -0.9
BR131 IAmb IAmb 16 33 37.6
comp=Z,16nm,0.8s
BR131 Keskin Array S 84.29 312 P P 16 33 36.5 -0.9
BR131 pmax pmax
comp=Z,16nm,0.8s
BRTR Keskin Array B 84.29 312 P P 16 33 36.8 -0.7
comp=Z,8.0nm,0.7s,baz=95,slow=3.6,SNR=31
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 84.29 312 P P 16 33 36.5 -0.9
LVV L'vov 84.35 324 *e*P P 16 33 36.3 -1.0
SHOC Shoshone, Teco 84.36 52 P P 16 33 38.4 +0.7
baz=300
TLCR 84.37 319 ⇑P P 16 33 36.2 -1.3
TLCR 84.37 319 ⇑P P 16 33 36.2 -1.3

VLDR Vladesti 84.43 319 ⇑P P 16 33 37.6 -0.2
PRN Pahroc Range 84.45 51 P P 16 33 38.7 +0.5
PRN IAmb IAmb 16 33 40.2
comp=Z,17nm,1.1s
DUG Dugway, Tooele 84.52 47 P P 16 33 39.3 +0.8
DUG IAmb IAmb 16 33 40.5
comp=Z,21nm,1.3s
DUG Dugway, Tooele 84.52 47 P P 16 33 39.6 +1.1
baz=302,SNR=8.8
DUG Dugway, Tooele 84.52 47 P P 16 33 39.3 +0.8
DUG pmax pmax
comp=Z,21nm,1.3s
HWUT Hardware Ranch 84.58 46 P P 16 33 39.6 +0.7
HWUT IAmb IAmb 16 33 41.0
comp=Z,13nm,0.8s
ELS Elsinore Mount 84.65 55 P P 16 33 39.5 +0.3
DEL Delary 84.72 333 *e*P P 16 33 37.7 -1.2
CFR Carcaliu 84.78 319 ⇓P P 16 33 36.4 -3.1
CFR Carcaliu 84.78 319 ⇓P P 16 33 36.4 -3.1
TPGR Topolog 84.79 318 ⇑P P 16 33 39.0 -0.6
SHPR Sheep Range 84.83 51 P P 16 33 40.9 +0.7
TUQ Turquoise Moun 84.84 53 P P 16 33 40.7 +0.5
baz=300
MURC Murrieta 84.84 55 P P 16 33 40.6 +0.5
baz=300
HEC Hector,Ludlow 84.85 53 P P 16 33 41.0 +0.8
baz=300,SNR=16
TESR Tescani 84.87 320 ⇓P P 16 33 39.0 -1.0
LAO LASA Array 84.95 39 P P 16 33 41.3 +0.9
baz=306
DGMT Dagmar 85.02 37 P P 16 33 40.8 +0.1
DGMT IAmb IAmb 16 33 41.9
comp=Z,15nm,0.7s
DGMT Dagmar 85.02 37 P P 16 33 41.0 +0.3
baz=307
BUR08 Bucovina Ar. S 85.02 322 P P 16 33 40.4 -0.4
BUR08 IAmb IAmb 16 33 41.5
comp=Z,8.3nm,0.7s
BURAR Bucovina Array 85.03 322 ⇑P P 16 33 40.3 -0.5
BURAR Bucovina Array 85.03 322 P P 16 33 40.4 -0.4
BURAR IAmb IAmb 16 33 41.8
comp=Z,14nm,0.7s
BURAR Bucovina Array 85.03 322 ⇑P P 16 33 40.3 -0.5
ODBI Odobesti 85.07 320 ⇑P P 16 33 42.2 +1.3
VRI Vrincioaia 85.20 320 ⇑P P 16 33 42.0 +0.4
VRI Vrincioaia 85.20 320 ⇑P P 16 33 42.0 +0.4
BW06 Boulder Array 85.20 44 P P 16 33 42.4 +0.4
BW06 Boulder Array 85.20 44 P P 16 33 42.4 +0.4
baz=304,SNR=7.0
PD31 Pinedale Array 85.20 44 P P 16 33 42.3 +0.3
PDAR Pinedale Array 85.20 44 P P 16 33 42.5 +0.5
comp=Z,2.8nm,0.7s,baz=262,slow=2.3,SNR=26
comp=Z,2.8nm,0.7s
PDAR Pinedale Array 85.20 44 P P 16 33 42.2 +0.3
BSD Bornholm Skovb 85.23 332 *e*P P 16 33 40.4 -1.1
PLOR Plostina 85.25 320 ⇓P P 16 33 42.3 +0.4
PLOR Plostina 85.25 320 ⇓P P 16 33 42.3 +0.4
GMRC Granite Mounta 85.35 53 P P 16 33 43.6 +0.9
baz=300,SNR=14
PFO Pinyon Flats O 85.37 55 P P 16 33 43.3 +0.5
PFO IAmb IAmb 16 33 44.3
comp=Z,20nm,0.8s
PFO Pinyon Flats O 85.37 55 P P 16 33 43.6 +0.9
baz=300,SNR=11
PFO Pinyon Flats O 85.37 55 *de*P P 16 33 43.7 +0.9
PFO pmax pmax
comp=Z,29nm,0.9s
TPFO Pinon Flats 85.37 55 P P 16 33 43.6 +0.8
baz=300,SNR=8.8
SFJD Kangerlussuaq 85.39 4 P P 16 33 42.2 +0.2
SFJD IAmb IAmb 16 34 09.0
comp=Z,52nm,1.4s
SFJD Kangerlussuaq 85.39 4 P P 16 33 42.2 +0.2
SFJD pmax pmax
comp=Z,52nm,1.4s
PMD Palm Desert 85.41 54 P P 16 33 43.0 +0.1
PMD IAmb IAmb 16 33 44.3
comp=Z,20nm,0.7s
BELC Belle Mtn. Jos 85.50 54 P P 16 33 44.0 +0.5
baz=300,SNR=12
COVR Voineasa-Covas 85.51 320 ⇑P P 16 33 42.5 -0.7
CCUT Cedar City 85.53 50 P P 16 33 45.0 +1.3
OZUR 85.60 320 ⇑P P 16 33 43.5 0.0
BAR Barrett 85.68 55 P P 16 33 44.4 +0.2
MONP2 Monument Peak 85.75 55 P P 16 33 45.3 +0.5
baz=300,SNR=6.8
ARCR ARCALIA 85.81 322 ⇑P P 16 33 41.2 -3.3
MSU Marysvale 85.82 49 P P 16 33 45.8 +0.7
MSU Marysvale 85.82 49 P P 16 33 45.8 +0.7
MLR Muntele Rosu 85.86 320 ⇓P P 16 33 45.0 +0.1
MLR Muntele Rosu 85.86 320 P P 16 33 44.5 -0.5
MLR IAmb IAmb 16 33 45.3
comp=Z,32nm,1.4s
MLR Muntele Rosu 85.86 320 ⇓P P 16 33 45.0 +0.1
LCMT Little Creek M 85.89 50 P P 16 33 45.9 +0.6
DOPR Dopca 85.90 321 ⇑P P 16 33 44.5 -0.5
UZH Uzhgorod 85.98 324 *e*P P 16 33 43.7 -1.5
IRM Iron Mountain 86.04 53 P P 16 33 46.8 +0.9
baz=301,SNR=9.3
SECR 86.06 320 ⇑P P 16 33 44.0 -1.8
BC3 Big Chuckawall 86.07 54 P P 16 33 47.0 +0.8
baz=301,SNR=10
IKP In-Ko-Pah, Jac 86.10 55 P P 16 33 47.2 +1.0
baz=300
TRPA Tarpa 86.16 323 ⇓P P 16 33 45.9 -0.2
KNB Kanab 86.18 50 P P 16 33 47.3 +0.6
KNB IAmb IAmb 16 33 49.6
comp=Z,12nm,0.9s
KNB Kanab 86.18 50 P P 16 33 47.3 +0.6
KNB pmax pmax
comp=Z,12nm,0.9s
SWSC Sam W. Stewart 86.18 55 P P 16 33 47.1 +0.6
baz=301
YUH Yuha Desert 86.24 55 P P 16 33 47.2 +0.3
OJC Ojcow 86.25 326 P P 16 33 45.3 -1.2
OJC IAmb IAmb 16 33 47.1
comp=Z,22nm,1.2s
OJC Ojcow 86.25 326 P P 16 33 45.3 -1.2
OJC pmax pmax
comp=Z,22nm,1.2s
CJR Cluj-Napoca 86.45 322 ⇑P P 16 33 46.1 -1.5
CJR Cluj-Napoca 86.45 322 ⇑P P 16 33 46.1 -1.5
ESJX Sierra Juarez 86.55 56 P P 16 33 49.2 +0.7
SRU San Rafael Swe 86.59 47 P P 16 33 48.7 +0.1
SRU San Rafael Swe 86.59 47 P P 16 33 48.7 +0.1
SRU pmax pmax
comp=Z,6.0nm,0.7s
ARR Arges 86.68 320 ⇓P P 16 33 48.8 0.0
MARR Marisel-Cluj 86.74 322 ⇑P P 16 33 48.4 -0.6
GLA Glamis 86.83 54 P P 16 33 50.8 +1.1
baz=301
HUMR Humele 86.98 320 ⇑P P 16 33 49.3 -0.8
K22A Casper 87.12 43 P P 16 33 51.0 0.0
baz=306
OKC Ostrava-Krasne 87.31 327 *e*P P 16 33 50.9 -0.6
OKC Ostrava-Krasne 87.31 327 *e*P P 16 33 50.9 -0.6
O20A White River Ci 87.49 45 P P 16 33 53.7 +0.8
baz=304
MORC Moravsky Berou 87.64 327 ⇓P P 16 33 51.6 -1.5
MORC Moravsky Berou 87.64 327 P P 16 33 52.5 -0.6
MORC Moravsky Berou 87.64 327 *e*P P 16 33 52.8 -0.4
MORC Moravsky Berou 87.64 327 P P 16 33 52.5 -0.6
MORC pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 87.67 324 ⇓P P 16 33 53.0 -0.4
PSZ Piszkesteto 87.67 324 P P 16 33 52.9 -0.5
PSZ IAmb IAmb 16 33 54.1
comp=Z,18nm,1.0s
PSZ Piszkesteto 87.67 324 ⇓P P 16 33 53.0 -0.4
GZR Gura Zlata 87.71 321 ⇑P P 16 33 52.0 -1.6
RSSD Black Hills 87.71 40 P P 16 33 54.0 +0.2
RSSD Black Hills 87.71 40 P P 16 33 54.4 +0.5
baz=307
RSSD Black Hills 87.71 40 P P 16 33 54.0 +0.2
RSSD pmax pmax
comp=Z,6.0nm,0.6s
113A Mohawk Valley, 87.74 54 P P 16 33 54.5 +0.6
113A IAmb IAmb 16 33 55.6
comp=Z,5.3nm,0.6s
OSTC Ostas 87.75 328 *e*P P 16 33 53.2 -0.4
MAUC Maruska 87.78 326 *e*P P 16 33 53.0 -0.8
SIRR Siria 87.78 322 ⇓P P 16 33 53.1 -0.7
KRLC Kraliky 87.81 327 *e*P P 16 33 53.4 -0.5
KRLC Kraliky 87.81 327 *e*P P 16 33 53.4 -0.5

VYHS Vyhne 87.84 325 *e*P P 16 33 54.0 -0.1
VYHS pmax pmax
comp=Z,24nm,1.0s
VYHS Vyhne 87.84 325 *e*P P 16 33 54.0 -0.1
DPC Dobruska-Polom 87.84 328 *e*P P 16 33 53.3 -0.8
DPC Dobruska-Polom 87.84 328 *e*P P 16 33 53.3 -0.8
SURR Surduc 87.85 322 ⇓P P 16 33 53.5 -0.6
UPC Upice 87.88 328 *e*P P 16 33 53.6 -0.6
UPC Upice 87.88 328 *e*P P 16 33 53.6 -0.6
SRE Strehaia 87.92 320 ⇑P P 16 33 53.4 -1.1
SRE Strehaia 87.92 320 ⇑P P 16 33 53.4 -1.1
PV23 Carpenter Ridg 87.94 47 P P 16 33 55.4 +0.3
PV23 IAmb IAmb 16 35 51.9
comp=Z,10nm,0.8s
PV10 Paradox Valley 87.96 47 P P 16 33 55.8 +0.7
PV10 IAmb IAmb 16 35 47.2
comp=Z,17nm,1.0s
ULM Lac du Bonnet 88.08 32 P P 16 33 55.0 -0.1
comp=Z,1.8nm,0.4s,baz=299,slow=7.2,SNR=5.1
comp=Z,1.8nm,0.4s
ULM Lac du Bonnet 88.08 32 P P 16 33 54.7 -0.4
ULM IAmb IAmb 16 33 56.8
comp=Z,35nm,1.9s
PV11 David Mesa, Pa 88.12 47 P P 16 33 55.3 -0.5
PV11 IAmb IAmb 16 35 47.1
comp=Z,16nm,1.2s
JAVC Velka Javorina 88.19 326 *e*P P 16 33 56.7 +1.0
BZS Buzias 88.21 322 ⇑P P 16 33 54.3 -1.5
BZS Buzias 88.21 322 ⇑P P 16 33 54.3 -1.5
PV13 Radium Mtn., P 88.23 47 P P 16 33 56.3 -0.1
PV13 IAmb IAmb 16 33 57.7
comp=Z,9.7nm,0.6s
DJES Djerdap 88.30 321 ⇓P P 16 33 54.8 -1.5
PUNG Punghina 88.31 320 ⇓P P 16 33 55.9 -0.4
VRAC Vranov 88.42 327 ⇓P P 16 33 56.2 -0.5
VRAC Vranov 88.42 327 *e*P P 16 33 56.6 -0.1
VRAC Vranov 88.42 327 ⇓P P 16 33 56.2 -0.5
N23A Red Feather La 88.49 44 P P 16 33 58.8 +1.2
baz=306
SMOL Smolenice 88.54 326 *e*P P 16 33 57.7 +0.4
SMOL pmax pmax
comp=Z,12nm,1.0s
BRG Berggiesshubel 88.59 329 *i* P P 16 33 56.6 -0.9
BRG Amp 16 33 58.1
comp=Z,7.9nm,0.8s
BRG Berggiesshubel 88.59 329 *i* P P 16 33 56.5 -0.9
BRG 16 37 33.5
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG MLR MLR
comp=E,4μm,20.9s
BRG MLR MLR
comp=N,7μm,19.9s
BRG MLR MLR
comp=Z,11μm,21.3s
BRG Berggiesshubel 88.59 329 *e*P P 16 33 57.0 -0.5
comp=Z,7.9nm,0.8s,baz=44,slow=4.7
KRUC Moravsky 88.68 327 *e*P P 16 33 57.7 -0.2
MDVR Moldovita 88.68 321 ⇓P P 16 33 57.0 -1.1
MODS Modra-Piesok 88.70 326 *e*P P 16 33 58.5 +0.4
MODS pmax pmax
comp=Z,43nm,1.2s
MODS Modra-Piesok 88.70 326 *e*P P 16 33 58.5 +0.4
CLL Collm 88.71 330 P P 16 33 57.1 -0.9
CLL IAmb IAmb 16 33 58.2
comp=Z,37nm,1.6s
CLL Collm 88.71 330 *e*PKPPKPcP**P'P'df** 16 59 45.0 -0.5
CLL Collm 88.71 330 P P 16 33 57.1 -0.9
CLL Collm 88.71 330 *e*P P 16 33 57.3 -0.7
comp=Z,10nm,0.8s,baz=44,slow=4.7
CLL Collm 88.71 330 *e*P P 16 33 55.0 -3.0
comp=Z,10.0nm,0.8s
CLL Collm 88.71 330 *e*pP pP 16 35 47.0 +3.5
CLL Collm 88.71 330 *e*sP sP 16 36 33.0 +1.3
CLL Collm 88.71 330 *e*SKSac **SKSac** 16 43 40.0 -1.6
FLTG Flechtingen 88.74 331 *e*P P 16 33 57.0 -1.1
comp=Z,9.7nm,0.8s,baz=44,slow=4.7
214A Organ Pipe Nat 88.85 54 P P 16 34 00.0 +0.8
214A Organ Pipe Nat 88.85 54 P P 16 34 00.5 +1.3
baz=302
PRU Pruhonice 88.93 328 *e*P P 16 33 58.5 -0.6
PRU Pruhonice 88.93 328 *e*P P 16 33 58.5 -0.6
MVCO Mesa Verde 88.97 48 P P 16 34 00.7 +0.8
baz=304
VTS Vitosha 89.15 319 ⇓P P 16 33 59.4 -1.1
VTS Vitosha 89.15 319 P P 16 34 00.1 -0.4
VTS IAmb IAmb 16 34 01.3
comp=Z,19nm,1.0s
VTS Vitosha 89.15 319 P P 16 34 00.1 -0.4
VTS pmax pmax
comp=Z,19nm,1.0s
RETH Rethem/Aller, 89.23 333 *e*P P 16 33 59.8 -0.5
comp=Z,15nm,1.0s,baz=44,slow=4.7
W18A Petrified Fore 89.31 50 P P 16 34 02.5 +1.1
baz=304
NEUB Neuenburg 89.32 330 *e*P P 16 34 00.5 -0.4
baz=44,slow=4.7
ISCO Idaho Springs 89.33 45 P P 16 34 02.5 +0.9
ISCO Idaho Springs 89.33 45 P P 16 34 02.6 +0.9
baz=306
ISCO Idaho Springs 89.33 45 P P 16 34 02.5 +0.9
ISCO pmax pmax
comp=Z,5.0nm,0.7s
BOVS Bovan 89.40 320 ⇑P P 16 33 59.7 -1.7
MORH Mrgy, Hungar 89.43 324 ⇓P P 16 34 00.4 -1.0
CLZ Clausthal 89.47 331 *e*P P 16 34 01.2 -0.4
comp=Z,8.2nm,0.8s,baz=44,slow=4.7
FRGS Fruska Gora 89.49 322 ⇓P P 16 34 02.3 +0.4
TANN Tannenbergstha 89.58 330 *e*P P 16 34 01.5 -0.7
comp=Z,14nm,1.4s,baz=44,slow=4.7
WERD Werda 89.63 330 *e*P P 16 34 01.9 -0.5
comp=Z,6.5nm,0.9s,baz=44,slow=4.7
RONA Rosalia, Austr 89.64 326 *e*PcP P 16 34 02.4 -0.2
comp=Z,9.0nm,0.9s
GUNZ Gunzen 89.68 330 *e*P P 16 34 02.4 -0.3
comp=Z,8.5nm,0.8s,baz=44,slow=4.7
CONA Conrad Observa 89.71 326 *e*PcP P 16 34 02.6 -0.2
comp=Z,18nm,1.1s
WERN Wernitzgruen 89.71 329 *e*P P 16 34 02.5 -0.2
comp=Z,33nm,1.6s,baz=44,slow=4.7
NKC Novy Kostel 89.72 329 *e*P P 16 34 02.3 -0.5
NKC Novy Kostel 89.72 329 *e*P P 16 34 02.3 -0.5
S22A 4UR Ranch, Cre 89.76 47 P P 16 34 04.6 +1.0
baz=306
MOX Moxa 89.80 330 *e*P P 16 34 02.6 -0.5
comp=Z,5.3nm,1.1s,baz=44,slow=4.7
CKRC Cesky Krumlov 89.85 328 *e*P P 16 34 03.8 +0.4
KHC Kasperske Hory 89.97 328 P P 16 34 03.3 -0.8
KHC IAmb IAmb 16 34 04.5
comp=Z,12nm,1.0s
KHC Kasperske Hory 89.97 328 *e*P P 16 34 03.2 -0.8
KHC Kasperske Hory 89.97 328 ⇑*e*P P 16 34 03.8 -0.2
KHC pmax pmax
comp=Z,22nm,1.0s
MANZ Manzenberg 90.05 329 *e*P P 16 34 04.0 -0.3
comp=Z,2.3nm,1.2s,baz=44,slow=4.7
DIVS Divibare 90.07 321 P P 16 34 03.8 -0.8
DIVS IAmb IAmb 16 34 04.8
comp=Z,10nm,1.0s
TUC Tucson 90.11 53 P P 16 34 06.0 +0.9
TUC Tucson 90.11 53 P P 16 34 06.2 +1.1
baz=303
TUC Tucson 90.11 53 P P 16 34 06.0 +0.9
TUC pmax pmax
comp=Z,2.0nm,0.7s
GEC2 GERESS Array S 90.12 328 P P 16 34 03.6 -1.1
GEC2 IAmb IAmb 16 34 05.3
comp=Z,13nm,1.1s
GEC2 GERESS Array S 90.12 328 *e*P P 16 34 04.2 -0.6
comp=Z,10nm,1.0s,baz=44,slow=4.7
GERES GERESS Array B 90.12 328 P P 16 34 03.8 -1.0
comp=Z,4.5nm,0.8s,baz=46,slow=3.9,SNR=24
comp=Z,4.5nm,0.8s
GERES GERESS Array B 90.12 328 P P 16 34 03.4 -1.3
Q24A Divide 90.12 45 P P 16 34 06.2 +1.0
baz=306
ROTZ Rotzenmuhle 90.16 329 *e*P P 16 34 04.6 -0.2
comp=Z,5.3nm,1.3s,baz=44,slow=4.7
IBBN Ibbenburen 90.20 333 *e*P P 16 34 04.4 -0.5
comp=Z,23nm,0.8s,baz=44,slow=4.7
ARSA Arzberg 90.33 326 *e*P P 16 34 05.1 -0.6
comp=Z,7.0nm,0.9s
MOA Molln 90.54 327 *e*P P 16 34 06.1 -0.6

	comp=Z,7.2nm,0.8s								
SDCO	**Great Sand Dun**	**90.61**	**46**	P		**P**	**16 34 08.3**	**+0.7**	
SDCO	**Great Sand Dun**	**90.61**	**46**	P		**P**	**16 34 08.5**	**+1.0**	
	baz=306								
GRF	**Grafenberg Arr**	**90.66**	**330**	*e*P		**P**	**16 34 07.0**	**-0.1**	
	comp=Z,37nm,1.4s,baz=44,slow=4.7								
OGNE	**Ogallala**	**90.82**	**42**	P		**P**	**16 34 09.4**	**+1.2**	
	baz=308								
BIOA	**Bad Ischl, Aus**	**90.95**	**327**	*e*P		**P**	**16 34 07.8**	**-0.8**	
	comp=Z,12nm,1.2s								
SOKA	**Soboth**	**90.97**	**326**	*e*P		**P**	**16 34 07.8**	**-0.9**	
	comp=Z,14nm,0.9s								
DUN6	**Lazy B Ranch**	**91.17**	**52**	P		**P**	**16 34 11.2**	**+1.1**	
DUN6				IAmb		IAmb	16 34 12.5		
	comp=Z,42nm,1.0s								
KBA	**Koelnbreinsper**	**91.53**	**327**	*e*P		**P**	**16 34 10.3**	**-1.1**	
	comp=Z,6.5nm,0.8s								
ANMO	**Albuquerque**	**91.62**	**49**	⇓*e*P		**P**	**16 34 13.3**	**+1.2**	
	baz=306								
ANMO	**Albuquerque**	**91.62**	**49**	⇓*e*P		**P**	**16 34 13.5**	**+1.4**	
ANMO				pmax		pmax			
	comp=Z,9.0nm,0.8s								
T25A	**Trinidad**	**91.67**	**46**	P		**P**	**16 34 13.2**	**+0.9**	
T25A				IAmb		IAmb	16 34 14.3		
	comp=Z,8.2nm,0.8s								
T25A	**Trinidad**	**91.67**	**46**	P		**P**	**16 34 13.6**	**+1.3**	
	baz=307								
MYKA	**Terra Mystica**	**91.70**	**326**	*e*P		**P**	**16 34 10.3**	**-1.7**	
	comp=Z,7.6nm,0.8s								
LENM	**Lemitar**	**91.72**	**50**	P		**P**	**16 34 13.7**	**+1.1**	
FUR	**Furstenfeldbru**	**91.74**	**329**	*e*P		**P**	**16 34 12.2**	**0.0**	
	comp=Z,40nm,1.1s,baz=44,slow=4.7								
Y22F	**Passcal Instru**	**91.81**	**50**	P		**P**	**16 34 14.7**	**+1.7**	
	baz=305								
121A	**Cookes Peak, D**	**92.10**	**52**	P		**P**	**16 34 15.5**	**+1.1**	
	baz=305								
ABTA	**Abfaltersbach**	**92.17**	**327**	*e*P		**P**	**16 34 12.6**	**-1.7**	
	comp=Z,9.9nm,0.7s,SNR=8.6								
CLUD	**Cludinico**	**92.19**	**327**	P		**P**	**16 34 12.1**	**-2.2**	
MOTA	**Moosalm**	**92.41**	**328**	*i* P		**P**	**16 34 14.3**	**-1.2**	
	comp=Z,4.8nm,0.8s								
SQTA	**Sankt Quirin**	**92.45**	**328**	*e*P		**P**	**16 34 14.0**	**-1.6**	
	comp=Z,4.8nm,0.8s								
RETA	**Reutte**	**92.47**	**328**	*e*P		**P**	**16 34 14.2**	**-1.4**	
	comp=Z,11nm,1.1s								
FETA	**Feichten**	**92.82**	**328**	*e*P		**P**	**16 34 16.3**	**-1.1**	
	comp=Z,9.8nm,0.9s								
BFO	**Black Forest**	**92.95**	**330**	*e*P		**P**	**16 34 17.1**	**-0.6**	
	comp=Z,11nm,0.9s,baz=44,slow=4.7								
DAVA	**Damuels**	**93.02**	**329**	*e*PcP		**P**	**16 34 17.3**	**-1.0**	
	comp=Z,11nm,0.9s								
MNTX	**Cornudas Mount**	**94.24**	**51**	P		**P**	**16 34 24.6**	**+0.6**	
	baz=306								
KS20	**Mayfield South**	**95.88**	**43**	P		**P**	**16 34 29.3**	**-1.9**	
CEL	**Celeste**	**96.23**	**319**	P		**P**	**16 34 32.6**	**-0.3**	
TX32	**Lajitas Array**	**96.83**	**52**	P		**P**	**16 34 36.3**	**+0.5**	
TX32				IAmb		IAmb	16 34 37.5		
	comp=Z,2.8nm,0.8s								
ESDC	**Sonseca Array**	**105.17**	**332**	PP		**PKiKP**	**16 39 30.9**	**+6.8**	
	comp=Z,1.2nm,0.9s,baz=17,slow=5.8,SNR=4.5								
TORD	**Torodi Ar. Bea**	**122.83**	**310**	PKP		**PKPdf**	**16 39 57.9**	**-0.3**	
	comp=Z,1.7nm,0.3s,baz=336,slow=2.0,SNR=6.4								
BOSA	**Boshof**	**123.14**	**252**	PKP		**PKPdf**	**16 39 58.7**	**+0.1**	
	comp=Z,3.4nm,0.6s,baz=70,slow=1.5,SNR=8.3								
CZSB	**Cruzeiro do Su**	**143.27**	**64**			PKPab	16 40 33.5	-0.6	
BOAV	**Boa Vista**	**144.23**	**37**			PKPbc	16 40 37.2	-0.2	
ETMB	**Extrema**	**149.61**	**60**			**PKPbc**	**16 40 51.3**	**-0.8**	
ETMB				PKPab		**PKPab**	**16 40 57.6**	**-1.5**	
PLCA	**Paso Flores**	**151.63**	**126**	PKPbc		**PKiKP**	**16 40 56.7**	**+0.3**	
	comp=Z,2.6nm,0.5s,baz=238,slow=2.8,SNR=19								
PLCA				pPKPbc		**pPKPbc**	**16 42 49.1**	**+1.2**	
	comp=Z,3.1nm,0.9s,baz=254,slow=3.7,SNR=3.5								
PB11	**IPOC Station P**	**151.76**	**80**			**PKiKP**	**16 40 57.3**	**0.0**	
CPUP	**Villa Florida**	**164.45**	**89**	PKPab		**PKPab**	**16 42 03.5**	**+0.5**	
	comp=Z,3.4nm,0.8s,baz=284,slow=4.2,SNR=6.5								

*NCEDC **10** 16:23:55.7±1.5, 40.31N±0.03×124.07W±0.05, h33km±7km, ML3.1/16, ML3.2/44(NEIC), Error ellipse: s-maj=6.4km s-min=3.6km az=63.0*

NEIC 10 16:23:55.6±1.6, **40.30N**±0.03×**124.06W**±0.05, **h32**km±9km, **Error ellipse: s-maj=5.9km s-min=3.2km az=62.0, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMPM	**Mount Pierce**	**0.12**	**338**			Pb	16 24 01.6	+0.1
KMPM	**Mount Pierce**	**0.12**	**338**		IAML		16 24 06.4	
	comp=E,8μm,0.5s							
KMPM					IAML		16 24 06.5	
	comp=N,7μm,0.3s							
KCRM	**Chalk Rock**	**0.22**	**56**			Pb	16 24 02.6	+0.1
KCTM	**Capetown**	**0.27**	**310**			Pn	16 24 03.5	0.0
KCTM						Sn	16 24 09.7	+1.2
KMRM	**Mail Ridge**	**0.28**	**106**			Pn	16 24 03.4	-0.1
KMRM						Sn	16 24 09.5	+0.8
KMRM	**Mail Ridge**	**0.28**	**106**		IAML		16 24 09.7	
	comp=E,3μm,0.7s							
KMRM					IAML		16 24 11.6	
	comp=N,4μm,0.4s							
JCC	**Jacoby Creek,**	**0.52**	**3**			Pb	16 24 05.6	-0.7
JCC	**Jacoby Creek,**	**0.52**	**3**		IAML		16 24 13.5	
	comp=N,439nm,0.5s							
JCC					IAML		16 24 13.5	
	comp=E,866nm,0.7s							
KHMM	**Horse Mountain**	**0.63**	**23**			Pb	16 24 07.7	-0.6
KHMM	**Horse Mountain**	**0.63**	**23**		IAML		16 24 17.2	
	comp=N,1μm,0.4s							
KHMM					IAML		16 24 17.5	
	comp=E,2μm,0.6s							
KIPM	**Iron Peak**	**0.66**	**138**			Pn	16 24 08.6	-0.3
KCPM	**Cahto Peak**	**0.71**	**149**			Pn	16 24 08.8	-0.8
KCPM	**Cahto Peak**	**0.71**	**149**		IAML		16 24 20.9	
	comp=N,2μm,0.5s							
KHBM	**Hayfork Bally**	**0.73**	**60**			Pn	16 24 09.1	-0.8
KBNM	**Bluenose Ridge**	**0.78**	**121**			Pn	16 24 10.5	+0.1
KFPM	**Farley Peak**	**0.82**	**143**			Pn	16 24 10.2	-0.8
KRPM	**Rodgers**	**0.86**	**2**			Pn	16 24 10.7	-0.8
KRPM	**Rodgers**	**0.86**	**2**		IAML		16 24 22.5	
	comp=N,385nm,0.9s							
KRPM					IAML		16 24 22.6	
	comp=E,317nm,0.4s							
LBPM	**Beegum Peak**	**0.90**	**89**			Pn	16 24 11.5	-0.6
KOMM	**Orleans Mounta**	**1.08**	**25**			Pn	16 24 13.8	-0.8
LGPM	**Granite Peak**	**1.12**	**56**			Pn	16 24 14.5	-0.6
GHMM	**Hull Mountain**	**1.18**	**132**			Pn	16 24 15.5	-0.5
GVV	**Valley View**	**1.19**	**116**			Pn	16 24 15.9	-0.2
GWRM	**Wonder Ranch**	**1.24**	**152**			Pn	16 24 15.7	-1.0
LBKM	**Bonanza King**	**1.32**	**53**			Pn	16 24 17.4	-0.5
GCK	**Clark Valley**	**1.46**	**121**			Pn	16 24 20.2	+0.5
LTCM	**Tuscan Springs**	**1.48**	**93**			Pn	16 24 19.6	-0.4
GHLM	**Highland Sprin**	**1.49**	**147**			Pn	16 24 19.5	-0.8
GTSM	**Trough Springs**	**1.50**	**131**			Pn	16 24 20.2	0.0
GHGM	**Hogback Ridge**	**1.51**	**140**			Pn	16 24 20.3	-0.1
HOPS	**Hopland Field**	**1.51**	**149**			Pn	16 24 19.7	-0.7
LSHM	**Sage Hen Hill**	**1.62**	**72**			Pn	16 24 21.6	-0.3
GFC	**Funks Creek**	**1.68**	**125**			Pn	16 24 23.3	+0.7
LCSM	**College of the**	**1.69**	**48**			Pn	16 24 23.3	+0.4
KTRM	**Thompson Ridge**	**1.69**	**18**			Pn	16 24 22.1	-0.9
LAMM	**Antelope Mount**	**1.70**	**39**			Pn	16 24 23.1	-0.1
GWKM	**Walker Ridge**	**1.74**	**135**			Pn	16 24 21.2	-2.4
LDBM	**Digger Butte**	**1.74**	**85**			Pn	16 24 23.0	-0.7
YBH	**Yreka Blue Hor**	**1.76**	**35**			Pn	16 24 23.5	-0.4
YBH	**Yreka Blue Hor**	**1.76**	**35**		IAML		16 24 47.6	
	comp=E,100nm,0.6s							
M03C	**McCloud**	**1.76**	**56**			Pn	16 24 24.4	+0.4
GSSM	**Skaggs Springs**	**1.79**	**153**			Pn	16 24 23.5	-0.7
KBO	**Bosley Butte**	**1.91**	**356**			Pn	16 24 25.5	-0.5
KBO	**Bosley Butte**	**1.91**	**356**		IAML		16 24 47.9	
	comp=E,395nm,0.6s							
KBO					IAML		16 24 48.9	
	comp=N,252nm,0.3s							
LMEM	**Manzanita Entr**	**1.92**	**82**			Pn	16 24 25.4	-0.7
LHEM	**Herd Peak**	**1.92**	**46**			Pn	16 24 27.0	+0.7
LBFM	**Black Fox Moun**	**1.95**	**57**			Pn	16 24 27.5	+0.9
B040	**Montague**	**1.97**	**38**			Pn	16 24 27.0	+0.3
OSUM	**Sutter Buttes**	**1.99**	**120**			Pn	16 24 26.1	-0.8
HATC	**Hat Creek Radi**	**2.04**	**75**			Pn	16 24 28.2	+0.4
SUTB	**Sutter Butte**	**2.05**	**121**			Pn	16 24 26.6	-1.2
ORV	**Oroville**	**2.10**	**110**			Pn	16 24 27.7	-0.9
PAM	**Palermo**	**2.13**	**113**			Pn	16 24 27.8	-1.1
OWYM	**Wyandotte**	**2.15**	**112**			Pn	16 24 28.0	-1.2
M04C	**Macdoel**	**2.24**	**48**			Pn	16 24 31.1	+0.5
MCCM	**Marconi Confer**	**2.34**	**157**	Pn		Pn	16 24 30.8	-0.9
MCCM					IAML		16 25 26.8	
	comp=N,157nm,2.5s							
MCCM					IAML		16 25 59.9	
	comp=E,162nm,2.1s							
NOLM	**Olema**	**2.46**	**156**			Pn	16 24 32.7	-0.8
AFDM	**Forest Hills D**	**2.74**	**119**	Pn		Pn	16 24 36.9	-0.4
BEKR	**Beckworth**	**2.87**	**97**	Pn		Pn	16 24 39.2	-0.1
DBO	**Dodson Butte**	**2.88**	**12**	Pn		Pn	16 24 39.1	-0.2
DBO					IAML		16 25 04.5	
	comp=N,56nm,2.9s							
DBO					IAML		16 26 25.4	
	comp=E,63nm,3.8s							
MOD	**Modoc Plateau**	**3.26**	**59**	Pn		Pn	16 24 44.3	-0.3
MOD					IAML		16 25 42.0	
	comp=E,25nm,3.0s							
K05A	**Summer Lake**	**3.39**	**43**	Pn		Pn	16 24 46.5	0.0
K05A					IAML		16 25 37.3	
	comp=N,39nm,4.9s							
K05A					IAML		16 26 04.2	
	comp=E,33nm,4.0s							
JLAB	**Laurel Hill**	**3.63**	**149**			Pn	16 24 52.5	+3.0
JRGM	**Rodeo Gulch Ro**	**3.65**	**153**			Pn	16 24 51.4	+1.6
JTGM	**Trout Gulch Ro**	**3.69**	**152**			Pn	16 24 51.4	+1.1
HTUM	**Tustin Road**	**3.95**	**151**			Pn	16 24 56.1	+2.2
BUCK	**Buck Mountain**	**3.98**	**11**	Pn		Pn	16 24 55.8	+1.5
PINE	**Pine Mountain**	**4.19**	**33**	Pn		Pn	16 24 58.9	+1.5
PINE					IAML		16 26 48.1	
	comp=N,36nm,4.9s							
PINE					IAML		16 27 05.3	
	comp=E,38nm,4.3s							
BBGB	**Big Mountain B**	**4.41**	**147**	Pn		Pn	16 25 00.8	+0.5
BPIM	**Pinnacles**	**4.43**	**148**			Pn	16 25 02.9	+2.4
KVN	**Kaiserville**	**4.76**	**103**			Pn	16 25 05.4	+0.1
LHV	**Little Huntoon**	**4.77**	**114**	Pn		Pn	16 25 05.2	+0.1
PMPB	**Monarch Peak**	**4.82**	**147**	Pn		Pn	16 25 06.0	+0.1
NVAR	**Mina Array Bea**	**4.84**	**111**			Pn	16 25 06.4	+0.1
I07A	**Izee**	**5.07**	**40**	Pn		Pn	16 25 09.9	+0.4
J08A	**Circle Bar Ran**	**5.17**	**52**	Pn		Pn	16 25 10.9	+0.1
HOOD	**Mount Hood Mea**	**5.32**	**19**	Pn		Pn	16 25 12.8	-0.1
WISH	**Wishkah**	**6.82**	**2**	Pn		Pn	16 25 33.1	-0.1
R11A	**Troy Canyon, C**	**6.85**	**104**	Pn		Pn	16 25 33.4	-0.6

*LDG **10** 16:27:36.5±0.1, 43.78N×11.86E, h10km, Ml2.7/21, Error ellipse: s-maj=3.2km s-min=2.4km az=40.0*
*ROM **10** 16:27:37.0±0.1, 43.847N±0.004×11.913E±0.006, h16km±1km, ML2.8/140, Error ellipse: s-maj=0.6km s-min=0.2km az=44.0*
*PRU **10** 16:27:39.1±0.0, 43.95N×12.25E, h10km*

ISC 10 16:27:36.5±0.8, **43.84N**±0.02×**11.89E**±0.02, **h18**km±1km, **n129**,σ1s**84**/175, **5C-1D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFI	**Santa Sofia**	**0.07**	**334**	⇓P		**Pg**	**16 27 39.9**	**-0.2**
SFI				S		**Sg**	**16 27 42.4**	**0.0**
SFI					AML	AML		
	comp=E,15100μm,0.2s							
SFI					AML	AML		
	comp=E,15050μm,0.2s							
SFI					AML	AML		
	comp=N,9365μm,0.4s							
SFI					AML	AML		
	comp=N,9255μm,0.3s							
ASQU	**Asqua**	**0.09**	**240**	⇑P		**Pg**	**16 27 40.4**	**+0.2**
ASQU				S		**Sb**	**16 27 43.2**	**+0.8**
ASQU					AML	AML		
	comp=E,27550μm,0.3s							
ASQU					AML	AML		
	comp=N,23250μm,0.2s							
ASQU	**Asqua**	**0.09**	**240**	P		**Pg**	**16 27 40.0**	**-0.1**
ASQU				S		**Sb**	**16 27 43.4**	**+0.8**
CRE	**Caprese Michel**	**0.22**	**169**	⇑P		**Pg**	**16 27 42.0**	**+0.1**
CRE				S		**Sg**	**16 27 46.2**	**+0.6**
CRE					AML	AML		
	comp=N,12850μm,0.4s							
CRE					AML	AML		
	comp=E,8970μm,0.2s							
LMD	**Lutirano**	**0.27**	**331**	⇑P		**Pg**	**16 27 42.5**	**-0.1**
LMD				S		**Sb**	**16 27 47.7**	**+0.7**
LMD					AML	AML		
	comp=E,3060μm,0.2s							
LMD					AML	AML		
	comp=N,2305μm,0.9s							
LMD	**Lutirano**	**0.27**	**331**	P		**Pg**	**16 27 42.5**	**-0.1**
LMD				S		**Sb**	**16 27 47.8**	**+0.8**
RUFI	**Rufina**	**0.28**	**270**	⇑P		**Pg**	**16 27 43.1**	**+0.5**
RUFI				S		**Sb**	**16 27 48.6**	**+1.6**
RUFI					AML	AML		
	comp=E,2010μm,0.8s							
RUFI					AML	AML		
	comp=N,2225μm,0.4s							
RUFI					AML	AML		
	comp=E,2015μm,0.8s							
RUFI	**Rufina**	**0.28**	**270**	P		**Pg**	**16 27 43.1**	**+0.5**
RUFI				S		**Sb**	**16 27 48.4**	**+1.3**
CPGN	**Carpegna, Ital**	**0.31**	**97**	P		**Pg**	**16 27 43.3**	**-0.1**
CPGN				S		**Sb**	**16 27 49.2**	**+0.9**
CPGN					AML	AML		
	comp=E,1705μm,1.2s							
CPGN					AML	AML		
	comp=E,1710μm,1.2s							
CPGN					AML	AML		
	comp=N,2255μm,1.4s							
CPGN					AML	AML		
	comp=N,2255μm,0.6s							
PARC	**Parchiule**	**0.32**	**127**	P		**Pg**	**16 27 43.2**	**-0.1**
PARC				S		**Sg**	**16 27 48.0**	**0.0**
PARC					AML	AML		
	comp=E,1565μm,0.3s							
PARC					AML	AML		
	comp=N,1430μm,0.4s							
SSP9	**Sansepolcro**	**0.32**	**147**	P		**Pg**	**16 27 43.2**	**-0.1**
SSP9				S		**Sb**	**16 27 48.8**	**+0.4**
SSP9					AML	AML		
	comp=E,1480μm,0.7s							
SSP9					AML	AML		
	comp=N,2170μm,0.4s							
SSP9					AML	AML		
	comp=E,1480μm,1.3s							
BRIS	**BRISIGHELLA**	**0.41**	**319**	P		**Pg**	**16 27 45.0**	**-0.1**
BRIS				S		**Sb**	**16 27 52.4**	**+1.1**
BRIS					AML	AML		
	comp=N,2800μm,0.2s							
BRIS					AML	AML		
	comp=N,2680μm,0.3s							
BRIS					AML	AML		
	comp=N,2800μm,1.8s							
BRIS					AML	AML		
	comp=E,3010μm,0.3s							
BRIS					AML	AML		
	comp=E,2895μm,0.3s							
A309A	**Martorano (FC)**	**0.42**	**37**	P		**Pg**	**16 27 44.9**	**-0.2**
A309A				S		**Sb**	**16 27 52.4**	**+1.0**
BADI	**Badiali**	**0.42**	**142**	P		**Pg**	**16 27 44.8**	**-0.3**
BADI				S		**Sb**	**16 27 52.1**	**+0.7**
BADI					AML	AML		
	comp=N,883μm,0.8s							
BADI					AML	AML		
	comp=E,75μm,0.7s							
BADI					AML	AML		
	comp=N,882μm,0.8s							
SEI	**Scarperia**	**0.44**	**299**	P		**Pg**	**16 27 46.2**	**+0.7**
SEI					AML	AML		
	comp=N,3750μm,0.3s							
SEI					AML	AML		
	comp=E,1630μm,0.4s							
SEI	**Scarperia**	**0.44**	**299**	P		**Pg**	**16 27 46.0**	**+0.4**
ATMC	**Monte Cedrone**	**0.45**	**151**	P		**Pg**	**16 27 45.5**	**-0.2**
ATMC				S		**Sb**	**16 27 53.1**	**+0.8**
FAEN	**Faenza**	**0.45**	**359**	P		**Pb**	**16 27 47.5**	**+1.6**
PE3	**Peglio**	**0.46**	**108**	P		**Pg**	**16 27 45.9**	**0.0**
PE3				S		**Sb**	**16 27 53.8**	**+1.2**
PE3					AML	AML		
	comp=N,16μm,0.1s							
PE3					AML	AML		
	comp=N,16μm,0.1s							
PE3					AML	AML		
	comp=E,3055μm,0.4s							
BRSN	**Barisano**	**0.46**	**17**	P		**Pb**	**16 27 46.7**	**+0.6**
BRSN					AML	AML		
	comp=N,2215μm,1.2s							
BRSN					AML	AML		
	comp=E,2530μm,0.4s							
BRSN					AML	AML		
	comp=N,2150μm,1.4s							
BRSN					AML	AML		
	comp=E,2535μm,0.4s							
BRSN					AML	AML		
	comp=N,2145μm,1.4s							
BRSN					AML	AML		
	comp=N,2215μm,0.8s							
BRSN					AML	AML		
	comp=E,2455μm,0.4s							
APEC	**Apecchio**	**0.47**	**126**	P		**Pg**	**16 27 46.2**	**+0.1**
APEC				S		**Sb**	**16 27 54.2**	**+1.2**
APEC					AML	AML		
	comp=N,1454μm,1.3s							
APEC					AML	AML		
	comp=N,1280μm,1.3s							
APEC					AML	AML		
	comp=N,1458μm,1.3s							
APEC					AML	AML		
	comp=N,1458μm,0.7s							
APEC					AML	AML		
	comp=N,1280μm,0.7s							
APEC					AML	AML		
	comp=E,1490μm,0.3s							
APEC					AML	AML		
	comp=E,1108μm,0.4s							
CAFI	**Castiglion Fio**	**0.51**	**174**	⇑P		**Pg**	**16 27 46.8**	**-0.1**
CAFI				S		**Sb**	**16 27 55.5**	**+1.5**
CAFI					AML	AML		
	comp=E,1465μm,0.7s							
CAFI					AML	AML		
	comp=N,954μm,0.3s							
CAFI					AML	AML		
	comp=N,927μm,0.3s							
CAFI					AML	AML		
	comp=E,1500μm,0.7s							
BLLA	**Bellaria**	**0.52**	**54**	P		**Pg**	**16 27 47.0**	**+0.1**
IMOL	**Imola, Italy**	**0.53**	**348**	P		**Pb**	**16 27 48.4**	**+1.2**
IMOL					AML	AML		
	comp=E,1915μm,0.9s							
IMOL					AML	AML		
	comp=N,1895μm,0.8s							
IMOL					AML	AML		
	comp=E,1915μm,1.1s							
IMOL					AML	AML		
	comp=N,1895μm,1.2s							
IMOL	**Imola, Italy**	**0.53**	**348**	P		**Pb**	**16 27 48.4**	**+1.2**
ATPI	**Pietralunga -**	**0.54**	**136**	P		**Pg**	**16 27 47.1**	**-0.2**
ATPI				S		**Sb**	**16 27 55.8**	**+1.1**
ATPI					AML	AML		
	comp=E,703μm,0.3s							
ATPI					AML	AML		
	comp=N,728μm,0.4s							
ATPC	**Poggio Castell**	**0.55**	**131**	P		**Pg**	**16 27 47.3**	**-0.1**
ATPC				S		**Sb**	**16 27 56.2**	**+1.3**
NARO	**Abbazia di Nar**	**0.55**	**114**	P		**Pg**	**16 27 46.8**	**-0.7**
NARO					AML	AML		
	comp=E,383μm,0.4s							
NARO					AML	AML		
	comp=N,388μm,0.4s							
NARO					AML	AML		
	comp=E,383μm,1.6s							
PIEI	**Pieia**	**0.56**	**123**	P		**Pg**	**16 27 47.0**	**-0.6**
PIEI				S		**Sb**	**16 27 56.0**	**+0.7**
PIEI					AML	AML		
	comp=E,558μm,0.8s							
PIEI					AML	AML		
	comp=N,382μm,0.3s							
PIEI					AML	AML		
	comp=E,558μm,1.2s							
OSSC	**Osservatorio P**	**0.56**	**236**	P		**Pg**	**16 27 48.4**	**+0.5**
OSSC				S		**Sb**	**16 27 57.8**	**+2.3**
OSSC					AML	AML		
	comp=E,747μm,0.4s							
OSSC					AML	AML		
	comp=N,824μm,0.5s							
OSSC					AML	AML		
	comp=N,834μm,0.6s							
OSSC					AML	AML		
	comp=E,832μm,0.5s							
OSSC	**Osservatorio P**	**0.56**	**236**	P		**Pg**	**16 27 48.3**	**+0.5**
OSSC				S		**Sb**	**16 27 57.6**	**+2.2**
CSNT	**Castellina Chi**	**0.57**	**230**	P		**Pb**	**16 27 49.3**	**+1.4**
CSNT					AML	AML		
	comp=E,744μm,1.6s							
CSNT					AML	AML		
	comp=E,744μm,0.4s							
CSNT					AML	AML		
	comp=N,1115μm,0.4s							
CSNT	**Castellina Chi**	**0.57**	**230**	P		**Pb**	**16 27 48.9**	**+1.0**
CSNT				S		**Sb**	**16 27 57.5**	**+1.9**
ATMI	**Monte Miggiano**	**0.57**	**151**	P		**Pg**	**16 27 48.1**	**+0.1**
ATMI				S		**Sb**	**16 27 57.5**	**+1.7**
ATMI					AML	AML		
	comp=E,3080μm,1.2s							
ATMI					AML	AML		
	comp=N,2095μm,0.9s							
ATMI					AML	AML		
	comp=E,3080μm,0.8s							
TB03	**Pietralunga**	**0.58**	**139**	P		**Pg**	**16 27 48.0**	**0.0**
TB03				S		**Sb**	**16 27 57.5**	**+1.7**
ATVO	**AVT- Monte Val**	**0.59**	**141**	P		**Pg**	**16 27 47.9**	**-0.3**
ATVO				S		**Sb**	**16 27 57.5**	**+1.3**
ATVO					AML	AML		
	comp=E,752μm,1.6s							
ATVO					AML	AML		
	comp=E,752μm,0.4s							
ATVO					AML	AML		
	comp=N,1030μm,0.8s							
MPPT	**Montemurlo**	**0.59**	**282**	P		**Pb**	**16 27 49.5**	**+1.2**
MPPT					AML	AML		
	comp=E,918μm,0.3s							
MPPT					AML	AML		
	comp=E,918μm,0.3s							
MPPT					AML	AML		
	comp=E,918μm,1.7s							
MPPT					AML	AML		
	comp=N,795μm,0.4s							
ATBU	**Serra di Buran**	**0.60**	**127**	P		**Pg**	**16 27 48.5**	**+0.1**
TB02	**Pietralunga**	**0.60**	**141**	P		**Pg**	**16 27 48.6**	**+0.1**
TB02				S		**Sb**	**16 27 58.4**	**+1.9**
TB01	**Gubbio**	**0.60**	**139**	P		**Pg**	**16 27 48.6**	**+0.1**
TB01				S		**Sb**	**16 27 58.3**	**+1.7**
MTRZ	**Monterenzio**	**0.62**	**330**	P		**Pb**	**16 27 49.8**	**+1.0**
MTRZ					AML	AML		
	comp=N,1174μm,1.5s							
MTRZ					AML	AML		
	comp=N,1180μm,1.5s							
MTRZ					AML	AML		
	comp=N,1174μm,1.5s							
MTRZ					AML	AML		
	comp=E,1740μm,0.4s							
MTRZ					AML	AML		

CRMI				AML	AML		
	comp=E,652µm,1.1s						
CRMI				AML	AML		
	comp=N,660µm,0.6s						
CRMI				AML	AML		
	comp=E,634µm,1.1s						
CRMI	**Carmignano**	**0.67**	**266**	P	**Pg**	**16 27 50.3**	**+0.6**
MTCR	**Monte La Croce**	**0.67**	**287**	P	**Pb**	**16 27 50.9**	**+1.1**
MTCR				AML	AML		
	comp=E,473µm,1.6s						
MTCR				AML	AML		
	comp=E,474µm,1.6s						
MTCR				AML	AML		
	comp=N,510µm,1.2s						
MTCR	**Monte La Croce**	**0.67**	**287**	P	**Pb**	**16 27 50.9**	**+1.1**
ATFO	**Monte Foce - G**	**0.68**	**134**	P	**Pg**	**16 27 50.0**	**0.0**
ATFO				AML	AML		
	comp=N,513µm,0.8s						
ATFO				AML	AML		
	comp=N,513µm,1.2s						
ATFO				AML	AML		
	comp=E,726µm,0.5s						
FRON	**Frontone**	**0.69**	**118**	P	**Pg**	**16 27 49.7**	**-0.3**
FRON				AML	AML		
	comp=N,490µm,0.5s						
FRON				AML	AML		
	comp=N,490µm,1.5s						
FRON				AML	AML		
	comp=E,302µm,1.4s						
PESA	**Pesaro**	**0.69**	**81**	P	**Pg**	**16 27 49.2**	**-1.0**
PESA				AML	AML		
	comp=N,912µm,1.3s						
PESA				AML	AML		
	comp=E,927µm,0.8s						
PESA				AML	AML		
	comp=N,912µm,0.7s						
ATSC	**Scheggia e Pas**	**0.71**	**125**	P	**Pg**	**16 27 50.2**	**-0.3**
ATTE	**AVT- Monte Tez**	**0.72**	**152**	P	**Pg**	**16 27 50.3**	**-0.4**
ATTE				AML	AML		
	comp=E,658µm,0.4s						
ATTE				AML	AML		
	comp=N,748µm,1.5s						
ATTE				AML	AML		
	comp=N,748µm,0.5s						
ATTE				AML	AML		
	comp=E,658µm,1.6s						
MURB	**Monte Urbino**	**0.74**	**141**	P	**Pg**	**16 27 51.2**	**+0.2**
MURB				AML	AML		
	comp=N,1370µm,0.8s						
MURB				AML	AML		
	comp=E,1390µm,0.3s						
MURB				AML	AML		
	comp=E,1490µm,1.3s						
MURB				AML	AML		
	comp=N,1460µm,0.3s						
SSFR	**Montelago di S**	**0.76**	**122**	P	**Pg**	**16 27 51.0**	**-0.4**
SSFR				AML	AML		
	comp=E,664µm,1.5s						
SSFR				AML	AML		
	comp=E,718µm,0.8s						
SSFR				AML	AML		
	comp=N,824µm,0.2s						
SSFR				AML	AML		
	comp=E,664µm,0.5s						
SSFR				AML	AML		
	comp=N,894µm,0.3s						
COR1	**Corinaldo**	**0.83**	**104**	P	**Pg**	**16 27 53.0**	**+0.3**
COR1				AML	AML		
	comp=N,994µm,0.6s						
COR1				AML	AML		
	comp=E,646µm,1.6s						
COR1				AML	AML		
	comp=N,993µm,0.6s						
COR1				AML	AML		
	comp=E,646µm,0.4s						
FOSV	**Fossato di Vic**	**0.83**	**130**	P	**Pg**	**16 27 53.4**	**+0.7**
FOSV				AML	AML		
	comp=E,200µm,1.0s						
FOSV				AML	AML		
	comp=N,258µm,0.6s						
FOSV				AML	AML		
	comp=E,200µm,1.0s						
ATCC	**AVT- Casa Cast**	**0.85**	**140**	P	**Pb**	**16 27 53.4**	**+0.7**
ATCC				AML	AML		
	comp=E,738µm,1.1s						
ATCC				AML	AML		
	comp=N,605µm,0.7s						
ATCC				AML	AML		
	comp=E,738µm,0.9s						
ASSB	**Assisi San Ben**	**0.97**	**145**	AML	AML		
	comp=E,267µm,0.5s						
ASSB				AML	AML		
	comp=N,300µm,0.4s						
SACS	**San Casciano d**	**0.99**	**179**	P	**Pb**	**16 27 55.5**	**+0.4**
SACS				AML	AML		
	comp=E,246µm,0.9s						
SACS				AML	AML		
	comp=N,240µm,0.5s						
PII	**Pisa**	**1.00**	**264**	AML	AML		
	comp=N,722µm,0.3s						
PII				AML	AML		
	comp=E,568µm,1.4s						
EL6	**Elcito**	**1.02**	**120**	P	**Pb**	**16 27 55.9**	**+0.3**
EL6				AML	AML		
	comp=N,483µm,0.6s						
EL6				AML	AML		
	comp=E,460µm,0.3s						
SF04	**Casetta**	**1.02**	**190**	P	**Pb**	**16 27 56.3**	**+0.7**
SF04				AML	AML		
	comp=N,328µm,0.2s						
SF04				AML	AML		
	comp=E,238µm,0.3s						
TRIF	**Trifonti**	**1.02**	**225**	P	**Pb**	**16 27 56.1**	**+0.5**
TRIF				AML	AML		
	comp=N,174µm,0.7s						
TRIF				AML	AML		
	comp=N,174µm,1.3s						
TRIF				AML	AML		
	comp=E,176µm,1.4s						
CARD	**Cardoso**	**1.04**	**281**	P	**Pb**	**16 27 56.0**	**+0.1**
VLC	**Villacollemand**	**1.13**	**287**	P	**Pn**	**16 27 57.5**	**0.0**
VLC	**Villacollemand**	**1.13**	**287**	P	**Pn**	**16 27 57.7**	**+0.2**
T1220	**Camerino, Fraz**	**1.14**	**130**	P	**Pg**	**16 27 58.9**	**+0.4**
T1220				AML	AML		
	comp=E,1205µm,0.4s						
T1220				AML	AML		
	comp=N,1030µm,0.5s						
T1220				AML	AML		
	comp=N,1065µm,0.5s						
T1220				AML	AML		
	comp=E,1175µm,0.4s						
MOMA	**Monte Martano**	**1.15**	**154**	P	**Pn**	**16 27 57.8**	**+0.1**
MOMA				AML	AML		
	comp=N,314µm,0.5s						
MOMA				AML	AML		
	comp=N,314µm,1.5s						
MOMA				AML	AML		
	comp=E,292µm,0.8s						
FDMO	**Fiordimonte**	**1.18**	**132**	P	**Pn**	**16 27 58.7**	**+0.5**
EQUI	**Equi**	**1.30**	**285**	P	**Pn**	**16 27 59.8**	**+0.1**
T1212	**Cascia, Frazio**	**1.38**	**142**	AML	AML		
	comp=E,190µm,0.6s						
T1212				AML	AML		
	comp=N,186µm,0.4s						
T1212				AML	AML		
	comp=E,155µm,1.4s						
T1212				AML	AML		
	comp=N,172µm,1.5s						
T1212				AML	AML		
	comp=N,172µm,0.5s						
T1212				AML	AML		
	comp=E,190µm,1.4s						
T1212				AML	AML		
	comp=E,155µm,0.6s						
ROVR	**Rover Verones**	**1.90**	**342**	P	**Pn**	**16 28 09.0**	**+0.9**
ROVR				AML	AML		
	comp=E,59µm,0.6s						
ROVR				AML	AML		
	comp=E,59µm,1.4s						
ROVR				AML	AML		
	comp=N,80µm,0.7s						
CGRP	**Cima Grappa**	**2.04**	**358**	P	**Pn**	**16 28 10.8**	**+0.7**
CGRP				AML	AML		
	comp=E,170µm,1.2s						
CGRP				AML	AML		
	comp=N,150µm,0.5s						
CGRP				AML	AML		
	comp=N,150µm,1.5s						
CGRP				AML	AML		
	comp=E,170µm,0.8s						
DOSS	**Dosso del Somm**	**2.10**	**346**	P	**Pn**	**16 28 11.8**	**+0.8**
DOSS				AML	AML		
	comp=N,182µm,0.6s						
DOSS				AML	AML		
	comp=E,205µm,0.5s						
CTI	**Castel Tesino**	**2.21**	**356**	P	**Pn**	**16 28 13.4**	**+1.0**
CTI				AML	AML		
	comp=N,174µm,0.8s						
CTI				AML	AML		
	comp=N,174µm,1.2s						
CTI				AML	AML		
	comp=E,156µm,0.3s						
LUSI	**Trento, Gardas**	**2.23**	**343**	P	**Pn**	**16 28 13.5**	**+1.0**
LUSI				AML	AML		
	comp=E,135µm,0.6s						
LUSI				AML	AML		
	comp=N,186µm,1.4s						
LUSI				AML	AML		
	comp=N,186µm,0.6s						
PGF	**Pioggiola**	**2.48**	**240**	*e*Pn	**Pn**	**16 28 14.8**	**-1.2**
PGF	**Pioggiola**	**2.48**	**240**	*e*P	**Pn**	**16 28 17.0**	**+1.0**
PGF				*e*Sn	**Sn**	**16 28 42.5**	**-3.3**
	comp=N,17nm,0.4s						
STAL	**STALIGIAL**	**2.49**	**13**	P	**Pn**	**16 28 16.1**	**0.0**
STAL				AML	AML		
	comp=N,115µm,1.4s						
STAL				AML	AML		
	comp=E,140µm,0.3s						
STAL				AML	AML		
	comp=N,115µm,0.6s						
CIMO	**Cimolais**	**2.50**	**9**	P	**Pn**	**16 28 16.0**	**-0.3**
CIMO				AML	AML		
	comp=E,56µm,1.4s						
CIMO				AML	AML		
	comp=N,39µm,1.6s						
MPRI	**Monte Prat**	**2.52**	**18**	P	**Pn**	**16 28 17.1**	**+0.5**
MPRI				AML	AML		
	comp=E,166µm,0.8s						
MPRI				AML	AML		
	comp=N,288µm,0.4s						
MPRI				AML	AML		
	comp=N,368µm,0.4s						
MPRI				AML	AML		
	comp=E,218µm,0.6s						
MPRI				AML	AML		
	comp=E,166µm,1.2s						
KOSI	**Kohlern**	**2.65**	**352**	P	**Pn**	**16 28 21.4**	**+3.0**
MOSI	**Grossmontoni**	**2.94**	**342**	P	**Pn**	**16 28 24.6**	**+2.2**
MOSI				AML	AML		
	comp=N,95µm,1.6s						
MOSI				AML	AML		
	comp=N,95µm,0.4s						
MOSI				AML	AML		
	comp=E,78µm,0.7s						
ABTA	**Abfaltersbach**	**2.94**	**8**	*e*Pn	**Pn**	**16 28 23.8**	**+1.5**
	comp=E,1.3nm,0.2s,SNR=7.5						
MYKA	**Terra Mystica**	**3.05**	**23**	*e*Pn	**Pn**	**16 28 25.2**	**+1.3**
	comp=E,1.1nm,0.2s						
SBF	**Sospel**	**3.22**	**272**	*e*Pn	**Pn**	**16 28 25.1**	**-1.1**
SBF	**Sospel**	**3.22**	**272**	*e*P	**Pn**	**16 28 27.7**	**+1.5**
SBF				*e*Sn	**Sn**	**16 29 01.5**	**-2.7**
	comp=E,28nm,0.3s						
OBKA	**Obir**	**3.26**	**34**	*e*Pn	**Pn**	**16 28 27.7**	**+0.9**
	comp=E,4.3nm,0.5s,SNR=4.4						
FETA	**Feichten**	**3.29**	**346**	*e*Pn	**Pn**	**16 28 29.0**	**+1.8**
	comp=E,0.8nm,0.2s						
SQTA	**Sankt Quirin**	**3.42**	**352**	*e*Pn	**Pn**	**16 28 31.9**	**+3.0**
	comp=E,3.3nm,0.1s,SNR=7.0						
WTTA	**Wattenberg**	**3.43**	**357**	*i* Pn	**Pn**	**16 28 31.7**	**+2.6**
	comp=E,2.0nm,0.2s						
WTTA	**Wattenberg**	**3.43**	**357**	AML	AML		
	comp=E,41µm,0.4s						
WTTA				AML	AML		
	comp=E,41µm,1.6s						
WTTA				AML	AML		
	comp=N,37µm,1.3s						
WTTA				AML	AML		
	comp=N,37µm,0.7s						
WATA	**Walderalm**	**3.50**	**356**	*e*Pn	**Pn**	**16 28 33.2**	**+3.0**
	comp=N,2.0nm,0.2s						
MOTA	**Moosalm**	**3.55**	**351**	*e*Pn	**Pn**	**16 28 33.4**	**+2.6**
	comp=N,1.1nm,0.2s						
DAVA	**Damuels**	**3.73**	**338**	*e*Pn	**Pn**	**16 28 36.7**	**+3.5**
	comp=N,0.9nm,0.1s						
MBDF	**Montbardon**	**3.78**	**285**	*e*Pn	**Pn**	**16 28 33.0**	**-1.0**
MBDF	**Montbardon**	**3.78**	**285**	*e*P	**Pn**	**16 28 36.5**	**+2.5**
MBDF				*e*Sn	**Sn**	**16 29 14.9**	**-3.2**
	comp=N,1.1nm,0.3s						
LMR	**La Mourre**	**3.94**	**264**	*e*P	**Pn**	**16 28 36.5**	**+0.5**
LMR				*e*Sn	**Sn**	**16 29 18.5**	**-3.3**
	comp=N,1.5nm,0.2s						
BIOA	**Bad Ischl, Aus**	**4.04**	**17**	*e*Pn	**Pn**	**16 28 39.8**	**+2.3**
	comp=N,1.8nm,0.2s						
LPL	**La Plagne**	**4.04**	**296**	*e*Pn	**Pn**	**16 28 36.9**	**-0.8**
LPL	**La Plagne**	**4.04**	**296**	*e*P	**Pn**	**16 28 40.5**	**+2.8**
LPL				*e*Sn	**Sn**	**16 29 21.5**	**-3.1**
	comp=N,3.2nm,0.4s						
ARSA	**Arzberg**	**4.26**	**36**	*e*Pn	**Pn**	**16 28 41.0**	**+0.5**
	comp=N,2.6nm,0.4s						
MOA	**Molln**	**4.34**	**22**	*e*Pn	**Pn**	**16 28 42.7**	**+1.2**
	comp=N,0.9nm,0.2s,SNR=11						
ORIF	**Oris-en-Rattie**	**4.44**	**286**	*e*P	**Pn**	**16 28 46.0**	**+3.0**
ORIF				*e*Sn	**Sn**	**16 29 30.7**	**-3.6**
	comp=N,0.6nm,0.2s						
SMRF	**Simiane la Rot**	**4.57**	**274**	*e*P	**Pn**	**16 28 47.0**	**+2.3**
SMRF				*e*Sn	**Sn**	**16 29 33.2**	**-4.1**
	comp=N,0.9nm,0.3s						
CONA	**Conrad Observa**	**4.94**	**33**	*e*Pn	**Pn**	**16 28 50.1**	**+0.3**
	comp=N,1.1nm,0.2s						
CABF	**La Chapelle**	**4.95**	**306**	*e*P	**Pn**	**16 28 52.7**	**+2.7**
CABF				*e*Sn	**Sn**	**16 29 43.0**	**-3.7**
	comp=N,0.8nm,0.3s						
CKRC	**Cesky Krumlov**	**5.25**	**18**	*e*PN	**Pn**	**16 28 55.0**	**+0.9**
CKRC				*e*SN	**Sn**	**16 29 52.5**	**-1.7**
VIVF	**Saint-Julien-l**	**5.28**	**284**	*e*P	**Pn**	**16 28 57.8**	**+3.4**
HINF	**Hinteralfeld**	**5.31**	**320**	*e*P	**Pn**	**16 28 58.5**	**+3.6**
HINF				*e*Sn	**Sn**	**16 29 52.6**	**-3.0**
	comp=N,7.5nm,0.4s						
KHC	**Kasperske Hory**	**5.42**	**12**	*e*PN	**Pn**	**16 28 56.5**	**+0.1**
KHC				*e*SN	**Sn**	**16 29 55.4**	**-2.9**
CDF	**Champ du Feu**	**5.59**	**327**	*e*P	**Pn**	**16 29 00.6**	**+1.9**
CDF				*e*Sn	**Sn**	**16 29 59.2**	**-3.2**
	comp=N,2.3nm,0.3s						
HAU	**Haudompre**	**5.68**	**319**	*e*P	**Pn**	**16 29 01.9**	**+1.9**
HAU				*e*Sn	**Sn**	**16 30 01.5**	**-3.2**
	comp=N,12nm,0.5s						
LASF	**Ste Croix**	**5.80**	**275**	*e*P	**Pn**	**16 29 03.8**	**+2.1**
SMF	**Signal de Mont**	**6.34**	**299**	*e*P	**Pn**	**16 29 10.4**	**+1.4**
SMF				*e*Sn	**Sn**	**16 30 16.8**	**-4.0**
	comp=N,1.8nm,0.3s						
SFTF	**Sexfontaines**	**6.47**	**315**	*e*Pn	**Pn**	**16 29 09.0**	**-1.7**
	baz=134						
SFTF				*e*Sn	**Sn**	**16 30 19.2**	**-4.8**
	comp=N,0.5nm,0.1s						
LOR	**Lormes**	**6.60**	**304**	*e*Pn	**Pn**	**16 29 11.9**	**-0.7**
	baz=128						
LOR	**Lormes**	**6.60**	**304**	*e*P	**Pn**	**16 29 16.3**	**+3.7**
	baz=120						
LOR				*e*Sn	**Sn**	**16 30 22.6**	**-4.7**
	comp=N,5.7nm,0.5s						
MEZF	**Maizieres J'vi**	**6.65**	**317**	*e*P	Pn	16 29 18.1	+4.8
	baz=138						
AVF	**Avril sur Loir**	**6.70**	**299**	*e*Pn	**Pn**	**16 29 12.9**	**-1.1**
AVF	**Avril sur Loir**	**6.70**	**299**	*e*P	**Pn**	**16 29 16.4**	**+2.4**
AVF				*e*Sn	**Sn**	**16 30 24.5**	**-5.3**
	comp=N,0.2nm,0.2s						
SSF	**Saint Saulge**	**6.72**	**302**	*e*Pn	**Pn**	**16 29 13.1**	**-1.1**
SSF	**Saint Saulge**	**6.72**	**302**	*e*P	**Pn**	**16 29 18.0**	**+3.8**
BGF	**Bois d'Agland**	**6.94**	**296**	*e*P	**Pn**	**16 29 20.5**	**+3.2**
BGF				*e*Sn	**Sn**	**16 30 30.8**	**-4.9**
	comp=N,1.1nm,0.2s						
MTLF	**Montolieu**	**7.04**	**269**	*e*Pn	**Pn**	**16 29 17.8**	**-0.8**
MTLF	**Montolieu**	**7.04**	**269**	*e*P	**Pn**	**16 29 22.4**	**+3.8**
MTLF				*e*Sn	**Sn**	**16 30 32.5**	**-5.7**
	comp=N,0.4nm,0.1s						
EPF	**Esparros**	**8.45**	**268**	*e*Pn	**Pn**	**16 29 37.8**	**-0.1**

ROM 10 16:31:14.4±0.1, 42°.786N±0°.003×13°.103E±0°.005, h10km, ML2.0/16, 9C-6D, Error ellipse: s-maj=0.5km s-min=0.3km az=121.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.05**	**10**	P	Pg	16 31 16.6	+0.2
NRCA				S	Sg	16 31 17.9	0.0
NRCA				AML	AML		
	comp=E,5700µm,0.1s						
NRCA				AML	AML		
	comp=E,5705µm,0.1s						
NRCA				AML	AML		
	comp=N,5410µm,0.1s						
NRCA				AML	AML		
	comp=E,5705µm,0.1s						
NRCA				AML	AML		
	comp=N,5415µm,0.1s						
NRCA				AML	AML		
	comp=E,5915µm,0.1s						
NRCA				AML	AML		
	comp=N,5845µm,0.1s						
NRCA				AML	AML		
	comp=E,5915µm,1.9s						
NRCA				AML	AML		
	comp=E,5705µm,1.9s						
NRCA				AML	AML		
	comp=N,5845µm,1.9s						
NRCA				AML	AML		
	comp=N,5415µm,1.9s						
T1212	**Cascia, Frazio**	**0.06**	**231**	P	Pg	16 31 16.9	+0.4
T1212				S	Sg	16 31 18.3	+0.4
T1212				AML	AML		
	comp=N,2895µm,0.3s						
T1212				AML	AML		
	comp=E,2340µm,0.1s						
T1212				AML	AML		
	comp=N,2930µm,0.3s						
T1212				AML	AML		
	comp=N,2900µm,0.3s						
T1212				AML	AML		
	comp=E,2265µm,0.2s						
T1212				AML	AML		
	comp=E,2340µm,0.1s						
T1214	**Arquata del Tr**	**0.08**	**109**	P	Pg	16 31 17.1	+0.3
T1214				S	Sg	16 31 18.8	+0.2
T1214				AML	AML		
	comp=E,1940µm,0.1s						
T1214				AML	AML		
	comp=N,1815µm,0.1s						
T1214				AML	AML		
	comp=N,1820µm,0.1s						
T1214				AML	AML		
	comp=E,1935µm,0.1s						
T1214				AML	AML		
	comp=E,1715µm,0.1s						
T1214				AML	AML		
	comp=N,1825µm,0.1s						
T1214				AML	AML		
	comp=E,1935µm,1.9s						
T1214				AML	AML		
	comp=E,1715µm,1.9s						
T1245	**Castelsantange**	**0.09**	**42**	P	Pg	16 31 17.3	+0.3
T1245				S	Sg	16 31 19.2	+0.3
T1245				AML	AML		
	comp=E,1375µm,1.0s						
T1245				AML	AML		
	comp=N,2080µm,0.6s						
T1218	**Civita (PG)**	**0.12**	**175**	P	Pg	16 31 17.6	+0.4
T1218				S	Sg	16 31 19.9	+0.6
T1218				AML	AML		
	comp=N,1970µm,1.0s						
T1218				AML	AML		
	comp=E,1515µm,0.1s						
T1218				AML	AML		
	comp=E,1555µm,0.1s						
T1218				AML	AML		
	comp=N,1970µm,1.0s						
T1216	**Preci, Frazion**	**0.12**	**330**	P	Pg	16 31 17.8	+0.5
T1216				AML	AML		
	comp=N,736µm,0.2s						
T1216				AML	AML		
	comp=E,583µm,1.3s						
T1216				AML	AML		
	comp=E,582µm,1.3s						
T1216				AML	AML		
	comp=N,736µm,0.2s						
MC2	**Monte Cornacci**	**0.14**	**27**	P	Pg	16 31 18.2	+0.5
MC2				S	Sg	16 31 21.2	+1.2
T1215	**Vallo di Nera,**	**0.17**	**275**	⇑P	Pg	16 31 18.7	+0.6
T1215				AML	AML		
	comp=E,171µm,1.0s						
T1215				AML	AML		
	comp=N,234µm,0.4s						
T1215				AML	AML		
	comp=N,234µm,1.6s						
T1215				AML	AML		
	comp=E,170µm,1.1s						
LNSS	**Leonessa**	**0.19**	**194**	AML	AML		
	comp=N,1340µm,0.1s						
LNSS				AML	AML		
	comp=E,816µm,0.6s						
MMO1	**Montemonaco**	**0.20**	**56**	P	Pg	16 31 19.0	+0.4
MMO1				S	Sg	16 31 22.4	+0.9
SMA1	**SAN MARTINO**	**0.23**	**132**	⇑P	Pg	16 31 19.6	+0.4
SMA1				AML	AML		
	comp=E,568µm,0.5s						
SMA1				AML	AML		
	comp=N,510µm,0.3s						
T1241	**Roccafluvione,**	**0.25**	**74**	⇓P	Pg	16 31 19.9	+0.4
T1241				AML	AML		
	comp=E,250µm,0.5s						
T1241				AML	AML		
	comp=E,250µm,0.5s						
T1241				AML	AML		
	comp=N,288µm,0.4s						
CESI	**CESI - Serrava**	**0.26**	**326**	P	Pg	16 31 20.3	+0.6
CESI				S	Sb	16 31 24.6	-1.3
CESI				AML	AML		
	comp=E,276µm,0.2s						
CESI				AML	AML		
	comp=N,650µm,0.2s						
T1219	**Muccia, Frazio**	**0.28**	**345**	⇑P	Pg	16 31 20.4	+0.4
T1219				AML	AML		
	comp=E,271µm,0.8s						
T1219				AML	AML		
	comp=N,398µm,0.3s						
T1219				AML	AML		
	comp=N,381µm,0.3s						
T1219				AML	AML		
	comp=E,287µm,0.5s						
T1219				AML	AML		
	comp=N,381µm,0.3s						
T1219				AML	AML		
	comp=E,271µm,0.8s						
RM33	**Pellescritta (**	**0.29**	**163**	⇑P	Pg	16 31 20.4	+0.2
RM33				AML	AML		
	comp=E,268µm,0.1s						
RM33				AML	AML		
	comp=N,395µm,0.1s						
CSP1	**Cessapalombo**	**0.32**	**14**	P	Pg	16 31 21.2	+0.5
CSP1				S	Sb	16 31 26.4	-1.1
CSP1				AML	AML		
	comp=E,346µm,0.4s						
CSP1				AML	AML		
	comp=N,238µm,0.5s						
CSP1				AML	AML		
	comp=E,346µm,1.6s						
ARRO	**Arrone**	**0.32**	**230**	P	Pb	16 31 21.8	-0.5
ARRO				S	Sb	16 31 26.6	-1.0
ARRO				AML	AML		
	comp=E,108µm,0.8s						
ARRO				AML	AML		
	comp=E,108µm,0.8s						
ARRO				AML	AML		
	comp=N,100µm,0.2s						
T1220	**Camerino, Fraz**	**0.32**	**358**	⇑P	Pg	16 31 21.2	+0.4
T1220				AML	AML		
	comp=E,944µm,1.5s						
T1220				AML	AML		
	comp=N,955µm,0.3s						
T1220				AML	AML		
	comp=E,944µm,1.5s						
T1220				AML	AML		
	comp=N,961µm,0.3s						
T1220				AML	AML		
	comp=E,930µm,0.2s						
T1220				AML	AML		
	comp=E,944µm,0.5s						
GUMA	**Gualdo di Mace**	**0.33**	**32**	P	Pb	16 31 21.6	-0.7
GUMA				S	Sb	16 31 27.2	-0.5

GUMA				AML	AML			
	comp=E,318μm,0.4s							
GUMA				AML	AML			
	comp=N,432μm,0.3s							
MOMA	**Monte Martano**	**0.39**	**273**	⇑P	Pg	16 31 22.8	+0.7	
MOMA				AML	AML			
	comp=E,212μm,1.3s							
MOMA				AML	AML			
	comp=N,212μm,0.2s							
MOMA				AML	AML			
	comp=N,212μm,1.8s							
TERO	**Teramo**	**0.40**	**114**	⇑P	Pg	16 31 22.2	-0.1	
TERO				AML	AML			
	comp=E,153μm,1.5s							
TERO				AML	AML			
	comp=N,156μm,1.2s							
TERO				AML	AML			
	comp=E,153μm,1.5s							
TERO				AML	AML			
	comp=N,156μm,0.8s							
TERO				AML	AML			
	comp=E,153μm,0.5s							
ASSB	**Assisi San Ben**	**0.41**	**308**	⇑P	Pg	16 31 22.8	+0.3	
ASSB				AML	AML			
	comp=E,106μm,0.1s							
ASSB				AML	AML			
	comp=N,89μm,0.3s							
GIGS	**Gran Sasso**	**0.48**	**134**	P	Pg	16 31 23.5	-0.2	
SNTG	**Esanatoglia**	**0.48**	**346**	⇓P	Pg	16 31 24.0	+0.2	
FIAM	**Fiamignano**	**0.52**	**179**	⇓P	Pg	16 31 24.4	0.0	
ATCC	**AVT- Casa Cast**	**0.52**	**320**	⇓P	Pg	16 31 24.9	+0.3	
EL6	**Elcito**	**0.54**	**360**	⇓P	Pg	16 31 25.1	+0.2	
EL6				S	Sb	16 31 34.0	0.0	
EL6				AML	AML			
	comp=E,153μm,1.5s							
EL6				AML	AML			
	comp=N,240μm,1.1s							
EL6				AML	AML			
	comp=E,152μm,1.5s							
EL6				AML	AML			
	comp=E,152μm,0.5s							
EL6				AML	AML			
	comp=N,240μm,0.9s							
CING	**Cingoli**	**0.59**	**7**	P	Pg	16 31 26.2	+0.3	
FAGN	**Fagnano**	**0.63**	**145**	⇓P	Pb	16 31 27.2	-0.3	
PP3	**Marolino**	**0.70**	**32**	S	Sg	16 31 35.6	-1.3	
T0110	**Collepietro**	**0.75**	**138**	⇑P	Pg	16 31 28.6	-0.2	
SF04	**Casetta**	**1.06**	**273**	S	Sn	16 31 51.7	+1.4	
SF04				AML	AML			
	comp=N,530μm,0.3s							
SF04				AML	AML			
	comp=E,564μm,0.3s							
SF04				AML	AML			
	comp=N,530μm,1.7s							
MODR	**Mondragone**	**1.74**	**160**	S	Sn	16 32 04.0	-2.9	

ROM 10 16:42:56.3±0.2, 41°501N±0.007×14°607E±0.008, h31km±1km, ML1.9/15, 6C-6D, Error ellipse: s-maj=0.8km s-min=0.2km az=340.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GATE	**Gambatesa**	**0.23**	**87**	P	Pb	16 43 03.2	+0.2
GATE				S	Sn	16 43 08.3	+0.2
GATE				AML	AML		
	comp=E,209μm,1.1s						
GATE				AML	AML		
	comp=N,310μm,0.4s						
TRIV	**Trivento**	**0.27**	**351**	⇑P	Pb	16 43 03.5	0.0
TRIV				S	Sn	16 43 09.2	0.0
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
	comp=E,276μm,0.3s						
TRIV				AML	AML		
	comp=N,212μm,0.3s						
TRIV				AML	AML		
CIGN	**Sant'Elia a Pi**	**0.27**	**56**	⇑P	Pb	16 43 03.5	0.0
VAGA	**Valle Agricola**	**0.29**	**253**	P	Pb	16 43 03.8	-0.1
VAGA				S	Sb	16 43 09.0	+0.1
VAGA				AML	AML		
	comp=E,292μm,1.2s						
VAGA				AML	AML		
	comp=N,475μm,0.3s						
VAGA				AML	AML		
	comp=N,487μm,0.3s						
VAGA				AML	AML		
	comp=N,476μm,0.3s						
VAGA				AML	AML		
	comp=E,292μm,1.2s						
VAGA				AML	AML		
	comp=E,286μm,1.2s						
VAGA				AML	AML		
	comp=E,292μm,0.8s						
VAGA				AML	AML		
	comp=E,286μm,0.8s						
VAGA				AML	AML		
	comp=N,487μm,1.7s						
VAGA				AML	AML		
	comp=N,476μm,1.7s						
MIDA	**Miranda**	**0.30**	**298**	P	Pb	16 43 03.9	-0.1
MIDA				S	Sn	16 43 09.9	-0.2
MIDA				AML	AML		
	comp=E,204μm,1.6s						
MIDA				AML	AML		
	comp=N,330μm,1.6s						
MIDA				AML	AML		
	comp=E,205μm,0.3s						
MIDA				AML	AML		
	comp=N,152μm,0.3s						
MIDA				AML	AML		
	comp=E,195μm,0.3s						
MIDA				AML	AML		
	comp=E,206μm,0.3s						
MIDA				AML	AML		
	comp=N,152μm,0.3s						
MIDA				AML	AML		
	comp=E,204μm,1.6s						
MIDA				AML	AML		
	comp=N,334μm,1.6s						
PSB1	**Pescosannita**	**0.32**	**151**	P	Pb	16 43 03.9	-0.2
PSB1				S	Sn	16 43 10.1	-0.3
PSB1				AML	AML		
	comp=E,120μm,0.9s						
PSB1				AML	AML		
	comp=N,121μm,1.5s						
VITU	**Vitulano (BN)**	**0.32**	**177**	P	Pb	16 43 04.0	-0.2
VITU				S	Sb	16 43 09.7	+0.2
VITU				AML	AML		
	comp=E,231μm,0.3s						
VITU				AML	AML		
	comp=N,356μm,0.3s						
RNI2	**Rionero Sannit**	**0.40**	**301**	⇑P	Pn	16 43 05.6	-0.3
RNI2				AML	AML		
	comp=N,116μm,1.6s						
RNI2				AML	AML		
	comp=N,116μm,1.6s						
RNI2				AML	AML		
	comp=E,138μm,1.6s						
RNI2				AML	AML		
	comp=N,116μm,1.6s						
RNI2				AML	AML		
	comp=E,164μm,1.4s						
RNI2				AML	AML		
	comp=N,115μm,1.6s						
RNI2				AML	AML		
	comp=E,133μm,1.5s						
RNI2				AML	AML		
	comp=N,116μm,1.6s						
RNI2				AML	AML		
	comp=E,164μm,0.6s						
RNI2				AML	AML		
	comp=E,133μm,0.5s						
RNI2				AML	AML		
	comp=N,116μm,0.4s						
RNI2				AML	AML		
	comp=N,115μm,0.4s						
MELA	**Melanico ??? S**	**0.44**	**62**	⇑P	Pb	16 43 05.7	-0.2
MELA				S	Sb	16 43 12.8	+0.5
PIGN	**Pignataro Magg**	**0.44**	**227**	⇓P	Pn	16 43 06.4	-0.1
PIGN				AML	AML		
	comp=E,76μm,0.3s						
PIGN				AML	AML		
	comp=E,76μm,0.3s						
PIGN				AML	AML		
	comp=N,75μm,0.5s						
CERA	**Filignano**	**0.45**	**282**	P	Pb	16 43 06.3	+0.2
CERA				AML	AML		
	comp=E,111μm,0.4s						
CERA				AML	AML		
	comp=N,129μm,1.1s						
CERA				AML	AML		
	comp=E,105μm,0.4s						
CERA				AML	AML		
	comp=N,122μm,0.3s						
CERA				AML	AML		
	comp=E,111μm,0.4s						
CERA				AML	AML		
	comp=N,129μm,1.1s						
CERA				AML	AML		
	comp=E,105μm,1.6s						
CERA				AML	AML		
	comp=N,129μm,1.1s						
CERA				AML	AML		
	comp=N,129μm,0.9s						
CERA				AML	AML		
	comp=N,122μm,0.3s						
MRB1	**Monte Rocchett**	**0.47**	**144**	P	Pn	16 43 06.6	-0.3
FRES	**Fresagrandinar**	**0.47**	**6**	P	Pb	16 43 06.5	+0.1
LPEL	**Lama dei Pelig**	**0.63**	**330**	P	Pb	16 43 08.7	-0.2
LPEL				AML	AML		
	comp=E,94μm,1.0s						
LPEL				AML	AML		
	comp=N,82μm,0.2s						
LPEL				AML	AML		
	comp=E,94μm,1.0s						
LPEL				AML	AML		
	comp=N,82μm,0.2s						
MODR	**Mondragone**	**0.65**	**237**	P	Pn	16 43 10.8	+1.3
MODR				AML	AML		
	comp=N,83μm,1.5s						
MODR				AML	AML		
	comp=E,81μm,1.6s						
MCRV	**Calabrutti - M**	**0.83**	**149**	P	Pb	16 43 13.4	+1.0
MCRV				AML	AML		
	comp=E,33μm,1.4s						
MCRV				AML	AML		
	comp=E,33μm,1.4s						
MCRV				AML	AML		
	comp=N,39μm,0.6s						
MSAG	**Monte S. Angel**	**1.00**	**77**	S	Sb	16 43 31.3	+3.4
TERO	**Teramo**	**1.35**	**327**	P	Pb	16 43 22.6	+1.7
RM33	**Pellescritta (**	**1.45**	**315**	⇓P	Pn	16 43 21.0	+0.6
RM33				S	Sn	16 43 39.3	+0.9
RM33				AML	AML		
	comp=E,561μm,1.6s						
RM33				AML	AML		
	comp=N,498μm,0.8s						
RM33				AML	AML		
	comp=E,562μm,1.6s						
RM33				AML	AML		
	comp=N,499μm,0.8s						
SMA1	**SAN MARTINO**	**1.47**	**320**	⇓P	Pn	16 43 20.0	-0.8
SMA1				AML	AML		
	comp=N,94μm,0.5s						
SMA1				AML	AML		
	comp=E,130μm,1.4s						
SMA1				AML	AML		
	comp=N,94μm,0.5s						
LNSS	**Leonessa**	**1.60**	**314**	⇑P	Pn	16 43 20.7	-1.9
LNSS				AML	AML		
	comp=E,130μm,0.4s						
LNSS				AML	AML		
	comp=N,90μm,0.4s						
MMO1	**Montemonaco**	**1.69**	**326**	⇓P	Pn	16 43 21.8	-1.9
MNTP	**Montappone**	**1.84**	**333**	⇓P	Pb	16 43 29.7	+0.4
CESI	**CESI - Serrava**	**1.96**	**320**	S	Sb	16 43 57.2	+1.7
PP3	**Marolino**	**2.02**	**339**	P	Pb	16 43 32.2	0.0
PP3				S	Sn	16 43 53.1	+0.9
ASSB	**Assisi San Ben**	**2.11**	**317**	S	Sb	16 44 00.2	+0.5
SNTG	**Esanatoglia**	**2.14**	**325**	S	Sb	16 44 00.5	-0.1
MCIV	**Monte Civitell**	**2.53**	**301**	S	Sb	16 44 17.0	+5.3
APEC	**Apecchio**	**2.62**	**323**	S	Sb	16 44 16.6	+2.4
GRI	**Girifalco**	**3.02**	**152**	S	Sn	16 44 18.1	+1.1
GRI				AML	AML		
	comp=E,61μm,1.1s						
GRI				AML	AML		
	comp=N,61μm,1.4s						
BRSN	**Barisano**	**3.34**	**327**	⇓P	Pb	16 43 58.9	+4.1
IMOL	**Imola, Italy**	**3.55**	**325**	S	Sn	16 44 26.6	-3.3
GROG	**Isola di Gorgo**	**3.98**	**300**	S	Sn	16 44 44.0	+3.3
LEOD	**Capriano del C**	**5.13**	**322**	⇑P	Pn	16 44 15.5	+4.7

IDC 10 16:50:18.9±2.2, 2°11N×126°30E, h0km, mb3.4/3, mbtmp3.4/3, MS3.7/1, Error ellipse: s-maj=176.1km s-min=27.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.98**	**352**	LR	LR	16 53 15.6	
	comp=Z,746nm,18.3s,baz=262,slow=36						
WRA	**Warramunga Arr**	**23.30**	**161**	P	P	16 55 28.6	0.0
	1.8nm,0.6s,baz=340,slow=10,SNR=12						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**26.67**	**164**	P	P	16 55 59.8	-0.1
	0.3nm,0.4s,baz=338,slow=7.3,SNR=16						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.64**	**326**	P	P	17 00 18.0	0.0
	0.1nm,0.5s,baz=135,slow=7.5,SNR=1.8						
	0.1nm,0.5s						

*KRNET **10** 17:05:43.0±0.1, 40°.94N×71°.30E, h24km, mb2.7*
*ISU **10** 17:05:43.2, 40°.92N×71°.14E, h15km*
*NNC **10** 17:05:44.5±4.9, 40°.90N×71°.24E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=36.8km s-min=18.4km az=7.0*
*SOME **10** 17:05:45.9, 41°.03N×71°.20E, h10km*

ISC 10 17:05:42.6±1.2, 40°.93N±0°.02×71°.30E±0°.02, h4km±10km, n32, σ0°78/48, 13C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.61**	**348**	⇑*e*P	**Pg**	**17 05 53.6**	**-0.7**
	baz=49						
TRKS				⇑*e*S	**Sg**	**17 06 01.2**	**-1.0**
	baz=49						
FRG	**Fergana**	**0.67**	**147**	P	**Pg**	**17 05 55.9**	**+0.5**
FRG				S	**Sb**	**17 06 06.3**	**-0.1**
BTK	**Batken**	**0.95**	**203**	⇑*e*P	**Pg**	**17 06 01.1**	**+0.3**
	baz=3.0						
BTK				⇑*e*S	**Sb**	**17 06 14.1**	**-0.5**
	baz=3.0						
ARK	**Arkit**	**1.00**	**30**	⇓*i*P	**Pg**	**17 06 01.6**	**-0.1**
	baz=30						
ARK				⇓*i*S	**Sg**	**17 06 14.8**	**+0.1**
	baz=30						
CHMG	**Chimgan**	**1.15**	**303**	P	**Sg**	**17 06 18.3**	**-1.4**
OHH	**Osh**	**1.20**	**109**	⇑*e*P	**Pg**	**17 06 04.9**	**-0.7**
	baz=10.0						
OHH				⇑*e*S	**Sg**	**17 06 21.0**	**-0.1**
	baz=10.0						
CHRV	**Charvak**	**1.24**	**305**	P	**Sg**	**17 06 20.0**	**-2.4**
IUG	**Iuzhnay**	**1.54**	**322**	P	**Pb**	**17 06 11.8**	**0.0**
	58nm,0.3s						
IUG				S	**Sn**	**17 06 31.5**	**0.0**
	131nm,0.4s						
IUG	**Iuzhnay**	**1.54**	**322**	*e*P	**Pg**	**17 06 12.5**	**+0.4**
	58nm,0.3s						
IUG				*e*S	**Sn**	**17 06 31.5**	**0.0**
	131nm,0.4s						
TAS	**Tashkent**	**1.56**	**285**	⇑*e*P	**Pn**	**17 06 11.3**	**+0.1**
	baz=85						
TAS				⇑*e*S	**Sn**	**17 06 31.8**	**-0.1**
	baz=85						
KUMR	**Kumaryk**	**1.57**	**282**	P	**Sn**	**17 06 31.9**	**-0.1**
NZBK	**Nazarbek**	**1.68**	**281**	P	**Sb**	**17 06 35.6**	**+0.2**
CHM	**Chimkent**	**1.88**	**318**	*e*P	**Pg**	**17 06 19.2**	**+0.5**
	57nm,0.1s						
CHM				*e*S	**Sg**	**17 06 43.3**	**+0.3**
	264nm,0.3s						
DZA	**Taraz**	**1.96**	**1**	*e*P	**Pg**	**17 06 21.9**	**+1.8**
	61nm,0.1s						
DZA				*e*S	**Sg**	**17 06 47.4**	**+1.9**
	65nm,0.3s						
GAR	**Garm**	**2.07**	**202**	⇑*e*P	**Pn**	**17 06 18.7**	**+0.5**
	baz=2.0						
GAR				⇑*e*S	**Sn**	**17 06 44.5**	**-0.1**
	baz=2.0						
AML	**Almayashu**	**2.16**	**56**	⇓*e*P	**Pn**	**17 06 20.0**	**+0.3**
	baz=56						
AML				⇓*e*S	**Sn**	**17 06 46.5**	**-0.5**
	baz=56						
KK31	**Karatay Array**	**2.25**	**345**	⇓Pn	**Pb**	**17 06 23.9**	**+0.2**
	0.8nm,0.3s,baz=163,slow=14,SNR=13						
KK31				⇑Sn	**Sg**	**17 06 54.2**	**-0.6**
	11nm,0.3s,baz=162,slow=26,SNR=20						
KKAR	**Karatay Array**	**2.25**	**345**	⇓*e*P	**Pn**	**17 06 20.8**	**+0.3**
	baz=45						
KKAR				⇓*e*S	**Sn**	**17 06 48.2**	**-0.5**
	baz=45						
MRKS	**Merke**	**2.31**	**38**	Pg	**Pg**	**17 06 27.4**	**+0.5**
	1.4nm,0.3s						
MRKS				Lg	Lg	17 06 58.5	
	8.7nm,0.4s						
MRKS	**Merke**	**2.31**	**38**	*e*Pg	**Pg**	**17 06 28.2**	**+1.3**
	1.4nm,0.3s						
MRKS				*e*Lg	Lg	17 06 58.5	
	9.2nm,0.3s						
UCH	**Uchtor**	**2.73**	**61**	⇓*e*P	**Pn**	**17 06 27.9**	**+0.3**
	baz=61						
UCH				⇓*e*S	**Sn**	**17 07 00.3**	**-1.0**
	baz=61						
BXML	**Bakhmal**	**2.79**	**245**	P	**Sg**	**17 07 12.8**	**+0.5**
CHGR	**Chuyangaron**	**2.81**	**217**	⇑*e*P	**Pn**	**17 06 29.0**	**+0.7**
	baz=17						
CHGR				⇑*e*S	**Sn**	**17 07 02.3**	**-0.4**
	baz=17						
KRSA	**Karasay**	**2.83**	**254**	P	**Sb**	**17 07 08.3**	**-0.5**
DGS	**Degeres**	**4.05**	**54**	Pg	**Pg**	**17 06 59.3**	**-0.9**
	1.5nm,0.5s						
DGS				Lg	Lg	17 07 53.2	
	1.9nm,0.8s						
DGS	**Degeres**	**4.05**	**54**	*e*Pg	**Pg**	**17 07 01.2**	**+1.0**
	0.8nm,1.1s						
DGS				*e*Lg	Lg	17 07 55.1	
	3.3nm,0.7s						
KST	**Kastek**	**4.06**	**57**	*e*Pg	**Pg**	**17 07 01.6**	**+1.1**
	1.9nm,0.4s						
KST				*e*Lg	Lg	17 07 56.0	
	3.5nm,0.4s						
BTLS	**Baital**	**4.57**	**25**	*e*Pg	**Pg**	**17 07 09.8**	**-0.3**
	0.7nm,0.5s						
BTLS				*e*Lg	Lg	17 08 09.9	
	1.8nm,0.9s						
KUU	**Kurty**	**4.76**	**50**	*e*Pg	**Pg**	**17 07 13.8**	**+0.1**
	0.5nm,0.6s						
KUU				*e*Lg	Lg	17 08 16.6	
	3.2nm,1.4s						
MDOK	**Medeo**	**4.82**	**61**	*e*Pg	**Pg**	**17 07 14.5**	**-0.5**
	1.9nm,0.5s						
MDOK				*e*Lg	Lg	17 08 17.9	
	3.8nm,1.1s						
KTBS	**Karatobe**	**4.86**	**53**	*e*Pg	**Pg**	**17 07 15.7**	**0.0**
	0.4nm,0.6s						
KTBS				*e*Lg	Lg	17 08 20.1	
	4.4nm,0.6s						
KOTS	**Kotyrbulak**	**4.90**	**60**	*e*Pg	**Pg**	**17 07 16.3**	**-0.1**
	0.9nm,0.5s						
KOTS				*e*Lg	Lg	17 08 21.3	
	3.3nm,0.6s						

*IDC **10** 17:10:50.6±0.7, 8°.07S×117°.59E, h0km, mb4.2/11, mbtmp4.2/13, ML4.5/3, Error ellipse: s-maj=24.1km s-min=10.8km az=53.0*
*DJA **10** 17:10:53.8±0.3, 8°.5S±2°×117°.8E±°, h19km±3km, M4.8/32, mB5.3/7, mb4.7/32, MLv4.9/25, Mw(mB)4.8/7*
*NEIC **10** 17:10:53.3±2.5, 8°.16S±0°.07×117°.56E±0°.06, h19km±5km, mb4.6/37, Error ellipse: s-maj=9.6km s-min=8.5km az=192.0*

ISC 10 17:10:55.1±0.4, 8°.17S±0°.04×117°.62E±0°.04, h35km, n133, σ1°46/139, mb4.6/34, 1C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.67**	**166**	P	**Pn**	**17 11 07.7**	**-0.4**
PLAI				S	**Sn**	**17 11 18.5**	**+1.1**
TWSI	**Taliwang, Sumb**	**0.92**	**232**	P	**Pn**	**17 11 11.1**	**-0.4**
TWSI				S	**Sn**	**17 11 24.6**	**+1.1**
WBSI	**Waikabubak, Su**	**2.28**	**130**	P	**Pn**	**17 11 31.0**	**+0.7**
SRBI	**Singaraja**	**2.38**	**272**	P	**Pn**	**17 11 30.8**	**-0.8**
DNP	**Denpasar**	**2.43**	**258**	P	**Pn**	**17 11 33.2**	**+0.9**
IGBI	**Denpasar**	**2.53**	**255**	P	**Pn**	**17 11 33.8**	**+0.2**
ABJI	**Asem Bagus**	**3.37**	**276**	P	**Pn**	**17 11 45.5**	**+0.2**
JAGI	**Jajag, Banyuwa**	**3.44**	**265**	Pn	**Pn**	**17 11 46.7**	**+0.5**
JAGI	**Jajag, Banyuwa**	**3.44**	**265**	P	**Pn**	**17 11 46.9**	**+0.7**
BSSI	**Bau Bau, Buton**	**3.49**	**55**	P	**Pn**	**17 11 45.9**	**-1.1**
BASI	**Baing, Sumba**	**3.56**	**125**	P	**Pn**	**17 11 50.9**	**+3.0**
BKSI	**Bulukumba**	**3.77**	**41**	P	**Pn**	**17 11 49.3**	**-1.5**
KAPI	**Kappang**	**3.79**	**34**	Pn	**Pn**	**17 11 49.7**	**-1.3**
	135nm,0.3s,baz=198,slow=4.1,SNR=395						
KAPI				Sn	**Sn**	**17 12 31.7**	**-2.7**
	44nm,0.3s,baz=194,slow=22,SNR=5.6						
KAPI	**Kappang**	**3.79**	**34**		**Pn**	**17 11 49.5**	**-1.5**
BLJI	**Banyuglugur**	**4.00**	**276**	P	**Pn**	**17 11 54.3**	**+0.3**
GMJI	**Gumukmas**	**4.13**	**268**	P	**Pn**	**17 11 55.7**	**0.0**
MMRI	**Maumere**	**4.60**	**96**	Pn	**Pn**	**17 12 02.1**	**0.0**
MMRI	**Maumere**	**4.60**	**96**	P	**Pn**	**17 12 02.1**	**0.0**
SPSI	**Sidrap Palu**	**4.70**	**27**	P	**Pn**	**17 12 01.5**	**-2.0**
GRJI	**Gresik**	**5.24**	**283**	P	**Pn**	**17 12 10.8**	**-0.2**
	324nm,0.6s,4μm1.3nm						
GRJI				S	**Sn**	**17 13 09.3**	**-1.0**
	324nm,0.6s,4μm1.3nm						
BBKI	**Banjar Baru**	**5.43**	**329**	P	**Pn**	**17 12 12.8**	**-0.8**
	206nm,0.9s,6μm0.9nm						
BWJI	**Bawean**	**5.43**	**295**	P	**Pn**	**17 12 12.6**	**-1.1**
	282nm,1.2s,1.4nm						
PWJI	**Pagerwojo**	**5.76**	**271**	P	**Pn**	**17 12 17.4**	**-0.7**
	83nm,0.7s,0.5nm						
NGJI	**Ngawi**	**6.15**	**277**	P	**Pn**	**17 12 25.9**	**+2.4**
	80nm,0.8s,0.5nm						
BATI	**Baumata**	**6.30**	**109**	Pn	**Pn**	**17 12 26.9**	**+1.3**
	4.2nm,0.3s,baz=276,slow=10,SNR=3.1						
BATI				Sn	**Sn**	**17 13 40.1**	**+3.6**
	4.2nm,0.3s,baz=245,slow=19,SNR=1.2						
	10nm,0.3s						
BATI	**Baumata**	**6.30**	**109**	P	**Pn**	**17 12 27.6**	**+1.9**
	63nm,0.4s,0.3nm						
SOEI	**Soe**	**6.76**	**104**	Pn	**Pn**	**17 12 34.0**	**+2.1**
SOEI	**Soe**	**6.76**	**104**	P	**Pn**	**17 12 34.2**	**+2.2**
	79nm,0.9s,1μm0.4nm						
BKB	**Balikpapan**	**6.90**	**354**	Pn	**Pn**	**17 12 36.6**	**+2.7**
UGM	**Wanagama**	**7.03**	**272**	Pn	**Pn**	**17 12 36.0**	**+0.4**
UGM	**Wanagama**	**7.03**	**272**	P	**Pn**	**17 12 35.8**	**+0.2**
	125nm,0.5s,0.6nm						
SMRI	**Semarang**	**7.20**	**278**	Pn	**Pn**	**17 12 34.4**	**-3.6**
MTKI	**Muara Teweh, K**	**7.68**	**339**	P	**Pn**	**17 12 43.1**	**-1.4**
	41nm,0.5s,0.3nm						
PBKI	**Pangkalan Bun**	**8.03**	**312**	P	**Pn**	**17 12 48.3**	**-1.1**
	58nm,1.1s,2μm0.5nm						
APSI	**Ampana**	**8.26**	**29**	P	**Pn**	**17 12 51.4**	**-1.0**
	31nm,1.1s						
KPJI	**Karang Pucung**	**8.65**	**275**	P	**Pn**	**17 12 57.5**	**-0.3**
	45nm,0.9s						
LUWI	**Luwuk**	**8.75**	**36**	Pn	**Pn**	**17 12 58.4**	**-0.8**
MPSI	**Mapaga**	**8.75**	**15**	P	**Pn**	**17 12 58.3**	**-1.0**
	10nm,0.7s						
CMJI	**Cimerak**	**9.09**	**272**	P	**Pn**	**17 13 02.8**	**-1.0**
	64nm,1.4s						
MRSI	**Marisa**	**9.61**	**27**	P	**Pn**	**17 13 09.9**	**-1.2**
	11nm,0.8s						
TOLI2	**Tolitoli**	**9.75**	**19**	Pn	**Pn**	**17 13 13.6**	**+0.7**
LEM	**Lembang**	**10.00**	**277**	Pn	**Pn**	**17 13 16.5**	**-0.1**
	3.0nm,0.3s,baz=121,slow=5.9,SNR=1.5						
	26nm,0.8s						
LEM	**Lembang**	**10.00**	**277**	P	**Pn**	**17 13 16.8**	**+0.2**
	37nm,0.7s						
SANI	**Sanana**	**10.32**	**54**	P	**Pn**	**17 13 21.5**	**+0.8**
	15nm,1.1s						
SBUM	**Sibu**	**11.84**	**333**		**Pn**	**17 13 41.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.58**	**142**	Pn	**Pn**	**17 13 51.1**	**-0.6**
MBWA	**Marble Bar**	**13.07**	**171**	Pn	**Pn**	**17 13 56.6**	**-1.8**
KNRA	**Kununurra**	**13.21**	**125**	Pn	**Pn**	**17 13 58.1**	**-2.2**
MYLDM	**Lahad Datu**	**13.29**	**4**	Pn	**Pn**	**17 13 59.2**	**-2.3**
PSA00	**Pilbara Seismi**	**13.50**	**171**	Pn	**Pn**	**17 14 03.7**	**-0.5**
SAUI	**Saumlaki**	**13.55**	**90**	Pn	**Pn**	**17 14 05.6**	**+0.6**
MTN	**Manton Dam**	**14.08**	**110**		**Pn**	**17 14 10.1**	**-2.0**
KKM	**Kota Kinabalu**	**14.19**	**354**	Pn	**Pn**	**17 14 11.5**	**-2.3**
GIRL	**Giralia**	**14.75**	**192**	Pn	**Pn**	**17 14 20.2**	**-1.0**
MNAI	**Manna**	**15.05**	**284**	Pn	**Pn**	**17 14 23.2**	**-2.1**
SIJI	**Sorong**	**15.41**	**63**	Pn	**P**	**17 14 35.6**	**+1.4**
	0.3nm,0.3s,baz=304,slow=2.6,SNR=4.1						
FAKI	**Fak Fak**	**15.47**	**71**	Pn	**Pn**	**17 14 31.0**	**+0.2**

SDSI Sungai Dareh 17.66 293 P Pn 17 14 58.5 0.0
19nm,1.2s
RKPI Ransiki, Papua 17.77 69 P P 17 15 01.2 +0.8
53nm,1.0s,1μm
WB0 Warramunga Arr 19.93 127 P P 17 15 22.2 -1.9
WRA Warramunga Arr 19.98 128 P P 17 15 25.5 +0.9
3.7nm,0.7s,baz=300,slow=12,SNR=14
WRA S S 17 19 01.9 -5.8
0.6nm,0.7s,baz=294,slow=18,SNR=2.6
3.7nm,0.7s
WRA Warramunga Arr 19.98 128 P P 17 15 23.0 -1.6
WRAB Tennant Creek 19.98 128 P P 17 15 24.1 -0.6
WB2 Warramunga Arr 19.99 128 P P 17 15 23.6 -1.1
WR0 Warramunga Arr 20.15 127 P P 17 15 26.0 -0.5
WR0 lAmb lAmb 17 15 41.2
comp=Z,14nm,0.7s
MORW Morawa 20.84 184 P P 17 15 32.3 -1.6
MORW lAmb lAmb 17 16 11.1
comp=Z,15nm,0.9s
RPSI Rantau Prapat 21.54 299 P P 17 15 40.1 -1.5
RPSI lAmb lAmb 17 15 45.6
comp=Z,28nm,1.1s
PSI Prapat 21.59 300 P P 17 15 41.5 -0.7
comp=Z,9.6nm,0.5s,baz=171,slow=8.1,SNR=10
comp=Z,9.6nm,0.5s
SMPI Sarmi 21.88 75 P P 17 15 45.9 +0.7
comp=Z,25nm,1.2s
AS31 Alice Springs 21.93 136 P P 17 15 45.0 -0.7
ASAR Alice Springs 21.93 136 P P 17 15 46.5 +0.8
comp=Z,5.9nm,0.8s,baz=310,slow=9.4,SNR=71
ASAR S Sn 17 19 52.6 -4.7
comp=Z,1.3nm,0.8s,baz=315,slow=23,SNR=4.4
comp=Z,5.9nm,0.8s
ASAR Alice Springs 21.93 136 P P 17 15 45.8 +0.1
ASAR S 17 19 42.9 -3.3
GSI Gunungsitoli 22.09 294 P P 17 15 45.0 -2.5
GSI lAmb lAmb 17 16 10.7
comp=Z,27nm,1.1s
GSI Gunungsitoli 22.09 294 P P 17 15 48.0 +0.6
comp=Z,23nm,0.9s
FORT Forrest 24.52 158 P P 17 16 11.2 -0.2
FORT lAmb lAmb 17 16 34.8
comp=Z,18nm,0.8s
NWAO Narrogin (SRO) 24.64 181 P P 17 16 13.9 +1.5
comp=Z,6.3nm,0.6s
comp=Z,6.3nm,0.6s
NWAO Narrogin (SRO) 24.64 181 P P 17 16 12.7 +0.2
NWAO lAmb lAmb 17 16 48.6
comp=Z,22nm,1.2s
NWAO Narrogin (SRO) 24.64 181 P P 17 16 11.1 -1.3
NWAO lAmb lAmb 17 16 48.6
comp=Z,28nm,1.2s
COEN Coen 25.72 105 P P 17 16 22.5 0.0
COEN lAmb lAmb 17 16 30.6
comp=Z,33nm,1.4s
PMG Port Moresby 29.22 95 P P 17 16 53.8 0.0
PMG lAmb lAmb 17 17 09.3
comp=Z,15nm,1.4s
BBOO Buckleboo 29.89 148 P P 17 16 59.6 0.0
BBOO lAmb lAmb 17 17 39.7
comp=Z,21nm,1.3s
CMAR Chiang Mai Arr 32.24 325 P P 17 17 20.6 +0.1
comp=Z,2.1nm,0.8s,baz=150,slow=6.2,SNR=13
comp=Z,2.1nm,0.8s
CMAR Chiang Mai Arr 32.24 325 P P 17 17 20.2 -0.3
STKA Stephens Creek 32.46 140 P P 17 17 23.2 +0.9
comp=Z,2.0nm,0.6s,baz=309,slow=8.6,SNR=6.8
comp=Z,2.0nm,0.6s
STKA Stephens Creek 32.46 140 P P 17 17 23.2 +0.9
CRAI Chiangrai 32.93 329 P P 17 17 25.8 -0.6
CRAI lAmb lAmb 17 17 31.2
comp=Z,9.2nm,1.1s
KMI Kunming 36.13 337 ⇑P P 17 17 53.7 -0.6
KMI sP pP 17 18 05.7 +1.4
KMI PP PnPn 17 19 16.2 -0.1
KMI pmax pmax
comp=Z,9.0nm,0.6s
KMI LR LR
comp=N,280nm,12.3s
KMI LR LR
comp=E,300nm,18.9s
KMI LR LR
comp=Z,410nm,19.2s
PZH PanZhiHua 37.76 336 P P 17 18 11.4 +3.4
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,5.1s
TNCH TengChong 37.88 331 P P 17 18 12.6 +3.4
TNCH pP pP 17 18 16.9 -2.3
TNCH S S 17 23 59.7 +1.1
TNCH sS ScP 17 24 10.1 -0.1
TNCH pmax pmax
comp=Z,7.0nm,0.9s
TNCH pmax pmax
comp=Z,150nm,11.7s
TNCH LR LR
comp=N,270nm,17.6s
TNCH LR LR
comp=E,310nm,17.1s
TNCH LR LR
comp=Z,350nm,16.8s
NJ2 Nanjing 40.01 2 eP P 17 18 30.2 +3.5
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SHL Shillong 41.85 324 P P 17 18 42.0 -0.2
SHL lAmb lAmb 17 18 51.4
comp=Z,11nm,0.9s
XAN Xi'an 42.78 349 pP pP 17 19 00.3 +0.7
XAN Xi'an 42.78 349 pmax pmax
comp=Z,3.0nm,0.6s
XAN Xi'an 42.78 349 P P 17 18 54.7 +5.2
ODAN Odare 45.52 321 eP P 17 19 12.3 +0.5
TAPN Taplejung 45.67 322 eP P 17 19 13.7 +0.7
comp=Z,21nm,0.8s
RAMN Ramite 46.08 320 eP P 17 19 16.8 +0.6
comp=Z,9.8nm,0.6s
KSRS Korea Array 46.40 11 P P 17 19 17.9 -0.3
comp=Z,1.7nm,0.8s,baz=193,slow=8.4,SNR=2.7
comp=Z,1.7nm,0.8s
JIRN Jiri 46.84 321 eP P 17 19 22.6 +0.3
comp=Z,20nm,0.6s
PKI Pulchoki 47.27 320 eP P 17 19 25.8 +0.2
PKIN Phulchoki 47.28 320 eP P 17 19 25.7 +0.1
comp=Z,5.2nm,0.5s
DMN Daman 47.49 320 eP P 17 19 27.3 +0.1
comp=Z,5.1nm,0.4s
KOLN Koldanda 48.57 319 eP P 17 19 36.0 +0.4
DANN Dangsing 48.86 319 eP P 17 19 38.1 +0.2
comp=Z,19nm,0.6s
HHC Hu-ho-hao-te 49.09 354 eP P 17 19 43.3 +4.1
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,500nm,6.4s
MDJ Mudanjiang 53.64 11 P P 17 20 12.9 -0.2
MDJ Mudanjiang 53.64 11 P P 17 20 14.3 +1.2
MDJ pP pP 17 20 20.4 -3.0
MDJ pmax pmax
comp=Z,7.0nm,0.9s
USA0B Ussuriysk Arra 53.73 13 P P 17 20 13.8 +0.2
USA0B lAmb lAmb 17 20 14.6
comp=Z,8.6nm,1.1s
USRK Ussuriysk Ar. 53.73 13 P P 17 20 13.6 0.0
comp=Z,1.6nm,0.7s,baz=195,slow=7.4,SNR=2.3
comp=Z,1.6nm,0.7s
USRK Ussuriysk Ar. 53.73 13 P P 17 20 13.8 +0.2
ULN Ulaanbaatar 56.57 351 P P 17 20 35.2 +0.8
ULN lAmb lAmb 17 20 43.7
comp=Z,4.3nm,1.1s
SONM Songino Array 56.64 351 P P 17 20 35.4 +0.6
comp=Z,2.9nm,0.7s,baz=170,slow=9.5,SNR=25
comp=Z,2.9nm,0.7s
SONM Songino Array 56.64 351 P P 17 20 35.7 +0.8
SONM lAmb lAmb 17 20 44.1
comp=Z,3.7nm,0.8s
WMQ Urumqi 58.42 335 eP P 17 20 47.3 -0.1
WMQ pmax pmax
comp=Z,68nm,0.9s
HEH HeiHe 58.80 7 eP P 17 20 53.8 +4.0
HEH pmax pmax
comp=Z,6.0nm,0.9s
THZ Tophouse 58.97 134 P P 17 20 53.3 +1.9
PLWZ Palliser 60.60 133 P P 17 21 02.9 +0.4
BKZ Black Stump Fm 60.88 130 P P 17 21 04.4 -0.1
KSH Kashi 61.13 324 P P 17 21 06.7 +0.5
KSH pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 63.10 334 P P 17 21 18.7 -0.5
MK31 lAmb lAmb 17 21 28.1
comp=Z,4.8nm,0.9s
MKAR Makanchi Array 63.10 334 P P 17 21 19.5 +0.3
comp=Z,2.8nm,0.6s,baz=143,slow=7.8,SNR=36
comp=Z,2.8nm,0.6s
MKAR Makanchi Array 63.10 334 P P 17 21 18.9 -0.2
MAKZ Makanchi 63.26 333 P P 17 21 20.2 0.0
GAR Garm 64.24 321 P P 17 21 25.6 -1.3
ZAA0 Zalesovo Array 67.79 340 P P 17 21 48.6 -0.7
ZAA0 lAmb lAmb 17 21 56.7
comp=Z,5.3nm,1.1s
ZALV Zalesovo Beam 67.79 340 P P 17 21 48.5 -0.8
comp=Z,1.3nm,0.6s,baz=151,slow=4.3,SNR=7.9
comp=Z,1.3nm,0.6s
ZALV Zalesovo Beam 67.79 340 P P 17 21 48.0 -1.2
MAW Mawson 69.55 200 P P 17 22 01.2 +1.1
YAK Yakutsk 70.62 6 P P 17 22 05.9 -0.7
VNDA Vanda 73.02 171 P P 17 22 20.9 0.0
VNDA lAmb lAmb 17 22 23.0
comp=Z,6.3nm,1.4s
ABKAR Akbulak array 76.10 325 P P 17 22 37.9 -1.3
ABKAR Akbulak array 76.10 325 P P 17 22 38.2 -1.0
ABKAR lAmb lAmb 17 22 47.6
comp=Z,3.3nm,1.1s
CPUP Villa Florida 145.35 188 PKPbc PKPdf 17 30 30.3 +0.2
comp=Z,2.2nm,0.8s,baz=153,slow=5.2,SNR=4.6

MAN 10 17:14:05.4, 13°.65N×120°.69E, h155km, mb3.9, ML2.7, MS2.3, 3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.44**	**280**	⇓*e*P	Pn	17 14 28.9	+1.8
LUBP				*e*S	Sn	17 14 45.6	+2.1
MACP	**Maragondon, Ca**	**0.61**	**3**	⇓*e*P	Pn	17 14 28.7	+0.8
MACP				*e*S	Sn	17 14 47.5	+2.3
LQP	**Lukban**	**0.94**	**61**	⇓*e*P	Pn	17 14 25.7	-4.7
LQP				*e*S	Sn	17 14 51.0	+1.4

*IDC **10** 17:21:01.1±4.9, 23°.24N×121°.33E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=356.5km s-min=28.3km az=60.0*
*TAP **10** 17:21:05.4, 22°.94N×120°.57E, h14km, ML3.9, B*
*JMA **10** 17:21:06.7±0.5, 23°N±2°×12°1E±°, h8km, MV4.0/12, TAIWAN REGION*
ISC 10 17:21:06.4±0.8, 22°.93N±0°.01×120°.53E±0°.02, h20km, n134, σ0s95/225, mb3.5/3, 41C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCST	**Cishan**	**0.05**	**219**	⇑*i*P	**Pb**	**17 21 09.3**	**-0.8**
SCST	baz=233			*i* S	**Sb**	**17 21 12.5**	**0.0**
	baz=233						
TWM1	**Shoushan**	**0.14**	**224**	⇑*i*P	**Pb**	**17 21 10.9**	**-0.9**
TWM1	baz=229			S	**Sb**	**17 21 15.4**	**-0.3**
	baz=229						
SGST	**Jiashian**	**0.16**	**18**	⇓*i*P	**Pb**	**17 21 09.3**	**-2.6**
SGST	baz=6.0			S	**Sb**	**17 21 13.1**	**-2.6**
	baz=6.0						
SHHT	**Tainan City**	**0.19**	**300**	⇑P	**Pb**	**17 21 12.3**	**+0.3**
SHHT	baz=290			*e*S	**Sb**	**17 21 18.0**	**+2.2**
	baz=290						
SGLT	**Jiouru**	**0.20**	**190**	⇑*e*P	**Pb**	**17 21 12.1**	**+0.1**
SGLT	baz=193			S	**Sb**	**17 21 17.6**	**+1.8**
	baz=193						
CHN3	**Shinhua**	**0.21**	**315**	⇑*i*P	**Pb**	**17 21 12.3**	**+0.2**
CHN3	baz=304			*e*S	**Sb**	**17 21 17.7**	**+1.7**
	baz=304						
TSMG	**Majia**	**0.24**	**154**	⇑*i*P	**Pb**	**17 21 11.4**	**-1.0**
TSMG	baz=158			S	**Sb**	**17 21 15.7**	**-0.8**
	baz=158						
SNJT	**Kaohsiung City**	**0.25**	**226**	*e*P	**Pb**	**17 21 11.5**	**-0.9**
SNJT	baz=230			*e*S	**Sb**	**17 21 18.2**	**+1.7**
	baz=230						
TSPT	**Pingtung City**	**0.25**	**187**	*e*P	**Pb**	**17 21 12.9**	**+0.5**
TSPT	baz=190			*e*S	**Sb**	**17 21 19.2**	**+2.6**
	baz=190						
CHN1	**Nanshi**	**0.26**	**360**	⇑*i*P	**Pb**	**17 21 11.9**	**-0.6**
CHN1	baz=355			S	**Sb**	**17 21 16.9**	**+0.1**
	baz=355						
TAI1	**Yung-k'ang**	**0.30**	**292**	*e*P	**Pb**	**17 21 13.5**	**+0.5**
TAI1	baz=288			*e*S	**Sn**	**17 21 20.4**	**-1.0**
	baz=288						
SSHA	**Shanhua**	**0.30**	**313**	*e*P	**Pb**	**17 21 13.7**	**+0.5**
SSHA	baz=306			*e*S	**Sn**	**17 21 20.9**	**-0.7**
	baz=306						
TAI	**Tainan**	**0.31**	**283**	*e*P	**Pb**	**17 21 13.4**	**+0.1**
	baz=279						
STYT	**Tauyuan**	**0.32**	**42**	⇑P	**Pb**	**17 21 12.7**	**-0.7**
STYT	baz=44			S	**Sb**	**17 21 17.9**	**-0.2**
	baz=44						
MASBT	**Mashibuluo**	**0.33**	**163**	⇑*i*P	**Pb**	**17 21 12.9**	**-0.6**
MASBT	baz=166			*e*S	**Sb**	**17 21 17.9**	**-0.4**
	baz=166						
WTP	**Ta-pu**	**0.33**	**14**	⇑*i*P	**Pb**	**17 21 13.1**	**-0.5**
WTP	baz=13			*e*S	**Sb**	**17 21 18.1**	**-0.3**
	baz=13						
STYH	**Taoyuan**	**0.33**	**43**	⇑P	**Pb**	**17 21 13.0**	**-0.6**
STYH	baz=48			*e*S	**Sb**	**17 21 18.6**	**+0.2**
	baz=48						
TWK	**Hsinying**	**0.34**	**354**	⇑*i*P	**Pb**	**17 21 13.5**	**-0.3**
TWK	baz=348			*e*S	**Sb**	**17 21 20.2**	**+1.4**
	baz=348						
TPUB	**Ta-pu**	**0.38**	**14**	⇑*i*P	**Pb**	**17 21 13.8**	**-0.7**
TPUB	baz=8.0			S	**Sb**	**17 21 19.9**	**0.0**
	baz=8.0						
SCLT	**Jiali**	**0.40**	**309**	⇑*e*P	**Pb**	**17 21 14.9**	**+0.3**
SCLT	baz=304			*e*S	**Sb**	**17 21 21.8**	**+1.6**
	baz=304						
KAU	**Kaohsiung**	**0.41**	**210**	*e*P	**Pb**	**17 21 15.8**	**+0.9**
KAU	baz=223			*e*S	**Sn**	**17 21 24.0**	**-0.2**
	baz=223						
CHN4	**Tsaushan**	**0.43**	**8**	⇑*i*P	**Pb**	**17 21 14.6**	**-0.6**
CHN4	baz=2.0			*e*S	**Sb**	**17 21 21.4**	**+0.2**
	baz=2.0						
TSCK	**Chigu Township**	**0.46**	**298**	*e*P	**Pb**	**17 21 15.7**	**-0.1**
	baz=307						
ICHU	**Yijhu**	**0.49**	**332**	*e*P	**Pb**	**17 21 16.5**	**+0.1**
ICHU	baz=327			*e*S	**Sb**	**17 21 25.1**	**+2.0**
	baz=327						
ECL	**Taimali**	**0.51**	**130**	⇑*i*P	**Pb**	**17 21 15.9**	**-0.8**
ECL	baz=132			*e*S	**Sb**	**17 21 22.5**	**-1.2**
	baz=132						
TWG	**Pinlang**	**0.51**	**102**	⇑*i*P	**Pb**	**17 21 16.3**	**-0.4**
TWG	baz=106			*e*S	**Sb**	**17 21 23.5**	**-0.2**
	baz=106						
WCKO	**Fanlu**	**0.52**	**8**	*e*P	**Pb**	**17 21 16.1**	**-0.7**
WCKO	baz=3.0			*e*S	**Sb**	**17 21 24.1**	**+0.2**
	baz=3.0						
TWGBT	**Beinan**	**0.52**	**102**	⇑*i*P	**Pb**	**17 21 16.3**	**-0.6**
TWGBT	baz=109			*e*S	**Sb**	**17 21 23.6**	**-0.4**
	baz=109						
ELDTW	**Lidau**	**0.52**	**60**	⇑*i*P	**Pb**	**17 21 16.2**	**-0.8**
ELDTW	baz=60			*e*S	**Sb**	**17 21 23.9**	**-0.2**
	baz=60						

LONT Longtian 0.55 92 ⇑*e*P Pb 17 21 17.0 -0.5
baz=98
LONT *e*S Sb 17 21 25.5 +0.5
baz=98
SCZT Fangliau 0.56 171 ⇑*i*P Pb 17 21 17.0 -0.5
baz=164
SCZT *e*S Sb 17 21 25.4 +0.3
baz=164
CHY Chiayi 0.58 350 *e*P Pb 17 21 17.7 -0.2
baz=347
CHY *e*S Sb 17 21 26.5 +0.8
baz=347
TWP Hsiaoliuchiu 0.60 195 P Pn 17 21 20.0 +0.3
baz=198
TWP *e*S Sn 17 21 31.5 +2.7
baz=198
CHN2 Minshiung 0.60 355 *e*P Pb 17 21 18.5 +0.1
baz=351
CHN2 *e*S Sb 17 21 27.9 +1.4
baz=351
EAST Anshuo 0.61 151 ⇑*i*P Pb 17 21 18.0 -0.5
baz=147
EAST *e*S Sb 17 21 26.7 -0.1
baz=147
ALS Alishan 0.63 23 ⇑*i*P Pb 17 21 18.2 -0.9
baz=21
ALS *e*S Sb 17 21 27.8 +0.1
baz=21
WSL Shuilin Townsh 0.66 335 *e*P Pb 17 21 18.7 -0.5
baz=331
WSL *e*S Sn 17 21 29.8 -0.5
baz=331
ECS Chishang 0.66 75 ⇑*e*P Pb 17 21 18.8 -0.4
baz=76
ECS *e*S Sb 17 21 27.8 -0.2
baz=76
TAW Tawu 0.66 149 ⇑P Pb 17 21 18.7 -0.5
baz=147
EHD Haiduan 0.66 70 ⇑P Pb 17 21 18.5 -0.8
baz=70
EHD *e*S Sb 17 21 27.9 -0.3
baz=70
TAWH Dawu Township 0.67 150 ⇑*i*P Pb 17 21 18.9 -0.6
baz=148
TAWH *e*S Sb 17 21 28.6 +0.3
baz=148
CHN5 Tsauling 0.68 12 ⇑P Pb 17 21 18.9 -0.8
baz=8.0
CHN5 *e*S Sn 17 21 30.1 -1.0
baz=8.0
EDH Donghe 0.71 86 ⇑*e*P Pb 17 21 19.9 -0.3
baz=77
EDH *e*S Sn 17 21 31.6 -0.1
baz=77
SLIU Shizi 0.75 161 ⇑*e*P Pb 17 21 20.5 -0.3
baz=163
SLIU *e*S Sb 17 21 30.7 +0.2
baz=163
FULB Fuli 0.76 69 ⇑P Pb 17 21 20.8 -0.1
baz=69
FULB *e*S Sb 17 21 30.6 -0.1
baz=69
WGK Gukeng 0.76 2 P Pb 17 21 21.1 +0.2
baz=360
WGK *e*S Sb 17 21 31.1 +0.3
baz=360
WDLH Douliu 0.76 1 *e*P Pb 17 21 21.1 +0.1
baz=357
WDLH *e*S Sn 17 21 32.5 -0.4
baz=357
WSF Szhu 0.76 338 *e*P Pb 17 21 20.6 -0.3
baz=335
WSF *e*S Sn 17 21 32.7 -0.2
baz=335
WTK Tuku 0.77 350 *e*P Pb 17 21 21.1 0.0
baz=347
WTK *e*S Sb 17 21 32.3 +1.2
baz=347
CHKT Chengkung 0.79 77 ⇑*i*P Pb 17 21 21.3 -0.2
baz=68
CHKT *e*S Sn 17 21 33.4 -0.2
baz=68
WHYT Xinyi Township 0.82 21 *e*P Pb 17 21 21.4 -0.6
baz=19
WHYT *e*S Sb 17 21 32.5 -0.2
baz=19
TWF1 Yuli 0.82 59 ⇑*i*P Pb 17 21 21.4 -0.6
baz=59
TWF1 *e*S Sb 17 21 32.0 -0.7
baz=59
EYUL Yuli 0.84 60 ⇑*e*P Pb 17 21 21.7 -0.6
baz=59
EYUL *e*S Sb 17 21 33.3 +0.2
baz=59
YULB Yu-li 0.84 57 ⇑*i*P Pb 17 21 21.5 -0.9
baz=56
YULB *e*S Sb 17 21 31.9 -1.4
baz=56
WDGT Dungji 0.87 293 ⇓P Pb 17 21 21.8 -1.0
baz=290
WDGT *e*S Sb 17 21 33.8 -0.1
baz=290
LDUT Ludao 0.90 106 ⇑P Pb 17 21 22.8 -0.6
baz=108
LDUT *e*S Sn 17 21 36.6 +0.3
baz=108
WJS Zhushan 0.91 12 *e*P Pn 17 21 23.4 -0.7
baz=9.0
WJS *e*S Sn 17 21 36.3 -0.3
baz=9.0
EHY Hungye 0.93 51 ⇑*i*P Pn 17 21 23.1 -1.2
baz=51
EHY *e*S Sn 17 21 37.2 +0.1
baz=51
HEN Hengchun 0.94 168 *e*P Pb 17 21 24.4 +0.5
baz=164
HEN *e*S Sn 17 21 38.7 +1.5
baz=164
SSLB Suanglung 0.94 24 ⇑*e*P Pn 17 21 23.2 -1.3
baz=22
SSLB *e*S Sb 17 21 35.6 -0.5
baz=22
SMST Manzhou Townsh 0.94 162 *e*P Pb 17 21 24.5 +0.4
baz=164
SMST *e*S Sn 17 21 38.5 +1.1
baz=164
WNT Mingjian 0.96 8 *e*P Pn 17 21 23.9 -0.8
baz=6.0
WNT *e*S Sn 17 21 37.9 +0.1
baz=6.0
WTCT Ta-ch'eng 0.96 346 *e*P Pn 17 21 23.5 -1.2
baz=344
WTCT *e*S Sn 17 21 37.5 -0.3
baz=344
WRL Guolierlin Hig 0.98 352 *e*P Pn 17 21 24.1 -0.9
baz=349
WRL *e*S Sb 17 21 37.2 0.0
baz=349
HGSD Ruisui 1.00 55 ⇑*i*P Pn 17 21 24.9 -0.4
baz=50
HGSD *e*S Sn 17 21 39.2 +0.5
baz=50
VWDT VWDT 1.00 34 *e*P Pn 17 21 24.3 -0.9
baz=40
SMLT Sun Moon Lake 1.01 20 P Pn 17 21 24.9 -0.7
baz=18
SMLT *e*S Sn 17 21 39.7 +0.4
baz=18
TWK1 Hengchun 1.01 165 *e*P Pb 17 21 25.3 0.0
baz=161
TWK1 *e*S Sn 17 21 40.9 +1.9
baz=161
TWKBT Hengchun 1.01 165 P Pb 17 21 25.2 -0.1
baz=166
TWKBT *e*S Sn 17 21 39.5 +0.3
baz=166
TYC Yuchr 1.02 17 *e*P Pn 17 21 25.1 -0.4
baz=16
TYC *e*S Sn 17 21 39.7 +0.4
baz=16
VCHM Qimei 1.05 286 *e*P Pn 17 21 24.1 -1.8
baz=287
PHUB P'eng-hu 1.06 304 *e*P Pn 17 21 24.2 -1.8
baz=308
TSEB Hengchuen, Pin 1.08 161 *e*P Pb 17 21 26.2 -0.1
baz=164
TSEB *e*S Sb 17 21 42.5 +2.5
baz=164

PNG	**Penghu**	**1.10**	**306**	*e*P		**Pn**	17 21 24.9	-1.7
	baz=303							
EGFH	**Guangfu**	**1.11**	**48**	*e*P		**Pn**	17 21 26.4	-0.4
	baz=38							
WCHH	**Zhanghua**	**1.15**	**1**	*e*P		**Pb**	17 21 28.0	+0.5
	baz=359							
WCHH				*e*S		**Sb**	17 21 44.0	+2.0
	baz=359							
WCS	**Beigang Elemen**	**1.18**	**17**	*e*P		**Pn**	17 21 27.5	-0.3
	baz=15							
WCS				*e*S		**Sb**	17 21 44.0	+1.0
	baz=15							
OWD	**Renai**	**1.18**	**30**	P		**Pn**	17 21 27.5	-0.5
	baz=29							
OWD				*e*S		**Sn**	17 21 43.0	-0.5
	baz=29							
WUSB	**Renai**	**1.19**	**27**	P		**Pn**	17 21 27.6	-0.4
	baz=25							
WUSB				*e*S		**Sb**	17 21 44.0	+0.6
	baz=25							
ESL	**Shilin**	**1.21**	**43**	⇑*i*P		**Pn**	17 21 28.0	-0.2
	baz=42							
ESL				*e*S		**Sb**	17 21 44.6	+0.7
	baz=42							
TCU	**Taichung**	**1.22**	**6**	*e*P		**Pn**	17 21 27.8	-0.5
	baz=352							
TCU				*e*S		**Sb**	17 21 45.1	+0.9
	baz=352							
CHGB	**Renai**	**1.27**	**28**	⇑P		**Pn**	17 21 28.8	-0.4
	baz=26							
CHGB				*e*S		**Sb**	17 21 47.0	+1.1
	baz=26							
LAY	**Lan-yu**	**1.29**	**133**	*e*P		**Pn**	17 21 28.5	-0.8
	baz=133							
LAY				*e*S		**Sn**	17 21 45.4	-0.7
	baz=133							
LYUB	**Lan-yu**	**1.34**	**133**	*e*P		**Pn**	17 21 27.7	-2.3
	baz=122							
WHF	**Hehuan Shan**	**1.39**	**29**	*e*P		**Pn**	17 21 31.3	+0.3
	baz=33							
WHP	**Taichung City**	**1.40**	**16**	*e*P		**Pn**	17 21 30.8	-0.1
	baz=14							
WHP				*e*S		**Sb**	17 21 50.4	+1.0
	baz=14							
WDJ	**Dajia District**	**1.42**	**4**	*e*P		**Pn**	17 21 30.4	-0.6
	baz=2.0							
TWQ1	**Liyutan**	**1.43**	**9**	*e*P		**Pn**	17 21 31.7	+0.5
	baz=357							
TWQ1				*e*S		**Sb**	17 21 50.8	+0.5
	baz=357							
HWA	**Hwalien**	**1.44**	**43**	*e*P		**Pb**	17 21 32.3	-0.2
	baz=34							
HWA				*e*S		**Sb**	17 21 52.7	+2.3
	baz=34							
TDCB	**Techi**	**1.44**	**23**	*e*P		**Pn**	17 21 31.6	+0.1
	baz=22							
TDCB				*e*S		**Sb**	17 21 51.2	+0.5
	baz=22							
TWT	**Tachien**	**1.45**	**24**	*e*P		**Pn**	17 21 31.9	+0.3
	baz=22							
TWT				*e*S		**Sb**	17 21 51.5	+0.7
	baz=22							
NSY	**Sanyi**	**1.50**	**8**	*e*P		**Pn**	17 21 31.4	-0.8
	baz=356							
NSY				*e*S		**Sb**	17 21 53.5	+1.4
	baz=356							
TWD	**Chiawan**	**1.51**	**40**	*e*P		**Pn**	17 21 31.4	-0.9
	baz=38							
ETLH	**Xiulin Townshi**	**1.55**	**34**	*e*P		**Pb**	17 21 34.1	-0.3
	baz=29							
NACB	**Ninganchiao**	**1.58**	**38**	P		**Pn**	17 21 33.3	0.0
	baz=37							
NACB				*e*S		**Sb**	17 21 53.8	-0.7
	baz=37							
ETL	**Fush Village**	**1.58**	**39**	*e*P		**Pb**	17 21 34.3	-0.8
	baz=36							
NNSB	**Datong**	**1.69**	**27**	*e*P		**Pn**	17 21 35.0	+0.1
	baz=11							
NNS	**Nan Shan**	**1.69**	**27**	*e*P		**Pn**	17 21 35.8	+0.8
	baz=26							
NNS				*e*S		**Sb**	17 21 57.7	-0.2
	baz=26							
NSTT	**Nanjuang**	**1.75**	**14**	*e*P		**Pn**	17 21 35.3	-0.4
	baz=13							
LIOB	**Emei**	**1.77**	**14**	*e*P		**Pn**	17 21 35.8	-0.1
	baz=13							
NFF	**Wufeng Townshi**	**1.78**	**17**	*e*P		**Pn**	17 21 36.2	+0.1
	baz=359							
LATG	**Datong**	**1.84**	**30**	*e*P		**Pn**	17 21 37.3	+0.3
	baz=10.0							
ENA	**Nanau**	**1.86**	**36**	*e*P		**Pn**	17 21 37.5	+0.3
	baz=34							
EWUT	**Wuta**	**1.90**	**37**	*e*P		**Pn**	17 21 38.0	+0.4
	baz=34							
NSK	**Sanguang**	**1.90**	**23**	*e*P		**Pn**	17 21 38.9	+1.2
	baz=6.0							
YHNB	**Yeheng**	**1.90**	**24**	*e*P		**Pn**	17 21 37.6	-0.1
	baz=22							
ENTT	**Nioudou**	**1.95**	**29**	*e*P		**Pb**	17 21 39.8	-1.5
	baz=12							
NDS	**Dongshan**	**2.02**	**32**	*e*P		**Pn**	17 21 39.7	+0.5
	baz=18							
NDS				*e*S		**Sb**	17 22 07.8	+0.8
	baz=18							
NWLT	**Wulai**	**2.05**	**26**	*e*P		**Pn**	17 21 39.5	-0.2
	baz=24							
FUSB	**Fushanzhiwuyua**	**2.07**	**28**	*e*P		**Pn**	17 21 40.8	+0.8
	baz=8.0							
TWC	**Suao**	**2.07**	**36**	*e*P		**Pn**	17 21 40.5	+0.6
	baz=44							
TWE	**Neicheng**	**2.07**	**30**	*e*P		**Pb**	17 21 41.7	-1.5
	baz=29							
TWE				*e*S		**Sb**	17 22 09.2	+0.7
	baz=29							
TWA	**Mucha**	**2.26**	**25**	*e*P		**Pb**	17 21 46.0	-0.6
	baz=24							
TIPB	**Shuangxi**	**2.36**	**30**	*e*P		**Pn**	17 21 44.1	+0.1
	baz=11							
NWF	**Wu-fen Shan**	**2.42**	**28**	*e*P		**Pn**	17 21 47.1	+2.2
	baz=11							
TWB1	**Santiao Chiao**	**2.46**	**32**	*e*P		**Pn**	17 21 46.8	+1.4
	baz=30							
PTMZ	**Houxiangcun**	**2.47**	**329**	*e*P		**Pn**	17 21 43.8	-1.6
	baz=344							
SXI1	**Grass Mountain**	**2.48**	**29**	*e*P		**Pn**	17 21 46.7	+0.9
	baz=12							
KNMB	**Chin-men Tao**	**2.49**	**308**	*e*P		**Pn**	17 21 43.9	-1.8
	baz=308							
JYNG	**Yonagunijimaku**	**2.69**	**55**	P		**Pn**	17 21 50.0	+1.6
JYNG				*e*S		**Sn**	17 22 22.6	+2.3
YOJ	**Yonaguni jima**	**2.74**	**56**	*e*P		**Pn**	17 21 50.7	+1.5
YOJ				*e*S		**Sn**	17 22 23.4	+1.6
HATJ	**Hateruma jima**	**3.21**	**69**	P		**Pn**	17 21 56.6	+0.9
IRIF	**Iriomote-Funau**	**3.25**	**64**	*e*P		**Pn**	17 21 57.8	+1.6
IRIF				*e*S		**Sn**	17 22 35.5	+1.1
MHZQ	**Yeshan**	**3.44**	**337**	*e*P		**Pn**	17 21 57.7	-1.2
	baz=338							
JKRS	**Kuro-shima**	**3.45**	**67**	P		**Pn**	17 21 59.9	+0.9
JIJ	**Ishigaki jima**	**3.61**	**66**	P		**Pn**	17 22 01.6	+0.4
JIJ				*e*S		**Sn**	17 22 42.6	-0.5
LYJJ	**Jianjiangzhen**	**3.67**	**349**	*e*P		**Pn**	17 22 00.5	-1.6
	baz=350							
JISG	**Ishigakijimahi**	**3.84**	**64**	P		**Pn**	17 22 04.7	+0.4
JISG				*e*S		**Sn**	17 22 49.1	+0.3
JTJ	**Tarama**	**4.19**	**65**	P		**Pn**	17 22 10.6	+1.5
JTJ				*e*S		**Sn**	17 22 58.7	+1.3
JMJ2	**Miyako jima3**	**4.75**	**67**	*e*P		**Pn**	17 22 18.1	+1.3
JOGS	**Gusukube**	**4.82**	**67**	*e*P		**Pn**	17 22 19.2	+1.4
MKAR	**Makanchi Array**	**38.84**	**317**	P		**P**	17 28 30.1	+0.1
	0.3nm,0.7s,baz=105,slow=7.6,SNR=4.3 0.3nm,0.7s							
WRA	**Warramunga Arr**	**44.69**	**161**	P		**P**	17 29 15.9	-2.2
	0.4nm,0.6s,baz=343,slow=8.7,SNR=4.8 0.4nm,0.6s							
ASAR	**Alice Springs**	**48.10**	**163**	P		**P**	17 29 43.9	-1.1
	0.2nm,0.4s,baz=346,slow=7.3,SNR=10 0.2nm,0.4s							

DJA 10 17:25:19.0±0.8, 8°S±4′×11°8E±°, h15km±9km, M3.9/16, mb4.0/2, MLv3.8/16, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.78**	**169**	Pg	Pg	17 25 33.8	-0.4
PLAI				Sg	Sb	17 25 44.6	-0.1
TWSI	**Taliwang, Sumb**	**0.99**	**227**	P	Pb	17 25 37.4	-0.5
TWSI				S	Sb	17 25 50.8	-0.1
WBSI	**Waikabubak, Su**	**2.35**	**132**	P	Pn	17 25 57.5	+0.3
SRBI	**Singaraja**	**2.38**	**269**	P	Pn	17 25 57.4	-0.2
IGBI	**Denpasar**	**2.56**	**253**	P	Pn	17 26 00.3	+0.3
ABJI	**Asem Bagus**	**3.36**	**274**	P	Pn	17 26 09.8	-1.2
BSSI	**Bau Bau, Buton**	**3.43**	**56**	P	Pn	17 26 12.0	+0.1
JAGI	**Jajag, Banyuwa**	**3.46**	**263**	P	Pn	17 26 13.0	+0.7
BKSI	**Bulukumba**	**3.69**	**43**	P	Pn	17 26 15.3	-0.2
BLJI	**Banyuglugur**	**4.00**	**274**	P	Pn	17 26 20.5	+0.7
GMJI	**Gumukmas**	**4.14**	**267**	P	Pn	17 26 21.8	+0.1
SPSI	**Sidrap Palu**	**4.60**	**28**	P	Pn	17 26 28.0	0.0
GRJI	**Gresik** 37nm,0.6s,0.3nm	**5.22**	**282**	P	Pn	17 26 35.9	-0.7
PWJI	**Pagerwojo**	**5.76**	**270**	P	Pn	17 26 44.2	+0.2

*TEH **10** 17:28:05.4, 27°.59N×56°.62E, h15km±33km, ML2.9*
*DSN **10** 17:28:06.0±2.8, 27°.65N×56°.62E, h15km, ML2.9/7, Error ellipse: s-maj=84.3km s-min=23.9km az=110.0*
*OMAN **10** 17:28:11.7±0.1, 27°.29N×56°.97E, h15km, mb4.2/1, ml2.9/13, ms3.7/1, Error ellipse: s-maj=2.1km s-min=1.4km az=21.0*

ISC 10 17:28:05.7±1.2, 27°.58N±0°.04×56°.68E±0°.06, h13km±8km, n35, σ2s03/42, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.18**	**225**	Pg	**Pg**	**17 28 09.3**	**-0.5**
IBND				Sg	**Sg**	**17 28 13.0**	**+0.3**
GENO	**Geno**	**0.49**	**249**	Pg	**Pg**	**17 28 14.1**	**-1.2**
KHNJ	**Kahnooj**	**0.98**	**68**	Pg	**Pb**	**17 28 24.4**	**-0.1**
SHME	**Shamm**	**1.60**	**198**	S	**Sg**	**17 28 57.2**	**+0.1**
BANOM	**Banah**	**1.68**	**192**	P	**Pn**	**17 28 35.7**	**+0.9**
BANOM	**Banah** SNR=9.6	**1.68**	**192**	P	**Pg**	**17 28 37.8**	**-0.1**
BANOM				S	**Sg**	**17 28 59.1**	**-0.7**
JASK	**Jask - Hormozg** SNR=5.3	**2.01**	**148**	P	**Pn**	**17 28 40.6**	**+1.4**
JASK	**Jask - Hormozg**	**2.01**	**148**	Pn	**Pn**	**17 28 40.2**	**+1.0**
NGRK	**Negar Kerman**	**2.06**	**1**	Pn	**Pn**	**17 28 41.0**	**+0.7**
MASF	**Masafi**	**2.25**	**192**	P	**Pg**	**17 28 48.4**	**-0.3**
MSFE	**Esma-Masafi**	**2.26**	**192**	P	**Pn**	**17 28 44.6**	**+1.9**
MDH	**Madha**	**2.29**	**189**	P	**Pn**	**17 28 42.6**	**-0.5**
MDH	**Madha**	**2.29**	**189**	P	**Pb**	**17 28 47.5**	**+0.6**
CHMN	**Cheshme madani**	**2.40**	**18**	Pn	**Pn**	**17 28 46.6**	**+1.7**
TVBK	**TV Kerman**	**2.40**	**2**	Pn	**Pn**	**17 28 46.7**	**+1.7**
UOSS	**Minazif**	**2.66**	**189**	P	**Pn**	**17 28 48.8**	**+0.6**
UOSS	**Minazif**	**2.66**	**189**	P	**Pb**	**17 28 51.3**	**-1.8**
HATD	**Hatta, Dubai**	**2.78**	**190**	P	**Pb**	**17 28 53.8**	**-1.5**
HATD	**Hatta, Dubai**	**2.78**	**190**	P	**Pb**	**17 28 53.8**	**-1.5**
KHGB	**Koh Gabri**	**2.79**	**356**	Pn	**Pn**	**17 28 51.2**	**+0.9**
ASHO	**Ashiyiah**	**2.94**	**191**	P	**Pn**	**17 28 52.6**	**+0.5**
ASHO	**Ashiyiah**	**2.94**	**191**	P	**Pn**	**17 28 53.4**	**+1.4**
FAQ	**Al Faqa, Dubai** SNR=8.9	**2.98**	**199**	P	**Pn**	**17 28 54.5**	**+1.8**
ASUD	**Al Ashush, Dub**	**3.18**	**203**	P	**Pn**	**17 28 56.4**	**+1.1**
ASUD	**Al Ashush, Dub** SNR=15	**3.18**	**203**	P	**Pb**	**17 29 03.2**	**+1.2**
HOQ	**Hoqain**	**4.02**	**172**	P	**Pn**	**17 29 06.5**	**-0.4**
HOQ				S	**Sn**	**17 29 51.5**	**-2.3**
NGCH	**Negor - Chabah** SNR=17	**4.56**	**118**	P	**Pn**	**17 29 17.3**	**+2.9**
NGCH	**Negor - Chabah**	**4.56**	**118**	Pn	**Pn**	**17 29 17.2**	**+2.9**
SMDO	**Samad**	**4.67**	**164**	P	**Pn**	**17 29 19.9**	**+4.0**
SMDO				S	**Sn**	**17 30 08.8**	**-1.2**
BSY	**Bisya**	**4.83**	**174**	P	**Pn**	**17 29 21.7**	**+3.6**
BSY				S	**Sn**	**17 30 16.4**	**+2.4**
WBK	**Wadi Bani Khal** SNR=5.2	**5.36**	**157**	P	**Pn**	**17 29 27.8**	**+2.4**
WBK				S	**Sn**	**17 30 22.6**	**-4.4**
MZR	**Muzera**	**5.40**	**213**	P	**Pn**	**17 29 30.0**	**+4.1**
JLN	**Jalan Bani Buh**	**5.94**	**155**	P	**Pn**	**17 29 34.2**	**+0.8**
JLN				S	**Sn**	**17 30 37.9**	**-3.5**
DOK	**Doka**	**9.22**	**195**	P	**Pn**	**17 30 20.3**	**+1.9**
WHFO	**Wadi Hawf** SNR=5.4	**9.98**	**196**	P	**Pn**	**17 30 31.2**	**+2.4**

*JMA **10** 17:40:24.0±0.2, 24°N±1°×122°.7E±0°.8, h12km±3km, MV2.7/10, NW OFF ISHIGAKIJIMA IS*
*TAP **10** 17:40:24.0, 24°.21N×122°.61E, h19km, ML2.8, D*

ISC 10 17:40:23.3±1.0, 24°.13N±0°.02×122°.63E±0°.02, h15km±8km, n93, σ0s62/159, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**42**	*i* P	**Pg**	**17 40 32.0**	**+0.1**
JYNG				*e*S	**Sg**	**17 40 37.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.48**	**47**	P	**Pg**	**17 40 33.0**	**+0.1**
YOJ				S	**Sg**	**17 40 39.5**	**+0.2**
EWUT	**Wuta** baz=287	**0.84**	**292**	*i* P	**Pb**	**17 40 38.9**	**-0.6**
EWUT	baz=287			S	**Sg**	**17 40 50.5**	**-0.1**
TWC	**Suao** baz=290	**0.85**	**304**	*i* P	**Pb**	**17 40 39.0**	**-0.8**
TWC	baz=290			S	**Sb**	**17 40 50.8**	**-0.3**
ENA	**Nanau** baz=285	**0.86**	**290**	P	**Pb**	**17 40 39.3**	**-0.7**
ENA	baz=285			S	**Sb**	**17 40 50.9**	**-0.4**
ETL	**Fush Village** baz=266	**0.92**	**272**	P	**Pn**	**17 40 42.0**	**+0.2**
NACB	**Ninganchiao** baz=250	**0.94**	**273**	P	**Pn**	**17 40 42.3**	**+0.3**
NACB	baz=250			S	**Sn**	**17 40 55.6**	**+0.3**
TWD	**Chiawan** baz=262	**0.94**	**267**	P	**Pb**	**17 40 40.9**	**-0.4**
NDS	**Dongshan** baz=297	**0.97**	**301**	P	**Pb**	**17 40 41.1**	**-0.7**
NDS	baz=297			S	**Sb**	**17 40 53.9**	**-0.6**
TEYL	**Yanliau Villag** baz=236	**0.98**	**255**	*e*P	**Pb**	**17 40 41.2**	**-0.7**
TEYL	baz=236			S	**Sn**	**17 40 57.3**	**+1.2**
IRIF	**Iriomote-Funau**	**1.02**	**78**	P	**Pb**	**17 40 42.8**	**+0.1**
IRIF				S	**Sb**	**17 40 56.3**	**+0.3**
TWB1	**Santiao Chiao** baz=325	**1.05**	**326**	P	**Pb**	**17 40 42.1**	**-1.0**
TWB1	baz=325			S	**Sb**	**17 40 56.0**	**-0.7**
ETLH	**Xiulin Townshi** baz=269	**1.05**	**274**	P	**Pn**	**17 40 43.7**	**+0.1**
ETLH	baz=269			S	**Sn**	**17 40 58.4**	**+0.4**
ETM	**Tongmen** baz=256	**1.05**	**261**	*e*P	**Pb**	**17 40 43.3**	**+0.1**
ETM	baz=256			*e*S	**Sb**	**17 40 56.3**	**-0.5**
TWE	**Neicheng** baz=315	**1.05**	**304**	*i* P	**Pb**	**17 40 43.0**	**-0.3**
TWE	baz=315			*i* S	**Sb**	**17 40 56.4**	**-0.5**
HATJ	**Hateruma jima**	**1.08**	**94**	P	**Pn**	**17 40 44.1**	**+0.3**
HATJ				*e*S	**Sg**	**17 40 58.4**	**+0.2**
LATG	**Datong** baz=287	**1.08**	**292**	*i* P	**Pb**	**17 40 43.6**	**-0.2**
LATG	baz=287			S	**Sb**	**17 40 57.5**	**-0.3**
ENTT	**Nioudou** baz=294	**1.09**	**298**	P	**Pb**	**17 40 43.7**	**-0.2**
ENTT	baz=294			S	**Sb**	**17 40 58.1**	**+0.1**
TIPB	**Shuangxi** baz=316	**1.11**	**319**	P	**Pn**	**17 40 44.5**	**+0.2**
TIPB	baz=316			S	**Sb**	**17 40 58.0**	**-0.6**
FUSB	**Fushanzhiwuyua** baz=300	**1.14**	**304**	*i* P	**Pb**	**17 40 44.8**	**+0.1**
FUSB	baz=300			S	**Sb**	**17 40 59.7**	**+0.4**
ESL	**Shilin** baz=238	**1.14**	**254**	⇑P	**Pn**	**17 40 44.1**	**-0.6**
ESL	baz=238			S	**Sn**	**17 41 00.0**	**-0.1**
NNSB	**Datong** baz=280	**1.17**	**285**	P	**Pb**	**17 40 45.8**	**+0.4**
NNSB	baz=280			S	**Sn**	**17 41 01.1**	**0.0**
NNSH	**Datong** baz=280	**1.17**	**285**	*e*P	**Pb**	**17 40 45.8**	**+0.4**
NNSH				*e*S	**Sb**	**17 41 00.4**	**-0.1**
	baz=280						
SXI1	**Grass Mountain** baz=336	**1.18**	**325**	P	**Pn**	**17 40 45.1**	**-0.3**
SXI1	baz=336			S	**Sn**	**17 41 01.0**	**-0.1**
NNS	**Nan Shan** baz=281	**1.19**	**285**	*i* P	**Pb**	**17 40 45.7**	**+0.1**
NNS	baz=281			*i* S	**Sn**	**17 41 01.3**	**-0.1**
EGFH	**Guangfu** baz=243	**1.19**	**247**	P	**Pn**	**17 40 45.5**	**+0.1**
EGFH	baz=243			S	**Sb**	**17 41 00.9**	**+0.1**
NWLT	**Wulai** baz=314	**1.21**	**302**	P	**Pb**	**17 40 46.4**	**+0.4**
NWLT	baz=314			S	**Sn**	**17 41 01.8**	**-0.1**
NWF	**Wu-fen Shan** baz=318	**1.21**	**321**	P	**Pn**	**17 40 45.7**	**-0.1**
NWF	baz=318			S	**Sb**	**17 41 01.6**	**+0.1**
WHF	**Hehuan Shan** baz=266	**1.25**	**271**	*i* P	**Pn**	**17 40 46.8**	**+0.3**
WHF	baz=266			S	**Sg**	**17 41 04.2**	**+0.5**
YHNB	**Yeheng** baz=276	**1.26**	**295**	P	**Pb**	**17 40 47.1**	**+0.3**
YHNB	baz=276			S	**Sg**	**17 41 03.9**	**-0.2**
JKRS	**Kuro-shima**	**1.27**	**85**	P	**Pb**	**17 40 47.3**	**+0.5**
JKRS				*e*S	**Sg**	**17 41 04.0**	**-0.2**
TWA	**Mucha** baz=325	**1.27**	**312**	*i* P	**Pg**	**17 40 47.7**	**-0.1**
TWA	baz=325			S	**Sg**	**17 41 04.2**	**-0.2**
HGSD	**Ruisui** baz=237	**1.27**	**240**	P	**Pn**	**17 40 46.3**	**-0.3**
NSK	**Sanguang** baz=276	**1.28**	**295**	*i* P	**Pb**	**17 40 47.6**	**+0.5**
NSK	baz=276			*i* S	**Sb**	**17 41 03.1**	**-0.3**
NHDH	**Xindian Distri** baz=324	**1.30**	**310**	P	**Pg**	**17 40 48.3**	**0.0**
NHDH	baz=324			S	**Sg**	**17 41 05.1**	**-0.3**
CHGB	**Renai** baz=263	**1.33**	**267**	P	**Pn**	**17 40 47.9**	**+0.4**
CHGB	baz=263			S	**Sg**	**17 41 06.6**	**+0.3**
TWT	**Tachien** baz=271	**1.33**	**275**	*e*S	**Sg**	**17 41 07.0**	**+0.6**
OWD	**Renai** baz=259	**1.34**	**263**	P	**Pn**	**17 40 48.1**	**+0.5**
EHY	**Hungye** baz=239	**1.35**	**243**	*i* P	**Pn**	**17 40 47.6**	**0.0**
EHY	baz=239			*i* S	**Sn**	**17 41 05.4**	**+0.2**
WUSB	**Renai** baz=260	**1.39**	**265**	P	**Pb**	**17 40 49.0**	**0.0**
WUSB	baz=260			S	**Sn**	**17 41 06.7**	**+0.3**
YM01	**YM01** baz=329	**1.40**	**317**	P	**Pb**	**17 40 48.9**	**-0.2**
YM01	baz=329			S	**Sn**	**17 41 06.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.40**	**80**	P	**Pn**	**17 40 48.4**	**+0.1**
JIJ				S	**Sn**	**17 41 06.1**	**-0.4**
VWDT	**VWDT** baz=251	**1.41**	**255**	P	**Pn**	**17 40 48.9**	**+0.4**
VWDT	baz=251			S	**Sn**	**17 41 07.2**	**+0.4**
YULB	**Yu-li** baz=252	**1.43**	**239**	P	**Pn**	**17 40 48.5**	**-0.1**
YULB	baz=252			S	**Sn**	**17 41 07.1**	**0.0**
EYUL	**Yuli** baz=234	**1.43**	**237**	P	**Pn**	**17 40 48.7**	**0.0**
NFF	**Wufeng Townshi** baz=274	**1.47**	**290**	P	**Pb**	**17 40 50.9**	**+0.6**
NFF	baz=274			S	**Sb**	**17 41 09.2**	**+0.4**
FULB	**Fuli** baz=230	**1.54**	**233**	P	**Pn**	**17 40 49.7**	**-0.5**
FULB	baz=230			S	**Sn**	**17 41 10.1**	**+0.2**
WHP	**Taichung City** baz=272	**1.54**	**276**	P	**Pb**	**17 40 52.3**	**+0.7**
WHP	baz=272			S	**Sb**	**17 41 11.5**	**+0.4**
CHKT	**Chengkung** baz=225	**1.55**	**229**	P	**Pn**	**17 40 50.9**	**+0.6**
CHKT	baz=225			S	**Sn**	**17 41 08.8**	**-1.4**
LIOB	**Emei** baz=286	**1.56**	**289**	P	**Pg**	**17 40 52.8**	**-0.5**
LIOB	baz=286			S	**Sb**	**17 41 12.3**	**+1.0**
NSTT	**Nanjuang** baz=272	**1.56**	**289**	P	**Pb**	**17 40 52.3**	**+0.4**
NSTT	baz=272			*i* S	**Sg**	**17 41 13.0**	**-0.7**
SSLB	**Suanglung** baz=254	**1.57**	**258**	P	**Pn**	**17 40 50.8**	**+0.1**
WCS	**Beigang Elemen** baz=264	**1.57**	**268**	P	**Pb**	**17 40 51.7**	**-0.3**
JISG	**Ishigakijimahi**	**1.60**	**73**	P	**Pn**	**17 40 50.9**	**-0.1**
JISG				S	**Sn**	**17 41 10.5**	**-1.0**
SMLT	**Sun Moon Lake** baz=258	**1.60**	**261**	*i* P	**Pb**	**17 40 52.2**	**-0.5**
EHD	**Haiduan** baz=219	**1.63**	**233**⇑	*e*P	**Pn**	**17 40 51.3**	**-0.2**
EHD	baz=219			S	**Sn**	**17 41 12.7**	**+0.5**
TYC	**Yuchr** baz=259	**1.64**	**262**	*i* P	**Pb**	**17 40 52.7**	**-0.5**
TYC	baz=259			S	**Sn**	**17 41 12.8**	**+0.4**
EDH	**Donghe** baz=224	**1.68**	**227**	P	**Pn**	**17 40 51.6**	**-0.4**
EDH	baz=224			S	**Sn**	**17 41 12.1**	**-1.2**
WHYT	**Xinyi Township** baz=252	**1.68**	**255**	P	**Pb**	**17 40 53.9**	**-0.1**
TWQ1	**Liyutan** baz=274	**1.71**	**278**	P	**Pb**	**17 40 54.9**	**+0.5**
TWQ1	baz=274			S	**Sb**	**17 41 15.8**	**+0.1**
ELDTW	**Lidau** baz=235	**1.75**	**238**	*i* P	**Pn**	**17 40 53.2**	**0.0**
ELDTW	baz=235			S	**Sn**	**17 41 15.2**	**-0.1**
WJS	**Zhushan** baz=257	**1.77**	**260**	P	**Pb**	**17 40 55.6**	**+0.3**
WJS	baz=257			S	**Sg**	**17 41 20.2**	**0.0**
ALS	**Alishan** baz=247	**1.78**	**250**	*i* P	**Pb**	**17 40 55.3**	**-0.5**
TCU	**Taichung** baz=268	**1.78**	**271**	P	**Pb**	**17 40 56.2**	**+0.5**
WNT	**Mingjian** baz=259	**1.80**	**262**	*i* P	**Pb**	**17 40 55.7**	**-0.2**
WNT	baz=259			S	**Sg**	**17 41 20.8**	**-0.4**
LDUT	**Ludao** baz=214	**1.80**	**216**	*e*P	**Pn**	**17 40 53.2**	**-0.6**
LDUT	baz=214			*e*S	**Sn**	**17 41 15.1**	**-1.3**
LONT	**Longtian** baz=240	**1.84**	**229**	P	**Pn**	**17 40 54.0**	**-0.3**
CHN5	**Tsauling** baz=251	**1.86**	**254**	*i* P	**Pb**	**17 40 56.8**	**-0.3**
CHN5	baz=251			S	**Sb**	**17 41 21.3**	**+1.0**
TWGBT	**Beinan** baz=239	**1.93**	**228**	P	**Pn**	**17 40 55.4**	**-0.2**
TWG	**Pinlang** baz=238	**1.94**	**228**	*i* P	**Pn**	**17 40 55.6**	**0.0**
STYH	**Taoyuan** baz=228	**1.95**	**241**	P	**Pn**	**17 40 56.8**	**+0.9**
STYH	baz=228			S	**Sb**	**17 41 21.8**	**-0.9**
JTJ	**Tarama**	**1.96**	**75**	P	**Pn**	**17 40 56.5**	**+0.6**
JTJ				*e*S	**Sn**	**17 41 20.3**	**+0.1**
WDLH	**Douliu** baz=255	**1.96**	**257**	P	**Pb**	**17 40 58.1**	**-0.6**
WDLH	baz=255			S	**Sb**	**17 41 23.4**	**+0.4**
WCKO	**Fanlu**	**1.98**	**250**	P	**Pb**	**17 40 58.5**	**-0.5**

	baz=247							
WCKO				S		Sb	17 41 23.9	+0.4
	baz=247							
TPUB	**Ta-pu**	**2.01**	**246**	P		**Pb**	17 40 58.8	-0.8
	baz=243							
TPUB				S		**Sb**	17 41 25.0	+0.6
	baz=243							
CHN4	**Tsaushan**	**2.02**	**248**	*i* P		**Pb**	17 40 59.7	-0.1
	baz=245							
CHN4				*i* S		**Sb**	17 41 24.8	0.0
	baz=245							
WRL	**Guolierlin Hig**	**2.07**	**264**	P		**Pb**	17 41 00.1	-0.5
	baz=261							
WRL				S		**Sb**	17 41 26.3	+0.1
	baz=261							
WTK	**Tuku**	**2.10**	**258**	P		**Pb**	17 41 00.5	-0.5
	baz=256							
WTK				S		**Sb**	17 41 28.7	+1.8
	baz=256							
SLGT	**Liugui**	**2.14**	**238**	*e*P		**Pb**	17 41 01.9	0.0
	baz=226							
TWK	**Hsinying**	**2.14**	**247**	*i* P		**Pb**	17 41 00.5	-1.3
	baz=244							
TWK				S		**Sb**	17 41 29.1	+0.8
	baz=244							
CHN1	**Nanshi**	**2.15**	**244**	*i* P		**Pb**	17 41 01.3	-0.6
	baz=242							
CHN1				*i* S		**Sb**	17 41 28.4	+0.1
	baz=242							
SGST	**Jiashian**	**2.15**	**241**	*i* P		**Pn**	17 41 00.5	+1.9
	baz=239							
SGST				*i* S		**Sb**	17 41 28.6	+0.2
	baz=239							
SNST	**Tainan City**	**2.15**	**245**	S		**Sb**	17 41 27.8	-0.8
	baz=244							
ECL	**Taimali**	**2.17**	**226**	P		**Pn**	17 40 59.1	+0.3
	baz=235							
WSL	**Shuilin Townsh**	**2.28**	**255**	P		**Pb**	17 41 03.0	-1.2
	baz=252							
TSMG	**Majia**	**2.31**	**232**	P		**Pn**	17 41 02.6	+1.8
	baz=222							
LYUB	**Lan-yu**	**2.33**	**205**	*e*P		**Pn**	17 41 00.5	-0.6
	baz=202							
MASBT	**Mashibuluo**	**2.38**	**231**	P		**Pn**	17 41 02.6	+0.9
	baz=221							
EAST	**Anshuo**	**2.39**	**224**	P		**Pn**	17 41 02.6	+0.7
	baz=221							
TAWH	**Dawu Township**	**2.40**	**222**	P		**Pn**	17 41 01.2	-0.8
	baz=231							
TSCK	**Chigu Township**	**2.53**	**248**	P		**Pn**	17 41 06.1	+2.3
	baz=246							
SCZT	**Fangliau**	**2.55**	**227**	*i* P		**Pn**	17 41 06.5	+2.5
	baz=226							
SMST	**Manzhou Townsh**	**2.67**	**218**	P		**Pn**	17 41 06.3	+0.5
	baz=216							

TAP 10 17:41:07.5, 21.61N×121.02E, h37km±1km, ML2.2, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.30**	**339**	S	Sn	17 41 22.1	-0.6
	baz=325						
TWKBT	**Hengchun**	**0.38**	**330**	P	Pn	17 41 16.8	+0.6
	baz=326						
TWKBT				S	Sn	17 41 23.5	+0.5
	baz=326						
TWK1	**Hengchun**	**0.38**	**329**	*i* P	Pn	17 41 16.7	+0.4
	baz=326						
TWK1				*i* S	Sn	17 41 23.5	+0.5
	baz=326						
SMST	**Manzhou Townsh**	**0.44**	**338**	P	Pn	17 41 17.5	+0.4
	baz=335						
SMST				S	Sn	17 41 24.9	+0.9
	baz=335						
HEN	**Hengchun**	**0.47**	**327**	*i* P	Pn	17 41 18.2	+0.7
	baz=327						
HEN				*i* S	Sn	17 41 25.9	+1.3
	baz=327						
SLIU	**Shizi**	**0.63**	**342**	*e*S	Sn	17 41 30.6	+1.7
	baz=331						
LYUB	**Lan-yu**	**0.66**	**54**	S	Sn	17 41 29.7	+0.3
	baz=54						
LYUB	**Lan-yu**	**0.66**	**54**	*e*S	Sn	17 41 29.7	+0.3
	baz=202						

*IDC **10** 18:08:54.1±5.5, 23.73S×179.61E, h479km±40km, mb3.6/3, mbtmp4.5/3, Error ellipse: s-maj=117.5km s-min=48.0km az=153.0*

*NEIC **10** 18:08:55.7±1.7, 24.7S±0.2×180.0E±0.2, h513km±21km, mb4.5/25, Error ellipse: s-maj=37.4km s-min=22.1km az=50.0*

ISC 10 18:08:55.3±1.6, 24.7S±0.2×179.9E±0.2, h500km, n32, σ0s95/34, mb4.5/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.61**	**279**	P	**P**	**18 11 41.8**	**+1.4**
QRZ	**Quartz Range**	**17.19**	**199**	P	**P**	**18 12 28.1**	**+0.2**
DSZ	**Denniston Nort**	**18.25**	**200**	P	**P**	**18 12 37.3**	**-0.5**
INZ	**Inchbonnie**	**19.25**	**199**	P	**P**	**18 12 45.4**	**-1.4**
EIDS	**Eidsvold**	**26.07**	**262**	P	**P**	**18 13 49.3**	**+0.9**
EIDS				IAmb	IAmb	18 14 29.7	
	comp=Z,14nm,1.4s						
CAN	**Canberra**	**28.64**	**241**	P	**P**	**18 14 11.9**	**+1.1**
CAN				IAmb	IAmb	18 14 16.6	
	comp=Z,29nm,1.5s						
CTAO	**Charters Tower**	**31.37**	**272**	P	**P**	**18 14 35.4**	**+0.8**
TOO	**Toolangi**	**31.91**	**238**	P	**P**	**18 14 39.6**	**+0.6**
TOO				IAmb	IAmb	18 14 49.2	
	comp=Z,12nm,1.2s						
TAU	**Tasmania Unive**	**32.29**	**228**	P	**P**	**18 14 43.2**	**+1.1**
STKA	**Stephens Creek**	**34.31**	**249**	P	**P**	**18 15 00.0**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=89,slow=8.5,SNR=3.9						
	comp=Z,2.3nm,0.4s						
STKA	**Stephens Creek**	**34.31**	**249**	P	**P**	**18 14 59.9**	**+0.5**
PMG	**Port Moresby**	**34.66**	**290**	P	**P**	**18 15 02.2**	**-0.3**
PMG				IAmb	IAmb	18 15 30.3	
	comp=Z,18nm,1.4s						
COEN	**Coen**	**36.14**	**280**	P	**P**	**18 15 15.1**	**+0.2**
BBOO	**Buckleboo**	**39.02**	**248**	P	**P**	**18 15 37.6**	**-0.7**
BBOO				IAmb	IAmb	18 16 00.0	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**41.79**	**262**	P	**P**	**18 16 00.1**	**-0.5**
ASAR	**Alice Springs**	**41.79**	**262**	P	**P**	**18 16 00.3**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=95,slow=7.6,SNR=100						
ASAR				PcP	**PcP**	**18 17 45.2**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=100,slow=3.9,SNR=2.0						
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**41.79**	**262**	P	**P**	**18 15 59.7**	**-1.0**
WR0	**Warramunga Arr**	**42.06**	**267**	P	**P**	**18 16 01.9**	**-0.8**
WB2	**Warramunga Arr**	**42.23**	**267**	P	**P**	**18 16 03.3**	**-0.8**
WB2				IAmb	IAmb	18 16 04.0	
	comp=Z,7.5nm,0.5s						
WB0	**Warramunga Arr**	**42.24**	**267**	P	**P**	**18 16 03.3**	**-0.9**
WB0				IAmb	IAmb	18 16 04.0	
	comp=Z,8.4nm,0.5s						
WRA	**Warramunga Arr**	**42.24**	**267**	P	**P**	**18 16 03.4**	**-0.9**
	comp=Z,5.4nm,0.4s,baz=100,slow=8.0,SNR=162						
WRA				ScP	**ScP**	**18 20 51.3**	**+1.6**
	comp=Z,0.6nm,1.0s,baz=100,slow=3.1,SNR=4.5						
	comp=Z,5.4nm,0.4s						
FORT	**Forrest**	**45.92**	**250**	P	**P**	**18 16 31.5**	**-1.1**
FORT				IAmb	IAmb	18 16 46.7	
	comp=Z,30nm,1.2s						
MTN	**Manton Dam**	**47.41**	**275**	P	**P**	**18 16 42.8**	**-1.3**
MTN				IAmb	IAmb	18 17 10.9	
	comp=Z,24nm,1.2s						
KNRA	**Kununurra**	**48.57**	**271**	P	**P**	**18 16 52.5**	**-0.3**
KNRA				IAmb	IAmb	18 17 02.8	
	comp=Z,26nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.66**	**266**	P	**P**	**18 17 08.3**	**+0.1**
FAKI	**Fak Fak**	**50.72**	**288**	P	**P**	**18 17 07.8**	**-0.8**
SBA	**Scott Base**	**53.55**	**183**	P	**P**	**18 17 28.4**	**+0.4**
SBA				IAmb	IAmb	18 17 48.4	
	comp=Z,32nm,1.5s						
PSA00	**Pilbara Seismi**	**54.91**	**260**	P	**P**	**18 17 37.3**	**-1.3**
PSA00				IAmb	IAmb	18 18 02.5	
	comp=Z,32nm,1.4s						
MBWA	**Marble Bar**	**55.12**	**261**	P	**P**	**18 17 38.9**	**-1.2**
MBWA				IAmb	IAmb	18 17 52.9	
	comp=Z,35nm,1.4s						
MORW	**Morawa**	**56.49**	**250**	P	**P**	**18 17 48.7**	**-0.8**
AKASG	**Malin Array Be**	**145.60**	**327**	PKP	**PKPdf**	**18 27 35.4**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=42,slow=3.9,SNR=9.9						
BRTR	**Keskin Array B**	**147.98**	**306**	PKPbc	**PKPdf**	**18 27 42.3**	**+1.9**
	comp=Z,1.6nm,1.1s,baz=42,slow=2.0,SNR=1.8						

WEL 10 18:15:13.9±0.5, 42.3S±2.2×17.4E±.2, h10km±3km, M2.2/4, ML2.6/10, MLv2.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=112.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**213**	P	Pb	18 15 19.0	-0.4
KHZ				S	Sg	18 15 22.3	+1.7
THZ	**Tophouse**	**0.76**	**311**	P	Pg	18 15 28.9	+0.3
THZ				S	Sg	18 15 38.9	+0.4
GVZ	**Greta Valley S**	**0.85**	**214**	P	Pn	18 15 31.7	-0.3
GVZ				S	Sn	18 15 44.7	+0.2
MRNZ	**Matariki Terra**	**1.10**	**321**	P	Pb	18 15 34.3	-0.7
MRNZ				S	Sn	18 15 50.3	-0.3
TCW	**Tory Channel**	**1.14**	**23**	P	Pb	18 15 35.1	-0.6
TCW				S	Sg	18 15 50.8	+0.1
LTZ	**Lake Taylor**	**1.16**	**243**	P	Pn	18 15 36.3	0.0
LTZ				S	Sg	18 15 51.5	+0.2
TKNZ	**Takaka Hill**	**1.34**	**336**	P	Pb	18 15 39.2	+0.1
DUWZ	**D'Urville Isla**	**1.47**	**7**	P	Pn	18 15 40.5	0.0
DUWZ				S	Sn	18 15 59.9	+0.1
DSZ	**Denniston Nort**	**1.48**	**290**	P	Pb	18 15 41.6	0.0
DSZ				S	Sg	18 16 02.0	+0.3
OKCZ	**Okains Bay**	**1.53**	**197**	P	Pn	18 15 40.7	-0.6
MQZ	**McQueen's Vall**	**1.63**	**207**	P	Pn	18 15 41.0	-1.6
MQZ				S	Sn	18 16 01.1	-2.5
QRZ	**Quartz Range**	**1.67**	**329**	P	Pn	18 15 40.6	-2.7

*NEIC **10** 18:30:27.7±1.8, 10.1S±0.09×161.06E±0.05, h10km±5km, mb4.7/47, Error ellipse: s-maj=13.8km s-min=7.5km az=192.0*

*IDC **10** 18:30:32.9±2.3, 10.2S×161.04E, h49km±20km, mb3.9/12, mbtmp4.2/14, ML4.1/2, MS4.4/2, Error ellipse: s-maj=24.4km s-min=16.4km az=80.0*

ISC 10 18:30:30.8±0.5, 10.21S±0.07×161.08E±0.08, h35km, n75, σ1s11/67, mb4.6/33, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.36**	**305**	P	Pn	18 30 54.3	+0.9
	32μm,0.7s,baz=108,slow=19,SNR=150						
HNR				S	**Sn**	**18 31 12.0**	**+1.7**
	13μm,0.3s,baz=139,slow=20,SNR=11						
HNR	**Honiara**	**1.36**	**305**		**Pn**	**18 30 51.1**	**-2.3**
RABL	**Rabaul**	**10.68**	**303**	Pn	**Pn**	**18 33 00.3**	**-1.1**
DZM	**Mont Dzumac**	**12.86**	**157**	P	**Pn**	**18 33 34.0**	**+2.7**
	2.7nm,0.3s,baz=17,slow=9.7,SNR=36						
DZM				S	**Sn**	**18 35 48.9**	**-4.4**
	6.0nm,0.9s,baz=158,slow=17,SNR=2.2						
	8.9nm,0.5s						
DZM	**Mont Dzumac**	**12.86**	**157**		**Pn**	**18 33 30.4**	**-1.0**
CTA	**Charters Tower**	**17.34**	**234**	P	**P**	**18 34 32.5**	**+1.1**
	0.3nm,0.3s,baz=64,slow=11,SNR=5.7						
CTA				LR	LR	18 40 43.3	
	comp=Z,2μm,18.7s,baz=108,slow=35						
	7.6nm,0.9s						
CTAO	**Charters Tower**	**17.34**	**234**	P	**P**	**18 34 31.4**	**0.0**
EIDS	**Eidsvold**	**17.81**	**211**	P	**P**	**18 34 38.1**	**+1.5**
COEN	**Coen**	**17.90**	**256**	P	**P**	**18 34 37.8**	**+0.2**
LHI	**Lord Howe Isla**	**21.28**	**185**	P	**P**	**18 35 15.4**	**+1.0**
ARMA	**Armidale**	**21.95**	**202**	P	**P**	**18 35 23.2**	**+1.6**
WR0	**Warramunga Arr**	**27.36**	**246**	P	**P**	**18 36 12.3**	**-0.7**
WR0				IAmb	IAmb	18 36 30.5	
	comp=Z,7.8nm,1.1s						
WB0	**Warramunga Arr**	**27.44**	**247**	P	**P**	**18 36 13.9**	**+0.2**
WB0				IAmb	IAmb	18 36 33.2	
	comp=Z,15nm,1.3s						
WB2	**Warramunga Arr**	**27.52**	**246**	P	**P**	**18 36 15.2**	**+0.7**
WB2				IAmb	IAmb	18 36 31.9	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**27.54**	**246**	P	**P**	**18 36 15.1**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=76,slow=9.2,SNR=11						
WRA				PcP	**PcP**	**18 39 31.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=70,slow=2.7,SNR=2.9						
	comp=Z,2.5nm,0.9s						
WRA	**Warramunga Arr**	**27.54**	**246**	P	**P**	**18 36 13.7**	**-0.9**
STKA	**Stephens Creek**	**28.11**	**217**	P	**P**	**18 36 20.6**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=37,slow=10,SNR=6.0						
	comp=Z,2.8nm,0.8s						
STKA	**Stephens Creek**	**28.11**	**217**	P	**P**	**18 36 21.4**	**+1.9**
H11S2	**WAKE ISLAND Hy**	**29.06**	**11**	T	T	19 05 17.6	
	baz=193						
H11S3	**WAKE ISLAND Hy**	**29.06**	**11**	T	T	19 05 19.9	
	baz=193						
H11S1	**WAKE ISLAND Hy**	**29.07**	**11**	T	T	19 05 19.6	
	baz=193						
ASAR	**Alice Springs**	**29.17**	**239**	P	**P**	**18 36 28.9**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=70,slow=9.5,SNR=17						
	comp=Z,1.7nm,0.9s						
ASAR	**Alice Springs**	**29.17**	**239**	P	P	18 36 32.7	+3.6
NIUE	**Niue**	**29.36**	**111**	P	**P**	**18 36 30.6**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**30.28**	**11**	T	T	19 06 56.1	
	baz=190,slow=76,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**30.29**	**11**	T	T	19 06 55.5	
	baz=190,slow=76,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**30.30**	**11**	T	T	19 06 56.9	
	baz=190,slow=76,SNR=3.7						
TOO	**Toolangi**	**30.65**	**205**	P	**P**	**18 36 41.0**	**-1.0**
TOO				IAmb	IAmb	18 37 19.9	
	comp=Z,23nm,1.4s						
KNRA	**Kununurra**	**31.94**	**257**	P	**P**	**18 36 52.2**	**-1.4**
KNRA				IAmb	IAmb	18 37 10.3	
	comp=Z,13nm,1.1s						
BKZ	**Black Stump Fm**	**31.95**	**157**	P	**P**	**18 36 54.6**	**+1.1**
BKZ				IAmb	IAmb	18 37 10.2	
	comp=Z,19nm,1.4s						
BBOO	**Buckleboo**	**32.20**	**222**	P	**P**	**18 36 56.4**	**+0.6**
KHZ	**Kahutara**	**33.88**	**163**		**P**	**18 37 10.8**	**+0.6**
LTZ	**Lake Taylor**	**33.88**	**165**	P	**P**	**18 37 11.3**	**+1.0**
FOZ	**Fox Glacier**	**34.05**	**169**	P	**P**	**18 37 12.3**	**+0.6**
RPZ	**Rata Peaks**	**34.48**	**167**	P	**P**	**18 37 16.3**	**+0.8**
	comp=Z,8.8nm,0.8s,baz=15,slow=9.4,SNR=4.0						
	comp=Z,8.8nm,0.8s						
TAU	**Tasmania Unive**	**34.72**	**198**	P	**P**	**18 37 17.9**	**+0.5**
MQZ	**McQueen's Vall**	**34.85**	**165**	P	**P**	**18 37 19.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**35.20**	**253**	P	**P**	**18 37 21.3**	**-0.6**
PSA00	**Pilbara Seismi**	**41.12**	**249**	P	**P**	**18 38 10.5**	**-1.3**
VNDA	**Vanda**	**67.29**	**180**	P	**P**	**18 41 22.1**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=332,slow=8.2,SNR=4.8						
	comp=Z,1.3nm,0.8s						
VNDA	**Vanda**	**67.29**	**180**	P	**P**	**18 41 21.3**	**-0.3**
VNDA				IAmb	IAmb	18 41 53.7	
	comp=Z,6.6nm,1.4s						
CMAR	**Chiang Mai Arr**	**67.59**	**295**	P	**P**	**18 41 24.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=154,slow=4.6,SNR=1.4						
	comp=Z,0.2nm,0.3s						
CHGN	**Chignik**	**74.28**	**22**	P	**P**	**18 42 03.9**	**-0.4**
CHIR	**Chirikof Islan**	**75.00**	**24**	P	**P**	**18 42 07.8**	**-0.6**
SONM	**Songino Array**	**75.33**	**325**	P	**P**	**18 42 11.5**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=141,slow=5.1,SNR=9.5						
	comp=Z,1.1nm,0.8s						
SONM	**Songino Array**	**75.33**	**325**	P	**P**	**18 42 10.3**	**-0.4**
KDAK	**Kodiak Island**	**77.57**	**23**	P	**P**	**18 42 23.7**	**+0.8**
BILL	**Bilibino**	**78.14**	**2**	P	**P**	**18 42 25.8**	**-0.2**
BILL				IAmb	IAmb	18 42 27.7	
	comp=Z,7.7nm,1.1s						
SVW2	**Sparrevohn**	**78.82**	**20**	P	**P**	**18 42 31.0**	**+1.1**
SVW2				IAmb	IAmb	18 42 31.9	
	comp=Z,7.8nm,0.9s						
QSPA	**South Pole Qui**	**79.78**	**180**	P	**P**	**18 42 35.7**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=22,slow=8.5,SNR=14						
	comp=Z,6.6nm,0.8s						
QSPA	**South Pole Qui**	**79.78**	**180**	P	**P**	**18 42 34.9**	**-0.4**
QSPA				IAmb	IAmb	18 42 36.6	
	comp=Z,6.7nm,0.8s						
M19K	**Big River Lodg**	**79.80**	**20**	P	P	18 42 36.5	+1.3
M19K				IAmb	IAmb	18 42 37.4	
	comp=Z,6.5nm,0.9s						
L19K	**White Mountain**	**79.85**	**19**	P	**P**	**18 42 35.6**	**+0.1**
L19K				IAmb	IAmb	18 42 38.4	
	comp=Z,8.2nm,1.2s						
CAST	**Castle Rocks**	**81.63**	**19**	P	**P**	**18 42 43.9**	**-1.1**
CAST				IAmb	IAmb	18 42 45.8	
	comp=Z,4.8nm,1.0s						
KTH	**Kantishna Hill**	**82.10**	**20**	P	**P**	**18 42 47.5**	**-0.1**
KTH				IAmb	IAmb	18 43 15.3	
	comp=Z,14nm,1.4s						
SCM	**Sheep Creek Mo**	**82.23**	**22**	P	**P**	**18 42 49.2**	**+0.9**
SCM				IAmb	IAmb	18 42 59.9	
	comp=Z,15nm,1.4s						
TRF	**Thorofare Moun**	**82.24**	**20**	P	**P**	**18 42 48.2**	**-0.2**
TRF				IAmb	IAmb	18 42 48.5	
	comp=Z,7.2nm,1.2s						
MCK	**McKinley**	**82.89**	**20**	P	**P**	**18 42 50.9**	**-0.7**
IMAR	**Indian Mountai**	**82.92**	**17**	P	**P**	**18 42 51.7**	**+0.1**
MLY	**Manley**	**83.16**	**19**	P	**P**	**18 42 53.0**	**0.0**
MLY				IAmb	IAmb	18 42 54.0	
	comp=Z,6.4nm,1.2s						
GLB	**Gilahina Butte**	**83.33**	**23**	P	**P**	**18 42 55.0**	**+1.1**
GLB				IAmb	IAmb	18 43 03.4	
	comp=Z,6.5nm,1.3s						
VRDI	**Verde Repeater**	**83.35**	**24**	P	**P**	**18 42 54.6**	**+0.3**
VRDI				IAmb	IAmb	18 42 55.4	
	comp=Z,9.5nm,1.2s						
MAW	**Mawson**	**83.75**	**202**	P	**P**	**18 42 56.1**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=133,slow=1.2,SNR=8.2						
	comp=Z,6.0nm,0.8s						
MAW	**Mawson**	**83.75**	**202**	P	**P**	**18 42 56.1**	**+0.1**
BARN	**Barnard Glacie**	**83.97**	**24**	P	**P**	**18 42 57.9**	**+0.5**
BARN				IAmb	IAmb	18 42 59.4	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**84.24**	**20**	P	**P**	**18 42 58.0**	**-0.5**
	comp=Z,1.4nm,1.1s,baz=240,slow=4.2,SNR=6.4						
	comp=Z,1.4nm,1.1s						
DOT	**Dot Lake**	**84.54**	**22**	P	**P**	**18 42 59.5**	**-0.5**
M27K	**Edge Creek, AK**	**84.61**	**23**	P	P	18 43 01.9	+1.3
M27K				IAmb	IAmb	18 43 02.6	
	comp=Z,3.8nm,0.9s						
J25K	**Salcha River,**	**84.66**	**20**	P	**P**	**18 43 01.1**	**+0.4**
DAWY	**Dawson**	**86.49**	**22**	P	**P**	**18 43 10.5**	**+0.8**
DAWY				IAmb	IAmb	18 43 12.2	
	comp=Z,6.1nm,1.3s						
YBH	**Yreka Blue Hor**	**86.63**	**47**	LR	LR	19 15 30.4	
	comp=Z,183nm,21.8s,baz=244,slow=31						
NVAR	**Mina Array Bea**	**89.02**	**51**	P	**P**	**18 43 24.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=216,slow=7.3,SNR=3.6						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**89.80**	**318**	P	**P**	**18 43 26.4**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=102,slow=4.6,SNR=2.5						
	comp=Z,0.2nm,0.7s						
PRN	**Pahroc Range**	**91.31**	**52**	P	**P**	**18 43 34.0**	**+0.7**
PRN				IAmb	IAmb	18 43 35.5	
	comp=Z,6.7nm,1.1s						
BDFB	**Brasilia**	**141.40**	**131**	PKP	**PKiKP**	**18 49 59.6**	**-2.5**
	comp=Z,64nm,1.2s,baz=322,slow=2.5,SNR=26						

*NEIC **10** 19:03:10.6±1.5, 3.32S±0.04×146.1E±0.1, h10km±1km, mb4.3/13, Error ellipse: s-maj=17.6km s-min=7.3km az=278.0*

*IDC **10** 19:03:15.6±2.3, 3.82S×145.77E, h0km, mb3.9/4, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=66.0km s-min=23.2km az=80.0*

ISC 10 19:03:14.2±0.9, 3.45S±0.09×146.2E±0.1, h25km, n24, σ2s06/23, mb4.1/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.83**	**40**		Pn	19 03 40.9	-3.2
MANU				Sn	**Sn**	**19 04 05.7**	**-0.8**
PMG	**Port Moresby**	**5.99**	**171**	Pn	**Pn**	**19 04 41.5**	**+0.2**
	11nm,0.6s,baz=351,slow=4.3,SNR=8.4						
PMG	**Port Moresby**	**5.99**	**171**		**Pn**	**19 04 40.4**	**-0.9**
COEN	**Coen**	**10.85**	**196**		**Pn**	**19 05 47.9**	**-0.1**
CTAO	**Charters Tower**	**16.53**	**180**		**P**	**19 07 06.0**	**-1.0**
CTAO				IAmb	IAmb	19 07 09.5	
	comp=Z,28nm,1.4s						
MTN	**Manton Dam**	**17.57**	**237**	P	**P**	**19 07 16.6**	**-1.8**
MTN				IAmb	IAmb	19 07 50.9	
	comp=Z,29nm,1.4s						
WB0	**Warramunga Arr**	**19.89**	**214**	P	**P**	**19 07 41.8**	**-2.1**
WB0				IAmb	IAmb	19 07 44.0	
	comp=Z,18nm,1.0s						
WR0	**Warramunga Arr**	**19.96**	**214**	P	**P**	**19 07 42.2**	**-2.4**
WR0				IAmb	IAmb	19 07 44.9	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**20.04**	**214**	P	**P**	**19 07 43.3**	**-2.3**
WRAB				IAmb	IAmb	19 07 45.9	
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**20.05**	**214**	P	**P**	**19 07 43.9**	**-1.7**
WRA	**Warramunga Arr**	**20.05**	**214**	P	**P**	**19 07 44.5**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=39,slow=12,SNR=77						
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**20.05**	**214**	P	**P**	**19 07 43.2**	**-2.5**
KNRA	**Kununurra**	**21.02**	**234**	P	**P**	**19 07 53.6**	**-2.5**
KNRA				IAmb	IAmb	19 08 04.4	
	comp=Z,15nm,0.9s						
EIDS	**Eidsvold**	**22.29**	**168**	P	**P**	**19 08 11.3**	**+1.5**
EIDS				IAmb	IAmb	19 08 19.4	
	comp=Z,7.5nm,1.1s						
AS31	**Alice Springs**	**23.34**	**209**	P	**P**	**19 08 19.1**	**-1.6**
ASAR	**Alice Springs**	**23.34**	**209**	P	**P**	**19 08 19.4**	**-1.4**
	comp=Z,4.5nm,0.8s,baz=42,slow=8.8,SNR=43						
	comp=Z,4.5nm,0.8s						
ASAR	**Alice Springs**	**23.34**	**209**	P	**P**	**19 08 18.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**24.84**	**233**	P	**P**	**19 08 32.0**	**-2.7**
STKA	**Stephens Creek**	**28.60**	**188**	P	**P**	**19 09 11.1**	**+2.6**
	comp=Z,3.2nm,0.7s,baz=340,slow=8.7,SNR=7.1						
	comp=Z,3.2nm,0.7s						
BBOO	**Buckleboo**	**30.71**	**197**	P	**P**	**19 09 28.1**	**+1.0**
TOO	**Toolangi**	**33.96**	**181**	P	**P**	**19 09 56.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**51.36**	**297**	P	**P**	**19 12 20.9**	**+3.7**
	comp=Z,0.4nm,0.7s,baz=109,slow=4.9,SNR=1.5						
	comp=Z,0.4nm,0.7s						
**MK

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.85**	**225**	P	P	19 21 23.9	0.0
	0.9nm,0.7s,baz=51,slow=10,SNR=6.8						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**25.71**	**219**	P	P	19 21 51.1	+0.1
	0.4nm,0.5s,baz=55,slow=8.5,SNR=2.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**78.90**	**319**	P	P	19 28 24.2	0.0
	0.2nm,0.7s,baz=96,slow=6.0,SNR=2.2						
	0.2nm,0.7s						

*IDC **10** 19:19:35.8±3.4, 15°.23S×70°.58W, h0km, mb4.0/2, mbtmp4.0/2, MS3.5/6, Error ellipse: s-maj=142.3km s-min=83.7km az=6.0*
*VAO **10** 19:19:51.7±2.5, 15°.04S×69°.76W, h10km, mb4.2*
ISC 10 19:19:37.1±1.3, 15°.4S±0°.2×70°.9W±0°.1, h10km, n23, σ0s85/14, MS3.6/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.77**	**108**	*e*P	**Pb**	**19 20 26.6**	**-0.4**
NNA	**Nana**	**6.74**	**300**	LR	LR	19 24 08.2	
	comp=Z,177nm,18.5s,baz=138,slow=40						
ETMB	**Extrema**	**7.21**	**40**	*e*P	**Pn**	**19 21 23.6**	**+1.0**
SIV	**San Ignacio**	**9.45**	**95**	LR	LR	19 25 51.6	
	comp=Z,258nm,19.7s,baz=290,slow=41						
BBSD	**Serra de San D**	**10.00**	**101**	*e*P	**Pn**	**19 22 02.0**	**+1.0**
VILB	**Vilhena**	**10.64**	**78**	*e*P	**Pn**	**19 22 09.8**	**0.0**
BBRB	**Robore, Bolivi**	**10.96**	**106**	*e*P	**Pn**	**19 22 15.1**	**+1.0**
PTLB	**Pontes e Lacer**	**11.32**	**92**	*e*P	**Pn**	**19 22 18.1**	**-0.8**
SALV	**Santo Antonio**	**14.63**	**94**	*e*P	**Pn**	**19 23 05.2**	**+0.9**
CLDB	**Colider**	**15.37**	**75**	*e*P	**Pn**	**19 23 14.2**	**0.0**
CPUP	**Villa Florida**	**16.64**	**133**	LR	LR	19 30 34.7	
	comp=Z,71nm,20.2s,baz=324,slow=40						
SNDB	**Serra Nova Dou**	**19.33**	**82**	*e*P	**Pn**	**19 24 04.4**	**+0.6**
H03N1	**Juan Fernandez**	**19.34**	**201**	T	T	19 42 20.4	
	baz=22,slow=73,SNR=4.2						
H03N2	**Juan Fernandez**	**19.35**	**201**	T	T	19 42 09.7	
	baz=22,slow=73,SNR=4.9						
H03N3	**Juan Fernandez**	**19.36**	**201**	T	T	19 42 12.8	
	baz=22,slow=73,SNR=3.7						
RCBR	**Riachuelo**	**35.62**	**78**	LR	LR	19 42 04.3	
	comp=Z,95nm,19.1s,baz=354,slow=38						
RPN	**Rapa Nui**	**37.53**	**245**	LR	LR	19 38 06.9	
	comp=Z,99nm,21.9s,baz=312,slow=29						
CMIG	**Matias Romero**	**40.08**	**323**	LR	LR	19 44 08.9	
	comp=Z,91nm,18.4s,baz=207,slow=37						
ESDC	**Sonseca Array**	**82.90**	**46**	P	**P**	**19 32 01.0**	**-1.2**
	0.4nm,0.7s,baz=242,slow=4.7,SNR=1.8						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**84.89**	**341**	P	**P**	**19 32 11.6**	**-0.1**
	1.6nm,0.6s,baz=137,slow=5.0,SNR=21						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**137.13**	**21**	PKP	**PKPdf**	**19 39 00.3**	**-0.1**
	2.0nm,1.0s,baz=298,slow=3.1,SNR=5.8						
SONM	**Songino Array**	**147.62**	**3**	PKPbc	**PKPdf**	**19 39 20.3**	**+1.0**
	0.9nm,0.6s,baz=335,slow=2.0,SNR=8.2						
KSRS	**Korea Array**	**152.47**	**326**	PKPbc	**PKiKP**	**19 39 34.8**	**+0.5**
	1.3nm,0.8s,baz=354,slow=2.4,SNR=4.5						

*AEIC **10** 19:19:46.8±1.9, 53°.58N±0°.08×166°.8W±0°.1, h76km±6km, Error ellipse: s-maj=13.0km s-min=6.9km az=152.0*
*NEIC **10** 19:19:47.3±2.4, 53°.59N±0°.09×166°.7W±0°.1, h81km±7km, mb3.6/14, ML3.6/6, ML3.5(AEIC), Error ellipse: s-maj=14.4km s-min=6.9km az=145.0*
ISC 10 19:19:44.7±1.1, 53°.3N±0°.1×166°.45W±0°.07, h90km±9km, n81, σ1s80/89, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.50**	**356**		**Pn**	**19 19 59.2**	**-0.2**
UNV	**Unalaska Valle**	**0.50**	**356**		**Sn**	**19 20 08.7**	**-1.7**
UNV	**Unalaska Valle**	**0.50**	**356**	P	**Pn**	**19 19 59.1**	**-0.3**
	baz=214						
UNV				S	**Sn**	**19 20 08.7**	**-1.7**
	baz=214						
AKUT	**Akutan**	**0.89**	**27**		**Pn**	**19 20 03.8**	**+0.7**
AKUT				Sn	**Sn**	**19 20 16.7**	**-0.2**
AKUT				IAML		19 20 18.0	
	comp=N,1μm,0.4s						
AKUT				IAML		19 20 18.2	
	comp=E,2μm,0.2s						
NIKH	**Nikolski High**	**1.49**	**256**		**Pn**	**19 20 11.4**	**+1.0**
NIKH	**Nikolski High**	**1.49**	**256**	P	**Pn**	**19 20 11.5**	**+1.2**
	baz=62						
CLES	**Cleveland East**	**2.14**	**257**	Pn	**Pn**	**19 20 18.8**	**+0.1**
CLES				Sn	**Sn**	**19 20 46.9**	**+2.2**
CLES				IAML		19 20 54.3	
	comp=E,660nm,0.4s						
CLES				IAML		19 20 55.5	
	comp=N,804nm,0.7s						
S12K	**Black Hills**	**3.48**	**46**	P	**Pn**	**19 20 38.8**	**+2.1**
	baz=234						
SDPT	**Sand Point**	**4.03**	**58**	Pn	**Pn**	**19 20 47.1**	**+3.0**
SDPT				Sn	**Sn**	**19 21 31.0**	**+0.9**
SDPT				IAML		19 22 02.1	
	comp=N,72nm,4.4s						
SDPT	**Sand Point**	**4.03**	**58**	P	**Pn**	**19 20 47.1**	**+3.0**
	baz=247						
SPIA	**Saint Paul Isl**	**4.41**	**332**		**Pn**	**19 20 47.6**	**-1.6**
SPIA	**Saint Paul Isl**	**4.41**	**332**	P	**Pn**	**19 20 47.7**	**-1.5**
	baz=150						
CHGN	**Chignik**	**5.51**	**54**	Pn	**Pn**	**19 21 06.9**	**+2.8**
CHGN				Sn	**Sn**	**19 22 06.5**	**+0.5**
GSTR	**Great Sitkin T**	**5.97**	**262**	Pn	**Pn**	**19 21 10.7**	**+0.2**
ADK	**Adak**	**6.40**	**261**	Pn	**Pn**	**19 21 17.1**	**+0.8**
ADK				Sn	**Sn**	**19 22 25.4**	**-2.4**
KIWB	**Kanaga Island**	**6.69**	**261**	Pn	**Pn**	**19 21 21.7**	**+1.5**
CHIR	**Chirikof Islan**	**6.77**	**64**	Pn	**Pn**	**19 21 23.1**	**+1.9**
CHIR				Sn	**Sn**	**19 22 34.9**	**-1.8**
SII	**Sitkinak Islan**	**7.76**	**61**	Pn	**Pn**	**19 21 36.4**	**+1.6**
SII				Sn	**Sn**	**19 23 00.3**	**-0.7**
OHAK	**Old Harbor**	**8.46**	**57**	Pn	**Pn**	**19 21 44.6**	**+0.4**
P18K	**Big Mountain,**	**8.68**	**41**		**Pn**	**19 21 50.6**	**+3.3**
P18K				Sn	**Sn**	**19 23 25.3**	**+1.8**
KDAK	**Kodiak Island**	**9.02**	**55**	Pn	**Pn**	**19 21 51.9**	**-0.1**
Q19K	**Cape Douglas,**	**9.07**	**47**	Pn	**Pn**	**19 21 54.1**	**+1.5**
SVW2	**Sparrevohn**	**9.74**	**33**	Pn	**Pn**	**19 22 03.4**	**+1.7**
ILSW	**Iliamna Southw**	**9.88**	**42**	Pn	**Pn**	**19 22 03.6**	**-0.1**
N19K	**Bonanza Creek**	**9.91**	**36**		**Pn**	**19 22 06.4**	**+2.3**
RSO	**Redoubt South**	**10.33**	**41**	Pn	**Pn**	**19 22 12.2**	**+2.3**
CNPM	**China Poot**	**10.44**	**48**	Pn	**Pn**	**19 22 11.3**	**+0.1**
BRLK	**Bradley Lake**	**10.71**	**47**		**Pn**	**19 22 14.2**	**-0.8**
M19K	**Big River Lodg**	**10.72**	**32**		**Pn**	**19 22 17.0**	**+1.9**
L19K	**White Mountain**	**10.79**	**30**		**Pn**	**19 22 17.1**	**+1.5**
TTA	**Tatalina**	**11.06**	**26**	Pn	**Pn**	**19 22 19.8**	**0.0**
M20K	**Styx River**	**11.12**	**34**		**Pn**	**19 22 23.1**	**+2.5**
SEW	**Seward**	**11.51**	**47**	Pn	**Pn**	**19 22 25.5**	**-0.2**
O22K	**Cooper Landing**	**11.58**	**45**	Pn	**Pn**	**19 22 25.9**	**-0.7**
SUA	**Susitna One**	**11.71**	**40**		**Pn**	**19 22 28.4**	**-0.1**
SKT	**Skwentna**	**11.75**	**37**		**Pn**	**19 22 30.2**	**+1.3**
RC01	**Rabbit Creek A**	**11.90**	**43**	Pn	**Pn**	**19 22 30.5**	**-0.4**
K20K	**Telida**	**11.93**	**28**	Pn	**Pn**	**19 22 32.0**	**+0.6**
PPLA	**Purkeypile**	**12.15**	**32**	Pn	**Pn**	**19 22 35.9**	**+1.4**
CAST	**Castle Rocks**	**12.56**	**31**	Pn	**Pn**	**19 22 41.8**	**+1.9**
J20K	**Nowinta River**	**12.57**	**25**	Pn	**Pn**	**19 22 41.3**	**+1.4**
KNK	**Knik Glacier**	**12.59**	**43**	Pn	**Pn**	**19 22 38.7**	**-1.6**
GHO	**Glory Hole Cre**	**12.60**	**41**	Pn	**Pn**	**19 22 39.3**	**-1.2**
SML	**Sawmill**	**12.86**	**42**	Pn	**Pn**	**19 22 42.8**	**-1.0**
KTH	**Kantishna Hill**	**13.03**	**32**	Pn	**Pn**	**19 22 44.0**	**-2.0**
TRF	**Thorofare Moun**	**13.16**	**33**	Pn	**Pn**	**19 22 47.0**	**-0.9**
SCM	**Sheep Creek Mo**	**13.27**	**43**	Pn	**Pn**	**19 22 47.6**	**-1.7**
BPAW	**Bear Paw Mtn.**	**13.40**	**30**	Pn	**Pn**	**19 22 51.9**	**+1.0**
DIV	**Divide**	**13.60**	**47**	Pn	**Pn**	**19 22 51.3**	**-2.2**
KLU	**Klutina**	**13.69**	**45**	Pn	**Pn**	**19 22 52.7**	**-2.1**
M24K	**Tolsona, Glenn**	**13.88**	**43**	Pn	Pn	19 22 51.8	-5.5
I21K	**Tanana**	**13.93**	**26**	Pn	**Pn**	**19 22 59.2**	**+1.4**
DHY	**Denali Highway**	**13.94**	**38**	Pn	**Pn**	**19 22 55.4**	**-2.7**
BMRM	**Bremner River**	**14.04**	**48**		**Pn**	**19 22 56.2**	**-3.1**
H21K	**Melozitna Rive**	**14.11**	**24**		**P**	**19 23 02.4**	**-2.5**
MLY	**Manley**	**14.16**	**28**		**Pn**	**19 23 01.6**	**+0.8**
IMAR	**Indian Mountai**	**14.16**	**22**		**P**	**19 23 02.5**	**-3.0**
N25K	**Chitina, Valde**	**14.31**	**46**		**Pn**	**19 23 00.6**	**-2.2**
NEA2	**Nenana**	**14.34**	**31**		**Pn**	**19 23 03.0**	**0.0**
GLB	**Gilahina Butte**	**14.59**	**47**		**Pn**	**19 23 05.0**	**-1.3**
PAX	**Paxson**	**14.61**	**40**		**Pn**	**19 23 05.3**	**-1.4**
VRDI	**Verde Repeater**	**14.66**	**48**		**Pn**	**19 23 06.5**	**-1.0**
MDM	**Murphy Dome**	**14.85**	**31**		**Pn**	**19 23 09.8**	**+0.2**
HDA	**Harding Lake**	**14.90**	**34**		**Pn**	**19 23 09.8**	**-0.5**
MCARA	**McCarthy VSAT**	**14.91**	**48**		**Pn**	**19 23 07.1**	**-3.3**
RIDG	**Independent Ri**	**15.26**	**38**		**Pn**	**19 23 14.7**	**-0.1**
RIDG				IAmb	IAmb	19 23 18.5	
	comp=Z,4.3nm,1.2s						
M26K	**Nabesna, AK**	**15.34**	**44**		**Pn**	**19 23 15.3**	**-0.6**
M26K				IAmb	IAmb	19 23 20.3	
	comp=Z,7.5nm,1.4s						
H24K	**Noodor Dome**	**15.57**	**29**	Pn	**Pn**	**19 23 17.8**	**-1.0**
J25K	**Salcha River,**	**15.57**	**35**		**Pn**	**19 23 16.8**	**-2.0**
L27K	**Beaver Creek,**	**16.11**	**43**		**Pn**	**19 23 23.0**	**-2.5**
BCAR	**Beaver Creek A**	**16.13**	**43**		**Pn**	**19 23 22.8**	**-3.0**
J26L	**Joseph Creek**	**16.15**	**37**		**Pn**	**19 23 23.3**	**-2.7**
J26L				IAmb	IAmb	19 23 56.9	
	comp=Z,5.3nm,1.5s						
HYT	**Haines Junctio**	**17.30**	**53**	P	**P**	**19 23 42.6**	**+2.1**
DAWY	**Dawson**	**17.53**	**42**	P	**Pn**	**19 23 43.9**	**+1.0**
DAWY				IAmb	IAmb	19 23 48.9	
	comp=Z,3.9nm,1.3s						
BMAR	**Burnt Mountain**	**17.62**	**28**	P	**Pn**	**19 23 44.3**	**+0.2**
N31M	**Braeburn, Yuko**	**18.27**	**51**	P	**Pn**	**19 23 55.4**	**+3.6**
N31M				IAmb	IAmb	19 23 56.8	
	comp=Z,6.2nm,0.8s						
WHY	**Whitehorse**	**18.54**	**54**	P	**Pn**	**19 23 58.7**	**+3.5**
WHY				IAmb	IAmb	19 23 59.7	
	comp=Z,5.0nm,1.1s						
M31M	**Drury Creek, Y**	**19.07**	**50**	P	**Pn**	**19 24 03.8**	**+2.4**
M31M				IAmb	IAmb	19 24 04.4	
	comp=Z,3.5nm,0.7s						
P33M	**Teslin, Yukon**	**19.50**	**56**	P	**Pn**	**19 24 08.7**	**+2.2**
FARO	**Faro, Yukon**	**19.55**	**50**	P	**Pn**	**19 24 08.2**	**+1.2**
EUNU	**Eureka**	**36.28**	**17**	P	**P**	**19 26 39.9**	**+1.1**
EUNU				IAmb	IAmb	19 26 40.3	
	comp=Z,0.8nm,0.7s						

IDC 10 19:29:21.8±2.8, 47°.28S×105°.70E, h0km, mb3.9/3, mbtmp3.9/3, MS3.7/7, Error ellipse: s-maj=70.3km s-min=49.4km az=3.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**13.89**	**30**	T	T	19 48 11.8	
	baz=203,slow=74,SNR=27						
H01W1	**Cape Leeuwin H**	**13.91**	**30**	T	T	19 48 18.5	
	baz=203,slow=74,SNR=42						
H01W3	**Cape Leeuwin H**	**13.91**	**30**	T	T	19 48 12.6	
	baz=203,slow=74,SNR=22						
MAW	**Mawson**	**29.79**	**212**	LR	LR	19 45 31.0	
	comp=Z,90nm,18.4s,baz=105,slow=32						
STKA	**Stephens Creek**	**31.33**	**74**	LR	LR	19 46 00.8	
	comp=Z,158nm,21.1s,baz=204,slow=32						
ASAR	**Alice Springs**	**32.59**	**54**	P	P	19 35 54.9	-0.1
	1.9nm,0.7s,baz=211,slow=8.4,SNR=34						
ASAR				LR	LR	19 47 29.6	
	comp=Z,136nm,20.2s,baz=240,slow=33						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**35.85**	**50**	P	P	19 36 23.3	+0.1
	1.8nm,0.7s,baz=213,slow=10,SNR=12						
WRA				LR	LR	19 49 56.3	
	comp=Z,118nm,18.6s,baz=204,slow=34						
	1.8nm,0.7s						
VNDA	**Vanda**	**37.12**	**163**	LR	LR	19 49 23.0	
	comp=Z,134nm,20.7s,baz=282,slow=32						
CTA	**Charters Tower**	**42.58**	**65**	LR	LR	19 54 36.4	
	comp=Z,74nm,18.2s,baz=201,slow=36						
QSPA	**South Pole Qui**	**42.86**	**180**	LR	LR	19 53 26.3	
	comp=Z,95nm,18.3s,baz=275,slow=34						
H08S2	**Diego Garcia H**	**48.59**	**314**	T	T	20 30 40.7	
	baz=152,slow=76,SNR=6.8						
H08S1	**Diego Garcia H**	**48.60**	**314**	T	T	20 30 43.8	
	baz=152,slow=76,SNR=6.4						
H08S3	**Diego Garcia H**	**48.61**	**314**	T	T	20 30 42.2	
	baz=152,slow=76,SNR=7.0						
CMAR	**Chiang Mai Arr**	**65.71**	**353**	P	P	19 40 08.0	-0.1
	0.6nm,0.8s,baz=182,slow=5.5,SNR=6.5						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**138.51**	**38**	PKP	PKiKP	19 48 49.2	-1.0
	0.2nm,0.6s,baz=240,slow=2.3,SNR=1.8						
NVAR	**Mina Array Bea**	**146.93**	**89**	PKPbc	PKPdf	19 49 04.9	+0.8
	0.6nm,0.5s,baz=212,slow=3.2,SNR=4.1						

*IDC **10** 19:33:38.4±10.0, 36°.82N×21°.43E, h0km, mb4.1/3, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=191.8km s-min=54.7km az=26.0*
*THE **10** 19:33:48.2, 38°.33N×21°.72E, h0km±1km, ML3.2/21, Error ellipse: s-maj=1.0km s-min=0.3km az=206.0*
*ATH **10** 19:33:48.7, 38°.33N×21°.72E, h4km±1km, ML3.3/14, Error ellipse: s-maj=1.6km s-min=0.6km az=272.0*
ISC 10 19:33:48.3±1.0, 38°.33N±0°.01×21.72E±0°.01, h3km±8km, n105, σ0s90/152, mb4.2/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.07**	**133**	P	**Pg**	**19 33 49.7**	**-0.1**
UPR				S	**Sg**	**19 33 51.3**	**+0.6**
EFP	**Efpalio**	**0.17**	**57**	P	**Pg**	**19 33 51.5**	**-0.2**
EFP				S	**Sg**	**19 33 54.8**	**+0.8**
	25μm,0.3s						
LAKA	**Lakka**	**0.22**	**114**	P	**Pg**	**19 33 52.2**	**-0.4**
LAKA				S	**Sg**	**19 33 55.8**	**+0.3**
	15μm,0.3s						
LAKA	**Lakka**	**0.22**	**114**	P	**Pg**	**19 33 52.4**	**-0.2**
LAKA				S	**Sg**	**19 33 55.6**	**+0.1**
LAKA				AML	AML	19 33 56.0	
	comp=E,80495μm,0.4s						
LAKA				AML	AML	19 33 56.2	
	comp=N,38018μm,0.3s						
SERG	**Sergoula**	**0.28**	**73**	P	**Pg**	**19 33 54.3**	**+0.7**
SERG				S	**Sg**	**19 33 58.7**	**+1.4**
	comp=N,12μm,0.2s						
SERG	**Sergoula**	**0.28**	**73**	P	**Pg**	**19 33 54.2**	**+0.5**
SERG				S	**Sg**	**19 33 57.4**	**+0.1**
SERG				AML	AML	19 33 59.2	
	comp=N,34242μm,0.3s						
SERG				AML	AML	19 34 00.4	
	comp=E,25889μm,0.2s						
ANX	**Ano Chora**	**0.30**	**31**	P	**Pg**	**19 33 54.0**	**-0.2**
ANX				S	**Sg**	**19 33 58.5**	**+0.3**
	comp=E,12μm,0.3s						
ANX	**Ano Chora**	**0.30**	**31**	P	**Pg**	**19 33 54.1**	**-0.1**
ANX				S	**Sg**	**19 33 58.8**	**+0.5**
ANX				AML	AML	19 33 59.1	
	comp=E,19577μm,0.4s						
ANX				AML	AML	19 34 01.6	
	comp=N,27326μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.32**	**103**	P	**Pg**	**19 33 54.3**	**-0.1**
ALIK				S	**Sg**	**19 33 59.5**	**+1.0**
PVO	**Paravola**	**0.32**	**332**	P	**Pg**	**19 33 53.3**	**-1.3**
PVO	**Paravola**	**0.32**	**332**	P	**Pg**	**19 33 53.9**	**-0.6**
PVO				S	**Sg**	**19 33 59.1**	**+0.3**
RLS	**Riolos of Patr**	**0.34**	**216**	P	**Pg**	**19 33 55.1**	**+0.3**
RLS				S	**Sg**	**19 34 00.7**	**+1.5**
	comp=N,7μm,0.2s						
RLS	**Riolos of Patr**	**0.34**	**216**	P	**Pg**	**19 33 55.2**	**+0.3**
RLS				S	**Sg**	**19 33 60.0**	**+0.7**
RLS				AML	AML	19 34 02.7	
	comp=E,7427μm,0.3s						
RLS				AML	AML	19 34 02.9	
	comp=N,8850μm,0.5s						
DRO	**Drossia**	**0.38**	**181**	P	**Pg**	**19 33 55.5**	**-0.1**
DRO				S	**Sg**	**19 34 01.8**	**+1.3**
	comp=N,7μm,0.3s						
DRO	**Drossia**	**0.38**	**181**	P	**Pg**	**19 33 55.6**	**0.0**
DRO				S	**Sg**	**19 34 00.8**	**+0.3**
DRO				AML	AML	19 34 02.3	
	comp=E,19171μm,0.3s						
DRO				AML	AML	19 34 07.9	
	comp=N,9136μm,0.3s						
KLV	**Kalavryta, Ach**	**0.44**	**130**	P	**Pg**	**19 33 56.4**	**-0.4**
KLV				S	**Sg**	**19 34 03.4**	**+0.8**
KLV	**Kalavryta, Ach**	**0.44**	**130**	P	**Pg**	**19 33 56.5**	**-0.3**
KLV				S	**Sg**	**19 34 02.8**	**+0.2**
KLV				AML	AML	19 34 04.7	
	comp=E,3104μm,0.3s						
KLV				AML	AML	19 34 05.8	
	comp=N,2987μm,0.3s						
EVR	**Evrytania**	**0.59**	**7**	P	**Pg**	**19 33 59.9**	**+0.3**
EVR				S	**Sg**	**19 34 08.4**	**+1.1**
	comp=N,2μm,0.4s						
EVR	**Evrytania**	**0.59**	**7**	P	**Pg**	**19 33 59.9**	**+0.3**
EVR				S	**Sg**	**19 34 07.7**	**+0.4**
EVR				AML	AML	19 34 12.4	
	comp=E,3743μm,0.3s						
EVR				AML	AML	19 34 15.0	
	comp=N,4676μm,0.4s						
DLFA	**Delphi**	**0.63**	**76**	P	**Pg**	**19 34 00.3**	**-0.1**
DLFA				S	**Sg**	**19 34 09.0**	**+0.5**
DLFA				AML	AML	19 34 12.2	
	comp=E,2710μm,0.3s						
DLFA				AML	AML	19 34 12.3	
	comp=N,2864μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.75**	**25**	P	**Pg**	**19 34 02.1**	**-0.7**
MAKR				S	**Sb**	**19 34 14.3**	**-0.5**
	comp=N,3μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.75**	**25**	P	**Pg**	**19 34 02.3**	**-0.5**
MAKR				S	**Sg**	**19 34 13.7**	**+1.2**
MAKR				AML	AML	19 34 15.4	
	comp=E,12914μm,0.4s						
MAKR				AML	AML	19 34 17.4	
	comp=N,6755μm,0.4s						
THAL	**Thalero**	**0.80**	**111**	P	**Pg**	**19 34 02.7**	**-0.9**
THAL	**Thalero**	**0.80**	**111**	P	**Pg**	**19 34 02.8**	**-0.8**
AGG	**Agios Georgios**	**0.84**	**34**	P	**Pg**	**19 34 03.6**	**-0.8**
AGG				S	**Sg**	**19 34 15.4**	**+0.1**
AXAR	**Agios Charalam**	**0.85**	**59**	P	**Pg**	**19 34 03.7**	**-1.0**
AXAR				S	**Sg**	**19 34 16.1**	**+0.3**
AXAR				AML	AML	19 34 19.8	
	comp=N,8788μm,0.4s						
AXAR				AML	AML	19 34 20.7	
	comp=E,6852μm,0.4s						
EVGI	**Lefkada island**	**0.89**	**289**	P	**Pg**	**19 34 04.3**	**-1.0**
EVGI	**Lefkada island**	**0.89**	**289**	P	**Pg**	**19 34 04.5**	**-0.7**
NYDR	**Nydri-Lefkada**	**0.89**	**296**	P	**Pg**	**19 34 04.4**	**-1.0**
NYDR				S	**Sg**	**19 34 17.8**	**+0.9**
	comp=E,882nm,0.6s						
VLS	**Valsamata**	**0.90**	**261**	P	**Pg**	**19 34 04.8**	**-0.9**
VLS				S	**Sb**	**19 34 19.0**	**-0.1**
	comp=E,3μm,0.2s						
VLS	**Valsamata**	**0.90**	**261**	P	**Pg**	**19 34 05.1**	**-0.5**
VLS				S	**Sg**	**19 34 18.2**	**+0.8**
VLS				AML	AML	19 34 20.8	
	comp=E,5378μm,0.2s						
VLS				AML	AML	19 34 20.8	
	comp=N,5939μm,0.2s						
FSK	**Fiskardo**	**0.92**	**278**	P	**Pg**	**19 34 04.9**	**-1.1**
FSK				S	**Sb**	**19 34 19.8**	**+0.3**
	comp=N,1μm,0.2s						
FSK	**Fiskardo**	**0.92**	**278**	P	**Pg**	**19 34 05.7**	**-0.2**
FSK				S	**Sg**	**19 34 18.6**	**+0.7**
FSK				AML	AML	19 34 21.4	
	comp=N,2593μm,0.2s						
FSK				AML	AML	19 34 21.6	
	comp=E,3300μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.92**	**257**	P	**Pg**	**19 34 05.1**	**-0.9**
PSDA				S	**Sb**	**19 34 19.8**	**+0.2**
LTHK	**Lithakia**	**0.94**	**229**	P	**Pg**	**19 34 05.7**	**-0.5**
LTHK	**Lithakia**	**0.94**	**229**	P	**Pg**	**19 34 06.0**	**-0.2**
LTHK				S	**Sg**	**19 34 19.0**	**+0.7**
LTHK				AML	AML	19 34 24.5	
	comp=E,3743μm,0.4s						
LTHK				AML	AML	19 34 27.9	
	comp=N,4754μm,0.5s						
LKD2	**Lefkada island**	**0.95**	**299**	P	**Pg**	**19 34 05.5**	**-1.1**
DRAG	**Dragano-Lefkad**	**0.97**	**292**	P	**Pg**	**19 34 05.8**	**-1.0**
TSLK	**Tsoukalades, L**	**0.97**	**301**	P	**Pg**	**19 34 06.4**	**-0.5**
TSLK	**Tsoukalades, L**	**0.97**	**301**	P	**Pg**	**19 34 06.7**	**-0.3**
KEF4	**Livadi, Kephal**	**1.02**	**266**	P	**Pg**	**19 34 06.9**	**-1.0**
KEF4				S	**Sb**	**19 34 23.3**	**+0.8**
KEF4	**Livadi, Kephal**	**1.02**	**266**	P	**Pg**	**19 34 07.3**	**-0.6**
KEF4				S	**Sg**	**19 34 21.8**	**+0.6**
LOUT	**Loutraki**	**1.04**	**109**	P	**Pg**	**19 34 07.8**	**-0.6**
LOUT	**Loutraki**	**1.04**	**109**	P	**Pg**	**19 34 08.2**	**-0.2**
DMLN	**Damoulianata-K**	**1.06**	**265**	P	**Pg**	**19 34 07.5**	**-1.2**
KEF3	**Kipouria, Keph**	**1.09**	**264**	P	**Pg**	**19 34 08.5**	**-0.7**
KEF3				S	**Sb**	**19 34 23.9**	**-0.4**
ITM	**Ithomi**	**1.16**	**172**	P	**Pg**	**19 34 09.7**	**-0.9**
ITM				S	**Sn**	**19 34 27.9**	**0.0**
	comp=N,778nm,0.8s						
ITM	**Ithomi**	**1.16**	**172**	P	**Pg**	**19 34 09.9**	**-0.7**
ITM				S	**Sg**	**19 34 25.5**	**-0.2**
ITM				AML	AML	19 34 30.5	
	comp=N,1414μm,0.4s						
ITM				AML	AML	19 34 33.9	
	comp=E,1468μm,0.5s						
VIL2	**Platees**	**1.22**	**95**	P	**Pg**	**19 34 11.9**	**+0.1**
THL	**Klokotos Trika**	**1.25**	**10**	P	**Pg**	**19 34 12.0**	**-0.3**
THL				S	**Sn**	**19 34 30.2**	**+0.1**
	comp=E,440nm,0.6s						
THL	**Klokotos Trika**	**1.25**	**10**	P	**Pg**	**19 34 12.3**	**0.0**
VILL	**Villia**	**1.26**	**97**	P	**Pg**	**19 34 11.8**	**-0.7**
VILL				S	**Sn**	**19 34 30.6**	**+0.2**
	comp=E,698nm,0.5s						
KLMT	**Kalamata**	**1.30**	**168**	P	**Pg**	**19 34

comp=E,0.9nm,0.5s,baz=274,slow=8.7,SNR=4.8
comp=E,0.9nm,0.5s

ROM 10 19:34:27.8±0.1, 42°35'N±0'.004×13°.162E±0'.007, h9km, ML1.4/7, 11C-7D, Error ellipse: s-maj=0.6km s-min=0.1km az=246.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.03**	**42**	P	Pg	19 34 29.7	0.0
T1245				S	Sg	19 34 30.7	-0.4
T1245				AML	AML		
	comp=E,1260μm,1.1s						
T1245				AML	AML		
	comp=E,1260μm,0.9s						
T1245				AML	AML		
	comp=N,1750μm,0.2s						
NRCA	**Norcia**	**0.04**	**267**	⇓P	Pg	19 34 29.8	+0.2
NRCA				S	Sg	19 34 30.8	-0.2
NRCA				AML	AML		
	comp=E,2120μm,0.1s						
NRCA				AML	AML		
	comp=E,2105μm,0.1s						
NRCA				AML	AML		
	comp=N,5280μm,0.1s						
NRCA				AML	AML		
	comp=N,4875μm,0.1s						
MC2	**Monte Cornacci**	**0.08**	**15**	⇑P	Pg	19 34 30.6	+0.3
T1214	**Arquata del Tr**	**0.08**	**155**	⇑P	Pg	19 34 30.6	+0.4
T1214				S	Sg	19 34 32.1	+0.2
T1214				AML	AML		
	comp=N,328μm,0.2s						
T1214				AML	AML		
	comp=E,285μm,0.4s						
T1214				AML	AML		
	comp=N,332μm,0.6s						
T1214				AML	AML		
	comp=E,306μm,0.4s						
T1216	**Preci, Frazion**	**0.12**	**298**	⇑P	Pg	19 34 31.2	+0.6
T1216				AML	AML		
	comp=N,329μm,1.1s						
T1216				AML	AML		
	comp=E,262μm,1.2s						
T1216				AML	AML		
	comp=N,328μm,1.1s						
T1216				AML	AML		
	comp=E,262μm,0.8s						
T1216				AML	AML		
	comp=N,328μm,0.9s						
T1212	**Cascia, Frazio**	**0.12**	**226**	⇓P	Pg	19 34 31.3	+0.7
T1212				AML	AML		
	comp=E,300μm,0.1s						
T1212				AML	AML		
	comp=N,571μm,0.1s						
T1212				AML	AML		
	comp=E,369μm,0.9s						
T1212				AML	AML		
	comp=E,369μm,1.1s						
T1212				AML	AML		
	comp=N,578μm,0.1s						
MMO1	**Montemonaco**	**0.14**	**62**	⇓P	Pg	19 34 31.4	+0.5
T1218	**Civita (PG)**	**0.17**	**192**	⇑P	Pg	19 34 32.2	+0.7
T1241	**Roccafluvione,**	**0.20**	**84**	⇑P	Pg	19 34 32.7	+0.7
FDMO	**Fiordimonte**	**0.21**	**345**	⇑P	Pg	19 34 32.7	+0.6
T1215	**Vallo di Nera,**	**0.22**	**261**	⇓P	Pg	19 34 33.0	+0.8
SMA1	**SAN MARTINO**	**0.24**	**148**	⇑P	Pg	19 34 33.3	+0.6
SMA1				AML	AML		
	comp=E,94μm,1.4s						
SMA1				AML	AML		
	comp=N,82μm,1.3s						
SMA1				AML	AML		
	comp=E,94μm,0.6s						
T1219	**Muccia, Frazio**	**0.25**	**333**	⇑P	Pg	19 34 33.5	+0.6
T1219				S	Sg	19 34 37.7	+1.4
T1219				AML	AML		
	comp=E,186μm,0.3s						
T1219				AML	AML		
	comp=N,216μm,0.3s						
T1219				AML	AML		
	comp=E,186μm,1.7s						
LNSS	**Leonessa**	**0.25**	**201**	⇓P	Pg	19 34 33.6	+0.7
LNSS				AML	AML		
	comp=E,187μm,0.2s						
LNSS				AML	AML		
	comp=N,146μm,0.3s						
CESI	**CESI - Serrava**	**0.25**	**312**	⇑P	Pg	19 34 33.3	+0.3
CESI				AML	AML		
	comp=E,92μm,0.5s						
CESI				AML	AML		
	comp=N,187μm,0.5s						
T1220	**Camerino, Fraz**	**0.28**	**349**	⇓P	Pg	19 34 34.1	+0.6
RM33	**Pellescritta (**	**0.33**	**173**	⇑P	Pg	19 34 34.3	-0.1
TERO	**Teramo**	**0.39**	**123**	P	Pg	19 34 35.8	+0.3
ASSB	**Assisi San Ben**	**0.42**	**299**	P	Pg	19 34 36.6	+0.5
SNTG	**Esanatoglia**	**0.45**	**339**	P	Pg	19 34 37.2	+0.6
EL6	**Elcito**	**0.50**	**355**	⇑P	Pg	19 34 38.1	+0.6
EL6				S	Sb	19 34 46.4	+0.2
LPEL	**Lama dei Pelig**	**1.09**	**136**	⇓P	Pg	19 34 46.2	-2.6
LAV9	**Lanuvio**	**1.21**	**197**	⇑P	Pb	19 34 50.3	-0.5

*IDC **10** 19:36:20.4±7.8, 34°.03S×179°.42W, h114km±68km, mb3.5/2, mbtmp3.9/3, Error ellipse: s-maj=66.2km s-min=45.8km az=9.0*
*WEL **10** 19:37:16.4, 38°S±16'×17°8E±1'.4, h42km±13km, M2.4/19, ML2.5/16, MLv2.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=148.9*

ISC 10 19:36:20.5±1.6, 33°.8S±0'.1×179°.7W±0'.3, h100km, n34, σ1s03/36, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.04**	**203**	P	**Pn**	**19 37 22.2**	**+2.0**
WMGZ	**Waiomatatini S**	**4.25**	**200**	P	**Pn**	**19 37 24.5**	**+1.5**
HAZ	**Te Kaha**	**4.40**	**206**	P	**Pn**	**19 37 26.0**	**+1.0**
PKGZ	**Pakihiroa**	**4.42**	**203**	P	**Pn**	**19 37 25.2**	**-0.1**
PUZ	**Puketiti**	**4.53**	**200**	P	**Pn**	**19 37 26.2**	**-0.6**
RUGZ	**Raukumara Rang**	**4.62**	**206**	P	**Pn**	**19 37 28.7**	**+0.5**
TWGZ	**Tauwhareparae**	**4.71**	**202**	P	**Pn**	**19 37 30.5**	**+1.2**
CNGZ	**Carnagh Statio**	**4.93**	**199**	P	**Pn**	**19 37 32.2**	**0.0**
MWZ	**Matawai**	**5.00**	**205**	P	**Pn**	**19 37 33.9**	**+0.6**
URZ	**Urewera**	**5.10**	**209**	P	**Pn**	**19 37 34.3**	**-0.2**
	10nm,0.3s,baz=7.2,slow=3.0,SNR=38						
URZ				S	**Sn**	**19 38 32.0**	**-0.1**
	11nm,0.3s,baz=71,slow=23,SNR=2.0						
URZ	**Urewera**	**5.10**	**209**	P	**Pn**	**19 37 34.3**	**-0.2**
RAGZ	**Rawiri**	**5.19**	**205**	P	**Pn**	**19 37 36.6**	**+0.9**
RIGZ	**Rimuhau**	**5.26**	**202**	P	**Pn**	**19 37 37.0**	**+0.3**
MUGZ	**Murupara**	**5.42**	**210**	P	**Pn**	**19 37 39.8**	**+0.9**
RTZ	**Ruatahuna**	**5.46**	**208**	P	**Pn**	**19 37 39.0**	**-0.4**
SNGZ	**Shannon Statio**	**5.47**	**205**	P	**Pn**	**19 37 40.0**	**+0.5**
MHGZ	**Mahia Peninsul**	**5.64**	**199**	P	**Pn**	**19 37 41.9**	**+0.1**
RAHZ	**Arahi**	**5.68**	**206**	P	**Pn**	**19 37 43.2**	**+0.8**
MTHZ	**Maungataniwha**	**5.72**	**208**	P	**Pn**	**19 37 44.1**	**+1.2**
MRHZ	**Matea Rd**	**5.87**	**211**	P	**Pn**	**19 37 45.5**	**+0.5**
NMHZ	**Naumai**	**5.94**	**207**	P	**Pn**	**19 37 46.0**	**0.0**
ARHZ	**Aropaoanui**	**6.02**	**205**	P	**Pn**	**19 37 47.7**	**+0.7**
BKZ	**Black Stump Fm**	**6.12**	**209**	P	**Pn**	**19 37 47.7**	**-0.8**
TMVZ	**Te Maari**	**6.42**	**214**	P	**Pn**	**19 37 52.8**	**+0.3**
KAHZ	**Kahuranaki**	**6.54**	**204**	P	**Pn**	**19 37 53.3**	**-0.8**
BHHZ	**Black Hill Sta**	**6.57**	**210**	P	**Pn**	**19 37 54.6**	**+0.1**
KRHZ	**Kereru**	**6.58**	**207**	P	**Pn**	**19 37 53.1**	**-1.6**
MOVZ	**Moawhango**	**6.64**	**212**	P	**Pn**	**19 37 55.2**	**-0.2**
PNHZ	**Pukenui**	**6.88**	**207**	P	**Pn**	**19 37 56.5**	**-2.3**
TSZ	**Takapari Road**	**7.10**	**208**	P	**Pn**	**19 37 59.5**	**-2.2**
ASAR	**Alice Springs**	**41.58**	**272**	P	**P**	**19 43 59.4**	**+0.7**
	0.4nm,0.4s,baz=106,slow=6.9,SNR=20						
ASAR				PcP	**PcP**	**19 45 52.5**	**-1.6**
	0.2nm,0.3s,baz=117,slow=3.9,SNR=7.1						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.89**	**277**	P	**P**	**19 44 09.8**	**+0.6**
	1.4nm,0.4s,baz=118,slow=7.6,SNR=50						
	1.4nm,0.4s						
FINES	**FINESS Array B**	**147.79**	**337**	PKPbc	**PKPdf**	**19 55 51.2**	**+1.4**
	2.7nm,0.9s,baz=46,slow=4.0,SNR=8.2						
AKASG	**Malin Array Be**	**152.98**	**317**	PKPbc	**PKPbc**	**19 56 04.5**	**-1.2**
	0.3nm,0.4s,baz=67,slow=1.7,SNR=2.7						

*NEIC **10** 19:44:00.9±1.6, 18°.8S±0'.2×177°.6W±0'.3, h605km±24km, mb4.3/16, Error ellipse: s-maj=40.8km s-min=26.7km az=76.0*

*IDC **10** 19:44:01.8±4.4, 18°.87S×177°.70W, h612km±28km, mb3.2/4, mbtmp4.2/6, Error ellipse: s-maj=114.3km s-min=24.0km az=137.0*

ISC 10 19:44:00.8±1.7, 18°.8S±0'.3×177°.7W±0'.2, h600km, n25, σ0s73/25, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.19**	**284**	P	**P**	**19 45 29.5**	**+1.7**
	20nm,0.4s,baz=130,slow=13,SNR=27						
DZM	**Mont Dzumac**	**15.22**	**255**	P	**P**	**19 47 11.5**	**+0.3**
	7.0nm,0.9s,baz=91,slow=18,SNR=8.7						
DZM	**Mont Dzumac**	**15.22**	**255**	P	**P**	**19 47 11.8**	**+0.6**
DZM				IAmb	IAmb	19 47 26.8	
	comp=Z,26nm,1.4s						
ARMA	**Armidale**	**30.10**	**242**	P	**P**	**19 49 23.0**	**-0.6**
ARMA				IAmb	IAmb	19 50 02.3	
	comp=Z,11nm,1.4s						
RABL	**Rabaul**	**32.84**	**293**	P	**P**	**19 49 45.6**	**-1.4**
CAN	**Canberra**	**33.72**	**234**	P	**P**	**19 49 52.8**	**-1.3**
CAN				IAmb	IAmb	19 50 21.4	
	comp=Z,19nm,1.4s						
CTAO	**Charters Tower**	**33.99**	**262**	P	**P**	**19 49 56.5**	**0.0**
TOO	**Toolangi**	**37.15**	**232**	P	**P**	**19 50 22.8**	**+0.5**
COEN	**Coen**	**37.81**	**271**	P	**P**	**19 50 28.4**	**+0.4**
COEN				IAmb	IAmb	19 50 44.4	
	comp=Z,9.0nm,1.4s						
STKA	**Stephens Creek**	**38.81**	**242**	P	**P**	**19 50 36.2**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=90,slow=11,SNR=10						
	comp=Z,1.7nm,0.4s						
STKA	**Stephens Creek**	**38.81**	**242**	P	**P**	**19 50 36.4**	**+0.6**
BBOO	**Buckleboo**	**43.58**	**242**	P	**P**	**19 51 13.4**	**0.0**
BBOO				IAmb	IAmb	19 51 16.4	
	comp=Z,17nm,1.4s						
WR0	**Warramunga Arr**	**44.96**	**260**	P	**P**	**19 51 24.3**	**+0.1**
WR0				IAmb	IAmb	19 51 59.8	
	comp=Z,7.4nm,1.3s						
WB0	**Warramunga Arr**	**45.12**	**261**	P	**P**	**19 51 24.8**	**-0.7**
WB0				IAmb	IAmb	19 51 58.5	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**19 51 25.1**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=98,slow=7.5,SNR=63						
	comp=Z,2.3nm,0.4s						
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**19 51 24.8**	**-0.9**
AS31	**Alice Springs**	**45.22**	**255**	P	**P**	**19 51 25.5**	**-0.6**
ASAR	**Alice Springs**	**45.22**	**255**	P	**P**	**19 51 25.9**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=90,slow=7.8,SNR=88						
	comp=Z,4.5nm,0.7s						
ASAR	**Alice Springs**	**45.22**	**255**	P	**P**	**19 51 25.4**	**-0.7**
FORT	**Forrest**	**50.25**	**245**	P	**P**	**19 52 03.1**	**-0.4**
KNRA	**Kununurra**	**51.09**	**265**	P	**P**	**19 52 10.2**	**+0.5**
KNRA				IAmb	IAmb	19 52 40.7	
	comp=Z,26nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.56**	**261**	P	**P**	**19 52 27.2**	**-0.1**
ILAR	**Eielson Array**	**86.61**	**13**	P	**P**	**19 55 40.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=222,slow=5.1,SNR=9.2						
	comp=Z,0.3nm,0.6s						
CLL	**Collm**	**146.49**	**348**	*i* PKPbc	**PKPbc**	**20 02 36.3**	**+0.7**
GERES	**GERESS Array B**	**148.66**	**345**	PKPbc	**PKPbc**	**20 02 41.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=22,slow=1.1,SNR=3.9						

*TAP **10** 20:04:03.1, 24°.11N×122°.81E, h18km, ML2.5, D*
*JMA **10** 20:04:03.1±0.1, 24°.1N±2°.×122°.8E±0°.8, h23km±3km, MV2.0/9, NW OFF ISHIGAKIJIMA IS*

ISC 10 20:04:02.7±1.1, 24°.15N±0'.04×122°.81E±0'.02, h18km±6km, n51, σ0s44/100, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.33**	**23**	P	**Pg**	**20 04 09.7**	**-0.1**
JYNG				S	**Sg**	**20 04 14.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.37**	**31**	P	**Pg**	**20 04 10.4**	**0.0**
YOJ				eS	**Sg**	**20 04 15.5**	**-0.1**
IRIF	**Iriomote-Funau**	**0.86**	**77**	P	**Pb**	**20 04 19.2**	**-0.1**
IRIF				S	**Sg**	**20 04 31.6**	**+0.5**
HATJ	**Hateruma jima**	**0.92**	**95**	P	**Pb**	**20 04 20.3**	**+0.1**
HATJ				eS	**Sg**	**20 04 32.9**	**+0.2**
EWUT	**Wuta**	**0.98**	**288**	P	**Pb**	**20 04 20.5**	**-0.8**
	baz=289						
EWUT				*e*S	**Sb**	**20 04 34.1**	**+0.2**
	baz=289						
TWC	**Suao**	**0.99**	**298**	*e*P	**Pb**	**20 04 20.9**	**-0.4**
	baz=299						
TWC				*e*S	**Sb**	**20 04 33.9**	**-0.1**
	baz=299						
ENA	**Nanau**	**1.01**	**286**	P	**Pb**	**20 04 21.1**	**-0.6**
	baz=288						
ENA				*e*S	**Sb**	**20 04 34.9**	**+0.2**
	baz=288						
JKRS	**Kuro-shima**	**1.10**	**85**	P	**Pb**	**20 04 23.8**	**+0.5**
JKRS				S	**Sg**	**20 04 38.7**	**+0.1**
NACB	**Ninganchiao**	**1.11**	**272**	*e*P	**Pn**	**20 04 23.1**	**-0.3**
	baz=273						
NACB				*e*S	**Sn**	**20 04 38.3**	**+0.1**
	baz=273						
TWE	**Neicheng**	**1.18**	**299**	P	**Pn**	**20 04 24.4**	**-0.1**
	baz=300						
TWE				S	**Sn**	**20 04 39.9**	**-0.2**
	baz=300						
ETLH	**Xiulin Townshi**	**1.21**	**273**	*e*P	**Pn**	**20 04 24.9**	**0.0**
	baz=274						
ETLH				*e*S	**Sn**	**20 04 41.1**	**+0.2**
	baz=274						
TIPB	**Shuangxi**	**1.21**	**313**	P	**Pb**	**20 04 25.7**	**+0.5**
	baz=313						
TIPB				*e*S	**Sb**	**20 04 40.4**	**-0.2**
	baz=313						
LATG	**Datong**	**1.23**	**289**	P	**Pn**	**20 04 25.2**	**+0.1**
	baz=289						
LATG				S	**Sb**	**20 04 41.2**	**+0.1**
	baz=289						
ENTT	**Nioudou**	**1.23**	**294**	*e*P	**Pn**	**20 04 25.2**	**+0.1**
	baz=295						
ENTT				*e*S	**Sn**	**20 04 41.6**	**+0.2**
	baz=295						
JIJ	**Ishigaki jima**	**1.24**	**80**	P	**Pn**	**20 04 24.9**	**-0.3**
JIJ				S	**Sb**	**20 04 41.2**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.27**	**299**	*e*P	**Pb**	**20 04 26.4**	**+0.2**
	baz=300						
FUSB				*e*S	**Sn**	**20 04 42.9**	**+0.6**
	baz=300						
SXI1	**Grass Mountain**	**1.27**	**318**	*e*P	**Pn**	**20 04 25.3**	**-0.4**
	baz=319						
SXI1				*e*S	**Sn**	**20 04 42.2**	**-0.1**
	baz=319						
ESL	**Shilin**	**1.30**	**256**	*e*S	**Sn**	**20 04 42.4**	**-0.5**
	baz=256						
NNSB	**Datong**	**1.33**	**283**	*e*P	**Pn**	**20 04 26.8**	**+0.2**
	baz=283						
NNSB				*e*S	**Sb**	**20 04 44.4**	**+0.4**
	baz=283						
NNS	**Nan Shan**	**1.34**	**283**	*e*P	**Pn**	**20 04 27.2**	**+0.4**
	baz=284						
NNS				*e*S	**Sb**	**20 04 44.9**	**+0.5**
	baz=284						
EGFH	**Guangfu**	**1.35**	**250**	*e*P	**Pn**	**20 04 26.5**	**-0.2**
	baz=250						
EGFH				*e*S	**Sn**	**20 04 43.8**	**-0.4**
	baz=250						
YHNB	**Yeheng**	**1.40**	**292**	*e*P	**Pb**	**20 04 28.9**	**+0.4**
	baz=293						
YHNB				*e*S	**Sn**	**20 04 45.6**	**-0.1**
	baz=293						
WHF	**Hehuan Shan**	**1.41**	**270**	*e*P	**Pn**	**20 04 27.4**	**-0.5**
	baz=271						
WHF				*e*S	**Sn**	**20 04 45.5**	**-0.8**
	baz=271						
NSK	**Sanguang**	**1.42**	**292**	*e*P	**Pb**	**20 04 28.7**	**-0.1**
	baz=293						
NSK				*e*S	**Sn**	**20 04 45.7**	**-0.3**
	baz=293						
HGSD	**Ruisui**	**1.42**	**243**	*e*P	**Pn**	**20 04 27.8**	**+0.1**
	baz=244						
HGSD				*e*S	**Sn**	**20 04 45.7**	**-0.3**
	baz=244						
FUSS	**Fushou**	**1.43**	**274**	*e*P	**Pn**	**20 04 28.7**	**+0.6**
	baz=275						
FUSS				*e*S	**Sn**	**20 04 45.9**	**-0.7**
	baz=275						
JISG	**Ishigakijimahi**	**1.44**	**72**	P	**Pn**	**20 04 28.1**	**+0.1**
JISG				eS	**Sn**	**20 04 46.5**	**0.0**
CHGB	**Renai**	**1.49**	**267**	*e*P	**Pn**	**20 04 28.8**	**-0.1**
	baz=268						
CHGB				*e*S	**Sn**	**20 04 47.6**	**-0.5**
	baz=268						
EHY	**Hungye**	**1.50**	**245**	*e*P	**Pn**	**20 04 28.6**	**-0.2**
	baz=245						
EHY				*e*S	**Sn**	**20 04 47.6**	**-0.4**
	baz=245						
OWD	**Renai**	**1.50**	**263**	*e*P	**Pn**	**20 04 28.9**	**-0.1**
	baz=264						
OWD				*e*S	**Sn**	**20 04 48.1**	**-0.1**
	baz=264						
WUSB	**Renai**	**1.55**	**265**	*e*P	**Pn**	**20 04 29.3**	**-0.3**
	baz=265						
WUSB				*e*S	**Sn**	**20 04 48.7**	**-0.7**
	baz=265						
VWDT	**VWDT**	**1.57**	**256**	*e*P	**Pn**	**20 04 30.2**	**+0.4**
	baz=256						
VWDT				*e*S	**Sn**	**20 04 49.6**	**-0.1**
	baz=256						
YULB	**Yu-li**	**1.57**	**242**	*e*P	**Pn**	**20 04 28.8**	**-1.0**
	baz=242						
YULB				*e*S	**Sn**	**20 04 49.7**	**0.0**
	baz=242						
EYUL	**Yuli**	**1.58**	**240**	*e*P	**Pn**	**20 04 30.0**	**+0.2**
	baz=240						
EYUL				*e*S	**Sn**	**20 04 49.7**	**-0.1**
	baz=240						
FULB	**Fuli**	**1.68**	**236**	*e*P	**Pn**	**20 04 31.3**	**+0.1**
	baz=236						
FULB				*e*S	**Sn**	**20 04 52.2**	**-0.1**
	baz=236						
SSLB	**Suanglung**	**1.73**	**258**	*e*P	**Pn**	**20 04 31.9**	**-0.1**
	baz=259						
SSLB				*e*S	**Sn**	**20 04 54.3**	**+0.6**
	baz=259						
WCS	**Beigang Elemen**	**1.73**	**267**	*e*P	**Pn**	**20 04 32.3**	**+0.3**
	baz=268						
WCS				*e*S	**Sn**	**20 04 53.7**	**0.0**
	baz=268						
SMLT	**Sun Moon Lake**	**1.76**	**262**	*e*P	**Pn**	**20 04 32.5**	**-0.1**
	baz=262						
SMLT				*e*S	**Sn**	**20 04 54.2**	**-0.4**
	baz=262						
EHD	**Haiduan**	**1.77**	**236**	*e*P	**Pn**	**20 04 32.7**	**+0.2**
	baz=236						
EHD				*e*S	**Sn**	**20 04 54.2**	**-0.5**
	baz=236						
TYC	**Yuchr**	**1.80**	**263**	*e*P	**Pn**	**20 04 33.0**	**+0.2**
	baz=263						
TYC				*e*S	**Sn**	**20 04 55.1**	**-0.1**
	baz=263						
JTJ	**Tarama**	**1.80**	**74**	*e*P	**Pb**	**20 04 34.5**	**-0.6**
EDH	**Donghe**	**1.81**	**230**	*e*P	**Pn**	**20 04 33.0**	**0.0**
	baz=230						
EDH				*e*S	**Sn**	**20 04 53.6**	**-1.9**
	baz=230						
WHYT	**Xinyi Township**	**1.84**	**256**	*e*P	**Pn**	**20 04 33.9**	**+0.3**
	baz=257						
WHYT				*e*S	**Sn**	**20 04 56.5**	**0.0**
	baz=257						
ELDTW	**Lidau**	**1.90**	**240**	*e*P	**Pn**	**20 04 34.2**	**-0.1**
	baz=240						
ELDTW				*e*S	**Sn**	**20 04 57.2**	**-0.7**
	baz=240						
ALS	**Alishan**	**1.94**	**251**	*e*P	**Pn**	**20 04 35.3**	**+0.2**
	baz=251						
ALS				*e*S	**Sn**	**20 04 59.1**	**0.0**
	baz=251						
TPUB	**Ta-pu**	**2.16**	**248**	*e*P	**Pn**	**20 04 38.7**	**+0.7**
	baz=248						
TPUB				*e*S	**Sn**	**20 05 04.8**	**+0.4**
	baz=248						
CHN4	**Tsaushan**	**2.18**	**249**	*e*P	**Pn**	**20 04 38.6**	**+0.5**
	baz=249						
CHN4				*e*S	**Sn**	**20 05 04.7**	**+0.1**
	baz=249						
WTP	**Ta-pu**	**2.20**	**246**	*e*P	**Pn**	**20 04 39.0**	**+0.6**
	baz=246						
WTP				*e*S	**Sn**	**20 05 06.1**	**+0.8**
	baz=246						
CHN1	**Nanshi**	**2.30**	**246**	*e*P	**Pn**	**20 04 40.6**	**+0.8**
	baz=246						
CHN1				*e*S	**Sn**	**20 05 07.4**	**-0.2**
	baz=246						
SGST	**Jiashian**	**2.30**	**243**	*e*P	**Pn**	**20 04 40.6**	**+0.8**
	baz=243						
SGST				*e*S	**Sn**	**20 05 08.5**	**+0.9**
	baz=243						
TWK	**Hsinying**	**2.30**	**248**	*e*P	**Pn**	**20 04 40.2**	**+0.4**
	baz=248						
TWK				*e*S	**Sn**	**20 05 07.8**	**+0.1**
	baz=248						

*IDC **10** 20:05:33.3±0.9, 67°.75N×20°.46E, h0km, mbtmp3.4/5, ML2.0/4, Error ellipse: s-maj=16.5km s-min=7.8km az=112.0*
*HEL **10** 20:05:33.0±0.2, 67°.81N×20°.18E, h0km, ML1.9, Explosion*

ISC 10 20:05:31.0±0.8, 67°.78N±0°.03×20°.06E±0°.04, h0km, n22, σ1s25/35, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.78**	**69**	PG	**Pg**	**20 05 46.0**	**+0.1**
KIF	**Kilpisjarvi**	**1.26**	**12**	*e*P	**Pn**	**20 05 56.2**	**+0.3**
KIF	**Kilpisjarvi**	**1.26**	**12**	PG	**Pn**	**20 05 55.9**	**0.0**
KIF				MSG		20 06 11.1	
	comp=Z,15nm,0.2s						
KIF				SB	**Sb**	**20 06 12.1**	**-0.3**
PAJU	**Pajala**	**1.40**	**121**	PG	**Pb**	**20 05 57.7**	**-0.4**
	baz=302						
PAJU				SG	**Sn**	**20 06 16.5**	**-0.6**
ERTU	**Ertsjaerv**	**1.48**	**145**	PG	**Pb**	**20 05 59.7**	**+0.2**
ERTU				SN	**Sn**	**20 06 21.0**	**+2.0**
HEF	**Hetta**	**1.49**	**63**	*e*P	**Pg**	**20 05 59.2**	**-0.4**
HEF	**Hetta**	**1.49**	**63**	PG	**Pn**	**20 05 58.9**	**-0.2**
	baz=248						
HEF				MSG		20 06 16.3	
	comp=Z,9.7nm,0.2s						
HEF				SG	**Sg**	**20 06 17.9**	**-1.0**
KTK1	**Kautokeino**	**1.71**	**42**	PG	**Pb**	**20 06 02.7**	**-0.5**
KTK1				SN	**Sg**	**20 06 25.6**	**-0.3**
TRO	**Tromso**	**1.91**	**348**	PG	**Pb**	**20 06 06.7**	**+0.1**
TRO				SG	**Sg**	**20 06 32.4**	**+0.1**
KALU	**Kalix**	**2.33**	**144**	PB	**Pb**	**20 06 13.2**	**-0.6**
	baz=326						
TOF	**Tornio**	**2.40**	**133**	PG	**Pb**	**20 06 14.3**	**-0.6**
	baz=320						
TOF				MSG		20 06 43.5	
	comp=Z,3.8nm,0.2s						
SGF	**Sodankyl**	**2.50**	**95**	PB	**Pb**	**20 06 14.8**	**-1.9**
	baz=285						
SGF				SG	**Sb**	**20 06 48.3**	**+0.3**
RNF	**Rovaniemi**	**2.60**	**114**	PB	**Pb**	**20 06 17.1**	**-1.3**
RNF				SG	**Sb**	**20 06 51.3**	**+0.4**
ARA0	**ARCESS Array S**	**2.66**	**46**	PN	**Pn**	**20 06 16.5**	**+1.4**
	baz=230						
ARA0				SB	**Sn**	**20 06 50.1**	**+2.1**
ARCES	**ARCESS Array B**	**2.66**	**46**	Pn	**Pb**	**20 06 17.3**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=231,slow=14,SNR=59						
ARCES				Sn	**Sn**	**20 06 48.2**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=231,slow=23,SNR=3.5						
	comp=Z,1.8nm,0.3s						
BURU	**Burvik**	**3.25**	**170**	PB	**Pb**	**20 06 26.9**	**-2.6**
	baz=356						
BURU				SB	**Sb**	**20 07 08.5**	**-1.1**
OLKF	**Oulanka, Finla**	**3.

HEL 10 20:05:34.4±0.2, 67°61N×33°78E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero** baz=225	**0.44**	**49**	PG	Pg	20 05 42.4	-0.4
LVZ				SG	Sg	20 05 44.1	-4.3
VRF	**Varrio**	**1.60**	**277**	PG	Pn	20 06 03.2	-0.7
VRF				SB	Sn	20 06 21.2	-4.0
VRF	comp=Z,2.7nm,0.2s			MSG		20 06 22.4	
OLKF	**Oulanka, Finla** baz=60	**2.16**	**235**	PG	Pb	20 06 13.2	-1.0
OLKF	comp=Z,2.0nm,0.2s			MSG		20 06 38.4	
KU6	**Riekki** baz=49	**2.22**	**226**	PG	Pb	20 06 13.9	-1.4
KU6	comp=Z,1.7nm,0.2s			MSG		20 06 40.0	
KU6				SG	Sb	20 06 43.3	+0.1
KEV	**Kevo**	**3.28**	**314**	PN	Pn	20 06 27.2	+0.3
KEV				SN	Sn	20 07 03.0	-3.6
ARA0	**ARCESS Array S**	**3.60**	**306**	PN	Pn	20 06 30.4	-0.9
TOF	**Tornio**	**4.04**	**252**	PG	Pb	20 06 46.5	+0.2
TOF	**Tornio**	**4.04**	**252**	SG	Pb	20 06 46.5	+0.2
OUL	**Oulu**	**4.07**	**235**	PG	Pb	20 06 37.1	-0.6
OUL	**Oulu**	**4.07**	**235**	PN	Pn	20 06 37.1	-0.6
KALU	**Kalix**	**4.49**	**252**	PN	Pn	20 06 45.7	+2.1
KALU	**Kalix**	**4.49**	**252**	SG	Pn	20 06 45.7	+2.1

*IDC **10** 20:08:36.5±0.8, 38°58S×176°55E, h185km±6km, mb3.4/3, mbtmp4.0/5, Error ellipse: s-maj=30.7km s-min=24.6km az=147.0*
*NEIC **10** 20:08:37.3±2.5, 38°41S±0°04×176°23E±0°08, h190km±6km, mb4.0/4, Error ellipse: s-maj=9.9km s-min=4.6km az=103.0*
*WEL **10** 20:08:41.1±0.8, 38°S±4°×17°6E±°, h155km±6km, M3.5/68, ML2.7/8, MLv3.5/68, Error ellipse: s-maj=0.0km s-min=0.0km az=129.9, confirmed*

ISC 10 20:08:37.8±0.7, 38°38S±0°04×176°16E±0°04, h189km±5km, n202, σ1§20/223, mb3.9/5, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.05**	**305**	P	**Pn**	**20 09 02.8**	**+0.1**
HSRZ	**Hossack Road**	**0.09**	**45**	P	**Pn**	**20 09 02.7**	**-0.1**
HRRZ	**Handcock Road**	**0.10**	**98**	P	**Pn**	**20 09 02.3**	**-0.4**
WPRZ	**Whakapapatarin**	**0.14**	**179**	P	**Pn**	**20 09 02.9**	**+0.1**
HLRZ	**Highlands Stat**	**0.20**	**59**	P	**Pn**	**20 09 03.0**	**+0.1**
UTU	**Utuhina**	**0.20**	**7**	P	**Pn**	**20 09 02.8**	**-0.1**
PRRZ	**Plateau Road**	**0.22**	**124**	P	**Pn**	**20 09 02.8**	**0.0**
ALRZ	**Allen Road**	**0.23**	**142**	P	**Pn**	**20 09 02.9**	**0.0**
NGRZ	**Ngongotaha**	**0.28**	**4**	P	**Pn**	**20 09 02.9**	**-0.2**
RRRZ	**Republican Roa**	**0.28**	**82**	P	**Pn**	**20 09 02.7**	**-0.3**
KUTZ	**Kaahu Road**	**0.29**	**247**	P	**Pn**	**20 09 03.3**	**+0.3**
TARZ	**Mount Tarawera**	**0.31**	**63**	P	**Pn**	**20 09 02.9**	**-0.3**
OMRZ	**Omania**	**0.32**	**32**	P	**Pn**	**20 09 02.7**	**-0.4**
WHTZ	**Whakaora**	**0.33**	**209**	P	**Pn**	**20 09 03.7**	**+0.5**
MKRZ	**Makatiti**	**0.34**	**45**	P	**Pn**	**20 09 03.4**	**+0.2**
KARZ	**Kaharoa**	**0.36**	**11**	P	**Pn**	**20 09 02.8**	**-0.4**
LIRZ	**Lichensteins R**	**0.41**	**25**	P	**Pn**	**20 09 02.9**	**-0.5**
WATZ	**Wairara**	**0.47**	**225**	P	**Pn**	**20 09 04.0**	**+0.5**
MUGZ	**Murupara**	**0.49**	**102**	P	**Pn**	**20 09 03.2**	**-0.4**
TLZ	**Tolley Road**	**0.49**	**275**	P	**Pn**	**20 09 04.0**	**+0.3**
MRHZ	**Matea Rd**	**0.50**	**156**	P	**Pn**	**20 09 03.9**	**+0.2**
HATZ	**Hinemaiaia**	**0.52**	**186**	P	**Pn**	**20 09 04.1**	**+0.3**
HATZ				S	**Sn**	**20 09 22.5**	**-1.4**
EDRZ	**Edgecumbe**	**0.53**	**59**	P	**Pn**	**20 09 03.2**	**-0.7**
KMRZ	**Kaimai**	**0.56**	**342**	P	**Pn**	**20 09 03.7**	**-0.3**
MARZ	**Manawahe**	**0.56**	**46**	P	**Pn**	**20 09 03.5**	**-0.5**
RATZ	**Rangitukua**	**0.57**	**212**	P	**Pn**	**20 09 04.5**	**+0.5**
OPRZ	**Ohinepanea**	**0.62**	**30**	P	**Pn**	**20 09 03.4**	**-0.8**
OPRZ				S	**Sn**	**20 09 21.7**	**-2.7**
RITZ	**Rihia Road**	**0.64**	**201**	P	**Pn**	**20 09 05.3**	**+1.0**
TGRZ	**Tauranga**	**0.65**	**7**	P	**Pn**	**20 09 03.7**	**-0.6**
RTZ	**Ruatahuna**	**0.69**	**111**		**Pn**	**20 09 04.5**	**0.0**
RTZ				Sn	**Sn**	**20 09 23.6**	**-1.7**
RTZ	**Ruatahuna**	**0.69**	**111**	P	**Pn**	**20 09 04.6**	**0.0**
RTZ				S	**Sn**	**20 09 23.8**	**-1.4**
KATZ	**Kakaramea**	**0.70**	**211**	P	**Pn**	**20 09 05.4**	**+0.7**
MTHZ	**Maungataniwha**	**0.71**	**132**	P	**Pn**	**20 09 05.1**	**+0.5**
MTHZ				S	**Sn**	**20 09 24.2**	**-1.3**
URZ	**Urewera** 736nm,0.3s,baz=328,slow=5.4,SNR=3247	**0.76**	**81**	P	**Pn**	**20 09 03.9**	**-1.0**
URZ	398nm,0.3s,baz=252,slow=20,SNR=38			S	**Sn**	**20 09 22.5**	**-3.2**
URZ	**Urewera**	**0.76**	**81**	P	**Pn**	**20 09 04.1**	**-0.7**
URZ				S	**Sn**	**20 09 22.5**	**-3.2**
NTVZ	**North Tongarir**	**0.81**	**208**	P	**Pn**	**20 09 06.2**	**+0.8**
TMVZ	**Te Maari**	**0.82**	**206**	P	**Pn**	**20 09 06.1**	**+0.8**
KRVZ	**Karewarewa**	**0.82**	**209**	P	**Pn**	**20 09 06.1**	**+0.7**
WHRZ	**Whale Island**	**0.83**	**51**	P	**Pn**	**20 09 04.7**	**-0.7**
BKZ	**Black Stump Fm**	**0.83**	**162**		**Pn**	**20 09 06.0**	**+0.6**
BKZ				Sn	**Sn**	**20 09 25.3**	**-1.5**
BKZ	**Black Stump Fm**	**0.83**	**162**	P	**Pn**	**20 09 06.1**	**+0.7**
TOZ	**Tahuroa Road**	**0.83**	**321**	P	**Pn**	**20 09 05.2**	**-0.1**
ETVZ	**East Tongariro**	**0.83**	**205**	P	**Pn**	**20 09 06.3**	**+0.8**
WTVZ	**West Tongariro**	**0.86**	**211**	P	**Pn**	**20 09 06.4**	**+0.9**
NNVZ	**North Ngauruho**	**0.86**	**209**	P	**Pn**	**20 09 06.5**	**+0.8**
OTVZ	**Oturere**	**0.88**	**206**	P	**Pn**	**20 09 06.8**	**+1.0**
NMHZ	**Naumai**	**0.88**	**145**	P	**Pn**	**20 09 07.3**	**+1.6**
TWVZ	**Taurewa**	**0.89**	**219**	P	**Pn**	**20 09 06.6**	**+0.8**
RAHZ	**Arahi**	**0.90**	**127**	P	**Pn**	**20 09 06.8**	**+1.0**
SNVZ	**South Ngauruho**	**0.90**	**207**	P	**Pn**	**20 09 06.9**	**+0.9**
NGZ	**Ngauruhoe**	**0.91**	**209**	P	**Pn**	**20 09 06.7**	**+0.7**
TUVZ	**Tukino**	**0.97**	**204**	P	**Pn**	**20 09 07.4**	**+1.0**
RAGZ	**Rawiri**	**0.99**	**97**	P	**Pn**	**20 09 06.6**	**+0.1**
FWVZ	**Far West T-bar**	**1.00**	**208**	P	**Pn**	**20 09 07.3**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.01**	**206**	P	**Pn**	**20 09 07.5**	**+0.8**
SNGZ	**Shannon Statio**	**1.01**	**114**	P	**Pn**	**20 09 07.2**	**+0.7**
DRZ	**Dome Shelter**	**1.01**	**207**	P	**Pn**	**20 09 07.9**	**+1.0**
HIZ	**Hauiti**	**1.03**	**262**		**Pn**	**20 09 07.3**	**+0.7**
HIZ				Sn	**Sn**	**20 09 29.7**	**+0.8**
HIZ	**Hauiti**	**1.03**	**262**	P	**Pn**	**20 09 07.4**	**+0.7**
TRVZ	**Turoa**	**1.04**	**207**	P	**Pn**	**20 09 07.7**	**+0.8**
WHVZ	**Wahianoa**	**1.04**	**205**	P	**Pn**	**20 09 07.9**	**+1.0**
KWHZ	**Kaweka Forest**	**1.06**	**169**	P	**Pn**	**20 09 08.2**	**+1.2**
MOVZ	**Moawhango**	**1.08**	**197**	P	**Pn**	**20 09 07.7**	**+0.6**
MWZ	**Matawai**	**1.08**	**88**	P	**Pn**	**20 09 06.8**	**-0.2**
WHHZ	**Waihua**	**1.09**	**130**	P	**Pn**	**20 09 08.2**	**+1.2**
MYRZ	**Mayor Island**	**1.10**	**3**	P	**Pn**	**20 09 07.2**	**0.0**
ARHZ	**Aropaoanui**	**1.10**	**144**	P	**Pn**	**20 09 08.6**	**+1.5**
PKVZ	**Pokaka**	**1.11**	**215**	P	**Pn**	**20 09 08.2**	**+0.9**
BHHZ	**Black Hill Sta**	**1.11**	**184**	P	**Pn**	**20 09 08.2**	**+0.9**
MTVZ	**Mangateitei**	**1.14**	**208**	P	**Pn**	**20 09 08.5**	**+1.0**
MCHZ	**McNeill Hill**	**1.14**	**159**	P	**Pn**	**20 09 09.3**	**+1.8**
WIZ	**White Island**	**1.18**	**44**	P	**Pn**	**20 09 06.6**	**-1.1**
WSRZ	**White Island S**	**1.18**	**43**	P	**Pn**	**20 09 07.0**	**-0.8**
RUGZ	**Raukumara Rang**	**1.27**	**71**	P	**Pn**	**20 09 07.2**	**-1.4**
KRHZ	**Kereru**	**1.27**	**173**	P	**Pn**	**20 09 08.8**	**+1.3**
RIGZ	**Rimuhau**	**1.30**	**105**	P	**Pn**	**20 09 09.5**	**+0.7**
VRZ	**Vera Road**	**1.33**	**235**	P	**Pn**	**20 09 10.1**	**+1.2**
TKGZ	**Te Karaka**	**1.33**	**93**	P	**Pn**	**20 09 09.3**	**+0.3**
KNZ	**Kokohu**	**1.35**	**119**	P	**Pn**	**20 09 10.0**	**+0.9**
HAZ	**Te Kaha**	**1.42**	**65**	P	**Pn**	**20 09 08.5**	**-1.3**
TWGZ	**Tauwhareparae**	**1.45**	**83**	P	**Pn**	**20 09 10.1**	**+0.1**
CKHZ	**Cape Kidnapper**	**1.47**	**151**	P	**Pn**	**20 09 11.9**	**+1.7**
MKAZ	**Moumakai**	**1.50**	**328**	P	**Pn**	**20 09 10.3**	**-0.3**
KAHZ	**Kahuranaki**	**1.52**	**159**	P	**Pn**	**20 09 12.5**	**+1.7**
PNHZ	**Pukenui**	**1.53**	**179**	P	**Pn**	**20 09 12.0**	**+1.1**
MHGZ	**Mahia Peninsul**	**1.57**	**120**	P	**Pn**	**20 09 12.4**	**+1.2**
PKGZ	**Pakihiroa**	**1.59**	**73**	P	**Pn**	**20 09 10.9**	**-0.5**
CNGZ	**Carnagh Statio**	**1.61**	**94**	P	**Pn**	**20 09 12.4**	**+0.8**
WAZ	**Wanganui**	**1.65**	**213**	P	**Pn**	**20 09 13.1**	**+1.2**
KUZ	**Kuaotunu**	**1.67**	**348**	P	**Pn**	**20 09 11.4**	**-0.8**
PUZ	**Puketiti**	**1.68**	**80**	P	**Pn**	**20 09 11.7**	**-0.5**
TSZ	**Takapari Road**	**1.69**	**185**	P	**Pn**	**20 09 13.5**	**+1.2**
WPHZ	**Waipukurau**	**1.70**	**173**	P	**Pn**	**20 09 13.7**	**+1.3**
ETAZ	**East Tamaki Re**	**1.73**	**325**	P	**Pn**	**20 09 12.4**	**-0.3**
PXZ	**Pawanui**	**1.74**	**162**	P	**Pn**	**20 09 14.2**	**+1.4**
WIAZ	**Waiheke Island**	**1.78**	**332**	P	**Pn**	**20 09 13.0**	**-0.3**
AWAZ	**Awhitu Peninsu**	**1.78**	**317**	P	**Pn**	**20 09 13.0**	**-0.2**
NEZ	**North Egmont**	**1.84**	**240**	P	**Pn**	**20 09 15.6**	**+1.7**
WMGZ	**Waiomatatini S**	**1.86**	**73**	P	**Pn**	**20 09 13.7**	**-0.4**
EPAZ	**Eden Park BICE**	**1.87**	**323**	P	**Pn**	**20 09 13.8**	**-0.4**
MXZ	**Matakaoa Point**	**1.88**	**65**		**Pn**	**20 09 13.6**	**-0.6**
MXZ				Sn	**Sn**	**20 09 39.7**	**-2.8**
MXZ	**Matakaoa Point**	**1.88**	**65**	P	**Pn**	**20 09 13.7**	**-0.6**
PKE	**Pukeiti**	**1.88**	**244**	P	**Pn**	**20 09 16.1**	**+1.8**
MBAZ	**Motutapu North**	**1.89**	**328**	P	**Pn**	**20 09 14.1**	**-0.3**
HBAZ	**Herne Bay Bore**	**1.90**	**323**	P	**Pn**	**20 09 14.0**	**-0.4**
KHEZ	**Kahui Hut**	**1.91**	**241**	P	**Pn**	**20 09 16.1**	**+1.5**
WTAZ	**Waiatarua**	**1.92**	**318**	P	**Pn**	**20 09 14.6**	**0.0**
DVHZ	**Dannevirke**	**1.92**	**180**	P	**Pn**	**20 09 15.6**	**+0.9**
PRHZ	**Porangahau**	**1.92**	**169**	P	**Pn**	**20 09 15.9**	**+1.3**
POWZ	**Post Office Ro**	**2.03**	**188**	P	**Pn**	**20 09 16.8**	**+0.9**
ANWZ	**Angora Road**	**2.09**	**173**	P	**Pn**	**20 09 17.8**	**+1.4**
PRWZ	**Pori Road**	**2.18**	**184**	P	**Pn**	**20 09 18.5**	**+1.1**
GRZ	**Great Barrier**	**2.20**	**345**	P	**Pn**	**20 09 17.0**	**-0.6**
BFZ	**Birch Farm**	**2.30**	**178**	P	**Pn**	**20 09 19.5**	**+0.8**
BFZ				Sn	**Sn**	**20 09 48.3**	**-2.5**
BFZ	**Birch Farm**	**2.30**	**178**	P	**Pn**	**20 09 19.5**	**+0.8**
MRZ	**Mangatainoka R**	**2.32**	**191**		**Pn**	**20 09 19.6**	**+0.7**
MRZ				Sn	**Sn**	**20 09 50.1**	**-1.1**
MRZ	**Mangatainoka R**	**2.32**	**191**	P	**Pn**	**20 09 19.6**	**+0.7**
TIWZ	**Tintock**	**2.41**	**185**	P	**Pn**	**20 09 20.7**	**+0.8**
CPWZ	**Castlepoint**	**2.53**	**179**	P	**Pn**	**20 09 22.6**	**+1.3**
OGWZ	**Otaki Gorge**	**2.55**	**197**	P	**Pn**	**20 09 22.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**2.57**	**191**	P	**Pn**	**20 09 22.0**	**+0.3**
KIW	**Kapiti Island**	**2.66**	**201**	P	**Pn**	**20 09 23.1**	**+0.3**
TMWZ	**Te Maipa**	**2.73**	**184**	P	**Pn**	**20 09 24.0**	**+0.3**
MTW	**Mount Morrison**	**2.82**	**190**	P	**Pn**	**20 09 24.7**	**0.0**
WCZ	**Waipu Caves**	**2.83**	**329**	P	**Pn**	**20 09 24.6**	**-0.3**
CAW	**Cannon Point**	**2.85**	**197**	P	**Pn**	**20 09 25.3**	**+0.3**
DUWZ	**D'Urville Isla**	**2.98**	**215**	P	**Pn**	**20 09 26.4**	**-0.1**
TRWZ	**Traveller**	**3.04**	**187**	P	**Pn**	**20 09 27.4**	**+0.1**
PAWZ	**Paruwai Farm**	**3.05**	**190**	P	**Pn**	**20 09 27.4**	**-0.1**
WEL	**Wellington**	**3.10**	**200**	P	**Pn**	**20 09 28.0**	**+0.1**
MSWZ	**Moikau Station**	**3.12**	**193**	Pn	**Pn**	**20 09 27.6**	**-0.6**
MSWZ				Sn	**Sn**	**20 10 05.7**	**-2.1**
SNZO	**South Karori**	**3.14**	**200**	Pn	**Pn**	**20 09 28.3**	**-0.1**
SNZO					**Sn**	**20 10 05.9**	**-2.2**
TCW	**Tory Channel**	**3.18**	**207**	Pn	**Pn**	**20 09 28.8**	**-0.2**
TCW	**Tory Channel**	**3.18**	**207**	P	**Pn**	**20 09 29.0**	**0.0**
BHW	**Baring Head**	**3.19**	**198**		**Pn**	**20 09 28.9**	**-0.2**
BHW					**Sn**	**20 10 06.3**	**-2.9**
PLWZ	**Palliser**	**3.26**	**192**		**Pn**	**20 09 29.6**	**-0.4**
PLWZ	**Palliser**	**3.26**	**192**	P	**Pn**	**20 09 29.7**	**-0.4**
TUWZ	**Tuamarina**	**3.49**	**209**		**Pn**	**20 09 32.4**	**-0.4**
TUWZ	**Tuamarina**	**3.49**	**209**	P	**Pn**	**20 09 32.6**	**-0.2**
NNZ	**Nelson**	**3.55**	**216**	Pn	**Pn**	**20 09 33.2**	**-0.4**
NNZ					**Sn**	**20 10 16.3**	**-1.0**
NNZ	**Nelson**	**3.55**	**216**	P	**Pn**	**20 09 33.1**	**-0.4**
TKNZ	**Takaka Hill**	**3.62**	**222**		**Pn**	**20 09 33.5**	**-1.0**
TKNZ	**Takaka Hill**	**3.62**	**222**	P	**Pn**	**20 09 33.5**	**-1.0**
CMWZ	**Cape Campbell**	**3.68**	**203**	Pn	**Pn**	**20 09 35.5**	**+0.4**
CMWZ					**Sn**	**20 10 19.5**	**-0.7**
CMWZ	**Cape Campbell**	**3.68**	**203**	P	**Pn**	**20 09 35.8**	**+0.7**
QRZ	**Quartz Range**	**3.72**	**228**	Pn	**Pn**	**20 09 34.6**	**-1.1**
QRZ					**Sn**	**20 10 19.2**	**-1.8**
QRZ	**Quartz Range**	**3.72**	**228**	P	**Pn**	**20 09 34.6**	**-1.1**
OUZ	**Omahuta**	**3.76**	**326**		**Pn**	**20 09 36.3**	**+0.1**
OUZ	**Omahuta**	**3.76**	**326**	P	**Pn**	**20 09 36.4**	**+0.1**
MRNZ	**Matariki Terra**	**4.00**	**220**	Pn	**Pn**	**20 09 38.1**	**-1.0**
MRNZ					**Sn**	**20 10 25.2**	**-2.0**
MRNZ	**Matariki Terra**	**4.00**	**220**	P	**Pn**	**20 09 38.1**	**-1.0**
THZ	**Tophouse**	**4.20**	**215**	Pn	**Pn**	**20 09 41.2**	**-0.5**
THZ					**Sn**	**20 10 29.2**	**-2.8**
THZ	**Tophouse**	**4.20**	**215**	P	**Pn**	**20 09 41.2**	**-0.5**
KHZ	**Kahutara**	**4.50**	**206**		**Pn**	**20 09 45.1**	**-0.4**
KHZ	**Kahutara**	**4.50**	**206**	P	**Pn**	**20 09 45.3**	**-0.2**
DSZ	**Denniston Nort**	**4.74**	**223**	Pn	**Pn**	**20 09 47.2**	**-1.4**
DSZ	**Denniston Nort**	**4.74**	**223**	P	**Pn**	**20 09 48.6**	**0.0**
GVZ	**Greta Valley S**	**5.16**	**206**	Pn	**Pn**	**20 09 53.1**	**-0.9**
GVZ	**Greta Valley S**	**5.16**	**206**	P	**Pn**	**20 09 53.1**	**-0.9**
LTZ	**Lake Taylor**	**5.30**	**213**	Pn	**Pn**	**20 09 54.5**	**-1.3**
LTZ	**Lake Taylor**	**5.30**	**213**	P	**Pn**	**20 09 54.6**	**-1.3**
AMCZ	**Amberley**	**5.48**	**208**	Pn	**Pn**	**20 09 57.0**	**-1.1**
AMCZ	**Amberley**	**5.48**	**208**	P	**Pn**	**20 09 57.6**	**-0.5**
INZ	**Inchbonnie**	**5.63**	**218**	Pn	**Pn**	**20 09 58.4**	**-1.7**
INZ	**Inchbonnie**	**5.63**	**218**	P	**Pn**	**20 09 59.3**	**-0.7**
OKCZ	**Okains Bay**	**5.83**	**203**	P	**Pn**	**20 10 02.2**	**-0.4**
OXZ	**Oxford**	**5.85**	**211**	Pn	**Pn**	**20 10 00.5**	**-2.3**
OXZ	**Oxford**	**5.85**	**211**	P	**Pn**	**20 10 01.2**	**-1.6**
MQZ	**McQueen's Vall**	**5.95**	**205**	Pn	**Pn**	**20 10 01.9**	**-2.1**
MQZ	**McQueen's Vall**	**5.95**	**205**	P	**Pn**	**20 10 02.2**	**-1.9**
AKCZ	**Akaroa Harbour**	**6.01**	**203**	P	**Pn**	**20 10 04.0**	**-1.0**
RACZ	**Rakaia**	**6.15**	**208**	P	**Pn**	**20 10 05.2**	**-1.5**
MHCZ	**Mount Hutt**	**6.21**	**213**	P	**Pn**	**20 10 06.5**	**-1.1**
WACZ	**Wakanui South**	**6.44**	**209**	P	**Pn**	**20 10 09.5**	**-1.1**
RPZ	**Rata Peaks** 5.2nm,0.4s,baz=355,slow=3.1,SNR=9.2	**6.58**	**214**	P	**Pn**	**20 10 11.4**	**-1.0**
RPZ	**Rata Peaks**	**6.58**	**214**		**Pn**	**20 10 10.3**	**-2.1**
RPZ	**Rata Peaks**	**6.58**	**214**	P	**Pn**	**20 10 11.4**	**-1.0**
ARCZ	**Arundel**	**6.71**	**212**	P	**Pn**	**20 10 12.9**	**-1.3**
FOZ	**Fox Glacier**	**7.04**	**221**	Pn	**Pn**	**20 10 16.7**	**-1.6**
FOZ	**Fox Glacier**	**7.04**	**221**	P	**Pn**	**20 10 18.0**	**-0.4**
TMZ	**Timaru**	**7.14**	**211**	P	**Pn**	**20 10 18.4**	**-1.4**
LBZ	**Lake Benmore**	**7.50**	**215**	Pn	**Pn**	**20 10 22.5**	**-1.9**
CTZ	**Chatham Island**	**7.64**	**137**	P	**Pn**	**20 10 29.8**	**+3.6**
ODZ	**Otahua Downs**	**7.83**	**210**	Pn	**Pn**	**20 10 25.9**	**-2.9**
ODZ	**Otahua Downs**	**7.83**	**210**	P	**Pn**	**20 10 26.6**	**-2.2**
WKZ	**Wanaka**	**8.37**	**217**	Pn	**Pn**	**20 10 33.2**	**-2.7**
MSZ	**Milford Sound**	**8.81**	**222**	P	**Pn**	**20 10 44.9**	**+3.3**
MLZ	**Mavora Lakes**	**9.20**	**218**	Pn	**Pn**	**20 10 44.7**	**-2.0**
WHZ	**Wether Hill Ro**	**9.67**	**216**	Pn	**Pn**	**20 10 51.4**	**-1.4**
DZM	**Mont Dzumac** 7.1nm,1.1s,baz=187,slow=9.3,SNR=5.6	**18.27**	**330**	P	**Pn**	**20 12 40.5**	**+0.7**
CTA	**Charters Tower** 1.6nm,0.5s,baz=162,slow=6.4,SNR=1.2 1.6nm,0.5s	**31.63**	**297**	P	**P**	**20 14 45.9**	**+2.7**
COEN	**Coen**	**37.98**	**301**	P	**P**	**20 15 39.1**	**+1.6**
AS31	**Alice Springs**	**38.72**	**280**	P	**P**	**20 15 46.1**	**+2.4**
ASAR	**Alice Springs** 1.7nm,0.7s,baz=128,slow=8.5,SNR=28	**38.73**	**280**	P	**P**	**20 15 45.7**	**+2.0**
ASAR	0.3nm,0.5s,baz=131,slow=3.6,SNR=3.4 1.7nm,0.7s			PcP	**PcP**	**20 17 51.3**	**-0.2**
ASAR	**Alice Springs**	**38.73**	**280**	P	**P**	**20 15 45.1**	**+1.3**
WB2	**Warramunga Arr**	**40.47**	**285**	P	**P**	**20 15 59.5**	**+1.3**
WB2	comp=Z,8.9nm,1.3s			IAmb	IAmb	20 16 17.6	
WRA	**Warramunga Arr** comp=Z,0.5nm,0.7s,baz=124,slow=7.3,SNR=9.4 comp=Z,0.5nm,0.7s	**40.48**	**285**	P	**P**	**20 15 59.6**	**+1.4**
WB0	**Warramunga Arr**	**40.54**	**285**	P	**P**	**20 15 59.7**	**+1.0**
WB0	comp=Z,4.7nm,1.2s			IAmb	IAmb	20 16 22.4	
MKAR	**Makanchi Array** comp=Z,0.2nm,0.8s,baz=127,slow=3.8,SNR=1.8	**119.06**	**308**	PKP	**PKPdf**	**20 27 02.1**	**-1.4**
ARCES	**ARCESS Array B** comp=Z,5.9nm,1.0s,baz=28,slow=5.5,SNR=4.3	**145.06**	**342**	PKPbc	**PKPab**	**20 27 51.3**	**-0.2**
FINES	**FINESS Array B** comp=Z,2.1nm,0.9s,baz=74,slow=2.4,SNR=5.4	**150.41**	**331**	PKPbc	**PKPbc**	**20 28 05.7**	**-0.1**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.6s,baz=107,slow=2.8,SNR=4.9	**151.00**	**285**	PKPbc	**PKPbc**	**20 28 06.8**	**-1.4**

IDC 10 20:11:01.1±1.7, 3°53N×128°01E, h0km, mb3.5/3, mbtmp3.5/4, ML2.8/1, MS4.2/1, Error ellipse: s-maj=110.0km s-min=22.9km az=64.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 0.3nm,0.3s,baz=342,slow=20,SNR=1.9	**5.45**	**143**	Pn	**Pn**	**20 12 23.9**	**+0.2**
SIJI	0.2nm,0.3s,baz=294,slow=23,SNR=1.0 5.8nm,0.9s			Sn	Sn	20 13 18.9	-8.2
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=345,slow=10,SNR=9.9 0.9nm,0.7s	**24.14**	**165**	P	P	20 16 19.5	+0.4
ASAR	**Alice Springs** 0.3nm,0.9s,baz=359,slow=7.8,SNR=5.3 0.3nm,0.9s	**27.64**	**168**	P	P	20 16 50.0	-0.7
HNR	**Honiara** comp=Z,348nm,19.1s,baz=8.5,slow=35	**34.33**	**112**	LR	LR	20 31 04.7	
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=118,slow=8.6,SNR=11 0.5nm,0.5s	**58.45**	**325**	P	P	20 20 59.0	+0.1

*NEIC **10** 20:19:01.5±1.7, 10°6S±0°1×161°2E±0°1, h11km±1km, mb4.5/16, Error ellipse: s-maj=20.9km s-min=13.4km az=56.0*
*IDC **10** 20:19:04.0±3.1, 10°46S×161°44E, h51km±26km, mb3.3/6, mbtmp3.6/7, ML3.9/1, MS3.3/1, Error ellipse: s-maj=31.2km s-min=18.6km az=54.0*

ISC 10 20:19:02.9±0.7, 10°64S±0°08×161°3E±0°1, h35km, n35, σ2§22/30, mb4.3/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 7µm,0.4s,baz=144,slow=1.1,SNR=30	**1.78**	**312**	P	**Pn**	**20 19 32.3**	**+1.0**
HNR	10µm,0.3s,baz=187,slow=14,SNR=7.0			S	**Sn**	**20 19 54.5**	**+1.8**
HNR	**Honiara**	**1.78**	**312**		**Pn**	**20 19 32.5**	**+1.2**
RABL	**Rabaul**	**11.08**	**305**	Pn	**Pn**	**20 21 34.9**	**-4.2**
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=26,slow=10,SNR=15	**12.39**	**157**	P	**Pn**	**20 21 59.2**	**+2.2**
DZM	3.2nm,0.8s,baz=319,slow=20,SNR=1.6 2.9nm,0.4s			S	**Sn**	**20 24 09.3**	**-4.7**
DZM	**Mont Dzumac**	**12.39**	**157**	Pn	**Pn**	**20 21 58.1**	**+1.1**
CTAO	**Charters Tower**	**17.26**	**235**		**P**	**20 23 02.3**	**-0.3**
EIDS	**Eidsvold**	**17.56**	**212**	P	**P**	**20 23 07.4**	**+1.6**
PATS	**Pohnpei**	**17.61**	**350**	P	**P**	**20 23 05.0**	**-1.4**
WB0	**Warramunga Arr**	**27.46**	**248**	P	**P**	**20 24 44.6**	**-1.4**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=76,slow=9.3,SNR=1.7 0.3nm,0.7s	**27.55**	**247**	P	**P**	**20 24 48.1**	**+1.3**
STKA	**Stephens Creek** comp=Z,24nm,19.2s,baz=21,slow=34	**27.89**	**218**	LR	LR	20 34 50.9	
ASAR	**Alice Springs** 0.2nm,0.5s,baz=71,slow=8.9,SNR=2.3 0.2nm,0.5s	**29.13**	**240**	P	**P**	**20 25 02.5**	**+1.6**
H11S2	**WAKE ISLAND Hy** baz=189,slow=76,SNR=8.0	**29.43**	**11**	T	T	20 55 47.2	
H11S3	**WAKE ISLAND Hy** baz=189,slow=76,SNR=6.0	**29.43**	**10**	T	T	20 55 45.5	
H11S1	**WAKE ISLAND Hy** baz=189,slow=76,SNR=5.4	**29.45**	**10**	T	T	20 55 48.4	
H11N1	**WAKE ISLAND Hy** baz=188	**30.66**	**10**	T	T	20 57 16.9	
H11N3	**WAKE ISLAND Hy** baz=188	**30.67**	**10**	T	T	20 57 18.6	
H11N2	**WAKE ISLAND Hy** baz=188	**30.68**	**10**	T	T	20 57 20.2	
BBOO	**Buckleboo**	**32.03**	**223**	P	**P**	**20 25 28.1**	**+1.8**
KNRA	**Kununurra**	**32.04**	**257**	P	**P**	**20 25 27.5**	**+0.9**
SONM	**Songino Array** 0.3nm,0.7s,baz=122,slow=5.4,SNR=1.8 0.3nm,0.7s	**75.80**	**

TBI	**Tubuai**	**23.88**	**109**	*e*LR	LR	21 13 09.3		
	comp=Z,885nm,38.5s							
TBI	**Tubuai**	**23.88**	**109**	*e*T	T	21 32 23.6		
	comp=Z,7.0nm,0.3s							
MEH	**Mehetia**	**24.85**	**95**	*e*T	T	21 33 24.5		
	comp=Z,5.6nm,0.3s							
HNR	**Honiara**	**26.39**	**284**	LR	LR	21 17 32.1		
	comp=Z,772nm,20.7s,baz=90,slow=34							
TAOE	**Nuku Hiva Isla**	**34.12**	**80**	*e*T	T	21 44 39.0		
	comp=Z,399nm,0.2s							
RKT	**Rikitea**	**37.11**	**105**	*e*T	T	21 49 01.2		
	comp=Z,4.2nm,0.3s							
STKA	**Stephens Creek**	**42.47**	**242**	P	**P**	**21 10 33.9**	**-0.8**	
	comp=Z,1.6nm,0.7s,baz=101,slow=16,SNR=2.9							
STKA				LR	LR	21 25 52.2		
	comp=Z,43nm,19.5s,baz=26,slow=33							
	comp=Z,1.6nm,0.7s							
WB0	**Warramunga Arr**	**48.70**	**259**	P	**P**	**21 11 23.0**	**-1.0**	
WRA	**Warramunga Arr**	**48.73**	**258**	P	**P**	**21 11 23.2**	**-0.9**	
	comp=Z,1.1nm,0.5s,baz=97,slow=7.0,SNR=39							
WRA				pP	**pwP**	**21 11 50.1**	**-1.4**	
	comp=Z,0.2nm,0.3s,baz=98,slow=7.4,SNR=2.0							
	comp=Z,1.1nm,0.5s							
WRA	**Warramunga Arr**	**48.73**	**258**	P	**P**	**21 11 23.1**	**-1.1**	
AS31	**Alice Springs**	**48.85**	**254**	P	**P**	**21 11 24.7**	**-0.4**	
AS31				IAmb	IAmb	21 11 25.3		
	comp=Z,2.2nm,0.8s							
ASAR	**Alice Springs**	**48.85**	**254**	P	**P**	**21 11 24.7**	**-0.4**	
	comp=Z,6.5nm,0.6s,baz=88,slow=8.5,SNR=126							
ASAR				pP	**pP**	**21 11 51.8**	**+2.0**	
	comp=Z,2.0nm,0.5s,baz=89,slow=8.4,SNR=3.4							
	comp=Z,6.5nm,0.6s							
ASAR	**Alice Springs**	**48.85**	**254**	P	**P**	**21 11 24.1**	**-1.0**	
VNDA	**Vanda**	**61.37**	**186**	P	**P**	**21 12 54.9**	**+0.8**	
VNDA				IAmb	IAmb	21 13 22.7		
	comp=Z,4.4nm,1.2s							
NVAR	**Mina Array Bea**	**76.25**	**42**	P	**P**	**21 14 27.8**	**+0.6**	
	comp=Z,0.8nm,0.7s,baz=236,slow=9.7,SNR=4.2							
	comp=Z,0.8nm,0.7s							
KLR	**Kul'dur**	**81.77**	**328**	LR	LR	21 53 20.4		
	comp=Z,41nm,18.7s,baz=316,slow=37							
ILAR	**Eielson Array**	**84.50**	**11**	P	**P**	**21 15 10.2**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=206,slow=6.0,SNR=10							
ILAR				pP	**pwP**	**21 15 42.0**	**+4.0**	
	comp=Z,1.6nm,1.2s,baz=220,slow=6.7,SNR=3.7							
	comp=Z,0.4nm,0.7s							

NNC 10 21:10:34.3±4.2, 37.80N×78.70E, h0km, mb3.7, mpv3.5, 2C-2D, Error ellipse: s-maj=35.3km s-min=27.7km az=69.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.26**	**358**	Pg	Pg	21 12 12.2	-2.8
	2.9nm,0.3s						
SATY				Lg	Lg	21 13 26.8	
	14nm,1.1s						
SHLS	**Shalkode**	**5.38**	**6**	Pg	Pg	21 12 15.0	-2.4
SHLS				Lg	Lg	21 13 31.2	
TNSS	**Tian-Shan**	**5.40**	**346**	Pg	Pb	21 12 12.0	+2.3
	4.7nm,0.5s						
TNSS				Lg	Lg	21 13 26.3	
	3.9nm,0.9s						
KPKS	**Kokpek**	**5.66**	**360**	Pg	Pb	21 12 17.8	+3.9
	2.4nm,0.5s						
KPKS				Lg	Lg	21 13 36.1	
	9.0nm,0.8s						
KTBS	**Karatobe**	**6.10**	**346**	Pg	Pb	21 12 24.0	+2.6
	1.2nm,0.5s						
KTBS				Lg	Lg	21 13 46.9	
	6.3nm,0.7s						
CHKK	**Chushkaly**	**6.18**	**348**	Pg	Pb	21 12 26.1	+3.3
	1.7nm,0.1s						
CHKK				Lg	Lg	21 13 50.4	
	4.6nm,0.3s						
KRBS	**Karabastau**	**6.32**	**340**	Pg	Pb	21 12 27.4	+2.2
	1.9nm,0.5s						
KRBS				Lg	Lg	21 13 53.0	
	3.2nm,0.8s						
MRKS	**Merke**	**6.47**	**321**	Pg	Pb	21 12 23.7	-4.1
	1.7nm,1.0s						
MRKS				Lg	Lg	21 13 46.6	
	5.9nm,0.9s						
MAKZ	**Makanchi**	**9.32**	**14**	⇑Pn	Pn	21 12 51.0	+1.2
	2.5nm,1.3s						
MAKZ				⇓Sn	Sn	21 14 33.1	-2.3
	1.5nm,1.3s						
MK31	**Makanchi Array**	**9.37**	**15**	⇑Pn	Pn	21 12 51.3	+0.8
	0.2nm,0.4s,baz=193,slow=12,SNR=7.5						
MK31				⇓Sn	Sn	21 14 35.6	-0.9
	0.6nm,0.5s,baz=192,slow=24,SNR=5.3						

*NEIC **10** 21:15:50.2±1.5, 16.11S±0.08×74.4W±0.1, h31km±7km, mb4.2/3, Error ellipse: s-maj=20.9km s-min=11.4km az=81.0*
*IDC **10** 21:15:53.9±1.8, 16.02S×73.89W, h64km±18km, mb3.7/3, mbtmp3.9/7, MS2.9/5, Error ellipse: s-maj=44.5km s-min=12.5km az=56.0*
ISC 10 21:15:52.4±0.7, 16.17S±0.07×74.13W±0.10, h54km, n52, σ1§47/41, mb3.9/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.22**	**122**	Pn	**Pn**	**21 16 56.3**	**+2.0**
PB12	**IPOC Station P**	**4.36**	**124**		**Pn**	**21 16 58.5**	**+2.2**
PB18	**Visviri**	**4.67**	**108**	Pn	Pn	21 17 07.2	+6.4
PB16	**IPOC Station P**	**4.91**	**117**		**Pn**	**21 17 06.9**	**+2.7**
NNA	**Nana**	**4.93**	**327**	P	**Pn**	**21 17 05.6**	**+1.7**
	22nm,0.3s,baz=144,slow=7.5,SNR=9.4						
NNA				S	**Sn**	**21 18 00.6**	**+0.9**
	56nm,0.3s,baz=199,slow=20,SNR=1.9						
NNA				LR	LR	21 19 28.4	
	comp=Z,80nm,18.2s,baz=114,slow=44						
NNA	**Nana**	**4.93**	**327**		**Pn**	**21 17 03.8**	**-0.1**
PSGCX	**Pisagua**	**5.11**	**132**		**Pn**	**21 17 06.9**	**+0.4**
MNMC	**Minye Minye**	**5.22**	**125**		**Pn**	**21 17 10.1**	**+1.8**
PB11	**IPOC Station P**	**5.55**	**131**		**Pn**	**21 17 13.6**	**+1.0**
TA02	**Huaiquique**	**5.57**	**138**	Pn	**Pn**	**21 17 13.2**	**+0.5**
TA01	**Diego Aracena**	**5.75**	**140**		**Pn**	**21 17 15.8**	**+0.6**
LPAZ	**La Paz**	**5.76**	**92**		**Pn**	**21 17 21.1**	**+5.2**
GO01	**Chusmiza**	**5.84**	**127**		**Pn**	**21 17 19.4**	**+2.5**
PATCX	**Punta Patache**	**5.96**	**141**		**Pn**	**21 17 18.5**	**+0.2**
PB08	**IPOC Station P**	**6.16**	**131**		**Pn**	**21 17 23.0**	**+1.8**
PB02	**IPOC Station P**	**6.50**	**143**		**Pn**	**21 17 26.2**	**+0.6**
PB01	**IPOC Station P**	**6.54**	**138**		**Pn**	**21 17 27.6**	**+1.4**
PB07	**IPOC Station P**	**6.83**	**145**		**Pn**	**21 17 30.9**	**+0.8**
PB03	**IPOC Station P**	**7.16**	**145**		**Pn**	**21 17 35.1**	**+0.5**
PB06	**IPOC Station P**	**7.79**	**147**	Pn	**Pn**	**21 17 44.1**	**+0.8**
PB10	**IPOC Station P**	**8.04**	**156**	Pn	**Pn**	**21 17 46.2**	**-0.4**
LVC	**Limon Verde**	**8.07**	**143**	P	**Pn**	**21 17 49.7**	**+2.3**
	2.9nm,0.4s,baz=327,slow=7.8,SNR=3.1						
LVC				S	**Sn**	**21 19 17.5**	**0.0**
	3.4nm,0.4s,baz=319,slow=19,SNR=1.5						
LVC				LR	LR	21 20 42.5	
	comp=Z,69nm,21.5s,baz=262,slow=36						
LVC	**Limon Verde**	**8.07**	**143**	Pn	**Pn**	**21 17 49.1**	**+1.7**
CZSB	**Cruzeiro do Su**	**8.51**	**10**	Pn	**Pn**	**21 17 50.6**	**-2.5**
PB14	**IPOC Station P**	**9.10**	**158**	Pn	**Pn**	**21 18 00.3**	**-1.1**
ATAH	**Atahualpa**	**9.91**	**335**	P	**Pn**	**21 18 15.2**	**+2.7**
	2.1nm,0.5s,baz=113,slow=12,SNR=1.5						
ATAH				S	**Sn**	**21 20 04.4**	**+1.8**
	3.5nm,0.6s,baz=139,slow=11,SNR=1.4						
ATAH				LR	LR	21 22 09.2	
	comp=Z,50nm,19.9s,baz=231,slow=38						
ETMB	**Extrema**	**9.97**	**52**		**Pn**	**21 18 13.3**	**+0.3**
SIV	**San Ignacio**	**12.55**	**91**	P	**Pn**	**21 18 47.2**	**-1.2**
	1.2nm,0.5s,baz=260,slow=12,SNR=6.3						
SAML	**Samuel**	**12.87**	**57**		**Pn**	**21 18 50.3**	**-2.3**
H03N1	**Juan Fernandez**	**17.73**	**193**	T	T	21 38 12.6	
	baz=15,slow=74,SNR=2198						
H03N2	**Juan Fernandez**	**17.73**	**193**	T	T	21 38 13.4	
	baz=15,slow=74,SNR=1976						
H03N3	**Juan Fernandez**	**17.75**	**193**	T	T	21 38 11.2	
	baz=15,slow=74,SNR=2367						
RUSC	**La Rusia**	**21.95**	**3**	P	**P**	**21 20 41.0**	**-1.2**
RUSC				IAmb	IAmb	21 20 55.5	
	comp=Z,8.6nm,0.9s						
BOAV	**Boa Vista**	**22.83**	**37**	P	**P**	**21 20 50.5**	**-0.6**
BOAV				IAmb	IAmb	21 21 03.5	
	comp=Z,2.4nm,1.0s						
PLCA	**Paso Flores**	**24.67**	**173**	P	**P**	**21 21 10.0**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=312,slow=20,SNR=1.5						
	comp=Z,1.0nm,0.8s						
SDV	**Santo Domingo**	**25.14**	**8**	LR	LR	21 32 22.4	
	comp=Z,38nm,18.2s,baz=281,slow=40						
BAUV	**El Baul**	**25.67**	**14**	P	**P**	**21 21 16.7**	**-0.8**
BAUV				IAmb	IAmb	21 21 17.7	
	comp=Z,13nm,0.8s						
MDP	**Montagnes des**	**29.98**	**47**	LR	LR	21 35 00.0	
	comp=Z,47nm,19.8s,baz=182,slow=39						
TXAR	**Lajitas Array**	**53.48**	**328**	P	**P**	**21 25 06.9**	**-0.6**
YKA	**Yellowknife Ar**	**84.60**	**342**	P	**P**	**21 28 18.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=137,slow=5.1,SNR=7.6						
	comp=Z,0.3nm,0.5s						
BOSA	**Boshof**	**90.33**	**120**	P	**P**	**21 28 47.2**	**-1.1**
	comp=Z,4.0nm,1.0s,baz=4.5,slow=19,SNR=3.6						
	comp=Z,4.0nm,1.0s						
H11N3	**WAKE ISLAND Hyd**	**22.09**	**283**	T	T	23 48 18.4	
	baz=97,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hyd**	**22.10**	**283**	T	T	23 48 15.4	
	baz=97,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hyd**	**22.11**	**283**	T	T	23 48 18.4	
	baz=97,slow=74,SNR=7.4						
H11S2	**WAKE ISLAND Hyd**	**22.12**	**282**	T	T	23 48 19.1	
	baz=98,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hyd**	**22.13**	**282**	T	T	23 48 20.1	
	baz=98,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hyd**	**22.14**	**282**	T	T	23 48 20.6	
	baz=98,slow=75,SNR=25						
ASAR	**Alice Springs**	**131.85**	**215**	PKP	**PKPdf**	**21 35 01.4**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=125,slow=1.9,SNR=3.2						
WRA	**Warramunga Arr**	**134.50**	**219**	PKP	**PKPdf**	**21 35 06.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=143,slow=2.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**138.88**	**19**	PKP	**PKPdf**	**21 35 11.6**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=316,slow=4.0,SNR=1.8						
MKAR	**Makanchi Array**	**143.73**	**28**	PKP	PKPab	21 35 18.7	+0.3
	comp=Z,0.2nm,0.7s,baz=303,slow=3.6,SNR=2.2						
SONM	**Songino Array**	**148.43**	**359**	PKPbc	**PKPbc**	**21 35 33.5**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=324,slow=1.8,SNR=6.6						

MAN 10 21:53:44.2, 12.50N×124.41E, h83km, mb4.4, ML3.3, MS3.1, 3C-6D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.25**	**88**	⇓*e*P	Pn	21 53 57.5	+0.9
CNP				*e*S	Sn	21 54 08.8	+3.0
PVCP	**Virac**	**1.11**	**347**	⇑*e*P	Pn	21 54 05.9	+1.1
PVCP				*e*S	Sn	21 54 21.8	+1.6
RCP	**Roxas**	**1.88**	**240**	⇑*e*P	Pn	21 54 15.8	+1.2
LLP	**Lapu-Lapu**	**2.22**	**191**	*e*P	Pn	21 54 20.7	+1.6
LLP				*i* S	Sn	21 54 46.2	+0.4
GQP	**Guinayangan**	**2.36**	**306**	⇓*e*P	Pn	21 54 21.9	+0.9
MSLP	**Maasin**	**2.40**	**169**	⇓*e*P	Pn	21 54 20.7	-0.8
MSLP				*e*S	Sn	21 54 45.7	-4.4
JCNP	**Jose Panganiba**	**2.43**	**317**	⇓*i*P	Pn	21 54 22.7	+0.7
JCNP				*i* S	Sn	21 54 52.1	+1.2
GLSP	**General Luna,**	**3.19**	**148**	⇓*e*P	Pn	21 54 29.4	-2.8
GLSP				*e*S	Sn	21 54 58.1	-11
BIPH	**Bislig**	**4.70**	**156**	⇑*i*P	Pn	21 54 50.2	-2.6
BIPH				*i* S	Sn	21 55 41.7	-4.4
SMPP	**San Manuel, Pa**	**5.12**	**316**	⇓*e*P	Pn	21 54 59.4	+1.0
SMPP				*e*S	Sn	21 55 52.9	-3.3

*IDC **10** 21:54:34.7±1.4, 37.63N×141.47E, h0km, mb3.8/7, mbtmp3.7/8, ML2.4/1, Error ellipse: s-maj=35.0km s-min=22.1km az=78.0*
*NIED **10** 21:54:35.6, 37.33N×141.60E, h33km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=1.70; Mθθ=0.67; Mφφ=1.03; Mrθ=-0.18; Mφθ=1.45; Mφr=-0.44; Fault plane solution: M0=2.07000×10^14 NP1:φs=34.00000°, δ=52.00000°, λ=-100.00000°. NP2:φs=230.00000°, δ=39.00000°, λ=-78.00000°.*
*JMA **10** 21:54:35.6±0.2, 37.3N±0.3×141.6E±0.8, h33km±1km, MV3.8/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NEIC **10** 21:54:36.2±0.6, 37.44N±0.06×141.58E±0.06, h15km±4km, mb4.0/6, Error ellipse: s-maj=9.5km s-min=5.5km az=220.0*
ISC 10 21:54:33.0±1.8, 37.38N±0.04×141.69E±0.06, h0km±10km, n43, σ1§06/46, mb3.8/11, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.65**	**269**	P	**Pb**	**21 54 47.1**	**-0.1**
JFK				S	**Sg**	**21 54 55.2**	**+1.4**
JMST	**Minamisoumatoc**	**0.72**	**299**	⇓P	**Pb**	**21 54 48.6**	**+0.2**
JMST				⇓S	**Sg**	**21 54 57.6**	**+1.4**
ONAJ	**Iwakimizuishiy**	**0.76**	**249**	P	**Pg**	**21 54 48.5**	**+1.0**
ONAJ				S	**Sg**	**21 54 57.8**	**+0.4**
JMM	**Marumori**	**0.86**	**305**	Pg	**Pb**	**21 54 50.8**	**+0.1**
JMM				Sg	**Sg**	**21 55 00.8**	**+0.2**
JMM	**Marumori**	**0.86**	**305**	⇓P	**Pb**	**21 54 50.9**	**+0.1**
JMM				⇓*e*S	**Sb**	**21 55 01.9**	**-0.9**
JFFD	**Fukushimafurud**	**0.94**	**253**	*i* P	**Pg**	**21 54 51.4**	**+0.3**
JFFD				S	**Sg**	**21 55 02.5**	**-0.8**
JIO	**Ouri**	**1.11**	**346**	*i* P	**Pn**	**21 54 55.3**	**-0.4**
JIO				S	**Sb**	**21 55 09.4**	**-0.6**
JHO	**Hitachi**	**1.18**	**230**	*i* P	**Pg**	**21 54 54.5**	**-1.0**
JHO				S	**Sg**	**21 55 08.0**	**-2.8**
JOU	**Okura**	**1.28**	**321**	⇓*i*P	**Pn**	**21 54 58.4**	**+0.4**
JOU				⇓S	**Sn**	**21 55 15.1**	**-0.8**
JYS	**Shirataka**	**1.54**	**304**	P	**Pb**	**21 55 02.4**	**+0.1**
JYS				S	**Sb**	**21 55 22.2**	**-0.1**
JFY	**Yanaizu**	**1.58**	**272**	P	**Pn**	**21 55 02.2**	**0.0**
JFY				S	**Sn**	**21 55 22.1**	**-1.3**
JSD	**Sado**	**2.80**	**285**	Pn	**Pn**	**21 55 18.5**	**-0.4**
MJAR	**Matsushiro Arr**	**2.91**	**254**	Pn	**Pn**	**21 55 20.2**	**-0.2**
	0.7nm,0.3s,baz=65,slow=14,SNR=19						
MJAR				Sn	**Sn**	**21 55 56.4**	**+0.3**
	1.1nm,0.3s,baz=81,slow=39,SNR=5.6						
	3.7nm,0.4s						
MAJO	**Matsushiro**	**2.91**	**254**	Pn	**Pn**	**21 55 20.1**	**-0.4**
JTM	**Tenmabayashi**	**3.44**	**352**	Pn	**Pn**	**21 55 28.2**	**+0.5**
JGF	**Kuroka**	**3.91**	**244**	Pn	**Pn**	**21 55 35.1**	**+0.8**
INU	**Inuyama**	**4.28**	**243**	Pn	**Pn**	**21 55 40.0**	**+0.7**
ERM	**Erimo**	**4.77**	**13**	Pn	**Pn**	**21 55 45.3**	**-0.7**
SONM	**Songino Array**	**27.78**	**303**	P	**P**	**22 00 22.0**	**-1.5**
	0.8nm,0.8s,baz=107,slow=9.4,SNR=6.2						
	0.8nm,0.8s						
SONM	**Songino Array**	**27.78**	**303**	P	**P**	**22 00 22.1**	**-1.4**
H11N2	**WAKE ISLAND Hyd**	**28.14**	**122**	T	T	22 29 52.6	
	baz=314,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hyd**	**28.15**	**122**	T	T	22 29 56.1	
	baz=314,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hyd**	**28.16**	**122**	T	T	22 29 53.9	
	baz=314,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hyd**	**28.87**	**124**	T	T	22 30 51.3	
	baz=316,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hyd**	**28.87**	**124**	T	T	22 30 45.0	
	baz=316,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hyd**	**28.88**	**124**	T	T	22 30 48.4	
	baz=316,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**22 02 23.9**	**-0.4**
	0.7nm,0.4s,baz=90,slow=7.9,SNR=5.6						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**22 02 24.2**	**-0.2**
MK31	**Makanchi Array**	**44.12**	**302**	P	**P**	**22 02 42.5**	**-0.4**
MK31				IAmb	IAmb	22 02 43.7	
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**22 02 43.2**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=92,slow=9.0,SNR=14						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**22 02 42.8**	**-0.2**
MAKZ	**Makanchi**	**44.33**	**302**	P	**P**	**22 02 44.6**	**-0.1**
MAKZ				IAmb	IAmb	22 02 45.6	
	comp=Z,2.3nm,0.9s						
ARU	**Arti**	**56.25**	**318**	P	**P**	**22 04 14.4**	**-0.3**
ARU				IAmb	IAmb	22 04 16.4	
	comp=Z,3.1nm,1.1s						
WB0	**Warramunga Arr**	**57.25**	**188**	P	**P**	**22 04 22.6**	**+0.4**
WRA	**Warramunga Arr**	**57.43**	**188**	P	**P**	**22 04 26.9**	**+3.4**
	comp=Z,0.3nm,0.4s,baz=3.6,slow=7.3,SNR=6.8						
	comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**57.88**	**310**	P	**P**	**22 04 26.1**	**-0.3**
ABKAR	**Akbulak array**	**57.88**	**310**	P	**P**	**22 04 26.3**	**-0.1**
ABKAR				IAmb	IAmb	22 04 26.9	
	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**61.16**	**188**	P	**P**	**22 04 52.4**	**+3.1**
	comp=Z,0.3nm,0.8s,baz=20,slow=11,SNR=2.5						
	comp=Z,0.3nm,0.8s						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**22 05 37.2**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=57,slow=7.0,SNR=6.6						
	comp=Z,3.4nm,0.9s						

AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**22 06 10.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=45,slow=6.0,SNR=11						
	comp=Z,0.5nm,0.4s						
H03N2	**Juan Fernandez**	**146.84**	**96**	T	T	00 58 30.3	
	baz=291,slow=76,SNR=3.3						
H03N3	**Juan Fernandez**	**146.85**	**96**	T	T	00 58 30.5	
	baz=291,slow=76,SNR=4.5						
H03N1	**Juan Fernandez**	**146.86**	**96**	T	T	00 58 29.9	
	baz=291,slow=76,SNR=5.5						

IDC 10 21:56:00.9±3.4, 5.03S×153.24E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=97.4km s-min=33.2km az=100.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**230**	P	P	22 01 14.5	+0.5
	0.5nm,0.6s,baz=58,slow=10,SNR=7.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.28**	**223**	P	P	22 01 37.9	-0.5
	0.2nm,0.4s,baz=56,slow=9.7,SNR=5.2						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**28.85**	**201**	P	P	22 02 01.6	+0.3
	0.7nm,0.4s,baz=0.0,slow=8.1,SNR=1.6						
	0.7nm,0.4s						
SONM	**Songino Array**	**66.75**	**328**	P	P	22 06 54.0	-0.3
	0.3nm,1.0s,baz=134,slow=8.4,SNR=1.5						
	0.3nm,1.0s						

*CNRM **10** 21:57:18.3, 34.94N×8.46W, h30km, ml2.4*
*MDD **10** 21:57:21.0±1.2, 35.24N×8.32W, h0km, mb_Lg2.5/3, Error ellipse: s-maj=9.8km s-min=6.1km az=41.0*
*INMG **10** 21:57:22.0±1.5, 35.00N×8.37W, h27km±15km, ML1.9, Error ellipse: s-maj=9.2km s-min=6.8km az=54.0*
ISC 10 21:57:20.9±6.4, 35.05N±0.03×8.26W±0.06, h34km±11km, n26, σ1§52/43, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	**ZHG**	**2.09**	**140**	P	**Pn**	**21 57 52.3**	**-1.3**
ZHG				S	**Sn**	**21 58 19.1**	**+0.6**
PVAQ	**Vaqueiros**	**2.39**	**10**	*e*Pn	**Pn**	**21 57 58.8**	**+1.1**
PVAQ				*e*Sn	**Sn**	**21 58 26.0**	**+0.3**
PVAQ				A	A	21 58 28.9	
	3.7nm,0.8s						
PVAQ	**Vaqueiros**	**2.39**	**10**	P	**Pn**	**21 57 57.3**	**-0.4**
PVAQ				S	**Sn**	**21 58 28.0**	**+2.3**
PTEO	**Sao Teotonio**	**2.52**	**352**	*e*Pn	**Pn**	**21 58 00.9**	**+1.5**
PTEO				*e*Sn	**Sn**	**21 58 28.9**	**0.0**
EGRO	**El Granado**	**2.56**	**14**	P	**Pn**	**21 58 00.4**	**+0.4**
EGRO				S	**Sn**	**21 58 29.6**	**-0.2**
EGRO				*i* Vmb_Lg		21 58 35.0	
PCVE	**Castro Verde**	**2.58**	**4**	*e*Pn	**Pn**	**21 58 00.9**	**+0.6**
PCVE				*e*Sn	**Sn**	**21 58 30.4**	**-0.1**
PCVE				A	A	21 58 35.1	
	2.9nm,0.5s						
SRHM	**Skhour des Reh**	**2.59**	**173**	P	**Pn**	**21 57 59.6**	**-0.9**
SRHM				S	**Sn**	**21 58 33.7**	**+2.9**
ESPR	**Espera**	**2.66**	**46**	P	**Pn**	**21 58 02.8**	**+1.3**
ESPR				S	**Sn**	**21 58 33.6**	**+1.1**
EJIF	**Jimena Fronter**	**2.67**	**58**	P	**Pn**	**21 58 04.2**	**+2.7**
EMIN	**Mina Concepcio**	**3.00**	**25**	S	**Sn**	**21 58 40.1**	**-0.7**
PNCL	**Nicolau / Gran**	**3.06**	**356**	*e*Sn	**Sn**	**21 58 41.0**	**-1.3**
PNCL				A	A	21 58 43.3	
	1.4nm,0.1s						
EMIJ	**Mijas**	**3.21**	**61**	P	**Pn**	**21 58 10.3**	**+1.3**
PBAR	**Barrancos**	**3.27**	**17**	*e*Pn	**Pn**	**21 58 11.0**	**+1.2**
PBAR				*e*Sn	**Sn**	**21 58 47.5**	**0.0**
PBAR				A	A	21 58 48.9	
	5.6nm,0.7s						
EVO	**Evora**	**3.48**	**3**	*e*Sn	**Sn**	**21 58 52.4**	**-0.3**
EVO				A	A	21 58 58.6	
	3.8nm,0.4s						
MD31	**MD31**	**3.63**	**126**	P	**Pn**	**21 58 14.1**	**-0.8**
MD31				S	**Sn**	**21 58 56.6**	**-0.1**
MDT	**Midelt**	**3.77**	**125**	P	**Pn**	**21 58 16.2**	**-0.5**
MDT				S	**Sn**	**21 59 00.4**	**+0.4**
ECAB	**El Cabril**	**3.79**	**36**	P	**Pn**	**21 58 17.7**	**+0.8**
ECAB				S	**Sn**	**21 58 59.8**	**-0.5**
EBAD	**Badajoz**	**3.83**	**15**	P	**Pn**	**21 58 18.4**	**+1.0**
EBAD				S	**Sn**	**21 59 00.2**	**-1.1**
EBAD				*i* Vmb_Lg		21 59 06.4	
PESTR	**Estremoz**	**3.85**	**8**	*e*Sn	**Sn**	**21 59 01.5**	**-0.2**
PMTG	**Montargil**	**4.01**	**0**	*e*Pn	**Pn**	**21 58 20.6**	**+0.7**
PMTG				*e*Sn	**Sn**	**21 59 03.5**	**-2.2**
PMTG				A	A	21 59 06

N23A	**Red Feather La**	**2.96**	**189**		**Pn**	**22 36 00.8**	**+0.4**
N23A				IAML		22 36 49.2	
	comp=N,152nm,0.3s						
RLMT	**Red Lodge**	**3.11**	**296**		**Pn**	**22 36 03.7**	**+1.4**
RLMT				IAML		22 36 57.1	
	comp=N,131nm,0.6s						
RLMT				IAML		22 37 01.3	
	comp=N,102nm,0.6s						
PD31	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**22 36 05.7**	**+1.2**
PDAR	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**22 36 05.3**	**+0.9**
	comp=N,7.4nm,0.3s,baz=70,slow=17,SNR=82						
PDAR				Lg	Lg	22 36 45.5	
	comp=N,2.6nm,0.3s,baz=61,slow=37,SNR=1.5						
PDAR				LR	LR	22 36 50.7	
	comp=N,36nm,19.3s,baz=84,slow=33						
BRIGG	**Briggsdale**	**3.33**	**167**		**Pn**	**22 36 03.4**	**-1.8**
YMP	**Mirror Lake Pl**	**3.59**	**286**		**Pn**	**22 36 09.5**	**+0.5**
YMP				IAML		22 37 10.8	
	comp=N,116nm,0.9s						
GCMT	**Greycliff**	**3.66**	**304**		**Pn**	**22 36 11.1**	**+1.2**
LKWY	**Lake**	**3.73**	**283**		**Pn**	**22 36 11.6**	**+0.8**
LKWY				IAML		22 36 39.0	
	comp=N,74nm,0.6s						
LKWY				IAML		22 37 42.3	
	comp=N,73nm,1.1s						
OGNE	**Ogallala**	**3.77**	**139**	Pn	**Pn**	**22 36 12.2**	**+0.9**
ISCO	**Idaho Springs**	**4.03**	**183**		**Pn**	**22 36 15.6**	**+0.6**
E28A	**Huff**	**4.28**	**48**		**Pn**	**22 36 19.9**	**+1.7**
O20A	**White River Ci**	**4.28**	**212**	Pn	**Pn**	**22 36 19.1**	**+0.7**
O20A				IAML		22 37 30.6	
	comp=N,80nm,0.9s						
O20A				IAML		22 37 41.8	
	comp=E,76nm,0.9s						
RDMU	**Red Mountain**	**4.53**	**226**		**Pn**	**22 36 22.6**	**+0.7**
RDMU				IAML		22 37 48.6	
	comp=N,52nm,0.8s						
DGMT	**Dagmar**	**4.71**	**9**		**Pn**	**22 36 26.2**	**+2.1**
BOZ	**Bozeman (W)**	**4.83**	**294**		**Pn**	**22 36 26.1**	**+0.2**
BOZ				IAML		22 37 48.6	
	comp=N,30nm,1.4s						
BOZ				IAML		22 37 50.0	
	comp=N,32nm,0.8s						
Q24A	**Divide**	**4.86**	**178**		**Pn**	**22 36 26.7**	**+0.3**
K31A	**O'Neill**	**4.95**	**102**		**Pn**	**22 36 29.2**	**+1.8**
HWUT	**Hardware Ranch**	**5.10**	**246**	Pn	**Pn**	**22 36 29.9**	**+0.2**
EGMT	**Eagleton**	**5.21**	**325**		**Pn**	**22 36 31.6**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.22**	**156**		**Pn**	**22 36 31.9**	**+0.7**
HRY	**Holter Researc**	**5.42**	**304**	Pn	**Pn**	**22 36 35.0**	**+1.0**
P18A	**Preston Nutter**	**5.58**	**223**		**Pn**	**22 36 36.5**	**+0.2**
PV07	**Paradox Valley**	**5.94**	**206**		**Pn**	**22 36 41.8**	**+0.7**
P17A	**Butcher Ranch,**	**5.95**	**225**		**Pn**	**22 36 42.1**	**+0.9**
PV15	**Paradox Valley**	**5.97**	**205**		**Pn**	**22 36 42.5**	**+0.8**
SDCO	**Great Sand Dun**	**6.07**	**181**		**Pn**	**22 36 43.4**	**+0.3**
SRU	**San Rafael Swe**	**6.12**	**221**		**Pn**	**22 36 44.2**	**+0.6**
S22A	**4UR Ranch, Cre**	**6.18**	**191**		**Pn**	**22 36 45.7**	**+1.1**
ECSD	**EROS Data Cent**	**6.31**	**88**	Pn	**Pn**	**22 36 46.9**	**+0.9**
TMUT	**Trail Mountain**	**6.32**	**226**		**Pn**	**22 36 47.2**	**+0.7**
CBKS	**Cedar Bluff**	**6.54**	**138**		**Pn**	**22 36 49.7**	**+0.5**
HLID	**Hailey**	**6.60**	**271**	Pn	**Pn**	**22 36 52.1**	**+1.9**
DUG	**Dugway, Tooele**	**6.65**	**240**	Pn	**Pn**	**22 36 51.1**	**+0.2**
T25A	**Trinidad**	**6.71**	**174**	Pn	**Pn**	**22 36 52.1**	**+0.3**
MVCO	**Mesa Verde**	**7.03**	**201**	Pn	**Pn**	**22 36 57.0**	**+0.8**
R32A	**Long Quarter,**	**7.35**	**135**		**Pn**	**22 37 00.3**	**-0.1**
PLID	**Pearl Lake**	**7.74**	**283**	Pn	**Pn**	**22 37 07.0**	**+1.0**
WALA	**Waterton Lakes**	**7.91**	**314**	Pn	**Pn**	**22 37 07.9**	**-0.2**
KAN14	**Manchester OK**	**8.86**	**138**	Pn	**Pn**	**22 37 20.7**	**-0.4**
KNB	**Kanab**	**8.88**	**223**	Pn	**Pn**	**22 37 22.3**	**+0.8**
I10CA	**LAC DU BONNET**	**9.00**	**42**	I	I	23 30 00.0	
	comp=N,0.1nm,2.2s,baz=221,slow=298,SNR=3.8						
ULM	**Lac du Bonnet**	**9.10**	**42**	Pn	**Pn**	**22 37 24.6**	**+0.2**
	comp=N,1.6nm,0.3s,baz=240,slow=12,SNR=12						
ULM				Pg		22 37 51.9	
	comp=N,1.0nm,0.3s,baz=245,slow=14,SNR=2.5						
ULM				Lg	Lg	22 39 53.1	
	comp=N,0.7nm,0.3s,baz=143,slow=20,SNR=2.1						
	comp=N,4.0nm,0.3s						
NEW	**Newport**	**9.33**	**303**	Lg	Lg	22 39 41.8	
	comp=N,0.1nm,0.3s,baz=127,slow=20,SNR=1.3						
NVAR	**Mina Array Bea**	**11.17**	**246**	Pn	**Pn**	**22 37 53.5**	**+0.5**
	comp=N,0.3nm,0.3s,baz=55,slow=13,SNR=4.0						
	comp=N,0.8nm,0.6s						
YKA	**Yellowknife Ar**	**19.48**	**347**	P	**P**	**22 39 37.5**	**-2.4**
	baz=158,slow=12,SNR=4.2						
	comp=N,0.4nm,0.6s						
FINES	**FINESS Array B**	**67.97**	**23**	P	**P**	**22 46 11.7**	**-0.4**
	comp=N,1.7nm,0.8s,baz=325,slow=7.0,SNR=3.5						
	comp=N,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**82.22**	**354**	P	**P**	**22 47 33.8**	**-0.7**
	comp=N,0.5nm,0.7s,baz=12,slow=7.7,SNR=2.4						
	comp=N,0.5nm,0.7s						
SONM	**Songino Array**	**84.54**	**339**	P	**P**	**22 47 47.3**	**+0.5**
	comp=N,0.2nm,0.6s,baz=54,slow=3.6,SNR=2.3						
	comp=N,0.2nm,0.6s						
MKAR	**Makanchi Array**	**89.52**	**355**	P	**P**	**22 48 10.7**	**-0.1**
	comp=N,0.4nm,0.6s,baz=15,slow=4.9,SNR=6.7						
	comp=N,0.4nm,0.6s						

*MDD **10** 22:48:39.2±0.5, 35°.54N×3°.84W, h0km, mb_Lg2.8/15,*
Error ellipse: s-maj=4.1km s-min=2.9km az=6.0
*INMG **10** 22:48:39.7±2.0, 35°.60N×3°.80W, h0km±6km, ML2.6, Error*
ellipse: s-maj=4.6km s-min=3.9km az=78.0
*SFS **10** 22:48:39.8, 35°.46N×3°.73W, h19km, ML3.2/12, MLv3.2/12*
*CNRM **10** 22:48:40.1, 35°.60N×3°.65W, h33km, ml2.8*

ISC 10 22:48:38.6±1.5, 35°.54N±0°.02×3°.74W±0°.02, h17km±11km, n55, σ1°.41/101, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.59**	**231**	S	**Sg**	**22 48 58.1**	**0.0**
PVLZ				P	**Pb**	**22 48 50.6**	**+0.1**
EMEL	**Melilla**	**0.68**	**110**	Pg	**Pn**	**22 48 53.1**	**-0.5**
EMEL				Sg	**Sg**	**22 49 01.2**	**+0.1**
EALB	**Alboran**	**0.70**	**55**	P	**Pn**	**22 48 53.4**	**-0.3**
EALB				S	**Sb**	**22 49 02.1**	**+0.4**
EALB	**Alboran**	**0.70**	**55**	Sg	**Sn**	**22 49 03.2**	**-1.0**
EALB				*i* Vmb_Lg		22 49 05.3	
CHAS	**Isla Isabel II**	**1.13**	**108**	P	**Pb**	**22 48 59.4**	**-0.3**
CHAS				S	**Sb**	**22 49 12.8**	**-1.3**
TAF	**Taforalt**	**1.31**	**123**	P	**Pn**	**22 49 01.5**	**-0.7**
TAF				S	**Sb**	**22 49 18.3**	**-1.0**
EMIJ	**Mijas**	**1.32**	**321**	S	**Sb**	**22 49 18.9**	**-0.8**
EMIJ				P	**Pn**	**22 49 02.1**	**-0.3**
EMIJ	**Mijas**	**1.32**	**321**	Pg	**Pn**	**22 49 01.6**	**-0.8**
EMIJ				Sg	**Sb**	**22 49 19.0**	**-0.7**
EMIJ				*i* Vmb_Lg		22 49 25.1	
ELGU	**Los Guajares,**	**1.33**	**4**	S	**Sn**	**22 49 19.9**	**0.0**
ELGU				P	**Pn**	**22 49 02.1**	**-0.5**
ELGU	**Los Guajares,**	**1.33**	**4**	Pg	**Pn**	**22 49 02.0**	**-0.5**
ELGU				Sg	**Sn**	**22 49 20.2**	**+0.3**
ELGU				*i* Vmb_Lg		22 49 27.1	
EMAL	**Malaga-Limoner**	**1.34**	**336**	S	**Sb**	**22 49 19.5**	**-0.8**
EMAL				P	**Pn**	**22 49 02.2**	**-0.4**
CHEFC	**Chefchaouen**	**1.38**	**252**	P	**Pb**	**22 49 04.0**	**0.0**
CHEFC				S	**Sg**	**22 49 22.6**	**-0.6**
ECEU	**Ceuta**	**1.38**	**285**	P	**Pn**	**22 49 01.5**	**-1.6**
ECEU				S	**Sn**	**22 49 18.0**	**-3.0**
ECEU	**Ceuta**	**1.38**	**285**	Pg	**Pn**	**22 49 01.6**	**-1.6**
ECEU				Sg	**Sn**	**22 49 17.8**	**-3.2**
ECEU				*i* Vmb_Lg		22 49 23.7	
JBK	**JBK**	**1.54**	**141**	P	**Pn**	**22 49 05.3**	**-0.3**
JBK				S	**Sn**	**22 49 25.0**	**-0.3**
EGOR	**Sierra Gorda,**	**1.59**	**349**	S	**Sb**	**22 49 28.3**	**+0.6**
EGOR				P	**Pb**	**22 49 07.0**	**-0.8**
EGOR	**Sierra Gorda,**	**1.59**	**349**	Pn	**Pn**	**22 49 06.5**	**+0.3**
EGOR				Sn	**Sn**	**22 49 24.3**	**-2.2**
EGOR				*i* Vmb_Lg		22 49 36.2	
EJIF	**Jimena Fronter**	**1.67**	**303**	Pn	**Pb**	**22 49 08.4**	**-0.6**
EQUE	**Quentar**	**1.68**	**8**	Pn	**Pb**	**22 49 08.3**	**-0.8**
EQUE				Sn	**Sb**	**22 49 29.3**	**-0.8**
EQUE				*i* Vmb_Lg		22 49 40.3	
ENIJ	**Nijar**	**1.89**	**41**	Pn	**Pn**	**22 49 11.3**	**+1.1**
ENIJ				Sn	**Sn**	**22 49 32.4**	**-1.3**
ENIJ				*i* Vmb_Lg		22 49 54.3	
ESPR	**Espera**	**2.16**	**308**	Sn	**Sn**	**22 49 40.7**	**+0.3**
EQES	**Quesada**	**2.32**	**13**	Pn	**Pb**	**22 49 19.3**	**-0.8**
EQES				Sn	**Sb**	**22 49 47.8**	**-0.7**
EQES				*i* Vmb_Lg		22 50 03.3	
EADA	**Adamuz**	**2.71**	**346**	S	**Sn**	**22 49 55.3**	**+1.5**
EADA				P	**Pn**	**22 49 23.9**	**+2.5**
EADA	**Adamuz**	**2.71**	**346**	Pn	**Pn**	**22 49 23.5**	**+2.0**
EADA				Sn	**Sn**	**22 49 54.2**	**+0.3**
EADA				*i* Vmb_Lg		22 50 08.4	
MD31	**MD31**	**2.80**	**198**	P	**Pn**	**22 49 24.0**	**+1.2**
MD31				S	**Sn**	**22 49 57.9**	**+1.7**
MDT	**Midelt**	**2.81**	**195**	P	**Pn**	**22 49 23.8**	**+0.8**
MDT				S	**Sn**	**22 49 59.0**	**+2.4**
ECAB	**El Cabril**	**2.87**	**332**	S	**Sn**	**22 49 58.6**	**+0.8**
ECAB				P	**Pn**	**22 49 25.7**	**+2.1**
ECAB	**El Cabril**	**2.87**	**332**	Pn	**Pn**	**22 49 25.4**	**+1.7**
ECAB				Sn	**Sn**	**22 49 59.6**	**+1.8**
ECAB				*i* Vmb_Lg		22 50 08.7	
EMUR	**La Murta**	**3.05**	**40**	Sn	**Sn**	**22 50 00.4**	**-1.9**
EMIN	**Mina Concepcio**	**3.24**	**314**	Pn	**Pn**	**22 49 28.9**	**+0.2**
EMIN				Sn	**Sn**	**22 50 05.5**	**-1.4**
EMIN				*i* Vmb_Lg		22 50 11.7	
ETOB	**Tobarra**	**3.56**	**29**	P	**Pn**	**22 49 35.5**	**+2.3**
ETOB	**Tobarra**	**3.56**	**29**	Pn	**Pn**	**22 49 35.8**	**+2.6**
EGRO	**El Granado**	**3.61**	**305**	S	**Sn**	**22 50 14.3**	**-1.8**
EGRO				P	**Pn**	**22 49 34.5**	**+0.6**
EGRO	**El Granado**	**3.61**	**305**	Pn	**Pn**	**22 49 34.5**	**+0.6**
EGRO				Sn	**Sn**	**22 50 14.9**	**-1.2**
EGRO				*i* Vmb_Lg		22 50 16.8	
PVAQ	**Vaqueiros**	**3.71**	**301**	*e*Pn	**Pn**	**22 49 36.3**	**+1.1**
PVAQ				*e*Sn	**Sn**	**22 50 18.1**	**-0.3**
PVAQ				A	A	22 50 24.8	
	12nm,0.8s						
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**22 49 36.3**	**+1.1**
PVAQ				S	**Sn**	**22 50 18.9**	**+0.5**
PVAQ	**Vaqueiros**	**3.71**	**301**	S	**Sn**	**22 50 17.3**	**-1.1**
PVAQ				P	**Pn**	**22 49 35.9**	**+0.8**
PBAR	**Barrancos**	**3.73**	**316**	*e*Pn	**Pn**	**22 49 37.0**	**+1.5**
PBAR				*e*Sn	**Sn**	**22 50 19.5**	**+0.5**
PBAR				A	A	22 50 27.0	
	7.1nm,0.4s						
PBAR	**Barrancos**	**3.73**	**316**	P	**Pn**	**22 49 37.4**	**+1.9**
PBAR				S	**Sn**	**22 50 18.6**	**-0.4**
PAB	**San Pablo**	**4.03**	**353**	Pn	**Pn**	**22 49 42.0**	**+2.4**
PAB				Sn	**Sn**	**22 50 26.3**	**-0.1**
PAB				*i* Vmb_Lg		22 50 51.6	
PCVE	**Castro Verde**	**4.04**	**302**	*e*Pn	**Pn**	**22 49 41.7**	**+2.0**
PCVE				*e*Sn	**Sn**	**22 50 25.8**	**-0.9**
PCVE				A	A	22 50 29.8	
	7.2nm,0.5s						
PBEJ	**Beja**	**4.14**	**308**	*e*Pn	**Pn**	**22 49 43.5**	**+2.4**
PBEJ				*e*Sn	**Sn**	**22 50 28.6**	**-0.5**
PBEJ				A	A	22 50 46.6	
	5.9nm,0.5s						
EBAD	**Badajoz**	**4.14**	**322**	P	**Pn**	**22 49 41.9**	**+0.8**
EBAD				S	**Sn**	**22 50 28.8**	**-0.3**
EBAD	**Badajoz**	**4.14**	**322**	Pn	**Pn**	**22 49 41.7**	**+0.7**
EBAD				Sn	**Sn**	**22 50 28.5**	**-0.6**
EBAD				*i* Vmb_Lg		22 50 36.3	
PTEO	**Sao Teotonio**	**4.48**	**298**	*e*Pn	**Pn**	**22 49 48.4**	**+2.6**
PTEO				*e*Sn	**Sn**	**22 50 37.6**	**0.0**
PESTR	**Estremoz**	**4.52**	**318**	*e*Pn	**Pn**	**22 49 48.8**	**+2.4**
PESTR				*e*Sn	**Sn**	**22 50 37.8**	**-0.8**
PESTR				A	A	22 51 09.9	
	7.4nm,0.6s						
EVO	**Évora**	**4.54**	**312**	*e*Pn	**Pn**	**22 49 49.2**	**+2.6**
EVO				*e*Sn	**Sn**	**22 50 38.1**	**-0.9**
EVO				A	A	22 50 46.0	
	7.4nm,0.6s						
PNCL	**Nicolau / Gran**	**4.62**	**305**	*e*Pn	**Pn**	**22 49 49.0**	**+1.3**
PNCL				*e*Sn	**Sn**	**22 50 40.2**	**-0.8**
PNCL				A	A	22 50 50.4	
	5.6nm,0.7s						
PNCL	**Nicolau / Gran**	**4.62**	**305**	P	**Pn**	**22 49 49.0**	**+1.3**
PNCL				S	**Sn**	**22 50 39.6**	**-1.3**
PMRV	**Marv??o**	**4.85**	**324**	*e*Pn	**Pn**	**22 49 52.4**	**+1.6**
PMRV				*e*Sn	**Sn**	**22 50 47.1**	**+0.5**
PMRV				A	A	22 51 02.5	
	6.7nm,0.6s						
PMTG	**Montargil**	**5.02**	**316**	*e*Pn	**Pn**	**22 49 55.5**	**+2.3**
PMTG				*e*Sn	**Sn**	**22 50 50.0**	**-0.8**
PMTG				A	A	22 50 55.2	
	5.4nm,0.7s						
PCBR	**Castelo Branco**	**5.21**	**326**	*e*Pn	**Pn**	**22 49 58.2**	**+2.3**
PCBR				*e*Sn	**Sn**	**22 50 55.3**	**-0.3**
PCBR				A	A	22 51 01.1	
	5.3nm,0.5s						
PSBE	**So Bento**	**5.64**	**316**	*e*Pn	**Pn**	**22 50 03.9**	**+2.1**
PVIS	**Viseu**	**6.12**	**329**	*e*Pn	**Pn**	**22 50 11.3**	**+3.0**
MVO	**Moncorvo**	**6.18**	**336**	*e*Pn	**Pn**	**22 50 11.9**	**+2.7**

*HEL **10** 23:13:18.1±0.1, 67°.18N×20°.68E, h1km, ML1.8,*
ML2.1(UPP), Confirmed Induced event

UPP 10 23:13:17.5±0.1, 67°.19N×20°.67E, h0km, ML2.1,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**213**	P	Pg	23 13 19.2	+0.3
DUNU				S	Sg	23 13 20.5	+0.6
DUNU	**Dundret**	**0.08**	**213**	*i* P	Pg	23 13 19.2	+0.3
DUNU				*i* S	Sg	23 13 20.5	+0.6
MASU	**Masugnsbyn**	**0.58**	**61**	P	Pg	23 13 28.7	+0.1
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	23 13 28.7	+0.1
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	23 13 31.8	-0.4
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P	Pg	23 13 31.8	-0.4
SALU	**Saltoluokta**	**0.86**	**284**	P	Pg	23 13 33.7	-0.3
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	23 13 33.7	-0.3
ERTU	**Ertsjaerv**	**0.87**	**136**	P	Pg	23 13 33.3	-0.8
ERTU	**Ertsjaerv**	**0.87**	**136**	*e*P	Pg	23 13 33.3	-0.9
ERTU				*e*S	Sg	23 13 44.3	-1.2
NIKU	**Nikkaluokta**	**0.93**	**318**	P	Pg	23 13 34.8	-0.5
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	23 13 34.8	-0.5
PAJU	**Pajala**	**0.97**	**98**	P	Pg	23 13 35.4	-0.6
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	23 13 34.9	-1.1
PAJU				*e*S	Sg	23 13 47.6	-0.9
LANU	**Lannavaara**	**1.00**	**30**	P	Sg	23 13 36.1	-0.6
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	23 13 36.1	-0.6
LANU				*e*S	Sg	23 13 49.8	+0.1
HEF	**Hetta**	**1.67**	**41**	*e*P	Pn	23 13 47.6	-0.4
HEF				*e*S	Sn	23 14 09.1	-1.0
HEF				MSG		23 14 12.9	
	comp=Z,8.2nm,0.2s						
KALU	**Kalix**	**1.71**	**140**	P	Pn	23 13 48.5	0.0
KALU	**Kalix**	**1.71**	**140**	*e*P	Pn	23 13 48.5	0.0
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pb	23 13 49.5	-0.5
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pb	23 13 49.5	-0.5
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pb	23 13 51.0	-0.8
KIF				*e*S	Sg	23 14 15.9	-0.3
KIF				MSG		23 14 17.9	
	comp=Z,8.3nm,0.1s						
TOF	**Tornio**	**1.83**	**126**	*e*P	Pn	23 13 50.5	+0.3
TOF				*e*S	Sn	23 14 13.4	-0.6
TOF				MSG		23 14 17.3	
	comp=Z,5.4nm,0.2s						
KTK1	**Kautokeino**	**2.07**	**26**	*e*P	Pb	23 13 54.7	-1.2
KTK1				*e*S	Sn	23 14 20.3	+0.3
RNF	**Rovaniemi**	**2.19**	**103**	*e*P	Pn	23 13 56.1	+1.1
RNF				*e*S	Sn	23 14 22.7	0.0
SGF	**Sodankyl**	**2.28**	**81**	*e*P	Pn	23 13 57.8	+1.4
SGF				*e*S	Sn	23 14 25.5	+0.3

*PRU **10** 23:17:22.8±0.0, 43°.84N×16°.28E, h0km*
*BEO **10** 23:17:22.9±0.6, 43°.89N×16°.21E, h0km, ML2.4/4*
*RHSSO **10** 23:17:24.5±0.4, 43°.90N×16°.45E, h4km±1km, ML2.5/15*

ISC 10 23:17:24.0±0.9, 43°.91N±0°.02×16°.44E±0°.02, h8km±7km, n69, σ1°.08/114, 7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIJV	**Kijevo**	**0.10**	**344**	*e*Pg	**Pg**	**23 17 26.5**	**+0.1**
KIJV				Sg	**Sg**	**23 17 29.0**	**+0.9**
MORI	**Morici**	**0.53**	**266**	*e*Pg	**Pg**	**23 17 33.6**	**-0.7**
MORI				Sg	**Sg**	**23 17 42.1**	**+0.9**
SRKY	**Kupres RS**	**0.55**	**73**	*i*Pg	**Pg**	**23 17 33.6**	**-0.9**
SRKY				*e*Sg	**Sg**	**23 17 41.8**	**+0.1**
A050A	**Klekovaca**	**0.58**	**6**	*i*Pg	**Pg**	**23 17 34.4**	**-0.8**
A050A				*e*Sg	**Sb**	**23 17 43.4**	**-1.4**
ZIRJ	**Zirje**	**0.63**	**247**	*e*Pg	**Pg**	**23 17 35.1**	**-1.0**
ZIRJ				Sg	**Sg**	**23 17 44.9**	**+0.5**
RICI	**Ricice**	**0.65**	**129**	*e*Pg	**Pg**	**23 17 35.0**	**-1.5**
MGRS	**Mrkonjic Grad**	**0.69**	**42**	*i*Pg	**Pg**	**23 17 37.1**	**-0.1**
MGRS				*e*Sg	**Sb**	**23 17 47.0**	**-0.9**
HVAR	**Hvar**	**0.73**	**180**	*e*Pg	**Pg**	**23 17 35.8**	**-2.2**
HVAR				Sg	**Sg**	**23 17 47.2**	**-0.3**
MAKA	**Makarska**	**0.75**	**146**	*e*Pg	**Pg**	**23 17 36.2**	**-2.2**
MAKA				Sg	**Sg**	**23 17 47.2**	**-0.8**
UDBI	**Udbina**	**0.79**	**322**	*e*Pg	**Pg**	**23 17 39.0**	**-0.1**
UDBI				Sg	**Sb**	**23 17 50.5**	**-0.3**
BLY	**Banja Luka**	**0.99**	**32**	*e*Pg	**Pg**	**23 17 42.6**	**-0.5**
BLY				*e*Sg	**Sn**	**23 17 58.4**	**-0.1**
BLY	**Banja Luka**	**0.99**	**32**	*i*Pg	**Pg**	**23 17 42.7**	**-0.4**
BLY				*e*Sg	**Sb**	**23 17 56.6**	**-0.1**
DUGI	**Dugi Otok**	**1.00**	**275**	*e*Pg	**Pg**	**23 17 42.1**	**-1.2**
DUGI				Sg	**Sg**	**23 17 57.7**	**+1.4**
VIRC	**Vir**	**1.07**	**291**	*e*Pg	**Pg**	**23 17 43.3**	**-1.2**
PRIJ	**Prijedor**	**1.09**	**10**	*e*Pg	**Pg**	**23 17 44.0**	**-0.8**
PRIJ				*e*Sg	**Sb**	**23 17 59.3**	**-0.1**
PLIT	**Plitvice**	**1.13**	**329**	*e*Pg	**Pg**	**23 17 44.7**	**-1.0**
PLIT				Sg	**Sb**	**23 18 00.3**	**-0.5**
A051A	**Mrakovica**	**1.15**	**17**	*i*Pg	**Pg**	**23 17 44.8**	**-1.3**
A051A				*e*Sg	**Sn**	**23 18 01.7**	**-0.8**
LSTV	**Lastovo**	**1.19**	**164**	*e*Pg	**Pg**	**23 17 45.1**	**-1.6**
LSTV				Sg	**Sg**	**23 18 01.8**	**-0.2**
NVLJ	**Novalja**	**1.31**	**301**	*e*Pn	**Pn**	**23 17 47.9**	**-0.6**
NVLJ				Sg	**Sn**	**23 18 07.3**	**+1.2**
STON	**Ston**	**1.38**	**138**	*e*Pn	**Pn**	**23 17 47.6**	**-1.9**
STON				Sn	**Sb**	**23 18 08.4**	**+0.6**
STON	**Ston**	**1.38**	**138**	*e*Pg	**Pn**	**23 17 50.5**	**+1.0**
STON				*e*Sg	**Sb**	**23 18 09.7**	**+1.9**
STON	**Ston**	**1.38**	**138**	*e*Pg	**Pn**	**23 17 49.0**	**-0.5**
STON				*e*Sg	**Sb**	**23 18 08.3**	**+0.5**
A052A	**Srbac**	**1.42**	**32**	*i*Pg	**Pn**	**23 17 49.8**	**-0.3**
A052A				*e*Sg	**Sn**	**23 18 09.7**	**+0.8**
RABC	**Rab**	**1.46**	**306**	*e*Pn	**Pn**	**23 17 50.7**	**+0.1**
RABC				Sn	**Sg**	**23 18 11.9**	**+1.1**
A254A	**Petrova Gora**	**1.48**	**342**	*e*Pn	**Pn**	**23 17 51.5**	**+0.5**
MOSL	**Moslavina**	**1.72**	**7**	*e*Pn	**Pn**	**23 17 53.9**	**-0.4**
MOSL				Sn	**Sn**	**23 18 15.7**	**-0.8**
DBRK	**Dubrovnik**	**1.75**	**134**	*e*Pn	**Pn**	**23 17 54.8**	**+0.1**
DBRK				Sn	**Sn**	**23 18 17.3**	**+0.1**
BOJS	**Bojanci**	**1.81**	**332**	*i*Pn	**Pn**	**23 17 56.6**	**+1.2**
BOJS				*e*Sn	**Sb**	**23 18 19.7**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.82**	**84**	*e*Pn	**Pn**	**23 17 56.3**	**+0.6**
HAPS				*e*Sn	**Sn**	**23 18 19.8**	**+0.8**
A252A	**Venje**	**1.83**	**33**	*e*Pn	**Pn**	**23 17 55.2**	**-0.5**
A252A				Sn	**Sn**	**23 18 19.3**	**+0.3**
BRY	**Bratogost**	**1.83**	**123**	*e*Pn	**Pn**	**23 17 57.0**	**+1.2**
BRY				*e*Sn	**Sn**	**23 18 20.3**	**+1.0**
TREB	**Trebinje**	**1.83**	**130**	*e*Pn	**Pn**	**23 17 57.3**	**+1.5**
TREB				*e*Sn	**Sn**	**23 18 21.5**	**+2.4**
TREB	**Trebinje**	**1.83**	**130**	*e*Pn	**Pn**	**23 17 56.3**	**+0.5**
TREB				*e*Sn	**Sn**	**23 18 20.3**	**+1.2**
OZLJ	**Ozalj**	**1.84**	**338**	Sn	**Sb**	**23 18 20.3**	**-0.8**
UPM	**Unac-Piva**	**1.92**	**111**	*e*Pn	**Pn**	**23 17 57.9**	**+0.7**
UPM				*e*Sn	**Sn**	**23 18 22.8**	**+1.1**
SMRN	**Sveta Marina**	**1.99**	**305**	Sn	**Sn**	**23 18 23.3**	**+0.4**
RIY	**Rijeka**	**1.99**	**316**	Sn	**Sn**	**23 18 24.3**	**+1.2**
CRES	**Cresnjev**	**2.04**	**340**	*e*Pn	**Pn**	**23 17 59.4**	**+0.7**
CRES				*e*Sn	**Sb**	**23 18 25.8**	**-1.1**
HCY	**Herceg Novi**	**2.09**	**134**	*e*Pn	**Pn**	**23 18 00.4**	**+1.0**
RUDO	**Rudo**	**2.14**	**97**	*e*Pn	**Pn**	**23 18 00.8**	**+0.8**
RUDO				*e*Sn	**Sn**	**23 18 27.5**	**+0.7**
BBLS	**Lazići**	**2.14**	**90**	*

JMDO	**Jabal Madar**	**6.69**	**349**	P	Pn	23 36 22.9	+1.4
	SNR=37						
JMDO				S	Sn	23 37 38.5	+1.5
WBK	**Wadi Bani Khal**	**6.81**	**356**	P	Pn	23 36 23.5	+0.2
	SNR=14						
WBK				S	Sn	23 37 41.9	+1.8
BSY	**Bisya**	**7.26**	**343**	P	Pn	23 36 30.3	+0.9
BSY				S	Sn	23 37 53.1	+2.0
SMDO	**Samad**	**7.37**	**350**	P	Pn	23 36 31.1	+0.2
SMDO				S	Sn	23 37 54.7	+0.8
MZR	**Muzera**	**9.15**	**323**	P	Pn	23 36 54.8	-0.5

*DJA **10** 23:37:24.2±0.2, 6°S±3°×12°6E±°, h543km±3km, M4.4/26, mb4.4/26, mB4.9/11, MLv4.6/19, Mw(mB)4.2/11, MwMwp4.8/1, Mwp5.1/1*
*NEIC **10** 23:37:24.7±1.7, 6.14S±0.10°×125.6E±0.1, h538km±9km, mb4.4/28, Error ellipse: s-maj=15.0km s-min=13.7km az=65.0*
*IDC **10** 23:37:25.0±0.8, 6.09S×125.61E, h547km±11km, mb3.5/7, mbtmp4.4/10, Error ellipse: s-maj=15.7km s-min=11.5km az=55.0*
ISC 10 23:37:24.5±0.5, **6.16S**±0.06×**125.62E**±0.06, **h550**km, **n85, σ1s08/91, mb4.5/18, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**3.26**	**27**	P	**P**	**23 38 39.7**	**-1.5**
AAI	**Ambon**	**3.55**	**46**	P	**P**	**23 38 41.6**	**-1.6**
SOEI	**Soe**	**3.81**	**201**	P	**P**	**23 38 44.8**	**-0.3**
SOEI	**Soe**	**3.81**	**201**	P	**P**	**23 38 45.1**	**-0.1**
SANI	**Sanana**	**4.10**	**5**	P	**P**	**23 38 45.0**	**-2.2**
MMRI	**Maumere**	**4.16**	**234**	P	**P**	**23 38 46.5**	**-1.1**
MMRI	**Maumere**	**4.16**	**234**	P	**P**	**23 38 47.0**	**-0.6**
MSAI	**Masohi**	**4.32**	**50**	P	**P**	**23 38 47.7**	**-1.2**
BATI	**Baumata**	**4.46**	**206**	P	**P**	**23 38 50.2**	**+0.2**
	400nm,0.4s,baz=24,slow=0.8,SNR=52						
BATI				S	**S**	**23 39 57.2**	**-2.4**
	170nm,0.5s,baz=320,slow=16,SNR=12						
BATI	**Baumata**	**4.46**	**206**	P	**P**	**23 38 50.2**	**+0.2**
BNDI	**Bandanaira**	**4.57**	**69**	P	**P**	**23 38 50.1**	**-0.7**
BSSI	**Bau Bau, Buton**	**5.10**	**270**	P	**P**	**23 38 56.2**	**+0.9**
	198nm,0.8s,1µm0.4nm						
BKSI	**Bulukumba**	**5.54**	**278**	P	**P**	**23 38 59.5**	**+0.5**
	51nm,0.8s,580nm0.2nm						
LUWI	**Luwuk**	**5.83**	**331**	P	**P**	**23 39 00.8**	**-0.9**
SAUI	**Saumlaki**	**5.92**	**108**	P	**P**	**23 39 02.2**	**-0.2**
SAUI	**Saumlaki**	**5.92**	**108**	P	**P**	**23 39 02.8**	**+0.4**
	626nm,0.5s,10µm2.5nm						
KAPI	**Kappang**	**5.95**	**281**	P	**P**	**23 39 04.2**	**+1.5**
	268nm,0.6s,baz=110,slow=4.6,SNR=100						
KAPI				S	**S**	**23 40 23.7**	**+0.7**
	1.9nm,0.3s,baz=1.7,slow=22,SNR=5.6						
KAPI	**Kappang**	**5.95**	**281**	P	**P**	**23 39 03.7**	**+1.0**
SPSI	**Sidrap Palu**	**6.22**	**290**	P	**P**	**23 39 05.6**	**+0.4**
	62nm,0.7s,825nm0.2nm						
BASI	**Baing, Sumba**	**6.42**	**231**	P	**P**	**23 39 05.7**	**-1.3**
APSI	**Ampana**	**6.55**	**323**	P	**P**	**23 39 08.3**	**0.0**
	21nm,0.8s,0.1nm						
WBSI	**Waikabubak, Su**	**7.07**	**240**	P	**P**	**23 39 10.6**	**-2.7**
	126nm,0.6s,2µm0.8nm						
TNTI	**Ternate**	**7.11**	**14**	P	**P**	**23 39 12.4**	**-1.2**
FAKI	**Fak Fak**	**7.35**	**64**	P	**P**	**23 39 15.3**	**-0.6**
FAKI	**Fak Fak**	**7.35**	**64**	P	**P**	**23 39 16.0**	**0.0**
SIJI	**Sorong**	**7.71**	**47**	P	**P**	**23 39 20.2**	**+0.7**
	88nm,0.6s,baz=307,slow=4.8,SNR=41						
SIJI				S	**S**	**23 40 51.6**	**-2.0**
	12nm,0.3s,baz=143,slow=20,SNR=8.5						
SWI	**Sorong**	**7.71**	**47**	P	**P**	**23 39 19.4**	**0.0**
	88nm,0.6s,1µm0.4nm						
PLAI	**Plampang**	**8.21**	**251**	P	**P**	**23 39 22.8**	**-1.6**
	98nm,0.6s						
MTN	**Manton Dam**	**8.58**	**141**	P	**P**	**23 39 28.1**	**0.0**
TOLI2	**Tolitoli**	**8.69**	**326**	P	**P**	**23 39 27.4**	**-1.9**
TWSI	**Taliwang, Sumb**	**9.04**	**253**	P	**P**	**23 39 30.8**	**-1.9**
	39nm,0.6s,3µm						
RKPI	**Ransiki, Papua**	**9.71**	**62**	P	**P**	**23 39 37.9**	**-1.6**
	103nm,0.7s,9µm						
KNRA	**Kunumurra**	**9.94**	**162**	P	**P**	**23 39 41.8**	**-0.1**
IGBI	**Denpasar**	**10.72**	**255**	P	**P**	**23 39 48.7**	**-1.1**
JAGI	**Jajag, Banyuwa**	**11.60**	**258**	P	**P**	**23 39 58.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**11.60**	**258**	P	**P**	**23 39 59.2**	**+0.1**
	12nm,1.4s						
FITZ	**Fitzroy Crossi**	**11.86**	**180**	P	**P**	**23 40 02.1**	**+0.5**
PWJI	**Pagerwojo**	**13.84**	**262**	P	**P**	**23 40 21.6**	**-0.5**
SBUM	**Sibu**	**15.88**	**302**	P	**P**	**23 40 43.1**	**0.0**
SBUM				IAmb	IAmb	23 40 45.2	
	comp=Z,9.3nm,0.6s						
MBWA	**Marble Bar**	**15.96**	**200**	P	**P**	**23 40 43.5**	**-0.2**
WB0	**Warramunga Arr**	**15.99**	**149**	P	**P**	**23 40 43.6**	**-0.4**
WB0				IAmb	IAmb	23 40 45.0	
	comp=Z,5.1nm,0.7s						
WRAB	**Tennant Creek**	**16.10**	**149**	P	**P**	**23 40 43.9**	**-1.2**
WRAB				IAmb	IAmb	23 40 45.4	
	comp=Z,7.3nm,0.5s						
WRA	**Warramunga Arr**	**16.11**	**149**	P	**P**	**23 40 45.2**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=340,slow=9.3,SNR=82						
WRA				S	**S**	**23 43 27.9**	**-0.9**
	comp=Z,4.0nm,0.9s,baz=330,slow=16,SNR=7.8						
WRA	**Warramunga Arr**	**16.11**	**149**	P	**P**	**23 40 43.9**	**-1.3**
WB2	**Warramunga Arr**	**16.11**	**149**	P	**P**	**23 40 44.3**	**-0.8**
WB2				IAmb	IAmb	23 40 46.7	
	comp=Z,4.6nm,0.9s						
WR0	**Warramunga Arr**	**16.22**	**149**	P	**P**	**23 40 45.8**	**-0.5**
WR0				IAmb	IAmb	23 40 47.3	
	comp=Z,6.3nm,0.5s						
PSA00	**Pilbara Seismi**	**16.31**	**199**	P	**P**	**23 40 46.8**	**-0.2**
KPJI	**Karang Pucung**	**16.62**	**265**	P	**P**	**23 40 49.3**	**-0.6**
	comp=Z,37nm,0.7s						
CNJI	**Cibinong**	**18.40**	**265**	P	**P**	**23 41 04.6**	**-1.6**
	comp=Z,33nm,0.9s						
COEN	**Coen**	**18.93**	**115**	P	**P**	**23 41 10.6**	**-0.4**
COEN				IAmb	IAmb	23 41 12.4	
	comp=Z,8.0nm,1.1s						
AS31	**Alice Springs**	**19.14**	**156**	P	**P**	**23 41 12.8**	**-0.1**
ASAR	**Alice Springs**	**19.14**	**156**	P	**P**	**23 41 14.3**	**+1.4**
	comp=Z,1.6nm,0.4s,baz=343,slow=15,SNR=52						
ASAR				S	**S**	**23 44 16.9**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=343,slow=19,SNR=2.0						
ASAR				ScP	**ScP**	**23 47 54.4**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=349,slow=1.9,SNR=15						
ASAR	**Alice Springs**	**19.14**	**156**	P	**P**	**23 41 13.6**	**+0.7**
CGJI	**Cibinong**	**19.81**	**268**	P	**P**	**23 41 19.0**	**0.0**
	comp=Z,31nm,1.0s						
KULM	**Kulim**	**27.40**	**294**	P	**P**	**23 42 27.0**	**+0.4**
KULM				IAmb	IAmb	23 42 28.1	
	comp=Z,11nm,1.0s						
RPSI	**Rantau Prapat**	**28.07**	**288**	P	**P**	**23 42 31.5**	**-1.0**
RPSI	**Rantau Prapat**	**28.07**	**288**	P	**P**	**23 42 31.5**	**-1.0**
RPSI				IAmb	IAmb	23 42 33.8	
	comp=Z,17nm,0.9s						
PSI	**Prapat**	**28.11**	**288**	P	**P**	**23 42 31.5**	**-1.4**
	comp=Z,16nm,0.8s,baz=128,slow=2.4,SNR=9.9						
	comp=Z,16nm,0.8s						
BBOO	**Buckleboo**	**28.24**	**161**	P	**P**	**23 42 34.2**	**+0.6**
BBOO				IAmb	IAmb	23 42 46.4	
	comp=Z,27nm,1.5s						
GSI	**Gunungsitoli**	**28.97**	**284**	P	**P**	**23 42 39.4**	**-0.8**
GSI	**Gunungsitoli**	**28.97**	**284**	P	**P**	**23 42 39.6**	**-0.7**
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**29.62**	**152**	P	**P**	**23 42 46.9**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=329,slow=10.0,SNR=8.2						
	comp=Z,3.1nm,0.6s						
STKA	**Stephens Creek**	**29.62**	**152**	P	**P**	**23 42 46.8**	**+1.1**
LHMI	**Lhok Sumawe**	**30.78**	**291**	P	**P**	**23 42 56.2**	**+0.2**
LHMI	**Lhok Sumawe**	**30.78**	**291**	P	**P**	**23 42 56.6**	**+0.7**
	comp=Z,75nm,0.7s						
MLSI	**Meulaboh, Aceh**	**30.96**	**289**	P	**P**	**23 42 56.7**	**-0.7**
	comp=Z,44nm,0.5s						
CMAR	**Chiang Mai Arr**	**35.93**	**313**	P	**P**	**23 43 39.8**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=142,slow=7.2,SNR=7.4						
	comp=Z,0.9nm,0.4s						
CAN	**Canberra**	**36.12**	**147**	P	**P**	**23 43 42.9**	**+2.2**
CAN				IAmb	IAmb	23 44 04.6	
	comp=Z,24nm,1.4s						
MJAR	**Matsushiro Arr**	**44.09**	**15**	P	**P**	**23 44 43.1**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=183,slow=9.0,SNR=4.0						
	comp=Z,2.1nm,0.5s						
JTM	**Tenmabayashi**	**48.83**	**16**	P	**P**	**23 45 20.4**	**+0.5**
WKZ	**Wanaka**	**53.91**	**143**	P	**P**	**23 45 59.6**	**+2.9**
RPZ	**Rata Peaks**	**54.59**	**141**	P	**P**	**23 46 02.7**	**+1.1**
RPZ				IAmb	IAmb	23 46 17.1	
	comp=Z,36nm,1.5s						
KHZ	**Kahutara**	**55.59**	**138**	P	**P**	**23 46 09.0**	**+0.6**
KHZ				IAmb	IAmb	23 46 11.6	
	comp=Z,36nm,1.4s						
BKZ	**Black Stump Fm**	**56.30**	**134**	P	**P**	**23 46 12.5**	**-1.0**
BKZ				IAmb	IAmb	23 46 22.2	
	comp=Z,11nm,1.1s						
MXZ	**Matakaoa Point**	**57.06**	**131**	P	**P**	**23 46 19.9**	**+1.3**
PETK	**Petropavlovsk-**	**64.99**	**21**	P	**P**	**23 47 11.0**	**+0.7**
	comp=Z,29nm,1.3s,baz=224,slow=4.0,SNR=2.8						
	comp=Z,29nm,1.3s						
MK31	**Makanchi Array**	**65.20**	**329**	P	**P**	**23 47 11.6**	**-0.3**
MKAR	**Makanchi Array**	**65.20**	**329**	P	**P**	**23 47 12.3**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=118,slow=8.3,SNR=14						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**65.20**	**329**	P	**P**	**23 47 11.4**	**-0.4**
MAKZ	**Makanchi**	**65.37**	**329**	P	**P**	**23 47 12.5**	**-0.4**
AAK	**Ala-Archa**	**67.14**	**321**	P	**P**	**23 47 25.5**	**+1.3**
KURK	**Kurchatov**	**69.59**	**330**	P	**P**	**23 47 38.5**	**-0.1**
SEY	**Seymchan**	**71.86**	**13**	P	**P**	**23 47 52.6**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=198,slow=22,SNR=4.7						
	comp=Z,1.7nm,0.5s						
VOI	**Vohitsoka**	**77.38**	**249**	P	**P**	**23 48 24.8**	**+1.0**
VOI				IAmb	IAmb	23 48 48.7	
	comp=Z,13nm,1.3s						
ABKAR	**Akbulak array**	**79.18**	**323**	P	**P**	**23 48 33.3**	**+0.7**

*MDD **10** 23:46:03.5±0.6, 35.58N×3.83W, h0km, mb_Lg2.6/13, Error ellipse: s-maj=5.3km s-min=2.9km az=17.0*
*SFS **10** 23:46:04.4, 35.48N×3.78W, h44km, ML2.6/8, MLv2.6/8*
*INMG **10** 23:46:04.0±1.6, 35.55N×3.86W, h0km±6km, ML2.0, Error ellipse: s-maj=4.1km s-min=4.1km az=55.0*
*CNRM **10** 23:46:05.1, 35.53N×3.56W, h57km, ml2.2*
ISC 10 23:46:04.2±1.1, **35.53N**±0.03×**3.73W**±0.02, **h27**km±12km, **n43, σ1s60/77, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.58**	**233**	S	**Sb**	**23 46 23.3**	**-0.5**
PVLZ				P	**Pb**	**23 46 14.8**	**-1.0**
EMEL	**Melilla**	**0.67**	**110**	Pg	**Pn**	**23 46 18.0**	**+0.1**
EMEL				Sg	**Sb**	**23 46 26.1**	**-0.3**
EALB	**Alboran**	**0.70**	**54**	S	**Sn**	**23 46 28.8**	**+0.6**
EALB				P	**Pb**	**23 46 17.2**	**-0.6**
EALB	**Alboran**	**0.70**	**54**	Pg	**Pb**	**23 46 17.4**	**-0.4**
EALB				Sg	**Sb**	**23 46 27.0**	**-0.1**
EALB				*i* Vmb_Lg		23 46 31.1	
CHAS	**Isla Isabel II**	**1.12**	**108**	S	**Sn**	**23 46 37.6**	**-0.9**
CHAS				P	**Pn**	**23 46 23.1**	**-0.9**
TAF	**Taforalt**	**1.29**	**123**	P	**Pn**	**23 46 26.5**	**0.0**
TAF				S	**Sn**	**23 46 40.6**	**-2.3**
EMIJ	**Mijas**	**1.33**	**321**	S	**Sn**	**23 46 43.1**	**-0.8**
EMIJ				P	**Pn**	**23 46 26.6**	**-0.5**
EMIJ	**Mijas**	**1.33**	**321**	Pg	**Pn**	**23 46 26.9**	**-0.9**
EMIJ				Sg	**Sn**	**23 46 42.5**	**-1.5**
EMIJ				*i* Vmb_Lg		23 46 44.9	
ELGU	**Los Guajares,**	**1.34**	**4**	P	**Pn**	**23 46 26.4**	**-0.8**
ELGU				S	**Sn**	**23 46 41.8**	**-2.4**
ELGU	**Los Guajares,**	**1.34**	**4**	Pg	**Pn**	**23 46 26.3**	**-0.8**
ELGU				Sg	**Sn**	**23 46 41.4**	**-2.7**
ELGU				*i* Vmb_Lg		23 46 48.0	
EMAL	**Malaga-Limoner**	**1.35**	**336**	S	**Sn**	**23 46 42.7**	**-1.7**
EMAL				P	**Pn**	**23 46 26.7**	**-0.6**
CHEFC	**Chefchaouen**	**1.38**	**253**	P	**Pb**	**23 46 30.4**	**+1.1**
CHEFC				S	**Sb**	**23 46 50.2**	**+3.5**
CEU	**Ceuta**	**1.39**	**286**	S	**Sn**	**23 46 40.6**	**-4.5**
CEU				P	**Pn**	**23 46 25.4**	**-2.3**
ECEU	**Ceuta**	**1.39**	**286**	S	**Sn**	**23 46 43.6**	**-1.6**
ECEU				P	**Pn**	**23 46 26.5**	**-1.3**
ECEU	**Ceuta**	**1.39**	**286**	Sg	**Sn**	**23 46 41.6**	**-3.6**
ECEU				*i* Vmb_Lg		23 46 43.7	
JBK	**JBK**	**1.53**	**141**	P	**Pn**	**23 46 29.8**	**0.0**
JBK				S	**Sn**	**23 46 46.6**	**-2.3**
EGOR	**Sierra Gorda,**	**1.61**	**349**	S	**Sn**	**23 46 50.1**	**-0.8**
EGOR				P	**Pn**	**23 46 31.6**	**+0.7**
EGOR	**Sierra Gorda,**	**1.61**	**349**	Pn	**Pn**	**23 46 31.7**	**+0.8**
EGOR				Sn	**Sn**	**23 46 50.2**	**-0.7**
EGOR				*i* Vmb_Lg		23 46 50.4	
EQUE	**Quentar**	**1.69**	**8**	Pn	**Pn**	**23 46 33.3**	**+1.3**
EQUE				Sn	**Sb**	**23 46 55.5**	**-0.1**
EQUE				*i* Vmb_Lg		23 47 07.9	
ENIJ	**Nijar**	**1.90**	**40**	S	**Sn**	**23 46 56.4**	**-1.4**
ENIJ	**Nijar**	**1.90**	**40**	Pn	**Pn**	**23 46 33.8**	**-1.0**
ENIJ				Sn	**Sn**	**23 46 56.2**	**-1.6**
ENIJ				*i* Vmb_Lg		23 47 09.0	
EQES	**Quesada**	**2.33**	**13**	Pn	**Pn**	**23 46 43.1**	**+2.2**
EQES				Sn	**Sn**	**23 47 11.5**	**+2.9**
EQES				*i* Vmb_Lg		23 47 14.4	
EADA	**Adamuz**	**2.72**	**346**	Pn	**Pn**	**23 46 47.4**	**+1.3**
EADA				Sn	**Sn**	**23 47 18.7**	**+0.5**
EADA				*i* Vmb_Lg		23 47 26.7	
MD31	**MD31**	**2.79**	**198**	P	**Pn**	**23 46 48.8**	**+1.7**
MD31				S	**Sn**	**23 47 20.5**	**+0.6**
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**23 46 49.0**	**+1.7**
MDT				S	**Sn**	**23 47 22.3**	**+2.1**
ECAB	**El Cabril**	**2.88**	**332**	Pn	**Pn**	**23 46 49.5**	**+1.2**
ECAB				Sn	**Sn**	**23 47 22.1**	**+0.1**
ECAB				*i* Vmb_Lg		23 47 37.7	
EMIN	**Mina Concepcio**	**3.25**	**314**	Pn	**Pn**	**23 46 53.5**	**+0.1**
EMIN				Sn	**Sn**	**23 47 30.1**	**-1.1**
ETOB	**Tobarra**	**3.57**	**29**	Pn	**Pn**	**23 46 59.8**	**+2.0**
EGRO	**El Granado**	**3.62**	**305**	Pn	**Pn**	**23 46 58.7**	**+0.2**
EGRO				Sn	**Sn**	**23 47 38.1**	**-2.3**
PVAQ	**Vaqueiros**	**3.72**	**301**	*e*Pn	**Pn**	**23 47 00.3**	**+0.5**
PVAQ				*e*Sn	**Sn**	**23 47 41.6**	**-1.1**
PVAQ				A	A	23 47 43.7	
	3.1nm,0.4s						
PVAQ	**Vaqueiros**	**3.72**	**301**	P	**Pn**	**23 47 01.5**	**+1.7**
PVAQ				S	**Sn**	**23 47 44.8**	**+2.1**
PBAR	**Barrancos**	**3.74**	**316**	*e*Pn	**Pn**	**23 47 00.6**	**+0.5**
PBAR				*e*Sn	**Sn**	**23 47 42.2**	**-1.1**
PBAR				A	A	23 47 49.0	
	2.8nm,0.6s						
PAB	**San Pablo**	**4.04**	**353**	Pn	**Pn**	**23 47 05.0**	**+0.7**
PAB				Sn	**Sn**	**23 47 49.3**	**-1.5**
PCVE	**Castro Verde**	**4.05**	**302**	*e*Sn	**Sn**	**23 47 48.8**	**-2.1**
EBAD	**Badajoz**	**4.15**	**322**	Pn	**Pn**	**23 47 06.0**	**+0.2**
EBAD				Sn	**Sn**	**23 47 50.2**	**-3.2**
EBAD				*i* Vmb_Lg		23 47 57.3	
PESTR	**Estremoz**	**4.54**	**318**	*e*Pn	**Pn**	**23 47 12.6**	**+1.5**
PESTR				Sn	**Sn**	**23 48 10.6**	**-0.2**
EVO	**Evora**	**4.55**	**312**	*e*Pn	**Pn**	**23 47 12.1**	**+0.9**
EVO				*e*Sn	**Sn**	**23 48 02.4**	**-0.8**
PNCL	**Nicolau / Gran**	**4.63**	**305**	*e*Pn	**Pn**	**23 47 13.1**	**+0.8**
PNCL				*e*Sn	**Sn**	**23 48 04.3**	**-0.9**
PMRV	**Marv??o**	**4.86**	**324**	*e*Pn	**Pn**	**23 47 16.6**	**+1.1**
PMTG	**Montargil**	**5.03**	**316**	*e*Pn	**Pn**	**23 47 18.6**	**+0.8**
PCBR	**Castelo Branco**	**5.23**	**327**	*e*Pn	**Pn**	**23 47 22.3**	**+1.8**
MVO	**Moncorvo**	**6.20**	**336**	*e*Pn	**Pn**	**23 47 36.1**	**+2.2**
PBRG	**Braganca**	**6.69**	**340**	*e*Pn	**Pn**	**23 47 43.0**	**+2.3**

*CNRM **10** 23:51:50.5, 35.57N×3.65W, h22km, ml2.7*
*INMG **10** 23:51:50.1±2.0, 35.52N×3.85W, h0km±10km, ML2.5, Error ellipse: s-maj=10.7km s-min=5.9km az=161.0*
*MDD **10** 23:51:50.2±0.5, 35.54N×3.83W, h0km, mb_Lg2.8/14, Error ellipse: s-maj=5.0km s-min=3.0km az=14.0*
*SFS **10** 23:51:51.9, 35.45N×3.78W, h27km, ML3.1/14, MLv3.1/14*
ISC 10 23:51:50.5±1.1, **35.47N**±0.03×**3.76W**±0.02, **h24**km±13km, **n59, σ1s47/96, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.53**	**236**	S	**Sb**	**23 52 09.3**	**+0.8**
EMEL	**Melilla**	**0.68**	**105**	Pg	**Pb**	**23 52 03.9**	**+0.2**
EMEL				Sg	**Sb**	**23 52 11.4**	**-1.2**
EALB	**Alboran**	**0.75**	**52**	P	**Pb**	**23 52 04.7**	**-0.2**
EALB				S	**Sb**	**23 52 15.1**	**+0.3**
EALB	**Alboran**	**0.75**	**52**	Pg	**Pb**	**23 52 05.0**	**+0.1**
EALB				Sg	**Sb**	**23 52 14.4**	**-0.3**
EALB				*i* Vmb_Lg		23 52 16.1	
CHAS	**Isla Isabel II**	**1.13**	**105**	S	**Sb**	**23 52 24.1**	**-1.4**
TAF	**Taforalt**	**1.28**	**120**	P	**Pn**	**23 52 12.6**	**-0.4**
TAF				S	**Sn**	**23 52 29.8**	**+0.2**
CHEFC	**Chefchaouen**	**1.34**	**255**	P	**Pb**	**23 52 15.1**	**+0.1**
CHEFC				S	**Sb**	**23 52 33.7**	**+1.9**
EMIJ	**Mijas**	**1.36**	**323**	S	**Sn**	**23 52 29.5**	**-2.0**
EMIJ				P	**Pn**	**23 52 12.6**	**-1.5**
EMIJ	**Mijas**	**1.36**	**323**	Pg	**Pn**	**23 52 13.0**	**-1.1**
EMIJ				Sg	**Sn**	**23 52 29.8**	**-1.7**
EMIJ				*i* Vmb_Lg		23 52 36.2	

CEU	**Ceuta**	**1.38**	**288**	P	**Pn**	**23 52 13.9**	**-0.3**
CEU				S	**Sn**	**23 52 31.7**	**0.0**
ECEU	**Ceuta**	**1.38**	**288**	P	**Pn**	**23 52 13.5**	**-0.8**
ECEU				S	**Sn**	**23 52 29.9**	**-1.9**
ECEU	**Ceuta**	**1.38**	**288**	Pg	**Pn**	**23 52 13.6**	**-0.7**
ECEU				Sg	**Sn**	**23 52 28.8**	**-3.0**
ECEU				*i* Vmb_Lg		23 52 35.6	
EMAL	**Malaga-Limoner**	**1.40**	**337**	S	**Sn**	**23 52 30.3**	**-1.9**
EMAL				P	**Pn**	**23 52 13.2**	**-1.3**
ELGU	**Los Guajares,**	**1.40**	**4**	S	**Sb**	**23 52 33.0**	**-0.4**
ELGU				P	**Pn**	**23 52 13.1**	**-1.5**
ELGU	**Los Guajares,**	**1.40**	**4**	Pg	**Pn**	**23 52 13.0**	**-1.6**
ELGU				Sg	**Sn**	**23 52 30.7**	**-1.6**
ELGU				*i* Vmb_Lg		23 52 35.0	
JBK	**JBK**	**1.50**	**139**	P	**Pn**	**23 52 15.8**	**-0.4**
JBK				S	**Sn**	**23 52 36.5**	**+1.4**
EGOR	**Sierra Gorda,**	**1.66**	**350**	S	**Sn**	**23 52 39.5**	**+0.6**
EGOR				P	**Pn**	**23 52 18.5**	**+0.3**
EGOR	**Sierra Gorda,**	**1.66**	**350**	Pn	**Pn**	**23 52 17.5**	**-0.8**
EGOR				Sn	**Sn**	**23 52 39.5**	**+0.6**
EGOR				*i* Vmb_Lg		23 52 50.7	
EJIF	**Jimena Fronter**	**1.69**	**306**	Pn	**Pn**	**23 52 19.9**	**+1.2**
EQUE	**Quentar**	**1.75**	**8**	Pn	**Pn**	**23 52 19.5**	**0.0**
EQUE				Sn	**Sn**	**23 52 42.2**	**+1.1**
EQUE				*i* Vmb_Lg		23 52 55.1	
ENIJ	**Nijar**	**1.95**	**40**	P	**Pb**	**23 52 24.5**	**-0.9**
ENIJ	**Nijar**	**1.95**	**40**	Pn	**Pn**	**23 52 24.2**	**+2.0**
ENIJ				*i* Vmb_Lg		23 52 33.3	
ENIJ				Sn	**Sn**	**23 52 43.3**	**-2.7**
ESPR	**Espera**	**2.19**	**310**	Pg	**Pb**	**23 52 29.5**	**+0.1**
EQES	**Quesada**	**2.39**	**13**	Pn	**Pn**	**23 52 30.3**	**+2.0**
EQES				Sn	**Sn**	**23 52 59.1**	**+2.2**
EQES				*i* Vmb_Lg		23 53 11.0	
MD31	**MD31**	**2.73**	**198**	P	**Pn**	**23 52 34.6**	**+1.7**
MD31				S	**Sb**	**23 53 09.7**	**-2.0**
MDT	**Midelt**	**2.74**	**195**	P	**Pn**	**23 52 35.6**	**+2.5**
MDT				S	**Sb**	**23 53 10.5**	**-1.7**
EADA	**Adamuz**	**2.77**	**347**	Sg	**Sb**	**23 53 12.2**	**-0.6**
EADA				P	**Pn**	**23 52 35.2**	**+1.8**
EADA	**Adamuz**	**2.77**	**347**	Pn	**Pn**	**23 52 34.7**	**+1.3**
EADA				Sn	**Sn**	**23 53 06.9**	**+0.8**
EADA				*i* Vmb_Lg		23 53 19.2	
ECAB	**El Cabril**	**2.92**	**333**	P	**Pn**	**23 52 36.9**	**+1.4**
ECAB	**El Cabril**	**2.92**	**333**	Pn	**Pn**	**23 52 36.6**	**+1.1**
ECAB				Sn	**Sn**	**23 53 07.5**	**-2.3**
ECAB				*i* Vmb_Lg		23 53 25.9	
CART	**Cartagena**	**3.06**	**46**	S	**Sn**	**23 53 13.6**	**+0.3**
EMUR	**La Murta**	**3.11**	**40**	Sn	**Sn**	**23 53 12.1**	**-2.6**
EMIN	**Mina Concepcio**	**3.27**	**315**	Pn	**Pn**	**23 52 40.2**	**-0.2**
EMIN				Sn	**Sn**	**23 53 16.1**	**-1.7**
EMIN				*i* Vmb_Lg		23 53 45.7	
ETOB	**Tobarra**	**3.63**	**29**	P	**Pn**	**23 52 47.1**	**+1.9**
ETOB	**Tobarra**	**3.63**	**29**	Pn	**Pn**	**23 52 46.9**	**+1.6**
EGRO	**El Granado**	**3.63**	**306**	P	**Pn**	**23 52 45.8**	**+0.5**
EGRO				S	**Sn**	**23 53 25.5**	**-2.0**
EGRO	**El Granado**	**3.63**	**306**	Pn	**Pn**	**23 52 44.8**	**-0.5**
EGRO				Sn	**Sn**	**23 53 26.4**	**-1.0**
EGRO				*i* Vmb_Lg		23 53 28.0	
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*Pn	**Pn**	**23 52 49.3**	**+2.8**
PVAQ				*e*Sn	**Sn**	**23 53 29.0**	**-0.7**
PVAQ				A	A	23 53 36.1	
	9.6nm,0.5s						
PVAQ	**Vaqueiros**	**3.73**	**302**	P	**Pn**	**23 52 47.9**	**+1.3**
PVAQ				S	**Sn**	**23

EQES				Sn	**Sb**	**23 57 27.7**	**-0.3**
EQES				*i* Vmb_Lg		23 57 32.8	
EADA	**Adamuz**	**2.72**	**346**	Pn	**Pn**	**23 57 02.9**	**+2.4**
EADA				Sn	**Sn**	**23 57 32.9**	**-0.3**
EADA				*i* Vmb_Lg		23 57 48.4	
MD31	**MD31**	**2.78**	**198**	P	**Pn**	**23 57 02.6**	**+1.2**
MD31				S	**Sb**	**23 57 38.8**	**-1.8**
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**23 57 03.5**	**+1.9**
MDT				S	**Sn**	**23 57 38.6**	**+3.4**
ECAB	**El Cabril**	**2.88**	**333**	Pn	**Pn**	**23 57 04.9**	**+2.2**
ECAB				Sn	**Sn**	**23 57 38.2**	**+1.1**
EGRO	**El Granado**	**3.61**	**305**	Pn	**Pn**	**23 57 13.5**	**+0.8**
EGRO				Sn	**Sn**	**23 57 53.7**	**-1.5**
EGRO				*i* Vmb_Lg		23 57 59.1	
PVAQ	**Vaqueiros**	**3.71**	**302**	*e*Pn	**Pn**	**23 57 15.6**	**+1.6**
PVAQ				*e*Sn	**Sn**	**23 57 57.2**	**-0.3**
PVAQ				A	A	23 58 19.7	
	4.9nm,0.9s						
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**23 57 14.8**	**+0.8**
PVAQ				S	**Sn**	**23 57 57.3**	**-0.2**
PBAR	**Barrancos**	**3.74**	**316**	*e*Pn	**Pn**	**23 57 16.4**	**+2.0**
PBAR				*e*Sn	**Sn**	**23 57 58.5**	**+0.3**
PBAR				A	A	23 58 04.9	
	1.5nm,0.7s						
EBAD	**Badajoz**	**4.15**	**322**	Sn	**Sn**	**23 58 07.8**	**-0.5**
EBAD				*i* Vmb_Lg		23 58 11.7	
PTEO	**Sao Teotonio**	**4.48**	**298**	*e*Sn	**Sn**	**23 58 16.9**	**+0.3**
PESTR	**Estremoz**	**4.53**	**319**	*e*Sn	**Sn**	**23 58 17.5**	**-0.3**
PNCL	**Nicolau / Gran**	**4.62**	**305**	*e*Pn	**Pn**	**23 57 27.7**	**+1.1**
PNCL				*e*Sn	**Sn**	**23 58 19.3**	**-0.7**
PMRV	**Marv??o**	**4.86**	**324**	*e*Pn	**Pn**	**23 57 33.3**	**+3.5**
PMRV				*e*Sn	**Sn**	**23 58 26.1**	**+0.3**
PMTG	**Montargil**	**5.02**	**316**	*e*Sn	**Sn**	**23 58 29.7**	**-0.3**
PSBE	**So Bento**	**5.65**	**316**	*e*Pn	**Pn**	**23 57 44.7**	**+3.9**

IDC 11 00:05:24.4±13.0,**30°21S**×**179°75E**,**h595**km±139km,
mb2.9/4,**mbtmp3.8**/4,**Error ellipse: s-maj=171.1km s-min=81.1km az=164.0**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.63**	**257**	P	P	00 11 08.6	-0.2
	1.3nm,0.5s,baz=103,slow=10,SNR=3.5						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**41.18**	**268**	P	P	00 12 18.8	+0.1
	0.4nm,0.6s,baz=104,slow=7.5,SNR=6.0						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**42.15**	**273**	P	P	00 12 26.1	-0.2
	0.7nm,0.5s,baz=113,slow=7.4,SNR=12						
	0.7nm,0.5s						
PDAR	**Pinedale Array**	**97.35**	**44**	P	Pdif	00 17 54.8	-0.3
	0.2nm,0.4s,baz=236,slow=6.4,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**116.17**	**311**	PKP	PKPdf	00 23 00.3	-0.4
	0.1nm,0.6s,baz=132,slow=2.1,SNR=1.8						
FINES	**FINESS Array B**	**144.28**	**339**	PKP	PKPbc	00 23 52.3	-0.4
	1.6nm,0.4s,baz=55,slow=3.8,SNR=16						

IDC 11 00:06:06.8±0.6,37°.47N×140°.97E,*h90*km±4km, *mb3.8/9, mbtmp4.1/15, MS2.7/4, Error ellipse: s-maj=13.1km s-min=9.8km az=134.0*

JMA 11 00:06:07.8±0.1,37°.5N±0°.2×140°.8E±0°.4, *h90*km, *MD4.1/40, MV4.1/40, EASTERN FUKUSHIMA PREF*

JMA Felt II J1 at EASTERN FUKUSHIMA PREF .

NEIC 11 00:06:07.6±1.6,37°.45N±0°.04×140°.80E±0°.07, *h91*km±6km, *mb4.4/23, Error ellipse: s-maj=9.6km s-min=3.6km az=60.0*

*NIED 11 00:06:07.8, 37°.46N×140°.77E, h90*km, *MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10*^{15}*Nm; Mrr0.74; Mθθ0.55; Mϕϕ -1.29; Mrθ -1.02; Mθϕ 1.35; Mϕr0.48; Fault plane solution: M*$_0$*2.04000×10*^{15} *NP1: ϕs295.00000°, δ77.00000°, λ42.00000°. NP2: ϕs194.00000°, δ50.00000°, λ163.00000°.*

ISC 11 00:06:06.8±0.5,**37°44N**±0°.04×**140°85E**±0°.05,**h91**km±4km,
n106,σ1§**10**/104,**mb4.3**/22,**7D**,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.08**	**168**	P	**Pn**	**00 06 20.6**	**+1.0**
JFK				S	**Sn**	**00 06 30.3**	**+1.1**
JFK	**Kawauchi**	**0.08**	**168**	A	A	00 06 20.6	
	comp=E,12nm,0.4s,comp=E,21nm,0.3s						
JMST	**Minamisoumatoc**	**0.28**	**5**	P	**Pn**	**00 06 21.0**	**+0.8**
JMST				S	**Sn**	**00 06 30.9**	**+0.8**
JMST	**Minamisoumatoc**	**0.28**	**5**	A	A	00 06 21.0	
	comp=E,10.0nm,0.9s,comp=E,14nm,0.6s						
ONAJ	**Iwakimizuishiy**	**0.34**	**187**	P	**Pn**	**00 06 21.6**	**+0.9**
ONAJ				S	**Sn**	**00 06 32.0**	**+1.1**
ONAJ	**Iwakimizuishiy**	**0.34**	**187**	A	A	00 06 21.6	
	comp=E,25nm,0.4s,comp=E,21nm,1.0s						
JFFD	**Fukushimafurud**	**0.42**	**214**	⇓*i*P	**Pn**	**00 06 21.9**	**+0.8**
JFFD				⇓S	**Sn**	**00 06 32.0**	**+0.3**
JFFD	**Fukushimafurud**	**0.42**	**214**	A	A	00 06 21.9	
	comp=E,13nm,2.1s,comp=E,10.0nm,1.5s						
JMM	**Marumori**	**0.42**	**354**	Pn	**Pn**	**00 06 21.9**	**+0.8**
JMM				Sn	**Sn**	**00 06 32.2**	**+0.5**
JMM	**Marumori**	**0.42**	**354**	P	**Pn**	**00 06 21.9**	**+0.8**
JMM				S	**Sn**	**00 06 32.2**	**+0.5**
JMM	**Marumori**	**0.42**	**354**	A	A	00 06 21.9	
	comp=E,10.0nm,0.2s,comp=E,15nm,0.3s						
JYAR	**Yonezawaarcadi**	**0.73**	**310**	A	A	00 06 24.1	
	comp=E,39nm,1.0s,comp=E,35nm,0.9s						
JHO	**Hitachi**	**0.86**	**195**	A	A	00 06 26.0	
	comp=E,16nm,1.3s,comp=E,8.0nm,0.2s						
JSB	**Shiboa**	**0.88**	**238**	A	A	00 06 25.8	
	comp=E,24nm,1.1s,comp=E,15nm,1.3s						
JFY	**Yanaizu**	**0.92**	**268**	⇓P	**Pn**	**00 06 25.9**	**+0.3**
JFY				⇓S	**Sn**	**00 06 39.5**	**-0.2**
JFY	**Yanaizu**	**0.92**	**268**	A	A	00 06 25.9	
	comp=E,4.0nm,1.6s,comp=E,10.0nm,3.0s						
JOU	**Okura**	**0.93**	**351**	P	**Pn**	**00 06 26.8**	**+1.0**
JOU				S	**Sn**	**00 06 41.6**	**+1.5**
JOU	**Okura**	**0.93**	**351**	A	A	00 06 26.8	
	comp=E,18nm,0.6s,comp=E,17nm,0.7s						
JYS	**Shirataka**	**1.00**	**321**	P	**Pn**	**00 06 27.3**	**+0.8**
JYS				*e*S	**Sn**	**00 06 42.3**	**+1.0**
JYS	**Shirataka**	**1.00**	**321**	A	A	00 06 27.3	
	comp=E,8.0nm,1.4s,comp=E,6.0nm,1.5s						
JIO	**Ouri**	**1.08**	**21**	*i* P	**Pn**	**00 06 28.3**	**+0.9**
JIO				S	**Sn**	**00 06 43.2**	**+0.2**
JIO	**Ouri**	**1.08**	**21**	A	A	00 06 28.3	
	comp=E,10.0nm,0.5s,comp=E,5.0nm,0.8s						
JHYU	**Hitachinakayam**	**1.12**	**191**	A	A	00 06 29.1	
	comp=E,24nm,0.6s,comp=E,15nm,0.4s						
JOFO	**Osakifurukawao**	**1.16**	**2**	A	A	00 06 29.4	
	comp=E,23nm,3.4s,comp=E,27nm,0.8s						
JNS	**Sasagawa**	**1.28**	**288**	P	**Pn**	**00 06 30.1**	**+0.3**
JNS				*e*S	**Sn**	**00 06 46.6**	**-0.5**
JNS	**Sasagawa**	**1.28**	**288**	A	A	00 06 30.1	
	comp=E,4.0nm,5.1s,comp=E,4.0nm,5.0s						
JYT	**Yasato**	**1.32**	**204**	A	A	00 06 31.4	
	comp=E,19nm,0.4s,comp=E,14nm,0.3s						
JKT	**Katashina**	**1.45**	**243**	⇓P	**Pn**	**00 06 33.1**	**+1.1**
JKMT	**Kesennumamotoy**	**1.45**	**20**	A	A	00 06 33.3	
	comp=E,7.0nm,0.8s,comp=E,9.0nm,0.6s						
JUON	**Uonuma**	**1.45**	**261**	⇓P	**Pn**	**00 06 32.5**	**+0.5**
JUON				⇓S	**Sn**	**00 06 51.4**	**+0.4**
JYA	**Atsumi**	**1.46**	**322**	P	**Pn**	**00 06 33.0**	**+0.9**
JYA				*e*S	**Sn**	**00 06 52.1**	**+0.9**
JAG	**Ashikaga**	**1.51**	**228**	*i* P	**Pn**	**00 06 33.6**	**+0.9**
JAG				S	**Sn**	**00 06 52.8**	**+0.5**
JAG	**Ashikaga**	**1.51**	**228**	A	A	00 06 33.6	
	comp=E,4.0nm,2.2s,comp=E,5.0nm,2.3s						
JYK	**Kaneyama**	**1.52**	**345**	P	**Pn**	**00 06 33.9**	**+1.0**
JYK				*e*S	**Sn**	**00 06 54.0**	**+1.4**
JMK	**Ichinoseki**	**1.53**	**11**	P	**Pn**	**00 06 33.9**	**+0.9**
JMK				*e*S	**Sn**	**00 06 53.8**	**+1.0**
JAW	**Awa shima**	**1.62**	**309**	P	**Pn**	**00 06 34.6**	**+0.5**
JAW				*e*S	**Sn**	**00 06 55.3**	**+0.5**
JSD	**Sado**	**2.14**	**287**	Pn	**Pn**	**00 06 40.0**	**-0.8**
MJAR	**Matsushiro Arr**	**2.30**	**248**	P	**Pn**	**00 06 43.9**	**+0.9**
	221nm,0.6s,baz=63,slow=11,SNR=410						
MJAR				S	**Sn**	**00 07 14.4**	**+3.7**
	50nm,0.8s,baz=63,slow=14,SNR=5.3						
MJAR				LR	LR	00 07 32.3	
	comp=Z,100nm,18.2s,baz=59,slow=36						
MAJO	**Matsushiro**	**2.30**	**248**	Pn	**Pn**	**00 06 43.7**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.30**	**248**	Pn	**Pn**	**00 06 45.0**	**+2.0**
JKEN	**Kujiedanarisaw**	**2.84**	**13**	A	A	00 06 52.0	
	comp=E,5.0nm,2.3s,comp=E,6.0nm,0.9s						

JHTM	**Izuhatsuma**	**2.89**	**212**	A	A	00 06 52.4		
	comp=E,9.0nm,4.5s,comp=E,8.0nm,0.7s							
JIZS	**Izushimoda**	**3.15**	**211**	A	A	00 06 56.0		
	comp=E,4.0nm,1.8s,comp=E,3.0nm,1.1s							
JTM	**Tenmabayashi**	**3.34**	**3**	Pn	**Pn**	**00 06 58.0**	**+1.1**	
JGF	**Kuroka**	**3.36**	**238**	Pn	**Pn**	**00 06 58.4**	**+1.2**	
INU	**Inuyama**	**3.73**	**237**	Pn	**Pn**	**00 07 02.4**	**+0.2**	
JHJ	**Hachijo jima 2**	**4.40**	**192**	P	**Pn**	**00 07 10.5**	**-0.8**	
	116nm,0.3s,baz=307,slow=22,SNR=7.0							
JHJ				S	**Sn**	**00 07 58.3**	**-3.1**	
	307nm,0.2s,baz=256,slow=23,SNR=13							
JHJ2	**Mitsune**	**4.40**	**191**	Pn	**Pn**	**00 07 11.3**	**0.0**	
ERM	**Erimo**	**4.90**	**21**	Pn	**Pn**	**00 07 16.5**	**-1.5**	
JHS	**Saijyo**	**6.71**	**251**	Pn	**Pn**	**00 07 44.1**	**+1.3**	
JMN	**Monobe**	**6.78**	**239**	Pn	**Pn**	**00 07 43.4**	**-0.3**	
ASAJ	**Asahikawa**	**6.80**	**11**	P	**Pn**	**00 07 41.9**	**-1.9**	
	9.5nm,0.3s,baz=210,slow=10,SNR=7.6							
ASAJ				S	**Sn**	**00 08 56.4**	**-3.3**	
	18nm,0.7s,baz=310,slow=26,SNR=2.6							
JKA	**Kamikawa-asahi**	**6.80**	**11**	Pn	**Pn**	**00 07 41.7**	**-2.1**	
JNU	**Nakatsue**	**9.22**	**245**	LR	LR	00 12 19.8		
	comp=Z,62nm,21.4s,baz=46,slow=40							
USA0B	**Ussuriysk Arra**	**9.52**	**318**	Pn	**Pn**	**00 08 19.6**	**-1.2**	
USRK	**Ussuriysk Ar.**	**9.52**	**318**	P	**Pn**	**00 08 20.2**	**-0.6**	
	1.5nm,0.5s,baz=131,slow=14,SNR=4.5							
KSRS	**Korea Array**	**10.28**	**274**	P	**Pn**	**00 08 33.8**	**+2.5**	
	2.8nm,0.6s,baz=85,slow=14,SNR=5.8							
KSRS				LR	LR	00 11 59.1		
	comp=Z,47nm,18.8s,baz=15,slow=34							
KLR	**Kul'dur**	**13.50**	**334**	P	**Pn**	**00 09 13.1**	**-1.4**	
	0.7nm,0.5s,baz=129,slow=12,SNR=2.1							
KLR				LR	LR	00 14 06.9		
	comp=Z,28nm,20.1s,baz=6.5,slow=36							
ULN	**Ulaanbaatar**	**26.76**	**304**		**P**	**00 11 38.1**	**+0.1**	
SONM	**Songino Array**	**27.19**	**303**	P	**P**	**00 11 42.2**	**+0.3**	
	1.7nm,0.6s,baz=107,slow=9.2,SNR=11							
SONM				PcP	**PcP**	**00 14 58.7**	**-1.1**	
	0.3nm,0.6s,baz=94,slow=1.5,SNR=4.4							
	1.7nm,0.6s							
SONM	**Songino Array**	**27.19**	**303**	P	**P**	**00 11 41.0**	**-0.9**	
H11N2	**WAKE ISLAND Hy**	**28.74**	**121**	T	T	00 42 21.0		
	baz=315,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hy**	**28.75**	**121**	T	T	00 42 18.6		
	baz=315,slow=75,SNR=66							
H11N3	**WAKE ISLAND Hy**	**28.76**	**121**	T	T	00 42 22.4		
	baz=315,slow=75,SNR=45							
H11S1	**WAKE ISLAND Hy**	**29.46**	**123**	T	T	00 43 08.8		
	baz=316,slow=76,SNR=74							
H11S3	**WAKE ISLAND Hy**	**29.46**	**123**	T	T	00 43 06.9		
	baz=316,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy**	**29.47**	**123**	T	T	00 43 11.0		
	baz=316,slow=76,SNR=39							
ZAA0	**Zalesovo Array**	**41.31**	**312**	P	**P**	**00 13 42.7**	**-0.4**	
ZAA0				IAmb	IAmb	00 13 44.2		
	comp=Z,3.9nm,0.9s							
ZALV	**Zalesovo Beam**	**41.31**	**312**	P	**P**	**00 13 43.0**	**-0.2**	
	comp=Z,2.2nm,0.5s,baz=90,slow=7.1,SNR=13							
ZALV				PcP	**PcP**	**00 15 38.5**	**-1.4**	
	comp=Z,0.4nm,0.3s,baz=72,slow=4.7,SNR=1.8							
	comp=Z,2.2nm,0.5s							
ZALV	**Zalesovo Beam**	**41.31**	**312**	P	**P**	**00 13 42.5**	**-0.6**	
MK31	**Makanchi Array**	**43.52**	**302**	P	**P**	**00 14 01.0**	**-0.2**	
MKAR	**Makanchi Array**	**43.52**	**302**	P	**P**	**00 14 01.4**	**+0.2**	
	comp=Z,0.9nm,0.7s,baz=86,slow=11,SNR=12							
	comp=Z,0.9nm,0.7s							
MKAR	**Makanchi Array**	**43.52**	**302**	P	**P**	**00 14 01.3**	**+0.1**	
MAKZ	**Makanchi**	**43.73**	**302**	P	**P**	**00 14 02.9**	**0.0**	
MAKZ				IAmb	IAmb	00 14 03.8		
	comp=Z,2.6nm,1.1s							
KURK	**Kurchatov**	**45.33**	**308**	P	**P**	**00 14 14.6**	**-0.9**	
KURK				IAmb	IAmb	00 14 17.4		
	comp=Z,5.3nm,0.8s							
P18K	**Big Mountain,**	**45.64**	**40**	P	**P**	**00 14 16.1**	**-1.7**	
P18K				IAmb	IAmb	00 14 26.5		
	comp=Z,16nm,1.5s							
Q19K	**Cape Douglas,**	**46.47**	**41**	P	**P**	**00 14 24.2**	**-0.2**	
IMAR	**Indian Mountai**	**46.53**	**31**	P	**P**	**00 14 25.2**	**+0.5**	
MLY	**Manley**	**47.74**	**32**	P	**P**	**00 14 35.5**	**+1.3**	
H23K	**Yukon River**	**48.25**	**31**	P	**P**	**00 14 39.7**	**+1.7**	
H23K				IAmb	IAmb	00 14 47.7		
	comp=Z,3.0nm,1.2s							
POKR	**Poker Plat Res**	**49.14**	**32**	P	**P**	**00 14 46.0**	**+1.1**	
POKR				IAmb	IAmb	00 14 48.2		
	comp=Z,7.4nm,1.1s							
ILAR	**Eielson Array**	**49.39**	**33**	P	**P**	**00 14 48.1**	**+1.3**	
	comp=Z,0.8nm,0.8s,baz=269,slow=6.5,SNR=12							
ILAR				pP	**pP**	**00 15 09.1**	**+0.4**	
	comp=Z,0.3nm,0.6s,baz=266,slow=5.9,SNR=2.2							
ILAR				sP	**sP**	**00 15 18.8**	**-0.2**	
	comp=Z,0.7nm,0.8s,baz=274,slow=6.9,SNR=3.7							
	comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**49.39**	**33**	P	**P**	**00 14 47.8**	**+1.0**	
COEN	**Coen**	**51.17**	**177**	P	**P**	**00 15 01.0**	**+0.3**	
COEN				IAmb	IAmb	00 15 34.7		
	comp=Z,10nm,1.4s							
MCARA	**McCarthy VSAT**	**51.50**	**37**	P	**P**	**00 15 04.1**	**+1.4**	
MCARA				IAmb	IAmb	00 15 05.8		
	comp=Z,11nm,1.5s							
L27K	**Beaver Creek,**	**51.79**	**34**	P	**P**	**00 15 05.7**	**+0.8**	
L27K				IAmb	IAmb	00 15 07.8		
	comp=Z,1.3nm,0.6s							
BCAR	**Beaver Creek A**	**51.81**	**34**	P	**P**	**00 15 06.4**	**+1.3**	
M27K	**Edge Creek, AK**	**51.88**	**35**	P	**P**	**00 15 07.3**	**+1.6**	
M27K				IAmb	IAmb	00 15 44.3		
	comp=Z,5.4nm,1.3s							
BARN	**Barnard Glacie**	**52.20**	**37**	P	**P**	**00 15 09.3**	**+1.1**	
BARN				IAmb	IAmb	00 15 41.1		
	comp=Z,3.7nm,1.1s							
EPYK	**Eagle Plains**	**53.39**	**30**	P	**P**	**00 15 18.4**	**+1.7**	
EPYK				IAmb	IAmb	00 15 58.6		
	comp=Z,4.8nm,1.3s							
INK	**Inuvik**	**54.23**	**27**	P	**P**	**00 15 23.8**	**+1.2**	
	comp=Z,1.4nm,0.9s,baz=307,slow=4.3,SNR=4.5							
	comp=Z,1.4nm,0.9s							
WB0	**Warramunga Arr**	**57.23**	**187**	P	**P**	**00 15 44.2**	**-0.5**	
ABKAR	**Akbulak array**	**57.34**	**310**	P	**P**	**00 15 45.1**	**-0.1**	
WR0	**Warramunga Arr**	**57.40**	**187**	P	**P**	**00 15 45.7**	**-0.2**	
WB2	**Warramunga Arr**	**57.41**	**187**	P	**P**	**00 15 45.8**	**-0.1**	
WRA	**Warramunga Arr**	**57.41**	**187**	P	**P**	**00 15 45.8**	**-0.1**	
	comp=Z,3.9nm,0.6s,baz=2.0,slow=7.3,SNR=60							
WRA				pP	**pP**	**00 16 08.1**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=1.6,slow=7.5,SNR=3.6							
WRA				sP	**sP**	**00 16 18.0**	**-0.6**	
	comp=Z,3.2nm,0.7s,baz=3.7,slow=7.4,SNR=7.8							
	comp=Z,3.9nm,0.6s							
WRA	**Warramunga Arr**	**57.41**	**187**	P	**P**	**00 15 45.4**	**-0.5**	
AS31	**Alice Springs**	**61.13**	**187**	P	**P**	**00 16 11.9**	**+0.4**	
AS31				IAmb	IAmb	00 16 14.1		
	comp=Z,1.1nm,0.7s							
ASAR	**Alice Springs**	**61.13**	**187**	P	**P**	**00 16 12.1**	**+0.5**	
	comp=Z,3.1nm,0.7s,baz=12,slow=6.9,SNR=36							
ASAR				pP	**pP**	**00 16 34.4**	**0.0**	
	comp=Z,0.5nm,0.7s,baz=13,slow=9.9,SNR=2.5							
ASAR				sP	**sP**	**00 16 44.6**	**+0.2**	
	comp=Z,1.3nm,0.8s,baz=11,slow=7.5,SNR=4.6							
	comp=Z,3.1nm,0.7s							
ASAR	**Alice Springs**	**61.13**	**187**	P	**P**	**00 16 11.7**	**+0.1**	
FINES	**FINESS Array B**	**68.24**	**332**	P	**P**	**00 16 57.2**	**-0.1**	
	comp=Z,6.1nm,1.1s,baz=46,slow=4.0,SNR=2.1							
	comp=Z,6.1nm,1.1s							
FORT	**Forrest**	**68.92**	**192**	P	**P**	**00 17 02.6**	**+0.8**	
AKASG	**Malin Array Be**	**73.70**	**322**	P	**P**	**00 17 30.3**	**-0.2**	
	comp=Z,0.4nm,0.4s,baz=45,slow=6.1,SNR=8.4							
AKASG				pP	**pP**	**00 17 53.4**	**-0.6**	
	comp=Z,0.5nm,0.5s,baz=49,slow=6.0,SNR=3.3							
	comp=Z,0.4nm,0.4s							
H03N2	**Juan Fernandez**	**147.51**	**95**	T	T	03 10 53.4		
	baz=291,slow=76,SNR=2.9							
H03N3	**Juan Fernandez**	**147.52**	**95**	T	T	03 10 54.4		
	baz=291,slow=76,SNR=4.4							
H03N1	**Juan Fernandez**	**147.52**	**95**	T	T	03 10 54.5		
	baz=291,slow=76,SNR=4.6							

*WEL 11 00:19:00, 41°.69S×174°.25E, h19*km, *ML5.1, Mw4.6, Moment Tensor Solution. s9 Moment tensor: Scale 10*^{16} *Nm; Mrr0.29; Mθθ0.75; Mϕϕ -1.03; Mrθ0.13; Mθϕ -0.59; Mϕr0.06; Fault plane solution: M*$_0$*1.08000×10*^{16} *NP1: ϕs152.00000°, δ81.00000°, λ4.00000°. NP2:ϕs61.00000°, δ86.00000°, λ171.00000°. Principal axes: T -1213.2200, Plg9.0000°, Azm16.0000°; N 939.6700, Plg80.0000°, Azm217.0000°; P 273.5500, Plg4.0000°, Azm107.0000°;*

*WEL 11 00:19:21.7, 42°S±2°×17°4E±°, h12*km±3km, *M5.1/126, ML5.1/12, MLv5.1/126 Error ellipse: s-maj=0.0km s-min=0.0km az=115.7, confirmed*

NEIC 11 00:19:21.6±1.9,41°.74S±0°.03×174°.27E±0°.02, *h17*km±1km, *mb4.3/11, Error ellipse: s-maj=4.9km s-min=1.6km az=158.0*

IDC 11 00:19:25.4±2.0,41°.70S×173°.97E, *h46*km±17km, *mb4.1/6, mbtmp4.4/8, ML4.4/2, MS3.7/20, Error ellipse: s-maj=25.1km s-min=13.8km az=119.0*

ISC 11 00:19:21.0±0.8,**41°78S**±0°.03×**174°33E**±0°.02,**h19**km±2km,
n211,σ1§**19**/214,**mb4.4**/12,**MS3.7**/22,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**287**	Pg	**Pg**	**00 19 24.8**	**-0.1**
CMWZ				Sg	**Sg**	**00 19 27.5**	**+0.1**
CMWZ	**Cape Campbell**	**0.09**	**287**	P	**Pg**	**00 19 24.9**	**+0.1**
CMWZ				S	**Sg**	**00 19 27.5**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.35**	**280**	Pg	**Pg**	**00 19 28.3**	**-0.2**
BSWZ				Sg	**Sg**	**00 19 32.8**	**-0.7**
BSWZ	**Blackbirch Sta**	**0.35**	**280**	P	**Pb**	**00 19 28.5**	**-0.1**
BSWZ				S	**Sg**	**00 19 33.1**	**-0.4**
TUWZ	**Tuamarina**	**0.45**	**320**	Pg	**Pg**	**00 19 29.7**	**-0.6**
TUWZ				Sg	**Sg**	**00 19 35.9**	**-0.7**
TUWZ	**Tuamarina**	**0.45**	**320**	P	**Pg**	**00 19 30.1**	**-0.3**
TUWZ				S	**Sg**	**00 19 36.3**	**-0.2**
SNZO	**South Karori**	**0.54**	**31**	Pg	**Pg**	**00 19 32.5**	**+0.6**
SNZO				Sg	**Sg**	**00 19 40.5**	**+1.2**
BHW	**Baring Head**	**0.55**	**48**	Pg	**Pg**	**00 19 33.0**	**+0.9**
BHW				Sg	**Sg**	**00 19 40.8**	**+1.4**
TCW	**Tory Channel**	**0.57**	**356**	Pg	**Pb**	**00 19 31.9**	**-0.3**
TCW				Sg	**Sb**	**00 19 39.0**	**-0.9**
TCW	**Tory Channel**	**0.57**	**356**	P	**Pb**	**00 19 32.1**	**-0.2**
TCW				S	**Sb**	**00 19 39.1**	**-0.4**
WEL	**Wellington**	**0.59**	**34**	P	**Pg**	**00 19 33.6**	**+0.7**
WEL				S	**Sn**	**00 19 42.2**	**-1.3**
PLWZ	**Palliser**	**0.72**	**74**	Pg	**Pn**	**00 19 36.6**	**+0.3**
PLWZ	**Palliser**	**0.72**	**74**	P	**Pn**	**00 19 36.8**	**+0.6**
MSWZ	**Moikau Station**	**0.78**	**63**	Pg	**Pn**	**00 19 37.5**	**+0.6**
MSWZ					**Sn**	**00 19 49.4**	**+1.3**
MSWZ	**Moikau Station**	**0.78**	**63**	P	**Pn**	**00 19 37.9**	**+0.9**
MSWZ				S	**Sn**	**00 19 49.6**	**+1.5**
CAW	**Cannon Point**	**0.87**	**40**	P	**Pn**	**00 19 38.3**	**+0.1**
CAW				S	**Sn**	**00 19 50.5**	**+0.2**
KHZ	**Kahutara**	**0.87**	**222**	Pg	**Pn**	**00 19 39.0**	**+0.8**
KHZ					**Sn**	**00 19 51.5**	**+1.1**
KHZ	**Kahutara**	**0.87**	**222**	P	**Pn**	**00 19 39.3**	**+1.0**
KHZ				S	**Sn**	**00 19 52.2**	**+1.9**
NNZ	**Nelson**	**0.91**	**308**	Pg	**Pb**	**00 19 37.9**	**-0.3**
NNZ				Sg	**Sb**	**00 19 49.6**	**-0.2**
NNZ	**Nelson**	**0.91**	**308**	P	**Pb**	**00 19 38.0**	**-0.1**
PAWZ	**Paparoa Farm**	**0.91**	**65**	P	**Pn**	**00 19 39.5**	**+0.6**
KIW	**Kapiti Island**	**1.01**	**26**	P	**Pn**	**00 19 40.4**	**+0.2**
DUWZ	**D'Urville Isla**	**1.02**	**342**	P	**Pb**	**00 19 40.0**	**-0.2**
THZ	**Tophouse**	**1.07**	**270**		**Pg**	**00 19 41.4**	**-0.4**
THZ	**Tophouse**	**1.07**	**270**	P	**Pg**	**00 19 41.5**	**-0.3**
MTW	**Mount Morrison**	**1.07**	**55**	P	**Pn**	**00 19 41.6**	**+0.6**
TRWZ	**Traveller**	**1.09**	**70**	P	**Pn**	**00 19 41.6**	**+0.3**
OGWZ	**Otaki Gorge**	**1.15**	**34**	P	**Pg**	**00 19 42.9**	**-0.4**
MRNZ	**Matariki Terra**	**1.24**	**287**		**Pb**	**00 19 44.1**	**+0.3**
MRNZ	**Matariki Terra**	**1.24**	**287**	P	**Pg**	**00 19 44.5**	**

TMZ Timaru 3.57 222 P **Pn** **00 20 15.4 +0.1**
PRRZ Plateau Road 3.63 26 P **Pn** **00 20 18.3 +2.0**
HRRZ Handcock Road 3.70 25 P **Pn** **00 20 18.9 +1.7**
KNZ Kokohu 3.75 44 P **Pn** **00 20 16.0 -1.9**
RTZ Ruatahuna 3.75 34 Pn **Pn** **00 20 17.1 -0.8**
RTZ Ruatahuna 3.75 34 P **Pn** **00 20 18.3 +0.4**
FOZ Fox Glacier 3.76 241 Pn **Pn** **00 20 18.3 +0.3**
FOZ Fox Glacier 3.76 241 P **Pn** **00 20 19.1 +1.1**
SNGZ Shannon Statio 3.77 39 P **Pn** **00 20 16.9 -1.3**
MHGZ Mahia Peninsul 3.78 47 P **Pn** **00 20 16.4 -1.9**
MUGZ Murupara 3.79 30 P **Pn** **00 20 18.8 +0.4**
TARZ Mount Tarawera 3.91 26 P **Pn** **00 20 19.5 -0.7**
LBZ Lake Benmore 4.00 228 Pn **Pn** **00 20 21.8 +0.5**
LBZ Lake Benmore 4.00 228 P **Pn** **00 20 21.7 +0.4**
RIGZ Rimuhau 4.04 42 P **Pn** **00 20 20.8 -1.0**
URZ Urewera 4.11 32 P **Pn** **00 20 27.2 +4.4**
63nm,0.3s,baz=317,slow=7.3,SNR=41
URZ S **Sn** **00 21 08.3 -2.0**
497nm,0.9s,baz=296,slow=15,SNR=3.2
157nm,0.4s
TOZ Tahuroa Road 4.14 13 P **Pn** **00 20 23.6 +0.5**
ODZ Otahua Downs 4.23 218 Pn **Pn** **00 20 23.4 -1.0**
ODZ Otahua Downs 4.23 218 P **Pn** **00 20 23.7 -0.7**
JCZ Jackson Bay 4.67 239 P **Pn** **00 20 31.3 +0.7**
AWAZ Awhitu Peninsu 4.71 3 P **Pn** **00 20 33.0 +1.9**
ETAZ East Tamaki Re 4.84 6 P **Pn** **00 20 35.2 +2.4**
WTAZ Waiatarua 4.84 2 P **Pn** **00 20 34.4 +1.6**
HHSZ Highcliff Hill 4.91 212 P **Pn** **00 20 33.7 -0.1**
WKZ Wanaka 4.93 230 Pn **Pn** **00 20 33.9 -0.2**
RVAZ Riverhead Bore 5.00 2 P **Pn** **00 20 38.8 +3.7**
MBAZ Motutapu North 5.02 5 P **Pn** **00 20 37.5 +2.2**
EAZ Earnscleugh 5.03 225 P **Pn** **00 20 35.0 -0.3**
MXZ Matakaoa Point 5.21 37 Pn **Pn** **00 20 36.2 -1.7**
TUZ Tuapeka 5.38 218 P **Pn** **00 20 39.4 -0.9**
MLZ Mavora Lakes 5.76 229 Pn **Pn** **00 20 44.2 -1.3**
MLZ Mavora Lakes 5.76 229 P **Pn** **00 20 45.2 -0.4**
WCZ Waipu Caves 5.83 0 P **Pn** **00 20 48.3 +1.9**
SYZ Scrubby Hill 6.05 216 P **Pn** **00 20 49.8 +0.4**
WHZ Wether Hill Ro 6.18 226 Pn **Pn** **00 20 50.2 -1.1**
OUZ Omahuta 6.57 355 Pn **Pn** **00 20 58.5 +1.9**
OUZ Omahuta 6.57 355 P **Pn** **00 20 59.3 +2.7**
APZ The Paps 6.80 220 P **Pn** **00 20 59.5 -0.2**
CTZ Chatham Island 6.94 109 P **Pn** **00 21 01.7 0.0**
DZM Mont Dzumac 20.74 339 *e*S **S** **00 27 47.4 -4.0**
132nm,22.9s
DZM *e*LR LR 00 28 55.2
comp=Z,294nm,24.0s
DZM Mont Dzumac 20.74 339 P **P** **00 24 00.8 +0.2**
4.7nm,0.8s,baz=126,slow=19,SNR=3.9
DZM LR LR 00 31 28.9
comp=Z,136nm,18.7s,baz=209,slow=35
4.7nm,0.8s
DZM Mont Dzumac 20.74 339 P Pn 00 24 01.9 -1.1
DZM IAmb IAmb 00 24 22.6
comp=Z,9.7nm,0.9s
MSVF Nonsavu 24.17 9 P **P** **00 24 36.8 +0.6**
comp=Z,12nm,0.8s,baz=161,slow=11,SNR=8.7
MSVF LR LR 00 33 04.1
comp=Z,186nm,20.3s,baz=208,slow=34
comp=Z,12nm,0.8s
MSVF Nonsavu 24.17 9 P **P** **00 24 35.9 -0.4**
MSVF IAmb IAmb 00 24 39.9
comp=Z,18nm,0.9s
STKA Stephens Creek 27.86 280 LR LR 00 34 34.7
comp=Z,66nm,18.5s,baz=218,slow=33
RAR Rarotonga 29.94 55 LR LR 00 36 03.5
comp=Z,121nm,21.7s,baz=200,slow=33
CTA Charters Tower 32.12 304 LR LR 00 36 43.9
comp=Z,106nm,20.6s,baz=97,slow=33
TBI Tubuai 35.29 70 *e*LR LR 00 35 40.1
comp=Z,294nm,23.0s
AS31 Alice Springs 38.09 285 P **P** **00 26 38.5 -0.2**
ASAR Alice Springs 38.10 285 P **P** **00 26 37.6 -1.1**
comp=Z,1.3nm,0.4s,baz=123,slow=7.1,SNR=16
ASAR PcP **PcP** **00 28 52.3 -1.3**
comp=Z,0.4nm,0.7s,baz=124,slow=4.4,SNR=1.7
comp=Z,1.3nm,0.4s
ASAR Alice Springs 38.10 285 P **P** **00 26 37.0 -1.7**
COEN Coen 38.69 307 P **P** **00 26 43.7 0.0**
COEN IAmb IAmb 00 27 06.8
comp=Z,3.8nm,0.9s
PPT2 Papeete2 39.12 63 *e*LR LR 00 37 22.7
comp=Z,87nm,37.5s
PPT2 *e*LR LR 00 37 28.5
comp=Z,21µm,38.5s
PPT2 *e*LR LR 00 37 28.9
comp=Z,133nm,27.5s
PPT Papeete 39.13 63 LR LR 00 38 19.6
comp=Z,108nm,21.8s,baz=182,slow=29
WR0 Warramunga Arr 40.02 291 P **P** **00 26 53.5 -1.2**
WR0 IAmb IAmb 00 27 17.9
comp=Z,7.6nm,1.2s
PMG Port Moresby 40.15 316 LR LR 00 44 19.7
comp=Z,71nm,18.2s,baz=130,slow=37
WB2 Warramunga Arr 40.16 290 P **P** **00 26 54.5 -1.5**
WB2 IAmb IAmb 00 27 14.2
comp=Z,5.3nm,0.8s
WRA Warramunga Arr 40.17 290 P **P** **00 26 55.4 -0.7**
comp=Z,1.6nm,0.4s,baz=127,slow=8.4,SNR=22
WRA PcP **PcP** **00 28 58.8 -1.3**
comp=Z,0.6nm,0.7s,baz=120,slow=3.6,SNR=3.2
WRA LR LR 00 44 09.6
comp=Z,92nm,18.4s,baz=121,slow=37
comp=Z,1.6nm,0.4s
WRA Warramunga Arr 40.17 290 P **P** **00 26 54.7 -1.3**
WB0 Warramunga Arr 40.25 291 P **P** **00 26 56.1 -0.6**
WB0 IAmb IAmb 00 27 11.4
comp=Z,11nm,1.2s
KRVT Keravat (AS076 42.30 326 LR LR 00 43 40.6
comp=Z,90nm,18.2s,baz=292,slow=35
RKT Rikitea 45.95 82 *e*LR LR 00 40 38.2
comp=Z,23µm,31.0s
KNRA Kununurra 46.95 290 P **P** **00 27 50.7 0.0**
FITZ Fitzroy Crossi 47.58 285 P **P** **00 27 54.7 -0.8**
FITZ IAmb IAmb 00 28 23.6
comp=Z,1.5nm,1.4s
QSPA South Pole Qui 48.35 180 P **P** **00 28 03.1 +1.9**
comp=Z,4.4nm,0.8s,baz=8.6,slow=3.7,SNR=10
comp=Z,4.4nm,0.8s
BATI Baumata 54.30 290 LR LR 00 51 19.7
comp=Z,278nm,19.3s,baz=289,slow=35
MAW Mawson 59.46 204 LR LR 00 53 20.1
comp=Z,148nm,19.5s,baz=110,slow=34
KAPI Kappang 60.69 291 LR LR 00 59 31.7
comp=Z,69nm,18.0s,baz=140,slow=40
RPN Rapa Nui 62.71 103 LR LR 00 52 48.4
comp=Z,41nm,18.2s,baz=122,slow=32
SNAA Sanae 66.84 181 P **P** **00 30 12.6 +1.5**
CMAR Chiang Mai Arr 91.71 293 P **P** **00 32 26.7 -0.6**
comp=Z,1.1nm,0.3s,baz=150,slow=4.0,SNR=1.2
CMAR LR LR 01 16 54.7
comp=Z,26nm,18.1s,baz=150,slow=38
comp=Z,1.1nm,0.3s
SHEM Shemya Is, Ala 94.13 360 LR LR 01 09 58.4
comp=Z,38nm,19.9s,baz=324,slow=32
PZH PanZhiHua 95.40 301 P **P** **00 32 45.8 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,3.7s
LPIG La Paz 95.55 63 LR LR 01 08 36.3
comp=Z,46nm,18.6s,baz=72,slow=31
NNA Nana 95.69 111 LR LR 01 07 41.7
comp=Z,40nm,18.5s,baz=234,slow=30
CPUP Villa Florida 97.10 135 LR LR 01 09 24.9
comp=Z,32nm,18.7s,baz=186,slow=31
ATAH Atahualpa 97.96 107 LR LR 01 09 52.2
comp=Z,25nm,18.5s,baz=45,slow=31
HHC Hu-ho-hao-te 99.95 317 *e*P **Pdif** **00 33 05.8 +1.4**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,240nm,5.7s
WMQ Urumqi 115.23 307 *e*P **PKiKP** **00 38 02.1 +1.4**
YKA Yellowknife Ar 118.37 30 PKP **PKiKP** **00 38 06.6 +0.6**
comp=Z,0.8nm,0.6s,baz=263,slow=2.1,SNR=10
MKAR Makanchi Array 120.04 308 PKP **PKiKP** **00 38 10.1 +0.2**
comp=Z,0.3nm,0.7s,baz=240,slow=2.3,SNR=2.9
KBZ Khabaz 144.69 290 PKP **PKPab** **00 38 54.1 -0.6**
comp=Z,1.4nm,0.8s,baz=76,slow=13,SNR=4.9
ARCES ARCESS Array B 147.82 340 PKPbc **PKPbc** **00 39 03.0 -0.4**
comp=Z,3.1nm,0.8s,baz=64,slow=4.1,SNR=3.7
BRTR Keskin Array B 150.32 279 PKPbc **PKPbc** **00 39 09.9 -0.9**
comp=Z,0.7nm,0.8s,baz=133,slow=4.2,SNR=2.1
TORD Torodi Ar. Bea 150.76 195 PKP **PKPdf** **00 39 07.7 +0.8**
comp=Z,3.1nm,0.3s,baz=184,slow=3.9,SNR=2.3
TORD PKPbc **pPKPdf** **00 39 13.6 +0.2**
comp=Z,2.4nm,0.4s,baz=142,slow=1.6,SNR=1.6
FINES FINESS Array B 152.59 327 PKPbc **PKPbc** **00 39 14.5 -0.6**
comp=Z,3.3nm,0.8s,baz=29,slow=3.2,SNR=6.4

*BGR **11** 00:25:54.8, 20.°32S×176.°80W, h167km*
*NEIC **11** 00:26:42.1±0.7, 18.°4S±0.°1×177.°6W±0.°1, h572km±8km, mb4.2/56, Error ellipse: s-maj=20.5km s-min=16.2km az=151.0*
*IDC **11** 00:26:44.2±1.0, 18.°56S×177.°65W, h591km±10km, mb3.5/17, mbtmp4.4/20, Error ellipse: s-maj=15.7km s-min=10.3km az=152.0*
ISC 11 00:26:44.2±0.4, 18.°55S±0.°09×177.°61W±0.°07, h600km, n157,σ0.°72/159, mb4.2/42, 7C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.21**	**280**	P	**P**	**00 28 10.0**	**-1.3**
	33nm,0.5s,baz=131,slow=12,SNR=42						
MSVF				S	**S**	**00 29 21.5**	**-0.7**
	45nm,0.7s,baz=320,slow=24,SNR=1.4						
MSVF	**Nonsavu**	**4.21**	**280**		**P**	**00 28 08.9**	**-2.4**
AFI	**Afiamalu**	**7.25**	**51**	P	P	00 28 31.6	-5.1
NIUE	**Niue**	**7.29**	**95**	P	**P**	**00 28 33.9**	**-3.0**
DZM	**Mont Dzumac**	**15.37**	**254**	P	**P**	**00 29 54.3**	**-1.6**
	2.2nm,0.3s,baz=133,slow=21,SNR=9.6						
DZM	**Mont Dzumac**	**15.37**	**254**	P	**P**	**00 29 55.5**	**-0.5**
DZM				IAmb	IAmb	00 30 12.3	
	comp=Z,15nm,1.4s						
RAR	**Rarotonga**	**16.98**	**102**	P	**P**	**00 30 09.7**	**-0.9**
	comp=Z,9.4nm,0.3s,baz=256,slow=6.3,SNR=1.6						
URZ	**Urewera**	**20.18**	**192**	P	**P**	**00 30 37.6**	**-1.7**
	comp=Z,6.8nm,0.4s,baz=256,slow=1.7,SNR=9.5						
	comp=Z,6.8nm,0.4s						
QRZ	**Quartz Range**	**23.77**	**199**	P	**P**	**00 31 11.3**	**-0.1**
THZ	**Tophuse**	**24.52**	**197**	P	**P**	**00 31 18.1**	**0.0**
FOZ	**Fox Glacier**	**27.08**	**200**	P	**P**	**00 31 40.4**	**0.0**
MLZ	**Mavora Lakes**	**29.27**	**201**	P	**P**	**00 31 59.5**	**0.0**
WHZ	**Wether Hill Ro**	**29.79**	**201**	P	**P**	**00 32 04.0**	**+0.1**
ARMA	**Armidale**	**30.29**	**241**	P	**P**	**00 32 08.8**	**+0.2**
CTA	**Charters Tower**	**34.10**	**261**	P	**P**	**00 32 41.1**	**+0.2**
	comp=Z,6.5nm,0.6s,baz=90,slow=11,SNR=10						
	comp=Z,6.5nm,0.6s						
CTAO	**Charters Tower**	**34.10**	**261**	P	**P**	**00 32 40.0**	**-0.9**
CTAO				IAmb	IAmb	00 32 41.9	
	comp=Z,7.2nm,0.7s						
PMG	**Port Moresby**	**35.32**	**280**	P	**P**	**00 32 51.7**	**+0.8**
	comp=Z,8.2nm,0.3s,baz=260,slow=19,SNR=1.5						
	comp=Z,8.2nm,0.3s						
TOO	**Toolangi**	**37.37**	**232**	P	**P**	**00 33 08.2**	**+0.7**
COEN	**Coen**	**37.88**	**271**	P	**P**	**00 33 11.9**	**0.0**
STKA	**Stephens Creek**	**39.00**	**242**	P	**P**	**00 33 21.6**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=87,slow=9.5,SNR=15						
	comp=Z,2.2nm,0.3s						
STKA	**Stephens Creek**	**39.00**	**242**	P	**P**	**00 33 21.1**	**+0.4**
BBOO	**Buckleboo**	**43.77**	**242**	P	**P**	**00 33 58.1**	**-0.1**
BBOO				IAmb	IAmb	00 33 59.7	
	comp=Z,5.5nm,0.8s						
WR0	**Warramunga Arr**	**45.08**	**260**	P	**P**	**00 34 08.0**	**-0.5**
WR0				IAmb	IAmb	00 34 12.7	
	comp=Z,9.6nm,1.4s						
WB0	**Warramunga Arr**	**45.24**	**260**	P	**P**	**00 34 09.0**	**-0.8**
WB2	**Warramunga Arr**	**45.26**	**260**	P	**P**	**00 34 09.3**	**-0.5**
WB2				IAmb	IAmb	00 34 10.2	
	comp=Z,5.5nm,0.5s						
WRAB	**Tennant Creek**	**45.26**	**260**	P	**P**	**00 34 09.6**	**-0.3**
WRAB				IAmb	IAmb	00 34 10.2	
	comp=Z,5.1nm,0.5s						
WRA	**Warramunga Arr**	**45.27**	**260**	P	**P**	**00 34 09.9**	**0.0**
	comp=Z,3.7nm,0.4s,baz=98,slow=7.2,SNR=92						
WRA				S	**S**	**00 40 07.0**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=95,slow=14,SNR=6.1						
	comp=Z,3.7nm,0.4s						
WRA	**Warramunga Arr**	**45.27**	**260**	P	**P**	**00 34 09.4**	**-0.5**
AS31	**Alice Springs**	**45.36**	**255**	P	**P**	**00 34 10.5**	**-0.1**
AS31				IAmb	IAmb	00 34 11.4	
	comp=Z,2.8nm,0.4s						
ASAR	**Alice Springs**	**45.36**	**255**	P	**P**	**00 34 10.9**	**+0.3**
	comp=Z,5.2nm,0.4s,baz=88,slow=8.2,SNR=49						
ASAR				PcP	**PcP**	**00 35 37.9**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=95,slow=4.6,SNR=0.9						
ASAR				S	**S**	**00 40 09.2**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=90,slow=15,SNR=19						
	comp=Z,5.2nm,0.4s						
ASAR	**Alice Springs**	**45.36**	**255**	P	**P**	**00 34 10.1**	**-0.5**
MTN	**Manton Dam**	**49.55**	**269**	P	**P**	**00 34 41.4**	**-0.5**
FORT	**Forrest**	**50.43**	**245**	P	**P**	**00 34 47.9**	**-0.3**
KNRA	**Kununurra**	**51.19**	**265**	P	**P**	**00 34 53.1**	**-0.7**
KNRA				IAmb	IAmb	00 35 01.7	
	comp=Z,25nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.68**	**261**	P	**P**	**00 35 11.9**	**+0.4**
PSA00	**Pilbara Seismi**	**58.49**	**256**	P	**P**	**00 35 44.4**	**-0.1**
PSA00				IAmb	IAmb	00 35 51.2	
	comp=Z,34nm,1.4s						
MBWA	**Marble Bar**	**58.66**	**256**	P	**P**	**00 35 45.4**	**-0.3**
VNDA	**Vanda**	**59.88**	**185**	P	**P**	**00 35 55.0**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=346,slow=4.9,SNR=6.6						
	comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**59.88**	**185**	P	**P**	**00 35 55.1**	**+2.3**
JAGI	**Jajag, Banyuwa**	**66.79**	**269**	P	**P**	**00 36 37.5**	**-0.5**
JAGI				IAmb	IAmb	00 36 54.5	
	comp=Z,9.2nm,1.0s						
MJAR	**Matsushiro Arr**	**68.87**	**323**	P	**P**	**00 36 49.7**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=164,slow=4.8,SNR=2.3						
	comp=Z,1.6nm,0.5s						
UGM	**Wanagama**	**70.39**	**268**	P	**P**	**00 36 59.3**	**-0.4**
QSPA	**South Pole Qui**	**71.51**	**180**	P	**P**	**00 37 06.6**	**+1.2**
QSPA				IAmb	IAmb	00 37 08.3	
	comp=Z,6.5nm,0.8s						
UNV	**Unalaska Valle**	**72.72**	**7**	P	**P**	**00 37 11.2**	**-1.0**
PETK	**Petropavlovsk-**	**74.49**	**345**	P	**P**	**00 37 22.7**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=182,slow=8.7,SNR=1.8						
	comp=Z,3.4nm,0.8s						
OHAK	**Old Harbor**	**78.17**	**13**	P	**P**	**00 37 42.5**	**+0.3**
OHAK				IAmb	IAmb	00 37 55.1	
	comp=Z,15nm,1.2s						
NVAR	**Mina Array Bea**	**79.36**	**43**	P	**P**	**00 37 51.3**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=220,slow=8.3,SNR=4.6						
	comp=Z,0.6nm,0.3s						
P18K	**Big Mountain,**	**79.79**	**11**	P	**P**	**00 37 50.7**	**-0.1**
N19K	**Bonanza Creek**	**81.25**	**11**	P	**P**	**00 37 58.4**	**0.0**
N19K				IAmb	IAmb	00 38 13.9	
	comp=Z,9.5nm,1.5s						
M19K	**Big River Lodg**	**82.28**	**11**	P	**P**	**00 38 03.8**	**+0.3**
L19K	**White Mountain**	**82.46**	**11**	P	**P**	**00 38 04.8**	**+0.4**
SUA	**Susitna One**	**82.58**	**13**	P	**P**	**00 38 05.2**	**0.0**
SUA				IAmb	IAmb	00 38 06.2	
	comp=Z,4.1nm,0.6s						
SKT	**Skwentna**	**82.89**	**12**	P	**P**	**00 38 05.8**	**-0.8**
KNK	**Knik Glacier**	**83.03**	**14**	P	**P**	**00 38 07.1**	**-0.2**
GHO	**Glory Hole Cre**	**83.25**	**13**	P	**P**	**00 38 08.5**	**+0.1**
GHO				IAmb	IAmb	00 38 09.7	
	comp=Z,7.3nm,0.7s						
SML	**Sawmill**	**83.41**	**14**	P	**P**	**00 38 08.4**	**-0.9**
SML				IAmb	IAmb	00 38 19.8	
	comp=Z,7.2nm,1.2s						
BMRM	**Bremner River**	**83.56**	**16**	P	**P**	**00 38 10.2**	**+0.2**
BMRM				IAmb	IAmb	00 38 11.4	
	comp=Z,5.3nm,0.9s						
SCM	**Sheep Creek Mo**	**83.66**	**14**	P	**P**	**00 38 11.0**	**+0.5**
SCM				IAmb	IAmb	00 38 11.8	
	comp=Z,7.5nm,0.7s						
K20K	**Telida**	**83.69**	**10**	P	**P**	**00 38 11.0**	**+0.4**
VRDI	**Verde Repeater**	**84.08**	**16**	P	**P**	**00 38 12.9**	**+0.2**
CAST	**Castle Rocks**	**84.10**	**11**	P	**P**	**00 38 11.5**	**-1.1**
CAST				IAmb	IAmb	00 38 12.7	
	comp=Z,4.8nm,0.8s						
N25K	**Chitina, Valde**	**84.11**	**15**	P	**P**	**00 38 13.3**	**+0.6**
N25K				IAmb	IAmb	00 38 14.3	
	comp=Z,6.6nm,0.7s						
GLB	**Gilahina Butte**	**84.17**	**16**	P	**P**	**00 38 13.2**	**+0.3**
GLB				IAmb	IAmb	00 38 14.0	
	comp=Z,3.5nm,0.6s						
BARN	**Barnard Glacie**	**84.41**	**17**	P	**P**	**00 38 14.6**	**+0.2**
BARN				IAmb	IAmb	00 38 16.2	
	comp=Z,3.8nm,0.8s						
J20K	**Nowinta River**	**84.44**	**10**	P	**P**	**00 38 14.4**	**+0.3**
TRF	**Thorofare Moun**	**84.47**	**12**	P	**P**	**00 38 14.2**	**-0.4**
TRF				IAmb	IAmb	00 38 15.3	
	comp=Z,6.3nm,0.8s						
SEY	**Seymchan**	**84.57**	**347**	P	**P**	**00 38 15.1**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=199,slow=23,SNR=3.4						
	comp=Z,2.8nm,0.5s						
PSI	**Prapat**	**84.70**	**275**	P	**P**	**00 38 16.4**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=290,slow=14,SNR=1.8						
	comp=Z,1.7nm,0.4s						
DHY	**Denali Highway**	**84.74**	**13**	P	**P**	**00 38 16.1**	**+0.3**
MCK	**McKinley**	**84.99**	**12**	P	**P**	**00 38 17.2**	**+0.3**
MCK				IAmb	IAmb	00 38 18.9	
	comp=Z,4.5nm,0.8s						
M26K	**Nabesna, AK**	**85.19**	**15**	P	**P**	**00 38 19.0**	**+1.1**
M26K				IAmb	IAmb	00 38 19.7	
	comp=Z,9.7nm,1.4s						
TX31	**Lajitas Ar. Si**	**85.69**	**57**	P	**P**	**00 38 20.4**	**-0.7**
WRH	**Wood River Hil**	**85.82**	**12**	P	**P**	**00 38 20.7**	**-0.1**
WRH				IAmb	IAmb	00 38 22.0	
	comp=Z,8.3nm,1.2s						
CCB	**Clear Creek Bu**	**86.04**	**12**	P	**P**	**00 38 21.0**	**-0.8**
CCB				IAmb	IAmb	00 38 22.2	
	comp=Z,3.1nm,0.5s						
IL31		**86.33**	**13**	P	**P**	**00 38 22.7**	**-0.5**
IL31				IAmb	IAmb	00 38 24.2	
	comp=Z,4.6nm,1.3s						
ILAR	**Eielson Array**	**86.33**	**13**	P	**P**	**00 38 22.9**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=216,slow=5.0,SNR=26						
	comp=Z,0.7nm,0.4s						
PDAR	**Pinedale Array**	**87.29**	**43**	P	**P**	**00 38 29.9**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=183,slow=2.7,SNR=4.0						
	comp=Z,0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.82**	**289**	P	**P**	**00 38 42.4**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=118,slow=3.6,SNR=6.8						
	comp=Z,1.6nm,0.8s						
INK	**Inuvik**	**92.30**	**15**	P	**P**	**00 38 50.9**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=180,slow=7.1,SNR=4.5						
	comp=Z,1.7nm,0.9s						
YKA	**Yellowknife Ar**	**94.59**	**25**	P	**P**	**00 39 01.6**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=247,slow=4.9,SNR=3.8						
	comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**109.20**	**322**	PKiKP	**PKiKP**	**00 44 06.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=46,slow=4.3,SNR=3.5						
MKAR	**Makanchi Array**	**110.12**	**314**	PKiKP	**PKiKP**	**00 44 08.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=206,slow=0.5,SNR=14						
BVAR	**Borovoye Array**	**117.82**	**321**	PKP	**PKiKP**	**00 44 23.3**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=131,slow=0.9,SNR=9.0						
ARU	**Arti**	**123.80**	**326**	PKP	**PKiKP**	**00 44 34.8**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=84,slow=2.7,SNR=4.1						
ARCES	**ARCESS Array B**	**127.07**	**350**	PKP	**PKiKP**	**00 44 40.9**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=46,slow=5.2,SNR=13						
BELG	**Belogornoye**	**131.24**	**325**	PKP	**PKiKP**	**00 44 50.3**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=14,slow=8.3,SNR=3.1						
FINES	**FINESS Array B**	**134.00**	**344**	PKP	**PKiKP**	**00 44 55.1**	**-0.1**
	comp=Z,4.9nm,0.9s,baz=144,slow=1.4,SNR=8.3						
AKASG	**Malin Array Be**	**141.47**	**333**	PKhKP	PKPpre	00 45 03.3	
	comp=Z,1.5nm,0.5s,baz=40,slow=4.3,SNR=14						
SORM	**Soroca**	**143.72**	**330**	⇓P	**PKPdf**	**00 45 11.5**	**-0.3**
BSEG	**Bad Segeberg**	**144.15**	**352**	*e*PKPbc	**PKPab**	**00 45 13.5**	**+1.0**
	baz=13,slow=2.7						
VASR	**Vaslui**	**145.05**	**329**	⇓P	**PKPab**	**00 45 16.9**	**+0.6**
RETH	**Rethem/Aller,**	**145.44**	**353**	*e*PKPbc	**PKPab**	**00 45 17.5**	**0.0**
	baz=13,slow=2.7						
BURAR	**Bucovina Array**	**145.53**	**332**	⇑P	**PKiKP**	**00 45 19.0**	**-0.4**
FLTG	**Flechtingen**	**145.58**	**350**	*e*PKPbc	**PKPab**	**00 45 17.7**	**-0.4**
	baz=13,slow=2.7						
BRTR	**Keskin Array B**	**145.77**	**315**	PKPbc	**PKPbc**	**00 45 18.1**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=131,slow=5.0,SNR=11						
ASSE	**Asse, Remlinge**	**145.86**	**351**	*e*PKPbc	**PKPab**	**00 45 18.7**	**-0.4**
	baz=13,slow=2.7						
IBBN	**Ibbenburen**	**146.05**	**354**	*e*PKPbc	**PKPab**	**00 45 19.3**	**-0.7**
	baz=13,slow=2.7						
CLZ	**Clausthal**	**146.18**	**351**	*e*PKPbc	**PKiKP**	**00 45 20.0**	**-0.5**
	baz=13,slow=2.7						
OSTC	**Ostas**	**146.21**	**344**	*e*PKP	**PKiKP**	**00 45 20.6**	**0.0**
TRPA	**Tarpa**	**146.24**	**335**	⇑P	**PKiKP**	**00 45 19.6**	**-1.0**
CLL	**Collm**	**146.25**	**348**	PKPbc	**PKPbc**	**00 45 19.0**	**+0.6**
CLL	**Collm**	**146.25**	**348**	*i* PKPbc	**PKiKP**	**00 45 19.7**	**-0.9**
	comp=Z,15nm,0.8s						
CLL	**Collm**	**146.25**	**348**	*e*PKPbc	**PKiKP**	**00 45 19.8**	**-0.8**
	baz=13,slow=2.7						
UPC	**Upice**	**146.31**	**344**	*e*PKP	**PKiKP**	**00 45 20.3**	**-0.5**
DPC	**Dobruska-Polom**	**146.37**	**344**	*e*PKP	**PKiKP**	**00 45 20.6**	**-0.4**
BRG	**Berggiesshubel**	**146.46**	**347**	*e*PKP	**PKiKP**	**00 45 20.6**	**-0.5**
BRG				Amp		00 45 21.0	
	comp=Z,5.1nm,0.6s						
BRG	**Berggiesshubel**	**146.46**	**347**	*e*PKPbc	**PKiKP**	**00 45 20.6**	**-0.5**
	baz=13,slow=2.7						
KRLC	**Kraliky**	**146.50**	**343**	*e*PKP	**PKiKP**	**00 45 20.7**	**-0.6**
GTTG	**Gottingen**	**146.53**	**351**	*e*PKPbc	**PKiKP**	**00 45 20.7**	**-0.5**
	baz=13,slow=2.7						
FBE	**Freiberg**	**146.54**	**347**	*e*PKPbc	**PKiKP**	**00 45 21.2**	**-0.1**
	baz=13,slow=2.7						
NEUB	**Neuenburg**	**146.57**	**349**	*e*PKPbc	**PKiKP**	**00 45 20.8**	**-0.4**
	baz=13,slow=2.7						
PVCC	**Panska Ves**	**146.64**	**346**	*e*PKP	**PKiKP**	**00 45 21.2**	**-0.3**
DOPR	**Dopca**	**146.69**	**330**	⇑P	**PKiKP**	**00 45 21.6**	**-0.2**
MAUC	**Maruska**	**146.83**	**341**	*e*PKP	**PKiKP**	**00 45 21.8**	**-0.2**
CJR	**Cluj-Napoca**	**146.93**	**333**	⇑P	**PKiKP**	**00 45 21.8**	**-0.4**
MOX	**Moxa**	**147.14**	**349**	*e*PKPbc	**PKiKP**	**00 45 22.2**	**-0.3**
	baz=13,slow=2.7						
PRU	**Pruhonice**	**147.15**	**345**	*e*PKP	**PKiKP**	**00 45 22.3**	**-0.2**
MARR	**Marisel-Cluj**	**147.16**	**333**	⇑P	**PKiKP**	**00 45 22.7**	**-0.2**
WERD	**Werda**	**147.20**	**348**	*e*PKPbc	**PKiKP**	**00 45 22.7**	**0.0**
	baz=13,slow=2.7						
TANN	**Tannenbergstha**	**147.20**	**348**

mb4.1/15,mbtmp5.0/18,Error ellipse: s-maj=18.4km s-min=12.3km az=149.0

ISC 11 00:27:27.5±0.5, 18°55S±0'07×177°59W±0'07, h600km, n165, σ0s97/169, mb4.6/69, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
MSVF	**Nonsavu**	**4.23**	**280**	P	**P**	**00 28 53.2**	**-1.5**
	312nm,0.8s,baz=129,slow=8.6,SNR=43						
MSVF				S	**S**	**00 30 04.4**	**-1.4**
	37nm,1.1s,baz=2.7,slow=22,SNR=1.0						
MSVF	**Nonsavu**	**4.23**	**280**	P	**P**	**00 28 52.3**	**-2.4**
AFI	**Afiamalu**	**7.24**	**51**	P	**P**	**00 29 15.9**	**-4.0**
NIUE	**Niue**	**7.27**	**95**	P	**P**	**00 29 17.7**	**-2.3**
FUNA	**Funafuti**	**10.44**	**342**	P	**P**	**00 29 48.8**	**-2.0**
DZM	**Mont Dzumac**	**15.39**	**254**	P	**P**	**00 30 38.9**	**-0.4**
	11nm,1.0s,baz=124,slow=22,SNR=7.7						
DZM	**Mont Dzumac**	**15.39**	**254**	P	**P**	**00 30 38.6**	**-0.7**
DZM				IAmb	IAmb	00 30 46.6	
	comp=Z,20nm,1.4s						
RAR	**Rarotonga**	**16.96**	**102**	P	**P**	**00 30 54.4**	**+0.8**
	comp=Z,25nm,0.8s,baz=239,slow=5.8,SNR=4.1						
URZ	**Urewera**	**20.18**	**192**	P	**P**	**00 31 20.9**	**-1.7**
	comp=Z,11nm,0.6s,baz=346,slow=2.1,SNR=7.4						
URZ				S	**S**	**00 34 27.8**	**-4.7**
	comp=Z,6.4nm,0.9s,baz=293,slow=23,SNR=1.9						
	comp=Z,11nm,0.6s						
BFZ	**Birch Farm**	**22.69**	**192**	P	**P**	**00 31 44.9**	**-0.2**
BFZ				IAmb	IAmb	00 32 12.3	
	comp=Z,29nm,1.1s						
TCW	**Tory Channel**	**23.64**	**195**	P	**P**	**00 31 54.4**	**+1.0**
QRZ	**Quartz Range**	**23.77**	**199**	P	**P**	**00 31 54.9**	**+0.3**
THZ	**Tophouse**	**24.52**	**197**	P	**P**	**00 32 01.3**	**-0.1**
THZ				IAmb	IAmb	00 32 39.7	
	comp=Z,35nm,1.4s						
LTZ	**Lake Taylor**	**25.64**	**197**	P	**P**	**00 32 10.1**	**-1.1**
LTZ				IAmb	IAmb	00 32 53.0	
	comp=Z,12nm,1.0s						
FOZ	**Fox Glacier**	**27.08**	**200**	P	**P**	**00 32 23.9**	**+0.2**
MLZ	**Mavora Lakes**	**29.27**	**201**	P	**P**	**00 32 43.1**	**+0.3**
MLZ				IAmb	IAmb	00 33 13.9	
	comp=Z,38nm,1.4s						
WHZ	**Wether Hill Ro**	**29.79**	**201**	P	**P**	**00 32 46.9**	**-0.3**
EIDS	**Eidsvold**	**29.79**	**251**	P	**P**	**00 32 47.3**	**-0.2**
EIDS				IAmb	IAmb	00 32 48.3	
	comp=Z,13nm,0.8s						
ARMA	**Armidale**	**30.31**	**241**	P	**P**	**00 32 52.4**	**+0.4**
ARMA				IAmb	IAmb	00 32 53.9	
	comp=Z,11nm,0.8s						
CAN	**Canberra**	**33.95**	**234**	P	**P**	**00 33 23.7**	**+1.1**
CAN				IAmb	IAmb	00 33 24.1	
	comp=Z,11nm,0.8s						
CTA	**Charters Tower**	**34.12**	**261**	P	**P**	**00 33 24.4**	**+0.2**
	comp=Z,23nm,0.6s,baz=98,slow=10,SNR=24						
	comp=Z,23nm,0.6s						
CTAO	**Charters Tower**	**34.12**	**261**	P	**P**	**00 33 24.2**	**0.0**
PMG	**Port Moresby**	**35.34**	**280**	P	**P**	**00 33 34.7**	**+0.3**
	comp=Z,58nm,0.8s,baz=78,slow=6.2,SNR=9.0						
	comp=Z,58nm,0.8s						
PMG	**Port Moresby**	**35.34**	**280**	P	**P**	**00 33 34.1**	**-0.3**
TOO	**Toolangi**	**37.38**	**232**	P	**P**	**00 33 51.4**	**+0.5**
TOO				IAmb	IAmb	00 33 53.0	
	comp=Z,16nm,0.9s						
COEN	**Coen**	**37.90**	**271**	P	**P**	**00 33 56.0**	**+0.7**
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**00 34 05.3**	**+1.2**
	comp=Z,17nm,0.7s,baz=92,slow=10,SNR=28						
	comp=Z,17nm,0.7s						
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**00 34 05.4**	**+1.2**
BBOO	**Buckleboo**	**43.79**	**242**	P	**P**	**00 34 42.3**	**+0.6**
BBOO				IAmb	IAmb	00 34 42.7	
	comp=Z,21nm,0.5s						
WR0	**Warramunga Arr**	**45.10**	**260**	P	**P**	**00 34 51.6**	**-0.3**
WR0				IAmb	IAmb	00 34 53.2	
	comp=Z,9.2nm,0.8s						
WB0	**Warramunga Arr**	**45.26**	**260**	P	**P**	**00 34 52.9**	**-0.2**
WB2	**Warramunga Arr**	**45.28**	**260**	P	**P**	**00 34 53.3**	**0.0**
WRAB	**Tennant Creek**	**45.28**	**260**	P	**P**	**00 34 53.2**	**-0.1**
WRA	**Warramunga Arr**	**45.29**	**260**	P	**P**	**00 34 53.0**	**-0.4**
	comp=Z,20nm,0.4s,baz=97,slow=7.5,SNR=97						
WRA				S	**S**	**00 40 50.5**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=98,slow=12,SNR=5.1						
	comp=Z,20nm,0.4s						
WRA	**Warramunga Arr**	**45.29**	**260**	P	**P**	**00 34 53.1**	**-0.2**
AS31	**Alice Springs**	**45.37**	**255**	P	**P**	**00 34 54.2**	**+0.2**
AS31				IAmb	IAmb	00 34 55.5	
	comp=Z,10nm,0.7s						
ASAR	**Alice Springs**	**45.38**	**255**	P	**P**	**00 34 54.4**	**+0.4**
	comp=Z,41nm,0.7s,baz=86,slow=8.8,SNR=108						
ASAR				PcP	**PcP**	**00 36 21.6**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=91,slow=4.4,SNR=4.6						
ASAR				S	**S**	**00 40 52.2**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=89,slow=17,SNR=12						
	comp=Z,41nm,0.7s						
ASAR	**Alice Springs**	**45.38**	**255**	P	**P**	**00 34 54.5**	**+0.5**
SMPI	**Sarmi**	**45.87**	**286**	P	**P**	**00 34 57.7**	**-0.1**
	comp=Z,38nm,1.5s						
MTN	**Manton Dam**	**49.57**	**269**	P	**P**	**00 35 25.1**	**-0.2**
MTN				IAmb	IAmb	00 35 25.6	
	comp=Z,24nm,0.7s						
FORT	**Forrest**	**50.45**	**245**	P	**P**	**00 35 31.3**	**-0.2**
SAUI	**Saumlaki**	**50.69**	**275**	P	**P**	**00 35 34.4**	**+0.9**
	comp=Z,83nm,0.7s,comp=Z,8μm						
KNRA	**Kununurra**	**51.20**	**265**	P	**P**	**00 35 36.8**	**-0.4**
KNRA				IAmb	IAmb	00 35 38.1	
	comp=Z,28nm,0.8s						
FAKI	**Fak Fak**	**51.47**	**281**	P	**P**	**00 35 37.9**	**-1.3**
FAKI				IAmb	IAmb	00 36 11.8	
	comp=Z,19nm,1.1s						
SIJI	**Sorong**	**53.14**	**283**	P	**P**	**00 35 51.6**	**+0.6**
	comp=Z,77nm,0.7s,baz=102,slow=5.7,SNR=28						
	comp=Z,77nm,0.7s						
SWI	**Sorong**	**53.15**	**283**	P	**P**	**00 35 51.5**	**+0.4**
	comp=Z,106nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.70**	**261**	P	**P**	**00 35 55.3**	**+0.4**
MSAI	**Masohi**	**54.42**	**279**	P	**P**	**00 35 59.6**	**-0.4**
	comp=Z,7.0nm,0.5s						
AAI	**Ambon**	**54.99**	**279**	P	**P**	**00 36 05.2**	**+1.2**
	comp=Z,52nm,0.5s						
NLAI	**Namlea**	**56.17**	**279**	P	**P**	**00 36 12.3**	**+0.2**
	comp=Z,18nm,0.6s,comp=Z,7μm						
SOEI	**Soe**	**56.86**	**270**	P	**P**	**00 36 15.5**	**-1.5**
SOEI	**Soe**	**56.86**	**270**	P	**P**	**00 36 18.6**	**+1.6**
	comp=Z,80nm,0.9s,comp=Z,1μm						
BATI	**Baumata**	**57.31**	**270**	P	**P**	**00 36 21.1**	**+1.1**
	comp=Z,23nm,0.3s,baz=93,slow=12,SNR=3.8						
	comp=Z,23nm,0.3s						
BATI	**Baumata**	**57.31**	**270**	P	**P**	**00 36 21.4**	**+1.4**
	comp=Z,38nm,0.7s						
TNTI	**Ternate**	**57.37**	**283**	P	**P**	**00 36 17.6**	**-2.7**
TNTI				IAmb	IAmb	00 36 21.8	
	comp=Z,38nm,1.0s						
TNTI	**Ternate**	**57.37**	**283**	P	**P**	**00 36 20.5**	**+0.2**
	comp=Z,40nm,0.8s						
SANI	**Sanana**	**57.62**	**280**	P	**P**	**00 36 21.7**	**-0.3**
	comp=Z,39nm,0.9s						
PSA00	**Pilbara Seismi**	**58.51**	**256**	P	**P**	**00 36 27.7**	**-0.2**
PSA00				IAmb	IAmb	00 36 29.3	
	comp=Z,39nm,1.1s						
MBWA	**Marble Bar**	**58.68**	**256**	P	**P**	**00 36 28.6**	**-0.5**
MBWA				IAmb	IAmb	00 36 52.3	
	comp=Z,69nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.60**	**242**	P	**P**	**00 36 34.9**	**-0.2**
NWAO				IAmb	IAmb	00 36 39.6	
	comp=Z,26nm,1.2s						
VNDA	**Vanda**	**59.88**	**185**	P	**P**	**00 36 37.7**	**+1.6**
MORW	**Morawa**	**60.94**	**247**	P	**P**	**00 36 44.4**	**+0.4**
MORW				IAmb	IAmb	00 36 59.6	
	comp=Z,26nm,1.4s						
GTOI	**Gorontalo**	**61.36**	**281**	P	**P**	**00 36 48.0**	**+1.2**
	comp=Z,6.9nm,0.9s						
BKSI	**Bulukumba**	**62.07**	**274**	P	**P**	**00 36 49.9**	**-1.6**
	comp=Z,6.7nm,1.1s,comp=Z,528nm						
APSI	**Ampana**	**62.08**	**279**	P	**P**	**00 36 52.7**	**+1.2**
	comp=Z,34nm,0.8s						
MRSI	**Marisa**	**62.30**	**281**	P	**P**	**00 36 51.9**	**-1.0**
	comp=Z,12nm,0.6s						
KAPI	**Kappang**	**62.52**	**274**	P	**P**	**00 36 54.3**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=52,slow=22,SNR=3.9						
	comp=Z,3.4nm,0.5s						
SPSI	**Sidrap Palu**	**62.83**	**275**	P	**P**	**00 36 54.9**	**-1.5**
	comp=Z,14nm,0.7s						
PLAI	**Plampang**	**63.27**	**269**	P	**P**	**00 36 59.1**	**-0.1**
	comp=Z,48nm,1.0s						
GIRL	**Giralia**	**63.46**	**253**	P	**P**	**00 37 01.2**	**+0.9**
TOLI2	**Tolitoli**	**63.60**	**281**	P	**P**	**00 37 00.8**	**-0.5**
TOLI2				IAmb	IAmb	00 37 02.5	
	comp=Z,7.6nm,0.8s						
TWSI	**Taliwang, Sumb**	**64.14**	**269**	P	**P**	**00 37 04.5**	**-0.2**
	comp=Z,44nm,0.8s						
MPSI	**Mapaga**	**64.15**	**280**	P	**P**	**00 37 04.7**	**-0.1**
	comp=Z,23nm,0.9s,comp=Z,1μm						
IGBI	**Denpasar**	**65.77**	**269**	P	**P**	**00 37 14.5**	**-0.4**
	comp=Z,63nm,0.7s						
SRBI	**Singaraja**	**65.91**	**269**	P	**P**	**00 37 15.5**	**-0.3**
	comp=Z,26nm,1.1s						
JAGI	**Jajag, Banyuwa**	**66.81**	**269**	P	**P**	**00 37 21.0**	**-0.3**
JAGI				IAmb	IAmb	00 37 22.4	
	comp=Z,35nm,0.8s						
JAGI	**Jajag, Banyuwa**	**66.81**	**269**	P	**P**	**00 37 21.6**	**+0.3**
	comp=Z,56nm,0.9s						
GMJI	**Gumukmas**	**67.53**	**269**	P	**P**	**00 37 25.3**	**-0.4**
	comp=Z,24nm,0.5s						
BLJI	**Banyuglugur**	**67.54**	**269**	P	**P**	**00 37 26.2**	**+0.4**
	comp=Z,52nm,0.7s,comp=Z,2μm						
MJAR	**Matsushiro Arr**	**68.89**	**323**	P	**P**	**00 37 33.8**	**+0.3**
	comp=Z,4.1nm,0.6s,baz=157,slow=6.2,SNR=8.1						
	comp=Z,4.1nm,0.6s						
PWJI	**Pagerwojo**	**69.16**	**268**	P	**P**	**00 37 36.0**	**+0.4**
	comp=Z,26nm,0.6s						
UGM	**Wanagama**	**70.41**	**268**	P	**P**	**00 37 43.1**	**+0.1**
QSPA	**South Pole Qui**	**71.51**	**180**	P	**P**	**00 37 49.5**	**+0.9**
SSLB	**Suanglung**	**73.24**	**303**	P	**P**	**00 37 58.8**	**-0.4**
SSLB				IAmb	IAmb	00 38 37.4	
	comp=Z,17nm,1.0s						
TPUB	**Ta-pu**	**73.26**	**302**	P	**P**	**00 37 58.3**	**-0.9**
LEM	**Lembang**	**73.48**	**268**	P	**P**	**00 38 01.7**	**+0.8**
	comp=Z,24nm,0.7s,baz=332,slow=19,SNR=4.1						
	comp=Z,24nm,0.7s						
LEM	**Lembang**	**73.48**	**268**	P	**P**	**00 38 01.6**	**+0.7**
	comp=Z,36nm,1.0s						
PEA0B	**Petropavlovsk-**	**74.50**	**345**	P	**P**	**00 38 06.2**	**+0.6**
PETK	**Petropavlovsk-**	**74.50**	**345**	P	**P**	**00 38 06.5**	**+0.9**
	comp=Z,9.3nm,0.9s,baz=179,slow=8.7,SNR=4.8						
	comp=Z,9.3nm,0.9s						
CGJI	**Cilnong**	**75.37**	**268**	P	**P**	**00 38 10.9**	**-0.4**
	comp=Z,39nm,0.7s						
MDSI	**Maura Dua**	**77.44**	**269**	P	**P**	**00 38 21.6**	**-1.1**
	comp=Z,8.3nm,1.0s,comp=Z,1μm						
OHAK	**Old Harbor**	**78.17**	**13**	P	**P**	**00 38 26.7**	**+1.2**
OHAK				IAmb	IAmb	00 38 41.5	
	comp=Z,24nm,1.5s						
P18K	**Big Mountain,**	**79.79**	**11**	P	**P**	**00 38 33.8**	**-0.2**
P18K				IAmb	IAmb	00 39 15.1	
	comp=Z,13nm,1.4s						
BNX	**BinXian**	**81.07**	**324**	⇓P	**P**	**00 38 42.8**	**+1.8**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,230nm,5.4s						
M19K	**Big River Lodg**	**82.28**	**11**	P	**P**	**00 38 47.8**	**+1.0**
SUA	**Susitna One**	**82.58**	**13**	P	**P**	**00 38 46.8**	**-1.6**
UBPT	**Khong Chiam**	**82.88**	**289**	P	**P**	**00 38 51.2**	**+0.5**
UBPT				IAmb	IAmb	00 38 53.2	
	comp=Z,19nm,1.4s						
KNK	**Knik Glacier**	**83.03**	**14**	P	**P**	**00 38 51.5**	**+0.9**
KNK				IAmb	IAmb	00 39 34.0	
	comp=Z,14nm,1.4s						
GHO	**Glory Hole Cre**	**83.25**	**13**	P	**P**	**00 38 52.6**	**+0.9**
GHO				IAmb	IAmb	00 38 53.0	
	comp=Z,11nm,1.3s						
BMRM	**Bremner River**	**83.56**	**15**	P	**P**	**00 38 53.9**	**+0.6**
BMRM				IAmb	IAmb	00 39 09.7	
	comp=Z,11nm,1.4s						
SCM	**Sheep Creek Mo**	**83.66**	**14**	P	**P**	**00 38 54.6**	**+0.9**
SCM				IAmb	IAmb	00 39 08.8	
	comp=Z,12nm,1.4s						
K20K	**Telida**	**83.69**	**10**	P	**P**	**00 38 54.6**	**+0.9**
CAST	**Castle Rocks**	**84.10**	**11**	P	**P**	**00 38 55.6**	**-0.2**
N25K	**Chitina, Valde**	**84.11**	**15**	P	**P**	**00 38 56.7**	**+0.7**
GLB	**Gilahina Butte**	**84.17**	**16**	P	**P**	**00 38 57.0**	**+0.8**
BARN	**Barnard Glacie**	**84.41**	**17**	P	**P**	**00 38 58.5**	**+0.9**
J20K	**Nowinta River**	**84.44**	**10**	P	**P**	**00 38 58.7**	**+1.3**
KTH	**Kantishna Hill**	**84.44**	**12**	P	**P**	**00 38 57.9**	**+0.4**
TRF	**Thorofare Moun**	**84.47**	**12**	P	**P**	**00 38 58.1**	**+0.3**
SEY	**Seymchan**	**84.57**	**347**	P	**P**	**00 38 58.3**	**+0.2**
	comp=Z,4.5nm,0.6s,baz=11,slow=22,SNR=4.7						
	comp=Z,4.5nm,0.6s						
RPSI	**Rantau Prapat**	**84.68**	**275**	P	**P**	**00 38 59.4**	**-0.4**
PSI	**Prapat**	**84.72**	**275**	P	**P**	**00 38 59.4**	**-0.7**
	comp=Z,6.6nm,0.7s,baz=64,slow=1.5,SNR=5.1						
	comp=Z,6.6nm,0.7s						
ILAR	**Eielson Array**	**86.33**	**13**	P	**P**	**00 39 06.3**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=219,slow=4.9,SNR=5.7						
MLSI	**Meulaboh, Aceh**	**87.57**	**275**	P	**P**	**00 39 14.7**	**+1.2**
	comp=Z,19nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.83**	**289**	P	**P**	**00 39 25.6**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=119,slow=3.1,SNR=14						
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**109.22**	**322**	PKiKP	**PKiKP**	**00 44 50.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=119,slow=1.8,SNR=2.3						
MKAR	**Makanchi Array**	**110.14**	**314**	PKiKP	**PKiKP**	**00 44 51.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=204,slow=0.9,SNR=9.0						
BVAR	**Borovoye Array**	**117.83**	**321**	PKP	**PKPdf**	**00 45 06.3**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=358,slow=1.3,SNR=5.8						
BELG	**Belogornoye**	**131.26**	**325**	PKP	**PKiKP**	**00 45 34.0**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=121,slow=16,SNR=3.5						
FINES	**FINESS Array B**	**134.01**	**344**	PKP	**PKiKP**	**00 45 38.5**	**0.0**
	comp=Z,2.2nm,0.9s,baz=258,slow=9.5,SNR=4.1						
AKASG	**Malin Array Be**	**141.49**	**333**	PKhKP	PKPpre	00 45 47.0	
	comp=Z,1.3nm,0.5s,baz=39,slow=4.2,SNR=12						
PURM	**Purcari**	**144.09**	**327**	⇑P	**PKPab**	**00 45 56.6**	**+0.8**
BSEG	**Bad Segeberg**	**144.16**	**352**	*e*pPKPbc	**PKPab**	**00 45 57.1**	**+1.3**
	baz=11,slow=2.7						
FLTG	**Flechtingen**	**145.58**	**350**	*e*pPKPbc	**PKPab**	**00 46 01.2**	**-0.2**
	baz=11,slow=2.7						
STHS	**Stebnicka Huta**	**145.68**	**338**	*e*PKP	**PKPbc**	**00 46 00.0**	**-0.1**
BRTR	**Keskin Array B**	**145.79**	**315**	PKPbc	**PKPbc**	**00 46 02.0**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=133,slow=4.9,SNR=9.4						
CRVS	**Cervenica-Dubn**	**146.03**	**337**	*e*PKP	**PKPab**	**00 46 03.0**	**-0.3**
CLZ	**Clausthal**	**146.19**	**351**	*e*pPKPbc	**PKiKP**	**00 46 03.5**	**-0.3**
	baz=11,slow=2.7						
OSTC	**Ostas**	**146.22**	**344**	*e*PKP	**PKiKP**	**00 46 03.6**	**-0.3**
CLL	**Collm**	**146.25**	**348**		**PKPbc**	**00 46 01.1**	**-0.5**
CLL	**Collm**	**146.25**	**348**	⇓*i*PKPbc	**PKiKP**	**00 46 03.2**	**-0.7**
	comp=Z,15nm,0.9s						
CLL	**Collm**	**146.25**	**348**	*e*pPKPbc	**PKiKP**	**00 46 03.4**	**-0.5**
	baz=11,slow=2.7						
DPC	**Dobruska-Polom**	**146.38**	**344**	*e*PKP	**PKiKP**	**00 46 03.6**	**-0.7**
BRG	**Berggiesshubel**	**146.47**	**347**	P	**PKiKP**	**00 46 04.1**	**-0.2**
BRG				Amp		00 46 04.8	
	comp=Z,4.8nm,0.7s						
KRLC	**Kraliky**	**146.51**	**343**	*e*PKP	**PKiKP**	**00 46 04.4**	**-0.1**
FBE	**Freiberg**	**146.55**	**347**	*e*pPKPbc	**PKiKP**	**00 46 04.7**	**+0.2**
	baz=11,slow=2.7						
MORC	**Moravsky Berou**	**146.56**	**342**	*e*PKP	**PKiKP**	**00 46 04.3**	**-0.4**
NEUB	**Neuenburg**	**146.58**	**349**	*e*pPKPbc	**PKiKP**	**00 46 04.4**	**-0.2**
	baz=11,slow=2.7						
PRU	**Pruhonice**	**147.16**	**346**	*e*PKP	**PKPbc**	**00 46 05.3**	**+1.2**
GOPC	**GO Pecny, Ondr**	**147.17**	**345**	*e*PKP	**PKiKP**	**00 46 06.0**	**+0.1**
WERD	**Werda**	**147.21**	**348**	*e*pPKPbc	**PKiKP**	**00 46 06.2**	**+0.2**
	baz=11,slow=2.7						
TANN	**Tannenbergstha**	**147.21**	**348**	*e*pPKPbc	**PKiKP**	**00 46 06.3**	**+0.3**
	baz=11,slow=2.7						
VRAC	**Vranov**	**147.25**	**343**	*e*PKP	**PKiKP**	**00 46 06.1**	**+0.1**
VYHS	**Vyhne**	**147.29**	**340**	*e*PKP	**PKiKP**	**00 46 06.5**	**+0.3**
JAVC	**Velka Javorina**	**147.34**	**341**	*e*PKP	**PKiKP**	**00 46 07.6**	**+1.3**
KRUC	**Moravsky**	**147.53**	**343**	*e*PKP	**PKiKP**	**00 46 06.8**	**+0.2**
MANZ	**Manzenberg**	**147.69**	**348**	*e*pPKPbc	**PKiKP**	**00 46 07.5**	**+0.6**
	baz=11,slow=2.7						
ROTZ	**Rotzenmuhle**	**147.88**	**348**	*e*pPKPbc	**PKiKP**	**00 46 08.0**	**+0.7**
	baz=11,slow=2.7						
MODS	**Modra-Piesok**	**147.89**	**341**	*e*PKP	**PKiKP**	**00 46 08.4**	**+1.0**
TNS	**Taunus Mts**	**148.03**	**353**	*e*pPKPbc	**PKiKP**	**00 46 08.3**	**+0.7**
	baz=11,slow=2.7						
KHC	**Kasperske Hory**	**148.19**	**346**	*e*PKP	**PKiKP**	**00 46 08.6**	**+0.6**
CKRC	**Cesky Krumlov**	**148.30**	**345**	*e*PKP	**PKiKP**	**00 46 10.0**	**+1.8**
GEC2	**GERESS Array S**	**148.43**	**346**	*e*pPKPbc	**PKiKP**	**00 46 09.2**	**+0.6**
	baz=11,slow=2.7						
GERES	**GERESS Array B**	**148.43**	**346**	PKPbc	**PKiKP**	**00 46 09.2**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=29,slow=3.0,SNR=12						
CONA	**Conrad Observa**	**148.71**	**342**	*e*PKiKP	**PKiKP**	**00 46 09.8**	**+0.6**
	comp=Z,8.6nm,1.3s						
RONA	**Rosalia, Austr**	**148.79**	**342**	*e*PKiKP	**PKiKP**	**00 46 09.8**	**+0.5**
	comp=Z,3.4nm,0.7s						
BFO	**Black Forest**	**149.91**	**352**	*e*pPKPbc	**PKiKP**	**00 46 12.6**	**+1.0**
	baz=11,slow=2.7						
SOKA	**Soboth**	**150.08**	**342**	*e*PKP	**PKiKP**	**00 46 12.5**	**+0.5**
	comp=Z,3.2nm,0.9s						
KBA	**Koelnbreinsper**	**150.16**	**345**	*e*PKiKP	**PKiKP**	**00 46 12.9**	**+0.6**
	comp=Z,2.4nm,0.7s						
WATA	**Walderalm**	**150.32**	**347**	*e*PKP	**PKiKP**	**00 46 13.1**	**+0.5**
	comp=Z,3.0nm,0.6s						
RETA	**Reutte**	**150.34**	**349**	*e*PKiKP	**PKiKP**	**00 46 13.4**	**+0.9**
	comp=Z,4.1nm,1.0s						
WTTA	**Wattenberg**	**150.38**	**347**	*e*PKiKP	**PKiKP**	**00 46 13.7**	**+0.9**
	comp=Z,8.1nm,0.7s						
SQTA	**Sankt Quirin**	**150.51**	**348**	*e*PKiKP	**PKiKP**	**00 46 13.8**	**+0.8**
	comp=Z,4.0nm,0.8s						
ABTA	**Abfaltersbach**	**150.67**	**346**	*i* PKP	**PKPbc**	**00 46 13.1**	**+0.2**
	comp=Z,6.8nm,0.7s						
FETA	**Feichten**	**150.79**	**348**	*e*PKiKP	**PKiKP**	**00 46 14.7**	**+1.0**
	comp=Z,2.3nm,0.7s						

IDC 11 00:29:12.4±1.9, 3°64S×125°75E, h0km, mb3.2/2, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=156.2km s-min=28.0km az=63.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**18.24**	**153**	P	Pn	00 33 25.4	-1.8
	0.1nm,0.3s,baz=331,slow=11,SNR=4.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**21.41**	**159**	P	P	00 34 02.5	+0.4
	0.3nm,0.5s,baz=346,slow=13,SNR=5.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**63.13**	**328**	P	P	00 39 42.5	+0.3
	0.3nm,0.6s,baz=134,slow=6.2,SNR=4.1						
	0.3nm,0.6s						

UPP 11 00:30:42.9±0.0, 67°83N×20°19E, h0km, ML2.7, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
KUA	**Kurravaara**	**0.13**	**24**	P	Pg	00 30 45.7	+0.2
KUA				S	Sg	00 30 47.7	+0.5
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	00 30 47.5	+0.2
KOVU	**Salmi**	**0.39**	**358**	P	Pg	00 30 50.5	+0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 30 51.4	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 30 56.6	0.0
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 30 56.6	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 30 57.8	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 30 57.8	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pb	00 31 06.6	+0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 31 08.2	-1.3
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 31 09.5	-0.5
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 31 10.8	-0.3

UPP 11 00:34:36.5±0.0, 67°84N×20°21E, h0km, ML2.6, Suspected explosion
HEL 11 00:34:37.7±0.2, 67°88N×20°22E, h0km, ML1.6, Suspected explosion
IDC 11 00:34:38.0±1.1, 67°83N×20°72E, h0km, mbtmp3.8/3, ML2.1/3, Error ellipse: s-maj=16.7km s-min=8.0km az=109.0

ISC 11 00:34:36.0±0.8, 67°81N±0'03×20°36E±0'04, h0km, n22, σ0s81/32, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
KUA	**Kurravaara**	**0.15**	**357**	P	**Pg**	**00 34 39.2**	**+0.3**
KUA				S	**Sg**	**00 34 40.9**	**+0.1**
RATU	**Laukkuluspa**	**0.29**	**273**	P	**Pg**	**00 34 41.2**	**-0.4**
KOVU	**Salmi**	**0.42**	**350**	P	**Pg**	**00 34 43.9**	**-0.2**
KOVU				S	**Sg**	**00 34 49.1**	**-0.5**
NIKU	**Nikkaluokta**	**0.50**	**277**	P	**Pg**	**00 34 45.0**	**-0.6**
LANU	**Lannavaara**	**0.

9.4nm,0.3s
PCVE Castro Verde 0.83 201 S **Sg** **00 42 58.7 -0.1**
PCVE P **Pb** **00 42 48.6 +0.4**
EGRO El Granado 0.89 171 S **Sg** **00 42 59.7 -0.8**
EGRO P **Pg** **00 42 49.1 +0.2**
EGRO El Granado 0.89 171 Pg **Pg** **00 42 49.0 +0.1**
EGRO Sg **Sg** **00 43 00.1 -0.4**
EGRO *i* Vmb_Lg 00 43 04.4
PVAQ Vaqueiros 1.01 182 *e*P **Pb** **00 42 51.4 +0.2**
PVAQ *e*S **Sb** **00 43 04.7 +0.3**
PVAQ A A 00 43 07.0
9.8nm,0.2s
PVAQ Vaqueiros 1.01 182 P **Pb** **00 42 51.4 +0.2**
PVAQ Vaqueiros 1.01 182 P **Pg** **00 42 51.3 +0.1**
PVAQ S **Sg** **00 43 04.0 -0.3**
EMIN Mina Concepcio 1.01 129 P **Pg** **00 42 50.6 -0.6**
EMIN S **Sg** **00 43 03.7 -0.7**
EMIN Mina Concepcio 1.01 129 Pg **Pg** **00 42 50.3 -1.0**
EMIN Sg **Sg** **00 43 03.1 -1.3**
EMIN *i* Vmb_Lg 00 43 07.1
PMRV Marv??o 1.04 12[1] *e*P **Pg** **00 42 51.4 -0.3**
PMRV *e*S **Sg** **00 43 04.6 -0.6**
PMRV A A 00 43 06.2
10nm,0.6s
PTEO Sao Teotonio 1.21 224 *e*P **Pg** **00 42 54.9 0.0**
PTEO *e*S **Sb** **00 43 10.2 +0.1**
PTEO A A 00 43 14.8
10nm,0.7s
MORF Marmelete 1.35 216 *e*P **Pg** **00 42 57.8 0.0**
PMAFR Mafra 1.38 294 *e*S **Sg** **00 43 15.8 -0.3**
PMAFR A A 00 43 18.0
13nm,0.2s
PSBE So Bento 1.41 322 *e*P **Pn** **00 42 57.8 +0.5**
PSBE S **Sb** **00 43 16.5 +0.5**
PCBR Castelo Branco 1.43 6 *e*P **Pb** **00 42 58.7 +0.3**
PCBR S **Sn** **00 43 16.6 +0.2**
PCBR A A 00 43 17.6
3.1nm,0.3s
PFVI Vila Bisbo 1.58 216 S **Sb** **00 43 21.2 +0.5**
PFVI A A 00 43 23.1
9.3nm,0.9s
PFVI Vila Bisbo 1.58 216 P **Pb** **00 43 01.3 +0.4**
PCAS Casmilo, Conde 1.76 339 *e*Pg **Pb** **00 43 04.4 +0.4**
PCAS *e*Sg **Sg** **00 43 27.7 -0.7**
PCAS A A 00 43 30.6
5.1nm,0.6s
ECAB El Cabril 1.80 100 P **Pb** **00 43 04.0 -0.7**
ECAB S **Sb** **00 43 28.4 +1.1**
ECAB El Cabril 1.80 100 Pg **Pb** **00 43 05.1 +0.4**
ECAB Sg **Sg** **00 43 29.0 -0.6**
ECAB *i* Vmb_Lg 00 43 29.9
EPLA Plasencia 2.06 36 Pg **Pn** **00 43 07.2 +0.9**
EPLA Sn **Sn** **00 43 29.1 -2.8**
EPLA Sg **Sb** **00 43 34.7 0.0**
EPLA *i* Vmb_Lg 00 43 36.8
PVIS Viseu 2.31 356 *e*Sg **Sg** **00 43 45.1 -0.8**
EADA Adamuz 2.44 95 Pg **Pg** **00 43 17.6 -0.9**
EADA Sg **Sg** **00 43 48.9 -1.3**
EADA *i* Vmb_Lg 00 43 51.6
PAB San Pablo 2.82 65 Pn **Pn** **00 43 17.1 +0.3**
PAB Sn **Sn** **00 43 48.7 -2.1**
PAB Sg **Sb** **00 43 59.1 +2.4**
PAB *i* Vmb_Lg 00 44 09.1

NEIC ***11*** *00:46:31.2±1.9,51.0N±0.1×179.96W±0.09, h37km±7km, mb4.0/13, ML3.3(AEIC), Error ellipse: s-maj=19.6km s-min=6.6km az=194.0*

AEIC 11 00:46:31.6±2.6, 51.05N±0.08×179.89W±0.08, h13km±7km, Error ellipse: s-maj=12.1km s-min=5.9km az=201.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.61**	**303**		Pg	00 46 43.4	0.0
AMKA				Sn	Sb	00 46 52.0	-0.4
KIWB	**Kanaga Island**	**1.90**	**64**	Pn	Pn	00 47 02.9	-0.7
ADK	**Adak**	**2.17**	**66**	Pn	Pn	00 47 06.2	-1.2
GSTR	**Great Sitkin T**	**2.61**	**65**	Pn	Pn	00 47 11.8	-1.6
SDPT	**Sand Point**	**12.40**	**62**	Pn	Pn	00 49 24.9	-2.6
OHAK	**Old Harbor**	**16.70**	**58**	Pn	Pn	00 50 21.3	-3.6
KDAK	**Kodiak Island**	**17.18**	**56**	Pn	Pn	00 50 27.6	-3.3
KDAK				IAmb	IAmb	00 50 29.6	
	comp=Z,22nm,1.2s						
J20K	**Nowinta River**	**18.87**	**36**	P	P	00 50 49.5	-1.6
PPLA	**Purkeypile**	**19.01**	**41**	P	P	00 50 49.8	-3.1
CAST	**Castle Rocks**	**19.29**	**39**	P	P	00 50 54.1	-1.6
CAST				IAmb	IAmb	00 51 05.1	
	comp=Z,5.4nm,1.5s						
KTH	**Kantishna Hill**	**19.82**	**40**	P	P	00 51 00.0	-1.6
KTH				IAmb	IAmb	00 51 22.1	
	comp=Z,13nm,1.5s						
TRF	**Thorofare Moun**	**20.03**	**40**	P	P	00 51 02.1	-1.9
TRF				IAmb	IAmb	00 51 44.7	
	comp=Z,6.6nm,1.2s						
BPAW	**Bear Paw Mtn.**	**20.04**	**38**	P	P	00 51 01.9	-2.0
KNK	**Knik Glacier**	**20.11**	**47**	P	P	00 51 01.6	-3.1
KNK				IAmb	IAmb	00 51 27.6	
	comp=Z,12nm,1.0s						
SML	**Sawmill**	**20.28**	**46**	P	P	00 51 01.8	-4.8
MCARA	**McCarthy VSAT**	**22.64**	**49**	P	P	00 51 27.1	-4.8
MCARA				IAmb	IAmb	00 51 59.2	
	comp=Z,4.8nm,0.7s						
L27K	**Beaver Creek,**	**23.53**	**45**	P	P	00 51 38.6	-2.5
L27K				IAmb	IAmb	00 52 00.8	
	comp=Z,4.4nm,1.5s						
BCAR	**Beaver Creek A**	**23.55**	**45**	P	P	00 51 39.0	-2.3
BMAR	**Burnt Mountain**	**23.89**	**33**	P	P	00 51 41.4	-3.1
PDAR	**Pinedale Array**	**47.06**	**71**	P	P	00 54 59.9	-3.0
ARCES	**ARCESS Array B**	**58.30**	**350**	P	P	00 56 22.9	-2.4
MKAR	**Makanchi Array**	**59.70**	**308**	P	P	00 56 31.2	-4.2

WEL 11 01:01:18.0,42.2°S±2.2°×17.4°E±°, h12km±5km, M3.0/10, ML3.2/9, MLv3.0/10, Error ellipse: s-maj=0.0km s-min=0.0km az=90.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.32**	**24**	P	Pg	01 01 25.0	+0.6
BSWZ				S	Sb	01 01 30.1	-0.7
KHZ	**Kahutara**	**0.43**	**197**	P	Pb	01 01 27.2	-0.3
KHZ				S	Sb	01 01 33.4	-0.5
CMWZ	**Cape Campbell**	**0.46**	**56**	P	Pb	01 01 28.2	+0.2
TUWZ	**Tuamarina**	**0.60**	**17**	P	Pb	01 01 30.4	-0.1
TUWZ				S	Sb	01 01 39.3	+0.3
THZ	**Tophouse**	**0.65**	**292**	P	Pb	01 01 31.3	0.0
THZ				S	Sb	01 01 40.2	0.0
NNZ	**Nelson**	**0.83**	**343**	P	Pb	01 01 34.2	-0.1
TCW	**Tory Channel**	**0.90**	**28**	P	Pg	01 01 35.2	-0.2
TCW				S	Sb	01 01 48.4	+0.8
MRNZ	**Matariki Terra**	**0.94**	**310**	P	Pn	01 01 36.6	-0.4
WEL	**Wellington**	**1.07**	**48**	P	Pn	01 01 38.9	0.0
GVZ	**Greta Valley S**	**1.08**	**207**	P	Pn	01 01 39.1	0.0
GVZ				S	Sn	01 01 55.2	+1.2
TKNZ	**Takaka Hill**	**1.12**	**330**	P	Pg	01 01 39.7	0.0
DUWZ	**D'Urville Isla**	**1.22**	**8**	P	Pb	01 01 41.0	0.0
DUWZ				S	Sb	01 01 56.5	-0.1
PLWZ	**Palliser**	**1.24**	**70**	P	Pn	01 01 40.1	-1.1
LTZ	**Lake Taylor**	**1.31**	**233**	P	Pb	01 01 42.7	0.0
LTZ				S	Sg	01 02 01.0	+0.6
CAW	**Cannon Point**	**1.36**	**49**	P	Pn	01 01 42.4	-0.4
AMCZ	**Amberley**	**1.40**	**213**	P	Pn	01 01 43.4	0.0
PAWZ	**Paruwai Farm**	**1.43**	**65**	P	Pn	01 01 42.9	-1.0
DSZ	**Denniston Nort**	**1.44**	**280**	P	Pg	01 01 45.9	+0.1
KIW	**Kapiti Island**	**1.46**	**39**	P	Pn	01 01 44.4	+0.2
QRZ	**Quartz Range**	**1.48**	**323**	P	Pb	01 01 45.5	+0.1
MTW	**Mount Morrison**	**1.59**	**58**	P	Pn	01 01 43.3	-2.7
OGWZ	**Otaki Gorge**	**1.62**	**43**	P	Pn	01 01 46.1	-0.3
HOWZ	**Holdsworth Sta**	**1.75**	**51**	P	Pn	01 01 47.4	-0.9
OKCZ	**Okains Bay**	**1.78**	**195**	P	Pn	01 01 45.4	-3.2
OXZ	**Oxford**	**1.80**	**222**	P	Pn	01 01 48.1	-0.8
INZ	**Inchbonnie**	**1.82**	**246**	P	Pn	01 01 50.2	+1.0
MQZ	**McQueen's Vall**	**1.87**	**204**	P	Pn	01 01 48.1	-1.7
MRZ	**Mangatainoka R**	**1.95**	**47**	P	Pn	01 01 50.1	-0.9
AKCZ	**Akaroa Harbour**	**1.95**	**197**	P	Pn	01 01 50.3	-0.8
MHCZ	**Mount Hutt**	**2.19**	**225**	P	Pn	01 01 53.4	-0.9
WACZ	**Wakanui South**	**2.37**	**215**	P	Pn	01 01 55.6	-1.1
WVZ	**Waitaha Valley**	**2.44**	**243**	P	Pn	01 01 58.8	+1.2
WAZ	**Wanganui**	**2.45**	**24**	P	Pb	01 02 01.8	-0.3
TSZ	**Takapari Road**	**2.59**	**42**	P	Pb	01 02 05.2	+0.8
RPZ	**Rata Peaks**	**2.59**	**228**	P	Pn	01 01 59.3	-0.5
ARCZ	**Arundel**	**2.68**	**223**	P	Pn	01 02 00.4	-0.7
KHEZ	**Kahui Hut**	**2.72**	**5**	P	Pb	01 02 07.1	+0.5
PKE	**Pukeiti**	**2.82**	**4**	P	Pb	01 02 06.5	-1.9
PKVZ	**Pokaka**	**2.99**	**25**	P	Pb	01 02 09.7	-1.6
MOVZ	**Moawhango**	**3.03**	**32**	P	Pb	01 02 10.9	-1.0
WNVZ	**Wahianoa**	**3.04**	**29**	P	Pb	01 02 10.3	-1.8
BHHZ	**Black Hill Sta**	**3.09**	**36**	P	Pb	01 02 12.1	-0.8
TMZ	**Timaru**	**3.09**	**219**	P	Pn	01 02 06.5	-0.1
TUVZ	**Tukino**	**3.11**	**29**	P	Pb	01 02 12.7	-0.7
NNVZ	**North Ngauruho**	**3.22**	**27**	P	Pb	01 02 14.7	-0.6
TMVZ	**Te Maari**	**3.27**	**28**	P	Pb	01 02 13.1	-2.9
HIZ	**Hauiti**	**3.60**	**15**	P	Pn	01 02 17.5	+3.9
ODZ	**Otahua Downs**	**3.76**	**215**	P	Pn	01 02 14.6	-1.3

IDC 11 01:35:42.0±24.0, 26.79S×69.84E, h0km, mb3.5/4, mbtmp3.5/4, MS3.5/13, Error ellipse: s-maj=768.3km s-min=41.4km az=51.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**19.21**	**8**	T	T	01 58 53.6	
	baz=186,slow=76,SNR=26						
H08S2	**Diego Garcia H**	**19.21**	**8**	T	T	01 58 56.1	
	baz=186,slow=76,SNR=45						
H08S3	**Diego Garcia H**	**19.23**	**8**	T	T	01 58 48.5	
	baz=186,slow=76,SNR=32						
H01W2	**Cape Leeuwin H**	**38.63**	**113**	T	T	02 23 44.8	
	baz=272,slow=75,SNR=6.1						
H01W3	**Cape Leeuwin H**	**38.63**	**113**	T	T	02 23 39.4	
	baz=272,slow=75,SNR=7.7						
H01W1	**Cape Leeuwin H**	**38.65**	**113**	T	T	02 23 43.1	
	baz=272,slow=75,SNR=7.8						
BOSA	**Boshof**	**39.34**	**257**	LR	LR	01 55 30.5	
	comp=Z,35nm,19.2s,baz=183,slow=30						
LBTB	**Lobatse**	**39.69**	**262**	LR	LR	01 56 54.8	
	comp=Z,52nm,18.1s,baz=112,slow=32						
LSZ	**Lusaka**	**40.36**	**278**	LR	LR	01 59 24.4	
	comp=Z,51nm,18.6s,baz=139,slow=35						
MAW	**Mawson**	**41.05**	**184**	LR	LR	01 57 24.4	
	comp=Z,128nm,20.0s,baz=343,slow=32						
MBAR	**Mbarara**	**45.70**	**298**	LR	LR	02 00 47.7	
	comp=Z,32nm,20.4s,baz=250,slow=33						
CMAR	**Chiang Mai Arr**	**53.12**	**35**	LR	LR	02 05 01.5	
	comp=Z,26nm,18.1s,baz=250,slow=33						
BRDH	**Bariadhala**	**53.51**	**25**	LR	LR	02 08 16.3	
	comp=Z,59nm,18.1s,baz=243,slow=36						
ASAR	**Alice Springs**	**57.50**	**102**	P	P	01 45 34.0	+0.5
	0.5nm,0.8s,baz=256,slow=6.6,SNR=5.5						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**59.07**	**98**	P	P	01 45 43.5	-0.9
	0.6nm,0.8s,baz=250,slow=6.8,SNR=3.4						
	0.6nm,0.8s						
STKA	**Stephens Creek**	**61.73**	**113**	LR	LR	02 08 49.7	
	comp=Z,46nm,18.6s,baz=208,slow=32						
QSPA	**South Pole Qui**	**63.34**	**180**	LR	LR	02 10 39.8	
	comp=Z,62nm,19.0s,baz=243,slow=33						
VNDA	**Vanda**	**64.48**	**166**	LR	LR	02 09 40.9	
	comp=Z,20nm,18.8s,baz=220,slow=32						
AAK	**Ala-Archa**	**69.22**	**4**	LR	LR	02 13 05.8	
	comp=Z,51nm,19.1s,baz=222,slow=32						
GNI	**Garni**	**70.58**	**340**	LR	LR	02 14 24.1	
	comp=Z,43nm,19.7s,baz=314,slow=33						
MKAR	**Makanchi Array**	**74.10**	**9**	P	P	01 47 19.5	-0.4
	0.1nm,0.4s,baz=205,slow=4.1,SNR=2.0						
	0.1nm,0.4s						
BRTR	**Keskin Array B**	**74.28**	**332**	LR	LR	02 17 37.5	
	comp=Z,54nm,18.7s,baz=354,slow=34						
SONM	**Songino Array**	**81.23**	**24**	P	P	01 48 00.3	+0.5
	0.7nm,0.9s,baz=204,slow=4.5,SNR=4.5						
	0.7nm,0.9s						

IDC 11 01:55:42.0±3.6, 6.15S×147.66E, h0km, mb3.9/1, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=88.6km s-min=36.5km az=94.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.27**	**189**	Pn	Pn	01 56 36.0	+1.5
	15nm,0.3s,baz=17,slow=11,SNR=2.6						
PMG				Sn	Sn	01 57 14.5	+0.4
	10nm,0.3s,baz=36,slow=19,SNR=6.8						
WRA	**Warramunga Arr**	**18.85**	**222**	P	P	02 00 03.2	-0.6
	0.5nm,0.3s,baz=47,slow=11,SNR=11						
	0.0nm,0.3s						
ASAR	**Alice Springs**	**21.87**	**216**	P	P	02 00 36.3	-0.3
	2.7nm,0.5s,baz=52,slow=8.9,SNR=31						
	2.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.76**	**284**	PKPbc	PKPdf	02 15 23.3	-0.4
	0.2nm,0.4s,baz=64,slow=3.7,SNR=1.8						

NEIC ***11*** *02:15:55.5±1.3, 24.2S±0.1×179.8W±0.1, h522km±11km, mb4.3/23, Error ellipse: s-maj=20.6km s-min=13.2km az=175.0*

IDC ***11*** *02:15:56.1±1.3, 24.32S×179.99W, h517km±12km, mb3.6/7, mbtmp4.4/10, Error ellipse: s-maj=17.2km s-min=15.3km az=77.0*

ISC 11 02:15:54.6±0.5, 24.29S±0.07×179.91W±0.08, h505km, n45, σ1$12/51, mb4.3/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.25**	**161**	P	**P**	**02 17 26.1**	**+2.1**
MSVF	**Nonsavu**	**6.80**	**343**	P	**P**	**02 17 40.8**	**+1.6**
	1.5nm,0.3s,baz=43,slow=13,SNR=3.5						
MSVF				S	**S**	**02 19 06.2**	**+1.6**
	2.6nm,0.5s,baz=338,slow=21,SNR=3.6						
MSVF	**Nonsavu**	**6.80**	**343**	P	**P**	**02 17 39.2**	**0.0**
NIUE	**Niue**	**10.63**	**63**	P	**P**	**02 18 17.8**	**-0.9**
DZM	**Mont Dzumac**	**12.75**	**277**	P	**P**	**02 18 43.6**	**+2.4**
	9.1nm,0.7s,baz=85,slow=16,SNR=18						
URZ	**Urewera**	**14.15**	**190**	P	**P**	**02 18 55.8**	**+0.1**
	9.5nm,1.0s,baz=60,slow=2.6,SNR=8.4						
URZ				S	**S**	**02 21 23.4**	**-1.6**
	6.0nm,0.5s,baz=116,slow=23,SNR=12						
SNZO	**South Karori**	**17.56**	**194**	P	**P**	**02 19 31.0**	**+0.6**
QRZ	**Quartz Range**	**17.66**	**199**	P	**P**	**02 19 31.4**	**0.0**
OXZ	**Oxford**	**20.11**	**197**	P	**P**	**02 19 55.4**	**+1.7**
RPZ	**Rata Peaks**	**20.75**	**199**	P	**P**	**02 19 59.3**	**-0.2**
	3.7nm,0.4s,baz=27,slow=4.5,SNR=1.7						
	3.7nm,0.4s						
ARMA	**Armidale**	**25.97**	**250**	P	**P**	**02 20 48.3**	**+1.8**
ARMA				IAmb	IAmb	02 20 52.8	
	comp=Z,14nm,1.4s						
EIDS	**Eidsvold**	**26.33**	**262**	P	**P**	**02 20 50.5**	**+0.8**
EIDS				IAmb	IAmb	02 20 51.5	
	comp=Z,4.3nm,0.6s						
CTA	**Charters Tower**	**31.56**	**271**	P	**P**	**02 21 36.4**	**+1.1**
	comp=Z,15nm,0.3s,baz=93,slow=10,SNR=30						
	comp=Z,15nm,0.3s						
CTAO	**Charters Tower**	**31.56**	**271**	P	**P**	**02 21 36.0**	**+0.7**
TOO	**Toolangi**	**32.31**	**238**	P	**P**	**02 21 42.6**	**+1.2**
TOO				IAmb	IAmb	02 22 13.3	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**34.66**	**249**	P	**P**	**02 22 02.3**	**+0.9**
	comp=Z,1.8nm,0.4s,baz=96,slow=11,SNR=10						
	comp=Z,1.8nm,0.4s						
STKA	**Stephens Creek**	**34.66**	**249**	P	**P**	**02 22 02.2**	**+0.9**
COEN	**Coen**	**36.26**	**280**	P	**P**	**02 22 14.6**	**-0.3**
COEN				IAmb	IAmb	02 22 49.3	
	comp=Z,13nm,1.4s						
BBOO	**Buckleboo**	**39.37**	**247**	P	**P**	**02 22 39.6**	**-0.5**
BBOO				IAmb	IAmb	02 22 59.0	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**42.05**	**261**	P	**P**	**02 23 01.4**	**-0.4**
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**02 23 01.7**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=92,slow=7.4,SNR=28						
ASAR				ScP	**ScP**	**02 27 46.8**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=103,slow=4.7,SNR=6.6						
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**02 23 01.4**	**-0.4**
WR0	**Warramunga Arr**	**42.28**	**267**	P	**P**	**02 23 02.7**	**-0.8**
WR0				IAmb	IAmb	02 23 03.8	
	comp=Z,3.5nm,0.8s						
WB2	**Warramunga Arr**	**42.45**	**267**	P	**P**	**02 23 04.5**	**-0.4**
WB2				IAmb	IAmb	02 23 05.0	
	comp=Z,8.2nm,0.5s						
WB0	**Warramunga Arr**	**42.46**	**267**	P	**P**	**02 23 04.1**	**-0.8**
WB0				IAmb	IAmb	02 23 05.3	
	comp=Z,8.3nm,0.7s						
WRA	**Warramunga Arr**	**42.47**	**267**	P	**P**	**02 23 04.7**	**-0.3**
	comp=Z,5.7nm,0.5s,baz=97,slow=8.1,SNR=120						
WRA				ScP	**ScP**	**02 27 48.8**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=102,slow=4.7,SNR=7.6						
WRA				S	**S**	**02 28 47.3**	**-2.9**
	comp=Z,0.4nm,0.9s,baz=114,slow=19,SNR=1.9						
	comp=Z,5.7nm,0.5s						
WRA	**Warramunga Arr**	**42.47**	**267**	P	**P**	**02 23 04.4**	**-0.6**
FORT	**Forrest**	**46.26**	**250**	P	**P**	**02 23 33.4**	**-0.8**
FORT				IAmb	IAmb	02 23 34.1	
	comp=Z,12nm,0.6s						
KNRA	**Kununurra**	**48.77**	**270**	P	**P**	**02 23 53.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.88**	**266**	P	**P**	**02 24 08.6**	**-0.2**
SIJI	**Sorong**	**52.64**	**289**	P	**P**	**02 24 21.0**	**-0.6**
	comp=Z,27nm,0.2s,baz=265,slow=20,SNR=4.3						
MORW	**Morawa**	**56.82**	**250**	P	**P**	**02 24 50.4**	**-0.4**
MORW				IAmb	IAmb	02 25 32.6	
	comp=Z,22nm,1.5s						
QSPA	**South Pole Qui**	**65.79**	**180**	P	**P**	**02 25 49.3**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=36,slow=2.0,SNR=8.8						
	comp=Z,2.9nm,0.6s						
QSPA	**South Pole Qui**	**65.79**	**180**	P	**P**	**02 25 50.0**	**+0.9**
QSPA				IAmb	IAmb	02 25 52.8	
	comp=Z,5.3nm,0.9s						
BELA	**Belgrano 2**	**76.03**	**173**	P	**P**	**02 26 49.3**	**+0.2**
SNAA	**Sanae**	**84.27**	**179**	P	**P**	**02 27 32.4**	**0.0**
SNAA				IAmb	IAmb	02 27 34.2	
	comp=Z,5.6nm,1.1s						
TX31	**Lajitas Ar. Si**	**90.57**	**58**	P	**P**	**02 28 02.6**	**-0.3**
TX31				IAmb	IAmb	02 28 05.4	
	comp=Z,4.4nm,0.8s						
PDAR	**Pinedale Array**	**92.91**	**44**	P	**P**	**02 28 15.1**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=193,slow=3.7,SNR=2.9						
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**112.48**	**313**	PKiKP	**PKiKP**	**02 33 31.2**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=45,slow=0.6,SNR=2.6						
ARCES	**ARCESS Array B**	**132.29**	**348**	PKP	**PKiKP**	**02 34 10.4**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=332,slow=2.3,SNR=5.9						
FINES	**FINESS Array B**	**138.84**	**341**	SKPbc	**SKPbc**	**02 37 08.6**	**-1.0**
	comp=Z,12nm,1.3s,baz=56,slow=2.5,SNR=5.9						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	**PKPab**	**02 34 34.5**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=45,slow=4.0,SNR=8.5						
AKASG				SKPbc	**SKPbc**	**02 37 24.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=13,slow=1.1,SNR=4.2						
BRTR	**Keskin Array B**	**147.88**	**307**	PKPbc	**PKiKP**	**02 34 42.5**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=139,slow=4.9,SNR=2.2						
CLL	**Collm**	**151.25**	**343**	*e*PKPbc	**PKiKP**	**02 34 50.0**	**-0.7**
CLL				LmV		07 21 00.0	
	comp=Z,300nm,18.8s						
TORD	**Torodi Ar. Bea**	**168.81**	**188**	PKPab	**PKPab**	**02 36 17.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=185,slow=4.2,SNR=3.0						

IDC ***11*** *02:16:58.3±3.6, 12.89N×141.96E, h138km±39km, mb3.4/6, mbtmp3.9/7, MS2.7/1, Error ellipse: s-maj=43.1km s-min=28.0km az=98.0*

ISC 11 02:16:55.4±1.1, 12.9N±0.2×141.7E±0.1, h100km, n7, σ1$03/6, mb3.6/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.13**	**76**	P	**Pn**	**02 17 42.4**	**-0.5**
	63nm,0.3s,baz=13,slow=14,SNR=3.0						
GUMO				S	**Sn**	**02 18 20.5**	**+1.0**
	40nm,0.3s,baz=2.1,slow=23,SNR=1.3						
GUMO				LR	LR	02 19 02.1	
	comp=Z,142nm,20.5s,baz=110,slow=42						
WRA	**Warramunga Arr**	**33.41**	**193**	P	**P**	**02 23 24.9**	**+0.2**
	0.4nm,0.6s,baz=10,slow=9.2,SNR=2.5						
	0.4nm,0.6s						
SONM	**Songino Array**	**45.61**	**327**	P	**P**	**02 25 06.4**	**+0.7**
	0.4nm,0.6s,baz=136,slow=6.8,SNR=3.4						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**59.91**	**317**	P	**P**	**02 26 51.1**	**+0.2**
	0.3nm,0.5s,baz=96,slow=8.6,SNR=5.2						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**84.89**	**27**	P	**P**	**02 29 17.7**	**-1.2**
	0.1nm,0.4s,baz=291,slow=5.4,SNR=2.1						
	0.1nm,0.4s						
ARCES	**ARCESS Array B**	**86.81**	**342**	P	P	02 29 26.5	-1.8
	9.6nm,1.3s,baz=64,slow=8.1,SNR=4.8						
	9.6nm,1.3s						
FINES	**FINESS Array B**	**90.50**	**334**	P	P	02 29 43.2	-2.6
	1.2nm,0.7s,baz=66,slow=4.7,SNR=9.2						
	1.2nm,0.7s						

IGQ ***11*** *02:36:29.0±0.3, 1.1N±1.1×8.0W±°, h3km*

NEIC ***11*** *02:36:29.7±1.9, 0.62N±0.06×80.02W±0.03, h10km±1km, mb4.9/86, Mwr4.9/17, Error ellipse: s-maj=9.5km s-min=4.3km az=170.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=-0.91; Mθθ-0.23; Mϕϕ 1.14; Mrθ-0.11; Mθϕ-0.88; Mϕr-2.83; Fault plane solution: M0 3.14000×10^16 NP1:ϕs1.07000°, δ80.34000°, λ-73.34000°. NP2:ϕs120.37000°, δ19.19000°, λ-149.29000°. Principal axes: T 3.2474, Plg33.0000°, Azm77.0000°; N -0.2219, Plg16.0000°, Azm178.0000°; P -3.0255, Plg52.0000°, Azm290.0000°;*

VAO ***11*** *02:36:31.9±0.4, 0.38N×79.83W, h10km, mb5.2*

IDC ***11*** *02:36:34.9×1.7, 0.67N×79.97W, h49km±16km, mb4.1/23, mbtmp4.4/28, ML3.6/4, MS4.1/25, Error ellipse: s-maj=16.5km s-min=10.2km az=65.0*

GCMT ***11*** *02:36:36.7±0.3, 0.69N±0.02×80.27W±0.03, h27km±1km, MW5.0/69, Moment Tensor Solution. s21,c21; s69,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.44±.22; Mθθ0.24±.12; Mϕϕ-2.68±.15; Mrθ-0.49±.18; Mθϕ-0.33±.09; Mϕr-2.99±.29; Best double couple: M0 3.97900×10^16 NP1:ϕs189.00000°, δ70.00000°, λ92.00000°. NP2: ϕs3.00000°, δ20.00000°, λ85.00000°. Principal axes: T 3.8430, Plg65.0000°, Azm102.0000°; N 0.2

AOTA S **Sg** 02 37 29.0 +0.4
AMAC Ecuador-Machac 1.83 128 P **Pn** 02 37 01.0 -0.3
IMBA Imbabura, San 1.85 100 **Pb** 02 37 04.2 +0.2
IMBA Imbabura, San 1.85 100 P **Pb** 02 37 04.0 +0.1
IMBA S **Sg** 02 37 32.0 +1.8
PAST Pastocalle 1.88 133 P **Pn** 02 37 03.0 +0.9
TOMA Boca Toma-Volc 1.92 125 P **Pn** 02 37 04.0 +1.4
TOMA S **Sb** 02 37 30.0 +1.0
YAHU Yahuarcocha 1.96 97 P **Pb** 02 37 05.0 -0.8
YAHU S **Sg** 02 37 35.0 +1.2
CHMA Chilma 1.97 82 P **Pn** 02 37 03.0 -0.2
CHMA S **Sb** 02 37 30.0 -0.3
CAMI Rancho Maria 1.97 130 P **Pb** 02 37 05.0 -1.1
SRAM San Ramn-Vol 1.98 133 P **Pn** 02 37 04.0 +0.7
SRAM S **Sb** 02 37 31.0 +0.5
NAS2 Nasa 1.98 129 P **Pn** 02 37 05.0 +1.4
BNAS Cotopaxi Volca 1.99 129 P **Pb** 02 37 06.0 -0.4
SLOR San Lorenzo - 2.01 131 Pn **Pn** 02 37 05.4 +1.4
SLOR San Lorenzo - 2.01 131 P **Pn** 02 37 05.0 +1.1
SLOR S **Sg** 02 37 34.0 -1.5
LNGL El Angel-Carch 2.02 86 P **Pn** 02 37 04.0 -0.1
BREF Cotopaxi Volca 2.02 129 P **Pb** 02 37 06.0 -1.0
VC1 Cotopaxi 1 2.03 127 P **Pb** 02 37 06.0 -1.2
BVC2 Cotopaxi Volca 2.03 128 P **Pb** 02 37 06.0 -1.2
BVC2 S **Sb** 02 37 34.0 +1.6
BMOR Cotopaxi Volca 2.04 130 P **Pn** 02 37 06.0 +1.6
BMOR S **Sb** 02 37 33.0 +0.3
BTAM Cotopaxi Volca 2.06 128 P **Pn** 02 37 06.0 +1.4
ECEN Cerro Negro 2.06 84 P **Pn** 02 37 05.0 +0.4
CHL1 Volc¡n Chiles 2.08 85 P **Pn** 02 37 06.0 +1.1
ANGU Angureal 2.08 105 P **Pb** 02 37 07.0 -1.1
ANGU S **Sg** 02 37 37.0 -0.8
TAMB Tambo 2.09 128 P **Pb** 02 37 07.0 -1.2
CAYR Refugio Cayamb 2.09 106 P **Pb** 02 37 08.0 -0.3
CAYA Cayambe 2.09 105 P **Pb** 02 37 07.0 -1.2
CAYA S **Sb** 02 37 34.0 -0.1
CHL2 Volc¡n Chiles 2.11 85 P **Pn** 02 37 06.0 +0.7
ANTM Antisana-La Mi 2.12 122 P **Pn** 02 37 07.0 +1.5
ANTM S **Sb** 02 37 35.0 +0.2
ANTI Antisana 2.13 119 P **Pn** 02 37 07.0 +1.4
ANTS Antisana-Sarah 2.14 121 P **Pb** 02 37 08.0 -1.1
ANTS S **Sb** 02 37 37.0 +1.4
CMBC Cumbal 2.22 81 P **Pn** 02 37 08.0 +1.3
CMBC Cumbal 2.22 81 *eP* **Pn** 02 37 08.3 +1.6
TULM Tulcn-Chalpat 2.23 87 **Pb** 02 37 09.5 -1.0
TULM Tulcn-Chalpat 2.23 87 P **Pb** 02 37 09.0 -1.6
TULM Tulcn-Chalpat 2.23 87 *eP* **Pb** 02 37 09.3 -1.2
PPLP Puerto Lpez 2.26 200 P **Pn** 02 37 09.0 +2.0
PPLP Puerto Lpez 2.26 200 P **Pn** 02 37 08.0 +1.0
PPLP Puerto Lpez 2.26 200 *eP* **Pb** 02 37 09.3 -1.5
APSY Ecuador-Napo A 2.35 132 P **Pb** 02 37 11.0 -1.6
PIAT Ana Tenorio 2.37 132 P **Pn** 02 37 10.0 +1.3
PIAT S **Sn** 02 37 39.0 +1.5
PIAT Ana Tenorio 2.37 132 *eP* **Pn** 02 37 10.8 +2.1
CHSH Refugio Sur-Vo 2.38 151 **Pn** 02 37 10.3 +1.3
CHSH Refugio Sur-Vo 2.38 151 P **Pn** 02 37 10.0 +1.0
CONE Cono NE Rev Vo 2.47 106 P **Pn** 02 36 57.0 -13
REVN San Rafael 2.48 106 P **Pb** 02 37 14.0 -0.7
BONI La Bonita 2.49 93 P **Pb** 02 37 13.0 -1.9
BONI La Bonita 2.49 93 *eP* **Pb** 02 37 13.6 -1.3
IGUA Igualata 2.49 146 P **Pn** 02 37 13.0 +2.4
REVS Reventador Sur 2.50 106 P **Pb** 02 37 14.0 -0.9
REVS S **Sb** 02 37 47.0 +1.6
BBIL Ulba Tungurahu 2.55 143 P **Pn** 02 37 13.0 +1.8
BBIL S **Sb** 02 37 46.0 -1.0
BRUN Tungurahua Vol 2.56 142 P **Pn** 02 37 13.0 +1.7
RETU Refugio 2.57 142 P **Pn** 02 37 14.0 +2.3
BMAS Trigal station 2.59 144 P **Pn** 02 37 14.0 +2.2
BMAS S **Sn** 02 37 46.0 +2.9
BPAT Tungurahua Vol 2.62 143 P **Pn** 02 37 14.0 +1.7
BPAT S **Sb** 02 37 48.0 -1.2
CASC Dorado de Casc 2.72 100 P **Pb** 02 37 17.0 -1.6
CASC S **Sb** 02 37 52.0 +0.3
ARDO Archidona, Ten 2.72 126 P **Pb** 02 37 17.0 -1.7
ARDO S **Sb** 02 37 53.0 +1.2
GYE3 Ecuador-Guayaq 2.74 178 P **Pn** 02 37 13.0 -0.5
GCUF Volcan Galeras 2.74 77 *eP* **Pn** 02 37 16.2 +2.2
AMIL Milagro (Trans 2.75 171 P **Pn** 02 37 16.0 +2.4
PUYO Puyo, Santa Ro 2.88 136 P **Pb** 02 37 19.0 -2.4
GR1C Gorgona, Isla 3.02 38 *eP* **Pn** 02 37 16.1 -1.3
CRUC La Cruz 3.21 73 *eP* **Pn** 02 37 23.0 +2.7
MORR Playas El Morr 3.23 186 P **Pn** 02 37 21.0 +0.7
MORR S **Sb** 02 38 05.0 -1.4
APLA Playas - Guaya 3.24 187 P **Pb** 02 37 29.0 +1.6
ACUE Ecuador-Cuenca 3.64 163 P **Pn** 02 37 30.0 +2.7
ACH2 Ecuador-Machal 3.84 177 P **Pn** 02 37 30.0 +1.3
ACH1 Ecuador-Univer 3.86 178 P **Pn** 02 37 32.0 +3.0
ARNL Arenillas 4.12 181 Pn **Pn** 02 37 34.0 +1.5
ARNL Arenillas 4.12 181 P **Pn** 02 37 35.0 +2.5
FLOC Florencia 4.47 77 P **Pn** 02 37 38.0 +0.6
FLOC Florencia 4.47 77 *eP* Pn 02 37 42.7 +5.3
GARC Garzon, Huila 4.79 71 *eP* **Pn** 02 37 44.5 +2.6
MCRA Macar, Loja 4.94 179 Pn **Pn** 02 37 45.7 +1.9
MCRA Macar, Loja 4.94 179 P **Pn** 02 37 46.0 +2.2
MCRA Macar, Loja 4.94 179 *eP* **Pn** 02 37 46.4 +2.6
YOTC Yotoco, Valle 4.97 47 *eP* **Pn** 02 37 42.0 -2.4
ZUMB Zumba 5.50 171 P **Pn** 02 37 54.0 +2.4
ORTC Ortega, Tolima 5.79 55 *eP* **Pn** 02 37 58.0 +2.4
MACC Macarena, Meta 6.36 76 *eP* **Pn** 02 38 06.3 +3.0
GUY2C Guyana, Caldas 6.53 45 *eP* **Pn** 02 38 10.6 +4.4
CBOC Ciudad Bolivar 6.58 37 *eP* **Pn** 02 38 08.9 +2.4
PTAC Punta Ardita, 6.87 19 *eP* **Pn** 02 38 14.0 +3.8
ROSC El Rosal 7.08 53 P **Pn** **02 38 16.8 +3.2**
9.5nm,0.3s,baz=223,slow=5.0,SNR=30
ROSC S **Sn** **02 39 33.1 -0.7**
172nm,0.9s,baz=284,slow=22,SNR=1.8
71nm,0.6s
ROSC El Rosal 7.08 53 Pn **Pn** **02 38 14.4 +0.8**
ROSC El Rosal 7.08 53 *eP* Pn 02 38 19.9 +6.3
VILC Villavicencio, 7.22 61 *eP* **Pn** **02 38 18.8 +3.6**
DBBC Dabeiba 7.42 31 *eP* **Pn** **02 38 19.8 +1.8**
CHIC Chingaza 7.45 57 *eP* **Pn** **02 38 22.0 +3.4**
GUVC San Jose del G 7.63 75 *eP* **Pn** **02 38 24.0 +3.2**
ATAH Atahualpa 7.85 168 P **Pn** **02 38 28.3 +4.1**
3.6nm,0.3s,baz=17,slow=9.1,SNR=15
ATAH S **Sn** **02 39 53.9 +1.0**
61nm,0.8s,baz=325,slow=4.9,SNR=3.8
ATAH LR LR 02 41 38.1
comp=Z,749nm,18.2s,baz=342,slow=38
23nm,0.7s
PTBC PUERTO BERRIO, 8.10 43 *eP* **Pn** **02 38 30.6 +3.4**
UPD2 Meteti 8.14 14 *eP* **Pn** **02 38 31.0 +3.2**
UREC San Jos de Ur 8.39 32 *eP* **Pn** **02 38 35.2 +4.0**
ZARC Zaragoza, Cauc 8.56 37 *eP* **Pn** **02 38 37.9 +4.3**
BRU2 Volcan 8.56 342 Pn **Pn** **02 38 31.1 -0.7**
PTGC Puerto Gaitan, 8.65 65 *eP* **Pn** 02 38 40.8 +6.0
RUSC La Rusia 8.69 53 Pn **Pn** **02 38 36.7 +0.9**
RUSC La Rusia 8.69 53 *eP* Pn 02 38 41.9 +6.1
BRRC Barranca, Sant 9.02 44 *eP* **Pn** 02 38 46.3 +6.5
BARC Barichara 9.05 49 *eP* **Pn** **02 38 43.5 +3.0**
SRBA San Rafael, Bu 9.20 339 Pn **Pn** **02 38 42.7 +0.3**
PEZE Perez Zeledon, 9.46 337 Pn **Pn** **02 38 47.4 +1.5**
RIMA Rio Macho 9.88 337 Pn **Pn** **02 38 53.9 +2.1**
PAMC Pamplona, Colo 9.90 47 *eP* **Pn** 02 38 58.1 +5.7
TAMC Tame, Arauca 10.05 55 *eP* Pn 02 39 00.2 +6.2
HDC Heredia 10.19 337 *eP* Pn 02 39 02.4 +6.4
PAYG Puerto Ayora 10.35 263 Pn **Pn** **02 38 59.3 +1.2**
PAYG Puerto Ayora 10.35 263 P **Pn** **02 38 59.0 +0.9**
PAYG Puerto Ayora 10.35 263 *eP* **Pn** **02 38 60.0 +1.9**
SJCC San Jacinto, C 10.41 27 *eP* **Pn** **02 39 00.4 +1.3**
JTS Las Juntas de 10.81 333 P **Pn** **02 39 08.1 +3.7**
10nm,0.9s
JTS LR LR 02 42 25.9
comp=Z,1µm,19.9s,slow=33
CZSB Cruzeiro do Su 11.03 139 Pn **Pn** **02 39 08.0 +0.6**
CZSB Cruzeiro do Su 11.03 139 *eP* **Pn** **02 39 08.4 +0.9**
PVIL Puerto Villami 11.04 262 P **Pn** **02 39 07.0 -0.6**
TBTG Tabatinga, AM 11.16 115 Pn **Pn** **02 39 09.9 +0.7**
TBTG Tabatinga, AM 11.16 115 *eP* **Pn** **02 39 10.0 +0.7**
TBTG Tabatinga, AM 11.16 115 *eP* **Pn** **02 39 11.0 +1.8**
VCH1 Volcn Chico 11.16 263 P **Pn** **02 39 11.0 +1.6**
FER2 Fernandina2, P 11.44 265 P **Pn** **02 39 09.0 -4.1**
ALCE Alcedo, Punta 12.00 265 P Pn 02 39 07.0 -14
SDV Santo Domingo 12.45 48 P **Pn** **02 39 28.8 +1.7**
0.8nm,0.3s,baz=206,slow=5.7,SNR=9.3
SDV S **Sn** **02 41 42.0 -3.5**
11nm,0.9s,baz=309,slow=18,SNR=1.5
SDV LR LR 02 44 49.8
comp=Z,1µm,20.4s,baz=218,slow=40
8.8nm,0.7s
SDV Santo Domingo 12.45 48 Pn **Pn** **02 39 27.9 +0.9**

SDV Santo Domingo 12.45 48 *eP* **Pn** **02 39 29.6 +2.5**
NNA Nana 12.90 166 P **Pn** **02 39 34.4 +1.4**
2.3nm,0.3s,baz=333,slow=8.7,SNR=6.0
NNA S **Sn** **02 41 55.0 -1.2**
14nm,0.5s,baz=208,slow=17,SNR=4.4
8.1nm,0.4s
NNA Nana 12.90 166 Pn **Pn** **02 39 33.2 +0.2**
NNA Nana 12.90 166 *eP* **Pn** **02 39 35.4 +2.4**
SGCB SCo Gabriel d 13.01 93 *eP* **Pn** **02 39 35.3 +0.9**
URIC Uribia, Colomb 13.61 36 Pn **Pn** **02 39 42.5 -0.2**
BAUV El Baul 14.52 55 Pn **Pn** **02 39 54.3 -0.9**
TEFE Tefe 15.91 105 *eP* **Pn** **02 40 13.4 -0.1**
MTO3 Montecristo 16.53 326 **Pn** **02 40 22.3 +0.6**
ETMB Extrema 17.20 127 Pn **Pn** **02 40 28.6 -1.3**
ETMB IAmb IAmb 02 40 35.1
comp=Z,24nm,0.8s
ETMB Extrema 17.20 127 *eP* **Pn** **02 40 26.5 -3.5**
BOAV Boa Vista 19.57 85 P **Pn** **02 40 57.9 +0.4**
BOAV IAmb IAmb 02 41 08.8
comp=Z,38nm,1.0s
BOAV Boa Vista 19.57 85 *eP* **Pn** **02 40 58.2 -0.7**
BOAV Boa Vista 19.57 85 *eP* **Pn** **02 40 59.3 +0.4**
MACA Manacapuru-AM 19.68 101 P **Pn** **02 40 59.0 +0.1**
MACA IAmb IAmb 02 41 02.6
comp=Z,82nm,0.7s
MACA Manacapuru-AM 19.68 101 *eP* **Pn** **02 40 59.7 -0.6**
LPAZ La Paz 20.48 146 P **Pn** **02 41 08.4 +0.4**
LPAZ IAmb IAmb 02 41 22.0
comp=Z,38nm,0.8s
LPAZ La Paz 20.48 146 *eP* **Pn** **02 41 07.1 -0.9**
TPP Pointe-a-Pierr 20.83 62 *e* Pn 02 41 13.8 +0.1
PB18 Visviri 20.84 151 P **Pn** **02 41 12.8 +0.9**
PB18 IAmb IAmb 02 41 22.9
comp=Z,94nm,1.3s
TRN Trinidad (W) 21.02 61 *e* **Pn** **02 41 14.2 +0.9**
TBH Brigand Hill 21.24 62 *e* **Pn** **02 41 18.2 +2.5**
PB12 IPOC Station P 21.34 154 P **Pn** **02 41 16.7 -0.1**
PB12 IAmb IAmb 02 41 32.6
comp=Z,50nm,0.9s
CRPR Cabo Rojo, PR 21.45 36 P **Pn** **02 41 17.9 0.0**
MLPR Magueyes Islan 21.46 36 P **Pn** **02 41 18.8 +0.8**
PB16 IPOC Station P 21.47 152 P **Pn** **02 41 19.1 +0.4**
PB16 IAmb IAmb 02 41 25.8
comp=Z,41nm,0.7s
GRGR Grenville 21.52 57 *e* **Pn** **02 41 16.7 -2.0**
PRSN Puerto Rico Se 21.60 35 P **Pn** **02 41 18.0 -1.4**
CELP Cerrillos 21.82 36 P **Pn** **02 41 22.4 +0.6**
GCMP Grenada, Carri 21.89 57 *e* **Pn** **02 41 16.7 -6.0**
CMIG Matias Romero 21.97 319 P **Pn** **02 41 22.8 -0.7**
comp=Z,3.4nm,0.9s,baz=180,slow=5.1,SNR=3.3
CMIG LR LR 02 48 25.9
comp=Z,319nm,19.0s,baz=159,slow=32
comp=Z,3.4nm,0.9s
TOSP Speyside 22.07 61 P **Pn** **02 41 23.7 -1.0**
TOSP Speyside 22.07 61 *e* **Pn** **02 41 20.5 -4.2**
SJG San Juan 22.10 37 P **Pn** **02 41 24.8 -0.1**
comp=Z,23nm,0.9s,baz=210,slow=6.8,SNR=3.1
SJG LR LR 02 51 37.2
comp=Z,431nm,21.1s,baz=201,slow=41
comp=Z,23nm,0.9s
MNMC Minye Minye 22.12 153 P **Pn** **02 41 25.4 +0.1**
MNMC IAmb IAmb 02 41 35.1
comp=Z,90nm,1.2s
PSGCX Pisagua 22.30 155 P **Pn** **02 41 27.9 +0.8**
PSGCX IAmb IAmb 02 41 34.0
comp=Z,42nm,1.1s
HUMP Col San Antoni 22.31 38 P **Pn** **02 41 27.4 +0.3**
PB11 IPOC Station P 22.64 154 P **Pn** **02 41 30.2 -0.6**
PB11 IAmb IAmb 02 41 34.2
comp=Z,59nm,0.9s
CDVI St. Croix 22.70 41 P **Pn** **02 41 30.0 -1.3**
GO01 Chusmiza 22.77 153 P **Pn** **02 41 32.4 -0.2**
GO01 IAmb IAmb 02 41 39.8
comp=Z,43nm,0.8s
TA02 Huaiquique 22.89 156 P **Pn** **02 41 32.2 -1.1**
TA02 IAmb IAmb 02 41 37.0
comp=Z,41nm,0.9s
SLBI Saint Lucia, B 23.09 54 *e* **Pn** **02 41 37.3 +1.9**
TA01 Diego Aracena 23.13 156 P **Pn** **02 41 35.8 +0.1**
TA01 IAmb IAmb 02 41 39.5
comp=Z,48nm,1.1s
PB08 IPOC Station P 23.20 153 P **Pn** **02 41 35.3 -1.6**
BIM Bigot 23.29 53 *e* **Pn** **02 41 35.1 -2.3**
FDF Fort de France 23.34 52 *e* **Pn** **02 41 42.7 +4.7**
PATCX Punta Patache 23.37 156 P **Pn** **02 41 37.1 -1.2**
PATCX IAmb IAmb 02 41 44.6
comp=Z,42nm,1.0s
MPOM Morne Pois Mar 23.41 53 *e* **Pn** **02 41 38.0 -0.6**
VILB Vilhena 23.82 125 P **Pn** **02 41 42.3 -0.4**
VILB IAmb IAmb 02 41 58.4
comp=Z,110nm,1.0s
VILB Vilhena 23.82 125 *eP* **Pn** **02 41 43.2 +0.4**
PB01 IPOC Station P 23.85 155 P **Pn** **02 41 43.2 +0.3**
PB02 IPOC Station P 23.93 156 P **Pn** **02 41 43.2 -0.4**
PB02 IAmb IAmb 02 41 47.6
comp=Z,31nm,0.8s
MAGL Barre de l'ile 23.96 50 *e* **Pn** **02 41 38.0 -6.0**
SMRT St. Maarten 24.04 43 P **Pn** **02 41 43.1 -1.6**
ABD La Joyeuse, An 24.13 48 *e* **Pn** **02 41 47.4 +1.9**
ANBD Bethesda, Anti 24.29 47 *e* **Pn** **02 41 52.8 +5.8**
PB07 IPOC Station P 24.30 157 P **Pn** **02 41 46.2 -1.0**
PB07 IAmb IAmb 02 42 02.8
comp=Z,26nm,0.9s
PB09 IPOC Station P 24.62 155 P **Pn** **02 41 48.9 -1.3**
PB09 IAmb IAmb 02 42 01.7
comp=Z,21nm,0.9s
PB03 IPOC Station P 24.64 157 P **Pn** **02 41 51.2 +0.9**
PB03 IAmb IAmb 02 41 56.5
comp=Z,36nm,1.0s
ITTB Itaituba 24.76 102 *eP* **Pn** **02 41 51.1 -0.2**
VBST Vila Bela da S 24.86 128 *eP* **Pn** **02 41 53.1 +0.9**
SIV San Ignacio 24.93 132 P **Pn** **02 41 54.1 +1.2**
comp=Z,16nm,0.8s,baz=303,slow=9.2,SNR=44
SIV LR LR 02 53 09.1
comp=Z,2µm,18.7s,baz=331,slow=40
comp=Z,16nm,0.8s
PB06 IPOC Station P 25.30 157 P **Pn** **02 41 54.7 -1.6**
PB06 IAmb IAmb 02 42 00.2
comp=Z,26nm,0.8s
LVC Limon Verde 25.48 156 P **Pn** **02 41 59.3 +1.2**
comp=Z,18nm,0.9s,baz=318,slow=6.8,SNR=13
LVC LR LR 02 53 55.9
comp=Z,466nm,20.0s,baz=312,slow=41
comp=Z,18nm,0.9s
LVC Limon Verde 25.48 156 P **Pn** **02 41 57.6 -0.6**
LVC Limon Verde 25.48 156 *eP* **Pn** **02 42 00.1 +1.9**
NPGB Novo Progresso 25.75 108 *eP* **Pn** **02 41 59.4 -0.9**
MALB Monte Alegre 25.86 95 *eP* **Pn** **02 42 01.7 +0.4**
BBSD Serra de San D 26.04 134 *eP* **Pn** **02 42 03.6 +0.7**
PTLB Pontes e Lacer 26.08 129 P **Pn** **02 42 03.8 +0.6**
PTLB IAmb IAmb 02 42 05.4
comp=Z,53nm,0.9s
PTLB Pontes e Lacer 26.08 129 *eP* **Pn** **02 42 04.3 +1.1**
PDRB Porto dos Gac 26.12 118 *eP* **Pn** **02 42 03.7 0.0**
CLDB Colider 26.64 116 *eP* **Pn** **02 42 08.1 -0.3**
PB14 IPOC Station P 26.75 160 P **Pn** **02 42 10.3 +0.7**
BBRB Robore, Bolivi 27.33 134 *eP* **Pn** **02 42 14.9 +0.4**
PTET Porto Estrela 27.61 126 *eP* **Pn** **02 42 17.9 +0.8**
MDP Montagnes des 27.70 80 P **Pn** **02 42 18.9 +1.1**
comp=Z,32nm,1.0s,baz=262,slow=9.7,SNR=9.4
MDP LR LR 02 53 41.8
comp=Z,1µm,20.5s,baz=258,slow=37
comp=Z,32nm,1.0s
MCPB Macapa, AP 27.98 92 *eP* **Pn** **02 42 22.0 +1.6**
CCRS Cacerres, MT, 28.12 130 *eP* **Pn** **02 42 21.4 -0.2**
NBRS Nobres 28.21 123 *eP* **Pn** **02 42 23.5 +1.0**
SALV Santo Antonio 29.08 125 *eP* **Pn** **02 42 30.5 +0.4**
AC02 Maricunga 29.22 160 P **Pn** **02 42 31.7 -0.2**
AC02 IAmb IAmb 02 42 41.9
comp=Z,28nm,1.4s
PANT Pantanal (Braz 30.12 131 *eP* **Pn** **02 42 39.7 +0.4**
PP1B Ponte de Pedra 30.65 127 *eP* **Pn** **02 42 44.9 +0.8**
AC05 El Transito 30.72 163 P **Pn** **02 42 45.3 +0.6**
AC05 IAmb IAmb 02 42 54.0
comp=Z,29nm,1.1s
PRPB Parauapebas 30.89 103 *eP* **Pn** **02 42 45.3 -1.0**
MURT Porto Murtinho 31.11 137 *eP* **Pn** **02 42 47.9 -0.2**
SNDB Serra Nova Dou 31.14 115 *eP* **Pn** **02 42 48.9 +0.5**
AQDB Aquidauana 31.71 133 P **Pn** **02 42 53.2 -0.2**
AQDB IAmb IAmb 02 42 54.9
comp=Z,29nm,1.1s
AQDB Aquidauana 31.71 133 *eP* **Pn** **02 42 53.8 +0.5**
ARAG Araguaiana, MT 32.23 121 *eP* **Pn** **02 42 58.4 +0.5**
C2SB Chapadao do Su 32.91 127 *eP* **Pn** **02 43 05.2 +1.3**

LRAL Lakeview Retre 32.93 349 P **P** **02 43 04.2 +0.3**
LRAL IAmb IAmb 02 44 09.6
comp=Z,26nm,1.6s
SMTB Santa Maria do 33.65 107 *eP* **P** **02 43 10.2 -0.3**
ZON Zonda 33.73 162 P **P** **02 43 11.0 +0.1**
AMBA Amambai (Brazi 33.77 135 *eP* **P** **02 43 11.7 +0.4**
Y45A Yeager Farm, C 34.28 346 P **P** **02 43 16.0 +0.4**
CPUP Villa Florida 34.58 142 P **P** **02 43 18.1 -0.2**
comp=Z,7.3nm,0.9s,baz=327,slow=8.7,SNR=14
CPUP LR LR 03 00 27.3
comp=Z,821nm,19.6s,baz=324,slow=41
comp=Z,7.3nm,0.9s
CPUP Villa Florida 34.58 142 P **P** **02 43 17.5 -0.8**
CPCT Cooper Cave 34.93 354 P **P** **02 43 20.1 -1.1**
CPCT IAmb IAmb 02 43 28.7
comp=Z,14nm,1.0s
TKL Tuckaleechee C 35.05 355 P **P** **02 43 22.3 -0.1**
comp=Z,4.3nm,0.9s,baz=194,slow=9.8,SNR=2.8
comp=Z,4.3nm,0.9s
TRCB Terra Rica 35.38 133 P **P** **02 43 24.2 -1.1**
TRCB Terra Rica 35.38 133 *eP* **P** **02 43 25.5 +0.2**
ITRB Iturama 35.39 126 *eP* **P** **02 43 25.9 +0.4**
BDFB Brasilia 35.49 118 LR LR 02 59 18.4
comp=Z,368nm,18.6s,baz=327,slow=38
V48A Smith Brothers 35.53 350 P **P** **02 43 25.6 -0.8**
V48A IAmb IAmb 02 44 10.5
comp=Z,12nm,0.9s
PCMB Pacaembu 35.71 130 *eP* **P** **02 43 27.7 -0.5**
TZTN Tazewell 35.91 355 P **P** **02 43 29.8 +0.1**
TZTN IAmb IAmb 02 43 37.1
comp=Z,21nm,1.1s
IPMB Ipameri, GO 36.33 122 *eP* **P** **02 43 33.5 -0.1**
LCAR Lake Charles 36.78 345 P **P** **02 43 36.6 -0.5**
PTGB Pitanga 36.97 135 *eP* **P** **02 43 38.6 -0.4**
FRBT Francisco Belt 37.08 137 *eP* **P** **02 43 39.2 -0.7**
SDBA SAO DESIDERIO 37.17 112 *eP* **P** **02 43 40.2 -0.5**
CRSM Crissiumal (Br 37.46 140 *eP* **P** **02 43 42.0 -1.1**
ITQB Itaqui 37.48 145 P **P** **02 43 42.5 -0.7**
ITQB Itaqui 37.48 145 *eP* **P** **02 43 43.7 +0.6**
LPIG La Paz 37.51 311 LR LR 02 55 33.4
comp=Z,152nm,21.7s,baz=113,slow=30
FRTB Fartura 37.98 131 *eP* **P** **02 43 46.9 -0.7**
WMOK Wichita Mounta 38.22 335 P **P** **02 43 49.1 -0.3**
OK052 Battle Ridge R 38.52 338 P **P** **02 43 51.0 -0.8**
ITAB Concordia 38.54 138 P **P** **02 43 51.5 -0.6**
ITAB Concordia 38.54 138 *eP* **P** **02 43 52.1 0.0**
JANB Januaria 38.58 115 *eP* **P** **02 43 52.2 -0.5**
RODS Rosario do Sul 38.80 145 *eP* **P** **02 43 54.9 +0.6**
GDL2 Guadalupe Moun 38.93 326 P **P** **02 43 54.6 -1.0**
ALGR Alto Alegre (B 39.01 141 *eP* **P** **02 43 55.9 -0.3**
RCLB Rio Claro- Sao 39.05 128 *eP* **P** **02 43 56.4 -0.3**
MNTX Cornudas Mount 39.14 325 P **P** **02 43 58.0 +0.8**
RPN Rapa Nui 39.44 223 LR LR 02 55 52.0
comp=Z,271nm,21.6s,baz=88,slow=29
ELIS Ellis County 39.62 335 P **P** **02 44 01.4 +0.2**
ELIS IAmb IAmb 02 44 08.9
comp=Z,50nm,1.2s
SPB Sao Paulo 39.75 129 P **P** **02 44 01.1 -1.3**
SPB IAmb IAmb 02 44 09.2
comp=Z,25nm,1.0s
SPB Sao Paulo 39.75 129 *eP* **P** **02 44 01.9 -0.5**
CPSB Cacapava Do Su 39.88 143 *eP* **P** **02 44 03.2 -0.2**
NOKA Waynoka 39.91 336 P **P** **02 44 03.4 -0.1**
NOKA IAmb IAmb 02 44 10.6
comp=Z,20nm,0.9s
DIAM Diamantina, MG 40.36 120 *eP* **P** **02 44 07.2 -0.5**
PLTB Pedras Altas 40.77 145 P **P** **02 44 10.0 -0.6**
PLTB IAmb IAmb 02 44 11.9
comp=Z,42nm,1.1s
PLTB Pedras Altas 40.77 145 *eP* **P** **02 44 11.1 +0.5**
PARB Paraibuna 41.03 128 *eP* **P** **02 44 12.9 -0.2**
319A Douglas 41.28 321 P **P** **02 44 13.8 -1.2**
LL04 Puerto Octay 41.89 171 P **P** **02 44 18.5 -1.2**
LL04 IAmb IAmb 02 44 27.1
comp=Z,33nm,1.1s
TRQA Tornquist 41.91 159 P **P** **02 44 18.8 -1.2**
TRQA IAmb IAmb 02 44 38.6
comp=Z,68nm,1.9s
PLCA Paso Flores 42.03 169 P **P** **02 44 22.6 +1.6**
comp=Z,15nm,0.9s,baz=344,slow=9.2,SNR=22
comp=Z,15nm,0.9s
PLCA Paso Flores 42.03 169 P **P** **02 44 20.4 -0.6**
PLCA IAmb IAmb 02 44 23.4
comp=Z,23nm,1.0s
PLCA Paso Flores 42.03 169 *eP* **P** **02 44 21.9 +0.9**
ANMO Albuquerque 42.15 327 P **P** **02 44 24.5 +2.4**
comp=Z,7.7nm,0.8s,baz=249,slow=8.6,SNR=25
ANMO LR LR 03 01 54.6
comp=Z,114nm,19.9s,baz=232,slow=36
comp=Z,7.7nm,0.8s
ANMO Albuquerque 42.15 327 P **P** **02 44 23.3 +1.2**
ANMO IAmb IAmb 02 44 30.4
comp=Z,20nm,0.9s
GDU01 Guandu, BA 42.51 111 *eP* **P** **02 44 25.2 0.0**
T25A Trinidad 42.78 331 P **P** **02 44 26.7 -0.6**
CMC01 Camacan, BA 43.04 113 *eP* **P** **02 44 29.9 +0.4**
RIB01 Linhares ES 43.62 119 *eP* **P** **02 44 34.1 0.0**
SDCO Great Sand Dun 43.79 330 P **P** **02 44 35.7 +0.2**
SDCO IAmb IAmb 02 44 43.9
comp=Z,18nm,1.1s
214A Organ Pipe Nat 43.95 318 P **P** **02 44 37.5 +0.9**
RCBR Riachuelo 44.51 99 LR LR 03 03 47.6
comp=Z,614nm,20.3s,baz=51,slow=37
K31A O'Neill 45.09 340 P **P** **02 44 45.0 -0.6**
PV13 Radium Mtn., P 45.80 328 P **P** **02 44 50.9 -0.7**
PV13 IAmb IAmb 02 44 59.3
comp=Z,23nm,1.0s
PFO Pinyon Flats O 47.39 318 LR LR 03 03 13.3
comp=Z,136nm,18.0s,baz=170,slow=34
SRU San Rafael Swe 47.41 328 P **P** **02 45 03.9 -0.2**
SRU IAmb IAmb 02 45 11.7
comp=Z,10nm,1.0s
RSSD Black Hills 48.32 337 P **P** **02 45 10.1 -1.0**
RSSD IAmb IAmb 02 45 55.9
comp=Z,7.5nm,0.9s
SHPR Sheep Range 48.32 322 P **P** **02 45 10.7 -0.5**
PDAR Pinedale Array 49.63 332 P **P** **02 45 21.7 +0.5**
comp=Z,0.8nm,0.8s,baz=132,slow=10,SNR=7.1
PDAR PcP **PcP** **02 46 41.4 -1.2**
comp=Z,0.2nm,0.4s,baz=134,slow=3.9,SNR=1.0
PDAR LR LR 03 07 33.8
comp=Z,215nm,20.5s,baz=134,slow=38
comp=Z,0.8nm,0.8s
ELK Elko 51.14 326 LR LR 03 07 20.2
comp=Z,111nm,18.4s,baz=111,slow=36
ULM Lac du Bonnet 51.28 347 P **P** **02 45 32.3 -0.9**
comp=Z,3.1nm,0.6s,baz=148,slow=6.6,SNR=6.2
ULM PcP **PcP** **02 46 47.4 -0.7**
comp=Z,1.4nm,0.3s,baz=133,slow=2.1,SNR=1.3
comp=Z,3.1nm,0.6s
NVAR Mina Array Bea 51.47 322 P **P** **02 45 36.0 +0.8**
comp=Z,2.6nm,0.8s,baz=141,slow=6.2,SNR=9.9
comp=Z,2.6nm,0.8s
NVAR Mina Array Bea 51.47 322 P **P** **02 45 34.1 -1.0**
HLID Hailey 52.63 329 P **P** **02 45 42.9 -0.8**
BOZ Bozeman (W) 52.75 332 P **P** **02 45 43.6 -0.9**
MFID Camas Ranch 53.27 328 P **P** **02 45 48.6 +0.3**
MFID IAmb IAmb 02 45 56.2
comp=Z,12nm,1.1s
SCHQ Schefferville 55.13 9 P **P** **02 46 00.9 -0.5**
comp=Z,3.8nm,0.9s,baz=195,slow=5.9,SNR=2.6
comp=Z,3.8nm,0.9s
F10A Beach Ranch, E 55.75 329 P **P** **02 46 06.5 +0.3**
F10A IAmb IAmb 02 46 50.9
comp=Z,30nm,1.9s
YBH Yreka Blue Hor 56.15 322 P **P** **02 46 10.6 +1.4**
comp=Z,2.8nm,0.9s,baz=172,slow=10,SNR=2.4
YBH LR LR 03 10 00.6
comp=Z,121nm,19.1s,baz=131,slow=36
comp=Z,2.8nm,0.9s
RKT Rikitea 58.36 242 *e*LR LR 03 03 32.2
comp=Z,56µm,27.2s
TAOE Nuku Hiva Isla 60.62 260 *e*LR LR 03 04 35.2
comp=Z,254nm,22.7s
FRB Frobisher Bay 63.57 6 P **P** **02 46 58.5 -1.1**
comp=Z,5.0nm,1.1s,baz=184,slow=5.9,SNR=6.4
comp=Z,5.0nm,1.1s
BBTS Babate 64.23 74 LR LR 03 15 29.4
comp=Z,73nm,18.4s,baz=316,slow=36
YKA Yellowknife Ar 66.96 343 P **P** **02 47 21.3 -0.3**
comp=Z,2.4nm,0.9s,baz=138,slow=5.9,SNR=31
comp=Z,2.4nm,0.9s
DLBC Dease Lake 69.70 335 P **P** **02 47 39.5 +0.4**
comp=Z,3.1nm,1.0s,baz=119,slow=4.9,SNR=5.4
comp=Z,3.1nm,1.0s

PPT2	**Papeete2**	**70.73**	**251**	*e*S		**S**	**02 57 01.8**	**+1.4**
	comp=Z,58nm,25.0s							
PPT2	**Papeete2**	**70.73**	**251**	*e*LR		LR	03 09 15.8	
	comp=Z,216nm,21.2s							
PPT2				*e*LR		LR	03 09 15.8	
	comp=Z,216nm,22.8s							
TBI	**Tubuai**	**71.42**	**245**	*e*LR		LR	03 09 35.1	
	comp=Z,875nm,26.5s							
TBI				*e*LR		LR	03 09 35.5	
	comp=Z,3μm,23.5s							
P33M	**Teslin, Yukon**	**71.89**	**335**	P		**P**	**02 47 52.8**	**+0.4**
RES	**Resolute Bay**	**74.52**	**356**	P		**P**	**02 48 06.5**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=184,slow=8.0,SNR=3.6							
	comp=Z,0.7nm,0.5s							
DBIC	**Dimbokro**	**75.19**	**83**	P		**P**	**02 48 12.2**	**-0.4**
SUMG	**Summit**	**76.39**	**12**	*i* P		**P**	**02 48 18.0**	**-0.8**
DAWY	**Dawson**	**76.51**	**337**	P		**P**	**02 48 19.2**	**+0.1**
BORG	**Borgarnes**	**76.57**	**22**	LR		LR	03 18 58.6	
	comp=Z,199nm,20.3s,baz=195,slow=33							
INK	**Inuvik**	**76.66**	**342**	P		**P**	**02 48 20.4**	**+0.6**
	comp=Z,6.1nm,1.0s,baz=102,slow=5.2,SNR=19							
	comp=Z,6.1nm,1.0s							
INK	**Inuvik**	**76.66**	**342**	P		**P**	**02 48 20.2**	**+0.4**
INK				IAmb		IAmb	02 48 22.3	
	comp=Z,9.1nm,1.1s							
A36M	**Sachs Harbour**	**76.76**	**347**	P		**P**	**02 48 19.6**	**-0.7**
A36M				IAmb		IAmb	02 48 21.7	
	comp=Z,7.5nm,0.9s							
BMRM	**Bremner River**	**77.39**	**333**	P		**P**	**02 48 23.6**	**-0.6**
BMRM				IAmb		IAmb	02 48 31.6	
	comp=Z,17nm,1.3s							
MDT	**Midelt**	**77.42**	**57**	LR		LR	03 19 12.7	
	comp=Z,67nm,21.3s,baz=344,slow=33							
SCRK	**Sand Creek**	**78.29**	**336**	P		**P**	**02 48 29.6**	**+0.3**
SCRK				IAmb		IAmb	02 48 35.7	
	comp=Z,15nm,1.8s							
J26L	**Joseph Creek**	**78.33**	**337**	P		**P**	**02 48 29.8**	**+0.3**
ESDC	**Sonseca Array**	**78.89**	**50**	P		**P**	**02 48 34.3**	**+1.3**
	comp=Z,5.9nm,1.0s,baz=267,slow=5.8,SNR=18							
ESDC				LR		LR	03 19 53.0	
	comp=Z,76nm,21.9s,baz=269,slow=33							
	comp=Z,5.9nm,1.0s							
ESDC	**Sonseca Array**	**78.89**	**50**	P		**P**	**02 48 32.3**	**-0.7**
ESDC				IAmb		IAmb	02 48 35.8	
	comp=Z,15nm,1.4s							
ILAR	**Eielson Array**	**79.76**	**336**	P		**P**	**02 48 37.0**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=114,slow=3.9,SNR=9.2							
	comp=Z,1.3nm,1.0s							
SUA	**Susitna One**	**80.35**	**333**	P		**P**	**02 48 40.1**	**-0.4**
SKT	**Skwentna**	**80.86**	**333**	P		**P**	**02 48 41.9**	**-1.2**
SKT				IAmb		IAmb	02 50 02.7	
	comp=Z,33nm,2.0s							
RSO	**Redoubt South**	**81.02**	**331**	P		**P**	**02 48 44.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**81.79**	**77**	P		**P**	**02 48 49.2**	**+0.2**
	comp=Z,6.6nm,0.7s,baz=282,slow=5.9,SNR=61							
	comp=Z,6.6nm,0.7s							
BELA	**Belgrano 2**	**82.05**	**171**	P		**P**	**02 48 49.8**	**+0.6**
JMIC	**Jan Mayen**	**83.47**	**18**	LR		LR	03 22 49.7	
	comp=Z,41nm,21.5s,baz=52,slow=33							
DOU	**Dourbes**	**86.08**	**40**	*d*P		**P**	**02 49 10.9**	**+0.7**
	comp=Z,7.9nm,1.1s							
BGES	**Gesves**	**86.41**	**40**	*d*P		**P**	**02 49 13.0**	**+1.2**
	comp=Z,5.6nm,1.0s							
WLF	**Walferdange**	**87.06**	**40**	*d*P		**P**	**02 49 16.2**	**+1.2**
	comp=Z,7.1nm,1.0s							
NOA	**NORSAR Array B**	**90.08**	**29**	LR		LR	03 26 29.5	
	comp=Z,20nm,21.7s,baz=300,slow=33							
QSPA	**South Pole Qui**	**90.65**	**180**	P		**P**	**02 49 32.2**	**+0.5**
QSPA				IAmb		IAmb	02 49 34.2	
	comp=Z,6.8nm,0.9s							
GERES	**GERESS Array B**	**92.01**	**41**	P		**P**	**02 49 39.7**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=274,slow=5.2,SNR=3.8							
	comp=Z,0.5nm,0.7s							
MODS	**Modra-Piesok**	**94.41**	**42**	*e*P		**P**	**02 49 51.5**	**+2.1**
SUR	**Sutherland**	**99.47**	**123**	LR		LR	03 31 19.4	
	comp=Z,236nm,21.6s,baz=212,slow=33							
ZALV	**Zalesovo Beam**	**124.20**	**11**	PKP		**PKPdf**	**02 55 27.8**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=339,slow=3.8,SNR=8.2							
GEYT	**Alibeck**	**125.63**	**40**	PKP		**PKPdf**	**02 55 31.4**	**0.0**
	comp=Z,1.9nm,0.5s,baz=218,slow=9.3,SNR=3.9							
KURBB	**Kurchatov Arra**	**125.79**	**17**	PKP		**PKiKP**	**02 55 31.6**	**0.0**
	comp=Z,1.4nm,0.5s,baz=327,slow=2.3,SNR=19							
MKAR	**Makanchi Array**	**130.31**	**16**	PKP		**PKPdf**	**02 55 39.5**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=336,slow=2.7,SNR=9.7							
SONM	**Songino Array**	**131.44**	**354**	PKP		**PKPdf**	**02 55 41.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=168,slow=2.8,SNR=3.9							
WMQ	**Urumqi**	**134.43**	**12**	*e*P		**PKiKP**	**02 55 49.7**	**+0.4**
HHC	**Hu-ho-hao-te**	**137.42**	**347**	*e*P		**PKPdf**	**02 55 50.7**	**-2.9**
NJ2	**Nanjing**	**142.94**	**333**	*e*P		**PKPdf**	**02 56 02.9**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
LZH	**Lanzhou**	**143.32**	**355**	PKP		PKPab	02 55 58.4	-2.0
LZH				pPKP		PKiKP	02 56 06.6	-1.2
LZH				sPKP			02 56 13.5	
GYA	**Guiyang**	**152.34**	**347**	⇓P		**PKPdf**	**02 56 20.6**	**+1.1**
GYA				pmax		pmax		
	comp=Z,13nm,1.2s							
PZH	**PanZhiHua**	**153.00**	**357**	PKPbc		**PKPdf**	**02 56 21.0**	**+0.5**

MOS ***11*** *02:49:15.0±1.4, 6˚.09S×154˚.44E, h42km, mb4.9/25, Error ellipse: s-maj=9.1km s-min=8.1km az=67.3*
BJI ***11*** *02:49:16.3±0.0, 5˚.59S×154˚.45E, h30km, mb4.8/48, mB5.2/32, Ms4.7/12, Ms7 4.3/13*
IDC ***11*** *02:49:17.3±1.3, 6˚.09S×154˚.61E, h61km±10km, mb4.4/24, mbtmp4.7/27, MS4.1/48, Error ellipse: s-maj=12.7km s-min=8.5km az=54.0*
DJA ***11*** *02:49:19.3±0.5, 6˚.5S×3˚×15˚.4E±˚, h57km±5km, M5.3/40, mB5.6/19, mb5.3/40, MLv5.9/3, Mw(mB)5.2/19*
GCMT ***11*** *02:49:19.1±0.2, 6˚.31S±0˚.02×154˚.44E±0˚.02, h43km±1km, MW5.1/83, Moment Tensor Solution. s44,c55; s83,c106; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 2.70±.22; Mθθ 0.59±.18; Mϕϕ -3.29±.16; Mrθ -0.13±.15; Mrϕ 2.41±.12; Mθϕ -3.10±.17; Best double couple: M₀ 4.88400×10¹⁶ NP1: ϕs 178.00000°, δ 89.00000°, λ 117.00000°. NP2: ϕs 304.00000°, δ 34.00000°, λ 41.00000°. Principal axes: T 4.3640, Plg 57.0000°, Azm 125.0000°; N 1.0390, Plg 25.0000°, Azm 348.0000°; P -5.4040, Plg 19.0000°, Azm 249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***11*** *02:49:19.1±1.3, 6˚.12S±0˚.07×154˚.46E±0˚.07, h69km±4km, mb5.1/111 Error ellipse: s-maj=12.1km s-min=7.4km az=51.0*

ISC 11 02:49:18.0±0.5, 6˚.19S±0˚.04×154˚.48E±0˚.05, h58km±3km, n486, σ1§43/457, mb5.0/118, MS4.1/54, 11C-10D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.05**	**311**			**Pn**	**02 50 04.9**	**+1.1**
KRVT	**Keravat (AS076**	**3.08**	**307**	P		**Pn**	**02 50 04.3**	**0.0**
	1μm,0.6s,baz=246,slow=2.2,SNR=55							
KRVT				S		**Sn**	**02 50 40.7**	**+0.8**
	4μm,0.7s,baz=145,slow=4.1,SNR=8.2							
KRVT				LR		LR	02 51 36.5	
	comp=Z,7μm,21.7s,baz=262,slow=45							
HNR	**Honiara**	**6.30**	**121**	P		**Pn**	**02 50 47.3**	**-1.1**
	6μm,0.8s,baz=205,slow=3.5,SNR=3.8							
HNR				S		**Sn**	**02 51 58.7**	**-0.3**
	9μm,0.7s,baz=80,slow=6.6,SNR=1.4							
HNR	**Honiara**	**6.30**	**121**	Pn		**Pn**	**02 50 50.2**	**+1.8**
HNR	**Honiara**	**6.30**	**121**	P		**Pn**	**02 50 50.2**	**+1.8**
PMG	**Port Moresby**	**7.92**	**246**	P		**Pn**	**02 51 12.0**	**+1.4**
	1μm,0.7s,baz=72,slow=6.5,SNR=114							
PMG				S		**Sn**	**02 52 41.6**	**+2.7**
	230nm,0.7s,baz=299,slow=11,SNR=1.6							
PMG				LR		LR	02 54 54.0	
	comp=Z,1μm,18.8s,baz=6.5,slow=42							
PMG	**Port Moresby**	**7.92**	**246**	Pn		**Pn**	**02 51 11.8**	**+1.1**
PMG	**Port Moresby**	**7.92**	**246**	⇑*e*P		**Pn**	**02 51 11.6**	**+1.0**
MANU	**Manus Island**	**8.21**	**300**	Pn		**Pn**	**02 51 13.8**	**-0.7**
PATS	**Pohnpei**	**13.50**	**17**	Pn		**Pn**	**02 52 24.3**	**-2.5**
COEN	**Coen**	**13.54**	**234**	P		**Pn**	**02 52 29.1**	**+1.7**
	baz=14,SNR=18							
COEN	**Coen**	**13.54**	**234**	Pn		**Pn**	**02 52 27.1**	**-0.3**
GENI	**Genyem**	**14.71**	**283**	P		**Pn**	**02 52 42.8**	**-0.1**
	264nm,1.2s							
MTSU	**Mount Surprise**	**15.47**	**219**	P		**P**	**02 52 54.5**	**-1.6**
	baz=16,SNR=16							
CTA	**Charters Tower**	**15.96**	**209**	P		**Pn**	**02 52 59.8**	**+0.8**
	20nm,1.0s,baz=49,slow=8.2,SNR=5.2							
CTA				LR		LR	02 58 23.6	
	comp=Z,271nm,21.6s,baz=30,slow=34							
CTAO	**Charters Tower**	**15.96**	**209**	Pn		**Pn**	**02 52 59.5**	**+0.6**
CTAO	**Charters Tower**	**15.96**	**209**	P		**Pn**	**02 52 59.5**	**+0.6**
SMPI	**Sarmi**	**16.27**	**284**	P		**Pn**	**02 53 00.0**	**-2.9**
	220nm,1.4s,3μm							
EIDS	**Eidsvold**	**19.34**	**189**	P		**Pn**	**02 53 41.0**	**+0.6**
	baz=19,SNR=8.4							
EIDS	**Eidsvold**	**19.34**	**189**	P		**P**	**02 53 38.1**	**-0.7**
DZM	**Mont Dzumac**	**19.57**	**145**	*e*P		**Pn**	**02 53 44.0**	**+0.9**
	159nm,23.6s							
DZM				*e*LR		LR	02 58 22.3	
	comp=Z,2μm,28.3s							
DZM	**Mont Dzumac**	**19.57**	**145**	P		**P**	**02 53 41.5**	**+0.1**
	81nm,0.6s,baz=333,slow=8.2,SNR=130							
DZM	**Mont Dzumac**	**19.57**	**145**	P		**P**	**02 53 41.0**	**-0.3**
DZM				IAmb		IAmb	02 53 43.7	
	comp=Z,264nm,1.3s							
TARA	**Tarawa**	**19.88**	**68**	P		**P**	**02 53 44.4**	**-0.3**
QIS	**Mount Isa**	**20.30**	**224**	P		Pn	02 53 50.6	-1.2
	baz=20,SNR=76							
RKPI	**Ransiki, Papua**	**20.78**	**282**	P		**P**	**02 53 55.5**	**+1.0**
	comp=Z,165nm,0.9s							
RMQ	**Roma**	**20.91**	**195**	P		Pn	02 53 57.7	-1.1
	baz=21,SNR=30							
GUMO	**Guam**	**21.85**	**334**	LR		LR	03 01 40.4	
	comp=Z,145nm,21.9s,baz=124,slow=34							
FAKI	**Fak Fak**	**22.40**	**277**	P		**P**	**02 54 09.6**	**-2.3**
FAKI				IAmb		IAmb	02 54 14.7	
	comp=Z,61nm,0.9s							
FAKI	**Fak Fak**	**22.40**	**277**	P		**P**	**02 54 10.6**	**-1.3**
	comp=Z,62nm,0.8s,comp=Z,1μm							
KDU	**Kakadu**	**22.64**	**252**	P		**P**	**02 54 13.7**	**-0.7**
	baz=23,SNR=19							
SAUI	**Saumlaki**	**23.07**	**264**	P		**P**	**02 54 19.0**	**+0.1**
SAUI	**Saumlaki**	**23.07**	**264**	P		**P**	**02 54 19.9**	**+1.0**
	comp=Z,416nm,0.9s,comp=Z,7μm							
WR0	**Warramunga Arr**	**23.72**	**233**	P		**P**	**02 54 25.0**	**0.0**
WR0				IAmb		IAmb	02 54 27.7	
	comp=Z,117nm,0.9s							
WB0	**Warramunga Arr**	**23.73**	**233**	P		**P**	**02 54 25.0**	**-0.1**
WB0				IAmb		IAmb	02 54 27.1	
	comp=Z,84nm,1.0s							
SIJI	**Sorong**	**23.76**	**282**	P		**P**	**02 54 25.7**	**+0.3**
	comp=Z,38nm,0.9s,baz=87,slow=7.0,SNR=26							
SIJI				LR		LR	03 05 34.2	
	comp=Z,477nm,21.4s,baz=128,slow=41							
	comp=Z,38nm,0.9s							
SWI	**Sorong**	**23.77**	**282**	P		**P**	**02 54 25.7**	**+0.3**
SWI	**Sorong**	**23.77**	**282**	P		**P**	**02 54 26.0**	**+0.6**
	comp=Z,97nm,1.2s							
WRAB	**Tennant Creek**	**23.85**	**233**	P		**P**	**02 54 25.3**	**-0.9**
WRAB				IAmb		IAmb	02 54 28.3	
	comp=Z,136nm,1.2s							
WRAB	**Tennant Creek**	**23.85**	**233**	*d* i P		**P**	**02 54 26.8**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,88nm,1.2s							
WB2	**Warramunga Arr**	**23.86**	**233**	P		**P**	**02 54 26.1**	**-0.1**
WB2				IAmb		IAmb	02 54 28.5	
	comp=Z,174nm,1.3s							
WB2				PcP		**PcP**	**02 58 08.3**	**+0.1**
WRA	**Warramunga Arr**	**23.87**	**233**	P		**P**	**02 54 26.9**	**+0.5**
	comp=Z,69nm,1.2s,baz=53,slow=10,SNR=74							
WRA				PcP		**PcP**	**02 58 07.8**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=54,slow=2.3,SNR=5.4							
WRA				S		**S**	**02 58 37.1**	**-1.4**
	comp=Z,4.2nm,1.2s,baz=57,slow=15,SNR=2.4							
WRA				ScP		**ScP**	**03 01 39.9**	**-2.0**
	comp=Z,4.7nm,0.8s,baz=57,slow=3.1,SNR=10							
WRA				LR		LR	03 03 36.8	
	comp=Z,458nm,21.6s,baz=54,slow=36							
	comp=Z,69nm,1.2s							
WRA	**Warramunga Arr**	**23.87**	**233**	P		**P**	**02 54 25.2**	**-1.2**
WRA						**PcP**	**02 58 06.7**	**-1.5**
WRA	**Warramunga Arr**	**23.87**	**233**	*i* P		**P**	**02 54 26.2**	**-0.1**
WRA				pmax		pmax		
	comp=Z,78nm,1.2s							
MTN	**Manton Dam**	**23.94**	**252**	P		**P**	**02 54 28.2**	**+1.2**
	baz=24,SNR=6.0							
MTN	**Manton Dam**	**23.94**	**252**	P		**P**	**02 54 25.8**	**-1.2**
MTN				IAmb		IAmb	02 54 58.5	
	comp=Z,56nm,0.7s							
ARMA	**Armidale**	**24.25**	**186**	P		**P**	**02 54 31.6**	**+1.8**
	baz=24,SNR=11							
ARMA	**Armidale**	**24.25**	**186**	P		**P**	**02 54 29.7**	**0.0**
ARMA				IAmb		IAmb	02 54 32.5	
	comp=Z,53nm,1.2s							
MSVF	**Nonsavu**	**25.71**	**119**	LR		LR	03 04 01.9	
	comp=Z,987nm,21.4s,baz=306,slow=34							
AS31	**Alice Springs**	**26.33**	**227**	P		**P**	**02 54 48.3**	**-0.4**
ASAR	**Alice Springs**	**26.33**	**227**	P		**P**	**02 54 49.1**	**+0.4**
	comp=Z,15nm,0.7s,baz=59,slow=8.8,SNR=188							
ASAR				PcP		**PcP**	**02 58 13.8**	**+0.1**
	comp=Z,7.9nm,0.6s,baz=61,slow=2.5,SNR=16							
ASAR				ScP		**ScP**	**03 01 48.8**	**0.0**
	comp=Z,8.9nm,0.8s,baz=49,slow=2.8,SNR=30							
ASAR				LR		LR	03 05 02.3	
	comp=Z,241nm,21.4s,baz=68,slow=36							
	comp=Z,15nm,0.7s							
ASAR	**Alice Springs**	**26.33**	**227**	P		**P**	**02 54 48.4**	**-0.3**
ASAR						**PcP**	**02 58 12.8**	**-0.9**
ASAR	**Alice Springs**	**26.33**	**227**	P		**P**	**02 54 48.4**	**-0.3**
ASAR							02 58 12.8	
CMSA	**Cobar Meteorol**	**26.52**	**197**	P		**P**	**02 54 51.0**	**+0.7**
	baz=27,SNR=8.7							
KNRA	**Kununurra**	**26.92**	**247**	P		**P**	**02 54 54.7**	**+0.7**
	baz=27,SNR=7.2							
KNRA	**Kununurra**	**26.92**	**247**	P		**P**	**02 54 54.5**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**27.33**	**26**	T		T	03 23 33.7	
	baz=209,slow=76,SNR=67							
H11S2	**WAKE ISLAND Hy**	**27.33**	**26**	T		T	03 23 32.0	
	baz=209,slow=76,SNR=68							
H11S1	**WAKE ISLAND Hy**	**27.34**	**26**	T		T	03 23 34.4	
	baz=209,slow=76,SNR=18							
NLAI	**Namlea**	**27.44**	**275**	P		**P**	**02 55 00.1**	**+1.4**
	comp=Z,28nm,1.0s							
STKA	**Stephens Creek**	**28.25**	**204**	P		**P**	**02 55 05.5**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=6.8,slow=8.5,SNR=12							
STKA				PcP		**PcP**	**02 58 17.6**	**-0.4**
	comp=Z,5.9nm,0.7s,baz=16,slow=2.5,SNR=4.6							
STKA				ScP		**ScP**	**03 01 54.4**	**0.0**
	comp=Z,16nm,0.9s,baz=30,slow=5.1,SNR=16							
STKA				LR		LR	03 05 39.0	
	comp=Z,310nm,22.0s,baz=16,slow=35							
	comp=Z,5.0nm,0.7s							
STKA	**Stephens Creek**	**28.25**	**204**	P		**P**	**02 55 06.1**	**+0.3**
	baz=28,SNR=11							
STKA	**Stephens Creek**	**28.25**	**204**	P		**P**	**02 55 05.5**	**-0.2**
STKA						**PcP**	**02 58 17.7**	**-0.4**
STKA	**Stephens Creek**	**28.25**	**204**	⇑*e*P		**P**	**02 55 06.0**	**+0.3**
SANI	**Sanana**	**28.71**	**277**	P		**P**	**02 55 10.1**	**0.0**
	comp=Z,73nm,0.9s,comp=Z,706nm							
FITZ	**Fitzroy Crossi**	**30.52**	**245**	P		**P**	**02 55 25.5**	**-0.5**
HTT	**Hallett**	**30.71**	**206**	P		**P**	**02 55 28.6**	**+1.0**
	baz=31,SNR=6.9							
BATI	**Baumata**	**30.75**	**260**	LR		LR	03 09 22.2	
	comp=Z,273nm,21.4s,baz=65,slow=39							
WRKA	**Warakurna**	**31.30**	**230**	P		**P**	**02 55 32.9**	**0.0**
	baz=31,SNR=23							
BBOO	**Buckleboo**	**31.55**	**211**	P		**P**	**02 55 35.0**	**0.0**
	baz=32,SNR=6.5							
DAV	**Davao City (W)**	**31.70**	**294**	LR		LR	03 08 30.5	
	comp=Z,183nm,19.9s,baz=114,slow=36							
LUWI	**Luwuk**	**32.05**	**278**	P		**P**	**02 55 38.3**	**-1.2**
LUWI	**Luwuk**	**32.05**	**278**	P		**P**	**02 55 40.5**	**+1.0**
	comp=Z,269nm,1.0s,comp=Z,2μm							
MMRI	**Maumere**	**32.06**	**264**	P		**P**	**02 55 38.5**	**-1.2**
GTOI	**Gorontalo**	**32.14**	**281**	P		**P**	**02 55 41.8**	**+1.5**
	comp=Z,36nm,0.8s,comp=Z,248nm							
MRSI	**Marisa**	**33.15**	**280**	P		P	02 56 02.6	+13
APSI	**Ampana**	**33.17**	**278**	P		**P**	**02 55 50.2**	**+0.8**
	comp=Z,115nm,0.9s,comp=Z,870nm							
BSSI	**Bau Bau, Buton**	**33.79**	**268**	P		**P**	**02 55 57.8**	**+3.0**
	comp=Z,60nm,1.0s							
OUZ	**Omahuta**	**33.83**	**151**	P		**P**	**02 55 55.6**	**+0.8**
OUZ				IAmb		IAmb	02 55 57.5	
	comp=Z,26nm,0.8s							
OUZ	**Omahuta**	**33.83**	**151**	P		P	02 56 00.7	+5.8
BKSI	**Bulukumba**	**34.19**	**270**	P		P	02 56 13.0	+15
TOLI2	**Tolitoli**	**34.42**	**281**	P		**P**	**02 55 58.6**	**-1.6**
TOLI2				IAmb		IAmb	02 56 00.6	
	comp=Z,21nm,0.9s							
KAPI	**Kappang**	**34.58**	**270**	LR		LR	03 13 38.1	
	comp=Z,116nm,18.5s,baz=68,slow=42							
KAPI	**Kappang**	**34.58**	**270**	P		**P**	**02 56 00.6**	**-1.0**
KAPI				IAmb		IAmb	02 56 31.7	
	comp=Z,33nm,0.8s							
KAPI	**Kappang**	**34.58**	**270**	*d* i P		**P**	**02 56 01.8**	**+0.2**
KAPI				pmax		pmax		
	comp=Z,17nm,0.9s							
KAPI	**Kappang**	**34.58**	**270**	P		**P**	**02 56 02.2**	**+0.6**
KAPI				pP		**pP**	**02 56 16.0**	**+1.6**
SPSI	**Sidrap Palu**	**34.64**	**272**	P		**P**	**02 56 03.4**	**+1.2**
	comp=Z,45nm,1.1s							
GLKZ	**Green Lake**	**34.71**	**135**	P		**P**	**02 56 06.0**	**+3.4**
FORT	**Forrest**	**34.83**	**222**	P		**P**	**02 56 03.8**	**+0.3**
	baz=35,SNR=7.0							
FORT	**Forrest**	**34.83**	**222**	P		**P**	**02 56 01.6**	**-2.0**
WBSI	**Waikabubak, Su**	**34.91**	**262**	P		**P**	**02 56 06.1**	**+1.6**
	comp=Z,102nm,1.6s							
MPSI	**Mapaga**	**35.12**	**279**	P		**P**	**02 56 05.7**	**-0.6**
	comp=Z,123nm,0.8s,comp=Z,1μm							
JCJ	**Chichijima**	**35.17**	**341**	LR		LR	03 08 24.1	
	comp=Z,129nm,21.4s,baz=140,slow=33							
PLAI	**Plampang**	**36.47**	**264**	P		**P**	**02 56 16.5**	**-1.4**
	comp=Z,87nm,0.8s							
TOZ	**Tahuroa Road**	**36.76**	**152**	P		**P**	**02 56 19.1**	**-0.9**
MBWA	**Marble Bar**	**36.78**	**243**	P		**P**	**02 56 19.8**	**-0.6**
MBWA						**PcP**	**02 58 41.7**	**-0.1**
TWSI	**Taliwang, Sumb**	**37.35**	**264**	P		**P**	**02 56 25.9**	**+0.5**
	comp=Z,33nm,0.8s							
OMRZ	**Omania**	**37.47**	**151**	P		**P**	**02 56 30.3**	**+4.2**
HAZ	**Te Kaha**	**37.90**	**149**	P		**P**	**02 56 31.8**	**+2.2**
URZ	**Urewera**	**37.95**	**150**	P		**P**	**02 56 31.1**	**+1.1**
RUGZ	**Raukumara Rang**	**38.01**	**150**	P		**P**	**02 56 32.1**	**+1.4**
MXZ	**Matakaoa Point**	**38.02**	**149**	P		**P**	**02 56 30.0**	**-0.6**
MXZ	**Matakaoa Point**	**38.02**	**149**	P		**P**	**02 56 32.1**	**+1.5**
PKGZ	**Pakihiroa**	**38.15**	**149**	P		**P**	**02 56 33.3**	**+1.5**
RTZ	**Ruatahuna**	**38.17**	**151**	P		**P**	**02 56 31.9**	**-0.1**
RTZ	**Ruatahuna**	**38.17**	**151**	P		**P**	**02 56 34.0**	**+1.9**
MWZ	**Matawai**	**38.22**	**150**	P		**P**	**02 56 34.3**	**+1.9**
RAGZ	**Rawiri**	**38.29**	**150**	P		**P**	**02 56 35.2**	**+2.2**
TWGZ	**Tauwhareparae**	**38.32**	**150**	P		**P**	**02 56 35.0**	**+1.7**
BKZ	**Black Stump Fm**	**38.37**	**152**	P		**P**	**02 56 33.8**	**+0.1**
PUZ	**Puketiti**	**38.38**	**149**	P		**P**	**02 56 34.4**	**+0.7**
TKGZ	**Te Karaka**	**38.46**	**150**	P		**P**	**02 56 36.2**	**+1.9**
SNGZ	**Shannon Statio**	**38.47**	**151**	P		**P**	**02 56 35.8**	**+1.3**
THZ	**Tophouse**	**39.03**	**158**	P		**P**	**02 56 39.1**	**-0.1**
TUWZ	**Tuamarina**	**39.14**	**157**	P		**P**	**02 56 40.0**	**0.0**
MRZ	**Mangatainoka R**	**39.17**	**154**	P		**P**	**02 56 39.3**	**-1.0**
MRZ				IAmb		IAmb	02 56 41.2	
	comp=Z,42nm,0.9s							
KMBL	**Kambalda**	**39.47**	**226**	P		**P**	**02 56 43.3**	**+0.4**
	baz=40,SNR=11							
BHW	**Baring Head**	**39.50**	**156**	P		**P**	**02 56 43.2**	**+0.3**
JAGI	**Jajag, Banyuwa**	**40.05**	**264**	P		**P**	**02 56 47.1**	**-0.9**
JAGI				IAmb		IAmb	02 56 48.6	
	comp=Z,44nm,0.8s							
JAGI	**Jajag, Banyuwa**	**40.05**	**264**	P		**P**	**02 56 47.4**	**-0.6**
	comp=Z,62nm,0.8s							
KKM	**Kota Kinabalu**	**40.08**	**287**	IAmb		IAmb	02 56 50.9	
	comp=Z,33nm,1.1s							
OXZ	**Oxford**	**40.09**	**160**	P		**P**	**02 56 45.9**	**-2.0**
RPZ	**Rata Peaks**	**40.11**	**161**	P		**P**	**02 56 47.7**	**-0.4**
	comp=Z,52nm,0.7s,baz=314,slow=1.9,SNR=24							
RPZ				LR		LR	03 13 18.8	
	comp=Z,361nm,18.2s,baz=318,slow=36							
	comp=Z,52nm,0.7s							
RPZ	**Rata Peaks**	**40.11**	**161**	P		**P**	**02 56 48.3**	**+0.2**
GVZ	**Greta Valley S**	**40.12**	**159**	P		**P**	**02 56 47.2**	**-1.0**
ODZ	**Otahua Downs**	**41.19**	**163**	P		**P**	**02 56 56.1**	**-0.8**
ODZ				IAmb

KLR pmax pmax
comp=Z,7.0nm,1.0s
PETK Petropavlovsk- 59.14 2 P **P 02 59 12.0 -0.5**
comp=Z,6.2nm,0.8s,baz=156,slow=7.4,SNR=2.6
PETK LR LR 03 23 39.1
comp=Z,85nm,20.4s,baz=258,slow=35
comp=Z,6.2nm,0.8s
KMI Kunming 59.15 304 ⇑P **P 02 59 15.2 +1.8**
KMI pP pP 02 59 25.7 -2.7
KMI pmax pmax
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 59.98 295 P **P 02 59 19.4 +0.4**
comp=Z,4.4nm,0.8s,baz=116,slow=5.0,SNR=15
CMAR LR LR 03 23 16.8
comp=Z,97nm,21.8s,baz=110,slow=34
comp=Z,4.4nm,0.8s
CMAR Chiang Mai Arr 59.98 295 *e*P **P 02 59 18.0 -1.1**
CMAR Chiang Mai Arr 59.98 295 *ce*P **P 02 59 20.3 +1.3**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
PZH PanZhiHua 60.54 305 P **P 02 59 23.3 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,150nm,5.3s
XLT XiLinHaoTe 60.71 329 *e*P **P 02 59 23.3 -0.3**
XLT pP pP 02 59 39.3 +0.3
XLT pmax pmax
comp=Z,210nm,5.3s
XLT pmax pmax
comp=Z,20nm,0.8s
CD2 Chengdu 60.91 310 P **P 02 59 25.7 +0.5**
HEH HeiHe 60.91 340 *e*P **P 02 59 23.9 -0.8**
HEH pmax pmax
comp=Z,10.0nm,0.7s
HEH pmax pmax
comp=Z,220nm,5.7s
SHEM Shemya Is, Ala 61.02 13 LR LR 03 23 36.6
comp=Z,189nm,19.7s,baz=116,slow=34
HHC Hu-ho-hao-te 61.15 324 *e*P **P 02 59 28.5 +1.8**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,180nm,6.2s
DRV Dumont d'Urvil 61.20 187 P **P 02 59 27.0 +0.6**
HIA Hailar 62.98 335 P **P 02 59 36.8 -2.0**
HIA IAmb IAmb 02 59 40.2
comp=Z,8.1nm,0.6s
HIA Hailar 62.98 335 P **P 02 59 36.8 -2.0**
HIA pmax pmax
comp=Z,8.0nm,0.6s
LZH Lanzhou 63.39 316 *e*P P 02 59 32.2 -10
LZH pP pP 02 59 49.7 -7.1
LZH sP pwP 02 59 56.3 -3.9
LZH pmax pmax
comp=Z,13nm,1.4s
LZH LR LR
comp=N,180nm,16.7s
LZH LR LR
comp=E,290nm,15.1s
LZH LR LR
comp=Z,290nm,16.7s
ZEA Zeya 63.96 342 *e*P **P 02 59 47.4 +2.4**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
TAOE Nuku Hiva Isla 64.80 97 *e*LR LR 03 19 19.1
comp=Z,184nm,24.0s
MA2 Magadan 65.63 358 LR LR 03 27 34.7
comp=Z,49nm,20.3s,baz=150,slow=35
BRDH Bariadhala 67.78 297 LR LR 03 30 19.5
comp=Z,95nm,19.8s,baz=109,slow=36
GTA Gaotai 67.81 317 *e*P **P 03 00 12.2 +1.9**
GTA pP pP 03 00 24.9 -0.5
GTA pmax pmax
comp=Z,4.0nm,0.5s
GTA pmax pmax
comp=Z,140nm,6.4s
GTA LR LR
comp=Z,100nm,16.7s
GTA LR LR
comp=Z,190nm,18.5s
GTA LR LR
comp=Z,130nm,20.7s
ULN Ulaanbaatar 68.06 328 P **P 03 00 10.5 -1.1**
ULN Ulaanbaatar 68.06 328 ⇓*e*P **P 03 00 12.5 +0.8**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 68.06 328 P **P 03 00 12.7 +1.0**
ULN pP **pP 03 00 27.5 +0.6**
ULN sP **sP 03 00 32.7 -0.4**
SONM Songino Array 68.39 327 P **P 03 00 12.9 -0.8**
comp=Z,3.1nm,0.5s,baz=134,slow=5.7,SNR=17
SONM LR LR 03 31 24.6
comp=Z,76nm,18.6s,baz=156,slow=37
comp=Z,3.1nm,0.5s
SONM Songino Array 68.39 327 P **P 03 00 13.6 -0.1**
SONM IAmb IAmb 03 00 42.8
comp=Z,15nm,1.4s
SONM Songino Array 68.39 327 P **P 03 00 13.6 -0.1**
SONM pmax pmax
comp=Z,15nm,1.4s
SHL Shillong 68.45 300 P **P 03 00 13.7 -0.9**
SHL IAmb IAmb 03 00 17.0
comp=Z,36nm,0.9s
SHL Shillong 68.45 300 P **P 03 00 13.7 -0.9**
SHL pmax pmax
comp=Z,36nm,0.9s
RKT Rikitea 69.72 112 *e*LR LR 03 21 36.2
comp=Z,98μm,32.8s
GOMU GeErMu 69.93 312 P **P 03 00 21.7 -2.1**
GOMU SS SS 03 13 58.9 -1.4
GOMU pmax pmax
comp=Z,1.0nm,0.9s
GOMU pmax pmax
comp=Z,30nm,6.5s
GOMU LR LR
comp=Z,180nm,19.6s
GOMU LR LR
comp=Z,140nm,18.6s
GOMU LR LR
comp=Z,210nm,18.0s
LSA Lhasa 70.40 304 P **P 03 00 25.6 -1.4**
LSA IAmb IAmb 03 00 40.0
comp=Z,13nm,0.7s
LSA Lhasa 70.40 304 P **P 03 00 25.6 -1.4**
LSA pmax pmax
comp=Z,13nm,0.7s
CCD Concordia, Ant 71.12 188 P **P 03 00 31.1 +0.7**
CCD pP **pP 03 00 44.2 -0.6**
CCD sP **PcP 03 00 49.6 -0.6**
S12K Black Hills 71.33 24 P **P 03 00 32.3 +0.9**
baz=226
VNDA Vanda 71.39 178 P **P 03 00 31.6 0.0**
comp=Z,3.2nm,0.7s,baz=321,slow=5.9,SNR=11
comp=Z,3.2nm,0.7s
VNDA Vanda 71.39 178 P **P 03 00 31.5 0.0**
VNDA Vanda 71.39 178 P **P 03 00 31.5 0.0**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 71.39 178 P **P 03 00 32.2 +0.7**
VNDA pP **pP 03 00 46.5 +0.7**
VNDA sP **sP 03 00 51.4 -0.2**
ZAK Zakamensk 71.55 328 *e*P **P 03 00 32.6 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,0.8s
SDPT Sand Point 71.74 25 P **P 03 00 33.2 -0.7**
SDPT IAmb IAmb 03 00 35.8
comp=Z,32nm,1.0s
SDPT Sand Point 71.74 25 P **P 03 00 34.7 +0.8**
baz=228
TAPN Taplejung 72.55 301 *e*P **P 03 00 40.3 +0.5**
comp=Z,4.7nm,0.3s
ODAN Odare 72.69 300 *e*P **P 03 00 40.5 0.0**
comp=Z,6.6nm,0.9s
RAMN Ramite 73.39 300 *e*P **P 03 00 44.7 0.0**
comp=Z,3.2nm,0.4s
JIRN Jiri 73.94 301 *e*P **P 03 00 48.2 +0.2**
R16K Pilot Point 74.42 25 P **P 03 00 51.0 +1.4**
baz=230
BILL Bilibino 74.53 5 P **P 03 00 49.5 -0.6**
BILL IAmb IAmb 03 00 53.5
comp=Z,8.5nm,0.7s
BILL Bilibino 74.53 5 ⇓*e*P **P 03 00 52.5 +2.4**
BILL *e* 03 01 04.0
BILL *e* 03 03 36.8
BILL *e*S **SKiKP 03 10 13.4 +2.3**

BILL pmax pmax
comp=Z,6.0nm,0.7s
BILL MLR MLR
comp=Z,52nm,19.0s
PKI Pulchoki 74.58 301 *e*P **P 03 00 51.6 -0.1**
PKIN Phulchoki 74.59 301 *e*P **P 03 00 51.4 -0.3**
DMN Daman 74.85 301 *e*P **P 03 00 53.5 +0.3**
R17K Ugashik Creek 74.96 25 P **P 03 00 53.9 +1.1**
baz=231
P16K Nushagak River 75.20 23 P **P 03 00 55.4 +1.3**
baz=229
GKN Gorkha 75.35 301 *e*P **P 03 00 55.4 -0.5**
comp=Z,6.3nm,0.3s
Q16K King Salmon 75.50 24 P **P 03 00 56.3 +0.5**
baz=231
O16K Kokwok River B 75.53 23 P **P 03 00 57.1 +1.0**
baz=229
Q17K Contact Creek 75.56 25 P **P 03 00 57.2 +0.8**
baz=232
N16K Nishlik Lake 75.86 22 P **P 03 01 00.1 +2.1**
baz=228
P17K Kvichak River 75.92 24 P **P 03 00 58.8 +0.6**
baz=231
O17K Koliganek Bris 76.03 23 P **P 03 01 00.6 +1.7**
baz=230
OHAK Old Harbor 76.04 26 P **P 03 01 00.6 +1.6**
baz=234
Q18K Katmai Hardscr 76.16 25 P **P 03 01 01.0 +1.1**
baz=232
KOLN Koldanda 76.18 300 *e*P **P 03 00 59.5 -1.2**
comp=Z,3.0nm,0.8s
DANN Dangsing 76.19 301 *e*P **P 03 01 00.1 -0.8**
P18K Big Mountain, 76.53 24 P **P 03 01 03.1 +1.3**
baz=232
ANM Nome 76.61 17 P **P 03 01 04.8 +2.7**
baz=221
KDAK Kodiak Island 76.67 26 LR LR 03 32 03.6
comp=Z,152nm,18.6s,baz=255,slow=34
TNA Tin City 76.69 15 P **P 03 01 04.8 +2.3**
baz=219
Q19K Cape Douglas, 76.90 25 P **P 03 01 05.5 +1.7**
baz=233
O19K Port Alsworth 77.39 24 IAmb IAmb 03 01 22.6
comp=Z,18nm,1.2s
O19K Port Alsworth 77.39 24 P **P 03 01 07.6 +1.1**
baz=233
P19K Oil Pt 77.50 24 P **P 03 01 08.8 +1.6**
baz=234
N19K Bonanza Creek 77.70 23 P **P 03 01 10.5 +2.1**
baz=232
WMQ Urumqi 77.89 317 *e*P **P 03 01 13.2 +3.4**
WMQ PcP **PcP 03 01 20.4 +0.9**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=Z,130nm,23.5s
O20K Slope Mountain 78.00 24 P **P 03 01 12.0 +2.0**
baz=234
HOM Homer 78.16 25 P **P 03 01 12.7 +1.9**
baz=235
L19K White Mountain 78.41 22 P **P 03 01 11.1 -1.1**
L19K IAmb IAmb 03 01 16.0
comp=Z,28nm,0.7s
L19K White Mountain 78.41 22 P **P 03 01 14.8 +2.6**
baz=232
TTA Tatalina 78.46 21 P **P 03 01 14.8 +2.2**
baz=230
HYB Hyderabad 78.53 289 *e*P **P 03 01 12.8 -1.0**
BRSE Bradley Lake S 78.58 25 P **P 03 01 15.0 +1.8**
baz=236
SPCR Spurr Chakacha 78.82 23 P **P 03 01 16.6 +2.1**
baz=234
M20K Styx River 78.87 22 P **P 03 01 16.5 +1.7**
baz=233
L20K Farewell, AK 78.95 22 P **P 03 01 17.6 +2.4**
baz=233
CAPN Captain Cook N 78.99 24 P **P 03 01 17.8 +2.4**
baz=235
SEW Seward 79.32 25 P **P 03 01 16.3 -0.9**
SEW IAmb IAmb 03 01 39.9
comp=Z,18nm,1.0s
SEW Seward 79.32 25 P **P 03 01 19.3 +2.1**
baz=237,SNR=5.2
GCSA Galena City Sc 79.34 19 P **P 03 01 19.6 +2.4**
baz=229
K20K Telida 79.42 21 P **P 03 01 17.4 -0.3**
K20K IAmb IAmb 03 01 21.6
comp=Z,9.7nm,0.8s
K20K Telida 79.42 21 P **P 03 01 20.6 +2.8**
baz=232
O22K Cooper Landing 79.42 25 P **P 03 01 17.6 -0.1**
O22K IAmb IAmb 03 01 31.4
comp=Z,29nm,0.6s
O22K Cooper Landing 79.42 25 P **P 03 01 19.5 +1.8**
baz=237
SKT Skwentna 79.54 23 P **P 03 01 19.0 +0.6**
baz=235
SUA Susitna One 79.55 24 P **P 03 01 17.9 -0.7**
SUA IAmb IAmb 03 01 21.2
comp=Z,17nm,0.7s
SUA Susitna One 79.55 24 P **P 03 01 20.0 +1.4**
baz=236
RC01 Rabbit Creek A 79.75 24 P **P 03 01 18.1 -1.4**
RC01 IAmb IAmb 03 01 22.4
comp=Z,12nm,0.7s
RC01 Rabbit Creek A 79.75 24 P **P 03 01 20.8 +1.3**
baz=237,SNR=8.5
J20K Nowinta River 79.89 20 P **P 03 01 22.6 +2.3**
baz=232
CAST Castle Rocks 80.17 22 P **P 03 01 23.4 +1.6**
baz=234,SNR=18
PWL Port Wells 80.20 25 P **P 03 01 21.8 -0.2**
PWL IAmb IAmb 03 01 25.1
comp=Z,39nm,0.7s
PWL Port Wells 80.20 25 P **P 03 01 23.5 +1.5**
baz=238,SNR=16
DGZ Jazzator, Alta 80.20 323 ⇓*e*P **P 03 01 22.9 +0.5**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
PMR Palmer 80.27 24 P **P 03 01 21.8 -0.5**
PMR IAmb IAmb 03 01 25.0
comp=Z,10.0nm,0.7s
PMR Palmer 80.27 24 P **P 03 01 22.9 +0.7**
baz=237,SNR=6.7
PMR Palmer 80.27 24 P **P 03 01 21.8 -0.5**
PMR pmax pmax
comp=Z,10.0nm,0.7s
CUT Chulitna 80.27 23 P **P 03 01 23.3 +1.0**
baz=236
CHUM Lake Minchumin 80.36 21 P **P 03 01 24.6 +1.8**
baz=234,SNR=12
KNK Knik Glacier 80.44 24 P **P 03 01 25.0 +1.7**
baz=238
KTH Kantishna Hill 80.67 22 P **P 03 01 23.1 -1.4**
KTH IAmb IAmb 03 01 26.6
comp=Z,9.9nm,0.8s
SML Sawmill 80.70 24 P **P 03 01 23.7 -1.0**
SML IAmb IAmb 03 01 27.9
comp=Z,23nm,0.7s
SML Sawmill 80.70 24 P **P 03 01 26.2 +1.4**
baz=238,SNR=12
TRF Thorofare Moun 80.85 22 P **P 03 01 26.5 +0.9**
baz=236,SNR=12
M23K Glacier View 80.94 24 P **P 03 01 27.4 +1.5**
baz=238
BPAW Bear Paw Mtn. 80.96 21 P **P 03 01 26.2 +0.1**
BPAW Bear Paw Mtn. 80.96 21 P **P 03 01 27.5 +1.4**
baz=235
SCM Sheep Creek Mo 81.12 24 P **P 03 01 28.5 +1.5**
baz=239
EYAK Cordova Ski Ar 81.13 26 P **P 03 01 28.5 +1.6**
baz=240
WAT1 Susitna Watana 81.17 23 P **P 03 01 28.4 +1.2**
baz=238
I21K Tanana 81.24 20 P **P 03 01 29.2 +1.7**
baz=234
H21K Melozitna Rive 81.25 19 P **P 03 01 29.2 +1.7**
baz=233
WAT6 Susitna Watana 81.35 23 P **P 03 01 28.8 +0.5**
baz=238,SNR=6.9
RND Reindeer 81.36 22 P **P 03 01 27.1 -1.2**
RND IAmb IAmb 03 01 30.9
comp=Z,8.3nm,0.7s
RND Reindeer 81.36 22 P **P 03 01 27.1 -1.2**
RND pmax pmax
comp=Z,8.0nm,0.7s
MCK McKinley 81.51 22 P **P 03 01 30.0 +1.0**

baz=237,SNR=18
KLU Klutina 81.53 25 P **P 03 01 30.0 +0.8**
KLU IAmb IAmb 03 01 44.9
comp=Z,13nm,1.0s
KLU Klutina 81.53 25 P **P 03 01 31.0 +1.8**
baz=240,SNR=6.2
G21K Allakaket 81.54 19 P **P 03 01 30.9 +1.8**
baz=232
MLY Manley 81.58 21 IAmb IAmb 03 01 32.2
comp=Z,10.0nm,0.7s
MLY Manley 81.58 21 P **P 03 01 31.1 +1.7**
baz=235,SNR=13
M24K Tolsona, Glenn 81.73 24 P **P 03 01 31.8 +1.6**
baz=240,SNR=5.2
DHY Denali Highway 81.75 23 P **P 03 01 31.7 +1.3**
baz=239,SNR=10
BMRM Bremner River 81.83 26 P **P 03 01 32.2 +1.5**
baz=241
H22K Ishtalitna Cre 81.87 20 P **P 03 01 32.1 +1.3**
baz=234
NEA2 Nenana 81.93 21 IAmb IAmb 03 01 33.2
comp=Z,9.6nm,0.7s
NEA2 Nenana 81.93 21 P **P 03 01 32.3 +1.2**
baz=237,SNR=13
F21K Alatna River 81.98 18 P **P 03 01 33.1 +1.7**
baz=232
I23K Minto, Yukon-K 82.13 21 P **P 03 01 33.7 +1.6**
baz=236,SNR=5.9
N25K Chitina, Valde 82.14 25 P **P 03 01 34.1 +1.8**
baz=241
WRH Wood River Hil 82.22 22 P **P 03 01 32.6 0.0**
HARP HAARP 82.29 24 P **P 03 01 34.8 +1.8**
baz=241
GLB Gilahina Butte 82.39 25 P **P 03 01 32.9 -0.8**
GLB IAmb IAmb 03 01 49.9
comp=Z,18nm,1.1s
G22K Bettles 82.42 19 P **P 03 01 35.3 +1.7**
baz=234,SNR=7.3
VRDI Verde Repeater 82.44 26 P **P 03 01 33.9 -0.3**
PAX Paxson 82.45 24 P **P 03 01 33.6 -0.4**
PAX Paxson 82.45 24 P **P 03 01 35.2 +1.2**
baz=240
PAX Paxson 82.45 24 P **P 03 01 33.6 -0.4**
PAX pmax pmax
comp=Z,6.0nm,1.2s
H23K Yukon River 82.45 20 P **P 03 01 35.7 +1.8**
baz=236
MK31 Makanchi Array 82.47 319 P **P 03 01 34.4 0.0**
MK31 Makanchi Array 82.47 319 ⇓*e*P **P 03 01 34.5 +0.1**
MKAR Makanchi Array 82.47 319 P **P 03 01 33.8 -0.6**
comp=Z,1.4nm,0.6s,baz=100,slow=6.2,SNR=16
MKAR LR LR 03 38 24.9
comp=Z,63nm,19.9s,baz=72,slow=36
comp=Z,1.4nm,0.6s
MKAR Makanchi Array 82.47 319 P **P 03 01 33.7 -0.7**
MKAR Makanchi Array 82.47 319 *ce*P **P 03 01 37.0 +2.6**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
TCOL CIGO, UAF Yank 82.52 21 IAmb IAmb 03 01 36.5
comp=Z,20nm,0.7s
TCOL CIGO, UAF Yank 82.52 21 P **P 03 01 35.6 +1.4**
baz=238
COLA College 82.52 21 P **P 03 01 34.2 +0.1**
COLA IAmb IAmb 03 01 36.5
comp=Z,20nm,0.7s
COLA College 82.52 21 P **P 03 01 35.5 +1.3**
baz=238
COLA College 82.52 21 ⇑*e*P **P 03 01 33.6 -0.6**
COLA pmax pmax
comp=Z,11nm,0.8s
F22K John River 82.56 18 P **P 03 01 36.2 +1.8**
baz=234
HDA Harding Lake 82.61 22 IAmb IAmb 03 02 23.4
comp=Z,24nm,1.7s
HDA Harding Lake 82.61 22 P **P 03 01 35.8 +1.1**
baz=239,SNR=5.1
MAKZ Makanchi 82.68 319 P **P 03 01 34.1 -1.4**
MAKZ Makanchi 82.68 319 P **P 03 01 34.1 -1.4**
MAKZ pmax pmax
comp=Z,13nm,1.2s
MCARA McCarthy VSAT 82.70 26 P **P 03 01 37.3 +2.1**
baz=243
K24K Donnelly Dome 82.74 23 P **P 03 01 37.0 +1.5**
baz=240
G23K Bananza Creek 82.78 19 P **P 03 01 37.4 +1.8**
baz=236
POKR Poker Plat Res 82.80 21 P **P 03 01 36.5 +0.8**
baz=238
IL31 82.82 22 P **P 03 01 34.2 -1.5**
ILAR Eielson Array 82.82 22 P **P 03 01 33.1 -2.7**
comp=Z,5.3nm,0.7s,baz=247,slow=4.5,SNR=46
ILAR LR LR 03 36 51.5
comp=Z,252nm,19.1s,baz=232,slow=34
comp=Z,5.3nm,0.7s
ILAR Eielson Array 82.82 22 P **P 03 01 35.0 -0.8**
ILAR Eielson Array 82.82 22 P **P 03 01 35.0 -0.8**
COLD Coldfoot 83.02 19 P **P 03 01 38.7 +2.0**
baz=236,SNR=5.5
H24K Noodor Dome 83.03 21 P **P 03 01 38.4 +1.6**
baz=238,SNR=5.5
RIDG Independent Ri 83.07 23 P **P 03 01 38.8 +1.6**
baz=241
BARN Barnard Glacie 83.14 26 P **P 03 01 37.9 +0.1**
BARN IAmb IAmb 03 01 54.2
comp=Z,14nm,1.2s
M26K Nabesna, AK 83.18 25 P **P 03 01 39.5 +1.8**
baz=243
ZAA0 Zalesovo Array 83.23 326 P **P 03 01 37.4 -0.7**
ZALV Zalesovo Beam 83.23 326 P **P 03 01 36.1 -2.0**
comp=Z,1.6nm,0.5s,baz=102,slow=6.2,SNR=8.8
ZALV LR LR 03 38 31.0
comp=Z,59nm,21.0s,baz=92,slow=36
comp=Z,1.6nm,0.5s
ZALV Zalesovo Beam 83.23 326 P **P 03 01 36.9 -1.2**
ZALV Zalesovo Beam 83.23 326 *i*P **P 03 01 38.0 -0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
J25K Salcha River, 83.30 22 IAmb IAmb 03 01 41.1
comp=Z,13nm,0.7s
J25K Salcha River, 83.30 22 P **P 03 01 39.5 +1.1**
baz=240
L26K Log Cabin Wild 83.32 24 P **P 03 01 38.0 -0.4**
L26K Log Cabin Wild 83.32 24 P **P 03 01 40.0 +1.6**
baz=242,SNR=7.1
PINM Pinnacle 83.36 27 P **P 03 01 40.3 +1.6**
baz=245
SCRK Sand Creek 83.52 23 P **P 03 01 41.1 +1.6**
baz=242,SNR=7.4
M27K Edge Creek, AK 83.62 25 P **P 03 01 40.0 -0.2**
M27K IAmb IAmb 03 01 44.0
comp=Z,12nm,0.8s
M27K Edge Creek, AK 83.62 25 P **P 03 01 42.2 +2.1**
baz=244
G24K Hadweenzic Riv 83.63 20 P **P 03 01 41.9 +2.1**
baz=238
O28M Mount Upton 83.67 27 P **P 03 01 42.5 +1.9**
baz=245
E23K Chandalar 83.68 18 P **P 03 01 42.3 +2.1**
baz=236
QSPA South Pole Qui 83.78 180 LR LR 03 33 51.1
comp=Z,95nm,21.7s,baz=152,slow=32
QSPA South Pole Qui 83.78 180 P **P 03 01 40.4 -0.5**
D23K Nanushuk River 83.87 17 P **P 03 01 43.5 +2.4**
baz=235
F24K Squaw Lake 83.93 19 P **P 03 01 43.8 +2.4**
baz=238,SNR=15
J26L Joseph Creek 83.93 23 P **P 03 01 40.7 -0.9**
J26L Joseph Creek 83.93 23 P **P 03 01 43.2 +1.7**
baz=242
L27K Beaver Creek, 83.96 24 P **P 03 01 41.5 -0.2**
L27K IAmb IAmb 03 02 08.0
comp=Z,25nm,1.9s
L27K Beaver Creek, 83.96 24 P **P 03 01 43.7 +2.0**
baz=244
YUK3 Moose Creek 83.97 26 P **P 03 01 43.1 +1.1**
baz=245
BCAR Beaver Creek A 83.98 24 P **P 03 01 41.8 -0.1**
YUK8 Steele Glacier 84.07 26 P **P 03 01 44.3 +1.7**
baz=246
BVCY Beaver Creek 84.07 25 P **P 03 01 44.2 +1.9**
baz=245
G25K Bearman Lake 84.13 20 P **P 03 01 44.0 +1.6**
baz=239
O29M Mount Kennedy 84.21 27 P **P 03 01 44.2 +1.0**
baz=247
FYU Fort Yukon 84.33 20 P **P 03 01 43.9 +0.5**
FYU IAmb IAmb 03 02 31.9

comp=Z,24nm,1.7s
D24K Happy Valley 84.53 17 P P 03 01 45.9 +1.5
baz=237
YUK6 Outpost Mounta 84.56 27 P P 03 01 46.6 +1.6
baz=247
YUK4 Talbot Arm 84.59 26 P P 03 01 47.0 +1.9
baz=247
F25K Christian Rive 84.70 19 P P 03 01 47.1 +1.7
baz=240
C24K Franklin Bluff 84.88 17 P P 03 01 47.6 +1.4
baz=237,SNR=8.7
P30M Million Dollar 84.88 28 P P 03 01 48.0 +1.5
baz=248
HYT Haines Junctio 84.90 27 P P 03 01 48.4 +1.8
baz=248
PLBC Pleasant Camp 84.92 29 P P 03 01 48.4 +1.8
baz=249
MAW Mawson 84.94 203 P P 03 01 46.0 -0.5
comp=Z,8.7nm,0.6s,baz=84,slow=5.8,SNR=14
comp=Z,8.7nm,0.6s
MAW Mawson 84.94 203 P P 03 01 47.4 +0.9
baz=85,SNR=7.8
MAW Mawson 84.94 203 P P 03 01 45.9 -0.6
MAW Mawson 84.94 203 P P 03 01 45.9 -0.6
MAW pmax pmax
comp=Z,2.0nm,0.7s
EGAK Eagle 84.98 23 P P 03 01 48.5 +1.8
baz=244
E25K Arctic Village 85.00 19 P P 03 01 48.6 +1.8
baz=240
G26K Porcupine Rive 85.02 20 P P 03 01 48.7 +1.8
baz=242
M29M Somme Creek 85.10 25 P P 03 01 49.4 +1.9
baz=247
KSH Kashi 85.11 310 P P 03 01 51.3 +3.2
KSH pP pP 03 02 06.3 +2.2
KSH pmax pmax
comp=Z,4.0nm,0.7s
I27K Kandik River 85.17 22 P P 03 01 49.2 +1.4
baz=244
F26K Sheenjek River 85.25 20 P P 03 01 49.6 +1.5
baz=241,SNR=5.2
D25K Kavik River 85.36 18 P P 03 01 49.8 +1.2
baz=239
DAWY Dawson 85.37 24 P P 03 01 49.5 +0.7
baz=246
H27K Steamboat Moun 85.48 21 P P 03 01 51.6 +2.3
baz=244
L29M L29M 85.51 25 P P 03 01 51.2 +1.7
baz=247
G27K Doyon Strip 85.70 21 P P 03 01 51.8 +1.5
baz=244
M30M Minto, Yukon 85.87 26 P P 03 01 52.8 +1.5
baz=248
KURK Kurchatov 85.89 322 P P 03 01 51.5 -0.1
KURK Kurchatov 85.89 322 *ce*P P 03 01 52.3 +0.7
KURK pmax pmax
comp=Z,2.0nm,1.0s
N31M Braeburn, Yuko 85.92 27 P P 03 01 52.9 +1.3
baz=249
KURBB Kurchatov Arra 85.92 322 P P 03 01 50.1 -1.7
comp=Z,0.9nm,0.3s,baz=96,slow=4.1,SNR=12
comp=Z,0.9nm,0.3s
J29M Klondike Camp 86.00 24 P P 03 01 54.2 +2.3
baz=247
K29M Barlow Dome 86.04 24 P P 03 01 54.0 +1.7
baz=248
C26K Camden Bay 86.10 18 P P 03 01 54.7 +2.5
baz=240
I29M Ogilvie Camp, 86.32 23 P P 03 01 53.0 -0.5
I29M IAmb IAmb 03 01 56.7
comp=Z,7.5nm,0.8s
I29M Ogilvie Camp, 86.32 23 P P 03 01 55.7 +2.2
baz=247
C27K Jago River 86.32 18 P P 03 01 55.9 +2.6
baz=241,SNR=13
E27K Coleen River 86.33 20 P P 03 01 55.9 +2.4
baz=244
MAYO Mayo, Yukon 86.62 25 P P 03 01 58.0 +3.1
baz=249
M31M Drury Creek, Y 86.78 26 P P 03 01 57.2 +1.4
baz=250
AAK Ala-Archa 86.83 313 P P 03 01 54.4 -2.2
comp=Z,0.3nm,0.3s,baz=319,slow=18,SNR=1.2
AAK LR LR 03 41 03.0
comp=Z,66nm,21.9s,baz=72,slow=36
comp=Z,0.3nm,0.3s
AAK Ala-Archa 86.83 313 *eP* P 03 01 58.0 +1.3
AAK pmax pmax
comp=Z,3.0nm,1.6s
P33M Teslin, Yukon 86.86 29 P P 03 01 58.2 +1.9
baz=252
S34M Telegraph Cree 87.01 31 P P 03 01 58.2 +1.3
baz=254
N32M Quiet Lake 87.03 28 P P 03 01 58.3 +1.3
baz=252
BBB Bella Bella 87.19 37 LR LR 03 33 35.7
comp=Z,114nm,20.8s,baz=298,slow=30
FARO Faro, Yukon 87.25 27 P P 03 01 59.8 +1.8
baz=251
EPYK Eagle Plains 87.31 22 IAmb IAmb 03 02 01.7
comp=Z,16nm,0.7s
EPYK Eagle Plains 87.31 22 P P 03 01 59.7 +1.4
baz=248
R33M Jennings River 87.51 30 P P 03 01 59.7 +0.2
baz=254
DLBC Dease Lake 87.72 31 LR LR 03 33 34.9
comp=Z,115nm,21.7s,baz=276,slow=30
DLBC Dease Lake 87.72 31 P P 03 02 00.6 +0.2
baz=254
G30M tAoh Zraii Nji 87.73 22 P P 03 02 00.4 +0.1
baz=249
NRIK Noril'sk 87.82 341 P P 03 01 57.4 -3.2
comp=Z,1.3nm,0.3s,baz=146,slow=4.5,SNR=2.1
NRIK LR LR 03 42 02.6
comp=Z,81nm,20.2s,baz=100,slow=36
comp=Z,1.3nm,0.3s
NRIK Noril'sk 87.82 341 *eP* P 03 02 02.1 +1.5
NRIK pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 88.73 48 LR LR 03 36 36.1
comp=Z,309nm,19.4s,baz=269,slow=32
F31M Tsiigehtchic 88.79 22 P P 03 02 06.5 +1.3
baz=251
INK Inuvik 89.15 21 LR LR 03 40 20.1
comp=Z,220nm,20.0s,baz=238,slow=34
INK Inuvik 89.15 21 P P 03 02 06.6 -0.2
INK Inuvik 89.15 21 P P 03 02 08.2 +1.3
baz=251
INK Inuvik 89.15 21 P P 03 02 06.6 -0.2
INK pmax pmax
comp=Z,5.0nm,1.1s
ISA Isabella, Lake 91.17 54 P P 03 02 17.0 -0.1
baz=263
BVAR Borovoye Array 91.35 323 P P 03 02 14.8 -2.7
comp=Z,2.6nm,0.6s,baz=87,slow=9.2,SNR=6.9
BVAR LR LR 03 42 30.0
comp=Z,84nm,21.8s,baz=88,slow=35
comp=Z,2.6nm,0.6s
BRVK Borovoye 91.42 323 P P 03 02 16.7 -1.0
BRVK Borovoye 91.42 323 ⇓*eP* P 03 02 19.4 +1.6
BRVK pmax pmax
comp=Z,2.0nm,0.7s
EDW2 Edwards Air Fo 91.47 55 P P 03 02 18.6 +0.1
baz=264
NVAR Mina Array Bea 91.63 52 P P 03 02 17.6 -1.8
comp=Z,2.9nm,0.8s,baz=258,slow=6.4,SNR=12
comp=Z,2.9nm,0.8s
NVAR Mina Array Bea 91.63 52 P P 03 02 18.3 -1.1
BFSC Mount Baldy Ra 91.68 56 P P 03 02 19.5 -0.2
baz=264
NV11 Mina Array Sit 91.74 52 P P 03 02 18.7 -1.2
NV11 IAmb IAmb 03 02 24.6
comp=Z,8.9nm,0.8s
MURC Murrieta 91.99 57 P P 03 02 21.2 +0.3
baz=264
109C Camp Elliot, M 91.99 57 P P 03 02 21.5 +0.6
baz=264
MPMC Manual Prospec 92.01 54 P P 03 02 21.5 +0.2
baz=264
GSC Goldstone, Bar 92.49 55 P P 03 02 23.3 0.0
baz=264
FURC Furnace Creek, 92.56 54 P P 03 02 24.4 +1.0
baz=264
MONP2 Monument Peak 92.56 57 P P 03 02 24.2 +0.4
baz=264
PFO Pinyon Flats O 92.61 57 LR LR 03 40 34.1
comp=Z,172nm,18.0s,baz=258,slow=33

PFO Pinyon Flats O 92.61 57 ⇑*eP* P 03 02 24.1 +0.2
PFO pmax pmax
comp=Z,7.0nm,0.9s
TPFO Pinon Flats 92.61 57 P P 03 02 24.2 +0.3
baz=264
PMD Palm Desert 92.68 57 P P 03 02 23.6 -0.5
PMD IAmb IAmb 03 02 25.5
comp=Z,4.7nm,0.8s
RPN Rapa Nui 92.69 117 LR LR 03 35 55.4
comp=Z,74nm,21.8s,baz=269,slow=30
C36M Paulatuk 92.74 21 P P 03 02 24.8 +1.3
baz=260
WCT Wildcat Mounta 92.78 53 P P 03 02 24.1 -0.5
WCT IAmb IAmb 03 03 59.6
comp=Z,22nm,2.0s
HEC Hector,Ludlow 92.83 55 P P 03 02 25.5 +0.7
baz=264
A36M Sachs Harbour 92.84 18 IAmb IAmb 03 02 26.5
comp=Z,4.7nm,0.7s
A36M Sachs Harbour 92.84 18 P P 03 02 25.4 +1.5
baz=259
BELC Belle Mtn. Jos 93.02 56 P P 03 02 26.4 +0.6
baz=265
SWSC Sam W. Stewart 93.09 57 P P 03 02 26.6 +0.7
baz=265
GMRC Granite Mounta 93.38 56 P P 03 02 27.5 0.0
baz=265
BC3 Big Chuckawall 93.44 57 P P 03 02 28.0 +0.3
baz=265
NEW Newport 93.51 42 LR LR 03 38 17.6
comp=Z,402nm,20.3s,baz=272,slow=32
IRM Iron Mountain 93.74 56 P P 03 02 29.3 +0.2
baz=265
R11A Troy Canyon, C 93.75 52 P P 03 02 29.4 +0.3
baz=265
GLA Glamis 93.92 57 P P 03 02 29.9 +0.1
baz=265
ELK Elko 94.21 50 LR LR 03 37 21.9
comp=Z,128nm,21.4s,baz=265,slow=31
SPR3 Spring Creek 3 94.78 51 P P 03 02 32.5 -1.5
SPR3 IAmb IAmb 03 02 50.7
comp=Z,11nm,1.4s
HLID Hailey 95.02 47 P P 03 02 35.1 +0.2
baz=266
ELIB Princess Elisa 95.86 194 *d*P P 03 02 38.0 0.0
comp=Z,5.9nm,1.1s
YKA Yellowknife Ar 95.87 28 P P 03 02 36.1 -1.9
comp=Z,1.0nm,0.7s,baz=268,slow=4.9,SNR=19
YKA PKKPbc **PKKPbc** 03 19 26.0 -3.5
comp=Z,0.5nm,0.5s,baz=84,slow=2.7,SNR=12
comp=Z,1.0nm,0.7s
BOZ Bozeman (W) 97.10 45 P P 03 02 43.8 -0.5
baz=268
TMUT Trail Mountain 97.22 51 P P 03 02 43.9 -1.2
LPIG La Paz 97.24 67 LR LR 03 39 28.1
comp=Z,216nm,20.3s,baz=285,slow=31
ARU Arti 98.40 326 LR LR 03 48 01.7
comp=Z,78nm,21.3s,baz=74,slow=36
PDAR Pinedale Array 98.54 48 P P 03 02 49.0 -2.0
comp=Z,0.8nm,0.6s,baz=228,slow=1.8,SNR=9.1
PDAR LR LR 03 41 11.2
comp=Z,114nm,20.5s,baz=273,slow=32
comp=Z,0.8nm,0.6s
GEYT Alibeck 98.79 307 LR LR 03 50 18.1
comp=Z,62nm,19.2s,baz=114,slow=37
AKASG Malin Array Be 116.59 324 PKKPbc PKKPbc 03 18 21.7 -3.3
comp=Z,0.5nm,0.6s,baz=263,slow=3.2,SNR=4.5
BOSA Boshof 120.11 232 PKP **PKPdf** 03 08 02.9 -0.4
comp=Z,2.0nm,0.9s,baz=118,slow=2.0,SNR=4.6
MCRA Macar, Loja 124.65 100 **PKPdf** 03 08 09.3 -2.9
GERES GERESS Array B 126.11 329 PKP **PKPdf** 03 08 13.0 -1.1
comp=Z,0.4nm,0.6s,baz=78,slow=2.3,SNR=2.4
GERES GERESS Array B 126.11 329 PKIKP **PKPdf** 03 08 13.0 -1.1
MNMC Minye Minye 129.82 121 **PKPdf** 03 08 20.3 -2.0
ROSC El Rosal 131.42 89 PKP **PKPdf** 03 08 22.8 -2.8
comp=Z,1.1nm,0.5s,baz=102,slow=20,SNR=2.7
MACA Manacapuru-AM 143.68 104 PKPdf PKPab 03 08 44.0 -0.3
BDFB Brasilia 148.90 134 PKPbc **PKPdf** 03 08 56.6 +0.1
comp=Z,6.0nm,0.6s,baz=3.7,slow=1.0,SNR=13
TORD Torodi Ar. Bea 152.32 286 PKPbc **PKPbc** 03 09 06.3 -2.2
comp=Z,3.1nm,0.7s,baz=25,slow=1.8,SNR=19

*IDC **11** 03:16:44.8±2.5,6.°08S×154.°44E,h85km±19km, mb3.3/6, mbtmp3.9/9,MS3.5/3,Error ellipse: s-maj=23.5km s-min=15.8km az=82.0*

ISC 11 03:16:41.5±0.9,6.°09S±0.°09×154.°7E±0.°1,h61km,n14, σ1s24/15,mb3.4/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.16**	**304**	P	**Pn**	**03 17 30.0**	**+1.2**
	102nm,0.6s,baz=262,slow=2.8,SNR=7.5						
KRVT				S	**Sn**	**03 18 05.6**	**+0.3**
	275nm,0.8s,baz=179,slow=15,SNR=2.0						
KRVT				LR	LR	03 19 01.7	
	comp=Z,437nm,20.6s,baz=273,slow=46						
HNR	**Honiara**	**6.21**	**123**	LR	LR	03 20 60.0	
	comp=Z,2μm,18.5s,baz=210,slow=40						
PMG	**Port Moresby**	**8.12**	**246**	P	**Pn**	**03 18 38.2**	**+1.3**
	87nm,0.7s,baz=56,slow=10,SNR=22						
PMG				S	**Sn**	**03 20 07.5**	**+0.2**
	15nm,0.5s,baz=308,slow=22,SNR=2.2						
PMG				LR	LR	03 21 21.0	
	comp=Z,184nm,21.8s,baz=308,slow=35						
DZM	**Mont Dzumac**	**19.56**	**146**	P	**Pn**	**03 21 07.5**	**+1.2**
	5.8nm,0.5s,baz=347,slow=12,SNR=18						
WRA	**Warramunga Arr**	**24.07**	**233**	P	**P**	**03 21 51.4**	**0.0**
	3.6nm,1.1s,baz=58,slow=10,SNR=16						
WRA				PcP	**PcP**	**03 25 32.2**	**+0.4**
	0.1nm,0.4s,baz=40,slow=1.4,SNR=1.7						
	3.6nm,1.1s						
ASAR	**Alice Springs**	**26.53**	**227**	P	**P**	**03 22 12.8**	**-0.9**
	1.0nm,0.5s,baz=58,slow=8.8,SNR=22						
ASAR				PcP	**PcP**	**03 25 38.1**	**+0.8**
	0.3nm,0.7s,baz=66,slow=2.7,SNR=2.6						
ASAR				ScP	**ScP**	**03 29 10.1**	**-2.1**
	0.3nm,0.8s,baz=53,slow=3.6,SNR=1.9						
	1.0nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.16**	**26**	T	T	03 50 56.9	
	baz=208,slow=73,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**27.16**	**26**	T	T	03 50 55.1	
	baz=208,slow=73,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**27.17**	**26**	T	T	03 50 53.1	
	baz=208,slow=73,SNR=5.4						
STKA	**Stephens Creek**	**28.42**	**204**	P	**P**	**03 22 29.7**	**-0.8**
	0.5nm,0.5s,baz=29,slow=10,SNR=1.3						
	0.5nm,0.5s						
SONM	**Songino Array**	**68.39**	**327**	P	**P**	**03 27 35.6**	**-1.3**
	0.3nm,0.6s,baz=112,slow=6.4,SNR=2.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**82.50**	**319**	P	**P**	**03 28 56.1**	**-1.6**
	0.2nm,0.7s,baz=142,slow=4.9,SNR=1.8						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**82.66**	**22**	P	**P**	**03 28 59.8**	**+1.7**
	0.3nm,0.7s,baz=259,slow=5.5,SNR=5.0						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.45**	**287**	PKPbc	**PKPbc**	**03 36 32.0**	**0.0**
	0.7nm,1.1s,baz=255,slow=0.8,SNR=1.4						

IDC 11 03:16:58.1±27.0,22.°57S×178.°43E,h700km±247km, mb3.0/3,mbtmp4.3/3,Error ellipse: s-maj=282.8km s-min=118.9km az=118.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.04**	**269**	P	P	03 22 16.6	+0.6
	2.9nm,0.4s,baz=99,slow=10,SNR=7.2						
	2.9nm,0.4s						
ASAR	**Alice Springs**	**40.84**	**259**	P	P	03 23 43.0	-0.9
	1.5nm,0.7s,baz=100,slow=7.3,SNR=7.3						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**41.07**	**265**	P	P	03 23 45.6	-0.1
	2.1nm,0.4s,baz=96,slow=8.3,SNR=41						
WRA				PcP	PcP	03 25 26.7	-0.5
	0.3nm,0.7s,baz=99,slow=3.2,SNR=2.5						
	2.1nm,0.4s						
AKASG	**Malin Array Be**	**143.08**	**327**	PKP	PKPbc	03 35 13.4	-0.2
	0.4nm,0.3s,baz=45,slow=4.4,SNR=6.9						
BRTR	**Keskin Array B**	**145.63**	**308**	PKPbc	PKPbc	03 35 22.1	+0.2
	0.2nm,0.4s,baz=137,slow=5.4,SNR=1.3						

*IDC **11** 03:34:33.5±0.9,6.°72N×72.°90W,h165km±15km, mb3.3/1, mbtmp4.0/3,MS3.4/2,Error ellipse: s-maj=66.7km s-min=8.1km az=132.0*

*RSNC **11** 03:34:34.8±0.8,6.°81N×73.°15W,h149km±3km, ML3.4*

ISC 11 03:34:33.0±1.0,6.°84N±0.°03×73.°11W±0.°04,h158km±7km, n36,σ1s65/64,2C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**197**	⇓*iP*	**Pn**	**03 34 54.9**	**+0.1**
BARC				*eS*	**Sn**	**03 35 10.1**	**-1.3**
BARC				*i*		03 35 11.0	
	comp=Z,953nm,0.4s						
PAMC	**Pamplona, Colo**	**0.64**	**39**	⇑*iP*	**Pn**	**03 34 57.7**	**+1.1**
PAMC				*eS*	**Sn**	**03 35 14.8**	**+0.1**
PAMC				*i*		03 35 17.1	
	comp=Z,497nm,0.5s						
BRRC	**Barranca, Sant**	**0.66**	**294**	⇑*iP*	**Pn**	**03 34 56.7**	**+0.5**
BRRC				*eS*	**Sn**	**03 35 13.7**	**-0.1**
BRRC				*i*		03 35 17.0	
	comp=Z,374nm,0.3s						
RUSC	**La Rusia**	**0.94**	**179**	⇓*iP*	**Pn**	**03 34 58.8**	**0.0**
RUSC				*eS*	**Sn**	**03 35 17.6**	**-0.8**
RUSC				*i*		03 35 18.6	
	comp=Z,279nm,0.2s						
TAMC	**Tame, Arauca**	**1.37**	**107**	⇓*iP*	**Pn**	**03 35 03.4**	**+1.4**
TAMC				*i*		03 35 24.2	
	comp=Z,200nm,0.4s						
TAMC				*eS*	**Sn**	**03 35 24.4**	**+0.3**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	*eP*	**Pn**	**03 35 01.3**	**-0.7**
PTBC				*eS*	**Sn**	**03 35 22.6**	**-1.6**
PTBC				*i*		03 35 29.0	
	comp=Z,294nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*eP*	**Pn**	**03 35 07.4**	**+0.4**
ZARC				*eS*	**Sn**	**03 35 32.8**	**-0.4**
ZARC				*i*		03 35 38.1	
	comp=Z,408nm,0.3s						
CHIC	**Chingaza**	**2.29**	**196**	*eP*	**Pn**	**03 35 12.9**	**+0.5**
CHIC				*eS*	**Sn**	**03 35 42.1**	**-0.7**
CHIC				*i*		03 35 46.0	
	comp=Z,256nm,0.6s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**03 35 15.0**	**+2.1**
	comp=Z,108nm,0.3s,baz=86,slow=14,SNR=94						
ROSC				S	**Sn**	**03 35 45.2**	**+1.5**
	comp=Z,276nm,0.4s,baz=66,slow=17,SNR=8.2						
ROSC	**El Rosal**	**2.33**	**211**	*eP*	**Pn**	**03 35 14.7**	**+1.8**
ROSC				*eS*	**Sn**	**03 35 43.7**	**0.0**
UREC	**San Jos de Ur**	**2.57**	**291**	*eP*	**Pn**	**03 35 14.5**	**-1.0**
UREC				*eS*	**Sn**	**03 35 45.3**	**-3.0**
UREC				*i*		03 35 58.7	
	comp=Z,173nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.72**	**351**	*eP*	**Pn**	**03 35 19.8**	**+2.5**
LL1C				*eS*	**Sn**	**03 35 55.1**	**+3.5**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*eP*	**Pn**	**03 35 18.9**	**+0.6**
GUY2C				*eS*	**Sn**	**03 35 55.5**	**+2.3**
GUY2C				*i*		03 36 01.2	
	comp=Z,202nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.80**	**160**	⇓*iP*	**Pn**	**03 35 18.0**	**-0.2**
PTGC				*eS*	**Sn**	**03 35 50.6**	**-2.7**
PTGC				*i*		03 35 54.2	
	comp=Z,145nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*eP*	**Pn**	**03 35 22.3**	**+0.8**
CBOC				*eS*	**Sn**	**03 35 59.7**	**+0.6**
CBOC				*i*		03 36 04.5	
	comp=Z,46nm,0.4s						
DBBC	**Dabeiba**	**3.09**	**273**	*eP*	**Pn**	**03 35 22.8**	**+0.9**
DBBC				*eS*	**Sn**	**03 35 58.1**	**-1.6**
DBBC				*i*		03 35 59.7	
	comp=Z,87nm,0.3s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**03 35 24.4**	**+1.2**
	comp=Z,83nm,0.3s,baz=183,slow=2.7,SNR=114						
SDV				S	**Sn**	**03 36 01.5**	**-0.6**
	comp=Z,64nm,0.5s,baz=109,slow=23,SNR=10.0						
ARGC	**Ariguani, Magd**	**3.20**	**339**	*eP*	**Pn**	**03 35 25.0**	**+1.7**
ARGC				*eS*	**Sn**	**03 36 04.5**	**+2.1**
ARGC				*i*		03 36 10.7	
	comp=Z,49nm,0.4s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	*eP*	**Pn**	**03 35 29.2**	**+0.6**
ORTC				*eS*	**Sn**	**03 36 12.6**	**+0.9**
ORTC				*i*		03 36 16.3	
	comp=Z,141nm,0.2s						
SJCC	**San Jacinto, C**	**3.66**	**326**	*eP*	**Pn**	**03 35 28.4**	**-0.8**
SJCC				*eS*	**Sn**	**03 36 10.1**	**-2.9**
SJCC				*i*		03 36 24.8	
	comp=Z,59nm,0.6s						
PLMC	**San Jos del P**	**3.70**	**239**	*eP*	**Pn**	**03 35 30.3**	**+0.5**
PLMC				*eS*	**Sn**	**03 36 11.7**	**-2.1**
PLMC				*i*		03 36 18.4	
	comp=Z,39nm,0.3s						
LCBC	**Los crdobas,**	**3.80**	**302**	*eS*	**Sn**	**03 36 17.7**	**+1.7**
LCBC				*i*		03 36 19.7	
	comp=Z,68nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*eP*	**Pn**	**03 35 35.1**	**-0.6**
CRJC				*eS*	**Sn**	**03 36 22.7**	**-1.8**
CRJC				*i*		03 36 30.1	
	comp=Z,96nm,0.4s						
YOTC	**Yotoco, Valle**	**4.30**	**229**	*eP*	**Pn**	**03 35 37.3**	**-0.2**
YOTC				*eS*	**Sn**	**03 36 27.4**	**-0.4**
SMRC	**Santa Marta, M**	**4.43**	**346**	*eP*	**Pn**	**03 35 40.3**	**+1.1**
SMRC				*eS*	**Sn**	**03 36 28.1**	**-2.7**
SMRC				*i*		03 36 30.4	
	comp=Z,40nm,0.3s						
PIZC	**Pizarro, Choco**	**4.62**	**246**	*eP*	**Pn**	**03 35 43.9**	**+2.2**
PIZC				*eS*	**Sn**	**03 36 35.2**	**0.0**
PTAC	**Punta Ardita,**	**4.68**	**274**	*eP*	**Pn**	**03 35 42.7**	**+0.3**
PTAC				*eS*	**Sn**	**03 36 34.4**	**-2.1**
PTAC				*i*		03 36 37.6	
	comp=Z,13nm,0.4s						
MACC	**Macarena, Meta**	**4.72**	**189**	*eS*	**Sn**	**03 36 34.1**	**-3.6**
MACC				*i*		03 36 39.8	
	comp=Z,33nm,0.3s						
URIC	**Uribia, Colomb**	**4.95**	**13**	*eP*	**Pn**	**03 35 45.2**	**-0.8**
URIC				*eS*	**Sn**	**03 36 40.6**	**-2.4**
URIC				*i*		03 36 48.0	
	comp=Z,15nm,0.5s						
GARC	**Garzon, Huila**	**5.20**	**207**	*eP*	**Pn**	**03 35 49.0**	**-0.5**
GARC				*eS*	**Sn**	**03 36 44.8**	**-4.5**
GARC				*i*		03 36 53.2	
	comp=Z,53nm,0.2s						
FLOC	**Florencia**	**5.81**	**206**	*eP*	**Pn**	**03 35 57.4**	**+0.1**
FLOC				*eS*	**Sn**	**03 37 02.6**	**-0.8**
FLOC				*i*		03 37 09.0	
	comp=Z,6.5nm,0.5s						
GCUF	**Volcan Galeras**	**7.00**	**217**	*eP*	**Pn**	**03 36 14.7**	**+1.1**
GCUF				*eS*	**Sn**	**03 37 30.4**	**-2.2**
LVC	**Limon Verde**	**29.56**	**172**	LR	LR	03 54 29.2	
	comp=Z,81nm,20.4s,baz=254,slow=41						
CPUP	**Villa Florida**	**36.36**	**156**	LR	LR	03 58 07.0	
	comp=Z,52nm,18.4s,baz=222,slow=39						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**03 44 45.4**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=132,slow=6.4,SNR=13						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**03 54 06.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=106,slow=3.0,SNR=4.7						

*DDA **11** 03:46:12.6±0.0,38.°63N×25.°88E,h7km±5km,ML2.2*
*ISK **11** 03:46:12.9,38.°68N×26.°06E,h11km,ML2.7/11*

ISC 11 03:46:13.1±1.3,38.°65N±0.°03×25.°92E±0.°06,h13km±10km, n17,σ0s48/26,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.28**	**157**	Pg	**Pg**	**03 46 19.4**	**+0.4**
CHOS				Sg	**Sb**	**03 46 24.0**	**-0.7**
SIGR	**SIGRI**	**0.56**	**355**	Pg	**Pg**	**03 46 24.2**	**+0.1**
SIGR				Sg	**Sb**	**03 46 32.2**	**-0.5**
URLA	**Izmir**	**0.61**	**118**	P	**Pb**	**03 46 25.4**	**-0.1**
URLA				S	**Sb**	**03 46 33.7**	**-0.2**
URLA				*i* AML	AML	03 46 37.0	
	comp=E,118nm,0.4s						
URLA				*i* AML	AML	03 46 38.0	
	comp=N,108nm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**0.62**	**131**	P	**Pb**	**03 46 25.2**	**-0.4**
ZEYE				S	**Sg**	**03 46 33.2**	**-0.1**
ZEYE				*i* AML	AML	03 46 34.0	
	comp=E,154nm,0.2s						
ZEYE				*i* AML	AML	03 46 38.0	
	comp=N,151nm,0.2s						
KOCA	**Canakkale, Ayv**	**0.87**	**11**	P	**Pg**	**03 46 29.4**	**-0.5**
KOCA				S	**Sn**	**03 46 43.4**	**-0.1**
KOCA				*i* AML	AML	03 46 44.0	
	comp=E,261nm,0.5s						
KOCA				*i* AML	AML	03 46 46.0	
	comp=N,210nm,1.3s						
AYVA	**Ayvalik**	**0.89**	**42**	P	**Pb**	**03 46 30.2**	**-0.2**
AYVA				S	**Sb**	**03 46 42.8**	**+0.6**
AYVA				*i* AML	AML	03 46 51.0	

comp=N,86nm,0.6s
AYVA *i* AML AML 03 46 54.0
comp=E,58nm,0.7s
DGB zmir 0.96 128 P **Pg** **03 46 31.4 -0.3**
DGB S **Sb** **03 46 44.6 +0.4**
DGB *i* AML AML 03 46 45.0
comp=E,46nm,0.5s
DGB *i* AML AML 03 46 51.0
comp=N,30nm,0.7s
BAYC CANAKKALE_Bayr 1.20 24 P **Pn** **03 46 35.0 -0.4**
BAYC S **Sn** **03 46 51.9 +0.4**
BAYC *i* AML AML 03 46 55.0
comp=E,44nm,0.7s
EZN Ezine 1.22 15 Pn **Pn** **03 46 35.5 -0.2**
EZN Sn **Sn** **03 46 51.9 -0.1**
GADA Gvkgeada 1.54 359 Pn **Pn** **03 46 40.5 +0.3**
APE Apeiranthos 1.61 191 Pn **Pb** **03 46 42.1 -0.5**
GELI Tayfur-Gelibol 1.80 14 Pn **Pn** **03 46 44.0 +0.3**
BODT Bodrum 1.93 145 Pn **Pn** **03 46 46.1 +0.5**
ERIK Erikli-Kesan 2.07 13 Pn **Pn** **03 46 47.8 +0.3**
ENEZ Enez 2.09 5 Pn **Pn** **03 46 48.7 +0.9**
ALN Alexandroupoli 2.25 2 Pn **Pn** **03 46 50.4 +0.5**
RDO Rodhopi 2.51 353 Pn **Pn** **03 46 54.4 +0.9**

IDC 11 03:53:07.5±1.4,5.43S×150.81E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=107.6km s-min=19.1km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.64**	**47**	Pn	Pn	03 53 37.4	-0.3
	81nm,0.3s,baz=272,slow=1.7,SNR=31						
KRVT				Sn	Sg	03 54 01.9	+1.6
	111nm,0.3s,baz=118,slow=19,SNR=13						
WRA	**Warramunga Arr**	**21.56**	**227**	P	P	03 57 59.6	+0.8
	0.7nm,0.8s,baz=54,slow=10,SNR=3.0						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**24.38**	**220**	P	P	03 58 27.8	+0.2
	0.7nm,0.8s,baz=50,slow=9.4,SNR=7.3						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.60**	**286**	PKPbc	PKPbc	04 12 56.2	-1.5
	0.4nm,0.8s,baz=27,slow=3.2,SNR=2.1						

IDC 11 04:09:54.5±2.2, 0.68N×125.39E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=198.4km s-min=29.6km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**157**	P	P	04 14 52.7	-1.0
	0.3nm,0.6s,baz=336,slow=11,SNR=2.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**25.58**	**162**	P	P	04 15 26.3	+0.8
	0.2nm,0.3s,baz=340,slow=8.0,SNR=2.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.32**	**327**	P	P	04 19 58.2	-0.1
	0.1nm,0.3s,baz=131,slow=7.1,SNR=2.0						
	0.1nm,0.3s						

JMA 11 04:12:18.7±0.3,36.3N±0.5×142.2E±°, h70km±4km, MV3.1/33, FAR E OFF IBARAKI PREF
IDC 11 04:12:31.6±1.1,34.61N×137.10E, h0km, mb3.5/5, mbtmp3.5/7, ML2.8/2, Error ellipse: s-maj=34.0km s-min=21.3km az=67.0
ISC 11 04:12:19.8±1.3, 36.35N±0.05×142.1E±0.1, h35km, n18, σ1s76/21, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.20**	**238**	*e*P	**Pn**	**04 12 39.8**	**-0.2**
CHOJ				*e*S	**Sn**	**04 12 55.6**	**+0.5**
JHYU	**Hitachinakayam**	**1.23**	**270**	*e*P	**Pn**	**04 12 40.5**	**+0.1**
JHYU				*e*S	**Sn**	**04 12 56.1**	**+0.3**
JHO	**Hitachi**	**1.27**	**282**	P	**Pn**	**04 12 40.9**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.29**	**306**	P	**Pn**	**04 12 41.2**	**-0.2**
JFK	**Kawauchi**	**1.42**	**316**	*e*P	**Pn**	**04 12 42.9**	**-0.2**
JMM	**Marumori**	**1.84**	**326**	P	**Pn**	**04 12 48.6**	**-0.3**
BSO1	**Boso 1**	**1.93**	**209**	*e*P	**Pn**	**04 12 49.5**	**-0.1**
BSO1				*e*S	**Sn**	**04 13 12.5**	**+0.3**
BSO3	**Boso 3**	**2.02**	**221**	*e*P	**Pn**	**04 12 51.1**	**0.0**
JAG	**Ashikaga**	**2.14**	**273**	P	**Pn**	**04 12 53.6**	**+0.6**
JRY	**Ryogami san**	**2.62**	**264**	P	**Pn**	**04 12 59.8**	**+0.2**
JOD2	**Odawara 2**	**2.68**	**247**	*e*P	**Pn**	**04 13 00.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.15**	**275**	Pn	**Pn**	**04 13 08.4**	**+1.5**
	0.8nm,0.3s,baz=109,slow=9.2,SNR=16						
	4.1nm,0.4s						
JHJ	**Hachijo jima 2**	**3.75**	**211**	Pn	**Pn**	**04 13 15.3**	**+0.2**
	15nm,0.3s,baz=74,slow=16,SNR=1.6						
JHJ				Sn	**Sn**	**04 13 54.0**	**-4.0**
	37nm,0.3s,baz=65,slow=23,SNR=2.3						
	73nm,0.5s						
SONM	**Songino Array**	**28.63**	**305**	P	**P**	**04 18 08.4**	**-4.6**
	0.3nm,0.4s,baz=102,slow=7.3,SNR=6.5						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**42.79**	**313**	P	**P**	**04 20 16.5**	**+2.7**
	0.4nm,0.3s,baz=98,slow=11,SNR=1.2						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**56.47**	**189**	P	**P**	**04 22 01.0**	**+2.8**
	0.4nm,1.0s,baz=3.6,slow=8.0,SNR=2.0						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**60.19**	**189**	P	**P**	**04 22 25.1**	**+0.9**
	0.2nm,0.6s,baz=6.3,slow=9.3,SNR=2.6						
	0.2nm,0.6s						
AKASG	**Malin Array Be**	**75.18**	**323**	P	P	04 24 10.2	+12
	0.3nm,0.5s,baz=44,slow=6.2,SNR=5.1						
	0.3nm,0.5s						

JMA 11 04:12:34.0±0.2, 35.5N±0.6×135.7E±0.7, h9km±1km, MV0.3/10, WESTERN FUKUI PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.22**	**69**	*e*P	Pg	04 12 38.7	+0.1
JWT	**Wachi**	**0.31**	**238**	*e*S	Sg	04 12 44.1	-0.3

NIED 11 04:54:05.8, 32.50N×129.22E, h4km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.70; $M_{\theta\theta}$1.63; $M_{\phi\phi}$-0.93; $M_{r\theta}$0.03; $M_{\theta\phi}$1.10; $M_{\phi r}$-0.37; Fault plane solution: $M_0$1.77000×10^{14} NP1:ϕ_s28.00000°, δ75.00000°, λ-161.00000°. NP2:ϕ_s292.00000°, δ71.00000°, λ-16.00000°.
JMA 11 04:54:05.8±0.1, 32.5N±0.3×129.2E±0.1, h4km±2km, MV3.5/32, SW OFF KYUSHU, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFU	**Fukue jima 2**	**0.43**	**292**	P	Pg	04 54 14.4	+0.4
JFU				S	Sg	04 54 20.2	+0.6
NGSJ	**Nagasakinomoza**	**0.50**	**74**	P	Pg	04 54 15.6	+0.1
NGSJ				S	Sg	04 54 22.6	+0.6
JHD	**Hondo**	**0.77**	**92**	P	Pg	04 54 21.0	+0.4
JHD				S	Sg	04 54 31.5	+0.9
JUR	**Ureshino**	**0.85**	**46**	P	Pg	04 54 22.2	+0.1
JUR				*e*S	Sg	04 54 30.4	+0.8
JSJ	**Shimokoshiki**	**0.92**	**153**	P	Pg	04 54 22.4	-1.0
JSJ				S	Sg	04 54 35.1	-0.2

IDC 11 05:23:32.5±12.0, 22.63S×176.66W, h282km±87km, mb3.2/4, mbtmp3.9/6, Error ellipse: s-maj=152.4km s-min=24.2km az=134.0
ISC 11 05:23:34.6±1.7, 22.4S±0.2×176.8W±0.2, h300km, n8, σ0s92/9, mb3.4/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.70**	**313**	P	**Pn**	**05 25 12.9**	**+0.4**
	18nm,0.6s,baz=226,slow=22,SNR=19						
DZM	**Mont Dzumac**	**15.50**	**268**	P	**Pn**	**05 26 58.4**	**-0.7**
	4.1nm,1.0s,baz=103,slow=18,SNR=2.6						
STKA	**Stephens Creek**	**38.00**	**247**	P	**P**	**05 30 25.2**	**+0.6**
	1.4nm,0.5s,baz=81,slow=8.8,SNR=3.5						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**45.19**	**258**	P	**P**	**05 31 22.9**	**+0.3**
	1.0nm,0.6s,baz=98,slow=7.9,SNR=18						
ASAR				PcP	**sP**	**05 32 58.6**	**+1.0**
	0.3nm,0.7s,baz=101,slow=4.8,SNR=1.8						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**45.46**	**264**	P	**P**	**05 31 23.4**	**-1.3**
	0.7nm,0.7s,baz=96,slow=7.9,SNR=12						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**89.92**	**12**	P	**P**	**05 35 59.8**	**+0.3**
	0.3nm,0.5s,baz=223,slow=5.1,SNR=7.1						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**145.21**	**331**	PKPbc	**PKPab**	**05 42 36.9**	**-0.3**
	1.4nm,0.5s,baz=38,slow=4.5,SNR=18						
BRTR	**Keskin Array B**	**148.92**	**311**	PKPbc	**PKiKP**	**05 42 47.7**	**-0.9**
	0.3nm,0.4s,baz=70,slow=1.0,SNR=3.6						

JMA 11 05:25:35.8±0.5, 44.82N×14.2E±°, h214km±4km, MV3.1/25, NW OFF SHAKOTAN PEN
IDC 11 05:25:36.3±1.0, 43.82N×139.95E, h209km±10km, mb3.3/10, mbtmp3.8/10, Error ellipse: s-maj=23.5km s-min=12.4km az=163.0
ISC 11 05:25:36.0±0.7, 43.83N±0.07×139.89E±0.07, h200km, n25, σ1s58/29, mb3.5/10, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHR	**Hokuryu**	**1.33**	**93**	*e*P	**Pn**	**05 26 09.9**	**+1.6**
JHST	**Hiyamasetana**	**1.41**	**180**	*e*S	**Sn**	**05 26 36.8**	**+2.5**
JEW	**Eniwo**	**1.51**	**130**	*e*P	**Pn**	**05 26 11.4**	**+1.6**
JEW				*e*S	**Sn**	**05 26 39.3**	**+3.4**
JSS	**Shosan**	**1.53**	**67**	*e*P	**Pn**	**05 26 11.8**	**+1.9**
JOSM	**Okushiri--Mats**	**1.77**	**190**	*e*P	**Pn**	**05 26 13.7**	**+1.4**
JRBN	**Rebuntou**	**1.80**	**27**	*e*P	**Pn**	**05 26 14.3**	**+1.8**
ASAJ	**Asahikawa**	**1.98**	**81**	P	**Pn**	**05 26 14.9**	**+0.6**
	69nm,0.3s,baz=256,slow=8.6,SNR=57						
ASAJ				S	**Sn**	**05 26 45.0**	**+1.0**
	13nm,0.7s,baz=252,slow=20,SNR=0.8						
JWK2	**Keihoku**	**2.07**	**43**	*e*P	**Pn**	**05 26 17.6**	**+2.5**
JKK2	**Kamakawa 2**	**2.07**	**88**	*e*P	**Pn**	**05 26 16.6**	**+1.3**
JKK2				*e*S	**Sn**	**05 26 48.2**	**+2.5**
JSE	**Soyaes**	**2.24**	**59**	*e*P	**Pn**	**05 26 18.8**	**+1.8**
JOMM	**Oshimamatsumae**	**2.30**	**178**	*e*P	**Pn**	**05 26 18.7**	**+0.9**
JNBK	**Urakawa-nobuka**	**2.61**	**125**	*e*P	**Pn**	**05 26 22.0**	**+0.9**
JAR	**Ashorobuto**	**2.87**	**99**	*e*P	**Pn**	**05 26 24.7**	**+0.5**
JAR				*e*S	**Sn**	**05 27 03.0**	**+1.3**
JTKR	**Abashiri--Toko**	**2.91**	**86**	*e*P	**Pn**	**05 26 25.4**	**+0.8**
JAK	**Akkeshi**	**3.60**	**102**	*e*S	**Sn**	**05 27 15.6**	**-1.7**
SONM	**Songino Array**	**23.57**	**292**	P	**P**	**05 30 27.4**	**-1.0**
	1.1nm,0.6s,baz=86,slow=8.4,SNR=6.9						
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**36.72**	**306**	P	**P**	**05 32 23.2**	**-0.5**
	1.3nm,0.6s,baz=80,slow=8.0,SNR=5.6						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**39.84**	**295**	P	**P**	**05 32 49.6**	**-0.2**
	0.6nm,0.6s,baz=86,slow=9.3,SNR=11						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**41.15**	**302**	P	**P**	**05 33 00.2**	**-0.3**
	0.9nm,0.4s,baz=76,slow=9.0,SNR=11						
	0.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.60**	**247**	P	**P**	**05 33 13.5**	**+0.9**
	0.6nm,0.3s,baz=37,slow=6.9,SNR=5.0						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**44.52**	**36**	P	**P**	**05 33 26.3**	**-1.0**
	0.9nm,0.7s,baz=283,slow=8.0,SNR=16						
	0.9nm,0.7s						
INK	**Inuvik**	**48.96**	**29**	P	**P**	**05 34 00.8**	**-0.7**
	3.6nm,0.4s,baz=286,slow=6.4,SNR=61						
	3.6nm,0.4s						
YKA	**Yellowknife Ar**	**58.58**	**32**	P	**P**	**05 35 10.4**	**-0.9**
	0.3nm,0.6s,baz=304,slow=6.5,SNR=9.7						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**63.66**	**186**	P	**P**	**05 35 44.1**	**-1.8**
	0.3nm,0.8s,baz=2.2,slow=7.1,SNR=2.1						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**73.75**	**46**	P	**P**	**05 36 48.1**	**-0.2**
	0.5nm,0.5s,baz=298,slow=1.9,SNR=6.7						
	0.5nm,0.5s						

SKHL 11 05:35:11.5±0.2, 44.00N×148.40E, h47km±5km, mb4.6/2
JMA 11 05:35:11.2±0.4, 44.4N±2.1×148.8E±°, h0km, MV3.9/16, SE OFF ETOROFU
ISC 11 05:35:13.4±3.3, 44.1N±0.1×148.2E±0.2, h70km, n13, σ0s77/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.17**	**350**	*e*P	Pn	05 35 33.1	-0.9
KUR				AMB	AMB	05 35 34.2	
	100nm,0.4s						
KUR				*e*S	**Sn**	**05 35 49.2**	**-0.1**
KUR				A	A	05 35 52.7	
	470nm,0.4s						
KUR				A	A	05 35 52.7	
	390nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.65**	**269**	*e*P	**Pn**	**05 35 39.7**	**-0.6**
YUK				AMB	AMB	05 35 40.4	
	400nm,0.3s						
YUK				*e*S	**Sn**	**05 36 01.0**	**+0.3**
YUK				A	A	05 36 04.2	
	430nm,0.4s						
YUK				A	A	05 36 04.2	
	950nm,0.4s						
NEM2	**Nemuro 2**	**1.89**	**248**	*e*P	**Pn**	**05 35 42.4**	**-1.1**
NEM2				*e*S	**Sn**	**05 36 04.9**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.90**	**249**	*e*P	**Pn**	**05 35 42.7**	**-0.9**
NMR				*e*S	**Sn**	**05 36 06.3**	**-0.3**
JRA	**Rausu**	**2.19**	**267**	*e*P	**Pn**	**05 35 48.1**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.30**	**263**	*e*P	**Pn**	**05 35 48.9**	**0.0**
JKHN	**Kushirohamanak**	**2.40**	**246**	*e*P	**Pn**	**05 35 50.1**	**-0.2**
JNK	**Nakash**	**2.54**	**260**	*e*P	**Pn**	**05 35 52.1**	**-0.1**
AKK	**Akkeshi**	**2.63**	**247**	*e*P	**Pn**	**05 35 54.0**	**+0.5**
JAR	**Ashorobuto**	**3.28**	**258**	*e*P	**Pn**	**05 36 02.8**	**+0.5**
JCH	**Churui**	**3.79**	**249**	*e*P	**Pn**	**05 36 09.7**	**+0.4**
JCH				*e*S	**Sn**	**05 36 53.5**	**+0.9**
MYR	**Moyori**	**3.99**	**245**	*e*P	**Pn**	**05 36 13.1**	**+1.1**
JNBK	**Urakawa-nobuka**	**4.34**	**247**	*e*P	**Pn**	**05 36 17.4**	**+0.6**

IDC 11 05:40:40.6±8.1, 9.65N×41.70W, h0km, mb3.6/4, mbtmp3.6/4, MS3.3/16, Error ellipse: s-maj=325.6km s-min=32.6km az=16.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**11.75**	**248**	LR	LR	05 47 56.2	
	comp=Z,43nm,18.9s,baz=52,slow=37						
SJG	**San Juan**	**25.16**	**292**	LR	LR	05 53 56.2	
	comp=Z,30nm,21.6s,baz=46,slow=32						
BDFB	**Brasilia**	**25.89**	**194**	LR	LR	05 56 26.4	
	comp=Z,79nm,20.5s,baz=139,slow=36						
SIV	**San Ignacio**	**31.89**	**217**	LR	LR	06 01 00.7	
	comp=Z,38nm,18.4s,baz=341,slow=38						
H10N3	**ASCENSION HYDR**	**32.18**	**122**	T	T	06 21 17.4	
	baz=304,slow=75,SNR=114						
H10N2	**ASCENSION HYDR**	**32.19**	**122**	T	T	06 21 17.7	
	baz=304,slow=75,SNR=119						
H10N1	**ASCENSION HYDR**	**32.20**	**122**	T	T	06 21 18.9	
	baz=304,slow=75,SNR=202						
CPUP	**Villa Florida**	**38.86**	**203**	LR	LR	06 04 43.4	
	comp=Z,46nm,20.4s,baz=30,slow=37						
NNA	**Nana**	**41.01**	**239**	LR	LR	06 05 06.2	
	comp=Z,48nm,21.8s,baz=8.0,slow=36						
LVC	**Liman Verde**	**41.70**	**219**	LR	LR	06 06 45.1	
	comp=Z,16nm,20.8s,baz=22,slow=38						
TORD	**Torodi Ar. Bea**	**42.64**	**81**	P	P	05 48 39.3	0.0
	2.4nm,0.8s,baz=279,slow=8.1,SNR=9.6						
	2.4nm,0.8s						
ESDC	**Sonseca Array**	**44.95**	**42**	LR	LR	06 03 16.6	
	comp=Z,54nm,19.4s,baz=273,slow=30						
TKL	**Tuckaleechee C**	**46.16**	**311**	LR	LR	06 04 27.1	
	comp=Z,66nm,19.2s,baz=126,slow=31						
KEST	**Kesn**	**53.05**	**52**	LR	LR	06 11 02.4	
	comp=Z,22nm,20.7s,baz=273,slow=34						
DAVOX	**Davos/Dischmat**	**57.18**	**40**	LR	LR	06 13 02.4	
	comp=Z,45nm,18.2s,baz=310,slow=34						
ANMO	**Albuquerque**	**63.87**	**304**	LR	LR	06 15 57.2	
	comp=Z,29nm,22.0s,baz=150,slow=33						
NOA	**NORSAR Array B**	**64.22**	**26**	LR	LR	06 12 16.2	
	comp=Z,15nm,20.8s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**67.27**	**312**	P	P	05 51 37.9	+0.4
	0.1nm,0.6s,baz=112,slow=8.9,SNR=1.6						
	0.1nm,0.6s						
ELK	**Elko**	**71.30**	**310**	LR	LR	06 20 26.2	
	comp=Z,21nm,20.9s,baz=69,slow=34						
YKA	**Yellowknife Ar**	**73.62**	**332**	P	P	05 52 16.2	+0.6
	0.4nm,0.8s,baz=100,slow=5.5,SNR=5.3						
	0.4nm,0.8s						
BOSA	**Boshof**	**74.93**	**123**	LR	LR	06 17 30.4	
	comp=Z,48nm,21.9s,baz=191,slow=30						
YBH	**Yreka Blue Hor**	**76.95**	**311**	LR	LR	06 24 08.1	
	comp=Z,23nm,19.9s,baz=51,slow=34						
ILAR	**Eielson Array**	**87.72**	**336**	P	P	05 53 29.8	-1.4
	0.3nm,0.9s,baz=60,slow=4.0,SNR=4.1						
	0.3nm,0.9s						

NNC 11 06:15:48.0±3.5, 54.37N×86.97E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=33.1km s-min=19.7km az=176.0, Suspected Mining explosion.
IDC 11 06:15:48.7±2.6, 54.39N×86.77E, h0km, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=22.6km s-min=13.6km az=53.0
ISC 11 06:15:50.1±3.3, 54.7N±0.2×86.3E±0.2, h0km, n9, σ1s33/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**230**	I	I	06 24 40.0	
	baz=68,slow=335,SNR=3.1						
ZAA0	**Zalesovo Array**	**1.17**	**230**	⇓P	**Pg**	**06 16 11.4**	**-1.0**
	0.7nm,0.6s						
ZAA0				⇓S	**Sn**	**06 16 31.5**	**+1.3**
	14nm,1.1s						
ZALV	**Zalesovo Beam**	**1.17**	**230**	Pg	**Pg**	**06 16 11.3**	**-1.1**
	2.2nm,0.3s,baz=67,slow=17,SNR=25						
ZALV				Lg	Lg	06 16 29.4	
	4.3nm,0.3s,baz=70,slow=29,SNR=12						
KURK	**Kurchatov**	**6.16**	**233**	⇓Pn	**Pn**	**06 17 23.2**	**+1.1**
	5.2nm,1.2s						
KURK				⇑Sn	**Sn**	**06 18 34.9**	**+1.6**
	3.4nm,0.9s						
KURK				⇑Lg	Lg	06 19 05.1	
	13nm,1.2s						
KURBB	**Kurchatov Arra**	**6.26**	**232**	Pn	**Pn**	**06 17 23.8**	**+0.2**
	0.2nm,0.3s,baz=54,slow=14,SNR=27						
KURBB				Sn	**Sn**	**06 18 33.9**	**-2.0**
	0.1nm,0.3s,baz=47,slow=22,SNR=2.4						
KURBB				Lg	Lg	06 19 06.3	
	0.1nm,0.3s,baz=58,slow=33,SNR=6.3						
	2.4nm,0.5s						
KURBB	**Kurchatov Arra**	**6.26**	**232**	⇓Pn	**Pn**	**06 17 24.3**	**+0.7**
	4.6nm,0.6s						
KURBB				⇑Sn	**Sn**	**06 18 37.3**	**+1.4**
	6.3nm,0.8s						
KURBB				⇓Lg	Lg	06 19 10.2	
	24nm,0.9s						
MK31	**Makanchi Array**	**8.33**	**199**	⇑Pn	**Pn**	**06 17 51.9**	**-0.2**
	1.9nm,0.9s,baz=28,slow=13,SNR=6.9						
MK31				⇑Sn	Sn	06 19 18.2	-8.6
	0.6nm,0.5s,baz=23,slow=23,SNR=7.8						
MK31				⇑Lg	Lg	06 20 05.9	
	8.7nm,1.1s,baz=20,slow=30,SNR=6.0						
MKAR	**Makanchi Array**	**8.33**	**199**	Pn	Pn	06 17 48.5	-3.6
	0.2nm,0.3s,baz=25,slow=12,SNR=10						
MKAR				Sn	Sn	06 19 15.7	-11
	0.3nm,0.3s,baz=20,slow=25,SNR=9.2						
MKAR				Lg	Lg	06 20 06.7	
	baz=22,slow=29,SNR=8.6						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**9.56**	**266**	Pn	**Pn**	**06 18 09.9**	**+1.0**
	0.1nm,0.3s,baz=77,slow=15,SNR=2.6						
BVAR				Sn	**Sn**	**06 19 56.2**	**-0.8**
	baz=73,slow=24,SNR=7.6						
	0.4nm,0.4s						

IDC 11 06:15:54.6±2.9, 10.00S×161.32E, h42km±26km, mb3.3/5, mbtmp3.8/7, ML4.1/2, MS3.1/3, Error ellipse: s-maj=28.8km s-min=15.4km az=48.0
ISC 11 06:15:54.0±0.9, 10.0S±0.1×161.4E±0.1, h35km, n10, σ1s30/10, mb3.4/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.48**	**290**	P	**Pn**	**06 16 17.7**	**-0.4**
	10μm,0.2s,baz=182,slow=5.2,SNR=60						
HNR				S	**Sn**	**06 16 36.6**	**+0.4**
	74μm,0.3s,baz=167,slow=11,SNR=30						
KRVT	**Keravat (AS076**	**10.82**	**301**	LR	LR	06 23 06.2	
	comp=Z,74nm,19.6s,baz=255,slow=40						
DZM	**Mont Dzumac**	**13.01**	**159**	P	**Pn**	**06 18 57.6**	**+1.1**
	1.4nm,0.3s,baz=323,slow=23,SNR=36						
DZM				S	**Sn**	**06 21 18.9**	**-1.2**
	2.0nm,0.5s,baz=171,slow=22,SNR=5.0						
DZM				LR	LR	06 23 28.2	
	comp=Z,86nm,18.4s,baz=144,slow=35						
	3.8nm,0.3s						
PMG	**Port Moresby**	**14.01**	**271**	LR	LR	06 24 00.3	
	comp=Z,96nm,19.9s,baz=64,slow=35						
CTA	**Charters Tower**	**17.71**	**234**	P	**P**	**06 19 59.0**	**+0.3**
	0.3nm,0.3s,baz=53,slow=12,SNR=6.4						
	6.2nm,0.7s						
WRA	**Warramunga Arr**	**27.89**	**246**	P	**P**	**06 21 38.6**	**-2.3**
	0.5nm,0.6s,baz=77,slow=8.9,SNR=5.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**29.53**	**239**	P	**P**	**06 21 56.1**	**+0.6**
	0.3nm,0.7s,baz=68,slow=9.8,SNR=4.1						
	0.3nm,0.7s						
SONM	**Songino Array**	**75.27**	**325**	P	**P**	**06 27 34.1**	**+0.6**
	0.6nm,0.7s,baz=122,slow=5.2,SNR=2.9						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**83.90**	**20**	P	**P**	**06 28 20.8**	**+0.9**
	0.1nm,0.6s,baz=246,slow=4.4,SNR=1.5						
	0.1nm,0.6s						
YKA	**Yellowknife Ar**	**96.00**	**28**	P	**P**	**06 29 15.7**	**-1.5**
	0.2nm,0.7s,baz=260,slow=5.0,SNR=3.9						
	0.2nm,0.7s						

IDC 11 06:24:43.5±0.5, 13.37N×124.20E, h0km, mb4.4/35, mbtmp4.5/39, ML4.3/3, MS4.3/66, Error ellipse: s-maj=17.9km s-min=10.3km az=79.0
GCMT 11 06:24:46.6±0.2, 13.44N±0.01×124.15E±0.02, h17km, MW5.3/104, Moment Tensor Solution. s64,c83; s104,c170; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.24±.02; $M_{\theta\theta}$0.54±.01; $M_{\phi\phi}$-0.30±.02; $M_{r\theta}$0.06±.04; $M_{\theta\phi}$0.23±.01; $M_{\phi r}$0.91±.07; Best double couple: $M_0$0.99500×10^{17} NP1:ϕ_s203.00000°, δ84.00000°, λ-120.00000°. NP2:ϕ_s102.00000°, δ30.00000°, λ-12.00000°. Principal axes: T 0.8040, Plg32.0000°, Azm317.0000°; N 0.3810, Plg30.0000°, Azm206.0000°; P -1.1850, Plg43.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*BJI 11 06:24:49.2±0.

CNOP **Candoni, Negro** 3.89 204⇓ *eP* **Pn** **06 25 46.9 -1.0**
CNOP *eS* Sn 06 26 41.8 +9.4
LSIP **Lazi, Siquijor** 4.30 188⇑ *eP* **Pn** **06 25 57.5 +4.0**
CGP **Cagayan de Oro** 4.95 175⇓ *eP* Pn 06 26 16.6 +14
TASP **Talacogon, Agu** 5.17 162⇑ *eP* Pn 06 26 10.2 +4.8
TASP *eS* Sn 06 27 13.5 +10
SGCP **Gonzaga** 5.25 337⇓ *eP* **Pn** **06 26 03.9 -2.6**
SGCP *eS* **Sn** **06 27 01.6 -4.1**
APYP **Conner** 5.28 327⇓ *eP* **Pn** **06 26 02.9 -4.1**
APYP *eS* **Sn** **06 26 59.7 -6.9**
BUKP **Musuan** 5.56 172⇓ *eP* **Pn** **06 26 11.2 +0.3**
PAGZ **Pagadian** 5.59 189⇓ *eP* **Pn** **06 26 11.2 -0.1**
PAGZ *eS* **Sn** **06 27 20.6 +6.3**
BIPH **Bislig** 5.60 158⇓ *eP* **Pn** **06 26 10.7 -0.7**
BIPH *eS* Sn 06 27 27.9 +14
PACPP **Pamplona Cagay** 5.73 331⇓ *eP* **Pn** **06 26 11.3 -1.9**
PACPP *eS* **Sn** **06 27 14.8 -2.9**
CDOP **Cateel, Davao** 6.00 159⇓ *eP* **Pn** **06 26 18.2 +1.4**
CDOP *eS* **Sn** **06 27 32.1 +7.9**
CTBH **Cotabato--PC H** 6.15 180⇑ *iP* **Pn** **06 26 22.7 +3.7**
CICP **Calayan Island** 6.39 336⇓ *eP* **Pn** **06 26 21.9 -0.4**
CICP *eS* **Sn** **06 27 41.4 +7.5**
DAV **Davao City (W)** 6.44 168 Pn **Pn** **06 26 20.9 -2.1**
172nm,0.4s,baz=319,slow=19,SNR=0.9
DAV LR LR 06 29 25.2
comp=Z,4μm,18.7s,baz=32,slow=44
MYLDM **Lahad Datu** 9.95 215 Pn **Pn** **06 27 13.4 +2.4**
YULB **Yu-li** 10.31 345 **Pn** **06 27 14.9 -1.1**
TPUB **Ta-pu** 10.41 341 Pn **Pn** **06 27 18.2 +0.9**
SSLB **Suanglung** 10.78 344 Pn **Pn** **06 27 23.3 +0.9**
YOJ **Yonaguni jima** 11.05 354 Pn **Pn** **06 27 24.9 -1.1**
YHNB **Yeheng** 11.52 347 Pn **Pn** **06 27 32.0 -0.6**
TOLI2 **Tolitoli** 12.69 196 Pn **Pn** **06 27 50.7 +2.1**
GTOI **Gorontalo** 12.75 186 P **Pn** **06 27 49.4 +0.1**
33nm,1.1s,449nm
MRSI **Marisa** 13.05 190 P **Pn** **06 27 55.3 +1.9**
47nm,1.1s,763nm
MPSI **Mapaga** 13.68 199 P **P** **06 28 08.1 -1.2**
14nm,1.0s
JOW **Kunigami** 13.88 15 Pn **Pn** **06 28 02.5 -2.2**
2.7nm,0.3s,baz=204,slow=10.0,SNR=6.1
JOW Sn **Sn** **06 30 36.5 -0.7**
1.0nm,0.3s,baz=48,slow=14,SNR=3.9
JOW LR LR 06 33 33.1
comp=Z,1μm,18.3s,baz=162,slow=38
21nm,0.8s
LUWI **Luwuk** 14.44 186 **P** **06 28 18.6 +0.9**
LUWI **Luwuk** 14.44 186 P **Pn** **06 28 13.2 +1.1**
143nm,1.2s,5μm
APSI **Ampana** 14.46 190 P **Pn** **06 28 14.5 +2.0**
166nm,1.2s,2μm
QIZ **Qiongzhong** 14.91 294 P **Pn** **06 28 18.6 +0.3**
QIZ S **Sn** **06 31 03.4 +1.1**
QIZ LR LR
comp=N,2μm,16.6s
QIZ LR LR
comp=E,1μm,21.3s
QIZ LR LR
comp=Z,1μm,23.7s
SANI **Sanana** 15.46 173 P **Pn** **06 28 21.6 -3.9**
71nm,1.1s
SWI **Sorong** 15.80 153 P **Pn** **06 28 29.1 -0.7**
31nm,1.0s
SIJI **Sorong** 15.81 153 Pn **Pn** **06 28 28.1 -1.9**
0.5nm,0.3s,baz=339,slow=7.7,SNR=1.6
SIJI LR LR 06 36 40.5
comp=Z,695nm,18.1s,baz=18,slow=45
4.2nm,0.4s
SBUM **Sibu** 16.12 229 **P** **06 28 36.8 +0.3**
MSAI **Masohi** 17.29 164 P **P** **06 28 50.9 +1.5**
18nm,0.8s
SSE **Sheshan** 17.82 351 P **P** **06 28 55.6 +0.5**
SSE S **Sn** **06 32 12.6 -0.2**
SSE pmax pmax
comp=Z,22nm,0.7s
SSE pmax pmax
comp=Z,210nm,3.9s
SSE LR LR
comp=N,480nm,15.0s
SSE LR LR
comp=E,490nm,15.1s
SPSI **Sidrap Palu** 17.82 195 P **P** **06 28 55.4 +0.1**
41nm,1.2s,1μm
FAKI **Fak Fak** 18.07 153 P **P** **06 28 55.6 -2.4**
30nm,0.9s,785nm
CNSH **ChangSha** 18.08 326 ⇑P **P** **06 28 57.6 -0.4**
CNSH S **Sn** **06 32 17.4 -1.8**
CNSH pmax pmax
comp=Z,38nm,1.3s
CNSH LR LR
comp=N,2μm,13.8s
CNSH LR LR
comp=E,1μm,16.5s
CNSH LR LR
comp=Z,2μm,15.8s
UBPT **Khong Chiam** 18.28 278 **Pn** **06 29 00.7 0.0**
KAPI **Kappang** 18.84 194 P **P** **06 29 05.9 -0.6**
1.8nm,0.3s,baz=17,slow=12,SNR=9.9
KAPI LR LR 06 35 54.3
comp=Z,675nm,20.6s,baz=18,slow=36
14nm,0.7s
KAPI **Kappang** 18.84 194 P **Pn** **06 29 07.7 +0.3**
JSU **Suzuyama** 18.89 17 P **Pn** **06 29 09.2 +1.2**
BKSI **Bulukumba** 19.06 193 P **P** **06 29 07.3 -1.5**
29nm,1.0s,602nm
BBKI **Banjar Baru** 19.19 210 P **Pn** **06 29 11.7 +0.1**
54nm,0.8s,12μm
NJ2 **Nanjing** 19.20 346 *eP* **Pn** **06 29 12.8 +1.2**
NJ2 S **Sn** **06 32 46.6 +0.6**
NJ2 pmax pmax
comp=Z,26nm,0.8s
NJ2 LR LR
comp=N,1μm,17.3s
NJ2 LR LR
comp=E,1μm,13.3s
NJ2 LR LR
comp=Z,2μm,18.6s
WHN **Wuhan** 19.34 333 ⇑P **Pn** **06 29 13.9 +0.6**
WHN pP **sP** **06 29 29.2 -0.8**
WHN S **Sn** **06 32 51.8 +2.4**
WHN pmax pmax
comp=Z,310nm,1.3s
WHN pmax pmax
comp=Z,2μm,4.1s
WHN LR LR
comp=N,3μm,12.8s
WHN LR LR
comp=E,4μm,15.1s
WHN LR LR
comp=Z,5μm,15.1s
GUMO **Guam** 20.06 87 LR LR 06 36 51.1
comp=Z,716nm,18.8s,baz=260,slow=36
JNU **Nakatsue** 20.53 16 P **P** **06 29 23.6 -1.2**
9.8nm,1.0s,baz=183,slow=16,SNR=1.2
JNU LR LR 06 36 47.8
comp=Z,706nm,20.0s,baz=203,slow=35
9.8nm,1.0s
GYA **Guiyang** 20.98 311 ⇑P **P** **06 29 30.5 +0.7**
GYA sP sP 06 29 52.7 +4.7
GYA S **S** **06 33 13.8 -7.0**
GYA pmax pmax
comp=Z,20nm,1.6s
GYA pmax pmax
comp=Z,170nm,3.5s
GYA LR LR
comp=N,1μm,14.7s
GYA LR LR
comp=E,1μm,15.5s
GYA LR LR
comp=Z,1μm,17.5s
SMPI **Sarmi** 20.98 136 P **P** **06 29 27.2 -2.6**
96nm,1.1s
JCJ **Chichijima** 21.61 48 LR LR 06 36 20.2
comp=Z,626nm,21.5s,baz=242,slow=32
ENH **Enshi** 21.61 323 P **P** **06 29 38.3 +1.8**
JMN **Monobe** 22.04 22 P **P** **06 29 45.1 +4.1**
PLAI **Plampang** 23.01 197 P **P** **06 29 50.9 -0.4**
99nm,0.8s,1μm
SOEI **Soe** 23.02 180 P **P** **06 29 53.9 +2.4**
55nm,1.0s
SRBI **Singaraja** 23.16 203 P **P** **06 29 51.0 -1.8**
129nm,1.1s,1μm
TWSI **Taliwang, Sumb** 23.19 199 P **P** **06 29 51.1 -2.0**
74nm,1.0s,823nm
KMI **Kunming** 23.36 303 ⇑P **P** **06 29 54.6 -0.4**
KMI pP pP 06 30 09.8 +2.7
KMI S **S** **06 34 04.3 -0.1**
KMI pmax pmax
comp=Z,15nm,1.2s
KMI LR LR
comp=N,1μm,25.1s
KMI LR LR
comp=E,800nm,20.8s
KMI LR LR
comp=Z,1μm,23.2s
WBSI **Waikabubak, Su** 23.40 192 P **P** **06 29 57.2 +2.0**
40nm,0.9s
BATI **Baumata** 23.47 181 P **P** **06 29 53.9 -1.9**
25nm,0.3s,baz=75,slow=21,SNR=1.7
25nm,0.3s
TIA **Tai'an** 23.59 346 *eP* **P** **06 29 55.9 -0.8**
TIA S **S** **06 34 00.5 -6.9**
TIA pmax pmax
comp=Z,23nm,0.8s
TIA pmax pmax
comp=Z,300nm,5.0s
TIA LR LR
comp=N,630nm,17.1s
TIA LR LR
comp=E,710nm,11.4s
TIA LR LR
comp=Z,1μm,19.2s
LYN **LuoYang** 23.59 335⇑ *iP* **P** **06 29 57.4 +0.6**
LYN S **S** **06 34 07.3 -0.2**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN LR LR
comp=N,790nm,13.7s
LYN LR LR
comp=E,740nm,15.7s
LYN LR LR
comp=Z,900nm,14.7s
PHRA **Phrae** 23.62 285 P **P** **06 29 54.3 -3.0**
CRAI **Chiangrai** 23.81 290 P **P** **06 29 57.4 -1.6**
CRAI IAmb IAmb 06 30 09.8
comp=Z,51nm,1.3s
IGBI **Denpasar** 23.86 203 P **P** **06 30 06.2 +6.8**
DSRI **Dabo** 23.88 236 P **P** **06 30 03.2 +3.5**
comp=Z,29nm,1.1s
JAGI **Jajag, Banyuwa** 23.94 205 P **P** **06 30 00.1 -0.1**
JAGI IAmb IAmb 06 30 10.5
comp=Z,28nm,0.8s
JAGI **Jajag, Banyuwa** 23.94 205 P **P** **06 30 00.0 -0.1**
comp=Z,39nm,1.0s
GMJI **Gumukmas** 24.06 207 P **P** **06 29 59.7 -1.6**
comp=Z,37nm,1.2s
KSRS **Korea Array** 24.17 7 P **P** **06 30 01.6 -0.4**
comp=Z,5.5nm,0.9s,baz=178,slow=38,SNR=3.7
KSRS LR LR 06 38 28.7
comp=Z,407nm,21.5s,baz=175,slow=34
comp=Z,5.5nm,0.9s
JHJ **Hachijo jima 2** 24.20 33 LR LR 06 37 52.9
comp=Z,869nm,20.6s,baz=135,slow=32
NGJI **Ngawi** 24.23 212 P P 06 30 15.9 +13
PWJI **Pagerwojo** 24.62 211 P **P** **06 30 03.9 -2.4**
comp=Z,38nm,1.1s
INU **Inuyama** 24.70 26 P **P** **06 30 06.6 -0.3**
INU IAmb IAmb 06 30 20.1
comp=Z,58nm,1.1s
PZH **PanZhiHua** 24.78 305 P **P** **06 30 08.7 +0.8**
PZH S **S** **06 34 25.9 -1.1**
PZH SS **SnSn** **06 35 27.7 +10**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,170nm,5.5s
PZH LR LR
comp=Z,3μm,23.1s
PZH LR LR
comp=Z,3μm,24.1s
PZH LR LR
comp=Z,3μm,25.5s
CMAR **Chiang Mai Arr** 24.82 285 P **P** **06 30 07.3 -0.9**
comp=Z,7.0nm,0.8s,baz=98,slow=7.7,SNR=28
CMAR PcP **PcP** **06 33 44.9 +1.2**
comp=Z,0.9nm,0.3s,baz=90,slow=2.7,SNR=1.5
CMAR LR LR 06 39 53.0
comp=Z,660nm,20.0s,baz=105,slow=37
comp=Z,7.0nm,0.8s
CMAR **Chiang Mai Arr** 24.82 285 P **P** **06 30 06.0 -2.2**
CHTO **Chiang Mai** 24.87 286 P **P** **06 30 06.1 -2.6**
HNS **HongShan** 25.36 342 ⇑P **P** **06 30 12.7 -0.2**
HNS S **S** **06 34 37.8 +2.1**
HNS pmax pmax
comp=Z,47nm,1.4s
HNS LR LR
comp=Z,820nm,16.7s
HNS LR LR
comp=Z,640nm,12.8s
HNS LR LR
comp=Z,860nm,16.7s
DL2 **Dalian** 25.50 355 *eP* **P** **06 30 10.4 -3.7**
DL2 *eS* **S** **06 34 33.4 -4.5**
DL2 pmax pmax
comp=Z,320nm,4.6s
DL2 LR LR
comp=Z,560nm,16.5s
DL2 LR LR
comp=Z,970nm,15.1s
DL2 LR LR
comp=Z,810nm,15.1s
KPJI **Karang Pucung** 25.61 217 P P 06 30 29.9 +15
CD2 **Chengdu** 25.67 316 P **P** **06 30 16.0 +0.1**
CD2 pP sP 06 30 31.9 -3.2
CD2 sP pP 06 30 39.2 +10
CD2 S **S** **06 34 40.1 -0.9**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,170nm,5.9s
CD2 LR LR
comp=Z,1μm,13.5s
CD2 LR LR
comp=Z,830nm,12.8s
CD2 LR LR
comp=Z,2μm,18.1s
MJAR **Matsushiro Arr** 26.22 26 P **P** **06 30 21.5 +0.7**
comp=Z,0.9nm,0.3s,baz=204,slow=8.1,SNR=1.7
MJAR LR LR 06 38 49.3
comp=Z,491nm,20.8s,baz=212,slow=32
comp=Z,0.9nm,0.3s
MDSI **Maura Dua** 26.70 230 P **P** **06 30 23.1 -2.2**
comp=Z,7.7nm,0.7s
TNCH **TengChong** 26.84 299 P P 06 30 34.1 +7.4
TNCH sP sP 06 30 53.3 +7.7
TNCH pmax pmax
comp=Z,240nm,4.6s
PSI **Prapat** 27.15 249 P **P** **06 30 28.9 -0.6**
comp=Z,3.4nm,0.7s,baz=52,slow=4.8,SNR=1.3
PSI LR LR 06 41 08.2
comp=Z,820nm,21.2s,baz=88,slow=36
comp=Z,3.4nm,0.7s
RPSI **Rantau Prapat** 27.20 249 P **P** **06 30 28.9 -0.9**
LZH **Lanzhou** 29.08 324 *eP* **P** **06 30 50.4 +3.9**
LZH pP sP 06 31 04.1 -1.5
LZH sP pP 06 31 12.0 +12
LZH S **S** **06 35 34.6 -0.2**
LZH sS sS 06 36 02.7 +5.9
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=Z,2μm,13.4s
LZH LR LR
comp=Z,2μm,12.7s
LZH LR LR
comp=Z,3μm,15.8s
HHC **Hu-ho-hao-te** 29.50 340 *eP* **P** **06 30 51.4 +1.3**
HHC sP sP 06 31 12.1 +2.6
HHC S **S** **06 35 42.2 +1.0**
HHC sS sS 06 36 07.8 +4.6
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.7s
HHC LR LR
comp=Z,1μm,16.3s
HHC LR LR
comp=Z,2μm,17.9s
HHC LR LR
comp=Z,2μm,19.2s
XLT **XiLinHaoTe** 31.18 349⇓ *iP* **P** **06 31 05.3 +0.4**
XLT pP pP 06 31 20.2 +2.0
XLT sP sP 06 31 30.5 +6.1
XLT PP **PnPn** **06 32 09.2 +0.9**
XLT S **S** **06 36 10.0 +2.6**
XLT sS sS 06 36 30.6 +1.2
XLT pmax pmax
comp=Z,12nm,0.8s
XLT LR LR
comp=Z,1μm,14.9s
XLT LR LR
comp=Z,700nm,20.7s
USRK **Ussuriysk Ar.** 31.39 11 P **P** **06 31 07.6 +0.9**
comp=Z,10nm,0.6s,baz=191,slow=8.2,SNR=12
USRK LR LR 06 42 42.1
comp=Z,324nm,21.0s,baz=180,slow=34
comp=Z,10nm,0.6s
USRK **Ussuriysk Ar.** 31.39 11 P **P** **06 31 07.7 +1.1**
BRDH **Bariadhala** 32.27 291 LR LR 06 45 22.6
comp=Z,708nm,21.1s,baz=114,slow=38
KRVT **Keravat (AS076** 32.73 121 LR LR 06 42 00.8
comp=Z,730nm,21.6s,baz=61,slow=32
COEN **Coen** 33.03 145 P **P** **06 31 23.5 +2.2**
COEN IAmb IAmb 06 31 26.3
comp=Z,12nm,0.9s
GTA **Gaotai** 33.68 325 *eP* P 06 31 32.8 +5.9
GTA sP sP 06 31 50.6 +4.5
GTA S **S** **06 36 51.9 +5.3**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,5.2s
GTA LR LR
comp=Z,690nm,14.9s
GTA LR LR
comp=Z,430nm,13.4s
GTA LR LR
comp=Z,330nm,15.7s
WB0 **Warramunga Arr** 34.45 163 P **P** **06 31 31.6 -2.0**
WRAB **Tennant Creek** 34.60 163 P **P** **06 31 34.0 -0.9**
WRAB pP **pP** **06 31 50.2 +2.2**
WRA **Warramunga Arr** 34.60 163 P **P** **06 31 33.0 -2.0**
comp=Z,1.3nm,0.2s,baz=344,slow=8.4,SNR=46
WRA PcP **PcP** **06 34 08.6 -0.1**
comp=Z,2.0nm,0.7s,baz=343,slow=2.9,SNR=5.3
WRA S **S** **06 36 56.8 -4.0**
comp=Z,0.3nm,0.7s,baz=161,slow=6.0,SNR=5.4
comp=Z,1.3nm,0.2s
WB2 **Warramunga Arr** 34.61 163 P **P** **06 31 33.7 -1.2**
WB2 IAmb IAmb 06 32 09.1
comp=Z,15nm,1.1s
WR0 **Warramunga Arr** 34.68 163 IAmb IAmb 06 32 24.7
comp=Z,10.0nm,1.1s
GOMU **GeErMu** 34.81 316 P P 06 31 42.2 +5.2
GOMU pP pP 06 31 46.4 -3.9
GOMU S **S** **06 36 59.6 -4.9**
GOMU pmax pmax
comp=Z,15nm,1.3s
GOMU pmax pmax
comp=Z,140nm,4.8s
GOMU LR LR
comp=Z,1μm,18.6s
GOMU LR LR
comp=Z,490nm,18.9s
GOMU LR LR
comp=Z,690nm,21.6s
KLR **Kul'dur** 36.25 8 P **P** **06 31 48.7 0.0**
comp=Z,3.6nm,0.6s,baz=179,slow=8.2,SNR=18
comp=Z,3.6nm,0.6s
TAPN **Taplejung** 36.79 298 *eP* **P** **06 31 52.5 -1.5**
HEH **HeiHe** 36.83 3 *eP* **P** **06 31 54.1 +0.4**
HEH pmax pmax
comp=Z,13nm,1.1s
HEH pmax pmax
comp=Z,470nm,5.5s
HEH LR LR
comp=Z,360nm,16.1s
HEH LR LR
comp=Z,2μm,15.6s
HEH LR LR
comp=Z,590nm,15.7s
ODAN **Odare** 36.95 297 *eP* **P** **06 31 53.8 -1.5**
ULN **Ulaanbaatar** 37.21 341 P **P** **06 31 57.3 +0.1**
ULN **Ulaanbaatar** 37.21 341 P **P** **06 31 57.6 +0.4**
ULN pP **sP** **06 32 15.4 -1.3**
SONM **Songino Array** 37.40 340 P **P** **06 31 58.9 +0.2**
comp=Z,6.7nm,0.8s,baz=159,slow=9.8,SNR=30
SONM PcP **PcP** **06 34 17.2 +0.5**
comp=Z,0.4nm,0.4s,baz=142,slow=5.4,SNR=1.2
SONM LR LR 06 48 12.9
comp=Z,698nm,18.2s,baz=168,slow=38
comp=Z,6.7nm,0.8s
SONM **Songino Array** 37.40 340 P **P** **06 31 58.3 -0.4**
SONM IAmb IAmb 06 32 06.3
comp=Z,16nm,1.2s
RAMN **Ramite** 37.65 297 *eP* **P** **06 32 00.1 -1.2**
comp=Z,28nm,0.8s
AS31 **Alice Springs** 38.04 166 P **P** **06 32 02.9 -1.4**
ASAR **Alice Springs** 38.05 166 P **P** **06 32 03.4 -0.9**
comp=Z,3.0nm,0.4s,baz=344,slow=7.2,SNR=48
ASAR PcP **PcP** **06 34 18.9 -0.1**
comp=Z,2.6nm,0.7s,baz=350,slow=2.9,SNR=4.6
ASAR S **S** **06 37 53.5 +0.2**
comp=Z,1.4nm,1.0s,baz=331,slow=11,SNR=7.1
ASAR LR LR 06 50 26.8
comp=Z,280nm,18.5s,baz=5.5,slow=41
comp=Z,3.0nm,0.4s
JIRN **Jiri** 38.17 298 *eP* **P** **06 32 04.4 -1.4**
comp=Z,30nm,0.7s
PKI **Pulchoki** 38.83 297 *eP* **P** **06 32 09.6 -1.7**
comp=Z,21nm,0.7s
PKIN **Phulchoki** 38.84 297 *eP* **P** **06 32 09.6 -1.7**
DMN **Daman** 39.10 297 *eP* **P** **06 32 12.5 -1.0**
CTA **Charters Tower** 39.72 147 LR LR 06 48 35.6
comp=Z,466nm,21.5s,baz=329,slow=36
DANN **Dangsing** 40.42 298 *eP* **P** **06 32 23.1 -1.4**
comp=Z,28nm,0.7s
KOLN **Koldanda** 40.44 297 *eP* **P** **06 32 22.9 -1.6**
H11S3 **WAKE ISLAND Hy** 41.06 77 T T 07 16 07.5
baz=269,slow=75,SNR=1789
H11S1 **WAKE ISLAND Hy** 41.07 77 T T 07 16 08.0
baz=269,slow=75,SNR=763
H11S2 **WAKE ISLAND Hy** 41.07 77 T T 07 16 08.7
baz=269,slow=75,SNR=916
H11N1 **WAKE ISLAND Hy** 41.28 75 T T 07 16 22.0
baz=267,slow=74,SNR=2636
H11N2 **WAKE ISLAND Hy** 41.28 75 T T 07 16 22.4
baz=267,slow=74,SNR=1260
H11N3 **WAKE ISLAND Hy** 41.30 75 T T 07 16 23.4
baz=267,slow=74,SNR=1941
HNR **Honiara** 42.09 121 LR LR 06 47 21.7
comp=Z,10μm,21.4s,baz=322,slow=32
WMQ **Urumqi** 43.54 321 *eP* **P** **06 32 46.1 -3.3**
WMQ pP pP 06 33 02.9 -0.1
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ LR LR
comp=Z,1μm,18.7s
WMQ LR LR
comp=Z,790nm,18.7s
WMQ LR LR
comp=Z,880nm,20.7s
NWAO **Narrogin (SRO)** 46.56 188 P **P** **06 33 11.9 -1.4**
EIDS **Eidsvold** 46.59 146 P **P** **06 33 14.0 +0.2**
EIDS IAmb IAmb 06 33 20.0
comp=Z,22nm,1.2s
BBOO **Buckleboo** 47.33 166 P **P** **06 33 18.5 -0.9**
PETK **Petropavlovsk-** 47.68 27 P **P** **06 33 22.6 +0.7**
comp=Z,6.1nm,0.9s,baz=218,slow=6.8,SNR=2.6
PETK LR LR 06 51 35.7
comp=Z,112nm,19.6s,baz=240,slow=34
comp=Z,6.1nm,0.9s
STKA **Stephens Creek** 48.01 160 P **P** **06 33 24.4 -0.3**
comp=Z,3.0nm,0.8s,baz=337,slow=8.4,SNR=5.1
STKA LR LR 06 56 05.6
comp=Z,229nm,21.3s,baz=328,slow=39
comp=Z,3.0nm,0.8s
STKA **Stephens Creek** 48.01 160 P **P** **06 33 24.8 +0.1**
MK31 **Makanchi Array** 48.34 322 P **P** **06 33 26.3 -0.9**
MK31 IAmb IAmb 06 33 34.7
comp=Z,18nm,1.3s
MKAR **Makanchi Array** 48.34 322 P **P** **06 33 27.2 +0.1**
comp=Z,3.3nm,0.9s,baz=116,slow=8.2,SNR=26
MKAR PcP **PcP** **06 34 57.4 +4.2**
comp=Z,2.8nm,0.8s,baz=108,slow=4.7,SNR=1.8
MKAR LR LR 06 53 10.4
comp=Z,397nm,18.0s,baz=135,slow=35
comp=Z,3.3nm,0.9s
MKAR **Makanchi Array** 48.34 322 P **P** **06 33 26.5 -0.7**

YAK Yakutsk 48.70 3 LR LR 06 53 36.8
comp=Z,261nm,20.7s,baz=164,slow=36
KSH Kashi 49.67 311 P **P** **06 33 40.0 +2.4**
KSH pmax pmax
comp=Z,5.0nm,1.3s
KSH LR LR
comp=Z,640nm,19.2s
KSH LR LR
comp=Z,690nm,21.3s
KSH LR LR
comp=Z,770nm,20.6s
NIL Nilore 50.35 303 P **P** **06 33 41.0 -1.8**
NIL Nilore 50.35 303 P **P** **06 33 42.2 -0.5**
ZAA0 Zalesovo Array 50.93 331 IAmb IAmb 06 33 54.2
comp=Z,7.6nm,0.9s
ZALV Zalesovo Beam 50.93 331 P **P** **06 33 46.4 -0.3**
comp=Z,4.5nm,0.8s,baz=116,slow=6.8,SNR=18
ZALV LR LR 06 57 54.8
comp=Z,224nm,18.8s,baz=118,slow=39
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 50.93 331 P **P** **06 33 45.3 -1.3**
TKM2 Tokmak 2 51.05 315 P P 06 33 55.1 +7.1
SNR=5.7
UCH Uchtor 51.57 314 P **P** **06 33 53.4 +1.1**
SNR=8.1
CHMS Chumysh 51.66 315 P P 06 33 58.2 +5.9
SNR=7.1
AAK Ala-Archa 51.72 314 LR LR 06 58 15.0
comp=Z,693nm,18.7s,baz=89,slow=39
AAK Ala-Archa 51.72 314 P P 06 33 59.3 +6.3
USP Ospenovka 51.92 315 P P 06 34 03.7 +9.3
SNR=5.8
AML Almayashu 52.12 313 P P 06 34 02.8 +6.5
SNR=7.4
KURK Kurchatov 52.37 325 P **P** **06 33 57.0 -0.5**
KURK Kurchatov 52.37 325 P **P** **06 33 57.6 +0.1**
KURBB Kurchatov Arra 52.37 325 P **P** **06 33 57.9 +0.4**
comp=Z,6.3nm,0.6s,baz=122,slow=7.7,SNR=46
comp=Z,6.3nm,0.6s
DZM Mont Dzumac 54.37 130 *e*S **S** **06 41 48.0 +0.4**
comp=Z,128nm,32.8s
DZM *e*SS **SS** **06 45 32.6 +1.9**
comp=Z,132nm,27.6s
DZM *e*LR LR 06 50 07.5
comp=Z,402nm,24.4s
DZM Mont Dzumac 54.37 130 LR LR 06 55 20.0
comp=Z,151nm,20.9s,baz=263,slow=34
DZM Mont Dzumac 54.37 130 P **P** **06 34 14.1 +1.4**
DZM Mont Dzumac 54.37 130 P **P** **06 34 15.7 +3.0**
KK31 Karatay Array 54.65 314 P **P** **06 34 11.8 -2.5**
KK31 IAmb IAmb 06 34 24.2
comp=Z,15nm,1.1s
KKAR Karatay Array 54.65 314 P **P** **06 34 14.1 -0.3**
KKAR IAmb IAmb 06 34 24.2
comp=Z,15nm,1.1s
SIMJ Simiganj 54.70 308 P **P** **06 34 15.1 +0.1**
SIMJ pP **pP** **06 34 31.1 +2.2**
BVAR Borovoye Array 57.97 325 P **P** **06 34 38.0 +0.2**
comp=Z,2.9nm,0.8s,baz=110,slow=8.1,SNR=9.7
BVAR LR LR 06 58 57.0
comp=Z,452nm,19.2s,baz=117,slow=35
comp=Z,2.9nm,0.8s
BRVK Borovoye 58.04 325 P **P** **06 34 38.1 -0.2**
BRVK Borovoye 58.04 325 P **P** **06 34 38.6 +0.3**
NRIK Noril'sk 60.50 346 P **P** **06 34 54.6 -0.3**
comp=Z,10nm,0.8s,baz=142,slow=9.1,SNR=8.3
NRIK LR LR 07 02 45.8
comp=Z,347nm,19.3s,baz=149,slow=38
comp=Z,10nm,0.8s
NRIK Noril'sk 60.50 346 P **P** **06 34 55.0 0.0**
BILL Bilibino 60.96 17 P **P** **06 34 59.4 +1.2**
MSVF Nonsavu 61.46 119 LR LR 07 00 13.8
comp=Z,154nm,19.1s,baz=312,slow=35
WSAR Wadi Sarin 62.61 289 P **P** **06 35 09.4 -0.6**
comp=Z,3.0nm,0.6s,baz=103,slow=11,SNR=3.6
WSAR LR LR 07 09 02.2
comp=Z,23nm,18.2s,baz=94,slow=42
comp=Z,3.0nm,0.6s
GEYT Alibeck 63.09 306 P **P** **06 35 12.1 -1.0**
comp=Z,3.6nm,0.9s,baz=134,slow=4.2,SNR=2.9
GEYT LR LR 07 06 56.4
comp=Z,575nm,18.7s,baz=90,slow=40
comp=Z,3.6nm,0.9s
GEYT Alibeck 63.09 306 P **P** **06 35 13.1 0.0**
GEYT IAmb IAmb 06 35 49.6
comp=Z,8.4nm,0.8s
ABKAR Akbulak array 63.21 319 P **P** **06 35 12.7 -0.9**
ABKAR IAmb IAmb 06 35 20.7
comp=Z,9.9nm,0.8s
AKTO Aktyubinsk 64.65 320 P **P** **06 35 22.6 -0.4**
comp=Z,1.3nm,0.6s,baz=109,slow=3.4,SNR=2.4
AKTO LR LR 07 05 37.3
comp=Z,742nm,19.9s,baz=80,slow=38
comp=Z,1.3nm,0.6s
ARU Arti 65.52 326 P **P** **06 35 28.2 -0.4**
comp=Z,3.7nm,0.4s,baz=114,slow=10.0,SNR=6.4
ARU LR LR 07 07 13.8
comp=Z,251nm,18.5s,baz=102,slow=39
comp=Z,3.7nm,0.4s
ARU Arti 65.52 326 P **P** **06 35 27.4 -1.1**
ARU Arti 65.52 326 P **P** **06 35 28.0 -0.6**
ANM Nome 69.58 26 P **P** **06 35 55.5 +1.4**
baz=258
KIRV Kirov 70.74 328 P **P** **06 36 00.9 -0.3**
comp=Z,10nm,0.5s,baz=90,slow=4.1,SNR=2.0
comp=Z,10nm,0.5s
RPZ Rata Peaks 71.09 146 LR LR 07 05 29.3
comp=Z,182nm,22.0s,baz=294,slow=34
URZ Urewera 71.32 139 LR LR 07 09 46.5
comp=Z,154nm,18.9s,baz=37,slow=38
BELG Belogornoye 71.33 321 P **P** **06 36 06.0 +1.2**
comp=Z,16nm,0.8s,baz=88,slow=2.2,SNR=3.1
BELG LR LR 07 09 14.3
comp=Z,273nm,19.0s,baz=128,slow=37
comp=Z,16nm,0.8s
N16K Nishlik Lake 72.02 30 P **P** **06 36 09.9 +1.0**
baz=266
O16K Kokwok River B 72.29 31 P **P** **06 36 11.4 +0.9**
baz=266
P16K Nushagak River 72.31 32 P **P** **06 36 12.0 +1.4**
baz=267
O17K Koliganek Bris 72.81 31 P **P** **06 36 15.2 +1.6**
baz=267
Q16K King Salmon 72.98 32 P **P** **06 36 15.1 +0.4**
baz=268
R17K Ugashik Creek 73.09 34 P **P** **06 36 15.2 -0.2**
baz=268
P17K Kvichak River 73.12 32 P **P** **06 36 16.5 +1.1**
baz=268
Q17K Contact Creek 73.38 33 P **P** **06 36 17.3 +0.1**
baz=269
TTA Tatalina 73.49 28 P **P** **06 36 18.5 +0.7**
TTA IAmb IAmb 06 36 22.8
comp=Z,29nm,1.8s
TTA Tatalina 73.49 28 P **P** **06 36 18.5 +0.7**
baz=267,SNR=6.9
GNI Garni 73.50 308 P **P** **06 36 17.9 -0.5**
comp=Z,3.7nm,0.9s,baz=92,slow=14,SNR=1.6
GNI LR LR 07 11 57.5
comp=Z,262nm,22.0s,baz=92,slow=39
comp=Z,3.7nm,0.9s
L19K White Mountain 74.00 29 P **P** **06 36 21.8 +1.1**
baz=268
N19K Bonanza Creek 74.14 30 IAmb IAmb 06 36 24.3
comp=Z,16nm,1.2s
N19K Bonanza Creek 74.14 30 P **P** **06 36 23.2 +1.6**
baz=269
O19K Port Alsworth 74.22 31 P **P** **06 36 22.8 +1.0**
baz=270
SII Sitkinak Islan 74.28 35 P **P** **06 36 22.6 +0.2**
baz=271
ONI Oni 74.31 311 IAmb IAmb 06 36 48.5
comp=Z,14nm,1.2s
J20K Nowinta River 74.37 27 P **P** **06 36 24.3 +1.5**
baz=268,SNR=6.3
K20K Telida 74.39 28 P **P** **06 36 24.6 +1.7**
baz=269
L20K Farewell, AK 74.46 29 P **P** **06 36 24.5 +1.2**
baz=269
RAYN Ar Rayn 74.58 291 P **P** **06 36 23.7 -1.1**
RAYN IAmb IAmb 06 36 41.5
comp=Z,13nm,1.1s
KBZ Khabaz 74.64 312 P **P** **06 36 24.6 0.0**
comp=Z,3.6nm,1.0s,baz=104,slow=3.9,SNR=3.9
KBZ LR LR 07 13 12.6
comp=Z,382nm,18.8s,baz=82,slow=39
comp=Z,3.6nm,1.0s
G21K Allakaket 74.71 24 P **P** **06 36 25.9 +1.3**
baz=268,SNR=6.3
F21K Alatna River 74.74 24 P **P** **06 36 26.2 +1.4**
baz=268
KVAR Kislovodsk Arr 74.77 312 P **P** **06 36 26.0 +0.4**
comp=Z,3.1nm,0.7s,baz=90,slow=19,SNR=1.8
comp=Z,3.1nm,0.7s
M20K Styx River 74.80 29 IAmb IAmb 06 36 49.4
comp=Z,26nm,1.9s
M20K Styx River 74.80 29 P **P** **06 36 26.7 +1.3**
baz=270
H21K Melozitna Rive 74.98 25 IAmb IAmb 06 36 29.0
comp=Z,23nm,1.6s
H21K Melozitna Rive 74.98 25 P **P** **06 36 27.7 +1.5**
baz=269
KDAK Kodiak Island 75.13 33 LR LR 07 04 24.7
comp=Z,163nm,21.9s,baz=274,slow=32
KDAK Kodiak Island 75.13 33 P **P** **06 36 27.2 0.0**
baz=272
Q20K Shuyak Island 75.21 33 P **P** **06 36 28.5 +0.8**
baz=272
PPLA Purkeypile 75.24 28 P **P** **06 36 28.6 +0.6**
baz=271
F22K John River 75.25 23 P **P** **06 36 29.2 +1.4**
baz=269
N20K Mount Spurr 75.25 30 P **P** **06 36 28.5 +0.6**
baz=271
SPCR Spurr Chakacha 75.25 30 P **P** **06 36 28.9 +0.9**
baz=271
CAST Castle Rocks 75.28 28 IAmb IAmb 06 36 58.2
comp=Z,9.0nm,0.8s
CAST Castle Rocks 75.28 28 P **P** **06 36 29.2 +1.1**
baz=271,SNR=8.8
I21K Tanana 75.32 26 P **P** **06 36 29.6 +1.4**
baz=270
G22K Bettles 75.51 24 P **P** **06 36 30.3 +1.1**
baz=270
SKT Skwentna 75.56 29 P **P** **06 36 30.5 +0.9**
baz=271
H22K Ishtalitna Cre 75.57 25 P **P** **06 36 31.3 +1.7**
baz=271,SNR=5.8
BPAW Bear Paw Mtn. 75.76 27 P **P** **06 36 31.9 +1.2**
BPAW Bear Paw Mtn. 75.76 27 P **P** **06 36 31.7 +1.0**
baz=271,SNR=18
D23K Nanushuk River 75.81 22 P **P** **06 36 32.6 +1.6**
baz=270,SNR=9.3
KLMR Klimovskoe 75.83 330 *e*P **P** **06 36 28.6 -2.6**
KLMR AMP 06 36 36.7
comp=Z,50nm,1.5s
KLMR LQ LQ 07 05 07.1
KLMR LR LR 07 08 36.3
MLY Manley 75.84 26 P **P** **06 36 32.4 +1.2**
baz=271,SNR=7.3
SUA Susitna One 75.95 30 IAmb IAmb 06 36 46.0
comp=Z,9.2nm,1.0s
SUA Susitna One 75.95 30 P **P** **06 36 32.5 +0.5**
baz=272
COLD Coldfoot 76.02 24 IAmb IAmb 06 37 28.9
comp=Z,17nm,1.6s
COLD Coldfoot 76.02 24 P **P** **06 36 33.5 +1.4**
baz=271
BRSE Bradley Lake S 76.02 31 P **P** **06 36 33.1 +0.7**
baz=273
TRF Thorofare Moun 76.09 27 IAmb IAmb 06 36 35.5
comp=Z,18nm,1.4s
TRF Thorofare Moun 76.09 27 P **P** **06 36 33.4 +0.6**
baz=272
G23K Bananza Creek 76.10 24 P **P** **06 36 34.1 +1.4**
baz=272
CUT Chulitna 76.14 29 P **P** **06 36 33.9 +1.0**
baz=272
E23K Chandalar 76.22 23 P **P** **06 36 34.8 +1.4**
baz=272
M22K Willow 76.24 29 P **P** **06 36 33.7 +0.2**
baz=273
H23K Yukon River 76.32 25 P **P** **06 36 35.0 +1.1**
baz=272
I23K Minto, Yukon-K 76.42 26 IAmb IAmb 06 36 36.3
comp=Z,12nm,1.3s
I23K Minto, Yukon-K 76.42 26 P **P** **06 36 35.7 +1.3**
baz=273,SNR=5.1
RC01 Rabbit Creek A 76.45 30 P **P** **06 36 35.1 +0.4**
baz=273
D24K Happy Valley 76.48 22 P **P** **06 36 36.2 +1.5**
baz=272
C24K Franklin Bluff 76.50 21 P **P** **06 36 35.9 +1.1**
baz=272
NEA2 Nenana 76.58 26 P **P** **06 36 36.6 +1.2**
baz=273
MCK McKinley 76.68 27 IAmb IAmb 06 36 46.9
comp=Z,11nm,0.8s
MCK McKinley 76.68 27 P **P** **06 36 36.4 +0.4**
baz=273,SNR=9.8
PMR Palmer 76.72 29 P **P** **06 36 36.6 +0.5**
baz=274
F24K Squaw Lake 76.90 23 P **P** **06 36 38.6 +1.4**
baz=273
WAT1 Susitna Watana 76.91 28 P **P** **06 36 37.4 +0.1**
baz=274
WRH Wood River Hil 77.00 26 IAmb IAmb 06 36 52.2
comp=Z,19nm,1.7s
H24K Nodor Dome 77.01 25 IAmb IAmb 06 36 43.2
comp=Z,16nm,1.6s
H24K Noodor Dome 77.01 25 P **P** **06 36 38.8 +0.9**
baz=274
KNK Knik Glacier 77.05 30 P **P** **06 36 38.0 -0.1**
baz=274
SML Sawmill 77.08 29 P **P** **06 36 37.9 -0.4**
SML Sawmill 77.08 29 P **P** **06 36 38.4 +0.1**
baz=274
G24K Hadweenzic Riv 77.11 24 P **P** **06 36 38.6 +0.3**
baz=274
CCB Clear Creek Bu 77.12 26 IAmb IAmb 06 36 49.2
comp=Z,20nm,1.8s
PWL Port Wells 77.15 30 P **P** **06 36 36.9 -1.8**
PWL IAmb IAmb 06 36 57.8
comp=Z,11nm,0.8s
PWL Port Wells 77.15 30 P **P** **06 36 39.2 +0.5**
baz=274
WAT6 Susitna Watana 77.30 28 P **P** **06 36 40.1 +0.4**
baz=275,SNR=7.7
D25K Kavik River 77.34 21 P **P** **06 36 40.7 +1.0**
baz=274
M23K Glacier View 77.37 29 P **P** **06 36 40.4 +0.5**
baz=275
DHY Denali Highway 77.43 28 P **P** **06 36 41.2 +0.9**
baz=275
ILAR Eielson Array 77.50 26 P **P** **06 36 39.6 -1.0**
comp=Z,0.6nm,0.8s,baz=262,slow=4.9,SNR=6.1
ILAR LR LR 07 09 03.9
comp=Z,83nm,22.0s,baz=262,slow=34
comp=Z,0.6nm,0.8s
HDA Harding Lake 77.50 26 IAmb IAmb 06 36 55.1
comp=Z,25nm,1.8s
HDA Harding Lake 77.50 26 P **P** **06 36 41.3 +0.7**
baz=275
SCM Sheep Creek Mo 77.55 29 P **P** **06 36 42.0 +1.0**
baz=275
G25K Bearman Lake 77.65 24 P **P** **06 36 42.6 +1.2**
baz=275
P23K Montague Islan 77.69 31 P **P** **06 36 42.6 +0.9**
baz=276
E25K Arctic Village 77.73 23 P **P** **06 36 43.2 +1.4**
baz=275
F25K Christian River 77.75 23 P **P** **06 36 43.9 +1.9**
baz=275,SNR=5.1
OBN Obninsk 77.80 324 LR LR 07 11 33.0
comp=Z,58nm,19.1s,baz=102,slow=36
M24K Tolsona, Glenn 78.07 29 P **P** **06 36 45.3 +1.4**
baz=276
K24K Donnelly Dome 78.07 27 P **P** **06 36 44.9 +1.1**
baz=276
BMAR Burnt Mountain 78.18 23 P **P** **06 36 45.9 +1.5**
C27K Jago River 78.25 21 P **P** **06 36 45.8 +1.2**
baz=277
KLU Klutina 78.25 29 P **P** **06 36 45.8 +0.9**
baz=276
PAX Paxson 78.30 28 IAmb IAmb 06 36 59.5
comp=Z,31nm,2.0s
PAX Paxson 78.30 28 P **P** **06 36 45.8 +0.7**
baz=277
F26K Sheenjek River 78.31 23 P **P** **06 36 46.5 +1.5**
baz=277
EYAK Cordova Ski Ar 78.45 30 P **P** **06 36 46.8 +1.0**
baz=277
RIDG Independent Ri 78.49 27 IAmb IAmb 06 36 47.6
comp=Z,17nm,1.3s
RIDG Independent Ri 78.49 27 P **P** **06 36 46.8 +0.6**
baz=277
HARP HAARP 78.51 28 P **P** **06 36 47.6 +1.3**
baz=277
G26K Porcupine Rive 78.54 24 P **P** **06 36 47.5 +1.2**
baz=277
SCRK Sand Creek 78.84 27 P **P** **06 36 48.1 0.0**
SCRK Sand Creek 78.84 27 P **P** **06 36 49.2 +1.1**
baz=278
DOT Dot Lake 78.85 27 P **P** **06 36 48.7 +0.6**
DOT IAmb IAmb 06 36 49.7
comp=Z,16nm,1.5s
N25K Chitina, Valde 78.87 29 P **P** **06 36 49.2 +0.9**
baz=278
J26L Joseph Creek 78.95 26 P **P** **06 36 49.6 +0.9**
baz=278
ATD Arta Tunnel 79.13 279 LR LR 07 08 52.4
comp=Z,78nm,21.8s,baz=42,slow=34
E27K Coleen River 79.20 22 P **P** **06 36 51.1 +1.2**
baz=279
L26K Log Cabin Wild 79.25 28 P **P** **06 36 51.4 +1.1**
baz=278
GLB Gilahina Butte 79.27 29 IAmb IAmb 06 36 52.5
comp=Z,27nm,1.6s
G27K Doyon Strip 79.39 24 P **P** **06 36 52.2 +1.2**
baz=279
M26K Nabesna, AK 79.51 28 IAmb IAmb 06 37 07.7
comp=Z,28nm,2.0s
M26K Nabesna, AK 79.51 28 P **P** **06 36 52.9 +1.1**
baz=279
H27K Steamboat Moun 79.54 24 P **P** **06 36 53.1 +1.3**
baz=279
I27K Kandik River 79.60 25 P **P** **06 36 53.8 +1.6**
baz=280
MCARA McCarthy VSAT 79.65 29 P **P** **06 36 53.3 +0.9**
baz=279
EGAK Eagle 79.93 26 P **P** **06 36 54.3 +0.4**
baz=280
L27K Beaver Creek, 79.93 27 P **P** **06 36 55.1 +1.0**
baz=280
BARN Barnard Glacie 80.36 29 IAmb IAmb 06 37 11.7
comp=Z,8.8nm,1.0s
SPITS Spitsbergen Ar 80.56 349 LR LR 07 18 30.8
comp=Z,255nm,18.2s,baz=42,slow=40
ARCES ARCESS Array B 80.57 339 P **P** **06 36 57.7 +0.4**
comp=Z,4.7nm,0.8s,baz=64,slow=5.5,SNR=8.7
ARCES LR LR 07 18 11.8
comp=Z,217nm,18.4s,baz=82,slow=40
comp=Z,4.7nm,0.8s
YUK3 Moose Creek 80.79 29 P **P** **06 36 60.0 +1.1**
baz=281
DAWY Dawson 80.82 26 P **P** **06 36 59.1 +0.3**
DAWY Dawson 80.82 26 P **P** **06 36 60.0 +1.2**
baz=282
I29M Ogilvie Camp, 81.01 25 P **P** **06 37 00.7 +1.0**
baz=282
O28M Mount Upton 81.11 30 P **P** **06 37 01.5 +0.8**
baz=282
YUK8 Steele Glacier 81.21 29 P **P** **06 37 02.0 +0.8**
baz=282
PINM Pinnacle 81.22 30 P **P** **06 37 01.7 +0.7**
baz=282
EPYK Eagle Plains 81.41 24 IAmb IAmb 06 37 03.8
comp=Z,32nm,1.8s
EPYK Eagle Plains 81.41 24 P **P** **06 37 02.2 +0.3**
baz=284
G30M tAoh Zraii Nji 81.46 23 P **P** **06 37 02.2 +0.1**
baz=284
M29M Somme Creek 81.57 28 P **P** **06 37 04.6 +1.7**
baz=283
L29M L29M 81.58 27 P **P** **06 37 04.6 +1.8**
baz=283
K29M Barlow Dome 81.67 26 P **P** **06 37 04.6 +1.2**
baz=283
YUK4 Talbot Arm 81.73 29 P **P** **06 37 05.4 +1.6**
baz=283
YUK6 Outpost Mounta 81.95 29 P **P** **06 37 06.2 +1.2**
baz=283
O29M Mount Kennedy 81.99 30 P **P** **06 37 05.7 +0.5**
baz=283
BRTR Keskin Array B 82.02 309 P **P** **06 37 07.0 +1.2**
comp=Z,0.8nm,0.8s,baz=47,slow=5.6,SNR=2.1
BRTR LR LR 07 18 56.7
comp=Z,217nm,18.5s,baz=76,slow=40
comp=Z,0.8nm,0.8s
INK Inuvik 82.11 22 LR LR 07 15 26.9
comp=Z,84nm,19.8s,baz=292,slow=37
INK Inuvik 82.11 22 P **P** **06 37 05.1 -0.3**
INK IAmb IAmb 06 37 10.3
comp=Z,11nm,1.3s
INK Inuvik 82.11 22 P **P** **06 37 05.7 +0.3**
baz=286
RAR Rarotonga 82.13 114 LR LR 07 08 01.2
comp=Z,187nm,20.5s,baz=288,slow=32
FINES FINESS Array B 82.20 331 P **P** **06 37 05.5 -0.5**
comp=Z,5.0nm,0.9s,baz=57,slow=5.1,SNR=11
FINES LR LR 07 14 43.9
comp=Z,196nm,18.8s,baz=46,slow=36
comp=Z,5.0nm,0.9s
F31M Tsiigehtchic 82.27 22 P **P** **06 37 06.5 +0.3**
baz=286
M30M Minto, Yukon 82.30 27 P **P** **06 37 07.3 +0.7**
baz=284
HYT Haines Junctio 82.39 29 P **P** **06 37 08.3 +1.1**
baz=284
P30M Million Dollar 82.82 30 P **P** **06 37 11.0 +1.6**
baz=284
MNK Minsk 82.85 324 *i* P **P** **06 37 11.6 +2.1**
MNK *i* P **P** **06 37 11.6 +2.1**
MNK *i* P **P** **06 37 11.6 +2.1**
baz=77
MNK *i* pP **sP** **06 37 30.7 +0.7**
MNK *i* PP **PP** **06 40 22.3 +2.3**
MNK *i* S **S** **06 47 24.9 +0.8**
MNK *i* SS **SS** **06 52 49.6 +2.4**
MNK *i* SSS SSS 06 56 43.1
MNK *i* LQ LQ 07 08 46.4
MNK *i* LR LR 07 13 37.7
MNK *i* LRM MLR 07 16 06.0
comp=E,51nm,15.2s
MNK *i* LRM MLR 07 17 33.1
comp=Z,304nm,16.3s
MNK *i* LRM MLR 07 17 36.3
comp=N,549nm,15.2s
EIL Elat 82.87 299 LR LR 07 18 34.4
comp=N,149nm,21.1s,baz=60,slow=39
AKASG Malin Array Be 82.89 320 P **P** **06 37 10.5 +0.7**
comp=N,3.0nm,0.9s,baz=61,slow=4.5,SNR=9.1
AKASG LR LR 07 18 08.5
comp=N,178nm,18.9s,baz=74,slow=39
comp=N,3.0nm,0.9s
N31M Braeburn, Yuko 83.03 28 P **P** **06 37 11.6 +1.2**
baz=285
O30N Mendenhall 83.07 29 P **P** **06 37 11.7 +1.0**
baz=285
PLBC Pleasant Camp 83.28 30 P **P** **06 37 12.1 +0.4**
baz=285
NACGM Naroch 83.38 325 *e*P **P** **06 37 15.1 +2.8**
comp=Z,21nm,0.8s,baz=76
M31M Drury Creek, Y 83.47 28 P **P** **06 37 13.3 +0.6**
baz=286
A36M Sachs Harbour 83.51 17 P **P** **06 37 13.3 +0.7**
baz=294
WHY Whitehorse 83.68 29 IAmb IAmb 06 37 16.9
comp=Z,13nm,1.2s
WHY Whitehorse 83.68 29 P **P** **06 37 15.2 +1.4**
baz=286
S31K Pelican 83.73 32 P **P** **06 37 15.2 +1.2**
baz=285
SKAG Skagway 83.79 30 P **P** **06 37 15.9 +1.7**
baz=286
FARO Faro, Yukon 83.93 27 P **P** **06 37 16.5 +1.5**
baz=287
N32M Quiet Lake 84.38 28 P **P** **06 37 18.7 +1.4**
baz=288
SIT Sitka 84.45 33 P **P** **06 37 19.1 +1.4**
baz=286
P32M Atlin 84.54 30 P **P** **06 37 19.4 +1.2**
baz=287
P33M Teslin, Yukon 84.79 29 P **P** **06 37 17.9 -1.6**
P33M IAmb IAmb 06 37 21.5
comp=Z,12nm,1.5s
P33M Teslin, Yukon 84.79 29 P **P** **06 37 20.7 +1.3**
baz=288
C36M Paulatuk 84.96 19 P **P** **06 37 20.6 +0.7**
C36M IAmb IAmb 06 37 31.7
comp=Z,20nm,1.4s
C36M Paulatuk 84.96 19 P **P** **06 37 21.3 +1.3**
baz=295
Q32M Nakina River 85.44 30 P **P** **06 37 24.4 +1.5**

baz=288
R33M Jennings River 85.93 30 P **P 06 37 27.0 +1.7**
baz=290
BURAR Bucovina Array 86.19 318 P **P 06 37 27.0 +0.3**
BURAR IAmb IAmb 06 37 32.9
comp=Z,8.7nm,0.8s
BUR08 Bucovina Ar. S 86.19 318 P **P 06 37 25.7 -1.0**
BUR08 IAmb IAmb 06 37 49.1
comp=Z,8.4nm,0.8s
MLR Muntele Rosu 86.27 316 LR LR 07 20 20.1
comp=Z,467nm,21.2s,baz=82,slow=39
S34M Telegraph Cree 86.35 31 P **P 06 37 28.6 +1.4**
baz=290
WTLY Watson Lake, Y 86.72 29 IAmb IAmb 06 37 31.6
comp=Z,11nm,1.2s
WTLY Watson Lake, Y 86.72 29 P **P 06 37 30.4 +1.5**
baz=291
DLBC Dease Lake 86.72 30 LR LR 07 17 52.5
comp=Z,66nm,20.0s,baz=297,slow=37
DLBC Dease Lake 86.72 30 P **P 06 37 30.5 +1.4**
baz=290
CRVS Cervenica-Dubn 88.21 320 *e*P P 06 37 42.1 +5.7
HFS Hagfors 88.36 332 LR LR 07 18 46.4
comp=Z,365nm,19.4s,baz=53,slow=37
RES Resolute Bay 88.76 10 LR LR 07 19 34.0
comp=Z,77nm,19.8s,baz=22,slow=37
RES Resolute Bay 88.76 10 IAmb IAmb 06 37 44.5
comp=Z,4.9nm,0.9s
NB2 NORSAR Subarra 89.08 333 P **P 06 37 42.3 +2.1**
comp=Z,8.7nm,1.1s,baz=65,slow=4.6
NB2 NORSAR Subarra 89.08 333 P **P 06 37 42.3 +2.1**
baz=65,slow=4.6
NOA NORSAR Array B 89.08 333 P **P 06 37 41.5 +1.3**
comp=Z,1.5nm,0.7s,baz=66,slow=4.7,SNR=3.7
NOA LR LR 07 21 18.0
comp=Z,360nm,18.6s,baz=55,slow=38
comp=Z,1.5nm,0.7s
BBB Bella Bella 90.00 36 LR LR 07 15 17.3
comp=Z,61nm,18.8s,baz=290,slow=34
PPT Papeete 90.42 108 LR LR 07 11 17.9
comp=Z,125nm,19.5s,baz=285,slow=31
PPT2 Papeete2 90.43 108 *e*S **S 06 48 36.8 -2.1**
comp=Z,97nm,26.5s
PPT2 Papeete2 90.43 108 *e*LR LR 07 06 50.3
comp=Z,357nm,24.2s
PPT2 *e*LR LR 07 06 50.5
comp=Z,387nm,23.2s
VRAC Vranov 91.08 321 LR LR 07 23 01.5
comp=Z,213nm,18.3s,baz=74,slow=38
YKA Yellowknife Ar 91.70 23 P **P 06 37 53.0 +0.7**
comp=Z,1.1nm,0.9s,baz=303,slow=4.6,SNR=12
comp=Z,1.1nm,0.9s
TBI Tubuai 91.90 113 *e*S **S 06 48 49.1 -2.8**
comp=Z,386nm,31.0s
TBI *e*SS **SS 06 55 02.0 +0.5**
comp=Z,895nm,37.2s
TBI Tubuai 91.90 113 *e*LR LR 07 07 30.3
comp=Z,6μm,24.8s
TBI *e*LR LR 07 07 30.4
comp=Z,2μm,25.2s
GERES GERESS Array B 93.01 322 P **P 06 37 59.3 +0.5**
comp=Z,0.3nm,0.5s,baz=54,slow=8.6,SNR=2.5
comp=Z,0.3nm,0.5s
VNDA Vanda 93.28 172 LR LR 07 22 36.7
comp=Z,115nm,18.6s,baz=344,slow=37
MBAR Mbarara 93.54 270 LR LR 07 15 43.8
comp=Z,88nm,21.8s,baz=64,slow=33
DAVOX Davos/Dischmat 96.22 321 LR LR 07 26 03.0
comp=Z,276nm,18.0s,baz=64,slow=38
TAOE Nuku Hiva Isla 97.43 97 *e*LR LR 07 10 04.4
comp=Z,176nm,22.1s
YBH Yreka Blue Hor 97.60 44 LR LR 07 14 56.8
comp=Z,65nm,20.4s,baz=303,slow=31
BORG Borgarnes 97.82 346 LR LR 07 26 57.5
comp=Z,124nm,18.8s,baz=24,slow=38
NEW Newport 98.06 36 LR LR 07 21 07.0
comp=Z,45nm,18.9s,baz=313,slow=34
EKA Eskdalemuir Ar 98.54 333 LR LR 07 25 10.8
comp=Z,206nm,20.4s,baz=0.0,slow=37
LSZ Lusaka 99.17 256 LR LR 07 22 04.2
comp=Z,148nm,18.4s,baz=92,slow=35
SFJD Kangerlussuaq 99.73 358 LR LR 07 23 32.3
comp=Z,80nm,21.6s,baz=0.5,slow=35
RKT Rikitea 104.93 111 *e*LR LR 07 13 33.2
comp=Z,54μm,31.0s
JCT Junction City 119.18 43 P **PKiKP 06 43 34.9 +0.2**
baz=310
O53A New Philadelph 121.61 23 P **PKiKP 06 43 39.1 -0.1**
baz=331
WVT Waverly 122.16 31 P **PKiKP 06 43 40.3 0.0**
baz=323
L61B Northampton 122.28 15 P **PKiKP 06 43 40.4 0.0**
baz=341
HRV Adam Dziewonsk 122.49 14 P **PKPdf 06 43 40.4 -0.3**
baz=342
KMSC Kings Mountain 125.96 26 P **PKPdf 06 43 47.0 -0.5**
baz=329
PLCA Paso Flores 149.86 157 PKPbc **PKPbc 06 44 35.9 +0.4**
comp=Z,8.9nm,1.2s,baz=186,slow=3.2,SNR=7.3

IDC ***11*** *06:57:03.2±1.9,8°.13S×120°.48E, h0km, mb3.6/3, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=209.5km s-min=24.7km az=54.0*
DJA ***11*** *06:57:26.5±0.6,8°.5S±8°×12°.1E±°, h172km±13km, M3.9/9, MLv3.9/9*
ISC 11 06:57:25.1±1.1, 8°.3S±0°.1×120°.91E±0°.05, h200km, n11, σ1s25/17, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.35**	**103**	P	**Pn**	**06 57 57.4**	**-0.2**
BASI	**Baing, Sumba**	**1.91**	**190**	P	**Pn**	**06 58 02.2**	**-0.5**
BASI				S	**Sn**	**06 58 32.1**	**0.0**
WBSI	**Waikabubak, Su**	**1.99**	**229**	P	**Pn**	**06 58 03.2**	**-0.4**
WBSI				S	**Sn**	**06 58 31.5**	**-2.0**
PLAI	**Plampang**	**3.13**	**261**	P	**Pn**	**06 58 17.4**	**+1.0**
PLAI				S	**Sn**	**06 58 56.4**	**0.0**
BATI	**Baumata**	**3.30**	**125**	P	**Pn**	**06 58 21.3**	**+2.9**
BATI				S	**Sn**	**06 59 00.0**	**-0.2**
SOEI	**Soe**	**3.61**	**113**	P	**Pn**	**06 58 22.0**	**-0.3**
SOEI				S	**Sn**	**06 59 05.2**	**-1.8**
TWSI	**Taliwang, Sumb**	**4.00**	**264**	P	**Pn**	**06 58 28.2**	**+1.3**
TWSI				S	**Sn**	**06 59 15.0**	**-0.4**
WRA	**Warramunga Arr**	**17.39**	**133**	P	**P**	**07 01 13.9**	**-0.5**
	0.2nm,0.3s,baz=308,slow=13,SNR=10						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**19.69**	**142**	P	**P**	**07 01 39.6**	**+0.2**
	0.7nm,0.6s,baz=322,slow=8.7,SNR=18						
	0.7nm,0.6s						
STKA	**Stephens Creek**	**30.32**	**143**	P	**P**	**07 03 19.2**	**+1.2**
	0.8nm,0.3s,baz=318,slow=9.5,SNR=4.5						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**64.74**	**332**	P	**P**	**07 07 41.1**	**-1.0**
	0.3nm,0.5s,baz=146,slow=6.7,SNR=6.0						
	0.3nm,0.5s						

IDC ***11*** *07:12:03.9±2.8,2°.28N×93°.27E, h0km, mb3.7/4, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=69.3km s-min=29.1km az=50.0*
ISC 11 07:12:09.7±2.2, 2°.4N±0°.2×93°.5E±0°.2, h35km, n9, σ0s92/6, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.49**	**85**	Pn	**Pn**	**07 13 28.9**	**-0.2**
	1.0nm,0.3s,baz=246,slow=12,SNR=2.0						
	3.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**16.88**	**18**	P	**Pn**	**07 16 03.4**	**0.0**
	1.1nm,0.4s,baz=212,slow=14,SNR=4.5						
H08S2	**Diego Garcia H**	**23.15**	**244**	T	T	07 40 50.2	
	baz=64						
H08S3	**Diego Garcia H**	**23.15**	**244**	T	T	07 40 45.2	
	baz=64						
H08S1	**Diego Carcia H**	**23.16**	**244**	T	T	07 40 45.5	
	baz=64						
MKAR	**Makanchi Array**	**45.32**	**349**	P	**P**	**07 20 24.0**	**-0.3**
	0.7nm,0.6s,baz=153,slow=8.9,SNR=5.0						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**45.83**	**121**	P	**P**	**07 20 28.9**	**+0.1**
	0.3nm,0.8s,baz=300,slow=8.7,SNR=1.4						
	0.3nm,0.8s						
SONM	**Songino Array**	**46.67**	**12**	P	**P**	**07 20 36.1**	**+1.1**
	0.5nm,0.6s,baz=194,slow=8.3,SNR=4.2						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**51.91**	**354**	P	**P**	**07 21 13.7**	**-1.1**
	1.0nm,0.4s,baz=168,slow=7.0,SNR=5.4						
	1.0nm,0.4s						

JMA ***11*** *07:12:25.6±0.1,36°.3N±0°.3×14°.2E±°, h73km±4km, MV3.0/23, FAR E OFF IBARAKI PREF*
IDC ***11*** *07:12:28.5±2.8,36°.84N×141°.88E, h0km, mb3.5/4, mbtmp3.5/5, ML2.4/1, MS2.6/1, Error ellipse: s-maj=68.2km s-min=33.9km az=62.0*
ISC 11 07:12:26.7±1.6, 36°.33N±0°.06×142°.2E±0°.1, h19km, n22, σ0s84/19, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.23**	**240**	P	**Pn**	**07 12 48.0**	**-0.9**
JHYU	**Hitachinakayam**	**1.27**	**271**	P	**Pn**	**07 12 48.6**	**-0.8**
JHYU				S	**Sn**	**07 13 06.3**	**+0.3**
JHO	**Hitachi**	**1.31**	**283**	P	**Pn**	**07 12 48.9**	**-1.1**
JHO				S	**Sn**	**07 13 06.4**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.34**	**305**	P	**Pn**	**07 12 49.3**	**-1.2**
BSO1	**Boso 1**	**1.93**	**210**	P	**Pn**	**07 12 57.2**	**-0.9**
BSO1				S	**Sn**	**07 13 21.4**	**-0.2**
JAG	**Ashikaga**	**2.19**	**273**	P	**Pn**	**07 13 01.4**	**-0.7**
JRY	**Ryogami san**	**2.66**	**264**	P	**Pn**	**07 13 08.0**	**-0.5**
JOD2	**Odawara 2**	**2.72**	**248**	P	**Pn**	**07 13 09.2**	**-0.2**
JOD2				S	**Sn**	**07 13 41.6**	**-0.2**
JMK	**Ichinoseki**	**2.72**	**344**	P	**Pn**	**07 13 08.7**	**-0.6**
JYN	**Shimob**	**3.05**	**255**	P	**Pn**	**07 13 14.0**	**-0.1**
JYN				S	**Sn**	**07 13 49.7**	**-0.4**
MJAR	**Matsushiro Arr**	**3.19**	**275**	Pn	**Pn**	**07 13 16.6**	**+0.7**
	0.6nm,0.3s,baz=108,slow=9.3,SNR=10						
	2.4nm,0.3s						
KSRS	**Korea Array**	**11.46**	**280**	LR	LR	07 19 07.2	
	comp=Z,33nm,19.4s,baz=205,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.27**	**121**	T	T	07 46 47.6	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**27.28**	**121**	T	T	07 46 45.4	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**27.29**	**121**	T	T	07 46 47.6	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	07 47 38.9	
	baz=317,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	07 47 37.0	
	baz=317						
H11S2	**WAKE ISLAND Hy**	**27.99**	**123**	T	T	07 47 34.3	
	baz=317,slow=74						
SONM	**Songino Array**	**28.68**	**305**	P	**P**	**07 18 22.3**	**-0.1**
	0.5nm,0.6s,baz=106,slow=8.8,SNR=3.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**45.00**	**303**	P	**P**	**07 20 42.9**	**+2.0**
	0.5nm,0.6s,baz=86,slow=12,SNR=4.8						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**46.91**	**309**	P	**P**	**07 20 55.7**	**0.0**
	0.3nm,0.2s,baz=85,slow=8.6,SNR=3.3						
	0.3nm,0.2s						
WRA	**Warramunga Arr**	**56.46**	**189**	P	P	07 22 15.2	+7.9
	0.1nm,0.3s,baz=2.6,slow=7.5,SNR=2.8						
	0.1nm,0.3s						

NIED ***11*** *07:36:31.2,37°.23N×142°.38E, h15km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=5.00; Mθθ1.31; Mϕϕ3.69; Mrθ1.52; Mθϕ2.17; Mϕr3.86; Fault plane solution: M0 6.49000×10^14 NP1: ϕs205.00000°, δ65.00000°, λ-95.00000°. NP2:ϕs36.00000°, δ26.00000°, λ-80.00000°.*
JMA ***11*** *07:36:31.2±0.4,37°.2N±0°.7×14°.2E±°, h15km±4km, MD4.3/35, MV4.2/35, E OFF FUKUSHIMA PREF*
IDC ***11*** *07:36:32.3±0.9,37°.22N×142°.25E, h0km, mb3.8/11, mbtmp3.8/16, ML3.3/5, MS2.9/4, Error ellipse: s-maj=19.8km s-min=18.1km az=105.0*
ISC 11 07:36:36.2±0.8, 37°.28N±0°.06×142°.11E±0°.06, h24km, n44, σ1s16/34, mb3.7/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.99**	**275**	P	**Pb**	**07 36 53.1**	**-1.6**
JFK				*e*S	**Sb**	**07 37 08.8**	**+1.5**
JFK	**Kawauchi**	**0.99**	**275**	A	A	07 36 53.1	
	comp=E,3.0nm,0.6s,comp=E,2.0nm,0.8s						
ONAJ	**Iwakimizuishiy**	**1.06**	**261**	P	**Pn**	**07 36 54.2**	**-1.5**
JMST	**Minamisoumatoc**	**1.07**	**295**	P	**Pn**	**07 36 54.0**	**-1.7**
JIKH	**Ishinomakibobu**	**1.15**	**334**	P	**Pn**	**07 36 54.7**	**-2.1**
JIKH				S	**Sb**	**07 37 11.3**	**-0.5**
JMM	**Marumori**	**1.20**	**300**	P	**Pn**	**07 36 56.0**	**-1.5**
JIO	**Ouri**	**1.32**	**333**	P	**Pn**	**07 36 57.3**	**-1.8**
JIO				*e*S	**Sn**	**07 37 16.5**	**+0.6**
JOU	**Okura**	**1.58**	**314**	P	**Pn**	**07 37 02.0**	**-0.7**
JOU	**Okura**	**1.58**	**314**	A	A	07 37 02.0	
	comp=E,5.0nm,0.8s,comp=E,6.0nm,1.0s						
JYAR	**Yonezawaarcadi**	**1.68**	**293**	A	A	07 37 03.8	
	comp=E,10.0nm,1.2s,comp=E,7.0nm,4.2s						
JSB	**Shiboa**	**1.78**	**261**	A	A	07 37 05.0	
	comp=E,7.0nm,3.1s,comp=E,6.0nm,5.4s						
JMK	**Ichinoseki**	**1.81**	**337**	*i* P	**Pn**	**07 37 04.9**	**-1.0**
JYS	**Shirataka**	**1.87**	**301**	P	**Pn**	**07 37 07.5**	**+0.7**
JFY	**Yanaizu**	**1.92**	**274**	P	**Pn**	**07 37 07.4**	**0.0**
JYK	**Kaneyama**	**2.14**	**320**	P	**Pn**	**07 37 10.0**	**-0.5**
JOM	**Ohasama**	**2.28**	**344**	P	**Pn**	**07 37 11.7**	**-0.7**
JAG	**Ashikaga**	**2.29**	**249**	*i* P	**Pn**	**07 37 12.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.21**	**258**	Pn	**Pn**	**07 37 25.6**	**+0.5**
	0.8nm,0.3s,baz=81,slow=14,SNR=16						
MJAR				Sn	**Sb**	**07 38 09.5**	**-1.8**
	0.6nm,0.3s,baz=74,slow=15,SNR=5.4						
MJAR				LR	LR	07 38 15.6	
	comp=Z,62nm,20.2s,baz=69,slow=31						
	6.9nm,0.4s						
ASAJ	**Asahikawa**	**6.84**	**3**	Pn	**Pn**	**07 38 15.6**	**+0.6**
	0.9nm,0.3s,baz=194,slow=12,SNR=1.7						
ASAJ				Sn	**Sn**	**07 39 32.8**	**+0.8**
	0.5nm,0.3s,baz=357,slow=17,SNR=1.5						
	7.7nm,0.8s						
JNU	**Nakatsue**	**10.08**	**249**	LR	LR	07 42 24.6	
	comp=Z,48nm,20.6s,baz=44,slow=35						
USRK	**Ussuriysk Ar.**	**10.33**	**315**	Pn	**Pn**	**07 39 04.9**	**+2.1**
	0.2nm,0.3s,baz=118,slow=14,SNR=2.9						
	3.6nm,0.8s						
KSRS	**Korea Array**	**11.29**	**275**	Pn	**Pn**	**07 39 15.9**	**-0.1**
	0.3nm,0.3s,baz=83,slow=16,SNR=2.2						
KSRS				LR	LR	07 43 22.3	
	comp=Z,62nm,21.9s,baz=320,slow=36						
	0.9nm,0.3s						
KLR	**Kul'dur**	**14.11**	**331**	Pn	**Pn**	**07 39 56.7**	**+2.3**
	0.1nm,0.3s,baz=108,slow=9.6,SNR=1.7						
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.80**	**122**	T	T	08 11 21.1	
	baz=315,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**27.81**	**122**	T	T	08 11 17.0	
	baz=315,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**27.82**	**122**	T	T	08 11 26.1	
	baz=315,slow=75,SNR=67						
SONM	**Songino Array**	**28.11**	**303**	P	**P**	**07 42 26.5**	**+0.3**
	2.9nm,1.0s,baz=102,slow=8.9,SNR=8.8						
	2.9nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	08 12 18.3	
	baz=317,slow=76,SNR=107						
H11S3	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	08 12 18.0	
	baz=317,slow=76,SNR=103						
H11S2	**WAKE ISLAND Hy**	**28.55**	**124**	T	T	08 12 19.1	
	baz=317,slow=76,SNR=74						
ZALV	**Zalesovo Beam**	**42.16**	**312**	P	**P**	**07 44 27.4**	**+0.8**
	2.0nm,0.6s,baz=86,slow=6.5,SNR=7.8						
	2.0nm,0.6s						
MKAR	**Makanchi Array**	**44.46**	**302**	P	**P**	**07 44 45.8**	**+0.5**
	3.6nm,0.8s,baz=87,slow=9.2,SNR=37						
	3.6nm,0.8s						
KURBB	**Kurchatov Arra**	**46.29**	**308**	P	**P**	**07 45 00.3**	**+0.6**
	4.8nm,0.5s,baz=82,slow=8.0,SNR=46						
	4.8nm,0.5s						
ILAR	**Eielson Array**	**48.99**	**32**	P	**P**	**07 45 20.6**	**+0.2**
	0.6nm,0.8s,baz=266,slow=5.8,SNR=7.1						
	0.6nm,0.8s						
INK	**Inuvik**	**53.91**	**27**	P	**P**	**07 45 55.6**	**-1.5**
	1.0nm,1.1s,baz=338,slow=5.4,SNR=2.4						
	1.0nm,1.1s						
WRA	**Warramunga Arr**	**57.38**	**189**	P	**P**	**07 46 21.9**	**-0.8**
	0.5nm,0.7s,baz=3.3,slow=7.3,SNR=8.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**61.11**	**189**	P	**P**	**07 46 48.4**	**0.0**
	0.6nm,0.9s,baz=16,slow=6.9,SNR=4.2						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**63.31**	**30**	P	**P**	**07 47 02.3**	**-0.4**
	0.2nm,0.7s,baz=302,slow=6.5,SNR=2.9						
	0.2nm,0.7s						
AKASG	**Malin Array Be**	**74.44**	**323**	P	**P**	**07 48 12.4**	**+0.3**
	0.2nm,0.4s,baz=58,slow=6.5,SNR=2.1						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**77.10**	**46**	P	**P**	**07 48 28.4**	**+0.6**
	0.2nm,0.5s,baz=308,slow=4.4,SNR=2.1						
	0.2nm,0.5s						
TKL	**Tuckaleenee C**	**95.86**	**36**	LR	LR	08 41 34.4	
	comp=Z,20nm,18.0s,baz=120,slow=41						
H03N2	**Juan Fernandez**	**146.50**	**96**	T	T	10 39 49.3	
	baz=291,slow=76,SNR=9.6						
H03N3	**Juan Fernandez**	**146.51**	**96**	T	T	10 39 49.7	
	baz=291,slow=76,SNR=10						
H03N1	**Juan Fernandez**	**146.51**	**96**	T	T	10 39 48.2	
	baz=291,slow=76,SNR=13						

IDC ***11*** *07:43:04.4±0.9,78°.00N×97°.42E, h0km, mb3.6/11, mbtmp3.7/13, ML4.1/2, Error ellipse: s-maj=24.8km s-min=16.4km az=122.0*
IEPN ***11*** *07:43:09.0, 77°.81N×97°.65E, h5km*
ISC 11 07:43:05.5±0.6, 78°.01N±0°.06×96°.61E±0°.07, h10km, n20, σ2s75/28, mb3.4/10, 1D, Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVZ	**Severnaya Zeml**	**1.62**	**36**	||*i* P	**Pb**	**07 43 33.9**	**-1.5**
SVZ				*e*S	**Sb**	**07 43 54.6**	**-1.2**
	512nm,0.3s						
NRIK	**Noril'sk**	**9.06**	**201**	Pn	**Pn**	**07 45 15.1**	**-1.0**
	1.0nm,0.3s,baz=22,slow=16,SNR=7.4						
NRIK				Sn	**Sn**	**07 46 50.8**	**-7.1**
	0.5nm,0.3s,baz=357,slow=22,SNR=1.6						
	2.9nm,0.4s						
ZFI	**Zemlya Franca-**	**9.16**	**310**	*e*P	**Pn**	**07 45 20.8**	**+3.4**
ZFI				*e*S	**Sn**	**07 46 59.4**	**-0.9**
AMDE	**Amderma**	**12.46**	**247**	*e*P	**Pn**	**07 46 02.3**	**-0.3**
	2.3nm,0.9s						
AMDE				*e*S	Sn	07 48 13.2	-8.0
HOPEN	**Hopen**	**14.97**	**300**	*e*P	**Pn**	**07 46 36.7**	**+0.1**
HOPEN				*e*S	**Sn**	**07 49 16.7**	**-5.5**
SPA0	**Spitsbergen Ar**	**15.38**	**310**	*e*P	**P**	**07 46 47.0**	**+0.2**
SPA0				*e*S	**Sn**	**07 49 29.3**	**-2.9**
SPITS	**Spitsbergen Ar**	**15.38**	**310**	Pn	**Pn**	**07 46 42.9**	**+0.7**
	baz=64,slow=20						
SPITS				Sn	**Sn**	**07 49 28.6**	**-3.6**
	baz=69,slow=22						
	2.1nm,0.4s						
HSPB	**Hornsund (broa**	**16.29**	**307**	*e*P	**Pn**	**07 46 55.1**	**+1.3**
HSPB				S	**Sn**	**07 49 48.4**	**-5.8**
ARA0	**ARCESS Array S**	**20.08**	**284**	*e*P	**P**	**07 47 40.4**	**+1.9**
ARA0				*e*S	S	07 51 10.6	-13
ARCES	**ARCESS Array B**	**20.08**	**284**	P	**P**	**07 47 40.5**	**+1.9**
	2.0nm,0.5s,baz=45,slow=9.7,SNR=16						
	2.0nm,0.5s						
BVAR	**Borovoye Array**	**26.79**	**216**	P	**P**	**07 48 46.0**	**+0.8**
	0.6nm,0.7s,baz=60,slow=8.5,SNR=2.8						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**26.99**	**273**	P	**P**	**07 48 49.1**	**+2.3**
	5.3nm,1.1s,baz=27,slow=9.6,SNR=1.5						
	5.3nm,1.1s						
KURBB	**Kurchatov Arra**	**28.30**	**205**	P	**P**	**07 49 00.7**	**+2.1**
	0.1nm,0.3s,baz=20,slow=7.9,SNR=2.2						
	0.1nm,0.3s						
SONM	**Songino Array**	**30.52**	**167**	P	**P**	**07 49 20.2**	**+1.7**
	0.3nm,0.5s,baz=5.6,slow=5.9,SNR=2.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**31.82**	**199**	P	**P**	**07 49 29.0**	**-0.9**
	0.5nm,0.5s,baz=359,slow=7.3,SNR=6.8						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**32.48**	**46**	P	**P**	**07 49 34.0**	**-1.5**
	0.3nm,0.8s,baz=343,slow=8.9,SNR=2.7						
	0.3nm,0.8s						
AKASG	**Malin Array Be**	**36.31**	**262**	P	**P**	**07 50 10.4**	**+1.7**
	0.6nm,0.4s,baz=23,slow=9.4,SNR=4.4						
	0.6nm,0.4s						
YKA	**Yellowknife Ar**	**38.46**	**23**	P	**P**	**07 50 26.6**	**-0.1**
	0.4nm,0.7s,baz=345,slow=8.5,SNR=6.8						
YKA				PcP	**PcP**	**07 52 39.4**	**0.0**
	0.1nm,0.7s,baz=337,slow=3.3,SNR=3.8						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**45.91**	**253**	P	**P**	**07 51 30.6**	**+2.7**
	1.0nm,0.8s,baz=12,slow=7.9,SNR=2.6						
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**58.44**	**22**	P	**P**	**07 53 01.4**	**+0.2**
	0.1nm,0.5s,baz=19,slow=5.7,SNR=2.5						
	0.1nm,0.5s						

WEL 11 07:51:43.3±1.1, 41°.5S±7°.1×17°.3E±°, h157km±7km, M2.7/9, MLv2.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=109.1, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRNZ	**Matariki Terra**	**0.20**	**129**	P	Pn	07 52 05.3	+0.9
MRNZ				S	Sn	07 52 22.4	+1.9
TKNZ	**Takaka Hill**	**0.39**	**53**	P	Pn	07 52 05.7	+0.8
TKNZ				S	Sn	07 52 23.1	+1.6
QRZ	**Quartz Range**	**0.45**	**358**	P	Pn	07 52 06.2	+1.0
QRZ				S	Sn	07 52 23.6	+1.7
THZ	**Tophouse**	**0.56**	**152**	P	Pn	07 52 06.7	+0.9
THZ				S	Sn	07 52 24.7	+1.7
NNZ	**Nelson**	**0.63**	**85**	P	Pn	07 52 06.6	+0.6
DSZ	**Denniston Nort**	**0.73**	**230**	P	Pn	07 52 07.5	+0.7
TUWZ	**Tuamarina**	**1.06**	**99**	P	Pn	07 52 09.5	+0.4
TUWZ				S	Sn	07 52 29.6	+0.6
DUWZ	**D'Urville Isla**	**1.14**	**66**	P	Pn	07 52 10.0	+0.1
DUWZ				S	Sn	07 52 30.9	+0.6
TCW	**Tory Channel**	**1.30**	**88**	P	Pn	07 52 11.3	-0.1
TCW				S	Sn	07 52 32.4	-0.5
KHZ	**Kahutara**	**1.36**	**147**	P	Pn	07 52 12.1	+0.3
KHZ				S	Sn	07 52 33.9	0.0
LTZ	**Lake Taylor**	**1.52**	**188**	P	Pn	07 52 13.2	-0.4
INZ	**Inchbonnie**	**1.67**	**209**	P	Pn	07 52 15.0	0.0
INZ				S	Sn	07 52 38.7	-1.0
WEL	**Wellington**	**1.67**	**91**	P	Pn	07 52 14.4	-0.7
KIW	**Kapiti Island**	**1.83**	**78**	P	Pn	07 52 16.0	-0.9
KIW				S	Sn	07 52 41.6	-1.2
AMCZ	**Amberley**	**1.91**	**178**	P	Pn	07 52 17.6	0.0
CAW	**Cannon Point**	**1.91**	**86**	P	Pn	07 52 16.6	-1.1
OGWZ	**Otaki Gorge**	**2.03**	**78**	P	Pn	07 52 18.1	-1.0
PAWZ	**Paruwai Farm**	**2.17**	**94**	P	Pn	07 52 19.3	-1.4
MTW	**Mount Morrison**	**2.23**	**88**	P	Pn	07 52 20.0	-1.5
NBEZ	**Newall Road No**	**2.24**	**27**	P	Pn	07 52 20.8	-0.8
WVZ	**Waitaha Valley**	**2.25**	**216**	P	Pn	07 52 20.9	-0.7
KHEZ	**Kahui Hut**	**2.27**	**30**	P	Pn	07 52

BKZ	**Black Stump Fm**	**3.68**	**56**	P		Pn	07 52 36.1	-3.5
NMHZ	**Naumai**	**3.92**	**58**	P		Pn	07 52 39.7	-3.0
JCZ	**Jackson Bay**	**3.94**	**224**	P		Pn	07 52 41.1	-1.9
ARHZ	**Aropaoanui**	**3.95**	**61**	P		Pn	07 52 39.7	-3.3
ODZ	**Otahua Downs**	**4.02**	**200**	P		Pn	07 52 42.2	-1.7
WKZ	**Wanaka**	**4.40**	**215**	P		Pn	07 52 46.0	-2.8
KNZ	**Kokohu**	**4.52**	**62**	P		Pn	07 52 46.2	-4.2
EAZ	**Earnscleugh**	**4.61**	**210**	P		Pn	07 52 48.6	-3.0
MHGZ	**Mahia Peninsul**	**4.61**	**64**	P		Pn	07 52 48.0	-3.7
URZ	**Urewera**	**4.62**	**51**	P		Pn	07 52 46.9	-5.0
RIGZ	**Rimuhau**	**4.75**	**59**	P		Pn	07 52 49.5	-4.1
MSZ	**Milford Sound**	**4.80**	**223**	P		Pn	07 52 52.0	-2.0
MWZ	**Matawai**	**4.83**	**54**	P		Pn	07 52 49.9	-4.7
RUGZ	**Raukumara Rang**	**5.15**	**52**	P		Pn	07 52 53.7	-5.2
TWGZ	**Tauwhareparae**	**5.20**	**55**	P		Pn	07 52 55.4	-4.1
PKGZ	**Pakihiroa**	**5.44**	**53**	P		Pn	07 52 57.6	-5.1
WMGZ	**Waiomatatini S**	**5.69**	**55**	P		Pn	07 53 00.7	-5.2

NNC 11 07:53:59.2±2.7, 54°.18N×86°.37E, h0km, mb3.9, mpv3.1, 7C-3D, Error ellipse: s-maj=24.6km s-min=13.1km az=7.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.94**	**257**	⇑P	Pg	07 54 16.2	-1.0
	0.9nm,0.4s						
ZAA0				⇑S	Sb	07 54 30.9	-0.5
	6.0nm,0.5s						
KURK	**Kurchatov**	**5.87**	**237**	⇑Pn	Pn	07 55 28.4	+1.1
	2.1nm,0.6s						
KURK				⇓Sn	Sn	07 56 36.2	+1.0
	2.3nm,1.0s						
KURK				⇑Lg	Lg	07 57 03.7	
	2.5nm,0.6s						
KURBB	**Kurchatov Arra**	**5.97**	**237**	⇓Pn	Pn	07 55 30.2	+1.5
	4.5nm,0.5s						
KURBB				⇑Sn	Sn	07 56 38.9	+1.1
	1.9nm,0.4s						
KURBB				⇑Lg	Lg	07 57 06.8	
	7.0nm,0.7s						
MK31	**Makanchi Array**	**7.83**	**201**	⇓Pn	Pn	07 55 55.9	+1.6
	1.1nm,0.5s,baz=26,slow=14,SNR=49						
MK31				⇑Sn	Sn	07 57 23.3	-0.4
	0.6nm,0.6s,baz=23,slow=25,SNR=6.8						
MK31				Lg	Lg	07 58 05.3	
	5.0nm,1.1s,baz=29,slow=28,SNR=3.8						

IDC 11 08:14:31.1±2.8, 54°.46N×87°.11E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=23.1km s-min=17.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**250**	I	I	08 24 20.0	
	baz=68,slow=335,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.44**	**250**	Pg	Pn	08 14 55.9	-2.6
	1.7nm,0.3s,baz=66,slow=16,SNR=16						
ZALV				Lg	Lg	08 15 16.6	
	0.9nm,0.3s,baz=69,slow=24,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.49**	**237**	Pn	Pn	08 16 08.7	+0.9
	0.1nm,0.3s,baz=55,slow=14,SNR=8.4						
KURBB				Sn	Sn	08 17 23.4	+0.9
	baz=52,slow=22,SNR=1.9						
KURBB				Lg	Lg	08 17 55.4	
	baz=57,slow=32,SNR=2.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.26**	**204**	Pn	Pn	08 16 33.5	+1.4
	0.1nm,0.3s,baz=29,slow=12,SNR=8.7						
MKAR				Sn	Sn	08 18 04.9	-1.2
	0.1nm,0.3s,baz=24,slow=28,SNR=3.1						
MKAR				Lg	Lg	08 18 52.3	
	baz=20,slow=26						
	0.2nm,0.3s						

NIC 11 08:18:21.8±0.0, 35°.64N×31°.34E, h4km±1km, Ml2.8/3
DDA 11 08:18:24.8±0.0, 35°.66N×31°.47E, h13km±2km, ML2.3
ISC 11 08:18:26.1±1.3, 35°.54N±0°.05×31°.48E±0°.05, h12km±11km, n16, σ2s17/26, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.87**	**126**	P	**Pg**	**08 18 41.7**	**-1.1**
AKMS				S	**Sb**	**08 18 56.8**	**+2.2**
AKMS				AML	AML	08 19 01.6	
	1.0nm,0.4s						
AKMS				AML	AML	08 19 01.6	
	1.0nm,0.4s						
AKMS				AML	AML	08 19 02.5	
	0.8nm,0.5s						
AKMS				AML	AML	08 19 02.5	
	0.8nm,0.5s						
ALFC	**Alefka**	**0.99**	**112**	P	**Pg**	**08 18 43.6**	**-1.6**
ALFC				S	**Sn**	**08 19 00.4**	**+0.7**
ALFC				AML	AML	08 19 02.7	
	0.5nm,0.3s						
ALFC				AML	AML	08 19 02.7	
	0.5nm,0.3s						
ALFC				AML	AML	08 19 04.9	
	0.8nm,0.6s						
ALFC				AML	AML	08 19 04.9	
	0.8nm,0.6s						
NATA	**Nata**	**1.17**	**130**	P	**Pb**	**08 18 46.5**	**-1.7**
NATA				S	**Sn**	**08 19 06.4**	**+2.3**
NATA				AML	AML	08 19 13.4	
	1.5nm,0.6s						
NATA				AML	AML	08 19 13.4	
	1.5nm,0.6s						
NATA				AML	AML	08 19 18.9	
	2.2nm,0.7s						
NATA				AML	AML	08 19 18.9	
	2.2nm,0.7s						
AKUM	**Antalya-Kumluc**	**1.21**	**311**	P	**Pb**	**08 18 46.2**	**-2.7**
AKUM				S	**Sb**	**08 19 02.9**	**-1.6**
AKUM				*i* AML	AML	08 19 05.0	
	comp=N,116nm,0.7s						
AKUM				*i* AML	AML	08 19 09.0	
	comp=E,89nm,0.6s						
KEPZ	**Antalya-Kepez**	**1.36**	**4**	P	**Pn**	**08 18 47.9**	**-3.1**
KEPZ				S	**Sb**	**08 19 06.1**	**-2.9**
KEPZ				*i* AML	AML	08 19 09.0	
	comp=E,55nm,0.8s						
SZAC	**Souni**	**1.39**	**124**	P	**Pn**	**08 18 49.6**	**-1.6**
CSS	**Mathiatis**	**1.62**	**110**	P	**Pn**	**08 18 53.0**	**-1.4**
CSS				S	**Sb**	**08 19 17.2**	**+1.0**
ASGA	**Asgata**	**1.63**	**117**	S	**Sn**	**08 19 16.9**	**+1.5**
KORT	**Korkueli**	**1.72**	**328**	P	**Pn**	**08 18 55.7**	**-0.2**
KORT				S	**Sg**	**08 19 25.8**	**+4.2**
KORT				*i* AML	AML	08 19 29.0	
	comp=E,34nm,0.7s						
KKBE	**Karaman, Kazim**	**2.05**	**35**	P	**Pn**	**08 19 01.3**	**+0.8**
KKBE				S	**Sb**	**08 19 30.1**	**+1.3**
KKBE				*i* AML	AML	08 19 40.0	
	comp=N,26nm,1.0s						
KKBE				*i* AML	AML	08 19 40.0	
	comp=E,38nm,0.6s						
GOLH	**Golhisar**	**2.30**	**318**	P	**Pn**	**08 19 03.3**	**-0.5**
KMER	**Konya-Meram**	**2.34**	**17**	P	**Pn**	**08 19 05.8**	**+1.4**
DOGA	**KONYA_Doganhis**	**2.57**	**3**	P	**Pn**	**08 19 06.8**	**-0.8**
YVAC	**Isparta, Yalva**	**2.74**	**356**	P	**Pn**	**08 19 08.6**	**-1.3**
YVAC				S	**Sn**	**08 19 43.5**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.83**	**314**	P	**Pn**	**08 19 13.9**	**+2.8**
TAVA				S	**Sg**	**08 20 01.0**	**+4.2**
TAVA				*i* AML	AML	08 20 02.0	
	comp=N,14nm,1.3s						
TAVA				*i* AML	AML	08 20 05.0	
	comp=E,14nm,0.8s						
KERG	**Konya-Eregli**	**2.84**	**48**	P	**Pn**	**08 19 12.5**	**+1.2**

NNC 11 08:19:03.7±3.1, 53°.95N×86°.55E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=24.8km s-min=13.9km az=31.0, Suspected Mining explosion.
IDC 11 08:19:03.1±2.5, 54°.09N×86°.57E, h0km, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=20.8km s-min=13.8km az=50.0
ISC 11 08:19:03.7±3.9, 54°.0N±0°.2×86°.5E±0°.2, h0km, n9, σ1s67/14, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**266**	I	I	08 26 59.8	

	baz=82,slow=328,SNR=7.6							
ZAA0	**Zalesovo Array**	**0.96**	**266**	⇑P		**Pb**	**08 19 22.3**	**-1.0**
	0.2nm,0.2s							
ZAA0				⇑S		**Sn**	**08 19 38.2**	**-0.7**
	3.0nm,0.5s							
ZALV	**Zalesovo Beam**	**0.96**	**266**	Pg		**Pg**	**08 19 21.7**	**-0.4**
	2.6nm,0.3s,baz=80,slow=17,SNR=30							
ZALV				Lg		Lg	08 19 37.7	
	3.4nm,0.3s,baz=80,slow=27,SNR=7.2							
KURK	**Kurchatov**	**5.83**	**238**	⇓Pn		**Pn**	**08 20 33.2**	**+1.9**
	2.3nm,0.8s							
KURK				⇑Sn		**Sn**	**08 21 40.5**	**+1.8**
	1.9nm,1.0s							
KURK				⇑Lg		Lg	08 22 10.2	
	6.4nm,1.0s							
KURBB	**Kurchatov Arra**	**5.93**	**238**	Pn		**Pn**	**08 20 34.7**	**+2.0**
	0.3nm,0.3s,baz=56,slow=14,SNR=36							
KURBB				Sn		**Sn**	**08 21 43.2**	**+1.9**
	baz=40,slow=16,SNR=1.7							
KURBB				Lg		Lg	08 22 12.6	
	baz=51,slow=25,SNR=5.4							
	4.5nm,0.7s							
KURBB	**Kurchatov Arra**	**5.93**	**238**	⇑Pn		**Pn**	**08 20 33.8**	**+1.2**
	4.0nm,0.6s							
KURBB				⇓Sn		**Sn**	**08 21 40.5**	**-0.8**
	2.6nm,0.6s							
KURBB				⇓Lg		Lg	08 22 14.1	
	6.7nm,0.8s							
MK31	**Makanchi Array**	**7.71**	**202**	Pn		**Pn**	**08 20 58.8**	**+1.6**
	0.1nm,0.2s,baz=26,slow=13,SNR=32							
MK31				⇓Sn		**Sn**	**08 22 23.0**	**-2.2**
	0.6nm,0.5s,baz=25,slow=26,SNR=4.4							
MK31				⇑Lg		Lg	08 23 06.0	
	3.9nm,1.1s,baz=26,slow=31,SNR=3.7							
MKAR	**Makanchi Array**	**7.71**	**202**	Pn		**Pn**	**08 20 58.5**	**+1.3**
	0.3nm,0.3s,baz=26,slow=14,SNR=23							
MKAR				Sn		**Sn**	**08 22 23.8**	**-1.5**
	0.2nm,0.3s,baz=22,slow=26,SNR=6.5							
MKAR				Lg		Lg	08 23 06.2	
	0.1nm,0.3s,baz=22,slow=31,SNR=7.2							
	0.4nm,0.3s							
BVAR	**Borovoye Array**	**9.62**	**271**	Sn		**Sn**	**08 23 10.7**	**-1.2**
	baz=74,slow=28,SNR=3.6							

IDC 11 08:20:49.9±3.5, 54°.39N×87°.60E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=32.2km s-min=22.1km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**256**	I	I	08 31 20.9	
	0.1nm,0.8s,baz=75,slow=337,SNR=16						
ZALV	**Zalesovo Beam**	**1.70**	**256**	Pn	Pn	08 21 19.3	-1.5
	2.0nm,0.3s,baz=76,slow=15,SNR=7.5						
ZALV				Lg	Lg	08 21 43.9	
	1.6nm,0.3s,baz=73,slow=32,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.70**	**239**	Pn	Pn	08 22 30.2	+0.7
	0.2nm,0.3s,baz=54,slow=14,SNR=6.5						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**8.32**	**206**	Pn	Pn	08 22 53.1	+1.2
	0.1nm,0.3s,baz=18,slow=12,SNR=2.2						
	0.2nm,0.3s						

IDC 11 08:28:14.2±2.1, 1°.43N×126°.19E, h0km, mb3.4/3, mbtmp3.4/3, MS3.1/1, Error ellipse: s-maj=178.2km s-min=26.8km az=65.0
DJA 11 08:28:24.9±0.6, 2°.N±3°×12°.7E±°, h109km±7km, M3.6/7, MLv3.6/7
ISC 11 08:28:24.6±1.5, 2°.0N±0°.1×127°.3E±0°.2, h100km, n9, σ1s84/9, mb3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**175**	P	**Pn**	**08 28 48.0**	**+1.0**
TNTI				S	**Sn**	**08 29 06.8**	**+2.9**
SGSI	**Sangihe**	**2.45**	**315**	S	**Sn**	**08 29 33.1**	**+0.4**
SANI	**Sanana**	**4.17**	**198**	P	**Pn**	**08 29 24.3**	**-1.9**
GTOI	**Gorontalo**	**4.46**	**253**	P	**Pn**	**08 29 30.5**	**+0.5**
NLAI	**Namlea**	**5.15**	**182**	P	**Pn**	**08 29 38.9**	**-0.6**
WRA	**Warramunga Arr**	**22.83**	**163**	P	**P**	**08 33 17.2**	**-2.3**
	0.9nm,0.4s,baz=338,slow=11,SNR=10						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**26.26**	**166**	P	**P**	**08 33 49.9**	**-0.9**
	0.2nm,0.3s,baz=345,slow=11,SNR=6.4						
	0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**32.26**	**302**	LR	LR	08 49 40.3	
	comp=Z,32nm,18.1s,baz=200,slow=41						
MKAR	**Makanchi Array**	**59.32**	**326**	P	**P**	**08 38 16.7**	**+0.6**
	0.1nm,0.4s,baz=119,slow=8.7,SNR=4.1						
	0.1nm,0.4s						

JMA 11 08:38:28.3±0.1, 36°.7N±0°.1×140°.6E±0°.4, h8km, MV-0.1/9, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.10**	**196**	P	Pg	08 38 30.8	0.0
JHO				*e*S	Sg	08 38 32.5	+0.1

MOS 11 08:38:33.7±0.9, 33°.74N×137°.18E, h361km, mb4.1/21, Error ellipse: s-maj=11.5km s-min=6.8km az=112.9
JMA 11 08:38:34.2±0.3, 34°.N±1°×13°.7E±°, h370km±2km, MV3.0/27, SE OFF KII PENINSULA
NEIC 11 08:38:34.8±1.7, 33°.76N±0°.09×137°.18E±0°.05, h352km±7km, mb4.1/46, Error ellipse: s-maj=13.4km s-min=5.6km az=162.0
IDC 11 08:38:34.8±0.7, 33°.78N×137°.15E, h354km±6km, mb3.5/20, mbtmp4.3/25, Error ellipse: s-maj=10.5km s-min=8.9km az=94.0
ISC 11 08:38:35.1±0.5, 33°.82N±0°.05×137°.12E±0°.05, h355km±3km, n157, σ1s16/178, mb4.0/60, 15C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.11**	**222**	P	**Pn**	**08 39 20.7**	**+1.6**
TTO2				S	**S**	**08 39 57.0**	**+2.6**
TTO1	**TONANKAI O.B.S**	**0.34**	**235**	S	**S**	**08 39 58.0**	**+3.2**
TTO4	**TONANKAI O.B.S**	**0.40**	**61**	P	**Pn**	**08 39 20.7**	**+1.4**
TTO4				S	**Sn**	**08 39 57.1**	**+2.2**
TK02	**Tokai 2**	**0.55**	**76**	P	**Pn**	**08 39 21.2**	**+1.6**
TK02				S	**S**	**08 39 58.3**	**+2.8**
JIE	**Ise**	**0.67**	**330**	P	**Pn**	**08 39 21.3**	**+1.0**
JIE				S	**S**	**08 39 57.2**	**+0.7**
JSG	**Sagara**	**1.23**	**46**		**Pn**	**08 39 21.4**	**-0.9**
JSG	**Sagara**	**1.23**	**46**	P	**Pn**	**08 39 23.3**	**+1.0**
JTNC	**Tanabenakahech**	**1.25**	**271**	P	**Pn**	**08 39 23.2**	**+0.7**
JTNC				S	**S**	**08 40 01.0**	**+0.4**
JWY	**Kouya**	**1.33**	**288**	P	**Pn**	**08 39 23.9**	**+1.0**
JWY				S	**S**	**08 40 01.8**	**+0.5**
INU	**Inuyama**	**1.53**	**357**	Pn	**Pn**	**08 39 24.7**	**+0.9**
INU	**Inuyama**	**1.53**	**357**	P	**Pn**	**08 39 24.9**	**+1.1**
JGF	**Kuroka**	**1.79**	**6**	Pn	**Pn**	**08 39 25.3**	**-0.1**
JGF	**Kuroka**	**1.79**	**6**	P	**Pn**	**08 39 26.0**	**+0.6**
JYTA	**Yamagatatanaiai**	**1.80**	**350**	P	**Pn**	**08 39 26.0**	**+0.5**
JYTA				S	**S**	**08 40 06.4**	**+0.5**
JWT	**Wachi**	**2.04**	**316**	P	**Pn**	**08 39 28.1**	**+1.1**
JWT				*e*S	**S**	**08 40 09.1**	**+0.2**
JYN	**Shimob**	**2.05**	**35**	P	**Pn**	**08 39 27.8**	**+0.6**
JOD2	**Odawara 2**	**2.18**	**48**	P	**Pn**	**08 39 28.2**	**+0.1**
JOD2				S	**S**	**08 40 11.4**	**+0.7**
JAI	**Aioi**	**2.22**	**270**	P	**Pn**	**08 39 29.2**	**+0.8**
JAI				S	**S**	**08 40 11.8**	**+0.5**
JHJ	**Hachijo jima 2**	**2.34**	**107**	P	**Pn**	**08 39 29.1**	**-0.3**
	409nm,0.6s,baz=216,slow=10.0,SNR=8.8						
JHJ2	**Mitsune**	**2.37**	**107**	Pn	**Pn**	**08 39 29.3**	**-0.2**
JHJ2	**Mitsune**	**2.37**	**107**	P	**Pn**	**08 39 29.8**	**+0.3**
JRY	**Ryogami san**	**2.64**	**33**	P	**Pn**	**08 39 32.2**	**+0.5**
JRY				S	**S**	**08 40 16.7**	**-0.6**
JMN	**Monobe**	**2.70**	**269**	Pn	**Pn**	**08 39 33.5**	**+1.2**
JMN	**Monobe**	**2.70**	**269**	P	**Pn**	**08 39 33.0**	**+0.8**
JMN	**Monobe**	**2.70**	**269**	P	**Pn**	**08 39 33.3**	**+1.1**
MJAR	**Matsushiro Arr**	**2.86**	**18**	P	**Pn**	**08 39 33.4**	**-0.1**
MJAR	65nm,0.9s,baz=195,slow=9.5,SNR=72				S	**S**	**08 40 19.8**	**-0.9**
	15nm,0.9s,baz=190,slow=15,SNR=6.1							
MAJO	**Matsushiro**	**2.86**	**18**	Pn	**Pn**	**08 39 33.8**	**+0.3**
MAJO	**Matsushiro**	**2.86**	**18**	P	**Pn**	**08 39 33.6**	**0.0**
MAJO	**Matsushiro**	**2.86**	**18**	P	**Pn**	**08 39 33.8**	**+0.3**
MAT	**Matsushiro**	**2.86**	**18**	P	**Pn**	**08 39 33.5**	**0.0**
MAT				S	**S**	**08 40 20.3**	**-0.4**
MJB9	**Matsu-Tunnel**	**2.87**	**18**	Pn	**Pn**	**08 39 35.1**	**+1.5**
JAG	**Ashikaga**	**3.23**	**36**	P	**Pn**	**08 39 35.6**	**-1.2**
JHS	**Saijyo**	**3.51**	**291**	Pn	**Pn**	**08 39 41.0**	**+1.5**
JHS	**Saijyo**	**3.51**	**291**	P	**Pn**	**08 39 40.8**	**+1.3**
JMM	**Marumori**	**5.03**	**35**		**Pn**	**08 39 54.1**	**-1.0**
JMM	**Marumori**	**5.03**	**35**	P	**Pn**	**08 39 53.7**	**-1.4**
JNU	**Nakatsue**	**5.26**	**264**	P	**Pn**	**08 39 58.6**	**+0.9**
	95nm,0.7s,baz=89,slow=3.1,SNR=55						
JNU	**Nakatsue**	**5.26**	**264**	Pn	**Pn**	**08 39 58.2**	**+0.4**
JNU	**Nakatsue**	**5.26**	**264**	P	**Pn**	**08 39 58.9**	**+1.1**
JSU	**Suzuyama**	**6.07**	**250**	Pn	**Pn**	**08 40 07.5**	**+0.6**
JTU	**Tsushima**	**6.43**	**278**	Pn	**Pn**	**08 40 11.8**	**+0.9**
KSRS	**Korea Array**	**8.32**	**298**	P	**P**	**08 40 34.9**	**-0.5**
	11nm,0.6s,baz=111,slow=12,SNR=34						
KS19	**Wonju Array Si**	**8.38**	**299**	Pn	**Pn**	**08 40 34.2**	**+0.5**
TJN	**Taejon**	**8.39**	**290**	*ce*P	**Pn**	**08 40 32.3**	**-1.5**
INCN	**Inchon**	**9.28**	**296**	P	**P**	**08 40 46.4**	**+0.2**
INCN	**Inchon**	**9.28**	**296**	P	**P**	**08 40 46.4**	**+0.2**
USA0B	**Ussuriysk Arra**	**11.11**	**341**	*i* P	**P**	**08 41 06.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**11.11**	**341**	P	**P**	**08 41 06.8**	**+0.4**
	11nm,0.8s,baz=163,slow=11,SNR=11						
YSS	**Yuzh-Sakhalins**	**13.80**	**16**	*e*P	**Pn**	**08 41 38.4**	**+0.7**
KLR	**Kul'dur**	**15.91**	**347**	P	**P**	**08 41 58.5**	**-0.6**
	1.7nm,0.8s,baz=149,slow=7.2,SNR=5.2						
KLR	**Kul'dur**	**15.91**	**347**	*i* P	**P**	**08 41 59.2**	**+0.1**
KLR				pmax	pmax		
	comp=Z,22nm,3.5s						
NACB	**Ninganchiao**	**16.61**	**239**	P	**P**	**08 42 06.1**	**-0.9**
SSLB	**Suanglung**	**17.31**	**239**	P	**P**	**08 42 12.9**	**-1.6**
YULB	**Yu-li**	**17.32**	**237**	P	**P**	**08 42 12.6**	**-2.1**
TPUB	**Ta-pu**	**17.85**	**238**	P	**P**	**08 42 18.6**	**-1.6**
XLT	**XiLinHaoTe**	**19.18**	**308**	*i* P	**P**	**08 42 36.7**	**+2.5**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WHN	**Wuhan**	**19.54**	**267**	⇑P	**P**	**08 42 38.3**	**+0.3**
WHN				pmax	pmax		
	comp=Z,130nm,0.7s						
XAN	**Xi'an**	**23.37**	**278**	⇑*i* P	**P**	**08 43 13.1**	**-0.2**
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
PEA0B	**Petropavlovsk-**	**24.24**	**31**	*ce*P	**P**	**08 43 20.7**	**-0.2**
ULN	**Ulaanbaatar**	**26.52**	**311**	P	**P**	**08 43 42.4**	**+0.9**
ULN				IAmb	IAmb	08 43 45.3	
	comp=Z,8.1nm,0.7s						
ULN	**Ulaanbaatar**	**26.52**	**311**	*ce*P	**P**	**08 43 43.3**	**+1.8**
ULN				pmax	pmax		
	comp=Z,15nm,1.3s						
SONM	**Songino Array**	**26.93**	**311**	P	**P**	**08 43 46.3**	**+1.2**
	comp=Z,6.9nm,0.7s,baz=114,slow=9.0,SNR=34						
SONM				ScP	**ScP**	**08 50 00.0**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=132,slow=2.1,SNR=2.9						
	comp=Z,6.9nm,0.7s						
SONM	**Songino Array**	**26.93**	**311**	P	**P**	**08 43 46.3**	**+1.2**
SONM				IAmb	IAmb	08 43 49.4	
	comp=Z,8.4nm,0.8s						
SONM	**Songino Array**	**26.93**	**311**	P	**P**	**08 43 46.3**	**+1.2**
SONM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LZH	**Lanzhou**	**27.29**	**284**	*e*P	**P**	**08 43 48.5**	**0.0**
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
YAK	**Yakutsk**	**28.63**	**353**	*i* P	**P**	**08 44 00.9**	**+1.2**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA	**Gaotai**	**30.31**	**292**	*e*P	**P**	**08 44 15.0**	**+0.1**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SEY	**Seymchan**	**30.68**	**14**	*i* P	**P**	**08 44 17.4**	**-0.3**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU	**GeErMu**	**34.53**	**286**	P	**P**	**08 44 52.0**	**+0.4**
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,40nm,5.0s						
CRAI	**Chiangrai**	**35.22**	**257**	P	**P**	**08 44 56.8**	**-0.5**
CRAI				IAmb	IAmb	08 44 58.6	
	comp=Z,12nm,0.9s						
PHRA	**Phrae**	**36.23**	**255**	P	**P**	**08 45 05.2**	**-0.5**
CHTO	**Chiang Mai**	**37.10**	**256**	P	**P**	**08 45 13.3**	**+0.3**
CHTO				IAmb	IAmb	08 45 13.7	
	comp=Z,5.5nm,0.7s						
CHTO	**Chiang Mai**	**37.10**	**256**	P	**P**	**08 45 13.3**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**37.29**	**256**	P	**P**	**08 45 14.4**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=53,slow=7.3,SNR=16						
	comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**37.29**	**256**	*ce*P	**P**	**08 45 14.6**	**0.0**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BILL	**Bilibino**	**38.12**	**17**	*e*P	**P**	**08 45 21.9**	**+1.2**
BILL				*e**PP	**pP**	**08 46 30.3**	**+0.7**
BILL				*e*		08 47 01.9	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DGZ	**Jazzator, Alta**	**39.55**	**309**	⇓*i* P	**P**	**08 45 34.3**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,16nm,0.9s						
ZALV	**Zalesovo Beam**	**41.60**	**315**	P	**P**	**08 45 49.0**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=88,slow=7.5,SNR=7.9						
ZALV				PcP	**PcP**	**08 47 38.0**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=98,slow=3.4,SNR=7.5						
ZALV				ScP	**ScP**	**08 50 52.5**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=107,slow=5.0,SNR=3.5						
	comp=Z,1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**41.60**	**315**	P	**P**	**08 45 48.4**	**-0.9**
ZALV	**Zalesovo Beam**	**41.60**	**315**	*i* P	**P**	**08 45 49.5**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TAPN	**Taplejung**	**42.69**	**275**	*e*Pg	**P**	**08 45 58.3**	**-0.5**

comp=Z,10nm,0.8s
NIL **Nilore** **52.30 289** P **P** **08 47 11.4 -0.2**
NIL pmax pmax
comp=Z,10.0nm,0.8s
SUA **Susitna One** **52.52 35** IAmb IAmb 08 47 14.8
comp=Z,8.3nm,1.1s
GAR **Garm** **52.93 296** IAmb IAmb 08 47 16.9
comp=Z,8.7nm,0.7s
NEA2 **Nenana** **53.14 31** IAmb IAmb 08 47 19.3
comp=Z,8.2nm,1.1s
GHO **Glory Hole Cre** **53.37 35** IAmb IAmb 08 47 21.7
comp=Z,5.7nm,0.8s
MDM **Murphy Dome** **53.48 31** IAmb IAmb 08 47 21.8
comp=Z,6.0nm,0.9s
WRA **Warramunga Arr** **53.52 183** P **P** **08 47 19.2 -1.2**
comp=Z,1.7nm,0.3s,baz=357,slow=7.7,SNR=56
comp=Z,1.7nm,0.3s
WRA **Warramunga Arr** **53.52 183** P **P** **08 47 19.2 -1.2**
WR0 **Warramunga Arr** **53.53 183** P **P** **08 47 19.5 -0.9**
WR0 IAmb IAmb 08 47 19.8
comp=Z,5.5nm,0.4s
KNK **Knik Glacier** **53.62 35** IAmb IAmb 08 47 22.6
comp=Z,14nm,1.1s
SML **Sawmill** **53.64 35** P **P** **08 47 21.4 +0.6**
SML IAmb IAmb 08 47 22.5
comp=Z,6.9nm,1.0s
PWL **Port Wells** **53.73 36** P **P** **08 47 21.9 +0.6**
PWL IAmb IAmb 08 47 23.0
comp=Z,7.9nm,0.9s
ILAR **Eielson Array** **54.07 31** P **P** **08 47 23.4 -0.4**
comp=Z,1.0nm,0.9s,baz=277,slow=5.8,SNR=13
comp=Z,1.0nm,0.9s
BMRM **Bremner River** **55.52 35** IAmb IAmb 08 47 36.2
comp=Z,8.6nm,0.8s
ARU **Arti** **56.47 319***c i*P **P** **08 47 40.7 -0.1**
ARU 08 48 29.8
ARU *PP **pP** **08 48 53.2 -2.6**
ARU S **S** **08 55 04.8 +1.5**
ARU SS **SS** **08 58 57.0 +0.7**
ARU pmax pmax
comp=Z,10.0nm,1.1s
AS31 **Alice Springs** **57.24 183** P **P** **08 47 45.6 -1.0**
ASAR **Alice Springs** **57.24 184** P **P** **08 47 45.6 -1.0**
comp=Z,1.0nm,0.6s,baz=354,slow=4.7,SNR=26
comp=Z,1.0nm,0.6s
ABKAR **Akbulak array** **57.34 311** P **P** **08 47 46.8 -0.2**
ABKAR **Akbulak array** **57.34 311** IAmb IAmb 08 47 47.8
comp=Z,4.9nm,0.9s
EPYK **Eagle Plains** **58.04 28** IAmb IAmb 08 47 53.7
comp=Z,10nm,1.1s
INK **Inuvik** **58.82 26** P **P** **08 47 57.4 +0.6**
comp=Z,1.0nm,0.5s,baz=306,slow=6.8,SNR=14
comp=Z,1.0nm,0.5s
A36M **Sachs Harbour** **60.53 21** P **P** **08 48 09.1 +0.9**
A36M IAmb IAmb 08 48 10.6
comp=Z,6.2nm,0.8s
KIRV **Kirov** **60.70 323***ce*P **P** **08 48 09.9 +0.3**
C36M **Paulatuk** **61.79 23** P **P** **08 48 17.4 +0.7**
C36M IAmb IAmb 08 48 17.8
comp=Z,3.3nm,0.7s
DZM **Mont Dzumac** **62.20 149** P **P** **08 48 20.8 +0.7**
comp=Z,1.7nm,0.6s,baz=352,slow=20,SNR=6.3
comp=Z,1.7nm,0.6s
BELG **Belogornoye** **63.75 317** *i* P **P** **08 48 29.5 -0.3**
BELG pmax pmax
comp=Z,5.0nm,1.7s
STKA **Stephens Creek** **65.48 176** P **P** **08 48 40.9 -0.1**
comp=Z,0.8nm,0.6s,baz=335,slow=4.3,SNR=4.4
comp=Z,0.8nm,0.6s
ARCES **ARCESS Array B** **65.75 339** P **P** **08 48 42.9 +0.5**
comp=Z,4.7nm,1.0s,baz=67,slow=6.7,SNR=3.9
comp=Z,4.7nm,1.0s
YKA **Yellowknife Ar** **68.32 28** P **P** **08 48 58.0 -0.4**
comp=Z,0.7nm,0.8s,baz=286,slow=5.6,SNR=9.4
comp=Z,0.7nm,0.8s
YKA **Yellowknife Ar** **68.32 28***ce*P **P** **08 48 58.9 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.9s
FINES **FINESS Array B** **69.99 331** P **P** **08 49 08.5 -0.1**
comp=Z,4.5nm,0.5s,baz=60,slow=5.8,SNR=55
comp=Z,4.5nm,0.5s
FINES **FINESS Array B** **69.99 331** *i* P **P** **08 49 08.6 0.0**
FINES pmax pmax
comp=Z,5.0nm,0.5s
KBZ **Khabaz** **70.30 310** P **P** **08 49 10.8 0.0**
comp=Z,3.4nm,0.8s,baz=81,slow=2.0,SNR=7.4
comp=Z,3.4nm,0.8s
KBZ **Khabaz** **70.30 310***ce*P **P** **08 49 11.5 +0.8**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KIV **Kislovodsk** **70.32 310** *e*P **P** **08 49 13.2 +2.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
MNK **Minsk** **73.14 325** *i* P **P** **08 49 26.7 -0.6**
comp=E,9.0nm,1.1s
MNK *i* P **P** **08 49 26.7 -0.6**
comp=N,58nm,1.0s
MNK *i* P **P** **08 49 26.7 -0.6**
comp=Z,11nm,0.8s,baz=55
MNK *i* pP **pP** **08 50 45.0 -1.9**
MNK *i* PP **PP** **08 52 09.8 -5.3**
MNK *i* PPP PPP 08 54 20.5
MNK *i* S **S** **08 58 26.1 +1.0**
MNK *i* sS **sS** **09 00 43.2 -1.3**
MNK *i* SS **SS** **09 03 16.9 +3.1**
MNK *i* SSS SSS 09 06 30.7
MNK **Minsk** **73.14 325** *i* P **P** **08 49 26.7 -0.6**
MNK *i* *P **pP** **08 50 45.0 -1.9**
MNK *i* S **S** **08 58 26.1 +1.0**
MNK *i* SS **SS** **09 03 16.9 +3.1**
MNK *i* SSS SSS 09 06 30.6
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=E,9.0nm,1.1s
MNK pmax pmax
comp=N,58nm,1.0s
AKASG **Malin Array Be** **74.64 321** P **P** **08 49 35.4 -0.6**
comp=N,1.5nm,0.5s,baz=49,slow=6.3,SNR=14
comp=N,1.5nm,0.5s
AKASG **Malin Array Be** **74.64 321***ce*P **P** **08 49 35.2 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
NB2 **NORSAR Subarra** **75.74 336** P **P** **08 49 42.0 -0.1**
comp=Z,4.5nm,0.8s,baz=45,slow=5.9
NOA **NORSAR Array B** **75.74 336** P **P** **08 49 42.0 -0.1**
comp=Z,1.5nm,0.6s,baz=45,slow=5.7,SNR=5.3
comp=Z,1.5nm,0.6s
BRTR **Keskin Array B** **78.29 310** P **P** **08 49 57.0 +0.3**
comp=Z,2.0nm,0.9s,baz=100,slow=3.9,SNR=7.1
comp=Z,2.0nm,0.9s
BRTR **Keskin Array B** **78.29 310***ce*P **P** **08 49 57.5 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
RAYN **Ar Rayn** **78.56 291** P **P** **08 49 57.8 -0.6**
RAYN **Ar Rayn** **78.56 291** P **P** **08 49 57.8 -0.6**
RAYN pmax pmax
comp=Z,7.0nm,0.7s
NVAR **Mina Array Bea** **79.73 51** P **P** **08 50 05.4 +0.7**
comp=Z,1.5nm,0.7s,baz=296,slow=4.7,SNR=6.7
comp=Z,1.5nm,0.7s
TPH **Tonopah** **80.63 50** P **P** **08 50 11.0 +1.6**
TPH **Tonopah** **80.63 50** P **P** **08 50 11.0 +1.6**
TPH pmax pmax
comp=Z,23nm,0.9s
PDAR **Pinedale Array** **82.42 43** P **P** **08 50 18.7 +0.1**
comp=Z,1.6nm,0.8s,baz=304,slow=2.6,SNR=14
comp=Z,1.6nm,0.8s
PDAR **Pinedale Array** **82.42 43** P **P** **08 50 18.0 -0.5**
SRU **San Rafael Swe** **84.17 46** P **P** **08 50 27.9 +0.5**
SRU **San Rafael Swe** **84.17 46** P **P** **08 50 27.9 +0.5**
SRU pmax pmax
comp=Z,4.0nm,0.7s

WEL 11 09:01:48.8±0.5, 42°S±3°×17°3E±°, h10km±4km, M2.5/7, ML2.7/8, MLv2.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=102.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**49**	P	Pb	09 01 52.2	-0.6
KHZ				S	Sg	09 01 54.5	+1.2
GVZ	**Greta Valley S**	**0.57**	**211**	P	Pb	09 02 01.4	+0.6
GVZ				S	Sn	09 02 10.6	-1.7
THZ	**Tophouse**	**0.82**	**331**	P	Pb	09 02 04.9	-0.3
THZ				S	Sg	09 02 15.6	+0.3
AMCZ	**Amberley**	**0.90**	**219**	P	Pn	09 02 07.1	-0.3
LTZ	**Lake Taylor**	**0.91**	**250**	P	Pb	09 02 06.7	+0.1
LTZ				S	Sg	09 02 18.2	+0.1
TUWZ	**Tuamarina**	**1.12**	**20**	P	Pn	09 02 10.7	+0.2
MRNZ	**Matariki Terra**	**1.20**	**335**	P	Pg	09 02 11.7	0.0
OKCZ	**Okains Bay**	**1.27**	**192**	P	Pn	09 02 11.7	-0.9
OXZ	**Oxford**	**1.33**	**230**	P	Pn	09 02 12.1	-1.2
MQZ	**McQueen's Vall**	**1.35**	**205**	P	Pn	09 02 12.0	-1.6
MQZ				S	Sb	09 02 28.9	-2.5
DSZ	**Denniston Nort**	**1.42**	**301**	P	Pn	09 02 14.9	+0.3
AKCZ	**Akaroa Harbour**	**1.44**	**195**	P	Pn	09 02 13.5	-1.4
INZ	**Inchbonnie**	**1.49**	**260**	P	Pn	09 02 16.0	+0.4
TKNZ	**Takaka Hill**	**1.49**	**346**	P	Pb	09 02 16.6	0.0
TKNZ				S	Sn	09 02 34.3	-0.9
RACZ	**Rakaia**	**1.56**	**217**	P	Pn	09 02 15.1	-1.5
MHCZ	**Mount Hutt**	**1.72**	**232**	P	Pn	09 02 17.5	-1.4
QRZ	**Quartz Range**	**1.79**	**337**	P	Pb	09 02 21.1	-0.5
QRZ				S	Sb	09 02 44.3	+0.2
WACZ	**Wakanui South**	**1.87**	**218**	P	Pn	09 02 19.4	-1.3
RPZ	**Rata Peaks**	**2.13**	**234**	P	Pn	09 02 23.3	-1.1
ARCZ	**Arundel**	**2.21**	**228**	P	Pn	09 02 24.2	-1.2
TMZ	**Timaru**	**2.59**	**222**	P	Pn	09 02 29.7	-1.1
ODZ	**Otahua Downs**	**3.26**	**217**	P	Pn	09 02 38.1	-1.8

*NNC **11** 09:17:43.5±2.4, 44°47N×82°16E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=26.8km s-min=11.5km az=141.0*
*SOME **11** 09:17:44.7, 44°63N×82°22E, h30km*
ISC 11 09:17:42.5±1.6, 44°66N±0°08×82°37E±0°09, h10km, n15, σ1s22/18, 1C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.88**	**261**	P	**Pb**	**09 18 16.2**	**-0.7**
	9.0nm,0.2s						
DJR				S	**Sb**	**09 18 39.5**	**-0.9**
	19nm,0.3s						
DJR	**Jarkent**	**1.88**	**261**	*e*P	**Pn**	**09 18 16.0**	**+1.3**
	9.0nm,0.2s						
DJR				*e*S	**Sn**	**09 18 38.8**	**+0.3**
	19nm,0.3s						
MK31	**Makanchi Array**	**2.13**	**359**	Pn	**Pg**	**09 18 23.1**	**-0.3**
	3.0nm,0.3s,baz=189,slow=15,SNR=158						
MK31				⇑Sn	**Sg**	**09 18 50.7**	**-0.3**
	0.6nm,0.1s,baz=182,slow=26,SNR=11						
SHLS	**Shalkode**	**2.59**	**235**	*e*Pg	**Pn**	**09 18 25.2**	**+0.7**
	9.4nm,0.2s						
SHLS				*e*Lg	Lg	09 18 54.1	
	160nm,0.2s						
TDK	**Taldyqorghan**	**2.84**	**278**	*e*Pg	**Pb**	**09 18 32.0**	**-1.2**
	29nm,0.2s						
TDK				*e*Lg	Lg	09 19 06.2	
	63nm,0.2s						
BLB	**Baldybastay**	**2.85**	**260**	Pg	**Pb**	**09 18 32.0**	**-1.4**
	12nm,0.2s						
BLB				Lg	Lg	09 19 06.5	
	16nm,0.3s						
UZB	**Uzynbulak**	**2.85**	**239**	Pg	**Pn**	**09 18 30.2**	**+2.0**
	3.3nm,0.4s						
UZB				Lg	Lg	09 19 04.1	
	2.8nm,0.2s						
UZB	**Uzynbulak**	**2.85**	**239**	*e*Pg	**Pb**	**09 18 32.6**	**-1.0**
	3.6nm,0.1s						
UZB				*e*Lg	Lg	09 19 07.1	
	5.8nm,0.3s						
KPKS	**Kokpek**	**2.91**	**247**	Pg	**Pb**	**09 18 32.7**	**-1.9**
	12nm,0.3s						
KPKS				Lg	Lg	09 19 07.6	
	22nm,0.2s						
KPKS	**Kokpek**	**2.91**	**247**	*e*Pg	**Pb**	**09 18 33.5**	**-1.1**
	12nm,0.3s						
KPKS				*e*Lg	Lg	09 19 08.7	
	22nm,0.2s						
ZSN	**Zaisan**	**3.28**	**31**	*e*Pg	**Pb**	**09 18 40.3**	**-0.6**
	3.5nm,0.4s						
ZSN				*e*Lg	Lg	09 19 20.2	
	2.4nm,0.4s						
SATY	**Saty**	**3.29**	**242**	Pg	**Pb**	**09 18 39.5**	**-1.4**
	4.0nm,0.3s						
SATY				Lg	Lg	09 19 19.2	
	14nm,0.2s						
SATY	**Saty**	**3.29**	**242**	*e*Pg	**Pb**	**09 18 40.1**	**-0.8**
	3.1nm,0.2s						
SATY				*e*Lg	Lg	09 19 20.0	
	14nm,0.2s						
KUU	**Kurty**	**4.40**	**262**	Pg	**Pb**	**09 19 00.7**	**+0.9**
	2.4nm,0.7s						
KUU				Lg	Lg	09 19 56.2	
	3.3nm,0.3s						
KUU	**Kurty**	**4.40**	**262**	*e*Pg	**Pb**	**09 19 01.1**	**+1.3**
	1.8nm,0.3s						
KUU				*e*Lg	Lg	09 19 56.2	
	3.3nm,0.3s						

*DJA **11** 09:20:33.9±0.9, 1°N±7°×12°5E±°, h49km±9km, M4.3/9, mb4.2/2, MLv4.3/9*
*IDC **11** 09:20:36.6±1.7, 0°15N×124°65E, h0km, mb3.7/4, mbtmp3.7/4, MS3.7/1, Error ellipse: s-maj=173.7km s-min=24.6km az=63.0*
ISC 11 09:20:40.4±1.4, 0°6N±0°1×125°2E±0°1, h35km, n12, σ1s45/12, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**2.18**	**272**	P	**Pn**	**09 21 12.3**	**-1.8**
GTOI				S	**Sn**	**09 21 41.3**	**+1.4**
SANI	**Sanana**	**2.70**	**163**	P	**Pn**	**09 21 20.6**	**-0.8**
LUWI	**Luwuk**	**2.88**	**237**	P	**Pn**	**09 21 24.2**	**+0.3**
MRSI	**Marisa**	**3.25**	**269**	P	**Pn**	**09 21 26.9**	**-2.0**
APSI	**Ampana**	**3.82**	**248**	P	**Pn**	**09 21 36.9**	**+0.1**
MPSI	**Mapaga**	**5.29**	**268**	P	**Pn**	**09 21 55.6**	**-1.4**
	11nm,0.6s,0.1nm						
SPSI	**Sidrap Palu**	**7.03**	**230**	P	**Pn**	**09 22 19.5**	**-1.4**
WRA	**Warramunga Arr**	**22.25**	**157**	P	**P**	**09 25 33.1**	**-1.4**
	1.0nm,0.4s,baz=333,slow=11,SNR=12						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**25.52**	**161**	P	**P**	**09 26 05.7**	**-0.2**
	0.9nm,0.6s,baz=341,slow=7.9,SNR=27						
	0.9nm,0.6s						
STKA	**Stephens Creek**	**35.80**	**156**	P	**P**	**09 27 36.5**	**0.0**
	0.9nm,0.4s,baz=343,slow=11,SNR=3.7						
	0.9nm,0.4s						
BRDH	**Bariadhala**	**39.34**	**306**	LR	LR	09 45 24.1	
	comp=Z,86nm,18.3s,baz=88,slow=38						
MKAR	**Makanchi Array**	**59.32**	**327**	P	**P**	**09 30 40.7**	**+1.8**
	0.2nm,0.3s,baz=121,slow=7.7,SNR=5.1						
	0.2nm,0.3s						

*RSPR **11** 09:24:41.8, 19°18N×64°48W, h42km±15km, MD3.1/7*
*NEIC **11** 09:24:43.6±1.3, 19°04N±0°06×64°75W±0°05, h22km±6km, ML2.7/26, Md3.2/16(RSPR), Error ellipse: s-maj=9.2km s-min=5.5km az=153.0*
ISC 11 09:24:42.4±2.1, 19°2N±0°1×64°58W±0°05, h42km, n31, σ0s74/34, 9C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJVI	**Gifft Hill Sch**	**0.83**	**193**	⇑*e*P	**Pn**	**09 24 57.2**	**-0.5**
SJVI	**Gifft Hill Sch**	**0.83**	**193**	*e*S	**Sn**	**09 25 08.2**	**-0.6**
SJVI	**Gifft Hill Sch**	**0.83**	**193**		**Pn**	**09 24 57.1**	**-0.5**
SJVI					**Sn**	**09 25 08.7**	**-0.1**
CUPR	**Culebra, Puert**	**1.07**	**219**	⇑*e*P	**Pn**	**09 25 00.1**	**-0.8**
CUPR	**Culebra, Puert**	**1.07**	**219**		**Pn**	**09 25 00.1**	**-0.8**
CUPR				IAML		09 25 17.7	
	comp=E,141nm,0.3s						
CUPR				IAML		09 25 18.4	
	comp=N,132nm,0.3s						
MTP	**Monte Pirata**	**1.39**	**222**	⇑*e*P	**Pn**	**09 25 04.8**	**-0.5**
MTP	**Monte Pirata**	**1.39**	**222**	*e*S	**Sn**	**09 25 22.9**	**+0.3**
MTP	**Monte Pirata**	**1.39**	**222**		**Pn**	**09 25 04.9**	**-0.5**
MTP				IAML		09 25 25.6	
	comp=E,100nm,0.2s						
CDVI	**St. Croix**	**1.40**	**187**		**Pn**	**09 25 06.8**	**+1.3**
CBYP	**Canovanas**	**1.49**	**235**	⇑*e*P	**Pn**	**09 25 05.7**	**-1.1**
CBYP	**Canovanas**	**1.49**	**235**	*e*S	**Sn**	**09 25 24.6**	**-0.5**
CBYP	**Canovanas**	**1.49**	**235**		**Pn**	**09 25 05.8**	**-1.1**
HUMP	**Col San Antoni**	**1.56**	**231**	⇑*e*P	**Pn**	**09 25 07.1**	**-0.7**
HUMP	**Col San Antoni**	**1.56**	**231**	*e*S	**Sn**	**09 25 27.5**	**+0.7**
HUMP	**Col San Antoni**	**1.56**	**231**		**Pn**	**09 25 07.2**	**-0.6**
HUMP				IAML		09 25 29.3	
	comp=E,98nm,0.2s						
HUMP				IAML		09 25 30.1	
	comp=N,73nm,0.2s						
GCPR	**Guaynabo City**	**1.65**	**240**	Pn	**Pn**	**09 25 08.1**	**-0.9**
SJG	**San Juan**	**1.81**	**236**	Pn	**Pn**	**09 25 11.2**	**+0.1**
SJG				IAML		09 25 49.1	
	comp=N,56nm,0.4s						
IGPR	**InterUniversit**	**1.86**	**231**	⇑*e*P	**Pn**	**09 25 11.8**	**0.0**
IGPR	**InterUniversit**	**1.86**	**231**	*e*S	**Sn**	**09 25 34.5**	**+0.2**
IGPR	**InterUniversit**	**1.86**	**231**		**Pn**	**09 25 11.8**	**0.0**
IGPR					**Sn**	**09 25 34.5**	**+0.2**
CELP	**Cerrillos**	**2.17**	**241**	⇑*e*P	**Pn**	**09 25 16.2**	**0.0**
CELP	**Cerrillos**	**2.17**	**241**		**Pn**	**09 25 16.2**	**0.0**
CELP				IAML		09 25 44.6	
	comp=E,60nm,5.0s						
CELP				IAML		09 26 27.3	
	comp=N,59nm,3.8s						
AOPR	**Arecibo Observ**	**2.21**	**249**	⇑*e*P	**Pn**	**09 25 16.3**	**-0.3**
AOPR	**Arecibo Observ**	**2.21**	**249**	*e*S	**Sn**	**09 25 43.7**	**+1.0**
AOPR	**Arecibo Observ**	**2.21**	**249**		**Pn**	**09 25 16.1**	**-0.6**
AOPR				IAML		09 25 50.5	
	comp=N,90nm,0.9s						
OBIP	**Obispado Ponce**	**2.21**	**241**	Pn	**Pn**	**09 25 16.5**	**-0.2**
OBIP				IAML		09 26 03.4	
	comp=E,58nm,4.2s						
OBIP				IAML		09 26 16.4	
	comp=N,54nm,3.4s						
MLPR	**Magueyes Islan**	**2.62**	**244**	Pn	**Pn**	**09 25 21.0**	**-1.2**
MLPR				IAML		09 25 58.4	
	comp=E,63nm,3.0s						
CRPR	**Cabo Rojo, PR**	**2.65**	**245**	⇑*e*P	**Pn**	**09 25 22.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.65**	**245**	*e*S	**Sn**	**09 25 55.9**	**+2.2**
CRPR	**Cabo Rojo, PR**	**2.65**	**245**		**Pn**	**09 25 22.7**	**0.0**
CRPR				IAML		09 26 00.3	
	comp=N,62nm,2.3s						
CRPR				IAML		09 26 56.7	
	comp=E,71nm,2.3s						
ANBD	**Bethesda, Anti**	**3.39**	**127**	*e*P	**Pn**	**09 25 32.8**	**-0.1**
ANBD				*e*S	**Sn**	**09 26 11.8**	**-0.1**

*NNC **11** 09:25:38.5±2.4, 44°69N×79°62E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=15.5km s-min=11.2km az=11.0*
*SOME **11** 09:25:39.7, 44°60N×79°67E, h15km*
ISC 11 09:25:38.1±1.5, 44°70N±0°06×79°63E±0°05, h5km±14km, n13, σ0s53/24, 2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.38**	**163**	P	**Pg**	**09 25 45.4**	**-0.1**
	5.0nm,0.1s						
DJR				S	**Sg**	**09 25 50.2**	**-0.3**
	7.1nm,0.1s						
DJR	**Jarkent**	**0.38**	**163**	*e*P	**Pg**	**09 25 45.5**	**-0.1**
	5.1nm,0.1s						
DJR				*e*S	**Sg**	**09 25 50.0**	**-0.5**
	7.1nm,0.1s						
BLB	**Baldybastay**	**1.02**	**235**	P	**Pg**	**09 25 57.7**	**-0.1**
	1.2nm,0.2s						
BLB				S	**Sg**	**09 26 10.7**	**-0.3**
	3.1nm,0.2s						
KPKS	**Kokpek**	**1.41**	**209**	P	**Pn**	**09 26 04.4**	**-0.1**
	4.1nm,0.1s						
KPKS				S	**Sb**	**09 26 22.4**	**-0.8**
	4.9nm,0.2s						
KPKS	**Kokpek**	**1.41**	**209**	*e*P	**Pn**	**09 26 04.5**	**-0.1**
	4.1nm,0.1s						
KPKS				*e*S	**Sb**	**09 26 23.0**	**-0.3**
	4.9nm,0.2s						
KURS	**Kuram**	**1.60**	**222**	P	**Pb**	**09 26 08.2**	**-0.1**
	1.3nm,0.2s						
KURS				S	**Sb**	**09 26 28.8**	**0.0**
	2.0nm,0.2s						
KURS	**Kuram**	**1.60**	**222**	*e*P	**Pb**	**09 26 08.2**	**-0.1**
	1.5nm,0.0s						
KURS				*e*S	**Sb**	**09 26 28.9**	**0.0**
	2.4nm,0.4s						
UZB	**Uzynbulak**	**1.61**	**196**	P	**Pg**	**09 26 09.6**	**+0.6**
	3.8nm,0.4s						
UZB				S	**Sg**	**09 26 31.7**	**+1.8**
	6.2nm,0.3s						
UZB	**Uzynbulak**	**1.61**	**196**	*e*P	**Pb**	**09 26 08.6**	**+0.1**
	3.5nm,0.2s						
UZB				*e*S	**Sg**	**09 26 29.6**	**-0.3**
	6.0nm,0.5s						
SATY	**Saty**	**1.86**	**209**	P	**Pb**	**09 26 13.3**	**+0.6**
	0.9nm,0.2s						
SATY				S	**Sg**	**09 26 37.5**	**-0.4**
	7.7nm,0.3s						
SATY	**Saty**	**1.86**	**209**	*e*P	**Pb**	**09 26 12.7**	**0.0**
	0.7nm,0.1s						
SATY				*e*S	**Sb**	**09 26 36.6**	**+0.2**
	7.7nm,0.3s						
MK31	**Makanchi Array**	**2.80**	**41**	⇓Pg	**Pb**	**09 26 28.9**	**+0.2**
	0.1nm,0.1s,baz=273,slow=56,SNR=3.8						
MK31				⇓Lg	Lg	09 27 02.5	
	0.2nm,0.2s,baz=216,slow=26,SNR=6.0						
ZSN	**Zaisan**	**4.56**	**51**	*e*Pg	**Pb**	**09 26 58.8**	**+0.1**
	2.6nm,0.2s						
ZSN				*e*Lg	Lg	09 27 55.9	
	2.9nm,0.5s						

WEL 11 09:32:40.2, 42°S±3°×17°3E±°, h19km±6km, M2.7/12, ML2.8/16, MLv2.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=61.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.23**	**77**	P	Pg	09 32 46.0	+0.4
KHZ				S	Sg	09 32 49.7	+0.3
GVZ	**Greta Valley S**	**0.52**	**196**	P	Pn	09 32 51.8	-0.9
GVZ				S	Sn	09 33 00.1	-0.9
THZ	**Tophouse**	**0.75**	**341**	P	Pg	09 32 55.3	+0.5
THZ				S	Sb	09 33 04.6	+0.1
LTZ	**Lake Taylor**	**0.78**	**246**	P	Pg	09 32 55.6	+0.2
LTZ				S	Sg	09 33 06.5	+0.8
AMCZ	**Amberley**	**0.83**	**211**	P	Pn	09 32 57.6	+0.7
AMCZ				S	Sn	09 33 10.9	+2.3
MRNZ	**Matariki Terra**	**1.13**	**342**	P	Pg	09 33 02.3	+0.3
MRNZ				S	Sg	09 33 20.0	+3.2
TUWZ	**Tuamarina**	**1.17**	**27**	P	Pg	09 33 03.2	+0.4
TUWZ				S	Sg	09 33 18.6	+0.6
OXZ	**Oxford**	**1.23**	**225**	P	Pg	09 33 03.4	-0.5
OXZ				S	Sg	09 33 19.7	-0.3
NNZ	**Nelson**	**1.25**	**5**	P	Pg	09 33 04.4	-0.1
DSZ	**Denniston Nort**	**1.28**	**304**	P	Pg	09 33 05.2	+0.2
MQZ	**McQueen's Vall**	**1.31**	**199**	P	Pn	09 33 03.2	-0.2
INZ	**Inchbonnie**	**1.34**	**258**	P	Pn	09 33 05.8	-0.4
AKCZ	**Akaroa Harbour**	**1.42**	**189**	P	Pn	09 33 05.1	0.0
TKNZ	**Takaka Hill**	**1.45**	**352**	P	Pg	09 33 07.5	-0.6
TCW	**Tory Channel**	**1.48**	**32**	P	Pb	09 33 07.4	+0.3
RACZ	**Rakaia**	**1.49**	**212**	P	Pn	09 33 06.0	0.0
MHCZ	**Mount Hutt**	**1.62**	**228**	P	Pn	09 33 08.2	+0.4
QRZ	**Quartz Range**	**1.72**	**342**	P	Pb	09 33 11.9	+0.7
DUWZ	**D'Urville Isla**	**1.74**	**17**	P	Pb	09 33 12.5	+0.9
PLWZ	**Palliser**	**1.75**	**60**	P	Pn	09 33 10.2	+0.5
WACZ	**Wakanui South**	**1.79**	**214**	P	Pn	09 33 10.3	+0.2
CAW	**Cannon Point**	**1.93**	**46**	P	Pn	09 33 13.1	+1.0
WVZ	**Waitaha Valley**	**1.94**	**251**	P	Pb	09 33 13.8	-1.1
RPZ	**Rata Peaks**	**2.02**	**231**	P	Pn	09 33 14.0	+0.6
KIW	**Kapiti Island**	**2.04**	**39**	P	Pn	09 33 15.0	+1.5
ARCZ	**Arundel**	**2.11**	**225**	P	Pn	09 33 14.9	+0.4
OGWZ	**Otaki Gorge**	**2.20**	**42**	P	Pn	09 33 16.8	+1.1
MRZ	**Mangatainoka R**	**2.52**	**45**	P	Pn	09 33 20.7	+0.5
VRZ	**Vera Road**	**3.54**	**20**	P	Pn	09 33 37.7	+3.6
HIZ	**Hauiti**	**4.14**	**18**	P	Pn	09 33 45.7	+3.2

IDC 11 09:49:47.2±294.0, 56°92N×41°24E, h0km, Error ellipse: s-maj=112.5km s-min=47.3km az=87.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.22**	**267**	I	I	10 03

NEIC 11 10:10:07.6±0.5, 19°38N±0°.01×155°233W±0°.008, h5km±1km, Error ellipse: s-maj=1.6km s-min=1.0km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.02**	**99**		Pg	10 10 08.3	-0.4
PUH				IAML		10 10 08.7	
	comp=E,4μm,0.1s						
KKO	**Keanakako`i**	**0.04**	**304**		Pg	10 10 08.9	0.0
BYL	**Byron's Ledge**	**0.04**	**324**	Pg	Pg	10 10 08.9	-0.1
BYL					Sg	10 10 09.0	-0.9
BYL				IAML		10 10 10.1	
	comp=N,2μm,0.2s						
RIM	**Rim**	**0.04**	**296**	Pg	Pg	10 10 08.9	-0.1
RIM					Sg	10 10 09.0	-0.9
RIM				IAML		10 10 09.9	
	comp=N,2μm,0.6s						
HATHI	**Halema`uma`u T**	**0.05**	**330**	Pg	Pg	10 10 09.1	0.0
HATHI					Sg	10 10 09.2	-0.9
SDHHI	**Sand Hill**	**0.06**	**283**	Pg	Pg	10 10 09.2	0.0
SDHHI					Sg	10 10 09.4	-0.9
SDHHI				IAML		10 10 10.9	
	comp=N,2μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.06**	**87**		Pg	10 10 09.0	-0.1
SBLHI	**Steaming Bluff**	**0.06**	**327**		Pg	10 10 09.2	0.0
SBLHI				IAML		10 10 10.6	
	comp=E,2μm,0.3s						
UWB	**Uwekahuna B**	**0.06**	**318**	Pg	Pg	10 10 09.2	0.0
WRMHI	**West Rim**	**0.07**	**295**		Pg	10 10 09.4	+0.1
HLP	**Hilina Pali**	**0.11**	**221**		Pg	10 10 10.1	+0.2
HLP				IAML		10 10 13.3	
	comp=N,1μm,0.1s						
NPOC	**North of Pu`u**	**0.12**	**82**		Pg	10 10 10.1	0.0
NPOC				IAML		10 10 13.2	
	comp=E,596nm,0.7s						
JCUZ	**Jacuzzi**	**0.12**	**87**	IAML		10 10 10.2	
	comp=N,501nm,1.1s						
JCUZ					Pg	10 10 10.2	0.0
JCUZ				IAML		10 10 12.9	
	comp=E,552nm,0.6s						
MLH	**Mauna Loa**	**0.19**	**309**		Pg	10 10 11.7	+0.3
HTC	**Hot Caves**	**0.21**	**228**		Pg	10 10 11.9	+0.2
AIN	**Ainahou**	**0.21**	**269**		Pg	10 10 12.2	+0.3
AIN				IAML		10 10 16.6	
	comp=N,489nm,0.3s						
AIN				IAML		10 10 17.0	
	comp=E,229nm,0.3s						
JOKA	**Jonika Flow**	**0.22**	**75**		Pg	10 10 11.7	-0.3
HMH	**Humu`ula Sheep**	**0.33**	**314**		Pg	10 10 14.1	0.0
HMH				IAML		10 10 21.6	
	comp=N,204nm,3.9s						
MLOA	**Mauna Loa Obse**	**0.36**	**296**	Pg	Pg	10 10 14.7	-0.1
MLOA				IAML		10 10 20.1	
	comp=N,197nm,1.7s						
MWH	**Moku`aweowe**	**0.36**	**287**		Pg	10 10 14.7	-0.1
MWH				IAML		10 10 17.7	
	comp=N,232nm,2.9s						
MWH				IAML		10 10 26.1	
	comp=E,240nm,1.1s						
KHU	**Kahuku**	**0.38**	**250**		Pg	10 10 15.3	+0.2
KHU				IAML		10 10 16.6	
	comp=E,214nm,2.8s						
ALEP	**Alea Permanent**	**0.42**	**293**		Pg	10 10 15.4	-0.4
ALEP					Sg	10 10 22.6	+1.1
POHA	**Pohakuloa**	**0.47**	**323**	Pg	Pg	10 10 16.6	-0.2
POHA				IAML		10 10 25.5	
	comp=E,106nm,2.2s						
POHA				IAML		10 10 26.6	
	comp=E,105nm,1.6s						
KHLU	**Kahalu`u**	**0.66**	**289**		Pg	10 10 19.8	-0.5

*JMA **11** 10:11:15.4±0.0, 32°.90N±0°.09×130°.9E±0°.1, h9km, MV3.4/20, NW KUMAMOTO PREF*
JMA Felt IV J1 at NW KUMAMOTO PREF .
*IDC **11** 10:11:32.0±2.4, 33°.26N×131°.93E, h182km±26km, mb2.9/4, mbtmp3.3/6, Error ellipse: s-maj=38.9km s-min=19.3km az=45.0*

ISC 11 10:11:16.4±0.8, 32°87N±0°.04×130°88E±0°.07, h10km, n9, σ2°02/13, mb3.4/4, Kyushu

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**0**		P	**Pg**	**10 11 20.1**	**-1.4**
JNU					S	**Sg**	**10 11 23.5**	**-1.5**
JTA	**Tamana**	**0.30**	**288**	*i*	P	**Pg**	**10 11 21.2**	**-1.3**
JTA					S	**Sg**	**10 11 25.4**	**-1.2**
JIU3	**Izumi3**	**0.33**	**190**	*i*	P	**Pg**	**10 11 22.5**	**-0.4**
JIU3					S	**Sg**	**10 11 27.5**	**+0.3**
KSRS	**Korea Array**	**5.17**	**333**		P	**Pb**	**10 12 48.5**	**+1.6**
	1.9nm,0.7s,baz=149,slow=16,SNR=7.7							
KSRS					S	**Sb**	**10 13 53.8**	**+4.7**
	4.6nm,0.6s,baz=153,slow=28,SNR=5.0							
MJAR	**Matsushiro Arr**	**7.06**	**57**		P	**Pn**	**10 13 00.7**	**+1.0**
	2.3nm,0.5s,baz=239,slow=13,SNR=4.1							
SONM	**Songino Array**	**23.77**	**316**		P	**P**	**10 16 29.4**	**+0.3**
	0.4nm,0.7s,baz=132,slow=8.6,SNR=2.7							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**52.62**	**176**		P	**P**	**10 20 30.7**	**+0.1**
	0.5nm,0.8s,baz=0.7,slow=8.2,SNR=2.5							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**56.30**	**177**		P	**P**	**10 20 55.5**	**-1.8**
	0.2nm,0.7s,baz=6.8,slow=9.3,SNR=2.0							
	0.2nm,0.7s							
AKASG	**Malin Array Be**	**72.01**	**319**		P	**P**	**10 22 38.2**	**-2.0**
	0.2nm,0.3s,baz=52,slow=6.6,SNR=4.7							
	0.2nm,0.3s							

IDC 11 10:17:13.9±21.0, 33°97N×26°19E, h0km, mb3.4/3, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=406.1km s-min=74.5km az=60.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**16.87**	**7**	Pn	Pn	10 21 11.3	0.0
	0.3nm,0.3s,baz=195,slow=9.8,SNR=3.4						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**43.73**	**56**	P	P	10 25 21.0	+0.2
	0.3nm,0.6s,baz=287,slow=6.3,SNR=3.8						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**45.23**	**45**	P	P	10 25 31.6	-1.0
	0.3nm,0.3s,baz=282,slow=6.8,SNR=1.8						
	0.3nm,0.3s						
SONM	**Songino Array**	**59.59**	**50**	P	P	10 27 19.8	+0.3
	0.1nm,0.4s,baz=277,slow=6.9,SNR=1.9						
	0.1nm,0.4s						

*NEIC **11** 10:24:18.6±1.1, 5°.90S±0°.09×129°.0E±0°.1, h280km±14km, mb4.4/6, Error ellipse: s-maj=16.6km s-min=12.5km az=108.0*
*IDC **11** 10:24:22.1±2.2, 5°.65S×130°.30E, h339km±36km, mb2.7/1, mbtmp4.2/4, Error ellipse: s-maj=77.2km s-min=15.2km az=75.0*

ISC 11 10:24:17.8±0.7, 5°89S±0°.06×129°07E±0°.10, h300km, n23, σ2°37/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.04**	**133**	Pn	**Pn**	**10 25 13.5**	**-0.4**
FAKI	**Fak Fak**	**4.33**	**47**		**Pn**	**10 25 27.6**	**-0.3**
SIJI	**Sorong**	**5.45**	**24**	P	**Pn**	**10 25 40.6**	**-0.1**
	17nm,0.2s,baz=58,slow=4.5,SNR=32						
SIJI				S	**S**	**10 26 41.9**	**-5.6**
	23nm,0.3s,baz=76,slow=23,SNR=19						
SOEI	**Soe**	**6.11**	**231**	Pn	**Pn**	**10 25 47.7**	**-0.9**
MTN	**Manton Dam**	**7.20**	**164**		**Pn**	**10 26 00.1**	**-1.5**
LUWI	**Luwuk**	**7.92**	**307**	Pn	**Pn**	**10 26 08.4**	**-2.1**
KNRA	**Kununurra**	**9.73**	**182**	Pn	**Pn**	**10 26 32.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.58**	**195**	Pn	**P**	**10 27 07.1**	**-1.2**
WB0	**Warramunga Arr**	**14.73**	**160**	P	**Pn**	**10 27 33.6**	**+0.4**
WRAB	**Tennant Creek**	**14.87**	**160**	P	**Pn**	**10 27 35.3**	**+0.6**
WRA	**Warramunga Arr**	**14.88**	**160**	P	**Pn**	**10 27 35.1**	**+0.3**
	2.4nm,0.5s,baz=344,slow=12,SNR=46						
WRA				S	**S**	**10 30 11.8**	**-4.3**
	1.0nm,0.6s,baz=345,slow=21,SNR=3.6						
WRA	**Warramunga Arr**	**14.88**	**160**	P	**Pn**	**10 27 35.0**	**+0.1**
WB2	**Warramunga Arr**	**14.88**	**160**	P	**Pn**	**10 27 35.3**	**+0.4**
WR0	**Warramunga Arr**	**14.96**	**160**	P	**Pn**	**10 27 36.0**	**+0.2**
MBWA	**Marble Bar**	**17.67**	**210**	P	**Pn**	**10 28 05.3**	**-2.2**
MBWA				IAmb	IAmb	10 28 10.8	
	comp=Z,15nm,1.1s						
PSA00	**Pilbara Seismi**	**17.96**	**209**	P	**Pn**	**10 28 09.0**	**-2.0**
PSA00				IAmb	IAmb	10 28 23.0	
	comp=Z,13nm,1.1s						
PMG	**Port Moresby**	**18.26**	**102**	P	**P**	**10 28 12.5**	**+2.0**
PMG				IAmb	IAmb	10 28 38.4	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**18.27**	**166**	P	**P**	**10 28 13.4**	**+3.0**
ASAR	**Alice Springs**	**18.27**	**166**	P	**P**	**10 28 13.2**	**+2.7**
	comp=Z,22nm,0.7s,baz=348,slow=12,SNR=324						
ASAR				S	**S**	**10 31 23.5**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=344,slow=21,SNR=12						
ASAR	**Alice Springs**	**18.27**	**166**	P	**P**	**10 28 13.8**	**+3.3**
MKAR	**Makanchi Array**	**66.80**	**327**	P	**P**	**10 34 41.0**	**+3.4**
	comp=Z,0.2nm,0.5s,baz=129,slow=7.4,SNR=2.3						
	comp=Z,0.2nm,0.5s						
KURK	**Kurchatov**	**71.10**	**329**	P	**P**	**10 35 06.7**	**+2.9**
BRVK	**Borovoye**	**76.71**	**328**	P	**P**	**10 35 39.3**	**+3.2**
BRVK				IAmb	IAmb	10 35 52.5	
	comp=Z,8.9nm,0.7s						

IDC 11 10:37:38.5±11.0, 18°29S×179°86E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=353.6km s-min=63.3km az=131.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.95**	**260**	P	P	10 45 39.4	-0.2
	0.2nm,0.3s,baz=96,slow=7.4,SNR=5.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**43.11**	**255**	P	P	10 45 40.8	-0.1
	1.0nm,0.5s,baz=86,slow=8.8,SNR=22						
	1.0nm,0.5s						
SONM	**Songino Array**	**92.78**	**320**	P	P	10 50 52.9	-0.1
	0.9nm,0.8s,baz=104,slow=6.1,SNR=3.9						
	0.9nm,0.8s						

IDC 11 11:02:24.4±1.6, 2°95S×127°21E, h0km, mb3.4/2, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=34.7km s-min=26.5km az=79.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.55**	**63**	Pn	Pn	11 03 34.9	+0.2
	2.0nm,0.3s,baz=221,slow=18,SNR=9.3						
SIJI				Sn	Sn	11 04 30.9	+2.5
	1.4nm,0.3s,baz=348,slow=23,SNR=2.1						
	3.7nm,0.3s						
WRA	**Warramunga Arr**	**18.27**	**158**	P	P	11 06 40.0	+0.1
	0.2nm,0.3s,baz=339,slow=12,SNR=11						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**21.59**	**163**	P	P	11 07 15.1	-0.9
	0.5nm,0.3s,baz=345,slow=12,SNR=15						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**63.34**	**327**	P	P	11 12 55.7	+0.2
	0.5nm,0.8s,baz=116,slow=6.5,SNR=4.2						
	0.5nm,0.8s						

TEH 11 11:02:37.9, 30°.65N×50°.90E, h8km±34km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.56**	**265**	Pg	Pg	11 02 48.4	-0.3
ABEH				Sg	Sb	11 02 57.6	-0.5
KLNJ	**Kolanjah**	**0.70**	**59**	Pg	Pg	11 02 51.5	+0.1
KAZ1	**Kazerun**	**1.21**	**148**	Pg	Pn	11 03 01.5	+0.4
IBRJ	**Brojen**	**1.29**	**14**	Pg	Pg	11 03 02.8	+0.1
SHK1	**Shahrekord**	**1.67**	**360**	Pg	Pg	11 03 10.6	+0.6
AMIS	**Naft Sefid**	**1.71**	**307**	Pg	Pb	11 03 09.1	-0.6
IRAM	**Ramesheh**	**1.72**	**47**	Pg	Pb	11 03 10.0	+0.1
SHI	**Shiraz**	**1.72**	**125**	Pg	Pg	11 03 10.7	-0.3
AHBU	**AHRAM**	**1.81**	**169**	Pn	Pb	11 03 11.7	+0.4
IGAR	**Gharneh**	**2.00**	**29**	Pn	Pb	11 03 15.3	+0.6
IPIR	**Pirpir**	**2.03**	**360**	Pn	Pg	11 03 16.1	-0.7
DSBU	**Dashti - Bushe**	**2.30**	**172**	Pn	Pb	11 03 18.1	-1.6
NASN	**Na'in**	**2.69**	**37**	Pn	Pb	11 03 25.4	-1.2
IKLH	**Kolahrood**	**2.73**	**12**	Pn	Pn	11 03 23.4	+1.2
GHIR	**Ghir-Karzin**	**2.98**	**142**	Pn	Pn	11 03 28.0	+2.4
QAMS	**Qamsar**	**3.11**	**8**	Pn	Pn	11 03 30.1	+2.6
KHMZ	**Khomeyn**	**3.18**	**346**	Pn	Pn	11 03 31.5	+3.1
IMEH	**Mehriz**	**3.27**	**76**	Pn	Pn	11 03 32.1	+2.3
KRSH	**Karshahi**	**3.47**	**17**	Pn	Pn	11 03 35.2	+2.7
ANAR	**Anarak**	**3.50**	**43**	Pn	Pn	11 03 35.5	+2.8
YZKH	**Yazd**	**3.60**	**60**	Pn	Pn	11 03 37.8	+3.6
IKFM	**Kafar-mosalman**	**3.86**	**319**	Pn	Pn	11 03 40.3	+2.7
ISFB	**Sefidab**	**3.86**	**17**	Pn	Pn	11 03 39.9	+2.2
IDOB	**Doab**	**3.89**	**324**	Pn	Pn	11 03 40.7	+2.6
ASAO	**Ashtian**	**3.96**	**350**	Pn	Pn	11 03 42.1	+3.0
HSAM	**Samen**	**4.05**	**332**	Pn	Pn	11 03 42.7	+2.3
IBAF	**Bafgh**	**4.11**	**76**	Pn	Pn	11 03 44.6	+3.3
IQOM	**Qom**	**4.18**	**2**	Pn	Pn	11 03 44.6	+2.3
IVRN	**Varamin**	**4.39**	**9**	Pn	Pn	11 03 47.7	+2.8
HAGD	**Aghdareh**	**4.42**	**341**	Pn	Pn	11 03 46.9	+1.5
IKOM	**Komasi**	**4.53**	**322**	Pn	Pn	11 03 48.3	+1.3
IRAZ	**Razeghan**	**4.81**	**351**	Pn	Pn	11 03 53.3	+2.5
IDMV	**Damavand**	**5.01**	**11**	Pn	Pn	11 03 56.3	+2.7
KRBR	**Kerman**	**5.11**	**96**	Pn	Pn	11 03 58.4	+3.3
IFIR	**Firoozkooh**	**5.22**	**17**	Pn	Pn	11 03 58.7	+2.2
SNGE	**Sanandaj**	**5.34**	**327**	Pn	Pn	11 04 00.2	+2.1
IANJ	**Anjilo**	**5.43**	**27**	Pn	Pn	11 04 01.7	+2.3
IDHR	**Dehrash**	**5.55**	**318**	Pn	Pn	11 04 02.7	+1.8
TNSJ	**Nastanj**	**5.86**	**54**	Pn	Pn	11 04 07.6	+2.5
TABS	**Tabas**	**6.07**	**59**	Pn	Pn	11 04 11.3	+3.3
SHRO	**Shahrood**	**6.83**	**37**	Pn	Pn	11 04 22.1	+3.6

*IDC **11** 11:02:58.0±2.3, 29°.50S×60°.95E, h0km, mb3.8/5, mbtmp3.9/6, ML4.2/1, MS3.9/1, Error ellipse: s-maj=80.6km s-min=29.8km az=41.0*

ISC 11 11:02:59.9±2.2, 29°6S±0°.5×60°9E±0°.3, h14km, n14, σ0°44/7, mb4.0/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.60**	**308**	Pn	**Pn**	**11 06 52.6**	**+0.2**
	0.1nm,0.3s,baz=128,slow=19,SNR=2.6						
OPO				Sn	Sn	11 09 42.0	-15
	baz=249,slow=16,SNR=2.0						
	1.8nm,0.4s						
H08S1	**Diego Carcia H**	**24.39**	**29**	T	T	11 32 57.6	
	baz=204,slow=76,SNR=4.4						
H08S2	**Diego Garcia H**	**24.40**	**29**	T	T	11 33 16.2	
	baz=204,slow=76,SNR=3.7						
H08S3	**Diego Garcia H**	**24.41**	**29**	T	T	11 33 17.1	
	baz=204,slow=76,SNR=5.7						
H01W2	**Cape Leeuwin H**	**44.93**	**111**	T	T	11 59 16.7	
	baz=261,slow=75,SNR=5.5						
H01W3	**Cape Leeuwin H**	**44.93**	**111**	T	T	11 59 20.6	
	baz=261,slow=75,SNR=4.8						
H01W1	**Cape Leeuwin H**	**44.95**	**111**	T	T	11 59 21.6	
	baz=261,slow=75,SNR=3.5						
SNAA	**Sanae**	**53.99**	**201**	LR	LR	11 32 27.8	
	comp=Z,97nm,18.3s,baz=317,slow=33						
CMAR	**Chiang Mai Arr**	**60.24**	**42**	P	**P**	**11 13 08.3**	**+0.4**
	0.5nm,0.4s,baz=236,slow=6.4,SNR=1.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**64.59**	**104**	P	**P**	**11 13 37.4**	**+0.3**
	0.9nm,0.7s,baz=245,slow=5.9,SNR=14						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**66.44**	**100**	P	**P**	**11 13 48.8**	**-0.3**
	0.6nm,0.6s,baz=247,slow=5.9,SNR=6.3						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**78.44**	**15**	P	**P**	**11 14 59.4**	**-0.5**
	0.7nm,0.9s,baz=184,slow=4.9,SNR=6.2						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**85.72**	**14**	P	**P**	**11 15 37.7**	**-0.3**
	0.5nm,0.5s,baz=209,slow=2.7,SNR=3.7						
	0.5nm,0.5s						
YKA	**Yellowknife Ar**	**146.94**	**356**	PKPbc	**PKPbc**	**11 22 41.2**	**0.0**
	0.9nm,0.7s,baz=344,slow=3.3,SNR=9.8						

*NEIC **11** 11:20:35.7±1.3, 47°.20N±0°.02×122°.51W±0°.03, h20km±3km, Error ellipse: s-maj=3.5km s-min=1.4km az=57.0*
*PNSN **11** 11:20:36.7, 47°.21N×122°.49W, h13km, MD2.6, Fault plane solution: NP1:φ=275.00000°, δ90.00000°, λ-100.00000°.*
*SEA **11** 11:20:36.7±2.1, 47°.212N±0°.009×122°.49W±0°.01, h13km±1km, ML2.6/39, ML2.5/30(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=216.0*
*PGC **11** 11:20:36.7, 47°.21N×122°.49W, h13km, ML2.6, ML2.2/17, 44km Ssw of Seattle, Wa Washington*

ISC 11 11:20:36.3±0.8, 47°21N±0°.01×122°50W±0°.02, h18km±4km, n115, σ0°93/160, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPS	**University of**	**0.05**	**10**		**Pg**	**11 20 39.0**	**-0.6**
UPS					**Sg**	**11 20 41.4**	**-0.4**
TBPA	**Tacoma Substat**	**0.10**	**62**		**Pg**	**11 20 39.4**	**-0.6**
TBPA					**Sg**	**11 20 42.6**	**+0.2**
PAYL	**Puyallup Schoo**	**0.13**	**99**		**Pg**	**11 20 39.6**	**-0.6**
PAYL					**Sg**	**11 20 42.8**	**-0.1**
PCEP	**Pierce County**	**0.17**	**125**		**Pg**	**11 20 40.5**	**-0.3**
PCEP					**Sg**	**11 20 43.7**	**-0.2**
SMNR	**Sumner High Sc**	**0.18**	**92**		**Pg**	**11 20 40.6**	**-0.4**
SMNR					**Sb**	**11 20 44.5**	**+1.3**
VVHS	**Vashon High Sc**	**0.21**	**8**		**Pg**	**11 20 41.1**	**-0.3**
HICC	**Highline Commu**	**0.22**	**37**		**Sb**	**11 20 45.7**	**+0.7**
PCFR	**Pierce County**	**0.23**	**170**		**Pg**	**11 20 41.5**	**-0.1**
GHW	**Garrison Hill**	**0.23**	**138**		**Pg**	**11 20 41.3**	**-0.4**
GHW					**Sg**	**11 20 45.0**	**-0.4**
KNEL	**Kent Elementar**	**0.24**	**45**		**Sb**	**11 20 46.7**	**+1.2**
B941	**Kapowsin**	**0.29**	**140**		**Pg**	**11 20 42.2**	**-0.5**
B941					**Sg**	**11 20 46.3**	**-0.8**
D05A	**Enumclaw**	**0.35**	**94**		**Pg**	**11 20 43.6**	**0.0**
D05A				Sg	**Sb**	**11 20 49.2**	**+0.1**
D05A				IAML		11 20 49.5	
	comp=N,392nm,0.4s						
D05A	**Enumclaw**	**0.35**	**94**	P	**Pg**	**11 20 43.7**	**0.0**
D05A				S	**Sg**	**11 20 48.3**	**-0.4**
EGRN	**Evergreen Coll**	**0.36**	**247**		**Sb**	**11 20 50.3**	**+0.9**
PSNS	**PSNS Bremerton**	**0.36**	**344**		**Sg**	**11 20 49.2**	**+0.2**
ALKI	**Alki Wastewate**	**0.37**	**8**		**Sg**	**11 20 49.5**	**+0.3**
SP2	**Seward Park 2**	**0.38**	**26**		**Pg**	**11 20 44.2**	**0.0**
SP2					**Sb**	**11 20 50.9**	**+0.7**
GMW	**Gold Mountain**	**0.39**	**330**		**Pg**	**11 20 44.0**	**-0.4**
GMW					**Sg**	**11 20 49.9**	**0.0**
RAW	**Raver**	**0.41**	**72**		**Pg**	**11 20 44.4**	**-0.2**
GNW	**Green Mountain**	**0.42**	**328**		**Pg**	**11 20 44.2**	**-0.6**
GNW					**Sg**	**11 20 50.4**	**-0.3**
GNW	**Green Mountain**	**0.42**	**328**	P	**Pg**	**11 20 44.3**	**-0.6**
GNW				S	**Sg**	**11 20 50.1**	**-0.6**
CPW	**Capitol Peak**	**0.50**	**242**	P	**Pg**	**11 20 46.3**	**0.0**
CPW				S	**Sg**	**11 20 52.9**	**-0.2**
ELW	**Echo Lake**	**0.51**	**56**		**Pg**	**11 20 53.3**	**-0.2**
RATT	**Rattlesnake La**	**0.52**	**65**		**Pg**	**11 20 46.0**	**-0.7**
RATT					**Sg**	**11 20 53.7**	**0.0**
CDMR	**Cedar Moraine**	**0.55**	**67**		**Pg**	**11 20 46.6**	**-0.6**
CDMR					**Sg**	**11 20 54.6**	**+0.1**
OBSR	**Observation Ro**	**0.56**	**124**		**Pg**	**11 20 46.8**	**-0.8**
REMR	**Mount Rainier-**	**0.60**	**131**		**Pg**	**11 20 47.3**	**-0.9**
C04A	**Brinnon**	**0.60**	**328**		**Pg**	**11 20 47.3**	**-0.9**
C04A					**Sg**	**11 20 55.8**	**-0.4**
EARN	**East Ridge Ele**	**0.61**	**30**		**Pg**	**11 20 48.5**	**0.0**
LEOT	**Leota Junior H**	**0.61**	**25**		**Sb**	**11 20 58.6**	**+1.9**
FMW	**Mount Fremont**	**0.63**	**116**		**Pg**	**11 20 47.7**	**-1.1**
FMW	**Mount Fremont**	**0.63**	**116**	P	**Pg**	**11 20 47.8**	**-1.1**
LON	**Longmire**	**0.66**	**134**		**Pg**	**11 20 48.3**	**-1.1**
LON	**Longmire**	**0.66**	**134**		**Pg**	**11 20 48.1**	**-1.2**
LON				Sg	**Sg**	**11 20 56.9**	**-1.3**
LON				IAML		11 20 57.0	
	comp=N,218nm,0.2s						
LON				IAML		11 20 57.1	
	comp=E,255nm,0.2s						
LON	**Longmire**	**0.66**	**134**	P	**Pg**	**11 20 48.2**	**-1.1**
LON				S	**Sg**	**11 20 56.8**	**-1.3**
B013	**Quilcene**	**0.66**	**335**		**Pg**	**11 20 48.4**	**-1.0**
B013					**Sg**	**11 20 57.8**	**-0.5**
B013	**Quilcene**	**0.66**	**335**		**Pg**	**11 20 47.4**	**-2.0**
C05A	**Tolt Reservoir**	**0.73**	**48**		**Pg**	**11 20 49.4**	**-1.3**
C05A					**Sg**	**11 20 59.1**	**-1.2**
C05A	**Tolt Reservoir**	**0.73**	**48**	P	**Pg**	**11 20 49.3**	**-1.3**
C05A				S	**Sg**	**11 20 59.0**	**-1.3**
SR41	**SR410 Landslid**	**0.73**	**116**		**Pg**	**11 20 49.5**	**-1.2**
B017	**Montesano**	**0.76**	**254**		**Pg**	**11 20 50.3**	**-0.7**
HTW	**Haystack Looko**	**0.77**	**40**		**Pg**	**11 20 50.0**	**-1.4**
WPW	**White Pass**	**0.83**	**128**		**Pg**	**11 20 51.5**	**-1.0**
WISH	**Wishkah**	**0.87**	**264**		**Pg**	**11 20 52.8**	**-0.5**
WISH				IAML		11 21 11.0	
	comp=E,113nm,2.3s						
WISH				IAML		11 21 14.6	
	comp=N,113nm,2.7s						
B201	**Coldwater, Mou**	**0.92**	**170**		**Pg**	**11 20 53.0**	**-1.2**
B201					**Sg**	**11 21 05.4**	**-1.0**
NLWA	**Neilton Lookou**	**0.95**	**281**		**Pg**	**11 20 53.7**	**-1.1**
JRO	**Jston Ridge Ob**	**0.96**	**168**		**Sg**	**11 21 06.4**	**-1.0**
E03A	**Lebam**	**0.99**	**228**		**Pb**	**11 20 54.5**	**-0.4**
E03A				IAML		11 21 14.2	
	comp=N,84nm,0.5s						
E03A				IAML		11 21 15.1	
	comp=E,124nm,0.4s						
STD	**Studebaker Rid**	**0.99**	**169**		**Pb**	**11 20 54.3**	**-0.6**
STD					**Sg**	**11 21 07.7**	**-0.9**
B205	**Windy Ridge, M**	**1.00**	**165**		**Pb**	**11 20 54.1**	**-0.9**
DSD	**Olympics--Snow**	**1.02**	**307**	P	**Pb**	**11 20 55.0**	**-0.5**
VALT	**Mount Saint He**	**1.02**	**168**		**Pb**	**11 20 55.0**	**-0.5**
VALT					**Sg**	**11 21 08.8**	**-0.7**
BOLM	**Sugar Bowl**	**1.02

GOBB			S	Sn	11 21 32.2	+1.8
PFB	**Port Renfrew**	**1.89 317**	P	Pn	11 21 08.1	+0.5
PFB			S	Sn	11 21 31.4	+0.5
B926	**Mesachie Lake**	**1.95 326**	S	Sn	11 21 32.9	+0.6
CLRS	**Cowichan Lake**	**1.95 326**	Pn	Pn	11 21 08.9	+0.5
CLRS	comp=N,23nm,1.7s		IAML		11 21 26.9	
CLRS	comp=E,22nm,3.9s		IAML		11 22 15.3	
CLRS	**Cowichan Lake**	**1.95 326**	P	Pn	11 21 08.8	+0.4
CLRS			S	Sn	11 21 33.0	+0.6
HNBB	**Haney**	**2.08 359**	P	Pn	11 21 11.3	+1.1
HNBB			S	Sn	11 21 37.1	+1.5
HEBO	**Mount Hebo**	**2.18 204**	Pn	Pn	11 21 12.5	+0.8
NLLB	**Nanaimo Lost L**	**2.25 334**	P	Pn	11 21 13.7	+1.1
BIB	**Bowen Island**	**2.26 346**	P	Pn	11 21 14.2	+1.5
BIB			S	Sn	11 21 42.4	+2.4
G06A	**Carlson Farm,**	**2.36 146**		Pn	11 21 14.2	0.0
B08A	**Colville Reser**	**2.42 61**		Pn	11 21 15.1	+0.2
B08A	**Colville Reser**	**2.42 61**	P	Pn	11 21 15.5	+0.5
B08A			S	Sn	11 21 45.4	+1.3
VTHM	**Trough**	**2.44 146**		Pb	11 21 21.7	+2.2
WPB	**Watts Point**	**2.49 349**	P	Pn	11 21 17.6	+1.7
SHB	**Sechelt**	**2.56 339**	P	Pn	11 21 18.3	+1.4
SHB			S	Sn	11 21 49.9	+2.3
OZB	**Mount Ozzard**	**2.66 312**	Pn	Pn	11 21 18.8	+0.5
OZB	comp=N,44nm,2.8s		IAML		11 22 08.2	
OZB	comp=E,42nm,2.9s		IAML		11 22 46.3	
TXB	**Texada**	**2.80 333**	P	Pn	11 21 21.6	+1.5
PNT	**Penticton**	**2.85 41**	P	Pn	11 21 22.1	+1.2
PNT			Sg	Sb	11 22 02.9	+1.8
C09A	**Chrisman Ranch**	**2.92 77**	Pn	Pn	11 21 22.2	+0.4
BUCK	**Buck Mountain**	**3.03 187**	Pn	Pn	11 21 24.2	+0.8

*TEH **11** 11:25:17.3, 36.91N×54.04E, h8km±33km, ML3.0*
*AZER **11** 11:25:23.0±1.9, 36.77N×53.28E, h2km, Error ellipse: s-maj=48.8km s-min=12.9km az=32.0*

ISC 11 11:25:17.4±0.9, 36.97N±0.04×54.00E±0.04, h10km, n36, σ1§87/44, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.48**	**197**	Pg	**Pg**	**11 25 26.7**	**-0.2**
IGLO				Sg	**Sg**	**11 25 32.9**	**-0.3**
IMND	**Minoodasht**	**1.16**	**75**	Pg	**Pb**	**11 25 39.1**	**-0.5**
IMND				Sg	**Sg**	**11 25 55.9**	**+1.1**
ISHM	**Shahmirzad**	**1.29**	**207**	Pg	**Pn**	**11 25 42.0**	**+0.2**
ISHM				Sg	**Sb**	**11 25 58.4**	**-0.3**
IANJ	**Anjilo**	**1.50**	**183**	Pg	**Pn**	**11 25 44.9**	**+0.3**
IPRN	**Peran**	**1.52**	**242**	Pg	**Pn**	**11 25 46.1**	**+1.3**
IFIR	**Firoozkooh**	**1.66**	**218**	Pg	**Pn**	**11 25 47.7**	**+0.9**
ILAS	**Lasjerd**	**1.79**	**208**	Pg	**Pn**	**11 25 50.4**	**+1.8**
MRVT	**Maraveh tapeh**	**1.80**	**67**	Pg	**Pn**	**11 25 49.6**	**+1.0**
SHRO	**Shahrood**	**1.89**	**120**	Pn	**Pn**	**11 25 51.2**	**+1.4**
MZPU	**Pul - Mazandar**	**2.02**	**256**	Pn	**Pn**	**11 25 54.4**	**+2.6**
IDMV	**Damavand**	**2.11**	**230**	Pn	**Pn**	**11 25 55.9**	**+2.8**
DAMV	**Damavand**	**2.11**	**232**	Pn	**Pn**	**11 25 55.3**	**+2.3**
KLST	**Kelardasht - M**	**2.41**	**260**	Pn	**Pn**	**11 25 58.9**	**+1.8**
CHTH	**Charan**	**2.55**	**246**	Pn	**Pn**	**11 26 01.8**	**+2.8**
IVRN	**Varamin**	**2.69**	**224**	Pn	**Pn**	**11 26 03.0**	**+2.1**
THKV	**Tehran--Karaj**	**2.73**	**248**	Pn	**Pn**	**11 26 05.2**	**+3.8**
BJRD	**Bojnurd**	**2.81**	**74**	Pn	**Pn**	**11 26 03.9**	**+1.4**
ISFB	**Sefidab**	**2.98**	**209**	Pn	**Pn**	**11 26 06.4**	**+1.6**
ISFR	**Sfrayin**	**3.20**	**87**	Pn	**Pn**	**11 26 09.8**	**+1.7**
GHVR	**GHOM**	**3.32**	**222**	Pn	**Pn**	**11 26 12.1**	**+2.7**
KRSH	**Karshahi**	**3.35**	**208**	Pn	**Pn**	**11 26 11.5**	**+1.4**
TNSJ	**Nastanj**	**3.67**	**144**	Pn	**Pn**	**11 26 15.8**	**+1.4**
IEMG	**Emamgholi**	**3.74**	**82**	Pn	**Pn**	**11 26 17.1**	**+1.6**
TABS	**Tabas**	**4.18**	**141**	Pn	**Pn**	**11 26 23.0**	**+1.7**
TKDS	**Koohdasht(Taba**	**4.21**	**142**	Pn	**Pn**	**11 26 23.2**	**+1.5**
NASN	**Na'in**	**4.27**	**194**	Pn	**Pn**	**11 26 24.9**	**+2.2**
ASTR	**Astara**	**4.42**	**293**	P	**Pn**	**11 26 25.0**	**+0.5**
ASTR				S	**Sn**	**11 27 14.5**	**-1.6**
TPRV	**Parvadeh(Tabas**	**4.50**	**150**	Pn	**Pn**	**11 26 27.4**	**+1.6**
LRK	**Lerik**	**4.79**	**292**	P	**Pn**	**11 26 30.8**	**+1.1**
LRK				S	**Sn**	**11 27 22.8**	**-2.5**
YRD	**Yardimli**	**4.95**	**295**	P	**Pn**	**11 26 33.2**	**+1.2**
YRD				S	**Sn**	**11 27 25.3**	**-4.1**
GLBA	**Clilabad**	**4.97**	**299**	S	**Sn**	**11 27 29.3**	**-0.3**
AFRZ	**Afriz**	**5.42**	**129**	Pn	**Pn**	**11 26 40.0**	**+1.6**
SHRT	**Shahrakht**	**6.12**	**121**	Pn	**Pn**	**11 26 49.6**	**+1.7**
BSRN	**Basiran**	**6.54**	**138**	Pn	**Pn**	**11 26 55.2**	**+1.4**
ORD	**Ordubad**	**6.62**	**290**	P	**Pn**	**11 26 54.2**	**-0.7**
ORD				S	**Sn**	**11 28 07.7**	**-2.8**
GDB	**GEDABAY**	**7.45**	**303**	P	**Pn**	**11 27 08.1**	**+1.8**
GDB				S	**Sn**	**11 28 29.9**	**-1.0**

VIE 11 11:38:24.1, 47.30N×10.96E, h4km, ml1.4/6 8 km W of Telfs, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOTA	**Moosalm** 3.1nm,0.1s	**0.11**	**66**	*i* Pg	Pg	11 38 26.3	-0.1
SQTA	**Sankt Quirin** 1.9nm,0.1s	**0.19**	**116**	*i* Pg	Pg	11 38 28.1	+0.3
SQTA	21nm,0.1s			*e*Sg	Sg	11 38 30.7	+0.5
RETA	**Reutte** 0.4nm,0.0s	**0.23**	**324**	*i* Pg	Pg	11 38 28.9	+0.3
FETA	**Feichten** 0.5nm,0.1s	**0.32**	**210**	*e*Sg	Sg	11 38 34.9	+0.2
WTTA	**Wattenberg** 0.3nm,0.1s	**0.46**	**94**	*e*Pg	Pg	11 38 32.8	-0.2

IDC 11 12:02:17.2±3.6, 5.49S×147.67E, h0km, mb3.3/2, mbtmp3.6/4, ML3.1/2, MS2.5/2, Error ellipse: s-maj=100.2km s-min=31.7km az=94.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 11nm,0.3s,baz=2.2,slow=11,SNR=35	**3.92**	**187**	Pn	Pn	12 03 19.0	+0.3
PMG	12nm,0.3s,baz=222,slow=21,SNR=6.9 139nm,1.0s			Sn	Sn	12 03 57.0	-8.5
KRVT	**Keravat (AS076** comp=Z,28nm,18.7s,baz=36,slow=32	**4.49**	**75**	LR	LR	12 04 41.7	
CTA	**Charters Tower** comp=Z,36nm,20.3s,baz=258,slow=34	**14.58**	**185**	LR	LR	12 10 28.7	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=46,slow=11,SNR=6.6 1.1nm,0.7s	**19.36**	**221**	P	P	12 06 44.1	-0.4
ASAR	**Alice Springs** 0.8nm,0.5s,baz=48,slow=9.1,SNR=26 0.8nm,0.5s	**22.42**	**215**	P	P	12 07 17.8	+0.1
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=108,slow=4.7,SNR=2.1 0.2nm,0.7s	**77.53**	**320**	P	P	12 14 15.0	0.0

DJA 11 12:03:26.7±0.4, 9°S±4°×12°4E±°, h49km±20km, M3.9/8, mb4.1/5, MLv3.7/8, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.81**	**138**	P	Pn	12 03 42.2	+0.2
BATI	**Baumata**	**1.05**	**183**	P	Pn	12 03 47.0	+1.8
MMRI	**Maumere**	**1.55**	**289**	P	Pn	12 03 51.1	-0.8
MMRI				S	Sn	12 04 09.1	-1.8
BASI	**Baing, Sumba**	**3.27**	**251**	P	Pn	12 04 13.7	-1.9
WBSI	**Waikabubak, Su**	**4.30**	**263**	P	Pn	12 04 30.4	+0.7
PLAI	**Plampang** 28nm,0.8s,0.1nm	**5.88**	**273**	P	Pn	12 04 51.6	+0.3
TWSI	**Taliwang, Sumb** 13nm,1.1s,0.1nm	**6.77**	**273**	P	Pn	12 05 04.4	+0.9

*IDC **11** 12:15:07.9±2.3, 6.36S×154.69E, h67km±22km, mb3.5/6, mbtmp3.9/9, MS3.4/1, Error ellipse: s-maj=25.6km s-min=18.9km az=50.0*
*NEIC **11** 12:15:08.5±1.7, 6.01S±0.10×154.84E±0.03, h96km±10km, mb4.1/16, Error ellipse: s-maj=14.3km s-min=4.0km az=168.0*

ISC 11 12:15:08.8±0.7, 6.20S±0.09×154.80E±0.09, h89km, n32, σ1§18/32, mb4.0/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.30**	**307**		**Pn**	**12 15 56.9**	**-1.4**
KRVT	**Keravat (AS076** 95nm,0.6s,baz=237,slow=1.9,SNR=13	**3.34**	**304**	P	**Pn**	**12 15 57.8**	**-1.1**
HNR	**Honiara** 468nm,0.4s,baz=345,slow=2.2,SNR=5.7	**6.03**	**123**	P	**Pn**	**12 16 34.0**	**-1.4**
HNR	**Honiara**	**6.03**	**123**		**Pn**	**12 16 36.4**	**+1.0**
PMG	**Port Moresby** 13nm,0.8s,baz=66,slow=11,SNR=5.6	**8.21**	**247**	P	**Pn**	**12 17 03.2**	**-2.0**
PMG	**Port Moresby**	**8.21**	**247**		**Pn**	**12 17 06.1**	**+0.9**
CTAO	**Charters Tower** comp=Z,16nm,1.4s	**16.11**	**210**	Pn	**Pn**	**12 18 49.9**	**-0.2**
CTAO				IAmb	IAmb	12 18 56.2	
DZM	**Mont Dzumac** comp=Z,9.8nm,0.9s,baz=340,slow=12,SNR=12	**19.38**	**146**	P	**P**	**12 19 28.3**	**+0.5**
DZM	**Mont Dzumac** comp=Z,12nm,0.9s	**19.38**	**146**	P	**P**	**12 19 27.5**	**-0.3**
DZM				IAmb	IAmb	12 19 29.1	
EIDS	**Eidsvold** comp=Z,8.8nm,1.1s	**19.39**	**190**	P	**P**	**12 19 27.8**	**0.0**
EIDS				IAmb	IAmb	12 19 30.1	
OUENC	**Ouen Island, N** comp=Z,12nm,1.2s	**19.88**	**145**	P	**P**	**12 19 32.2**	**-0.9**
OUENC				IAmb	IAmb	12 19 43.5	
WR0	**Warramunga Arr** comp=Z,6.7nm,1.1s	**23.97**	**233**	P	**P**	**12 20 15.3**	**+0.1**
WR0				IAmb	IAmb	12 20 16.0	
WB0	**Warramunga Arr**	**23.99**	**234**	P	**P**	**12 20 15.8**	**+0.5**
WRAB	**Tennant Creek** comp=Z,13nm,1.5s	**24.11**	**234**	P	**P**	**12 20 16.7**	**+0.3**
WRAB				IAmb	IAmb	12 20 17.9	
WB2	**Warramunga Arr**	**24.11**	**234**	P	**P**	**12 20 16.6**	**+0.1**
WRA	**Warramunga Arr** comp=Z,3.0nm,0.9s,baz=60,slow=9.4,SNR=16 comp=Z,3.0nm,0.9s	**24.12**	**234**	P	**P**	**12 20 16.9**	**+0.4**
WRA	**Warramunga Arr**	**24.12**	**234**	P	**P**	**12 20 15.2**	**-1.4**
ARMA	**Armidale** comp=Z,12nm,1.2s	**24.28**	**187**	P	**P**	**12 20 17.7**	**-0.2**
ARMA				IAmb	IAmb	12 20 18.4	
AS31	**Alice Springs**	**26.56**	**227**	P	**P**	**12 20 38.0**	**-0.6**
ASAR	**Alice Springs** comp=Z,0.9nm,0.6s,baz=56,slow=9.3,SNR=33	**26.56**	**227**	P	**P**	**12 20 37.9**	**-0.8**
ASAR	comp=Z,0.4nm,0.7s,baz=53,slow=3.6,SNR=2.3 comp=Z,0.9nm,0.6s			PcP	**PcP**	**12 24 02.4**	**+1.2**
ASAR	**Alice Springs**	**26.56**	**227**	P	**P**	**12 20 38.6**	**-0.1**
KNRA	**Kununurra**	**27.21**	**248**	P	**P**	**12 20 44.1**	**-0.4**
STKA	**Stephens Creek** comp=Z,1.6nm,0.6s,baz=27,slow=14,SNR=4.2 comp=Z,1.6nm,0.6s	**28.38**	**204**	P	**P**	**12 20 53.6**	**-1.1**
BATI	**Baumata** comp=Z,27nm,0.6s,baz=71,slow=5.9,SNR=4.5	**31.07**	**261**	P	**P**	**12 21 16.9**	**-1.9**
RTZ	**Ruatahuna**	**38.01**	**151**	P	**P**	**12 22 19.2**	**+0.8**
PETK	**Petropavlovsk-** comp=Z,37nm,21.7s,baz=299,slow=32	**59.13**	**2**	LR	LR	12 46 50.9	
CMAR	**Chiang Mai Arr** comp=Z,1.8nm,0.8s,baz=116,slow=5.2,SNR=8.9 comp=Z,1.8nm,0.8s	**60.27**	**295**	P	**P**	**12 25 10.5**	**+2.1**
SONM	**Songino Array** comp=Z,0.2nm,0.4s,baz=141,slow=5.5,SNR=2.8 comp=Z,0.2nm,0.4s	**68.56**	**327**	P	**P**	**12 26 03.6**	**+1.5**
VNDA	**Vanda**	**71.38**	**178**	P	**P**	**12 26 19.5**	**+0.7**
VNDA	comp=Z,5.9nm,1.4s			IAmb	IAmb	12 26 36.0	
CHGN	**Chignik**	**73.11**	**25**	P	**P**	**12 26 26.9**	**-2.5**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.6s,baz=114,slow=5.8,SNR=2.5 comp=Z,0.2nm,0.6s	**82.68**	**319**	P	**P**	**12 27 24.6**	**+2.0**
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**12 27 27.1**	**-0.9**

*IDC **11** 12:15:45.0±2.9, 6.41S×154.88E, h96km±23km, mb3.6/6, mbtmp4.1/9, MS3.0/4, Error ellipse: s-maj=28.3km s-min=17.4km az=74.0*
*NEIC **11** 12:15:46.0±1.0, 6.45S±0.2×154.85E±0.1, h90km±14km, mb4.2/17, Error ellipse: s-maj=25.7km s-min=11.6km az=208.0*

ISC 11 12:15:45.9±0.7, 6.38S±0.09×154.82E±0.09, h100km, n32, σ0§70/34, mb4.0/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.42**	**309**	Pn	**Pn**	**12 16 36.8**	**-0.6**
KRVT	**Keravat (AS076** 646nm,0.7s,baz=216,slow=3.5,SNR=7.6	**3.46**	**306**	P	**Pn**	**12 16 37.1**	**-0.7**
KRVT	869nm,0.8s,baz=301,slow=23,SNR=2.1			S	**Sn**	**12 17 19.6**	**+1.6**
KRVT	comp=Z,530nm,18.2s,baz=304,slow=44			LR	LR	12 18 19.9	
HNR	**Honiara**	**5.91**	**121**	Pn	**Pn**	**12 17 10.4**	**-0.6**
PMG	**Port Moresby** 11nm,0.6s,baz=54,slow=9.5,SNR=4.2	**8.16**	**248**	P	**Pn**	**12 17 41.3**	**-0.3**
PMG	comp=Z,73nm,18.1s,baz=340,slow=39			LR	LR	12 21 07.9	
PMG	**Port Moresby**	**8.16**	**248**	Pn	**Pn**	**12 17 41.0**	**-0.6**
MANU	**Manus Island**	**8.59**	**300**		**Pn**	**12 17 47.7**	**+0.3**
LIFNC	**LIFOU**	**18.70**	**141**	P	**P**	**12 19 57.4**	**+0.9**
EIDS	**Eidsvold** comp=Z,8.5nm,0.9s	**19.22**	**190**	P	**P**	**12 20 02.0**	**-0.1**
EIDS				IAmb	IAmb	12 20 03.0	
DZM	**Mont Dzumac** comp=Z,10nm,0.8s,baz=314,slow=16,SNR=7.6	**19.22**	**145**	P	**P**	**12 20 02.1**	**-0.2**
DZM	comp=Z,67nm,21.7s,baz=18,slow=32			LR	LR	12 25 51.1	
DZM	**Mont Dzumac**	**19.22**	**145**	P	**P**	**12 20 03.2**	**+0.9**
DZM	comp=Z,9.0nm,0.8s			IAmb	IAmb	12 20 03.8	
OUENC	**Ouen Island, N**	**19.72**	**145**	P	**P**	**12 20 07.9**	**+0.3**
OUENC				IAmb	IAmb	12 20 08.4	
FAKI	**Fak Fak** comp=Z,8.2nm,0.7s	**22.75**	**278**	P	**P**	**12 20 39.6**	**-0.4**
FAKI	comp=Z,14nm,0.9s			IAmb	IAmb	12 20 40.0	
WR0	**Warramunga Arr**	**23.88**	**234**	P	**P**	**12 20 50.7**	**+0.3**
WR0	comp=Z,9.4nm,1.0s			IAmb	IAmb	12 20 50.8	
WB0	**Warramunga Arr**	**23.89**	**234**	P	**P**	**12 20 50.7**	**+0.1**
WB0	comp=Z,11nm,1.4s			IAmb	IAmb	12 21 00.5	
WRAB	**Tennant Creek**	**24.02**	**234**	P	**P**	**12 20 52.1**	**+0.5**
WB2	**Warramunga Arr**	**24.02**	**234**	P	**P**	**12 20 51.9**	**+0.2**
WB2	comp=Z,5.3nm,0.9s			IAmb	IAmb	12 20 52.3	
WRA	**Warramunga Arr** comp=Z,4.5nm,0.9s,baz=56,slow=9.6,SNR=7.8	**24.03**	**234**	P	**P**	**12 20 51.6**	**-0.2**
WRA	comp=Z,0.2nm,0.5s,baz=57,slow=2.4,SNR=2.4 comp=Z,4.5nm,0.9s			PcP	**PcP**	**12 24 31.7**	**+0.5**
ARMA	**Armidale**	**24.10**	**187**	P	**P**	**12 20 53.2**	**+0.9**
ARMA	comp=Z,19nm,1.5s			IAmb	IAmb	12 21 12.1	
AS31	**Alice Springs**	**26.45**	**227**	P	**P**	**12 21 13.2**	**-0.6**
ASAR	**Alice Springs** comp=Z,1.5nm,0.6s,baz=55,slow=9.2,SNR=8.8	**26.45**	**227**	P	**P**	**12 21 12.8**	**-0.9**
ASAR	comp=Z,0.7nm,0.7s,baz=63,slow=2.8,SNR=5.9 comp=Z,1.5nm,0.6s			PcP	**PcP**	**12 24 37.0**	**+0.4**
STKA	**Stephens Creek** comp=Z,1.7nm,0.5s,baz=28,slow=13,SNR=4.2 comp=Z,1.7nm,0.5s	**28.22**	**204**	P	**P**	**12 21 28.1**	**-1.2**
STKA	**Stephens Creek**	**28.22**	**204**	P	**P**	**12 21 28.4**	**-0.9**
RAO	**Raoul Island**	**34.34**	**135**	P	**P**	**12 22 23.2**	**+0.1**
FORT	**Forrest**	**34.92**	**223**	P	**P**	**12 22 27.6**	**-0.5**
RTZ	**Ruatahuna**	**37.84**	**151**	P	**P**	**12 22 53.8**	**+0.8**
TCW	**Tory Channel**	**38.78**	**156**	P	**P**	**12 23 01.4**	**+0.6**
KSRS	**Korea Array** comp=Z,6.8nm,20.4s,baz=145,slow=34	**50.32**	**332**	LR	LR	12 44 20.2	
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.6s,baz=115,slow=5.3,SNR=9.7 comp=Z,1.6nm,0.6s	**60.37**	**295**	P	**P**	**12 25 45.2**	**+0.3**
VNDA	**Vanda**	**71.20**	**178**	P	**P**	**12 26 54.5**	**+1.0**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,baz=111,slow=6.5,SNR=3.7 comp=Z,0.3nm,0.6s	**82.83**	**319**	P	**P**	**12 27 58.9**	**-0.4**
ILAR	**Eielson Array** comp=Z,0.2nm,0.4s,baz=232,slow=6.1,SNR=4.4 comp=Z,0.2nm,0.4s	**82.87**	**22**	P	**P**	**12 27 57.8**	**-1.3**
QSPA	**South Pole Qui** comp=Z,3.4nm,0.9s	**83.59**	**180**	P	**P**	**12 28 03.4**	**+0.5**
QSPA				IAmb	IAmb	12 28 19.5	

*IDC **11** 12:23:49.5±3.8, 6.90S×130.63E, h164km±51km, mb3.4/2, mbtmp3.8/5, Error ellipse: s-maj=120.5km s-min=18.5km az=82.0*

ISC 11 12:23:48.1±0.9, 7.01S±0.06×130.0E±0.1, h150km, n17, σ2§47/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.61**	**127**	P	**Pn**	**12 24 17.8**	**-1.0**
FAKI	**Fak Fak**	**4.64**	**29**	P	**Pn**	**12 24 56.1**	**-0.8**
MTN	**Manton Dam**	**5.90**	**169**	P	**Pn**	**12 25 13.2**	**-0.3**
KDU	**Kakadu**	**6.14**	**157**	P	**Pn**	**12 25 16.5**	**-0.2**
SIJI	**Sorong** 1.9nm,0.3s,baz=290,slow=23,SNR=7.0	**6.23**	**12**	P	**Pn**	**12 25 18.6**	**+0.6**
SIJI	3.2nm,0.3s,baz=260,slow=23,SNR=2.1			S	**Sn**	**12 26 24.2**	**-4.1**
KNRA	**Kununurra**	**8.70**	**188**	P	**Pn**	**12 25 48.9**	**-1.9**
WRA	**Warramunga Arr** 1.0nm,0.2s,baz=348,slow=13,SNR=37	**13.53**	**162**	P	**Pn**	**12 26 52.1**	**-1.9**
WRA	2.1nm,0.4s,baz=333,slow=23,SNR=12			S	Sn	12 29 15.9	-8.0
COEN	**Coen**	**14.68**	**119**	P	**Pn**	**12 27 10.2**	**+1.6**
QIS	**Mount Isa**	**16.37**	**146**	P	**P**	**12 27 31.9**	**+2.4**
ASAR	**Alice Springs** 1.0nm,0.6s,baz=339,slow=9.7,SNR=24	**16.98**	**168**	P	**P**	**12 27 38.0**	**+1.7**
ASAR	0.9nm,0.6s,baz=350,slow=26,SNR=7.2			S	**S**	**12 30 39.1**	**-6.5**
AS01	**Alice Springs**	**16.99**	**167**	P	**P**	**12 27 38.0**	**+1.7**
WRKA	**Warakurna**	**18.00**	**185**	P	**P**	**12 27 48.5**	**+1.1**
OOD	**Oodnadatta**	**21.36**	**166**	P	**P**	**12 28 24.4**	**+0.8**
INKA	**Innaminka**	**23.00**	**155**	P	**P**	**12 28 42.5**	**+2.7**
MULG	**Mulgathing**	**23.46**	**171**	P	**P**	**12 28 46.0**	**+1.9**
SONM	**Songino Array** 0.2nm,0.5s,baz=160,slow=8.3,SNR=3.1 0.2nm,0.5s	**58.45**	**342**	P	**P**	**12 33 29.1**	**+0.8**
MKAR	**Makanchi Array** 1.5nm,0.5s,baz=124,slow=8.0,SNR=5.8 1.5nm,0.5s	**68.23**	**327**	P	**P**	**12 34 33.8**	**+1.2**

IDC 11 13:21:22.6±27.0, 21.93S×174.92W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=504.3km s-min=155.3km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower** 2.6nm,0.4s,baz=95,slow=9.3,SNR=7.9 2.6nm,0.4s	**36.23**	**266**	P	P	13 28 28.6	+1.0
STKA	**Stephens Creek** 2.1nm,0.7s,baz=63,slow=6.8,SNR=2.5 2.1nm,0.7s	**39.80**	**246**	P	P	13 28 56.2	-1.4
ASAR	**Alice Springs** 1.4nm,0.6s,baz=104,slow=7.2,SNR=26 1.4nm,0.6s	**47.01**	**258**	P	P	13 29 56.4	+0.3
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=96,slow=7.9,SNR=16 0.7nm,0.6s	**47.26**	**263**	P	P	13 29 57.3	-0.7

*IDC **11** 13:31:57.7±3.0, 12.23N×141.37E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=96.8km s-min=25.1km az=65.0*

ISC 11 13:32:03.1±2.6, 12.23N±0.3×141.3E±0.5, h33km, n6, σ0§69/6, mb3.7/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower** 4.0nm,1.0s,baz=345,slow=12,SNR=1.8 4.0nm,1.0s	**32.51**	**171**	P	**P**	**13 38 31.5**	**+0.5**
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=13,slow=9.4,SNR=4.9 1.0nm,0.8s	**32.71**	**192**	P	**P**	**13 38 32.3**	**-0.5**
ASAR	**Alice Springs** 0.3nm,0.9s,baz=19,slow=12,SNR=10.0 0.3nm,0.9s	**36.42**	**191**	P	**P**	**13 39 05.5**	**+0.7**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=81,slow=8.3,SNR=1.9 0.5nm,0.3s	**41.20**	**284**	P	**P**	**13 39 45.2**	**+0.1**
STKA	**Stephens Creek** 0.7nm,0.4s,baz=342,slow=9.6,SNR=2.9 0.7nm,0.4s	**43.88**	**180**	P	**P**	**13 40 05.8**	**-0.7**
MKAR	**Makanchi Array** 0.6nm,1.0s,baz=104,slow=6.1,SNR=2.8 0.6nm,1.0s	**60.04**	**317**	P	**P**	**13 42 06.8**	**-0.1**

IDC 11 13:36:33.9±1.5, 23.01N×141.81E, h0km, mb3.1/3, mbtmp3.3/4, ML3.9/1, Error ellipse: s-maj=170.8km s-min=24.6km az=103.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima** 7.1nm,0.3s,baz=241,slow=13,SNR=6.5	**4.08**	**5**	Pn	Pn	13 37 35.6	-2.0
JCJ	6.9nm,0.3s,baz=292,slow=22,SNR=1.3 73nm,0.7s			Sn	Sn	13 38 15.9	-10
H11N1	**WAKE ISLAND Hy** baz=282	**23.57**	**93**	T	T	14 05 33.6	
H11N2	**WAKE ISLAND Hy** baz=282	**23.58**	**93**	T	T	14 05 39.6	
H11N3	**WAKE ISLAND Hy** baz=282	**23.59**	**93**	T	T	14 05 36.4	
WRA	**Warramunga Arr** 0.1nm,0.4s,baz=17,slow=8.0,SNR=5.0 0.1nm,0.4s	**43.31**	**190**	P	P	13 44 36.8	-0.9
ASAR	**Alice Springs** 0.1nm,0.6s,baz=15,slow=7.4,SNR=5.1 0.1nm,0.6s	**47.03**	**190**	P	P	13 45 07.5	+0.2
ILAR	**Eielson Array** 0.1nm,0.6s,baz=242,slow=7.0,SNR=1.9 0.1nm,0.6s	**61.46**	**28**	P	P	13 46 53.0	+1.0

*NEIC **11** 13:59:35.4±2.5, 15.48S±0.09×167.7E±0.1, h129km±5km, mb4.4/18, Error ellipse: s-maj=18.1km s-min=12.1km az=99.0*
*IDC **11** 13:59:37.8±2.2, 15.45S×167.38E, h152km±19km, mb3.6/7, mbtmp4.1/9, Error ellipse: s-maj=20.3km s-min=15.0km az=54.0*
*NOU **11** 13:59:46.0, 16.46S×167.44E, h0km, mb4.6/12, Vanuatu Islands*

ISC 11 13:59:34.9±0.6, 15.43S±0.07×167.55E±0.09, h124km, n50, σ1§24/52, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.36**	**165**	P	**Pn**	**14 00 13.5**	**+0.5**
RTV	**Rentapao**	**2.49**	**160**	P	**Pn**	**14 00 16.6**	**+1.9**
LIFNC	**LIFOU**	**5.32**	**183**		**Pn**	**14 00 51.3**	**-0.9**
LIFNC	**LIFOU**	**5.32**	**183**	P	**Pn**	**14 00 52.1**	**-0.1**
KOUNC	**Koumac, New Ca**	**5.96**	**211**		**Pn**	**14 01 00.9**	**+0.1**
KOUNC	**Koumac, New Ca**	**5.96**	**211**	P	**Pn**	**14 01 01.4**	**+0.6**
MARNC	**Mare, Loyalty**	**6.03**	**176**		**Pn**	**14 00 59.5**	**-2.3**
MARNC	**Mare, Loy

HIZ	**Hauiti**	**23.88 166**	P	**P**	**14 04 40.1**	**+3.1**
HIZ			IAmb	IAmb	14 05 08.1	
	comp=Z,42nm,1.2s					
URZ	**Urewera**	**24.25 161**	P	**P**	**14 04 42.0**	**+1.7**
	comp=Z,1.9nm,0.4s,baz=323,slow=10,SNR=1.4					
	comp=Z,1.9nm,0.4s					
RTZ	**Ruatahuna**	**24.54 162**	P	**P**	**14 04 43.3**	**+0.3**
RTZ			IAmb	IAmb	14 04 47.0	
	comp=Z,15nm,1.2s					
BKZ	**Black Stump Fm**	**24.91 163**	P	**P**	**14 04 46.4**	**0.0**
BKZ			IAmb	IAmb	14 04 51.2	
	comp=Z,25nm,1.5s					
WR0	**Warramunga Arr**	**31.74 257**	P	**P**	**14 05 45.7**	**-1.6**
WB0	**Warramunga Arr**	**31.87 257**	P	**P**	**14 05 47.0**	**-1.5**
WB0			IAmb	IAmb	14 05 47.8	
	comp=Z,3.9nm,0.8s					
WRA	**Warramunga Arr**	**31.93 257**	P	**P**	**14 05 47.8**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=80,slow=5.9,SNR=12					
WRA			PcP	**PcP**	**14 08 34.6**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=87,slow=4.0,SNR=2.0					
	comp=Z,1.5nm,0.7s					
AS31	**Alice Springs**	**32.68 250**	P	**P**	**14 05 54.1**	**-1.5**
ASAR	**Alice Springs**	**32.69 250**	P	**P**	**14 05 54.6**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=76,slow=9.1,SNR=135					
ASAR			PcP	**PcP**	**14 08 38.1**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=96,slow=2.6,SNR=1.8					
	comp=Z,2.5nm,0.4s					
ASAR	**Alice Springs**	**32.69 250**	P	**P**	**14 05 54.2**	**-1.4**
BBOO	**Buckleboo**	**33.37 233**	P	**P**	**14 06 01.4**	**0.0**
BBOO			IAmb	IAmb	14 06 38.4	
	comp=Z,22nm,1.4s					
FORT	**Forrest**	**39.18 240**	P	**P**	**14 06 51.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**40.16 260**	P	**P**	**14 06 58.3**	**-0.8**
JOW	**Kunigami**	**56.75 317**	P	**P**	**14 09 04.7**	**-1.4**
VNDA	**Vanda**	**62.17 181**	P	**P**	**14 09 42.9**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=14,slow=6.1,SNR=6.0					
	comp=Z,1.3nm,0.9s					
VNDA	**Vanda**	**62.17 181**	P	**P**	**14 09 42.1**	**-0.5**
VNDA			IAmb	IAmb	14 10 04.4	
	comp=Z,3.4nm,1.1s					
YSS	**Yuzh-Sakhalins**	**65.98 342**	P	**P**	**14 10 08.2**	**+0.4**
QSPA	**South Pole Qui**	**74.60 180**	P	**P**	**14 11 00.4**	**+0.2**
QSPA			IAmb	IAmb	14 11 01.4	
	comp=Z,5.7nm,1.1s					
CHGN	**Chignik**	**76.94 19**	P	**P**	**14 11 14.6**	**+1.3**
L19K	**White Mountain**	**82.82 17**	P	**P**	**14 11 45.8**	**+0.8**
SONM	**Songino Array**	**83.22 324**	P	**P**	**14 11 47.0**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=120,slow=8.7,SNR=4.2					
	comp=Z,1.2nm,0.5s					
IMAR	**Indian Mountai**	**86.17 15**	P	**P**	**14 12 01.5**	**-0.2**
ILAR	**Eielson Array**	**87.11 18**	P	**P**	**14 12 04.6**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=252,slow=4.6,SNR=4.5					
	comp=Z,0.2nm,0.6s					
TROLL	**Troll, Antarti**	**92.19 185**	P	**P**	**14 12 29.8**	**-0.6**
VNA3	**Neumayer Olymp**	**93.52 181**	P	**P**	**14 12 35.1**	**-1.2**
VNA2	**Neumayer--Watz**	**93.79 182**	P	**P**	**14 12 36.7**	**-0.8**
	baz=163,slow=4.0					
VNA1	**Neumayer--Stat**	**94.09 181**	P	**P**	**14 12 37.0**	**-1.9**
ARCES	**ARCESS Array B**	**121.00 345**	PKP	**PKPdf**	**14 18 11.7**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=42,slow=2.0,SNR=7.2					

*JMA **11** 14:03:32.9±0.2,27°N±2°×14°1E±°, h470km, MV3.8/32, W OFF OGASAWARA*
*IDC **11** 14:03:32.5±1.1,26°98N×140°47E, h490km±13km, mb3.1/16, mbtmp3.9/17, Error ellipse: s-maj=21.9km s-min=12.0km az=85.0*
ISC 11 14:03:31.8±0.8, 26°9N±0°1×140°9E±0°2, h500km, n28, σ2s00/31, mb3.5/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.13**	**82**	P	**P**	**14 04 31.3**	**-2.1**
CBIJ				*e*S	**S**	**14 05 17.9**	**-5.6**
JCJ	**Chichijima**	**1.13**	**82**	P	**P**	**14 04 34.5**	**+1.1**
	72nm,0.4s,baz=226,slow=19,SNR=28						
JCJ				S	**S**	**14 05 20.5**	**-3.0**
	67nm,0.3s,baz=270,slow=23,SNR=6.3						
JHH2	**Haha-jima-NKT2**	**1.16**	**105**	P	**P**	**14 04 32.3**	**-1.2**
JHH2				*e*S	**S**	**14 05 19.0**	**-4.6**
BSO3	**Boso 3**	**7.85**	**357**	*e*P	**P**	**14 05 25.7**	**-0.5**
JIE	**Ise**	**8.27**	**335**	P	**P**	**14 05 30.4**	**-0.5**
JKN2	**Miekihoku**	**8.31**	**332**	*e*P	**P**	**14 05 31.5**	**+0.2**
JOD2	**Odawara 2**	**8.45**	**350**	P	**P**	**14 05 31.9**	**-0.9**
JRY	**Ryogami san**	**9.22**	**350**	*e*P	**P**	**14 05 39.7**	**-1.1**
JYT	**Yasato**	**9.29**	**356**	P	**P**	**14 05 40.2**	**-1.3**
JAG	**Ashikaga**	**9.54**	**353**	*e*P	**P**	**14 05 42.0**	**-2.1**
JHO	**Hitachi**	**9.65**	**358**	P	**P**	**14 05 44.6**	**-0.7**
MJAR	**Matsushiro Arr**	**9.85**	**347**	P	**P**	**14 05 46.3**	**-1.2**
	2.5nm,0.4s,baz=176,slow=11,SNR=12						
WRA	**Warramunga Arr**	**47.03**	**188**	P	**P**	**14 11 18.6**	**+1.0**
	0.7nm,0.4s,baz=4.0,slow=7.6,SNR=26						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**49.71**	**310**	P	**P**	**14 11 36.5**	**-0.9**
	0.1nm,0.3s,baz=89,slow=10,SNR=4.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**50.76**	**188**	P	**P**	**14 11 46.9**	**+1.6**
	0.1nm,0.5s,baz=354,slow=3.8,SNR=11						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**52.35**	**315**	P	**P**	**14 11 55.5**	**-1.0**
	0.5nm,0.4s,baz=90,slow=7.9,SNR=6.5						
	0.5nm,0.4s						
NRIK	**Noril'sk**	**52.39**	**339**	P	**P**	**14 11 56.6**	**+0.2**
	2.0nm,0.4s,baz=116,slow=3.8,SNR=1.8						
	2.0nm,0.4s						
BVAR	**Borovoye Array**	**57.40**	**317**	P	**P**	**14 12 31.8**	**-0.1**
	1.2nm,0.4s,baz=86,slow=6.5,SNR=13						
	1.2nm,0.4s						
ILAR	**Eielson Array**	**58.39**	**29**	P	**P**	**14 12 41.1**	**+2.7**
	0.2nm,0.5s,baz=251,slow=5.9,SNR=5.9						
	0.2nm,0.5s						
INK	**Inuvik**	**63.64**	**24**	P	**P**	**14 13 13.9**	**+1.1**
	0.3nm,0.3s,baz=290,slow=9.2,SNR=5.0						
	0.3nm,0.3s						
ARU	**Arti**	**63.86**	**322**	P	**P**	**14 13 14.3**	**-0.2**
	1.1nm,0.4s,baz=49,slow=11,SNR=1.9						
	1.1nm,0.4s						
AKTO	**Aktyubinsk**	**65.37**	**316**	P	**P**	**14 13 22.1**	**-2.1**
	0.7nm,0.5s,baz=88,slow=5.2,SNR=3.7						
	0.7nm,0.5s						
YKA	**Yellowknife Ar**	**72.81**	**28**	P	**P**	**14 14 12.2**	**+3.4**
	0.4nm,0.5s,baz=296,slow=6.4,SNR=6.0						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**73.32**	**341**	P	**P**	**14 14 12.6**	**+1.0**
	2.7nm,1.0s,baz=62,slow=6.4,SNR=5.1						
	2.7nm,1.0s						
FINES	**FINESS Array B**	**77.59**	**333**	P	**P**	**14 14 36.3**	**+0.8**
	2.3nm,0.3s,baz=69,slow=4.8,SNR=28						
	2.3nm,0.3s						
AKASG	**Malin Array Be**	**82.08**	**323**	P	**P**	**14 14 59.5**	**+0.2**
	0.5nm,0.4s,baz=56,slow=4.9,SNR=6.3						
	0.5nm,0.4s						
HFS	**Hagfors**	**83.12**	**336**	P	**P**	**14 15 03.7**	**-0.7**
	3.7nm,0.9s,baz=357,slow=3.0,SNR=1.4						
	3.7nm,0.9s						
NOA	**NORSAR Array B**	**83.34**	**338**	P	**P**	**14 15 05.7**	**+0.1**
	0.4nm,0.4s,baz=55,slow=8.1,SNR=1.4						
	0.4nm,0.4s						

*IDC **11** 14:06:01.9±1.7, 15°.40S×167°.56E, h122km±14km, mb4.0/20, mbtmp4.3/22, MS3.2/3, Error ellipse: s-maj=16.2km s-min=11.4km az=79.0*
*NEIC **11** 14:06:03.6±1.9, 15°.53S±0°.09×167°.6E±0°.1, h133km±8km, mb4.5/24, Error ellipse: s-maj=19.4km s-min=13.4km az=81.0*
*NOU **11** 14:06:13.3, 16°.48S×167°.45E, h0km, mb5.0/12, Vanuatu Islands*
ISC 11 14:06:02.2±0.5, 15°.42S±0°.06×167°.56E±0°.07, h124km, n86, σ1s04/92, mb4.3/26, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.37**	**165**	P	**Pn**	**14 06 41.0**	**+0.5**
RTV	**Rentapao**	**2.50**	**161**	P	**Pn**	**14 06 42.9**	**+0.7**
LIFNC	**LIFOU**	**5.34**	**183**		**Pn**	**14 07 18.8**	**-1.0**
LIFNC	**LIFOU**	**5.34**	**183**	P	**Pn**	**14 07 19.6**	**-0.2**
KOUNC	**Koumac, New Ca**	**5.98**	**211**		**Pn**	**14 07 28.3**	**0.0**
KOUNC	**Koumac, New Ca**	**5.98**	**211**	P	**Pn**	**14 07 28.6**	**+0.2**
	145nm,1.0s						
MARNC	**Mare, Loyalty**	**6.05**	**176**		**Pn**	**14 07 27.6**	**-1.7**
MARNC	**Mare, Loyalty**	**6.05**	**176**	P	**Pn**	**14 07 27.8**	**-1.5**
DZM	**Mont Dzumac**	**6.70**	**189**	P	**Pn**	**14 07 38.4**	**+0.2**
	60nm,0.3s,baz=56,slow=9.3,SNR=317						
DZM				S	**Sn**	**14 08 54.1**	**+0.8**
	55nm,0.5s,baz=316,slow=18,SNR=7.1						
DZM				LR	LR	14 09 49.0	
	comp=Z,65nm,20.6s,baz=92,slow=34						
DZM	**Mont Dzumac**	**6.70**	**189**		**Pn**	**14 07 37.7**	**-0.5**
DZM	**Mont Dzumac**	**6.70**	**189**	P	**Pn**	**14 07 38.5**	**+0.2**
	112nm,0.7s						
OUENC	**Ouen Island, N**	**7.00**	**185**		**Pn**	**14 07 42.2**	**+0.1**
OUENC	**Ouen Island, N**	**7.00**	**185**	P	**Pn**	**14 07 42.9**	**+0.8**
	98nm,0.7s						
PINNC	**Pines Island,**	**7.16**	**181**		**Pn**	**14 07 44.2**	**-0.1**
PINNC	**Pines Island,**	**7.16**	**181**	P	**Pn**	**14 07 44.8**	**+0.5**
	85nm,0.7s						
HNR	**Honiara**	**9.52**	**308**	P	**Pn**	**14 08 16.8**	**+0.6**
	886nm,0.4s,baz=169,slow=6.3,SNR=9.1						
HNR				S	**Sn**	**14 10 00.9**	**-0.6**
	184nm,0.4s,baz=14,slow=21,SNR=1.4						
HNR				LR	LR	14 11 44.4	
	comp=Z,940nm,19.6s,baz=40,slow=36						
HNR	**Honiara**	**9.52**	**308**		**Pn**	**14 08 18.4**	**+2.1**
MSVF	**Nonsavu**	**10.32**	**104**	P	**Pn**	**14 08 28.6**	**+1.5**
	1.5nm,0.5s,baz=276,slow=15,SNR=1.5						
MSVF				LR	LR	14 11 05.6	
	comp=Z,52nm,21.0s,baz=235,slow=29						
EIDS	**Eidsvold**	**18.32**	**235**	P	**Pn**	**14 10 08.1**	**-0.3**
EIDS				IAmb	IAmb	14 10 09.7	
	comp=Z,22nm,0.7s						
PMG	**Port Moresby**	**20.79**	**284**	P	**P**	**14 10 34.8**	**+1.1**
	comp=Z,9.4nm,1.0s,baz=92,slow=9.5,SNR=3.5						
	comp=Z,9.4nm,1.0s						
CTA	**Charters Tower**	**20.81**	**254**	P	**P**	**14 10 35.2**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=84,slow=12,SNR=7.4						
	comp=Z,2.6nm,0.5s						
CTAO	**Charters Tower**	**20.81**	**254**	P	**P**	**14 10 35.3**	**+1.4**
CTAO				IAmb	IAmb	14 11 12.5	
	comp=Z,18nm,1.2s						
TOZ	**Tahuroa Road**	**23.31**	**164**	P	**P**	**14 10 55.0**	**-4.2**
COEN	**Coen**	**23.63**	**270**	P	**P**	**14 11 02.1**	**-0.2**
COEN				IAmb	IAmb	14 11 04.2	
	comp=Z,9.1nm,0.9s						
HIZ	**Hauiti**	**23.89**	**166**	P	**P**	**14 11 04.9**	**+0.5**
HIZ	**Hauiti**	**23.89**	**166**	P	**P**	**14 11 03.6**	**-0.8**
HAZ	**Te Kaha**	**24.02**	**160**	P	**P**	**14 11 08.0**	**+2.4**
MXZ	**Matakaoa Point**	**24.03**	**159**	P	**P**	**14 11 05.5**	**-0.1**
URZ	**Urewera**	**24.27**	**161**	P	**P**	**14 11 08.5**	**+0.7**
	comp=Z,9.5nm,0.8s,baz=211,slow=15,SNR=4.0						
	comp=Z,9.5nm,0.8s						
URZ	**Urewera**	**24.27**	**161**	P	**P**	**14 11 08.3**	**+0.5**
MUGZ	**Murupara**	**24.36**	**162**	P	**P**	**14 11 10.1**	**+1.4**
MWZ	**Matawai**	**24.46**	**161**	P	**P**	**14 11 10.4**	**+0.8**
SNVZ	**South Ngauruho**	**24.72**	**165**	P	**P**	**14 11 11.9**	**-0.2**
BKZ	**Black Stump Fm**	**24.93**	**163**	P	**P**	**14 11 14.0**	**+0.1**
BKZ				IAmb	IAmb	14 11 17.4	
	comp=Z,20nm,1.0s						
BKZ	**Black Stump Fm**	**24.93**	**163**	P	**P**	**14 11 14.3**	**+0.5**
BHHZ	**Black Hill Sta**	**25.11**	**164**	P	**P**	**14 11 16.5**	**+0.9**
KWHZ	**Kaweka Forest**	**25.15**	**164**	P	**P**	**14 11 16.7**	**+0.8**
KRHZ	**Kereru**	**25.34**	**164**	P	**P**	**14 11 17.8**	**+0.2**
KAHZ	**Kahuranaki**	**25.62**	**163**	P	**P**	**14 11 20.4**	**+0.3**
TSZ	**Takapari Road**	**25.62**	**165**	P	**P**	**14 11 20.0**	**-0.1**
PXZ	**Pawanui**	**25.83**	**163**	P	**P**	**14 11 22.1**	**+0.1**
STKA	**Stephens Creek**	**28.77**	**231**	P	**P**	**14 11 46.6**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=96,slow=5.6,SNR=4.0						
STKA				PcP	**PcP**	**14 14 55.3**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=35,slow=4.4,SNR=5.7						
	comp=Z,1.6nm,0.7s						
STKA	**Stephens Creek**	**28.77**	**231**	P	**P**	**14 11 48.7**	**+0.4**
WR0	**Warramunga Arr**	**31.75**	**257**	P	**P**	**14 12 13.0**	**-1.7**
WR0				IAmb	IAmb	14 12 36.4	
	comp=Z,10nm,1.5s						
WRAB	**Tennant Creek**	**31.92**	**257**	P	**P**	**14 12 14.9**	**-1.4**
WRA	**Warramunga Arr**	**31.93**	**257**	P	**P**	**14 12 15.2**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=86,slow=8.7,SNR=17						
WRA				PcP	**PcP**	**14 15 03.7**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=94,slow=3.6,SNR=2.6						
WRA				ScP	**ScP**	**14 18 37.6**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=89,slow=3.0,SNR=3.8						
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**31.93**	**257**	P	**P**	**14 12 15.3**	**-1.2**
AS31	**Alice Springs**	**32.69**	**250**	P	**P**	**14 12 22.0**	**-1.0**
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**14 12 22.1**	**-0.9**
ASAR				PcP	**PcP**	**14 15 04.3**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=79,slow=2.4,SNR=4.4						
ASAR				ScP	**ScP**	**14 18 39.5**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=84,slow=3.6,SNR=10.0						
	comp=Z,4.5nm,0.6s						
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**14 12 21.3**	**-1.7**
BBOO	**Buckleboo**	**33.38**	**233**	P	**P**	**14 12 29.3**	**+0.4**
BBOO				IAmb	IAmb	14 12 47.6	
	comp=Z,22nm,1.4s						
KNRA	**Kununurra**	**37.34**	**264**	P	**P**	**14 13 01.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**40.16**	**260**	P	**P**	**14 13 26.1**	**-0.4**
JMN	**Monobe**	**58.48**	**327**	P	**P**	**14 15 46.2**	**+0.8**
MJAR	**Matsushiro Arr**	**58.64**	**332**	P	**P**	**14 15 45.4**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=156,slow=10,SNR=5.3						
	comp=Z,1.2nm,0.6s						
MJB9	**Matsu-Tunnel**	**58.65**	**332**	P	**P**	**14 15 47.2**	**+0.7**
JNU	**Nakatsue**	**59.64**	**324**	P	**P**	**14 15 52.9**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=63,slow=2.3,SNR=2.1						
	comp=Z,5.4nm,0.7s						
VNDA	**Vanda**	**62.18**	**181**	P	**P**	**14 16 10.2**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=351,slow=7.9,SNR=18						
	comp=Z,1.7nm,0.5s						
VNDA	**Vanda**	**62.18**	**181**	P	**P**	**14 16 09.7**	**-0.3**
VNDA				IAmb	IAmb	14 16 41.6	
	comp=Z,7.1nm,1.4s						
JKA	**Kamikawa-asahi**	**63.48**	**340**	P	**P**	**14 16 20.3**	**+1.4**
ASAJ	**Asahikawa**	**63.48**	**340**	P	**P**	**14 16 19.9**	**+0.9**
	comp=Z,11nm,1.0s,baz=181,slow=9.3,SNR=2.0						
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**64.46**	**326**	P	**P**	**14 16 26.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=150,slow=9.4,SNR=1.7						
	comp=Z,0.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**67.62**	**333**	P	**P**	**14 16 46.3**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=118,slow=9.2,SNR=2.4						
	comp=Z,2.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**67.62**	**333**	P	**P**	**14 16 46.6**	**+1.0**
PETK	**Petropavlovsk-**	**68.77**	**354**	P	**P**	**14 16 51.6**	**-1.0**
	comp=Z,9.7nm,1.1s,baz=168,slow=7.4,SNR=2.0						
	comp=Z,9.7nm,1.1s						
KLR	**Kul'dur**	**71.75**	**336**	P	**P**	**14 17 10.9**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=134,slow=2.6,SNR=8.8						
	comp=Z,2.6nm,0.7s						
QSPA	**South Pole Qui**	**74.61**	**180**	P	**P**	**14 17 27.9**	**+0.2**
QSPA				IAmb	IAmb	14 17 29.2	
	comp=Z,10nm,0.8s						
CMAR	**Chiang Mai Arr**	**75.48**	**294**	P	**P**	**14 17 34.8**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=119,slow=4.4,SNR=7.7						
	comp=Z,0.9nm,0.7s						
OHAK	**Old Harbor**	**79.33**	**20**	P	**P**	**14 17 53.3**	**-0.6**
OHAK				IAmb	IAmb	14 18 01.0	
	comp=Z,22nm,1.4s						
KDAK	**Kodiak Island**	**80.01**	**20**	P	**P**	**14 17 56.6**	**-0.9**
KDAK				IAmb	IAmb	14 18 28.1	
	comp=Z,21nm,1.3s						
L19K	**White Mountain**	**82.81**	**17**	P	**P**	**14 18 13.5**	**+1.3**
L19K				IAmb	IAmb	14 18 44.3	
	comp=Z,5.3nm,1.4s						
SONM	**Songino Array**	**83.21**	**324**	P	**P**	**14 18 14.7**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=151,slow=7.0,SNR=9.5						
	comp=Z,1.4nm,0.5s						
SUA	**Susitna One**	**83.45**	**19**	P	**P**	**14 18 15.4**	**-0.3**
SUA				IAmb	IAmb	14 18 30.6	
	comp=Z,9.3nm,1.4s						
J20K	**Nowinta River**	**84.61**	**16**	P	**P**	**14 18 21.8**	**+0.5**
ILAR	**Eielson Array**	**87.09**	**18**	P	**P**	**14 18 31.8**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=237,slow=5.0,SNR=15						
	comp=Z,0.7nm,0.7s						
TROLL	**Troll, Antarti**	**92.20**	**185**	P	**P**	**14 18 57.4**	**-0.3**
SNAA	**Sanae**	**92.88**	**183**	P	**P**	**14 19 00.0**	**-0.7**
VNA3	**Neumayer Olymp**	**93.53**	**181**	P	**P**	**14 19 02.7**	**-1.0**
VNA2	**Neumayer--Watz**	**93.80**	**182**	P	**P**	**14 19 04.3**	**-0.7**
	baz=176,slow=5.0						
MKAR	**Makanchi Array**	**97.89**	**316**	P	Pdif	14 19 24.0	0.0
	comp=Z,0.4nm,0.5s,baz=97,slow=6.1,SNR=6.0						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**98.03**	**27**	P	**P**	**14 19 22.9**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=288,slow=4.5,SNR=3.9						
	comp=Z,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**98.11**	**324**	P	**P**	**14 19 23.6**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=102,slow=5.1,SNR=6.3						
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**120.98**	**345**	PKP	**PKPdf**	**14 24 38.9**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=59,slow=2.0,SNR=25						
FINES	**FINESS Array B**	**126.46**	**338**	PKP	**PKPdf**	**14 24 49.8**	**-0.3**
	comp=Z,4.6nm,1.1s,baz=338,slow=2.1,SNR=3.6						
NOA	**NORSAR Array B**	**131.36**	**345**	PKP	**PKPdf**	**14 24 59.7**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=43,slow=2.3,SNR=1.9						
BRTR	**Keskin Array B**	**133.17**	**310**	PKP	**PKPdf**	**14 25 04.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=15,slow=6.0,SNR=1.7						

IDC 11 14:06:33.0±929.0, 52°.33N×32°.95E, h0km, Error ellipse: s-maj=376.8km s-min=115.7km az=34.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**5.05**	**28**	I	I	14 34 20.0	
	0.3nm,0.7s,baz=211,slow=308,SNR=1.8						
I31KZ	**AKTYUBINSK INF**	**15.76**	**87**	I	I	15 42 50.0	
	baz=287,slow=312,SNR=1.7						
I46RU	**ZALESOVO INFRA**	**30.59**	**66**	I	I	17 18 10.0	
	baz=285,slow=330,SNR=1.7						

*ISK **11** 14:12:01.5, 41°.08N×39°.11E, h16km, ML2.5/4*
*DDA **11** 14:12:02.8±0.0, 41°.03N×39°.08E, h7km±2km, ML1.7*
ISC 11 14:12:00.8±2.0, 41°.15N±0°.09×39°.08E±0°.04, h18km±8km, n11, σ0s58/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESPY	**Espiye-Giresun**	**0.35**	**230**	Pg	**Pb**	**14 12 08.9**	**+0.3**
ESPY				Sg	**Sb**	**14 12 14.1**	**+0.2**
KTUT	**Trabzon**	**0.54**	**107**	Pg	**Pb**	**14 12 12.1**	**+0.4**
KTUT				Sg	**Sb**	**14 12 19.9**	**+0.7**
MACK	**Trabzon**	**0.56**	**111**	P	**Pn**	**14 12 13.7**	**-0.2**
MACK				S	**Sn**	**14 12 21.1**	**-1.7**
MACK				*i* AML	AML	14 12 22.0	
	comp=N,251nm,0.1s						
MACK				*i* AML	AML	14 12 22.0	
	comp=E,194nm,0.3s						
ALUC	**Giresun/Alucra**	**0.84**	**197**	P	**Pn**	**14 12 17.5**	**-0.4**
ALUC				S	**Sb**	**14 12 27.8**	**0.0**
ALUC				*i* AML	AML	14 12 29.0	
	comp=N,75nm,0.5s						
ALUC				*i* AML	AML	14 12 29.0	
	comp=E,98nm,0.2s						
KELT	**Kelkit**	**1.01**	**172**	P	**Pn**	**14 12 20.5**	**+0.2**
KELT				S	**Sn**	**14 12 33.3**	**-0.7**
KELT				*i* AML	AML	14 12 34.0	
	comp=N,32nm,0.6s						
KELT				*i* AML	AML	14 12 34.0	
	comp=E,33nm,0.3s						
BAYT	**Aydıntepe-Bayb**	**1.10**	**133**	Pg	**Pg**	**14 12 21.8**	**-0.3**
BAYT				Sg	**Sn**	**14 12 36.7**	**+0.4**
SUSE	**Susehri**	**1.15**	**216**	P	**Pn**	**14 12 22.7**	**+0.5**
SUSE				S	**Sg**	**14 12 38.1**	**-0.1**
SUSE				*i* AML	AML	14 12 39.0	
	comp=N,20nm,0.4s						
SUSE				*i* AML	AML	14 12 40.0	
	comp=E,15nm,0.3s						
BAYB	**BAYBURT**	**1.26**	**134**	P	**Pg**	**14 12 25.0**	**-0.2**
BAYB				S	**Sg**	**14 12 41.5**	**-0.1**
BAYB				*i* AML	AML	14 12 42.0	
	comp=N,21nm,0.2s						
BAYB				*i* AML	AML	14 12 42.0	
	comp=E,23nm,0.2s						
CHOM	**Cayeli-Rize**	**1.27**	**92**	Pn	**Pn**	**14 12 23.9**	**+0.2**
CHOM				Sn	**Sg**	**14 12 41.7**	**-0.1**
KOPT	**Kop Dagi**	**1.56**	**136**	P	**Pg**	**14 12 50.9**	**-0.3**
KOPT				S	**Sg**	**14 12 52.2**	**+1.1**
KOPT				*i* AML	AML	14 12 53.0	
	comp=N,8.4nm,0.2s						
KOPT				*i* AML	AML	14 12 55.0	
	comp=E,9.1nm,0.2s						
KRIK	**Erzurum-spir**	**1.62**	**119**	P	**Pg**	**14 12 31.8**	**-0.2**
KRIK				S	**Sg**	**14 12 53.0**	**0.0**
KRIK				*i* AML	AML	14 12 54.0	
	comp=E,4.3nm,0.4s						
KRIK				*i* AML	AML	14 12 55.0	
	comp=N,5.7nm,0.3s						

*SKHL **11** 14:18:24.6±0.3, 43°.60N×146°.20E, h64km±2km, mb4.6/3*
*JMA **11** 14:18:24.1±0.2, 43°.6N±0°.5×146°.1E±0°.9, h75km±1km, MV3.6/40, NEAR KUNASHIRI ISL

62nm,0.3s,baz=185,slow=9.2,SNR=20
GUMO S **Sn** **14 22 43.4 -2.2**
283nm,0.9s,baz=230,slow=23,SNR=1.3
205nm,0.4s
GUMO Guam 3.92 70 Pn **Pn** **14 22 01.2 +0.4**
GUMO Guam 3.92 70 P **Pn** **14 22 02.3 +1.5**
SMPI Sarmi 14.34 190 P **Pn** **14 24 24.4 +0.7**
73nm,1.4s
GENI Genyem 14.77 184 P **Pn** **14 24 31.9 +2.3**
107nm,1.7s
JCJ Chichijima 14.81 4 LR LR 14 29 33.6
comp=Z,144nm,18.3s,baz=212,slow=34
RKPI Ransiki, Papua 15.29 207 P **P** **14 24 41.5 +0.5**
45nm,1.6s,6µm
MANU Manus Island 15.50 156 **Pn** **14 24 39.3 0.0**
MANU IAmb IAmb 14 24 45.3
comp=Z,75nm,1.4s
SWI Sorong 16.28 218 P **P** **14 24 51.8 -0.1**
comp=Z,23nm,1.1s,comp=Z,1µm
SIJI Sorong 16.28 218 P **Pn** **14 24 49.9 +0.6**
comp=Z,0.6nm,0.3s,baz=27,slow=12,SNR=6.6
SIJI LR LR 14 29 30.4
comp=Z,170nm,21.6s,baz=94,slow=31
comp=Z,8.1nm,0.7s
FAKI Fak Fak 17.44 211 **Pn** **14 25 04.2 +0.4**
FAKI Fak Fak 17.44 211 P **Pn** **14 25 03.7 -0.1**
FAKI Fak Fak 17.44 211 P **Pn** **14 25 03.9 +0.1**
comp=Z,53nm,1.6s,comp=Z,676nm
SGSI Sangihe 17.59 242 P P 14 25 16.8 +10
TNTI Ternate 17.76 231 P **Pn** **14 25 07.2 -0.6**
JOW Kunigami 18.86 322 LR LR 14 30 56.3
comp=Z,222nm,21.4s,baz=142,slow=31
MSAI Masohi 19.65 219 P **Pn** **14 25 31.0 +0.3**
comp=Z,61nm,0.9s,comp=Z,479nm
RABL Rabaul 19.69 145 P **P** **14 25 29.4 -0.2**
RABL IAmb IAmb 14 25 43.4
comp=Z,141nm,1.1s
RABL Rabaul 19.69 145 P **Pn** **14 25 31.3 +0.1**
KRVT Keravat (AS076 19.71 146 LR LR 14 32 49.6
comp=Z,206nm,18.6s,baz=119,slow=36
BNDI Bandanaira 20.03 214 P Pn 14 25 35.0 -0.1
comp=Z,207nm,1.0s
AAI Ambon 20.37 220 P **P** **14 25 36.4 -0.5**
comp=Z,58nm,0.7s,comp=Z,914nm
SANI Sanana 20.66 228 P **P** **14 25 39.6 -0.5**
SANI Sanana 20.66 228 P **P** **14 25 39.2 -0.9**
comp=Z,28nm,1.0s,comp=Z,478nm
NLAI Namlea 20.74 223 P Pn 14 25 43.7 +0.3
comp=Z,12nm,0.9s
JHJ2 Mitsune 20.80 357 P **P** **14 25 40.3 -1.2**
GTOI Gorontalo 21.32 239 P **P** **14 25 46.8 -0.5**
comp=Z,13nm,0.9s,comp=Z,220nm
JSU Suzuyama 21.53 335 P **P** **14 25 48.2 -1.2**
JSU IAmb IAmb 14 25 50.7
comp=Z,76nm,0.9s
JSU Suzuyama 21.53 335 P **P** **14 25 50.4 +1.0**
YULB Yu-li 21.83 303 P **P** **14 25 49.8 -2.9**
YULB IAmb IAmb 14 26 14.4
comp=Z,50nm,1.3s
SSLB Suanglung 22.29 304 P **P** **14 25 57.3 -0.4**
SSLB IAmb IAmb 14 26 10.1
comp=Z,44nm,1.1s
MRSI Marisa 22.31 240 P **P** **14 25 57.4 -0.4**
comp=Z,68nm,0.9s,comp=Z,2µm
SAUI Saumlaki 22.33 206 P **P** **14 25 58.9 +0.9**
SAUI Saumlaki 22.33 206 P **P** **14 26 00.1 +2.1**
SAUI Saumlaki 22.33 206 P **P** **14 25 59.8 +1.8**
comp=Z,138nm,1.2s
PMG Port Moresby 22.34 164 P **P** **14 25 56.7 -1.4**
comp=Z,21nm,0.8s,baz=350,slow=5.3,SNR=9.3
PMG LR LR 14 34 33.8
comp=Z,277nm,19.7s,baz=295,slow=36
comp=Z,21nm,0.8s
PMG Port Moresby 22.34 164 P **P** **14 25 56.6 -1.4**
PMG IAmb IAmb 14 26 09.1
comp=Z,59nm,1.1s
PMG Port Moresby 22.34 164 P **P** **14 25 57.7 -0.4**
JMN Monobe 22.38 344 P **P** **14 25 57.5 -0.9**
JMN IAmb IAmb 14 26 03.0
comp=Z,101nm,1.4s
JNU Nakatsue 22.79 337 P **P** **14 26 01.9 -0.9**
comp=Z,28nm,1.0s,baz=170,slow=5.3,SNR=6.4
JNU LR LR 14 34 09.2
comp=Z,138nm,19.2s,baz=114,slow=34
comp=Z,28nm,1.0s
JNU Nakatsue 22.79 337 P **P** **14 26 01.2 -1.7**
JNU IAmb IAmb 14 26 04.9
comp=Z,48nm,1.2s
JNU Nakatsue 22.79 337 P **P** **14 26 01.9 -0.9**
TOLI2 Tolitoli 22.98 243 P **P** **14 26 03.5 -1.5**
TOLI2 Tolitoli 22.98 243 P **P** **14 26 05.0 +0.1**
comp=Z,19nm,0.8s
APSI Ampana 23.31 237 P **P** **14 26 08.8 +0.5**
comp=Z,38nm,1.0s
MYLDM Lahad Datu 23.39 255 P **P** **14 26 09.0 -0.1**
MPSI Mapaga 24.13 242 P **P** **14 26 14.7 -1.3**
comp=Z,21nm,1.8s
MJAR Matsushiro Arr 24.33 354 P **P** **14 26 15.4 -2.3**
comp=Z,2.8nm,1.0s,baz=143,slow=7.8,SNR=2.1
MJAR LR LR 14 35 49.0
comp=Z,137nm,18.3s,baz=153,slow=36
comp=Z,2.8nm,1.0s
MAJO Matsushiro 24.33 354 P **P** **14 26 19.3 +1.6**
MJB9 Matsu-Tunnel 24.34 354 P **P** **14 26 19.3 +1.5**
KKM Kota Kinabalu 25.31 258 P **P** **14 26 28.0 +1.1**
KKM IAmb IAmb 14 26 28.2
comp=Z,32nm,1.0s
JMM Marumori 25.52 359 P **P** **14 26 27.9 -0.5**
JMM IAmb IAmb 14 26 31.7
comp=Z,73nm,1.2s
JMM Marumori 25.52 359 P **P** **14 26 30.2 +1.8**
COEN Coen 26.11 175 P **P** **14 26 33.6 -0.4**
COEN IAmb IAmb 14 26 37.0
comp=Z,21nm,0.9s
COEN Coen 26.11 175 P **P** **14 26 34.2 +0.2**
KDU Kakadu 26.20 199 P **P** **14 26 35.5 +0.7**
MTN Manton Dam 26.81 202 P **P** **14 26 39.6 -0.7**
MTN IAmb IAmb 14 26 43.6
comp=Z,34nm,1.2s
SOEI Soe 27.52 218 P **P** **14 26 44.5 -2.4**
SOEI IAmb IAmb 14 27 03.7
comp=Z,53nm,1.1s
SOEI Soe 27.52 218 P **P** **14 26 47.7 +0.9**
KSRS Korea Array 27.74 337 P **P** **14 26 48.2 -0.2**
comp=Z,1.6nm,0.7s,baz=134,slow=10,SNR=3.6
KSRS LR LR 14 37 49.9
comp=Z,122nm,18.7s,baz=155,slow=36
comp=Z,1.6nm,0.7s
NJ2 Nanjing 28.40 317 *e*P **P** **14 26 55.0 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ERM Erimo 29.71 3 P **P** **14 27 06.1 +0.2**
KNRA Kununurra 30.31 204 P **P** **14 27 10.5 -0.9**
KNRA Kununurra 30.31 204 P **P** **14 27 10.0 -1.4**
TV1H Townsville Har 31.81 170 P **P** **14 27 27.0 +2.4**
comp=Z,22nm,1.1s
WB0 Warramunga Arr 32.49 192 P **P** **14 27 29.3 -1.4**
CTA Charters Tower 32.53 171 P **P** **14 27 30.0 -1.0**
comp=Z,29nm,0.9s,baz=346,slow=8.7,SNR=20
comp=Z,29nm,0.9s
CTAO Charters Tower 32.53 171 P **P** **14 27 31.2 +0.2**
CTAO Charters Tower 32.53 171 P **P** **14 27 31.8 +0.8**
QIS Mount Isa 32.63 183 P **P** **14 27 32.4 +0.5**
WRAB Tennant Creek 32.66 192 P **P** **14 27 31.4 -0.7**
WRAB Tennant Creek 32.66 192 P **P** **14 27 31.7 -0.4**
WRA Warramunga Arr 32.67 192 P **P** **14 27 31.4 -0.8**
comp=Z,38nm,0.9s,baz=12,slow=9.4,SNR=114
WRA Warramunga Arr 32.67 192 P **P** **14 27 30.9 -1.4**
ABJI Asem Bagus 33.31 235 P **P** **14 27 38.5 +0.6**
comp=Z,26nm,0.8s
FITZ Fitzroy Crossi 33.79 207 P **P** **14 27 40.4 -1.6**
FITZ Fitzroy Crossi 33.79 207 P **P** **14 27 40.6 -1.4**
LYN LuoYang 34.19 315 ⇑P **P** **14 27 44.9 -0.4**
LYN sP pP 14 27 52.5 -1.9
LYN S **S** **14 33 14.1 +4.4**
LYN pmax pmax
comp=Z,10.0nm,1.1s
LYN pmax pmax
comp=Z,190nm,4.3s
LYN LR LR
comp=Z,310nm,12.9s
LYN LR LR
comp=Z,200nm,18.2s
CN2 Changchun 34.22 340 *e*P **P** **14 27 47.7 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s

ENH Enshi 34.31 306 P **P** **14 27 48.0 +1.4**
HNS HongShan 34.43 321 ⇓P **P** **14 27 47.4 0.0**
GYA Guiyang 35.29 299 ⇓P **P** **14 27 56.4 +1.2**
GYA pmax pmax
comp=Z,16nm,1.0s
AS01 Alice Springs 36.37 191 P **P** **14 28 04.5 +0.3**
comp=Z,20nm,1.0s
AS31 Alice Springs 36.38 191 P **P** **14 28 03.8 -0.5**
ASAR Alice Springs 36.38 191 P **P** **14 28 03.8 -0.5**
comp=Z,5.6nm,0.8s,baz=22,slow=12,SNR=71
comp=Z,5.6nm,0.8s
ASAR Alice Springs 36.38 191 P **P** **14 28 04.3 +0.1**
XLT XiLinHaoTe 38.19 330 ⇓*i*P **P** **14 28 19.5 0.0**
XLT pP pP 14 28 24.7 -3.9
XLT sP sP 14 28 27.4 -4.3
XLT pmax pmax
comp=Z,7.0nm,1.3s
XLT pmax pmax
comp=Z,220nm,5.0s
KMI Kunming 38.38 295 ⇑P **P** **14 28 21.0 -0.6**
KMI pP pP 14 28 23.5 -7.0
KMI pmax pmax
comp=Z,9.0nm,0.9s
HHC Hu-ho-hao-te 38.51 323 *e*P **P** **14 28 23.6 +1.3**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,360nm,4.8s
QLP Quilpie 38.71 175 P **P** **14 28 24.9 +0.9**
WRKA Warakurna 39.10 199 P **P** **14 28 27.2 -0.1**
CD2 Chengdu 39.13 304 P **P** **14 28 26.2 -1.4**
RMQ Roma 39.21 169 P **P** **14 28 28.9 +0.7**
HEH HeiHe 39.53 346 *e*P **P** **14 28 30.1 -0.4**
HEH pmax pmax
comp=Z,20nm,0.8s
PZH PanZhiHua 39.56 297 P **P** **14 28 31.4 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.0s
INKA Innaminka 39.75 180 P **P** **14 28 33.2 +0.6**
KOUNC Koumac, New Ca 39.78 145 P **P** **14 28 32.7 -0.3**
KOUNC IAmb IAmb 14 28 44.3
comp=Z,22nm,1.0s
KOUNC Koumac, New Ca 39.78 145 P **P** **14 28 34.1 +1.1**
CRAI Chiangrai 39.81 287 P **P** **14 28 34.3 +1.0**
DVP Devils Point 40.03 138 P **P** **14 28 36.9 +1.8**
comp=Z,791nm,1.1s
OOD Oodnadatta 40.15 187 P **P** **14 28 35.6 -0.3**
IPM Ipoh 40.34 262 P **P** **14 28 38.4 +0.6**
comp=Z,11nm,1.3s
KULM Kulim 40.52 264 P **P** **14 28 38.7 -0.6**
AUBSH Beerwah State 40.54 164 P **P** **14 28 40.1 +0.9**
comp=Z,52nm,1.1s
CMAR Chiang Mai Arr 41.04 284 P **P** **14 28 45.0 +1.4**
comp=Z,12nm,1.0s,baz=87,slow=6.3,SNR=46
comp=Z,12nm,1.0s
CHTO Chiang Mai 41.06 285 P **P** **14 28 43.7 0.0**
LZH Lanzhou 41.07 312 *e*P **P** **14 28 46.2 +2.4**
LZH sP pwP 14 28 56.8 -0.7
LZH pmax pmax
comp=Z,10.0nm,1.4s
AUWSH Wavell State H 41.08 164 P **P** **14 28 43.8 +0.2**
comp=Z,36nm,1.1s
AULRC Lightning Ridg 41.96 171 P **P** **14 28 50.5 -0.3**
TNCH TengChong 42.12 294 P **P** **14 28 53.4 +0.9**
TNCH pP sP 14 29 04.3 -0.6
TNCH PP **PP** **14 30 30.5 +0.1**
TNCH S **S** **14 35 06.0 -4.4**
TNCH sS sS 14 35 27.0 +2.2
TNCH pmax pmax
comp=Z,11nm,0.6s
TNCH pmax pmax
comp=Z,120nm,4.5s
DZM Mont Dzumac 42.21 144 P **P** **14 28 53.6 +0.5**
comp=Z,20nm,0.9s,baz=264,slow=8.5,SNR=21
comp=Z,20nm,0.9s
DZM Mont Dzumac 42.21 144 P **P** **14 28 52.9 -0.1**
DZM IAmb IAmb 14 28 54.9
comp=Z,42nm,1.1s
DZM Mont Dzumac 42.21 144 P **P** **14 28 54.4 +1.3**
LCRK Leigh Creek 42.53 184 P **P** **14 28 55.1 -0.4**
OUENC Ouen Island, N 42.71 144 P **P** **14 28 57.3 +0.3**
OUENC IAmb IAmb 14 28 58.9
comp=Z,26nm,1.1s
OUENC Ouen Island, N 42.71 144 P **P** **14 28 58.9 +1.9**
PSI Prapat 42.78 261 P **P** **14 28 57.7 -0.3**
comp=Z,15nm,0.9s
RPSI Rantau Prapat 42.81 261 P **P** **14 28 56.6 -1.5**
RPSI IAmb IAmb 14 28 58.1
comp=Z,13nm,0.9s
MULG Mulgathing 42.82 189 P **P** **14 28 57.5 -0.3**
PETK Petropavlovsk- 42.87 15 P **P** **14 28 57.5 -0.5**
comp=Z,4.5nm,0.9s,baz=190,slow=5.9,SNR=1.9
comp=Z,4.5nm,0.9s
KCSI Kotacane, Aceh 43.72 262 P **P** **14 29 03.9 -1.5**
comp=Z,22nm,1.1s
CMSA Cobar Meteorol 43.76 174 P **P** **14 29 05.6 +0.3**
STKA Stephens Creek 43.87 179 P **P** **14 29 05.4 -0.9**
comp=Z,10nm,0.6s,baz=359,slow=8.0,SNR=28
comp=Z,10nm,0.6s
STKA Stephens Creek 43.87 179 P **P** **14 29 05.2 -1.0**
STKA Stephens Creek 43.87 179 P **P** **14 29 05.7 -0.6**
MND Mandalay 43.93 289 P **P** **14 29 08.5 +1.5**
comp=Z,14nm,1.2s
FORT Forrest 44.57 196 P **P** **14 29 11.3 -0.6**
FORT Forrest 44.57 196 P **P** **14 29 12.5 +0.6**
BBOO Buckleboo 45.06 186 P **P** **14 29 15.0 -0.8**
BBOO IAmb IAmb 14 29 16.0
comp=Z,19nm,1.0s
BBOO Buckleboo 45.06 186 P **P** **14 29 15.3 -0.4**
GTA Gaotai 45.38 314 ⇓P **P** **14 29 18.9 +0.4**
GTA pP pP 14 29 23.4 -4.4
GTA sP sP 14 29 26.2 -4.5
GTA PcP **PcP** **14 30 57.6 0.0**
GTA pmax pmax
comp=Z,7.0nm,1.2s
HTT Hallett 45.47 183 P **P** **14 29 19.1 +0.1**
ULN Ulaanbaatar 45.47 328 P **P** **14 29 19.2 +0.1**
SONM Songino Array 45.80 328 P **P** **14 29 22.1 +0.5**
comp=Z,1.2nm,0.6s,baz=142,slow=8.1,SNR=11
SONM PcP **PcP** **14 30 57.4 -1.4**
comp=Z,1.1nm,0.7s,baz=139,slow=3.8,SNR=2.6
comp=Z,1.2nm,0.6s
SONM Songino Array 45.80 328 P **P** **14 29 22.3 +0.7**
MSVF Nonsavu 47.10 129 P **P** **14 29 32.3 +0.2**
comp=Z,18nm,0.8s,baz=275,slow=7.0,SNR=17
comp=Z,18nm,0.8s
MSVF Nonsavu 47.10 129 P **P** **14 29 32.4 +0.2**
MSVF Nonsavu 47.10 129 P **P** **14 29 33.4 +1.2**
DGTI Dogotuki 47.59 126 P **P** **14 29 37.0 +1.1**
comp=Z,21nm,1.3s
MORW Morawa 47.67 210 P **P** **14 29 35.4 -1.0**
MORW Morawa 47.67 210 P **P** **14 29 36.1 -0.2**
GOMU GeErMu 47.90 308 P **P** **14 29 39.9 +1.3**
GOMU pP pP 14 29 43.6 -4.0
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU pmax pmax
comp=Z,100nm,5.5s
SHL Shillong 48.14 293 P **P** **14 29 40.4 0.0**
BLDU Ballidu 48.64 208 P **P** **14 29 43.5 -0.3**
ARPS Mount Arapiles 48.76 179 P **P** **14 29 46.4 +1.8**
comp=Z,29nm,0.9s
LSA Lhasa 49.37 299 P **P** **14 29 50.4 +0.3**
LSA IAmb IAmb 14 30 03.1
comp=Z,6.4nm,0.8s
TOO Toolangi 49.72 175 P **P** **14 29 52.8 +0.8**
YAK Yakutsk 50.39 353 P **P** **14 29 56.2 -0.5**
TAPN Taplejung 52.05 295 *e*P **P** **14 30 11.0 +0.8**
comp=Z,18nm,0.8s
ODAN Odare 52.29 294 *e*P **P** **14 30 11.9 0.0**
RAMN Ramite 53.00 295 *e*P **P** **14 30 17.7 +0.6**
PKIN Phulchoki 54.12 295 *e*P **P** **14 30 25.5 +0.1**
comp=Z,4.0nm,0.3s
KKN Kakani 54.24 295 *e*P **P** **14 30 26.8 +0.6**
DMN Daman 54.38 295 *e*P **P** **14 30 27.7 +0.4**
comp=Z,5.8nm,0.3s
GKN Gorkha 54.83 296 *e*P **P** **14 30 30.6 +0.2**
comp=Z,5.2nm,0.3s
WMQ Urumqi 55.44 315 *e*P **P** **14 30 36.8 +2.4**
KOLN Koldanda 55.72 295 *e*P **P** **14 30 36.1 -0.8**
comp=Z,3.6nm,0.9s
BILL Bilibino 58.13 11 P **P** **14 30 52.9 -0.1**
BILL IAmb IAmb 14 31 03.0
comp=Z,14nm,1.0s
TIXI Tiksi 59.84 356 P **P** **14 31 04.6 -0.1**
TIXI IAmb IAmb 14 31 18.3
comp=Z,7.9nm,1.0s
MK31 Makanchi Array 59.93 317 P **P** **14 31 05.9 0.0**
MKAR Makanchi Array 59.93 317 P **P** **14 31 06.5 +0.6**
comp=Z,3.2nm,0.7s,baz=98,slow=8.3,SNR=23
comp=Z,3.2nm,0.7s
MKAR Makanchi Array 59.93 317 P **P** **14 31 06.2 +0.3**
MAKZ Makanchi 60.14 317 P **P** **14 31 07.0 -0.4**
MAKZ IAmb IAmb 14 31 19.8
comp=Z,7.5nm,0.9s
URZ Urewera 60.50 148 P **P** **14 31 08.6 -1.1**
comp=Z,3.5nm,0.4s,baz=2.4,slow=4.7,SNR=1.7
comp=Z,3.5nm,0.4s
ZAA0 Zalesovo Array 60.61 326 P **P** **14 31 09.7 -0.6**
ZALV Zalesovo Beam 60.61 326 P **P** **14 31 10.1 -0.3**
comp=Z,2.9nm,0.6s,baz=102,slow=6.0,SNR=11
comp=Z,2.9nm,0.6s
ZALV Zalesovo Beam 60.61 326 P **P** **14 31 09.7 -0.6**
KSH Kashi 63.15 308 P **P** **14 31 31.3 +3.4**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 63.26 321 P **P** **14 31 27.6 -0.6**
KURBB Kurchatov Arra 63.30 321 P **P** **14 31 28.6 +0.2**
comp=Z,8.1nm,0.6s,baz=106,slow=6.9,SNR=50
comp=Z,8.1nm,0.6s
NIL Nilore 64.93 301 P **P** **14 31 39.6 0.0**
NRIK Noril'sk 66.22 342 P **P** **14 31 47.4 +0.2**
comp=Z,10nm,1.1s,baz=96,slow=5.9,SNR=5.5
comp=Z,10nm,1.1s
NRIK Noril'sk 66.22 342 P **P** **14 31 47.2 0.0**
NRIK IAmb IAmb 14 32 06.1
comp=Z,10nm,0.9s
SVW2 Sparrevohn 66.59 28 P **P** **14 31 52.3 +2.6**
SVW2 IAmb IAmb 14 32 00.7
comp=Z,6.0nm,1.1s
J20K Nowinta River 68.16 25 P **P** **14 31 59.7 +0.1**
J20K IAmb IAmb 14 32 00.9
comp=Z,11nm,1.3s
KBL Kabul 68.43 302 P **P** **14 32 00.7 -1.4**
KBL IAmb IAmb 14 32 03.5
comp=Z,10nm,0.9s
BVAR Borovoye Array 68.71 322 P **P** **14 32 03.4 +0.1**
comp=Z,9.8nm,0.6s,baz=106,slow=7.1,SNR=48
comp=Z,9.8nm,0.6s
CAST Castle Rocks 68.82 26 P **P** **14 32 03.8 +0.1**
CAST IAmb IAmb 14 32 12.9
comp=Z,6.9nm,1.0s
IMAR Indian Mountai 68.88 23 P **P** **14 32 03.8 -0.3**
H21K Melozitna Rive 69.15 24 P **P** **14 32 05.3 -0.4**
H21K IAmb IAmb 14 32 19.9
comp=Z,6.2nm,1.1s
I21K Tanana 69.34 25 P **P** **14 32 06.7 -0.2**
I21K IAmb IAmb 14 32 18.1
comp=Z,6.6nm,1.0s
KTH Kantishna Hill 69.36 26 P **P** **14 32 06.6 -0.6**
KTH IAmb IAmb 14 32 17.0
comp=Z,12nm,1.2s
BPAW Bear Paw Mtn. 69.47 26 P **P** **14 32 07.3 -0.5**
BPAW IAmb IAmb 14 32 16.9
comp=Z,7.0nm,1.1s
MLY Manley 69.81 25 P **P** **14 32 09.2 -0.7**
MLY IAmb IAmb 14 32 19.3
comp=Z,6.2nm,1.0s
KNK Knik Glacier 70.00 29 P **P** **14 32 10.6 -0.5**
KNK IAmb IAmb 14 32 19.7
comp=Z,9.8nm,1.1s
SML Sawmill 70.13 28 P **P** **14 32 12.0 0.0**
SML IAmb IAmb 14 32 20.6
comp=Z,18nm,1.2s
H23K Yukon River 70.49 24 P **P** **14 32 13.8 -0.3**
H23K IAmb IAmb 14 32 23.7
comp=Z,11nm,1.3s
COLD Coldfoot 70.59 23 P **P** **14 32 14.4 -0.1**
COLD IAmb IAmb 14 32 25.0
comp=Z,5.6nm,1.0s
SCM Sheep Creek Mo 70.61 29 P **P** **14 32 15.6 +0.7**
SCM IAmb IAmb 14 32 25.4
comp=Z,15nm,1.1s
DHY Denali Highway 70.82 27 P **P** **14 32 16.8 +0.6**
MDM Murphy Dome 70.83 25 P **P** **14 32 16.8 +0.6**
ILAR Eielson Array 71.35 25 P **P** **14 32 17.2 -2.0**
comp=Z,1.1nm,0.7s,baz=252,slow=5.7,SNR=12
comp=Z,1.1nm,0.7s
RIDG Independent Ri 72.05 27 P **P** **14 32 22.6 -1.0**
RIDG IAmb IAmb 14 32 38.5
comp=Z,8.8nm,1.2s
BMAR Burnt Mountain 72.76 23 P **P** **14 32 28.1 +0.4**
DAWY Dawson 74.49 27 P **P** **14 32 38.1 +0.2**
SPB2 Spitsbergen Ar 84.76 350 P **P** **14 33 33.4 +0.1**
YKA Yellowknife Ar 85.73 27 P **P** **14 33 37.3 -1.1**
comp=Z,0.6nm,0.6s,baz=288,slow=5.2,SNR=7.3
YKA LR LR 15 09 37.3
comp=Z,2µm,21.8s,baz=306,slow=34
comp=Z,0.6nm,0.6s
ARCES ARCESS Array B 87.20 341 P **P** **14 33 44.2 -1.3**
comp=Z,2.1nm,0.5s,baz=69,slow=6.6,SNR=13
comp=Z,2.1nm,0.5s
ARCES ARCESS Array B 87.20 341 P **P** **14 33 44.3 -1.3**
TULEG Thule 89.64 7 P **P** **14 33 58.4 +1.5**
TULEG IAmb IAmb 14 34 09.5
comp=Z,17nm,1.4s
NVAR Mina Array Bea 90.62 51 P **P** **14 34 01.6 -1.1**
comp=Z,0.3nm,0.4s,baz=253,slow=5.3,SNR=4.2
comp=Z,0.3nm,0.4s
CLL Collm 102.39 330 *e*Pdif **Pdif** **14 34 54.0 -1.4**
PLCA Paso Flores 140.30 141 PKP **PKPdf** **14 40 27.9 -1.0**
comp=Z,0.7nm,0.5s,baz=231,slow=9.2,SNR=5.0

IDC ***11*** *14:22:45.7±1.0, 12°.16N×141°.06E, h0km, mb4.4/9, mbtmp4.4/10, ML4.4/1, Error ellipse: s-maj=25.0km s-min=19.0km az=62.0*
NEIC ***11*** *14:22:47.1±1.6, 12°.21N±0°.07×141°.06E±0°.10, h10km±1km, mb4.6/22, Error ellipse: s-maj=17.9km s-min=7.5km az=240.0*
ISC 11 14:22:50.3±0.5,**12°.18N**±0°.07×**141°.03E**±0°.08,**h34**km,**n36,**
σ**1**§**04**/**37**,**mb4.5**/**20**,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.99**	**69**	Pn	**Pn**	**14 23 48.8**	**-0.3**
	26nm,0.3s,baz=258,slow=20,SNR=1.7						
GUMO				Sn	**Sn**	**14 24 38.1**	**+3.3**
	6.5nm,0.3s,baz=21,slow=23,SNR=1.2						
	144nm,0.6s						
GUMO	**Guam**	**3.99**	**69**	Pn	**Pn**	**14 23 48.7**	**-0.5**
TNTI	**Ternate**	**17.67**	**231**	P	**Pn**	**14 26 53.9**	**-0.1**
JHJ2	**Mitsune**	**20.87**	**357**	P	**P**	**14 27 28.8**	**-0.6**
JSU	**Suzuyama**	**21.57**	**335**	P	**P**	**14 27 36.3**	**-0.7**
JSU				IAmb	IAmb	14 28 00.6	
	comp=Z,28nm,1.1s						
MYLDM	**Lahad Datu**	**23.32**	**255**	P	**P**	**14 27 58.0**	**+2.4**
MYLDM				IAmb	IAmb	14 28 01.4	
	comp=Z,37nm,1.1s						
KNRA	**Kununurra**	**30.23**	**204**	P	**P**	**14 28 57.4**	**-0.5**
WB0	**Warramunga Arr**	**32.41**	**192**	P	**P**	**14 29 17.4**	**+0.1**
WB0				IAmb	IAmb	14 29 18.4	
	comp=Z,13nm,1.1s						
CTA	**Charters Tower**	**32.47**	**171**	P	**P**	**14 29 18.2**	**+0.5**
	comp=Z,10nm,0.8s,baz=333,slow=8.1,SNR=5.6						
	comp=Z,10nm,0.8s						
WB2	**Warramunga Arr**	**32.59**	**192**	P	**P**	**14 29 18.4**	**-0.5**
WRA	**Warramunga Arr**	**32.59**	**192**	P	**P**	**14 29 18.4**	**-0.4**
	comp=Z,10nm,0.8s,baz=11,slow=9.3,SNR=7.4						
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**32.59**	**192**	P	**P**	**14 29 18.7**	**-0.1**
USA0B	**Ussuriysk Arra**	**32.84**	**348**	P	**P**	**14 29 20.8**	**0.0**
USA0B				IAmb	IAmb	14 29 34.1	
	comp=Z,13nm,1.1s						
FITZ	**Fitzroy Crossi**	**33.70**	**207**	P	**P**	**14 29 27.8**	**-0.8**
AS31	**Alice Springs**	**36.30**	**191**	P	**P**	**14 29 51.5**	**+0.6**
ASAR	**Alice Springs**	**36.30**	**191**	P	**P**	**14 29 51.8**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=24,slow=7.4,SNR=5.2						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**36.30**	**191**	P	**P**	**14 29 51.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**41.00**	**284**	P	**P**	**14 30 32.2**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=84,slow=6.6,SNR=4.1						
	comp=Z,2.2nm,0.7s						
DZM	**Mont Dzumac**	**42.19**	**144**	P	**P**	**14 30 40.7**	**+0.5**
	comp=Z,5.6nm,0.7s,baz=345,slow=7.1,SNR=3.6						
	comp=Z,5.6nm,0.7s						
DZM	**Mont Dzumac**	**42.19**	**144**	P	**P**	**14 30 40.9**	**+0.7**
DZM				IAmb	IAmb	14 30 50.5	
	comp=Z,9.2nm,1.1s						

STKA	**Stephens Creek**	**43.81**	**179**	P	**P**	**14 30 52.3**	**-0.7**
	comp=Z,9.6nm,0.8s,baz=5.4,slow=8.4,SNR=5.5						
	comp=Z,9.6nm,0.8s						
STKA	**Stephens Creek**	**43.81**	**179**	P	**P**	**14 30 52.4**	**-0.7**
BBOO	**Buckleboo**	**44.99**	**186**	P	**P**	**14 31 02.1**	**-0.4**
BBOO				IAmb	IAmb	14 31 05.8	
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**45.82**	**328**	P	**P**	**14 31 07.9**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=148,slow=6.1,SNR=2.0						
	comp=Z,1.0nm,0.6s						
MSVF	**Nonsavu**	**47.11**	**128**	P	**P**	**14 31 19.1**	**-0.4**
	comp=Z,5.5nm,0.6s,baz=303,slow=9.0,SNR=5.2						
	comp=Z,5.5nm,0.6s						
MSVF	**Nonsavu**	**47.11**	**128**	P	**P**	**14 31 19.5**	**0.0**
ZALV	**Zalesovo Beam**	**60.63**	**326**	P	**P**	**14 32 59.1**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=123,slow=7.1,SNR=2.8						
	comp=Z,1.4nm,0.7s						
BKZ	**Black Stump Fm**	**60.84**	**149**	P	**P**	**14 32 58.6**	**-0.8**
BKZ				IAmb	IAmb	14 33 00.4	
	comp=Z,13nm,1.2s						
TCW	**Tory Channel**	**61.35**	**152**	P	**P**	**14 33 01.8**	**-1.0**
SVW2	**Sparrevohn**	**66.67**	**28**	P	**P**	**14 33 35.4**	**-2.1**
SVW2				IAmb	IAmb	14 34 01.5	
	comp=Z,2.7nm,1.2s						
J20K	**Nowinta River**	**68.24**	**25**	P	**P**	**14 33 47.3**	**-0.1**
J20K				IAmb	IAmb	14 33 47.5	
	comp=Z,2.7nm,0.9s						
GLB	**Gilahina Butte**	**72.29**	**29**	P	**P**	**14 34 12.5**	**+0.2**
GLB				IAmb	IAmb	14 34 30.5	
	comp=Z,4.1nm,1.2s						
BMAR	**Burnt Mountain**	**72.84**	**23**	P	**P**	**14 34 15.2**	**-0.2**
EUNU	**Eureka**	**84.75**	**7**	P	**P**	**14 35 20.2**	**-0.5**
EUNU				IAmb	IAmb	14 35 20.5	
	comp=Z,2.5nm,0.8s						
HOOD	**Mount Hood Mea**	**86.52**	**45**	P	**P**	**14 35 29.6**	**-0.6**
PINE	**Pine Mountain**	**87.38**	**46**	P	**P**	**14 35 33.3**	**-1.2**
PINE				IAmb	IAmb	14 35 47.7	
	comp=Z,3.3nm,1.2s						

WEL 11 14:27:19.5±0.6, 42°S±4'×17°4E±', h9km±5km, M3.4/9, ML3.6/10, MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=117.0, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**230**	P	Pg	14 27 24.6	+0.6
KHZ				S	Sg	14 27 29.1	+2.0
BSWZ	**Blackbirch Sta**	**0.56**	**8**	P	Pg	14 27 30.4	+0.1
BSWZ				S	Sb	14 27 39.1	-0.5
CMWZ	**Cape Campbell**	**0.62**	**32**	P	Pb	14 27 32.6	+0.2
THZ	**Tophouse**	**0.82**	**308**	P	Pb	14 27 35.7	-0.3
TUWZ	**Tuamarina**	**0.85**	**9**	P	Pg	14 27 35.8	0.0
TUWZ				S	Sn	14 27 49.3	-0.9
GVZ	**Greta Valley S**	**0.88**	**218**	P	Pg	14 27 36.6	+0.2
GVZ				S	Sn	14 27 50.6	-0.4
NNZ	**Nelson**	**1.09**	**344**	P	Pg	14 27 40.0	-0.4
TCW	**Tory Channel**	**1.13**	**20**	P	Pg	14 27 39.8	-1.3
TCW				S	Sb	14 27 56.2	+0.3
MRNZ	**Matariki Terra**	**1.16**	**319**	P	Pn	14 27 41.7	-0.1
LTZ	**Lake Taylor**	**1.22**	**245**	P	Pb	14 27 41.8	-0.9
AMCZ	**Amberley**	**1.22**	**222**	P	Pn	14 27 41.3	-1.5
WEL	**Wellington**	**1.24**	**37**	P	Pn	14 27 38.9	-4.0
PLWZ	**Palliser**	**1.31**	**58**	P	Pn	14 27 41.2	-2.8
TKNZ	**Takaka Hill**	**1.38**	**334**	P	Pb	14 27 45.2	-0.2
DUWZ	**D'Urville Isla**	**1.47**	**4**	P	Pn	14 27 46.1	-0.1
CAW	**Cannon Point**	**1.52**	**40**	P	Pn	14 27 44.7	-2.1
PAWZ	**Paruwai Farm**	**1.52**	**55**	P	Pn	14 27 44.0	-2.9
OKCZ	**Okains Bay**	**1.54**	**200**	P	Pn	14 27 45.0	-2.2
DSZ	**Denniston Nort**	**1.56**	**289**	P	Pb	14 27 48.6	+0.1
DSZ				S	Sg	14 28 10.4	+0.9
KIW	**Kapiti Island**	**1.65**	**32**	P	Pn	14 27 46.9	-1.8
MQZ	**McQueen's Vall**	**1.65**	**209**	P	Pn	14 27 45.7	-2.9
OXZ	**Oxford**	**1.65**	**230**	P	Pn	14 27 46.6	-2.1
MTW	**Mount Morrison**	**1.71**	**50**	P	Pn	14 27 46.4	-3.0
AKCZ	**Akaroa Harbour**	**1.72**	**201**	P	Pn	14 27 47.1	-2.5
QRZ	**Quartz Range**	**1.72**	**327**	P	Pb	14 27 50.7	-0.6
INZ	**Inchbonnie**	**1.78**	**255**	P	Pn	14 27 50.0	-0.4
OGWZ	**Otaki Gorge**	**1.79**	**36**	P	Pn	14 27 48.5	-2.1
RACZ	**Rakaia**	**1.88**	**219**	P	Pn	14 27 49.5	-2.3
TMWZ	**Te Maipa**	**1.97**	**54**	P	Pn	14 27 49.7	-3.3
MHCZ	**Mount Hutt**	**2.05**	**231**	P	Pn	14 27 52.0	-2.1
MRZ	**Mangatainoka R**	**2.11**	**41**	P	Pn	14 27 52.7	-2.2
WACZ	**Wakanui South**	**2.19**	**220**	P	Pn	14 27 53.8	-2.2
WVZ	**Waitaha Valley**	**2.38**	**249**	P	Pn	14 27 58.1	-0.5
RPZ	**Rata Peaks**	**2.46**	**233**	P	Pn	14 27 58.0	-1.8
ARCZ	**Arundel**	**2.53**	**228**	P	Pn	14 27 58.7	-2.0
WAZ	**Wanganui**	**2.68**	**20**	P	Pn	14 28 03.5	+0.7
TMZ	**Timaru**	**2.92**	**223**	P	Pn	14 28 04.1	-2.0
PKE	**Pukeiti**	**3.08**	**3**	P	Pn	14 28 11.3	+3.0
VRZ	**Vera Road**	**3.23**	**14**	P	Pn	14 28 10.9	+0.5
LBZ	**Lake Benmore**	**3.36**	**230**	P	Pn	14 28 10.6	-1.6
ODZ	**Otahua Downs**	**3.58**	**218**	P	Pn	14 28 12.7	-2.5
HIZ	**Hauiti**	**3.85**	**13**	P	Pn	14 28 19.2	+0.4
EAZ	**Earnscleugh**	**4.38**	**226**	P	Pn	14 28 23.8	-2.3
MKAZ	**Moumakai**	**5.27**	**12**	P	Pn	14 28 37.4	-1.0
SYZ	**Scrubby Hill**	**5.40**	**216**	P	Pn	14 28 38.8	-1.4
CTZ	**Chatham Island**	**7.20**	**105**	P	Pn	14 29 00.6	-4.2

*IDC **11** 14:27:59.0±0.5, 40°.63N×51°.02E, h0km, mb4.3/26, mbtmp4.3/36, ML4.3/8, MS3.5/22, Error ellipse: s-maj=13.7km s-min=8.4km az=178.0*
*MOS **11** 14:28:02.6±1.3, 40°.76N×52°.04E, h31km, mb4.8/22, Error ellipse: s-maj=5.0km s-min=3.6km az=36.8*
*TEH **11** 14:28:04.9, 40°.46N×51°.90E, h50km, ML4.5*
*NEIC **11** 14:28:04.4±1.6, 40°.64N±0°.08×52°.01E±0°.09, h34km±6km, mb4.6/53, Error ellipse: s-maj=11.5km s-min=9.9km az=194.0*
*AZER **11** 14:28:06.0±0.1, 40°.34N×51°.83E, h60km±3km, Error ellipse: s-maj=1.1km s-min=0.6km az=270.0*
*NNC **11** 14:28:08.9±5.2, 41°.04N×52°.93E, h0km, mb4.8, Error ellipse: s-maj=62.1km s-min=18.0km az=70.0*

ISC 11 14:28:04.3±0.5, 40°.60N±0°.03×52°.00E±0°.03, h42km±5km, n456, σ1ŝ87/537, mb4.5/76, MS3.5/13, 28C-12D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.42**	**263**	Pg	**Pn**	**14 28 31.2**	**+3.5**
GALA				Sg	**Sn**	**14 28 51.0**	**+5.9**
NDR	**Nardaran**	**1.53**	**270**	Pg	**Pn**	**14 28 32.7**	**+3.5**
	SNR=7.2						
NDR				Sg	**Sn**	**14 28 53.5**	**+5.6**
NDR	**Nardaran**	**1.53**	**270**	Pg	Pn	14 28 34.3	+5.1
GBS	**Qobustan**	**2.33**	**269**	Pg	**Pn**	**14 28 44.0**	**+3.8**
	SNR=5.5						
GBS				Sn	**Sn**	**14 29 12.4**	**+4.7**
GBS	**Qobustan**	**2.33**	**269**	Pn	**Pn**	**14 28 42.9**	**+2.7**
ATGJ	**Altiaghaj**	**2.34**	**277**	Pn	**Pn**	**14 28 42.7**	**+2.3**
ATGJ				Sn	**Sn**	**14 29 10.2**	**+2.2**
ATGJ	**Altiaghaj**	**2.34**	**277**	Pn	**Pn**	**14 28 42.7**	**+2.3**
ALIB	**Äli-Bayra**	**2.38**	**255**	Pn	**Pn**	**14 28 43.5**	**+2.6**
ALIB				Sn	**Sn**	**14 29 09.0**	**+0.3**
ALIB	**Äli-Bayra**	**2.38**	**255**	Pn	**Pn**	**14 28 43.4**	**+2.6**
SIZA	**Siyzn**	**2.40**	**282**	Pn	**Pn**	**14 28 44.1**	**+2.9**
	SNR=18						
SIZA				Sn	**Sn**	**14 29 13.1**	**+3.6**
SIZA	**Siyzn**	**2.40**	**282**	Pn	**Pn**	**14 28 44.1**	**+2.9**
PQL	**Pirkuli**	**2.60**	**275**	Pn	**Pn**	**14 28 46.0**	**+2.0**
	SNR=6.4						
PQL				Sn	**Sn**	**14 29 16.6**	**+2.2**
PQL	**Pirkuli**	**2.60**	**275**	Pn	**Pn**	**14 28 46.1**	**+2.1**
QUBA	**Quba, Azerbaij**	**2.76**	**287**	Pn	**Pn**	**14 28 48.5**	**+2.4**
	SNR=7.4						
QUBA				Sn	**Sn**	**14 29 22.2**	**+3.9**
QUB	**Quba**	**2.86**	**287**	Pn	**Pn**	**14 28 48.5**	**+0.9**
IML	**Ismayilli**	**2.91**	**275**	Pn	**Pn**	**14 28 49.6**	**+1.5**
	SNR=8.6						
IML				Sn	**Sn**	**14 29 23.5**	**+1.6**
IML	**Ismayilli**	**2.91**	**275**	Pn	**Pn**	**14 28 49.9**	**+1.7**
KDMR	**Kurdemir**	**2.92**	**267**	Pn	**Pn**	**14 28 49.4**	**+1.2**
KDMR				Sn	**Sn**	**14 29 22.7**	**+0.7**
QSAR	**Qusar**	**2.97**	**289**	Pn	**Pn**	**14 28 51.0**	**+2.0**
	SNR=91						
QSAR				Sn	**Sn**	**14 29 25.9**	**+2.5**
QSAR	**Qusar**	**2.97**	**289**	Pn	**Pn**	**14 28 51.2**	**+2.2**
XNQ	**Khinaliq**	**2.98**	**282**	Pn	**Pn**	**14 28 50.9**	**+1.6**
	SNR=169						
XNQ				Sn	**Sn**	**14 29 25.8**	**+1.8**
XNQ	**Khinaliq**	**2.98**	**282**	Pn	**Pn**	**14 28 50.9**	**+1.6**
GLBA	**Clilabad**	**3.09**	**245**	Pn	**Pn**	**14 28 50.9**	**+0.3**
	SNR=31						
GLBA				Sn	**Sn**	**14 29 25.3**	**-0.9**
GLBA	**Clilabad**	**3.09**	**245**	Pn	**Pn**	**14 28 51.1**	**+0.5**
LKRN	**Lenkeran, Azer**	**3.12**	**234**	Pn	**Pn**	**14 28 50.9**	**-0.2**
	SNR=17						
LKRN				Sn	**Sn**	**14 29 24.6**	**-2.5**
LKRN	**Lenkeran, Azer**	**3.12**	**234**	P	**Pn**	**14 28 51.0**	**0.0**
LKRN	**Lenkeran, Azer**	**3.12**	**234**	Pn	**Pn**	**14 28 51.0**	**0.0**
QBL	**Gabala**	**3.18**	**278**	Pn	**Pn**	**14 28 53.0**	**+1.1**
	SNR=16						
QBL				Sn	**Sn**	**14 29 28.9**	**+0.4**
QBL	**Gabala**	**3.18**	**278**	Pn	**Pn**	**14 28 52.9**	**+1.1**
ASTR	**Astara**	**3.21**	**232**	Pn	**Pn**	**14 28 51.8**	**-0.4**
	SNR=22						
ASTR				Sn	**Sn**	**14 29 26.3**	**-3.0**
ASTR	**Astara**	**3.21**	**232**	Pn	**Pn**	**14 28 51.9**	**-0.4**
GAS1	**Astara - Iran**	**3.30**	**229**	Pn	**Pn**	**14 28 52.3**	**-1.1**
ZRD	**Zardab**	**3.31**	**266**	Pn	**Pn**	**14 28 55.0**	**+1.3**
	SNR=11						
ZRD				Sn	**Sn**	**14 29 32.0**	**+0.4**
ZRD	**Zardab**	**3.31**	**266**	Pn	**Pn**	**14 28 54.9**	**+1.3**
AKY	**Akhty**	**3.35**	**287**	*d* iP	**Pn**	**14 28 55.6**	**+1.4**
YRD	**Yardimli**	**3.35**	**241**	Pn	**Pn**	**14 28 54.0**	**-0.4**
	SNR=37						
YRD				Sn	**Sn**	**14 29 29.8**	**-3.2**
YRD	**Yardimli**	**3.35**	**241**	Pn	**Pn**	**14 28 53.9**	**-0.4**
LRK	**Lerik**	**3.44**	**236**	Pn	**Pn**	**14 28 55.0**	**-0.6**
	SNR=68						
LRK				Sn	**Sn**	**14 29 31.8**	**-3.3**
LRK	**Lerik**	**3.44**	**236**	Pn	**Pn**	**14 28 54.9**	**-0.6**
BLQ	**Beylaqan**	**3.52**	**257**	Pn	**Pn**	**14 28 56.5**	**+0.1**
	SNR=5.0						
BLQ				Sn	**Sn**	**14 29 34.6**	**-2.2**
BLQ	**Beylaqan**	**3.52**	**257**	Pn	**Pn**	**14 28 56.5**	**+0.1**
SEKA	**Sheki**	**3.69**	**281**	Pn	**Pn**	**14 29 00.2**	**+1.3**
	SNR=21						
SEKA				Sn	**Sn**	**14 29 41.9**	**+0.7**
SEKA	**Sheki**	**3.69**	**281**	P	**Pn**	**14 29 00.2**	**+1.3**
SEKA	**Sheki**	**3.69**	**281**	Pn	**Pn**	**14 29 00.2**	**+1.3**
BRDA	**Brd**	**3.69**	**266**	Pn	**Pn**	**14 28 59.1**	**+0.2**
BRDA				Sn	**Sn**	**14 29 42.3**	**+1.1**
MNGR	**Mingechevir, A**	**3.74**	**274**	Pn	**Pn**	**14 29 02.2**	**+2.7**
MNGR				Sn	**Sn**	**14 29 43.4**	**+1.1**
MNGR	**Mingechevir, A**	**3.74**	**274**	P	**Pn**	**14 29 01.2**	**+1.7**
LHJ2	**Lahijan - Gila**	**3.75**	**204**	Pn	**Pn**	**14 28 58.9**	**-0.7**
QRD	**Qoradiz**	**3.77**	**254**	Pn	**Pn**	**14 29 00.2**	**+0.2**
QRD				Sn	**Sn**	**14 29 40.5**	**-2.6**
AGDM	**Agdam**	**3.77**	**264**	Pn	**Pn**	**14 29 00.1**	**+0.2**
AGDM				Sn	**Sn**	**14 29 41.6**	**-1.5**
MAK	**Makhachkala**	**4.11**	**307**	*c* iP	**Pn**	**14 29 04.7**	**+0.2**
MAK				*e*S	**Sn**	**14 29 52.3**	**+1.1**
MAK				pmax	pmax		
	comp=Z,253nm,1.0s						
MAK				MLR	MLR		
	comp=Z,211nm,6.0s						
KLST	**Kelardasht - M**	**4.14**	**191**	Pn	**Pn**	**14 29 04.7**	**-0.7**
MZPU	**Pul - Mazandar**	**4.17**	**185**	Pn	**Pn**	**14 29 05.4**	**-0.2**
ZKTA	**Zakatala**	**4.19**	**286**	Pn	**Pn**	**14 29 07.5**	**+1.8**
	SNR=6.0						
ZKTA				Sn	**Sn**	**14 29 54.9**	**+1.5**
IMND	**Minoodasht**	**4.27**	**140**	Pn	**Pn**	**14 29 08.2**	**+1.4**
QALM	**Alamut, Qazvin**	**4.30**	**195**	Pn	**Pn**	**14 29 07.0**	**-0.4**
GANJ	**Ganja**	**4.32**	**272**	Pn	**Pn**	**14 29 07.2**	**-0.4**
	SNR=13						
GANJ				Sn	**Sn**	**14 29 54.0**	**-2.7**
GANJ	**Ganja**	**4.32**	**272**	P	**Pn**	**14 29 07.3**	**-0.2**
MRVT	**Maraveh tapeh**	**4.33**	**131**	Pn	**Pn**	**14 29 09.4**	**+1.7**
IGLO	**Ghaloghah**	**4.34**	**160**	Pn	**Pn**	**14 29 08.5**	**+0.5**
ISRB	**Sarab**	**4.36**	**232**	Pn	**Pn**	**14 29 08.4**	**+0.1**
IPRN	**Peran**	**4.36**	**176**	Pn	**Pn**	**14 29 08.1**	**-0.1**
IGZV	**Ghazvin**	**4.43**	**199**	Pn	**Pn**	**14 29 08.5**	**-0.9**
IHRS	**Heris**	**4.46**	**241**	Pn	**Pn**	**14 29 10.1**	**+0.4**
DDFL	**Dedoflistskaro**	**4.53**	**283**	P	**Pn**	**14 29 13.3**	**+2.9**
DDFL				S	**Sn**	**14 30 06.2**	**+4.3**
DDFL	**Dedoflistskaro**	**4.53**	**283**	P	**Pn**	**14 29 13.3**	**+2.9**
DDFL				S	**Sn**	**14 30 06.1**	**+4.3**
TVRZ	**Varzaqan**	**4.62**	**245**	Pn	**Pn**	**14 29 12.8**	**+0.9**
GDB	**GEDABAY**	**4.75**	**273**	Pn	**Pn**	**14 29 14.7**	**+1.1**
	SNR=7.2						
GDB				Sn	**Sn**	**14 30 04.7**	**-2.8**
BTLR	**Botlikh**	**4.79**	**297**	*c* iP	**Pn**	**14 29 16.5**	**+2.4**
TEHA	**Amirabad Tehra**	**4.87**	**186**	Pn	**Pn**	**14 29 16.2**	**+0.9**
TEH	**Tehran**	**4.88**	**186**	Pn	**Pn**	**14 29 16.4**	**+1.1**
ISHM	**Shahmirzad**	**4.89**	**168**	Pn	**Pn**	**14 29 16.9**	**+1.2**
ORD	**Ordubad**	**4.92**	**252**	Pn	**Pn**	**14 29 16.4**	**+0.6**
	SNR=31						
ORD				Sn	**Sn**	**14 30 09.8**	**-1.7**
IHSH	**Hashtrud**	**4.95**	**230**	Pn	**Pn**	**14 29 16.2**	**-0.3**
IFIR	**Firoozkooh**	**4.99**	**173**	Pn	**Pn**	**14 29 18.4**	**+1.4**
IDMV	**Damavand**	**5.02**	**180**	Pn	**Pn**	**14 29 19.3**	**+2.0**
IMHD	**Mahdasht**	**5.02**	**192**	Pn	**Pn**	**14 29 18.1**	**+0.9**
QZX	**Qazax, Azerbai**	**5.05**	**277**	Pn	**Pn**	**14 29 17.4**	**-0.1**
	SNR=7.6						
QZX				Sn	**Sn**	**14 30 13.1**	**-1.5**
SBZ	**Shahbuz**	**5.09**	**258**	Pn	**Pn**	**14 29 19.4**	**+1.2**
	SNR=23						
SBZ				Sn	**Sn**	**14 30 14.7**	**-1.2**
ITBZ	**Tabriz**	**5.11**	**244**	Pn	**Pn**	**14 29 18.6**	**0.0**
IHSB	**Hasanabad**	**5.19**	**187**	Pn	**Pn**	**14 29 20.4**	**+0.9**
NAX	**Nakhchivan**	**5.20**	**256**	Pn	**Pn**	**14 29 22.1**	**+2.4**
	SNR=7.5						
NAX				Sn	**Sn**	**14 30 16.8**	**-1.7**
NAX	**Nakhchivan**	**5.20**	**256**	P	**Pn**	**14 29 21.2**	**+1.5**
IMRD	**Marand**	**5.21**	**251**	Pn	**Pn**	**14 29 20.4**	**+0.5**
ILAS	**Lasjerd**	**5.27**	**171**	Pn	**Pn**	**14 29 22.0**	**+1.3**
GROC	**Groznyy**	**5.31**	**301**	*eP*	**Pn**	**14 29 23.7**	**+2.7**
IANJ	**Anjilo**	**5.34**	**163**	Pn	**Pn**	**14 29 22.3**	**+0.5**
IRAZ	**Razeghan**	**5.44**	**198**	Pn	**Pn**	**14 29 23.5**	**+0.4**
GEYT	**Alibeck**	**5.45**	**117**	Pn	**Pn**	**14 29 23.9**	**+0.9**
	comp=Z,6.7nm,0.3s,baz=307,slow=15,SNR=52						
GEYT				Sn	**Sn**	**14 30 24.3**	**-0.1**
	comp=Z,8.2nm,0.3s,baz=315,slow=17,SNR=1.8						
GEYT				LR	LR	14 31 51.0	
	comp=Z,134nm,20.5s,baz=326,slow=43						
GEYT	**Alibeck**	**5.45**	**117**		**Pn**	**14 29 24.5**	**+1.5**
GEYT	**Alibeck**	**5.45**	**117**	P	**Pn**	**14 29 24.5**	**+1.5**
GYA0	**ALIBECK ARRAY**	**5.45**	**117**	P	**Pn**	**14 29 25.2**	**+2.2**
GYA0						14 30 25.6	
GYA0B	**ALIBECK ARRAY**	**5.45**	**117**		**Pn**	**14 29 24.2**	**+1.2**
GYA0B	**ALIBECK ARRAY**	**5.45**	**117**	⇓Pn	**Pn**	**14 29 25.3**	**+2.3**
GYA0B				⇑Sn	**Sn**	**14 30 25.7**	**+1.3**
ISHB	**Shabestar**	**5.46**	**247**	Pn	**Pn**	**14 29 23.3**	**-0.1**
IAZR	**Azarshahr**	**5.51**	**240**	Pn	**Pn**	**14 29 25.3**	**+1.2**
SHTL	**Shatili**	**5.53**	**294**	P	**Pn**	**14 29 25.3**	**+1.1**
SHTL				S	**Sn**	**14 30 25.8**	**-0.7**
SHTL	**Shatili**	**5.53**	**294**	P	**Pn**	**14 29 25.2**	**+1.1**
SHTL				S	**Sn**	**14 30 25.8**	**-0.7**
HYR	**Heyderabad**	**5.55**	**263**	Pn	**Pn**	**14 29 27.4**	**+3.0**
HYR				Sn	**Sn**	**14 30 26.6**	**-0.3**
GNI	**Garni**	**5.56**	**268**	Pn	**Pn**	**14 29 26.2**	**+1.5**
	comp=Z,3.5nm,0.3s,baz=334,slow=20,SNR=9.8						
GNI				Sn	**Sn**	**14 30 21.9**	**-5.5**
	comp=Z,2.9nm,0.3s,baz=19,slow=11,SNR=4.7						
GNI				LR	LR	14 31 26.9	
	comp=Z,36nm,22.0s,baz=80,slow=37						
	comp=Z,8.6nm,0.4s						
GNI	**Garni**	**5.56**	**268**	P	**Pn**	**14 29 25.8**	**+1.1**
GNI	**Garni**	**5.56**	**268**	P	**Pn**	**14 29 22.1**	**-2.6**
IVRN	**Varamin**	**5.60**	**182**	Pn	**Pn**	**14 29 26.8**	**+1.6**
MAKU	**Maku**	**5.76**	**260**	Pn	**Pn**	**14 29 28.5**	**+1.1**
IQOM	**Qom**	**5.80**	**188**	Pn	**Pn**	**14 29 29.0**	**+0.9**
ISFR	**Sfrayin**	**5.87**	**125**	Pn	**Pn**	**14 29 31.2**	**+2.1**
PNSH	**Pansheti**	**5.89**	**293**	P	**Pn**	**14 29 32.1**	**+2.8**
PNSH	**Pansheti**	**5.89**	**293**	P	**Pn**	**14 29 32.1**	**+2.8**
DMNI	**Dmanisi**	**5.96**	**280**	P	**Pn**	**14 29 29.7**	**-0.4**
DMNI				S	**Sn**	**14 30 32.3**	**-4.8**
DMNI	**Dmanisi**	**5.96**	**280**	P	**Pn**	**14 29 29.6**	**-0.4**
DMNI				S	**Sn**	**14 30 32.3**	**-4.8**
TRLG	**Trialeti**	**6.04**	**281**	P	**Pn**	**14 29 31.0**	**-0.3**
TRLG				S	**Sn**	**14 30 35.5**	**-3.8**
TRLG	**Trialeti**	**6.04**	**281**	P	**Pn**	**14 29 31.0**	**-0.3**
TRLG				S	**Sn**	**14 30 35.4**	**-3.8**
IEMG	**Emamgholi**	**6.08**	**119**	Pn	**Pn**	**14 29 33.5**	**+1.5**
HAGD	**Aghdareh**	**6.20**	**202**	Pn	**Pn**	**14 29 33.8**	**+0.2**
ISFB	**Sefidab**	**6.24**	**178**	Pn	**Pn**	**14 29 35.6**	**+1.6**
BRNG	**Burnasheti**	**6.26**	**282**	P	**Pn**	**14 29 35.2**	**+1.0**
BRNG				S	**Sn**	**14 30 44.5**	**-0.1**
BRNG	**Burnasheti**	**6.26**	**282**	P	**Pn**	**14 29 35.2**	**+1.0**
BRNG				S	**Sn**	**14 30 44.4**	**-0.1**
ZEI	**Tsey**	**6.44**	**292**	*eP*	**Pn**	**14 29 40.5**	**+3.7**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ALIG	**Mtskhetisjvari**	**6.46**	**286**	P	**Pn**	**14 29 37.5**	**+0.6**
ALIG				S	**Sn**	**14 30 47.8**	**-1.6**
ALIG	**Mtskhetisjvari**	**6.46**	**286**	P	**Pn**	**14 29 37.5**	**+0.6**
ALIG				S	**Sn**	**14 30 47.7**	**-1.6**
KRSH	**Karshahi**	**6.62**	**179**	Pn	**Pn**	**14 29 40.5**	**+1.2**
IAKL	**Akhelmad**	**6.63**	**125**	Pn	**Pn**	**14 29 41.7**	**+2.2**
ONI	**Oni**	**6.71**	**290**	Pn	**Pn**	**14 29 42.1**	**+1.8**
ONI	**Oni**	**6.71**	**290**	P	**Pn**	**14 29 43.2**	**+2.9**
ONI	**Oni**	**6.71**	**290**	P	**Pn**	**14 29 42.1**	**+1.8**
QAMS	**Qamsar**	**6.87**	**184**	Pn	**Pn**	**14 29 43.7**	**+1.0**
HSAM	**Samen**	**6.93**	**204**	Pn	**Pn**	**14 29 44.0**	**+0.4**
IKRD	**Kardeh**	**7.01**	**121**	Pn	**Pn**	**14 29 46.9**	**+2.2**
IKLH	**Kolahrood**	**7.28**	**183**	Pn	**Pn**	**14 29 50.0**	**+1.6**
IMOG	**Moghan**	**7.30**	**126**	Pn	**Pn**	**14 29 50.9**	**+2.1**
IKOM	**Komasi**	**7.34**	**211**	Pn	**Pn**	**14 29 51.4**	**+2.2**
NEY	**Neytrino**	**7.41**	**294**	*i* P	**Pn**	**14 29 52.4**	**+2.4**
KBZ	**Khabaz**	**7.45**	**298**	Pn	**Pn**	**14 29 50.4**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=101,slow=6.3,SNR=30						
KBZ				Sn	Sn	14 31 04.0	-10
	comp=Z,2.0nm,0.3s,baz=134,slow=14,SNR=5.3						
KBZ				LR	LR	14 33 39.4	
	comp=Z,90nm,21.8s,baz=142,slow=46						
	comp=Z,2.4nm,0.3s						
KBZ	**Khabaz**	**7.45**	**298**	*i* P	**Pn**	**14 29 50.3**	**-0.1**
IDOB	**Doab**	**7.45**	**205**	Pn	**Pn**	**14 29 51.9**	**+1.2**
ANAR	**Anarak**	**7.53**	**169**	Pn	**Pn**	**14 29 52.4**	**+0.7**
TNSJ	**Nastanj**	**7.58**	**150**	Pn	**Pn**	**14 29 54.5**	**+2.2**
IGHG	**Ghaleghazi**	**7.60**	**216**	Pn	**Pn**	**14 29 55.5**	**+2.7**
SHA1	**Shidzhatmaz**	**7.61**	**297**	*i* P	**Pn**	**14 29 52.9**	**0.0**
IMYA	**Miami**	**7.65**	**121**	Pn	**Pn**	**14 29 55.0**	**+1.7**
KIV	**Kislovodsk**	**7.67**	**299**	P	**Pn**	**14 29 53.7**	**+0.1**
KIV	**Kislovodsk**	**7.67**	**299**	Pn	**Pn**	**14 29 53.6**	**0.0**
KIV	**Kislovodsk**	**7.67**	**299**	*eP*	**Pn**	**14 29 53.7**	**+0.1**
KIV				*eS*	**Sn**	**14 31 20.3**	**+1.0**
KIV				pmax	pmax		
	comp=Z,24nm,1.0s						
KIV				MLR	MLR		
	comp=Z,42nm,10.0s						
KIV	**Kislovodsk**	**7.67**	**299**	*i* P	**Pn**	**14 29 53.8**	**+0.1**
	SNR=11						
KIV	**Kislovodsk**	**7.67**	**299**	P	**Pn**	**14 29 53.6**	**+0.1**
IZEF	**Zefreh**	**7.70**	**178**	Pn	**Pn**	**14 29 55.3**	**+1.2**
IKFM	**Kafar-mosalman**	**7.80**	**206**	Pn	**Pn**	**14 29 57.3**	**+2.0**
IPIR	**Pirpir**	**7.95**	**187**	Pn	**Pn**	**14 30 01.0**	**+3.4**
TKDS	**Koohdasht(Taba**	**8.09**	**148**	Pn	**Pn**	**14 30 01.2**	**+1.9**
IGAR	**Gharneh**	**8.18**	**180**	Pn	**P

GHWR Ruwais 16.61 177 P **Pn** 14 31 53.5 -0.5
ALNE Al Ain 16.80 168 P **Pn** 14 31 55.9 -0.6
ALNE Al Ain 16.80 168 P **Pn** 14 31 56.2 -0.2
SOHO SOHO 16.86 166 P **Pn** 14 31 56.8 -0.4
SOHO SOHO 16.86 166 P **Pn** 14 31 57.3 +0.1
MZWR Madinat Zayed 16.87 174 P **Pn** 14 31 57.0 -0.3
MZWR P **Pn** 14 31 57.0 -0.3
AAK Ala-Archa 16.94 76 Pn **Pn** 14 31 58.6 +0.4
comp=Z,1.2nm,0.3s,baz=264,slow=6.1,SNR=14
AAK Sn Sn 14 34 50.4 -15
comp=Z,0.4nm,0.3s,baz=201,slow=9.5,SNR=1.5
AAK LR LR 14 39 21.8
comp=Z,182nm,20.2s,baz=282,slow=40
AAK Ala-Archa 16.94 76 P **P** 14 31 59.8 -0.1
AAK Ala-Archa 16.94 76 *i* P **P** 14 31 59.6 -0.2
AAK pmax pmax
comp=Z,24nm,1.0s
AAK Ala-Archa 16.94 76 P **P** 14 32 00.2 +0.4
NGCH Negor - Chabah 17.01 151 P **P** 14 32 00.2 -0.2
SVE Sverdlovsk 17.18 16 *eP* **Pn** 14 32 00.2 -0.9
SVE *eS* **Sn** 14 35 02.5 -8.5
SVE pmax pmax
comp=Z,38nm,1.0s
HOQ Hoqain 17.55 164 P **P** 14 32 08.5 +2.0
BRVK Borovoye 17.59 39 ⇑P **Pn** 14 32 03.6 -2.5
comp=Z,34nm,0.9s
BRVK Borovoye 17.59 39 P **Pn** 14 32 03.6 -2.5
BRVK S Sn 14 35 08.4 -12
BRVK Borovoye 17.59 39 P **Pn** 14 32 03.7 -2.5
MZR Muzera 17.59 175 *i* P **Pn** 14 32 05.9 -0.4
SNR=15
MZR Muzera 17.59 175 P **Pn** 14 32 05.9 -0.4
BVA0 Borovoye Array 17.62 39 ⇑P **Pn** 14 32 03.4 -3.1
comp=Z,39nm,0.8s,baz=108,slow=7.5,SNR=56
BVA0 Borovoye Array 17.62 39 *i* P **Pn** 14 32 03.3 -3.1
BVA0 S Sn 14 35 07.9 -14
BVAR Borovoye Array 17.62 39 S Sn 14 35 07.7 -14
comp=Z,9.9nm,0.5s,baz=228,slow=20,SNR=5.7
BVAR LR LR 14 40 00.2
comp=Z,271nm,21.3s,baz=220,slow=41
ARQ Araqi 17.63 166 P **P** 14 32 07.4 0.0
ARQ P **P** 14 32 07.4 0.0
ELL Elmali 17.66 265 P **P** 14 32 09.2 +1.4
ELL Elmali 17.66 265 P **P** 14 32 09.2 +1.4
ELL pmax pmax
comp=Z,113nm,1.4s
EIL Elat 17.67 237 P **Pn** 14 32 06.8 -0.4
comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=1.8
EIL LR LR 14 40 28.9
comp=Z,64nm,20.6s,baz=56,slow=42
comp=Z,3.5nm,0.5s
OBN Obninsk 17.77 330 P **Pn** 14 32 07.9 -0.4
comp=Z,1.5nm,0.3s,baz=85,slow=12,SNR=4.5
OBN S Sn 14 35 10.6 -15
comp=Z,3.4nm,0.4s,baz=298,slow=23,SNR=1.5
OBN LR LR 14 39 18.9
comp=Z,35nm,21.4s,baz=176,slow=38
comp=Z,3.7nm,0.3s
OBN Obninsk 17.77 330⇑ *eP* **P** 14 32 08.7 0.0
OBN *eS* **Sn** 14 35 22.5 -2.7
OBN pmax pmax
comp=Z,57nm,1.7s
OBN MLR MLR
comp=Z,160nm,18.0s
TIRR Tirgusor 17.79 290 ⇑P **Pn** 14 32 07.8 -0.9
TIRR Tirgusor 17.79 290 P **Pn** 14 32 07.7 -0.9
TPGR Topolog 17.82 292 ⇑P **Pn** 14 32 08.4 -0.6
MILM Milestii Mici 17.87 298⇑ *iP* **P** 14 32 10.0 +0.2
comp=Z,40nm,0.6s
MILM Milestii Mici 17.87 298 ⇓P **Pn** 14 32 08.8 -0.7
MILM Milestii Mici 17.87 298 *c iP* **P** 14 32 10.0 +0.2
MILM pmax pmax
comp=Z,40nm,0.6s
MOS Moscow 17.87 333 *eP* **Pn** 14 32 05.3 -4.1
MOS *eS* Sn 14 35 14.4 -13
RAYN Ar Rayn 17.89 200 **Pn** 14 32 08.9 -1.1
RAYN Ar Rayn 17.89 200 P **Pn** 14 32 08.5 -1.5
RAYN Ar Rayn 17.89 200 *i* P **Pn** 14 32 08.6 -1.4
SNR=22
RAYN Ar Rayn 17.89 200 P **Pn** 14 32 08.5 -1.5
UMZA Um Al Zommool 18.03 171 P **Pn** 14 32 11.2 -0.6
CFR Carcaliu 18.05 293 ⇑P **Pn** 14 32 10.1 -1.8
CFR Carcaliu 18.05 293 P **Pn** 14 32 10.0 -1.8
KIRV Kirov 18.08 356 P **Pn** 14 32 10.7 -1.3
comp=Z,6.8nm,0.3s,baz=182,slow=4.8,SNR=14
KIRV S Sn 14 35 20.4 -12
comp=Z,14nm,0.6s,baz=7.1,slow=17,SNR=2.6
KIRV LR LR 14 41 54.5
comp=Z,162nm,18.5s,baz=187,slow=46
comp=Z,53nm,0.6s
KIRV Kirov 18.08 356 *i* P **Pn** 14 32 10.3 -1.7
WSAR Wadi Sarin 18.19 160 P **Pn** 14 32 14.8 +1.1
comp=Z,1.2nm,0.3s,baz=346,slow=8.6,SNR=24
comp=Z,5.5nm,0.5s
SMDO Samad 18.22 162 P **Pn** 14 32 15.4 +1.3
SMDO P **Pn** 14 32 15.4 +1.3
BSY Bisya 18.34 165 P **Pn** 14 32 16.2 +0.7
KSH Kashi 18.38 86 P **P** 14 32 10.7 -4.9
KSH pP Pn 14 32 17.7 +1.7
KSH sP pP 14 32 22.1 -3.8
KSH S Sn 14 35 24.0 -16
KSH pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 18.78 310 P **P** 14 32 18.8 -1.0
comp=Z,18nm,0.5s,baz=112,slow=11,SNR=119
AKASG S **Sn** 14 35 44.3 -5.4
comp=Z,4.4nm,0.7s,baz=119,slow=21,SNR=5.5
AKASG Malin Array Be 18.78 310 P **P** 14 32 18.6 -1.2
AKASG IAmb IAmb 14 32 20.8
comp=Z,28nm,0.7s
AKASG Malin Array Be 18.78 310 P **P** 14 32 18.6 -1.2
AKASG pmax pmax
comp=Z,28nm,0.7s
AKBB Malin Array Si 18.78 310 P **P** 14 32 18.6 -1.2
AKBB IAmb IAmb 14 32 20.9
comp=Z,35nm,0.6s
AKBB Malin Array Si 18.78 310 P **P** 14 32 18.6 -1.2
AKBB pmax pmax
comp=Z,35nm,0.6s
WBK Wadi Bani Khal 18.88 160 P **Pn** 14 32 22.4 +0.4
SNR=8.7
JMDO Jabal Madar 18.90 162 P **Pn** 14 32 22.4 +0.2
SNR=6.5
VRI Vrincioaia 19.11 294 ⇑P **P** 14 32 23.9 +0.4
VRI Vrincioaia 19.11 294 P **P** 14 32 23.9 +0.4
JLN Jalan Bani Buh 19.44 159 P **Pn** 14 32 28.6 -0.1
SNR=11
TARG Taragay, Kyrgy 19.44 78 P **P** 14 32 27.4 -0.2
TARG Taragay, Kyrgy 19.44 78 P **P** 14 32 27.4 -0.2
TARG pmax pmax
comp=Z,16nm,1.1s
COVR Voineasa-Covas 19.48 294 ⇑P **P** 14 32 27.9 +0.3
MLR Muntele Rosu 19.62 293 P **Pn** 14 32 30.9 0.0
comp=Z,0.4nm,0.3s,baz=80,slow=2.6,SNR=7.2
MLR LR LR 14 42 20.3
comp=Z,96nm,20.9s,baz=38,slow=44
comp=Z,8.7nm,0.9s
MLR Muntele Rosu 19.62 293 ⇑P **P** 14 32 28.8 -0.5
MLR Muntele Rosu 19.62 293 P **P** 14 32 29.6 +0.4
MLR Muntele Rosu 19.62 293 P **P** 14 32 28.7 -0.5
DOPR Dopca 20.05 294 ⇓P **P** 14 32 34.0 +0.2
MHTO MHTO 20.20 164 P **P** 14 32 36.2 +0.7
SNR=5.8
BURAR Bucovina Array 20.40 299 ⇑P **P** 14 32 37.7 0.0
BURAR Bucovina Array 20.40 299 P **P** 14 32 37.2 -0.5
BURAR Bucovina Array 20.40 299 P **P** 14 32 37.6 0.0
BUR08 Bucovina Ar. S 20.42 299 P **P** 14 32 37.2 -0.7
KURBB Kurchatov Arra 20.99 53 P **P** 14 32 44.9 +1.1
comp=Z,17nm,0.7s,baz=254,slow=11,SNR=30
KURBB S **S** 14 36 33.5 -1.6
comp=Z,1.8nm,0.7s,baz=259,slow=24,SNR=4.7
KURBB LR LR 14 42 13.8
comp=Z,186nm,20.2s,baz=171,slow=41
comp=Z,17nm,0.7s
KURBB Kurchatov Arra 20.99 53 P Pn 14 32 45.4 -1.3
KURBB Kurchatov Arra 20.99 53 P Pn 14 32 45.4 -1.3
KURK Kurchatov 21.07 52 P **P** 14 32 46.6 +1.9
KURK Kurchatov 21.07 52 P **P** 14 32 47.2 +2.5
KURK Kurchatov 21.07 52 P **P** 14 32 44.9 +0.2
MNK Minsk 21.26 319 *i* P **P** 14 32 45.7 -1.0
comp=E,7.0nm,1.0s
MNK *i* P **P** 14 32 45.7 -1.0
comp=N,52nm,0.9s
MNK *i* P **P** 14 32 45.7 -1.0
comp=Z,52nm,0.8s,baz=121
MNK *i* PP **sP** 14 33 05.9 +3.4
MNK *i* S **S** 14 36 39.6 -1.0
MNK *i* SS **SnSn** 14 37 05.6 +1.0
MNK *i* LQ LQ 14 39 17.8
MNK *i* LR LR 14 40 54.9
MNK *i* LRM MLR 14 42 07.2
comp=E,74nm,5.8s
MNK *i* LRM MLR 14 42 08.8
comp=N,545nm,11.2s
MNK *i* LRM MLR 14 42 12.0
comp=Z,473nm,5.5s
MNK Minsk 21.26 319 *i* P **P** 14 32 45.7 -1.0
MNK *i* 14 33 05.8
MNK *i* S **S** 14 36 39.5 -1.0
MNK *i* SS **SnSn** 14 37 05.6 +1.0
MNK pmax pmax
comp=Z,52nm,0.8s
MNK pmax pmax
comp=N,52nm,0.9s
MNK pmax pmax
comp=E,7.0nm,1.0s
MNK MLR MLR
comp=E,74nm,6.0s
MNK MLR MLR
comp=N,545nm,11.0s
MNK MLR MLR
comp=Z,473nm,6.0s
PRGR Permogore 21.42 352 *eP* **P** 14 32 47.3 -1.0
PRGR *eS* **S** 14 36 37.5 -5.9
PRGR pmax pmax
comp=Z,43nm,1.1s
VTS Vitosha 21.56 285 P **P** 14 32 50.7 +0.5
VTS Vitosha 21.56 285 P **P** 14 32 50.7 +0.5
VTS pmax pmax
comp=Z,7.0nm,0.9s
LVV L'vov 21.64 305 *eP* **P** 14 32 54.1 +3.2
KLMR Klimovskoe 21.69 343 *eP* **P** 14 32 48.9 -2.3
KLMR *eP* **P** 14 32 48.9 -2.3
KLMR *eP* **P** 14 32 48.9 -2.3
KLMR *epP* **pP** 14 32 59.5 -2.1
KLMR AMP 14 33 02.3
comp=Z,68nm,1.3s
KLMR *eS* **S** 14 36 42.4 -6.3
KLMR *eS* **S** 14 36 42.4 -6.3
KLMR Klimovskoe 21.69 343 *eP* **P** 14 32 48.9 -2.3
KLMR *e*PP **pP** 14 32 59.5 -2.1
KLMR *eS* **S** 14 36 42.4 -6.3
KLMR pmax pmax
comp=Z,68nm,1.3s
MARR Marisel-Cluj 21.69 296 ⇑P **P** 14 32 52.0 +0.4
GZR Gura Zlata 21.84 292 ⇓P **P** 14 32 52.5 -0.6
DOK Doka 21.99 175 P **P** 14 32 54.5 -0.3
SNR=66
NACGM Naroch 22.02 319 *eP* **P** 14 32 54.4 -0.5
comp=Z,35nm,0.8s,baz=63
HERR Herculane 22.08 291 ⇑P **P** 14 32 55.0 -0.7
SURR Surduc 22.31 293 ⇑P **P** 14 32 57.8 -0.3
MAKZ Makanchi 22.45 64 P **P** 14 33 01.7 +2.0
MAKZ IAmb IAmb 14 33 04.6
comp=Z,19nm,0.8s
MAKZ Makanchi 22.45 64 P **P** 14 33 01.7 +2.0
MAKZ pmax pmax
comp=Z,19nm,0.9s
UZH Uzhgorod 22.51 301⇑ *iP* **P** 14 33 01.3 +1.1
UZH *e* 14 33 09.1
UZH *i* 14 33 17.1
MDVR Moldovita 22.58 291 ⇑P **P** 14 33 00.4 -0.7
WHFO Wadi Hawf 22.66 176 P **P** 14 33 02.0 0.0
SNR=28
WHFO P **P** 14 33 02.0 0.0
SNR=28
BZS Buzias 22.66 293 ⇑P **P** 14 33 01.5 -0.4
BZS Buzias 22.66 293 P **P** 14 33 01.4 -0.4
MK31 Makanchi Array 22.67 64 P **P** 14 33 02.4 +0.5
MK31 Makanchi Array 22.67 64 P **P** 14 33 03.8 +1.8
comp=Z,14nm,0.7s,baz=258,slow=7.4,SNR=28
MK31 Makanchi Array 22.67 64 *i* P **P** 14 33 04.1 +2.2
MKAR Makanchi Array 22.67 64 P **P** 14 33 03.0 +1.1
comp=Z,11nm,1.0s,baz=267,slow=8.5,SNR=20
MKAR S **S** 14 37 08.5 +1.4
comp=Z,1.4nm,0.8s,baz=257,slow=18,SNR=3.6
MKAR LR LR 14 43 00.8
comp=Z,73nm,19.7s,baz=271,slow=40
comp=Z,11nm,1.0s
MKAR Makanchi Array 22.67 64 P **P** 14 33 03.7 +1.8
MKAR Makanchi Array 22.67 64 *eP* **P** 14 33 04.1 +2.2
MKAR pmax pmax
comp=Z,11nm,1.0s
DMTO DMTO 22.95 173 P **P** 14 33 04.6 -0.4
SNR=5.5
RBK Rabkut 23.10 175 P **P** 14 33 06.0 -0.6
SNR=16
CRVS Cervenica-Dubn 23.10 301 *eP* **P** 14 33 07.8 +1.5
CRVS Cervenica-Dubn 23.10 301 *eP* **P** 14 33 07.8 +1.5
ABTO Aybut 23.19 177 P **P** 14 33 06.8 -0.7
SNR=12
ABTO P **P** 14 33 06.8 -0.7
SNR=12
PABE Paberze 23.72 318 P **P** 14 33 12.3 +0.1
DIVS Divibare 23.83 289 P **P** 14 33 13.3 -0.2
OJC Ojcow 24.40 304 P **P** 14 33 18.8 +0.3
OJC IAmb IAmb 14 33 19.8
comp=Z,14nm,0.7s
OJC Ojcow 24.40 304 P **P** 14 33 18.8 +0.3
OJC pmax pmax
comp=Z,14nm,0.7s
ADZR Andozero 24.71 345 *eP* **P** 14 33 20.2 -1.0
ADZR pmax pmax
comp=Z,11nm,0.6s
VYHS Vyhne 24.77 300 *eP* **P** 14 33 24.9 +3.0
VYHS Vyhne 24.77 300 *eP* **P** 14 33 24.9 +3.0
ZAA0 Zalesovo Array 25.69 48 P **P** 14 33 31.2 +1.0
ZAA0 IAmb IAmb 14 33 35.5
comp=Z,23nm,0.9s
ZALV Zalesovo Beam 25.69 48 P **P** 14 33 32.1 +1.9
comp=Z,16nm,0.7s,baz=265,slow=11,SNR=30
ZALV S **S** 14 37 56.1 +0.4
comp=Z,0.5nm,0.4s,baz=251,slow=23,SNR=2.0
ZALV LR LR 14 44 31.1
comp=Z,99nm,20.8s,baz=261,slow=39
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 25.69 48 P **P** 14 33 31.6 +1.4
MORC Moravsky Berou 25.76 302 ⇑P **P** 14 33 31.7 +0.7
MORC Moravsky Berou 25.76 302 P **P** 14 33 31.7 +0.7
MORC IAmb IAmb 14 33 33.9
comp=Z,18nm,1.3s
MORC Moravsky Berou 25.76 302 *eP* **P** 14 33 31.8 +0.8
MORC Moravsky Berou 25.76 302 P **P** 14 33 31.6 +0.7
MODS Modra-Piesok 25.79 299 *eP* **P** 14 33 32.7 +1.5
MODS Modra-Piesok 25.79 299 *eP* **P** 14 33 32.7 +1.5
FINES FINESS Array B 26.16 332 P **P** 14 33 34.9 +0.6
comp=Z,7.7nm,0.7s,baz=131,slow=11,SNR=24
FINES LR LR 14 45 06.5
comp=Z,203nm,20.7s,baz=56,slow=39
comp=Z,7.7nm,0.7s
FINES FINESS Array B 26.16 332 P **P** 14 33 35.3 +0.9
KRLC Kraliky 26.29 303 *eP* **P** 14 33 36.4 +0.7
KRLC Kraliky 26.29 303 *eP* **P** 14 33 36.4 +0.7
VRAC Vranov 26.32 301 P **P** 14 33 36.7 +0.7
comp=Z,1.8nm,0.4s,baz=55,slow=5.2,SNR=3.4
VRAC LR LR 14 46 13.9
comp=Z,148nm,19.6s,baz=25,slow=42
comp=Z,1.8nm,0.4s
VRAC Vranov 26.32 301 *eP* **P** 14 33 39.0 +3.0
DGZ Jazzator, Alta 26.38 58 *i* P **P** 14 33 38.8 +2.1
DGZ pmax pmax
comp=Z,8.0nm,0.9s
KRUC Moravsky 26.43 301 *eP* **P** 14 33 39.2 +2.3
WMQ Urumqi 26.51 71 *eP* **P** 14 33 40.7 +2.9
DPC Dobruska-Polom 26.62 303 *eP* **P** 14 33 39.8 +1.1
DPC Dobruska-Polom 26.62 303 *eP* **P** 14 33 39.8 +1.1
ARSA Arzberg 26.92 297 *eP* **P** 14 33 42.6 +1.2
comp=Z,3.7nm,0.5s
SOKA Soboth 27.25 295 *eP* **P** 14 33 45.2 +0.8
comp=Z,2.6nm,0.4s
OBKA Obir 27.59 295 *eP* **P** 14 33 48.6 +1.1
CKRC Cesky Krumlov 27.78 300 *eP* **P** 14 33 51.5 +2.4
GERES GERESS Array B 28.18 300 P **P** 14 33 53.3 +0.5
comp=Z,1.4nm,0.5s,baz=92,slow=8.3,SNR=13
comp=Z,1.4nm,0.5s
GERES GERESS Array B 28.18 300 P **P** 14 33 52.6 -0.2
GERES GERESS Array B 28.18 300 P **P** 14 33 52.6 -0.2
BRG Berggiesshubel 28.19 304 *eP* **P** 14 33 54.0 +1.3
BRG Amp 14 33 55.7
comp=Z,16nm,1.2s
BRG Berggiesshubel 28.19 304 *eP* **P** 14 33 54.0 +1.3
BRG pmax pmax
comp=Z,16nm,1.2s
KHC Kasperske Hory 28.28 301 *eP* **P** 14 33 51.7 -1.9
KHC Kasperske Hory 28.28 301 *eP* **P** 14 33 51.7 -1.9
DANN Dangsing 28.74 105 *eP* **P** 14 34 00.5 +2.4
CLL Collm 28.82 305 *i* P **P** 14 33 59.1 +0.8
CLL *ex* x 14 34 27.0
CLL Collm 28.82 305 *i* P **P** 14 33 59.1 +0.8
WTTA Wattenberg 29.56 297 *eP* **P** 14 34 05.1 -0.1
comp=Z,5.7nm,0.4s
GKN Gorkha 29.57 105 *eP* **P** 14 34 06.9 +1.5
comp=Z,9.7nm,0.4s
ATD Arta Tunnel 30.06 198 LR LR 14 47 55.9
comp=Z,64nm,20.3s,baz=8.0,slow=40
FETA Feichten 30.19 296 *eP* **P** 14 34 10.9 +0.2
PKIN Phulchoki 30.37 105 *eP* **P** 14 34 13.9 +1.4
comp=Z,5.7nm,0.4s
PKI Pulchoki 30.38 105 *eP* **P** 14 34 14.0 +1.3
comp=Z,7.0nm,0.5s
FUORN Ofenpass-Fuorn 30.54 295 P **P** 14 34 13.6 -0.3
HFS Hagfors 30.65 323 P **P** 14 34 14.4 0.0
comp=Z,5.2nm,0.5s,baz=98,slow=9.1,SNR=22
HFS LR LR 14 48 01.1
comp=Z,127nm,19.1s,baz=80,slow=39
comp=Z,5.2nm,0.5s
DAVOX Davos/Dischmat 30.79 296 P **P** 14 34 15.7 -0.3
comp=Z,2.4nm,0.4s,baz=276,slow=2.1,SNR=5.8
DAVOX LR LR 14 50 29.7
comp=Z,104nm,18.8s,baz=48,slow=44
comp=Z,2.4nm,0.4s
RAMN Ramite 31.61 105 *eP* **P** 14 34 24.8 +1.4
NC405 NORSAR Array S 31.92 324 P **P** 14 34 24.6 -0.9
NB201 NORSAR Array S 32.09 323 P **P** 14 34 27.0 -0.1
NB2 NORSAR Subarra 32.12 323 P **P** 14 34 26.7 -0.7
comp=Z,9.4nm,0.9s,baz=113,slow=8.6
NOA NORSAR Array B 32.12 323 P **P** 14 34 27.0 -0.4
comp=Z,2.6nm,0.7s,baz=114,slow=8.3,SNR=11
NOA LR LR 14 48 03.7
comp=Z,82nm,18.9s,baz=250,slow=38
comp=Z,2.6nm,0.7s
ARCES ARCESS Array B 32.16 343 P **P** 14 34 27.9 +0.3
comp=Z,2.8nm,0.8s,baz=146,slow=9.5,SNR=7.9
ARCES LR LR 14 48 54.6
comp=Z,115nm,21.0s,baz=98,slow=39
comp=Z,2.8nm,0.8s
ARCES ARCESS Array B 32.16 343 *eP* **P** 14 34 28.9 +1.3
ARCES pmax pmax
comp=Z,3.0nm,0.8s
TAPN Taplejung 32.20 103 *eP* **P** 14 34 29.1 +0.4
NAO01 NORSAR Array S 32.21 323 P **P** 14 34 27.8 -0.2
SENIN Lac Senin/Sane 32.60 295 P **P** 14 34 31.3 -0.6
NRIK Noril'sk 34.32 21 P **P** 14 34 48.0 +1.7
comp=Z,2.1nm,0.5s,baz=230,slow=8.0,SNR=1.8
comp=Z,2.1nm,0.5s
NRIK Noril'sk 34.32 21 *i* P **P** 14 34 48.2 +1.9
NRIK pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 36.29 76 *eP* **P** 14 35 06.0 +2.2
GTA pP pP 14 35 16.5 +1.1
GTA sP sP 14 35 23.5 +3.1
GTA pmax pmax
comp=Z,5.0nm,1.2s
ESK Eskdalemuir 38.71 311 P **P** 14 35 24.2 +0.2
ESK Eskdalemuir 38.71 311 P **P** 14 35 24.2 +0.2
ESK pmax pmax
comp=Z,75nm,1.4s
SONM Songino Array 38.95 61 P **P** 14 35 27.3 +1.1
comp=Z,0.5nm,0.6s,baz=278,slow=8.4,SNR=5.1
SONM PcP **PcP** 14 37 36.5 +0.4
comp=Z,0.5nm,0.6s,baz=270,slow=2.9,SNR=3.8
comp=Z,0.5nm,0.6s
ULN Ulaanbaatar 39.38 60 P **P** 14 35 32.4 +2.6
ULN IAmb IAmb 14 35 33.2
comp=Z,9.6nm,1.0s
ULN Ulaanbaatar 39.38 60 *i* P **P** 14 35 31.6 +1.8
ULN pmax pmax
comp=Z,10.0nm,0.9s
LODK Lodwar 39.94 206 P **P** 14 35 35.9 +1.3
SPB2 Spitsbergen Ar 40.36 349 P **P** 14 35 38.3 +0.9
ESDC Sonseca Array 42.17 288 P **P** 14 35 52.4 -0.4
comp=Z,0.5nm,0.4s,baz=55,slow=8.9,SNR=2.5
comp=Z,0.5nm,0.4s
BOD Bodaibo 42.36 45 *eP* **P** 14 35 54.8 +0.8
BOD pmax pmax
comp=Z,14nm,1.1s
CD2 Chengdu 42.57 86 *eP* **P** 14 35 55.3 -0.9
PZH PanZhiHua 43.23 93 P **P** 14 36 00.3 -1.3
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,5.6s
HHC Hu-ho-hao-te 44.36 69 *eP* **P** 14 36 11.0 +0.5
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,210nm,4.7s
KMI Kunming 44.72 94 ⇓P **P** 14 36 15.5 +1.8
KMI pP pP 14 36 23.7 -1.8
KMI pmax pmax
comp=Z,13nm,0.5s
MBAR Mbarara 45.35 211 P **P** 14 36 18.8 +0.2
comp=Z,2.0nm,0.4s,baz=26,slow=8.7,SNR=5.0
comp=Z,2.0nm,0.4s
CM31 Chiang Mai Arr 45.78 105 P **P** 14 36 22.9 +1.0
CM31 IAmb IAmb 14 36 23.9
comp=Z,6.1nm,1.1s
CMAR Chiang Mai Arr 45.78 105 P **P** 14 36 23.0 +1.1
comp=Z,2.9nm,0.9s,baz=302,slow=8.3,SNR=19
comp=Z,2.9nm,0.9s
CMAR Chiang Mai Arr 45.78 105 P **P** 14 36 23.2 +1.3
XLT XiLinHaoTe 46.49 64⇓ *iP* **P** 14 36 29.9 +2.6
XLT pP sP 14 36 42.6 -1.5
XLT sP pP 14 36 47.5 +8.4
XLT pmax pmax
comp=Z,96nm,4.1s
XLT pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 47.96 25 P **P** 14 36 39.6 +1.5
TIXI IAmb IAmb 14 36 41.4
comp=Z,10nm,1.1s
TIXI Tiksi 47.96 25 *i* P **P** 14 36 39.7 +1.5
TIXI pmax pmax
comp=Z,11nm,1.1s
YAK Yakutsk 49.59 37 P **P** 14 36 51.8 +1.0
YAK Yakutsk 49.59 37 *i* P **P** 14 36 51.8 +1.0
YAK pmax pmax
comp=Z,5.0nm,0.9s
ZEA Zeya 50.46 48 *eP* P 14 36 48.3 -9.3
ZEA pmax pmax
comp=Z,10.0nm,1.2s
HEH HeiHe 51.67 52 *eP* **P** 14 37 08.5 +1.8
HEH pmax pmax
comp=Z,24nm,1.1s
NJ2 Nanjing 53.38 77 *eP* **P** 14 37 20.0 +0.4
NJ2 pmax pmax
comp=Z,11nm,0.5s
KLR Kul'dur 54.66 52 P **P** 14 37 29.7 +0.9
comp=Z,2.0nm,0.5s,baz=307,slow=11,SNR=5.3
comp=Z,2.0nm,0.5s
KLR Kul'dur 54.66 52 *i* P **P** 14 37 30.5 +1.7
KLR pmax pmax
comp=Z,11nm,1.7s
KSRS Korea Array 57.32 67 P **P** 14 37 49.0 +1.0
comp=Z,2.7nm,0.7s,baz=292,slow=7.2,SNR=8.2
comp=Z,2.7nm,0.7s
SEY Seymchan 59.09 32 *i* P **P** 14 38 01.6 +1.7
SEY pmax pmax
comp=Z,3.0nm,0.7s
KIC Kosan Boka 60.90 252⇑ *iP* **P** 14 38 12.9 -0.1
comp=Z,4.0nm,0.6s
TIC Toumodi 60.91 252⇓ *iP* **P** 14 38 14.6 +1.6
comp=Z,6.1nm,0.4s
BILL Bilibino 61.12 23 P **P** 14 38 14.7 +1.0
BILL Bilibino 61.12 23⇑ *eP* **P** 14 38 14.3 +0.6
BILL *e* 14 40 25.3
BILL *eS* **PnS** 14 46 56.8 +9.2
BILL pmax pmax
comp=Z,16nm,1.5s
BILL MLR MLR
comp=Z,158nm,17.0s
LIC Lamto 61.20 252⇓ *iP* **P** 14 38 14.5 -0.5
comp=Z,42nm,0.8s
MJAR Matsushiro Arr 64.86 63 P **P** 14 38 39.4 +0.3
comp=Z,1.9nm,0.3s,baz=102,slow=10,SNR=38
comp=Z,1.9nm,0.3s

COLD Coldfoot 71.17 9 P **P** **14 39 19.3 +1.1**
COLD IAmb IAmb 14 39 20.9
comp=Z,9.6nm,1.2s

INK Inuvik 71.33 2 P **P** **14 39 19.4 +0.3**
comp=Z,1.1nm,0.7s,baz=350,slow=9.2,SNR=6.9
comp=Z,1.1nm,0.7s

BMAR Burnt Mountain 71.56 7 P **P** **14 39 21.5 +0.9**
SCHQ Schefferville 71.56 328 P **P** **14 39 20.8 +0.1**
comp=Z,2.1nm,0.5s,baz=17,slow=6.0,SNR=7.2
comp=Z,2.1nm,0.5s

IMAR Indian Mountai 71.89 11 P **P** **14 39 22.9 +0.4**
H21K Melozitna Rive 72.33 11 P **P** **14 39 26.5 +1.3**
H21K IAmb IAmb 14 39 28.4
comp=Z,4.7nm,0.8s

H23K Yukon River 72.60 9 P **P** **14 39 28.2 +1.5**
H23K IAmb IAmb 14 39 30.6
comp=Z,8.6nm,1.1s

BOSA Boshof 73.20 204 P **P** **14 39 31.5 +0.6**
comp=Z,1.5nm,0.7s,baz=64,slow=7.3,SNR=3.9
BOSA LR LR 15 15 07.2
comp=Z,51nm,18.8s,baz=84,slow=39
comp=Z,1.5nm,0.7s

BOSA Boshof 73.20 204 P **P** **14 39 31.4 +0.6**
BOSA IAmb IAmb 14 39 37.9
comp=Z,12nm,1.3s

BOSA Boshof 73.20 204 P **P** **14 39 31.5 +0.6**
BOSA pmax pmax
comp=Z,12nm,1.3s

MLY Manley 73.21 10 P **P** **14 39 31.6 +1.2**
MLY IAmb IAmb 14 39 33.8
comp=Z,4.0nm,0.8s

J20K Nowinta River 73.53 12 P **P** **14 39 32.4 +0.1**
J20K IAmb IAmb 14 39 35.5
comp=Z,5.3nm,0.9s

MDM Murphy Dome 73.59 9 P **P** **14 39 33.5 +0.9**
MDM IAmb IAmb 14 39 36.1
comp=Z,9.4nm,1.3s

TCOL CIGO, UAF Yank 73.71 9 P **P** **14 39 33.7 +0.4**
ILAR Eielson Array 73.92 8 P **P** **14 39 35.5 +0.9**
comp=Z,0.7nm,0.7s,baz=337,slow=5.0,SNR=8.1
comp=Z,0.7nm,0.7s

CCB Clear Creek Bu 73.94 9 P **P** **14 39 35.4 +0.7**
CCB IAmb IAmb 14 39 37.3
comp=Z,13nm,1.4s

BPAW Bear Paw Mtn. 74.06 10 P **P** **14 39 36.1 +0.6**
BPAW IAmb IAmb 14 39 39.3
comp=Z,8.2nm,1.3s

K20K Telida 74.32 12 P **P** **14 39 37.9 +1.0**
K20K IAmb IAmb 14 39 40.1
comp=Z,8.9nm,1.2s

CAST Castle Rocks 74.56 11 P **P** **14 39 39.4 +1.1**
KTH Kantishna Hill 74.59 10 P **P** **14 39 40.2 +1.6**
KTH IAmb IAmb 14 39 42.2
comp=Z,9.1nm,1.4s

RND Reindeer 75.01 10 P **P** **14 39 41.1 +0.1**
RND IAmb IAmb 14 39 42.0
comp=Z,5.7nm,0.9s

RND Reindeer 75.01 10 P **P** **14 39 41.1 +0.1**
RND pmax pmax
comp=Z,6.0nm,0.9s

L19K White Mountain 75.30 13 P **P** **14 39 44.2 +1.6**
L19K IAmb IAmb 14 39 45.8
comp=Z,11nm,1.2s

SKT Skwentna 76.01 11 P **P** **14 39 47.0 +0.3**
SKT IAmb IAmb 14 39 49.6
comp=Z,6.4nm,0.9s

BCAR Beaver Creek A 76.09 6 P **P** **14 39 47.9 +0.7**
L27K Beaver Creek, 76.09 6 P **P** **14 39 47.8 +0.6**
L27K IAmb IAmb 14 39 50.4
comp=Z,3.7nm,0.8s

SUA Susitna One 76.62 11 P **P** **14 39 50.9 +0.7**
SUA IAmb IAmb 14 39 51.6
comp=Z,7.4nm,0.8s

YKA Yellowknife Ar 76.69 354 P **P** **14 39 50.1 -0.4**
comp=Z,0.5nm,0.5s,baz=4.9,slow=5.5,SNR=8.7
comp=Z,0.5nm,0.5s

M27K Edge Creek, AK 76.78 7 P **P** **14 39 52.5 +1.4**
M27K IAmb IAmb 14 39 55.4
comp=Z,4.8nm,1.0s

KLU Klutina 77.22 9 P **P** **14 39 54.3 +0.7**
KLU IAmb IAmb 14 39 55.5
comp=Z,3.8nm,0.6s

PDAR Pinedale Array 95.35 346 P **P** **14 41 24.4 +0.2**
comp=Z,0.2nm,0.5s,baz=350,slow=4.6,SNR=2.1
comp=Z,0.2nm,0.5s

WRA Warramunga Arr 97.14 110 P **P** **14 41 32.0 -0.4**
comp=Z,0.8nm,0.6s,baz=319,slow=4.2,SNR=13
comp=Z,0.8nm,0.6s

WRA Warramunga Arr 97.14 110 *e*P **P** **14 41 30.7 -1.6**
WRA pmax pmax
comp=Z,1.0nm,0.6s

ASAR Alice Springs 99.23 113 P **Pdif** **14 41 41.4 -0.3**
comp=Z,0.5nm,1.0s,baz=316,slow=4.8,SNR=2.0
comp=Z,0.5nm,1.0s

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*NEIC **11** 14:35:56.6±1.0, 12°.2N±0°.1×141°.1E±0°.1, h10km±1km, mb4.5/22, Error ellipse: s-maj=19.2km s-min=17.0km az=265.0*

*IDC **11** 14:36:03.0±3.0, 12°.27N× 141°.17E, h70km±29km, mb4.0/19, mbtmp4.3/20, ML4.3/1, Error ellipse: s-maj=18.9km s-min=11.2km az=84.0*

ISC 11 14:35:59.4±0.5, 12°.23N±0°.07×141°.05E±0°.08, h34km, n46, d0°82/47, mb4.5/30, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.96**	**70**	P			**Pn**	**14 36 57.9**	**+0.1**
	22nm,0.3s,baz=332,slow=4.3,SNR=8.3								
GUMO				S			**Sn**	**14 37 45.3**	**+2.1**
	91nm,0.8s,baz=35,slow=14,SNR=1.4								
	63nm,0.4s								
GUMO	**Guam**	**3.96**	**70**	Pn			**Pn**	**14 36 57.3**	**-0.5**
FAKI	**Fak Fak**	**17.41**	**211**				**Pn**	**14 39 59.9**	**0.0**
JSU	**Suzuyama**	**21.52**	**335**	P			**P**	**14 40 46.1**	**+0.4**
TOLI2	**Tolitoli**	**22.93**	**243**	P			**P**	**14 41 02.1**	**+1.2**
TOLI2						IAmb	IAmb	14 41 27.8	
	comp=Z,6.3nm,0.9s								
MJAR	**Matsushiro Arr**	**24.34**	**354**	P			**P**	**14 41 12.2**	**-2.0**
	comp=Z,1.9nm,0.9s,baz=193,slow=9.0,SNR=1.9								
	comp=Z,1.9nm,0.9s								
JMM	**Marumori**	**25.53**	**360**	P			**P**	**14 41 25.2**	**+0.3**
WB0	**Warramunga Arr**	**32.47**	**192**	P			**P**	**14 42 26.4**	**-0.4**
WB0						IAmb	IAmb	14 42 27.6	
	comp=Z,9.9nm,1.1s								
CTAO	**Charters Tower**	**32.53**	**171**	P			**P**	**14 42 28.2**	**+0.8**
WR0	**Warramunga Arr**	**32.63**	**191**	P			**P**	**14 42 27.7**	**-0.5**
WR0						IAmb	IAmb	14 42 29.0	
	comp=Z,9.9nm,0.9s								
WRAB	**Tennant Creek**	**32.64**	**192**	P			**P**	**14 42 27.8**	**-0.6**
WRAB						IAmb	IAmb	14 42 29.0	
	comp=Z,10nm,0.9s								
WRA	**Warramunga Arr**	**32.65**	**192**	P			**P**	**14 42 28.2**	**-0.3**
	comp=Z,7.2nm,0.9s,baz=11,slow=9.4,SNR=29								
	comp=Z,7.2nm,0.9s								
WRA	**Warramunga Arr**	**32.65**	**192**	P			**P**	**14 42 27.9**	**-0.6**
AS31	**Alice Springs**	**36.36**	**191**	P			**P**	**14 43 00.6**	**0.0**
ASAR	**Alice Springs**	**36.36**	**191**	P			**P**	**14 43 01.2**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=19,slow=12,SNR=53								
	comp=Z,1.4nm,0.6s								
ASAR	**Alice Springs**	**36.36**	**191**	P			**P**	**14 42 59.9**	**-0.7**
KLR	**Kul'dur**	**37.68**	**350**	P			**P**	**14 43 11.3**	**-0.1**
	comp=Z,5.3nm,0.8s,baz=145,slow=8.3,SNR=16								
	comp=Z,5.3nm,0.8s								
CMAR	**Chiang Mai Arr**	**41.00**	**284**	P			**P**	**14 43 40.8**	**+1.2**
	comp=Z,1.4nm,0.4s,baz=83,slow=6.7,SNR=14								
	comp=Z,1.4nm,0.4s								
DZM	**Mont Dzumac**	**42.23**	**144**	P			**P**	**14 43 49.6**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=292,slow=5.4,SNR=8.8								
	comp=Z,3.4nm,0.7s								
DZM	**Mont Dzumac**	**42.23**	**144**	P			**P**	**14 43 49.7**	**+0.1**
DZM						IAmb	IAmb	14 44 05.6	
	comp=Z,19nm,1.3s								
STKA	**Stephens Creek**	**43.86**	**179**	P			**P**	**14 44 02.3**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=353,slow=8.1,SNR=15								
	comp=Z,3.7nm,0.6s								
STKA	**Stephens Creek**	**43.86**	**179**	P			**P**	**14 44 02.1**	**-0.5**
BBOO	**Buckleboo**	**45.04**	**186**	P			**P**	**14 44 11.4**	**-0.7**
SONM	**Songino Array**	**45.78**	**328**	P			**P**	**14 44 18.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=129,slow=6.2,SNR=5.6								
	comp=Z,0.8nm,0.8s								
SONM	**Songino Array**	**45.78**	**328**	P			**P**	**14 44 19.2**	**+1.2**
MSVF	**Nonsavu**	**47.13**	**128**	P			**P**	**14 44 28.6**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=266,slow=9.7,SNR=4.6								
	comp=Z,3.6nm,0.6s								
YAK	**Yakutsk**	**50.39**	**353**	P			**P**	**14 44 52.6**	**-0.5**
	comp=Z,3.1nm,0.3s,baz=118,slow=3.7,SNR=4.5								
	comp=Z,3.1nm,0.3s								
SEY	**Seymchan**	**51.27**	**7**	P			**P**	**14 44 59.7**	**0.0**
	comp=Z,5.3nm,0.3s,baz=178,slow=7.3,SNR=8.3								
	comp=Z,5.3nm,0.3s								
MK31	**Makanchi Array**	**59.91**	**317**	P			**P**	**14 46 02.6**	**+0.4**
MK31						IAmb	IAmb	14 46 03.8	
	comp=Z,2.7nm,1.1s								
MKAR	**Makanchi Array**	**59.91**	**317**	P			**P**	**14 46 03.1**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=97,slow=9.9,SNR=14								
	comp=Z,2.3nm,0.9s								
MKAR	**Makanchi Array**	**59.91**	**317**	P			**P**	**14 46 02.9**	**+0.7**
ZALV	**Zalesovo Beam**	**60.59**	**326**	P			**P**	**14 46 06.3**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=103,slow=5.2,SNR=4.9								
	comp=Z,1.0nm,0.6s								
KURK	**Kurchatov**	**63.24**	**321**	P			**P**	**14 46 24.9**	**+0.4**
KURBB	**Kurchatov Array**	**63.28**	**321**	P			**P**	**14 46 25.1**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=103,slow=6.7,SNR=19								
	comp=Z,3.6nm,0.7s								
NRIK	**Noril'sk**	**66.22**	**342**	P			**P**	**14 46 43.1**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=78,slow=10,SNR=3.6								
	comp=Z,2.4nm,0.5s								
RSO	**Redoubt South**	**67.77**	**29**	P			**P**	**14 46 55.1**	**+1.3**
J20K	**Nowinta River**	**68.19**	**25**	P			**P**	**14 46 56.1**	**-0.1**
J20K						IAmb	IAmb	14 47 06.2	
	comp=Z,6.7nm,1.4s								
BRVK	**Borovoye**	**68.76**	**322**	P			**P**	**14 47 00.1**	**+0.2**
BRVK						IAmb	IAmb	14 47 01.1	
	comp=Z,4.2nm,0.8s								
CAST	**Castle Rocks**	**68.85**	**26**	P			**P**	**14 47 00.1**	**-0.3**
CAST						IAmb	IAmb	14 47 34.0	
	comp=Z,4.9nm,1.5s								
KTH	**Kantishna Hill**	**69.39**	**26**				**P**	**14 47 03.9**	**+0.1**
KTH						IAmb	IAmb	14 47 48.1	
	comp=Z,7.5nm,1.3s								
MLY	**Manley**	**69.84**	**25**	P			**P**	**14 47 06.1**	**-0.4**
MLY						IAmb	IAmb	14 47 29.3	
	comp=Z,4.6nm,1.4s								
H23K	**Yukon River**	**70.52**	**24**	P			**P**	**14 47 11.1**	**+0.5**
H23K						IAmb	IAmb	14 47 18.2	
	comp=Z,2.9nm,1.2s								
ILAR	**Eielson Array**	**71.38**	**25**	P			**P**	**14 47 13.9**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=248,slow=5.6,SNR=9.1								
	comp=Z,0.6nm,0.7s								
YKA	**Yellowknife Ar**	**85.76**	**27**	P			**P**	**14 48 34.1**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=291,slow=5.2,SNR=3.2								
	comp=Z,0.1nm,0.4s								
ARCES	**ARCESS Array B**	**87.20**	**341**	P			**P**	**14 48 41.2**	**-0.8**
	comp=Z,4.8nm,1.1s,baz=45,slow=5.6,SNR=3.6								
	comp=Z,4.8nm,1.1s								
FINES	**FINESS Array B**	**90.78**	**334**	P			**P**	**14 48 57.3**	**-1.6**
	comp=Z,8.7nm,1.0s,baz=97,slow=3.5,SNR=4.5								
	comp=Z,8.7nm,1.0s								

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*BJI **11** 14:38:38.3±0.0, 12°.47N× 141°.13E, h9km, mb5.0/75, mB5.5/66, Ms5.1/83, Ms7 4.9/78*

*NEIC **11** 14:38:38.7±2.0, 12°.22N±0°.08×141°.07E±0°.08, h8km±1km, mb5.5/161, Mwb5.2/14, Mww5.2/8, Error ellipse: s-maj=13.9km s-min=12.8km az=248.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-7.97; $M_{\theta\theta}$5.44; $M_{\phi\phi}$2.53; $M_{r\theta}$2.16; $M_{\theta\phi}$4.44; $M_{r\phi}$3.22; Fault plane solution: M_o9.19000×10^{16} NP1:ϕ_s63.52000°, δ33.89000°, λ-74.61000°. NP2:ϕ_s225.17000°, δ57.48000°, λ-100.11000°. Principal axes: T 9.4289, Plg12.0000°, Azm322.0000°; N -0.4891, Plg9.0000°, Azm231.0000°; P -8.9398, Plg75.0000°, Azm106.0000°;*

*GCMT **11** 14:38:40.7±0.1, 12°.25N±0°.01×140°.93E±0°.01, h12km, MW5.4/141, Moment Tensor Solution. s106,c165; s141,c249; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.98±.01; $M_{\theta\theta}$0.84±.01; $M_{\phi\phi}$0.13±.01; $M_{r\theta}$1.04±.04; $M_{\theta\phi}$0.35±.01; $M_{r\phi}$0.76±.04; Best double couple: M_o1.61600×10^{17} NP1:ϕ_s237.00000°, δ72.00000°, λ-97.00000°. NP2:ϕ_s77.00000°, δ20.00000°, λ-71.00000°. Principal axes: T 1.6040, Plg26.0000°, Azm332.0000°; N 0.0250, Plg6.0000°, Azm239.0000°; P -1.6290, Plg63.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **11** 14:38:40.3±1.0, 12°.20N× 141°.10E, h36km, mb5.7/60, MS5.2/8 Error ellipse: s-maj=8.0km s-min=4.1km az=116.8*

*IDC **11** 14:38:43.3±1.6, 12°.21N× 141°.10E, h46km±16km, mb5.0/38, mbtmp5.2/43, ML4.7/5, MS4.7/44, Error ellipse: s-maj=10.7km s-min=7.3km az=78.0*

*NEIC **11** 14:38:44.4, 12°.24N× 141°.06E, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.67; $M_{\theta\theta}$5.92; $M_{\theta\theta}$ 1.76; $M_{r\theta}$-2.53; $M_{\theta\phi}$3.83; $M_{r\phi}$2.23; Fault plane solution: M_o8.61000×10^{16} NP1:ϕ_s79.11000°, δ52.38000°, λ-63.57000°. NP2:ϕ_s219.95000°, δ44.83000°, λ-120.01000°. Principal axes: T 8.2679, Plg4.0000°, Azm151.0000°; N 0.6899, Plg21.0000°, Azm242.0000°; P -8.9578, Plg69.0000°, Azm50.0000°;*

*DJA **11** 14:38:45.1±0.5, 12°.N-3°× 14°.1E±°, h62km±5km, M5.3/78, mb5.5/78, mB5.7/54, MLv5.6/1, Mw(mB)5.3/54, MwMwp5.2/19, Mwp5.5/19*

*KLM **11** 14:38:47, 12°.19N× 141°.51E, h112km, mb5.4*

ISC 11 14:38:40.3±0.4, 12°.21N±0°.03×141°.05E±0°.03, h22km±4km, h23km:pP-P, n938, σ1s47/997, mb5.4/210, MS4.8/81, 45C-25D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.96**	**69**	P			**Pn**	**14 39 41.7**	**+1.9**
	391nm,0.3s,baz=211,slow=4.7,SNR=84								
GUMO				S			**Sn**	**14 40 26.7**	**+1.0**
	839nm,0.9s,baz=70,slow=22,SNR=1.6								
GUMO	**Guam**	**3.96**	**69**	Pn			**Pn**	**14 39 39.9**	**+0.1**
GUMO	**Guam**	**3.96**	**69**	P			**Pn**	**14 39 41.9**	**+2.1**
SMPI	**Sarmi**	**14.30**	**190**	P			**P**	**14 42 05.8**	**-2.8**
	370nm,1.4s,5µm6µm								
GENI	**Genyem**	**14.73**	**183**	P			**P**	**14 42 10.5**	**-2.9**
GENI	**Genyem**	**14.73**	**183**	P			**Pn**	**14 42 09.6**	**+2.1**
	504nm,1.3s,6µm7µm								
SRPI	**Serui, Papua**	**14.78**	**199**	P			**P**	**14 42 11.8**	**-2.2**
	107nm,0.9s,2µm								
JCJ	**Chichijima**	**14.85**	**4**	P			**Pn**	**14 42 09.6**	**+0.6**
	3.4nm,0.3s,baz=180,slow=20,SNR=2.5								
	111nm,0.8s								
JCJ	**Chichijima**	**14.85**	**4**				**Pn**	**14 42 08.6**	**-0.4**
JCJ	**Chichijima**	**14.85**	**4**	P			**P**	**14 42 14.6**	**0.0**
CDOP	**Cateel, Davao**	**15.05**	**254**	P	*e*	P	**P**	**14 42 18.0**	**+1.1**
RKPI	**Ransiki, Papua**	**15.25**	**207**	P			**Pn**	**14 42 15.8**	**+1.4**
	130nm,0.9s,3µm7µm								
TASP	**Talacogon, Agu**	**15.46**	**257**	P	‖		**P**	**14 42 27.0**	**+5.5**
MANU	**Manus Island**	**15.49**	**156**				**Pn**	**14 42 18.3**	**+0.7**
MANU						IAmb	IAmb	14 42 25.2	
	comp=Z,221nm,1.2s								
MANU	**Manus Island**	**15.49**	**156**	P			**Pn**	**14 42 19.2**	**+1.6**
MSLP	**Maasin**	**16.02**	**264**	P	‖	*e*	**P**	**14 42 30.8**	**+3.0**
DAV	**Davao City (W)**	**16.09**	**253**	P			**Pn**	**14 42 25.2**	**-0.1**
	comp=Z,153nm,0.4s,baz=53,slow=15,SNR=1.8								
WAMI	**Wamena**	**16.16**	**188**	P			**P**	**14 42 31.3**	**+2.0**
SWI	**Sorong**	**16.23**	**217**	P			**Pn**	**14 42 28.5**	**+1.4**
	comp=Z,88nm,0.9s,comp=Z,2µmcomp=Z,5µm								
SIJI	**Sorong**	**16.23**	**217**	P			**P**	**14 42 28.8**	**-1.3**
	comp=Z,2.4nm,0.3s,baz=30,slow=12,SNR=20								
SIJI					LR		LR	14 47 37.1	
	comp=Z,2µm,18.1s,baz=51,slow=33								
	comp=Z,24nm,0.7s								
BUKP	**Musuan**	**16.32**	**256**	P	‖	*e*	**P**	**14 42 33.5**	**+2.3**
CGP	**Cagayan de Oro**	**16.52**	**259**	P	‖	*e*	**P**	**14 42 35.3**	**+2.0**
TABP	**Talibon, Bohol**	**16.54**	**264**	P	‖	*e*	**P**	**14 42 35.4**	**+1.8**
GHBP	**Garcia Hernand**	**16.63**	**263**	P	‖	*e*	**P**	**14 42 36.6**	**+2.1**
LLP	**Lapu-Lapu**	**16.86**	**265**	*e*	P		**P**	**14 42 37.4**	**+0.2**
LLP					*e*	S	**S**	**14 45 53.4**	**+1.0**
TBP	**Tagbilaran**	**17.06**	**263**	P	‖	*e*	**Pn**	**14 42 32.6**	**-5.1**
CTBH	**Cotabato--PC H**	**17.29**	**255**	P	‖	*e*	**P**	**14 42 43.1**	**+1.3**
FAKI	**Fak Fak**	**17.39**	**211**	P			**P**	**14 42 43.9**	**+0.9**
FAKI	**Fak Fak**	**17.39**	**211**	P			**P**	**14 42 44.8**	**+1.8**
FAKI	**Fak Fak**	**17.39**	**211**	P			**P**	**14 42 44.5**	**+1.5**
	comp=Z,250nm,1.5s,comp=Z,4µmcomp=Z,6µm								
LSIP	**Lazi, Siquijor**	**17.39**	**262**	P	‖	*e*	P	14 42 51.3	+8.4
TNTI	**Ternate**	**17.71**	**231**	P			**P**	**14 42 47.2**	**+0.8**
TNTI	**Ternate**	**17.71**	**231**	P			**P**	**14 42 47.8**	**+1.4**
TNTI	**Ternate**	**17.71**	**231**	P			**P**	**14 42 48.1**	**+1.7**
	comp=Z,72nm,1.0s,comp=Z,2µmcomp=Z,2µm								
PATS	**Pohnpei**	**17.83**	**106**	Pn			**Pn**	**14 42 45.1**	**-2.2**
RCP	**Roxas**	**17.93**	**270**	P	‖	*e*	**Pn**	**14 42 46.8**	**-1.6**
PAGZ	**Pagadian**	**17.93**	**258**	P	‖	*e*	**P**	**14 42 51.7**	**+2.8**
CNOP	**Candoni, Negro**	**18.23**	**264**	P	‖	*e*	**P**	**14 42 54.2**	**+2.0**
JOW	**Kunigami**	**18.86**	**322**	P			**Pn**	**14 43 00.8**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=138,slow=16,SNR=5.6								
JOW					LR		LR	14 48 37.7	
	comp=Z,3µm,20.9s,baz=130,slow=32								
	comp=Z,44nm,1.0s								
JOW	**Kunigami**	**18.86**	**322**	P			**P**	**14 42 57.2**	**-1.9**
JOW	**Kunigami**	**18.86**	**322**	P			**Pn**	**14 43 01.7**	**+2.0**
MSAI	**Maschi**	**19.60**	**219**	P			**Pn**	**14 43 10.4**	**+1.7**
	comp=Z,319nm,0.9s,comp=Z,2µm								
PCPH	**Palayan**	**19.66**	**282**	P	‖	*e*	**Pn**	**14 43 10.2**	**+0.8**
RABL	**Rabaul**	**19.68**	**145**	P			**Pn**	**14 43 09.6**	**-0.1**
RABL						IAmb	IAmb	14 43 15.4	
	comp=Z,426nm,1.1s								
RABL	**Rabaul**	**19.68**	**145**	P			**Pn**	**14 43 11.8**	**+2.1**
KRVT	**Keravat (AS076**	**19.70**	**146**	P			**P**	**14 43 06.8**	**-1.6**
	comp=Z,12nm,0.3s,baz=113,slow=15,SNR=3.5								
KRVT					LR		LR	14 50 29.5	
	comp=Z,3µm,18.0s,baz=102,slow=36								
	comp=Z,406nm,1.0s								
BNDI	**Bandanaira**	**19.98**	**214**	P			**Pn**	**14 43 12.8**	**-0.4**
BNDI	**Bandanaira**	**19.98**	**214**	P			**Pn**	**14 43 13.1**	**-0.1**
	comp=Z,700nm,1.0s,comp=Z,11µmcomp=Z,6µm								
PACPP	**Pamplona Cagay**	**19.98**	**291**	P	‖	*e*	**Pn**	**14 43 13.1**	**-0.1**
CICP	**Calayan Island**	**20.09**	**293**	P	‖	*e*	Pn	14 43 14.8	+0.3
AAI	**Ambon**	**20.32**	**220**	P			Pn	14 43 16.2	-1.0
	comp=Z,263nm,0.8s,comp=Z,3µmcomp=Z,4µm								
LUBP	**Lubang**	**20.33**	**277**	P	‖	*e*	Pn	14 43 18.1	+0.7
SANI	**Sanana**	**20.61**	**228**	P			**P**	**14 43 16.4**	**-1.9**
SANI	**Sanana**	**20.61**	**228**	P			**P**	**14 43 16.2**	**-2.1**
	comp=Z,124nm,0.9s,comp=Z,2µmcomp=Z,3µm								
NLAI	**Namlea**	**20.69**	**223**	P			Pn	14 43 22.2	+0.7
	comp=Z,68nm,1.2s,comp=Z,13µm								
JHJ	**Hachijo jima 2**	**20.84**	**357**	LR			LR	14 49 40.8	
	comp=Z,5µm,19.6s,baz=270,slow=32								
YOJ	**Yonaguni jima**	**20.99**	**308**	P			Pn	14 43 24.0	-0.9
YOJ						IAmb	IAmb	14 43 27.3	
	comp=Z,257nm,1.2s								
YOJ	**Yonaguni jima**	**20.99**	**308**	P			Pn	14 43 24.0	-0.9
YOJ						pmax	pmax		
	comp=Z,257nm,1.2s								
GTOI	**Gorontalo**	**21.27**	**239**	P			**P**	**14 43 26.6**	**+1.1**
	comp=Z,56nm,1.0s,comp=Z,1µm								
JSU	**Suzuyama**	**21.55**	**335**	P			**P**	**14 43 28.6**	**+0.3**
JSU						IAmb	IAmb	14 43 30.7	
	comp=Z,250nm,1.1s								
JSU	**Suzuyama**	**21.55**	**335**	P			**P**	**14 43 29.5**	**+1.2**
TWGBT	**Beinan**	**21.75**	**302**	P			**P**	**14 43 32.5**	**+2.0**
TWG	**Pinlang**	**21.75**	**302**	P			**P**	**14 43 31.1**	**+0.6**
YULB	**Yu-li**	**21.82**	**303**	P			**P**	**14 43 31.0**	**-0.3**
YULB						IAmb	IAmb	14 43 46.9	
	comp=Z,181nm,1.3s								
YULB	**Yu-li**	**21.82**	**303**	P			**P**	**14 43 33.5**	**+2.2**
NACB	**Ninganchiao**	**21.95**	**306**	P			**P**	**14 43 32.2**	**-0.5**
NACB	**Ninganchiao**	**21.95**	**306**	P			**P**	**14 43 32.4**	**-0.2**
MRSI	**Marisa**	**22.26**	**240**	P			**P**	**14 43 37.0**	**+1.0**
	comp=Z,380nm,0.9s,comp=Z,6µmcomp=Z,2µm								
SAUI	**Saumlaki**	**22.28**	**206**	P			**P**	**14 43 37.0**	**+0.8**
SAUI	**Saumlaki**	**22.28**	**206**	P			**P**	**14 43 39.2**	**+3.0**
SAUI	**Saumlaki**	**22.28**	**206**	P			**P**	**14 43 37.7**	**+1.5**
	comp=Z,565nm,1.2s,comp=Z,7µmcomp=Z,5µm								
SSLB	**Suanglung**	**22.28**	**304**	P			**P**	**14 43 35.9**	**-0.4**
SSLB						IAmb	IAmb	14 43 43.0	
	comp=Z,155nm,1.2s								
SSLB	**Suanglung**	**22.28**	**304**	P			**P**	**14 43 38.2**	**+1.9**
PMG	**Port Moresby**	**22.32**	**164**	P			**P**	**14 43 36.4**	**-0.2**
	comp=Z,126nm,1.1s,baz=355,slow=7.7,SNR=30								
PMG					LR		LR	14 52 23.1	
	comp=Z,3µm,18.5s,baz=315,slow=37								
	comp=Z,126nm,1.1s								
PMG	**Port Moresby**	**22.32**	**164**	P			**P**	**14 43 35.9**	**-0.7**
PMG						IAmb	IAmb	14 43 53.2	
	comp=Z,163nm,0.9s								
PMG	**Port Moresby**	**22.32**	**164**	P			**P**	**14 43 36.4**	**-0.2**
PMG	**Port Moresby**	**22.32**	**164**	P			**P**	**14 43 36.5**	**-0.1**
PMG	**Port Moresby**	**22.32**	**164**	*ce*	P		**P**	**14 43 35.6**	**-1.0**
PMG						pmax	pmax		
	comp=Z,206nm,1.3s								
TPUB	**Ta-pu**	**22.33**	**302**	P			**P**	**14 43 37.4**	**+0.6**
YHNB	**Yeheng**	**22.37**	**306**	P			**P**	**14 43 37.2**	**0.0**
YHNB						IAmb	IAmb	14 43 44.1	
	comp=Z,181nm,1.2s								
YHNB	**Yeheng**	**22.37**	**306**	P			**P**	**14 43 39.3**	**+2.1**
LUWI	**Luwuk**	**22.43**	**235**	P			**P**	**14 43 37.9**	**+0.1**
LUWI	**Luwuk**	**22.43**	**235**	P			**P**	**14 43 38.5**	**+0.7**
LUWI	**Luwuk**	**22.43**	**235**	P			**P**	**14 43 38.0**	**+0.1**
	comp=Z,570nm,1.1s,comp=Z,6µm						

KAPI	**Kappang**	**27.23 232**	P	**P**	**14 44 22.6**	**-0.4**
KAPI	**Kappang**	**27.23 232**	P	**P**	**14 44 23.1**	**+0.1**
KAPI	**Kappang**	**27.23 232**	P	**P**	**14 44 22.6**	**-0.4**
KAPI			pmax	pmax		
	comp=Z,64nm,1.1s					
SOEI	**Soe**	**27.47 218**	P	**P**	**14 44 23.8**	**-1.4**
SOEI			IAmb	IAmb	14 45 01.1	
	comp=Z,124nm,0.9s					
SOEI	**Soe**	**27.47 218**	P	**P**	**14 44 24.3**	**-0.9**
SOEI	**Soe**	**27.47 218**	P	**P**	**14 44 24.0**	**-1.2**
	comp=Z,152nm,0.9s,comp=Z,2µm					
KSRS	**Korea Array**	**27.75 337**	P	**P**	**14 44 26.3**	**-1.1**
	comp=Z,5.8nm,1.1s,baz=147,slow=10,SNR=8.9					
KSRS			LR	LR	14 53 57.4	
	comp=Z,1µm,21.5s,baz=150,slow=33					
	comp=Z,5.8nm,1.1s					
KSAR	**Wonju Array Be**	**27.76 337**	P	**P**	**14 44 25.6**	**-1.9**
KSAR	**Wonju Array Be**	**27.76 337**	P	**P**	**14 44 25.6**	**-1.9**
KS19	**Wonju Array Si**	**27.82 337**	P	**P**	**14 44 27.2**	**-0.8**
MMRI	**Maumere**	**27.91 223**	P	**P**	**14 44 27.8**	**-1.3**
MMRI	**Maumere**	**27.91 223**	P	**P**	**14 44 28.6**	**-0.4**
MMRI	**Maumere**	**27.91 223**	P	**P**	**14 44 27.2**	**-1.8**
	comp=Z,172nm,1.0s,comp=Z,2µm					
BATI	**Baumata**	**28.19 219**	P	**P**	**14 44 30.3**	**-1.2**
	comp=Z,42nm,0.5s,baz=137,slow=1.0,SNR=13					
BATI			LR	LR	14 54 47.7	
	comp=Z,886nm,20.3s,baz=60,slow=34					
	comp=Z,42nm,0.5s					
BATI	**Baumata**	**28.19 219**	P	**P**	**14 44 30.7**	**-0.9**
	comp=Z,118nm,0.9s					
NJ2	**Nanjing**	**28.40 318**	⇑P	**P**	**14 44 34.1**	**+0.8**
NJ2			S	**S**	**14 49 25.1**	**+5.9**
NJ2			pmax	pmax		
	comp=Z,22nm,0.5s					
NJ2			LR	LR		
	comp=Z,1µm,12.7s					
NJ2			LR	LR		
	comp=Z,790nm,13.3s					
NJ2			LR	LR		
	comp=Z,2µm,16.1s					
HNR	**Honiara**	**28.55 138**	P	**P**	**14 44 33.4**	**-1.3**
	comp=Z,539nm,0.8s,baz=157,slow=11,SNR=4.4					
HNR			LR	LR	14 55 15.7	
	comp=Z,11µm,19.2s,baz=324,slow=35					
HNR	**Honiara**	**28.55 138**	P	**P**	**14 44 33.4**	**-1.3**
HNR			IAmb	IAmb	14 44 59.2	
	comp=Z,138nm,1.0s					
HNR	**Honiara**	**28.55 138**	P	**P**	**14 44 36.0**	**+1.3**
HNR	**Honiara**	**28.55 138**	P	**P**	**14 44 33.4**	**-1.3**
HNR			pmax	pmax		
	comp=Z,138nm,1.0s					
SBUM	**Sibu**	**30.16 254**	P	**P**	**14 44 48.7**	**-0.4**
SBUM	**Sibu**	**30.16 254**	P	**P**	**14 44 50.0**	**+0.9**
KNRA	**Kununurra**	**30.26 204**	P	**P**	**14 44 49.8**	**-0.1**
KNRA	**Kununurra**	**30.26 204**	P	**P**	**14 44 50.3**	**+0.4**
MTSU	**Mount Surprise**	**30.32 174**	P	**P**	**14 44 51.7**	**+1.2**
WHN	**Wuhan**	**30.71 311**	P	**P**	**14 44 54.7**	**+0.9**
WHN			S	**S**	**14 50 00.5**	**+4.9**
WHN			LR	LR		
	comp=Z,3µm,10.8s					
WHN			LR	LR		
	comp=Z,3µm,12.6s					
WHN			LR	LR		
	comp=Z,5µm,15.3s					
QIZ	**Qiongzhong**	**30.78 287**	P	**P**	**14 44 52.2**	**-2.4**
QIZ			PP	**PP**	**14 46 02.6**	**-1.6**
QIZ			S	**S**	**14 49 57.6**	**+0.6**
QIZ			LR	LR		
	comp=Z,1µm,11.0s					
QIZ			LR	LR		
	comp=Z,830nm,17.4s					
QIZ			LR	LR		
	comp=Z,2µm,18.9s					
DL2	**Dalian**	**31.70 330**	P	**P**	**14 45 03.9**	**+1.5**
DL2			S	**S**	**14 50 15.9**	**+5.1**
DL2			pmax	pmax		
	comp=Z,360nm,7.3s					
DL2			LR	LR		
	comp=Z,1µm,17.6s					
DL2			LR	LR		
	comp=Z,2µm,16.5s					
DL2			LR	LR		
	comp=Z,2µm,18.8s					
TV1H	**Townsville Har**	**31.78 170**	P	**P**	**14 45 04.8**	**+1.6**
TWSI	**Taiwang, Sumb**	**31.79 230**	P	**P**	**14 45 03.7**	**+0.3**
	comp=Z,24nm,1.0s					
ASAJ	**Asahikawa**	**31.82 2**	P	**P**	**14 45 02.6**	**-0.8**
	comp=Z,16nm,1.1s,baz=194,slow=12,SNR=2.2					
ASAJ			LR	LR	14 57 02.7	
	comp=Z,706nm,20.8s,baz=154,slow=35					
	comp=Z,16nm,1.1s					
TIA	**Tai'an**	**32.19 322**	*e*P	**P**	**14 45 06.7**	**-0.1**
TIA			S	**S**	**14 50 20.8**	**+2.2**
TIA			pmax	pmax		
	comp=Z,18nm,1.1s					
TIA			LR	LR		
	comp=Z,830nm,17.8s					
TIA			LR	LR		
	comp=Z,350nm,16.4s					
TIA			LR	LR		
	comp=Z,580nm,13.5s					
WB0	**Warramunga Arr**	**32.45 192**	P	**P**	**14 45 09.1**	**-0.1**
CTA	**Charters Tower**	**32.50 171**	LR	LR	14 58 12.1	
	comp=Z,967nm,18.6s,baz=335,slow=36					
CTA	**Charters Tower**	**32.50 171**	P	**P**	**14 45 10.8**	**+1.2**
CTAO	**Charters Tower**	**32.50 171**	P	**P**	**14 45 10.1**	**+0.5**
CTAO	**Charters Tower**	**32.50 171**	P	**P**	**14 45 10.9**	**+1.3**
CTAO	**Charters Tower**	**32.50 171**	P	**P**	**14 45 10.1**	**+0.5**
CTAO			pmax	pmax		
	comp=Z,153nm,0.9s					
QIS	**Mount Isa**	**32.59 183**	P	**P**	**14 45 11.2**	**+0.8**
WR0	**Warramunga Arr**	**32.60 191**	P	**P**	**14 45 10.7**	**+0.2**
WRAB	**Tennant Creek**	**32.62 192**	P	**P**	**14 45 11.3**	**+0.7**
WRAB	**Tennant Creek**	**32.62 192**	*ce*P	**P**	**14 45 09.7**	**-0.9**
WRAB			pmax	pmax		
	comp=Z,317nm,1.3s					
WRA	**Warramunga Arr**	**32.63 192**	P	**P**	**14 45 11.2**	**+0.5**
	comp=Z,162nm,0.9s,baz=11,slow=9.4,SNR=146					
WRA			PcP	**PcP**	**14 47 56.2**	**-0.6**
	comp=Z,7.7nm,1.0s,baz=6.4,slow=3.1,SNR=5.3					
WRA			LR	LR	14 58 24.2	
	comp=Z,3µm,19.5s,baz=3.0,slow=36					
WRA	**Warramunga Arr**	**32.63 192**	*i* P	**P**	**14 45 09.6**	**-1.1**
WRA			pmax	pmax		
	comp=Z,162nm,0.9s					
WB1	**Warramunga Ar.**	**32.64 192**	P	**P**	**14 45 11.3**	**+0.4**
USRK	**Ussuriysk Ar.**	**32.82 348**	P	**P**	**14 45 13.3**	**+1.2**
	comp=Z,5.3nm,0.8s,baz=158,slow=7.2,SNR=5.8					
USRK			LR	LR	14 56 56.8	
	comp=Z,1µm,19.4s,baz=171,slow=33					
	comp=Z,5.3nm,0.8s					
USRK	**Ussuriysk Ar.**	**32.82 348**	P	**P**	**14 45 10.6**	**-1.6**
JAGI	**Jajag, Banyuwa**	**33.72 234**	P	**P**	**14 45 19.0**	**-1.4**
JAGI	**Jajag, Banyuwa**	**33.72 234**	P	**P**	**14 45 19.8**	**-0.7**
JAGI	**Jajag, Banyuwa**	**33.72 234**	P	**P**	**14 45 19.7**	**-0.7**
	comp=Z,36nm,1.2s					
FITZ	**Fitzroy Crossi**	**33.74 207**	P	**P**	**14 45 19.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**33.74 207**	P	**P**	**14 45 20.2**	**-0.2**
GMJI	**Gumukmas**	**34.17 235**	P	**P**	**14 45 24.4**	**+0.2**
	comp=Z,75nm,1.2s					
LYN	**LuoYang**	**34.18 315**	⇑*i*P	**P**	**14 45 24.9**	**+0.7**
LYN			pP	pP	14 45 27.3	-2.5
LYN			S	**S**	**14 50 48.9**	**-0.7**
LYN			pmax	pmax		
	comp=Z,30nm,1.4s					
LYN			pmax	pmax		
	comp=Z,490nm,4.3s					
LYN			LR	LR		
	comp=Z,2µm,17.1s					
LYN			LR	LR		
	comp=Z,1µm,18.4s					
LYN			LR	LR		
	comp=Z,2µm,17.6s					
CN2	**Changchun**	**34.23 340**	*e*P	**P**	**14 45 22.1**	**-2.4**
CN2			*e*S	**S**	**14 50 45.1**	**-5.1**
CN2			SS	**SnSn**	**14 52 57.7**	**-1.9**
CN2			pmax	pmax		
	comp=Z,10.0nm,1.1s					
CN2			pmax	pmax		
	comp=Z,400nm,6.2s					
CN2			LR	LR		
	comp=Z,2µm,16.0s					
CN2			LR	LR		
	comp=Z,2µm,16.0s					
CN2			LR	LR		
	comp=Z,3µm,17.0s					
ENH	**Enshi**	**34.30 307**	P	**P**	**14 45 25.5**	**+0.1**
ENH			IAmb	IAmb	14 45 29.4	
	comp=Z,56nm,1.0s					
ENH	**Enshi**	**34.30 307**	P	**P**	**14 45 27.0**	**+1.6**
	comp=Z,51nm,1.3s					
HNS	**HongShan**	**34.43 321**	⇑P	**P**	**14 45 26.7**	**+0.4**
HNS			S	**S**	**14 50 55.3**	**+2.0**
HNS			pmax	pmax		
	comp=Z,48nm,1.1s					
HNS			pmax	pmax		
	comp=Z,650nm,6.9s					
HNS			LR	LR		
	comp=Z,910nm,16.5s					
HNS			LR	LR		
	comp=Z,810nm,15.1s					
YSS	**Yuzh-Sakhalins**	**34.66 2**	*e*P	**P**	**14 45 27.2**	**-0.9**
YSS			*e*		14 46 50.7	
YSS			*e*S	**S**	**14 50 58.2**	**+1.6**
YSS			*e*SS	**SS**	**14 53 37.2**	**+10**
YSS					14 55 48.0	
YSS			pmax	pmax		
	comp=Z,30nm,1.3s					
YSS			MLR	MLR		
	comp=Z,1µm,19.0s					
UBPT	**Khong Chiam**	**34.68 279**	P	**P**	**14 45 30.8**	**+2.1**
NGJI	**Ngawi**	**35.27 238**	P	**P**	**14 45 34.5**	**+0.7**
	comp=Z,74nm,0.9s					
GYA	**Guiyang**	**35.28 299**	⇓*i*P	**P**	**14 45 36.7**	**+2.8**
GYA			S	**S**	**14 51 08.6**	**+1.6**
GYA			pmax	pmax		
	comp=Z,24nm,0.9s					
GYA			pmax	pmax		
	comp=Z,580nm,5.2s					
GYA			LR	LR		
	comp=Z,790nm,9.0s					
GYA			LR	LR		
	comp=Z,950nm,13.9s					
GYA			LR	LR		
	comp=Z,1µm,17.1s					
BNX	**BinXian**	**35.38 343**	⇓P	**P**	**14 45 34.9**	**+0.6**
BNX			pP	**pP**	**14 45 37.1**	**-2.5**
BNX			sP	**sP**	**14 45 39.4**	**-3.1**
BNX			S	**S**	**14 51 11.8**	**+4.1**
BNX			sS	**sS**	**14 51 17.3**	**+0.8**
BNX			pmax	pmax		
	comp=Z,39nm,1.3s					
BNX			pmax	pmax		
	comp=Z,510nm,8.2s					
BNX			LR	LR		
	comp=Z,1µm,17.4s					
BNX			LR	LR		
	comp=Z,820nm,10.6s					
BNX			LR	LR		
	comp=Z,2µm,16.0s					
SMRI	**Semarang**	**35.95 239**	P	**P**	**14 45 40.6**	**+0.9**
	comp=Z,164nm,2.3s					
TIY	**Taiyuan**	**36.04 320**	*e*P	**P**	**14 45 41.7**	**+1.5**
TIY			S	**S**	**14 51 20.9**	**+2.6**
TIY			pmax	pmax		
	comp=Z,610nm,7.2s					
TIY			LR	LR		
	comp=Z,1µm,19.2s					
TIY			LR	LR		
	comp=Z,790nm,22.7s					
TIY			LR	LR		
	comp=Z,970nm,24.0s					
AS01	**Alice Springs**	**36.33 191**	P	**P**	**14 45 43.5**	**+0.8**
AS31	**Alice Springs**	**36.34 191**	P	**P**	**14 45 43.3**	**+0.5**
ASAR	**Alice Springs**	**36.34 191**	P	**P**	**14 45 43.9**	**+1.1**
	comp=Z,24nm,0.6s,baz=20,slow=11,SNR=157					
ASAR			PP	**PP**	**14 47 06.7**	**+0.9**
	comp=Z,11nm,0.9s,baz=9.4,slow=11,SNR=4.1					
ASAR			PcP	**PcP**	**14 48 07.8**	**+0.4**
	comp=Z,6.2nm,0.8s,baz=5.8,slow=3.7,SNR=4.5					
ASAR			LR	LR	15 00 39.9	
	comp=Z,2µm,18.5s,baz=14,slow=36					
	comp=Z,24nm,0.6s					
ASAR	**Alice Springs**	**36.34 191**	P	**P**	**14 45 42.9**	**0.0**
XAN	**Xi'an**	**36.43 312**	⇓*i*P	**P**	**14 45 44.5**	**+0.9**
XAN			pP	sP	14 45 51.7	-0.2
XAN			S	**S**	**14 51 23.1**	**-1.2**
XAN			pmax	pmax		
	comp=Z,18nm,1.2s					
XAN			LR	LR		
	comp=Z,720nm,11.7s					
XAN			LR	LR		
	comp=Z,2µm,14.4s					
XAN			LR	LR		
	comp=Z,2µm,16.5s					
UGL	**Uglegorsk**	**36.77 1**	*e*P	**P**	**14 45 46.8**	**+0.7**
UGL			pmax	pmax		
	comp=Z,50nm,1.2s					
NONG	**Nongkai**	**37.00 284**	P	**P**	**14 45 51.9**	**+3.3**
KLR	**Kul'dur**	**37.70 350**	P	**P**	**14 45 54.7**	**+0.6**
	comp=Z,43nm,1.1s,baz=148,slow=8.1,SNR=35					
KLR			LR	LR	14 59 16.6	
	comp=Z,2µm,21.0s,baz=164,slow=33					
	comp=Z,43nm,1.1s					
KLR	**Kul'dur**	**37.70 350**	*ce*P	**P**	**14 45 54.2**	**0.0**
KLR			pmax	pmax		
	comp=Z,59nm,1.0s					
XLT	**XiLinHaoTe**	**38.20 330**	⇓*i*P	**P**	**14 45 59.3**	**+0.8**
XLT			sP	sP	14 46 06.1	-0.5
XLT			PP	**PnPn**	**14 47 28.9**	**+1.2**
XLT			S	**S**	**14 51 49.6**	**-1.4**
XLT			ScS	**ScS**	**14 56 07.2**	**-2.0**
XLT			pmax	pmax		
	comp=Z,34nm,1.5s					
XLT			pmax	pmax		
	comp=Z,430nm,4.2s					
XLT			LR	LR		
	comp=Z,770nm,14.2s					
XLT			LR	LR		
	comp=Z,960nm,14.9s					
LEM	**Lembang**	**38.25 242**	LR	LR	15 04 00.6	
	comp=Z,204nm,19.1s,baz=58,slow=40					
KMI	**Kunming**	**38.36 295**	⇓P	**P**	**14 46 00.0**	**-0.3**
KMI			pP	pP	14 46 03.4	-2.7
KMI			S	**S**	**14 51 55.5**	**+1.3**
KMI			pmax	pmax		
	comp=Z,27nm,1.2s					
KMI			pmax	pmax		
	comp=Z,330nm,5.7s					
KMI			LR	LR		
	comp=Z,610nm,8.7s					
KMI			LR	LR		
	comp=Z,610nm,14.2s					
KMI			LR	LR		
	comp=Z,810nm,15.7s					
HHC	**Hu-ho-hao-te**	**38.51 323**	*e*P	**P**	**14 46 02.2**	**+1.0**
HHC			S	**S**	**14 52 00.8**	**+4.9**
HHC			pmax	pmax		
	comp=Z,40nm,0.8s					
HHC			pmax	pmax		
	comp=Z,1µm,6.5s					
HHC			LR	LR		
	comp=Z,2µm,16.8s					
HHC			LR	LR		
	comp=Z,1µm,17.9s					
HHC			LR	LR		
	comp=Z,3µm,17.3s					
BBJI	**Bungbulang**	**38.53 241**	P	**P**	**14 45 59.7**	**-2.0**
TYV	**Tymovskoe**	**38.56 2**	*e*P	**P**	**14 46 02.4**	**+1.0**
TYV			*e*S	**S**	**14 52 02.9**	**+6.8**
TYV			pmax	pmax		
	comp=Z,81nm,0.9s					
TYV			pmax	pmax		
	comp=Z,1µm,4.0s					
TYV			smax	smax		
	comp=N,3µm,6.4s					
TYV			smax	smax		
	comp=E,3µm,6.4s					
EIDS	**Eidsvold**	**38.61 165**	P	**P**	**14 46 01.6**	**-0.4**
EIDS	**Eidsvold**	**38.61 165**	P	**P**	**14 46 01.7**	**-0.4**
GRNR	**Gornyy**	**38.63 355**	⇑*i*P	**P**	**14 46 01.8**	**-0.2**
GRNR			*e*S	**S**	**14 52 02.5**	**+5.2**
GRNR			pmax	pmax		
	comp=N,5.0nm,1.2s					
GRNR			pmax	pmax		
	comp=Z,10.0nm,1.2s					
GRNR			smax	smax		
	comp=N,2.0nm,0.9s					
QLP	**Quilpie**	**38.68 175**	P	**P**	**14 46 02.7**	**+0.1**
NAYO	**Nakonayok**	**38.70 278**	P	**P**	**14 46 06.0**	**+3.0**
CBJI	**Citeko**	**38.72 243**	P	**P**	**14 46 02.8**	**-0.3**
	comp=N,54nm,0.8s					
JRMM	**Jerantut**	**39.04 261**	P	**P**	**14 46 06.0**	**+0.1**
WRKA	**Warakurna**	**39.06 199**	P	**P**	**14 46 06.6**	**+0.8**
CD2	**Chengdu**	**39.11 304**	P	**P**	**14 46 07.7**	**+1.3**
CD2			pP	pP	14 46 09.8	-2.3
CD2			sP	sP	14 46 11.4	-2.7
CD2			PP	**PP**	**14 47 34.9**	**-1.3**
CD2			S	**S**	**14 52 07.2**	**+2.1**
CD2			sS	pS	14 52 12.4	+0.7
CD2			pmax	pmax		
	comp=N,40nm,0.7s					
CD2			pmax	pmax		
	comp=N,770nm,3.9s					
CD2			LR	LR		
	comp=N,1µm,9.5s					
CD2			LR	LR		
	comp=N,860nm,8.9s					
CD2			LR	LR		
	comp=N,1µm,18.5s					
RMQ	**Roma**	**39.19 169**	P	**P**	**14 46 07.3**	**+0.4**
BTO	**Baotou**	**39.28 322**	*e*P	**P**	**14 46 09.8**	**+2.1**
BTO			S	**S**	**14 52 06.0**	**-1.4**
BTO			LR	LR		
	comp=N,3µm,16.5s					
BTO			LR	LR		
	comp=N,4µm,12.6s					
PSA00	**Pilbara Seismi**	**39.51 212**	P	**P**	**14 46 09.1**	**-0.5**
PZH	**PanZhiHua**	**39.55 297**	P	**P**	**14 46 11.9**	**+1.8**
PZH			pP	**pP**	**14 46 15.1**	**-0.8**
PZH			PP	**PnPn**	**14 47 48.8**	**+4.7**
PZH			S	**S**	**14 52 13.5**	**+1.6**
PZH			SS	**SS**	**14 54 58.3**	**-8.6**
PZH			ScS	**ScS**	**14 56 16.6**	**-1.1**
PZH			pmax	pmax		
	comp=N,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=N,490nm,6.5s					
PZH			LR	LR		
	comp=N,2µm,15.9s					
PZH			LR	LR		
	comp=N,2µm,17.2s					
PZH			LR	LR		
	comp=N,2µm,23.5s					
HEH	**HeiHe**	**39.55 346**	*e*P	**P**	**14 46 09.6**	**-0.1**
HEH			sP	**pP**	**14 46 15.7**	**+0.7**
HEH			PP	**PnPn**	**14 47 44.0**	**+0.3**
HEH			S	**S**	**14 52 09.2**	**-1.8**
HEH			SS	**SS**	**14 55 00.1**	**-6.1**
HEH			pmax	pmax		
	comp=N,71nm,0.9s					
HEH			pmax	pmax		
	comp=N,840nm,6.4s					
HEH			LR	LR		
	comp=N,2µm,17.5s					
HEH			LR	LR		
	comp=N,620nm,18.6s					
HEH			LR	LR		
	comp=N,2µm,18.5s					
INKA	**Innaminka**	**39.72 180**	P	**P**	**14 46 11.8**	**+0.6**
KOUNC	**Koumac, New Ca**	**39.77 145**	P	**P**	**14 46 12.6**	**+0.8**
KOUNC			IAmb	IAmb	14 46 15.0	
	comp=Z,124nm,1.1s					
KOUNC	**Koumac, New Ca**	**39.77 145**	P	**P**	**14 46 13.8**	**+2.0**
CRAI	**Chiangrai**	**39.78 287**	P	**P**	**14 46 14.0**	**+2.0**
PHRA	**Phrae**	**39.80 284**	P	**P**	**14 46 14.0**	**+1.9**
CGJI	**Cibinong**	**39.82 244**	P	**P**	**14 46 10.0**	**-2.4**
	comp=Z,105nm,1.0s					
DVP	**Devils Point**	**40.03 137**	P	**P**	**14 46 15.5**	**+1.5**
OOD	**Oodnadatta**	**40.11 187**	P	**P**	**14 46 15.1**	**+0.6**
MDSI	**Maura Dua**	**40.24 248**	P	**P**	**14 46 14.4**	**-1.4**
	comp=Z,25nm,1.5s					
IPM	**Ipoh**	**40.30 262**	P	**P**	**14 46 16.0**	**-0.4**
IPM	**Ipoh**	**40.30 262**	P	**P**	**14 46 16.9**	**+0.5**
IPM	**Ipoh**	**40.30 262**	P	**P**	**14 46 17.0**	**+0.5**
KULM	**Kulim**	**40.48 264**	P	**P**	**14 46 17.5**	**-0.4**
AUBSH	**Beerwah State**	**40.52 164**	P	**P**	**14 46 18.4**	**+0.5**
SURA	**Surathani**	**40.79 270**	P	**P**	**14 46 22.6**	**+2.2**
SRIT	**Nakonsritamara**	**40.90 269**	P	**P**	**14 46 24.1**	**+2.8**
HIA	**Hailar**	**40.94 339**	P	**P**	**14 46 20.8**	**-0.4**
HIA	**Hailar**	**40.94 339**	P	**P**	**14 46 24.7**	**+3.5**
HIA	**Hailar**	**40.94 339**	P	**P**	**14 46 20.8**	**-0.4**
HIA			pmax	pmax		
	comp=Z,24nm,1.1s					
CM31	**Chiang Mai Arr**	**41.01 284**	P	**P**	**14 46 24.1**	**+1.9**
CM31			IAmb	IAmb	14 46 37.2	
	comp=Z,116nm,1.1s					
CMAR	**Chiang Mai Arr**	**41.01 284**	P	**P**	**14 46 23.7**	**+1.5**
	comp=Z,29nm,0.7s,baz=85,slow=6.7,SNR=108					
CMAR			PcP	**PcP**	**14 48 22.8**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=100,slow=1.7,SNR=4.1					
CMAR			LR	LR	15 02 18.7	
	comp=Z,610nm,19.4s,baz=95,slow=34					
	comp=Z,29nm,0.7s					
CMAR	**Chiang Mai Arr**	**41.01 284**	P	**P**	**14 46 24.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**41.01 284**	*i* P	**P**	**14 46 24.7**	**+2.5**
CMAR			pmax	pmax		
	comp=Z,32nm,0.7s					
CHTO	**Chiang Mai**	**41.03 285**	P	**P**	**14 46 23.4**	**+1.0**
CHTO	**Chiang Mai**	**41.03 285**	P	**P**	**14 46 23.4**	**+1.0**
CHTO			pmax	pmax		
	comp=Z,17nm,0.9s					
AUWSH	**Wavell State H**	**41.06 164**	P	**P**	**14 46 22.8**	**+0.5**
LZH	**Lanzhou**	**41.07 312**	*e*P	**P**	**14 46 24.4**	**+1.7**
LZH			pP	pP	14 46 28.3	-0.1
LZH			PP	**PP**	**14 48 02.0**	**+4.5**
LZH			sS	sS	14 52 43.5	0.0
LZH			pmax	pmax		
	comp=Z,26nm,1.4s					
LZH			pmax	pmax		
	comp=Z,670nm,6.2s					
LZH			LR	LR		
	comp=Z,990nm,16.5s					
LZH			LR	LR		
	comp=Z,1µm,16.8s					
LZH			LR	LR		
	comp=Z,2µm,18.2s					
SDSI	**Sungai Dareh**	**41.45 254**	P	**P**	**14 46 24.9**	**-1.0**
	comp=Z,31nm,1.4s					
LIFNC	**LIFOU**	**41.68 142**	P	**P**	**14 46 28.0**	**+0.4**
LIFNC			IAmb	IAmb	14 46 30.0	
	comp=Z,152nm,1.1s					
LIFNC	**LIFOU**	**41.68 142**	P	**P**	**14 46 29.0**	**+1.4**
AULRC	**Lightning Ridg**	**41.93 171**	P	**P**	**14 46 28.6**	**-0.9**
TNCH	**TengChong**	**42.10 294**	P	**P**	**14 46 32.6**	**+1.3**
TNCH			pP	pP	14 46 35.8	-0.9
TNCH			sP	sP	14 46 38.1	-1.2
TNCH			PP	**PP**	**14 48 09.4**	**+0.5**
TNCH			S	**S**	**14 52 50.0**	**-0.1**
TNCH			SS	**SS**	**14 55 50.5**	**-7.4**
TNCH			pmax	pmax		
	comp=Z,62nm,1.1s					
TNCH			pmax	pmax		
	comp=Z,460nm,6.6s					
TNCH			LR	LR		
	comp=Z,340nm,14.6s					
TNCH			LR	LR		
	comp=Z,460nm,17.7s					
TNCH			LR	LR		
	comp=Z,1µm,18.4s					
DZM	**Mont Dzumac**	**42.20 144**	*e*P	**P**	**14 46 31.8**	**-0.2**
	comp=Z,307nm,1.1s					
DZM			*e*S	**S**	**14 52 53.9**	**+2.6**
	comp=Z,712nm,27.8s					
DZM			*e*LR	LR	14 58 12.0	
	comp=Z,3µm,25.6s					
DZM	**Mont Dzumac**	**42.20 144**	P	**P**	**14 46 33.4**	**+1.4**
	comp=Z,114nm,1.0s,baz=323,slow=6.1,SNR=82					
DZM			PcP	**PcP**	**14 48 26.6**	**+0.6**
	comp=Z,14nm,0.8s,baz=225,slow=1.4,SNR=3.4					
DZM			LR	LR	15 02 43.4	
	comp=Z,644nm,19.1s,baz=282,slow=34					
	comp=Z,114nm,1.0s					
DZM	**Mont Dzumac**	**42.20 144**	P	**P**	**14 46 32.9**	**+1.0**
DZM			IAmb	IAmb	14 46 34.7	
	comp=Z,160nm,1.1s					
DZM	**Mont Dzumac**	**42.20 144**	P	**P**	**14 46 33.3**	**+1.4**
PDSI	**Padang**	**42.35 255**	P	**P**	14 46 48.0	+15
LCRK	**Leigh Creek**	**42.50 184**	P	**P**	**14 46 34.6**	**+0.5**
MNSI	**Mandailing Nat**	**42.66 258**	P	**P**	**14 46 36.1**	**+0.3**
MARNC	**Mare, Loyalty**	**42.69 141**	P	**P**	**14 46 35.4**	**-0.5**
MARNC	**Mare, Loyalty**	**42.69 141**	P	**P**	**14 46 37.6**	**+1.8**
OUENC	**Ouen Island, N**	**42.70 144**	P	**P**	**14 46 37.0**	**+1.1**
OUENC			IAmb	IAmb	14 46 38.8	
	comp=Z,68nm,1.0s					
OUENC	**Ouen Island, N**	**42.70 144**	P	**P**	**14 46 37.4**	**+1.5**
PSI	**Prapat**	**42.74 261**	P	**P**	**14 46 36.7**	**+0.1**

PSI Prapat 42.74 261 P **P** **14 46 36.3 -0.3**
PSI pmax pmax
comp=Z,69nm,0.8s
RPSI Rantau Prapat 42.77 261 P **P** **14 46 36.3 -0.3**
RPSI IAmb IAmb 14 46 38.5
comp=Z,69nm,0.8s
MULG Mulgathing 42.78 189 P **P** **14 46 36.8 +0.4**
ZEA Zeya 42.85 348 *eP* **P** **14 46 37.5 +0.7**
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,40nm,1.1s
PEA0B Petropavlovsk- 42.91 15 *ce*P **P** **14 46 40.0 +2.7**
PETK Petropavlovsk- 42.91 15 P **P** **14 46 38.1 +0.9**
comp=Z,16nm,0.9s,baz=205,slow=9.5,SNR=6.3
PETK LR LR 15 02 18.6
comp=Z,834nm,21.3s,baz=196,slow=33
comp=Z,16nm,0.9s
PET Petropavlovsk 43.08 16 *eP* **P** **14 46 40.1 +1.5**
PET *eS* **S** **14 53 00.4 -2.9**
FUNA Funafuti 43.15 117 P **P** **14 46 40.2 +0.5**
FUNA Funafuti 43.15 117 P **P** **14 46 40.3 +0.6**
PINNC Pines Island, 43.21 143 P **P** **14 46 40.6 +0.7**
PINNC IAmb IAmb 14 46 43.1
comp=Z,109nm,1.2s
PINNC Pines Island, 43.21 143 P **P** **14 46 41.8 +1.8**
ARMA Armidale 43.59 167 P **P** **14 46 43.0 -0.1**
ARMA Armidale 43.59 167 P **P** **14 46 43.3 +0.2**
KCSI Kotacane, Aceh 43.68 262 P **P** **14 46 43.9 -0.1**
comp=Z,137nm,1.0s,comp=Z,2µm
CMSA Cobar Meteorol 43.73 174 P **P** **14 46 44.8 +0.8**
comp=Z,72nm,1.6s
SISI Saibi 43.79 255 P **P** **14 46 44.6 -0.2**
comp=Z,90nm,0.9s,comp=Z,2µm
STKA Stephens Creek 43.84 179 P **P** **14 46 45.1 +0.1**
comp=Z,101nm,0.8s,baz=355,slow=7.9,SNR=150
STKA LR LR 15 05 55.3
comp=Z,857nm,19.0s,baz=346,slow=37
comp=Z,101nm,0.8s
STKA Stephens Creek 43.84 179 P **P** **14 46 44.4 -0.6**
STKA Stephens Creek 43.84 179 P **P** **14 46 45.0 +0.1**
STKA Stephens Creek 43.84 179 *j* P **P** **14 46 44.7 -0.2**
MND Mandalay 43.90 289 P **P** **14 46 47.4 +1.7**
comp=Z,50nm,1.2s
AUPHS Peel High Scho 44.09 168 P **P** **14 46 47.4 +0.4**
GSI Gunungsitoli 44.44 259 P **P** **14 46 49.1 -1.1**
GSI IAmb IAmb 14 46 50.4
comp=Z,70nm,1.0s
GSI Gunungsitoli 44.44 259 P **P** **14 46 49.4 -0.7**
GSI Gunungsitoli 44.44 259 P **P** **14 46 49.4 -0.7**
comp=Z,71nm,0.9s
FORT Forrest 44.53 196 P **P** **14 46 50.9 +0.4**
FORT Forrest 44.53 196 P **P** **14 46 51.4 +0.9**
AUDCS Dubbo College 44.78 171 P **P** **14 46 52.7 +0.2**
BBOO Buckleboo 45.02 186 P **P** **14 46 54.5 +0.1**
BBOO IAmb IAmb 14 46 55.9
comp=Z,68nm,0.8s
BBOO Buckleboo 45.02 186 P **P** **14 46 54.8 +0.4**
WHYH Whyalla 45.11 184 P **P** **14 46 56.1 +1.0**
GTA Gaotai 45.38 314 *eP* **P** **14 46 58.2 +0.8**
GTA pP pP 14 47 01.3 -1.9
GTA PcP **PcP** **14 48 37.5 +0.8**
GTA PP **PP** **14 48 48.9 +5.2**
GTA S **S** **14 53 39.0 +1.5**
GTA pmax pmax
comp=Z,31nm,1.1s
GTA pmax pmax
comp=Z,490nm,6.3s
GTA LR LR
comp=Z,570nm,18.9s
GTA LR LR
comp=Z,690nm,21.8s
GTA LR LR
comp=Z,940nm,19.3s
HTT Hallett 45.43 183 P **P** **14 46 58.2 +0.5**
ULN Ulaanbaatar 45.48 328 P **P** **14 46 58.1 -0.1**
ULN IAmb IAmb 14 47 02.8
comp=Z,48nm,1.1s
ULN Ulaanbaatar 45.48 328 *ce*P **P** **14 46 58.7 +0.6**
ULN pmax pmax
comp=Z,55nm,1.2s
CIT Chita 45.48 336 *eP* **P** **14 46 59.9 +2.0**
CIT *e* 14 47 13.4
CIT *e* 14 48 43.4
CIT pmax pmax
comp=Z,160nm,4.0s
SONM Songino Array 45.80 328 P **P** **14 47 01.7 +1.1**
comp=Z,24nm,1.1s,baz=134,slow=8.7,SNR=40
SONM PcP **PcP** **14 48 37.9 -0.1**
comp=Z,7.0nm,0.7s,baz=155,slow=4.5,SNR=12
SONM LR LR 15 06 55.7
comp=Z,1µm,18.6s,baz=135,slow=37
comp=Z,24nm,1.1s
SONM Songino Array 45.80 328 P **P** **14 47 01.2 +0.5**
KMBL Kambalda 47.07 203 P **P** **14 47 11.1 +0.5**
MSVF Nonsavu 47.11 128 P **P** **14 47 12.3 +1.2**
comp=Z,134nm,1.0s,baz=281,slow=4.5,SNR=72
MSVF LR LR 15 06 16.5
comp=Z,2µm,18.3s,baz=321,slow=35
comp=Z,134nm,1.0s
MSVF Nonsavu 47.11 128 P **P** **14 47 11.3 +0.1**
MSVF Nonsavu 47.11 128 P **P** **14 47 12.4 +1.2**
MSVF Nonsavu 47.11 128 PKIKP **P** **14 47 11.3 +0.1**
MSVF Nonsavu 47.11 128 *i* P **P** **14 47 12.1 +0.9**
MSVF Nonsavu 47.11 128 pmax pmax
comp=Z,124nm,0.9s
MORW Morawa 47.62 210 P **P** **14 47 14.5 -0.4**
MORW Morawa 47.62 210 P **P** **14 47 15.0 +0.1**
MA2 Magadan 47.83 7 P **P** **14 47 16.1 0.0**
comp=Z,25nm,0.7s,baz=185,slow=7.0,SNR=9.3
comp=Z,25nm,0.7s
MA2 Magadan 47.83 7 P **P** **14 47 16.3 +0.2**
MA2 IAmb IAmb 14 47 18.2
comp=Z,40nm,0.9s
MA2 Magadan 47.83 7 P **P** **14 47 17.0 +0.9**
MA2 Magadan 47.83 7 P **P** **14 47 16.3 +0.2**
MA2 pmax pmax
comp=Z,40nm,0.9s
CAN Canberra 47.87 171 P **P** **14 47 17.6 +0.9**
CAN IAmb IAmb 14 47 18.9
comp=Z,56nm,1.0s
CAN Canberra 47.87 171 P **P** **14 47 18.1 +1.3**
CAN Canberra 47.87 171 P **P** **14 47 17.6 +0.9**
CAN pmax pmax
comp=Z,56nm,1.0s
GOMU GeErMu 47.89 308 P **P** **14 47 18.7 +1.2**
GOMU pP pP 14 47 22.2 -1.1
GOMU S **S** **14 54 11.9 -2.2**
GOMU sS sS 14 54 25.0 +1.6
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU pmax pmax
comp=Z,330nm,4.4s
GOMU LR LR
comp=Z,540nm,16.1s
GOMU LR LR
comp=Z,640nm,18.4s
GOMU LR LR
comp=Z,740nm,17.9s
CNB Canberra Magne 47.92 171 P **P** **14 47 18.3 +1.1**
BRDH Bariadhala 48.08 290 LR LR 15 07 40.2
comp=Z,491nm,20.4s,baz=100,slow=36
TAVE Taveuni 48.11 126 P **P** **14 47 20.0 +1.1**
SHL Shillong 48.12 293 P **P** **14 47 20.2 +1.1**
SHL IAmb IAmb 14 47 21.4
comp=Z,37nm,0.6s
SHL Shillong 48.12 293 P **P** **14 47 20.3 +1.1**
SHL pmax pmax
comp=Z,37nm,0.6s
SHL Shillong 48.12 293 P **P** **14 47 21.1 +2.0**
SNR=16
FUTU Fugatoga 48.27 122 P **P** **14 47 21.8 +1.6**
SHEM Shemya Is, Ala 48.30 26 LR LR 15 04 24.6
comp=Z,828nm,21.4s,baz=273,slow=32
BLDU Ballidu 48.59 208 P **P** **14 47 22.6 +0.2**
ARPS Mount Arapiles 48.72 179 P **P** **14 47 24.3 +1.0**
KLBR Kellerberrin 48.95 207 P **P** **14 47 25.5 +0.4**
ZAK Zakamensk 48.99 329 *eP* **P** **14 47 26.2 +0.8**
ZAK pmax pmax
comp=Z,49nm,1.2s
LSA Lhasa 49.35 299 P **P** **14 47 30.3 +1.4**
LSA IAmb IAmb 14 47 32.6
comp=Z,42nm,0.9s
LSA Lhasa 49.35 299 P **P** **14 47 31.4 +2.5**
LSA PP **PP** **14 49 20.8 -2.2**
LSA S **S** **14 54 28.3 -6.7**
LSA pmax pmax
comp=Z,62nm,0.9s
LSA LR LR
comp=Z,410nm,17.1s
LSA LR LR
comp=Z,400nm,19.9s
LSA LR LR
comp=Z,480nm,22.8s
LSA Lhasa 49.35 299 P **P** **14 47 30.3 +1.4**
LSA pmax pmax
comp=Z,42nm,0.9s
LSA Lhasa 49.35 299 P **P** **14 47 31.2 +2.3**
BRAT Ballarat 49.57 177 P **P** **14 47 31.0 +1.3**
IRK Irkutsk 49.67 331 *eP* **P** **14 47 29.7 -0.7**
IRK pmax pmax
comp=Z,112nm,3.0s
TOO Toolangi 49.69 175 P **P** **14 47 31.7 +1.0**
TOO Toolangi 49.69 175 P **P** **14 47 32.1 +1.4**
TOO Toolangi 49.69 175 P **P** **14 47 31.7 +1.0**
TOO pmax pmax
comp=Z,128nm,1.1s
LKBA Tubou, Lakemba 49.83 127 P **P** **14 47 33.3 +1.3**
AMKA Amchitka 49.84 31 P **P** **14 47 32.2 +0.6**
BOD Bodaibo 49.95 341 *eP* **P** **14 47 32.8 +0.4**
BOD pmax pmax
comp=Z,44nm,2.1s
MUN Mundaring 49.97 208 P **P** **14 47 33.6 +0.7**
GEXS Deakin Univers 50.24 177 P **P** **14 47 37.3 +2.5**
NWAO Narrogin (SRO) 50.32 206 LR LR 15 09 28.6
comp=Z,386nm,19.0s,slow=37
NWAO Narrogin (SRO) 50.32 206 P **P** **14 47 35.8 +0.2**
NWAO IAmb IAmb 14 47 37.1
comp=Z,66nm,1.1s
NWAO Narrogin (SRO) 50.32 206 P **P** **14 47 36.2 +0.7**
NWAO Narrogin (SRO) 50.32 206 P **P** **14 47 36.1 +0.6**
NWAO Narrogin (SRO) 50.32 206 P **P** **14 47 35.8 +0.2**
NWAO pmax pmax
comp=Z,66nm,1.2s
YAK Yakutsk 50.42 353 P **P** **14 47 36.2 +0.3**
comp=Z,59nm,0.8s,baz=164,slow=2.0,SNR=42
YAK LR LR 15 07 00.9
comp=Z,1µm,21.4s,baz=182,slow=34
comp=Z,59nm,0.8s
YAK Yakutsk 50.42 353 *c i* P **P** **14 47 35.8 -0.1**
YAK Yakutsk 50.42 353 *e** PP **pwP** **14 47 46.6 -0.1**
YAK *eS* **S** **14 54 48.1 +0.2**
YAK *eSS* **SS** **14 58 18.5 -3.3**
YAK *eSSS* SSS 14 59 54.1
YAK pmax pmax
comp=Z,126nm,0.9s
YAK pmax pmax
comp=N,75nm,1.5s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,173nm,3.5s
YAK pmax pmax
comp=N,166nm,2.4s
YAK pmax pmax
comp=E,206nm,3.5s
YAK smax smax
comp=E,215nm,3.4s
YAK smax smax
comp=N,449nm,4.3s
MOY Mondy 50.92 329 *eP* **P** **14 47 41.1 +1.1**
MOY pmax pmax
comp=Z,133nm,2.4s
SEY Seymchan 51.29 7 P **P** **14 47 43.0 +0.6**
comp=Z,48nm,0.9s,baz=182,slow=5.7,SNR=54
SEY LR LR 15 08 12.7
comp=Z,597nm,21.3s,baz=180,slow=34
comp=Z,48nm,0.9s
SEY Seymchan 51.29 7 *ce*P **P** **14 47 44.2 +1.8**
SEY pmax pmax
comp=Z,65nm,1.0s
TAPN Taplejung 52.03 295 *eP* **P** **14 47 49.8 +0.8**
comp=Z,85nm,0.8s
ADK Adak 52.16 32 P **P** **14 47 52.1 +3.0**
comp=Z,83nm,1.3s
ODAN Odare 52.27 295 *eP* **P** **14 47 51.8 +1.1**
RAMN Ramite 52.98 295 *eP* **P** **14 47 56.7 +0.7**
AFI Afiamalu 53.47 118 P **P** **14 47 59.3 -0.1**
AFI IAmb IAmb 14 48 01.1
comp=Z,50nm,1.1s
AFI Afiamalu 53.47 118 P **P** **14 47 59.3 -0.1**
AFI pmax pmax
comp=Z,51nm,1.1s
PKI Pulchoki 54.09 295 *eP* **P** **14 48 04.6 +0.4**
comp=Z,92nm,0.8s
PKIN Phulchoki 54.10 295 *eP* **P** **14 48 04.6 +0.4**
comp=Z,83nm,0.7s
KKN Kakani 54.22 295 *eP* **P** **14 48 05.8 +0.8**
comp=Z,17nm,1.1s
DMN Daman 54.36 295 *eP* **P** **14 48 06.6 +0.5**
GKN Gorkha 54.81 296 *eP* **P** **14 48 09.8 +0.6**
TAU Tasmania Unive 55.15 174 P **P** **14 48 11.8 +0.8**
TAU Tasmania Unive 55.15 174 P **P** **14 48 12.5 +1.5**
TAU Tasmania Unive 55.15 174 P **P** **14 48 11.8 +0.8**
TAU pmax pmax
comp=Z,123nm,1.3s
WMQ Urumqi 55.44 315 ⇓P **P** **14 48 15.5 +2.1**
WMQ pP pP 14 48 19.4 +0.1
WMQ sP pwP 14 48 23.1 +0.1
WMQ S **S** **14 56 00.0 +2.8**
WMQ pmax pmax
comp=Z,59nm,1.1s
WMQ pmax pmax
comp=Z,380nm,5.7s
WMQ LR LR
comp=Z,680nm,18.9s
WMQ LR LR
comp=Z,570nm,21.9s
WMQ LR LR
comp=Z,810nm,24.9s
DANN Dangsing 55.61 296 *eP* **P** **14 48 15.8 +0.7**
comp=Z,140nm,0.7s
KOLN Koldanda 55.70 295 *eP* **P** **14 48 15.3 -0.4**
comp=Z,25nm,1.1s
OUZ Omahuta 56.35 148 P **P** **14 48 21.2 +1.4**
OUZ IAmb IAmb 14 48 23.3
comp=Z,79nm,1.3s
NIKH Nikolski High 56.86 34 P **P** **14 48 22.3 -0.9**
baz=244
DGZ Jazzator, Alta 57.57 322 *i* P **P** **14 48 29.8 +1.3**
DGZ pmax pmax
comp=Z,38nm,1.0s
SPIA Saint Paul Isl 58.15 29 P **P** **14 48 31.8 -0.4**
baz=240
BILL Bilibino 58.17 11 P **P** **14 48 32.5 +0.2**
BILL IAmb IAmb 14 48 34.1
comp=Z,40nm,0.9s
BILL Bilibino 58.17 11 *d i* P **P** **14 48 32.8 +0.6**
BILL *e* 14 49 23.1
BILL *e* 14 50 43.0
BILL *e* PPP PPP 14 52 00.0
BILL pmax pmax
comp=Z,41nm,0.8s
BILL MLR MLR
comp=Z,275nm,18.0s
ZSN Zaisan 58.43 319 *eP* **P** **14 48 35.1 +0.6**
baz=319
ZSN Zaisan 58.43 319 *eP* **P** **14 48 35.0 +0.6**
UNV Unalaska Valle 58.51 33 P **P** **14 48 34.1 -0.7**
baz=245,SNR=7.2
UNV Unalaska Valle 58.51 33 P **P** **14 48 34.6 -0.2**
KUZ Kuaotunu 58.62 148 P **P** **14 48 37.3 +1.5**
HIZ Hauiti 59.53 150 P **P** **14 48 43.1 +1.0**
PALK Pallekele 59.59 271 P **P** **14 48 43.9 +0.8**
PALK IAmb IAmb 14 48 45.4
comp=Z,23nm,0.9s
PALK Pallekele 59.59 271 ⇑P **P** **14 48 44.6 +1.5**
TIXI Tiksi 59.87 356 P **P** **14 48 43.8 -0.1**
TIXI IAmb IAmb 14 48 46.9
comp=Z,31nm,0.8s
TIXI Tiksi 59.87 356 *ce*P **P** **14 48 44.0 +0.1**
TIXI pmax pmax
comp=Z,40nm,1.0s
MK31 Makanchi Array 59.93 317 P **P** **14 48 46.1 +1.1**
MK31 IAmb IAmb 14 48 49.6
comp=Z,36nm,1.2s
MK31 Makanchi Array 59.93 317 *i* P **P** **14 48 46.0 +1.1**
MKAR Makanchi Array 59.93 317 P **P** **14 48 46.4 +1.5**
comp=Z,22nm,0.8s,baz=95,slow=8.9,SNR=119
MKAR PcP **PcP** **14 49 30.8 -0.3**
comp=Z,6.9nm,0.8s,baz=91,slow=8.8,SNR=1.2
comp=Z,22nm,0.8s
MKAR Makanchi Array 59.93 317 P **P** **14 48 45.4 +0.5**
MAKZ Makanchi 60.14 317 P **P** **14 48 45.3 -1.1**
MAKZ IAmb IAmb 14 48 49.3
comp=Z,34nm,0.9s
MAKZ Makanchi 60.14 317 ⇑P **P** **14 48 48.0 +1.7**
HYB Hyderabad 60.43 283 *eP* **P** **14 48 49.4 +0.6**
HYB IVmB_BB 14 48 50.2
comp=Z,542nm,0.7s
HYB *e*PcP **PcP** **14 49 34.1 +0.5**
HYB *eS* **S** **14 57 05.8 +2.5**
URZ Urewera 60.49 148 P **P** **14 48 48.4 -0.3**
comp=Z,22nm,0.9s,baz=342,slow=3.5,SNR=12
URZ LR LR 15 13 23.0
comp=Z,492nm,18.9s,baz=31,slow=34
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 60.61 326 P **P** **14 48 49.5 +0.1**
ZALV Zalesovo Beam 60.61 326 P **P** **14 48 49.7 +0.3**
comp=Z,13nm,0.6s,baz=106,slow=6.2,SNR=52
ZALV PcP **PcP** **14 49 32.5 -1.1**
comp=Z,9.2nm,0.6s,baz=107,slow=2.8,SNR=6.3
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 60.61 326 P **P** **14 48 49.3 -0.1**
RTZ Ruatahuna 60.69 148 P **P** **14 48 49.7 -0.4**
BKZ Black Stump Fm 60.85 149 P **P** **14 48 50.6 -0.7**
BKZ Black Stump Fm 60.85 149 P **P** **14 48 50.7 -0.5**
SHLS Shalkode 61.08 313 *eP* **P** **14 48 51.2 -1.8**
baz=313
SHLS Shalkode 61.08 313 *eP* **P** **14 48 51.1 -1.8**
GAMB Gambell 61.11 22 P **P** **14 48 51.2 -1.3**
baz=235
THZ Tophouse 61.19 153 P **P** **14 48 52.9 -0.6**
TUWZ Tuamarina 61.39 152 P **P** **14 48 54.1 -0.6**
UZB Uzynbulak 61.39 313 *eP* **P** **14 48 56.0 +0.9**
comp=Z,20nm,1.1s,baz=313
UZB Uzynbulak 61.39 313 *eP* **P** **14 48 56.0 +0.9**
UZB pmax pmax
comp=Z,20nm,1.1s
MRZ Mangatainoka R 61.55 151 P **P** **14 48 55.6 -0.3**
S12K Black Hills 61.60 33 P **P** **14 48 55.1 -1.0**
baz=248,SNR=7.2
KPKS Kokpek 61.70 313 *eP* **P** **14 48 58.0 +0.9**
comp=Z,20nm,1.3s,baz=313
KPKS Kokpek 61.70 313 *eP* **P** **14 48 57.9 +0.9**
KPKS pmax pmax
comp=Z,20nm,1.3s
LTZ Lake Taylor 61.75 154 P **P** **14 48 56.5 -0.7**
SATY Saty 61.82 312 *eP* **P** **14 48 59.1 +1.1**
comp=Z,44nm,1.6s,baz=312
SATY Saty 61.82 312 *eP* **P** **14 48 59.1 +1.1**
SATY pmax pmax
comp=Z,44nm,1.6s
RPZ Rata Peaks 62.02 156 P **P** **14 48 58.0 -1.0**
comp=Z,71nm,0.8s,baz=214,slow=1.5,SNR=11
RPZ LR LR 15 12 43.2
comp=Z,713nm,21.7s,baz=301,slow=33
comp=Z,71nm,0.8s
RPZ Rata Peaks 62.02 156 P **P** **14 48 58.3 -0.6**
TARG Taragay, Kyrgy 62.05 311 P **P** **14 49 00.8 +0.9**
TARG IAmb IAmb 14 49 13.4
comp=Z,66nm,1.8s
TARG Taragay, Kyrgy 62.05 311 P **P** **14 49 00.8 +0.9**
TARG pmax pmax
comp=Z,66nm,1.8s
SEM Semipalatinsk 62.18 321 *eP* **P** **14 49 00.6 +0.3**
baz=321
SEM Semipalatinsk 62.18 321 *eP* **P** **14 49 00.6 +0.3**
SDPT Sand Point 62.32 33 P **P** **14 48 58.9 -2.0**
baz=250,SNR=8.2
MDOK Medeo 62.82 312 *eP* **P** **14 49 05.7 +0.9**
baz=312
MDOK Medeo 62.82 312 *eP* **P** **14 49 05.6 +0.9**
TNSS Tian-Shan 62.88 312 *eP* **P** **14 49 05.9 +0.6**
baz=312
TNSS Tian-Shan 62.88 312 *eP* **P** **14 49 05.9 +0.6**
AAA Alma-Ata 62.92 312 *eP* **P** **14 49 05.8 +0.6**
baz=312
AAA Alma-Ata 62.92 312 *eP* **P** **14 49 05.8 +0.6**
CHKK Chushkaly 62.97 313 *eP* **P** **14 49 05.5 0.0**
baz=313
CHKK Chushkaly 62.97 313 *eP* **P** **14 49 05.5 0.0**
KSH Kashi 63.14 308 P **P** **14 49 10.7 +3.9**
KSH S **S** **14 57 33.0 -4.1**
KSH sS sS 14 57 51.6 +4.7
KSH SS **SS** **15 01 48.9 +5.7**
KSH pmax pmax
comp=Z,19nm,1.0s
KSH LR LR
comp=Z,240nm,16.5s
KSH LR LR
comp=Z,540nm,18.9s
KSH LR LR
comp=Z,640nm,17.5s
KURK Kurchatov 63.27 321 P **P** **14 49 08.0 +0.8**
KURK Kurchatov 63.27 321 *ce*P **P** **14 49 08.3 +1.0**
KURK pmax pmax
comp=Z,114nm,1.3s
ULHL Ulahol 63.27 311 P **P** **14 49 10.2 +2.4**
SNR=6.9
KURBB Kurchatov Arra 63.30 321 LR LR 15 16 15.7
comp=Z,648nm,21.9s,baz=114,slow=36
KURBB Kurchatov Arra 63.30 321 P **P** **14 49 08.1 +0.6**
PCHI Peechi 63.33 276 ⇓*eP* **P** **14 49 08.3 0.0**
PCHI *eS* **S** **14 57 42.7 +2.8**
KUU Kurty 63.44 313 *eP* **P** **14 49 09.3 +0.6**
comp=Z,68nm,1.3s,baz=313
KUU Kurty 63.44 313 *eP* **P** **14 49 09.2 +0.6**
KUU pmax pmax
comp=Z,68nm,1.3s
TNA Tin City 63.45 21 P **P** **14 49 08.0 -0.2**
TNA IAmb IAmb 14 49 09.4
comp=Z,42nm,1.0s
TNA Tin City 63.45 21 P **P** **14 49 07.6 -0.6**
baz=238
CHGN Chignik 63.73 33 P **P** **14 49 09.3 -0.9**
CHGN IAmb IAmb 14 49 19.3
comp=Z,53nm,1.1s
CHGN Chignik 63.73 33 P **P** **14 49 08.9 -1.3**
baz=252
TKM2 Tokmak 2 63.84 312 P **P** **14 49 12.8 +1.3**
SNR=19
TKM2 Tokmak 2 63.84 312 P **P** **14 49 11.1 -0.4**
ANM Nome 63.88 23 P **P** **14 49 11.1 0.0**
ANM IAmb IAmb 14 49 12.4
comp=Z,36nm,1.0s
ANM Nome 63.88 23 P **P** **14 49 10.7 -0.4**
baz=241,SNR=19
ANM Nome 63.88 23 P **P** **14 49 11.1 0.0**
ANM pmax pmax
comp=Z,36nm,1.0s
KBK Karagaybulak 64.28 312 P **P** **14 49 15.9 +1.5**
SNR=12
CHMS Chumysh 64.46 312 P **P** **14 49 16.6 +1.2**
SNR=14
CHMS Chumysh 64.46 312 P **P** **14 49 15.6 +0.2**
UCH Uchtor 64.55 311 P **P** **14 49 17.9 +1.5**
SNR=27
AAK Ala-Archa 64.61 311 P **P** **14 49 17.5 +1.0**
SNR=8.5
AAK Ala-Archa 64.61 311 LR LR 15 20 33.8
comp=Z,599nm,18.1s,baz=90,slow=39
AAK Ala-Archa 64.61 311 P **P** **14 49 17.0 +0.5**
AAK Ala-Archa 64.61 311 *ce*P **P** **14 49 17.3 +0.8**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 64.61 311 *i* P **P** **14 49 17.5 +1.0**
SNR=13
AAK Ala-Archa 64.61 311 P **P** **14 49 17.8 +1.3**
SGDS Sogindy 64.61 312 *eP* **P** **14 49 16.9 +0.5**
baz=312
SGDS Sogindy 64.61 312 *eP* **P** **14 49 16.8 +0.5**
USP Ospenovka 64.68 312 P **P** **14 49 17.6 +0.8**
SNR=16
P16K Nushagak River 64.83 30 P **P** **14 49 17.0 -0.3**
baz=251,SNR=22
NIL Nilore 64.91 301 P **P** **14 49 19.0 +0.5**
NIL Nilore 64.91 301 P **P** **14 49 19.0 +0.5**
NIL pmax pmax
comp=Z,155nm,1.0s
N16K Nishlik Lake 64.95 28 P **P** **14 49 18.0 -0.2**
baz=249
O16K Kokwok River B 64.97 29 P **P** **14 49 17.9 -0.3**
baz=250
EKS2 Erkin-Say 65.14 311 P **P** **14 49 21.1 +1.2**

SNR=13
AML Almayashu 65.14 311 P P 14 49 21.6 +1.3
SNR=21
R17K Ugashik Creek 65.20 32 P P 14 49 19.5 -0.3
baz=253
BTLS Baital 65.23 314 eP P 14 49 20.9 +0.5
baz=314
BTLS Baital 65.23 314 eP P 14 49 20.8 +0.5
O17K Koliganek Bris 65.50 29 P P 14 49 21.8 0.0
baz=251,SNR=12
Q17K Contact Creek 65.64 31 P P 14 49 21.9 -0.9
baz=253
P17K Kvichak River 65.64 30 P P 14 49 21.4 -1.2
baz=252
SII Sitkinak Islan 66.06 33 P P 14 49 24.5 -0.9
baz=255
SII Sitkinak Islan 66.06 33 P P 14 49 26.8 +1.4
comp=Z,85nm,1.3s
Q18K Katmai Hardscr 66.19 31 P P 14 49 25.2 -1.1
baz=254,SNR=7.4
NRIK Noril'sk 66.24 342 P P 14 49 27.0 +0.7
comp=Z,51nm,1.1s,baz=115,slow=7.3,SNR=30
comp=Z,51nm,1.1s
NRIK Noril'sk 66.24 342 P P 14 49 26.7 +0.4
NRIK IAmb IAmb 14 49 28.4
comp=Z,49nm,0.9s
NRIK Noril'sk 66.24 342 ceP P 14 49 27.2 +0.9
NRIK pmax pmax
comp=Z,72nm,1.1s
P18K Big Mountain, 66.29 30 P P 14 49 25.9 -1.0
baz=253
SVW2 Sparrevohn 66.63 28 P P 14 49 28.9 -0.2
OHAK Old Harbor 66.70 33 P P 14 49 29.1 -0.4
baz=256
Q19K Cape Douglas, 66.95 31 P P 14 49 29.6 -1.5
baz=255
DZA Taraz 66.95 311 eP P 14 49 31.7 +0.3
baz=312
DZA Taraz 66.95 311 eP P 14 49 31.7 +0.3
O19K Port Alsworth 66.96 29 P P 14 49 31.1 0.0
O19K IAmb IAmb 14 49 32.5
comp=Z,39nm,1.1s
O19K Port Alsworth 66.96 29 P P 14 49 30.6 -0.4
baz=254,SNR=10
TTA Tatalina 67.02 26 P P 14 49 30.9 -0.7
TTA Tatalina 67.02 26 P P 14 49 31.2 -0.3
baz=251,SNR=18
TTA Tatalina 67.02 26 P P 14 49 30.9 -0.7
TTA pmax pmax
comp=Z,21nm,1.2s
N19K Bonanza Creek 67.06 29 P P 14 49 32.1 +0.2
N19K IAmb IAmb 14 49 33.2
comp=Z,41nm,1.1s
N19K Bonanza Creek 67.06 29 P P 14 49 31.7 -0.2
baz=253
KDAK Kodiak Island 67.20 32 P P 14 49 32.4 -0.2
comp=Z,29nm,1.0s,baz=313,slow=2.6,SNR=10
comp=Z,29nm,1.0s
KDAK Kodiak Island 67.20 32 P P 14 49 32.0 -0.6
baz=256
GCSA Galena City Sc 67.28 24 P P 14 49 32.5 -0.5
baz=249,SNR=14
L19K White Mountain 67.30 27 P P 14 49 32.8 -0.4
L19K IAmb IAmb 14 49 34.5
comp=Z,38nm,1.1s
L19K White Mountain 67.30 27 P P 14 49 32.7 -0.5
baz=252,SNR=19
GAR Garm 67.48 307 P P 14 49 34.9 -0.1
Q20K Shuyak Island 67.50 31 P P 14 49 33.6 -1.0
baz=256
KK31 Karatay Array 67.57 312 P P 14 49 35.3 0.0
KK31 IAmb IAmb 14 50 02.2
comp=Z,30nm,1.1s
KK31 Karatay Array 67.57 312 i P P 14 49 35.7 +0.4
KKAR Karatay Array 67.57 312 P P 14 49 35.3 0.0
KKAR Karatay Array 67.57 312 P P 14 49 35.8 +0.4
KKAR IAmb IAmb 14 50 02.2
comp=Z,30nm,1.1s
KKAR Karatay Array 67.57 312 P P 14 49 35.3 0.0
KKAR pmax pmax
comp=Z,30nm,1.2s
O20K Slope Mountain 67.75 30 P P 14 49 34.8 -1.4
baz=255
RSO Redoubt South 67.78 29 P P 14 49 35.1 -1.4
L20K Farewell, AK 67.82 27 P P 14 49 36.5 -0.1
baz=253
IUG luzhnay 67.86 311 eP P 14 49 37.5 +0.1
baz=317
IUG luzhnay 67.86 311 eP P 14 49 37.4 +0.1
M20K Styx River 67.99 28 P P 14 49 37.5 -0.1
baz=254
K20K Telida 67.99 26 P P 14 49 37.5 -0.1
K20K IAmb IAmb 14 49 39.2
comp=Z,43nm,1.1s
K20K Telida 67.99 26 P P 14 49 38.0 +0.4
baz=253,SNR=20
J20K Nowinta River 68.21 25 P P 14 49 38.5 -0.4
J20K IAmb IAmb 14 49 40.6
comp=Z,48nm,1.1s
J20K Nowinta River 68.21 25 P P 14 49 39.3 +0.4
baz=252
N20K Mount Spurr 68.23 29 P P 14 49 38.0 -1.2
baz=255
SPCR Spurr Chakacha 68.23 29 P P 14 49 38.2 -1.1
baz=255
CHGR Chuyangaron 68.37 307 P P 14 49 40.5 0.0
CHGR Chuyangaron 68.37 307 P P 14 49 40.5 0.0
CHGR pmax pmax
comp=Z,84nm,0.9s
BRSE Bradley Lake S 68.59 30 P P 14 49 40.0 -1.4
baz=257,SNR=6.5
PPLA Purkeypile 68.68 27 P P 14 49 41.2 -0.9
PPLA IAmb IAmb 14 49 52.2
comp=Z,44nm,1.2s
PPLA Purkeypile 68.68 27 P P 14 49 41.7 -0.4
baz=255,SNR=10
BVA0 Borovoye Array 68.72 322 i P P 14 49 42.6 +0.3
SKT Skwentna 68.74 28 P P 14 49 40.9 -1.4
baz=256,SNR=14
BRVK Borovoye 68.78 322 P P 14 49 43.3 +0.6
BRVK Borovoye 68.78 322 ceP P 14 49 43.7 +1.0
BRVK pmax pmax
comp=Z,75nm,1.3s
CAST Castle Rocks 68.87 26 P P 14 49 42.2 -0.9
CAST IAmb IAmb 14 49 44.0
comp=Z,49nm,1.1s
CAST Castle Rocks 68.87 26 P P 14 49 42.8 -0.3
baz=254,SNR=36
CHUM Lake Minchumin 68.89 26 P P 14 49 42.9 -0.3
baz=254,SNR=11
IMAR Indian Mountai 68.92 23 P P 14 49 43.0 -0.4
SUA Susitna One 68.98 29 P P 14 49 41.8 -2.1
baz=256,SNR=11
FIS Fire Island 69.16 29 P P 14 49 44.3 -0.5
G21K Allakaket 69.18 23 P P 14 49 45.2 +0.3
baz=252
H21K Melozitna Rive 69.20 24 P P 14 49 44.8 -0.3
H21K IAmb IAmb 14 49 46.5
comp=Z,39nm,1.1s
H21K Melozitna Rive 69.20 24 P P 14 49 45.0 -0.1
baz=253,SNR=34
O22K Cooper Landing 69.25 30 P P 14 49 44.4 -1.0
O22K Cooper Landing 69.25 30 P P 14 49 44.2 -1.2
baz=258,SNR=11
SEW Seward 69.30 30 P P 14 49 44.9 -0.9
SEW IAmb IAmb 14 49 46.1
comp=Z,54nm,1.2s
SEW Seward 69.30 30 P P 14 49 44.7 -1.1
baz=258,SNR=9.7
M22K Willow 69.34 28 P P 14 49 44.2 -1.7
M22K Willow 69.34 28 P P 14 49 44.5 -1.5
baz=257
RC01 Rabbit Creek A 69.37 29 P P 14 49 44.7 -1.6
baz=258,SNR=19
I21K Tanana 69.39 25 P P 14 49 46.3 0.0
baz=254
KTH Kantishna Hill 69.41 26 P P 14 49 45.8 -0.7
KTH IAmb IAmb 14 49 47.5
comp=Z,60nm,1.1s
F21K Alatna River 69.41 22 P P 14 49 46.2 -0.2
baz=252,SNR=27
CUT Chulitna 69.42 28 P P 14 49 45.2 -1.2
baz=257
BPAW Bear Paw Mtn. 69.52 26 P P 14 49 46.5 -0.6
BPAW IAmb IAmb 14 49 48.0
comp=Z,54nm,1.1s
BPAW Bear Paw Mtn. 69.52 26 P P 14 49 46.5 -0.6
baz=255,SNR=39
TRF Thorofare Moun 69.66 27 P P 14 49 47.1 -1.1
TRF IAmb IAmb 14 49 48.2
comp=Z,42nm,1.2s
TRF Thorofare Moun 69.66 27 P P 14 49 46.8 -1.4
baz=256,SNR=22
PMR Palmer 69.76 29 P P 14 49 47.1 -1.5
baz=255,SNR=9.4
A21K Barrow 69.80 18 P P 14 49 48.6 0.0
baz=247
H22K Ishtalitna Cre 69.83 24 P P 14 49 49.0 0.0
baz=254,SNR=18
MLY Manley 69.86 25 P P 14 49 48.8 -0.5
MLY IAmb IAmb 14 49 50.3
comp=Z,43nm,1.0s
MLY Manley 69.86 25 P P 14 49 49.0 -0.2
baz=255,SNR=54
F22K John River 69.98 22 P P 14 49 50.1 +0.3
baz=253
PWL Port Wells 69.99 29 P P 14 49 49.0 -1.1
PWL Port Wells 69.99 29 P P 14 49 49.1 -0.9
baz=259,SNR=26
KNK Knik Glacier 70.04 29 P P 14 49 49.5 -0.9
KNK IAmb IAmb 14 49 51.4
comp=Z,50nm,1.2s
KNK Knik Glacier 70.04 29 P P 14 49 49.6 -0.9
baz=259,SNR=17
SML Sawmill 70.18 28 P P 14 49 50.5 -0.8
SML IAmb IAmb 14 49 52.2
comp=Z,64nm,1.2s
SML Sawmill 70.18 28 P P 14 49 50.4 -0.8
baz=259,SNR=23
BWN Browne 70.18 26 P P 14 49 50.3 -0.8
WAT1 Susitna Watana 70.29 27 P P 14 49 50.4 -1.5
baz=258
P23K Montague Islan 70.29 30 P P 14 49 51.3 -0.6
baz=260
E22K Anaktuvuk Pass 70.30 22 P P 14 49 51.8 0.0
baz=253
MCK McKinley 70.31 26 P P 14 49 50.8 -1.2
baz=257,SNR=23
NEA2 Nenana 70.45 25 P P 14 49 52.1 -0.7
baz=257
I23K Minto, Yukon-K 70.45 25 P P 14 49 52.6 -0.2
baz=256,SNR=22
M23K Glacier View 70.46 29 P P 14 49 52.1 -0.8
baz=259,SNR=9.8
H23K Yukon River 70.54 24 P P 14 49 53.1 -0.3
baz=256
G23K Bananza Creek 70.57 23 P P 14 49 53.9 +0.3
baz=255
WAT6 Susitna Watana 70.60 28 P P 14 49 53.0 -0.9
baz=259,SNR=31
COLD Coldfoot 70.64 23 P P 14 49 54.4 +0.5
baz=255,SNR=47
SCM Sheep Creek Mo 70.65 29 P P 14 49 53.3 -0.9
baz=258,SNR=30
DHY Denali Highway 70.86 27 P P 14 49 54.4 -1.2
baz=259,SNR=17
D23K Nanushuk River 70.93 21 P P 14 49 56.7 +1.1
baz=254
TCOL CIGO, UAF Yank 71.01 25 P P 14 49 54.8 -1.4
baz=258
COLA College 71.02 25 P P 14 49 55.0 -1.1
baz=258
COLA College 71.02 25 P P 14 49 54.9 -1.3
COLA College 71.02 25 ⇑P P 14 49 55.1 -1.1
E23K Chandalar 71.07 22 P P 14 49 57.0 +0.4
baz=255
EYAK Cordova Ski Ar 71.19 30 P P 14 49 56.7 -0.6
baz=261
EYAK Cordova Ski Ar 71.19 30 P P 14 49 57.2 -0.1
H24K Noodor Dome 71.21 24 P P 14 49 57.3 -0.2
H24K IAmb IAmb 14 49 58.8
comp=Z,45nm,1.2s
H24K Noodor Dome 71.21 24 P P 14 49 57.4 -0.1
baz=258
M24K Tolsona, Glenn 71.24 28 P P 14 49 57.5 -0.2
baz=260,SNR=14
POKR Poker Plat Res 71.24 25 P P 14 49 56.1 -1.5
baz=258,SNR=5.5
KLU Klutina 71.26 29 P P 14 49 57.6 -0.3
KLU IAmb IAmb 14 50 11.1
comp=Z,27nm,1.0s
KLU Klutina 71.26 29 P P 14 49 57.0 -0.9
baz=261,SNR=16
DIV Divide 71.27 29 P P 14 49 57.4 -0.6
DIV IAmb IAmb 14 49 58.9
comp=Z,52nm,1.4s
HDA Harding Lake 71.31 26 P P 14 49 56.2 -1.8
HDA Harding Lake 71.31 26 P P 14 49 57.7 -0.3
baz=259,SNR=11
ILAR Eielson Array 71.40 25 P P 14 49 56.4 -2.2
comp=Z,7.9nm,0.9s,baz=261,slow=4.6,SNR=46
ILAR LR LR 15 21 05.0
comp=Z,484nm,19.8s,baz=260,slow=36
comp=Z,7.9nm,0.9s
E24K Your Creek 71.48 22 P P 14 49 59.1 +0.1
baz=256
G24K Hadweenzic Riv 71.56 23 P P 14 49 59.6 +0.1
baz=258
F24K Squaw Lake 71.58 23 P P 14 50 00.0 +0.4
baz=257,SNR=35
D24K Happy Valley 71.63 21 P P 14 50 00.3 +0.5
baz=256,SNR=68
K24K Donnelly Dome 71.70 27 P P 14 49 59.3 -1.1
baz=260,SNR=9.4
PAX Paxson 71.70 27 P P 14 49 59.7 -0.8
baz=261,SNR=32
HARP HAARP 71.75 28 P P 14 50 00.5 -0.2
baz=261,SNR=14
BMRM Bremner River 71.81 30 P P 14 50 00.4 -0.8
baz=262,SNR=20
C24K Franklin Bluff 71.81 20 P P 14 50 01.1 +0.2
baz=256
N25K Chitina, Valde 71.90 29 P P 14 50 01.2 -0.6
baz=262,SNR=9.3
RIDG Independent Ri 72.10 27 P P 14 50 01.4 -1.5
RIDG IAmb IAmb 14 50 03.3
comp=Z,56nm,1.2s
RIDG Independent Ri 72.10 27 P P 14 50 02.0 -0.9
baz=261,SNR=28
G25K Bearman Lake 72.10 23 P P 14 50 03.0 +0.3
baz=259
DOT Dot Lake 72.43 27 P P 14 50 03.8 -1.1
DOT IAmb IAmb 14 50 05.2
comp=Z,33nm,1.1s
F25K Christian Rive 72.44 23 P P 14 50 05.2 +0.4
baz=259
MENT Mentasta 72.49 28 P P 14 50 04.8 -0.3
SCRK Sand Creek 72.51 27 P P 14 50 04.3 -1.1
baz=262,SNR=22
E25K Arctic Village 72.56 22 P P 14 50 06.0 +0.5
baz=259,SNR=25
MCARA McCarthy VSAT 72.62 29 P P 14 50 05.5 -0.5
baz=264,SNR=5.3
L26K Log Cabin Wild 72.67 28 P P 14 50 05.6 -0.6
baz=263,SNR=18
M26K Nabesna, AK 72.75 28 P P 14 50 06.4 -0.4
M26K Nabesna, AK 72.75 28 P P 14 50 06.1 -0.7
baz=263
J26L Joseph Creek 72.77 26 P P 14 50 06.2 -0.7
J26L IAmb IAmb 14 50 07.5
comp=Z,42nm,1.4s
J26L Joseph Creek 72.77 26 P P 14 50 05.8 -1.1
baz=262
BMAR Burnt Mountain 72.81 23 P P 14 50 07.0 0.0
F26K Sheenjek River 73.02 23 P P 14 50 08.9 +0.7
baz=261,SNR=36
C26K Camden Bay 73.14 20 P P 14 50 09.5 +0.7
baz=259
BARN Barnard Glacie 73.25 30 P P 14 50 09.3 -0.6
M27K Edge Creek, AK 73.27 28 P P 14 50 09.5 -0.4
baz=264
L27K Beaver Creek, 73.36 28 P P 14 50 09.8 -0.5
baz=264
BCAR Beaver Creek A 73.38 28 P P 14 50 09.9 -0.5
C27K Jago River 73.50 21 P P 14 50 11.1 +0.1
baz=260,SNR=36
I27K Kandik River 73.73 25 P P 14 50 12.0 -0.5
baz=264
EGAK Eagle 73.83 26 P P 14 50 12.4 -0.6
baz=264,SNR=9.4
H27K Steamboat Moun 73.83 24 P P 14 50 13.3 +0.2
baz=263
G27K Doyon Strip 73.85 24 P P 14 50 13.0 -0.1
baz=263
PCA Pinnacle 73.86 31 P P 14 50 12.7 -0.7
PINM Pinnacle 73.86 31 P P 14 50 12.9 -0.5
baz=266,SNR=6.1
YUK3 Moose Creek 73.88 29 P P 14 50 13.1 -0.5
baz=266
O28M Mount Upton 73.94 30 P P 14 50 14.0 -0.1
baz=266
HRA Herat 74.03 302 P P 14 50 14.7 -0.4
E27K Coleen River 74.04 22 P P 14 50 14.5 +0.3
baz=263
YUK8 Steele Glacier 74.18 30 P P 14 50 15.4 -0.1
baz=266
PNL Peninsula 74.27 31 P P 14 50 15.3 -0.4
baz=267
PNL Peninsula 74.27 31 P P 14 50 17.3 +1.6
comp=Z,24nm,1.2s
DAWY Dawson 74.53 27 P P 14 50 17.1 -0.1
baz=266,SNR=24
PPT Papeete 74.60 112 P P 14 50 16.5 -1.8
comp=Z,84nm,1.1s,baz=318,slow=7.2,SNR=14
comp=Z,84nm,1.1s
PPT2 Papeete2 74.61 112 eP P 14 50 20.2 +1.8
comp=Z,72nm,0.9s
PPT2 eS S 14 59 54.8 +1.3
comp=Z,395nm,30.0s
PPT2 Papeete2 74.61 112 eLR LR 15 13 12.3
comp=Z,873nm,29.0s
PPT2 eLR LR 15 13 12.5
comp=Z,1µm,27.5s
PPTF Pamatai, Papee 74.62 112 P P 14 50 20.6 +2.1
SVE Sverdlovsk 74.63 326 eP P 14 50 18.3 +0.5
SVE eS S 14 59 57.1 +4.7
SVE pmax pmax
comp=Z,74nm,1.5s
SVE MLR MLR
comp=Z,1µm,19.0s
O29M Mount Kennedy 74.71 31 P P 14 50 18.5 +0.1
baz=268
YUK4 Talbot Arm 74.72 30 P P 14 50 18.7 +0.2
baz=268
TIAR Tiarei 74.81 112 eP P 14 50 21.2 +1.7
comp=Z,13nm,1.0s
YUK6 Outpost Mounta 74.84 30 P P 14 50 19.4 +0.1
baz=268
M29M Somme Creek 74.86 28 P P 14 50 19.3 +0.2
baz=267
TVO Taravao 74.96 112 eP P 14 50 22.0 +1.5
comp=Z,32nm,1.0s
L29M L29M 75.04 28 P P 14 50 20.6 +0.5
baz=267,SNR=22
AB31 Akbulak array 75.06 318 i P P 14 50 20.3 -0.2
J29M Klondike Camp 75.07 26 P P 14 50 20.4 +0.1
baz=267
I29M Ogilvie Camp, 75.08 25 P P 14 50 19.8 -0.5
baz=267,SNR=7.9
HYT Haines Junctio 75.26 30 P P 14 50 21.4 -0.1
baz=269
K29M Barlow Dome 75.35 27 P P 14 50 22.3 +0.3
baz=268
P30M Million Dollar 75.51 31 P P 14 50 23.3 +0.4
baz=269
M30M Minto, Yukon 75.64 28 P P 14 50 23.7 +0.1
baz=269,SNR=15
VAH Vaihoa 75.68 109 eP P 14 50 23.1 -1.4
comp=Z,38nm,1.1s
ARU Arti 75.78 325 LR LR 15 26 30.1
comp=Z,1µm,18.3s,baz=82,slow=38
ARU Arti 75.78 325 c iP P 14 50 24.2 -0.2
ARU 14 53 12.9
ARU S S 15 00 07.2 +2.1
ARU SS SS 15 04 55.7 -1.1
ARU pmax pmax
comp=Z,62nm,1.1s
ARU MLR MLR
comp=Z,1µm,18.0s
EPYK Eagle Plains 75.78 24 P P 14 50 24.0 -0.4
baz=268,SNR=13
PLBC Pleasant Camp 75.81 31 P P 14 50 24.6 0.0
baz=270,SNR=8.2
O30N Mendenhall 75.95 30 P P 14 50 25.4 -0.1
baz=270,SNR=6.8
G30M tAoh Zraii Nji 76.00 24 P P 14 50 25.2 -0.4
baz=268
MAYO Mayo, Yukon 76.06 27 P P 14 50 25.8 -0.2
baz=269,SNR=5.8
N31M Braeburn, Yuko 76.10 29 P P 14 50 26.6 +0.3
baz=270,SNR=17
AKTO Aktyubinsk 76.27 319 P P 14 50 26.6 -0.8
SKAG Skagway 76.34 31 P P 14 50 27.6 0.0
baz=271,SNR=6.3
SIT Sitka 76.39 34 P P 14 50 27.3 -0.6
baz=271
WHY Whitehorse 76.55 30 P P 14 50 28.8 0.0
baz=271,SNR=9.7
TBI Tubuai 76.58 118 eP P 14 50 29.9 +0.3
comp=Z,83nm,1.0s
TBI eS S 15 00 16.5 +1.5
comp=Z,975nm,33.2s
TBI Tubuai 76.58 118 eLR LR 15 14 06.9
comp=Z,4µm,29.2s
TBI eLR LR 15 14 07.9
comp=Z,11µm,25.2s
M31M Drury Creek, Y 76.75 29 P P 14 50 29.9 -0.1
M31M Drury Creek, Y 76.75 29 P P 14 50 29.8 -0.1
baz=271,SNR=16
R32K Eaglecrest 76.79 33 P P 14 50 29.9 -0.3
baz=272
JIS Juneau Island 76.86 33 P P 14 50 30.0 -0.5
JIS IAmb IAmb 14 50 31.9
comp=Z,40nm,1.4s
JIS Juneau Island 76.86 33 P P 14 50 30.9 +0.4
F31M Tsiigehtchic 76.97 23 P P 14 50 30.1 -0.8
baz=270,SNR=8.8
INK Inuvik 77.05 22 LR LR 15 20 20.2
comp=Z,149nm,21.7s,baz=286,slow=32
INK Inuvik 77.05 22 P P 14 50 30.2 -1.1
INK IAmb IAmb 14 50 31.9
comp=Z,36nm,1.1s
INK Inuvik 77.05 22 P P 14 50 30.7 -0.7
baz=270,SNR=32
INK Inuvik 77.05 22 P P 14 50 30.3 -1.1
INK pmax pmax
comp=Z,36nm,1.2s
GEYT Alibeck 77.07 306 P P 14 50 33.1 +0.9
comp=Z,31nm,0.9s,baz=75,slow=1.7,SNR=57
GEYT LR LR 15 29 46.9
comp=Z,516nm,18.2s,baz=96,slow=40
comp=Z,31nm,0.9s
GYA0 ALIBECK ARRAY 77.07 306 P P 14 50 32.7 +0.5
GYA0B ALIBECK ARRAY 77.07 306 P P 14 50 32.1 -0.1
GYA0B IAmb IAmb 14 50 34.3
comp=Z,48nm,1.0s
P32M Atlin 77.16 31 P P 14 50 31.5 -0.8
baz=272,SNR=9.2
FARO Faro, Yukon 77.24 29 P P 14 50 32.2 -0.5
FARO Faro, Yukon 77.24 29 P P 14 50 32.6 -0.1
baz=272,SNR=19
N32M Quiet Lake 77.41 30 P P 14 50 33.4 -0.3
baz=272
P33M Teslin, Yukon 77.58 31 P P 14 50 33.9 -0.7
P33M Teslin, Yukon 77.58 31 P P 14 50 34.1 -0.6
baz=273,SNR=6.2
U33K Whale Pass 77.64 35 P P 14 50 34.8 -0.2
baz=273
CRAG Craig 77.68 36 P P 14 50 34.8 -0.4
baz=274
T33K Petersburg 77.70 34 P P 14 50 35.2 0.0
baz=273
JLN Jalan Bani Buh 77.85 290 P P 14 50 36.9 +0.1
SNR=12
Q32M Nakina River 77.93 32 P P 14 50 36.8 0.0
baz=274
WRAK Wrangell Islan 78.06 35 P P 14 50 37.0 -0.3
baz=274
WBK Wadi Bani Khal 78.19 291 P P 14 50 39.2 +0.5
SNR=15
R33M Jennings River 78.57 31 P P 14 50 40.5 +0.2
baz=275,SNR=8.4
S34M Telegraph Cree 78.60 33 P P 14 50 40.3 0.0
baz=275,SNR=6.6
SMDO Samad 78.96 291 P P 14 50 43.1 +0.1
SNR=8.3
JMDO Jabal Madar 79.01 291 P P 14 50 43.1 -0.1
SNR=5.2
DLBC Dease Lake 79.14 32 LR LR 15 24 34.6
comp=Z,128nm,20.4s,baz=294,slow=35
DLBC Dease Lake 79.14 32 P P 14 50 43.1 -0.2

	baz=276,SNR=11								
T35M	**Bob Quinn**	79.16	34	P		**P**		14 50 43.5	+0.1
	baz=276,SNR=5.8								
MHTO	**MHTO**	79.35	289	P		**P**		14 50 45.4	+0.3
	SNR=18								
HOQ	**Hoqain**	79.55	292	P		**P**		14 50 46.5	+0.4
	SNR=26								
WTLY	**Watson Lake, Y**	79.59	31	P		**P**		14 50 45.8	+0.1
	baz=276,SNR=7.3								
A36M	**Sachs Harbour**	79.62	18	P		**P**		14 50 45.0	-0.6
	baz=277								
BSY	**Bisya**	79.78	291	P		**P**		14 50 47.4	-0.1
	SNR=8.7								
DQM	**DQM**	79.92	288	P		**P**		14 50 48.8	+0.6
	SNR=6.3								
BANOM	**Banah**	80.10	294	*i* P		**P**		14 50 50.2	+1.0
	SNR=9.7								
BANOM	**Banah**	80.10	294	P		**P**		14 50 49.9	+0.7
	SNR=5.6								
SOHO	**SOHO**	80.17	293	*i* P		**P**		14 50 49.5	0.0
	SNR=30								
SOHO	**SOHO**	80.17	293	P		**P**		14 50 49.5	0.0
MDH	**Madha**	80.20	294	P		**P**		14 50 49.3	-0.3
MDH	**Madha**	80.20	294	P		**P**		14 50 50.2	+0.5
SHME	**Shamm**	80.22	295	P		**P**		14 50 50.0	+0.2
ARQ	**Araqi**	80.31	292	P		**P**		14 50 50.9	+0.6
	SNR=12								
MASF	**Masafi**	80.31	294	P		**P**		14 50 51.3	+1.0
	SNR=11								
MSFE	**Esma-Masafi**	80.31	294	*i* P		**P**		14 50 51.3	+1.0
	SNR=19								
UOSS	**Minazif**	80.34	293	*i* P		**P**		14 50 50.5	+0.1
	SNR=16								
UOSS	**Minazif**	80.34	293	P		**P**		14 50 50.3	-0.1
C36M	**Paulatuk**	80.39	21	P		**P**		14 50 48.8	-0.9
C36M				IAmb		IAmb		14 50 50.1	
	comp=Z,49nm,1.2s								
C36M	**Paulatuk**	80.39	21	P		**P**		14 50 48.9	-0.8
	baz=279								
HATD	**Hatta, Dubai**	80.42	293	*i* P		**P**		14 50 52.0	+1.1
	SNR=7.7								
HATD	**Hatta, Dubai**	80.42	293	P		**P**		14 50 51.1	+0.3
	SNR=13								
ASHO	**Ashiyiah**	80.51	293	*i* P		**P**		14 50 52.0	+0.6
	SNR=17								
ASHO	**Ashiyiah**	80.51	293	P		**P**		14 50 51.7	+0.3
	SNR=9.0								
KIRV	**Kirov**	80.54	328	LR		LR		15 29 07.7	
	comp=Z,877nm,18.8s,baz=81,slow=38								
KIRV	**Kirov**	80.54	328	⇑*i* P		**P**		14 50 52.4	+1.7
NAZ	**Nazwa, Dubai**	80.82	294	*i* P		**P**		14 50 53.1	+0.1
	SNR=9.1								
NAZ	**Nazwa, Dubai**	80.82	294	P		**P**		14 50 53.3	+0.4
ALNE	**Al Ain**	80.89	293	*i* P		**P**		14 50 53.9	+0.5
	SNR=15								
ALNE	**Al Ain**	80.89	293	P		**P**		14 50 53.7	+0.3
	SNR=19								
FAQ	**Al Faqa, Dubai**	80.92	293	*i* P		**P**		14 50 53.7	+0.2
	SNR=5.1								
FAQ	**Al Faqa, Dubai**	80.92	293	P		**P**		14 50 53.6	+0.1
BBB	**Bella Bella**	80.98	39	LR		LR		15 20 37.8	
	comp=Z,257nm,21.0s,baz=268,slow=31								
TAOE	**Nuku Hiva Isla**	81.05	101	*e*P		**P**		14 50 55.7	+1.2
	comp=Z,58nm,39.2s								
TAOE	**Nuku Hiva Isla**	81.05	101	*e*S		**S**		15 01 03.6	+0.3
	comp=Z,116nm,27.3s								
TAOE	**Nuku Hiva Isla**	81.05	101	*e*LR		LR		15 16 10.9	
	comp=Z,245nm,21.3s								
ASUD	**Al Ashush, Dub**	81.17	293	*i* P		**P**		14 50 55.5	+0.7
	SNR=5.4								
ASUD	**Al Ashush, Dub**	81.17	293	P		**P**		14 50 55.8	+1.0
WRGLY	**Wrigley**	81.66	27	P		**P**		14 50 56.3	-0.4
	baz=280								
PRGR	**Permogore**	81.92	331	*e*P		**P**		14 50 55.5	-2.5
PRGR				pmax		pmax			
	comp=Z,196nm,1.1s								
KOTAN	**Kotaneelee Air**	81.94	30	P		**P**		14 50 57.9	-0.4
	baz=280								
BELG	**Belogornoye**	82.52	322	*i* P		**P**		14 51 01.3	0.0
BELG				pmax		pmax			
	comp=Z,82nm,1.1s								
DMTO	**DMTO**	82.71	287	P		**P**		14 51 03.4	+0.3
MZR	**Muzera**	83.12	292	*i* P		**P**		14 51 05.2	+0.1
	SNR=33								
MZR	**Muzera**	83.12	292	P		**P**		14 51 05.1	0.0
	SNR=18								
DOK	**Doka**	83.31	288	P		**P**		14 51 06.1	-0.1
	SNR=6.0								
RBK	**Rabkut**	83.45	286	P		**P**		14 51 07.1	+0.2
GHWR	**Ruwais**	83.49	293	P		**P**		14 51 07.4	+0.4
WHFO	**Wadi Hawf**	83.78	287	P		**P**		14 51 08.1	-0.5
ABTO	**Aybut**	84.33	286	P		**P**		14 51 11.6	+0.1
MAK	**Makhachkala**	84.36	313	*e*P		P		14 51 06.0	-5.0
MAK				*e*				15 01 26.1	
MAK				*e*SS		SS		15 07 01.0	-4.8
MAK				*e*SSS		SSS		15 10 38.9	
MAK				pmax		pmax			
	comp=Z,480nm,1.9s								
AKT	**Akhty**	84.49	311	*e*P		**P**		14 51 12.3	+0.4
AKT				*e*				14 54 29.2	
AKT				pmax		pmax			
	comp=Z,95nm,0.8s								
SLWR	**Sila**	84.54	293	P		**P**		14 51 12.9	+0.5
ADZR	**Andozero**	84.66	334	*e*P		**P**		14 51 07.6	-4.5
ADZR				pmax		pmax			
	comp=Z,36nm,1.4s								
SPA0	**Spitsbergen Ar**	84.78	350	*e*P		**P**		14 51 13.0	+0.5
SPA0				IAmb		IAmb		14 51 14.8	
	comp=Z,144nm,1.3s								
LVZ	**Lovozero**	84.83	339	⇑P		**P**		14 51 12.5	-0.5
SHMA	**Al-Shehemyia**	84.85	295	P		**P**		14 51 13.4	-0.4
KLMR	**Klimovskoe**	84.98	331	*e*P		**P**		14 51 11.4	-2.4
KLMR				*e*P		**P**		14 51 11.4	-2.4
KLMR				*e*P		**P**		14 51 11.4	-2.4
KLMR				AMP				14 51 13.6	
	comp=Z,49nm,1.1s								
KLMR				*e*PP		**PP**		14 54 34.5	+4.2
KLMR				S		**S**		15 01 33.8	-7.6
KLMR				S		**S**		15 01 33.8	-7.6
KLMR				LQ		LQ		15 24 23.5	
KLMR				LQ		LQ		15 24 23.5	
KLMR				LR		LR		15 25 43.5	
	comp=Z,1μm,16.6s								
KLMR				AMP				15 33 11.2	
KLMR	**Klimovskoe**	84.98	331	*e*P		**P**		14 51 11.3	-2.5
KLMR				*e*				14 54 34.5	
KLMR				S		**S**		15 01 33.8	-7.6
KLMR				pmax		pmax			
	comp=Z,49nm,1.1s								
KLMR				MLR		MLR			
	comp=Z,1μm,17.0s								
KBS	**Kingsbay**	85.01	351	*e*P		**P**		14 51 14.5	+0.8
SMRA	**Abu-Samra**	85.19	294	P		**P**		14 51 15.9	+0.3
SAKB	**Bahrain**	85.20	295	P		**P**		14 51 15.1	-0.5
APA	**Apatity**	85.39	338	⇓*i* P		P		14 51 09.0	-6.7
APA				pmax		pmax			
	comp=Z,31nm,1.1s								
APA				MLR		MLR			
	comp=Z,2μm,22.0s								
GROC	**Groznyy**	85.54	313	*e*P		**P**		14 51 14.8	-2.2
GROC				*e*				14 54 32.7	
GROC				pmax		pmax			
	comp=Z,78nm,0.9s								
VADS	**Vadso**	85.77	341	*e*P		**P**		14 51 17.8	+0.3
YKA	**Yellowknife Ar**	85.77	27	P		**P**		14 51 16.9	-0.8
	comp=Z,6.0nm,0.8s,baz=286,slow=5.5,SNR=42								
	comp=Z,6.0nm,0.8s								
YKA	**Yellowknife Ar**	85.77	27	P		**P**		14 51 17.2	-0.5
YKA	**Yellowknife Ar**	85.77	27	P		**P**		14 51 17.2	-0.5
VRH	**Novokhopyorsk**	86.35	322	*e*P		**P**		14 51 19.0	-1.8
VRH				pmax		pmax			
	comp=Z,70nm,0.8s								
ZEI	**Tsey**	86.98	313	*e*P		**P**		14 51 21.2	-3.2
ZEI				pmax		pmax			
	comp=Z,26nm,1.4s								
GNI	**Garni**	86.99	310	P		**P**		14 51 24.6	+0.2
GNI				IAmb		IAmb		14 51 33.0	
	comp=Z,48nm,1.2s								
GNI	**Garni**	86.99	310	P		**P**		14 51 24.6	+0.2
GNI				pmax		pmax			
	comp=Z,48nm,1.3s								
ARA0	**ARCESS Array S**	87.22	341	*e*P		**P**		14 51 24.7	-0.1
ARCES	**ARCESS Array B**	87.22	341	P		**P**		14 51 24.5	-0.2
	comp=Z,14nm,0.5s,baz=67,slow=7.2,SNR=96								
	comp=Z,14nm,0.5s								

ONI	**Oni**	87.35	313	P		**P**		14 51 25.6	-0.3
ONI				IAmb		IAmb		14 51 28.8	
	comp=Z,27nm,1.1s								
ONI	**Oni**	87.35	313	P		**P**		14 51 25.7	-0.3
ONI				pmax		pmax			
	comp=Z,27nm,1.1s								
MOS	**Moscow**	87.43	327	*e*P		**P**		14 51 23.9	-2.0
MOS				pmax		pmax			
	comp=Z,93nm,0.9s								
KBZ	**Khabaz**	87.47	314	P		**P**		14 51 25.4	-1.0
	comp=Z,9.1nm,0.9s,baz=133,slow=3.3,SNR=17								
	comp=Z,9.1nm,0.9s								
KBZ	**Khabaz**	87.47	314	*i* P		**P**		14 51 25.0	-1.4
KBZ				pmax		pmax			
	comp=Z,11nm,1.0s								
KIV	**Kislovodsk**	87.56	314	⇓P		**P**		14 51 26.8	-0.2
KIV	**Kislovodsk**	87.56	314	*e*P		**P**		14 51 26.0	-1.0
KIV				*e*				15 01 53.6	
KIV				*e*SS		SS		15 07 55.7	+2.8
KIV				pmax		pmax			
	comp=Z,18nm,1.0s								
LPSR	**Galich'ya Gora**	87.63	323	*e*P		**P**		14 51 25.3	-1.7
LPSR				pmax		pmax			
	comp=Z,110nm,0.8s								
VORR	**Voronezh**	87.74	322	*e*P		**P**		14 51 26.4	-1.1
VORR				pmax		pmax			
	comp=Z,60nm,0.8s								
D08A	**Wollman Farm,**	87.88	42	P		**P**		14 51 27.9	-0.5
VSR	**Storozhevoye**	87.90	322	*e*P		**P**		14 51 26.1	-2.2
VSR				pmax		pmax			
	comp=Z,60nm,0.8s								
KTK1	**Kautokeino**	88.19	341	*e*P		**P**		14 51 28.8	-0.6
KTK1				IAmb		IAmb		14 51 29.0	
	comp=Z,14nm,0.7s								
OBN	**Obninsk**	88.19	326	P		**P**		14 51 28.1	-1.5
OBN	**Obninsk**	88.19	326	⇑*i* P		**P**		14 51 28.7	-0.9
OBN				*e*				14 55 00.0	
OBN				*e*S		**S**		15 02 12.7	-0.2
OBN				pmax		pmax			
	comp=Z,55nm,1.0s								
OBN				MLR		MLR			
	comp=Z,1μm,19.0s								
NEW	**Newport**	88.71	41	P		**P**		14 51 31.2	-1.1
	baz=287								
BEKR	**Beckworth**	88.75	50	P		**P**		14 51 31.6	-1.3
BEKR				IAmb		IAmb		14 51 33.3	
	comp=Z,21nm,0.9s								
JETT	**Jettan, Norway**	88.76	342	*e*		**P**		14 51 31.9	-0.3
TRO	**Tromso**	89.15	343	*e*P		**P**		14 51 33.3	-0.5
TRO				IAmb		IAmb		14 51 33.5	
	comp=Z,16nm,0.4s								
RKT	**Rikitea**	89.29	114	*e*LR		LR		15 20 00.4	
	comp=Z,145μm,28.5s								
GURO	**Guroymak-BITLI**	89.41	309	P		**P**		14 51 35.3	-0.7
GURO				IAmb		IAmb		14 51 36.6	
	comp=Z,23nm,0.9s								
SOC	**Sochi**	89.73	315	*e*P		**P**		14 51 38.6	+1.5
SOC				*e*				14 55 07.4	
SOC				*e*SSS		SSS		15 11 58.3	
SOC				MLR		MLR			
	comp=Z,439nm,18.0s								
RAYN	**Ar Rayn**	90.19	294	⇑P		**P**		14 51 39.0	-0.8
RAYN	**Ar Rayn**	90.19	294	*i* P		**P**		14 51 38.8	-1.0
	SNR=17								
RAYN	**Ar Rayn**	90.19	294	P		**P**		14 51 39.4	-0.4
VNDA	**Vanda**	90.36	176	P		**P**		14 51 39.2	0.0
	comp=Z,4.9nm,1.1s,baz=316,slow=5.9,SNR=4.1								
	comp=Z,4.9nm,1.1s								
NVAR	**Mina Array Bea**	90.67	51	P		**P**		14 51 42.0	0.0
	comp=Z,5.6nm,0.8s,baz=260,slow=5.9,SNR=24								
	comp=Z,5.6nm,0.8s								
FINES	**FINESS Array B**	90.81	334	P		**P**		14 51 40.4	-1.3
	comp=Z,48nm,0.6s,baz=70,slow=5.0,SNR=171								
	comp=Z,48nm,0.6s								
ANN	**Anapa**	90.94	316	*e*P		**P**		14 51 40.6	-2.1
ANN				*e*				15 02 09.3	
ANN				pmax		pmax			
	comp=Z,144nm,1.7s								
ANN				MLR		MLR			
	comp=Z,1μm,21.0s								
MFID	**Camas Ranch**	91.02	45	P		**P**		14 51 42.6	-0.7
STEI	**Steigen**	91.24	342	*e*P		**P**		14 51 43.2	-0.4
STEI				IAmb		IAmb		14 51 43.4	
	comp=Z,67nm,0.8s								
ISA	**Isabella, Lake**	91.30	53	P		**P**		14 51 43.7	-1.0
	baz=286								
CWC	**Cottonwood Cre**	91.39	52	P		**P**		14 51 44.7	-0.5
	baz=286								
LCH	**Last Change Ra**	91.51	52	P		**P**		14 51 45.5	-0.3
FAUS	**Fauske**	91.56	342	*e*P		**P**		14 51 44.0	-1.1
FAUS				IAmb		IAmb		14 51 44.7	
	comp=Z,49nm,0.9s								
GRAC	**Grapevine Rang**	91.79	52	P		**P**		14 51 46.4	-0.5
	baz=287								
EDW2	**Edwards Air Fo**	91.89	54	P		**P**		14 51 47.2	-0.3
	baz=286								
HLID	**Hailey**	91.95	45	P		**P**		14 51 47.3	-0.4
	baz=289								
MPMC	**Manual Prospec**	91.96	53	P		**P**		14 51 47.2	-0.7
	baz=287								
FURC	**Furnace Creek,**	92.33	52	P		**P**		14 51 48.9	-0.4
	baz=287								
BCYI	**Bear Canyon**	92.39	44	P		**P**		14 51 49.3	-0.6
MOR8	**Moi Rana**	92.57	341	*e*P		**P**		14 51 48.0	-1.9
HRY	**Holter Researc**	92.61	41	P		**P**		14 51 49.7	-0.9
TPNV	**Topopah Spring**	92.66	51	P		**P**		14 51 50.8	-0.3
	baz=287								
GSC	**Goldstone, Bar**	92.71	53	P		**P**		14 51 50.8	-0.5
	baz=287								
R11A	**Troy Canyon, C**	92.74	50	P		**P**		14 51 51.1	-0.4
	baz=288								
MNK	**Minsk**	93.08	328	*i* P		**P**		14 51 51.9	-0.5
	comp=E,7.0nm,1.4s								
MNK				*i* P		**P**		14 51 51.9	-0.5
	comp=N,69nm,1.3s								
MNK				*i* P		**P**		14 51 51.9	-0.5
	comp=Z,36nm,1.2s,baz=64								
MNK				*i* PP		**PP**		14 55 36.6	+1.5
MNK				*i* PPP		PPP		14 57 36.9	
MNK				*i* SKS				15 01 17.0	
MNK				*i* S		**SKSac**		15 02 24.5	-0.8
MNK				*i* SS		**SS**		15 09 13.6	+1.9
MNK				*i* SSS		SSS		15 12 54.8	
MNK				*i* LQ		LQ		15 28 01.1	
MNK				*i* LR		LR		15 33 00.5	
MNK				*i* LRM		MLR		15 36 09.6	
	comp=N,742nm,20.9s								
MNK				*i* LRM		MLR		15 36 45.7	
	comp=Z,743nm,19.4s								
MNK				*i* LRM		MLR		15 36 47.4	
	comp=E,189nm,18.9s								
MNK	**Minsk**	93.08	328	*i* P		**P**		14 51 51.9	-0.5
MNK				*i*				14 55 36.6	
MNK				*i* PPP		PPP		14 57 36.8	
MNK				*i* S		**SKSac**		15 02 24.4	-0.8
MNK				*i* SS		**SS**		15 09 13.5	+1.9
MNK				*i* SSS		SSS		15 12 54.7	
MNK				pmax		pmax			
	comp=Z,36nm,1.3s								
MNK				pmax		pmax			
	comp=N,69nm,1.3s								
MNK				pmax		pmax			
	comp=E,7.0nm,1.4s								
MNK				MLR		MLR			
	comp=N,742nm,21.0s								
MNK				MLR		MLR			
	comp=E,743nm,19.0s								
MNK				MLR		MLR			
	comp=E,189nm,19.0s								
BOZ	**Bozeman (W)**	93.13	42	P		**P**		14 51 52.3	-0.8
	baz=291								
HEC	**Hector,Ludlow**	93.22	54	P		**P**		14 51 52.9	-0.7
	baz=287								
EGMT	**Eagleton**	93.44	39	P		**P**		14 51 53.3	-1.1
	baz=292								
NACGM	**Naroch**	93.47	328	*e*P		**P**		14 51 51.3	-2.9
	comp=Z,26nm,1.0s,baz=63								
PFO	**Pinyon Flats O**	93.47	55	LR		LR		15 29 56.9	
	comp=Z,173nm,19.3s,baz=240,slow=33								
PFO	**Pinyon Flats O**	93.47	55	P		**P**		14 51 54.1	-0.8
	baz=287								
TPFO	**Pinon Flats**	93.48	55	P		**P**		14 51 54.0	-0.9
	baz=287								
MONP2	**Monument Peak**	93.71	55	P		**P**		14 51 55.6	-0.6
	baz=287								
BELC	**Belle Mtn. Jos**	93.73	54	P		**P**		14 51 55.1	-0.9

	baz=287								
GMRC	**Granite Mounta**	93.76	53	P		**P**		14 51 55.4	-0.8
	baz=288								
AKASG	**Malin Array Be**	93.96	324	P		**P**		14 51 54.7	-1.9
	comp=Z,9.0nm,0.9s,baz=51,slow=4.3,SNR=29								
AKASG				PKKPbc		**PKKPdf**		15 08 58.0	-1.1
	comp=Z,1.0nm,0.6s,baz=265,slow=2.3,SNR=4.3								
	comp=Z,9.0nm,0.9s								
IKP	**In-Ko-Pah, Jac**	94.04	56	P		**P**		14 51 57.1	-0.3
	baz=287								
DUG	**Dugway, Tooele**	94.19	48	P		**P**		14 51 57.5	-0.6
	baz=290								
BC3	**Big Chuckawall**	94.26	54	P		**P**		14 51 58.0	-0.5
	baz=288								
H17A	**Grant Village**	94.26	43	P		**P**		14 51 58.5	0.0
H17A	**Grant Village**	94.26	43	P		**P**		14 51 59.2	+0.7
	baz=292								
IRM	**Iron Mountain**	94.36	54	P		**P**		14 51 58.6	-0.2
	baz=288								
RLMT	**Red Lodge**	94.86	42	P		**P**		14 52 00.8	-0.3
	baz=293								
BRTR	**Keskin Array B**	95.27	312	P		**P**		14 52 02.0	-1.0
	comp=Z,3.9nm,0.9s,baz=106,slow=3.3,SNR=12								
BRTR				PP		**PP**		14 55 52.4	-0.6
	comp=Z,2.8nm,1.1s,baz=133,slow=6.9,SNR=3.6								
	comp=Z,3.9nm,0.9s								
SORM	**Soroca**	95.55	322	⇑P		**P**		14 52 01.4	-2.5
SORM	**Soroca**	95.55	322	⇑P		**P**		14 52 01.4	-2.5
BW06	**Boulder Array**	95.56	44	P		**P**		14 52 03.9	-0.5
	baz=292								
PDAR	**Pinedale Array**	95.56	44	P		**P**		14 52 03.2	-1.1
	comp=Z,0.2nm,0.6s,baz=232,slow=3.6,SNR=3.8								
PDAR				PP		**PP**		14 55 52.8	-2.4
	comp=Z,4.0nm,1.1s,baz=289,slow=4.5,SNR=14								
PDAR				LR		LR		15 28 28.7	
	comp=Z,148nm,21.9s,baz=308,slow=31								
LAO	**LASA Array**	96.17	40	P		**P**		14 52 06.3	-0.6
	baz=295								
DGMT	**Dagmar**	96.64	37	P		**P**		14 52 08.7	-0.2
	baz=297								
MAW	**Mawson**	96.74	202	P		**P**		14 52 07.1	-1.6
	comp=Z,7.9nm,1.0s,baz=80,slow=7.7,SNR=3.6								
	comp=Z,7.9nm,1.0s								
214A	**Organ Pipe Nat**	96.91	55	P		**P**		14 52 09.7	-0.8
	baz=289								
NB2	**NORSAR Subarra**	96.96	338	PKPdf		**P**		14 52 08.3	-1.8
	comp=Z,3.0nm,0.8s,baz=34,slow=1.9								
NB2	**NORSAR Subarra**	96.96	338	PKPdf		**P**		14 52 08.3	-1.8
	baz=34,slow=1.9								
NOA	**NORSAR Array B**	96.96	338	P		**P**		14 52 08.3	-1.8
	comp=Z,4.1nm,0.8s,baz=50,slow=4.8,SNR=7.9								
NOA				LR		LR		15 36 27.9	
	comp=Z,274nm,21.3s,baz=55,slow=36								
	comp=Z,4.1nm,0.8s								
TESR	**Tescani**	97.30	321	⇑P		**P**		14 52 11.3	-0.6
VRI	**Vrincioaia**	97.53	320	⇑P		**P**		14 52 11.8	-1.2
VRI	**Vrincioaia**	97.53	320	⇑P		**P**		14 52 11.8	-1.2
EIL	**Elat**	97.61	302	LR		LR		15 40 43.7	
	comp=Z,144nm,19.8s,baz=56,slow=38								
BURAR	**Bucovina Array**	97.67	322	⇑P		**P**		14 52 12.7	-1.0
BURAR	**Bucovina Array**	97.67	322	⇑P		**P**		14 52 12.7	-1.0
MLR	**Muntele Rosu**	98.19	320	LR		LR		15 39 57.8	
	comp=Z,536nm,18.4s,baz=60,slow=37								
MLR	**Muntele Rosu**	98.19	320	⇓P		**P**		14 52 14.5	-1.6
MLR	**Muntele Rosu**	98.19	320	⇓P		**P**		14 52 14.5	-1.6
UZH	**Uzhgorod**	98.91	324	*e*P		**P**		14 52 17.2	-1.8
TRPA	**Tarpa**	99.01	323	⇑P		**Pdif**		14 52 18.8	-0.7
STHS	**Stebnicka Huta**	99.11	325	*e*P		**Pdif**		14 52 19.6	-0.4
STHS	**Stebnicka Huta**	99.11	325	*e*PDIFF		**Pdif**		14 52 19.6	-0.4
CRVS	**Cervenica-Dubn**	99.25	324	*e*P		**Pdif**		14 52 20.3	-0.3
CRVS	**Cervenica-Dubn**	99.25	324	*e*PDIFF		**Pdif**		14 52 20.3	-0.3
PLVB	**Pleven**	99.99	318	⇑P		**Pdif**		14 52 22.8	-1.2
VYHS	**Vyhne**	100.94	325	*e*P		**Pdif**		14 52 27.8	-0.4
VYHS	**Vyhne**	100.94	325	*e*PDIFF		**Pdif**		14 52 27.8	-0.4
MORC	**Moravsky Berou**	100.95	327	⇑P		**Pdif**		14 52 27.6	-0.6
MORC	**Moravsky Berou**	100.95	327	*e*PDIFF		**Pdif**		14 52 27.6	-0.6
MORC	**Moravsky Berou**	100.95	327	⇑P		**Pdif**		14 52 27.6	-0.6
MDVR	**Moldovita**	101.17	321	⇓P		**Pdif**		14 52 25.7	-3.6
JAVC	**Velka Javorina**	101.39	326	*e*PDIFF		**Pdif**		14 52 30.9	+0.7
VRAC	**Vranov**	101.72	327	⇓P		**Pdif**		14 52 31.7	+0.1
VRAC	**Vranov**	101.72	327	*e*PDIFF		**Pdif**		14 52 31.1	-0.5
VRAC	**Vranov**	101.72	327	⇓P		**Pdif**		14 52 31.7	+0.1
MODS	**Modra-Piesok**	101.88	326	*e*P		**Pdif**		14 52 31.2	-1.1
MODS	**Modra-Piesok**	101.88	326	*e*PDIFF		**Pdif**		14 52 31.2	-1.1
KRUC	**Moravsky**	101.97	326	*e*PDIFF		**Pdif**		14 52 32.0	-0.7
BRG	**Berggiesshubel**	102.19	329	*e*P		**Pdif**		14 52 33.4	-0.2
BRG				Amp				14 52 34.5	
	comp=Z,9.1nm,1.1s								
BRG	**Berggiesshubel**	102.19	329	*e*P		**Pdif**		14 52 33.4	-0.2
BRG				pmax		pmax			

SMTB	**Santa Maria do**	**170.87**	**69**	*eP*		**PKPdf**	**14 58 48.0**	**0.0**
ALF01	**Guarapari-ES**	**171.47**	**169**	*eP*		**PKPdf**	**14 58 48.8**	**+0.8**
SJMB	**Sao Joao De Ma**	**173.19**	**162**	*eP*		**PKPdf**	**14 58 48.8**	**-0.1**

TAP 11 14:43:27.7, 23°08′N × 120°68′E, h4 km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGST	**Jiashian**	**0.09**	**271**	P	Pg	14 43 29.9	+0.4
	baz=270						
SGST				S	Sg	14 43 31.6	+0.8
	baz=270						
STYH	**Taoyuan**	**0.13**	**46**	*eP*	Pg	14 43 31.5	+1.2
	baz=45						
STYH				*eS*	Sg	14 43 33.5	+1.5
	baz=45						
CHN1	**Nanshi**	**0.17**	**307**	P	Pg	14 43 32.5	+1.3
	baz=308						
CHN1				S	Sg	14 43 35.6	+2.2
	baz=308						
WTP	**Ta-pu**	**0.17**	**341**	P	Pg	14 43 32.2	+1.0
	baz=343						
WTP				S	Sg	14 43 35.1	+1.6
	baz=343						
TPUB	**Ta-pu**	**0.22**	**349**	P	Pg	14 43 33.2	+1.2
	baz=344						
TPUB				S	Sg	14 43 36.9	+1.9
	baz=344						
TPUB	**Ta-pu**	**0.22**	**349**	P	Sg	14 43 36.5	+1.4
TWK	**Hsinying**	**0.25**	**317**	*eP*	Pb	14 43 34.2	-0.7
	baz=320						
TWK				*eS*	Sb	14 43 38.6	-1.0
	baz=320						
CHN4	**Tsaushan**	**0.28**	**344**	*eP*	Pb	14 43 34.7	-0.6
	baz=344						
CHN4				*eS*	Sb	14 43 39.7	-0.7
	baz=344						
ELDTW	**Lidau**	**0.33**	**71**	*eP*	Pb	14 43 35.5	-0.8
	baz=84						
ELDTW				*eS*	Sb	14 43 40.6	-1.3
	baz=84						
WCKO	**Fanlu**	**0.36**	**349**	*eP*	Pb	14 43 36.2	-0.5
	baz=352						
WCKO				*eS*	Sb	14 43 42.8	0.0
	baz=352						
TSMG	**Majia**	**0.38**	**185**	*eP*	Pb	14 43 36.2	-0.8
	baz=175						
TSMG				*eS*	Sb	14 43 42.2	-0.9
	baz=175						
ALS	**Alishan**	**0.44**	**15**	*eP*	Pb	14 43 37.5	-0.8
	baz=18						
ALS				*eS*	Sb	14 43 44.7	-0.7
	baz=18						
MASBT	**Mashibuluo**	**0.47**	**185**	*eP*	Pb	14 43 38.1	-0.4
	baz=177						
MASBT				*eS*	Sb	14 43 45.5	-0.3
	baz=177						

*IDC **11** 14:43:32.1±0.6, 12°.33N × 141°.27E, h0 km, mb4.4/23, mbtmp4.4/23, Error ellipse: s-maj=24.0km s-min=11.8km az=81.0*
*NEIC **11** 14:43:34.8±1.5, 12°.29N±0°.09 × 141°.1E±0°.1, h10 km±1 km, mb4.9/37, Error ellipse: s-maj=17.1km s-min=15.5km az=266.0*

ISC 11 14:43:36.8±0.4, 12°26N±0°.06 × 141°10E±0°.09, h30 km, n72, σ0.9 s 80/67, mb4.7/36, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.91**	**70**		**Pn**	**14 44 36.6**	**+1.8**
MANU	**Manus Island**	**15.52**	**156**	Pn	**Pn**	**14 47 12.9**	**-0.8**
MANU				IAmb	IAmb	14 47 20.2	
	comp=Z,66nm,1.3s						
FAKI	**Fak Fak**	**17.46**	**211**	P	**P**	**14 47 38.4**	**-0.9**
PATS	**Pohnpei**	**17.81**	**106**	P	**P**	**14 47 43.5**	**+0.4**
PATS				IAmb	IAmb	14 47 51.6	
	comp=Z,123nm,1.2s						
RABL	**Rabaul**	**19.70**	**145**	P	**Pn**	**14 48 05.0**	**-0.5**
RABL				IAmb	IAmb	14 48 08.0	
	comp=Z,146nm,1.5s						
JSU	**Suzuyama**	**21.52**	**335**	P	**P**	**14 48 23.8**	**+0.3**
JSU				IAmb	IAmb	14 48 25.4	
	comp=Z,54nm,0.8s						
PMG	**Port Moresby**	**22.35**	**164**	P	**P**	**14 48 31.2**	**-1.3**
	comp=Z,17nm,0.9s,baz=343,slow=14,SNR=3.8						
	comp=Z,17nm,0.9s						
PMG	**Port Moresby**	**22.35**	**164**	P	**P**	**14 48 31.4**	**-1.2**
JNU	**Nakatsue**	**22.77**	**337**	P	**P**	**14 48 35.8**	**-1.2**
	comp=Z,31nm,1.1s,baz=115,slow=6.6,SNR=5.2						
	comp=Z,31nm,1.1s						
JNU	**Nakatsue**	**22.77**	**337**	P	**P**	**14 48 36.2**	**-0.7**
JNU				IAmb	IAmb	14 48 56.9	
	comp=Z,99nm,1.6s						
MYLDM	**Lahad Datu**	**23.41**	**254**	P	**P**	**14 48 45.2**	**+1.7**
MYLDM				IAmb	IAmb	14 49 00.1	
	comp=Z,70nm,1.2s						
MJAR	**Matsushiro Arr**	**24.32**	**354**	P	**P**	**14 48 49.6**	**-2.3**
	comp=Z,2.5nm,0.7s,baz=182,slow=9.6,SNR=3.3						
	comp=Z,2.5nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**25.42**	**73**	T	T	15 15 23.3	
	baz=252,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**25.44**	**73**	T	T	15 15 21.0	
	baz=252,slow=75,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**25.44**	**73**	T	T	15 15 03.8	
	baz=252,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**25.86**	**70**	T	T	15 15 28.4	
	baz=244,slow=75,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**25.86**	**70**	T	T	15 15 36.3	
	baz=244,slow=75,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**25.87**	**70**	T	T	15 15 30.0	
	baz=244,slow=75,SNR=8.3						
MTN	**Manton Dam**	**26.83**	**202**	P	**P**	**14 49 15.7**	**+0.9**
MTN				IAmb	IAmb	14 49 49.7	
	comp=Z,53nm,1.6s						
KNRA	**Kununurra**	**30.32**	**204**	P	**P**	**14 49 46.1**	**+0.2**
WB0	**Warramunga Arr**	**32.51**	**192**	P	**P**	**14 50 04.8**	**-0.4**
WB0				IAmb	IAmb	14 50 05.9	
	comp=Z,20nm,1.1s						
CTAO	**Charters Tower**	**32.55**	**171**	P	**P**	**14 50 06.1**	**+0.6**
WR0	**Warramunga Arr**	**32.66**	**191**	P	**P**	**14 50 06.3**	**-0.2**
WR0				IAmb	IAmb	14 50 09.6	
	comp=Z,22nm,0.9s						
WB2	**Warramunga Arr**	**32.68**	**192**	P	**P**	**14 50 06.3**	**-0.4**
WB2				IAmb	IAmb	14 50 07.5	
	comp=Z,23nm,0.9s						
WRA	**Warramunga Arr**	**32.69**	**192**	P	**P**	**14 50 06.4**	**-0.3**
	comp=Z,16nm,0.9s,baz=11,slow=9.5,SNR=14						
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**32.69**	**192**	P	**P**	**14 50 06.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**32.78**	**348**	P	**P**	**14 50 05.5**	**-1.7**
	comp=Z,2.8nm,0.9s,baz=178,slow=14,SNR=2.1						
	comp=Z,2.8nm,0.9s						
AS31	**Alice Springs**	**36.39**	**191**	P	**P**	**14 50 39.1**	**+0.4**
ASAR	**Alice Springs**	**36.39**	**191**	P	**P**	**14 50 39.6**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=18,slow=13,SNR=9.8						
	comp=Z,2.2nm,0.7s						
ASAR	**Alice Springs**	**36.39**	**191**	P	**P**	**14 50 39.1**	**+0.4**
KLR	**Kul'dur**	**37.66**	**350**	P	**P**	**14 50 49.8**	**+0.5**
	comp=Z,15nm,0.8s,baz=148,slow=7.6,SNR=20						
	comp=Z,15nm,0.8s						
CM31	**Chiang Mai Arr**	**41.04**	**284**	P	**P**	**14 51 18.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**41.04**	**284**	P	**P**	**14 51 19.5**	**+1.6**
	comp=Z,9.2nm,1.1s,baz=84,slow=6.2,SNR=17						
	comp=Z,9.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.04**	**284**	P	**P**	**14 51 18.9**	**+1.0**
DZM	**Mont Dzumac**	**42.22**	**144**	P	**P**	**14 51 28.6**	**+1.1**
	comp=Z,13nm,0.9s,baz=340,slow=5.4,SNR=11						
	comp=Z,13nm,0.9s						
DZM	**Mont Dzumac**	**42.22**	**144**	P	**P**	**14 51 28.1**	**+0.5**
DZM				IAmb	IAmb	14 51 29.7	
	comp=Z,26nm,1.2s						
STKA	**Stephens Creek**	**43.89**	**179**	P	**P**	**14 51 40.2**	**-0.5**
	comp=Z,8.9nm,0.7s,baz=341,slow=8.4,SNR=11						
	comp=Z,8.9nm,0.7s						
STKA	**Stephens Creek**	**43.89**	**179**	P	**P**	**14 51 40.3**	**-0.5**
BBOO	**Buckleboo**	**45.08**	**186**	P	**P**	**14 51 50.0**	**-0.2**
SONM	**Songino Array**	**45.78**	**328**	P	**P**	**14 51 56.3**	**+0.4**
	comp=Z,2.1nm,1.0s,baz=136,slow=10,SNR=5.0						
SONM				PcP	**PcP**	**14 53 32.9**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=147,slow=3.1,SNR=1.8						
	comp=Z,2.1nm,1.0s						
SONM	**Songino Array**	**45.78**	**328**	P	**P**	**14 51 56.5**	**+0.6**
YAK	**Yakutsk**	**50.37**	**353**	P	**P**	**14 52 30.7**	**-0.2**
	comp=Z,9.7nm,0.6s,baz=130,slow=1.6,SNR=10						
	comp=Z,9.7nm,0.6s						

SEY	**Seymchan**	**51.23**	**7**	P	**P**	**14 52 37.4**	**0.0**
	comp=Z,4.8nm,0.8s,baz=184,slow=7.7,SNR=11						
	comp=Z,4.8nm,0.8s						
TIXI	**Tiksi**	**59.82**	**356**	P	**P**	**14 53 38.9**	**-0.1**
TIXI				IAmb	IAmb	14 55 14.3	
	comp=Z,13nm,1.1s						
MK31	**Makanchi Array**	**59.92**	**317**	P	**P**	**14 53 41.0**	**+0.8**
MK31				IAmb	IAmb	14 53 42.0	
	comp=Z,8.7nm,1.1s						
MKAR	**Makanchi Array**	**59.92**	**317**	P	**P**	**14 53 40.9**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=92,slow=9.7,SNR=12						
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**59.92**	**317**	P	**P**	**14 53 40.4**	**+0.1**
ZALV	**Zalesovo Beam**	**60.60**	**326**	P	**P**	**14 53 44.5**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=99,slow=7.0,SNR=6.4						
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**60.60**	**326**	P	**P**	**14 53 44.3**	**-0.3**
NIL	**Nilore**	**64.92**	**301**	P	**P**	**14 54 14.2**	**+0.3**
NRIK	**Noril'sk**	**66.21**	**342**	P	**P**	**14 54 21.9**	**+0.4**
	comp=Z,4.0nm,0.5s,baz=105,slow=6.1,SNR=5.1						
	comp=Z,4.0nm,0.5s						
NRIK	**Noril'sk**	**66.21**	**342**	P	**P**	**14 54 21.6**	**+0.2**
GAR	**Garm**	**67.48**	**307**	P	**P**	**14 54 30.5**	**+0.1**
GAR				IAmb	IAmb	14 54 31.6	
	comp=Z,11nm,0.9s						
KK31	**Karatay Array**	**67.56**	**312**	P	**P**	**14 54 30.6**	**-0.1**
KK31				IAmb	IAmb	14 54 32.0	
	comp=Z,9.6nm,1.2s						
KKAR	**Karatay Array**	**67.56**	**312**	P	**P**	**14 54 30.9**	**+0.2**
CHGR	**Chuyangaron**	**68.38**	**307**	P	**P**	**14 54 36.1**	**+0.1**
KBL	**Kabul**	**68.42**	**302**	P	**P**	**14 54 36.0**	**-0.5**
KBL				IAmb	IAmb	14 54 38.7	
	comp=Z,7.7nm,1.0s						
BRVK	**Borovoye**	**68.77**	**322**	P	**P**	**14 54 38.3**	**+0.3**
IMAR	**Indian Mountai**	**68.86**	**23**	P	**P**	**14 54 38.4**	**+0.1**
COLD	**Coldfoot**	**70.57**	**23**	P	**P**	**14 54 49.5**	**+0.7**
ILAR	**Eielson Array**	**71.34**	**25**	P	**P**	**14 54 51.9**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=254,slow=5.7,SNR=8.2						
	comp=Z,1.2nm,0.7s						
BMAR	**Burnt Mountain**	**72.74**	**23**	P	**P**	**14 55 02.8**	**+0.8**
ABKAR	**Akbulak array**	**75.06**	**318**	P	**P**	**14 55 15.6**	**-0.1**
M30M	**Minto, Yukon**	**75.57**	**28**	P	**P**	**14 55 19.1**	**+0.6**
M30M				IAmb	IAmb	14 56 43.0	
	comp=Z,17nm,2.0s						
INK	**Inuvik**	**76.99**	**22**	P	**P**	**14 55 25.3**	**-1.1**
	comp=Z,2.2nm,1.0s,baz=270,slow=3.7,SNR=3.2						
	comp=Z,2.2nm,1.0s						
GEYT	**Alibeck**	**77.08**	**306**	P	**P**	**14 55 28.0**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=99,slow=8.9,SNR=1.7						
	comp=Z,1.1nm,0.6s						
EUNU	**Eureka**	**84.66**	**7**	P	**P**	**14 56 07.4**	**+0.1**
EUNU				IAmb	IAmb	14 57 14.2	
	comp=Z,6.2nm,0.8s						
YKA	**Yellowknife Ar**	**85.71**	**27**	P	**P**	**14 56 12.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=284,slow=5.0,SNR=4.2						
	comp=Z,0.7nm,0.8s						
ARCES	**ARCESS Array B**	**87.19**	**341**	P	**P**	**14 56 19.2**	**-0.7**
	comp=Z,5.6nm,1.0s,baz=73,slow=9.0,SNR=8.4						
	comp=Z,5.6nm,1.0s						
NVAR	**Mina Array Bea**	**90.61**	**51**	P	**P**	**14 56 36.0**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=264,slow=7.2,SNR=2.8						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**90.78**	**334**	P	**P**	**14 56 35.7**	**-1.3**
	comp=Z,2.2nm,0.5s,baz=68,slow=5.2,SNR=13						
	comp=Z,2.2nm,0.5s						
PLCA	**Paso Flores**	**140.31**	**141**	PKP	**PKPdf**	**15 03 03.8**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=243,slow=9.0,SNR=3.6						

*IDC **11** 14:45:27.9±1.2, 12°.49N × 141°.51E, h0 km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=47.0km s-min=22.9km az=94.0*
*NEIC **11** 14:45:28.1±2.0, 12°.70N±0°.09 × 141°.43E±0°.10, h10 km±1 km, mb4.4/15, Error ellipse: s-maj=17.8km s-min=12.6km az=309.0*

ISC 11 14:45:31.2±0.5, 12°62N±0°.07 × 141°49E±0°.10, h33 km, n29, σ1.9 s 45/29, mb4.4/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.43**	**73**	Pn	**Pn**	**14 46 23.0**	**+0.6**
JCJ	**Chichijima**	**14.41**	**2**	Pn	**Pn**	**14 48 50.7**	**-2.3**
FAKI	**Fak Fak**	**17.96**	**211**	P	**Pn**	**14 49 37.5**	**-1.1**
FAKI				IAmb	IAmb	14 49 41.9	
	comp=Z,8.4nm,0.9s						
RABL	**Rabaul**	**19.79**	**147**	P	**P**	**14 49 57.1**	**-1.8**
RABL				IAmb	IAmb	14 50 02.6	
	comp=Z,25nm,0.6s						
JSU	**Suzuyama**	**21.36**	**333**	P	**P**	**14 50 13.8**	**-2.0**
JSU				IAmb	IAmb	14 50 15.6	
	comp=Z,18nm,1.1s						
JMN	**Monobe**	**22.13**	**343**	P	**P**	**14 50 21.7**	**-2.3**
JMN				IAmb	IAmb	14 50 43.1	
	comp=Z,17nm,0.7s						
YHNB	**Yeheng**	**22.47**	**305**	P	**P**	**14 50 25.9**	**-2.0**
YHNB				IAmb	IAmb	14 50 53.6	
	comp=Z,19nm,0.9s						
MMRI	**Maumere**	**28.50**	**223**	P	**P**	**14 51 23.3**	**-0.4**
HNR	**Honiara**	**28.57**	**139**	P	**P**	**14 51 22.8**	**-1.6**
BATI	**Baumata**	**28.77**	**219**	P	**P**	**14 51 27.4**	**+1.2**
	comp=Z,6.8nm,0.2s,baz=353,slow=8.1,SNR=7.0						
KNRA	**Kununurra**	**30.81**	**204**	P	**P**	**14 51 43.9**	**-0.3**
KNRA				IAmb	IAmb	14 52 06.8	
	comp=Z,12nm,1.0s						
WRAB	**Tennant Creek**	**33.11**	**192**	P	**P**	**14 52 04.7**	**+0.3**
WRAB				IAmb	IAmb	14 52 15.5	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**33.12**	**192**	P	**P**	**14 52 04.4**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=10,slow=9.9,SNR=3.0						
	comp=Z,1.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**34.30**	**207**	P	**P**	**14 52 14.9**	**+0.2**
AS31	**Alice Springs**	**36.82**	**192**	P	**P**	**14 52 36.1**	**-0.2**
ASAR	**Alice Springs**	**36.82**	**192**	P	**P**	**14 52 36.8**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=19,slow=12,SNR=1.4						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**36.82**	**192**	P	**P**	**14 52 35.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**41.33**	**284**	P	**P**	**14 53 15.8**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=94,slow=8.3,SNR=1.5						
	comp=Z,0.7nm,0.6s						
RPSI	**Rantau Prapat**	**43.26**	**260**	P	**P**	**14 53 30.0**	**+0.1**
RPSI				IAmb	IAmb	14 53 41.0	
	comp=Z,3.2nm,0.9s						
STKA	**Stephens Creek**	**44.25**	**180**	P	**P**	**14 53 38.0**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=347,slow=8.6,SNR=3.1						
	comp=Z,1.4nm,0.5s						
STKA	**Stephens Creek**	**44.25**	**180**	P	**P**	**14 53 37.5**	**0.0**
IMAR	**Indian Mountai**	**68.38**	**23**	P	**P**	**14 56 29.8**	**+0.6**
BMAR	**Burnt Mountain**	**72.27**	**23**	P	**P**	**14 56 54.2**	**+1.2**
ABKAR	**Akbulak array**	**75.04**	**318**	P	**P**	**14 57 09.8**	**+0.2**
ABKAR	**Akbulak array**	**75.04**	**318**	P	**P**	**14 57 09.3**	**-0.3**
ABKAR				IAmb	IAmb	14 57 14.1	
	comp=Z,0.8nm,0.7s						
C03A	**Quillayute Air**	**83.36**	**42**	P	**P**	**14 57 54.4**	**-0.7**
YKA	**Yellowknife Ar**	**85.22**	**27**	P	**P**	**14 58 06.8**	**+2.6**
	comp=Z,0.1nm,0.4s,baz=283,slow=5.4,SNR=1.2						
	comp=Z,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**86.97**	**342**	P	**P**	**14 58 15.1**	**+2.3**
	comp=Z,2.3nm,0.8s,baz=83,slow=11,SNR=4.5						
	comp=Z,2.3nm,0.8s						
FINES	**FINESS Array B**	**90.62**	**334**	P	**P**	**14 58 33.1**	**+3.0**
	comp=Z,6.4nm,1.1s,baz=72,slow=6.2,SNR=5.6						
	comp=Z,6.4nm,1.1s						

*IDC **11** 14:47:13.6±0.9, 12°.32N × 141°.45E, h0 km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=37.7km s-min=18.1km az=89.0*

ISC 11 14:47:18.6±0.9, 12°.3N±0°.1 × 141°.4E±0°.2, h33 km, n11, σ0.8 s 88/11, mb4.0/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.78**	**192**	P	**P**	**14 53 48.7**	**-0.2**
	2.0nm,0.8s,baz=13,slow=9.7,SNR=5.0						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**36.48**	**192**	P	**P**	**14 54 21.8**	**+0.9**
	0.6nm,0.7s,baz=20,slow=12,SNR=6.5						
	0.6nm,0.7s						
KLR	**Kul'dur**	**37.70**	**350**	P	**P**	**14 54 31.5**	**+0.6**
	3.7nm,1.1s,baz=139,slow=6.8,SNR=4.6						
	3.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.35**	**284**	P	**P**	**14 55 02.1**	**+0.2**
	0.9nm,0.5s,baz=92,slow=6.5,SNR=5.6						
	0.9nm,0.5s						
STKA	**Stephens Creek**	**43.91**	**180**	P	**P**	**14 55 22.1**	**-0.2**
	1.4nm,0.5s,baz=341,slow=8.8,SNR=4.9						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**60.13**	**317**	P	**P**	**14 57 23.1**	**+0.1**
	0.5nm,0.7s,baz=98,slow=7.7,SNR=3.7						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**60.76**	**326**	P	**P**	**14 57 26.7**	**-0.4**
	0.6nm,0.5s,baz=122,slow=7.4,SNR=2.1						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**71.17**	**25**	P	**P**	**14 58 35.0**	**+1.1**
	0.2nm,0.6s,baz=253,slow=5.6,SNR=4.4						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**85.54**	**27**	P	**P**	**14 59 52.3**	**-1.0**
	0.2nm,0.6s,baz=287,slow=5.5,SNR=2.8						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**87.27**	**342**	P	**P**	**15 00 01.8**	**+0.1**
	0.9nm,0.5s,baz=50,slow=1.9,SNR=6.3						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**90.90**	**334**	P	**P**	**15 00 17.2**	**-1.6**
	2.3nm,0.7s,baz=57,slow=7.0,SNR=8.2						
	2.3nm,0.7s						

*NOU **11** 14:49:28.9, 42°.04S × 178°.05E, h0 km, MLv4.4/12, Off E. Coast of S. Island, N.Z.*
*IDC **11** 14:49:31.4±3.8, 41°.89S × 177°.72E, h0 km, mb3.9/4, mbtmp4.0/6, ML4.5/2, Error ellipse: s-maj=77.2km s-min=34.6km az=116.0*
*WEL **11** 14:49:31.6±0.7, 42°.5S±5'.× 17°.8E±'., h12 km, M3.8/14, ML4.0/15, MLv3.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=35.4, confirmed*

ISC 11 14:49:29.5±3.4, 42°.06S±0°.05 × 177°.87E±0°.07, h3 km±21 km, n85, σ1.9 s 60/97, mb3.6/4, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRWZ	**Traveller**	**1.76**	**291**	P	**Pn**	**14 50 00.7**	**-0.2**
TMWZ	**Te Maipa**	**1.76**	**302**	P	**Pb**	**14 50 01.8**	**-0.7**
MTW	**Mount Morrison**	**1.99**	**296**	P	**Pn**	**14 50 04.1**	**+0.1**
MTW				S	Sn	14 50 26.8	-2.6
PXZ	**Pawanui**	**2.16**	**339**	P	**Pn**	**14 50 06.5**	**+0.1**
MRZ	**Mangatainoka R**	**2.22**	**308**	P	**Pn**	**14 50 08.3**	**+1.2**
MRZ				S	Sn	14 50 31.8	-3.2
WPHZ	**Waipukurau**	**2.27**	**331**	P	**Pn**	**14 50 08.6**	**+0.8**
OGWZ	**Otaki Gorge**	**2.38**	**301**	P	**Pn**	**14 50 10.0**	**+0.7**
OGWZ				S	Sn	14 50 36.4	-2.6
KAHZ	**Kahuranaki**	**2.38**	**341**	P	**Pn**	**14 50 09.7**	**+0.2**
SNZO	**South Karori**	**2.48**	**286**	P	**Pn**	**14 50 12.7**	**+1.9**
PNHZ	**Pukenui**	**2.49**	**329**	P	**Pn**	**14 50 11.6**	**+0.7**
KIW	**Kapiti Island**	**2.52**	**297**	P	**Pn**	**14 50 12.0**	**+0.7**
KIW				S	Sn	14 50 39.5	-3.1
KRHZ	**Kereru**	**2.67**	**334**	P	**Pn**	**14 50 13.9**	**+0.5**
CMWZ	**Cape Campbell**	**2.75**	**275**	P	**Pb**	**14 50 17.2**	**-2.0**
TCW	**Tory Channel**	**2.82**	**286**	P	**Pn**	**14 50 16.2**	**+0.8**
KWHZ	**Kaweka Forest**	**2.85**	**337**	P	**Pn**	**14 50 16.3**	**+0.4**
KWHZ				S	Sn	14 50 49.4	-1.3
BHHZ	**Black Hill Sta**	**2.91**	**331**	P	**Pn**	**14 50 17.7**	**+1.0**
BHHZ				S	Sn	14 50 47.8	-4.4
TUWZ	**Tuamarina**	**3.00**	**281**	P	**Pn**	**14 50 19.0**	**+1.0**
BKZ	**Black Stump Fm**	**3.07**	**340**	P	**Pn**	**14 50 19.2**	**+0.2**
BKZ	**Black Stump Fm**	**3.07**	**340**	P	**Pn**	**14 50 19.0**	**0.0**
DUWZ	**D'Urville Isla**	**3.22**	**292**	P	**Pn**	**14 50 22.4**	**+1.5**
WNVZ	**Wahianoa**	**3.23**	**327**	P	**Pn**	**14 50 23.3**	**+2.1**
WNVZ				S	Sn	14 50 58.3	-1.9
MTVZ	**Mangateitei**	**3.23**	**325**	P	**Pn**	**14 50 23.6**	**+2.5**
KHZ	**Kahutara**	**3.24**	**262**	P	**Pn**	**14 50 21.2**	**0.0**
TUVZ	**Tukino**	**3.26**	**328**	P	**Pn**	**14 50 23.7**	**+2.2**
TUVZ				S	Sn	14 50 58.4	-2.5
WHVZ	**Whangaehu Hut**	**3.27**	**327**	P	**Pn**	**14 50 23.9**	**+2.1**
TRVZ	**Turoa**	**3.27**	**327**	P	**Pn**	**14 50 24.1**	**+2.3**
TRVZ				S	Sn	14 50 59.2	-2.2
MTHZ	**Maungataniwha**	**3.30**	**346**	P	**Pn**	**14 50 21.8**	**-0.2**
SNGZ	**Shannon Statio**	**3.30**	**353**	P	**Pn**	**14 50 21.3**	**-0.7**
FWVZ	**Far West T-bar**	**3.31**	**327**	P	**Pn**	**14 50 24.3**	**+2.0**
SNVZ	**South Ngauruho**	**3.33**	**329**	P	**Pn**	**14 50 24.3**	**+1.7**
OTVZ	**Oturere**	**3.34**	**329**	P	**Pn**	**14 50 24.7**	**+1.9**
ETVZ	**East Tongariro**	**3.35**	**330**	P	**Pn**	**14 50 24.4**	**+1.6**
RIGZ	**Rimuhau**	**3.35**	**359**	P	**Pn**	**14 50 21.4**	**-1.3**
NGZ	**Ngauruhoe**	**3.36**	**328**	P	**Pn**	**14 50 24.7**	**+1.8**
PKVZ	**Pokaka**	**3.37**	**324**	P	**Pn**	**14 50 25.2**	**+2.2**
TMVZ	**Te Maari**	**3.37**	**330**	P	**Pn**	**14 50 24.6**	**+1.5**
NNVZ	**North Ngauruho**	**3.39**	**329**	P	**Pn**	**14 50 25.2**	**+1.8**
NTVZ	**North Tongarir**	**3.40**	**330**	P	**Pn**	**14 50 25.3**	**+1.8**
MRHZ	**Matea Rd**	**3.41**	**341**	P	**Pn**	**14 50 24.2**	**+0.7**
WTVZ	**West Tongariro**	**3.

comp=Z,108nm,20.3s,baz=24,slow=35
MKAR Makanchi Array 59.65 317 P P 15 05 20.2 +0.7
0.2nm,0.6s,baz=101,slow=7.5,SNR=2.6
0.2nm,0.6s
FINES FINESS Array B 90.56 334 P P 15 08 16.4 -0.8
2.2nm,0.8s,baz=72,slow=4.5,SNR=5.4
2.2nm,0.8s

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*NEIC **11** 14:55:47.1±1.1, 12°.26N±0°.08×141°.10E±0°.07, h10km±1km, mb4.7/39, Error ellipse: s-maj=17.0km s-min=4.0km az=138.0*
*IDC **11** 14:55:54.2±3.2, 12°.26N×141°.29E, h75km±30km, mb4.1/20, mbtmp4.4/21, MS4.0/1, Error ellipse: s-maj=18.9km s-min=11.2km az=82.0*
ISC 11 14:55:49.9±0.4, 12°.22N±0°.06×141°.12E±0°.08, h35km, n65, σ0s80/67, mb4.5/36, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.90**	**69**	P		**P**	**Pn**	**14 56 48.7**	**+1.3**
	188nm,0.5s,baz=210,slow=6.3,SNR=11								
GUMO	**Guam**	**3.90**	**69**				**Pn**	**14 56 46.7**	**-0.7**
JCJ	**Chichijima**	**14.84**	**4**	LR		LR	LR	15 03 24.3	
	comp=Z,508nm,18.4s,baz=180,slow=30								
MANU	**Manus Island**	**15.47**	**156**	Pn		**Pn**	**Pn**	**14 59 24.7**	**-0.8**
MANU				IAmb		IAmb	IAmb	14 59 28.8	
	comp=Z,34nm,1.4s								
TNTI	**Ternate**	**17.76**	**231**	Pn		**Pn**	**Pn**	**14 59 53.4**	**-1.1**
PMG	**Port Moresby**	**22.30**	**164**	P		**P**	**P**	**15 00 44.1**	**-0.4**
LUWI	**Luwuk**	**22.48**	**235**	P		**P**	**P**	**15 00 47.8**	**+1.4**
MYLDM	**Lahad Datu**	**23.41**	**255**	P		**P**	**P**	**15 00 55.8**	**-0.2**
MYLDM				IAmb		IAmb	IAmb	15 01 09.8	
	comp=Z,69nm,1.2s								
COEN	**Coen**	**26.09**	**175**	P		**P**	**P**	**15 01 21.2**	**+0.7**
COEN				IAmb		IAmb	IAmb	15 01 32.5	
	comp=Z,7.9nm,0.8s								
KNRA	**Kununurra**	**30.29**	**204**	P		**P**	**P**	**15 01 57.7**	**-0.3**
WB0	**Warramunga Arr**	**32.47**	**192**	P		**P**	**P**	**15 02 16.9**	**-0.3**
WB0				IAmb		IAmb	IAmb	15 02 26.8	
	comp=Z,14nm,0.9s								
WB2	**Warramunga Arr**	**32.65**	**192**	P		**P**	**P**	**15 02 18.6**	**-0.1**
WB2				IAmb		IAmb	IAmb	15 02 28.9	
	comp=Z,21nm,0.8s								
WRA	**Warramunga Arr**	**32.65**	**192**	P		**P**	**P**	**15 02 19.1**	**+0.3**
	comp=Z,8.0nm,0.8s,baz=10.0,slow=9.5,SNR=31								
	comp=Z,8.0nm,0.8s								
WRA	**Warramunga Arr**	**32.65**	**192**	P		**P**	**P**	**15 02 18.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**33.77**	**207**	P		**P**	**P**	**15 02 27.7**	**-0.9**
AS31	**Alice Springs**	**36.35**	**191**	P		**P**	**P**	**15 02 51.3**	**+0.5**
ASAR	**Alice Springs**	**36.35**	**191**	P		**P**	**P**	**15 02 51.7**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=21,slow=11,SNR=23								
	comp=Z,1.3nm,0.6s								
ASAR	**Alice Springs**	**36.35**	**191**	P		**P**	**P**	**15 02 51.3**	**+0.5**
KLR	**Kul'dur**	**37.71**	**350**	P		**P**	**P**	**15 03 02.6**	**+0.6**
	comp=Z,6.2nm,0.8s,baz=148,slow=8.3,SNR=18								
	comp=Z,6.2nm,0.8s								
KOUNC	**Koumac, New Ca**	**39.74**	**145**	P		**P**	**P**	**15 03 21.7**	**+2.3**
KOUNC				IAmb		IAmb	IAmb	15 03 22.8	
	comp=Z,32nm,1.4s								
CM31	**Chiang Mai Arr**	**41.07**	**284**	P		**P**	**P**	**15 03 31.1**	**+0.6**
CM31				IAmb		IAmb	IAmb	15 03 42.4	
	comp=Z,7.9nm,0.8s								
CMAR	**Chiang Mai Arr**	**41.07**	**284**	P		**P**	**P**	**15 03 32.4**	**+1.8**
	comp=Z,3.4nm,0.7s,baz=88,slow=6.3,SNR=22								
	comp=Z,3.4nm,0.7s								
CMAR	**Chiang Mai Arr**	**41.07**	**284**	P		**P**	**P**	**15 03 30.3**	**-0.2**
DZM	**Mont Dzumac**	**42.17**	**144**	P		**P**	**P**	**15 03 41.1**	**+1.6**
	comp=Z,8.7nm,1.0s,baz=251,slow=7.7,SNR=11								
	comp=Z,8.7nm,1.0s								
DZM	**Mont Dzumac**	**42.17**	**144**	P		**P**	**P**	**15 03 40.9**	**+1.4**
DZM				IAmb		IAmb	IAmb	15 03 51.5	
	comp=Z,18nm,1.4s								
RPSI	**Rantau Prapat**	**42.83**	**261**	P		**P**	**P**	**15 03 44.9**	**-0.1**
STKA	**Stephens Creek**	**43.84**	**179**	P		**P**	**P**	**15 03 53.0**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=354,slow=7.9,SNR=11								
	comp=Z,4.9nm,0.6s								
STKA	**Stephens Creek**	**43.84**	**179**	P		**P**	**P**	**15 03 52.9**	**+0.1**
FORT	**Forrest**	**44.55**	**196**	P		**P**	**P**	**15 03 58.1**	**-0.4**
BBOO	**Buckleboo**	**45.03**	**186**	P		**P**	**P**	**15 04 02.0**	**-0.3**
BBOO				IAmb		IAmb	IAmb	15 04 12.0	
	comp=Z,10nm,0.7s								
SONM	**Songino Array**	**45.83**	**328**	P		**P**	**P**	**15 04 09.5**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=132,slow=8.6,SNR=8.3								
SONM				PcP		PcP	PcP	15 05 45.0	-0.6
	comp=Z,0.6nm,0.6s,baz=158,slow=4.2,SNR=2.8								
	comp=Z,1.3nm,1.0s								
MSVF	**Nonsavu**	**47.07**	**129**	P		**P**	**P**	**15 04 16.9**	**-1.7**
	comp=Z,3.8nm,0.5s,baz=232,slow=14,SNR=5.0								
	comp=Z,3.8nm,0.5s								
TOO	**Toolangi**	**49.69**	**175**	P		**P**	**P**	**15 04 39.5**	**+0.9**
YAK	**Yakutsk**	**50.42**	**353**	P		**P**	**P**	**15 04 43.1**	**-0.5**
	comp=Z,7.8nm,0.6s,baz=115,slow=1.1,SNR=11								
	comp=Z,7.8nm,0.6s								
YAK	**Yakutsk**	**50.42**	**353**	P		**P**	**P**	**15 04 43.8**	**+0.2**
SEY	**Seymchan**	**51.27**	**7**	P		**P**	**P**	**15 04 50.4**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=168,slow=6.3,SNR=13								
	comp=Z,6.3nm,0.8s								
TIXI	**Tiksi**	**59.86**	**356**	P		**P**	**P**	**15 05 51.0**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=90,slow=23,SNR=9.1								
	comp=Z,2.2nm,0.5s								
MK31	**Makanchi Array**	**59.97**	**317**	P		**P**	**P**	**15 05 53.3**	**+0.4**
MKAR	**Makanchi Array**	**59.97**	**317**	P		**P**	**P**	**15 05 53.8**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=95,slow=9.1,SNR=22								
MKAR				PcP		PcP	PcP	15 06 38.1	-0.8
	comp=Z,1.3nm,0.8s,baz=112,slow=5.6,SNR=1.8								
	comp=Z,3.3nm,0.9s								
MKAR	**Makanchi Array**	**59.97**	**317**	P		**P**	**P**	**15 05 53.2**	**+0.3**
ZALV	**Zalesovo Beam**	**60.64**	**326**	P		**P**	**P**	**15 05 57.4**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=100,slow=6.1,SNR=9.6								
ZALV				PcP		PcP	PcP	15 06 39.5	-1.8
	comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=3.6								
	comp=Z,2.0nm,0.7s								
KURK	**Kurchatov**	**63.30**	**321**	P		**P**	**P**	**15 06 14.8**	**-0.4**
NRIK	**Noril'sk**	**66.26**	**342**	P		**P**	**P**	**15 06 34.3**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=126,slow=8.5,SNR=3.8								
	comp=Z,2.1nm,0.3s								
GAR	**Garm**	**67.52**	**307**	P		**P**	**P**	**15 06 43.0**	**0.0**
KKAR	**Karatay Array**	**67.61**	**312**	P		**P**	**P**	**15 06 43.3**	**0.0**
J20K	**Nowinta River**	**68.17**	**25**	P		**P**	**P**	**15 06 46.9**	**+0.5**
J20K				IAmb		IAmb	IAmb	15 06 48.1	
	comp=Z,3.7nm,0.9s								
CHGR	**Chuyangaron**	**68.42**	**307**	P		**P**	**P**	**15 06 48.6**	**+0.1**
BRVK	**Borovoye**	**68.82**	**322**	P		**P**	**P**	**15 06 50.7**	**+0.1**
BRVK				IAmb		IAmb	IAmb	15 06 51.9	
	comp=Z,6.9nm,0.7s								
BPAW	**Bear Paw Mtn.**	**69.48**	**26**	P		**P**	**P**	**15 06 54.8**	**+0.2**
BPAW				IAmb		IAmb	IAmb	15 06 55.4	
	comp=Z,5.9nm,1.0s								
MLY	**Manley**	**69.83**	**25**	P		**P**	**P**	**15 06 56.8**	**+0.1**
MLY				IAmb		IAmb	IAmb	15 06 57.8	
	comp=Z,3.2nm,0.8s								
PWL	**Port Wells**	**69.96**	**29**	P		**P**	**P**	**15 06 57.1**	**-0.5**
PWL				IAmb		IAmb	IAmb	15 06 58.5	
	comp=Z,6.4nm,0.8s								
SML	**Sawmill**	**70.14**	**28**	P		**P**	**P**	**15 06 58.6**	**-0.1**
SML				IAmb		IAmb	IAmb	15 06 59.3	
	comp=Z,8.5nm,1.1s								
I23K	**Minto, Yukon-K**	**70.42**	**25**	P		**P**	**P**	**15 07 00.8**	**+0.6**
I23K				IAmb		IAmb	IAmb	15 07 01.6	
	comp=Z,8.8nm,1.2s								
ILAR	**Eielson Array**	**71.37**	**25**	P		**P**	**P**	**15 07 04.5**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=251,slow=5.3,SNR=10								
	comp=Z,0.8nm,0.8s								
DOT	**Dot Lake**	**72.40**	**27**	P		**P**	**P**	**15 07 12.6**	**+0.3**
DOT				IAmb		IAmb	IAmb	15 07 12.8	
	comp=Z,6.1nm,1.3s								
DAWY	**Dawson**	**74.50**	**27**	P		**P**	**P**	**15 07 25.5**	**+0.8**
ABKAR	**Akbulak array**	**75.10**	**318**	P		**P**	**P**	**15 07 28.4**	**+0.1**
ABKAR				IAmb		IAmb	IAmb	15 07 29.1	
	comp=Z,4.0nm,0.8s								
ABKAR	**Akbulak array**	**75.10**	**318**	P		**P**	**P**	**15 07 28.3**	**-0.1**
INK	**Inuvik**	**77.02**	**22**	P		**P**	**P**	**15 07 38.0**	**-0.9**
	comp=Z,3.5nm,1.1s,baz=250,slow=4.8,SNR=5.4								
	comp=Z,3.5nm,1.1s								
GEYT	**Alibeck**	**77.12**	**306**	P		**P**	**P**	**15 07 40.5**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=70,slow=1.7,SNR=6.8								
	comp=Z,2.9nm,0.7s								
GEYT	**Alibeck**	**77.12**	**306**	P		**P**	**P**	**15 07 40.2**	**+0.1**
GEYT				IAmb		IAmb	IAmb	15 07 41.8	
	comp=Z,5.8nm,0.9s								
YKA	**Yellowknife Ar**	**85.74**	**27**	P		**P**	**P**	**15 08 24.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=292,slow=5.2,SNR=5.4								
	comp=Z,0.6nm,0.6s								
ARCES	**ARCESS Array B**	**87.24**	**341**	P		**P**	**P**	**15 08 32.0**	**-0.4**
	comp=Z,16nm,1.2s,baz=76,slow=7.8,SNR=11								
	comp=Z,16nm,1.2s								
FINES	**FINESS Array B**	**90.83**	**334**	P		**P**	**P**	**15 08 48.4**	**-1.1**
	comp=Z,7.7nm,0.7s,baz=70,slow=5.0,SNR=18								
	comp=Z,7.7nm,0.7s								
PLCA	**Paso Flores**	**140.26**	**141**	PKP		**PKPdf**		**15 15 15.4**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=209,slow=3.3,SNR=3.1								

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*JMA **11** 14:58:39.1±0.3, 44°.N±2°.×14°.8E±°, h59km, MV3.5/24, SE OFF ETOROFU*
*SKHL **11** 14:58:40.0±0.1, 44°.30N×147°.80E, h61km±4km, mb4.5/2*
ISC 11 14:58:38.3±3.1, 44°.3N±0°.1×147°.9E±0°.2, h30km±28km, n15, σ0s77/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.98**	**0**	*e*P		**P**	**Pn**	**14 58 56.4**	**+0.4**
KUR					AMB	AMB	AMB	14 58 56.9	
	290nm,0.3s								
KUR				*e*S		**Sb**	**Sn**	**14 59 08.8**	**-0.4**
KUR				A		A	A	14 59 10.2	
	390nm,0.3s								
KUR				A		A	A	14 59 10.2	
	440nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.46**	**262**	*e*P		**Pn**	**Pn**	**14 59 02.9**	**+0.3**
YUK					AMB	AMB	AMB	14 59 03.5	
	190nm,0.3s								
YUK				*e*S		**Sn**	**Sn**	**14 59 20.0**	**-0.7**
YUK				A		A	A	14 59 21.6	
	550nm,0.2s								
YUK				A		A	A	14 59 21.6	
	440nm,0.2s								
NEM2	**Nemuro 2**	**1.77**	**241**	*e*P		**Pn**	**Pn**	**14 59 07.5**	**+0.5**
NEM2				*e*S		**Sn**	**Sn**	**14 59 28.0**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.78**	**241**	*e*P		**Pn**	**Pn**	**14 59 07.4**	**+0.4**
NMR				*e*S		**Sn**	**Sn**	**14 59 28.0**	**-0.7**
JRA	**Rausu**	**2.00**	**262**	*e*P		**Pn**	**Pn**	**14 59 10.5**	**+0.4**
JRA				*e*S		**Sn**	**Sn**	**14 59 34.5**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.12**	**258**	*e*P		**Pn**	**Pn**	**14 59 12.3**	**+0.7**
JNSB				*e*S		**Sn**	**Sn**	**14 59 37.3**	**+0.3**
JKHN	**Kushirohamanak**	**2.28**	**240**	*e*P		**Pn**	**Pn**	**14 59 14.4**	**+0.4**
JKHN				*e*S		**Sn**	**Sn**	**14 59 40.1**	**-1.0**
JNK	**Nakash**	**2.37**	**255**	*e*P		**Pn**	**Pn**	**14 59 15.6**	**+0.5**
JNK				*e*S		**Sn**	**Sn**	**14 59 42.6**	**-0.6**
AKK	**Akkeshi**	**2.52**	**242**	*e*P		**Pn**	**Pn**	**14 59 17.2**	**0.0**
JAK	**Akkeshi**	**2.62**	**242**	*e*P		**Pn**	**Pn**	**14 59 18.8**	**+0.2**
JAK				*e*S		**Sn**	**Sn**	**14 59 48.1**	**-1.2**
JTKR	**Abashiri--Toko**	**2.86**	**266**	*e*P		**Pn**	**Pn**	**14 59 21.8**	**-0.1**
JAR	**Ashorobuto**	**3.12**	**254**	*e*P		**Pn**	**Pn**	**14 59 26.6**	**+1.2**
JAR				*e*S		**Sn**	**Sn**	**15 00 02.5**	**+0.9**
JOB	**Onbets**	**3.22**	**247**	*e*S		**Sn**	**Sn**	**15 00 03.2**	**-1.1**
JCH	**Churui**	**3.67**	**245**	*e*P		**Pn**	**Pn**	**14 59 34.0**	**+1.0**
JCH				*e*S		**Sn**	**Sn**	**15 00 14.1**	**-1.1**
MYR	**Moyori**	**3.88**	**241**	*e*P		**Pn**	**Pn**	**14 59 37.0**	**+1.1**

IDC 11 15:03:35.3±4.0, 12°.36N×141°.61E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=116.8km s-min=27.6km az=70.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.88**	**193**	P		P	P	15 10 11.1	-0.2
	2.1nm,0.8s,baz=12,slow=9.4,SNR=11								
	2.1nm,0.8s								
ASAR	**Alice Springs**	**36.59**	**192**	P		P	P	15 10 43.3	-0.1
	0.4nm,0.6s,baz=18,slow=12,SNR=11								
	0.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**41.51**	**284**	P		P	P	15 11 24.9	+0.3
	0.5nm,0.6s,baz=75,slow=6.7,SNR=4.9								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**60.19**	**317**	P		P	P	15 13 44.9	-0.3
	0.4nm,0.9s,baz=104,slow=5.8,SNR=2.9								
	0.4nm,0.9s								

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*THE **11** 15:07:29.0, 38°.35N×21°.68E, h9km±3km, ML1.7/1, Error ellipse: s-maj=3.8km s-min=1.0km az=91.0*
*ATH **11** 15:07:32.8, 38°.29N×21°.67E, h8km±4km, ML2.7/7, Error ellipse: s-maj=4.8km s-min=1.0km az=50.0*
ISC 11 15:07:29.5±1.0, 38°.33N±0°.03×21°.67E±0°.03, h5km±8km, n20, σ1s25/31, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.10**	**117**	P		**P**	**Pg**	**15 07 31.8**	**+0.2**
UPR				S		**S**	**Sg**	**15 07 34.0**	**+0.9**
LAKA	**Lakka**	**0.26**	**110**	P		**P**	**Pn**	**15 07 37.5**	**-2.5**
LAKA				S		**S**	**Sb**	**15 07 40.9**	**-0.5**
LAKA					AML	AML		15 07 41.2	
	comp=E,5153μm,0.4s								
LAKA					AML	AML		15 07 41.5	
	comp=N,3448μm,0.3s								
PVO	**Paravola**	**0.31**	**338**	P		**P**	**Pg**	**15 07 35.2**	**-0.4**
PVO				S		**S**	**Sg**	**15 07 38.8**	**-0.9**
	comp=N,220nm,0.1s								
PVO	**Paravola**	**0.31**	**338**	P		**P**	**Pn**	**15 07 38.7**	**-2.1**
PVO				S		**S**	**Sb**	**15 07 44.4**	**+1.5**
SERG	**Sergoula**	**0.31**	**74**	P		**P**	**Pn**	**15 07 39.7**	**-1.1**
SERG				S		**S**	**Sb**	**15 07 43.9**	**+0.9**
SERG					AML	AML		15 07 45.1	
	comp=N,5975μm,0.3s								
SERG					AML	AML		15 07 46.6	
	comp=E,5274μm,0.2s								
RLS	**Riolos of Patr**	**0.32**	**211**	P		**P**	**Pb**	**15 07 36.4**	**-1.2**
RLS				S		**S**	**Sg**	**15 07 39.9**	**+0.1**
ANX	**Ano Chora**	**0.33**	**36**	P		**P**	**Pn**	**15 07 39.4**	**-1.7**
ANX				S		**S**	**Sb**	**15 07 44.8**	**+1.2**
ANX					AML	AML		15 07 44.9	
	comp=N,2594μm,0.5s								
ANX					AML	AML		15 07 45.0	
	comp=E,2026μm,0.2s								
ALIK	**Aliki, Aigiali**	**0.35**	**101**	P		**P**	**Pg**	**15 07 36.0**	**-0.3**
ALIK				S		**S**	**Sg**	**15 07 40.7**	**-0.3**
DRO	**Drossia**	**0.38**	**176**	P		**P**	**Pg**	**15 07 36.9**	**+0.1**
KLV	**Kalavryta, Ach**	**0.47**	**127**	P		**P**	**Pg**	**15 07 38.0**	**-0.6**
KLV	**Kalavryta, Ach**	**0.47**	**127**	P		**P**	**Pn**	**15 07 41.6**	**-1.4**
KLV				S		**S**	**Sb**	**15 07 48.1**	**+0.5**
KLV					AML	AML		15 07 49.8	
	comp=E,888μm,0.2s								
KLV					AML	AML		15 07 50.3	
	comp=N,849μm,0.2s								
EVR	**Evrytania**	**0.60**	**10**	P		**P**	**Pn**	**15 07 45.1**	**+0.3**
DLFA	**Delphi**	**0.66**	**77**	P		**P**	**Pn**	**15 07 44.7**	**-1.0**
MAKR	**Makrakomi, Fth**	**0.77**	**28**	P		**P**	**Pn**	**15 07 47.8**	**+0.6**
MAKR				S		**S**	**Sn**	**15 07 59.3**	**+0.2**
MAKR					AML	AML		15 08 01.7	
	comp=E,1669μm,0.2s								
MAKR					AML	AML		15 08 02.2	
	comp=N,1569μm,0.3s								
THAL	**Thalero**	**0.83**	**110**	P		**P**	**Pn**	**15 07 47.8**	**-0.1**
THAL					AML	AML		15 08 04.0	
	comp=N,1411μm,0.4s								
THAL					AML	AML		15 08 08.2	
	comp=E,1299μm,0.4s								
EVGI	**Lefkada island**	**0.85**	**290**	P		**P**	**Pn**	**15 07 49.2**	**+1.1**
AXAR	**Agios Charalam**	**0.89**	**60**	P		**P**	**Pn**	**15 07 49.5**	**+0.8**
AXAR				S		**S**	**Sn**	**15 08 01.6**	**-0.4**
AXAR					AML	AML		15 08 05.2	
	comp=E,1118μm,0.3s								
AXAR					AML	AML		15 08 07.7	
	comp=N,1514μm,0.3s								
LTHK	**Lithakia**	**0.90**	**227**	P		**P**	**Pn**	**15 07 49.9**	**+1.1**
LOUT	**Loutraki**	**1.08**	**108**	P		**P**	**Pn**	**15 07 53.4**	**+2.0**
VIL2	**Platees**	**1.26**	**95**	P		**P**	**Pg**	**15 07 56.5**	**+2.8**

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*IDC **11** 15:15:41.5±2.9, 6°.86S×155°.41E, h60km±25km, mb3.7/11, mbtmp4.0/14, ML3.3/3, MS3.3/1, Error ellipse: s-maj=19.5km s-min=16.1km az=70.0*
ISC 11 15:15:40.4±0.7, 6°.83S±0°.09×155°.48E±0°.08, h50km, n22, σ0s77/18, mb3.8/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.25**	**306**	P		P	**Pn**	**15 16 42.9**	**+0.3**
	11nm,0.3s,baz=177,slow=21,SNR=2.0								
KRVT				S			**Sn**	**15 17 32.0**	**+0.9**
	63nm,0.4s,baz=185,slow=22,SNR=1.5								
	72nm,0.6s								
PMG	**Port Moresby**	**8.62**	**252**	P		P	**Pn**	**15 17 43.0**	**+0.5**
	2.4nm,0.3s,baz=56,slow=12,SNR=6.1								
PMG				S			**Sn**	**15 19 18.9**	**+0.4**
	19nm,1.0s,baz=20,slow=18,SNR=3.3								
PMG					LR	LR		15 20 39.2	
	comp=Z,175nm,19.2s,baz=106,slow=35								
	7.8nm,0.5s								
DZM	**Mont Dzumac**	**18.48**	**146**	P		**P**	**Pn**	**15 19 54.1**	**+1.1**
	0.2nm,0.3s,baz=241,slow=11,SNR=6.3								
	0.9nm,0.5s								
WRA	**Warramunga Arr**	**24.30**	**236**	P		**P**	**P**	**15 20 53.1**	**-0.3**
	1.5nm,0.5s,baz=60,slow=9.7,SNR=27								
	1.5nm,0.5s								
MSVF	**Nonsavu**	**24.54**	**118**	P		**P**	**P**	**15 20 56.1**	**+0.5**
	0.7nm,0.4s,baz=187,slow=22,SNR=1.5								
	0.7nm,0.4s								
ASAR	**Alice Springs**	**26.64**	**229**	P		**P**	**P**	**15 21 13.4**	**-1.2**
	0.6nm,0.5s,baz=60,slow=9.3,SNR=22								
	0.6nm,0.5s								
H11S3	**WAKE ISLAND Hy**	**27.49**	**24**	T		T	T	15 50 09.7	
	baz=199,slow=74								
H11S2	**WAKE ISLAND Hy**	**27.50**	**24**	T		T	T	15 50 08.7	
	baz=199,slow=74								
H11S1	**WAKE ISLAND Hy**	**27.51**	**24**	T		T	T	15 50 17.4	
	baz=199								
H11N1	**WAKE ISLAND Hy**	**28.68**	**23**	T		T	T	15 51 40.9	
	baz=197,slow=76								
H11N3	**WAKE ISLAND Hy**	**28.69**	**23**	T		T	T	15 51 43.4	
	baz=197,slow=76								
H11N2	**WAKE ISLAND Hy**	**28.69**	**23**	T		T	T	15 51 42.5	
	baz=197,slow=76								
BATI	**Baumata**	**31.63**	**262**	P		**P**	**P**	**15 21 58.5**	**-0.5**
	14nm,0.7s,baz=260,slow=19,SNR=1.5								
	14nm,0.7s								
PETK	**Petropavlovsk-**	**59.74**	**2**	P		**P**	**P**	**15 25 40.4**	**+0.5**
	2.0nm,0.8s,baz=188,slow=8.4,SNR=0.9								
	2.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**61.15**	**295**	P		**P**	**P**	**15 25 50.6**	**+0.5**
	3.5nm,0.7s,baz=124,slow=5.6,SNR=33								
	3.5nm,0.7s								
SONM	**Songino Array**	**69.46**	**327**	P		**P**	**P**	**15 26 43.1**	**-0.5**
	0.4nm,0.5s,baz=147,slow=6.0,SNR=4.7								
	0.4nm,0.5s								
ILAR	**Eielson Array**	**83.05**	**21**	P		**P**	**P**	**15 27 59.6**	**-0.6**
	0.4nm,0.5s,baz=266,slow=5.1,SNR=8.6								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**83.60**	**319**	P		**P**	**P**	**15 28 03.2**	**-0.3**
	0.7nm,0.7s,baz=96,slow=5.4,SNR=5.6								
	0.7nm,0.7s								
ZALV	**Zalesovo Beam**	**84.31**	**326**	P		**P**	**P**	**15 28 05.6**	**-1.3**
	0.3nm,0.4s,baz=122,slow=5.2,SNR=1.9								
	0.3nm,0.4s								
YKA	**Yellowknife Ar**	**95.97**	**28**	P		**P**	**P**	**15 29 02.6**	**+0.9**
	0.3nm,0.5s,baz=270,slow=4.8,SNR=6.5								
	0.3nm,0.5s								
BDFB	**Brasilia**	**147.75**	**134**	PKPbc		**PKPbc**	**PKPbc**	**15 35 19.9**	**-0.9**
	3.1nm,0.5s,baz=229,slow=0.2,SNR=5.3								
MDT	**Midelt**	**148.20**	**327**	PKPbc		**PKPbc**	**PKPbc**	**15 35 21.6**	**+0.1**
	0.9nm,0.6s,baz=267,slow=6.4,SNR=6.2								

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*NEIC **11** 15:18:46.7±2.4, 4°.17S±0°.06×129°.35E±0°.09, h113km±5km, mb4.2/17, Error ellipse: s-maj=13.3km s-min=7.3km az=65.0*
*DJA **11** 15:18:48.3±0.3, 4°.S±2°.×13°.0E±°, h128km±5km, M4.2/13, mb4.4/5, MLv4.2/13, MwMwp4.7/1, Mwp5.0/1*
*IDC **11** 15:18:49.0±2.5, 4°.04S×129°.92E, h147km±26km, mb3.7/7, mbtmp4.2/10, Error ellipse: s-maj=47.7km s-min=13.7km az=80.0*
ISC 11 15:18:48.4±0.5, 4°.14S±0°.05×129°.49E±0°.05, h150km, n45, σ2s39/54, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.56**	**133**	P		**P**	**Pn**	**15 19 10.1**	**+0.1**
MSAI	**Masohi**	**0.97**	**325**	P		**P**	**Pn**	**15 19 10.6**	**-2.4**
AAI	**Ambon**	**1.37**	**289**	P		**P**	**Pn**	**15 19 15.0

comp=Z,0.7nm,0.5s

IDC ***11*** *15:25:07.9±2.4, 12°.35N×141°.58E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=86.5km s-min=21.0km az=74.0*

ISC 11 15:25:12.4±2.3, 12°.4N±0°.2×141°.6E±0°.5, h33km, n7, σ0967/7, mb3.8/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.90**	**193**	P	**P**	**15 31 43.5**	**-0.3**
	1.2nm,0.9s,baz=9.5,slow=9.1,SNR=4.9						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**36.60**	**192**	P	**P**	**15 32 15.8**	**+0.1**
	0.3nm,0.6s,baz=20,slow=12,SNR=7.7						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.53**	**284**	P	**P**	**15 32 57.4**	**+0.2**
	0.4nm,0.5s,baz=97,slow=6.4,SNR=4.4						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**43.99**	**180**	P	**P**	**15 33 16.9**	**+0.1**
	0.7nm,0.5s,baz=344,slow=7.4,SNR=4.1						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**60.21**	**317**	P	**P**	**15 35 16.6**	**-0.7**
	0.3nm,0.7s,baz=100,slow=7.2,SNR=2.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**63.54**	**321**	P	**P**	**15 35 40.6**	**+1.0**
	0.5nm,0.4s,baz=114,slow=6.4,SNR=1.5						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**68.94**	**322**	P	**P**	**15 36 14.7**	**+0.4**
	0.5nm,0.5s,baz=98,slow=9.4,SNR=4.5						
	0.5nm,0.5s						

IDC ***11*** *15:33:56.6±4.6, 34°.50N×23°.06E, h0km, mb3.9/5, mbtmp3.6/8, ML3.2/3, Error ellipse: s-maj=81.5km s-min=50.7km az=33.0*

ISK ***11*** *15:34:05.7, 34°.79N×23°.28E, h18km, ML3.5/10*

ATH ***11*** *15:34:05.7, 34°.78N×23°.19E, h16km±2km, ML3.3/3, Error ellipse: s-maj=3.8km s-min=2.2km az=33.0*

THE ***11*** *15:34:06.3, 34°.83N×23°.21E, h13km±2km, ML3.1/3, Error ellipse: s-maj=2.8km s-min=1.3km az=125.0*

ISC 11 15:34:01.0±2.2, 34°.68N±0°.08×23°.05E±0°.06, h15km±10km, n31, σ1831/40, mb3.9/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.77**	**43**	P	**Pb**	**15 34 16.3**	**+0.4**
KNDR				S	**Sg**	**15 34 24.8**	**-1.2**
	2μm,0.6s						
KNDR	**Palaiochora Ch**	**0.77**	**43**	Pg	**Pb**	**15 34 16.5**	**+0.6**
KNDR				Sg	**Sg**	**15 34 24.4**	**-1.6**
KNDR	**Palaiochora Ch**	**0.77**	**43**	P	**Pb**	**15 34 16.5**	**+0.6**
KNDR				S	**Sg**	**15 34 25.1**	**-0.9**
KNDR				AML	AML	15 34 36.2	
	comp=E,10608μm,0.6s						
KNDR				AML	AML	15 34 37.3	
	comp=N,10338μm,0.5s						
GVD	**Gavdhos**	**0.87**	**79**	P	**Pn**	**15 34 20.0**	**+1.4**
GVD	**Gavdhos**	**0.87**	**79**	Pg	**Pn**	**15 34 19.6**	**+1.0**
GVD				Sg	**Sg**	**15 34 28.9**	**-0.4**
GVD	**Gavdhos**	**0.87**	**79**	P	**Pn**	**15 34 19.8**	**+1.2**
GVD				AML	AML	15 34 37.1	
	comp=E,4166μm,0.3s						
GVD				AML	AML	15 34 40.0	
	comp=N,4623μm,0.5s						
GVDS	**Gavdos**	**0.88**	**79**	Pg	**Pb**	**15 34 18.8**	**+1.0**
IMMV	**Iera Moni Meta**	**1.09**	**44**	P	**Pn**	**15 34 22.9**	**+1.2**
IMMV				S	**Sb**	**15 34 36.2**	**+0.5**
	comp=N,2μm,1.0s						
IMMV	**Iera Moni Meta**	**1.09**	**44**	Pg	**Pn**	**15 34 22.8**	**+1.1**
IMMV				Sg	**Sb**	**15 34 36.2**	**+0.5**
IMMV	**Iera Moni Meta**	**1.09**	**44**	P	**Pn**	**15 34 23.0**	**+1.3**
IMMV				S	**Sg**	**15 34 35.5**	**-0.9**
IMMV				AML	AML	15 34 43.0	
	comp=N,4145μm,0.5s						
IMMV				AML	AML	15 34 45.7	
	comp=E,3198μm,0.5s						
CHAN	**Chania**	**1.17**	**44**	P	**Pn**	**15 34 24.4**	**+1.6**
ANKY	**Antikythira Is**	**1.21**	**10**	P	**Pn**	**15 34 25.3**	**+2.1**
ANKY	**Antikythira Is**	**1.21**	**10**	P	**Pn**	**15 34 25.4**	**+2.1**
KTHA	**Kythira Island**	**1.58**	**0**	P	**Pg**	**15 34 31.7**	**+0.4**
KTHA				S	**Sn**	**15 34 49.7**	**+1.2**
	comp=E,528nm,0.8s						
KTHA	**Kythira Island**	**1.58**	**0**	Pn	**Pg**	**15 34 32.1**	**+0.8**
KTHA				Sn	**Sg**	**15 34 51.2**	**-0.6**
KTHA	**Kythira Island**	**1.58**	**0**	P	**Pg**	**15 34 31.0**	**-0.3**
HRKL	**Herakleio**	**1.80**	**69**	Pn	**Pb**	**15 34 33.5**	**-0.1**
VLI	**Veliai**	**2.04**	**358**	P	**Pb**	**15 34 37.9**	**+0.3**
ZKR	**Zakros**	**2.64**	**80**	Pn	**Pn**	**15 34 45.5**	**+2.5**
ITM	**Ithomi**	**2.66**	**340**	Pn	**Pb**	**15 34 48.8**	**+0.6**
APE	**Apeiranthos**	**3.12**	**39**	Pn	**Pn**	**15 34 50.6**	**+0.9**
KARP	**Karpathos**	**3.48**	**74**	Pn	**Pn**	**15 34 57.5**	**+2.9**
YER	**Yerkesik**	**4.91**	**58**	Pn	**Pn**	**15 35 16.6**	**+2.4**
BRTR	**Keskin Array B**	**9.84**	**56**	Pn	**Pn**	**15 36 23.3**	**+1.5**
	baz=238,slow=19,SNR=2.3						
	comp=E,0.4nm,0.8s						
AKASG	**Malin Array Be**	**16.64**	**14**	Pn	**Pn**	**15 37 53.4**	**0.0**
	comp=E,0.6nm,0.3s,baz=209,slow=9.5,SNR=5.7						
	comp=E,0.3nm,0.4s						
KBZ	**Khabaz**	**17.81**	**54**	P	**Pn**	**15 38 07.1**	**-1.0**
	comp=E,0.1nm,0.3s,baz=52,slow=14,SNR=2.4						
	comp=E,0.9nm,0.7s						
ARCES	**ARCESS Array B**	**34.94**	**2**	P	**P**	**15 40 51.1**	**-0.7**
	comp=E,2.3nm,0.9s,baz=186,slow=8.2,SNR=1.2						
	comp=E,2.3nm,0.9s						
KURBB	**Kurchatov Arra**	**42.77**	**51**	P	**P**	**15 41 56.0**	**-1.6**
	comp=E,0.8nm,0.5s,baz=276,slow=8.6,SNR=9.5						
	comp=E,0.8nm,0.5s						
MKAR	**Makanchi Array**	**45.48**	**56**	P	**P**	**15 42 18.8**	**-0.7**
	comp=E,0.8nm,0.5s,baz=266,slow=7.3,SNR=15						
	comp=E,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**46.59**	**46**	P	**P**	**15 42 26.8**	**-1.2**
	comp=E,0.9nm,0.4s,baz=262,slow=8.8,SNR=4.8						
	comp=E,0.9nm,0.4s						
SONM	**Songino Array**	**61.13**	**50**	P	**P**	**15 44 13.5**	**-1.1**
	comp=E,0.4nm,0.6s,baz=274,slow=7.7,SNR=4.6						
	comp=E,0.4nm,0.6s						

IDC 11 15:44:06.6±4.9, 12°.02N×141°.26E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=203.6km s-min=30.5km az=76.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.48**	**192**	P	P	15 50 38.9	-0.2
	1.3nm,0.8s,baz=14,slow=9.6,SNR=6.6						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**36.19**	**191**	P	P	15 51 11.1	0.0
	0.3nm,0.6s,baz=19,slow=12,SNR=13						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**43.64**	**180**	P	P	15 52 12.9	-0.1
	1.1nm,0.5s,baz=346,slow=8.3,SNR=2.0						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**60.21**	**317**	P	P	15 54 16.5	-0.1
	0.5nm,0.9s,baz=101,slow=7.5,SNR=3.4						
	0.5nm,0.9s						

IDC 11 15:45:58.5±500.0, 52°.96N×33°.58E, h0km, Error ellipse: s-maj=185.3km s-min=94.8km az=29.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.32**	**28**	I	I	16 13 00.0	
	0.2nm,0.7s,baz=211,slow=311,SNR=2.0						
I26DE	**FREYUNG INFRAS**	**13.19**	**260**	I	I	17 09 40.0	
	baz=64,slow=342,SNR=0.5						
I31KZ	**AKTYUBINSK INF**	**15.36**	**90**	I	I	17 21 50.0	
	baz=288,slow=310,SNR=1.0						

IDC ***11*** *15:50:26.2±0.6, 34°.46N×22°.54E, h0km, mb4.3/31, mbtmp4.3/44, ML4.1/13, MS3.6/11, Error ellipse: s-maj=14.6km s-min=11.2km az=13.0*

MOS ***11*** *15:50:27.7±1.0, 34°.46N×22°.50E, h21km, mb4.7/27, Error ellipse: s-maj=5.8km s-min=3.3km az=80.8*

MED_RC ***11*** *15:50:27.0±0.6, 34°.26N×22°.46E, h12km±5km, MW4.4/10, Moment Tensor Solution. Mantle waves: s10,c10; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr 0.44±.72; Mθθ -4.20±.79; Mϕϕ 3.76±.76; Mrθ 1.41±.95; Mθϕ -0.80±.45; Mϕr 0.66±1.02; Best double couple:*

Mo 4.31000×10^15 NP1=ϕs 219.00000°, δ 85.00000°, λ -18.00000°. NP2=ϕs 310.00000°, δ 72.00000°, λ -175.00000°. Principal axes: T 3.9200, Plg9.0000°, Azm266.0000°; N 0.7800, Plg71.0000°, Azm25.0000°; P -4.7000, Plg16.0000°, Azm173.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

BEO ***11*** *15:50:29.2±0.6, 34°.47N×21°.98E, h0km, ML4.2/6*

NEIC ***11*** *15:50:29.5, 34°.37N±0°.09×22°.46E±0°.08, h21km±6km, mb4.5/82, Error ellipse: s-maj=13.7km s-min=9.1km az=200.0*

ISK ***11*** *15:50:29.9, 34°.37N×22°.46E, h86km, ML4.3/23*

PDG ***11*** *15:50:29.2±0.2, 34°.18N×22°.31E, h13km±11km, ML4.6/10, Error ellipse: s-maj=24.7km s-min=2.8km az=90.0*

ATH ***11*** *15:50:29.5, 34°.37N×22°.40E, h10km±31km, ML4.1/19, Error ellipse: s-maj=31.6km s-min=1.6km az=0.0*

THE ***11*** *15:50:30.1, 34°.28N×22°.36E, h23km±7km, ML4.1/6, Error ellipse: s-maj=9.2km s-min=1.0km az=211.0*

DDA ***11*** *15:50:34.5±0.0, 34°.80N×22°.78E, h14km±5km, MW4.3*

GII ***11*** *15:50:34.9±0.0, 34°.32N×23°.27E, h10km, mb4.4/5, MD4.3/5, Mm4.3/2*

BGR ***11*** *15:50:55.6, 36°.79N×21°.81E, h33km*

ISC 11 15:50:30.4±1.0, 34°.39N±0°.04×22°.55E±0°.03, h31km±6km, n596, σ2809/666, mb4.5/88, MS3.6/11, 26C-22D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**1.26**	**48**	P	**Pb**	**15 50 53.9**	**+0.4**
KNDR	**Palaiochora Ch**	**1.26**	**48**	Pn	**Pb**	**15 50 54.1**	**+0.6**
KNDR				Sn	**Sb**	**15 51 11.4**	**+2.0**
KNDR	**Palaiochora Ch**	**1.26**	**48**	P	**Pb**	**15 50 53.6**	**+0.1**
KNDR				AML	AML	15 51 36.1	
	comp=N,12488μm,0.7s						
KNDR				AML	AML	15 51 43.4	
	comp=E,14996μm,0.9s						
GVD	**Gavdhos**	**1.35**	**70**	P	**Pb**	**15 50 55.2**	**+0.2**
GVD				S	**Sb**	**15 51 14.7**	**+2.8**
	comp=E,4μm,0.4s						
GVD	**Gavdhos**	**1.35**	**70**	Pn	**Pb**	**15 50 55.2**	**+0.2**
GVD				Sn	**Sb**	**15 51 14.1**	**+2.2**
GVD	**Gavdhos**	**1.35**	**70**	P	**Pb**	**15 50 55.2**	**+0.2**
GVD				S	**Sb**	**15 51 13.5**	**+1.6**
GVD				AML	AML	15 51 27.6	
	comp=N,9403μm,0.4s						
GVD				AML	AML	15 51 31.6	
	comp=E,7875μm,0.4s						
IMMV	**Iera Moni Meta**	**1.59**	**47**	P	**Pb**	**15 50 58.5**	**-0.7**
IMMV				S	**Sb**	**15 51 21.6**	**+2.7**
	comp=E,4μm,0.9s						
IMMV	**Iera Moni Meta**	**1.59**	**47**	Pn	**Pb**	**15 50 58.5**	**-0.7**
IMMV	**Iera Moni Meta**	**1.59**	**47**	P	**Pb**	**15 50 58.8**	**-0.4**
IMMV				AML	AML	15 51 43.2	
	comp=N,7452μm,1.1s						
IMMV				AML	AML	15 51 44.4	
	comp=E,8049μm,0.7s						
ANKY	**Antikythira Is**	**1.60**	**23**	P	**Pb**	**15 50 58.6**	**-0.7**
ANKY				AML	AML	15 51 41.5	
	comp=E,6829μm,1.1s						
ANKY				AML	AML	15 51 43.5	
	comp=N,6974μm,1.5s						
CHAN	**Chania**	**1.67**	**47**	P	**Pb**	**15 50 60.0**	**-0.5**
CHAN				AML	AML	15 51 47.6	
	comp=E,9278μm,1.1s						
CHAN				AML	AML	15 51 50.2	
	comp=N,6263μm,0.9s						
PRNS	**Prines Rethymn**	**1.88**	**58**	P	**Pn**	**15 51 01.9**	**+1.5**
PRNS				S	**Sb**	**15 51 26.4**	**-0.7**
	comp=N,675nm,1.3s						
KTHA	**Kythira Island**	**1.91**	**13**	P	**Pn**	**15 51 02.4**	**+1.6**
HRKL	**Herakleio**	**2.29**	**66**	Pn	**Pb**	**15 51 08.4**	**-2.7**
VLI	**Veliai**	**2.34**	**8**	P	**Pb**	**15 51 09.3**	**-2.7**
VLI				S	**Sb**	**15 51 38.8**	**-1.7**
	comp=N,1μm,1.1s						
VLI	**Veliai**	**2.34**	**8**	P	**Pn**	**15 51 08.7**	**+1.9**
PYL	**PYLOS**	**2.58**	**346**	P	**Pn**	**15 51 11.2**	**+1.1**
MHLO	**Agia Marina, M**	**2.75**	**33**	P	**Pn**	**15 51 14.1**	**+1.7**
MHLO				S	**Sb**	**15 51 48.9**	**-3.2**
	comp=N,3μm,0.8s						
MHLO	**Agia Marina, M**	**2.75**	**33**	P	**Pn**	**15 51 14.0**	**+1.7**
MHLO				AML	AML	15 52 01.5	
	comp=E,6634μm,0.9s						
MHLO				AML	AML	15 52 05.2	
	comp=N,5826μm,0.8s						
ITM	**Ithomi**	**2.83**	**350**	Pn	**Pn**	**15 51 13.3**	**-0.2**
ITM	**Ithomi**	**2.83**	**350**	P	**Pn**	**15 51 14.9**	**+1.4**
ITM				S	**Sn**	**15 51 48.8**	**+2.3**
ITM	**Ithomi**	**2.83**	**350**	Pn	**Pn**	**15 51 14.7**	**+1.2**
ITM	**Ithomi**	**2.83**	**350**	P	**Pn**	**15 51 14.8**	**+1.4**
KRND	**KRANIDI**	**3.03**	**9**	P	**Pn**	**15 51 18.1**	**+1.9**
KRND	**KRANIDI**	**3.03**	**9**	P	**Pn**	**15 51 18.1**	**+1.9**
STIA	**Sitia Lasithi**	**3.03**	**73**	P	**Pn**	**15 51 19.2**	**+3.0**
YDRA	**Hydra**	**3.05**	**14**	P	**Pn**	**15 51 18.2**	**+1.8**
SAP3	**Santorini-Thir**	**3.06**	**47**	P	**Pn**	**15 51 19.0**	**+2.3**
ZKR	**Zakros**	**3.11**	**76**	P	**Pn**	**15 51 20.0**	**+2.7**
ZKR	**Zakros**	**3.11**	**76**	Pn	**Pn**	**15 51 19.3**	**+2.0**
ZKR				Sn	**Sn**	**15 51 55.6**	**+2.2**
ZKR	**Zakros**	**3.11**	**76**	P	**Pn**	**15 51 20.1**	**+2.7**
CMBO	**Columbo, Santo**	**3.12**	**48**	P	**Pn**	**15 51 19.2**	**+1.7**
CMBO	**Columbo, Santo**	**3.12**	**48**	P	**Pn**	**15 51 19.3**	**+1.8**
EPID	**Epidavros**	**3.25**	**8**	P	**Pn**	**15 51 21.5**	**+2.2**
EPID	**Epidavros**	**3.25**	**8**	P	**Pn**	**15 51 21.3**	**+2.0**
LTHK	**Lithakia**	**3.59**	**338**	P	**Pn**	**15 51 24.5**	**+0.6**
VLY	**Voula,Athens**	**3.60**	**16**	P	**Pn**	**15 51 25.4**	**+1.3**
VLY	**Voula,Athens**	**3.60**	**16**	P	**Pn**	**15 51 25.7**	**+1.6**
LOUT	**Loutraki**	**3.61**	**5**	P	**Pn**	**15 51 25.6**	**+1.4**
LOUT	**Loutraki**	**3.61**	**5**	P	**Pn**	**15 51 25.3**	**+1.1**
APE	**Apeiranthos**	**3.61**	**41**	⇑P	**Pn**	**15 51 25.7**	**+1.4**
APE	**Apeiranthos**	**3.61**	**41**	P	**Pn**	**15 51 25.6**	**+1.4**
APE	**Apeiranthos**	**3.61**	**41**	Pn	**Pn**	**15 51 25.4**	**+1.1**
APE	**Apeiranthos**	**3.61**	**41**	P	**Pn**	**15 51 24.2**	**0.0**
APE				S	**Sn**	**15 52 04.8**	**-1.1**
APE	**Apeiranthos**	**3.61**	**41**	/ P	**Pn**	**15 51 25.0**	**+0.7**
APE	**Apeiranthos**	**3.61**	**41**	P	**Pn**	**15 51 25.6**	**+1.4**
APE				AML	AML	15 52 08.3	
	comp=E,513μm,0.8s						
APE				AML	AML	15 52 08.4	
	comp=N,589μm,0.4s						
DRO	**Drossia**	**3.62**	**349**	P	**Pn**	**15 51 26.0**	**+1.7**
THAL	**Thalero**	**3.64**	**1**	P	**Pn**	**15 51 26.4**	**+1.8**
THAL	**Thalero**	**3.64**	**1**	P	**Pn**	**15 51 26.4**	**+1.8**
THAL				AML	AML	15 52 16.9	
	comp=N,2345μm,0.6s						
THAL				AML	AML	15 52 18.8	
	comp=E,1692μm,0.9s						
KLV	**Kalavryta, Ach**	**3.66**	**355**	P	**Pn**	**15 51 27.3**	**+2.3**
KLV	**Kalavryta, Ach**	**3.66**	**355**	P	**Pn**	**15 51 26.9**	**+1.9**
ATHU	**Athens Univers**	**3.71**	**15**	P	**Pn**	**15 51 26.9**	**+1.3**
RLS	**Riolos of Patr**	**3.76**	**347**	P	**Pn**	**15 51 28.1**	**+1.8**
PTL	**Penteli**	**3.80**	**16**	P	**Pn**	**15 51 29.2**	**+2.3**
PTL	**Penteli**	**3.80**	**16**	P	**Pn**	**15 51 29.3**	**+2.4**
VILL	**Villia**	**3.82**	**9**	P	**Pn**	**15 51 28.0**	**+0.9**
DION	**Dionisos Attik**	**3.85**	**17**	P	**Pn**	**15 51 29.7**	**+2.2**
DION	**Dionisos Attik**	**3.85**	**17**	P	**Pn**	**15 51 30.0**	**+2.5**
DION				AML	AML	15 52 17.9	
	comp=E,2123μm,0.6s						
DION				AML	AML	15 52 21.4	
	comp=N,1954μm,0.7s						
VIL2	**Platees**	**3.86**	**8**	P	**Pn**	**15 51 28.1**	**+0.5**
VIL2				AML	AML	15 52 18.1	
	comp=N,755μm,0.8s						
VIL2				AML	AML	15 52 20.9	
	comp=E,905μm,0.6s						
LAKA	**Lakka**	**3.87**	**353**	P	**Pn**	**15 51 29.7**	**+1.9**
LAKA	**Lakka**	**3.87**	**353**	P	**Pn**	**15 51 29.8**	**+1.9**
ALIK	**Aliki, Aigiali**	**3.88**	**355**	P	**Pn**	**15 51 30.2**	**+2.3**
KARP	**Karpathos**	**3.96**	**72**	Pn	**Pn**	**15 51 30.5**	**+1.4**
KARP	**Karpathos**	**3.96**	**72**	P	**Pn**	**15 51 31.9**	**+2.8**
KARP	**Karpathos**	**3.96**	**72**	Pn	**Pn**	**15 51 30.9**	**+1.8**
KARP	**Karpathos**	**3.96**	**72**	P	**Pn**	**15 51 31.8**	**+2.8**
KARP				AML	AML	15 52 20.5	
	comp=N,1370μm,0.7s						
KARP				AML	AML	15 52 29.0	
	comp=E,1200μm,0.6s						
SERG	**Sergoula**	**4.03**	**355**	P	**Pn**	**15 51 32.9**	**+2.8**
SERG	**Sergoula**	**4.03**	**355**	P	**Pn**	**15 51 32.1**	**+2.0**
SERG				AML	AML	15 52 27.0	
	comp=E,660μm,0.4s						
SERG				AML	AML	15 52 28.1	
	comp=N,965μm,0.5s						
VLS	**Valsamata**	**4.10**	**338**	P	**Pn**	**15 51 31.3**	**+0.4**
VLS				S	**Sn**	**15 52 19.2**	**+1.4**
	comp=N,410nm,0.4s						
VLS	**Valsamata**	**4.10**	**338**	P	**Pn**	**15 51 31.2**	**+0.2**
VLS				AML	AML	15 52 24.8	
	comp=E,516μm,0.3s						
VLS				AML	AML	15 52 27.1	
	comp=N,1122μm,0.4s						
EREA	**Eretria**	**4.17**	**15**	P	**Pn**	**15 51 33.3**	**+1.3**
EREA	**Eretria**	**4.17**	**15**	P	**Pn**	**15 51 33.4**	**+1.3**
KEF3	**Kipouria, Keph**	**4.20**	**336**	P	**Pn**	**15 51 32.7**	**+0.4**
DMLN	**Damoulianata-K**	**4.22**	**336**	P	**Pn**	**15 51 32.8**	**+0.2**
KEF4	**Livadi, Kephal**	**4.22**	**337**	P	**Pn**	**15 51 33.6**	**+1.0**
ANX	**Ano Chora**	**4.22**	**353**	P	**Pn**	**15 51 34.5**	**+1.7**
ANX	**Ano Chora**	**4.22**	**353**	P	**Pn**	**15 51 34.6**	**+1.9**
ANX				AML	AML	15 52 34.5	
	comp=N,1518μm,0.6s						
ANX				AML	AML	15 52 37.6	
	comp=E,1316μm,0.5s						
LKR	**Lokris**	**4.27**	**5**	P	**Pn**	**15 51 34.4**	**+1.2**
LKR				AML	AML	15 52 27.8	
	comp=E,639μm,0.8s						
LKR				AML	AML	15 52 29.6	
	comp=N,769μm,0.9s						
PVO	**Paravola**	**4.30**	**349**	P	**Pn**	**15 51 35.5**	**+1.9**
PVO	**Paravola**	**4.30**	**349**	P	**Pn**	**15 51 35.0**	**+1.3**
FSK	**Fiskardo**	**4.36**	**339**	P	**Pn**	**15 51 34.9**	**+0.4**
AXAR	**Agios Charalam**	**4.37**	**1**	P	**Pn**	**15 51 35.9**	**+1.2**
AXAR	**Agios Charalam**	**4.37**	**1**	P	**Pn**	**15 51 35.8**	**+1.1**
AXAR				AML	AML	15 52 36.0	
	comp=E,1381μm,0.6s						
AXAR				AML	AML	15 52 36.6	
	comp=N,1697μm,0.5s						
KYMI	**Kymi, Euboea I**	**4.42**	**16**	P	**Pn**	**15 51 36.5**	**+1.3**
EVGI	**Lefkada island**	**4.49**	**341**	P	**Pn**	**15 51 37.3**	**+1.1**
EVR	**Evrytania**	**4.56**	**353**	P	**Pn**	**15 51 40.4**	**+3.1**
EVR	**Evrytania**	**4.56**	**353**	P	**Pn**	**15 51 39.5**	**+2.2**
EVR				AML	AML	15 52 41.7	
	comp=N,1156μm,0.8s						
EVR				AML	AML	15 52 45.5	
	comp=E,825μm,0.7s						
NYDR	**Nydri-Lefkada**	**4.56**	**342**	P	**Pn**	**15 51 38.6**	**+1.3**
AGG	**Agios Georgios**	**4.63**	**358**	Pn	**Pn**	**15 51 38.7**	**+0.5**
AGG	**Agios Georgios**	**4.63**	**358**	P	**Pn**	**15 51 39.3**	**+1.1**
AGG	**Agios Georgios**	**4.63**	**358**	Pn	**Pn**	**15 51 38.9**	**+0.7**
AGG	**Agios Georgios**	**4.63**	**358**	P	**Pn**	**15 51 39.0**	**+0.7**
AGG				S	**Sn**	**15 52 26.6**	**-4.3**
AGG	**Agios Georgios**	**4.63**	**358**	P	**Pn**	**15 51 38.7**	**+0.5**
AGG	**Agios Georgios**	**4.63**	**358**	P	**Pn**	**15 51 39.3**	**+1.1**
AGG				AML	AML	15 52 37.0	
	comp=N,362μm,0.5s						
AGG				AML	AML	15 52 37.2	
	comp=E,409μm,0.6s						
MAKR	**Makrakomi, Fth**	**4.63**	**356**	P	**Pn**	**15 51 39.5**	**+1.3**
MAKR	**Makrakomi, Fth**	**4.63**	**356**	P	**Pn**	**15 51 40.0**	**+1.8**
MAKR				AML	AML	15 52 39.0	
	comp=N,1279μm,0.6s						
MAKR				AML	AML	15 52 40.9	
	comp=E,1247μm,0.5s						
LKD2	**Lefkada island**	**4.64**	**341**	P	**Pn**	**15 51 39.5**	**+1.0**
TSLK	**Tsoukalades, L**	**4.68**	**342**	P	**Pn**	**15 51 40.3**	**+1.4**
TSLK	**Tsoukalades, L**	**4.68**	**342**	P	**Pn**	**15 51 40.3**	**+1.4**
BODT	**Bodrum**	**4.70**	**54**	Pn	**Pn**	**15 51 40.6**	**+1.3**
DAT	**Datca**	**4.72**	**59**	Pn	**Pn**	**15 51 41.1**	**+1.5**
BDRM	**Kayabasi**	**4.79**	**55**	P	**Pn**	**15 51 40.5**	**-0.1**
BDRM				S	**Sn**	**15 52 28.1**	**-6.9**
CHOS	**Chios island**	**4.89**	**34**	Pn	**Pn**	**15 51 42.9**	**+1.0**
ARG	**Arkhangelos**	**4.91**	**67**	Pn	**Pn**	**15 51 41.8**	**-0.3**
ARG	**Arkhangelos**	**4.91**	**67**	P	**Pn**	**15 51 45.2**	**+3.1**
ARG	**Arkhangelos**	**4.91**	**67**	Pn	**Pn**	**15 51 43.6**	**+1.5**
ARG	**Arkhangelos**	**4.91**	**67**	P	**Pn**	**15 51 41.8**	**-0.3**
ARG	**Arkhangelos**	**4.91**	**67**	P	**Pn**	**15 51 45.1**	**+3.0**
NEO	**Neokhori**	**4.94**	**6**	P	**Pn**	**15 51 43.2**	**+0.8**
NEO	**Neokhori**	**4.94**	**6**	P	**Pn**	**15 51 43.3**	**+0.8**
URLA	**Izmir**	**5.13**	**38**	Pn	**Pn**	**15 51 46.0**	**+0.8**
URLA	**Izmir**	**5.13**	**38**	P	**Pn**	**15 51 44.8**	**-0.4**
URLA				S	**Sn**	**15 52 37.4**	**-6.0**
MLSB	**Milas**	**5.14**	**54**	Pn	**Pn**	**15 51 46.4**	**+1.1**
MLSB	**Milas**	**5.14**	**54**	P	**Pn**	**15 51 42.0**	**-3.3**
THL	**Klokotos Trika**	**5.18**	**355**	P	**Pn**	**15 51 47.0**	**+1.2**
TYRN	**Tyrnavos**	**5.32**	**357**	P	**Pn**	**15 51 49.4**	**+1.7**
YER	**Yerkesik**	**5.41**	**58**	P	**Pn**	**15 51 51.7**	**+2.7**
YER	**Yerkesik**	**5.41**	**58**	Pn	**Pn**	**15 51 50.4**	**+1.4**
YER	**Yerkesik**	**5.41**	**58**	P	**Pn**	**15 51 51.5**	**+2.5**
YER				S	**Sn**	**15 52 50.3**	**+0.1**
AYDN	**Tasoluk**	**5.42**	**51**	P	**Pn**	**15 51 49.0**	**-0.1**
IGT	**Igoumenitsa**	**5.43**	**342**	P	**Pn**	**15 51 49.5**	**+0.3**
MULA	**Mugla, Merkez-**	**5.49**	**57**	P	**Pn**	**15 51 51.5**	**+1.3**
SIGR	**SIGRI**	**5.50**	**28**	Pn	**Pn**	**15 51 51.0**	**+0.9**
DALY	**Dalyan (Mula)**	**5.53**	**62**	Pn	**Pn**	**15 51 51.9**	**+1.3**
LIT	**Litokhoron**	**5.70**	**360**	Pn	**Pn**	**15 51 52.4**	**-0.6**
LIT	**

MATE Matera 7.78 325 ⇓P Pn 15 52 20.5 -1.0
PLD Plovdiv 7.89 12 *e*Pn Pn 15 52 24.2 +1.3
ULC Ulcinj 8.00 342 ⇓*i*Pn Pn 15 52 23.2 -1.2
ULC *i* Sn Sn 15 53 49.0 -4.8
PRVS Prvonek 8.11 358 *e*Pn Pn 15 52 25.5 -0.6
CLTB Caltabellotta 8.20 295 Pn Pn 15 52 26.8 -0.6
DRME Dracevica, Mon 8.22 342 *e*Pn Pn 15 52 25.3 -2.2
DRME Dracevica, Mon 8.22 342 ⇓*i*Pn Pn 15 52 26.1 -1.4
DRME *i* Sn Sn 15 53 54.4 -4.9
VTS Vitosha 8.23 4 Pn Pn 15 52 26.6 -1.2
VTS Vitosha 8.23 4 P Pn 15 52 26.6 -1.2
VTS Vitosha 8.23 4 *e*Pn Pn 15 52 28.5 +0.7
VTS Vitosha 8.23 4 *e*Pn Pn 15 52 28.8 +1.0
VTS *e*Sn Sn 15 53 57.0 -2.8
BORA Eskisehir 8.36 47 Pn Pn 15 52 27.9 -1.6
PDG Podgorica 8.43 343 ⇓P Pn 15 52 30.1 -0.3
PDG Podgorica 8.43 343 Pn 15 52 28.4 -1.9
PDG Podgorica 8.43 343 *e*Pn Pn 15 52 29.6 -0.8
PDG *e*Sn Sn 15 53 59.8 -4.7
PDG Podgorica 8.43 343 ⇑*i*Pn Pn 15 52 29.3 -1.1
PDG *i* Sn Sn 15 53 59.8 -4.7
BARS Barje 8.43 356 *e*Pn Pn 15 52 29.8 -0.6
BARS *e*Sn Sn 15 54 02.1 -2.4
PVY Plav 8.44 347 ⇓*i*Pn Pn 15 52 30.0 -0.6
PVY *i* Sn Sn 15 54 00.1 -4.7
CEME Cevo 8.62 342 ⇓*i*Pn Pn 15 52 31.3 -1.8
CEME *i* Sn Sn 15 54 04.2 -5.2
HCY Herceg Novi 8.65 340 *e*Pn Pn 15 52 30.8 -2.6
HCY Herceg Novi 8.65 340 ⇑*i*Pn Pn 15 52 31.6 -1.8
HCY *i* Sn Sn 15 54 04.8 -5.0
IVA Berane 8.72 347 ⇑*i*Pn Pn 15 52 33.3 -1.1
IVA *i* Sn Sn 15 54 14.3 -5.8
KOME Kolasin 8.77 345 ⇑*i*Pn Pn 15 52 34.1 -1.1
KOME *i* Sn Sn 15 54 08.4 -4.6
SELS Selova 8.89 353 *e*Pn Pn 15 52 34.9 -1.8
CSS Mathiatis 8.90 83 Pn 15 52 34.4 -2.6
TREB Trebinje 8.94 340 *e*Pn Pn 15 52 35.2 -2.2
TREB *e*Sn Sn 15 54 10.6 -6.3
TREB Trebinje 8.94 340 *e*Pn Pn 15 52 34.2 -3.2
BRY Bratogost 9.06 341 *e*Pn Pn 15 52 37.3 -1.8
BRY Bratogost 9.06 341 ⇑*i*Pn Pn 15 52 37.9 -1.2
BRY *i* Sn Sn 15 54 14.3 -5.8
SJES Sjenica 9.08 348 *e*Pn Pn 15 52 38.5 -0.9
SJES *e*Sn Sn 15 54 14.5 -6.1
UPM Unac-Piva 9.25 343 *e*Pn Pn 15 52 41.8 +0.1
BOVS Bovan 9.26 356 *e*Pn Pn 15 52 40.1 -1.6
PLE Pljevlja 9.26 346 ⇓*i*Pn Pn 15 52 40.6 -1.3
PLE *i* Sn Sn 15 54 19.4 -5.6
STON Ston 9.28 337 *e*Pn Pn 15 52 39.6 -2.3
STON *e*Sn Sn 15 54 17.1 -8.1
STON Ston 9.28 337 *e*Pn Pn 15 52 39.6 -2.3
IVAS Ivanjica 9.36 349 *e*Pn Pn 15 52 41.9 -1.3
IVAS *e*Sn Sn 15 54 20.9 -6.5
comp=E,26nm,0.9s
ZAGS Zajecar 9.41 359 *e*Pn Pn 15 52 43.4 -0.4
RUDO Rudo 9.54 346 *e*Pn Pn 15 52 41.3 -4.3
GRUS Gruza 9.59 352 *e*Pn Pn 15 52 45.0 -1.3
GRUS *e*Sn Sn 15 54 28.6 -4.3
BBLS Lazići 9.77 346 *e*Pn Pn 15 52 48.4 -0.4
BBLS *e*Sn Sn 15 54 29.6 -7.9
BBLS Lazići 9.77 346 *e*Pn Pn 15 52 47.6 -1.2
DIVS Divibare 9.89 349 Pn Pn 15 52 47.7 -2.8
DIVS Divibare 9.89 349 *e*Pn Pn 15 52 48.2 -2.3
DIVS *e*Sn Sn 15 54 33.5 -7.0
DIVS Divibare 9.89 349 *e*Pn Pn 15 52 48.3 -2.3
TRUS Trudelj 9.96 351 *e*Pn Pn 15 52 49.4 -1.9
DJES Djerdap 10.26 360 Pn Pn 15 52 53.6 -1.9
BR131 Keskin Array S 10.34 56 Pn Pn 15 52 57.1 +0.4
BR131 Keskin Array S 10.34 56 *i* P Pn 15 52 59.1 +2.4
BRTR Keskin Array B 10.34 56 Pn Pn 15 52 57.9 +1.2
comp=E,0.6nm,0.3s,baz=232,slow=14,SNR=27
comp=E,5.8nm,0.9s
BRTR Keskin Array B 10.34 56 Pn Pn 15 52 57.2 +0.6
BRTR Keskin Array B 10.34 56 *i* P Pn 15 52 58.5 +1.8
BRTR pmax pmax
comp=Z,6.0nm,0.9s
MDVR Moldovita 10.40 357 ⇑P Pn 15 52 57.7 +0.3
TEKS Tekeris 10.41 348 *e*Pn Pn 15 52 54.2 -3.3
TEKS Tekeris 10.41 348 *e*Pn Pn 15 52 53.8 -3.7
HERR Herculane 10.48 359 ⇓P Pn 15 52 58.2 -0.2
OFRI `Ofer 10.53 96 Pn Pn 15 52 57.6 -1.7
KZIT Kziot 10.58 106 Pn Pn 15 52 58.3 -1.5
KZIT Sn Sn 15 54 51.3 -5.9
SLTI Sal'it 10.67 98 Pn Pn 15 52 59.5 -1.6
MMAI Mount Meron Ar 10.80 94 Pn Pn 15 53 01.0 -1.9
comp=Z,6.8nm,0.3s,baz=262,slow=12,SNR=18
MMAI Sn Sn 15 54 58.6 -4.2
comp=Z,5.2nm,0.3s,baz=282,slow=18,SNR=4.5
comp=Z,9.6nm,0.4s
CAMP Campotosto 10.83 321 Pn Pn 15 53 02.8 -0.6
MGRS Mrkonjic Grad 10.86 339 *e*Pn Pn 15 53 03.6 -0.2
MMLI Mount Malkishu 10.94 97 Pn Pn 15 53 03.7 -1.1
MMLI Sn Sn 15 54 59.0 -7.1
FRGS Fruska Gora 10.96 350 *e*Pn Pn 15 53 02.8 -2.2
FRGS *e*Sn Sn 15 54 58.5 -8.0
FRGS Fruska Gora 10.96 350 *e*Pn Pn 15 53 02.4 -2.6
GZR Gura Zlata 10.99 1 ⇓P Pn 15 53 05.7 +0.1
GZR Gura Zlata 10.99 1 P Pn 15 53 05.6 +0.1
YTIR Yattir 10.99 102 Pn Pn 15 53 03.7 -1.9
YTIR Sn Sn 15 55 00.5 -7.0
TIRR Tirgusor 11.03 23 Pn Pn 15 53 05.3 -0.6
TIRR Tirgusor 11.03 23 P Pn 15 53 05.3 -0.6
HMDT Nahal Hemdat 11.07 97 Pn Pn 15 53 05.1 -1.4
HMDT Sn Sn 15 55 03.2 -6.0
A050A Klekovaca 11.10 337 *e*Pn Pn 15 53 05.8 -1.1
BLY Banja Luka 11.14 340 *e*Pn Pn 15 53 06.0 -1.5
BLY Banja Luka 11.14 340 *e*Pn Pn 15 53 05.3 -2.5
DSI Dead Sea 11.14 101 Pn Pn 15 53 07.1 -0.4
DSI Sn Sn 15 55 04.4 -6.6
KRMI Paran Flat 11.15 109 Pn Pn 15 53 06.6 -1.2
NRCA Norcia 11.20 322 Pn Pn 15 53 07.6 -0.7
MSBI Mazada 11.20 102 Pn Pn 15 53 06.9 -1.5
MSBI Sn Sn 15 55 06.4 -6.1
BZS Buzias 11.24 357 ⇓P Pn 15 53 08.6 -0.2
BZS Buzias 11.24 357 P Pn 15 53 08.6 -0.2
BZS Buzias 11.24 357 *e*Pn Pn 15 53 08.4 -0.4
BZS *e*Sn Sn 15 55 09.2 -4.1
GUMA Gualdo di Mace 11.25 323 Pn Pn 15 53 09.0 0.0
PRNI Paran 11.28 107 Pn Pn 15 53 08.3 -1.1
PRNI Sn Sn 15 55 08.0 -6.4
ZFRI Zfri 11.33 106 Pn Pn 15 53 08.5 -1.7
GHAJ Ghor Haditha 11.37 102 Pn Pn 15 53 09.9 -0.8
MLR Muntele Rosu 11.39 12 Pn Pn 15 53 11.1 +0.1
comp=Z,0.3nm,0.3s,baz=173,slow=3,SNR=4.4
MLR LR LR 15 58 34.1
comp=Z,100nm,21.8s,baz=176,slow=43
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 11.39 12 ⇑P Pn 15 53 12.2 +1.2
MLR Muntele Rosu 11.39 12 Pn Pn 15 53 10.7 -0.3
MLR Muntele Rosu 11.39 12 P Pn 15 53 10.7 -0.3
NEHR Nehoiu 11.39 13 ⇑P Pn 15 53 12.8 +1.8
HRFI Mount Harif 11.43 109 Pn Pn 15 53 09.6 -2.0
HRFI Sn Sn 15 55 11.9 -6.4
MBRI Mt Berech 11.44 110 Pn Pn 15 53 11.7 -0.1
A051A Mrakovica 11.46 339 *e*Pn Pn 15 53 09.2 -2.7
EIL Elat 11.53 111 Pn Pn 15 53 11.7 -1.2
comp=Z,2.4nm,0.3s,baz=251,slow=3.4,SNR=23
EIL Sn Sn 15 55 13.3 -7.3
comp=Z,2.7nm,0.3s,baz=359,slow=17,SNR=4.4
comp=Z,10nm,0.6s
EIL Elat 11.53 111 Pn Pn 15 53 11.9 -1.0
EIL Sn Sn 15 55 14.1 -6.5
DOPR Dopca 11.77 10 ⇓P Pn 15 53 16.5 +0.5
PLOR Plostina 11.87 14 ⇓P Pn 15 53 19.3 +1.8
PLOR Plostina 11.87 14 P Pn 15 53 19.3 +1.8
VRI Vrincioaia 11.90 14 ⇓P Pn 15 53 18.7 +0.8
VRI Vrincioaia 11.90 14 P Pn 15 53 18.7 +0.8
OZUR 11.95 11 ⇑P Pn 15 53 20.3 +1.7
MORH Mrgy, Hungar 12.18 347 *e*Pn Pn 15 53 19.6 -2.1
ASF Jabal al Asfar 12.21 96 Pn Pn 15 53 20.1 -2.3
comp=Z,1.1nm,0.3s,baz=295,slow=13,SNR=6.6
ASF Sn Sn 15 55 30.8 -6.6
comp=Z,0.5nm,0.3s,baz=183,slow=16,SNR=2.3
comp=Z,4.8nm,0.5s
MARR Marisel-Cluj 12.28 2 ⇓P Pn 15 53 23.3 +0.1
DRGR 12.39 1 ⇑P Pn 15 53 24.5 -0.2
DRGR 12.39 1 P Pn 15 53 24.4 -0.2
BOJS Bojanci 12.42 335 *e*Pn Pn 15 53 22.3 -2.7
TESR Tescani 12.50 13 ⇑P Pn 15 53 27.8 +1.7
CRES Cresnjev 12.64 337 *e*Pn Pn 15 53 25.4 -2.6
SKDS Skadanscina 12.91 332 *e*Pn Pn 15 53 29.3 -2.4

CEY Cerknica 12.92 334 *e*Pn Pn 15 53 29.5 -2.3
BURAR Bucovina Array 13.36 8 ⇓P Pn 15 53 39.7 +1.8
BURAR Bucovina Array 13.36 8 Pn Pn 15 53 38.6 +0.7
BURAR Bucovina Array 13.36 8 P Pn 15 53 39.7 +1.8
SABO M.te Sabotino 13.43 332 Pn Pn 15 53 37.2 -1.6
OBKA Obir 13.54 336 *e*Pn Pn 15 53 41.8 +1.5
comp=Z,2.5nm,0.4s
OBKA Obir 13.54 336 *e*Pn Pn 15 53 37.9 -2.5
PSZ Piszkesteto 13.66 352 ⇑P Pn 15 53 42.1 +0.1
PSZ Piszkesteto 13.66 352 P Pn 15 53 42.1 +0.1
TEOL Teolo 13.76 326 Pn Pn 15 53 41.7 -1.6
PRED Cave del Predi 13.83 333 Pn Pn 15 53 43.5 -0.9
CLUD Cludinico 14.11 332 Pn Pn 15 53 46.9 -1.1
CIMO Cimolais 14.17 330 Pn Pn 15 53 46.3 -2.5
CTI Castel Tesino 14.30 328 Pn Pn 15 53 49.6 -1.1
CTI Castel Tesino 14.30 328 P Pn 15 53 49.6 -1.1
VYHS Vyhne 14.36 350 *e*P Pn 15 53 53.6 +2.1
VYHS *e* 15 56 22.4
VYHS Vyhne 14.36 350 *e*PN Pn 15 53 53.6 +2.1
VYHS Vyhne 14.36 350 *e*P P 15 53 59.7 +1.6
VYHS Vyhne 14.36 350 *e*SN Sn 15 56 22.4 -7.2
SORM Soroca 14.40 16 ⇑P Pn 15 53 54.1 +2.0
SORM Soroca 14.40 16 P Pn 15 53 54.0 +2.0
CONA Conrad Observa 14.42 342 *i* Pn Pn 15 53 53.9 +1.5
comp=Z,1.8nm,0.7s
MODS Modra-Piesok 14.51 346 *e*P Pn 15 53 54.3 +0.7
MODS Modra-Piesok 14.51 346 *e*P Pn 15 53 54.3 +0.7
CRVS Cervenica-Dubn 14.52 357 *e*P P 15 53 57.7 -2.2
CRVS Cervenica-Dubn 14.52 357 *e*PN P 15 53 57.7 -2.2
CRVS Cervenica-Dubn 14.52 357 *e*P P 15 54 02.0 +2.1
JAVC Velka Javorina 14.90 347 *e*PN Pn 15 54 01.4 +2.5
STHS Stebnicka Huta 15.05 357 *e*P P 15 54 06.0 +0.3
STHS Stebnicka Huta 15.05 357 *e*P P 15 54 06.0 +0.3
NIE Niedzica 15.11 354 *e*P P 15 54 08.5 +2.0
KRUC Moravsky 15.35 345 *e*PN P 15 54 08.4 -0.7
FUORN Ofenpass-Fuorn 15.36 326 Pn Pn 15 54 04.0 -1.0
FETA Feichten 15.45 328 *e*Pn Pn 15 54 06.4 +0.2
VRAC Vranov 15.54 345 Pn Pn 15 54 06.5 -0.7
comp=Z,0.3nm,0.3s,baz=194,slow=8.0,SNR=2.6
comp=Z,4.7nm,0.8s
VRAC Vranov 15.54 345 ⇑P Pn 15 54 07.7 +0.5
VRAC Vranov 15.54 345 *e*PN P 15 54 10.1 -1.2
DAVOX Davos/Dischmat 15.65 326 Pn Pn 15 54 07.1 -1.7
comp=Z,0.2nm,0.3s,baz=177,slow=22,SNR=1.8
DAVOX Sn Sn 15 56 55.1 -6.2
comp=Z,0.2nm,0.3s,baz=337,slow=23,SNR=1.7
comp=Z,1.0nm,0.4s
CKRC Cesky Krumlov 15.66 339 *e*P Pn 15 54 09.8 +1.0
CKRC *ex* x 15 54 15.7
OKC Ostrava-Krasne 15.77 349 *e*P P 15 54 14.5 +0.7
OKC Ostrava-Krasne 15.77 349 *e*P P 15 54 14.5 +0.7
MORC Moravsky Berou 15.81 348 ⇑P Pn 15 54 11.1 +0.4
MORC Moravsky Berou 15.81 348 Pn Pn 15 54 10.7 0.0
MORC Moravsky Berou 15.81 348 *e*PN P 15 54 12.9 -1.4
MORC Moravsky Berou 15.81 348 P Pn 15 54 10.7 0.0
MORC pmax pmax
comp=Z,16nm,0.8s
GEC2 GERESS Array S 15.87 338 Pn Pn 15 54 11.4 -0.1
GERES GERESS Array B 15.87 338 Pn Pn 15 54 09.5 -2.0
comp=Z,0.2nm,0.3s,baz=145,slow=14,SNR=3.0
comp=Z,1.5nm,0.5s
GERES GERESS Array B 15.87 338 Pn Pn 15 54 10.6 -0.9
OJC Ojcow 15.95 354 *e*P P 15 54 16.4 +0.7
OJC Ojcow 15.95 354 Pn Pn 15 54 10.3 -2.1
OJC Ojcow 15.95 354 P Pn 15 54 10.3 -2.1
OJC pmax pmax
comp=Z,24nm,1.0s
KHC Kasperske Hory 16.16 338 Pn Pn 15 54 14.1 -1.1
KHC lAmb lAmb 15 54 21.5
comp=Z,42nm,1.3s
KHC Kasperske Hory 16.16 338 *e*P Pn 15 54 14.3 -0.8
KHC *ex* x 15 54 19.5
KHC Kasperske Hory 16.16 338 *i* P Pn 15 54 13.6 -1.5
KHC pmax pmax
comp=Z,34nm,1.3s
BNI Bardonecchia 16.17 316 Pn Pn 15 54 13.1 -2.3
BNI Bardonecchia 16.17 316 P Pn 15 54 13.1 -2.3
BNI pmax pmax
comp=Z,24nm,1.3s
SOC Sochi 16.18 50 *e*P Pn 15 54 15.6 +0.2
SOC *e* 15 57 18.9
SOC MLR MLR
comp=Z,114nm,16.0s
GURO Guroymak-BITLI 16.21 70 Pn Pn 15 54 15.7 -0.3
KRLC Kraliky 16.24 347 *e*P Pn 15 54 16.1 0.0
KRLC *ex* x 15 54 19.8
KRLC Kraliky 16.24 347 *e*P Pn 15 54 16.1 0.0
GOPC GO Pecny, Ondr 16.53 342 *e*P P 15 54 24.5 +2.3
GOPC GO Pecny, Ondr 16.53 342 *e*P P 15 54 24.5 +2.3
DPC Dobruska-Polom 16.59 346 *e*P P 15 54 22.2 -0.7
DPC Dobruska-Polom 16.59 346 *e*P P 15 54 22.2 -0.7
SENIN Lac Senin/Sane 16.64 320 Pn Pn 15 54 19.3 -2.1
SENIN lAmb lAmb 15 54 31.0
comp=Z,71nm,1.4s
PRU Pruhonice 16.66 342 *e*P Pn 15 54 21.7 +0.2
PRU *ep*P P 15 54 26.3 +2.7
PRU Pruhonice 16.66 342 *e*P Pn 15 54 21.7 +0.2
UPC Upice 16.80 345 *e*P P 15 54 26.2 +1.0
UPC Upice 16.80 345 *e*P P 15 54 26.2 +1.0
OSTC Ostas 16.81 346 *e*P P 15 54 27.2 +2.0
AKASG Malin Array Be 17.01 15 Pn Pn 15 54 22.6 -3.2
comp=Z,1.7nm,0.3s,baz=204,slow=12,SNR=18
AKASG Sn Sn 15 57 25.3 -8.7
comp=Z,0.1nm,0.3s,baz=153,slow=23,SNR=2.2
comp=Z,3.7nm,0.5s
AKASG Malin Array Be 17.01 15 Pn Pn 15 54 21.3 -4.6
AKASG Malin Array Be 17.01 15 P Pn 15 54 21.3 -4.6
AKASG pmax pmax
comp=Z,22nm,1.2s
AKBB Malin Array Si 17.01 15 Pn Pn 15 54 21.9 -4.0
AKBB Malin Array Si 17.01 15 *ce*P Pn 15 54 22.2 -3.7
AKBB pmax pmax
comp=Z,9.0nm,0.6s
GRFO Grafenberg 17.42 335 Pn Pn 15 54 28.4 -2.5
GRFO Grafenberg 17.42 335 P Pn 15 54 28.4 -2.5
GRFO pmax pmax
comp=Z,30nm,1.1s
GRA1 Grafenberg Arr 17.42 335 Pn Pn 15 54 29.9 -1.1
GRA1 lAmb lAmb 15 54 54.9
comp=Z,31nm,1.1s
GRF Grafenberg Arr 17.42 335 P Pn 15 54 29.9 -1.1
GRF pmax pmax
comp=Z,31nm,1.1s
GRF Grafenberg Arr 17.42 335 *e*P Pn 15 54 30.8 -0.2
comp=Z,16nm,1.0s,baz=147,slow=13
KARS Kars 17.42 63 P 15 54 32.0 -0.3
KARS lAmb lAmb 15 55 01.9
comp=Z,41nm,0.6s
KARS Kars 17.42 63 P P 15 54 32.0 -0.3
KARS pmax pmax
comp=Z,41nm,0.6s
STU Stuttgart 17.46 329 Pn 15 54 30.4 -1.1
STU Stuttgart 17.46 329 P Pn 15 54 30.4 -1.1
STU pmax pmax
comp=Z,14nm,0.7s
NKC Novy Kostel 17.48 338 *e*P P 15 54 32.5 -0.2
NKC Novy Kostel 17.48 338 *e*P P 15 54 32.5 -0.2
BRG Berggiesshubel 17.63 342 *e*P P 15 54 36.1 +1.9
BRG Amp 15 54 38.0
comp=Z,7.5nm,0.8s
BRG Berggiesshubel 17.63 342 *e*P P 15 54 36.1 +1.9
BRG pmax pmax
comp=Z,8.0nm,0.8s
AKH Akhalkalaki 17.93 61 Pn 15 54 36.7 -0.8
AKH lAmb lAmb 15 54 55.9
comp=Z,62nm,1.2s
AKH Akhalkalaki 17.93 61 P Pn 15 54 36.7 -0.8
AKH pmax pmax
comp=Z,62nm,1.2s
ECH Echery 17.96 325 Pn 15 54 37.6 -0.1
ECH lAmb lAmb 15 54 51.3
comp=Z,38nm,1.4s
ECH Echery 17.96 325 P Pn 15 54 37.6 -0.1
ECH pmax pmax
comp=Z,38nm,1.4s
SHA1 Shidzhatmaz 18.16 53 *i* P P 15 54 43.3 +2.9
KIV Kislovodsk 18.27 53 ⇓P P 15 54 43.8 +2.3
KIV Kislovodsk 18.27 53 Pn 15 54 40.8 -0.7
KIV Kislovodsk 18.27 53 *e*P P 15 54 43.2 +1.7
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,65nm,14.0s

ONI Oni 18.27 57 Pn 15 54 41.2 -0.3
ONI Oni 18.27 57 P Pn 15 54 41.2 -0.3
ONI pmax pmax
comp=Z,14nm,1.3s
CLL Collm 18.27 341 Pn 15 54 41.1 -0.3
CLL Collm 18.27 341 *i* P P 15 54 42.7 +1.3
comp=Z,33nm,1.2s
CLL Collm 18.27 341 *i* P P 15 54 42.7 +1.3
CLL pmax pmax
comp=Z,33nm,1.2s
KVAR Kislovodsk Arr 18.27 53 Pn P 15 54 43.2 +1.7
baz=93,slow=23
comp=Z,1.7nm,0.4s
KBZ Khabaz 18.31 53 P Pn 15 54 42.4 +0.4
comp=Z,0.2nm,0.3s,baz=219,slow=6.7,SNR=9.7
comp=Z,3.3nm,0.7s
KBZ Khabaz 18.31 53 *ce*P Pn 15 54 44.7 +2.8
KBZ pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 18.56 65 P P 15 54 44.4 -0.4
comp=Z,0.6nm,0.3s,baz=195,slow=8.5,SNR=4.2
comp=Z,5.1nm,0.7s
GNI Garni 18.56 65 P P 15 54 44.6 -0.2
GNI Garni 18.56 65 P P 15 54 44.6 -0.2
GNI pmax pmax
comp=Z,22nm,1.3s
ZEI Tsey 18.65 57 *e*P P 15 54 45.9 +0.1
ZEI pmax pmax
comp=Z,8.0nm,1.0s
NAX Nakhchivan 18.98 69 P Pn 15 54 49.9 -0.3
WLF Walferdange 19.46 327 P P 15 54 53.9 -0.5
WLF lAmb lAmb 15 54 59.9
comp=Z,55nm,1.1s
WLF Walferdange 19.46 327 P P 15 54 53.9 -0.5
WLF pmax pmax
comp=Z,55nm,1.1s
WLF Walferdange 19.46 327 *d*P Pn 15 54 56.4 +0.7
comp=Z,26nm,1.0s
GANJ Ganja 19.84 65 P P 15 54 59.4 +0.7
MNGR Mingechevir, A 20.43 65 P Pn 15 55 06.7 -0.6
MNK Minsk 20.45 9 *i* P P 15 55 02.5 -2.7
comp=E,5.0nm,1.4s
MNK *i* P P 15 55 02.5 -2.7
comp=N,62nm,1.2s
MNK *i* P P 15 55 02.5 -2.7
comp=Z,33nm,1.0s,baz=194
MNK *i* PP pwP 15 55 20.0 +3.6
MNK *i* S S 15 58 53.3 +0.9
MNK *i* SS SnSn 15 59 14.3 +2.5
MNK Minsk 20.45 9 *i* P P 15 55 02.5 -2.7
MNK *i* 15 55 19.9
MNK *i* S S 15 58 53.3 +0.9
MNK *i* SS SnSn 15 59 14.2 +2.5
MNK pmax pmax
comp=N,62nm,1.2s
MNK pmax pmax
comp=Z,33nm,1.0s
MNK pmax pmax
comp=E,5.0nm,1.4s
BGES Gesves 20.45 327 *d*P P 15 55 05.7 +0.5
comp=Z,10nm,1.2s
DOU Dourbes 20.48 325 *d*P P 15 55 06.5 +1.0
comp=Z,15nm,0.9s
BMRD Maredsous 20.54 326 *d*P Pn 15 55 08.0 -0.5
comp=Z,9.8nm,1.3s
SEKA Sheki 20.60 63 P P 15 55 07.9 +1.0
VSR Storozhevoye 20.69 31 *e*P P 15 55 06.2 -1.6
VSR pmax pmax
comp=Z,7.0nm,0.4s
NACGM Naroch 20.72 7 *e*P P 15 55 07.5 -0.6
comp=Z,53nm,0.9s,baz=190
AKT Akhty 21.04 63 *e*P P 15 55 13.7 +1.9
AKT *e* 15 55 33.2
AKT pmax pmax
comp=Z,21nm,1.0s
VORR Voronezh 21.05 30 P P 15 55 12.6 +1.0
VORR S S 15 59 08.7 +4.5
VORR pmax pmax
comp=Z,9.0nm,0.5s
PABE Paberze 21.14 2 P P 15 55 10.7 -1.9
PABE Paberze 21.14 2 *e*P P 15 55 12.2 -0.4
PABE lAmb lAmb 15 55 24.5
comp=Z,56nm,0.7s
ISAL Salakas 21.32 6 *e*P P 15 55 15.3 +0.7
ISAL lAmb lAmb 15 55 29.4
comp=Z,12nm,0.5s
BSD Bornholm Skovb 21.39 348 *i* P P 15 55 13.0 -2.3
BSD *i* P P 15 55 13.0 -2.3
BSD Bornholm Skovb 21.39 348 *e*P P 15 55 14.9 -0.4
LPSR Galich'ya Gora 21.65 28 *e*P P 15 55 17.0 -1.0
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ESBB Sonseca Array 21.77 292 P P 15 55 19.1 -0.5
ESBB lAmb lAmb 15 55 26.0
comp=Z,18nm,1.2s
ESDC Sonseca Array 21.77 292 P P 15 55 19.6 0.0
comp=Z,6.7nm,1.0s,baz=88,slow=8.8,SNR=15
comp=Z,6.7nm,1.0s
ESDC Sonseca Array 21.77 292 P P 15 55 18.4 -1.2
VRH Novokhopyorsk 21.81 34 *e*P P 15 55 17.1 -2.7
VRH pmax pmax
comp=Z,30nm,0.6s
PAB San Pablo 22.06 291 P P 15 55 21.4 -1.2
PAB lAmb lAmb 15 55 24.8
comp=Z,27nm,1.3s
PAB San Pablo 22.06 291 P P 15 55 22.6 -0.1
MDT Midelt 22.65 274 P P 15 55 29.0 -0.1
comp=Z,3.2nm,0.8s,baz=81,slow=12,SNR=4.5
comp=Z,3.2nm,0.8s
RAYN Ar Rayn 22.77 112 P P 15 55 30.0 -0.4
RAYN Ar Rayn 22.77 112 P P 15 55 30.0 -0.4
RAYN pmax pmax
comp=Z,7.0nm,0.8s
DEL Delary 22.87 348 *i* P P 15 55 31.0 0.0
OBN Obninsk 22.91 21 P P 15 55 30.9 -0.4
comp=Z,4.1nm,0.4s,baz=197,slow=8.4,SNR=4.7
comp=Z,4.1nm,0.4s
OBN Obninsk 22.91 21 P P 15 55 30.6 -0.8
OBN Obninsk 22.91 21 ⇓*e*P P 15 55 31.0 -0.4
OBN *e* 15 55 59.7
OBN *e*S S 15 59 26.0 -13
OBN pmax pmax
comp=Z,38nm,1.2s
OBN MLR MLR
comp=Z,130nm,15.0s
PBAR Barrancos 24.10 288 *e*P P 15 55 43.5 +0.3
comp=Z,28nm,2.1s
PBRG Braganca 24.13 297 *e*P P 15 55 44.0 +0.5
VSU Vasula 24.24 5 *e*P P 15 55 45.8 +1.5
MVO Moncorvo 24.26 295 *e*P P 15 55 45.0 +0.2
PMRV Marv??o 24.40 291 *e*P P 15 55 43.8 -2.2
VIKU Vikbolandet 24.43 353 *e*P P 15 55 47.6 +1.6
PCBR Castelo Branco 24.49 292 *e*P P 15 55 47.3 +0.5
PESTR Estremoz 24.54 289 *e*P P 15 55 47.6 +0.3
MTE Manteigas 24.58 293 *e*P P 15 55 48.1 +0.4
PVAQ Vaqueiros 24.65 286 *e*P P 15 55 47.3 -1.0
POLO Lamas de Olo 24.86 295 *e*P P 15 55 51.4 +1.2
PCVE Castro Verde 24.90 286 *e*P P 15 55 47.8 -2.7
PCAB Cabril 25.07 296 *e*P P 15 55 52.7 +0.6
PNCL Nicolau / Gran 25.27 288 *e*P P 15 55 56.0 +2.1
BELG Belogornoye 25.40 37 P P 15 55 54.4 -0.5
comp=Z,38nm,0.8s,baz=256,slow=2.6,SNR=10
comp=Z,38nm,0.8s
BELG Belogornoye 25.40 37 *i* P P 15 55 53.9 -1.0
BELG pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 26.40 350 P P 15 56 03.6 -0.2
comp=Z,5.1nm,0.6s,baz=161,slow=11,SNR=16
HFS LR LR 16 09 18.0
comp=Z,191nm,21.4s,baz=224,slow=43
comp=Z,5.1nm,0.6s
FINES FINESS Array B 27.16 4 P P 15 56 10.4 -0.4
comp=Z,8.3nm,0.9s,baz=157,slow=12,SNR=14
FINES LR LR 16 09 38.2
comp=Z,218nm,20.5s,baz=224,slow=42
comp=Z,8.3nm,0.9s
FINES FINESS Array B 27.16 4 *i* P P 15 56 11.1 +0.4
FINES pmax pmax
comp=Z,8.0nm,0.9s
NC602 NORSAR Array S 27.31 348 *e*P P 15 56 13.4 +1.4
EKA Eskdalemuir Ar 27.48 328 P P 15 56 12.0 -1.6
comp=Z,3.6nm,0.8s,baz=122,slow=7.3,SNR=4.5
comp=Z,3.6nm,0.8s
NB2 NORSAR Subarra 27.65 348 P P 15 56 15.1 -0.1
comp=Z,5.4nm,0.9s,baz=160,slow=9.3

NB2 NORSAR Subarra 27.65 348 P **P** **15 56 15.1 -0.1**
slow=9.3
NOA NORSAR Array B 27.65 348 P **P** **15 56 14.4 -0.8**
comp=Z,1.6nm,0.6s,baz=159,slow=10.0,SNR=5.0
NOA LR LR 16 08 50.3
comp=Z,67nm,18.1s,baz=250,slow=40
comp=Z,1.6nm,0.6s
TORD Torodi Ar. Bea 28.37 227 P **P** **15 56 21.6 -0.3**
comp=Z,12nm,0.6s,baz=33,slow=8.4,SNR=1.0
comp=Z,12nm,0.6s
KLMR Klimovskoe 28.66 17 *e*P **P** **15 56 22.0 -2.1**
KLMR AMP 15 56 39.1
comp=Z,30nm,1.7s
KLMR Klimovskoe 28.66 17 *e*P **P** **15 56 21.9 -2.1**
KLMR pmax pmax
comp=Z,30nm,1.7s
GEYT Allbeck 28.83 73 P **P** **15 56 25.1 -0.8**
comp=Z,1.3nm,0.4s,baz=253,slow=9.9,SNR=1.8
comp=Z,1.3nm,0.4s
ATD Arta Tunnel 29.33 136 LR LR 16 08 47.8
comp=Z,58nm,18.1s,baz=44,slow=38
KIRV Kirov 30.08 28 P **P** **15 56 35.9 -0.7**
comp=Z,6.4nm,0.5s,baz=238,slow=3.5,SNR=3.2
comp=Z,6.4nm,0.5s
AKTO Aktyubinsk 30.35 47 LR LR 16 11 14.3
comp=Z,104nm,19.5s,baz=94,slow=41
ABKAR Akbulak array 31.22 50 P **P** **15 56 46.0 -0.9**
ARU Arti 32.95 37*c i*P **P** **15 57 03.2 +1.2**
ARU S **S** **16 02 24.5 +6.5**
ARU SS **SnSn** **16 04 23.8 +7.2**
ARU pmax pmax
comp=Z,8.0nm,1.4s
FAUS Fauske 33.30 355 *e*P **P** **15 57 05.6 +0.7**
WSAR Wadi Sarin 33.35 100 P **P** **15 57 06.2 +0.3**
comp=Z,1.1nm,0.7s,baz=342,slow=6.8,SNR=1.3
comp=Z,1.1nm,0.7s
STEI Steigen 33.85 355 *e*P **P** **15 57 10.5 +0.9**
SVE Sverdlovsk 34.16 37 *e*P **P** **15 57 12.7 +0.2**
KTK1 Kautokeino 34.67 0 *e*P **P** **15 57 18.1 +1.3**
KTK1 IAmb IAmb 15 57 18.4
comp=Z,82nm,1.7s
ARA0 ARCESS Array S 35.24 2 *e*P **P** **15 57 22.2 +0.5**
ARCES ARCESS Array B 35.24 2 P **P** **15 57 21.6 0.0**
comp=Z,4.8nm,0.5s,baz=184,slow=8.6,SNR=52
ARCES LR LR 16 12 48.7
comp=Z,216nm,18.1s,baz=214,slow=38
comp=Z,4.8nm,0.5s
ARCES ARCESS Array B 35.24 2 P **P** **15 57 20.4 -1.3**
ARCES ARCESS Array B 35.24 2 P **P** **15 57 20.4 -1.3**
ARCES pmax pmax
comp=Z,37nm,1.5s
TRO Tromso 35.35 358 *e*P **P** **15 57 23.8 +1.2**
MBAR Mbarara 35.65 166 LR LR 16 13 14.9
comp=Z,125nm,19.2s,baz=5.5,slow=38
VADS Vadso 35.98 4 *e*P **P** **15 57 29.3 +1.3**
VADS IAmb IAmb 15 57 32.0
comp=Z,152nm,1.5s
CHGR Chuyangaron 37.39 70 P **P** **15 57 39.5 -1.0**
CHGR Chuyangaron 37.39 70 P **P** **15 57 39.5 -1.0**
CHGR pmax pmax
comp=Z,12nm,0.7s
KK31 Karatay Array 37.97 62 P **P** **15 57 44.3 -1.0**
KK31 IAmb IAmb 15 57 47.9
comp=Z,7.2nm,0.8s
KK31 Karatay Array 37.97 62 P **P** **15 57 44.3 -1.0**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 37.97 62 P **P** **15 57 46.1 +0.8**
KKAR Karatay Array 37.97 62 P **P** **15 57 45.3 0.0**
KKAR IAmb IAmb 15 57 47.9
comp=Z,7.2nm,0.8s
KKAR Karatay Array 37.97 62 P **P** **15 57 45.3 0.0**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
GAR Garm 38.23 69 P **P** **15 57 49.0 +1.2**
GAR IAmb IAmb 15 58 09.3
comp=Z,20nm,1.3s
BRVK Borovoye 38.37 46 P **P** **15 57 48.7 +0.2**
BRVK Borovoye 38.37 46*ce*P **P** **15 57 49.6 +1.1**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 38.43 46 P **P** **15 57 49.4 +0.3**
comp=Z,2.5nm,0.6s,baz=267,slow=7.2,SNR=11
comp=Z,2.5nm,0.6s
BORG Borgarnes 40.22 333 LR LR 16 15 57.5
comp=Z,79nm,18.4s,baz=123,slow=38
AAK Ala-Archa 40.92 63 P **P** **15 58 10.5 +0.4**
comp=Z,2.4nm,0.7s,baz=254,slow=6.0,SNR=9.0
AAK LR LR 16 18 53.4
comp=Z,84nm,19.8s,baz=318,slow=42
comp=Z,2.4nm,0.7s
AAK Ala-Archa 40.92 63 P **P** **15 58 11.0 +0.9**
AAK IAmb IAmb 15 58 32.6
comp=Z,6.2nm,0.9s
AAK Ala-Archa 40.92 63*ce*P **P** **15 58 12.0 +1.9**
AAK pmax pmax
comp=Z,3.0nm,0.8s
NIL Nilore 41.67 76 P **P** **15 58 16.4 +0.2**
NIL Nilore 41.67 76 P **P** **15 58 16.4 +0.2**
NIL pmax pmax
comp=Z,23nm,1.0s
KSH Kashi 42.48 67 P **P** **15 58 23.4 +0.5**
KSH pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 43.33 50 P **P** **15 58 28.5 -0.9**
KURK IAmb IAmb 15 58 30.4
comp=Z,5.6nm,0.7s
KURK Kurchatov 43.33 50*ce*P **P** **15 58 29.8 +0.4**
KURK pmax pmax
comp=Z,6.0nm,1.0s
SPITS Spitsbergen Ar 43.97 358 P **P** **15 58 34.0 -0.2**
comp=Z,28nm,1.0s,baz=161,slow=7.9,SNR=9.3
comp=Z,28nm,1.0s
MAKZ Makanchi 45.77 56 P **P** **15 58 48.6 -0.4**
MAKZ Makanchi 45.77 56 P **P** **15 58 48.6 -0.4**
MAKZ pmax pmax
comp=Z,8.0nm,0.5s
MK31 Makanchi Array 45.99 56 P **P** **15 58 51.1 +0.4**
MK31 Makanchi Array 45.99 56 *i* P **P** **15 58 51.5 +0.8**
MKAR Makanchi Array 45.99 56 P **P** **15 58 51.5 +0.8**
comp=Z,14nm,0.4s,baz=269,slow=7.6,SNR=443
MKAR PcP **PcP** **16 00 28.5 +1.5**
comp=Z,0.8nm,0.6s,baz=260,slow=3.4,SNR=1.5
comp=Z,14nm,0.4s
MKAR Makanchi Array 45.99 56 P **P** **15 58 50.6 -0.1**
ZAA0 Zalesovo Array 47.08 46 P **P** **15 58 58.0 -1.1**
ZALV Zalesovo Beam 47.08 46 P **P** **15 58 59.0 -0.1**
comp=Z,7.0nm,0.4s,baz=266,slow=9.5,SNR=36
comp=Z,7.0nm,0.4s
ZALV Zalesovo Beam 47.08 46 P **P** **15 58 58.6 -0.6**
SUMG Summit 48.94 340 *i* P **P** **15 59 13.0 -0.7**
DGZ Jazzator, Alta 49.04 51 *i* P **P** **15 59 15.2 +0.6**
DGZ pmax pmax
comp=Z,4.0nm,0.5s
NRIK Noril'sk 49.48 25 P **P** **15 59 17.6 +0.2**
comp=Z,4.2nm,0.6s,baz=234,slow=1.6,SNR=8.8
comp=Z,4.2nm,0.6s
NRIK Noril'sk 49.48 25 P **P** **15 59 17.9 +0.5**
NRIK IAmb IAmb 15 59 44.8
comp=Z,6.2nm,1.1s
NRIK Noril'sk 49.48 25*ce*P **P** **15 59 19.6 +2.2**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
LSZ Lusaka 49.68 173 P **P** **15 59 21.0 +1.4**
comp=Z,1.1nm,0.3s,baz=131,slow=2.4,SNR=3.6
comp=Z,1.1nm,0.3s
LSZ Lusaka 49.68 173 P **P** **15 59 21.0 +1.4**
WMQ Urumqi 50.24 59 *e*P **P** **15 59 25.5 +1.8**
WMQ pP sP 15 59 32.5 -2.9
WMQ pmax pmax
comp=Z,10.0nm,1.3s
DY2G Dye2 50.58 331 *i* P **P** **15 59 28.3 +2.2**
DANN Dangsing 51.93 79 *e*P **P** **15 59 38.2 +1.3**
comp=Z,36nm,0.6s
SFJD Kangerlussuaq 52.33 332 LR LR 16 25 48.4
comp=Z,86nm,18.1s,baz=131,slow=41
GKN Gorkha 52.78 79 *e*P **P** **15 59 43.3 +0.3**
comp=Z,26nm,0.7s
DMN Daman 53.32 79 *e*P **P** **15 59 47.2 +0.1**
comp=Z,12nm,0.4s
PKIN Phulchoki 53.57 79 *e*P **P** **15 59 49.6 +0.7**
comp=Z,6.0nm,0.4s
PKI Pulchoki 53.58 79 *e*P **P** **15 59 49.5 +0.4**
comp=Z,6.0nm,0.5s
JIRN Jiri 54.18 79 *e*P **P** **15 59 53.8 +0.3**
comp=Z,17nm,0.7s

RAMN Ramite 54.80 79 *e*P **P** **15 59 57.9 0.0**
comp=Z,10nm,0.6s
TAPN Taplejung 55.53 78 *e*P **P** **16 00 02.4 -0.9**
TULEG Thule 57.18 344 P **P** **16 00 13.0 -0.9**
LSA Lhasa 57.34 74 P **P** **16 00 14.2 -2.0**
LSA IAmb IAmb 16 00 18.5
comp=Z,4.7nm,0.6s
LSA Lhasa 57.34 74 P **P** **16 00 14.3 -2.0**
LSA pmax pmax
comp=Z,5.0nm,0.6s
ZAK Zakamensk 58.86 48 *e*P **P** **16 00 27.1 +0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
SHL Shillong 59.68 78 P **P** **16 00 32.6 +0.3**
SHL Shillong 59.68 78 P **P** **16 00 32.6 +0.3**
SHL pmax pmax
comp=Z,11nm,0.4s
GTA Gaotai 60.22 61 *e*P **P** **16 00 37.0 +1.3**
GTA sP pwP 16 00 45.6 -2.4
GTA pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 61.63 50 P **P** **16 00 45.8 +0.6**
comp=Z,2.5nm,0.5s,baz=284,slow=7.2,SNR=25
comp=Z,2.5nm,0.5s
SONM Songino Array 61.63 50 P **P** **16 00 46.0 +0.7**
SONM IAmb IAmb 16 00 47.8
comp=Z,5.3nm,1.1s
ULN Ulaanbaatar 62.03 49 P **P** **16 00 47.9 0.0**
ULN IAmb IAmb 16 00 50.4
comp=Z,7.6nm,1.1s
ULN Ulaanbaatar 62.03 49*ce*P **P** **16 00 49.5 +1.6**
ULN pmax pmax
comp=Z,5.0nm,0.8s
SCHQ Schefferville 62.37 319 P **P** **16 00 50.5 +0.6**
comp=Z,2.1nm,0.6s,baz=50,slow=17,SNR=1.7
comp=Z,2.1nm,0.6s
TIXI Tiksi 62.63 20 P **P** **16 00 51.7 +0.4**
TIXI IAmb IAmb 16 01 01.4
comp=Z,3.5nm,1.0s
TIXI Tiksi 62.63 20*ce*P **P** **16 00 53.2 +1.9**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
BATG Bathurst New B 64.82 311 P **P** **16 01 06.7 +0.5**
D62A Allapoint, All 66.75 312 P **P** **16 01 19.1 +0.5**
PZH PanZhiHua 67.14 73 P **P** **16 01 22.1 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.2s
YAK Yakutsk 67.61 29*ce*P **P** **16 01 25.1 +1.4**
YAK pmax pmax
comp=Z,3.0nm,0.6s
HHC Hu-ho-hao-te 67.85 55 *e*P **P** **16 01 25.2 -0.6**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.4s
CHTO Chiang Mai 68.62 81 P **P** **16 01 31.9 +1.0**
CHTO IAmb IAmb 16 01 41.1
comp=Z,3.4nm,1.0s
CHTO Chiang Mai 68.62 81 P **P** **16 01 31.9 +1.0**
CMAR Chiang Mai Arr 68.80 82 P **P** **16 01 32.3 +0.3**
comp=Z,0.8nm,0.5s,baz=297,slow=8.3,SNR=6.3
comp=Z,0.8nm,0.5s
CRAI Chiangrai 69.08 79 P **P** **16 01 33.1 -0.7**
HEH HeiHe 72.85 40 *e*P P 16 02 04.8 +8.7
HEH pmax pmax
comp=Z,6.0nm,0.8s
M55A Ridgway 75.58 310 P **P** **16 02 11.6 -0.6**
KLR Kul'dur 75.74 40 P **P** **16 02 13.3 +0.4**
comp=Z,0.8nm,0.5s,baz=310,slow=22,SNR=2.1
comp=Z,0.8nm,0.5s
INK Inuvik 76.06 351 P **P** **16 02 14.1 -0.2**
comp=Z,1.0nm,0.5s,baz=37,slow=8.0,SNR=7.8
comp=Z,1.0nm,0.5s
INK Inuvik 76.06 351 P **P** **16 02 14.8 +0.4**
INK IAmb IAmb 16 02 25.8
comp=Z,4.7nm,1.2s
NJ2 Nanjing 77.30 60 *e*P **P** **16 02 23.2 +1.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
YKA Yellowknife Ar 77.50 341 P **P** **16 02 23.1 +0.5**
comp=Z,0.8nm,0.7s,baz=33,slow=5.3,SNR=9.3
comp=Z,0.8nm,0.7s
BMAR Burnt Mountain 78.03 355 P **P** **16 02 26.9 +1.4**
COLD Coldfoot 78.55 357 P **P** **16 02 29.1 +0.8**
COLD IAmb IAmb 16 02 54.6
comp=Z,4.2nm,1.2s
USRK Ussuriysk Ar. 78.89 44 P **P** **16 02 31.3 +0.6**
comp=Z,1.6nm,0.6s,baz=315,slow=4.7,SNR=5.3
comp=Z,1.6nm,0.6s
USRK Ussuriysk Ar. 78.89 44 P **P** **16 02 30.3 -0.4**
USRK Ussuriysk Ar. 78.89 44 P **P** **16 02 30.3 -0.4**
I29M Ogilvie Camp, 79.46 352 P **P** **16 02 34.0 +0.6**
I29M IAmb IAmb 16 02 35.7
comp=Z,10nm,1.4s
ULM Lac du Bonnet 79.72 325 P **P** **16 02 35.5 +0.3**
comp=Z,2.3nm,0.8s,baz=284,slow=2.9,SNR=3.3
comp=Z,2.3nm,0.8s
IMAR Indian Mountai 79.91 358 P **P** **16 02 37.0 +1.2**
H23K Yukon River 79.92 357 P **P** **16 02 36.0 0.0**
H23K IAmb IAmb 16 02 50.0
comp=Z,4.4nm,1.1s
H21K Melozitna Rive 80.21 358 P **P** **16 02 37.2 -0.3**
H21K IAmb IAmb 16 02 43.0
comp=Z,5.5nm,0.8s
KSRS Korea Array 80.45 51 P **P** **16 02 40.0 +0.8**
comp=Z,1.2nm,0.6s,baz=308,slow=4.1,SNR=4.8
comp=Z,1.2nm,0.6s
POKR Poker Plat Res 80.51 356 P **P** **16 02 37.4 -1.7**
I21K Tanana 80.66 358 P **P** **16 02 41.3 +1.4**
I21K IAmb IAmb 16 02 46.0
comp=Z,8.6nm,1.1s
MDM Murphy Dome 80.71 356 P **P** **16 02 41.0 +0.8**
MDM IAmb IAmb 16 03 00.1
comp=Z,5.3nm,1.2s
MLY Manley 80.77 357 P **P** **16 02 41.1 +0.5**
MLY IAmb IAmb 16 03 07.4
comp=Z,6.3nm,1.3s
ILAR Eielson Array 80.82 355 P **P** **16 02 41.9 +1.2**
comp=Z,0.6nm,0.7s,baz=351,slow=3.5,SNR=14
comp=Z,0.6nm,0.7s
ILAR Eielson Array 80.82 355 P **P** **16 02 41.3 +0.6**
ILAR Eielson Array 80.82 355 P **P** **16 02 41.3 +0.6**
DAWY Dawson 80.84 352 P **P** **16 02 41.6 +0.6**
DAWY IAmb IAmb 16 03 14.2
comp=Z,4.9nm,1.1s
ANM Nome 81.18 3 P **P** **16 02 42.0 -0.6**
ANM IAmb IAmb 16 03 18.5
comp=Z,9.5nm,1.3s
ANM Nome 81.18 3 P **P** **16 02 42.0 -0.6**
ANM pmax pmax
comp=Z,9.0nm,1.3s
WRH Wood River Hil 81.19 356 P **P** **16 02 42.9 +0.2**
WRH IAmb IAmb 16 02 54.4
comp=Z,4.2nm,1.1s
BPAW Bear Paw Mtn. 81.71 357 P **P** **16 02 46.3 +0.8**
BPAW IAmb IAmb 16 03 12.0
comp=Z,7.8nm,1.4s
DOT Dot Lake 81.71 354 P **P** **16 02 47.2 +1.6**
DOT IAmb IAmb 16 02 49.3
comp=Z,3.4nm,0.8s
J20K Nowinta River 81.73 359 P **P** **16 02 45.5 -0.1**
J20K IAmb IAmb 16 03 06.3
comp=Z,8.1nm,1.2s
M31M Drury Creek, Y 81.96 349 P **P** **16 02 47.5 +0.6**
M31M IAmb IAmb 16 02 50.9
comp=Z,5.8nm,1.2s
BCAR Beaver Creek A 82.07 353 P **P** **16 02 47.0 -0.5**
L27K Beaver Creek, 82.08 353 P **P** **16 02 48.1 +0.6**
TRF Thorofare Moun 82.33 357 P **P** **16 02 48.9 0.0**
TRF IAmb IAmb 16 03 08.1
comp=Z,4.3nm,1.1s
DHY Denali Highway 82.53 355 P **P** **16 02 50.5 +0.5**
DHY IAmb IAmb 16 02 54.1
comp=Z,3.3nm,0.7s
K20K Telida 82.55 358 P **P** **16 02 49.8 -0.1**
K20K IAmb IAmb 16 03 07.2
comp=Z,4.3nm,1.0s
M27K Edge Creek, AK 82.77 353 P **P** **16 02 51.2 0.0**
M27K IAmb IAmb 16 03 02.6
comp=Z,8.1nm,1.4s
PPLA Purkeypile 82.96 358 P **P** **16 02 52.7 +0.5**
L19K White Mountain 83.74 359 P **P** **16 02 56.4 +0.3**
L19K IAmb IAmb 16 03 21.0
comp=Z,3.4nm,1.0s

M20K Styx River 84.00 358 P **P** **16 02 57.7 +0.2**
SUA Susitna One 84.33 357 P **P** **16 02 59.1 -0.1**
SVW2 Sparrevohn 84.84 359 P **P** **16 03 01.4 -0.3**
SVW2 IAmb IAmb 16 03 10.1
comp=Z,2.3nm,0.9s
PDAR Pinedale Array 91.60 327 P **P** **16 03 35.1 +0.4**
comp=Z,0.3nm,0.7s,baz=41,slow=8.4,SNR=2.6
comp=Z,0.3nm,0.7s
WRA Warramunga Arr 118.65 95 PKP **PKPdf** **16 09 15.9 +0.1**
comp=Z,0.2nm,0.7s,baz=319,slow=1.8,SNR=1.7
ASAR Alice Springs 120.04 99 PKP **PKPdf** **16 09 18.3 -0.1**
comp=Z,0.3nm,0.7s,baz=305,slow=1.6,SNR=6.1
DZM Mont Dzumac 146.08 78 PKPbc **PKPbc** **16 10 08.4 +0.6**
comp=Z,1.8nm,0.6s,baz=276,slow=13,SNR=2.0

IDC 11 15:59:23.0±2.3, 6°59S×128°59E, h0km, mb3.2/1, mbtmp3.1/3, ML2.6/2, Error ellipse: s-maj=137.2km s-min=30.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.40**	**158**	Pn	Pn	16 02 50.2	+1.8
	baz=336,slow=12,SNR=1.5						
WRA				Sn	Sn	16 05 29.2	+0.2
	0.3nm,0.3s,baz=178,slow=22,SNR=8.7						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**17.73**	**164**	P	Pn	16 03 30.6	-1.0
	baz=348,slow=11,SNR=7.8						
ASAR				S	Sn	16 06 46.5	-3.5
	0.2nm,0.6s,baz=344,slow=26,SNR=1.9						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**67.12**	**327**	P	P	16 10 18.6	0.0
	0.2nm,0.6s,baz=130,slow=5.8,SNR=2.3						
	0.2nm,0.6s						

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*IDC **11** 16:06:39.7±1.0,42°.87S×82°.91E, h0km, mb4.3/9, mbtmp4.3/9, MS4.1/36, Error ellipse: s-maj=30.2km s-min=26.3km az=83.0*
*NEIC **11** 16:06:43.0±1.3,42°.94S±0°.06×83°.1E±0°.2, h10km±1km, mb4.8/15, Error ellipse: s-maj=30.1km s-min=8.2km az=279.0*
*GCMT **11** 16:06:45.0±0.2,42°.80S±0°.03×83°.27E±0°.03, h12km, MW4.9/82, Moment Tensor Solution. s25,c27; s82,c105; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.55±.09; Mθθ 1.45±.09; Mϕϕ 1.09±.09; Mrθ 0.38±.32; Mϕθ -1.40±.07; Mϕr 1.28±.37; Best double couple: M0 2.92400×10^16 NP1:ϕs 153.00000°, δ55.00000°, λ-63.00000°. NP2: ϕs 291.00000°, δ43.00000°, λ-123.00000°. Principal axes: T 2.7460, Plg 7.0000°, Azm 224.0000°; N 0.3460, Plg 22.0000°, Azm 317.0000°; P -3.1020, Plg 67.0000°, Azm 118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 16:06:42.1±0.7, 42°.9S±0°.1×83°.1E±0°.1, h10km, n73, σ0 8 9/39, mb4.6/18, MS4.2/36, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**25.33**	**82**	T	T	16 38 09.2	
	baz=242,slow=74,SNR=39						
H01W3	**Cape Leeuwin H**	**25.34**	**82**	T	T	16 38 08.6	
	baz=242,slow=74,SNR=46						
H01W1	**Cape Leeuwin H**	**25.35**	**82**	T	T	16 38 11.7	
	baz=242,slow=74,SNR=48						
MAW	**Mawson**	**27.02**	**197**	LR	LR	16 20 39.6	
	comp=Z,465nm,21.4s,baz=22,slow=31						
NWAO	**Narrogin (SRO)**	**28.54**	**81**	LR	LR	16 21 16.6	
	comp=Z,596nm,21.0s,slow=31						
H08S2	**Diego Garcia H**	**36.36**	**342**	T	T	16 52 13.3	
	baz=167,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**36.36**	**342**	T	T	16 52 12.7	
	baz=167,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**36.38**	**342**	T	T	16 52 12.6	
	baz=167,slow=76,SNR=33						
LEM	**Lembang**	**41.95**	**38**	LR	LR	16 28 32.4	
	comp=Z,954nm,19.9s,baz=204,slow=31						
ASAR	**Alice Springs**	**45.85**	**82**	P	**P**	**16 15 04.4**	**-0.1**
	7.6nm,1.1s,baz=228,slow=7.5,SNR=26						
ASAR				PcP	**PcP**	**16 16 41.9**	**+0.1**
	2.1nm,1.1s,baz=220,slow=2.4,SNR=5.1						
ASAR				LR	LR	16 31 43.8	
	comp=Z,732nm,21.5s,baz=257,slow=33						
	7.6nm,1.1s						
ASAR	**Alice Springs**	**45.85**	**82**	P	**P**	**16 15 05.0**	**+0.4**
AS31	**Alice Springs**	**45.85**	**82**	P	**P**	**16 15 05.0**	**+0.4**
VNDA	**Vanda**	**46.09**	**163**	LR	LR	16 32 44.5	
	comp=Z,239nm,19.9s,baz=273,slow=34						
STKA	**Stephens Creek**	**46.90**	**97**	P	**P**	**16 15 13.0**	**+0.3**
	3.1nm,1.0s,baz=235,slow=9.3,SNR=3.9						
STKA				PcP	**PcP**	**16 16 44.4**	**-1.0**
	2.2nm,0.9s,baz=257,slow=20,SNR=2.5						
STKA				LR	LR	16 31 52.8	
	comp=Z,243nm,18.9s,baz=224,slow=32						
	3.1nm,1.0s						
STKA	**Stephens Creek**	**46.90**	**97**	P	**P**	**16 15 12.4**	**-0.3**
QSPA	**South Pole Qui**	**47.23**	**180**	P	**P**	**16 15 14.5**	**-0.5**
	20nm,1.1s,baz=293,slow=4.1,SNR=18						
QSPA				LR	LR	16 33 26.4	
	comp=Z,328nm,20.8s,baz=284,slow=34						
	20nm,1.1s						
QSPA	**South Pole Qui**	**47.23**	**180**	P	**P**	**16 15 16.1**	**+1.0**
PSI	**Prapat**	**47.70**	**22**	LR	LR	16 30 42.5	
	comp=Z,422nm,21.4s,baz=214,slow=30						
BATI	**Baumata**	**48.02**	**59**	LR	LR	16 32 18.7	
	comp=Z,482nm,21.6s,baz=246,slow=32						
BOSA	**Boshof**	**48.17**	**268**	LR	LR	16 31 19.6	
	comp=Z,417nm,21.2s,baz=152,slow=31						
WRA	**Warramunga Arr**	**48.49**	**78**	P	**P**	**16 15 25.4**	**+0.3**
	13nm,1.1s,baz=229,slow=6.9,SNR=34						
WRA				LR	LR	16 33 20.2	
	comp=Z,424nm,21.3s,baz=234,slow=33						
	13nm,1.1s						
WRA	**Warramunga Arr**	**48.49**	**78**	P	**P**	**16 15 25.2**	**+0.1**
WB2	**Warramunga Arr**	**48.50**	**78**	P	**P**	**16 15 25.6**	**+0.4**
WRAB	**Tennant Creek**	**48.50**	**78**	P	**P**	**16 15 26.1**	**+0.9**
WR0	**Warramunga Arr**	**48.62**	**79**	P	**P**	**16 15 26.7**	**+0.6**
WR0				IAmb	IAmb	16 15 29.1	
	comp=Z,26nm,1.2s						
WB0	**Warramunga Arr**	**48.64**	**78**	P	**P**	**16 15 27.1**	**+0.8**
WB0				IAmb	IAmb	16 15 28.5	
	comp=Z,24nm,1.1s						
SNAA	**Sanae**	**48.69**	**205**	LR	LR	16 33 05.9	
	comp=Z,246nm,18.7s,baz=66,slow=33						
SUR	**Sutherland**	**49.41**	**261**	LR	LR	16 33 10.3	
	comp=Z,52nm,18.8s,baz=125,slow=32						
KAPI	**Kappang**	**49.76**	**51**	LR	LR	16 34 37.3	
	comp=Z,142nm,19.1s,baz=216,slow=34						
LBTB	**Lobatse**	**49.96**	**272**	LR	LR	16 32 45.9	
	comp=Z,260nm,19.5s,baz=160,slow=31						
BELA	**Belgrano 2**	**53.77**	**193**		**P**	**16 16 03.4**	**-0.6**
BELA				IAmb	IAmb	16 16 08.3	
	comp=Z,4.8nm,1.1s						
LSZ	**Lusaka**	**54.19**	**283**	LR	LR	16 34 32.9	
	comp=Z,187nm,21.9s,baz=128,slow=31						
TOLI2	**Tolitoli**	**55.38**	**48**	P	**P**	**16 16 16.2**	**-0.3**
TOLI2				IAmb	IAmb	16 16 18.7	
	comp=Z,25nm,1.5s						
CTAO	**Charters Tower**	**57.08**	**87**	P	**P**	**16 16 27.6**	**-1.0**
CTAO				IAmb	IAmb	16 16 49.6	
	comp=Z,20nm,1.4s						
TSUM	**Tsumeb**	**59.37**	**272**	LR	LR	16 38 23.6	
	comp=Z,244nm,19.8s,baz=147,slow=32						
SIJI	**Sorong**	**59.99**	**59**	P	**P**	**16 16 49.1**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=252,slow=20,SNR=1.6						
SIJI				LR	LR	16 41 36.0	
	comp=Z,66nm,18.9s,baz=228,slow=35						
	comp=Z,1.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**62.79**	**17**	P	**P**	**16 17 06.3**	**-1.4**
	comp=Z,2.1nm,1.1s,baz=214,slow=6.0,SNR=7.7						
	comp=Z,2.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**62.79**	**17**	P	**P**	**16 17 07.1**	**-0.6**
MBAR	**Mbarara**	**62.90**	**297**	LR	LR	16 41 15.0	
	comp=Z,82nm,18.6s,baz=219,slow=33						
DAV	**Davao City (W)**	**62.95**	**49**	LR	LR	16 44 34.4	
	comp=Z,88nm,18.3s,baz=272,slow=36						
BRDH	**Bariadhala**	**65.75**	**9**	LR	LR	16 43 30.3	
	comp=Z,192nm,18.6s,baz=202,slow=34						
WSAR	**Wadi Sarin**	**69.59**	**336**	LR	LR	16 41 18.5	
	comp=Z,105nm,20.2s,baz=171,slow=30						
PMSA	**Palmer Station**	**69.60**	**194**	LR	LR	16 47 45.5	
	comp=Z,498nm,19.7s,baz=117,slow=35						
KRVT	**Keravat (AS076**	**71.70**	**79**	LR	LR	16 47 31.0	
	comp=Z,211nm,20.1s,baz=36,slow=34						

KBL	**Kabul**	**78.16**	**348**	P	**P**	**16 18 42.2**	**+0.8**
KBL				IAmb	IAmb	16 18 45.6	
	comp=Z,15nm,1.2s						
GUMO	**Guam**	**79.66**	**61**	LR	LR	16 57 55.3	
	comp=Z,28nm,18.3s,baz=168,slow=39						
JOW	**Kunigami**	**80.90**	**40**	LR	LR	16 51 07.8	
	comp=Z,83nm,21.9s,baz=302,slow=33						
GAR	**Garm**	**82.36**	**350**	P	**P**	**16 19 04.5**	**+0.6**
GAR				IAmb	IAmb	16 19 21.1	
	comp=Z,13nm,1.3s						
GEYT	**Alibeck**	**83.62**	**340**	P	**P**	**16 19 10.4**	**0.0**
EIL	**Elat**	**84.70**	**319**	LR	LR	16 51 29.9	
	comp=Z,50nm,19.7s,baz=238,slow=32						
AAK	**Ala-Archa**	**85.53**	**354**	LR	LR	16 55 10.7	
	comp=Z,179nm,18.1s,baz=184,slow=34						
JNU	**Nakatsue**	**87.41**	**38**	LR	LR	17 00 42.5	
	comp=Z,23nm,18.5s,baz=221,slow=37						
JCJ	**Chichijima**	**88.33**	**50**	LR	LR	16 53 18.6	
	comp=Z,68nm,21.9s,baz=126,slow=32						
MK31	**Makanchi Array**	**89.33**	**359**	P	**P**	**16 19 37.9**	**-0.3**
MK31				IAmb	IAmb	16 19 41.3	
	comp=Z,4.7nm,1.4s						
MKAR	**Makanchi Array**	**89.33**	**359**	P	**P**	**16 19 37.9**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=156,slow=6.2,SNR=8.2						
MKAR				LR	LR	16 59 25.0	
	comp=Z,122nm,18.1s,baz=152,slow=36						
	comp=Z,1.0nm,1.0s						
MAKZ	**Makanchi**	**89.35**	**359**	P	**P**	**16 19 38.9**	**+0.7**
MAKZ				IAmb	IAmb	16 19 40.9	
	comp=Z,3.6nm,1.2s						
GNI	**Garni**	**89.67**	**332**	LR	LR	16 54 24.3	
	comp=Z,65nm,19.9s,baz=145,slow=32						
KSRS	**Korea Array**	**89.78**	**34**	LR	LR	17 00 55.9	
	comp=Z,29nm,18.1s,baz=215,slow=36						
SONM	**Songino Array**	**92.69**	**15**	P	**P**	**16 19 53.3**	**-0.6**
	comp=Z,1.3nm,1.2s,baz=174,slow=4.1,SNR=5.0						
	comp=Z,1.3nm,1.2s						
KURBB	**Kurchatov Arra**	**93.25**	**357**	LR	LR	16 58 49.1	
	comp=Z,122nm,20.9s,baz=154,slow=34						
PLCA	**Paso Flores**	**93.39**	**200**	LR	LR	17 01 13.3	
	comp=Z,70nm,19.0s,baz=146,slow=35						
BRTR	**Keskin Array B**	**93.66**	**324**	P	**P**	**16 19 57.2**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=145,slow=5.3,SNR=2.9						
	comp=Z,0.8nm,0.9s						
MJAR	**Matsushiro Arr**	**93.66**	**41**	LR	LR	16 55 17.7	
	comp=Z,93nm,21.5s,baz=212,slow=31						
ILAR	**Eielson Array**	**144.63**	**35**	PKP	**PKPab**	**16 26 15.7**	**-0.7**
	comp=Z,0.8nm,1.1s,baz=255,slow=3.5,SNR=6.0						
BMAR	**Burnt Mountain**	**144.77**	**30**		**PKPab**	**16 26 19.4**	**+2.4**
PAX	**Paxson**	**145.65**	**37**	PKPdf	**PKPdf**	**16 26 19.8**	**+0.1**
RIDG	**Independent Ri**	**145.75**	**36**	PKPdf	**PKPdf**	**16 26 20.6**	**+0.8**
SCRK	**Sand Creek**	**146.06**	**35**	PKPdf	**PKPdf**	**16 26 21.2**	**+0.8**
DAWY	**Dawson**	**147.95**	**34**		**PKPbc**	**16 26 28.7**	**+2.2**
EPYK	**Eagle Plains**	**148.04**	**29**		**PKPdf**	**16 26 24.9**	**+1.4**
INK	**Inuvik**	**148.11**	**25**	PKPbc	**PKPdf**	**16 26 24.6**	**+1.1**
	comp=Z,2.9nm,1.1s,baz=9.1,slow=9.9,SNR=3.6						
INK	**Inuvik**	**148.11**	**25**		**PKPdf**	**16 26 24.3**	**+0.8**
RES	**Resolute Bay**	**148.13**	**359**	PKPdf	**PKPdf**	**16 26 23.3**	**-0.1**

WEL 11 16:21:13.5±0.5, 42°S±4°×17°8E±°, h12km, M3.4/28, mB3.6/1, ML3.6/38, MLv3.4/28, Mw(mB)2.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=58.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**1.84**	**323**	P	Pn	16 21 45.5	+0.6
PXZ	**Pawanui**	**1.95**	**331**	P	Pn	16 21 47.4	+1.0
WPHZ	**Waipukurau**	**2.09**	**323**	P	Pn	16 21 49.0	+0.6
WPHZ				S	Sn	16 22 15.8	+1.5
KAHZ	**Kahuranaki**	**2.15**	**334**	P	Pn	16 21 50.5	+1.3
KAHZ				S	Sn	16 22 14.9	-1.0
CKHZ	**Cape Kidnapper**	**2.22**	**339**	P	Pn	16 21 50.7	+0.6
CKHZ				S	Sn	16 22 15.8	-1.6
PNHZ	**Pukenui**	**2.33**	**321**	P	Pn	16 21 51.6	0.0
PNHZ				S	Sn	16 22 18.9	-1.2
TSZ	**Takapari Road**	**2.33**	**315**	P	Pn	16 21 51.5	-0.2
TSZ				S	Sn	16 22 19.4	-1.0
KRHZ	**Kereru**	**2.47**	**327**	P	Pn	16 21 54.3	+0.7
KRHZ				S	Sn	16 22 24.4	+0.7
MCHZ	**McNeill Hill**	**2.53**	**335**	P	Pn	16 21 55.1	+0.7
MCHZ				S	Sb	16 22 27.9	-2.0
ARHZ	**Aropaoanui**	**2.61**	**341**	P	Pn	16 21 56.8	+1.2
ARHZ				S	Sn	16 22 24.9	-2.2
KWHZ	**Kaweka Forest**	**2.64**	**331**	P	Pn	16 21 56.9	+1.0
KWHZ				S	Sn	16 22 28.4	+0.4
BHHZ	**Black Hill Sta**	**2.73**	**325**	P	Pn	16 21 57.5	+0.3
BHHZ				S	Sn	16 22 28.7	-1.4
KNZ	**Kokohu**	**2.73**	**353**	P	Pn	16 21 56.9	-0.2
KNZ				S	Sn	16 22 29.2	-0.9
BKZ	**Black Stump Fm**	**2.85**	**334**	P	Pn	16 21 59.2	+0.4
BKZ				S	Sn	16 22 31.8	-1.3
RAHZ	**Arahi**	**2.92**	**344**	P	Pn	16 22 01.0	+1.2
RAHZ				S	Sn	16 22 32.8	-2.1
MOVZ	**Moawhango**	**2.94**	**322**	P	Pn	16 22 01.0	+1.0
SNGZ	**Shannon Statio**	**3.01**	**349**	P	Pn	16 22 01.7	+0.7
SNGZ				S	Sn	16 22 36.4	-0.6
MTHZ	**Maungataniwha**	**3.04**	**341**	P	Pn	16 22 02.0	+0.6
MTHZ				S	Sn	16 22 36.2	-1.6
WNVZ	**Wahianoa**	**3.07**	**321**	P	Pn	16 22 03.4	+1.4
WNVZ				S	Sn	16 22 39.0	+0.3
WAZ	**Wanganui**	**3.09**	**309**	P	Pn	16 22 03.1	+1.1
MTVZ	**Mangateitei**	**3.09**	**319**	P	Pn	16 22 03.5	+1.3
WHVZ	**Whangaehu Hut**	**3.11**	**321**	P	Pn	16 22 03.6	+1.0
FWVZ	**Far West T-bar**	**3.12**	**321**	P	Pn	16 22 04.2	+1.1
OTVZ	**Oturere**	**3.17**	**323**	P	Pn	16 22 04.5	+1.2
MRHZ	**Matea Rd**	**3.17**	**336**	P	Pn	16 22 04.3	+1.0
MRHZ				S	Sn	16 22 39.6	-1.5
ETVZ	**East Tongariro**	**3.18**	**324**	P	Pn	16 22 04.5	+1.1
ETVZ				S	Sn	16 22 41.7	+0.5
NGZ	**Ngauruhoe**	**3.19**	**323**	P	Pn	16 22 04.7	+1.1
TMVZ	**Te Maari**	**3.20**	**324**	P	Pn	16 22 04.7	+1.0
TMVZ				S	Sn	16 22 41.9	+0.2
NNVZ	**North Ngauruho**	**3.22**	**323**	P	Pn	16 22 05.1	+1.0
NNVZ				S	Sn	16 22 43.4	+1.0
RTZ	**Ruatahuna**	**3.24**	**344**	P	Pn	16 22 05.0	+0.8
RTZ				S	Sn	16 22 45.4	+2.8
RITZ	**Rihia Road**	**3.25**	**327**	P	Pn	16 22 05.6	+1.3
WTVZ	**West Tongariro**	**3.25**	**323**	P	Pn	16 22 05.4	+1.0
WTVZ				S	Sn	16 22 42.6	-0.4
CNGZ	**Carnagh Statio**	**3.25**	**2**	P	Pn	16 22 04.3	0.0
TWVZ	**Taurewa**	**3.35**	**322**	P	Pn	16 22 06.6	+0.8
RATZ	**Rangitukua**	**3.38**	**327**	P	Pn	16 22 07.1	+1.0
MUGZ	**Murupara**	**3.42**	**342**	P	Pn	16 22 07.4	+0.8
MWZ	**Matawai**	**3.43**	**352**	P	Pn	16 22 07.0	+0.2
URZ	**Urewera**	**3.56**	**347**	P	Pn	16 22 08.9	+0.4
VRZ	**Vera Road**	**3.65**	**315**	P	Pn	16 22 10.4	+0.6
PUZ	**Puketiti**	**3.67**	**2**	P	Pn	16 22 09.6	-0.5
RUGZ	**Raukumara Rang**	**3.79**	**355**	P	Pn	16 22 11.9	+0.2
PKGZ	**Pakihiroa**	**3.85**	**360**	P	Pn	16 22 12.5	0.0
WMGZ	**Waiomatatini S**	**3.92**	**4**	P	Pn	16 22 13.5	0.0
HAZ	**Te Kaha**	**3.99**	**356**	P	Pn	16 22 15.0	+0.6
HIZ	**Hauiti**	**4.07**	**321**	P	Pn	16 22 16.0	+0.5
CTZ	**Chatham Island**	**4.37**	**119**	P	Pn	16 22 14.0	-5.7
CTZ				S	Sn	16 22 59.1	-11
MQZ	**McQueen's Vall**	**4.46**	**242**	P	Pn	16 22 12.9	-8.1
MQZ				S	Sn	16 22 58.6	-14
MKAZ	**Moumakai**	**5.16**	**333**	P	Pn	16 22 30.9	+0.4
MBAZ	**Motutapu North**	**5.55**	**332**	P	Pn	16 22 36.5	+0.6

*NEIC **11** 16:23:03.8±1.6, 12°.25N±0°.08×141°.06E±0°.08, h10km±1km, mb4.9/88, Error ellipse: s-maj=16.2km s-min=9.9km az=140.0*

*BJI **11** 16:23:05.9±0.0, 12°.11N×141°.36E, h52km, mb4.7/45, mB5.1/17, Ms4.7/6, Ms7 4.2/7*

*IDC **11** 16:23:09.8±2.7, 12°.21N×141°.18E, h61km±26km, mb4.2/24, mbtmp4.5/26, ML4.3/2, MS3.7/23, Error ellipse: s-maj=17.6km s-min=10.6km az=93.0*

*DJA **11** 16:23:14.1±2.5, 12°N±7°×14°1E±1°0, h86km±22km, M4.7/19, mB4.8/2, mb4.7/19, Mw(mB)4.0/2*

ISC 11 16:23:08.9±1.3, 12°.20N±0°.05×141°.13E±0°.07, h52km±13km, n186, σ18°17/173, mb4.7/83, MS3.8/23, 1C-3D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.90**	**69**	P	**Pn**	**16 24 06.7**	**+0.4**
	60nm,0.3s,baz=218,slow=3.0,SNR=22						
GUMO				S	**Sn**	**16 24 54.1**	**+3.2**
	124nm,0.7s,baz=32,slow=9.4,SNR=1.3						
	193nm,0.5s						
GUMO	**Guam**	**3.90**	**69**		**Pn**	**16 24 04.9**	**-1.5**
JCJ	**Chichijima**	**14.86**	**4**	LR	LR	16 31 34.2	
	comp=Z,151nm,18.0s,baz=195,slow=34						
SIJI	**Sorong**	**16.26**	**218**	P	**Pn**	**16 26 54.5**	**+0.5**
	0.4nm,0.3s,baz=23,slow=18,SNR=4.8						
	4.3nm,0.8s						
FAKI	**Fak Fak**	**17.42**	**211**		**Pn**	**16 27 07.0**	**-1.3**
FAKI	**Fak Fak**	**17.42**	**211**	P	**P**	**16 27 09.8**	**+0.8**
	27nm,1.9s						
JOW	**Kunigami**	**18.92**	**322**	LR	LR	16 32 58.8	
	comp=Z,217nm,21.0s,baz=198,slow=31						
MSAI	**Masohi**	**19.63**	**219**	P	**Pn**	**16 27 36.2**	**+1.1**
	36nm,0.8s,292nm						
KRVT	**Keravat (AS076**	**19.65**	**146**	LR	LR	16 33 44.8	
	comp=Z,175nm,21.8s,baz=83,slow=32						
AAI	**Ambon**	**20.35**	**220**	P	Pn	16 27 44.7	+1.0
	42nm,0.8s						
SANI	**Sanana**	**20.65**	**228**	P	Pn	16 27 46.9	-0.3
	16nm,0.7s						
GTOI	**Gorontalo**	**21.33**	**239**	P	**P**	**16 27 55.7**	**+4.0**
	7.7nm,0.8s						
JSU	**Suzuyama**	**21.59**	**335**	P	**P**	**16 27 53.2**	**-1.2**
JSU				IAmb	IAmb	16 27 55.8	
	comp=Z,49nm,0.9s						
PMG	**Port Moresby**	**22.28**	**164**	P	**P**	**16 28 00.3**	**-1.6**
	comp=Z,5.2nm,0.7s,baz=175,slow=4.4,SNR=3.3						
	comp=Z,5.2nm,0.7s						
PMG	**Port Moresby**	**22.28**	**164**	P	**P**	**16 28 00.2**	**-1.6**
SAUI	**Saumlaki**	**22.30**	**206**	P	**P**	**16 28 05.9**	**+3.8**
	comp=Z,70nm,1.1s						
MRSI	**Marisa**	**22.32**	**240**	P	**P**	**16 28 02.9**	**+0.6**
	comp=Z,65nm,0.9s						
SSLB	**Suanglung**	**22.35**	**304**	P	**P**	**16 28 00.6**	**-2.1**
SSLB				IAmb	IAmb	16 28 11.0	
	comp=Z,39nm,1.2s						
JMN	**Monobe**	**22.43**	**344**	P	**P**	**16 28 00.7**	**-2.8**
JNU	**Nakatsue**	**22.85**	**337**	P	**P**	**16 28 07.2**	**-0.6**
	comp=Z,21nm,1.0s,baz=163,slow=4.5,SNR=4.5						
JNU				LR	LR	16 35 15.5	
	comp=Z,145nm,21.8s,baz=172,slow=32						
	comp=Z,21nm,1.0s						
TOLI2	**Tolitoli**	**22.99**	**243**	P	**P**	**16 28 08.1**	**-1.3**
MYLDM	**Lahad Datu**	**23.42**	**255**	P	**P**	**16 28 13.5**	**0.0**
MJAR	**Matsushiro Arr**	**24.38**	**354**	LR	LR	16 37 49.0	
	comp=Z,98nm,18.2s,baz=148,slow=36						
KKM	**Kota Kinabalu**	**25.34**	**258**	P	**P**	**16 28 28.8**	**-2.4**
KKM				IAmb	IAmb	16 28 30.0	
	comp=Z,40nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**25.41**	**73**	T	T	16 55 25.8	
	baz=258,slow=74						
H11S1	**WAKE ISLAND Hy**	**25.43**	**73**	T	T	16 55 20.8	
	baz=258,slow=74						
H11S2	**WAKE ISLAND Hy**	**25.43**	**73**	T	T	16 55 26.3	
	baz=258						
H11N1	**WAKE ISLAND Hy**	**25.85**	**70**	T	T	16 55 48.7	
	baz=256						
H11N2	**WAKE ISLAND Hy**	**25.86**	**70**	T	T	16 55 56.1	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**25.87**	**70**	T	T	16 55 51.5	
	baz=256						
COEN	**Coen**	**26.06**	**175**	P	**P**	**16 28 35.6**	**-2.1**
COEN				IAmb	IAmb	16 28 56.2	
	comp=Z,57nm,2.0s						
MTN	**Manton Dam**	**26.78**	**202**	P	**P**	**16 28 43.4**	**-0.8**
MTN				IAmb	IAmb	16 28 47.5	
	comp=Z,57nm,1.6s						
KSRS	**Korea Array**	**27.80**	**337**	LR	LR	16 40 00.5	
	comp=Z,81nm,18.9s,baz=145,slow=36						
BATI	**Baumata**	**28.22**	**219**	P	**P**	**16 28 55.6**	**-1.5**
	comp=Z,7.3nm,0.5s,baz=268,slow=1.0,SNR=4.6						
	comp=Z,7.3nm,0.5s						
NJ2	**Nanjing**	**28.46**	**318**	*eP*	**P**	**16 29 00.9**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KNRA	**Kununurra**	**30.28**	**204**	P	**P**	**16 29 15.2**	**0.0**
QIZ	**Qiongzhong**	**30.85**	**287**	P	**P**	**16 29 21.3**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,490nm,4.7s						
QIZ				LR	LR		
	comp=Z,450nm,15.8s						
QIZ				LR	LR		
	comp=Z,320nm,18.9s						
ASAJ	**Asahikawa**	**31.83**	**2**	LR	LR	16 40 51.2	
	comp=Z,45nm,21.9s,baz=116,slow=33						
WB0	**Warramunga Arr**	**32.45**	**192**	P	**P**	**16 29 33.9**	**-0.5**
WB0				IAmb	IAmb	16 29 44.8	
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**32.48**	**171**	P	**P**	**16 29 35.8**	**+1.2**
	comp=Z,6.5nm,0.7s,baz=338,slow=11,SNR=4.5						
CTA				LR	LR	16 41 57.4	
	comp=Z,176nm,20.2s,baz=292,slow=35						
	comp=Z,6.5nm,0.7s						
CTAO	**Charters Tower**	**32.48**	**171**	P	**P**	**16 29 34.8**	**+0.2**
WR0	**Warramunga Arr**	**32.60**	**192**	P	**P**	**16 29 35.4**	**-0.3**
WR0				IAmb	IAmb	16 29 46.2	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**32.62**	**192**	P	**P**	**16 29 34.9**	**-0.9**
WRAB				IAmb	IAmb	16 29 46.8	
	comp=Z,21nm,0.9s						
WB2	**Warramunga Arr**	**32.63**	**192**	P	**P**	**16 29 36.5**	**+0.6**
WB2				IAmb	IAmb	16 29 46.9	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**32.63**	**192**	P	**P**	**16 29 36.6**	**+0.6**
	comp=Z,11nm,0.8s,baz=11,slow=9.6,SNR=65						
WRA				PcP	**PcP**	**16 32 20.7**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=12,slow=3.6,SNR=2.4						
WRA				LR	LR	16 42 42.5	
	comp=Z,215nm,19.0s,baz=352,slow=36						
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**32.63**	**192**	P	**P**	**16 29 35.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**32.85**	**348**	P	**P**	**16 29 37.4**	**-0.2**
USA0B				IAmb	IAmb	16 29 47.6	
	comp=Z,13nm,1.1s						
USRK	**Ussuriysk Ar.**	**32.85**	**348**	P	**P**	**16 29 38.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=182,slow=9.5,SNR=8.0						
USRK				LR	LR	16 40 57.8	
	comp=Z,118nm,21.6s,baz=174,slow=32						
	comp=Z,2.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**32.85**	**348**	P	**P**	**16 29 35.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**33.76**	**207**	P	**P**	**16 29 45.1**	**-0.7**
HNS	**HongShan**	**34.49**	**321**	⇓P	**P**	**16 29 52.1**	**+0.1**
HNS				pmax	pmax		
	comp=Z,16nm,1.0s						
AS31	**Alice Springs**	**36.33**	**191**	P	**P**	**16 30 08.6**	**+0.6**
ASAR	**Alice Springs**	**36.34**	**191**	P	**P**	**16 30 08.8**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=20,slow=12,SNR=79						
ASAR				PcP	**PcP**	**16 32 32.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=11,slow=1.9,SNR=2.1						
ASAR				LR	LR	16 44 49.2	
	comp=Z,176nm,19.2s,baz=6.0,slow=36						
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**36.34**	**191**	P	**P**	**16 30 07.2**	**-0.8**
XLT	**XiLinHaoTe**	**38.25**	**330**	*iP*	**P**	**16 30 24.3**	**+0.2**
XLT				pP	pP	16 30 35.4	-1.4
XLT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,160nm,4.3s						
KMI	**Kunming**	**38.44**	**295**	⇑P	**P**	**16 30 25.8**	**-0.3**
KMI				pP	pP	16 30 40.5	+1.9
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**38.57**	**323**	*eP*	**P**	**16 30 29.1**	**+2.3**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,6.4s						
HEH	**HeiHe**	**39.59**	**346**	*eP*	**P**	**16 30 35.2**	**+0.2**
HEH				pmax	pmax		
	comp=Z,32nm,0.8s						
PZH	**PanZhiHua**	**39.62**	**297**	P	**P**	**16 30 37.4**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,240nm,4.9s						
CRAI	**Chiangrai**	**39.86**	**287**	P	**P**	**16 30 37.7**	**-0.1**
PHRA	**Phrae**	**39.87**	**284**	P	**P**	**16 30 37.7**	**-0.2**
KULM	**Kulim**	**40.55**	**264**	P	**P**	**16 30 41.5**	**-2.0**
CM31	**Chiang Mai Arr**	**41.09**	**284**	P	**P**	**16 30 48.9**	**+1.0**
CM31				IAmb	IAmb	16 30 51.0	
	comp=Z,38nm,1.3s						
CMAR	**Chiang Mai Arr**	**41.09**	**284**	P	**P**	**16 30 49.3**	**+1.4**
	comp=Z,6.1nm,0.6s,baz=86,slow=6.4,SNR=45						
	comp=Z,6.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.09**	**284**	P	**P**	**16 30 48.4**	**+0.4**
CHTO	**Chiang Mai**	**41.10**	**285**	P	**P**	**16 30 47.2**	**-0.9**
LZH	**Lanzhou**	**41.13**	**312**	*eP*	**P**	**16 30 49.0**	**+0.7**
LZH				pP	pwP	16 31 05.6	+0.9
LZH				pmax	pmax		
	comp=Z,7.0nm,1.4s						
DZM	**Mont Dzumac**	**42.15**	**144**	P	**P**	**16 30 56.2**	**-0.4**
TNCH	**TengChong**	**42.17**	**294**	P	**P**	**16 30 58.6**	**+1.6**
TNCH				pP	pP	16 31 10.4	+0.7
TNCH				PP	**PP**	**16 32 39.5**	**+4.1**
TNCH				S	**S**	**16 37 13.2**	**-0.5**
TNCH				sS	sS	16 37 38.4	+4.1
TNCH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,86nm,3.4s						
TNCH				LR	LR		
	comp=Z,170nm,5.8s						
TNCH				LR	LR		
	comp=Z,140nm,5.7s						
TNCH				LR	LR		
	comp=Z,170nm,15.6s						
PSI	**Prapat**	**42.81**	**261**	P	**P**	**16 31 01.3**	**-0.9**
	comp=Z,5.9nm,0.2s,baz=86,slow=5.3,SNR=9.0						
	comp=Z,5.9nm,0.2s						
RPSI	**Rantau Prapat**	**42.84**	**261**	P	**P**	**16 31 01.3**	**-1.0**
RPSI	**Rantau Prapat**	**42.84**	**261**	P	**P**	**16 31 01.1**	**-1.2**
RPSI				IAmb	IAmb	16 31 03.7	
	comp=Z,10.0nm,0.8s						
PETK	**Petropavlovsk-**	**42.91**	**15**	P	**P**	**16 31 01.8**	**-0.5**
	comp=Z,5.8nm,0.8s,baz=306,slow=5.3,SNR=3.6						
	comp=Z,5.8nm,0.8s						
STKA	**Stephens Creek**	**43.82**	**179**	P	**P**	**16 31 10.3**	**+0.4**
	comp=Z,6.8nm,0.6s,baz=355,slow=8.3,SNR=23						
STKA				LR	LR	16 50 18.2	
	comp=Z,125nm,18.9s,baz=24,slow=37						
	comp=Z,6.8nm,0.6s						
STKA	**Stephens Creek**	**43.82**	**179**	P	**P**	**16 31 09.2**	**-0.7**
FORT	**Forrest**	**44.54**	**196**	P	**P**	**16 31 16.4**	**+0.8**
BBOO	**Buckleboo**	**45.01**	**186**	P	**P**	**16 31 19.1**	**-0.3**
BBOO				IAmb	IAmb	16 31 25.2	
	comp=Z,34nm,1.4s						
GTA	**Gaotai**	**45.44**	**314**	⇓P	**P**	**16 31 23.8**	**+0.8**
GTA				pP	pwP	16 31 40.4	+0.7
GTA				sP	sP	16 31 48.0	+6.3
GTA				PcP	**PcP**	**16 33 02.6**	**+1.2**
GTA				pmax	pmax		
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**45.86**	**328**	P	**P**	**16 31 26.9**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=148,slow=8.2,SNR=18						
SONM				PcP	**PcP**	**16 33 02.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=155,slow=4.9,SNR=6.2						
SONM				LR	LR	16 51 06.9	
	comp=Z,114nm,19.3s,baz=184,slow=37						
	comp=Z,2.1nm,0.8s						
SONM	**Songino Array**	**45.86**	**328**	P	**P**	**16 31 25.3**	**-0.8**
MSVF	**Nonsavu**	**47.04**	**129**	P	**P**	**16 31 37.1**	**+1.4**
MSVF				IAmb	IAmb	16 31 38.4	
	comp=Z,12nm,0.8s						
MA2	**Magadan**	**47.84**	**7**	LR	LR	16 48 50.1	
	comp=Z,33nm,21.7s,baz=96,slow=32						
MA2	**Magadan**	**47.84**	**7**	P	**P**	**16 31 40.0**	**-1.2**
GOMU	**GeErMu**	**47.96**	**308**	P	**P**	**16 31 44.6**	**+1.6**
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,120nm,5.1s						
SHL	**Shillong**	**48.20**	**293**	P	**P**	**16 31 44.3**	**-0.4**
SHL				IAmb	IAmb	16 31 47.2	
	comp=Z,16nm,1.3s						
SHEM	**Shemya Is, Ala**	**48.28**	**26**	LR	LR	16 50 48.1	
	comp=Z,104nm,19.6s,baz=336,slow=34						
LSA	**Lhasa**	**49.42**	**299**	P	**P**	**16 31 53.9**	**-0.5**
YAK	**Yakutsk**	**50.44**	**353**	P	**P**	**16 32 00.2**	**-0.9**
TAPN	**Taplejung**	**52.11**	**295**	*eP*	**P**	**16 32 14.9**	**+0.4**
	comp=Z,16nm,0.9s						
ODAN	**Odare**	**52.34**	**295**	*eP*	**P**	**16 32 16.1**	**-0.1**
	comp=Z,4.5nm,1.5s						
RAMN	**Ramite**	**53.05**	**295**	*eP*	**P**	**16 32 23.0**	**+1.5**
JIRN	**Jiri**	**53.48**	**295**	*eP*	**P**	**16 32 25.6**	**+0.9**
	comp=Z,14nm,0.6s						
PKI	**Pulchoki**	**54.16**	**295**	*eP*	**P**	**16 32 30.4**	**+0.7**
PKIN	**Phulchoki**	**54.17**	**295**	*eP*	**P**	**16 32 30.4**	**+0.7**
KKN	**Kakani**	**54.30**	**295**	*eP*	**P**	**16 32 30.8**	**+0.3**
DMN	**Daman**	**54.43**	**295**	*eP*	**P**	**16 32 31.8**	**+0.2**
GKN	**Gorkha**	**54.88**	**296**	*eP*	**P**	**16 32 35.2**	**+0.5**
	comp=Z,62nm,1.1s						
WMQ	**Urumqi**	**55.50**	**315**	*eP*	**P**	**16 32 40.0**	**+1.3**
WMQ				pP	pwP	16 32 56.5	+0.8
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ				LR	LR		
	comp=Z,100n

N19K	**Bonanza Creek**	**67.04**	**29**	P	**P**	**16 33 56.6**	**+0.1**
N19K				IAmb	IAmb	16 33 58.4	
	comp=Z,6.6nm,0.8s						
L19K	**White Mountain**	**67.27**	**27**	P	**P**	**16 33 57.5**	**-0.5**
L19K				IAmb	IAmb	16 33 59.7	
	comp=Z,11nm,1.1s						
GAR	**Garm**	**67.55**	**307**	P	**P**	**16 33 59.2**	**-1.0**
KK31	**Karatay Array**	**67.63**	**312**	P	**P**	**16 33 59.3**	**-1.2**
KK31				IAmb	IAmb	16 34 02.4	
	comp=Z,8.6nm,1.1s						
KKAR	**Karatay Array**	**67.63**	**312**	P	**P**	**16 34 00.5**	**0.0**
KKAR	**Karatay Array**	**67.63**	**312**	P	**P**	**16 33 60.0**	**-0.5**
KKAR				IAmb	IAmb	16 34 02.3	
	comp=Z,8.6nm,1.1s						
IUG	**Iuzhnay**	**67.92**	**311**	*e*P	**P**	**16 34 03.0**	**+0.5**
	baz=311						
K20K	**Telida**	**67.97**	**26**	P	**P**	**16 34 02.6**	**+0.4**
K20K				IAmb	IAmb	16 34 04.4	
	comp=Z,6.0nm,1.0s						
J20K	**Nowinta River**	**68.19**	**25**	P	**P**	**16 34 04.4**	**+0.8**
J20K				IAmb	IAmb	16 34 05.8	
	comp=Z,7.0nm,0.9s						
CNPM	**China Poot**	**68.27**	**30**	P	**P**	**16 34 04.1**	**-0.2**
CHGR	**Chuyangaron**	**68.44**	**307**	P	**P**	**16 34 05.6**	**-0.1**
BRVK	**Borovoye**	**68.84**	**322**	P	**P**	**16 34 07.7**	**-0.2**
CAST	**Castle Rocks**	**68.85**	**26**	P	**P**	**16 34 07.7**	**0.0**
CAST				IAmb	IAmb	16 34 09.2	
	comp=Z,6.4nm,0.8s						
IMAR	**Indian Mountai**	**68.91**	**23**	P	**P**	**16 34 08.5**	**+0.5**
H21K	**Melozitna Rive**	**69.18**	**24**	P	**P**	**16 34 09.1**	**-0.7**
H21K				IAmb	IAmb	16 34 11.3	
	comp=Z,6.2nm,1.1s						
I21K	**Tanana**	**69.37**	**25**	P	**P**	**16 34 10.7**	**-0.2**
I21K				IAmb	IAmb	16 34 13.0	
	comp=Z,12nm,1.1s						
MLY	**Manley**	**69.84**	**25**	P	**P**	**16 34 14.3**	**+0.4**
MLY				IAmb	IAmb	16 34 15.6	
	comp=Z,6.9nm,1.0s						
PWL	**Port Wells**	**69.97**	**29**	P	**P**	**16 34 14.7**	**-0.1**
PWL				IAmb	IAmb	16 34 16.2	
	comp=Z,13nm,0.9s						
MCK	**McKinley**	**70.29**	**26**	P	**P**	**16 34 15.4**	**-1.3**
NEA2	**Nenana**	**70.43**	**25**	P	**P**	**16 34 16.7**	**-0.7**
I23K	**Minto, Yukon-K**	**70.44**	**25**	P	**P**	**16 34 16.6**	**-0.9**
I23K				IAmb	IAmb	16 34 20.0	
	comp=Z,22nm,1.7s						
H23K	**Yukon River**	**70.52**	**24**	P	**P**	**16 34 17.0**	**-1.1**
COLD	**Coldfoot**	**70.62**	**23**	P	**P**	**16 34 18.6**	**+0.1**
COLD				IAmb	IAmb	16 34 20.8	
	comp=Z,5.9nm,0.9s						
MDM	**Murphy Dome**	**70.86**	**25**	P	**P**	**16 34 19.4**	**-0.7**
MDM				IAmb	IAmb	16 34 30.9	
	comp=Z,13nm,1.7s						
H24K	**Noodor Dome**	**71.19**	**24**	P	**P**	**16 34 21.4**	**-0.7**
H24K				IAmb	IAmb	16 34 24.1	
	comp=Z,16nm,1.5s						
IL31		**71.38**	**25**	P	**P**	**16 34 21.5**	**-1.7**
ILAR	**Eielson Array**	**71.38**	**25**	P	**P**	**16 34 21.9**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=251,slow=5.6,SNR=18						
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**71.38**	**25**	P	**P**	**16 34 21.4**	**-1.9**
PAX	**Paxson**	**71.68**	**27**	P	**P**	**16 34 24.2**	**-0.9**
FYU	**Fort Yukon**	**72.39**	**24**	P	**P**	**16 34 29.0**	**-0.2**
FYU				IAmb	IAmb	16 36 28.9	
	comp=Z,20nm,1.0s						
DOT	**Dot Lake**	**72.41**	**27**	P	**P**	**16 34 29.0**	**-0.4**
BMAR	**Burnt Mountain**	**72.79**	**23**	P	**P**	**16 34 32.0**	**+0.3**
L27K	**Beaver Creek,**	**73.34**	**28**	P	**P**	**16 34 34.8**	**-0.1**
L27K				IAmb	IAmb	16 34 37.4	
	comp=Z,19nm,1.8s						
BCAR	**Beaver Creek A**	**73.36**	**28**	P	**P**	**16 34 34.9**	**-0.2**
HRA	**Herat**	**74.11**	**302**	P	**P**	**16 34 40.5**	**+0.2**
HRA				IAmb	IAmb	16 34 42.1	
	comp=Z,14nm,0.8s						
ABKAR	**Akbulak array**	**75.12**	**318**	P	**P**	**16 34 44.3**	**-1.3**
ABKAR				IAmb	IAmb	16 34 46.9	
	comp=Z,16nm,1.1s						
ARU	**Arti**	**75.83**	**325**	LR	LR	17 10 13.6	
	comp=Z,127nm,18.6s,baz=107,slow=37						
ARU	**Arti**	**75.83**	**325**	P	**P**	**16 34 49.3**	**-0.2**
ARU				IAmb	IAmb	16 34 50.7	
	comp=Z,9.8nm,0.8s						
AKTO	**Aktyubinsk**	**76.33**	**319**	LR	LR	17 11 35.3	
	comp=Z,50nm,18.7s,baz=200,slow=38						
INK	**Inuvik**	**77.03**	**22**	P	**P**	**16 34 55.9**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=256,slow=7.9,SNR=8.2						
	comp=Z,3.0nm,1.0s						
GEYT	**Alibeck**	**77.14**	**306**	P	**P**	**16 34 57.8**	**+0.4**
	comp=Z,4.9nm,0.7s,baz=36,slow=2.8,SNR=9.5						
GEYT				LR	LR	17 13 20.9	
	comp=Z,45nm,18.0s,baz=104,slow=39						
	comp=Z,4.9nm,0.7s						
GEYT	**Alibeck**	**77.14**	**306**	P	**P**	**16 34 57.9**	**+0.6**
GEYT				IAmb	IAmb	16 34 59.6	
	comp=Z,9.0nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**77.14**	**306**	P	**P**	**16 34 57.1**	**-0.2**
GYA0B				IAmb	IAmb	16 34 59.5	
	comp=Z,9.1nm,1.0s						
WSAR	**Wadi Sarin**	**78.48**	**291**	LR	LR	17 13 58.5	
	comp=Z,24nm,18.1s,baz=208,slow=39						
YKA	**Yellowknife Ar**	**85.75**	**27**	P	**P**	**16 35 42.5**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=286,slow=5.2,SNR=18						
	comp=Z,1.2nm,0.6s						
RES	**Resolute Bay**	**86.72**	**13**	P	**P**	**16 35 47.1**	**+0.3**
RES				IAmb	IAmb	16 35 49.7	
	comp=Z,8.3nm,1.1s						
ARCES	**ARCESS Array B**	**87.26**	**341**	P	**P**	**16 35 49.0**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=47,slow=2.3,SNR=31						
	comp=Z,3.0nm,0.6s						
KBZ	**Khabaz**	**87.53**	**314**	P	**P**	**16 35 50.1**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=201,slow=5.1,SNR=3.8						
	comp=Z,1.6nm,0.9s						
FINES	**FINESS Array B**	**90.85**	**334**	P	**P**	**16 36 05.5**	**-1.1**
	comp=Z,9.5nm,0.6s,baz=68,slow=4.8,SNR=45						
	comp=Z,9.5nm,0.6s						
AKASG	**Malin Array Be**	**94.01**	**324**	LR	LR	17 21 39.9	
	comp=Z,96nm,18.2s,baz=21,slow=37						
BRTR	**Keskin Array B**	**95.34**	**312**	P	**P**	**16 36 26.4**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=84,slow=5.1,SNR=2.2						
	comp=Z,0.6nm,0.8s						
NOA	**NORSAR Array B**	**97.01**	**338**	P	**P**	**16 36 34.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=54,slow=4.6,SNR=1.7						
NOA				LR	LR	17 23 12.9	
	comp=Z,62nm,18.8s,baz=275,slow=37						
	comp=Z,0.7nm,0.7s						
PLCA	**Paso Flores**	**140.24**	**141**	PKP	**PKPdf**	**16 42 32.1**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=227,slow=1.5,SNR=6.3						

*JMA **11** 17:03:11.6±0.2,23.5°N±0.5°×121.4°E±0.8,h24km±1km, MV3.5/11, TAIWAN REGION*
*TAP **11** 17:03:12.9,23.57°N×121.36°E,h40km,ML3.6,C*
ISC 11 17:03:13.1±0.8,23.57°N±0.02°×121.39°E±0.02°,h27km,n84, σ1ŝ10/156,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.08**	**159**	*e*P	**Pb**	**17 03 20.3**	**+2.4**
	baz=139						
HGSD				*e*S	**Sb**	**17 03 25.5**	**+4.3**
	baz=139						
EHY	**Hungye**	**0.09**	**226**	*e*P	**Pb**	**17 03 19.4**	**+1.4**
	baz=189						
EHY				S	**Sb**	**17 03 23.7**	**+2.5**
	baz=189						
EGFH	**Guangfu**	**0.10**	**18**	P	**Pn**	**17 03 19.6**	**+0.5**
	baz=34						
EGFH				*i* S	**Sb**	**17 03 24.1**	**+2.7**
	baz=34						
TEGC	**Jichi Village**	**0.19**	**44**	*e*P	**Pn**	**17 03 21.5**	**+1.3**
	baz=46						
YULB	**Yu-li**	**0.20**	**206**	P	**Pn**	**17 03 19.8**	**-0.5**
YULB	**Yu-li**	**0.20**	**206**	*i* P	**Pn**	**17 03 19.9**	**-0.4**
	baz=190						
YULB				S	**Sb**	**17 03 24.7**	**+1.7**
	baz=190						
EYUL	**Yuli**	**0.23**	**197**	P	**Pn**	**17 03 20.1**	**-0.7**
	baz=194						
EYUL				S	**Sb**	**17 03 25.5**	**+1.9**
	baz=194						
ESL	**Shilin**	**0.25**	**9**	P	**Pn**	**17 03 20.6**	**-0.4**
	baz=24						
ECBN	**Changbin**	**0.26**	**168**	P	**Pn**	**17 03 21.4**	**+0.2**
	baz=152						
ECBN				*e*S	**Sb**	**17 03 28.0**	**+3.9**
	baz=152						
VWDT	**VWDT**	**0.29**	**309**	P	**Pn**	**17 03 21.8**	**+0.1**
	baz=314						
VWDT				*e*S	**Sn**	**17 03 28.1**	**+0.9**
	baz=314						
FULB	**Fuli**	**0.38**	**194**	P	**Pn**	**17 03 22.2**	**-0.7**
	baz=190						
FULB				S	**Sn**	**17 03 29.4**	**+0.1**
	baz=190						
OWD	**Renai**	**0.43**	**333**	P	**Pn**	**17 03 23.2**	**-0.6**
	baz=342						
OWD				*e*S	**Sn**	**17 03 29.7**	**-1.1**
	baz=342						
HWA	**Hwalien**	**0.45**	**26**	P	**Pn**	**17 03 23.4**	**-0.4**
	baz=23						
HWA				S	**Sn**	**17 03 30.8**	**-0.2**
	baz=23						
EHD	**Haiduan**	**0.45**	**202**	P	**Pn**	**17 03 22.1**	**-1.8**
	baz=191						
SSLB	**Suanglung**	**0.46**	**299**	P	**Pn**	**17 03 23.2**	**-0.7**
SSLB	**Suanglung**	**0.46**	**299**	*i* P	**Pn**	**17 03 23.2**	**-0.7**
	baz=304						
SSLB				*e*S	**Sn**	**17 03 30.1**	**-1.1**
	baz=304						
CHKT	**Chengkung**	**0.47**	**183**	*i* P	**Pn**	**17 03 23.2**	**-0.9**
	baz=169						
CHKT				S	**Sn**	**17 03 31.7**	**+0.3**
	baz=169						
WUSB	**Renai**	**0.49**	**329**	*e*P	**Pn**	**17 03 24.2**	**-0.3**
	baz=333						
WUSB				S	**Sn**	**17 03 31.3**	**-0.9**
	baz=333						
ECS	**Chishang**	**0.50**	**199**	P	**Pn**	**17 03 23.2**	**-1.2**
	baz=199						
ECS				*e*S	**Sn**	**17 03 31.4**	**-0.8**
	baz=199						
WHYT	**Xinyi Township**	**0.51**	**284**	*i* P	**Pn**	**17 03 24.1**	**-0.6**
	baz=285						
WHYT				*e*S	**Sn**	**17 03 31.7**	**-0.9**
	baz=285						
ELDTW	**Lidau**	**0.51**	**222**	*i* P	**Pn**	**17 03 23.8**	**-1.0**
	baz=218						
ELDTW				S	**Sn**	**17 03 32.1**	**-0.6**
	baz=218						
CHGB	**Renai**	**0.53**	**338**	*e*P	**Pn**	**17 03 24.7**	**-0.4**
	baz=342						
CHGB				S	**Sn**	**17 03 32.5**	**-0.8**
	baz=342						
ALS	**Alishan**	**0.54**	**264**	P	**Pn**	**17 03 24.8**	**-0.6**
	baz=268						
ALS				*i* S	**Sn**	**17 03 33.1**	**-0.6**
	baz=268						
TWD	**Chiawan**	**0.54**	**20**	*e*P	**Pn**	**17 03 24.0**	**-1.1**
	baz=24						
SMLT	**Sun Moon Lake**	**0.55**	**305**	P	**Pn**	**17 03 25.0**	**-0.3**
	baz=310						
SMLT				S	**Sn**	**17 03 33.2**	**-0.4**
	baz=310						
WHF	**Hehuan Shan**	**0.58**	**349**	*e*P	**Pn**	**17 03 25.6**	**-0.5**
	baz=358						
WHF				*i* S	**Sn**	**17 03 34.2**	**-0.8**
	baz=358						
TYC	**Yuchr**	**0.59**	**304**	P	**Pn**	**17 03 25.5**	**-0.3**
	baz=310						
TYC				S	**Sn**	**17 03 34.2**	**-0.4**
	baz=310						
EDH	**Donghe**	**0.60**	**188**	*e*P	**Pn**	**17 03 24.4**	**-1.4**
	baz=183						
EDH				*e*S	**Sn**	**17 03 34.7**	**+0.1**
	baz=183						
ETL	**Fush Village**	**0.62**	**20**	P	**Pb**	**17 03 24.8**	**-0.7**
	baz=24						
ETL				*e*S	**Sb**	**17 03 33.7**	**-0.2**
	baz=24						
NACB	**Ninganchiao**	**0.63**	**17**	P	**Pb**	**17 03 24.8**	**-0.8**
NACB	**Ninganchiao**	**0.63**	**17**	P	**Pb**	**17 03 24.8**	**-0.8**
	baz=29						
NACB				S	**Sb**	**17 03 34.4**	**+0.3**
	baz=29						
ETLH	**Xiulin Townshi**	**0.64**	**7**	P	**Pb**	**17 03 25.3**	**-0.5**
	baz=18						
ETLH				*e*S	**Sb**	**17 03 34.4**	**0.0**
	baz=18						
CHN5	**Tsauling**	**0.66**	**273**	*e*P	**Pn**	**17 03 26.2**	**-0.5**
	baz=272						
CHN5				*i* S	**Sn**	**17 03 36.1**	**-0.1**
	baz=272						
WCS	**Beigang Elemen**	**0.66**	**318**	P	**Pn**	**17 03 26.6**	**-0.1**
	baz=325						
WCS				*e*S	**Sn**	**17 03 35.4**	**-0.7**
	baz=325						
WJS	**Zhushan**	**0.66**	**293**	P	**Pn**	**17 03 25.9**	**-0.8**
	baz=294						
WJS				*i* S	**Sn**	**17 03 36.2**	**0.0**
	baz=294						
FUSS	**Fushou**	**0.69**	**349**	*e*P	**Pn**	**17 03 27.1**	**-0.3**
	baz=357						
FUSS				*i* S	**Sn**	**17 03 36.6**	**-0.7**
	baz=357						
STYH	**Taoyuan**	**0.69**	**235**	P	**Pn**	**17 03 26.8**	**-0.3**
	baz=243						
STYH				S	**Sn**	**17 03 36.3**	**-0.7**
	baz=243						
LONT	**Longtian**	**0.70**	**200**	*e*P	**Pn**	**17 03 25.3**	**-2.0**
	baz=188						
LONT				*e*S	**Sn**	**17 03 35.2**	**-2.1**
	baz=188						
STYT	**Tauyuan**	**0.71**	**235**	P	**Pn**	**17 03 27.0**	**-0.5**
	baz=242						
STYT				S	**Sn**	**17 03 37.4**	**-0.1**
	baz=242						
TWT	**Tachien**	**0.71**	**344**	*e*P	**Pn**	**17 03 27.6**	**+0.1**
	baz=342						
TWT				S	**Sn**	**17 03 37.0**	**-0.7**
	baz=342						
TDCB	**Techi**	**0.71**	**343**	*e*P	**Pn**	**17 03 27.6**	**0.0**
	baz=342						
TDCB				*i* S	**Sn**	**17 03 37.4**	**-0.4**
	baz=342						
WNT	**Mingjian**	**0.72**	**296**	*e*P	**Pn**	**17 03 27.2**	**-0.3**
	baz=286						
WNT				*i* S	**Sn**	**17 03 37.5**	**-0.1**
	baz=286						
WCKO	**Fanlu**	**0.73**	**260**	P	**Pn**	**17 03 27.6**	**-0.1**
	baz=259						
WCKO				*i* S	**Sn**	**17 03 38.1**	**+0.1**
	baz=259						
TPUB	**Ta-pu**	**0.75**	**249**	P	**Pn**	**17 03 27.5**	**-0.5**
TPUB	**Ta-pu**	**0.75**	**249**	*i* P	**Pn**	**17 03 27.5**	**-0.5**
	baz=248						
TPUB				S	**Sn**	**17 03 38.2**	**-0.3**
	baz=248						
CHN4	**Tsaushan**	**0.77**	**254**	P	**Pn**	**17 03 28.4**	**+0.2**
	baz=252						
CHN4				S	**Sn**	**17 03 39.6**	**+0.8**
	baz=252						
WTP	**Ta-pu**	**0.78**	**246**	P	**Pn**	**17 03 28.1**	**-0.3**
	baz=243						
WTP				S	**Sn**	**17 03 39.4**	**0.0**
	baz=243						
WDLH	**Douliu**	**0.79**	**279**	P	**Pn**	**17 03 28.3**	**-0.2**
	baz=279						
WDLH				*i* S	**Sn**	**17 03 39.5**	**+0.1**
	baz=279						
TWG	**Pinlang**	**0.80**	**202**	*e*P	**Pb**	**17 03 26.4**	**-2.0**
	baz=186						
TWG				*e*S	**Sn**	**17 03 37.0**	**-2.6**
	baz=186						
TWGBT	**Beinan**	**0.80**	**201**	P	**Pb**	**17 03 26.3**	**-2.2**
TWGBT	**Beinan**	**0.80**	**201**	*e*P	**Pn**	**17 03 26.6**	**-2.1**
	baz=186						
TWGBT				*e*S	**Sn**	**17 03 37.0**	**-2.7**
	baz=186						
WHP	**Taichung City**	**0.82**	**330**	*e*P	**Pn**	**17 03 29.3**	**+0.4**
	baz=337						
WHP				*e*S	**Sn**	**17 03 41.5**	**+1.3**
	baz=337						
CHN2	**Minshiung**	**0.84**	**268**	P	**Pn**	**17 03 29.5**	**+0.3**
	baz=267						
CHN2				S	**Sn**	**17 03 41.4**	**+0.7**
	baz=267						
NNSB	**Datong**	**0.86**	**359**	P	**Pb**	**17 03 29.1**	**-0.3**
	baz=7.0						
NNSB				*e*S	**Sb**	**17 03 40.0**	**-0.6**
	baz=7.0						
NNS	**Nan Shan**	**0.87**	**359**	*e*P	**Pb**	**17 03 29.5**	**-0.2**
	baz=6.0						
NNS				*i* S	**Sn**	**17 03 40.8**	**-0.7**
	baz=6.0						
TCU	**Taichung**	**0.87**	**311**	*e*P	**Pb**	**17 03 30.0**	**+0.3**
	baz=303						
TCU				S	**Sn**	**17 03 42.0**	**+0.5**
	baz=303						
CHN1	**Nanshi**	**0.88**	**244**	P	**Pn**	**17 03 29.5**	**-0.3**
	baz=242						
CHN1				S	**Sn**	**17 03 41.9**	**+0.2**
	baz=242						
TWK	**Hsinying**	**0.88**	**250**	P	**Pn**	**17 03 29.6**	**-0.3**
	baz=248						
TWK				S	**Sn**	**17 03 41.7**	**-0.1**
	baz=248						
SGST	**Jiashian**	**0.89**	**237**	*e*P	**Pn**	**17 03 29.1**	**-0.7**
	baz=234						
SGST				*i* S	**Sn**	**17 03 41.7**	**-0.2**
	baz=234						
CHY	**Chiayi**	**0.89**	**266**	P	**Pb**	**17 03 29.3**	**-0.7**
	baz=265						
CHY				*i* S	**Sn**	**17 03 41.8**	**-0.1**
	baz=265						
SNST	**Tainan City**	**0.89**	**247**	*e*P	**Pn**	**17 03 32.0**	**+2.1**
	baz=245						
SNST				*e*S	**Sn**	**17 03 44.8**	**+2.8**
	baz=245						
LDUT	**Ludao**	**0.89**	**175**	P	**Pb**	**17 03 28.2**	**-1.8**
	baz=172						
LDUT				*e*S	**Sn**	**17 03 40.4**	**-1.6**
	baz=172						
SLGT	**Liugui**	**0.89**	**230**	*e*P	**Pn**	**17 03 31.1**	**+1.2**
	baz=235						
SLGT				*e*S	**Sn**	**17 03 44.2**	**+2.2**
	baz=235						
WCHH	**Zhanghua**	**0.92**	**304**	*e*P	**Pb**	**17 03 30.6**	**+0.2**
	baz=305						
WCHH				S	**Sn**	**17 03 42.7**	**+0.2**
	baz=305						
WTK	**Tuku**	**0.93**	**278**	P	**Pb**	**17 03 29.8**	**-0.8**
	baz=277						
WTK				S	**Sn**	**17 03 43.1**	**+0.3**
	baz=277						
EWUT	**Wuta**	**0.94**	**22**	P	**Pn**	**17 03 29.3**	**-1.3**
	baz=25						
EWUT				*e*S	**Sb**	**17 03 41.1**	**-1.8**
	baz=25						
TWQ1	**Liyutan**	**0.96**	**324**	*e*P	**Pb**	**17 03 31.4**	**+0.3**
	baz=327						
TWQ1				*e*S	**Sn**	**17 03 44.7**	**+1.1**
	baz=327						
LATG	**Datong**	**0.97**	**7**	*i* P	**Pn**	**17 03 30.3**	**-0.8**
	baz=21						
LATG				S	**Sb**	**17 03 42.8**	**-1.0**
	baz=21						
WRL	**Guolierlin Hig**	**0.99**	**290**	P	**Pb**	**17 03 30.8**	**-0.8**
	baz=283						
WRL				*e*S	**Sn**	**17 03 44.3**	**0.0**
	baz=283						
NSY	**Sanyi**	**1.02**	**326**	*e*P	**Pb**	**17 03 32.4**	**+0.2**
	baz=329						
NSY				*e*S	**Sb**	**17 03 46.9**	**+1.6**
	baz=329						
WDJ	**Dajia District**	**1.04**	**319**	P	**Pb**	**17 03 32.3**	**-0.1**
	baz=333						
WDJ				*e*S	**Sb**	**17 03 46.3**	**+0.7**
	baz=333						
ENTT	**Nioudou**	**1.08**	**8**	*e*P	**Pn**	**17 03 31.3**	**-1.2**
	baz=20						
NFF	**Wufeng Townshi**	**1.09**	**347**	*e*P	**Pb**	**17 03 33.5**	**+0.2**
	baz=350						
NFF				*e*S	**Sb**	**17 03 47.4**	**+0.3**
	baz=350						
YHNB	**Yeheng**	**1.10**	**359**	P	**Pb**	**17 03 32.8**	**-0.7**
NSK	**Sanguang**	**1.10**	**358**	*e*P	**Pb**	**17 03 33.0**	**-0.6**
	baz=14						
NSK				*e*S	**Sn**	**17 03 46.6**	**-0.7**
	baz=14						
TATO	**Taipei**	**1.40**	**4**	P	**Pb**	**17 03 37.5**	**-1.2**
JYNG	**Yonaguni jima**	**1.67**	**58**	P	**Pb**	**17 03 41.1**	**-2.1**
JYNG				S	**Sn**	**17 04 02.1**	**+1.0**
YOJ	**Yonaguni jima**	**1.73**	**59**	P	**Pn**	**17 03 41.9**	**+0.5**
YOJ				S	**Sn**	**17 04 03.5**	**+1.0**
HATJ	**Hateruma jima**	**2.26**	**77**	P	**Pn**	**17 03 49.1**	**+0.4**
HATJ				*e*S	**Sn**	**17 04 16.2**	**+0.5**
IRIF	**Iriomote-Funau**	**2.27**	**70**	P	**Pn**	**17 03 49.3**	**+0.5**
IRIF				*e*S	**Sn**	**17 04 16.9**	**+0.9**
JKRS	**Kuro-shima**	**2.49**	**74**	P	**Pn**	**17 03 52.5**	**+0.7**
JKRS				S	**Sn**	**17 04 22.3**	**+1.0**
JIJ	**Ishigaki jima**	**2.64**	**72**	P	**Pn**	**17 03 53.9**	**0.0**
JIJ				*e*S	**Sn**	**17 04 25.0**	**0.0**
JISG	**Ishigakijimahi**	**2.85**	**69**	P	**Pn**	**17 03 56.9**	**0.0**
JISG				S	**Sn**	**17 04 29.6**	**-0.7**
JTJ	**Tarama**	**3.21**	**70**	P	**Pn**	**17 04 02.0**	**+0.3**
JTJ				*e*S	**Sn**	**17 04 39.8**	**+0.7**

*IDC **11** 17:10:10.6±7.3,20.60°S×179.66°E,h0km,mb4.1/2, mbtmp4.1/2,Error ellipse: s-maj=303.1km s-min=67.6km az=147.0*
*NEIC **11** 17:10:59.1±1.5,23.80°S±0.07°×179.6°W±0.2°,h538km±17km, mb4.1/14,Error ellipse: s-maj=23.7km s-min=5.3km az=68.0*
ISC 11 17:10:58.2±0.9,23.8°S±0.1°×179.7°W±0.1°,h512km,n25, σ1ŝ48/24,mb4.0/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.68**	**164**	P	**P**	**17 12 33.4**	**+1.5**
NIUE	**Niue**	**10.25**	**65**	P	**P**	**17 13 18.2**	**-0.2**
MARNC	**Mare, Loyalty**	**11.54**	**279**		**P**	**17 13 33.3**	**+1.4**
PINNC	**Pines Island,**	**11.86**	**273**		**P**	**17 13 37.2**	**+1.9**
OUENC	**Ouen Island, N**	**12.44**	**274**		**P**	**17 13 43.1**	**+1.6**
DZM	**Mont Dzumac**	**12.87**	**275**	P	**P**	**17 13 46.7**	**+0.7**
KHZ	**Kahutara**	**19.41**	**195**	P	**P**	**17 14 51.7**	**+1.1**
LTZ	**Lake Taylor**	**20.08**	**197**	P	**P**	**17 14 53.7**	**-3.1**
CTAO	**Charters Tower**	**31.73**	**270**	P	**P**	**17 16 40.0**	**+0.1**
CTAO				IAmb	IAmb	17 16 59.9	
	comp=Z,12nm,1.2s						
COEN	**Coen**	**36.35**	**279**	P	**P**	**17 17 19.3**	**+0.5**
COEN				IAmb	IAmb	17 17 41.9	
	comp=Z,10nm,1.1s						
AS31	**Alice Springs**	**42.31**	**260**	P	**P**	**17 18 05.9**	**-1.0**
ASAR	**Alice Springs**	**42.31**	**260**	P	**P**	**17 18 06.0**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=96,slow=8.5,SNR=26						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**42.31**	**260**	P	**P**	**17 18 05.5**	**-1.4**
WR0	**Warramunga Arr**	**42.48**	**266**	P	**P**	**17 18 06.2**	**-2.0**
WR0				IAmb	IAmb	17 18 28.8	
	comp=Z,5.1nm,1.2s						
WB2	**Warramunga Arr**	**42.66**	**266**	P	**P**	**17 18 08.3**	**-1.3**
WB2				IAmb	IAmb	17 18 09.0	
	comp=Z,5.9nm,1.1s						
WB0	**Warramunga Arr**	**42.66**	**266**	P	**P**	**17 18 08.3**	**-1.4**
WB0				IAmb	IAmb	17 18 08.5	
	comp=Z,3.3nm,0.8s						
WRAB	**Tennant Creek**	**42.66**	**266**	P	**P**	**17 18 07.6**	**-2.1**
WRAB				IAmb	IAmb	17 18 39.8	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**42.67**	**266**	P	**P**	**17 18 08.0**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=95,slow=8.1,SNR=89						
	comp=Z,1.8nm,0.3s

*IDC **11** 17:12:57.1±2.3,37.11N×140.99E,h79km±21km,mb3.2/7, mbtmp3.6/11,MS2.4/1 Error ellipse: s-maj=26.0km s-min=17.3km az=93.0*

ISC 11 17:12:51.5±1.4,**37.14N**±0.04×**141.28E**±0.08,**h31**km±9km, **n27**,σ1§**68**/32,**mb3.5**/7,**4D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**265**	⇓*iP*			**Pb**	**17 12 60.0**	**-0.3**
ONAJ				⇓S			**Sb**	**17 13 06.1**	**-0.2**
JFK	**Kawauchi**	**0.40**	**305**	*i* P			**Pb**	**17 12 59.9**	**-0.5**
JFK				S			**Sb**	**17 13 06.2**	**-0.3**
JFFD	**Fukushimafurud**	**0.58**	**266**	*i* P			**Pb**	**17 13 02.8**	**-0.5**
JFFD				S			**Sn**	**17 13 11.2**	**-0.9**
JMST	**Minamisoumatoc**	**0.67**	**332**	P			**Pn**	**17 13 04.1**	**-0.8**
JMST				S			**Sb**	**17 13 13.1**	**-0.6**
JHO	**Hitachi**	**0.78**	**228**	⇓*iP*			**Pn**	**17 13 05.0**	**-1.4**
JHO				⇓S			**Sn**	**17 13 15.6**	**-1.4**
JMM	**Marumori**	**0.83**	**332**	*i* P			**Pn**	**17 13 06.4**	**-0.7**
JMM				*eS*			**Sb**	**17 13 17.5**	**-0.7**
JSB	**Shiboa**	**1.10**	**262**	P			**Pb**	**17 13 12.1**	**+0.1**
JSB				S			**Sb**	**17 13 27.2**	**+1.2**
JFY	**Yanaizu**	**1.29**	**283**	*i* P			**Pb**	**17 13 14.9**	**-0.2**
JFY				S			**Sb**	**17 13 32.4**	**+1.1**
JIO	**Ouri**	**1.32**	**2**	*i* P			**Pn**	**17 13 13.4**	**-0.4**
JIO				S			**Sn**	**17 13 29.7**	**-0.6**
JOU	**Okura**	**1.32**	**338**	*i* P			**Pn**	**17 13 14.8**	**+0.8**
JOU				S			**Sb**	**17 13 32.9**	**+0.5**
MJAR	**Matsushiro Arr**	**2.54**	**257**	P			**Pn**	**17 13 32.4**	**+1.8**
	11nm,0.3s,baz=84,slow=25,SNR=72								
MJAR				S			**Sb**	**17 14 07.1**	**0.0**
	8.1nm,0.3s,baz=60,slow=26,SNR=5.9								
MJAR				LR			LR	17 14 53.1	
	comp=Z,82nm,21.7s,baz=202,slow=50								
JHJ	**Hachijo jima 2**	**4.19**	**197**	P			**Pn**	**17 13 56.3**	**+3.0**
	101nm,0.6s,baz=70,slow=23,SNR=1.4								
JHJ				S			**Sn**	**17 14 35.3**	**-6.0**
	180nm,0.8s,baz=44,slow=15,SNR=2.0								
ASAJ	**Asahikawa**	**7.04**	**8**	P			Pn	17 14 39.1	+6.6
	12nm,1.0s,baz=226,slow=15,SNR=5.9								
KSRS	**Korea Array**	**10.65**	**276**	P			**Pn**	**17 15 25.3**	**+3.4**
	1.3nm,1.0s,baz=80,slow=14,SNR=2.8								
SONM	**Songino Array**	**27.64**	**304**	P			**P**	**17 18 36.2**	**-0.2**
	0.4nm,0.7s,baz=95,slow=9.2,SNR=2.6								
	0.4nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.29**	**121**	T			T	17 48 16.4	
	baz=314,slow=76,SNR=111								
H11N1	**WAKE ISLAND Hy**	**28.30**	**121**	T			T	17 48 15.5	
	baz=314,slow=76,SNR=179								
H11N3	**WAKE ISLAND Hy**	**28.31**	**121**	T			T	17 48 16.2	
	baz=314,slow=76,SNR=162								
H11S1	**WAKE ISLAND Hy**	**29.00**	**123**	T			T	17 49 10.0	
	baz=316,slow=76,SNR=56								
H11S3	**WAKE ISLAND Hy**	**29.00**	**123**	T			T	17 49 40.8	
	baz=316,slow=76,SNR=48								
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T			T	17 49 13.0	
	baz=316,slow=76,SNR=37								
MKAR	**Makanchi Array**	**43.98**	**302**	P			**P**	**17 20 55.2**	**-0.6**
	0.6nm,0.8s,baz=89,slow=10.0,SNR=6.3								
	0.6nm,0.8s								
ILAR	**Eielson Array**	**49.47**	**32**	P			**P**	**17 21 40.1**	**+1.6**
	0.4nm,0.8s,baz=260,slow=6.7,SNR=2.3								
	0.4nm,0.8s								
WRA	**Warramunga Arr**	**57.15**	**188**	P			**P**	**17 22 35.5**	**+0.2**
	0.4nm,0.5s,baz=4.5,slow=7.5,SNR=12								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**60.88**	**188**	P			**P**	**17 23 01.4**	**+0.2**
	0.5nm,1.0s,baz=12,slow=10,SNR=6.4								
	0.5nm,1.0s								
AKASG	**Malin Array Be**	**74.15**	**322**	P			**P**	**17 24 22.6**	**-2.2**
	0.2nm,0.3s,baz=46,slow=6.2,SNR=2.3								
	0.2nm,0.3s								
PDAR	**Pinedale Array**	**77.67**	**45**	P			**P**	**17 24 46.2**	**+0.9**
	0.1nm,0.4s,baz=306,slow=2.1,SNR=1.7								
	0.1nm,0.4s								

*IDC **11** 17:19:53.2±1.6,30.75S×68.10W,h0km,mb3.8/1, mbtmp3.6/3,ML3.9/2,MS2.6/1,Error ellipse: s-maj=68.2km s-min=31.5km az=140.0*

*VAO **11** 17:19:54.9±11.0,31.14S×68.18W,h10km,mb4.6*

*NEIC **11** 17:19:57.4±2.1,31.06S±0.05×68.03W±0.06,h10km±2km, mb4.7/5, Error ellipse: s-maj=10.6km s-min=5.7km az=309.0*

ISC 11 17:19:54.7±1.7,**31.00S**±0.05×**67.96W**±0.05,**h0**km±11km, **n77**,σ1§**64**/88,**mb4.3**/3,**1C-6D**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.55**	**233**	⇓*iP*			**Pg**	**17 20 05.3**	**+0.1**
ZON	**Zonda**	**0.82**	**228**				**Pg**	**17 20 10.3**	**-0.1**
ZON				Sg			**Sg**	**17 20 21.4**	**+0.4**
CO01	**Juntas del Tor**	**2.10**	**298**				**Pn**	**17 20 31.2**	**-0.1**
CO01	**Juntas del Tor**	**2.10**	**298**	⇓*iP*			**Pn**	**17 20 31.3**	**-0.1**
CO01				*eS*			**Sn**	**17 20 56.6**	**-1.8**
CO01				IAML				17 20 57.9	
	comp=N,1μm,0.1s								
VCA	**Vinchina**	**2.27**	**355**	⇑*iP*			**Pn**	**17 20 35.0**	**+1.4**
VCA				*i* S			**Sn**	**17 21 03.8**	**+1.5**
VCA				IAML				17 21 07.6	
	comp=E,2μm,0.3s								
CO03	**El Pedregal**	**2.35**	**273**				**Pn**	**17 20 35.5**	**+0.8**
CO03	**El Pedregal**	**2.35**	**273**	⇓*iP*			**Pn**	**17 20 35.6**	**+0.9**
CO03				*eS*			**Sn**	**17 21 04.6**	**+0.3**
CO03				IAML				17 21 11.9	
	comp=E,2μm,0.3s								
GO04	**Tololo Observa**	**2.58**	**288**				**Pn**	**17 20 39.6**	**+1.7**
GO04	**Tololo Observa**	**2.58**	**288**	⇓*iP*			**Pn**	**17 20 39.8**	**+1.8**
GO04				*eS*			**Sn**	**17 21 11.4**	**+1.1**
GO04				IAML				17 21 20.8	
	comp=N,4μm,0.6s								
CO02	**Combarbal**	**2.61**	**265**				**Pn**	**17 20 40.2**	**+2.0**
CO02	**Combarbal**	**2.61**	**265**	⇓*eP*			**Pn**	**17 20 40.4**	**+2.0**
CO02				*eS*			**Sb**	**17 21 13.0**	**-2.2**
CO02				IAML				17 21 18.1	
	comp=E,3μm,0.3s								
VA03	**San Esteban**	**2.82**	**231**				**Pn**	**17 20 43.0**	**+2.0**
VA03	**San Esteban**	**2.82**	**231**	*eP*			**Pb**	**17 20 45.0**	**-0.9**
VA03				*eS*			**Sb**	**17 21 22.4**	**+1.3**
VA03				IAML				17 21 24.5	
	comp=E,1μm,0.3s								
AC05	**El Transito**	**2.95**	**316**				**Pn**	**17 20 45.4**	**+2.5**
AC05	**El Transito**	**2.95**	**316**	*eP*			**Pn**	**17 20 44.2**	**+1.3**
AC05				*eS*			**Sn**	**17 21 22.4**	**+3.4**
AC05				IAML				17 21 29.6	
	comp=N,535nm,0.4s								
CO05	**La Serena**	**3.03**	**290**				**Pn**	**17 20 45.2**	**+1.3**
CO05	**La Serena**	**3.03**	**290**	*eP*			**Pn**	**17 20 45.5**	**+1.6**
CO05				*eS*			**Sn**	**17 21 22.6**	**+1.7**
CO05				IAML				17 21 34.1	
	comp=N,847nm,0.3s								
LCO	**Las Campanas**	**3.10**	**309**	Pn			**Pn**	**17 20 46.4**	**+1.4**
LCO							Pb	17 20 46.6	-4.2
LCO	**Las Campanas**	**3.10**	**309**	⇓*eP*			**Pn**	**17 20 46.6**	**+1.6**
LCO				*eS*			**Sn**	**17 21 25.2**	**+2.3**
PEL	**Peldehue**	**3.15**	**227**	*eP*			**Pb**	**17 20 49.5**	**-2.0**
PEL				*eS*			**Sb**	**17 21 28.8**	**-1.7**
PEL				IAML				17 21 35.7	
	comp=N,446nm,0.4s								
VA06	**Catapilco**	**3.24**	**240**				**Pn**	**17 20 48.4**	**+1.6**
ROCH	**El Roble**	**3.25**	**232**	*eP*			**Pn**	**17 20 50.2**	**+3.1**
ROCH				*eS*			**Sn**	**17 21 29.0**	**+2.3**
ROC1	**El Roble**	**3.26**	**232**				**Pn**	**17 20 49.2**	**+1.9**
MT03	**Universidad Ad**	**3.29**	**220**				**Pn**	**17 20 49.7**	**+2.1**
MT05	**Renca**	**3.35**	**224**				**Pn**	**17 20 50.5**	**+2.1**
LMEL	**Las Melosas**	**3.41**	**213**				**Pn**	**17 20 52.1**	**+2.8**
MT02	**Curacav**	**3.51**	**229**				**Pn**	**17 20 52.5**	**+2.0**
VA01	**Torpederas**	**3.72**	**236**				**Pn**	**17 20 54.7**	**+1.3**
BO04	**La Punta**	**3.73**	**216**				**Pn**	**17 20 55.9**	**+2.4**
MT09	**Talagante**	**3.77**	**222**				**Pn**	**17 20 56.3**	**+2.1**
AC04	**Llanos de Chal**	**3.89**	**315**				**Pn**	**17 20 56.6**	**+0.9**
GO03	**Copiap**	**3.93**	**329**				**Pn**	**17 20 57.4**	**+1.0**
MT01	**Popeta**	**3.98**	**223**				**Pn**	**17 20 58.3**	**+1.3**
VA05	**Santo Domingo**	**4.07**	**228**				**Pn**	**17 20 59.1**	**+0.9**
AC06	**Mina Casimiro**	**4.19**	**329**				**Pn**	**17 21 00.3**	**+0.4**
AC02	**Maricunga**	**4.28**	**346**				**Pn**	**17 21 03.2**	**+1.7**
BO01	**Tunca**	**4.28**	**217**				**Pn**	**17 21 02.1**	**+1.0**
GO05	**Huala**	**5.20**	**219**				**Pn**	**17 21 13.8**	**0.0**
AC01	**Pan de Azucar**	**5.36**	**334**				**Pn**	**17 21 15.7**	**-0.3**
ML02	**Panimavida**	**5.56**	**210**				**Pn**	**17 21 19.3**	**+0.6**
PB14	**IPOC Station P**	**6.71**	**341**	Pn			**Pn**	**17 21 36.4**	**+1.6**
BI05	**Punta Hualpn**	**7.19**	**216**	Pn			**Pn**	**17 21 39.4**	**-1.7**
PB10	**IPOC Station P**	**7.81**	**342**	Pn			**Pn**	**17 21 48.1**	**-1.4**
PB15	**IPOC Station P**	**7.88**	**350**				**Pn**	**17 21 50.6**	**-0.1**
TICA	**Tres Isletas**	**8.09**	**57**	*eP*			**Pn**	**17 21 55.6**	**+2.2**
PB06	**IPOC Station P**	**8.39**	**350**	Pn			**Pn**	**17 21 57.5**	**-0.2**
LVC	**Limon Verde**	**8.40**	**354**	LR			LR	17 25 15.1	
	comp=N,43nm,19.9s,baz=190,slow=40								
LVC	**Limon Verde**	**8.40**	**354**	Pn			**Pn**	**17 21 57.9**	**-0.2**
TRQA	**Tornquist**	**8.59**	**147**				**Pn**	**17 22 02.3**	**+1.9**
MECA	**Mercedes**	**8.64**	**81**	*eP*			**Pn**	**17 22 02.9**	**+1.8**
PB04	**IPOC Station P**	**8.85**	**347**	Pn			**Pn**	**17 22 03.4**	**-0.7**
GO06	**Curarrehue**	**9.03**	**198**				**Pn**	**17 22 06.5**	**+0.1**
PB03	**IPOC Station P**	**9.06**	**349**				**Pn**	**17 22 04.7**	**-2.2**
PB09	**IPOC Station P**	**9.24**	**353**	Pn			**Pn**	**17 22 11.1**	**+1.7**
PB07	**IPOC Station P**	**9.40**	**349**	Pn			**Pn**	**17 22 10.5**	**-1.1**
PB02	**IPOC Station P**	**9.80**	**349**	Pn			Pn	17 22 14.0	-3.0
ITQB	**Itaqui**	**9.89**	**85**				**Pn**	**17 22 18.7**	**+0.7**
ITQB	**Itaqui**	**9.89**	**85**	*eP*			**Pn**	**17 22 19.6**	**+1.6**
PLCA	**Paso Flores**	**9.93**	**191**	Pn			**Pn**	**17 22 20.4**	**+1.7**
	comp=N,0.1nm,0.3s,baz=7.9,slow=8.2,SNR=3.6								
PLCA				Lg			Lg	17 25 04.5	
	comp=N,0.3nm,0.3s,baz=105,slow=22,SNR=3.8								
	comp=N,0.8nm,0.6s								
PLCA	**Paso Flores**	**9.93**	**191**	Pn			**Pn**	**17 22 18.7**	**0.0**
PB01	**IPOC Station P**	**10.01**	**352**	Pn			**Pn**	**17 22 17.7**	**-2.2**
CPUP	**Villa Florida**	**10.43**	**66**	Pn			**Pn**	**17 22 24.5**	**-1.0**
	comp=N,0.6nm,0.3s,baz=244,slow=12,SNR=4.9								
CPUP				Sn			**Sn**	**17 24 19.5**	**-3.7**
	comp=N,0.4nm,0.3s,baz=335,slow=20,SNR=1.6								
CPUP				Lg			Lg	17 25 25.2	
	baz=164,slow=19								
	comp=N,1.1nm,0.3s								
CPUP	**Villa Florida**	**10.43**	**66**				**Pn**	**17 22 25.7**	**+0.1**
LL04	**Puerto Octay**	**10.52**	**199**	Pn			**Pn**	**17 22 25.4**	**-1.3**
TA01	**Diego Aracena**	**10.58**	**349**	Pn			**Pn**	**17 22 26.5**	**-1.1**
RODS	**Rosario do Sul**	**11.01**	**90**	*eP*			**Pn**	**17 22 35.0**	**+1.6**
PLTB	**Pedras Altas**	**12.29**	**97**	Pn			**Pn**	**17 22 52.6**	**+1.5**
CRSM	**Crissiumal (Br**	**12.64**	**77**	*eP*			**Pn**	**17 22 57.8**	**+1.9**
ALGR	**Alto Alegre (B**	**13.14**	**84**	*eP*			**Pn**	**17 23 04.5**	**+1.8**
LPAZ	**La Paz**	**14.65**	**359**				**Pn**	**17 23 25.3**	**+1.5**
ETMB	**Extrema**	**21.14**	**5**	P			**P**	**17 24 42.5**	**+1.2**
ETMB				IAmb			IAmb	17 24 46.4	
	comp=Z,4.6nm,0.9s								
MG04	**Isla Riesco**	**22.00**	**186**	P			**P**	**17 24 49.3**	**-0.9**
BELA	**Belgrano 2**	**49.26**	**171**	P			**P**	**17 28 44.2**	**-0.4**
BELA				IAmb			IAmb	17 29 25.3	
	comp=Z,4.2nm,1.2s								
QSPA	**South Pole Qui**	**59.23**	**180**	P			**P**	**17 29 57.9**	**+0.3**
QSPA				IAmb			IAmb	17 30 21.9	
	comp=Z,7.5nm,1.4s								
TORD	**Torodi Ar. Bea**	**79.92**	**68**	P			**P**	**17 32 04.2**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=249,slow=6.1,SNR=3.6								
	comp=Z,0.7nm,0.8s								
ZALV	**Zalesovo Beam**	**149.85**	**33**	PKPbc			**PKPdf**	**17 39 43.9**	**+2.4**
	comp=Z,0.7nm,0.5s,baz=283,slow=2.9,SNR=2.5								
MKAR	**Makanchi Array**	**152.20**	**47**	PKPbc			**PKPbc**	**17 39 50.7**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=285,slow=1.5,SNR=6.0								

*NIED **11** 17:31:01.6,22.99N×120.64E,h0km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.91; $M_{\theta\theta}$2.36; $M_{\phi\phi}$-1.44; $M_{r\theta}$-0.16; $M_{\theta\phi}$-0.50; $M_{\phi r}$-0.06; Fault plane solution: $M_0$1.97000×10^{15} NP1: ϕ_s53.00000°,δ86.00000°,λ-173.00000°. NP2: ϕ_s322.00000°,δ83.00000°,λ-4.00000°.*

*JMA **11** 17:31:01.6±0.2,23.0N±0.8×12.1E±,h0km,MV4.3/15, TAIWAN REGION*

*IDC **11** 17:31:02.5±0.9,22.96N×120.75E,h0km,mb3.8/11, mbtmp3.8/13,ML3.4/2,MS3.2/6,Error ellipse: s-maj=23.5km s-min=18.7km az=64.0*

*TAP **11** 17:31:03.8,23.11N×120.68E,h9km,ML4.5,B*

*ASIES **11** 17:31:04.2,23.13N×120.71E,h12km,MW4.0*

*NEIC **11** 17:31:04.3±1.8,23.14N±0.03×120.64E±0.04,h6km±4km, mb4.3/6,Error ellipse: s-maj=6.3km s-min=4.3km az=66.0*

ISC 11 17:31:04.9±0.6,**23.12N**±0.01×**120.69E**±0.01,**h12**km±3km, **n226**,σ1§**21**/330,**mb3.9**/13,**MS3.2**/4,**59C-29D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.08**	**56**	⇓*iP*			**Pg**	**17 31 06.7**	**-1.0**
STYT	baz=59			*i* S			**Sg**	**17 31 08.7**	**-1.1**
STYH	**Taoyuan**	**0.10**	**58**	⇓*iP*			**Pg**	**17 31 07.1**	**-0.8**
STYH	baz=58			*i* S			**Sg**	**17 31 09.4**	**-0.5**
SLGT	**Liugui**	**0.13**	**196**	⇑*iP*			**Pg**	**17 31 07.8**	**-0.5**
SLGT	baz=195			*i* S			**Sg**	**17 31 10.1**	**-0.5**
WTP	**Ta-pu**	**0.14**	**333**	⇑*iP*			**Pg**	**17 31 07.8**	**-0.7**
WTP	baz=338			*i* S			**Sg**	**17 31 10.6**	**-0.4**
CHN1	**Nanshi**	**0.16**	**295**	⇓*iP*			**Pg**	**17 31 08.1**	**-0.6**
CHN1	baz=298			*i* S			**Sg**	**17 31 11.2**	**-0.2**
TPUB	**Ta-pu**	**0.19**	**344**				**Pg**	**17 31 07.8**	**-1.4**
TPUB	**Ta-pu**	**0.19**	**344**	P			**Pg**	**17 31 08.7**	**-0.4**
TPUB	**Ta-pu**	**0.19**	**344**	⇑*iP*			**Pg**	**17 31 08.8**	**-0.4**
TPUB	baz=347			*i* S			**Sg**	**17 31 12.7**	**+0.5**
TWK	**Hsinying**	**0.23**	**309**	⇓*iP*			**Pg**	**17 31 09.8**	**-0.2**
TWK	baz=313			*i* S			**Sg**	**17 31 13.9**	**+0.5**
CHN4	**Tsaushan**	**0.25**	**340**	⇑*iP*			**Pb**	**17 31 10.0**	**-1.3**
CHN4	baz=343			*i* S			**Sb**	**17 31 15.2**	**+1.5**
SCST	**Cishan**	**0.29**	**217**	⇑*iP*			**Pb**	**17 31 10.7**	**-1.3**
SCST	baz=217			S			**Sb**	**17 31 17.1**	**+0.3**
CHN3	**Shinhua**	**0.30**	**262**	⇓*iP*			**Pb**	**17 31 11.9**	**-0.3**
CHN3	baz=262			*i* S			**Sb**	**17 31 18.1**	**+1.1**
ELDTW	**Lidau**	**0.31**	**77**	⇓*iP*			**Pb**	**17 31 11.2**	**-1.4**
ELDTW	baz=78			*i* S			**Sg**	**17 31 15.8**	**+0.1**
SHHT	**Tainan City**	**0.33**	**253**	⇓*iP*			**Pb**	**17 31 12.6**	**-0.1**
WCKO	**Fanlu**	**0.33**	**347**	⇑*iP*			**Pb**	**17 31 11.5**	**-1.2**
WCKO	baz=349			*i* S			**Sb**	**17 31 18.2**	**+0.3**
SSHA	**Shanhua**	**0.37**	**273**	⇓*iP*			**Pb**	**17 31 13.4**	**+0.1**
SSD	**Sandimen**	**0.37**	**187**	⇑*iP*			**Pg**	**17 31 11.7**	**-0.7**
TWM1	**Shoushan**	**0.38**	**220**	⇑*iP*			**Pb**	**17 31 13.2**	**-0.4**
ALS	**Alishan**	**0.41**	**16**	⇑*iP*			**Pb**	**17 31 12.9**	**-1.3**
TSMG	**Majia**	**0.41**	**185**	⇑*iP*			**Pg**	**17 31 12.3**	**-0.8**
TSMG	baz=176			*eS*			**Sg**	**17 31 17.5**	**-1.1**
TAI1	**Yung-k'ang**	**0.43**	**260**	*eP*			**Pb**	**17 31 14.6**	**+0.2**
TAI1	baz=272			*eS*			**Sb**	**17 31 22.7**	**+2.0**
SGLT	**Jiouru**	**0.43**	**205**	⇑*iP*			**Pb**	**17 31 14.4**	**0.0**
SGLT	baz=192			*eS*			**Sb**	**17 31 22.6**	**+1.8**
ICHU	**Yijhu**	**0.44**	**303**	⇓*iP*			**Pb**	**17 31 14.1**	**-0.6**
CHY	**Chiayi**	**0.45**	**328**	⇑P			**Pb**	**17 31 14.2**	**-0.6**
CHY	baz=331			*eS*			**Sb**	**17 31 21.9**	**+0.5**
CHN2	**Minshiung**	**0.46**	**335**	⇑*iP*			**Pb**	**17 31 14.4**	**-0.4**
CHN2	baz=337			S			**Sb**	**17 31 22.5**	**+0.9**
SCLT	**Jiali**	**0.46**	**277**	⇓*iP*			**Pb**	**17 31 14.6**	**-0.3**
SCLT	baz=293			*eS*			**Sb**	**17 31 23.1**	**+1.5**
	baz=293								
LONT	**Longtian**	**0.46**	**117**	⇓*iP*			**Pb**	**17 31 13.9**	**-1.1**
LONT	baz=113			*i* S			**Sb**	**17 31 21.4**	**-0.3**
	baz=113								
TWG	**Pinlang**	**0.46**	**130**				**Pb**	**17 31 13.8**	**-1.2**
TWG	**Pinlang**	**0.46**	**130**	⇓*iP*			**Pb**	**17 31 14.0**	**-1.0**
TWG	baz=128			*i* S			**Sb**	**17 31 20.6**	**-1.3**
	baz=128								
TAI	**Tainan**	**0.47**	**255**	*eP*			**Pb**	**17 31 14.7**	**-0.3**
	baz=272								
TWGBT	**Beinan**	**0.47**	**129**	P			**Pb**	**17 31 14.1**	**-1.0**
TWGBT	**Beinan**	**0.47**	**129**	⇓*iP*			**Pb**	**17 31 14.0**	**-1.1**
TWGBT	baz=128			*i* S			**Sg**	**17 31 20.2**	**-0.3**
	baz=128								
CHN5	**Tsauling**	**0.48**	**359**	⇑*iP*			**Pb**	**17 31 14.2**	**-1.1**
CHN5	baz=2.0			S			**Sb**	**17 31 22.6**	**+0.3**
EHD	**Haiduan**	**0.48**	**86**	⇓*iP*			**Pb**	**17 31 14.2**	**-1.1**
EHD	baz=84			*i* S			**Sb**	**17 31 21.2**	**-1.2**
	baz=84								
SNJT	**Kaohsiung City**	**0.48**	**222**	*eP*			**Pb**	**17 31 14.7**	**-0.7**
	baz=239								
CHN8	**Yiju**	**0.49**	**298**	*eP*			**Pb**	**17 31 14.9**	**-0.6**
CHN8	baz=299			*eS*			**Sb**	**17 31 24.2**	**+1.6**
	baz=299								
ECS	**Chishang**	**0.49**	**92**	⇓*iP*			**Pb**	**17 31 14.7**	**-0.8**
ECS	baz=90			*i* S			**Sb**	**17 31 22.3**	**-0.4**
	baz=90								
MASBT	**Mashibuluo**	**0.51**	**185**	⇑*iP*			**Pg**	**17 31 14.1**	**-0.8**
	baz=177								
TSCK	**Chigu Township**	**0.55**	**273**	*eP*			**Pb**	**17 31 16.3**	**-0.2**
	baz=289								
FULB	**Fuli**	**0.57**	**82**	⇓*iP*			**Pb**	**17 31 16.4**	**-0.4**
FULB	baz=82			S			**Sb**	**17 31 25.0**	**+0.2**
	baz=82								
ECL	**Taimali**	**0.57**	**154**	⇑*eP*			**Pg**	**17 31 15.4**	**-0.8**
	baz=152								
WGK	**Gukeng**	**0.58**	**349**	⇑*iP*			**Pb**	**17 31 16.6**	**-0.4**
WGK	baz=352			*eS*			**Sb**	**17 31 25.3**	**+0.2**
	baz=352								
WSL	**Shuilin Townsh**	**0.58**	**314**	⇓P			**Pb**	**17 31 16.5**	**-0.5**
	baz=315								
WDLH	**Douliu**	**0.58**	**347**	⇑*iP*			**Pb**	**17 31 16.9**	**-0.2**
WDLH	baz=349			*eS*			**Sn**	**17 31 27.0**	**-1.5**
	baz=349								
EDH	**Donghe**	**0.59**	**104**	⇓*eP*			**Pb**	**17 31 16.6**	**-0.5**
EDH	baz=109			*eS*			**Sb**	**17 31 26.0**	**+0.6**
	baz=109								
WHYT	**Xinyi Township**	**0.60**	**15**	⇑*iP*			**Pb**	**17 31 16.3**	**-1.1**
WHYT	baz=22			S			**Sb**	**17 31 26.3**	**+0.6**
	baz=22								
TWF1	**Yuli**	**0.61**	**67**	⇑*iP*			**Pb**	**17 31 16.6**	**-1.0**
TWF1	baz=69			S			**Sg**	**17 31 24.7**	**-0.2**
	baz=69								
YULB	**Yu-li**	**0.63**	**64**				**Pg**	**17 31 16.5**	**-0.7**
YULB	**Yu-li**	**0.63**	**64**	P			**Pb**	**17 31 16.7**	**-1.1**
YULB	**Yu-li**	**0.63**	**64**	⇑*iP*			**Pb**	**17 31 16.6**	**-1.1**
YULB	baz=65			S			**Sg**	**17 31 24.3**	**-1.2**
	baz=65								
CHKT	**Chengkung**	**0.63**	**92**	⇓*iP*			**Pb**	**17 31 17.8**	**0.0**
CHKT	baz=82			*i* S			**Sb**	**17 31 27.9**	**+1.4**
	baz=82								
EYUL	**Yuli**	**0.63**	**68**	⇑*iP*			**Pb**	**17 31 17.0**	**-0.8**
EYUL	baz=69			S			**Sg**	**17 31 24.9**	**-0.5**
	baz=69								
WTK	**Tuku**	**0.63**	**334**	⇑P			**Pb**	**17 31 17.4**	**-0.4**
	baz=337								
KAU	**Kaohsiung**	**0.65**	**212**	*eP*			**Pn**	**17 31 19.1**	**-0.8**
	baz=226								
WSF	**Szhu**	**0.67**	**321**	*i* P			**Pb**	**17 31 18.1**	**-0.5**
WSF	baz=323			*i* S			**Sb**	**17 31 28.6**	**+0.8**
	baz=323								
EHY	**Hungye**	**0.70**	**56**	⇑*iP*			**Pb**	**17 31 18.1**	**-1.0**
EHY	baz=67			S			**Sb**	**17 31 27.7**	**-1.1**
	baz=67								
WJS	**Zhushan**	**0.70**	**3**	⇑*iP*			**Pb**	**17 31 18.8**	**-0.3**
WJS	baz=6.0			S			**Sb**	**17 31 29.9**	**+1.2**
	baz=6.0								
SSLB	**Suanglung**	**0.71**	**20**				**Pg**	**17 31 17.9**	**-0.9**
SSLB	**Suanglung**	**0.71**	**20**	P			**Pg**	**17 31 18.1**	**-0.7**
SSLB	**Suanglung**	**0.71**	**20**	⇑*iP*			**Pg**	**17 31 18.1**	**-0.7**
SSLB	baz=29			*i* S			**Sb**	**17 31 29.2**	**+0.2**
	ba

WPL	**Puli Township**	**0.93**	**16**	⇑P		**Pb**	**17 31 22.1**	**-0.8**
	baz=4.0							
WPL				*e*S		**Sb**	**17 31 36.0**	**+0.9**
	baz=4.0							
DPDB	**Guoxing**	**0.94**	**14**	⇑*i*P		**Pb**	**17 31 22.4**	**-0.7**
	baz=17							
DPDB				*e*S		**Sn**	**17 31 37.0**	**-0.3**
	baz=17							
OWD	**Renai**	**0.95**	**28**	*e*P		**Pg**	**17 31 22.1**	**-1.2**
	baz=45							
WDGT	**Dungji**	**0.95**	**279**	P		**Pg**	**17 31 22.2**	**-1.1**
	baz=279							
WDGT				*e*S		**Sg**	**17 31 34.6**	**-1.2**
	baz=279							
WUSB	**Renai**	**0.96**	**24**	⇑*i*P		**Pg**	**17 31 22.4**	**-1.0**
	baz=27							
WUSB				*i* S		**Sn**	**17 31 37.2**	**-0.7**
	baz=27							
WCS	**Beigang Elemen**	**0.96**	**13**	P		**Pb**	**17 31 22.9**	**-0.6**
	baz=16							
WCS				S		**Sn**	**17 31 37.7**	**0.0**
	baz=16							
WCHH	**Zhanghua**	**0.96**	**353**	*e*P		**Pb**	**17 31 23.2**	**-0.3**
	baz=356							
WCHH				*e*S		**Sn**	**17 31 37.6**	**-0.2**
	baz=356							
ESL	**Shilin**	**0.98**	**45**	⇑*i*P		**Pg**	**17 31 23.0**	**-0.8**
	baz=47							
ESL				*i* S		**Sb**	**17 31 36.7**	**+0.1**
	baz=47							
TEGC	**Jichi Village**	**0.98**	**53**	*e*P		**Pb**	**17 31 23.4**	**-0.4**
	baz=55							
TCU	**Taichung**	**1.02**	**360**	*e*P		**Pn**	**17 31 24.5**	**-0.6**
	baz=347							
CHGB	**Renai**	**1.04**	**25**	⇑*i*P		**Pg**	**17 31 24.1**	**-1.0**
	baz=29							
CHGB				*i* S		**Sb**	**17 31 39.3**	**+0.7**
	baz=29							
PHUB	**P'eng-hu**	**1.10**	**291**	P		**Pg**	**17 31 24.1**	**-2.0**
	baz=292							
PHUB				S		**Sg**	**17 31 39.4**	**-1.0**
	baz=292							
SMST	**Manzhou Townsh**	**1.10**	**173**	*e*P		**Pn**	**17 31 25.9**	**-0.2**
	baz=164							
HEN	**Hengchun**	**1.11**	**177**	⇑*e*P		**Pn**	**17 31 26.1**	**-0.1**
	baz=174							
TEYL	**Yanliau Villag**	**1.12**	**48**	*e*P		**Pn**	**17 31 26.5**	**0.0**
	baz=38							
TEYL				S		**Sn**	**17 31 43.6**	**+1.8**
	baz=38							
ETM	**Tongmen**	**1.12**	**41**	*e*P		**Pg**	**17 31 25.4**	**-1.2**
	baz=44							
ETM				S		**Sb**	**17 31 41.2**	**+0.3**
	baz=44							
PNG	**Penghu**	**1.13**	**294**	⇓*i*P		**Pg**	**17 31 24.7**	**-2.0**
	baz=294							
PNG				S		**Sg**	**17 31 40.1**	**-1.4**
	baz=294							
WHF	**Hehuan Shan**	**1.15**	**27**	⇑*e*P		**Pg**	**17 31 26.1**	**-1.2**
	baz=19							
WHF				S		**Sn**	**17 31 43.7**	**+0.5**
	baz=19							
VCHM	**Qimei**	**1.16**	**275**	⇓*i*P		**Pg**	**17 31 25.2**	**-2.0**
	baz=290							
VCHM				*e*S		**Sg**	**17 31 40.8**	**-1.6**
	baz=290							
TWK1	**Hengchun**	**1.17**	**175**	⇑P		**Pn**	**17 31 26.8**	**-0.3**
	baz=172							
TWK1				S		**Sn**	**17 31 45.1**	**+2.1**
	baz=172							
TWKBT	**Hengchun**	**1.18**	**174**	⇑P		**Pn**	**17 31 27.0**	**-0.2**
	baz=172							
TWKBT				*e*S		**Sn**	**17 31 44.7**	**+1.6**
	baz=172							
WHP	**Taichung City**	**1.18**	**12**	*e*P		**Pb**	**17 31 26.8**	**-0.5**
	baz=15							
WHP				S		**Sn**	**17 31 44.8**	**+1.4**
	baz=15							
HWA	**Hwalien**	**1.20**	**44**	P		**Pn**	**17 31 27.6**	**+0.1**
	baz=48							
HWA				*e*S		**Sn**	**17 31 45.5**	**+1.8**
	baz=48							
TDCB	**Techi**	**1.21**	**21**	⇑*i*P		**Pg**	**17 31 27.0**	**-1.3**
	baz=24							
TDCB				*e*S		**Sn**	**17 31 44.4**	**+0.2**
	baz=24							
TWT	**Tachien**	**1.22**	**22**	*e*P		**Pg**	**17 31 26.9**	**-1.5**
	baz=25							
TWT				*e*S		**Sn**	**17 31 44.8**	**+0.5**
	baz=25							
WDJ	**Dajia District**	**1.23**	**358**	*e*P		**Pn**	**17 31 28.0**	**+0.2**
	baz=1.0							
WDJ				*e*S		**Sn**	**17 31 46.2**	**+1.9**
	baz=1.0							
TSEB	**Hengchuen, Pin**	**1.23**	**171**	P		**Pn**	**17 31 28.8**	**+1.0**
	baz=170							
TSEB				S		**Sn**	**17 31 46.8**	**+2.4**
	baz=170							
TWQ1	**Liyutan**	**1.23**	**4**	*i* P		**Pn**	**17 31 27.8**	**-0.1**
	baz=7.0							
TWQ1				*i* S		**Sn**	**17 31 46.0**	**+1.6**
	baz=7.0							
FUSS	**Fushou**	**1.24**	**24**	⇑*i*P		**Pg**	**17 31 27.3**	**-1.5**
	baz=14							
TWD	**Chiawan**	**1.27**	**41**	⇑P		**Pb**	**17 31 28.3**	**-0.5**
	baz=44							
TWD				S		**Sn**	**17 31 45.9**	**+0.4**
	baz=44							
NSY	**Sanyi**	**1.29**	**3**	⇑*i*P		**Pg**	**17 31 29.1**	**-0.7**
	baz=354							
NSY				S		**Sn**	**17 31 48.6**	**+2.5**
	baz=354							
ETLH	**Xiulin Townshi**	**1.31**	**34**	*e*P		**Pn**	**17 31 28.7**	**-0.4**
	baz=47							
ETLH				S		**Sn**	**17 31 48.6**	**+2.1**
	baz=47							
LAY	**Lan-yu**	**1.34**	**143**	*e*P		**Pn**	**17 31 27.9**	**-1.6**
	baz=128							
NACB	**Ninganchiao**	**1.34**	**38**			**Pn**	**17 31 29.1**	**-0.4**
NACB	**Ninganchiao**	**1.34**	**38**	P		**Pn**	**17 31 29.3**	**-0.2**
NACB	**Ninganchiao**	**1.34**	**38**	⇑*i*P		**Pn**	**17 31 29.1**	**-0.4**
	baz=57							
NACB				S		**Sn**	**17 31 47.8**	**+0.6**
	baz=57							
ETL	**Fush Village**	**1.35**	**40**	P		**Pb**	**17 31 29.6**	**-0.6**
	baz=58							
ETL				S		**Sn**	**17 31 49.3**	**+1.9**
	baz=58							
LYUB	**Lan-yu**	**1.39**	**143**	*e*P		**Pn**	**17 31 28.3**	**-1.8**
	baz=129							
NMLH	**Miaoli**	**1.42**	**4**	*e*P		**Pb**	**17 31 30.6**	**-0.7**
	baz=349							
NNSB	**Datong**	**1.45**	**26**	⇑*i*P		**Pn**	**17 31 31.1**	**0.0**
	baz=15							
NNSB				S		**Sg**	**17 31 52.7**	**+0.9**
	baz=15							
NNSH	**Datong**	**1.45**	**26**	⇑*e*P		**Pn**	**17 31 30.9**	**-0.2**
	baz=16							
NNS	**Nan Shan**	**1.46**	**25**	⇑*i*P		**Pb**	**17 31 31.4**	**-0.7**
	baz=15							
NNS				S		**Sg**	**17 31 52.4**	**+0.4**
	baz=15							
NSTT	**Nanjuang**	**1.53**	**11**	*e*P		**Pb**	**17 31 32.3**	**-1.0**
	baz=14							
NSTT				S		**Sg**	**17 31 54.1**	**-0.3**
	baz=14							
LIOB	**Emei**	**1.55**	**11**	*e*P		**Pn**	**17 31 32.4**	**+0.1**
	baz=14							
LIOB				*e*S		**Sg**	**17 31 54.3**	**-0.6**
	baz=14							
NFF	**Wufeng Townshi**	**1.56**	**15**	*e*P		**Pb**	**17 31 32.8**	**-1.0**
	baz=18							
NFF				S		**Sg**	**17 31 55.1**	**-0.1**
	baz=18							
NJN	**Zhunan**	**1.57**	**6**	*e*P		**Pn**	**17 31 32.5**	**-0.1**
	baz=9.0							
LATG	**Datong**	**1.61**	**28**	⇑P		**Pb**	**17 31 33.9**	**-0.7**
	baz=19							
LATG				S		**Sg**	**17 31 56.5**	**-0.2**
	baz=19							
ENA	**Nanau**	**1.62**	**36**	*e*P		**Pb**	**17 31 33.7**	**-1.1**
	baz=53							
ENA				*e*S		**Sg**	**17 31 56.3**	**-1.0**
	baz=53							
EWUT	**Wuta**	**1.66**	**37**	*e*P		**Pb**	**17 31 34.7**	**-0.7**
	baz=53							
EWUT				*e*S		**Sg**	**17 31 57.7**	**-0.7**
	baz=53							
NSK	**Sanguang**	**1.67**	**22**	⇑P		**Pb**	**17 31 34.7**	**-1.0**
	baz=13							
YHNB	**Yeheng**	**1.67**	**22**			**Pb**	**17 31 34.6**	**-1.1**
YHNB	**Yeheng**	**1.67**	**22**	P		**Pb**	**17 31 34.9**	**-0.7**
HSN1	**Hsinchu**	**1.68**	**10**	*e*P		**Pn**	**17 31 34.3**	**+0.2**
	baz=356							
SBCB	**Hsinchu**	**1.69**	**9**	*e*P		**Pg**	**17 31 35.9**	**-1.5**
	baz=354							
HSN	**Hsinchu**	**1.70**	**9**	*e*P		**Pg**	**17 31 37.3**	**-0.2**
	baz=355							
ENTT	**Nioudou**	**1.72**	**28**	⇑P		**Pb**	**17 31 36.1**	**-0.3**
	baz=22							
ENTT				*e*S		**Sg**	**17 32 00.1**	**-0.1**
	baz=22							
NDS	**Dongshan**	**1.78**	**32**	P		**Pb**	**17 31 36.7**	**-0.8**
	baz=19							
NDS				S		**Sg**	**17 32 01.0**	**-1.3**
	baz=19							
NWLT	**Wulai**	**1.81**	**24**	*e*P		**Pb**	**17 31 37.8**	**-0.2**
	baz=28							
TWC	**Suao**	**1.83**	**35**	*e*P		**Pb**	**17 31 37.0**	**-1.3**
	baz=51							
TWC				*e*S		**Sg**	**17 32 02.0**	**-1.7**
	baz=51							
FUSB	**Fushanzhiwuyua**	**1.83**	**27**	P		**Pb**	**17 31 37.9**	**-0.5**
	baz=12							
FUSB				*e*S		**Sg**	**17 32 02.9**	**-1.0**
	baz=12							
TWE	**Neicheng**	**1.83**	**29**	⇑P		**Pb**	**17 31 38.0**	**-0.3**
	baz=19							
TWE				S		**Sg**	**17 32 03.6**	**-0.3**
	baz=19							
NCUH	**Zhongli**	**1.90**	**14**	*e*P		**Pg**	**17 31 39.7**	**-1.6**
	baz=359							
NCU	**National Centr**	**1.90**	**14**	*e*P		**Pb**	**17 31 38.8**	**-0.7**
	baz=360							
ILA	**Ilan**	**1.91**	**30**	*e*P		**Pb**	**17 31 39.3**	**-0.3**
	baz=49							
NTY	**Taoyuan**	**1.96**	**17**	*e*P		**Pn**	**17 31 37.6**	**-0.3**
	baz=1.0							
TATO	**Taipei**	**1.99**	**21**			**Pn**	**17 31 38.7**	**+0.3**
TATO	**Taipei**	**1.99**	**21**	P		**Pb**	**17 31 40.4**	**-0.7**
TATO	**Taipei**	**1.99**	**21**	*e*P		**Pb**	**17 31 39.4**	**-1.6**
	baz=24							
NHDH	**Xindian Distri**	**1.99**	**23**	*e*P		**Pb**	**17 31 40.5**	**-0.6**
	baz=8.0							
TWA	**Mucha**	**2.03**	**24**	*e*P		**Pn**	**17 31 39.9**	**+1.0**
	baz=11							
TWA				*e*S		**Sg**	**17 32 09.3**	**-0.9**
	baz=11							
TAP	**Taipei**	**2.06**	**21**	*e*P		**Pb**	**17 31 42.2**	**+0.1**
	baz=24							
TAP1	**Taipei**	**2.06**	**22**	*e*P		**Pn**	**17 31 39.8**	**+0.5**
	baz=24							
TWS1	**Kuangyinshan**	**2.08**	**19**	*e*P		**Pn**	**17 31 40.5**	**+0.8**
	baz=21							
TIPB	**Shuangxi**	**2.12**	**29**	*e*P		**Pb**	**17 31 41.9**	**-1.4**
	baz=12							
NTST	**Danshui**	**2.15**	**19**	*e*P		**Pn**	**17 31 41.6**	**+1.0**
	baz=4.0							
YM01	**YM01**	**2.18**	**22**	*e*P		**Pn**	**17 31 41.6**	**+0.6**
	baz=24							
NWF	**Wu-fen Shan**	**2.19**	**27**	*e*P		**Pb**	**17 31 43.1**	**-1.3**
	baz=12							
WFSB	**Wu-fen Shan**	**2.19**	**27**	*e*P		**Pb**	**17 31 42.7**	**-1.7**
	baz=12							
ANP	**Anpu**	**2.20**	**20**	*e*P		**Pn**	**17 31 41.8**	**+0.5**
	baz=23							
YM08	**YM08**	**2.22**	**22**	*e*P		**Pn**	**17 31 41.9**	**+0.3**
	baz=24							
TWB1	**Santiao Chiao**	**2.23**	**32**	*e*P		**Pb**	**17 31 43.2**	**-1.9**
	baz=49							
TWB1				*e*S		**Sb**	**17 32 12.7**	**+0.1**
	baz=49							
SXI1	**Grass Mountain**	**2.25**	**29**	*e*P		**Pb**	**17 31 43.6**	**-1.9**
	baz=12							
SXI1				*e*S		**Sb**	**17 32 13.1**	**-0.2**
	baz=12							
TNOU	**National Taiwa**	**2.25**	**26**	*e*P		**Pb**	**17 31 43.5**	**-2.0**
	baz=12							
TWY	**Chenhua**	**2.31**	**21**	*e*P		**Pn**	**17 31 43.4**	**+0.7**
	baz=24							
PTMZ	**Houxiangcun**	**2.39**	**324**	*e*P		**Pn**	**17 31 42.7**	**-1.1**
	baz=327							
KNM	**Kinmen**	**2.43**	**303**	⇓*e*P		**Pn**	**17 31 44.3**	**-0.1**
	baz=305							
JYNG	**Yonagunijimaku**	**2.46**	**57**	P		**Pn**	**17 31 45.5**	**+0.7**
JYNG				S		**Sb**	**17 32 17.9**	**-1.4**
KNMB	**Chin-men Tao**	**2.49**	**303**			**Pn**	**17 31 43.7**	**-1.5**
KNMB	**Chin-men Tao**	**2.49**	**303**	*e*P		**Pn**	**17 31 43.8**	**-1.5**
	baz=307							
YOJ	**Yonaguni jima**	**2.52**	**57**			**Pn**	**17 31 47.1**	**+1.5**
YOJ	**Yonaguni jima**	**2.52**	**57**	P		**Pn**	**17 31 47.3**	**+1.7**
YOJ	**Yonaguni jima**	**2.52**	**57**	P		**Pn**	**17 31 47.0**	**+1.5**
YOJ				S		**Sb**	**17 32 19.2**	**-1.7**
YOJ	**Yonaguni jima**	**2.52**	**57**	⇓*i*P		**Pn**	**17 31 47.2**	**+1.6**
	baz=60							
YOJ				S		**Sn**	**17 32 18.0**	**+1.8**
	baz=60							
ZPLA	**Ao Xicun**	**2.81**	**287**	⇓*e*P		**Pn**	**17 31 48.3**	**-1.4**
	baz=291							
HATJ	**Hateruma jima**	**3.01**	**71**	P		**Pn**	**17 31 53.0**	**+0.6**
HATJ				S		**Sn**	**17 32 30.8**	**+2.4**
IRIF	**Iriomote-Funau**	**3.04**	**66**	P		**Pn**	**17 31 54.1**	**+1.3**
IRIF				*e*S		**Sn**	**17 32 32.1**	**+2.9**
AXDP	**Jialang**	**3.05**	**306**	*e*P		**Pn**	**17 31 51.7**	**-1.3**
	baz=310							
DSXP	**Dongshan**	**3.05**	**282**	⇓*e*P		**Pn**	**17 31 51.7**	**-1.2**
	baz=286							
MATB	**Ma-tsu**	**3.10**	**348**	*e*P		**Pn**	**17 31 52.4**	**-1.1**
	baz=350							
MSUT	**Lienchiang**	**3.12**	**347**	*e*P		**Pn**	**17 31 53.7**	**-0.2**
	baz=350							
JKRS	**Kuro-shima**	**3.25**	**69**	P		**Pn**	**17 31 56.9**	**+1.3**
JKRS				*e*S		**Sn**	**17 32 37.0**	**+2.8**
MHZQ	**Yeshan**	**3.33**	**333**	*e*P		**Pn**	**17 31 56.3**	**-0.4**
	baz=335							
JIJ	**Ishigaki jima**	**3.40**	**68**	P		**Pn**	**17 31 58.8**	**+1.0**
JIJ				S		**Sn**	**17 32 40.8**	**+2.8**
LYJJ	**Jianjiangzhen**	**3.52**	**346**	⇓*e*P		**Pn**	**17 31 58.1**	**-1.3**
	baz=349							
JISG	**Ishigakijimahi**	**3.63**	**66**	P		**Pn**	**17 32 01.6**	**+0.8**
JISG				S		**Sn**	**17 32 46.4**	**+2.8**
JTJ	**Tarama**	**3.98**	**67**	*e*P		**Pn**	**17 32 06.5**	**+0.8**
JTJ				S		**Sn**	**17 32 55.0**	**+2.7**
SXFK	**Yanhouchang**	**4.28**	**320**	⇓*e*P		**Pn**	**17 32 08.8**	**-1.1**
	baz=322							
JIRB	**Irabujima**	**4.44**	**67**	P		**Pn**	**17 32 12.8**	**+0.7**
JIRB				*e*S		**Sn**	**17 33 07.0**	**+3.2**
JMJ	**Miyako jima 2**	**4.54**	**67**	P		**Pn**	**17 32 14.3**	**+0.8**
JMJ	**Miyako jima 2**	**4.54**	**67**	*e*P		**Pn**	**17 32 13.8**	**+0.4**
	baz=67							
JIKM	**Ikemajima**	**4.54**	**66**	P		**Pn**	**17 32 14.9**	**+1.5**
JIKM				S		**Sn**	**17 33 08.7**	**+2.5**
JMJ2	**Miyako jima3**	**4.54**	**68**	P		**Pn**	**17 32 14.7**	**+1.2**
JMJ2				*e*S		**Sn**	**17 33 08.5**	**+2.2**
JOGS	**Gusukube**	**4.62**	**68**	P		**Pn**	**17 32 16.4**	**+1.9**
JOGS				*e*S		**Sn**	**17 33 11.6**	**+3.5**
HKPS	**Hong Kong Po S**	**6.10**	**263**	Pn		**Pn**	**17 32 33.7**	**-1.2**
JOW	**Kunigami**	**7.82**	**60**	Pn		**Pn**	**17 32 57.5**	**-1.0**
	1.9nm,0.3s,baz=138,slow=17,SNR=9.2							
JOW				Sn		**Sn**	**17 34 26.4**	**-0.5**
	baz=319,slow=24							
	11nm,0.5s							
JOW	**Kunigami**	**7.82**	**60**	Pn		**Pn**	**17 32 58.1**	**-0.4**
JNU	**Nakatsue**	**13.42**	**40**	LR		LR	17 40 36.6	
	comp=Z,136nm,18.5s,baz=228,slow=42							
KSRS	**Korea Array**	**15.59**	**22**	Pn		**Pn**	**17 34 45.8**	**+1.4**
	0.1nm,0.3s,baz=208,slow=12,SNR=3.7							
KSRS				LR		LR	17 40 43.1	
	comp=Z,58nm,19.1s,baz=190,slow=37							
	1.7nm,0.8s							
DAV	**Davao City (W)**	**16.64**	**163**	LR		LR	17 41 37.2	
	comp=Z,134nm,18.0s,baz=344,slow=38							
DAV	**Davao City (W)**	**16.64**	**163**	P		**P**	**17 35 01.1**	**+0.6**
CRAI	**Chiangrai**	**19.09**	**265**	P		**P**	**17 35 26.4**	**-1.2**
CRAI				IAmb		IAmb	17 35 27.6	
	comp=Z,7.9nm,1.2s							
MJAR	**Matsushiro Arr**	**20.21**	**45**	P		**P**	**17 35 40.1**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=242,slow=9.1,SNR=3.2							
	comp=Z,2.3nm,0.9s							
TNCH	**TengChong**	**20.33**	**280**	P		Pn	17 35 43.5	+0.3
TNCH				pP		sP	17 35 45.8	-0.8
TNCH				sP		pP	17 35 47.3	+2.3
TNCH				S		**S**	**17 39 23.7**	**-5.4**
TNCH				sS		Sn	17 39 29.7	-2.6
TNCH					SS	**SnSn**	**17 39 54.9**	**+8.1**
TNCH					pmax	pmax		
	comp=Z,9.0nm,0.9s							
TNCH					pmax	pmax		
	comp=Z,110nm,3.5s							
TNCH					LR	LR		
	comp=N,210nm,4.8s							
TNCH					LR	LR		
	comp=E,250nm,4.8s							
TNCH					LR	LR		
	comp=Z,150nm,11.3s							
CMAR	**Chiang Mai Arr**	**20.84**	**261**		P	**P**	**17 35 46.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=53,slow=9.4,SNR=6.4							
CMAR					LR	LR	17 44 29.6	
	comp=Z,28nm,21.2s,baz=90,slow=39							
	comp=Z,0.7nm,0.7s							
USRK	**Ussuriysk Ar.**	**22.99**	**21**		LR	LR	17 44 32.0	
	comp=Z,65nm,20.4s,baz=354,slow=35							
GTA	**Gaotai**	**24.04**	**317**	*e*P		**P**	**17 36 20.7**	**+0.7**
GTA					pP	sP	17 36 25.9	+0.1
GTA					sP	pP	17 36 29.2	+5.3
GTA					pmax	pmax		
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	**27.18**	**339**		P	**P**	**17 36 49.8**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=148,slow=11,SNR=5.4							
	comp=Z,0.9nm,0.9s							
KLR	**Kul'dur**	**27.49**	**16**		LR	LR	17 47 37.9	
	comp=Z,72nm,19.0s,baz=60,slow=36							
MTN	**Manton Dam**	**37.17**	**163**		P	**P**	**17 38 16.3**	**+0.3**
MTN					IAmb	IAmb	17 38 24.8	
	comp=Z,46nm,1.4s							
MK31	**Makanchi Array**	**38.79**	**317**		P	**P**	**17 38 29.4**	**0.0**
MKAR	**Makanchi Array**	**38.79**	**317**		P	**P**	**17 38 29.9**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=109,slow=10,SNR=12							
	comp=Z,1.1nm,0.8s							
MKAR	**Makanchi Array**	**38.79**	**317**			**P**	**17 38 29.7**	**+0.2**
ZAA0	**Zalesovo Array**	**40.90**	**328**		P	**P**	**17 38 45.6**	**-1.1**
ZAA0					IAmb	IAmb	17 38 59.2	
	comp=Z,2.3nm,0.9s							
ZALV	**Zalesovo Beam**	**40.90**	**328**		P	**P**	**17 38 46.5**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=111,slow=8.1,SNR=4.4							
	comp=Z,0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**40.90**	**328**		P	**P**	**17 38 46.0**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**43.12**	**87**		T	T	18 24 26.8	
	baz=284,slow=75,SNR=7.0							
H11S1	**WAKE ISLAND Hy**	**43.12**	**87**		T	T	18 24 26.7	
	baz=284,slow=75,SNR=5.0							
H11S2	**WAKE ISLAND Hy**	**43.13**	**87**		T	T	18 24 28.1	
	baz=284,slow=75,SNR=4.7							
WRA	**Warramunga Arr**	**44.82**	**162**		P	**P**	**17 39 16.4**	**-2.6**
	comp=Z,0.6nm,0.8s,baz=341,slow=8.6,SNR=4.2							
	comp=Z,0.6nm,0.8s							
ASAR	**Alice Springs**	**48.25**	**164**		P	**P**	**17 39 44.4**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=338,slow=6.7,SNR=11							
	comp=Z,0.2nm,0.4s							
ABKAR	**Akbulak array**	**53.86**	**315**		P	**P**	**17 40 26.4**	**-1.4**
GEYT	**Alibeck**	**54.95**	**301**		P	**P**	**17 40 35.7**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=81,slow=12,SNR=2.4							
	comp=Z,1.8nm,0.8s							
KBZ	**Khabaz**	**65.79**	**309**		P	**P**	**17 41 51.4**	**+1.4**
	comp=Z,1.5nm,0.9s,baz=162,slow=3.2,SNR=2.9							
	comp=Z,1.5nm,0.9s							
IL31		**70.37**	**27**		P	**P**	**17 42 18.9**	**+0.6**
IL31					IAmb	IAmb	17 42 22.1	
	comp=Z,9.3nm,1.5s							
FINES	**FINESS Array B**	**72.13**	**330**		P	**P**	**17 42 30.1**	**+1.0**
	comp=Z,6.4nm,1.0s,baz=72,slow=8.9,SNR=2.4							
	comp=Z,6.4nm,1.0s							
BCAR	**Beaver Creek A**	**72.98**	**28**		P	**P**	**17 42 35.7**	**+1.5**
YKA	**Yellowknife Ar**	**84.12**	**23**		P	**P**	**17 43 35.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=307,slow=5.0,SNR=8.0							
	comp=Z,0.6nm,0.6s							

IDC 11 17:50:55.7±2.8, 12°27N×141°33E, h0km, mb3.6/5, mbtmp3.6/5, MS3.2/3, Error ellipse: s-maj=94.2km s-min=24.0km az=76.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**27.81**	**337**	LR	LR	18 05 49.8	
	comp=Z,12nm,21.9s,baz=350,slow=32						
WRA	**Warramunga Arr**	**32.74**	**192**	P	P	17 57 29.7	-0.7
	1.3nm,0.8s,baz=11,slow=9.6,SNR=7.6						
WRA				LR	LR	18 11 20.4	
	comp=Z,70nm,19.7s,baz=24,slow=37						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**36.45**	**192**	P	P	17 58 02.8	+0.4
	0.2nm,0.6s,baz=20,slow=10,SNR=8.0						
ASAR				LR	LR	18 13 09.1	
	comp=Z,74nm,19.9s,baz=88,slow=37						
	0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.26**	**284**	P	P	17 58 43.6	+0.6
	0.6nm,0.7s,baz=85,slow=6.5,SNR=4.3						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**60.07**	**317**	P	P	18 01 04.6	-0.1
	0.6nm,0.8s,baz=99,slow=7.6,SNR=6.0						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**60.72**	**326**	P	P	18 01 08.5	-0.5
	0.4nm,0.5s,baz=129,slow=8.3,SNR=2.3						
	0.4nm,0.5s						

*NEIC **11** 17:55:50.2±1.8, 5°.4S±0°.1×154°.40E±0°.03, h103km±18km, mb4.3/18, Error ellipse: s-maj=21.0km s-min=3.7km az=182.0*

*IDC **11** 17:55:51.4±1.7, 5°.59S×154°.37E, h111km±16km, mb3.7/11, mbtmp4.2/14, Error ellipse: s-maj=16.9km s-min=13.5km az=36.0*

ISC 11 17:55:51.5±0.6, 5°.51S±0°.07×154°.39E±0°.07, h118km, n50, σ1°34/50, mb4.0/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.57**	**300**	Pn	**Pn**	**17 56 29.1**	**-3.0**
RABL	**Rabaul**	**2.57**	**300**	P	**Pn**	**17 56 36.7**	**+4.5**
KRVT	**Kerav

WRA	**Warramunga Arr**	**24.21**	**232**	P	**P**	**18 00 57.9**	**+0.5**
	comp=Z,2.4nm,0.4s,baz=57,slow=10,SNR=82						
	comp=Z,2.4nm,0.4s						
WRA	**Warramunga Arr**	**24.21**	**232**	P	**P**	**18 00 57.3**	**-0.1**
WB1	**Warramunga Ar.**	**24.21**	**232**	P	**P**	**18 00 58.5**	**+1.1**
AULRC	**Lightning Ridg**	**24.55**	**194**	P	**P**	**18 01 01.3**	**+1.0**
ARMA	**Armidale**	**24.92**	**186**	P	**P**	**18 01 04.2**	**+0.5**
ARMA				IAmb	IAmb	18 01 36.0	
	comp=Z,39nm,1.5s						
INKA	**Innaminka**	**25.64**	**209**	P	**P**	**18 01 09.8**	**-0.4**
AS31	**Alice Springs**	**26.74**	**225**	P	**P**	**18 01 19.4**	**-0.8**
ASAR	**Alice Springs**	**26.74**	**225**	P	**P**	**18 01 20.1**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=58,slow=9.7,SNR=74						
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**26.74**	**225**	P	**P**	**18 01 19.9**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**26.76**	**27**	T	T	18 29 45.6	
	baz=206,slow=73,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**26.76**	**27**	T	T	18 29 45.6	
	baz=206,slow=73,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**26.77**	**27**	T	T	18 29 47.0	
	baz=206,slow=73,SNR=3.5						
KNRA	**Kununurra**	**27.11**	**246**	P	**P**	**18 01 23.3**	**-0.2**
CMSA	**Cobar Meteorol**	**27.15**	**196**	P	**P**	**18 01 25.0**	**+1.3**
STKA	**Stephens Creek**	**28.84**	**203**	P	**P**	**18 01 37.8**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=17,slow=12,SNR=4.5						
	comp=Z,2.0nm,0.6s						
STKA	**Stephens Creek**	**28.84**	**203**	P	**P**	**18 01 38.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**30.74**	**244**	P	**P**	**18 01 52.7**	**-3.0**
BBOO	**Buckleboo**	**32.10**	**210**	P	**P**	**18 02 08.6**	**+1.1**
FORT	**Forrest**	**35.27**	**221**	P	**P**	**18 02 35.0**	**0.0**
CMAR	**Chiang Mai Arr**	**59.61**	**295**	P	**P**	**18 05 44.7**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=108,slow=4.5,SNR=6.2						
	comp=Z,0.9nm,0.8s						
SONM	**Songino Array**	**67.77**	**327**	P	**P**	**18 06 38.1**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=139,slow=5.8,SNR=8.5						
	comp=Z,0.8nm,0.5s						
VNDA	**Vanda**	**72.08**	**178**	P	**P**	**18 07 02.6**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=344,slow=12,SNR=4.0						
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**81.90**	**319**	P	**P**	**18 07 59.2**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=99,slow=7.5,SNR=6.7						
	comp=Z,0.9nm,0.9s						
ILAR	**Eielson Array**	**82.22**	**22**	P	**P**	**18 08 00.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=255,slow=4.5,SNR=5.2						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**82.62**	**326**	P	**P**	**18 08 02.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=99,slow=8.9,SNR=2.2						
	comp=Z,0.3nm,0.3s						
NRIK	**Noril'sk**	**87.14**	**341**	P	**P**	**18 08 24.6**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=144,slow=12,SNR=1.9						
	comp=Z,1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**152.03**	**288**	PKPbc	**PKiKP**	**18 15 34.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=67,slow=2.7,SNR=3.1						

NEIC ***11*** *17:57:41.1±2.0, 6.2S±0.1×154.3E±0.0, 7, h10km±2km, mb4.3/12, Error ellipse: s-maj=17.3km s-min=11.4km az=166.0*

IDC ***11*** *17:57:42.3±3.8, 6.0S×154.4E, h42km±33km, mb3.4/4, mbtmp3.7/5, ML4.2/1, MS3.5/1, Error ellipse: s-maj=31.9km s-min=21.1km az=68.0*

ISC 11 17:57:44.2±0.7, 5.96S±0.09×154.4E±0.1, h61km, n22, σ0s95/22, mb3.8/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.85**	**308**		Pn	17 58 35.6	+8.3
KRVT	**Keravat (AS076**	**2.89**	**304**	P	**Pn**	**17 58 27.8**	**-0.1**
	251nm,0.7s,baz=163,slow=22,SNR=1.0						
KRVT				S	**Sn**	**17 59 01.0**	**-0.5**
	110nm,0.5s,baz=70,slow=20,SNR=1.2						
PATS	**Pohnpei**	**13.29**	**17**	Pn	**Pn**	**18 00 49.0**	**-1.1**
COEN	**Coen**	**13.63**	**233**	Pn	Pn	18 00 49.7	-5.0
LIFNC	**LIFOU**	**19.28**	**141**	P	**P**	**18 02 02.0**	**-2.1**
LIFNC				IAmb	IAmb	18 02 09.7	
	comp=Z,22nm,0.8s						
EIDS	**Eidsvold**	**19.57**	**189**	P	**P**	**18 02 07.5**	**+0.3**
DZM	**Mont Dzumac**	**19.79**	**145**	P	**P**	**18 02 09.0**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=265,slow=7.9,SNR=6.4						
	comp=Z,4.0nm,0.5s						
DZM	**Mont Dzumac**	**19.79**	**145**	P	**P**	**18 02 09.2**	**-0.7**
DZM				IAmb	IAmb	18 02 10.8	
	comp=Z,21nm,1.4s						
WR0	**Warramunga Arr**	**23.81**	**232**	P	**P**	**18 02 51.5**	**-0.2**
WR0				IAmb	IAmb	18 03 17.7	
	comp=Z,5.3nm,1.1s						
WRAB	**Tennant Creek**	**23.95**	**233**	P	**P**	**18 02 52.8**	**-0.2**
WRAB				IAmb	IAmb	18 02 55.5	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**23.95**	**233**	P	**P**	**18 02 53.0**	**0.0**
WRA	**Warramunga Arr**	**23.96**	**233**	P	**P**	**18 02 52.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=57,slow=9.8,SNR=2.9						
WRA				PcP	**PcP**	**18 06 34.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=64,slow=2.4,SNR=3.5						
	comp=Z,1.0nm,0.7s						
ARMA	**Armidale**	**24.47**	**186**	P	**P**	**18 02 57.5**	**-0.3**
ARMA				IAmb	IAmb	18 03 06.2	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**26.45**	**226**	P	**P**	**18 03 14.8**	**-1.0**
ASAR	**Alice Springs**	**26.45**	**226**	P	**P**	**18 03 15.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=60,slow=8.9,SNR=5.1						
ASAR				PcP	**PcP**	**18 06 39.6**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=60,slow=2.5,SNR=10						
	comp=Z,0.8nm,0.7s						
NIUE	**Niue**	**37.07**	**114**	P	**P**	**18 04 50.4**	**+1.6**
URZ	**Urewera**	**38.19**	**151**	LR	LR	18 18 28.0	
	comp=Z,62nm,19.9s,baz=118,slow=33						
RTZ	**Ruatahuna**	**38.40**	**151**	P	**P**	**18 05 00.4**	**+0.5**
RTZ				IAmb	IAmb	18 05 01.8	
	comp=Z,6.7nm,0.9s						
BKZ	**Black Stump Fm**	**38.61**	**152**	P	**P**	**18 05 01.1**	**-0.5**
SONM	**Songino Array**	**68.16**	**327**	P	**P**	**18 08 40.3**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=145,slow=5.3,SNR=3.4						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**82.63**	**22**	P	**P**	**18 10 00.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=251,slow=5.5,SNR=6.8						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**84.01**	**180**	P	**P**	**18 10 08.2**	**+0.3**

UPP ***11*** *18:02:21.7±0.1, 67.08N×20.94E, h0km, ML2.2, Suspected explosion*

IDC ***11*** *18:02:22.0±1.3, 67.06N×21.05E, h0km, mbtmp3.0/3, ML1.9/3, Error ellipse: s-maj=21.7km s-min=9.7km az=100.0*

HEL ***11*** *18:02:22.0±0.3, 67.10N×21.02E, h0km, ML1.9, Explosion*

BER ***11*** *18:02:23.4±1.5, 66.92N×21.40E, h0km, ML1.6, Suspected explosion*

ISC 11 18:02:21.4±0.7, 67.10N±0.02×20.94E±0.02, h0km, n52, σ1s28/83, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.15**	**280**	P	**Pg**	**18 02 24.8**	**+0.6**
DUNU				S	**Sg**	**18 02 26.9**	**+0.9**
MASU	**Masugnsbyn**	**0.55**	**48**	P	**Pg**	**18 02 32.4**	**+0.4**
ERTU	**Ertsjaerv**	**0.74**	**137**	P	**Pg**	**18 02 35.2**	**-0.3**
ERTU				S	**Sg**	**18 02 45.1**	**+0.1**
ERTU	**Ertsjaerv**	**0.74**	**137**	PG	**Pg**	**18 02 34.9**	**-0.6**
ERTU				SG	**Sg**	**18 02 44.7**	**-0.3**
PAJU	**Pajala**	**0.86**	**94**	P	**Pg**	**18 02 37.6**	**-0.2**
PAJU				S	**Sg**	**18 02 49.2**	**+0.3**
RATU	**Laukkuluspa**	**0.90**	**325**	P	**Pg**	**18 02 38.5**	**0.0**
RATU				S	**Sb**	**18 02 51.4**	**-1.0**
SALU	**Saltoluokta**	**0.99**	**288**	P	**Pg**	**18 02 40.2**	**-0.1**
LANU	**Lannavaara**	**1.04**	**22**	P	**Pg**	**18 02 40.9**	**-0.4**
LANU	**Lannavaara**	**1.04**	**22**	PG	**Pg**	**18 02 40.7**	**-0.6**
LANU				SN	**Sn**	**18 02 58.5**	**0.0**
NIKU	**Nikkaluokta**	**1.07**	**317**	P	**Pg**	**18 02 41.5**	**-0.3**
KOVU	**Salmi**	**1.17**	**346**	P	**Pg**	**18 02 43.6**	**-0.2**
KALU	**Kalix**	**1.58**	**141**	P	**Pn**	**18 02 50.3**	**-0.3**
KALU	**Kalix**	**1.58**	**141**	PN	**Pn**	**18 02 50.3**	**-0.3**
KALU				SN	**Sn**	**18 03 11.6**	**0.0**
SJUU	**Sjulsmark**	**1.62**	**170**	P	**Pn**	**18 02 51.9**	**+0.7**
HEF	**Hetta**	**1.68**	**37**	eP	**Pn**	**18 02 52.3**	**+0.3**
HEF				eS	**Sn**	**18 03 14.1**	**-0.1**
HEF	**Hetta**	**1.68**	**37**	PG	**Pn**	**18 02 51.8**	**-0.1**
	baz=219						
HEF				MSG		18 03 11.5	
	comp=Z,7.7nm,0.2s						
HEF				SN	**Sn**	**18 03 14.8**	**+0.6**
TOF	**Tornio**	**1.69**	**125**	PG	**Pn**	**18 02 52.4**	**+0.2**
TOF				MSG		18 03 12.0	
	comp=Z,7.7nm,0.2s						
TOF				SN	**Sn**	**18 03 14.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.92**	**359**	eP	**Pb**	**18 02 57.1**	**-0.1**
KIF				eS	**Sg**	**18 03 23.9**	**+0.9**
KIF	**Kilpisjarvi**	**1.92**	**359**	PG	**Pb**	**18 02 56.9**	**-0.3**
KIF				MSG		18 03 20.1	
	comp=Z,24nm,0.2s						
RNF	**Rovaniemi**	**2.06**	**101**	PG	**Pn**	**18 02 58.3**	**+1.0**
	baz=286						
RNF				SG	**Sb**	**18 03 26.0**	**+0.2**
KTK1	**Kautokeino**	**2.11**	**23**	eP	**Pn**	**18 02 59.3**	**+1.3**
KTK1				eS	**Sn**	**18 03 25.4**	**+0.6**
KTK1				IAML		18 03 31.2	
	comp=Z,4.3nm,0.1s						
KTK1	**Kautokeino**	**2.11**	**23**	PG	**Pb**	**18 02 59.6**	**-0.8**
SGF	**Sodankyl**	**2.20**	**78**	PG	**Pn**	**18 03 00.4**	**+1.2**
SGF				SG	**Sb**	**18 03 30.6**	**+0.9**
FAUS	**Fauske**	**2.22**	**280**	eP	**Pb**	**18 03 01.4**	**-0.8**
FAUS				eS	**Sg**	**18 03 31.3**	**-1.2**
FAUS				IAML		18 03 35.7	
	comp=Z,14nm,0.3s						
STEI	**Steigen**	**2.34**	**294**	eP	**Pb**	**18 03 04.2**	**-0.3**
STEI				eS	**Sg**	**18 03 35.4**	**-1.3**
STEI				IAML		18 03 39.7	
	comp=Z,3.9nm,0.3s						
JETT	**Jettan, Norway**	**2.48**	**356**	eP	**Pb**	**18 03 06.3**	**-0.5**
JETT				eS	**Sb**	**18 03 38.1**	**+0.3**
JETT				IAML		18 03 42.7	
	comp=Z,15nm,0.2s						
BURU	**Burvik**	**2.53**	**176**	PB	**Pn**	**18 03 04.7**	**+1.1**
BURU				SG	**Sb**	**18 03 39.7**	**+0.5**
TRO	**Tromso**	**2.66**	**345**	e	**Pn**	**18 03 07.2**	**+1.8**
TRO				eS	**Sb**	**18 03 42.0**	**-0.8**
TRO	**Tromso**	**2.66**	**345**	SB	**Sb**	**18 03 41.4**	**-1.4**
MOR8	**Moi Rana**	**2.75**	**253**	eP	**Pn**	**18 03 07.1**	**+0.4**
MOR8				eS	**Sn**	**18 03 39.4**	**-1.2**
MOR8				IAML		18 03 46.5	
	comp=Z,3.8nm,0.2s						
OUL	**Oulu**	**2.86**	**133**	PB	**Pn**	**18 03 10.2**	**+2.0**
OUL				SG	**Sb**	**18 03 50.0**	**+1.4**
ARA0	**ARCESS Array S**	**2.98**	**33**	eP	**Pn**	**18 03 10.8**	**+0.9**
ARA0				eS	**Sn**	**18 03 45.9**	**-0.4**
ARA0				IAML		18 03 54.1	
	comp=Z,3.1nm,0.2s						
ARA0	**ARCESS Array S**	**2.98**	**33**	PN	**Pn**	**18 03 10.5**	**+0.6**
ARCES	**ARCESS Array B**	**2.98**	**33**	Pn	**Pn**	**18 03 10.5**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=212,slow=14,SNR=87						
ARCES				Sn	**Sn**	**18 03 47.9**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=214,slow=23,SNR=7.7						
	comp=Z,1.1nm,0.2s						
LOF	**Lofoten**	**3.02**	**294**	e	**Pb**	**18 03 15.7**	**-0.1**
KONS	**Konsvik**	**3.15**	**263**	eP	**Pn**	**18 03 14.3**	**+2.1**
KONS				eS	**Sn**	**18 03 52.8**	**+2.3**
KONS				IAML		18 04 04.4	
	comp=Z,3.9nm,0.5s						
OUF	**Merijarvi**	**3.16**	**148**	PB	**Pn**	**18 03 13.4**	**+1.2**
	baz=336						
OUF				MSG		18 03 54.2	
	comp=Z,2.2nm,0.2s						
UMAU	**Umeaa**	**3.23**	**182**	PN	**Pn**	**18 03 14.1**	**+0.8**
UMAU				SN	**Sn**	**18 03 53.6**	**+1.3**
STOK	**Stokkvaagen**	**3.24**	**260**	eP	**Pn**	**18 03 15.2**	**+1.9**
STOK				eS	**Sn**	**18 03 54.5**	**+1.9**
VRF	**Varrio**	**3.41**	**75**	PN	**Pn**	**18 03 16.9**	**+1.1**
OLKF	**Oulanka, Finla**	**3.45**	**99**	PN	**Pn**	**18 03 17.6**	**+1.2**
OLKF				SG	**Sb**	**18 04 06.6**	**+0.8**
MSF	**Maaselka**	**3.46**	**106**	PN	**Pn**	**18 03 17.9**	**+1.5**
MSF				SG	**Sb**	**18 04 07.6**	**+1.6**
KEV	**Kevo**	**3.49**	**37**	eP	**Pn**	**18 03 17.7**	**+0.9**
KEV				eS	**Sn**	**18 03 59.3**	**+0.6**
KEV	**Kevo**	**3.49**	**37**	PN	**Pn**	**18 03 17.2**	**+0.4**
HAMF	**Hammerfest**	**3.70**	**14**	e	**Pb**	**18 03 24.1**	**-3.5**
KU6	**Riekki**	**3.74**	**103**	PN	**Pn**	**18 03 21.4**	**+1.2**
	baz=291						
VAF	**Ylistaro**	**4.14**	**169**	PN	**Pn**	**18 03 27.0**	**+1.3**
VADS	**Vadso**	**4.33**	**42**	eP	**Pn**	**18 03 28.9**	**+0.6**
VADS				IAML		18 04 40.4	
	comp=Z,3.2nm,0.6s						
NSS	**Namsos**	**4.50**	**239**	e	**Pn**	**18 03 32.4**	**+1.7**
RMF	**Romuvaara**	**4.71**	**124**	PN	**Pn**	**18 03 35.4**	**+1.8**
FINES	**FINESS Array B**	**6.10**	**156**	Pn	**Pn**	**18 03 53.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=13,SNR=1.5						
FINES				Sn	**Sn**	**18 05 01.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=345,slow=26,SNR=2.7						
FINES				Lg	Lg	18 05 31.4	
	comp=Z,0.2nm,0.3s,baz=343,slow=28,SNR=1.3						
	comp=Z,3.9nm,1.1s						
NOA	**NORSAR Array B**	**7.42**	**220**	Pn	**Pn**	**18 04 09.6**	**-1.2**
	baz=22,slow=10,SNR=1.2						
NOA				Sn	**Sn**	**18 05 29.2**	**-6.3**
	baz=34,slow=23,SNR=2.0						
	comp=Z,0.8nm,0.9s						

IDC ***11*** *18:25:50.5±4.5, 7.85S×119.01E, h255km±43km, mb3.6/5, mbtmp4.3/8, Error ellipse: s-maj=67.3km s-min=16.2km az=64.0*

NEIC ***11*** *18:25:54.0±1.5, 7.88S±0.09×119.40E±0.08, h254km±9km, mb4.1/22, Error ellipse: s-maj=14.0km s-min=9.9km az=217.0*

DJA ***11*** *18:25:55.2±0.3, 8.3S×11.9E, h269km±9km, M4.3/13, mB4.9/3, mb4.3/12, MLv4.4/13, Mw(mB)4.2/3*

ISC 11 18:25:53.3±0.5, 7.86S±0.07×119.43E±0.06, h250km, n78, σ1s43/78, mb4.1/11, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.77**	**181**	P	**Pn**	**18 26 36.3**	**+2.5**
PLAI	**Plampang**	**1.90**	**240**	P	**Pn**	**18 26 37.5**	**+2.5**
PLAI	**Plampang**	**1.90**	**240**	P	**Pn**	**18 26 37.4**	**+2.5**
BASI	**Baing, Sumba**	**2.60**	**154**	P	**Pn**	**18 26 44.6**	**+3.0**
TWSI	**Taliwang, Sumb**	**2.67**	**251**	P	**Pn**	**18 26 43.9**	**+1.6**
KAPI	**Kappang**	**2.85**	**6**	Pn	**Pn**	**18 26 44.3**	**+0.1**
MMRI	**Maumere**	**2.88**	**106**	Pn	**Pn**	**18 26 45.2**	**+0.7**
MMRI	**Maumere**	**2.88**	**106**	P	**Pn**	**18 26 46.9**	**+2.4**
MMRI	**Maumere**	**2.88**	**106**	P	**Pn**	**18 26 46.6**	**+2.1**
SRBI	**Singaraja**	**4.19**	**267**	P	**Pn**	**18 27 00.8**	**+1.5**
IGBI	**Denpasar**	**4.35**	**257**	P	**Pn**	**18 27 02.7**	**+1.4**
BATI	**Baumata**	**4.78**	**119**	P	**Pn**	**18 27 08.5**	**+2.0**
	22nm,0.3s,baz=288,slow=20,SNR=20						
BATI				S	**S**	**18 28 07.0**	**+2.2**
	208nm,0.2s,baz=39,slow=16,SNR=5.3						
BATI	**Baumata**	**4.78**	**119**	P	**Pn**	**18 27 08.5**	**+2.0**
SOEI	**Soe**	**5.13**	**112**	Pn	**Pn**	**18 27 12.2**	**+1.3**
SOEI	**Soe**	**5.13**	**112**	P	**Pn**	**18 27 12.4**	**+1.5**
SOEI	**Soe**	**5.13**	**112**	P	**Pn**	**18 27 11.4**	**+0.5**
	86nm,0.6s,4μm1.6nm						
ABJI	**Asem Bagus**	**5.15**	**270**	P	**Pn**	**18 27 15.1**	**+4.1**
	107nm,1.1s,0.3nm						
JAGI	**Jajag, Banyuwa**	**5.26**	**263**	Pn	**Pn**	**18 27 13.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**5.26**	**263**	P	**Pn**	**18 27 13.8**	**+1.4**
JAGI	**Jajag, Banyuwa**	**5.26**	**263**	P	**Pn**	**18 27 13.4**	**+1.0**
	59nm,0.7s,3μm0.5nm						
BLJI	**Banyuglugur**	**5.79**	**271**	P	**Pn**	**18 27 20.7**	**+1.9**
	125nm,0.9s,0.4nm						
SANI	**Sanana**	**8.72**	**49**	P	**Pn**	**18 28 00.0**	**+4.2**
	14nm,0.7s						
UGM	**Wanagama**	**8.83**	**269**	Pn	**Pn**	**18 27 56.4**	**-0.8**
UGM	**Wanagama**	**8.83**	**269**	P	**Pn**	**18 27 56.4**	**-0.8**
TOLI2	**Tolitoli**	**9.02**	**9**	Pn	**Pn**	**18 28 00.9**	**+1.4**
AAI	**Ambon**	**9.65**	**65**	P	**P**	**18 28 12.0**	**-1.9**
	20nm,0.8s						
TNTI	**Ternate**	**11.67**	**43**	P	**P**	**18 28 36.3**	**0.0**
	23nm,1.2s						
SAUI	**Saumlaki**	**11.76**	**91**	Pn	**Pn**	**18 28 33.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.83**	**150**	Pn	**Pn**	**18 28 35.1**	**+0.2**
KNRA	**Kununurra**	**11.98**	**131**	Pn	**Pn**	**18 28 37.0**	**+0.3**
KNRA	**Kununurra**	**11.98**	**131**	P	**Pn**	**18 28 37.2**	**+0.4**
SBUM	**Sibu**	**12.52**	**325**	Pn	**Pn**	**18 28 43.6**	**+0.2**
MTN	**Manton Dam**	**12.53**	**114**	Pn	**Pn**	**18 28 43.4**	**-0.1**
MTN	**Manton Dam**	**12.53**	**114**	P	**Pn**	**18 28 43.5**	**0.0**
FAKI	**Fak Fak**	**13.67**	**70**	Pn	**Pn**	**18 28 55.2**	**-2.4**
FAKI	**Fak Fak**	**13.67**	**70**	P	**Pn**	**18 28 54.8**	**-2.8**
SWI	**Sorong**	**13.68**	**60**	P	**P**	**18 28 59.9**	**+1.2**
	47nm,0.7s						
SIJI	**Sorong**	**13.69**	**60**	P	**P**	**18 29 00.1**	**+1.4**
	32nm,0.7s,baz=260,slow=7.1,SNR=26						
KKM	**Kota Kinabalu**	**14.18**	**347**	Pn	**Pn**	**18 29 01.2**	**-2.7**
WB0	**Warramunga Arr**	**18.71**	**131**	P	**P**	**18 29 53.6**	**-0.1**
WB0				IAmb	IAmb	18 29 58.8	
	comp=Z,5.4nm,0.7s						
WRA	**Warramunga Arr**	**18.78**	**131**	P	**P**	**18 29 54.1**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=304,slow=12,SNR=57						
WRA				S	**S**	**18 33 13.5**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=296,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**18.78**	**131**	P	**P**	**18 29 53.9**	**-0.6**
WRAB	**Tennant Creek**	**18.78**	**131**	P	**P**	**18 29 54.5**	**-0.1**
WRAB				IAmb	IAmb	18 29 59.7	
	comp=Z,5.1nm,0.7s						
WB2	**Warramunga Arr**	**18.79**	**131**	P	**P**	**18 29 54.5**	**-0.1**
WB2				IAmb	IAmb	18 30 02.8	
	comp=Z,6.5nm,0.8s						
WR0	**Warramunga Arr**	**18.94**	**131**	P	**P**	**18 29 56.2**	**0.0**
WRKA	**Warakurna**	**19.06**	**155**	P	**P**	**18 29 58.0**	**+0.5**
AS31	**Alice Springs**	**20.96**	**140**	P	**P**	**18 30 17.8**	**+0.1**
ASAR	**Alice Springs**	**20.96**	**140**	P	**P**	**18 30 17.5**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=315,slow=8.8,SNR=154						
ASAR				S	**S**	**18 33 52.5**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=328,slow=24,SNR=3.1						
	comp=Z,1.8nm,0.3s						
ASAR	**Alice Springs**	**20.96**	**140**	P	**P**	**18 30 17.7**	**0.0**
IPM	**Ipoh**	**22.08**	**303**	P	**P**	**18 30 29.2**	**+0.9**
IPM				IAmb	IAmb	18 30 32.1	
	comp=Z,6.0nm,0.7s						
GSI	**Gunungsitoli**	**23.62**	**292**	P	**P**	**18 30 41.8**	**-0.5**
COEN	**Coen**	**24.07**	**107**	P	**P**	**18 30 47.2**	**+0.8**
COEN				IAmb	IAmb	18 30 58.1	
	comp=Z,8.4nm,1.1s						
STKA	**Stephens Creek**	**31.57**	**142**	P	**P**	**18 31 52.7**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=320,slow=11,SNR=3.0						
	comp=Z,1.4nm,0.5s						
STKA	**Stephens Creek**	**31.57**	**142**	P	**P**	**18 31 52.6**	**-0.1**
CRAI	**Chiangrai**	**33.63**	**326**	P	**P**	**18 32 11.6**	**+0.9**
CRAI				IAmb	IAmb	18 32 13.9	
	comp=Z,3.6nm,0.7s						
LSA	**Lhasa**	**46.20**	**325**	P	**P**	**18 33 55.1**	**+0.8**
TAPN	**Taplejung**	**46.57**	**320**	eP	**P**	**18 33 57.2**	**+0.3**
	comp=Z,9.3nm,0.7s						
RAMN	**Ramite**	**47.02**	**319**	eP	**P**	**18 34 01.2**	**+0.9**
	comp=Z,8.9nm,0.5s						
JIRN	**Jiri**	**47.76**	**319**	eP	**P**	**18 34 06.5**	**+0.3**
	comp=Z,9.6nm,0.5s						
PKI	**Pulchoki**	**48.22**	**318**	eP	**P**	**18 34 09.5**	**-0.1**
	comp=Z,8.7nm,0.5s						
PKIN	**Phulchoki**	**48.23**	**318**	eP	**P**	**18 34 09.6**	**0.0**
	comp=Z,10nm,0.5s						
DMN	**Daman**	**48.44**	**318**	eP	**P**	**18 34 11.3**	**+0.1**
GKN	**Gorkha**	**49.01**	**318**	eP	**P**	**18 34 15.5**	**0.0**
	comp=Z,10nm,0.4s						
DANN	**Dangsing**	**49.82**	**318**	eP	**P**	**18 34 21.7**	**0.0**
	comp=Z,28nm,0.6s						
WHZ	**Wether Hill Ro**	**56.24**	**141**	P	**P**	**18 35 07.7**	**-0.2**
SONM	**Songino Array**	**56.64**	**350**	P	P	18 35 06.6	-4.1
	comp=Z,1.3nm,0.8s,baz=167,slow=7.6,SNR=4.8						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**56.64**	**350**	P	**P**	**18 35 11.3**	**+0.6**
MK31	**Makanchi Array**	**63.65**	**332**	P	**P**	**18 35 58.5**	**+0.5**
MK31				IAmb	IAmb	18 35 59.6	
	comp=Z,3.1nm,0.9s						
MKAR	**Makanchi Array**	**63.65**	**332**	P	P	18 35 53.8	-4.2
	comp=Z,3.7nm,0.6s,baz=145,slow=8.2,SNR=8.2						
	comp=Z,3.7nm,0.6s						
MKAR	**Makanchi Array**	**63.65**	**332**	P	**P**	**18 35 57.9**	**-0.1**
GAR	**Garm**	**65.16**	**320**	P	**P**	**18 36 07.4**	**-0.7**
CHGR	**Chuyangaron**	**65.72**	**319**	P	**P**	**18 36 10.7**	**-0.9**
ZAA0	**Zalesovo Array**	**68.14**	**339**	P	**P**	**18 36 25.6**	**-0.7**
ZAA0				IAmb	IAmb	18 36 26.6	
	comp=Z,3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**68.14**	**339**	P	P	18 36 21.1	-5.3
	comp=Z,3.0nm,0.6s,baz=148,slow=5.2,SNR=4.5						
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**68.14**	**339**	P	**P**	**18 36 25.6**	**-0.7**
KURK	**Kurchatov**	**68.18**	**333**	P	**P**	**18 36 26.5**	**-0.1**
KURK				IAmb	IAmb

s117,c192; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.33±.14; $M_{\theta\theta}$-2.70±.16; $M_{\phi\phi}$0.37±.15; $M_{r\theta}$4.83±.10; $M_{\theta\phi}$4.13±.14; $M_{\phi r}$1.13±.10; Best double couple: M_o6.93500×10^{16} NP1:ϕ_s88.00000°,δ77.00000°, λ51.00000°. NP2:ϕ_s342.00000°,δ41.00000°,λ160.00000°. Principal axes: T 6.9120, Plg44.0000°, Azm320.0000°; N 0.0450, Plg38.0000°, Azm98.0000°; P -6.9570, Plg22.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

DJA ***11*** *18:35:42.1±0.4,6°S±.3°×14°E±°,h150km±4km,M5.1/48, mB5.5/29,mb5.2/48,MLv5.3/2,Mw(mB)5.0/29*

KLM ***11*** *18:35:49,5.76S×148.46E,h192km,mb5.4*

ISC 11 18:35:40.1±0.3,5.88S±0.03×148.93E±0.04,h124km±3km, h125km:pP-P,n579,σ1927/590,mb5.0/138,**3C-4D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.46**	**63**	P		**Pn**	**18 36 31.5**	**-1.2**
	2µm,0.8s,baz=249,slow=3.1,SNR=72							
KRVT				S		**Sn**	**18 37 13.3**	**0.0**
	2µm,0.7s,baz=321,slow=19,SNR=4.5							
KRVT				LR		LR	18 37 59.5	
	comp=Z,2µm,20.1s,baz=8.6,slow=40							
RABL	**Rabaul**	**3.64**	**63**			**Pn**	**18 36 34.7**	**-0.3**
RABL				Sn		**Sn**	**18 37 16.0**	**-1.5**
RABL	**Rabaul**	**3.64**	**63**	P		**Pn**	**18 36 35.2**	**+0.2**
PMG	**Port Moresby**	**3.91**	**206**	P		**Pn**	**18 36 38.9**	**+0.3**
	2µm,0.6s,baz=35,slow=5.9,SNR=322							
PMG				S		**Sn**	**18 37 23.1**	**-0.9**
	8µm,0.7s,baz=162,slow=19,SNR=6.9							
PMG	**Port Moresby**	**3.91**	**206**	P		**Pn**	**18 36 39.5**	**+0.9**
PMG	**Port Moresby**	**3.91**	**206**	P		**Pn**	**18 36 39.6**	**+0.9**
MANU	**Manus Island**	**4.12**	**338**			**Pn**	**18 36 44.9**	**+3.5**
MANU	**Manus Island**	**4.12**	**338**	P		**Pn**	**18 36 45.1**	**+3.7**
GENI	**Genyem**	**9.32**	**290**	P		**Pn**	**18 37 53.8**	**+2.3**
GENI	**Genyem**	**9.32**	**290**	P		**Pn**	**18 37 53.8**	**+2.3**
	68nm,1.0s,2µm							
COEN	**Coen**	**9.82**	**215**	Pn		**Pn**	**18 37 57.5**	**-0.7**
COEN				Sn		**Sn**	**18 39 41.8**	**-5.0**
COEN	**Coen**	**9.82**	**215**	P		**Pn**	**18 37 58.5**	**+0.3**
SMPI	**Sarmi**	**10.90**	**290**	P		**Pn**	**18 38 15.1**	**+2.4**
	47nm,1.0s							
HNR	**Honiara**	**11.48**	**109**	P		**Pn**	**18 38 20.3**	**-0.1**
	1µm,0.7s,baz=303,slow=2.7,SNR=9.5							
HNR				S		**Sn**	**18 40 26.7**	**-0.1**
	2µm,1.0s,baz=162,slow=20,SNR=1.7							
HNR	**Honiara**	**11.48**	**109**	P		**Pn**	**18 38 23.6**	**+3.2**
MTSU	**Mount Surprise**	**12.98**	**200**	P		**Pn**	**18 38 41.6**	**+1.6**
	baz=13,SNR=44							
MTSU	**Mount Surprise**	**12.98**	**200**	P		**Pn**	**18 38 41.9**	**+1.8**
SRPI	**Serui, Papua**	**13.27**	**287**	P		**P**	**18 38 53.6**	**+4.6**
CTA	**Charters Tower**	**14.36**	**190**	P		**Pn**	**18 38 58.1**	**-0.4**
	39nm,1.0s,baz=4.5,slow=12,SNR=22							
CTAO	**Charters Tower**	**14.36**	**190**	Pn		**Pn**	**18 38 58.1**	**+0.4**
RKPI	**Ransiki, Papua**	**15.34**	**286**	P		**P**	**18 39 12.3**	**+0.2**
	72nm,0.7s,8µm							
PATS	**Pohnpei**	**15.73**	**37**			**P**	**18 39 15.8**	**-0.5**
PATS	**Pohnpei**	**15.73**	**37**	P		**P**	**18 39 17.4**	**+1.1**
FAKI	**Fak Fak**	**16.89**	**279**			**Pn**	**18 39 29.4**	**+0.2**
FAKI	**Fak Fak**	**16.89**	**279**	P		**Pn**	**18 39 31.1**	**+1.9**
	82nm,1.1s							
QIS	**Mount Isa**	**17.16**	**211**	P		**Pn**	**18 39 33.5**	**+1.0**
	baz=17,SNR=150							
RK1H	**Rockhampton Ha**	**17.47**	**175**	P		**Pn**	**18 39 36.8**	**+0.7**
	115nm,0.9s							
KDU	**Kakadu**	**17.58**	**246**	P		**P**	**18 39 36.4**	**-0.4**
	baz=18,SNR=75							
KDU	**Kakadu**	**17.58**	**246**	P		**Pn**	**18 39 38.0**	**+0.5**
SAUI	**Saumlaki**	**17.62**	**262**	P		**P**	**18 39 36.9**	**-0.3**
SAUI	**Saumlaki**	**17.62**	**262**	P		**Pn**	**18 39 39.7**	**+1.6**
	519nm,0.9s							
SAUI	**Saumlaki**	**17.62**	**262**	P		**Pn**	**18 39 39.1**	**+1.0**
	517nm,0.8s,4µm							
GD1S	**Gladstone Soft**	**17.99**	**173**	P		**Pn**	**18 39 43.2**	**+0.9**
	95nm,0.9s							
SIJI	**Sorong**	**18.31**	**285**	P		**P**	**18 39 44.0**	**-0.9**
	6.9nm,0.6s,baz=103,slow=12,SNR=5.5							
SIJI				LR		LR	18 48 49.1	
	comp=Z,174nm,18.9s,baz=117,slow=43							
SWI	**Sorong**	**18.32**	**285**	P		**P**	**18 39 45.6**	**+0.7**
	78nm,0.9s,1µm							
MTN	**Manton Dam**	**18.86**	**247**	P		**P**	**18 39 51.2**	**+0.4**
	baz=19,SNR=99							
MTN	**Manton Dam**	**18.86**	**247**	P		**P**	**18 39 51.2**	**+0.4**
MTN	**Manton Dam**	**18.86**	**247**	P		**Pn**	**18 39 52.8**	**0.0**
BNDI	**Bandanaira**	**18.99**	**273**	P		**P**	**18 39 53.0**	**+0.8**
EIDS	**Eidsvold**	**19.49**	**174**	P		**Pn**	**18 39 59.1**	**-0.8**
	baz=20,SNR=58							
EIDS	**Eidsvold**	**19.49**	**174**	P		**P**	**18 39 58.2**	**+0.7**
I39PW	**PALAU INFRASON**	**19.58**	**313**	I		I	20 39 50.0	
	baz=130,slow=318,SNR=0.7							
WB0	**Warramunga Arr**	**19.75**	**224**	P		**P**	**18 40 01.6**	**+1.1**
GUMO	**Guam**	**19.76**	**348**	P		**P**	**18 40 00.6**	**+0.1**
	264nm,0.7s,baz=155,slow=12,SNR=17							
GUMO				LR		LR	18 47 32.3	
	comp=Z,153nm,19.0s,baz=164,slow=36							
GUMO	**Guam**	**19.76**	**348**	P		**Pn**	**18 40 03.9**	**+0.7**
	580nm,1.9s							
WR0	**Warramunga Arr**	**19.78**	**224**	P		**P**	**18 40 01.8**	**+1.0**
WRAB	**Tennant Creek**	**19.89**	**224**	P		**P**	**18 40 03.0**	**+1.0**
WRAB	**Tennant Creek**	**19.89**	**224**	P		**Pn**	**18 40 03.6**	**-1.2**
WB2	**Warramunga Arr**	**19.90**	**224**	P		**Pn**	**18 40 03.5**	**-1.4**
WRA	**Warramunga Arr**	**19.91**	**224**	P		**P**	**18 40 03.3**	**+1.2**
	542nm,0.8s,baz=52,slow=11,SNR=441							
WRA				S		**S**	**18 43 37.6**	**-2.0**
	25nm,0.9s,baz=37,slow=19,SNR=20							
WRA					PcP	**PcP**	**18 44 14.9**	**+0.6**
	8.0nm,0.8s,baz=41,slow=2.2,SNR=4.4							
WRA					ScP	**ScP**	**18 47 40.5**	**+1.3**
	6.1nm,0.8s,baz=49,slow=2.7,SNR=6.5							
WRA				LR		LR	18 47 59.6	
	comp=Z,244nm,20.1s,baz=19,slow=37							
WRA	**Warramunga Arr**	**19.91**	**224**	P		**P**	**18 40 03.5**	**+1.4**
RMQ	**Roma**	**20.49**	**180**	P		Pn	18 40 10.0	-1.7
	baz=21,SNR=100							
AAI	**Ambon**	**20.77**	**275**	P		**P**	**18 40 12.4**	**+0.9**
	113nm,0.8s,1µm							
KOUNC	**Koumac, New Ca**	**20.85**	**136**	P		**P**	**18 40 12.1**	**-0.2**
QLP	**Quilpie**	**21.07**	**192**	P		**P**	**18 40 15.6**	**+1.2**
	baz=21,SNR=49							
QLP	**Quilpie**	**21.07**	**192**	P		**P**	**18 40 15.4**	**+0.9**
AUBSH	**Beerwah State**	**21.21**	**170**	P		**P**	**18 40 16.9**	**+0.9**
AUWSH	**Wavell State H**	**21.75**	**170**	P		**P**	**18 40 22.8**	**+1.0**
NLAI	**Namlea**	**21.91**	**276**	P		**P**	**18 40 25.2**	**+1.6**
	54nm,1.0s							
KNRA	**Kununurra**	**22.05**	**242**	P		**P**	**18 40 23.8**	**-1.2**
	baz=22,SNR=143							
KNRA	**Kununurra**	**22.05**	**242**	P		**P**	**18 40 25.0**	**0.0**
KNRA	**Kununurra**	**22.05**	**242**	P		**P**	**18 40 25.9**	**+0.9**
TNTI	**Ternate**	**22.52**	**286**	P		**P**	**18 40 29.0**	**-0.8**
GC1S	**Gold Coast 1 S**	**22.58**	**169**	P		**P**	**18 40 31.6**	**+1.4**
	177nm,0.8s							
AS01	**Alice Springs**	**22.81**	**218**	P		**P**	**18 40 33.5**	**+0.9**
	128nm,1.0s							
AS31	**Alice Springs**	**22.84**	**218**	P		**P**	**18 40 33.9**	**+1.0**
ASAR	**Alice Springs**	**22.84**	**218**	P		**P**	**18 40 33.9**	**+1.1**
	66nm,0.6s,baz=54,slow=9.0,SNR=882							
ASAR					PcP	**PcP**	**18 44 20.8**	**+0.8**
	13nm,0.8s,baz=58,slow=2.1,SNR=7.5							
ASAR				S		**S**	**18 44 34.7**	**+1.8**
	19nm,0.9s,baz=36,slow=17,SNR=8.0							
ASAR					ScP	**ScP**	**18 47 47.2**	**+0.8**
	6.6nm,0.9s,baz=45,slow=2.3,SNR=8.3							
	66nm,0.6s							
INKA	**Innaminka**	**23.09**	**199**	P		**P**	**18 40 36.5**	**+1.4**
LIFNC	**LIFOU**	**23.13**	**132**	P		**P**	**18 40 35.1**	**-0.4**
LIFNC	**LIFOU**	**23.13**	**132**	P		**P**	**18 40 38.2**	**+2.7**
	116nm,0.8s							
SANI	**Sanana**	**23.19**	**279**	P		**P**	**18 40 35.5**	**-0.7**
SANI	**Sanana**	**23.19**	**279**	P		**P**	**18 40 35.6**	**-0.7**
	99nm,0.8s,820nm							
DZM	**Mont Dzumac**	**23.36**	**135**	*e*Pn		**P**	**18 40 36.7**	**-1.1**
	266nm,1.2s							
DZM				*e*S		**S**	**18 44 37.2**	**-4.2**
	216nm,24.1s							
DZM				*e*LR		LR	18 46 29.6	
	comp=Z,911nm,26.9s							
DZM	**Mont Dzumac**	**23.36**	**135**	P		**P**	**18 40 38.0**	**+0.1**
	79nm,1.0s,baz=283,slow=7.4,SNR=51							
DZM				LR		LR	18 47 56.7	
	comp=Z,267nm,21.7s,baz=319,slow=32 79nm,1.0s							
DZM	**Mont Dzumac**	**23.36**	**135**	P		**P**	**18 40 37.6**	**-0.2**
DZM	**Mont Dzumac**	**23.36**	**135**	P		**P**	**18 40 38.1**	**+0.3**
AULRC	**Lightning Ridg**	**23.44**	**182**	P		**P**	**18 40 38.5**	**+0.2**
	610nm,1.6s							
OUENC	**Ouen Island, N**	**23.87**	**135**	P		**P**	**18 40 41.8**	**-0.5**
OUENC	**Ouen Island, N**	**23.87**	**135**	P		**P**	**18 40 43.1**	**+0.8**
MARNC	**Mare, Loyalty**	**24.14**	**132**	P		**P**	**18 40 43.2**	**-1.5**
PINNC	**Pines Island,**	**24.42**	**135**	P		**P**	**18 40 46.3**	**-1.0**
ARMA	**Armidale**	**24.54**	**174**	P		**P**	**18 40 49.5**	**+1.2**
	baz=25,SNR=80							
ARMA	**Armidale**	**24.54**	**174**	P		**P**	**18 40 48.1**	**-0.2**
ARMA	**Armidale**	**24.54**	**174**	P		**P**	**18 40 49.8**	**+1.4**
SOEI	**Soe**	**24.73**	**259**	P		**P**	**18 40 50.4**	**+0.1**
SOEI	**Soe**	**24.73**	**259**	P		**P**	**18 40 51.1**	**+0.8**
SOEI	**Soe**	**24.73**	**259**	P		**P**	**18 40 51.5**	**+1.2**
	403nm,1.2s,4µm							
AUPHS	**Peel High Scho**	**25.15**	**176**	P		**P**	**18 40 55.3**	**+1.4**
OOD	**Oodnadatta**	**25.16**	**208**	P		**P**	**18 40 55.0**	**+1.1**
BATI	**Baumata**	**25.37**	**259**	P		**P**	**18 40 56.9**	**+0.8**
	318nm,0.7s,baz=167,slow=2.0,SNR=78							
BATI				LR		LR	18 54 13.5	
	comp=Z,434nm,18.5s,baz=23,slow=44							
BATI	**Baumata**	**25.37**	**259**	P		**P**	**18 40 57.7**	**+1.6**
	44nm,0.8s,4µm							
CMSA	**Cobar Meteorol**	**25.70**	**186**	P		**P**	**18 40 59.3**	**+0.6**
	baz=26,SNR=55							
CMSA	**Cobar Meteorol**	**25.70**	**186**	P		**P**	**18 40 59.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**25.77**	**240**	P		**P**	**18 41 00.5**	**+0.9**
AUDCS	**Dubbo College**	**26.21**	**181**	P		**P**	**18 41 04.6**	**+1.2**
LCRK	**Leigh Creek**	**26.43**	**201**	P		**P**	**18 41 06.3**	**+0.9**
MMRI	**Maumere**	**26.61**	**263**	P		**P**	**18 41 06.0**	**-1.2**
MMRI	**Maumere**	**26.61**	**263**	P		**P**	**18 41 07.6**	**+0.4**
MMRI	**Maumere**	**26.61**	**263**	P		**P**	**18 41 05.7**	**-1.5**
	273nm,0.8s,2µm							
DAV	**Davao City (W)**	**26.61**	**299**	LR		LR	18 52 07.6	
	comp=Z,64nm,18.1s,baz=110,slow=37							
STKA	**Stephens Creek**	**26.75**	**194**	P		**P**	**18 41 07.8**	**-0.5**
	27nm,0.8s,baz=23,slow=10,SNR=18							
STKA					ScP	**ScP**	**18 47 58.8**	**+1.5**
	13nm,1.2s,baz=306,slow=3.7,SNR=6.2							
STKA				LR		LR	18 52 18.5	
	comp=Z,252nm,18.9s,baz=19,slow=37 27nm,0.8s							
STKA	**Stephens Creek**	**26.75**	**194**	P		**P**	**18 41 09.1**	**+0.8**
	baz=27,SNR=11							
STKA	**Stephens Creek**	**26.75**	**194**	P		**P**	**18 41 08.3**	**0.0**
STKA	**Stephens Creek**	**26.75**	**194**	P		**P**	**18 41 08.8**	**+0.5**
LHI	**Lord Howe Isla**	**27.22**	**161**	P		**P**	**18 41 16.4**	**+4.0**
	baz=27,SNR=4.4							
WRKA	**Warakurna**	**27.45**	**224**	P		**P**	**18 41 15.5**	**+0.8**
	baz=28,SNR=54							
WRKA	**Warakurna**	**27.45**	**224**	P		**P**	**18 41 15.8**	**+1.1**
MULG	**Mulgathing**	**28.02**	**208**	P		**P**	**18 41 20.4**	**+0.8**
BASI	**Baing, Sumba**	**28.39**	**259**	P		**P**	**18 41 24.5**	**+1.4**
	384nm,1.2s,4µm							
HTT	**Hallett**	**28.95**	**197**	P		**P**	**18 41 28.6**	**+0.8**
	baz=29,SNR=14							
HTT	**Hallett**	**28.95**	**197**	P		**P**	**18 41 29.0**	**+1.2**
TOLI2	**Tolitoli**	**28.95**	**283**	P		**P**	**18 41 25.4**	**-2.6**
TOLI2	**Tolitoli**	**28.95**	**283**	P		**P**	**18 41 27.6**	**-0.4**
	13nm,0.7s							
PTPS	**Port Pirie**	**29.00**	**199**	P		**P**	**18 41 27.6**	**-0.6**
	261nm,0.6s							
WHYH	**Whyalla**	**29.01**	**200**	P		**P**	**18 41 29.1**	**+0.8**
	50nm,0.8s							
KAPI	**Kappang**	**29.05**	**270**	P		**P**	**18 41 28.9**	**0.0**
	8.6nm,0.7s,baz=72,slow=6.5,SNR=4.6							
KAPI					ScP	**ScP**	**18 48 06.3**	**+1.6**
	5.7nm,0.3s,baz=190,slow=6.1,SNR=4.2							
	8.6nm,0.7s							
KAPI	**Kappang**	**29.05**	**270**	P		**P**	**18 41 30.0**	**+1.0**
CNB	**Canberra Magne**	**29.29**	**179**	P		**P**	**18 41 32.6**	**+1.7**
CAN	**Canberra**	**29.30**	**180**	P		**P**	**18 41 31.6**	**+0.7**
CAN	**Canberra**	**29.30**	**180**	P		**P**	**18 41 32.1**	**+1.2**
BBOO	**Buckleboo**	**29.35**	**202**	P		**P**	**18 41 32.0**	**+0.6**
	baz=30,SNR=9.7							
BBOO	**Buckleboo**	**29.35**	**202**	P		**P**	**18 41 31.3**	**-0.1**
BBOO					IAmb	IAmb	18 42 31.7	
	comp=Z,28nm,0.8s							
BBOO	**Buckleboo**	**29.35**	**202**	P		**P**	**18 41 32.0**	**+0.6**
WBSI	**Waikabubak, Su**	**29.49**	**261**	P		**P**	**18 41 32.6**	**-0.3**
	comp=Z,128nm,1.1s,comp=Z,1µm							
MPSI	**Mapaga**	**29.63**	**281**	P		**P**	**18 41 32.1**	**-2.0**
	comp=Z,12nm,0.8s							
AUMAG	**Moama Anglican**	**30.32**	**187**	P		**P**	**18 41 41.5**	**+1.7**
	comp=Z,138nm,0.8s							
MSVF	**Nonsavu**	**30.79**	**115**	LR		LR	18 51 59.3	
	comp=Z,128nm,20.4s,baz=231,slow=32							
MSVF	**Nonsavu**	**30.79**	**115**	P		**P**	**18 41 44.0**	**-0.3**
MSVF					IAmb	IAmb	18 42 16.0	
	comp=Z,19nm,0.9s							
PLAI	**Plampang**	**31.02**	**263**	P		**P**	**18 41 45.5**	**-0.9**
PLAI	**Plampang**	**31.02**	**263**	P		**P**	**18 41 44.0**	**-2.4**
	comp=Z,108nm,1.0s,comp=Z,1µm							
MILA	**Mila**	**31.03**	**180**	P		**P**	**18 41 47.3**	**+1.2**
	baz=31,SNR=3.7							
ARPS	**Mount Arapiles**	**31.42**	**191**	P		**P**	**18 41 50.6**	**+1.0**
	baz=32,SNR=12							
ARPS	**Mount Arapiles**	**31.42**	**191**	P		**P**	**18 41 50.5**	**+1.0**
	comp=Z,120nm,0.9s							
FORT	**Forrest**	**31.58**	**216**	P		**P**	**18 41 52.1**	**+1.0**
	baz=32,SNR=23							
FORT	**Forrest**	**31.58**	**216**	P		**P**	**18 41 51.8**	**+0.7**
FORT	**Forrest**	**31.58**	**216**	P		**P**	**18 41 52.0**	**+0.9**
TOO	**Toolangi**	**31.70**	**185**	P		**P**	**18 41 53.3**	**+1.3**
	baz=32,SNR=27							
TOO	**Toolangi**	**31.70**	**185**	P		**P**	**18 41 52.5**	**+0.5**
TOO	**Toolangi**	**31.70**	**185**	P		**P**	**18 41 53.0**	**+1.0**
SGKI	**Sangatta, Kali**	**31.71**	**279**	P		**P**	**18 41 55.7**	**+3.3**
	comp=Z,278nm,1.3s							
BRAT	**Ballarat**	**31.85**	**188**	P		**P**	**18 41 54.9**	**+1.6**
	comp=Z,56nm,1.0s							
TWSI	**Taliwang, Sumb**	**31.90**	**263**	P		**P**	**18 41 52.1**	**-2.0**
	comp=Z,20nm,0.6s,comp=Z,624nm							
MBWA	**Marble Bar**	**32.10**	**239**	P		**P**	**18 41 56.7**	**+1.0**
MBWA	**Marble Bar**	**32.10**	**239**	P		**P**	**18 41 56.7**	**+1.0**
MBWA	**Marble Bar**	**32.10**	**239**	P		**P**	**18 41 56.5**	**+0.7**
MBWA				pP		**pP**	**18 42 22.6**	**+0.3**
PSA00	**Pilbara Seismi**	**32.17**	**238**	P		**P**	**18 41 57.1**	**+0.7**
PSA00	**Pilbara Seismi**	**32.17**	**238**	P		**P**	**18 41 57.4**	**+1.0**
GEXS	**Deakin Univers**	**32.45**	**187**	P		**P**	**18 42 00.8**	**+2.3**
	comp=Z,118nm,0.9s							
SPMM	**Sapulut**	**34.08**	**287**	P		**P**	**18 42 11.0**	**-2.1**
JAGI	**Jajag, Banyuwa**	**34.59**	**264**	P		**P**	**18 42 15.3**	**-2.2**
JAGI	**Jajag, Banyuwa**	**34.59**	**264**	P		**P**	**18 42 17.0**	**-0.5**
JAGI	**Jajag, Banyuwa**	**34.59**	**264**	P		**P**	**18 42 15.9**	**-1.6**
	comp=Z,72nm,0.9s							
AULHS	**Lilydale High**	**35.25**	**182**	P		**P**	**18 42 25.2**	**+2.5**
	comp=Z,113nm,1.1s							
KMBL	**Kambalda**	**35.84**	**222**	P		**P**	**18 42 29.0**	**+1.1**
	baz=36,SNR=10							
KMBL	**Kambalda**	**35.84**	**222**	P		**P**	**18 42 29.0**	**+1.1**
MOO	**Moorlands**	**36.44**	**182**	P		**P**	**18 42 34.7**	**+1.8**
	baz=37,SNR=5.6							
TAU	**Tasmania Unive**	**36.90**	**182**	P		**P**	**18 42 38.2**	**+1.5**
TAU	**Tasmania Unive**	**36.90**	**182**	P		**P**	**18 42 37.6**	**+0.8**
TAU	**Tasmania Unive**	**36.90**	**182**	P		**P**	**18 42 38.2**	**+1.5**
TAU				pP		**pP**	**18 43 04.6**	**+1.6**
TAU				sP		**sP**	**18 43 19.8**	**+3.2**
OUZ	**Omahuta**	**37.00**	**145**	P		**P**	**18 42 39.4**	**+1.7**
OUZ					IAmb	IAmb	18 43 06.0	
	comp=Z,27nm,1.1s							
GIRL	**Giralia**	**37.38**	**240**	P		**P**	**18 42 40.9**	**-0.2**
	baz=37,SNR=7.5							
JOW	**Kunigami**	**38.18**	**329**	LR		LR	18 56 03.4	
	comp=Z,78nm,21.1s,baz=124,slow=32							
JOW	**Kunigami**	**38.18**	**329**	P		**P**	**18 42 49.6**	**+1.9**
MORW	**Morawa**	**38.69**	**229**	P		**P**	**18 42 53.4**	**+1.3**
	baz=39,SNR=11							
MORW	**Morawa**	**38.69**	**229**	P		**P**	**18 42 53.3**	**+1.3**
MORW					IAmb	IAmb	18 43 07.9	
	comp=Z,44nm,1.2s							
MORW	**Morawa**	**38.69**	**229**	P		**P**	**18 42 53.4**	**+1.3**
KLBR	**Kellerberrin**	**38.79**	**225**	P		**P**	**18 42 53.5**	**+0.6**
	baz=39,SNR=13							
KLBR	**Kellerberrin**	**38.79**	**225**	P		**P**	**18 42 53.6**	**+0.7**
BLDU	**Ballidu**	**39.00**	**227**	P		**P**	**18 42 55.4**	**+0.8**
	baz=39,SNR=6.9							
NWAO	**Narrogin (SRO)**	**39.92**	**224**	LR		LR	18 59 41.9	
	comp=Z,248nm,19.1s,slow=36							
MUN	**Mundaring**	**40.10**	**225**	P		**P**	**18 43 04.3**	**+0.6**
	baz=40,SNR=4.7							
QRZ	**Quartz Range**	**40.70**	**152**	P		**P**	**18 43 10.3**	**+1.8**
TWVZ	**Taurewa**	**40.81**	**148**	P		P	18 43 17.8	+8.2
BBJI	**Bungbulang**	**41.02**	**265**	P		**P**	**18 43 11.1**	**-0.5**
	comp=Z,127nm,0.8s							
LEM	**Lembang**	**41.06**	**266**	P		**P**	**18 43 11.1**	**-0.9**
	comp=Z,31nm,0.7s							
TKNZ	**Takaka Hill**	**41.07**	**152**	P		**P**	**18 43 13.5**	**+2.0**
URZ	**Urewera**	**41.14**	**146**	P		**P**	**18 43 12.5**	**+0.4**
	comp=Z,16nm,0.9s,baz=354,slow=5.8,SNR=6.9							
URZ					PcP	**PcP**	**18 45 07.5**	**-1.7**
	comp=Z,14nm,0.8s,baz=333,slow=2.3,SNR=4.4							
URZ				LR		LR	18 57 44.3	
	comp=Z,112nm,20.1s,baz=39,slow=32							
	comp=Z,16nm,0.9s							
JSU	**Suzuyama**	**41.15**	**336**	P		**P**	**18 43 10.9**	**-1.4**
JSU	**Suzuyama**	**41.15**	**336**	P		**P**	**18 43 13.8**	**+1.5**
	comp=Z,120nm,1.0s							
MRNZ	**Matariki Terra**	**41.26**	**153**	P		**P**	**18 43 12.9**	**-0.2**
MRNZ	**Matariki Terra**	**41.26**	**153**	P		**P**	**18 43 14.7**	**+1.6**
RTZ	**Ruatahuna**	**41.32**	**146**	P		**P**	**18 43 11.7**	**-2.0**
RTZ				IAmb		IAmb	18 43 16.3	
	comp=Z,35nm,1.0s							
DUWZ	**D'Urville Isla**	**41.34**	**151**	P		P	18 43 02.9	-11
BKZ	**Black Stump Fm**	**41.44**	**147**	P		**P**	**18 43 14.8**	**+0.1**
BKZ				IAmb		IAmb	18 43 16.7	
	comp=Z,26nm,1.1s							
BKZ	**Black Stump Fm**	**41.44**	**147**	P		**P**	**18 43 16.6**	**+1.9**
	comp=Z,24nm,1.1s							
CNJI	**Cibinong**	**41.53**	**266**	P		**P**	**18 43 15.0**	**-0.7**
	comp=Z,93nm,1.2s,comp=Z,823nm							
THZ	**Tophouse**	**41.62**	**153**	P		**P**	**18 43 15.3**	**-0.8**
THZ	**Tophouse**	**41.62**	**153**	P		**P**	**18 43 16.6**	**+0.5**
TSZ	**Takapari Road**	**41.81**	**148**	P		**P**	**18 43 18.7**	**+1.0**
PNHZ	**Pukenui**	**41.83**	**148**	P		**P**	**18 43 18.8**	**+1.0**
TCW	**Tory Channel**	**41.83**	**151**	P		**P**	**18 43 18.7**	**+0.9**
TUWZ	**Tuamarina**	**41.84**	**152**	P		**P**	**18 43 18.0**	**+0.2**
TUWZ	**Tuamarina**	**41.84**	**152**	P		P	18 43 12.7	-5.1
JMN	**Monobe**	**41.90**	**341**	P		**P**	**18 43 19.5**	**+1.1**
JMN	**Monobe**	**41.90**	**341**	P		**P**	**18 43 20.4**	**+2.0**
MRZ	**Mangatainoka R**	**42.06**	**149**	P		**P**	**18 43 19.8**	**+0.2**
CMWZ	**Cape Campbell**	**42.22**	**152**	P		P	18 43 09.0	-12
JNU	**Nakatsue**	**42.41**	**337**	LR		LR	18 58 17.5	
	comp=Z,101nm,19.8s,baz=152,slow=32							
JNU	**Nakatsue**	**42.41**	**337**	P		**P**	**18 43 23.1**	**+0.6**
JNU	**Nakatsue**	**42.41**	**337**	P		**P**	**18 43 23.8**	**+1.3**
	comp=Z,125nm,1.0s							
RPZ	**Rata Peaks**	**42.41**	**156**	P		**P**	**18 43 23.0**	**+0.6**
	comp=Z,43nm,0.7s,baz=340,slow=2.2,SNR=10							
RPZ					pP	**pP**	**18 43 50.0**	**+1.0**
	comp=Z,24nm,0.7s,baz=297,slow=11,SNR=2.7							
RPZ				LR		LR	18 58 19.3	
	comp=Z,113nm,19.6s,baz=269,slow=32							
	comp=Z,43nm,0.7s							
RPZ	**Rata Peaks**	**42.41**	**156**	P		**P**	**18 43 22.8**	**+0.4**
BFZ	**Birch Farm**	**42.41**	**149**	P		**P**	**18 43 22.0**	**-0.5**
BFZ	**Birch Farm**	**42.41**	**149**	P		**P**	**18 43 22.8**	**+0.3**
KHZ	**Kahutara**	**42.42**	**153**	P		**P**	**18 43 22.2**	**-0.3**
KHZ				IAmb

HHC pmax pmax
comp=Z,370nm,7.1s
TNCH TengChong 57.84 304 P **P** **18 45 18.7 -0.6**
TNCH pP pP 18 45 50.3 +1.2
TNCH sP sP 18 46 06.6 +3.8
TNCH S **S** **18 53 13.1 +3.5**
TNCH sS sS 18 54 00.4 +0.8
TNCH SS **SS** **18 56 58.3 -4.2**
TNCH pmax pmax
comp=Z,6.0nm,0.9s
TNCH pmax pmax
comp=Z,110nm,12.6s
MND Mandalay 58.67 300 P **P** **18 45 24.7 -0.2**
HEH HeiHe 58.93 344 *e*P **P** **18 45 26.3 +0.1**
HEH pmax pmax
comp=Z,13nm,0.6s
PETK Petropavlovsk- 59.24 6 P **P** **18 45 29.0 +0.8**
comp=Z,38nm,1.0s,baz=161,slow=5.8,SNR=20
PETK LR LR 19 06 34.6
comp=Z,98nm,21.7s,baz=237,slow=31
comp=Z,38nm,1.0s
LZH Lanzhou 59.39 318 *e*P **P** **18 45 30.3 +0.5**
LZH pP pP 18 46 01.2 +1.5
LZH sP sP 18 46 13.1 -0.3
LZH pmax pmax
comp=Z,23nm,1.4s
HIA Hailar 60.53 338 P **P** **18 45 38.4 +1.2**
HIA IAmb IAmb 18 45 39.5
comp=Z,16nm,0.8s
HIA Hailar 60.53 338 P **P** **18 45 38.7 +1.5**
HIA pP **pP** **18 46 07.4 +0.7**
DRV Dumont d'Urvil 60.99 184 P **P** **18 45 40.9 +0.9**
PPT Papeete 61.09 107 LR LR 19 10 03.5
comp=Z,14nm,18.3s,baz=346,slow=34
TBI Tubuai 61.65 113 *e*P **P** **18 45 46.3 +1.0**
comp=Z,266nm,30.5s
TBI Tubuai 61.65 113 *e*LR LR 19 04 13.8
comp=Z,1μm,31.5s
TBI *e*LR LR 19 04 14.4
comp=Z,1μm,38.0s
SHEM Shemya Is, Ala 62.18 17 LR LR 19 06 53.5
comp=Z,54nm,20.8s,baz=292,slow=30
SHL Shillong 63.57 302 P **P** **18 45 56.6 -1.6**
SHL IAmb IAmb 18 46 06.9
comp=Z,12nm,0.7s
GTA Gaotai 63.89 319 *e*P **P** **18 45 59.7 -0.2**
GTA pP pP 18 46 31.0 +0.8
GTA sP sP 18 46 45.5 +1.7
GTA pmax pmax
comp=Z,6.0nm,1.2s
KIWB Kanaga Island 64.40 23 P **P** **18 46 03.7 +0.9**
ADK Adak 64.60 23 P **P** **18 46 05.5 +1.4**
ULN Ulaanbaatar 64.94 330 P **P** **18 46 06.6 -0.1**
ULN IAmb IAmb 18 46 09.6
comp=Z,9.7nm,0.8s
ULN Ulaanbaatar 64.94 330 P **P** **18 46 07.1 +0.4**
ULN pP **pP** **18 46 36.4 -0.4**
ULN sP **sP** **18 46 49.6 -0.7**
SONM Songino Array 65.25 330 P **P** **18 46 08.7 +0.1**
comp=Z,4.2nm,0.7s,baz=163,slow=4.8,SNR=29
SONM LR LR 19 14 06.4
comp=Z,52nm,21.3s,baz=153,slow=35
SONM PKP2bc 19 14 53.9
comp=Z,1.2nm,0.9s,baz=327,slow=2.3,SNR=5.4
comp=Z,4.2nm,0.7s
SONM Songino Array 65.25 330 P **P** **18 46 08.8 +0.1**
SONM IAmb IAmb 18 46 12.0
comp=Z,15nm,1.3s
MA2 Magadan 65.27 1 LR LR 19 11 42.9
comp=Z,38nm,21.4s,baz=102,slow=33
MA2 Magadan 65.27 1 P **P** **18 46 09.9 +1.7**
MA2 pP **pP** **18 46 38.9 +0.6**
GOMU GeErMu 65.68 314 P **P** **18 46 11.2 -0.7**
GOMU pmax pmax
comp=Z,2.0nm,1.0s
GOMU pmax pmax
comp=Z,59nm,4.8s
LSA Lhasa 65.71 306 P **P** **18 46 11.0 -1.3**
LSA Lhasa 65.71 306 P **P** **18 46 11.2 -1.2**
LSA pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 65.71 306 P **P** **18 46 12.1 -0.2**
CASY Casey 65.89 196 P P 18 46 20.1 +7.9
TAPN Taplejung 67.69 303 *e*P **P** **18 46 23.8 -1.0**
comp=Z,14nm,0.8s
RAMN Ramite 68.50 302 *e*P **P** **18 46 28.4 -1.4**
comp=Z,7.1nm,0.6s
JIRN Jiri 69.07 302 *e*P **P** **18 46 32.2 -1.3**
comp=Z,7.3nm,0.6s
YAK Yakutsk 69.33 350 LR LR 19 20 27.2
comp=Z,34nm,18.2s,baz=246,slow=39
YAK Yakutsk 69.33 350 P **P** **18 46 33.5 -0.3**
YAK IAmb IAmb 18 47 08.3
comp=Z,20nm,1.2s
PKI Pulchoki 69.70 302 *e*P **P** **18 46 35.6 -1.7**
PKIN Phulchoki 69.71 302 *e*P **P** **18 46 35.7 -1.6**
comp=Z,2.7nm,0.4s
DMN Daman 69.97 302 *e*P **P** **18 46 37.6 -1.2**
UNV Unalaska Valle 70.25 26 P **P** **18 46 39.8 +0.2**
baz=228
TAOE Nuku Hiva Isla 70.32 97 *e*LR LR 19 08 14.0
comp=Z,200nm,25.3s
GKN Gorkha 70.48 302 *e*P **P** **18 46 40.3 -1.6**
comp=Z,14nm,0.6s
CCD Concordia, Ant 70.71 187 P **P** **18 46 43.3 +0.7**
DANN Dangsing 71.33 302 *e*P **P** **18 46 45.3 -1.8**
comp=Z,20nm,0.8s
VNDA Vanda 71.92 177 P **P** **18 46 50.4 +1.0**
comp=Z,3.8nm,0.7s,baz=331,slow=7.4,SNR=12
VNDA LR LR 19 16 13.3
comp=Z,37nm,18.6s,baz=345,slow=34
comp=Z,3.8nm,0.7s
VNDA Vanda 71.92 177 P **P** **18 46 50.6 +1.1**
VNDA Vanda 71.92 177 P **P** **18 46 50.5 +1.1**
S12K Black Hills 73.42 26 P **P** **18 46 59.3 +0.8**
baz=232
WMQ Urumqi 73.96 319 *e*P **P** **18 47 00.7 -1.4**
WMQ pP pP 18 47 34.7 +1.4
WMQ sP sP 18 47 47.1 +0.3
WMQ PP **PP** **18 49 50.7 +1.8**
WMQ pmax pmax
comp=Z,11nm,1.5s
BILL Bilibino 74.76 7 P **P** **18 47 06.8 +0.7**
BILL IAmb IAmb 18 47 10.5
comp=Z,16nm,1.1s
CHGN Chignik 75.42 27 P **P** **18 47 09.9 -0.1**
CHGN Chignik 75.42 27 P **P** **18 47 10.4 +0.3**
baz=235
CHIR Chirikof Islan 76.45 29 P **P** **18 47 16.7 +0.8**
baz=237
R17K Ugashik Creek 77.09 27 P **P** **18 47 20.0 +0.4**
baz=236
P16K Nushagak River 77.18 25 P **P** **18 47 20.4 +0.5**
baz=235
O16K Kokwok River B 77.47 25 P **P** **18 47 22.4 +0.8**
baz=234
SII Sitkinak Islan 77.52 28 P **P** **18 47 23.1 +1.1**
baz=239
Q17K Contact Creek 77.66 26 P **P** **18 47 23.2 +0.3**
baz=237,SNR=10
N16K Nishlik Lake 77.71 24 P **P** **18 47 24.8 +1.9**
baz=234
TNA Tin City 77.92 17 P **P** **18 47 25.0 +1.1**
baz=224
P17K Kvichak River 77.94 25 P **P** **18 47 24.7 +0.5**
baz=236
ANM Nome 77.98 18 P **P** **18 47 24.9 +0.6**
ANM Nome 77.98 18 P **P** **18 47 25.7 +1.3**
baz=227
O17K Koliganek Bris 77.98 25 P **P** **18 47 25.4 +1.0**
baz=235
Q18K Katmai Hardscr 78.25 26 P **P** **18 47 26.5 +0.4**
baz=237,SNR=8.2
OHAK Old Harbor 78.29 28 P **P** **18 47 27.1 +1.0**
baz=239
TIXI Tiksi 78.50 354 LR LR 19 19 29.9
comp=Z,36nm,21.9s,baz=181,slow=34
TIXI Tiksi 78.50 354 P **P** **18 47 27.1 +0.1**
P18K Big Mountain, 78.56 26 P **P** **18 47 27.5 -0.2**
P18K Big Mountain, 78.56 26 P **P** **18 47 28.5 +0.8**
baz=237
MK31 Makanchi Array 78.63 320 P **P** **18 47 27.3 -1.1**
MKAR Makanchi Array 78.63 320 P **P** **18 47 27.2 -1.1**
comp=Z,3.1nm,0.9s,baz=100,slow=7.7,SNR=27
MKAR PKKPbc **PKKPbc** **19 06 23.3 -2.0**
comp=Z,0.5nm,0.7s,baz=299,slow=2.4,SNR=6.3
MKAR PKPPKP **P'P'df** **19 14 29.6 +3.2**
comp=Z,0.7nm,0.9s,baz=346,slow=2.4,SNR=5.2
comp=Z,3.1nm,0.9s
MAKZ Makanchi 78.84 320 P **P** **18 47 28.4 -1.1**
KDAK Kodiak Island 78.90 28 LR LR 19 15 23.3
comp=Z,81nm,21.9s,baz=268,slow=30
KDAK Kodiak Island 78.90 28 P **P** **18 47 30.4 +0.9**
baz=240
Q19K Cape Douglas, 79.01 26 P **P** **18 47 30.6 +0.5**
baz=239
SVW2 Sparrevohn 79.35 24 P **P** **18 47 32.2 +0.3**
SVW2 IAmb IAmb 18 47 35.7
comp=Z,13nm,0.9s
O19K Port Alsworth 79.38 25 P **P** **18 47 33.2 +1.1**
baz=238
P19K Oil Pt 79.56 26 P **P** **18 47 33.9 +0.7**
baz=239
N19K Bonanza Creek 79.64 25 P **P** **18 47 34.1 +0.5**
N19K IAmb IAmb 18 47 36.3
comp=Z,22nm,1.5s
N19K Bonanza Creek 79.64 25 P **P** **18 47 34.5 +0.9**
baz=238
ZAA0 Zalesovo Array 79.94 327 P **P** **18 47 33.4 -1.8**
ZALV Zalesovo Beam 79.94 327 P **P** **18 47 33.3 -1.9**
comp=Z,4.5nm,0.6s,baz=115,slow=6.4,SNR=19
ZALV pP **pP** **18 48 04.5 -2.1**
comp=Z,1.8nm,0.7s,baz=100,slow=6.2,SNR=2.2
ZALV PKKPbc **PKKPbc** **19 06 20.1 -2.5**
comp=Z,0.3nm,0.5s,baz=243,slow=1.6,SNR=4.2
ZALV PKPPKP **P'P'df** **19 14 26.3 +2.9**
comp=Z,2.4nm,1.0s,baz=289,slow=5.8,SNR=5.6
comp=Z,4.5nm,0.6s
ZALV Zalesovo Beam 79.94 327 P **P** **18 47 33.2 -2.1**
O20K Slope Mountain 80.05 26 P **P** **18 47 36.6 +0.8**
baz=239
TTA Tatalina 80.21 22 P **P** **18 47 38.0 +1.4**
baz=236
L19K White Mountain 80.24 23 P **P** **18 47 38.1 +1.4**
L19K IAmb IAmb 18 47 39.3
comp=Z,22nm,0.9s
L19K White Mountain 80.24 23 P **P** **18 47 38.1 +1.4**
baz=237
M19K Big River Lodg 80.27 24 P **P** **18 47 38.6 +1.7**
M19K Big River Lodg 80.27 24 P **P** **18 47 38.7 +1.7**
baz=238
CNPM China Poot 80.38 27 P **P** **18 47 37.9 +0.3**
BRLK Bradley Lake 80.65 26 P **P** **18 47 38.8 -0.2**
BRLK IAmb IAmb 18 47 40.8
comp=Z,19nm,0.8s
BRSE Bradley Lake S 80.70 26 P **P** **18 47 40.6 +1.3**
baz=241
KSH Kashi 80.73 311 P **P** **18 47 41.0 +1.0**
KSH pmax pmax
comp=Z,5.0nm,0.8s
M20K Styx River 80.77 24 P **P** **18 47 40.8 +1.2**
M20K IAmb IAmb 18 47 41.9
comp=Z,15nm,0.8s
M20K Styx River 80.77 24 P **P** **18 47 41.0 +1.3**
baz=239
L20K Farewell, AK 80.78 23 P **P** **18 47 41.0 +1.4**
baz=238,SNR=12
N20K Mount Spurr 80.79 25 P **P** **18 47 40.4 +0.6**
baz=240
GCSA Galena City Sc 80.93 21 P **P** **18 47 41.4 +1.2**
baz=235
K20K Telida 81.18 22 P **P** **18 47 43.3 +1.6**
K20K IAmb IAmb 18 47 44.4
comp=Z,19nm,0.9s
K20K Telida 81.18 22 P **P** **18 47 43.5 +1.8**
baz=238
NIL Nilore 81.42 305 P **P** **18 47 42.4 -1.3**
SEW Seward 81.45 26 P **P** **18 47 43.2 +0.1**
SEW IAmb IAmb 18 47 48.5
comp=Z,25nm,1.0s
SEW Seward 81.45 26 P **P** **18 47 43.5 +0.4**
baz=242
SKT Skwentna 81.47 24 P **P** **18 47 41.7 -1.6**
SKT Skwentna 81.47 24 P **P** **18 47 42.9 -0.4**
baz=240
SUA Susitna One 81.54 25 P **P** **18 47 43.0 -0.7**
SUA Susitna One 81.54 25 P **P** **18 47 43.8 0.0**
baz=241,SNR=5.5
J20K Nowinta River 81.59 22 P **P** **18 47 45.3 +1.5**
J20K Nowinta River 81.59 22 P **P** **18 47 45.3 +1.5**
baz=237
PPLA Purkeypile 81.67 23 P **P** **18 47 44.6 +0.2**
PPLA Purkeypile 81.67 23 P **P** **18 47 44.7 +0.2**
baz=239
RC01 Rabbit Creek A 81.79 26 P **P** **18 47 45.2 +0.3**
RC01 IAmb IAmb 18 47 46.4
comp=Z,27nm,1.0s
RC01 Rabbit Creek A 81.79 26 P **P** **18 47 45.1 +0.2**
baz=242,SNR=8.5
M22K Willow 81.94 25 P **P** **18 47 45.5 -0.2**
M22K Willow 81.94 25 P **P** **18 47 46.2 +0.5**
baz=241
CAST Castle Rocks 81.97 23 P **P** **18 47 46.2 +0.3**
CAST IAmb IAmb 18 47 47.8
comp=Z,28nm,1.0s
CAST Castle Rocks 81.97 23 P **P** **18 47 46.2 +0.3**
baz=239,SNR=39
CHUM Lake Minchumin 82.12 22 P **P** **18 47 47.6 +1.0**
baz=239,SNR=30
CUT Chulitna 82.19 24 P **P** **18 47 46.7 -0.3**
CUT IAmb IAmb 18 47 48.3
comp=Z,25nm,0.8s
CUT Chulitna 82.19 24 P **P** **18 47 46.8 -0.3**
baz=241,SNR=7.7
KURK Kurchatov 82.27 323 P **P** **18 47 46.7 -0.9**
PMR Palmer 82.28 25 P **P** **18 47 46.9 -0.5**
PMR IAmb IAmb 18 47 48.7
comp=Z,16nm,0.9s
PMR Palmer 82.28 25 P **P** **18 47 47.8 +0.4**
baz=242,SNR=6.4
PWL Port Wells 82.29 26 P **P** **18 47 47.0 -0.6**
PWL Port Wells 82.29 26 P **P** **18 47 48.3 +0.7**
baz=243,SNR=18
KURBB Kurchatov Arra 82.29 323 PKPPKP 19 14 19.8
comp=Z,0.6nm,0.9s,baz=288,slow=2.6,SNR=5.7
P23K Montague Islan 82.32 27 P **P** **18 47 48.5 +0.8**
baz=244
GHO Glory Hole Cre 82.45 25 P **P** **18 47 48.3 -0.1**
GHO IAmb IAmb 18 47 49.9
comp=Z,16nm,0.8s
KNK Knik Glacier 82.48 26 P **P** **18 47 48.3 -0.3**
KNK IAmb IAmb 18 48 05.7
comp=Z,14nm,0.8s
KNK Knik Glacier 82.48 26 P **P** **18 47 49.3 +0.7**
baz=243,SNR=7.0
KTH Kantishna Hill 82.49 23 P **P** **18 47 47.9 -0.8**
KTH IAmb IAmb 18 47 50.0
comp=Z,25nm,1.0s
AAK Ala-Archa 82.63 314 LR LR 19 24 25.2
comp=Z,41nm,20.7s,baz=50,slow=35
TRF Thorofare Moun 82.69 23 P **P** **18 47 49.3 -0.5**
TRF IAmb IAmb 18 47 50.5
comp=Z,12nm,0.9s
TRF Thorofare Moun 82.69 23 P **P** **18 47 49.6 -0.2**
baz=241,SNR=8.4
IMAR Indian Mountai 82.71 20 P **P** **18 47 49.2 -0.5**
SML Sawmill 82.72 25 P **P** **18 47 49.3 -0.5**
SML Sawmill 82.72 25 P **P** **18 47 50.3 +0.4**
baz=243,SNR=22
BPAW Bear Paw Mtn. 82.74 23 P **P** **18 47 49.4 -0.5**
BPAW Bear Paw Mtn. 82.74 23 P **P** **18 47 50.0 +0.1**
baz=240,SNR=8.9
H21K Melozitna Rive 82.86 21 P **P** **18 47 50.4 0.0**
H21K Melozitna Rive 82.86 21 P **P** **18 47 50.5 0.0**
baz=238
I21K Tanana 82.91 21 P **P** **18 47 51.4 +0.7**
I21K IAmb IAmb 18 47 53.8
comp=Z,18nm,1.1s
I21K Tanana 82.91 21 P **P** **18 47 51.7 +1.0**
baz=239
M23K Glacier View 82.97 25 P **P** **18 47 51.5 +0.4**
baz=244
MAW Mawson 83.09 203 P **P** **18 47 52.1 +0.5**
comp=Z,7.5nm,0.8s,baz=94,slow=9.7,SNR=3.6
comp=Z,7.5nm,0.8s
WAT1 Susitna Watana 83.09 24 P **P** **18 47 51.8 +0.1**
baz=243
SCM Sheep Creek Mo 83.16 25 P **P** **18 47 52.9 +0.8**
SCM IAmb IAmb 18 47 55.0
comp=Z,33nm,1.1s
SCM Sheep Creek Mo 83.16 25 P **P** **18 47 52.9 +0.8**
baz=244,SNR=14
RND Reindeer 83.24 24 P **P** **18 47 52.0 -0.5**
RND IAmb IAmb 18 47 53.9
comp=Z,22nm,0.8s
MLY Manley 83.29 22 P **P** **18 47 53.0 +0.3**
MLY IAmb IAmb 18 47 54.5
comp=Z,16nm,0.8s
MLY Manley 83.29 22 P **P** **18 47 53.3 +0.6**
baz=240,SNR=20
EYAK Cordova Ski Ar 83.30 27 P **P** **18 47 53.1 +0.4**
baz=246
WAT6 Susitna Watana 83.31 25 P **P** **18 47 53.4 +0.4**
baz=244,SNR=15
MCK McKinley 83.36 23 P **P** **18 47 52.6 -0.4**
MCK McKinley 83.36 23 P **P** **18 47 52.8 -0.2**
baz=242,SNR=25
F21K Alatna River 83.46 19 P **P** **18 47 54.4 +0.8**
baz=238
H22K Ishtalitna Cre 83.49 21 P **P** **18 47 54.6 +0.9**
baz=240
DIV Divide 83.53 26 P **P** **18 47 54.1 0.0**
DIV IAmb IAmb 18 47 56.0
comp=Z,24nm,0.9s
KLU Klutina 83.61 26 P **P** **18 47 53.5 -1.0**
KLU Klutina 83.61 26 P **P** **18 47 55.2 +0.7**
baz=245,SNR=20
DHY Denali Highway 83.68 24 P **P** **18 47 54.3 -0.6**
DHY IAmb IAmb 18 47 57.1
comp=Z,20nm,0.8s
DHY Denali Highway 83.68 24 P **P** **18 47 55.5 +0.6**
baz=244,SNR=18
NEA2 Nenana 83.71 23 P **P** **18 47 54.0 -0.8**
NEA2 IAmb IAmb 18 47 56.2
comp=Z,20nm,1.0s
NEA2 Nenana 83.71 23 P **P** **18 47 54.8 0.0**
baz=242,SNR=19
M24K Tolsona, Glenn 83.77 25 P **P** **18 47 55.2 0.0**
M24K Tolsona, Glenn 83.77 25 P **P** **18 47 56.3 +1.1**
baz=245,SNR=9.7
I23K Minto, Yukon-K 83.86 22 P **P** **18 47 55.5 0.0**
I23K IAmb IAmb 18 51 06.5
comp=Z,12nm,0.9s
I23K Minto, Yukon-K 83.86 22 P **P** **18 47 55.9 +0.4**
baz=242
G22K Bettles 83.97 20 P **P** **18 47 56.7 +0.6**
baz=240
BMRM Bremner River 83.98 27 P **P** **18 47 56.5 +0.2**
BMRM IAmb IAmb 18 47 58.8
comp=Z,21nm,1.0s
BMRM Bremner River 83.98 27 P **P** **18 47 56.0 -0.3**
baz=246,SNR=9.6
WRH Wood River Hil 84.03 23 P **P** **18 47 56.1 -0.3**
WRH IAmb IAmb 18 47 57.8
comp=Z,23nm,1.0s
F22K John River 84.05 19 P **P** **18 47 57.5 +1.1**
baz=239
QSPA South Pole Qui 84.08 180 LR LR 19 24 02.8
comp=Z,26nm,18.0s,baz=298,slow=34
QSPA South Pole Qui 84.08 180 P **P** **18 47 57.3 +0.4**
QSPA IAmb IAmb 18 48 28.1
comp=Z,24nm,1.1s
H23K Yukon River 84.12 21 P **P** **18 47 57.1 +0.2**
H23K Yukon River 84.12 21 P **P** **18 47 57.9 +1.0**
baz=242,SNR=6.7
MDM Murphy Dome 84.20 22 P **P** **18 47 57.4 +0.1**
CCB Clear Creek Bu 84.22 23 P **P** **18 47 57.3 -0.1**
CCB IAmb IAmb 18 47 58.0
comp=Z,16nm,0.9s
N25K Chitina, Valde 84.24 26 P **P** **18 47 57.6 -0.1**
N25K Chitina, Valde 84.24 26 P **P** **18 47 58.5 +0.8**
baz=246,SNR=7.1
TCOL CIGO, UAF Yank 84.30 23 P **P** **18 47 57.8 0.0**
TCOL IAmb IAmb 18 47 59.0
comp=Z,28nm,1.1s
TCOL CIGO, UAF Yank 84.30 23 P **P** **18 47 57.5 -0.3**
baz=243
COLA College 84.30 23 P **P** **18 47 57.6 -0.1**
COLA IAmb IAmb 18 47 59.0
comp=Z,23nm,0.9s
COLA College 84.30 23 P **P** **18 47 57.5 -0.3**
baz=243
HARP HAARP 84.32 25 P **P** **18 47 59.0 +1.1**
baz=246,SNR=5.2
G23K Bananza Creek 84.37 20 P **P** **18 47 59.3 +1.1**
baz=241
PAX Paxson 84.42 25 P **P** **18 47 58.7 +0.1**
PAX Paxson 84.42 25 P **P** **18 47 58.8 +0.3**
baz=246,SNR=5.7
HDA Harding Lake 84.44 23 P **P** **18 47 58.2 -0.3**
HDA Harding Lake 84.44 23 P **P** **18 47 58.2 -0.3**
baz=244,SNR=8.4
SNH Sunshine Point 84.48 28 P **P** **18 47 59.6 +0.8**
GLB Gilahina Butte 84.52 26 P **P** **18 47 58.6 -0.4**
GLB IAmb IAmb 18 48 00.9
comp=Z,11nm,0.8s
COLD Coldfoot 84.56 20 P **P** **18 47 59.2 +0.1**
COLD Coldfoot 84.56 20 P **P** **18 47 59.1 +0.1**
baz=241
POKR Poker Plat Res 84.57 22 P **P** **18 47 58.8 -0.4**
POKR Poker Plat Res 84.57 22 P **P** **18 47 58.9 -0.2**
baz=244
VRDI Verde Repeater 84.60 27 P **P** **18 47 59.6 0.0**
IL31 84.63 23 P **P** **18 47 58.8 -0.6**
IL31 IAmb IAmb 18 48 00.3
comp=Z,16nm,0.9s
ILAR Eielson Array 84.63 23 P **P** **18 47 58.7 -0.7**
comp=Z,13nm,0.9s,baz=255,slow=5.0,SNR=109
ILAR pP **pP** **18 48 28.9 -2.2**
comp=Z,3.2nm,0.8s,baz=252,slow=5.2,SNR=3.6
ILAR PKKPbc **PKKPbc** **19 06 08.2 -4.1**
comp=Z,0.8nm,0.7s,baz=358,slow=1.3,SNR=12
ILAR PKPPKP **P'P'df** **19 14 16.6 +2.3**
comp=Z,0.4nm,1.0s,baz=18,slow=3.1,SNR=4.2
comp=Z,13nm,0.9s
K24K Donnelly Dome 84.65 24 P **P** **18 48 00.2 +0.6**
baz=245,SNR=7.3
H24K Noodor Dome 84.73 22 P **P** **18 48 00.0 0.0**
H24K Noodor Dome 84.73 22 P **P** **18 48 00.8 +0.8**
baz=243
MCARA McCarthy VSAT 84.85 27 P **P** **18 48 00.6 0.0**
MCARA IAmb IAmb 18 48 02.7
comp=Z,12nm,0.9s
MCARA McCarthy VSAT 84.85 27 P **P** **18 48 01.5 +0.9**
baz=248,SNR=7.6
ISLE Juniper Island 84.87 27 P **P** **18 48 00.7 -0.2**
ISLE IAmb IAmb 18 48 03.2
comp=Z,10nm,0.9s
RIDG Independent Ri 85.00 24 P **P** **18 48 00.9 -0.5**
RIDG IAmb IAmb 18 48 03.0
comp=Z,20nm,1.0s
RIDG Independent Ri 85.00 24 P **P** **18 48 02.0 +0.6**
baz=246,SNR=13
MENT Mentasta 85.14 25 P **P** **18 48 02.0 -0.1**
E23K Chandalar 85.17 19 P **P** **18 48 03.1 +0.9**
baz=241
M26K Nabesna, AK 85.25 26 P **P** **18 48 03.5 +0.8**
baz=248
G24K Hadweenzic Riv 85.27 21 P **P** **18 48 03.6 +1.0**
baz=243
D23K Nanushuk River 85.27 18 P **P** **18 48 03.8 +1.3**
baz=240
DOT Dot Lake 85.28 24 P **P** **18 48 02.7 -0.1**
DOT IAmb IAmb 18 48 05.0
comp=Z,26nm,1.0s
L26K Log Cabin Wild 85.33 25 P **P** **18 48 02.9 -0.1**
L26K IAmb IAmb 18 48 05.0
comp=Z,11nm,0.6s
L26K Log Cabin Wild 85.33 25 P **P** **18 48 03.8 +0.8**
baz=248,SNR=5.9
BARN Barnard Glacie 85.34 27 P **P** **18 48 03.5 +0.2**
BARN IAmb IAmb 18 48 05.6
comp=Z,13nm,0.9s
SCRK Sand Creek 85.44 24 P **P** **18 48 03.3 -0.3**
SCRK Sand Creek 85.44 24 P **P** **18 48 04.4 +0.7**
baz=247,SNR=10
PRP Porcupine Dome 85.47 22 P **P** **18 48 04.3 +0.5**
baz=245
F24K Squaw Lake 85.49 20 P **P** **18 48 05.1 +1.3**
baz=243
KK31 Karatay Array 85.58 314 P **P** **18 48 03.2 -1.6**
KKAR Karatay Array 85.58 314 P **P** **18 48 03.2 -1.6**
KKAR Karatay Array 85.58 314 P **P** **18 48 03.0 -1.8**
PINM Pinnacle 85.66 28 P **P** **18 48 05.8 +1.0**
baz=250
CHGR Chuyangaron 85.70 309 P **P** **18 48 03.7 -1.8**
CHGR IAmb IAmb 18 48 55.5
comp=Z,11nm,0.8s
M27K Edge Creek, AK 85.72 26 P **P** **18 48 05.1 0.0**

M27K	**Edge Creek, AK**	**85.72**	**26**	P	**P**	**18 48 06.4 +1.3**
	baz=249					
NRIK	**Noril'sk**	**85.76**	**342**	P	**P**	**18 48 03.6 -1.3**
	comp=Z,3.3nm,0.8s,baz=105,slow=5.7,SNR=5.8					
NRIK				LR	LR	19 23 45.3
	comp=Z,38nm,21.8s,baz=136,slow=34					
	comp=Z,3.3nm,0.8s					
NRIK	**Noril'sk**	**85.76**	**342**	P	**P**	**18 48 04.6 -0.4**
NRIK				IAmb	IAmb	18 48 07.3
	comp=Z,20nm,1.5s					
J26L	**Joseph Creek**	**85.82**	**24**	P	**P**	**18 48 04.9 -0.6**
J26L				IAmb	IAmb	18 48 07.5
	comp=Z,9.2nm,0.8s					
J26L	**Joseph Creek**	**85.82**	**24**	P	**P**	**18 48 06.3 +0.8**
	baz=247					
BCPM	**Bancas Point**	**85.91**	**29**	P	**P**	**18 48 05.6 -0.3**
BCPM				IAmb	IAmb	18 48 08.3
	comp=Z,12nm,0.6s					
O28M	**Mount Upton**	**85.92**	**28**	P	**P**	**18 48 07.1 +0.8**
	baz=250					
PNL	**Peninsula**	**85.93**	**29**	P	**P**	**18 48 07.2 +1.1**
	baz=251					
D24K	**Happy Valley**	**85.94**	**19**	P	**P**	**18 48 07.3 +1.4**
	baz=242					
L27K	**Beaver Creek,**	**85.99**	**25**	P	**P**	**18 48 06.3 0.0**
L27K				IAmb	IAmb	18 48 09.2
	comp=Z,19nm,1.1s					
L27K	**Beaver Creek,**	**85.99**	**25**	P	**P**	**18 48 07.4 +1.1**
	baz=249					
BCAR	**Beaver Creek A**	**86.01**	**25**	P	**P**	**18 48 05.5 -0.9**
FYU	**Fort Yukon**	**86.01**	**21**	P	**P**	**18 48 07.5 +1.3**
FYU				IAmb	IAmb	18 48 08.5
	comp=Z,18nm,1.0s					
YUK3	**Moose Creek**	**86.14**	**27**	P	**P**	**18 48 08.2 +0.9**
	baz=250,SNR=16					
BVCY	**Beaver Creek**	**86.18**	**26**	P	**P**	**18 48 08.5 +1.3**
	baz=250,SNR=15					
C24K	**Franklin Bluff**	**86.25**	**18**	P	**P**	**18 48 08.6 +1.3**
	baz=242					
YUK8	**Steele Glacier**	**86.28**	**27**	P	**P**	**18 48 09.5 +1.4**
	baz=251,SNR=15					
F25K	**Christian Rive**	**86.30**	**20**	P	**P**	**18 48 09.2 +1.5**
	baz=245					
O29M	**Mount Kennedy**	**86.52**	**28**	P	**P**	**18 48 10.3 +1.2**
	baz=252					
E25K	**Arctic Village**	**86.55**	**20**	P	**P**	**18 48 10.1 +1.1**
	baz=245					
BMAR	**Burnt Mountain**	**86.60**	**21**	P	**P**	**18 48 09.2 0.0**
D25K	**Kavik River**	**86.80**	**19**	P	**P**	**18 48 11.1 +0.9**
	baz=244					
YUK4	**Talbot Arm**	**86.81**	**27**	P	**P**	**18 48 12.4 +1.8**
	baz=252,SNR=20					
YUK6	**Outpost Mounta**	**86.82**	**28**	P	**P**	**18 48 11.2 +0.6**
	baz=252					
F26K	**Sheenjek River**	**86.86**	**21**	P	**P**	**18 48 10.9 +0.4**
	baz=246					
EGAK	**Eagle**	**86.88**	**24**	P	**P**	**18 48 10.5 0.0**
EGAK				IAmb	IAmb	18 48 12.6
	comp=Z,20nm,1.0s					
EGAK	**Eagle**	**86.88**	**24**	P	**P**	**18 48 11.4 +0.8**
	baz=249,SNR=19					
S31K	**Pelican**	**86.99**	**31**	P	**P**	**18 48 12.2 +1.1**
	baz=254					
I27K	**Kandik River**	**87.00**	**23**	P	**P**	**18 48 12.2 +1.0**
	baz=249					
HYT	**Haines Junctio**	**87.19**	**28**	P	**P**	**18 48 12.6 +0.3**
HYT	**Haines Junctio**	**87.19**	**28**	P	**P**	**18 48 13.9 +1.7**
	baz=253,SNR=36					
P30M	**Million Dollar**	**87.24**	**29**	P	**P**	**18 48 13.8 +1.3**
	baz=253					
M29M	**Somme Creek**	**87.24**	**26**	P	**P**	**18 48 13.8 +1.3**
	baz=252					
H27K	**Steamboat Moun**	**87.26**	**22**	P	**P**	**18 48 13.7 +1.3**
	baz=249,SNR=19					
PLBC	**Pleasant Camp**	**87.34**	**30**	P	**P**	**18 48 13.9 +1.1**
	baz=254,SNR=11					
DAWY	**Dawson**	**87.36**	**25**	P	**P**	**18 48 12.4 -0.6**
DAWY				IAmb	IAmb	18 48 15.4
	comp=Z,18nm,0.9s					
DAWY	**Dawson**	**87.36**	**25**	P	**P**	**18 48 14.1 +1.2**
	baz=251,SNR=29					
G27K	**Doyon Strip**	**87.42**	**22**	P	**P**	**18 48 14.6 +1.4**
	baz=249,SNR=6.9					
L29M	**L29M**	**87.59**	**26**	P	**P**	**18 48 15.5 +1.4**
	baz=252					
C27K	**Jago River**	**87.78**	**19**	P	**P**	**18 48 16.2 +1.4**
	baz=247					
BVAR	**Borovoye Array**	**87.81**	**324**	LR	LR	19 29 11.2
	comp=Z,54nm,18.7s,baz=16,slow=37					
O30N	**Mendenhall**	**87.83**	**28**	P	**P**	**18 48 16.6 +1.3**
	baz=254,SNR=20					
SKAG	**Skagway**	**87.85**	**30**	P	**P**	**18 48 14.7 -0.6**
SKAG				IAmb	IAmb	18 48 17.9
	comp=Z,16nm,0.9s					
SKAG	**Skagway**	**87.85**	**30**	P	**P**	**18 48 16.7 +1.5**
	baz=255,SNR=6.4					
E27K	**Coleen River**	**87.94**	**21**	P	**P**	**18 48 17.1 +1.5**
	baz=249					
M30M	**Minto, Yukon**	**88.02**	**26**	P	**P**	**18 48 16.2 +0.1**
M30M				IAmb	IAmb	18 48 19.2
	comp=Z,12nm,1.0s					
M30M	**Minto, Yukon**	**88.02**	**26**	P	**P**	**18 48 17.6 +1.4**
	baz=253,SNR=12					
K29M	**Barlow Dome**	**88.08**	**25**	P	**P**	**18 48 18.0 +1.5**
	baz=253					
U33K	**Whale Pass**	**88.17**	**33**	P	**P**	**18 48 17.9 +1.1**
	baz=257					
N31M	**Braeburn, Yuko**	**88.17**	**28**	P	**P**	**18 48 17.9 +1.1**
N31M				IAmb	IAmb	18 48 19.5
	comp=Z,20nm,0.9s					
N31M	**Braeburn, Yuko**	**88.17**	**28**	P	**P**	**18 48 18.6 +1.7**
	baz=254,SNR=8.4					
I29M	**Ogilvie Camp,**	**88.22**	**24**	P	**P**	**18 48 17.7 +0.8**
I29M				IAmb	IAmb	18 48 18.9
	comp=Z,12nm,1.0s					
I29M	**Ogilvie Camp,**	**88.22**	**24**	P	**P**	**18 48 18.0 +1.1**
	baz=252,SNR=9.3					
WHY	**Whitehorse**	**88.38**	**29**	P	**P**	**18 48 19.0 +1.1**
WHY				IAmb	IAmb	18 48 20.2
	comp=Z,9.4nm,0.8s					
WHY	**Whitehorse**	**88.38**	**29**	P	**P**	**18 48 19.2 +1.2**
	baz=255,SNR=9.9					
P32M	**Atlin**	**88.68**	**30**	P	**P**	**18 48 20.4 +1.2**
	baz=256,SNR=5.7					
M31M	**Drury Creek, Y**	**89.00**	**27**	P	**P**	**18 48 21.4 +0.7**
M31M	**Drury Creek, Y**	**89.00**	**27**	P	**P**	**18 48 21.4 +0.7**
	baz=256					
EPYK	**Eagle Plains**	**89.14**	**23**	P	**P**	**18 48 20.8 -0.5**
EPYK				IAmb	IAmb	18 48 23.9
	comp=Z,19nm,1.1s					
EPYK	**Eagle Plains**	**89.14**	**23**	P	**P**	**18 48 22.3 +1.0**
	baz=253,SNR=12					
Q32M	**Nakina River**	**89.25**	**31**	P	**P**	**18 48 22.7 +0.5**
	baz=257					
P33M	**Teslin, Yukon**	**89.26**	**29**	P	**P**	**18 48 22.5 +0.4**
P33M				IAmb	IAmb	18 51 01.7
	comp=Z,22nm,1.9s					
P33M	**Teslin, Yukon**	**89.26**	**29**	P	**P**	**18 48 22.9 +0.8**
	baz=257					
N32M	**Quiet Lake**	**89.35**	**28**	P	**P**	**18 48 23.1 +0.7**
	baz=257					
FARO	**Faro, Yukon**	**89.48**	**27**	P	**P**	**18 48 22.4 -0.6**
FARO	**Faro, Yukon**	**89.48**	**27**	P	**P**	**18 48 23.9 +1.0**
	baz=256					
G30M	**tAoh Zraii Nji**	**89.51**	**22**	P	**P**	**18 48 23.7 +0.7**
	baz=254					
S34M	**Telegraph Cree**	**89.62**	**32**	P	**P**	**18 48 25.0 +1.4**
	baz=258					
T35M	**Bob Quinn**	**89.91**	**33**	P	**P**	**18 48 26.5 +1.5**
	baz=259					
R33M	**Jennings River**	**90.00**	**30**	P	**P**	**18 48 26.9 +1.3**
	baz=258					
DLBC	**Dease Lake**	**90.30**	**31**	P	**P**	**18 48 26.2 -0.7**
DLBC				IAmb	IAmb	18 48 29.5
	comp=Z,11nm,1.4s					
DLBC	**Dease Lake**	**90.30**	**31**	P	**P**	**18 48 28.0 +1.1**
	baz=259					
F31M	**Tsiigehtchic**	**90.56**	**22**	P	**P**	**18 48 28.0 +0.3**
	baz=256,SNR=6.1					
INK	**Inuvik**	**90.85**	**21**	P	**P**	**18 48 28.3 -0.8**
INK				IAmb	IAmb	18 48 30.9
	comp=Z,10.0nm,1.1s					
INK	**Inuvik**	**90.85**	**21**	P	**P**	**18 48 29.2 +0.1**
	baz=256,SNR=12					
LIRD	**Liard River Hi**	**92.46**	**31**	P	**P**	**18 48 37.6 +0.8**
	baz=263					
GEYT	**Alibeck**	**94.21**	**308**	LR	LR	19 33 55.5
	comp=Z,32nm,19.6s,baz=120,slow=37					
ELIB	**Princess Elisa**	**94.80**	**195**	*d*P	**P**	**18 48 47.7 +0.2**
	comp=Z,7.3nm,0.8s					
ELIB				*d*pP	**pP**	**18 49 17.0 -2.6**
ARU	**Arti**	**95.06**	**326**	LR	LR	19 33 02.9
	comp=Z,39nm,19.5s,baz=78,slow=36					
AKTO	**Aktyubinsk**	**95.07**	**320**	LR	LR	19 31 42.9
	comp=Z,52nm,20.8s,baz=349,slow=35					
BELA	**Belgrano 2**	**96.34**	**179**	P	**P**	**18 48 52.6 -1.7**
RPN	**Rapa Nui**	**97.71**	**118**	LR	LR	19 23 59.0
	comp=Z,16nm,20.5s,baz=217,slow=30					
YKA	**Yellowknife Ar**	**98.18**	**28**	P	Pdif	18 49 02.9 +0.1
	comp=Z,1.8nm,1.0s,baz=277,slow=5.5,SNR=12					
YKA				PP	**PP**	**18 53 03.1 -0.5**
	comp=Z,0.6nm,1.0s,baz=273,slow=8.3,SNR=4.2					
YKA				PKKPbc	**PKKPbc**	**19 05 33.9 -3.5**
	comp=Z,1.4nm,0.8s,baz=86,slow=2.6,SNR=18					
	comp=Z,1.8nm,1.0s					
KIRV	**Kirov**	**99.95**	**328**	LR	LR	19 36 48.4
	comp=Z,72nm,19.5s,baz=69,slow=37					
PDAR	**Pinedale Array**	**102.42**	**48**	P	**Pdif**	**18 49 21.8 -0.7**
	comp=Z,0.2nm,0.4s,baz=193,slow=3.5,SNR=3.6					
PDAR				PKKPbc	**PKKPbc**	**19 05 23.3 -1.5**
	comp=Z,0.5nm,0.7s,baz=103,slow=6.6,SNR=4.5					
ARCES	**ARCESS Array B**	**106.74**	**342**	PKKPbc	PKKPbc	19 05 08.8 -3.5
	comp=Z,6.5nm,1.1s,baz=225,slow=2.0,SNR=6.1					
AKASG	**Malin Array Be**	**113.08**	**323**	PKiKP	**PKiKP**	**18 54 02.8 0.0**
	comp=Z,0.3nm,0.3s,baz=74,slow=3.0,SNR=1.8					
AKASG				PKKPbc	**PKKPbc**	**19 04 48.9 -2.4**
	comp=Z,1.1nm,0.6s,baz=266,slow=4.0,SNR=9.7					
BRTR	**Keskin Array B**	**113.11**	**311**	PKKPbc	PKKPbc	19 04 50.5 -0.5
	comp=Z,0.8nm,0.7s,baz=260,slow=5.5,SNR=3.8					
BOSA	**Boshof**	**115.87**	**234**	PKP	**PKPdf**	**18 54 08.7 -0.3**
	comp=Z,0.8nm,0.4s,baz=90,slow=7.1,SNR=1.8					
PLCA	**Paso Flores**	**121.15**	**146**	PKP	**PKiKP**	**18 54 19.2 +0.3**
	comp=Z,6.4nm,0.8s,baz=225,slow=2.4,SNR=18					
PLCA				pPKP	**pPKPdf**	**18 54 49.2 -3.1**
	comp=Z,1.1nm,0.6s,baz=262,slow=3.4,SNR=2.0					
GERES	**GERESS Array B**	**122.88**	**326**	PKP	**PKPdf**	**18 54 21.8 0.0**
	comp=Z,0.5nm,0.6s,baz=90,slow=2.7,SNR=6.5					
BMRD	**Maredsous**	**126.53**	**332**	*d*PKP	**PKPdf**	**18 54 28.1 -0.5**
LVC	**Limon Verde**	**133.40**	**129**	PKP	**PKPdf**	**18 54 43.1 +0.1**
	comp=Z,3.3nm,0.6s,baz=212,slow=1.0,SNR=3.0					
GUY2C	**Guyana, Caldas**	**135.92**	**89**	*e*P	**PKPdf**	**18 54 48.1 0.0**
ORTC	**Ortega, Tolima**	**135.95**	**90**	*e*P	**PKPdf**	**18 54 45.6 -2.0**
ZARC	**Zaragoza, Cauc**	**136.50**	**85**	*e*P	**PKPdf**	**18 54 48.4 -0.2**
ROSC	**El Rosal**	**136.94**	**89**	PKP	**PKiKP**	**18 54 50.9 -0.8**
	comp=Z,7.0nm,0.4s,baz=323,slow=14,SNR=4.4					
CHIC	**Chingaza**	**137.51**	**90**	*e*P	**PKPdf**	**18 54 44.6 -6.3**
RUSC	**La Rusia**	**138.22**	**88**	*e*P	**PKPdf**	**18 54 47.4 -5.0**
CRJC	**Cerrejon, Guaj**	**138.36**	**80**	*e*P	**PKPdf**	**18 54 47.7 -4.4**
CPUP	**Villa Florida**	**139.09**	**143**	PKP	**PKPdf**	**18 54 53.0 0.0**
	comp=Z,5.1nm,0.8s,baz=242,slow=0.6,SNR=11					
SIV	**San Ignacio**	**143.20**	**127**	PKhKP	PKPpre	18 54 57.2
	comp=Z,19nm,0.8s,baz=241,slow=4.0,SNR=71					
SIV				SKPbc	**SKiKP**	**18 58 29.9 +1.1**
	comp=Z,6.0nm,0.9s,baz=230,slow=4.6,SNR=5.3					
TORD	**Torodi Ar. Bea**	**146.91**	**285**	PKPbc	**PKPdf**	**18 55 06.5 -0.5**
	comp=Z,11nm,0.8s,baz=71,slow=4.7,SNR=28					
TORD				SKPbc	**SKPbc**	**18 58 35.6 -0.7**
	comp=Z,3.7nm,0.7s,baz=70,slow=2.0,SNR=2.9					
BDFB	**Brasilia**	**152.82**	**142**	PKP	**PKPdf**	**18 55 16.9 +0.5**
	comp=Z,5.5nm,0.8s,baz=243,slow=2.8,SNR=6.2					
BDFB				PKPbc	**PKiKP**	**18 55 24.0 +0.1**
	comp=Z,22nm,0.6s,baz=232,slow=1.6,SNR=28					
BDFB				PKPab	**PKPab**	**18 55 35.2 +0.3**
	comp=Z,17nm,0.7s,baz=178,slow=2.9,SNR=13					

MDD ***11*** *18:44:13.7±0.4,35°.38N×3°.79W,h12km±5km,mb_Lg3.1/19, Error ellipse: s-maj=5.3km s-min=2.1km az=163.0*
CNRM ***11*** *18:44:13.8,35°.56N×3°.74W,h24km,ml3.1*
SFS ***11*** *18:44:14.7,35°.38N×3°.78W,h30km,ML3.5/14,MLv3.4/14*
INMG ***11*** *18:44:14.0±1.7,35°.36N×3°.80W,h15km,ML2.8,Error ellipse: s-maj=5.1km s-min=3.4km az=8.0*
IDC ***11*** *18:44:15.5±1.6,35°.77N×3°.94W,h0km,mb3.7/3, mbtmp3.6/4,ML3.0/1,Error ellipse: s-maj=36.8km s-min=19.9km az=83.0*

ISC 11 18:44:12.9±1.4,35°.48N±0°.03×3°.79W±0°.02,h8km±10km, n84,σ1s83/147,mb3.7/3,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.52**	**234**	P		**P**	**Pb**	**18 44 24.5**	**+0.2**
PVLZ				S		**S**	**Sb**	**18 44 32.3**	**+0.4**
EMEL	**Melilla**	**0.70**	**105**	Pg		**Pg**	**Pg**	**18 44 26.6**	**+0.2**
EMEL				Sg		**Sg**	**Sg**	**18 44 35.6**	**+0.1**
EALB	**Alboran**	**0.76**	**53**	Pg		**Pg**	**Pg**	**18 44 27.6**	**0.0**
EALB				Sg		**Sg**	**Sb**	**18 44 39.2**	**+0.3**
EALB				*i* Vmb_Lg				18 44 40.1	
CHAS	**Isla Isabel II**	**1.15**	**105**	P		**P**	**Pb**	**18 44 32.6**	**-2.3**
CHAS				S		**S**	**Sb**	**18 44 47.8**	**-2.2**
TAF	**Taforalt**	**1.31**	**120**	P		**P**	**Pn**	**18 44 36.2**	**-1.3**
TAF				S		**S**	**Sn**	**18 44 54.9**	**-0.3**
CHEFC	**Chefchaouen**	**1.32**	**254**	P		**P**	**Pn**	**18 44 38.2**	**+0.4**
CHEFC				S		**S**	**Sb**	**18 44 54.5**	**-0.7**
EMIJ	**Mijas**	**1.34**	**324**	P		**P**	**Pn**	**18 44 37.1**	**-0.8**
EMIJ				S		**S**	**Sn**	**18 44 53.6**	**-2.4**
EMIJ	**Mijas**	**1.34**	**324**	Pn		**Pn**	**Pn**	**18 44 37.2**	**-0.8**
EMIJ				Sn		**Sn**	**Sn**	**18 44 53.6**	**-2.4**
EMIJ				*i* Vmb_Lg				18 45 00.0	
CEU	**Ceuta**	**1.35**	**288**	P		**P**	**Pn**	**18 44 34.8**	**-3.3**
CEU				S		**S**	**Sn**	**18 44 51.5**	**-4.7**
ECEU	**Ceuta**	**1.36**	**288**	P		**P**	**Pn**	**18 44 36.1**	**-2.0**
ECEU				S		**S**	**Sn**	**18 44 52.9**	**-3.4**
EMAL	**Malaga-Limoner**	**1.38**	**338**	P		**P**	**Pn**	**18 44 36.9**	**-1.4**
EMAL				S		**S**	**Sn**	**18 44 54.5**	**-2.3**
ELGU	**Los Guajares,**	**1.39**	**5**	P		**P**	**Pn**	**18 44 36.9**	**-1.7**
ELGU	**Los Guajares,**	**1.39**	**5**	Pn		**Pn**	**Pn**	**18 44 36.9**	**-1.7**
ELGU				Sn		**Sn**	**Sn**	**18 44 55.7**	**-1.4**
ELGU				*i* Vmb_Lg				18 45 00.2	
JBK	**JBK**	**1.52**	**138**	P		**P**	**Pn**	**18 44 39.2**	**-1.4**
JBK				S		**S**	**Sn**	**18 44 59.0**	**-1.6**
EGOR	**Sierra Gorda,**	**1.64**	**351**	P		**P**	**Pn**	**18 44 41.9**	**-0.3**
EGOR	**Sierra Gorda,**	**1.64**	**351**	Pn		**Pn**	**Pn**	**18 44 42.6**	**+0.4**
EGOR				Sn		**Sn**	**Sn**	**18 45 03.6**	**0.0**
EGOR				*i* Vmb_Lg				18 45 07.8	
EJIF	**Jimena Fronter**	**1.67**	**306**	Pn		**Pn**	**Pn**	**18 44 43.0**	**+0.5**
EJIF				Sn		**Sn**	**Sn**	**18 45 04.1**	**+0.1**
EQUE	**Quentar**	**1.74**	**9**	Pn		**Pn**	**Pn**	**18 44 42.7**	**-0.8**
EQUE				Sn		**Sn**	**Sb**	**18 45 07.2**	**+0.1**
EQUE				*i* Vmb_Lg				18 45 15.2	
ENIJ	**Nijar**	**1.96**	**40**	Pn		**Pn**	**Pn**	**18 44 46.5**	**+0.1**
ENIJ				Sn		**Sn**	**Sn**	**18 45 07.9**	**-3.3**
ENIJ				*i* Vmb_Lg				18 45 09.8	
ESPR	**Espera**	**2.17**	**310**	Pn		**Pn**	**Pn**	**18 44 49.8**	**+0.5**
ESPR				Sn		**Sn**	**Sn**	**18 45 17.5**	**+1.1**
ESPR				*i* Vmb_Lg				18 45 27.4	
EQES	**Quesada**	**2.38**	**14**	Pn		**Pn**	**Pn**	**18 44 53.8**	**+1.4**
EQES				Sn		**Sn**	**Sn**	**18 45 23.8**	**+2.0**
EQES				*i* Vmb_Lg				18 45 33.9	
MD31	**MD31**	**2.73**	**197**	P		**P**	**Pn**	**18 44 58.4**	**+1.3**
MD31				S		**S**	**Sn**	**18 45 31.2**	**+0.9**
MDT	**Midelt**	**2.75**	**195**	P		**P**	**Pn**	**18 44 60.0**	**+2.6**
MDT				S		**S**	**Sn**	**18 45 31.4**	**+0.6**
EADA	**Adamuz**	**2.75**	**347**	P		**P**	**Pn**	**18 44 59.0**	**+1.7**
EADA	**Adamuz**	**2.75**	**347**	Pn		**Pn**	**Pn**	**18 44 58.5**	**+1.2**
EADA				Sn		**Sn**	**Sn**	**18 45 30.2**	**-0.6**
EADA				*i* Vmb_Lg				18 45 41.5	
ECAB	**El Cabril**	**2.90**	**334**	P		**P**	**Pn**	**18 45 00.5**	**+1.2**
ECAB	**El Cabril**	**2.90**	**334**	Pn		**Pn**	**Pn**	**18 45 00.6**	**+1.3**
ECAB				Sn		**Sn**	**Sn**	**18 45 35.1**	**+0.8**
ECAB				*i* Vmb_Lg				18 45 44.1	
EZAR	**Zarzadilla de**	**2.92**	**35**	Pn		**Pn**	**Pn**	**18 45 00.6**	**+0.9**
EZAR				Sn		**Sn**	**Sn**	**18 45 35.8**	**+0.8**
CART	**Cartagena**	**3.07**	**46**	P		**P**	**Pn**	**18 44 59.3**	**-2.4**
EMUR	**La Murta**	**3.12**	**40**	Pn		**Pn**	**Pn**	**18 45 02.4**	**0.0**
EMUR				Sn		**Sn**	**Sn**	**18 45 36.7**	**-3.1**
EMUR				*i* Vmb_Lg				18 45 47.0	
EMIN	**Mina Concepcio**	**3.25**	**315**	P		**P**	**Pn**	**18 45 03.7**	**-0.5**
EMIN				S		**S**	**Sn**	**18 45 40.8**	**-2.2**
EMIN	**Mina Concepcio**	**3.25**	**315**	Pn		**Pn**	**Pn**	**18 45 03.5**	**-0.7**
EMIN				Sn		**Sn**	**Sn**	**18 45 40.9**	**-2.2**
EMIN				*i* Vmb_Lg				18 45 47.2	
PSIM	**Granatula de C**	**3.33**	**0**	Pn		**Pn**	**Pn**	**18 45 04.2**	**-1.0**
PSIM				Sn		**Sn**	**Sn**	**18 45 42.4**	**-2.7**
EGRO	**El Granado**	**3.61**	**306**	P		**P**	**Pn**	**18 45 08.7**	**-0.3**
EGRO				S		**S**	**Sn**	**18 45 49.6**	**-2.3**
EGRO	**El Granado**	**3.61**	**306**	Pn		**Pn**	**Pn**	**18 45 08.9**	**-0.2**
EGRO				Sn		**Sn**	**Sn**	**18 45 49.5**	**-2.4**
EGRO				*i* Vmb_Lg				18 45 53.7	
ETOB	**Tobarra**	**3.63**	**29**	P		**P**	**Pn**	**18 45 11.1**	**+1.7**
ETOB	**Tobarra**	**3.63**	**29**	Pn			**Pn**	**18 45 10.1**	**+0.7**
ETOB				Sn			**Sn**	**18 45 53.1**	**+0.7**
PVAQ	**Vaqueiros**	**3.70**	**302**	*e*Pn			**Pn**	**18 45 10.8**	**+0.5**
PVAQ				*e*Sn			**Sn**	**18 45 52.7**	**-1.4**
PVAQ				A			A	18 45 54.6	
	12nm,0.3s								
PVAQ	**Vaqueiros**	**3.70**	**302**	P			**Pn**	**18 45 10.5**	**+0.2**
PVAQ				S			**Sn**	**18 45 52.1**	**-2.0**
PVAQ	**Vaqueiros**	**3.70**	**302**	P			**Pn**	**18 45 09.8**	**-0.6**
PVAQ				S			**Sn**	**18 45 52.4**	**-1.8**
PBAR	**Barrancos**	**3.74**	**317**	*e*Pn			**Pn**	**18 45 11.4**	**+0.5**
PBAR				*e*Sn			**Sn**	**18 45 54.4**	**-0.8**
PBAR				A			A	18 45 58.2	
	14nm,0.5s								
PBAR	**Barrancos**	**3.74**	**317**	P			**Pn**	**18 45 10.7**	**-0.2**
PBAR				S			**Sn**	**18 45 52.8**	**-2.3**
PCVE	**Castro Verde**	**4.04**	**303**	*e*Pn			**Pn**	**18 45 16.4**	**+1.4**
PCVE				*e*Sn			**Sn**	**18 46 00.8**	**-1.6**
PCVE				A			A	18 46 06.0	
	13nm,0.3s								
PCVE	**Castro Verde**	**4.04**	**303**	P			**Pn**	**18 45 14.5**	**-0.4**
PCVE				S			**Sn**	**18 46 01.0**	**-1.4**
PAB	**San Pablo**	**4.08**	**354**	Pn			**Pn**	**18 45 16.1**	**+0.5**
PAB				Sn			**Sn**	**18 46 02.0**	**-1.5**
PBEJ	**Beja**	**4.14**	**309**	*e*Sn			**Sn**	**18 46 03.6**	**-1.4**
PBEJ				A			A	18 46 09.4	
	7.8nm,0.4s								
EBAD	**Badajoz**	**4.16**	**323**	S			**Sn**	**18 46 02.6**	**-2.9**
EBAD				P			**Pn**	**18 45 16.5**	**-0.1**
EBAD	**Badajoz**	**4.16**	**323**	Pn			**Pn**	**18 45 16.7**	**+0.1**
EBAD				Sn			**Sn**	**18 46 03.2**	**-2.3**
EBAD				*i* Vmb_Lg				18 46 05.9	
ESDC	**Sonseca Array**	**4.19**	**358**	Pn			**Pn**	**18 45 17.9**	**+0.8**
	0.5nm,0.3s,baz=179,slow=12,SNR=14								
ESDC				Sn			**Sn**	**18 46 03.1**	**-3.1**
	0.2nm,0.3s,baz=184,slow=24,SNR=1.7								
ESDC				Lg			Lg	18 46 20.7	
	0.8nm,0.3s,baz=179,slow=30,SNR=6.2								
	2.6nm,0.6s								
ESDC	**Sonseca Array**	**4.19**	**358**	Pn			**Pn**	**18 45 17.6**	**+0.5**
ESDC				Sn			**Sn**	**18 46 06.4**	**+0.2**
MESJ	**Messejana**	**4.27**	**305**	*e*P			**Pn**	**18 45 18.2**	**+0.1**
MESJ				*e*S			**Sn**	**18 46 04.9**	**-3.3**
MESJ				IAML				18 46 08.3	
	comp=N,14nm,0.5s								
MESJ	**Messejana**	**4.27**	**305**	*e*Pn			**Pn**	**18 45 18.4**	**+0.3**
MESJ				*e*Sn			**Sn**	**18 46 05.3**	**-2.8**
MESJ				A			A	18 46 08.5	
	comp=N,14nm,0.5s								
MORF	**Marmelete**	**4.33**	**296**	*e*Sn			**Sn**	**18 46 07.8**	**-1.8**
MORF				A			A	18 46 14.8	
	comp=N,5.7nm,0.4s								
PFVI	**Vila Bisbo**	**4.39**	**293**	*e*Pn			**Pn**	**18 45 20.6**	**+0.8**
PFVI				*e*Sn			**Sn**	**18 46 08.8**	**-2.3**
PFVI				A			A	18 46 20.4	
	comp=N,9.8nm,0.5s								
PFVI	**Vila Bisbo**	**4.39**	**293**	P			**Pn**	**18 45 19.2**	**-0.6**
PTEO	**Sao Teotonio**	**4.48**	**299**	*e*Pn			**Pn**	**18 45 21.3**	**+0.3**
PTEO				*e*Sn			**Sn**	**18 46 11.8**	**-1.4**
PTEO				A			A	18 46 21.2	
	comp=N,9.6nm,0.4s								
PESTR	**Estremoz**	**4.54**	**319**	*e*Pn			**Pn**	**18 45 23.1**	**+1.2**
PESTR				*e*Sn			**Sn**	**18 46 12.8**	**-2.1**
PESTR				A			A	18 46 27.8	
	comp=N,10.0nm,0.5s								
PESTR	**Estremoz**	**4.54**	**319**	P			**Pn**	**18 45 21.7**	**-0.2**
PESTR				S			**Sn**	**18 46 12.3**	**-2.5**
EVO	**Evora**	**4.55**	**313**	*e*Pn			**Pn**	**18 45 23.0**	**+1.0**
EVO				*e*Sn			**Sn**	**18 46 12.4**

SONM	**Songino Array**	**12.28**	**351**	Pn		**Pn**	**19 13 37.1**	**+1.1**
CHTO	**Chiang Mai**	**19.12**	**211**	P		**Pn**	**19 15 05.6**	**+0.5**
CM31	**Chiang Mai Arr**	**19.44**	**210**	P		**P**	**19 15 07.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.44**	**210**	P		**Pn**	**19 15 09.3**	**+0.3**
	1.1nm,0.3s,baz=16,slow=10,SNR=6.7							
	1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**19.44**	**210**	P		**P**	**19 15 06.8**	**-1.0**
MK31	**Makanchi Array**	**22.94**	**307**	P		**P**	**19 15 45.7**	**+0.3**
MKAR	**Makanchi Array**	**22.94**	**307**	P		**P**	**19 15 45.8**	**+0.4**
	2.3nm,0.7s,baz=108,slow=11,SNR=24							
	2.3nm,0.7s							
MKAR	**Makanchi Array**	**22.94**	**307**	P		**P**	**19 15 45.7**	**+0.3**
MAKZ	**Makanchi**	**23.14**	**307**	P		**P**	**19 15 47.6**	**+0.1**
MAKZ				IAmb	IAmb		19 15 49.1	
	comp=Z,5.0nm,0.8s							
ZAA0	**Zalesovo Array**	**24.91**	**325**	P		**P**	**19 16 03.8**	**-0.2**
ZAA0				IAmb	IAmb		19 16 04.5	
	comp=Z,3.6nm,0.6s							
ZALV	**Zalesovo Beam**	**24.91**	**325**	P		**P**	**19 16 04.1**	**0.0**
	comp=Z,4.1nm,0.6s,baz=123,slow=9.6,SNR=20							
	comp=Z,4.1nm,0.6s							
ZALV	**Zalesovo Beam**	**24.91**	**325**	P		**P**	**19 16 03.7**	**-0.4**
TARG	**Taragay, Kyrgy**	**25.12**	**293**	P		**P**	**19 16 07.6**	**+1.0**
TARG				IAmb	IAmb		19 16 09.8	
	comp=Z,1.8nm,0.7s							
KURK	**Kurchatov**	**26.61**	**314**	P		**P**	**19 16 19.3**	**-0.2**
KURK				IAmb	IAmb		19 16 22.5	
	comp=Z,4.3nm,0.8s							
KURBB	**Kurchatov Arra**	**26.62**	**314**	P		**P**	**19 16 19.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=113,slow=11,SNR=17							
KURBB				PcP		**PcP**	**19 19 43.8**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=113,slow=2.0,SNR=5.5							
	comp=Z,2.1nm,0.7s							
BRVK	**Borovoye**	**32.26**	**315**	P		**P**	**19 17 09.7**	**+0.1**
BRVK				IAmb	IAmb		19 17 49.1	
	comp=Z,3.1nm,1.0s							
TIXI	**Tiksi**	**37.44**	**10**	P		**P**	**19 17 54.7**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=270,slow=20,SNR=9.2							
	comp=Z,3.0nm,0.7s							
ABKAR	**Akbulak array**	**38.08**	**306**	P		**P**	**19 17 60.0**	**+0.2**
ARCES	**ARCESS Array B**	**54.86**	**335**	P		**P**	**19 20 10.4**	**-0.7**
FINES	**FINESS Array B**	**56.17**	**325**	P		**P**	**19 20 20.6**	**-0.1**
	comp=Z,4.1nm,1.1s,baz=120,slow=5.5,SNR=1.0							
	comp=Z,4.1nm,1.1s							
BRTR	**Keskin Array B**	**58.22**	**299**	P		**P**	**19 20 35.5**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=62,slow=6.7,SNR=1.8							
	comp=Z,0.4nm,0.7s							
WB0	**Warramunga Arr**	**60.13**	**152**	P		**P**	**19 20 47.6**	**-1.3**
WB0				IAmb	IAmb		19 21 04.6	
	comp=Z,4.8nm,1.1s							
WRA	**Warramunga Arr**	**60.27**	**153**	P		**P**	**19 20 50.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=345,slow=7.4,SNR=5.1							
	comp=Z,0.4nm,0.7s							
CSS	**Mathiatis**	**60.34**	**294**	P		**P**	**19 20 48.1**	**-2.2**
NOA	**NORSAR Array B**	**63.07**	**327**	P		**P**	**19 21 06.9**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=64,slow=6.5,SNR=3.2							
	comp=Z,0.9nm,0.6s							
ILAR	**Eielson Array**	**63.82**	**28**	P		**P**	**19 21 13.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=292,slow=4.8,SNR=4.0							
	comp=Z,0.2nm,0.6s							
HYT	**Haines Junctio**	**69.58**	**29**	P		**P**	**19 21 49.0**	**-1.1**
YKA	**Yellowknife Ar**	**75.99**	**19**	P		**P**	**19 22 28.5**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=326,slow=5.8,SNR=2.8							
	comp=Z,0.1nm,0.5s							

TIF ***11*** *19:29:00.4,41.˚39N×43.˚94E,h9km*
ISK ***11*** *19:29:00.1,41.˚43N×43.˚97E,h9km,ML2.8/10*
MOS ***11*** *19:29:01.0±0.0,41.˚40N×43.˚89E,h1km,MPVA3.7*
NORS ***11*** *19:29:02.2±0.0,41.˚55N×43.˚86E,h3km,MPVA4.0*
AZER ***11*** *19:29:02.4±0.1,41.˚38N×44.˚39E,h2km, Error ellipse: s-maj=1.7km s-min=1.0km az=320.0*
DDA ***11*** *19:29:03.8±0.0,41.˚26N×43.˚70E,h7km±3km,ML2.6*
DRS ***11*** *19:29:03.9±0.0,41.˚11N×43.˚71E,h22km*

ISC 11 19:29:01.1±0.9, 41.˚37N±0.˚01×43.˚91E±0.˚01, h9km±7km, n149, σ1°32/273, 1C-1D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.22**	**101**	P		**Pg**	**19 29 05.1**	**-0.5**
DMNI				S		**Sg**	**19 29 07.9**	**-0.7**
DMNI	**Dmanisi**	**0.22**	**101**	PG		**Pg**	**19 29 05.0**	**-0.5**
TRLG	**Trialeti**	**0.22**	**41**	P		**Pg**	**19 29 05.3**	**-0.4**
TRLG				S		**Sg**	**19 29 08.3**	**-0.5**
TRLG	**Trialeti**	**0.22**	**41**	PG		**Pg**	**19 29 05.3**	**-0.4**
BGD	**Bogdanovka**	**0.26**	**246**	P		**Pg**	**19 29 07.1**	**+0.8**
BGD				S		**Sg**	**19 29 11.4**	**+1.5**
BGD	**Bogdanovka**	**0.26**	**246**	PG		**Pg**	**19 29 07.1**	**+0.8**
BGD				S		**Sg**	**19 29 11.3**	**+1.5**
BRNG	**Burnasheti**	**0.26**	**346**	P		**Pg**	**19 29 06.8**	**+0.3**
BRNG				S		**Sg**	**19 29 11.4**	**+1.4**
BRNG	**Burnasheti**	**0.26**	**346**	PG		**Pg**	**19 29 06.7**	**+0.3**
AKH	**Akhalkalaki**	**0.32**	**277**	P		**Pg**	**19 29 08.0**	**+0.5**
AKH				S		**Sb**	**19 29 13.0**	**-1.4**
AKH	**Akhalkalaki**	**0.32**	**277**	Pg		**Pg**	**19 29 07.9**	**+0.5**
AKH				Sg		**Sb**	**19 29 13.0**	**-1.4**
AKH	**Akhalkalaki**	**0.32**	**277**	*i* Pg		**Pg**	**19 29 08.0**	**+0.5**
AKH				*i* Sg		**Sb**	**19 29 13.0**	**-1.4**
AKH	**Akhalkalaki**	**0.32**	**277**	PG		**Pg**	**19 29 08.0**	**+0.5**
AKH				S		**Sb**	**19 29 13.0**	**-1.4**
KZRT	**Kazreti**	**0.37**	**87**	P		**Pg**	**19 29 07.8**	**-0.7**
KZRT				S		**Sg**	**19 29 12.3**	**-0.9**
KZRT	**Kazreti**	**0.37**	**87**	PG		**Pg**	**19 29 07.7**	**-0.7**
BTNK	**Botanikuri**	**0.74**	**65**	P		Pg	19 29 08.4	-7.0
BTNK				S		**Sg**	**19 29 18.7**	**-6.3**
BTNK	**Botanikuri**	**0.74**	**65**	PG		Pg	19 29 08.3	-7.0
ALIG	**Mtskhetisjvari**	**0.76**	**345**	P		**Pg**	**19 29 15.6**	**-0.2**
ALIG				S		**Sb**	**19 29 26.8**	**-0.7**
ALIG	**Mtskhetisjvari**	**0.76**	**345**	PG		**Pg**	**19 29 15.6**	**-0.2**
ALIG				S		**Sb**	**19 29 26.3**	**-0.7**
ABS	**Abastumani**	**0.91**	**295**	P		**Pg**	**19 29 18.5**	**-0.1**
ABS				S		**Sn**	**19 29 31.9**	**-1.7**
ABS	**Abastumani**	**0.91**	**295**	PG		**Pg**	**19 29 18.5**	**-0.1**
ABS				S		**Sn**	**19 29 31.8**	**-1.7**
KARS	**Kars**	**0.97**	**221**	Pg		**Pn**	**19 29 20.5**	**-0.6**
DIGO	**Kars**	**1.04**	**203**	P		**Pb**	**19 29 20.9**	**-0.5**
DIGO				S		**Sg**	**19 29 33.6**	**-1.0**
QZX	**Qazax, Azerbai**	**1.15**	**105**	P		**Pb**	**19 29 21.5**	**-1.6**
	SNR=371							
QZX				S		**Sb**	**19 29 35.5**	**-2.6**
TKB	**Tkibuli**	**1.20**	**325**	P		**Pn**	**19 29 23.6**	**-0.4**
TKB				S		**Sn**	**19 29 40.1**	**-0.4**
TKB	**Tkibuli**	**1.20**	**325**	PG		**Pn**	**19 29 23.6**	**-0.4**
TKB				S		**Sn**	**19 29 40.0**	**-0.4**
ONI	**Oni**	**1.27**	**345**	P		**Pn**	**19 29 24.5**	**-0.6**
ONI				S		**Sg**	**19 29 42.2**	**+0.3**
ONI	**Oni**	**1.27**	**345**	Pn		**Pn**	**19 29 24.2**	**-0.9**
ONI				Sn		**Sb**	**19 29 40.7**	**-0.9**
ONI	**Oni**	**1.27**	**345**	PG		**Pn**	**19 29 24.5**	**-0.6**
ONI				S		**Sg**	**19 29 42.1**	**+0.3**
PNSH	**Pansheti**	**1.37**	**22**	P		**Pn**	**19 29 26.3**	**-0.4**
PNSH				S		**Sg**	**19 29 45.5**	**+0.3**
PNSH	**Pansheti**	**1.37**	**22**	PG		**Pn**	**19 29 26.2**	**-0.4**
PNSH				S		**Sg**	**19 29 45.5**	**+0.3**
GNI	**Garni**	**1.37**	**152**	Pn		**Pn**	**19 29 26.6**	**0.0**
GNI				Sn		**Sg**	**19 29 45.9**	**+0.6**
GNI	**Garni**	**1.37**	**152**	*e*Pg		**Pn**	**19 29 26.8**	**+0.2**
GNI				*e*Sg		**Sg**	**19 29 46.3**	**+1.0**
GNI	**Garni**	**1.37**	**152**	*e*PG		**Pn**	**19 29 26.8**	**+0.2**
GNI				*e*S		**Sg**	**19 29 46.3**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.41**	**170**	Pn		**Pn**	**19 29 26.9**	**-0.1**
TASB				Sn		**Sg**	**19 29 46.8**	**+0.4**
ZEI	**Tsey**	**1.42**	**360**	*e*Pg		**Pb**	**19 29 27.6**	**-0.2**
ZEI				*e*Sg		**Sg**	**19 29 47.4**	**+0.7**
ZEI	**Tsey**	**1.42**	**360**	*e*PG		**Pb**	**19 29 27.6**	**-0.2**
ZEI				*e*S		**Sg**	**19 29 47.2**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.43**	**236**	Pn		**Pb**	**19 29 28.0**	**-0.1**
SENK				Sn		**Sg**	**19 29 48.7**	**+1.6**
LACR	**Lac**	**1.48**	**11**	*i* Pg		**Pb**	**19 29 28.6**	**-0.3**
LACR				*e*Sg		**Sg**	**19 29 48.9**	**+0.1**
LACR	**Lac**	**1.48**	**11**	‖ *i* PG		**Pb**	**19 29 28.6**	**-0.3**
LACR				*e*S		**Sg**	**19 29 48.9**	**+0.1**
IGDI	**IGDIR**	**1.51**	**175**	P		**Pn**	**19 29 27.5**	**-0.9**
IGDI				S		**Sb**	**19 29 48.5**	**0.0**
IGDI				*i* AML	AML		19 29 49.0	
	comp=E,73nm,0.4s							
IGDI				*i* AML	AML		19 29 49.0	
	comp=N,101nm,0.3s							
DAGI	**Agillar**	**1.53**	**260**	P		**Pb**	**19 29 29.9**	**+0.1**
DAGI				S		**Sb**	**19 29 48.7**	**-0.6**
GDB	**GEDABAY**	**1.54**	**114**	P		**Pn**	**19 29 28.0**	**-0.9**
	SNR=45							
GDB				S		**Sn**	**19 29 46.9**	**-2.2**
DIGR	**Digorskoe uzhe**	**1.55**	**351**	*e*Pg		**Pb**	**19 29 30.0**	**-0.1**
DIGR				*e*Sg		**Sg**	**19 29 51.5**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.55**	**351**	*e*PG		**Pb**	**19 29 30.0**	**-0.1**
DIGR				*e*S		**Sg**	**19 29 51.5**	**+0.6**
SHTL	**Shatili**	**1.58**	**35**	P		**Pn**	**19 29 29.9**	**+0.4**
SHTL				S		**Sg**	**19 29 51.8**	**-0.3**
SHTL	**Shatili**	**1.58**	**35**	PN		**Pn**	**19 29 29.9**	**+0.4**
SHTL				S		**Sg**	**19 29 51.7**	**-0.3**
KOTA	**Agri, Merkez-K**	**1.66**	**199**	P		**Pg**	**19 29 32.6**	**-0.2**
DDFL	**Dedoflistskaro**	**1.66**	**87**	P		**Pb**	**19 29 32.7**	**+0.7**
DDFL				S		**Sg**	**19 29 57.0**	**+2.4**
DDFL	**Dedoflistskaro**	**1.66**	**87**	PN		**Pb**	**19 29 32.6**	**+0.7**
DDFL				S		**Sg**	**19 29 57.0**	**+2.4**
BATM	**Batumi**	**1.68**	**279**	P		**Pb**	**19 29 32.2**	**-0.1**
BATM				S		**Sg**	**19 29 54.7**	**-0.5**
BATM	**Batumi**	**1.68**	**279**	PN		**Pb**	**19 29 32.1**	**-0.1**
BATM				S		**Sg**	**19 29 54.6**	**-0.5**
DBOC	**Borcka**	**1.69**	**270**	P		**Pb**	**19 29 32.3**	**0.0**
DBOC				S		**Sg**	**19 29 54.6**	**-0.8**
DBOC				*i* AML	AML		19 29 55.0	
	comp=E,74nm,0.2s							
DDEM	**Demirkent**	**1.70**	**254**	P		**Pb**	**19 29 32.0**	**-0.6**
DDEM				S		**Sb**	**19 29 54.5**	**+0.4**
DBAD	**Bademkaya**	**1.71**	**259**	P		**Pb**	**19 29 32.6**	**-0.1**
DBAD				S		**Sg**	**19 29 55.2**	**-0.8**
DBAD				*i* AML	AML		19 29 58.0	
	comp=E,87nm,0.6s							
DBAD				*i* AML	AML		19 30 02.0	
	comp=N,93nm,0.6s							
KORR	**Kora**	**1.72**	**4**	*e*Pg		**Pg**	**19 29 33.8**	**-0.3**
KORR				*e*Sg		**Sg**	**19 29 56.5**	**+0.1**
KORR	**Kora**	**1.72**	**4**	*e*PN		**Pg**	**19 29 33.8**	**-0.3**
KORR				*e*S		**Sg**	**19 29 58.3**	**+1.9**
VLKR	**Vladikavkaz**	**1.77**	**19**	*e*Pg		**Pg**	**19 29 35.2**	**+0.2**
VLKR				*e*Sg		**Sg**	**19 29 58.9**	**+0.8**
VLKR	**Vladikavkaz**	**1.77**	**19**	*e*PN		**Pg**	**19 29 35.2**	**+0.2**
VLKR				*e*S		**Sg**	**19 29 58.8**	**+0.8**
HYR	**Heyderabad**	**1.80**	**156**	P		**Pb**	**19 29 34.0**	**-0.3**
	SNR=7.7							
HYR				S		**Sg**	**19 29 58.7**	**-0.2**
LGD	**Lagodekhi**	**1.81**	**74**	P		**Pn**	**19 29 33.4**	**+0.8**
LGD				S		**Sb**	**19 29 57.7**	**+0.5**
LGD	**Lagodekhi**	**1.81**	**74**	PN		**Pn**	**19 29 33.3**	**+0.8**
KMGR	**Komgaron**	**1.83**	**23**	*e*Pg		**Pg**	**19 29 35.5**	**-0.7**
KMGR				*e*Sg		**Sg**	**19 30 01.6**	**+1.7**
KMGR	**Komgaron**	**1.83**	**23**	*e*PN		**Pg**	**19 29 35.5**	**-0.7**
KMGR				*e*S		**Sg**	**19 30 01.6**	**+1.7**
ARNR	**Ardon**	**1.83**	**9**	*e*Pg		**Pg**	**19 29 36.3**	**+0.1**
ARNR				*e*Sg		**Sg**	**19 30 00.9**	**+1.0**
ARNR	**Ardon**	**1.83**	**9**	*e*PN		**Pg**	**19 29 36.3**	**+0.1**
ARNR				*e*S		**Sg**	**19 30 00.9**	**+1.0**
EATA	**Eleskirt**	**1.85**	**216**	P		**Pg**	**19 29 36.5**	**-0.2**
HOPA	**Hopa-Artvin**	**1.85**	**271**	Pn		**Pb**	**19 29 34.0**	**-1.1**
LSNR	**Lesken**	**1.91**	**358**	*e*Pg		**Pg**	**19 29 37.3**	**-0.4**
LSNR				*e*Sg		**Sg**	**19 30 01.8**	**-0.6**
LSNR	**Lesken**	**1.91**	**358**	*e*PN		**Pg**	**19 29 37.3**	**-0.4**
AGRB	**Hanur-Agry**	**1.92**	**202**	Pn		**Pn**	**19 29 34.9**	**+0.7**
GANJ	**Ganja**	**1.96**	**111**	P		**Pn**	**19 29 35.0**	**+0.4**
	SNR=36							
GANJ				S		**Sn**	**19 29 59.7**	**+0.3**
GANJ	**Ganja**	**1.96**	**111**	PN		**Pn**	**19 29 35.0**	**+0.4**
STDR	**Stavd-Durt**	**2.00**	**3**	*e*Pg		**Pg**	**19 29 39.5**	**0.0**
STDR				*e*Sg		**Sg**	**19 30 06.1**	**+0.7**
STDR	**Stavd-Durt**	**2.00**	**3**	*e*PN		**Pg**	**19 29 39.5**	**0.0**
STDR				*e*S		**Sg**	**19 30 08.0**	**+2.6**
HOMI	**Horasan**	**2.02**	**230**	P		**Pb**	**19 29 38.8**	**+0.7**
HOMI				S		**Sg**	**19 30 06.4**	**+0.4**
BTKR	**Batakoyurt**	**2.06**	**13**	*e*Pg		**Pg**	**19 29 39.9**	**-0.6**
BTKR				*e*Sg		**Sg**	**19 30 08.1**	**+0.9**
BTKR	**Batakoyurt**	**2.06**	**13**	*e*PN		**Pg**	**19 29 39.9**	**-0.6**
BTKR				*e*S		**Sg**	**19 30 08.1**	**+0.9**
ZKTA	**Zakatala**	**2.06**	**82**	P		**Pb**	**19 29 37.3**	**-1.3**
	SNR=11							
ZKTA				S		**Sb**	**19 30 04.0**	**-0.3**
NEY	**Neytrino**	**2.07**	**335**	*e*Pg		**Pb**	**19 29 39.2**	**+0.2**
NEY				*e*Sg		**Sg**	**19 30 06.5**	**-1.3**
NEY	**Neytrino**	**2.07**	**335**	*e*PN		**Pb**	**19 29 39.2**	**+0.2**
NEY				*e*S		**Sg**	**19 30 06.5**	**-1.3**
KOPR	**Koprukoy-ERZUR**	**2.08**	**229**	Pn		**Pn**	**19 29 37.2**	**+0.8**
BTLR	**Botlikh**	**2.15**	**52**	*e*Pn		**Pb**	**19 29 41.0**	**+0.7**
	20nm,0.5s							
BTLR				*e*Sn		**Sg**	**19 30 10.9**	**+0.5**
	35nm,0.4s							
BTLR	**Botlikh**	**2.15**	**52**	*e*PN		**Pb**	**19 29 41.0**	**+0.7**
BTLR				*e*S		**Sg**	**19 30 10.8**	**+0.5**
BTLR				*e*S		**Sb**	**19 30 11.3**	**+4.1**
BTLR				pmax	pmax			
	comp=Z,21nm,0.5s							
BTLR				smax	smax			
	comp=E,49nm,0.3s							
BTLR				smax	smax			
	comp=N,60nm,0.4s							
BTLR				smax	smax			
	comp=N,49nm,0.3s							
DVE	**Vedeno**	**2.29**	**45**	*e*Pn		**Pb**	**19 29 42.2**	**-0.4**
DVE				*e*Sn		**Sg**	**19 30 14.2**	**-0.4**
DVE	**Vedeno**	**2.29**	**45**	*e*PN		**Pb**	**19 29 42.5**	**-0.1**
DVE				*e*S		**Sg**	**19 30 14.2**	**-0.4**
GROC	**Groznyy**	**2.31**	**37**	*e*Pn		**Pg**	**19 29 44.5**	**-0.8**
	comp=N,54nm,0.7s							
GROC				*e*Sn		**Sg**	**19 30 17.5**	**+2.4**
	comp=N,78nm,0.5s							
GROC	**Groznyy**	**2.31**	**37**	*c i*PN		**Pb**	**19 29 43.5**	**+0.7**
SBZ	**Shahbuz**	**2.34**	**147**	P		**Pb**	**19 29 43.7**	**+0.2**
	SNR=5.8							
SBZ				S		**Sb**	**19 30 13.7**	**+1.2**
CHOM	**Cayeli-Rize**	**2.39**	**264**	Pn		**Pn**	**19 29 41.4**	**+0.9**
XNZR	**Khunzakh**	**2.39**	**60**	*e*Pn		**Pb**	**19 29 44.5**	**0.0**
	comp=N,17nm,0.3s							
XNZR				*e*Sn		**Sg**	**19 30 16.6**	**-1.3**
	comp=N,39nm,0.4s							
HNZR	**Khunzah**	**2.41**	**60**	*e*PN		**Pb**	**19 29 44.5**	**-0.2**
HNZR				*e*S		**Sb**	**19 30 16.6**	**+2.0**
KBZ	**Khabaz**	**2.47**	**343**	*e*Pn		**Pb**	**19 29 46.2**	**+0.5**
KBZ				*e*Sn		**Sb**	**19 30 16.9**	**+0.7**
KBZ	**Khabaz**	**2.47**	**343**	*i* PN		**Pb**	**19 29 44.5**	**-1.2**
KBTC	**Kuba-Taba**	**2.47**	**352**	*e*Pn		**Pb**	**19 29 45.9**	**+0.2**
KBTC				*e*Sn		**Sb**	**19 30 17.2**	**+0.9**
KBTC	**Kuba-Taba**	**2.47**	**352**	*e*PN		**Pb**	**19 29 45.9**	**+0.2**
KBTC				*e*S		**Sb**	**19 30 17.2**	**+0.9**
MNGR	**Mingechevir, A**	**2.47**	**103**	P		**Pb**	**19 29 43.8**	**-2.0**
MNGR				S		**Sn**	**19 30 12.9**	**+1.0**
MNGR	**Mingechevir, A**	**2.47**	**103**	PN		**Pb**	**19 29 43.7**	**-2.0**
SEKA	**Sheki**	**2.48**	**93**	P		**Pn**	**19 29 43.3**	**+1.4**
	SNR=6.2							
SEKA				S		**Sb**	**19 30 14.8**	**-1.8**
SEKA	**Sheki**	**2.48**	**93**	PN		**Pn**	**19 29 43.2**	**+1.4**
GNBR	**Gunib**	**2.50**	**65**	*e*Pn		**Pb**	**19 29 45.1**	**-1.1**
	comp=N,17nm,0.3s							
GNBR				*e*Sn		**Sb**	**19 30 18.3**	**+1.2**
	comp=N,128nm,0.2s							
GNBR	**Gunib**	**2.50**	**65**	*e*PN		**Pb**	**19 29 45.1**	**-1.1**
GNBR				*e*S		**Sb**	**19 30 17.8**	**+0.7**
KMKR	**Kumukh**	**2.50**	**71**	*e*Pn		**Pb**	**19 29 45.1**	**-1.3**
	comp=N,2.0nm,0.5s							
KMKR				*e*Sn		**Sb**	**19 30 18.7**	**+1.3**
	comp=N,57nm,0.5s							
KMKR	**Kumukh**	**2.50**	**71**	*e*PN		**Pb**	**19 29 45.1**	**-1.3**
KMKR				*e*S		**Sb**	**19 30 18.7**	**+1.3**
NAX	**Nakhchivan**	**2.51**	**151**	P		**Pb**	**19 29 46.8**	**+0.5**
	SNR=18							
NAX				S		**Sg**	**19 30 20.4**	**-1.2**
NAX	**Nakhchivan**	**2.51**	**151**	PN		**Pb**	**19 29 46.8**	**+0.5**
UNCR	**Uncukul**	**2.53**	**57**	*e*Pn		**Pb**	**19 29 46.2**	**-0.6**
	comp=N,14nm,0.4s							
UNCR				*e*Sn		**Sb**	**19 30 20.2**	**+2.1**
	comp=N,27nm,0.4s							
UNCR	**Uncukul**	**2.53**	**57**	*e*PN		**Pb**	**19 29 46.2**	**-0.6**
UNCR				*e*S		**Sb**	**19 30 20.2**	**+2.1**
UNCR				*e*S		**Sg**	**19 30 20.5**	**-2.0**
UNCR				pmax	pmax			
	comp=Z,15nm,0.4s							
UNCR				smax	smax			
	comp=E,57nm,0.5s							
UNCR				smax	smax			
	comp=N,57nm,0.5s							
UNCR				smax	smax			
	comp=E,50nm,0.5s							
SHA1	**Shidzhatmaz**	**2.54**	**339**	*e*Pn		**Pb**	**19 29 46.4**	**-0.6**
SHA1				*e*Sn		**Sb**	**19 30 18.2**	**-0.3**
SHA1	**Shidzhatmaz**	**2.54**	**339**	*e*PN		**Pb**	**19 29 46.4**	**-0.6**
SHA1				*e*S		**Sb**	**19 30 18.2**	**-0.3**
DOMR	**Dombai**	**2.56**	**319**	*e*Pn		**Pb**	**19 29 45.9**	**-1.4**
DOMR				*e*Sn		**Sb**	**19 30 19.1**	**+0.1**
DOMR	**Dombai**	**2.56**	**319**	*e*PN		**Pb**	**19 29 45.9**	**-1.4**
DOMR				*e*S		**Sb**	**19 30 19.1**	**+0.1**
ARKR	**Arakani**	**2.61**	**61**	*e*Pn		**Pb**	**19 29 47.3**	**-0.8**
	comp=E,1.0nm,0.4s							
ARKR				*e*Sn		**Sb**	**19 30 22.2**	**+1.9**
	comp=E,24nm,0.4s							
ARKR	**Arakani**	**2.61**	**61**	*e*PN		**Pb**	**19 29 47.3**	**-0.8**
ARKR				*e*S		**Sb**	**19 30 22.2**	**+1.9**
DLMR	**Dylym**	**2.64**	**49**	*e*Pn		**Pb**	**19 29 47.0**	**-1.6**
DLMR				*e*Sn		**Sb**	**19 30 22.8**	**+1.7**
DLMR	**Dylym**	**2.64**	**49**	*e*PN		**Pb**	**19 29 47.0**	**-1.6**
DLMR				*e*S		**Sb**	**19 30 22.8**	**+1.7**
KRNR	**Karanay**	**2.66**	**56**	*e*Pn		**Pb**	**19 29 48.2**	**-0.8**
	comp=E,8.0nm,0.4s							
KRNR				*e*Sn		**Sb**	**19 30 24.2**	**+2.3**
	comp=E,97nm,0.3s							
KRNR	**Karanay**	**2.66**	**56**	*e*PN		**Pb**	**19 29 48.2**	**-0.8**
KRNR				*e*S		**Sb**	**19 30 24.2**	**+2.3**
KRNR				*e*S		**Sg**	**19 30 24.7**	**-2.0**
KRNR				pmax	pmax			
	comp=Z,8.0nm,0.4s							
KRNR				smax	smax			
	comp=N,24nm,0.4s							
KRNR				smax	smax			
	comp=E,22nm,0.4s							
KRNR				smax	smax			
	comp=N,21nm,0.3s							
BRDA	**Brd**	**2.72**	**113**	P		**Pb**	**19 29 47.5**	**-2.3**
	SNR=5.3							
BRDA				S		**Sn**	**19 30 17.4**	**-0.5**
DBC	**Dubki**	**2.73**	**52**	*e*Pn		**Pb**	**19 29 50.1**	**0.0**
DBC				*e*Sn		**Sb**	**19 30 23.8**	**+0.2**
DBC	**Dubki**	**2.73**	**52**	*e*PN		**Pb**	**19 29 50.0**	**0.0**
DBC				*e*S		**Sg**	**19 30 26.9**	**-1.7**
DBC				*e*S		**Sb**	**19 30 27.8**	**+4.2**
DBC				pmax	pmax			
	comp=Z,14nm,0.4s							
DBC				smax	smax			
	comp=E,26nm,0.4s							
DBC				smax	smax			
	comp=N,16nm,0.4s							
DBC				smax	smax			
	comp=E,22nm,0.5s							
KIV0	**Kislovodsk Arr**	**2.73**	**341**	*e*Pn		**Pb**	**19 29 49.7**	**-0.5**
KIV0				*e*Sn		**Sn**	**19 30 20.4**	**+1.9**
KIV	**Kislovodsk**	**2.74**	**341**	Pn		**Pn**	**19 29 45.3**	**0.0**
KIV	**Kislovodsk**	**2.74**	**341**	*e*Pn		**Pb**	**19 29 51.1**	**+0.9**
KIV				*e*Sn		**Sb**	**19 30 22.1**	**-1.9**
KIV	**Kislovodsk**	**2.74**	**341**	*e*PN		**Pn**	**19 29 47.3**	**+2.0**
KIV				*e*S		**Sb**	**19 30 20.9**	**-3.1**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
AGDM	**Agdam**	**2.74**	**116**	P		**Pb**	**19 29 48.6**	**-1.7**
	SNR=11							
AGDM				S		**Sn**	**19 30 20.3**	**+1.8**
BEYR	**Belyy Ugol+**	**2.76**	**343**	*e*Pn

KIWB **Kanaga Island** 0.65 47 Pn Pn 19 43 00.0 -1.4
ADK **Adak** 0.91 58 Pn Pn 19 43 03.2 -1.5
ADK Sn Sn 19 43 16.7 -0.1
ADK IAML 19 43 18.1
78µm,0.7s
ADK IAML 19 43 20.1
74µm,0.5s
AMKA **Amchitka** 1.74 270 Pn Pn 19 43 13.3 -2.6
SHEM **Shemya Is, Ala** 5.09 288 P Pn 19 44 00.8 -1.0
56nm,0.4s,baz=96,slow=0.9,SNR=9.9
SHEM S Sn 19 44 59.1 -0.1
133nm,0.8s,baz=107,slow=20,SNR=1.6
SHEM LR LR 19 46 11.3
comp=Z,3µm,18.9s,baz=111,slow=40
SMY **Shemya** 5.09 288 Pn Pn 19 44 00.8 -1.0
SMY IAML 19 45 28.8
comp=E,1µm,1.0s
SMY **Shemya** 5.09 288 P Pn 19 44 00.8 -1.0
CLES **Cleveland East** 5.14 71 Pn Pn 19 43 60.0 -2.5
CLES IAML 19 45 27.4
comp=E,3µm,0.8s
CLES IAML 19 45 31.4
comp=N,4µm,0.9s
NIKH **Nikolski High** 5.79 71 Pn Pn 19 44 11.8 +0.5
NIKH **Nikolski High** 5.79 71 P Pn 19 44 12.9 +1.5
baz=256,SNR=6.8
NIKH **Nikolski High** 5.79 71 P Pn 19 44 12.8 +1.5
SPIA **Saint Paul Isl** 7.31 35 Pn Pn 19 44 34.3 +2.2
SPIA **Saint Paul Isl** 7.31 35 P Pn 19 44 34.2 +2.2
baz=220,SNR=7.0
SPIA **Saint Paul Isl** 7.31 35 P Pn 19 44 35.9 +3.8
UNV **Unalaska Valle** 7.37 66 Pn Pn 19 44 34.4 +1.6
UNV **Unalaska Valle** 7.37 66 P Pn 19 44 34.6 +1.8
baz=254,SNR=11
AKUT **Akutan** 7.86 65 Pn Pn 19 44 40.9 +1.3
S12K **Black Hills** 10.36 59 P Pn 19 45 15.5 +1.6
baz=251
SDPT **Sand Point** 11.13 62 Pn Pn 19 45 24.0 -0.3
SDPT **Sand Point** 11.13 62 P Pn 19 45 25.1 +0.7
baz=256,SNR=6.2
CHGN **Chignik** 12.50 59 Pn Pn 19 45 41.4 -1.5
CHGN **Chignik** 12.50 59 P Pn 19 45 43.3 +0.4
baz=254
GAMB **Gambell** 12.83 13 P Pn 19 45 48.8 +1.4
baz=198
R16K **Pilot Point** 13.31 54 P Pn 19 45 56.7 +2.8
baz=250
P16K **Nushagak River** 13.66 48 P Pn 19 46 01.4 +2.7
baz=244,SNR=24
O16K **Kokwok River B** 13.86 46 P Pn 19 46 03.1 +1.7
baz=242,SNR=11
CHIR **Chirikof Islan** 13.93 63 Pn Pn 19 46 01.7 -0.7
CHIR **Chirikof Islan** 13.93 63 P Pn 19 46 02.2 -0.3
baz=260
R17K **Ugashik Creek** 13.94 55 P Pn 19 46 03.6 +1.0
baz=252
N16K **Nishlik Lake** 14.00 42 P Pn 19 46 05.5 +2.1
baz=238
Q16K **King Salmon** 14.15 51 P Pn 19 46 07.5 +2.2
baz=248,SNR=12
Q17K **Contact Creek** 14.39 53 P Pn 19 46 09.7 +1.1
baz=250,SNR=14
O17K **Koliganek Bris** 14.39 46 P Pn 19 46 10.6 +2.0
baz=243,SNR=29
P17K **Kvichak River** 14.45 49 P Pn 19 46 11.3 +1.9
baz=246
ANM **Nome** 14.73 22 Pn P 19 46 15.7 -2.1
ANM **Nome** 14.73 22 P Pn 19 46 14.7 +1.9
baz=212,SNR=11
ANM **Nome** 14.73 22 P P 19 46 15.7 -2.1
SII **Sitkinak Islan** 14.85 60 Pn Pn 19 46 10.3 -4.2
SII **Sitkinak Islan** 14.85 60 P Pn 19 46 16.3 +1.8
baz=259
Q18K **Katmai Hardscr** 14.95 52 P Pn 19 46 17.4 +1.4
baz=250,SNR=15
PETK **Petropavlovsk-** 15.01 286 P P 19 46 19.1 -1.9
comp=N,4.5nm,0.6s,baz=106,slow=15,SNR=2.2
PETK LR LR 19 51 49.2
comp=N,847nm,21.5s,baz=89,slow=36
TNA **Tin City** 15.09 16 P 19 46 21.9 +0.1
TNA **Tin City** 15.09 16 P Pn 19 46 19.4 +1.8
baz=204
P18K **Big Mountain,** 15.10 49 Pn Pn 19 46 19.8 +1.9
P18K **Big Mountain,** 15.10 49 P Pn 19 46 19.5 +1.7
baz=247,SNR=16
OHAK **Old Harbor** 15.46 58 Pn Pn 19 46 18.7 -3.6
OHAK IAmb IAmb 19 46 27.7
comp=Z,71nm,0.6s
OHAK **Old Harbor** 15.46 58 P Pn 19 46 21.9 -0.4
baz=258,SNR=14
SVW2 **Sparrevohn** 15.67 43 P P 19 46 27.8 -0.5
SVW2 IAmb IAmb 19 46 34.8
comp=Z,53nm,0.7s
Q19K **Cape Douglas,** 15.71 52 Pn 19 46 24.5 -1.2
Q19K IAmb IAmb 19 46 32.8
comp=Z,144nm,1.1s
Q19K **Cape Douglas,** 15.71 52 P Pn 19 46 26.2 +0.6
baz=251
O19K **Port Alsworth** 15.84 47 P P 19 46 28.9 -1.2
O19K IAmb IAmb 19 46 35.7
comp=Z,72nm,0.7s
O19K **Port Alsworth** 15.84 47 P Pn 19 46 27.1 -0.1
baz=246
KDAK **Kodiak Island** 15.95 57 P Pn 19 46 24.9 -3.7
comp=Z,19nm,0.5s,baz=232,slow=3.8,SNR=56
KDAK S Sn 19 49 17.3 -6.9
comp=Z,4.0nm,0.4s,baz=229,slow=20,SNR=1.9
KDAK LR LR 19 53 55.8
comp=Z,963nm,18.5s,baz=263,slow=42
KDAK **Kodiak Island** 15.95 57 Pn Pn 19 46 27.5 -1.1
KDAK IAmb IAmb 19 46 34.5
comp=Z,55nm,0.6s
KDAK **Kodiak Island** 15.95 57 P Pn 19 46 27.0 -1.6
baz=257
KDAK **Kodiak Island** 15.95 57 *i* P Pn 19 46 25.6 -3.0
N19K **Bonanza Creek** 16.02 45 P P 19 46 31.4 -0.9
N19K IAmb IAmb 19 46 38.0
comp=Z,70nm,0.7s
N19K **Bonanza Creek** 16.02 45 P Pn 19 46 30.3 +0.7
baz=244
P19K **Oil Pt** 16.15 50 P P 19 46 32.8 -0.8
P19K IAmb IAmb 19 46 39.9
comp=Z,94nm,0.7s
P19K **Oil Pt** 16.15 50 P Pn 19 46 31.7 +0.5
baz=250
Q20K **Shuyak Island** 16.24 54 P Pn 19 46 32.6 +0.2
baz=254
ILSW **Iliamna Southw** 16.30 49 Pn Pn 19 46 31.9 -1.4
ILSW IAmb IAmb 19 46 41.6
comp=Z,31nm,1.0s
TTA **Tatalina** 16.45 37 P P 19 46 36.6 -0.4
TTA **Tatalina** 16.45 37 P P 19 46 36.3 -0.7
baz=235,SNR=18
TTA **Tatalina** 16.45 37 P P 19 46 36.6 -0.4
TTA pmax pmax
comp=Z,48nm,0.8s
L19K **White Mountain** 16.50 40 P P 19 46 37.6 +0.1
L19K IAmb IAmb 19 46 43.5
comp=Z,56nm,0.7s
L19K **White Mountain** 16.50 40 P Pn 19 46 36.5 +0.8
baz=239
M19K **Big River Lodg** 16.56 42 P P 19 46 38.5 +0.4
M19K **Big River Lodg** 16.56 42 P Pn 19 46 37.1 +0.8
baz=241
O20K **Slope Mountain** 16.58 49 P P 19 46 37.6 -0.9
baz=249,SNR=13
RSO **Redoubt South** 16.66 47 P 19 46 39.5 +0.1
HOM **Homer** 16.91 51 Pn Pn 19 46 39.5 -1.3
HOM **Homer** 16.91 51 P Pn 19 46 41.1 +0.3
baz=252
L20K **Farewell, AK** 17.05 40 P P 19 46 43.7 +0.2
baz=240
CNPM **China Poot** 17.07 51 Pn Pn 19 46 41.0 -1.7
CNPM IAmb IAmb 19 46 48.7
comp=Z,73nm,0.7s
M20K **Styx River** 17.07 43 P P 19 46 44.3 +0.4
M20K IAmb IAmb 19 46 51.6
comp=Z,136nm,1.8s
M20K **Styx River** 17.07 43 P P 19 46 43.8 -0.1
baz=243
N20K **Mount Spurr** 17.19 45 P P 19 46 46.3 +1.1
baz=246,SNR=42
SPCR **Spurr Chakacha** 17.19 45 P P 19 46 45.9 +0.8
baz=246,SNR=16
SPU **Mount Spurr** 17.25 45 P P 19 46 48.1 +2.3
GCSA **Galena City Sc** 17.26 31 P Pn 19 46 45.1 +0.2
baz=229,SNR=16
BRLK **Bradley Lake** 17.31 51 P Pn 19 46 45.2 -0.5
BRSE **Bradley Lake S** 17.37 51 P P 19 46 47.0 -0.2
baz=253,SNR=14
K20K **Telida** 17.43 38 P P 19 46 48.7 +1.0
K20K **Telida** 17.43 38 P P 19 46 48.4 +0.7
baz=237
CAPN **Captain Cook N** 17.51 47 P Pn 19 46 47.8 -0.2
CAPN IAmb IAmb 19 46 57.4
comp=Z,105nm,0.7s
CAPN **Captain Cook N** 17.51 47 P P 19 46 50.3 +1.8
baz=249,SNR=9.3
SKT **Skwentna** 17.80 43 P P 19 46 52.9 +1.1
SKT IAmb IAmb 19 46 58.5
comp=Z,73nm,0.6s
SKT **Skwentna** 17.80 43 P P 19 46 53.5 +1.6
baz=245,SNR=83
J20K **Nowinta River** 17.85 35 P P 19 46 53.5 +1.2
J20K **Nowinta River** 17.85 35 P P 19 46 54.0 +1.6
baz=235
PPLA **Purkeypile** 17.93 40 P 19 46 54.7 +1.3
PPLA IAmb IAmb 19 47 04.8
comp=Z,41nm,0.6s
PPLA **Purkeypile** 17.93 40 P P 19 46 55.6 +2.3
baz=242,SNR=28
SUA **Susitna One** 17.94 45 P Pn 19 46 53.9 +0.4
SUA **Susitna One** 17.94 45 P Pn 19 46 53.5 0.0
baz=248,SNR=36
FIS **Fire Island** 18.06 47 P Pn 19 46 54.9 +0.1
FIS IAmb IAmb 19 47 02.6
comp=Z,67nm,0.4s
SEW **Seward** 18.10 50 P 19 46 53.9 -1.2
SEW IAmb IAmb 19 47 00.0
comp=Z,66nm,0.8s
SEW **Seward** 18.10 50 P Pn 19 46 55.7 +0.5
baz=253,SNR=21
CAST **Castle Rocks** 18.23 39 Pn 19 46 57.7 +0.8
CAST IAmb IAmb 19 47 03.4
comp=Z,53nm,0.7s
CAST **Castle Rocks** 18.23 39 P Pn 19 46 58.4 +1.6
baz=240,SNR=80
RC01 **Rabbit Creek A** 18.27 47 P Pn 19 46 57.7 +0.3
RC01 **Rabbit Creek A** 18.27 47 P Pn 19 46 58.0 +0.7
baz=250,SNR=15
M22K **Willow** 18.33 45 P Pn 19 46 58.0 0.0
M22K IAmb IAmb 19 47 05.0
comp=Z,122nm,0.9s
M22K **Willow** 18.33 45 P Pn 19 46 59.6 +1.6
baz=248
CHUM **Lake Minchumin** 18.37 37 P Pn 19 47 00.2 +1.7
baz=239,SNR=36
BILL **Bilibino** 18.38 341 P Pn 19 46 59.3 +0.7
BILL **Bilibino** 18.38 341 *de*P Pn 19 47 01.2 +2.6
BILL *e*S Sn 19 50 19.5 -3.3
BILL pmax pmax
comp=Z,40nm,0.8s
BILL MLR MLR
comp=Z,481nm,22.0s
CUT **Chulitna** 18.52 43 P P 19 46 59.8 +0.2
CUT IAmb IAmb 19 47 03.7
comp=Z,54nm,0.7s
CUT **Chulitna** 18.52 43 P Pn 19 47 00.4 +0.1
baz=246,SNR=24
PMR **Palmer** 18.71 46 P Pn 19 47 02.2 -0.4
PMR **Palmer** 18.71 46 P Pn 19 47 02.9 +0.3
baz=250
PMR **Palmer** 18.71 46 P Pn 19 47 02.2 -0.4
PMR pmax pmax
comp=Z,21nm,1.0s
KTH **Kantishna Hill** 18.75 39 P P 19 47 02.4 +0.1
PWL **Port Wells** 18.84 48 P 19 47 03.5 +0.2
PWL IAmb IAmb 19 47 14.6
comp=Z,44nm,0.6s
PWL **Port Wells** 18.84 48 P Pn 19 47 04.0 -0.3
baz=253,SNR=7.3
GHO **Glory Hole Cre** 18.86 45 P Pn 19 47 04.2 -0.5
TRF **Thorofare Moun** 18.95 40 P P 19 47 05.0 +0.4
TRF IAmb IAmb 19 47 12.6
comp=Z,121nm,0.8s
TRF **Thorofare Moun** 18.95 40 P Pn 19 47 05.5 -0.2
baz=243,SNR=161
KNK **Knik Glacier** 18.96 47 P Pn 19 47 05.6 -0.1
KNK **Knik Glacier** 18.96 47 P Pn 19 47 06.3 +0.6
baz=251,SNR=38
BPAW **Bear Paw Mtn.** 18.98 38 P P 19 47 05.3 +0.5
BPAW IAmb IAmb 19 47 10.7
comp=Z,57nm,0.6s
BPAW **Bear Paw Mtn.** 18.98 38 P Pn 19 47 05.5 -0.5
baz=240,SNR=74
IMAR **Indian Mountai** 19.06 31 P Pn 19 47 06.2 -0.6
P23K **Montague Islan** 19.07 51 P Pn 19 47 07.0 +0.1
baz=255,SNR=11
SML **Sawmill** 19.14 46 P P 19 47 06.6 +0.1
SML IAmb IAmb 19 47 14.7
comp=Z,40nm,0.6s
SML **Sawmill** 19.14 46 P Pn 19 47 07.9 0.0
baz=250,SNR=16
H21K **Melozitna Rive** 19.18 32 P Pn 19 47 08.4 +0.2
H21K **Melozitna Rive** 19.18 32 P Pn 19 47 08.9 +0.7
baz=234
I21K **Tanana** 19.18 34 P Pn 19 47 08.1 -0.2
I21K IAmb IAmb 19 47 12.7
comp=Z,93nm,0.8s
I21K **Tanana** 19.18 34 P Pn 19 47 08.6 +0.3
baz=236
MA2 **Magadan** 19.37 307 P Pn 19 47 12.6 +2.1
comp=Z,12nm,0.7s,baz=87,slow=11,SNR=5.5
MA2 LR LR 19 54 10.6
comp=Z,580nm,19.7s,baz=105,slow=35
M23K **Glacier View** 19.41 46 P Pn 19 47 10.9 -0.1
baz=251,SNR=70
WAT1 **Susitna Watana** 19.41 43 P P 19 47 09.7 +0.2
baz=247
G21K **Allakaket** 19.47 30 P Pn 19 47 11.2 -0.6
baz=231
Q23K **Middleton Isla** 19.47 53 P P 19 47 10.0 -0.1
Q23K **Middleton Isla** 19.47 53 P Pn 19 47 11.2 -0.6
baz=259
MID **Middleton Isla** 19.48 53 P P 19 47 09.9 -0.3
MID **Middleton Isla** 19.48 53 P P 19 47 09.9 -0.3
MID pmax pmax
comp=Z,120nm,0.6s
RND **Reindeer** 19.52 41 P 19 47 10.3 -0.4
RND **Reindeer** 19.52 41 P P 19 47 10.3 -0.4
RND pmax pmax
comp=Z,27nm,0.6s
MLY **Manley** 19.55 35 P Pn 19 47 12.0 -0.7
MLY **Manley** 19.55 35 P Pn 19 47 12.2 -0.5
baz=238,SNR=154
SEY **Seymchan** 19.59 317 P Pn 19 47 12.3 -0.8
comp=Z,35nm,0.6s,baz=114,slow=11,SNR=117
SEY LR LR 19 54 11.7
comp=Z,773nm,21.0s,baz=122,slow=35
SEY ScP ScP 19 55 01.2 +1.2
comp=Z,3.1nm,0.8s,baz=154,slow=2.2,SNR=7.2
SEY **Seymchan** 19.59 317 *ce*P Pn 19 47 13.7 +0.6
SEY pmax pmax
comp=Z,32nm,0.6s
SCM **Sheep Creek Mo** 19.60 46 P P 19 47 10.9 -0.6
SCM **Sheep Creek Mo** 19.60 46 P P 19 47 12.3 +0.7
baz=251,SNR=31
SCM **Sheep Creek Mo** 19.60 46 P P 19 47 11.0 -0.6
SCM pmax pmax
comp=Z,97nm,0.6s
BWN **Browne** 19.61 38 P Pn 19 47 12.5 -0.9
BWN IAmb IAmb 19 47 19.2
comp=Z,95nm,1.0s
MCK **McKinley** 19.62 40 P P 19 47 11.5 -0.3
MCK IAmb IAmb 19 47 18.5
comp=Z,62nm,0.6s
MCK **McKinley** 19.62 40 P P 19 47 12.4 +0.6
baz=244,SNR=64
MCK **McKinley** 19.62 40 P P 19 47 11.5 -0.3
MCK pmax pmax
comp=Z,63nm,0.6s
WAT6 **Susitna Watana** 19.67 44 P P 19 47 12.2 -0.2
baz=249,SNR=21
H22K **Ishtalitna Cre** 19.79 33 P P 19 47 14.2 +0.6
baz=235
F21K **Alatna River** 19.93 28 P Pn 19 47 16.5 -0.7
baz=229
NEA2 **Nenana** 19.95 38 P P 19 47 15.8 +0.5
NEA2 IAmb IAmb 19 47 22.2
comp=Z,65nm,0.8s
NEA2 **Nenana** 19.95 38 P P 19 47 16.2 +0.9
baz=242,SNR=31
EYAK **Cordova Ski Ar** 20.00 50 Pn Pn 19 47 18.3 +0.4
EYAK **Cordova Ski Ar** 20.00 50 P P 19 47 16.0 +0.2
baz=257
EYAK **Cordova Ski Ar** 20.00 50 P Pn 19 47 18.0 +0.1
DHY **Denali Highway** 20.00 43 P P 19 47 15.8 -0.3
DHY **Denali Highway** 20.00 43 P P 19 47 15.7 -0.3
baz=248,SNR=103
I23K **Minto, Yukon-K** 20.11 36 P P 19 47 17.7 +0.7
I23K IAmb IAmb 19 47 24.6
comp=Z,69nm,0.8s
I23K **Minto, Yukon-K** 20.11 36 P Pn 19 47 18.3 -1.0
baz=240,SNR=98
DIV **Divide** 20.12 49 P P 19 47 17.8 +0.6
DIV IAmb IAmb 19 47 24.2
comp=Z,40nm,0.6s
KLU **Klutina** 20.14 48 P Pn 19 47 18.7 -1.1
KLU IAmb IAmb 19 47 23.7
comp=Z,62nm,0.8s
KLU **Klutina** 20.14 48 P Pn 19 47 19.4 -0.3
baz=254,SNR=68
M24K **Tolsona, Glenn** 20.20 46 P P 19 47 18.6 +0.5
M24K **Tolsona, Glenn** 20.20 46 P Pn 19 47 21.0 +0.5
baz=252,SNR=39
WRH **Wood River Hil** 20.28 38 P P 19 47 18.3 -0.5
WRH IAmb IAmb 19 47 23.4
comp=Z,38nm,0.6s
G22K **Bettles** 20.35 30 P Pn 19 47 21.1 -0.9
baz=233
H23K **Yukon River** 20.39 34 P P 19 47 20.7 +0.6
H23K IAmb IAmb 19 47 25.0
comp=Z,50nm,0.8s
H23K **Yukon River** 20.39 34 P P 19 47 21.2 +1.1
baz=238,SNR=73
MDM **Murphy Dome** 20.44 37 P P 19 47 21.0 +0.3
MDM IAmb IAmb 19 47 28.5
comp=Z,80nm,0.9s
CCB **Clear Creek Bu** 20.46 38 P P 19 47 20.1 -0.7
CCB IAmb IAmb 19 47 36.7
comp=Z,36nm,0.6s
F22K **John River** 20.51 28 P Pn 19 47 22.8 -1.2
baz=231
TCOL **CIGO, UAF Yank** 20.55 38 P P 19 47 21.9 +0.3
TCOL IAmb IAmb 19 47 26.3
comp=Z,54nm,0.7s
TCOL **CIGO, UAF Yank** 20.55 38 P P 19 47 23.0 +1.3
baz=243,SNR=12
COLA **College** 20.55 38 P P 19 47 21.7 -0.1
COLA IAmb IAmb 19 47 26.3
comp=Z,54nm,0.7s
COLA **College** 20.55 38 P P 19 47 22.7 +1.0
baz=243
COLA **College** 20.55 38 P Pn 19 47 25.8 +1.4
COLA **College** 20.55 38 *i* P Pn 19 47 23.1 -1.3
COLA pmax pmax
comp=Z,41nm,0.7s
BMRM **Bremner River** 20.64 49 Pn 19 47 25.5 0.0
BMRM IAmb IAmb 19 47 29.7
comp=Z,60nm,0.7s
BMRM **Bremner River** 20.64 49 P Pn 19 47 24.4 -1.2
baz=257,SNR=36
HDA **Harding Lake** 20.70 39 P P 19 47 23.6 +0.2
HDA **Harding Lake** 20.70 39 P P 19 47 24.3 +0.9
baz=245,SNR=28
G23K **Bananza Creek** 20.71 32 P P 19 47 24.0 +0.5
baz=236
HARP **HAARP** 20.75 45 P P 19 47 25.0 +1.1
baz=253,SNR=31
PAX **Paxson** 20.78 44 P P 19 47 23.6 -0.7
PAX IAmb IAmb 19 47 41.8
comp=Z,38nm,0.8s
PAX **Paxson** 20.78 44 P P 19 47 24.7 +0.3
baz=251,SNR=40
PAX **Paxson** 20.78 44 P P 19 47 23.7 -0.7
PAX pmax pmax
comp=Z,38nm,0.8s
N25K **Chitina, Valde** 20.79 48 Pn 19 47 26.5 -0.9
N25K **Chitina, Valde** 20.79 48 P Pn 19 47 26.7 -0.7
baz=255,SNR=97
POKR **Poker Plat Res** 20.82 37 P P 19 47 25.4 +0.8
POKR IAmb IAmb 19 47 32.7
comp=Z,45nm,0.8s
POKR **Poker Plat Res** 20.82 37 P P 19 47 25.9 +1.2
baz=243,SNR=26
IL31 **20.88** 38 P P 19 47 24.9 -0.3
IL31 IAmb IAmb 19 47 44.2
comp=Z,42nm,0.8s
ILAR **Eielson Array** 20.88 38 P P 19 47 24.3 -1.0
comp=Z,5.6nm,0.3s,baz=239,slow=6.9,SNR=77
ILAR S S 19 51 14.3 -0.5
comp=Z,0.7nm,0.8s,baz=233,slow=18,SNR=1.8
ILAR PcP PcP 19 51 30.9 -0.4
comp=Z,1.0nm,0.7s,baz=300,slow=3.6,SNR=6.2
ILAR ScP ScP 19 55 02.5 -0.6
comp=Z,1.8nm,0.6s,baz=284,slow=3.2,SNR=11
ILAR LR LR 19 56 12.2
comp=Z,392nm,18.6s,baz=234,slow=39
K24K **Donnelly Dome** 20.94 41 P P 19 47 26.2 +0.2
comp=Z,5.6nm,0.3s
baz=248,SNR=31
COLD **Coldfoot** 20.95 30 P 19 47 27.0 +0.9
COLD IAmb IAmb 19 47 33.3
comp=Z,46nm,0.8s
COLD **Coldfoot** 20.95 30 P P 19 47 27.5 +1.5
baz=234,SNR=61
H24K **Noodor Dome** 20.99 35 P P 19 47 26.5 -0.1
H24K IAmb IAmb 19 47 31.7
comp=Z,57nm,0.7s
H24K **Noodor Dome** 20.99 35 P Pn 19 47 28.7 -1.1
baz=241,SNR=101
GLB **Gilahina Butte** 21.11 48 P P 19 47 29.0 +1.1
GLB IAmb IAmb 19 47 34.3
comp=Z,49nm,0.6s
VRDI **Verde Repeater** 21.24 49 P P 19 47 30.3 +0.9
VRDI IAmb IAmb 19 47 39.3
comp=Z,27nm,0.6s
RIDG **Independent Ri** 21.30 42 P P 19 47 29.4 -0.5
RIDG IAmb IAmb 19 47 40.3
comp=Z,30nm,0.7s
RIDG **Independent Ri** 21.30 42 P P 19 47 29.7 -0.2
baz=250,SNR=22
MCARA **McCarthy VSAT** 21.47 49 P P 19 47 32.2 +0.5
MCARA IAmb IAmb 19 47 45.1
comp=Z,73nm,0.7s
MCARA **McCarthy VSAT** 21.47 49 P P 19 47 32.9 +1.2
baz=258,SNR=39
MENT **Mentasta** 21.54 44 P P 19 47 33.0 +0.6
MENT IAmb IAmb 19 47 47.0
comp=Z,39nm,0.6s
G24K **Hadweenzic Riv** 21.56 33 P P 19 47 33.4 +0.8
baz=239
DOT **Dot Lake** 21.60 42 P P 19 47 32.3 -0.8
DOT IAmb IAmb 19 47 38.3
comp=Z,59nm,0.7s
E23K **Chandalar** 21.62 29 P P 19 47 34.8 +1.5
baz=233
ISLE **Juniper Island** 21.66 51 P P 19 47 33.9 0.0
ISLE IAmb IAmb 19 47 46.7
comp=Z,30nm,0.7s
PRP **Porcupine Dome** 21.71 37 P P 19 47 33.5 -0.9
PRP IAmb IAmb 19 47 51.5
comp=Z,29nm,0.7s
PRP **Porcupine Dome** 21.71 37 P P 19 47 35.4 +1.0
baz=245,SNR=26
M26K **Nabesna, AK** 21.72 46 P P 19 47 35.5 +1.1
M26K IAmb IAmb 19 47 44.8
comp=Z,29nm,0.6s
M26K **Nabesna, AK** 21.72 46 P P 19 47 35.7 +1.4
baz=255,SNR=55
L26K **Log Cabin Wild** 21.72 44 P P 19 47 34.7 +0.3
L26K IAmb IAmb 19 47 49.0
comp=Z,67nm,0.8s
L26K **Log Cabin Wild** 21.72 44 P P 19 47 35.5 +1.1
baz=253,SNR=32
SCRK **Sand Creek** 21.74 42 P P 19 47 33.7 -1.0
SCRK IAmb IAmb 19 47 38.1
comp=Z,30nm,0.6s
SCRK **Sand Creek** 21.74 42 P P 19 47 33.8 -0.9
baz=250,SNR=63
F24K **Squaw Lake** 21.85 31 P P 19 47 36.8 +1.1
baz=237
D23K **Nanushuk River** 21.87 26 P P 19 47 37.0 +1.1
baz=230
E24K **Your Creek** 21.97 30 P P 19 47 38.3 +1.3
baz=235
BARN **Barnard Glacie** 22.06 50 P P 19 47 39.1 +0.9
G25K **Bearman Lake** 22.07 34 P P 19 47 38.7 +0.7

baz=241
J26L Joseph Creek 22.09 41 P P 19 47 37.3 -1.1
J26L lAmb lAmb 19 47 42.6
comp=Z,39nm,0.7s
J26L Joseph Creek 22.09 41 P P 19 47 38.6 +0.2
baz=250,SNR=65
M27K Edge Creek, AK 22.21 47 P P 19 47 40.2 +0.4
M27K lAmb lAmb 19 47 45.5
comp=Z,47nm,0.8s
M27K Edge Creek, AK 22.21 47 P P 19 47 40.2 +0.4
baz=257
FYU Fort Yukon 22.28 35 P P 19 47 40.5 +0.3
L27K Beaver Creek, 22.40 45 P P 19 47 41.8 +0.1
L27K Beaver Creek, 22.40 45 P P 19 47 41.8 +0.1
baz=255
BCAR Beaver Creek A 22.42 45 P P 19 47 41.3 -0.6
D24K Happy Valley 22.51 27 P P 19 47 43.0 +0.3
baz=232,SNR=127
PCA Pinnacle 22.62 53 P P 19 47 45.2 +1.1
PINM Pinnacle 22.62 53 P P 19 47 45.2 +1.1
baz=264,SNR=6.4
F25K Christian Rive 22.63 32 P P 19 47 44.4 +0.3
baz=240
BVCY Beaver Creek 22.69 47 P P 19 47 44.9 +0.1
baz=258
O28M Mount Upton 22.73 51 P P 19 47 45.5 +0.1
baz=262
YUK3 Moose Creek 22.75 48 P P 19 47 45.8 +0.2
baz=260,SNR=52
C24K Franklin Bluff 22.89 26 P P 19 47 47.1 +0.4
baz=232
BMAR Burnt Mountain 22.91 33 P P 19 47 46.6 -0.3
BCPM Bancas Point 22.92 53 P P 19 47 49.2 +2.1
E25K Arctic Village 22.92 31 P P 19 47 47.5 +0.4
baz=239,SNR=68
YUK8 Steele Glacier 23.00 50 P P 19 47 48.9 +0.6
baz=262,SNR=14
PNL Peninsula 23.02 54 P P 19 47 49.1 +1.0
baz=266
PNL Peninsula 23.02 54 P P 19 47 49.9 +1.8
EGAK Eagle 23.16 41 P P 19 47 48.5 -1.0
EGAK lAmb lAmb 19 47 55.1
comp=Z,29nm,0.7s
EGAK Eagle 23.16 41 P P 19 47 49.3 -0.2
baz=252,SNR=54
F26K Sheenjek River 23.18 33 P P 19 47 51.6 +2.0
baz=242
I27K Kandik River 23.25 39 P P 19 47 50.1 -0.3
baz=250
D25K Kavik River 23.32 28 P P 19 47 51.1 +0.2
baz=236
O29M Mount Kennedy 23.48 52 P P 19 47 52.5 -0.1
baz=265
H27K Steamboat Moun 23.51 37 P P 19 47 53.3 +0.5
baz=248,SNR=14
YUK4 Talbot Arm 23.55 50 P P 19 47 53.9 +0.5
baz=262,SNR=22
YUK6 Outpost Mounta 23.64 51 P P 19 47 55.0 +0.7
baz=264
G27K Doyon Strip 23.68 36 P P 19 47 54.9 +0.6
baz=247
DAWY Dawson 23.71 43 P P 19 47 53.7 -1.0
DAWY lAmb lAmb 19 48 00.9
comp=Z,25nm,0.7s
DAWY Dawson 23.71 43 P P 19 47 54.8 +0.1
baz=256,SNR=36
M29M Somme Creek 23.79 47 P P 19 47 54.9 -0.6
baz=260
HYT Haines Junctio 24.05 51 P P 19 47 58.5 +0.6
HYT Haines Junctio 24.05 51 P P 19 47 58.3 +0.4
baz=265,SNR=6.3
L29M L29M 24.05 46 P P 19 47 57.8 -0.1
baz=259
C26K Camden Bay 24.07 27 P P 19 47 59.0 +1.1
baz=236
E27K Coleen River 24.26 33 P P 19 48 00.2 +0.5
baz=244
C27K Jago River 24.27 29 P P 19 48 00.1 +0.4
baz=239
J29M Klondike Camp 24.30 42 P P 19 48 00.1 0.0
J29M lAmb lAmb 19 48 31.1
comp=Z,23nm,0.6s
J29M Klondike Camp 24.30 42 P P 19 48 00.6 +0.5
baz=256
K29M Barlow Dome 24.46 44 P P 19 48 02.0 +0.3
baz=258
I29M Ogilvie Camp, 24.49 40 P P 19 48 00.5 -1.3
I29M lAmb lAmb 19 48 06.4
comp=Z,42nm,0.6s
I29M Ogilvie Camp, 24.49 40 P P 19 48 02.0 +0.2
baz=254,SNR=24
PLBC Pleasant Camp 24.55 55 P P 19 48 03.0 +0.6
baz=269
M30M Minto, Yukon 24.57 47 P P 19 48 03.3 +0.7
M30M Minto, Yukon 24.57 47 P P 19 48 03.2 +0.6
baz=262,SNR=11
S31K Pelican 24.65 58 P P 19 48 03.7 +0.5
baz=272
O30N Mendenhall 24.73 51 P P 19 48 03.8 -0.2
baz=266
N31M Braeburn, Yuko 24.93 50 P P 19 48 08.4 +2.5
N31M Braeburn, Yuko 24.93 50 P P 19 48 06.8 +0.9
baz=265,SNR=7.4
SKAG Skagway 25.08 55 P P 19 48 07.2 0.0
SKAG Skagway 25.08 55 P P 19 48 07.8 +0.6
baz=270
MAYO Mayo, Yukon 25.13 45 P P 19 48 08.1 +0.5
MAYO lAmb lAmb 19 48 36.4
comp=Z,24nm,0.5s
MAYO Mayo, Yukon 25.13 45 P P 19 48 08.6 +1.0
baz=260
WHY Whitehorse 25.32 52 P P 19 48 12.3 +2.8
WHY Whitehorse 25.32 52 P P 19 48 09.9 +0.5
baz=268
EPYK Eagle Plains 25.39 38 P P 19 48 09.7 -0.3
EPYK lAmb lAmb 19 48 15.9
comp=Z,20nm,0.8s
EPYK Eagle Plains 25.39 38 P P 19 48 10.5 +0.5
baz=254,SNR=16
UGL Uglegorsk 25.48 281 *e*P P 19 48 12.0 +1.2
UGL *e* 19 48 23.9
UGL pmax pmax
comp=Z,50nm,0.9s
M31M Drury Creek, Y 25.65 48 P P 19 48 12.2 -0.1
M31M Drury Creek, Y 25.65 48 P P 19 48 13.0 +0.7
baz=265,SNR=19
G30M tAoh Zraii Nji 25.75 37 P P 19 48 13.8 +0.6
baz=253
YSS Yuzh-Sakhalins 25.86 276 P P 19 48 14.3 -0.1
YSS lAmb lAmb 19 48 16.4
comp=Z,47nm,0.9s
YSS Yuzh-Sakhalins 25.86 276 P P 19 48 15.3 +0.9
YSS Yuzh-Sakhalins 25.86 276 *e*P P 19 48 15.0 +0.6
YSS pmax pmax
comp=Z,50nm,0.8s
P32M Atlin 25.90 54 P P 19 48 15.7 +1.1
baz=271
FARO Faro, Yukon 26.14 48 P P 19 48 17.9 +1.1
FARO Faro, Yukon 26.14 48 P P 19 48 17.2 +0.4
baz=266,SNR=6.9
P33M Teslin, Yukon 26.34 53 P P 19 48 21.5 +2.9
P33M Teslin, Yukon 26.34 53 P P 19 48 18.2 -0.4
baz=270
CRAG Craig 26.63 64 P P 19 48 21.7 +0.6
baz=280
Q32M Nakina River 26.67 56 P P 19 48 22.3 +0.5
baz=273
F31M Tsiigehtchic 26.81 37 P P 19 48 23.0 +0.3
baz=255,SNR=11
INK Inuvik 27.12 35 P P 19 48 24.0 -1.4
comp=Z,8.4nm,0.8s,baz=227,slow=8.2,SNR=25
INK PcP PcP 19 51 44.4 -0.2
comp=Z,2.4nm,0.5s,baz=303,slow=3.7,SNR=6.9
INK ScP ScP 19 55 19.4 -0.7
comp=Z,2.7nm,0.8s,baz=230,slow=2.4,SNR=8.1
INK LR LR 20 00 17.6
comp=Z,385nm,18.8s,baz=258,slow=39
comp=Z,8.4nm,0.8s
INK Inuvik 27.12 35 P P 19 48 25.1 -0.4
INK PcP 19 51 44.6 0.0
INK Inuvik 27.12 35 P P 19 48 25.5 +0.1
baz=254,SNR=21
ASAJ Asahikawa 27.25 270 P P 19 48 28.4 +1.4
comp=Z,19nm,0.8s,baz=116,slow=2.3,SNR=4.7
ASAJ LR LR 19 58 42.9
comp=Z,105nm,20.3s,baz=110,slow=35
comp=Z,19nm,0.8s

R33M Jennings River 27.31 55 P P 19 48 28.6 +1.2
baz=274
S34M Telegraph Cree 27.36 58 P P 19 48 28.6 +0.9
baz=276
V35K Ketchikan 27.50 63 P P 19 48 29.9 +0.9
baz=281
DLBC Dease Lake 27.88 57 P P 19 48 34.2 +1.8
comp=Z,0.5nm,0.4s,baz=255,slow=8.2,SNR=4.0
DLBC LR LR 20 00 39.3
comp=Z,238nm,18.7s,baz=278,slow=38
comp=Z,0.5nm,0.4s
DLBC Dease Lake 27.88 57 P P 19 48 33.3 +0.8
baz=276
WTLY Watson Lake, Y 28.35 53 P P 19 48 37.3 +0.7
baz=274
LIRD Liard River Hi 29.78 54 P P 19 48 50.3 +1.0
baz=277
YAK Yakutsk 29.81 311 PcP PcP 19 51 51.0 -0.4
comp=Z,2.0nm,0.3s,baz=354,slow=0.4,SNR=4.3
YAK ScP ScP 19 55 27.4 -1.1
comp=Z,7.2nm,0.7s,baz=70,slow=2.6,SNR=1.5
YAK LR LR 20 01 11.7
comp=Z,477nm,19.1s,baz=78,slow=37
YAK Yakutsk 29.81 311 *ce*P P 19 48 48.3 -1.1
YAK pmax pmax
comp=Z,19nm,2.3s
WRGLY Wrigley 30.69 46 P P 19 48 58.3 +1.1
baz=273
KOTAN Kotaneelee Air 30.71 52 P P 19 49 00.1 +2.6
baz=278
A36M Sachs Harbour 30.79 29 P P 19 48 57.1 -0.8
A36M Sachs Harbour 30.79 29 P P 19 48 59.0 +1.0
baz=256
TIXI Tiksi 30.88 330 P P 19 48 59.0 +0.2
comp=Z,1.0nm,0.3s,baz=90,slow=24,SNR=5.9
TIXI LR LR 20 02 04.9
comp=Z,403nm,20.0s,baz=128,slow=38
comp=Z,1.0nm,0.3s
TIXI Tiksi 30.88 330 P P 19 49 00.1 +1.4
TIXI PcP PcP 19 51 53.5 -0.5
TIXI Tiksi 30.88 330 *i*P P 19 49 00.3 +1.5
TIXI pmax pmax
comp=Z,1.0nm,0.3s
KLR Kul'dur 31.70 286 LR LR 20 02 47.2
comp=Z,270nm,18.9s,baz=60,slow=38
KLR Kul'dur 31.70 286 *ce*P P 19 49 06.1 -0.1
KLR pmax pmax
comp=Z,25nm,1.3s
JMM Marumori 31.90 261 P P 19 49 07.9 -0.2
H11N2 WAKE ISLAND Hy 33.80 206 T T 20 25 48.3
baz=18,slow=76,SNR=4440
H11N3 WAKE ISLAND Hy 33.81 206 T T 20 26 00.1
baz=18,slow=76,SNR=3558
H11N1 WAKE ISLAND Hy 33.82 206 T T 20 26 02.5
baz=18,slow=76,SNR=3458
USA0B Ussuriysk Arra 33.84 278 P P 19 49 24.3 -0.7
USA0B lAmb lAmb 19 49 26.6
comp=Z,16nm,1.0s
USA0B Ussuriysk Arra 33.84 278 P P 19 49 24.3 -0.7
USA0B pmax pmax
comp=Z,16nm,1.0s
USRK Ussuriysk Ar. 33.84 278 P P 19 49 24.0 -1.0
comp=Z,8.2nm,0.6s,baz=51,slow=9.7,SNR=10
USRK LR LR 20 04 56.0
comp=Z,96nm,19.0s,baz=42,slow=39
comp=Z,8.2nm,0.6s
USRK Ussuriysk Ar. 33.84 278 P P 19 49 24.1 -0.8
USRK Ussuriysk Ar. 33.84 278 P P 19 49 24.1 -0.8
HEH HeiHe 33.87 290 *e*P P 19 49 23.4 -1.8
HEH pmax pmax
comp=Z,7.0nm,1.0s
CLRS Cowichan Lake 33.95 73 P P 19 49 26.0 +0.1
CLRS lAmb lAmb 19 49 38.9
comp=Z,25nm,1.1s
MAJO Matsushiro 34.33 262 P P 19 49 29.6 +0.2
MAJO lAmb lAmb 19 49 30.4
comp=Z,25nm,1.1s
MAJO Matsushiro 34.33 262 P P 19 49 30.3 +0.9
MAJO Matsushiro 34.33 262 P P 19 49 29.6 +0.2
MAJO pmax pmax
comp=Z,25nm,1.1s
MAJO Matsushiro 34.33 262 P P 19 49 29.5 +0.1
MAJO sP **sP 19 49 49.1 -0.1**
MJAR Matsushiro Arr 34.33 262 P P 19 49 29.4 +0.1
comp=Z,6.4nm,0.8s,baz=52,slow=7.6,SNR=9.5
MJAR LR LR 20 01 10.8
comp=Z,65nm,20.5s,baz=46,slow=32
comp=Z,6.4nm,0.8s
MJB9 Matsu-Tunnel 34.33 262 P P 19 49 30.8 +1.5
MJB9 lAmb lAmb 19 49 31.8
comp=Z,24nm,1.0s
YKA Yellowknife Ar 34.81 47 P P 19 49 32.3 -0.8
comp=Z,16nm,0.8s,baz=282,slow=8.7,SNR=56
YKA PcP PcP 19 52 05.8 +0.7
comp=Z,1.8nm,0.7s,baz=289,slow=3.0,SNR=7.0
YKA ScP ScP 19 55 45.4 -0.3
comp=Z,3.0nm,0.8s,baz=290,slow=3.4,SNR=20
comp=Z,16nm,0.8s
H11S1 WAKE ISLAND Hy 35.02 206 T T 20 26 44.8
baz=17,slow=76,SNR=6048
H11S2 WAKE ISLAND Hy 35.03 206 T T 20 27 14.1
baz=17,slow=76,SNR=2736
H11S3 WAKE ISLAND Hy 35.03 206 T T 20 26 49.1
baz=17,slow=76,SNR=2003
BNX BinXian 35.89 283 ⇑P P 19 49 41.4 -1.3
BNX pmax pmax
comp=Z,19nm,0.9s
BNX pmax pmax
comp=Z,230nm,4.7s
D05A Enumclaw 35.96 74 P P 19 49 44.6 +1.4
LON Longmire 36.28 75 P P 19 49 48.0 +2.0
LON lAmb lAmb 19 49 53.6
comp=Z,18nm,0.6s
LON Longmire 36.28 75 P P 19 49 48.0 +2.0
LON pmax pmax
comp=Z,17nm,0.6s
COR Corvallis 36.44 79 P P 19 49 49.4 +2.1
COR pP **pwP 19 50 02.3 -0.6**
COR sP **sP 19 50 09.3 +2.6**
LTY Liberty 36.72 73 P P 19 49 51.0 +1.2
LTY lAmb lAmb 19 49 56.0
comp=Z,12nm,0.5s
B08A Colville Reser 37.01 71 P P 19 49 53.2 +1.1
HOOD Mount Hood Mea 37.08 77 P P 19 49 53.5 +0.6
HAWA Hanford 37.83 74 P P 19 49 59.9 +0.8
F07A Phinny Hill Vi 37.83 75 P P 19 50 00.2 +1.1
D08A Wollman Farm, 37.87 73 P P 19 50 00.1 +0.7
D08A lAmb lAmb 19 50 13.2
comp=Z,14nm,0.8s
C09A Chrisman Ranch 37.90 71 P P 19 50 00.5 +0.8
C09A lAmb lAmb 19 50 13.8
comp=Z,18nm,0.8s
E08A Dider Farm, El 38.06 74 P P 19 50 01.6 +0.6
E08A lAmb lAmb 19 50 15.9
comp=Z,11nm,0.6s
PINE Pine Mountain 38.30 78 P P 19 50 05.1 +1.8
PINE lAmb lAmb 19 50 18.1
comp=Z,17nm,1.1s
EDM Edmonton 38.31 61 P P 19 50 03.2 +0.1
EDM Edmonton 38.31 61 P P 19 50 03.3 +0.1
EDM pmax pmax
comp=Z,24nm,0.5s
YBH Yreka Blue Hor 38.33 82 P P 19 50 05.5 +2.0
comp=Z,8.4nm,0.7s,baz=341,slow=6.4,SNR=14
YBH LR LR 20 02 18.1
comp=Z,157nm,20.7s,baz=300,slow=30
comp=Z,8.4nm,0.7s
YBH Yreka Blue Hor 38.33 82 P P 19 50 04.7 +1.2
NEW Newport 38.36 70 P P 19 50 04.1 +0.5
NEW Newport 38.36 70 P P 19 50 04.4 +0.8
baz=298,SNR=14
NEW Newport 38.36 70 P P 19 50 04.1 +0.5
NEW pmax pmax
comp=Z,25nm,0.7s
JCJ Chichijima 38.60 246 LR LR 20 01 32.3
comp=Z,171nm,21.9s,baz=63,slow=29
E09A Wood Farm, Sta 38.60 73 P P 19 50 05.7 +0.1
E09A lAmb lAmb 19 50 20.1
comp=Z,30nm,1.3s
G08A Pilot Rock 38.73 75 P P 19 50 07.7 +0.9
HIA Hailar 38.78 292 P P 19 50 05.5 -1.6
HIA lAmb lAmb 19 50 11.1
comp=Z,26nm,1.6s
HIA Hailar 38.78 292 P P 19 50 05.5 -1.6
HIA pmax pmax
comp=Z,26nm,1.6s

F10A Beach Ranch, E 39.42 73 P P 19 50 13.3 +0.7
RES Resolute Bay 39.48 25 LR LR 20 10 02.2
comp=Z,192nm,18.2s,baz=288,slow=41
MOD Modoc Plateau 39.73 81 P P 19 50 16.1 +0.8
MOD lAmb lAmb 19 50 17.9
comp=Z,17nm,0.7s
WALA Waterton Lakes 39.85 67 P P 19 50 17.2 +1.0
J08A Circle Bar Ran 40.05 77 P P 19 50 18.4 +0.6
J08A lAmb lAmb 19 50 20.8
comp=Z,15nm,1.0s
KSRS Korea Array 40.19 271 P P 19 50 19.1 +0.3
comp=Z,5.7nm,0.8s,baz=59,slow=7.7,SNR=15
KSRS LR LR 20 05 30.4
comp=Z,49nm,21.6s,baz=65,slow=34
comp=Z,5.7nm,0.8s
KS19 Wonju Array Si 40.19 272 P P 19 50 18.6 -0.3
KSAR Wonju Array Be 40.22 271 P P 19 50 18.7 -0.4
KSAR Wonju Array Be 40.22 271 P P 19 50 18.7 -0.4
SNY Shenyang 40.31 280 ⇑P P 19 50 20.2 +0.4
SNY pmax pmax
comp=Z,22nm,1.0s
ORV Oroville 40.34 84 P P 19 50 20.8 +0.7
ORV Oroville 40.34 84 P P 19 50 20.8 +0.7
ORV pmax pmax
comp=Z,5.0nm,0.7s
WVOR Wild Horse Val 40.46 79 P P 19 50 22.4 +1.2
WVOR lAmb lAmb 19 50 23.8
comp=Z,20nm,0.7s
WVOR Wild Horse Val 40.46 79 P P 19 50 22.4 +1.2
WVOR pmax pmax
comp=Z,20nm,0.7s
PLID Pearl Lake 40.62 74 P P 19 50 23.9 +1.2
MSO Missoula 40.94 70 P P 19 50 24.9 -0.3
MSO lAmb lAmb 19 50 38.5
comp=Z,24nm,1.1s
JNU Nakatsue 41.12 264 P P 19 50 26.8 +0.1
comp=Z,20nm,0.9s,baz=358,slow=10,SNR=6.5
JNU LR LR 20 06 33.3
comp=Z,50nm,21.2s,baz=36,slow=35
comp=Z,20nm,0.9s
MFID Camas Ranch 41.63 76 P P 19 50 31.5 +0.6
VCNR Virginia City 41.64 83 P P 19 50 30.1 -1.0
VCNR lAmb lAmb 19 50 33.7
comp=Z,12nm,0.6s
CMB Columbia Colle 41.95 85 P P 19 50 34.1 +0.7
CMB lAmb lAmb 19 51 17.3
comp=Z,39nm,2.0s
CMB Columbia Colle 41.95 85 P P 19 50 34.1 +0.7
CMB pmax pmax
comp=Z,39nm,2.0s
YERR Yerington 42.08 83 P P 19 50 35.1 +0.5
YERR lAmb lAmb 19 51 41.6
comp=Z,16nm,0.8s
HRY Holter Researc 42.24 69 P P 19 50 36.2 +0.4
LRM Limekiln Ridge 42.34 71 P P 19 50 37.4 +0.6
HLID Hailey 42.40 75 P P 19 50 38.4 +1.1
HLID lAmb lAmb 19 50 51.3
comp=Z,41nm,1.9s
HLID Hailey 42.40 75 P P 19 50 38.6 +1.4
baz=304,SNR=9.3
BMN Battle Mountai 42.47 80 P P 19 50 38.1 +0.3
BMN lAmb lAmb 19 50 40.0
comp=Z,12nm,0.7s
BMN Battle Mountai 42.47 80 P P 19 50 38.1 +0.3
BMN pmax pmax
comp=Z,12nm,0.7s
BCYI Bear Canyon 42.59 73 P P 19 50 39.1 +0.3
MCMT McKenzie Canyo 42.65 72 P P 19 50 39.8 +0.5
RYN Ryan 42.74 83 P P 19 50 40.2 +0.2
RYN lAmb lAmb 19 51 32.4
comp=Z,13nm,0.5s
KVN Kaiserville 42.75 83 P P 19 50 40.9 +0.8
KVN Kaiserville 42.75 83 P P 19 50 40.9 +0.8
KVN pmax pmax
comp=Z,7.0nm,1.0s
EGMT Eagleton 42.76 67 P P 19 50 40.1 +0.1
EGMT Eagleton 42.76 67 P P 19 50 40.6 +0.7
baz=301
BOZ Bozeman (W) 42.95 71 P P 19 50 42.0 +0.4
BOZ lAmb lAmb 19 50 55.0
comp=Z,23nm,0.9s
BOZ Bozeman (W) 42.95 71 P P 19 50 42.4 +0.8
baz=302,SNR=30
BOZ Bozeman (W) 42.95 71 P P 19 50 42.0 +0.4
BOZ pmax pmax
comp=Z,23nm,1.0s
NVAR Mina Array Bea 43.00 83 P P 19 50 42.9 +0.7
comp=Z,6.0nm,0.8s,baz=291,slow=7.7,SNR=18
comp=Z,6.0nm,0.8s
NVAR Mina Array Bea 43.00 83 P P 19 50 42.5 +0.3
NV11 Mina Array Sit 43.09 83 P P 19 50 44.9 +2.0
ELK Elko 43.51 79 P P 19 50 47.2 +0.9
comp=Z,13nm,0.7s,baz=295,slow=12,SNR=43
comp=Z,13nm,0.7s
ELK Elko 43.51 79 P P 19 50 47.0 +0.7
ELK lAmb lAmb 19 50 48.6
comp=Z,13nm,0.7s
YHL Hebgen Lake 43.62 71 P P 19 50 48.0 +0.8
XLT XiLinHaoTe 43.71 287 ⇑*i*P P 19 50 48.4 +0.7
XLT pP pP 19 51 00.2 -1.5
XLT S **S 19 57 16.1 +2.4**
XLT sS sS 19 57 35.6 -1.3
XLT pmax pmax
comp=Z,120nm,6.0s
XLT pmax pmax
comp=Z,22nm,1.1s
YMR Madison River 43.85 71 P P 19 50 49.7 +0.7
YMR lAmb lAmb 19 51 02.6
comp=Z,20nm,0.8s
DSP Deep Springs 43.86 84 P P 19 50 50.5 +1.7
TPH Tonopah 43.89 83 P P 19 50 50.2 +0.9
TPH Tonopah 43.89 83 P P 19 50 50.2 +0.9
TPH pmax pmax
comp=Z,38nm,0.8s
TIN Tinemaha, Big 43.90 85 P P 19 50 50.7 +1.5
baz=309
YNR Norris Junctio 44.00 71 P P 19 50 51.0 +0.8
YNR lAmb lAmb 19 51 04.8
comp=Z,34nm,0.9s
GCMT Greycliff 44.00 69 P P 19 50 51.0 +1.0
MZP Montezuma Peak 44.02 84 P P 19 50 50.4 -0.1
VES Vestal, Richgr 44.13 87 P P 19 50 52.1 +1.1
baz=310
LCH Last Change Ra 44.15 84 P P 19 50 52.4 +1.1
H17A Grant Village 44.24 71 P P 19 50 54.2 +2.1
H17A lAmb lAmb 19 51 07.6
comp=Z,22nm,0.8s
H17A Grant Village 44.24 71 P P 19 50 53.8 +1.7
baz=304
LKWY Lake 44.25 71 P P 19 50 54.2 +2.1
LKWY lAmb lAmb 19 51 07.4
comp=Z,22nm,0.9s
LKWY Lake 44.25 71 P P 19 50 54.2 +2.1
LKWY pmax pmax
comp=Z,22nm,0.9s
YMP Mirror Lake Pl 44.29 71 P P 19 50 52.6 +0.1
YMP lAmb lAmb 19 51 06.4
comp=Z,16nm,1.0s
CWC Cottonwood Cre 44.38 86 P P 19 50 53.9 +0.7
baz=309
HVU Hansel Valley 44.41 76 P P 19 50 53.4 0.0
HVU lAmb lAmb 19 51 07.4
comp=Z,11nm,0.7s
HVU Hansel Valley 44.41 76 P P 19 50 53.4 0.0
HVU pmax pmax
comp=Z,11nm,0.7s
RLMT Red Lodge 44.60 70 P P 19 50 56.1 +1.2
RLMT lAmb lAmb 19 51 09.3
comp=Z,26nm,0.9s
RLMT Red Lodge 44.60 70 P P 19 50 56.1 +1.2
baz=304,SNR=21
ISA Isabella, Lake 44.62 87 P P 19 50 55.0 0.0
ISA Isabella, Lake 44.62 87 P P 19 50 55.1 0.0
baz=310
ISA Isabella, Lake 44.62 87 P P 19 50 55.1 0.0
ISA pmax pmax
comp=Z,6.0nm,0.9s
NRIK Noril'sk 44.66 330 P P 19 50 54.9 +0.2
comp=Z,4.1nm,0.6s,baz=122,slow=5.7,SNR=2.9
NRIK ScP **ScP 19 56 23.8 0.0**
comp=Z,1.5nm,0.3s,baz=34,slow=2.3,SNR=4.3
comp=Z,4.1nm,0.6s
NRIK Noril'sk 44.66 330 *ce*P P 19 50 56.1 +1.3
NRIK pmax pmax
comp=Z,27nm,3.0s

R11A Troy Canyon, C 44.74 82 P **P** **19 50 56.6 +0.5**
R11A Troy Canyon, C 44.74 82 P **P** **19 50 56.5 +0.5**
baz=308,SNR=11
BGU Big Grassy Mou 44.76 77 P **P** **19 50 57.3 +1.2**
AHID Auburn Hatcher 44.85 74 P **P** **19 50 58.2 +1.3**
SCZ2 Santa Cruz Isl 44.98 89 P **P** **19 50 58.4 +0.6**
baz=311
MPMC Manual Prospec 44.99 86 P **P** **19 50 58.4 +0.3**
baz=309
SPR3 Spring Creek 3 45.12 80 P **P** **19 51 00.7 +1.5**
SPR3 IAmb IAmb 19 51 01.8
comp=Z,6.8nm,0.7s
FURC Furnace Creek, 45.12 85 P **P** **19 50 59.3 +0.5**
baz=309
TPNV Topopah Spring 45.20 84 P **P** **19 51 00.5 +0.8**
TPNV IAmb IAmb 19 51 01.7
comp=Z,18nm,0.8s
TPNV Topopah Spring 45.20 84 P **P** **19 50 59.9 +0.3**
baz=309,SNR=14
TPNV Topopah Spring 45.20 84 P **P** **19 51 00.5 +0.8**
TPNV pmax pmax
comp=Z,18nm,0.8s
HWUT Hardware Ranch 45.24 75 P **P** **19 51 00.9 +0.8**
DUG Dugway, Tooele 45.33 78 P **P** **19 51 00.8 +0.2**
DUG IAmb IAmb 19 51 02.6
comp=Z,15nm,0.7s
DUG Dugway, Tooele 45.33 78 P **P** **19 51 01.4 +0.8**
baz=307,SNR=18
DUG Dugway, Tooele 45.33 78 P **P** **19 51 00.8 +0.2**
DUG pmax pmax
comp=Z,15nm,0.7s
GWY Greenwater Val 45.42 85 P **P** **19 51 01.9 +0.5**
EDW2 Edwards Air Fo 45.43 87 P **P** **19 51 02.4 +1.0**
baz=310
LAO LASA Array 45.51 66 P **P** **19 51 03.0 +1.1**
LAO IAmb IAmb 19 51 04.0
comp=Z,14nm,0.6s
LAO LASA Array 45.51 66 P **P** **19 51 03.2 +1.3**
baz=304,SNR=5.6
LAO LASA Array 45.51 66 P **P** **19 51 02.6 +0.7**
baz=303,SNR=5.6
FCC Fort Churchill 45.54 47 P **P** **19 51 01.4 -0.5**
FCC IAmb IAmb 19 51 05.5
comp=Z,14nm,0.7s
FCC Fort Churchill 45.54 47 P **P** **19 51 01.4 -0.5**
FCC pmax pmax
comp=Z,14nm,0.7s
TCUT Toone Canyon 45.63 76 P **P** **19 51 03.7 +0.5**
TCUT IAmb IAmb 19 51 17.8
comp=Z,17nm,0.7s
PRN Pahroc Range 45.66 82 P **P** **19 51 03.7 +0.4**
PRN IAmb IAmb 19 51 05.6
comp=Z,19nm,0.9s
CTU Camp Tracy 45.68 76 P **P** **19 51 03.7 +0.3**
CTU IAmb IAmb 19 51 09.8
comp=Z,8.8nm,0.7s
BW06 Boulder Array 45.77 73 P **P** **19 51 04.8 +0.6**
BW06 IAmb IAmb 19 51 18.4
comp=Z,21nm,0.9s
BW06 Boulder Array 45.77 73 P **P** **19 51 04.9 +0.6**
baz=306,SNR=32
PD31 Pinedale Array 45.77 73 P **P** **19 51 04.7 +0.4**
PD31 IAmb IAmb 19 51 18.4
comp=Z,19nm,0.9s
PDAR Pinedale Array 45.77 73 P **P** **19 51 04.8 +0.5**
comp=Z,15nm,0.6s,baz=307,slow=3.2,SNR=129
PDAR LR LR 20 07 58.5
comp=Z,101nm,21.0s,baz=314,slow=33
comp=Z,15nm,0.6s
PDAR Pinedale Array 45.77 73 P **P** **19 51 04.5 +0.3**
SHOC Shoshone, Teco 45.85 85 P **P** **19 51 05.4 +0.8**
baz=310
GSC Goldstone, Bar 45.90 86 P **P** **19 51 05.2 0.0**
GSC IAmb IAmb 19 51 15.5
comp=Z,11nm,0.6s
GSC Goldstone, Bar 45.90 86 P **P** **19 51 05.3 +0.1**
baz=310,SNR=6.1
GSC Goldstone, Bar 45.90 86 P **P** **19 51 05.2 0.0**
GSC pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuao 45.92 283 P **P** **19 51 05.0 -0.2**
BJT Baijiatuao 45.92 283 P **P** **19 51 05.0 -0.2**
BJT pmax pmax
comp=Z,8.0nm,0.8s
BJT Baijiatuao 45.92 283 P **P** **19 51 05.8 +0.6**
NLU North Lily Min 45.92 78 P **P** **19 51 05.7 +0.2**
NLU IAmb IAmb 19 51 07.5
comp=Z,10nm,0.7s
BFSC Mount Baldy Ra 46.05 88 P **P** **19 51 07.0 +0.6**
baz=311
MPU Maple Canyon 46.16 77 P **P** **19 51 07.8 +0.5**
MPU IAmb IAmb 19 51 09.3
comp=Z,12nm,0.6s
TUQ Turquoise Moun 46.36 85 P **P** **19 51 09.2 +0.3**
baz=310
HEC Hector,Ludlow 46.50 86 P **P** **19 51 09.0 -0.9**
baz=310
TCRU Three Creeks R 46.52 79 P **P** **19 51 10.9 +0.7**
TCRU IAmb IAmb 19 51 13.0
comp=Z,14nm,0.7s
CCUT Cedar City 46.61 81 P **P** **19 51 11.6 +0.7**
MVU Marysvale 46.73 79 P **P** **19 51 12.3 +0.4**
ULN Ulaanbaatar 46.74 297 P **P** **19 51 12.1 +0.4**
ULN Ulaanbaatar 46.74 297 *ce*P **P** **19 51 13.3 +1.6**
ULN pmax pmax
comp=Z,12nm,2.3s
ULN Ulaanbaatar 46.74 297 P **P** **19 51 12.2 +0.5**
ULN pP **pP** **19 51 24.9 -1.0**
ULN ScP **ScP** **19 56 35.2 +2.2**
MSU Marysvale 46.74 79 P **P** **19 51 12.1 +0.2**
MSU Marysvale 46.74 79 P **P** **19 51 12.1 +0.2**
MURC Murrieta 46.76 88 P **P** **19 51 12.3 +0.4**
baz=311
V12A Nelson 46.84 84 P **P** **19 51 13.0 +0.4**
TMUT Trail Mountain 46.85 78 P **P** **19 51 13.1 +0.2**
TMUT IAmb IAmb 19 51 18.9
comp=Z,16nm,0.8s
GMRC Granite Mounta 46.95 86 P **P** **19 51 14.3 +0.8**
baz=310,SNR=5.7
MTPU Mount Pierson 47.03 80 P **P** **19 51 14.6 +0.3**
MTPU IAmb IAmb 19 51 16.4
comp=Z,8.5nm,0.7s
P17A Butcher Ranch, 47.03 77 P **P** **19 51 15.0 +0.9**
Q16A Castle Valley 47.11 78 P **P** **19 51 15.6 +0.9**
Q16A IAmb IAmb 19 51 16.6
comp=Z,14nm,0.6s
SONM Songino Array 47.12 297 P **P** **19 51 15.3 +0.6**
comp=Z,2.3nm,0.7s,baz=61,slow=7.1,SNR=16
SONM PcP **PcP** **19 52 46.2 +0.6**
comp=Z,2.0nm,0.7s,baz=57,slow=1.6,SNR=5.1
SONM ScP **ScP** **19 56 35.4 +0.8**
comp=Z,3.7nm,0.9s,baz=62,slow=2.8,SNR=19
SONM LR LR 20 11 39.7
comp=Z,438nm,20.7s,baz=36,slow=37
comp=Z,2.3nm,0.7s
SONM Songino Array 47.12 297 P **P** **19 51 14.6 -0.1**
TPFO Pinon Flats 47.22 87 P **P** **19 51 16.0 +0.4**
baz=311
P18A Preston Nutter 47.24 77 P **P** **19 51 15.8 -0.1**
P18A IAmb IAmb 19 51 18.2
comp=Z,11nm,0.7s
KNB Kanab 47.28 81 P **P** **19 51 17.2 +1.2**
KNB IAmb IAmb 19 51 27.3
comp=Z,8.0nm,0.8s
KNB Kanab 47.28 81 P **P** **19 51 17.3 +1.2**
KNB pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 47.39 77 P **P** **19 51 17.8 +0.9**
SRU San Rafael Swe 47.39 77 P **P** **19 51 17.8 +0.9**
SRU pmax pmax
comp=Z,22nm,0.7s
ZAK Zakamensk 47.41 301 *e*P **P** **19 51 15.6 -1.2**
ZAK *e* 19 52 46.7
ZAK pmax pmax
comp=Z,6.0nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.3s
NEE2 Needles Airpor 47.61 85 P **P** **19 51 18.7 +0.3**
baz=311
K22A Casper 47.65 71 P **P** **19 51 19.0 +0.2**
K22A IAmb IAmb 19 51 31.8
comp=Z,14nm,0.8s
K22A Casper 47.65 71 P **P** **19 51 19.0 +0.2**
baz=307
K22A Casper 47.65 71 P **P** **19 51 18.6 -0.2**
baz=306

IRM Iron Mountain 47.68 86 P **P** **19 51 19.1 +0.1**
baz=311
TIA Tai'an 47.70 278 ⇑P **P** **19 51 19.0 -0.1**
TIA pmax pmax
comp=Z,17nm,0.9s
MONP2 Monument Peak 47.72 88 P **P** **19 51 19.8 +0.3**
baz=312
BC3 Big Chuckawall 47.82 87 P **P** **19 51 20.6 +0.4**
baz=311
W13A Hualapai Mount 47.85 84 P **P** **19 51 20.7 +0.1**
U15A North Rim 47.98 81 P **P** **19 51 22.7 +1.0**
U15A IAmb IAmb 19 51 29.4
comp=Z,13nm,0.6s
SWSC Sam W. Stewart 48.07 87 P **P** **19 51 22.1 +0.1**
baz=312
IKP In-Ko-Pah, Jac 48.08 88 P **P** **19 51 22.5 +0.3**
baz=312
O20A White River Ci 48.14 75 P **P** **19 51 23.1 +0.4**
O20A White River Ci 48.14 75 P **P** **19 51 23.2 +0.4**
baz=308,SNR=7.3
GUMO Guam 48.16 232 LR LR 20 08 30.5
comp=Z,73nm,21.9s,baz=45,slow=32
HHC Hu-ho-hao-te 48.21 286 *e*P **P** **19 51 24.8 +1.7**
HHC sP pP 19 51 38.2 +0.9
HHC S **S** **19 58 21.9 +3.5**
HHC pmax pmax
comp=Z,33nm,0.8s
HHC pmax pmax
comp=Z,250nm,7.1s
HHC LR LR
comp=N,470nm,14.4s
HHC LR LR
comp=E,520nm,13.2s
HHC LR LR
comp=Z,500nm,12.6s
RSSD Black Hills 48.24 68 P **P** **19 51 23.7 +0.3**
RSSD IAmb IAmb 19 51 27.6
comp=Z,6.6nm,0.7s
RSSD Black Hills 48.24 68 P **P** **19 51 24.0 +0.6**
baz=306,SNR=7.9
RSSD Black Hills 48.24 68 P **P** **19 51 23.5 0.0**
baz=306
RSSD Black Hills 48.24 68 P **P** **19 51 23.7 +0.3**
RSSD Black Hills 48.24 68 P **P** **19 51 23.7 +0.3**
RSSD pP **pP** **19 51 38.0 +0.5**
RSSD ScP **ScP** **19 56 40.5 +1.1**
BLYC Blythe 48.34 86 P **P** **19 51 24.1 +0.1**
BLYC IAmb IAmb 19 51 34.1
comp=Z,7.6nm,0.8s
HNS HongShan 48.44 281 ⇑P **P** **19 51 25.4 +0.6**
HNS pmax pmax
comp=Z,17nm,1.1s
MDND Maddock 48.58 62 P **P** **19 51 25.3 -0.4**
baz=305
GLA Glamis 48.61 87 P **P** **19 51 25.9 -0.2**
GLA IAmb IAmb 19 51 28.3
comp=Z,13nm,0.8s
GLA Glamis 48.61 87 P **P** **19 51 25.4 -0.8**
baz=312
GLA Glamis 48.61 87 P **P** **19 51 26.0 -0.2**
GLA pmax pmax
comp=Z,13nm,0.8s
PV21 Cone Mtn., Par 48.67 77 P **P** **19 51 26.5 -0.4**
PV23 Carpenter Ridg 48.72 77 P **P** **19 51 27.5 +0.2**
PV23 IAmb IAmb 19 51 55.3
comp=Z,14nm,0.7s
PV10 Paradox Valley 48.75 77 P **P** **19 51 28.2 +0.7**
PV14 Lion Creek, Pa 48.76 77 P **P** **19 51 27.2 -0.4**
PV14 IAmb IAmb 19 52 54.6
comp=Z,20nm,0.9s
PV22 Blue Mesa, Par 48.80 77 P **P** **19 51 27.9 +0.1**
PV22 IAmb IAmb 19 51 29.4
comp=Z,15nm,0.7s
PV20 West Nyswonger 48.82 77 P **P** **19 51 28.4 +0.5**
PV04 Paradox Valley 48.82 77 P **P** **19 51 27.8 -0.2**
PV19 Morning Glory 48.83 77 P **P** **19 51 28.1 0.0**
PV17 East Wray Mesa 48.86 77 **P** **19 51 28.9 +0.6**
PV16 Nyswonger Mesa 48.87 77 P **P** **19 51 28.7 +0.3**
PV11 David Mesa, Pa 48.90 77 P **P** **19 51 27.8 -0.8**
PV05 Paradox Valley 48.90 78 **P** **19 51 27.8 -0.8**
PV05 IAmb IAmb 19 51 42.8
comp=Z,14nm,0.7s
PV18 Skein Mesa, Pa 48.91 77 P **P** **19 51 29.9 +1.2**
PV03 Paradox Valley 48.94 77 P **P** **19 51 28.7 -0.2**
PV07 Paradox Valley 48.95 77 P **P** **19 51 29.2 +0.2**
PV13 Radium Mtn., P 49.02 77 P **P** **19 51 30.0 +0.4**
PV02 Paradox Valley 49.04 77 P **P** **19 51 30.3 +0.6**
N23A Red Feather La 49.06 73 P **P** **19 51 30.4 +0.6**
N23A IAmb IAmb 19 51 43.7
comp=Z,13nm,1.0s
N23A Red Feather La 49.06 73 P **P** **19 51 30.0 +0.1**
baz=308
PV15 Paradox Valley 49.11 77 P **P** **19 51 30.7 +0.4**
WUAZ Wupatki 49.14 82 P **P** **19 51 30.5 +0.1**
WUAZ IAmb IAmb 19 52 48.0
comp=Z,10nm,0.8s
WUAZ Wupatki 49.14 82 P **P** **19 51 30.7 +0.3**
baz=310
Y14A Wickenburg 49.16 84 P **P** **19 51 30.5 0.0**
PV01 Paradox Valley 49.19 77 P **P** **19 51 30.6 -0.3**
ULM Lac du Bonnet 49.20 57 P **P** **19 51 30.9 +0.5**
comp=Z,1.8nm,0.5s,baz=290,slow=3.6,SNR=2.5
ULM LR LR 20 11 48.6
comp=Z,157nm,21.9s,baz=320,slow=35
comp=Z,1.8nm,0.5s
ULM Lac du Bonnet 49.20 57 P **P** **19 51 31.0 +0.5**
BTO Baotou 49.28 287 *e*P **P** **19 51 32.5 +1.2**
NJ2 Nanjing 49.36 272 *e*P **P** **19 51 31.4 -0.5**
NJ2 pmax pmax
comp=Z,14nm,0.5s
MVCO Mesa Verde 49.82 78 P **P** **19 51 35.3 -0.3**
MVCO IAmb IAmb 19 51 57.0
comp=Z,13nm,0.7s
MVCO Mesa Verde 49.82 78 P **P** **19 51 35.9 +0.2**
baz=310
ISCO Idaho Springs 49.93 74 P **P** **19 51 37.4 +0.8**
ISCO Idaho Springs 49.93 74 P **P** **19 51 37.7 +1.1**
baz=309
ISCO Idaho Springs 49.93 74 P **P** **19 51 36.2 -0.4**
baz=309
ISCO Idaho Springs 49.93 74 P **P** **19 51 37.4 +0.8**
ISCO pmax pmax
comp=Z,4.0nm,0.7s
SPITS Spitsbergen Ar 50.38 356 P **P** **19 51 38.9 -0.2**
comp=Z,7.3nm,0.5s,baz=50,slow=5.7,SNR=20
SPITS LR LR 20 15 40.3
comp=Z,120nm,18.2s,baz=339,slow=39
comp=Z,7.3nm,0.5s
SPB2 Spitsbergen Ar 50.38 356 P **P** **19 51 40.7 +1.7**
W18A Petrified Fore 50.41 81 P **P** **19 51 40.7 +0.6**
W18A IAmb IAmb 19 51 49.2
comp=Z,11nm,0.7s
W18A Petrified Fore 50.41 81 P **P** **19 51 40.5 +0.3**
baz=311
S22A 4UR Ranch, Cre 50.50 76 P **P** **19 51 41.8 +0.9**
S22A IAmb IAmb 19 52 02.1
comp=Z,13nm,1.3s
S22A 4UR Ranch, Cre 50.50 76 P **P** **19 51 42.0 +1.2**
baz=310,SNR=5.6
214A Organ Pipe Nat 50.60 86 P **P** **19 51 41.8 +0.5**
214A Organ Pipe Nat 50.60 86 P **P** **19 51 41.1 -0.3**
baz=313
X18A Snowflake 50.67 82 P **P** **19 51 43.0 +1.0**
X18A IAmb IAmb 19 51 50.1
comp=Z,7.1nm,0.6s
Q24A Divide 50.74 74 P **P** **19 51 42.5 -0.2**
baz=309
SUSD Miller 50.96 65 P **P** **19 51 43.5 -0.4**
baz=308
SDCO Great Sand Dun 51.30 76 P **P** **19 51 45.8 -1.1**
baz=310
OGNE Ogallala 51.35 70 P **P** **19 51 47.4 +0.4**
baz=309
TUC Tucson 51.63 84 P **P** **19 51 49.4 +0.3**
TUC Tucson 51.63 84 P **P** **19 51 49.0 -0.1**
baz=312
TUC Tucson 51.63 84 P **P** **19 51 49.4 +0.3**
TUC pmax pmax
comp=Z,7.0nm,0.8s
TUC Tucson 51.63 84 P **P** **19 51 49.7 +0.5**
TUC pP **pP** **19 52 03.6 +0.5**
LYN LuoYang 51.67 279 ⇑P **P** **19 51 49.6 +0.3**
LYN pmax pmax
comp=Z,10.0nm,1.0s
T25A Trinidad 52.36 75 P **P** **19 51 55.8 +1.2**
T25A IAmb IAmb 19 52 10.4
comp=Z,16nm,0.8s
T25A Trinidad 52.36 75 P **P** **19 51 55.5 +0.8**
baz=311,SNR=7.6
ANMO Albuquerque 52.55 79 LR LR 20 11 37.9
comp=Z,107nm,21.7s,baz=52,slow=33
ANMO Albuquerque 52.55 79 P **P** **19 51 57.1 +1.0**
ANMO Albuquerque 52.55 79 P **P** **19 51 56.7 +0.7**
baz=312
ANMO Albuquerque 52.55 79 P **P** **19 51 56.7 +0.7**
baz=311
ANMO Albuquerque 52.55 79 *ce*P **P** **19 51 56.5 +0.4**
ANMO pmax pmax
comp=Z,12nm,2.5s
ANMO Albuquerque 52.55 79 P **P** **19 51 57.2 +1.2**
ANMO sP **sP** **19 52 16.9 +0.9**
FRB Frobisher Bay 52.71 32 LR LR 20 17 31.7
comp=Z,316nm,18.4s,baz=348,slow=40
ECSD EROS Data Cent 52.72 64 P **P** **19 51 56.6 -0.4**
baz=309
Y22A Socorro 52.91 80 P **P** **19 52 00.1 +1.4**
baz=312,SNR=9.3
BNM Barren Site 52.97 80 P **P** **19 52 00.1 +0.8**
121A Cookes Peak, D 53.34 82 P **P** **19 52 02.5 +0.6**
121A IAmb IAmb 19 52 03.7
comp=Z,9.4nm,0.7s
121A Cookes Peak, D 53.34 82 P **P** **19 52 03.0 +1.1**
baz=313,SNR=8.1
121A Cookes Peak, D 53.34 82 P **P** **19 52 02.5 +0.6**
baz=313,SNR=8.1
E38A The Farm, Brul 53.70 59 P **P** **19 52 04.4 +0.3**
baz=309
L34A Svendsen Farm, 53.98 66 P **P** **19 52 06.7 +0.4**
baz=310
CBKS Cedar Bluff 54.07 71 P **P** **19 52 07.7 +0.7**
CBKS Cedar Bluff 54.07 71 P **P** **19 52 08.3 +1.3**
baz=311
CBKS Cedar Bluff 54.07 71 P **P** **19 52 07.5 +0.5**
baz=311
CBKS Cedar Bluff 54.07 71 P **P** **19 52 07.7 +0.7**
CBKS pmax pmax
comp=Z,23nm,0.7s
ZALV Zalesovo Beam 54.41 314 P **P** **19 52 09.0 -0.1**
comp=Z,0.3nm,0.5s,baz=46,slow=8.3,SNR=2.1
ZALV PcP **PcP** **19 53 12.3 +0.1**
comp=Z,5.0nm,0.7s,baz=36,slow=3.1,SNR=17
ZALV ScP **ScP** **19 57 04.9 -0.7**
comp=Z,1.2nm,0.9s,baz=45,slow=4.3,SNR=4.0
ZALV LR LR 20 15 58.6
comp=Z,183nm,20.2s,baz=46,slow=37
N35A Tabor 55.12 66 P **P** **19 52 15.1 +0.5**
N35A Tabor 55.12 66 P **P** **19 52 15.7 +1.1**
baz=311,SNR=5.2
MNTX Cornudas Mount 55.40 81 P **P** **19 52 17.1 +0.3**
MNTX IAmb IAmb 19 52 18.6
comp=Z,9.9nm,0.8s
MNTX Cornudas Mount 55.40 81 P **P** **19 52 17.7 +1.0**
baz=314,SNR=14
MNTX Cornudas Mount 55.40 81 P **P** **19 52 17.0 +0.3**
baz=313,SNR=14
SFJD Kangerlussuaq 55.41 22 LR LR 20 17 47.4
comp=Z,156nm,20.5s,baz=325,slow=38
MSTX Muleshoe 55.46 77 P **P** **19 52 17.2 0.0**
MSTX IAmb IAmb 19 52 19.2
comp=Z,11nm,0.7s
MSTX Muleshoe 55.46 77 P **P** **19 52 17.3 0.0**
baz=313
MSTX Muleshoe 55.46 77 P **P** **19 52 17.2 0.0**
baz=313
GDL2 Guadalupe Moun 55.69 80 P **P** **19 52 19.1 +0.2**
KSU1 Kansas State U 55.72 69 P **P** **19 52 19.1 +0.2**
LZH Lanzhou 55.90 287 ⇑P **P** **19 52 21.5 +1.1**
LZH pP pP 19 52 30.5 -4.4
LZH sP sP 19 52 34.2 -6.8
LZH pmax pmax
comp=Z,44nm,1.4s
LZH LR LR
comp=N,330nm,13.1s
LZH LR LR
comp=E,300nm,14.8s
LZH LR LR
comp=Z,360nm,18.2s
DGZ Jazzator, Alta 55.95 309 *i*P **P** **19 52 21.7 +1.2**
DGZ pmax pmax
comp=Z,11nm,4.0s
GTA Gaotai 56.06 292 *e*P **P** **19 52 21.6 +0.1**
GTA pP pP 19 52 30.4 -5.6
GTA ScP **ScP** **19 57 14.7 +1.4**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,74nm,4.7s
GTA LR LR
comp=N,170nm,21.4s
GTA LR LR
comp=E,180nm,20.4s
GTA LR LR
comp=Z,370nm,18.9s
E43A Lone Tree Farm 56.25 56 P **P** **19 52 23.1 +0.5**
baz=311
KAN01 Argonia South 56.34 71 P **P** **19 52 23.4 +0.1**
KAN01 IAmb IAmb 19 52 36.1
comp=Z,19nm,1.0s
KAN17 Caldwell West 56.41 71 P **P** **19 52 23.4 -0.4**
ENH Enshi 56.42 278 P **P** **19 52 23.6 -0.4**
ENH Enshi 56.42 278 P **P** **19 52 23.3 -0.6**
P38A Dawn 57.15 66 P **P** **19 52 29.0 0.0**
P38A Dawn 57.15 66 P **P** **19 52 29.1 +0.1**
baz=312,SNR=6.4
WMOK Wichita Mounta 57.36 74 P **P** **19 52 31.0 +0.4**
WMOK IAmb IAmb 19 52 32.1
comp=Z,7.1nm,0.7s
WMOK Wichita Mounta 57.36 74 P **P** **19 52 31.3 +0.7**
baz=313,SNR=7.4
WMOK Wichita Mounta 57.36 74 P **P** **19 52 30.9 +0.3**
baz=313,SNR=7.4
WMOK Wichita Mounta 57.36 74 P **P** **19 52 31.0 +0.4**
WMOK pmax pmax
comp=Z,7.0nm,0.7s
E46A Sault Ste Mari 57.65 55 P **P** **19 52 33.1 +0.7**
baz=312
JMIC Jan Mayen 57.67 4 LR LR 20 17 38.5
comp=Z,97nm,19.9s,baz=352,slow=36
LPIG La Paz 57.69 91 LR LR 20 12 53.5
comp=Z,37nm,21.2s,baz=352,slow=31
P40A Paris 58.06 65 P **P** **19 52 35.4 0.0**
P40A Paris 58.06 65 P **P** **19 52 35.6 +0.2**
baz=313,SNR=10.0
TX31 Lajitas Ar. Si 58.10 82 P **P** **19 52 36.1 +0.1**
TX31 Lajitas Ar. Si 58.10 82 P **P** **19 52 36.3 +0.4**
baz=315,SNR=12
TX32 Lajitas Array 58.10 82 P **P** **19 52 35.9 0.0**
TX32 IAmb IAmb 19 52 36.9
comp=Z,5.4nm,0.7s
TXAR Lajitas Array 58.10 82 P **P** **19 52 35.5 -0.5**
TXAR Lajitas Array 58.10 82 P **P** **19 52 35.5 -0.5**
ARCES ARCESS Array B 58.15 351 P **P** **19 52 34.0 -1.6**
comp=Z,2.9nm,0.6s,baz=26,slow=7.4,SNR=16
ARCES PcP **PcP** **19 53 26.5 -0.1**
comp=Z,8.4nm,1.0s,baz=40,slow=4.7,SNR=3.8
ARCES LR LR 20 18 34.9
comp=Z,91nm,21.1s,baz=24,slow=37
comp=Z,2.9nm,0.6s
ABTX Abilene, Hawle 58.29 76 P **P** **19 52 36.8 -0.3**
ABTX IAmb IAmb 19 52 45.5
comp=Z,10nm,0.7s
ABTX Abilene, Hawle 58.29 76 P **P** **19 52 37.6 +0.4**
baz=314
ABTX Abilene, Hawle 58.29 76 P **P** **19 52 37.3 +0.1**
baz=314
TUL1 Leonard 58.34 71 P **P** **19 52 37.4 0.0**
baz=313
R40A Maddies Statio 58.77 67 P **P** **19 52 39.1 -1.3**
R40A Maddies Statio 58.77 67 P **P** **19 52 39.5 -0.9**
baz=313,SNR=5.8
U38A Gravette 58.81 69 P **P** **19 52 40.3 -0.4**
HDIL Hopedale 58.91 63 P **P** **19 52 41.8 +0.5**
baz=313
HDIL Hopedale 58.91 63 P **P** **19 52 41.4 +0.1**
baz=313
KURK Kurchatov 59.39 314 P **P** **19 52 46.6 +2.2**
KURK Kurchatov 59.39 314 *ce*P **P** **19 52 47.4 +2.9**
KURK pmax pmax
comp=Z,13nm,2.5s
P43A Skaggs, Pawnee 59.41 64 P **P** **19 52 45.1 +0.4**
baz=313

KURBB **Kurchatov Arra** 59.50 314 P **P** **19 52 43.8 -1.5**
comp=Z,3.0nm,0.8s,baz=43,slow=6.6,SNR=12
KURBB LR LR 20 20 21.0
comp=Z,244nm,19.5s,baz=168,slow=38
comp=Z,3.0nm,0.8s
X37A Clayton 59.50 72 P **P** **19 52 46.1 +0.6**
X37A Clayton 59.50 72 P **P** **19 52 45.9 +0.4**
baz=314
CD2 Chengdu 59.51 282 P **P** **19 52 44.6 -1.0**
CCM Cathedral Cave 59.52 66 P **P** **19 52 46.1 +0.5**
baz=314
CCM Cathedral Cave 59.52 66 P **P** **19 52 45.1 -0.4**
baz=313
CCM Cathedral Cave 59.52 66 P **P** **19 52 45.9 +0.3**
SCHQ Schefferville 59.64 39 P **P** **19 52 46.5 +0.4**
comp=Z,3.0nm,0.8s,baz=319,slow=9.3,SNR=1.9
SCHQ LR LR 20 19 34.5
comp=Z,124nm,19.5s,baz=67,slow=37
comp=Z,3.0nm,0.8s
JCT Junction City 59.68 78 P **P** **19 52 46.4 -0.5**
JCT IAmb IAmb 19 54 25.5
comp=Z,10nm,1.0s
JCT Junction City 59.68 78 P **P** **19 52 46.4 -0.5**
JCT pmax pmax
comp=Z,10.0nm,1.0s
WMQ Urumqi 59.78 303 *e*P **P** **19 52 48.8 +1.4**
WMQ pP pP 19 52 57.0 -5.0
WMQ sP sP 19 53 01.7 -6.4
WMQ PcP **PcP** **19 53 34.2 +0.6**
WMQ pmax pmax
comp=Z,14nm,1.5s
WMQ LR LR
comp=Z,260nm,22.1s
FVM French Village 60.04 66 P **P** **19 52 49.6 +0.5**
baz=314
WHTX Lake Whitney, 60.05 75 P **P** **19 52 49.9 +0.6**
baz=315
WHTX Lake Whitney, 60.05 75 P **P** **19 52 49.6 +0.3**
baz=314
Q44A Meyer Farm, Va 60.20 64 P **P** **19 52 50.8 +0.6**
baz=314
SFIN Lafayette 60.25 62 P **P** **19 52 51.4 +0.9**
baz=314
SFIN Lafayette 60.25 62 P **P** **19 52 50.3 -0.2**
baz=314
MK31 Makanchi Array 60.44 309 P **P** **19 52 51.1 -0.7**
MK31 Makanchi Array 60.44 309 *i* P **P** **19 52 51.1 -0.7**
MKAR Makanchi Array 60.44 309 P **P** **19 52 50.8 -1.0**
comp=Z,0.8nm,0.4s,baz=57,slow=6.7,SNR=12
MKAR ScP **ScP** **19 57 33.1 +0.7**
comp=Z,0.4nm,0.8s,baz=50,slow=4.5,SNR=2.8
MKAR LR LR 20 19 15.6
comp=Z,217nm,21.8s,baz=38,slow=36
comp=Z,0.8nm,0.4s
MKAR Makanchi Array 60.44 309 P **P** **19 52 50.3 -1.5**
MKAR Makanchi Array 60.44 309 *i* P **P** **19 52 53.7 +1.9**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
FCAR Ozark Folk Cen 60.51 68 P **P** **19 52 51.3 -1.0**
MIAR Mount Ida 60.59 71 P **P** **19 52 52.6 -0.4**
MIAR IAmb IAmb 19 53 19.1
comp=Z,14nm,0.8s
MIAR Mount Ida 60.59 71 P **P** **19 52 53.5 +0.6**
baz=314,SNR=5.9
MIAR Mount Ida 60.59 71 P **P** **19 52 53.3 +0.3**
baz=314,SNR=5.9
MIAR Mount Ida 60.59 71 P **P** **19 52 52.6 -0.4**
MIAR pmax pmax
comp=Z,14nm,0.8s
P46A Rosedale 60.72 62 P **P** **19 52 53.8 +0.1**
baz=314
WHAR Wooly Hollow 60.83 69 P **P** **19 52 54.8 +0.2**
WHAR IAmb IAmb 19 53 10.5
comp=Z,10nm,0.9s
OLIL Olney 60.84 64 P **P** **19 52 54.5 0.0**
OLIL Olney 60.84 64 P **P** **19 52 54.9 +0.4**
baz=314
MANU Manus Island 60.86 221 P **P** **19 52 54.3 -0.6**
GOMU GeErMu 61.15 293 P **P** **19 52 57.4 +0.3**
GOMU pP pP 19 53 01.9 -10
GOMU sP sP 19 53 03.7 -14
GOMU S **S** **20 01 13.7 +1.1**
GOMU sS pS 20 01 28.3 -1.6
GOMU GeErMu 61.15 293 pmax pmax
comp=Z,17nm,0.9s
GOMU GeErMu 61.15 293 pmax pmax
comp=Z,83nm,7.0s
GOMU GeErMu 61.15 293 SS SS 20 05 39.4 +27
GOMU GeErMu 61.15 293 LR LR
comp=Z,180nm,14.5s
GOMU GeErMu 61.15 293 LR LR
comp=E,160nm,16.3s
GOMU GeErMu 61.15 293 LR LR
comp=N,180nm,14.3s
BVAR Borovoye Array 61.22 320 P **P** **19 52 56.8 -0.1**
comp=N,4.1nm,0.5s,baz=50,slow=7.3,SNR=38
BVAR LR LR 20 22 13.4
comp=N,299nm,19.0s,baz=48,slow=39
comp=N,4.1nm,0.5s
BRVK Borovoye 61.23 320 P **P** **19 52 57.3 +0.3**
BRVK Borovoye 61.23 320 *i* P **P** **19 52 56.9 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,2.4s
BRVK Borovoye 61.23 320 P **P** **19 52 57.0 -0.1**
BRVK ScP **ScP** **19 57 35.8 0.0**
SADO Sadowa 61.38 53 LR LR 20 21 48.3
comp=Z,119nm,18.5s,baz=306,slow=38
O48B Farmland 61.40 61 P **P** **19 52 58.4 0.0**
baz=315,SNR=6.9
O48B Farmland 61.40 61 P **P** **19 52 57.9 -0.5**
baz=314,SNR=6.9
N49A Columbus Grove 61.46 59 P **P** **19 52 58.9 +0.2**
baz=315
N49A P **P** **19 52 58.9 +0.2**
baz=315
USIN University of 61.62 64 P **P** **19 53 00.1 +0.3**
P48A Milroy 61.81 61 P **P** **19 53 01.1 0.0**
P48A Milroy 61.81 61 P **P** **19 53 01.6 +0.4**
baz=315
P48A P **P** **19 53 01.6 +0.4**
baz=315
O49A Covington 61.90 60 P **P** **19 53 02.1 +0.4**
baz=315
O49A P **P** **19 53 02.1 +0.4**
baz=315
P49A Miami Univ. Ec 62.15 61 P **P** **19 53 03.4 0.0**
baz=315
WCI Wyandotte Cave 62.20 63 P **P** **19 53 04.3 +0.6**
WCI Wyandotte Cave 62.20 63 P **P** **19 53 04.3 +0.6**
baz=315
WCI Wyandotte Cave 62.20 63 P **P** **19 53 04.0 +0.3**
baz=315
WCI Wyandotte Cave 62.20 63 P **P** **19 53 04.3 +0.6**
WCI pmax pmax
comp=Z,15nm,0.8s
N51A Ashland 62.43 58 P **P** **19 53 06.0 +0.7**
baz=315
N51A P **P** **19 53 06.0 +0.7**
baz=315
ACSO Alum Creek Sta 62.60 59 P **P** **19 53 07.3 +1.0**
baz=315
ACSO Alum Creek Sta 62.60 59 P **P** **19 53 06.9 +0.5**
baz=315
T47A Sharon Grove 62.62 64 P **P** **19 53 07.0 +0.4**
T47A Sharon Grove 62.62 64 P **P** **19 53 07.4 +0.8**
baz=315
BORG Borgarnes 62.76 11 LR LR 20 20 40.6
comp=Z,119nm,21.7s,baz=340,slow=36
WVT Waverly 62.82 66 P **P** **19 53 08.1 +0.3**
WVT IAmb IAmb 19 53 10.1
comp=Z,6.7nm,0.6s
WVT Waverly 62.82 66 P **P** **19 53 08.1 +0.3**
baz=315
WVT Waverly 62.82 66 P **P** **19 53 08.2 +0.3**
baz=315
WVT Waverly 62.82 66 P **P** **19 53 08.1 +0.3**
WVT pmax pmax
comp=Z,7.0nm,0.6s
WVT Waverly 62.82 66 P **P** **19 53 08.0 +0.1**
ARU Arti 62.86 329 LR LR 20 23 22.0
comp=Z,147nm,20.1s,baz=29,slow=39
ARU Arti 62.86 329 P **P** **19 53 07.7 -0.2**
ARU IAmb IAmb 19 53 08.7
comp=Z,6.2nm,0.8s
ARU Arti 62.86 329 *d* *i* P **P** **19 53 07.6 -0.2**
ARU 19 53 43.6
ARU S **S** **20 01 34.1 +1.2**
ARU SS **SS** **20 05 39.4 +1.7**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 62.86 329 P **P** **19 53 07.6 -0.2**
ARU pP **pP** **19 53 22.3 -0.4**
M53A WI Miller and 62.96 57 P **P** **19 53 07.8 -1.0**
baz=316
OXF Oxford 63.06 68 P **P** **19 53 09.9 +0.5**
baz=316
OXF Oxford 63.06 68 P **P** **19 53 09.2 -0.3**
baz=315
R50A Paris 63.25 62 P **P** **19 53 11.6 +0.8**
R50A Paris 63.25 62 P **P** **19 53 11.6 +0.8**
baz=316
R50A P **P** **19 53 11.6 +0.8**
baz=316
Q51A Peebles 63.26 60 P **P** **19 53 11.3 +0.6**
Q51A Peebles 63.26 60 P **P** **19 53 11.6 +0.8**
baz=316
Q51A P **P** **19 53 11.6 +0.8**
baz=316
O52A Adamsville 63.29 59 P **P** **19 53 12.4 +1.4**
O52A Adamsville 63.29 59 P **P** **19 53 11.6 +0.6**
baz=316
O52A P **P** **19 53 11.6 +0.6**
baz=316
WVNY West Valley, N 63.34 55 P **P** **19 53 12.3 +1.0**
baz=316
P52A Corning 63.48 59 P **P** **19 53 12.1 -0.1**
baz=316
ZAIG Zacatecas 63.50 86 P **P** **19 53 12.8 -0.2**
HNR Honiara 63.55 205 LR LR 20 14 32.1
comp=Z,2µm,20.7s,baz=271,slow=30
PAMR Moraine State 63.62 57 P **P** **19 53 13.5 +0.3**
baz=316
CLTN Cedars of Leba 63.70 65 P **P** **19 53 14.9 +1.2**
CLTN IAmb IAmb 19 53 19.4
comp=Z,18nm,0.8s
U49A Red Boiling Sp 63.70 64 P **P** **19 53 13.9 +0.1**
U49A IAmb IAmb 19 53 15.3
comp=Z,7.3nm,0.6s
U49A Red Boiling Sp 63.70 64 P **P** **19 53 14.6 +0.8**
baz=316
KIRV Kirov 63.78 335 P **P** **19 53 14.0 +0.1**
comp=Z,6.5nm,0.5s,baz=18,slow=3.2,SNR=2.6
KIRV LR LR 20 24 00.7
comp=Z,345nm,19.0s,baz=20,slow=39
comp=Z,6.5nm,0.5s
KIRV Kirov 63.78 335 *ce*P **P** **19 53 15.5 +1.7**
T50A Nancy 63.87 63 P **P** **19 53 15.7 +0.8**
T50A IAmb IAmb 19 53 17.1
comp=Z,18nm,0.9s
T50A Nancy 63.87 63 P **P** **19 53 15.5 +0.7**
baz=316
T50A P **P** **19 53 15.5 +0.7**
baz=316
PZH PanZhiHua 63.88 280 P **P** **19 53 14.8 -0.4**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,170nm,4.9s
M55A Ridgway 63.93 56 P **P** **19 53 15.8 +0.5**
baz=317
M55A P **P** **19 53 15.8 +0.5**
baz=317
P53A Whipple 63.98 59 P **P** **19 53 15.9 +0.4**
baz=316
P53A P **P** **19 53 15.9 +0.4**
baz=316
L56A Greenwood 64.07 54 P **P** **19 53 17.4 +1.3**
L56A Greenwood 64.07 54 P **P** **19 53 16.7 +0.6**
baz=317
L56A P **P** **19 53 16.7 +0.6**
baz=317
S51A Beattyville 64.11 62 P **P** **19 53 17.0 +0.6**
baz=316
S51A P **P** **19 53 17.0 +0.6**
baz=316
KMI Kunming 64.27 279 ⇑P **P** **19 53 18.0 +0.1**
KMI pP pP 19 53 28.7 -4.0
KMI sP sP 19 53 32.4 -6.4
KMI PcP **PcP** **19 53 51.5 -0.7**
KMI pmax pmax
comp=Z,8.0nm,0.8s
QIZ Qiongzhong 64.31 269 P **P** **19 53 18.4 +0.4**
QIZ S **S** **20 01 49.0 -2.9**
QIZ LR LR
comp=N,540nm,14.2s
QIZ LR LR
comp=E,400nm,14.2s
QIZ LR LR
comp=Z,420nm,22.1s
X48A Hartselle 64.46 66 P **P** **19 53 18.9 +0.2**
baz=316
R53A Hurricane 64.52 60 P **P** **19 53 19.7 +0.6**
baz=316
R53A P **P** **19 53 19.7 +0.6**
baz=316
Q54A Coxs Mills 64.64 59 P **P** **19 53 20.3 +0.4**
baz=317
Q54A P **P** **19 53 20.3 +0.4**
baz=317
Z47A Carrollton 64.77 68 P **P** **19 53 21.0 +0.2**
baz=316
W50A Signal Mountai 64.91 65 P **P** **19 53 22.5 +0.7**
W50A Signal Mountai 64.91 65 P **P** **19 53 22.1 +0.3**
baz=316,SNR=5.1
TZTN Tazewell 64.93 62 P **P** **19 53 22.9 +1.1**
TZTN IAmb IAmb 19 53 24.3
comp=Z,10nm,0.7s
TZTN Tazewell 64.93 62 P **P** **19 53 22.6 +0.8**
baz=316
TZTN Tazewell 64.93 62 P **P** **19 53 22.1 +0.3**
baz=316
SSPA Standing Stone 65.00 56 P **P** **19 53 22.0 -0.1**
baz=317
V51A Loudon 65.02 64 P **P** **19 53 22.7 +0.4**
V51A IAmb IAmb 19 53 28.2
comp=Z,12nm,0.8s
CPCT Cooper Cave 65.18 64 P **P** **19 53 23.8 +0.4**
CPCT IAmb IAmb 19 53 29.2
comp=Z,9.0nm,0.8s
FPAL Fort Paine 65.22 65 P **P** **19 53 23.9 +0.2**
Y49A Blount Mountai 65.25 66 P **P** **19 53 24.4 +0.5**
baz=316
H62A Milan 65.41 49 P **P** **19 53 24.9 +0.1**
baz=319
H62A P **P** **19 53 24.9 +0.1**
baz=319
V52A Sevierville 65.41 63 P **P** **19 53 25.8 +0.9**
V52A IAmb IAmb 19 53 48.4
comp=Z,20nm,1.1s
V52A Sevierville 65.41 63 P **P** **19 53 25.5 +0.6**
baz=317
TKL Tuckaleechee C 65.45 63 LR LR 20 23 45.8
comp=Z,106nm,18.2s,baz=309,slow=38
TKL Tuckaleechee C 65.45 63 P **P** **19 53 25.9 +0.8**
TKL IAmb IAmb 19 53 27.3
comp=Z,16nm,0.8s
TKL Tuckaleechee C 65.45 63 P **P** **19 53 25.8 +0.7**
baz=317
TKL Tuckaleechee C 65.45 63 P **P** **19 53 25.9 +0.7**
TKL pmax pmax
comp=Z,16nm,0.8s
LRAL Lakeview Retre 65.51 67 P **P** **19 53 26.6 +1.1**
baz=317
LRAL Lakeview Retre 65.51 67 P **P** **19 53 25.7 +0.1**
baz=316
W52A Murphy 65.77 64 P **P** **19 53 28.1 +0.9**
W52A Murphy 65.77 64 P **P** **19 53 27.7 +0.5**
baz=317
FINES FINESS Array B 65.87 348 P **P** **19 53 26.4 -1.0**
comp=Z,4.5nm,0.9s,baz=19,slow=8.9,SNR=8.5
FINES LR LR 20 25 50.9
comp=Z,67nm,18.9s,baz=56,slow=39
comp=Z,4.5nm,0.9s
FINES FINESS Array B 65.87 348 *i* P **P** **19 53 28.8 +1.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
U54A Nelsons Funny 65.90 61 P **P** **19 53 29.3 +1.1**
U54A IAmb IAmb 19 53 30.2
comp=Z,13nm,0.6s
U54A Nelsons Funny 65.90 61 P **P** **19 53 29.3 +1.1**
baz=317
U54A P **P** **19 53 29.3 +1.1**
baz=317
V53A Saluda 65.97 63 P **P** **19 53 29.3 +0.7**
V53A Saluda 65.97 63 P **P** **19 53 29.3 +0.7**
baz=317
V53A P **P** **19 53 29.3 +0.7**
baz=317
L61B Northampton 66.27 51 P **P** **19 53 30.1 -0.2**
baz=319
BG3 Lake Jocassee 66.40 63 P **P** **19 53 32.3 +1.0**
CASEE Lake Jocassee 66.40 63 P **P** **19 53 32.5 +1.2**
baz=317,SNR=5.7
250A Grady 66.70 68 P **P** **19 53 33.4 +0.2**
TNCH TengChong 66.94 282 P **P** **19 53 35.8 +0.8**
TNCH pP pP 19 53 47.1 -2.8
TNCH sP sP 19 53 52.1 -3.9
TNCH S **S** **20 02 21.9 -2.3**
TNCH sS pS 20 02 42.2 0.0
TNCH TengChong 66.94 282 SS SS 20 06 50.4 +7.5
TNCH pmax pmax
comp=Z,9.0nm,0.9s
TNCH pmax pmax
comp=Z,150nm,4.5s
TNCH LR LR
comp=N,180nm,4.5s
TNCH LR LR
comp=E,120nm,7.2s
TNCH LR LR
comp=Z,130nm,11.5s
152A Waverly Hall 67.09 66 P **P** **19 53 36.2 +0.5**
baz=317
PAULI Pauline 67.15 63 P **P** **19 53 36.4 +0.4**
baz=318
KMSC Kings Mountain 67.18 62 P **P** **19 53 37.2 +0.9**
KMSC Kings Mountain 67.18 62 P **P** **19 53 37.4 +1.1**
baz=318,SNR=5.9
KMSC Kings Mountain 67.18 62 P **P** **19 53 36.8 +0.5**
baz=318,SNR=5.9
AAK Ala-Archa 67.26 310 *ce*P **P** **19 53 38.3 +1.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s
HODGE Hodges 67.34 63 P **P** **19 53 38.0 +0.8**
HODGE Hodges 67.34 63 P **P** **19 53 38.2 +1.0**
baz=318,SNR=9.3
PMG Port Moresby 67.66 218 P **P** **19 53 39.0 -0.4**
PMG Port Moresby 67.66 218 P **P** **19 53 38.9 -0.4**
PMG Port Moresby 67.66 218 P **P** **19 53 38.8 -0.5**
PMG Port Moresby 67.66 218 *ce*P **P** **19 53 40.9 +1.6**
PMG pmax pmax
comp=Z,18nm,1.7s
PMG Port Moresby 67.66 218 P **P** **19 53 38.5 -0.8**
NB2 NORSAR Subarra 67.66 355 P **P** **19 53 38.8 -0.1**
comp=Z,27nm,1.4s,baz=5.8,slow=6.5
NB2 NORSAR Subarra 67.66 355 P **P** **19 53 38.8 -0.1**
baz=5.8,slow=6.5
NOA NORSAR Array B 67.66 355 P **P** **19 53 38.7 -0.1**
comp=Z,1.3nm,0.6s,baz=12,slow=6.7,SNR=5.4
NOA LR LR 20 21 51.2
comp=Z,101nm,21.6s,baz=355,slow=35
comp=Z,1.3nm,0.6s
JSC Jenkinsville 67.86 63 P **P** **19 53 41.1 +0.7**
JSC Jenkinsville 67.86 63 P **P** **19 53 41.3 +0.8**
baz=318,SNR=5.1
JSC Jenkinsville 67.86 63 P **P** **19 53 41.2 +0.7**
JSC pmax pmax
comp=Z,22nm,0.5s
LSA Lhasa 67.95 290 P **P** **19 53 43.0 +1.3**
LSA Lhasa 67.95 290 P **P** **19 53 43.2 +1.5**
LSA pmax pmax
comp=Z,49nm,0.9s
LSA Lhasa 67.95 290 P **P** **19 53 43.0 +1.3**
LSA pmax pmax
comp=Z,46nm,1.1s
LSA Lhasa 67.95 290 P **P** **19 53 43.4 +1.7**
AKTO Aktyubinsk 67.97 325 P **P** **19 53 40.4 -0.6**
comp=Z,7.2nm,0.7s,baz=39,slow=4.7,SNR=24
comp=Z,7.2nm,0.7s
ABKAR Akbulak array 68.24 323 P **P** **19 53 43.4 +0.7**
ABKAR Akbulak array 68.24 323 P **P** **19 53 43.0 +0.3**
ABKAR IAmb IAmb 19 54 09.4
comp=Z,3.7nm,0.8s
TAOE Nuku Hiva Isla 68.28 139 *e*LR LR 20 14 24.1
comp=Z,432nm,23.1s
TAOE Nuku Hiva Isla 68.28 139 *e*T T 21 08 06.1
comp=Z,44nm,0.3s
HAW Hawthorne Fire 68.34 64 P **P** **19 53 44.4 +0.9**
baz=318
HFS Hagfors 68.41 354 P **P** **19 53 42.8 -0.8**
comp=Z,1.4nm,0.4s,baz=357,slow=3.0,SNR=9.4
HFS LR LR 20 22 01.7
comp=Z,123nm,21.6s,baz=339,slow=34
comp=Z,1.4nm,0.4s
KSH Kashi 68.92 307 P **P** **19 53 51.9 +4.7**
KSH pmax pmax
comp=Z,6.0nm,0.7s
MSVF Nonsavu 68.94 184 P **P** **19 53 47.6 +0.3**
NONG Nongkai 69.23 273 P **P** **19 53 49.1 -0.1**
NHSC New Hope 69.33 63 P **P** **19 53 50.2 +0.5**
baz=318
CRAI Chiangrai 69.34 277 P **P** **19 53 49.7 -0.2**
CRAI IAmb IAmb 19 53 51.4
comp=Z,19nm,0.9s
BELG Belogornoye 69.68 332 P **P** **19 53 50.4 -1.1**
comp=Z,2.8nm,0.5s,baz=17,slow=3.7,SNR=5.9
BELG LR LR 20 26 43.7
comp=Z,306nm,21.0s,baz=352,slow=38
comp=Z,2.8nm,0.5s
OBN Obninsk 70.03 340 ⇑*e*P **P** **19 53 54.4 +0.8**
OBN *e* 19 56 26.8
OBN *e*PPP PPP 19 58 07.7
OBN pmax pmax
comp=Z,24nm,1.7s
OBN MLR MLR
comp=Z,224nm,19.0s
SHL Shillong 70.57 287 P **P** **19 53 57.4 -0.2**
SHL Shillong 70.57 287 P **P** **19 53 57.4 -0.2**
SHL pmax pmax
comp=Z,45nm,1.0s
MND Mandalay 70.64 281 P **P** **19 53 57.3 -0.6**
PHRA Phrae 70.72 276 P **P** **19 53 58.2 -0.2**
CHTO Chiang Mai 71.29 277 P **P** **19 54 01.5 -0.3**
CHTO Chiang Mai 71.29 277 P **P** **19 54 01.5 -0.3**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CM31 Chiang Mai Arr 71.56 277 P **P** **19 54 02.4 -1.1**
CMAR Chiang Mai Arr 71.56 277 P **P** **19 54 03.5 0.0**
comp=Z,4.4nm,0.9s,baz=26,slow=7.2,SNR=30
comp=Z,4.4nm,0.9s
CMAR Chiang Mai Arr 71.56 277 P **P** **19 54 03.1 -0.3**
TOLI2 Tolitoli 71.59 248 P **P** **19 54 02.4 -1.2**
TOLI2 IAmb IAmb 19 54 03.3
comp=Z,8.8nm,0.8s
TAPN Taplejung 71.71 291 *eP* **P** **19 54 05.3 +0.6**
comp=Z,141nm,1.0s
GAR Garm 72.08 310 P **P** **19 54 06.7 +0.2**
GAR IAmb IAmb 19 54 44.8
comp=Z,7.4nm,0.5s
JIRN Jiri 72.36 292 *eP* **P** **19 54 09.5 +0.9**
comp=Z,143nm,0.9s
VORR Voronezh 72.60 337 P **P** **19 54 08.9 -0.3**
VORR pmax pmax
comp=Z,10.0nm,0.5s
RAMN Ramite 72.66 291 *eP* **P** **19 54 10.7 +0.4**
comp=Z,99nm,0.6s
KKN Kakani 72.79 293 *eP* **P** **19 54 12.0 +1.0**
PKI Pulchoki 72.88 293 *eP* **P** **19 54 12.1 +0.4**
comp=Z,63nm,0.9s
PKIN Phulchoki 72.88 293 *eP* **P** **19 54 11.7 +0.1**
comp=Z,8.3nm,0.3s
CHGR Chuyangaron 72.90 311 P **P** **19 54 12.1 +0.8**
CHGR IAmb IAmb 19 54 14.4
comp=Z,12nm,0.9s
CHGR Chuyangaron 72.90 311 P **P** **19 54 12.1 +0.8**
CHGR pmax pmax
comp=Z,12nm,0.9s
GKN Gorkha 73.00 294 *eP* **P** **19 54 12.5 +0.3**
DMN Daman 73.03 293 *eP* **P** **19 54 13.1 +0.6**
PPT Papeete 73.03 152 LR LR 20 19 17.3
comp=Z,131nm,20.0s,baz=358,slow=30
DANN Dangsing 73.24 294 *eP* **P** **19 54 14.5 +0.8**
comp=Z,82nm,0.9s
COEN Coen 73.36 220 P **P** **19 54 13.2 -0.8**
COEN IAmb IAmb 19 54 14.3
comp=Z,13nm,0.9s
COEN Coen 73.36 220 P **P** **19 54 13.3 -0.8**
EKA Eskdalemuir Ar 73.53 3 P **P** **19 54 15.2 +0.5**
comp=Z,1.3nm,0.5s,baz=359,slow=4.3,SNR=5.2
comp=Z,1.3nm,0.5s

KOLN **Koldanda** 73.77 294 *e*P P 19 54 16.9 +0.1
comp=Z,6.7nm,1.1s
RAR **Rarotonga** 74.05 162 LR LR 20 19 03.2
comp=Z,317nm,19.9s,baz=320,slow=29
DZM **Mont Dzumac** 74.44 195 *e*LR LR 20 17 14.2
comp=Z,402nm,24.9s
DZM **Mont Dzumac** 74.44 195 P P 19 54 20.8 +0.5
comp=Z,9.2nm,0.7s,baz=64,slow=14,SNR=13
DZM LR LR 20 20 31.7
comp=Z,119nm,21.3s,baz=44,slow=30
comp=Z,9.2nm,0.7s
DZM **Mont Dzumac** 74.44 195 P P 19 54 20.9 +0.5
DZM IAmb IAmb 19 54 21.9
comp=Z,12nm,0.9s
DZM **Mont Dzumac** 74.44 195 P P 19 54 20.9 +0.6
NIL **Nilore** 74.85 305 P P 19 54 22.8 +0.1
NIL IAmb IAmb 19 54 24.7
comp=Z,7.2nm,0.6s
NIL **Nilore** 74.85 305 P P 19 54 22.8 +0.1
NIL pmax pmax
comp=Z,7.0nm,0.6s
SBUM **Sibu** 75.61 256 P P 19 54 27.5 +0.2
AKASG **Malin Array Be** 75.68 343 P P 19 54 26.6 -0.6
comp=Z,1.7nm,0.4s,baz=20,slow=5.8,SNR=14
AKASG LR LR 20 30 58.1
comp=Z,126nm,21.2s,baz=7.0,slow=38
comp=Z,1.7nm,0.4s
AKASG **Malin Array Be** 75.68 343 *i* P P 19 54 27.7 +0.5
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB **Malin Array Si** 75.68 343 P 19 54 27.9 +0.7
AKBB **Malin Array Si** 75.68 343 *ce*P P 19 54 28.5 +1.3
AK05 **Malin Array Si** 75.77 343 P P 19 54 27.4 -0.2
AK05 IAmb IAmb 19 54 48.0
comp=Z,22nm,1.4s
KBL **Kabul** 76.25 309 P P 19 54 29.9 -1.0
KBL **Kabul** 76.25 309 P P 19 54 30.0 -1.0
KBL pmax pmax
comp=Z,7.0nm,0.9s
CLL **Collm** 77.24 353 *e*P P 19 54 37.0 +1.1
CLL **Collm** 77.24 353 *e*P P 19 54 37.0 +1.1
MTN **Manton Dam** 77.72 231 P P 19 54 38.5 -0.6
MTN IAmb IAmb 19 54 39.2
comp=Z,18nm,0.8s
CTA **Charters Tower** 77.81 214 P P 19 54 38.9 -0.5
comp=Z,10nm,1.0s,baz=26,slow=4.4,SNR=5.2
CTA LR LR 20 25 14.5
comp=Z,82nm,19.0s,baz=338,slow=33
comp=Z,10nm,1.0s
DPC **Dobruska-Polom** 77.89 351 *e*P P 19 54 41.1 +1.4
DPC **Dobruska-Polom** 77.89 351 *e*P P 19 54 41.1 +1.4
SORM **Soroca** 78.31 342 ⇑P P 19 54 41.7 -0.3
SORM **Soroca** 78.31 342 P P 19 54 41.6 -0.3
GEYT **Alibeck** 78.43 318 P P 19 54 43.1 +0.2
comp=Z,3.7nm,0.8s,baz=4.9,slow=5.2,SNR=7.0
GEYT LR LR 20 32 24.8
comp=Z,343nm,20.2s,baz=44,slow=38
comp=Z,3.7nm,0.8s
GEYT **Alibeck** 78.43 318 P P 19 54 43.1 +0.2
TBI **Tubuai** 78.53 153 *e*S S 20 04 38.2 +2.8
comp=Z,323nm,34.0s
TBI **Tubuai** 78.53 153 *e*LR LR 20 19 08.4
comp=Z,1μm,27.2s
TBI *e*LR LR 20 19 08.7
comp=Z,5μm,22.8s
CRVS **Cervenica-Dubn** 78.70 347 *e*P P 19 54 45.4 +1.3
CRVS **Cervenica-Dubn** 78.70 347 *e*P P 19 54 45.4 +1.3
KIV **Kislovodsk** 78.70 331 P P 19 54 43.9 -0.4
KIV **Kislovodsk** 78.70 331 *e*P P 19 54 46.0 +1.6
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,156nm,19.0s
KBZ **Khabaz** 78.85 331 P P 19 54 45.5 +0.6
comp=Z,5.2nm,0.8s,baz=48,slow=2.9,SNR=14
KBZ LR LR 20 34 38.5
comp=Z,231nm,20.2s,baz=20,slow=40
comp=Z,5.2nm,0.8s
KBZ **Khabaz** 78.85 331 *ce*P P 19 54 46.5 +1.5
VRAC **Vranov** 78.89 350 LR LR 20 28 52.3
comp=Z,97nm,21.9s,baz=359,slow=35
TRPA **Tarpa** 79.30 346 ⇓P P 19 54 48.4 +1.0
BATI **Baumata** 79.30 239 P P 19 54 47.1 -0.7
comp=Z,29nm,0.7s,baz=106,slow=1.5,SNR=8.0
comp=Z,29nm,0.7s
BUR08 **Bucovina Ar. S** 79.35 344 P P 19 54 48.8 +0.9
BUR08 IAmb IAmb 19 56 30.1
comp=Z,34nm,1.9s
KHC **Kasperske Hory** 79.36 352 *e*P P 19 54 49.6 +1.8
KHC **Kasperske Hory** 79.36 352 *e*P P 19 54 49.6 +1.8
BURAR **Bucovina Array** 79.37 344 P P 19 54 48.1 +0.1
ZEI **Tsey** 79.39 330 *e*P P 19 54 46.8 -1.5
ZEI pmax pmax
comp=Z,9.0nm,0.8s
VYHS **Vyhne** 79.44 349 *e*P P 19 54 49.2 +1.0
VYHS **Vyhne** 79.44 349 *e*P P 19 54 49.2 +1.0
HRA **Herat** 79.59 313 P P 19 54 49.5 0.0
GERES **GERESS Array B** 79.63 352 P P 19 54 48.9 -0.4
comp=Z,0.5nm,0.5s,baz=44,slow=5.8,SNR=2.9
comp=Z,0.5nm,0.5s
TESR **Tescani** 80.19 343 ⇓P P 19 54 53.5 +1.3
CONA **Conrad Observa** 80.33 351 *e*PcP P 19 54 56.3 +3.2
comp=Z,0.4nm,0.3s
VLDR **Vladesti** 80.56 342 ⇑P P 19 54 55.2 +1.0
OZUR 80.74 344 ⇓P P 19 54 56.7 +1.4
AKH **Akhalkalaki** 80.77 330 P P 19 54 56.6 +1.0
AKH IAmb IAmb 19 54 57.7
comp=Z,28nm,1.0s
AKH **Akhalkalaki** 80.77 330 P P 19 54 56.7 +1.0
AKH pmax pmax
comp=Z,28nm,1.0s
VRI **Vrincioaia** 80.80 343 ⇓P P 19 54 56.9 +1.4
VRI **Vrincioaia** 80.80 343 P P 19 54 56.9 +1.4
ODBI **Odobesti** 80.83 343 ⇑P P 19 54 57.6 +1.9
COVR **Voineasa-Covas** 80.91 343 ⇓P P 19 54 57.8 +1.6
CFR **Carcaliu** 81.19 342 ⇑P P 19 54 59.0 +1.4
CFR **Carcaliu** 81.19 342 P P 19 54 58.9 +1.4
MLR **Muntele Rosu** 81.30 343 LR LR 20 34 37.3
comp=Z,135nm,20.6s,baz=18,slow=38
MLR **Muntele Rosu** 81.30 343 ⇑P P 19 54 59.2 +0.8
MLR **Muntele Rosu** 81.30 343 P P 19 54 58.6 +0.2
MLR IAmb IAmb 19 55 01.8
comp=Z,12nm,1.0s
MLR **Muntele Rosu** 81.30 343 P P 19 54 59.1 +0.8
MOTA **Moosalm** 81.32 354 *e*PcP PcP 19 55 01.8 -2.7
comp=Z,1.1nm,0.4s
TPGR **Topolog** 81.44 341 ⇓P P 19 54 58.2 -0.7
GNI **Garni** 81.51 328 LR LR 20 36 36.4
comp=Z,146nm,19.1s,baz=12,slow=40
ISR **Istrita** 81.55 343 ⇓P P 19 55 01.4 +1.8
ISR **Istrita** 81.55 343 P P 19 55 01.4 +1.8
SOKA **Soboth** 81.66 351 *e*PcP P 19 55 02.0 +1.8
comp=Z,2.4nm,0.7s
FETA **Feichten** 81.67 354 *e*pP P 19 55 07.5 +7.1
comp=Z,1.5nm,0.6s
SURR **Surduc** 81.68 346 ⇑P P 19 55 01.9 +1.7
MTUR **Matau** 81.71 344 ⇑P P 19 55 02.2 +1.6
MTUR **Matau** 81.71 344 P P 19 55 02.1 +1.6
OBKA **Obir** 81.87 351 *e*PcP PcP 19 55 04.5 -2.3
comp=Z,4.4nm,0.8s
BZS **Buzias** 81.89 346 ⇑P P 19 55 02.5 +1.2
BZS **Buzias** 81.89 346 P P 19 55 02.5 +1.2
GZR **Gura Zlata** 81.93 345 ⇑P P 19 55 02.7 +1.1
GZR **Gura Zlata** 81.93 345 P P 19 55 02.7 +1.1
DAVOX **Davos/Dischmat** 81.96 355 LR LR 20 34 55.8
comp=Z,85nm,18.5s,baz=7.0,slow=38
PRED **Cave del Predi** 82.02 352 P P 19 55 02.0 -0.1
PRED IAmb IAmb 19 55 05.0
comp=Z,6.2nm,0.7s
WB0 **Warramunga Arr** 82.24 225 P P 19 55 01.9 -1.5
WB0 IAmb IAmb 19 55 03.1
comp=Z,26nm,1.4s
WR0 **Warramunga Arr** 82.35 224 P P 19 55 02.6 -1.3
WR0 IAmb IAmb 19 55 03.2
comp=Z,7.1nm,0.8s
WRAB **Tennant Creek** 82.41 225 P P 19 55 02.9 -1.3
WRAB **Tennant Creek** 82.41 225 P P 19 55 03.3 -0.9
WRAB **Tennant Creek** 82.41 225 *ce*P P 19 55 03.7 -0.5
WRAB pmax pmax
comp=Z,19nm,2.5s
WB2 **Warramunga Arr** 82.42 225 P P 19 55 03.1 -1.2
WB2 IAmb IAmb 19 55 04.1
comp=Z,8.6nm,0.9s
WRA **Warramunga Arr** 82.42 225 P P 19 55 03.0 -1.3
comp=Z,4.2nm,0.7s,baz=33,slow=6.0,SNR=38
comp=Z,4.2nm,0.7s
WRA **Warramunga Arr** 82.42 225 P P 19 55 02.8 -1.5
WRA **Warramunga Arr** 82.42 225 P P 19 55 02.8 -1.5
WRA pmax pmax
comp=Z,2.0nm,1.9s
WB1 **Warramunga Ar.** 82.43 225 P P 19 55 03.4 -0.9
FRGS **Fruska Gora** 82.60 347 ⇑P P 19 55 04.9 -0.1
MDVR **Moldovita** 82.69 346 ⇓P P 19 55 06.8 +1.3
RMQ **Roma** 82.92 210 P P 19 55 07.4 +0.7
RKT **Rikitea** 83.24 141 *e*LR LR 20 21 19.8
comp=Z,59μm,30.0s
PSI **Prapat** 83.55 266 P P 19 55 10.3 -0.2
PSI **Prapat** 83.55 266 P P 19 55 09.7 -0.8
PSI pmax pmax
comp=Z,17nm,0.8s
PLVB **Pleven** 83.57 344 ⇓P P 19 55 11.2 +1.1
RPSI **Rantau Prapat** 83.63 266 P P 19 55 09.7 -1.0
RPSI IAmb IAmb 19 55 10.9
comp=Z,17nm,0.8s
DUNO **Dulce Nombre,** 83.72 82 P P 19 55 11.0 -0.2
BOVS **Bovan** 83.81 346 ⇑P P 19 55 11.1 -0.2
GURO **Guroymak-BITLI** 83.83 330 P P 19 55 11.8 +0.1
QLP **Quilpie** 84.50 213 P P 19 55 15.0 +0.2
VTS **Vitosha** 84.56 344 ⇓P P 19 55 15.9 +0.6
VTS **Vitosha** 84.56 344 P P 19 55 15.4 +0.1
VTS IAmb IAmb 19 55 17.1
comp=Z,7.0nm,0.9s
VTS **Vitosha** 84.56 344 P P 19 55 15.9 +0.6
FITZ **Fitzroy Crossi** 84.92 233 P P 19 55 16.9 -0.1
FITZ **Fitzroy Crossi** 84.92 233 P P 19 55 17.2 +0.1
OSSC **Osservatorio P** 85.11 353 P P 19 55 17.8 -0.1
OSSC IAmb IAmb 19 55 19.2
comp=Z,11nm,0.9s
BR131 **Keskin Array S** 85.14 336 P P 19 55 17.9 -0.4
BR131 IAmb IAmb 19 55 19.6
comp=Z,14nm,0.9s
BR131 **Keskin Array S** 85.14 336 P P 19 55 17.9 -0.4
BR131 pmax pmax
comp=Z,14nm,0.9s
BRTR **Keskin Array B** 85.14 336 P P 19 55 18.1 -0.1
comp=Z,6.2nm,0.8s,baz=53,slow=2.3,SNR=30
BRTR LR LR 20 38 11.4
comp=Z,143nm,18.0s,baz=23,slow=39
comp=Z,6.2nm,0.8s
PDG **Podgorica** 85.35 347 ⇓P P 19 55 19.5 +0.5
BNN **Bunyan** 85.38 334 P P 19 55 19.5 0.0
NRCA **Norcia** 85.64 352 P P 19 55 20.9 +0.2
NRCA IAmb IAmb 19 55 22.5
comp=Z,12nm,1.0s
AS01 **Alice Springs** 85.86 223 P P 19 55 21.5 -0.2
AS31 **Alice Springs** 85.88 223 P P 19 55 20.7 -1.1
ASAR **Alice Springs** 85.89 223 P P 19 55 21.4 -0.4
comp=Z,9.1nm,0.8s,baz=25,slow=5.7,SNR=120
ASAR LR LR 20 30 38.6
comp=Z,81nm,19.2s,baz=54,slow=33
comp=Z,9.1nm,0.8s
ASAR **Alice Springs** 85.89 223 P P 19 55 21.0 -0.8
INKA **Innaminka** 86.80 216 P P 19 55 26.3 +0.2
CMSA **Cobar Meteorol** 88.58 210 P P 19 55 35.0 +0.4
SJG **San Juan** 88.86 62 LR LR 20 38 43.4
comp=Z,94nm,19.1s,baz=179,slow=38
ESDC **Sonseca Array** 89.14 5 P P 19 55 36.9 -0.6
comp=Z,2.1nm,0.8s,baz=342,slow=4.1,SNR=12
ESDC LR LR 20 39 02.6
comp=Z,59nm,18.9s,baz=360,slow=38
comp=Z,2.1nm,0.8s
URZ **Urewera** 89.40 184 LR LR 20 29 59.2
comp=Z,111nm,20.4s,baz=126,slow=32
LCRK **Leigh Creek** 90.18 217 P P 19 55 42.4 +0.3
STKA **Stephens Creek** 90.25 214 P P 19 55 42.7 +0.3
comp=Z,11nm,0.7s,baz=353,slow=6.2,SNR=29
STKA LR LR 20 33 20.8
comp=Z,134nm,20.2s,baz=22,slow=34
comp=Z,11nm,0.7s
STKA **Stephens Creek** 90.25 214 P P 19 55 42.7 +0.3
STKA **Stephens Creek** 90.25 214 P P 19 55 42.8 +0.4
WSAR **Wadi Sarin** 90.67 310 LR LR 20 40 44.8
comp=Z,60nm,19.1s,baz=78,slow=38
SDV **Santo Domingo** 93.69 71 LR LR 20 42 07.0
comp=Z,29nm,18.8s,baz=330,slow=38
EIL **Elat** 94.23 332 LR LR 20 46 43.5
comp=Z,96nm,18.0s,baz=55,slow=41
RPZ **Rata Peaks** 95.23 188 LR LR 20 36 23.6
comp=Z,143nm,18.8s,baz=14,slow=34
MDT **Midelt** 95.93 6 LR LR 20 40 20.8
comp=Z,43nm,20.0s,baz=344,slow=36
RAYN **Ar Rayn** 96.21 321 P P 19 56 09.6 -0.8
RAYN IAmb IAmb 19 56 11.3
comp=Z,5.8nm,0.9s
RAYN **Ar Rayn** 96.21 321 P P 19 56 09.6 -0.8
RAYN pmax pmax
comp=Z,6.0nm,1.0s
RPN **Rapa Nui** 98.62 123 LR LR 20 30 35.8
comp=Z,49nm,20.8s,baz=243,slow=29
TORD **Torodi Ar. Bea** 115.71 0 PKP PKiKP 20 01 23.7 -0.8
comp=Z,1.0nm,0.4s,baz=14,slow=3.0,SNR=5.9
TORD PKKPbc PKKPbc 20 11 55.2 +0.6
comp=Z,1.4nm,0.9s,baz=204,slow=3.3,SNR=4.4
DBIC **Dimbokro** 121.84 8 PKP PKPdf 20 01 35.3 -0.9
comp=Z,2.4nm,0.4s,baz=30,slow=1.7,SNR=10
TIC **Toumodi** 121.85 8 ⇑*i*PKIKP PKPdf 20 01 35.7 -0.6
comp=Z,2.3nm,0.4s
KIC **Kosan Boka** 122.16 8 ⇑*i*PKIKP PKPdf 20 01 36.2 -0.7
comp=Z,1.9nm,0.5s
LIC **Lamto** 122.27 8 ⇑*i*PKIKP PKPdf 20 01 36.0 -1.1
comp=Z,5.3nm,0.4s
MAW **Mawson** 146.84 218 PKPbc PKPdf 20 02 20.6 -0.1
comp=Z,16nm,1.0s,baz=72,slow=6.4,SNR=2.6
BOSA **Boshof** 151.35 314 PKPbc PKPbc 20 02 35.6 +0.1
comp=Z,6.6nm,0.6s,baz=22,slow=2.5,SNR=26

IDC ***11*** *19:43:47.7±4.5,34.41N×22.85E,h0km,mb4.0/6, mbtmp3.8/9,ML3.4/3, Error ellipse: s-maj=79.0km s-min=50.6km az=33.0*
ISK ***11*** *19:43:52.4,34.71N×22.90E,h72km,ML3.8/11*
THE ***11*** *19:43:55.0,34.77N×23.00E,h0km±3km,ML3.4/5, Error ellipse: s-maj=5.4km s-min=1.6km az=217.0*
ATH ***11*** *19:43:59.8,34.92N×23.27E,h14km±2km,ML3.3/4, Error ellipse: s-maj=5.0km s-min=1.8km az=57.0*
GII ***11*** *19:44:07.1±0.0,35.06N×24.81E,h6km*
DDA ***11*** *19:44:13.0±0.0,35.28N×24.35E,h67km,ML3.3*

ISC 11 19:43:52.1±2.0,**34.67N**±0.07×**23.04E**±0.06,**h7km**±10km, **n52**,σ1s**32**/63,**mb4.2**/6,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.77**	**43**	P	**Pg**	**19 44 07.7**	**+0.7**
KNDR				S	**Sb**	**19 44 18.6**	**+0.1**
	2μm,0.7s						
KNDR	**Palaiochora Ch**	**0.77**	**43**	Pg	**Pb**	**19 44 08.5**	**+0.7**
KNDR				Sg	**Sn**	**19 44 21.1**	**-0.1**
KNDR	**Palaiochora Ch**	**0.77**	**43**	P	**Pb**	**19 44 08.0**	**+0.1**
KNDR				S	**Sg**	**19 44 13.9**	**-3.1**
KNDR				AML	AML	19 44 23.3	
	comp=N,13255μm,0.6s						
KNDR				AML	AML	19 44 24.1	
	comp=E,11313μm,0.8s						
GVD	**Gavdhos**	**0.88**	**79**	P	**Pn**	**19 44 11.6**	**+0.7**
GVD				S	**Sn**	**19 44 24.7**	**+0.8**
	comp=E,6μm,0.4s						
GVD	**Gavdhos**	**0.88**	**79**	Pg	**Pn**	**19 44 11.7**	**+0.8**
GVD				Sg	**Sn**	**19 44 25.4**	**+1.5**
GVD	**Gavdhos**	**0.88**	**79**	P	**Pn**	**19 44 12.7**	**+1.8**
GVD				AML	AML	19 44 26.1	
	comp=N,15297μm,0.5s						
GVD				AML	AML	19 44 26.3	
	comp=E,9949μm,0.4s						
GVDS	**Gavdos**	**0.88**	**79**	P	**Pn**	**19 44 12.5**	**+1.6**
GVDS				S	**Sn**	**19 44 25.4**	**+1.4**
	comp=E,4μm,0.4s						
GVDS	**Gavdos**	**0.88**	**79**	Pg	**Pb**	**19 44 11.0**	**+1.3**
GVDS				Sg	**Sn**	**19 44 25.1**	**+1.1**
IMMV	**Iera Moni Meta**	**1.10**	**44**	P	**Pn**	**19 44 14.8**	**+0.8**
IMMV				S	**Sn**	**19 44 31.4**	**+2.0**
	comp=E,2μm,0.5s						
IMMV	**Iera Moni Meta**	**1.10**	**44**	Pn	**Pb**	**19 44 14.1**	**+0.6**
IMMV				Sn	**Sn**	**19 44 29.8**	**+0.4**
IMMV	**Iera Moni Meta**	**1.10**	**44**	P	**Pn**	**19 44 15.0**	**+1.0**
IMMV				AML	AML	19 44 34.9	
	comp=N,4712μm,0.5s						
IMMV				AML	AML	19 44 35.6	
	comp=E,3997μm,0.4s						
CHAN	**Chania**	**1.18**	**44**	P	**Pn**	**19 44 16.4**	**+1.4**
ANKY	**Antikythira Is**	**1.21**	**10**	P	**Pg**	**19 44 15.9**	**+0.5**
ANKY				S	**Sn**	**19 44 32.9**	**+0.8**
ANKY	**Antikythira Is**	**1.21**	**10**	P	**Pn**	**19 44 17.2**	**+1.8**
ANKY				AML	AML	19 44 39.2	
	comp=E,2490μm,0.7s						
ANKY				AML	AML	19 44 39.8	
	comp=N,1828μm,0.8s						
KTHA	**Kythira Island**	**1.58**	**1**	P	**Pg**	**19 44 23.1**	**+0.7**
KTHA				S	**Sg**	**19 44 42.5**	**-0.4**
	comp=N,722nm,1.0s						
KTHA	**Kythira Island**	**1.58**	**1**	Pn	**Pn**	**19 44 19.7**	**-0.8**
KTHA	**Kythira Island**	**1.58**	**1**	P	**Pg**	**19 44 23.2**	**+0.8**
IACM	**Heraklion**	**1.78**	**69**	P	**Pb**	**19 44 25.9**	**+0.8**
HRKL	**Herakleio**	**1.81**	**69**	Pn	**Pn**	**19 44 24.2**	**+0.5**
HRKL	**Herakleio**	**1.81**	**69**	P	**Pb**	**19 44 26.0**	**+0.5**
VLI	**Veliai**	**2.04**	**358**	P	**Pb**	**19 44 30.0**	**+0.5**
STIA	**Sitia Lasithi**	**2.56**	**77**	P	**Pb**	**19 44 37.4**	**-1.0**
STIA	**Sitia Lasithi**	**2.56**	**77**	P	**Pb**	**19 44 37.3**	**-1.1**
THT2	**Imerovigli**	**2.62**	**47**	Pn	**Pn**	**19 44 35.1**	**+0.3**
ZKR	**Zakros**	**2.65**	**80**	Pn	**Pn**	**19 44 36.2**	**+1.0**
ZKR	**Zakros**	**2.65**	**80**	P	**Pn**	**19 44 37.9**	**+2.7**
KRND	**KRANIDI**	**2.71**	**2**	P	**Pn**	**19 44 38.6**	**+2.6**
APE	**Apeiranthos**	**3.13**	**40**	Pn	**Pn**	**19 44 41.9**	**0.0**
KARP	**Karpathos**	**3.49**	**74**	Pn	**Pn**	**19 44 47.9**	**+1.1**
ARG	**Arkhangelos**	**4.43**	**68**	Pn	**Pn**	**19 45 00.6**	**+0.9**
YER	**Yerkesik**	**4.92**	**59**	Pn	**Pn**	**19 45 06.4**	**0.0**
AKAS	**Kas**	**5.58**	**72**	P	**Pn**	**19 45 16.5**	**+0.9**
AKAS				S	Sn	19 46 07.1	-13
CAEL	**Denizli, Camel**	**5.65**	**63**	P	**Pn**	**19 45 18.5**	**+1.8**
CAEL				S	Sn	19 46 08.4	-14
CAEL				*i* AML	AML	19 46 20.0	
	comp=N,64nm,2.7s						
CAEL				*i* AML	AML	19 46 22.0	
	comp=N,44nm,1.7s						
GOLH	**Golhisar**	**5.88**	**62**	P	**Pn**	**19 45 20.1**	**+0.4**
GOLH				S	Sn	19 46 09.8	-18
GOLH				*i* AML	AML	19 46 23.0	
	comp=N,32nm,1.0s						
AKUM	**Antalya-Kumluc**	**6.18**	**72**	P	**Pn**	**19 45 21.9**	**-1.8**
AKUM				S	Sn	19 46 22.5	-12
KORT	**Korkueli**	**6.38**	**67**	P	**Pn**	**19 45 29.0**	**+2.5**
SEDI	**Konya, Seydise**	**7.58**	**66**	P	**Pn**	**19 45 43.3**	**+0.1**
SEDI				S	Sn	19 46 47.3	-22
SEDI				*i* AML	AML	19 47 09.0	
	comp=N,7.5nm,1.5s						
BRTR	**Keskin Array B**	**9.84**	**56**	Pn	**Pn**	**19 46 16.9**	**+2.8**
	comp=N,0.1nm,0.3s,baz=241,slow=14,SNR=5.6						
	comp=N,0.7nm,0.7s						
KZIT	**Kziot**	**10.27**	**108**	Pn	**Pn**	**19 46 19.6**	**-0.3**
KZIT				Sn	Sn	19 48 04.2	-11
HMDT	**Nahal Hemdat**	**10.71**	**100**	Pn	**Pn**	**19 46 24.7**	**-1.1**
MSBI	**Mazada**	**10.87**	**105**	Pn	**Pn**	**19 46 27.6**	**-0.5**
PRNI	**Paran**	**10.98**	**110**	Pn	**Pn**	**19 46 30.6**	**+1.0**
PRNI				Sn	Sn	19 48 22.5	-10
GHAJ	**Ghor Haditha**	**11.04**	**104**	Pn	**Pn**	**19 46 30.1**	**-0.3**
MBRI	**Mt Berech**	**11.17**	**113**	Pn	**Pn**	**19 46 34.4**	**+2.2**
AKASG	**Malin Array Be**	**16.64**	**14**	Pn	**Pn**	**19 47 47.4**	**+1.8**
	comp=N,1.1nm,0.3s,baz=198,slow=10,SNR=5.4						
	comp=N,0.2nm,0.3s						
KBZ	**Khabaz**	**17.82**	**54**	P	**Pn**	**19 48 00.7**	**+0.3**
	comp=N,0.1nm,0.3s,baz=244,slow=8.2,SNR=5.1						
	comp=N,1.4nm,0.7s						
BELG	**Belogornoye**	**24.93**	**37**	P	**P**	**19 49 14.3**	**-1.3**
	comp=N,1.7nm,0.3s,baz=207,slow=4.5,SNR=5.2						
	comp=N,1.7nm,0.3s						
ARCES	**ARCESS Array B**	**34.94**	**2**	P	**P**	**19 50 42.6**	**-1.6**
	comp=N,4.6nm,1.1s,baz=184,slow=11,SNR=2.1						
	comp=N,4.6nm,1.1s						
KURBB	**Kurchatov Arra**	**42.78**	**51**	P	**P**	**19 51 48.9**	**-1.2**
	comp=N,0.5nm,0.4s,baz=272,slow=8.8,SNR=18						
	comp=N,0.5nm,0.4s						
MKAR	**Makanchi Array**	**45.49**	**56**	P	**P**	**19 52 11.2**	**-0.7**
	comp=N,0.8nm,0.3s,baz=263,slow=7.5,SNR=37						
	comp=N,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**46.60**	**46**	P	**P**	**19 52 18.6**	**-1.9**
	comp=N,1.0nm,0.3s,baz=269,slow=7.6,SNR=7.9						
	comp=N,1.0nm,0.3s						
SONM	**Songino Array**	**61.14**	**50**	P	**P**	**19 54 06.7**	**-0.4**
	comp=N,0.3nm,0.4s,baz=277,slow=7.4,SNR=4.6						
	comp=N,0.3nm,0.4s						

IDC ***11*** *19:45:35.8±9.8,8.27N×75.92W,h56km±105km, mbtmp3.7/1,ML2.3/1, Error ellipse: s-maj=439.4km s-min=63.6km az=65.0*
RSNC ***11*** *19:45:39.7±1.2,8.03N×73.46W,h114km±8km,ML3.1, Mw3.5*

ISC 11 19:45:39.9±1.1,**8.13N**±0.03×**73.48W**±0.04,**h100km**,**n22**, σ1s**82**/41,**4C**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BRRC	**Barranca, Sant**	**1.04**	**193**	⇑*i*P	**Pn**	**19 45 59.9**	**-0.8**
BRRC				*e*S	**Sn**	**19 46 16.0**	**-0.4**
BRRC				*i*		19 46 17.0	
	comp=Z,333nm,0.1s						
PAMC	**Pamplona, Colo**	**1.10**	**135**	⇑*i*P	**Pn**	**19 46 01.7**	**-0.2**
PAMC				*e*S	**Sn**	**19 46 18.9**	**+0.4**
PAMC				*i*		19 46 20.4	
	comp=Z,413nm,0.2s						
LL1C	**La Loma 1 Cana**	**1.41**	**357**	*e*P	**Pn**	**19 46 06.4**	**+1.4**
LL1C				*e*S	**Sn**	**19 46 27.7**	**+3.6**
ZARC	**Zaragoza, Cauc**	**1.50**	**245**	*e*P	**Pn**	**19 46 05.7**	**-0.5**
ZARC				*e*S	**Sn**	**19 46 27.7**	**+1.6**
ZARC				*i*		19 46 31.2	
	comp=Z,226nm,0.4s						
BARC	**Barichara**	**1.55**	**169**	*e*P	**Pn**	**19 46 05.9**	**-1.1**
BARC				*e*S	**Sn**	**19 46 26.4**	**-1.2**
BARC				*i*		19 46 27.6	
	comp=Z,228nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.85**	**212**	*e*P	**Pn**	**19 46 08.6**	**-2.0**
PTBC				*e*S	**Sn**	**19 46 32.4**	**-1.6**
PTBC				*i*		19 46 36.1	
	comp=Z,133nm,0.5s						
ARGC	**Ariguani, Magd**	**1.88**	**336**	*e*P	**Pn**	**19 46 11.8**	**+0.9**
ARGC				*e*S	**Sn**	**19 46 37.0**	**+2.4**
ARGC				*i*		19 46 40.8	
	comp=Z,93nm,0.5s						
UREC	**San Jos de Ur**	**2.07**	**260**	*e*P	**Pn**	**19 46 11.6**	**-1.7**
UREC				*e*S	**Sn**	**19 46 37.4**	**-1.6**
UREC				*i*		19 46 46.9	
	comp=Z,134nm,0.2s						
RUSC	**La Rusia**	**2.25**	**170**	*e*P	**Pn**	**19 46 14.2**	**-2.0**
RUSC				*e*S	**Sn**	**19 46 43.5**	**-0.5**
RUSC				*i*		19 46 46.2	
	comp=Z,45nm,0.3s						
TAMC	**Tame, Arauca**	**2.37**	**135**	⇑*i*P	**Pn**	**19 46 16.4**	**-1.0**
TAMC				*e*S	**Sn**	**19 46 44.3**	**-1.8**
TAMC				*i*		19 46 44.6	
	comp=Z,72nm,0.4s						
SJCC	**San Jacinto, C**	**2.43**	**316**	⇑*i*P	**Pn**	**19 46 17.1**	**-1.0**
SJCC				*e*S	**Sn**	**19 46 46.1**	**-1.4**
SJCC				*i*		19 46 52.4	
	comp=Z,52nm,0.3s						
NORC	**Norcasia**	**2.90**	**209**	*e*P	**Pn**	**19 46 23.7**	**-0.7**
NORC				*e*S	**Sn**	**19 46 57.2**	**-1.4**
NORC				*i*		19 47 05.3	
	comp=Z,61nm,0.5s						
CRJC	**Cerrejon, Guaj**	**2.93**	**12**	*e*P	**Pn**	**19 46 23.1**	**-1.7**
CRJC				*e*S	**Sn**	**19 46 57.4**	**-2.1**
CRJC				*i*		19 47 01.8	
	comp=Z,212nm,0.3s						
SMRC	**Santa Marta, M**	**3.11**	**346**	*e*S	**Sn**	**19 47 01.9**	**-1.5**
SMRC				*i*		19 47 08.6	
	comp=Z,22nm,0.2s						
ROSC	**El Rosal**	**3.37**	**194**	P	**Pn**	**19 46 31.6**	**+0.6**
	comp=Z,5.2nm,0.3s,baz=339,slow=19,SNR=2.7						
ROSC				S	**Sn**	**19 47 15.3**	**+5.0**
	comp=Z,60nm,0.5s,baz=90,slow=20,SNR=7.1						
	comp=Z,9.1nm,0.3s						
ROSC	**El Rosal**	**3.37**	**194**	*e*P	**Pn**	**19 46 31.8**	**+0.8**
ROSC				*e*S	**Sn**	**19 47 15.1**	**+4.7**
ROSC				*i*		19 47 26.8	
	comp=Z,42nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.37**	**228**	*e*P	**Pn**	**19 46 30.3**	**-0.5**
CBOC				*e*S	**Sn**	**19 47 09.2**	**-0.9**
CBOC				*i*		19 47 22.1	
	comp=Z,126nm,1.0s						
GUY2C	**Guyana, Caldas**	**3.44**	**213**	*e*P	**Pn**	**19 46 31.4**	**-0.5**
GUY2C				*e*S	**Sn**	**19 47 12.1**	**0.0**
GUY2C				*i*		19 47 22.9	
	comp=Z,47nm,0.4s						
CHIC	**Chingaza**	**3

CHIC *i* 19 47 21.5
comp=Z,30nm,0.3s
ORTC Ortega, Tolima 4.54 203 *eP* **Pn 19 46 45.4 -1.1**
ORTC *eS* **Sn 19 47 40.6 +2.3**
ORTC *i* 19 47 53.0
comp=Z,25nm,0.4s
ASAR Alice Springs 149.56 236 PKPbc **PKPdf 20 05 14.0 +0.1**
comp=Z,0.4nm,0.9s,baz=118,slow=3.6,SNR=1.7
WRA Warramunga Arr 150.62 244 PKPbc **PKPdf 20 05 16.7 +1.0**
comp=Z,0.2nm,0.4s,baz=102,slow=3.0,SNR=7.5

*IDC **11** 19:47:09.6±2.2,41.°7S×174.°00E,h0km,mb3.1/2, mbtmp3.2/3,ML3.3/1,MS2.7/1,Error ellipse: s-maj=56.7km s-min=30.5km az=146.0*
*WEL **11** 19:47:13.4,42.°3S±2.°×17.°4E±.°,h14km±4km,M3.7/7, ML4.0/7,MLv3.7/7,Error ellipse: s-maj=0.0km s-min=0.0km az=61.4,confirmed*
*NOU **11** 19:47:13.1,42.°12S×174.°17E,h25km,MLv4.2/12,Off E. Coast of S. Island, N.Z.*
ISC 11 19:47:12.5±1.0,41.°95S±0.°04×174.°06E±0.°06,h21km±2km, n24,σ1§19/28,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.23**	**29**	P	**Pb**	**19 47 19.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.28**	**329**	P	**Pb**	**19 47 18.4**	**-0.5**
BSWZ				S	**Sb**	**19 47 22.2**	**-1.1**
TUWZ	**Tuamarina**	**0.53**	**350**	P	**Pb**	**19 47 23.2**	**+0.1**
TUWZ				S	**Sb**	**19 47 30.4**	**0.0**
KHZ	**Kahutara**	**0.60**	**220**	P	**Pb**	**19 47 25.4**	**+1.0**
KHZ	**Kahutara**	**0.60**	**220**	P	**Pb**	**19 47 24.4**	**-0.1**
KHZ				S	**Sn**	**19 47 35.9**	**+0.9**
TCW	**Tory Channel**	**0.76**	**12**	P	**Pb**	**19 47 27.3**	**+0.3**
TCW				S	**Sn**	**19 47 38.6**	**-0.2**
SNZO	**South Karori**	**0.80**	**37**	P	**Pn**	**19 47 29.6**	**+1.1**
THZ	**Tophouse**	**0.89**	**282**	P	**Pb**	**19 47 29.0**	**-0.2**
NNZ	**Nelson**	**0.90**	**325**	P	**Pb**	**19 47 29.0**	**-0.3**
QRZ	**Quartz Range**	**1.61**	**314**	P	**Pb**	**19 47 41.4**	**-0.1**
KHEZ	**Kahui Hut**	**2.66**	**359**	P	**Pb**	**19 47 58.6**	**-0.8**
RPZ	**Rata Peaks**	**2.83**	**230**	LR	LR	19 49 12.0	
	comp=Z,134nm,18.7s,baz=284,slow=42						
RPZ	**Rata Peaks**	**2.83**	**230**	P	**Pn**	**19 47 56.3**	**-0.1**
BKZ	**Black Stump Fm**	**3.34**	**34**	P	**Pn**	**19 48 05.1**	**+1.5**
HIZ	**Hauiti**	**3.49**	**10**	P	**Pn**	**19 48 08.2**	**+2.7**
ODZ	**Otahua Downs**	**3.97**	**218**	P	**Pn**	**19 48 11.5**	**-0.5**
URZ	**Urewera**	**4.37**	**33**	Pn	**Pn**	**19 48 16.2**	**-1.4**
	1.8nm,0.3s,baz=253,slow=19,SNR=11						
URZ				Sn	**Sn**	**19 49 05.6**	**-2.2**
	5.3nm,0.3s,baz=163,slow=20,SNR=6.4						
	4.2nm,0.3s						
URZ	**Urewera**	**4.37**	**33**	P	**Pn**	**19 48 17.8**	**+0.2**
JCZ	**Jackson Bay**	**4.41**	**240**	P	**Pn**	**19 48 17.9**	**-0.4**
OUZ	**Omahuta**	**6.73**	**357**	P	**Pn**	**19 48 53.0**	**+2.9**
CTZ	**Chatham Island**	**7.08**	**108**	P	**Pn**	**19 48 53.7**	**-1.1**
ASAR	**Alice Springs**	**37.95**	**286**	P	**P**	**19 54 28.1**	**-0.6**
	0.1nm,0.3s,baz=126,slow=7.0,SNR=1.2						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**40.04**	**291**	P	**P**	**19 54 45.6**	**-0.6**
	0.2nm,0.8s,baz=128,slow=8.1,SNR=1.3						
	0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.54**	**195**	PKPbc	**PKPbc**	**20 07 03.6**	**+0.6**
	0.3nm,0.6s,baz=177,slow=2.7,SNR=2.2						

*NEIC **11** 19:52:23.7±1.7,18.°71N±0.°05×145.°5E±0.°3,h182km±11km, mb4.1/10,Error ellipse: s-maj=39.0km s-min=5.2km az=98.0*
*IDC **11** 19:52:25.6±3.2,18.°65N×145.°74E,h212km±30km,mb3.2/8, mbtmp3.8/9,Error ellipse: s-maj=32.7km s-min=15.2km az=89.0*
ISC 11 19:52:24.4±0.8,18.°65N±0.°07×145.°5E±0.°2,h200km,n25, σ1§03/31,mb3.9/14,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.08**	**187**	P	**Pn**	**19 53 41.3**	**+1.5**
	128nm,1.1s,baz=10.0,slow=17,SNR=2.5						
GUMO				S	**Sn**	**19 54 38.2**	**-1.2**
	128nm,1.1s,baz=160,slow=22,SNR=1.9						
GUMO	**Guam**	**5.08**	**187**	Pn	**Pn**	**19 53 39.0**	**-0.8**
GUMO				Sn	**Sn**	**19 54 40.1**	**+0.7**
COEN	**Coen**	**32.49**	**184**	P	**P**	**19 58 35.6**	**-0.7**
COEN				IAmb	IAmb	19 59 08.3	
	comp=Z,10nm,1.2s						
MTN	**Manton Dam**	**34.37**	**205**	P	**P**	**19 58 53.4**	**+0.8**
KNRA	**Kununurra**	**37.90**	**207**	P	**P**	**19 59 23.8**	**+1.3**
WB0	**Warramunga Arr**	**39.72**	**197**	P	**P**	**19 59 38.2**	**+0.6**
WB0				IAmb	IAmb	20 00 04.9	
	comp=Z,3.9nm,1.1s						
WR0	**Warramunga Arr**	**39.86**	**196**	P	**P**	**19 59 39.2**	**+0.5**
WR0				IAmb	IAmb	19 59 43.3	
	comp=Z,5.3nm,1.2s						
WRAB	**Tennant Creek**	**39.89**	**197**	P	**P**	**19 59 39.8**	**+0.8**
WRAB				IAmb	IAmb	20 00 10.9	
	comp=Z,7.6nm,1.3s						
WB2	**Warramunga Arr**	**39.90**	**197**	P	**P**	**19 59 40.0**	**+1.0**
WB2				IAmb	IAmb	20 00 16.0	
	comp=Z,8.6nm,1.3s						
WRA	**Warramunga Arr**	**39.90**	**197**	P	**P**	**19 59 39.6**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=16,slow=8.5,SNR=39						
WRA				PcP	**PcP**	**20 01 40.3**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=17,slow=3.5,SNR=7.3						
	comp=Z,1.4nm,0.3s						
WRA	**Warramunga Arr**	**39.90**	**197**	P	**P**	**19 59 38.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.43**	**209**	P	**P**	**19 59 53.0**	**+1.5**
ASAR	**Alice Springs**	**43.57**	**196**	P	**P**	**20 00 09.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=14,slow=6.3,SNR=9.3						
ASAR				PcP	**PcP**	**20 01 52.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=25,slow=4.6,SNR=4.1						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**43.57**	**196**	P	**P**	**20 00 08.9**	**+0.1**
MKAR	**Makanchi Array**	**58.38**	**314**	P	**P**	**20 02 00.5**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=91,slow=8.3,SNR=5.6						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.38**	**314**	P	**P**	**20 02 00.0**	**+1.1**
KURBB	**Kurchatov Arra**	**61.25**	**318**	P	**P**	**20 02 18.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=95,slow=6.9,SNR=6.3						
KURBB				pP	**pwP**	**20 03 06.0**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=90,slow=7.6,SNR=3.2						
	comp=Z,0.4nm,0.6s						
IMAR	**Indian Mountai**	**61.32**	**24**	P	**P**	**20 02 20.2**	**+1.7**
ILAR	**Eielson Array**	**63.75**	**26**	P	**P**	**20 02 34.0**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=250,slow=5.1,SNR=4.5						
	comp=Z,0.3nm,0.8s						
AAK	**Ala-Archa**	**63.78**	**309**	P	**P**	**20 02 35.1**	**-0.3**
AAK				IAmb	IAmb	20 03 02.1	
	comp=Z,3.6nm,1.2s						
BMAR	**Burnt Mountain**	**65.22**	**24**	P	**P**	**20 02 44.7**	**+0.6**
BVAR	**Borovoye Array**	**66.41**	**320**	P	**P**	**20 02 52.9**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=92,slow=8.0,SNR=7.5						
BVAR				pP	**pwP**	**20 03 41.5**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=84,slow=5.5,SNR=2.9						
	comp=Z,0.8nm,0.5s						
ABKAR	**Akbulak array**	**73.27**	**317**	P	**P**	**20 03 34.2**	**+0.4**
YKA	**Yellowknife Ar**	**78.10**	**28**	P	**P**	**20 04 00.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=291,slow=5.6,SNR=4.0						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**86.86**	**335**	P	**P**	**20 04 44.6**	**-1.6**
	comp=Z,4.2nm,1.0s,baz=74,slow=5.9,SNR=4.7						
	comp=Z,4.2nm,1.0s						

*AAE **11** 19:57:12.4±7.2,12.°29N×43.°65E,h0km±61km*
*IDC **11** 19:57:25.4±14.0,11.°84N×43.°86E,h0km,mb3.6/5, mbtmp3.6/5,MS3.1/5,Error ellipse: s-maj=300.5km s-min=62.2km az=23.0*
ISC 11 19:57:18.7±1.1,11.°20N±0.°10×42.°80E±0.°09,h10km,n15, σ1§74/13,mb3.6/5,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**0.33**	**8**	*eP*	**Pg**	**19 57 24.9**	**-0.5**
DESE	**Dese**	**3.11**	**269**	*eP*	**Pb**	**19 58 13.9**	**-0.4**
DESE				*eS*	**Sg**	**19 58 59.4**	**+0.8**
DESE				IAML		19 59 15.8	
	comp=N,147nm,0.6s						
ANKE	**Ethiopia-Afar**	**3.41**	**242**	*eP*	**Pg**	**19 58 23.8**	**-0.4**
ANKE				*eS*	**Sg**	**19 59 12.8**	**+4.3**
AAE	**Adis Abeba**	**4.52**	**242**	*eP*	**Pb**	**19 58 38.6**	**+0.2**
AAE				*eS*	**Sg**	**19 59 42.5**	**-1.5**
AAE				IAML		19 59 55.3	
	comp=N,200nm,0.7s						
FURI	**Furi**	**4.66**	**241**	*eP*	**Pb**	**19 58 40.6**	**-0.2**
FURI				*eS*	**Sg**	**19 59 45.8**	**-2.7**
FURI				IAML		20 00 04.5	
	comp=N,115nm,0.5s						
MBAR	**Mbarara**	**16.77**	**226**	LR	LR	20 08 34.9	
	comp=N,23nm,18.4s,baz=26,slow=37						
WSAR	**Wadi Sarin**	**19.26**	**50**	LR	LR	20 09 27.0	
	comp=N,70nm,19.6s,baz=276,slow=40						
EIL	**Elat**	**19.78**	**339**	LR	LR	20 07 27.4	
	comp=N,43nm,21.7s,baz=237,slow=31						
BRTR	**Keskin Array B**	**29.55**	**346**	P	P	20 03 29.0	+5.2
	comp=N,0.7nm,0.8s,baz=146,slow=10,SNR=4.3						
	comp=N,0.7nm,0.8s						
LSZ	**Lusaka**	**30.02**	**209**	LR	LR	20 15 47.0	
	comp=N,51nm,18.3s,baz=34,slow=35						
OBN	**Obninsk**	**44.08**	**355**	LR	LR	20 26 24.0	
	comp=N,57nm,20.1s,baz=1.5,slow=40						
BVAR	**Borovoye Array**	**47.23**	**22**	P	**P**	**20 05 52.4**	**+0.5**
	comp=N,0.8nm,0.7s,baz=231,slow=9.1,SNR=4.0						
	comp=N,0.8nm,0.7s						
MKAR	**Makanchi Array**	**48.66**	**36**	P	**P**	**20 06 03.1**	**+0.1**
	comp=N,0.3nm,0.7s,baz=231,slow=7.7,SNR=2.6						
	comp=N,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**54.09**	**29**	P	**P**	**20 06 43.1**	**-0.5**
	comp=N,0.9nm,0.7s,baz=246,slow=7.2,SNR=2.1						
	comp=N,0.9nm,0.7s						
SONM	**Songimo Array**	**64.11**	**42**	P	**P**	**20 07 53.9**	**+0.5**
	comp=N,0.3nm,0.6s,baz=254,slow=5.4,SNR=2.6						
	comp=N,0.3nm,0.6s						

IDC 11 20:00:40.5±4.8,4.°45S×150.°61E,h0km,mb3.0/2, mbtmp3.0/2,Error ellipse: s-maj=201.9km s-min=55.0km az=114.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.42**	**84**	LR	LR	20 01 54.8	
	comp=Z,75nm,19.2s,baz=158,slow=52						
WRA	**Warramunga Arr**	**22.10**	**224**	P	P	20 05 37.0	-0.6
	0.4nm,0.9s,baz=50,slow=10.0,SNR=1.9						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**25.00**	**219**	P	P	20 06 06.5	+0.3
	0.4nm,0.7s,baz=53,slow=9.4,SNR=8.1						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.12**	**288**	PKPbc	PKPbc	20 20 28.7	-0.7
	0.2nm,0.5s,baz=85,slow=2.4,SNR=2.2						

*NEIC **11** 20:06:09.3±1.8,20.°5S±0.°1×178.°0W±0.°1,h557km±7km, mb4.7/67,Error ellipse: s-maj=19.1km s-min=17.8km az=101.0*
*NOU **11** 20:06:10.0,20.°38S×178.°09W,h563km,mb4.7/54,Fiji Islands Region*
*IDC **11** 20:06:12.2±1.1,20.°37S×178.°39W,h574km±11km, mb3.8/22,mbtmp4.7/24,Error ellipse: s-maj=13.6km s-min=10.6km az=129.0*
ISC 11 20:06:08.1±0.4,20.°54S±0.°07×178.°18W±0.°06,h534km, n297,σ1§39/308,mb4.6/75,26C-14D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.37**	**345**	P	**P**	**20 07 22.8**	**+4.5**
TAVE	**Taveuni**	**4.14**	**336**	P	**P**	**20 07 34.0**	**+3.9**
MSVF	**Nonsavu**	**4.53**	**307**	P	**P**	**20 07 37.0**	**+3.8**
	86nm,0.5s,baz=117,slow=4.3,SNR=193						
MSVF				S	**S**	**20 08 48.3**	**+5.7**
	23nm,0.8s,baz=290,slow=21,SNR=0.9						
MSVF	**Nonsavu**	**4.53**	**307**	P	**P**	**20 07 36.4**	**+3.2**
MSVF	**Nonsavu**	**4.53**	**307**	P	**P**	**20 07 37.0**	**+3.8**
DGTI	**Dogotuki**	**4.66**	**334**	P	**P**	**20 07 37.4**	**+3.1**
FUTU	**Fugatoga**	**6.19**	**0**	P	**P**	**20 07 50.1**	**+2.2**
NIUE	**Niue**	**7.90**	**81**	P	**P**	**20 08 06.4**	**+2.0**
NIUE	**Niue**	**7.90**	**81**	P	**P**	**20 08 06.6**	**+2.1**
AFI	**Afiamalu**	**8.99**	**44**	P	**P**	**20 08 14.3**	**-1.3**
MARNC	**Mare, Loyalty**	**12.92**	**263**	P	**P**	**20 08 56.1**	**-0.1**
MARNC	**Mare, Loyalty**	**12.92**	**263**	P	**P**	**20 08 58.3**	**+2.0**
RTV	**Rentapao**	**12.95**	**280**	P	**P**	**20 08 59.1**	**+2.5**
DVP	**Devils Point**	**13.19**	**280**	P	**P**	**20 09 01.1**	**+2.0**
PINNC	**Pines Island,**	**13.54**	**259**	P	**P**	**20 09 03.5**	**+0.9**
PINNC	**Pines Island,**	**13.54**	**259**	P	**P**	**20 09 04.8**	**+2.1**
LIFNC	**LIFOU**	**13.65**	**266**	P	**P**	**20 09 02.5**	**-1.4**
OUENC	**Ouen Island, N**	**14.07**	**260**	P	**P**	**20 09 08.3**	**+0.1**
OUENC	**Ouen Island, N**	**14.07**	**260**	P	**P**	**20 09 11.2**	**+2.9**
DZM	**Mont Dzumac**	**14.42**	**261**	P	**P**	**20 09 12.5**	**+0.5**
	18nm,0.7s,baz=76,slow=16,SNR=22						
DZM	**Mont Dzumac**	**14.42**	**261**	P	**P**	**20 09 14.9**	**+2.9**
ONTNC	**Ouen Toro**	**14.42**	**260**	P	**P**	**20 09 11.6**	**-0.3**
OUZ	**Omahuta**	**16.33**	**205**	P	**P**	**20 09 33.9**	**+2.8**
KOUNC	**Koumac, New Ca**	**16.43**	**267**	P	**P**	**20 09 33.4**	**+1.1**
KOUNC	**Koumac, New Ca**	**16.43**	**267**	P	**P**	**20 09 34.3**	**+1.9**
KUZ	**Kuzumu**	**17.01**	**197**	P	**P**	**20 09 41.3**	**+3.8**
MXZ	**Matakaoa Point**	**17.24**	**189**	P	**P**	**20 09 40.9**	**+1.2**
MXZ	**Matakaoa Point**	**17.24**	**189**	P	**P**	**20 09 41.2**	**+1.6**
WMGZ	**Waiomatatini S**	**17.48**	**189**	P	**P**	**20 09 44.0**	**+2.1**
HAZ	**Te Kaha**	**17.52**	**191**	P	**P**	**20 09 43.4**	**+1.2**
PKGZ	**Pakihiroa**	**17.60**	**190**	P	**P**	**20 09 45.7**	**+2.6**
PUZ	**Puketiti**	**17.75**	**189**	P	**P**	**20 09 46.1**	**+1.7**
TWGZ	**Tauwhareparae**	**17.89**	**190**	P	**P**	**20 09 48.4**	**+2.7**
TOZ	**Tahuroa Road**	**17.99**	**196**	P	**P**	**20 09 49.4**	**+2.9**
MWZ	**Matawai**	**18.12**	**191**	P	**P**	**20 09 47.4**	**-0.4**
URZ	**Urewera**	**18.13**	**192**	P	**P**	**20 09 46.1**	**-1.7**
	42nm,0.6s,baz=109,slow=2.4,SNR=32						
URZ				S	**S**	**20 12 41.9**	**-4.8**
	9.0nm,0.8s,baz=158,slow=19,SNR=3.7						
URZ	**Urewera**	**18.13**	**192**	P	**P**	**20 09 47.0**	**-0.7**
CNGZ	**Carnagh Statio**	**18.16**	**189**	P	**P**	**20 09 49.8**	**+1.7**
RTZ	**Ruatahuna**	**18.50**	**192**	P	**P**	**20 09 51.3**	**+0.1**
RTZ				IAmb	IAmb	20 09 53.5	
	comp=Z,12nm,0.6s						
SNGZ	**Shannon Statio**	**18.59**	**191**	P	**P**	**20 09 53.0**	**+0.9**
HIZ	**Hauiti**	**18.90**	**197**	P	**P**	**20 09 58.9**	**+4.1**
BKZ	**Black Stump Fm**	**19.13**	**193**	P	**P**	**20 09 56.9**	**-0.1**
BKZ				IAmb	IAmb	20 10 01.2	
	comp=Z,26nm,1.2s						
TMVZ	**Te Maari**	**19.25**	**195**	P	**P**	**20 09 59.0**	**+0.8**
ETVZ	**East Tongariro**	**19.27**	**195**	P	**P**	**20 09 59.3**	**+0.9**
WTVZ	**West Tongariro**	**19.28**	**195**	P	**P**	**20 09 59.7**	**+1.3**
MCHZ	**McNeill Hill**	**19.36**	**192**	P	**P**	**20 10 00.0**	**+1.1**
KWHZ	**Kaweka Forest**	**19.39**	**193**	P	**P**	**20 10 00.1**	**+0.7**
WNVZ	**Wahianoa**	**19.48**	**195**	P	**P**	**20 10 01.6**	**+1.3**
MOVZ	**Moawhango**	**19.52**	**194**	P	**P**	**20 10 01.8**	**+1.2**
BHHZ	**Black Hill Sta**	**19.53**	**193**	P	**P**	**20 10 00.5**	**-0.2**
KRHZ	**Kereru**	**19.61**	**193**	P	**P**	**20 10 01.7**	**+0.4**
KAHZ	**Kahuranaki**	**19.66**	**191**	P	**P**	**20 10 03.1**	**+1.3**
PNHZ	**Pukenui**	**19.91**	**193**	P	**P**	**20 10 04.6**	**+0.5**
TSZ	**Takapari Road**	**20.10**	**193**	P	**P**	**20 10 06.4**	**+0.6**
BFZ	**Birch Farm**	**20.64**	**192**	P	**P**	**20 10 10.3**	**-0.3**
BFZ	**Birch Farm**	**20.64**	**192**	P	**P**	**20 10 10.6**	**0.0**
MRZ	**Mangatainoka R**	**20.76**	**194**	P	**P**	**20 10 11.5**	**-0.2**
MRZ				IAmb	IAmb	20 10 50.9	
	comp=Z,41nm,1.4s						
TCW	**Tory Channel**	**21.59**	**196**	P	**P**	**20 10 18.9**	**-0.2**
BHW	**Baring Head**	**21.63**	**194**	P	**P**	**20 10 19.5**	**+0.1**
QRZ	**Quartz Range**	**21.72**	**199**	P	**P**	**20 10 21.5**	**+1.1**
TKNZ	**Takaka Hill**	**21.78**	**198**	P	**P**	**20 10 21.5**	**+0.5**
MRNZ	**Matariki Terra**	**22.18**	**198**	P	**P**	**20 10 25.4**	**+0.9**
THZ	**Tophouse**	**22.47**	**198**	P	**P**	**20 10 25.7**	**-1.5**
KHZ	**Kahutara**	**22.91**	**196**	P	**P**	**20 10 29.7**	**-1.2**
KHZ				IAmb	IAmb	20 10 37.2	
	comp=Z,25nm,1.0s						
LTZ	**Lake Taylor**	**23.59**	**198**	P	**P**	**20 10 35.6**	**-1.5**
LTZ				IAmb	IAmb	20 10 41.0	
	comp=Z,27nm,0.9s						
OXZ	**Oxford**	**24.16**	**198**	P	**P**	**20 10 41.4**	**-0.7**
RPZ	**Rata Peaks**	**24.80**	**199**	P	**P**	**20 10 49.4**	**+1.6**
	comp=Z,9.6nm,0.5s,baz=32,slow=9.5,SNR=2.2						
	comp=Z,9.6nm,0.5s						
AUWSH	**Wavell State H**	**27.14**	**250**	P	**P**	**20 11 10.4**	**+1.8**
DCZ	**Deep Cove**	**27.65**	**203**	P	**P**	**20 11 14.5**	**+1.7**
WHZ	**Wether Hill Ro**	**27.74**	**201**	P	**P**	**20 11 15.8**	**+2.1**
EIDS	**Eidsvold**	**28.68**	**255**	P	**P**	**20 11 22.2**	**0.0**
EIDS				IAmb	IAmb	20 11 23.4	
	comp=Z,14nm,0.6s						
EIDS	**Eidsvold**	**28.68**	**255**	P	**P**	**20 11 23.1**	**+0.9**
RMQ	**Roma**	**30.84**	**253**	P	**P**	**20 11 41.9**	**+1.1**
CTA	**Charters Tower**	**33.32**	**264**	P	**P**	**20 12 02.7**	**+0.6**
CTAO	**Charters Tower**	**33.32**	**264**	P	**P**	**20 12 02.2**	**+0.2**
CTAO	**Charters Tower**	**33.32**	**264**	P	**P**	**20 12 02.7**	**+0.6**
CMSA	**Cobar Meteorol**	**34.12**	**244**	P	**P**	**20 12 09.9**	**+1.3**
QLP	**Quilpie**	**34.89**	**253**	P	**P**	**20 12 16.3**	**+1.2**
PMG	**Port Moresby**	**35.19**	**283**	P	**P**	**20 12 17.3**	**-0.4**
PMG	**Port Moresby**	**35.19**	**283**	P	**P**	**20 12 18.0**	**+0.2**
PMG	**Port Moresby**	**35.19**	**283**	P	**P**	**20 12 17.9**	**+0.2**
MTSU	**Mount Surprise**	**35.42**	**267**	P	**P**	**20 12 20.2**	**+0.5**
COEN	**Coen**	**37.42**	**274**	P	**P**	**20 12 36.2**	**+0.1**
COEN				IAmb	IAmb	20 12 37.4	
	comp=Z,23nm,0.9s						
COEN	**Coen**	**37.42**	**274**	P	**P**	**20 12 36.6**	**+0.4**
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**20 12 38.4**	**+0.8**
	comp=Z,5.3nm,0.8s,baz=90,slow=10,SNR=17						
	comp=Z,5.3nm,0.8s						
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**20 12 38.6**	**+1.0**
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**20 12 39.0**	**+1.4**
INKA	**Innaminka**	**38.03**	**251**	P	**P**	**20 12 41.5**	**+0.5**
MANU	**Manus Island**	**38.31**	**294**	P	**P**	**20 12 43.4**	**0.0**
QIS	**Mount Isa**	**39.45**	**262**	P	**P**	**20 12 52.3**	**-0.3**
LCRK	**Leigh Creek**	**40.37**	**247**	P	**P**	**20 13 00.8**	**+1.0**
BBOO	**Buckleboo**	**42.38**	**244**	P	**P**	**20 13 15.9**	**+0.2**
OOD	**Oodnadatta**	**42.51**	**251**	P	**P**	**20 13 18.5**	**+1.7**
MULG	**Mulgathing**	**43.95**	**247**	P	**P**	**20 13 28.3**	**+0.3**
WR0	**Warramunga Arr**	**44.24**	**262**	P	**P**	**20 13 29.2**	**-1.2**
WR0				IAmb	IAmb	20 13 31.4	
	comp=Z,18nm,1.0s						
AS01	**Alice Springs**	**44.31**	**257**	P	**P**	**20 13 30.8**	**-0.1**
	comp=Z,69nm,0.8s						
GENI	**Genyem**	**44.34**	**288**	P	**P**	**20 13 31.7**	**+0.5**
	comp=Z,99nm,0.8s						
GENI	**Genyem**	**44.34**	**288**	P	**P**	**20 13 31.6**	**+0.4**
	comp=Z,98nm,0.8s						
AS31	**Alice Springs**	**44.35**	**257**	P	**P**	**20 13 31.0**	**-0.2**
AS31				IAmb	IAmb	20 13 32.0	
	comp=Z,10nm,0.7s						
ASAR	**Alice Springs**	**44.35**	**257**	P	**P**	**20 13 31.2**	**0.0**
	comp=Z,39nm,0.7s,baz=96,slow=7.5,SNR=574						
ASAR				PcP	**PcP**	**20 15 03.5**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=102,slow=3.8,SNR=8.4						
ASAR				S	**S**	**20 19 22.8**	**-4.1**
	comp=Z,3.0nm,0.9s,baz=94,slow=16,SNR=16						
	comp=Z,39nm,0.7s						
ASAR	**Alice Springs**	**44.35**	**257**	P	**P**	**20 13 31.0**	**-0.2**
WB0	**Warramunga Arr**	**44.41**	**262**	P	**P**	**20 13 31.1**	**-0.7**
WB2	**Warramunga Arr**	**44.42**	**262**	P	**P**	**20 13 30.9**	**-0.9**
WB2				IAmb	IAmb	20 13 32.0	
	comp=Z,31nm,0.9s						
WB1	**Warramunga Ar.**	**44.42**	**262**	P	**P**	**20 13 30.9**	**-0.9**
	comp=Z,67nm,1.2s						
WRAB	**Tennant Creek**	**44.42**	**262**	P	**P**	**20 13 30.9**	**-0.9**
WRAB				IAmb	IAmb	20 13 32.0	
	comp=Z,30nm,0.9s						
WRAB	**Tennant Creek**	**44.42**	**262**	P	**P**	**20 13 31.4**	**-0.4**
WRA	**Warramunga Arr**	**44.43**	**262**	P	**P**	**20 13 31.1**	**-0.7**
	comp=Z,19nm,0.5s,baz=96,slow=7.6,SNR=385						
WRA				S	**S**	**20 19 22.3**	**-5.8**
	comp=Z,0.6nm,0.8s,baz=98,slow=13,SNR=3.9						
	comp=Z,19nm,0.5s						
WRA	**Warramunga Arr**	**44.43**	**262**	P	**P**	**20 13 30.4**	**-1.5**
SMPI	**Sarmi**	**45.91**	**288**	P	**P**	**20 13 41.7**	**-1.5**
	comp=Z,52nm,0.9s						
KDU	**Kakadu**	**47.78**	**271**	P	**P**	**20 13 57.1**	**-0.3**
MTN	**Manton Dam**	**49.00**	**271**	P	**P**	**20 14 05.6**	**-0.8**
MTN	**Manton Dam**	**49.00**	**271**	P	**P**	**20 14 06.0**	**-0.4**
FORT	**Forrest**	**49.13**	**247**	P	**P**	**20 14 06.3**	**-0.9**
FORT				IAmb	IAmb	20 14 07.7	
	comp=Z,30nm,0.8s						
WRKA	**Warakurna**	**49.30**	**254**	P	**P**	**20 14 08.6**	**0.0**
SAUI	**Saumlaki**	**50.34**	**277**	P	**P**	**20 14 16.5**	**+0.2**
SAUI	**Saumlaki**	**50.34**	**277**	P	**P**	**20 14 16.5**	**+0.2**
KNRA	**Kununurra**	**50.49**	**266**	P	**P**	**20 14 16.8**	**-0.6**
KNRA				IAmb	IAmb	20 14 17.4	
	comp=Z,27nm,0.7s						
FAKI	**Fak Fak**	**51.35**	**283**	P	**P**	**20 14 22.5**	**-1.2**
FAKI				IAmb	IAmb	20 14 24.0	
	comp=Z,27nm,1.0s						

SEY	**Seymchan**	**86.37**	**347**	P		**P**	**20 17 52.5**	**-0.7**
	comp=Z,8.4nm,0.6s,baz=148,slow=5.5,SNR=35							
	comp=Z,8.4nm,0.6s							
BARN	**Barnard Glacie**	**86.46**	**17**	P		**P**	**20 17 52.8**	**-1.2**
BARN						**pwP**	**20 19 53.9**	**+0.9**
KTH	**Kantishna Hill**	**86.49**	**12**	P		**P**	**20 17 52.1**	**-1.8**
TRF	**Thorofare Moun**	**86.52**	**12**	P		**P**	**20 17 52.7**	**-1.5**
TRF				IAmb	IAmb		20 17 53.8	
	comp=Z,8.8nm,0.8s							
ELIB	**Princess Elisa**	**86.59**	**187**	*d*P		**P**	**20 17 53.9**	**-0.6**
	comp=Z,13nm,0.7s							
RND	**Reindeer**	**86.77**	**13**	P		**P**	**20 17 54.4**	**-0.8**
RND				IAmb	IAmb		20 17 55.4	
	comp=Z,9.0nm,0.9s							
MCK	**McKinley**	**87.04**	**13**	P		**P**	**20 17 55.6**	**-0.9**
MCK				IAmb	IAmb		20 17 56.4	
	comp=Z,15nm,1.2s							
BWN	**Browne**	**87.33**	**12**	P		**P**	**20 17 57.0**	**-0.8**
BWN				IAmb	IAmb		20 17 57.5	
	comp=Z,18nm,1.1s							
M27K	**Edge Creek, AK**	**87.49**	**16**	P		**P**	**20 17 58.5**	**-0.2**
M27K				IAmb	IAmb		20 17 59.9	
	comp=Z,11nm,1.1s							
I21K	**Tanana**	**87.77**	**11**	P		**P**	**20 17 59.0**	**-0.8**
I21K				IAmb	IAmb		20 17 60.0	
	comp=Z,6.7nm,0.8s							
MLY	**Manley**	**87.86**	**11**	P		**P**	**20 17 58.6**	**-1.7**
WRH	**Wood River Hil**	**87.87**	**13**	P		**P**	**20 17 59.3**	**-0.9**
WRH				IAmb	IAmb		20 18 00.2	
	comp=Z,9.3nm,0.9s							
DOT	**Dot Lake**	**88.04**	**15**	P		**P**	**20 18 00.2**	**-0.9**
HDA	**Harding Lake**	**88.05**	**13**	P		**P**	**20 17 59.8**	**-1.4**
HDA				IAmb	IAmb		20 18 01.0	
	comp=Z,6.7nm,0.8s							
H21K	**Melozitna Rive**	**88.07**	**10**	P		**P**	**20 18 01.0**	**-0.2**
CCB	**Clear Creek Bu**	**88.08**	**13**	P		**P**	**20 17 59.8**	**-1.5**
CCB				IAmb	IAmb		20 18 00.8	
	comp=Z,8.3nm,0.8s							
VNA3	**Neumayer Olymp**	**88.12**	**176**	P		**P**	**20 18 01.8**	**+0.2**
DLBC	**Dease Lake**	**88.15**	**23**	P		**P**	**20 18 02.3**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=198,slow=6.4,SNR=3.8							
	comp=Z,2.3nm,0.9s							
MDM	**Murphy Dome**	**88.28**	**12**	P		**P**	**20 18 00.8**	**-1.4**
MDM				IAmb	IAmb		20 18 01.8	
	comp=Z,6.9nm,0.8s							
IL31		**88.39**	**13**	P		**P**	**20 18 01.0**	**-1.6**
IL31				IAmb	IAmb		20 18 02.5	
	comp=Z,14nm,1.4s							
ILAR	**Eielson Array**	**88.39**	**13**	P		**P**	**20 18 01.4**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=230,slow=5.7,SNR=18							
ILAR				pP		**pwP**	**20 20 05.8**	**+3.3**
	comp=Z,1.0nm,1.1s,baz=203,slow=4.4,SNR=4.3							
	comp=Z,2.8nm,0.9s							
ILAR	**Eielson Array**	**88.39**	**13**	P		**P**	**20 18 01.3**	**-1.4**
VNA2	**Neumayer--Watz**	**88.56**	**177**	P		**P**	**20 18 04.1**	**+0.5**
	baz=189,slow=4.0							
VNA1	**Neumayer--Stat**	**88.78**	**177**	P		**P**	**20 18 05.2**	**+0.6**
J26L	**Joseph Creek**	**88.88**	**14**	P		**P**	**20 18 05.2**	**0.0**
J26L				IAmb	IAmb		20 18 06.2	
	comp=Z,7.6nm,0.9s							
M30M	**Minto, Yukon**	**89.05**	**18**	P		**P**	**20 18 05.8**	**-0.1**
M30M				IAmb	IAmb		20 18 06.7	
	comp=Z,6.5nm,0.9s							
PDAR	**Pinedale Array**	**89.10**	**43**	P		**P**	**20 18 07.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=215,slow=7.7,SNR=2.2							
	comp=Z,0.8nm,0.6s							
KMI	**Kunming**	**89.22**	**297**	⇓P		**P**	**20 18 08.8**	**+1.0**
KMI				pmax	pmax			
	comp=Z,12nm,0.8s							
HHC	**Hu-ho-hao-te**	**89.26**	**314**	*e*P		**P**	**20 18 05.3**	**-2.2**
HHC				pmax	pmax			
	comp=Z,23nm,0.8s							
HHC				pmax	pmax			
	comp=Z,290nm,6.4s							
PLCA	**Paso Flores**	**89.37**	**134**	P		**P**	**20 18 10.1**	**+2.0**
	comp=Z,1.9nm,1.0s,baz=162,slow=6.4,SNR=3.1							
	comp=Z,1.9nm,1.0s							
DAWY	**Dawson**	**89.54**	**16**	P		**P**	**20 18 07.4**	**-0.8**
EGAK	**Eagle**	**89.68**	**15**	P		**P**	**20 18 08.3**	**-0.4**
EGAK				IAmb	IAmb		20 18 09.3	
	comp=Z,5.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**89.97**	**290**	P		**P**	**20 18 12.0**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=125,slow=3.0,SNR=25							
	comp=Z,4.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**89.97**	**290**	P		**P**	**20 18 11.1**	**0.0**
CHTO	**Chiang Mai**	**90.10**	**290**	P		**P**	**20 18 12.1**	**+0.4**
CHTO				IAmb	IAmb		20 18 13.2	
	comp=Z,6.9nm,0.7s							
PZH	**PanZhiHua**	**90.58**	**298**	P		**P**	**20 18 14.0**	**+0.1**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,170nm,5.1s							
YAK	**Yakutsk**	**92.08**	**338**	P		**P**	**20 18 18.6**	**-1.2**
	comp=Z,3.7nm,0.4s,baz=153,slow=0.5,SNR=4.6							
	comp=Z,3.7nm,0.4s							
LZH	**Lanzhou**	**92.66**	**308**	*e*P		**P**	**20 18 23.0**	**-0.3**
LZH				pmax	pmax			
	comp=Z,15nm,1.5s							
SONM	**Songino Array**	**95.67**	**319**	P		**P**	**20 18 35.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=143,slow=7.0,SNR=4.2							
	comp=Z,0.4nm,0.7s							
YKA	**Yellowknife Ar**	**96.61**	**25**	P		**P**	**20 18 39.8**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=256,slow=5.2,SNR=3.9							
	comp=Z,0.2nm,0.7s							
ZALV	**Zalesovo Beam**	**110.42**	**321**	PKiKP		**PKiKP**	**20 23 36.9**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=151,slow=3.3,SNR=4.0							
MKAR	**Makanchi Array**	**111.10**	**313**	PKiKP		**PKiKP**	**20 23 39.3**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=126,slow=0.4,SNR=9.5							
KURBB	**Kurchatov Arra**	**113.39**	**317**	PKiKP		**PKiKP**	**20 23 44.4**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=98,slow=2.0,SNR=16							
BVAR	**Borovoye Array**	**119.00**	**320**	PKP		**PKPdf**	**20 23 54.5**	**-1.4**
	comp=Z,2.9nm,0.6s,baz=75,slow=1.1,SNR=20							
BRVK	**Borovoye**	**119.06**	**320**	PKPdf		**PKPdf**	**20 23 54.3**	**-1.7**
ABKAR	**Akbulak array**	**126.00**	**317**			**PKPdf**	**20 24 08.7**	**-0.7**
AKTO	**Aktyubinsk**	**126.98**	**318**	PKP		**PKPdf**	**20 24 10.8**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=96,slow=1.9,SNR=7.5							
GEYT	**Alibeck**	**128.66**	**303**	PKP		**PKPdf**	**20 24 14.7**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=132,slow=2.1,SNR=2.6							
ARCES	**ARCESS Array B**	**128.93**	**350**	PKP		**PKPdf**	**20 24 13.1**	**-1.4**
	comp=Z,5.1nm,1.0s,baz=90,slow=0.9,SNR=5.8							
FINES	**FINESS Array B**	**135.76**	**344**	PKP		**PKPdf**	**20 24 27.8**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=112,slow=1.5,SNR=5.0							
GURO	**Guroymak-BITLI**	**141.05**	**306**			PKPpre	20 24 32.8	
AKASG	**Malin Array Be**	**142.96**	**331**	PKhKP		PKPpre	20 24 36.9	
	comp=Z,11nm,0.5s,baz=38,slow=4.3,SNR=109							
AKASG	**Malin Array Be**	**142.96**	**331**			**PKPdf**	**20 24 36.7**	**-4.2**
AKBB	**Malin Array Si**	**142.96**	**331**			**PKPdf**	**20 24 36.7**	**-4.2**
LODK	**Lodwar**	**143.18**	**247**			PKPbc	20 24 40.9	+0.2
EKA	**Eskdalemuir Ar**	**145.05**	**5**	PKP		**PKPdf**	**20 24 44.7**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=309,slow=3.4,SNR=4.2							
GAZ	**Gaziantep**	**145.10**	**306**	PKPdf		**PKPbc**	**20 24 45.6**	**-0.4**
SORM	**Soroca**	**145.15**	**328**	⇓P		**PKPdf**	**20 24 44.4**	**-0.3**
BNN	**Bunyan**	**145.53**	**309**			**PKPbc**	**20 24 46.9**	**-0.4**
VASR	**Vaslui**	**146.44**	**327**	⇑P		**PKPbc**	**20 24 49.3**	**-0.1**
BR131	**Keskin Array S**	**146.74**	**312**			**PKPbc**	**20 24 49.4**	**-1.3**
BRTR	**Keskin Array B**	**146.74**	**312**	PKPbc		**PKPbc**	**20 24 49.5**	**-1.1**
	comp=Z,5.2nm,0.7s,baz=133,slow=4.5,SNR=23							
VLDR	**Vladesti**	**146.81**	**326**	⇑P		**PKPbc**	**20 24 50.4**	**0.0**
BUR08	**Bucovina Ar. S**	**147.00**	**330**			**PKPbc**	**20 24 50.9**	**-0.2**
BURAR	**Bucovina Array**	**147.01**	**330**	⇓P		**PKPbc**	**20 24 51.3**	**+0.3**
GHRR		**147.03**	**326**	⇑P		**PKPbc**	**20 24 51.5**	**+0.5**
CFR	**Carcaliu**	**147.22**	**325**	⇓P		**PKPbc**	**20 24 50.6**	**-0.8**
ANTO	**Ankara**	**147.26**	**313**			**PKPbc**	**20 24 51.5**	**-0.4**
TPGR	**Topolog**	**147.27**	**324**	⇑P		**PKPbc**	**20 24 51.4**	**-0.2**
STHS	**Stebnicka Huta**	**147.28**	**336**	*e*PKP		**PKPbc**	**20 24 54.3**	**-0.9**
VRI	**Vrinceasca**	**147.31**	**327**	⇑P		**PKPbc**	**20 24 51.7**	**-0.6**
CRVS	**Cervenica-Dubn**	**147.62**	**336**	*e*PKP		**PKPbc**	**20 24 52.4**	**-0.1**
CRVS				*e*			20 24 56.3	
HARR	**Harsova**	**147.64**	**324**	⇓P		**PKPbc**	**20 24 52.2**	**-0.4**
TRPA	**Tarpa**	**147.80**	**334**	⇑P		**PKPbc**	**20 24 52.6**	**-0.3**
MANR	**Mangalia**	**147.82**	**322**	⇑P		**PKPbc**	**20 24 53.2**	**+0.1**
OZUR		**147.82**	**328**	⇑P		**PKPbc**	**20 24 52.6**	**-0.6**
OSTC	**Ostas**	**147.95**	**343**	⇑*e*PKP		**PKPbc**	**20 24 53.3**	**0.0**
MDUB	**Mudurnu**	**148.05**	**315**			**PKPbc**	**20 24 53.3**	**-0.6**
UPC	**Upice**	**148.06**	**343**	⇑*e*PKP		**PKPbc**	**20 24 53.2**	**-0.3**
CLL	**Collm**	**148.06**	**347**	⇓*i*PKPbc		**PKPbc**	**20 24 52.6**	**-0.9**
	comp=Z,22nm,1.0s							
CLL					⇑*i*PKPab	**PKPab**	**20 24 57.3**	**-0.9**
	comp=Z,11nm,0.7s							
ISR	**Istrita**	**148.11**	**326**	⇑P		**PKPab**	**20 25 01.4**	**+2.7**
DPC	**Dobruska-Polom**	**148.11**	**342**	⇑ePKP		**PKPbc**	**20 24 53.5**	**-0.2**
DPC				*e*PKPAB		**PKPab**	**20 24 58.6**	**+0.1**
DOPR	**Dopca**	**148.11**	**328**	⇓P		**PKPbc**	**20 24 53.8**	**0.0**
MLR	**Muntele Rosu**	**148.16**	**327**	PKPbc		**PKPbc**	**20 24 53.2**	**-0.9**
	comp=Z,8.2nm,0.9s,baz=326,slow=5.0,SNR=18							
MLR	**Muntele Rosu**	**148.16**	**327**	⇓P		**PKPbc**	**20 24 53.9**	**-0.3**
KRLC	**Kraliky**	**148.22**	**342**	⇑*e*PKP		**PKPbc**	**20 24 53.4**	**-0.6**
BRG	**Berggiesshubel**	**148.25**	**345**	*i* PKP		**PKPbc**	**20 24 53.9**	**-0.1**
BRG				Amp			20 24 54.6	
	comp=Z,13nm,1.1s							
MORC	**Moravsky Berou**	**148.25**	**341**	⇓P		**PKPbc**	**20 24 54.4**	**+0.3**
MORC	**Moravsky Berou**	**148.25**	**341**	*e*PKP		**PKPbc**	**20 24 53.7**	**-0.4**
PVCC	**Panska Ves**	**148.42**	**344**	⇑ePKP		**PKPbc**	**20 24 54.4**	**0.0**
PVCC				*e*PKPAB		**PKPab**	**20 24 59.4**	**-0.3**
MTUR	**Matau**	**148.79**	**327**	⇑P		**PKiKP**	**20 24 57.7**	**+1.0**
BORA	**Eskisehir**	**148.84**	**315**			**PKPbc**	**20 24 55.1**	**-0.8**
PRU	**Pruhonice**	**148.92**	**344**	⇑*e*PKP		**PKPbc**	**20 24 55.1**	**-0.5**
PRU				*e*PKPAB		**PKPab**	**20 25 01.4**	**-0.4**
GOPC	**GO Pecny, Ondr**	**148.93**	**344**	⇑*e*PKP		**PKPbc**	**20 24 55.2**	**-0.5**
VYHS	**Vyhne**	**148.93**	**338**	*e*PKP		**PKPbc**	**20 24 55.7**	**-0.1**
VYHS				*e*			20 25 01.7	
VRAC	**Vranov**	**148.96**	**341**	⇑P		**PKPbc**	**20 24 55.7**	**-0.1**
VRAC	**Vranov**	**148.96**	**341**	*e*PKP		**PKPbc**	**20 24 55.6**	**-0.1**
JAVC	**Velka Javorina**	**149.01**	**339**	*e*PKP		**PKiKP**	**20 24 56.7**	**-0.2**
NKC	**Novy Kostel**	**149.19**	**347**	⇑*e*PKP		**PKPbc**	**20 24 56.3**	**0.0**
KRUC	**Moravsky**	**149.24**	**341**	*e*PKP		**PKPbc**	**20 24 56.1**	**-0.4**
KRUC				*e*			20 25 02.8	
HUMR	**Humele**	**149.32**	**327**	⇓P		**PKPbc**	**20 24 56.1**	**-0.7**
MODS	**Modra-Piesok**	**149.56**	**339**	*e*PKP		**PKPbc**	**20 24 57.6**	**+0.3**
GZR	**Gura Zlata**	**149.79**	**330**	⇑P		**PKPbc**	**20 24 57.2**	**-0.8**
SURR	**Surduc**	**149.82**	**331**	⇓P		**PKPbc**	**20 24 57.2**	**-0.8**
KHC	**Kasperske Hory**	**149.96**	**344**			**PKPbc**	**20 24 57.5**	**-0.7**
KHC	**Kasperske Hory**	**149.96**	**344**	⇑ePKP		**PKPbc**	**20 24 57.7**	**-0.5**
KHC				*e*PKPAB		**PKPab**	**20 25 05.9**	**-0.3**
CKRC	**Cesky Krumlov**	**150.05**	**343**	⇑*e*PKP		**PKiKP**	**20 24 58.9**	**-0.1**
CKRC				*e*PKPAB		**PKPab**	**20 25 07.2**	**+0.6**
BZS	**Buzias**	**150.15**	**331**	⇓P		**PKPbc**	**20 24 57.9**	**-0.8**
GERES	**GERESS Array B**	**150.19**	**344**	PKPbc		**PKPbc**	**20 24 58.0**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=34,slow=2.5,SNR=12							
GERES				PKPab		**PKPab**	**20 25 06.4**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=29,slow=3.0,SNR=5.8							
CONA	**Conrad Observa**	**150.41**	**341**	*e*PKP		**PKPbc**	**20 24 59.1**	**-0.3**
	comp=Z,3.4nm,0.6s							
RONA	**Rosalia, Austr**	**150.47**	**340**	*e*PKP		**PKPbc**	**20 24 59.2**	**-0.3**
	comp=Z,4.5nm,0.6s							
MDVR	**Moldovita**	**150.75**	**330**	⇑P		**PKPbc**	**20 24 57.5**	**-2.6**
MORH	**Mrgy, Hungar**	**150.91**	**336**	⇑P		**PKPbc**	**20 24 59.8**	**-0.7**
RDO	**Rodhopi**	**151.24**	**321**			**PKPbc**	**20 25 00.1**	**-1.2**
VTS	**Vitosha**	**151.56**	**326**	⇑P		**PKPbc**	**20 25 01.8**	**-0.4**
BOVS	**Bovan**	**151.61**	**329**	⇓P		**PKPbc**	**20 24 58.8**	**-3.3**
SOKA	**Soboth**	**151.78**	**341**	*e*PKP		**PKPbc**	**20 25 01.6**	**-0.9**
	comp=Z,1.3nm,0.5s							
KBA	**Koelnbreinsper**	**151.91**	**343**	*e*PKP		**PKPbc**	**20 25 01.9**	**-1.1**
	comp=Z,3.1nm,0.8s							
WATA	**Walderalm**	**152.12**	**346**	*e*PKP		**PKPbc**	**20 25 02.5**	**-0.8**
	comp=Z,0.9nm,0.3s							
RETA	**Rette**	**152.15**	**347**	*e*PKP		**PKPbc**	**20 25 02.5**	**-0.8**
	comp=Z,0.4nm,0.2s							
WTTA	**Wattenberg**	**152.17**	**346**	*e*PKP		**PKPbc**	**20 25 02.8**	**-0.7**
	comp=Z,1.8nm,0.3s							
MOTA	**Moosalm**	**152.21**	**346**	*e*PKP		**PKPbc**	**20 25 02.7**	**-0.8**
	comp=Z,1.4nm,0.5s							
SQTA	**Sankt Quirin**	**152.31**	**346**	*e*PKP		**PKPbc**	**20 25 02.9**	**-0.8**
PRED	**Cave del Predi**	**152.43**	**342**			**PKPab**	**20 25 15.1**	**-1.6**
ABTA	**Abfaltersbach**	**152.44**	**344**	*i* PKP		**PKPbc**	**20 25 02.6**	**-1.3**
	comp=Z,3.4nm,0.5s,SNR=6.0							
FETA	**Feichten**	**152.60**	**347**	*e*PKP		**PKPbc**	**20 25 03.7**	**-0.7**
	comp=Z,1.2nm,0.6s							
DAVOX	**Davos/Dischmat**	**153.01**	**348**	PKPbc		**PKPbc**	**20 25 04.5**	**-0.8**
	comp=Z,3.4nm,0.7s,baz=343,slow=11,SNR=6.2							
DAVOX				PKPab		**PKPab**	**20 25 18.8**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=315,slow=1.4,SNR=3.6							
FUORN	**Ofenpass-Fuorn**	**153.08**	**347**			**PKPbc**	**20 25 04.0**	**-1.6**
ESDC	**Sonseca Array**	**160.29**	**13**	PKPab		**PKPab**	**20 25 50.1**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=356,slow=4.8,SNR=4.9							
DBIC	**Dimbolro**	**164.77**	**154**	PKPab		**PKPab**	**20 26 11.8**	**+0.8**
	comp=Z,4.5nm,0.9s,baz=191,slow=5.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**172.65**	**179**	PKPab		**PKPab**	**20 26 46.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=168,slow=4.5,SNR=4.8							

IDC ***11*** *20:12:16.2±29.0, 35°.21N×23°.26E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=577.7km s-min=43.9km az=29.0*
ATH ***11*** *20:12:18.7, 34°.73N×23°.13E, h5km±31km, ML2.9/3, Error ellipse: s-maj=31.6km s-min=1.8km az=0.0*
THE ***11*** *20:12:20.1, 34°.90N×23°.14E, h0km±9km, ML2.8/2, Error ellipse: s-maj=11.0km s-min=2.9km az=228.0*

ISC 11 20:12:17.0±2.5, 34°.70N±0°.09×23°.08E±0°.08, h16km±11km, n21, σ1§66/24, mb3.9/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.72**	**43**	P	**Pg**	**20 12 30.5**	**-0.6**
KNDR				S	**Sg**	**20 12 40.2**	**-0.6**
KNDR				AML	AML	20 12 43.4	
	comp=E,2593μm,0.4s						
KNDR				AML	AML	20 12 47.6	
	comp=N,2427μm,0.8s						
GVD	**Gavdhos**	**0.84**	**80**	P	**Pg**	**20 12 33.8**	**+0.5**
GVD				S	**Sn**	**20 12 48.0**	**+1.8**
	comp=N,1μm,0.4s						
GVD	**Gavdhos**	**0.84**	**80**	P	**Pg**	**20 12 33.9**	**+0.6**
GVD				S	**Sg**	**20 12 44.5**	**+0.2**
GVD				AML	AML	20 12 48.5	
	comp=E,1836μm,0.4s						
GVD				AML	AML	20 12 50.8	
	comp=N,2400μm,0.4s						
IMMV	**Iera Moni Meta**	**1.06**	**44**	P	**Pg**	**20 12 37.0**	**-0.4**
IMMV				S	**Sg**	**20 12 50.0**	**-1.2**
	comp=N,532nm,1.1s						
IMMV	**Iera Moni Meta**	**1.06**	**44**	P	**Pg**	**20 12 37.2**	**-0.2**
IMMV				S	**Sb**	**20 12 51.6**	**+1.1**
IMMV				AML	AML	20 12 58.1	
	comp=E,1097μm,1.0s						
IMMV				AML	AML	20 12 58.7	
	comp=N,931μm,0.5s						
CHAN	**Chania**	**1.13**	**44**	P	**Pg**	**20 12 38.4**	**-0.5**
ANKY	**Antikythira Is**	**1.18**	**9**	P	**Pg**	**20 12 40.2**	**+0.5**
KTHA	**Kythira Island**	**1.55**	**359**	P	**Pn**	**20 12 45.6**	**+1.6**
KTHA	**Kythira Island**	**1.55**	**359**	P	**Pn**	**20 12 45.9**	**+1.9**
VLI	**Veliai**	**2.02**	**357**	P	**Pn**	**20 12 52.7**	**+2.3**
VLI	**Veliai**	**2.02**	**357**	P	**Pn**	**20 12 52.7**	**+2.3**
MHLO	**Agia Marina, M**	**2.25**	**28**	P	**Pn**	**20 12 55.0**	**+1.4**
ZKR	**Zakros**	**2.61**	**80**	P	**Pn**	**20 12 59.9**	**+1.4**
KRND	**KRANIDI**	**2.68**	**1**	P	**Pn**	**20 13 01.4**	**+2.0**
EPID	**Epidavros**	**2.91**	**1**	P	**Pn**	**20 13 04.4**	**+1.8**
LAKA	**Lakka**	**3.64**	**346**	P	**Pn**	**20 13 15.3**	**+2.5**
HFS	**Hagfors**	**26.17**	**349**	P	**P**	**20 17 47.8**	**-2.7**
	comp=N,3.9nm,0.8s,baz=163,slow=10,SNR=1.8						
	comp=N,3.9nm,0.8s						
ARCES	**ARCESS Array B**	**34.91**	**1**	P	P	20 19 04.7	-2.9
	comp=N,4.4nm,1.0s,baz=181,slow=7.9,SNR=2.3						
	comp=N,4.4nm,1.0s						
KURBB	**Kurchatov Arra**	**42.73**	**51**	P	**P**	**20 20 11.5**	**-1.8**
	comp=N,0.3nm,0.5s,baz=273,slow=8.5,SNR=6.4						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.45**	**56**	P	**P**	**20 20 33.5**	**-1.7**
	comp=N,0.3nm,0.3s,baz=268,slow=7.4,SNR=11						
	comp=N,0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**46.55**	**46**	P	P	20 20 41.2	-2.5
	comp=N,0.5nm,0.4s,baz=264,slow=8.4,SNR=3.1						
	comp=N,0.5nm,0.4s						

IDC ***11*** *20:14:09.7±2.3, 43°.39N×105°.44W, h0km, mb4.6/1, mbtmp3.9/3, ML2.9/2, Error ellipse: s-maj=52.2km s-min=9.8km az=154.0*
NEIC ***11*** *20:14:12.1±2.4, 43°.59N±0°.02×105°.28W±0°.08, h0km±2km, ML3.1/60, Error ellipse: s-maj=9.5km s-min=3.1km az=88.0*

ISC 11 20:14:11.2±0.8, 43°.60N±0°.04×105°.32W±0°.05, h0km, n57, σ1§44/57, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.06**	**60**		**Pg**	**20 14 29.7**	**-1.9**
K22A	**Casper**	**1.30**	**223**		**Pg**	**20 14 33.0**	**-3.0**
K22A				IAML		20 15 01.5	
	comp=N,229nm,0.4s						
K22A				IAML		20 15 02.1	
	comp=E,282nm,0.7s						
PHWY	**Pilot Hill**	**2.30**	**183**	Pn	**Pn**	**20 14 50.4**	**-0.2**
PHWY				IAML		20 15 26.2	
	comp=E,144nm,0.6s						
RWWY	**Rawlins**	**2.37**	**217**	Pn	**Pn**	**20 14 51.7**	**+0.2**
RWWY				IAML		20 15 27.2	
	comp=E,103nm,0.8s						
N23A	**Red Feather La**	**2.75**	**190**		**Pn**	**20 14 58.3**	**+1.6**
N23A				IAML		20 15 42.6	
	comp=E,87nm,0.8s						
LAO	**LASA Array**	**3.15**	**349**		**Pn**	**20 15 02.2**	**+0.1**
BW06	**Boulder Array**	**3.21**	**256**		**Pn**	**20 15 04.7**	**+1.7**
PD31	**Pinedale Array**	**3.21**	**256**	Pn	**Pn**	**20 15 03.9**	**+0.8**
PDAR	**Pinedale Array**	**3.21**	**256**	Pn	**Pn**	**20 15 02.5**	**-0.6**
	comp=E,0.6nm,0.3s,baz=81,slow=15,SNR=9.7						
PDAR				Lg	Lg	20 15 46.5	
	comp=E,6.0nm,0.3s,baz=78,slow=29,SNR=5.8						
	comp=E,2.4nm,0.3s						
PDAR	**Pinedale Array**	**3.21**	**256**		**Pn**	**20 15 04.6**	**+1.5**
RLMT	**Red Lodge**	**3.21**	**300**	Pn	**Pn**	**20 15 04.3**	**+1.2**
RLMT				IAML		20 16 03.0	
	comp=E,40nm,0.7s						
RLMT				IAML		20 16 08.8	
	comp=E,54nm,0.8s						
OGNE	**Ogallala**	**3.61**	**136**		**Pn**	**20 15 10.1**	**+1.8**
YMP	**Mirror Lake Pl**	**3.66**	**290**	Pn	**Pn**	**20 15 11.0**	**+1.7**
LKWY	**Lake**	**3.78**	**286**	Pn	**Pn**	**20 15 11.5**	**+0.5**
GCMT	**Greycliff**	**3.79**	**307**	Pn	**Pn**	**20 15 12.9**	**+1.9**
ISCO	**Idaho Springs**	**3.81**	**183**		**Pn**	**20 15 13.2**	**+1.8**
H17A	**Grant Village**	**3.87**	**284**		**Pn**	**20 15 13.7**	**+1.4**
H17A				IAML		20 16 17.6	
	comp=E,24nm,0.8s						
H17A				IAML		20 16 18.2	
	comp=N,30nm,1.3s						
YUF	**Upper Falls**	**3.90**	**288**	Pn	**Pn**	**20 15 12.3**	**-0.2**
YNR	**Norris Junctio**	**4.01**	**288**		**Pn**	**20 15 16.4**	**+2.3**
YNR				IAML		20 15 57.4	
	comp=E,18nm,0.2s						
O20A	**White River Ci**	**4.09**	**213**	Pn	**Pn**	**20 15 17.2**	**+2.0**
O20A				IAML		20 16 30.4	
	comp=N,29nm,0.9s						
O20A				IAML		20 16 33.1	
	comp=E,32nm,0.8s						
YMR	**Madison River**	**4.20**	**287**	Pn	**Pn**	**20 15 15.6**	**-1.0**
YMR				IAML		20 16 44.0	
	comp=E,24nm,0.8s						
AHID	**Auburn Hatcher**	**4.31**	**261**		**Pn**	**20 15 18.8**	**+0.6**
AHID				IAML		20 16 33.7	
	comp=E,22nm,0.6s						
AHID				IAML		20 16 37.0	
	comp=E,22nm,0.7s						
RDMU	**Red Mountain**	**4.38**	**228**		**Pb**	**20 15 31.0**

29nm,0.8s
BKSI Bulukumba 12.29 224 P **Pn** **20 18 04.5 +1.3**
18nm,1.4s
KAPI Kappang 12.34 226 Pn **Pn** **20 18 03.6 -0.2**
1.8nm,0.3s,baz=75,slow=6.2,SNR=4.1
KAPI Sn **Sn** **20 20 19.1 -0.9**
0.2nm,0.3s,baz=166,slow=21,SNR=1.0
KAPI LR LR 20 22 21.9
comp=Z,91nm,20.2s,baz=47,slow=35
4.9nm,0.3s
KAPI Kappang 12.34 226 Pn **Pn** **20 18 01.4 -2.4**
SOEI Soe 13.96 198 Pn **Pn** **20 18 23.3 -2.8**
BATI Baumata 14.58 200 Pn **P** **20 18 37.4 -2.5**
1.5nm,0.3s,baz=5.4,slow=3.0,SNR=6.1
PLAI Plampang 16.43 221 P **Pn** **20 18 59.0 +0.8**
51nm,0.9s
SBUM Sibu 16.45 267 **Pn** **20 18 57.0 -1.5**
SBUM IAmb IAmb 20 19 26.8
comp=Z,36nm,1.3s
MTN Manton Dam 16.51 171 **Pn** **20 18 57.6 -1.7**
TWSI Taliwang, Sumb 16.97 224 P **P** **20 19 06.5 +0.1**
comp=Z,36nm,1.0s
SRBI Singaraja 17.73 229 P **P** **20 19 16.0 +1.2**
comp=Z,36nm,0.9s
JAGI Jajag, Banyuwa 18.78 230 P **P** **20 19 25.0 -1.4**
JAGI IAmb IAmb 20 19 43.9
comp=Z,36nm,1.0s
GUMO Guam 18.84 57 LR LR 20 25 21.3
comp=Z,124nm,19.3s,baz=298,slow=33
KNRA Kununurra 19.15 180 P **P** **20 19 29.2 -1.1**
KNRA IAmb IAmb 20 19 40.6
comp=Z,20nm,0.7s
FITZ Fitzroy Crossi 21.76 188 P **P** **20 19 56.4 -2.2**
YHNB Yeheng 22.10 342 P **P** **20 19 59.5 -2.9**
PMG Port Moresby 22.51 125 P **P** **20 20 08.6 +1.8**
comp=Z,15nm,1.0s,baz=332,slow=4.4,SNR=8.7
PMG Port Moresby 22.51 125 P **P** **20 20 07.2 +0.4**
PMG IAmb IAmb 20 20 11.4
comp=Z,43nm,1.4s
COEN Coen 22.62 141 P **P** **20 20 11.1 +3.2**
JOW Kunigami 23.11 359 LR LR 20 28 08.0
comp=Z,211nm,19.7s,baz=278,slow=34
WB0 Warramunga Arr 23.89 167 P **P** **20 20 20.3 -0.1**
WB0 IAmb IAmb 20 20 34.7
comp=Z,13nm,0.7s
WRAB Tennant Creek 24.04 167 P **P** **20 20 22.1 +0.4**
WRAB IAmb IAmb 20 21 01.4
comp=Z,26nm,1.2s
WRA Warramunga Arr 24.05 167 P **P** **20 20 20.8 -1.0**
comp=Z,12nm,1.1s,baz=348,slow=11,SNR=21
comp=Z,12nm,1.1s
WRA Warramunga Arr 24.05 167 P **P** **20 20 22.3 +0.5**
WB2 Warramunga Arr 24.05 167 P **P** **20 20 21.9 +0.1**
WB2 IAmb IAmb 20 20 59.1
comp=Z,24nm,1.2s
WR0 Warramunga Arr 24.11 166 P **P** **20 20 22.3 -0.1**
WR0 IAmb IAmb 20 20 37.9
comp=Z,11nm,0.8s
KRVT Keravat (AS076 24.64 108 LR LR 20 28 02.8
comp=Z,28nm,20.3s,baz=68,slow=32
ASAR Alice Springs 27.57 170 P **P** **20 20 53.0 -0.7**
comp=Z,0.3nm,0.3s,baz=350,slow=7.7,SNR=9.0
ASAR PcP **PcP** **20 24 11.5 +0.6**
comp=Z,0.4nm,0.3s,baz=357,slow=2.0,SNR=7.5
comp=Z,0.3nm,0.3s
ASAR Alice Springs 27.57 170 P **P** **20 20 54.7 +0.9**
CTA Charters Tower 29.20 144 P **P** **20 21 09.4 +1.2**
comp=Z,2.0nm,0.7s,baz=287,slow=11,SNR=1.6
comp=Z,2.0nm,0.7s
JNU Nakatsue 29.45 4 P **P** **20 21 11.7 +1.4**
comp=Z,9.8nm,0.9s,baz=205,slow=9.6,SNR=2.6
JNU LR LR 20 32 19.8
comp=Z,128nm,19.9s,baz=185,slow=35
comp=Z,9.8nm,0.9s
PSI Prapat 29.70 269 LR LR 20 34 23.5
comp=Z,50nm,21.7s,baz=60,slow=39
PHRA Phrae 31.51 300 P **P** **20 21 28.7 0.0**
CRAI Chiangrai 32.14 303 P **P** **20 21 34.8 +0.5**
CMAR Chiang Mai Arr 32.61 299 P **P** **20 21 40.2 +1.9**
comp=Z,1.4nm,0.7s,baz=112,slow=6.7,SNR=15
CMAR ScP **ScP** **20 28 05.6 +1.1**
comp=Z,0.3nm,0.3s,baz=90,slow=1.8,SNR=3.2
CMAR LR LR 20 35 29.6
comp=Z,56nm,19.4s,baz=110,slow=37
comp=Z,1.4nm,0.7s
CMAR Chiang Mai Arr 32.61 299 P **P** **20 21 40.6 +2.2**
CHTO Chiang Mai 32.75 300 P **P** **20 21 42.7 +3.1**
CHTO IAmb IAmb 20 21 45.6
comp=Z,5.0nm,0.9s
KSRS Korea Array 33.71 359 P **P** **20 21 48.8 +1.1**
comp=Z,2.1nm,0.8s,baz=179,slow=10,SNR=4.0
KSRS LR LR 20 34 50.3
comp=Z,86nm,20.6s,baz=175,slow=35
comp=Z,2.1nm,0.8s
HNR Honiara 33.76 113 LR LR 20 34 07.3
comp=Z,µm,21.4s,baz=310,slow=34
MJAR Matsushiro Arr 33.95 14 P **P** **20 21 49.0 -0.8**
comp=Z,1.8nm,0.7s,baz=185,slow=7.8,SNR=3.1
MJAR LR LR 20 34 50.4
comp=Z,136nm,21.5s,baz=192,slow=35
comp=Z,1.8nm,0.7s
TIA Tai'an 34.16 343 *e*P P 20 21 58.9 +7.3
TIA pmax pmax
comp=Z,2.0nm,0.5s
XAN Xi'an 35.43 331 P **P** **20 22 05.3 +2.6**
XAN pP pP 20 22 12.1 -1.2
XAN pmax pmax
comp=Z,9.0nm,1.0s
STKA Stephens Creek 37.36 162 P **P** **20 22 18.4 -0.7**
comp=Z,1.3nm,0.4s,baz=333,slow=10,SNR=5.6
comp=Z,1.3nm,0.4s
STKA Stephens Creek 37.36 162 P **P** **20 22 18.2 -0.9**
NWAO Narrogin (SRO) 37.90 196 P **P** **20 22 24.1 +0.5**
H11S3 WAKE ISLAND Hy 40.03 65 T T 21 05 31.5
baz=252,slow=74
H11S2 WAKE ISLAND Hy 40.05 65 T T 21 05 28.5
baz=252,slow=74
H11S1 WAKE ISLAND Hy 40.05 65 T T 21 05 32.5
baz=252
ASAJ Asahikawa 42.19 15 LR LR 20 41 08.7
comp=Z,95nm,19.1s,baz=142,slow=37
LSA Lhasa 43.98 310 P **P** **20 23 14.7 +0.3**
GTA Gaotai 44.22 328 *e*P **P** **20 23 16.0 +0.2**
GTA pP pP 20 23 21.0 -5.5
GTA sP sP 20 23 24.7 -6.5
GTA pmax pmax
comp=Z,2.0nm,1.4s
GTA pmax pmax
comp=Z,95nm,5.8s
GTA LR LR
comp=N,160nm,15.6s
GTA LR LR
comp=E,160nm,16.4s
GTA LR LR
comp=Z,200nm,18.2s
DZM Mont Dzumac 44.90 126 LR LR 20 41 43.0
comp=Z,88nm,19.2s,baz=47,slow=36
KLR Kul'dur 45.55 3 P **P** **20 23 26.7 +0.7**
comp=Z,1.1nm,0.6s,baz=180,slow=5.1,SNR=2.7
KLR LR LR 20 39 15.5
comp=Z,48nm,21.4s,baz=318,slow=32
comp=Z,1.1nm,0.6s
SONM Songino Array 48.06 340 P **P** **20 23 47.4 +1.5**
comp=Z,1.3nm,1.1s,baz=154,slow=8.9,SNR=5.1
SONM PcP **PcP** **20 25 13.6 +0.5**
comp=Z,0.9nm,0.9s,baz=159,slow=4.9,SNR=2.0
SONM LR LR 20 46 59.1
comp=Z,42nm,20.1s,baz=25,slow=40
comp=Z,1.3nm,1.1s
SONM Songino Array 48.06 340 P **P** **20 23 45.6 -0.2**
MSVF Nonsavu 53.11 115 LR LR 20 45 08.6
comp=Z,76nm,19.5s,baz=211,slow=34
PETK Petropavlovsk- 54.85 21 LR LR 20 50 06.3
comp=Z,22nm,19.1s,baz=264,slow=38
YAK Yakutsk 58.31 1 P **P** **20 25 01.3 +0.6**
comp=Z,2.9nm,0.4s,baz=181,slow=1.0,SNR=1.9
comp=Z,2.9nm,0.4s
YAK Yakutsk 58.31 1 P **P** **20 25 01.0 +0.3**
MA2 Magadan 58.39 13 LR LR 20 51 31.5
comp=Z,35nm,19.6s,baz=120,slow=37
MK31 Makanchi Array 58.77 324 P **P** **20 25 04.4 +0.1**
MK31 IAmb IAmb 20 25 21.9
comp=Z,3.3nm,0.8s
MKAR Makanchi Array 58.77 324 P **P** **20 25 04.3 -0.1**
comp=Z,1.4nm,0.4s,baz=111,slow=7.8,SNR=50
MKAR ScP **ScP** **20 29 53.9 +3.2**
comp=Z,0.4nm,0.7s,baz=106,slow=4.7,SNR=3.0
MKAR LR LR 20 52 31.8
comp=Z,121nm,18.0s,baz=34,slow=38
comp=Z,1.4nm,0.4s
MKAR Makanchi Array 58.77 324 P **P** **20 25 03.8 -0.5**
MAKZ Makanchi 58.96 324 P **P** **20 25 04.3 -1.3**
MAKZ IAmb IAmb 20 25 23.2
comp=Z,5.9nm,0.9s
TARG Taragay, Kyrgy 59.14 317 P **P** **20 25 07.7 +0.2**
TARG IAmb IAmb 20 25 37.5
comp=Z,3.7nm,0.9s
NIL Nilore 59.53 307 P **P** **20 25 09.7 -0.2**
ZALV Zalesovo Beam 61.59 332 P **P** **20 25 22.3 -1.1**
comp=Z,0.6nm,0.4s,baz=121,slow=7.7,SNR=5.1
ZALV LR LR 20 55 12.7
comp=Z,67nm,18.1s,baz=314,slow=39
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 61.59 332 P **P** **20 25 22.1 -1.3**
KURK Kurchatov 62.90 327 P **P** **20 25 31.9 -0.3**
KURBB Kurchatov Arra 62.90 327 P **P** **20 25 32.0 -0.3**
comp=Z,1.8nm,0.6s,baz=124,slow=6.7,SNR=28
comp=Z,1.8nm,0.6s
KBL Kabul 63.13 307 P **P** **20 25 34.0 -0.4**
KBL IAmb IAmb 20 26 03.2
comp=Z,3.3nm,0.6s
GAR Garm 63.43 312 P **P** **20 25 35.1 -1.1**
TIXI Tiksi 67.96 0 P **P** **20 26 04.0 -0.5**
comp=Z,2.2nm,0.5s,baz=232,slow=20,SNR=19
comp=Z,2.2nm,0.5s
TIXI Tiksi 67.96 0 P **P** **20 26 04.1 -0.5**
BRVK Borovoye 68.56 326 P **P** **20 26 08.3 -0.4**
BRVK IAmb IAmb 20 26 29.5
comp=Z,5.0nm,0.9s
NRIK Noril'sk 71.03 346 LR LR 21 02 36.5
comp=Z,46nm,19.3s,baz=58,slow=40
GEYT Alibeck 72.48 309 P **P** **20 26 33.0 +0.1**
GEYT IAmb IAmb 20 26 45.1
comp=Z,4.3nm,0.9s
ABKAR Akbulak array 73.47 320 P **P** **20 26 38.2 -0.4**
RAR Rarotonga 74.22 113 LR LR 20 56 31.2
comp=Z,18nm,18.4s,baz=238,slow=34
AKTO Aktyubinsk 74.96 321 LR LR 21 05 07.5
comp=Z,91nm,18.0s,baz=258,slow=40
KDAK Kodiak Island 80.98 32 LR LR 20 58 36.8
comp=Z,50nm,21.8s,baz=275,slow=32
H21K Melozitna Rive 82.02 24 P **P** **20 27 26.3 +0.5**
H21K IAmb IAmb 20 27 32.9
comp=Z,8.8nm,1.2s
I21K Tanana 82.29 25 P **P** **20 27 29.1 +1.9**
I21K IAmb IAmb 20 27 53.4
comp=Z,8.6nm,1.1s
BPAW Bear Paw Mtn. 82.57 26 P **P** **20 27 30.3 +1.6**
GNI Garni 83.05 310 LR LR 21 07 46.8
comp=Z,38nm,20.9s,baz=16,slow=38
VNDA Vanda 83.06 173 P **P** **20 27 31.8 +0.9**
comp=Z,1.0nm,0.8s,baz=305,slow=6.4,SNR=1.3
comp=Z,1.0nm,0.8s
PPT Papeete 83.24 108 LR LR 21 02 45.8
comp=Z,34nm,18.4s,baz=146,slow=34
H23K Yukon River 83.38 24 P **P** **20 27 34.5 +1.6**
H23K IAmb IAmb 20 27 51.5
comp=Z,4.9nm,1.1s
MAW Mawson 84.30 201 LR LR 21 03 42.7
comp=Z,70nm,20.2s,baz=34,slow=35
ILAR Eielson Array 84.40 25 P **P** **20 27 39.1 +1.0**
comp=Z,0.7nm,0.9s,baz=260,slow=5.4,SNR=6.5
comp=Z,0.7nm,0.9s
SPITS Spitsbergen Ar 90.98 349 LR LR 21 17 18.0
comp=Z,51nm,18.3s,baz=50,slow=41
ARCES ARCESS Array B 91.24 340 P **P** **20 28 09.7 -1.2**
comp=Z,5.7nm,1.1s,baz=81,slow=6.5,SNR=1.6
ARCES LR LR 21 15 14.6
comp=Z,37nm,18.2s,baz=316,slow=40
comp=Z,5.7nm,1.1s
AKASG Malin Array Be 93.21 321 P **P** **20 28 20.9 +0.5**
comp=Z,0.2nm,0.4s,baz=64,slow=4.1,SNR=1.9
comp=Z,0.2nm,0.4s
RES Resolute Bay 97.60 11 P **P** **20 28 38.4 -1.4**
comp=Z,1.1nm,0.5s,baz=284,slow=2.5,SNR=4.6
comp=Z,1.1nm,0.5s
YKA Yellowknife Ar 98.82 25 P Pdif 20 28 47.4 +1.8
comp=Z,0.2nm,0.8s,baz=300,slow=5.5,SNR=2.6
comp=Z,0.2nm,0.8s
TORD Torodi Ar. Bea 124.79 289 PKP **PKiKP** **20 34 09.2 +2.2**
comp=Z,1.0nm,0.3s,baz=62,slow=2.8,SNR=0.5

*NEIC **11** 20:21:23.3±1.3,24°.49S×0°.08×67°.0W±0°.1,h220km±2km, ML4.0(GUC),Error ellipse: s-maj=18.6km s-min=13.3km az=270.0*
*IDC **11** 20:21:27.8±2.4,24°.14S×66°.98W,h172km±16km,mb4.2/2, mbtmp4.1/5,Error ellipse: s-maj=55.8km s-min=20.7km az=21.0*
*GUC **11** 20:21:28.2±0.5,24°.21S×67°.42W,h220km±5km,ML4.0*
ISC 11 20:21:27.2±1.1,24°30S±0°.04×67°4W±0°.1,h214km±9km, n56,σ1§29/78,9C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.52**	**332**		**Pn**	**20 22 02.4**	**-0.3**
AF01	**San Pedro de A**	**1.52**	**332**	*e*P	**Pn**	**20 22 02.9**	**+0.2**
AF01				*i* S	**S**	**20 22 29.7**	**-0.4**
LVC	**Limon Verde**	**2.18**	**320**	P	**Pn**	**20 22 09.4**	**+0.4**
	93nm,0.3s,baz=126,slow=8.2,SNR=149			S			
LVC					**S**	**20 22 40.1**	**-1.1**
	96nm,0.3s,baz=299,slow=21,SNR=30						
LVC	**Limon Verde**	**2.18**	**320**		**Pn**	**20 22 09.3**	**+0.4**
LVC				Sn	**S**	**20 22 40.9**	**-0.3**
LVC	**Limon Verde**	**2.18**	**320**	*e*P	**Pn**	**20 22 09.3**	**+0.4**
LVC				*i* S	**S**	**20 22 40.8**	**-0.4**
PB15	**IPOC Station P**	**2.18**	**299**		**Pn**	**20 22 09.6**	**+0.7**
PB15				Sn	**S**	**20 22 41.4**	**+0.4**
PB15	**IPOC Station P**	**2.18**	**299**	⇑*i*P	**Pn**	**20 22 09.7**	**+0.8**
PB15				*i* S	**S**	**20 22 40.9**	**-0.1**
PB06	**IPOC Station P**	**2.54**	**308**		**Pn**	**20 22 13.1**	**+0.4**
PB06				Sn	**S**	**20 22 47.0**	**-0.8**
PB06	**IPOC Station P**	**2.54**	**308**	⇑*i*P	**Pn**	**20 22 13.5**	**+0.8**
PB06				*e*S	**S**	**20 22 47.3**	**-0.5**
PB06				IAML		20 22 50.6	
	comp=E,384nm,0.3s						
PB14	**IPOC Station P**	**2.75**	**263**		**Pn**	**20 22 15.6**	**+0.5**
PB14	**IPOC Station P**	**2.75**	**263**	⇑*i*P	**Pn**	**20 22 15.6**	**+0.5**
PB14				*i* S	**S**	**20 22 51.3**	**-0.9**
PB10	**IPOC Station P**	**2.99**	**284**		**Pn**	**20 22 18.6**	**+1.1**
PB10	**IPOC Station P**	**2.99**	**284**	⇑*i*P	**Pn**	**20 22 18.6**	**+1.1**
PB10				*i* S	**S**	**20 22 57.0**	**+0.6**
PB10				IAML		20 23 01.3	
	comp=E,149nm,0.6s						
PB09	**IPOC Station P**	**3.01**	**325**		**Pn**	**20 22 18.8**	**+0.9**
PB09	**IPOC Station P**	**3.01**	**325**	⇑*i*P	**Pn**	**20 22 19.1**	**+1.2**
PB09				*i* S	**S**	**20 22 57.5**	**+0.3**
PB09				IAML		20 22 58.6	
	comp=N,194nm,0.2s						
PB03	**IPOC Station P**	**3.11**	**315**		**Pn**	**20 22 19.5**	**+0.4**
PB03	**IPOC Station P**	**3.11**	**315**	⇑*i*P	**Pn**	**20 22 19.8**	**+0.7**
PB03				*i* S	**S**	**20 22 58.4**	**-1.0**
PB04	**IPOC Station P**	**3.19**	**307**		**Pn**	**20 22 20.8**	**+0.8**
PB04				Sn	**S**	**20 23 00.2**	**-0.8**
PB04	**IPOC Station P**	**3.19**	**307**	*e*P	**Pn**	**20 22 20.9**	**+0.8**
PB04				*i* S	**S**	**20 23 01.1**	**+0.1**
AC01	**Pan de Azucar**	**3.43**	**237**		**Pn**	**20 22 21.7**	**-0.9**
AC01	**Pan de Azucar**	**3.43**	**237**	*e*P	**Pn**	**20 22 22.3**	**-0.3**
AC01				*i* S	**S**	**20 23 04.2**	**-1.6**
PB07	**IPOC Station P**	**3.43**	**318**	Pn	**Pn**	**20 22 23.4**	**+0.5**
PB07	**IPOC Station P**	**3.43**	**318**	⇑*i*P	**Pn**	**20 22 23.6**	**+0.7**
PB07				*i* S	**S**	**20 23 04.8**	**-1.4**
PB02	**IPOC Station P**	**3.75**	**322**		**Pn**	**20 22 26.9**	**+0.3**
PB02	**IPOC Station P**	**3.75**	**322**	*e*P	**Pn**	**20 22 27.0**	**+0.3**
PB01	**IPOC Station P**	**3.77**	**329**		**Pn**	**20 22 26.8**	**0.0**
PB01	**IPOC Station P**	**3.77**	**329**	⇑*i*P	**Pn**	**20 22 27.0**	**+0.2**
PB01				*i* S	**S**	**20 23 12.1**	**-1.3**
AC06	**Mina Casimiro**	**4.05**	**220**	Pn	**Pn**	**20 22 28.9**	**-1.1**
AC06	**Mina Casimiro**	**4.05**	**220**	*e*P	**Pn**	**20 22 29.4**	**-0.6**
AC06				*i* S	**S**	**20 23 17.3**	**-2.0**
GO03	**Copiap**	**4.16**	**217**	Pn	**Pn**	**20 22 30.4**	**-1.1**
GO03					**S**	**20 23 19.4**	**-2.4**
GO03	**Copiap**	**4.16**	**217**	*e*P	**Pn**	**20 22 30.4**	**-1.1**
GO03				*i* S	**S**	**20 23 19.8**	**-2.1**
PATCX	**Punta Patache**	**4.29**	**323**		**Pn**	**20 22 33.1**	**-0.1**
PATCX	**Punta Patache**	**4.29**	**323**	*e*P	**Pn**	**20 22 33.2**	**-0.1**
PATCX				*i* S	**S**	**20 23 23.5**	**-1.4**
PB08	**IPOC Station P**	**4.44**	**338**		**Pn**	**20 22 35.8**	**+0.4**
PB08	**IPOC Station P**	**4.44**	**338**	⇑*i*P	**Pn**	**20 22 36.0**	**+0.6**
PB08				*i* S	**S**	**20 23 27.8**	**-1.0**
TA01	**Diego Aracena**	**4.52**	**325**		**Pn**	**20 22 35.6**	**-0.2**
TA01				*i* S	**S**	**20 23 28.2**	**-1.6**
GO01	**Chusmiza**	**4.90**	**340**		**Pn**	**20 22 41.3**	**+0.1**
GO01	**Chusmiza**	**4.90**	**340**	*e*P	**Pn**	**20 22 41.5**	**+0.4**
GO01				*i* S	**S**	**20 23 38.6**	**-0.6**
PB11	**IPOC Station P**	**4.97**	**335**		**Pn**	**20 22 40.9**	**-1.0**
PB11	**IPOC Station P**	**4.97**	**335**	*e*P	**Pn**	**20 22 41.2**	**-0.7**
PB11				*i* S	**S**	**20 23 37.6**	**-3.0**
AC04	**Llanos de Chal**	**5.10**	**219**	Pn	**Pn**	**20 22 40.8**	**-2.4**
AC05	**El Transito**	**5.20**	**209**		Pn	20 22 40.3	-4.3
PSGC	**Pisagua**	**5.32**	**331**	*e*P	**Pn**	**20 22 44.2**	**-1.9**
PSGC				*i* S	**S**	**20 23 44.6**	**-3.7**
PSGCX	**Pisagua**	**5.32**	**331**		**Pn**	**20 22 44.3**	**-1.8**
MNMC	**Minye Minye**	**5.53**	**338**		**Pn**	**20 22 48.7**	**-0.3**
PB16	**IPOC Station P**	**6.25**	**341**		**Pn**	**20 22 58.2**	**-0.3**
PB12	**IPOC Station P**	**6.28**	**334**	Pn	**Pn**	**20 22 56.8**	**-1.5**
LPAZ	**La Paz**	**8.00**	**355**	Pn	**Pn**	**20 23 16.8**	**-4.3**
CPUP	**Villa Florida**	**9.34**	**105**	P	**Pn**	20 23 34.3	-3.4
	comp=N,1.6nm,0.6s,baz=286,slow=15,SNR=4.2						
SIV	**San Ignacio**	**10.18**	**37**	P	**Pn**	**20 23 45.7**	**-2.9**
	comp=N,0.7nm,0.4s,baz=203,slow=12,SNR=3.7						
TRQA	**Tornquist**	**14.48**	**163**		Pn	20 24 34.7	-7.7
TORD	**Torodi Ar. Bea**	**77.02**	**69**	P	**P**	**20 32 59.2**	**+2.3**
	comp=N,11nm,0.5s,baz=251,slow=6.4,SNR=1.6						
	comp=N,11nm,0.5s						
YKA	**Yellowknife Ar**	**94.28**	**340**	P	P	20 34 26.8	+5.2
	comp=N,0.3nm,0.5s,baz=135,slow=4.1,SNR=5.0						
	comp=N,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**143.83**	**28**	PKP	**PKiKP**	**20 40 39.5**	**-0.5**
	comp=N,0.6nm,0.5s,baz=298,slow=3.1,SNR=2.7						
MKAR	**Makanchi Array**	**146.99**	**40**	PKPbc	**PKiKP**	**20 40 48.8**	**+2.0**
	comp=N,1.0nm,0.6s,baz=296,slow=3.2,SNR=15						

*TUL **11** 20:24:20.5±0.9,36°.53N±0°.02×98°.98W±0°.04,h6km±4km, ML2.5,mb_Lg2.7/12(NEIC),ML2.5/12(NEIC),Error ellipse: s-maj=4.9km s-min=2.4km az=91.0*
NEIC 11 20:24:20.5±1.1,36°.53N±0°.02×98°.98W±0°.01,h8km±5km, Error ellipse: s-maj=2.7km s-min=1.5km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOKA	**Waynoka**	**0.11**	**19**	Pg	Pg	20 24 23.5	+0.4
NOKA				Sg	Sg	20 24 24.2	-0.6
NOKA				IAML		20 24 25.8	
	comp=N,2µm,0.2s						
NOKA				IAML		20 24 25.8	
	comp=E,3µm,0.3s						
U32A	**Winter Ranch,**	**0.15**	**188**	Pg	Pg	20 24 23.8	0.0
U32A				IAML		20 24 26.8	
	comp=N,1µm,0.2s						
OK038	**West end E0370**	**0.20**	**106**	Pg	Pg	20 24 24.8	+0.3
OK038				IAML		20 24 28.5	
	comp=N,1µm,0.4s						
OK038				IAML		20 24 28.8	
	comp=N,979nm,0.3s						
OK035	**E0210 Rd and N**	**0.28**	**51**	Pg	Pg	20 24 26.5	+0.5
OK035				Sg	Sg	20 24 31.0	+1.3
ELIS	**Ellis County**	**0.59**	**218**		Pg	20 24 31.7	-0.1
ELIS				IAML		20 24 47.7	
	comp=E,230nm,0.4s						
ELIS				IAML		20 24 48.6	
	comp=N,210nm,0.3s						
OK032	**Salt Plains WL**	**0.67**	**66**		Pg	20 24 33.5	0.0
OK032				Sg	Sg	20 24 42.8	+0.6
OK032				IAML		20 24 43.2	
	comp=N,203nm,0.2s						
OK032				IAML		20 24 49.3	
	comp=N,250nm,0.2s						
CROK	**Carrier**	**0.80**	**92**	Pg	Pg	20 24 35.7	-0.2
KAN14	**Manchester OK**	**0.92**	**62**	Pg	Pg	20 24 38.0	-0.1
GC02	**Grant County #**	**0.95**	**70**	Pg	Pg	20 24 38.5	-0.2
KAN17	**Caldwell West**	**1.10**	**62**	Pg	Pg	20 24 41.2	-0.3
KAN01	**Argonia South**	**1.16**	**57**	Pg	Pg	20 24 42.2	-0.4
KAN09	**Caldwell North**	**1.24**	**61**	Pg	Pn	20 24 43.8	-0.3
KS20	**Mayfield South**	**1.33**	**58**	Pn	Pn	20 24 45.3	-0.1
BCOK	**Bluff Creek, N**	**1.41**	**128**	Pn	Pn	20 24 46.4	-0.1
BCOK				IAmb_Lg		20 25 04.1	
	comp=Z,8.5nm,1.1s						
BLOK	**Blackwell**	**1.43**	**80**	Pn	Pn	20 24 46.7	0.0
OK050	**Pawnee Station**	**1.61**	**94**	Pn	Pn	20 24 49.1	-0.1
OK048	**Pawnee Station**	**1.64**	**93**		Pn	20 24 50.2	+0.6
OK045	**Pawnee Station**	**1.66**	**92**	Pn	Pn	20 24 50.3	+0.5
OK046	**Pawnee Station**	**1.67**	**94**	Pn	Pn	20 24 50.7	+0.6
OK033	**Mehan**	**1.72**	**106**	Pn	Pn	20 24 51.0	+0.3
OK044	**Pawnee Station**	**1.76**	**95**	Pn	Pn	20 24 52.0	+0.7
WMOK	**Wichita Mounta**	**1.80**	**175**	Pn	Pn	20 24 52.0	+0.2
OK030	**Cody Creek RV**	**1.87**	**108**	IAmb_Lg		20 25 23.9	
	comp=Z,11nm,0.7s						
R32A	**Long Quarter,**	**1.90**	**6**		Pb	20 24 54.5	-0.9
T35A	**Sooner Cattle**	**2.02**	**78**	Pn	Pn	20 24 55.1	+0.3
CBKS	**Cedar Bluff**	**2.36**	**345**	IAmb_Lg		20 25 38.4	
	comp=Z,10.0nm,0.7s						
AMTX	**Amarillo**	**2.75**	**234**	Pn	Pn	20 25 04.8	-0.1
X37A	**Clayton**	**3.52**	**122**	Pn	Pn	20 25 15.1	-0.4
X37A				IAmb_Lg		20 26 20.3	
	comp=Z,10nm,1.1s						
FCAR	**Ozark Folk Cen**	**5.58**	**95**	Pn	Pn	20 25 42.3	-1.4
PV13	**Radium Mtn., P**	**8.01**	**285**	IAmb_Lg		20 28 30.4	
	comp=Z,16nm,1.1s						
Y45A	**Yeager Farm, C**	**8.17**	**106**	IAmb_Lg		20 28 33.0	
	comp=Z,20nm,0.8s						
121A	**Cookes Peak, D**	**8.29**	**244**	IAmb_Lg		20 28 51.4	
	comp=Z,14nm,1.1s						

*SNET **11** 20:42:06.6±1.9, 12°.34N×87°.77W,h13km±29km,ML3.1*
*INET **11** 20:42:11.1±0.9, 12°.59N×87°.70W,h15km±11km,MW2.9*
ISC 11 20:42:08.6±1.8,12°6N±0°.1×87°.77W±0°.08,h10km,n9, σ1§08/12,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.71**	**79**	*e*P	**Pn**	**20 42 25.5**	**+0.6**
CRIN				*e*S	**Sn**	**20 42 37.4**	**+1.5**
LCND	**La Caada**	**0.74**	**351**	*e*P	**Pg**	**20 42 22.7**	**-0.3**
LCND				*e*S	**Sn**	**20 42 37.9**	**+1.3**
LCND				*e*S	**Sn**	**20 42 37.9**	**+1.3**
LCND				IAML		20 42 40.7	
	comp=Z,535nm,0.3s						
VSM	**San Miguel**	**0.98**	**330**	*e*P	**Pn**	**20 42 29.9**	**+1.1**
CNGN	**Cerro Negro**	**1.05**	**94**	*e*P	**Pb**	**20 42 28.4**	**-0.5**
ALJI	**Alcalda de J**	**1.08**	**314**	*e*S	**Sn**	**20 42 45.3**	**+0.3**
MOMN	**Momotombo**	**1.21**	**98**	*e*P	**Pb**	**20 42 31.1**	**-0.6**
MOMN				*e*S	**Sb**	**20 42 46.3**	**-1.1**
TGUH	**Tegucigalpa,Un**	**1.56**	**18**	*e*P	**Pb**	**20 42 36.4**	**-1.2**
LFRS	**El Faro**	**1.64**	**310**	IAML		20 43 00.6	
	comp=Z,222nm,0.2s						
P5NO	**Presa 5 de nov**	**1.71**	**326**	*e*P	**Pn**	**20 42 38.4**	**-0.1**

IDC 11 20:49:48.3±1.6,2°87S×129°66E,h0km,mb3.4/2, mbtmp3.5/4,ML3.5/2,Error ellipse: s-maj=42.1km s-min=23.4km az=99.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.56**	**39**	Pn	Pn	20 50 31.6	+0.5
	12nm,0.3s,baz=253,slow=19,SNR=218						
SIJI				Sn	Sn	20 51 02.5	-0.5
	6.8nm,0.3s,baz=180,slow=20,SNR=7.8						
	63nm,0.2s						
WRA	**Warramunga Arr**	**17.57**	**165**	P	Pn	20 53 53.1	-1.8
	0.1nm,0.3s,baz=348,slow=12,SNR=2.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.08**	**169**	P	P	20 54 35.1	+0.7
	0.7nm,0.4s,baz=348,slow=11,SNR=14						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**64.62**	**326**	P	P	21 00 27.8	0.0
	0.3nm,0.6s,baz=121,slow=7.6,SNR=3.5

WRA	**Warramunga Arr**	**17.57**	**165**	P	Pn	20 55 31.4	-1.3
	0.2nm,0.3s,baz=351,slow=12,SNR=6.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.08**	**169**	P	P	20 56 12.7	+0.4
	0.8nm,0.3s,baz=349,slow=11,SNR=9.7						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**64.64**	**326**	P	P	21 02 05.6	-0.2
	0.1nm,0.3s,baz=125,slow=7.5,SNR=3.6						
	0.1nm,0.3s						

*IDC **11** 21:00:37.2±1.6,6°.14S×129°.54E,h159^{km}±2.2^{km},mb2.8/1, mbtmp3.9/5,MS3.0/1,Error ellipse: s-maj=29.9km s-min=13.6km az=117.0*

*NEIC **11** 21:00:38.4±2.4,6°.16S±0°.08×129°.49E±0°.10,h173^{km}±9^{km}, mb4.2/3,Error ellipse: s-maj=13.8km s-min=12.0km az=104.0*

ISC 11 21:00:38.8±0.8,6°.12S±0°.07×129°.46E±0°.09,h209^{km},n17, σ1^{s}89/20,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.60**	**135**	Pn	**Pn**	**21 01 24.0**	**-0.3**
SAUI				Sn	S	21 01 52.1	-7.4
FAKI	**Fak Fak**	**4.22**	**41**	Pn	**Pn**	**21 01 43.7**	**-0.1**
SIJI	**Sorong**	**5.52**	**19**	P	**Pn**	**21 01 58.0**	**-2.1**
	10.0nm,0.2s,baz=204,slow=22,SNR=35						
SIJI				S	**S**	**21 03 00.7**	**-3.5**
	10nm,0.2s,baz=236,slow=23,SNR=8.9						
MTN	**Manton Dam**	**6.88**	**166**	Pn	**Pn**	**21 02 16.1**	**-1.4**
BATI	**Baumata**	**7.03**	**234**	P	**Pn**	**21 02 18.6**	**-0.9**
	5.6nm,0.3s,baz=90,slow=20,SNR=2.1						
BATI				S	**S**	**21 03 38.2**	**-1.3**
	6.1nm,0.3s,baz=317,slow=23,SNR=6.0						
BATI				LR	LR	21 05 26.0	
	comp=Z,104nm,19.5s,baz=235,slow=41						
KNRA	**Kununurra**	**9.52**	**184**	Pn	**Pn**	**21 02 49.8**	**-1.9**
FITZ	**Fitzroy Crossi**	**12.47**	**197**	Pn	**Pn**	**21 03 28.6**	**-0.8**
WB0	**Warramunga Arr**	**14.39**	**161**	Pn	**Pn**	**21 03 52.9**	**-0.3**
WRA	**Warramunga Arr**	**14.53**	**161**	P	**Pn**	**21 03 53.3**	**-1.7**
	0.6nm,0.3s,baz=343,slow=12,SNR=2.3						
WRA				S	S	21 06 26.1	-10
	0.7nm,0.3s,baz=330,slow=23,SNR=3.3						
WRA	**Warramunga Arr**	**14.53**	**161**	Pn	**Pn**	**21 03 55.4**	**+0.4**
COEN	**Coen**	**15.58**	**121**		**Pn**	**21 04 09.3**	**+1.5**
COEN				IAmb	IAmb	21 04 29.1	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**17.96**	**167**	P	**Pn**	**21 04 36.0**	**0.0**
AS31				IAmb	IAmb	21 04 36.9	
	comp=Z,2.8nm,0.3s						
ASAR	**Alice Springs**	**17.96**	**167**	P	**Pn**	**21 04 35.9**	**-0.1**
	comp=Z,2.9nm,0.4s,baz=348,slow=11,SNR=64						
ASAR				S	**S**	**21 07 47.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=68,slow=18,SNR=2.6						
ASAR	**Alice Springs**	**17.96**	**167**	P	**Pn**	**21 04 35.6**	**-0.4**
CTAO	**Charters Tower**	**21.42**	**132**	P	**P**	**21 05 11.4**	**+0.7**
CTAO				IAmb	IAmb	21 05 20.2	
	comp=Z,30nm,1.4s						
MKAR	**Makanchi Array**	**67.20**	**327**	P	**P**	**21 11 14.5**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=116,slow=6.6,SNR=1.8						
	comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**67.20**	**327**	P	**P**	**21 11 13.8**	**+3.3**

*IDC **11** 21:05:53.8±0.7,60°.48S×26°.73W,h0^{km},mb4.5/8, mbtmp4.5/8,MS3.6/13,Error ellipse: s-maj=29.9km s-min=19.1km az=66.0*

*NEIC **11** 21:05:55.2±1.1,60°.6S±0°.1×26°.5W±0°.3,h10^{km}±1^{km}, mb4.7/29,Error ellipse: s-maj=23.2km s-min=18.9km az=70.0*

ISC 11 21:05:54.2±0.5,60°.84S±0°.08×26°.4W±0°.1,h10^{km},n64, σ1^{s}60/51,mb4.7/23,MS3.7/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.27**	**151**	P	**Pn**	**21 08 49.2**	**+0.5**
VNA1				S	**Sn**	**21 10 57.1**	**-8.2**
VNA3	**Neumayer Olymp**	**12.39**	**154**	P	**Pn**	**21 08 50.4**	**0.0**
VNA3				S	Sn	21 10 58.4	-10
SNAA	**Sanae**	**14.27**	**149**	P	**Pn**	**21 09 16.2**	**+0.1**
SNAA	**Sanae**	**14.27**	**149**	Pn	**Pn**	**21 09 15.8**	**-0.3**
	4.2nm,0.3s,baz=315,slow=16,SNR=55						
SNAA				Sn	Sn	21 11 42.9	-11
	1.0nm,0.3s,baz=334,slow=20,SNR=2.6						
SNAA				LR	LR	21 13 39.4	
	comp=Z,228nm,19.8s,baz=325,slow=32						
SNAA	**Sanae**	**14.27**	**149**	Pn	**Pn**	**21 09 16.0**	**-0.1**
TROLL	**Troll, Antarti**	**15.86**	**147**	P	**Pn**	**21 09 38.0**	**+0.7**
BELA	**Belgrano 2**	**17.33**	**186**	Pn	**P**	**21 09 58.0**	**+0.9**
PMSA	**Palmer Station**	**17.47**	**241**	LR	LR	21 15 29.3	
	comp=Z,109nm,20.0s,baz=268,slow=33						
QSPA	**South Pole Qui**	**29.39**	**180**	P	P	21 12 01.9	+4.6
	10nm,0.8s,baz=206,slow=4.1,SNR=23						
QSPA				LR	LR	21 23 39.6	
	comp=Z,212nm,19.5s,baz=201,slow=36						
	10nm,0.8s						
QSPA	**South Pole Qui**	**29.39**	**180**	P	**P**	**21 12 00.1**	**+2.8**
TRQA	**Tornquist**	**31.84**	**299**	P	**P**	**21 12 18.8**	**-0.2**
TRQA				IAmb	IAmb	21 12 19.7	
	comp=Z,4.9nm,0.7s						
PLCA	**Paso Flores**	**33.52**	**287**	P	**P**	**21 12 31.7**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=160,slow=14,SNR=3.3						
PLCA				LR	LR	21 25 56.8	
	comp=Z,81nm,19.6s,baz=136,slow=36						
	comp=Z,0.9nm,0.7s						
PLTB	**Pedras Altas**	**34.14**	**316**	P	**P**	**21 12 37.9**	**-1.2**
ITQB	**Itaqui**	**37.10**	**313**	P	**P**	**21 13 03.9**	**-0.6**
ITQB				IAmb	IAmb	21 13 06.7	
	comp=Z,20nm,1.1s						
GO05	**Huala**	**38.79**	**291**	P	**P**	**21 13 17.4**	**-1.4**
GO05				IAmb	IAmb	21 13 43.9	
	comp=Z,24nm,1.2s						
BO01	**Tunca**	**38.91**	**292**	P	**P**	**21 13 19.1**	**-0.8**
BO01				IAmb	IAmb	21 13 19.4	
	comp=Z,30nm,1.5s						
BO04	**La Punta**	**39.04**	**293**	P	**P**	**21 13 20.6**	**-0.3**
MT09	**Talagante**	**39.39**	**293**	P	**P**	**21 13 23.4**	**-0.5**
MT09				IAmb	IAmb	21 13 48.3	
	comp=Z,16nm,0.9s						
CFA	**Coronel Fontan**	**40.01**	**298**	P	**P**	**21 13 27.1**	**-1.9**
	comp=Z,7.5nm,0.6s,baz=151,slow=8.9,SNR=12						
	comp=Z,7.5nm,0.6s						
ROC1	**El Roble**	**40.07**	**293**	P	**P**	**21 13 30.8**	**+1.1**
ROC1				IAmb	IAmb	21 13 42.2	
	comp=Z,17nm,0.9s						
CPUP	**Villa Florida**	**40.40**	**315**	P	**P**	**21 13 30.4**	**-1.7**
	comp=Z,2.6nm,0.4s,baz=150,slow=7.3,SNR=6.8						
CPUP				LR	LR	21 28 54.2	
	comp=Z,80nm,20.8s,baz=182,slow=34						
	comp=Z,2.6nm,0.4s						
CPUP	**Villa Florida**	**40.40**	**315**	P	**P**	**21 13 30.7**	**-1.5**
VA06	**Catapilco**	**40.55**	**293**	P	**P**	**21 13 32.6**	**-0.8**
CO02	**Combarbal**	**41.57**	**295**	P	**P**	**21 13 40.9**	**-1.1**
CO02				IAmb	IAmb	21 13 45.2	
	comp=Z,35nm,1.2s						
SUR	**Sutherland**	**41.73**	**69**	LR	LR	21 25 54.4	
	comp=Z,122nm,21.6s,baz=222,slow=29						
VNDA	**Vanda**	**41.79**	**183**	P	P	21 13 48.0	+4.9
	comp=Z,3.7nm,0.7s,baz=179,slow=7.1,SNR=12						
VNDA				LR	LR	21 29 41.5	
	comp=Z,94nm,21.2s,baz=188,slow=34						
	comp=Z,3.7nm,0.7s						
VNDA	**Vanda**	**41.79**	**183**	P	**P**	**21 13 46.7**	**+3.5**
CO01	**Juntas del Tor**	**42.22**	**297**	P	**P**	**21 13 48.0**	**+0.5**
CO01				IAmb	IAmb	21 13 49.3	
	comp=Z,8.0nm,0.7s						
AC05	**El Transito**	**43.28**	**297**	P	**P**	**21 13 55.8**	**-0.1**
BOSA	**Boshof**	**46.95**	**71**	P	P	21 14 30.2	+5.1
	comp=Z,1.4nm,0.7s,baz=117,slow=7.4,SNR=1.5						
BOSA				LR	LR	21 29 09.7	
	comp=Z,112nm,21.7s,baz=194,slow=30						
BOSA	**Boshof**	**46.95**	**71**	P	**P**	**21 14 26.1**	**+1.0**
LVC	**Limon Verde**	**48.18**	**303**	LR	LR	21 37 24.5	
	comp=Z,44nm,18.2s,baz=196,slow=40						
LVC	**Limon Verde**	**48.18**	**303**	P	**P**	**21 14 34.6**	**-0.3**
LVC				IAmb	IAmb	21 14 35.6	
	comp=Z,5.4nm,0.7s						
PB01	**IPOC Station P**	**49.82**	**303**	P	**P**	**21 14 46.5**	**-0.7**
LBTB	**Lobatse**	**50.19**	**69**	LR	LR	21 31 28.3	
	comp=Z,58nm,20.0s,baz=100,slow=31						
GO01	**Chusmiza**	**50.93**	**304**	P	**P**	**21 14 55.5**	**-0.6**
GO01				IAmb	IAmb	21 14 57.5	
	comp=Z,6.6nm,0.6s						
PTLB	**Pontes e Lacer**	**51.10**	**318**	P	**P**	**21 14 55.8**	**-1.0**
PTLB				IAmb	IAmb	21 14 56.5	
	comp=Z,4.4nm,0.6s						
SIV	**San Ignacio**	**51.24**	**315**	LR	LR	21 35 11.5	
	comp=Z,71nm,21.6s,baz=141,slow=35						
MNMC	**Minye Minye**	**51.58**	**304**	P	**P**	**21 14 60.0**	**-0.7**
TSUM	**Tsumeb**	**51.82**	**57**	LR	LR	21 32 59.1	
	comp=Z,84nm,19.7s,baz=157,slow=31						
TSUM	**Tsumeb**	**51.82**	**57**	P	**P**	**21 15 02.8**	**+0.5**
TSUM				IAmb	IAmb	21 15 14.1	
	comp=Z,9.9nm,1.3s						
PB16	**IPOC Station P**	**52.26**	**305**	P	**P**	**21 15 05.7**	**-0.4**
H10S2	**ASCENSION HYDR**	**52.51**	**15**	T	T	22 12 10.1	
	baz=33,slow=74,SNR=5.6						
H10S3	**ASCENSION HYDR**	**52.52**	**15**	T	T	22 12 04.6	
	baz=187,slow=74,SNR=6.7						
LPAZ	**La Paz**	**53.56**	**307**	P	**P**	**21 15 15.2**	**-0.6**
H10N1	**ASCENSION HYDR**	**53.63**	**15**	T	T	22 13 26.3	
	baz=190,slow=71,SNR=5.2						
H10N3	**ASCENSION HYDR**	**53.63**	**15**	T	T	22 13 21.1	
	baz=190,slow=71,SNR=12						
H10N2	**ASCENSION HYDR**	**53.65**	**15**	T	T	22 13 16.3	
	baz=190,slow=71,SNR=8.3						
ETMB	**Extrema**	**58.78**	**312**		**P**	**21 15 51.2**	**-1.1**
ETMB				IAmb	IAmb	21 15 51.8	
	comp=Z,6.0nm,0.8s						
LSZ	**Lusaka**	**59.85**	**65**	LR	LR	21 39 07.8	
	comp=Z,58nm,18.0s,baz=211,slow=33						
BOAV	**Boa Vista**	**68.36**	**323**	P	**P**	**21 16 54.8**	**-0.9**
BOAV				IAmb	IAmb	21 17 05.5	
	comp=Z,16nm,1.7s						
DBIC	**Dimbokro**	**69.39**	**23**	P	**P**	**21 17 02.1**	**+0.1**
DBIC				IAmb	IAmb	21 17 08.3	
	comp=Z,7.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**77.06**	**28**	P	**P**	**21 17 47.2**	**-0.1**
	comp=Z,12nm,0.4s,baz=195,slow=6.2,SNR=28						
	comp=Z,12nm,0.4s						
ASAR	**Alice Springs**	**94.28**	**162**	P	**P**	**21 19 15.5**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=182,slow=3.8,SNR=5.5						
	comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr**	**98.01**	**162**	P	Pdif	21 19 31.7	+1.1
	comp=Z,0.8nm,1.0s,baz=179,slow=12,SNR=2.1						
	comp=Z,0.8nm,1.0s						
PDAR	**Pinedale Array**	**123.16**	**299**	PKP	**PKiKP**	**21 24 50.8**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=152,slow=4.7,SNR=3.3						
ARCES	**ARCESS Array B**	**135.22**	**23**	PKP	**PKiKP**	**21 25 14.4**	**+0.7**
	comp=Z,4.4nm,1.0s,baz=198,slow=2.6,SNR=2.2						
MKAR	**Makanchi Array**	**137.84**	**76**	PKP	**PKiKP**	**21 25 19.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=219,slow=0.9,SNR=2.1						
YKA	**Yellowknife Ar**	**139.92**	**314**	PKP	**PKPdf**	**21 25 20.5**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=131,slow=2.2,SNR=11						
YKA				SKPbc	**SKiKP**	**21 28 58.8**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=127,slow=2.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**143.90**	**69**	PKP	**PKPdf**	**21 25 28.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=220,slow=3.8,SNR=2.0						
INK	**Inuvik**	**149.66**	**315**	PKPbc	**PKiKP**	**21 25 42.5**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=142,slow=4.2,SNR=7.1						
SONM	**Songino Array**	**150.27**	**94**	PKP	**PKPdf**	**21 25 39.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=162,slow=42,SNR=1.6						
SONM				PKPbc	**PKiKP**	**21 25 45.9**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=222,slow=3.0,SNR=5.5						
KDAK	**Kodiak Island**	**153.02**	**288**	PKPbc	**PKPbc**	**21 25 49.5**	**-0.8**
	comp=Z,7.2nm,0.7s,baz=117,slow=9.0,SNR=5.7						
ILAR	**Eielson Array**	**153.42**	**304**	PKPbc	**PKiKP**	**21 25 52.1**	**+1.0**
	comp=Z,2.1nm,1.0s,baz=147,slow=2.2,SNR=12						

*NEIC **11** 21:10:33.7±1.4,12°.27N±0°.03×141°.1E±0°.1,h10^{km}±1^{km}, mb4.5/32,Error ellipse: s-maj=17.7km s-min=4.2km az=254.0*

*IDC **11** 21:10:39.3±3.5,12°.30N×141°.17E,h66^{km}±34^{km},mb3.9/17, mbtmp4.2/18,ML4.5/1,MS3.1/5,Error ellipse: s-maj=20.8km s-min=11.5km az=79.0*

ISC 11 21:10:35.8±0.4,12°.25N±0°.07×141°.06E±0°.09,h30^{km},n56, σ0^{s}85/55,mb4.4/30,MS3.1/4,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.94**	**70**	P	**Pn**	**21 11 35.2**	**+0.9**
	33nm,0.3s,baz=236,slow=18,SNR=13						
GUMO				LR	LR	21 12 57.8	
	comp=Z,95nm,21.0s,baz=354,slow=36						
	202nm,0.5s						
FAKI	**Fak Fak**	**17.43**	**211**		**P**	**21 14 38.2**	**+0.3**
RABL	**Rabaul**	**19.72**	**145**	P	**P**	**21 15 03.9**	**+0.9**
PMG	**Port Moresby**	**22.36**	**164**	P	**P**	**21 15 30.4**	**-1.1**
PMG				IAmb	IAmb	21 15 32.8	
	comp=Z,30nm,1.4s						
JNU	**Nakatsue**	**22.77**	**337**	LR	LR	21 23 07.0	
	comp=Z,43nm,18.4s,baz=81,slow=33						
MYLDM	**Lahad Datu**	**23.36**	**254**	P	**P**	**21 15 42.8**	**+0.8**
COEN	**Coen**	**26.12**	**175**	P	**P**	**21 16 07.7**	**+0.3**
COEN				IAmb	IAmb	21 16 10.0	
	comp=Z,8.2nm,0.9s						
KNRA	**Kununurra**	**30.30**	**204**	P	**P**	**21 16 44.3**	**-0.3**
WB0	**Warramunga Arr**	**32.49**	**192**	P	**P**	**21 17 03.6**	**-0.2**
WB0				IAmb	IAmb	21 17 04.9	
	comp=Z,8.6nm,1.0s						
CTA	**Charters Tower**	**32.54**	**171**	P	**P**	**21 17 04.5**	**+0.2**
	comp=Z,5.8nm,0.8s,baz=338,slow=10.0,SNR=5.6						
	comp=Z,5.8nm,0.8s						
CTAO	**Charters Tower**	**32.54**	**171**	P	**P**	**21 17 04.3**	**0.0**
CTAO				IAmb	IAmb	21 17 05.8	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**32.67**	**192**	P	**P**	**21 17 05.0**	**-0.5**
	comp=Z,8.6nm,0.8s,baz=11,slow=9.3,SNR=40						
WRA				LR	LR	21 31 25.4	
	comp=Z,55nm,18.1s,baz=36,slow=38						
	comp=Z,8.6nm,0.8s						
WRA	**Warramunga Arr**	**32.67**	**192**	P	**P**	**21 17 05.0**	**-0.5**
AS31	**Alice Springs**	**36.38**	**191**	P	**P**	**21 17 37.7**	**+0.2**
ASAR	**Alice Springs**	**36.38**	**191**	P	**P**	**21 17 37.5**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=19,slow=12,SNR=30						
ASAR				PcP	**PcP**	**21 20 01.3**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=34,slow=3.5,SNR=4.6						
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**36.38**	**191**	P	**P**	**21 17 37.8**	**+0.3**
KLR	**Kul'dur**	**37.66**	**350**	P	**P**	**21 17 48.0**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=152,slow=9.6,SNR=8.5						
	comp=Z,2.2nm,0.8s						
CM31	**Chiang Mai Arr**	**41.01**	**284**	P	**P**	**21 18 18.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**41.01**	**284**	P	**P**	**21 18 18.3**	**+1.8**
	comp=Z,2.2nm,0.8s,baz=83,slow=6.5,SNR=16						
CMAR				LR	LR	21 33 50.5	
	comp=Z,13nm,20.0s,baz=80,slow=34						
	comp=Z,2.2nm,0.8s						
DZM	**Mont Dzumac**	**42.23**	**144**	P	**P**	**21 18 27.0**	**+0.5**
	comp=Z,5.4nm,0.6s,baz=312,slow=4.7,SNR=10						
	comp=Z,5.4nm,0.6s						
DZM	**Mont Dzumac**	**42.23**	**144**	P	**P**	**21 18 27.1**	**+0.5**
DZM				IAmb	IAmb	21 18 27.7	
	comp=Z,6.4nm,0.7s						
OUENC	**Ouen Island, N**	**42.73**	**144**	P	**P**	**21 18 31.0**	**+0.5**
PETK	**Petropavlovsk-**	**42.87**	**15**	P	**P**	**21 18 31.4**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=211,slow=8.2,SNR=1.3						
	comp=Z,3.8nm,1.0s						
STKA	**Stephens Creek**	**43.88**	**179**	P	**P**	**21 18 38.6**	**-1.0**
	comp=Z,6.9nm,0.8s,baz=360,slow=9.8,SNR=10.0						
	comp=Z,6.9nm,0.8s						
STKA	**Stephens Creek**	**43.88**	**179**	P	**P**	**21 18 39.0**	**-0.6**
ULN	**Ulaanbaatar**	**45.45**	**328**	P	**P**	**21 18 52.9**	**+0.7**
SONM	**Songino Array**	**45.77**	**328**	P	**P**	**21 18 53.2**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=131,slow=7.5,SNR=3.2						
	comp=Z,0.4nm,0.8s						
MSVF	**Nonsavu**	**47.13**	**129**	P	**P**	**21 19 05.9**	**+0.2**
	comp=Z,6.8nm,0.7s,baz=307,slow=20,SNR=9.4						
	comp=Z,6.8nm,0.7s						
MSVF	**Nonsavu**	**47.13**	**129**	P	**P**	**21 19 05.3**	**-0.4**
YAK	**Yakutsk**	**50.38**	**353**	P	**P**	**21 19 30.8**	**+0.9**
TIXI	**Tiksi**	**59.83**	**356**	P	**P**	**21 20 38.1**	**+0.2**
TIXI				IAmb	IAmb	21 20 40.0	
	comp=Z,5.4nm,1.2s						
MK31	**Makanchi Array**	**59.90**	**317**	P	**P**	**21 20 39.7**	**+0.7**
MK31				IAmb	IAmb	21 20 45.4	
	comp=Z,4.4nm,1.5s						
MKAR	**Makanchi Array**	**59.90**	**317**	P	**P**	**21 20 39.9**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=113,slow=9.0,SNR=18						
	comp=Z,0.5nm,0.4s						
MAKZ	**Makanchi**	**60.12**	**317**	P	**P**	**21 20 41.4**	**+0.9**
ZALV	**Zalesovo Beam**	**60.58**	**326**	P	**P**	**21 20 41.8**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=100,slow=6.0,SNR=2.1						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**63.24**	**321**	P	**P**	**21 21 01.6**	**+0.3**
KURK				IAmb	IAmb	21 21 20.6	
	comp=Z,6.1nm,0.9s						
NIL	**Nilore**	**64.89**	**301**	P	**P**	**21 21 13.4**	**+0.8**
NRIK	**Noril'sk**	**66.20**	**342**	P	**P**	**21 21 19.0**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=112,slow=14,SNR=3.9						
	comp=Z,2.1nm,0.6s						
GAR	**Garm**	**67.46**	**307**	P	**P**	**21 21 29.8**	**+0.6**
J20K	**Nowinta River**	**68.17**	**25**	P	**P**	**21 21 33.1**	**+0.2**
J20K				IAmb	IAmb	21 21 42.2	
	comp=Z,7.9nm,1.5s						
CHGR	**Chuyangaron**	**68.35**	**307**	P	**P**	**21 21 34.7**	**0.0**
BVAR	**Borovoye Array**	**68.69**	**322**	LR	LR	21 53 41.3	
	comp=Z,48nm,19.4s,baz=342,slow=38						
BRVK	**Borovoye**	**68.75**	**322**	P	**P**	**21 21 37.4**	**+0.6**
BRVK				IAmb	IAmb	21 21 38.1	
	comp=Z,2.4nm,0.7s						
CAST	**Castle Rocks**	**68.83**	**26**	P	**P**	**21 21 37.5**	**+0.4**
CAST				IAmb	IAmb	21 21 46.5	
	comp=Z,2.4nm,0.9s						
IMAR	**Indian Mountai**	**68.88**	**23**	P	**P**	**21 21 37.3**	**0.0**
H21K	**Melozitna Rive**	**69.16**	**24**	P	**P**	**21 21 39.4**	**+0.3**
H21K				IAmb	IAmb	21 21 44.5	
	comp=Z,4.4nm,1.3s						
H23K	**Yukon River**	**70.50**	**24**	P	**P**	**21 21 47.5**	**+0.1**
H23K				IAmb	IAmb	21 22 05.5	
	comp=Z,5.4nm,1.3s						
COLD	**Coldfoot**	**70.60**	**23**	P	**P**	**21 21 47.9**	**0.0**
COLD				IAmb	IAmb	21 21 48.7	
	comp=Z,3.2nm,1.0s						
ILAR	**Eielson Array**	**71.36**	**25**	P	**P**	**21 21 50.3**	**-2.3**
	comp=Z,0.6nm,0.8s,baz=250,slow=4.6,SNR=5.2						
	comp=Z,0.6nm,0.8s						
BMAR	**Burnt Mountain**	**72.77**	**23**	P	**P**	**21 22 02.1**	**+1.0**
HRA	**Herat**	**74.02**	**302**	P	**P**	**21 22 09.0**	**-0.3**
HRA				IAmb	IAmb	21 22 10.3	
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**75.04**	**318**	P	**P**	**21 22 13.9**	**-0.6**
ABKAR	**Akbulak array**	**75.04**	**318**	P	**P**	**21 22 14.5**	**-0.1**
INK	**Inuvik**	**77.01**	**22**	P	**P**	**21 22 24.1**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=240,slow=8.1,SNR=2.9						
	comp=Z,1.0nm,1.0s						
GEYT	**Alibeck**	**77.05**	**306**	P	**P**	**21 22 25.0**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=102,slow=2.1,SNR=2.6						
	comp=Z,0.9nm,0.5s						
ARCES	**ARCESS Array B**	**87.19**	**341**	P	**P**	**21 23 17.2**	**-1.6**
	comp=Z,2.7nm,0.9s,baz=72,slow=5.8,SNR=7.8						
	comp=Z,2.7nm,0.9s						

IDC 11 21:10:48.2±5.3,3°.74N×128°.34E,h222^{km}±55^{km},mb3.7/3, mbtmp4.1/4,MS3.6/1,Error ellipse: s-maj=150.5km s-min=28.5km az=77.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.43**	**147**	P	Pn	21 12 08.6	0.0
	7.3nm,0.3s,baz=336,slow=17,SNR=6.8						
WRA	**Warramunga Arr**	**24.26**	**166**	P	P	21 15 45.0	-0.2
	0.8nm,0.4s,baz=346,slow=10,SNR=21						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**27.77**	**169**	P	P	21 16 16.9	+0.2
	0.6nm,0.5s,baz=355,slow=7.8,SNR=19						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**58.47**	**325**	LR	LR	21 47 18.3	
	comp=Z,45nm,18.3s,baz=14,slow=38						
FINES	**FINESS Array B**	**92.58**	**332**	P	P	21 23 34.1	-0.1
	5.4nm,0.8s,baz=70,slow=5.6,SNR=17						
	5.4nm,0.8s						

*IDC **11** 21:16:40.8±1.6,6°.17S×153°.77E,h62^{km}±14^{km},mb3.4/5, mbtmp3.8/8,MS2.9/1,Error ellipse: s-maj=17.1km s-min=11.8km az=47.0*

ISC 11 21:16:39.7±0.7,6°.13S±0°.08×153°.78E±0°.07,h48^{km},n13, σ1^{s}57/15,mb3.6/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.52**	**316**	P	**Pn**	**21 17 18.4**	**+0.2**
	51nm,0.6s,baz=42,slow=0.1,SNR=6.2						
KRVT				S	**Sn**	**21 17 50.9**	**+3.2**
	104nm,0.5s,baz=127,slow=20,SNR=3.6						
HNR	**Honiara**	**6.93**	**119**	P	**Pn**	**21 18 18.4**	**-0.4**
	582nm,0.6s,baz=201,slow=11,SNR=1.8						
HNR				S	**Sn**	**21 19 39.4**	**+3.1**
	615nm,0.4s,baz=211,slow=5.7,SNR=2.1						
PMG	**Port Moresby**	**7.32**	**243**

ASAR	**Alice Springs**	**36.33 191**	P	**P**	**21 24 58.2**	**+0.5**
KLR	**Kul'dur**	**37.76 350**	P	**P**	**21 25 09.9**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=160,slow=12,SNR=5.9					
	comp=Z,2.1nm,0.8s					
CRAI	**Chiangrai**	**39.91 287**	P	**P**	**21 25 27.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.14 284**	P	**P**	**21 25 39.2**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=84,slow=7.2,SNR=13					
	comp=Z,1.5nm,0.6s					
CMAR	**Chiang Mai Arr**	**41.14 284**		**P**	**21 25 38.1**	**0.0**
STKA	**Stephens Creek**	**43.81 179**	P	**P**	**21 25 59.6**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=351,slow=10,SNR=9.1					
	comp=Z,3.3nm,0.6s					
STKA	**Stephens Creek**	**43.81 179**	P	**P**	**21 25 59.9**	**+0.4**
BBOO	**Buckleboo**	**45.00 186**	P	**P**	**21 26 09.0**	**-0.1**
SONM	**Songino Array**	**45.89 328**	P	**P**	**21 26 18.3**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=147,slow=6.4,SNR=1.6					
	comp=Z,0.5nm,0.8s					
MK31	**Makanchi Array**	**60.03 317**	P	**P**	**21 28 00.9**	**+0.5**
MK31			IAmb	IAmb	21 28 07.1	
	comp=Z,2.0nm,1.2s					
MKAR	**Makanchi Array**	**60.03 317**	P	**P**	**21 28 00.8**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=98,slow=7.3,SNR=12					
	comp=Z,0.9nm,0.7s					
ZALV	**Zalesovo Beam**	**60.70 326**	P	**P**	**21 28 04.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=114,slow=7.0,SNR=3.3					
	comp=Z,0.6nm,0.5s					
KURK	**Kurchatov**	**63.37 321**	P	**P**	**21 28 22.7**	**0.0**
KURK			IAmb	IAmb	21 28 23.5	
	comp=Z,3.9nm,0.7s					
NIL	**Nilore**	**65.03 301**	P	**P**	**21 28 34.2**	**+0.2**
NRIK	**Noril'sk**	**66.31 342**	P	**P**	**21 28 41.0**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=90,slow=7.2,SNR=1.9					
	comp=Z,2.0nm,0.6s					
BRVK	**Borovoye**	**68.88 322**	P	**P**	**21 28 57.5**	**-0.5**
BRVK			IAmb	IAmb	21 28 59.0	
	comp=Z,2.6nm,0.6s					
ILAR	**Eielson Array**	**71.38 25**	P	**P**	**21 29 11.5**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=260,slow=5.4,SNR=4.3					
	comp=Z,0.6nm,0.8s					
ABKAR	**Akbulak array**	**75.17 318**	P	**P**	**21 29 35.2**	**-0.6**
ABKAR	**Akbulak array**	**75.17 318**	P	**P**	**21 29 35.4**	**-0.4**
ABKAR			IAmb	IAmb	21 29 36.2	
	comp=Z,2.0nm,1.1s					
YKA	**Yellowknife Ar**	**85.75 27**	P	**P**	**21 30 31.6**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=285,slow=5.3,SNR=4.0					
	comp=Z,0.2nm,0.6s					
ARCES	**ARCESS Array B**	**87.29 341**	P	**P**	**21 30 39.0**	**-0.7**
	comp=Z,5.7nm,1.0s,baz=66,slow=9.0,SNR=7.0					
	comp=Z,5.7nm,1.0s					
FINES	**FINESS Array B**	**90.88 334**	P	**P**	**21 30 55.0**	**-1.7**
	comp=Z,3.6nm,0.7s,baz=69,slow=5.1,SNR=16					
	comp=Z,3.6nm,0.7s					

*IDC **11** 21:25:41.2±1.2,3˚.35N×128˚.14E, h0km, mb3.5/5, mbtmp3.5/6, ML3.1/1, Error ellipse: s-maj=113.4km s-min=18.8km az=67.0*

ISC 11 21:25:45.8±1.1, 3˚.5N±0˚.3×128˚.8E±0˚.7, h35km, n9, σ1§14/7, mb3.4/5, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.04**	**150**	Pn	**Pn**	**21 26 59.8**	**+0.8**
	0.6nm,0.3s,baz=348,slow=20,SNR=1.7						
SIJI				Sn	**Sn**	**21 27 55.0**	**-1.1**
	0.2nm,0.3s,baz=171,slow=23,SNR=1.4						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**23.96**	**167**	P	**P**	**21 30 56.4**	**-0.7**
	0.2nm,0.3s,baz=342,slow=10,SNR=12						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**27.50**	**170**	P	**P**	**21 31 30.2**	**+1.1**
	0.2nm,0.5s,baz=360,slow=8.8,SNR=4.3						
	0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**39.97**	**65**	T	T	22 17 34.6	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**39.98**	**65**	T	T	22 17 21.0	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**39.98**	**65**	T	T	22 17 18.0	
	baz=253						
SONM	**Songino Array**	**48.15**	**340**	P	**P**	**21 34 23.4**	**+0.7**
	0.2nm,0.6s,baz=156,slow=7.3,SNR=2.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.88**	**324**	P	**P**	**21 35 40.6**	**-0.6**
	0.7nm,0.5s,baz=123,slow=6.2,SNR=22						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**61.69**	**332**	P	**P**	**21 35 59.3**	**-0.9**
	0.4nm,0.4s,baz=131,slow=8.4,SNR=2.2						
	0.4nm,0.4s						

IDC 11 21:31:13.2±3.2, 12˚.26N×141˚.30E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=100.2km s-min=25.1km az=67.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.72**	**192**	P	P	21 37 47.6	-0.1
	1.1nm,0.8s,baz=12,slow=9.4,SNR=5.8						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**36.43**	**191**	P	P	21 38 20.4	+0.6
	0.3nm,0.8s,baz=22,slow=11,SNR=5.4						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.23**	**284**	P	P	21 39 00.2	-0.1
	0.7nm,0.8s,baz=90,slow=7.3,SNR=7.3						
	0.7nm,0.8s						
STKA	**Stephens Creek**	**43.88**	**180**	P	P	21 39 20.6	-0.9
	1.1nm,0.5s,baz=346,slow=12,SNR=3.5						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**60.06**	**317**	P	P	21 41 22.1	0.0
	0.3nm,0.6s,baz=98,slow=8.6,SNR=4.4						
	0.3nm,0.6s						

*IDC **11** 21:32:59.4±4.1, 12˚.26N×141˚.37E, h86km±43km, mb3.3/7, mbtmp3.6/8, Error ellipse: s-maj=35.4km s-min=18.5km az=89.0*

ISC 11 21:32:53.3±0.8, 12˚.3N±0˚.1×141˚.5E±0˚.1, h33km, n9, σ1§13/9, mb3.6/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.48**	**68**	P	**Pb**	**21 33 53.7**	**-0.5**
	56nm,0.4s,baz=211,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**32.84**	**193**	P	**P**	**21 39 23.7**	**-0.4**
	1.1nm,0.8s,baz=8.6,slow=9.1,SNR=6.9						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**36.54**	**192**	P	**P**	**21 39 56.5**	**+0.3**
	0.4nm,0.6s,baz=21,slow=12,SNR=4.3						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.45**	**284**	P	**P**	**21 40 37.0**	**-0.3**
	0.6nm,0.6s,baz=81,slow=6.7,SNR=5.1						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**43.95**	**180**	P	**P**	**21 40 57.5**	**+0.2**
	1.0nm,0.4s,baz=342,slow=9.6,SNR=3.5						
	1.0nm,0.4s						
SONM	**Songino Array**	**45.97**	**327**	P	**P**	**21 41 13.2**	**-0.2**
	0.2nm,0.5s,baz=142,slow=7.2,SNR=2.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**60.17**	**317**	P	**P**	**21 42 58.6**	**+0.7**
	0.5nm,0.8s,baz=103,slow=6.5,SNR=4.1						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**71.09**	**25**	P	**P**	**21 44 10.0**	**+1.9**
	0.3nm,0.9s,baz=243,slow=6.0,SNR=2.0						
	0.3nm,0.9s						
ARCES	**ARCESS Array B**	**87.27**	**342**	P	**P**	**21 45 34.7**	**-1.6**
	9.1nm,1.0s,baz=52,slow=5.8,SNR=3.9						

*WEL **11** 21:34:00,42˚.79S×171˚.68E, h6km, ML4.3, Mw4.1, Moment Tensor Solution. s5 Moment tensor: Scale 10^15 Nm; Mrr0.16; Mθθ0.60; Mϕϕ-0.77; Mrθ-0.63; Mθϕ-1.17; Mϕr-0.85; Fault plane solution: M0 1.63000×10^15 NP1: ϕs 341.00000°, δ64.00000°, λ-12.00000°. NP2: ϕs 76.00000°, δ79.00000°, λ-154.00000°. Principal axes: T -195.7200, Plg10.0000°, Azm206.0000°; N 129.6600, Plg61.0000°, Azm97.0000°; P 66.0700, Plg26.0000°, Azm302.0000°;*

*WEL **11** 21:34:03.8±0.3, 43˚.S±2˚×17˚.2E±˚, h3km±2km, M4.5/60, MLv4.5/60 Error ellipse: s-maj=0.0km s-min=0.0km az=77.2, confirmed*

*NEIC **11** 21:34:04.3±1.6, 42˚.78S±0˚.03×171˚.69E±0˚.05, h15km±7km, mb4.1/1, Error ellipse: s-maj=5.8km s-min=4.3km az=66.0*

*NOU **11** 21:34:06.4, 42˚.87S×171˚.76E, h62km, MLv4.5/12, South Island, New Zealand*

ISC 11 21:34:04.1±0.9, 42˚.82S±0˚.02×171˚.70E±0˚.02, h10km±7km, n128, σ1§04/137, mb5.1/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.21**	**296**		**Pg**	**21 34 08.6**	**+0.2**
INZ				Sg	**Sg**	**21 34 11.4**	**0.0**
INZ	**Inchbonnie**	**0.21**	**296**	P	**Pg**	**21 34 08.6**	**+0.2**
INZ				S	**Sg**	**21 34 11.6**	**+0.2**
CSHS	**Castle Hill**	**0.41**	**178**	P	**Pb**	**21 34 13.3**	**-0.3**
CSHS				S	**Sb**	**21 34 19.5**	**-0.4**
LTZ	**Lake Taylor**	**0.42**	**86**		**Pg**	**21 34 12.7**	**+0.3**
LTZ				Sg	**Sg**	**21 34 18.5**	**+0.6**
LTZ	**Lake Taylor**	**0.42**	**86**	P	**Pg**	**21 34 12.7**	**+0.3**
LTZ				S	**Sg**	**21 34 18.6**	**+0.6**
OXZ	**Oxford**	**0.57**	**154**		**Pb**	**21 34 16.1**	**0.0**
OXZ				Sg	**Sb**	**21 34 24.0**	**-0.2**
OXZ	**Oxford**	**0.57**	**154**	P	**Pb**	**21 34 16.1**	**0.0**
OXZ				S	**Sb**	**21 34 24.2**	**-0.1**
MHCZ	**Mount Hutt**	**0.72**	**188**	P	**Pb**	**21 34 18.9**	**+0.1**
WVZ	**Waitaha Valley**	**0.75**	**250**	P	**Pg**	**21 34 18.6**	**0.0**
WVZ				S	**Sg**	**21 34 28.5**	**+0.1**
AMCZ	**Amberley**	**0.79**	**118**		**Pb**	**21 34 20.5**	**+0.7**
AMCZ	**Amberley**	**0.79**	**118**	P	**Pb**	**21 34 20.6**	**+0.7**
RACZ	**Rakaia**	**0.97**	**161**	P	**Pn**	**21 34 23.6**	**-0.1**
RACZ				S	**Sb**	**21 34 35.8**	**+0.1**
GVZ	**Greta Valley S**	**0.99**	**99**		**Pb**	**21 34 24.1**	**+0.7**
GVZ	**Greta Valley S**	**0.99**	**99**	P	**Pb**	**21 34 24.2**	**+0.8**
RPZ	**Rata Peaks**	**1.01**	**207**	Pn	**Pn**	**21 34 24.1**	**-0.3**
RPZ	**Rata Peaks**	**1.01**	**207**	P	**Pn**	**21 34 24.0**	**-0.3**
RPZ	**Rata Peaks**	**1.01**	**207**	P	**Pn**	**21 34 24.2**	**-0.3**
DSZ	**Denniston Nort**	**1.07**	**4**	Pn	**Pg**	**21 34 23.8**	**-0.9**
DSZ	**Denniston Nort**	**1.07**	**4**	P	**Pg**	**21 34 23.8**	**-0.9**
DSZ				S	**Sg**	**21 34 37.3**	**-1.3**
GCSZ	**Gaunt Creek Bo**	**1.12**	**243**	P	**Pg**	**21 34 25.3**	**-0.4**
GCSZ				S	**Sn**	**21 34 41.0**	**-0.3**
MQZ	**McQueen's Vall**	**1.13**	**142**	Pn	**Pg**	**21 34 25.4**	**-0.5**
MQZ	**McQueen's Vall**	**1.13**	**142**	P	**Pg**	**21 34 25.5**	**-0.3**
WACZ	**Wakanui South**	**1.13**	**175**	P	**Pb**	**21 34 25.6**	**-0.1**
WACZ				S	**Sn**	**21 34 41.0**	**-0.5**
ARCZ	**Arundel**	**1.19**	**198**	P	**Pb**	**21 34 26.4**	**-0.4**
OKCZ	**Okains Bay**	**1.35**	**133**	P	**Pn**	**21 34 28.9**	**0.0**
AKCZ	**Akaroa Harbour**	**1.38**	**140**	P	**Pn**	**21 34 29.2**	**-0.2**
THZ	**Tophouse**	**1.38**	**41**		**Pn**	**21 34 28.1**	**-1.3**
THZ	**Tophouse**	**1.38**	**41**	P	**Pn**	**21 34 28.2**	**-1.3**
KHZ	**Kahutara**	**1.42**	**74**		**Pn**	**21 34 29.9**	**0.0**
KHZ	**Kahutara**	**1.42**	**74**	P	**Pn**	**21 34 30.1**	**+0.2**
KHZ	**Kahutara**	**1.42**	**74**	P	**Pn**	**21 34 30.3**	**+0.4**
FOZ	**Fox Glacier**	**1.55**	**242**		**Pn**	**21 34 32.0**	**+0.3**
FOZ	**Fox Glacier**	**1.55**	**242**	P	**Pn**	**21 34 32.1**	**+0.3**
MRNZ	**Matariki Terra**	**1.62**	**29**		**Pn**	**21 34 32.6**	**-0.1**
MRNZ	**Matariki Terra**	**1.62**	**29**	P	**Pn**	**21 34 32.8**	**+0.1**
TMZ	**Timaru**	**1.65**	**198**	P	**Pn**	**21 34 32.8**	**-0.3**
LBZ	**Lake Benmore**	**1.92**	**215**	Pn	**Pn**	**21 34 36.8**	**0.0**
LBZ	**Lake Benmore**	**1.92**	**215**	P	**Pn**	**21 34 37.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**1.96**	**56**		**Pn**	**21 34 37.6**	**+0.3**
TKNZ	**Takaka Hill**	**2.01**	**28**		**Pn**	**21 34 37.6**	**-0.5**
TKNZ	**Takaka Hill**	**2.01**	**28**	P	**Pn**	**21 34 37.9**	**-0.2**
NNZ	**Nelson**	**2.03**	**39**		**Pn**	**21 34 38.6**	**+0.4**
NNZ	**Nelson**	**2.03**	**39**	P	**Pn**	**21 34 38.7**	**+0.4**
QRZ	**Quartz Range**	**2.08**	**18**		**Pn**	**21 34 38.8**	**-0.2**
QRZ	**Quartz Range**	**2.08**	**18**	P	**Pn**	**21 34 39.1**	**0.0**
QRZ	**Quartz Range**	**2.08**	**18**	P	**Pn**	**21 34 38.6**	**-0.5**
CMWZ	**Cape Campbell**	**2.15**	**61**	P	**Pb**	**21 34 43.7**	**+0.6**
TUWZ	**Tuamarina**	**2.17**	**51**		**Pn**	**21 34 40.8**	**+0.6**
TUWZ	**Tuamarina**	**2.17**	**51**	P	**Pn**	**21 34 41.4**	**+1.2**
ODZ	**Otahua Downs**	**2.35**	**199**	Pn	**Pn**	**21 34 42.4**	**-0.4**
ODZ	**Otahua Downs**	**2.35**	**199**	P	**Pn**	**21 34 42.4**	**-0.4**
ODZ	**Otahua Downs**	**2.35**	**199**	P	**Pn**	**21 34 42.3**	**-0.4**
JCZ	**Jackson Bay**	**2.47**	**238**		**Pn**	**21 34 44.8**	**+0.4**
JCZ	**Jackson Bay**	**2.47**	**238**	P	**Pn**	**21 34 44.9**	**+0.4**
TCW	**Tory Channel**	**2.50**	**51**		**Pn**	**21 34 44.9**	**+0.1**
TCW	**Tory Channel**	**2.50**	**51**	P	**Pn**	**21 34 45.5**	**+0.7**
DUWZ	**D'Urville Isla**	**2.61**	**40**	P	**Pn**	**21 34 47.3**	**+0.9**
SNZO	**South Karori**	**2.70**	**57**		**Pn**	**21 34 47.0**	**-0.5**
SNZO	**South Karori**	**2.70**	**57**	P	**Pn**	**21 34 47.4**	**-0.1**
BHW	**Baring Head**	**2.75**	**60**		**Pn**	**21 34 46.8**	**-1.4**
WKZ	**Wanaka**	**2.79**	**223**		**Pn**	**21 34 47.9**	**-1.0**
WKZ	**Wanaka**	**2.79**	**223**	P	**Pn**	**21 34 48.1**	**-0.8**
PLWZ	**Palliser**	**2.92**	**66**		**Pn**	**21 34 48.8**	**-1.8**
EAZ	**Earnscleugh**	**2.97**	**215**	P	**Pn**	**21 34 50.2**	**-1.0**
CAW	**Cannon Point**	**3.04**	**57**	P	**Pn**	**21 34 51.9**	**-0.3**
KIW	**Kapiti Island**	**3.09**	**52**	P	**Pn**	**21 34 53.1**	**+0.1**
OGWZ	**Otaki Gorge**	**3.27**	**54**	P	**Pn**	**21 34 55.1**	**-0.3**
TUZ	**Tuapeka**	**3.47**	**205**	P	**Pn**	**21 34 57.4**	**-0.7**
TMWZ	**Te Maipa**	**3.56**	**63**	P	**Pn**	**21 34 58.3**	**-1.1**
MRZ	**Mangatainoka R**	**3.61**	**55**	Pn	**Pn**	**21 34 58.5**	**-1.6**
MRZ	**Mangatainoka R**	**3.61**	**55**	P	**Pn**	**21 34 59.3**	**-0.8**
MLZ	**Mavora Lakes**	**3.63**	**224**	Pn	**Pn**	**21 34 59.4**	**-0.9**
MLZ	**Mavora Lakes**	**3.63**	**224**	P	**Pn**	**21 34 59.9**	**-0.4**
NMEZ	**Namu Road**	**3.78**	**27**	P	**Pn**	**21 35 04.0**	**+1.7**
POWZ	**Post Office Ro**	**3.90**	**53**	P	**Pb**	**21 35 09.8**	**-3.0**
NBEZ	**Newall Road No**	**3.91**	**26**	P	**Pn**	**21 35 05.4**	**+1.3**
LREZ	**Lake Rotokare**	**3.92**	**32**	P	**Pn**	**21 35 07.5**	**+3.2**
KHEZ	**Kahui Hut**	**3.93**	**27**	P	**Pn**	**21 35 05.5**	**+1.0**
KHEZ	**Kahui Hut**	**3.93**	**27**	P	**Pn**	**21 35 05.6**	**+1.0**
WAZ	**Wanganui**	**3.94**	**40**	P	**Pn**	**21 35 06.4**	**+1.9**
NEZ	**North Egmont**	**3.98**	**28**	P	**Pn**	**21 35 06.9**	**+1.7**
PKE	**Pukeiti**	**4.01**	**26**	P	**Pn**	**21 35 06.5**	**+0.9**
BFZ	**Birch Farm**	**4.01**	**59**		**Pn**	**21 35 03.8**	**-1.8**
SYZ	**Scrubby Hill**	**4.14**	**205**	P	**Pn**	**21 35 06.6**	**-0.8**
SYZ	**Scrubby Hill**	**4.14**	**205**	P	**Pn**	**21 35 06.8**	**-0.6**
DCZ	**Deep Cove**	**4.21**	**229**		**Pn**	**21 35 06.6**	**-1.7**
DCZ	**Deep Cove**	**4.21**	**229**	P	**Pn**	**21 35 07.3**	**-0.9**
TSZ	**Takapari Road**	**4.22**	**51**	P	**Pn**	**21 35 07.2**	**-1.3**
VRZ	**Vera Road**	**4.36**	**33**	P	**Pn**	**21 35 11.8**	**+0.9**
PNHZ	**Pukenui**	**4.46**	**51**	P	**Pn**	**21 35 10.0**	**-1.7**
WNVZ	**Wahianoa**	**4.56**	**42**	P	**Pn**	**21 35 13.5**	**+0.2**
FWVZ	**Far West T-bar**	**4.60**	**41**	P	**Pn**	**21 35 15.2**	**+1.4**
BHHZ	**Black Hill Sta**	**4.68**	**46**	P	**Pn**	**21 35 13.7**	**-1.1**
NGZ	**Ngauruhoe**	**4.68**	**40**	P	**Pn**	**21 35 17.8**	**+2.8**
TWVZ	**Taurewa**	**4.69**	**38**	P	**Pn**	**21 35 16.9**	**+1.9**
OTVZ	**Oturere**	**4.72**	**41**	P	**Pn**	**21 35 16.8**	**+1.2**
NNVZ	**North Ngauruho**	**4.72**	**40**	P	**Pn**	**21 35 16.3**	**+0.7**
WTVZ	**West Tongariro**	**4.73**	**40**	P	**Pn**	**21 35 16.7**	**+1.2**
KRHZ	**Kereru**	**4.74**	**50**	P	**Pn**	**21 35 14.4**	**-1.2**
KRVZ	**Karewarewa**	**4.77**	**40**	P	**Pn**	**21 35 16.5**	**+0.4**
ETVZ	**East Tongariro**	**4.77**	**41**	P	**Pn**	**21 35 17.0**	**+0.9**
TMVZ	**Te Maari**	**4.78**	**41**	P	**Pn**	**21 35 17.8**	**+1.6**
APZ	**The Paps**	**4.80**	**212**	P	**Pn**	**21 35 15.0**	**-1.5**
KATZ	**Kakaramea**	**4.89**	**40**	P	Pn	21 35 22.9	+5.1
KWHZ	**Kaweka Forest**	**4.92**	**48**	P	**Pn**	**21 35 20.2**	**+2.1**
HIZ	**Hauiti**	**4.92**	**30**	Pn	**Pn**	**21 35 17.4**	**-1.3**
HIZ	**Hauiti**	**4.92**	**30**	P	**Pn**	**21 35 17.6**	**-0.8**
HIZ	**Hauiti**	**4.92**	**30**	P	**Pn**	**21 35 17.5**	**-0.5**
KAHZ	**Kahuranaki**	**4.93**	**54**	P	**Pn**	**21 35 16.3**	**-2.0**
RITZ	**Rihia Road**	**4.96**	**41**	P	Pn	21 35 25.9	+7.2
RATZ	**Rangitukua**	**5.01**	**39**	P	**Pn**	**21 35 22.5**	**+3.1**
BKZ	**Black Stump Fm**	**5.14**	**46**	Pn	**Pn**	**21 35 18.6**	**-2.6**
BKZ	**Black Stump Fm**	**5.14**	**46**	P	**Pn**	**21 35 21.1**	**-0.1**
	149nm,0.8s						
BKZ	**Black Stump Fm**	**5.14**	**46**	P	**Pn**	**21 35 21.4**	**+0.2**
TLZ	**Tolley Road**	**5.35**	**34**	P	**Pn**	**21 35 24.4**	**+0.4**
TOZ	**Tahuroa Road**	**5.85**	**31**	P	**Pn**	**21 35 30.1**	**-0.7**
URZ	**Urewera**	**6.14**	**44**	P	**Pn**	**21 35 33.5**	**-1.3**
	36nm,0.6s						
AWAZ	**Awhitu Peninsu**	**6.17**	**22**	P	**Pn**	**21 35 36.0**	**+0.7**
MKAZ	**Moumakai**	**6.29**	**26**	P	**Pn**	**21 35 37.1**	**+0.2**
MBAZ	**Motutapu North**	**6.52**	**23**	P	**Pn**	**21 35 40.7**	**+0.6**
TWGZ	**Tauwhareparae**	**6.66**	**48**	P	**Pn**	**21 35 41.9**	**-0.1**
OUZ	**Omahuta**	**7.73**	**12**	Pn	**Pn**	**21 35 56.0**	**-0.6**
OUZ	**Omahuta**	**7.73**	**12**	P	**Pn**	**21 35 57.1**	**+0.5**
	41nm,0.5s						
ASAR	**Alice Springs**	**36.54**	**289**	P	**P**	**21 41 08.7**	**-1.2**
WB0	**Warramunga Arr**	**38.84**	**294**	P	**P**	**21 41 29.1**	**-0.3**
WB0				IAmb	IAmb	21 41 35.0	
	comp=Z,5.4nm,1.2s						
PZH	**PanZhiHua**	**94.28**	**302**	P	**P**	**21 47 26.0**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
BJI	**Beijing**	**96.56**	**320**	P	P	21 47 42.8	+9.3
BJI				pmax	pmax		
	comp=Z,11nm,1.2s						
LZH	**Lanzhou**	**99.93**	**310**	*e*P	**Pdif**	**21 47 50.6**	**+1.5**
LZH				sP	sP	21 47 59.4	+5.3
LZH				pmax	pmax		
	comp=Z,5.0nm,1.3s						

*IDC **11** 21:41:03.0±0.5, 12˚.34N×141˚.27E, h0km, mb4.6/23, mbtmp4.6/26, ML4.3/3, MS3.6/17, Error ellipse:*

s-maj=22.1km s-min=9.8km az=71.0

*MOS **11** 21:41:06.3±0.9, 12˚.27N×141˚.13E, h32km, mb5.2/34, Error ellipse: s-maj=11.1km s-min=5.6km az=121.0*

*BJI **11** 21:41:07.2±0.0, 12˚.30N×141˚.20E, h40km, mb4.7/59, mB5.2/29, Ms4.5/11, Ms7 4.3/13*

*NEIC **11** 21:41:07.1±1.0, 12˚.26N±0˚.08×141˚.15E±0˚.09, h21km±5km, mb5.0/83, Error ellipse: s-maj=12.9km s-min=11.6km az=123.0*

*DJA **11** 21:41:09.4±1.3, 12˚N±4˚×14˚1E±˚, h31km±11km, M4.9/18, mb4.8/18, mB5.5/6, MLv4.9/1, Mw(mB)4.9/6, MwMwp5.8/1, Mwp5.9/1*

ISC 11 21:41:08.1±0.3, 12˚.27N±0˚.04×141˚.11E±0˚.05, h30km, n295, σ1§18/298, mb4.9/91, MS3.8/19, 17C-6D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.90**	**70**	Pn	**Pn**	**21 42 05.8**	**-0.2**
	27nm,0.3s,baz=245,slow=17,SNR=16						
GUMO				Sn	**Sn**	**21 42 50.0**	**-0.8**
	14nm,0.3s,baz=209,slow=19,SNR=1.2						
GUMO				LR	LR	21 43 28.7	
	comp=Z,901nm,19.8s,baz=244,slow=39						
GUMO	**Guam**	**3.90**	**70**	Pn	**Pn**	**21 42 05.6**	**-0.4**
GUMO	**Guam**	**3.90**	**70**	P	**Pn**	**21 42 07.8**	**+1.8**
GUMO	**Guam**	**3.90**	**70**	P	**Pn**	**21 42 05.6**	**-0.4**
SMPI	**Sarmi**	**14.36**	**190**	P	**Pn**	**21 44 31.9**	**+2.4**
	71nm,1.5s						
GENI	**Genyem**	**14.79**	**184**	P	**P**	**21 44 43.3**	**+2.4**
	55nm,0.8s						
JCJ	**Chichijima**	**14.79**	**4**	LR	LR	21 49 31.1	
	comp=Z,152nm,18.1s,baz=86,slow=34						
MANU	**Manus Island**	**15.52**	**156**		**Pn**	**21 44 43.4**	**-1.5**
MANU				IAmb	IAmb	21 44 51.3	
	comp=Z,78nm,1.4s						
MANU	**Manus Island**	**15.52**	**156**	P	**P**	**21 44 49.7**	**+0.7**
DAV	**Davao City (W)**	**16.15**	**253**	LR	LR	21 50 15.4	
	comp=Z,52nm,20.8s,baz=22,slow=34						
SWI	**Sorong**	**16.30**	**218**	P	**P**	**21 44 57.5**	**-0.2**
	comp=Z,24nm,1.2s						
SIJI	**Sorong**	**16.30**	**217**	Pn	**Pn**	**21 44 55.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=99,slow=19,SNR=1.6						
SIJI				LR	LR	21 50 14.3	
	comp=Z,126nm,20.9s,baz=72,slow=34						
	comp=Z,3.5nm,0.7s						
FAKI	**Fak Fak**	**17.46**	**211**	P	**P**	**21 45 15.6**	**+5.0**
FAKI	**Fak Fak**	**17.46**	**211**	P	**P**	**21 45 11.8**	**+1.2**
	comp=Z,36nm,0.7s,comp=Z,2μm						
JOW	**Kunigami**	**18.85**	**322**	P	**P**	**21 45 25.4**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=78,slow=26,SNR=1.4						
JOW				LR	LR	21 50 54.4	
	comp=Z,270nm,21.6s,baz=137,slow=31						
	comp=Z,15nm,0.7s						
JOW	**Kunigami**	**18.85**	**322**	P	**P**	**21 45 25.8**	**+0.1**
MSAI	**Masohi**	**19.67**	**219**	P	**Pn**	**21 45 36.5**	**+0.1**
	comp=Z,37nm,0.8s,comp=Z,2μm						
RABL	**Rabaul**	**19.70**	**145**	P	**Pn**	**21 45 36.4**	**-0.4**
RABL				IAmb	IAmb	21 45 41.6	
	comp=Z,148nm,1.1s						
RABL	**Rabaul**	**19.70**	**145**	P	**Pn**	**21 45 38.2**	**+1.4**
KRVT	**Keravat (AS076**	**19.72**	**146**	P	**P**	**21 45 32.5**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=285,slow=18,SNR=1.7						
KRVT				LR	LR	21 53 22.4	
	comp=Z,343nm,18.3s,baz=102,sl

comp=Z,33nm,0.9s
WRAB Tennant Creek 32.68 192 P P 21 47 37.6 -0.3
WRAB Tennant Creek 32.68 192 *ce*P **P 21 47 38.0 +0.1**
WRAB pmax pmax
comp=Z,37nm,1.0s
WB2 Warramunga Arr 32.69 192 P P 21 47 37.1 -0.8
WRA Warramunga Arr 32.69 192 P P 21 47 37.4 -0.6
comp=Z,23nm,0.9s,baz=11,slow=9.4,SNR=86
WRA LR LR 22 00 58.4
comp=Z,162nm,18.9s,baz=336,slow=36
comp=Z,23nm,0.9s
WRA Warramunga Arr 32.69 192 P P 21 47 37.1 -0.9
WRA Warramunga Arr 32.69 192 P **P 21 47 37.1 -0.9**
WRA pmax pmax
comp=Z,2.0nm,1.0s
USRK Ussuriysk Ar. 32.77 348 LR LR 21 59 49.5
comp=Z,137nm,19.0s,baz=161,slow=34
FITZ Fitzroy Crossi 33.81 207 P **P 21 47 46.8 -0.9**
LYN LuoYang 34.18 315⇑ *i*P **P 21 47 51.4 +0.5**
LYN pP pwP 21 48 03.4 +0.8
LYN pmax pmax
comp=Z,20nm,1.3s
LYN LR LR
comp=Z,350nm,19.9s
LYN LR LR
comp=Z,250nm,15.7s
LYN LR LR
comp=Z,320nm,17.1s
CN2 Changchun 34.20 340 *e*P **P 21 47 54.8 +3.9**
CN2 *e*S **S 21 53 14.3 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,2.4s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
ENH Enshi 34.31 306 P **P 21 47 52.3 +0.1**
HNS HongShan 34.42 321⇑ P **P 21 47 52.9 0.0**
HNS pmax pmax
comp=Z,21nm,1.2s
GYA Guiyang 35.30 299⇓ P **P 21 48 02.6 +1.8**
GYA pmax pmax
comp=Z,14nm,1.2s
BJT Baijiatuau 35.33 326 P **P 21 48 00.4 -0.3**
BJT lAmb lAmb 21 48 02.1
comp=Z,38nm,1.3s
BJT Baijiatuau 35.33 326 P **P 21 48 00.4 -0.3**
BJT pmax pmax
comp=Z,38nm,1.3s
BNX BinXian 35.34 343⇑ P **P 21 48 00.4 -0.3**
BNX pmax pmax
comp=Z,14nm,1.3s
BNX pmax pmax
comp=Z,210nm,4.4s
AS31 Alice Springs 36.40 191 P **P 21 48 09.3 -0.7**
ASAR Alice Springs 36.40 191 P **P 21 48 09.8 -0.2**
comp=Z,3.3nm,0.9s,baz=22,slow=11,SNR=29
ASAR LR LR 22 02 34.1
comp=Z,148nm,19.7s,baz=319,slow=35
comp=Z,3.3nm,0.9s
ASAR Alice Springs 36.40 191 P **P 21 48 09.5 -0.6**
ASAR Alice Springs 36.40 191 P **P 21 48 09.5 -0.6**
XAN Xi'an 36.43 312⇓ *i*P **P 21 48 10.5 +0.2**
XAN pP pP 21 48 18.3 -0.1
XAN sP pwP 21 48 21.8 0.0
XAN pmax pmax
comp=Z,14nm,1.3s
KLR Kul'dur 37.66 350 P **P 21 48 20.6 +0.1**
comp=Z,16nm,0.9s,baz=148,slow=11,SNR=37
KLR LR LR 22 01 42.9
comp=Z,130nm,20.6s,baz=190,slow=33
comp=Z,16nm,0.9s
KLR Kul'dur 37.66 350 *ce*P **P 21 48 21.2 +0.7**
KLR pmax pmax
comp=Z,41nm,1.7s
KMI Kunming 38.38 295⇓ P **P 21 48 29.4 +2.2**
KMI pP sP 21 48 38.7 +0.6
KMI S **S 21 54 23.9 +3.4**
KMI pmax pmax
comp=Z,9.0nm,0.8s
KMI LR LR
comp=Z,300nm,13.3s
KMI LR LR
comp=Z,180nm,6.9s
KMI LR LR
comp=Z,240nm,11.3s
HHC Hu-ho-hao-te 38.50 323 *e*P **P 21 48 28.6 +0.8**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,330nm,6.0s
CD2 Chengdu 39.12 304 P **P 21 48 33.5 +0.3**
BTO Baotou 39.27 322 *e*P **P 21 48 36.2 +1.9**
HEH HeiHe 39.51 346 *e*P **P 21 48 35.9 -0.1**
HEH pmax pmax
comp=Z,35nm,0.9s
PZH PanZhiHua 39.57 297 P **P 21 48 38.1 +1.1**
PZH pmax pmax
comp=Z,10.0nm,1.7s
PZH pmax pmax
comp=Z,130nm,6.3s
PSA00 Pilbara Seismi 39.58 212 P **P 21 48 35.6 -1.3**
KOUNC Koumac, New Ca 39.79 145 P **P 21 48 38.5 -0.1**
CRAI Chiangrai 39.81 287 P **P 21 48 39.4 +0.4**
PHRA Phrae 39.83 284 P **P 21 48 38.5 -0.6**
IPM Ipoh 40.36 262 P **P 21 48 42.6 -1.0**
KULM Kulim 40.54 264 P **P 21 48 45.0 -0.1**
KULM lAmb lAmb 21 49 00.5
comp=Z,33nm,1.6s
CM31 Chiang Mai Arr 41.05 284 P **P 21 48 50.0 +0.7**
CM31 lAmb lAmb 21 48 52.7
comp=Z,44nm,1.3s
CMAR Chiang Mai Arr 41.05 284 P **P 21 48 50.5 +1.3**
comp=Z,18nm,1.1s,baz=85,slow=6.1,SNR=65
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 41.05 284 P **P 21 48 50.4 +1.2**
CMAR Chiang Mai Arr 41.05 284 P **P 21 48 50.4 +1.2**
CHTO Chiang Mai 41.06 285 P **P 21 48 49.8 +0.5**
CHTO Chiang Mai 41.06 285 P **P 21 48 49.8 +0.5**
CHTO pmax pmax
comp=Z,13nm,1.5s
LZH Lanzhou 41.07 312 *e*P **P 21 48 50.4 +1.1**
LZH pP pwP 21 49 03.6 +2.6
LZH sP sP 21 49 08.0 +7.3
LZH pmax pmax
comp=Z,13nm,1.3s
LZH LR LR
comp=Z,190nm,14.8s
LZH LR LR
comp=Z,250nm,11.7s
LZH LR LR
comp=Z,270nm,12.7s
LIFNC LIFOU 41.69 142 P **P 21 48 53.2 -1.1**
LIFNC lAmb lAmb 21 49 33.2
comp=Z,29nm,1.0s
TNCH TengChong 42.12 294 P **P 21 48 59.0 +0.8**
TNCH pP pwP 21 49 13.6 +2.8
TNCH S **S 21 55 16.8 +0.4**
TNCH sS sS 21 55 36.7 +7.1
TNCH SS **SS 21 58 17.7 -6.9**
TNCH pmax pmax
comp=Z,18nm,1.2s
TNCH pmax pmax
comp=Z,170nm,4.2s
TNCH LR LR
comp=Z,120nm,9.3s
TNCH LR LR
comp=Z,90nm,8.2s
TNCH LR LR
comp=Z,200nm,17.7s
DZM Mont Dzumac 42.22 144 P **P 21 48 59.3 +0.6**
comp=Z,18nm,0.9s,baz=315,slow=17,SNR=16
comp=Z,18nm,0.9s
DZM Mont Dzumac 42.22 144 P **P 21 48 58.9 +0.2**
DZM lAmb lAmb 21 49 00.9
comp=Z,30nm,1.1s
OUENC Ouen Island, N 42.72 144 P **P 21 49 02.6 -0.1**
PSI Prapat 42.80 261 P **P 21 49 03.3 -0.4**
PSI pmax pmax
comp=Z,8.0nm,0.8s
RPSI Rantau Prapat 42.83 261 P **P 21 49 03.3 -0.5**
STKA Stephens Creek 43.89 179 P **P 21 49 11.3 -0.7**
comp=Z,13nm,0.7s,baz=352,slow=8.2,SNR=25
comp=Z,13nm,0.7s
STKA Stephens Creek 43.89 179 P **P 21 49 10.8 -1.2**
STKA Stephens Creek 43.89 179 *i*P **P 21 49 11.9 -0.1**
FORT Forrest 44.60 196 P **P 21 49 16.8 -0.9**
BBOO Buckleboo 45.08 186 P **P 21 49 21.0 -0.5**
GTA Gaotai 45.38 314⇑ P **P 21 49 24.6 +0.5**
GTA pP pwP 21 49 37.0 +1.2
GTA sP sP 21 49 41.5 +6.0
GTA PP **PP 21 51 13.7 +3.2**
GTA pmax pmax
comp=Z,16nm,1.3s
GTA pmax pmax
comp=Z,160nm,4.7s
ULN Ulaanbaatar 45.46 328 P **P 21 49 24.6 -0.1**
ULN lAmb lAmb 21 49 26.7
comp=Z,15nm,1.1s
ULN Ulaanbaatar 45.46 328 *ce*P **P 21 49 25.3 +0.7**
ULN pmax pmax
comp=Z,27nm,1.7s
SONM Songino Array 45.79 328 P **P 21 49 27.7 +0.6**
comp=Z,5.0nm,1.1s,baz=136,slow=9.4,SNR=26
SONM PcP **PcP 21 51 03.6 -0.9**
comp=Z,0.7nm,0.6s,baz=144,slow=2.7,SNR=1.9
comp=Z,5.0nm,1.1s
SONM Songino Array 45.79 328 P **P 21 49 27.8 +0.6**
SONM lAmb lAmb 21 49 29.4
comp=Z,19nm,1.4s
MSVF Nonsavu 47.11 129 P **P 21 49 38.1 +0.3**
comp=Z,24nm,0.9s,baz=288,slow=6.1,SNR=25
comp=Z,24nm,0.9s
MSVF Nonsavu 47.11 129 P **P 21 49 37.0 -0.8**
MSVF Nonsavu 47.11 129 P **P 21 49 37.0 -0.8**
MSVF pmax pmax
comp=Z,26nm,0.8s
MORW Morawa 47.69 210 P **P 21 49 42.0 -0.2**
GOMU GeErMu 47.90 308 P **P 21 49 45.0 +0.8**
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU pmax pmax
comp=Z,160nm,4.7s
SHL Shillong 48.15 293 P **P 21 49 45.5 -0.5**
SHL Shillong 48.15 293 P **P 21 49 45.5 -0.5**
SHL pmax pmax
comp=Z,26nm,0.4s
ZAK Zakamensk 48.97 329 *e*P **P 21 49 52.2 +0.3**
ZAK pmax pmax
comp=Z,28nm,1.2s
LSA Lhasa 49.37 299 P **P 21 49 55.7 0.0**
LSA lAmb lAmb 21 49 58.3
comp=Z,27nm,1.6s
LSA Lhasa 49.37 299 P **P 21 49 55.7 0.0**
LSA pmax pmax
comp=Z,27nm,1.6s
TOO Toolangi 49.74 175 P **P 21 49 58.5 +0.7**
TOO lAmb lAmb 21 50 16.5
comp=Z,29nm,1.4s
TOO Toolangi 49.74 175 P **P 21 49 58.5 +0.7**
TOO pmax pmax
comp=Z,29nm,1.4s
BOD Bodaibo 49.91 341 *e*P **P 21 49 58.1 -0.7**
BOD pmax pmax
comp=Z,13nm,1.2s
YAK Yakutsk 50.37 353 P **P 21 50 01.9 -0.2**
YAK Yakutsk 50.37 353 *e*P **P 21 50 02.5 +0.3**
YAK *e* 21 51 52.4
YAK *e*S **S 21 57 17.6 +4.5**
YAK *e**SS sS 21 57 35.6 +9.2
YAK *e*SSS SSS 22 02 12.9
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,224nm,4.2s
YAK pmax pmax
comp=Z,403nm,4.6s
YAK pmax pmax
comp=E,433nm,4.8s
YAK smax smax
comp=N,311nm,4.3s
YAK smax smax
comp=E,403nm,3.7s
MOY Mondy 50.90 329 *e*P **P 21 50 07.0 +0.5**
MOY pmax pmax
comp=Z,30nm,1.4s
SEY Seymchan 51.23 7 *ce*P **P 21 50 10.8 +2.2**
TAPN Taplejung 52.05 295 *e*P **P 21 50 16.2 +0.4**
comp=Z,50nm,1.3s
ODAN Odare 52.29 294 *e*P **P 21 50 17.8 +0.3**
comp=Z,6.3nm,1.5s
RAMN Ramite 53.00 295 *e*P **P 21 50 23.1 +0.3**
JIRN Jiri 53.43 295 *e*P **P 21 50 26.5 +0.4**
PKI Pulchoki 54.11 295 *e*P **P 21 50 30.9 -0.1**
comp=Z,77nm,1.4s
PKIN Phulchoki 54.12 295 *e*P **P 21 50 30.9 -0.1**
KKN Kakani 54.24 295 *e*P **P 21 50 32.0 +0.2**
DMN Daman 54.38 295 *e*P **P 21 50 33.1 +0.2**
GKN Gorkha 54.83 296 *e*P **P 21 50 36.1 +0.1**
WMQ Urumqi 55.43 315⇓ P **P 21 50 41.3 +1.3**
WMQ pP pwP 21 50 53.4 +1.6
WMQ pmax pmax
comp=Z,25nm,1.5s
WMQ pmax pmax
comp=Z,330nm,5.9s
WMQ LR LR
comp=Z,120nm,16.1s
DANN Dangsing 55.63 296 *e*P **P 21 50 42.1 +0.2**
comp=Z,125nm,1.4s
KOLN Koldanda 55.73 295 *e*P **P 21 50 42.7 +0.2**
comp=Z,13nm,1.7s
DGZ Jazzator, Alta 57.55 322⇓ *i*P **P 21 50 56.6 +1.5**
DGZ pmax pmax
comp=Z,14nm,1.2s
BILL Bilibino 58.11 11 P **P 21 50 58.0 -0.4**
BILL lAmb lAmb 21 51 00.9
comp=Z,9.7nm,1.0s
BILL Bilibino 58.11 11⇑ *e*P **P 21 50 58.5 +0.1**
BILL *e* 21 51 46.1
BILL *e* 21 53 03.7
BILL pmax pmax
comp=Z,20nm,1.7s
BILL MLR MLR
comp=Z,111nm,16.0s
ZSN Zaisan 58.42 319 *e*P **P 21 51 00.9 -0.1**
baz=318
ZSN Zaisan 58.42 319 *e*P **P 21 51 00.9 -0.1**
TIXI Tiksi 59.82 356 P **P 21 51 09.2 -1.0**
TIXI Tiksi 59.82 356 *ce*P **P 21 51 10.3 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 59.93 317 P **P 21 51 11.3 -0.2**
MK31 lAmb lAmb 21 51 13.4
comp=Z,18nm,1.2s
MK31 Makanchi Array 59.93 317⇓ *e*P **P 21 51 11.8 +0.3**
MKAR Makanchi Array 59.93 317 P **P 21 51 11.9 +0.4**
comp=Z,11nm,1.0s,baz=97,slow=7.1,SNR=62
comp=Z,11nm,1.0s
MKAR Makanchi Array 59.93 317 P **P 21 51 11.5 0.0**
MKAR Makanchi Array 59.93 317 P **P 21 51 11.5 0.0**
MAKZ Makanchi 60.14 317 P **P 21 51 12.6 -0.4**
MAKZ lAmb lAmb 21 51 14.9
comp=Z,25nm,1.2s
MAKZ Makanchi 60.14 317 P **P 21 51 12.6 -0.4**
MAKZ pmax pmax
comp=Z,25nm,1.2s
ZAA0 Zalesovo Array 60.60 326 P **P 21 51 15.0 -0.9**
ZAA0 lAmb lAmb 21 51 17.0
comp=Z,25nm,1.6s
ZALV Zalesovo Beam 60.60 326 P **P 21 51 15.4 -0.5**
comp=Z,3.0nm,0.6s,baz=110,slow=6.4,SNR=19
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 60.60 326 P **P 21 51 14.8 -1.1**
ZALV Zalesovo Beam 60.60 326 P **P 21 51 14.8 -1.1**
SHLS Shalkode 61.08 313 *e*P **P 21 51 17.6 -1.9**
baz=313
SHLS Shalkode 61.08 313 *e*P **P 21 51 17.6 -1.9**
UZB Uzynbulak 61.40 313 *e*P **P 21 51 21.6 -0.1**
baz=313
UZB Uzynbulak 61.40 313 *e*P **P 21 51 21.6 -0.1**
KPKS Kokpek 61.69 313 *e*P **P 21 51 23.6 -0.2**
comp=Z,11nm,1.5s,baz=313
KPKS Kokpek 61.69 313 *e*P **P 21 51 23.5 -0.2**
KPKS pmax pmax
comp=Z,11nm,1.5s
SATY Saty 61.82 312 *e*P **P 21 51 24.4 -0.2**
comp=Z,11nm,1.3s,baz=312
SATY Saty 61.82 312 *e*P **P 21 51 24.4 -0.2**
SATY pmax pmax
comp=Z,11nm,1.3s
TDK Taldyqorghan 62.17 315 *e*P **P 21 51 26.9 +0.1**
comp=Z,15nm,0.9s,baz=314
TDK Taldyqorghan 62.17 315 *e*P **P 21 51 26.8 +0.1**
TDK pmax pmax
comp=Z,15nm,0.9s
TNSS Tian-Shan 62.88 312 *e*P **P 21 51 31.8 -0.2**
baz=312
TNSS Tian-Shan 62.88 312 *e*P **P 21 51 31.8 -0.2**
AAA Alma-Ata 62.92 312 *e*P **P 21 51 32.4 +0.5**
comp=Z,13nm,1.1s,baz=312
AAA Alma-Ata 62.92 312 *e*P **P 21 51 32.4 +0.5**
AAA pmax pmax
comp=Z,13nm,1.1s
CHKK Chushkaly 62.97 313 *e*P **P 21 51 31.7 -0.4**
baz=313
CHKK Chushkaly 62.97 313 *e*P **P 21 51 31.7 -0.4**
KSH Kashi 63.15 308 P **P 21 51 37.1 +3.6**
KSH pP pwP 21 51 46.7 -1.0
KSH pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 63.26 321 P **P 21 51 33.8 0.0**
KURK Kurchatov 63.26 321 *ce*P **P 21 51 34.3 +0.5**
KURK pmax pmax
comp=Z,54nm,1.3s
KURBB Kurchatov Arra 63.29 321 P **P 21 51 34.0 0.0**
comp=Z,13nm,0.7s,baz=105,slow=6.8,SNR=96
comp=Z,13nm,0.7s
KUU Kurty 63.44 313 *e*P **P 21 51 35.0 -0.3**
comp=Z,22nm,1.2s,baz=313
KUU Kurty 63.44 313 *e*P **P 21 51 34.9 -0.3**
KUU pmax pmax
comp=Z,22nm,1.2s
TKM2 Tokmak 2 63.84 312 P **P 21 51 39.1 +0.9**
SNR=6.7
UCH Uchtor 64.55 311 P **P 21 51 44.7 +1.6**
SNR=16
AAK Ala-Archa 64.61 311 P **P 21 51 43.0 -0.1**
AAK Ala-Archa 64.61 311 *ce*P **P 21 51 45.0 +1.9**
AAK pmax pmax
comp=Z,4.0nm,1.3s
SGDS Sogindy 64.61 312 *e*P **P 21 51 42.2 -0.8**
baz=312
SGDS Sogindy 64.61 312 *e*P **P 21 51 42.2 -0.8**
USP Ospenovka 64.68 312 P **P 21 51 43.8 +0.3**
SNR=5.8
P16K Nushagak River 64.76 30 P **P 21 51 44.2 +0.7**
baz=251
O16K Kokwok River B 64.89 29 P **P 21 51 45.1 +0.7**
baz=250
NIL Nilore 64.93 301 P **P 21 51 45.2 0.0**
NIL Nilore 64.93 301 P **P 21 51 45.2 0.0**
NIL pmax pmax
comp=Z,43nm,1.1s
EKS2 Erkin-Say 65.14 311 P **P 21 51 47.1 +0.6**
SNR=5.1
AML Almayashu 65.14 311 P **P 21 51 48.4 +1.5**
SNR=8.0
BTLS Baital 65.23 314 *e*P **P 21 51 46.6 -0.3**
baz=314
BTLS Baital 65.23 314 *e*P **P 21 51 46.6 -0.3**
O17K Koliganek Bris 65.43 29 P **P 21 51 48.2 +0.3**
baz=251
NRIK Noril'sk 66.21 342 P **P 21 51 52.7 -0.1**
comp=Z,11nm,0.8s,baz=115,slow=6.6,SNR=14
comp=Z,11nm,0.8s
NRIK Noril'sk 66.21 342 P **P 21 51 52.6 -0.1**
NRIK lAmb lAmb 21 51 54.6
comp=Z,23nm,1.1s
NRIK Noril'sk 66.21 342 *ce*P **P 21 51 53.1 +0.4**
NRIK pmax pmax
comp=Z,34nm,1.4s
DZA Taraz 66.95 311 *e*P **P 21 51 58.0 -0.1**
baz=312
DZA Taraz 66.95 311 *e*P **P 21 51 58.0 -0.1**
N19K Bonanza Creek 66.99 29 P **P 21 51 58.9 +0.9**
N19K lAmb lAmb 21 52 17.2
comp=Z,20nm,1.4s
L19K White Mountain 67.22 27 P **P 21 51 59.4 0.0**
L19K lAmb lAmb 21 52 00.8
comp=Z,9.0nm,1.1s
L19K White Mountain 67.22 27 P **P 21 52 00.3 +0.9**
baz=252
GAR Garm 67.48 307 P **P 21 52 01.4 -0.2**
KK31 Karatay Array 67.57 312 P **P 21 52 01.4 -0.5**
KK31 lAmb lAmb 21 52 03.3
comp=Z,11nm,1.2s
KK31 Karatay Array 67.57 312 P **P 21 52 01.4 -0.5**
KK31 pmax pmax
comp=Z,11nm,1.2s
KKAR Karatay Array 67.57 312 P **P 21 52 01.4 -0.5**
KKAR Karatay Array 67.57 312 P **P 21 52 01.5 -0.5**
IUG Iuzhnay 67.86 311 *e*P **P 21 52 03.5 -0.4**
baz=311
IUG Iuzhnay 67.86 311 *e*P **P 21 52 03.5 -0.4**
J20K Nowinta River 68.14 25 P **P 21 52 05.8 +0.7**
baz=252
CHGR Chuyangaron 68.38 307 P **P 21 52 06.7 -0.5**
CHGR Chuyangaron 68.38 307 P **P 21 52 06.7 -0.5**
CHGR pmax pmax
comp=Z,57nm,1.4s
BRVK Borovoye 68.77 322 P **P 21 52 09.3 +0.1**
BRVK lAmb lAmb 21 52 10.7
comp=Z,20nm,1.1s
BRVK Borovoye 68.77 322 *ce*P **P 21 52 09.8 +0.6**
BRVK pmax pmax
comp=Z,37nm,1.7s
CAST Castle Rocks 68.80 26 P **P 21 52 08.5 -0.7**
CAST Castle Rocks 68.80 26 P **P 21 52 09.5 +0.2**
baz=254
IMAR Indian Mountai 68.86 23 P **P 21 52 09.6 +0.1**
H21K Melozitna Rive 69.13 24 P **P 21 52 11.9 +0.6**
baz=253
RC01 Rabbit Creek A 69.30 29 P **P 21 52 12.1 -0.3**
baz=258
I21K Tanana 69.32 25 P **P 21 52 13.1 +0.7**
baz=254
KTH Kantishna Hill 69.34 26 P **P 21 52 12.5 -0.1**
KTH lAmb lAmb 21 52 23.7
comp=Z,17nm,1.6s
MLY Manley 69.79 25 P **P 21 52 15.1 -0.3**
MLY Manley 69.79 25 P **P 21 52 15.8 +0.4**
baz=255
F22K John River 69.91 22 P **P 21 52 17.0 +1.0**
baz=253
PWL Port Wells 69.92 29 P **P 21 52 15.8 -0.4**
baz=259
WAT1 Susitna Watana 70.22 27 P **P 21 52 17.2 -0.8**
baz=258
I23K Minto, Yukon-K 70.38 25 P **P 21 52 19.5 +0.6**
baz=256
H23K Yukon River 70.47 24 P **P 21 52 20.2 +0.7**
baz=256
G23K Bananza Creek 70.50 23 P **P 21 52 20.5 +0.8**
baz=255
WAT6 Susitna Watana 70.53 28 P **P 21 52 19.5 -0.7**
baz=259
D23K Nanushuk River 70.86 21 P **P 21 52 23.1 +1.3**
baz=254
E23K Chandalar 71.00 22 P **P 21 52 24.0 +1.2**
baz=255
KLU Klutina 71.19 29 P **P 21 52 24.3 +0.2**
baz=261
IL31 71.33 25 P **P 21 52 23.7 -1.0**
ILAR Eielson Array 71.33 25 P **P 21 52 22.1 -2.6**
comp=Z,1.2nm,0.8s,baz=246,slow=5.2,SNR=10
comp=Z,1.2nm,0.8s
ILAR Eielson Array 71.33 25 P **P 21 52 23.1 -1.6**
E24K Your Creek 71.42 22 P **P 21 52 25.9 +0.7**
baz=256
F24K Squaw Lake 71.51 23 P **P 21 52 26.7 +0.9**
baz=257
D24K Happy Valley 71.56 21 P **P 21 52 27.1 +1.1**
baz=256
K24K Donnelly Dome 71.63 27 P **P 21 52 26.7 +0.1**
baz=260
HARP HAARP 71.68 28 P **P 21 52 27.7 +0.8**
baz=261
C24K Franklin Bluff 71.74 20 P **P 21 52 27.7 +0.6**
baz=256

F25K	**Christian Rive**	**72.37**	**23**	P		**P**	**21 52 31.4**	**+0.4**
	baz=259							
D25K	**Kavik River**	**72.45**	**21**	P		**P**	**21 52 32.1**	**+0.6**
	baz=258							
E25K	**Arctic Village**	**72.50**	**22**	P		**P**	**21 52 32.9**	**+1.1**
	baz=259							
BMAR	**Burnt Mountain**	**72.74**	**23**	P		**P**	**21 52 33.6**	**+0.4**
F26K	**Sheenjek River**	**72.95**	**23**	P		**P**	**21 52 35.4**	**+1.0**
	baz=260							
C27K	**Jago River**	**73.43**	**21**	P		**P**	**21 52 37.9**	**+0.7**
	baz=260							
BVCY	**Beaver Creek**	**73.67**	**28**	P		**P**	**21 52 39.1**	**+0.4**
	baz=265							
H27K	**Steamboat Moun**	**73.76**	**24**	P		**P**	**21 52 39.8**	**+0.5**
	baz=263							
E27K	**Coleen River**	**73.97**	**22**	P		**P**	**21 52 41.4**	**+1.0**
	baz=263							
HRA	**Herat**	**74.05**	**302**	P		**P**	**21 52 41.1**	**-0.6**
HRA				IAmb		IAmb	21 52 52.7	
	comp=Z,11nm,0.9s							
SVE	**Sverdlovsk**	**74.61**	**326**	*e*P		**P**	**21 52 44.7**	**+0.4**
SVE				pmax		pmax		
	comp=Z,23nm,1.5s							
YUK4	**Talbot Arm**	**74.65**	**30**	P		**P**	**21 52 45.6**	**+0.9**
	baz=267							
L29M	**L29M**	**74.97**	**28**	P		**P**	**21 52 47.3**	**+0.9**
	baz=267							
ABKAR	**Akbulak array**	**75.06**	**318**	P		**P**	**21 52 46.8**	**-0.2**
ABKAR	**Akbulak array**	**75.06**	**318**	P		**P**	**21 52 46.9**	**-0.2**
ABKAR				IAmb		IAmb	21 52 57.6	
	comp=Z,6.4nm,0.9s							
K29M	**Barlow Dome**	**75.28**	**27**	P		**P**	**21 52 48.5**	**+0.3**
	baz=268							
P30M	**Million Dollar**	**75.44**	**31**	P		**P**	**21 52 48.8**	**-0.3**
	baz=269							
ARU	**Arti**	**75.76**	**325**	P		**P**	**21 52 50.6**	**-0.3**
ARU				IAmb		IAmb	21 53 02.0	
	comp=Z,19nm,1.3s							
ARU	**Arti**	**75.76**	**325**	*c i*P		**P**	**21 52 51.4**	**+0.5**
ARU							21 55 40.5	
ARU				S		**S**	**22 02 34.8**	**+4.1**
ARU				SS		**SS**	**22 07 22.4**	**-0.1**
ARU				pmax		pmax		
	comp=Z,19nm,1.6s							
G30M	**tAoh Zraii Nji**	**75.93**	**24**	P		**P**	**21 52 51.6**	**-0.2**
	baz=268							
WHY	**Whitehorse**	**76.47**	**30**	P		**P**	**21 52 55.9**	**+0.8**
	baz=271							
INK	**Inuvik**	**76.98**	**22**	P		**P**	**21 52 57.3**	**-0.3**
	baz=270							
GEYT	**Alibeck**	**77.08**	**306**	P		**P**	**21 52 59.3**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=77,slow=6.5,SNR=8.0							
	comp=Z,3.2nm,0.8s							
GEYT	**Alibeck**	**77.08**	**306**	P		**P**	**21 52 59.1**	**+0.2**
GEYT				IAmb		IAmb	21 53 12.7	
	comp=Z,11nm,1.2s							
GEYT	**Alibeck**	**77.08**	**306**	P		**P**	**21 52 59.1**	**+0.2**
GEYT				pmax		pmax		
	comp=Z,11nm,1.2s							
GYA0B	**ALIBECK ARRAY**	**77.08**	**306**	P		**P**	**21 52 58.3**	**-0.6**
GYA0B				IAmb		IAmb	21 53 12.6	
	comp=Z,12nm,1.2s							
FARO	**Faro, Yukon**	**77.17**	**29**	P		**P**	**21 52 59.5**	**+0.7**
	baz=272							
A36M	**Sachs Harbour**	**79.56**	**18**	P		**P**	**21 53 12.2**	**+0.4**
	baz=277							
EUNU	**Eureka**	**84.66**	**7**	P		**P**	**21 53 38.8**	**+0.2**
EUNU				IAmb		IAmb	21 53 52.4	
	comp=Z,20nm,1.7s							
YKA	**Yellowknife Ar**	**85.70**	**27**	P		**P**	**21 53 43.3**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=288,slow=5.4,SNR=9.4							
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	**87.19**	**341**	P		**P**	**21 53 50.0**	**-1.1**
	comp=Z,7.1nm,1.0s,baz=54,slow=4.6,SNR=6.8							
	comp=Z,7.1nm,1.0s							
PINE	**Pine Mountain**	**87.27**	**46**	P		**P**	**21 53 52.4**	**0.0**
PINE				IAmb		IAmb	21 54 31.8	
	comp=Z,22nm,1.5s							
KIV	**Kislovodsk**	**87.56**	**314**	*e*P		**P**	**21 53 51.9**	**-1.7**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
VORR	**Voronezh**	**87.73**	**322**	P		**P**	**21 53 53.7**	**-0.4**
VORR				pmax		pmax		
	comp=Z,10.0nm,1.0s							
FINES	**FINESS Array B**	**90.78**	**334**	P		**P**	**21 54 07.0**	**-1.1**
	comp=Z,4.1nm,0.7s,baz=66,slow=3.5,SNR=9.5							
	comp=Z,4.1nm,0.7s							
AKASG	**Malin Array Be**	**93.94**	**324**	P		**P**	**21 54 21.6**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=55,slow=3.7,SNR=1.6							
	comp=Z,0.2nm,0.3s							

IDC ***11*** *21:44:33.4±1.7,6.˚55S×132.˚32E, h0km, mb3.5/1, mbtmp4.0/6, ML3.9/5, Error ellipse: s-maj=36.4km s-min=24.8km az=72.0*

ISC 11 21:44:35.7±1.0,**6.˚52S**±0.˚06×**132.˚4E**±0.˚1,**h35**km,**n6,** σ4**s40**/10,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.73**	**348**	Pn	**Pn**	**21 45 58.2**	**-0.2**
	2.1nm,0.3s,baz=217,slow=20,SNR=15						
SIJI				Sn	**Sn**	**21 46 57.1**	**-5.9**
	11nm,0.3s,baz=93,slow=21,SNR=14						
	6.6nm,0.2s						
BATI	**Baumata**	**9.40**	**247**	Pn	**Pn**	**21 46 49.1**	**+0.3**
	3.1nm,0.3s,baz=90,slow=20,SNR=2.5						
BATI				Sn	**Sn**	**21 48 34.0**	**+0.5**
	4.5nm,0.3s,baz=65,slow=17,SNR=5.8						
	9.2nm,0.4s						
WRA	**Warramunga Arr**	**13.47**	**172**	Pn	**Pn**	**21 47 46.0**	**+1.6**
	0.6nm,0.3s,baz=357,slow=13,SNR=18						
WRA				Sn	**Sn**	**21 50 10.1**	**-2.9**
	1.0nm,0.3s,baz=0.6,slow=25,SNR=5.2						
	6.1nm,1.0s						
ASAR	**Alice Springs**	**17.11**	**175**	P	**Pn**	**21 48 32.5**	**+0.3**
	0.7nm,0.3s,baz=355,slow=13,SNR=2.9						
ASAR				S	**Sn**	**21 51 33.1**	**-8.4**
	1.0nm,0.7s,baz=354,slow=23,SNR=3.3						
	2.9nm,0.8s						
CTA	**Charters Tower**	**19.03**	**136**	P	**Pn**	**21 48 58.0**	**+2.3**
	0.2nm,0.3s,baz=322,slow=11,SNR=1.8						
	4.6nm,0.7s						
MKAR	**Makanchi Array**	**69.17**	**326**	P	**P**	**21 55 42.4**	**+3.8**
	0.2nm,0.5s,baz=120,slow=6.8,SNR=2.5						
	0.2nm,0.5s						

NEIC ***11*** *21:46:05.4±2.7,23.˚95N±0.˚04×125.˚42E±0.˚07, h10km±1km, mb4.4/11, Error ellipse: s-maj=11.2km s-min=5.4km az=61.0*

IDC ***11*** *21:46:05.3±1.1,24.˚26N×125.˚04E, h0km, mb3.8/14, mbtmp3.8/16, ML3.0/2, Error ellipse: s-maj=26.3km s-min=21.9km az=159.0*

JMA ***11*** *21:46:10.9±0.2,24.˚N±1.˚×125.˚2E±0.˚5, h40km±3km, MV3.7/11, NEAR MIYAKOJIMA ISLAND*

ISC 11 21:46:09.2±1.5,**24.˚27N**±0.˚07×**125.˚24E**±0.˚05,**h27**km±9km,
n55, σ1**s07**/66,**mb3.9**/21,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ2	**Miyake jima3**	**0.47**	**9**	P	**Pb**	**21 46 20.4**	**+1.3**
JMJ2				S	**Sn**	**21 46 27.5**	**-0.1**
JOGS	**Gusukube**	**0.51**	**17**	P	**Pn**	**21 46 21.3**	**+0.7**
JOGS				S	**Sn**	**21 46 29.0**	**+0.5**
JIRB	**Irabujima**	**0.56**	**354**	P	**Pb**	**21 46 21.0**	**+0.6**
JIRB				S	**Sn**	**21 46 28.9**	**-0.8**
JTJ	**Tarama**	**0.61**	**307**	P	**Pb**	**21 46 21.6**	**+0.2**
JTJ				S	**Sn**	**21 46 29.6**	**-1.5**
JIKM	**Ikemajima**	**0.65**	**0**	P	**Pn**	**21 46 22.7**	**+0.2**
JIKM				S	**Sb**	**21 46 31.0**	**+0.3**
JISG	**Ishigakijimahi**	**0.91**	**290**	P	**Pn**	**21 46 25.9**	**-0.2**
JISG				*e*S	**Sn**	**21 46 36.9**	**-1.3**
JIJ	**Ishigaki jima**	**1.01**	**275**	P	**Pn**	**21 46 27.5**	**0.0**
JIJ				S	**Sb**	**21 46 40.3**	**-0.5**
JKRS	**Kuro-shima**	**1.13**	**268**	P	**Pb**	**21 46 30.2**	**+0.2**
JKRS				*e*S	**Sn**	**21 46 43.4**	**-0.3**
HATJ	**Hateruma jima**	**1.33**	**261**	*e*P	**Pn**	**21 46 32.5**	**+0.6**
HATJ				*e*S	**Sn**	**21 46 48.6**	**-0.1**
IRIF	**Iriomote-Funau**	**1.38**	**273**	P	**Pn**	**21 46 33.4**	**+0.7**
IRIF				S	**Sn**	**21 46 49.7**	**-0.3**
YOJ	**Yonaguni jima**	**2.04**	**276**		**Pn**	**21 46 43.1**	**+1.4**
NACB	**Ninganchiao**	**3.33**	**269**		**Pn**	**21 46 58.9**	**-0.5**
TATO	**Taipei**	**3.49**	**282**	Pn	**Pn**	**21 47 03.3**	**+1.7**
YHNB	**Yeheng**	**3.54**	**277**	Pn	**Pn**	**21 47 04.2**	**+1.7**
YULB	**Yu-li**	**3.72**	**257**		**Pn**	**21 47 03.6**	**-1.2**
JOW	**Kunigami**	**3.74**	**46**	Pn	**Pn**	**21 47 06.1**	**+1.0**
	3.0nm,0.3s,baz=232,slow=17,SNR=14						
JOW				Sn	**Sb**	**21 47 55.4**	**-4.1**
	3.8nm,0.3s,baz=120,slow=29,SNR=1.4						
	7.0nm,0.3s						
JOW	**Kunigami**	**3.74**	**46**	Pn	**Pn**	**21 47 05.2**	**+0.1**
SSLB	**Suanglung**	**3.95**	**264**		**Pn**	**21 47 08.0**	**0.0**
TWG	**Pinlang**	**4.09**	**250**	Pn	**Pn**	**21 47 08.5**	**-1.4**
TPUB	**Ta-pu**	**4.33**	**258**		**Pn**	**21 47 14.1**	**+0.8**
JMZ	**Minamidaito 2**	**5.64**	**73**	Pn	**Pn**	**21 47 28.7**	**-2.5**
MJAR	**Matsushiro Arr**	**16.55**	**39**	Pn	**P**	**21 50 02.3**	**+0.6**
	baz=246,slow=12,SNR=1.9						
	2.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.14**	**262**	P	**P**	**21 51 30.8**	**-1.4**
	0.3nm,0.3s,baz=61,slow=7.9,SNR=1.5						
	0.3nm,0.3s						
SONM	**Songino Array**	**27.87**	**332**	P	**P**	**21 51 55.4**	**-1.2**
	0.3nm,0.3s,baz=152,slow=11,SNR=7.8						
	0.3nm,0.3s						
MK31	**Makanchi Array**	**40.89**	**314**	P	**P**	**21 53 48.5**	**-0.4**
MKAR	**Makanchi Array**	**40.89**	**314**	P	**P**	**21 53 48.8**	**-0.2**
	1.8nm,0.4s,baz=102,slow=9.7,SNR=44						
	1.8nm,0.4s						
MKAR	**Makanchi Array**	**40.89**	**314**	P	**P**	**21 53 48.6**	**-0.3**
ZAA0	**Zalesovo Array**	**42.23**	**325**	P	**P**	**21 53 58.6**	**-1.1**
ZALV	**Zalesovo Beam**	**42.23**	**325**	P	**P**	**21 53 58.8**	**-1.0**
	1.1nm,0.4s,baz=112,slow=8.4,SNR=6.1						
	1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**42.23**	**325**	P	**P**	**21 53 58.4**	**-1.4**
KURK	**Kurchatov**	**44.44**	**319**	P	**P**	**21 54 16.7**	**-0.9**
KURK				IAmb	IAmb	21 54 18.6	
	comp=Z,3.5nm,1.1s						
KURBB	**Kurchatov Arra**	**44.46**	**319**	P	**P**	**21 54 17.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=107,slow=8.4,SNR=7.6						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**44.83**	**168**	P	**P**	**21 54 21.3**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=349,slow=8.7,SNR=1.7						
	comp=Z,0.9nm,0.8s						
KKAR	**Karatay Array**	**48.37**	**307**	P	**P**	**21 54 49.1**	**+0.4**
BRVK	**Borovoye**	**50.04**	**320**	P	**P**	**21 55 01.2**	**-0.1**
BRVK				IAmb	IAmb	21 55 06.5	
	comp=Z,4.4nm,1.3s						
ABKAR	**Akbulak array**	**56.03**	**314**	P	**P**	**21 55 46.0**	**+0.5**
ABKAR	**Akbulak array**	**56.03**	**314**	P	**P**	**21 55 45.9**	**+0.4**
ABKAR				IAmb	IAmb	21 55 46.7	
	comp=Z,4.6nm,0.8s						
J20K	**Nowinta River**	**64.36**	**29**	P	**P**	**21 56 43.7**	**+1.5**
J20K				IAmb	IAmb	21 56 48.0	
	comp=Z,5.3nm,1.4s						
IMAR	**Indian Mountai**	**64.45**	**27**	P	**P**	**21 56 43.0**	**+0.3**
H21K	**Melozitna Rive**	**64.85**	**27**	P	**P**	**21 56 46.7**	**+1.3**
H21K				IAmb	IAmb	21 56 50.2	
	comp=Z,2.2nm,0.7s						
H23K	**Yukon River**	**66.18**	**27**	P	**P**	**21 56 53.2**	**-0.9**
ILAR	**Eielson Array**	**67.43**	**28**	P	**P**	**21 57 02.6**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=264,slow=5.1,SNR=5.2						
	comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**67.91**	**25**	P	**P**	**21 57 06.6**	**+1.6**
ARCES	**ARCESS Array B**	**70.83**	**338**	P	**P**	**21 57 23.1**	**+0.1**
	comp=Z,6.0nm,1.1s,baz=68,slow=7.3,SNR=1.9						
	comp=Z,6.0nm,1.1s						
INK	**Inuvik**	**71.74**	**23**	P	**P**	**21 57 28.8**	**+0.3**
INK				IAmb	IAmb	21 57 42.0	
	comp=Z,2.0nm,0.9s						
FIA1	**FINESS Array S**	**73.22**	**330**	P	**P**	**21 57 35.9**	**-1.5**
FINES	**FINESS Array B**	**73.22**	**330**	P	**P**	**21 57 37.6**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=63,slow=6.4,SNR=12						
	comp=Z,2.5nm,0.6s						
FINES	**FINESS Array B**	**73.22**	**330**	P	**P**	**21 57 36.4**	**-1.0**
AKASG	**Malin Array Be**	**75.25**	**319**	P	**P**	**21 57 49.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=62,slow=6.2,SNR=2.5						
	comp=Z,0.1nm,0.3s						
BRTR	**Keskin Array B**	**76.08**	**307**	P	**P**	**21 57 54.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=83,slow=4.7,SNR=2.2						
	comp=Z,0.2nm,0.3s						
BURAR	**Bucovina Array**	**78.84**	**317**	P	**P**	**21 58 10.4**	**+0.5**
MLR	**Muntele Rosu**	**79.23**	**315**	P	**P**	**21 58 13.4**	**+1.3**
MLR				IAmb	IAmb	21 58 24.2	
	comp=Z,7.8nm,1.4s						
NOA	**NORSAR Array B**	**79.85**	**333**	P	**P**	**21 58 13.9**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=54,slow=7.2,SNR=1.6						
	comp=Z,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**81.42**	**24**	P	**P**	**21 58 24.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=301,slow=5.5,SNR=5.7						
	comp=Z,0.4nm,0.7s						
GERES	**GERESS Array B**	**85.09**	**322**	P	**P**	**21 58 43.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=35,slow=5.3,SNR=2.3						
	comp=Z,0.5nm,0.7s						

WEL 11 21:52:31.9,42.˚S±8.˚×**17.˚4E**±.˚,**h6**km±5km,**M2.3**/2,**MLv2.3**/2,
Error ellipse: s-maj=0.0km s-min=0.0km az=26.0,
confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.19**	**173**	P	Pg	21 52 36.3	+0.5
KHZ				S	Sg	21 52 39.7	+1.4
BSWZ	**Blackbirch Sta**	**0.58**	**28**	P	Pn	21 52 53.4	+6.6
BSWZ				S	Sn	21 52 58.4	+1.8
THZ	**Tophouse**	**0.65**	**316**	P	Pb	21 52 45.3	-0.4
THZ				S	Sb	21 52 54.8	-0.1
CMWZ	**Cape Campbell**	**0.71**	**48**	P	Pn	21 52 49.9	+1.4
CMWZ				S	Sg	21 52 52.0	-2.9
GVZ	**Greta Valley S**	**0.82**	**205**	P	Pb	21 52 49.0	+0.5
GVZ				S	Sn	21 53 02.2	-0.2
TUWZ	**Tuamarina**	**0.86**	**22**	P	Pn	21 52 54.9	+4.3
TUWZ				S	Sb	21 53 00.7	-0.4
MRNZ	**Matariki Terra**	**1.00**	**326**	P	Pb	21 52 52.0	+0.4
TCW	**Tory Channel**	**1.17**	**30**	P	Pn	21 52 57.0	+2.2
TCW				S	Sg	21 53 03.9	-5.6
TKNZ	**Takaka Hill**	**1.26**	**341**	P	Pn	21 52 56.0	-0.1
PLWZ	**Palliser**	**1.46**	**64**	P	Pg	21 53 02.9	+2.9

IDC ***11*** *21:54:53.1±59.0, 21.˚09S×175.˚95W, h0km, mb4.6/3, mbtmp4.6/3, Error ellipse: s-maj=1093.0km s-min=161.5km az=85.0*

NEIC ***11*** *21:56:14.8±1.8, 23.˚2S±0.˚2×179.˚8W±0.˚2, h555km±23km, mb4.2/21, Error ellipse: s-maj=36.0km s-min=8.6km az=54.0*

ISC 11 21:56:14.2±2.1,**23.˚4S**±0.˚1×**179.˚9W**±0.˚3,**h532**km,**n30,**
σ1**s22**/30,**mb4.2**/14,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.93**	**341**	P	**P**	**21 57 52.7**	**+1.1**
MARNC	**Mare, Loyalty**	**11.32**	**277**	P	**P**	**21 58 47.3**	**+1.6**
PINNC	**Pines Island,**	**11.68**	**271**	P	**P**	**21 58 51.4**	**+2.0**
LIFNC	**LIFOU**	**12.20**	**280**	P	**P**	**21 58 55.0**	**+0.1**
TCW	**Tory Channel**	**18.45**	**194**	P	**P**	**21 59 56.0**	**-0.9**
THZ	**Tophouse**	**19.30**	**196**	P	**P**	**22 00 04.8**	**+0.1**
RPZ	**Rata Peaks**	**21.62**	**198**		**P**	**22 00 28.0**	**+2.4**
EIDS	**Eidsvold**	**26.49**	**260**	P	**P**	**22 01 09.8**	**+0.6**
CAN	**Canberra**	**29.49**	**239**	P	**P**	**22 01 35.7**	**+0.3**
CAN				IAmb	IAmb	22 01 45.9	
	comp=Z,11nm,1.0s						
CTAO	**Charters Tower**	**31.57**	**269**	P	**P**	**22 01 53.9**	**+0.5**
TOO	**Toolangi**	**32.81**	**236**	P	**P**	**22 02 06.6**	**+2.9**
TOO				IAmb	IAmb	22 02 29.2	
	comp=Z,10.0nm,1.1s						
STKA	**Stephens Creek**	**35.01**	**247**	P	**P**	**22 02 22.6**	**+0.4**
	comp=Z,3.4nm,0.5s,baz=96,slow=11,SNR=11						
	comp=Z,3.4nm,0.5s						
STKA	**Stephens Creek**	**35.01**	**247**	P	**P**	**22 02 22.6**	**+0.4**
COEN	**Coen**	**36.13**	**278**	P	**P**	**22 02 31.6**	**-0.2**
COEN				IAmb	IAmb	22 02 50.7	
	comp=Z,5.5nm,1.1s						
BBOO	**Buckleboo**	**39.74**	**246**	P	**P**	**22 03 00.1**	**-0.8**
BBOO				IAmb	IAmb	22 03 00.4	
	comp=Z,3.6nm,0.8s						
AS31	**Alice Springs**	**42.21**	**260**	P	**P**	**22 03 20.2**	**-0.6**
AS31				IAmb	IAmb	22 03 21.6	
	comp=Z,2.4nm,0.5s						
ASAR	**Alice Springs**	**42.22**	**260**	P	**P**	**22 03 20.4**	**-0.4**
	comp=Z,6.1nm,0.8s,baz=97,slow=6.9,SNR=54						
	comp=Z,6.1nm,0.8s						
ASAR	**Alice Springs**	**42.22**	**260**	P	**P**	**22 03 20.0**	**-0.8**
WR0	**Warramunga Arr**	**42.35**	**266**	P	**P**	**22 03 20.7**	**-1.2**
WRA	**Warramunga Arr**	**42.54**	**266**	P	**P**	**22 03 22.5**	**-0.8**
	comp=Z,6.0nm,0.6s,baz=93,slow=8.2,SNR=62						
	comp=Z,6.0nm,0.6s						
WRA	**Warramunga Arr**	**42.54**	**266**	P	**P**	**22 03 22.0**	**-1.3**
FORT	**Forrest**	**46.58**	**249**	P	**P**	**22 03 52.8**	**-1.6**
MTN	**Manton Dam**	**47.51**	**274**	P	**P**	**22 03 59.7**	**-1.9**
KNRA	**Kununurra**	**48.78**	**269**	P	**P**	**22 04 10.4**	**-0.7**
KNRA				IAmb	IAmb	22 04 13.6	
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**50.96**	**265**	P	**P**	**22 04 26.8**	**-0.2**
PSA00	**Pilbara Seismi**	**55.35**	**259**	P	**P**	**22 04 56.9**	**-1.4**
PSA00				IAmb	IAmb	22 05 13.6	
	comp=Z,10nm,1.0s						
NWAO	**Narrogin (SRO)**	**55.54**	**245**	P	**P**	**22 04 58.5**	**-0.8**
NWAO				IAmb	IAmb	22 05 01.4	
	comp=Z,21nm,1.1s						
MBWA	**Marble Bar**	**55.56**	**260**	P	**P**	**22 04 58.8**	**-0.9**
MBWA				IAmb	IAmb	22 05 09.6	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**57.14**	**250**	P	**P**	**22 05 09.6**	**-0.9**
MORW				IAmb	IAmb	22 05 22.9	
	comp=Z,10nm,1.1s						
TOLI2	**Tolitoli**	**62.54**	**284**	P	**P**	**22 05 45.8**	**-0.8**
TOLI2				IAmb	IAmb	22 06 11.8	
	comp=Z,7.6nm,1.1s						

VAO ***11*** *21:58:09.9±0.3, 22.˚79S×69.˚82W, h10km, mb5.9*

SJA ***11*** *21:58:15.9±0.8, 22.˚81S×69.˚81W, h86km±3km, ML5.7, MW5.4*

MOS ***11*** *21:58:17.4±1.1, 22.˚61S×69.˚77W, h67km, mb6.2/38, MS5.1/7, Error ellipse: s-maj=10.2km s-min=6.0km az=101.7*

IDC ***11*** *21:58:17.2±2.0, 22.˚75S×69.˚56W, h60km±17km, mb5.2/23, mbtmp5.5/29, MS4.8/35, Error ellipse: s-maj=12.8km s-min=10.4km az=61.0*

GUC ***11*** *21:58:18.1±0.7, 22.˚80S×69.˚79W, h79km±3km, ML5.7*

NEIC ***11*** *21:58:18.4±2.2, 22.˚82S±0.˚04×69.˚80W±0.˚05, h72km±1km, mb5.9/222, Mwb5.8/50, Mwr5.8/73, Mww5.8/33, Mwr5.7(GUC), Error ellipse: s-maj=8.0km s-min=6.5km az=273.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.73; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$4.00; $M_{r\theta}$-1.46; $M_{\theta\phi}$1.52; $M_{\phi r}$-2.98; Fault plane solution: M_o5.32000×10^{17} NP1:ϕ_s23.70000°, δ64.57000°, λ-84.06000°. NP2: ϕ_s190.08000°, δ26.07000°, λ-102.28000°. Principal axes: T 5.6373, Plg19.0000°, Azm109.0000°; N -0.7044, Plg5.0000°, Azm201.0000°; P -4.9329, Plg70.0000°, Azm306.0000°; Moment Tensor Solution. Moment tensor: Scale 10^{17} Nm; M_{rr}-4.60; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$4.64; $M_{r\theta}$-2.35; $M_{\theta\phi}$2.64; $M_{\phi r}$-1.96; Fault plane solution: M_o6.14000×10^{17} NP1:ϕ_s39.46000°, δ60.86000°, λ-72.43000°. NP2:ϕ_s186.42000°, δ33.62000°, λ-118.44000°. Principal axes: T 6.5278, Plg14.0000°, Azm117.0000°; N -0.8593, Plg15.0000°, Azm211.0000°; P -5.6685, Plg69.0000°, Azm346.0000°;*

NEIC ***11*** *21:58:22.5, 22.˚83S×69.˚73W, h70km, Moment Tensor Solution. Duration: 4s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-5.17; $M_{\theta\theta}$-0.59; $M_{\phi\phi}$5.77; $M_{r\theta}$-1.65; $M_{\theta\phi}$1.88; $M_{\phi r}$-0.67; Fault plane solution: M_o6.04000×10^{17} NP1:ϕ_s31.36000°, δ52.70000°, λ-68.60000°. NP2:ϕ_s178.47000°, δ42.22000°, λ-115.59000°. Principal axes: T 6.3828, Plg5.0000°, Azm106.0000°; N -0.6764, Plg17.0000°, Azm198.0000°; P -5.7064, Plg72.0000°, Azm359.0000°;*

GCMT ***11*** *21:58:22.4±0.1, 22.˚79S±0.˚01×69.˚91W±0.˚01, h77km, MW5.7/151, Moment Tensor Solution. s139,c223; s151,c330; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}-3.76±.06; $M_{\theta\theta}$-1.21±.05; $M_{\phi\phi}$4.98±.06; $M_{r\theta}$-1.77±.04; $M_{\theta\phi}$1.58±.05; $M_{\phi r}$-0.94±.05; Best double couple: M_o5.11100×10^{17} NP1:ϕ_s36.00000°, δ58.00000°, λ-60.00000°. NP2:ϕ_s169.00000°, δ43.00000°, λ-129.00000°. Principal axes: T 5.5540, Plg8.0000°, Azm105.0000°; N -0.8770, Plg25.0000°, Azm199.0000°; P -4.6680, Plg63.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 11 21:58:17.9±0.2,**22.˚81S**±0.˚02×**69.˚79W**±0.˚03,**h73**km±1km,
h73km:**pP-P, n1586,** σ1**s47**/1739,**mb5.9**/222,**47C-54D,**
Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**0.23**	**64**		**Pn**	**21 58 29.2**	**+0.1**
PB06				Sn	**Sn**	**21 58 37.7**	**+0.3**
PB06	**IPOC Station P**	**0.23**	**64**	⇓*i*P	**Pn**	**21 58 29.4**	**+0.2**
PB06				*e*S	**Sn**	**21 58 37.7**	**+0.3**
PB06	**IPOC Station P**	**0.23**	**64**	*e*P	**Pn**	**21 58 29.3**	**+0.1**
PB06				*e*S	**Sn**	**21 58 39.4**	**+2.0**
PB06				IAML		21 58 42.0	
	comp=Z,152μm,0.2s						
PB06	**IPOC Station P**	**0.23**	**64**	*e*P	**Pn**	**21 58 29.3**	**+0.1**
PB06				*e*S	**Sn**	**21 58 39.4**	**+2.0**
PB06				IAML		21 58 42.0	
	comp=Z,152μm,0.2s						
PB15	**IPO

PB09 IPOC Station P 1.12 27 ⇓*iP* **Pn 21 58 39.5 +1.2**
PB09 *i* S **Sn 21 58 54.3 +0.8**
PB09 IAML 21 58 58.5
comp=N,262µm,0.3s
PB02 IPOC Station P 1.48 356 Pn 21 58 42.8 -0.1
PB02 IPOC Station P 1.48 356 ⇓*iP* **Pn 21 58 43.2 +0.4**
PB02 *i* S **Sn 21 59 02.0 +0.4**
PB02 IAML 21 59 03.4
comp=E,194µm,0.3s
PB02 IPOC Station P 1.48 356 *eP* **Pn 21 58 43.0 +0.2**
PB02 *eS* **Sn 21 59 02.8 +1.2**
PB02 IAML 21 59 05.9
comp=Z,153µm,0.3s
PB02 IPOC Station P 1.48 356 *eP* **Pn 21 58 43.0 +0.2**
PB02 *eS* **Sn 21 59 02.8 +1.2**
PB02 IAML 21 59 05.9
comp=Z,153µm,0.3s
AF01 San Pedro de A 1.50 96 Pn 21 58 45.3 +2.2
AF01 San Pedro de A 1.50 96 ⇑*iP* **Pn 21 58 45.4 +2.3**
AF01 *i* S **Sn 21 59 06.0 +3.9**
AF01 IAML 21 59 18.6
comp=E,274µm,0.6s
PB01 IPOC Station P 1.78 9 Pn 21 58 46.5 -0.2
PB01 IPOC Station P 1.78 9 ⇓*iP* **Pn 21 58 47.3 +0.6**
PB01 *i* S **Sn 21 59 09.5 +1.0**
PB01 IAML 21 59 12.1
comp=E,121µm,0.3s
PB01 IPOC Station P 1.78 9 *eP* **Pn 21 58 47.0 +0.3**
PB01 *eP* **Pn 21 58 47.3 +0.6**
PB01 *eS* **Sn 21 59 10.8 +2.3**
PB01 IAML 21 59 13.1
comp=Z,53µm,0.2s
PB01 IPOC Station P 1.78 9 *eP* **Pn 21 58 47.0 +0.3**
PB01 *eP* **Pn 21 58 47.3 +0.6**
PB01 *eS* **Sn 21 59 10.8 +2.3**
PB01 IAML 21 59 13.1
comp=Z,53µm,0.2s
PB14 IPOC Station P 1.90 197 Pn **Pn 21 58 48.1 -0.5**
PB14 IPOC Station P 1.90 197 ⇓*iP* **Pn 21 58 48.2 -0.3**
PB14 IPOC Station P 1.90 197 *eP* **Pn 21 58 48.0 -0.5**
PB14 IAML 21 59 17.9
comp=Z,28µm,0.7s
PB14 IPOC Station P 1.90 197 *eP* **Pn 21 58 48.0 -0.5**
PB14 IAML 21 59 17.9
comp=Z,28µm,0.7s
PATCX Punta Patache 2.00 350 Pn 21 58 49.3 -0.4
PATCX Punta Patache 2.00 350 ⇓*iP* **Pn 21 58 49.4 -0.4**
PATCX Punta Patache 2.00 350 *eP* **Pn 21 58 49.0 -0.7**
PATCX *eS* **Sn 21 59 14.0 +0.1**
PATCX IAML 21 59 21.9
comp=Z,43µm,0.5s
PATCX Punta Patache 2.00 350 *eP* **Pn 21 58 49.0 -0.7**
PATCX *eS* **Sn 21 59 14.0 +0.1**
PATCX IAML 21 59 21.9
comp=Z,43µm,0.5s
TA01 Diego Aracena 2.26 351 Pn **Pn 21 58 52.2 -0.9**
TA01 Diego Aracena 2.26 351 ⇓*iP* **Pn 21 58 52.2 -0.9**
TA01 IAML 21 59 39.2
comp=N,30µm,0.6s
TA01 Diego Aracena 2.26 351 *eP* Pn 21 58 46.5 -6.5
TA01 *eP* **Pn 21 58 52.0 -1.1**
TA01 IAML 21 59 38.9
comp=Z,29µm,0.7s
TA01 Diego Aracena 2.26 351 *eP* Pn 21 58 46.5 -6.5
TA01 *eP* **Pn 21 58 52.0 -1.1**
TA01 IAML 21 59 38.9
comp=Z,29µm,0.7s
HMBC Humberstone 2.52 358 ⇓*iP* **Pn 21 58 56.2 -0.5**
HMBC IAML 21 59 43.5
comp=N,38µm,0.5s
TA02 Huaiquique 2.54 353 Pn 21 58 56.3 -0.6
TA02 Huaiquique 2.54 353 *eP* **Pn 21 58 56.5 -0.4**
TA02 IAML 21 59 41.1
comp=N,25µm,0.6s
TA02 Huaiquique 2.54 353 *eP* **Pn 21 58 56.0 -0.9**
TA02 IAML 21 59 56.3
comp=Z,20µm,0.8s
TA02 Huaiquique 2.54 353 *eP* **Pn 21 58 56.0 -0.9**
TA02 IAML 21 59 56.3
comp=Z,20µm,0.8s
PB08 IPOC Station P 2.72 13 Pn 21 58 59.9 +0.3
PB08 IPOC Station P 2.72 13 ⇓*iP* **Pn 21 59 00.0 +0.4**
PB08 IAML 22 00 00.4
comp=N,20µm,0.5s
PB08 IPOC Station P 2.72 13 *eP* **Pn 21 59 00.0 +0.4**
PB08 *eS* Sn 21 59 46.5 +15
PB08 IAML 21 59 54.0
comp=Z,24µm,0.8s
PB08 IPOC Station P 2.72 13 *eP* **Pn 21 59 00.0 +0.4**
PB08 *eS* Sn 21 59 46.5 +15
PB08 IAML 21 59 54.0
comp=Z,24µm,0.8s
PB11 IPOC Station P 3.03 2 Pn **Pn 21 59 02.8 -0.9**
PB11 IPOC Station P 3.03 2 ⇓*iP* **Pn 21 59 02.8 -0.9**
PB11 IAML 22 00 04.8
comp=E,33µm,0.6s
PB11 IPOC Station P 3.03 2 *eP* Pn 21 58 57.0 -6.7
PB11 *eP* **Pn 21 59 02.9 -0.8**
PB11 *eS* Sn 21 59 27.8 -11
PB11 IAML 22 00 17.4
comp=Z,24µm,0.7s
PB11 IPOC Station P 3.03 2 *eP* Pn 21 58 57.0 -6.7
PB11 *eP* **Pn 21 59 02.9 -0.8**
PB11 *eS* Sn 21 59 27.8 -11
PB11 IAML 22 00 17.4
comp=Z,24µm,0.7s
GO01 Chusmiza 3.17 10 Pn 21 59 05.8 0.0
GO01 Chusmiza 3.17 10 ⇓*iP* **Pn 21 59 05.7 -0.2**
GO01 IAML 22 00 05.3
comp=N,27µm,0.2s
GO01 Chusmiza 3.17 10 *eP* **Pn 21 59 05.9 0.0**
GO01 *eS* Sn 21 59 57.0 +14
GO01 Chusmiza 3.17 10 *eP* **Pn 21 59 05.9 0.0**
GO01 *eS* Sn 21 59 57.0 +14
PSGC Pisagua 3.21 354 ⇓*iP* **Pn 21 59 04.4 -1.7**
PSGC IAML 22 00 06.8
comp=N,14µm,0.4s
PSGCX Pisagua 3.21 354 Pn **Pn 21 59 04.3 -1.7**
PSGCX Pisagua 3.21 354 *eP* **Pn 21 59 04.4 -1.6**
PSGCX *eS* Sn 21 59 25.5 -18
PSGCX IAML 22 00 06.9
comp=Z,9µm,0.4s
PSGCX Pisagua 3.21 354 *eP* **Pn 21 59 04.4 -1.6**
PSGCX *eS* Sn 21 59 25.5 -18
PSGCX IAML 22 00 06.9
comp=Z,9µm,0.4s
AC01 Pan de Azucar 3.41 192 Pn **Pn 21 59 07.2 -1.5**
AC01 Pan de Azucar 3.41 192 ⇓*iP* **Pn 21 59 07.2 -1.5**
AC01 IAML 22 00 10.2
comp=E,23µm,0.4s
AC01 Pan de Azucar 3.41 192 *eP* **Pn 21 59 07.2 -1.5**
AC01 *eS* **Sn 21 59 47.3 -0.7**
AC01 IAML 22 00 05.1
comp=Z,15µm,0.5s
AC01 Pan de Azucar 3.41 192 *eP* **Pn 21 59 07.2 -1.5**
AC01 *eS* **Sn 21 59 47.3 -0.7**
AC01 IAML 22 00 05.1
comp=Z,15µm,0.5s
MNMC Minye Minye 3.66 3 Pn **Pn 21 59 11.6 -0.8**
MNMC Minye Minye 3.66 3 ⇓*iP* **Pn 21 59 11.7 -0.8**
MNMCX Minye Minye 3.66 3 *eP* **Pn 21 59 11.8 -0.6**
MNMCX *eS* Sn 22 00 10.0 +15
MNMCX IAML 22 00 27.4
comp=Z,19µm,1.1s
MNMCX Minye Minye 3.66 3 *eP* **Pn 21 59 11.8 -0.6**
MNMCX *eS* Sn 22 00 10.0 +15
MNMCX IAML 22 00 27.4
comp=Z,19µm,1.1s
YJA Yavi 4.00 82 *eP* **Pn 21 59 21.0 +3.8**
YJA Yavi 4.00 82 *eP* **Pn 21 59 21.0 +3.8**
AC02 Maricunga 4.06 172 Pn 21 59 19.4 +1.4
AC02 Maricunga 4.06 172 ⇑*iP* **Pn 21 59 19.7 +1.7**
AC02 Maricunga 4.06 172 *eP* **Pn 21 59 14.0 -4.0**
AC02 *eP* **Pn 21 59 19.0 +1.0**
AC02 *eS* Sn 22 00 21.5 +17
AC02 Maricunga 4.06 172 *eP* **Pn 21 59 14.0 -4.0**
AC02 *eP* **Pn 21 59 19.0 +1.0**
AC02 *eS* Sn 22 00 21.5 +17
HJA Humahuaca 4.06 97 *eP* Pn 21 59 07.2 -11
HJA *eP* **Pn 21 59 21.0 +3.1**
HJA Humahuaca 4.06 97 *eP* Pn 21 59 07.2 -11
HJA *eP* **Pn 21 59 21.0 +3.1**
PB12 IPOC Station P 4.20 353 Pn **Pn 21 59 17.6 -2.0**
PB12 IPOC Station P 4.20 353 ⇓*iP* **Pn 21 59 17.7 -1.9**
PB12 IPOC Station P 4.20 353 *eP* **Pn 21 59 18.0 -1.6**
PB12 IAML 22 00 37.5
comp=Z,7µm,0.6s
PB12 IPOC Station P 4.20 353 *eP* **Pn 21 59 18.0 -1.6**
PB12 IAML 22 00 37.5
comp=Z,7µm,0.6s
AP01 Chacalluta 4.44 353 Pn 21 59 21.6 -1.2
AP01 Chacalluta 4.44 353 *i* P **Pn 21 59 21.4 -1.4**
PB16 IPOC Station P 4.46 3 Pn 21 59 23.1 -0.4
PB16 IPOC Station P 4.46 3 ⇓*iP* **Pn 21 59 23.1 -0.4**
AC06 Mina Casimiro 4.56 186 Pn 21 59 22.6 -1.8
AC06 Mina Casimiro 4.56 186 ⇑*iP* **Pn 21 59 22.6 -1.8**
GO03 Copiap 4.79 185 Pn 21 59 25.6 -1.9
GO03 Copiap 4.79 185 ⇓*iP* **Pn 21 59 25.7 -1.9**
PB18 Visviri 5.20 3 Pn **Pn 21 59 34.6 +1.0**
AC04 Llanos de Chal 5.50 192 Pn **Pn 21 59 33.4 -3.8**
AC05 El Transito 6.02 184 Pn 21 59 42.6 -1.9
LCO Las Campanas 6.24 187 Pn **Pn 21 59 44.6 -2.9**
LCO Las Campanas 6.24 187 P **Pn 21 59 44.6 -2.9**
LPAZ La Paz 6.67 14 Pn **Pn 21 59 54.9 +1.1**
LPAZ La Paz 6.67 14 P **Pn 21 59 54.9 +1.1**
CO01 Juntas del Tor 7.15 182 Pn 21 59 58.4 -1.5
CO05 La Serena 7.20 190 Pn 21 59 57.3 -3.2
ZON Zonda 8.76 174 Pn **Pn 22 00 20.4 -1.4**
ZON Zonda 8.76 174 P **Pn 22 00 20.5 -1.4**
CFA Coronel Fontan 8.87 171 P **Pn 22 00 21.4 -2.0**
comp=Z,159nm,0.3s,baz=349,slow=13,SNR=306
CFA S **Sn 22 02 02.0 +0.2**
comp=Z,136nm,0.4s,baz=223,slow=20,SNR=1.5
BBSD Serra de San D 10.28 59 *eP* **Pn 22 00 38.9 -3.7**
BBRB Robore, Bolivi 10.38 66 *eP* **Pn 22 00 39.7 -4.3**
MT05 Renca 10.58 184 Pn **Pn 22 00 43.5 -3.1**
SIV San Ignacio 10.66 52 P **Pn 22 00 44.2 -3.6**
comp=Z,54nm,0.5s,baz=246,slow=11
SIV S **Sn 22 02 48.0 +2.5**
comp=Z,52nm,0.6s,baz=314,slow=22,SNR=1.6
MT09 Talagante 10.98 185 Pn Pn 22 00 47.0 -5.2
BO04 La Punta 11.17 184 Pn Pn 22 00 49.7 -4.9
CPUP Villa Florida 11.87 110 P **Pn 22 01 01.9 -2.4**
comp=Z,165nm,1.0s,baz=294,slow=12,SNR=103
CPUP S Sn 22 03 31.4 +17
comp=Z,32nm,0.6s,baz=278,slow=20,SNR=1.2
CPUP LR LR 22 06 18.1
comp=Z,13µm,21.0s,baz=296,slow=41
CPUP Villa Florida 11.87 110 Pn 22 01 02.3 -1.9
CPUP Villa Florida 11.87 110 PKIKP **Pn 22 01 01.9 -2.4**
CPUP Villa Florida 11.87 110 P **Pn 22 01 02.3 -1.9**
PTLB Pontes e Lacer 12.44 56 Pn **Pn 22 01 09.5 -2.5**
PTLB Pontes e Lacer 12.44 56 *eP* **Pn 22 01 08.6 -3.5**
NNA Nana 12.68 327 P **Pn 22 01 15.5 0.0**
comp=Z,20nm,0.3s,baz=144,slow=8.7,SNR=9.5
NNA S **Sn 22 03 29.9 -5.0**
comp=Z,71nm,0.5s,baz=287,slow=22,SNR=6.5
NNA LR LR 22 05 54.8
comp=Z,4µm,21.1s,baz=164,slow=36
NNA Nana 12.68 327 Pn 22 01 12.8 -2.6
NNA Nana 12.68 327 *cePn* **Pn 22 01 15.3 -0.1**
NNA pmax pmax
comp=Z,68nm,0.6s
PANT Pantanal (Braz 12.88 75 *eP* **Pn 22 01 14.6 -3.5**
H03N1 Juan Fernandez 13.30 215 P **Pn 22 01 21.0 -2.2**
baz=110,slow=15,SNR=2612
H03N2 Juan Fernandez 13.31 215 P **Pn 22 01 21.1 -2.3**
baz=110,slow=15,SNR=2191
AQDB Aquidauana 13.31 83 Pn 22 01 23.8 0.0
AQDB Aquidauana 13.31 83 *eP* **Pn 22 01 20.1 -3.6**
H03N3 Juan Fernandez 13.31 215 P **Pn 22 01 20.9 -2.7**
baz=110,slow=15,SNR=2772
ETMB Extrema 13.36 15 Pn **Pn 22 01 20.7 -3.7**
ETMB Extrema 13.36 15 *eP* Pn 22 01 19.5 -4.9
VILB Vilhena 13.38 45 Pn **Pn 22 01 22.0 -2.8**
VILB Vilhena 13.38 45 *eP* **Pn 22 01 21.2 -3.6**
H03S3 Juan Fernandez 13.59 214 P **Pn 22 01 23.8 -3.4**
baz=26,slow=20,SNR=1223
H03S1 Juan Fernandez 13.61 214 P **Pn 22 01 23.9 -3.4**
baz=26,slow=20,SNR=862
H03S2 Juan Fernandez 13.61 214 P **Pn 22 01 24.3 -3.1**
baz=26,slow=20,SNR=1044
ITQB Itaqui 13.65 123 Pn 22 01 26.2 -1.9
ITQB Itaqui 13.65 123 *eP* **Pn 22 01 24.3 -3.8**
AMBA Amambai (Brazi 13.65 93 *eP* **Pn 22 01 25.5 -2.7**
BI05 Punta Huaipn 14.20 191 Pn **Pn 22 01 34.1 -1.3**
RVDE Rio Verde (Bra 14.38 78 *eP* Pn 22 01 32.9 -4.9
MCR1 Marechal Candi 14.54 100 *eP* **Pn 22 01 37.5 -2.3**
PP1B Ponte de Pedra 14.92 72 *eP* **Pn 22 01 40.9 -4.0**
SALV Santo Antonio 14.96 65 *eP* **Pn 22 01 40.8 -4.6**
CRSM Crissiumal (Br 15.00 111 *eP* **Pn 22 01 43.4 -2.5**
RODS Rosario do Sul 15.05 123 *eP* **Pn 22 01 42.6 -3.9**
CZSB Cruzeiro do Su 15.25 349 Pn **Pn 22 01 45.0 -4.1**
CZSB Cruzeiro do Su 15.25 349 *eP* **Pn 22 01 45.2 -3.9**
FRBT Francisco Belt 15.56 105 *eP* **Pn 22 01 50.5 -2.6**
TRCB Terra Rica 15.82 93 Pn **Pn 22 01 54.2 -2.2**
TRCB Terra Rica 15.82 93 *eP* **Pn 22 01 53.5 -2.9**
LPA La Plata 15.90 142 *dePn* **Pn 22 01 52.7 -4.5**
LPA pP **pP 22 02 17.4 +2.7**
LPA S **S 22 04 59.5 -3.1**
LPA SS **SnSn 22 05 14.1 +7.3**
LPA PCP **PcP 22 06 47.6 -3.6**
LPA SCS **ScS 22 13 53.9 -4.1**
ALGR Alto Alegre (B 16.23 115 *eP* **Pn 22 01 58.4 -3.0**
PTGB Pitanga 16.34 120 *eP* **Pn 22 02 01.2 -1.7**
CPSB Cacapava Do Su 16.46 121 *eP* **Pn 22 02 00.6 -3.6**
ITAB Concordia 16.60 109 Pn **Pn 22 02 04.0 -2.0**
ITAB Concordia 16.60 109 *eP* **Pn 22 02 03.7 -2.3**
TRQA Tornquist 16.62 158 Pn 22 02 04.0 -2.1
TRQA Tornquist 16.62 158 P **Pn 22 02 04.0 -2.1**
PDRB Porto dos Gac 16.70 50 *eP* **Pn 22 02 03.9 -3.5**
GO06 Curarrehue 16.79 184 Pn 22 02 06.6 -1.8
PLTB Pedras Altas 16.92 125 Pn **Pn 22 02 07.0 -2.9**
PLTB Pedras Altas 16.92 125 *eP* **Pn 22 02 06.2 -3.7**
PCMB Pacaembu 17.20 90 *eP* **Pn 22 02 11.6 -1.9**
LR04 Corral 17.30 189 Pn 22 02 12.9 -1.6
ATAH Atahualpa 17.64 331 P **P 22 02 22.0 +2.7**
comp=Z,113nm,0.9s,baz=152,slow=9.1,SNR=38
ATAH S **Sn 22 05 29.5 -6.2**
comp=Z,10.0nm,0.8s,baz=167,slow=20,SNR=1.0
CLDB Colider 17.88 51 *eP* **P 22 02 19.4 -2.1**
PLCA Paso Flores 17.89 182 P **P 22 02 21.5 0.0**
comp=Z,26nm,0.7s,baz=7.9,slow=9.1,SNR=46
PLCA S **Sn 22 05 36.9 -3.8**
comp=Z,12nm,0.9s,baz=12,slow=9.5,SNR=1.6
PLCA PcP **PcP 22 06 56.0 +1.6**
comp=Z,25nm,0.7s,baz=34,slow=3.6,SNR=6.7
PLCA LR LR 22 09 35.5
comp=Z,5µm,21.5s,baz=7.5,slow=38
PLCA Paso Flores 17.89 182 P 22 02 20.4 -1.1
PLCA Paso Flores 17.89 182 *eP* **P 22 02 21.2 -0.3**
LL04 Puerto Octay 18.19 186 P **P 22 02 23.5 -1.2**
CNLB Canela 18.20 115 *eP* **P 22 02 23.2 -1.8**
ITRB Iturama 18.37 84 *eP* **P 22 02 25.8 -1.2**
ARAG Araguaiana, MT 18.38 71 *eP* **P 22 02 25.1 -1.8**
LL03 Petrohue 18.41 186 P **P 22 02 27.2 0.0**
TBTG Tabatinga, AM 18.51 360 P **P 22 02 26.8 -1.7**
TBTG Tabatinga, AM 18.51 360 ⇑*eP* **Pn 22 02 29.6 +0.2**
TBTG Tabatinga, AM 18.51 360 *eP* **P 22 02 27.9 -0.5**
FRTB Fartura 18.62 96 *eP* **P 22 02 28.3 -1.3**
LL05 Los Muermos 18.80 189 P **P 22 02 30.9 -0.6**
TIJ01 Guaruva-PR 19.15 102 *eP* **P 22 02 34.3 -1.1**
TER01 Tubaro-SC 19.47 111 *eP* **P 22 02 37.3 -1.5**
LL06 Loncomilla 19.62 189 P 22 02 40.5 +0.1
LL06 IAmb IAmb 22 02 49.6
comp=Z,152nm,0.8s
TEFE Tefe 19.82 15 *eP* **P 22 02 42.3 -0.4**
LL07 Hotel Espejo d 20.21 188 P **P 22 02 46.2 -0.5**
GO07 Milladeo Hill, 20.51 188 P **P 22 02 48.4 -1.5**
RCLB Rio Claro- Sao 20.55 93 *eP* **P 22 02 48.5 -2.2**
SPB Sao Paulo 20.57 97 P **P 22 02 49.1 -1.7**
SNDB Serra Nova Dou 20.65 62 *eP* **P 22 02 49.1 -2.7**
PET01 Itanhaem-SP 20.69 99 *eP* **P 22 02 49.7 -2.5**
IPMB Ipameri, GO 20.78 81 *eP* **P 22 02 51.1 -2.1**
MCRA Macar, Loja 20.80 330 P **P 22 02 54.4 +1.1**
MCRA Macar, Loja 20.80 330 *eP* **P 22 02 54.4 +1.1**
NPGB Novo Progresso 20.94 44 *eP* **P 22 02 52.5 -2.4**
VAO Valinhos 21.03 95 *eP* **P 22 02 53.7 -2.2**
MACA Manacapuru-AM 21.43 26 P **P 22 02 58.6 -1.4**
MACA IAmb IAmb 22 03 14.8
comp=Z,529nm,0.8s
MACA Manacapuru-AM 21.43 26 *eP* **P 22 02 58.9 -1.2**
ARNL Arenillas 21.58 331 P **P 22 03 03.0 +1.4**
ARNL IAmb IAmb 22 03 05.0
comp=Z,684nm,1.1s
AY01 Puyuhuapi 21.69 186 P **P 22 03 02.0 -0.5**
BDFB Brasilia 21.75 75 P **P 22 03 00.9 -2.6**
comp=Z,86nm,0.5s,baz=240,slow=11,SNR=125
BDFB S **S 22 06 52.5 -7.9**
comp=Z,23nm,0.8s,baz=220,slow=20,SNR=1.7
comp=Z,86nm,0.5s
BDFB Brasilia 21.75 75 P **P 22 03 00.9 -2.6**
BDFB Brasilia 21.75 75 P **P 22 03 01.0 -2.6**
BDFB Brasilia 21.75 75 *eP* **P 22 03 00.2 -3.4**
SGCB SEo Gabriel d 22.71 7 *eP* **P 22 03 11.6 -2.1**
COYC Coyhaique 22.79 184 P **P 22 03 13.1 -1.3**
ITTB Itaituba 22.82 39 *eP* **P 22 03 11.8 -3.1**
PORT Chimborazo Vol 22.94 336 P **P 22 03 17.5 +0.7**
CHSH Refugio Sur-Vo 22.95 336 P **P 22 03 18.2 +1.4**
CHSH IAmb IAmb 22 03 39.7
comp=Z,438nm,0.8s
PIAT Ana Tenorio 23.19 338⇑*eP* **P 22 03 21.0 +2.1**
SLOR San Lorenzo - 23.52 338 P **P 22 03 24.1 +2.0**
PPLP Puerto Lpez 23.67 332 *eP* **P 22 03 22.1 -0.9**
PULU Pululahua 24.22 338 P **P 22 03 29.4 +1.0**
PULU IAmb IAmb 22 03 59.9
comp=Z,608nm,0.9s
BONI La Bonita 24.31 341 *eP* **P 22 03 31.2 +2.1**
VAS01 Vassouras-RJ 24.33 94 *eP* **P 22 03 28.8 -0.2**
IMBA Imbabura, San 24.36 339 P **P 22 03 31.2 +1.6**
IMBA IAmb IAmb 22 04 00.9
comp=Z,927nm,1.3s
FLF1 Flavio Alfaro- 24.36 335 *eP* **P 22 03 31.2 +2.0**
TULM Tulcn-Chalpat 24.64 341 P **P 22 03 33.2 +0.9**
TULM IAmb IAmb 22 04 02.2
comp=Z,467nm,1.0s
TULM Tulcn-Chalpat 24.64 341⇑*eP* **P 22 03 35.1 +2.8**
DIAM Diamantina, MG 24.85 84 *eP* **P 22 03 31.8 -2.1**
CMBC Cumbal 24.87 341 *eP* **P 22 03 38.4 +4.1**
FLOC Florencia 24.90 346 *eP* **P 22 03 35.8 +1.6**
GCUF Volcan Galeras 24.99 342 *eP* **P 22 03 40.8 +5.3**
MACC Macarena, Meta 25.11 350 *eP* **P 22 03 34.8 -1.3**
JANB Manuaria 25.28 77 *eP* **P 22 03 35.5 -2.1**
DUB01 Friburgo-RJ 25.34 94 *eP* **P 22 03 37.3 -0.8**
GUVC San Jose del G 25.35 353 *eP* **P 22 03 38.2 +0.1**
PRPB Paraupebas 25.39 52 *eP* **P 22 03 36.9 -1.6**
SMTB Santa Maria do 25.41 60 *eP* **P 22 03 37.9 -0.9**
GARC Garzon, Huila 25.45 347 *eP* **P 22 03 41.5 +2.0**
MALB Monte Alegre 25.71 38 *eP* **P 22 03 40.1 -1.3**
SDBA SAO DESIDERIO 25.84 71 *eP* **P 22 03 41.5 -1.2**
BETC Betania 25.92 347 *eP* **P 22 03 46.0 +2.6**
TUMC Tumaco 25.98 339 P **P 22 03 44.7 +0.8**
TUMC IAmb IAmb 22 03 50.1
comp=Z,506nm,0.9s
BOAV Boa Vista 26.63 21 P **P 22 03 49.5 -0.3**
BOAV IAmb IAmb 22 04 17.9
comp=Z,240nm,1.1s
BOAV Boa Vista 26.63 21 *eP* **P 22 03 49.8 +0.1**
BOAV Boa Vista 26.63 21 *eP* **P 22 03 49.5 -0.3**
GR1C Gorgona, Isla 26.92 341 *eP* **P 22 03 53.7 +1.3**
PTGC Puerto Gaitan, 26.94 355⇑*eP* **P 22 03 52.1 -0.4**
ALF01 Guarapari-ES 27.07 91 *eP* **P 22 03 52.9 -0.8**
YOTC Yotoco, Valle 27.38 346⇑*eP* **P 22 03 58.0 +1.3**
CHIC Chingaza 27.54 351 *eP* **P 22 03 59.0 +0.6**
RIB01 Linhares ES 27.63 88 *eP* **P 22 03 57.1 -1.7**
ROSC El Rosal 27.83 350 P **P 22 04 02.1 +1.2**
comp=Z,57nm,0.5s,baz=155,slow=5.4,SNR=15
ROSC LR LR 22 16 20.4
comp=Z,5µm,19.3s,baz=196,slow=39
comp=Z,57nm,0.5s
ROSC El Rosal 27.83 350 P **P 22 04 01.5 +0.6**
ROSC El Rosal 27.83 350 *eP* **P 22 04 02.4 +1.5**
MCPB Macapa, AP 28.20 40 *eP* **P 22 04 02.5 -1.4**
NAN01 Guarapari, ES 28.23 85 *eP* **P 22 04 02.1 -2.0**
NIZA Niza - Manizal 28.24 348 *eP* P 22 04 10.8 +6.4
PLMC San Jos del P 28.26 346 *eP* **P 22 04 06.6 +2.1**
GUY2C Guyana, Caldas 28.39 348 *eP* **P 22 04 08.3 +2.3**
PIZC Pizarro, Choco 28.57 344⇑*eP* P 22 04 14.3 +7.2
NORC Norcasia 28.63 349 *eP* **P 22 04 08.3 +0.6**
RUSC La Rusia 28.70 353 P **P 22 04 08.4 -0.4**
RUSC IAmb IAmb 22 04 16.8
comp=Z,324nm,1.0s
RUSC La Rusia 28.70 353 *eP* **P 22 04 09.7 +0.9**
GUA01 Guaratinga, BA 28.87 83 *eP* **P 22 04 08.2 -1.5**
TAMC Tame, Arauca 29.13 356⇑*eP* **P 22 04 12.1 +0.1**
TMAB Tom-Au,PA,Br 29.25 49 *eP* **P 22 04 12.6 -0.5**
CMC01 Camacan, BA 29.51 81 *eP* **P 22 04 13.8 -1.6**
ABR01 Abrolhos, BA 29.51 86 *eP* **P 22 04 14.6 -0.8**
PTBC PUERTO BERRIO, 29.52 351 *eP* **P 22 04 14.0 -1.5**
PAYG Puerto Ayora 29.68 315 P **P 22 04 17.2 +0.3**
MG02 Cerro Sombrero 29.93 179 P **P 22 04 19.6 +0.9**
MG02 IAmb IAmb 22 05 14.0
comp=Z,348nm,1.1s
GDU01 Guandu, BA 30.03 78 *eP* **P 22 04 18.2 -1.9**
PAMC Pamplona, Colo 30.09 354 *eP* **P 22 04 20.3 -0.8**
EFI East Falkland 30.21 165 *i* P **P 22 04 22.9 +1.6**
DBBC Dabeiba 30.30 347 *eP* **P 22 04 23.1 +0.6**
ZARC Zaragoza, Cauc 30.52 350⇑*eP* **P 22 04 23.1 -1.3**
URAC San Jos de Ur 30.88 349 *eP* **P 22 04 27.1 -0.4**
APAC Apartado, Choc 31.23 347 *eP* **P 22 04 32.8 +2.2**
SDV Santo Domingo 31.51 358 LR LR 22 18 58.6
comp=Z,2µm,18.6s,baz=184,slow=40
SDV Santo Domingo 31.51 358 P **P 22 04 32.1 -1.1**
SDV Santo Domingo 31.51 358 *eP* **P 22 04 31.4 -1.8**
SDV Santo Domingo 31.51 358 P **P 22 04 31.7 -1.5**
BAUV El Baul 31.60 3 P **P 22 04 33.0 -0.9**
BAUV IAmb IAmb 22 04 34.2
comp=Z,224nm,1.0s
BAUV El Baul 31.60 3 *eP* **P 22 04 30.4 -3.4**
CACAO El Cacao, Vera 31.86 339 *eP* **P 22 04 38.2 +2.0**
USHA Ushuaia 32.00 179 S S 22 09 33.6 -10
comp=Z,15nm,0.5s,baz=214,slow=1.9,SNR=1.9
USHA LR LR 22 17 42.0
comp=Z,2µm,21.5s,baz=9.0,slow=36
AZU Azuero 32.09 340 *eP* **P 22 04 40.5 +2.3**
AZU Azuero 32.09 340 *eP* sP 22 05 06.0 +1.2
UPD2 Meteti 32.18 345 *eP* P 22 04 31.8 -7.1
MDP Montagnes des 32.41 33 P **P 22 04 40.6 -0.4**
comp=Z,77nm,0.9s,baz=204,slow=9.0,SNR=17
MDP LR LR 22 18 36.2
comp=Z,3µm,20.3s,baz=206,slow=38
comp=Z,77nm,0.9s
MPGF Montagnes des 32.42 33 P **P 22 04 40.5 -0.6**
MPGF pP **pP 22 04 57.8 -1.0**
MPGF sP **sP 22 05 07.3 -0.2**
ARGC Ariguani, Magd 32.75 352 *eP* **P 22 04 43.5 -0.5**
SJCC San Jacinto, C 32.92 350⇑*eP* **P 22 04 45.5 0.0**
BCIP Isla Barro Col 33.26 342 P **P 22 04 49.6 +1.2**
BCIP IAmb IAmb 22 04 53.3
comp=Z,143nm,1.0s
BCIP Isla Barro Col 33.26 342 P **P 22 04 49.6 +1.2**
BCIP pmax pmax
comp=Z,143nm,1.0s
BCIP Isla Barro Col 33.26 342 *eP* **P 22 04 51.0 +2.6**
BRU2 Volcan 33.85 337 *eP* **P 22 04 56.3 +2.6**
POTG Potrero Grande 34.25 336 *eP* **P 22 04 59.3 +2.3**
TRN Trinidad (W) 34.25 15 *eP* **P 22 04 53.2 -3.7**
URIC Uribia, Colomb 34.36 356 *eP* **P 22 04 55.0 -2.9**
SRBA San Rafael, Bu 34.50 336 P **P 22 05 01.1 +1.8**
SRBA San Rafael, Bu 34.50 336 *eP* **P 22 05 01.5 +2.2**
PEZE Perez Zeledon, 34.76 335 P **P 22 05 02.8 +1.3**
PEZE IAmb IAmb 22 05 05.5
comp=Z,186nm,1.0s
PEZE Perez Zeledon, 34.76 335 *eP* **P 22 05 03.9 +2.4**
BUS1 Rivas 34.94 335 *eP* **P 22 05 05.9 +2.4**
CDM Cerro de Muert 34.95 335 *eP* **P 22 05 04.8 +1.3**
MRVA Moravia de Chi 35.08 336 *eP* **P 22 05 06.6 +2.3**
TOSP Speyside 35.09 16 P **P 22 05 03.6 -0.6**
TOSP Speyside 35.09 16 *eP* **P 22 05 03.2 -1.0**
RIMA Rio Macho 35.18 335 P **P 22 05 07.0 +1.8**
RIMA IAmb IAmb 22 05 09.2
comp=Z,194nm,1.0s
RIMA Rio Macho 35.18 335 *eP* **P 22 05 07.2 +1.9**
ABE2 San Pablo 35.20 335 *eP* **P 22 05 08.7 +3.2**
REPA Paraso 35.24 335 *eP* **P 22 05 08.8 +3.1**
VERB Verbena 35.28 336 *eP* **P 22 05 08.8 +2.8**
BATAN Batan 35.30 336 *eP* **P 22 05 08.7 +2.6**
VTCV VTCV, Calle Va 35.33 336 *eP* **P 22 05 09.0 +2.5**
OCM Ochomogo 35.34 335 *eP* **P 22 05 09.2 +2.6**
IRES Siquirres 35.35 336 *eP* **P 22 05 10.1 +3.6**
CVTV Tajo 35.36 336 *eP* **P 22 05 09.9 +3.0**
LCOCO El Coco 35.36 336 *eP* **P 22 05 09.6 +3.1**
VICA Volcano Irazu 35.38 336 *eP* **P 22 05 09.9 +2.7**
VTCE Turrialba Volc 35.38 336 *eP* **P 22 05 10.0 +2.8**
RVLA Villa Bonita 35.39 336 *eP* **P 22 05 10.3 +3.5**
JACO JACO, Garabito 35.40 334 P **P 22 05 08.1 +1.2**
JACO IAmb IAmb 22 05 10.8

comp=Z,158nm,1.1s
JACO JACO, Garabito 35.40 334 *e*P **P 22 05 08.8 +1.9**
CVIMO Finca Echandi 35.45 335 *e*P **P 22 05 10.6 +3.0**
HDC Heredia 35.49 335 P **P 22 05 09.0 +1.1**
HDC Heredia 35.49 335 *e*P **P 22 05 10.7 +2.8**
HDC3 Heredia 3 35.49 335 *e*P **P 22 05 10.7 +2.8**
NBCL Cascavel-CE 35.62 63 *e*P **P 22 05 08.7 -0.2**
GRGR Grenville 35.62 14 P **P 22 05 08.1 -0.7**
GRGR Grenville 35.62 14 *e*P **P 22 05 04.2 -4.6**
LAFE Finca La Fe, P 35.63 334 *e*P **P 22 05 10.0 +1.1**
VPTE Poasito 35.68 335 *e*P **P 22 05 12.6 +2.9**
NARAN Naranjo de Ala 35.69 335 *e*P **P 22 05 13.1 +3.7**
VPS6 Volcano Poas 35.71 335 *e*P **P 22 05 14.2 +4.3**
CRPO Crater poas 35.72 335 *e*P **P 22 05 12.8 +2.8**
POA5 Crater Von Fra 35.73 335 *e*P **P 22 05 12.7 +2.6**
CPMI Catarata Coope 35.85 335 *e*P **P 22 05 14.0 +2.9**
RPN Rapa Nui 36.00 255 P **P 22 05 14.8 +2.8**
comp=Z,68nm,0.8s,baz=107,slow=5.0,SNR=2.4
RPN LR LR 22 16 11.3
comp=Z,3µm,21.3s,baz=94,slow=30
comp=Z,68nm,0.8s
POPE POPE, Guanacas 36.01 333 *e*P **P 22 05 13.8 +1.8**
GCMP Grenada, Carri 36.02 14 *e*P **P 22 05 09.7 -2.5**
SOCE Pocosol 36.04 335 *e*P **P 22 05 15.5 +3.1**
JTS Las Juntas de 36.09 334 P **P 22 05 15.2 +2.4**
comp=Z,34nm,0.9s
JTS PcP **PcP 22 07 38.9 +1.3**
comp=Z,34nm,0.9s
JTS Las Juntas de 36.09 334 P **P 22 05 13.9 +1.1**
JTS IAmb IAmb 22 05 43.1
comp=Z,154nm,1.2s
JTS Las Juntas de 36.09 334 *i* P **P 22 05 14.9 +2.1**
JTS pmax pmax
comp=Z,173nm,1.8s
JTS Las Juntas de 36.09 334 *e*P **P 22 05 14.4 +1.6**
JTS Las Juntas de 36.09 334 *e*P **P 22 05 15.0 +2.2**
JTS Las Juntas de 36.09 334 P **P 22 05 15.5 +2.7**
JTS sP **sP 22 05 41.0 +1.5**
DUNO Dulce Nombre, 36.12 333 P **P 22 05 14.0 +1.0**
DUNO IAmb IAmb 22 05 16.8
comp=Z,155nm,1.1s
VACR Volcan Arenal 36.15 335 *e*P **P 22 05 15.5 +2.2**
NICO Nicoya 36.15 333 *e*P **P 22 05 15.7 +2.4**
CEDE Laguna Cedeo 36.17 335 *e*P **P 22 05 17.1 +3.6**
SAJU San Juanillo, 36.20 333 *e*P **P 22 05 15.3 +1.5**
TABAC Tabacon 36.20 335 *e*P **P 22 05 17.1 +3.3**
SAAN San Antonio 36.21 333 *e*P **P 22 05 17.2 +3.4**
JUD3 Juan Diaz 3 36.22 333 *e*P **P 22 05 15.5 +1.5**
COVE Coope Vega, Sa 36.26 335 *e*P **P 22 05 17.3 +3.0**
ORTG Ortega, Santa 36.36 333 *e*P **P 22 05 16.3 +1.1**
HATIL Hatillo 36.40 333 *e*P **P 22 05 17.6 +2.1**
BAGA Bagaces 36.43 334 *e*P **P 22 05 19.2 +3.6**
PTEN Parque Tenorio 36.49 334 *e*P **P 22 05 19.1 +2.8**
VERA Finca Concepci 36.57 335 *e*P **P 22 05 19.6 +2.8**
MESS Mesas 36.59 334 *e*P **P 22 05 19.9 +2.7**
ALIBA Liberia Airpor 36.60 333 *e*P **P 22 05 19.9 +2.8**
CANAL Canalete 36.62 334 *e*P **P 22 05 20.6 +3.3**
CLARA Aguas Claras 36.63 334 *e*P **P 22 05 20.7 +3.3**
VMAR Armenia, Volca 36.63 334 *e*P **P 22 05 19.8 +2.4**
ELI1 Hacienda Flor 36.66 333 *e*P **P 22 05 21.0 +3.4**
GP77 Hacienda Santa 36.67 334 *e*P **P 22 05 21.1 +3.3**
VRLE La Escondida, 36.71 334 *e*P **P 22 05 20.4 +2.3**
LAPC Finca la Perla 36.72 334 *e*P **P 22 05 20.6 +2.5**
BUEV Buena Vista 36.73 334 *e*P **P 22 05 21.6 +3.2**
HZTE Horizontes, Gu 36.73 333 *e*P **P 22 05 20.4 +2.1**
GBS3 Finca Las Img 36.74 334 *e*P **P 22 05 21.0 +2.7**
BUAI Buenos Aires 36.77 334 *e*P **P 22 05 21.8 +3.2**
RCBR Riachuelo 36.78 68 P **P 22 05 18.8 0.0**
comp=Z,136nm,0.9s,baz=18,slow=8.5,SNR=3.4
RCBR LR LR 22 22 01.2
comp=Z,2µm,20.4s,baz=34,slow=39
comp=Z,136nm,0.9s
RCBR Riachuelo 36.78 68 P **P 22 05 18.6 -0.2**
RCBR Riachuelo 36.78 68 *e*P **P 22 05 19.2 +0.4**
RCBR Riachuelo 36.78 68 P **P 22 05 19.1 +0.3**
RCBR pP **pP 22 05 37.0 +0.1**
RCBR sP **sP 22 05 46.7 +1.2**
SVB Belmont 36.82 14 P **P 22 05 17.6 -1.4**
SVB Belmont 36.82 14 *e*P **P 22 05 19.5 +0.5**
BBGH Gun Hill 37.11 17 *e*P P 22 05 19.6 -11
MCLT Moule a Chique 37.31 14 P **P 22 05 21.6 -1.5**
MCLT IAmb IAmb 22 05 22.8
comp=Z,168nm,0.9s
MCLT Moule a Chique 37.31 14 *e*P **P 22 05 22.3 -0.8**
ESPN Las Esperanzas 37.58 336 *e*P **P 22 05 26.8 +1.4**
SLBI Saint Lucia, B 37.61 14 *e*P P 22 05 18.2 -7.4
ACON Acoyapa 37.70 335 P **P 22 05 27.4 +0.9**
ACON IAmb IAmb 22 05 29.3
comp=Z,139nm,1.0s
ACON Acoyapa 37.70 335 *e*P **P 22 05 27.3 +0.9**
ACON Acoyapa 37.70 335 *e*P **P 22 05 27.4 +0.9**
PRVC Isla de Provid 37.70 341 P **P 22 05 27.7 +1.2**
H05S1 Guadeloupe/Mar 38.02 14 P **P 22 05 26.0 -3.1**
SNR=7.1
MPOM Morne Pois Mar 38.04 14 P **P 22 05 26.8 -2.5**
MPOM Morne Pois Mar 38.04 14 *e*P P 22 05 20.7 -8.5
BIM Bigot 38.06 14 P **P 22 05 26.7 -2.8**
BIM IAmb IAmb 22 06 05.0
comp=Z,201nm,1.0s
BIM Bigot 38.06 14 *e*P **P 22 05 30.7 +1.2**
FDF Fort de France 38.25 14 P **P 22 05 27.7 -3.4**
FDF IAmb IAmb 22 06 06.2
comp=Z,172nm,0.9s
FDF Fort de France 38.25 14 *e*P P 22 05 25.5 -5.6
FDF Fort de France 38.25 14 P **P 22 05 27.7 -3.4**
FDF pmax pmax
comp=Z,172nm,0.9s
FDF Fort de France 38.25 14 P **P 22 05 28.2 -2.9**
BOAB BOACO BROADBAN 38.33 334 P **P 22 05 32.1 +0.3**
BOAB IAmb IAmb 22 05 41.0
comp=Z,249nm,1.2s
ILAM Ilet Lapin Mar 38.35 14 *e* 22 13 44.9
DLPL La Plaine 38.81 13 *e*P **P 22 05 32.0 -3.8**
MAGL Barre de l'ile 39.41 13 *e*P **P 22 05 40.6 -0.1**
CBE Ff, Capester 39.46 12 *e*P **P 22 05 40.5 -0.7**
H05N1 Guadeloupe/Mar 39.81 13 P **P 22 05 40.1 -4.0**
SNR=7.0
ABD La Joyeuse, An 39.87 12 *e*P P 22 05 37.5 -7.1
ANBD Bethesda, Anti 40.38 12 *e*P P 22 05 35.7 -13
TGUH Tegucigalpa,Un 40.44 333 P **P 22 05 50.0 +0.6**
TGUH Tegucigalpa,Un 40.44 333 *e*P **P 22 05 51.2 +1.8**
SEUS St. Eustatius 40.60 10 *e*P **P 22 05 49.2 -1.4**
MLPR Magueyes Islan 40.61 4 P **P 22 05 48.1 -2.6**
MLPR IAmb IAmb 22 05 51.1
comp=Z,253nm,0.9s
CRPR Cabo Rojo, PR 40.65 4 P **P 22 05 49.4 -1.6**
CRPR IAmb IAmb 22 05 50.3
comp=Z,243nm,0.9s
SABA Saba 40.69 10 *e*P **P 22 05 52.5 +1.2**
CELP Cerrillos 40.75 5 P **P 22 05 50.3 -1.5**
SJG San Juan 40.82 5 LR LR 22 24 35.5
comp=Z,2µm,21.3s,baz=188,slow=39
SJG San Juan 40.82 5 P **P 22 05 50.2 -2.2**
SJG IAmb IAmb 22 05 51.6
comp=Z,270nm,0.9s
SJG San Juan 40.82 5 P **P 22 05 50.2 -2.2**
SJG pmax pmax
comp=Z,270nm,0.9s
SJG San Juan 40.82 5 P **P 22 05 49.8 -2.6**
HUMP Col San Antoni 40.88 6 P **P 22 05 50.8 -2.0**
AOPR Arecibo Observ 41.01 4 P **P 22 05 52.3 -1.6**
AOPR IAmb IAmb 22 05 53.3
comp=Z,127nm,0.8s
GCPR Guaynabo City 41.02 5 P **P 22 05 51.7 -2.3**
GCPR IAmb IAmb 22 05 53.7
comp=Z,158nm,0.8s
MTDJ Mount Denham 41.48 349 P **P 22 05 56.5 -1.3**
MTDJ IAmb IAmb 22 06 00.1
comp=Z,436nm,1.3s
MTDJ Mount Denham 41.48 349 *e*P P 22 05 50.8 -7.1
SC01 Santiago de lo 41.98 359 P **P 22 06 00.8 -1.1**
PMSA Palmer Station 42.13 176 P **P 22 06 04.4 +1.8**
comp=Z,18nm,0.8s,baz=358,slow=12,SNR=2.2
PMSA LR LR 22 25 22.4
comp=Z,1µm,19.7s,baz=321,slow=38
comp=Z,18nm,0.8s
CCIG Comitan 44.58 329 P **P 22 06 23.2 +0.1**
TEIG Tepich 46.42 336 P **P 22 06 37.0 -0.3**
TEIG Tepich 46.42 336 *e*P **P 22 06 38.0 +0.6**
TEIG Tepich 46.42 336 P **P 22 06 37.9 +0.6**
TEIG pP **pP 22 06 56.0 0.0**
TEIG sP **sP 22 07 05.2 +0.6**
CMIG Matias Romero 46.63 326 P **P 22 06 40.3 +1.2**
comp=Z,81nm,0.9s,baz=138,slow=5.1,SNR=76
CMIG LR LR 22 22 59.3
comp=Z,908nm,21.8s,baz=152,slow=32
comp=Z,81nm,0.9s
SOR Soroa 47.11 343 P **P 22 06 42.8 +0.1**
SOR IAmb IAmb 22 06 44.3
comp=Z,168nm,1.0s
SOR Soroa 47.11 343 P **P 22 06 42.8 +0.1**
SOR pmax pmax
comp=Z,168nm,1.0s
TLIG Tlapa 49.00 323 P **P 22 06 59.0 +1.4**
TLIG IAmb IAmb 22 07 01.1
comp=Z,178nm,1.0s
061Z Ochoppi 49.57 347 P **P 22 07 02.8 +1.3**
baz=167
060A Indiantown 50.59 348 P **P 22 07 09.4 +0.1**
060A Indiantown 50.59 348 P **P 22 07 11.1 +1.8**
baz=168,SNR=5.4
TRIS Tristan da Cun 51.09 120 P **P 22 07 13.3 +0.3**
TRIS IAmb IAmb 22 07 17.6
comp=Z,96nm,0.8s
DWPF Disney Wildern 51.85 347 P **P 22 07 18.6 -0.1**
DWPF IAmb IAmb 22 07 20.3
comp=Z,178nm,0.9s
DWPF Disney Wildern 51.85 347 P **P 22 07 19.5 +0.8**
baz=166
DWPF Disney Wildern 51.85 347 P **P 22 07 19.0 +0.3**
baz=166
DWPF Disney Wildern 51.85 347 P **P 22 07 19.0 +0.3**
DWPF pP **pP 22 07 36.5 -1.2**
DWPF sP **sP 22 07 45.4 -0.8**
MOIG Morelia 52.18 322 P **P 22 07 22.3 +0.7**
656A Willston 53.30 346 P **P 22 07 30.2 +0.8**
baz=166,SNR=15
456A Hilliard 54.50 347 P **P 22 07 39.3 +1.2**
baz=166,SNR=9.3
BBSR BB Station 55.08 5 P **P 22 07 42.0 -0.3**
BBSR IAmb IAmb 22 07 44.3
comp=Z,124nm,0.8s
BBSR BB Station 55.08 5 P **P 22 07 42.3 0.0**
baz=186,SNR=7.0
BBSR BB Station 55.08 5 P **P 22 07 41.9 -0.3**
BBSR pP **pP 22 07 60.0 -1.5**
ASCN Ascension 55.15 84 P **P 22 07 44.0 +0.8**
ASCN IAmb IAmb 22 07 50.7
comp=Z,121nm,0.9s
451A Vernon 55.28 343 P **P 22 07 44.2 +0.4**
baz=162
ZAIG Zacatecas 55.40 323 P **P 22 07 46.5 +1.4**
257A Skidaway Islan 55.52 348 P **P 22 07 46.0 +0.5**
baz=168
TIGA Tifton 55.53 346 P **P 22 07 45.2 -0.3**
TIGA IAmb IAmb 22 07 46.6
comp=Z,121nm,0.8s
TIGA Tifton 55.53 346 P **P 22 07 45.9 +0.3**
baz=165,SNR=10
TIGA Tifton 55.53 346 P **P 22 07 45.4 -0.2**
baz=165,SNR=10
255A Hazlehurst 55.76 347 P **P 22 07 47.7 +0.5**
baz=166,SNR=11
352A Blakely 55.89 344 P **P 22 07 48.5 +0.4**
baz=163,SNR=24
BRAL Brewton 56.16 342 P **P 22 07 50.6 +0.6**
baz=161,SNR=14
BRAL Brewton 56.16 342 P **P 22 07 50.1 +0.1**
baz=161,SNR=14
CSU Charleston Sou 56.34 350 P **P 22 07 51.6 +0.4**
NHSC New Hope 56.48 350 P **P 22 07 52.8 +0.5**
NHSC New Hope 56.48 350 P **P 22 07 53.5 +1.3**
baz=169,SNR=15
NHSC New Hope 56.48 350 P **P 22 07 53.0 +0.8**
baz=169,SNR=15
154A Montrose 56.56 347 P **P 22 07 53.2 +0.4**
baz=165,SNR=22
250A Grady 56.71 343 P **P 22 07 53.7 -0.2**
baz=162,SNR=31
KVTX Kingsville 56.94 330 P **P 22 07 57.8 +2.1**
baz=149
152A Waverly Hall 56.98 345 P **P 22 07 55.7 -0.1**
baz=164,SNR=58
HAW Hawthorne Fire 56.98 348 P **P 22 07 56.3 +0.5**
baz=167,SNR=52
Y60A Bolivia 57.06 352 P **P 22 07 57.1 +0.8**
baz=171,SNR=20
Y60A P **P 22 07 57.1 +0.8**
baz=171,SNR=20
346A Big Creek Wild 57.09 340 P **P 22 07 57.4 +0.8**
baz=158,SNR=5.9
Y58A Scranton 57.17 350 P **P 22 07 58.2 +1.0**
baz=169,SNR=10
Y58A P **P 22 07 58.2 +1.0**
baz=169,SNR=10
Y57A Sumter 57.40 350 P **P 22 07 59.6 +0.9**
baz=169,SNR=7.4
Y57A P **P 22 07 59.6 +0.9**
baz=169,SNR=7.4
344A Westbrook Farm 57.56 339 P **P 22 08 00.7 +0.7**
baz=157,SNR=15
BELA Belgrano 2 57.58 172 P **P 22 08 00.3 +0.7**
H06E1 SOCORRO T-PHAS 57.65 312 P **P 22 08 02.3 +1.5**
H06E1 T T 23 10 01.7
SNR=62
Z51A Franklin 57.70 345 P **P 22 08 01.0 +0.1**
baz=163,SNR=20
H06N1 SOCORRO T-PHAS 57.74 312 P **P 22 08 03.0 +1.5**
X58A Rowland 57.76 351 P **P 22 08 02.3 +1.0**
baz=170,SNR=6.6
X58A P **P 22 08 02.3 +1.0**
baz=170,SNR=6.6
441A DeRidder 57.79 336 P **P 22 08 03.6 +2.0**
baz=155,SNR=7.7
JSC Jenkinsville 57.81 349 P **P 22 08 02.1 +0.5**
baz=168,SNR=33
LRAL Lakeview Retre 57.90 343 P **P 22 08 01.6 -0.7**
LRAL IAmb IAmb 22 08 03.0
comp=Z,140nm,1.0s
LRAL Lakeview Retre 57.90 343 P **P 22 08 02.2 -0.1**
baz=161,SNR=49
LRAL Lakeview Retre 57.90 343 P **P 22 08 01.7 -0.7**
baz=161,SNR=49
HODGE Hodges 57.95 348 P **P 22 08 02.4 -0.2**
HODGE IAmb IAmb 22 08 03.8
comp=Z,82nm,1.0s
HODGE Hodges 57.95 348 P **P 22 08 02.5 -0.2**
baz=167,SNR=26
Y52A Lilburn 57.97 346 P **P 22 08 02.2 -0.6**
baz=165,SNR=29
Y52A P **P 22 08 02.2 -0.6**
baz=165,SNR=29
735A Kenedy 58.02 331 P **P 22 08 05.0 +1.8**
baz=150,SNR=7.7
BIRD Birdtown, Kers 58.03 350 P **P 22 08 03.6 +0.5**
baz=169
342B Flagon Creek P 58.04 337 P **P 22 08 04.7 +1.4**
baz=156,SNR=34
HKT Hockley 58.12 333 P **P 22 08 04.2 +0.4**
HKT IAmb IAmb 22 08 06.2
comp=Z,101nm,1.1s
HKT Hockley 58.12 333 P **P 22 08 05.1 +1.2**
baz=152
HKT Hockley 58.12 333 P **P 22 08 04.2 +0.4**
HKT pmax pmax
comp=Z,101nm,1.1s
HKT Hockley 58.12 333 P **P 22 08 04.5 +0.7**
HKT pP **pP 22 08 22.9 -0.2**
HKT sP **sP 22 08 30.2 -1.2**
146A Union 58.12 341 P **P 22 08 04.4 +0.6**
baz=159,SNR=13
VBMS Vicksburg 58.19 339 P **P 22 08 04.3 0.0**
VBMS Vicksburg 58.19 339 P **P 22 08 05.1 +0.7**
baz=158,SNR=7.4
VBMS Vicksburg 58.19 339 P **P 22 08 04.5 +0.1**
baz=158,SNR=7.4
CNNC Cliffs of the 58.23 352 P **P 22 08 04.7 +0.1**
CNNC Cliffs of the 58.23 352 P **P 22 08 05.9 +1.3**
baz=171,SNR=7.4
CNNC Cliffs of the 58.23 352 P **P 22 08 05.1 +0.6**
baz=171,SNR=7.4
833A Chaparral WMA, 58.30 329 P **P 22 08 06.2 +0.9**
baz=148,SNR=56
833A Chaparral WMA, 58.30 329 P **P 22 08 06.1 +0.9**
baz=148,SNR=56
Z47A Carrollton 58.36 342 P **P 22 08 05.0 -0.5**
baz=160,SNR=29
PAULI Pauline 58.44 348 P **P 22 08 06.7 +0.7**
baz=167,SNR=35
W57A Gilead 58.45 350 P **P 22 08 06.2 +0.2**
baz=169,SNR=41
W57A P **P 22 08 06.2 +0.2**
baz=169,SNR=41
Y49A Blount Mountai 58.53 344 P **P 22 08 06.0 -0.7**
baz=162,SNR=42
V61A Roper 58.63 354 P **P 22 08 08.1 +0.8**
baz=173,SNR=16
V61A P **P 22 08 08.1 +0.8**
baz=173,SNR=16
KMSC Kings Mountain 58.66 349 P **P 22 08 07.4 -0.2**
KMSC Kings Mountain 58.66 349 P **P 22 08 07.7 +0.1**
baz=168,SNR=48
KMSC Kings Mountain 58.66 349 P **P 22 08 07.7 +0.1**
baz=168,SNR=48
CASEE Lake Jocassee 58.82 347 P **P 22 08 08.7 0.0**
baz=166,SNR=43
X51A Calhoun 58.82 345 P **P 22 08 08.5 -0.2**
baz=164,SNR=61
X51A P **P 22 08 08.5 -0.2**
baz=164,SNR=61
143A Socs Landing, 58.93 339 P **P 22 08 10.3 +0.8**
baz=157,SNR=14
V58A Windy Hill, Pi 58.94 351 P **P 22 08 09.8 +0.3**
baz=170,SNR=68
V58A P **P 22 08 09.8 +0.3**
baz=170,SNR=68
FPAL Fort Paine 58.98 345 P **P 22 08 08.9 -0.9**
VNA3 Neumayer Olymp 59.11 161 P **P 22 08 11.5 +1.1**
VNA3 Neumayer Olymp 59.11 161 pP pP 22 08 28.6 -1.0
W52A Murphy 59.12 347 P **P 22 08 10.7 -0.2**
baz=165,SNR=47
NATX Nacogdoches 59.25 335 P **P 22 08 12.1 +0.3**
NATX Nacogdoches 59.25 335 P **P 22 08 13.5 +1.7**
baz=153,SNR=23
NATX Nacogdoches 59.25 335 P **P 22 08 12.8 +1.1**
baz=153,SNR=23
X48A Hartselle 59.26 343 P **P 22 08 11.2 -0.5**
baz=162,SNR=170
U59A Littleton 59.32 352 P **P 22 08 12.6 +0.5**
baz=172,SNR=74
U59A P **P 22 08 12.6 +0.5**
baz=172,SNR=74
V55A Taylorsville 59.33 349 P **P 22 08 12.6 +0.4**
baz=168,SNR=93
V55A P **P 22 08 12.6 +0.4**
baz=168,SNR=93
VNA1 Neumayer--Stat 59.34 160 P **P 22 08 13.4 +1.6**
VNA1 Neumayer--Stat 59.34 160 pP pP 22 08 26.4 -4.8
Y45A Yeager Farm, C 59.41 341 P **P 22 08 12.8 0.0**
baz=159,SNR=37
V53A Saluda 59.45 348 P **P 22 08 12.8 -0.2**
baz=166,SNR=44
V53A P **P 22 08 12.8 -0.2**
baz=166,SNR=44
RKT Rikitea 59.53 256 *e*P **P 22 08 13.7 -0.3**
comp=Z,109nm,1.2s
RKT *e*S **S 22 16 16.9 -1.6**
comp=Z,176µm,32.0s
RKT *e*SS **SS 22 20 15.2 +0.4**
comp=Z,129µm,38.5s
RKT *e*LR LR 22 25 49.5
comp=Z,1072µm,31.0s
W50A Signal Mountai 59.54 345 P **P 22 08 13.3 -0.3**
baz=164,SNR=116
435B Jarrell 59.58 332 P **P 22 08 14.2 +0.2**
435B IAmb IAmb 22 08 15.8
comp=Z,126nm,0.9s
435B Jarrell 59.58 332 P **P 22 08 15.2 +1.1**
baz=150,SNR=8.6
435B Jarrell 59.58 332 P **P 22 08 14.4 +0.3**
baz=150
CPCT Cooper Cave 59.59 346 P **P 22 08 13.5 -0.5**
TKL Tuckaleechee C 59.63 347 LR LR 22 35 51.4
comp=Z,452nm,21.0s,baz=159,slow=38
TKL Tuckaleechee C 59.63 347 P **P 22 08 13.7 -0.6**
TKL Tuckaleechee C 59.63 347 P **P 22 08 13.9 -0.4**
baz=165,SNR=78
TKL Tuckaleechee C 59.63 347 P **P 22 08 13.7 -0.6**
TKL pmax pmax
comp=Z,280nm,1.0s
U56A King 59.68 350 P **P 22 08 15.3 +0.8**
baz=169,SNR=41
U56A P **P 22 08 15.3 +0.8**
baz=169,SNR=41
SWET Sewanee 59.70 345 P **P 22 08 14.2 -0.6**
VNA2 Neumayer--Watz 59.70 160 P **P 22 08 15.4 +1.0**
baz=281,slow=8.0
VNA2 Neumayer--Watz 59.70 160 pP pP 22 08 30.5 -3.2
baz=302,slow=9.0
V52A Sevierville 59.77 347 P **P 22 08 14.8 -0.4**
baz=165,SNR=109
V51A Loudon 59.90 346 P **P 22 08 15.7 -0.4**
baz=165,SNR=48
T59A Double "B" Far 59.90 353 P **P 22 08 16.5 +0.4**
baz=172,SNR=89
T59A P **P 22 08 16.5 +0.4**
baz=172,SNR=89
237A Washetta, Mont 59.91 334 P **P 22 08 17.8 +1.5**
baz=152,SNR=13
OXF Oxford 59.97 341 P **P 22 08 15.8 -0.8**
OXF Oxford 59.97 341 P **P 22 08 16.1 -0.5**
baz=159,SNR=61
OXF Oxford 59.97 341 P **P 22 08 15.5 -1.1**
baz=159,SNR=61
OXF Oxford 59.97 341 P **P 22 08 15.8 -0.8**
OXF pmax pmax
comp=Z,581nm,1.0s
T60A Surry 59.98 354 P **P 22 08 17.4 +0.7**
baz=173,SNR=29
T60A P **P 22 08 17.4 +0.7**
baz=173,SNR=29
U54A Nelsons Funny 60.09 349 P **P 22 08 17.6 +0.1**
baz=167,SNR=111
U54A P **P 22 08 17.6 +0.1**
baz=167,SNR=111
T57A Hurt 60.15 351 P **P 22 08 18.5 +0.7**
baz=170,SNR=68
T57A P **P 22 08 18.5 +0.7**
baz=170,SNR=68
CCAR Cane Creek 60.16 339 P **P 22 08 18.5 +0.6**
CCAR Cane Creek 60.16 339 P **P 22 08 18.6 +0.6**
baz=157,SNR=12
JCT Junction City 60.31 330 P **P 22 08 19.5 +0.4**
JCT Junction City 60.31 330 P **P 22 08 20.0 +0.9**
baz=148,SNR=90
JCT Junction City 60.31 330 P **P 22 08 19.6 +0.5**
baz=148,SNR=90
JCT Junction City 60.31 330 P **P 22 08 19.5 +0.4**
JCT pmax pmax
comp=Z,241nm,0.9s
HPIG 60.40 323 P **P 22 08 21.0 +1.0**
HPIG IAmb IAmb 22 08 51.5
comp=Z,139nm,1.1s
SHEL Horse Pasture 60.41 96 P **P 22 08 21.3 +1.1**
SHEL IAmb IAmb 22 08 59.9
comp=Z,122nm,1.0s
SHEL Horse Pasture 60.41 96 P **P 22 08 21.3 +1.1**
SHEL pmax pmax
comp=Z,122nm,1.0s
WLAR White Oak Lake 60.41 338 P **P 22 08 20.1 +0.5**
S61A Accomac 60.42 355 P **P 22 08 21.2 +1.6**
baz=174,SNR=5.1
S61A P **P 22 08 21.2 +1.6**
baz=174,SNR=5.1
V48A Smith Brothers 60.42 344 P **P 22 08 19.5 -0.2**
baz=162,SNR=117
TZTN Tazewell 60.44 347 P **P 22 08 19.0 -0.8**
TZTN IAmb IAmb 22 08 20.6
comp=Z,132nm,0.9s
TZTN Tazewell 60.44 347 P **P 22 08 19.4 -0.4**
baz=166,SNR=32
TZTN Tazewell 60.44 347 P **P 22 08 19.3 -0.6**
baz=166,SNR=32
SLBS Sierra La Lagu 60.49 317 P **P 22 08 22.0 +1.5**
SLBS IAmb IAmb 22 08 24.1
comp=Z,177nm,1.1s
SLBS Sierra La Lagu 60.49 317 P **P 22 08 22.6 +2.1**
SLBS pP **pP 22 08 41.9 +2.0**
SLBS sP **sP 22 08 50.6 +2.4**
W45A Hickory Valley 60.51 342 P **P 22 08 19.6 -0.6**
baz=160,SNR=30
BLA Blacksburg 60.53 350 P **P 22 08 20.6 +0.1**
BLA Blacksburg 60.53 350 P **P 22 08 21.1 +0.6**
baz=169,SNR=45
BLA Blacksburg 60.53 350 P **P 22 08 21.0 +0.5**
baz=169,SNR=45
BLA Blacksburg 60.53 350 P **P 22 08 20.6 +0.1**

BLA pmax pmax
comp=Z,197nm,0.9s
WHTX Lake Whitney, 60.58 333 P **P** **22 08 21.5 +0.7**
baz=151,SNR=19
WHTX Lake Whitney, 60.58 333 P **P** **22 08 21.2 +0.4**
baz=151,SNR=19
JSRW J. Sargeant Re 60.66 353 P **P** **22 08 21.4 +0.2**
Z38A Mt. Pleasant 60.71 336 P **P** **22 08 23.1 +1.5**
baz=154,SNR=17
S57A Dark Hollow, R 60.86 352 P **P** **22 08 23.2 +0.6**
baz=170,SNR=80
S57A P **P** **22 08 23.2 +0.6**
baz=170,SNR=80
U49A Red Boiling Sp 60.90 345 P **P** **22 08 22.2 -0.7**
baz=163,SNR=58
R58B Mineral 60.92 353 P **P** **22 08 23.7 +0.7**
baz=172,SNR=82
R58B P **P** **22 08 23.7 +0.7**
baz=172,SNR=82
LPIG La Paz 61.02 317 LR LR 22 29 10.5
comp=Z,547nm,20.4s,baz=138,slow=30
R61A Willards 61.03 355 P **P** **22 08 25.4 +1.6**
baz=174,SNR=5.3
R61A P **P** **22 08 25.4 +1.6**
baz=174,SNR=5.3
WVT Waverly 61.05 343 P **P** **22 08 22.7 -1.2**
WVT Waverly 61.05 343 P **P** **22 08 23.2 -0.8**
baz=161,SNR=218
WVT Waverly 61.05 343 P **P** **22 08 23.0 -0.9**
baz=161
WVT Waverly 61.05 343 P **P** **22 08 22.7 -1.2**
WVT pmax pmax
comp=Z,386nm,0.9s
WVT Waverly 61.05 343 P **P** **22 08 22.7 -1.2**
WVT pP **pP** **22 08 41.9 -1.5**
WVT sP **sP** **22 08 50.3 -1.4**
CBN Corbin Frederi 61.10 353 P **P** **22 08 24.6 +0.4**
CBN lAmb lAmb 22 08 26.0
comp=Z,170nm,1.1s
CBN Corbin Frederi 61.10 353 P **P** **22 08 25.3 +1.1**
baz=172,SNR=8.9
CBN Corbin Frederi 61.10 353 P **P** **22 08 24.7 +0.4**
baz=172,SNR=8.9
UALR University of 61.14 339 P **P** **22 08 24.2 -0.4**
T50A Nancy 61.17 346 P **P** **22 08 24.2 -0.6**
baz=164
T50A P **P** **22 08 24.2 -0.6**
baz=164
TXAR Lajitas Array 61.24 326 P **P** **22 08 26.0 +0.5**
TXAR Lajitas Array 61.24 326 P **P** **22 08 26.0 +0.5**
TX31 Lajitas Ar. Si 61.24 326 P **P** **22 08 26.6 +1.0**
baz=144,SNR=64
TX32 Lajitas Array 61.24 326 P **P** **22 08 26.1 +0.6**
TX32 lAmb lAmb 22 08 55.2
comp=Z,87nm,1.2s
S54A Dingess, Beckl 61.25 350 P **P** **22 08 25.3 0.0**
baz=168,SNR=45
S54A P **P** **22 08 25.3 0.0**
baz=168,SNR=45
SNAA Sanae 61.32 161 P **P** **22 08 26.5 +1.0**
SNAA Sanae 61.32 161 pP pP 22 08 45.3 +0.4
SNAA Sanae 61.32 161 P **P** **22 08 25.7 +0.2**
SNAA lAmb lAmb 22 08 27.5
comp=Z,119nm,1.1s
SNAA Sanae 61.32 161⇑ *i*P **P** **22 08 26.4 +0.9**
SNAA Sanae 61.32 161 *ce*P **P** **22 08 26.5 +1.0**
SNAA pmax pmax
comp=Z,194nm,1.7s
FW07 Weatherford 61.33 333 P **P** **22 08 25.9 -0.1**
FW07 lAmb lAmb 22 08 27.4
comp=Z,158nm,1.1s
MIAR Mount Ida 61.35 338 P **P** **22 08 25.7 -0.3**
MIAR Mount Ida 61.35 338 P **P** **22 08 26.1 +0.1**
baz=155,SNR=132
MIAR Mount Ida 61.35 338 P **P** **22 08 26.1 +0.1**
baz=155,SNR=132
MIAR Mount Ida 61.35 338 P **P** **22 08 25.7 -0.3**
MIAR pmax pmax
comp=Z,261nm,0.9s
S51A Beattyville 61.51 348 P **P** **22 08 26.4 -0.7**
baz=166,SNR=39
S51A P **P** **22 08 26.4 -0.7**
baz=166,SNR=39
R55A Marlinton 61.53 351 P **P** **22 08 28.2 +1.0**
baz=169,SNR=35
R55A P **P** **22 08 28.2 +1.0**
baz=169,SNR=35
Z35A Perchaven, San 61.66 334 P **P** **22 08 29.0 +0.9**
baz=151,SNR=20
T47A Sharon Grove 61.67 344 P **P** **22 08 27.5 -0.6**
baz=162,SNR=136
FW03 Perrin-Whitt E 61.74 333 P **P** **22 08 29.0 +0.3**
FW03 lAmb lAmb 22 08 30.4
comp=Z,110nm,0.9s
PVMO Portageville 61.83 342 P **P** **22 08 29.2 0.0**
R53A Hurricane 61.87 349 P **P** **22 08 29.7 +0.3**
baz=167,SNR=22
R53A P **P** **22 08 29.7 +0.3**
baz=167,SNR=22
LCAR Lake Charles 61.94 340 P **P** **22 08 29.4 -0.6**
baz=158,SNR=116
X37A Clayton 62.04 336 P **P** **22 08 31.2 +0.6**
baz=153,SNR=80
ABTX Abilene, Hawle 62.06 332 P **P** **22 08 31.3 +0.4**
baz=149,SNR=56
ABTX Abilene, Hawle 62.06 332 P **P** **22 08 31.3 +0.4**
baz=149,SNR=56
T45B Paducah 62.10 343 P **P** **22 08 30.7 -0.3**
baz=160,SNR=27
Q56A Snyder Ridge, 62.15 352 P **P** **22 08 32.3 +1.0**
baz=170,SNR=101
Q56A P **P** **22 08 32.3 +1.0**
baz=170,SNR=101
LOOK Love County 62.21 334 **P** **22 08 32.1 +0.3**
LOOK lAmb lAmb 22 08 33.5
comp=Z,327nm,1.0s
SDMD Soldier's Deli 62.24 354 P **P** **22 08 32.2 +0.3**
SDMD Soldier's Deli 62.24 354 P **P** **22 08 32.8 +1.0**
baz=173,SNR=19
R50A Paris 62.28 347 P **P** **22 08 31.6 -0.6**
baz=165,SNR=30
R50A P **P** **22 08 31.6 -0.6**
baz=165,SNR=30
P61A Hammonton 62.33 356 P **P** **22 08 33.3 +0.8**
baz=175
P61A P **P** **22 08 33.3 +0.8**
baz=175
Q54A Coxs Mills 62.33 350 P **P** **22 08 32.2 -0.2**
baz=169,SNR=28
Q54A P **P** **22 08 32.2 -0.2**
baz=169,SNR=28
PBMO Poplar Bluff 62.38 341 P **P** **22 08 33.0 +0.2**
baz=159,SNR=10.0
P57A Homestead Farm 62.44 353 P **P** **22 08 34.2 +1.1**
baz=172,SNR=44
P57A P **P** **22 08 34.2 +1.1**
baz=172,SNR=44
R49A Shelbyville 62.47 346 P **P** **22 08 32.5 -0.9**
baz=164,SNR=38
R49A P **P** **22 08 32.5 -0.9**
baz=164,SNR=38
GEDE Greenville 62.53 355 P **P** **22 08 34.2 +0.4**
baz=174,SNR=14
Q52A Bidwell 62.54 349 P **P** **22 08 33.6 -0.3**
baz=167,SNR=28
Q52A P **P** **22 08 33.6 -0.3**
baz=167,SNR=28
PSUB Penn St. - Bra 62.63 355 P **P** **22 08 35.6 +1.1**
baz=174
WUPA West Chester U 62.65 355 P **P** **22 08 34.8 +0.3**
WCI Wyandotte Cave 62.66 345 P **P** **22 08 33.9 -0.8**
WCI Wyandotte Cave 62.66 345 P **P** **22 08 33.9 -0.8**
baz=163,SNR=64
WCI Wyandotte Cave 62.66 345 P **P** **22 08 33.7 -1.0**
baz=163
WCI Wyandotte Cave 62.66 345 P **P** **22 08 33.9 -0.8**
WCI pmax pmax
comp=Z,251nm,0.9s
WCI Wyandotte Cave 62.66 345 P **P** **22 08 33.6 -1.1**
WCI pP **pP** **22 08 52.2 -2.1**
WCI sP **sP** **22 09 00.7 -1.9**
U40A Yellville 62.75 339 P **P** **22 08 35.2 -0.2**
baz=156,SNR=120
U40A P **P** **22 08 35.2 -0.2**
baz=156,SNR=120
Q51A Peebles 62.80 348 P **P** **22 08 35.1 -0.6**
baz=166,SNR=36
Q51A P **P** **22 08 35.1 -0.6**
baz=166,SNR=36
MCWV Mont Chateau 62.84 351 P **P** **22 08 36.4 +0.5**
MCWV Mont Chateau 62.84 351 P **P** **22 08 36.8 +0.9**
baz=170,SNR=23
MCWV Mont Chateau 62.84 351 P **P** **22 08 36.5 +0.5**
baz=170,SNR=23
TUPA Temple Univers 62.85 355 P **P** **22 08 36.3 +0.4**
baz=175,SNR=18
S44A Carbondale 62.90 343 P **P** **22 08 36.0 -0.4**
baz=160,SNR=37
P53A Whipple 62.91 350 P **P** **22 08 36.4 0.0**
baz=168,SNR=36
P53A P **P** **22 08 36.4 0.0**
baz=168,SNR=36
PANJ Princeton 63.02 356 P **P** **22 08 38.2 +1.2**
baz=175,SNR=9.2
PAGS Pennsylvania G 63.04 354 P **P** **22 08 37.5 +0.3**
PAGS lAmb lAmb 22 08 38.8
comp=Z,157nm,1.0s
TROLL Troll, Antarti 63.04 161 P **P** **22 08 37.7 +0.6**
TROLL Troll, Antarti 63.04 161 pP pP 22 08 57.3 +0.8
HHAR Hobbs 63.05 338 P **P** **22 08 37.2 -0.1**
baz=155
P52A Corning 63.17 349 P **P** **22 08 37.4 -0.7**
baz=167,SNR=24
P51A Williamsport 63.19 349 P **P** **22 08 37.7 -0.5**
baz=166,SNR=36
P51A P **P** **22 08 37.7 -0.5**
baz=166,SNR=36
PABK Blue Knob Stat 63.28 352 P **P** **22 08 39.6 +0.8**
baz=171
LUPA Lehigh Univers 63.29 355 P **P** **22 08 39.4 +0.5**
BRNJ Basking Ridge 63.32 356 P **P** **22 08 39.7 +0.7**
baz=175,SNR=10
U38A Gravette 63.34 338 P **P** **22 08 39.5 +0.2**
baz=155,SNR=42
TUL1 Leonard 63.37 337 P **P** **22 08 39.4 0.0**
TUL1 lAmb lAmb 22 08 40.8
comp=Z,155nm,0.9s
TUL1 Leonard 63.37 337 P **P** **22 08 39.7 +0.2**
baz=153,SNR=46
TUL1 Leonard 63.37 337 P **P** **22 08 39.4 0.0**
baz=153,SNR=46
O54A Avella 63.43 351 P **P** **22 08 40.1 +0.3**
baz=169,SNR=25
O54A P **P** **22 08 40.1 +0.3**
baz=169,SNR=25
FOR Fordham 63.45 357 P **P** **22 08 40.7 +0.8**
baz=176,SNR=5.9
FVM French Village 63.50 342 P **P** **22 08 40.4 0.0**
baz=159,SNR=126
N62A Caumsett State 63.50 357 P **P** **22 08 41.3 +1.1**
baz=176,SNR=5.7
N62A P **P** **22 08 41.3 +1.1**
baz=176,SNR=5.7
WMOK Wichita Mounta 63.51 334 **P** **22 08 39.4 -1.0**
WMOK Wichita Mounta 63.51 334 P **P** **22 08 39.9 -0.5**
baz=150,SNR=34
WMOK Wichita Mounta 63.51 334 P **P** **22 08 39.9 -0.5**
baz=150,SNR=34
WMOK Wichita Mounta 63.51 334 P **P** **22 08 39.4 -1.0**
WMOK pmax pmax
comp=Z,37nm,1.0s
SSPA Standing Stone 63.56 353 P **P** **22 08 40.7 +0.1**
SSPA Standing Stone 63.56 353 P **P** **22 08 41.2 +0.6**
baz=172,SNR=21
SSPA Standing Stone 63.56 353 P **P** **22 08 41.2 +0.6**
baz=172
SSPA Standing Stone 63.56 353 P **P** **22 08 41.3 +0.6**
SSPA pP **pP** **22 09 00.1 -0.1**
P49A Miami Univ. Ec 63.56 347 P **P** **22 08 39.6 -1.1**
baz=165,SNR=50
P49A Miami Univ. Ec 63.56 347 P **P** **22 08 39.6 -1.1**
baz=165,SNR=50
OLIL Olney 63.58 344 P **P** **22 08 40.3 -0.5**
baz=161,SNR=18
O52A Adamsville 63.59 350 P **P** **22 08 40.6 -0.3**
baz=168,SNR=27
O52A P **P** **22 08 40.6 -0.3**
baz=168,SNR=27
PAL Palisades 63.60 357 P **P** **22 08 42.1 +1.3**
baz=176,SNR=5.9
PAL Palisades 63.60 357 P **P** **22 08 40.6 -0.3**
baz=176,SNR=5.9
O53A New Philadelph 63.62 350 P **P** **22 08 40.9 -0.2**
baz=168,SNR=20
P48A Milroy 63.64 347 P **P** **22 08 39.9 -1.3**
baz=164,SNR=37
P48A P **P** **22 08 39.9 -1.3**
baz=164,SNR=37
N58A Sunbury 63.64 354 P **P** **22 08 42.1 +0.9**
baz=173,SNR=28
N58A P **P** **22 08 42.1 +0.9**
baz=173,SNR=28
UPAO U. Pittsburgh 63.68 351 P **P** **22 08 42.0 +0.6**
baz=170
ODNJ Ogdensburg 63.72 356 P **P** **22 08 42.6 +0.9**
baz=175,SNR=10
WSPT Westport, CT 63.73 357 P **P** **22 08 42.1 +0.4**
WSPT lAmb lAmb 22 08 42.9
comp=Z,139nm,1.1s
CCM Cathedral Cave 63.81 341 P **P** **22 08 41.9 -0.4**
CCM Cathedral Cave 63.81 341 P **P** **22 08 41.9 -0.4**
baz=158,SNR=106
CCM Cathedral Cave 63.81 341 P **P** **22 08 42.0 -0.4**
baz=158
CCM Cathedral Cave 63.81 341 P **P** **22 08 41.9 -0.4**
CCM pmax pmax
comp=Z,242nm,0.9s
CCM Cathedral Cave 63.81 341 P **P** **22 08 41.8 -0.4**
CCM pP **pP** **22 09 00.8 -1.1**
CCM sP **sP** **22 09 09.2 -1.0**
ACSO Alum Creek Sta 63.91 349 P **P** **22 08 42.0 -0.9**
ACSO Alum Creek Sta 63.91 349 P **P** **22 08 42.4 -0.5**
baz=167,SNR=48
ACSO Alum Creek Sta 63.91 349 P **P** **22 08 42.4 -0.5**
baz=167,SNR=48
Q44A Meyer Farm, Va 63.97 343 P **P** **22 08 42.8 -0.6**
baz=160,SNR=22
BRNY Black Rk. Fore 64.01 356 P **P** **22 08 44.5 +1.0**
baz=176,SNR=6.3
MNTX Cornudas Mount 64.02 327 P **P** **22 08 43.8 -0.1**
MNTX Cornudas Mount 64.02 327 P **P** **22 08 44.0 +0.1**
baz=144,SNR=81
MNTX Cornudas Mount 64.02 327 P **P** **22 08 44.0 +0.1**
baz=144,SNR=81
PSWB Penn State Wil 64.04 355 P **P** **22 08 44.6 +0.8**
baz=174
SLM Saint Louis 64.05 342 P **P** **22 08 44.0 0.0**
baz=159,SNR=8.2
N53A Lisbon 64.11 351 P **P** **22 08 44.8 +0.5**
baz=169,SNR=16
N53A P **P** **22 08 44.8 +0.5**
baz=169,SNR=16
O49A Covington 64.12 348 P **P** **22 08 43.4 -0.9**
baz=165,SNR=37
O49A P **P** **22 08 43.4 -0.9**
baz=165,SNR=37
S39A Bolivar 64.12 339 P **P** **22 08 44.4 0.0**
baz=156,SNR=125
PAMR Moraine State 64.14 351 P **P** **22 08 45.4 +0.9**
baz=170
PSDB Penn State Uni 64.15 352 P **P** **22 08 45.2 +0.7**
baz=171
M57A Sunshine Farm, 64.18 354 P **P** **22 08 45.3 +0.6**
baz=173,SNR=18
M57A P **P** **22 08 45.3 +0.6**
baz=173,SNR=18
P46A Rosedale 64.19 345 P **P** **22 08 44.1 -0.7**
baz=162,SNR=32
R40A Maddies Statio 64.33 341 P **P** **22 08 45.3 -0.5**
R40A Maddies Statio 64.33 341 P **P** **22 08 45.4 -0.3**
baz=157,SNR=80
O48B Farmland 64.35 347 P **P** **22 08 45.5 -0.3**
baz=164,SNR=30
O48B Farmland 64.35 347 P **P** **22 08 44.9 -1.0**
baz=164,SNR=30
NPNY Mohonk Preserv 64.36 356 P **P** **22 08 46.8 +1.0**
baz=176,SNR=11
BRYW Bryant College 64.41 359 P **P** **22 08 47.0 +0.7**
BRYW lAmb lAmb 22 08 48.2
comp=Z,197nm,0.9s
L64A Middleborough 64.42 359 P **P** **22 08 47.3 +1.1**
baz=179,SNR=6.6
L64A P **P** **22 08 47.3 +1.1**
baz=179,SNR=6.6
N51A Ashland 64.47 349 P **P** **22 08 45.8 -0.8**
baz=167,SNR=18
N51A P **P** **22 08 45.8 -0.8**
baz=167,SNR=18
M55A Ridgway 64.48 353 P **P** **22 08 47.1 +0.4**
baz=171,SNR=66
M55A P **P** **22 08 47.1 +0.4**
baz=171,SNR=66
T35B Sooner Cattle 64.53 336 P **P** **22 08 47.5 +0.4**
baz=153,SNR=59
SRIG Santa Rosalia 64.54 318 P **P** **22 08 48.3 +1.0**
SRIG lAmb lAmb 22 08 50.6
comp=Z,130nm,1.1s
MSTX Muleshoe 64.60 330 P **P** **22 08 48.0 +0.3**
baz=146,SNR=61
MSTX Muleshoe 64.60 330 P **P** **22 08 48.0 +0.3**
baz=146,SNR=61
PAOC Oil Creek Stat 64.65 352 P **P** **22 08 47.7 -0.1**
baz=170
M53A WI Miller and 64.71 351 P **P** **22 08 48.0 -0.1**
baz=169,SNR=18
N49A Columbus Grove 64.80 348 P **P** **22 08 48.5 -0.2**
baz=166,SNR=71
N49A P **P** **22 08 48.5 -0.2**
baz=166,SNR=71
QUA2 Belchertown 64.80 358 P **P** **22 08 50.6 +1.9**
baz=178
P43A Skaggs, Pawnee 64.80 343 P **P** **22 08 48.5 -0.2**
baz=160,SNR=35
ALLY Alegheny Colle 64.84 351 P **P** **22 08 49.5 +0.5**
baz=170,SNR=23
L59A Walton 64.85 356 P **P** **22 08 50.0 +0.9**
baz=175,SNR=50
L59A P **P** **22 08 50.0 +0.9**
baz=175,SNR=50
AMTX Amarillo 64.87 331 P **P** **22 08 49.0 -0.5**
AMTX Amarillo 64.87 331 P **P** **22 08 50.0 +0.6**
baz=148,SNR=15
AMTX Amarillo 64.87 331 P **P** **22 08 49.5 0.0**
baz=148
SFIN Lafayette 64.89 345 P **P** **22 08 48.5 -0.9**
baz=163,SNR=14
SFIN Lafayette 64.89 345 P **P** **22 08 47.9 -1.5**
baz=162,SNR=14
M52A Chesterland 64.91 350 P **P** **22 08 49.7 +0.3**
baz=168,SNR=15
M52A P **P** **22 08 49.7 +0.3**
baz=168,SNR=15
BINY Binghamton 64.93 355 P **P** **22 08 49.9 +0.3**
BINY lAmb lAmb 22 08 51.5
comp=Z,168nm,1.0s
BINY Binghamton 64.93 355 P **P** **22 08 50.1 +0.5**
baz=174,SNR=26
BINY Binghamton 64.93 355 P **P** **22 08 50.1 +0.5**
baz=174,SNR=26
L61B Northampton 64.98 358 P **P** **22 08 51.0 +1.1**
baz=177,SNR=8.1
L61B Northampton 64.98 358 P **P** **22 08 49.8 0.0**
baz=177,SNR=8.1
HRV Adam Dziewonsk 65.00 359 P **P** **22 08 50.8 +0.8**
HRV lAmb lAmb 22 08 52.0
comp=Z,120nm,0.9s
HRV Adam Dziewonsk 65.00 359 P **P** **22 08 51.0 +1.0**
baz=178
HRV Adam Dziewonsk 65.00 359 P **P** **22 08 50.8 +0.8**
baz=178
HRV Adam Dziewonsk 65.00 359 P **P** **22 08 50.8 +0.8**
HRV pmax pmax
comp=Z,120nm,1.0s
HRV Adam Dziewonsk 65.00 359 P **P** **22 08 50.6 +0.6**
HRV pP **pP** **22 09 08.6 -1.0**
HSIG 65.01 321 P **P** **22 08 51.0 +0.7**
HSIG lAmb lAmb 22 08 53.5
comp=Z,163nm,1.2s
O44A Mansfield 65.01 344 P **P** **22 08 49.2 -0.9**
baz=161,SNR=9.3
L56A Greenwood 65.01 354 P **P** **22 08 50.6 +0.4**
baz=172,SNR=18
L56A P **P** **22 08 50.6 +0.4**
baz=172,SNR=18
U32A Winter Ranch, 65.02 334 P **P** **22 08 51.1 +0.8**
baz=150,SNR=20
M50A Fremont 65.05 349 P **P** **22 08 49.8 -0.6**
baz=167,SNR=12
M50A P **P** **22 08 49.8 -0.6**
baz=167,SNR=12
N47A Urbana 65.06 347 P **P** **22 08 49.4 -1.1**
baz=164,SNR=27
N47A P **P** **22 08 49.4 -1.1**
baz=164,SNR=27
K62A Royalston 65.18 358 P **P** **22 08 52.2 +1.0**
baz=178
K62A P **P** **22 08 52.2 +1.0**
baz=178
ERPA Erie 65.28 352 P **P** **22 08 51.5 -0.3**
ERPA Erie 65.28 352 P **P** **22 08 51.9 +0.1**
baz=170,SNR=20
ERPA Erie 65.28 352 P **P** **22 08 51.9 +0.1**
baz=170,SNR=20
HCNY Howe Caverns 65.31 356 P **P** **22 08 52.8 +0.8**
baz=176,SNR=28
WVNY West Valley, N 65.39 353 P **P** **22 08 53.6 +1.0**
baz=171,SNR=43
P40A Paris 65.41 341 P **P** **22 08 52.3 -0.4**
baz=158,SNR=61
K57A Scipio Center 65.50 355 P **P** **22 08 54.0 +0.7**
baz=173,SNR=15
UNH University of 65.58 359 P **P** **22 08 54.6 +0.9**
baz=179
HDIL Hopedale 65.60 344 P **P** **22 08 52.8 -1.1**
HDIL lAmb lAmb 22 08 54.0
comp=Z,174nm,0.9s
HDIL Hopedale 65.60 344 P **P** **22 08 53.5 -0.4**
baz=160,SNR=16
HDIL Hopedale 65.60 344 P **P** **22 08 52.9 -1.1**
baz=160,SNR=16
319A Douglas 65.83 323 P **P** **22 08 56.8 +1.0**
319A lAmb lAmb 22 08 58.9
comp=Z,166nm,1.0s
L48A N Adams 65.83 348 P **P** **22 08 55.0 -0.5**
baz=165,SNR=25
L48A P **P** **22 08 55.0 -0.5**
baz=165,SNR=25
J61A Chester 65.87 358 P **P** **22 08 57.1 +1.5**
baz=177,SNR=10
J61A P **P** **22 08 57.1 +1.5**
baz=177,SNR=10
NVL N'lazarevskaya 65.91 159 *e*P **P** **22 08 55.3 -0.3**
NVL *e**PP **pP** **22 09 17.0 +1.8**
NVL *e*S **S** **22 17 34.7 -2.2**
NVL pmax pmax
NVL comp=Z,136nm,1.1s MLR MLR
comp=Z,1μm,18.0s
121A Cookes Peak, D 65.92 325 P **P** **22 08 57.4 +1.0**
121A Cookes Peak, D 65.92 325 P **P** **22 08 58.3 +1.9**
baz=142,SNR=47
121A Cookes Peak, D 65.92 325 P **P** **22 08 58.3 +1.9**
baz=142,SNR=47
P38A Dawn 65.95 340 P **P** **22 08 56.0 -0.2**
baz=156,SNR=48
ACCN Adirondack Com 65.96 357 P **P** **22 08 56.6 +0.4**
ACCN Adirondack Com 65.96 357 P **P** **22 08 57.5 +1.4**
baz=176,SNR=9.4
J58A Remsen 66.03 356 P **P** **22 08 57.6 +1.0**
baz=175,SNR=8.8
J58A P **P** **22 08 57.6 +1.0**
baz=175,SNR=8.8
AAM Ann Arbor 66.03 349 P **P** **22 08 56.0 -0.7**
AAM Ann Arbor 66.03 349 P **P** **22 08 56.5 -0.2**
baz=166
AAM Ann Arbor 66.03 349 P **P** **22 08 55.8 -0.9**
baz=166
AAM Ann Arbor 66.03 349 P **P** **22 08 56.0 -0.7**
AAM pmax pmax
comp=Z,95nm,1.1s
J56A Wolcott 66.07 354 P **P** **22 08 57.0 +0.1**
baz=173,SNR=15
J56A P **P** **22 08 57.0 +0.1**
baz=173,SNR=15
M44A Midewin, Midew 66.07 345 P **P** **22 08 56.0 -0.9**
baz=162
J59A Piesco 66.08 356 P **P** **22 08 58.2 +1.2**
baz=175,SNR=24
J59A P **P** **22 08 58.2 +1.2**
baz=175,SNR=24
J57A Williamstown 66.13 355 P **P** **22 08 58.0 +0.7**

baz=174,SNR=18
J57A P **P** **22 08 58.0 +0.7**
baz=174,SNR=18
J55A Hilton 66.16 354 P **P** **22 08 57.3 -0.1**
baz=172,SNR=8.6
J55A P **P** **22 08 57.3 -0.1**
baz=172,SNR=8.6
N41A Harden Midland 66.16 343 P **P** **22 08 57.0 -0.5**
baz=159,SNR=35
J54A Appleton 66.25 353 P **P** **22 08 58.6 +0.6**
baz=171,SNR=9.7
J54A P **P** **22 08 58.6 +0.6**
baz=171,SNR=9.7
L46A Eue Claire 66.28 347 P **P** **22 08 57.6 -0.6**
baz=164,SNR=11
L46A P **P** **22 08 57.6 -0.6**
baz=164,SNR=11
K50A Casco 66.32 350 P **P** **22 08 58.5 +0.1**
baz=167,SNR=14
K50A P **P** **22 08 58.5 +0.1**
baz=167,SNR=14
I62A Tamworth 66.36 359 P **P** **22 09 00.2 +1.4**
baz=179
I62A P **P** **22 09 00.2 +1.4**
baz=179
MCVT Middlebury Col 66.49 357 P **P** **22 09 01.0 +1.4**
baz=177,SNR=9.8
KSU1 Kansas State U 66.50 337 P **P** **22 08 59.4 -0.4**
KSU1 lAmb lAmb 22 09 00.6
comp=Z,201nm,1.1s
KSU1 Kansas State U 66.50 337 P **P** **22 09 00.1 +0.3**
baz=153,SNR=16
KSU1 Kansas State U 66.50 337 P **P** **22 08 59.4 -0.4**
baz=153,SNR=16
I63A Otisfield 66.53 359 P **P** **22 09 01.5 +1.7**
baz=179,SNR=7.3
I63A P **P** **22 09 01.5 +1.7**
baz=179,SNR=7.3
NCB Newcomb 66.57 357 P **P** **22 09 01.1 +1.0**
baz=176,SNR=13
Y22A Socorro 66.60 327 P **P** **22 09 02.3 +1.6**
baz=143,SNR=46
WCNY West Carthage 66.67 355 P **P** **22 09 01.2 +0.5**
baz=174,SNR=27
R32A Long Quarter, 66.68 336 P **P** **22 09 01.9 +1.0**
baz=151,SNR=29
Y22D IRIS PASSCAL I 66.69 327 P **P** **22 09 03.3 +2.0**
baz=143
Y22F Passcal Instru 66.69 327 P **P** **22 09 03.2 +1.9**
baz=143
PECO Prince Edward 66.74 354 P **P** **22 09 01.0 -0.1**
PECO lAmb lAmb 22 09 02.5
comp=Z,144nm,1.0s
LBNH Lisbon 66.74 358 P **P** **22 09 02.8 +1.6**
baz=178,SNR=10
LBNH Lisbon 66.74 358 P **P** **22 09 02.2 +1.0**
baz=178,SNR=10
L44A Lake County Fo 66.79 345 P **P** **22 09 01.1 -0.4**
baz=162,SNR=6.5
L44A Lake County Fo 66.79 345 P **P** **22 09 00.6 -0.9**
baz=162,SNR=6.5
VT1 Waterbury 66.86 358 P **P** **22 09 03.0 +1.1**
baz=177,SNR=6.6
N38A Joes South For 66.92 341 P **P** **22 09 02.1 -0.3**
baz=157,SNR=41
L42A Oliver, Polo 67.05 344 P **P** **22 09 03.0 -0.2**
baz=160,SNR=8.2
H62A Milan 67.06 359 P **P** **22 09 04.7 +1.5**
baz=179,SNR=6.7
H62A P **P** **22 09 04.7 +1.5**
baz=179,SNR=6.7
ANMO Albuquerque 67.15 328 P **P** **22 09 05.2 +1.0**
ANMO lAmb lAmb 22 09 07.2
comp=Z,148nm,1.1s
ANMO Albuquerque 67.15 328 P **P** **22 09 05.7 +1.4**
baz=144,SNR=118
ANMO Albuquerque 67.15 328 P **P** **22 09 05.8 +1.6**
baz=144
ANMO Albuquerque 67.15 328 *ce*P **P** **22 09 05.6 +1.4**
ANMO pmax pmax
comp=Z,191nm,1.3s
ANMO Albuquerque 67.15 328 P **P** **22 09 05.6 +1.4**
ANMO pP **pP** **22 09 24.9 +0.9**
J47A Sunmer 67.16 348 P **P** **22 09 03.4 -0.4**
baz=165,SNR=28
J47A P **P** **22 09 03.4 -0.4**
baz=165,SNR=28
EMMW East Machias 67.22 2 P **P** **22 09 05.9 +1.8**
baz=182,SNR=6.8
LONY Lake Ozonia 67.24 356 P **P** **22 09 04.5 +0.2**
LONY lAmb lAmb 22 09 06.1
comp=Z,130nm,1.0s
LONY Lake Ozonia 67.24 356 P **P** **22 09 04.8 +0.5**
baz=175,SNR=24
TUC Tucson 67.37 323 P **P** **22 09 06.8 +1.3**
TUC lAmb lAmb 22 09 08.7
comp=Z,137nm,1.1s
TUC Tucson 67.37 323 P **P** **22 09 07.2 +1.7**
baz=139
TUC Tucson 67.37 323 P **P** **22 09 06.8 +1.3**
TUC pmax pmax
comp=Z,137nm,1.2s
TUC Tucson 67.37 323 P **P** **22 09 07.2 +1.7**
TUC pP **pP** **22 09 26.7 +1.4**
TUC sP **sP** **22 09 35.0 +1.4**
K43A Burlington 67.39 345 P **P** **22 09 05.1 -0.2**
baz=162,SNR=12
QSPA South Pole Qui 67.39 180 P **P** **22 09 06.4 +1.0**
QSPA lAmb lAmb 22 09 28.7
comp=Z,290nm,1.6s
QSPA South Pole Qui 67.39 180 P **P** **22 09 06.3 +1.0**
QSPA pP **pP** **22 09 25.2 +0.2**
FRNY Flat Rock 67.40 357 P **P** **22 09 06.0 +0.7**
baz=176,SNR=37
CBKS Cedar Bluff 67.41 335 P **P** **22 09 06.0 +0.5**
CBKS Cedar Bluff 67.41 335 P **P** **22 09 06.7 +1.1**
baz=150,SNR=102
CBKS Cedar Bluff 67.41 335 P **P** **22 09 06.3 +0.7**
baz=150,SNR=102
CBKS Cedar Bluff 67.41 335 P **P** **22 09 06.1 +0.5**
CBKS pmax pmax
comp=Z,589nm,1.0s
BMNY Brushton-Moira 67.45 356 P **P** **22 09 06.2 +0.6**
baz=175,SNR=35
I49A Point Hope 67.48 350 P **P** **22 09 05.5 -0.4**
baz=167,SNR=7.5
I49A P **P** **22 09 05.5 -0.4**
baz=167,SNR=7.5
L40A Anamosa 67.52 343 P **P** **22 09 06.0 -0.1**
baz=159,SNR=36
GGN Saint George 67.65 2 P **P** **22 09 07.8 +0.9**
GGN lAmb lAmb 22 09 09.0
comp=Z,173nm,0.9s
G62A West of Eustis 67.70 359 P **P** **22 09 08.5 +1.3**
baz=179,SNR=45
G62A P **P** **22 09 08.5 +1.3**
baz=179,SNR=45
G65A Princeton 67.71 2 P **P** **22 09 08.8 +1.6**
baz=182,SNR=12
G65A P **P** **22 09 08.8 +1.6**
baz=182,SNR=12
PKME Peaks-Kenny Pk 67.74 0 P **P** **22 09 07.9 +0.5**
PKME lAmb lAmb 22 09 09.4
comp=Z,206nm,0.9s
PKME Peaks-Kenny Pk 67.74 0 P **P** **22 09 08.9 +1.5**
baz=181,SNR=15
PKME Peaks-Kenny Pk 67.74 0 P **P** **22 09 08.2 +0.8**
baz=181,SNR=15
N35A Tabor 67.75 339 P **P** **22 09 08.0 +0.3**
baz=154,SNR=22
SADO Sadowa 67.79 353 LR LR 22 41 08.9
comp=Z,518nm,20.3s,baz=178,slow=38
SADO Sadowa 67.79 353 P **P** **22 09 07.4 -0.3**
SADO lAmb lAmb 22 09 08.7
comp=Z,182nm,0.9s
SCIA State Center 67.94 341 P **P** **22 09 08.5 -0.2**
SCIA State Center 67.94 341 P **P** **22 09 09.2 +0.4**
baz=157,SNR=14
SCIA State Center 67.94 341 P **P** **22 09 08.6 -0.2**
baz=157,SNR=14
T25A Trinidad 67.97 331 P **P** **22 09 10.3 +1.0**
T25A lAmb lAmb 22 09 12.1
comp=Z,160nm,1.1s
T25A Trinidad 67.97 331 P **P** **22 09 10.5 +1.2**
baz=146,SNR=35
JFWS Jewell Farm 68.06 344 P **P** **22 09 08.8 -0.7**
JFWS Jewell Farm 68.06 344 P **P** **22 09 09.2 -0.2**
baz=160,SNR=30
JFWS Jewell Farm 68.06 344 P **P** **22 09 09.1 -0.4**
baz=160,SNR=30
JFWS Jewell Farm 68.06 344 P **P** **22 09 08.8 -0.7**
JFWS pmax pmax
comp=Z,220nm,0.7s
MNTQ Montreal, Queb 68.06 357 P **P** **22 09 10.0 +0.5**
F63A Nahmakanta, Br 68.18 1 P **P** **22 09 11.6 +1.4**
baz=181,SNR=11
F63A P **P** **22 09 11.6 +1.4**
baz=181,SNR=11
N33B J Bar K, Exete 68.25 338 P **P** **22 09 11.6 +0.8**
baz=153,SNR=10
214A Organ Pipe Nat 68.25 321 P **P** **22 09 13.2 +2.1**
baz=138,SNR=87
GBN Guysborough 68.30 6 P **P** **22 09 11.2 +0.3**
GBN lAmb lAmb 22 09 12.5
comp=Z,173nm,1.1s
PIX Pinacate 68.34 321 P **P** **22 09 12.2 +0.7**
F64A Sherman 68.35 1 P **P** **22 09 12.2 +0.9**
baz=182,SNR=42
F64A P **P** **22 09 12.2 +0.9**
baz=182,SNR=42
F62A Pittston Farm, 68.37 360 P **P** **22 09 12.9 +1.5**
baz=180,SNR=15
F62A P **P** **22 09 12.9 +1.5**
baz=180,SNR=15
LMN Caledonia Moun 68.48 4 P **P** **22 09 12.1 0.0**
LMN lAmb lAmb 22 09 13.6
comp=Z,201nm,0.9s
K38A Parkersburg 68.49 342 P **P** **22 09 12.3 +0.1**
baz=157,SNR=15
TAOE Nuku Hiva Isla 68.56 269 *e*P **P** **22 09 13.7 +0.2**
comp=Z,368nm,27.0s
TAOE *e*S **S** **22 18 08.9 -1.8**
comp=Z,613nm,35.9s
TAOE *e*SS **SS** **22 22 35.3 -0.9**
comp=Z,447nm,31.3s
TAOE *e*LR LR 22 30 00.0
comp=Z,3µm,28.0s
TAOE Nuku Hiva Isla 68.56 269 *e*T T 23 23 21.0
comp=Z,54nm,0.2s
I42A Draeger Farm, 68.65 345 P **P** **22 09 13.6 +0.4**
baz=161,SNR=15
GLMI Grayling 68.65 349 P **P** **22 09 12.5 -0.7**
GLMI lAmb lAmb 22 09 14.2
comp=Z,226nm,0.9s
GLMI Grayling 68.65 349 P **P** **22 09 13.0 -0.2**
baz=166,SNR=12
GLMI Grayling 68.65 349 P **P** **22 09 12.2 -0.9**
baz=165,SNR=12
KSCO Kaye Shedlock' 68.75 333 P **P** **22 09 15.3 +1.2**
baz=148,SNR=29
KSCO Kaye Shedlock' 68.75 333 P **P** **22 09 15.1 +1.0**
baz=148,SNR=29
TRQ Mont Tremblant 68.83 356 P **P** **22 09 14.4 0.0**
E63A Oxbow 68.91 1 P **P** **22 09 16.1 +1.4**
baz=181,SNR=18
E63A P **P** **22 09 16.1 +1.4**
baz=181,SNR=18
H43A Windswept, Lux 68.94 346 P **P** **22 09 15.1 +0.1**
baz=162,SNR=13
W18A Petrified Fore 68.95 326 P **P** **22 09 17.1 +1.6**
baz=141,SNR=75
SDCO Great Sand Dun 68.96 330 P **P** **22 09 16.3 +0.7**
SDCO lAmb lAmb 22 09 18.4
comp=Z,270nm,1.1s
SDCO Great Sand Dun 68.96 330 P **P** **22 09 17.1 +1.5**
baz=145,SNR=62
SDCO Great Sand Dun 68.96 330 P **P** **22 09 17.1 +1.5**
baz=145,SNR=62
L34A Svendsen Farm, 68.98 339 P **P** **22 09 15.6 +0.3**
baz=154,SNR=18
G45A Suttons Bay 69.05 348 P **P** **22 09 15.5 -0.1**
baz=164
G45A P **P** **22 09 15.5 -0.1**
baz=164
I40A Norwalk 69.07 344 P **P** **22 09 15.9 +0.1**
baz=160,SNR=13
BGNE Belgrade 69.09 338 P **P** **22 09 16.9 +0.8**
baz=152,SNR=37
BGNE Belgrade 69.09 338 P **P** **22 09 16.3 +0.3**
baz=152,SNR=37
E62A Clayton Lake 69.10 0 P **P** **22 09 17.0 +1.1**
baz=180,SNR=45
E62A P **P** **22 09 17.0 +1.1**
baz=180,SNR=45
PQI Presque Isle 69.17 1 P **P** **22 09 16.8 +0.5**
PQI lAmb lAmb 22 09 18.2
comp=Z,151nm,0.9s
ELIB Princess Elisa 69.49 161 *d*P **P** **22 09 18.8 +0.5**
comp=Z,75nm,0.8s
LIC Lamto 69.54 74 ⇑*i*PKP1 **P** **22 09 19.1 -0.2**
comp=Z,62nm,0.6s
D62A Alapoint, Ali 69.56 1 P **P** **22 09 19.5 +0.8**
baz=181,SNR=52
D62A P **P** **22 09 19.5 +0.8**
baz=181,SNR=52
S22A 4UR Ranch, Cre 69.58 329 P **P** **22 09 20.8 +1.4**
baz=144,SNR=43
TIC Toumodi 69.73 73 ⇓*e*PKP1 **P** **22 09 19.8 -0.8**
comp=Z,65nm,0.9s
Q24A Divide 69.80 331 P **P** **22 09 22.1 +1.3**
baz=146,SNR=82
KIC Kosan Boka 69.85 74 *e*PKP1 **P** **22 09 20.2 -1.1**
comp=Z,40nm,0.5s
DBIC Dimbokro 69.89 73 P **P** **22 09 20.8 -0.7**
DBIC Dimbokro 69.89 73 *e*P **P** **22 09 20.7 -0.7**
DBIC lAmb lAmb 22 09 21.9
comp=Z,64nm,0.8s
DBIC Dimbokro 69.89 73 P **P** **22 09 20.8 -0.7**
DBIC pmax pmax
comp=Z,99nm,1.1s
DBIC Dimbokro 69.89 73 P **P** **22 09 20.9 -0.7**
DBIC pP **pP** **22 09 40.1 -1.2**
DBIC sP **sP** **22 09 49.8 +0.3**
I37B Waseca 69.93 342 P **P** **22 09 21.5 +0.4**
baz=157,SNR=17
MVCO Mesa Verde 69.95 328 P **P** **22 09 22.9 +1.2**
MVCO lAmb lAmb 22 09 24.7
comp=Z,199nm,1.0s
MVCO Mesa Verde 69.95 328 P **P** **22 09 23.2 +1.6**
baz=142,SNR=58
E46A Sault Ste Mari 70.09 349 P **P** **22 09 21.7 -0.3**
baz=166,SNR=17
WUAZ Wupatki 70.11 325 P **P** **22 09 24.0 +1.4**
WUAZ lAmb lAmb 22 09 26.1
comp=Z,230nm,1.0s
WUAZ Wupatki 70.11 325 P **P** **22 09 24.7 +2.1**
baz=140,SNR=62
OGNE Ogallala 70.15 335 P **P** **22 09 23.0 +0.4**
OGNE lAmb lAmb 22 09 24.8
comp=Z,244nm,0.9s
OGNE Ogallala 70.15 335 P **P** **22 09 24.1 +1.5**
baz=149,SNR=22
OGNE Ogallala 70.15 335 P **P** **22 09 23.5 +0.9**
baz=149,SNR=22
GLA Glamis 70.22 321 P **P** **22 09 25.2 +2.1**
baz=136
F42A Maple Grove Fa 70.25 346 P **P** **22 09 23.2 +0.2**
baz=162
G40A Rib Lake 70.25 345 P **P** **22 09 23.2 +0.1**
baz=160
K31A O'Neill 70.37 338 P **P** **22 09 25.0 +1.1**
baz=152,SNR=28
E43A Lone Tree Farm 70.60 347 P **P** **22 09 24.7 -0.4**
baz=163,SNR=17
ECSD EROS Data Cent 70.64 340 P **P** **22 09 25.3 -0.2**
ECSD lAmb lAmb 22 09 26.7
comp=Z,152nm,1.1s
ECSD EROS Data Cent 70.64 340 P **P** **22 09 25.4 -0.2**
baz=154,SNR=94
ECSD EROS Data Cent 70.64 340 P **P** **22 09 25.4 -0.2**
baz=154,SNR=94
IKP In-Ko-Pah, Jac 70.69 320 P **P** **22 09 28.2 +2.2**
baz=135,SNR=18
ISCO Idaho Springs 70.69 331 P **P** **22 09 27.2 +1.0**
ISCO Idaho Springs 70.69 331 P **P** **22 09 27.5 +1.3**
baz=145,SNR=48
ISCO Idaho Springs 70.69 331 P **P** **22 09 27.5 +1.3**
baz=145,SNR=48
ISCO Idaho Springs 70.69 331 P **P** **22 09 27.2 +1.0**
ISCO pmax pmax
comp=Z,112nm,1.0s
SWSC Sam W. Stewart 70.71 320 P **P** **22 09 28.2 +2.1**
baz=136,SNR=13
SMCO Snowmass 70.80 330 P **P** **22 09 27.8 +0.8**
SMCO lAmb lAmb 22 09 30.1
comp=Z,196nm,1.1s
SPMN Marine on St. 70.88 343 P **P** **22 09 26.4 -0.5**
baz=158,SNR=34
SPMN Marine on St. 70.88 343 P **P** **22 09 26.4 -0.5**
baz=158,SNR=34
BC3 Big Chuckawall 71.01 321 P **P** **22 09 29.9 +1.9**
baz=136,SNR=78
MONP2 Monument Peak 71.04 320 P **P** **22 09 30.4 +2.0**
baz=135,SNR=9.5
PV10 Paradox Valley 71.13 328 P **P** **22 09 29.3 +0.4**
PV10 lAmb lAmb 22 09 31.2
comp=Z,147nm,1.0s
IRM Iron Mountain 71.20 321 P **P** **22 09 31.0 +1.9**
baz=136,SNR=97
NEE2 Needles Airpor 71.34 322 P **P** **22 09 31.7 +1.8**
baz=137,SNR=6.8
109C Camp Elliot, M 71.45 319 P **P** **22 09 32.0 +1.4**
baz=134
TPFO Pinon Flats 71.57 320 P **P** **22 09 33.5 +2.0**
baz=135,SNR=15
PFO Pinyon Flats O 71.57 320 LR LR 22 35 12.2
comp=Z,608nm,20.3s,baz=148,slow=31
PFO Pinyon Flats O 71.57 320 P **P** **22 09 33.6 +2.1**
baz=135
PFO Pinyon Flats O 71.57 320 ⇑*i*P **P** **22 09 33.5 +2.1**
PFO pmax pmax
comp=Z,130nm,1.1s
PFO Pinyon Flats O 71.57 320 P **P** **22 09 33.4 +2.0**
PFO sP **sP** **22 10 00.8 +1.2**
D41A Chassel 71.58 347 P **P** **22 09 31.7 +0.7**
baz=162,SNR=30
BELC Belle Mtn. Jos 71.58 321 P **P** **22 09 33.2 +1.7**
baz=136,SNR=6.3
F36A Milaca 71.66 343 P **P** **22 09 31.5 -0.1**
baz=157,SNR=65
N23A Red Feather La 71.73 332 P **P** **22 09 33.8 +1.3**
baz=145,SNR=41
E38A The Farm, Brul 71.84 344 P **P** **22 09 32.5 -0.1**
baz=159,SNR=22
GMRC Granite Mounta 71.94 322 P **P** **22 09 35.8 +2.1**
baz=136,SNR=122
MURC Murrieta 72.00 320 P **P** **22 09 35.9 +1.9**
baz=135,SNR=16
KNB Kanab 72.01 325 P **P** **22 09 36.1 +2.0**
KNB Kanab 72.01 325 P **P** **22 09 36.1 +2.0**
KNB pmax pmax
comp=Z,374nm,1.1s
SUSD Miller 72.05 338 P **P** **22 09 34.6 +0.7**
baz=152,SNR=9.1
SUSD Miller 72.05 338 P **P** **22 09 33.9 0.0**
baz=152,SNR=9.1
O20A White River Ci 72.15 330 P **P** **22 09 36.5 +1.6**
baz=143,SNR=93
LCMT Little Creek M 72.23 325 P **P** **22 09 35.5 +0.2**
BBRC Big Bear Solar 72.30 320 P **P** **22 09 38.1 +2.1**
baz=135
TBI Tubuai 72.30 252 *e*P **P** **22 09 38.0 +2.0**
comp=Z,302nm,1.4s
TBI *e*S **S** **22 18 52.1 -1.8**
comp=Z,3µm,29.5s
TBI Tubuai 72.30 252 *e*LR LR 22 31 44.2
comp=Z,7µm,26.8s
TBI *e*LR LR 22 31 44.3
comp=Z,28µm,24.0s
TBI Tubuai 72.30 252 *e*T T 23 28 02.4
comp=Z,8.8nm,0.3s
HEC Hector,Ludlow 72.36 321 P **P** **22 09 38.5 +2.4**
baz=136,SNR=31
F33A 5 Mile Ranch, 72.44 341 P **P** **22 09 35.8 -0.4**
baz=155,SNR=35
TUQ Turquoise Moun 72.56 322 P **P** **22 09 39.1 +1.8**
baz=136
DRLN Deer Lake 72.57 8 P **P** **22 09 37.0 +0.2**
DRLN lAmb lAmb 22 09 38.1
comp=Z,161nm,0.9s
CIS Catalina Islan 72.60 319 P **P** **22 09 39.0 +1.6**
baz=134
BFSC Mount Baldy Ra 72.72 320 P **P** **22 09 40.1 +1.8**
baz=134,SNR=30
MEH Mehetia 72.77 257 *e*P **P** **22 09 39.0 +0.1**
comp=Z,25nm,1.1s
RRX Edison Barstow 72.78 321 P **P** **22 09 40.6 +2.0**
baz=135
GSC Goldstone, Bar 72.97 321 P **P** **22 09 41.6 +1.9**
baz=135,SNR=32
EYMN Ely 73.08 345 P **P** **22 09 39.8 -0.1**
EYMN lAmb lAmb 22 09 40.7
comp=Z,119nm,0.9s
SHOC Shoshone, Teco 73.09 322 P **P** **22 09 42.0 +1.6**
baz=136,SNR=7.1
DECC Green Verdugo 73.14 320 P **P** **22 09 42.3 +1.7**
baz=134,SNR=5.4
SNCC San Nicolas Is 73.17 318 P **P** **22 09 42.5 +1.6**
baz=133
EDW2 Edwards Air Fo 73.37 320 P **P** **22 09 43.6 +1.6**
baz=134,SNR=29
K22A Casper 73.42 333 P **P** **22 09 43.6 +1.3**
baz=145,SNR=30
K22A Casper 73.42 333 P **P** **22 09 43.6 +1.3**
baz=145,SNR=30
LRMC Laurel Mtn Rad 73.60 321 P **P** **22 09 45.3 +1.8**
baz=135,SNR=30
OSI Osito Audit: C 73.62 320 P **P** **22 09 45.1 +1.6**
baz=134,SNR=6.3
RSSD Black Hills 73.62 335 P **P** **22 09 44.4 +0.9**
RSSD lAmb lAmb 22 09 45.9
comp=Z,146nm,0.8s
RSSD Black Hills 73.62 335 P **P** **22 09 44.5 +1.1**
baz=147,SNR=88
RSSD Black Hills 73.62 335 P **P** **22 09 44.6 +1.1**
baz=147
RSSD Black Hills 73.62 335 P **P** **22 09 44.4 +0.9**
RSSD pmax pmax
comp=Z,146nm,0.9s
SCZ2 Santa Cruz Isl 73.75 319 P **P** **22 09 45.9 +1.6**
baz=133,SNR=7.2
D32B Dogwood Acres, 73.82 341 P **P** **22 09 44.9 +0.6**
baz=154,SNR=13
TPNV Topopah Spring 73.82 323 P **P** **22 09 47.1 +2.3**
baz=136,SNR=64
FURC Furnace Creek, 73.83 322 P **P** **22 09 46.8 +2.2**
baz=136,SNR=21
TVO Taravao 73.87 257 *e*P **P** **22 09 47.3 +1.9**
comp=Z,79nm,1.3s
MPMC Manual Prospec 73.89 321 P **P** **22 09 46.8 +1.6**
baz=135,SNR=26
ARVC Arvin 74.03 320 P **P** **22 09 47.8 +1.9**
baz=134
SBC Santa Barbara 74.09 319 P **P** **22 09 48.1 +1.9**
baz=133
ISA Isabella, Lake 74.19 321 P **P** **22 09 48.8 +2.0**
baz=134,SNR=58
PPT2 Papeete2 74.23 257 *e*P **P** **22 09 49.0 +1.5**
comp=Z,133nm,1.3s
PPT2 *e*S **S** **22 19 14.0 -1.9**
comp=Z,652nm,26.8s
PPT2 Papeete2 74.23 257 *e*LR LR 22 32 37.8
comp=Z,5µm,29.0s
PPT Papeete 74.23 257 P **P** **22 09 50.1 +2.6**
comp=Z,23nm,0.5s,baz=98,slow=12,SNR=7.2
PPT LR LR 22 34 29.7
comp=Z,489nm,21.7s,baz=98,slow=29
comp=Z,23nm,0.5s
DUG Dugway, Tooele 74.39 327 P **P** **22 09 49.8 +1.8**
baz=139,SNR=81
SBA Scott Base 74.40 191 P **P** **22 09 49.6 +2.3**
SBA Scott Base 74.40 191 P **P** **22 09 49.7 +2.3**
SBA pmax pmax
comp=Z,77nm,1.3s
PKM Mcpherson Peak 74.46 319 P **P** **22 09 50.5 +1.9**
baz=133,SNR=39
R11A Troy Canyon, C 74.47 324 P **P** **22 09 50.6 +2.1**
baz=137,SNR=80
GRAC Grapevine Rang 74.48 322 P **P** **22 09 50.6 +2.1**
baz=135,SNR=18
CWC Cottonwood Cre 74.50 321 P **P** **22 09 50.7 +1.9**
baz=135
E28A Huff 74.50 338 P **P** **22 09 49.8 +1.4**
baz=151
VES Vestal, Richgr 74.67 320 P **P** **22 09 51.3 +1.8**
baz=134,SNR=34
PMOZ Porto Moniz, M 74.69 44 *e*P **P** **22 09 52.0 +2.2**
comp=Z,153nm,1.2s
PMOZ Porto Moniz, M 74.69 44 P **P** **22 09 50.9 +1.1**
PMOZ Porto Moniz, M 74.69 44 P **P** **22 09 50.3 +0.5**
BW06 Boulder Array 74.84 331 P **P** **22 09 51.4 +0.7**
baz=142,SNR=11

PDAR Pinedale Array 74.84 331 P **P** **22 09 51.1 +0.5**
comp=Z,12nm,0.7s,baz=138,slow=7.3,SNR=49
comp=Z,12nm,0.7s
PDAR Pinedale Array 74.84 331 P **P** **22 09 51.5 +0.9**
SMMC Simmler 74.86 319 P **P** **22 09 53.0 +2.3**
baz=133,SNR=24
HWUT Hardware Ranch 74.86 329 P **P** **22 09 51.5 +0.8**
HWUT IAmb IAmb 22 09 53.2
comp=Z,152nm,1.1s
TIN Tinemaha, Big 75.02 322 P **P** **22 09 53.8 +2.2**
baz=135,SNR=17
VOG Valley Oaks Go 75.18 320 P **P** **22 09 52.9 +0.4**
baz=134
MDND Maddock 75.26 340 P **P** **22 09 53.6 +0.9**
baz=152,SNR=53
MDND Maddock 75.26 340 P **P** **22 09 53.6 +0.9**
baz=152,SNR=53
VNDA Vanda 75.43 190 P **P** **22 09 55.6 +2.3**
comp=Z,16nm,1.0s,baz=120,slow=5.9,SNR=22
comp=Z,16nm,1.0s
VNDA Vanda 75.43 190 P **P** **22 09 55.0 +1.7**
AHID Auburn Hatcher 75.54 330 P **P** **22 09 55.1 +0.4**
AHID IAmb IAmb 22 09 57.1
comp=Z,249nm,1.1s
MLAC Mammoth, Mammo 75.77 322 P **P** **22 09 58.1 +2.0**
baz=134
NV11 Mina Array Sit 75.94 323 P **P** **22 09 58.9 +1.9**
NVAR Mina Array Bea 76.02 323 P **P** **22 09 59.0 +1.5**
comp=Z,34nm,0.9s,baz=152,slow=6.2,SNR=83
NVAR LR LR 22 38 32.4
comp=Z,401nm,19.8s,baz=132,slow=32
comp=Z,34nm,0.9s
NVAR Mina Array Bea 76.02 323 P **P** **22 09 58.5 +1.0**
ELK Elko 76.04 326 LR LR 22 40 49.4
comp=Z,474nm,21.7s,baz=132,slow=34
ELK Elko 76.04 326 P **P** **22 09 58.4 +0.8**
ELK Elko 76.04 326 P **P** **22 09 58.4 +0.8**
ELK pmax pmax
comp=Z,69nm,1.0s
ULM Lac du Bonnet 76.31 343 P **P** **22 09 58.2 -0.4**
comp=Z,62nm,0.8s,baz=159,slow=6.4,SNR=69
ULM LR LR 22 46 38.1
comp=Z,436nm,20.3s,baz=148,slow=38
comp=Z,62nm,0.8s
ULM Lac du Bonnet 76.31 343 P **P** **22 09 57.9 -0.6**
ULM IAmb IAmb 22 09 59.6
comp=Z,155nm,1.2s
ULM Lac du Bonnet 76.31 343 i/P **P** **22 09 58.0 -0.6**
H17A Grant Village 76.57 331 P **P** **22 10 02.6 +2.0**
baz=142,SNR=31
RLMT Red Lodge 76.58 332 P **P** **22 10 01.5 +1.0**
RLMT IAmb IAmb 22 10 03.3
comp=Z,154nm,1.1s
RLMT Red Lodge 76.58 332 P **P** **22 10 01.8 +1.3**
baz=143,SNR=68
LAO LASA Array 76.61 335 P **P** **22 10 00.9 +0.5**
LAO LASA Array 76.61 335 P **P** **22 10 02.0 +1.5**
baz=146,SNR=60
LAO LASA Array 76.61 335 P **P** **22 10 01.4 +1.0**
baz=146,SNR=60
AUSN Aus 76.77 114 eP P **22 10 03.8 +1.7**
AUSN IAmb IAmb 22 10 24.0
comp=Z,166nm,1.3s
KOMG Komaggas 76.78 117 eP **P** **22 10 02.5 +0.6**
KOMG IAmb IAmb 22 10 23.7
comp=Z,48µm,3.3s
YMR Madison River 76.96 331 P **P** **22 10 04.1 +1.4**
YMR IAmb IAmb 22 10 06.2
comp=Z,245nm,1.0s
ELIM Elim 77.06 122 eP P 22 10 14.8 +11
ELIM IAmb IAmb 22 10 25.7
comp=Z,111nm,1.1s
CER Ceres 77.10 121 eP **P** **22 10 04.6 +0.9**
CER IAmb IAmb 22 10 26.1
comp=Z,47nm,0.9s
DGMT Dagmar 77.35 337 P **P** **22 10 05.4 +0.9**
DGMT Dagmar 77.35 337 P **P** **22 10 06.5 +2.0**
baz=148,SNR=19
DGMT Dagmar 77.35 337 P **P** **22 10 05.9 +1.4**
baz=148,SNR=19
SCHQ Schefferville 77.36 2 P **P** **22 10 04.4 0.0**
comp=Z,42nm,0.8s,baz=186,slow=4.4,SNR=32
SCHQ LR LR 22 46 46.8
comp=Z,253nm,20.3s,baz=183,slow=38
comp=Z,42nm,0.8s
SCHQ Schefferville 77.36 2 P **P** **22 10 04.7 +0.3**
HLID Hailey 77.71 328 P **P** **22 10 08.3 +1.4**
HLID IAmb IAmb 22 10 10.2
comp=Z,183nm,1.0s
HLID Hailey 77.71 328 P **P** **22 10 08.8 +1.9**
baz=139,SNR=236
BOZ Bozeman (W) 77.98 331 P **P** **22 10 08.9 +0.6**
BOZ Bozeman (W) 77.98 331 P **P** **22 10 09.4 +1.2**
baz=141,SNR=61
BOZ Bozeman (W) 77.98 331 P **P** **22 10 08.9 +0.6**
BOZ pmax pmax
comp=Z,84nm,1.1s
MATJ Matjiesfontein 78.15 121 eP **P** **22 10 10.6 +1.0**
MATJ IAmb IAmb 22 10 32.3
comp=Z,188nm,0.9s
LRM Limekiln Ridge 78.52 331 P **P** **22 10 12.3 +1.0**
TORD Torodi Ar. Bea 78.56 70 P **P** **22 10 11.1 -0.9**
comp=Z,49nm,0.6s,baz=252,slow=5.2,SNR=9.0
comp=Z,49nm,0.6s
TORD Torodi Ar. Bea 78.56 70 P **P** **22 10 11.0 -0.9**
TORD IAmb IAmb 22 10 33.0
comp=Z,122nm,1.1s
ORV Oroville 78.60 322 P **P** **22 10 13.0 +1.4**
ORV IAmb IAmb 22 10 14.8
comp=Z,265nm,1.1s
ORV Oroville 78.60 322 P **P** **22 10 13.0 +1.4**
ORV pmax pmax
comp=Z,265nm,1.2s
SUR Sutherland 78.63 120 P **P** **22 10 12.6 +0.3**
comp=Z,14nm,0.6s,baz=230,slow=5.8,SNR=24
SUR LR LR 22 39 46.6
comp=Z,1µm,21.9s,baz=238,slow=32
comp=Z,14nm,0.6s
WIN Windhoek 78.86 110 i/P **P** **22 10 14.7 +0.9**
WIN IAmb IAmb 22 10 35.1
comp=Z,36nm,1.2s
WVOR Wild Horse Val 79.02 325 P **P** **22 10 14.2 +0.2**
WVOR Wild Horse Val 79.02 325 P **P** **22 10 14.2 +0.2**
WVOR pmax pmax
comp=Z,37nm,1.0s
MERW Merweville 79.09 121 eP **P** **22 10 15.6 +0.8**
MERW IAmb IAmb 22 10 36.7
comp=Z,171nm,1.2s
EGMT Eagleton 79.10 334 P **P** **22 10 14.6 +0.3**
EGMT IAmb IAmb 22 10 16.3
comp=Z,141nm,1.1s
EGMT Eagleton 79.10 334 P **P** **22 10 15.0 +0.7**
baz=143,SNR=37
ARMS Ukamas 79.23 116 eP **P** **22 10 16.5 +0.9**
ARMS IAmb IAmb 22 10 37.1
comp=Z,143nm,1.3s
FRAZ Fraserburg 79.26 120 eP **P** **22 10 17.0 +1.2**
FRAZ IAmb IAmb 22 10 38.5
comp=Z,271nm,1.0s
J08A Circle Bar Ran 79.59 326 P **P** **22 10 18.4 +1.3**
J08A IAmb IAmb 22 10 20.1
comp=Z,217nm,1.5s
GRAN Grantham 79.74 121 eP **P** **22 10 19.1 +0.8**
GRAN IAmb IAmb 22 10 41.0
comp=Z,77nm,0.7s
KEIM Keimoes 80.02 117 eP **P** **22 10 20.9 +1.1**
KEIM IAmb IAmb 22 10 42.3
comp=Z,140nm,1.0s
BMO Blue Mountains 80.07 328 P **P** **22 10 20.5 +0.9**
BMO IAmb IAmb 22 10 22.2
comp=Z,171nm,1.1s
BMO Blue Mountains 80.07 328 P **P** **22 10 20.5 +0.9**
BMO pmax pmax
comp=Z,171nm,1.1s
UPI Upington 80.37 117 eP **P** **22 10 23.7 +1.9**
UPI IAmb IAmb 22 10 44.1
comp=Z,153nm,0.9s
TSUM Tsumeb 80.45 107 LR LR 22 42 27.9
comp=Z,866nm,20.3s,baz=244,slow=33
TSUM Tsumeb 80.45 107 P **P** **22 10 23.0 +0.6**
TSUM IAmb IAmb 22 10 44.5
comp=Z,142nm,1.1s
TSUM Tsumeb 80.45 107 eP **P** **22 10 23.2 +0.8**
BRAK Brakfontein 80.49 120 eP **P** **22 10 23.0 +0.7**
BRAK IAmb IAmb 22 10 44.0
comp=Z,89nm,1.1s

YBH Yreka Blue Hor 80.74 323 LR LR 22 44 19.0
comp=Z,312nm,21.6s,baz=145,slow=34
ROOI Rooidraai Farm 80.76 121 eP **P** **22 10 24.1 +0.4**
ROOI IAmb IAmb 22 10 46.4
comp=Z,111nm,1.0s
ROSN Rosenhof 80.95 123 eP **P** **22 10 25.4 +0.8**
ROSN IAmb IAmb 22 10 46.7
comp=Z,98nm,1.0s
BUFB Buffelsbos 81.09 123 eP P 22 10 31.3 +5.9
BUFB IAmb IAmb 22 10 48.0
comp=Z,79nm,1.1s
BFON Badsfontein, M 81.12 121 i/P **P** **22 10 27.1 +1.3**
BFON IAmb IAmb 22 10 47.6
comp=Z,166nm,1.3s
PINE Pine Mountain 81.17 325 P **P** **22 10 27.1 +1.4**
AVE Averroes 81.50 49 P **P** **22 10 28.4 +1.0**
GRAF Camdeboo Natio 81.58 121 eP **P** **22 10 29.7 +1.6**
GRAF IAmb IAmb 22 10 50.1
comp=Z,154nm,1.2s
WALA Waterton Lakes 81.64 332 P **P** **22 10 28.7 +0.8**
WALA IAmb IAmb 22 10 30.2
comp=Z,151nm,0.9s
FFC Flin Flon 82.00 342 P **P** **22 10 29.3 -0.2**
FFC Flin Flon 82.00 342 P **P** **22 10 29.3 -0.2**
RAR Rarotonga 82.02 250 P **P** **22 10 32.4 +1.9**
comp=Z,25nm,0.7s,baz=187,slow=8.1,SNR=4.9
RAR LR LR 22 39 16.7
comp=Z,297nm,20.8s,baz=150,slow=30
comp=Z,25nm,0.7s
HAWA Hanford 82.27 328 P **P** **22 10 32.2 +1.1**
HAWA IAmb IAmb 22 10 33.8
comp=Z,147nm,0.9s
GOLM Goulmima 82.37 51 P **P** **22 10 34.0 +1.8**
NEW Newport 82.46 330 P **P** **22 10 32.2 0.0**
NEW Newport 82.46 330 P **P** **22 10 32.5 +0.3**
baz=137,SNR=24
NEW Newport 82.46 330 P **P** **22 10 32.2 0.0**
NEW pmax pmax
comp=Z,39nm,1.1s
GRHM Grahamstown, E 82.68 123 P **P** **22 10 34.0 +0.1**
GRHM Grahamstown, E 82.68 123 eP **P** **22 10 33.6 -0.2**
GRHM IAmb IAmb 22 10 55.4
comp=Z,148nm,1.1s
PFVI Vila Bisbo 82.75 45 eP **P** **22 10 35.6 +1.8**
ARF Arif 82.75 52 P **P** **22 10 36.0 +1.8**
MORF Marmelete 82.96 45 eP **P** **22 10 35.9 +0.9**
MORF IAmb IAmb 22 10 39.0
comp=Z,56nm,1.4s
MORF Marmelete 82.96 45 eP **P** **22 10 36.0 +1.0**
comp=Z,58nm,1.7s
MORF epP **pP** **22 10 56.8 +1.5**
MORF Marmelete 82.96 45 eP **P** **22 10 35.8 +0.9**
COR Corvallis 82.96 325 P **P** **22 10 36.1 +1.4**
COR Corvallis 82.96 325 P **P** **22 10 36.1 +1.4**
COR pmax pmax
comp=Z,270nm,1.0s
HVD Gariep Dam 83.00 120 eP **P** **22 10 35.2 -0.5**
HVD IAmb IAmb 22 10 58.0
comp=Z,66nm,0.8s
PTEO Sao Teotonio 83.05 44 eP **P** **22 10 37.4 +2.0**
comp=Z,86nm,2.0s
PTEO epP **pP** **22 10 56.9 +1.2**
MDT Midelt 83.21 50 P **P** **22 10 38.2 +1.7**
MAW Mawson 83.32 164 P **P** **22 10 37.2 +0.9**
comp=Z,48nm,0.8s,baz=192,slow=6.2,SNR=14
comp=Z,48nm,0.8s
MAW Mawson 83.32 164 P **P** **22 10 37.2 +0.9**
MAW Mawson 83.32 164 P **P** **22 10 37.2 +0.9**
MAW pmax pmax
comp=Z,13nm,0.9s
PNCL Nicolau / Gran 83.51 44 eP **P** **22 10 38.8 +1.1**
comp=Z,62nm,1.9s
PNCL epP **pP** **22 10 59.5 +1.5**
PCVE Castro Verde 83.55 45 eP **P** **22 10 38.7 +0.8**
comp=Z,55nm,2.0s
PCVE Castro Verde 83.55 45 P **P** **22 10 38.6 +0.6**
MESJ Messejana 83.55 44 eP **P** **22 10 38.8 +0.8**
MESJ IAmb IAmb 22 10 40.8
comp=Z,42nm,1.1s
MESJ eSKSac **S** **22 20 54.2 +0.1**
MESJ Messejana 83.55 44 eP **P** **22 10 39.9 +1.9**
comp=Z,66nm,1.9s
MESJ epP **pP** **22 10 58.7 +0.4**
MESJ Messejana 83.55 44 P **P** **22 10 38.6 +0.6**
MESJ Messejana 83.55 44 eP **P** **22 10 38.7 +0.8**
MESJ e 22 20 54.1
BOSA Boshof 83.56 118 P **P** **22 10 38.1 -0.4**
comp=Z,47nm,0.8s,baz=257,slow=3.6,SNR=79
BOSA LR LR 22 45 49.7
comp=Z,730nm,18.1s,baz=262,slow=34
comp=Z,47nm,0.8s
BOSA Boshof 83.56 118 P **P** **22 10 38.1 -0.4**
BOSA Boshof 83.56 118 eP **P** **22 10 38.8 +0.2**
BOSA IAmb IAmb 22 10 39.6
comp=Z,59nm,0.9s
BOSA Boshof 83.56 118 P **P** **22 10 38.1 -0.4**
BOSA pmax pmax
comp=Z,162nm,1.0s
PVAQ Vaqueiros 83.62 45 eP **P** **22 10 38.3 0.0**
comp=Z,76nm,1.7s
PVAQ epP **pP** **22 10 58.6 -0.1**
PVAQ Vaqueiros 83.62 45 eS **S** **22 21 02.2 +7.3**
PVAQ Vaqueiros 83.62 45 P **P** **22 10 39.0 +0.7**
PVAQ Vaqueiros 83.62 45 P **P** **22 10 39.9 +1.6**
FCC Fort Churchill 83.72 348 P **P** **22 10 38.4 +0.2**
FCC IAmb IAmb 22 10 39.8
comp=Z,114nm,1.0s
FCC Fort Churchill 83.72 348 P **P** **22 10 38.4 +0.2**
FCC pmax pmax
comp=Z,114nm,1.0s
PBEJ Beja 83.88 44 eP **P** **22 10 40.7 +1.0**
comp=Z,78nm,1.9s
PBEJ epP **pP** **22 10 57.4 -2.6**
CHEFC Chefchaouen 83.94 48 P **P** **22 10 42.0 +1.9**
EVO Evora 84.08 44 eP **P** **22 10 41.5 +0.9**
comp=Z,92nm,1.6s
EVO Evora 84.08 44 P **P** **22 10 41.4 +0.7**
PSBE So Bento 84.15 43 eP **P** **22 10 41.6 +0.6**
comp=Z,213nm,1.6s
SWZ Schweizer 84.16 117 eP **P** **22 10 40.6 -1.1**
SWZ IAmb IAmb 22 11 48.4
comp=Z,142nm,1.0s
PMTG Montargil 84.25 43 eP **P** **22 10 42.4 +0.9**
comp=Z,206nm,1.7s
PMTG epP **pP** **22 11 02.1 +0.2**
CEU Ceuta 84.35 47 P **P** **22 10 43.4 +1.4**
PBAR Barrancos 84.50 45 eP **P** **22 10 43.4 +0.6**
comp=Z,92nm,1.1s
PBAR epP **pP** **22 11 04.0 +0.8**
PESTR Estremoz 84.54 44 eP **P** **22 10 43.9 +0.9**
comp=Z,110nm,1.6s
PESTR epP **pP** **22 11 04.6 +1.2**
PESTR Estremoz 84.54 44 P **P** **22 10 43.6 +0.6**
PESTR Estremoz 84.54 44 P **P** **22 10 44.2 +1.2**
PCAS Casmilo, Conde 84.65 43 eP **P** **22 10 44.5 +1.0**
comp=Z,112nm,1.7s
PCAS epP **pP** **22 11 04.4 +0.5**
COI Coimbra 84.80 42 eP **P** **22 10 45.0 +0.7**
comp=Z,225nm,1.6s
COI epP **pP** **22 11 04.0 -0.6**
COI Coimbra 84.80 42 P **P** **22 10 44.9 +0.7**
COI IAmb IAmb 22 10 46.5
comp=Z,144nm,1.1s
COI Coimbra 84.80 42 P **P** **22 10 44.9 +0.7**
COI pmax pmax
comp=Z,144nm,1.1s
PMRV Marv??o 84.99 44 eP **P** **22 10 45.3 +0.1**
comp=Z,64nm,1.4s
NLWA Neilton Lookou 85.12 326 P **P** **22 10 46.4 +0.7**
PCBR Castelo Branco 85.17 43 eP **P** **22 10 46.6 +0.5**
comp=Z,75nm,1.5s
PCBR epP **pP** **22 11 07.2 +0.7**
LBTB Lobatse 85.21 115 P **P** **22 10 47.1 +0.2**
comp=Z,15nm,0.8s,baz=180,slow=2.7
LBTB LR LR 22 45 33.3
comp=Z,633nm,19.6s,baz=113,slow=33
comp=Z,15nm,0.8s
LBTB Lobatse 85.21 115 P **P** **22 10 46.7 -0.3**
LBTB IAmb IAmb 22 11 08.6
comp=Z,134nm,1.2s
LBTB Lobatse 85.21 115 eP **P** **22 10 47.0 +0.1**
LBTB IAmb IAmb 22 11 08.4
comp=Z,156nm,1.3s
PTO Porto 85.22 42 eP **P** **22 10 47.9 +1.6**
comp=Z,198nm,1.5s

FIGM Figuig 85.26 52 P **P** **22 10 49.0 +2.0**
PVIS Viseu 85.41 42 eP **P** **22 10 46.8 -0.6**
comp=Z,97nm,1.4s
PVIS epP **pP** **22 11 08.3 +0.5**
MTE Manteigas 85.45 43 eP **P** **22 10 47.8 +0.2**
comp=Z,112nm,1.0s
MTE epP **pP** **22 11 08.0 0.0**
MTE Manteigas 85.45 43 eS **S** **22 21 15.3 +2.2**
MTE Manteigas 85.45 43 P **P** **22 10 48.0 +0.4**
MTE IAmb IAmb 22 10 49.3
comp=Z,74nm,0.8s
EMAL Malaga-Limoner 85.45 47 P **P** **22 10 48.8 +1.2**
IVI Ivigtut 85.52 10 P **P** **22 10 47.5 +0.3**
IVI IAmb IAmb 22 10 49.0
comp=Z,126nm,0.9s
IVI Ivigtut 85.52 10 i P **P** **22 10 48.5 +1.3**
IVI IAmb IAmb 22 10 48.7
comp=Z,118nm,0.9s
SNKL Senekal, Frees 85.73 119 eP **P** **22 10 49.3 -0.3**
SNKL IAmb IAmb 22 11 33.6
comp=Z,210nm,1.0s
PGC Sidney 85.75 328 P **P** **22 10 49.4 +0.6**
PGC IAmb IAmb 22 10 50.9
comp=Z,146nm,1.1s
TAF Taforalt 85.81 50 P **P** **22 10 52.0 +2.4**
PVRL Vila Real 85.84 42 eP **P** **22 10 50.5 +1.0**
comp=Z,82nm,1.8s
POLO Lamas de Olo 85.85 42 eP **P** **22 10 49.9 +0.3**
comp=Z,48nm,2.0s
PCAB Cabril 85.91 41 eP **P** **22 10 50.0 +0.2**
comp=Z,122nm,0.8s
PCAB epP **pP** **22 11 10.4 +0.2**
PGAV Gavieira, Arco 85.91 41 eP **P** **22 10 50.3 +0.5**
comp=Z,113nm,1.7s
PGAV epP **pP** **22 11 08.8 -1.4**
PGAV Gavieira, Arco 85.91 41 eS **S** **22 21 19.5 +1.9**
PRYS Parys 85.93 117 eP **P** **22 10 51.1 +0.6**
PRYS IAmb IAmb 22 11 34.1
comp=Z,95nm,0.9s
NRS Narsarsuaq 85.96 12 P **P** **22 10 49.6 +0.1**
NRS IAmb IAmb 22 10 50.8
comp=Z,81nm,0.9s
NRS Narsarsuaq 85.96 12 i P **P** **22 10 50.0 +0.6**
NRS IAmb IAmb 22 10 50.5
comp=Z,96nm,1.0s
NRS Narsarsuaq 85.96 12 P **P** **22 10 49.6 +0.1**
NRS pmax pmax
comp=Z,81nm,0.9s
KSTD Kokstad 86.02 121 IAmb IAmb 22 11 23.4
comp=Z,123nm,1.2s
WDLM Western Deep L 86.18 117 eP **P** **22 10 53.2 +1.4**
WDLM IAmb IAmb 22 11 32.2
comp=Z,49nm,0.9s
MVO Moncorvo 86.21 42 eP **P** **22 10 51.8 +0.5**
comp=Z,103nm,1.7s
MVO epP **pP** **22 11 11.5 -0.2**
MVO Moncorvo 86.21 42 eS **S** **22 21 22.0 +1.5**
FRB Frobisher Bay 86.27 1 LR LR 22 50 00.1
comp=Z,260nm,21.6s,baz=157,slow=36
PBRG Braganca 86.75 42 eP **P** **22 10 53.6 -0.3**
comp=Z,80nm,1.5s
PBRG epP **pP** **22 11 10.1 -4.2**
OZB Mount Ozzard 86.97 327 P **P** **22 10 55.1 +0.3**
PAB San Pablo 87.01 45 P **P** **22 10 55.3 0.0**
PAB San Pablo 87.01 45 P **P** **22 10 55.9 +0.6**
PAB San Pablo 87.01 45 P **P** **22 10 55.3 0.0**
PAB pmax pmax
comp=Z,65nm,1.0s
ESDC Sonseca Array 87.33 45 P **P** **22 10 56.6 -0.2**
comp=Z,15nm,0.8s,baz=258,slow=4.5,SNR=64
ESDC PKKPbc **PKKPbc** **22 28 48.2 -0.1**
comp=Z,0.4nm,0.9s,baz=7.6,slow=2.7,SNR=4.9
comp=Z,15nm,0.8s
ESDC Sonseca Array 87.33 45 P **P** **22 10 56.8 -0.1**
ESBB Sonseca Array 87.33 45 P **P** **22 10 56.6 -0.2**
LEPH Lephalale, Lim 87.51 115 eP **P** **22 10 58.4 +0.1**
LEPH IAmb IAmb 22 11 11.0
comp=Z,126nm,1.0s
NWCL Newcastle 87.66 119 eP **P** **22 10 57.8 -1.1**
NWCL IAmb IAmb 22 11 15.4
comp=Z,170nm,1.4s
NUUK Nuuk 87.84 8 i P **P** **22 10 59.2 +0.7**
NUUK IAmb IAmb 22 11 00.1
comp=Z,54nm,1.0s
UCM Universidad Co 88.14 45 P **P** **22 11 01.4 +0.8**
BBB Bella Bella 90.31 328 LR LR 22 53 03.1
comp=Z,189nm,22.0s,baz=136,slow=36
SFJD Kangerlussuaq 90.68 7 LR LR 22 51 09.0
comp=Z,518nm,21.9s,baz=154,slow=35
SFJD Kangerlussuaq 90.68 7 i P **P** **22 11 11.7 -0.1**
SFJD IAmb IAmb 22 11 15.2
comp=Z,15nm,0.9s
DY2G Dye2 90.77 9 i P **P** **22 11 12.8 +0.3**
DY2G IAmb IAmb 22 11 13.8
comp=Z,213nm,1.3s
ISOG Isortoq, Green 91.18 12 i P **P** **22 11 14.7 +0.6**
ISOG IAmb IAmb 22 11 16.3
comp=Z,101nm,1.2s
LSZ Lusaka 91.30 107 LR LR 22 49 30.6
comp=Z,615nm,19.9s,baz=248,slow=34
ANGG Ammassalik, Gr 91.51 13 i P **P** **22 11 15.4 -0.2**
ANGG IAmb IAmb 22 11 16.5
comp=Z,42nm,1.0s
YKA Yellowknife Ar 92.14 341 P **P** **22 11 18.5 -0.2**
comp=Z,48nm,0.8s,baz=139,slow=4.3,SNR=257
comp=Z,48nm,0.8s
GRNB Grenville Isla 92.20 329 P **P** **22 11 19.7 +0.5**
GRNB IAmb IAmb 22 11 21.1
comp=Z,75nm,1.0s
URZ Urewera 92.71 226 LR LR 22 43 38.4
comp=Z,580nm,20.4s,baz=274,slow=29
ILULI Ilulissat 92.75 7 P **P** **22 11 21.1 -0.1**
ILULI IAmb IAmb 22 11 22.6
comp=Z,62nm,0.9s
ILULI Ilulissat 92.75 7 i P **P** **22 11 21.4 +0.1**
ILULI IAmb IAmb 22 11 22.2
comp=Z,66nm,1.0s
ILULI Ilulissat 92.75 7 P **P** **22 11 21.2 -0.1**
ILULI pmax pmax
comp=Z,62nm,0.9s
MAHO Mahon 92.94 48 P **P** **22 11 23.6 +0.7**
H02S1 DAWSON INLET T 93.05 328 P **P** **22 11 22.0 -1.1**
SNR=9.2
KOTAN Kotaneelee Air 93.66 336 P **P** **22 11 26.5 +0.7**
baz=132,SNR=28
V35K Ketchikan 93.86 330 P **P** **22 11 26.6 -0.2**
baz=126
LIRD Liard River Hi 93.98 335 P **P** **22 11 27.1 -0.1**
baz=130,SNR=14
ICESG Greenland Ices 94.20 10 i P **P** **22 11 28.4 -0.1**
ICESG IAmb IAmb 22 11 29.6
comp=Z,65nm,1.4s
T35M Bob Quinn 94.21 331 P **P** **22 11 28.9 +0.5**
baz=126,SNR=15
MCH1 Michaelchurch 94.48 35 eP **P** **22 11 28.6 -1.1**
MCH1 IAmb IAmb 22 11 31.8
comp=Z,85nm,0.9s
MONM Monmouth 94.50 35 eP **P** **22 11 29.5 -0.3**
CLGH Cloghs, Cushen 94.59 31 eP **P** **22 11 30.2 +0.1**
CRAG Craig 94.64 329 P **P** **22 11 30.7 +0.4**
baz=124
KEST Kesra 94.74 53 P **P** **22 11 32.2 +0.8**
comp=Z,19nm,0.9s,baz=264,slow=3.8,SNR=12
comp=Z,19nm,0.9s
NUUG Nuugaatsiaq 94.79 5 eP **P** **22 11 32.1 +1.4**
NUUG IAmb IAmb 22 11 33.1
comp=Z,22nm,1.1s
HLM1 Long Mynd 94.81 34 eP **P** **22 11 31.0 -0.3**
WRAK Wrangell Islan 94.82 330 P **P** **22 11 31.4 +0.3**
baz=125,SNR=6.0
DLBC Dease Lake 94.98 333 P **P** **22 11 32.6 +0.6**
baz=127,SNR=45
U33K Whale Pass 95.01 330 P **P** **22 11 31.8 -0.2**
baz=124
S34M Telegraph Cree 95.14 332 P **P** **22 11 32.9 +0.3**
baz=126,SNR=20
GAL1 Galloway 95.15 32 eP **P** **22 11 32.7 0.0**
GAL1 IAmb IAmb 22 11 33.5
comp=Z,47nm,0.7s
CLF Chambon-Foret 95.44 40 P **P** **22 11 34.3 +0.1**
CLF IAmb IAmb 22 11 35.5
comp=Z,64nm,1.0s
WTLY Watson Lake, Y 95.48 334 P **P** **22 11 34.6 +0.4**
baz=128,SNR=5.4
WRGLY Wrigley 95.51 338 P **P** **22 11 34.0 -0.1**
baz=132

NEWG	**New Galloway**	**95.52**	**32**	*e*P		**P**	**22 11 34.1**	**-0.2**
NEWG					IAmb	IAmb	22 11 35.4	
	comp=Z,48nm,0.9s							
CWF	**Charnwood Fore**	**95.75**	**35**	*e*P		**P**	**22 11 35.4**	**-0.1**
UPNV	**Upernavik**	**95.79**	**4**	*e*P		**P**	**22 11 35.8**	**+0.5**
UPNV					IAmb	IAmb	22 11 36.3	
	comp=Z,14nm,1.0s							
R33M	**Jennings River**	**95.94**	**333**	P		**P**	**22 11 36.9**	**+0.5**
	baz=126							
Q32M	**Nakina River**	**96.24**	**332**	P		**P**	**22 11 38.1**	**+0.3**
	baz=125							
INVG	**Invergeldie, C**	**96.31**	**31**	*e*P		**P**	**22 11 37.2**	**-0.7**
SIT	**Sitka**	**96.54**	**330**	P		**P**	**22 11 39.0**	**0.0**
	baz=122							
BNI	**Bardonecchia**	**96.82**	**44**	P		**P**	**22 11 41.3**	**+0.5**
BNI					IAmb	IAmb	22 12 19.6	
	comp=Z,54nm,1.9s							
BNI	**Bardonecchia**	**96.82**	**44**	P		**P**	**22 11 41.3**	**+0.5**
BNI					pmax	pmax		
	comp=Z,54nm,1.9s							
R32K	**Eaglecrest**	**96.83**	**331**	P		**P**	**22 11 40.8**	**+0.5**
	baz=123,SNR=7.2							
P33M	**Teslin, Yukon**	**97.18**	**333**	P		Pdif	22 11 42.1	+0.1
	baz=124,SNR=25							
P32M	**Atlin**	**97.21**	**333**	P		Pdif	22 11 42.1	0.0
	baz=124,SNR=11							
S31K	**Pelican**	**97.44**	**330**	P		Pdif	22 11 43.4	+0.4
	baz=122							
SUMG	**Summit**	**97.47**	**9**	*i* P		Pdif	22 11 44.0	+0.6
KULLO	**Kullorsuaq**	**97.49**	**3**	*i* P		**P**	**22 11 42.7**	**-0.2**
DOU	**Dourbes**	**97.75**	**39**	*d*P		Pdif	22 11 44.8	+0.1
	comp=Z,18nm,0.9s							
DOU					*d*pP	pP	22 12 05.6	+0.4
DOU					*d*sP	sP	22 12 13.4	+0.2
SENIN	**Lac Senin/Sane**	**97.77**	**43**	P		Pdif	22 11 45.2	+0.1
SKAG	**Skagway**	**97.83**	**332**	P		Pdif	22 11 45.1	+0.3
	baz=122,SNR=6.0							
RCHB	**Rochefort**	**98.14**	**39**	*d*P		Pdif	22 11 46.5	0.0
	comp=Z,14nm,1.1s							
BGES	**Gesves**	**98.16**	**39**	*d*P		Pdif	22 11 46.6	+0.1
	comp=Z,24nm,0.9s							
BGES					*d*pP	pP	22 12 06.4	-0.7
PLBC	**Pleasant Camp**	**98.28**	**332**		Pdiff	Pdif	22 11 47.4	+0.6
	baz=121							
WHY	**Whitehorse**	**98.28**	**333**		Pdiff	**P**	**22 11 46.8**	**-0.1**
	baz=122							
BCLA	**Clavier**	**98.30**	**39**	*d*P		**P**	**22 11 46.9**	**-0.2**
	comp=Z,10.0nm,1.2s							
ECH	**Echery**	**98.46**	**41**	P		**P**	**22 11 47.5**	**-0.4**
ECH					IAmb	IAmb	22 12 09.1	
	comp=Z,60nm,1.7s							
ECH	**Echery**	**98.46**	**41**	P		**P**	**22 11 47.5**	**-0.4**
ECH					pmax	pmax		
	comp=Z,61nm,1.7s							
WLF	**Walferdange**	**98.47**	**40**	P		**P**	**22 11 47.3**	**-0.6**
WLF					IAmb	IAmb	22 11 49.5	
	comp=Z,63nm,1.1s							
WLF	**Walferdange**	**98.47**	**40**	P		**P**	**22 11 47.3**	**-0.6**
WLF					pmax	pmax		
	comp=Z,63nm,1.1s							
WLF	**Walferdange**	**98.47**	**40**	*d*P		Pdif	22 11 48.0	+0.1
WLF					*d*pP	pP	22 12 09.0	+0.5
WLF					*d*sP	sP	22 12 16.2	-0.3
WLF	**Walferdange**	**98.47**	**40**	*e*Pdiff		Pdif	22 11 48.7	+0.8
	baz=249,slow=4.3							
FARO	**Faro, Yukon**	**98.51**	**335**		Pdiff	Pdif	22 11 48.2	+0.4
	baz=124							
BSTI	**Sart Tilman**	**98.52**	**39**	*d*P		Pdif	22 11 48.5	+0.4
	comp=Z,4.5nm,1.0s							
RES	**Resolute Bay**	**98.60**	**353**		LR	LR	22 57 49.0	
	comp=Z,344nm,22.0s,baz=165,slow=36							
BHOU	**Houvegnez**	**98.68**	**39**	*d*P		Pdif	22 11 49.2	+0.4
	comp=Z,22nm,1.0s							
BHOU					*d*pP	pP	22 12 08.9	-0.6
MEM	**Membach**	**98.79**	**39**	*d*P		**P**	**22 11 48.9**	**-0.3**
	comp=Z,15nm,0.9s							
MEM					*d*pP	**pP**	**22 12 10.1**	**+0.3**
O30N	**Mendenhall**	**98.84**	**333**		Pdiff	Pdif	22 11 49.8	+0.4
	baz=121							
BTNL	**Ternell**	**98.85**	**39**	*d*P		Pdif	22 11 50.1	+0.5
	comp=Z,16nm,1.0s							
BTNL					*d*pP	pP	22 12 08.2	-2.0
P30M	**Million Dollar**	**98.88**	**332**		Pdiff	Pdif	22 11 49.6	+0.1
	baz=121							
M31M	**Drury Creek, Y**	**98.91**	**335**		Pdiff	Pdif	22 11 49.8	+0.2
	baz=123							
N31M	**Braeburn, Yuko**	**99.09**	**334**		Pdiff	**Pdif**	**22 11 50.5**	**+0.1**
	baz=122							
TULEG	**Thule**	**99.12**	**0**	P		**Pdif**	**22 11 50.3**	**+0.2**
TULEG	**Thule**	**99.12**	**0**	*i* P		**Pdif**	**22 11 50.1**	**-0.1**
OSSC	**Osservatorio P**	**99.20**	**47**			**Pdif**	**22 11 50.9**	**-0.4**
LATE	**Laterza**	**99.23**	**48**	P		**Pdif**	**22 11 52.0**	**+0.5**
ZCCA	**Zocca**	**99.34**	**46**	P		**Pdif**	**22 11 52.4**	**+0.4**
ZCCA					IAmb	IAmb	22 11 55.2	
	comp=Z,38nm,0.8s							
AHRW	**Bad Neuenahr-A**	**99.38**	**39**	*e*Pdiff		**Pdif**	**22 11 52.7**	**+0.8**
	baz=249,slow=4.3							
HYT	**Haines Junctio**	**99.47**	**333**		Pdiff	**Pdif**	**22 11 52.8**	**+0.5**
	baz=120							
MBAR	**Mbarara**	**99.47**	**95**	LR		LR	22 53 45.4	
	comp=Z,528nm,21.7s,baz=247,slow=34							
MBAR	**Mbarara**	**99.47**	**95**	*e*P		**Pdif**	**22 11 49.5**	**-4.0**
MBAR				*e*S		**PP**	**22 15 51.6**	**-6.2**
DAVOX	**Davos/Dischmat**	**99.57**	**43**	LR		LR	22 55 51.3	
	comp=Z,531nm,19.9s,baz=202,slow=35							
O29M	**Mount Kennedy**	**99.67**	**332**		Pdiff	**Pdif**	**22 11 53.2**	**+0.1**
	baz=119							
PNL	**Peninsula**	**99.72**	**331**		Pdiff	**Pdif**	**22 11 53.7**	**+0.4**
	baz=119							
DAVA	**Damuels**	**99.77**	**43**	*e*Pdiff		**Pdif**	**22 11 54.6**	**+0.6**
	comp=Z,15nm,1.1s							
BUG	**Bochum--Univer**	**99.86**	**38**	*e*Pdiff		**Pdif**	**22 11 54.4**	**+0.4**
	baz=249,slow=4.3							
YUK6	**Outpost Mounta**	**99.89**	**333**		Pdiff	**Pdif**	**22 11 54.6**	**+0.4**
	baz=119							
STU	**Stuttgart**	**99.93**	**41**	*e*Pdiff		**Pdif**	**22 11 54.9**	**+0.4**
	baz=249,slow=4.3							
TNS	**Taunus Mts**	**100.05**	**40**	*e*Pdiff		**Pdif**	**22 11 55.7**	**+0.7**
	baz=249,slow=4.3							
M30M	**Minto, Yukon**	**100.06**	**334**		Pdiff	**Pdif**	**22 11 54.4**	**-0.3**
	baz=120							
UBR	**Ueberruh**	**100.06**	**43**	*e*Pdiff		**Pdif**	**22 11 55.9**	**+0.8**
	baz=249,slow=4.3							
FETA	**Feichten**	**100.20**	**43**	*i* Pdiff		**Pdif**	**22 11 56.3**	**+0.4**
	comp=Z,17nm,1.1s,SNR=5.6							
YUK4	**Talbot Arm**	**100.21**	**333**		Pdiff	**Pdif**	**22 11 55.3**	**-0.3**
	baz=119							
PINM	**Pinnacle**	**100.30**	**331**		Pdiff	**Pdif**	**22 11 56.0**	**+0.1**
	baz=118							
RETA	**Reutte**	**100.40**	**43**	*e*Pdiff		**Pdif**	**22 11 57.1**	**+0.4**
	comp=Z,14nm,0.9s							
KASTN	**Kahler Asten**	**100.42**	**39**	*e*Pdiff		**Pdif**	**22 11 56.9**	**+0.3**
	baz=249,slow=4.3							
IBBN	**Ibbenburen**	**100.49**	**38**	*e*Pdiff		**Pdif**	**22 11 57.5**	**+0.8**
	baz=249,slow=4.3							
MOTA	**Moosalm**	**100.56**	**43**	*i* Pdiff		**Pdif**	**22 11 58.1**	**+0.7**
	comp=Z,24nm,1.3s,SNR=5.8							
SQTA	**Sankt Quirin**	**100.58**	**43**	*i* Pdiff		**Pdif**	**22 11 58.1**	**+0.6**
	comp=Z,38nm,0.8s,SNR=12							
O28M	**Mount Upton**	**100.59**	**332**		Pdiff	**Pdif**	**22 11 57.5**	**+0.1**
	baz=118							
YUK8	**Steele Glacier**	**100.65**	**333**		Pdiff	**Pdif**	**22 11 57.7**	**0.0**
	baz=118							
NEEM	**North Greenlan**	**100.65**	**4**	*i* P		**Pdif**	**22 11 58.0**	**+0.6**
M29M	**Somme Creek**	**100.67**	**334**		Pdiff	**Pdif**	**22 11 57.6**	**+0.1**
	baz=119							
WATA	**Walderalm**	**100.85**	**43**	*i* Pdiff		**Pdif**	**22 11 59.3**	**+0.6**
	comp=Z,23nm,1.1s,SNR=7.5							
L29M	**L29M**	**100.86**	**335**		Pdiff	**Pdif**	**22 11 58.4**	**+0.2**
	baz=119							
WTTA	**Wattenberg**	**100.87**	**43**	*i* Pdiff		**Pdif**	**22 11 59.7**	**+0.8**
	comp=Z,39nm,0.9s,SNR=13							
K29M	**Barlow Dome**	**100.98**	**335**		Pdiff	**Pdif**	**22 11 58.8**	**-0.1**
	baz=120							
YUK3	**Moose Creek**	**101.18**	**333**		Pdiff	**Pdif**	**22 11 59.9**	**-0.1**
	baz=118							
ABTA	**Abfaltersbach**	**101.23**	**44**	*i* Pdiff		**Pdif**	**22 12 01.0**	**+0.6**
	comp=Z,20nm,1.1s,SNR=7.9							
F31M	**Tsiigehtchic**	**101.49**	**339**		Pdiff	**Pdif**	**22 12 00.8**	**0.0**
	baz=122							
J29M	**Klondike Camp**	**101.55**	**336**		Pdiff	**Pdif**	**22 12 01.2**	**-0.1**
	baz=119							
BVCY	**Beaver Creek**	**101.64**	**333**		Pdiff	**Pdif**	**22 12 02.0**	**+0.2**
	baz=117							
ROBS	**Robic**	**101.70**	**45**	*i* Pdiff		**Pdif**	**22 12 02.6**	**+0.2**
A36M	**Sachs Harbour**	**101.74**	**345**		Pdiff	**Pdif**	**22 12 01.9**	**0.0**
	baz=129							
DAWY	**Dawson**	**101.81**	**335**		Pdiff	**Pdif**	**22 12 02.1**	**-0.4**
	baz=118							
INK	**Inuvik**	**101.88**	**340**		Pdiff	**Pdif**	**22 12 02.5**	**-0.1**
	baz=122							
KBA	**Koelnbreinsper**	**101.89**	**44**	*e*Pdiff		**Pdif**	**22 12 03.7**	**+0.3**
	comp=Z,8.0nm,0.8s							
MYKA	**Terra Mystica**	**101.92**	**44**	*i* Pdiff		**Pdif**	**22 12 04.4**	**+0.9**
	comp=Z,15nm,0.8s,SNR=6.5							
EPYK	**Eagle Plains**	**101.94**	**338**		Pdiff	**Pdif**	**22 12 02.8**	**-0.2**
	baz=120							
I29M	**Ogilvie Camp,**	**102.02**	**336**		Pdiff	**Pdif**	**22 12 03.2**	**-0.1**
	baz=119							
M27K	**Edge Creek, AK**	**102.04**	**333**		Pdiff	**Pdif**	**22 12 03.5**	**-0.1**
	baz=116							
G30M	**tAoh Zraii Nji**	**102.08**	**338**		Pdiff	**Pdif**	**22 12 03.4**	**-0.2**
	baz=120							
MCARA	**McCarthy VSAT**	**102.10**	**332**		Pdiff	**Pdif**	**22 12 04.0**	**+0.3**
	baz=116							
BIOA	**Bad Ischl, Aus**	**102.29**	**43**	*e*Pdiff		**Pdif**	**22 12 05.4**	**+0.5**
	comp=Z,16nm,1.6s							
GBRS	**Gornja Briga**	**102.30**	**46**	*e*Pdiff		**Pdif**	**22 12 05.8**	**+0.7**
L27K	**Beaver Creek,**	**102.33**	**334**		Pdiff	**Pdif**	**22 12 05.0**	**+0.2**
	baz=116							
OBKA	**Obir**	**102.47**	**45**	*i* Pdiff		**Pdif**	**22 12 07.1**	**+1.2**
	comp=Z,12nm,0.8s,SNR=7.5							
M26K	**Nabesna, AK**	**102.53**	**333**		Pdiff	**Pdif**	**22 12 06.1**	**+0.3**
	baz=115							
BMRM	**Bremner River**	**102.62**	**331**		Pdiff	**Pdif**	**22 12 05.8**	**-0.4**
	baz=114							
GERES	**GERESS Array B**	**102.72**	**42**	P		**Pdif**	**22 12 07.5**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=249,slow=2.7,SNR=19							
GERES					PKiKP	**PKiKP**	**22 16 28.0**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=199,slow=2.1,SNR=5.7							
GERES					PKKPbc	**PKKPbc**	**22 28 05.5**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=70,slow=1.1,SNR=5.3							
MOA	**Molln**	**102.74**	**43**	*e*Pdiff		**Pdif**	**22 12 07.7**	**+0.8**
	comp=Z,21nm,1.5s							
Q23K	**Middleton Isla**	**102.80**	**329**		Pdiff	**Pdif**	**22 12 07.0**	**+0.1**
	baz=113							
EGAK	**Eagle**	**102.82**	**335**		Pdiff	**Pdif**	**22 12 06.8**	**-0.1**
	baz=116							
SOKA	**Soboth**	**102.84**	**45**	*e*Pdiff		**Pdif**	**22 12 08.0**	**+0.5**
	comp=Z,5.2nm,0.9s							
K27K	**Chicken**	**102.85**	**335**		Pdiff	**Pdif**	**22 12 07.1**	**0.0**
	baz=116							
N25K	**Chitina, Valde**	**102.88**	**332**		Pdiff	**Pdif**	**22 12 07.4**	**+0.1**
	baz=114							
L26K	**Log Cabin Wild**	**102.94**	**333**		Pdiff	**Pdif**	**22 12 07.5**	**0.0**
	baz=115							
EYAK	**Cordova Ski Ar**	**102.97**	**331**		Pdiff	**Pdif**	**22 12 08.2**	**+0.6**
	baz=113							
CLL	**Collm**	**103.14**	**40**		LmV		23 00 00.0	
	comp=Z,1μm,19.1s							
CLL	**Collm**	**103.14**	**40**	*e*Pdif		**Pdif**	**22 12 09.0**	**+0.4**
	comp=Z,39nm,2.0s							
CLL				*i*	pPdif	**pPdif**	**22 12 29.6**	**+0.4**
CLL				*e*	SSS	SSS	22 35 00.0	
CLL	**Collm**	**103.14**	**40**	*e*P		**Pdif**	**22 12 09.0**	**+0.4**
CLL					pmax	pmax		
	comp=Z,39nm,2.0s							
ARSA	**Arzberg**	**103.34**	**44**	*e*Pdiff		**Pdif**	**22 12 10.3**	**+0.6**
	comp=Z,6.0nm,0.8s							
I27K	**Kandik River**	**103.36**	**336**		Pdiff	**Pdif**	**22 12 09.8**	**+0.4**
	baz=116							
KLU	**Klutina**	**103.42**	**331**		Pdiff	**Pdif**	**22 12 10.3**	**+0.5**
	baz=113							
HARP	**HAARP**	**103.44**	**332**		Pdiff	**Pdif**	**22 12 10.0**	**+0.3**
	baz=114							
P23K	**Montague Islan**	**103.52**	**330**		Pdiff	**Pdif**	**22 12 09.5**	**-0.6**
	baz=112							
BRG	**Berggiesshubel**	**103.55**	**40**	*e*P		**Pdif**	**22 12 12.5**	**+2.0**
BRG					Amp		22 12 13.2	
	comp=Z,11nm,1.3s							
BRG	**Berggiesshubel**	**103.55**	**40**	*e*P		**Pdif**	**22 12 12.5**	**+2.0**
BRG					pmax	pmax		
	comp=Z,11nm,1.3s							
BRG					pmax	pmax		
	comp=Z,36nm,1.9s							
SCRK	**Sand Creek**	**103.59**	**334**		Pdiff	**Pdif**	**22 12 10.2**	**-0.3**
	baz=114							
H27K	**Steamboat Moun**	**103.60**	**337**		Pdiff	**Pdif**	**22 12 10.5**	**+0.1**
	baz=116							
J26L	**Joseph Creek**	**103.64**	**335**		Pdiff	**Pdif**	**22 12 10.8**	**+0.2**
	baz=114							
M24K	**Tolsona, Glenn**	**103.77**	**332**		Pdiff	**Pdif**	**22 12 11.3**	**+0.1**
	baz=113							
CONA	**Conrad Observa**	**103.78**	**44**	*e*Pdiff		**Pdif**	**22 12 12.5**	**+0.8**
	comp=Z,5.6nm,1.2s							
PAX	**Paxson**	**103.80**	**333**		Pdiff	**Pdif**	**22 12 11.2**	**-0.2**
	baz=113							
RIDG	**Independent Ri**	**103.84**	**334**		Pdiff	**Pdif**	**22 12 11.6**	**0.0**
	baz=113							
G27K	**Doyon Strip**	**103.89**	**337**		Pdiff	**Pdif**	**22 12 11.6**	**-0.1**
	baz=116							
RONA	**Rosalia, Austr**	**103.98**	**44**	*e*Pdiff		**Pdif**	**22 12 13.4**	**+0.9**
	comp=Z,5.1nm,0.9s							
SCM	**Sheep Creek Mo**	**104.17**	**331**		Pdiff	**Pdif**	**22 12 12.9**	**-0.1**
	baz=112							
K24K	**Donnelly Dome**	**104.25**	**334**		Pdiff	**Pdif**	**22 12 13.1**	**-0.2**
	baz=113							
PWL	**Port Wells**	**104.26**	**330**		Pdiff	**Pdif**	**22 12 13.0**	**-0.4**
	baz=111							
M23K	**Glacier View**	**104.33**	**331**		Pdiff	**Pdif**	**22 12 13.5**	**-0.2**
	baz=112							
E27K	**Coleen River**	**104.46**	**338**		Pdiff	**Pdif**	**22 12 14.2**	**+0.1**
	baz=115							
KRUC	**Moravsky**	**104.47**	**43**	*e*PDIFF		**Pdif**	**22 12 15.2**	**+0.6**
SEW	**Seward**	**104.51**	**329**		Pdiff	**Pdif**	**22 12 13.9**	**-0.5**
	baz=110							
KNK	**Knik Glacier**	**104.52**	**331**		Pdiff	**Pdif**	**22 12 14.4**	**-0.1**
	baz=111							
SML	**Sawmill**	**104.60**	**331**		Pdiff	**Pdif**	**22 12 14.5**	**-0.5**
	baz=111							
WAT6	**Susitna Watana**	**104.62**	**332**		Pdiff	**Pdif**	**22 12 14.8**	**-0.4**
	baz=111							
DHY	**Denali Highway**	**104.64**	**333**		Pdiff	**Pdif**	**22 12 15.1**	**-0.1**
	baz=112							
VRAC	**Vranov**	**104.67**	**42**	*e*PDIFF		**Pdif**	**22 12 16.4**	**+0.9**
G26K	**Porcupine Rive**	**104.72**	**337**		Pdiff	**Pdif**	**22 12 15.5**	**+0.2**
	baz=114							
PRP	**Porcupine Dome**	**104.81**	**335**		Pdiff	**Pdif**	**22 12 15.9**	**0.0**
	baz=112							
MODS	**Modra-Piesok**	**104.82**	**44**	*e*P		**Pdif**	**22 12 16.9**	**+0.7**
MODS	**Modra-Piesok**	**104.82**	**44**	*e*PDIFF		**Pdif**	**22 12 16.9**	**+0.7**
PMR	**Palmer**	**104.88**	**331**		PKiKP	**PKiKP**	**22 16 30.8**	**0.0**
	baz=110							
HDA	**Harding Lake**	**104.95**	**334**		PKiKP	**PKiKP**	**22 16 31.1**	**+0.3**
	baz=112							
RC01	**Rabbit Creek A**	**104.98**	**330**		PKiKP	**PKiKP**	**22 16 31.2**	**+0.2**
	baz=110							
BRSE	**Bradley Lake S**	**105.00**	**329**		PKiKP	**PKiKP**	**22 16 31.3**	**+0.2**
	baz=110							
WAT1	**Susitna Watana**	**105.06**	**332**		PKiKP	**PKiKP**	**22 16 30.6**	**-0.5**
	baz=110							
ILAR	**Eielson Array**	**105.06**	**334**		Pdiff	**Pdif**	**22 12 16.6**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=149,slow=3.0,SNR=20							
F26K	**Sheenjek River**	**105.14**	**338**		PKiKP	**PKiKP**	**22 16 31.1**	**-0.1**
	baz=113							
JAVC	**Velka Javorina**	**105.21**	**43**	*e*PDIFF		**Pdif**	**22 12 19.6**	**+1.6**
LODK	**Lodwar**	**105.29**	**93**	*e*P		**Pdif**	**22 12 16.5**	**-2.7**
LODK				*e*S		**PP**	**22 16 37.6**	**-3.8**
MORC	**Moravsky Berou**	**105.40**	**42**	*e*PDIFF		**Pdif**	**22 12 19.9**	**+1.1**
HOM	**Homer**	**105.40**	**329**		PKiKP	**PKiKP**	**22 16 32.0**	**+0.2**
	baz=109							
POKR	**Poker Plat Res**	**105.41**	**335**		PKiKP	**PKiKP**	**22 16 32.2**	**+0.5**
	baz=111							
Q20K	**Shuyak Island**	**105.44**	**327**		PKiKP	**PKiKP**	**22 16 31.9**	**0.0**
	baz=108							
NOA	**NORSAR Array B**	**105.45**	**30**		Pdiff	**Pdif**	**22 12 19.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=250,slow=4.3,SNR=3.3							
OHAK	**Old Harbor**	**105.46**	**326**		PKiKP	**PKiKP**	**22 16 31.8**	**-0.1**
	baz=108							
MCK	**McKinley**	**105.53**	**333**		PKiKP	**PKiKP**	**22 16 33.6**	**+1.6**
	baz=110							
VYHS	**Vyhne**	**105.85**	**44**	*e*P		**Pdif**	**22 12 21.5**	**+0.7**
VYHS	**Vyhne**	**105.85**	**44**	*e*PDIFF		**Pdif**	**22 12 21.5**	**+0.7**
O20K	**Slope Mountain**	**106.01**	**329**		PKiKP	**PKiKP**	**22 16 34.5**	**+1.4**
	baz=108							
Q19K	**Cape Douglas,**	**106.16**	**328**		PKiKP	**PKiKP**	**22 16 34.1**	**+0.9**
	baz=107							
CHUM	**Lake Minchumin**	**107.00**	**333**		PKiKP	**PKiKP**	**22 16 35.6**	**+0.9**
	baz=107							
R17K	**Ugashik Creek**	**107.18**	**326**		PKiKP	**PKiKP**	**22 16 36.5**	**+1.3**
	baz=108							
H22K	**Ishtalitna Cre**	**107.21**	**335**		PKiKP	**PKiKP**	**22 16 36.3**	**+1.3**
	baz=107							
SURR	**Surduc**	**107.26**	**47**	⇑P		**PKiKP**	**22 16 37.2**	**+1.5**
DILA	**Dilla**	**109.11**	**91**	*e*P		**Pdif**	**22 12 38.5**	**+2.2**
DILA				*e*S		PP	22 17 22.2	+13
DZM	**Mont Dzumac**	**109.37**	**235**	*e*LR		LR	22 48 55.4	
	comp=Z,1μm,24.8s							
MLR	**Muntele Rosu**	**109.80**	**48**	⇑P		**PKiKP**	**22 16 40.8**	**+0.1**
NEHR	**Nehoiu**	**110.03**	**48**	⇓P		**PKiKP**	**22 16 39.5**	**-1.4**
CFR	**Carcaliu**	**111.25**	**49**	⇑P		**PKiKP**	**22 16 43.8**	**+0.6**
VASR	**Vaslui**	**111.30**	**47**	⇑P		**PKiKP**	**22 16 43.5**	**+0.2**
TIRR	**Tirgusor**	**111.30**	**50**	⇑P		**PKiKP**	**22 16 43.5**	**+0.2**
TIRR	**Tirgusor**	**111.30**	**50**	⇑P		**PKiKP**	**22 16 43.5**	**+0.2**
TLCR		**111.72**	**49**	⇓P		**PKiKP**	**22 16 44.8**	**+0.8**
MILM	**Milestii Mici**	**112.04**	**47**	*e*PKP			22 14 44.0	
	comp=Z,20nm,0.5s							
NACGM	**Naroch**	**112.06**	**38**	*e*P		**Pdif**	**22 12 59.1**	**+11**
	comp=Z,9.0nm,1.2s							
FINES	**FINESS Array B**	**112.54**	**31**	PKKPbc		PKKPbc	22 27 36.0	-0.5
	comp=Z,3.7nm,0.7s,baz=90,slow=2.1,SNR=9.3							
MNK	**Minsk**	**112.64**	**39**	*i* P		**Pdif**	**22 12 47.2**	**-3.6**
MNK				*i* P		**Pdif**	**22 12 47.2**	**-3.6**
MNK				*i* P		**Pdif**	**22 12 47.2**	**-3.6**
	baz=262							
MNK				*i* pP		**pPdif**	**22 13 15.0**	**+3.7**
MNK				*i* PP		**PP**	**22 19 29.8**	**-4.1**
MNK				*i* PPP		PPP	22 20 11.6	
MNK				*i* SS		SS	22 33 03.2	-6.7
MNK				*i* SSS		SSS	22 36 23.3	
MNK				*i* LQ		LQ	22 57 47.9	
MNK				*i* LR		LR	22 59 18.9	
MNK				*i* LRM		MLR	23 01 46.5	
	comp=N,3μm,23.9s							
MNK				*i* LRM		MLR	23 01 49.1	
	comp=Z,726nm,23.1s							
MNK				*i* LRM		MLR	23 02 53.8	
	comp=E,129nm,20.7s							
MNK	**Minsk**	**112.64**	**39**	*i* P		**Pdif**	**22 12 47.1**	**-3.6**
MNK				*i* SS		SS	22 33 03.2	-6.7
MNK				MLR		MLR		
	comp=N,3μm,24.0s							
MNK				MLR		MLR		
	comp=Z,726nm,23.0s							
MNK				MLR		MLR		
	comp=E,129nm,21.0s							
AKASG	**Malin Array Be**	**112.92**	**43**	Pdiff		**Pdif**	**22 12 51.9**	**-0.2**
	comp=E,0.1nm,0.3s,baz=269,slow=3.8,SNR=2.2							
AKASG				PKP		**PKiKP**	**22 16 45.6**	**-0.6**
	comp=E,3.9nm,0.6s,baz=262,slow=2.7,SNR=37							
AKASG				PKKPbc		**PKKPbc**	**22 27 35.1**	**+0.2**
	comp=E,3.1nm,0.6s,baz=64,slow=3.7,SNR=18							
AKBB	**Malin Array Si**	**112.92**	**43**	*c* iPKIKP		**PKiKP**	**22 16 46.3**	**+0.1**
ARCES	**ARCESS Array B**	**113.00**	**22**	PKKPbc		PKKPbc	22 27 34.1	-1.1
	comp=E,3.0nm,0.7s,baz=51,slow=2.0,SNR=6.6							
BR131	**Keskin Array S**	**114.24**	**55**	*i* PKIKP		PKPdf	22 16 48.8	-0.5
BRTR	**Keskin Array B**	**114.24**	**55**	PKP		**PKiKP**	**22 16 49.6**	**+0.3**
	comp=E,5.7nm,0.8s,baz=305,slow=46,SNR=31							
BRTR				PKPbc		**PKKPab**	**22 27 37.9**	**+2.8**
	comp=E,1.1nm,0.7s,baz=110,slow=4.2,SNR=6.0							
ASF	**Jabal al Asfar**	**115.40**	**64**	PKKPab		PKKPab	22 27 29.8	-0.5
	comp=E,5.2nm,0.5s,baz=15,slow=14,SNR=11							
APA	**Apatity**	**115.89**	**25**	⇓*i* PKIKP		PKiKP	22 17 00.3	+8.9
APA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
APA					MLR	MLR		
	comp=Z,2μm,27.0s							
**TOK

baz=105,slow=75,SNR=456
H11N3 WAKE ISLAND Hyl 27.34 278 T T 00 37 20.0
baz=103,slow=75,SNR=545
H11N2 WAKE ISLAND Hyl 27.35 278 T T 00 37 25.6
baz=103,slow=75,SNR=570
H11N1 WAKE ISLAND Hyl 27.35 278 T T 00 37 19.4
baz=103,slow=75,SNR=396
MORW Morawa 128.12 186 PKPdf PKPdf 22 17 16.3 +0.1
ASAR Alice Springs 128.38 208 PKP **PKPdf 22 17 17.1 +0.1**
comp=Z,37nm,0.7s,baz=131,slow=1.9,SNR=131
ASAR SKKPbc SKKPbc 22 30 18.4 -2.8
comp=Z,1.7nm,0.8s,baz=349,slow=4.3,SNR=5.0
ASAR Alice Springs 128.38 208 PKPdf **PKPdf 22 17 17.2 +0.3**
ASAR Alice Springs 128.38 208 PKIKP **PKPdf 22 17 17.2 +0.3**
AS31 Alice Springs 128.38 208 PKPdf **PKPdf 22 17 16.8 -0.1**
ARU Arti 129.68 34 PKPdf **PKPdf 22 17 19.3 +0.3**
comp=Z,15nm,0.4s,baz=289,slow=1.5,SNR=39
ARU Arti 129.68 34 PKPdf **PKPdf 22 17 18.5 +0.3**
ARU Arti 129.68 34 *i* PKIKP **PKiKP 22 17 19.1 +0.1**
ARU 22 19 29.6
ARU SS SS 22 36 44.7 -2.5
TIXI Tiksi 129.97 352 ⇓PKIKP **PKPdf 22 17 12.7 -5.6**
SVE Sverdlovsk 130.61 33 *e*PKIKP **PKiKP 22 17 20.9 +0.1**
SVE pmax pmax
comp=Z,46nm,1.5s
SEY Seymchan 130.96 336 *c i*PKIKP **PKiKP 22 17 21.9 +0.6**
SEY pmax pmax
comp=Z,100nm,1.3s
AKTO Aktyubinsk 131.15 42 PKP **PKiKP 22 17 21.9 -0.2**
comp=Z,17nm,1.0s,baz=284,slow=1.9,SNR=24
WR0 Warramunga Arr 131.31 211 PKPdf PKPdf 22 17 22.1 -0.4
WB2 Warramunga Arr 131.41 211 PKPdf PKPdf 22 17 23.0 +0.3
WRA Warramunga Arr 131.42 211 PKP **PKiKP 22 17 23.4 -0.3**
comp=Z,32nm,0.7s,baz=155,slow=1.9,SNR=59
WRA SKKPbc SKKPbc 22 29 59.1 -11
comp=Z,1.4nm,0.8s,baz=343,slow=5.4,SNR=4.5
WRA Warramunga Arr 131.42 211 PKPdf PKPdf 22 17 22.3 -0.4
WRAB Tennant Creek 131.42 211 PKPdf PKPdf 22 17 22.7 0.0
WRAB Tennant Creek 131.42 211 *c i*PKIKP **PKiKP 22 17 23.7 0.0**
WRAB pmax pmax
comp=Z,87nm,1.3s
NRIK Noril'sk 131.49 11 PKP **PKiKP 22 17 22.1 -0.1**
comp=Z,14nm,1.0s,baz=312,slow=14,SNR=14
NRIK Noril'sk 131.49 11 PKPdf **PKPdf 22 17 21.4 +0.2**
NRIK Noril'sk 131.49 11 *c i*PKIKP **PKiKP 22 17 22.3 +0.1**
WB0 Warramunga Arr 131.54 211 PKPdf PKPdf 22 17 22.5 -0.4
PMG Port Moresby 131.69 233 *c i*PKIKP **PKiKP 22 17 25.4 +1.1**
PMG pmax pmax
comp=Z,95nm,1.7s
ABKAR Akbulak array 132.66 43 PKPdf PKPdf 22 17 24.5 +0.5
ABKAR Akbulak array 132.66 43 PKPdf PKPdf 22 17 24.6 +0.5
PETK Petropavlovsk- 133.11 323 PKP **PKiKP 22 17 25.8 -0.2**
comp=Z,18nm,1.0s,baz=59,slow=3.9,SNR=7.2
GEYT Alibeck 133.18 59 PKP **PKiKP 22 17 26.5 -0.1**
comp=Z,11nm,0.8s,baz=262,slow=2.9,SNR=8.2
MA2 Magadan 133.51 333 *c i*PKIKP **PKiKP 22 17 27.5 +0.9**
MA2 pmax pmax
comp=Z,38nm,1.7s
HRA Herat 136.69 64 PKPdf PKPdf 22 17 32.0 -0.4
BRVK Borovoye 137.26 35 PKPdf PKPdf 22 17 32.9 +0.4
BRVK Borovoye 137.26 35 *c i*PKIKP **PKiKP 22 17 34.0 -0.4**
BRVK pmax pmax
comp=Z,22nm,1.3s
BVAR Borovoye Array 137.33 35 PKP **PKPdf 22 17 33.4 +0.8**
comp=Z,19nm,0.7s,baz=277,slow=2.5,SNR=3.6
YAK Yakutsk 138.59 346 PKPdf PKPdf 22 17 34.8 +0.1
YAK Yakutsk 138.59 346 *e*PKHKP PKPpre 22 17 26.6
YAK pmax pmax
comp=Z,40nm,0.8s
DZA Taraz 142.12 49 *e*PKP **PKPdf 22 17 41.9 +0.1**
baz=49
DZA Taraz 142.12 49 *e*PKIKP **PKPdf 22 17 41.8 +0.1**
KURBB Kurchatov Arra 142.87 34 PKhKP PKPpre 22 17 40.0
comp=Z,14nm,0.9s,baz=303,slow=3.2,SNR=74
SAUI Saumlaki 143.09 216 PKPdf PKPdf 22 17 43.1 -1.2
BTLS Baital 143.13 44 *e*PKP PKPbc 22 17 41.3 +0.7
baz=44
BTLS Baital 143.13 44 *e*PKIKP PKPbc 22 17 41.2 +0.7
ZAA0 Zalesovo Array 143.48 25 PKPdf PKPdf 22 17 44.1 +0.3
ZALV Zalesovo Beam 143.48 25 PKhKP PKPpre 22 17 41.1
comp=Z,52nm,0.8s,baz=314,slow=3.8,SNR=60
ZALV Zalesovo Beam 143.48 25 PKPdf PKPdf 22 17 44.0 +0.3
ZALV Zalesovo Beam 143.48 25 PKIKP PKPdf 22 17 44.0 +0.3
EKS2 Erkin-Say 143.89 48 P PKPbc 22 17 43.8 +0.8
SNR=35
AML Almayashu 144.02 49 P PKPdf 22 17 45.7 +0.1
SNR=6.6
USP Ospenovka 144.15 47 P PKPbc 22 17 44.1 +0.5
SNR=41
SGDS Sogindy 144.16 46 *e*PKP PKPbc 22 17 44.0 +0.3
baz=46
SGDS Sogindy 144.16 46 *e*PKIKP PKPbc 22 17 44.0 +0.3
AAK Ala-Archa 144.39 48 P **PKPdf 22 17 46.0 +0.1**
SNR=70
AAK Ala-Archa 144.39 48 PKP **PKPdf 22 17 45.9 -0.1**
comp=Z,148nm,0.9s,baz=270,slow=3.4,SNR=155
AAK Ala-Archa 144.39 48 PKPdf **PKPdf 22 17 45.3 -0.7**
CHMS Chumysh 144.42 47 P **PKPdf 22 17 45.5 -0.3**
SNR=69
YSS Yuzh-Sakhalins 144.45 321 PKPdf PKPbc 22 17 44.7 +0.4
YSS Yuzh-Sakhalins 144.45 321 *i* PKIKP **PKPdf 22 17 45.5 -0.1**
YSS *e* 22 24 44.0
YSS *e*SS SS 22 39 43.0 +0.2
YSS pmax pmax
comp=Z,130nm,0.8s
YSS MLR MLR
comp=Z,700nm,17.0s
UCH Uchtor 144.55 48 P **PKPdf 22 17 47.5 +0.9**
SNR=7.9
KBK Karagaybulak 144.69 47 P **PKPdf 22 17 46.9 +0.4**
SNR=165
BOD Bodaibo 144.91 356 ⇑*i* PKIKP **PKPab 22 17 44.7 -0.7**
BOD pmax pmax
comp=Z,426nm,0.8s
GOA Goa 144.94 95 *e*P PKPbc 22 17 46.8 0.0
GOA *i* x pPKPdf 22 18 08.3 -0.4
TKM2 Tokmak 2 145.02 47 P **PKPdf 22 17 47.4 +0.3**
SNR=176
TRD Trivandrum 145.08 109 *e*P **PKPdf 22 17 48.7 +0.9**
TRD *i* x **pPKPdf 22 18 09.7 +0.6**
KUU Kurty 145.10 45 *e*PKP **PKPdf 22 17 47.2 +0.2**
baz=45
KUU Kurty 145.10 45 *e*PKIKP **PKPdf 22 17 47.1 +0.2**
GRNR Gornyy 145.43 330 ⇓*i* PKIKP **PKPab 22 17 48.8 +1.2**
GRNR pmax pmax
comp=E,50nm,0.9s
GRNR pmax pmax
comp=N,40nm,1.0s
GRNR pmax pmax
comp=Z,270nm,0.9s
GRNR MLR MLR
comp=E,420nm,16.0s
PCHI Peechi 145.44 105 ⇓*e*P **PKPab 22 17 48.8 +0.1**
CHKK Chushkaly 145.54 44 *e*PKP **PKPab 22 17 48.3 0.0**
baz=44
CHKK Chushkaly 145.54 44 *e*PKIKP **PKPab 22 17 48.3 0.0**
ULHL Ulahol 145.73 47 P **PKPab 22 17 50.7 +1.4**
SNR=11
POO Poona 145.77 90 *e*P **PKPab 22 17 49.8 -0.1**
POO *i* x x 22 18 11.3
AAA Alma-Ata 145.78 46 *e*PKP **PKPab 22 17 49.6 +0.3**
baz=46
AAA Alma-Ata 145.78 46 *e*PKP2 **PKPab 22 17 49.5 +0.3**
TNSS Tian-Shan 145.87 46 *e*PKP **PKPab 22 17 50.0 -0.1**
baz=46
TNSS Tian-Shan 145.87 46 *e*PKP2 **PKPab 22 17 50.0 -0.1**
MDOK Medeo 145.88 46 *e*PKP **PKPab 22 17 49.7 -0.1**
baz=46
MDOK Medeo 145.88 46 *e*PKP2 **PKPab 22 17 49.6 -0.1**
TDK Taldyqorghan 145.89 42 *e*PKP **PKPbc 22 17 49.0 -0.1**
baz=42
TDK Taldyqorghan 145.89 42 *e*PKP2 **PKPbc 22 17 48.9 -0.1**
ASAJ Asahikawa 145.95 316 PKPbc **PKPab 22 17 50.3 +0.5**
comp=E,176nm,0.8s,baz=91,slow=3.1,SNR=42
ERM Erimo 146.51 313 *c i*PKP2 **PKiKP 22 17 53.4 -0.3**
ERM pmax pmax
comp=Z,612nm,1.3s
ZEA Zeya 146.52 342 *e*PKP2 **PKPbc 22 17 49.9 -0.6**
ZEA pmax pmax
comp=Z,1μm,4.9s
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=Z,140nm,0.8s
ZEA MLR MLR
comp=Z,500nm,22.0s
KSH Kashi 146.55 52 PKPbc **PKPdf 22 17 46.2 -3.5**
KSH PKPab **PKPbc 22 17 51.7 +0.4**
KSH pPKP pPKPab 22 18 13.2 -0.1
KSH PP **PP 22 21 17.3 +2.2**
KSH AMB AMB
comp=Z,390nm,6.2s
MMRI Maumere 146.61 202 PKPdf 22 17 50.3 -0.1
KPKS Kokpek 146.81 44 *e*PKP **PKPdf 22 17 50.9 +0.9**
baz=44
KPKS Kokpek 146.81 44 *e*PKIKP **PKPdf 22 17 50.9 +0.9**
SATY Saty 146.82 45 *e*PKP **PKPdf 22 17 50.8 +0.8**
baz=45
SATY Saty 146.82 45 *e*PKIKP **PKPdf 22 17 50.8 +0.8**
MAKZ Makanchi 146.98 37 PKPdf **PKPdf 22 17 50.3 +0.2**
MAKZ Makanchi 146.98 37 ⇓PKIKP **PKPdf 22 17 50.6 +0.5**
TARG Taragay, Kyrgy 147.00 47 PKPbc 22 17 51.9 -1.0
TARG Taragay, Kyrgy 147.00 47 PKIKP **PKPbc 22 17 51.9 -1.0**
MK31 Makanchi Array 147.16 36 PKPdf 22 17 50.5 +0.1
MK31 Makanchi Array 147.16 36 PKIKP **PKPdf 22 17 50.5 +0.1**
MKAR Makanchi Array 147.16 36 PKPbc **PKPdf 22 17 51.3 +0.9**
comp=Z,99nm,0.7s,baz=310,slow=2.1,SNR=285
MKAR Makanchi Array 147.16 36 PKPdf **PKPdf 22 17 50.7 +0.3**
UZB Uzynbulak 147.18 44 *e*PKP **PKPdf 22 17 51.6 +0.9**
baz=44
UZB Uzynbulak 147.18 44 *e*PKIKP **PKPdf 22 17 51.5 +0.9**
JMU Jammu 147.36 65 *e*P **PKPbc 22 17 53.2 -0.4**
JMU *i* x **pPKPdf 22 18 13.6 +1.1**
SHLS Shalkode 147.46 44 *e*PKP **PKPdf 22 17 52.1 +1.0**
baz=44
SHLS Shalkode 147.46 44 *e*PKIKP **PKPbc 22 17 52.9 -0.8**
AJM Ajmer 147.53 76 *e*P **PKPdf 22 17 52.7 +1.1**
AJM *i* x **pPKPdf 22 18 13.6 +0.5**
SALM Salem 147.55 105 *e*P **PKPdf 22 17 52.2 +0.3**
SALM *i* x **pPKPdf 22 18 15.1 +1.8**
PALK Pallekele 147.69 114 PKPdf 22 17 53.3 +1.0
PALK Pallekele 147.69 114 ⇓PKP2 **PKPbc 22 17 55.6 +0.5**
ZSN Zaisan 148.11 33 *e*PKP **PKPdf 22 17 52.7 +0.8**
baz=33
ZSN Zaisan 148.11 33 *e*PKIKP **PKPdf 22 17 52.7 +0.8**
KLR Kul'dur 148.61 332 PKP **PKPdf 22 17 53.0 +0.4**
comp=Z,59nm,0.8s,baz=44,slow=4.2,SNR=22
KLR PKPbc **PKPbc 22 17 57.0 +0.7**
comp=Z,59nm,0.8s,baz=40,slow=2.2,SNR=58
TEY Ternei 149.07 322 ⇓*e*PKP2 **PKiKP 22 17 58.4 -0.5**
TEY pmax pmax
comp=Z,90nm,0.9s
AKL Akola 149.13 88 *e*P **PKPdf 22 17 54.7 +0.4**
AKL *i* x **pPKPdf 22 18 12.6 -3.1**
HEH HeiHe 149.47 338 PKPbc **PKPdf 22 17 53.2 -0.7**
HEH pPKP **pPKPdf 22 18 12.7 -2.7**
HEH sPKP 22 18 20.6
HEH AMB AMB
comp=Z,370nm,6.4s
HEH LR LR
comp=Z,530nm,21.0s
HEH LR LR
comp=Z,380nm,20.7s
HEH LR LR
comp=Z,790nm,23.1s
SONA Sohna 149.68 73 *ex* **PKPbc 22 18 00.1 +0.4**
NDI New Delhi 149.77 72 *ex* x 22 18 49.8
HYB Hyderabad 149.83 94 *e*PKPdf **PKPdf 22 17 55.1 -0.4**
HYB *e*PKiKP **PKiKP 22 18 01.4 0.0**
HYB Hyderabad 149.83 94 *e*P **PKPdf 22 17 55.0 -0.6**
HYB *i* x **pPKPdf 22 18 16.7 -0.2**
BHPL Bhopal 149.86 83 *e*P **PKPdf 22 17 53.1 -2.3**
MDRS Chennai 149.95 104 *e*P **PKPdf 22 17 55.8 0.0**
MDRS *i* x **pPKPdf 22 18 23.1 +5.9**
IRK Irkutsk 150.26 7 *e*PKIKP **PKPdf 22 17 54.5 -0.7**
IRK pmax pmax
comp=Z,249nm,0.8s
MOY Mondy 150.32 12 *e*PKIKP **PKPdf 22 17 56.9 +1.5**
MOY pmax pmax
comp=Z,246nm,1.8s
DDI Dehra Dun 150.35 68 *ex* **PKPbc 22 18 02.3 +0.9**
DDI *i* x **pPKPbc 22 18 24.2 +1.5**
CIT Chita 150.72 356 *e*PKIKP **PKPdf 22 17 56.9 +0.9**
CIT *e* 22 18 07.9
CIT *e* 22 18 17.4
CIT *e* 22 18 23.5
CIT *e* 22 21 37.5
CIT pmax pmax
comp=Z,396nm,1.4s
KAPI Kappang 150.82 200 PKPdf PKPdf 22 17 57.2 0.0
KAPI Kappang 150.82 200 PKIKP **PKPdf 22 17 57.2 0.0**
JHNI Jhansi 151.01 78 *e*P **PKPdf 22 17 54.7 -2.4**
ZAK Zakamensk 151.94 9 *e*PKIKP **PKPdf 22 17 58.7 +0.8**
ZAK pmax pmax
comp=Z,19nm,1.2s
WMQ Urumqi 152.00 36 *e*PKPbc **PKPdf 22 17 58.6 +0.4**
WMQ LR LR
comp=Z,530nm,23.5s
USA0B Ussuriysk Arra 152.14 325 PKPdf **PKPdf 22 17 58.5 +0.3**
USA0B **PKiKP 22 18 05.7 +0.4**
USA0B Ussuriysk Arra 152.14 325 PKIKP **PKPdf 22 17 58.6 +0.3**
USRK Ussuriysk Ar. 152.14 325 PKP **PKPdf 22 17 59.4 +1.1**
comp=Z,18nm,1.0s,baz=209,slow=2.0,SNR=15
USRK PKPbc **PKiKP 22 18 06.0 +0.7**
comp=Z,72nm,0.8s,baz=33,slow=1.4,SNR=44
USRK PKPab **PKPab 22 18 15.6 +0.9**
comp=Z,22nm,0.8s,baz=48,slow=0.3,SNR=9.5
MJAR Matsushiro Arr 152.20 306 PKP **PKPdf 22 17 59.8 +1.2**
comp=Z,44nm,0.8s,baz=68,slow=3.3,SNR=7.6
MJAR PKPbc **PKiKP 22 18 06.2 +0.5**
comp=Z,43nm,0.8s,baz=92,slow=1.6,SNR=43
MJAR PKPab **PKPab 22 18 16.4 +1.0**
comp=Z,57nm,0.9s,baz=83,slow=1.7,SNR=22
MAJO Matsushiro 152.20 306 ⇓PKIKP **PKiKP 22 18 06.4 +0.7**
LGTI Lohaghat 152.35 70 *e*P **PKPdf 22 18 00.2 +1.2**
LGTI *i* x **pPKPbc 22 18 26.8 -0.3**
TNTI Ternate 152.47 220 PKPdf **PKPdf 22 17 59.9 +0.2**
MDJ Mudanjiang 153.05 328 PKPdf 22 17 59.0 -0.6
MDJ Mudanjiang 153.05 328 PKPbc **PKPdf 22 18 00.1 +0.5**
MDJ PP **PP 22 21 53.3 +1.6**
MDJ AMB AMB
comp=Z,700nm,6.2s
BNX BinXian 153.18 333 PKPbc **PKPdf 22 17 59.7 -0.1**
BNX AMB AMB
comp=Z,260nm,5.0s
SONM Songino Array 154.84 6 PKP **PKPdf 22 18 02.5 +0.3**
comp=Z,14nm,0.9s,baz=306,slow=1.7,SNR=73
SONM PKPbc **PKiKP 22 18 11.8 +0.8**
comp=Z,16nm,0.8s,baz=286,slow=1.0,SNR=28
SONM PKPab **PKPab 22 18 26.8 +0.5**
comp=Z,15nm,0.9s,baz=326,slow=3.8,SNR=12
SONM PP **PP 22 21 59.7 -1.7**
comp=Z,6.5nm,1.0s,baz=310,slow=4.9,SNR=4.1
SONM Songino Array 154.84 6 PKIKP **PKPdf 22 18 02.8 +0.6**
ULN Ulaanbaatar 154.87 5 ⇑PKIKP **PKPdf 22 18 03.8 +1.5**
CN2 Changchun 155.57 333 *e*PKP **PKPdf 22 18 00.6 -2.5**
CN2 PP **PP 22 22 05.0 -0.7**
CN2 SS SS 22 41 42.4 -3.3
CN2 AMB AMB
comp=Z,400nm,7.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,600nm,16.0s
XLT XiLinHaoTe 158.41 348 *i* PKP **PKPdf 22 18 07.3 +0.4**
XLT PP **PP 22 22 20.2 -0.9**
XLT AMB AMB
comp=Z,200nm,7.9s
KSRS Korea Array 158.89 318 PKP **PKPdf 22 18 08.2 +0.7**
comp=Z,22nm,1.1s,baz=40,slow=0.7,SNR=33
KSRS PKPab **PKPab 22 18 45.6 +1.7**
comp=Z,24nm,0.9s,baz=62,slow=4.8,SNR=24
KSRS PP **PP 22 22 31.1 +6.7**
comp=Z,4.2nm,0.9s,baz=39,slow=5.8,SNR=4.9
JNU Nakatsue 159.08 304 PKPab **PKPab 22 18 45.8 +0.8**
comp=Z,27nm,0.9s,baz=33,slow=4.0,SNR=6.7
GOMU GeErMu 161.12 42 PKP **PKPdf 22 18 11.8 +1.2**
GOMU pPKP pPKPdf 22 18 31.4 -0.7
GOMU sPKP 22 18 43.3
GOMU AMB AMB
comp=Z,200nm,4.3s
GOMU LR LR
comp=Z,300nm,17.7s
GOMU LR LR
comp=Z,140nm,17.8s
GOMU LR LR
comp=Z,370nm,18.6s
GTA Gaotai 161.23 26 PKP **PKPdf 22 18 11.0 +0.7**
GTA pPKP pPKPdf 22 18 30.6 -1.2
GTA sPKP 22 18 37.0
GTA PKPab **PKPab 22 18 53.1 -1.0**
GTA PP **PP 22 22 34.8 -2.0**
HHC Hu-ho-hao-te 161.97 357 *e*PKP **PKPdf 22 18 11.8 +0.8**
HHC PP **PP 22 22 40.4 +0.1**
HHC SS SS 22 42 51.3 -1.7
HHC AMB AMB
comp=Z,920nm,8.2s
HHC LR LR
comp=Z,580nm,20.8s
HHC LR LR
comp=Z,580nm,20.4s
HHC LR LR
comp=Z,770nm,19.7s
BJT Baijiatuau 162.11 345 PKPdf **PKPdf 22 18 11.8 +0.8**
BJT **PKPab 22 18 57.2 -0.5**
BJT Baijiatuau 162.11 345 PKIKP **PKPdf 22 18 11.8 +0.8**
BJT 22 18 57.2
BTO Baotou 162.25 0 *e*PKP **PKPdf 22 18 12.2 +0.9**
HNS HongShan 164.95 346 ⇓PKP **PKPdf 22 18 14.5 +0.8**
HNS pPKP **pPKPdf 22 18 36.2 +1.0**
HNS sPKP 22 18 47.5
HNS PKPab **PKPab 22 19 10.7 +0.5**
HNS PP **PP 22 22 55.5 -0.4**
HNS LR LR
comp=Z,570nm,22.4s
HNS LR LR
comp=Z,420nm,22.1s
TIY Taiyuan 165.02 353 *e*PKP **PKPdf 22 18 16.5 +2.6**
TIY SS SS 22 43 20.8 -3.6
TIY AMB AMB
comp=Z,600nm,7.1s
TIA Tai'an 165.35 337 PKP **PKPdf 22 18 14.6 +0.5**
TIA LR LR
comp=Z,460nm,16.4s
TIA LR LR
comp=Z,320nm,20.6s
TIA LR LR
comp=Z,810nm,19.2s
LZH Lanzhou 165.66 21 ⇓PKP **PKPdf 22 18 16.0 +1.4**
LZH pPKP pPKPdf 22 18 37.4 +1.3
LZH sPKP 22 18 47.8
LZH AMB AMB
comp=Z,500nm,6.9s
LZH LR LR
comp=Z,330nm,15.8s
LZH LR LR
comp=Z,360nm,18.2s
LZH LR LR
comp=Z,490nm,20.3s
NJ2 Nanjing 168.01 322 *i* PKP **PKPdf 22 18 17.5 +1.3**
NJ2 PKPab **PKPab 22 19 23.7 -0.3**
NJ2 PP **PP 22 23 11.2 -1.2**
NJ2 SS SS 22 43 53.2 -2.8
NJ2 AMB AMB
comp=Z,540nm,6.1s
LYN LuoYang 168.13 351 ⇓PKP **PKPdf 22 18 16.6 +0.3**
LYN PP **PP 22 23 10.6 -1.6**
LYN AMB AMB
comp=Z,480nm,5.6s
CMAR Chiang Mai Arr 168.60 110 PKP **PKPdf 22 18 16.9 -0.2**
comp=Z,9.0nm,1.0s,baz=251,slow=2.7,SNR=6.3
CMAR PKPab **PKPab 22 19 26.3 -0.9**
comp=Z,5.9nm,0.9s,baz=248,slow=5.6,SNR=2.8
XAN Xi'an 168.75 5 *i* PKP **PKPdf 22 18 16.8 0.0**
XAN pPKP pPKPdf 22 18 38.8 +0.5
XAN LR LR
comp=Z,480nm,20.6s
XAN LR LR
comp=Z,730nm,17.9s
XAN LR LR
comp=Z,1μm,19.2s
TNCH TengChong 169.08 76 PKP **PKPdf 22 18 16.0 -1.4**
TNCH PP **PP 22 23 19.3 -0.1**
TNCH SKS **SKSdf 22 25 11.9 -3.2**
TNCH AMB AMB
comp=Z,450nm,7.8s
CD2 Chengdu 170.09 34 PKP **PKPdf 22 18 19.0 +1.3**
CD2 sPKP 22 18 46.0
CD2 PP **PP 22 23 25.2 +2.4**
CD2 SKS **SKSdf 22 25 13.6 -1.4**
CD2 SKKS **SKKSac 22 30 02.8 -1.2**
CD2 AMB AMB
comp=Z,380nm,8.6s
CD2 LR LR
comp=Z,340nm,12.7s
CD2 LR LR
comp=Z,340nm,17.8s
CD2 LR LR
comp=Z,880nm,15.9s
WHN Wuhan 171.45 335 PKP **PKPdf 22 18 19.4 +1.1**
WHN LR LR
comp=Z,2μm,25.2s
KMI Kunming 172.79 70 ⇓PKP **PKPdf 22 18 19.9 +0.5**
KMI pPKP pPKPdf 22 18 40.8 -0.1
GYA Guiyang 175.14 41 ⇑PKP **PKPdf 22 18 20.8 +0.7**
GYA PKPab **PKPab 22 19 56.5 +0.5**
GYA PP **PP 22 23 49.1 +1.1**
GYA SS SS 22 45 10.6 +4.2
GYA AMB AMB
comp=Z,300nm,8.3s
GYA LR LR
comp=Z,280nm,4.2s
GYA LR LR
comp=Z,160nm,3.8s
GYA LR LR
comp=Z,100nm,4.5s
QIZ Qiongzhong 176.23 175 PKP **PKPdf 22 18 21.5 +1.2**
QIZ PP **PP 22 23 57.3 +5.3**
QIZ LR LR
comp=Z,320nm,18.9s
QIZ LR LR
comp=Z,430nm,30.0s
QIZ LR LR
comp=Z,750nm,37.8s

TAP **11** *22:05:09.4,24.°96N×122.°63E,h130km±1km,ML3.6,D*
JMA **11** *22:05:09.9±0.2,25.°N±2.°×122.°6E±0.°5,h127km±2km,*
MV2.5/12,NW OFF ISHIGAKIJIMA IS

ISC 11 22:05:11.0±1.6,**24.°88N**±0.°05×**122.°57E**±0.°03,**h120**km±9km,
n86,σ8.°76/161,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.54**	**141**	P **Pn**	**22 05 29.5**	**+0.3**
JYNG				*e*S **Sn**	**22 05 43.8**	**+0.9**
TWB1	**Santiao Chiao**	**0.55**	**284**	*e*P **Pn**	**22 05 28.0**	**-1.2**
	baz=274					
TWB1				S **Sn**	**22 05 42.7**	**-0.2**
	baz=274					
YOJ	**Yonaguni jima**	**0.57**	**136**	P **Pn**	**22 05 29.6**	**+0.1**
YOJ				S **Sn**	**22 05 44.0**	**+0.8**
YOJ	**Yonaguni jima**	**0.57**	**136**	P **Pn**	**22 05 29.5**	**+0.1**
	baz=145					
SXI1	**Grass Mountain**	**0.67**	**289**	P **Pn**	**22 05 29.8**	**-0.4**
	baz=281					
SXI1				*e*S **Sn**	**22 05 45.3**	**+0.7**
	baz=281					
TIPB	**Shuangxi**	**0.69**	**278**	*e*P **Pn**	**22 05 30.2**	**0.0**
	baz=271					
TIPB				*e*S **Sn**	**22 05 43.5**	**-1.2**
	baz=271					
TWC	**Suao**	**0.71**	**248**	P **Pn**	**22 05 30.0**	**-0.4**
	baz=243					
TWC				S **Sn**	**22 05 44.8**	**-0.2**
	baz=243					
NDS	**Dongshan**	**0.81**	**253**	*e*P **Pn**	**22 05 30.1**	**-1.2**
	baz=248					
TWE	**Neicheng**	**0.84**	**260**	*e*P **Pn**	**22 05 31.3**	**-0.1**
	baz=254					
TWE				S **Sn**	**22 05 47.3**	**+0.3**
	baz=254					
EWUT	**Wuta**	**0.84**	**240**	*e*P **Pn**	**22 05 30.8**	**-0.8**
	baz=236					
EWUT				*e*S **Sn**	**22 05 48.3**	**+1.3**
	baz=236					
ENA	**Nanau**	**0.88**	**240**	P **Pn**	**22 05 32.0**	**+0.2**
	baz=236					
ENA				S **Sn**	**22 05 48.5**	**+0.9**
	baz=236					
FUSB	**Fushanzhiwuyua**	**0.90**	**263**	*e*P **Pn**	**22 05 31.9**	**-0.2**
	baz=258					

FUSB				*e*S	**Sn**	**22 05 47.6**	**-0.6**
	baz=258							
TWA	**Mucha**	**0.90**	**277**	*e*P	**Pn**	**22 05 31.8**	**-0.3**
	baz=271							
TWA				*e*S	**Sn**	**22 05 48.0**	**-0.1**
	baz=271							
ENTT	**Nioudou**	**0.94**	**256**	P	**Pn**	**22 05 32.6**	**+0.1**
	baz=251							
ENTT				*e*S	**Sn**	**22 05 50.4**	**+1.6**
	baz=251							
YM01	**YM01**	**0.95**	**287**	P	**Pn**	**22 05 32.0**	**-0.5**
	baz=281							
YM01				*e*S	**Sn**	**22 05 49.5**	**+0.6**
	baz=281							
NHDH	**Xindian Distri**	**0.96**	**275**	P	**Pn**	**22 05 32.0**	**-0.6**
	baz=270							
NWLT	**Wulai**	**0.98**	**265**	*e*P	**Pn**	**22 05 32.0**	**-0.9**
	baz=260							
NWLT				*e*S	**Sn**	**22 05 49.6**	**+0.3**
	baz=260							
TATO	**Taipei**	**0.99**	**276**	*e*P	**Pn**	**22 05 32.2**	**-0.7**
	baz=270							
TATO				S	**Sn**	**22 05 48.7**	**-0.8**
	baz=270							
LATG	**Datong**	**1.01**	**251**	P	**Pn**	**22 05 33.6**	**+0.4**
	baz=247							
LATG				S	**Sn**	**22 05 51.4**	**+1.4**
	baz=247							
TWS1	**Kuangyinshan**	**1.07**	**282**	*e*P	**Pn**	**22 05 33.9**	**+0.2**
	baz=277							
ETL	**Fush Village**	**1.12**	**231**	*e*P	**Pn**	**22 05 33.6**	**-0.7**
	baz=229							
NSK	**Sanguang**	**1.12**	**260**	P	**Pn**	**22 05 34.1**	**-0.2**
	baz=256							
NSK				*e*S	**Sn**	**22 05 52.1**	**+0.1**
	baz=256							
NACB	**Ninganchiao**	**1.13**	**232**	*e*P	**Pn**	**22 05 33.9**	**-0.4**
	baz=230							
NACB				*e*S	**Sn**	**22 05 51.9**	**-0.1**
	baz=230							
NNSH	**Datong**	**1.17**	**248**	*e*P	**Pn**	**22 05 35.0**	**0.0**
	baz=245							
NNSH				*e*S	**Sn**	**22 05 53.4**	**+0.4**
	baz=245							
NNSB	**Datong**	**1.17**	**248**	P	**Pn**	**22 05 35.0**	**+0.1**
	baz=245							
NNSB				*e*S	**Sn**	**22 05 53.8**	**+0.8**
	baz=245							
NNS	**Nan Shan**	**1.17**	**249**	*e*P	**Pn**	**22 05 35.0**	**+0.1**
	baz=245							
NNS				*e*S	**Sn**	**22 05 53.6**	**+0.6**
	baz=245							
IRIF	**Iriomote-Funau**	**1.18**	**117**	P	**Pn**	**22 05 34.6**	**-0.2**
IRIF				S	**Sn**	**22 05 53.7**	**+0.8**
TWD	**Chiawan**	**1.19**	**229**	*e*P	**Pn**	**22 05 34.1**	**-0.8**
	baz=227							
TWD				*e*S	**Sn**	**22 05 53.2**	**+0.1**
	baz=227							
ETLH	**Xiulin Townshi**	**1.20**	**236**	*e*P	**Pn**	**22 05 34.5**	**-0.7**
	baz=234							
ETLH				*e*S	**Sn**	**22 05 53.5**	**+0.1**
	baz=234							
HWA	**Hwalien**	**1.26**	**225**	*e*P	**Pn**	**22 05 34.8**	**-0.9**
	baz=223							
HWA				*e*S	**Sn**	**22 05 55.7**	**+1.3**
	baz=223							
ETM	**Tongmen**	**1.34**	**228**	*e*P	**Pn**	**22 05 36.0**	**-0.7**
	baz=226							
ETM				*e*S	**Sn**	**22 05 55.3**	**-0.7**
	baz=226							
TEYL	**Yanliau Villag**	**1.34**	**222**	*e*P	**Pn**	**22 05 35.9**	**-0.8**
	baz=221							
TEYL				*e*S	**Sn**	**22 05 56.6**	**+0.6**
	baz=221							
NFF	**Wufeng Townshi**	**1.34**	**260**	*e*P	**Pn**	**22 05 36.2**	**-0.5**
	baz=256							
NFF				*e*S	**Sn**	**22 05 56.2**	**0.0**
	baz=256							
FUSS	**Fushou**	**1.36**	**243**	P	**Pn**	**22 05 37.3**	**+0.2**
	baz=240							
FUSS				*e*S	**Sn**	**22 05 57.1**	**+0.2**
	baz=240							
HATJ	**Hateruma jima**	**1.39**	**126**	P	**Pn**	**22 05 37.3**	**+0.2**
HATJ				S	**Sn**	**22 05 57.5**	**+0.6**
WHF	**Hehuan Shan**	**1.40**	**239**	*e*P	**Pn**	**22 05 37.2**	**-0.5**
	baz=236							
WHF				*e*S	**Sn**	**22 05 57.8**	**-0.1**
	baz=236							
TWT	**Tachien**	**1.42**	**244**	*e*P	**Pn**	**22 05 38.5**	**+0.9**
	baz=242							
TWT				*e*S	**Sn**	**22 05 58.5**	**+0.6**
	baz=242							
HSN1	**Hsinchu**	**1.42**	**266**	P	**Pn**	**22 05 37.0**	**-0.4**
	baz=263							
TDCB	**Techi**	**1.43**	**245**	*e*P	**Pn**	**22 05 39.6**	**+1.8**
	baz=242							
TDCB				*e*S	**Sn**	**22 05 58.4**	**+0.3**
	baz=242							
LIOB	**Emei**	**1.43**	**261**	*e*P	**Pn**	**22 05 37.3**	**-0.4**
	baz=258							
LIOB				*e*S	**Sn**	**22 05 58.0**	**0.0**
	baz=258							
NSTT	**Nanjuang**	**1.45**	**261**	*e*P	**Pn**	**22 05 37.4**	**-0.5**
	baz=257							
NSTT				*e*S	**Sn**	**22 05 58.0**	**-0.2**
	baz=257							
JKRS	**Kuro-shima**	**1.45**	**116**	P	**Pn**	**22 05 37.9**	**0.0**
JKRS				S	**Sn**	**22 05 58.8**	**+0.5**
ESL	**Shilin**	**1.48**	**225**	*e*P	**Pn**	**22 05 37.5**	**-0.8**
	baz=223							
ESL				*e*S	**Sn**	**22 05 58.1**	**-0.8**
	baz=223							
CHGB	**Renai**	**1.51**	**238**	*e*P	**Pn**	**22 05 38.7**	**-0.1**
	baz=236							
CHGB				*e*S	**Sn**	**22 06 00.2**	**+0.3**
	baz=236							
JIJ	**Ishigaki jima**	**1.52**	**109**	P	**Pn**	**22 05 38.5**	**-0.1**
JIJ				S	**Sn**	**22 05 58.9**	**-0.7**
OWD	**Renai**	**1.57**	**235**	*e*P	**Pn**	**22 05 39.3**	**-0.1**
	baz=233							
OWD				*e*S	**Sn**	**22 06 00.8**	**-0.2**
	baz=233							
WUSB	**Renai**	**1.59**	**237**	*e*P	**Pn**	**22 05 39.9**	**+0.2**
	baz=235							
WUSB				*e*S	**Sn**	**22 06 01.6**	**+0.2**
	baz=235							
EGFH	**Guangfu**	**1.59**	**221**	*e*P	**Pn**	**22 05 38.7**	**-0.8**
	baz=220							
EGFH				*e*S	**Sn**	**22 06 00.7**	**-0.6**
	baz=220							
WHP	**Taichung City**	**1.60**	**248**	*e*P	**Pn**	**22 05 40.0**	**+0.4**
	baz=246							
WHP				*e*S	**Sn**	**22 06 01.8**	**+0.4**
	baz=246							
JISG	**Ishigakijimahi**	**1.61**	**100**	*e*P	**Pn**	**22 05 39.3**	**-0.3**
JISG				*e*S	**Sn**	**22 06 01.1**	**-0.4**
NMLH	**Miaoli**	**1.66**	**259**	*e*P	**Pn**	**22 05 39.4**	**-0.9**
	baz=255							
NMLH				*e*S	**Sn**	**22 06 02.1**	**-0.4**
	baz=255							
WPL	**Puli Township**	**1.71**	**240**	*e*P	**Pn**	**22 05 41.5**	**+0.7**
	baz=238							
WPL				*e*S	**Sn**	**22 06 04.5**	**+0.9**
	baz=238							
NSY	**Sanyi**	**1.71**	**255**	*e*P	**Pn**	**22 05 40.7**	**-0.2**
	baz=252							
NSY				*e*S	**Sn**	**22 06 04.0**	**+0.2**
	baz=252							
DPDB	**Guoxing**	**1.72**	**241**	*e*P	**Pn**	**22 05 41.5**	**+0.4**
	baz=239							
DPDB				*e*S	**Sn**	**22 06 05.5**	**+1.4**
	baz=239							
VWDT	**VWDT**	**1.72**	**230**	*e*P	**Pn**	**22 05 41.3**	**+0.3**
	baz=228							
VWDT				*e*S	**Sn**	**22 06 04.0**	**+0.2**
	baz=228							
WCS	**Beigang Elemen**	**1.72**	**242**	*e*P	**Pn**	**22 05 41.4**	**+0.4**
	baz=240							
WCS				*e*S	**Sn**	**22 06 04.9**	**+1.0**
	baz=240							
TWQ1	**Liyutan**	**1.72**	**253**	*e*P	**Pn**	**22 05 40.8**	**-0.3**
	baz=250							
TWQ1				*e*S	**Sn**	**22 06 04.2**	**+0.2**
	baz=250							
HGSD	**Ruisui**	**1.73**	**218**	*e*P	**Pn**	**22 05 40.7**	**-0.5**
	baz=217							
HGSD				*e*S	**Sn**	**22 06 03.8**	**-0.4**
	baz=217							
EHY	**Hungye**	**1.78**	**220**	*e*P	**Pn**	**22 05 40.9**	**-0.9**
	baz=219							
SMLT	**Sun Moon Lake**	**1.82**	**237**	P	**Pn**	**22 05 43.0**	**+0.7**
	baz=235							
SMLT				*e*S	**Sn**	**22 06 07.9**	**+1.7**
	baz=235							
SSLB	**Suanglung**	**1.83**	**234**	*e*P	**Pn**	**22 05 42.9**	**+0.5**
	baz=232							
SSLB				*e*S	**Sn**	**22 06 07.9**	**+1.5**
	baz=232							
TYC	**Yuchr**	**1.84**	**239**	*e*P	**Pn**	**22 05 42.7**	**+0.2**
	baz=236							
TYC				*e*S	**Sn**	**22 06 07.8**	**+1.4**
	baz=236							
YULB	**Yu-li**	**1.88**	**219**	*e*P	**Pn**	**22 05 41.6**	**-1.5**
	baz=218							
YULB				*e*S	**Sn**	**22 06 06.5**	**-1.0**
	baz=218							
EYUL	**Yuli**	**1.90**	**217**	*e*P	**Pn**	**22 05 42.4**	**-0.9**
	baz=216							
TWF1	**Yuli**	**1.91**	**218**	*e*P	**Pn**	**22 05 42.3**	**-1.2**
	baz=217							
TWF1				*e*S	**Sn**	**22 06 07.2**	**-1.0**
	baz=217							
JTJ	**Tarama**	**1.95**	**96**	P	**Pn**	**22 05 43.7**	**-0.1**
JTJ				S	**Sn**	**22 06 09.0**	**+0.1**
WHYT	**Xinyi Township**	**1.96**	**234**	*e*P	**Pn**	**22 05 44.6**	**+0.5**
	baz=232							
WHYT				*e*S	**Sn**	**22 06 11.3**	**+2.1**
	baz=232							
WJS	**Zhushan**	**1.98**	**238**	*e*P	**Pn**	**22 05 44.2**	**-0.1**
	baz=236							
WJS				*e*S	**Sn**	**22 06 11.1**	**+1.4**
	baz=236							
WNT	**Mingjian**	**1.99**	**240**	*e*P	**Pn**	**22 05 44.7**	**+0.4**
	baz=238							
WNT				*e*S	**Sn**	**22 06 10.7**	**+1.0**
	baz=238							
WCHH	**Zhanghua**	**2.00**	**247**	*e*P	**Pn**	**22 05 44.1**	**-0.3**
	baz=245							
FULB	**Fuli**	**2.04**	**215**	*e*P	**Pn**	**22 05 44.6**	**-0.4**
	baz=214							
FULB				*e*S	**Sn**	**22 06 11.5**	**+0.5**
	baz=214							
ALS	**Alishan**	**2.11**	**230**	*e*P	**Pn**	**22 05 46.5**	**+0.4**
	baz=229							
ALS				*e*S	**Sn**	**22 06 14.9**	**+1.9**
	baz=229							
EHD	**Haiduan**	**2.12**	**216**	*e*P	**Pn**	**22 05 45.7**	**-0.4**
	baz=215							
EHD				*e*S	**Sn**	**22 06 11.1**	**-1.7**
	baz=215							
CHN5	**Tsauling**	**2.15**	**234**	*e*P	**Pn**	**22 05 45.9**	**-0.6**
	baz=232							
CHN5				*e*S	**Sn**	**22 06 14.1**	**+0.6**
	baz=232							
ELDTW	**Lidau**	**2.20**	**221**	*e*P	**Pn**	**22 05 46.4**	**-0.7**
	baz=219							
EDH	**Donghe**	**2.22**	**212**	*e*P	**Pn**	**22 05 46.1**	**-1.2**
	baz=211							
EDH				*e*S	**Sn**	**22 06 14.4**	**-0.6**
	baz=211							
WRL	**Guolierlin Hig**	**2.22**	**245**	*e*P	**Pn**	**22 05 46.5**	**-0.8**
	baz=242							
WRL				*e*S	**Sn**	**22 06 13.8**	**-1.2**
	baz=242							
WCKO	**Fanlu**	**2.30**	**232**	*e*P	**Pn**	**22 05 47.7**	**-0.5**
	baz=230							
WCKO				*e*S	**Sn**	**22 06 18.5**	**+1.7**
	baz=230							
CHN4	**Tsaushan**	**2.36**	**230**	*e*P	**Pn**	**22 05 49.2**	**+0.2**
	baz=229							
CHN4				*e*S	**Sn**	**22 06 19.4**	**+1.2**
	baz=229							
JIRB	**Irabujima**	**2.36**	**91**	*e*P	**Pn**	**22 05 49.1**	**+0.1**
JIRB				S	**Sn**	**22 06 18.3**	**+0.1**
STYH	**Taoyuan**	**2.36**	**224**	*e*P	**Pn**	**22 05 49.9**	**+0.9**
	baz=223							
STYH				*e*S	**Sn**	**22 06 19.2**	**+1.0**
	baz=223							
LONT	**Longtian**	**2.36**	**214**	*e*P	**Pn**	**22 05 48.5**	**-0.6**
	baz=213							
LONT				*e*S	**Sn**	**22 06 17.3**	**-1.0**
	baz=213							
TPUB	**Ta-pu**	**2.37**	**229**	*e*P	**Pn**	**22 05 48.8**	**-0.4**
	baz=227							
TPUB				*e*S	**Sn**	**22 06 19.6**	**+1.2**
	baz=227							
LDUT	**Ludao**	**2.41**	**205**	*e*P	**Pn**	**22 05 48.6**	**-1.1**
	baz=205							
LDUT				*e*S	**Sn**	**22 06 19.4**	**+0.1**
	baz=205							
WTP	**Ta-pu**	**2.42**	**228**	*e*P	**Pn**	**22 05 49.8**	**0.0**
	baz=227							
WTP				*e*S	**Sn**	**22 06 20.9**	**+1.4**
	baz=227							
CHN1	**Nanshi**	**2.52**	**228**	*e*P	**Pn**	**22 05 50.7**	**-0.3**
	baz=227							

IDC ***11*** *22:06:56.8±0.4,20.˙18S×46.˙68E, h0km, mb5.1/39, mbtmp5.1/40, ML5.5/1, MS5.1/38, Error ellipse: s-maj=11.5km s-min=9.5km az=95.0*

MOS ***11*** *22:06:56.9±0.6,20.˙14S×46.˙71E, h13km, mb5.7/63, MS4.8/19, Error ellipse: s-maj=11.2km s-min=5.2km az=92.2*

NEIC ***11*** *22:06:58.1,20.˙26S×46.˙42E, h12km, Moment Tensor Solution. Duration: 29 Moment tensor: Scale 1017Nm; Mrr-0.68; Mθθ-0.72; Mϕϕ1.40; Mrθ-1.15; Mθϕ0.90; Mϕr-0.41; Fault plane solution: M0 1.94000×10 17 NP1:φs 57.64000°, δ 75.73000°, λ -45.15000°. NP2:φs 161.55000°, δ 46.60000°, λ -160.17000°. Principal axes: T 1.9873, Plg 18.0000°, Azm 116.0000°; N -0.0923, Plg 43.0000°, Azm 224.0000°; P -1.8950, Plg 41.0000°, Azm 9.0000°;*

NEIC ***11*** *22:06:58.7±1.4,20.˙16S±0.˙04×46.˙65E±0.˙09, h7km±3km, mb5.5/129, Ms_20 5.5/175, Mww 5.5/11 Error ellipse: s-maj=12.9km s-min=4.6km az=103.0*

BJI ***11*** *22:07:03.5±0.0, 19.˙83S×47.˙33E, h26km, mb5.2/30, mB5.6/16, Ms5.3/27, Ms7 5.1/27*

GCMT ***11*** *22:07:04.7±0.1, 20.˙11S±0.˙01×46.˙74E±0.˙01, h35km, MW5.6/145, Moment Tensor Solution. s102,c162; s145,c225; Duration: 1s6 Moment tensor: Scale 1017 Nm; Mrr-1.81±.07; Mθθ-1.82±.05; Mϕϕ3.62±.05; Mrθ-0.58±.08; Mθϕ1.84±.04; Mϕr-0.59±.07; Best double couple: Ms 3.43300×10 17 NP1:φs 57.00000°, δ 75.00000°, λ -26.00000°. NP2:φs 154.00000°, δ 65.00000°, λ -164.00000°. Principal axes: T 4.2740, Plg 7.0000°, Azm 107.0000°; N -1.6920, Plg 61.0000°, Azm 210.0000°; P -2.5920, Plg 29.0000°, Azm 14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***11*** *22:07:12.2, 18.˙28S×46.˙50E, h35km, mb5.3, Ms5.1*

ISC 11 22:06:59.9±0.4, 20.˙14S±0.˙03×46.˙72E±0.˙04, h16km±2km, h16km; pP-P, n1024, s1325/1018, mb5.5/238, MS5.4/155, 67C-64D, Madagascar

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ABPO	**Ambohimpanom**	**1.22**	**23**	Pn	**Pg**	**22**	**07**	**23.1**	**-0.3**
ABPO				Sn	**Sg**	**22**	**07**	**39.4**	**0.0**
ABPO	**Ambohimpanom**	**1.22**	**23**	*i* P	**Pg**	**22**	**07**	**23.3**	**-0.2**
ABPO				*i* S	**Sg**	**22**	**07**	**41.6**	**+2.2**
I33MG	**ANTANANARIVO I**	**1.25**	**26**	Pg	**Pn**	**22**	**07**	**20.0**	**-2.9**
	baz=210,slow=23								
I33MG				I	I	22	20	00.0	
	baz=150,slow=315,SNR=1.6								
OPO	**Ambohidratompo**	**1.62**	**16**	Pg	**Pn**	**22**	**07**	**28.6**	**+0.6**
	1μm,0.3s,baz=201,slow=12								
OPO				Lg	Lg	22	07	50.8	
	3μm,0.3s,baz=296,slow=22,SNR=30								
OPO	**Ambohidratompo**	**1.62**	**16**	*i* P	**Pb**	**22**	**07**	**29.1**	**-0.5**
OPO				*i* S	**Sb**	**22**	**07**	**50.7**	**+0.8**
VOI	**Vohitsoka**	**1.76**	**178**	Pn	**Pn**	**22**	**07**	**30.2**	**+0.4**
VOI				Sn	**Sb**	**22**	**07**	**54.3**	**+0.6**
VOI	**Vohitsoka**	**1.76**	**178**	P	**Pn**	**22**	**07**	**29.8**	**-0.1**
VOI	**Vohitsoka**	**1.76**	**178**	P	**Pb**	**22**	**07**	**31.3**	**-0.5**
	SNR=1322								
SBV	**Sambava**	**7.32**	**25**	*e*P	**Pn**	**22**	**08**	**44.9**	**-1.3**
SBV	**Sambava**	**7.32**	**25**	P	**Pn**	**22**	**08**	**45.3**	**-0.9**
	SNR=7.1								
MOPA	**Mopani**	**14.62**	**254**	*i* P	**Pn**	**22**	**10**	**22.4**	**-3.8**
MOPA	**Mopani**	**14.62**	**254**	*e*P	**Pn**	**22**	**10**	**24.2**	**-2.0**
CNG	**Changalane**	**14.69**	**243**	*e*P	**Pn**	**22**	**10**	**26.8**	**-0.3**
HAGI	**HAGI**	**15.47**	**245**	*e*P	**P**	**22**	**10**	**46.1**	**+4.0**
POGA	**Pongola**	**15.50**	**240**		**Pn**	**22**	**10**	**36.1**	**-1.7**
POGA	**Pongola**	**15.50**	**240**	*e*P	**Pn**	**22**	**10**	**39.1**	**+1.3**
ROCAM	**Rodrigues Isla**	**15.66**	**91**		**Pn**	**22**	**10**	**40.1**	**+0.1**
ROCAM				IAmb	IAmb	22	10	47.6	
	comp=Z,256nm,1.0s								
MUSN	**Musina, Limpop**	**15.87**	**259**	*i* P	**Pn**	**22**	**10**	**40.1**	**-2.7**
MUSN	**Musina, Limpop**	**15.87**	**259**	*e*P	**Pn**	**22**	**10**	**40.6**	**-2.1**
MSEY	**Mahe Island**	**17.58**	**30**	P	**Pn**	**22**	**11**	**04.1**	**-0.3**
MSEY	**Mahe Island**	**17.58**	**30**	P	**Pn**	**22**	**11**	**04.1**	**-0.3**
MSEY				pmax	pmax				
	comp=Z,121nm,1.5s								
LSZ	**Lusaka**	**18.30**	**282**	P	**Pn**	**22**	**11**	**12.6**	**-0.8**
	comp=Z,3.1nm,0.3s,baz=117,slow=10,SNR=118								
LSZ				S	Sn	22	14	22.3	-15
	comp=Z,15nm,0.6s,baz=52,slow=19,SNR=1.3								
LSZ				LR	LR	22	18	13.0	
	comp=Z,9μm,20.9s,baz=123,slow=37								
	comp=Z,66nm,0.7s								
LSZ	**Lusaka**	**18.30**	**282**	P	**Pn**	**22**	**11**	**11.0**	**-2.4**
LSZ	**Lusaka**	**18.30**	**282**	*i* P	**Pn**	**22**	**11**	**12.7**	**-0.8**
LSZ	**Lusaka**	**18.30**	**282**	*e*P	**Pn**	**22**	**11**	**12.7**	**-0.8**
LSZ	**Lusaka**	**18.30**	**282**	P	**P**	**22**	**11**	**14.8**	**+1.3**
LSZ				P	**P**	**22**	**11**	**14.8**	**+1.3**
LSZ				P	**P**	**22**	**11**	**14.8**	**+1.3**
LSZ	**Lusaka**	**18.30**	**282**	*e*P	**Pn**	**22**	**11**	**12.5**	**-1.0**
KSTD	**Kokstad**	**18.85**	**233**	*e*P	**Pn**	**22**	**11**	**25.2**	**+5.1**
PRYS	**Parys**	**18.98**	**246**	*e*P	**S**	**22**	**15**	**05.7**	**+10**
KIBK	**Kibwezi**	**19.62**	**333**	P	**P**	**22**	**11**	**27.2**	**-0.6**
KIBK	**Kibwezi**	**19.62**	**333**	P	**Pn**	**22**	**11**	**30.8**	**+1.5**
	SNR=10								
LBTB	**Lobatse**	**20.09**	**252**	S	**S**	**22**	**15**	**09.6**	**-8.8**
	baz=360,slow=19								
LBTB				LR	LR	22	19	20.5	
	comp=Z,9μm,18.6s,baz=268,slow=37								
LBTB	**Lobatse**	**20.09**	**252**	*e*P	**S**	**22**	**15**	**15.6**	**-2.8**
LBTB				IAmb	IAmb	22	15	46.7	
	comp=Z,54nm,0.8s								
SWZ	**Schweizer**	**20.79**	**246**	*e*P	**P**	**22**	**11**	**40.7**	**0.0**
KMBO	**Kilima Mbogo**	**21.05**	**333**	P	**P**	**22**	**11**	**42.5**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=132,slow=23,SNR=10								
KMBO				S	**S**	**22**	**15**	**38.5**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=143,slow=20,SNR=1.5								
KMBO				LR	LR	22	20	45.0	
	comp=Z,64nm,18.0s,baz=144,slow=39								
KMBO	**Kilima Mbogo**	**21.05**	**333**		**P**	**22**	**11**	**43.0**	**-0.6**
KMBO				IAmb	IAmb	22	11	59.0	
	comp=Z,265nm,1.6s								
KMBO	**Kilima Mbogo**	**21.05**	**333**	*e*P	S	22	15	53.0	+15
KMBO				IAmb	IAmb	22	16	32.5	
	comp=Z,167nm,1.1s								
KMBO	**Kilima Mbogo**	**21.05**	**333**	P	**P**	**22**	**11**	**43.0**	**-0.6**
KMBO				pmax	pmax				
	comp=Z,265nm,1.6s								
KMBO				MLR	MLR				
	comp=Z,4μm,20.0s								
KMBO	**Kilima Mbogo**	**21.05**	**333**	*i* P	**P**	**22**	**11**	**44.3**	**+0.8**
	SNR=19								
KMBO	**Kilima Mbogo**	**21.05**	**333**	*e*P	**P**	**22**	**11**	**41.6**	**-2.0**
KMBO				*e*S	**S**	**22**	**15**	**40.7**	**+3.0**
KMBO	**Kilima Mbogo**	**21.05**	**333**	P	**P**	**22**	**11**	**45.7**	**+2.2**
KMBO				P	**P**	**22**	**11**	**45.7**	**+2.2**
KMBO				P	**P**	**22**	**11**	**45.7**	**+2.2**
BOSA	**Boshof**	**21.27**	**242**	P	**P**	**22**	**11**	**44.0**	**-1.9**
	comp=Z,28nm,0.8s,baz=47,slow=12,SNR=4.2								
BOSA				S	**S**	**22**	**15**	**36.0**	**-5.8**
	comp=Z,13nm,0.8s,baz=48,slow=15,SNR=1.5								
BOSA				LR	LR	22	19	15.1	
	comp=Z,2μm,20.8s,baz=82,slow=35								
	comp=Z,28nm,0.8s								
BOSA	**Boshof**	**21.27**	**242**	P	**P**	**22**	**11**	**43.9**	**-1.9**
BOSA				IAmb	IAmb	22	12	01.3	
	comp=Z,162nm,1.0s								
BOSA	**Boshof**	**21.27**	**242**	*e*P	**P**	**22**	**11**	**44.7**	**-1.1**
BOSA				IAmb	IAmb	22	12	01.1	
	comp=Z,168nm,1.0s								
BOSA	**Boshof**	**21.27**	**242**	P	**P**	**22**	**11**	**44.0**	**-1.9**
I47ZA	**BOSHOF INFRASO**	**21.29**	**242**	*i*		00	13	10.0	
	baz=68,slow=329,SNR=0.8								
GRHM	**Grahamstown, E**	**22.34**	**230**	P	**P**	**22**	**11**	**57.0**	**-0.2**
SOE	**Somerset East**	**22.66**	**232**	P	**P**	**22**	**12**	**00.2**	**-0.4**
SOE				IAmb	IAmb	22	12	08.2	
	comp=Z,126nm,1.0s								
ROOI	**Rooidraai Farm**	**24.08**	**235**	*e*P	**P**	**22**	**12**	**14.9**	**+0.1**
UPI	**Upington**	**24.59**	**246**	*e*P	**P**	**22**	**12**	**21.2**	**+1.7**
MBAR	**Mbarara**	**24.94**	**319**	P	**P**	**22**	**12**	**21.9**	**-0.9**
	comp=Z,14nm,0.8s,baz=146,slow=7.4,SNR=19								
MBAR				S	**S**	**22**	**16**	**48.9**	**+2.9**
	comp=Z,5.3nm,0.6s,baz=116,slow=23,SNR=1.6								
MBAR				LR	LR	22	22	12.4	
	comp=Z,8μm,19.8s,baz=126,slow=37								
	comp=Z,14nm,0.8s								
MBAR	**Mbarara**	**24.94**	**319**	P	**P**	**22**	**12**	**22.8**	**0.0**
MBAR	**Mbarara**	**24.94**	**319**	*i* P	**P**	**22**	**12**	**24.6**	**+1.8**
MBAR	**Mbarara**	**24.94**	**319**	P	**P**	**22**	**12**	**25.1**	**+2.3**
MBAR				P	**P**	**22**	**12**	**25.1**	**+2.3**
FRAZ	**Fraserburg**	**25.53**	**238**	*e*P	**P**	**22**	**12**	**29.5**	**+1.5**
FRAZ				IAmb	IAmb	22	12	55.0	
	comp=Z,50nm,0.8s								
MERW	**Merweville**	**25.72**	**236**	*e*P	**P**	**22**	**12**	**30.9**	**+1.2**
ARMS	**Ukamas**	**25.82**	**247**	*e*P	**P**	**22**	**12**	**34.8**	**+4.2**
ARMS				IAmb	IAmb	22	12	40.5	
	comp=Z,141nm,1.0s								
LODK	**Lodwar**	**25.94**	**333**	P	**P**	**22**	**12**	**31.4**	**-0.4**
LODK	**Lodwar**	**25.94**	**333**	P	**P**	**22**	**12**	**33.0**	**+1.3**
	SNR=15								
SUR	**Sutherland**	**26.16**	**237**	P	**P**	**22**	**12**	**32.4**	**-1.4**
	comp=Z,26nm,1.0s,baz=76,slow=3.4,SNR=4.3								
SUR				LR	LR	22	22	32.7	
	comp=Z,4μm,18.9s,baz=64,slow=36								
	comp=Z,26nm,1.0s								
SUR	**Sutherland**	**26.16**	**237**	P	**P**	**22**	**12**	**32.1**	**-1.7**
SUR				IAmb	IAmb	22	12	53.3	
	comp=Z,80nm,1.0s								
SUR	**Sutherland**	**26.16**	**237**	P	**P**	**22**	**12**	**33.9**	**+0.1**
SUR				P	**P**	**22**	**12**	**33.9**	**+0.1

SNR=8.6
DOK P P 22 14 27.9 +0.5
SNR=8.6
TRD Trivandrum 41.18 49 *i* x x 22 27 03.0
DQM DQM 41.21 16 P P 22 14 45.2 +1.1
MHTO MHTO 42.33 16 P P 22 14 51.9 -1.3
SNR=5.5
MHTO P P 22 14 51.9 -1.3
SNR=5.5
KOD Kodaikanal 42.74 48 *e*P P 22 14 57.7 +0.7
MNGI Mangalore 42.96 42 *e*P P 22 15 01.5 +3.1
PALK Pallekele 43.12 54 P P 22 14 59.8 -0.1
PALK Pallekele 43.12 54 P P 22 14 59.8 -0.1
PALK pmax pmax
comp=Z,36nm,1.1s
PALK MLR MLR
comp=Z,2µm,19.0s
PALK Pallekele 43.12 54 P P 22 14 58.9 -1.0
PALK P P 22 14 58.9 -1.0
UMZA Um Al Zommool 43.38 11 P P 22 15 01.9 +0.1
UMZA P P 22 15 01.9 +0.1
MZR Muzera 43.39 9 *i* P P 22 15 02.4 +0.7
SNR=18
MZR Muzera 43.39 9 P P 22 15 02.4 +0.7
SNR=7.0
MZR P P 22 15 02.4 +0.7
SNR=7.0
RAYN Ar Rayn 43.42 358 P P 22 15 01.9 -0.2
RAYN IAmb IAmb 22 15 04.8
comp=Z,63nm,1.1s
RAYN Ar Rayn 43.42 358 P P 22 15 01.9 -0.2
RAYN pmax pmax
comp=Z,63nm,1.1s
RAYN MLR MLR
comp=Z,2µm,19.0s
RAYN Ar Rayn 43.42 358 *i* P P 22 15 02.0 0.0
SNR=75
RAYN Ar Rayn 43.42 358 P P 22 15 02.4 +0.3
JMDO Jabal Madar 43.69 15 P P 22 15 03.6 -0.7
SNR=5.6
JMDO P P 22 15 03.6 -0.7
SNR=5.6
JLN Jalan Bani Buh 43.82 17 P P 22 15 05.0 -0.3
SNR=7.7
JLN P P 22 15 05.0 -0.3
SNR=7.7
BSY Bisya 43.84 14 P P 22 15 05.5 0.0
SNR=6.5
BSY P P 22 15 05.5 0.0
SNR=6.5
WBK Wadi Bani Khal 44.14 16 P P 22 15 08.0 +0.1
WBK P P 22 15 08.0 +0.1
MZWR Madinat Zayed 44.19 9 P P 22 15 09.0 +0.8
MZWR P P 22 15 09.0 +0.8
SLWR Sila 44.21 7 P P 22 15 09.0 +0.7
SLWR P P 22 15 09.0 +0.7
GHWR Ruwais 44.25 8 P P 22 15 09.5 +0.8
GHWR P P 22 15 09.5 +0.8
GHWR P P 22 15 09.5 +0.8
SALM Salem 44.25 47 *e*P P 22 15 09.3 +0.5
ARQ Araqi 44.26 13 P P 22 15 08.7 -0.2
ARQ P P 22 15 08.7 -0.2
GOA Goa 44.31 39 *e*P P 22 15 08.3 -1.0
GOA *i* x x 22 28 27.1
SMDO Samad 44.34 15 P P 22 15 08.9 -0.7
SNR=10
SMDO P P 22 15 08.9 -0.7
SNR=10
WSAR Wadi Sarin 44.66 16 LR LR 22 30 27.6
comp=Z,2µm,21.2s,baz=205,slow=32
HOQ Hoqain 44.67 14 P P 22 15 11.9 -0.2
SNR=14
HOQ P P 22 15 11.9 -0.2
SNR=14
HOQ P P 22 15 11.9 -0.2
SNR=14
SMRA Abu-Samra 44.80 5 P P 22 15 13.7 +0.6
ALNE Al Ain 44.80 12 *i* P P 22 15 13.6 +0.5
SNR=7.0
ALNE Al Ain 44.80 12 P P 22 15 14.0 +0.9
ALNE P P 22 15 14.0 +0.9
SOHO SOHO 45.03 13 *i* P P 22 15 15.0 +0.1
SNR=13
SOHO SOHO 45.03 13 P P 22 15 15.2 +0.3
SOHO P P 22 15 15.2 +0.3
AJN Ajban 45.16 11 P P 22 15 16.3 +0.4
AJN Ajban 45.16 11 P P 22 15 16.5 +0.5
JRN Qarnain Island 45.21 8 P P 22 15 17.2 +0.9
ASUD Al Ashush, Dub 45.28 11 P P 22 15 17.6 +0.7
ASUD Al Ashush, Dub 45.28 11 P P 22 15 17.6 +0.7
FAQ Al Faqa, Dubai 45.45 11 P P 22 15 18.4 +0.2
FAQ Al Faqa, Dubai 45.45 11 P P 22 15 19.8 +1.6
FAQ P P 22 15 19.8 +1.6
ASHO Ashiyiah 45.47 12 P P 22 15 18.8 +0.3
ASHO P P 22 15 18.8 +0.3
ASHO P pP 22 15 18.9 -5.2
ASHO P pP 22 15 18.9 -5.2
HATD Hatta, Dubai 45.63 12 *i* P P 22 15 20.0 +0.3
SNR=10
HATD Hatta, Dubai 45.63 12 P P 22 15 20.4 +0.7
HATD P P 22 15 20.4 +0.7
HATD P P 22 15 20.4 +0.7
NAZ Nazwa, Dubai 45.70 11 P P 22 15 20.5 +0.4
NAZ Nazwa, Dubai 45.70 11 P P 22 15 21.2 +1.0
NAZ P P 22 15 21.2 +1.0
UOSS Minazif 45.76 12 P P 22 15 20.3 -0.4
UOSS Minazif 45.76 12 P P 22 15 20.4 -0.2
UOSS P P 22 15 20.4 -0.2
SAKB Bahrain 45.99 5 P P 22 15 22.2 -0.3
MDH Madha 46.12 12 *i* P P 22 15 23.3 -0.2
SNR=5.4
MDH Madha 46.12 12 P P 22 15 23.4 -0.1
MDH P P 22 15 23.4 -0.1
MASF Masafi 46.16 12 P P 22 15 25.4 +1.5
MASF P P 22 15 25.4 +1.5
UMQ Umm Al-Quwin 46.22 11 P P 22 15 25.3 +1.0
MDRS Chennai 46.66 48 *e*P P 22 15 27.3 -0.6
POO Poona 46.74 36 *e*P P 22 15 29.0 +0.4
POO IAmb IAmb 22 15 30.4
comp=Z,106nm,1.3s
SHME Shamm 46.82 12 P P 22 15 29.8 +0.8
JASK Jask - Hormozg 47.00 14 P P 22 15 31.6 +1.2
NGCH Negor - Chabah 47.35 18 P P 22 15 34.4 +1.2
MAW Mawson 48.55 172 P P 22 15 41.1 -0.8
comp=Z,14nm,0.8s,baz=322,slow=3.6,SNR=2.0
comp=Z,14nm,0.8s
HYB Hyderabad 48.68 42 *e*P P 22 15 43.6 0.0
HYB IVmB_BB 22 15 44.1
comp=Z,225nm,0.9s
HYB *e*PP PP 22 17 37.5 +0.6
HYB IVMs_BB IVMs_BB 22 33 36.5
comp=Z,540nm,17.9s
HYB Hyderabad 48.68 42 *e*P P 22 15 43.6 0.0
HYB IAmb IAmb 22 15 45.3
comp=Z,31nm,0.7s
HYB *i* x x 22 30 43.3
AKL Akola 50.27 38 *e*P P 22 15 55.8 +0.1
AKL IAmb IAmb 22 15 56.9
comp=Z,26nm,0.9s
EIL Elat 50.81 347 LR LR 22 37 22.5
comp=Z,1µm,18.7s,baz=172,slow=36
VIS Vishakhapatnam 52.02 46 *i* x x 22 31 31.3
BHPL Bhopal 52.50 36 *e*P P 22 16 11.4 -1.0
BHPL IAmb IAmb 22 16 14.3
comp=Z,80nm,1.0s
BHPL *i* x x 22 35 31.7
ELIB Princess Elisa 53.55 189 *d*P P 22 16 19.7 0.0
comp=Z,31nm,1.2s
AJM Ajmer 53.68 31 *e*P P 22 16 21.0 -0.1
AJM IAmb IAmb 22 16 24.0
GSI Gunungsitoli 54.18 73 P P 22 16 24.8 -0.2
GSI IAmb IAmb 22 16 40.8
comp=Z,52nm,1.1s
GSI IAMs_20 IAMs_20 22 35 20.6
comp=Z,3µm,18.0s
GSI Gunungsitoli 54.18 73 P P 22 16 23.2 -1.8
comp=Z,46nm,1.0s
NVL N'lazarevskaya 54.66 193 *e*P P 22 16 28.4 +0.8
NVL *e*S S 22 24 01.1 -5.6
NVL pmax pmax
comp=Z,45nm,1.3s
NVL MLR MLR
comp=Z,556nm,16.0s
JHNI Jhansi 54.88 36 *e*P P 22 16 29.6 -0.1
JHNI IAmb IAmb 22 16 31.2
comp=Z,45nm,0.9s
TORD Torodi Ar. Bea 55.28 303 P P 22 16 33.6 +0.7
comp=Z,14nm,0.4s,baz=98,slow=11,SNR=3.7
comp=Z,14nm,0.4s
KCSI Kotacane, Aceh 55.34 71 P P 22 16 34.7 +1.3
comp=Z,78nm,1.1s,comp=Z,716nm
LHMI Lhok Sumawe 55.41 68 P P 22 16 33.9 0.0
LHMI Lhok Sumawe 55.41 68 P P 22 16 34.9 +1.0
comp=Z,154nm,0.9s,comp=Z,2µm
MNSI Mandailing Nat 55.77 75 P P 22 16 37.8 +1.3
comp=Z,55nm,1.2s
PDSI Padang 55.87 77 P P 22 16 38.1 +0.8
comp=Z,56nm,1.0s,comp=Z,664nm
KUDL Kundal 55.97 32 *e*P P 22 16 37.2 -0.4
RPSI Rantau Prapat 56.00 72 P P 22 16 38.6 +0.5
RPSI IAMs_20 IAMs_20 22 36 43.1
comp=Z,4µm,19.0s
PSI Prapat 56.04 72 LR LR 22 36 54.4
comp=Z,4µm,19.1s,baz=245,slow=32
PSI Prapat 56.04 72 P P 22 16 38.6 0.0
PSI pmax pmax
comp=Z,30nm,1.0s
PSI MLR MLR
comp=Z,4µm,19.0s
HRA Herat 56.20 15 P P 22 16 38.3 -1.1
DGPR DIGLIPUR 56.23 58 *e*P P 22 16 40.5 +0.8
DGPR IAmb IAmb 22 16 42.7
comp=Z,49nm,0.7s
CSS Mathiatis 56.26 347 P P 22 16 39.4 -0.2
CSS IAmb IAmb 22 18 05.9
comp=Z,46nm,1.3s
ALBI Allahabad 56.61 39 *e*P P 22 16 42.5 +0.3
ALBI IAmb IAmb 22 16 44.0
comp=Z,212nm,1.5s
SDSI Sungai Dareh 56.75 77 P P 22 16 44.4 +0.9
comp=Z,51nm,1.1s
BKNI Bangkinang 56.90 76 P P 22 16 47.7 +3.1
comp=Z,137nm,1.0s
KIC Kosan Boka 57.03 292⇓ *e*P P 22 16 45.8 +0.3
comp=Z,7.3nm,0.7s
LIC Lamto 57.22 292⇓ *e*P P 22 16 46.6 -0.2
comp=Z,58nm,1.1s
DBIC Dimbokro 57.28 292 P P 22 16 47.2 0.0
DBIC IAmb IAmb 22 17 02.9
comp=Z,43nm,0.9s
DBIC Dimbokro 57.28 292 P P 22 16 47.3 0.0
DBIC pmax pmax
comp=Z,43nm,0.9s
TIC Toumodi 57.41 292⇑ *e*P P 22 16 48.9 +0.7
comp=Z,26nm,0.8s
LWLI Liwa 57.66 83 P P 22 16 51.5 +1.4
comp=Z,120nm,0.5s,comp=Z,11µmcomp=Z,2µm
TROLL Troll, Antarti 57.67 195 P P 22 16 50.9 +1.6
GAZ Gaziantep 57.71 351 P P 22 16 50.1 +0.3
GAZ IAmb IAmb 22 16 52.3
comp=Z,47nm,0.9s
MDSI Maura Dua 57.96 83 P P 22 16 53.5 +1.5
comp=Z,21nm,0.9s
BOK Bokaro 58.00 43 *e*P P 22 16 51.1 -0.9
BOK IAmb IAmb 22 16 53.6
comp=Z,19nm,0.7s
BOK *i* x x 22 35 23.7
AKAS Kas 58.36 344 P P 22 16 54.5 0.0
KBL Kabul 58.38 22 P P 22 16 55.0 +0.2
KBL Kabul 58.38 22 P P 22 16 55.0 +0.2
KBL pmax pmax
comp=Z,27nm,1.1s
KLI Kotabumi 58.46 83 P P 22 16 57.5 +1.9
comp=Z,100nm,0.4s,comp=Z,4µm
JMBI JABI 58.51 79 P P 22 16 58.1 +2.2
comp=Z,105nm,0.5s
GURO Guroymak-BITLI 58.55 356 P P 22 16 56.2 +0.5
GURO IAmb IAmb 22 16 59.0
comp=Z,63nm,1.3s
IPM Ipoh 58.66 71 P P 22 16 57.0 0.0
IPM IAmb IAmb 22 17 12.4
comp=Z,50nm,1.0s
KULM Kulim 58.70 70 P P 22 16 57.2 0.0
KULM IAmb IAmb 22 17 12.1
comp=Z,50nm,1.0s
KULM IAMs_20 IAMs_20 22 38 32.7
comp=Z,3µm,20.0s
GEYT Alibeck 58.75 11 P P 22 16 56.9 -0.2
comp=Z,7.4nm,0.8s,baz=205,slow=6.6,SNR=14
GEYT LR LR 22 40 52.1
comp=Z,599nm,21.1s,baz=197,slow=35
comp=Z,7.4nm,0.8s
GEYT Alibeck 58.75 11 P P 22 16 56.6 -0.4
GYA0B ALIBECK ARRAY 58.75 11 P P 22 16 56.9 -0.2
GYA0B IAmb IAmb 22 17 27.5
comp=Z,69nm,1.8s
ELL Elmali 58.77 344 P P 22 16 58.0 +0.6
ELL Elmali 58.77 344 P P 22 16 58.0 +0.6
ELL pmax pmax
comp=Z,132nm,1.0s
SNAA Sanae 58.83 196 P P 22 16 57.3 -0.1
SNAA Sanae 58.83 196 *i* P P 22 16 58.4 +1.1
SNAA pmax pmax
comp=Z,16nm,1.1s
LGTI Lohaghat 58.95 34 *e*P P 22 16 57.5 -1.1
LGTI IAmb IAmb 22 16 58.7
comp=Z,68nm,0.9s
JMU Jammu 59.06 28 *e*P P 22 17 00.1 +0.8
NIL Nilore 59.17 26 P P 22 17 00.2 +0.1
NIL Nilore 59.17 26 P P 22 17 00.2 +0.1
NIL pmax pmax
comp=Z,257nm,1.2s
NIL MLR MLR
comp=Z,800nm,21.0s
SRIT Nakonsritamara 59.34 66 P P 22 17 01.3 -0.3
KOLN Koldanda 59.51 38 *e*P P 22 17 01.1 -1.7
comp=Z,13nm,1.2s
BNN Bunyan 59.56 350 P P 22 17 02.7 -0.1
VNA2 Neumayer--Watz 59.71 198 P P 22 17 04.5 +1.1
baz=55,slow=6.0
CBJI Citeko 59.79 86 P P 22 17 06.1 +1.3
comp=Z,84nm,1.0s,comp=Z,6µm
GNI Garni 60.01 358 P P 22 17 06.4 +0.5
comp=Z,35nm,0.8s,baz=154,slow=5.7,SNR=18
GNI LR LR 22 43 18.2
comp=Z,1µm,21.1s,baz=180,slow=36
comp=Z,35nm,0.8s
GNI Garni 60.01 358 P P 22 17 06.2 +0.3
GNI IAmb IAmb 22 17 08.9
comp=Z,60nm,1.0s
GNI Garni 60.01 358 P P 22 17 06.2 +0.3
GNI Garni 60.01 358 P P 22 17 06.3 +0.4
GNI P P 22 17 06.3 +0.4
DANN Dangsing 60.04 38 *e*P P 22 17 05.2 -1.4
comp=Z,87nm,0.9s
DMN Daman 60.28 39 *e*P P 22 17 07.3 -0.8
comp=Z,74nm,1.0s
GKN Gorkha 60.29 39 *e*P P 22 17 06.9 -1.2
comp=Z,117nm,1.0s
TPRI Tanjung Pinang 60.32 77 P P 22 17 06.4 -2.0
comp=Z,34nm,1.1s,comp=Z,2µm
LEM Lembang 60.38 86 LR LR 22 38 37.4
comp=Z,1µm,19.9s,baz=221,slow=32
LEM Lembang 60.38 86 P P 22 17 09.0 0.0
comp=Z,75nm,1.0s,comp=Z,4µmcomp=Z,3µm
PKIN Phulchoki 60.43 40 *e*P P 22 17 07.7 -1.5
PKI Pulchoki 60.43 40 *e*P P 22 17 08.1 -1.2
comp=Z,67nm,1.0s
KKN Kakani 60.52 39 *e*P P 22 17 08.3 -1.4
VNA3 Neumayer Olymp 60.52 198 P P 22 17 09.7 +0.8
RAMN Ramite 60.70 41 *e*P P 22 17 10.1 -0.9
MANT Manisa 60.76 344 P P 22 17 11.2 0.0
MANT IAmb IAmb 22 17 13.0
comp=Z,45nm,1.0s
BR131 Keskin Array S 60.80 348 P P 22 17 10.1 -1.2
BR131 Keskin Array S 60.80 348 *i* P P 22 17 10.3 -1.0
BRTR Keskin Array B 60.80 348 P P 22 17 10.4 -0.9
comp=Z,8.9nm,0.8s,baz=168,slow=8.8,SNR=26
BRTR LR LR 22 41 52.8
comp=Z,1µm,20.3s,baz=190,slow=34
comp=Z,8.9nm,0.8s
BRTR Keskin Array B 60.80 348 P P 22 17 10.2 -1.0
TOKA Tokat 60.91 351 P P 22 17 12.0 +0.1
TOKA IAmb IAmb 22 17 13.4
comp=Z,36nm,0.9s
JIRN Jiri 60.97 40 *e*P P 22 17 11.7 -1.3
comp=Z,44nm,0.7s
BRDH Bariadhala 61.10 48 LR LR 22 42 41.7
comp=Z,2µm,18.1s,baz=198,slow=35
ODAN Odare 61.13 42 *e*P P 22 17 12.6 -1.3
comp=Z,14nm,1.1s
KTUT Trabzon 61.16 354 ⇓P P 22 17 14.9 +1.4
CASY Casey 61.26 156 IAMs_20 IAMs_20 22 43 12.5
comp=Z,2µm,18.0s
AKH Akhalkalaki 61.31 357 P P 22 17 15.1 +0.3
AKH Akhalkalaki 61.31 357 P P 22 17 15.1 +0.3
AKH pmax pmax
comp=Z,165nm,0.9s
BORA Eskisehir 61.61 346 P P 22 17 16.7 0.0
ITM Ithomi 61.62 338 P P 22 17 16.7 -0.1
TAPN Taplejung 61.68 42 *e*P P 22 17 16.7 -1.0
MDUB Mudurnu 62.01 347 P P 22 17 19.2 -0.2
CHGR Chuyangaron 62.16 20 P P 22 17 20.6 +0.1
CHGR Chuyangaron 62.16 20 P P 22 17 20.6 +0.1
CHGR pmax pmax
comp=Z,173nm,1.0s
ZEI Tsey 62.67 358 *e*P P 22 17 24.2 +0.3
ZEI pmax pmax
comp=Z,114nm,1.0s
MAK Makhachkala 62.79 1 *e*P P 22 17 17.6 -6.8
MAK pmax pmax
comp=Z,181nm,0.8s
MAK MLR MLR
comp=Z,934nm,18.0s
GAR Garm 62.85 21 P P 22 17 25.2 +0.1
AGG Agios Georgios 63.13 339 P P 22 17 27.1 +0.2
SHL Shillong 63.16 46 P P 22 17 26.7 -0.8
SHL IAmb IAmb 22 18 13.4
comp=Z,47nm,1.0s
SHL Shillong 63.16 46 P P 22 17 26.7 -0.8
SHL pmax pmax
comp=Z,47nm,1.0s
NEY Neytrino 63.18 357 *i* P P 22 17 28.1 +0.8
NEY pmax pmax
comp=Z,14nm,0.8s
KBZ Khabaz 63.65 357 P P 22 17 30.6 +0.5
comp=Z,54nm,0.8s,baz=173,slow=6.5,SNR=20
comp=Z,54nm,0.8s
SHA1 Shidzhatmaz 63.67 357 *i* P P 22 17 31.4 +0.8
ALN Alexandroupoli 63.70 343 P P 22 17 30.1 -0.4
ALN IAmb IAmb 22 17 32.0
comp=Z,36nm,1.0s
ALN Alexandroupoli 63.70 343 P P 22 17 30.1 -0.4
ALN pmax pmax
comp=Z,36nm,1.0s
SOC Sochi 63.74 354 *e*P P 22 17 27.9 -2.8
SOC *e* 22 19 45.9
SOC *e*PPP PPP 22 21 18.6
SOC *e*S S 22 26 03.0 -1.6
SOC *e*SS SS 22 30 13.4 +0.3
SOC pmax pmax
comp=Z,33nm,1.1s
SOC MLR MLR
comp=Z,322nm,18.0s
KIV Kislovodsk 63.89 357 P P 22 17 32.2 +0.4
KIV Kislovodsk 63.89 357 *e*P P 22 17 31.9 +0.1
KIV *e* 22 19 51.6
KIV *e*PPP PPP 22 21 20.5
KIV *e*S S 22 26 08.6 +1.9
KIV pmax pmax
comp=Z,143nm,1.0s
KIV pmax pmax
comp=Z,76nm,4.1s
KIV MLR MLR
comp=Z,288nm,17.0s
KIV Kislovodsk 63.89 357 *i* P P 22 17 32.2 +0.4
SNR=14
KIV Kislovodsk 63.89 357 P P 22 17 32.0 +0.1
KVAR Kislovodsk Arr 63.89 357 P P 22 17 31.9 0.0
comp=Z,30nm,1.0s,baz=90,slow=20,SNR=9.7
comp=Z,30nm,1.0s
CM31 Chiang Mai Arr 63.98 57 P P 22 17 32.4 -0.5
CM31 IAmb IAmb 22 17 34.8
comp=Z,35nm,1.1s
CMAR Chiang Mai Arr 63.98 57 P P 22 17 32.8 -0.1
comp=Z,20nm,1.0s,baz=241,slow=8.1,SNR=85
CMAR PP PP 22 19 48.0 -5.8
comp=Z,9.6nm,1.0s,baz=254,slow=5.0,SNR=4.2
CMAR LR LR 22 43 09.3
comp=Z,482nm,18.1s,baz=220,slow=34
comp=Z,20nm,1.0s
CMAR Chiang Mai Arr 63.98 57 P P 22 17 32.2 -0.7
CMAR Chiang Mai Arr 63.98 57 *i* P P 22 17 32.7 -0.1
CMAR pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 64.18 56 P P 22 17 33.6 -0.6
CHTO IAmb IAmb 22 19 49.7
comp=Z,50nm,1.2s
CHTO Chiang Mai 64.18 56 P P 22 17 33.6 -0.6
CHTO pmax pmax
comp=Z,50nm,1.3s
KDZ Kurdzhali 64.57 342 P P 22 17 36.2 -0.1
PENT Pentalofos 64.59 339 P P 22 17 36.8 +0.3
NVR Nevrokopi 64.75 341 P P 22 17 38.3 +0.8
GRG Griva 64.85 340 P P 22 17 37.8 -0.3
KNT Kendrikon 64.88 340 P P 22 17 38.4 +0.1
VAE Valguarnera 64.89 332 LR LR 22 44 25.3
comp=Z,717nm,22.0s,baz=159,slow=35
CEL Celeste 64.91 334 P P 22 17 38.7 +0.1
CEL IAmb IAmb 22 17 42.0
comp=Z,49nm,1.0s
CEL IAMs_20 IAMs_20 22 46 01.2
comp=Z,2µm,20.0s
DIM Dimitrovgrad 64.91 343 P P 22 17 38.3 -0.1
PHRA Phrae 65.02 57 P P 22 17 39.3 -0.3
VAY Valandovo 65.13 340 *i* P P 22 17 39.6 -0.3
ANN Anapa 65.18 353 *e*P P 22 17 38.6 -1.5
ANN *e*S S 22 26 20.3 -2.1
ANN pmax pmax
comp=Z,130nm,1.2s
ANN MLR MLR
comp=Z,2µm,23.0s
TIP Timpagrande 65.34 335 ⇓P P 22 17 41.7 +0.3
KSH Kashi 65.34 25 P P 22 17 38.5 -3.0
KSH pmax pmax
comp=Z,86nm,1.0s
KSH LR LR
comp=Z,440nm,16.8s
KSH LR LR
comp=Z,1µm,18.6s
KSH LR LR
comp=Z,1µm,24.0s
GMJI Gumukmas 65.39 90 P P 22 17 42.6 +0.4
comp=Z,215nm,1.1s,comp=Z,3µm
LSA Lhasa 65.48 42 P P 22 17 42.2 -0.8
LSA IAmb IAmb 22 18 14.0
comp=Z,28nm,1.0s
LSA Lhasa 65.48 42 P P 22 17 43.0 0.0
LSA pP pP 22 17 49.3 +0.5
LSA S S 22 26 13.0 -15
LSA pmax pmax
comp=Z,27nm,0.9s
LSA LR LR
comp=Z,820nm,17.1s
LSA LR LR
comp=Z,1µm,18.5s
LSA LR LR
comp=Z,2µm,17.1s
LSA Lhasa 65.48 42 P P 22 17 42.2 -0.8
LSA pmax pmax
comp=Z,28nm,1.0s
LSA MLR MLR
comp=Z,1µm,18.0s
LSA Lhasa 65.48 42 P P 22 17 43.1 +0.1
LSA Lhasa 65.48 42 P P 22 17 43.0 0.0
LSA P P 22 17 43.0 0.0
PRD Provadia 65.49 345 *i* P P 22 17 41.4 -0.7
OHR Ohrid 65.53 339 *i* P P 22 17 42.7 +0.2
STIP Stip 65.59 340 *i* P P 22 17 41.7 -1.1
IUG Iuzhnay 65.62 19 *e*PKP P 22 17 41.8 -1.3
baz=50
IUG Iuzhnay 65.62 19 *e*P P 22 17 42.0 -1.1
baz=19
IUG Iuzhnay 65.62 19 *e*PKIKP P 22 17 41.8 -1.3
IUG Iuzhnay 65.62 19 *e*P P 22 17 42.0 -1.1
BLJI Banyuglugur 65.70 90 P P 22 17 44.6 +0.4
comp=Z,286nm,1.4s,comp=Z,3µm
SIM Simferopol' 65.79 350 *e*P P 22 17 44.3 +0.2
SIM *e*PPP PPP 22 21 41.0
SIM *e*S S 22 26 34.0 +4.1
SIM pmax pmax
comp=Z,137nm,1.2s
SIM MLR MLR
comp=Z,500nm,19.5s
KEST Kesra 65.89 327 P P 22 17 46.0 +0.9

comp=Z,21nm,0.9s,baz=167,slow=3.9,SNR=9.9
KEST LR LR 22 49 31.1
comp=Z,2µm,18.7s,baz=112,slow=39
comp=Z,21nm,0.9s
JAGI Jajag, Banyuwa 65.99 90 P **P** **22 17 46.5 +0.3**
JAGI IAMs_20 IAMs_20 22 40 22.8
comp=Z,2µm,21.0s
JAGI Jajag, Banyuwa 65.99 90 P **P** **22 17 48.1 +2.0**
comp=Z,372nm,1.0s,comp=Z,3µm
TIR Tirane 66.06 338 ⇑P **P** **22 17 46.3 +0.4**
TIR Tirane 66.06 338 ⇑P **P** **22 17 46.3 +0.4**
SKO Skopje 66.08 340 *i* P **P** **22 17 45.6 -0.4**
CRAI Chiangrai 66.09 56 P **P** **22 17 46.4 -0.2**
VTS Vitosha 66.10 341 ⇑P **P** **22 17 46.0 -0.3**
VTS Vitosha 66.10 341 P **P** **22 17 45.4 -0.9**
VTS Vitosha 66.10 341 ⇑P **P** **22 17 46.0 -0.3**
MFTR Murfatlar 66.16 346 ⇑P **P** **22 17 46.1 -0.3**
PLVB Pleven 66.40 343 ⇑P **P** **22 17 47.1 -1.0**
TIRR Tirgusor 66.43 346 ⇑P **P** **22 17 47.7 -0.5**
TIRR Tirgusor 66.43 346 ⇑P **P** **22 17 47.7 -0.5**
TIRR Tirgusor 66.43 346 ⇑P **P** **22 17 47.7 -0.5**
TLBR Topalu 66.60 346 ⇑P **P** **22 17 48.8 -0.5**
MATE Matera 66.62 336 ⇑P **P** **22 17 49.9 +0.5**
MPEP Malo Peshtene 66.62 342 *i* P **P** **22 17 48.3 -1.2**
KK31 Karatay Array 66.63 19 P **P** **22 17 49.7 +0.1**
KK31 IAmb IAmb 22 17 51.6
comp=Z,43nm,0.9s
KK31 Karatay Array 66.63 19 P **P** **22 17 49.7 +0.1**
KK31 pmax pmax
comp=Z,43nm,1.0s
KKAR Karatay Array 66.63 19 P **P** **22 17 49.5 -0.1**
KKAR Karatay Array 66.63 19 P **P** **22 17 49.5 -0.1**
DZA Taraz 66.69 19 *eP* **P** **22 17 49.5 -0.5**
comp=Z,19nm,1.0s,baz=20
DZA Taraz 66.69 19 *eP* **P** **22 17 49.5 -0.5**
DZA pmax pmax
comp=Z,19nm,1.0s
TPGR Topolog 66.81 346 ⇓P **P** **22 17 49.9 -0.7**
IGBI Denpasar 66.82 91 P **P** **22 17 52.8 +1.4**
comp=Z,338nm,1.1s,comp=Z,4µm
VLAD Vladila 67.03 343 ⇓P **P** **22 17 51.1 -0.8**
DRME Dracevica, Mon 67.04 338 *eP* **P** **22 17 49.9 -2.2**
SRBI Singaraja 67.11 90 P **P** **22 17 54.1 +0.9**
comp=Z,256nm,1.4s,comp=Z,3µmcomp=Z,3µm
SULR 67.16 344 ⇓P **P** **22 17 53.6 +0.8**
CFR Carcaliu 67.18 346 ⇓P **P** **22 17 52.5 -0.4**
CFR Carcaliu 67.18 346 ⇓P **P** **22 17 52.5 -0.4**
PDG Podgorica 67.23 338 ⇓P **P** **22 17 53.0 -0.3**
HUMR Humele 67.36 343 ⇑P **P** **22 17 54.3 +0.2**
TNCH TengChong 67.47 51 P **P** **22 17 55.2 -0.3**
TNCH pP sP 22 18 05.1 +1.6
TNCH sP pP 22 18 07.5 +6.1
TNCH PP **PP** **22 20 27.2 +2.7**
TNCH S **S** **22 26 51.0 -0.5**
TNCH sS sS 22 27 03.3 +2.2
TNCH TengChong 67.47 51 SS SS 22 31 12.7 +0.4
TNCH pmax pmax
comp=Z,33nm,1.0s
TNCH pmax pmax
comp=Z,200nm,3.3s
TNCH LR LR
comp=N,520nm,16.8s
TNCH LR LR
comp=E,350nm,17.5s
TNCH LR LR
comp=Z,850nm,18.1s
BOVS Bovan 67.49 341 ⇑P **P** **22 17 53.5 -1.5**
ISR Istrita 67.50 345 ⇑P **P** **22 17 54.3 -0.8**
HCY Herceg Novi 67.51 338 *eP* **P** **22 17 55.0 -0.1**
AAK Ala-Archa 67.52 22 LR LR 22 45 30.0
comp=Z,697nm,20.6s,baz=226,slow=34
SECR 67.54 344 ⇑P **P** **22 17 55.9 +0.6**
TATR Tatarca 67.59 346 ⇑P **P** **22 17 55.3 -0.2**
IZVR Izvoarele 67.61 346 ⇓P **P** **22 17 56.2 +0.6**
UBPT Khong Chiam 67.62 63 P **P** **22 17 56.0 -0.4**
UBPT IAmb IAmb 22 17 58.0
comp=Z,37nm,0.9s
SLCR Slobozia Conac 67.65 346 ⇓P **P** **22 17 56.3 +0.4**
STFAR Stefanesti-Arg 67.67 343 ⇓P **P** **22 17 57.8 +1.6**
TUDR 67.68 346 ⇑P **P** **22 17 56.2 +0.1**
PUNG Punghina 67.70 342 ⇑P **P** **22 17 55.6 -0.7**
MBWA Marble Bar 67.72 105 IAMs_20 IAMs_20 22 44 25.9
comp=Z,2µm,18.0s
TREB Trebinje 67.80 338 *eP* **P** **22 17 56.7 -0.2**
VLDR Vladesti 67.82 346 ⇓P **P** **22 17 56.4 -0.6**
NEHR Nehoiu 67.85 345 ⇑P **P** **22 17 57.2 -0.1**
BISRR Bisoca 67.86 345 ⇓P **P** **22 17 58.4 +1.0**
BRY Bratogost 67.89 338 *eP* **P** **22 17 56.8 -0.9**
SRE Strehaia 67.97 342 ⇑P **P** **22 17 58.6 +0.6**
SRE Strehaia 67.97 342 ⇑P **P** **22 17 58.6 +0.6**
MTUR Matau 67.98 344 ⇑P **P** **22 17 57.5 -0.6**
MTUR Matau 67.98 344 ⇑P **P** **22 17 57.5 -0.6**
ODBI Odobesti 67.98 345 ⇑P **P** **22 17 59.1 +1.1**
SBUM Sibu 67.99 79 P **P** **22 17 58.6 -0.2**
SBUM IAmb IAmb 22 18 13.7
comp=Z,42nm,0.9s
MLR Muntele Rosu 68.00 344 P **P** **22 17 57.9 -0.4**
comp=Z,22nm,0.9s,baz=153,slow=6.8,SNR=11
comp=Z,22nm,0.9s
MLR Muntele Rosu 68.00 344 P **P** **22 17 58.0 -0.4**
MLR IAmb IAmb 22 18 00.8
comp=Z,40nm,1.1s
MLR Muntele Rosu 68.00 344 ⇑P **P** **22 17 58.1 -0.2**
MLR Muntele Rosu 68.00 344 ⇑P **P** **22 17 58.1 -0.2**
UPM Unac-Piva 68.03 338 *eP* **P** **22 17 58.6 0.0**
PURM Purcari 68.09 348 ⇑P **P** **22 17 58.1 -0.5**
VRI Vrincioaia 68.16 345 ⇓P **P** **22 17 58.7 -0.5**
VRI Vrincioaia 68.16 345 ⇓P **P** **22 17 58.7 -0.5**
PLOR Plostina 68.16 345 ⇓P **P** **22 17 58.7 -0.5**
PLOR Plostina 68.16 345 ⇓P **P** **22 17 58.7 -0.5**
STON Ston 68.16 337 *eP* **P** **22 17 58.0 -1.2**
GHRR 68.18 346 ⇑P **P** **22 17 59.9 +0.6**
DJES Djerdap 68.18 342 ⇓P **P** **22 17 59.2 -0.1**
DJES Djerdap 68.18 342 P **P** **22 17 58.7 -0.6**
ARR Arges 68.23 343 ⇑P **P** **22 17 58.9 -0.7**
RUDO Rudo 68.24 339 *eP* **P** **22 17 58.9 -0.8**
COVR Voineasa-Covas 68.27 345 ⇑P **P** **22 17 59.1 -0.7**
SGDS Sogindy 68.28 22 *eP* **P** **22 17 59.9 -0.2**
baz=22
SGDS Sogindy 68.28 22 *eP* **P** **22 17 59.8 -0.2**
BBLS Lazići 68.44 339 ⇓*i*P **P** **22 18 00.8 -0.3**
DIVS Divibare 68.46 340 P **P** **22 18 01.2 0.0**
DIVS IAmb IAmb 22 18 17.5
comp=Z,35nm,1.1s
DIVS Divibare 68.46 340 ⇓*i*P **P** **22 18 01.3 +0.1**
MDVR Moldovita 68.53 341 ⇑P **P** **22 18 01.3 -0.2**
DOPR Dopca 68.58 344 ⇑P **P** **22 18 00.8 -1.0**
OZUR 68.60 345 ⇑P **P** **22 18 01.0 -0.9**
BELA Belgrano 2 68.63 193 P **P** **22 18 02.1 +0.3**
BELA IAmb IAmb 22 18 11.9
comp=Z,47nm,1.6s
VASR Vaslui 68.64 346 ⇑P **P** **22 18 01.9 -0.2**
MILM Milestii Mici 68.68 347 ⇓*i*P **P** **22 18 02.0 -0.3**
comp=Z,140nm,0.9s
MILM Milestii Mici 68.68 347 ⇑P **P** **22 18 02.5 +0.2**
MILM Milestii Mici 68.68 347 ⇑P **P** **22 18 02.5 +0.2**
KIS Kishinev 68.75 347 *eP* **P** **22 18 02.0 -0.8**
comp=Z,90nm,0.8s
KIS Kishinev 68.75 347 *eP* **P** **22 18 02.0 -0.8**
KIS pmax pmax
comp=Z,90nm,0.9s
GZR Gura Zlata 68.77 342 ⇑P **P** **22 18 03.3 +0.2**
GZR Gura Zlata 68.77 342 ⇑P **P** **22 18 03.3 +0.2**
INTR Introdacqua 68.89 334 P **P** **22 18 03.0 -0.9**
TEKS Tekeris 69.01 340 *eP* **P** **22 18 00.1 -4.4**
DEV Deva 69.18 342 ⇓P **P** **22 18 06.0 +0.5**
DEV Deva 69.18 342 ⇓P **P** **22 18 06.0 +0.5**
IAS Iasi 69.21 346 ⇑P **P** **22 18 05.9 +0.2**
IAS Iasi 69.21 346 ⇑P **P** **22 18 05.9 +0.2**
KUU Kurty 69.27 22 *eP* **P** **22 18 05.8 -0.4**
comp=Z,47nm,0.8s,baz=22
KUU Kurty 69.27 22 *eP* **P** **22 18 05.7 -0.4**
KUU pmax pmax
comp=Z,47nm,0.8s
SURR Surduc 69.28 342 ⇓P **P** **22 18 06.0 -0.2**
BZS Buzias 69.31 341 ⇓P **P** **22 18 06.4 +0.1**
BZS Buzias 69.31 341 ⇓P **P** **22 18 06.4 +0.1**
SATY Saty 69.32 24 *eP* **P** **22 18 06.3 -0.4**
comp=Z,36nm,0.8s,baz=24
SATY Saty 69.32 24 *eP* **P** **22 18 06.2 -0.4**
SATY pmax pmax
comp=Z,36nm,0.8s
AQU L'Aquila 69.38 334 P **P** **22 18 06.2 -0.7**
AQU IAmb IAmb 22 18 20.4
comp=Z,44nm,1.2s
AQU L'Aquila 69.38 334 P **P** **22 18 06.2 -0.7**
AQU pmax pmax
comp=Z,44nm,1.2s
SRKY Kupres RS 69.40 338 *eP* **P** **22 18 06.5 -0.5**
FRGS Fruska Gora 69.46 340 ⇓P **P** **22 18 08.1 +0.8**
FRGS Fruska Gora 69.46 340 ⇓*i*P **P** **22 18 06.3 -1.0**
CHKK Chushkaly 69.47 23 *eP* **P** **22 18 07.1 -0.3**
baz=23
CHKK Chushkaly 69.47 23 *eP* **P** **22 18 07.1 -0.3**
BTLS Baital 69.49 20 *i* P **P** **22 18 06.9 -0.5**
baz=20
BTLS Baital 69.49 20 *i* P **P** **22 18 06.9 -0.5**
CAMP Campotosto 69.53 334 P **P** **22 18 06.9 -1.0**
CAMP IAmb IAmb 22 18 27.2
comp=Z,33nm,1.0s
UZB Uzynbulak 69.64 25 *eP* **P** **22 18 08.3 -0.3**
baz=25
UZB Uzynbulak 69.64 25 *eP* **P** **22 18 08.3 -0.3**
MGRS Mrkonjic Grad 69.73 338 *eP* **P** **22 18 08.8 -0.2**
CJR Cluj-Napoca 69.75 343 ⇑P **P** **22 18 09.7 +0.6**
CJR Cluj-Napoca 69.75 343 ⇑P **P** **22 18 09.7 +0.6**
KPKS Kokpek 69.77 24 *eP* **P** **22 18 08.4 -0.9**
comp=Z,19nm,1.0s,baz=24
KPKS Kokpek 69.77 24 *eP* **P** **22 18 08.4 -0.9**
KPKS pmax pmax
comp=Z,19nm,1.0s
SHLS Shalkode 69.82 25 *eP* **P** **22 18 09.8 0.0**
baz=25
SHLS Shalkode 69.82 25 *eP* **P** **22 18 09.7 0.0**
MARR Marisel-Cluj 69.84 343 ⇑P **P** **22 18 09.8 0.0**
SIRR Siria 69.89 342 ⇓P **P** **22 18 10.7 +0.8**
SORM Soroca 69.93 347 ⇑P **P** **22 18 08.9 -1.2**
SORM Soroca 69.93 347 ⇑P **P** **22 18 08.9 -1.2**
BLY Banja Luka 69.98 338 *eP* **P** **22 18 06.7 -3.8**
A050A Klekovaca 69.98 337 ⇓*i*P **P** **22 18 09.6 -1.0**
QSPA South Pole Qui 69.99 180 P **P** **22 18 10.6 0.0**
QSPA IAmb IAmb 22 18 11.9
comp=Z,38nm,1.1s
QSPA South Pole Qui 69.99 180 IAMs_20 IAMs_20 22 45 26.3
comp=Z,2µm,19.0s
GUMA Gualdo di Mace 70.00 335 P **P** **22 18 09.9 -0.7**
GUMA IAmb IAmb 22 18 25.2
comp=Z,72nm,1.2s
DRGR 70.06 343 ⇓P **P** **22 18 11.8 +0.8**
DRGR 70.06 343 ⇓P **P** **22 18 11.8 +0.8**
ABKAR Akbulak array 70.08 9 P **P** **22 18 10.6 -0.3**
ABKAR Akbulak array 70.08 9 P **P** **22 18 10.5 -0.5**
ABKAR IAmb IAmb 22 18 12.0
comp=Z,76nm,0.8s
BURAR Bucovina Array 70.16 345 ⇓P **P** **22 18 11.8 +0.1**
BURAR Bucovina Array 70.16 345 P **P** **22 18 11.6 0.0**
BURAR IAmb IAmb 22 18 13.6
comp=Z,31nm,0.9s
BURAR Bucovina Array 70.16 345 ⇓P **P** **22 18 11.8 +0.1**
BUR08 Bucovina Ar. S 70.19 345 P **P** **22 18 11.8 -0.1**
LATE Laterza 70.26 333 P **P** **22 18 11.8 -0.5**
LATE IAmb IAmb 22 18 26.5
comp=Z,41nm,1.1s
A051A Mrakovica 70.31 338 ⇓*i*P **P** **22 18 11.8 -0.8**
MESR Meseseni 70.32 343 ⇑P **P** **22 18 12.9 +0.4**
DRBR Darabani 70.38 346 ⇓P **P** **22 18 11.9 -0.9**
BORR Bors 70.60 342 ⇑P **P** **22 18 16.0 +1.8**
KMI Kunming 70.64 53 ⇑P **P** **22 18 15.2 0.0**
KMI S **S** **22 27 29.0 0.0**
KMI pmax pmax
comp=Z,22nm,1.6s
KMI LR LR
comp=Z,570nm,14.3s
KMI LR LR
comp=Z,750nm,18.0s
KMI LR LR
comp=Z,800nm,19.7s
BMR Baia Mare 70.66 344 ⇑P **P** **22 18 14.5 -0.1**
BMR Baia Mare 70.66 344 ⇑P **P** **22 18 14.5 -0.1**
PZH PanZhiHua 70.69 51 PKP **P** **22 18 17.3 +1.9**
PZH PanZhiHua 70.69 51 P **P** **22 18 14.7 -0.7**
PZH sP **sP** **22 18 23.7 +0.3**
PZH S **S** **22 27 29.2 -0.1**
PZH ScS **SKSac** **22 28 12.1 -5.2**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,480nm,4.9s
PZH LR LR
comp=Z,3µm,20.6s
PZH LR LR
comp=Z,3µm,20.6s
PZH LR LR
comp=Z,3µm,21.1s
MORH Mrgy, Hungar 70.77 340 ⇓P **P** **22 18 14.9 -0.4**
AKTO Aktyubinsk 70.97 9 P **P** **22 18 15.8 -0.6**
comp=Z,24nm,1.0s,baz=188,slow=2.8,SNR=9.6
comp=Z,24nm,1.0s
BBTS Babate 71.15 294 LR LR 22 48 26.8
comp=Z,2µm,21.6s,baz=152,slow=35
VRH Novokhopyorsk 71.17 357 *eP* **P** **22 18 16.3 -1.2**
VRH pmax pmax
comp=Z,140nm,0.9s
BOJS Bojanci 71.33 337 ⇓*i*P **P** **22 18 16.7 -2.0**
TRPA Tarpa 71.33 343 ⇓P **P** **22 18 14.6 -4.0**
VSR Storozhevoye 71.36 355 *eP* **P** **22 18 17.0 -1.7**
VSR pmax pmax
comp=Z,120nm,0.9s
CRES Cresnjev 71.53 338 *i* P **P** **22 18 19.6 -0.3**
CRES Cresnjev 71.53 338 ⇓*i*P **P** **22 18 18.7 -1.2**
VORR Voronezh 71.81 355 *eP* **P** **22 18 20.7 -0.7**
VORR *e* 22 18 37.6
VORR pmax pmax
comp=Z,70nm,0.8s
SKDS Skadanscina 71.82 336 ⇓*i*P **P** **22 18 17.7 -4.0**
CEY Cerknica 71.83 337 ⇓*i*P **P** **22 18 19.8 -1.9**
UZH Uzhgorod 71.86 343 ⇓*i*P **P** **22 18 21.7 -0.1**
UZH *i* 22 18 27.6
UZH *e* 22 18 34.5
PSZ Piszkesteto 71.90 341 ⇑P **P** **22 18 21.7 -0.4**
PSZ Piszkesteto 71.90 341 ⇑P **P** **22 18 21.7 -0.4**
MDT Midelt 71.96 316 LR LR 22 50 16.4
comp=Z,2µm,19.1s,baz=152,slow=36
AKASG Malin Array Be 72.20 348 P **P** **22 18 22.7 -1.1**
comp=Z,27nm,0.9s,baz=175,slow=5.2,SNR=65
comp=Z,27nm,0.9s
AKASG Malin Array Be 72.20 348 P **P** **22 18 22.9 -0.9**
AKASG IAmb IAmb 22 18 24.2
comp=Z,39nm,0.9s
AKASG Malin Array Be 72.20 348 P **P** **22 18 22.9 -0.9**
AKASG pmax pmax
comp=Z,39nm,0.9s
AKBB Malin Array Si 72.20 348 P **P** **22 18 23.0 -0.8**
AKBB IAmb IAmb 22 18 24.7
comp=Z,56nm,0.9s
AKBB Malin Array Si 72.20 348 P **P** **22 18 23.0 -0.8**
AKBB pmax pmax
comp=Z,56nm,0.9s
BELG Belogornoye 72.23 1 P **P** **22 18 22.9 -1.0**
comp=Z,94nm,0.9s,baz=159,slow=2.1,SNR=14
BELG LR LR 22 53 20.3
comp=Z,598nm,18.9s,baz=172,slow=38
comp=Z,94nm,0.9s
BELG Belogornoye 72.23 1 *i* P **P** **22 18 23.5 -0.4**
BELG pmax pmax
comp=Z,24nm,1.2s
KECS Kecovo 72.23 342 *eP* **P** **22 18 24.0 0.0**
KECS pmax pmax
comp=Z,66nm,0.9s
KECS Kecovo 72.23 342 *eP* **P** **22 18 24.0 0.0**
SRO Srobarova 72.29 340 *eP* **P** **22 18 24.4 0.0**
SRO pmax pmax
comp=Z,63nm,1.1s
SRO Srobarova 72.29 340 *eP* **P** **22 18 24.4 0.0**
CRVS Cervenica-Dubn 72.33 343 *eP* **P** **22 18 24.5 -0.2**
CRVS pmax pmax
comp=Z,37nm,1.0s
CRVS Cervenica-Dubn 72.33 343 *eP* **P** **22 18 24.5 -0.2**
CRVS *e* 22 28 08.2
SABO M.te Sabotino 72.34 336 P **P** **22 18 24.3 -0.5**
SABO IAmb IAmb 22 18 25.4
comp=Z,23nm,0.8s
KAPI Kappang 72.37 89 LR LR 22 44 42.0
comp=Z,993nm,21.8s,baz=263,slow=31
SOKA Soboth 72.41 338 *i* P **P** **22 18 25.0 -0.3**
comp=Z,20nm,0.9s,SNR=11
OBKA Obir 72.44 337 *i* P **P** **22 18 25.3 -0.2**
comp=Z,23nm,0.9s,SNR=6.5
OBKA Obir 72.44 337 ⇓*i*P **P** **22 18 24.1 -1.4**
CADS Cadrg 72.50 337 *i* P **P** **22 18 24.8 -0.9**
LVV L'vov 72.50 345 *eP* **P** **22 18 24.3 -1.3**
LVV MLR MLR
comp=Z,500nm,19.0s
TEOL Teolo 72.57 335 P **P** **22 18 25.4 -0.7**
ARSA Arzberg 72.73 338 *i* P **P** **22 18 26.8 -0.2**
comp=Z,36nm,0.9s,SNR=14
VYHS Vyhne 72.73 341 *eP* **P** **22 18 26.6 -0.5**
VYHS pmax pmax
comp=Z,27nm,1.0s
VYHS Vyhne 72.73 341 *eP* **P** **22 18 26.6 -0.5**
PRED Cave del Predi 72.74 337 P **P** **22 18 26.9 -0.3**
LPSR Galich'ya Gora 72.75 355 *eP* **P** **22 18 26.1 -0.9**
LPSR pmax pmax
comp=Z,100nm,0.8s
RONA Rosalia, Austr 72.85 339 *i* P **P** **22 18 27.5 -0.3**
comp=Z,46nm,0.9s,SNR=17
STHS Stebnicka Huta 72.86 343 *eP* **P** **22 18 26.6 -1.2**
STHS pmax pmax
comp=Z,27nm,1.0s
STHS Stebnicka Huta 72.86 343 *eP* **P** **22 18 26.6 -1.2**
MYKA Terra Mystica 72.87 337 *eP* **P** **22 18 28.2 +0.2**
comp=Z,8.3nm,0.9s
CART Cartagena 72.89 322 IAMs_20 IAMs_20 22 53 02.3
comp=Z,2µm,18.0s
STAL STALIGIAL 72.91 336 P **P** **22 18 27.4 -0.8**
CLUD Cludinico 73.01 336 P **P** **22 18 28.2 -0.6**
CLUD IAmb IAmb 22 18 29.9
comp=Z,23nm,0.9s
ZST Bratislava 73.02 340 *eP* **P** **22 18 28.1 -0.6**
ZST pmax pmax
comp=Z,107nm,1.1s
ZST Bratislava 73.02 340 *eP* **P** **22 18 28.1 -0.6**
KKM Kota Kinabalu 73.05 77 IAMs_20 IAMs_20 22 45 43.1
comp=Z,2µm,22.0s
CIMO Cimolais 73.06 336 P **P** **22 18 28.4 -0.6**
CIMO IAmb IAmb 22 18 29.7
comp=Z,20nm,0.9s
QIZ Qiongzhong 73.09 62 P **P** **22 18 30.3 +0.5**
QIZ LR LR
comp=Z,790nm,22.1s
QIZ LR LR
comp=Z,930nm,22.1s
QIZ LR LR
comp=Z,790nm,18.9s
MODS Modra-Piesok 73.12 340 *eP* **P** **22 18 29.0 -0.3**
MODS pmax pmax
comp=Z,105nm,1.0s
MODS Modra-Piesok 73.12 340 *eP* **P** **22 18 29.0 -0.3**
NIE Niedzica 73.13 342 *eP* **P** **22 18 28.5 -0.9**
NIE *e*L L 22 56 21.2
comp=Z,841nm,23.9s
SMOL Smolenice 73.19 340 *eP* **P** **22 18 29.1 -0.7**
SMOL pmax pmax
comp=Z,13nm,1.0s
CONA Conrad Observa 73.20 339 *i* P **P** **22 18 29.5 -0.4**
comp=Z,26nm,0.9s,SNR=11
KBA Koelnbreinsper 73.36 337 *i* P **P** **22 18 30.3 -0.7**
comp=Z,12nm,0.8s,SNR=6.1
ABTA Abfaltersbach 73.39 336 *i* P **P** **22 18 30.9 -0.2**
comp=Z,18nm,0.9s,SNR=8.7
JAVC Velka Javorina 73.42 340 *eP* **P** **22 18 31.5 +0.3**
MOA Molln 73.68 338 *i* P **P** **22 18 32.3 -0.4**
comp=Z,32nm,0.9s,SNR=11
BIOA Bad Ischl, Aus 73.77 337 *eP* **P** **22 18 32.2 -1.1**
comp=Z,18nm,1.0s
MAUC Maruska 73.81 341 *eP* **P** **22 18 33.5 0.0**
WMQ Urumqi 73.90 30 *eP* **P** **22 18 34.8 +0.7**
WMQ pP pP 22 18 39.3 -0.7
WMQ PcP **PcP** **22 18 49.7 +0.2**
WMQ pmax pmax
comp=Z,74nm,1.3s
WMQ pmax pmax
comp=Z,590nm,4.9s
WMQ LR LR
comp=Z,510nm,17.9s
WMQ LR LR
comp=Z,690nm,21.1s
WMQ LR LR
comp=Z,330nm,22.1s
MKAR Makanchi Array 73.95 25 P **P** **22 18 34.2 -0.2**
comp=Z,40nm,0.8s,baz=209,slow=5.1,SNR=5.6
comp=Z,40nm,0.8s
OJC Ojcow 73.99 342 *eP* **P** **22 18 33.1 -1.3**
OJC Ojcow 73.99 342 P **P** **22 18 33.5 -0.9**
OJC IAmb IAmb 22 18 35.5
comp=Z,44nm,0.9s
OJC Ojcow 73.99 342 P **P** **22 18 33.5 -0.9**
OJC pmax pmax
comp=Z,44nm,0.9s
KRUC Moravsky 74.00 340 *eP* **P** **22 18 33.6 -0.9**
AVE Averroes 74.10 315 P **P** **22 18 34.9 -0.6**
AVE IAMs_20 IAMs_20 22 52 36.2
comp=Z,3µm,18.0s
OKC Ostrava-Krasne 74.13 341 *eP* **P** **22 18 34.6 -0.7**
OKC Ostrava-Krasne 74.13 341 *eP* **P** **22 18 34.6 -0.7**
VRAC Vranov 74.15 340 P **P** **22 18 34.8 -0.6**
comp=Z,24nm,0.9s,baz=164,slow=5.3,SNR=26
comp=Z,24nm,0.9s
VRAC Vranov 74.15 340 ⇑P **P** **22 18 35.0 -0.4**
VRAC Vranov 74.15 340 *eP* **P** **22 18 34.8 -0.6**
VRAC Vranov 74.15 340 ⇑P **P** **22 18 35.0 -0.4**
WTTA Wattenberg 74.16 336 *i* P **P** **22 18 35.1 -0.6**
comp=Z,24nm,1.0s,SNR=7.7
FUORN Ofenpass-Fuorn 74.17 335 P **P** **22 18 35.6 -0.2**
WATA Walderalm 74.24 336 *i* P **P** **22 18 35.2 -0.9**
comp=Z,19nm,1.0s,SNR=8.6
MORC Moravsky Berou 74.27 341 ⇑P **P** **22 18 35.7 -0.4**
MORC Moravsky Berou 74.27 341 P **P** **22 18 35.6 -0.5**
MORC IAmb IAmb 22 18 37.5
comp=Z,34nm,1.1s
MORC Moravsky Berou 74.27 341 *eP* **P** **22 18 35.7 -0.4**
MORC Moravsky Berou 74.27 341 ⇑P **P** **22 18 35.7 -0.4**
SQTA Sankt Quirin 74.29 336 *i* P **P** **22 18 35.5 -0.9**
comp=Z,20nm,0.8s,SNR=10
FETA Feichten 74.31 335 *i* P **P** **22 18 36.3 -0.2**
comp=Z,60nm,0.9s,SNR=24
GYA Guiyang 74.33 54 ⇓P **P** **22 18 41.8 +4.7**
GYA S **S** **22 28 12.4 +1.4**
GYA pmax pmax
comp=Z,26nm,1.0s
GYA pmax pmax
comp=Z,400nm,3.5s
GYA LR LR
comp=Z,610nm,15.6s
GYA LR LR
comp=Z,520nm,24.6s
GYA LR LR
comp=Z,480nm,17.9s
TUE Stuetta 74.42 334 P **P** **22 18 36.3 -1.0**
TUE IAmb IAmb 22 18 38.4
comp=Z,32nm,0.9s
MOTA Moosalm 74.43 336 *i* P **P** **22 18 36.4 -0.8**
comp=Z,48nm,0.9s,SNR=18
BNI Bardonecchia 74.43 332 P **P** **22 18 36.8 -0.5**
BNI IAmb IAmb 22 18 57.5
comp=Z,38nm,1.0s
BNI Bardonecchia 74.43 332 P **P** **22 18 36.8 -0.5**
BNI pmax pmax
comp=Z,38nm,1.0s
CKRC Cesky Krumlov 74.49 338 *ex* x 22 18 47.5
CKRC AMS AMS 22 52 50.0
comp=Z,2µm,20.4s
TREC Trest 74.50 339 *eP* **P** **22 18 36.2 -1.3**
TREC Trest 74.50 339 *eP* **P** **22 18 36.2 -1.3**
CD2 Chengdu 74.67 48 *eP* **P** **22 18 38.5 -0.4**
RETA Reutte 74.68 336 *i* P **P** **22 18 37.9 -0.6**
comp=Z,35nm,1.0s,SNR=16
GEC2 GERESS Array S 74.73 338 P **P** **22 18 37.7 -1.1**
GEC2 GERESS Array S 74.73 338 *eP* **P** **22 18 38.1 -0.8**
comp=Z,24nm,1.0s,baz=145,slow=5.8
GERES GERESS Array B 74.73 338 P **P** **22 18 37.8 -1.1**
comp=Z,14nm,0.9s,baz=144,slow=5.0,SNR=38
comp=Z,14nm,0.9s
GERES GERESS Array B 74.73 338 P **P** **22 18 37.6 -1.3**
KRLC Kraliky 74.76 341 *eP* **P** **22 18 38.5 -0.5**
KRLC Kraliky 74.76 341 *eP* **P** **22 18 38.5 -0.5**
DAVA Damuels 74.86 335 *eP* **P** **22 18 38.9 -0.8**
comp=Z,21nm,0.8s
KHC Kasperske Hory 75.01 338 P **P** **22 18 39.0 -1.4**
KHC Kasperske Hory 75.01 338 *eP* **P** **22 18 38.9 -1.5**
KHC *ex* x 22 18 50.4
KHC Kasperske Hory 75.01 338 P **P** **22 18 39.0 -1.4**

KHC pmax pmax
comp=Z,18nm,1.0s
FUR Furstenfeldbru 75.04 336 *e*P **P 22 18 40.5 -0.1**
comp=Z,47nm,0.9s,baz=145,slow=5.8
SOEI Soe 75.08 95 IAMs_20 IAMs_20 22 46 30.3
comp=Z,2µm,21.0s
UBR Ueberruh 75.09 335 *e*P **P 22 18 40.9 -0.1**
comp=Z,45nm,0.9s,baz=145,slow=5.8
UBR *e*pP **sP 22 18 50.7 +1.7**
baz=145,slow=5.9
DPC Dobruska-Polom 75.15 340 *e*P **P 22 18 40.7 -0.5**
DPC Dobruska-Polom 75.15 340 *e*P **P 22 18 40.7 -0.5**
SENIN Lac Senin/Sane 75.19 333 P **P 22 18 40.7 -1.0**
GOPC GO Pecny, Ondr 75.27 339 *e*P **P 22 18 40.4 -1.5**
GOPC *ex* x 22 18 49.8
OSTC Ostas 75.36 340 *e*P **P 22 18 42.0 -0.4**
UPC Upice 75.38 340 *e*P **P 22 18 42.2 -0.3**
UPC Upice 75.38 340 *e*P **P 22 18 42.2 -0.3**
PRU Pruhonice 75.41 339 *e*P **P 22 18 41.3 -1.4**
PRU *ex* x 22 18 52.0
PRU Pruhonice 75.41 339 *e*P **P 22 18 41.3 -1.4**
PRU *e* 22 18 52.0
OBN Obninsk 75.45 354 P **P 22 18 42.2 -0.5**
comp=Z,13nm,0.9s,baz=87,slow=1.3,SNR=15
comp=Z,13nm,0.9s
OBN Obninsk 75.45 354 P **P 22 18 41.6 -1.1**
OBN IAmb IAmb 22 18 43.0
comp=Z,64nm,1.0s
OBN Obninsk 75.45 354⇑ *i*P **P 22 18 42.2 -0.5**
OBN *e* 22 21 33.2
OBN pmax pmax
comp=Z,68nm,1.0s
OBN Obninsk 75.45 354 ⇑P **P 22 18 42.2 -0.5**
ZSN Zaisan 75.52 26 *e*P **P 22 18 43.1 -0.3**
comp=Z,27nm,1.1s,baz=26
ZSN Zaisan 75.52 26 *e*P **P 22 18 43.0 -0.3**
ZSN pmax pmax
comp=Z,27nm,1.1s
VNDA Vanda 75.68 168 P **P 22 18 44.3 +0.3**
comp=Z,4.9nm,0.9s,baz=293,slow=9.0,SNR=6.7
comp=Z,4.9nm,0.9s
VNDA Vanda 75.68 168 P **P 22 18 43.9 0.0**
VNDA Vanda 75.68 168 P **P 22 18 43.9 0.0**
VNDA pmax pmax
comp=Z,38nm,1.8s
BVAR Borovoye Array 75.70 14 P **P 22 18 44.2 0.0**
comp=Z,43nm,0.8s,baz=197,slow=4.6,SNR=23
comp=Z,43nm,0.8s
BRVK Borovoye 75.70 14 P **P 22 18 43.8 -0.5**
BRVK Borovoye 75.70 14 *i* P **P 22 18 44.0 -0.3**
BRVK pmax pmax
comp=Z,38nm,1.4s
BRVK Borovoye 75.70 14 P **P 22 18 45.5 +1.2**
BRVK P **P 22 18 45.5 +1.2**
KURBB Kurchatov Arra 75.83 20 P **P 22 18 44.9 -0.1**
comp=Z,40nm,0.9s,baz=218,slow=6.7,SNR=26
comp=Z,40nm,0.9s
KURK Kurchatov 75.94 20 P **P 22 18 45.5 -0.1**
KURK Kurchatov 75.94 20 *i* P **P 22 18 45.5 -0.1**
KURK pmax pmax
comp=Z,76nm,0.9s
KURK Kurchatov 75.94 20 P **P 22 18 45.3 -0.4**
KURK P **P 22 18 45.3 -0.4**
MOS Moscow 75.97 355 *e*P **P 22 18 44.6 -1.1**
MOS *e* 22 18 54.9
MOS *e* 22 21 36.9
MOS pmax pmax
comp=Z,112nm,1.0s
ESBB Sonseca Array 76.01 322 P **P 22 18 46.0 -0.4**
ESBB IAmb IAmb 22 19 00.9
comp=Z,68nm,1.4s
ESDC Sonseca Array 76.01 322 P **P 22 18 46.6 +0.2**
comp=Z,6.2nm,0.9s,baz=142,slow=6.5,SNR=24
comp=Z,6.2nm,0.9s
ESDC Sonseca Array 76.01 322 P **P 22 18 45.5 -1.0**
ESDC IAmb IAmb 22 19 00.9
comp=Z,56nm,1.4s
ROTZ Rotzenmuhle 76.03 338 *e*P **P 22 18 45.6 -0.6**
comp=Z,9.1nm,1.3s,baz=145,slow=5.8
ROTZ *e*pP **sP 22 18 55.7 +1.5**
baz=145,slow=5.9
MNK Minsk 76.08 349 *i* P **P 22 18 45.1 -1.3**
comp=E,5.0nm,1.0s
MNK *i* P **P 22 18 45.1 -1.3**
comp=N,33nm,1.0s
MNK *i* P **P 22 18 45.1 -1.3**
comp=Z,113nm,0.9s,baz=162
MNK *i* PP **PP 22 21 37.0 -0.6**
MNK *i* PPP PPP 22 23 39.0
MNK *i* S **S 22 28 28.4 -0.6**
MNK *i* SS SS 22 33 10.5 -12
MNK *i* LQ LQ 22 47 14.1
MNK *i* LR LR 22 49 29.8
MNK *i* LRM MLR 22 51 37.0
comp=Z,499nm,18.8s
MNK *i* LRM MLR 22 53 03.2
comp=N,898nm,18.4s
MNK *i* LRM MLR 22 53 17.3
comp=E,116nm,21.1s
MNK Minsk 76.08 349 *i* P **P 22 18 45.0 -1.3**
MNK *i* 22 21 36.9
MNK *i* S **S 22 28 28.3 -0.6**
MNK pmax pmax
comp=N,33nm,1.0s
MNK pmax pmax
comp=Z,113nm,0.9s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK MLR MLR
comp=Z,499nm,19.0s
MNK MLR MLR
comp=N,898nm,18.0s
MNK MLR MLR
comp=E,116nm,21.0s
PAB San Pablo 76.15 322 P **P 22 18 47.1 -0.1**
PAB IAmb IAmb 22 19 01.8
comp=Z,71nm,1.2s
PAB San Pablo 76.15 322 IAMs_20 IAMs_20 22 51 39.5
comp=Z,2µm,20.0s
PAB San Pablo 76.15 322⇑P **P 22 18 48.0 +0.8**
MANZ Manzenberg 76.25 338 *e*P **P 22 18 47.0 -0.5**
comp=Z,5.5nm,1.2s,baz=145,slow=5.8
MANZ *e*pP **sP 22 18 56.9 +1.4**
baz=145,slow=5.9
BFO Black Forest 76.32 335 P **P 22 18 46.9 -1.0**
BFO IAmb IAmb 22 19 03.6
comp=Z,41nm,1.0s
BFO Black Forest 76.32 335 P **P 22 18 46.9 -1.0**
BFO pmax pmax
comp=Z,41nm,1.0s
BFO Black Forest 76.32 335 *e*P **P 22 18 47.7 -0.2**
comp=Z,30nm,0.9s,baz=145,slow=5.8
BFO *e*pP **sP 22 18 57.8 +1.8**
baz=145,slow=5.9
GRA1 Grafenberg Arr 76.32 337 P **P 22 18 47.2 -0.6**
GRA1 IAmb IAmb 22 18 49.4
comp=Z,54nm,1.0s
GRF Grafenberg Arr 76.32 337 P **P 22 18 47.3 -0.6**
GRF Grafenberg Arr 76.32 337 *e*P **P 22 18 47.8 -0.1**
comp=Z,66nm,1.1s,baz=145,slow=5.8
GRF *e*pP **sP 22 18 57.6 +1.6**
baz=145,slow=5.9
GRF *e*L L 22 53 51.2
comp=Z,670nm,21.8s
GRFO Grafenberg 76.32 337 P **P 22 18 47.1 -0.7**
GRFO IAmb IAmb 22 18 49.4
comp=Z,51nm,1.0s
GRFO Grafenberg 76.32 337 P **P 22 18 47.2 -0.7**
GRFO pmax pmax
comp=Z,51nm,1.0s
STU Stuttgart 76.33 335 P **P 22 18 47.1 -0.9**
STU IAmb IAmb 22 19 03.7
comp=Z,30nm,0.9s
STU Stuttgart 76.33 335 P **P 22 18 47.1 -0.9**
STU pmax pmax
comp=Z,31nm,0.9s
STU Stuttgart 76.33 335 *e*P **P 22 18 48.2 +0.2**
comp=Z,80nm,0.9s,baz=145,slow=5.8
STU *e*pP **PcP 22 18 57.9 -1.8**
baz=145,slow=5.9
NKC Novy Kostel 76.34 338 *e*P **P 22 18 46.9 -1.1**
NKC Novy Kostel 76.34 338 *e*P **P 22 18 46.9 -1.1**
BRG Berggiesshubel 76.37 339 *i* P **P 22 18 47.8 -0.3**
BRG Amp 22 18 49.5
comp=Z,17nm,1.0s
BRG ⇑PP **PcP 22 18 58.6 -1.3**
comp=Z,15nm,1.1s
BRG Berggiesshubel 76.37 339 *i* P **P 22 18 47.8 -0.3**
BRG 22 18 58.6
BRG pmax pmax
comp=Z,17nm,1.0s
BRG pmax pmax
comp=Z,15nm,1.1s
BRG pmax pmax
comp=Z,25nm,1.3s
BRG MLR MLR
comp=Z,1µm,15.6s
BRG MLR MLR
comp=N,1µm,19.8s
BRG MLR MLR
comp=E,1µm,20.1s
BRG Berggiesshubel 76.37 339 *e*P **P 22 18 47.9 -0.2**
comp=E,17nm,1.0s,baz=145,slow=5.8
WERN Wernitzgruen 76.41 338 *e*P **P 22 18 48.4 0.0**
comp=E,31nm,1.4s,baz=145,slow=5.8
TANN Tannenbergstha 76.48 338 *e*P **P 22 18 48.8 0.0**
comp=E,40nm,1.1s,baz=145,slow=5.8
TANN *e*pP **PcP 22 18 58.8 -1.7**
baz=145,slow=5.9
GUNZ Gunzen 76.49 338 *e*P **P 22 18 48.9 +0.1**
comp=E,39nm,1.1s,baz=145,slow=5.8
GUNZ *e*pP **PcP 22 18 58.7 -1.8**
baz=145,slow=5.9
WERD Werda 76.57 338 *e*P **P 22 18 49.3 0.0**
comp=E,52nm,1.2s,baz=145,slow=5.8
WERD *e*pP **PcP 22 18 59.2 -1.5**
baz=145,slow=5.9
FBE Freiberg 76.61 339 *e*P **P 22 18 49.4 -0.1**
comp=E,12nm,1.1s,baz=145,slow=5.8
NACGM Naroch 76.66 348⇑ *i*P **P 22 18 49.6 -0.1**
comp=Z,108nm,0.9s,baz=161
ECH Echery 76.71 334 P **P 22 18 49.2 -0.9**
ECH IAmb IAmb 22 19 01.6
comp=Z,36nm,1.0s
ECH Echery 76.71 334 P **P 22 18 49.2 -0.9**
ECH pmax pmax
comp=Z,36nm,1.0s
PVAQ Vaqueiros 76.82 318 *e*PcP **PcP 22 19 00.9 -1.2**
PVAQ A A 22 19 40.4
comp=Z,33nm,1.6s
PBAR Barrancos 76.88 319 *e*PcP **PcP 22 19 00.5 -1.9**
PBAR A A 22 19 05.8
comp=Z,31nm,1.4s
ARU Arti 76.92 7 P **P 22 18 50.7 -0.4**
comp=Z,39nm,0.9s,baz=181,slow=1.9,SNR=18
comp=Z,39nm,0.9s
ARU Arti 76.92 7 P **P 22 18 50.4 -0.6**
ARU IAmb IAmb 22 18 52.1
comp=Z,43nm,0.9s
ARU Arti 76.92 7*d i*P **P 22 18 50.5 -0.6**
ARU 22 19 00.3
ARU 22 21 43.6
ARU S **S 22 28 42.3 +4.1**
ARU SS **SS 22 33 42.0 +6.4**
ARU pmax pmax
comp=Z,49nm,0.9s
ARU MLR MLR
comp=Z,673nm,19.0s
MOX Moxa 76.97 338 *e*P **P 22 18 51.5 0.0**
comp=Z,31nm,1.1s,baz=145,slow=5.8
MOX *e*L L 23 00 47.3
comp=Z,1µm,18.3s
CLL Collm 77.05 339 P **P 22 18 51.4 -0.6**
CLL Collm 77.05 339⇓ *i*P **P 22 18 51.2 -0.7**
comp=Z,25nm,1.0s
CLL *i* x x 22 19 00.2
comp=Z,26nm,1.1s
CLL *e*(SS) 22 34 24.0
CLL Collm 77.05 339 P **P 22 18 51.4 -0.6**
CLL pmax pmax
comp=Z,23nm,0.9s
CLL Collm 77.05 339 *e*P **P 22 18 51.7 -0.2**
comp=Z,24nm,1.0s,baz=145,slow=5.8
IDID Didziasalis 77.06 348 *e*P P 22 18 46.0 -5.9
PCVE Castro Verde 77.16 318 *e*PcP **PcP 22 18 59.9 -3.7**
PCVE A A 22 19 09.2
comp=Z,47nm,2.1s
IIGN Ignalina 77.19 348 *e*P P 22 18 43.4 -9.2
PBEJ Beja 77.29 319 *e*PcP **PcP 22 19 02.9 -1.3**
PBEJ A A 22 19 09.5
comp=Z,34nm,2.2s
MORF Marmelete 77.34 318 *e*PcP **PcP 22 19 04.1 -0.4**
MORF A A 22 19 45.2
comp=Z,72nm,1.6s
NEUB Neuenburg 77.39 338 *e*P **P 22 18 53.7 -0.1**
comp=Z,32nm,1.1s,baz=145,slow=5.8
NEUB *e*pP **PcP 22 19 03.9 -0.4**
baz=145,slow=5.9
MESJ Messejana 77.40 318 *e*PcP **PcP 22 19 04.2 -0.5**
MESJ A A 22 19 10.4
comp=Z,60nm,1.6s
ISAL Salakas 77.42 348 *e*P **P 22 18 54.5 +0.7**
GKP Gorka Klasztor 77.44 342 *e*P **P 22 18 54.5 +0.5**
GKP *e*L L 22 57 43.5
comp=Z,944nm,21.8s
GKP Gorka Klasztor 77.44 342 *e*P **P 22 18 54.3 +0.3**
KNRA Kununurra 77.45 102 P **P 22 18 54.5 -0.6**
KNRA IAmb IAmb 22 19 25.2
comp=Z,26nm,0.8s
PTEO Sao Teotonio 77.53 318 *e*PcP **PcP 22 19 06.0 +0.8**
PTEO A A 22 19 12.5
comp=Z,88nm,1.5s
SVE Sverdlovsk 77.56 8 *e*P **P 22 18 54.6 -0.1**
SVE pmax pmax
comp=Z,27nm,0.9s
PESTR Estremoz 77.65 320 *e*P **P 22 18 57.1 +1.5**
comp=Z,63nm,1.3s
PESTR Estremoz 77.65 320 *e*PcP **PcP 22 19 05.5 -0.2**
EVO Evora 77.70 319 *e*PcP **PcP 22 19 06.2 +0.3**
EVO A A 22 19 12.1
comp=Z,63nm,2.0s
LZH Lanzhou 77.74 44⇑P **P 22 19 00.1 +3.7**
LZH sP PcP 22 19 07.7 +1.3
LZH S **S 22 28 47.0 -1.3**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,470nm,4.8s
LZH LR LR
comp=Z,510nm,18.5s
LZH LR LR
comp=Z,730nm,17.2s
LZH LR LR
comp=Z,800nm,18.2s
PNCL Nicolau / Gran 77.76 318 *e*P **P 22 18 57.4 +1.2**
comp=Z,79nm,1.4s
PNCL Nicolau / Gran 77.76 318 *e*PcP **PcP 22 19 06.7 +0.5**
TNS Taunus Mts 77.79 336 *e*P **P 22 18 56.3 +0.1**
comp=Z,32nm,1.3s,baz=145,slow=5.8
TNS *e*pP **PcP 22 19 06.3 +0.1**
baz=145,slow=5.9
RUE Ruedersdorf 77.79 340 *e*P **P 22 18 56.4 +0.4**
RUE Ruedersdorf 77.79 340 *e*P **P 22 18 56.2 +0.2**
comp=Z,80nm,1.2s,baz=145,slow=5.8
RUE *e*pP **PcP 22 19 06.1 +0.2**
baz=145,slow=5.9
PABE Paberze 77.80 347 P **P 22 18 55.4 -0.6**
PABE Paberze 77.80 347 *e*P **P 22 18 55.2 -0.7**
KLNR Kaliningrad 77.83 345 *i* P **P 22 18 55.9 -0.3**
KLNR pmax pmax
comp=Z,145nm,0.8s
PMRV Marv??o 77.88 320 *e*P **P 22 18 54.1 -2.8**
comp=Z,54nm,1.9s
PMRV Marv??o 77.88 320 *e*PcP **PcP 22 19 06.2 -0.5**
PMTG Montargil 78.16 319 *e*P **P 22 18 59.6 +1.2**
comp=Z,85nm,1.8s
PMTG Montargil 78.16 319 *e*PcP **PcP 22 19 08.4 +0.5**
PCBR Castelo Branco 78.19 320 *e*P **P 22 18 59.5 +0.9**
comp=Z,90nm,1.8s
PCBR Castelo Branco 78.19 320 *e*PcP **PcP 22 19 08.3 +0.3**
WLF Walferdange 78.25 334 P **P 22 18 58.1 -0.6**
WLF IAmb IAmb 22 19 10.6
comp=Z,53nm,1.0s
WLF Walferdange 78.25 334 P **P 22 18 58.1 -0.6**
WLF pmax pmax
comp=Z,53nm,1.0s
WLF Walferdange 78.25 334 *d*P **P 22 18 58.6 0.0**
WLF *d*PcP **PcP 22 19 08.1 0.0**
WLF Walferdange 78.25 334 *e*P **P 22 18 58.7 0.0**
comp=Z,23nm,0.9s,baz=145,slow=5.8
GTTG Gottingen 78.31 338 *e*P **P 22 18 59.5 +0.6**
comp=Z,41nm,1.4s,baz=145,slow=5.8
CLZ Clausthal 78.40 338 *e*P **P 22 18 59.8 +0.3**
comp=Z,39nm,1.3s,baz=145,slow=5.8
ENH Enshi 78.45 52 P **P 22 18 59.4 -0.9**
ENH IAmb IAmb 22 19 01.9
comp=Z,43nm,1.0s
KIRV Kirov 78.46 1 P **P 22 18 59.2 -0.4**
comp=Z,26nm,0.9s,baz=108,slow=1.8,SNR=6.5
comp=Z,26nm,0.9s
FLTG Flechtingen 78.51 339 *e*P **P 22 18 59.8 -0.2**
comp=Z,241nm,2.6s,baz=145,slow=5.8
MTE Manteigas 78.58 321 *e*P **P 22 19 01.7 +0.9**
comp=Z,56nm,1.2s
MTE Manteigas 78.58 321 *e*PcP **PcP 22 19 10.4 +0.6**
KASTN Kahler Asten 78.59 337 *e*P **P 22 19 01.0 +0.4**
comp=Z,40nm,1.4s,baz=145,slow=5.8
KASTN *e*pP **PcP 22 19 11.1 +1.5**
baz=145,slow=5.9
CLF Chambon-Foret 78.67 331 P **P 22 19 01.1 +0.1**
MVO Moncorvo 78.76 322 *e*P **P 22 19 02.5 +0.7**
comp=Z,92nm,2.2s
MVO Moncorvo 78.76 322 *e*PcP **PcP 22 19 12.3 +1.7**
BBOO Buckleboo 78.83 121 P **P 22 19 02.1 -0.4**
BHOU Houvegnez 78.85 335 *d*P **P 22 19 02.9 +0.9**
COI Coimbra 78.98 320 *e*PcP **PcP 22 19 13.6 +2.2**
COI A A 22 19 18.8
comp=Z,94nm,2.4s
PVIS Viseu 78.98 321 *e*PcP **PcP 22 19 12.9 +1.4**
PVIS A A 22 19 19.1
comp=Z,79nm,1.7s
BTNL Ternell 78.98 335 *d*PcP **PcP 22 19 12.0 +0.8**
PBRG Braganca 79.00 322 *e*PcP **PcP 22 19 13.2 +1.6**
PBRG A A 22 19 19.4
comp=Z,72nm,1.9s
RCHB Rochefort 79.01 334 *d*P **P 22 19 02.9 +0.1**
RCHB *d*PcP **PcP 22 19 12.0 +0.7**
BCLA Clavier 79.19 334 *d*P **P 22 19 06.9 +3.1**
DOU Dourbes 79.23 334 *d*P **P 22 19 04.5 +0.5**
DOU *d*PcP **sP 22 19 11.1 -0.9**
PVRL Vila Real 79.23 321 *e*P **P 22 19 05.5 +1.2**
comp=Z,62nm,1.7s
PVRL Vila Real 79.23 321 *e*PcP **PcP 22 19 14.6 +2.0**
BGES Gesves 79.25 334 *d*P **P 22 19 05.3 +1.2**
BGES *d*PcP **PcP 22 19 13.0 +0.6**
BMRD Maredsous 79.31 334 *d*P **P 22 19 03.8 -0.7**
BMRD *d*PcP **sP 22 19 12.4 -0.1**
POLO Lamas de Olo 79.33 321 *e*P **P 22 19 05.8 +0.8**
comp=Z,53nm,1.2s
POLO Lamas de Olo 79.33 321 *e*PcP **PcP 22 19 15.4 +2.3**
PCAB Cabril 79.68 322 *e*P **P 22 19 07.9 +1.1**
comp=Z,72nm,1.5s
PCAB Cabril 79.68 322 *e*PcP **PcP 22 19 17.1 +2.6**
ASAR Alice Springs 79.69 111 P **P 22 19 07.3 -0.1**
comp=Z,12nm,0.8s,baz=253,slow=4.9,SNR=16
ASAR PKKPbc **PKKPbc 22 37 54.1 0.0**
comp=Z,0.5nm,0.9s,baz=47,slow=3.1,SNR=3.3
ASAR LR LR 22 48 55.3
comp=Z,893nm,20.9s,baz=259,slow=32
comp=Z,12nm,0.8s
ASAR Alice Springs 79.69 111 P **P 22 19 06.8 -0.6**
ASAR Alice Springs 79.69 111 P **P 22 19 06.8 -0.6**
AS31 Alice Springs 79.69 111 P **P 22 19 06.8 -0.6**
BSD Bornholm Skovb 79.71 342 *e*P **P 22 19 05.7 -0.8**
PGAV Gavieira, Arco 79.98 322 *e*PcP **PcP 22 19 19.1 +3.2**
PGAV A A 22 19 24.9
comp=Z,100nm,2.1s
VSU Vasula 80.04 349 *i* P **P 22 19 08.2 0.0**
VSU pmax pmax
comp=Z,343nm,0.8s
VSU Vasula 80.04 349 *e*P **P 22 19 08.0 -0.2**
PMSA Palmer Station 80.42 204 LR LR 22 49 10.0
comp=Z,936nm,19.6s,baz=113,slow=32
ZAA0 Zalesovo Array 80.74 22 P **P 22 19 11.3 -0.8**
ZAA0 IAmb IAmb 22 19 12.7
comp=Z,49nm,0.9s
ZALV Zalesovo Beam 80.74 22 P **P 22 19 11.5 -0.6**
comp=Z,46nm,0.8s,baz=238,slow=5.2,SNR=8.7
comp=Z,46nm,0.8s
ZALV Zalesovo Beam 80.74 22 P **P 22 19 11.3 -0.8**
PUL Pulkovo 80.75 352 *i* P **P 22 19 12.1 +0.1**
PUL pmax pmax
comp=Z,69nm,0.9s
MTSE Matsula 80.81 348 *e*P **P 22 19 12.2 -0.2**
KLMR Klimovskoe 80.92 356 *e*P **P 22 19 09.8 -3.1**
KLMR AMP 22 19 14.4
comp=Z,80nm,1.1s
KLMR *e*PcP **sP 22 19 21.3 +0.4**
KLMR LR LR 22 50 13.7
KLMR Klimovskoe 80.92 356 *e*P **P 22 19 09.8 -3.1**
KLMR pmax pmax
comp=Z,80nm,1.1s
RCBR Riachuelo 81.11 267 LR LR 22 50 22.0
comp=Z,2µm,21.9s,baz=252,slow=32
RCBR Riachuelo 81.11 267 IAMs_20 IAMs_20 22 50 21.2
comp=Z,1µm,20.0s
WRA Warramunga Arr 81.21 108 P **P 22 19 15.2 -0.4**
comp=Z,13nm,1.1s,baz=261,slow=4.3,SNR=6.8
WRA PKKPbc **PKKPbc 22 37 51.3 +0.6**
comp=Z,0.5nm,0.9s,baz=86,slow=3.3,SNR=4.5
WRA LR LR 22 50 49.5
comp=Z,2µm,20.2s,baz=240,slow=32
comp=Z,13nm,1.1s
WB2 Warramunga Arr 81.22 108 P **P 22 19 15.5 -0.1**
WB2 IAmb IAmb 22 19 42.7
comp=Z,36nm,1.1s
WRAB Tennant Creek 81.22 108 P **P 22 19 15.5 -0.2**
WRAB Tennant Creek 81.22 108 IAMs_20 IAMs_20 22 52 31.7
comp=Z,2µm,18.0s
WRAB Tennant Creek 81.22 108 P **P 22 19 15.5 -0.2**
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB MLR MLR
comp=Z,2µm,18.0s
WB0 Warramunga Arr 81.31 108 P **P 22 19 15.6 -0.5**
WB0 IAmb IAmb 22 19 42.9
comp=Z,29nm,0.9s
PRGR Permogore 81.50 359 *e*P **P 22 19 14.6 -1.4**
PRGR pmax pmax
comp=Z,62nm,0.6s
MEF Metsahovi 82.11 349 *e*P **P 22 19 19.1 -0.1**
WHN Wuhan 82.22 54⇑P **P 22 19 20.9 +0.4**
WHN pP **sP 22 19 30.0 +1.5**
WHN S **S 22 29 37.3 +1.9**
WHN pmax pmax
comp=Z,370nm,1.8s
WHN LR LR
comp=Z,2µm,13.2s
WHN LR LR
comp=Z,5µm,21.9s
WHN LR LR
comp=Z,4µm,16.8s
LYN LuoYang 82.80 49⇑ *i*P **P 22 19 24.7 +1.2**
LYN S **S 22 29 42.2 +1.0**
LYN SS **SS 22 35 00.6 -3.9**
LYN pmax pmax
comp=Z,40nm,1.3s
LYN pmax pmax
comp=Z,290nm,13.4s
LYN LR LR
comp=Z,710nm,17.8s
LYN LR LR
comp=Z,370nm,17.5s
LYN LR LR
comp=Z,540nm,18.2s
FIA1 FINESS Array S 82.98 350 P **P 22 19 22.8 -0.9**
FINES FINESS Array B 82.98 350 P **P 22 19 22.9 -0.9**
comp=Z,25nm,0.9s,baz=108,slow=4.2,SNR=16
comp=Z,25nm,0.9s
FINES FINESS Array B 82.98 350 P **P 22 19 23.1 -0.6**
FINES FINESS Array B 82.98 350 P **P 22 19 23.1 -0.6**
RAF Rauma 83.35 348 *e*P **P 22 19 23.8 -1.8**
STKA Stephens Creek 83.57 121 P **P 22 19 27.6 -0.2**
comp=Z,7.0nm,1.0s,baz=265,slow=5.4,SNR=6.1
comp=Z,7.0nm,1.0s
STKA Stephens Creek 83.57 121 P **P 22 19 27.5 -0.2**
STKA Stephens Creek 83.57 121 P **P 22 19 27.5 -0.2**
STKA pmax pmax
comp=Z,3.0nm,1.0s
ADZR Andozero 84.05 356 *e*P **P 22 19 27.1 -2.1**
ADZR pmax pmax
comp=Z,35nm,0.8s
HFS Hagfors 84.38 344 P **P 22 19 30.2 -0.7**
comp=Z,26nm,1.0s,baz=132,slow=6.6,SNR=8.7
HFS LR LR 22 57 36.3
comp=Z,581nm,21.6s,baz=192,slow=36
comp=Z,26nm,1.0s

YULB Yu-li 84.58 63 P **P** **22 19 32.9 0.0**
YULB IAmb IAmb 22 19 56.7
comp=Z,53nm,1.2s
HHC Hu-ho-hao-te 85.41 44 *e*P **P** **22 19 37.2 +0.4**
HHC S **S** **22 30 09.8 +2.4**
HHC pmax pmax
comp=Z,45nm,0.9s
HHC pmax pmax
comp=Z,400nm,4.9s
HHC LR LR
comp=Z,830nm,16.2s
HHC LR LR
comp=Z,1µm,16.5s
HHC LR LR
comp=Z,1µm,17.1s
NC602 NORSAR Array S 85.46 344 P **P** **22 19 35.8 -0.6**
HNS HongShan 85.79 48 ⇑P **P** **22 19 38.8 +0.2**
HNS S **S** **22 30 12.5 +1.6**
HNS pmax pmax
comp=Z,30nm,1.3s
HNS LR LR
comp=Z,470nm,20.1s
HNS LR LR
comp=Z,530nm,20.6s
HNS LR LR
comp=Z,650nm,17.2s
NB201 NORSAR Array S 85.79 344 P **P** **22 19 37.7 -0.4**
NB201 IAmb IAmb 22 19 49.5
comp=Z,57nm,1.1s
NB2 NORSAR Subarra 85.80 344 P **P** **22 19 37.7 -0.4**
comp=Z,113nm,2.0s,baz=147,slow=5.1
NB2 NORSAR Subarra 85.80 344 P **P** **22 19 37.7 -0.4**
baz=147,slow=5.1
NOA NORSAR Array B 85.80 344 P **P** **22 19 37.5 -0.6**
comp=Z,6.5nm,1.0s,baz=139,slow=4.8,SNR=7.8
NOA LR LR 23 03 06.5
comp=Z,303nm,19.0s,baz=245,slow=39
comp=Z,6.5nm,1.0s
SONM Songino Array 86.18 36 P **P** **22 19 40.3 -0.1**
comp=Z,4.1nm,0.8s,baz=231,slow=4.3,SNR=1.5
comp=Z,4.1nm,0.8s
NJ2 Nanjing 86.33 54 *e*P **P** **22 19 43.8 +2.4**
NJ2 pmax pmax
comp=Z,19nm,0.6s
NJ2 LR LR
comp=Z,600nm,11.8s
NJ2 LR LR
comp=Z,780nm,13.1s
NJ2 LR LR
comp=Z,2µm,19.1s
SSE Sheshan 87.71 56 P **P** **22 19 47.8 -0.3**
SSE S **S** **22 30 30.0 +0.1**
SSE pmax pmax
comp=Z,17nm,1.0s
SSE pmax pmax
comp=Z,250nm,5.0s
SSE LR LR
comp=Z,180nm,17.6s
SSE LR LR
comp=Z,240nm,17.3s
BDFB Brasilia 89.03 254 P **P** **22 19 56.6 +1.7**
comp=Z,16nm,0.9s,baz=117,slow=4.0,SNR=8.6
BDFB LR LR 22 55 34.7
comp=Z,1µm,20.2s,baz=116,slow=33
BDFB Brasilia 89.03 254 **P** **22 19 54.7 -0.2**
BDFB Brasilia 89.03 254 P **P** **22 19 54.7 -0.2**
BDFB pmax pmax
comp=Z,61nm,1.4s
XLT XiLinHaoTe 89.83 43 ⇓*i*P **P** **22 19 59.4 +1.4**
XLT pP pP 22 20 04.7 +0.8
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,200nm,5.3s
XLT LR LR
comp=Z,52nm,16.5s
XLT LR LR
comp=Z,340nm,17.3s
XLT LR LR
comp=Z,620nm,19.2s
ARCES ARCESS Array B 90.71 353 P **P** **22 20 00.7 -0.7**
comp=Z,7.7nm,0.9s,baz=143,slow=2.6,SNR=5.3
ARCES LR LR 23 00 47.6
comp=Z,362nm,20.1s,baz=194,slow=36
comp=Z,7.7nm,0.9s
TRQA Tornquist 91.59 228 IAMs_20 IAMs_20 22 56 08.5
comp=Z,960nm,19.0s
CTA Charters Tower 91.68 112 LR LR 22 57 52.0
comp=Z,2µm,18.4s,baz=238,slow=33
CTAO Charters Tower 91.68 112 IAMs_20 IAMs_20 22 57 58.3
comp=Z,2µm,20.0s
JOW Kunigami 91.74 62 LR LR 22 59 59.3
comp=Z,252nm,19.8s,baz=238,slow=35
CPUP Villa Florida 93.08 241 P **P** **22 20 13.9 +0.4**
comp=Z,5.9nm,0.8s,baz=117,slow=5.6,SNR=6.7
CPUP LR LR 22 59 24.0
comp=Z,964nm,18.8s,baz=118,slow=34
comp=Z,5.9nm,0.8s
CPUP Villa Florida 93.08 241 P **P** **22 20 12.0 -1.4**
CPUP Villa Florida 93.08 241 P **P** **22 20 12.0 -1.4**
CPUP pmax pmax
comp=Z,9.0nm,1.0s
NRIK Noril'sk 93.88 13 P **P** **22 20 15.7 -0.3**
comp=Z,7.3nm,1.0s,baz=236,slow=6.6,SNR=3.9
comp=Z,7.3nm,1.0s
KSRS Korea Array 95.33 52 P **P** **22 20 22.2 -1.2**
comp=Z,6.1nm,0.9s,baz=249,slow=3.9,SNR=6.3
comp=Z,6.1nm,0.9s
CN2 Changchun 95.92 46 *e*P **P** **22 20 28.4 +2.5**
CN2 *e*S **S** **22 31 43.8 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,16.0s
PLCA Paso Flores 96.01 223 LR LR 22 58 16.0
comp=Z,433nm,20.0s,baz=119,slow=32
PMG Port Moresby 96.45 102 LR LR 23 01 51.4
comp=Z,1µm,18.4s,baz=242,slow=34
PMG Port Moresby 96.45 102 IAMs_20 IAMs_20 23 03 47.5
comp=Z,2µm,18.0s
RPZ Rata Peaks 98.54 143 LR LR 22 57 55.9
comp=Z,1µm,18.2s,baz=215,slow=31
CFA Coronel Fontan 99.19 232 LR LR 23 01 53.0
comp=Z,595nm,19.8s,baz=102,slow=33
GVZ Greta Valley S 100.13 143 IAMs_20 IAMs_20 23 02 50.2
comp=Z,1µm,20.0s
KHZ Kahutara 100.77 143 IAMs_20 IAMs_20 23 02 40.4
comp=Z,1µm,19.0s
THZ Tophouse 100.83 142 IAMs_20 IAMs_20 22 59 19.2
comp=Z,2µm,19.0s
QRZ Quartz Range 101.20 141 IAMs_20 IAMs_20 23 00 05.0
comp=Z,1µm,18.0s
SNZO South Karori 102.15 143 IAMs_20 IAMs_20 22 58 39.0
comp=Z,1µm,20.0s
MRZ Mangatainoka R 103.08 143 IAMs_20 IAMs_20 22 59 27.5
comp=Z,1µm,19.0s
MXZ Matakaoa Point 106.72 142 IAMs_20 IAMs_20 23 01 31.8
comp=Z,1µm,21.0s
DZM Mont Dzumac 107.71 122 *e*LR LR 22 56 54.9
comp=Z,1µm,23.6s
SEUS St. Eustatius 113.87 281 IAMs_20 IAMs_20 23 17 50.8
comp=Z,926nm,19.0s
SMRT St. Maarten 114.09 281 IAMs_20 IAMs_20 23 10 47.9
comp=Z,895nm,19.0s
SABA Saba 114.14 281 IAMs_20 IAMs_20 23 05 48.2
comp=Z,1µm,22.0s
SDV Santo Domingo 118.63 269 IAMs_20 IAMs_20 23 12 59.0
comp=Z,1µm,20.0s
BILL Bilibino 119.44 22 PKPdf **PKPdf** **22 25 47.8 -0.2**
BILL Bilibino 119.44 22 ⇑*i*PKIKP **PKiKP** **22 25 48.1 0.0**
BILL *e* 22 27 12.8
BILL *e*PPP PPP 22 29 40.1
BILL *e*SS SS 22 43 54.3 +23
BILL pmax pmax
comp=Z,21nm,2.7s
EMMW East Machias 120.96 311 IAMs_20 IAMs_20 23 15 09.8
comp=Z,2µm,21.0s
RES Resolute Bay 121.72 349 PKP **PKPdf** **22 25 51.0 -1.2**
comp=Z,2.5nm,0.9s,baz=340,slow=2.6,SNR=4.8
PKME Peaks-Kenny Pk 122.23 311 IAMs_20 IAMs_20 23 15 40.5
comp=Z,2µm,21.0s

WVL Waterville 122.53 311 IAMs_20 IAMs_20 23 17 40.7
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 124.03 308 IAMs_20 IAMs_20 23 16 08.1
comp=Z,1µm,20.0s
LBNH Lisbon 124.18 310 IAMs_20 IAMs_20 23 14 29.1
comp=Z,1µm,22.0s
LBNH Lisbon 124.18 310 P **PKPdf** **22 25 57.3 -0.5**
baz=85
QUA2 Belchertown 124.63 308 IAMs_20 IAMs_20 23 21 14.2
comp=Z,1µm,19.0s
VT1 Waterbury 124.76 310 IAMs_20 IAMs_20 23 17 41.6
comp=Z,979nm,20.0s
L61B Northampton 124.86 308 IAMs_20 IAMs_20 23 19 49.3
comp=Z,1µm,20.0s
L61B Northampton 124.86 308 P **PKPdf** **22 25 58.1 -1.0**
baz=86
LONY Lake Ozonia 126.03 311 IAMs_20 IAMs_20 23 23 41.1
comp=Z,947nm,19.0s
A21K Barrow 127.01 9 P **PKPdf** **22 26 02.2 -0.2**
baz=332
BINY Binghamton 127.33 308 P **PKPdf** **22 26 03.1 -0.8**
baz=84
BCIP Isla Barro Col 127.36 266 IAMs_20 IAMs_20 23 16 27.3
comp=Z,1µm,22.0s
A36M Sachs Harbour 127.94 357 P **PKiKP** **22 26 04.9 +0.2**
baz=9.7
CBN Corbin Frederi 128.74 303 IAMs_20 IAMs_20 23 18 58.3
comp=Z,1µm,21.0s
CNNC Cliffs of the 129.31 299 IAMs_20 IAMs_20 23 20 16.6
comp=Z,1µm,20.0s
C24K Franklin Bluff 129.54 7 P **PKiKP** **22 26 08.6 +0.6**
baz=341
D23K Nanushuk River 130.01 8 P **PKiKP** **22 26 10.0 +0.9**
baz=339
D24K Happy Valley 130.07 7 P **PKiKP** **22 26 09.5 +0.4**
baz=341
C27K Jago River 130.11 5 P **PKiKP** **22 26 09.9 +0.7**
baz=347
D25K Kavik River 130.17 6 P **PKiKP** **22 26 09.3 -0.1**
baz=344
ERPA Erie 130.29 309 P **PKPdf** **22 26 09.6 +0.1**
baz=81
MCWV Mont Chateau 130.52 305 IAMs_20 IAMs_20 23 18 58.2
comp=Z,1µm,21.0s
MCWV Mont Chateau 130.52 305 P **PKPdf** **22 26 10.1 0.0**
baz=83
ANM Nome 130.73 18 P **PKiKP** **22 26 10.4 -0.1**
baz=319
E23K Chandalar 131.00 8 P **PKiKP** **22 26 10.8 -0.4**
baz=340
E24K Your Creek 131.13 8 P **PKiKP** **22 26 11.2 -0.2**
baz=341
F22K John River 131.15 10 P **PKiKP** **22 26 11.3 -0.1**
baz=336
F21K Alatna River 131.20 10 P **PKiKP** **22 26 11.4 -0.1**
baz=335
BLA Blacksburg 131.23 302 IAMs_20 IAMs_20 23 19 15.2
comp=Z,1µm,22.0s
BLA Blacksburg 131.23 302 P **PKPdf** **22 26 12.0 +0.4**
baz=85
NHSC New Hope 131.27 297 IAMs_20 IAMs_20 23 19 31.6
comp=Z,893nm,20.0s
NHSC New Hope 131.27 297 P **PKPdf** **22 26 11.9 +0.3**
baz=89
E25K Arctic Village 131.41 6 P **PKiKP** **22 26 12.0 +0.1**
baz=345
O53A New Philadelph 131.48 306 P **PKPdf** **22 26 11.4 -0.5**
baz=82
HDC Heredia 131.62 266 IAMs_20 IAMs_20 23 19 06.2
comp=Z,1µm,22.0s
E27K Coleen River 131.68 4 P **PKPdf** **22 26 11.9 +0.5**
baz=350
COLD Coldfoot 131.70 9 P **PKPdf** **22 26 11.8 +0.3**
baz=339
F24K Squaw Lake 131.73 7 P **PKPdf** **22 26 11.9 +0.3**
baz=342
G22K Bettles 131.79 10 P **PKiKP** **22 26 12.3 -0.4**
baz=337
G21K Allakaket 131.83 11 P **PKPdf** **22 26 12.2 +0.5**
baz=334
INK Inuvik 131.84 0 PKP **PKPdf** **22 26 10.8 -0.8**
comp=Z,2.5nm,1.0s,baz=57,slow=9.4,SNR=5.1
INK Inuvik 131.84 0 P **PKPdf** **22 26 11.8 +0.1**
baz=360
F26K Sheenjek River 131.96 6 P **PKiKP** **22 26 13.0 0.0**
baz=346
G23K Bananza Creek 132.21 9 P **PKPdf** **22 26 12.8 +0.3**
baz=339
IMAR Indian Mountai 132.27 11 **PKPdf** **22 26 13.1 +0.5**
P52A Corning 132.27 306 IAMs_20 IAMs_20 23 22 29.6
comp=Z,1µm,20.0s
DWPF Disney Wildern 132.31 290 IAMs_20 IAMs_20 23 23 14.5
comp=Z,1µm,20.0s
JTS Las Juntas de 132.50 266 IAMs_20 IAMs_20 23 22 44.4
comp=Z,1µm,20.0s
G24K Hadweenzic Riv 132.56 8 P **PKPdf** **22 26 13.5 +0.3**
baz=342
F31M Tsiigehtchic 132.71 0 P **PKPdf** **22 26 13.6 +0.3**
baz=360
G26K Porcupine Rive 132.72 6 P **PKiKP** **22 26 14.0 -0.5**
baz=347
GCSA Galena City Sc 132.73 14 P **PKPdf** **22 26 13.8 +0.4**
baz=329
H21K Melozitna Rive 132.73 11 **PKiKP** **22 26 14.4 -0.3**
H21K Melozitna Rive 132.73 11 P **PKPdf** **22 26 13.7 +0.2**
baz=335
H22K Ishtalitna Cre 132.76 10 P **PKiKP** **22 26 14.2 -0.5**
baz=337
GLMI Grayling 133.01 313 IAMs_20 IAMs_20 23 22 05.6
comp=Z,1µm,21.0s
G27K Doyon Strip 133.04 5 P **PKPdf** **22 26 14.4 +0.3**
baz=349
H23K Yukon River 133.11 9 P **PKPdf** **22 26 14.6 +0.4**
baz=339
I21K Tanana 133.31 11 P **PKiKP** **22 26 15.2 -0.5**
baz=336
H24K Noodor Dome 133.33 8 P **PKPdf** **22 26 15.1 +0.5**
baz=341
MLY Manley 133.66 10 P **PKiKP** **22 26 16.2 -0.4**
baz=337
EPYK Eagle Plains 133.74 2 P **PKPdf** **22 26 15.6 +0.2**
baz=356
I23K Minto, Yukon-K 133.77 9 P **PKiKP** **22 26 16.4 -0.3**
baz=339
TZTN Tazewell 133.79 302 IAMs_20 IAMs_20 23 21 22.1
comp=Z,940nm,21.0s
J20K Nowinta River 133.81 12 **PKPdf** **22 26 15.9 +0.4**
J20K Nowinta River 133.81 12 P **PKPdf** **22 26 16.2 +0.6**
baz=337
PRP Porcupine Dome 133.93 7 P **PKPdf** **22 26 16.5 +0.6**
baz=344
TBI Tubuai 133.98 159 *e*LR LR 23 09 03.6
comp=Z,1µm,21.2s
TBI *e*LR LR 23 09 04.2
comp=Z,9µm,20.8s
I27K Kandik River 134.23 5 P **PKiKP** **22 26 17.4 -0.4**
baz=349
P49A Miami Univ. Ec 134.26 306 IAMs_20 IAMs_20 23 24 24.1
comp=Z,1µm,21.0s
P49A Miami Univ. Ec 134.26 306 P **PKPdf** **22 26 17.2 0.0**
baz=80
CHUM Lake Minchumin 134.43 12 P **PKiKP** **22 26 17.9 -0.2**
baz=335
BPAW Bear Paw Mtn. 134.48 11 P **PKiKP** **22 26 17.7 -0.5**
baz=336
IL31 134.48 8 **PKPdf** **22 26 16.0 -0.7**
ILAR Eielson Array 134.48 8 PKP **PKPdf** **22 26 15.3 -1.4**
comp=Z,2.3nm,1.0s,baz=316,slow=3.0,SNR=12
ILAR PP **PP** **22 28 52.3 +3.4**
comp=Z,1.5nm,0.9s,baz=343,slow=4.9,SNR=5.1
ILAR Eielson Array 134.48 8 **PKPdf** **22 26 15.0 -1.8**
TTA Tatalina 134.50 14 P **PKiKP** **22 26 17.9 -0.5**
baz=330
K20K Telida 134.55 13 **PKPdf** **22 26 16.6 -0.4**
K20K Telida 134.55 13 P **PKiKP** **22 26 18.1 -0.3**
baz=332
WRH Wood River Hil 134.60 9 PKPdf **PKPdf** **22 26 16.0 -1.0**
I29M Ogilvie Camp, 134.68 3 **PKPdf** **22 26 16.8 -0.3**
I29M Ogilvie Camp, 134.68 3 P **PKiKP** **22 26 18.4 -0.2**
baz=354
CAST Castle Rocks 134.90 12 PKPdf **PKPdf** **22 26 16.9 -0.7**
CAST Castle Rocks 134.90 12 P **PKPdf** **22 26 18.3 +0.6**
baz=335
KTH Kantishna Hill 134.99 11 PKPdf **PKPdf** **22 26 17.6 -0.3**
EGAK Eagle 135.08 5 PKPdf **PKPdf** **22 26 17.1 -0.7**
EGAK Eagle 135.08 5 P **PKPdf** **22 26 18.6 +0.7**
baz=350
J26L Joseph Creek 135.13 6 P **PKPdf** **22 26 18.5 +0.3**
baz=346
MCK McKinley 135.16 10 P **PKiKP** **22 26 19.0 -0.6**
baz=339
TRF Thorofare Moun 135.20 11 P **PKiKP** **22 26 19.3 -0.6**
baz=337
PPLA Purkeypile 135.35 12 **PKPdf** **22 26 18.5 -0.2**
PPLA Purkeypile 135.35 12 P **PKPdf** **22 26 18.7 0.0**
baz=334
L20K Farewell, AK 135.37 13 P **PKPdf** **22 26 19.0 +0.5**
baz=332
L19K White Mountain 135.41 14 P **PKPdf** **22 26 19.0 +0.4**
baz=331
K24K Donnelly Dome 135.55 8 P **PKiKP** **22 26 19.8 -0.6**
baz=343
SCRK Sand Creek 135.60 7 P **PKPdf** **22 26 19.3 +0.3**
baz=346
WCI Wyandotte Cave 135.71 304 IAMs_20 IAMs_20 23 22 56.5
comp=Z,1µm,20.0s
WCI Wyandotte Cave 135.71 304 P **PKPdf** **22 26 19.9 +0.1**
baz=80
TGUH Tegucigalpa,Un 135.72 270 IAMs_20 IAMs_20 23 23 37.0
comp=Z,976nm,20.0s
RIDG Independent Ri 135.73 7 P **PKiKP** **22 26 20.5 -0.3**
baz=344
K27K Chicken 135.74 6 P **PKiKP** **22 26 20.3 -0.5**
baz=348
YKA Yellowknife Ar 135.76 348 PKP **PKPdf** **22 26 18.1 -1.1**
comp=Z,4.3nm,1.0s,baz=19,slow=2.1,SNR=15
YKA PP **PP** **22 28 51.4 -5.7**
comp=Z,2.0nm,0.8s,baz=13,slow=6.5,SNR=7.4
YKA Yellowknife Ar 135.76 348 PKPdf **PKPdf** **22 26 17.9 -1.3**
YKA Yellowknife Ar 135.76 348 PKIKP **PKPdf** **22 26 17.9 -1.3**
M19K Big River Lodg 135.76 14 P **PKiKP** **22 26 20.4 -0.4**
baz=331
N16K Nishlik Lake 135.85 18 P **PKPdf** **22 26 20.3 +0.8**
baz=325
DAWY Dawson 135.91 4 P **PKiKP** **22 26 20.9 -0.3**
baz=352
DHY Denali Highway 136.03 9 P **PKiKP** **22 26 20.9 -0.7**
baz=341
M20K Styx River 136.07 13 P **PKPdf** **22 26 20.5 +0.6**
baz=333
WAT1 Susitna Watana 136.07 10 P **PKPdf** **22 26 20.5 +0.7**
baz=339
HQIL Hanson Quary C 136.09 310 IAMs_20 IAMs_20 23 26 35.2
comp=Z,1µm,19.0s
K29M Barlow Dome 136.23 3 P **PKPdf** **22 26 20.8 +0.6**
baz=354
SKT Skwentna 136.31 12 P **PKPdf** **22 26 20.9 +0.6**
baz=335
PAX Paxson 136.39 8 P **PKPdf** **22 26 21.4 +0.8**
baz=343
WAT6 Susitna Watana 136.44 10 P **PKPdf** **22 26 21.6 +0.8**
baz=340
L26K Log Cabin Wild 136.59 7 P **PKiKP** **22 26 21.7 -0.8**
baz=346
N19K Bonanza Creek 136.70 15 P **PKPdf** **22 26 21.7 +0.6**
baz=330
BCAR Beaver Creek A 136.71 6 **PKPdf** **22 26 20.9 -0.1**
L27K Beaver Creek, 136.71 6 P **PKPdf** **22 26 21.8 +0.8**
baz=348
O16K Kokwok River B 136.76 18 P **PKPdf** **22 26 21.3 +0.1**
baz=325
L29M L29M 136.94 3 P **PKPdf** **22 26 22.0 +0.5**
baz=353
SUA Susitna One 136.94 12 P **PKPdf** **22 26 22.5 +0.9**
baz=336
RKT Rikitea 136.97 178 *e*LR LR 23 10 25.7
comp=Z,125µm,23.8s
LRAL Lakeview Retre 136.99 297 IAMs_20 IAMs_20 23 27 57.9
comp=Z,1µm,19.0s
LRAL Lakeview Retre 136.99 297 P **PKPdf** **22 26 22.6 +0.2**
baz=85
SML Sawmill 137.07 10 P **PKiKP** **22 26 23.3 -0.3**
baz=339
PMR Palmer 137.13 11 P **PKiKP** **22 26 23.0 -0.5**
baz=338
BRAL Brewton 137.18 294 IAMs_20 IAMs_20 23 23 56.1
comp=Z,1µm,20.0s
M23K Glacier View 137.18 10 P **PKiKP** **22 26 23.1 -0.6**
baz=340
SCM Sheep Creek Mo 137.21 10 P **PKPdf** **22 26 23.0 +0.9**
baz=340
P16K Nushagak River 137.25 19 P **PKPdf** **22 26 23.0 +0.9**
baz=325
O19K Port Alsworth 137.28 15 P **PKPdf** **22 26 23.0 +0.9**
baz=330
M27K Edge Creek, AK 137.40 6 P **PKPdf** **22 26 23.3 +0.8**
baz=348
KNK Knik Glacier 137.41 11 P **PKPdf** **22 26 23.0 +0.6**
baz=339
JFWS Jewell Farm 137.46 312 IAMs_20 IAMs_20 23 27 08.4
comp=Z,1µm,19.0s
JFWS Jewell Farm 137.46 312 P **PKPdf** **22 26 23.4 +0.4**
baz=72
SNET Serv Nac Est T 137.47 268 IAMs_20 IAMs_20 23 28 07.2
comp=Z,612nm,20.0s
RC01 Rabbit Creek A 137.48 12 P **PKPdf** **22 26 22.9 +0.4**
baz=337
PLAL Pickwick Lake 137.65 300 IAMs_20 IAMs_20 23 23 42.2
comp=Z,1µm,22.0s
O20K Slope Mountain 137.78 14 P **PKPdf** **22 26 23.7 +0.5**
baz=333
N25K Chitina, Valde 137.82 8 P **PKPdf** **22 26 23.6 +0.4**
baz=344
ULM Lac du Bonnet 137.87 324 PKP **PKPdf** **22 26 23.4 -0.1**
comp=Z,3.8nm,0.8s,baz=38,slow=2.1,SNR=3.2
PWL Port Wells 137.95 11 P **PKPdf** **22 26 23.9 +0.5**
baz=339
MCARA McCarthy VSAT 138.23 7 P **PKPdf** **22 26 24.8 +0.9**
baz=346
Q17K Contact Creek 138.51 18 P **PKPdf** **22 26 24.8 +0.2**
baz=327
N31M Braeburn, Yuko 138.66 2 P **PKiKP** **22 26 26.0 -0.8**
baz=357
YUK4 Talbot Arm 138.66 4 P **PKPdf** **22 26 25.7 +0.8**
baz=353
EYAK Cordova Ski Ar 138.68 9 P **PKPdf** **22 26 25.5 +0.9**
baz=342
OXF Oxford 138.80 300 IAMs_20 IAMs_20 23 25 38.8
comp=Z,923nm,20.0s
OXF Oxford 138.80 300 P **PKPdf** **22 26 26.6 +0.9**
baz=81
CCM Cathedral Cave 139.56 305 IAMs_20 IAMs_20 23 27 15.4
comp=Z,1µm,20.0s
WTLY Watson Lake, Y 139.94 357 P **PKPdf** **22 26 28.2 +1.2**
baz=6.7
VBMS Vicksburg 140.03 296 IAMs_20 IAMs_20 23 33 12.5
comp=Z,949nm,19.0s
OHAK Old Harbor 140.13 17 P **PKiKP** **22 26 29.4 -0.4**
baz=330
ECSD EROS Data Cent 141.46 316 **PKPdf** **22 26 29.6 -0.7**
ECSD EROS Data Cent 141.46 316 IAMs_20 IAMs_20 23 31 08.9
comp=Z,1µm,20.0s
MIAR Mount Ida 142.18 301 IAMs_20 IAMs_20 23 27 59.2
comp=Z,1µm,22.0s
NATX Nacogdoches 143.58 296 IAMs_20 IAMs_20 23 30 03.5
comp=Z,999nm,20.0s
DEOK Depew 144.19 304 **PKPab** **22 26 33.0 -0.1**
QUOK Quay 144.27 304 **PKPab** **22 26 33.3 -0.1**
OK044 Pawnee Station 144.28 305 IAMs_20 IAMs_20 23 27 51.4
comp=Z,1µm,21.0s
OK034 N. Norfolk Rd. 144.32 304 IAMs_20 IAMs_20 23 26 52.5
comp=Z,844nm,19.0s
OK045 Pawnee Station 144.35 305 IAMs_20 IAMs_20 23 30 02.4
comp=Z,1µm,20.0s
OK046 Pawnee Station 144.35 305 IAMs_20 IAMs_20 23 27 51.4
comp=Z,1µm,21.0s
OK052 Battle Ridge R 144.39 304 IAMs_20 IAMs_20 23 34 47.4
comp=Z,873nm,19.0s
OK030 Cody Creek RV 144.39 304 IAMs_20 IAMs_20 23 28 27.5
comp=Z,730nm,20.0s
OK050 Pawnee Station 144.41 305 IAMs_20 IAMs_20 23 29 23.0
comp=Z,959nm,20.0s
OK031 S. Brethren Rd 144.43 304 IAMs_20 IAMs_20 23 24 21.5
comp=Z,1µm,22.0s
OK033 Mehan 144.48 304 IAMs_20 IAMs_20 23 25 17.8
comp=Z,1µm,22.0s
KAN09 Caldwell North 144.67 306 **PKPab** **22 26 34.4 -0.4**
HKT Hockley 144.83 294 IAMs_20 IAMs_20 23 26 34.9
comp=Z,681nm,20.0s
V35K Ketchikan 144.85 358 P **PKPdf** **22 26 35.7 -0.1**
baz=2.9
OK025 Westminster Rd 144.92 304 IAMs_20 IAMs_20 23 32 21.6
comp=Z,979nm,20.0s
OK029 Liberty Lake 144.95 304 IAMs_20 IAMs_20 23 35 58.3
comp=Z,966nm,18.0s
OK032 Salt Plains WL 145.23 306 IAMs_20 IAMs_20 23 31 01.5

comp=Z,1µm,20.0s
LAO LASA Array 145.52 326 IAMs_20 IAMs_20 23 31 49.9
comp=Z,1µm,20.0s
LAO LASA Array 145.52 326 P **PKPab 22 26 38.0 +0.2**
baz=49
OK035 E0210 Rd and N 145.64 306 IAMs_20 IAMs_20 23 31 21.3
comp=Z,1µm,19.0s
CBKS Cedar Bluff 145.64 310 P **PKPbc 22 26 38.1 0.0**
baz=67
OK038 West end E0370 145.74 306 IAMs_20 IAMs_20 23 31 05.0
comp=Z,1µm,20.0s
WHTX Lake Whitney, 145.88 298 P **PKPdf 22 26 38.4 +0.1**
baz=79,SNR=11
RSSD Black Hills 145.89 321 P **PKPbc 22 26 38.7 -0.3**
baz=55
435B Jarrell 146.21 295 IAMs_20 IAMs_20 23 33 26.2
comp=Z,1µm,20.0s
435B Jarrell 146.21 295 P **PKPdf 22 26 39.4 +0.5**
baz=80
WMOK Wichita Mounta 146.30 303 **PKPdf 22 26 38.6 -0.4**
WMOK Wichita Mounta 146.30 303 P **PKPbc 22 26 39.9 -0.3**
baz=74
WMOK Wichita Mounta 146.30 303 PKP2 **PKPdf 22 26 38.6 -0.4**
OGNE Ogallala 146.30 315 **PKPdf 22 26 39.2 +0.3**
OGNE Ogallala 146.30 315 P **PKPbc 22 26 39.7 -0.4**
baz=62
EGMT Eagleton 146.31 331 **PKPbc 22 26 39.6 -0.3**
EGMT Eagleton 146.31 331 P **PKPbc 22 26 39.8 -0.1**
baz=43,SNR=19
WALA Waterton Lakes 147.24 336 PKPdf **PKPdf 22 26 39.8 -0.5**
ABTX Abilene, Hawle 147.55 299 PKPdf **PKPdf 22 26 41.0 -0.2**
ABTX Abilene, Hawle 147.55 299 P **PKPbc 22 26 43.5 -0.4**
baz=76,SNR=8.1
KSCO Kaye Shedlock' 147.60 312 **PKPbc 22 26 43.4 -0.5**
KSCO Kaye Shedlock' 147.60 312 P **PKPbc 22 26 44.1 +0.2**
baz=63
833A Chaparral WMA, 148.13 291 P **PKPbc 22 26 45.5 0.0**
baz=83
JCT Junction City 148.14 296 PKPdf **PKPdf 22 26 41.5 -0.8**
JCT IAMs_20 IAMs_20 23 36 48.4
comp=Z,853nm,19.0s
JCT Junction City 148.14 296 P **PKPbc 22 26 45.1 -0.4**
baz=79
JCT Junction City 148.14 296 PKIKP **PKPdf 22 26 41.5 -0.8**
JCT MLR MLR
comp=Z,900nm,19.0s
RLMT Red Lodge 148.15 327 P **PKPbc 22 26 45.9 +0.6**
baz=46,SNR=7.4
K22A Casper 148.22 321 P **PKPbc 22 26 44.4 -1.1**
baz=54
AMTX Amarillo 148.52 304 PKPdf **PKPdf 22 26 41.2 -1.6**
AMTX Amarillo 148.52 304 P **PKPbc 22 26 46.0 -0.5**
baz=70
N23A Red Feather La 148.87 318 P **PKPbc 22 26 46.5 -0.9**
baz=57
BOZ Bozeman (W) 148.97 330 P **PKPbc 22 26 47.2 -0.1**
baz=42
NEW Newport 149.06 339 **PKPdf 22 26 42.1 -1.1**
NEW Newport 149.06 339 P **PKPbc 22 26 47.4 +0.1**
baz=31
NEW Newport 149.06 339 PKIKP **PKPdf 22 26 42.1 -1.1**
NEW MLR MLR
comp=Z,1µm,18.0s
YUF Upper Falls 149.07 328 **PKPbc 22 26 46.4 -1.3**
ISCO Idaho Springs 149.24 316 **PKPdf 22 26 42.8 -1.3**
ISCO Idaho Springs 149.24 316 P **PKPbc 22 26 48.1 -0.3**
baz=59
ISCO Idaho Springs 149.24 316 PKIKP **PKPdf 22 26 42.8 -1.3**
ISCO MLR MLR
comp=Z,2µm,21.0s
H17A Grant Village 149.32 327 P **PKPbc 22 26 48.4 0.0**
baz=45,SNR=6.8
Q24A Divide 149.36 314 P **PKPbc 22 26 47.5 -1.2**
baz=60
MSTX Muleshoe 149.67 303 P **PKPbc 22 26 48.1 -1.3**
baz=71
T25A Trinidad 149.69 310 P **PKPbc 22 26 49.5 0.0**
baz=64,SNR=10.0
BW06 Boulder Array 149.89 324 P **PKPbc 22 26 49.2 -0.6**
baz=49,SNR=7.8
PD31 Pinedale Array 149.89 324 **PKPbc 22 26 48.4 -1.4**
PDAR Pinedale Array 149.89 324 PKPbc **PKPbc 22 26 48.7 -1.1**
comp=Z,7.0nm,0.9s,baz=86,slow=1.9,SNR=23
SDCO Great Sand Dun 150.19 312 P **PKPbc 22 26 50.1 -0.7**
baz=62,SNR=12
TAOE Nuku Hiva Isla 150.40 166 *e*LR LR 23 16 39.8
comp=Z,295nm,21.8s
O20A White River Ci 150.74 318 **PKPbc 22 26 50.9 -1.0**
O20A White River Ci 150.74 318 P **PKPbc 22 26 50.9 -1.0**
baz=54,SNR=5.8
S22A 4UR Ranch, Cre 151.11 313 P **PKPbc 22 26 52.8 -0.2**
baz=60,SNR=15
GDL2 Guadalupe Moun 151.50 301 PKPbc **PKPbc 22 26 51.8 -2.0**
TX32 Lajitas Array 151.66 295 **PKPbc 22 26 53.9 -0.3**
HLID Hailey 151.81 330 P **PKiKP 22 26 54.5 -0.1**
baz=40
TCUT Toone Canyon 152.01 323 **PKPdf 22 26 46.0 -2.3**
BMO Blue Mountains 152.02 335 **PKPbc 22 26 54.3 -0.3**
ANMO Albuquerque 152.13 308 **PKPbc 22 26 54.0 -1.2**
ANMO Albuquerque 152.13 308 IAMs_20 IAMs_20 23 39 14.1
comp=Z,1µm,19.0s
ANMO Albuquerque 152.13 308 P **PKPbc 22 26 55.0 -0.3**
baz=65
MNTX Cornudas Mount 152.48 300 P **PKPbc 22 26 55.7 -0.2**
baz=72
MVCO Mesa Verde 152.52 314 P **PKiKP 22 26 56.4 0.0**
baz=59
DUG Dugway, Tooele 153.43 323 IAMs_20 IAMs_20 23 39 21.0
comp=Z,1µm,20.0s
DUG Dugway, Tooele 153.43 323 P **PKiKP 22 26 58.8 +0.8**
baz=47
121A Cookes Peak, D 154.11 304 P **PKiKP 22 27 00.4 +0.6**
baz=68
MSU Marysvale 154.15 320 PKPdf **PKPdf 22 26 51.8 +0.3**
MSU Marysvale 154.15 320 PKIKP **PKPdf 22 26 51.8 +0.3**
TPNV Topopah Spring 157.61 322 P **PKPab 22 27 27.8 -0.3**
baz=46
NVAR Mina Array Bea 157.64 328 PKP **PKPdf 22 26 56.7 +0.6**
comp=Z,4.6nm,1.0s,baz=146,slow=1.1,SNR=7.3
GRAC Grapevine Rang 158.21 324 P **PKPab 22 27 30.3 -0.1**
baz=44
214A Organ Pipe Nat 158.21 307 P **PKPab 22 27 30.6 -0.1**
baz=62
GMRC Granite Mounta 158.67 317 P **PKPab 22 27 32.0 -0.6**
baz=52
IRM Iron Mountain 158.71 315 P **PKPab 22 27 32.4 -0.3**
baz=54
MPMC Manual Prospec 158.94 322 P **PKPab 22 27 34.3 +0.4**
baz=45
CWC Cottonwood Cre 159.00 324 P **PKPab 22 27 34.5 +0.4**
baz=44
GSC Goldstone, Bar 159.06 320 P **PKPab 22 27 35.0 +0.7**
baz=48
HEC Hector,Ludlow 159.07 318 P **PKPab 22 27 35.1 +0.8**
baz=50
GLA Glamis 159.13 312 P **PKPab 22 27 34.9 +0.3**
baz=57
BC3 Big Chuckawall 159.22 314 P **PKPab 22 27 35.3 +0.3**
baz=54
ISA Isabella, Lake 159.79 323 P **PKPab 22 27 37.6 +0.2**
baz=44
IKP In-Ko-Pah, Jac 160.24 313 P **PKPab 22 27 37.5 -2.1**
baz=55

VAO ***11*** *22:13:33.2±1.8, 23°.30S×71°.49W, h10km, mb4.6*
SJA ***11*** *22:13:54.5±0.8, 22°.78S×69°.84W, h82km±4km, ML4.3, MW4.2*
IDC ***11*** *22:13:55.9±0.7, 22°.80S×69°.73W, h76km±5km, mb4.1/7, mbtmp4.4/10, Error ellipse: s-maj=21.3km s-min=12.2km az=162.0*
NEIC ***11*** *22:13:55.7±1.6, 22°.78S±0°.04×69°.80W±0°.07, h73km±3km, mb4.7/28, ML4.3(GUC), Error ellipse: s-maj=9.0km s-min=5.5km az=81.0*
GUC ***11*** *22:13:56.1±0.7, 22°.80S×69°.78W, h69km±3km, ML4.3*
ISC 11 22:13:55.1±0.5, 22°.80S±0°.03×69°.81W±0°.03, h74km±4km, n168, σ1§57/207, mb4.7/18, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**0.24**	**67**	Pn	**Pn**	**22 14 06.4**	**-0.1**
PB06				Sn	**Sn**	**22 14 15.1**	**+0.2**
PB06	**IPOC Station P**	**0.24**	**67**	↓*i*P	**Pn**	**22 14 07.2**	**+0.7**
PB06				*i* S	**Sn**	**22 14 15.3**	**+0.3**
PB06				IAML		22 14 16.3	

comp=E,41µm,0.3s
PB06 IPOC Station P 0.24 67 *e*P **Pn 22 14 07.6 +1.0**
PB06 *e*S **Sn 22 14 17.8 +2.9**
PB06 IAML 22 14 18.4
comp=Z,11µm,0.3s
PB06 IPOC Station P 0.24 67 *e*P **Pn 22 14 07.6 +1.0**
PB06 *e*S **Sn 22 14 17.8 +2.9**
PB06 IAML 22 14 18.4
comp=Z,11µm,0.3s
PB15 IPOC Station P 0.51 143 Pn **Pn 22 14 09.3 +0.7**
PB15 Sn **Sn 22 14 19.4 +0.8**
PB15 IPOC Station P 0.51 143 ↓*i*P **Pn 22 14 09.3 +0.7**
PB15 *e*S **Sn 22 14 19.4 +0.8**
PB15 IPOC Station P 0.51 143 *e*P **Pn 22 14 09.5 +0.9**
PB15 *e*S **Sn 22 14 20.0 +1.4**
PB15 IAML 22 14 20.9
comp=Z,41µm,0.2s
PB15 IPOC Station P 0.51 143 *e*P **Pn 22 14 09.5 +0.9**
PB15 *e*S **Sn 22 14 20.0 +1.4**
PB15 IAML 22 14 20.9
comp=Z,41µm,0.2s
PB04 IPOC Station P 0.56 326 Pn **Pn 22 14 09.8 +0.7**
PB04 Sn **Sn 22 14 19.9 +0.6**
PB04 IPOC Station P 0.56 326 ↓*i*P **Pn 22 14 10.3 +1.2**
PB04 *e*S **Sn 22 14 20.8 +1.5**
PB04 IAML 22 14 21.5
comp=E,29µm,0.4s
PB04 IPOC Station P 0.56 326 *e*P **Pn 22 14 08.4 -0.6**
PB04 IAML 22 14 23.3
comp=Z,19µm,0.3s
PB04 IPOC Station P 0.56 326 *e*P **Pn 22 14 08.4 -0.6**
PB04 IAML 22 14 23.3
comp=Z,19µm,0.3s
PB03 IPOC Station P 0.75 4 Pn **Pn 22 14 11.8 +0.8**
PB03 IPOC Station P 0.75 4 *e*P **Pn 22 14 08.4 -2.6**
PB03 *e*P **Pn 22 14 11.9 +0.9**
PB03 *e*S **Sn 22 14 24.0 +1.2**
PB03 IAML 22 14 24.9
comp=Z,11µm,0.3s
PB03 IPOC Station P 0.75 4 *e*P **Pn 22 14 08.4 -2.6**
PB03 *e*P **Pn 22 14 11.9 +0.9**
PB03 *e*S **Sn 22 14 24.0 +1.2**
PB03 IAML 22 14 24.9
comp=Z,11µm,0.3s
LVC Limon Verde 0.85 77 P **Pn 22 14 13.4 +1.0**
comp=Z,5µm,0.3s,baz=254,slow=9.4,SNR=639
LVC S **Sn 22 14 25.9 +0.9**
comp=Z,10µm,0.3s,baz=245,slow=19,SNR=78
LVC Limon Verde 0.85 77 ↑*e*P **Pn 22 14 13.5 +1.1**
LVC *i* S **Sn 22 14 26.0 +0.9**
LVC Limon Verde 0.85 77 *e*P **Pn 22 14 13.4 +1.0**
PB10 IPOC Station P 0.99 224 **Pn 22 14 14.7 +1.0**
PB10 IPOC Station P 0.99 224 *e*P **Pn 22 14 14.9 +1.3**
PB10 *e*S **Sn 22 14 29.1 +1.6**
PB10 IPOC Station P 0.99 224 *e*P **Pn 22 14 14.9 +1.3**
PB10 *e*S **Sn 22 14 29.6 +2.1**
PB10 IAML 22 14 29.8
comp=Z,3µm,0.5s
PB10 IPOC Station P 0.99 224 *e*P **Pn 22 14 14.9 +1.3**
PB10 *e*S **Sn 22 14 29.6 +2.1**
PB10 IAML 22 14 29.8
comp=Z,3µm,0.5s
PB07 IPOC Station P 1.07 356 Pn **Pn 22 14 15.6 +0.8**
PB07 IPOC Station P 1.07 356 ↑*e*P **Pn 22 14 15.7 +0.9**
PB07 *e*S **Sn 22 14 29.9 +0.4**
PB07 IAML 22 14 32.3
comp=E,6µm,0.3s
PB07 IPOC Station P 1.07 356 *e*P **Pn 22 14 15.7 +0.8**
PB07 *e*S **Sn 22 14 30.9 +1.4**
PB07 IAML 22 14 32.3
comp=Z,7µm,0.4s
PB07 IPOC Station P 1.07 356 *e*P **Pn 22 14 15.7 +0.8**
PB07 *e*S **Sn 22 14 30.9 +1.4**
PB07 IAML 22 14 32.3
comp=Z,7µm,0.4s
PB09 IPOC Station P 1.13 28 Pn **Pn 22 14 17.0 +1.5**
PB09 IPOC Station P 1.13 28 ↑*e*P **Pn 22 14 17.1 +1.5**
PB09 *e*S **Sn 22 14 32.7 +1.9**
PB09 IAML 22 14 33.5
comp=E,15µm,0.4s
PB09 IPOC Station P 1.13 28 *e*P **Pn 22 14 17.0 +1.5**
PB09 IAML 22 14 35.4
comp=Z,6µm,0.2s
PB09 IPOC Station P 1.13 28 *e*P **Pn 22 14 17.0 +1.5**
PB09 IAML 22 14 35.4
comp=Z,6µm,0.2s
PB02 IPOC Station P 1.48 357 Pn **Pn 22 14 20.8 +0.8**
PB02 IPOC Station P 1.48 357 *e*P **Pn 22 14 20.9 +1.0**
PB02 *e*S **Sn 22 14 39.9 +1.2**
PB02 IAML 22 14 40.4
comp=E,9µm,0.3s
PB02 IPOC Station P 1.48 357 *e*P **Pn 22 14 21.0 +1.0**
PB02 *e*S **Sn 22 14 39.2 +0.5**
PB02 IAML 22 14 42.2
comp=Z,9µm,0.4s
PB02 IPOC Station P 1.48 357 *e*P **Pn 22 14 21.0 +1.0**
PB02 *e*S **Sn 22 14 39.2 +0.5**
PB02 IAML 22 14 42.2
comp=Z,9µm,0.4s
AF01 San Pedro de A 1.51 96 **Pn 22 14 23.1 +2.5**
AF01 San Pedro de A 1.51 96 ↑*e*P **Pn 22 14 23.2 +2.7**
AF01 *i* S **Sn 22 14 44.1 +4.4**
PB01 IPOC Station P 1.77 10 Pn **Pn 22 14 24.9 +1.0**
PB01 IPOC Station P 1.77 10 ↓*i*P **Pn 22 14 25.1 +1.1**
PB01 *e*S **Sn 22 14 46.9 +1.2**
PB01 IAML 22 14 47.3
comp=E,4µm,0.3s
PB01 IPOC Station P 1.77 10 *e*P **Pn 22 14 25.0 +1.1**
PB01 *e*S **Sn 22 14 47.1 +1.5**
PB01 IAML 22 14 49.2
comp=Z,2µm,0.3s
PB01 IPOC Station P 1.77 10 *e*P **Pn 22 14 25.0 +1.1**
PB01 *e*S **Sn 22 14 47.1 +1.5**
PB01 IAML 22 14 49.2
comp=Z,2µm,0.3s
PB14 IPOC Station P 1.90 197 Pn **Pn 22 14 26.1 +0.3**
PB14 IPOC Station P 1.90 197 *e*P **Pn 22 14 26.5 +0.7**
PB14 IPOC Station P 1.90 197 *e*P **Pn 22 14 26.8 +1.0**
PB14 *e*P **Pn 22 14 27.0 +1.2**
PB14 *e*S **Sn 22 14 46.9 -2.1**
PB14 IAML 22 15 07.2
comp=Z,978nm,0.5s
PB14 IPOC Station P 1.90 197 *e*P **Pn 22 14 26.8 +1.0**
PB14 *e*P **Pn 22 14 27.0 +1.2**
PB14 *e*S **Sn 22 14 46.9 -2.1**
PB14 IAML 22 15 07.2
comp=Z,978nm,0.5s
PATCX Punta Patache 2.00 351 **Pn 22 14 27.1 +0.2**
PATCX Punta Patache 2.00 351 ↑*e*P **Pn 22 14 27.1 +0.2**
PATCX *e*S **Sn 22 14 51.7 +0.7**
PATCX IAML 22 15 13.6
comp=N,2µm,0.7s
PATCX Punta Patache 2.00 351 *e*P **Pn 22 14 27.0 +0.2**
PATCX *e*S **Sn 22 14 52.1 +1.1**
PATCX IAML 22 15 14.3
comp=Z,1µm,0.4s
PATCX Punta Patache 2.00 351 *e*P **Pn 22 14 27.0 +0.2**
PATCX *e*S **Sn 22 14 52.1 +1.1**
PATCX IAML 22 15 14.3
comp=Z,1µm,0.4s
TA01 Diego Aracena 2.25 351 Pn **Pn 22 14 29.9 -0.2**
TA01 Diego Aracena 2.25 351 ↑*e*P **Pn 22 14 30.0 -0.2**
TA01 IAML 22 15 11.3
TA01 Diego Aracena 2.25 351 *e*P **Pn 22 14 30.1 0.0**
TA01 *e*S **Sn** 22 14 44.4 -13
TA01 IAML 22 15 15.2
comp=Z,1µm,0.6s
TA01 Diego Aracena 2.25 351 *e*P **Pn 22 14 30.1 0.0**
TA01 *e*S **Sn** 22 14 44.4 -13
TA01 IAML 22 15 15.2
comp=Z,1µm,0.6s
HMBC Humberstone 2.51 358 *e*P **Pn 22 14 33.9 +0.1**
HMBC IAML 22 15 23.6
comp=E,2µm,0.3s
TA02 Huaiquique 2.53 353 **Pn 22 14 33.9 -0.1**
TA02 Huaiquique 2.53 353 *e*P **Pn 22 14 34.1 +0.1**
TA02 Huaiquique 2.53 353 *e*P **Pn 22 14 34.4 +0.4**
TA02 *e*S **Sn** 22 14 49.9 -14
TA02 IAML 22 15 33.2
comp=Z,800nm,0.6s
TA02 Huaiquique 2.53 353 *e*P **Pn 22 14 34.4 +0.4**
TA02 *e*S **Sn** 22 14 49.9 -14
TA02 IAML 22 15 33.2

comp=Z,800nm,0.6s
PB08 IPOC Station P 2.71 13 **Pn 22 14 37.5 +0.7**
PB11 IPOC Station P 3.03 3 Pn **Pn 22 14 40.8 -0.1**
PB11 IPOC Station P 3.03 3 *e*P **Pn 22 14 40.5 -0.4**
GO01 Chusmiza 3.17 11 *e*P **Pn 22 14 43.5 +0.5**
GO01 Chusmiza 3.17 11 *e*P **Pn 22 14 44.0 +0.9**
GO01 *e*S Sn 22 15 02.1 -18
GO01 Chusmiza 3.17 11 *e*P **Pn 22 14 44.0 +0.9**
GO01 *e*S Sn 22 15 02.1 -18
PSGC Pisagua 3.20 355 *e*P **Pn 22 14 42.4 -0.8**
PSGC IAML 22 15 48.5
comp=E,646nm,0.5s
PSGCX Pisagua 3.20 355 Pn **Pn 22 14 42.6 -0.6**
PSGCX Pisagua 3.20 355 *e*P **Pn 22 14 42.4 -0.8**
PSGCX *e*S Sn 22 15 07.7 -13
PSGCX IAML 22 15 49.0
comp=Z,337nm,0.4s
PSGCX Pisagua 3.20 355 *e*P **Pn 22 14 42.4 -0.8**
PSGCX *e*S Sn 22 15 07.7 -13
PSGCX IAML 22 15 49.0
comp=Z,337nm,0.4s
AC01 Pan de Azucar 3.41 192 Pn **Pn 22 14 45.7 -0.2**
AC01 Pan de Azucar 3.41 192 *e*P **Pn 22 14 45.5 -0.4**
AC01 IAML 22 15 54.3
comp=N,630nm,0.5s
AC01 Pan de Azucar 3.41 192 *e*P **Pn 22 14 45.7 -0.2**
AC01 *e*S Sn 22 15 35.4 +10
AC01 IAML 22 15 47.4
comp=Z,532nm,0.7s
AC01 Pan de Azucar 3.41 192 *e*P **Pn 22 14 45.7 -0.2**
AC01 *e*S Sn 22 15 35.4 +10
AC01 IAML 22 15 47.4
comp=Z,532nm,0.7s
MNMC Minye Minye 3.66 3 Pn **Pn 22 14 49.5 0.0**
MNMC Minye Minye 3.66 3 *e*P **Pn 22 14 49.3 -0.2**
YJA Yavi 4.02 82 *e*P **Pn 22 14 59.0 +4.4**
YJA *e*S **Sn 22 15 34.6 -6.0**
YJA Yavi 4.02 82 *e*P **Pn 22 14 59.0 +4.4**
YJA *e*S **Sn 22 15 34.6 -6.0**
AC02 Maricunga 4.07 171 Pn **Pn 22 14 57.2 +1.9**
AC02 Maricunga 4.07 171 *e*P **Pn 22 14 57.8 +2.5**
AC02 *e*S Sn 22 15 59.9 +18
AC02 IAML 22 16 12.7
comp=Z,516nm,0.5s
AC02 Maricunga 4.07 171 *e*P **Pn 22 14 57.8 +2.5**
AC02 *e*S Sn 22 15 59.9 +18
AC02 IAML 22 16 12.7
comp=Z,516nm,0.5s
HJA Humahuaca 4.07 97 *e*P **Pn 22 14 59.0 +3.7**
HJA Humahuaca 4.07 97 *e*P **Pn 22 14 59.0 +3.7**
PB12 IPOC Station P 4.19 353 Pn **Pn 22 14 55.8 -0.9**
PB12 IPOC Station P 4.19 353 *e*P **Pn 22 14 56.3 -0.4**
PB12 IAML 22 16 19.1
comp=Z,185nm,1.0s
PB12 IPOC Station P 4.19 353 *e*P **Pn 22 14 56.3 -0.4**
PB12 IAML 22 16 19.1
comp=Z,185nm,1.0s
PB16 IPOC Station P 4.45 4 **Pn 22 15 00.3 -0.4**
PB16 IPOC Station P 4.45 4 *e*P **Pn 22 14 56.9 -3.7**
PB16 IAML 22 16 28.1
comp=Z,166nm,1.0s
PB16 IPOC Station P 4.45 4 *e*P **Pn 22 14 56.9 -3.7**
PB16 IAML 22 16 28.1
comp=Z,166nm,1.0s
AC06 Mina Casimiro 4.57 186 **Pn 22 15 01.8 +0.1**
AZAP Zapla 4.58 109 *e*P **Pn 22 15 05.0 +3.0**
AZAP Zapla 4.58 109 *e*P **Pn 22 15 05.0 +3.0**
GO03 Copiap 4.79 185 **Pn 22 15 04.8 +0.1**
AC05 El Transito 6.03 184 Pn **Pn 22 15 21.2 -0.6**
LPAZ La Paz 6.67 14 Pn **Pn 22 15 32.7 +1.7**
CFA Coronel Fontan 8.88 171 P **Pn 22 15 59.6 -1.0**
comp=Z,5.5nm,0.3s,baz=14,slow=15,SNR=21
CFA S **Sn 22 17 35.4 -3.8**
comp=Z,7.7nm,0.5s,baz=227,slow=19,SNR=1.3
SIV San Ignacio 10.66 52 P **Pn 22 16 22.5 -2.5**
comp=Z,5.7nm,0.4s,baz=248,slow=12,SNR=16
SIV S **Sn 22 18 15.0 -7.8**
comp=Z,1.9nm,0.4s,baz=253,slow=17,SNR=1.2
CPUP Villa Florida 11.89 110 P **Pn 22 16 41.0 -0.6**
comp=Z,4.1nm,0.8s,baz=274,slow=12,SNR=7.3
CPUP Villa Florida 11.89 110 Pn **Pn 22 16 41.9 +0.3**
PTLB Pontes e Lacer 12.45 56 Pn **Pn 22 16 49.0 -0.4**
AQDB Aquidauana 13.32 83 Pn **Pn 22 17 01.0 -0.1**
ETMB Extrema 13.36 16 Pn **Pn 22 16 58.5 -3.1**
PP1B Ponte de Pedra 14.93 72 *e*P **P 22 17 26.7 +0.7**
CZSB Cruzeiro do Su 15.24 349 P **P 22 17 28.7 -0.8**
CZSB IAmb IAmb 22 17 47.5
comp=Z,42nm,0.5s
FRBT Francisco Belt 15.58 105 *e*P **Pn 22 17 30.7 +0.3**
TRCB Terra Rica 15.84 93 P **P 22 17 35.6 -0.4**
TRCB Terra Rica 15.84 93 *e*P **P 22 17 36.1 0.0**
PTGB Pitanga 16.36 100 *e*P **P 22 17 41.8 -0.1**
ITAB Concordia 16.62 109 Pn **Pn 22 17 42.5 -0.9**
ITAB IAmb IAmb 22 18 10.8
comp=Z,34nm,1.3s
TRQA Tornquist 16.63 158 Pn **Pn 22 17 42.9 -0.6**
PLTB Pedras Altas 16.93 125 **P 22 17 47.8 -0.3**
PCMB Pacaembu 17.22 90 *e*P **P 22 17 52.2 +0.9**
PLCA Paso Flores 17.89 182 P **Pn 22 18 00.5 +1.5**
comp=Z,2nm,0.9s,baz=24,slow=14,SNR=3.4
PLCA Paso Flores 17.89 182 P **P 22 17 58.8 +0.1**
LL04 Puerto Octay 18.19 186 P **P 22 18 01.9 +0.1**
FRTB Fartura 18.64 96 *e*P **P 22 18 06.3 -0.7**
TER01 Tubaro-SC 19.48 111 *e*P **P 22 18 15.4 -0.7**
MCRA Macar, Loja 20.79 330 P **P 22 18 30.5 +0.1**
VAO Valinhos 21.04 95 *e*P **P 22 18 32.9 -0.2**
MACA Manacapuru-AM 21.43 26 P **P 22 18 35.6 -1.6**
MACA IAmb IAmb 22 19 04.3
comp=Z,28nm,0.8s
BDFB Brasilia 21.76 75 P **P 22 18 40.6 -0.3**
comp=Z,3.5nm,0.4s,baz=254,slow=11,SNR=8.0
comp=Z,3.5nm,0.4s
BDFB Brasilia 21.76 75 P **P 22 18 39.8 -1.1**
BDFB Brasilia 21.76 75 *e*P **P 22 18 40.8 -0.1**
PARB Paraibuna 22.25 96 *e*P **P 22 18 46.1 0.0**
ITTB Itaituba 22.83 39 *e*P **P 22 18 50.7 -1.4**
JANB Januaria 25.29 77 *e*P **P 22 19 14.2 -0.6**
SDBA SAO DESIDERIO 25.85 71 *e*P **P 22 19 19.9 -0.1**
BOAV Boa Vista 26.63 21 P **P 22 19 27.0 +0.2**
BOAV IAmb IAmb 22 19 54.6
comp=Z,6.0nm,0.9s
RUSC La Rusia 28.70 353 P **P 22 19 46.3 +0.4**
RUSC IAmb IAmb 22 19 50.4
comp=Z,6.4nm,0.7s
BELA Belgrano 2 57.59 172 P **P 22 23 38.0 +1.3**
BELA IAmb IAmb 22 23 39.0
comp=Z,5.0nm,1.2s
V55A Taylorsville 59.32 349 P **P 22 23 50.3 +1.1**
W50A Signal Mountai 59.53 345 P **P 22 23 50.9 +0.2**
W50A IAmb IAmb 22 23 51.6
comp=Z,4.8nm,0.8s
SWET Sewanee 59.69 345 P **P 22 23 51.8 -0.1**
WVT Waverly 61.04 343 P **P 22 24 00.6 -0.3**
TXAR Lajitas Array 61.23 326 P **P 22 24 03.7 +1.1**
SNAA Sanae 61.33 161 P **P 22 24 03.3 +0.7**
SNAA IAmb IAmb 22 24 05.8
comp=Z,10nm,1.4s
MIAR Mount Ida 61.34 338 P **P 22 24 03.3 +0.3**
MIAR IAmb IAmb 22 24 04.8
comp=Z,6.0nm,0.8s
FVM French Village 63.49 342 P **P 22 24 17.9 +0.5**
L59A Walton 64.84 356 P **P 22 24 27.3 +1.1**
L59A IAmb IAmb 22 24 35.2
comp=Z,15nm,1.1s
FRNY Flat Rock 67.39 357 P **P 22 24 43.6 +1.2**
FRNY IAmb IAmb 22 24 44.2
comp=Z,7.3nm,0.7s
PKME Peaks-Kenny Pk 67.74 0 P **P 22 24 45.6 +1.1**
TRQ Mont Tremblant 68.83 356 P **P 22 24 52.0 +0.6**
TRQ IAmb IAmb 22 25 00.3
comp=Z,12nm,1.0s
DBIC Dimbokro 69.90 73 P **P 22 24 58.5 -0.1**
DBIC IAmb IAmb 22 24 59.5
comp=Z,7.5nm,1.0s
EYMN Ely 73.07 345 P **P 22 25 17.4 +0.5**
EYMN IAmb IAmb 22 25 56.3
comp=Z,17nm,1.3s
ULM Lac du Bonnet 76.31 343 P **P 22 25 36.1 +0.5**
comp=Z,2.1nm,0.4s,baz=132,slow=5.0,SNR=5.2
comp=Z,2.1nm,0.4s
ULM Lac du Bonnet 76.31 343 P **P 22 25 36.2 +0.5**
ULM IAmb IAmb 22 25 57.8
comp=Z,7.6nm,1.3s

TORD	**Torodi Ar. Bea**	**78.57**	**70**	P	**P**	**22 25 48.6**	**-0.6**	
	comp=Z,5.2nm,0.3s,baz=257,slow=5.3,SNR=1.9							
TORD				pP	**pP**	**22 26 08.7**	**-0.8**	
	comp=Z,5.5nm,0.4s,baz=323,slow=42,SNR=2.2							
	comp=Z,5.2nm,0.3s							
TSUM	**Tsumeb**	**80.46**	**107**	P	**P**	**22 26 00.8**	**+1.3**	
	comp=Z,3.6nm,0.8s,baz=222,slow=11,SNR=2.8							
	comp=Z,3.6nm,0.8s							
BOSA	**Boshof**	**83.57**	**118**	P	**P**	**22 26 16.4**	**+0.6**	
	comp=Z,4.3nm,0.7s,baz=271,slow=3.0,SNR=7.3							
BOSA				pP	**pP**	**22 26 36.3**	**0.0**	
	comp=Z,4.3nm,0.9s,baz=270,slow=5.1,SNR=1.3							
	comp=Z,4.3nm,0.7s							
BOSA	**Boshof**	**83.57**	**118**	P	**P**	**22 26 16.2**	**+0.5**	
BOSA				IAmb	IAmb	22 26 37.0		
	comp=Z,12nm,1.1s							
ESDC	**Sonseca Array**	**87.34**	**45**	P	**P**	**22 26 34.3**	**+0.3**	
	comp=Z,0.7nm,0.9s,baz=267,slow=6.4,SNR=4.1							
	comp=Z,0.7nm,0.9s							
YKA	**Yellowknife Ar**	**92.13**	**341**	P	**P**	**22 26 56.6**	**+0.8**	
	comp=Z,1.1nm,0.6s,baz=143,slow=4.6,SNR=7.2							
	comp=Z,1.1nm,0.6s							
BRTR	**Keskin Array B**	**114.25**	**55**	PKP	PKPdf	22 32 26.1	-0.3	
	comp=Z,0.4nm,0.7s,baz=268,slow=1.6,SNR=1.4							
KBZ	**Khabaz**	**121.57**	**52**	PKP	**PKiKP**	**22 32 40.5**	**+0.2**	
	baz=180,slow=5.1,SNR=3.0							
CTA	**Charters Tower**	**124.72**	**222**	PKP	**PKPdf**	**22 32 47.0**	**0.0**	
	comp=Z,2.6nm,0.8s,baz=191,slow=5.2,SNR=1.7							
H11S2	**WAKE ISLAND Hyl**	**27.20**	**276**	T	T	00 52 44.7		
	baz=105,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hyl**	**27.21**	**276**	T	T	00 52 45.6		
	baz=105,slow=75,SNR=28							
H11S3	**WAKE ISLAND Hyl**	**27.22**	**276**	T	T	00 52 47.5		
	baz=105,slow=75,SNR=26							
H11N3	**WAKE ISLAND Hyl**	**27.32**	**278**	T	T	00 52 57.5		
	baz=104,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hyl**	**27.34**	**278**	T	T	00 52 56.5		
	baz=104,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hyl**	**27.34**	**278**	T	T	00 52 56.9		
	baz=104,slow=75,SNR=12							
ASAR	**Alice Springs**	**128.38**	**208**	PKP	**PKiKP**	**22 32 54.8**	**+0.2**	
	comp=Z,1.3nm,0.8s,baz=140,slow=2.0,SNR=10.0							
ASAR				pPKP	**pPKPdf**	**22 33 15.7**	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=145,slow=2.3,SNR=3.1							
WRA	**Warramunga Arr**	**131.42**	**211**	PKP	**PKiKP**	**22 33 00.9**	**+0.2**	
	comp=Z,0.8nm,0.4s,baz=151,slow=1.8,SNR=22							
WRA				pPKP	**pPKPdf**	**22 33 21.7**	**+0.3**	
	comp=Z,0.3nm,0.8s,baz=143,slow=1.7,SNR=2.7							
KURBB	**Kurchatov Arra**	**142.88**	**34**	PKP	**PKPdf**	**22 33 18.3**	**-1.6**	
	comp=Z,0.4nm,0.3s,baz=306,slow=3.3,SNR=1.5							
ZALV	**Zalesovo Beam**	**143.48**	**25**	PKP	PKPbc	22 33 19.1	+0.8	
	comp=Z,1.4nm,0.5s,baz=300,slow=3.8,SNR=6.8							
ZALV				pPKP	pPKPdf	22 33 43.5	+1.0	
	comp=Z,0.8nm,0.6s,baz=316,slow=4.0,SNR=2.0							
MKAR	**Makanchi Array**	**147.17**	**36**	PKPbc	**PKPbc**	**22 33 28.9**	**-0.9**	
	comp=Z,5.9nm,0.9s,baz=316,slow=3.1,SNR=33							
MKAR				pPKPbc	**pPKPbc**	**22 33 51.1**	**0.0**	
	comp=Z,1.5nm,0.8s,baz=301,slow=2.5,SNR=3.8							
HEH	**HeiHe**	**149.46**	**338**	*eP*	**PKPbc**	**22 33 35.4**	**-0.1**	
HEH	**HeiHe**	**149.46**	**338**	pmax	pmax			
	comp=Z,5.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**152.12**	**325**	PKPbc	**PKiKP**	**22 33 43.0**	**+0.7**	
	comp=Z,1.7nm,0.8s,baz=51,slow=2.8,SNR=5.2							
SONM	**Songino Array**	**154.83**	**6**	PKP	**PKPdf**	**22 33 37.8**	**-1.5**	
	comp=Z,0.1nm,0.4s,baz=14,slow=3.0,SNR=2.3							
SONM				PKPbc	**PKiKP**	**22 33 48.9**	**+0.9**	
	comp=Z,0.2nm,0.5s,baz=318,slow=1.6,SNR=4.8							
SONM				PKPab	**PKPab**	**22 34 04.2**	**+0.9**	
	comp=Z,0.4nm,0.7s,baz=326,slow=1.9,SNR=3.5							
PZH	**PanZhiHua**	**171.47**	**63**	PKP	**PKPdf**	**22 33 55.0**	**-0.7**	

*IDC **11** 22:24:56.7±1.9, 11°.32N×92°.81E, h0km, mb3.6/4, mbtmp3.6/5, MS4.4/2, Error ellipse: s-maj=67.7km s-min=22.6km az=63.0*

ISC 11 22:25:09.4±1.7, 11°.4N±0°.2×93°.9E±0°.2, h50km, n14, σ1§46/10, mb3.6/4, MS4.4/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.59**	**34**	Pn	**Pn**	**22 27 11.5**	**+0.4**
	0.6nm,0.3s,baz=229,slow=15,SNR=5.3						
TAPN	**Taplejung**	**16.91**	**341**	*eP*	**Pn**	**22 29 02.1**	**-0.8**
	5.2nm,0.3s						
RAMN	**Ramite**	**16.93**	**337**	*eP*	**Pn**	**22 29 01.1**	**-2.1**
JIRN	**Jiri**	**17.73**	**337**	*eP*	**Pn**	**22 29 12.5**	**-0.6**
	3.5nm,0.2s						
PKI	**Pulchoki**	**17.96**	**335**	*eP*	**Pn**	**22 29 15.3**	**-0.6**
PKIN	**Phulchoki**	**17.97**	**335**	*eP*	**Pn**	**22 29 15.1**	**-0.9**
	9.6nm,0.3s						
GKN	**Gorkha**	**18.66**	**334**	*eP*	**Pn**	**22 29 25.3**	**+1.0**
	8.6nm,0.3s						
DANN	**Dangsing**	**19.36**	**332**	*eP*	**Pn**	**22 29 35.4**	**+2.7**
	2.3nm,0.3s						
MKAR	**Makanchi Array**	**36.63**	**347**	P	P	22 32 03.5	-7.5
	0.2nm,0.4s,baz=163,slow=8.8,SNR=6.7						
	0.2nm,0.4s						
SIJI	**Sorong**	**39.11**	**106**	LR	LR	22 51 22.3	
	comp=Z,620nm,21.9s,baz=255,slow=40						
ZALV	**Zalesovo Beam**	**43.07**	**352**	P	P	22 32 56.8	-7.5
	0.5nm,0.3s,baz=179,slow=8.7,SNR=4.3						
ZALV				LR	LR	22 53 39.1	
	comp=Z,529nm,20.2s,baz=230,slow=40						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**50.56**	**128**	P	**P**	**22 34 03.3**	**-0.1**
	0.3nm,0.5s,baz=304,slow=9.0,SNR=8.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**52.41**	**132**	P	**P**	**22 34 16.9**	**-0.2**
	0.3nm,0.4s,baz=307,slow=6.6,SNR=6.1						
	0.3nm,0.4s						
KMBO	**Kilima Mbogo**	**57.60**	**261**	LR	LR	22 58 49.0	
	comp=Z,10nm,18.5s,baz=244,slow=36						

*IDC **11** 22:32:57.1±1.3, 12°.40S×165°.59E, h0km, mb4.1/7, mbtmp4.0/8, ML3.2/1, MS4.4/1, Error ellipse: s-maj=43.1km s-min=27.5km az=123.0*

ISC 11 22:33:02.4±0.9, 12°.47S±0°.1×165°.6E±0°.1, h35km, n11, σ0§76/13, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.28**	**298**	Sn	**Sn**	**22 35 42.5**	**-0.5**
	84nm,0.3s,baz=188,slow=22,SNR=1.1						
HNR				LR	LR	22 36 51.0	
	comp=Z,3µm,19.7s,baz=157,slow=37						
DZM	**Mont Dzumac**	**9.59**	**175**	Pn	**Pn**	**22 35 18.7**	**+0.7**
	0.2nm,0.3s,baz=234,slow=16,SNR=2.6						
DZM				Sn	**Sn**	**22 37 03.7**	**-0.9**
	0.2nm,0.3s,baz=164,slow=23,SNR=1.5						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**30.84**	**252**	P	**P**	**22 39 15.2**	**-0.2**
	1.2nm,0.6s,baz=84,slow=8.7,SNR=12						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**32.01**	**245**	P	**P**	**22 39 25.4**	**-0.4**
	1.3nm,0.6s,baz=68,slow=9.2,SNR=15						
ASAR				PcP	**PcP**	**22 42 14.9**	**-0.3**
	0.7nm,0.9s,baz=86,slow=4.1,SNR=4.0						
	1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**72.51**	**294**	P	**P**	**22 44 27.5**	**+1.3**
	1.4nm,0.7s,baz=130,slow=4.4,SNR=7.9						
	1.4nm,0.7s						
SONM	**Songino Array**	**79.70**	**324**	P	**P**	**22 45 07.1**	**+0.4**
	0.5nm,0.5s,baz=122,slow=6.9,SNR=3.9						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**84.91**	**19**	P	**P**	**22 45 32.3**	**-1.1**
	0.5nm,0.6s,baz=238,slow=5.4,SNR=3.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**94.42**	**317**	P	**P**	**22 46 18.9**	**+0.1**
	1.0nm,0.6s,baz=93,slow=6.5,SNR=13						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**94.59**	**324**	P	**P**	**22 46 18.7**	**-0.7**
	0.6nm,0.5s,baz=104,slow=6.1,SNR=3.6						
	0.6nm,0.5s						
ARCES	**ARCESS Array B**	**117.66**	**345**	PKP	**PKiKP**	**22 51 44.9**	**+0.6**
	3.9nm,1.0s,baz=85,slow=1.9,SNR=11						
ESDC	**Sonseca Array**	**151.36**	**343**	PKPbc	**PKPbc**	**22 52 52.7**	**-0.1**
	0.7nm,1.1s,baz=356,slow=4.4,SNR=2.8						

IDC 11 22:35:52.4±4.0, 1°.83N×99°.39E, h157km±14km, mb3.2/3, mbtmp3.6/3, Error ellipse: s-maj=257.6km s-min=25.8km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.07**	**334**	P	Pn	22 36 17.9	-0.6
	9.8nm,0.3s,baz=187,slow=8.1,SNR=12						
PSI				S	Sn	22 36 37.6	-1.1
	4.4nm,0.6s,baz=172,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**40.54**	**124**	P	P	22 43 16.4	-0.1
	0.7nm,1.1s,baz=301,slow=9.8,SNR=1.7						
	0.7nm,1.1s						
MKAR	**Makanchi Array**	**47.20**	**344**	P	P	22 44 09.2	0.0
	0.4nm,0.5s,baz=156,slow=8.5,SNR=8.0						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**53.32**	**349**	P	P	22 44 54.8	-0.2
	0.6nm,0.4s,baz=157,slow=7.8,SNR=3.8						
	0.6nm,0.4s						

*DJA **11** 22:44:10.5±0.2, 8°.S±2°.×12°.5E±°, h366km±3km, M4.5/27, mB5.0/16, mb4.5/27, MLv4.8/19, Mw(mB)4.3/16, MwMwp5.5/3, Mwp5.7/3*
*NEIC **11** 22:44:10.4±1.4, 7°.60S±0°.08×124°.91E±0°.03, h368km±8km, mb4.2/30, Error ellipse: s-maj=11.4km s-min=4.2km az=179.0*
*IDC **11** 22:44:10.6±1.1, 7°.61S×124°.98E, h374km±12km, mb3.5/10, mbtmp4.4/15, Error ellipse: s-maj=18.9km s-min=8.6km az=66.0*

ISC 11 22:44:10.0±0.3, 7°.65S±0°.04×124°.88E±0°.05, h371km, n139, σ1§21/147, mb4.1/28, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.18**	**196**	Pn	**Pn**	**22 45 05.1**	**+0.5**
SOEI				Sn	**S**	**22 45 45.9**	**-2.7**
SOEI	**Soe**	**2.18**	**196**	P	**Pn**	**22 45 05.4**	**+0.8**
SOEI	**Soe**	**2.18**	**196**	P	**Pn**	**22 45 05.4**	**+0.8**
MMRI	**Maumere**	**2.79**	**249**	Pn	**Pn**	**22 45 08.8**	**-0.4**
MMRI	**Maumere**	**2.79**	**249**	P	**Pn**	**22 45 09.0**	**-0.2**
MMRI	**Maumere**	**2.79**	**249**	P	**Pn**	**22 45 09.0**	**-0.2**
BATI	**Baumata**	**2.81**	**205**	P	**Pn**	**22 45 10.3**	**+1.0**
	2µm,0.3s,baz=52,slow=0.5,SNR=304						
BATI				S	**S**	**22 45 53.9**	**-3.4**
	770nm,0.5s,baz=38,slow=16,SNR=2.4						
BATI	**Baumata**	**2.81**	**205**	P	**Pn**	**22 45 10.4**	**+1.0**
BSSI	**Bau Bau, Buton**	**4.61**	**289**	P	**Pn**	**22 45 27.8**	**+1.3**
NLAI	**Namlea**	**4.91**	**27**	P	**Pn**	**22 45 32.9**	**+3.2**
	262nm,0.5s,11µm752µm1.1nm						
BASI	**Baing, Sumba**	**4.96**	**239**	P	**Pn**	**22 45 29.5**	**-0.7**
BASI				S	**S**	**22 46 30.7**	**-4.4**
AAI	**Ambon**	**5.14**	**40**	P	**Pn**	**22 45 34.0**	**+1.9**
	205nm,0.9s,2µm0.7nm						
BKSI	**Bulukumba**	**5.26**	**296**	P	**Pn**	**22 45 34.7**	**+1.2**
	77nm,0.8s,683nm0.2nm						
SANI	**Sanana**	**5.67**	**11**	P	**Pn**	**22 45 38.7**	**+0.7**
SANI	**Sanana**	**5.67**	**11**	P	**Pn**	**22 45 38.7**	**+0.7**
	59nm,1.0s,987nm0.3nm						
KAPI	**Kappang**	**5.73**	**297**	P	**Pn**	**22 45 39.9**	**+1.3**
	24nm,0.4s,baz=107,slow=3.4,SNR=27						
KAPI	**Kappang**	**5.73**	**297**	Pn	**Pn**	**22 45 39.4**	**+0.8**
KAPI	**Kappang**	**5.73**	**297**	P	**Pn**	**22 45 40.1**	**+1.5**
WBSI	**Waikabubak, Su**	**5.78**	**250**	P	**Pn**	**22 45 37.4**	**-1.7**
	210nm,0.9s,4µm2.1nm						
MSAI	**Masohi**	**5.88**	**44**	P	**Pn**	**22 45 41.8**	**+1.6**
	14nm,0.5s,620nm0.3nm						
BNDI	**Bandanaira**	**5.88**	**58**	P	**Pn**	**22 45 41.7**	**+1.4**
BNDI	**Bandanaira**	**5.88**	**58**	P	**Pn**	**22 45 41.3**	**+1.0**
	223nm,0.7s,21µm7µm1.1nm						
SAUI	**Saumlaki**	**6.37**	**93**	Pn	**Pn**	**22 45 45.3**	**-0.5**
SAUI	**Saumlaki**	**6.37**	**93**	P	**Pn**	**22 45 46.1**	**+0.3**
	90nm,0.5s,1.9nm						
PLAI	**Plampang**	**7.13**	**260**	P	**Pn**	**22 45 53.0**	**-1.4**
PLAI	**Plampang**	**7.13**	**260**	P	**Pn**	**22 45 53.0**	**-1.4**
	135nm,0.7s,4µm1.1nm						
APSI	**Ampana**	**7.43**	**334**	P	**P**	**22 46 00.1**	**+1.1**
	33nm,0.8s,0.6nm						
TWSI	**Taliwang, Sumb**	**7.99**	**262**	P	**Pn**	**22 46 02.3**	**-2.1**
MTN	**Manton Dam**	**8.03**	**130**	Pn	**Pn**	**22 46 05.2**	**+0.4**
GTOI	**Gorontalo**	**8.44**	**347**	P	**P**	**22 46 13.8**	**+2.5**
	42nm,1.1s,450nm						
MRSI	**Marisa**	**8.59**	**340**	P	**P**	**22 46 13.1**	**+0.2**
	68nm,0.7s						
FAKI	**Fak Fak**	**8.71**	**58**	Pn	**Pn**	**22 46 11.2**	**-1.8**
FAKI	**Fak Fak**	**8.71**	**58**	P	**Pn**	**22 46 11.1**	**-1.8**
	137nm,0.6s,1µm						
FAKI				Pn	**P**	**22 46 14.5**	**+0.2**
	137nm,0.6s,1µm						
TNTI	**Ternate**	**8.73**	**17**	Pn	**Pn**	**22 46 11.4**	**-1.6**
TNTI	**Ternate**	**8.73**	**17**	P	**P**	**22 46 15.3**	**+0.8**
TNTI	**Ternate**	**8.73**	**17**	P	**P**	**22 46 14.6**	**+0.1**
	97nm,0.8s,2µm4µm						
KNRA	**Kununurra**	**8.84**	**155**		**Pn**	**22 46 14.8**	**+0.5**
KNRA	**Kununurra**	**8.84**	**155**	P	**P**	**22 46 15.0**	**-0.6**
KDU	**Kakadu**	**8.99**	**124**	P	**Pn**	**22 46 16.1**	**0.0**
SIJI	**Sorong**	**9.27**	**44**	P	**Pn**	**22 46 18.8**	**-0.7**
	80nm,0.3s,baz=214,slow=7.6,SNR=30						
SIJI				S	**S**	**22 47 59.7**	**-6.0**
	74nm,0.8s,baz=239,slow=19,SNR=17						
SWI	**Sorong**	**9.27**	**44**	P	**Pn**	**22 46 19.3**	**-0.1**
	87nm,0.6s,2µm						
MPSI	**Mapaga**	**9.36**	**328**	P	**P**	**22 46 23.5**	**+2.0**
	6.8nm,0.9s,991nm						
SRBI	**Singaraja**	**9.59**	**267**	P	**Pn**	**22 46 22.6**	**-0.6**
	32nm,0.9s						
TOLI2	**Tolitoli**	**9.62**	**335**		**P**	**22 46 24.7**	**+0.3**
TOLI2	**Tolitoli**	**9.62**	**335**	P	**P**	**22 46 26.3**	**+1.9**
FITZ	**Fitzroy Crossi**	**10.41**	**176**	P	**P**	**22 46 33.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**10.65**	**265**		**Pn**	**22 46 33.7**	**-2.0**
JAGI	**Jajag, Banyuwa**	**10.65**	**265**	P	**Pn**	**22 46 35.2**	**-0.6**
JAGI	**Jajag, Banyuwa**	**10.65**	**265**	P	**Pn**	**22 46 34.0**	**-1.8**
	39nm,1.2s						
RKPI	**Ransiki, Papua**	**11.09**	**57**	P	**P**	**22 46 40.4**	**-0.4**
	95nm,0.7s,7µm						
GMJI	**Gumukmas**	**11.34**	**266**	P	**P**	**22 46 43.0**	**-0.5**
	33nm,1.1s						
UGM	**Wanagama**	**14.23**	**268**	P	**P**	**22 47 15.5**	**+0.1**
UGM	**Wanagama**	**14.23**	**268**	P	**Pn**	**22 47 17.1**	**-0.4**
MBWA	**Marble Bar**	**14.32**	**200**	P	**P**	**22 47 16.6**	**+0.4**
MBWA	**Marble Bar**	**14.32**	**200**	P	**P**	**22 47 17.1**	**+0.8**
PSA00	**Pilbara Seismi**	**14.67**	**199**	P	**P**	**22 47 20.5**	**+0.4**
PSA00	**Pilbara Seismi**	**14.67**	**199**	P	**P**	**22 47 19.9**	**-0.2**
SMPI	**Sarmi**	**14.88**	**68**	P	**Pn**	**22 47 25.3**	**+0.3**
	102nm,1.0s,8µm						
WB0	**Warramunga Arr**	**15.17**	**144**	P	**P**	**22 47 25.9**	**+0.3**
WB0				IAmb	IAmb	22 47 31.0	
	comp=Z,7.5nm,0.5s						
WRAB	**Tennant Creek**	**15.28**	**144**	P	**P**	**22 47 27.5**	**+0.8**
WRA	**Warramunga Arr**	**15.28**	**144**	P	**P**	**22 47 27.3**	**+0.6**
	comp=Z,3.0nm,0.4s,baz=316,slow=13,SNR=43						
WRA				S	**S**	**22 50 11.3**	**+1.6**
	comp=Z,26nm,0.8s,baz=317,slow=21,SNR=29						
WRA	**Warramunga Arr**	**15.28**	**144**	P	**P**	**22 47 26.2**	**-0.5**
WB2	**Warramunga Arr**	**15.28**	**144**	P	**P**	**22 47 26.8**	**0.0**
WB2				IAmb	IAmb	22 47 32.0	
	comp=Z,11nm,0.5s						
WB1	**Warramunga Ar.**	**15.29**	**144**	P	**P**	**22 47 27.4**	**+0.5**
LEM	**Lembang**	**17.14**	**272**	P	**P**	**22 47 48.2**	**+1.1**
	comp=Z,32nm,0.4s,baz=14,slow=8.5,SNR=6.1						
WRKA	**Warakurna**	**17.59**	**170**	P	**P**	**22 47 52.2**	**+0.6**
GIRL	**Giralia**	**18.09**	**213**	P	**P**	**22 47 57.8**	**+1.0**
GIRL	**Giralia**	**18.09**	**213**	P	**P**	**22 47 56.4**	**-0.4**
AS31	**Alice Springs**	**18.12**	**152**	P	**P**	**22 47 58.6**	**+1.3**
ASAR	**Alice Springs**	**18.13**	**152**	P	**P**	**22 47 58.0**	**+0.7**
	comp=Z,5.2nm,0.4s,baz=319,slow=8.4,SNR=75						
ASAR				S	**S**	**22 51 05.5**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=334,slow=19,SNR=8.0						
ASAR				ScP	**ScP**	**22 55 10.2**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=340,slow=1.6,SNR=5.1						
ASAR	**Alice Springs**	**18.13**	**152**	P	**P**	**22 47 58.2**	**+0.9**
AS01	**Alice Springs**	**18.15**	**152**	P	**P**	**22 47 58.1**	**+0.6**
	comp=Z,14nm,0.7s						
COEN	**Coen**	**19.02**	**111**	P	**P**	**22 48 06.0**	**-0.8**
COEN	**Coen**	**19.02**	**111**	P	**P**	**22 48 06.5**	**-0.4**
QIS	**Mount Isa**	**19.18**	**134**	P	**P**	**22 48 08.8**	**+0.4**
OOD	**Oodnadatta**	**22.50**	**154**	P	**P**	**22 48 40.0**	**+0.8**
MORW	**Morawa**	**22.87**	**200**	P	**P**	**22 48 42.5**	**-0.1**
MORW				IAmb	IAmb	22 48 45.5	
	comp=Z,15nm,0.9s						
MORW	**Morawa**	**22.87**	**200**	P	**P**	**22 48 43.3**	**+0.7**
FORT	**Forrest**	**23.20**	**173**	P	**P**	**22 48 45.5**	**0.0**
FORT	**Forrest**	**23.20**	**173**	P	**P**	**22 48 45.8**	**+0.3**
KMBL	**Kambalda**	**23.76**	**186**	P	**P**	**22 48 51.1**	**+0.5**
BLDU	**Ballidu**	**24.09**	**197**	P	**P**	**22 48 53.5**	**-0.1**
MULG	**Mulgathing**	**24.10**	**160**	P	**P**	**22 48 54.2**	**+0.5**
KLBR	**Kellerberrin**	**24.73**	**195**	P	**P**	**22 48 59.5**	**+0.2**
MUN	**Mundaring**	**25.52**	**197**	P	**P**	**22 49 06.3**	**0.0**
NWAO	**Narrogin (SRO)**	**26.13**	**195**	P	**P**	**22 49 12.1**	**+0.4**
NWAO				IAmb	IAmb	22 49 24.2	
	comp=Z,26nm,1.1s						
NWAO	**Narrogin (SRO)**	**26.13**	**195**	P	**P**	**22 49 11.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**26.13**	**195**	P	**P**	**22 49 12.2**	**+0.4**
BBOO	**Buckleboo**	**27.10**	**159**	P	**P**	**22 49 20.7**	**+0.3**
BBOO				IAmb	IAmb	22 49 24.1	
	comp=Z,19nm,1.2s						
BBOO	**Buckleboo**	**27.10**	**159**	P	**P**	**22 49 20.9**	**+0.5**
KULM	**Kulim**	**27.38**	**297**	P	**P**	**22 49 21.8**	**-1.3**
KULM				IAmb	IAmb	22 49 50.2	
	comp=Z,13nm,1.5s						
RKGY	**Rocky Gully**	**27.80**	**194**	P	**P**	**22 49 28.5**	**+2.0**
STKA	**Stephens Creek**	**28.70**	**149**	P	**P**	**22 49 35.1**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=312,slow=9.2,SNR=8.5						
	comp=Z,2.5nm,0.3s						
STKA	**Stephens Creek**	**28.70**	**149**	P	**P**	**22 49 34.8**	**+0.3**
HTT	**Hallett**	**28.76**	**155**	P	**P**	**22 49 36.5**	**+1.4**
TPUB	**Ta-pu**	**31.04**	**352**	P	**P**	**22 49 53.8**	**-1.3**
YHNB	**Yeheng**	**32.31**	**354**	P	**P**	**22 50 04.9**	**-1.1**
ARPS	**Mount Arapiles**	**32.84**	**154**	P	**P**	**22 50 10.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**36.44**	**316**	P	**P**	**22 50 42.0**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=143,slow=6.8,SNR=6.7						
	comp=Z,0.7nm,0.5s						
KMI	**Kunming**	**39.07**	**327**	⇑P	**P**	**22 51 01.9**	**-1.2**
KMI				pP	PP	22 52 43.3	+1.0
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KOUNC	**Koumac, New Ca**	**40.19**	**113**	P	**P**	**22 51 12.7**	**+0.5**
KOUNC				IAmb	IAmb	22 51 24.7	
	comp=Z,23nm,1.5s						
PZH	**PanZhiHua**	**40.70**	**327**	P	**P**	**22 51 19.0**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
OUENC	**Ouen Island, N**	**42.93**	**115**	P	**P**	**22 51 34.9**	**+0.8**
JHS	**Saijyo**	**43.13**	**10**	P	**P**	**22 51 35.7**	**+0.2**
JGF	**Kuroka**	**44.60**	**15**	P	**P**	**22 51 46.8**	**-0.2**
JGF				IAmb	IAmb	22 52 14.0	
	comp=Z,12nm,1.1s						
KSRS	**Korea Array**	**44.96**	**3**	P	**P**	**22 51 49.7**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=179,slow=9.6,SNR=3.2						
	comp=Z,1.8nm,0.8s						
MJAR	**Matsushiro Arr**	**45.71**	**15**	P	**P**	**22 51 55.0**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=184,slow=8.8,SNR=8.7						
	comp=Z,4.3nm,0.7s						
JMM	**Marumori**	**47.66**	**17**	P	**P**	**22 52 11.5**	**+1.0**
JMM				IAmb	IAmb	22 52 13.8	
	comp=Z,17nm,0.8s						
LZH	**Lanzhou**	**47.79**	**337**	*eP*	**P**	**22 52 12.6**	**+0.9**
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
LSA	**Lhasa**	**49.30**	**320**	P	**P**	**22 52 24.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**49.79**	**347**	*eP*	**P**	**22 52 27.8**	**+1.2**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,270nm,5.0s						
TAPN	**Taplejung**	**50.05**	**315**	*eP*	**P**	**22 52 29.8**	**+0.8**
	comp=Z,11nm,0.4s						
RAMN	**Ramite**	**50.59**	**314**	*eP*	**P**	**22 52 34.0**	**+1.1**
	comp=Z,13nm,0.5s						
JIRN	**Jiri**	**51.30**	**315**	*eP*	**P**	**22 52 39.0**	**+0.6**
	comp=Z,3.6nm,0.3s						
PKI	**Pulchoki**	**51.80**	**314**	*eP*	**P**	**22 52 42.1**	**+0.1**
	comp=Z,6.7nm,0.5s						
PKIN	**Phulchoki**	**51.82**	**314**	*eP*	**P**	**22 52 42.3**	**+0.3**
	comp=Z,3.1nm,0.4s						
USRK	**Ussuriysk

AS31	**Alice Springs**	**26.34**	**226**	P	**P**	**22 51 35.1**	**-2.2**
ASAR	**Alice Springs**	**26.34**	**226**	P	**P**	**22 51 37.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=56,slow=9.4,SNR=4.1						
ASAR				PcP	**PcP**	**22 55 03.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=61,slow=2.8,SNR=2.6						
ASAR				LR	LR	23 00 16.6	
	comp=Z,413nm,19.4s,baz=198,slow=32						
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**26.34**	**226**	P	**P**	**22 51 35.7**	**-1.7**
H11S3	**WAKE ISLAND Hy**	**27.25**	**26**	T	T	23 20 17.7	
	baz=207,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.26**	**26**	T	T	23 20 04.7	
	baz=207,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.27**	**26**	T	T	23 20 16.5	
	baz=207						
RAR	**Rarotonga**	**46.87**	**113**	LR	LR	23 12 45.8	
	comp=Z,217nm,21.4s,baz=224,slow=34						
CMAR	**Chiang Mai Arr**	**59.80**	**295**	P	**P**	**22 56 07.6**	**+0.9**
BRDH	**Bariadhala**	**67.60**	**297**	LR	LR	23 27 09.1	
	comp=Z,301nm,21.6s,baz=220,slow=36						
SONM	**Songino Array**	**68.20**	**327**	P	**P**	**22 57 01.3**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=142,slow=5.3,SNR=3.3						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**68.20**	**327**	P	**P**	**22 57 02.1**	**+0.6**
SONM				IAmb	IAmb	22 57 07.1	
	comp=Z,2.4nm,1.4s						
M20K	**Styx River**	**78.78**	**23**	P	**P**	**22 58 04.4**	**+1.0**
CAST	**Castle Rocks**	**80.08**	**22**	P	**P**	**22 58 10.8**	**+0.4**
CAST				IAmb	IAmb	22 58 14.2	
	comp=Z,1.8nm,1.0s						
IMAR	**Indian Mountai**	**81.05**	**19**	P	**P**	**22 58 16.0**	**+0.6**
MKAR	**Makanchi Array**	**82.28**	**319**	P	**P**	**22 58 21.9**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=96,slow=6.5,SNR=2.0						
	comp=Z,0.1nm,0.4s						
ILAR	**Eielson Array**	**82.73**	**22**	P	**P**	**22 58 26.3**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=241,slow=4.4,SNR=7.2						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.15**	**287**	PKPbc	**PKPbc**	**23 05 56.6**	**-0.7**
	comp=Z,4.2nm,0.4s,baz=68,slow=3.8,SNR=1.8						
TORD				PKPab	**PKPab**	**23 06 06.2**	**-0.8**
	comp=Z,4.9nm,0.6s,baz=66,slow=4.4,SNR=1.4						

*IDC **11** 22:54:14.8±8.4,5.°85S×153.°82E,h62^{km}±59^{km},mb3.1/3, mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=78.5km s-min=29.7km az=89.0*

ISC 11 22:54:12.7±1.8,**5.°9S**±0.°1×**154.°0E**±0.°2,**h48**^{km},**n9,**σ0^{s}**60**/7, **mb3.3**/3,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.50**	**309**	P	**Pn**	**22 54 51.5**	**+0.6**
	8.8nm,0.3s,baz=173,slow=8.1,SNR=1.8						
KRVT				S	**Sn**	**22 55 19.8**	**-0.4**
	56nm,0.6s,baz=80,slow=19,SNR=1.9						
	45nm,0.5s						
PMG	**Port Moresby**	**7.60**	**242**	S	**Sn**	**22 57 25.7**	**-0.2**
	8.6nm,0.3s,baz=260,slow=21,SNR=1.5						
WRA	**Warramunga Arr**	**23.65**	**232**	P	**P**	**22 59 20.3**	**+0.4**
	0.3nm,0.6s,baz=56,slow=9.5,SNR=2.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**26.18**	**225**	P	**P**	**22 59 42.5**	**-0.4**
	0.9nm,0.9s,baz=63,slow=8.8,SNR=3.5						
	0.9nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**27.28**	**27**	T	T	23 28 21.5	
	baz=208						
H11S2	**WAKE ISLAND Hy**	**27.29**	**27**	T	T	23 28 17.8	
	baz=208						
H11S1	**WAKE ISLAND Hy**	**27.30**	**27**	T	T	23 28 22.6	
	baz=208						
MKAR	**Makanchi Array**	**81.91**	**319**	P	**P**	**23 06 26.7**	**-0.6**
	0.5nm,0.8s,baz=108,slow=5.1,SNR=5.1						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.75**	**287**	PKPbc	**PKPbc**	**23 14 03.6**	**+0.5**
	3.5nm,0.3s,baz=60,slow=2.4,SNR=1.8						

*IDC **11** 23:05:19.6±2.0,43.°62N×105.°44W,h0^{km},mbtmp3.1/3, ML3.0/3,Error ellipse: s-maj=45.6km s-min=9.2km az=151.0*

*NEIC **11** 23:05:21.2±0.8,43.°73N±0.°05×105.°28W±0.°05,h0^{km}±2^{km}, ML3.0/34,Error ellipse: s-maj=10.0km s-min=5.2km az=333.0*

ISC 11 23:05:20.6±1.1,**43.°74N**±0.°06×**105.°26W**±0.°08,**h0**^{km},**n28,** σ0^{s}**83**/28,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.96**	**66**	Pg	**Pb**	**23 05 40.3**	**-0.1**
K22A	**Casper**	**1.43**	**221**	Pn	**Pn**	**23 05 45.5**	**-2.4**
K22A				IAML		23 06 09.5	
	comp=N,156nm,0.6s						
PHWY	**Pilot Hill**	**2.44**	**184**	Pn	**Pn**	**23 06 01.3**	**-0.7**
RWWY	**Rawlins**	**2.50**	**216**	Pn	**Pn**	**23 06 03.7**	**+0.8**
RWWY				IAML		23 06 37.3	
	comp=N,116nm,0.9s						
N23A	**Red Feather La**	**2.89**	**190**	Pn	**Pn**	**23 06 08.6**	**+0.4**
N23A				IAML		23 06 53.2	
	comp=E,63nm,0.7s						
N23A				IAML		23 06 58.2	
	comp=N,60nm,0.7s						
LAO	**LASA Array**	**3.03**	**347**	Pn	**Pn**	**23 06 11.4**	**+1.5**
LAO				IAML		23 07 09.3	
	comp=N,70nm,0.6s						
RLMT	**Red Lodge**	**3.19**	**297**	Pn	**Pn**	**23 06 12.4**	**+0.2**
RLMT				IAML		23 07 07.8	
	comp=N,30nm,0.7s						
PD31	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**23 06 13.7**	**+0.1**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**23 06 13.4**	**-0.2**
	comp=N,1.5nm,0.3s,baz=80,slow=16,SNR=26						
PDAR				Lg	Lg	23 06 57.4	
	comp=N,4.7nm,0.3s,baz=74,slow=33,SNR=16						
	comp=N,2.3nm,0.4s						
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**23 06 13.7**	**+0.1**
YMP	**Mirror Lake Pl**	**3.66**	**288**	Pn	**Pn**	**23 06 19.6**	**+0.8**
GCMT	**Greyclift**	**3.75**	**305**	Pn	**Pn**	**23 06 18.6**	**-1.2**
LKWY	**Lake**	**3.79**	**284**	Pn	**Pn**	**23 06 20.6**	**+0.1**
LKWY				IAML		23 07 31.6	
	comp=N,26nm,1.0s						
H17A	**Grant Village**	**3.89**	**282**	Pn	**Pn**	**23 06 23.2**	**+1.3**
H17A				IAML		23 07 24.7	
	comp=N,20nm,0.5s						
H17A				IAML		23 07 24.8	
	comp=E,20nm,0.6s						
ISCO	**Idaho Springs**	**3.94**	**184**	Pn	**Pn**	**23 06 22.6**	**-0.1**
O20A	**White River Ci**	**4.23**	**213**	Pn	**Pn**	**23 06 26.1**	**-0.5**
O20A				IAML		23 07 39.0	
	comp=E,23nm,0.8s						
O20A				IAML		23 08 33.5	
	comp=N,20nm,2.9s						
YHL	**Hebgen Lake**	**4.39**	**287**	Pn	**Pn**	**23 06 28.9**	**0.0**
YHL				IAML		23 07 45.5	
	comp=N,13nm,2.8s						
YHL				IAML		23 07 54.8	
	comp=E,16nm,1.1s						
BOZ	**Bozeman (W)**	**4.91**	**294**			**23 06 35.6**	**-0.2**
BOZ				IAML		23 08 12.0	
	comp=E,8.6nm,4.5s						
HWUT	**Hardware Ranch**	**5.11**	**248**	Pn	**Pn**	**23 06 38.7**	**+0.1**
HWUT				IAML		23 08 12.4	
	comp=E,14nm,1.4s						
HWUT				IAML		23 08 12.8	
	comp=E,14nm,0.8s						
TCUT	**Toone Canyon**	**5.25**	**242**	Pn	**Pn**	**23 06 41.2**	**+0.6**
EGMT	**Eagleton**	**5.31**	**325**	Pn	**Pn**	**23 06 39.9**	**-1.4**
P18A	**Preston Nutter**	**5.55**	**224**		**Pn**	**23 06 44.9**	**+0.1**
P17A	**Butcher Ranch,**	**5.92**	**226**		**Pn**	**23 06 50.0**	**+0.3**
ECSD	**EROS Data Cent**	**6.26**	**87**	Pn	**Pn**	**23 06 54.8**	**+0.6**
DUG	**Dugway, Tooele**	**6.65**	**240**	Pn	**Pn**	**23 06 59.4**	**-0.3**
MSU	**Marysvale**	**7.38**	**227**	Pn	**Pn**	**23 07 09.8**	**0.0**
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**23 07 32.8**	**-0.8**
	comp=E,0.8nm,0.3s,baz=231,slow=11,SNR=6.5						
ULM				Lg	Lg	23 10 05.7	
	comp=E,0.1nm,0.3s,baz=343,slow=20,SNR=2.1						
	comp=E,1.9nm,0.4s						
YKA	**Yellowknife Ar**	**19.57**	**347**	P	**Pn**	**23 09 50.8**	**-0.2**
	baz=160,slow=12,SNR=2.1						
	comp=E,0.1nm,0.6s						

*IDC **11** 23:21:24.0±4.6,20.°57S×179.°00W,h607^{km}±32^{km},mb2.8/5, mbtmp3.7/6,Error ellipse: s-maj=126.1km s-min=20.7km az=148.0*

ISC 11 23:21:22.6±1.5,**20.°8S**±0.°4×**178.°9W**±0.°2,**h600**^{km},**n10,** σ0^{s}**86**/11,**mb3.4**/5,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.19**	**316**	P	**P**	**23 22 49.9**	**+0.3**
	8.1nm,0.6s,baz=144,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**43.66**	**257**	P	**P**	**23 28 36.2**	**+0.2**
	0.9nm,0.8s,baz=91,slow=7.9,SNR=9.2						
ASAR				PcP	**PcP**	**23 30 09.9**	**+0.4**
	0.5nm,0.6s,baz=100,slow=4.8,SNR=4.5						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**43.75**	**263**	P	**P**	**23 28 36.6**	**-0.1**
	0.2nm,0.3s,baz=97,slow=7.6,SNR=7.7						
	0.2nm,0.3s						
NVAR	**Mina Array Bea**	**81.78**	**44**	P	**P**	**23 32 41.2**	**+1.0**
	0.8nm,0.7s,baz=206,slow=8.0,SNR=2.4						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**88.76**	**13**	P	**P**	**23 33 12.2**	**-0.7**
	0.3nm,0.5s,baz=216,slow=5.0,SNR=7.8						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**89.72**	**44**	P	**P**	**23 33 18.6**	**+0.4**
	0.4nm,0.6s,baz=195,slow=3.8,SNR=3.9						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**129.03**	**349**	PKP	**PKPdf**	**23 39 22.3**	**-0.3**
	4.6nm,1.1s,baz=45,slow=1.4,SNR=1.6						
AKASG	**Malin Array Be**	**142.84**	**330**	PKP	**PKPdf**	**23 39 46.7**	**-1.9**
	1.7nm,0.4s,baz=39,slow=4.2,SNR=17						
BRTR	**Keskin Array B**	**146.41**	**311**	PKPbc	**PKPbc**	**23 39 58.3**	**+0.5**
	0.8nm,0.6s,baz=86,slow=3.4,SNR=4.5						
GERES	**GERESS Array B**	**150.23**	**343**	PKPbc	**PKPbc**	**23 40 07.4**	**+0.5**
	0.2nm,0.6s,baz=35,slow=3.6,SNR=3.6						

*HVO **11** 23:21:56.6±1.5,19.°46N±0.°02×154.°89W±0.°03,h0^{km}±9^{km}, ML2.3/7,ML2.3/24(NEIC),Error ellipse: s-maj=4.9km s-min=1.7km az=110.0*

NEIC 11 23:21:54.8±1.1,**19.°49N**±0.°06×**154.°82W**±0.°07,**h33**^{km}±8^{km}, **Error ellipse: s-maj=9.9km s-min=8.3km az=134.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.06**	**266**		Pb	23 21 57.5	-2.8
JOKA	**Jonika Flow**	**0.18**	**253**		Pn	23 21 59.5	-1.4
JOKA					Sn	23 22 01.6	-2.5
STCH	**Steam Cracks**	**0.30**	**251**		Pb	23 22 01.8	-0.8
STCH	**Steam Cracks**	**0.30**	**251**	IAML		23 22 06.5	
	comp=E,335nm,0.9s						
STCH				IAML		23 22 07.0	
	comp=N,397nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.34**	**252**		Pb	23 22 02.9	-0.3
PUH	**Pauahi**	**0.39**	**253**		Pb	23 22 03.8	+0.1
PUH	**Pauahi**	**0.39**	**253**	IAML		23 22 05.5	
	comp=N,313nm,3.6s						
PUH				IAML		23 22 10.6	
	comp=E,178nm,1.7s						
HATHI	**Halema'uma'u T**	**0.42**	**261**		Pn	23 22 04.6	-0.1
HATHI	**Halema'uma'u T**	**0.42**	**261**	IAML		23 22 09.7	
	comp=N,349nm,0.9s						
HATHI				IAML		23 22 13.1	
	comp=E,454nm,1.0s						
SBLHI	**Steaming Bluff**	**0.42**	**262**		Pb	23 22 04.5	+0.2
SBLHI	**Steaming Bluff**	**0.42**	**262**	IAML		23 22 06.5	
	comp=E,230nm,2.0s						
SBLHI				IAML		23 22 07.1	
	comp=N,363nm,1.5s						
RSD	**Rainshed**	**0.43**	**267**		Pn	23 22 04.9	+0.1
RSD					Sn	23 22 11.5	-0.1
RSD	**Rainshed**	**0.43**	**267**	IAML		23 22 11.8	
	comp=E,302nm,0.4s						
RSD				IAML		23 22 12.3	
	comp=N,246nm,0.3s						
HLP	**Hilina Pali**	**0.49**	**248**		Sn	23 22 12.9	-0.2
HLP	**Hilina Pali**	**0.49**	**248**		Pn	23 22 05.8	+0.2
HLP	**Hilina Pali**	**0.49**	**248**	IAML		23 22 06.3	
	comp=E,447nm,3.4s						
HLP				IAML		23 22 10.1	
	comp=N,287nm,2.1s						
MLH	**Mauna Loa**	**0.53**	**271**		Pn	23 22 06.4	+0.1
MLH				IAML		23 22 21.0	
	comp=N,268nm,1.8s						
MLH	**Mauna Loa**	**0.53**	**271**		Sn	23 22 14.2	-0.1
HTC	**Hot Caves**	**0.60**	**246**		Pn	23 22 07.3	+0.3
AIN	**Ainahou**	**0.61**	**259**		Pn	23 22 07.6	+0.3
AIN	**Ainahou**	**0.61**	**259**	IAML		23 22 22.8	
	comp=N,251nm,0.4s						
AIN				IAML		23 22 23.9	
	comp=E,149nm,1.9s						
HMH	**Humu'ula Sheep**	**0.63**	**281**		Pb	23 22 07.1	-0.6
MLOA	**Mauna Loa Obse**	**0.71**	**274**	Pg	Pn	23 22 08.7	-0.2
MLOA				IAML		23 22 25.8	
	comp=E,120nm,3.9s						
MLOA				IAML		23 22 26.0	
	comp=N,192nm,3.1s						
MWH	**Moku'aweowe**	**0.73**	**270**		Pn	23 22 09.0	-0.3
MWH				IAML		23 22 24.1	
	comp=N,171nm,2.5s						
ALEP	**Alea Permanent**	**0.78**	**274**		Pn	23 22 08.8	-0.9
KHU	**Kahuku**	**0.78**	**252**		Pn	23 22 09.3	-0.4
KHLU	**Kahalu`u**	**1.01**	**276**	Pg	Pb	23 22 14.2	+0.2

WEL 11 23:55:38.8±1.3,**41.°5S**±10.°×**17.°2E**±1.°2,**h175**^{km}±9^{km},**M2.5/6, MLv2.5/6,Error ellipse: s-maj=0.0km s-min=0.0km az=106.3,confirmed,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRNZ	**Matariki Terra**	**0.25**	**126**	P	Pn	23 56 03.0	+0.9
MRNZ				S	Sn	23 56 21.7	+1.6
TKNZ	**Takaka Hill**	**0.42**	**58**	P	Pn	23 56 03.6	+0.9
TKNZ				S	Sn	23 56 22.7	+1.8
QRZ	**Quartz Range**	**0.43**	**4**	P	Pn	23 56 03.7	+1.0
QRZ				S	Sn	23 56 22.8	+1.8
THZ	**Tophouse**	**0.60**	**148**	P	Pn	23 56 04.4	+1.0
NNZ	**Nelson**	**0.67**	**87**	P	Pn	23 56 04.3	+0.6
DSZ	**Denniston Nort**	**0.71**	**226**	P	Pn	23 56 04.9	+0.8
TUWZ	**Tuamarina**	**1.11**	**100**	P	Pn	23 56 07.2	+0.5
DUWZ	**D'Urville Isla**	**1.18**	**68**	P	Pn	23 56 02.6	-4.7
TCW	**Tory Channel**	**1.35**	**89**	P	Pn	23 56 08.7	-0.1
KHZ	**Kahutara**	**1.40**	**146**	P	Pn	23 56 09.4	+0.1
LTZ	**Lake Taylor**	**1.54**	**186**	P	Pn	23 56 10.9	+0.3
INZ	**Inchbonnie**	**1.66**	**208**	P	Pn	23 56 11.7	-0.1
GVZ	**Greta Valley S**	**1.76**	**167**	P	Pn	23 56 12.7	-0.2
KIW	**Kapiti Island**	**1.87**	**79**	P	Pn	23 56 13.2	-0.8
CAW	**Cannon Point**	**1.95**	**87**	P	Pn	23 56 14.0	-0.9
OGWZ	**Otaki Gorge**	**2.08**	**79**	P	Pn	23 56 15.4	-0.8
OXZ	**Oxford**	**2.10**	**189**	P	Pn	23 56 15.8	-0.7
PLWZ	**Palliser**	**2.10**	**100**	P	Pn	23 56 15.5	-1.1
PAWZ	**Paruwai Farm**	**2.22**	**94**	P	Pn	23 56 16.6	-1.2
MTW	**Mount Morrison**	**2.27**	**89**	P	Pn	23 56 17.3	-1.2
HOWZ	**Holdsworth Sta**	**2.32**	**82**	P	Pn	23 56 17.7	-1.3
MHCZ	**Mount Hutt**	**2.38**	**196**	P	Pn	23 56 18.7	-1.0
MRZ	**Mangatainoka R**	**2.41**	**77**	P	Pn	23 56 18.6	-1.6
TRWZ	**Traveller**	**2.41**	**94**	P	Pn	23 56 18.5	-1.6
WAZ	**Wanganui**	**2.42**	**53**	P	Pn	23 56 19.6	-0.6
MQZ	**McQueen's Vall**	**2.45**	**177**	P	Pn	23 56 18.9	-1.6
TMWZ	**Te Maipa**	**2.57**	**88**	P	Pn	23 56 20.7	-1.3
WACZ	**Wakanui South**	**2.73**	**190**	P	Pn	23 56 23.0	-0.7
PRWZ	**Pori Road**	**2.73**	**76**	P	Pn	23 56 22.2	-1.6
ARCZ	**Arundel**	**2.86**	**199**	P	Pn	23 56 24.0	-1.4
TSZ	**Takapari Road**	**2.90**	**67**	P	Pn	23 56 24.0	-1.9
PKVZ	**Pokaka**	**2.94**	**49**	P	Pn	23 56 26.7	+0.3
MTVZ	**Mangateitei**	**2.95**	**52**	P	Pn	23 56 28.4	+1.9
DVHZ	**Dannevirke**	**2.95**	**72**	P	Pn	23 56 24.5	-2.1
FOZ	**Fox Glacier**	**3.02**	**220**	P	Pn	23 56 25.6	-1.7
PNHZ	**Pukenui**	**3.13**	**66**	P	Pn	23 56 26.6	-2.2
TMZ	**Timaru**	**3.31**	**199**	P	Pn	23 56 29.9	-1.1
KRHZ	**Kereru**	**3.37**	**63**	P	Pn	23 56 29.3	-2.4
KAHZ	**Kahuranaki**	**3.65**	**68**	P	Pn	23 56 33.2	-2.1

*IDC **12** 00:02:27.2±3.6,4.°63S×153.°88E,h94^{km}±26^{km},mb3.7/9, mbtmp4.1/10,Error ellipse: s-maj=33.6km s-min=16.4km az=99.0*

*NEIC **12** 00:02:31.4±1.0,4.°6S±0.°1×153.°6E±0.°1,h117^{km}±8^{km}, mb4.4/18,Error ellipse: s-maj=17.3km s-min=15.1km az=182.0*

ISC 12 00:02:27.8±0.8,**4.°68S**±0.°08×**153.°85E**±0.°10,**h100**^{km},**n36,** σ1^{s}**08**/39,**mb4.1**/18,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.75**	**286**		**Pn**	**00 02 58.6**	**+1.4**
RABL				Sn	**Sn**	**00 03 19.5**	**-0.1**
KRVT	**Keravat (AS076**	**1.86**	**282**	P	**Pn**	**00 02 59.0**	**+0.5**
	480nm,0.6s,baz=178,slow=7.1,SNR=20						
KRVT				S	**Sn**	**00 03 21.1**	**-0.9**
	355nm,0.4s,baz=124,slow=11,SNR=5.3						
PMG	**Port Moresby**	**8.13**	**234**	P	**Pn**	**00 04 25.0**	**+1.9**
	120nm,0.5s,baz=52,slow=7.2,SNR=47						
PMG				S	**Sn**	**00 05 54.8**	**+1.4**
	25nm,0.6s,baz=34,slow=11,SNR=2.1						
PMG	**Port Moresby**	**8.13**	**234**		**Pn**	**00 04 24.7**	**+1.6**
COEN	**Coen**	**13.99**	**228**	Pn	**P**	**00 05 44.3**	**-2.1**
EIDS	**Eidsvold**	**20.74**	**187**	P	Pn	00 07 03.6	-0.1
EIDS				IAmb	IAmb	00 07 04.0	
	comp=Z,8.8nm,1.2s						
MTN	**Manton Dam**	**23.85**	**249**	P	**P**	**00 07 32.0**	**-0.1**
MTN				IAmb	IAmb	00 07 56.3	
	comp=Z,32nm,1.5s						
WB0	**Warramunga Arr**	**24.17**	**230**	P	**P**	**00 07 35.4**	**+0.5**
WB0				IAmb	IAmb	00 07 37.0	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**24.31**	**230**	P	**P**	**00 07 36.6**	**+0.3**
	comp=Z,12nm,0.7s,baz=54,slow=10,SNR=115						
WRA				PcP	**PcP**	**00 11 13.0**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=26,slow=5.5,SNR=2.0						
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**24.31**	**230**	P	**P**	**00 07 36.4**	**+0.1**
AS31	**Alice Springs**	**26.95**	**224**	P	**P**	**00 08 00.0**	**0.0**
ASAR	**Alice Springs**	**26.95**	**224**	P	**P**	**00 08 00.1**	**0.0**
	comp=Z,2.2nm,0.6s,baz=53,slow=8.9,SNR=25						
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**26.95**	**224**	P	**P**	**00 08 00.3**	**+0.2**
KNRA	**Kununurra**	**26.96**	**244**	P	**P**	**00 07 59.2**	**-1.0**
KNRA				IAmb	IAmb	00 08 22.0	
	comp=Z,30nm,1.3s						
STKA	**Stephens Creek**	**29.39**	**202**	P	**P**	**00 08 22.3**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=347,slow=9.2,SNR=4.0						
	comp=Z,2.1nm,0.6s						
FORT	**Forrest**	**35.54**	**220**	P	**P**	**00 09 14.1**	**-1.3**
MBWA	**Marble Bar**	**36.94**	**241**	P	**P**	**00 09 26.6**	**-0.8**
PSA00	**Pilbara Seismi**	**36.99**	**240**	P	**P**	**00 09 26.8**	**-1.0**
MORW	**Morawa**	**43.23**	**232**	P	**P**	**00 10 18.7**	**-0.7**
MORW				IAmb	IAmb	00 10 28.3	
	comp=Z,18nm,1.3s						
CMAR	**Chiang Mai Arr**	**58.78**	**295**	P	**P**	**00 12 17.4**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=97,slow=5.7,SNR=4.7						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**66.79**	**327**	P	**P**	**00 13 09.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=138,slow=6.4,SNR=8.5						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**66.79**	**327**	P	**P**	**00 13 09.4**	**+0.6**
SUA	**Susitna One**	**78.43**	**24**	P	**P**	**00 14 19.1**	**+1.6**
SUA				IAmb	IAmb	00 14 21.9	
	comp=Z,13nm,1.5s						
CAST	**Castle Rocks**	**79.01**	**22**	P	**P**	**00 14 22.1**	**+1.7**
CAST				IAmb	IAmb	00 14 50.2	
	comp=Z,2.6nm,1.2s						
TRF	**Thorofare Moun**	**79.69**	**22**	P	**P**	**00 14 26.1**	**+1.7**
TRF				IAmb	IAmb	00 14 51.6	
	comp=Z,3.6nm,1.1s						
IMAR	**Indian Mountai**	**79.93**	**19**	P	**P**	**00 14 26.8**	**+1.4**
BWN	**Browne**	**80.39**	**22**	P	**P**	**00 14 29.4**	**+1.5**
MK31	**Makanchi Array**	**80.93**	**319**	P	**P**	**00 14 31.3**	**+0.1**
MKAR	**Makanchi Array**	**80.93**	**319**	P	**P**	**00 14 31.6**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=97,slow=8.0,SNR=9.7						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**80.93**	**319**	P	**P**	**00 14 31.4**	**+0.2**
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	**P**	**00 14 33.1**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=93,slow=7.7,SNR=4.2						
	comp=Z,0.7nm,0.5s						
ILAR	**Eielson Array**	**81.66**	**22**	P	**P**	**00 14 34.2**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=246,slow=5.8,SNR=10						
	comp=Z,0.6nm,0.7s						
NIL	**Nilore**	**84.78**	**304**	P	**P**	**00 14 51.4**	**0.0**
NIL				IAmb	IAmb	00 14 52.5	
	comp=Z,5.5nm,0.6s						
CHGR	**Chuyangaron**	**88.75**	**309**	P	**P**	**00 15 10.6**	**-0.1**
CHGR				IAmb	IAmb	00 15 11.8	
	comp=Z,6.0nm,0.9s						
YKA	**Yellowknife Ar**	**94.84**	**28**	P	**P**	**00 15 37.0**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=297,slow=6.9,SNR=2.5						
	comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.26**	**289**	PKPbc	**PKPbc**	**00 22 10.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=76,slow=1.8,SNR=7.9						

*IDC **12** 00:06:47.5±4.8,10.°59S×108.°31W,h0^{km},mb3.5/5, mbtmp3.5/5,MS3.9/15,Error ellipse: s-maj=278.8km s-min=66.3km az=101.0*

ISC 12 00:06:49.1±2.9,**10.°6S**±0.°4×**10.°8W**±.°,**h10**^{km},**n35,** σ0^{s}**54**/7, **mb3.4**/5,**MS4.0**/15,**Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

UPP ***12*** *00:32:01.2±0.0, 67.°83N×20.°20E, h0km, ML2.6, Suspected explosion*
HEL ***12*** *00:32:01.9±0.2, 67.°82N×20.°27E, h0km, ML1.7, Explosion*
ISC 12 00:32:01.1±0.8, 67.82N±0.02×20.23E±0.02, h0km, n27, σ0≤99/44, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.24**	**271**	P	**Pg**	**00 32 05.8**	**+0.1**
RATU				S	**Sg**	**00 32 09.0**	**+0.2**
KOVU	**Salmi**	**0.41**	**356**	P	**Pg**	**00 32 08.7**	**-0.1**
KOVU				S	**Sg**	**00 32 14.0**	**-0.1**
NIKU	**Nikkaluokta**	**0.46**	**277**	P	**Pg**	**00 32 09.7**	**-0.1**
NIKU				S	**Sg**	**00 32 15.9**	**+0.2**
LANU	**Lannavaara**	**0.70**	**70**	P	**Pg**	**00 32 14.6**	**+0.1**
LANU	**Lannavaara**	**0.70**	**70**	PG	**Pg**	**00 32 14.3**	**-0.2**
LANU				SG	**Sg**	**00 32 23.8**	**+0.2**
DUNU	**Dundret**	**0.71**	**169**	P	**Pg**	**00 32 14.8**	**+0.1**
MASU	**Masugnsbyn**	**0.77**	**117**	P	**Pg**	**00 32 16.1**	**+0.3**
SALU	**Saltoluokta**	**0.79**	**237**	P	**Pg**	**00 32 16.0**	**-0.2**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**00 32 24.0**	**-0.2**
KIF	**Kilpisjarvi**	**1.21**	**10**	PG	**Pg**	**00 32 24.3**	**+0.1**
KIF				MSG		00 32 39.5	
	comp=Z,11nm,0.2s						
KIF				SG	**Sg**	**00 32 40.1**	**+0.2**
PAJU	**Pajala**	**1.37**	**124**	P	**Pg**	**00 32 26.6**	**-0.7**
PAJU	**Pajala**	**1.37**	**124**	PG	**Pg**	**00 32 26.1**	**-1.2**
PAJU				SN	**Sb**	**00 32 45.1**	**-0.5**
HEF	**Hetta**	**1.42**	**64**	*e*P	**Pn**	**00 32 27.1**	**-1.0**
HEF	**Hetta**	**1.42**	**64**	PG	**Pn**	**00 32 27.0**	**-1.0**
HEF				MSG		00 32 44.1	
	comp=Z,6.5nm,0.2s						
HEF				SB	**Sg**	**00 32 45.8**	**-0.7**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pn**	**00 32 28.5**	**-0.4**
ERTU	**Ertsjaerv**	**1.48**	**148**	PG	**Pn**	**00 32 28.5**	**-0.4**
ERTU				SN	**Sn**	**00 32 49.2**	**+0.2**
KTK1	**Kautokeino**	**1.64**	**41**	PG	**Pn**	**00 32 30.9**	**-0.2**
KTK1				SN	**Sn**	**00 32 52.6**	**-0.2**
TRO	**Tromso**	**1.88**	**346**	PG	**Pb**	**00 32 35.6**	**-0.7**
TRO				SG	**Sb**	**00 32 59.9**	**-0.3**
KALU	**Kalix**	**2.33**	**146**	PB	**Pn**	**00 32 41.7**	**+1.2**
	baz=326						
KALU				SG	**Sb**	**00 33 13.1**	**+0.1**
TOF	**Tornio**	**2.38**	**135**	PB	**Pb**	**00 32 43.0**	**-1.7**
	baz=316						
TOF				MSG		00 33 11.9	
	comp=Z,3.0nm,0.2s						
TOF				SG	**Sb**	**00 33 14.0**	**-0.4**
SGF	**Sodankyl**	**2.44**	**96**	PB	**Pn**	**00 32 43.2**	**+1.2**
SGF				SG	**Sb**	**00 33 14.9**	**-1.4**
RNF	**Rovaniemi**	**2.56**	**116**	PG	**Pb**	**00 32 45.8**	**-2.0**
RNF				SG	**Sb**	**00 33 19.0**	**-0.7**
ARA0	**ARCESS Array S**	**2.59**	**46**	PN	**Pn**	**00 32 44.7**	**+0.6**
	baz=228						
ARA0				SG	**Sb**	**00 33 18.6**	**-1.9**
KEV	**Kevo**	**3.14**	**49**	PB	**Pn**	**00 32 53.3**	**+1.6**
KEV				SB	**Sn**	**00 33 30.9**	**+1.2**
KEV				MSG		00 33 33.6	
	comp=Z,2.0nm,0.2s						
VRF	**Varrio**	**3.56**	**87**	PG	**Pb**	**00 33 05.7**	**+0.8**
OLKF	**Oulanka, Finla**	**3.89**	**108**	PG	**Pb**	**00 33 11.8**	**+1.3**
OLKF				SG	**Sb**	**00 34 01.2**	**+3.1**
KU6	**Riekki**	**4.21**	**111**	PG	**Pb**	**00 33 17.1**	**+1.2**

UPP ***12*** *00:34:18.3±0.1, 67.°85N×20.°20E, h0km, ML2.5, Suspected explosion*
HEL ***12*** *00:34:19.3±0.2, 67.°84N×20.°24E, h0km, ML1.5, Explosion*
ISC 12 00:34:17.8±0.8, 67.85N±0.02×20.30E±0.03, h0km, n27, σ0≤90/42, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.27**	**265**	P	**Pg**	**00 34 23.0**	**0.0**
RATU				S	**Sg**	**00 34 26.3**	**-0.2**
KOVU	**Salmi**	**0.38**	**352**	P	**Pg**	**00 34 25.6**	**+0.5**
KOVU				S	**Sg**	**00 34 30.7**	**+0.7**
NIKU	**Nikkaluokta**	**0.48**	**273**	P	**Pg**	**00 34 26.9**	**-0.2**
NIKU				S	**Sg**	**00 34 33.1**	**-0.2**
LANU	**Lannavaara**	**0.67**	**72**	P	**Pb**	**00 34 31.7**	**-0.6**
LANU	**Lannavaara**	**0.67**	**72**	PG	**Pb**	**00 34 31.9**	**-0.5**
LANU				SG	**Sb**	**00 34 41.3**	**-0.8**
DUNU	**Dundret**	**0.74**	**172**	P	**Pg**	**00 34 32.3**	**+0.4**
SALU	**Saltoluokta**	**0.83**	**236**	P	**Pg**	**00 34 33.4**	**-0.4**
KIF	**Kilpisjarvi**	**1.18**	**9**	*e*P	**Pb**	**00 34 41.1**	**+0.1**
KIF	**Kilpisjarvi**	**1.18**	**9**	PG	**Pn**	**00 34 41.2**	**-0.2**
KIF				MSG		00 34 56.4	
	comp=Z,5.8nm,0.2s						
KIF				SG	**Sb**	**00 34 56.9**	**+0.2**
PAJU	**Pajala**	**1.36**	**126**	P	**Pg**	**00 34 43.9**	**0.0**
PAJU				S	**Sb**	**00 35 02.6**	**+0.3**
PAJU	**Pajala**	**1.36**	**126**	PG	**Pg**	**00 34 43.7**	**-0.2**
	baz=307						
PAJU				SG	**Sb**	**00 35 02.5**	**+0.3**
HEF	**Hetta**	**1.38**	**64**	*e*P	**Pg**	**00 34 44.2**	**0.0**
HEF	**Hetta**	**1.38**	**64**	PG	**Pb**	**00 34 44.5**	**+0.1**
HEF				MSG		00 35 01.6	
	comp=Z,2.9nm,0.2s						
HEF				SN	**Sn**	**00 35 03.3**	**+0.1**
ERTU	**Ertsjaerv**	**1.49**	**150**	P	**Pn**	**00 34 46.2**	**+0.4**
ERTU	**Ertsjaerv**	**1.49**	**150**	PN	**Pg**	**00 34 47.4**	**+1.0**
ERTU				SN	**Sn**	**00 35 07.0**	**+0.9**
KTK1	**Kautokeino**	**1.59**	**42**	PN	**Pg**	**00 34 48.8**	**+0.4**
KTK1				SN	**Sg**	**00 35 09.6**	**+0.7**
TRO	**Tromso**	**1.86**	**345**	PG	**Pg**	**00 34 53.0**	**-0.4**
TRO				SG	**Sg**	**00 35 16.8**	**-0.7**
KALU	**Kalix**	**2.33**	**147**	PB	**Pb**	**00 34 59.5**	**-1.2**
	baz=334						
KALU				SG	**Sb**	**00 35 30.5**	**+0.5**
TOF	**Tornio**	**2.38**	**136**	PG	**Pb**	**00 35 00.7**	**-0.7**
TOF				MSG		00 35 30.0	
	comp=Z,1.4nm,0.2s						
TOF				SG	**Sb**	**00 35 31.8**	**+0.5**
SGF	**Sodankyl**	**2.41**	**97**	SG	**Sg**	**00 35 34.0**	**-1.2**
ARA0	**ARCESS Array S**	**2.54**	**46**	PB	**Pb**	**00 35 03.0**	**-1.3**
	baz=227						
ARA0				SG	**Sb**	**00 35 35.9**	**-0.2**
RNF	**Rovaniemi**	**2.55**	**117**	PG	**Pb**	**00 35 03.7**	**-0.6**
RNF				SG	**Sb**	**00 35 36.6**	**+0.5**
KEV	**Kevo**	**3.10**	**49**	MSG		00 35 51.0	
	comp=Z,1.0nm,0.2s						
KEV				SB	**Sb**	**00 35 52.5**	**+0.5**
VRF	**Varrio**	**3.54**	**87**	SG	**Sg**	**00 36 09.3**	**-1.9**
OLKF	**Oulanka, Finla**	**3.88**	**109**	SN	**Sn**	**00 36 07.3**	**+2.6**
MSF	**Maaselka**	**3.96**	**115**	SN	**Sn**	**00 36 08.6**	**+1.8**
KU6	**Riekki**	**4.19**	**111**	SB	**Sb**	**00 36 21.2**	**-2.3**

BJI ***12*** *00:36:26.9±0.0, 36.°17N×140.°00E, h65km, mb4.6/41, mB4.9/17, Ms4.9/3, Ms7 4.4/4*
MOS ***12*** *00:36:27.9±1.0, 36.°09N×140.°19E, h78km, mb4.7/25, Error ellipse: s-maj=11.9km s-min=6.6km az=127.8*
IDC ***12*** *00:36:29.8±1.6, 36.°04N×140.°21E, h82km±13km, mb3.8/20, mbtmp4.1/24, MS3.4/5, Error ellipse: s-maj=15.0km s-min=12.6km az=71.0*
JMA ***12*** *00:36:30.2±0.1, 36.°1N±0.°3×140.°1E±0.°4, h64km, MV3.9/39, SW IBARAKI PREF*
JMA Felt II J1 at SW IBARAKI PREF .
NEIC ***12*** *00:36:30.0±1.5, 36.°13N±0.°07×140.°13E±0.°10, h78km±7km, mb4.5/50, Error ellipse: s-maj=12.6km s-min=8.0km az=125.0*
NIED ***12*** *00:36:30.2, 36.°12N×140.°08E, h64km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=1.47; Mθθ=0.26; Mϕϕ-1.73; Mrθ-0.01; Mθϕ-0.14; Mϕr1.72; Fault plane solution: M0=2.36000×10^15^ NP1:ϕs0.00000°, δ69.00000°, λ87.00000°. NP2:ϕs189.00000°, δ22.00000°, λ98.00000°.*
ISC 12 00:36:29.1±0.7, 36.09N±0.04×140.13E±0.05, h70km±6km, n186, σ1≤03/189, mb4.4/60, 12C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.14**	**21**	*i* P	**Pn**	**00 36 40.0**	**+0.4**
JYT				*i* S	**Sn**	**00 36 47.1**	**0.0**
JAG	**Ashikaga**	**0.64**	**301**	⇓*i* P	**Pn**	**00 36 43.6**	**+0.2**
JAG				⇓S	**Sn**	**00 36 53.4**	**-0.5**
JKT	**Katashina**	**0.98**	**314**	⇓*i* P	**Pn**	**00 36 47.5**	**0.0**
JKT				⇓S	**Sn**	**00 37 01.4**	**+0.3**
JRY	**Ryogami san**	**1.00**	**266**	⇓*i* P	**Pn**	**00 36 48.1**	**+0.5**
JRY				⇓S	**Sn**	**00 37 01.7**	**+0.3**
JOD2	**Odawara 2**	**1.19**	**226**	⇓*i* P	**Pn**	**00 36 50.5**	**+0.6**
BSO3	**Boso 3**	**1.32**	**166**	P	**Pn**	**00 36 53.7**	**+2.2**
JFY	**Yanaizu**	**1.36**	**346**	P	**Pn**	**00 36 52.7**	**+0.5**
JFY				S	**Sn**	**00 37 09.9**	**+0.4**
JFK	**Kawauchi**	**1.41**	**25**	*i* P	**Pn**	**00 36 53.2**	**+0.4**
JFK				S	**Sn**	**00 37 10.7**	**0.0**
JUON	**Uonuma**	**1.41**	**323**	⇓*i* P	**Pn**	**00 36 53.2**	**+0.4**
JYN	**Shimob**	**1.42**	**246**	*i* P	**Pn**	**00 36 54.2**	**+1.1**
JFNN	**Fujinakano**	**1.48**	**233**	P	**Pn**	**00 36 54.8**	**+1.0**
JFNN				S	**Sn**	**00 37 13.0**	**+0.6**
MJAR	**Matsushiro Arr**	**1.61**	**287**	P	**Pn**	**00 36 55.8**	**+0.2**
	144nm,0.5s,baz=80,slow=12,SNR=307						
MJAR				S	**Sn**	**00 37 19.2**	**+3.5**
	117nm,0.5s,baz=110,slow=12,SNR=4.7						
MJAR				LR	LR	00 37 47.7	
	comp=Z,410nm,19.1s,baz=112,slow=46						
MAJO	**Matsushiro**	**1.62**	**287**	Pn	**Pn**	**00 36 56.7**	**+1.1**
MAJO	**Matsushiro**	**1.62**	**287**	P	**Pn**	**00 36 56.6**	**+1.0**
MAJO	**Matsushiro**	**1.62**	**287**	*i* P	**Pn**	**00 36 56.3**	**+0.7**
MJB9	**Matsu-Tunnel**	**1.62**	**287**	Pn	**Pn**	**00 36 57.4**	**+1.7**
JMM	**Marumori**	**1.85**	**16**	Pn	**Pn**	**00 36 59.5**	**+0.8**
JMM	**Marumori**	**1.85**	**16**	P	**Pn**	**00 36 59.8**	**+1.1**
JSG	**Sagara**	**2.13**	**229**	Pn	**Pn**	**00 37 04.7**	**+2.2**
JGF	**Kuroka**	**2.31**	**259**	Pn	**Pn**	**00 37 06.5**	**+1.6**
JGF	**Kuroka**	**2.31**	**259**	P	**Pn**	**00 37 07.1**	**+2.2**
JSD	**Sado**	**2.45**	**323**	Pn	**Pn**	**00 37 06.9**	**+0.1**
JSD	**Sado**	**2.45**	**323**	P	**Pn**	**00 37 07.4**	**+0.6**
INU	**Inuyama**	**2.64**	**255**	Pn	**Pn**	**00 37 10.4**	**+1.0**
INU	**Inuyama**	**2.64**	**255**	P	**Pn**	**00 37 10.8**	**+1.4**
JHJ	**Hachijo jima 2**	**2.98**	**186**	P	**Pn**	**00 37 12.6**	**-1.4**
	1.6nm,0.2s,baz=87,slow=14,SNR=11						
JTM	**Tenmabayashi**	**4.75**	**9**	Pn	**Pn**	**00 37 39.1**	**+1.0**
JTM	**Tenmabayashi**	**4.75**	**9**	P	**Pn**	**00 37 39.8**	**+1.7**
JMN	**Monobe**	**5.65**	**247**	Pn	**Pn**	**00 37 50.8**	**+0.2**
JMN	**Monobe**	**5.65**	**247**	P	**Pn**	**00 37 51.8**	**+1.3**
JHS	**Saijyo**	**5.82**	**261**	Pn	**Pn**	**00 37 53.8**	**+0.9**
JHS	**Saijyo**	**5.82**	**261**	P	**Pn**	**00 37 54.4**	**+1.5**
ERM	**Erimo**	**6.37**	**21**	Pn	**Pn**	**00 37 59.7**	**-0.5**
ERM	**Erimo**	**6.37**	**21**	P	**Pn**	**00 37 59.7**	**-0.5**
JEM	**Erimo**	**6.37**	**21**	P	**Pn**	**00 38 00.8**	**+0.6**
JNU	**Nakatsue**	**8.18**	**251**	P	**Pn**	**00 38 25.4**	**+0.3**
	15nm,0.9s,baz=62,slow=6.5,SNR=5.9						
JNU	**Nakatsue**	**8.18**	**251**	Pn	**Pn**	**00 38 24.9**	**-0.2**
KSRS	**Korea Array**	**9.89**	**282**	P	**Pn**	**00 38 50.9**	**+2.6**
	15nm,0.5s,baz=93,slow=14,SNR=6.9						
KSRS				LR	LR	00 42 30.1	
	comp=Z,105nm,20.3s,baz=100,slow=36						
KS19	**Wonju Array Si**	**9.94**	**282**	Pn	**Pn**	**00 38 50.8**	**+1.8**
USRK	**Ussuriysk Ar.**	**10.21**	**325**	P	**Pn**	**00 38 54.5**	**+1.7**
	5.9nm,0.8s,baz=131,slow=12,SNR=5.0						
JOW	**Kunigami**	**13.69**	**231**	LR	LR	00 43 31.4	
	comp=Z,69nm,21.6s,baz=354,slow=31						
KLR	**Kul'dur**	**14.49**	**338**	P	**Pn**	**00 39 50.9**	**+0.5**
	0.4nm,0.3s,baz=127,slow=20,SNR=1.7						
KLR				LR	LR	00 44 45.3	
	comp=Z,92nm,19.7s,baz=358,slow=34						
NJ2	**Nanjing**	**18.07**	**263**	*e*P	**P**	**00 40 33.7**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
BJT	**Baijiatuan**	**19.26**	**289**		**P**	**00 40 47.1**	**-0.7**
BJT	**Baijiatuan**	**19.26**	**289**	P	**P**	**00 40 47.1**	**-0.7**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YHNB	**Yeheng**	**19.75**	**240**	P	**P**	**00 40 53.2**	**-0.1**
NACB	**Ninganchiao**	**19.91**	**238**	P	**P**	**00 40 54.4**	**-0.7**
NACB				IAmb	IAmb	00 41 09.5	
	comp=Z,19nm,0.9s						
XLT	**XiLinHaoTe**	**19.96**	**300**	⇑*i* P	**P**	**00 40 53.3**	**-2.3**
XLT				sP	sP	00 41 17.6	-1.5
XLT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,59nm,3.6s						
HNS	**HongShan**	**20.40**	**281**	⇑P	**P**	**00 40 57.8**	**-2.5**
HNS				pmax	pmax		
	comp=Z,14nm,0.8s						
YULB	**Yu-li**	**20.63**	**237**	P	**P**	**00 41 01.1**	**-1.8**
YULB				IAmb	IAmb	00 41 25.6	
	comp=Z,27nm,1.3s						
TPUB	**Ta-pu**	**21.15**	**238**	P	**P**	**00 41 06.4**	**-2.1**
WHN	**Wuhan**	**22.21**	**263**	⇓P	**P**	**00 41 19.8**	**+0.1**
HHC	**Hu-ho-hao-te**	**22.81**	**291**	*e*P	**P**	**00 41 24.6**	**-1.6**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,250nm,4.8s						
XAN	**Xi'an**	**25.57**	**275**	P	**P**	**00 41 50.2**	**-1.4**
XAN				pmax	pmax		
	comp=Z,16nm,0.6s						
ENH	**Enshi**	**26.23**	**266**	P	**P**	**00 41 56.2**	**-1.4**
YAK	**Yakutsk**	**26.78**	**349**	*i* P	**P**	**00 42 03.0**	**+0.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.4s						
ULN	**Ulaanbaatar**	**27.05**	**306**	P	**P**	**00 42 03.6**	**-1.3**
ULN	**Ulaanbaatar**	**27.05**	**306**	*ce*P	**P**	**00 42 05.9**	**+1.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.5s						
SONM	**Songino Array**	**27.48**	**306**	P	**P**	**00 42 07.8**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=104,slow=8.7,SNR=15						
SONM				LR	LR	00 52 49.5	
	comp=Z,87nm,18.5s,baz=164,slow=36						
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**27.48**	**306**	P	**P**	**00 42 08.5**	**-0.2**
SONM	**Songino Array**	**27.48**	**306**	P	**P**	**00 42 08.5**	**-0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOD	**Bodaibo**	**27.80**	**330**	*e*P	**P**	**00 42 11.0**	**-0.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**28.59**	**118**	T	T	01 12 27.0	
	baz=310,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.60**	**118**	T	T	01 12 30.8	
	baz=310,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.61**	**118**	T	T	01 12 26.9	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**29.25**	**120**	T	T	01 13 30.9	
	baz=314,slow=76,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**29.25**	**120**	T	T	01 13 33.3	
	baz=314,slow=76,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**29.27**	**120**	T	T	01 13 33.1	
	baz=314,slow=76,SNR=2.9						
GYA	**Guiyang**	**30.05**	**261**	P	**P**	**00 42 30.4**	**-1.3**
GYA				pmax	pmax		
	comp=Z,27nm,0.8s						
GTA	**Gaotai**	**31.86**	**288**	*e*P	**P**	**00 42 48.2**	**+0.6**
GTA				pP	pP	00 43 05.9	+1.5
GTA				sP	sP	00 43 15.8	+3.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMI	**Kunming**	**33.80**	**262**	⇓P	**P**	**00 43 03.9**	**-0.8**
KMI				sP	sP	00 43 29.7	-0.1
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
PZH	**PanZhiHua**	**33.98**	**265**	P	**P**	**00 43 05.2**	**-1.0**
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,5.5s						
BILL	**Bilibino**	**35.22**	**17**	*e*P	**P**	**00 43 19.7**	**+3.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TIXI	**Tiksi**	**36.11**	**354**	*i* P	**P**	**00 43 23.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GOMU	**GeErMu**	**36.34**	**284**	P	**P**	**00 43 23.9**	**-2.7**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,140nm,6.1s						
PHRA	**Phrae**	**39.23**	**254**	P	**P**	**00 43 50.6**	**-0.1**
FAKI	**Fak Fak**	**39.50**	**192**	P	**P**	**00 43 52.5**	**-0.4**
DGZ	**Jazzator, Alta**	**40.12**	**307**	*i* P	**P**	**00 43 58.3**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.26**	**255**	P	**P**	**00 43 58.9**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=44,slow=7.3,SNR=7.0						
	comp=Z,1.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.26**	**255**	P	**P**	**00 43 59.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**40.26**	**255**	*ce*P	**P**	**00 44 00.7**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WMQ	**Urumqi**	**40.35**	**298**	*e*P	**P**	**00 44 01.7**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
LSA	**Lhasa**	**41.27**	**276**	P	**P**	**00 44 08.2**	**+0.1**
LSA				IAmb	IAmb	00 44 10.3	
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**41.27**	**276**	P	**P**	**00 44 08.2**	**+0.1**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZAA0	**Zalesovo Array**	**41.80**	**313**	P	**P**	**00 44 10.5**	**-1.0**
ZAA0				IAmb	IAmb	00 44 14.5	
	comp=Z,8.6nm,1.4s						
ZALV	**Zalesovo Beam**	**41.80**	**313**	P	**P**	**00 44 11.2**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=91,slow=6.6,SNR=18						
ZALV				PcP	**PcP**	**00 46 06.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=133,slow=6.5,SNR=3.5						
	comp=Z,2.1nm,0.5s						
ZALV	**Zalesovo Beam**	**41.80**	**313**	P	**P**	**00 44 10.6**	**-0.8**
NRIK	**Noril'sk**	**43.70**	**336**	P	**P**	**00 44 26.4**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=79,slow=5.2,SNR=4.2						
	comp=Z,1.4nm,0.5s						
MK31	**Makanchi Array**	**43.75**	**303**	P	**P**	**00 44 26.8**	**-0.7**
MK31				IAmb	IAmb	00 44 28.4	
	comp=Z,5.5nm,0.8s						
MK31	**Makanchi Array**	**43.75**	**303**	P	**P**	**00 44 26.8**	**-0.7**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MKAR	**Makanchi Array**	**43.75**	**303**	P	**P**	**00 44 27.2**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=90,slow=10,SNR=49						
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**43.75**	**303**	P	**P**	**00 44 27.0**	**-0.4**
MAKZ	**Makanchi**	**43.96**	**303**	P	**P**	**00 44 28.9**	**-0.3**
MAKZ				IAmb	IAmb	00 44 30.1	
	comp=Z,5.6nm,0.9s						
MAKZ	**Makanchi**	**43.96**	**303**	P	**P**	**00 44 28.9**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TAPN	**Taplejung**	**44.98**	**274**	*e*P	**P**	**00 44 38.3**	**+0.5**
	comp=Z,9.7nm,0.4s						
KURK	**Kurchatov**	**45.71**	**309**	P	**P**	**00 44 42.3**	**-0.6**
KURK	**Kurchatov**	**45.71**	**309**	*ce*P	**P**	**00 44 42.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,16nm,0.9s						
RAMN	**Ramite**	**46.04**	**274**	*e*P	**P**	**00 44 46.3**	**+0.1**
	comp=Z,40nm,0.7s						
JIRN	**Jiri**	**46.08**	**275**	*e*P	**P**	**00 44 46.7**	**+0.1**
	comp=Z,32nm,0.7s						
PKI	**Pulchoki**	**46.74**	**276**	*e*P	**P**	**00 44 51.7**	**-0.1**
PKIN	**Phulchoki**	**46.75**	**276**	*e*P	**P**	**00 44 51.7**	**0.0**
	comp=Z,9.1nm,0.5s						
GKN	**Gorkha**	**47.18**	**277**	*e*P	**P**	**00 44 54.9**	**-0.1**
	comp=Z,6.8nm,0.3s						
K20K	**Telida**	**47.69**	**34**	P	**P**	**00 44 58.5**	**+0.3**
DANN	**Dangsing**	**47.75**	**277**	*e*P	**P**	**00 44 59.7**	**+0.2**
	comp=Z,21nm,0.4s						
TARG	**Taragay, Kyrgy**	**47.90**	**297**	P	**P**	**00 45 00.2**	**-0.5**
TARG				IAmb	IAmb	00 45 03.6	
	comp=Z,8.6nm,0.8s						
TARG	**Taragay, Kyrgy**	**47.90**	**297**	P	**P**	**00 45 00.2**	**-0.5**
TARG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PYUN	**Piuthan**	**48.47**	**278**	*e*P	**P**	**00 45 05.1**	**+0.1**
	comp=Z,20nm,0.6s						
KDAK	**Kodiak Island**	**48.49**	**41**	P	**P**	**00 45 04.3**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=305,slow=11,SNR=1.8						
	comp=Z,5.4nm,0.9s						
CAST	**Castle Rocks**	**48.58**	**34**	P	**P**	**00 45 06.1**	**+1.0**
AAK	**Ala-Archa**	**50.03**	**299**	P	**P**	**00 45 15.6**	**-1.1**
AAK				IAmb	IAmb	00 45 17.7	
	comp=Z,3.3nm,1.1s						
AAK	**Ala-Archa**	**50.03**	**299**	*ce*P	**P**	**00 45 18.7**	**+2.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
MDM	**Murphy Dome**	**50.26**	**32**	P	**P**	**00 45 18.6**	**+0.7**
MDM				IAmb	IAmb	00 45 20.5	
	comp=Z,3.6nm,0.9s						
WRH	**Wood River Hil**	**50.33**	**32**	P	**P**	**00 45 18.7**	**+0.3**
BRVK	**Borovoye**	**50.50**	**313**	P	**P**	**00 45 19.4**	**-0.4**
BRVK				IAmb	IAmb	00 45 22.3	
	comp=Z,4.6nm,1.2s						
BRVK	**Borovoye**	**50.50**	**313**	*ce*P	**P**	**00 45 22.5**	**+2.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
IL31		**50.84**	**32**	P	**P**	**00 45 22.5**	**+0.4**
IL31				IAmb	IAmb	00 45 34.5	
	comp=Z,4.3nm,1.4s						
ILAR	**Eielson Array**	**50.84**	**32**	P	**P**	**00 45 22.1**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=272,slow=6.2,SNR=15						
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**50.84**	**32**	P	**P**	**00 45 22.7**	**+0.5**
ILAR	**Eielson Array**	**50.84**	**32**	P	**P**	**00 45 22.7**	**+0.5**
BMAR	**Burnt Mountain**	**51.65**	**28**	P	**P**	**00 45 29.0**	**+0.6**
KK31	**Karatay Array**	**52.70**	**300**	P	**P**	**00 45 35.6**	**-0.9**
KK31

comp=Z,8.6nm,1.0s,baz=52,slow=7.0,SNR=12
comp=Z,8.6nm,1.0s
FINES FINESS Array B 69.16 332 P **P** **00 47 27.2 -0.4**
FINES FINESS Array B 69.16 332 *i* P **P** **00 47 27.3 -0.4**
FINES pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 70.73 310 P **P** **00 47 37.7 +0.1**
comp=Z,2.2nm,0.8s,baz=357,slow=1.2,SNR=5.4
comp=Z,2.2nm,0.8s
KBZ Khabaz 70.73 310 *ce*P **P** **00 47 38.0 +0.5**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KVAR Kislovodsk Arr 70.73 311 LR LR 01 19 56.7
comp=Z,161nm,21.4s,baz=271,slow=37
KIV Kislovodsk 70.74 311 P **P** **00 47 37.9 +0.1**
KIV IAmb IAmb 00 47 39.5
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.74 311 *e*P **P** **00 47 39.1 +1.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 74.40 322 P **P** **00 47 58.7 -0.6**
comp=Z,3.6nm,0.6s,baz=48,slow=6.1,SNR=19
comp=Z,3.6nm,0.6s
AKASG Malin Array Be 74.40 322 P **P** **00 47 58.8 -0.4**
AKASG Malin Array Be 74.40 322 *i* P **P** **00 47 58.7 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 74.40 322 P **P** **00 47 57.9 -1.4**
AKBB Malin Array Si 74.40 322 P **P** **00 47 57.9 -1.4**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
NC204 NORSAR Array S 74.61 337 P **P** **00 47 59.8 -0.6**
NB2 NORSAR Subarra 74.65 337 P **P** **00 48 00.5 -0.1**
comp=Z,1.2nm,0.6s,baz=41,slow=5.9
NOA NORSAR Array B 74.65 337 P **P** **00 48 00.0 -0.6**
comp=Z,2.0nm,0.6s,baz=40,slow=5.9,SNR=7.2
comp=Z,2.0nm,0.6s
NVAR Mina Array Bea 76.38 52 P **P** **00 48 09.0 -2.2**
comp=Z,0.5nm,0.7s,baz=292,slow=5.7,SNR=1.9
comp=Z,0.5nm,0.7s
BUR08 Bucovina Ar. S 78.39 321 P **P** **00 48 21.9 -0.2**
BUR08 IAmb IAmb 00 48 42.2
comp=Z,5.8nm,1.2s
BURAR Bucovina Array 78.40 321 P **P** **00 48 22.1 0.0**
BRTR Keskin Array B 78.70 311 P **P** **00 48 23.6 -0.3**
comp=Z,0.8nm,0.7s,baz=113,slow=3.1,SNR=4.8
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 78.70 311 P **P** **00 48 24.0 +0.1**
BRTR Keskin Array B 78.70 311 *ce*P **P** **00 48 27.5 +3.6**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 79.06 45 P **P** **00 48 25.1 -0.9**
comp=Z,0.2nm,0.6s,baz=305,slow=4.0,SNR=3.2
comp=Z,0.2nm,0.6s
PDAR Pinedale Array 79.06 45 P **P** **00 48 25.3 -0.7**
OJC Ojcow 79.24 326 P **P** **00 48 26.2 -0.3**
OJC IAmb IAmb 00 48 27.2
comp=Z,15nm,1.5s
OJC Ojcow 79.24 326 P **P** **00 48 26.2 -0.3**
OJC pmax pmax
comp=Z,15nm,1.5s
RAYN Ar Rayn 80.05 292 P **P** **00 48 31.2 -0.3**
RAYN Ar Rayn 80.05 292 P **P** **00 48 31.2 -0.3**
RAYN pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 80.91 325 *e*P **P** **00 48 35.8 +0.3**
VYHS Vyhne 80.91 325 *e*P **P** **00 48 35.8 +0.3**
CLL Collm 81.39 330 *i* P **P** **00 48 37.7 -0.3**
CLL Collm 81.39 330 *i* P **P** **00 48 37.7 -0.3**
VTS Vitosha 82.81 318 P **P** **00 48 46.4 +0.6**
VTS IAmb IAmb 00 49 08.6
comp=Z,9.8nm,1.5s
VTS Vitosha 82.81 318 P **P** **00 48 46.4 +0.6**
VTS pmax pmax
comp=Z,10.0nm,1.5s
PDG Podgorica 85.04 320 P **P** **00 48 56.9 -0.1**
ANMO Albuquerque 85.98 49 *ce*P P 00 49 08.4 +6.3
ANMO pmax pmax
comp=Z,8.0nm,2.5s
FUORN Ofenpass-Fuorn 86.15 328 P **P** **00 49 02.7 -0.1**

*IDC **12** 00:37:38.9±0.7,3°.57N×128°.68E,h0km,mb4.0/10, mbtmp4.0/11,MLv3.8/1,MS3.5/2,Error ellipse: s-maj=44.4km s-min=14.9km az=70.0*
*NEIC **12** 00:37:41.3±3.0,3°.53N±0°.06×128°.75E±0°.08,h10km±1km, mb4.5/20,Error ellipse: s-maj=13.0km s-min=10.1km az=101.0*
*DJA **12** 00:37:42.4±1.0,4°N±6°×12°9E±°,h10km,M4.4/7,mb4.8/6, mB4.8/6,MLv4.4/7,Mw(mB)4.0/6*
ISC 12 00:37:40.5±0.5,3.60N±0.07×128.82E±0.10,h10km,n51, σ1$9/50,mb4.4/20,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**3.16**	**207**			**Pn**	**00 38 29.7**	**-0.7**
TNTI	**Ternate**	**3.16**	**207**	P		**Pn**	**00 38 32.3**	**+1.9**
SIJI	**Sorong**	**5.07**	**151**	Pn		**Pn**	**00 38 58.2**	**+1.5**
	3.4nm,0.3s,baz=319,slow=21,SNR=3.4							
SIJI				Sn		**Sn**	**00 39 55.0**	**-0.4**
	1.6nm,0.3s,baz=174,slow=23,SNR=2.0							
	7.4nm,0.3s							
SANI	**Sanana**	**6.29**	**207**	P		**Pn**	**00 39 14.9**	**+1.5**
	45nm,0.7s,647nm0.2nm							
GTOI	**Gorontalo**	**6.51**	**243**	P		**Pn**	**00 39 18.0**	**+1.6**
	32nm,0.7s,386nm0.1nm							
FAKI	**Fak Fak**	**7.33**	**152**	Pn		**Pn**	**00 39 28.8**	**+1.0**
MRSI	**Marisa**	**7.54**	**246**	P		**Pn**	**00 39 32.5**	**+1.9**
LUWI	**Luwuk**	**7.60**	**233**	Pn		**Pn**	**00 39 31.5**	**+0.1**
TOLI2	**Tolitoli**	**8.40**	**253**			**Pn**	**00 39 42.5**	**+0.1**
MYLDM	**Lahad Datu**	**10.40**	**279**	Pn		**Pn**	**00 40 11.0**	**+1.1**
SBUM	**Sibu**	**16.61**	**267**	P		**Pn**	**00 41 35.0**	**+1.3**
KNRA	**Kununurra**	**19.16**	**180**	P		**Pn**	**00 42 04.7**	**-0.4**
KNRA				IAmb		IAmb	00 42 17.5	
	comp=Z,71nm,1.5s							
COEN	**Coen**	**22.52**	**141**	P		**P**	**00 42 41.4**	**+0.7**
WB0	**Warramunga Arr**	**23.86**	**167**	P		**P**	**00 42 54.0**	**-0.3**
WB0				IAmb		IAmb	00 43 17.3	
	comp=Z,10nm,0.8s							
WRA	**Warramunga Arr**	**24.02**	**167**	P		**P**	**00 42 55.6**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=345,slow=11,SNR=18							
	comp=Z,1.8nm,0.7s							
WRA	**Warramunga Arr**	**24.02**	**167**	P		**P**	**00 42 55.7**	**-0.2**
KRVT	**Keravat (AS07**	**24.49**	**109**	LR		LR	00 50 15.3	
	comp=Z,119nm,20.3s,baz=34,slow=31							
UBPT	**Khong Chiam**	**25.75**	**298**	P		**P**	**00 43 11.1**	**-0.5**
UBPT				IAmb		IAmb	00 43 24.6	
	comp=Z,28nm,1.4s							
PSA00	**Pilbara Seismi**	**26.52**	**199**	P		**P**	**00 43 16.4**	**-2.1**
AS31	**Alice Springs**	**27.55**	**170**	P		**P**	**00 43 26.9**	**-1.0**
ASAR	**Alice Springs**	**27.55**	**170**	P		**P**	**00 43 27.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=355,slow=7.9,SNR=5.6							
ASAR				PcP		**PcP**	**00 46 46.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=339,slow=2.0,SNR=5.3							
	comp=Z,0.5nm,0.5s							
ASAR	**Alice Springs**	**27.55**	**170**	P		**P**	**00 43 25.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**32.74**	**299**	P		**P**	**00 44 13.4**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=117,slow=7.5,SNR=7.7							
	comp=Z,0.8nm,0.3s							
XAN	**Xi'an**	**35.50**	**331**	P		**P**	**00 44 37.2**	**-0.5**
XAN				pP		sP	00 44 42.2	+2.6
XAN				pmax		pmax		
	comp=Z,8.0nm,0.8s							
BBOO	**Buckleboo**	**36.86**	**170**	P		**P**	**00 44 48.6**	**-0.6**
STKA	**Stephens Creek**	**37.32**	**162**	P		**P**	**00 44 52.7**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=331,slow=11,SNR=5.2							
	comp=Z,1.6nm,0.5s							
STKA	**Stephens Creek**	**37.32**	**162**	P		**P**	**00 44 52.8**	**-0.3**
LZH	**Lanzhou**	**39.70**	**328**	*e*P		P	00 45 19.0	+5.7
LZH				pP		pwP	00 45 26.2	+4.3
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
ASAJ	**Asahikawa**	**42.15**	**15**	LR		LR	01 04 10.9	
	comp=Z,59nm,18.0s,baz=42,slow=38							
GTA	**Gaotai**	**44.30**	**327**	*e*P		**P**	**00 45 50.8**	**0.0**
GTA				pP		sP	00 45 55.0	+2.2
GTA				sP		pwP	00 45 57.6	-1.9
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KLR	**Kul'dur**	**45.53**	**3**	P		**P**	**00 46 01.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=274,slow=6.7,SNR=4.1							
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**48.11**	**340**	P		**P**	**00 46 20.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=151,slow=9.2,SNR=2.7							
	comp=Z,0.4nm,0.6s							
MK31	**Makanchi Array**	**58.86**	**324**	P		**P**	**00 47 39.3**	**-0.2**
MK31				IAmb		IAmb	00 47 39.7	
	comp=Z,1.9nm,0.6s							
MKAR	**Makanchi Array**	**58.86**	**324**	P		**P**	**00 47 39.3**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=118,slow=8.3,SNR=39							
	comp=Z,2.3nm,0.5s							
MKAR	**Makanchi Array**	**58.86**	**324**	P		**P**	**00 47 39.2**	**-0.4**
MAKZ	**Makanchi**	**59.05**	**324**	P		**P**	**00 47 40.2**	**-0.7**
MAKZ				IAmb		IAmb	00 47 57.2	
	comp=Z,3.9nm,0.8s							
ZALV	**Zalesovo Beam**	**61.66**	**332**	P		**P**	**00 47 57.0**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=127,slow=7.3,SNR=4.5							
	comp=Z,1.1nm,0.5s							
ZALV	**Zalesovo Beam**	**61.66**	**332**	P		**P**	**00 47 56.9**	**-1.6**
KURK	**Kurchatov**	**62.98**	**327**	P		**P**	**00 48 06.6**	**-0.8**
KKAR	**Karatay Array**	**64.75**	**316**	P		**P**	**00 48 18.3**	**-1.0**
TIXI	**Tiksi**	**67.96**	**0**	P		**P**	**00 48 39.1**	**-0.1**
BRVK	**Borovoye**	**68.64**	**326**	P		**P**	**00 48 43.2**	**-0.8**
NRIK	**Noril'sk**	**71.06**	**346**	P		**P**	**00 48 58.6**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=95,slow=8.2,SNR=4.2							
	comp=Z,1.5nm,0.4s							
ABKAR	**Akbulak array**	**73.57**	**320**	P		**P**	**00 49 12.6**	**-1.3**
ABKAR				IAmb		IAmb	00 49 31.6	
	comp=Z,2.8nm,0.8s							
ABKAR	**Akbulak array**	**73.57**	**320**	P		**P**	**00 49 12.3**	**-1.6**
J20K	**Nowinta River**	**81.13**	**26**	P		**P**	**00 49 57.8**	**+1.8**
J20K				IAmb		IAmb	00 50 21.0	
	comp=Z,6.6nm,1.2s							
IMAR	**Indian Mountai**	**81.62**	**24**	P		**P**	**00 49 59.9**	**+1.4**
RAYN	**Ar Rayn**	**82.45**	**293**	P		**P**	**00 50 05.1**	**+1.3**
RAYN				IAmb		IAmb	00 50 15.3	
	comp=Z,4.1nm,1.1s							
ILAR	**Eielson Array**	**84.33**	**25**	P		**P**	**00 50 12.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=246,slow=6.8,SNR=4.6							
	comp=Z,0.2nm,0.5s							
BMAR	**Burnt Mountain**	**85.39**	**23**	P		**P**	**00 50 20.1**	**+2.1**
TORD	**Torodi Ar. Bea**	**124.93**	**289**	PKP		**PKPdf**	**00 56 40.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=81,slow=1.0,SNR=2.6							

*JMA **12** 00:47:19.2±0.3,25°N±3°×122°8E±0°.9,h151km,MV2.6/9, NW OFF ISHIGAKIJIMA IS*
*TAP **12** 00:47:19.2,25°.08N×122°.86E,h150km,ML3.0,C*
ISC 12 00:47:20.4±2.4,24°.95N±0°.09×122°.85E±0°.04, h145km±16km,n53,σ0$46/72,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	**Yonaguni jima**	**0.51**	**164**	*e*P		**Pn**	**00 47 41.3**	**+0.1**
	baz=168							
TWB1	**Santiao Chiao**	**0.79**	**275**	P		**Pn**	**00 47 42.8**	**-0.1**
	baz=273							
SXI1	**Grass Mountain**	**0.90**	**280**	*e*P		**Pn**	**00 47 43.6**	**-0.3**
	baz=278							
TIPB	**Shuangxi**	**0.93**	**272**	P		**Pn**	**00 47 44.0**	**-0.1**
	baz=264							
IRIF	**Iriomote-Funau**	**1.00**	**127**	*i* P		**Pn**	**00 47 44.6**	**0.0**
IRIF				*e*S		**Sn**	**00 48 03.2**	**+0.1**
TWE	**Neicheng**	**1.10**	**258**	P		**Pn**	**00 47 45.6**	**0.0**
	baz=245							
ENA	**Nanau**	**1.14**	**243**	P		**Pn**	**00 47 45.9**	**0.0**
ENA				*e*S		**Sn**	**00 48 05.8**	**+0.5**
	baz=233							
FUSB	**Fushanzhiwuyua**	**1.17**	**261**	P		**Pn**	**00 47 45.9**	**-0.3**
	baz=255							
YM01	**YM01**	**1.18**	**280**	*e*P		**Pn**	**00 47 46.2**	**-0.1**
	baz=279							
ENTT	**Nioudou**	**1.21**	**256**	*e*P		**Pn**	**00 47 47.0**	**+0.4**
	baz=250							
HATJ	**Hateruma jima**	**1.24**	**135**	*e*S		**Sn**	**00 48 07.9**	**+0.9**
NWLT	**Wulai**	**1.24**	**262**	P		**Pn**	**00 47 46.3**	**-0.6**
	baz=264							
NWLT				*e*S		**Sn**	**00 48 08.0**	**+0.9**
	baz=264							
JKRS	**Kuro-shima**	**1.27**	**124**	P		**Pn**	**00 47 47.5**	**+0.4**
JKRS				S		**Sn**	**00 48 08.5**	**+1.0**
LATG	**Datong**	**1.27**	**251**	P		**Pn**	**00 47 47.5**	**+0.2**
	baz=240							
LATG				S		**Sn**	**00 48 08.6**	**+0.7**
	baz=240							
JIJ	**Ishigaki jima**	**1.31**	**116**	P		**Pn**	**00 47 47.3**	**-0.3**
JIJ				S		**Sn**	**00 48 08.1**	**-0.1**
ETL	**Fush Village**	**1.37**	**235**	*e*P		**Pn**	**00 47 48.1**	**-0.2**
	baz=227							
JISG	**Ishigakijimahi**	**1.37**	**105**	P		**Pn**	**00 47 47.9**	**-0.3**
JISG				*e*S		**Sn**	**00 48 09.2**	**-0.2**
NACB	**Ninganchiao**	**1.38**	**236**	*e*P		**Pn**	**00 47 47.9**	**-0.4**
	baz=229							
NACB				S		**Sn**	**00 48 08.9**	**-0.8**
	baz=229							
NSK	**Sanguang**	**1.39**	**259**	P		**Pn**	**00 47 48.3**	**-0.2**
	baz=259							
NSK				S		**Sn**	**00 48 09.6**	**-0.2**
	baz=259							
NNSB	**Datong**	**1.44**	**249**	P		**Pn**	**00 47 49.0**	**0.0**
	baz=239							
NNSH	**Datong**	**1.44**	**249**	P		**Pn**	**00 47 49.0**	**0.0**
	baz=239							
TWD	**Chiawan**	**1.44**	**233**	*e*P		**Pn**	**00 47 48.8**	**0.0**
	baz=227							
TWD				S		**Sn**	**00 48 10.4**	**-0.2**
	baz=227							
ETLH	**Xiulin Townshi**	**1.45**	**240**	*e*P		**Pn**	**00 47 48.7**	**-0.4**
	baz=231							
ETLH				*e*S		**Sn**	**00 48 10.1**	**-0.9**
	baz=231							
ETM	**Tongmen**	**1.58**	**232**	*e*P		**Pn**	**00 47 49.9**	**-0.6**
	baz=223							
NFF	**Wufeng Townshi**	**1.61**	**259**	P		**Pn**	**00 47 50.4**	**-0.4**
	baz=255							
FUSS	**Fushou**	**1.62**	**245**	P		**Pn**	**00 47 51.3**	**+0.1**
	baz=237							
WHF	**Hehuan Shan**	**1.65**	**241**	P		**Pn**	**00 47 51.7**	**0.0**
	baz=233							
WHF				S		**Sn**	**00 48 15.5**	**-0.1**
	baz=233							
TWT	**Tachien**	**1.68**	**246**	*e*P		**Pn**	**00 47 52.1**	**+0.4**
	baz=243							
TWT				*e*S		**Sn**	**00 48 15.9**	**+0.3**
	baz=243							
TDCB	**Techi**	**1.69**	**246**	*e*P		**Pn**	**00 47 52.1**	**+0.3**
	baz=242							
LIOB	**Emei**	**1.70**	**260**	*e*P		**Pn**	**00 47 51.5**	**-0.2**
	baz=249							
JTJ	**Tarama**	**1.71**	**100**	P		**Pn**	**00 47 51.6**	**-0.2**
JTJ				S		**Sn**	**00 48 15.5**	**-0.3**
NSTT	**Nanjuang**	**1.71**	**260**	P		**Pn**	**00 47 51.3**	**-0.6**
	baz=255							
CHGB	**Renai**	**1.77**	**240**	P		**Pn**	**00 47 52.9**	**+0.1**
	baz=233							
CHGB				*e*S		**Sn**	**00 48 17.3**	**-0.1**
	baz=233							
OWD	**Renai**	**1.82**	**237**	P		**Pn**	**00 47 53.2**	**-0.1**
	baz=231							
OWD				S		**Sn**	**00 48 17.8**	**-0.6**
	baz=231							
WUSB	**Renai**	**1.85**	**239**	P		**Pn**	**00 47 53.8**	**+0.3**
	baz=233							
WUSB				S		**Sn**	**00 48 19.0**	**0.0**
	baz=233							
WHP	**Taichung City**	**1.86**	**249**	P		**Pn**	**00 47 54.2**	**+0.5**
	baz=253							
HGSD	**Ruisui**	**1.95**	**222**	*e*P		**Pn**	**00 47 54.4**	**-0.2**
	baz=220							
VWDT	**VWDT**	**1.96**	**233**	*e*P		**Pn**	**00 47 55.0**	**+0.2**
	baz=227							
VWDT				*e*S		**Sn**	**00 48 21.4**	**+0.3**
	baz=227							
WCS	**Beigang Elemen**	**1.98**	**244**	*e*P		**Pn**	**00 47 55.6**	**+0.7**
	baz=248							
EHY	**Hungye**	**2.00**	**225**	*e*P		**Pn**	**00 47 55.0**	**-0.3**
	baz=229							
SMLT	**Sun Moon Lake**	**2.07**	**240**	*e*P		**Pn**	**00 47 57.0**	**+0.8**
	baz=237							
SSLB	**Suanglung**	**2.08**	**237**	*e*P		**Pn**	**00 47 57.1**	**+0.9**
	baz=234							
TYC	**Yuchr**	**2.10**	**241**	*e*P		**Pn**	**00 47 57.3**	**+1.0**
	baz=246							
YULB	**Yu-li**	**2.10**	**223**	*e*P		**Pn**	**00 47 55.7**	**-0.7**
	baz=228							
EYUL	**Yuli**	**2.12**	**222**	*e*P		**Pn**	**00 47 57.1**	**+0.4**
	baz=227							
TWF1	**Yuli**	**2.13**	**222**	*e*P		**Pn**	**00 47 56.5**	**-0.3**
	baz=227							
WHYT	**Xinyi Township**	**2.21**	**236**	*e*P		**Pn**	**00 47 58.4**	**+0.6**
	baz=234							
FULB	**Fuli**	**2.25**	**220**	*e*P		**Pn**	**00 47 58.1**	**-0.2**
	baz=214							
ALS	**Alishan**	**2.35**	**233**	*e*P		**Pn**	**00 47 59.9**	**+0.1**
	baz=230							
EDH	**Donghe**	**2.42**	**216**	*e*P		**Pn**	**00 48 00.1**	**-0.2**
	baz=210							
EDH				*e*S		**Sn**	**00 48 30.6**	**-0.5**
	baz=210							
LDUT	**Ludao**	**2.59**	**210**	*e*S		**Sn**	**00 48 34.2**	**-0.7**
	baz=212							
CHN4	**Tsaushan**	**2.61**	**233**	*e*P		**Pn**	**00 48 03.0**	**+0.4**
	baz=239							
STYT	**Tauyuan**	**2.61**	**228**	*e*P		**Pn**	**00 48 03.3**	**+0.6**
	baz=225							

*IDC **12** 00:53:08.4±0.8,30°.74N×69°.64E,h0km,mb4.0/26, mbtmp4.0/29,MLv3.8/2,MS3.7/17,Error ellipse: s-maj=17.9km s-min=13.4km az=24.0*
*MOS **12** 00:53:10.3±1.4,30°.97N×69°.78E,h13km,mb4.4/17,Error ellipse: s-maj=8.4km s-min=4.7km az=90.4*
*NDI **12** 00:53:11.1±3.7,31°.03N×69°.56E,h10km,ML3.9, mb4.3(NEIC)*
*NEIC **12** 00:53:11.1±1.8,30°.78N±0°.06×69°.77E±0°.07,h10km±1km, mb4.3/30,Error ellipse: s-maj=12.4km s-min=8.2km az=227.0*
*BJI **12** 00:53:12.5±0.0,31°.14N×69°.73E,h18km,mb4.3/21, mB4.9/15,Ms4.2/8,Ms7 3.8/6*
*NNC **12** 00:53:12.7±3.9,31°.08N×70°.07E,h0km,mb4.3,Error ellipse: s-maj=50.4km s-min=31.7km az=170.0*
ISC 12 00:53:10.8±0.4,30.86N±0.05×69.77E±0.04,h10km,n173, σ1$76/172,mb4.2/45,MS3.7/14,11C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THW	**Thamme Wali**	**2.56**	**40**	P		**Pn**	**00 53 53.9**	**+1.6**
SARP	**Sargodha**	**2.69**	**66**	P		**Pn**	**00 53 55.0**	**+0.8**
CEP	**Cherat**	**3.46**	**31**	P		**Pn**	**00 54 07.9**	**+3.0**
CEP				S		**Sb**	**00 54 51.0**	**-3.5**
KBL	**Kabul**	**3.72**	**351**	Pn		**Pn**	**00 54 11.7**	**+3.2**
KBL	**Kabul**	**3.72**	**351**	P		**Pn**	**00 54 11.7**	**+3.2**
NIL	**Nilore**	**4.05**	**46**			**Pn**	**00 54 14.9**	**+2.0**
NIL				Sn		**Sn**	**00 55 02.1**	**+1.7**
NIL	**Nilore**	**4.05**	**46**	P		**Pn**	**00 54 15.0**	**+2.0**
NIL							00 55 02.1	
CHCP	**Chirah Chowk**	**4.07**	**46**	P		**Pn**	**00 54 14.4**	**+1.3**
JMU	**Jammu**	**4.74**	**66**	*e*P		**Pn**	**00 54 25.0**	**+2.7**
JMU				*e*S		**Sn**	**00 55 14.4**	**-2.9**
BHK	**Bhakra**	**5.72**	**83**	*e*P		**Pn**	**00 54 37.3**	**+1.4**
BHK				*ex*		**Sn**	**00 55 43.0**	**+1.3**
AJM	**Ajmer**	**6.11**	**134**	*e*P		**Pn**	**00 54 45.7**	**+4.4**
AJM				*e*S		**Sn**	**00 55 52.8**	**+1.5**
KUDL	**Kundal**	**6.45**	**113**	*i* x		**Pg**	**00 55 14.2**	**-0.2**
NDI	**New Delhi**	**6.82**	**107**	*e*P		**Pn**	**00 54 55.0**	**+4.0**
NDI				*e*P		Pn	00 54 56.5	+5.5
NDI				*e*S		**Sn**	**00 56 12.0**	**+3.2**
NDI				IAML			00 57 00.3	
	comp=E,88nm,0.5s							
NDI				IAML			00 57 02.8	
	comp=N,120nm,0.3s							
DDI	**Dehra Dun**	**7.16**	**92**	*e*P		Pb	00 55 10.1	-5.2
DDI				*e*S		**Sn**	**00 56 15.4**	**-1.7**
HRA	**Herat**	**7.26**	**301**	Pn		**Pn**	**00 54 58.8**	**+1.6**
CHGR	**Chuyangaron**	**7.79**	**356**	Pn		**Pn**	**00 55 04.6**	**+0.2**
CHGR	**Chuyangaron**	**7.79**	**356**	P		**Pn**	**00 55 04.6**	**+0.2**
SIMJ	**Simiganj**	**7.80**	**356**			**Pn**	**00 55 04.6**	**+0.1**
GAR	**Garm**	**8.13**	**3**	Pn		**Pn**	**00 55 10.1**	**+1.1**
LGTI	**Lohaghat**	**9.18**	**96**	*e*P		Pn	00 55 11.8	-11
KSH	**Kashi**	**10.01**	**29**	P		**Pn**	**00 55 31.4**	**-3.4**
KSH				pP			00 55 36.9	
KSH				sP			00 55 39.2	
KSH				S		Sn	00 57 15.9	-11
KSH				pmax		pmax		
	comp=N,8.0nm,0.6s							
KSH				smax		smax		
	comp=N,86nm,0.9s							
KSH				smax		smax		
	comp=N,64nm,1.0s							
KSH				LR		LR		
	comp=N,900nm,9.8s							
KSH				LR		LR		
	comp=N,580nm,10.0s							
BHPL	**Bhopal**	**10.20**	**136**	*e*P		**Pn**	**00 55 39.9**	**+2.6**
BHPL				*e*S		**Sn**	**00 57 27.2**	**-4.6**
TAS	**Tashkent**	**10.45**	**358**	Pn		**Pn**	**00 55 42.0**	**+1.3**
TAS	**Tashkent**	**10.45**	**358**	P		**Pn**	**00 55 42.0**	**+1.3**
AML	**Almayashu**	**11.68**	**15**	P		**Pn**	**00 55 57.8**	**-0.1**
	SNR=25							
JBP	**Jabalpur**	**11.89**	**128**	*e*P		**Pn**	**00 55 58.4**	**-2.1**
JBP				*e*S		Sn	00 58 25.2	+12
GEYT	**Alibeck**	**11.93**	**309**	Pn		**Pn**	**00 56 01.4**	**+0.4**
	comp=N,0.8nm,0.6s,baz=110,slow=6.9,SNR=2.3							
GEYT				LR		LR	01 01 37.5	
	comp=N,232nm,18.2s,baz=173,slow=43							
UCH	**Uchtor**	**11.96**	**17**	P		**Pn**	**00 56 01.4**	**-0.4**
	SNR=16							
EKS2	**Erkin-Say**	**12.21**	**14**	P		**Pn**	**00 56 06.5**	**+1.7**
	SNR=6.2							
KK31	**Karatay Array**	**12.23**	**3**	Pn		**Pn**	**00 56 04.1**	**-1.0**
KK31	**Karatay Array**	**12.23**	**3**	P		**Pn**	**00 56 04.2**	**-1.0**
	comp=N,8.2nm,0.6s,baz=193,slow=17,SNR=58							
KK31				⇑S		**Sn**	**00 58 22.4**	**+0.9**
	comp=N,4.0nm,0.8s,baz=195,slow=23,SNR=5.8							
KK31	**Karatay Array**	**12.23**	**3**	P		**Pn**	**00 56 04.1**	**-1.0**
KKAR	**Karatay Array**	**12.23**	**3**	Pn		**Pn**	**00 56 04.3**	**-0.8**
KKAR	**Karatay Array**	**12.23**	**3**	P		**Pn**	**00 56 04.3**	**-0.8**
AAK	**Ala-Archa**	**12.35**	**17**	P		**Pn**	**00 56 06.7**	**-0.1**
	SNR=8.6							
AAK	**Ala-Archa**	**12.35**	**17**	Pn		**Pn**	**00 56 05.7**	**-1.1**
	comp=N,2.0nm,0.3s,baz=171,slow=5.6,SNR=22							
AAK				Sn		**Sn**	**00 58 20.1**	**-4.4**
	comp=N,0.3nm,0.3s,baz=149,slow=19,SNR=1.6							
AAK				LR		LR	01 01 52.4	
	comp=N,332nm,19.6s,baz=202,slow=42							
AAK	**Ala-Archa**	**12.35**	**17**	Pn		**Pn**	**00 56 06.1**	**-0.7**
AAK	**Ala-Archa**	**12.35**	**17**	*ce*P		**Pn**	**

comp=Z,2.4nm,0.5s,baz=205,slow=11,SNR=24
MK31 Makanchi Array 18.62 28 ⇓*i*P **P 00 57 26.9 -1.5**
MKAR Makanchi Array 18.62 28 P **P 00 57 28.1 -0.4**
comp=Z,0.4nm,0.3s,baz=208,slow=12,SNR=35
MKAR LR LR 01 05 43.9
comp=Z,297nm,20.4s,baz=305,slow=40
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 18.62 28 P **P 00 57 27.8 -0.7**
WMQ Urumqi 19.19 43 *e*P **Pn 00 57 38.1 +2.4**
WMQ LR LR
comp=Z,680nm,13.1s
WMQ LR LR
comp=Z,180nm,17.1s
AB31 Akbulak array 19.82 341 P **Pn 00 57 43.1 0.0**
comp=Z,2.0nm,0.6s,baz=150,slow=11,SNR=45
AB31 Akbulak array 19.82 341 P **Pn 00 57 43.7 +0.6**
ABKAR Akbulak array 19.82 341 P **Pn 00 57 42.8 -0.2**
ABKAR Akbulak array 19.82 341 P **Pn 00 57 42.6 -0.5**
SHL Shillong 20.17 100 P **P 00 57 44.8 -1.0**
SHL IAmb IAmb 00 58 09.4
comp=Z,9.2nm,0.8s
SHL Shillong 20.17 100 P **P 00 57 44.8 -1.0**
SHL pmax pmax
comp=Z,9.0nm,0.8s
KURBB Kurchatov Arra 20.80 16 P **P 00 57 51.1 -1.0**
comp=Z,2.3nm,0.9s,baz=206,slow=8.6,SNR=12
comp=Z,2.3nm,0.9s
KURBB Kurchatov Arra 20.80 16 ⇑P Pn 00 57 54.5 0.0
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 20.80 16 P Pn 00 57 54.5 0.0
KURK Kurchatov 20.91 16 P **P 00 57 52.9 -0.3**
KURK IAmb IAmb 00 58 03.5
comp=Z,12nm,1.0s
KURK Kurchatov 20.91 16 ⇑P **P 00 57 53.9 +0.6**
comp=Z,13nm,1.0s
KURK Kurchatov 20.91 16*ce*P **P 00 57 53.3 +0.1**
KURK pmax pmax
comp=Z,8.0nm,1.0s
AKTO Aktyubinsk 21.44 339 P **P 00 57 59.5 +0.4**
comp=Z,2.0nm,0.6s,baz=179,slow=9.7,SNR=5.9
AKTO LR LR 01 08 09.6
comp=Z,155nm,19.3s,baz=18,slow=42
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 21.44 339 ⇑P **P 00 58 02.4 +3.3**
comp=Z,8.9nm,0.8s
GOMU GeErMu 21.52 69 P **P 00 58 04.0 +3.6**
GOMU sP sP 00 58 08.2 +3.1
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,80nm,4.8s
GOMU LR LR
comp=Z,200nm,6.6s
GOMU LR LR
comp=Z,110nm,7.6s
GOMU LR LR
comp=Z,120nm,8.3s
BVA0 Borovoye Array 22.15 1 ⇓P **P 00 58 06.7 0.0**
comp=Z,13nm,1.1s,baz=174,slow=10,SNR=73
BVA0 Borovoye Array 22.15 1 P **P 00 58 06.7 0.0**
BVAR Borovoye Array 22.15 1 P **P 00 58 06.9 +0.2**
comp=Z,3.4nm,0.6s,baz=171,slow=9.1,SNR=25
comp=Z,3.4nm,0.6s
BRVK Borovoye 22.18 1 P **P 00 58 07.0 +0.1**
BRVK IAmb IAmb 00 58 15.2
comp=Z,10nm,0.9s
BRVK Borovoye 22.18 1 ⇓P **P 00 58 07.1 +0.1**
comp=Z,12nm,1.1s
BRVK Borovoye 22.18 1 *i*P **P 00 58 07.9 +0.9**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
GNI Garni 22.33 301 P **P 00 58 06.5 -2.4**
comp=Z,4.1nm,1.0s,baz=68,slow=16,SNR=1.8
comp=Z,4.1nm,1.0s
GNI Garni 22.33 301 P **P 00 58 10.6 +1.8**
GNI IAmb IAmb 00 58 27.9
comp=Z,23nm,1.1s
GROC Groznyy 22.67 310 *e*P **P 00 58 14.0 +1.7**
GROC *e* 00 58 36.7
GROC *e* 01 02 04.9
GROC pmax pmax
comp=Z,13nm,0.4s
RAYN Ar Rayn 22.76 257 P **P 00 58 13.8 +0.3**
RAYN IAmb IAmb 00 58 42.3
comp=Z,6.8nm,1.1s
RAYN Ar Rayn 22.76 257 P **P 00 58 13.8 +0.3**
RAYN pmax pmax
comp=Z,7.0nm,1.1s
DGZ Jazzator, Alta 23.04 30 *i*P **P 00 58 17.1 +0.8**
DGZ pmax pmax
comp=Z,8.0nm,0.6s
KBZ Khabaz 24.82 309 P **P 00 58 31.1 -2.0**
comp=Z,2.3nm,1.0s,baz=112,slow=11,SNR=4.4
comp=Z,2.3nm,1.0s
KBZ Khabaz 24.82 309 *i*P **P 00 58 34.3 +1.2**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 25.05 309 *e*P **P 00 58 35.3 0.0**
KIV pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 25.50 21 P **P 00 58 39.3 +0.1**
ZAA0 IAmb IAmb 00 59 07.7
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 25.50 21 P **P 00 58 39.2 +0.1**
comp=Z,3.0nm,0.4s,baz=216,slow=10,SNR=14
ZALV LR LR 01 09 55.7
comp=Z,195nm,19.5s,baz=172,slow=39
comp=Z,3.0nm,0.4s
GTA Gaotai 25.91 63 *e*P **P 00 58 47.0 +3.7**
GTA pP sP 00 58 53.6 +5.4
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA pmax pmax
comp=Z,73nm,5.3s
GTA LR LR
comp=Z,240nm,13.8s
GTA LR LR
comp=Z,130nm,12.0s
GTA LR LR
comp=Z,140nm,14.2s
TNCH TengChong 26.01 96 P **P 00 58 46.5 +2.2**
TNCH pmax pmax
comp=Z,160nm,4.1s
ARU Arti 26.75 346 P **P 00 58 50.5 +0.1**
comp=Z,0.8nm,0.4s,baz=159,slow=11,SNR=3.9
comp=Z,0.8nm,0.4s
ARU Arti 26.75 346 P **P 00 58 50.3 -0.1**
ARU IAmb IAmb 00 59 18.3
comp=Z,6.5nm,1.1s
ARU Arti 26.75 346 P **P 00 58 54.8 +4.4**
BELG Belogornoye 26.95 329 P **P 00 58 51.7 -0.5**
comp=Z,12nm,0.9s,baz=108,slow=3.2,SNR=2.8
BELG LR LR 01 12 07.7
comp=Z,198nm,18.4s,baz=171,slow=42
comp=Z,12nm,0.9s
PZH PanZhiHua 28.33 91 P **P 00 59 09.0 +4.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.8s
LZH Lanzhou 28.80 70 *e*P **P 00 59 12.3 +3.1**
LZH pP sP 00 59 18.0 +3.8
LZH sP pP 00 59 22.0 +9.3
LZH pmax pmax
comp=Z,10.0nm,1.5s
ANN Anapa 28.87 308 *e*P **P 00 59 07.8 -1.7**
ANN *e*S **S 01 03 54.8 -4.9**
ANN pmax pmax
comp=Z,76nm,1.2s
CHTO Chiang Mai 28.97 108 P **P 00 59 11.7 +1.0**
CHTO IAmb IAmb 00 59 13.6
comp=Z,8.7nm,1.2s
CHTO Chiang Mai 28.97 108 P **P 00 59 11.7 +1.0**
CHTO pmax pmax
comp=Z,9.0nm,1.2s
CMAR Chiang Mai Arr 29.15 108 P **P 00 59 13.7 +1.4**
comp=Z,2.0nm,0.7s,baz=291,slow=10,SNR=10
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 29.15 108 P **P 00 59 12.3 0.0**
CMAR Chiang Mai Arr 29.15 108*ce*P **P 00 59 15.8 +3.5**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
EIL Elat 30.03 277 LR LR 01 13 02.6
comp=Z,86nm,19.4s,baz=72,slow=40
BR131 Keskin Array S 30.62 297 P **P 00 59 25.6 +0.2**
BR131 IAmb IAmb 00 59 35.9
comp=Z,11nm,1.5s
BR131 Keskin Array S 30.62 297 P **P 00 59 25.6 +0.2**
BR131 pmax pmax
comp=Z,11nm,1.5s
BRTR Keskin Array B 30.62 297 P **P 00 59 25.5 +0.2**
comp=Z,1.2nm,0.7s,baz=112,slow=8.7,SNR=8.8
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 30.62 297 P **P 00 59 25.2 -0.1**
BRTR Keskin Array B 30.62 297*ce*P **P 00 59 25.7 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
KIRV Kirov 31.01 339 P **P 00 59 28.9 +0.7**
comp=Z,4.6nm,0.5s,baz=136,slow=5.7,SNR=5.1
comp=Z,4.6nm,0.5s
KIRV Kirov 31.01 339 P **P 00 59 29.0 +0.7**
SONM Songino Array 32.63 48 P **P 00 59 44.3 +1.4**
comp=Z,1.8nm,0.8s,baz=252,slow=7.0,SNR=12
SONM LR LR 01 15 16.0
comp=Z,323nm,19.0s,baz=26,slow=40
comp=Z,1.8nm,0.8s
SONM Songino Array 32.63 48 P **P 00 59 43.6 +0.7**
ULN Ulaanbaatar 33.06 48*ce*P **P 00 59 49.6 +2.9**
ULN pmax pmax
comp=Z,1.0nm,0.8s
ELL Elmali 33.47 291 P **P 00 59 51.0 +0.7**
ELL Elmali 33.47 291 P **P 00 59 51.0 +0.7**
ELL pmax pmax
comp=Z,38nm,1.2s
OBN Obninsk 33.78 326 LR LR 01 17 07.3
comp=Z,59nm,18.4s,baz=169,slow=42
HHC Hu-ho-hao-te 35.02 62 *e*P **P 01 00 06.8 +3.1**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,290nm,5.7s
AKASG Malin Array Be 35.96 315 P **P 01 00 09.6 -1.9**
comp=Z,1.0nm,0.5s,baz=97,slow=7.2,SNR=12
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 35.96 315 P **P 01 00 11.1 -0.4**
AKASG Malin Array Be 35.96 315*ce*P **P 01 00 11.5 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 36.95 306 P **P 01 00 19.4 -0.8**
comp=Z,4.0nm,0.9s,baz=137,slow=18,SNR=5.5
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 36.95 306 P **P 01 00 20.4 +0.2**
MLR IAmb IAmb 01 00 25.3
comp=Z,8.0nm,1.0s
BURAR Bucovina Array 37.77 309 P **P 01 00 27.0 -0.2**
BUR08 Bucovina Ar. S 37.79 309 P **P 01 00 27.3 0.0**
BUR08 IAmb IAmb 01 00 32.5
comp=Z,5.2nm,1.4s
VTS Vitosha 38.65 301 P **P 01 00 34.8 +0.1**
VTS IAmb IAmb 01 00 46.9
comp=Z,4.1nm,0.9s
VTS Vitosha 38.65 301 P **P 01 00 34.8 +0.1**
VTS pmax pmax
comp=Z,4.0nm,0.9s
PSI Prapat 39.20 130 LR LR 01 17 03.2
comp=Z,84nm,19.8s,baz=131,slow=36
NRIK Noril'sk 39.84 10 P **P 01 00 45.0 +0.9**
comp=Z,1.7nm,0.3s,baz=122,slow=6.5,SNR=2.2
comp=Z,1.7nm,0.3s
NRIK Noril'sk 39.84 10 P **P 01 00 45.0 +0.9**
FIA1 FINESS Array S 41.72 330 P **P 01 00 59.9 +0.3**
FINES FINESS Array B 41.72 330 P **P 01 01 00.0 +0.4**
comp=Z,6.6nm,1.1s,baz=108,slow=6.2,SNR=10
comp=Z,6.6nm,1.1s
FINES FINESS Array B 41.72 330 P **P 01 00 59.8 +0.2**
FINES FINESS Array B 41.72 330 *i*P **P 01 01 01.3 +1.7**
FINES pmax pmax
comp=Z,2.0nm,0.6s
VYHS Vyhne 42.13 310 *e*P **P 01 01 05.9 +2.7**
VYHS Vyhne 42.13 310 *e*P **P 01 01 05.9 +2.7**
GERES GERESS Array B 45.55 310 P **P 01 01 30.3 -0.6**
comp=Z,0.4nm,0.6s,baz=66,slow=10,SNR=2.2
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 46.02 340 P **P 01 01 35.2 +1.1**
comp=Z,1.6nm,0.5s,baz=98,slow=6.5,SNR=15
comp=Z,1.6nm,0.5s
ARCES ARCESS Array B 46.02 340 P **P 01 01 34.8 +0.7**
ARCES ARCESS Array B 46.02 340 P **P 01 01 34.8 +0.7**
NC303 NORSAR Array S 48.34 327 P **P 01 01 51.8 -0.5**
NOA NORSAR Array B 48.38 326 P **P 01 01 51.5 -1.2**
comp=Z,0.3nm,0.4s,baz=115,slow=19,SNR=1.8
NOA LR LR 01 24 20.8
comp=Z,97nm,19.7s,baz=280,slow=39
comp=Z,0.3nm,0.4s
YAK Yakutsk 49.20 33 LR LR 01 24 31.1
comp=Z,70nm,20.8s,baz=299,slow=38
KLR Kul'dur 49.44 50 LR LR 01 25 44.4
comp=Z,61nm,20.4s,baz=352,slow=39
JOW Kunigami 50.90 79 LR LR 01 26 25.6
comp=Z,79nm,20.9s,baz=62,slow=39
TIXI Tiksi 51.39 20 P **P 01 02 15.5 +0.2**
comp=Z,1.6nm,0.3s,baz=270,slow=8.1,SNR=4.1
comp=Z,1.6nm,0.3s
TIXI Tiksi 51.39 20 P **P 01 02 16.0 +0.7**
TIXI IAmb IAmb 01 02 32.4
comp=Z,6.4nm,1.1s
TIXI Tiksi 51.39 20 P **P 01 02 16.0 +0.7**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
SPITS Spitsbergen Ar 52.76 348 P **P 01 02 25.2 -0.3**
SPITS pmax pmax
comp=Z,29nm,1.3s
ESDC Sonseca Array 59.31 301 P **P 01 03 11.3 -1.7**
comp=Z,0.5nm,0.8s,baz=70,slow=5.6,SNR=4.1
comp=Z,0.5nm,0.8s
TORD Torodi Ar. Bea 64.65 271 P **P 01 03 47.5 -1.7**
comp=Z,0.8nm,0.6s,baz=62,slow=6.4,SNR=5.5
comp=Z,0.8nm,0.6s
TORD Torodi Ar. Bea 64.65 271 P **P 01 03 47.8 -1.4**
TORD IAmb IAmb 01 04 16.5
comp=Z,2.1nm,1.2s
TSUM Tsumeb 70.65 232 LR LR 01 38 26.6
comp=Z,68nm,18.1s,baz=155,slow=39
BMAR Burnt Mountain 78.65 13 P **P 01 05 13.1 +0.4**
INK Inuvik 79.62 9 P **P 01 05 17.8 -0.1**
comp=Z,0.7nm,0.5s,baz=355,slow=5.1,SNR=2.3
comp=Z,0.7nm,0.5s
WB0 Warramunga Arr 79.89 120 P **P 01 05 19.3 -0.8**
WB0 IAmb IAmb 01 05 36.5
comp=Z,5.7nm,1.2s
WRA Warramunga Arr 79.96 120 P **P 01 05 19.1 -1.4**
comp=Z,0.8nm,0.9s,baz=323,slow=4.9,SNR=9.5
comp=Z,0.8nm,0.9s
WRA Warramunga Arr 79.96 120 P **P 01 05 20.1 -0.4**
WRA Warramunga Arr 79.96 120 *i*P **P 01 05 22.7 +2.2**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 80.47 15 LR LR 01 48 46.8
comp=Z,46nm,20.0s,baz=258,slow=41
ASAR Alice Springs 81.94 124 P **P 01 05 30.2 -0.8**
comp=Z,0.5nm,0.7s,baz=308,slow=5.5,SNR=7.5
comp=Z,0.5nm,0.7s
SCM Sheep Creek Mo 82.89 17 P **P 01 05 35.5 0.0**
SCM Sheep Creek Mo 82.89 17 P **P 01 05 35.5 0.0**
SCM pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 86.91 2 P **P 01 05 54.8 -0.8**
comp=Z,0.3nm,0.7s,baz=346,slow=5.1,SNR=6.2
comp=Z,0.3nm,0.7s

IDC ***12*** *00:58:40.2±5.5, 20.°46S×179.°09W, h651km±34km, mb2.7/4, mbtmp3.7/5, Error ellipse: s-maj=162.5km s-min=22.0km az=148.0*

ISC 12 00:58:39.3±2.0, 20.°6S±0.°5×179.°0W±0.°3, h645km, n7, σ1s27/7, mb3.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.98**	**315**	P	**P**	**01 00 08.2**	**+0.1**
	12nm,0.6s,baz=143,slow=8.2,SNR=24						
ASAR	**Alice Springs**	**43.57**	**257**	P	**P**	**01 05 49.7**	**+0.6**
	0.7nm,0.7s,baz=84,slow=6.8,SNR=9.9						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**43.65**	**262**	P	**P**	**01 05 49.8**	**+0.1**
	0.5nm,0.3s,baz=97,slow=8.0,SNR=24						
	0.5nm,0.3s						
NVAR	**Mina Array Bea**	**81.75**	**44**	P	**P**	**01 09 53.7**	**+0.9**
	0.3nm,0.4s,baz=234,slow=11,SNR=3.5						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**88.62**	**13**	P	**P**	**01 10 24.9**	**-0.1**
	0.2nm,0.5s,baz=221,slow=5.0,SNR=5.6						
	0.2nm,0.5s						
AKASG	**Malin Array Be**	**142.63**	**330**	PKP	**PKPdf**	**01 16 58.1**	**-2.3**
	1.1nm,0.4s,baz=41,slow=4.0,SNR=12						
BRTR	**Keskin Array B**	**146.20**	**312**	PKPbc	**PKPbc**	**01 17 09.7**	**+0.2**
	0.3nm,0.6s,baz=133,slow=6.4,SNR=1.6						

IDC ***12*** *01:14:25.0±5.0, 6.°92S×128.°14E, h245km±61km, mb3.1/3, mbtmp3.9/6, Error ellipse: s-maj=57.2km s-min=21.1km az=51.0*

ISC 12 01:14:24.6±1.0, 7.°0S±0.°1×128.°3E±0.°1, h250km, n6, σ0s60/7, mb3.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.54**	**235**	P	**Pn**	**01 15 47.8**	**+0.7**
	33nm,0.3s,baz=63,slow=2.3,SNR=6.2						
BATI				S	**S**	**01 16 52.1**	**-0.8**
	77nm,0.4s,baz=22,slow=19,SNR=16						
WRA	**Warramunga Arr**	**14.15**	**156**	P	**P**	**01 17 34.9**	**-0.2**
	1.2nm,0.3s,baz=331,slow=12,SNR=26						
ASAR	**Alice Springs**	**17.43**	**162**	P	**Pn**	**01 18 13.7**	**+0.2**
	2.4nm,0.3s,baz=342,slow=11,SNR=42						
KSRS	**Korea Array**	**44.23**	**360**	P	**P**	**01 22 09.0**	**-0.3**
	1.1nm,0.5s,baz=175,slow=9.5,SNR=2.8						
	1.1nm,0.5s						
SONM	**Songino Array**	**57.92**	**343**	P	**P**	**01 23 51.1**	**+0.3**
	0.3nm,0.6s,baz=161,slow=6.2,SNR=3.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**67.30**	**328**	P	**P**	**01 24 52.5**	**-0.1**
	0.3nm,0.5s,baz=126,slow=8.1,SNR=5.1						
	0.3nm,0.5s						

SOME ***12*** *01:25:19.4, 40.°05N×69.°88E, h10km*
KRNET ***12*** *01:25:20.7±0.1, 40.°06N×69.°85E, h17km, mb3.5*
NNC ***12*** *01:25:22.7±1.2, 40.°17N×69.°91E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=9.2km s-min=6.6km az=14.0*
ISU ***12*** *01:25:25.7, 40.°02N×69.°55E, h20km*

ISC 12 01:25:22.1±1.2, 40.°05N±0.°03×69.°87E±0.°02, h6km±10km, n55, σ1s76/77, 30C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.73**	**89**	⇑*i*P	**Pg**	**01 25 35.0**	**-1.1**
	baz=90						
BTK				⇑*i*S	**Sg**	**01 25 45.1**	**-0.5**
	baz=90						
BTK	**Batken**	**0.73**	**89**	P	**Pg**	**01 25 34.5**	**-1.6**
GAR	**Garm**	**1.10**	**162**	⇑*i*P	**Pg**	**01 25 41.6**	**-1.6**
	baz=61						
GAR				⇑*i*S	**Sg**	**01 25 56.5**	**-1.0**
	baz=61						
NZBK	**Nazarbek**	**1.31**	**334**	P	**Pg**	**01 25 47.9**	**+0.7**
NZBK				S	**Sg**	**01 26 04.5**	**+0.3**
TAS	**Tashkent**	**1.35**	**341**	⇑*i*P	**Pn**	**01 25 45.3**	**-2.3**
	baz=42						
TAS				⇑*i*S	**Sb**	**01 26 03.3**	**-2.2**
	baz=42						
TAS	**Tashkent**	**1.35**	**341**	P	**Pb**	**01 25 47.3**	**-0.6**
TAS				S	**Sb**	**01 26 04.6**	**-0.9**
BXML	**Bakhmal**	**1.46**	**256**	P	**Pg**	**01 25 51.3**	**+1.2**
CHGR	**Chuyangaron**	**1.49**	**202**	⇑*i*P	**Pn**	**01 25 48.4**	**-1.2**
	baz=1.0						
CHGR				⇑*i*S	**Sn**	**01 26 08.3**	**-1.2**
	baz=1.0						
FRG	**Fergana**	**1.50**	**77**	P	**Pg**	**01 25 50.8**	**-0.1**
FRG				S	**Sg**	**01 26 13.3**	**+2.9**
CHMG	**Chimgan**	**1.51**	**4**	P	**Pn**	**01 25 48.3**	**-1.6**
CHMG				S	**Sn**	**01 26 08.9**	**-1.0**
DZI	**Dzhizak**	**1.57**	**273**	P	**Sb**	**01 26 11.3**	**-0.5**
DRK	**Karamyk**	**1.59**	**110**	⇑*i*P	**Pn**	**01 25 50.1**	**-1.1**
	baz=10.0						
DRK				⇑*i*S	**Sb**	**01 26 12.0**	**-0.6**
	baz=10.0						
CHRV	**Charvak**	**1.59**	**2**	P	**Pn**	**01 25 49.8**	**-1.2**
CHRV				S	**Sn**	**01 26 11.1**	**-0.9**
TRKS	**Terek-Say**	**1.77**	**33**	⇑*i*P	**Pn**	**01 25 52.2**	**-1.3**
	baz=35						
TRKS				⇑*i*S	**Sn**	**01 26 15.4**	**-1.0**
	baz=35						
TSTA	**Tashata**	**2.06**	**74**	P	**Pg**	**01 26 01.2**	**-0.5**
TSTA				S	**Sg**	**01 26 29.3**	**+0.9**
IUG	**Iuzhnay**	**2.10**	**3**	Pg	**Pn**	**01 25 57.7**	**-0.3**
	117nm,0.5s						
IUG				Lg	Lg	01 26 26.8	
	143nm,0.3s						
IUG	**Iuzhnay**	**2.10**	**3**	*e*Pg	**Pb**	**01 25 58.9**	**-1.8**
	117nm,0.5s						
IUG				*e*Lg	Lg	01 26 26.8	
	143nm,0.3s						
OHH	**Osh**	**2.28**	**77**	⇑*e*P	**Pn**	**01 26 00.3**	**-0.1**
	baz=77						
OHH				⇑*i*S	**Sn**	**01 26 29.4**	**+0.5**
	baz=77						
ARK	**Arkit**	**2.36**	**41**	⇑*i*P	**Pn**	**01 26 01.6**	**0.0**
	baz=42						
ARK				⇑*i*S	**Sn**	**01 26 31.6**	**+0.6**
	baz=42						
AGL	**Agalyk**	**2.36**	**258**	P	**Pb**	**01 26 03.6**	**-1.6**
KTAB	**Kitab**	**2.48**	**249**	P	**Sb**	**01 26 37.1**	**-0.9**
PKMR	**Pachkamar**	**3.09**	**242**	P	**Sb**	**01 26 58.8**	**+3.3**
KK31	**Karatay Array**	**3.09**	**9**	⇓Pn	**Pn**	**01 26 12.3**	**+0.8**
	0.7nm,0.2s,baz=189,slow=11,SNR=57						
KK31				⇓Pg	**Pb**	**01 26 17.0**	**-0.6**
	2.7nm,0.2s						
KK31				⇑Lg	Lg	01 26 57.0	
	6.1nm,0.2s						
KKAR	**Karatay Array**	**3.09**	**9**	⇑*i*P	**Pn**	**01 26 11.3**	**-0.3**
	baz=9.0						
KKAR				⇑*i*S	**Sn**	**01 26 48.3**	**-0.6**
	baz=9.0						
NUT	**Nurota**	**3.25**	**280**	P	**Sb**	**01 27 02.9**	**+2.9**
ZRB	**Zarabog**	**3.40**	**236**	P	**Sb**	**01 27 09.5**	**+5.0**
AML	**Almayashu**	**3.56**	**53**	⇑*i*P	**Pn**	**01 26 18.5**	**+0.1**
	baz=53						
AML				⇑*i*S	**Sn**	**01 27 00.5**	**-0.5**
	baz=53						
MRKS	**Merke**	**3.69**	**42**	Pg	**Pb**	**01 26 27.5**	**-0.4**
	3.6nm,0.3s						
MRKS				Lg	Lg	01 27 17.4	
	25nm,0.4s						
MRKS	**Merke**	**3.69**	**42**	*e*Pg	**Pb**	**01 26 27.5**	**-0.4**
	3.6nm,0.3s						
MRKS				*e*Lg	Lg	01 27 17.4	
	25nm,0.4s						
UCH	**Uchtor**	**4.13**	**57**	⇓*i*P	**Pn**	**01 26 26.2**	**0.0**
	baz=57						
UCH				⇓*i*S	**Sn**	**01 27 14.4**	**-0.6**
	baz=57						
TMD	**Tamdy-Bulak**	**4.31**	**295**	P	**Sb**	**01 27 34.9**	**+4.2**
FRU1	**Bishkek**	**4.52**	**51**	⇑*e*P	**Pn**	**01 26 31.7**	**+0.5**
	baz=51						
FRU1				⇑*i*S	**Sn**	**01 27 23.0**	**-1.1**
	baz=51						
CHMS	**Chumysh**	**4.70**	**50**	⇑Pn	**Pn**	**01 26 34.0**	**+0.3**
	6.4nm,0.8s						
CHMS				⇑Pg	**Pb**	**01 26 46.7**	**+1.6**
	4.8nm,0.6s						
CHMS				⇓Sn	**Sn**	**01 27 30.3**	**+1.7**
	12nm,0.7s						
CHMS				⇓Lg	Lg	01 27 49.7	
	7.1nm,0.6s						
NRN	**Naryn**	**4.86**	**71**	⇑*i*P	**Pn**	**01 26 36.0**	**-0.1**
	baz=72						
NRN				⇑*i*S	**Sn**	**01 27 30.8**	**-2.0**
	baz=72						
SGDS	**Sogindy**	**4.92**	**45**	Pg	**Pb**	**01 26 49.8**	**+0.9**
	2.5nm,0.4s						
SGDS				Lg	Lg	01 27 55.0	
	10nm,0.5s						
TKM2	**Tokmak 2**	**5.17**	**54**	⇑Pn	**Pn**	**01 26 40.6**	**+0.3**
	2.0nm,0.5s						
TKM2				⇑Pg	**Pb**	**01 26 56.6**	**+3.5**
	2.6nm,0.5s						
TKM2				⇓Lg	Lg	01 28 04.2	
	8.6nm,0.6s						
DGS	**Degeres**	**5.45**	**52**	Pg	**Pb**	**01 26 59.2**	**+1.4**
	4.2nm,0.4s						
DGS				Lg	Lg	01 28 11.7	
	6.9nm,0.7s						
DGS	**Degeres**	**5.45**	**52**	*e*Pg	**Pb**	**01 26 59.2**	**+1.4**
	4.2nm,0.4s						
DGS				*e*Lg	Lg	01 28 11.7	
	6.9nm,0.7s						
KST	**Kastek**	**5.46**	**55**	Pg	**Pb**	**01 27 01.0**	**+2.9**
	2.1nm,0.3s						
KST				Lg	Lg	01 28 14.3	

	9.3nm,0.7s							
KST	**Kastek**	**5.46**	**55**	*e*Pg		**Pb**	**01 27 01.0**	**+2.9**
	2.1nm,0.3s							
KST				*e*Lg		Lg	01 28 14.3	
	9.3nm,0.7s							
KRBS	**Karabastau**	**5.66**	**48**	Pg		**Pb**	**01 27 03.0**	**+1.6**
	1.3nm,0.5s							
KRBS				Lg		Lg	01 28 17.7	
	6.3nm,0.6s							
KRBS	**Karabastau**	**5.66**	**48**	*e*Pg		**Pb**	**01 27 03.0**	**+1.6**
	1.3nm,0.5s							
KRBS				*e*Lg		Lg	01 28 17.7	
	6.3nm,0.6s							
BTLS	**Baital**	**5.87**	**30**	Pg		**Pb**	**01 27 06.4**	**+1.6**
	3.8nm,0.7s							
BTLS				Lg		Lg	01 28 24.1	
	2.5nm,0.4s							
BTLS	**Baital**	**5.87**	**30**	*e*Pg		**Pb**	**01 27 06.4**	**+1.6**
	3.8nm,0.7s							
BTLS				*e*Lg		Lg	01 28 24.1	
	2.5nm,0.4s							
KUU	**Kurty**	**6.17**	**49**	Pg		**Pb**	**01 27 10.9**	**+1.0**
	0.7nm,0.1s							
KUU				Lg		Lg	01 28 31.4	
	2.0nm,0.1s							
KUU	**Kurty**	**6.17**	**49**	*e*Pg		**Pb**	**01 27 10.9**	**+1.0**
	0.7nm,0.1s							
KUU				*e*Lg		Lg	01 28 31.4	
	2.0nm,0.1s							
MDOK	**Medeo**	**6.21**	**58**	Pn		**Pn**	**01 26 54.5**	**-0.1**
	5.3nm,0.8s							
MDOK				⇓Lg		Lg	01 28 37.8	
	8.3nm,0.8s							
KTBS	**Karatobe**	**6.26**	**52**	Pg		**Pb**	**01 27 14.7**	**+3.0**
	2.1nm,0.6s							
KTBS				Lg		Lg	01 28 37.8	
	8.3nm,0.6s							
KTBS	**Karatobe**	**6.26**	**52**	*e*Pg		**Pb**	**01 27 14.7**	**+3.0**
	2.1nm,0.6s							
KTBS				*e*Lg		Lg	01 28 37.8	
	8.3nm,0.6s							
CHKK	**Chushkaly**	**6.53**	**52**	Pg		**Pb**	**01 27 19.2**	**+3.1**
	0.4nm,0.1s							
CHKK				Lg		Lg	01 28 45.9	
	3.5nm,0.5s							
CHKK	**Chushkaly**	**6.53**	**52**	*e*Pg		**Pb**	**01 27 19.2**	**+3.1**
	0.4nm,0.1s							
CHKK				*e*Lg		Lg	01 28 45.9	
	3.5nm,0.5s							
KURS	**Kuram**	**7.09**	**58**	Pg		**Pg**	**01 27 36.9**	**-1.1**
	1.4nm,0.5s							
KURS				Lg		Lg	01 29 15.8	
	3.4nm,0.9s							
KURS	**Kuram**	**7.09**	**58**	*e*Pg		**Pg**	**01 27 34.0**	**-3.9**
	1.4nm,0.5s							
KURS				*e*Lg		Lg	01 29 11.3	
	3.4nm,0.9s							
BLB	**Baldybastay**	**7.57**	**55**	Pg		Pg	01 27 41.1	-6.0
	2.4nm,0.5s							
BLB				Lg		Lg	01 29 23.5	
	4.6nm,0.6s							
AB31	**Akbulak array**	**11.60**	**326**	⇑P		**Pn**	**01 28 07.7**	**-0.5**
	0.1nm,0.3s,baz=161,slow=11,SNR=5.2							

*NOU **12** 01:30:02.7,42.°04S×178.°02E,h0km,ML4.4/11,Off E. Coast of S. Island, N.Z.*
*IDC **12** 01:30:04.5±2.4,41.°94S×177.°84E,h0km,mb3.8/2, mbtmp4.0/4,ML4.2/2,MS3.4/1,Error ellipse: s-maj=48.1km s-min=39.4km az=107.0*
*WEL **12** 01:30:07.2±0.5,42.°S±3.°×17.°8E±.°,h33km,M4.2/70, mB4.2/1,ML3.9/3,MLv4.2/70,Mw(mB)3.2/1,Error ellipse: s-maj=0.0km s-min=0.0km az=121.3,confirmed*
ISC 12 01:30:06.5±1.1,42.°08S±0.°04×178.°04E±0.°05,h35km,n128, σ1⁰31/139,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMWZ	**Te Maipa**	**1.88**	**300**	P	**Pn**	**01 30 36.7**	**+0.6**
BFZ	**Birch Farm**	**1.94**	**315**	P	**Pn**	**01 30 38.3**	**+1.4**
ANWZ	**Angora Road**	**2.00**	**323**	P	**Pn**	**01 30 38.8**	**+1.1**
PRHZ	**Porangahau**	**2.10**	**329**	P	**Pn**	**01 30 39.1**	**0.0**
PLWZ	**Palliser**	**2.14**	**283**	P	**Pn**	**01 30 38.6**	**-1.1**
PRWZ	**Pori Road**	**2.17**	**314**	P	**Pn**	**01 30 40.2**	**+0.1**
PXZ	**Pawanui**	**2.23**	**336**	P	**Pn**	**01 30 40.9**	**0.0**
WPHZ	**Waipukurau**	**2.34**	**328**	P	**Pn**	**01 30 43.0**	**+0.5**
CAW	**Cannon Point**	**2.43**	**292**	P	**Pn**	**01 30 43.9**	**+0.2**
CAW				S	**Sn**	**01 31 08.8**	**-3.4**
KAHZ	**Kahuranaki**	**2.44**	**339**	P	**Pn**	**01 30 43.8**	**-0.1**
OGWZ	**Otaki Gorge**	**2.50**	**299**	P	**Pn**	**01 30 45.0**	**+0.4**
OGWZ				S	**Sn**	**01 31 09.8**	**-4.0**
CKHZ	**Cape Kidnapper**	**2.52**	**343**	P	**Pn**	**01 30 44.5**	**-0.4**
TSZ	**Takapari Road**	**2.55**	**321**	P	**Pn**	**01 30 45.3**	**-0.1**
TSZ				S	**Sn**	**01 31 13.4**	**-1.9**
SNZO	**South Karori**	**2.61**	**286**	P	**Pn**	**01 30 45.4**	**-0.7**
KIW	**Kapiti Island**	**2.65**	**296**	P	**Pn**	**01 30 46.2**	**-0.4**
KIW				S	**Sn**	**01 31 15.1**	**-2.4**
MCHZ	**McNeill Hill**	**2.82**	**338**	P	**Pn**	**01 30 49.6**	**+0.6**
ARHZ	**Aropaoanui**	**2.92**	**344**	P	**Pn**	**01 30 49.9**	**-0.5**
KWHZ	**Kaweka Forest**	**2.92**	**335**	P	**Pn**	**01 30 50.9**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.92**	**358**	P	**Pn**	**01 30 48.9**	**-1.6**
TCW	**Tory Channel**	**2.95**	**286**	P	**Pn**	**01 30 50.2**	**-0.6**
TCW				S	**Sn**	**01 31 22.0**	**-2.9**
BHHZ	**Black Hill Sta**	**2.99**	**329**	P	**Pn**	**01 30 52.0**	**+0.6**
WHHZ	**Waihua**	**3.06**	**348**	P	**Pn**	**01 30 52.0**	**-0.2**
KNZ	**Kokohu**	**3.06**	**355**	P	**Pn**	**01 30 50.8**	**-1.5**
NMHZ	**Naumai**	**3.12**	**342**	P	**Pn**	**01 30 54.0**	**+0.8**
BKZ	**Black Stump Fm**	**3.14**	**337**	P	**Pn**	**01 30 53.6**	**+0.2**
BKZ	**Black Stump Fm**	**3.14**	**337**	P	**Pn**	**01 30 53.4**	**0.0**
MOVZ	**Moawhango**	**3.18**	**326**	P	**Pn**	**01 30 55.1**	**+1.1**
MOVZ				S	**Sn**	**01 31 28.6**	**-2.1**
RAHZ	**Arahi**	**3.24**	**347**	P	**Pn**	**01 30 54.5**	**-0.3**
WNVZ	**Wahianoa**	**3.31**	**325**	P	**Pn**	**01 30 57.2**	**+1.3**
WNVZ				S	**Sn**	**01 31 33.0**	**-1.2**
MTVZ	**Mangateitei**	**3.32**	**323**	P	**Pn**	**01 30 57.5**	**+1.5**
SNGZ	**Shannon Statio**	**3.33**	**351**	P	**Pn**	**01 30 55.6**	**-0.5**
TUVZ	**Tukino**	**3.34**	**326**	P	**Pn**	**01 30 57.8**	**+1.5**
TUVZ				S	**Sn**	**01 31 33.0**	**-1.9**
MTHZ	**Maungataniwha**	**3.35**	**344**	P	**Pn**	**01 30 55.8**	**-0.5**
WHVZ	**Whangaehu Hut**	**3.35**	**325**	P	**Pn**	**01 30 58.0**	**+1.4**
KHZ	**Kahutara**	**3.36**	**263**	P	**Pn**	**01 30 55.2**	**-1.2**
KHZ	**Kahutara**	**3.36**	**263**	P	**Pn**	**01 30 55.2**	**-1.2**
TRVZ	**Turoa**	**3.36**	**325**	P	**Pn**	**01 30 55.4**	**-1.2**
DRZ	**Dome Shelter**	**3.37**	**325**	P	**Pn**	**01 30 58.3**	**+1.5**
RIGZ	**Rimuhau**	**3.37**	**356**	P	**Pn**	**01 30 55.3**	**-1.3**
FWVZ	**Far West T-bar**	**3.39**	**325**	P	**Pn**	**01 30 58.2**	**+1.1**
SNVZ	**South Ngauruho**	**3.41**	**327**	P	**Pn**	**01 30 58.5**	**+1.1**
OTVZ	**Oturere**	**3.42**	**327**	P	**Pn**	**01 30 58.6**	**+1.1**
ETVZ	**East Tongariro**	**3.43**	**328**	P	**Pn**	**01 30 58.5**	**+1.0**
NGZ	**Ngauruhoe**	**3.44**	**327**	P	**Pn**	**01 30 58.8**	**+1.1**
TMVZ	**Te Maari**	**3.45**	**328**	P	**Pn**	**01 30 58.7**	**+1.0**
PKVZ	**Pokaka**	**3.45**	**323**	P	**Pn**	**01 30 59.1**	**+1.3**
MRHZ	**Matea Rd**	**3.47**	**339**	P	**Pn**	**01 30 58.2**	**+0.2**
NNVZ	**North Ngauruho**	**3.47**	**327**	P	**Pn**	**01 30 59.1**	**+1.0**
NTVZ	**North Tongarir**	**3.48**	**328**	P	**Pn**	**01 30 59.1**	**+1.0**
KRVZ	**Karewarewa**	**3.49**	**328**	P	**Pn**	**01 30 57.1**	**-1.3**
WTVZ	**West Tongariro**	**3.50**	**327**	P	**Pn**	**01 30 59.4**	**+1.0**
RITZ	**Rihia Road**	**3.51**	**331**	P	**Pn**	**01 30 59.7**	**+1.1**
RTZ	**Ruatahuna**	**3.55**	**347**	P	**Pn**	**01 30 59.2**	**+0.1**
KATZ	**Kakaramea**	**3.58**	**329**	P	**Pn**	**01 31 00.5**	**+1.0**
CNGZ	**Carnagh Statio**	**3.59**	**2**	P	**Pn**	**01 30 59.0**	**-0.6**
NNZ	**Nelson**	**3.59**	**282**	P	**Pn**	**01 30 59.7**	**+0.1**
TWVZ	**Taurewa**	**3.60**	**326**	P	**Pn**	**01 31 00.6**	**+0.8**
RAGZ	**Rawiri**	**3.61**	**352**	P	**Pn**	**01 30 59.7**	**-0.2**
TKGZ	**Te Karaka**	**3.63**	**358**	P	**Pn**	**01 30 59.4**	**-0.8**
RATZ	**Rangitukua**	**3.64**	**331**	P	**Pn**	**01 31 01.3**	**+0.9**
MUGZ	**Murupara**	**3.72**	**345**	P	**Pn**	**01 31 01.5**	**0.0**
ALRZ	**Allen Road**	**3.74**	**339**	P	**Pn**	**01 31 02.1**	**+0.4**
MWZ	**Matawai**	**3.76**	**354**	P	**Pn**	**01 31 00.9**	**-1.1**
PRRZ	**Plateau Road**	**3.79**	**340**	P	**Pn**	**01 31 02.5**	**+0.2**
WATZ	**Wairara**	**3.80**	**332**	P	**Pn**	**01 31 02.8**	**+0.4**
GVZ	**Greta Valley S**	**3.80**	**255**	P	**Pn**	**01 31 01.7**	**-0.8**
THZ	**Tophouse**	**3.84**	**273**	P	**Pn**	**01 31 02.4**	**-0.7**
VRZ	**Vera Road**	**3.86**	**319**	P	**Pn**	**01 31 04.4**	**+1.1**
URZ	**Urewera**	**3.88**	**349**	Pn	**Pn**	**01 31 02.5**	**-1.0**
	25nm,0.3s,baz=313,slow=4.3,SNR=150						
URZ				Sn	**Sn**	**01 31 44.2**	**-3.7**
	2.0nm,0.3s,baz=179,slow=17,SNR=1.7						
	62nm,0.2s						
URZ	**Urewera**	**3.88**	**349**	P	**Pn**	**01 31 02.1**	**-1.4**
URZ	**Urewera**	**3.88**	**349**	P	**Pn**	**01 31 02.7**	**-0.9**
TWGZ	**Tauwhareparae**	**3.90**	**359**	P	**Pn**	**01 31 03.7**	**-0.1**
TKNZ	**Takaka Hill**	**3.95**	**284**	P	**Pn**	**01 31 04.4**	**-0.2**
KUTZ	**Kaahu Road**	**3.96**	**334**	P	**Pn**	**01 31 05.1**	**+0.3**
PUZ	**Puketiti**	**4.00**	**2**	P	**Pn**	**01 31 03.8**	**-1.5**
MRNZ	**Matariki Terra**	**4.01**	**278**	P	**Pn**	**01 31 05.0**	**-0.4**
OKCZ	**Okains Bay**	**4.01**	**244**	P	**Pn**	**01 31 04.9**	**-0.5**
TARZ	**Mount Tarawera**	**4.01**	**342**	P	**Pn**	**01 31 05.8**	**+0.3**
NEZ	**North Egmont**	**4.10**	**312**	P	**Pn**	**01 31 09.4**	**+2.6**
RUGZ	**Raukumara Rang**	**4.12**	**356**	P	**Pn**	**01 31 05.8**	**-1.2**
KHEZ	**Kahui Hut**	**4.13**	**311**	P	**Pn**	**01 31 09.5**	**+2.4**
AKCZ	**Akaroa Harbour**	**4.17**	**243**	P	**Pn**	**01 31 07.1**	**-0.4**
AKCZ				S	**Sn**	**01 31 54.1**	**-0.9**
PKGZ	**Pakihiroa**	**4.18**	**0**	P	**Pn**	**01 31 06.4**	**-1.4**
PKE	**Pukeiti**	**4.22**	**312**	P	**Pn**	**01 31 11.7**	**+3.5**
MARZ	**Manawahe**	**4.22**	**345**	P	**Pn**	**01 31 10.3**	**+2.1**
WMGZ	**Waiomatatini S**	**4.26**	**4**	P	**Pn**	**01 31 07.5**	**-1.3**
CTZ	**Chatham Island**	**4.26**	**115**	P	**Pn**	**01 31 09.4**	**+0.6**
CTZ	**Chatham Island**	**4.26**	**115**	P	**Pn**	**01 31 10.1**	**+1.3**
CTZ				S	**Sn**	**01 31 55.3**	**-2.0**
MQZ	**McQueen's Vall**	**4.28**	**246**	P	**Pn**	**01 31 08.0**	**-1.0**
WHRZ	**Whale Island**	**4.29**	**349**	P	**Pn**	**01 31 09.0**	**-0.3**
HIZ	**Hauiti**	**4.31**	**325**	P	**Pn**	**01 31 09.6**	**+0.1**
HIZ	**Hauiti**	**4.31**	**325**	P	**Pn**	**01 31 10.0**	**+0.5**
HAZ	**Te Kaha**	**4.32**	**357**	P	**Pn**	**01 31 08.4**	**-1.2**
QRZ	**Quartz Range**	**4.32**	**285**	P	**Pn**	**01 31 09.8**	**+0.1**
QRZ	**Quartz Range**	**4.32**	**285**	P	**Pn**	**01 31 09.8**	**+0.1**
LTZ	**Lake Taylor**	**4.33**	**259**	P	**Pn**	**01 31 08.8**	**-0.9**
OPRZ	**Ohinepanea**	**4.38**	**344**	P	**Pn**	**01 31 10.1**	**-0.3**
MXZ	**Matakaoa Point**	**4.51**	**3**	P	**Pn**	**01 31 10.8**	**-1.5**
MXZ	**Matakaoa Point**	**4.51**	**3**	P	**Pn**	**01 31 11.0**	**-1.3**
KMRZ	**Kaimai**	**4.52**	**338**	P	**Pn**	**01 31 09.0**	**-3.4**
OXZ	**Oxford**	**4.59**	**252**	P	**Pn**	**01 31 12.4**	**-1.0**
RACZ	**Rakaia**	**4.64**	**247**	P	**Pn**	**01 31 14.2**	**+0.2**
DSZ	**Denniston Nort**	**4.66**	**272**	P	**Pn**	**01 31 14.3**	**-0.1**
TOZ	**Tahuroa Road**	**4.76**	**335**	P	**Pn**	**01 31 15.7**	**+0.1**
WACZ	**Wakanui South**	**4.91**	**246**	P	**Pn**	**01 31 17.9**	**+0.1**
INZ	**Inchbonnie**	**4.92**	**260**	P	**Pn**	**01 31 17.9**	**0.0**
MHCZ	**Mount Hutt**	**4.98**	**251**	P	**Pn**	**01 31 17.9**	**-0.8**
ARCZ	**Arundel**	**5.37**	**247**	P	**Pn**	**01 31 23.8**	**-0.3**
RPZ	**Rata Peaks**	**5.38**	**250**	Pn	**Pn**	**01 31 23.7**	**-0.5**
	5.4nm,0.3s,baz=130,slow=0.5,SNR=12						
RPZ				Sn	**Sn**	**01 32 20.2**	**-4.8**
	1.9nm,0.3s,baz=15,slow=13,SNR=1.7						
	15nm,0.3s						
RPZ	**Rata Peaks**	**5.38**	**250**	P	**Pn**	**01 31 23.8**	**-0.5**
RPZ	**Rata Peaks**	**5.38**	**250**	P	**Pn**	**01 31 23.9**	**-0.5**
MKAZ	**Moumakai**	**5.44**	**335**	P	**Pn**	**01 31 24.9**	**-0.1**
WVZ	**Waitaha Valley**	**5.48**	**257**	P	**Pn**	**01 31 25.5**	**-0.1**
KUZ	**Kuaotunu**	**5.62**	**341**	P	**Pn**	**01 31 26.8**	**-0.6**
TMZ	**Timaru**	**5.63**	**243**	P	**Pn**	**01 31 27.5**	**-0.2**
AWAZ	**Awhitu Peninsu**	**5.65**	**331**	P	**Pn**	**01 31 28.5**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**5.81**	**255**	P	**Pn**	**01 31 30.6**	**+0.5**
MBAZ	**Motutapu North**	**5.83**	**334**	P	**Pn**	**01 31 30.6**	**+0.3**
ODZ	**Otahua Downs**	**6.13**	**239**	P	**Pn**	**01 31 34.8**	**+0.3**
ODZ	**Otahua Downs**	**6.13**	**239**	P	**Pn**	**01 31 34.8**	**+0.3**
GRZ	**Great Barrier**	**6.15**	**340**	P	**Pn**	**01 31 34.6**	**-0.2**
LBZ	**Lake Benmore**	**6.18**	**245**	P	**Pn**	**01 31 35.4**	**+0.2**
FOZ	**Fox Glacier**	**6.22**	**254**	P	**Pn**	**01 31 36.2**	**+0.5**
EAZ	**Earnscleugh**	**7.07**	**241**	P	**Pn**	**01 31 48.0**	**+0.6**
ASAR	**Alice Springs**	**40.85**	**283**	P	**P**	**01 37 46.8**	**+1.8**
	1.7nm,1.0s,baz=124,slow=6.3,SNR=8.6						
	1.7nm,1.0s						
WRA	**Warramunga Arr**	**42.88**	**287**	P	**P**	**01 38 03.6**	**+2.0**
	0.7nm,0.6s,baz=131,slow=7.4,SNR=5.5						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**48.05**	**180**	LR	LR	01 56 43.8	
	comp=Z,40nm,19.2s,baz=238,slow=33						
TORD	**Torodi Ar. Bea**	**151.00**	**187**	PKPbc	**PKiKP**	**01 49 59.7**	**+3.2**
	0.6nm,0.8s,baz=125,slow=2.1,SNR=3.7						

*NEIC **12** 01:30:40.6±1.7,0.°26N±0.°09×122.°1E±0.°1,h190km±6km, mb4.3/20,Error ellipse: s-maj=20.6km s-min=9.0km az=58.0*
*IDC **12** 01:30:41.7±3.6,0.°28N×122.°38E,h208km±35km,mb3.6/9, mbtmp4.2/10,Error ellipse: s-maj=44.2km s-min=11.2km az=58.0*
*DJA **12** 01:30:42.1±0.4,0.°N±.3°×12.°2E±.°,h181km±4km,M4.2/13, mb4.0/3,mB4.7/2,MLv4.2/13,Mw(mB)4.0/2*
ISC 12 01:30:40.7±0.6,0.°25N±0.°06×122.°24E±0.°06,h199km±5km, n48,σ1⁰91/60,mb4.2/16,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.38**	**307**	P	**Pn**	**01 31 06.4**	**-0.9**
MRSI				S	**S**	**01 31 26.2**	**-1.6**
GTOI	**Gorontalo**	**0.86**	**64**	P	**Pn**	**01 31 09.8**	**+0.4**
GTOI				S	**S**	**01 31 32.1**	**+0.5**
APSI	**Ampana**	**1.30**	**207**	P	**Pn**	**01 31 12.8**	**+0.2**
APSI				S	**S**	**01 31 36.7**	**-0.7**
LUWI	**Luwuk**	**1.39**	**158**	P	**Pn**	**01 31 13.6**	**+0.3**
LUWI				Sn	**S**	**01 31 37.5**	**-1.2**
LUWI	**Luwuk**	**1.39**	**158**	P	**Pn**	**01 31 19.9**	**+0.6**
LUWI				S	**S**	**01 31 38.1**	**-0.7**
TOLI2	**Tolitoli**	**1.69**	**300**		**Pn**	**01 31 15.2**	**-0.8**
MPSI	**Mapaga**	**2.35**	**272**	P	**Pn**	**01 31 22.3**	**-0.5**
SANI	**Sanana**	**4.39**	**121**	P	**Pn**	**01 31 46.8**	**-0.5**
SANI				S	**S**	**01 32 35.8**	**-3.9**
SPSI	**Sidrap Palu**	**4.86**	**211**	P	**Pn**	**01 31 53.6**	**+0.2**
KAPI	**Kappang**	**5.79**	**205**	P	**Pn**	**01 32 06.1**	**+0.8**
	35nm,0.6s,baz=29,slow=6.1,SNR=17						
KAPI	**Kappang**	**5.79**	**205**		**Pn**	**01 32 05.8**	**+0.5**
BKSI	**Bulukumba**	**5.93**	**201**	P	**Pn**	**01 32 08.4**	**+1.4**
	65nm,0.9s,676nm0.2nm						
NLAI	**Namlea**	**5.97**	**126**	P	**Pn**	**01 32 09.2**	**+1.7**
	9.9nm,0.8s,0.2nm						
NLAI				S	**S**	**01 33 17.5**	**+1.3**
	9.9nm,0.8s,0.2nm						
MYLDM	**Lahad Datu**	**6.16**	**323**	Pn	**Pn**	**01 32 11.6**	**+1.5**
KKM	**Kota Kinabalu**	**8.32**	**314**	Pn	**Pn**	**01 32 38.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**11.83**	**223**	Pn	**Pn**	**01 33 23.8**	**+0.2**
MTN	**Manton Dam**	**15.72**	**146**		**Pn**	**01 34 12.2**	**+0.4**
MTN				IAmb	IAmb	01 34 36.4	
	comp=Z,16nm,0.9s						
KNRA	**Kununurra**	**17.09**	**158**	P	**P**	**01 34 26.7**	**0.0**
KNRA				IAmb	IAmb	01 34 29.6	
	comp=Z,28nm,1.2s						
WB0	**Warramunga Arr**	**23.19**	**150**	P	**P**	**01 35 29.9**	**-0.1**
WB0				IAmb	IAmb	01 35 31.4	
	comp=Z,8.0nm,0.7s						
WRA	**Warramunga Arr**	**23.31**	**150**	P	**P**	**01 35 30.7**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=326,slow=11,SNR=76						
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**23.31**	**150**	P	**P**	**01 35 31.1**	**0.0**
WB2	**Warramunga Arr**	**23.31**	**150**	P	**P**	**01 35 30.9**	**-0.3**
WB2				IAmb	IAmb	01 35 32.7	
	comp=Z,8.5nm,0.8s						
WR0	**Warramunga Arr**	**23.42**	**150**	P	**P**	**01 35 31.7**	**-0.4**
COEN	**Coen**	**25.08**	**125**	P	**P**	**01 35 47.6**	**+0.4**
COEN				IAmb	IAmb	01 36 01.9	
	comp=Z,4.5nm,1.0s						
AS31	**Alice Springs**	**26.34**	**155**	P	**P**	**01 35 57.7**	**-0.8**
AS31				PcP	**PcP**	**01 39 19.2**	**0.0**
ASAR	**Alice Springs**	**26.34**	**155**	P	**P**	**01 35 58.5**	**0.0**
	comp=Z,2.3nm,0.6s,baz=343,slow=14,SNR=55						
ASAR				PcP	**PcP**	**01 39 19.1**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=347,slow=2.2,SNR=20						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**26.34**	**155**	P	**P**	**01 35 59.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**29.17**	**310**	P	**P**	**01 36 25.9**	**+2.2**
	comp=Z,1.9nm,0.3s,baz=136,slow=8.1,SNR=6.3						
	comp=Z,1.9nm,0.3s						
MORW	**Morawa**	**29.75**	**191**	P	**P**	**01 36 27.8**	**-0.8**
BBOO	**Buckleboo**	**35.37**	**160**	P	**P**	**01 37 17.4**	**-0.1**
BBOO				IAmb	IAmb	01 37 45.9	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**36.83**	**152**	P	**P**	**01 37 30.7**	**+0.8**
	comp=Z,7.1nm,0.7s,baz=316,slow=9.2,SNR=9.9						
	comp=Z,7.1nm,0.7s						
STKA	**Stephens Creek**	**36.83**	**152**	P	**P**	**01 37 30.5**	**+0.6**
CAN	**Canberra**	**43.31**	**148**	P	**P**	**01 38 24.8**	**+1.7**
SONM	**Songino Array**	**49.36**	**346**	P	**P**	**01 39 10.9**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=165,slow=7.6,SNR=8.1						
SONM				pP	**pP**	**01 39 54.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=161,slow=9.8,SNR=4.0						
SONM				PcP	**PcP**	**01 40 29.0**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=162,slow=4.8,SNR=5.7						
	comp=Z,0.9nm,0.8s						
SONM	**Songino Array**	**49.36**	**346**	P	**P**	**01 39 11.2**	**+1.2**
MK31	**Makanchi Array**	**58.00**	**329**	P	**P**	**01 40 12.8**	**+0.1**
MKAR	**Makanchi Array**	**58.00**	**329**	P	**P**	**01 40 13.2**	**+0.5**
	comp=Z,2.2nm,0.4s,baz=124,slow=8.5,SNR=43						
MKAR				PcP	**PcP**	**01 41 01.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=113,slow=4.4,SNR=7.5						
	comp=Z,2.2nm,0.4s						
MKAR	**Makanchi Array**	**58.00**	**329**	P	**P**	**01 40 12.6**	**-0.1**
MAKZ	**Makanchi**	**58.18**	**328**	P	**P**	**01 40 14.2**	**+0.3**
MAKZ				IAmb	IAmb	01 40 16.1	
	comp=Z,4.5nm,1.4s						
KBL	**Kabul**	**60.20**	**310**	P	**P**	**01 40 27.9**	**-0.3**
GAR	**Garm**	**61.10**	**316**	P	**P**	**01 40 34.1**	**0.0**
GAR				IAmb	IAmb	01 40 36.4	
	comp=Z,11nm,1.1s						
ZALV	**Zalesovo Beam**	**61.77**	**336**	P	**P**	**01 40 38.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=135,slow=5.1,SNR=3.8						
	comp=Z,0.6nm,0.3s						
KURK	**Kurchatov**	**62.38**	**330**	P	**P**	**01 40 41.8**	**-0.4**
GEYT	**Alibeck**	**69.65**	**311**	P	**P**	**01 41 29.2**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=156,slow=4.4,SNR=3.8						
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**72.07**	**322**	P	**P**	**01 41 41.8**	**-1.4**
MLY	**Manley**	**88.51**	**25**	P	**P**	**01 43 09.4**	**-1.1**
MLY				IAmb	IAmb	01 43 11.6	
	comp=Z,2.8nm,0.9s						
ILAR	**Eielson Array**	**90.15**	**25**	P	**P**	**01 43 16.1**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=242,slow=5.4,SNR=11						
	comp=Z,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**119.61**	**285**	PKP	**PKPdf**	**01 49 06.6**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=99,slow=1.0,SNR=2.3						

*IDC **12** 01:31:09.0±2.3,41.°97S×177.°86E,h0km,mb3.9/2, mbtmp4.1/4,ML4.2/2,MS3.4/4,Error ellipse: s-maj=47.0km s-min=40.4km az=98.0*
ISC 12 01:31:10.9±2.2,41.°9S±0.°1×177.°6E±0.°2,h10km,n8, σ1⁰39/7,MS3.3/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.68**	**354**	Pn	**Pn**	**01 32 07.5**	**-0.4**
	22nm,0.3s,baz=319,slow=3.8,SNR=10						
URZ				Sn	**Sn**	**01 32 50.8**	**-0.6**
	2.2nm,0.3s,baz=318,slow=22,SNR=1.5						
URZ				LR	LR	01 33 54.1	
	comp=Z,280nm,21.5s,baz=234,slow=44						
	49nm,0.3s						
RPZ	**Rata Peaks**	**5.15**	**247**	Pn	**Pn**	**01 32 28.3**	**+0.2**
	6.3nm,0.3s,baz=51,slow=6.4,SNR=2.7						
RPZ				Sn	**Sn**	**01 33 26.0**	**-1.6**
	6.8nm,0.3s,baz=31,slow=15,SNR=1.6						
	22nm,0.5s						
DZM	**Mont Dzumac**	**21.91**	**331**	LR	LR	01 43 19.5	
	comp=Z,113nm,19.5s,baz=198,slow=33						
STKA	**Stephens Creek**	**30.31**	**277**	LR	LR	01 48 35.3	
	comp=Z,56nm,18.2s,baz=199,slow=34						
ASAR	**Alice Springs**	**40.52**	**283**	P	**P**	**01 38 51.5**	**+1.3**
	2.1nm,0.9s,baz=122,slow=6.1,SNR=7.9						
	2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGB	**San Luis Gonza**	**0.56**	**294**	⇑*iP*	**Pg**	**02 00 20.6**	**+0.1**
SLGB				*eS*	**Sg**	**02 00 28.2**	**+0.3**
SLGB				IAML		02 00 30.7	
	comp=E,6μm,0.4s						
SLGB				⇓*e*		02 00 30.7	
BAHB	**Baha de los**	**0.69**	**161**	⇓*iP*	**Pg**	**02 00 23.1**	**+0.2**
BAHB				*eS*	**Sg**	**02 00 32.0**	**0.0**
BAHB				IAML		02 00 34.2	
	comp=E,3μm,0.7s						
BAHB				⇑*e*		02 00 34.2	
BAHB				IAML		02 00 34.5	
	comp=N,3μm,0.5s						
BAHB				⇓*e*		02 00 34.5	
BAHB	**Baha de los**	**0.69**	**161**	*iP*	**Pg**	**02 00 23.0**	**+0.2**
BAHB				*eS*	**Sg**	**02 00 30.8**	**-1.1**
PLIB	**Puerto Liberta**	**1.02**	**72**	⇑*eP*	**Pg**	**02 00 28.5**	**-0.7**
LAPR	**La Primavera**	**1.57**	**55**	⇑*eP*	**Pn**	**02 00 37.2**	**-0.3**
LAPR	**La Primavera**	**1.57**	**55**	*iP*	**Pn**	**02 00 37.2**	**-0.3**
SFX	**San Felipe**	**1.69**	**328**	⇓*eP*	**Pn**	**02 00 37.7**	**-1.4**
SFX				IAML		02 01 12.8	
	comp=E,278nm,0.6s						
SFX				⇓*e*		02 01 12.8	
SFX				*e*		02 02 51.8	
SFX	**San Felipe**	**1.69**	**328**	*eP*	**Pn**	**02 00 37.7**	**-1.4**
SFX				*eS*	**Sg**	**02 00 42.2**	**+0.3**
PIX	**Pinacate**	**1.98**	**9**	*eP*	**Pn**	**02 00 43.3**	**+0.3**
SPIG	**San Pedro Mart**	**2.03**	**316**	⇑*eP*	**Pn**	**02 00 43.5**	**-0.6**
	baz=140,slow=16						
SPIG				*i* S	**Sn**	**02 01 08.4**	**-1.3**
SQX	**San Quintin**	**2.04**	**299**	⇓*e*	**Sg**	**02 01 14.0**	**-1.0**
SQX				IAML		02 01 14.0	
	comp=E,1μm,0.8s						
VTX	**Valle De La Tr**	**2.47**	**317**	*eP*	**Pn**	**02 00 49.8**	**0.0**
214A	**Organ Pipe Nat**	**2.50**	**20**	*eP*	**Pn**	**02 00 51.0**	**+0.7**
HSIG		**2.57**	**102**	*eP*	**Pn**	**02 00 51.4**	**+0.2**
TJIG	**Tijuana**	**3.74**	**320**	*eP*	**Pb**	**02 01 17.3**	**+1.6**

SOME ***12*** *02:02:53.4, 44.˚58N×79.˚92E, h20km*
NNC ***12*** *02:02:53.2±0.5, 44.˚56N×79.˚91E, h0km±3km, mb3.6, mpv3.6, Error ellipse: s-maj=3.6km s-min=3.2km az=102.0*

ISC 12 02:02:54.7±1.0, 44.˚49N±0.˚03×79.˚92E±0.˚04, h17km±6km, n52, σ1°00/70, 8C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.18**	**209**	P	**Pg**	**02 02 58.9**	**-0.5**
	188nm,0.1s						
DJR				S	**Sg**	**02 03 02.9**	**+0.3**
	2μm,0.3s						
DJR	**Jarkent**	**0.18**	**209**	*eP*	**Pg**	**02 02 58.9**	**-0.5**
	188nm,0.1s						
DJR				*eS*	**Sg**	**02 03 02.9**	**+0.3**
	2μm,0.3s						
KTMS	**Ketmen**	**1.09**	**163**	P	**Pb**	**02 03 14.2**	**-1.0**
	29nm,0.2s						
KTMS				S	**Sb**	**02 03 28.8**	**-0.4**
	18nm,0.2s						
KTMS	**Ketmen**	**1.09**	**163**	*eP*	**Pb**	**02 03 14.2**	**-1.0**
	29nm,0.2s						
KTMS				*eS*	**Sb**	**02 03 28.8**	**-0.4**
	18nm,0.2s						
BLB	**Baldybastay**	**1.10**	**249**	P	**Pb**	**02 03 15.0**	**-0.5**
	58nm,0.1s						
BLB				S	**Sn**	**02 03 30.8**	**+0.3**
	78nm,0.2s						
TDK	**Taldyqorghan**	**1.19**	**296**	P	**Pn**	**02 03 15.6**	**-1.0**
	34nm,0.2s						
TDK				S	**Sn**	**02 03 31.3**	**-1.0**
	184nm,0.3s						
TDK	**Taldyqorghan**	**1.19**	**296**	*eP*	**Pn**	**02 03 15.6**	**-1.0**
	34nm,0.2s						
TDK				*eS*	**Sn**	**02 03 31.3**	**-1.0**
	184nm,0.3s						
KPKS	**Kokpek**	**1.36**	**221**	P	**Pb**	**02 03 19.9**	**+0.2**
	67nm,0.1s						
KPKS				S	**Sg**	**02 03 38.9**	**+0.3**
	151nm,0.3s						
KPKS	**Kokpek**	**1.36**	**221**	*eP*	**Pb**	**02 03 19.9**	**+0.2**
	87nm,0.1s						
KPKS				*eS*	**Sg**	**02 03 38.9**	**+0.3**
	151nm,0.3s						
SHLS	**Shalkode**	**1.38**	**194**	P	**Pn**	**02 03 19.4**	**+0.1**
	36nm,0.2s						
SHLS				S	**Sn**	**02 03 37.8**	**+0.7**
	787nm,0.2s						
SHLS	**Shalkode**	**1.38**	**194**	*eP*	**Pn**	**02 03 19.4**	**+0.1**
	36nm,0.2s						
SHLS				*eS*	**Sn**	**02 03 37.8**	**+0.7**
	787nm,0.2s						
UZB	**Uzynbulak**	**1.49**	**206**	P	**Pb**	**02 03 22.4**	**+0.4**
	21nm,0.2s						
UZB				S	**Sg**	**02 03 43.0**	**+0.1**
	115nm,0.2s						
UZB	**Uzynbulak**	**1.49**	**206**	*eP*	**Pb**	**02 03 22.4**	**+0.4**
	21nm,0.2s						
UZB				*eS*	**Sg**	**02 03 43.0**	**+0.1**
	115nm,0.2s						
KURS	**Kuram**	**1.61**	**232**	P	**Pb**	**02 03 24.3**	**+0.3**
	18nm,0.2s						
KURS				S	**Sg**	**02 03 46.3**	**-0.3**
	60nm,0.3s						
KURS	**Kuram**	**1.61**	**232**	*eP*	**Pb**	**02 03 24.3**	**+0.3**
	18nm,0.2s						
KURS				*eS*	**Sg**	**02 03 46.3**	**-0.3**
	60nm,0.3s						
SATY	**Saty**	**1.80**	**218**	P	**Pb**	**02 03 28.1**	**+0.8**
	50nm,0.1s						
SATY				S	**Sg**	**02 03 52.8**	**+0.1**
	242nm,0.1s						
SATY	**Saty**	**1.80**	**218**	*eP*	**Pb**	**02 03 28.1**	**+0.8**
	50nm,0.1s						
SATY				*eS*	**Sg**	**02 03 52.8**	**+0.1**
	242nm,0.1s						
CHKK	**Chushkaly**	**2.20**	**254**	Pg	**Pb**	**02 03 33.7**	**-0.3**
	10nm,0.1s						
CHKK				Lg	Lg	02 04 02.5	
	76nm,0.3s						
CHKK	**Chushkaly**	**2.20**	**254**	*ePg*	**Pb**	**02 03 33.7**	**-0.3**
	10nm,0.1s						
CHKK				*eLg*	Lg	02 04 02.5	
	76nm,0.3s						
KOTS	**Kotyrbulak**	**2.39**	**239**	Pg	**Pb**	**02 03 38.3**	**+1.0**
	8.6nm,0.3s						
KOTS				Lg	Lg	02 04 10.5	
	80nm,0.3s						
KOTS	**Kotyrbulak**	**2.39**	**239**	*ePg*	**Pb**	**02 03 38.3**	**+1.0**
	8.6nm,0.3s						
KOTS				*eLg*	Lg	02 04 10.5	
	80nm,0.3s						
KTBS	**Karatobe**	**2.46**	**253**	Pg	**Pb**	**02 03 37.9**	**-0.5**
	7.7nm,0.2s						
KTBS				Lg	Lg	02 04 10.7	
	86nm,0.4s						
KTBS	**Karatobe**	**2.46**	**253**	*ePg*	**Pb**	**02 03 37.9**	**-0.5**
	7.7nm,0.2s						
KTBS				*eLg*	Lg	02 04 10.7	
	86nm,0.4s						
MDOK	**Medeo**	**2.46**	**238**	Pg	**Pb**	**02 03 38.5**	**-0.2**
	11nm,0.7s						
MDOK				Pg	**Pb**	**02 03 38.8**	**+0.2**
	12nm,0.2s						
MDOK				Lg	Lg	02 04 11.1	
	30nm,0.2s						
MDOK				Lg	Lg	02 04 12.2	
	24nm,0.6s						
MDOK	**Medeo**	**2.46**	**238**	*ePg*	**Pb**	**02 03 38.8**	**+0.2**
	12nm,0.2s						
MDOK				*eLg*	Lg	02 04 11.1	
	30nm,0.2s						
KNDC	**Almaty**	**2.48**	**240**	⇑Sn	**Sb**	**02 04 07.7**	**-1.6**
	73nm,0.6s						
TNSS	**Tian-Shan**	**2.60**	**237**	Pg	**Pb**	**02 03 41.9**	**+0.8**
	4.8nm,0.2s						
TNSS				Lg	Lg	02 04 16.3	
	12nm,0.3s						
TNSS	**Tian-Shan**	**2.60**	**237**	*ePg*	**Pb**	**02 03 41.9**	**+0.8**
	4.8nm,0.2s						
TNSS				*eLg*	Lg	02 04 16.3	
	12nm,0.3s						
KUU	**Kurty**	**2.64**	**258**	Pg	**Pb**	**02 03 40.4**	**-1.1**
	4.4nm,0.2s						
KUU				Lg	Lg	02 04 14.5	
	56nm,0.3s						
KUU	**Kurty**	**2.64**	**258**	*ePg*	**Pb**	**02 03 40.4**	**-1.1**
	4.4nm,0.2s						
KUU				*eLg*	Lg	02 04 14.5	
	56nm,0.3s						
MAKZ	**Makanchi**	**2.73**	**31**	⇑Pn	**Pn**	**02 03 38.5**	**+0.7**
	0.8nm,0.2s						
MAKZ				⇑Lg	Lg	02 04 14.3	
	17nm,0.3s						
MK31	**Makanchi Array**	**2.84**	**35**	⇑Pn	**Pn**	**02 03 39.8**	**+0.5**
	0.7nm,0.1s,baz=216,slow=13,SNR=152						
MK31				Lg	Lg	02 04 17.5	
	5.9nm,0.2s,baz=211,slow=20,SNR=37						
MTBS	**Maitube**	**2.87**	**243**	Pg	**Pb**	**02 03 45.7**	**+0.3**
	6.5nm,0.2s						
MTBS				Lg	Lg	02 04 23.0	
	52nm,0.4s						
MTBS	**Maitube**	**2.87**	**243**	*ePg*	**Pb**	**02 03 45.7**	**+0.3**
	6.5nm,0.2s						
MTBS				*eLg*	Lg	02 04 23.0	
	52nm,0.4s						
KRBS	**Karabastau**	**3.16**	**257**	Pg	**Pb**	**02 03 49.9**	**-0.5**
	2.2nm,0.3s						
KRBS				Lg	Lg	02 04 30.1	
	7.6nm,0.3s						
KRBS	**Karabastau**	**3.16**	**257**	*ePg*	**Pb**	**02 03 49.9**	**-0.5**
	2.2nm,0.3s						
KRBS				*eLg*	Lg	02 04 30.1	
	7.6nm,0.3s						
KST	**Kastek**	**3.21**	**245**	Pg	**Pb**	**02 03 51.5**	**+0.3**
	4.2nm,0.3s						
KST				Lg	Lg	02 04 33.0	
	18nm,0.2s						
KST	**Kastek**	**3.21**	**245**	*ePg*	**Pb**	**02 03 51.5**	**+0.3**
	4.2nm,0.3s						
KST				*eLg*	Lg	02 04 33.0	
	18nm,0.2s						
DGS	**Degeres**	**3.25**	**249**	Pg	**Pb**	**02 03 51.6**	**-0.3**
	5.7nm,0.3s						
DGS				Lg	Lg	02 04 33.2	
	24nm,0.4s						
DGS	**Degeres**	**3.25**	**249**	*ePg*	**Pb**	**02 03 51.6**	**-0.3**
	5.7nm,0.3s						
DGS				*eLg*	Lg	02 04 33.2	
	24nm,0.4s						
TKM2	**Tokmak 2**	**3.50**	**245**	⇓Pn	**Pn**	**02 03 50.1**	**+1.6**
	0.9nm,0.6s						
TKM2				⇓Pg	**Pb**	**02 03 58.4**	**+2.1**
	2.2nm,0.4s						
TKM2				⇓Lg	Lg	02 04 45.9	
	15nm,0.7s						
SGDS	**Sogindy**	**3.95**	**257**	Pg	**Pb**	**02 04 04.2**	**+0.2**
	2.1nm,0.3s						
SGDS				Lg	Lg	02 04 54.5	
	5.7nm,0.5s						
CHMS	**Chumysh**	**4.03**	**250**	⇓Pg	**Pb**	**02 04 07.5**	**+2.3**
	6.1nm,0.8s						
CHMS				⇑Lg	Lg	02 05 03.2	
	9.5nm,0.8s						
BTLS	**Baital**	**4.21**	**280**	Pg	**Pb**	**02 04 09.6**	**+1.3**
	2.5nm,0.4s						
BTLS				Lg	Lg	02 05 04.3	
	2.8nm,0.5s						
BTLS	**Baital**	**4.21**	**280**	*ePg*	**Pb**	**02 04 09.6**	**+1.3**
	2.5nm,0.4s						
BTLS				*eLg*	Lg	02 05 04.3	
	2.8nm,0.5s						
ZSN	**Zaisan**	**4.54**	**48**	Pg	**Pb**	**02 04 13.9**	**-0.1**
	1.9nm,0.1s						
ZSN				Lg	Lg	02 05 11.1	
	6.3nm,0.3s						
ZSN	**Zaisan**	**4.54**	**48**	*ePg*	**Pb**	**02 04 11.4**	**-2.6**
	1.9nm,0.1s						
ZSN				*eLg*	Lg	02 05 08.1	
	6.3nm,0.3s						
MRKS	**Merke**	**5.16**	**253**	Pg	**Pb**	**02 04 27.2**	**+2.7**
	1.0nm,0.4s						
MRKS				Lg	Lg	02 05 34.1	
	8.1nm,0.7s						
MRKS	**Merke**	**5.16**	**253**	*ePg*	**Pb**	**02 04 27.2**	**+2.7**
	1.0nm,0.4s						
MRKS				*eLg*	Lg	02 05 34.1	
	8.1nm,0.7s						
KURBB	**Kurchatov Arra**	**6.20**	**352**	⇓Lg	Lg	02 06 07.5	
	9.7nm,0.6s						
KURK	**Kurchatov**	**6.29**	**352**	⇑Pn	**Pn**	**02 04 25.7**	**-0.8**
	4.0nm,1.5s						
KURK				⇓Pg	**Pb**	**02 04 46.2**	**+2.6**
	3.2nm,1.1s						
KURK				⇓Lg	Lg	02 06 09.9	
	3.8nm,0.6s						
KK31	**Karatay Array**	**6.95**	**262**	⇑Lg	Lg	02 06 34.3	
	1.9nm,0.7s,baz=78,slow=30,SNR=4.6						

DJA 12 02:25:45.5±0.3, 9.˚5S±6.˚1×111.˚9E±.˚1, h10km, M3.9/8, mb4.2/1, MLv3.8/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.85**	**286**	P	Pg	02 26 01.4	-0.4
PLAI				S	Sg	02 26 11.9	-1.0
WBSI	**Waikabubak, Su**	**0.97**	**127**	P	Pg	02 26 03.7	-0.5
WBSI				S	Sb	02 26 17.5	+0.1
TWSI	**Taliwang, Sumb**	**1.73**	**281**	P	Pn	02 26 16.0	+0.4
TWSI				S	Sn	02 26 38.3	+0.5
BASI	**Baing, Sumba**	**2.27**	**121**	P	Pn	02 26 22.8	-0.2
IGBI	**Denpasar**	**3.42**	**274**	P	Pn	02 26 39.7	+0.8
SRBI	**Singaraja**	**3.49**	**286**	P	Pn	02 26 40.0	+0.2
BKSI	**Bulukumba**	**4.01**	**22**	P	Pn	02 26 46.9	-0.1
GMJI	**Gumukmas**	**5.16**	**278**	P	Pn	02 27 03.2	+0.4

IDC 12 02:48:05.5±2.4, 7.˚81S×154.˚95E, h0km, mb3.5/4, mbtmp3.5/4, MS3.0/1, Error ellipse: s-maj=95.0km s-min=28.8km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.99**	**143**	LR	LR	02 57 02.4	
	comp=Z,47nm,19.2s,baz=212,slow=30						
WRA	**Warramunga Arr**	**23.32**	**237**	P	P	02 53 15.0	-0.6
	0.8nm,0.6s,baz=61,slow=9.6,SNR=8.4						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.61**	**230**	P	P	02 53 36.5	-0.3
	0.4nm,0.7s,baz=61,slow=9.6,SNR=4.9						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**83.98**	**319**	P	P	03 00 38.1	+0.3
	0.4nm,0.7s,baz=98,slow=6.2,SNR=4.9						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**84.15**	**21**	P	P	03 00 38.6	+0.4
	0.4nm,1.0s,baz=245,slow=5.5,SNR=4.4						
	0.4nm,1.0s						

IDC ***12*** *03:22:40.4±2.0, 13.˚98N×90.˚79W, h14km±11km, mb4.9/29, mbtmp5.0/30, ML5.3/1, MS4.6/52, Error ellipse: s-maj=19.7km s-min=12.1km az=52.0*
UPA ***12*** *03:22:41.0±0.6, 14.˚47N×91.˚40W, h10km±999km, MW4.9*
SNET ***12*** *03:22:44.1±1.1, 13.˚74N×91.˚32W, h17km, ML5.8*
GCG ***12*** *03:22:45.1±1.3, 13.˚73N×91.˚36W, h53km, MD5.2*
GCMT ***12*** *03:22:45.9±0.2, 13.˚72N±0.˚01×91.˚57W±0.˚01, h40km±1km, MW5.3/118, Moment Tensor Solution. s100,c143; s118,c184; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.15±.02; Mθθ=0.64±.02; Mφφ=0.79±.02; Mrθ=0.59±.03; Mrφ=0.64±.02; Mθφ=0.43±.03; Best double couple: M0=1.19900×10^17 NP1:φs117.00000°, δ88.00000°, λ-143.00000°. NP2:φs25.00000°, δ53.00000°, λ-3.00000°. Principal axes: T 1.3060, Plg24.0000°, Azm245.0000°; N -0.2160, Plg53.0000°, Azm119.0000°; P -1.0910, Plg27.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***12*** *03:22:46.6±1.3, 14.˚02N×91.˚03W, h69km, mb5.5/25 Error ellipse: s-maj=10.3km s-min=5.2km az=108.2*
NEIC ***12*** *03:22:46.9±2.0, 13.˚91N±0.˚07×91.˚24W±0.˚07, h54km±4km, mb5.4/610, Mww5.3/15, Error ellipse: s-maj=12.4km s-min=6.7km az=222.0*
INET ***12*** *03:22:48.3±2.0, 13.˚91N×91.˚09W, h18km±17km, MW4.8*
NEIC ***12*** *03:22:58.2, 13.˚98N×91.˚16W, h36km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr=0.20; Mθθ=0.46; Mφφ0.66; Mrθ=0.65; Mθφ=0.56; Mrφ=0.36; Fault plane solution: M0 1.09000×10^17 NP1: φs117.53000°, δ83.74000°, λ-134.96000°. NP2: φs21.29000°, δ45.30000°, λ-8.82000°. Principal axes: T 1.1596, Plg25.0000°, Azm241.0000°; N -0.1392, Plg45.0000°, Azm124.0000°; P -1.0205, Plg35.0000°, Azm350.0000°;*

ISC 12 03:22:45.9±0.3, 13.˚94N±0.˚04×91.˚17W±0.˚04, h51km±2km, h52km: pP-P, n1386, σ1s43/1237, mb5.3/321, MS4.6/63, 29C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.53**	**313**	*eP*	**Pn**	**03 22 58.4**	**+0.8**
FUG	**Fuego 3**	**0.60**	**32**	*eP*	**Pn**	**03 23 01.2**	**+2.6**
PCG	**Pacaya**	**0.70**	**50**	*eP*	**Pn**	**03 23 03.4**	**+3.4**
RTAL	**Retalhuleu**	**0.78**	**319**		**Pn**	**03 22 59.8**	**-1.0**
RTAL				Sn	**Sn**	**03 23 11.0**	**-0.5**
RTAL	**Retalhuleu**	**0.78**	**319**	⇓*iP*	**Pn**	**03 22 59.8**	**-1.0**
RTAL				*eS*	**Sn**	**03 23 11.0**	**-0.5**
STG3	**Santiaguito 3,**	**0.86**	**333**	*eP*	**Pn**	**03 23 02.4**	**+0.3**
NBG	**Las Nubes**	**1.02**	**51**	*eP*	**Pn**	**03 23 08.7**	**+4.5**
SLOZ	**Alcaldia de Sa**	**1.34**	**86**	⇑*eP*	**Pn**	**03 23 10.3**	**+1.9**
NUBE	**Las Nubes**	**1.35**	**91**	⇑*iP*	**Pn**	**03 23 09.8**	**+1.3**
HUEH	**Huehuetenango**	**1.41**	**347**		**Pn**	**03 23 11.0**	**+1.6**
HUEH	**Huehuetenango**	**1.41**	**347**	⇓*eP*	**Pn**	**03 23 11.6**	**+2.2**
HUEH	**Huehuetenango**	**1.41**	**347**	*eP*	**Pn**	**03 23 12.0**	**+2.6**
HUEH				*eS*	**Sn**	**03 23 32.8**	**+5.8**
CEVE	**Cerro Verde**	**1.50**	**94**	⇑*iP*	**Pn**	**03 23 12.3**	**+1.6**
JAYA	**Jayaque - finc**	**1.69**	**99**	⇑*iP*	**Pn**	**03 23 14.2**	**+1.0**
CEDA	**San Andres**	**1.73**	**94**	⇑*eP*	**Pn**	**03 23 15.3**	**+1.8**
MTO3	**Montecristo**	**1.81**	**75**		**Pn**	**03 23 17.2**	**+2.4**
MTO3	**Montecristo**	**1.81**	**75**	⇑*iP*	**Pn**	**03 23 17.8**	**+2.9**
BOQS	**Boqueron**	**1.84**	**96**	⇑*iP*	**Pn**	**03 23 17.0**	**+1.7**
ESQI	**Esquipulas**	**1.87**	**71**		**Pn**	**03 23 19.0**	**+3.4**
ESQI	**Esquipulas**	**1.87**	**71**	⇑*iP*	**Pn**	**03 23 19.1**	**+3.4**
UEES	**Universidad Ev**	**1.89**	**96**	⇑*eP*	**Pn**	**03 23 17.4**	**+1.7**
SNET	**Serv Nac Est T**	**1.90**	**97**		**Pn**	**03 23 17.5**	**+1.6**
SNET	**Serv Nac Est T**	**1.90**	**97**	⇑*eP*	**Pn**	**03 23 17.5**	**+1.6**
LFU	**La Fuente**	**2.00**	**95**	⇑*iP*	**Pn**	**03 23 19.6**	**+2.3**
LFRS	**El Faro**	**2.07**	**98**	⇑*iP*	**Pn**	**03 23 20.0**	**+1.7**
LBRS	**Las Brisas**	**2.07**	**95**	⇑*eP*	**Pn**	**03 23 20.7**	**+2.4**
SJTE	**Alcalda de S**	**2.12**	**98**	⇑*eP*	**Pn**	**03 23 21.0**	**+2.0**
PAVA	**La Pavas**	**2.18**	**96**	⇑*iP*	**Pn**	**03 23 22.1**	**+2.3**
P5NO	**Presa 5 de nov**	**2.34**	**89**	⇑*iP*	**Pn**	**03 23 23.9**	**+2.0**
TECO	**Alcaldia de Te**	**2.35**	**99**	*eP*	**Pn**	**03 23 23.8**	**+1.7**
SCLA	**Alcaldia de Sa**	**2.38**	**95**	⇑*iP*	**Pn**	**03 23 24.9**	**+2.4**
CCIG	**Comitan**	**2.51**	**338**		**Pn**	**03 23 27.1**	**+2.6**
ALJI	**Alcalda de J**	**2.59**	**103**	*eP*	**Pn**	**03 23 27.5**	**+2.1**
COEB	**Comit de Eme**	**2.60**	**99**	*eP*	**Pn**	**03 23 27.6**	**+2.1**
PETF	**Flores**	**3.21**	**23**		**Pn**	**03 23 37.7**	**+3.7**
PETF	**Flores**	**3.21**	**23**	⇓*iP*	**Pn**	**03 23 38.3**	**+4.3**
LCND	**La Caada**	**3.25**	**101**	*eP*	**Pn**	**03 23 36.1**	**+1.7**
TGUH	**Tegucigalpa,Un**	**3.78**	**88**	Pn	**Pn**	**03 23 44.0**	**+2.2**
CRIN	**San Cristobal**	**4.19**	**107**		**Pn**	**03 23 48.7**	**+1.3**
CRIN	**San Cristobal**	**4.19**	**107**	*eP*	**Pn**	**03 23 49.7**	**+2.3**
CRIN				*eS*	**Sn**	**03 24 35.8**	**+0.6**
CNGN	**Cerro Negro**	**4.58**	**108**		**Pn**	**03 23 53.1**	**+0.4**
CMIG	**Matias Romero**	**4.76**	**312**	Pn	**Pn**	**03 23 53.6**	**-1.5**
	125nm,0.3s,baz=139,slow=12,SNR=539						
CMIG				Sn	**Sn**	**03 24 47.5**	**-1.6**
	193nm,0.3s,baz=57,slow=15,SNR=6.1						
	932nm,0.6s						
HUEN		**5.12**	**108**	*eP*	**Pn**	**03 24 01.4**	**+1.4**
HUEN				*eS*	**Sn**	**03 24 58.2**	**+0.3**
BOAB	**BOACO BROADBAN**	**5.56**	**105**	Pn	**Pn**	**03 24 06.3**	**+0.3**
BOAB	**BOACO BROADBAN**	**5.56**	**105**	*eP*	**Pn**	**03 24 06.6**	**+0.5**
CONN	**Concepcion**	**5.90**	**113**	*eP*	**Pn**	**03 24 13.3**	**+2.6**
ACON	**Acoyapa**	**6.16**	**108**		**Pn**	**03 24 15.1**	**+0.7**
HZTE	**Horizontes, Gu**	**6.32**	**120**		**Pn**	**03 24 18.8**	**+2.2**
ORTG	**Ortega, Santa**	**6.62**	**122**	Pn	**Pn**	**03 24 22.3**	**+1.7**
DUNO	**Dulce Nombre,**	**6.75**	**124**		**Pn**	**03 24 23.9**	**+1.5**
TEIG	**Tepich**	**6.84**	**23**	Pn	**Pn**	**03 24 27.0**	**+3.4**
ESPN	**Las Esperanzas**	**6.91**	**104**		**Pn**	**03 24 26.2**	**+1.6**
ESPN	**Las Esperanzas**	**6.91**	**104**	*eP*	**Pn**	**03 24 27.0**	**+2.4**
JTS	**Las Juntas de**	**7.08**	**120**	Pn	**Pn**	**03 24 28.3**	**+1.4**
COVE	**Coope Vega, Sa**	**7.34**	**115**		**Pn**	**03 24 32.0**	**+1.4**
LAFE	**Finca La Fe, P**	**7.37**	**123**	*eP*	**Pn**	**03 24 32.4**	**+1.4**
ITAL	**Pital**	**7.58**	**116**	*eP*	**Pn**	**03 24 37.4**	**+3.6**
SRA1	**San Ramn**	**7.58**	**120**	*eP*	**Pn**	**03 24 36.4**	**+2.5**
ZARE	**Zarcero**	**7.61**	**119**	*eP*	**Pn**	**03 24 37.3**	**+2.9**
JACO	**JACO, Garabito**	**7.66**	**123**		**Pn**	**03 24 36.5**	**+1.6**
JACO	**JACO, Garabito**	**7.66**	**123**	*eP*	**Pn**	**03 24 36.9**	**+2.0**
SARCI	**Sarchi**	**7.69**	**119**	*eP*	**Pn**	**03 24 37.9**	**+2.4**
POA5	**Crater Von Fra**	**7.73**	**118**	*eP*	**Pn**	**03 24 39.3**	**+3.1**
CRPO	**Crater poas**	**7.74**	**118**	*eP*	**Pn**	**03 24 39.3**	**+3.0**
TCS1	**Tacares**	**7.75**	**119**	*eP*	**Pn**	**03 24 38.3**	**+2.0**
BELE	**Belen**	**7.88**	**119**	*eP*	**Pn**	**03 24 39.6**	**+1.6**
HDC	**Heredia**	**7.93**	**119**		**Pn**	**03 24 40.2**	**+1.5**
HDC	**Heredia**	**7.93**	**119**	*eP*	**Pn**	**03 24 38.3**	**-0.5**
HDC	**Heredia**	**7.93**	**119**	*eP*	**Pn**	**03 24 40.6**	**+1.8**
HDC3	**Heredia 3**	**7.93**	**119**	*eP*	**Pn**	**03 24 40.6**	**+1.8**
DOMI	**Santo Domingo**	**7.96**	**119**	*eP*	Pn	03 24 45.3	+6.1
TLIG	**Tlapa**	**7.98**	**298**	Pn	**Pn**	**03 24 40.0**	**+0.5**
ACOS	**Acosta**	**7.99**	**120**	*eP*	**Pn**	**03 24 43.5**	**+3.8**
RITA	**Parrita**	**8.00**	**123**	*eP*	**Pn**	**03 24 42.6**	**+3.0**
LUJA	**Lujan**	**8.01**	**119**	*eP*	**Pn**	**03 24 43.7**	**+3.9**
LUPE	**Guadalupe**	**8.01**	**119**	*eP*	**Pn**	**03 24 42.2**	**+2.3**
SJS	**Escuela Geolog**	**8.01**	**119**	*eP*	**Pn**	**03 24 42.5**	**+2.6**
SJS3	**Mercedes San J**	**8.02**	**119**	*eP*	**Pn**	**03 24 42.4**	**+2.5**
AMPA	**Desamparados**	**8.03**	**119**	*eP*	**Pn**	**03 24 42.0**	**+1.9**
CORON	**Coronado**	**8.04**	**

SOR Soroa 11.72 40 P **Pn** **03 25 31.3 +0.8**
BCIP Isla Barro Col 12.07 112 Pn **Pn** **03 25 36.8 +1.5**
BCIP Isla Barro Col 12.07 112 P **Pn** **03 25 36.8 +1.5**
BCIP Isla Barro Col 12.07 112 eP **Pn** **03 25 35.2 -0.1**
AZU Azuero 12.31 119 eP **Pn** **03 25 38.2 -0.4**
MTDJ Mount Denham 13.78 70 Pn **Pn** **03 26 01.4 +2.8**
ZAIG Zacatecas 13.93 311 Pn **Pn** **03 26 01.6 +0.7**
PAYG Puerto Ayora 14.54 176 **Pn** **03 26 09.9 +1.0**
KVTX Kingsville 14.92 336 P **P** **03 26 16.7 -1.6**
baz=154
735A Kenedy 16.07 339 P **Pn** **03 26 29.2 +0.7**
735A Kenedy 16.07 339 P **P** **03 26 30.5 -0.6**
baz=156,SNR=22
SJCC San Jacinto, C 16.15 103 eP **Pn** **03 26 30.0 +0.4**
DBBC Dabeiba 16.23 114 eP **P** **03 26 33.5 +0.5**
833A Chaparral WMA, 16.23 333 **Pn** **03 26 31.8 +1.3**
833A IAmb IAmb 03 26 36.2
comp=Z,168nm,0.8s
833A Chaparral WMA, 16.23 333 P **Pn** **03 26 31.6 +1.1**
baz=150,SNR=78
833A Chaparral WMA, 16.23 333 P **Pn** **03 26 30.3 -0.2**
baz=150,SNR=78
HKT Hockley 16.51 346 **P** **03 26 35.3 -0.5**
HKT IAmb IAmb 03 26 37.3
comp=Z,385nm,1.6s
HKT Hockley 16.51 346 P **P** **03 26 36.0 +0.2**
baz=164
HKT Hockley 16.51 346 P **P** **03 26 35.3 -0.5**
HKT pmax pmax
comp=Z,385nm,1.6s
UREC San Jos de Ur 16.53 110 eP **P** **03 26 36.8 +0.4**
DWPF Disney Wildern 16.76 31 P **P** **03 26 39.0 +0.3**
DWPF Disney Wildern 16.76 31 P **P** **03 26 41.2 +2.5**
baz=215,SNR=6.2
DWPF Disney Wildern 16.76 31 P **P** **03 26 38.6 -0.1**
baz=215
GR1C Gorgona, Isla 16.82 129 eP **P** **03 26 40.1 +0.6**
441A DeRidder 16.84 354 P **P** **03 26 39.8 +0.3**
441A DeRidder 16.84 354 P **P** **03 26 41.1 +1.6**
baz=173,SNR=21
CBOC Ciudad Bolivar 16.94 117 eP **P** **03 26 41.5 +0.6**
PLMC San Jos del P 17.20 120 eP **P** **03 26 43.5 -0.2**
ZARC Zaragoza, Cauc 17.25 110 eP **P** **03 26 45.5 +1.3**
656A Willston 17.31 26 P **P** **03 26 45.8 +1.1**
656A IAmb IAmb 03 26 49.9
comp=Z,294nm,0.9s
656A Willston 17.31 26 P **P** **03 26 46.1 +1.4**
baz=209,SNR=25
451A Vernon 17.33 16 **P** **03 26 46.3 +1.3**
451A Vernon 17.33 16 P **P** **03 26 49.6 +4.6**
baz=198,SNR=7.8
342A Flagon Creek P 17.39 357 P **P** **03 26 46.5 +0.8**
342B Flagon Creek P 17.39 357 P **P** **03 26 48.0 +2.4**
baz=176,SNR=39
344A Westbrook Farm 17.44 1 P **P** **03 26 46.6 +0.5**
344A Westbrook Farm 17.44 1 P **P** **03 26 48.5 +2.4**
baz=181,SNR=102
346A Big Creek Wild 17.44 5 **P** **03 26 46.5 +0.3**
346A Big Creek Wild 17.44 5 P **P** **03 26 50.6 +4.5**
baz=186,SNR=75
BRAL Brewton 17.56 12 **P** **03 26 47.8 +0.3**
BRAL Brewton 17.56 12 P **P** **03 26 51.8 +4.3**
baz=193,SNR=25
BRAL Brewton 17.56 12 P **P** **03 26 51.1 +3.6**
baz=193,SNR=25
YOTC Yotoco, Valle 17.65 123 eP **P** **03 26 50.0 +1.2**
435B Jarrell 17.78 342 P **P** **03 26 50.2 +0.4**
435B IAmb IAmb 03 26 56.8
comp=Z,174nm,0.8s
435B Jarrell 17.78 342 P **P** **03 26 51.4 +1.5**
baz=159,SNR=31
435B Jarrell 17.78 342 P **P** **03 26 50.3 +0.4**
baz=159
GUY2C Guyana, Caldas 17.81 118 eP **P** **03 26 54.1 +3.1**
PTBC PUERTO BERRIO, 18.00 112 eP **Pn** **03 26 55.0 +2.3**
NATX Nacogdoches 18.03 350 P **Pn** **03 26 53.3 +0.6**
NATX IAmb IAmb 03 26 57.1
comp=Z,325nm,0.9s
NATX Nacogdoches 18.03 350 P **Pn** **03 26 54.1 +1.4**
baz=169,SNR=28
NATX Nacogdoches 18.03 350 P **Pn** **03 26 53.6 +0.8**
baz=169,SNR=28
NORC Norcasia 18.08 116 eP **Pn** **03 26 54.8 +1.3**
CRJC Cerrejon, Guaj 18.09 97 eP **P** **03 26 53.0 -0.6**
VBMS Vicksburg 18.21 2 P **Pn** **03 26 56.0 +1.1**
VBMS IAmb IAmb 03 27 01.7
comp=Z,247nm,0.8s
VBMS Vicksburg 18.21 2 P **Pn** **03 26 57.6 +2.7**
baz=182,SNR=21
VBMS Vicksburg 18.21 2 P **Pn** **03 26 56.8 +1.8**
baz=182,SNR=21
JCT Junction City 18.29 336 **Pn** **03 26 56.2 +0.3**
JCT Junction City 18.29 336 P **Pn** **03 26 57.1 +1.1**
baz=152,SNR=48
JCT Junction City 18.29 336 P **Pn** **03 26 56.3 +0.3**
baz=152,SNR=48
JCT Junction City 18.29 336 P **Pn** **03 26 56.2 +0.3**
JCT pmax pmax
comp=Z,123nm,1.0s
PAC1 Pacto, Paraso 18.29 137 eP **Pn** **03 26 56.7 +0.4**
352A Blakely 18.38 17 P **Pn** **03 26 57.7 +0.7**
352A IAmb IAmb 03 27 05.3
comp=Z,320nm,0.9s
352A Blakely 18.38 17 P **Pn** **03 27 00.7 +3.7**
baz=200,SNR=39
BRRC Barranca, Sant 18.45 110 eP **Pn** **03 26 58.4 +0.4**
CMBC Cumbal 18.47 133 eP **Pn** **03 27 02.0 +3.3**
237A Washetta, Mont 18.48 347 **P** **03 26 56.9 -0.7**
237A IAmb IAmb 03 27 07.1
comp=Z,128nm,0.8s
237A Washetta, Mont 18.48 347 P **Pn** **03 26 59.7 +1.5**
baz=166,SNR=11
250A Grady 18.51 13 P **Pn** **03 26 59.5 +1.0**
250A Grady 18.51 13 P **Pn** **03 27 01.6 +3.0**
baz=195,SNR=65
ORTC Ortega, Tolima 18.60 121 eP **Pn** **03 27 02.6 +2.7**
GCUF Volcan Galeras 18.61 132 eP **Pn** **03 27 02.5 +2.0**
PULU Pululahua 18.67 137 P **Pn** **03 27 01.7 +0.6**
PULU IAmb IAmb 03 27 06.5
comp=Z,328nm,1.2s
CRUC La Cruz 18.67 130 eP **Pn** 03 27 09.5 +8.4
143A Socs Landing, 18.68 359 P **Pn** **03 27 00.7 +0.1**
143A Socs Landing, 18.68 359 P **Pn** **03 27 02.5 +1.8**
baz=179,SNR=28
IMBA Imbabura, San 18.68 136 P **Pn** **03 27 01.3 0.0**
456A Hilliard 18.71 25 P **Pn** **03 27 04.0 +3.0**
baz=209
146A Union 18.71 6 P **Pn** **03 27 01.4 +0.4**
146A Union 18.71 6 P **Pn** **03 27 02.9 +1.8**
baz=186,SNR=20
HPIG 18.73 316 **Pn** **03 27 01.6 0.0**
TIGA Tifton 18.76 21 P **Pn** **03 27 01.4 -0.2**
TIGA IAmb IAmb 03 27 16.8
comp=Z,164nm,0.9s
TIGA Tifton 18.76 21 P **Pn** **03 27 03.4 +1.8**
baz=203,SNR=8.9
TIGA Tifton 18.76 21 P **Pn** **03 27 03.0 +1.5**
baz=203,SNR=8.9
WHTX Lake Whitney, 18.87 343 P **P** **03 27 02.4 +0.4**
WHTX IAmb IAmb 03 27 12.2
comp=Z,204nm,0.7s
WHTX Lake Whitney, 18.87 343 P **Pn** **03 27 02.6 -0.3**
baz=161,SNR=27
WHTX Lake Whitney, 18.87 343 P **Pn** **03 27 02.6 -0.3**
baz=161,SNR=27
ROSC El Rosal 18.91 117 P **P** **03 27 01.8 -1.1**
comp=Z,5.5nm,0.4s,baz=147,slow=22,SNR=1.7
ROSC El Rosal 18.91 117 P **Pn** **03 27 03.9 0.0**
ROSC IAmb IAmb 03 27 09.9
comp=Z,240nm,1.4s
ROSC El Rosal 18.91 117 P **Pn** **03 27 03.9 0.0**
ROSC pmax pmax
comp=Z,240nm,1.4s
ROSC El Rosal 18.91 117 eP **Pn** **03 27 05.3 +1.4**
BARC Barichara 19.13 111 eP **Pn** **03 27 07.6 +1.1**
TX32 Lajitas Array 19.20 325 P **Pn** **03 27 07.4 +0.3**
TX32 IAmb IAmb 03 27 10.0
comp=Z,159nm,0.8s
TXAR Lajitas Array 19.20 325 P **Pn** **03 27 07.5 +0.4**
TXAR Lajitas Array 19.20 325 P **Pn** **03 27 07.5 +0.4**
TX31 Lajitas Ar. Si 19.20 325 P **Pn** **03 27 07.6 +0.5**
TX31 Lajitas Ar. Si 19.20 325 P **Pn** **03 27 07.7 +0.6**
baz=140,SNR=458
SLOR San Lorenzo - 19.23 138 P **Pn** **03 27 07.7 -0.2**
PAMC Pamplona, Colo 19.29 108 eP **P** **03 27 07.8 +0.6**

Z47A Carrollton 19.38 8 P **P** **03 27 08.0 +0.5**
Z47A Carrollton 19.38 8 P **Pn** **03 27 10.4 +1.4**
baz=189,SNR=79
LRAL Lakeview Retre 19.39 11 **P** **03 27 07.7 +0.1**
LRAL Lakeview Retre 19.39 11 P **Pn** **03 27 10.2 +1.2**
baz=192,SNR=217
LRAL Lakeview Retre 19.39 11 P **Pn** **03 27 09.9 +0.8**
baz=192,SNR=217
GARC Garzon, Huila 19.40 126 eP **Pn** **03 27 10.1 +0.5**
RUSC La Rusia 19.51 112 P **P** **03 27 09.5 -0.1**
CHIC Chingaza 19.52 117 eP **Pn** **03 27 12.2 +1.0**
Z38A Mt. Pleasant 19.55 350 P **P** **03 27 09.6 +0.2**
Z38A IAmb IAmb 03 27 15.0
comp=Z,138nm,0.8s
Z38A Mt. Pleasant 19.55 350 P **Pn** **03 27 10.7 -0.3**
baz=169,SNR=38
152A Waverly Hall 19.55 16 P **Pn** **03 27 10.4 -0.7**
152A IAmb IAmb 03 27 18.3
comp=Z,208nm,0.9s
152A Waverly Hall 19.55 16 P **Pn** **03 27 11.9 +0.9**
baz=199,SNR=78
H06E1 SOCORRO T-PHAS 19.56 287 T T 03 47 37.0
SNR=72
H06S1 SOCORRO T 19.58 287 T T 03 47 43.0
SNR=8.9
CHSH Refugio Sur-Vo 19.59 141 P **Pn** **03 27 11.8 -0.4**
CHSH IAmb IAmb 03 27 21.2
comp=Z,51nm,0.8s
255A Hazlehurst 19.59 23 P **Pn** **03 27 10.8 -0.7**
255A IAmb IAmb 03 27 23.8
comp=Z,120nm,0.8s
255A Hazlehurst 19.59 23 P **Pn** **03 27 12.4 +0.8**
baz=206,SNR=9.1
PORT Chimborazo Vol 19.62 140 P **Pn** **03 27 12.6 -0.1**
H06N1 SOCORRO T-PHAS 19.63 287 T T 03 47 44.3
SNR=3.5
FW07 Weatherford 19.63 343 P **P** **03 27 10.1 -0.2**
FW07 IAmb IAmb 03 27 15.4
comp=Z,162nm,0.8s
FLOC Florencia 19.65 127 eP **Pn** **03 27 12.6 +0.2**
SDDR Presa de Saban 19.71 73 P **Pn** **03 27 13.5 +0.4**
WLAR White Oak Lake 19.74 355 P **Pn** **03 27 12.4 -0.8**
WLAR IAmb IAmb 03 27 20.6
comp=Z,371nm,1.2s
FW06 Azle 19.82 344 P **P** **03 27 13.0 +0.7**
FW06 IAmb IAmb 03 27 20.3
comp=Z,337nm,1.1s
Y45A Yeager Farm, C 19.89 4 P **Pn** **03 27 14.8 -0.3**
Y45A Yeager Farm, C 19.89 4 P **Pn** **03 27 15.3 +0.2**
baz=185,SNR=28
CCAR Cane Creek 19.90 359 P **Pn** **03 27 14.6 -0.6**
CCAR IAmb IAmb 03 27 22.0
comp=Z,308nm,1.1s
CCAR Cane Creek 19.90 359 P **Pn** **03 27 16.2 +1.1**
baz=178,SNR=11
154A Montrose 19.99 20 P **P** **03 27 14.9 +0.8**
154A Montrose 19.99 20 P **Pn** **03 27 16.5 +0.2**
baz=203,SNR=26
FW03 Perrin-Whitt E 20.03 343 P **P** **03 27 14.6 0.0**
FW03 IAmb IAmb 03 27 17.4
comp=Z,261nm,0.9s
Z51A Franklin 20.05 15 P Pn 03 27 16.6 -0.3
Z51A IAmb IAmb 03 27 25.8
comp=Z,196nm,1.0s
Z51A Franklin 20.05 15 P Pn 03 27 17.4 +0.5
baz=197,SNR=43
Z35A Perchaven, San 20.09 345 P **P** **03 27 15.7 +0.5**
Z35A IAmb IAmb 03 27 19.1
comp=Z,213nm,0.9s
Z35A Perchaven, San 20.09 345 P **P** **03 27 16.1 +1.0**
baz=163,SNR=28
ABTX Abilene, Hawle 20.15 339 P **P** **03 27 16.4 +0.5**
ABTX IAmb IAmb 03 27 18.8
comp=Z,218nm,0.8s
ABTX Abilene, Hawle 20.15 339 P **P** **03 27 16.9 +1.0**
baz=156,SNR=66
ABTX Abilene, Hawle 20.15 339 P **P** **03 27 16.3 +0.5**
baz=156,SNR=66
SLBS Sierra La Lagu 20.23 301 P **P** **03 27 17.5 +0.6**
Y49A Blount Mountai 20.30 11 P Pn 03 27 18.8 -1.0
Y49A IAmb IAmb 03 27 26.4
comp=Z,329nm,1.2s
Y49A Blount Mountai 20.30 11 P Pn 03 27 19.9 0.0
baz=193,SNR=71
SC01 Santiago de lo 20.32 72 P **P** **03 27 19.0 +1.2**
SC01 IAmb IAmb 03 27 21.3
comp=Z,106nm,0.8s
TAMC Tame, Arauca 20.46 109 eP **P** **03 27 19.2 -0.3**
X40A Basin Creek Fa 20.52 356 P **P** **03 27 19.9 +0.1**
X40A IAmb IAmb 03 27 23.0
comp=Z,242nm,1.8s
X40A Basin Creek Fa 20.52 356 P Pn 03 27 21.2 -1.2
baz=175,SNR=27
X40A P Pn 03 27 21.2 -1.2
baz=175,SNR=27
OXF Oxford 20.55 4 P **P** **03 27 20.7 +0.6**
OXF IAmb IAmb 03 27 37.4
comp=Z,314nm,1.1s
OXF Oxford 20.55 4 P **P** **03 27 21.1 +1.0**
baz=185,SNR=16
OXF Oxford 20.55 4 P **P** **03 27 21.1 +1.0**
baz=185,SNR=16
OXF Oxford 20.55 4 P **P** **03 27 20.7 +0.6**
OXF pmax pmax
comp=Z,314nm,1.1s
ARNL Arenillas 20.57 147 P **P** **03 27 20.4 -0.2**
MIAR Mount Ida 20.63 354 P **P** **03 27 20.0 -1.1**
MIAR IAmb IAmb 03 27 30.4
comp=Z,222nm,1.1s
MIAR Mount Ida 20.63 354 P **P** **03 27 21.1 0.0**
baz=173,SNR=90
MIAR Mount Ida 20.63 354 P **P** **03 27 21.1 0.0**
baz=173,SNR=90
MIAR Mount Ida 20.63 354 P **P** **03 27 20.0 -1.1**
MIAR pmax pmax
comp=Z,222nm,1.2s
LOOK Love County 20.70 346 **P** **03 27 22.4 +0.5**
LOOK IAmb IAmb 03 27 40.5
comp=Z,465nm,1.3s
LPIG La Paz 20.70 302 P **P** **03 27 23.2 +1.2**
comp=Z,78nm,0.8s,baz=236,slow=3.4,SNR=10.0
LPIG LR LR 03 35 20.4
comp=Z,674nm,18.9s,baz=120,slow=36
comp=Z,78nm,0.8s
SDV Santo Domingo 20.74 102 P **P** **03 27 21.7 -1.0**
comp=Z,22nm,0.6s,baz=269,slow=6.8,SNR=31
SDV Santo Domingo 20.74 102 P **P** **03 27 21.5 -1.1**
SDV Santo Domingo 20.74 102 eP **P** **03 27 21.6 -1.0**
MACC Macarena, Meta 20.74 123 eP Pn 03 27 24.5 -0.9
X48A Hartselle 20.76 10 P **P** **03 27 23.6 +1.1**
X48A Hartselle 20.76 10 P **P** **03 27 23.9 +1.4**
baz=191,SNR=24
UALR University of 20.77 357 P **P** **03 27 22.4 -0.2**
Y52A Lilburn 20.86 17 P **P** **03 27 24.7 +1.1**
Y52A IAmb IAmb 03 27 43.5
comp=Z,158nm,0.8s
Y52A Lilburn 20.86 17 P Pn 03 27 25.8 -0.8
baz=200,SNR=36
Y52A P Pn 03 27 25.8 -0.8
baz=200,SNR=36
X37A Clayton 20.91 350 **P** **03 27 24.5 +0.4**
X37A IAmb IAmb 03 27 34.3
comp=Z,173nm,0.9s
X37A Clayton 20.91 350 P **P** **03 27 24.5 +0.4**
baz=169,SNR=68
FPAL Fort Paine 21.12 13 P **P** **03 27 28.0 +1.6**
FPAL IAmb IAmb 03 27 35.7
comp=Z,234nm,1.0s
PTGC Puerto Gaitan, 21.12 115 eP **P** **03 27 26.9 +0.3**
PLAL Pickwick Lake 21.14 7 P **P** **03 27 26.8 +0.3**
PLAL IAmb IAmb 03 27 47.2
comp=Z,216nm,1.1s
HAW Hawthorne Fire 21.20 23 P **P** **03 27 29.9 +2.7**
baz=206,SNR=9.4
W45A Hickory Valley 21.20 4 P **P** **03 27 28.6 +1.3**
W45A Hickory Valley 21.20 4 P **P** **03 27 29.7 +2.5**
baz=185,SNR=12
WHAR Wooly Hollow 21.28 357 P **P** **03 27 28.1 0.0**
WHAR IAmb IAmb 03 27 33.6
comp=Z,135nm,0.8s
X51A Calhoun 21.32 14 P **P** **03 27 30.3 +1.9**
X51A Calhoun 21.32 14 P **P** **03 27 31.5 +3.0**
baz=197,SNR=16
X51A P **P** **03 27 31.5 +3.0**
baz=197,SNR=16
MCRA Macar, Loja 21.32 148 P **P** **03 27 28.5 -0.2**

X34A Smith Ranch, M 21.44 345 **P** **03 27 30.6 +0.8**
X34A IAmb IAmb 03 27 53.0
comp=Z,323nm,1.3s
CSU Charleston Sou 21.49 26 P **P** **03 27 31.9 +1.6**
HBAR Harrisburg 21.53 1 P **P** **03 27 31.2 +0.5**
HBAR Harrisburg 21.53 1 P **P** **03 27 34.9 +4.2**
baz=181,SNR=10
GUVC San Jose del G 21.53 120 eP **P** **03 27 34.7 +3.7**
NHSC New Hope 21.55 26 P **P** **03 27 31.7 +0.8**
NHSC New Hope 21.55 26 P **P** **03 27 34.7 +3.8**
baz=210,SNR=13
NHSC New Hope 21.55 26 P **P** **03 27 32.7 +1.8**
baz=210,SNR=13
CLNB Carlsbad 21.63 330 P **P** **03 27 33.0 +1.0**
HTMS Hat Mesa 21.68 330 P **P** **03 27 33.1 +0.6**
SWET Sewanee 21.71 12 P **P** **03 27 33.7 +1.0**
SWET IAmb IAmb 03 27 43.7
comp=Z,165nm,0.9s
HODGE Hodges 21.76 20 P **P** **03 27 34.0 +0.8**
HODGE Hodges 21.76 20 P **P** **03 27 34.8 +1.6**
baz=204,SNR=23
W50A Signal Mountai 21.82 13 P **P** **03 27 34.4 +0.5**
W50A IAmb IAmb 03 27 54.0
comp=Z,168nm,0.9s
W50A Signal Mountai 21.82 13 P **P** **03 27 34.9 +1.0**
baz=195,SNR=19
GDL2 Guadalupe Moun 21.82 329 P **P** **03 27 35.1 +1.0**
WMOK Wichita Mounta 21.82 343 P **P** **03 27 33.9 0.0**
baz=160,SNR=69
WMOK Wichita Mounta 21.82 343 P **P** **03 27 32.4 -1.5**
baz=160,SNR=69
FCAR Ozark Folk Cen 21.88 358 IAmb IAmb 03 27 37.9
comp=Z,139nm,0.8s
FNO Franklin 21.96 346 **P** **03 27 34.6 -0.7**
MNTX Cornudas Mount 21.96 326 P **P** **03 27 35.8 +0.3**
MNTX Cornudas Mount 21.96 326 P **P** **03 27 35.6 +0.2**
baz=140,SNR=561
MNTX Cornudas Mount 21.96 326 P **P** **03 27 35.6 +0.2**
baz=140,SNR=561
LCAR Lake Charles 22.04 0 P **P** **03 27 35.5 -0.7**
LCAR IAmb IAmb 03 27 39.3
comp=Z,173nm,0.8s
LCAR Lake Charles 22.04 0 P **P** **03 27 35.3 -0.8**
baz=180,SNR=147
W52A Murphy 22.05 16 P **P** **03 27 37.6 +1.2**
W52A IAmb IAmb 03 27 57.7
comp=Z,160nm,0.9s
W52A Murphy 22.05 16 P **P** **03 27 38.5 +2.1**
baz=199,SNR=24
V48A Smith Brothers 22.06 9 P **P** **03 27 37.0 +0.6**
V48A IAmb IAmb 03 27 47.9
comp=Z,170nm,1.0s
V48A Smith Brothers 22.06 9 P **P** **03 27 38.5 +2.1**
baz=191,SNR=40
JSC Jenkinsville 22.15 22 P **P** **03 27 37.8 +0.4**
JSC IAmb IAmb 03 27 58.3
comp=Z,132nm,1.3s
JSC Jenkinsville 22.15 22 P **P** **03 27 40.3 +2.9**
baz=206,SNR=9.6
JSC Jenkinsville 22.15 22 P **P** **03 27 37.8 +0.4**
JSC pmax pmax
comp=Z,132nm,1.3s
CPCT Cooper Cave 22.24 14 P **P** **03 27 38.9 +0.5**
CPCT IAmb IAmb 03 27 59.6
comp=Z,167nm,1.0s
BG3 Lake Jocassee 22.24 18 IAmb IAmb 03 27 59.8
comp=Z,144nm,0.9s
CASEE Lake Jocassee 22.24 18 P **P** **03 27 39.7 +1.3**
baz=202,SNR=24
Y57A Sumter 22.25 24 P **P** **03 27 39.5 +1.0**
Y57A IAmb IAmb 03 27 59.7
comp=Z,89nm,0.8s
Y57A Sumter 22.25 24 P **P** **03 27 40.2 +1.8**
baz=209,SNR=11
Y57A P **P** **03 27 40.2 +1.8**
baz=209,SNR=11
CPRX Cap Rock 22.25 331 P **P** **03 27 38.8 +0.1**
TUL1 Leonard 22.27 350 P **P** **03 27 37.9 -0.8**
baz=168,SNR=6.8
TUL1 Leonard 22.27 350 P **P** **03 27 37.9 -0.8**
baz=168,SNR=6.8
WVT Waverly 22.30 7 P **P** **03 27 39.4 +0.4**
WVT IAmb IAmb 03 28 00.4
comp=Z,323nm,1.5s
WVT Waverly 22.30 7 P **P** **03 27 39.5 +0.4**
baz=189,SNR=19
WVT Waverly 22.30 7 P **P** **03 27 39.4 +0.4**
baz=189
WVT Waverly 22.30 7 P **P** **03 27 39.4 +0.4**
WVT pmax pmax
comp=Z,323nm,1.5s
GLAT Glass 22.30 4 P **P** **03 27 39.5 +0.5**
DEOK Depew 22.33 349 **P** **03 27 37.2 -2.2**
DEOK IAmb IAmb 03 28 01.0
comp=Z,120nm,1.1s
U40A Yellville 22.38 356 P **P** **03 27 40.1 +0.3**
baz=176,SNR=79
U40A P **P** **03 27 40.1 +0.3**
baz=176,SNR=79
HHAR Hobbs 22.39 354 P **P** **03 27 38.7 -1.3**
HHAR IAmb IAmb 03 27 43.1
comp=Z,276nm,1.8s
RLO Rose Lookout 22.40 352 **P** **03 27 38.8 -1.3**
RLO IAmb IAmb 03 28 02.5
comp=Z,126nm,1.0s
UTMT University of 22.41 5 P **P** **03 27 40.6 +0.5**
PAULI Pauline 22.44 20 P **P** **03 27 41.5 +1.0**
PAULI IAmb IAmb 03 28 02.0
comp=Z,96nm,0.9s
PAULI Pauline 22.44 20 P **P** **03 27 42.3 +1.7**
baz=204,SNR=10.0
Y58A Scranton 22.45 26 P **P** **03 27 41.1 +0.5**
Y58A Scranton 22.45 26 P **P** **03 27 43.0 +2.3**
baz=210,SNR=5.5
Y58A P **P** **03 27 43.0 +2.3**
baz=210,SNR=5.5
CLTN Cedars of Leba 22.48 10 P **P** **03 27 41.5 +0.6**
CLTN IAmb IAmb 03 28 03.1
comp=Z,168nm,0.9s
OK031 S. Brethren Rd 22.51 348 IAmb IAmb 03 27 56.5
comp=Z,134nm,1.1s
OK034 N. Norfolk Rd. 22.54 348 **P** **03 27 41.0 -0.6**
OK034 IAmb IAmb 03 28 04.7
comp=Z,99nm,0.9s
MSTX Muleshoe 22.55 334 P **P** **03 27 40.4 -1.4**
MSTX IAmb IAmb 03 27 45.2
comp=Z,146nm,0.8s
MSTX Muleshoe 22.55 334 P **P** **03 27 41.6 -0.2**
baz=150,SNR=122
MSTX Muleshoe 22.55 334 P **P** **03 27 40.6 -1.3**
baz=150,SNR=122
U38A Gravette 22.59 353 P **P** **03 27 42.5 +0.3**
baz=172,SNR=40
V51A Loudon 22.62 15 P **P** **03 27 43.2 +0.8**
V51A IAmb IAmb 03 28 04.7
comp=Z,234nm,1.0s
V51A Loudon 22.62 15 P **P** **03 27 44.0 +1.6**
baz=197,SNR=9.3
TKL Tuckaleechee C 22.63 16 P **P** **03 27 43.8 +1.3**
comp=Z,63nm,1.0s,baz=188,slow=9.3,SNR=46
TKL LR LR 03 37 14.6
comp=Z,3μm,21.9s,baz=193,slow=39
TKL Tuckaleechee C 22.63 16 P **P** **03 27 43.4 +0.9**
TKL IAmb IAmb 03 28 08.4
comp=Z,191nm,1.1s
TKL Tuckaleechee C 22.63 16 P **P** **03 27 43.9 +1.3**
baz=199,SNR=23
TKL Tuckaleechee C 22.63 16 P **P** **03 27 43.4 +0.9**
TKL pmax pmax
comp=Z,191nm,1.1s
KIDD KIDD Seismic O 22.64 324 P **P** **03 27 41.5 -1.3**
baz=138,SNR=7.9
CSTR Hydro, Custer 22.65 344 **P** **03 27 42.4 -0.4**
CSTR IAmb IAmb 03 27 55.5
comp=Z,16nm,1.0s
PARMO Parma 22.67 3 P **P** **03 27 43.5 +0.6**
PBMO Poplar Bluff 22.75 2 P **P** **03 27 43.1 -0.7**
PBMO IAmb IAmb 03 27 47.5
comp=Z,161nm,0.8s
PBMO Poplar Bluff 22.75 2 P **P** **03 27 44.3 +0.5**
baz=182,SNR=17
BIRD Birdtown, Kers 22.78 23 P **P** **03 27 44.9 +0.8**
BIRD IAmb IAmb 03 28 06.9
comp=Z,152nm,1.0s
BIRD Birdtown, Kers 22.78 23 P **P** **03 27 45.2 +1.1**
baz=208,SNR=7.5

V52A Sevierville 22.85 16 P **P** **03 27 45.5 +0.7**
V52A IAmb IAmb 03 28 04.2
comp=Z,157nm,1.0s
V52A Sevierville 22.85 16 P **P** **03 27 46.0 +1.2**
baz=199,SNR=28
KMSC Kings Mountain 22.90 21 P **P** **03 27 45.3 0.0**
KMSC IAmb IAmb 03 28 08.5
comp=Z,162nm,1.1s
KMSC Kings Mountain 22.90 21 P **P** **03 27 46.4 +1.0**
baz=205,SNR=25
KMSC Kings Mountain 22.90 21 P **P** **03 27 46.4 +1.0**
baz=205,SNR=25
V53A Saluda 22.91 18 P **P** **03 27 46.5 +1.0**
V53A IAmb IAmb 03 28 04.9
comp=Z,253nm,1.4s
V53A Saluda 22.91 18 P **P** **03 27 46.8 +1.3**
baz=201,SNR=27
V53A P **P** **03 27 46.8 +1.3**
baz=201,SNR=27
AMTX Amarillo 22.91 337 P **P** **03 27 44.8 -0.9**
AMTX Amarillo 22.91 337 P **P** **03 27 44.8 -0.9**
baz=153,SNR=153
AMTX Amarillo 22.91 337 P **P** **03 27 44.7 -0.9**
baz=153
U49A Red Boiling Sp 22.99 11 P **P** **03 27 45.7 -0.6**
U49A IAmb IAmb 03 27 58.9
comp=Z,210nm,0.9s
U49A Red Boiling Sp 22.99 11 P **P** **03 27 46.4 +0.1**
baz=194,SNR=34
T45B Paducah 23.09 5 P **P** **03 27 48.7 +1.4**
baz=186,SNR=9.7
T45A Paducah 23.10 5 P **P** **03 27 46.5 -0.8**
MGMO Mountain Grove 23.14 358 P **P** **03 27 47.1 -0.7**
X58A Rowland 23.15 25 P **P** **03 27 47.6 -0.2**
X58A IAmb IAmb 03 28 12.2
comp=Z,128nm,1.1s
BAUV El Baul 23.19 100 IAmb IAmb 03 28 13.3
comp=Z,68nm,0.7s
T47A Sharon Grove 23.24 8 P **P** **03 27 48.6 -0.1**
T47A Sharon Grove 23.24 8 P **P** **03 27 48.6 -0.1**
baz=190,SNR=26
ELIS Ellis County 23.25 343 IAmb IAmb 03 28 17.6
comp=Z,189nm,1.1s
CGM3 Cape Girardeau 23.30 3 P **P** **03 27 48.0 -1.3**
CGM3 IAmb IAmb 03 27 51.5
comp=Z,99nm,0.7s
BLOK Blackwell 23.36 348 P **P** **03 27 47.5 -2.4**
BLOK IAmb IAmb 03 27 52.2
comp=Z,81nm,0.9s
T35A Sooner Cattle 23.38 349 P **P** **03 27 48.6 -1.4**
T35A IAmb IAmb 03 28 17.0
comp=Z,78nm,0.8s
T35B Sooner Cattle 23.38 349 P **P** **03 27 48.7 -1.3**
baz=167,SNR=13
W57A Gilead 23.40 24 P **P** **03 27 49.6 -0.7**
W57A IAmb IAmb 03 28 14.9
comp=Z,67nm,0.8s
W57A Gilead 23.40 24 P **P** **03 27 50.8 +0.5**
baz=208
W57A P **P** **03 27 50.8 +0.5**
baz=208
U32A Winter Ranch, 23.43 344 IAmb IAmb 03 28 04.6
comp=Z,270nm,1.4s
U32A Winter Ranch, 23.43 344 P **P** **03 27 51.0 +0.5**
baz=161
TZTN Tazewell 23.52 16 P **P** **03 27 51.4 0.0**
TZTN IAmb IAmb 03 28 15.3
comp=Z,179nm,0.9s
TZTN Tazewell 23.52 16 P **P** **03 27 52.1 +0.7**
baz=199,SNR=39
TZTN Tazewell 23.52 16 P **P** **03 27 52.1 +0.7**
baz=199,SNR=39
V55A Taylorsville 23.58 21 P **P** **03 27 52.1 +0.1**
V55A IAmb IAmb 03 28 16.9
comp=Z,124nm,0.9s
V55A Taylorsville 23.58 21 P **P** **03 27 52.8 +0.8**
baz=205,SNR=16
V55A P **P** **03 27 52.8 +0.8**
baz=205,SNR=16
OK032 Salt Plains WL 23.63 346 P **03 27 51.0 -1.4**
OK032 IAmb IAmb 03 28 15.5
comp=Z,143nm,1.1s
NOKA Waynoka 23.65 344 P **03 27 50.6 -2.0**
NOKA IAmb IAmb 03 28 17.8
comp=Z,108nm,1.1s
OK035 E0210 Rd and N 23.66 345 P **03 27 50.8 -2.0**
OK035 IAmb IAmb 03 28 18.1
comp=Z,70nm,0.8s
KAN13 South Haven SW 23.66 347 P **P** **03 27 51.0 -1.8**
KAN13 IAmb IAmb 03 28 10.6
comp=Z,108nm,1.1s
T50A Nancy 23.67 13 P **P** **03 27 52.0 -0.8**
T50A IAmb IAmb 03 28 10.2
comp=Z,229nm,1.5s
T50A Nancy 23.67 13 P **P** **03 27 53.0 +0.2**
baz=195
T50A P **P** **03 27 53.0 +0.2**
baz=195
HSIG 23.69 312 P **P** **03 27 53.1 0.0**
S44A Carbondale 23.72 4 P **P** **03 27 52.6 -0.6**
S44A Carbondale 23.72 4 P **P** **03 27 53.5 +0.3**
baz=185,SNR=45
S39A Bolivar 23.73 356 P **P** **03 27 52.4 -1.0**
S39A Bolivar 23.73 356 P **P** **03 27 52.7 -0.7**
baz=175,SNR=94
SRIG Santa Rosalia 23.75 307 P **P** **03 27 54.2 +0.6**
SRIG IAmb IAmb 03 27 57.0
comp=Z,96nm,0.9s
KAN17 Caldwell West 23.75 347 P **03 27 52.4 -1.2**
KAN09 Caldwell North 23.81 347 P **P** **03 27 52.5 -1.6**
KAN09 IAmb IAmb 03 28 24.1
comp=Z,114nm,1.1s
KAN01 Argonia South 23.86 347 P **P** **03 27 52.6 -1.9**
121A Cookes Peak, D 23.93 323 P **P** **03 27 56.5 +1.0**
121A Cookes Peak, D 23.93 323 P **P** **03 27 58.0 +2.6**
baz=137,SNR=93
121A Cookes Peak, D 23.93 323 P **P** **03 27 57.1 +1.6**
baz=137,SNR=93
FVM French Village 23.96 1 P **P** **03 27 54.1 -1.3**
FVM French Village 23.96 1 P **P** **03 27 56.4 +0.9**
baz=182,SNR=19
FVM French Village 23.96 1 P **P** **03 27 54.1 -1.3**
FVM pmax pmax
comp=Z,41nm,0.9s
U54A Nelsons Funny 24.00 19 P **P** **03 27 55.8 -0.1**
U54A Nelsons Funny 24.00 19 P **P** **03 27 56.6 +0.7**
baz=203,SNR=62
U54A P **P** **03 27 56.6 +0.7**
baz=203,SNR=62
CCM Cathedral Cave 24.02 360 P **P** **03 27 55.1 -0.8**
CCM Cathedral Cave 24.02 360 P **P** **03 27 55.2 -0.8**
baz=180,SNR=163
CCM Cathedral Cave 24.02 360 P **P** **03 27 55.3 -0.7**
baz=180
CCM Cathedral Cave 24.02 360 P **P** **03 27 55.1 -0.8**
CCM pmax pmax
comp=Z,289nm,0.8s
319A Douglas 24.03 319 P **P** **03 27 57.7 +1.3**
KAN12 Harper NE Stat 24.05 347 P **P** **03 27 54.8 -1.5**
KAN12 IAmb IAmb 03 27 57.8
comp=Z,78nm,0.8s
USIN University of 24.13 7 P **P** **03 27 56.5 -0.5**
R40A Maddies Statio 24.27 358 P **P** **03 27 57.5 -0.8**
baz=177,SNR=144
V58A Windy Hill, Pi 24.31 24 P **P** **03 27 58.2 -0.5**
V58A IAmb IAmb 03 28 03.3
comp=Z,68nm,0.8s
V58A Windy Hill, Pi 24.31 24 P **P** **03 27 58.8 +0.1**
baz=209,SNR=32
V58A P **P** **03 27 58.8 +0.1**
baz=209,SNR=32
U56A King 24.32 22 P **P** **03 27 58.1 -0.6**
U56A IAmb IAmb 03 28 23.1
comp=Z,78nm,1.0s
U56A King 24.32 22 P **P** **03 27 59.9 +1.1**
baz=206,SNR=14
U56A P **P** **03 27 59.9 +1.1**
baz=206,SNR=14
CNNC Cliffs of the 24.35 27 IAmb IAmb 03 28 04.2
comp=Z,53nm,0.7s
CNNC Cliffs of the 24.35 27 P **P** **03 27 59.4 +0.4**
baz=213
CNNC Cliffs of the 24.35 27 P **P** **03 27 59.2 +0.2**
baz=213
ATAH Atahualpa 24.48 148 P **P** **03 28 02.6 +1.8**
comp=Z,60nm,0.9s,baz=336,slow=9.1,SNR=21

ATAH LR LR 03 36 27.9
comp=Z,1µm,18.4s,baz=357,slow=34
Y22A Socorro 24.53 327 P **P** **03 28 02.3 +1.3**
baz=141,SNR=178
S51A Beattyville 24.55 15 IAmb IAmb 03 28 20.0
comp=Z,178nm,0.9s
S51A Beattyville 24.55 15 P **P** **03 28 01.5 +0.7**
baz=198,SNR=26
S51A P **P** **03 28 01.5 +0.7**
baz=198,SNR=26
WCI Wyandotte Cave 24.58 9 P **P** **03 28 00.2 -0.9**
WCI Wyandotte Cave 24.58 9 P **P** **03 28 01.0 0.0**
baz=191,SNR=40
WCI Wyandotte Cave 24.58 9 P **P** **03 28 01.0 0.0**
baz=191
WCI Wyandotte Cave 24.58 9 P **P** **03 28 00.2 -0.9**
WCI pmax pmax
comp=Z,247nm,1.0s
SLM Saint Louis 24.61 2 P **P** **03 28 02.9 +1.5**
baz=182,SNR=29
Y22D IRIS PASSCAL I 24.61 327 P **P** **03 28 04.2 +2.6**
baz=141,SNR=24
Y22D IRIS PASSCAL I 24.61 327 P **P** **03 28 03.4 +1.7**
baz=141,SNR=24
Y22F Passcal Instru 24.61 327 P **P** **03 28 03.6 +2.0**
baz=141,SNR=24
DUN6 Lazy B Ranch 24.72 322 IAmb IAmb 03 28 06.5
comp=Z,416nm,1.1s
R49A Shelbyville 24.83 11 IAmb IAmb 03 28 36.3
comp=Z,121nm,1.1s
R49A Shelbyville 24.83 11 P **P** **03 28 03.0 -0.4**
baz=194,SNR=18
R49A P **P** **03 28 03.0 -0.4**
baz=194,SNR=18
OLIL Olney 24.85 6 P **P** **03 28 05.8 +2.3**
baz=187,SNR=25
Q44A Meyer Farm, Va 24.94 4 IAmb IAmb 03 28 25.7
comp=Z,105nm,1.0s
Q44A Meyer Farm, Va 24.94 4 P **P** **03 28 05.1 +0.7**
baz=185
R50A Paris 24.99 13 IAmb IAmb 03 28 25.7
comp=Z,70nm,0.9s
R50A Paris 24.99 13 P **P** **03 28 05.0 +0.1**
baz=196,SNR=19
R50A P **P** **03 28 05.0 +0.1**
baz=196,SNR=19
ANMO Albuquerque 25.06 329 P **P** **03 28 06.3 +0.5**
comp=Z,42nm,0.7s,baz=236,slow=11,SNR=128
comp=Z,42nm,0.7s
ANMO Albuquerque 25.06 329 P **P** **03 28 06.0 +0.3**
ANMO Albuquerque 25.06 329 P **P** **03 28 07.3 +1.6**
baz=143,SNR=99
ANMO Albuquerque 25.06 329 P **P** **03 28 06.7 +0.9**
baz=143
ANMO Albuquerque 25.06 329 *ce*P **P** **03 28 06.8 +1.1**
ANMO pmax pmax
comp=Z,52nm,0.9s
BLA Blacksburg 25.08 21 P **P** **03 28 06.1 +0.4**
baz=205,SNR=17
BLA Blacksburg 25.08 21 P **P** **03 28 06.2 +0.4**
baz=205,SNR=17
R32A Long Quarter, 25.29 346 P **P** **03 28 06.9 -0.6**
baz=163,SNR=15
T57A Hurt 25.31 23 P **P** **03 28 08.6 +0.9**
baz=208,SNR=13
T57A P **P** **03 28 08.6 +0.9**
baz=208,SNR=13
S54A Dingess, Beckl 25.33 18 IAmb IAmb 03 28 42.2
comp=Z,67nm,0.8s
S54A Dingess, Beckl 25.33 18 P **P** **03 28 08.5 +0.6**
baz=203
S54A P **P** **03 28 08.5 +0.6**
baz=203
U59A Littleton 25.34 26 P **P** **03 28 08.5 +0.5**
baz=212,SNR=7.0
U59A P **P** **03 28 08.5 +0.5**
baz=212,SNR=7.0
V61A Roper 25.41 29 IAmb IAmb 03 28 13.7
comp=Z,124nm,1.1s
V61A Roper 25.41 29 P **P** **03 28 09.6 +1.0**
baz=215
V61A P **P** **03 28 09.6 +1.0**
baz=215
BLO Bloomington 25.47 8 IAmb IAmb 03 28 43.2
comp=Z,117nm,0.8s
P40A Paris 25.50 358 P **P** **03 28 08.7 -0.7**
baz=178,SNR=58
KSU1 Kansas State U 25.52 350 IAmb IAmb 03 28 13.4
comp=Z,93nm,0.8s
KSU1 Kansas State U 25.52 350 P **P** **03 28 09.4 -0.2**
baz=168,SNR=22
KSU1 Kansas State U 25.52 350 P **P** **03 28 09.4 -0.2**
baz=168,SNR=22
TUC Tucson 25.61 319 P **P** **03 28 11.5 +0.9**
TUC IAmb IAmb 03 28 16.0
comp=Z,85nm,0.8s
TUC Tucson 25.61 319 P **P** **03 28 11.6 +0.9**
baz=131
TUC Tucson 25.61 319 P **P** **03 28 11.5 +0.9**
TUC pmax pmax
comp=Z,85nm,0.9s
R53A Hurricane 25.63 17 IAmb IAmb 03 28 47.5
comp=Z,56nm,0.8s
R53A Hurricane 25.63 17 P **P** **03 28 11.4 +0.8**
baz=201
R53A P **P** **03 28 11.4 +0.8**
baz=201
P43A Skaggs, Pawnee 25.64 3 IAmb IAmb 03 28 33.9
comp=Z,85nm,1.0s
P43A Skaggs, Pawnee 25.64 3 P **P** **03 28 11.5 +0.8**
baz=184
P38A Dawn 25.67 356 IAmb IAmb 03 28 15.0
comp=Z,73nm,0.7s
P38A Dawn 25.67 356 P **P** **03 28 10.2 -0.8**
baz=175,SNR=27
P46A Rosedale 25.82 7 IAmb IAmb 03 28 50.4
comp=Z,98nm,0.8s
P46A Rosedale 25.82 7 P **P** **03 28 12.5 +0.3**
baz=189,SNR=9.0
CBKS Cedar Bluff 25.91 345 IAmb IAmb 03 28 51.6
comp=Z,78nm,0.9s
CBKS Cedar Bluff 25.91 345 P **P** **03 28 13.3 +0.1**
baz=161
CBKS Cedar Bluff 25.91 345 P **P** **03 28 10.3 -2.9**
baz=161
P48A Milroy 25.92 10 IAmb IAmb 03 28 47.5
comp=Z,90nm,0.8s
P48A Milroy 25.92 10 P **P** **03 28 12.5 -0.8**
baz=193,SNR=11
P48A P **P** **03 28 12.5 -0.8**
baz=193,SNR=11
Q51A Peebles 25.93 14 IAmb IAmb 03 28 54.3
comp=Z,150nm,0.8s
Q51A Peebles 25.93 14 P **P** **03 28 13.7 +0.4**
baz=198,SNR=24
Q51A P **P** **03 28 13.7 +0.4**
baz=198,SNR=24
T25A Trinidad 25.95 335 IAmb IAmb 03 28 48.4
comp=Z,74nm,1.0s
T25A Trinidad 25.95 335 P **P** **03 28 14.1 +0.2**
baz=150,SNR=18
T59A Double "B" Far 25.96 26 IAmb IAmb 03 28 18.4
comp=Z,64nm,0.8s
T59A Double "B" Far 25.96 26 P **P** **03 28 13.8 +0.2**
baz=211,SNR=26
T59A P **P** **03 28 13.8 +0.2**
baz=211,SNR=26
S57A Dark Hollow, R 26.09 22 P **P** **03 28 15.3 +0.5**
baz=208
S57A P **P** **03 28 15.3 +0.5**
baz=208
P49A Miami Univ. Ec 26.12 11 IAmb IAmb 03 28 52.0
comp=Z,126nm,1.1s
P49A Miami Univ. Ec 26.12 11 P **P** **03 28 14.7 -0.4**
baz=194
P49A Miami Univ. Ec 26.12 11 P **P** **03 28 14.2 -0.8**
baz=194
Q52A Bidwell 26.14 16 IAmb IAmb 03 28 44.5
comp=Z,123nm,0.9s
Q52A Bidwell 26.14 16 P **P** **03 28 15.7 +0.4**
baz=200,SNR=11
Q52A P **P** **03 28 15.7 +0.4**
baz=200,SNR=11
R55A Marlinton 26.15 20 IAmb IAmb 03 28 52.8
comp=Z,78nm,0.9s
R55A Marlinton 26.15 20 P **P** **03 28 16.4 +1.0**
baz=205,SNR=6.8
R55A P **P** **03 28 16.4 +1.0**
baz=205,SNR=6.8
O44A Mansfield 26.22 5 IAmb IAmb 03 28 57.1
comp=Z,54nm,0.8s
O44A Mansfield 26.22 5 P **P** **03 28 16.1 +0.1**
baz=186
P51A Williamsport 26.43 14 P **P** **03 28 18.5 +0.7**
baz=198
P51A P **P** **03 28 18.5 +0.7**
baz=198
T60A Surry 26.45 27 IAmb IAmb 03 28 23.4
comp=Z,129nm,0.9s
T60A Surry 26.45 27 P **P** **03 28 18.7 +0.7**
baz=213
T60A P **P** **03 28 18.7 +0.7**
baz=213
Q54A Coxs Mills 26.57 18 IAmb IAmb 03 28 56.3
comp=Z,151nm,1.1s
Q54A Coxs Mills 26.57 18 P **P** **03 28 19.6 +0.6**
baz=203,SNR=9.3
Q54A P **P** **03 28 19.6 +0.6**
baz=203,SNR=9.3
HDIL Hopedale 26.57 3 IAmb IAmb 03 28 58.5
comp=Z,100nm,0.9s
HDIL Hopedale 26.57 3 P **P** **03 28 20.6 +1.5**
baz=184,SNR=10.0
HDIL Hopedale 26.57 3 P **P** **03 28 17.9 -1.1**
baz=184,SNR=10.0
SFIN Lafayette 26.58 7 IAmb IAmb 03 28 59.3
comp=Z,83nm,0.8s
SFIN Lafayette 26.58 7 P **P** **03 28 19.0 -0.2**
baz=189
SFIN Lafayette 26.58 7 P **P** **03 28 18.0 -1.1**
baz=189
N41A Harden Midland 26.67 1 IAmb IAmb 03 29 00.1
comp=Z,77nm,0.9s
N41A Harden Midland 26.67 1 P **P** **03 28 20.5 +0.5**
baz=181,SNR=8.3
R58B Mineral 26.68 24 P **P** **03 28 20.8 +0.7**
baz=210,SNR=6.3
R58B P **P** **03 28 20.8 +0.7**
baz=210,SNR=6.3
214A Organ Pipe Nat 26.72 316 IAmb IAmb 03 28 23.8
comp=Z,50nm,0.8s
214A Organ Pipe Nat 26.72 316 P **P** **03 28 21.6 +0.9**
baz=127,SNR=62
O48B Farmland 26.74 10 P **P** **03 28 20.6 0.0**
baz=193
O48B Farmland 26.74 10 P **P** **03 28 19.7 -1.0**
baz=193
P52A Corning 26.80 16 IAmb IAmb 03 28 56.3
comp=Z,96nm,1.1s
P52A Corning 26.80 16 P **P** **03 28 21.2 -0.1**
baz=200
N38A Joes South For 26.82 357 P **P** **03 28 20.9 -0.4**
baz=176,SNR=23
O49A Covington 26.83 12 IAmb IAmb 03 29 03.3
comp=Z,90nm,1.0s
O49A Covington 26.83 12 P **P** **03 28 21.2 -0.3**
baz=195
O49A P **P** **03 28 21.2 -0.3**
baz=195
P53A Whipple 26.87 17 IAmb IAmb 03 29 00.5
comp=Z,88nm,0.9s
P53A Whipple 26.87 17 P **P** **03 28 22.8 +1.0**
baz=201,SNR=7.3
P53A P **P** **03 28 22.8 +1.0**
baz=201,SNR=7.3
SDCO Great Sand Dun 26.92 334 P **P** **03 28 24.4 +1.7**
baz=148
SDCO Great Sand Dun 26.92 334 P **P** **03 28 22.8 +0.2**
baz=148
W18A Petrified Fore 26.93 325 P **P** **03 28 24.7 +2.0**
baz=137,SNR=31
KSCO Kaye Shedlock' 26.95 340 IAmb IAmb 03 29 04.1
comp=Z,60nm,0.9s
KSCO Kaye Shedlock' 26.95 340 P **P** **03 28 23.0 +0.3**
baz=155,SNR=9.7
KSCO Kaye Shedlock' 26.95 340 P **P** **03 28 23.2 +0.5**
baz=155,SNR=9.7
CBN Corbin Frederi 27.09 24 IAmb IAmb 03 28 29.0
comp=Z,79nm,1.1s
CBN Corbin Frederi 27.09 24 P **P** **03 28 24.5 +0.7**
baz=210
CBN Corbin Frederi 27.09 24 P **P** **03 28 24.0 +0.2**
baz=210
N35A Tabor 27.11 353 IAmb IAmb 03 28 55.6
comp=Z,69nm,0.8s
N35A Tabor 27.11 353 P **P** **03 28 26.1 +2.2**
baz=170
Q56A Snyder Ridge, 27.15 21 P **P** **03 28 25.8 +1.4**
baz=206
Q56A P **P** **03 28 25.8 +1.4**
baz=206
ACSO Alum Creek Sta 27.16 14 IAmb IAmb 03 28 53.5
comp=Z,100nm,1.1s
ACSO Alum Creek Sta 27.16 14 P **P** **03 28 24.2 -0.2**
baz=198,SNR=10.0
ACSO Alum Creek Sta 27.16 14 P **P** **03 28 24.0 -0.4**
baz=198,SNR=10.0
N47A Urbana 27.26 9 IAmb IAmb 03 29 04.8
comp=Z,94nm,1.0s
N47A Urbana 27.26 9 P **P** **03 28 24.0 -1.4**
baz=192
N47A P **P** **03 28 24.0 -1.4**
baz=192
O52A Adamsville 27.33 16 IAmb IAmb 03 28 55.0
comp=Z,112nm,1.0s
O52A Adamsville 27.33 16 P **P** **03 28 26.5 +0.5**
baz=200,SNR=16
O52A P **P** **03 28 26.5 +0.5**
baz=200,SNR=16
MCWV Mont Chateau 27.49 19 P **P** **03 28 27.9 +0.5**
baz=204
MCWV Mont Chateau 27.49 19 P **P** **03 28 27.9 +0.5**
baz=204
S22A 4UR Ranch, Cre 27.50 332 P **P** **03 28 28.4 +0.5**
baz=146,SNR=25
O53A New Philadelph 27.63 17 IAmb IAmb 03 29 15.9
comp=Z,72nm,0.9s
O53A New Philadelph 27.63 17 P **P** **03 28 28.7 +0.1**
baz=201,SNR=5.7
SGCB SΣo Gabriel d 27.68 118 *eP* **P** **03 28 30.4 +1.1**
TBTG Tabatinga, AM 27.73 129 *eP* **P** **03 28 29.6 -0.2**
O54A Avella 27.80 18 IAmb IAmb 03 29 24.2
comp=Z,56nm,0.8s
O54A Avella 27.80 18 P **P** **03 28 30.2 0.0**
baz=203
O54A P **P** **03 28 30.2 0.0**
baz=203
Q24A Divide 27.82 336 P **P** **03 28 30.3 -0.4**
baz=150
SCIA State Center 27.92 357 P **P** **03 28 32.4 +1.2**
baz=176
N51A Ashland 27.95 14 IAmb IAmb 03 29 36.7
comp=Z,60nm,0.8s
N51A Ashland 27.95 14 P **P** **03 28 31.6 +0.1**
baz=198
N51A P **P** **03 28 31.6 +0.1**
baz=198
P57A Homestead Farm 27.96 22 P **P** **03 28 32.5 +0.9**
baz=208,SNR=11
P57A P **P** **03 28 32.5 +0.9**
baz=208,SNR=11
L42A Oliver, Polo 27.99 2 IAmb IAmb 03 29 28.3
comp=Z,84nm,1.1s
L42A Oliver, Polo 27.99 2 P **P** **03 28 32.1 +0.3**
baz=183
L40A Anamosa 28.02 360 IAmb IAmb 03 28 37.0
comp=Z,68nm,0.8s
L40A Anamosa 28.02 360 P **P** **03 28 32.2 +0.1**
baz=180,SNR=13
BGNE Belgrade 28.04 349 pP 03 28 47.2 +1.8
BGNE Belgrade 28.04 349 P **P** **03 28 34.6 +2.3**
baz=166
WUAZ Wupatki 28.15 323 IAmb IAmb 03 28 39.2
comp=Z,100nm,0.8s
WUAZ Wupatki 28.15 323 P **P** **03 28 35.3 +1.8**
baz=135,SNR=51
UPAO U. Pittsburgh 28.19 18 P **P** **03 28 33.5 -0.1**
baz=203
N53A Lisbon 28.25 17 IAmb IAmb 03 29 39.4
comp=Z,74nm,0.9s
N53A Lisbon 28.25 17 P **P** **03 28 34.1 0.0**
baz=202,SNR=7.5
N53A P **P** **03 28 34.1 0.0**
baz=202,SNR=7.5
M50A Fremont 28.26 13 P **P** **03 28 34.0 -0.3**
baz=197

M50A P P 03 28 34.0 -0.3
baz=197
CZSB Cruzeiro do Su 28.27 139 P P 03 28 35.1 +0.5
CZSB IAmb IAmb 03 28 51.1
comp=Z,72nm,1.1s
CZSB Cruzeiro do Su 28.27 139 eP P 03 28 35.1 +0.5
L44A Lake County Fo 28.28 5 P P 03 28 36.6 +2.2
baz=187
L46A Eue Claire 28.29 8 P P 03 28 34.9 +0.4
baz=190
L46A P P 03 28 34.9 +0.4
baz=190
SDMD Soldier's Deli 28.34 24 P P 03 28 36.0 +1.1
baz=210,SNR=9.1
L48A N Adams 28.51 11 IAmb IAmb 03 29 24.5
comp=Z,104nm,0.8s
L48A N Adams 28.51 11 P P 03 28 35.7 -0.8
baz=194,SNR=8.0
L48A P P 03 28 35.7 -0.8
baz=194,SNR=8.0
OGNE Ogallala 28.53 343 P P 03 28 37.1 +0.4
baz=158
OGNE Ogallala 28.53 343 P P 03 28 39.1 +2.3
baz=158
PAMR Moraine State 28.59 18 P P 03 28 37.4 +0.3
baz=203
K38A Parkersburg 28.64 358 pP 03 28 52.6 +1.9
K38A Parkersburg 28.64 358 P P 03 28 38.4 +0.8
baz=177
ISCO Idaho Springs 28.72 336 P P 03 28 40.1 +1.4
baz=150,SNR=26
ISCO Idaho Springs 28.72 336 P P 03 28 38.4 -0.4
baz=150,SNR=26
GLA Glamis 28.74 315 P P 03 28 39.3 +0.6
baz=126
PV13 Radium Mtn., P 28.76 330 IAmb IAmb 03 28 41.8
comp=Z,113nm,1.4s
M52A Chesterland 28.80 15 IAmb IAmb 03 29 31.3
comp=Z,57nm,0.8s
M52A Chesterland 28.80 15 P P 03 28 37.5 -1.5
baz=200
M52A P P 03 28 37.5 -1.5
baz=200
M53A WI Miller and 28.88 16 IAmb IAmb 03 29 30.1
comp=Z,80nm,1.0s
M53A WI Miller and 28.88 16 P P 03 28 39.1 -0.6
baz=201,SNR=5.7
JFWS Jewell Farm 28.89 1 IAmb IAmb 03 29 31.8
comp=Z,194nm,1.4s
JFWS Jewell Farm 28.89 1 P P 03 28 40.5 +0.8
baz=182,SNR=6.4
JFWS Jewell Farm 28.89 1 P P 03 28 41.6 +1.8
baz=182,SNR=6.4
PV11 David Mesa, Pa 28.90 330 IAmb IAmb 03 28 44.8
comp=Z,57nm,0.7s
AAM Ann Arbor 29.00 12 P P 03 28 41.8 +1.0
baz=195
AAM Ann Arbor 29.00 12 P P 03 28 43.1 +2.4
baz=195
SSPA Standing Stone 29.02 21 P P 03 28 40.6 -0.4
SSPA Standing Stone 29.02 21 P P 03 28 41.0 0.0
baz=207
SSPA Standing Stone 29.02 21 P P 03 28 41.9 +0.9
baz=207
PV23 Carpenter Ridg 29.09 330 IAmb IAmb 03 28 45.4
comp=Z,60nm,0.8s
GEDE Greenville 29.17 25 P P 03 28 42.5 +0.2
baz=212
PSDB Penn State Uni 29.17 19 P P 03 28 42.5 +0.1
baz=205
ALLY Alegheny Colle 29.23 17 P P 03 28 43.5 +0.6
baz=202
U15A North Rim 29.31 324 IAmb IAmb 03 28 48.4
comp=Z,97nm,1.4s
K31A O'Neill 29.32 349 IAmb IAmb 03 29 41.0
comp=Z,71nm,0.9s
SWSC Sam W. Stewart 29.35 314 P P 03 28 45.0 +1.0
baz=124,SNR=10
IKP In-Ko-Pah, Jac 29.40 314 P P 03 28 46.1 +1.5
baz=124,SNR=9.9
NNA Nana 29.41 150 LR LR 03 38 26.8
comp=Z,604nm,20.4s,baz=340,slow=32
NNA Nana 29.41 150 i P P 03 28 43.7 -1.1
NNA pmax pmax
comp=Z,8.0nm,0.4s
M55A Ridgway 29.48 19 P P 03 28 45.1 0.0
baz=205
M55A P P 03 28 45.1 0.0
baz=205
BC3 Big Chuckawall 29.52 316 P P 03 28 46.4 +0.7
baz=126,SNR=34
IRM Iron Mountain 29.61 317 P P 03 28 47.2 +0.8
baz=127,SNR=26
NEE2 Needles Airpor 29.64 319 P P 03 28 47.7 +1.1
baz=129
TUPA Temple Univers 29.65 25 P P 03 28 46.9 +0.3
baz=213
K50A Casco 29.67 13 P P 03 28 46.8 +0.1
baz=197
K50A P P 03 28 46.8 +0.1
baz=197
ERPA Erie 29.70 17 P P 03 28 46.6 -0.4
baz=202
J47A Sunmer 29.70 9 P P 03 28 47.1 +0.1
baz=192
J47A P P 03 28 47.1 +0.1
baz=192
MONP2 Monument Peak 29.75 314 P P 03 28 48.6 +0.8
baz=124
N23A Red Feather La 29.80 337 P P 03 28 48.5 +0.3
baz=150,SNR=12
I40A Norwalk 29.86 1 P P 03 28 49.2 +0.9
baz=181
M57A Sunshine Farm, 29.91 21 P P 03 28 49.5 +0.6
baz=208,SNR=8.3
M57A P P 03 28 49.5 +0.6
baz=208,SNR=8.3
I42A Draeger Farm, 29.91 3 P P 03 28 50.1 +1.3
baz=184
LUPA Lehigh Univers 29.94 25 IAmb IAmb 03 28 54.5
comp=Z,55nm,1.0s
PANJ Princeton 30.03 26 P P 03 28 50.5 +0.6
baz=213
I37A Lemond, Waseca 30.04 357 pP 03 29 05.1 +1.9
I37B Waseca 30.04 357 P P 03 28 51.1 +1.1
baz=176
PKCU Pink Cliffs 30.04 325 IAmb IAmb 03 28 56.1
comp=Z,100nm,1.0s
ECSD EROS Data Cent 30.06 352 P P 03 28 49.9 -0.3
baz=169,SNR=6.3
ECSD EROS Data Cent 30.06 352 P P 03 28 52.1 +1.9
baz=169,SNR=6.3
BELC Belle Mtn. Jos 30.09 316 P P 03 28 52.2 +1.5
baz=126,SNR=17
O20A White River Ci 30.09 333 P P 03 28 51.0 +0.3
baz=146,SNR=37
PMD Palm Desert 30.14 315 IAmb IAmb 03 28 55.0
comp=Z,26nm,0.8s
TPFO Pinon Flats 30.17 315 P P 03 28 52.9 +1.5
baz=124,SNR=7.5
PFO Pinyon Flats O 30.18 315 P P 03 28 53.2 +1.7
comp=Z,18nm,0.9s,baz=124,slow=10,SNR=15
PFO LR LR 03 41 28.4
comp=Z,727nm,19.6s,baz=130,slow=37
comp=Z,18nm,0.9s
PFO Pinyon Flats O 30.18 315 P P 03 28 51.2 -0.3
PFO Pinyon Flats O 30.18 315 P P 03 28 52.4 +0.9
baz=124,SNR=7.7
PFO Pinyon Flats O 30.18 315 ⇧ i P P 03 28 52.9 +1.3
PFO pmax pmax
comp=Z,37nm,1.0s
PFO Pinyon Flats O 30.18 315 P P 03 28 52.8 +1.3
PFO pP pP 03 29 05.0 +0.3
109C Camp Elliot, M 30.23 313 P P 03 28 52.2 +0.4
baz=123
I45A Fountain 30.29 7 P P 03 28 51.4 -0.8
baz=190
I45A P P 03 28 51.4 -0.8
baz=190
GMRC Granite Mounta 30.32 317 P P 03 28 53.7 +0.9
baz=127,SNR=40
SRU San Rafael Swe 30.34 329 IAmb IAmb 03 28 56.5
comp=Z,101nm,1.6s
BRNJ Basking Ridge 30.34 25 IAmb IAmb 03 28 58.0
comp=Z,55nm,0.9s
BRNJ Basking Ridge 30.34 25 P P 03 28 53.5 +0.8
baz=213,SNR=5.0
WVNY West Valley, N 30.38 19 IAmb IAmb 03 29 49.5
comp=Z,49nm,0.9s
WVNY West Valley, N 30.38 19 P P 03 28 53.5 +0.5
baz=205
V12A Nelson 30.39 320 IAmb IAmb 03 28 57.6
comp=Z,110nm,0.9s
L56A Greenwood 30.47 20 P P 03 28 53.6 -0.3
baz=207
L56A P P 03 28 53.6 -0.3
baz=207
Q16A Castle Valley 30.52 328 IAmb IAmb 03 28 58.7
comp=Z,49nm,0.9s
ODNJ Ogdensburg 30.66 25 IAmb IAmb 03 30 01.1
comp=Z,70nm,1.6s
ODNJ Ogdensburg 30.66 25 P P 03 28 55.4 -0.1
baz=213
MURC Murrieta 30.68 314 P P 03 28 56.8 +1.0
baz=124,SNR=7.8
CCUT Cedar City 30.71 324 IAmb IAmb 03 29 01.1
comp=Z,84nm,1.0s
P17A Butcher Ranch, 30.72 329 IAmb IAmb 03 28 60.0
comp=Z,47nm,0.8s
FOR Fordham 30.78 26 P P 03 28 56.9 +0.4
baz=214
WTNK Soaring Height 30.79 320 IAmb IAmb 03 29 00.0
comp=Z,11nm,1.2s
HEC Hector Ludlow 30.80 317 P P 03 28 58.7 +1.8
baz=126,SNR=21
TMUT Trail Mountain 30.82 329 IAmb IAmb 03 29 02.7
comp=Z,46nm,0.8s
BBRC Big Bear Solar 30.86 315 P P 03 28 59.4 +1.7
baz=125
PAL Palisades 30.89 26 IAmb IAmb 03 29 02.4
comp=Z,37nm,0.8s
PAL Palisades 30.89 26 P P 03 28 58.0 +0.5
baz=214
PAL Palisades 30.89 26 P P 03 28 58.5 +1.0
baz=214
MMNY Mt. Morris Dam 30.89 19 IAmb IAmb 03 30 05.3
comp=Z,56nm,1.1s
TUQ Turquoise Moun 30.89 318 P P 03 28 59.1 +1.3
baz=128
RWWY Rawlins 30.96 336 IAmb IAmb 03 29 03.2
comp=Z,45nm,0.8s
N62A Caumsett State 31.01 27 IAmb IAmb 03 29 03.5
comp=Z,45nm,0.8s
N62A Caumsett State 31.01 27 P P 03 28 59.0 +0.4
baz=215
N62A P P 03 28 59.0 +0.4
baz=215
BINY Binghamton 31.08 22 IAmb IAmb 03 29 37.5
comp=Z,186nm,1.9s
BINY Binghamton 31.08 22 P P 03 28 59.3 +0.1
baz=209
BINY Binghamton 31.08 22 P P 03 28 59.8 +0.6
baz=209
SUSD Miller 31.12 349 IAmb IAmb 03 30 04.8
comp=Z,40nm,0.8s
SUSD Miller 31.12 349 P P 03 29 01.0 +1.4
baz=165
SUSD Miller 31.12 349 P P 03 29 00.5 +0.9
baz=165
J54A Appleton 31.16 18 P P 03 28 58.9 -0.9
baz=204
J54A P P 03 28 58.9 -0.9
baz=204
SPMN Marine on St. 31.21 358 IAmb IAmb 03 29 23.7
comp=Z,36nm,0.8s
SPMN Marine on St. 31.21 358 P P 03 28 59.5 -0.8
baz=177,SNR=12
SPMN Marine on St. 31.21 358 P P 03 29 00.5 +0.2
baz=177,SNR=12
G40A Rib Lake 31.24 1 P P 03 29 02.4 +1.8
baz=182
RRX Edison Barstow 31.27 316 P P 03 29 02.4 +1.4
baz=126
WSPT Westport, CT 31.27 26 IAmb IAmb 03 29 05.6
comp=Z,33nm,0.8s
GLMI Grayling 31.29 9 P P 03 29 00.6 -0.4
baz=192
GLMI Grayling 31.29 9 P P 03 29 01.0 0.0
baz=192
K57A Scipio Center 31.35 21 IAmb IAmb 03 29 05.8
comp=Z,37nm,0.9s
K57A Scipio Center 31.35 21 P P 03 29 01.5 -0.2
baz=208
BFSC Mount Baldy Ra 31.36 315 P P 03 29 02.9 +1.0
baz=124,SNR=17
GSC Goldstone, Bar 31.39 317 P P 03 29 04.1 +2.0
baz=126,SNR=11
SHOC Shoshone, Teco 31.40 319 P P 03 29 03.4 +1.3
baz=128
J55A Hilton 31.40 19 P P 03 29 01.9 -0.1
baz=205
J55A P P 03 29 01.9 -0.1
baz=205
NPNY Mohonk Preserv 31.41 25 P P 03 29 02.4 +0.3
baz=213
L59A Walton 31.42 23 P P 03 29 02.5 +0.2
baz=211
L59A P P 03 29 02.5 +0.2
baz=211
CIS Catalina Islan 31.44 313 P P 03 29 03.6 +1.1
baz=122
TEFE Tefe 31.51 121 eP P 03 29 03.4 +0.1
K22A Casper 31.54 338 P P 03 29 04.5 +1.1
baz=151,SNR=17
K22A Casper 31.54 338 P P 03 29 05.2 +1.7
baz=151,SNR=17
MPU Male Canyon 31.58 329 IAmb IAmb 03 29 07.5
comp=Z,46nm,0.8s
KSCT Kent School, K 31.66 26 IAmb IAmb 03 29 09.4
comp=Z,74nm,1.0s
PSUT Pine Spring 31.67 325 IAmb IAmb 03 29 09.1
comp=Z,52nm,1.0s
J56A Wolcott 31.72 20 IAmb IAmb 03 29 09.1
comp=Z,73nm,0.8s
J56A Wolcott 31.72 20 P P 03 29 04.7 -0.1
baz=207,SNR=8.6
J56A P P 03 29 04.7 -0.1
baz=207,SNR=8.6
GWY Greenwater Val 31.83 319 IAmb IAmb 03 29 12.9
comp=Z,36nm,0.9s
DECC Green Verdugo 31.83 314 P P 03 29 06.9 +0.9
baz=123
F36A Milaca 31.88 357 P P 03 29 06.2 0.0
baz=176
EDW2 Edwards Air Fo 31.94 315 P P 03 29 07.8 +0.9
baz=124,SNR=16
M63A Gales Ferry 32.03 28 IAmb IAmb 03 29 13.1
comp=Z,60nm,0.9s
M63A Gales Ferry 32.03 28 P P 03 29 08.8 +1.4
baz=217
M63A P P 03 29 08.8 +1.4
baz=217
RSSD Black Hills 32.03 342 P P 03 29 08.3 +0.5
RSSD Black Hills 32.03 342 P P 03 29 08.6 +0.8
baz=156,SNR=10
RSSD Black Hills 32.03 342 P P 03 29 09.0 +1.2
baz=156
RSSD Black Hills 32.03 342 P P 03 29 08.3 +0.5
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 32.03 342 P P 03 29 08.2 +0.4
TPNV Topopah Spring 32.03 320 IAmb IAmb 03 29 16.2
comp=Z,56nm,1.2s
TPNV Topopah Spring 32.03 320 P P 03 29 09.9 +2.0
baz=208,SNR=34
LRMC Laurel Mtn Rad 32.07 317 P P 03 29 09.4 +1.3
baz=125
HCNY Howe Caverns 32.10 24 P P 03 29 08.2 0.0
baz=212
CCAC Calif City Air 32.11 316 IAmb IAmb 03 29 14.6
comp=Z,31nm,0.8s
FURC Furnace Creek, 32.12 319 P P 03 29 09.9 +1.5
baz=128,SNR=16
J57A Williamstown 32.13 21 P P 03 29 07.5 -0.9
J57A IAmb IAmb 03 29 12.4
comp=Z,34nm,0.8s
J57A Williamstown 32.13 21 P P 03 29 08.5 +0.1
baz=208,SNR=6.9
J57A P P 03 29 08.5 +0.1
baz=208,SNR=6.9
CTU Camp Tracy 32.16 330 IAmb IAmb 03 29 12.6
comp=Z,54nm,0.8s
SPR3 Spring Creek 3 32.27 325 IAmb IAmb 03 29 13.8
comp=Z,71nm,1.0s
MPMC Manual Prospec 32.28 318 P P 03 29 11.4 +1.3
baz=126,SNR=68
OSI Osito Audit: C 32.30 314 P P 03 29 10.8 +0.7
baz=123
DUG Dugway, Tooele 32.31 328 IAmb IAmb 03 29 14.3
comp=Z,44nm,1.1s
DUG Dugway, Tooele 32.31 328 P P 03 29 11.4 +1.1
baz=138,SNR=48
J58A Remsen 32.34 22 P P 03 29 10.3 -0.1
J58A Remsen 32.34 22 P P 03 29 10.2 -0.1
baz=210
J58A P P 03 29 10.2 -0.1
baz=210
BOAV Boa Vista 32.38 108 P P 03 29 09.8 -1.1
BOAV IAmb IAmb 03 29 26.4
comp=Z,16nm,0.8s
BOAV Boa Vista 32.38 108 eP P 03 29 10.9 0.0
BOAV Boa Vista 32.38 108 eP P 03 29 11.0 +0.1
SADO Sadowa 32.39 16 P P 03 29 10.3 -0.3
comp=Z,11nm,0.5s,baz=209,slow=8.2,SNR=14
SADO LR LR 03 43 08.5
comp=Z,2µm,21.7s,baz=210,slow=38
comp=Z,11nm,0.5s
SADO Sadowa 32.39 16 IAmb IAmb 03 29 38.5
comp=Z,51nm,1.1s
E43A Lone Tree Farm 32.52 5 P P 03 29 11.7 -0.1
baz=188
R11A Troy Canyon, C 32.54 323 IAmb IAmb 03 29 16.9
comp=Z,68nm,1.2s
R11A Troy Canyon, C 32.54 323 P P 03 29 14.0 +1.7
baz=132,SNR=69
E38A The Farm, Brul 32.57 360 IAmb IAmb 03 30 22.5
comp=Z,53nm,0.9s
E38A The Farm, Brul 32.57 360 P P 03 29 12.8 +0.6
baz=179
DELO Deloro Mine 32.59 18 IAmb IAmb 03 29 14.6
comp=Z,42nm,0.9s
L61B Northampton 32.60 26 P P 03 29 13.6 +1.1
baz=215
L61B Northampton 32.60 26 P P 03 29 13.8 +1.3
baz=215
QUA2 Belchertown 32.60 26 IAmb IAmb 03 29 18.2
comp=Z,53nm,0.9s
QUA2 Belchertown 32.60 26 P P 03 29 13.9 +1.4
baz=215
SCZ2 Santa Cruz Isl 32.61 313 P P 03 29 13.1 +0.3
baz=121
ARVC Arvin 32.65 315 P P 03 29 14.7 +1.6
baz=124,SNR=5.9
ISA Isabella, Lake 32.71 316 P P 03 29 15.0 +1.3
baz=125,SNR=12
J59A Piesco 32.72 23 P P 03 29 13.5 -0.1
baz=211
J59A P P 03 29 13.5 -0.1
baz=211
WCNY West Carthage 32.75 21 P P 03 29 14.9 +1.1
baz=209
GRAC Grapevine Rang 32.77 319 IAmb IAmb 03 29 19.0
comp=Z,65nm,1.0s
GRAC Grapevine Rang 32.77 319 P P 03 29 15.8 +1.6
baz=128,SNR=34
HWUT Hardware Ranch 32.77 331 IAmb IAmb 03 29 18.4
comp=Z,66nm,0.9s
HWUT PcP PcP 03 31 59.1 +0.5
BW06 Boulder Array 32.82 335 P P 03 29 14.9 +0.2
baz=146,SNR=13
PDAR Pinedale Array 32.82 335 P P 03 29 14.9 +0.2
comp=Z,7.7nm,0.7s,baz=130,slow=9.3,SNR=33
PDAR PcP PcP 03 31 57.5 -1.3
comp=Z,6.9nm,1.0s,baz=116,slow=5.1,SNR=4.5
PDAR ScP ScP 03 35 41.3 +2.6
comp=Z,2.8nm,0.9s,baz=134,slow=4.3,SNR=8.0
PDAR PKiKP PKiKP 03 39 25.8 +0.4
comp=Z,0.4nm,0.6s,baz=117,slow=5.3,SNR=3.5
PDAR LR LR 03 46 38.8
comp=Z,509nm,18.7s,baz=148,slow=44
comp=Z,7.7nm,0.7s
E46A Sault Ste Mari 32.84 9 P P 03 29 16.0 +1.5
baz=192
CWC Cottonwood Cre 32.89 318 P P 03 29 16.8 +1.4
baz=126
BGU Big Grassy Mou 32.97 329 IAmb IAmb 03 29 19.7
comp=Z,68nm,0.8s
SPUT South Promonto 32.97 330 IAmb IAmb 03 29 21.9
comp=Z,51nm,1.0s
ACCN Adirondck Com 32.97 24 P P 03 29 16.1 +0.3
baz=212
L64A Middleborough 33.00 28 IAmb IAmb 03 29 21.1
comp=Z,66nm,1.1s
L64A Middleborough 33.00 28 P P 03 29 17.7 +1.7
baz=218
L64A P P 03 29 17.7 +1.7
baz=218
HRV Adam Dziewonsk 33.13 27 IAmb IAmb 03 29 22.2
comp=Z,40nm,0.9s
HRV Adam Dziewonsk 33.13 27 P P 03 29 18.3 +1.2
baz=216
HRV Adam Dziewonsk 33.13 27 P P 03 29 20.6 +3.5
HRV pP pP 03 29 32.4 +2.0
HRV sP sP 03 29 39.4 +2.9
BCX Boston College 33.16 28 IAmb IAmb 03 29 35.7
comp=Z,164nm,1.8s
PKM Mcpherson Peak 33.20 314 P P 03 29 18.1 -0.1
baz=122
MZP Montezuma Peak 33.21 320 PcP 03 32 01.6 +1.5
VES Vestal, Richgr 33.22 316 P P 03 29 19.4 +1.4
baz=124,SNR=17
NCB Newcomb 33.26 23 IAmb IAmb 03 29 31.8
comp=Z,39nm,1.1s
NCB Newcomb 33.26 23 P P 03 29 18.5 +0.1
baz=211
TIN Tinemaha, Big 33.35 319 P P 03 29 20.6 +1.3
baz=127
DSP Deep Springs 33.38 319 P P 03 29 19.0 -0.4
AHID Auburn Hatcher 33.48 333 IAmb IAmb 03 29 24.8
comp=Z,32nm,0.7s
HVU Hansel Valley 33.48 330 IAmb IAmb 03 29 23.1
comp=Z,88nm,1.2s
E28A Huff 33.51 348 IAmb IAmb 03 29 24.0
comp=Z,46nm,0.9s
E28A Huff 33.51 348 P P 03 29 22.1 +1.7
baz=163
SMMC Simmler 33.55 314 P P 03 29 22.3 +1.3
baz=122
LONY Lake Ozonia 33.69 22 IAmb IAmb 03 29 22.9
comp=Z,58nm,1.1s
LONY Lake Ozonia 33.69 22 P P 03 29 22.1 +0.1
baz=210,SNR=8.3
UNH University of 33.90 27 P P 03 29 24.1 +0.2
baz=217
BMNY Brushton-Moira 33.90 21 P P 03 29 23.9 +0.1
baz=210
ELK Elko 33.99 326 P P 03 29 26.4 +1.4
comp=Z,54nm,0.8s,baz=138,slow=6.4,SNR=197
ELK ScP ScP 03 35 47.5 +4.6
comp=Z,10nm,1.1s,baz=137,slow=4.2,SNR=12
ELK LR LR 03 44 54.8
comp=Z,1µm,21.5s,baz=148,slow=39
comp=Z,54nm,0.8s
MLAC Mammoth, Mammo 34.08 319 P P 03 29 27.6 +1.7
baz=127
VT1 Waterbury 34.13 24 P P 03 29 26.6 +0.8
baz=213
ETMB Extrema 34.20 132 IAmb IAmb 03 29 54.9
comp=Z,53nm,0.8s
ETMB Extrema 34.20 132 eP P 03 29 26.6 -0.2
NVAR Mina Array Bea 34.23 320 P P 03 29 29.0 +1.9
comp=Z,69nm,0.7s,baz=136,slow=8.6,SNR=132
NVAR PcP PcP 03 32 03.3 +0.4
comp=Z,11nm,0.8s,baz=130,slow=3.0,SNR=5.0
NVAR ScP ScP 03 35 49.2 +5.5
comp=Z,4.6nm,0.8s,baz=132,slow=4.2,SNR=10
FRNY Flat Rock 34.23 22 IAmb IAmb 03 29 30.4
comp=Z,83nm,1.7s
FRNY Flat Rock 34.23 22 P P 03 29 26.4 -0.3
baz=211
I62A Tamworth 34.33 26 P P 03 29 28.6 +1.1
baz=216
I62A P P 03 29 28.6 +1.1
baz=216
LBNH Lisbon 34.38 25 P P 03 29 30.1 +2.1
baz=214
RYN Ryan 34.49 321 IAmb IAmb 03 29 35.2
comp=Z,37nm,0.9s
KVN Kaiserville 34.49 321 IAmb IAmb 03 29 33.7
comp=Z,66nm,0.9s
MDND Maddock 34.53 350 P P 03 29 28.6 -0.7
baz=166,SNR=11
MDND Maddock 34.53 350 P P 03 29 29.2 -0.1
baz=166,SNR=11

H17A Grant Village 34.58 335 P P 03 29 31.7 +1.6
baz=146,SNR=6.5
PMPB Monarch Peak 34.59 315 P P 03 29 30.0 0.0
PMPB IAmb IAmb 03 29 57.2
comp=Z,71nm,1.2s
RLMT Red Lodge 34.67 337 P P 03 29 31.8 +1.0
baz=148,SNR=14
MACA Manacapuru-AM 34.68 117 P P 03 29 30.9 -0.1
MACA IAmb IAmb 03 29 56.1
comp=Z,88nm,0.9s
MACA Manacapuru-AM 34.68 117 eP P 03 29 30.9 -0.1
YMP Mirror Lake Pl 34.69 336 IAmb IAmb 03 30 22.8
comp=Z,78nm,1.8s
MNTQ Montreal, Queb 34.79 22 IAmb IAmb 03 29 32.4
comp=Z,56nm,1.1s
I63A Otisfield 34.79 26 IAmb IAmb 03 29 36.3
comp=Z,36nm,0.9s
I63A Otisfield 34.79 26 P P 03 29 33.2 +1.7
baz=217
I63A P P 03 29 33.2 +1.7
baz=217
YMR Madison River 34.96 335 IAmb IAmb 03 29 37.8
comp=Z,33nm,1.1s
LAO LASA Array 35.01 342 PcP 03 32 05.8 +1.0
LAO LASA Array 35.01 342 P P 03 29 33.7 +0.2
baz=154
LAO LASA Array 35.01 342 P P 03 29 34.2 +0.7
baz=154
YERR Yerington 35.15 320 IAmb IAmb 03 29 40.8
comp=Z,40nm,0.7s
CMB Columbia Colle 35.31 318 IAmb IAmb 03 29 42.9
comp=Z,28nm,0.9s
HLID Hailey 35.62 330 IAmb IAmb 03 29 43.1
comp=Z,64nm,0.8s
HLID Hailey 35.62 330 P P 03 29 39.3 +0.3
baz=139,SNR=134
G62A West of Eustis 35.75 25 IAmb IAmb 03 30 10.4
comp=Z,112nm,1.6s
G62A West of Eustis 35.75 25 P P 03 29 40.2 +0.4
baz=216
G62A P P 03 29 40.2 +0.4
baz=216
BOZ Bozeman (W) 35.99 335 P P 03 29 43.2 +1.2
baz=145,SNR=17
DGMT Dagmar 36.08 345 IAmb IAmb 03 29 45.5
comp=Z,32nm,0.8s
DGMT Dagmar 36.08 345 P P 03 29 42.7 0.0
baz=158
DGMT Dagmar 36.08 345 P P 03 29 43.8 +1.2
baz=158
PKME Peaks-Kenny Pk 36.31 26 P P 03 29 44.8 +0.2
baz=218
PKME Peaks-Kenny Pk 36.31 26 P P 03 29 44.5 -0.1
baz=218
PLTX Planet X, Gerl 36.35 323 IAmb IAmb 03 30 07.4
comp=Z,38nm,1.0s
ULM Lac du Bonnet 36.41 355 P P 03 29 43.9 -1.5
comp=Z,24nm,0.7s,baz=172,slow=8.9,SNR=46
ULM LR LR 03 48 30.2
comp=Z,926nm,18.1s,baz=174,slow=43
comp=Z,24nm,0.7s
ULM Lac du Bonnet 36.41 355 IAmb IAmb 03 29 45.8
comp=Z,30nm,0.8s
F62A Pittston Farm, 36.53 25 P P 03 29 46.9 +0.4
baz=216
F62A P P 03 29 46.9 +0.4
baz=216
LATQ La Tuque 36.70 21 IAmb IAmb 03 29 52.8
comp=Z,42nm,0.9s
F63A Nahmakanta, Br 36.74 26 IAmb IAmb 03 30 02.9
comp=Z,77nm,1.6s
F63A Nahmakanta, Br 36.74 26 P P 03 29 48.4 +0.1
baz=218
F63A P P 03 29 48.4 +0.1
baz=218
HRY Holter Researc 36.98 336 PcP 03 32 12.5 +1.8
G65A Princeton 37.03 28 P P 03 29 50.7 0.0
baz=220
G65A P P 03 29 50.7 0.0
baz=220
E62A Clayton Lake 37.30 25 P P 03 29 53.5 +0.5
baz=216
E62A P P 03 29 53.5 +0.5
baz=216
EGMT Eagleton 37.33 339 IAmb IAmb 03 29 55.6
comp=Z,23nm,0.8s
EGMT Eagleton 37.33 339 P P 03 29 53.7 +0.4
baz=149,SNR=15
PLID Pearl Lake 37.52 331 P P 03 29 55.6 +0.4
MOD Modoc Plateau 37.59 323 IAmb IAmb 03 29 58.9
comp=Z,107nm,1.6s
E63A Oxbow 37.60 26 P P 03 29 54.7 -0.9
baz=218
E63A P P 03 29 54.7 -0.9
baz=218
LPAZ La Paz 37.69 142 eP P 03 29 56.4 -0.9
LPAZ La Paz 37.69 142 P P 03 29 56.9 -0.3
LPAZ pP pP 03 30 10.3 -0.4
LPAZ sP sP 03 30 15.1 -1.6
D62A Allapoint, All 37.87 25 P P 03 29 58.0 +0.2
D62A IAmb IAmb 03 29 58.6
comp=Z,44nm,1.1s
D62A Allapoint, All 37.87 25 P P 03 29 57.3 -0.4
baz=216
D62A P P 03 29 57.3 -0.4
baz=216
MSO Missoula 37.94 334 IAmb IAmb 03 30 00.1
comp=Z,43nm,1.1s
MSO Missoula 37.94 334 P P 03 29 58.3 -0.2
baz=142
PB18 Visviri 37.94 145 P P 03 30 00.3 +1.0
PB18 IAmb IAmb 03 30 57.3
comp=Z,48nm,1.0s
BMO Blue Mountains 37.98 329 IAmb IAmb 03 30 01.2
comp=Z,39nm,0.8s
KCPM Cahto Peak 38.31 318 IAmb IAmb 03 30 04.9
comp=Z,63nm,1.0s
PB16 IPOC Station P 38.53 146 IAmb IAmb 03 30 19.7
comp=Z,35nm,1.1s
F10A Beach Ranch, E 38.76 331 P 03 30 06.1 +0.7
YBH Yreka Blue Hor 38.92 321 P P 03 30 06.3 -0.5
comp=Z,11nm,0.8s,baz=76,slow=4.4,SNR=15
YBH ScP S 03 36 05.6 +4.0
comp=Z,3.3nm,1.0s,baz=232,slow=4.4,SNR=3.2
YBH LR LR 03 47 08.0
comp=Z,1µm,21.1s,baz=146,slow=38
comp=Z,11nm,0.8s
MDP Montagnes des 38.94 99 LR LR 03 48 16.8
comp=Z,327nm,21.3s,baz=294,slow=40
KMPM Mount Pierce 39.05 319 IAmb IAmb 03 30 11.6
comp=Z,83nm,0.9s
KHMM Horse Mountain 39.05 320 IAmb IAmb 03 30 14.8
comp=Z,83nm,1.0s
G08A Pilot Rock 39.12 329 IAmb IAmb 03 30 10.8
comp=Z,115nm,2.0s
MNMC Minye Minye 39.13 147 IAmb IAmb 03 30 24.3
comp=Z,60nm,1.0s
JCC Jacoby Creek, 39.21 319 IAmb IAmb 03 30 12.7
comp=Z,82nm,0.9s
ITTB Itaituba 39.58 115 eP P 03 30 11.5 -1.1
E09A Wood Farm, Sta 39.59 331 IAmb IAmb 03 30 14.5
comp=Z,39nm,1.0s
PB11 IPOC Station P 39.62 147 IAmb IAmb 03 30 28.3
comp=Z,64nm,1.2s
WALA Waterton Lakes 39.71 337 PcP 03 32 19.6 +0.5
GO01 Chusmiza 39.79 147 IAmb IAmb 03 30 30.2
comp=Z,59nm,1.4s
MALB Monte Alegre 39.80 110 eP P 03 30 13.5 -0.8
G06A Carlson Farm, 39.95 327 IAmb IAmb 03 30 20.0
comp=Z,42nm,0.9s
TA01 Diego Aracena 40.02 149 P P 03 30 16.7 +0.7
DBO Dodson Butte 40.06 323 IAmb IAmb 03 30 21.9
comp=Z,44nm,1.1s
HAWA Hanford 40.17 329 P P 03 30 16.3 -0.8
HAWA IAmb IAmb 03 30 19.1
comp=Z,29nm,0.8s
PB08 IPOC Station P 40.20 147 P P 03 30 17.6 -0.4
PATCX Punta Patache 40.24 149 IAmb IAmb 03 30 19.8
comp=Z,37nm,1.0s
D08A Wollman Farm, 40.35 331 P P 03 30 18.1 -0.4
D08A IAmb IAmb 03 30 21.2
comp=Z,52nm,1.0s
NEW Newport 40.41 333 P P 03 30 19.3 +0.2
comp=Z,23nm,0.6s,baz=141,slow=9.5,SNR=40
NEW PcP PcP 03 32 20.8 -0.5
comp=Z,13nm,1.1s,baz=222,slow=3.2,SNR=3.6
NEW ScP ScP 03 36 11.1 +4.6
comp=Z,0.7nm,0.3s,baz=152,slow=6.2,SNR=4.4
NEW LR LR 03 49 54.2
comp=Z,671nm,19.1s,baz=141,slow=40
comp=Z,23nm,0.6s
NEW Newport 40.41 333 IAmb IAmb 03 30 23.6
comp=Z,25nm,0.7s
NEW Newport 40.41 333 P P 03 30 18.5 -0.5
baz=139,SNR=34
VILB Vilhena 40.68 130 P P 03 30 21.6 -0.1
VILB IAmb IAmb 03 30 39.6
comp=Z,330nm,1.8s
VILB Vilhena 40.68 130 eP P 03 30 21.5 -0.1
COR Corvallis 40.98 325 P P 03 30 24.0 +0.3
COR IAmb IAmb 03 30 27.1
comp=Z,106nm,0.9s
COR Corvallis 40.98 325 P P 03 30 24.0 +0.3
COR pmax pmax
comp=Z,106nm,1.0s
COR Corvallis 40.98 325 P P 03 30 25.0 +1.3
COR sP sP 03 30 43.9 +0.6
NPGB Novo Progresso 41.20 118 eP P 03 30 24.1 -1.9
MCPB Macapa, AP 41.25 107 eP P 03 30 26.4 0.0
B08A Colville Reser 41.48 332 IAmb IAmb 03 30 30.3
comp=Z,40nm,0.9s
FFC Flin Flon 41.57 351 P P 03 30 28.1 -0.3
FFC Flin Flon 41.57 351 P P 03 30 28.1 -0.3
FFC pmax pmax
comp=Z,16nm,1.0s
FFC Flin Flon 41.57 351 P P 03 30 28.1 -0.3
D05A Enumclaw 41.95 328 P P 03 30 31.7 +0.1
D05A IAmb IAmb 03 30 34.8
comp=Z,94nm,0.8s
SIV San Ignacio 42.06 134 LR LR 03 47 27.4
comp=Z,936nm,20.9s,baz=331,slow=36
LVC Limon Verde 42.37 149 LR LR 03 47 53.6
comp=Z,471nm,18.7s,baz=310,slow=36
LVC Limon Verde 42.37 149 P P 03 30 35.5 -0.2
LVC Limon Verde 42.37 149 P P 03 30 35.5 -0.2
LVC pmax pmax
comp=Z,25nm,1.1s
LVC Limon Verde 42.37 149 eP P 03 30 35.0 -0.8
LVC Limon Verde 42.37 149 P P 03 30 35.7 0.0
LVC pP pP 03 30 47.7 -1.6
RADR Rader Ridge 42.40 326 IAmb IAmb 03 30 39.1
comp=Z,260nm,0.9s
PDRB Porto dos Gac 42.55 125 eP P 03 30 33.5 -3.4
CLDB Colider 42.88 123 eP P 03 30 37.6 -2.0
EDM Edmonton 42.96 341 IAmb IAmb 03 30 42.1
comp=Z,55nm,0.7s
AF01 San Pedro de A 43.02 148 IAmb IAmb 03 30 57.4
comp=Z,90nm,0.9s
PTLB Pontes e Lacer 43.08 132 IAmb IAmb 03 31 14.3
comp=Z,13nm,1.1s
PTLB Pontes e Lacer 43.08 132 eP P 03 30 40.3 -0.9
BBSD Serra de San D 43.20 135 eP P 03 30 41.5 -0.7
PGC Sidney 43.66 329 IAmb IAmb 03 30 48.5
comp=Z,98nm,0.9s
CLRS Cowichan Lake 44.11 329 IAmb IAmb 03 30 52.4
comp=Z,64nm,1.2s
RPN Rapa Nui 44.47 203 LR LR 03 44 28.2
comp=Z,1µm,21.1s,baz=16,slow=29
BBRB Robore, Bolivi 44.51 135 eP P 03 30 51.1 -1.5
OZB Mount Ozzard 44.89 328 IAmb IAmb 03 30 58.9
comp=Z,86nm,0.9s
SCHQ Schefferville 45.00 20 P P 03 30 54.9 -1.2
comp=Z,50nm,0.9s,baz=215,slow=4.9,SNR=24
SCHQ LR LR 03 50 48.5
comp=Z,2µm,19.4s,baz=216,slow=38
comp=Z,50nm,0.9s
SCHQ Schefferville 45.00 20 P P 03 30 54.9 -1.2
SCHQ IAmb IAmb 03 30 56.2
comp=Z,67nm,1.1s
BRLDA Berland Lookou 45.05 338 IAmb IAmb 03 30 59.3
comp=Z,34nm,0.7s
PRPB Parauapebas 45.64 113 eP P 03 31 00.6 -1.2
TMAB Tom-Au,PA,Br 45.66 107 eP P 03 31 02.1 +0.2
AC02 Maricunga 45.84 152 IAmb IAmb 03 31 19.7
comp=Z,32nm,1.1s
SALV Santo Antonio 45.92 129 eP P 03 31 03.1 -0.8
WAPA Wapiti River 46.58 338 IAmb IAmb 03 31 10.5
comp=Z,28nm,0.6s
LCO Las Campanas 47.06 155 P P 03 31 12.9 0.0
LCO IAmb IAmb 03 31 28.0
comp=Z,49nm,1.1s
LCO Las Campanas 47.06 155 P P 03 31 12.9 0.0
LCO pmax pmax
comp=Z,49nm,1.1s
LCO Las Campanas 47.06 155 P P 03 31 10.4 -2.5
LCO pP pP 03 31 23.0 -3.7
AC05 El Transito 47.08 155 IAmb IAmb 03 31 27.7
comp=Z,35nm,0.9s
SNDB Serra Nova Dou 47.17 121 eP P 03 31 13.8 +0.1
PANT Pantanal (Braz 47.21 133 eP P 03 31 13.9 -0.1
HOLB Holberg 47.27 329 IAmb IAmb 03 31 17.5
comp=Z,47nm,0.8s
PP1B Ponte de Pedra 47.58 130 eP P 03 31 16.6 -0.3
BBB Bella Bella 48.21 330 P P 03 31 22.1 +0.9
comp=Z,32nm,0.8s,baz=138,slow=6.9,SNR=9.6
BBB LR LR 03 55 44.2
comp=Z,420nm,19.3s,baz=157,slow=41
comp=Z,32nm,0.8s
BBB Bella Bella 48.21 330 IAmb IAmb 03 31 24.7
comp=Z,33nm,0.8s
MURT Porto Murtinho 48.33 136 eP P 03 31 21.4 -1.2
RVDE Rio Verde (Bra 48.44 132 eP P 03 31 21.7 -1.8
H03N2 Juan Fernandez 48.54 166 T T 04 23 07.4
baz=346,slow=76,SNR=18
H03N1 Juan Fernandez 48.54 166 T T 04 23 07.6
baz=346,slow=76,SNR=20
H03N3 Juan Fernandez 48.55 166 T T 04 23 07.0
baz=346,slow=76,SNR=20
CO03 El Pedregal 48.68 156 IAmb IAmb 03 31 40.2
comp=Z,51nm,1.0s
ARAG Araguaiana, MT 48.80 126 eP P 03 31 25.1 -1.2
SMTB Santa Maria do 48.82 115 eP P 03 31 26.1 -0.4
AQDB Aquidauana 48.84 134 eP P 03 31 26.2 -0.3
ROSB Rosrio 49.55 106 eP P 03 31 31.0 -1.1
C2SB Chapadao do Su 49.83 130 eP P 03 31 34.2 +0.2
ESFA Espinillo Form 50.10 140 eP P 03 31 36.1 +0.1
ZON Zonda 50.11 155 IAmb IAmb 03 31 51.1
comp=Z,24nm,1.0s
GRNB Grenville Isla 50.12 331 IAmb IAmb 03 31 39.5
comp=Z,30nm,0.8s
CFA Coronel Fontan 50.34 154 LR LR 03 48 48.5
comp=Z,308nm,21.5s,baz=311,slow=31
RUBB Prince Rupert 50.55 331 IAmb IAmb 03 31 43.0
comp=Z,2nm,0.8s
VACA Villa Angela C 50.80 145 eP P 03 31 41.5 +0.2
H02S1 DAWSON INLET T 50.95 329 P P 03 31 43.7 +1.6
SNR=20
AMBA Amambai (Brazi 50.96 136 eP P 03 31 42.0 -0.6
YKA Yellowknife Ar 51.27 346 P P 03 31 43.4 -1.0
comp=Z,19nm,0.8s,baz=152,slow=7.6,SNR=220
comp=Z,19nm,0.8s
BO04 La Punta 51.52 158 IAmb IAmb 03 32 04.7
comp=Z,27nm,1.0s
LMEL Las Melosas 51.55 158 IAmb IAmb 03 32 02.4
comp=Z,24nm,0.9s
BO01 Tunca 51.72 159 IAmb IAmb 03 32 02.4
comp=Z,30nm,1.1s
V35K Ketchikan 51.78 332 P P 03 31 50.1 +1.9
baz=127,SNR=19
BDFB Brasilia 51.81 123 P P 03 31 49.4 +0.2
comp=Z,2.1nm,0.4s,baz=290,slow=6.6,SNR=4.5
BDFB LR LR 03 54 42.5
comp=Z,436nm,21.2s,baz=314,slow=37
BDFB Brasilia 51.81 123 eP P 03 31 50.2 +1.1
CPUP Villa Florida 51.82 141 P P 03 31 47.4 -1.5
comp=Z,6.2nm,0.9s,baz=336,slow=9.4,SNR=11
CPUP LR LR 03 55 27.6
comp=Z,456nm,18.2s,baz=331,slow=38
comp=Z,6.2nm,0.9s
CPUP Villa Florida 51.82 141 eP P 03 31 47.8 -1.1
CPUP Villa Florida 51.82 141 P P 03 31 46.9 -2.1
CPUP pP pP 03 31 58.7 -4.2
KOTAN Kotaneelee Air 52.02 340 P P 03 31 49.7 -0.3
baz=138,SNR=15
FRB Frobisher Bay 52.20 13 P P 03 31 49.2 -2.0
comp=Z,27nm,0.9s,baz=213,slow=8.2,SNR=34
FRB LR LR 03 55 09.9
comp=Z,940nm,21.4s,baz=204,slow=37
comp=Z,27nm,0.9s
T35M Bob Quinn 52.20 334 P P 03 31 53.1 +1.7
baz=129,SNR=13
LIRD Liard River Hi 52.21 338 P P 03 31 51.3 -0.1
baz=135,SNR=11
ITRB Iturama 52.25 129 eP P 03 31 52.5 +0.2
TRCB Terra Rica 52.51 134 eP P 03 31 54.1 -0.1
CRAG Craig 52.56 331 IAmb IAmb 03 31 58.8
comp=Z,62nm,1.2s
CRAG Craig 52.56 331 P P 03 31 55.5 +1.5
baz=125,SNR=6.8
MCR1 Marechal Candi 52.63 136 eP P 03 31 55.2 +0.1
PCMB Pacaembu 52.74 131 eP P 03 31 56.7 +0.9
WRAK Wrangell Islan 52.77 333 P P 03 31 56.4 +0.9
baz=127
SDBA SAO DESIDERIO 52.80 118 eP P 03 31 57.2 +0.7
ML02 Panimavida 52.85 160 IAmb IAmb 03 32 10.7
comp=Z,56nm,0.9s
IPMB Ipameri, GO 52.92 126 eP P 03 31 57.1 -0.2
U33K Whale Pass 52.94 332 P P 03 31 58.1 +1.3
baz=126,SNR=8.5
DLBC Dease Lake 53.04 336 P P 03 31 59.1 +1.4
comp=Z,45nm,0.8s,baz=142,slow=5.6,SNR=103
DLBC LR LR 03 57 17.6
comp=Z,508nm,21.7s,baz=128,slow=39
comp=Z,45nm,0.8s
DLBC Dease Lake 53.04 336 P P 03 31 58.7 +1.0
baz=130,SNR=40
S34M Telegraph Cree 53.16 335 P P 03 31 58.9 +0.5
baz=129,SNR=15
T33K Petersburg 53.27 333 P P 03 32 00.7 +1.5
baz=126,SNR=11
MECA Mercedes 53.50 144 eP P 03 32 01.2 -0.1
TAOE Nuku Hiva Isla 53.62 248 eP P 03 32 06.0 +3.4
comp=Z,54nm,38.1s
TAOE eS S 03 39 33.9 +1.0
comp=Z,333nm,25.3s
TAOE eSS SS 03 43 16.4 +2.1
comp=Z,122nm,26.5s
TAOE eLR LR 03 47 19.7
comp=Z,1µm,25.9s
TAOE Nuku Hiva Isla 53.62 248 eT T 04 29 06.6
comp=Z,100nm,0.3s
WTLY Watson Lake, Y 53.68 338 IAmb IAmb 03 32 03.8
comp=Z,36nm,0.9s
WTLY Watson Lake, Y 53.68 338 P P 03 32 02.2 -0.1
baz=133,SNR=32
AZCA Azaras, Argent 53.91 141 eP P 03 32 04.2 -0.1
R33M Jennings River 54.03 336 P P 03 32 05.5 +0.5
baz=130
PTGB Pitanga 54.15 135 eP P 03 32 06.9 +0.7
WRGLY Wrigley 54.19 343 P P 03 32 05.4 -0.5
baz=140
Q32M Nakina River 54.28 335 P P 03 32 07.3 +0.4
baz=128
FRBT Francisco Belt 54.31 137 eP P 03 32 07.2 -0.1
SIT Sitka 54.48 332 P P 03 32 08.4 +0.4
baz=124
JANB Januaria 54.57 120 eP P 03 32 09.3 -0.2
ITQB Itaqui 54.68 143 IAmb IAmb 03 32 23.8
comp=Z,62nm,1.0s
ITQB Itaqui 54.68 143 eP P 03 32 09.2 -0.7
CRSM Crissiumal (Br 54.70 139 eP P 03 32 08.4 -1.8
R32K Eaglecrest 54.81 334 P P 03 32 10.8 +0.2
baz=125
FRTB Fartura 55.04 132 eP P 03 32 11.9 -0.8
P32M Atlin 55.25 335 P P 03 32 13.9 +0.2
baz=127,SNR=20
P33M Teslin, Yukon 55.28 336 P P 03 32 13.7 -0.2
baz=128,SNR=16
S31K Pelican 55.38 333 P P 03 32 14.9 +0.3
baz=123
NBCL Cascavel-CE 55.46 105 eP P 03 32 16.8 +0.9
ITAB Concordia 55.77 137 IAmb IAmb 03 32 29.0
comp=Z,43nm,1.1s
ITAB Concordia 55.77 137 eP P 03 32 16.2 -1.6
SKAG Skagway 55.84 335 P P 03 32 18.9 +1.1
baz=125,SNR=5.3
RCLB Rio Claro- Sao 55.98 130 eP P 03 32 19.5 0.0
RODS Rosario do Sul 56.02 142 eP P 03 32 18.6 -0.9
ALGR Alto Alegre (B 56.25 139 eP P 03 32 19.2 -2.1
PLBC Pleasant Camp 56.27 334 P P 03 32 21.2 +0.2
baz=124
GO06 Curarrehue 56.32 162 P P 03 32 20.4 -1.3
GO06 IAmb IAmb 03 32 35.9
comp=Z,21nm,0.9s
WHY Whitehorse 56.36 336 P P 03 32 21.3 -0.5
baz=126,SNR=22
RKT Rikitea 56.52 230 eLR LR 03 48 58.9
comp=Z,247µm,26.8s
TIJ01 Guaruva-PR 56.66 133 eP P 03 32 24.3 -0.1
DIAM Diamantina, MG 56.73 123 eP P 03 32 25.2 +0.2
FARO Faro, Yukon 56.74 338 P P 03 32 24.1 -0.1
baz=129,SNR=17
VAO Valinhos 56.74 130 eP P 03 32 24.6 -0.4
P30M Million Dollar 56.90 335 P P 03 32 25.8 +0.3
baz=124
O30N Mendenhall 56.91 336 P P 03 32 26.1 +0.6
baz=125,SNR=40
M31M Drury Creek, Y 57.10 338 P P 03 32 27.0 +0.1
baz=128,SNR=17
CPSB Cacapava Do Su 57.12 141 eP P 03 32 26.3 -1.1
N31M Braeburn, Yuko 57.20 336 IAmb IAmb 03 32 30.4
comp=Z,42nm,0.9s
N31M Braeburn, Yuko 57.20 336 P P 03 32 27.2 -0.4
baz=126,SNR=24
LL04 Puerto Octay 57.27 163 IAmb IAmb 03 32 42.5
comp=Z,29nm,1.0s
PET01 Itanhaem-SP 57.28 131 eP P 03 32 28.3 -0.3
HYT Haines Junctio 57.51 335 IAmb IAmb 03 33 24.7
comp=Z,23nm,1.2s
HYT Haines Junctio 57.51 335 P P 03 32 29.8 -0.1
baz=124,SNR=7.5
PLCA Paso Flores 57.66 162 P P 03 32 29.9 -1.2
comp=Z,14nm,1.1s,baz=337,slow=8.4,SNR=16
PLCA LR LR 03 52 25.9
comp=Z,555nm,18.1s,baz=346,slow=31
comp=Z,14nm,1.1s
PLCA Paso Flores 57.66 162 P P 03 32 29.9 -1.2
PLCA IAmb IAmb 03 32 46.1
comp=Z,44nm,1.4s
PLCA Paso Flores 57.66 162 P P 03 32 29.9 -1.2
PLCA pmax pmax
comp=Z,44nm,1.4s
PLCA Paso Flores 57.66 162 eP P 03 32 29.4 -1.6
PLCA Paso Flores 57.66 162 P P 03 32 29.6 -1.4
PLCA pP pP 03 32 43.1 -2.1
O29M Mount Kennedy 57.67 334 P P 03 32 31.3 +0.2
baz=122
PNL Peninsula 57.69 333 P P 03 32 31.4 +0.4
baz=121
YUK6 Outpost Mounta 57.93 335 P P 03 32 33.7 +0.7
baz=123,SNR=9.5
PARB Paraibuna 57.95 129 eP P 03 32 33.3 -0.1
PLTB Pedras Altas 57.98 142 IAmb IAmb 03 32 47.0
comp=Z,35nm,1.1s
PLTB Pedras Altas 57.98 142 eP P 03 32 32.4 -1.1
CNLB Canela 57.99 138 eP P 03 32 32.3 -1.3
M30M Minto, Yukon 58.23 337 P P 03 32 33.6 -1.2
baz=125,SNR=20
RCBR Riachuelo 58.25 106 LR LR 03 58 41.8
comp=Z,417nm,21.9s,baz=86,slow=37
RCBR Riachuelo 58.25 106 eP P 03 32 36.6 +1.0
YUK4 Talbot Arm 58.26 335 P P 03 32 34.9 -0.4
baz=123,SNR=24
PINM Pinnacle 58.28 334 P P 03 32 36.1 +0.9
baz=120,SNR=6.1
PCA Pinnacle 58.28 334 IAmb IAmb 03 32 39.2
comp=Z,31nm,0.8s
MAYO Mayo, Yukon 58.50 338 P P 03 32 37.3 +0.6
baz=127
TRQA Tornquist 58.52 153 P P 03 32 35.9 -1.2
TRQA IAmb IAmb 03 32 51.6
comp=Z,24nm,1.1s
TRQA Tornquist 58.52 153 P P 03 32 35.9 -1.2
TRQA pmax pmax
comp=Z,24nm,1.2s
TRQA Tornquist 58.52 153 eP P 03 32 35.8 -1.2
O28M Mount Upton 58.60 334 P P 03 32 39.0 +1.3
baz=121,SNR=12
YUK8 Steele Glacier 58.69 335 P P 03 32 38.7 +0.5
baz=122,SNR=42
M29M Somme Creek 58.79 336 P P 03 32 38.9 +0.1
baz=124
TABL Table Mountain 58.84 334 IAmb IAmb 03 32 44.1
comp=Z,33nm,0.8s
SJMB Sao Joao De Ma 58.97 122 eP P 03 32 41.2 +0.6
VAS01 Vassouras-RJ 59.02 127 eP P 03 32 40.8 0.0
L29M L29M 59.04 337 P P 03 32 40.4 0.0
baz=124
GUA01 Guaratinga, BA 59.10 119 eP P 03 32 41.0 -0.6

C36M	**Paulatuk**	59.14	347	P	P	03 32 41.7	+0.9	
	baz=142							
YUK3	**Moose Creek**	59.23	335	P	P	03 32 42.2	+0.3	
	baz=121,SNR=24							
K29M	**Barlow Dome**	59.23	338	P	P	03 32 41.7	-0.1	
	baz=125							
SFJD	**Kangerlussuaq**	59.33	17	LR	LR	03 59 08.9		
	comp=Z,2µm,19.8s,baz=224,slow=37							
SFJD	**Kangerlussuaq**	59.33	17	*e*P	P	03 32 39.6	-2.6	
SFJD				IAmb	IAmb	03 32 41.2		
	comp=Z,7.0nm,1.1s							
SFJD				IAML		03 33 19.8		
	comp=Z,7.8nm,1.1s							
BARN	**Barnard Glacie**	59.37	334	IAmb	IAmb	03 33 33.6		
	comp=Z,25nm,1.0s							
ISLE	**Juniper Island**	59.43	333	IAmb	IAmb	03 32 45.2		
	comp=Z,35nm,1.0s							
BVCY	**Beaver Creek**	59.72	336	P	P	03 32 45.3	+0.1	
	baz=121,SNR=7.5							
DUB01	**Friburgo-RJ**	59.75	126	*e*P	P	03 32 45.5	-0.4	
J29M	**Klondike Camp**	59.83	338	IAmb	IAmb	03 34 20.8		
	comp=Z,27nm,0.8s							
J29M	**Klondike Camp**	59.83	338	P	P	03 32 45.8	0.0	
	baz=125							
RIB01	**Linhares ES**	59.92	122	*e*P	P	03 32 47.6	+0.5	
DAWY	**Dawson**	60.04	338	P	P	03 32 46.3	-1.0	
	baz=123,SNR=15							
MCARA	**McCarthy VSAT**	60.10	334	P	P	03 32 48.2	+0.5	
	baz=118,SNR=18							
M27K	**Edge Creek, AK**	60.10	335	IAmb	IAmb	03 32 50.9		
	comp=Z,22nm,1.0s							
M27K	**Edge Creek, AK**	60.10	335	P	P	03 32 47.7	-0.2	
	baz=120,SNR=17							
VRDI	**Verde Repeater**	60.21	334	IAmb	IAmb	03 32 52.7		
	comp=Z,28nm,1.0s							
F31M	**Tsiigehtchic**	60.22	342	P	P	03 32 47.6	-0.8	
	baz=131,SNR=18							
ALF01	**Guarapari-ES**	60.30	124	*e*P	P	03 32 49.8	+0.1	
I29M	**Ogilvie Camp,**	60.38	339	P	P	03 32 47.9	-1.7	
	baz=125,SNR=8.4							
L27K	**Beaver Creek,**	60.44	336	IAmb	IAmb	03 32 52.6		
	comp=Z,27nm,0.8s							
L27K	**Beaver Creek,**	60.44	336	P	P	03 32 49.7	-0.3	
	baz=120							
EPYK	**Eagle Plains**	60.45	341	P	P	03 32 49.1	-0.9	
	baz=127,SNR=5.4							
GLB	**Gilahina Butte**	60.46	334	IAmb	IAmb	03 32 52.1		
	comp=Z,39nm,0.9s							
AY01	**Puyuhuapi**	60.48	165	IAmb	IAmb	03 33 04.9		
	comp=Z,38nm,0.9s							
M26K	**Nabesna, AK**	60.58	335	IAmb	IAmb	03 32 53.8		
	comp=Z,18nm,0.8s							
M26K	**Nabesna, AK**	60.58	335	P	P	03 32 50.9	-0.1	
	baz=119							
BMRM	**Bremner River**	60.59	333	P	P	03 32 51.6	+0.4	
	baz=116,SNR=30							
G30M	**tAoh Zraii Nji**	60.67	341	P	P	03 32 51.0	-0.6	
	baz=128							
INK	**Inuvik**	60.73	343	P	P	03 32 51.2	-0.6	
	comp=Z,20nm,0.8s,baz=124,slow=7.3,SNR=86							
INK				LR	LR	04 03 37.3		
	comp=Z,574nm,19.6s,baz=130,slow=40							
	comp=Z,20nm,0.8s							
INK	**Inuvik**	60.73	343	IAmb	IAmb	03 32 55.1		
	comp=Z,20nm,0.8s							
INK	**Inuvik**	60.73	343	P	P	03 32 50.2	-1.6	
	baz=131,SNR=35							
RES	**Resolute Bay**	60.78	359	P	P	03 32 50.3	-1.8	
	comp=Z,14nm,0.8s,baz=187,slow=9.7,SNR=46							
RES				LR	LR	04 01 50.4		
	comp=Z,1µm,20.0s,baz=185,slow=39							
	comp=Z,14nm,0.8s							
N25K	**Chitina, Valde**	60.87	334	P	P	03 32 53.7	+0.6	
	baz=117,SNR=64							
EYAK	**Cordova Ski Ar**	60.91	333	P	P	03 32 54.1	+0.9	
	baz=115,SNR=20							
L26K	**Log Cabin Wild**	61.02	336	IAmb	IAmb	03 32 56.7		
	comp=Z,20nm,0.9s							
L26K	**Log Cabin Wild**	61.02	336	P	P	03 32 54.2	+0.3	
	baz=119,SNR=12							
K27K	**Chicken**	61.02	337	P	P	03 32 54.0	+0.1	
	baz=121							
EGAK	**Eagle**	61.07	338	P	P	03 32 53.3	-0.9	
	baz=122,SNR=14							
MENT	**Mentasta**	61.13	336	IAmb	IAmb	03 33 00.8		
	comp=Z,14nm,0.8s							
DIV	**Divide**	61.17	333	IAmb	IAmb	03 32 56.8		
	comp=Z,46nm,1.0s							
KLU	**Klutina**	61.39	333	P	P	03 32 57.2	+0.6	
	baz=116,SNR=52							
P23K	**Montague Islan**	61.44	332	P	P	03 32 57.2	+0.4	
	baz=113,SNR=8.8							
HARP	**HAARP**	61.47	335	P	P	03 32 57.3	+0.3	
	baz=117,SNR=19							
A36M	**Sachs Harbour**	61.47	349	IAmb	IAmb	03 32 57.7		
	comp=Z,15nm,0.8s							
A36M	**Sachs Harbour**	61.47	349	P	P	03 32 55.4	-1.3	
	baz=142,SNR=8.3							
DOT	**Dot Lake**	61.60	336	IAmb	IAmb	03 33 00.6		
	comp=Z,38nm,1.0s							
I27K	**Kandik River**	61.67	339	P	P	03 32 58.9	+0.5	
	baz=122							
COYC	**Coyhaique**	61.70	165	P	P	03 32 57.6	-1.0	
COYC	**Coyhaique**	61.70	165	P	P	03 32 57.5	-1.2	
COYC				pP	pP	03 33 12.1	-0.8	
SCRK	**Sand Creek**	61.73	336	IAmb	IAmb	03 33 00.3		
	comp=Z,27nm,1.3s							
SCRK	**Sand Creek**	61.73	336	P	P	03 32 58.6	-0.2	
	baz=119,SNR=12							
M24K	**Tolsona, Glenn**	61.77	334	P	P	03 32 59.7	+0.7	
	baz=116,SNR=18							
J26L	**Joseph Creek**	61.82	337	IAmb	IAmb	03 33 40.7		
	comp=Z,27nm,1.0s							
J26L	**Joseph Creek**	61.82	337	P	P	03 32 59.8	+0.3	
	baz=119,SNR=9.7							
PAX	**Paxson**	61.85	335	IAmb	IAmb	03 33 00.7		
	comp=Z,24nm,0.9s							
PAX	**Paxson**	61.85	335	P	P	03 32 59.4	-0.2	
	baz=117,SNR=25							
NUUG	**Nuugaatsiaq**	61.92	13	*i* P	P	03 32 58.4	-1.4	
NUUG				IAmb	IAmb	03 32 59.2		
	comp=Z,16nm,0.9s							
RIDG	**Independent Ri**	61.95	336	IAmb	IAmb	03 33 41.3		
	comp=Z,53nm,1.2s							
RIDG	**Independent Ri**	61.95	336	P	P	03 33 00.4	+0.2	
	baz=118,SNR=22							
H27K	**Steamboat Moun**	61.97	339	P	P	03 32 60.0	-0.4	
	baz=122							
SCM	**Sheep Creek Mo**	62.15	334	P	P	03 33 01.7	+0.1	
	baz=114,SNR=28							
PWL	**Port Wells**	62.20	332	IAmb	IAmb	03 33 04.1		
	comp=Z,37nm,0.9s							
PWL	**Port Wells**	62.20	332	P	P	03 33 01.5	-0.4	
	baz=113,SNR=8.7							
M23K	**Glacier View**	62.30	333	P	P	03 33 02.4	-0.2	
	baz=114,SNR=32							
G27K	**Doyon Strip**	62.33	340	P	P	03 33 02.1	-0.6	
	baz=122							
K24K	**Donnelly Dome**	62.35	336	P	P	03 33 02.7	-0.3	
	baz=117,SNR=23							
SEW	**Seward**	62.43	331	P	P	03 33 03.9	+0.4	
SEW	**Seward**	62.43	331	P	P	03 33 03.3	-0.1	
	baz=111,SNR=12							
KNK	**Knik Glacier**	62.47	333	P	P	03 33 03.9	+0.1	
	baz=113,SNR=37							
SML	**Sawmill**	62.57	333	P	P	03 33 04.2	-0.2	
	baz=113,SNR=23							
WAT6	**Susitna Watana**	62.63	334	P	P	03 33 04.8	-0.2	
	baz=114,SNR=62							
DHY	**Denali Highway**	62.68	335	P	P	03 33 04.4	-0.9	
	baz=115							
PMR	**Palmer**	62.84	333	P	P	03 33 06.0	-0.1	
	baz=112,SNR=28							
BRSE	**Bradley Lake S**	62.91	331	P	P	03 33 06.7	0.0	
	baz=110,SNR=33							
VAH	**Vaihoa**	62.91	245	*e*T	T	04 40 46.4		
	comp=Z,8.4nm,0.3s							
RC01	**Rabbit Creek A**	62.92	332	P	P	03 33 06.8	0.0	
	baz=112,SNR=79							
PRP	**Porcupine Dome**	63.04	338	IAmb	IAmb	03 33 09.8		
	comp=Z,38nm,1.1s							
PRP	**Porcupine Dome**	63.04	338	P	P	03 33 07.0	-0.6	
	baz=118,SNR=38							
E27K	**Coleen River**	63.05	341	P	P	03 33 07.2	-0.3	
	baz=123							
WAT1	**Susitna Watana**	63.07	334	P	P	03 33 07.5	-0.2	
	baz=114							
HDA	**Harding Lake**	63.08	336	IAmb	IAmb	03 33 09.8		
	comp=Z,47nm,1.2s							
HDA	**Harding Lake**	63.08	336	P	P	03 33 07.2	-0.6	
	baz=116,SNR=24							
G26K	**Porcupine Rive**	63.12	339	P	P	03 33 07.3	-0.6	
	baz=120							
KDAK	**Kodiak Island**	63.20	328	P	P	03 33 08.3	-0.2	
	comp=Z,50nm,0.7s,baz=192,slow=1.5,SNR=46							
KDAK				LR	LR	04 00 29.9		
	comp=Z,234nm,20.3s,baz=132,slow=36							
	comp=Z,50nm,0.7s							
KDAK	**Kodiak Island**	63.20	328	P	P	03 33 09.0	+0.4	
KDAK	**Kodiak Island**	63.20	328	P	P	03 33 08.0	-0.6	
	baz=107							
KDAK	**Kodiak Island**	63.20	328	P	P	03 33 09.0	+0.4	
KDAK				pmax	pmax			
	comp=Z,68nm,0.8s							
KDAK	**Kodiak Island**	63.20	328	P	P	03 33 08.1	-0.4	
IL31		63.22	337	IAmb	IAmb	03 33 10.8		
	comp=Z,53nm,1.1s							
ILAR	**Eielson Array**	63.22	337	P	P	03 33 07.9	-0.7	
	comp=Z,30nm,1.0s,baz=116,slow=4.9,SNR=130							
ILAR				LR	LR	04 03 15.2		
	comp=Z,538nm,20.8s,baz=106,slow=38							
	comp=Z,30nm,1.0s							
HOM	**Homer**	63.31	330	P	P	03 33 09.8	+0.5	
	baz=109,SNR=5.1							
M22K	**Willow**	63.34	333	P	P	03 33 08.7	-0.7	
	baz=112							
Q20K	**Shuyak Island**	63.35	329	P	P	03 33 09.3	-0.2	
	baz=108,SNR=7.9							
OHAK	**Old Harbor**	63.40	327	P	P	03 33 09.9	+0.1	
OHAK	**Old Harbor**	63.40	327	P	P	03 33 10.6	+0.7	
	baz=106,SNR=14							
FYU	**Fort Yukon**	63.43	339	IAmb	IAmb	03 33 49.7		
	comp=Z,36nm,1.2s							
CAPN	**Captain Cook N**	63.45	332	P	P	03 33 11.6	+1.4	
	baz=110,SNR=9.1							
KULLO	**Kullorsuaq**	63.50	10	*i* P	P	03 33 08.6	-1.7	
KULLO				IAmb	IAmb	03 33 26.8		
	comp=Z,40nm,1.4s							
SUA	**Susitna One**	63.51	332	P	P	03 33 10.8	0.0	
	baz=111,SNR=56							
WRH	**Wood River Hil**	63.56	336	IAmb	IAmb	03 33 49.5		
	comp=Z,31nm,0.9s							
POKR	**Poker Plat Res**	63.58	337	IAmb	IAmb	03 33 49.5		
	comp=Z,31nm,0.9s							
POKR	**Poker Plat Res**	63.58	337	P	P	03 33 10.3	-0.7	
	baz=116,SNR=7.0							
MCK	**McKinley**	63.59	335	IAmb	IAmb	03 33 12.2		
	comp=Z,56nm,1.2s							
MCK	**McKinley**	63.59	335	P	P	03 33 10.9	-0.2	
	baz=114,SNR=26							
F26K	**Sheenjek River**	63.62	340	P	P	03 33 11.5	+0.2	
	baz=120							
COLA	**College**	63.63	337	P	P	03 33 10.5	-0.8	
COLA	**College**	63.63	337	P	P	03 33 10.9	-0.4	
	baz=115							
COLA	**College**	63.63	337⇑	*i* P	P	03 33 11.2	-0.1	
COLA				pmax	pmax			
	comp=Z,41nm,1.0s							
COLA	**College**	63.63	337	P	P	03 33 10.6	-0.8	
COLA				pP	pP	03 33 24.2	-1.5	
TCOL	**CIGO, UAF Yank**	63.64	337	P	P	03 33 10.7	-0.6	
	baz=115							
CUT	**Chulitna**	63.64	334	P	P	03 33 11.5	0.0	
	baz=112,SNR=35							
SII	**Sitkinak Islan**	63.69	327	P	P	03 33 12.0	+0.1	
	baz=105,SNR=11							
TULEG	**Thule**	63.70	6	*i* P	P	03 33 09.0	-2.6	
TULEG				IAmb	IAmb	03 33 10.8		
	comp=Z,16nm,0.9s							
MDM	**Murphy Dome**	63.81	337	IAmb	IAmb	03 33 50.7		
	comp=Z,30nm,1.1s							
G25K	**Bearman Lake**	63.83	339	P	P	03 33 12.2	-0.4	
	baz=118							
ICESG	**Greenland Ices**	63.88	18	*i* P	P	03 33 10.9	-2.4	
ICESG				IAmb	IAmb	03 33 13.8		
	comp=Z,24nm,0.9s							
O20K	**Slope Mountain**	63.92	331	P	P	03 33 13.6	+0.2	
	baz=108,SNR=27							
NEA2	**Nenana**	63.99	336	IAmb	IAmb	03 33 15.6		
	comp=Z,31nm,1.0s							
NEA2	**Nenana**	63.99	336	P	P	03 33 12.8	-0.9	
	baz=114,SNR=16							
TRF	**Throfare Moun**	64.04	335	P	P	03 33 13.7	-0.6	
	baz=112,SNR=61							
SKT	**Skwentna**	64.04	333	P	P	03 33 14.1	0.0	
	baz=110,SNR=74							
H24K	**Noodor Dome**	64.06	338	IAmb	IAmb	03 33 16.5		
	comp=Z,38nm,1.1s							
H24K	**Noodor Dome**	64.06	338	P	P	03 33 13.7	-0.5	
	baz=116							
F25K	**Christian Rive**	64.07	340	P	P	03 33 14.4	+0.2	
	baz=118							
Q19K	**Cape Douglas,**	64.07	329	P	P	03 33 14.6	+0.2	
	baz=107							
P19K	**Oil Pt**	64.08	330	P	P	03 33 14.0	-0.4	
	baz=108							
N20K	**Mount Spurr**	64.08	332	P	P	03 33 14.3	-0.2	
	baz=109,SNR=46							
SPCR	**Spurr Chakacha**	64.08	332	P	P	03 33 14.2	-0.3	
	baz=109,SNR=20							
ILSW	**Iliamna Southw**	64.14	330	IAmb	IAmb	03 33 17.0		
	comp=Z,101nm,0.8s							
CHIR	**Chirikof Islan**	64.29	326	P	P	03 33 17.3	+1.5	
	baz=104							
G24K	**Hadweenzic Riv**	64.29	338	P	P	03 33 15.3	-0.3	
	baz=116							
E25K	**Arctic Village**	64.30	340	P	P	03 33 15.9	+0.2	
	baz=119,SNR=23							
I23K	**Minto, Yukon-K**	64.33	337	P	P	03 33 15.8	-0.1	
	baz=114,SNR=68							
MEH	**Mehtia**	64.41	242	*e*T	T	04 42 40.4		
	comp=Z,21nm,0.2s							
C27K	**Jago River**	64.47	342	P	P	03 33 16.5	-0.2	
	baz=121							
BPAW	**Bear Paw Mtn.**	64.57	335	IAmb	IAmb	03 33 19.5		
	comp=Z,62nm,1.0s							
BPAW	**Bear Paw Mtn.**	64.57	335	P	P	03 33 17.1	-0.5	
	baz=112,SNR=42							
PPLA	**Purkeypile**	64.65	334	IAmb	IAmb	03 33 18.9		
	comp=Z,44nm,1.0s							
PPLA	**Purkeypile**	64.65	334	P	P	03 33 17.7	-0.5	
	baz=110,SNR=21							
Q18K	**Katmai Hardscr**	64.67	329	P	P	03 33 18.0	-0.4	
	baz=105,SNR=32							
H23K	**Yukon River**	64.67	337	P	P	03 33 17.8	-0.4	
	baz=114							
M20K	**Styx River**	64.72	332	P	P	03 33 18.5	-0.2	
	baz=109							
O19K	**Port Alsworth**	64.76	330	P	P	03 33 18.0	-0.8	
	baz=107,SNR=27							
CAST	**Castle Rocks**	64.78	334	IAmb	IAmb	03 33 19.3		
	comp=Z,48nm,0.9s							
CAST	**Castle Rocks**	64.78	334	P	P	03 33 18.1	-0.8	
	baz=110,SNR=45							
F24K	**Squaw Lake**	64.80	339	P	P	03 33 19.3	+0.3	
	baz=116							
MLY	**Manley**	64.82	336	P	P	03 33 18.8	-0.4	
	baz=112,SNR=113							
C26K	**Camden Bay**	64.98	342	P	P	03 33 20.5	+0.4	
	baz=120							
P18K	**Big Mountain,**	64.98	329	IAmb	IAmb	03 33 22.2		
	comp=Z,38nm,0.8s							
P18K	**Big Mountain,**	64.98	329	P	P	03 33 19.4	-0.9	
	baz=106,SNR=17							
Q17K	**Contact Creek**	65.02	328	P	P	03 33 20.7	0.0	
	baz=104,SNR=22							
N19K	**Bonanza Creek**	65.02	331	P	P	03 33 20.4	-0.2	
	baz=107,SNR=65							
CHUM	**Lake Minchumin**	65.04	335	P	P	03 33 19.7	-0.8	
	baz=110,SNR=14							
R17K	**Ugashik Creek**	65.12	327	P	P	03 33 21.3	+0.1	
	baz=104							
D25K	**Kavik River**	65.13	341	P	P	03 33 21.1	0.0	
	baz=118							
G23K	**Bananza Creek**	65.21	338	P	P	03 33 21.8	+0.1	
	baz=114,SNR=29							
E24K	**Your Creek**	65.25	340	P	P	03 33 22.2	+0.3	
	baz=116							
L20K	**Farewell, AK**	65.25	333	P	P	03 33 21.3	-0.7	
	baz=108,SNR=116							
M19K	**Big River Lodg**	65.30	332	P	P	03 33 22.2	-0.1	
	baz=108							
I21K	**Tanana**	65.37	336	IAmb	IAmb	03 33 24.7		
	comp=Z,40nm,0.9s							
I21K	**Tanana**	65.37	336	P	P	03 33 22.2	-0.5	
	baz=111							
H22K	**Ishtalitna Cre**	65.40	337	P	P	03 33 22.3	-0.6	
	baz=112							
COLD	**Coldfoot**	65.48	338	IAmb	IAmb	03 33 26.7		
	comp=Z,34nm,1.0s							
COLD	**Coldfoot**	65.48	338	P	P	03 33 23.9	+0.5	
	baz=114,SNR=36							
Q16K	**King Salmon**	65.51	329	P	P	03 33 23.8	+0.2	
	baz=104,SNR=28							
PPT	**Papeete**	65.58	243	LR	LR	03 53 42.9		
	comp=Z,529nm,22.0s,baz=62,slow=28							
L19K	**White Mountain**	65.59	332	P	P	03 33 23.7	-0.5	
	baz=107							
PPT2	**Papeete2**	65.59	243	*e*P	P	03 33 27.8	+2.8	
	comp=Z,64nm,32.5s							
PPT2				*e*S	S	03 42 07.6	+0.5	
	comp=Z,199nm,25.5s							
PPT2	**Papeete2**	65.59	243	*e*LR	LR	03 52 56.3		
	comp=Z,1µm,24.8s							
PPT2				*e*LR	LR	03 53 03.7		
	comp=Z,572nm,22.2s							
K20K	**Telida**	65.61	334	P	P	03 33 23.7	-0.6	
	baz=108							
R16K	**Pilot Point**	65.73	327	P	P	03 33 24.5	-0.6	
	baz=103,SNR=7.7							
G22K	**Bettles**	65.83	338	P	P	03 33 25.5	-0.1	
	baz=112							
H21K	**Melozitna Rive**	65.86	336	P	P	03 33 24.7	-1.2	
	baz=111							
J20K	**Nowinta River**	65.90	335	IAmb	IAmb	03 33 27.9		
	comp=Z,35nm,0.8s							
J20K	**Nowinta River**	65.90	335	P	P	03 33 25.4	-0.7	
	baz=109							
CHGN	**Chignik**	65.92	326	P	P	03 33 25.6	-0.8	
	baz=101,SNR=11							
O17K	**Koliganek Bris**	65.99	330	P	P	03 33 26.8	0.0	
	baz=104,SNR=52							
C24K	**Franklin Bluff**	66.04	341	P	P	03 33 26.9	0.0	
	baz=116							
SUMG	**Summit**	66.08	15	*i* P	P	03 33 26.0	-1.6	
SUMG				IAmb	IAmb	03 33 29.0		
	comp=Z,25nm,1.0s							
EUNU	**Eureka**	66.17	1	IAmb	IAmb	03 33 27.6		
	comp=Z,30nm,0.8s							
P16K	**Nushagak River**	66.27	329	P	P	03 33 28.4	-0.1	
	baz=105,SNR=12							
F22K	**John River**	66.30	338	P	P	03 33 28.8	+0.2	
	baz=112							
TTA	**Tatalina**	66.32	333	P	P	03 33 28.1	-0.9	
	baz=106,SNR=68							
D23K	**Nanushuk River**	66.36	340	P	P	03 33 29.2	+0.2	
	baz=114							
E22K	**Anaktuvuk Pass**	66.41	339	P	P	03 33 28.8	-0.6	
	baz=113							
G21K	**Allakaket**	66.43	337	P	P	03 33 29.2	-0.3	
	baz=110							
O16K	**Kokwok River B**	66.44	329	P	P	03 33 29.4	-0.3	
	baz=103,SNR=31							
F21K	**Alatna River**	66.67	338	P	P	03 33 31.1	0.0	
	baz=111							
NEEM	**North Greenlan**	66.67	9	*i* P	P	03 33 29.4	-1.9	
NEEM				IAmb	IAmb	03 33 31.9		
	comp=Z,45nm,1.0s							
SDPT	**Sand Point**	66.90	324	P	P	03 33 32.6	-0.1	
	baz=98,SNR=5.5							
N16K	**Nishlik Lake**	66.97	330	P	P	03 33 32.7	-0.3	
	baz=103							
GCSA	**Galena City Sc**	67.20	335	P	P	03 33 33.3	-1.0	
	baz=106							
S12K	**Black Hills**	67.84	325	P	P	03 33 38.3	-0.3	
	baz=98,SNR=5.6							
TBI	**Tubuai**	68.00	237	*e*S	S	03 42 36.7	+0.9	
	comp=Z,540nm,25.2s							
TBI				*e*SS	SS	03 46 57.6	-1.5	
	comp=Z,456nm,40.5s							
TBI				*e*LR	LR	03 54 18.0		
	comp=Z,4µm,26.0s							
TBI				*e*LR	LR	03 54 18.1		
	comp=Z,12µm,22.5s							
TBI	**Tubuai**	68.00	237	*e*T	T	04 47 11.5		
	comp=Z,12nm,0.3s							
BORG	**Borgarnes**	68.91	26	LR	LR	04 04 58.8		
	comp=Z,347nm,18.9s,baz=266,slow=37							
ALE	**Alert**	69.57	4	P	P	03 33 46.8	-2.2	
UNV	**Unalaska Valle**	70.22	322	P	P	03 33 53.7	+0.4	
	baz=93,SNR=7.0							
ANM	**Nome**	70.73	334	P	P	03 33 56.2	-0.1	
	baz=98							
NIKH	**Nikolski High**	71.59	321	P	P	03 34 01.7	0.0	
	baz=91,SNR=5.6							
TNA	**Tin City**	71.93	335	P	P	03 34 03.9	+0.4	
	baz=96							
BBTS	**Babate**	71.99	79	LR	LR	04 03 52.7		
	comp=Z,269nm,19.5s,baz=256,slow=34							
SPIA	**Saint Paul Isl**	72.49	326	P	P	03 34 07.3	+0.3	
	baz=91							
DAG	**Danmarks Havn**	72.53	13	*i* P	P	03 34 04.2	-2.7	
DAG				IAmb	IAmb	03 34 23.4		
	comp=Z,14nm,1.0s							
NOR	**Nord**	74.04	8	*i* P	P	03 34 13.6	-2.2	
NOR				IAmb	IAmb	03 34 17.0		
	comp=Z,21nm,1.4s							
JMIC	**Jan Mayen**	74.53	20	LR	LR	04 07 34.8		
	comp=Z,393nm,19.6s,baz=266,slow=36							
RAR	**Rarotonga**	75.86	244	LR	LR	03 58 55.9		
	comp=Z,225nm,21.8s,baz=55,slow=28							
ADK	**Adak**	76.42	321	P	P	03 34 30.7	+0.8	
ADK	**Adak**	76.42	321	P	P	03 34 30.7	+0.8	
ADK				pmax	pmax			
	comp=Z,143nm,0.8s							
EKA	**Eskdalemuir Ar**	77.54	36	P	P	03 34 33.6	-2.6	
	comp=Z,6.9nm,0.8s,baz=276,slow=5.6,SNR=7.0							
EKA				LR	LR	04 08 20.1		
	comp=Z,310nm,21.4s,baz=316,slow=36							
	comp=Z,6.9nm,0.8s							
ESDC	**Sonseca Array**	79.12	52	P	P	03 34 42.9	-2.4	
	comp=Z,3.5nm,1.0s,baz=291,slow=6.1,SNR=12							
ESDC				LR	LR	04 07 57.7		
	comp=Z,124nm,18.5s,baz=281,slow=34							
	comp=Z,3.5nm,1.0s							
MDT	**Midelt**	79.74	59	LR	LR	04 05 43.7		
	comp=Z,138nm,19.0s,baz=298,slow=32							
SPITS	**Spitsbergen Ar**	79.99	12	P	P	03 34 47.9	-1.4	
	comp=Z,5.6nm,0.8s,baz=243,slow=1.3,SNR=1.9							
SPITS				LR	LR	04

MOTA	**Moosalm**	**87.98**	**42**	*e*P		**P**	**03 35 28.9**	**-1.9**	
	comp=Z,10.0nm,1.5s								
SQTA	**Sankt Quirin**	**88.09**	**42**	*e*P		**P**	**03 35 29.8**	**-1.4**	
	comp=Z,9.0nm,1.3s								
KHC	**Kasperske Hory**	**88.96**	**39**	*e*P		**P**	**03 35 33.3**	**-1.9**	
KHC				*e*pP		**pP**	**03 35 52.1**	**+1.9**	
KHC	**Kasperske Hory**	**88.96**	**39**	*e*P		**P**	**03 35 33.3**	**-1.9**	
KHC				*e*			03 35 52.1		
GERES	**GERESS Array B**	**89.13**	**40**	LR		LR	04 10 14.0		
	comp=Z,224nm,21.1s,baz=268,slow=32								
SEY	**Seymchan**	**89.14**	**336**	*c e*P		**P**	**03 35 36.1**	**+0.5**	
SEY				pmax		pmax			
	comp=Z,18nm,1.1s								
CIMO	**Cimolais**	**89.19**	**42**	P		**P**	**03 35 35.2**	**-1.1**	
CIMO				IAmb		IAmb	03 36 27.8		
	comp=Z,13nm,1.2s								
TORD	**Torodi Ar. Bea**	**89.61**	**77**	P		**P**	**03 35 34.8**	**-4.0**	
	comp=Z,1.2nm,0.3s,baz=292,slow=6.6,SNR=3.3								
	comp=Z,1.2nm,0.3s								
PRED	**Cave del Predi**	**89.88**	**42**	P		**P**	**03 35 39.4**	**-0.2**	
DPC	**Dobruska-Polom**	**90.18**	**38**	*e*P		P	03 35 31.5	-9.4	
DPC	**Dobruska-Polom**	**90.18**	**38**	*e*P		P	03 35 31.5	-9.4	
FINES	**FINESS Array B**	**90.21**	**25**	LR		LR	04 17 11.4		
	comp=Z,304nm,19.5s,baz=216,slow=36								
TIXI	**Tiksi**	**90.48**	**348**	LR		LR	04 22 33.5		
	comp=Z,222nm,19.3s,baz=179,slow=40								
TIXI	**Tiksi**	**90.48**	**348**	*i* P		**P**	**03 35 39.8**	**-1.9**	
TIXI				pmax		pmax			
	comp=Z,9.0nm,0.8s								
KRLC	**Kraliky**	**90.56**	**38**	*e*P		P	03 35 34.6	-8.0	
VRAC	**Vranov**	**90.74**	**39**	LR		LR	04 11 19.4		
	comp=Z,256nm,21.6s,baz=304,slow=32								
PETK	**Petropavlovsk-**	**91.15**	**326**	P		**P**	**03 35 46.4**	**+1.1**	
	comp=Z,13nm,0.9s,baz=99,slow=4.7,SNR=11								
	comp=Z,13nm,0.9s								
ZST	**Bratislava**	**91.47**	**39**	*e*P		**P**	**03 35 48.4**	**+1.6**	
ZST	**Bratislava**	**91.47**	**39**	*e*P		**P**	**03 35 48.4**	**+1.6**	
MA2	**Magadan**	**91.52**	**333**	LR		LR	04 24 46.3		
	comp=Z,142nm,19.0s,baz=108,slow=41								
MA2	**Magadan**	**91.52**	**333**	*c e*P		**P**	**03 35 46.6**	**-0.2**	
MA2				pmax		pmax			
	comp=Z,28nm,0.9s								
VYHS	**Vyhne**	**92.42**	**39**	*e*P		**P**	**03 35 54.1**	**+2.9**	
VYHS	**Vyhne**	**92.42**	**39**	*e*P		**P**	**03 35 54.1**	**+2.9**	
SKR	**Severo-Kuril's**	**93.09**	**324**	*c e*P		**P**	**03 35 51.0**	**-3.2**	
VAE	**Valguarnera**	**93.58**	**50**	LR		LR	04 15 05.5		
	comp=Z,271nm,18.1s,baz=315,slow=34								
NACGM	**Naroch**	**93.86**	**31**	*e*P		**P**	**03 35 56.1**	**-1.6**	
	comp=Z,18nm,1.0s,baz=301								
MNK	**Minsk**	**94.62**	**31**	*i* P		**P**	**03 35 57.7**	**-3.5**	
	comp=E,3.0nm,1.0s								
MNK				*i* P		**P**	**03 35 57.7**	**-3.5**	
	comp=N,21nm,0.8s								
MNK				*i* P		**P**	**03 35 57.7**	**-3.5**	
	comp=Z,8.0nm,1.1s,baz=302								
MNK				*i* pP		**pP**	**03 36 14.7**	**-1.5**	
MNK				*i* PP		**PP**	**03 39 45.8**	**-3.4**	
MNK				*i* PPP		PPP	03 41 49.2		
MNK				*i* S		**SKSac**	**03 46 27.3**	**-5.0**	
MNK				*i* sS		**SKKSac**	**03 46 56.9**	**+2.7**	
MNK				*i* sS		**SS**	**03 53 29.1**	**-4.0**	
MNK				*i* SSS		SSS	03 57 13.8		
MNK				*i* LQ		LQ	04 12 59.2		
MNK				*i* LR		LR	04 17 32.6		
MNK				*i* LRM		MLR	04 19 25.7		
	comp=N,553nm,13.4s								
MNK				*i* LRM		MLR	04 19 33.4		
	comp=Z,192nm,12.8s								
MNK				*i* LRM		MLR	04 19 38.5		
	comp=E,68nm,14.7s								
MNK	**Minsk**	**94.62**	**31**	*i* P		**P**	**03 35 57.6**	**-3.5**	
MNK				*i* *PP		**pP**	**03 36 14.7**	**-1.5**	
MNK				*i*			03 39 45.7		
MNK				*i* PPP		PPP	03 41 49.1		
MNK				*i* S		**SKSac**	**03 46 27.3**	**-5.0**	
MNK				*i* *SS		**SKKSac**	**03 46 56.8**	**+2.7**	
MNK				*i* SS		**SS**	**03 53 29.1**	**-4.0**	
MNK				*i* SSS		SSS	03 57 13.8		
MNK				pmax		pmax			
	comp=N,21nm,0.8s								
MNK				pmax		pmax			
	comp=E,3.0nm,1.0s								
MNK				pmax		pmax			
	comp=Z,8.0nm,1.1s								
MNK				MLR		MLR			
	comp=N,553nm,13.0s								
MNK				MLR		MLR			
	comp=Z,192nm,13.0s								
MNK				MLR		MLR			
	comp=E,68nm,15.0s								
NRIK	**Noril'sk**	**96.93**	**0**	LR		LR	04 23 12.9		
	comp=E,950nm,20.5s,baz=6.5,slow=38								
YAK	**Yakutsk**	**97.77**	**342**	LR		LR	04 28 20.4		
	comp=E,160nm,19.7s,baz=74,slow=40								
OBN	**Obninsk**	**98.37**	**27**	LR		LR	04 22 10.8		
	comp=E,64nm,18.2s,baz=345,slow=36								
DZM	**Mont Dzumac**	**106.42**	**251**	*e*LR		LR	04 12 07.0		
	comp=E,430nm,25.4s								
BVAR	**Borovoye Array**	**111.44**	**12**	PKiKP		**PKiKP**	**03 41 14.3**	**-0.1**	
	comp=E,0.6nm,0.5s,baz=0.0,slow=2.1,SNR=4.0								
ZALV	**Zalesovo Beam**	**112.30**	**3**	PKiKP		**PKiKP**	**03 41 15.4**	**-0.5**	
	comp=E,0.7nm,0.5s,baz=349,slow=2.3,SNR=4.4								
AKT	**Akhty**	**113.07**	**32**	*i* PKIKP		**PKiKP**	**03 41 20.8**	**+2.8**	
AKT				*e*			03 42 10.9		
AKT				pmax		pmax			
	comp=Z,32nm,1.5s								
KURK	**Kurchatov**	**115.00**	**7**	*c i*PKIKP		**PKiKP**	**03 41 21.2**	**0.0**	
KURK				pmax		pmax			
	comp=Z,4.0nm,1.3s								
KURBB	**Kurchatov Arra**	**115.08**	**7**	PKP		**PKiKP**	**03 41 21.0**	**-0.4**	
	comp=Z,3.5nm,0.8s,baz=344,slow=2.0,SNR=35								
ULN	**Ulaanbaatar**	**116.36**	**346**	*c i*PKIKP		**PKPdf**	**03 41 24.6**	**+0.4**	
ULN				pmax		pmax			
	comp=Z,11nm,2.5s								
SONM	**Songino Array**	**116.54**	**347**	PKP		**PKPdf**	**03 41 23.9**	**-0.5**	
	comp=Z,4.1nm,1.2s,baz=5.2,slow=1.8,SNR=9.5								
KSRS	**Korea Array**	**117.05**	**326**	PKP		**PKPdf**	**03 41 24.7**	**-0.8**	
	comp=Z,4.5nm,0.8s,baz=14,slow=1.8,SNR=10								
KSAR	**Wonju Array Be**	**117.08**	**326**	PKPdf		**PKPdf**	**03 41 25.2**	**-0.4**	
KSAR	**Wonju Array Be**	**117.08**	**326**	PKIKP		**PKPdf**	**03 41 25.2**	**-0.4**	
ZSN	**Zaisan**	**118.79**	**3**	*e*PKP		**PKPdf**	**03 41 27.9**	**-0.8**	
	baz=3.1								
ZSN	**Zaisan**	**118.79**	**3**	*e*PKIKP		**PKPdf**	**03 41 27.9**	**-0.8**	
MAKZ	**Makanchi**	**119.22**	**5**	PKPdf		**PKPdf**	**03 41 28.4**	**-1.1**	
MAKZ	**Makanchi**	**119.22**	**5**	PKIKP		**PKPdf**	**03 41 28.4**	**-1.1**	
MKAR	**Makanchi Array**	**119.26**	**5**	PKP		**PKPdf**	**03 41 28.5**	**-1.1**	
	comp=Z,2.9nm,0.8s,baz=12,slow=2.3,SNR=25								
MKAR	**Makanchi Array**	**119.26**	**5**	PKPdf		**PKPdf**	**03 41 28.7**	**-0.9**	
BOSA	**Boshof**	**119.60**	**115**	PKP		**PKPdf**	**03 41 30.4**	**-0.4**	
	comp=Z,8.6nm,0.9s,baz=224,slow=0.1,SNR=8.6								
BOSA	**Boshof**	**119.60**	**115**			**PKiKP**	**03 41 31.0**	**+0.1**	
GEYT	**Alibeck**	**120.90**	**28**	PKP		**PKPdf**	**03 41 32.8**	**-0.3**	
	comp=Z,4.8nm,0.8s,baz=270,slow=4.4,SNR=8.1								
KUU	**Kurty**	**121.33**	**11**	*e*PKP		**PKPdf**	**03 41 32.5**	**-1.2**	
	baz=11								
KUU	**Kurty**	**121.33**	**11**	*e*PKIKP		**PKPdf**	**03 41 32.5**	**-1.2**	
SGDS	**Sogindy**	**121.43**	**12**	*e*PKP		**PKPdf**	**03 41 33.1**	**-0.8**	
	baz=12								
SGDS	**Sogindy**	**121.43**	**12**	*e*PKIKP		**PKPdf**	**03 41 33.1**	**-0.8**	
CHKK	**Chushkaly**	**121.48**	**10**	*e*PKP		**PKPdf**	**03 41 32.6**	**-1.3**	
	baz=10								
CHKK	**Chushkaly**	**121.48**	**10**	*e*PKIKP		**PKPdf**	**03 41 32.6**	**-1.3**	
HHC	**Hu-ho-hao-te**	**121.56**	**340**	*e*PKP		**PKiKP**	**03 41 35.2**	**+0.7**	
HHC				LR		LR			
	comp=Z,510nm,17.1s								
HHC				LR		LR			
	comp=Z,470nm,17.8s								
HHC				LR		LR			
	comp=Z,840nm,16.5s								
IUG	**luzhnay**	**121.57**	**16**	*e*PKP		**PKPdf**	**03 41 33.0**	**-1.3**	
	baz=16								
IUG	**luzhnay**	**121.57**	**16**	*e*PKIKP		**PKPdf**	**03 41 33.0**	**-1.3**	
KPKS	**Kokpek**	**122.13**	**9**	*e*PKP		**PKPdf**	**03 41 34.0**	**-1.3**	
	baz=8.8								
KPKS	**Kokpek**	**122.13**	**9**	*e*PKIKP		**PKPdf**	**03 41 34.0**	**-1.3**	
MDOK	**Medeo**	**122.16**	**10**	*e*PKP		**PKPdf**	**03 41 34.1**	**-1.3**	
	baz=10								
MDOK	**Medeo**	**122.16**	**10**	*e*PKIKP		**PKPdf**	**03 41 34.1**	**-1.3**	
AAK	**Ala-Archa**	**122.18**	**12**	PKP		**PKiKP**	**03 41 36.0**	**+0.3**	
	comp=Z,4.6nm,1.0s,baz=144,slow=2.2,SNR=7.6								
AAK	**Ala-Archa**	**122.18**	**12**	*c i*PKIKP		**PKiKP**	**03 41 36.4**	**+0.7**	
AAK				pmax		pmax			
	comp=Z,6.0nm,1.7s								
TNSS	**Tian-Shan**	**122.27**	**10**	*e*PKP		**PKPdf**	**03 41 34.0**	**-2.0**	
	baz=10								
TNSS	**Tian-Shan**	**122.27**	**10**	*e*PKIKP		**PKPdf**	**03 41 34.0**	**-2.0**	
UZB	**Uzynbulak**	**122.49**	**9**	*e*PKP		**PKPdf**	**03 41 34.4**	**-1.7**	
	baz=8.6								
UZB	**Uzynbulak**	**122.49**	**9**	*e*PKIKP		**PKPdf**	**03 41 34.4**	**-1.7**	
WMQ	**Urumqi**	**122.51**	**1**	*e*PKP		**PKiKP**	**03 41 37.3**	**+1.1**	
WMQ				LR		LR			
	comp=Z,240nm,20.1s								
WMQ				LR		LR			
	comp=Z,410nm,22.7s								
SHLS	**Shalkode**	**122.54**	**8**	*e*PKP		**PKPdf**	**03 41 34.9**	**-1.3**	
	baz=7.8								
SHLS	**Shalkode**	**122.54**	**8**	*e*PKIKP		**PKPdf**	**03 41 34.8**	**-1.3**	
KSH	**Kashi**	**125.49**	**12**	PKP		**PKiKP**	**03 41 43.9**	**+1.6**	
GTA	**Gaotai**	**125.95**	**349**	PKP		**PKPdf**	**03 41 42.8**	**0.0**	
GTA				sPKP			03 42 02.5		
GTA				LR		LR			
	comp=Z,250nm,19.6s								
GTA				LR		LR			
	comp=Z,160nm,21.4s								
GTA				LR		LR			
	comp=Z,320nm,22.2s								
NJ2	**Nanjing**	**125.98**	**328**	*e*PKP		**PKiKP**	**03 41 43.5**	**+0.2**	
LZH	**Lanzhou**	**128.26**	**345**	*e*PKP		**PKPdf**	**03 41 47.5**	**+0.1**	
LZH				LR		LR			
	comp=Z,450nm,16.5s								
LZH				LR		LR			
	comp=Z,280nm,17.2s								
LZH				LR		LR			
	comp=Z,510nm,19.9s								
XAN	**Xi'an**	**128.60**	**339**	↑ *i*PKP		**PKPdf**	**03 41 48.2**	**+0.3**	
STKA	**Stephens Creek**	**128.73**	**240**	PKP		**PKPdf**	**03 41 48.1**	**0.0**	
	comp=Z,4.1nm,0.8s,baz=0.1,slow=4.3,SNR=7.4								
WSAR	**Wadi Sarin**	**132.68**	**39**	PKP		**PKPdf**	**03 41 55.7**	**-0.2**	
	comp=Z,2.7nm,0.7s,baz=277,slow=1.2,SNR=4.5								
WSAR				SKPbc		**SKPab**	**03 45 20.3**	**-0.1**	
	comp=Z,9.7nm,1.1s,baz=2.8,slow=5.2,SNR=5.9								
CD2	**Chengdu**	**133.16**	**342**	PKP		**PKPdf**	**03 41 56.5**	**-0.1**	
WRA	**Warramunga Arr**	**136.16**	**256**	PKhKP		PKPpre	03 41 48.7		
	comp=Z,0.6nm,0.9s,baz=96,slow=3.8,SNR=2.5								
WRA				PKP		**PKPdf**	**03 42 02.0**	**-0.4**	
	comp=Z,4.1nm,0.9s,baz=88,slow=1.7,SNR=13								
WRA				SKPab		**SKiKP**	**03 45 41.2**	**+5.1**	
	comp=Z,2.1nm,0.9s,baz=86,slow=2.7,SNR=6.6								
WRA	**Warramunga Arr**	**136.16**	**256**	PKIKP		**PKPdf**	**03 42 02.0**	**-0.4**	
ASAR	**Alice Springs**	**136.41**	**250**	PKP		**PKPdf**	**03 42 03.1**	**+0.3**	
	comp=Z,1.5nm,0.8s,baz=114,slow=2.4,SNR=11								
ASAR				SKPab		**SKPab**	**03 45 41.1**	**+4.4**	
	comp=Z,1.5nm,1.0s,baz=107,slow=2.7,SNR=4.1								
PZH	**PanZhiHua**	**137.89**	**343**	PKP		**PKiKP**	**03 42 07.0**	**-0.6**	
KMI	**Kunming**	**138.88**	**341**	↓ PKP		**PKiKP**	**03 42 10.0**	**+0.2**	
KMI				LR		LR			
	comp=Z,290nm,17.0s								
KMI				LR		LR			
	comp=Z,150nm,18.8s								
KMI				LR		LR			
	comp=Z,480nm,19.8s								
TNCH	**TengChong**	**140.13**	**346**	PKP		**PKPdf**	**03 42 07.8**	**-2.1**	
TNCH				sPKP			03 42 33.3		
CRAI	**Chiangrai**	**144.20**	**341**	PKPdf		PKPbc	03 42 15.5	+0.3	
CHTO	**Chiang Mai**	**145.96**	**343**	PKPdf		**PKPbc**	**03 42 20.6**	**-0.1**	
CHTO	**Chiang Mai**	**145.96**	**343**	PKP2		**PKPbc**	**03 42 20.6**	**-0.1**	
CMAR	**Chiang Mai Arr**	**146.30**	**343**	PKPbc		**PKPbc**	**03 42 21.4**	**-0.4**	
	comp=Z,49nm,0.9s,baz=343,slow=4.1,SNR=179								
CMAR	**Chiang Mai Arr**	**146.30**	**343**	*c i*PKP2		**PKPbc**	**03 42 22.0**	**+0.2**	
CMAR				pmax		pmax			
	comp=Z,49nm,0.9s								
HYB	**Hyderabad**	**147.23**	**18**	*e*PKPbc		**PKPdf**	**03 42 23.1**	**+0.9**	
PCHI	**Peechi**	**152.72**	**28**	*e*P		**PKPdf**	**03 42 30.2**	**-0.7**	
PCHI				*ex*		x	03 53 11.1		

IDC ***12*** *03:49:41.3±1.1, 13.˚15N×143.˚97E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=51.8km s-min=22.4km az=99.0*

ISC 12 03:49:57.8±1.0, 13.˚0N±0.˚2×143.˚8E±0.˚3, h138km, n6, σ0§48/6, mb3.6/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.04**	**196**	P		P	**P**	**03 56 29.0**	**+0.1**
	1.8nm,0.7s,baz=18,slow=9.2,SNR=20								
	1.8nm,0.7s								
ASAR	**Alice Springs**	**37.71**	**195**	P		P	**P**	**03 57 00.5**	**+0.3**
	0.5nm,0.4s,baz=19,slow=13,SNR=17								
	0.5nm,0.4s								
STKA	**Stephens Creek**	**44.68**	**183**	P		P	**P**	**03 57 56.6**	**-0.4**
	0.8nm,0.6s,baz=349,slow=16,SNR=3.2								
	0.8nm,0.6s								
MKAR	**Makanchi Array**	**61.19**	**316**	P		P	**P**	**03 59 58.0**	**0.0**
	0.2nm,0.5s,baz=89,slow=8.3,SNR=5.4								
	0.2nm,0.5s								
YKA	**Yellowknife Ar**	**83.85**	**27**	P		P	**P**	**04 02 11.2**	**-0.5**
	0.2nm,0.4s,baz=288,slow=5.7,SNR=4.9								
	0.2nm,0.4s								
NVAR	**Mina Array Bea**	**88.09**	**51**	P		P	**P**	**04 02 33.8**	**+0.5**
	0.9nm,0.6s,baz=274,slow=7.5,SNR=3.7								
	0.9nm,0.6s								

NNC ***12*** *04:05:07.3±5.3, 55.˚58N×86.˚19E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=53.2km s-min=29.7km az=24.0, Suspected Mining explosion.*

IDC ***12*** *04:05:09.2±3.0, 55.˚45N×86.˚31E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=29.2km s-min=18.5km az=63.0*

ISC 12 04:05:06.4±5.4, 55.˚6N±0.˚2×86.˚5E±0.˚3, h0km, n8, σ1§15/8, 5C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**210**	I		I		04 18 34.5	
	0.2nm,0.9s,baz=29,slow=323,SNR=7.3								
ZAA0	**Zalesovo Array**	**1.91**	**210**	↑ Pn		**Pn**	**P**	**04 05 39.2**	**-1.1**
	1.4nm,0.8s,baz=24,slow=16								
ZAA0				↑ Sn		**Sn**		**04 06 04.7**	**-0.2**
	1.9nm,0.6s								
ZALV	**Zalesovo Beam**	**1.91**	**210**	Pg		**Pn**	**P**	**04 05 39.3**	**-0.9**
	2.6nm,0.3s,baz=33,slow=17,SNR=36								
ZALV				Lg		Lg		04 06 04.7	
	1.7nm,0.3s,baz=30,slow=29,SNR=7.1								
KURK	**Kurchatov**	**6.79**	**227**	↑ Pn		**Pn**	**P**	**04 06 48.0**	**+0.7**
	2.1nm,1.2s								
KURK				↑ Lg		Lg		04 08 38.4	
	2.5nm,0.8s								
KURBB	**Kurchatov Arra**	**6.90**	**227**	Pn		**Pn**	**P**	**04 06 48.4**	**-0.3**
	0.1nm,0.3s,baz=45,slow=14,SNR=7.0								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**6.90**	**227**	↓ Pn		**Pn**	**P**	**04 06 49.0**	**+0.3**
	1.4nm,0.8s								
KURBB				↑ Lg		Lg		04 08 43.3	
	11nm,1.4s								
MKAR	**Makanchi Array**	**9.20**	**198**	Pn		**Pn**	**P**	**04 07 22.2**	**+1.9**
	baz=24,slow=11,SNR=2.5								
	0.1nm,0.4s								
BVAR	**Borovoye Array**	**9.73**	**261**	Pn		**Pn**	**P**	**04 07 28.1**	**+0.6**
	0.1nm,0.3s,baz=69,slow=14,SNR=7.6								
	1.4nm,0.4s								

KRSC ***12*** *04:34:10.3±2.0, 54.˚45N×168.˚48E, h47km±24km, Ml4.8*

IDC ***12*** *04:34:11.6±0.7, 54.˚75N×168.˚36E, h0km, mb4.1/20, mbtmp4.2/21, ML3.5/1, MS3.6/27, Error ellipse: s-maj=21.9km s-min=11.8km az=166.0*

MOS ***12*** *04:34:12.7±0.9, 54.˚44N×168.˚42E, h34km, mb4.4/19, Error ellipse: s-maj=7.2km s-min=5.5km az=34.6*

NEIC ***12*** *04:34:15.2±1.1, 54.˚4N±0.˚1×168.˚4E±0.˚1, h35km±5km, mb4.3/74, Error ellipse: s-maj=20.8km s-min=8.9km az=190.0*

ISC 12 04:34:14.1±0.5, 54.˚49N±0.˚07×168.˚44E±0.˚05, h24km, n232, σ1§32/217, mb4.3/68, MS3.7/24, 6C-3D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.60**	**298**	PN		**Pn**	**P**	**04 34 37.4**	**-3.3**
BKI				S		**Sn**		**04 34 57.8**	**-2.8**
BKI	**Bering**	**1.60**	**298**	*e*P		**Pn**	**P**	**04 34 37.4**	**-3.3**
BKI				*e*S		**Sn**		**04 34 57.8**	**-2.8**
KBTR	**Krutoberegovo**	**3.64**	**301**	PN		**Pn**	**P**	**04 35 06.9**	**-2.0**
KBTR	**Krutoberegovo**	**3.64**	**301**	*e*P		**Pn**	**P**	**04 35 06.9**	**-2.0**
KBTR				*e*S		**Sn**		**04 35 48.1**	**-2.9**
SHEM	**Shemya Is, Ala**	**3.81**	**115**	Pn		**Pn**	**P**	**04 35 09.8**	**-1.3**
	59nm,0.3s,baz=61,slow=2.2,SNR=44								
SHEM				Sn		**Sn**		**04 35 53.6**	**-1.4**
	15nm,0.3s,baz=266,slow=14,SNR=3.9								
SHEM				LR		LR		04 36 42.0	
	comp=Z,435nm,18.4s,baz=100,slow=38								
SMY	**Shemya**	**3.81**	**115**			**Pn**		**04 35 10.0**	**-1.1**
SMY	**Shemya**	**3.81**	**115**	PN		**Pn**		**04 35 09.8**	**-1.3**
SMKR	**Semkarok**	**4.48**	**301**	PN		**Pn**		**04 35 20.5**	**0.0**
SMKR	**Semkarok**	**4.48**	**301**	*e*P		**Pn**		**04 35 20.5**	**0.0**
CIRR	**Tsirk**	**4.69**	**293**	PN		**Pn**		**04 35 23.3**	**-0.1**
CIRR	**Tsirk**	**4.69**	**293**	*e*P		**Pn**		**04 35 23.3**	**-0.1**
TUMD	**Tumrok D**	**4.70**	**282**	*e*P		**Pn**		**04 35 23.0**	**-0.5**
TUMD				*e*S		**Sn**		**04 36 17.0**	**-0.2**
BZP	**Bezymyannyi-Pe**	**4.75**	**291**	*e*P		**Pn**		**04 35 24.6**	**+0.4**
BZMR	**Bezymyannaya**	**4.78**	**291**	PN		**Pn**		**04 35 25.5**	**+0.9**
BZMR	**Bezymyannaya**	**4.78**	**291**	*e*P		**Pn**		**04 35 25.5**	**+0.9**
BZWR	**Bezymyannyi-We**	**4.78**	**291**	PN		**Pn**		**04 35 25.8**	**+1.1**
BZWR	**Bezymyannyi-We**	**4.78**	**291**	*e*P		**Pn**		**04 35 25.8**	**+1.1**
KLY	**Klyuchi**	**4.80**	**296**	PN		**Pn**		**04 35 23.8**	**-1.0**
KLY	**Klyuchi**	**4.80**	**296**	*e*P		**Pn**		**04 35 23.8**	**-1.0**
TUMR	**Tumrok**	**4.85**	**283**	PN		**Pn**		**04 35 23.0**	**-2.6**
KIRR	**Kirishev**	**4.86**	**291**	PN		**Pn**		**04 35 26.4**	**+0.6**
KIRR				S		**Sn**		**04 36 22.5**	**+1.2**
KIRR	**Kirishev**	**4.86**	**291**	*e*P		**Pn**		**04 35 26.4**	**+0.6**
KIRR				*e*S		**Sn**		**04 36 22.5**	**+1.2**
KMNR	**Kamenistaya**	**4.88**	**288**	PN		**Pn**		**04 35 27.5**	**+1.6**
KMNR				S		**Sn**		**04 36 22.1**	**+0.5**
KMNR	**Kamenistaya**	**4.88**	**288**	*e*P		**Pn**		**04 35 27.5**	**+1.6**
KMNR				*e*S		**Sn**		**04 36 22.1**	**+0.5**
KPT	**Kopyto**	**4.93**	**291**	PN		**Pn**		**04 35 28.3**	**+1.6**
KPT	**Kopyto**	**4.93**	**291**	*e*P		**Pn**		**04 35 28.3**	**+1.6**
KOZ	**Kozyrevsk**	**5.14**	**291**	PN		**Pn**		**04 35 30.4**	**+0.9**
KOZ	**Kozyrevsk**	**5.14**	**291**	*e*P		**Pn**		**04 35 30.4**	**+0.9**
SPN	**Mys Shipunski**	**5.18**	**258**	PN		**Pn**		**04 35 28.8**	**-1.2**
SPN	**Mys Shipunski**	**5.18**	**258**	*e*P		**Pn**		**04 35 28.8**	**-1.2**
SRDR	**Sredinnyy**	**5.30**	**294**	PN		**Pn**		**04 35 32.5**	**+0.8**
SRDR				S		**Sn**		**04 36 33.2**	**+1.3**
SRDR	**Sredinnyy**	**5.30**	**294**	*e*P		**Pn**		**04 35 32.5**	**+0.8**
SRDR				*e*S		**Sn**		**04 36 33.2**	**+1.3**
NLC	**Nalytchevo**	**5.54**	**260**	*e*S		**Sn**		**04 36 37.2**	**-0.7**
OSSR	**Ossora**	**5.61**	**330**	PN		**Pn**		**04 35 33.8**	**-2.0**
OSSR	**Ossora**	**5.61**	**330**	*e*P		**Pn**		**04 35 33.8**	**-2.0**
ESO	**Esso**	**5.76**	**288**	PN		**Pn**		**04 35 39.2**	**+1.2**
ESO	**Esso**	**5.76**	**288**	*e*P		**Pn**		**04 35 39.2**	**+1.2**
SDLR	**Sedlovina**	**5.78**	**262**	PN		**Pn**		**04 35 37.9**	**-0.5**
SDLR	**Sedlovina**	**5.78**	**262**	*e*P		**Pn**		**04 35 37.9**	**-0.5**
SMAR	**Somma**	**5.83**	**262**	PN		**Pn**		**04 35 38.7**	**-0.5**
SMAR	**Somma**	**5.83**	**262**	*e*P		**Pn**		**04 35 38.7**	**-0.5**
UGLR	**Uglovaya**	**5.83**	**261**	PN		**Pn**		**04 35 38.8**	**-0.3**
UGLR	**Uglovaya**	**5.83**	**261**	*e*P		**Pn**		**04 35 38.8**	**-0.3**
KRER	**Koryakskii**	**5.85**	**262**	PN		**Pn**		**04 35 39.1**	**-0.3**
KRER	**Koryakskii**	**5.85**	**262**	*e*P		**Pn**		**04 35 39.1**	**-0.3**
AVH	**Avacha**	**5.87**	**262**	PN		**Pn**		**04 35 39.5**	**0.0**
AVH	**Avacha**	**5.87**	**262**	*e*P		**Pn**		**04 35 39.5**	**0.0**
KRX	**Arik**	**5.89**	**263**	PN		**Pn**		**04 35 39.5**	**-0.4**
**

KTH	**Kantishna Hill**	**22.42**	**50**	P	**P**	**04 39 11.2**	**+0.5**
KTH				IAmb	IAmb	04 39 45.2	
	comp=Z,26nm,1.5s						
SUA	**Susitna One**	**22.42**	**55**	P	**P**	**04 39 11.1**	**+0.3**
SUA				IAmb	IAmb	04 39 12.7	
	comp=Z,16nm,1.0s						
BPAW	**Bear Paw Mtn.**	**22.44**	**48**	P	**P**	**04 39 10.9**	**0.0**
MLY	**Manley**	**22.67**	**46**	P	**P**	**04 39 13.2**	**-0.1**
TRF	**Thorofare Moun**	**22.69**	**50**	P	**P**	**04 39 13.6**	**-0.2**
KLR	**Kul'dur**	**23.07**	**272**	P	**P**	**04 39 18.3**	**+0.8**
	comp=Z,3.8nm,0.8s,baz=43,slow=12,SNR=7.0						
KLR				LR	LR	04 47 50.1	
	comp=Z,133nm,21.4s,baz=50,slow=36						
	comp=Z,3.8nm,0.8s						
KLR	**Kul'dur**	**23.07**	**272**	*ce*P	**P**	**04 39 13.7**	**-3.9**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
I23K	**Minto, Yukon-K**	**23.26**	**46**	P	**P**	**04 39 18.8**	**-0.5**
H23K	**Yukon River**	**23.28**	**44**	P	**P**	**04 39 18.9**	**-0.7**
COLD	**Coldfoot**	**23.29**	**41**	P	**P**	**04 39 19.8**	**+0.2**
NEA2	**Nenana**	**23.32**	**47**	P	**P**	**04 39 20.1**	**+0.1**
RND	**Reindeer**	**23.34**	**50**	P	**P**	**04 39 20.2**	**0.0**
RND	**Reindeer**	**23.34**	**50**	P	**P**	**04 39 20.2**	**0.0**
RND				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KNK	**Knik Glacier**	**23.52**	**55**	P	**P**	**04 39 21.0**	**-0.9**
KNK				IAmb	IAmb	04 39 23.4	
	comp=Z,8.2nm,0.8s						
SML	**Sawmill**	**23.57**	**54**	P	**P**	**04 39 21.8**	**-0.7**
PWL	**Port Wells**	**23.61**	**57**	P	**P**	**04 39 22.1**	**-0.7**
MDM	**Murphy Dome**	**23.72**	**47**	P	**P**	**04 39 23.9**	**0.0**
MDM				IAmb	IAmb	04 39 36.2	
	comp=Z,5.5nm,0.7s						
WRH	**Wood River Hil**	**23.74**	**48**	P	**P**	**04 39 24.0**	**0.0**
WRH				IAmb	IAmb	04 39 25.9	
	comp=Z,9.9nm,0.9s						
TCOL	**CIGO, UAF Yank**	**23.87**	**47**	P	**P**	**04 39 25.8**	**+0.6**
COLA	**College**	**23.87**	**47**	P	**P**	**04 39 25.3**	**+0.1**
COLA	**College**	**23.87**	**47**	*i*P	**P**	**04 39 25.6**	**+0.4**
COLA				pmax	pmax		
	comp=Z,12nm,0.7s						
CCB	**Clear Creek Bu**	**23.87**	**47**	P	**P**	**04 39 25.5**	**+0.3**
CCB				IAmb	IAmb	04 39 27.1	
	comp=Z,8.4nm,0.9s						
ZEA	**Zeya**	**23.91**	**285**	*e*P	**P**	**04 39 27.7**	**+1.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
H24K	**Noodor Dome**	**23.96**	**44**	P	**P**	**04 39 26.5**	**+0.3**
DHY	**Denali Highway**	**24.00**	**51**	P	**P**	**04 39 26.6**	**-0.1**
SCM	**Sheep Creek Mo**	**24.04**	**54**	P	**P**	**04 39 26.8**	**-0.2**
SCM	**Sheep Creek Mo**	**24.04**	**54**	P	**P**	**04 39 26.8**	**-0.2**
SCM				pmax	pmax		
	comp=Z,21nm,1.1s						
POKR	**Poker Plat Res**	**24.07**	**46**	P	**P**	**04 39 27.7**	**+0.5**
POKR				IAmb	IAmb	04 39 39.6	
	comp=Z,7.7nm,0.8s						
TIXI	**Tiksi**	**24.11**	**330**	P	**P**	**04 39 26.5**	**-0.9**
	comp=Z,7.7nm,0.7s,baz=270,slow=24,SNR=13						
TIXI				LR	LR	04 50 15.7	
	comp=Z,95nm,18.1s,baz=192,slow=40						
	comp=Z,7.7nm,0.7s						
TIXI	**Tiksi**	**24.11**	**330**	P	**P**	**04 39 26.8**	**-0.6**
TIXI				IAmb	IAmb	04 39 31.9	
	comp=Z,7.3nm,0.8s						
TIXI	**Tiksi**	**24.11**	**330**	*ce*P	**P**	**04 39 26.1**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,16nm,1.7s						
HDA	**Harding Lake**	**24.23**	**48**	P	**P**	**04 39 28.4**	**-0.2**
HDA				IAmb	IAmb	04 39 39.1	
	comp=Z,5.5nm,0.7s						
IL31		**24.27**	**47**	P	**P**	**04 39 28.6**	**-0.4**
IL31				IAmb	IAmb	04 39 30.5	
	comp=Z,8.1nm,0.8s						
ILAR	**Eielson Array**	**24.27**	**47**	P	**P**	**04 39 27.6**	**-1.4**
	comp=Z,4.4nm,0.7s,baz=254,slow=8.5,SNR=46						
ILAR				LR	LR	04 47 48.7	
	comp=Z,116nm,21.1s,baz=278,slow=34						
	comp=Z,4.4nm,0.7s						
ILAR	**Eielson Array**	**24.27**	**47**	P	**P**	**04 39 29.0**	**0.0**
M24K	**Tolsona, Glenn**	**24.57**	**54**	P	**P**	**04 39 32.2**	**+0.3**
KLU	**Klutina**	**24.73**	**55**	P	**P**	**04 39 33.8**	**+0.5**
KLU				IAmb	IAmb	04 39 34.8	
	comp=Z,13nm,1.1s						
PAX	**Paxson**	**24.87**	**52**	P	**P**	**04 39 34.5**	**0.0**
PAX	**Paxson**	**24.87**	**52**	P	**P**	**04 39 34.5**	**0.0**
PAX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PRP	**Porcupine Dome**	**24.90**	**45**	P	**P**	**04 39 35.2**	**+0.4**
FYU	**Fort Yukon**	**25.11**	**43**	P	**P**	**04 39 36.9**	**+0.4**
FYU				IAmb	IAmb	04 39 39.6	
	comp=Z,12nm,0.8s						
RIDG	**Independent Ri**	**25.14**	**50**	P	**P**	**04 39 36.2**	**-0.6**
RIDG				IAmb	IAmb	04 39 52.3	
	comp=Z,7.0nm,0.9s						
HEH	**HeiHe**	**25.14**	**277**	*e*P	**P**	**04 39 35.9**	**-1.0**
HEH				pmax	pmax		
	comp=Z,16nm,1.0s						
BMRM	**Bremner River**	**25.41**	**56**	P	**P**	**04 39 39.8**	**+0.3**
BMAR	**Burnt Mountain**	**25.46**	**41**	P	**P**	**04 39 40.5**	**+0.7**
DOT	**Dot Lake**	**25.49**	**51**	P	**P**	**04 39 40.0**	**-0.1**
SCRK	**Sand Creek**	**25.51**	**49**	P	**P**	**04 39 40.1**	**-0.3**
SCRK				IAmb	IAmb	04 39 40.6	
	comp=Z,5.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**25.60**	**261**	LR	LR	04 50 48.2	
	comp=Z,158nm,18.3s,baz=64,slow=39						
MENT	**Mentasta**	**25.67**	**52**	P	**P**	**04 39 42.7**	**+1.0**
MENT				IAmb	IAmb	04 39 49.9	
	comp=Z,7.0nm,1.0s						
J26L	**Joseph Creek**	**25.70**	**48**	P	**P**	**04 39 42.2**	**+0.2**
GLB	**Gilahina Butte**	**25.75**	**55**	P	**P**	**04 39 42.6**	**+0.2**
GLB				IAmb	IAmb	04 39 45.7	
	comp=Z,9.5nm,1.1s						
VRDI	**Verde Repeater**	**25.94**	**55**	P	**P**	**04 39 44.5**	**+0.2**
MCARA	**McCarthy VSAT**	**26.13**	**55**	P	**P**	**04 39 44.9**	**-0.9**
MCARA				IAmb	IAmb	04 40 00.4	
	comp=Z,8.2nm,0.9s						
K27K	**Chicken**	**26.35**	**49**	P	**P**	**04 39 47.6**	**-0.3**
K27K				IAmb	IAmb	04 40 04.5	
	comp=Z,12nm,1.3s						
L27K	**Beaver Creek,**	**26.52**	**51**	P	**P**	**04 39 49.9**	**+0.4**
L27K				IAmb	IAmb	04 39 51.4	
	comp=Z,8.1nm,0.8s						
BCAR	**Beaver Creek A**	**26.54**	**51**	P	**P**	**04 39 49.6**	**0.0**
M27K	**Edge Creek, AK**	**26.56**	**53**	P	**P**	**04 39 50.7**	**+0.8**
EGAK	**Eagle**	**26.73**	**47**	P	**P**	**04 39 50.3**	**-0.9**
EGAK				IAmb	IAmb	04 39 51.4	
	comp=Z,7.1nm,0.8s						
DAWY	**Dawson**	**27.53**	**49**	P	**P**	**04 39 58.6**	**+0.1**
DAWY				IAmb	IAmb	04 40 10.3	
	comp=Z,9.9nm,0.9s						
EPYK	**Eagle Plains**	**28.52**	**44**	P	**P**	**04 40 07.7**	**+0.5**
EPYK				IAmb	IAmb	04 40 08.8	
	comp=Z,6.5nm,0.7s						
HYT	**Haines Junctio**	**28.86**	**55**	P	**P**	**04 40 10.5**	**0.0**
HYT				IAmb	IAmb	04 40 50.4	
	comp=Z,7.7nm,1.1s						
INK	**Inuvik**	**29.69**	**40**	P	**P**	**04 40 17.6**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=276,slow=6.7,SNR=9.0						
	comp=Z,1.4nm,0.7s						
INK	**Inuvik**	**29.69**	**40**	P	**P**	**04 40 16.4**	**-1.1**
INK	**Inuvik**	**29.69**	**40**	P	**P**	**04 40 16.4**	**-1.1**
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BOD	**Bodaibo**	**29.81**	**299**	*e*P	**P**	**04 40 20.9**	**+2.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,2.2s						
M31M	**Drury Creek, Y**	**30.04**	**52**	P	**P**	**04 40 19.3**	**-1.5**
M31M				IAmb	IAmb	04 40 22.7	
	comp=Z,4.7nm,0.8s						
P33M	**Teslin, Yukon**	**31.26**	**55**	P	**P**	**04 40 31.6**	**0.0**
P33M				IAmb	IAmb	04 40 43.9	
	comp=Z,4.2nm,1.0s						
KSRS	**Korea Array**	**32.35**	**255**	LR	LR	04 54 16.1	
	comp=Z,70nm,18.3s,baz=65,slow=37						
DLBC	**Dease Lake**	**33.18**	**58**	P	**P**	**04 40 50.5**	**+2.1**
	comp=Z,2.3nm,0.7s,baz=291,slow=12,SNR=5.8						
DLBC				LR	LR	04 54 44.6	
	comp=Z,106nm,20.3s,baz=274,slow=37						
	comp=Z,2.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.72**	**183**	T	T	05 17 56.9	
	baz=1.4,slow=76,SNR=1410						
H11N3	**WAKE ISLAND Hy**	**34.73**	**183**	T	T	05 17 56.6	
	baz=1.4,slow=76,SNR=988						
H11N1	**WAKE ISLAND Hy**	**34.73**	**183**	T	T	05 17 56.9	
	baz=1.4,slow=76,SNR=1021						
H11S1	**WAKE ISLAND Hy**	**35.94**	**183**	T	T	05 19 21.0	
	baz=1.4,slow=76,SNR=892						
H11S3	**WAKE ISLAND Hy**	**35.95**	**183**	T	T	05 19 20.8	
	baz=1.4,slow=76,SNR=268						
H11S2	**WAKE ISLAND Hy**	**35.96**	**183**	T	T	05 19 22.4	
	baz=1.4,slow=76,SNR=780						
BBB	**Bella Bella**	**36.82**	**67**	LR	LR	04 54 42.0	
	comp=Z,108nm,19.7s,baz=268,slow=34						
NRIK	**Noril'sk**	**37.62**	**325**	LR	LR	04 58 01.3	
	comp=Z,112nm,18.2s,baz=40,slow=38						
ULN	**Ulaanbaatar**	**37.95**	**286**	P	**P**	**04 41 29.8**	**+0.3**
ULN				IAmb	IAmb	04 41 34.8	
	comp=Z,5.0nm,0.9s						
ULN	**Ulaanbaatar**	**37.95**	**286**	*ce*P	**P**	**04 41 28.0**	**-1.6**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SONM	**Songino Array**	**38.33**	**286**	P	**P**	**04 41 33.3**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=61,slow=9.4,SNR=4.7						
SONM				LR	LR	04 56 53.5	
	comp=Z,142nm,19.6s,baz=16,slow=36						
	comp=Z,3.4nm,0.6s						
ZAK	**Zakamensk**	**38.66**	**292**	*e*P	**P**	**04 41 35.2**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YKA	**Yellowknife Ar**	**38.70**	**46**	P	**P**	**04 41 35.5**	**0.0**
	comp=Z,1.1nm,0.7s,baz=293,slow=8.0,SNR=14						
	comp=Z,1.1nm,0.7s						
BRLDA	**Berland Lookou**	**41.40**	**59**	P	**P**	**04 41 57.6**	**-0.6**
NEW	**Newport**	**44.86**	**66**	LR	LR	04 59 13.0	
	comp=Z,51nm,21.3s,baz=302,slow=34						
ZALV	**Zalesovo Beam**	**46.10**	**305**	P	**P**	**04 42 36.6**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=57,slow=5.3,SNR=5.9						
ZALV				LR	LR	05 03 59.5	
	comp=Z,122nm,18.3s,baz=322,slow=39						
	comp=Z,0.7nm,0.4s						
LZH	**Lanzhou**	**47.23**	**275**	*e*P	**P**	**04 42 48.0**	**+2.9**
LZH				pP	pP	04 42 53.3	+0.9
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
GTA	**Gaotai**	**47.29**	**281**	*e*P	**P**	**04 42 49.3**	**+3.8**
GTA				sP	sP	04 42 56.2	+0.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
DGZ	**Jazzator, Alta**	**47.40**	**299**	*i* P	**P**	**04 42 44.8**	**-1.4**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVAR	**Mina Array Bea**	**50.60**	**77**	P	**P**	**04 43 12.2**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=296,slow=7.6,SNR=6.6						
	comp=Z,1.2nm,0.8s						
RLMT	**Red Lodge**	**51.03**	**64**	P	**P**	**04 43 13.6**	**-0.5**
RLMT				IAmb	IAmb	04 43 35.4	
	comp=Z,5.0nm,1.1s						
KURK	**Kurchatov**	**51.09**	**305**	P	**P**	**04 43 13.1**	**-1.1**
KURK	**Kurchatov**	**51.09**	**305**	*ce*P	**P**	**04 43 10.7**	**-3.5**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s						
KURBB	**Kurchatov Arra**	**51.19**	**305**	P	**P**	**04 43 14.2**	**-0.7**
	comp=Z,4.5nm,0.6s,baz=54,slow=7.6,SNR=26						
	comp=Z,4.5nm,0.6s						
MK31	**Makanchi Array**	**51.90**	**299**	P	**P**	**04 43 19.1**	**-1.3**
MK31				IAmb	IAmb	04 43 23.9	
	comp=Z,2.7nm,0.8s						
MK31	**Makanchi Array**	**51.90**	**299**	*i* P	**P**	**04 43 18.7**	**-1.7**
MKAR	**Makanchi Array**	**51.90**	**299**	P	**P**	**04 43 18.9**	**-1.4**
	comp=Z,3.0nm,0.8s,baz=46,slow=6.9,SNR=16						
MKAR				LR	LR	05 06 11.1	
	comp=Z,73nm,18.1s,baz=5.5,slow=37						
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**51.90**	**299**	P	**P**	**04 43 18.5**	**-1.9**
MKAR	**Makanchi Array**	**51.90**	**299**	*ce*P	**P**	**04 43 21.3**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**52.05**	**300**	P	**P**	**04 43 20.8**	**-0.7**
MAKZ				IAmb	IAmb	04 43 25.0	
	comp=Z,4.9nm,0.9s						
MAKZ	**Makanchi**	**52.05**	**300**	P	**P**	**04 43 20.8**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GOMU	**GeErMu**	**52.37**	**281**	P	**P**	**04 43 27.8**	**+3.4**
GOMU				pP	pP	04 43 32.6	+1.1
GOMU				sP	sP	04 43 33.7	-0.6
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,190nm,5.3s						
PD31	**Pinedale Array**	**52.47**	**67**	P	**P**	**04 43 24.6**	**-0.3**
PDAR	**Pinedale Array**	**52.47**	**67**	P	**P**	**04 43 25.4**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=316,slow=4.1,SNR=7.3						
	comp=Z,1.2nm,0.7s						
BVAR	**Borovoye Array**	**53.28**	**312**	P	**P**	**04 43 29.6**	**-0.9**
	comp=Z,9.8nm,0.8s,baz=51,slow=8.3,SNR=23						
	comp=Z,9.8nm,0.8s						
BRVK	**Borovoye**	**53.30**	**312**	P	**P**	**04 43 30.1**	**-0.5**
BRVK	**Borovoye**	**53.30**	**312**	P	**P**	**04 43 30.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARCES	**ARCESS Array B**	**53.38**	**345**	P	**P**	**04 43 30.3**	**-0.7**
	comp=Z,6.2nm,1.1s,baz=32,slow=9.0,SNR=1.4						
	comp=Z,6.2nm,1.1s						
TCRU	**Three Creeks R**	**53.77**	**73**	P	**P**	**04 43 33.2**	**-1.4**
RSSD	**Black Hills**	**54.44**	**62**	P	**P**	**04 43 39.4**	**+0.1**
RSSD	**Black Hills**	**54.44**	**62**	P	**P**	**04 43 39.4**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SFJD	**Kangerlussuaq**	**55.34**	**18**	LR	LR	05 11 02.1	
	comp=Z,52nm,18.0s,baz=28,slow=40						
ARU	**Arti**	**55.59**	**321**	LR	LR	05 12 06.6	
	comp=Z,113nm,19.0s,baz=352,slow=41						
PV13	**Radium Mtn., P**	**56.10**	**70**	P	**P**	**04 43 50.7**	**-0.7**
AKTO	**Aktyubinsk**	**60.38**	**316**	LR	LR	05 11 35.9	
	comp=Z,88nm,19.0s,baz=346,slow=37						
KK31	**Karatay Array**	**60.39**	**303**	P	**P**	**04 44 19.1**	**-2.0**
KK31				IAmb	IAmb	04 44 25.2	
	comp=Z,2.2nm,0.8s						
KK31	**Karatay Array**	**60.39**	**303**	P	**P**	**04 44 19.1**	**-2.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BORG	**Borgarnes**	**60.86**	**5**	LR	LR	05 09 33.6	
	comp=Z,16nm,21.2s,baz=96,slow=35						
CMAR	**Chiang Mai Arr**	**63.28**	**264**	P	**P**	**04 44 43.5**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=16,slow=7.9,SNR=7.7						
	comp=Z,0.5nm,0.3s						
NB2	**NORSAR Subarra**	**63.41**	**348**	P	**P**	**04 44 40.3**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=16,slow=6.5						
NOA	**NORSAR Array B**	**63.41**	**348**	P	**P**	**04 44 40.7**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=16,slow=6.9,SNR=2.5						
NOA				LR	LR	05 13 49.5	
	comp=Z,17nm,19.0s,baz=280,slow=38						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**63.96**	**346**	LR	LR	05 15 48.4	
	comp=Z,114nm,19.6s,baz=280,slow=39						
HNR	**Honiara**	**64.08**	**189**	LR	LR	05 06 41.1	
	comp=Z,552nm,21.7s,baz=330,slow=30						
AKASG	**Malin Array Be**	**69.77**	**334**	P	**P**	**04 45 21.4**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=28,slow=6.7,SNR=4.7						
	comp=Z,0.6nm,0.4s						
KIV	**Kislovodsk**	**71.61**	**322**	*e*P	**P**	**04 45 29.5**	**-3.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GNI	**Garni**	**74.13**	**318**	LR	LR	05 22 01.1	
	comp=Z,79nm,18.6s,baz=20,slow=39						
WRA	**Warramunga Arr**	**79.68**	**212**	P	**P**	**04 46 21.3**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=27,slow=6.1,SNR=6.0						
	comp=Z,1.2nm,0.6s						
PPT	**Papeete**	**80.21**	**140**	LR	LR	05 15 08.6	
	comp=Z,36nm,21.7s,baz=302,slow=30						
ASAR	**Alice Springs**	**83.31**	**212**	P	**P**	**04 46 41.0**	**+2.4**
	comp=Z,2.4nm,0.7s,baz=21,slow=4.7,SNR=12						
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**83.31**	**212**	P	**P**	**04 46 41.0**	**+2.4**
EIL	**Elat**	**87.10**	**321**	LR	LR	05 30 03.3	
	comp=Z,41nm,18.5s,baz=57,slow=39						
SDV	**Santo Domingo**	**99.89**	**59**	LR	LR	05 33 35.3	
	comp=Z,29nm,21.5s,baz=254,slow=36						

IDC ***12*** *04:37:07.5±1.2,2°.90S×127°.97E, h0km, mb4.2/3, mbtmp4.2/4, ML4.4/1, Error ellipse: s-maj=77.9km s-min=23.5km az=73.0*

DJA ***12*** *04:37:09.7±0.6,3°.5S±4°.4×12°.8E±°, h11km±8km, M3.9/6, MLv3.9/6*

NEIC ***12*** *04:37:13.6±1.0,2°.96S±0°.04×128°.11E±0°.10, h46km±10km, mb4.1/6, Error ellipse: s-maj=14.6km s-min=3.5km az=68.0*

ISC 12 04:37:12.6±0.7,**2°.91S**±0°.06×**128°.06E**±0°.05,**h38**km,**n18,**
σ0**97**/21,**mb4.3**/5,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.78**	**170**	P	**Pn**	**04 37 27.5**	**+0.4**
NLAI	**Namlea**	**1.01**	**251**	P	**Pn**	**04 37 30.5**	**+0.2**
NLAI				S	**Sn**	**04 37 44.1**	**+0.8**
SANI	**Sanana**	**2.24**	**292**	P	**Pn**	**04 37 45.0**	**-2.2**
TNTI	**Ternate**	**3.73**	**349**	Pn	**Pn**	**04 38 07.9**	**+0.3**
FAKI	**Fak Fak**	**4.18**	**90**		**Pn**	**04 38 14.3**	**+0.5**
FAKI				Sn	**Sn**	**04 39 01.2**	**-0.3**
FAKI	**Fak Fak**	**4.18**	**90**	P	**Pn**	**04 38 14.0**	**+0.2**
TOLI2	**Tolitoli**	**8.30**	**299**	Pn	**Pn**	**04 39 12.1**	**+1.6**
MTN	**Manton Dam**	**10.32**	**163**	Pn	**Pn**	**04 39 37.6**	**-0.6**
WB0	**Warramunga Arr**	**17.86**	**160**		**Pn**	**04 41 17.0**	**-1.2**
WRA	**Warramunga Arr**	**18.00**	**161**	P	**Pn**	**04 41 19.3**	**-0.7**
	1.4nm,0.3s,baz=341,slow=12,SNR=23						
	2.5nm,0.3s						
WB2	**Warramunga Arr**	**18.00**	**161**		**Pn**	**04 41 18.5**	**-1.5**
WB2				IAmb	IAmb	04 41 21.7	
	comp=Z,7.6nm,0.9s						
WR0	**Warramunga Arr**	**18.08**	**160**		**Pn**	**04 41 20.3**	**-0.7**
WR0				IAmb	IAmb	04 41 30.1	
	comp=Z,4.8nm,0.5s						
ASAR	**Alice Springs**	**21.39**	**165**	P	**P**	**04 41 57.0**	**-0.2**
	comp=Z,14nm,0.6s,baz=345,slow=11,SNR=105						
ASAR				PcP	**PcP**	**04 46 00.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=1.8,slow=2.2,SNR=6.7						
	comp=Z,14nm,0.6s						
CAN	**Canberra**	**37.64**	**151**	P	**P**	**04 44 24.0**	**-0.1**
MKAR	**Makanchi Array**	**63.77**	**327**	P	**P**	**04 47 40.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=127,slow=8.1,SNR=7.5						
	comp=Z,0.7nm,0.7s						
KURK	**Kurchatov**	**68.05**	**329**	P	**P**	**04 48 07.8**	**-0.3**
KURK				IAmb	IAmb	04 48 08.6	
	comp=Z,1.8nm,0.8s						
SEY	**Seymchan**	**68.19**	**12**	P	**P**	**04 48 10.3**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=215,slow=6.6,SNR=3.6						
	comp=Z,1.0nm,0.3s						
QSPA	**South Pole Qui**	**87.04**	**180**	P	**P**	**04 49 53.3**	**-0.7**
QSPA				IAmb	IAmb	04 50 08.2	
	comp=Z,12nm,1.2s						

IDC ***12*** *04:38:53.5±0.8,26°.82S×176°.97W, h60km±5km, mb4.2/14, mbtmp4.4/14, MS3.8/38, Error ellipse: s-maj=23.4km s-min=15.4km az=142.0*

NEIC ***12*** *04:38:53.6±1.2,26°.85S±0°.09×176°.9W±0°.1, h64km±7km, mb4.9/60, Error ellipse: s-maj=17.5km s-min=13.4km az=102.0*

GCMT ***12*** *04:38:53.6±0.3,26°.90S±0°.02×176°.77W±0°.02, h43km±1km, MW5.0/60,Moment Tensor Solution. s27,c27; s60,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.77±.29; $M_{\theta\theta}$-4.39±.18; $M_{\phi\phi}$ 1.63±.19; $M_{r\theta}$0.90±.17; $M_{r\phi}$-1.59±.13; $M_{\theta\phi}$~1.60±.15; Best double couple: M0 4.52000×10^{16} NP1:*ϕ_S*108.00000°,*δ*60.00000°,*λ*136.00000°. NP2: ϕ_S224.00000°,δ53.00000°,λ39.00000°. Principal axes: T 4.2220, Plg51.0000°, Azm72.0000°; N 0.6060, Plg39.0000°, Azm260.0000°; P -4.8180, Plg4.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 04:38:53.0±0.4,**26°.94S**±0°.06×**176°.81W**±0°.07,**h64**km,
n172, σ1**$**46**/106,**mb4.8**/41,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.51**	**203**		**Pn**	**04 39 32.2**	**+0.8**
RAO				Sn	**Sn**	**04 40 02.6**	**+1.8**
NIUE	**Niue**	**10.06**	**40**	Pn	Pn	04 41 07.4	-7.4
MSVF	**Nonsavu**	**10.32**	**332**	P	**Pn**	**04 41 20.2**	**+1.8**
	85nm,1.0s,baz=144,slow=13,SNR=24						
MSVF				LR	LR	04 44 53.0	
	comp=Z,602nm,19.2s,baz=157,slow=36						
MSVF	**Nonsavu**	**10.32**	**332**		**Pn**	**04 41 19.3**	**+1.0**
WMGZ	**Waiomatatini S**	**11.57**	**199**	P	Pn	04 41 26.8	-8.5
OUZ	**Omahuta**	**11.65**	**223**		Pn	04 41 44.4	+8.1
HAZ	**Te Kaha**	**11.71**	**202**	P	Pn	04 41 28.6	-8.6
PKGZ	**Pakihiroa**	**11.74**	**200**	P	Pn	04 41 27.7	-10
PUZ	**Puketiti**	**11.86**	**199**	P	Pn	04 41 28.3	-11
RUGZ	**Raukumara Rang**	**11.94**	**202**	P	Pn	04 41 30.6	-10
TWGZ	**Tauwhareparae**	**12.04**	**200**	P	Pn	04 41 32.1	-10
CNGZ	**Carnagh Statio**	**12.25**	**199**	P	Pn	04 41 34.9	-10
MWZ	**Matawai**	**12.32**	**201**	P	Pn	04 41 35.0	-11
URZ	**Urewera**	**12.39**	**203**	P	Pn	04 41 36.4	-10
	4.1nm,0.3s,baz=3.2,slow=4.7,SNR=11						
URZ				S	Sn	04 43 53.8	-9.0
	16nm,0.3s,baz=250,slow=23,SNR=7.9						
URZ	**Urewera**	**12.39**	**203**	P	Pn	04 41 36.4	-10
SNGZ	**Shannon Statio**	**12.79**	**201**	P	Pn	04 41 41.9	-10

STKA	**Stephens Creek**	**36.41**	**252**	P		**P**	**04 45 52.2**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=90,slow=11,SNR=1.7							
STKA				LR		LR	04 59 13.0	
	comp=Z,304nm,19.3s,baz=59,slow=34							
	comp=Z,1.2nm,0.4s							
KRVT	**Keravat (AS076**	**37.31**	**302**	LR		LR	04 59 54.5	
	comp=Z,110nm,19.6s,baz=240,slow=34							
RKT	**Rikitea**	**37.98**	**94**	*e*LR		LR	04 56 32.0	
	comp=Z,29µm,23.0s							
RKT	**Rikitea**	**37.98**	**94**	*e*T		T	05 26 08.5	
	comp=Z,3.6nm,0.3s							
TAOE	**Nuku Hiva Isla**	**39.05**	**69**	*e*LR		LR	04 56 48.8	
	comp=Z,220nm,22.4s							
TAOE	**Nuku Hiva Isla**	**39.05**	**69**	*e*T		T	05 27 20.5	
	comp=Z,12nm,0.2s							
COEN	**Coen**	**39.48**	**281**	P		**P**	**04 46 16.5**	**-1.0**
BBOO	**Buckleboo**	**41.02**	**250**	P		**P**	**04 46 27.5**	**-2.6**
BBOO				IAmb		IAmb	04 47 22.8	
	comp=Z,71nm,1.9s							
AS31	**Alice Springs**	**44.46**	**263**	P		**P**	**04 46 57.4**	**-0.6**
ASAR	**Alice Springs**	**44.46**	**263**	P		**P**	**04 46 57.1**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=95,slow=6.5,SNR=22							
ASAR				pP		**pP**	**04 47 14.2**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=93,slow=7.0,SNR=5.2							
ASAR				LR		LR	05 03 48.4	
	comp=Z,141nm,20.2s,baz=172,slow=34							
	comp=Z,1.4nm,0.5s							
WR0	**Warramunga Arr**	**44.95**	**268**	P		**P**	**04 46 60.0**	**-2.0**
WB2	**Warramunga Arr**	**45.13**	**268**	P		**P**	**04 47 01.8**	**-1.6**
WB2				IAmb		IAmb	04 47 19.9	
	comp=Z,32nm,1.6s							
WRA	**Warramunga Arr**	**45.14**	**268**	P		**P**	**04 47 02.1**	**-1.3**
	comp=Z,5.8nm,0.7s,baz=106,slow=7.8,SNR=22							
WRA				pP		**pP**	**04 47 18.7**	**-0.5**
	comp=Z,5.9nm,0.8s,baz=108,slow=7.3,SNR=7.0							
WRA				LR		LR	05 05 54.1	
	comp=Z,88nm,18.6s,baz=186,slow=36							
	comp=Z,5.8nm,0.7s							
WB0	**Warramunga Arr**	**45.15**	**268**	P		**P**	**04 47 01.8**	**-1.7**
FORT	**Forrest**	**48.03**	**252**	P		**P**	**04 47 24.4**	**-1.6**
SBA	**Scott Base**	**51.56**	**184**	P		**P**	**04 47 53.5**	**+1.5**
KNRA	**Kununurra**	**51.59**	**271**	P		**P**	**04 47 51.5**	**-1.6**
VNDA	**Vanda**	**51.63**	**186**	P		**P**	**04 47 54.2**	**+1.7**
	comp=Z,2.7nm,0.5s,baz=356,slow=7.0,SNR=17							
VNDA				LR		LR	05 08 17.1	
	comp=Z,31nm,19.5s,baz=22,slow=34							
	comp=Z,2.7nm,0.5s							
VNDA	**Vanda**	**51.63**	**186**	P		**P**	**04 47 53.7**	**+1.1**
VNDA				IAmb		IAmb	04 49 05.5	
	comp=Z,31nm,1.5s							
FITZ	**Fitzroy Crossi**	**53.51**	**267**	P		**P**	**04 48 06.8**	**-0.5**
GUMO	**Guam**	**54.84**	**312**	LR		LR	05 09 35.4	
	comp=Z,23nm,19.8s,baz=102,slow=34							
NWAO	**Narrogin (SRO)**	**56.66**	**247**	LR		LR	05 12 04.5	
	comp=Z,158nm,18.5s,slow=35							
RPN	**Rapa Nui**	**59.39**	**107**	LR		LR	05 08 19.2	
	comp=Z,28nm,21.6s,baz=224,slow=30							
QSPA	**South Pole Qui**	**63.16**	**180**	LR		LR	05 14 15.7	
	comp=Z,90nm,18.9s,baz=26,slow=34							
QSPA	**South Pole Qui**	**63.16**	**180**	P		**P**	**04 49 14.5**	**+0.4**
BELA	**Belgrano 2**	**73.06**	**172**	P		**P**	**04 50 16.6**	**+0.9**
PMSA	**Palmer Station**	**74.98**	**156**	LR		LR	05 21 11.7	
	comp=Z,74nm,18.1s,baz=233,slow=34							
MAW	**Mawson**	**75.91**	**200**	P		**P**	**04 50 33.5**	**+1.3**
	comp=Z,10nm,0.6s,baz=121,slow=11,SNR=6.6							
MAW				LR		LR	05 21 44.8	
	comp=Z,76nm,19.9s,baz=135,slow=34							
	comp=Z,10nm,0.6s							
MAW	**Mawson**	**75.91**	**200**	P		**P**	**04 50 33.8**	**+1.5**
MJAR	**Matsushiro Arr**	**76.03**	**324**	LR		LR	05 18 27.3	
	comp=Z,78nm,21.5s,baz=126,slow=31							
ESPZ	**Base Esperanza**	**78.32**	**156**	P		**P**	**04 50 46.7**	**+0.8**
ADK	**Adak**	**78.48**	**0**	P		**P**	**04 50 45.9**	**-0.8**
SHEM	**Shemya Is, Ala**	**79.72**	**354**	LR		LR	05 18 50.9	
	comp=Z,92nm,19.9s,baz=77,slow=30							
NIKH	**Nikolski High**	**79.87**	**5**	P		**P**	**04 50 54.1**	**-0.2**
ASAJ	**Asahikawa**	**79.88**	**332**	LR		LR	05 18 13.3	
	comp=Z,127nm,21.1s,baz=135,slow=30							
TROLL	**Troll, Antarti**	**81.32**	**180**	P		**P**	**04 51 03.5**	**+1.2**
H03S2	**Juan Fernandez**	**81.50**	**124**	T		T	06 21 30.3	
	baz=241,slow=74,SNR=64							
H03S1	**Juan Fernandez**	**81.51**	**124**	T		T	06 21 36.3	
	baz=241,slow=74,SNR=65							
H03S3	**Juan Fernandez**	**81.52**	**124**	T		T	06 21 35.1	
	baz=241,slow=74,SNR=76							
SNAA	**Sanae**	**81.57**	**178**	P		**P**	**04 51 04.2**	**+0.7**
H03N3	**Juan Fernandez**	**81.57**	**123**	T		T	06 21 50.6	
	baz=235,slow=76,SNR=39							
H03N2	**Juan Fernandez**	**81.67**	**123**	T		T	06 21 38.9	
	baz=235,slow=76,SNR=3.3							
VNA3	**Neumayer Olymp**	**81.67**	**176**	P		**P**	**04 51 04.4**	**+0.5**
H03N1	**Juan Fernandez**	**81.69**	**123**	T		T	06 21 56.4	
	baz=235,slow=76,SNR=60							
LPIG	**La Paz**	**81.82**	**58**	LR		LR	05 19 57.5	
	comp=Z,54nm,18.4s,baz=249,slow=30							
VNA2	**Neumayer--Watz**	**82.12**	**177**	P		**P**	**04 51 07.3**	**+1.0**
	baz=166,slow=5.0							
KSRS	**Korea Arrays**	**82.42**	**319**	P		**P**	**04 51 08.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=133,slow=6.1,SNR=2.3							
KSRS				LR		LR	05 23 19.4	
	comp=Z,19nm,20.9s,baz=115,slow=32							
	comp=Z,0.8nm,0.4s							
PETK	**Petropavlovsk-**	**82.74**	**345**	P		**P**	**04 51 09.3**	**-0.2**
	comp=Z,7.4nm,1.0s,baz=124,slow=7.8,SNR=4.6							
PETK				LR		LR	05 21 07.0	
	comp=Z,85nm,21.5s,baz=127,slow=31							
	comp=Z,7.4nm,1.0s							
PFO	**Pinyon Flats O**	**83.09**	**47**	LR		LR	05 19 42.0	
	comp=Z,74nm,21.5s,baz=259,slow=30							
ISA	**Isabella, Lake**	**83.10**	**44**	P		**P**	**04 51 12.4**	**+0.5**
ISA				IAmb		IAmb	04 51 14.9	
	comp=Z,10nm,1.1s							
GSC	**Goldstone, Bar**	**83.92**	**45**	P		**P**	**04 51 16.2**	**+0.1**
GSC				IAmb		IAmb	04 51 18.8	
	comp=Z,11nm,1.2s							
PLCA	**Paso Flores**	**84.09**	**133**	LR		LR	05 21 45.4	
	comp=Z,51nm,18.3s,baz=236,slow=30							
DSP	**Deep Springs**	**84.51**	**43**	P		**P**	**04 51 19.3**	**+0.4**
DSP				IAmb		IAmb	04 52 09.6	
	comp=Z,25nm,2.0s							
LCH	**Last Change Ra**	**84.62**	**43**	P		**P**	**04 51 20.7**	**+1.0**
LCH				IAmb		IAmb	04 51 44.1	
	comp=Z,12nm,1.6s							
YBH	**Yreka Blue Hor**	**84.66**	**38**	P		**P**	**04 51 21.5**	**+1.8**
	comp=Z,3.1nm,0.8s,baz=280,slow=2.9,SNR=6.0							
YBH				LR		LR	05 21 44.8	
	comp=Z,42nm,21.4s,baz=248,slow=30							
	comp=Z,3.1nm,0.8s							
YERR	**Yerington**	**84.79**	**41**	P		**P**	**04 51 20.5**	**0.0**
YERR				IAmb		IAmb	04 51 56.1	
	comp=Z,20nm,1.4s							
WCT	**Wildcat Mounta**	**84.97**	**44**	P		**P**	**04 51 22.5**	**+1.1**
NVAR	**Mina Array Bea**	**84.99**	**42**	P		**P**	**04 51 23.2**	**+1.6**
	comp=Z,3.5nm,0.9s,baz=221,slow=8.6,SNR=19							
	comp=Z,3.5nm,0.9s							
NVAR	**Mina Array Bea**	**84.99**	**42**	P		**P**	**04 51 22.4**	**+0.8**
NV11	**Mina Array Sit**	**85.08**	**42**	P		**P**	**04 51 23.6**	**+1.6**
NV11				IAmb		IAmb	04 51 25.5	
	comp=Z,9.5nm,1.1s							
TPNV	**Topopah Spring**	**85.31**	**44**	P		**P**	**04 51 20.5**	**-2.6**
TPNV				IAmb		IAmb	04 51 47.9	
	comp=Z,11nm,1.3s							
TPH	**Tonopah**	**85.41**	**43**	P		**P**	**04 51 22.8**	**-0.9**
KVN	**Kaiserville**	**85.51**	**42**	P		**P**	**04 51 23.0**	**-1.2**
SHPR	**Sheep Range**	**85.72**	**45**	P		**P**	**04 51 26.4**	**+1.1**
TUC	**Tucson**	**86.13**	**51**	P		**P**	**04 51 26.8**	**-0.4**
PRN	**Pahroc Range**	**86.34**	**45**	P		**P**	**04 51 29.5**	**+1.2**
PRN				IAmb		IAmb	04 51 31.5	
	comp=Z,12nm,1.1s							
KDAK	**Kodiak Island**	**86.81**	**13**	LR		LR	05 25 22.6	
	comp=Z,89nm,18.2s,baz=218,slow=32							
LCMT	**Little Creek M**	**87.25**	**46**	P		**P**	**04 51 32.9**	**+0.3**
DUN6	**Lazy B Ranch**	**87.45**	**51**	P		**P**	**04 51 33.7**	**0.0**
DUN6				IAmb		IAmb	04 51 38.2	
	comp=Z,50nm,1.6s							
CCUT	**Cedar City**	**87.49**	**45**	P		**P**	**04 51 34.6**	**+0.6**
CCUT				IAmb		IAmb	04 51 37.3	
	comp=Z,7.3nm,1.2s							
U15A	**North Rim**	**87.52**	**47**	P		**P**	**04 51 34.5**	**+0.3**
U15A				IAmb		IAmb	04 51 37.4	
	comp=Z,7.7nm,0.9s							
KNB	**Kanab**	**87.52**	**46**	P		**P**	**04 51 34.7**	**+0.6**
KNB				IAmb		IAmb	04 51 37.1	
	comp=Z,14nm,1.3s							
WUAZ	**Wupatki**	**87.58**	**48**	P		**P**	**04 51 34.3**	**-0.1**
WUAZ				IAmb		IAmb	04 51 37.4	
	comp=Z,8.5nm,1.1s							
SPR3	**Spring Creek 3**	**87.76**	**44**	P		**P**	**04 51 35.9**	**+0.5**
SPR3				IAmb		IAmb	04 51 37.4	
	comp=Z,12nm,1.6s							
ELK	**Elko**	**88.28**	**42**	LR		LR	05 23 52.3	
	comp=Z,70nm,20.7s,baz=248,slow=31							
MTPU	**Mount Pierson**	**88.53**	**46**	P		**P**	**04 51 39.9**	**+0.9**
MTPU				IAmb		IAmb	04 51 42.8	
	comp=Z,20nm,1.7s							
KLR	**Kul'dur**	**88.59**	**329**	P		**P**	**04 51 39.8**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=69,slow=3.2,SNR=6.5							
KLR				LR		LR	05 30 22.8	
	comp=Z,47nm,18.2s,baz=350,slow=35							
	comp=Z,2.3nm,0.8s							
O19K	**Port Alsworth**	**88.75**	**11**	P		**P**	**04 51 39.5**	**+0.5**
D05A	**Enumclaw**	**88.78**	**34**	P		**P**	**04 51 40.9**	**+1.4**
G08A	**Pilot Rock**	**89.07**	**37**	P		**P**	**04 51 41.3**	**+0.2**
G08A				IAmb		IAmb	04 51 43.5	
	comp=Z,7.9nm,1.0s							
HAWA	**Hanford**	**89.50**	**36**	P		**P**	**04 51 44.0**	**+1.1**
BBB	**Bella Bella**	**89.56**	**28**	LR		LR	05 24 30.9	
	comp=Z,36nm,21.6s,baz=224,slow=31							
MFID	**Camas Ranch**	**89.60**	**40**	P		**P**	**04 51 44.5**	**+0.9**
MFID				IAmb		IAmb	04 51 46.1	
	comp=Z,8.0nm,1.4s							
TX31	**Lajitas Ar. Si**	**89.63**	**57**	P		**P**	**04 51 44.1**	**0.0**
TX32	**Lajitas Array**	**89.63**	**57**	P		**P**	**04 51 44.1**	**0.0**
TX32				IAmb		IAmb	04 51 47.0	
	comp=Z,17nm,1.9s							
TXAR	**Lajitas Array**	**89.63**	**57**	P		**P**	**04 51 44.6**	**+0.6**
D08A	**Wollman Farm,**	**90.25**	**35**	P		**P**	**04 51 47.4**	**+0.9**
D08A				IAmb		IAmb	04 51 48.9	
	comp=Z,13nm,1.2s							
E09A	**Wood Farm, Sta**	**90.30**	**36**	P		**P**	**04 51 46.9**	**+0.3**
HVU	**Hansel Valley**	**90.39**	**42**	P		**P**	**04 51 48.3**	**+0.9**
HVU				IAmb		IAmb	04 51 49.9	
	comp=Z,17nm,1.6s							
CFA	**Coronel Fontan**	**90.44**	**126**	LR		LR	05 23 53.7	
	comp=Z,39nm,19.5s,baz=108,slow=30							
F10A	**Beach Ranch, E**	**90.44**	**37**	P		**P**	**04 51 48.1**	**+0.6**
F10A				IAmb		IAmb	04 51 49.2	
	comp=Z,8.1nm,0.9s							
HLID	**Hailey**	**90.50**	**40**	P		**P**	**04 51 47.9**	**0.0**
HLID				IAmb		IAmb	04 51 50.6	
	comp=Z,7.5nm,1.2s							
PLID	**Pearl Lake**	**90.55**	**38**	P		**P**	**04 51 48.7**	**+0.5**
PLID				IAmb		IAmb	04 51 50.2	
	comp=Z,9.7nm,1.1s							
ANMO	**Albuquerque**	**90.59**	**51**	P		**P**	**04 51 50.0**	**+1.4**
	comp=Z,2.6nm,0.9s,baz=282,slow=8.1,SNR=7.2							
ANMO				LR		LR	05 24 14.7	
	comp=Z,64nm,21.4s,baz=353,slow=30							
	comp=Z,2.6nm,0.9s							
ANMO	**Albuquerque**	**90.59**	**51**	P		**P**	**04 51 48.8**	**+0.3**
ANMO				IAmb		IAmb	04 51 51.2	
	comp=Z,5.0nm,1.1s							
NEW	**Newport**	**91.96**	**35**	LR		LR	05 25 17.9	
	comp=Z,84nm,20.8s,baz=228,slow=30							
MCMT	**McKenzie Canyo**	**92.16**	**40**	P		**P**	**04 51 55.5**	**-0.2**
PDAR	**Pinedale Array**	**92.90**	**43**	P		**P**	**04 52 00.1**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=222,slow=4.0,SNR=9.0							
PDAR				LR		LR	05 26 44.0	
	comp=Z,48nm,20.5s,baz=278,slow=31							
	comp=Z,1.2nm,0.9s							
YHL	**Hebgen Lake**	**93.13**	**40**	P		**P**	**04 52 00.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**93.26**	**289**	P		**P**	**04 52 04.4**	**+3.4**
	comp=Z,0.5nm,0.3s,baz=123,slow=3.0,SNR=4.8							
NNA	**Nana**	**93.34**	**105**	LR		LR	05 25 08.5	
	comp=Z,23nm,21.2s,baz=270,slow=30							
ATAH	**Atahualpa**	**94.25**	**100**	LR		LR	05 24 59.3	
	comp=Z,54nm,20.9s,baz=272,slow=29							
ILAR	**Eielson Array**	**94.33**	**12**	P		**P**	**04 52 04.5**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=223,slow=5.4,SNR=11							
	comp=Z,0.7nm,0.8s							
PRP	**Porcupine Dome**	**95.26**	**13**	P		**P**	**04 52 09.6**	**+0.4**
PRP				IAmb		IAmb	04 52 38.3	
	comp=Z,8.7nm,1.6s							
YAK	**Yakutsk**	**98.46**	**337**	LR		LR	05 39 38.8	
	comp=Z,28nm,18.1s,baz=228,slow=37							
MKAR	**Makanchi Array**	**116.32**	**311**	PKP		**PKPdf**	**04 57 28.4**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=180,slow=0.4,SNR=5.0							
MKAR				pPKP		pPKPdf	04 57 44.2	-2.8
	comp=Z,1.0nm,0.9s,baz=103,slow=1.5,SNR=5.3							
ARCES	**ARCESS Array B**	**135.42**	**349**	PKP		**PKPdf**	**04 58 05.7**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=346,slow=2.5,SNR=6.9							
H10N3	**ASCENSION HYDR**	**141.41**	**151**	T		T	07 36 10.6	
	baz=204,slow=74,SNR=5.0							
H10N1	**ASCENSION HYDR**	**141.41**	**151**	T		T	07 36 10.7	
	baz=204,slow=74,SNR=12							
H10N2	**ASCENSION HYDR**	**141.43**	**151**	T		T	07 36 34.5	
	baz=204,slow=74,SNR=5.1							
FINES	**FINESS Array B**	**142.22**	**342**	PKhKP		PKPpre	04 58 12.6	
	comp=Z,2.9nm,0.8s,baz=63,slow=2.4,SNR=7.9							
NB2	**NORSAR Subarra**	**145.47**	**353**	PKP		**PKPbc**	**04 58 22.9**	**-0.4**
	comp=Z,4.2nm,1.0s,baz=12,slow=3.8							
NOA	**NORSAR Array B**	**145.47**	**353**	PKPbc		**PKPbc**	**04 58 22.5**	**-0.8**
	comp=Z,7.0nm,0.9s,baz=12,slow=2.4,SNR=9.5							
NOA				pPKPbc		pPKPab	04 58 40.4	-0.6
	comp=Z,9.8nm,1.0s,baz=13,slow=2.4,SNR=6.1							
AKASG	**Malin Array Be**	**149.07**	**327**	PKPbc		**PKPbc**	**04 58 32.8**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=42,slow=3.7,SNR=16							
AKASG				pPKPbc		**pPKPbc**	**04 58 50.4**	**-1.1**
	comp=Z,4.4nm,0.7s,baz=38,slow=3.6,SNR=6.4							
BRTR	**Keskin Array B**	**151.69**	**305**	PKPbc		**PKPbc**	**04 58 40.1**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=134,slow=3.8,SNR=7.1							
CLL	**Collm**	**154.54**	**346**	*e*PKPab		**PKPab**	**04 59 00.0**	**-0.8**
ESDC	**Sonseca Array**	**165.97**	**23**	PKPab		**PKPab**	**04 59 51.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=333,slow=4.8,SNR=4.1							
TORD	**Torodi Ar. Bea**	**166.21**	**174**	PKPab		**PKPab**	**04 59 53.4**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=173,slow=3.6,SNR=2.0							

ROM 12 04:54:08.5±0.1, 41°50N±0°01×14°62E±0°01, h16km±1km, ML1.2/4, Error ellipse: s-maj=1.1km s-min=0.8km az=35.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SACR	**S. Croce Del S**	**0.12**	**147**	P		Pg	04 54 11.9		-0.2
SACR				S		Sb	04 54 14.9		-0.1
SACR				AML		AML			
	comp=E,131µm,1.2s								
SACR				AML		AML			
	comp=E,93µm,0.4s								
SACR				AML		AML			
	comp=N,104µm,0.3s								
SACR				AML		AML			
	comp=N,95µm,0.3s								
SACR				AML		AML			
	comp=E,131µm,0.8s								
CIGN	**Sant'Elia a Pi**	**0.27**	**53**	P		Pb	04 54 14.6		-0.3
CIGN				AML		AML			
	comp=E,65µm,1.4s								
CIGN				AML		AML			
	comp=N,77µm,1.3s								
CIGN				AML		AML			
	comp=E,65µm,0.6s								
CIGN				AML		AML			
	comp=N,77µm,0.7s								
TRIV	**Trivento**	**0.28**	**349**	P		Pg	04 54 14.6		+0.1
TRIV				S		Sb	04 54 20.1		+0.5
VAGA	**Valle Agricola**	**0.30**	**255**	P		Pg	04 54 15.0		+0.1
VAGA				S		Sb	04 54 20.3		0.0
VAGA				AML		AML			
	comp=N,109µm,1.5s								
VAGA				AML		AML			
	comp=E,98µm,1.0s								
VAGA				AML		AML			
	comp=N,107µm,1.6s								
VAGA				AML		AML			
	comp=N,107µm,0.4s								
VAGA				AML		AML			
	comp=E,82µm,0.5s								
VAGA				AML		AML			
	comp=E,98µm,1.0s								
PSB1	**Pescosannita**	**0.31**	**152**	P		Pb	04 54 15.4		-0.2
PSB1				S		Sb	04 54 20.6		+0.1
MIDA	**Miranda**	**0.31**	**298**	P		Pg	04 54 14.9		-0.2
MIDA				S		Sb	04 54 20.4		-0.2
MIDA				AML		AML			
	comp=E,52µm,1.0s								
MIDA				AML		AML			
	comp=N,38µm,1.5s								
MIDA				AML		AML			
	comp=E,52µm,1.0s								
MIDA				AML		AML			
	comp=N,38µm,0.5s								
MELA	**Melanico ??? S**	**0.43**	**61**	P		Pg	04 54 16.9		-0.3
MELA				S		Sb	04 54 24.0		-0.1

ROM 12 04:55:05.3±0.0, 42°805N±0°002×13°131E±0°003, h10km, ML2.5/50, 33C-6D, Error ellipse: s-maj=0.2km s-min=0.2km az=241.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
NRCA	**Norcia**	**0.03**	**337**	P		Pg	04 55 07.5		+0.2
NRCA				S		Sg	04 55 08.7		-0.2
NRCA				AML		AML			
	comp=E,50400µm,0.2s								
NRCA				AML		AML			
	comp=N,48500µm,0.1s								
NRCA				AML		AML			
	comp=E,51800µm,0.1s								
NRCA				AML		AML			
	comp=N,43500µm,0.1s								
T1245	**Castelsantange**	**0.07**	**39**	P		Pg	04 55 08.0		+0.3
T1245				S		Sg	04 55 09.6		+0.1
T1245				AML		AML			
	comp=N,19900µm,0.2s								
T1245				AML		AML			
	comp=E,11995µm,0.2s								
T1245				AML		AML			
	comp=E,20150µm,0.2s								
T1245				AML		AML			
	comp=N,19300µm,0.2s								
T1245				AML		AML			
	comp=E,12000µm,0.2s								
T1214	**Arquata del Tr**	**0.07**	**128**	⇓P		Pg	04 55 08.1		+0.3
T1214				S		Sg	04 55 09.7		+0.1
T1214				AML		AML			
	comp=N,18200µm,0.2s								
T1214				AML		AML			
	comp=E,15050µm,0.6s								
T1214				AML		AML			
	comp=E,15750µm,0.6s								
T1214				AML		AML			
	comp=N,18600µm,0.2s								
T1214				AML		AML			
	comp=E,15750µm,1.4s								
T1214				AML		AML			
	comp=N,18200µm,0.2s								
T1214				AML		AML			
	comp=E,15050µm,1.4s								
T1214				AML		AML			
	comp=N,18600µm,0.2s								
T1212	**Cascia, Frazio**	**0.08**	**230**	P		Pg	04 55 08.2		+0.4
T1212				S		Sg	04 55 10.0		+0.4
T1212				AML		AML			
	comp=N,17700µm,0.1s								
T1212				AML		AML			
	comp=N,17850µm,0.1s								
T1212				AML		AML			
	comp=N,17700µm,0.1s								
T1212				AML		AML			
	comp=E,16950µm,0.2s								
T1212				AML		AML			
	comp=N,17850µm,0.1s								
T1212				AML		AML			
	comp=E,17050µm,0.2s								
T1216	**Preci, Frazion**	**0.12**	**316**	⇑P		Pg	04 55 08.8		+0.5
T1216				S		Sg	04 55 11.1		+0.7
T1216				AML		AML			
	comp=E,5755µm,0.3s								
T1216				AML		AML			
	comp=N,6550µm,0.4s								
T1216				AML		AML			
	comp=N,6550µm,0.4s								
T1216				AML		AML			
	comp=E,5755µm,0.3s								
T1218	**Civita (PG)**	**0.14**	**185**	⇑P		Pg	04 55 09.0		+0.5
T1218				S		Sg	04 55 11.5		+0.7
T1218				AML		AML			
	comp=E,6355µm,0.8s								
T1218				AML		AML			
	comp=N,8895µm,0.5s								
T1218				AML		AML			
	comp=E,6600µm,0.8s								
T1218				AML		AML			
	comp=N,9005µm,0.6s								
T1218				AML		AML			
	comp=N,9005µm,0.5s								
T1218				AML		AML			
	comp=N,8890µm,0.5s								
T1218				AML		AML			
	comp=E,6355µm,1.2s								
T1218				AML		AML			
	comp=N,8890µm,1.5s								
T1218				AML		AML			
	comp=N,9005µm,1.5s								
T1218				AML		AML			
	comp=E,6600µm,1.2s								
MMO1	**Montemonaco**	**0.17**	**57**	⇑P		Pg	04 55 09.7		+0.5
MMO1				S		Sg	04 55 12.7		+0.9
T1215	**Vallo di Nera,**	**0.19**	**269**	⇑P		Pg	04 55 10.0		+0.6
T1215				S		Sg	04 55 13.3		+1.0
T1215				AML		AML			
	comp=E,803µm,0.9s								
T1215				AML		AML			
	comp=N,1235µm,0.1s								
T1215				AML		AML			
	comp=E,793µm,0.9s								
T1215				AML		AML			
	comp=N,1230µm,0.1s								
T1215				AML		AML			
	comp=E,792µm,0.9s								
T1215				AML		AML			
	comp=E,792µm,1.1s								
T1215				AML		AML			
	comp=E,803µm,1.1s								
LNSS	**Leonessa**	**0.21**	**198**	⇑P		Pg	04 55 10.3		+0.5
LNSS				S		Sg	04 55 14.3		+1.4
LNSS				AML		AML			
	comp=N,7650µm,0.5s							

T1219					AML	AML				
	comp=N,1090μm,1.7s									
CSP1	**Cessapalombo**	**0.29**	**11**	⇑P	Pg	04 55 11.5	+0.2			
CSP1				AML	AML					
	comp=E,1445μm,1.0s									
CSP1				AML	AML					
	comp=N,1450μm,0.2s									
GUMA	**Gualdo di Mace**	**0.30**	**30**	⇑P	Pb	04 55 12.2	-0.5			
GUMA				AML	AML					
	comp=E,5755μm,0.3s									
GUMA				AML	AML					
	comp=N,4320μm,0.3s									
GUMA				AML	AML					
	comp=E,6280μm,0.3s									
GUMA				AML	AML					
	comp=N,5225μm,0.5s									
GUMA				AML	AML					
	comp=E,5755μm,0.3s									
GUMA				AML	AML					
	comp=N,4320μm,0.4s									
RM33	**Pellescritta (**	**0.30**	**168**	⇑P	Pg	04 55 11.8	+0.4			
RM33				AML	AML					
	comp=E,898μm,1.2s									
RM33				AML	AML					
	comp=N,990μm,0.4s									
RM33				AML	AML					
	comp=E,871μm,0.2s									
RM33				AML	AML					
	comp=N,990μm,0.4s									
RM33				AML	AML					
	comp=E,898μm,1.2s									
RM33				AML	AML					
	comp=N,1045μm,0.4s									
T1220	**Camerino, Fraz**	**0.31**	**354**	⇑P	Pg	04 55 12.1	+0.5			
T1220				AML	AML					
	comp=N,2835μm,0.2s									
T1220				AML	AML					
	comp=E,3185μm,1.5s									
T1220				AML	AML					
	comp=E,3095μm,1.5s									
T1220				AML	AML					
	comp=N,2735μm,0.3s									
T1220				AML	AML					
	comp=E,3095μm,0.5s									
T1220				AML	AML					
	comp=E,3185μm,0.5s									
CAMP	**Campotosto**	**0.34**	**143**	⇑P	Pg	04 55 12.4	+0.3			
CAMP				AML	AML					
	comp=E,674μm,0.8s									
CAMP				AML	AML					
	comp=N,360μm,0.3s									
CAMP				AML	AML					
	comp=E,674μm,1.2s									
ARRO	**Arrone**	**0.35**	**230**	⇑P	Pg	04 55 12.8	+0.5			
ARRO				AML	AML					
	comp=E,786μm,0.7s									
ARRO				AML	AML					
	comp=N,1062μm,0.2s									
ARRO				AML	AML					
	comp=N,1056μm,0.2s									
T1247	**Pizzolo (AQ)**	**0.38**	**161**	⇑P	Pg	04 55 13.3	+0.4			
T1247				AML	AML					
	comp=N,1260μm,0.4s									
T1247				AML	AML					
	comp=E,992μm,0.5s									
TERO	**Teramo**	**0.39**	**117**	⇑P	Pb	04 55 14.6	+0.2			
MOMA	**Monte Martano**	**0.41**	**270**	⇑P	Pg	04 55 13.9	+0.4			
MOMA				AML	AML					
	comp=E,1080μm,0.2s									
MOMA				AML	AML					
	comp=E,1105μm,0.2s									
MOMA				AML	AML					
	comp=N,761μm,0.5s									
MOMA				AML	AML					
	comp=N,746μm,0.5s									
ASSB	**Assisi San Ben**	**0.42**	**305**	⇑P	Pg	04 55 13.9	+0.3			
ASSB				AML	AML					
	comp=E,720μm,0.3s									
ASSB				AML	AML					
	comp=N,568μm,0.8s									
OFFI	**Offida**	**0.43**	**72**	⇑P	Pb	04 55 14.9	0.0			
OFFI				AML	AML					
	comp=N,1208μm,1.5s									
OFFI				AML	AML					
	comp=E,887μm,0.7s									
OFFI				AML	AML					
	comp=E,887μm,1.3s									
CESX	**Cesi**	**0.45**	**245**	⇑P	Pg	04 55 14.3	+0.2			
CESX				AML	AML					
	comp=E,504μm,0.5s									
CESX				AML	AML					
	comp=N,434μm,1.5s									
SNTG	**Esanatoglia**	**0.47**	**343**	P	Pg	04 55 15.0	+0.4			
SNTG				AML	AML					
	comp=N,308μm,0.5s									
SNTG				AML	AML					
	comp=E,238μm,0.3s									
SNTG				AML	AML					
	comp=E,350μm,0.9s									
SNTG				AML	AML					
	comp=N,287μm,0.2s									
SNTG				AML	AML					
	comp=N,308μm,0.5s									
GIGS	**Gran Sasso**	**0.48**	**137**	⇑P	Pg	04 55 14.6	-0.1			
GIGS				AML	AML					
	comp=E,204μm,0.1s									
GIGS				AML	AML					
	comp=N,116μm,0.7s									
AQU	**L'Aquila**	**0.49**	**156**	⇑P	Pb	04 55 16.1	0.0			
AQU				AML	AML					
	comp=E,249μm,1.2s									
AQU				AML	AML					
	comp=N,266μm,0.7s									
AQU				AML	AML					
	comp=N,274μm,0.7s									
AQU				AML	AML					
	comp=E,262μm,1.1s									
ATCC	**AVT- Casa Cast**	**0.52**	**317**	⇑P	Pg	04 55 15.9	+0.3			
ATCC				AML	AML					
	comp=E,511μm,0.4s									
ATCC				AML	AML					
	comp=N,388μm,0.4s									
ATCC				AML	AML					
	comp=N,388μm,1.6s									
ATCC				AML	AML					
	comp=E,511μm,1.6s									
EL6	**Elcito**	**0.53**	**358**	⇓P	Pg	04 55 15.9	+0.4			
EL6				S	Sb	04 55 24.7	+0.3			
EL6				AML	AML					
	comp=E,524μm,1.2s									
EL6				AML	AML					
	comp=N,612μm,0.2s									
EL6				AML	AML					
	comp=E,524μm,1.2s									
EL6				AML	AML					
	comp=E,524μm,0.8s									
EL6				AML	AML					
	comp=N,612μm,0.2s									
FIAM	**Fiamignano**	**0.54**	**181**	⇑P	Pg	04 55 15.8	0.0			
FIAM				S	Sb	04 55 24.0	-0.6			
FIAM				AML	AML					
	comp=N,278μm,0.2s									
FIAM				AML	AML					
	comp=E,375μm,0.2s									
FIAM				AML	AML					
	comp=N,278μm,1.8s									
FOSV	**Fossato di Vic**	**0.56**	**331**	⇓P	Pb	04 55 16.9	-0.3			
FOSV				AML	AML					
	comp=E,192μm,0.3s									
FOSV				AML	AML					
	comp=N,300μm,0.5s									
CING	**Cingoli**	**0.57**	**5**	⇑P	Pg	04 55 16.7	+0.2			
CING				AML	AML					
	comp=E,272μm,0.3s									
CING				AML	AML					
	comp=N,311μm,1.0s									
TRTR	**Tortoreto Alta**	**0.58**	**89**	⇑P	Pb	04 55 17.9	+0.5			
TRTR				AML	AML					
	comp=E,1130μm,0.5s									
TRTR				AML	AML					
	comp=N,991μm,1.0s									
TRTR				AML	AML					
	comp=N,991μm,1.0s									
FAGN	**Fagnano**	**0.63**	**148**	⇑P	Pg	04 55 17.7	+0.1			
FAGN				AML	AML					
	comp=E,509μm,0.4s									
FAGN				AML	AML					
	comp=N,446μm,1.6s									
FAGN				AML	AML					
	comp=N,446μm,0.4s									
MURB	**Monte Urbino**	**0.64**	**316**	P	Pb	04 55 18.2	-0.4			
MURB				AML	AML					
	comp=N,687μm,1.1s									
MURB				AML	AML					
	comp=E,836μm,0.2s									
MURB				AML	AML					
	comp=N,776μm,1.2s									
MURB				AML	AML					
	comp=E,960μm,0.2s									
VCEL	**Villa Celiera**	**0.67**	**128**	P	Pg	04 55 18.4	+0.2			
VCEL				AML	AML					
	comp=E,388μm,0.2s									
VCEL				AML	AML					
	comp=E,388μm,1.8s									
VCEL				AML	AML					
	comp=N,427μm,1.1s									
PP3	**Marolino**	**0.67**	**31**	⇑P	Pb	04 55 19.6	+0.5			
PP3				AML	AML					
	comp=N,887μm,1.3s									
PP3				AML	AML					
	comp=E,1770μm,0.4s									
PP3				AML	AML					
	comp=N,887μm,0.7s									
SSFR	**Montelago di S**	**0.68**	**338**	⇑P	Pb	04 55 19.0	-0.3			
SSFR				AML	AML					
	comp=E,486μm,1.3s									
SSFR				AML	AML					
	comp=N,469μm,0.3s									
SSFR				AML	AML					
	comp=E,486μm,0.7s									
SSFR				AML	AML					
	comp=N,497μm,0.3s									
SSFR				AML	AML					
	comp=E,508μm,0.2s									
ARVD	**Arcevia**	**0.71**	**349**	⇑P	Pb	04 55 19.4	-0.4			
ARVD				S	Sn	04 55 30.9	-1.4			
ARVD				AML	AML					
	comp=E,127μm,0.7s									
ARVD				AML	AML					
	comp=N,92μm,0.5s									
SRES	**S.Oreste - Sor**	**0.73**	**219**	⇓P	Pg	04 55 19.7	+0.3			
SRES				AML	AML					
	comp=E,177μm,0.9s									
SRES				AML	AML					
	comp=N,212μm,0.3s									
T0110	**Collepietro**	**0.75**	**140**	P	Pg	04 55 19.5	-0.3			
T0110				AML	AML					
	comp=N,309μm,1.5s									
T0110				AML	AML					
	comp=E,296μm,0.4s									
T0110				AML	AML					
	comp=N,309μm,0.5s									
MGAB	**Montegabbione**	**0.76**	**279**	⇓P	Pg	04 55 20.2	+0.3			
MGAB				AML	AML					
	comp=N,414μm,0.5s									
MGAB				AML	AML					
	comp=N,408μm,0.5s									
MGAB				AML	AML					
	comp=E,380μm,0.3s									
MGAB				AML	AML					
	comp=E,325μm,0.3s									
ATVO	**AVT- Monte Val**	**0.78**	**318**	P	Pb	04 55 21.0	0.0			
ATVO				AML	AML					
	comp=E,140μm,0.9s									
ATVO				AML	AML					
	comp=N,102μm,0.6s									
ATVO				AML	AML					
	comp=E,140μm,1.1s									
ATPI	**Pietralunga -**	**0.84**	**321**	⇑P	Pg	04 55 21.6	+0.1			
ATPI				AML	AML					
	comp=E,92μm,1.5s									
ATPI				AML	AML					
	comp=N,90μm,0.4s									
ATPI				AML	AML					
	comp=E,92μm,0.5s									
PIEI	**Pieia**	**0.85**	**329**	P	Pg	04 55 21.8	0.0			
PIEI				AML	AML					
	comp=E,116μm,0.2s									
PIEI				AML	AML					
	comp=N,68μm,1.3s									
PIEI				AML	AML					
	comp=N,68μm,0.7s									
PIEI				AML	AML					
	comp=E,116μm,1.8s									
CERT	**Cerreto**	**0.86**	**187**	⇑P	Pg	04 55 21.5	-0.5			
CERT				AML	AML					
	comp=E,330μm,0.6s									
CERT				AML	AML					
	comp=E,330μm,1.4s									
CERT				AML	AML					
	comp=N,186μm,0.5s									
MPAG	**Monte Paganucc**	**0.87**	**342**	P	Pb	04 55 22.7	+0.2			
MPAG				AML	AML					
	comp=E,111μm,1.0s									
MPAG				AML	AML					
	comp=N,89μm,0.5s									
INTR	**Introdacqua**	**0.98**	**144**	P	Pg	04 55 23.6	-0.5			
INTR				AML	AML					
	comp=N,231μm,0.9s									
INTR				AML	AML					
	comp=E,126μm,0.7s									
CAFI	**Castiglion Fio**	**1.00**	**302**	⇓P	Pb	04 55 24.9	+0.2			
CAFI				AML	AML					
	comp=N,93μm,0.9s									
CAFI				AML	AML					
	comp=E,134μm,0.6s									
SF04	**Casetta**	**1.08**	**272**	P	Pn	04 55 26.7	+0.2			

CNRM ***12*** *04:57:17.4,36˝.42N×9˝.25W,h75km,ml1.8*
MDD ***12*** *04:57:18.3±0.7,36˝.59N×9˝.77W,h30km,mb_Lg2.2/8,*
Error ellipse: s-maj=6.8km s-min=4.6km az=90.0
INMG ***12*** *04:57:19.4±1.4,36˝.67N×9˝.67W,h15km±5km,ML1.9,Error ellipse: s-maj=5.6km s-min=4.0km az=36.0*
SFS ***12*** *04:57:19.7,36˝.76N×9˝.75W,h25km,ML2.6/6,MLv2.6/6*
ISC 12 04:57:19.1±3.2,36.7N±0˝.1×9.69W±0˝.1,h33km±6km,n50,
σ0:95/90,1C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.80**	**59**	*e*P	**Pn**	**04 57 34.8**	**+0.7**
PFVI				*e*S	**Sb**	**04 57 45.0**	**-0.3**
PFVI				A	A	04 57 47.0	
	14nm,0.1s						
PFVI	**Vila Bisbo**	**0.80**	**59**	P	**Pn**	**04 57 35.0**	**+0.9**
PFVI				S	**Sb**	**04 57 45.0**	**-0.3**
PFVI	**Vila Bisbo**	**0.80**	**59**	P	**Pn**	**04 57 34.9**	**+0.8**
PFVI				S	**Sn**	**04 57 45.8**	**+0.8**
MORF	**Marmelete**	**1.01**	**54**	*e*P	**Pn**	**04 57 37.5**	**+0.4**
MORF				*e*S	**Sb**	**04 57 51.1**	**-0.1**
MORF				IAML		04 57 53.0	
	comp=E,19nm,0.1s						
MORF	**Marmelete**	**1.01**	**54**	*e*P	**Pb**	**04 57 38.2**	**0.0**
MORF				*e*S	**Sb**	**04 57 51.5**	**+0.3**
MORF				A	A	04 57 52.2	
	comp=E,20nm,0.1s						
PTEO	**Sao Teotonio**	**1.13**	**43**	*e*P	**Pn**	**04 57 39.6**	**+1.0**
PTEO				*e*S	**Sb**	**04 57 54.6**	**+0.1**
PTEO				A	A	04 57 55.7	
	comp=E,10nm,0.1s						
PCVE	**Castro Verde**	**1.60**	**55**	*e*Pn	**Pn**	**04 57 46.3**	**+1.2**
PCVE				*e*Sn	**Sn**	**04 58 05.9**	**+1.3**
PCVE				A	A	04 58 08.6	
	comp=E,2.5nm,0.3s						
MESJ	**Messejana**	**1.62**	**46**	*e*P	**Pn**	**04 57 46.0**	**+0.7**
MESJ				*e*S	**Sn**	**04 58 05.9**	**+0.8**
MESJ				IAML		04 58 08.4	
	comp=E,9.2nm,0.1s						
MESJ	**Messejana**	**1.62**	**46**	*e*Pn	**Pn**	**04 57 46.2**	**+0.8**
MESJ				*e*Sn	**Sn**	**04 58 06.2**	**+1.1**
MESJ				A	A	04 58 08.1	
	comp=E,3.8nm,0.2s						
PNCL	**Nicolau / Gran**	**1.67**	**33**	*e*Pn	**Pn**	**04 57 46.8**	**+0.8**
PNCL				*e*Sn	**Sn**	**04 58 07.5**	**+1.2**
PNCL				A	A	04 58 08.7	
	comp=E,5.8nm,0.3s						
PNCL	**Nicolau / Gran**	**1.67**	**33**	S	**Sn**	**04 58 05.1**	**-1.2**
PNCL				P	**Pn**	**04 57 46.2**	**+0.2**
PVAQ	**Vaqueiros**	**1.72**	**66**	*e*Pn	**Pn**	**04 57 47.5**	**+0.8**
PVAQ				*e*Sn	**Sn**	**04 58 07.8**	**+0.3**
PVAQ				A	A	04 58 12.0	
	comp=E,4.2nm,0.3s						
PVAQ	**Vaqueiros**	**1.72**	**66**	P	**Pn**	**04 57 44.5**	**-2.2**
PVAQ				S	**Sn**	**04 58 05.2**	**-2.3**
PVAQ	**Vaqueiros**	**1.72**	**66**	S	**Sn**	**04 58 07.7**	**+0.2**
PVAQ				P	**Pn**	**04 57 47.7**	**+1.0**
EGRO	**El Granado**	**1.94**	**65**	P	**Pn**	**04 57 50.5**	**+0.8**
EGRO	**El Granado**	**1.94**	**65**	P	**Pn**	**04 57 50.7**	**+1.0**
EGRO				S	**Sn**	**04 58 13.5**	**+0.5**
EGRO				*i* Vmb_Lg		04 58 14.7	
PBEJ	**Beja**	**1.95**	**47**	*e*Pn	**Pn**	**04 57 51.0**	**+1.1**
PBEJ				*e*Sn	**Sn**	**04 58 14.2**	**+0.9**
PBEJ				A	A	04 58 15.5	
	comp=E,3.2nm,0.4s						
EVO	**Evora**	**2.25**	**36**	⇑*i*Pn	**Pn**	**04 57 54.5**	**+0.5**
EVO				*e*Sn	**Sn**	**04 58 21.0**	**+0.5**
EVO				A	A	04 58 21.6	
	comp=E,9.6nm,0.1s						
EVO	**Evora**	**2.25**	**36**	S	**Sn**	**04 58 20.8**	**+0.2**
EVO				P	**Pn**	**04 57 54.4**	**+0.4**
PMAFR	**Mafra**	**2.25**	**8**	*e*Pn	**Pn**	**04 57 54.4**	**+0.2**
PMAFR				*e*Sn	**Sn**	**04 58 22.1**	**+1.3**
PMAFR				A	A	04 58 24.9	
	comp=E,14nm,0.2s						
PMAFR	**Mafra**	**2.25**	**8**	P	**Pn**	**04 57 54.3**	**+0.2**
PMAFR				S	**Sn**	**04 58 19.3**	**-1.5**
PBAR	**Barrancos**	**2.56**	**55**	*e*Pn	**Pn**	**04 57 59.0**	**+0.7**
PBAR				*e*Sn	**Sn**	**04 58 28.7**	**+0.4**
PBAR				A	A	04 58 30.0	
	comp=E,1.6nm,0.2s						
PMTG	**Montargil**	**2.62**	**26**	*e*Pn	**Pn**	**04 57 59.9**	**+0.8**
PMTG				*e*Sn	**Sn**	**04 58 30.3**	**+0.6**
PMTG				A	A	04 58 32.2	
	comp=E,3.1nm,0.3s						
EMIN	**Mina Concepcio**	**2.62**	**66**	P	**Pn**	**04 58 00.0**	**+0.8**
EMIN				S	**Sn**	**04 58 29.7**	**-0.2**
EMIN				*i* Vmb_Lg		04 58 31.1	
PESTR	**Estremoz**	**2.71**	**37**	*e*Pn	**Pn**	**04 58 00.6**	**+0.2**
PESTR				*e*Sn	**Sn**	**04 58 32.3**	**+0.2**
PESTR				A	A	04 58 41.9	
	comp=E,2.5nm,0.6s						
PESTR	**Estremoz**	**2.71**	**37**	P	**Pn**	**04 57 59.3**	**-1.1**
PESTR				S	**Sn**	**04 58 30.2**	**-1.9**
PESTR	**Estremoz**	**2.71**	**37**	P	**Pn**	**04 57 59.9**	**-0.5**
PESTR				S	**Sn**	**04 58 31.4**	**-0.6**
PSBE	**So Bento**	**2.88**	**14**	*e*Pn	**Pn**	**04 58 03.2**	**+0.5**
PSBE				*e*Sn	**Sn**	**04 58 36.6**	**+0.4**
PSBE				A	A	04 58 47.2	
	comp=E,3.9nm,0.6s						
EBAD	**Badajoz**	**2.94**	**45**	P	**Pn**	**04 58 03.4**	**-0.1**
EBAD				S	**Sn**	**04 58 37.2**	**-0.4**
EBAD	**Badajoz**	**2.94**	**45**	P	**Pn**	**04 58 03.7**	**+0.3**
EBAD				S	**Sn**	**04 58 37.3**	**-0.3**
EBAD				*i* Vmb_Lg		04 58 39.3	
PMRV	**Marv??o**	**3.25**	**33**	*e*Pn	**Pn**	**04 58 08.4**	**+0.5**
PMRV				*e*Sn	**Sn**	**04 58 44.9**	**-0.6**
PMRV				A	A	04 58 47.0	
	comp=E,3.7nm,0.2s						
PCAS	**Casmilo, Conde**	**3.46**	**15**	*e*Pn	**Pn**	**04 58 11.6**	**+1.0**
PCAS				*e*Sn	**Sn**	**04 58 51.3**	**+0.9**
PCBR	**Castelo Branco**	**3.57**	**28**	*e*Pn	**Pn**	**04 58 13.0**	**+0.9**
PCBR				*e*Sn	**Sn**	**04 58 53.3**	**+0.1**
PCBR				A	A	04 58 59.0	
	comp=E,1.3nm,0.6s						
ECAB	**El Cabril**	**3.66**	**67**	P	**Pn**	**04 58 14.5**	**+1.1**
ECAB				S	**Sn**	**04 58 53.8**	**-1.6**
ECAB				*i* Vmb_Lg		04 58 56.6	
MTE	**Manteigas**	**4.04**	**24**	*e*Pn	**Pn**	**04 58 19.4**	**+0.7**
MTE				*e*Sn	**Sn**	**04 59 04.6**	**-0.3**
MTE				A	A	04 59 06.7	
	comp=E,1.1nm,0.2s						
PVIS	**Viseu**	**4.23**	**19**	*e*Pn	**Pn**	**04 58 21.9**	**+0.6**
PVIS				*e*Sn	**Sn**	**04 59 09.2**	**-0.4**
PVIS				A	A	04 59 12.2	
	comp=E,2.0nm,0.1s						
EADA	**Adamuz**	**4.32**	**69**	P	**Pn**	**04 58 23.1**	**+0.6**
EADA				S	**Sn**	**04 59 09.4**	**-2.2**
EADA				*i* Vmb_Lg		04 59 14.0	
EPLA	**Plasencia**	**4.38**	**39**	P	**Pn**	**04 58 23.5**	**+0.2**
EPLA				S	**Sn**	**04 59 12.4**	**-0.8**
EPLA				*i* Vmb_Lg		04 59 13.9	
PVRL	**Vila Real**	**4.80**	**18**	*e*Sn	**Sn**	**04 59 23.2**	**-0.4**
POLO	**Lamas de Olo**	**4.88**	**17**	*e*Pn	**Pn**	**04 58 30.4**	**+0.2**
POLO				*e*Sn	**Sn**	**04 59 24.4**	**-1.1**
POLO				A	A	04 59 27.2	
	comp=E,1.9nm,0.8s						
MVO	**Moncorvo**	**4.90**	**24**	*e*Pn	**Pn**	**04 58 30.8**	**+0.3**
MVO				*e*Sn	**Sn**	**04 59 25.0**	**-1.1**
PAB	**San Pablo**	**5.07**	**55**	P	**Pn**	**04 58 33.1**	**+0.2**
PAB				S	**Sn**	**04 59 27.4**	**-2.9**
PAB				*i* Vmb_Lg		04 59 30.3	
PCAB	**Cabril**	**5.15**	**14**	*e*Pn	**Pn**	**04 58 34.1**	**+0.2**
PCAB				*e*Sn	**Sn**	**04 59 30.9**	**-1.3**
PCAB				A	A	04 59 33.8	
	comp=E,2.0nm,1.0s						
ELOB	**Lobios**	**5.29**	**13**	P	**Pn**	**04 58 35.6**	**-0.3**
ELOB				S	**Sn**	**04 59 33.4**	**-2.5**
ELOB				*i* Vmb_Lg		04 59 36.6	
PGAV	**Gavieira, Arco**	**5.35**	**11**	*e*Pn	**Pn**	**04 58 37.0**	**+0.2**
PGAV				*e*Sn	**Sn**	**04 59 36.1**	**-1.2**
PBRG	**Braganca**	**5.57**	**23**	*e*Pn	**Pn**	**04 58 40.5**	**+0.8**
PBRG				*e*Sn	**Sn**	**04 59 42.4**	**-0.2**
MD31	**MD31**	**5.59**	**132**	P	Pn	04 58 32.0	-8.0
MD31				S	Sn	04 59 28.8	-14
OUK	**Oukaimeden**	**5.70**	**164**	P	Pn	04 58 36.1	-5.7
OUK				S	Sn	04 59 34.3	-12
MDT	**Midelt**	**5.71**	**132**	P	Pn	04 58 35.5	-6.3
MDT				S	Sn	04 59 34.6	-12
OUZM	**OUZ**	**6.29**	**156**	P	Pn	04 58 43.9	-5.7
OUZM				S	Sn	04 59 48.5	-12

BUT ***12*** *04:59:00.1±2.1,45˝.84N±0˝.03×111˝.70W±0˝.06,h18km±5km, ML3.5/21,ML3.3/26(NEIC),Error ellipse: s-maj=5.8km s-min=4.9km az=68.0*
NEIC 12 04:59:00.4±2.0,45.86N±0˝.05×111˝.71W±0˝.03,h16km±4km,
Error ellipse: s-maj=8.0km s-min=1.7km az=197.0,
Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NQMA	**Gallatin River**	**0.27**	**81**		Pg	04 59 06.0	-0.3
NQMA					Sg	04 59 10.2	-0.2
BOZ	**Bozeman (W)**	**0.27**	**168**		Pg	04 59 06.4	0.0
BOZ				Sg	Sg	04 59 09.9	-0.7
BOZ				IAML		04 59 10.6	
	3μm,0.5s						
BOZ				IAML		04 59 10.9	
	2μm,0.5s						
LRM	**Limekiln Ridge**	**0.52**	**266**		Pb	04 59 11.2	0.0
HRY	**Holter Researc**	**0.85**	**354**	Pg	Pg	04 59 17.4	+0.4
YHL	**Hebgen Lake**	**1.08**	**160**		Pb	04 59 19.4	-1.4
GCR	**Grayling Creek**	**1.15**	**158**		Pb	04 59 21.0	-1.0
YHB	**Horse Butte**	**1.17**	**162**		Pn	04 59 21.3	-1.0
YPDC	**Denny Creek**	**1.20**	**164**		Pn	04 59 21.9	-0.8
YMC	**Maple Creek**	**1.21**	**155**		Pn	04 59 21.9	-1.0
YHH	**Holmes Hill**	**1.23**	**150**		Pn	04 59 22.2	-1.0
YMR	**Madison River**	**1.31**	**156**		Pb	04 59 24.6	-0.1
YMR					Sb	04 59 40.1	-1.1
YMR				IAML		04 59 42.9	
	comp=N,740nm,0.5s						
YMR				IAML		04 59 44.2	
	comp=E,808nm,0.4s						
MCMT	**McKenzie Canyo**	**1.31**	**218**	Pn	Pb	04 59 24.7	-0.1
CMI	**Centennial Mou**	**1.34**	**177**		Pn	04 59 24.8	+0.1
YPM	**Purple Mountai**	**1.34**	**153**		Pn	04 59 24.3	-0.5
YNR	**Norris Junctio**	**1.36**	**147**	Pn	Pb	04 59 25.3	-0.3
YNR				IAML		04 59 44.1	
	comp=E,501nm,0.2s						
YNR				IAML		04 59 44.4	
	comp=N,340nm,0.3s						
YUF	**Upper Falls**	**1.43**	**143**		Pb	04 59 26.5	-0.3
YUF				IAML		04 59 47.4	
	comp=N,741nm,0.2s						
YUF				IAML		04 59 48.3	
	comp=E,880nm,0.3s						
GCMT	**Greycliff**	**1.43**	**92**		Pn	04 59 26.2	+0.3
YJC	**Joseph's Coat**	**1.47**	**139**		Pb	04 59 27.3	-0.1
YML	**Mary Lake**	**1.47**	**149**		Pn	04 59 26.4	-0.1
LKWY	**Lake**	**1.59**	**144**		Pn	04 59 27.2	-1.0
LKWY				IAML		04 59 57.8	
	comp=E,199nm,0.6s						
YPPC	**Pelican Cone**	**1.62**	**138**		Pg	04 59 31.8	+0.2
H17A	**Grant Village**	**1

YPK	**Parker Peak, Y**	**1.70**	**131**		Pb	04 59 30.7	-0.7
MCID	**Moose Creek**	**1.71**	**167**		Pn	04 59 29.4	-0.4
YPP	**Pitchstone Pla**	**1.72**	**158**		Pn	04 59 30.8	+0.9
YTP	**The Promontory**	**1.79**	**145**		Pb	04 59 32.4	-0.4
MSO	**Missoula**	**1.82**	**303**		Pn	04 59 30.5	-0.7
MSO	**Missoula**	**1.82**	**303**	IAML		04 59 60.0	
	comp=E,277nm,0.3s						
MSO				IAML		05 00 00.5	
	comp=E,150nm,0.6s						
RLMT	**Red Lodge**	**1.87**	**112**		Pn	04 59 32.8	+0.8
BCYI	**Bear Canyon**	**1.96**	**218**		Pn	04 59 33.9	+0.7
HLID	**Hailey**	**3.00**	**221**		Pn	04 59 48.1	+0.7
HLID				IAML		05 00 36.1	
	comp=E,121nm,0.8s						
HLID				IAML		05 00 36.3	
	comp=E,183nm,0.3s						
PLID	**Pearl Lake**	**3.12**	**257**	Pn	Pn	04 59 49.3	+0.3
PLID				IAML		05 00 45.2	
	comp=E,56nm,0.3s						
MFID	**Camas Ranch**	**3.82**	**232**		Pn	04 59 58.8	+0.1
F10A	**Beach Ranch, E**	**3.85**	**274**		Pn	04 59 58.6	-0.4
BMO	**Blue Mountains**	**4.07**	**258**		Pn	05 00 01.2	-0.9
OD2	**Odessa Site #2**	**5.06**	**290**		Pg	05 00 33.9	-3.3

ROM 12 05:14:40.1±0.0, 42°50'N×0°00'2×13°18'1E±0°00'4, h11km, ML1.8/21, 9C-5D, Error ellipse: s-maj=0.3km s-min=0.2km az=269.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.02**	**64**	⇓P	Pg	05 14 42.4	+0.1
T1214				AML	AML		
	comp=E,1530μm,0.6s						
T1214				AML	AML		
	comp=N,1285μm,0.7s						
T1214				AML	AML		
	comp=N,1315μm,1.3s						
T1214				AML	AML		
	comp=E,1380μm,0.7s						
T1214				AML	AML		
	comp=N,1315μm,1.4s						
T1214				AML	AML		
	comp=N,1315μm,0.6s						
T1214				AML	AML		
	comp=N,1285μm,0.7s						
T1214				AML	AML		
	comp=E,1380μm,1.3s						
NRCA	**Norcia**	**0.10**	**330**	⇑P	Pg	05 14 43.2	+0.4
NRCA				S	Sg	05 14 45.0	+0.2
NRCA				AML	AML		
	comp=E,5345μm,0.1s						
NRCA				AML	AML		
	comp=E,4955μm,0.1s						
NRCA				AML	AML		
	comp=E,4960μm,0.1s						
NRCA				AML	AML		
	comp=N,6025μm,0.2s						
NRCA				AML	AML		
	comp=N,6195μm,0.2s						
T1212	**Cascia, Frazio**	**0.10**	**271**	⇑P	Pg	05 14 43.4	+0.5
T1212				S	Sg	05 14 45.4	+0.6
T1212				AML	AML		
	comp=E,762μm,0.2s						
T1212				AML	AML		
	comp=E,758μm,0.8s						
T1212				AML	AML		
	comp=E,762μm,0.2s						
T1212				AML	AML		
	comp=N,1355μm,0.2s						
T1212				AML	AML		
	comp=N,1315μm,0.2s						
T1212				AML	AML		
	comp=E,758μm,0.8s						
T1212				AML	AML		
	comp=E,758μm,1.2s						
T1245	**Castelsantange**	**0.11**	**3**	⇓P	Pg	05 14 43.4	+0.4
T1245				S	Sg	05 14 45.4	+0.2
T1245				AML	AML		
	comp=E,1945μm,1.1s						
T1245				AML	AML		
	comp=N,2070μm,0.2s						
T1245				AML	AML		
	comp=N,2070μm,1.8s						
T1245				AML	AML		
	comp=E,1945μm,0.9s						
MC2	**Monte Cornacci**	**0.16**	**2**	⇓P	Pg	05 14 44.4	+0.5
MC2				S	Sg	05 14 47.4	+0.8
SMA1	**SAN MARTINO**	**0.17**	**136**	⇑P	Pg	05 14 44.4	+0.5
SMA1				AML	AML		
	comp=E,487μm,0.1s						
SMA1				AML	AML		
	comp=N,422μm,0.1s						
LNSS	**Leonessa**	**0.18**	**215**	⇑P	Pg	05 14 44.7	+0.7
LNSS				S	Sg	05 14 47.9	+1.1
LNSS				AML	AML		
	comp=N,1530μm,0.7s						
LNSS				AML	AML		
	comp=E,1335μm,0.3s						
MMO1	**Montemonaco**	**0.18**	**36**	⇑P	Pg	05 14 44.6	+0.5
MMO1				S	Sg	05 14 47.8	+0.9
T1216	**Preci, Frazion**	**0.18**	**320**	⇑P	Pg	05 14 44.6	+0.5
T1216				AML	AML		
	comp=E,450μm,0.3s						
T1216				AML	AML		
	comp=E,450μm,0.3s						
T1216				AML	AML		
	comp=N,454μm,0.1s						
T1216				AML	AML		
	comp=E,450μm,1.7s						
T1241	**Roccafluvione,**	**0.21**	**60**	⇑P	Pg	05 14 45.1	+0.4
T1241				S	Sg	05 14 48.7	+1.0
T1241				AML	AML		
	comp=E,246μm,0.3s						
T1241				AML	AML		
	comp=N,195μm,0.8s						
T1215	**Vallo di Nera,**	**0.24**	**283**	⇑P	Pg	05 14 45.6	+0.6
T1215				S	Sg	05 14 49.6	+1.3
T1215				AML	AML		
	comp=E,188μm,0.9s						
T1215				AML	AML		
	comp=N,232μm,0.8s						
T1215				AML	AML		
	comp=E,176μm,0.9s						
T1215				AML	AML		
	comp=N,214μm,1.3s						
T1215				AML	AML		
	comp=E,176μm,0.9s						
T1215				AML	AML		
	comp=N,214μm,1.3s						
T1215				AML	AML		
	comp=N,232μm,0.8s						
T1215				AML	AML		
	comp=E,188μm,1.1s						
T1215				AML	AML		
	comp=E,176μm,1.1s						
RM33	**Pellescritta (**	**0.24**	**174**	P	Pg	05 14 45.7	+0.5
RM33				S	Sg	05 14 49.8	+1.3
RM33				AML	AML		
	comp=E,222μm,0.1s						
RM33				AML	AML		
	comp=N,168μm,0.3s						
RM33				AML	AML		
	comp=N,168μm,0.3s						
CAMP	**Campotosto**	**0.27**	**142**	⇑P	Pg	05 14 46.1	+0.4
CAMP				S	Sg	05 14 50.4	+0.9
CAMP				AML	AML		
	comp=N,95μm,0.2s						
CAMP				AML	AML		
	comp=E,260μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.32**	**164**	P	Pg	05 14 46.8	+0.3
T1247				S	Sb	05 14 52.3	-0.8
T1247				AML	AML		
	comp=E,184μm,1.1s						
T1247				AML	AML		
	comp=N,154μm,0.4s						
T1247				AML	AML		
	comp=E,184μm,0.9s						
CESI	**CESI - Serrava**	**0.33**	**322**	P	Pg	05 14 47.1	+0.5
CESI				AML	AML		
	comp=E,170μm,0.3s						
CESI				AML	AML		
	comp=N,322μm,0.3s						
CESI				AML	AML		
	comp=E,170μm,1.7s						
T1219	**Muccia, Frazio**	**0.33**	**337**	P	Pg	05 14 47.0	+0.2
T1219				AML	AML		
	comp=E,205μm,0.3s						
T1219				AML	AML		
	comp=E,212μm,0.3s						
T1219				AML	AML		
	comp=E,205μm,0.2s						
T1219				AML	AML		
	comp=N,256μm,0.3s						
T1219				AML	AML		
	comp=E,212μm,0.2s						
T1219				AML	AML		
	comp=E,212μm,1.8s						
T1219				AML	AML		
	comp=E,205μm,1.8s						
T1219				AML	AML		
	comp=N,222μm,0.2s						
T1219				AML	AML		
	comp=N,256μm,1.7s						
GUMA	**Gualdo di Mace**	**0.33**	**20**	P	Pb	05 14 47.5	-0.6
GUMA				S	Sb	05 14 53.0	-0.5
GUMA				AML	AML		
	comp=N,606μm,0.5s						
GUMA				AML	AML		
	comp=N,466μm,0.7s						
GUMA				AML	AML		
	comp=E,559μm,0.2s						
GUMA				AML	AML		
	comp=E,544μm,0.5s						
GUMA				AML	AML		
	comp=N,466μm,1.3s						
CSP1	**Cessapalombo**	**0.34**	**3**	P	Pg	05 14 46.9	-0.1
T1220	**Camerino, Fraz**	**0.37**	**349**	⇓P	Pg	05 14 47.9	+0.4
T1220				AML	AML		
	comp=N,326μm,0.2s						
T1220				AML	AML		
	comp=N,317μm,0.2s						
T1220				AML	AML		
	comp=E,434μm,1.6s						
T1220				AML	AML		
	comp=E,415μm,1.6s						
T1220				AML	AML		
	comp=N,316μm,0.2s						
T1220				AML	AML		
	comp=E,434μm,0.4s						
T1220				AML	AML		
	comp=E,415μm,0.4s						
GIGS	**Gran Sasso**	**0.41**	**136**	P	Pg	05 14 48.2	-0.1
OFFI	**Offida**	**0.41**	**63**	P	Pb	05 14 49.4	-0.1
MOMA	**Monte Martano**	**0.45**	**277**	P	Pg	05 14 49.4	+0.4
MOMA				AML	AML		
	comp=N,128μm,0.1s						
MOMA				AML	AML		
	comp=E,177μm,0.1s						
CESX	**Cesi**	**0.47**	**253**	P	Pg	05 14 49.5	+0.3
CESX				AML	AML		
	comp=N,91μm,0.3s						
CESX				AML	AML		
	comp=E,67μm,0.4s						
ASSB	**Assisi San Ben**	**0.48**	**307**	P	Pg	05 14 49.6	0.0
ASSB				AML	AML		
	comp=E,77μm,0.4s						
ASSB				AML	AML		
	comp=N,91μm,1.1s						
ASSB				AML	AML		
	comp=E,77μm,1.6s						
FIAM	**Fiamignano**	**0.48**	**186**	P	Pg	05 14 49.8	+0.2
FAGN	**Fagnano**	**0.57**	**148**	P	Pg	05 14 51.6	+0.5
FAGN				AML	AML		
	comp=E,72μm,0.4s						
FAGN				AML	AML		
	comp=N,78μm,1.6s						
FAGN				AML	AML		
	comp=E,72μm,1.6s						
FAGN				AML	AML		
	comp=N,78μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.59**	**318**	P	Pg	05 14 51.7	+0.2
CING	**Cingoli**	**0.63**	**1**	P	Pg	05 14 52.6	+0.4
T010	**Collepietro**	**0.69**	**140**	S	Sb	05 15 04.2	+0.6
SRES	**S.Oreste - Sor**	**0.71**	**224**	S	Sn	05 15 06.2	-1.0
ARVD	**Arcevia**	**0.77**	**347**	⇓P	Pb	05 14 55.7	+0.2
ARVD				S	Sn	05 15 07.4	-1.2

ROM 12 05:15:24.4±0.2, 41°52N±0°01×14°63E±0°01, h10km±1km, ML1.3/2, 2C, Error ellipse: s-maj=1.4km s-min=1.1km az=144.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACR	**S. Croce Del S**	**0.13**	**155**	⇑P	Pg	05 15 27.9	+0.3
SACR				S	Sg	05 15 30.8	+1.0
SACR				AML	AML		
	comp=E,236μm,0.4s						
SACR				AML	AML		
	comp=N,195μm,1.4s						
GATE	**Gambatesa**	**0.21**	**91**	P	Pb	05 15 30.1	-0.2
CIGN	**Sant'Elia a Pi**	**0.25**	**57**	S	Pb	05 15 31.2	+0.3
CIGN	**Sant'Elia a Pi**	**0.25**	**57**	P	Pb	05 15 30.6	-0.3
TRIV	**Trivento**	**0.26**	**346**	⇑P	Pb	05 15 30.5	-0.7
TRIV				S	Sg	05 15 34.1	+0.9
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
	comp=E,184μm,0.4s						
TRIV				AML	AML		
	comp=N,102μm,0.3s						
TRIV				AML	AML		
TRIV				AML	AML		
MIDA	**Miranda**	**0.31**	**294**	P	Pg	05 15 30.9	+0.2
MIDA				S	Sb	05 15 36.7	-0.4
MIDA				AML	AML		
	comp=N,68μm,0.6s						
MIDA				AML	AML		
	comp=E,73μm,1.6s						
MIDA				AML	AML		
	comp=E,73μm,0.4s						
VAGA	**Valle Agricola**	**0.32**	**251**	P	Pg	05 15 31.0	+0.2
VAGA				S	Sb	05 15 37.1	-0.2
PSB1	**Pescosannita**	**0.33**	**155**	P	Pg	05 15 31.2	+0.3
RNI2	**Rionero Sannit**	**0.40**	**297**	P	Pg	05 15 32.5	+0.1
MELA	**Melanico ??? S**	**0.42**	**63**	P	Pg	05 15 32.8	+0.1

DJA 12 05:23:21.1±0.6, 3°S±3°×12°8E±°, h11km±7km, M4.0/8, mb5.0/1, MLv3.5/8, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.93**	**170**	P	Pb	05 23 39.3	0.0
AAI				S	Sg	05 23 50.7	-0.6
NLAI	**Namlea**	**1.05**	**243**	P	Pn	05 23 41.7	-0.1
NLAI				S	Sn	05 23 56.2	-0.3
MSAI	**Masohi**	**1.06**	**123**	P	Pn	05 23 42.5	+0.6
SANI	**Sanana**	**2.17**	**289**	P	Pn	05 23 56.3	-0.9
SWI	**Sorong**	**3.73**	**60**	P	Pn	05 24 18.8	+0.1
FAKI	**Fak Fak**	**4.21**	**92**	P	Pn	05 24 25.1	-0.1
APSI	**Ampana**	**6.65**	**286**	P	Pn	05 24 58.7	-0.1

NNC ***12*** *05:56:46.3±1.7, 41°56N×83°48E, h8km±7km, mb4.3, mpv4.1, Error ellipse: s-maj=10.5km s-min=8.0km az=152.0*

SOME ***12*** *05:56:52.3, 41°40N×83°20E, h20km*

ISC 12 05:56:41.5±3.7, 41°3N±0°2×83°7E±0°2, h10km, n45, σ1§66/50, 11C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.32**	**313**	Pg	**Pg**	**05 57 46.7**	**+1.5**
	53nm,0.4s						
KTMS				Lg	Lg	05 58 24.3	
	53nm,0.2s						
KTMS	**Ketmen**	**3.32**	**313**	*e*Pg	**Pg**	**05 57 45.4**	**+0.3**
	40nm,0.5s						
KTMS				*e*Lg	Lg	05 58 22.1	
	53nm,0.2s						
SHLS	**Shalkode**	**3.69**	**303**	Pg	**Pb**	**05 57 47.7**	**+0.9**
	68nm,0.3s						
SHLS				Lg	Lg	05 58 25.6	
	286nm,0.4s						
SHLS	**Shalkode**	**3.69**	**303**	*e*Pg	**Pb**	**05 57 47.7**	**+0.9**
	68nm,0.3s						
SHLS				*e*Lg	Lg	05 58 25.6	
	286nm,0.4s						
UZB	**Uzynbulak**	**3.97**	**300**	Pg	**Pg**	**05 57 57.0**	**-0.5**
	32nm,0.3s						
UZB				Lg	Lg	05 58 42.2	
	59nm,0.3s						
UZB	**Uzynbulak**	**3.97**	**300**	*e*Pg	**Pg**	**05 57 57.0**	**-0.5**
	32nm,0.3s						
UZB				*e*Lg	Lg	05 58 42.2	
	59nm,0.3s						
DJR	**Jarkent**	**4.22**	**318**	Pg	**Pg**	**05 58 03.3**	**+1.0**
	36nm,0.4s						
DJR				Lg	Lg	05 58 52.6	
	100nm,0.4s						
DJR	**Jarkent**	**4.22**	**318**	*e*Pg	**Pg**	**05 58 03.4**	**+1.0**
	36nm,0.4s						
DJR				*e*Lg	Lg	05 58 52.6	
	100nm,0.4s						
KPKS	**Kokpek**	**4.33**	**302**	Pg	**Pg**	**05 58 02.2**	**-2.3**
	35nm,0.4s						
KPKS				Lg	Lg	05 58 51.2	
	206nm,0.5s						
KPKS	**Kokpek**	**4.33**	**302**	*e*Pg	**Pg**	**05 58 02.2**	**-2.3**
	35nm,0.4s						
KPKS				*e*Lg	Lg	05 58 51.2	
	206nm,0.5s						
SATY	**Saty**	**4.34**	**296**	Pg	**Pg**	**05 58 05.0**	**+0.4**
	63nm,0.6s						
SATY				Lg	Lg	05 58 55.2	
	172nm,0.5s						
SATY	**Saty**	**4.34**	**296**	*e*Pg	**Pg**	**05 58 05.0**	**+0.4**
	63nm,0.6s						
SATY				*e*Lg	Lg	05 58 55.2	
	172nm,0.5s						
ZHN	**Zhinishke**	**4.36**	**298**	Pg	**Pg**	**05 58 04.5**	**-0.6**
	33nm,0.5s						
ZHN				Lg	Lg	05 58 54.4	
	170nm,0.3s						
ZHN	**Zhinishke**	**4.36**	**298**	*e*Pg	**Pg**	**05 58 04.5**	**-0.6**
	33nm,0.5s						
ZHN				*e*Lg	Lg	05 58 54.4	
	170nm,0.3s						
KURS	**Kuram**	**4.67**	**300**	Pg	**Pg**	**05 58 11.7**	**+0.6**
	30nm,0.7s						
KURS				Lg	Lg	05 59 06.3	
	44nm,0.4s						
KURS	**Kuram**	**4.67**	**300**	*e*Pg	**Pg**	**05 58 11.7**	**+0.6**
	30nm,0.7s						
KURS				*e*Lg	Lg	05 59 06.3	
	44nm,0.4s						
KOTS	**Kotyrbulak**	**5.29**	**294**	Pg	**Pg**	**05 58 20.2**	**-2.5**
	36nm,0.3s						
KOTS				Lg	Lg	05 59 22.9	
	118nm,0.6s						
KOTS	**Kotyrbulak**	**5.29**	**294**	*e*Pg	**Pg**	**05 58 20.2**	**-2.5**
	36nm,0.3s						
KOTS				*e*Lg	Lg	05 59 21.5	
	118nm,0.6s						
MDOK	**Medeo**	**5.31**	**293**	⇓Pn	**Pn**	**05 58 02.9**	**+1.9**
	2.6nm,0.4s						
MDOK				⇓Pg	**Pb**	**05 58 17.6**	**+3.2**
	14nm,0.7s						
MDOK				Pg	**Pg**	**05 58 22.0**	**-1.1**
	17nm,0.4s						
MDOK				Lg	Lg	05 59 24.0	
	35nm,0.6s						
MDOK				Lg	Lg	05 59 26.7	
	23nm,0.8s						
TNSS	**Tian-Shan**	**5.34**	**292**	Pg	**Pg**	**05 58 23.8**	**0.0**
	16nm,0.5s						
TNSS				Lg	Lg	05 59 27.5	
	42nm,0.6s						
TNSS	**Tian-Shan**	**5.34**	**292**	*e*Pg	**Pg**	**05 58 23.8**	**0.0**
	16nm,0.5s						
TNSS				*e*Lg	Lg	05 59 27.5	
	42nm,0.6s						
TDK	**Taldyqorghan**	**5.40**	**316**	Pg	**Pg**	**05 58 25.8**	**+1.0**
	94nm,0.5s						
TDK				Lg	Lg	05 59 30.9	
	132nm,0.4s						
TDK	**Taldyqorghan**	**5.40**	**316**	*e*Pg	**Pg**	**05 58 25.8**	**+1.0**
	94nm,0.5s						
TDK				*e*Lg	Lg	05 59 30.9	
	132nm,0.4s						
IZV	**Izvestkoviy**	**5.57**	**291**	Pg	**Pg**	**05 58 26.8**	**-1.4**
	14nm,0.7s						
IZV				Lg	Lg	05 59 32.2	
	101nm,0.7s						
IZV	**Izvestkoviy**	**5.57**	**291**	*e*Pg	**Pg**	**05 58 26.9**	**-1.4**
	14nm,0.7s						
IZV				*e*Lg	Lg	05 59 32.2	
	101nm,0.7s						
MK31	**Makanchi Array**	**5.64**	**350**	⇓Pn	**Pn**	**05 58 05.4**	**0.0**
	0.2nm,0.2s,baz=177,slow=13,SNR=58						
MK31				⇓Pg	**Pb**	**05 58 21.6**	**+1.7**
	3.5nm,0.4s,baz=186,slow=17,SNR=23						
MK31				⇓Sn	**Sn**	**05 59 08.3**	**-1.8**
	7.6nm,0.4s,baz=161,slow=14,SNR=6.2						
MK31				⇓Lg	Lg	05 59 36.1	
	38nm,0.5s,baz=167,slow=27,SNR=6.9						
MAKZ	**Makanchi**	**5.70**	**348**	⇑Pn	**Pn**	**05 58 07.0**	**+0.8**
	0.3nm,0.2s						
MAKZ				⇑Pg	**Pb**	**05 58 22.6**	**+1.6**
	4.6nm,0.6s						
MAKZ				⇓Sn	**Sn**	**05 59 10.0**	**-1.6**
	12nm,0.4s						
MAKZ				⇑Lg	Lg	05 59 36.1	
	46nm,0.8s						
MTBS	**Maitube**	**5.73**	**292**	Pg	**Pg**	**05 58 31.2**	**0.0**
	16nm,0.7s						
MTBS				Lg	Lg	05 59 39.4	
	38nm,0.4s						
MTBS	**Maitube**	**5.73**	**292**	*e*Pg	**Pg**	**05 58 31.2**	**0.0**
	16nm,0.7s						
MTBS				*e*Lg	Lg	05 59 39.4	
	38nm,0.4s						
KTBS	**Karatobe**	**5.75**	**298**	Pg	**Pg**	**05 58 30.1**	**-1.5**
	18nm,0.4s						
KTBS				Lg	Lg	05 59 37.9	
	81nm,0.5s						
KTBS	**Karatobe**	**5.75**	**298**	*e*Pg	**Pg**	**05 58 30.1**	**-1.5**
	18nm,0.4s						
KTBS				*e*Lg	Lg	05 59 37.9	
	81nm,0.5s						
KST	**Kastek**	**6.03**	**290**	Pg	**Pg**	**05 58 35.7**	**-1.3**
	31nm,0.6s						
KST				Lg	Lg	05 59 47.5	
	59nm,0.7s						
KST	**Kastek**	**6.03**	**290**	*e*Pg	**Pg**	**05 58 35.7**	**-1.3**
	31nm,0.6s						
KST				*e*Lg	Lg	05 59 47.5	
	59nm,0.7s						
KUU	**Kurty**	**6.05**	**298**	Pg	**Pg**	**05 58 35.2**	**-2.2**
	12nm,0.6s						
KUU				Lg	Lg	05 59 46.6	
	40nm,0.4s						
KUU	**Kurty**	**6.05**	**298**	*e*Pg	**Pg**	**05 58 35.2**	**-2.2**
	12nm,0.6s						
KUU				*e*Lg	Lg	05 59 46.6	
	40nm,0.4s						
ZSN	**Zaisan**	**6.25**	**7**	Pg	Pg	05 58 46.2	+4.9
	7.2nm,0.5s						
ZSN				Lg	Lg	06 00 05.3	
	67nm,0.6s						
ZSN	**Zaisan**	**6.25**	**7**	*e*Pg	Pg	05 58 46.2	+4.9
	7.2nm,0.5s						
ZSN				*e*Lg	Lg	06 00 05.3	
	67nm,0.6s						
TKM2	**Tokmak 2**	**6.26**	**288**	⇓Pn	**Pn**	**05 58 15.4**	**+1.2**
	3.8nm,0.3s						
TKM2				⇓Pg	Pb	05 58 36.1	+5.3
	12nm,0.8s						
TKM2				⇑Sn	**Sn**	**05 59 26.7**	**+0.8**
	12nm,0.5s						
TKM2				⇑Lg	Lg	05 59 57.4	
	61nm,0.7s						
CHMS	**Chumysh**	**6.89**	**288**	⇓Pg	Pg	05 58 47.6	-5.7
	9.1nm,0.7s						
CHMS				⇓Lg	Lg	06 00 17.3	
	32nm,0.8s						
SGDS	**Sogindy**	**7.08**	**291**	Pg	**Pg**	**05 58 56.3**	**-0.7**
	4.6nm,0.5s						
SGDS				Lg	Lg	06 00 23.2	
	22nm,0.7s						
MRKS	**Merke**	**7.95**	**284**	Pg	**Pg**	**05 59 10.2**	**-3.5**
	4.7nm,0.8s						
MRKS				Lg	Lg	06 00 46.7	
	8.3nm,0.5s						
MRKS	**Merke**	**7.95**	**284**	*e*Pg	**Pg**	**05 59 10.2**	**-3.5**
	4.7nm,0.8s						
MRKS				*e*Lg	Lg	06 00 46.7	
	8.3nm,0.5s						

KK31	**Karatay Array**	**9.97 285**	⇑Pg		Pn	05 59 42.7	+38
	1.6nm,0.6s,baz=96,slow=15,SNR=3.7						
KK31			⇑Lg		Lg	06 01 55.5	
	9.1nm,0.8s,baz=97,slow=26						
KURBB	**Kurchatov Arra**	**10.04 341**	⇑Pn		**Pn**	**05 59 04.6**	**-1.1**
	6.0nm,1.4s						
KURBB			⇑Pg			05 59 41.7	
	2.9nm,0.6s						
KURBB			⇓Sn		**Sn**	**06 00 55.4**	**-3.0**
	8.8nm,0.6s						
KURBB			⇑Lg		Lg	06 01 53.0	
	38nm,0.8s						
KURK	**Kurchatov**	**10.11 341**	⇓Pn		**Pn**	**05 59 06.2**	**-0.4**
	2.8nm,1.1s						
KURK			⇑Pg			05 59 41.7	
	2.6nm,0.6s						
KURK			⇓Sn		**Sn**	**06 00 56.7**	**-3.2**
	6.2nm,0.6s						
KURK			⇓Lg		Lg	06 01 56.0	
	46nm,1.2s						

*IDC **12** 05:57:43.1±2.4, 17.49S×178.77W, h611km±21km, mb3.1/6, mbtmp4.0/7, Error ellipse: s-maj=102.5km s-min=19.0km az=147.0*
*NEIC **12** 05:57:43.0±0.8, 17.9S±0.3×178.59W±0.09, h604km±19km, mb4.1/15, Error ellipse: s-maj=39.9km s-min=8.4km az=165.0*

ISC 12 05:57:42.1±0.8, 17.7S±0.2×178.6W±0.1, h600km, n27, σ0.64/27, mb4.0/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19 269**		P	**P**	**05 59 03.5**	**+1.1**
	19nm,0.6s,baz=125,slow=5.3,SNR=24						
MSVF	**Nonsavu**	**3.19 269**		P	**P**	**05 59 03.7**	**+1.3**
NIUE	**Niue**	**8.35 101**		P	**P**	**05 59 45.2**	**+0.5**
LIFNC	**LIFOU**	**13.70 255**		P	**P**	**06 00 38.1**	**+0.1**
PINNC	**Pines Island,**	**13.96 247**		P	**P**	**06 00 40.6**	**0.0**
EIDS	**Eidsvold**	**29.15 250**		P	**P**	**06 02 56.3**	**-0.3**
EIDS				IAmb	IAmb	06 02 56.4	
	comp=Z,5.3nm,1.0s						
ARMA	**Armidale**	**29.87 239**		P	**P**	**06 03 02.1**	**-0.7**
ARMA				IAmb	IAmb	06 03 30.4	
	comp=Z,4.2nm,0.8s						
CTAO	**Charters Tower**	**33.29 260**		P	**P**	**06 03 31.5**	**-0.4**
CTAO				IAmb	IAmb	06 03 56.8	
	comp=Z,4.0nm,0.9s						
MANU	**Manus Island**	**36.86 291**		P	**P**	**06 04 01.1**	**-0.3**
COEN	**Coen**	**36.91 270**		P	**P**	**06 04 03.1**	**+1.2**
TOO	**Toolangi**	**37.14 231**		P	**P**	**06 04 02.6**	**-0.8**
TOO				IAmb	IAmb	06 04 03.7	
	comp=Z,7.3nm,0.9s						
STKA	**Stephens Creek**	**38.55 241**		P	**P**	**06 04 15.1**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=81,slow=12,SNR=4.9						
	comp=Z,2.4nm,0.7s						
STKA	**Stephens Creek**	**38.55 241**		P	**P**	**06 04 15.3**	**+0.4**
BBOO	**Buckleboo**	**43.33 241**		P	**P**	**06 04 52.1**	**-0.6**
BBOO				IAmb	IAmb	06 05 05.6	
	comp=Z,5.7nm,1.1s						
WR0	**Warramunga Arr**	**44.29 259**		P	**P**	**06 04 59.8**	**-0.5**
WB0	**Warramunga Arr**	**44.44 260**		P	**P**	**06 05 01.1**	**-0.4**
WB0				IAmb	IAmb	06 05 01.1	
	comp=Z,4.8nm,1.1s						
WB2	**Warramunga Arr**	**44.47 259**		P	**P**	**06 05 01.0**	**-0.7**
WB2				IAmb	IAmb	06 05 01.7	
	comp=Z,3.2nm,0.7s						
WRAB	**Tennant Creek**	**44.47 259**		P	**P**	**06 05 01.8**	**+0.1**
WRA	**Warramunga Arr**	**44.48 259**		P	**P**	**06 05 01.1**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=96,slow=7.1,SNR=52						
	comp=Z,1.7nm,0.5s						
AS31	**Alice Springs**	**44.66 254**		P	**P**	**06 05 02.9**	**-0.2**
AS31				IAmb	IAmb	06 05 03.7	
	comp=Z,3.9nm,0.5s						
ASAR	**Alice Springs**	**44.66 254**		P	**P**	**06 05 02.8**	**-0.3**
	comp=Z,10nm,0.6s,baz=87,slow=8.6,SNR=129						
	comp=Z,10nm,0.6s						
ASAR	**Alice Springs**	**44.66 254**		P	**P**	**06 05 02.2**	**-0.9**
KNRA	**Kununurra**	**50.32 264**		P	**P**	**06 05 45.8**	**+0.4**
KNRA				IAmb	IAmb	06 06 13.7	
	comp=Z,10nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.87 260**		P	**P**	**06 06 03.5**	**-0.1**
NVAR	**Mina Array Bea**	**79.43 44**		P	**P**	**06 08 47.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=213,slow=7.4,SNR=2.7						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**85.76 13**		P	**P**	**06 09 17.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=224,slow=5.1,SNR=8.5						
	comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**87.35 44**		P	**P**	**06 09 26.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=222,slow=1.2,SNR=4.1						
	comp=Z,0.3nm,0.5s						

DJA 12 06:13:36.9±0.6, 1°S±11°×13°1E±°, h10km, M3.6/4, mB5.7/1, MLv3.6/4, Mw(mB)5.3/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.48 146**		P	Pn	06 14 17.1	-0.3
RKPI	**Ransiki, Papua**	**3.39 101**		P	Pn	06 14 31.5	+1.6
LUWI	**Luwuk**	**8.08 269**		P	Pn	06 15 34.2	-0.2

*IDC **12** 06:18:48.3±14.0, 20.75N×144.71E, h75km±138km, mb3.4/8, mbtmp3.7/8, Error ellipse: s-maj=52.1km s-min=22.0km az=94.0*

ISC 12 06:18:50.9±1.1, 20.7N±0.2×144.7E±0.2, h100km, n14, σ0.86/8, mb3.6/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.88 92**		T	T	06 44 41.0	
	baz=280,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hy**	**20.89 92**		T	T	06 44 40.8	
	baz=280,slow=74,SNR=32						
H11N1	**WAKE ISLAND Hy**	**20.90 89**		T	T	06 44 40.8	
	baz=276,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**20.90 92**		T	T	06 44 41.4	
	baz=280,slow=74,SNR=28						
H11N2	**WAKE ISLAND Hy**	**20.90 89**		T	T	06 44 41.0	
	baz=276,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**20.91 89**		T	T	06 44 42.0	
	baz=276,slow=75,SNR=17						
KSRS	**Korea Array**	**22.10 323**		P	**P**	**06 23 38.9**	**+0.9**
	1.3nm,0.5s,baz=151,slow=9.9,SNR=3.1						
	1.3nm,0.5s						
KLR	**Kul'dur**	**30.24 343**		P	**P**	**06 24 51.5**	**-0.6**
	0.7nm,0.5s,baz=160,slow=8.6,SNR=3.7						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**41.67 195**		P	**P**	**06 26 29.6**	**-0.2**
	0.7nm,0.6s,baz=13,slow=8.7,SNR=10						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**56.35 313**		P	**P**	**06 28 21.5**	**-0.1**
	0.2nm,0.6s,baz=100,slow=7.3,SNR=4.4						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**62.27 27**		P	**P**	**06 29 00.9**	**-1.2**
	0.6nm,0.9s,baz=259,slow=6.1,SNR=6.6						
	0.6nm,0.9s						
INK	**Inuvik**	**67.90 23**		P	**P**	**06 29 38.3**	**-0.1**
	0.6nm,0.6s,baz=267,slow=5.4,SNR=5.2						
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**76.66 28**		P	**P**	**06 30 30.7**	**+0.1**
	0.8nm,0.7s,baz=288,slow=5.6,SNR=9.5						
	0.8nm,0.7s						
NVAR	**Mina Array Bea**	**82.67 52**		P	**P**	**06 31 04.9**	**+1.0**
	0.4nm,0.6s,baz=277,slow=6.8,SNR=4.4						
	0.4nm,0.6s						

IDC 12 06:26:22.5±4.6, 2.83S×139.65E, h0km, mb3.2/2, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=175.8km s-min=31.8km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.78 197**		P	Pn	06 30 30.9	-0.7
	0.2nm,0.3s,baz=19,slow=13,SNR=11						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**21.45 195**		P	P	06 31 13.0	+0.5
	0.4nm,0.4s,baz=24,slow=9.9,SNR=10						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**70.46 322**		P	P	06 37 38.9	0.0
	0.2nm,0.5s,baz=107,slow=7.7,SNR=2.3						
	0.2nm,0.5s						

*NEIC **12** 06:42:21.6±1.4, 38.85N±0.08×94.2E±0.1, h10km±2km, mb4.0/11, Error ellipse: s-maj=21.4km s-min=5.5km az=231.0*
*IDC **12** 06:42:24.6±0.8, 38.47N×93.18E, h0km, mb3.9/11, mbtmp3.9/12, ML3.0/1, Error ellipse: s-maj=35.3km s-min=17.5km az=55.0*
*NNC **12** 06:42:32.4±4.0, 38.74N×92.37E, h0km, mb4.2, Error ellipse: s-maj=68.8km s-min=32.6km az=58.0*

ISC 12 06:42:26.2±0.5, 38.61N±0.05×93.20E±0.05, h10km, n39, σ1.87/45, mb3.9/12, 3C-4D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**2.73 151**		Pn	**Pn**	**06 43 09.9**	**-0.5**
GOMU				Pg	**Pb**	**06 43 14.0**	**-1.3**
GOMU				Sn	**Sb**	**06 43 49.2**	**+0.2**
GOMU				Sg	**Sg**	**06 43 56.1**	**+2.2**
GOMU				smax	smax		
	comp=N,260nm,0.7s						
GOMU				smax	smax		
	comp=E,290nm,0.7s						
GTA	**Gaotai**	**5.22 79**		Pn	**Pb**	**06 43 55.9**	**-1.7**
GTA				Pg	**Pg**	**06 44 04.9**	**-1.2**
GTA				Sg	**Sg**	**06 45 17.2**	**+3.5**
GTA				smax	smax		
	comp=N,59nm,1.1s						
GTA				smax	smax		
	comp=E,36nm,0.7s						
WMQ	**Urumqi**	**6.66 323**		ePn	**Pn**	**06 44 08.0**	**+3.9**
WMQ				Sn	**Sn**	**06 45 23.4**	**+3.4**
WMQ				smax	smax		
	comp=N,68nm,0.9s						
WMQ				smax	smax		
	comp=E,81nm,0.9s						
MK31	**Makanchi Array**	**11.45 319**			**Pn**	**06 45 09.0**	**-0.7**
MK31	**Makanchi Array**	**11.45 319**		⇓Pn	**Pn**	**06 45 10.3**	**+0.6**
	comp=E,1.2nm,0.5s,baz=126,slow=14,SNR=67						
MK31				⇓Sn	**Sn**	**06 47 14.3**	**-3.3**
	comp=E,3.6nm,0.7s,baz=129,slow=25,SNR=9.4						
MKAR	**Makanchi Array**	**11.45 319**		Pn	**Pn**	**06 45 10.5**	**+0.8**
	comp=E,0.7nm,0.3s,baz=128,slow=14,SNR=37						
MKAR				Sn	**Sn**	**06 47 16.5**	**-1.1**
	comp=E,0.7nm,0.3s,baz=133,slow=22,SNR=6.7						
MKAR	**Makanchi Array**	**11.45 319**			**Pn**	**06 45 09.3**	**-0.5**
MAKZ	**Makanchi**	**11.62 318**			**Pn**	**06 45 11.3**	**-0.8**
MAKZ	**Makanchi**	**11.62 318**		⇓Pn	**Pn**	**06 45 12.7**	**+0.6**
	comp=E,3.9nm,0.7s						
MAKZ				⇑Sn	**Sn**	**06 47 18.3**	**-3.5**
	comp=E,2.8nm,0.8s						
KSH	**Kashi**	**13.42 279**		P	**Pn**	**06 45 39.2**	**+2.4**
KSH				pP	P	06 45 42.7	-3.6
KSH				sP		06 45 46.9	
KSH				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ULN	**Ulaanbaatar**	**13.68 43**		Pn	Pn	06 45 25.9	-14
TKM2	**Tokmak 2**	**14.01 293**		⇓Pn	**Pn**	**06 45 42.8**	**-2.2**
	comp=Z,5.3nm,1.1s						
AAK	**Ala-Archa**	**14.76 292**		Pn	**Pn**	**06 45 58.5**	**+3.4**
ENH	**Enshi**	**15.79 117**		Pn	Pn	06 45 59.1	-10
ENH				IAmb	IAmb	06 46 10.1	
	comp=Z,24nm,1.5s						
KURBB	**Kurchatov Arra**	**15.88 324**		Pn	**Pn**	**06 46 08.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=2.6						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**15.88 324**		⇑Pn	**Pn**	**06 46 10.4**	**+0.7**
	comp=Z,5.1nm,0.6s						
KURK	**Kurchatov**	**15.90 324**			**Pn**	**06 46 07.6**	**-2.3**
KURK				IAmb	IAmb	06 46 35.1	
	comp=Z,7.1nm,1.2s						
KURK	**Kurchatov**	**15.90 324**		⇑Pn	**Pn**	**06 46 11.7**	**+1.8**
	comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**16.38 342**		Pn	**Pn**	**06 46 11.5**	**-4.6**
KK31	**Karatay Array**	**17.72 292**		P	**Pn**	**06 46 33.0**	**0.0**
KKAR	**Karatay Array**	**17.72 292**		P	**Pn**	**06 46 33.2**	**+0.2**
BJT	**Baijiatuau**	**17.83 78**		P	Pn	06 46 21.2	-13
BJT				IAmb	IAmb	06 46 25.6	
	comp=Z,9.8nm,0.5s						
GAR	**Garm**	**17.83 278**		P	**P**	**06 46 38.1**	**+2.9**
GAR				IAmb	IAmb	06 46 39.1	
	comp=Z,6.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**20.69 164**		P	**P**	**06 47 05.9**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=336,slow=11,SNR=4.2						
	comp=Z,0.5nm,0.3s						
BVAR	**Borovoye Array**	**21.33 320**		P	**P**	**06 47 14.8**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=126,slow=9.3,SNR=4.5						
	comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**26.01 305**		P	**P**	**06 47 58.7**	**-0.5**
ABKAR				IAmb	IAmb	06 48 12.4	
	comp=Z,3.3nm,1.5s						
KS19	**Wonju Array Si**	**27.23 81**		P	P	06 47 57.2	-13
RAYN	**Ar Rayn**	**43.06 264**		P	**P**	**06 50 26.7**	**+0.4**
RAYN				IAmb	IAmb	06 50 34.4	
	comp=Z,4.1nm,0.8s						
BR131	**Keskin Array S**	**45.43 291**		P	**P**	**06 50 46.1**	**+0.7**
BRTR	**Keskin Array B**	**45.43 291**		P	**P**	**06 50 45.5**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=102,slow=5.5,SNR=10						
	comp=Z,1.2nm,0.5s						
BRTR	**Keskin Array B**	**45.43 291**		P	**P**	**06 50 45.7**	**+0.3**
FINES	**FINESS Array B**	**46.26 322**		P	**P**	**06 50 52.0**	**+0.6**
	comp=Z,7.0nm,1.1s,baz=82,slow=10.0,SNR=3.5						
	comp=Z,7.0nm,1.1s						
ARCES	**ARCESS Array B**	**46.66 333**		P	**P**	**06 50 55.6**	**+1.1**
	comp=Z,4.9nm,1.1s,baz=87,slow=6.2,SNR=6.7						
ARCES				PcP	**PcP**	**06 52 28.3**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=20,slow=3.9,SNR=4.6						
	comp=Z,4.9nm,1.1s						
NOA	**NORSAR Array B**	**53.41 323**		P	**P**	**06 51 45.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=75,slow=7.4,SNR=1.8						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**66.80 24**		P	**P**	**06 53 18.6**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=291,slow=5.4,SNR=5.9						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**69.86 139**		P	**P**	**06 53 36.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=333,slow=6.0,SNR=2.4						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**72.75 141**		P	**P**	**06 53 54.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=334,slow=6.3,SNR=7.4						
	comp=Z,0.7nm,0.6s						
YKA	**Yellowknife Ar**	**76.78 13**		P	**P**	**06 54 17.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=339,slow=4.9,SNR=4.7						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**83.08 281**		P	**P**	**06 54 51.7**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=52,slow=5.8,SNR=1.4						
	comp=Z,2.4nm,0.3s						

*SLM **12** 06:42:58.8±1.0, 34.18N±0.04×92.49W±0.05, h10km±6km, Md2.6/15, mb_Lg3.1/131(NEIC), ML3.3/12(NEIC), Error ellipse: s-maj=5.8km s-min=5.7km az=56.0*
*NEIC **12** 06:42:58.8±0.9, 34.18N±0.04×92.49W±0.06, h10km±6km, Error ellipse: s-maj=6.9km s-min=5.4km az=80.0*
*ANF **12** 06:42:58.2±0.2, 34.15N×92.49W, h5km±2km, ML3.8/28, Error ellipse: s-maj=2.2km s-min=1.3km az=10.0*

ISC 12 06:42:58.2±1.1, 34.17N±0.03×92.49W±0.03, h7km±10km, n165, σ0.72/145, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X40A	**Basin Creek Fa**	**0.43 318**		Pg	**Pg**	**06 43 06.6**	**+0.1**
X40A	**Basin Creek Fa**	**0.43 318**			**Sg**	**06 43 12.2**	**+0.1**
X40A	**Basin Creek Fa**	**0.43 318**		IAML		06 43 14.7	
	comp=N,3μm,0.3s						
X40A				IAML		06 43 14.7	
	comp=E,3μm,0.2s						
X40A	**Basin Creek Fa**	**0.43 318**		P	**Pg**	**06 43 06.7**	**+0.2**
	baz=137,SNR=351						
X40A				P	**Pg**	**06 43 06.7**	**+0.2**
	baz=137,SNR=351						
UALR	**University of**	**0.62 11**			**Pg**	**06 43 10.0**	**-0.1**
UALR				Sg	**Sg**	**06 43 18.3**	**+0.1**
CCAR	**Cane Creek**	**0.64 113**			**Pg**	**06 43 10.8**	**+0.2**
CCAR				Sg	**Sb**	**06 43 20.7**	**-0.2**
CCAR				IAML		06 43 22.6	
	comp=E,2μm,0.5s						
CCAR				IAML		06 43 24.2	
	comp=N,2μm,0.7s						
CCAR	**Cane Creek**	**0.64 113**		P	**Pg**	**06 43 10.8**	**+0.2**
	baz=294,SNR=150						
CCAR				S	**Sb**	**06 43 20.9**	**0.0**
	baz=294						
WLAR	**White Oak Lake**	**0.71 228**		Pg	**Pg**	**06 43 12.3**	**+0.5**
WLAR				Sg	**Sg**	**06 43 21.4**	**+0.4**
MIAR	**Mount Ida**	**0.98 293**			**Pg**	**06 43 16.4**	**-0.5**
MIAR				IAML		06 43 34.3	
	comp=N,993nm,0.5s						
MIAR	**Mount Ida**	**0.98 293**		P	**Pg**	**06 43 16.6**	**-0.3**
	baz=112,SNR=499						
MIAR				S	**Sg**	**06 43 30.1**	**+0.4**
	baz=112						
WHAR	**Wooly Hollow**	**1.13 8**		Pg	**Pb**	**06 43 19.3**	**-0.7**
WHAR				IAML		06 43 37.4	
	comp=E,217nm,0.3s						
143A	**Socs Landing,**	**1.72 148**			**Pn**	**06 43 28.4**	**-0.1**
143A	**Socs Landing,**	**1.72 148**		P	**Pn**	**06 43 28.9**	**+0.4**
	baz=329						
143A				S	**Sn**	**06 43 50.7**	**0.0**
	baz=329						
FCAR	**Ozark Folk Cen**	**1.74 10**			**Pn**	**06 43 29.1**	**+0.3**
QUAR	**Qualls**	**2.11 45**			**Pn**	**06 43 35.3**	**+1.5**
LCAR	**Lake Charles**	**2.19 30**			**Pn**	**06 43 35.0**	**+0.1**
LCAR				IAmb_Lg		06 44 07.2	
	comp=Z,105nm,0.9s						
U40A	**Yellville**	**2.20 352**			**Pn**	**06 43 36.7**	**+1.5**
U40A	**Yellville**	**2.20 352**		P	**Pn**	**06 43 36.8**	**+1.6**
	baz=172,SNR=190						
U40A				P	**Pn**	**06 43 36.8**	**+1.6**
	baz=172,SNR=190						
Z38A	**Mt. Pleasant**	**2.27 247**			**Pn**	**06 43 35.5**	**-0.6**
Z38A	**Mt. Pleasant**	**2.27 247**		P	**Pn**	**06 43 36.2**	**+0.1**
	baz=65,SNR=7.7						
Z38A				S	**Sn**	**06 44 04.7**	**+0.4**
	baz=65						
SFTN	**Shelby Forest**	**2.35 59**			**Pn**	**06 43 37.9**	**+0.7**
HHAR	**Hobbs**	**2.42 331**			**Pn**	**06 43 38.1**	**-0.1**
X37A	**Clayton**	**2.42 281**			**Pn**	**06 43 39.2**	**+1.0**
X37A	**Clayton**	**2.42 281**		P	**Pn**	**06 43 39.0**	**+0.8**
	baz=99,SNR=125						
Y45A	**Yeager Farm, C**	**2.46 96**			**Pn**	**06 43 39.0**	**+0.2**
Y45A				IAmb_Lg		06 44 17.2	
	comp=Z,89nm,0.7s						
Y45A	**Yeager Farm, C**	**2.46 96**		P	**Pn**	**06 43 38.9**	**+0.2**
	baz=278,SNR=16						
Y45A				S	**Sn**	**06 44 10.1**	**+1.1**
	baz=278						
VBMS	**Vicksburg**	**2.55 139**		Pn	**Pn**	**06 43 40.0**	**+0.1**
VBMS				IAmb_Lg		06 44 20.3	
	comp=Z,54nm,1.1s						
VBMS	**Vicksburg**	**2.55 139**		P	**Pn**	**06 43 39.9**	**0.0**
	baz=320						
VBMS				S	**Sn**	**06 44 11.4**	**+0.2**
	baz=320						
OXF	**Oxford**	**2.57 81**			**Pn**	**06 43 40.4**	**+0.3**
OXF				IAmb_Lg		06 44 22.9	
	comp=Z,90nm,0.7s						
OXF	**Oxford**	**2.57 81**		P	**Pn**	**06 43 41.0**	**+0.8**
	baz=263						
OXF				S	**Sn**	**06 44 12.4**	**+0.7**
	baz=263						
U38A	**Gravette**	**2.75 326**			**Pn**	**06 43 43.6**	**+1.0**
U38A				IAmb_Lg		06 44 25.0	
	comp=Z,71nm,0.7s						
U38A	**Gravette**	**2.75 326**		P	**Pn**	**06 43 43.5**	**+0.9**
	baz=145						
U38A				S	**Sn**	**06 44 16.7**	**+0.5**
	baz=145						
342A	**Flagon Creek P**	**2.79 177**		IAmb_Lg		06 44 27.0	
	comp=Z,65nm,1.2s						
RLO	**Rose Lookout**	**2.88 314**		Pn	**Pn**	**06 43 44.9**	**+0.5**
W45A	**Hickory Valley**	**2.89 69**			**Pn**	**06 43 45.0**	**+0.4**
W45A	**Hickory Valley**	**2.89 69**		P	**Pn**	**06 43 44.8**	**+0.2**
	baz=251						
MGMO	**Mountain Grove**	**2.98 3**			**Pn**	**06 43 45.9**	**-0.1**
MGMO				IAmb_Lg		06 44 37.9	
	comp=Z,42nm,0.8s						
NATX	**Nacogdoches**	**3.02 218**			**Pn**	**06 43 47.0**	**+0.6**
NATX				IAmb_Lg		06 44 43.2	
	comp=Z,75nm,0.8s						
PBMO	**Poplar Bluff**	**3.10 32**		Pn	**Pn**	**06 43 47.6**	**+0.1**
PBMO				IAmb_Lg		06 44 36.6	
	comp=Z,49nm,0.8s						
HALT	**Halls**	**3.11 55**		Pn	**Pn**	**06 43 47.7**	**0.0**
HALT				IAmb_Lg		06 44 39.7	
	comp=Z,70nm,0.8s						
TUL1	**Leonard**	**3.22 304**			**Pn**	**06 43 49.9**	**+0.7**
TUL1				IAmb_Lg		06 44 48.7	
	comp=Z,56nm,1.0s						
TUL1	**Leonard**	**3.22 304**		P	**Pn**	**06 43 49.2**	**0.0**
	baz=122,SNR=20						
146A	**Union**	**3.25 117**			**Pn**	**06 43 51.4**	**+1.9**
146A	**Union**	**3.25 117**			**Pn**	**06 43 51.0**	**+1.4**
146A	**Union**	**3.25 117**		IAmb_Lg		06 44 48.3	
	comp=Z,51nm,0.8s						
PENMO	**Penman**	**3.26 45**			**Pn**	**06 43 48.8**	**-1.0**
GLAT	**Glass**	**3.35 50**		Pn	**Pn**	**06 43 50.9**	**0.0**
441A	**DeRidder**	**3.46 190**		Pn	**Pn**	**06 43 52.6**	**+0.1**
237A	**Washetta, Mont**	**3.53 233**		Pn	**Pn**	**06 43 53.8**	**+0.4**
237A				IAmb_Lg		06 45 00.5	
	comp=Z,38nm,0.8s						
237A	**Washetta, Mont**	**3.53 233**		P	**Pn**	**06 43 53.6**	**+0.2**
	baz=51						
S39A	**Bolivar**	**3.58 349**			**Pn**	**06 43 55.1**	**+1.0**
S39A	**Bolivar**	**3.58 349**		P	**Pn**	**06 43 54.5**	**+0.4**
	baz=169						
UTMT	**University of**	**3.67 53**		Pn	**Pn**	**06 43 55.8**	**+0.5**
DEOK	**Depew**	**3.69 298**			**Pn**	**06 43 56.2**	**+0.6**
DEOK				IAmb_Lg		06 45 02.7	
	comp=Z,51nm,1.1s						
PLAL	**Pickwick Lake**	**3.73 76**			**Pn**	**06 43 56.4**	**+0.3**
PLAL				IAmb_Lg		06 45 04.1	
	comp=Z,40nm,0.9s						
PWLA	**Pickwick Lake**	**3.74 76**			**Pn**	**06 43 56.5**	**+0.3**
346A	**Big Creek Wild**	**3.76 137**		Pn	**Pn**	**06 43 56.9**	**+0.3**
346A	**Big Creek Wild**	**3.76 137**		P	**Pn**	**06 43 57.0**	**+0.3**
	baz=318						
Z47A	**Carrollton**	**3.81 103**			**Pn**	**06 43 58.3**	**+1.1**
Z47A				IAmb_Lg		06 45 08.3	
	comp=Z,31nm,0.7s						
Z47A	**Carrollton**	**3.81 103**		P	**Pn**	**06 43 57.7**	**+0.5**
	baz=286						
CGM3	**Cape Girardeau**	**3.88 36**		IAmb_Lg		06 45 01.5	
	comp=Z,36nm,0.8s						
LOOK	**Love County**	**3.90 269**		IAmb_Lg		06 45 12.0	
	comp=Z,30nm,0.9s						
OK034	**

X34A	Smith Ranch, M	4.44	277	Pn	Pn	06 44 05.8	-0.2	
BCOK	Bluff Creek, N	4.46	291	IAmb_Lg		06 45 19.3		
	comp=Z,9.8nm,0.8s							
X48A	Hartselle	4.51	85	Pn	Pn	06 44 07.5	+0.6	
X48A				IAmb_Lg		06 45 22.8		
	comp=Z,24nm,0.8s							
X48A	Hartselle	4.51	85	P	Pn	06 44 06.8	-0.1	
	baz=268,SNR=9.5							
BLOK	Blackwell	4.65	305	IAmb_Lg		06 45 28.0		
	comp=Z,43nm,1.0s							
WHTX	Lake Whitney,	4.70	244	Pn	Pn	06 44 09.3	-0.2	
WHTX	Lake Whitney,	4.70	244	P	Pn	06 44 09.7	+0.2	
	baz=61,SNR=22							
LRAL	Lakeview Retre	4.72	102		Pn	06 44 09.8	+0.2	
LRAL	Lakeview Retre	4.72	102	P	Pn	06 44 09.9	+0.2	
	baz=286							
SLM	Saint Louis	4.81	21	IAmb_Lg		06 45 30.6		
	comp=Z,38nm,0.8s							
V48A	Smith Brothers	4.91	70		Pn	06 44 12.5	+0.1	
V48A				IAmb_Lg		06 45 43.7		
	comp=Z,25nm,0.9s							
V48A	Smith Brothers	4.91	70	P	Pn	06 44 12.2	-0.2	
	baz=253							
KAN13	South Haven SW	4.96	306	IAmb_Lg		06 45 42.0		
	comp=Z,47nm,0.8s							
Y49A	Blount Mountai	5.05	92		Pn	06 44 14.4	+0.1	
Y49A	Blount Mountai	5.05	92	P	Pn	06 44 14.3	-0.1	
	baz=275,SNR=22							
CROK	Carrier	5.06	299	IAmb_Lg		06 45 37.3		
	comp=Z,17nm,0.7s							
KAN09	Caldwell North	5.12	307	IAmb_Lg		06 45 43.1		
	comp=Z,46nm,0.9s							
T47A	Sharon Grove	5.21	56		Pn	06 44 17.3	+0.8	
T47A				IAmb_Lg		06 45 48.7		
	comp=Z,41nm,0.8s							
T47A	Sharon Grove	5.21	56	P	Pn	06 44 16.8	+0.3	
	baz=239							
WMOK	Wichita Mounta	5.23	278		Pn	06 44 16.7	-0.2	
WMOK	Wichita Mounta	5.23	278	P	Pn	06 44 16.8	0.0	
	baz=94,SNR=20							
KAN14	Manchester OK	5.26	303	IAmb_Lg		06 45 44.9		
	comp=Z,26nm,1.1s							
CSTR	Hydro, Custer	5.31	288	IAmb_Lg		06 45 49.3		
	comp=Z,2.0nm,0.8s							
KAN06	Argonia West S	5.34	307	IAmb_Lg		06 45 48.7		
	comp=Z,38nm,0.8s							
OK032	Salt Plains WL	5.36	301	Pn	Pn	06 44 18.9	+0.3	
P40A	Paris	5.36	4		Pn	06 44 19.1	+0.5	
P40A				IAmb_Lg		06 45 56.2		
	comp=Z,29nm,0.8s							
P40A	Paris	5.36	4	P	Pn	06 44 19.0	+0.4	
	baz=184							
CLTN	Cedars of Leba	5.39	67		Pn	06 44 19.5	+0.5	
CLTN				IAmb_Lg		06 46 04.6		
	comp=Z,26nm,0.9s							
KAN12	Harper NE Stat	5.46	306	IAmb_Lg		06 45 51.7		
	comp=Z,34nm,0.8s							
BRAL	Brewton	5.47	122	Pn	Pn	06 44 20.3	+0.2	
SWET	Sewanee	5.50	77		Pn	06 44 21.0	+0.5	
SWET				IAmb_Lg		06 46 04.8		
	comp=Z,42nm,1.1s							
P38A	Dawn	5.51	352	Pn	Pn	06 44 22.1	+1.5	
250A	Grady	5.66	111	Pn	Pn	06 44 22.7	0.0	
250A				IAmb_Lg		06 46 09.6		
	comp=Z,19nm,0.7s							
250A	Grady	5.66	111	P	Pn	06 44 22.6	-0.1	
	baz=295,SNR=6.2							
FPAL	Fort Paine	5.70	84		Pn	06 44 23.5	+0.3	
FPAL				IAmb_Lg		06 46 04.7		
	comp=Z,35nm,1.2s							
U32A	Winter Ranch,	5.77	294	Pn	Pn	06 44 24.4	+0.1	
U32A				IAmb_Lg		06 46 10.6		
	comp=Z,26nm,0.9s							
NOKA	Waynoka	5.81	297	IAmb_Lg		06 46 07.7		
	comp=Z,24nm,1.0s							
P43A	Skaggs, Pawnee	5.96	23		Pn	06 44 25.2	-1.5	
U49A	Red Boiling Sp	5.96	65		Pn	06 44 27.9	+1.1	
U49A				IAmb_Lg		06 46 23.2		
	comp=Z,18nm,0.9s							
ELIS	Ellis County	5.99	290	Pn	Pn	06 44 27.5	+0.3	
ELIS				IAmb_Lg		06 46 21.1		
	comp=Z,19nm,0.8s							
W50A	Signal Mountai	6.00	78		Pn	06 44 27.2	-0.2	
Z51A	Franklin	6.15	96		Pn	06 44 29.5	+0.1	
X51A	Calhoun	6.32	84	Pn	Pn	06 44 31.9	+0.2	
WCI	Wyandotte Cave	6.44	49	IAmb_Lg		06 46 35.3		
	comp=Z,20nm,0.9s							
N38A	Joes South For	6.64	355	Pn	Pn	06 44 36.2	+0.1	
152A	Waverly Hall	6.66	101		Pn	06 44 37.4	+0.9	
152A	Waverly Hall	6.66	101		Pn	06 44 38.2	+1.7	
152A				IAmb_Lg		06 46 49.1		
	comp=Z,11nm,0.8s							
CPCT	Cooper Cave	6.67	77	Pn	Pn	06 44 36.9	+0.2	
CPCT				IAmb_Lg		06 46 37.5		
	comp=Z,20nm,0.9s							
451A	Vernon	6.71	120	Pn	Pn	06 44 36.9	-0.2	
O44A	Mansfield	6.78	27	IAmb_Lg		06 46 36.7		
	comp=Z,28nm,0.7s							
T50A	Nancy	6.85	63	Pn	Pn	06 44 39.6	+0.6	
T50A				IAmb_Lg		06 46 45.8		
	comp=Z,26nm,0.9s							
V51A	Loudon	6.87	74	Pn	Pn	06 44 39.7	+0.4	
V51A				IAmb_Lg		06 46 47.5		
	comp=Z,19nm,0.7s							
P46A	Rosedale	6.89	36	IAmb_Lg		06 46 48.1		
	comp=Z,26nm,0.8s							
352A	Blakely	6.90	111	Pn	Pn	06 44 39.1	-0.6	
BLO	Bloomington	6.92	42	IAmb_Lg		06 46 37.2		
	comp=Z,22nm,0.8s							
Y52A	Lilburn	7.00	90	Pn	Pn	06 44 41.4	+0.3	
W52A	Murphy	7.12	80		Pn	06 44 38.4	-4.3	
W52A	Murphy	7.12	80	IAmb_Lg		06 46 47.6		
	comp=Z,30nm,1.1s							
R49A	Shelbyville	7.20	53	IAmb_Lg		06 46 58.9		
	comp=Z,14nm,0.8s							
JCT	Junction City	7.20	241		Pn	06 44 42.5	-1.5	
TKL	Tuckaleechee C	7.31	76	Pn	Pn	06 44 44.8	-0.6	
TKL				IAmb_Lg		06 46 58.4		
	comp=Z,18nm,0.8s							
CBKS	Cedar Bluff	7.46	311	Pn	Pn	06 44 46.9	-0.5	
CBKS				IAmb_Lg		06 46 58.2		
	comp=Z,17nm,0.7s							
V52A	Sevierville	7.48	75	Pn	Pn	06 44 47.3	-0.5	
V52A				IAmb_Lg		06 47 04.5		
	comp=Z,20nm,0.8s							
SFIN	Lafayette	7.54	33	IAmb_Lg		06 47 05.9		
	comp=Z,23nm,0.8s							
N33A	J Bar K, Exete	7.65	330	IAmb_Lg		06 47 10.0		
	comp=Z,28nm,0.8s							
TZTN	Tazewell	7.68	69	Pn	Pn	06 44 50.0	-0.4	
P48A	Milroy	7.74	45		Pn	06 44 53.5	+2.3	
P48A	Milroy	7.74	45	IAmb_Lg		06 47 13.1		
	comp=Z,15nm,0.7s							
R50A	Paris	7.76	56	Pn	Pn	06 44 51.8	+0.3	
R50A				IAmb_Lg		06 47 19.1		
	comp=Z,19nm,0.9s							
BG3	Lake Jocassee	7.92	81	Pn	Pn	06 44 53.5	-0.3	
S51A	Beattyville	8.00	62	IAmb_Lg		06 47 23.2		
	comp=Z,26nm,0.8s							
V53A	Saluda	8.09	77	Pn	Pn	06 44 55.8	-0.2	
Q51A	Peebles	8.80	54	IAmb_Lg		06 47 45.8		
	comp=Z,23nm,0.7s							
JFWS	Jewell Farm	8.91	11	IAmb_Lg		06 47 37.0		
	comp=Z,19nm,0.9s							
P51A	Williamsport	9.23	52	IAmb_Lg		06 48 05.3		
	comp=Z,16nm,0.8s							
ACSO	Alum Creek Sta	9.70	49	IAmb_Lg		06 48 12.9		
	comp=Z,16nm,0.9s							
I40A	Norwalk	9.82	8	IAmb_Lg		06 48 30.2		
	comp=Z,12nm,0.9s							

DJA 12 06:45:05.1±0.3,1°N±2°×9°8E±°,h41km±11km,M4.5/13, mb5.4/1,MLv4.0/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.61	186	P	Pn	06 45 18.1	+0.7
PBSI				S	Sn	06 45 28.5	+2.3
GSI	Gunungsitoli	1.06	314	P	Pn	06 45 23.7	+0.1
GSI				S	Sn	06 45 37.2	0.0
MNSI	Mandailing Nat	1.26	79	P	Pn	06 45 26.4	+0.1
MNSI				S	Sn	06 45 42.4	+0.4
PDSI	Padang	2.58	125	P	Pn	06 45 45.1	+0.7
BKNI	Bangkinang	2.71	95	P	Pn	06 45 46.1	-0.1
SNSI	Sinabang, Aceh	2.73	312	P	Pn	06 45 45.9	-0.5
KCSI	Kotacane, Aceh	3.00	349	P	Pn	06 45 50.2	0.0
PPSI	Pulau Pagai	3.70	153	P	Pn	06 45 59.2	-0.6
MLSI	Meulaboh, Aceh	4.16	332	P	Pn	06 46 05.9	-0.2
MNAI	Manna	6.72	137	P	Pn	06 46 40.9	-0.4

CNRM 12 07:16:58.4,36°01Nx7°84W,h0km,ml2.4
MDD 12 07:17:03.9±0.8,36°24Nx7°83W,h6km±8km,mb_Lg2.7/16,
Error ellipse: s-maj=10.1km s-min=2.9km az=26.0
SFS 12 07:17:04.6,36°10Nx7°83W,h35km,ML3.1/12,MLv2.8/12
INMG 12 07:17:05.2±1.8,36°16Nx7°95W,h21km±6km,ML2.1, Error ellipse: s-maj=6.6km s-min=3.7km az=54.0

ISC 12 07:16:59.6±1.3,36°08N±0°04x7°80W±0°03,h15km±9km, n63,σ1s84/111,2C-3D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	Vaqueiros	1.33	3	⇓eP	Pg	07 17 25.4	+0.2
PVAQ				eS	Sn	07 17 41.5	+0.4
PVAQ				A	A	07 17 50.0	
	20nm,0.2s						
PVAQ	Vaqueiros	1.33	3	P	Pg	07 17 25.3	+0.1
PVAQ				S	Sg	07 17 44.6	+2.1
PFVI	Vila Bisbo	1.34	322	⇓eP	Pb	07 17 24.4	-0.1
PFVI				eS	Sb	07 17 39.9	-1.6
PFVI				A	A	07 17 50.7	
	28nm,0.4s						
PFVI	Vila Bisbo	1.34	322	P	Pg	07 17 24.7	-0.8
PFVI				S	Sg	07 17 42.7	-0.3
PFVI	Vila Bisbo	1.34	322	P	Pb	07 17 24.3	-0.2
PFVI				S	Sn	07 17 42.3	+0.9
MORF	Marmelete	1.41	331	eP	Pb	07 17 25.7	0.0
MORF	Marmelete	1.41	331	⇓eP	Pb	07 17 25.8	+0.2
MORF				A	A	07 17 52.3	
	34nm,0.2s						
EGRO	El Granado	1.48	10	P	Pg	07 17 27.8	-0.2
EGRO	El Granado	1.48	10	Pn	Pg	07 17 28.0	-0.1
EGRO				Sn	Sn	07 17 45.4	+0.6
EGRO				i Vmb_Lg		07 17 50.0	
PCVE	Castro Verde	1.57	353	eP	Pb	07 17 28.9	+0.6
PCVE				eS	Sn	07 17 46.5	-0.5
PCVE				A	A	07 17 52.0	
	11nm,0.5s						
PTEO	Sao Teotonio	1.65	333	⇑iPn	Pb	07 17 29.4	-0.3
PTEO				eSg	Sg	07 17 52.2	-0.5
PTEO				A	A	07 17 57.8	
	19nm,0.4s						
ESPR	Espera	1.75	63	P	Pg	07 17 33.0	-0.3
ESPR				S	Sn	07 17 52.2	+0.7
ESPR	Espera	1.75	63	Pn	Pg	07 17 33.1	-0.3
ESPR				Sn	Sn	07 17 52.5	+0.9
ESPR				i Vmb_Lg		07 17 55.5	
MESJ	Messejana	1.79	349	eP	Pb	07 17 31.7	-0.4
MESJ				eS	Sn	07 17 52.0	-0.6
MESJ				IAML		07 17 53.1	
	comp=N,5.8nm,0.1s						
MESJ	Messejana	1.79	349	ePn	Pb	07 17 31.8	-0.4
MESJ				eSg	Sg	07 17 58.1	+0.7
MESJ				A	A	07 18 01.5	
	comp=N,11nm,0.3s						
EMIN	Mina Concepcio	1.92	28	Pn	Pb	07 17 34.3	0.0
EMIN				Sn	Sn	07 17 55.9	+0.3
EMIN				i Vmb_Lg		07 18 02.9	
PBEJ	Beja	1.95	358	eSg	Sg	07 18 02.1	-0.2
PBEJ				A	A	07 18 12.1	
	comp=N,7.0nm,0.3s						
PNCL	Nicolau / Gran	2.12	344	ePn	Pn	07 17 35.7	+1.2
PNCL				eSn	Sn	07 17 59.7	-0.8
PNCL				A	A	07 18 12.2	
	comp=N,7.0nm,0.4s						
PNCL	Nicolau / Gran	2.12	344	P	Pn	07 17 35.7	+1.2
PBAR	Barrancos	2.18	16	ePn	Pb	07 17 38.6	-0.2
PBAR				eSn	Sn	07 18 02.5	+0.4
PBAR				A	A	07 18 13.3	
	comp=N,7.1nm,0.2s						
PBAR	Barrancos	2.18	16	P	Pb	07 17 38.7	-0.1
CHEFC	Chefchaouen	2.22	115	P	Pb	07 17 38.1	-1.5
CHEFC				S	Sb	07 18 04.8	-2.1
EVO	Evora	2.46	356	ePn	Pb	07 17 41.7	-1.8
EVO				eSn	Sn	07 18 07.9	-1.1
EVO				A	A	07 18 20.7	
	comp=N,5.9nm,0.2s						
EVO	Evora	2.46	356	P	Pn	07 17 40.7	+1.5
EVO				S	Sn	07 18 08.6	-0.4
EMIJ	Mijas	2.49	78	Sn	Sb	07 18 14.1	-0.5
EMIJ				i Vmb_Lg		07 18 17.3	
EBAD	Badajoz	2.75	13	P	Pn	07 17 45.9	+2.7
EBAD	Badajoz	2.75	13	Pn	Pn	07 17 45.5	+2.4
EBAD				Sn	Sn	07 18 16.1	0.0
EBAD				i Vmb_Lg		07 18 28.6	
ECAB	El Cabril	2.76	43	P	Pn	07 17 46.4	+3.0
ECAB				S	Sn	07 18 14.8	-1.6
ECAB	El Cabril	2.76	43	Pn	Pn	07 17 45.8	+2.4
ECAB				Sn	Sn	07 18 15.9	-0.5
ECAB				i Vmb_Lg		07 18 20.0	
PESTR	Estremoz	2.79	3	eSn	Sn	07 18 17.9	+0.7
PESTR	Estremoz	2.79	3	P	Pn	07 17 46.4	+2.6
PESTR				S	Sn	07 18 17.1	-0.1
PMTG	Montargil	3.01	354	ePn	Pn	07 17 48.3	+1.6
PMTG				eSn	Sn	07 18 21.9	-0.6
PMTG				A	A	07 18 41.0	
	comp=N,3.9nm,0.2s						
PMAFR	Mafra	3.11	338	ePn	Pn	07 17 50.0	+1.8
PMAFR				eSn	Sn	07 18 24.5	-0.5
PMAFR	Mafra	3.11	338	P	Pn	07 17 49.9	+1.8
PMAFR				S	Sn	07 18 24.3	-0.7
EGOR	Sierra Gorda,	3.14	70	Pn	Pb	07 17 52.8	-2.5
EGOR				Sn	Sn	07 18 28.3	+2.3
EGOR				i Vmb_Lg		07 18 34.8	
EADA	Adamuz	3.31	50	P	Pn	07 17 54.6	+3.6
EADA				S	Sn	07 18 30.5	+0.4
EADA	Adamuz	3.31	50	Pn	Pn	07 17 54.4	+3.4
EADA				Sn	Sn	07 18 30.3	+0.1
EADA				i Vmb_Lg		07 18 33.4	
PMRV	Marv??o	3.36	5	⇑ePn	Pn	07 17 53.6	+2.0
PMRV				eSn	Sn	07 18 30.7	-0.6
PMRV				A	A	07 18 54.7	
	comp=N,4.2nm,0.5s						
ELGU	Los Guajares,	3.45	76	Pn	Pb	07 17 57.7	-2.8
ELGU				Sn	Sn	07 18 37.2	+3.5
ELGU				i Vmb_Lg		07 18 44.3	
PSBE	So Bento	3.52	347	ePn	Pn	07 17 55.6	+1.7
PSBE				eSn	Sn	07 18 34.6	-0.7
EQUE	Quentar	3.68	71	Pn	Pb	07 18 00.5	-3.9
EQUE				Sn	Sn	07 18 41.6	+2.4
EQUE				i Vmb_Lg		07 18 47.4	
PCBR	Castelo Branco	3.77	4	ePn	Pn	07 17 58.8	+1.6
PCBR				eSn	Sn	07 18 40.7	-0.5
PCBR				A	A	07 18 41.6	
	comp=N,1.7nm,0.3s						
PCAS	Casmilo, Conde	4.01	352	ePn	Pn	07 18 03.1	+2.6
PCAS				eSn	Sn	07 18 47.5	+0.3
MD31	MD31	4.07	141	P	Pn	07 18 03.1	+1.7
MD31				S	Sn	07 18 47.8	-0.9
EQES	Quesada	4.16	64	Pn	Pn	07 18 06.5	+3.8
EQES				Sn	Sn	07 18 53.2	+2.1
EQES				i Vmb_Lg		07 18 55.5	
MDT	Midelt	4.19	140	P	Pn	07 18 05.6	+2.5
MDT				S	Sn	07 18 51.9	+0.1
EPLA	Plasencia	4.21	18	Pn	Pn	07 18 06.0	+2.7
EPLA				Sn	Sn	07 18 51.0	-1.1
PSIM	Granatula de C	4.22	48	Pn	Pn	07 18 04.3	+0.8
PSIM				Sn	Sn	07 18 48.9	-3.7
MTE	Manteigas	4.32	3	ePn	Pn	07 18 06.4	+1.5
PAB	San Pablo	4.41	37	Pn	Pn	07 18 09.4	+3.2
PAB				Sn	Sn	07 18 54.5	-2.8
PAB				i Vmb_Lg		07 18 58.2	
JBK	JBK	4.62	111	P	Pn	07 18 11.0	+1.9
JBK				S	Sn	07 19 03.0	+0.4
OUK	Oukaimeden	4.86	181	P	Pn	07 18 12.6	+0.1
MVO	Moncorvo	5.12	7	ePn	Pn	07 18 18.3	+2.5
MVO				eSn	Sn	07 19 12.8	-1.8
MVO				A	A	07 19 20.7	
	comp=N,1.5nm,0.3s						
EZAR	Zarzadilla de	5.21	68	Pn	Pn	07 18 21.4	+4.4
OUZM	OUZ	5.22	170	P	Pn	07 18 18.4	+1.1
POLO	Lamas de Olo	5.29	0	ePn	Pn	07 18 20.0	+1.8
POLO				eSn	Sn	07 19 18.1	-0.9
POLO				A	A	07 19 27.3	
	comp=N,0.7nm,0.7s						
ETOB	Tobarra	5.60	61	P	Pn	07 18 25.0	+2.5
ETOB				S	Sn	07 19 22.6	-3.9
ETOB	Tobarra	5.60	61	Pn	Pn	07 18 24.9	+2.4
ETOB				Sn	Sn	07 19 24.0	-2.5
ETOB				i Vmb_Lg		07 19 27.2	
PBRG	Braganca	5.78	8	ePn	Pn	07 18 26.8	+1.9
ELOB	Lobios	5.79	358	Pn	Pn	07 18 26.6	+1.5
ELOB				Sn	Sn	07 19 28.7	-2.5
PGAV	Gavieira, Arco	5.89	357	ePn	Pn	07 18 28.6	+2.1
ECAL	Calabor	5.92	8	Pn	Pn	07 18 28.6	+1.8
ECAL				Sn	Sn	07 19 32.0	-2.3
ETOR	Torete	6.54	42	Pn	Pn	07 18 38.5	+3.2
ETOR				Sn	Sn	07 19 47.1	-2.6
ETOR				i Vmb_Lg		07 19 52.3	

ISK 12 07:30:05.7,39°88Nx39°75E,h8km,ML2.5/3
DDA 12 07:30:05.8±0.0,39°86Nx39°71E,h7km±3km,ML1.6

ISC 12 07:30:06.0±1.0,39°86N±0°03x39°72E±0°02,h12km±8km, n14,σ0s84/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	Uzumlu	0.15	187	P	Pg	07 30 09.7	0.0
EUZM				i AML	AML	07 30 12.0	
	comp=N,379nm,0.1s						
EUZM				S	Sg	07 30 12.1	-0.2
EUZM				i AML	AML	07 30 13.0	
	comp=E,408nm,0.4s						
ERZN	Erzincan	0.27	180	Pg	Pg	07 30 11.9	+0.2
ERZN				Sg	Sb	07 30 16.6	-1.0
KELT	Kelkit	0.46	309	P	Pg	07 30 15.2	+0.2
KELT				S	Sg	07 30 21.8	+0.6
KELT				i AML	AML	07 30 22.0	
	comp=N,40nm,0.5s						
KELT				i AML	AML	07 30 22.0	
	comp=E,36nm,0.1s						
BAYB	BAYBURT	0.57	46	P	Pg	07 30 17.1	-0.1
BAYB				S	Sg	07 30 25.2	+0.5
BAYB				i AML	AML	07 30 32.0	
	comp=N,22nm,0.4s						
KOPT	Kop Dagi	0.61	75	P	Pg	07 30 17.8	-0.2
KOPT				S	Sn	07 30 29.7	-1.1
KOPT				i AML	AML	07 30 32.0	
	comp=N,22nm,0.4s						
KOPT				i AML	AML	07 30 35.0	
	comp=E,28nm,1.0s						
BAYT	Aydintepe-Bayb	0.62	31	Pg	Pg	07 30 17.6	-0.5
BAYT				Sg	Sg	07 30 26.4	+0.1
REFA	Refahiye_ERZN	0.74	274	P	Pg	07 30 18.4	-1.9
REFA				S	Sg	07 30 30.2	+0.2
YEDI	Yedisu-Bingol	0.76	123	Pg	Pg	07 30 20.6	-0.1
YEDI				Sg	Sb	07 30 31.6	-0.1
ALUC	Giresun/Alucra	0.88	304	P	Pg	07 30 22.7	-0.2
ALUC				S	Sb	07 30 34.8	-0.2
ALUC				i AML	AML	07 30 35.0	
	comp=N,38nm,0.4s						
ALUC				i AML	AML	07 30 35.0	
	comp=E,30nm,0.4s						
KRIK	Erzurum-spir	1.04	62	P	Pb	07 30 26.0	0.0
KRIK				S	Sn	07 30 41.5	+0.3
MACK	Trabzon	1.08	2	P	Pg	07 30 25.9	-0.9
MACK				S	Sb	07 30 41.2	+0.4
MACK				i AML	AML	07 30 44.0	
	comp=N,102nm,0.3s						
MACK				i AML	AML	07 30 45.0	
	comp=E,99nm,0.4s						
KEMA	Kemaliye	1.12	239	P	Pg	07 30 26.3	-1.2
KEMA				S	Sg	07 30 41.3	-0.7
KEMA				i AML	AML	07 30 46.0	
	comp=N,8.5nm,0.4s						
SUSE	Susehri	1.22	287	P	Pg	07 30 29.0	-0.4
SUSE				S	Sb	07 30 45.6	+0.8
ARPR	Arapgir-MALATY	1.32	235	Pn	Pg	07 30 31.3	0.0
ARPR				Sn	Sn	07 30 50.5	+2.5

NNC 12 07:31:44.7±0.5,50°01Nx78°72E,h0km,mb2.9,mpv2.5,
Error ellipse: s-maj=10.9km s-min=1.9km az=73.0,
Suspected Mining explosion.
IDC 12 07:31:45.8±1.3,50°05Nx78°74E,h0km,mbtmp2.6/2,
ML2.2/2,Error ellipse: s-maj=23.4km s-min=7.5km az=67.0

ISC 12 07:31:45.4±2.0,49°99N±0°07x78°6E±0°2,h0km,n16, σ0s68/27,21C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.60	357	⇑P	Pg	07 31 56.3	-0.5
KUR07				⇑S	Sg	07 32 05.5	+1.0
KUR06	Kurchatov Arra	0.61	358	⇑P	Pg	07 31 56.7	-0.5
KUR06				⇑S	Sg	07 32 05.8	+0.6
KUR14	Kurchatov Arra	0.63	2	⇑P	Pg	07 31 56.5	-0.9
KUR14				⇑S	Sg	07 32 05.3	-0.2
KUR15	Kurchatov Arra	0.63	360	⇑P	Pg	07 31 56.6	-0.8
KUR15				⇑S	Sg	07 32 05.9	+0.2
KURBB	Kurchatov Arra	0.64	358	Pg	Pg	07 31 56.9	-0.6
	0.8nm,0.3s,baz=166,slow=18,SNR=28						
KURBB				Lg	Lg	07 32 05.9	
	1.0nm,0.3s,baz=176,slow=32,SNR=17						
KURBB	Kurchatov Arra	0.64	358	⇑P	Pg	07 31 56.9	-0.6
	6.7nm,0.3s						
KURBB				⇓S	Sg	07 32 07.0	+1.2
KUR16	Kurchatov Arra	0.64	356	⇑P	Pg	07 31 57.0	-0.6
KUR16				⇑S	Sg	07 32 06.2	+0.3
KUR17	Kurchatov Arra	0.65	355	⇓P	Pg	07 31 57.4	-0.4
KUR17				⇓S	Sg	07 32 06.7	+0.5
KUR05	Kurchatov Arra	0.65	358	⇓P	Pg	07 31 57.2	-0.7
KUR05				⇑S	Sg	07 32 06.3	-0.1
KUR04	Kurchatov Arra	0.67	359	⇑P	Pg	07 31 57.5	-0.8
KUR04				⇑S	Sg	07 32 06.8	-0.3
KURK	Kurchatov	0.73	3	⇑P	Pg	07 31 58.2	-1.1
	2.2nm,0.3s						
KURK				⇑S	Sg	07 32 08.5	-0.2
	21nm,0.6s						
MAKZ	Makanchi	3.91	143	⇑Pg	Pb	07 32 54.6	-0.6
	1.4nm,0.7s						
MAKZ				⇑Lg	Lg	07 33 46.6	
	4.2nm,0.8s						
MK31	Makanchi Array	4.05	141	⇑Pn	Pn	07 32 48.6	0.0
	baz=319,slow=10,SNR=45						
MK31				⇑P

comp=N,91nm,0.7s
AGRB Hanur-Agry 0.93 265 Pg **Pb** 07 33 25.8 -0.3
AGRB Sg **Sn** 07 33 40.5 -0.8
DIGO Kars 0.98 320 P Pg 07 33 24.8 -1.2
DIGO S **Sg** 07 33 37.4 -1.3
DIGO *i* AML AML 07 33 47.0
comp=E,279nm,0.4s
DIGO *i* AML AML 07 33 52.0
comp=N,318nm,0.5s
OZAP Van, Ozalp-Mer 1.01 189 P **Pn** 07 33 30.0 +1.5
OZAP S **Sn** 07 33 45.4 +2.0
OZAP *i* AML AML 07 33 57.0
comp=E,52nm,0.7s
OZAP *i* AML AML 07 33 59.0
comp=N,52nm,0.9s
VANB Van 1.24 211 Pn Pn 07 33 34.6 +3.1
KARS Kars 1.29 319 Pn **Pn** 07 33 31.1 -1.1
EATA Eleskirt 1.32 279 P **Pb** 07 33 34.0 +1.1
EATA S **Sn** 07 33 51.5 +0.3
IMRD Marand 1.51 128 Pg **Pb** 07 33 35.7 -0.3
AKDM Akdamar-Van 1.63 216 Pn **Pg** 07 33 39.2 +0.7
BGD Bogdanovka 1.66 344 P **Pn** 07 33 37.5 +0.1
BGD S **Sn** 07 33 57.0 -2.3
DMNI Dmanisi 1.66 360 P **Pn** 07 33 36.5 -0.9
DMNI S **Sn** 07 33 58.3 -1.0
SENK Senkaya-Erzuru 1.67 303 Pn **Pn** 07 33 37.8 +0.2
SENK Sn **Sn** 07 34 00.7 +1.1
ISHB Shabestar 1.77 141 Pg **Pb** 07 33 39.4 -1.0
HOMI Horasan 1.80 283 P **Pg** 07 33 42.7 +0.9
HOMI *i* AML AML 07 34 18.0
comp=E,39nm,0.9s
AKH Akhalkalaki 1.82 343 P **Pn** 07 33 39.2 -0.5
AKH Akhalkalaki 1.82 343 Pn **Pn** 07 33 39.4 -0.2
KOPR Koprukoy-ERZUR 1.83 281 Pn **Pn** 07 33 40.7 +1.0
TRLG Trialeti 1.88 358 P **Pn** 07 33 40.1 -0.2
TRLG S **Sn** 07 34 03.8 -0.8
BRNG Burnasheti 1.98 352 P **Pn** 07 33 42.7 +0.9
DGRG David-gareji 2.00 26 P **Pn** 07 33 43.9 +1.9
DGRG S **Sn** 07 34 08.4 +0.9
GURO Guroymak-BITLI 2.01 237 Pn **Pg** 07 33 44.2 -1.6
ABS Abastumani 2.34 334 P **Pn** 07 33 49.0 +2.3
IHRS Heris 2.60 120 Pn **Pg** 07 33 57.1 +0.2

GUC 12 07:34:26.1±0.6, 29.82S×72.09W, h30km±8km, ML3.6, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.74**	**98**	*i* P	Pb	07 34 39.9	-0.6
CO05				IAML		07 34 53.6	
	comp=E,4μm,0.4s						
GO04	**Tololo Observa**	**1.17**	**108**	*i* P	Pn	07 34 46.8	0.0
GO04				*e*S	Sb	07 35 02.7	-0.1
LCO	**Las Campanas**	**1.45**	**57**	*e*P	Pn	07 34 51.5	+0.9
CO03	**El Pedregal**	**1.58**	**130**	*i* P	Pn	07 34 53.1	+0.9
CO03				*e*S	Sb	07 35 14.1	-0.2
CO03				IAML		07 35 18.1	
	comp=E,818nm,0.2s						
CO02	**Combarbal**	**1.67**	**146**	*i* P	Pn	07 34 54.6	+1.1
CO02				*e*S	Sn	07 35 14.9	+0.9
CO02				IAML		07 35 24.3	
	comp=E,2μm,0.5s						
CO01	**Juntas del Tor**	**1.74**	**96**	*i* P	Pb	07 34 56.3	-1.2
CO01				*e*S	Sb	07 35 18.4	-0.7
CO01				IAML		07 35 22.8	
	comp=N,477nm,0.3s						
AC04	**Llanos de Chal**	**1.84**	**29**	*e*P	Pn	07 34 55.8	+0.2
AC05	**El Transito**	**1.86**	**59**	*i* P	Pn	07 34 57.7	+1.6
AC05				IAML		07 35 30.7	
	comp=N,534nm,0.4s						
GO03	**Copiap**	**2.75**	**37**	*e*P	Pn	07 35 09.1	+0.8
GO03				IAML		07 36 00.0	
	comp=E,144nm,0.4s						
VA06	**Catapilco**	**2.82**	**166**	*i* P	Pn	07 35 09.5	+0.4
VA06				IAML		07 36 06.0	
	comp=E,315nm,0.6s						
AC06	**Mina Casimiro**	**2.89**	**32**	*e*P	Pn	07 35 11.3	+1.1
AC06				IAML		07 36 05.2	
	comp=E,141nm,0.3s						
VA03	**San Esteban**	**3.22**	**156**	*e*P	Pn	07 35 17.1	+2.4
VA03				IAML		07 36 16.0	
	comp=E,228nm,0.5s						
ROCH	**El Roble**	**3.28**	**164**	*e*P	Pn	07 35 16.4	+0.8
ROCH				IAML		07 36 19.9	
	comp=N,283nm,0.7s						
MT02	**Curacav**	**3.52**	**167**	*e*P	Pn	07 35 19.2	+0.3
PEL	**Peldehue**	**3.52**	**160**	*e*P	Pn	07 35 20.5	+1.6
PEL				IAML		07 36 26.7	
	comp=E,112nm,0.6s						
MT05	**Renca**	**3.74**	**162**	*e*P	Pn	07 35 23.1	+1.1
FCH	**Farellones**	**3.82**	**157**	*e*P	Pn	07 35 25.3	+2.1
AC01	**Pan de Azucar**	**3.89**	**20**	*e*P	Pn	07 35 23.1	-0.8
MT03	**Universidad Ad**	**3.90**	**160**	*e*P	Pn	07 35 26.1	+1.9
AC02	**Maricunga**	**3.95**	**42**	*e*P	Pn	07 35 27.2	+2.0
MT09	**Talagante**	**4.06**	**167**	*e*P	Pn	07 35 27.3	+1.0
MT01	**Popeta**	**4.10**	**170**	*e*P	Pn	07 35 26.9	+0.2
BO04	**La Punta**	**4.34**	**164**	*e*P	Pn	07 35 31.4	+1.2
BO01	**Tunca**	**4.64**	**170**	*e*P	Pn	07 35 34.4	+0.2
BO02	**Sierra Bellavi**	**5.08**	**168**	*e*P	Pn	07 35 41.1	+0.7

IDC 12 07:44:38.5±3.4, 54.38N×87.45E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.7km s-min=18.5km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**255**	I	I	07 56 10.4	
	baz=71,slow=313,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.61**	**255**	Pg	Pn	07 45 06.6	-1.6
	1.0nm,0.3s,baz=77,slow=15,SNR=19						
ZALV				Lg	Lg	07 45 30.0	
	1.1nm,0.3s,baz=72,slow=28,SNR=7.3						
ZALV				Rg	Rg	07 45 41.9	
	1.3nm,0.4s,baz=73,slow=25,SNR=4.0						
KURBB	**Kurchatov Arra**	**6.62**	**239**	Pn	Pn	07 46 17.8	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=7.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.27**	**205**	Pn	Pn	07 46 41.1	+1.4
	0.1nm,0.3s,baz=27,slow=15,SNR=5.7						
MKAR				Sn	Sn	07 48 12.1	-1.7
	0.1nm,0.3s,baz=23,slow=26,SNR=5.5						
	0.1nm,0.2s						

IDC 12 07:56:22.8±3.0, 8.12S×159.31E, h0km, mb4.1/3, mbtmp4.1/3, MS3.5/4, Error ellipse: s-maj=62.7km s-min=21.9km az=48.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.45**	**154**	Pn	Pn	07 56 50.3	0.0
	264nm,0.3s,baz=204,slow=3.3,SNR=11						
HNR				Sn	Sn	07 57 10.7	+0.7
	790nm,0.3s,baz=24,slow=22,SNR=23						
HNR				LR	LR	07 57 18.5	
	comp=Z,2μm,18.8s,baz=320,slow=38						
CTA	**Charters Tower**	**17.36**	**225**	LR	LR	08 06 32.4	
	comp=Z,74nm,20.4s,baz=82,slow=35						
WRA	**Warramunga Arr**	**26.88**	**241**	P	P	08 02 06.1	+0.4
	1.9nm,0.6s,baz=66,slow=8.7,SNR=11						
	1.9nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.42**	**15**	T	T	08 30 28.8	
	baz=195,slow=76,SNR=190						
H11S2	**WAKE ISLAND Hy**	**27.43**	**15**	T	T	08 30 28.1	
	baz=195,slow=76,SNR=252						
H11S1	**WAKE ISLAND Hy**	**27.44**	**15**	T	T	08 30 26.6	
	baz=195,slow=76,SNR=150						
H11N1	**WAKE ISLAND Hy**	**28.64**	**15**	T	T	08 32 03.4	
	baz=196,slow=76,SNR=98						
H11N3	**WAKE ISLAND Hy**	**28.65**	**15**	T	T	08 32 21.4	
	baz=196,slow=76,SNR=87						
H11N2	**WAKE ISLAND Hy**	**28.66**	**15**	T	T	08 32 24.0	
	baz=196,slow=76,SNR=138						
STKA	**Stephens Creek**	**28.82**	**212**	LR	LR	08 12 14.7	
	comp=Z,53nm,19.3s,baz=25,slow=33						
ASAR	**Alice Springs**	**28.84**	**235**	P	P	08 02 22.6	-0.6
	1.0nm,0.9s,baz=62,slow=11,SNR=9.8						
	1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**65.13**	**295**	P	P	08 07 06.2	+0.2
	1.9nm,0.3s,baz=123,slow=5.7,SNR=4.0						
	1.9nm,0.3s						
ANMO	**Albuquerque**	**98.05**	**56**	LR	LR	08 55 06.6	
	comp=Z,27nm,18.4s,baz=50,slow=36						
SNAA	**Sanae**	**99.50**	**186**	LR	LR	08 50 39.6	
	comp=Z,77nm,19.2s,baz=341,slow=33						

IDC 12 08:02:30.7±293.0, 57.00N×41.66E, h0km, Error ellipse: s-maj=114.1km s-min=51.0km az=86.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.46**	**265**	I	I	08 17 20.0	
	baz=82,slow=338,SNR=1.9						
I31KZ	**AKTYUBINSK INF**	**11.72**	**117**	I	I	09 10 10.0	
	0.1nm,0.5s,baz=318,slow=320,SNR=1.8						
I46RU	**ZALESOVO INFRA**	**24.35**	**79**	I	I	10 34 30.0	
	baz=292,slow=328,SNR=3.8						

IDC 12 08:27:34.6±3.6, 53.70N×87.46E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=36.2km s-min=17.1km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**280**	I	I	08 38 20.0	
	baz=99,slow=340,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.59**	**280**	Pg	Pn	08 28 02.7	-1.2
	1.2nm,0.3s,baz=98,slow=18,SNR=24						
ZALV				Lg	Lg	08 28 25.1	
	0.5nm,0.3s,baz=105,slow=22,SNR=5.5						
ZALV				Rg	Rg	08 28 34.7	
	1.7nm,0.7s,baz=104,slow=18,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.30**	**244**	Pn	Pn	08 29 09.4	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=2.9						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.66**	**208**	Pn	Pn	08 29 28.6	+1.3
	0.1nm,0.3s,baz=27,slow=14,SNR=7.4						
	0.2nm,0.2s						

*NEIC **12** 08:38:24.9±1.6, 21.2S±0.1×177.8W±0.1, h479km±10km, mb4.6/28, Error ellipse: s-maj=20.2km s-min=17.2km az=137.0*
*NOU **12** 08:38:25.6, 20.75S×177.75W, h512km, mb4.6/12, Fiji Islands Region*
*IDC **12** 08:38:26.5±2.0, 21.08S×177.94W, h493km±19km, mb3.7/18, mbtmp4.5/21, Error ellipse: s-maj=20.7km s-min=14.7km az=120.0*

ISC 12 08:38:26.4±0.6, 21.1S±0.1×177.97W±0.09, h495km, n71, σ1813/74, mb4.4/30, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.95**	**344**	P	**P**	**08 39 35.5**	**-1.3**
MSVF	**Nonsavu**	**5.03**	**311**	P	**P**	**08 39 53.1**	**-0.4**
	11nm,0.4s,baz=111,slow=4.3,SNR=28						
MSVF	**Nonsavu**	**5.03**	**311**		**P**	**08 39 52.9**	**-0.7**
MSVF	**Nonsavu**	**5.03**	**311**	P	**P**	**08 39 53.3**	**-0.3**
DGTI	**Dogotuki**	**5.24**	**335**	P	**P**	**08 39 54.4**	**-1.0**
	27nm,1.0s						
NIUE	**Niue**	**7.82**	**77**		**P**	**08 40 19.1**	**-1.8**
AFI	**Afiamalu**	**9.26**	**41**		P	08 40 30.6	-5.5
DVP	**Devils Point**	**13.48**	**282**	P	**P**	**08 41 21.1**	**+0.3**
	478nm,0.8s						
PINNC	**Pines Island,**	**13.63**	**261**	P	**P**	**08 41 23.2**	**+0.9**
DZM	**Mont Dzumac**	**14.54**	**263**	P	**P**	**08 41 32.5**	**+0.5**
	3.2nm,0.5s,baz=86,slow=18,SNR=10						
DZM	**Mont Dzumac**	**14.54**	**263**	P	**P**	**08 41 32.2**	**+0.2**
KOUNC	**Koumac, New Ca**	**16.60**	**269**	P	**P**	**08 41 54.1**	**+0.6**
KOUNC				IAmb	IAmb	08 41 56.9	
	comp=Z,22nm,1.0s						
KOUNC	**Koumac, New Ca**	**16.60**	**269**	P	**P**	**08 41 55.3**	**+1.7**
	comp=Z,26nm,1.0s						
URZ	**Urewera**	**17.63**	**193**	P	**P**	**08 42 03.6**	**+0.2**
	comp=Z,9.8nm,0.3s,baz=359,slow=2.8,SNR=14						
URZ	**Urewera**	**17.63**	**193**	P	**P**	**08 42 04.7**	**+1.2**
	comp=Z,28nm,0.6s						
RTZ	**Ruatahuna**	**18.00**	**193**		**P**	**08 42 03.5**	**-3.5**
BKZ	**Black Stump Fm**	**18.63**	**194**	P	**P**	**08 42 11.2**	**-1.6**
BKZ				IAmb	IAmb	08 42 39.5	
	comp=Z,28nm,1.5s						
QRZ	**Quartz Range**	**21.27**	**200**	P	**P**	**08 42 39.1**	**+2.4**
	comp=Z,65nm,1.6s						
CTA	**Charters Tower**	**33.47**	**265**	P	**P**	**08 44 24.2**	**+0.3**
	comp=Z,6.6nm,0.6s,baz=100,slow=12,SNR=6.6						
	comp=Z,6.6nm,0.6s						
CTAO	**Charters Tower**	**33.47**	**265**	P	**P**	**08 44 23.7**	**-0.3**
CTAO				IAmb	IAmb	08 44 25.1	
	comp=Z,9.5nm,0.8s						
PMG	**Port Moresby**	**35.51**	**284**	P	**P**	**08 44 40.9**	**-0.3**
PMG				IAmb	IAmb	08 44 42.5	
	comp=Z,23nm,0.8s						
STKA	**Stephens Creek**	**37.56**	**245**	P	**P**	**08 44 59.0**	**+1.1**
	comp=Z,2.2nm,0.5s,baz=95,slow=10,SNR=15						
	comp=Z,2.2nm,0.5s						
STKA	**Stephens Creek**	**37.56**	**245**	P	**P**	**08 44 58.5**	**+0.6**
COEN	**Coen**	**37.65**	**274**	P	**P**	**08 44 59.0**	**+0.1**
BBOO	**Buckleboo**	**42.32**	**244**	P	**P**	**08 45 36.3**	**+0.2**
BBOO				IAmb	IAmb	08 45 37.2	
	comp=Z,10.0nm,0.8s						
WR0	**Warramunga Arr**	**44.36**	**263**	P	**P**	**08 45 51.4**	**-0.9**
AS31	**Alice Springs**	**44.42**	**257**	P	**P**	**08 45 52.5**	**-0.2**
ASAR	**Alice Springs**	**44.42**	**257**	P	**P**	**08 45 52.9**	**+0.1**
	comp=Z,15nm,0.5s,baz=96,slow=7.9,SNR=289						
ASAR				pP	**pP**	**08 47 20.4**	**-3.1**
	comp=Z,1.1nm,0.7s,baz=84,slow=7.1,SNR=2.8						
ASAR				PcP	**PcP**	**08 47 26.4**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=98,slow=3.8,SNR=5.3						
ASAR				S	**S**	**08 51 49.5**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=92,slow=15,SNR=8.4						
	comp=Z,15nm,0.5s						
ASAR	**Alice Springs**	**44.42**	**257**	P	**P**	**08 45 52.7**	**-0.1**
WB0	**Warramunga Arr**	**44.53**	**263**	P	**P**	**08 45 52.9**	**-0.8**
WB0				IAmb	IAmb	08 45 53.9	
	comp=Z,16nm,0.6s						
WRA	**Warramunga Arr**	**44.55**	**263**	P	**P**	**08 45 53.3**	**-0.6**
	comp=Z,9.4nm,0.6s,baz=96,slow=5.9,SNR=82						
WRA				S	**S**	**08 51 50.1**	**-3.0**
	comp=Z,1.2nm,0.9s,baz=97,slow=13,SNR=5.1						
	comp=Z,9.4nm,0.6s						
WRA	**Warramunga Arr**	**44.55**	**263**	P	**P**	**08 45 53.2**	**-0.7**
FORT	**Forrest**	**49.09**	**247**	P	**P**	**08 46 28.2**	**+0.1**
FORT				IAmb	IAmb	08 46 28.8	
	comp=Z,24nm,0.6s						
MTN	**Manton Dam**	**49.20**	**271**	P	**P**	**08 46 28.4**	**-0.6**
MTN				IAmb	IAmb	08 46 29.5	
	comp=Z,20nm,0.8s						
KNRA	**Kununurra**	**50.65**	**267**	P	**P**	**08 46 39.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.98**	**263**	P	**P**	**08 46 56.4**	**-0.1**
PSA00	**Pilbara Seismi**	**57.57**	**257**	P	**P**	**08 47 28.3**	**-0.3**
PSA00				IAmb	IAmb	08 47 29.3	
	comp=Z,18nm,0.8s						
MBWA	**Marble Bar**	**57.76**	**258**	P	**P**	**08 47 29.6**	**-0.3**
MBWA				IAmb	IAmb	08 47 30.5	
	comp=Z,19nm,0.7s						
GIRL	**Giralia**	**62.42**	**255**	P	**P**	**08 48 02.1**	**+1.2**
TOLI2	**Tolitoli**	**63.76**	**282**	P	**P**	**08 48 11.7**	**+2.1**
TOLI2				IAmb	IAmb	08 48 30.8	
	comp=Z,20nm,0.9s						
JOW	**Kunigami**	**70.57**	**310**	P	**P**	**08 48 52.1**	**+0.9**
	comp=Z,6.5nm,0.4s,baz=101,slow=19,SNR=4.9						
	comp=Z,6.5nm,0.4s						
JOW	**Kunigami**	**70.57**	**310**	P	**P**	**08 48 52.2**	**+0.9**
MJAR	**Matsushiro Arr**	**70.70**	**324**	P	**P**	**08 48 51.5**	**-0.4**
	comp=Z,4.5nm,0.6s,baz=159,slow=6.2,SNR=12						
	comp=Z,4.5nm,0.6s						
MAJO	**Matsushiro**	**70.70**	**324**	P	**P**	**08 48 51.7**	**-0.3**
MAJO				IAmb	IAmb	08 48 52.4	
	comp=Z,8.2nm,0.7s						
JSU	**Suzuyama**	**71.96**	**315**	P	**P**	**08 48 59.5**	**+0.1**
JSU				IAmb	IAmb	08 49 15.1	
	comp=Z,31nm,1.2s						
JTM	**Tenmabayashi**	**72.39**	**329**	P	**P**	**08 49 02.2**	**+0.5**
JHS	**Saijyo**	**72.57**	**320**	P	**P**	**08 49 03.2**	**+0.3**
JNU	**Nakatsue**	**72.72**	**317**	P	**P**	**08 49 03.9**	**0.0**
	comp=Z,12nm,0.9s,baz=103,slow=5.6,SNR=4.8						
	comp=Z,12nm,0.9s						
ASAJ	**Asahikawa**	**74.26**	**332**	P	**P**	**08 49 14.0**	**+1.7**
	comp=Z,14nm,0.8s,baz=68,slow=2.3,SNR=6.2						
	comp=Z,14nm,0.8s						
TPUB	**Ta-pu**	**74.32**	**303**	P	**P**	**08 49 11.9**	**-1.2**
SSLB	**Suanglung**	**74.32**	**304**	P	**P**	**08 49 11.9**	**-1.2**
SSLB				IAmb	IAmb	08 49 29.7	
	comp=Z,23nm,1.1s						
PETK	**Petropavlovsk-**	**76.85**	**345**	P	**P**	**08 49 26.6**	**0.0**
	comp=Z,2.4nm,0.7s,baz=148,slow=8.7,SNR=3.8						
	comp=Z,2.4nm,0.7s						
KSRS	**Korea Array**	**77.35**	**319**	P	**P**	**08 49 30.7**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=122,slow=5.1,SNR=7.6						
	comp=Z,1.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**79.47**	**326**	P	**P**	**08 49 42.0**	**+1.2**
	comp=Z,4.0nm,0.7s,baz=106,slow=4.7,SNR=5.7						
	comp=Z,4.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**79.47**	**326**	P	**P**	**08 49 41.9**	**+1.1**
YBH	**Yreka Blue Hor**	**80.73**	**39**	P	**P**	**08 49 48.9**	**+1.2**
NVAR	**Mina Array Bea**	**81.43**	**43**	P	**P**	**08 49 52.1**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=228,slow=9.6,SNR=4.7						
	comp=Z,0.7nm,0.8s						
KLR	**Kul'dur**	**83.05**	**329**	P	**P**	**08 50 00.3**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=115,slow=4.8,SNR=3.8						
	comp=Z,1.0nm,0.7s						
RPSI	**Rantau Prapat**	**84.54**	**275**	P	**P**	**08 50 06.5**	**-0.9**
PSI	**Prapat**	**84.58**	**275**	P	**P**	**08 50 06.5**	**-1.2**
	comp=Z,3.3nm,0.5s,baz=134,slow=3.6,SNR=3.6						
	comp=Z,3.3nm,0.5s						
SEY	**Seymchan**	**86.95**	**347**	P	**P**	**08 50 18.4**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=147,slow=6.5,SNR=11						
	comp=Z,4.2nm,0.7s						
ILAR	**Eielson Array**	**88.88**	**13**	P	**P**	**08 50 26.0**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=208,slow=5.9,SNR=9.1						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**89.37**	**43**	P	**P**	**08 50 30.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=207,slow=0.7,SNR=5.7						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.34**	**290**	P	**P**	**08 50 36.6**	**+1.9**
	comp=Z,1.5nm,0.5s,baz=127,slow=2.7,SNR=12						
	comp=Z,1.5nm,0.5s						
ZALV	**Zalesovo Beam**	**110.97**	**321**	PKiKP	**PKiKP**	**08 56 02.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=20,slow=4.6,SNR=2.1						
KURBB	**Kurchatov Arra**	**114.50**	**317**	PKP	PKPdf	08 56 08.2	-1.3
	comp=Z,0.3nm,0.5s,baz=87,slow=1.9,SNR=4.7						
BVAR	**Borovoye Array**	**119.55**	**320**	PKP	**PKPdf**	**08 56 18.5**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=247,slow=0.2,SNR=6.6						
AKASG	**Malin Array Be**	**143.54**	**331**	PKP	PKPab	08 57 01.6	-0.9
	comp=Z,8.4nm,0.6s,baz=42,slow=4.1,SNR=52						
BRTR	**Keskin Array B**	**147.25**	**312**	PKPbc	**PKPbc**	**08 57 13.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=139,slow=5.0,SNR=7.7						
CLL	**Collm**	**148.64**	**347**	*e*PKPbc	**PKPbc**	**08 57 17.0**	**-0.1**
CLL				*e*PKPab	**PKPab**	**08 57 22.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**172.09**	**178**	PKP	**PKPdf**	**08 57 38.2**	**-0.6**
	comp=Z,10.0nm,0.4s,baz=40,slow=0.5,SNR=9.6						
TORD				PKPab	**PKPab**	**08 59 06.9**	**+1.6**
	comp=Z,2.6nm,0.5s,baz=173,slow=5.0,SNR=1.7						

*DDA **12** 08:52:49.6±0.0, 39.51N×26.06E, h15km, ML2.5*
*ISK **12** 08:52:49.0, 39.51N×26.03E, h14km, ML2.9/19*
*THE **12** 08:52:49.8, 39.53N×26.00E, h6km±1km, ML2.6/5, Error ellipse: s-maj=1.6km s-min=0.5km az=124.0*
*ATH **12** 08:52:50.3, 39.47N×26.01E, h16km±2km, ML2.4/3, Error ellipse: s-maj=2.9km s-min=1.0km az=155.0*

ISC 12 08:52:49.4±0.8, 39.50N±0.02×26.05E±0.02, h16km±5km, n52, σ056/89, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.07**	**88**	P	**Pg**	**08 52 52.7**	**+0.1**
KOCA				*i* AML	AML	08 52 54.0	
	comp=E,4μm,0.2s						
KOCA				S	**Sg**	**08 52 55.0**	**+0.2**
KOCA				*i* AML	AML	08 52 55.0	
	comp=N,3μm,0.7s						
GPNR	**Gulpinar-Canak**	**0.08**	**123**	Pg	**Pg**	**08 52 52.6**	**-0.1**
GPNR				Sg	**Sg**	**08 52 54.9**	**+0.1**
PRK	**Paraskevi**	**0.31**	**145**	P	**Pb**	**08 52 56.9**	**+0.4**
PRK				S	**Sb**	**08 53 01.8**	**+0.5**
	890nm,0.5s						
PRK	**Paraskevi**	**0.31**	**145**	P	**Pb**	**08 52 57.2**	**+0.7**
PRK				S	**Sg**	**08 53 00.8**	**+0.3**
PRK				AML	AML	08 53 03.3	
	comp=N,1716μm,0.7s						
PRK				AML	AML	08 53 04.5	
	comp=E,1826μm,0.3s						
SIGR	**SIGRI**	**0.32**	**207**	P	**Pg**	**08 52 56.3**	**+0.1**
SIGR				S	**Sg**	**08 53 01.2**	**+0.3**
	comp=E,1μm,0.3s						
SIGR	**SIGRI**	**0.32**	**207**	Pg	**Pg**	**08 52 56.4**	**+0.1**
SIGR				Sg	**Sg**	**08 53 01.2**	**+0.3**
SIGR	**SIGRI**	**0.32**	**207**	P	**Pg**	**08 52 56.3**	**+0.1**
SIGR				S	**Sg**	**08 53 00.6**	**-0.3**
SIGR				AML	AML	08 53 01.7	
	comp=N,3050μm,0.4s						
SIGR				AML	AML	08 53 01.7	
	comp=E,2282μm,0.2s						
BOZC	**Bozcaada**	**0.34**	**1**	Pg	**Pg**	**08 52 56.5**	**-0.1**
BOZC				Sg	**Sg**	**08 53 01.7**	**+0.2**
BOZC	**Bozcaada**	**0.34**	**1**	P	**Pg**	**08 52 56.7**	**+0.1**
BOZC				P	**Pg**	**08 52 56.8**	**+0.1**
BOZC				S	**Sg**	**08 53 01.4**	**0.0**
BOZC				S	**Sb**	**08 53 01.9**	**-0.5**
BOZC				*i* AML	AML	08 53 02.0	
	comp=E,2μm,0.2s						
BOZC				*i* AML	AML	08 53 02.0	
	comp=E,2μm,0.2s						
BOZC				*i* AML	AML	08 53 02.0	
	comp=E,3μm,0.2s						
BOZC				*i* AML	AML	08 53 02.0	
	comp=E,3μm,0.2s						
EZN	**Ezine**	**0.39**	**33**	P	**Pg**	**08 52 57.3**	**-0.2**
EZN				S	**Sg**	**08 53 03.0**	**+0.2**
	comp=E,2μm,0.2s						
EZN	**Ezine**	**0.39**	**33**	Pg	**Pg**	**08 52 57.5**	**0.0**
EZN				Sg	**Sg**	**08 53 03.1**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.46**	**58**	P	**Pg**	**08 52 58.4**	**-0.2**
BAYC				S	**Sg**	**08 53 04.3**	**-0.5**
BAYC				*i* AML	AML	08 53 05.0	
	comp=E,297nm,0.1s						
BAYC				*i* AML	AML	08 53 05.0	
	comp=E,276nm,0.4s						
AYVA	**Ayvalik**	**0.54**	**111**	P	**Pg**	**08 53 00.3

comp=E,69nm,0.4s
URLA *i* AML AML 08 53 31.0
comp=E,52nm,0.5s
ERIK Erikli-Kesan 1.22 17 Pn **Pn 08 53 11.8 0.0**
ENEZ Enez 1.24 4 P **Pn 08 53 12.3 +0.2**
ENEZ S **Sg 08 53 29.5 0.0**
comp=E,280nm,0.5s
ENEZ Enez 1.24 4 Pn **Pn 08 53 12.2 +0.2**
BALY Balya 1.24 78 P **Pn 08 53 12.5 +0.4**
BALY S **Sb 08 53 28.3 +0.1**
BALY *i* AML AML 08 53 30.0
comp=E,356nm,0.6s
BALY *i* AML AML 08 53 31.0
comp=E,103nm,0.3s
STEP BALIKESIR_Sava 1.30 95 P **Pb 08 53 13.9 +0.4**
STEP S **Sb 08 53 30.5 +0.5**
STEP *i* AML AML 08 53 34.0
comp=E,112nm,0.6s
STEP *i* AML AML 08 53 35.0
comp=E,114nm,0.4s
STEP *i* AML AML 08 53 37.0
comp=E,78nm,0.5s
ZEYE Izmir, Urla-Ze 1.31 164 P **Pn 08 53 12.0 -1.0**
ZEYE S **Sg 08 53 32.2 +0.5**
ZEYE *i* AML AML 08 53 35.0
comp=E,47nm,0.3s
ZEYE *i* AML AML 08 53 37.0
comp=E,68nm,0.4s
KNL Balıkesir 1.38 55 P **Pn 08 53 14.2 +0.3**
KNL S **Sn 08 53 32.1 +0.3**
KNL *i* AML AML 08 53 37.0
comp=E,101nm,0.4s
KNL *i* AML AML 08 53 39.0
comp=E,109nm,0.8s
GONE Gonen-Balikesi 1.38 66 Pn **Pn 08 53 14.4 +0.4**
ALN Alexandroupoli 1.40 0 P **Pn 08 53 14.5 +0.3**
ALN S **Sb 08 53 32.8 +0.1**
comp=E,112nm,0.4s
ALN Alexandroupoli 1.40 0 Pn **Pn 08 53 14.3 +0.1**
ALN Alexandroupoli 1.40 0 P **Pn 08 53 14.5 +0.3**
ALN S **Sn 08 53 32.6 +0.3**
ALN AML AML 08 53 34.2
comp=E,307µm,0.4s
ALN AML AML 08 53 36.5
comp=N,138µm,0.4s
BALB Balikesir 1.43 84 Pn **Pn 08 53 15.0 +0.4**
RKY Sarkoy-Tekirda 1.47 36 Pn **Pn 08 53 15.5 +0.2**
THAS Thassos island 1.50 318 P **Pn 08 53 16.4 +0.7**
THAS S **Sb 08 53 35.5 -0.2**
THAS Thassos island 1.50 318 P **Pn 08 53 16.4 +0.7**
EDC Edincik 1.63 58 Pn **Pn 08 53 17.8 +0.3**
RDO Rodhopi 1.69 347 P **Pn 08 53 18.6 +0.3**
RDO Rodhopi 1.69 347 Pn **Pn 08 53 18.6 +0.3**
RDO Rodhopi 1.69 347 P **Pn 08 53 18.6 +0.3**
OUR Ouranopolis 1.79 298 Pn **Pn 08 53 20.1 +0.4**
KAVA Kavala 1.90 322 P **Pn 08 53 21.4 +0.3**
KCTX Karacabey (Bur 1.94 66 Pn **Pn 08 53 22.2 +0.5**
CRLT Corlu 2.08 38 Pn **Pn 08 53 24.3 +0.7**
KIRK Kırklareli 2.42 19 P **Pb 08 53 31.2 -1.3**
KIRK S **Sb 08 54 02.8 +0.8**
KIRK *i* AML AML 08 54 08.0
comp=N,10.0nm,0.4s
KIRK *i* AML AML 08 54 12.0
comp=N,5.5nm,1.0s
VIZE Kirklareli, Vi 2.49 33 P **Pb 08 53 31.9 -1.8**
VIZE S **Sb 08 54 03.9 -0.2**
VIZE *i* AML AML 08 54 11.0
comp=N,18nm,0.4s
VIZE *i* AML AML 08 54 12.0
comp=N,19nm,0.4s

SJA **12** *09:00:05.7±0.6, 18°.20S×69°.38W, h167km±12km, ML4.9, MW4.5*
NEIC **12** *09:00:05.9±2.0, 18°.09S±0°.05×69°.13W±0°.07, h135km±4km, mb5.1/368, Mwr4.8(GUC), Error ellipse: s-maj=9.5km s-min=7.8km az=84.0*
MOS **12** *09:00:06.1±1.6, 18°.03S×69°.08W, h144km, mb4.9/12, Error ellipse: s-maj=14.0km s-min=7.3km az=106.4*
GUC **12** *09:00:06.5±0.7, 18°.08S×69°.23W, h142km±4km, ML4.9*
VAO **12** *09:00:06.2±0.5, 18°.04S×69°.02W, h136km±3km, mb5.1*
IDC **12** *09:00:08.1±0.6, 17°.94S×68°.91W, h144km±4km, mb4.5/18, mbtmp4.9/20, MS3.4/10, Error ellipse: s-maj=12.9km s-min=10.5km az=77.0*
ISC 12 09:00:06.5±0.4, 18°.11S±0°.03×69°.14W±0°.04, h142km±3km, h142km:pP-P, n868, σ1s62/804, mb5.1/213, 15C-16D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.42**	**238**				**Pn**	**09 00 26.9**	**-0.3**
PB16	**IPOC Station P**	**0.42**	**238**	⇑*i*	*i*	P	**Pn**	**09 00 27.0**	**-0.3**
PB16						*e*S	**Sn**	**09 00 42.4**	**-0.5**
MNMC	**Minye Minye**	**1.10**	**203**	P	n		**Pn**	**09 00 31.7**	**-0.1**
MNMC	**Minye Minye**	**1.10**	**203**	⇑*i*	*i*	P	**Pn**	**09 00 31.7**	**-0.1**
MNMC						*e*S	**Sn**	**09 00 50.5**	**-0.5**
MNMC						IAML		09 00 52.2	
comp=E,26µm,0.6s									
AP01	**Chacalluta**	**1.17**	**257**				**Pn**	**09 00 30.9**	**-1.2**
AP01	**Chacalluta**	**1.17**	**257**	⇑*i*	*i*	P	**Pn**	**09 00 30.9**	**-1.2**
AP01						*e*S	**Sn**	**09 00 49.7**	**-1.9**
PB12	**IPOC Station P**	**1.24**	**246**	P	n		**Pn**	**09 00 31.4**	**-1.4**
PB12	**IPOC Station P**	**1.24**	**246**	⇑*i*	*i*	P	**Pn**	**09 00 31.2**	**-1.6**
PB12						*e*S	**Sn**	**09 00 50.2**	**-2.6**
PB12						IAML		09 00 56.0	
comp=N,20µm,0.4s									
GO01	**Chusmiza**	**1.55**	**182**				**Pn**	**09 00 37.2**	**+0.7**
GO01	**Chusmiza**	**1.55**	**182**	*e*P			**Pn**	**09 00 37.2**	**+0.7**
GO01						*e*S	**Sn**	**09 01 00.0**	**+0.6**
GO01						IAML		09 01 01.6	
comp=N,9µm,0.7s									
PB11	**IPOC Station P**	**1.71**	**197**	P	n		**Pn**	**09 00 37.7**	**-0.2**
PB11	**IPOC Station P**	**1.71**	**197**	⇑*i*	*i*	P	**Pn**	**09 00 37.6**	**-0.4**
PB11						*e*S	**Sn**	**09 01 00.9**	**-1.2**
PB11						IAML		09 01 04.9	
comp=E,6µm,0.5s									
PSGC	**Pisagua**	**1.75**	**212**	⇑*i*	*i*	P	**Pn**	**09 00 37.0**	**-1.3**
PSGC						*e*S	**Sn**	**09 01 00.2**	**-2.5**
PSGCX	**Pisagua**	**1.75**	**212**	P	n		**Pn**	**09 00 37.2**	**-1.1**
I08BO	**LAS PENAS INFR**	**2.00**	**19**	P			**Pn**	**09 00 42.9**	**+1.2**
baz=206,slow=18,SNR=2.9									
PB08	**IPOC Station P**	**2.02**	**180**				**Pn**	**09 00 41.6**	**-0.1**
LPAZ	**La Paz**	**2.05**	**28**	P	n		**Pn**	**09 00 43.6**	**+1.2**
LPAZ	**La Paz**	**2.05**	**28**	P			**Pn**	**09 00 43.6**	**+1.2**
LPAZ	**La Paz**	**2.05**	**28**	*e*P			**Pn**	**09 00 43.7**	**+1.2**
HMBC	**Humberstone**	**2.27**	**198**	*i*P			**Pn**	**09 00 43.5**	**-1.0**
HMBC						*e*S	**Sn**	**09 01 11.5**	**-2.2**
HMBC						IAML		09 01 19.6	
comp=N,5µm,0.4s									
TA02	**Huaiquique**	**2.34**	**203**				**Pn**	**09 00 44.3**	**-1.0**
TA02	**Huaiquique**	**2.34**	**203**	*e*P			**Pn**	**09 00 43.8**	**-1.5**
TA02						*e*S	**Sn**	**09 01 12.5**	**-2.6**
TA02						*e*P	**Sn**	**09 01 12.5**	**-2.6**
TA01	**Diego Aracena**	**2.63**	**202**	P	n		**Pn**	**09 00 47.7**	**-1.1**
TA01	**Diego Aracena**	**2.63**	**202**	*e*P			**Pn**	**09 00 47.2**	**-1.6**
TA01						*e*S	**Sn**	**09 01 17.0**	**-4.6**
PATCX	**Punta Patache**	**2.86**	**199**	P	n		**Pn**	**09 00 50.7**	**-1.1**
PATCX	**Punta Patache**	**2.86**	**199**	*e*P			**Pn**	**09 00 50.3**	**-1.5**
PATCX						*e*S	**Sn**	**09 01 22.2**	**-4.7**
PATCX						IAML		09 01 33.3	
comp=E,4µm,0.7s									
PB01	**IPOC Station P**	**2.93**	**186**				**Pn**	**09 00 52.3**	**-0.5**
PB01	**IPOC Station P**	**2.93**	**186**	⇓*i*	*i*	P	**Pn**	**09 00 52.4**	**-0.4**
PB01						*e*S	**Sn**	**09 01 26.4**	**-2.2**
PB01						IAML		09 01 28.2	
comp=N,5µm,0.5s									
PB01	**IPOC Station P**	**2.93**	**186**	*e*P			**Pn**	**09 00 52.8**	**0.0**
PB01						*e*S	**Sn**	**09 01 26.8**	**-1.8**
PB01						IAML		09 01 29.6	
comp=E,2µm,0.6s									
PB01	**IPOC Station P**	**2.93**	**186**	*e*P			**Pn**	**09 00 52.8**	**0.0**
PB01						*e*S	**Sn**	**09 01 26.8**	**-1.8**
PB01						IAML		09 01 29.6	
comp=Z,2µm,0.6s									
PB02	**IPOC Station P**	**3.27**	**193**				**Pn**	**09 00 56.9**	**-0.2**
PB02	**IPOC Station P**	**3.27**	**193**	*e*P			**Pn**	**09 00 56.2**	**-1.0**
PB02						*e*S	**Sn**	**09 01 33.2**	**-3.1**
PB02						IAML		09 01 42.2	
comp=E,4µm,0.5s									
PB02	**IPOC Station P**	**3.27**	**193**	*e*P			**Pn**	**09 00 56.5**	**-0.6**
PB02						*e*S	**Sn**	**09 01 34.3**	**-2.0**
PB02						IAML		09 01 43.0	

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comp=Z,4µm,0.4s
PB02 IPOC Station P 3.27 193 *e*P **Pn 09 00 56.5 -0.6**
PB02 *e*S **Sn 09 01 34.3 -2.0**
PB02 IAML 09 01 43.0
comp=Z,4µm,0.4s
PB07 IPOC Station P 3.66 191 **Pn 09 01 01.5 -0.7**
PB07 IPOC Station P 3.66 191 *e*P **Pn 09 01 01.2 -1.1**
PB07 IPOC Station P 3.66 191 *e*P **Pn 09 01 01.6 -0.7**
PB07 *e*S **Sn 09 01 42.5 -3.1**
PB07 IAML 09 01 48.5
comp=Z,1µm,0.3s
PB07 IPOC Station P 3.66 191 *e*P **Pn 09 01 01.6 -0.7**
PB07 *e*S **Sn 09 01 42.5 -3.1**
PB07 IAML 09 01 48.5
comp=Z,1µm,0.3s
PB09 IPOC Station P 3.67 182 **Pn 09 01 02.6 +0.3**
PB09 IPOC Station P 3.67 182 ⇓*i* *i*P **Pn 09 01 02.2 -0.1**
PB09 IPOC Station P 3.67 182 *e*P **Pn 09 01 02.4 +0.1**
PB09 *e*S **Sn 09 01 44.4 -1.2**
PB09 IAML 09 01 51.7
comp=Z,1µm,0.5s
PB09 IPOC Station P 3.67 182 *e*P **Pn 09 01 02.4 +0.1**
PB09 *e*S **Sn 09 01 44.4 -1.2**
PB09 IAML 09 01 51.7
comp=Z,1µm,0.5s
PB03 IPOC Station P 3.96 188 **Pn 09 01 05.2 -0.9**
PB03 IPOC Station P 3.96 188 *e*P **Pn 09 01 04.9 -1.3**
PB03 *e*S **Sn 09 01 47.5 -4.9**
PB03 IPOC Station P 3.96 188 *e*P **Pn 09 01 05.4 -0.8**
PB03 *e*S **Sn 09 01 48.8 -3.7**
PB03 IAML 09 01 52.5
comp=Z,2µm,0.2s
PB03 IPOC Station P 3.96 188 *e*P **Pn 09 01 05.4 -0.8**
PB03 *e*S **Sn 09 01 48.8 -3.7**
PB03 IAML 09 01 52.5
comp=Z,2µm,0.2s
PB04 IPOC Station P 4.31 193 Pn **Pn 09 01 09.7 -1.1**
PB04 IPOC Station P 4.31 193 *e*P **Pn 09 01 09.6 -1.1**
PB04 IPOC Station P 4.31 193 *e*P **Pn 09 01 09.6 -1.1**
PB04 *e*S **Sn 09 01 57.4 -3.3**
PB04 IAML 09 02 01.7
comp=Z,1µm,0.5s
PB04 IPOC Station P 4.31 193 *e*P **Pn 09 01 09.6 -1.1**
PB04 *e*S **Sn 09 01 57.4 -3.3**
PB04 IAML 09 02 01.7
comp=Z,1µm,0.5s
LVC Limon Verde 4.48 177 P **Pn 09 01 13.4 +0.2**
comp=Z,311nm,0.6s,baz=29,slow=9.7,SNR=635
LVC S **Sn 09 02 02.5 -2.6**
comp=Z,530nm,0.4s,baz=91,slow=21,SNR=17
LVC LR LR 09 03 32.9
comp=Z,156nm,18.4s,baz=282,slow=44
LVC Limon Verde 4.48 177 **Pn 09 01 13.3 +0.1**
LVC Limon Verde 4.48 177 *e*P **Pn 09 01 13.3 +0.1**
LVC *e*S **Sn 09 02 02.4 -2.6**
LVC Limon Verde 4.48 177 P **Pn 09 01 13.3 +0.1**
LVC Limon Verde 4.48 177 *e*P **Pn 09 01 13.3 +0.2**
PB06 IPOC Station P 4.59 185 **Pn 09 01 13.6 -0.9**
PB06 IPOC Station P 4.59 185 ⇓*e*P **Pn 09 01 13.4 -1.1**
PB06 *e*S **Sn 09 02 01.9 -5.5**
PB06 IPOC Station P 4.59 185 *e*P **Pn 09 01 13.7 -0.8**
PB06 *e*S **Sn 09 02 05.8 -1.6**
PB06 IAML 09 02 09.3
comp=Z,872nm,0.2s
PB06 IPOC Station P 4.59 185 *e*P **Pn 09 01 13.7 -0.8**
PB06 *e*S **Sn 09 02 05.8 -1.6**
PB06 IAML 09 02 09.3
comp=Z,872nm,0.2s
AF01 San Pedro de A 4.90 170 *e*P **Pn 09 01 19.6 +0.9**
PB15 IPOC Station P 5.08 183 **Pn 09 01 20.6 -0.4**
PB15 IPOC Station P 5.08 183 *e*P **Pn 09 01 19.9 -1.1**
PB15 IPOC Station P 5.08 183 *e*P **Pn 09 01 20.2 -0.8**
PB15 *e*S **Sn 09 02 14.4 -4.7**
PB15 IAML 09 02 21.9
comp=Z,3µm,0.1s
PB15 IPOC Station P 5.08 183 *e*P **Pn 09 01 20.2 -0.8**
PB15 *e*S **Sn 09 02 14.4 -4.7**
PB15 IAML 09 02 21.9
comp=Z,3µm,0.1s
HJA Humahuaca 6.15 146 *e*P **Pn 09 01 37.3 +1.7**
HJA *e*S **Sn 09 02 50.4 +5.3**
HJA IAML 09 02 56.5
comp=Z,77nm,0.6s
HJA Humahuaca 6.15 146 *e*P **Pn 09 01 37.3 +1.7**
HJA *e*S **Sn 09 02 50.4 +5.3**
HJA IAML 09 02 56.5
comp=Z,77nm,0.6s
AZAP Zapla 7.17 149 *e*P **Pn 09 01 48.7 -0.3**
AZAP *e*S **Sn 09 03 08.2 -1.1**
AZAP IAML 09 03 12.8
comp=Z,209nm,0.6s
AZAP Zapla 7.17 149 *e*P **Pn 09 01 48.7 -0.3**
AZAP *e*S **Sn 09 03 08.2 -1.1**
AZAP IAML 09 03 12.8
comp=Z,209nm,0.6s
SIV San Ignacio 8.00 76 P **Pn 09 01 57.8 -2.2**
comp=Z,109nm,0.5s,baz=264,slow=8.9,SNR=320
SIV S **Sn 09 03 24.8 -4.3**
comp=Z,50nm,0.6s,baz=176,slow=20,SNR=5.6
SIV LR LR 09 05 25.3
comp=Z,330nm,18.6s,baz=256,slow=41
AC01 Pan de Azucar 8.11 189 *e*P **Pn 09 01 57.9 -3.5**
AC01 *e*S **Sn 09 03 23.9 -7.7**
AC01 IAML 09 04 02.7
comp=Z,243nm,1.6s
AC01 Pan de Azucar 8.11 189 *e*P **Pn 09 01 57.9 -3.5**
AC01 *e*S **Sn 09 03 23.9 -7.7**
AC01 IAML 09 04 02.7
comp=Z,243nm,1.6s
BBSD Serra de San D 8.18 85 *e*P **Pn 09 01 59.8 -2.6**
AC02 Maricunga 8.68 180 *e*P **Pn 09 02 07.7 -1.8**
AC02 *e*S **Sn 09 03 45.0 -1.1**
AC02 IAML 09 04 09.2
comp=Z,85nm,0.8s
AC02 Maricunga 8.68 180 *e*P **Pn 09 02 07.7 -1.8**
AC02 *e*S **Sn 09 03 45.0 -1.1**
AC02 IAML 09 04 09.2
comp=Z,85nm,0.8s
ETMB Extrema 8.72 19 Pn **Pn 09 02 07.5 -2.2**
ETMB Extrema 8.72 19 *e*P **Pn 09 02 07.2 -2.5**
BBRB Robore, Bolivi 8.87 93 *e*P **Pn 09 02 07.7 -3.9**
NNA Nana 9.62 308 P **Pn 09 02 19.1 -2.6**
comp=Z,42nm,0.4s,baz=139,slow=11,SNR=30
NNA S **Sn 09 04 04.7 -3.5**
comp=Z,60nm,0.7s,baz=286,slow=7.5,SNR=3.8
NNA LR LR 09 06 34.9
comp=Z,155nm,20.0s,baz=124,slow=40
NNA Nana 9.62 308 **Pn 09 02 18.7 -2.9**
NNA Nana 9.62 308 P **Pn 09 02 18.7 -2.9**
PTLB Pontes e Lacer 9.94 76 Pn **Pn 09 02 23.4 -2.4**
PTLB Pontes e Lacer 9.94 76 *e*P **Pn 09 02 23.3 -2.6**
VILB Vilhena 10.02 60 Pn **Pn 09 02 24.7 -2.4**
VILB Vilhena 10.02 60 *e*P **Pn 09 02 24.9 -2.1**
AC05 El Transito 10.72 185 *e*P **Pn 09 02 32.6 -3.7**
AC05 *e*S **Sn 09 04 28.7 -6.2**
AC05 El Transito 10.72 185 *e*P **Pn 09 02 32.6 -3.7**
AC05 *e*S **Sn 09 04 28.7 -6.2**
MURT Porto Murtinho 11.40 110 *e*P **Pn 09 02 42.9 -2.3**
TICA Tres Isletas 11.55 137 *e*P **Pn 09 02 46.5 -0.6**
ESFA Espinillo Form 12.02 126 *e*P **Pn 09 02 52.9 -0.4**
VACA Villa Angela C 12.25 142 *e*P **Pn 09 02 56.0 -0.3**
ACCO Cerro Coronel 12.42 180 *e*P **Pn 09 02 55.9 -2.9**
ACCO *e*S **Sn 09 05 08.5 -7.6**
ACCO Cerro Coronel 12.42 180 *e*P **Pn 09 02 55.9 -2.9**
ACCO *e*S **Sn 09 05 08.5 -7.6**
AQDB Aquidauana 12.90 103 Pn **Pn 09 03 02.9 -1.9**
AQDB Aquidauana 12.90 103 *e*P **Pn 09 03 02.6 -2.2**
SALV Santo Antonio 13.05 82 *e*P **Pn 09 03 02.7 -4.0**
ZON Zonda 13.38 178 Pn **Pn 09 03 11.5 +0.6**
ZON Zonda 13.38 178 P **Pn 09 03 11.5 +0.6**
CFA Coronel Fontan 13.46 177 P **Pn 09 03 08.1 -3.7**
comp=Z,31nm,0.7s,baz=339,slow=14,SNR=32
CFA S Sn 09 05 30.5 -10
comp=Z,14nm,0.6s,baz=259,slow=23,SNR=6.0
CFA LR LR 09 08 49.3
comp=Z,138nm,20.7s,baz=294,slow=38
CPUP Villa Florida 13.65 129 P **Pn 09 03 11.2 -3.0**
comp=Z,14nm,0.6s,baz=312,slow=12,SNR=37
CPUP Villa Florida 13.65 129 Pn **Pn 09 03 12.5 -1.8**
CPUP Villa Florida 13.65 129 P **Pn 09 03 12.5 -1.8**
CPUP Villa Florida 13.65 129 *e*P **Pn 09 03 12.9 -1.3**
ATAH Atahualpa 14.16 319 P **P 09 03 23.0 -1.5**
comp=Z,7.0nm,0.7s,baz=158,slow=12,SNR=5.7

VA06 Catapilco 14.52 187 **Pn 09 03 21.8 -3.5**
CLDB Colider 14.78 63 *e*P **Pn 09 03 25.3 -3.4**
MECA Mercedes 14.98 140 *e*P **Pn 09 03 29.3 -1.7**
TEFE Tefe 15.17 17 *e*P **Pn 09 03 32.0 -1.6**
MT02 Curacav 15.19 186 P **Pn 09 03 30.3 -3.3**
MT03 Universidad Ad 15.37 184 P **P 09 03 37.1 -0.3**
C2SB Chapadao do Su 15.48 95 *e*P **Pn 09 03 36.6 -0.8**
AZCA Azaras, Argent 15.63 132 *e*P **Pn 09 03 39.1 -0.1**
TRCB Terra Rica 16.15 110 P **P 09 03 45.8 -0.3**
TRCB Terra Rica 16.15 110 *e*P **Pn 09 03 45.4 -0.2**
ITQB Itaqui 16.21 138 P **Pn 09 03 43.1 -3.2**
ITQB Itaqui 16.21 138 *e*P **Pn 09 03 44.6 -1.6**
BO01 Tunca 16.31 186 P **Pn 09 03 46.2 -1.1**
CRSM Crissiumal (Br 16.74 127 *e*P **P 09 03 52.2 -0.4**
ARAG Aragualana, MT 16.75 84 *e*P **P 09 03 52.6 -0.2**
MACA Manacapuru-AM 17.01 30 P **P 09 03 54.1 -1.5**
MACA Manacapuru-AM 17.01 30 *e*P **P 09 03 54.7 -0.9**
PCMB Pacaembu 17.17 105 *e*P **Pn 09 03 57.5 -0.5**
PTGB Pitanga 17.19 115 *e*P **Pn 09 03 57.9 -0.4**
MCRA Macar, Loja 17.28 321 P **P 09 03 58.7 +0.1**
NPGB Novo Progresso 17.36 52 *e*P **P 09 03 58.4 -1.1**
RODS Rosario do Sul 17.58 136 *e*P **P 09 04 01.3 -0.5**
H03N1 Juan Fernandez 17.60 208 P **Pn 09 04 10.0 +7.2**
baz=109,slow=14,SNR=38
H03N1 T T 09 22 02.7
baz=28,slow=73,SNR=80
H03N2 Juan Fernandez 17.61 208 P **Pn 09 04 09.8 +7.0**
baz=109,slow=14,SNR=18
H03N2 T T 09 21 58.5
baz=28,slow=73,SNR=30
H03N3 Juan Fernandez 17.62 208 P **Pn 09 04 09.4 +6.4**
baz=109,slow=14,SNR=60
H03N3 T T 09 22 02.5
baz=28,slow=73,SNR=28
ITRB Iturama 17.84 98 *e*P **P 09 04 03.8 -0.9**
H03S3 Juan Fernandez 17.93 207 P **Pn 09 04 13.8 +7.2**
baz=242,slow=74,SNR=17
H03S1 Juan Fernandez 17.94 207 P **Pn 09 04 13.1 +6.4**
baz=242,slow=74,SNR=8.7
H03S2 Juan Fernandez 17.95 207 P **Pn 09 04 13.9 +7.1**
baz=242,slow=74,SNR=12
SGCB SΣo Gabriel d 18.00 7 *e*P **P 09 04 04.5 -2.0**
ITAB Concordia 18.11 123 **P 09 04 07.5 -0.1**
ITAB Concordia 18.11 123 *e*P **P 09 04 07.5 -0.1**
ALGR Alto Alegre (B 18.19 129 *e*P **P 09 04 08.8 +0.3**
SNDB Serra Nova Dou 18.27 73 *e*P **P 09 04 09.4 -0.1**
CPSB Cacapava Do Su 18.80 134 *e*P **P 09 04 15.0 -0.2**
ITTB Itaituba 18.94 45 *e*P **P 09 04 15.1 -1.6**
FRTB Fartura 19.03 109 *e*P **P 09 04 17.6 -0.1**
PORT Chimborazo Vol 19.06 329 P **P 09 04 18.6 0.0**
CHSH Refugio Sur-Vo 19.08 329 P **Pn 09 04 20.8 -0.4**
PLTB Pedras Altas 19.54 137 P **P 09 04 22.3 -0.8**
PLTB Pedras Altas 19.54 137 *e*P **P 09 04 22.4 -0.8**
IPMB Ipameri, GO 19.90 93 *e*P **P 09 04 26.3 -0.9**
CNLB Canela 20.08 127 *e*P **P 09 04 27.6 -1.5**
BDFB Brasilia 20.36 86 P **P 09 04 31.9 -0.3**
comp=Z,27nm,0.5s,baz=263,slow=12,SNR=24
comp=Z,27nm,0.5s
BDFB Brasilia 20.36 86 P **P 09 04 30.9 -1.3**
BDFB Brasilia 20.36 86 *e*P **P 09 04 31.2 -1.0**
FLF1 Flavio Alfaro- 20.54 328 *e*P Pn 09 04 38.4 +0.6
PAC1 Pacto, Paraso 20.59 332 *e*P **P 09 04 35.5 +0.9**
MACC Macarena, Meta 20.66 347 *e*P **P 09 04 33.6 -1.7**
RCLB Rio Claro- Sao 20.71 106 *e*P **P 09 04 35.1 -0.8**
TRQA Tornquist 20.83 164 P **P 09 04 37.1 +0.1**
TRQA Tornquist 20.83 164 P **P 09 04 37.1 +0.1**
GCUF Volcan Galeras 20.85 336 *e*P **P 09 04 38.2 +0.4**
SPB Sao Paulo 20.99 109 P **P 09 04 36.9 -1.9**
SPB Sao Paulo 20.99 109 *e*P **P 09 04 37.4 -1.4**
CRUC La Cruz 21.02 338 *e*P **P 09 04 40.1 +0.6**
TER01 Tubaro-SC 21.07 123 *e*P **P 09 04 38.5 -1.1**
GARC Garzon, Huila 21.12 342 *e*P **P 09 04 37.8 -2.7**
PET01 Itanhaem-SP 21.28 111 *e*P **P 09 04 41.8 0.0**
VAO Valinhos 21.31 107 *e*P **P 09 04 40.6 -1.7**
GO06 Curarrehue 21.49 185 P **P 09 04 45.1 +1.0**
MALB Monte Alegre 21.77 44 *e*P **P 09 04 45.3 -1.9**
LR04 Corral 22.01 189 IAmb IAmb 09 04 52.1
comp=Z,44nm,0.9s
BOAV Boa Vista 22.07 23 P **P 09 04 48.5 -1.8**
BOAV IAmb IAmb 09 04 51.4
comp=Z,106nm,1.0s
BOAV Boa Vista 22.07 23 *e*P **P 09 04 48.9 -1.4**
BOAV Boa Vista 22.07 23 *e*P **P 09 04 49.0 -1.3**
PRPB Parauapebas 22.28 60 *e*P **P 09 04 50.4 -1.9**
PTGC Puerto Gaitan, 22.37 352 *e*P **P 09 04 50.7 -2.4**
PLCA Paso Flores 22.58 183 P **P 09 04 56.3 +1.2**
comp=Z,22nm,0.7s,baz=358,slow=11,SNR=64
PLCA pP **pP 09 05 25.6 +3.2**
comp=Z,10.0nm,0.6s,baz=14,slow=11,SNR=4.7
comp=Z,22nm,0.7s
PLCA Paso Flores 22.58 183 P **P 09 04 55.5 +0.4**
PLCA IAmb IAmb 09 04 58.2
comp=Z,34nm,0.8s
PLCA Paso Flores 22.58 183 *e*P **P 09 04 56.0 +1.0**
PARB Paraibuna 22.59 107 *e*P **P 09 04 53.8 -1.5**
ORTC Ortega, Tolima 22.70 344 *e*P **P 09 04 52.8 -3.6**
SMTB Santa Maria do 22.86 69 *e*P **P 09 04 57.6 -0.3**
CHIC Chingaza 23.05 348 *e*P **P 09 04 58.3 -1.8**
YOTC Yotoco, Valle 23.08 341 *e*P **P 09 04 58.0 -2.0**
LL03 Petrohue 23.12 186 IAmb IAmb 09 05 01.6
comp=Z,52nm,0.7s
ROSC El Rosal 23.37 347 P **P 09 05 02.7 -0.3**
comp=Z,13nm,0.7s,baz=155,slow=19,SNR=5.7
comp=Z,13nm,0.7s
ROSC El Rosal 23.37 347 P **P 09 05 02.2 -0.8**
ROSC IAmb IAmb 09 05 10.9
comp=Z,61nm,1.4s
PLMC San Jos del P 23.93 342 *e*P **P 09 05 05.6 -2.1**
JANB Januaria 23.98 86 *e*P **P 09 05 06.5 -1.7**
GUY2C Guyana, Caldas 23.99 345 *e*P **P 09 05 07.1 -1.6**
MAN01 Angra dos Reis 24.04 106 *e*P **P 09 05 08.4 -0.3**
SDBA SAO DESIDERIO 24.04 80 *e*P **P 09 05 07.9 -0.9**
RUSC La Rusia 24.17 350 P **P 09 05 08.9 -1.4**
RUSC IAmb IAmb 09 05 11.3
comp=Z,69nm,0.8s
RUSC La Rusia 24.17 350 *e*P **P 09 05 09.3 -1.0**
DIAM Diamantina, MG 24.19 94 *e*P **P 09 05 10.0 -0.1**
NORC Norcasia 24.20 346 *e*P **P 09 05 07.6 -2.5**
MCPB Macapa, AP 24.35 45 *e*P **P 09 05 10.2 -1.3**
TAMC Tame, Arauca 24.53 354 *e*P **P 09 05 11.9 -1.2**
CBOC Ciudad Bolivar 24.77 343 *e*P **P 09 05 13.5 -2.0**
BARC Barichara 24.87 350 *e*P **P 09 05 14.9 -1.5**
PTBC PUERTO BERRIO, 25.05 347 *e*P **P 09 05 14.3 -3.5**
DUB01 Friburgo-RJ 25.43 103 *e*P **P 09 05 21.0 -0.2**
PAMC Pamplona, Colo 25.53 352 *e*P **P 09 05 21.0 -1.7**
TMAB Tom-Au,PA,Br 25.89 55 *e*P **P 09 05 24.5 -1.0**
DBBC Dabeiba 25.93 344 *e*P **P 09 05 24.5 -1.3**
ZARC Zaragoza, Cauc 26.06 347 *e*P **P 09 05 24.0 -3.0**
UREC San Jos de Ur 26.46 346 *e*P **P 09 05 27.9 -2.7**
SDV Santo Domingo 26.87 357 P **P 09 05 32.5 -1.9**
comp=Z,34nm,0.9s,baz=178,slow=8.0,SNR=21
SDV LR LR 09 17 38.5
comp=Z,43nm,19.2s,baz=270,slow=39
comp=Z,34nm,0.9s
SDV Santo Domingo 26.87 357 P **P 09 05 32.4 -1.9**
SDV IAmb IAmb 09 05 36.1
comp=Z,32nm,0.9s
SDV Santo Domingo 26.87 357 *e*P **P 09 05 32.2 -2.1**
BAUV El Baul 26.91 2 P **P 09 05 33.0 -1.5**
RIB01 Linhares ES 27.24 97 *e*P **P 09 05 36.6 -0.9**
NAN01 Guarapari, ES 27.59 94 *e*P **P 09 05 40.6 0.0**
GUA01 Guaratinga, BA 28.03 91 *e*P **P 09 05 44.6 +0.1**
MDP Montagnes des 28.23 37 P **P 09 05 44.8 -1.6**
comp=Z,6.1nm,0.7s,baz=211,slow=12,SNR=5.1
MDP LR LR 09 16 30.3
comp=Z,50nm,18.6s,baz=188,slow=35
comp=Z,6.1nm,0.7s
ARGC Ariguani, Magd 28.25 349 *e*P **P 09 05 44.5 -1.9**
SJCC San Jacinto, C 28.46 347 *e*P **P 09 05 46.0 -2.4**
CMC01 Camacan, BA 28.48 89 *e*P **P 09 05 47.8 -0.7**
GDU01 Guandu, BA 28.74 86 *e*P **P 09 05 50.2 -0.7**
ROSB Rosrio 28.80 61 *e*P **P 09 05 50.2 -1.2**
SRBA San Rafael, Bu 30.59 332 IAmb IAmb 09 06 10.7
comp=Z,31nm,1.3s
JTS Las Juntas 32.26 330 ⇑*e*P **P 09 06 23.6 +1.8**
DUNO Dulce Nombre, 32.34 329 IAmb IAmb 09 06 26.5
comp=Z,22nm,0.9s
ORTG Ortega, Santa 32.56 329 IAmb IAmb 09 06 28.6
comp=Z,17nm,0.7s
ACON Acoyapa 33.82 331 IAmb IAmb 09 06 38.9
comp=Z,53nm,1.3s
EFI East Falkland 34.62 168 ⇑*e*P **P 09 06 43.0 +1.2**
EFI pmax pmax

comp=Z,115nm,1.3s
RCBR Riachuelo 34.65 74 P **P** **09 06 41.8 -0.9**
comp=Z,13nm,0.8s,baz=33,slow=8.3,SNR=6.4
RCBR LR LR 09 23 13.5
comp=Z,68nm,20.7s,baz=308,slow=40
comp=Z,13nm,0.8s
RCBR Riachuelo 34.65 74 eP **P** **09 06 42.2 -0.5**
RCBR Riachuelo 34.65 74 P **P** **09 06 43.2 +0.5**
RCBR pP **pP** **09 07 15.3 +0.8**
OBIP Obispado Ponce 36.02 4 IAmb IAmb 09 06 54.8
comp=Z,50nm,0.8s
CELP Cerrillos 36.05 4 P **P** **09 06 52.8 -1.6**
PRSN Puerto Rico Se 36.16 3 IAmb IAmb 09 06 54.2
comp=Z,67nm,0.9s
MTO3 Montecristo 37.97 327 IAmb IAmb 09 07 14.5
comp=Z,35nm,0.8s
RPN Rapa Nui 38.04 249 LR LR 09 20 01.0
comp=Z,78nm,18.5s,baz=138,slow=31
ESQI Esquipulas 38.09 327 IAmb IAmb 09 07 15.8
comp=Z,38nm,0.8s
CCIG Comitan 41.00 325 IAmb IAmb 09 07 40.0
comp=Z,25nm,1.0s
TEIG Tepich 42.48 333 P **P** **09 07 48.1 +0.3**
TEIG IAmb IAmb 09 07 49.2
comp=Z,53nm,0.7s
TEIG Tepich 42.48 333 P **P** **09 07 48.1 +0.3**
DWPF Disney Wildern 47.47 345 P **P** **09 08 26.8 -0.3**
baz=164
DWPF Disney Wildern 47.47 345 P **P** **09 08 26.3 -0.7**
baz=164
DWPF Disney Wildern 47.47 345 P **P** **09 08 26.2 -0.9**
656A Willston 48.94 344 IAmb IAmb 09 08 39.2
comp=Z,59nm,0.8s
656A Willston 48.94 344 P **P** **09 08 38.2 -0.2**
baz=163
456A Hilliard 50.11 346 IAmb IAmb 09 08 48.1
comp=Z,55nm,0.8s
456A Hilliard 50.11 346 P **P** **09 08 47.2 -0.1**
baz=164
TIGA Tifton 51.19 344 P **P** **09 08 54.9 -0.4**
baz=162
TIGA Tifton 51.19 344 P **P** **09 08 54.7 -0.5**
baz=162
255A Hazlehurst 51.37 345 P **P** **09 08 56.1 -0.5**
baz=164
352A Blakely 51.59 343 IAmb IAmb 09 08 58.5
comp=Z,58nm,0.8s
352A Blakely 51.59 343 P **P** **09 08 58.0 -0.2**
baz=161,SNR=10.0
BRAL Brewton 51.94 340 P **P** **09 09 00.7 -0.1**
baz=158
BRAL Brewton 51.94 340 P **P** **09 09 00.6 -0.2**
baz=158
NHSC New Hope 52.01 348 P **P** **09 09 01.1 -0.2**
baz=167,SNR=5.8
NHSC New Hope 52.01 348 P **P** **09 09 00.9 -0.5**
baz=167,SNR=5.8
ZAIG Zacatecas 52.14 320 P **P** **09 09 04.0 +1.0**
154A Montrose 52.18 345 IAmb IAmb 09 09 03.1
comp=Z,59nm,0.9s
154A Montrose 52.18 345 P **P** **09 09 02.1 -0.5**
baz=163,SNR=6.8
250A Grady 52.44 342 IAmb IAmb 09 09 05.2
comp=Z,59nm,1.1s
250A Grady 52.44 342 P **P** **09 09 04.5 -0.1**
baz=159,SNR=5.9
Y60A Bolivia 52.54 350 P **P** **09 09 04.3 -1.0**
baz=169
Y60A P **P** **09 09 04.3 -1.0**
baz=169
HAW Hawthorne Fire 52.55 347 P **P** **09 09 04.9 -0.5**
baz=165,SNR=5.1
152A Waverly Hall 52.65 343 IAmb IAmb 09 09 06.4
comp=Z,37nm,1.2s
152A Waverly Hall 52.65 343 P **P** **09 09 05.3 -0.8**
baz=161,SNR=10.0
Y58A Scranton 52.69 349 P **P** **09 09 05.4 -1.0**
baz=168
Y58A P **P** **09 09 05.4 -1.0**
baz=168
Y57A Sumter 52.94 348 IAmb IAmb 09 09 08.4
comp=Z,42nm,0.8s
Y57A Sumter 52.94 348 P **P** **09 09 07.5 -0.7**
baz=167,SNR=6.1
Y57A P **P** **09 09 07.5 -0.7**
baz=167,SNR=6.1
346A Big Creek Wild 52.95 338 P **P** **09 09 08.6 +0.3**
baz=156,SNR=7.1
X58A Rowland 53.27 349 IAmb IAmb 09 09 10.1
comp=Z,16nm,0.8s
X58A Rowland 53.27 349 P **P** **09 09 09.6 -1.0**
baz=168
X58A P **P** **09 09 09.6 -1.0**
baz=168
JSC Jenkinsville 53.37 347 P **P** **09 09 10.4 -1.0**
baz=166
Z51A Franklin 53.39 343 P **P** **09 09 09.8 -1.7**
Z51A IAmb IAmb 09 09 11.1
comp=Z,29nm,1.3s
Z51A Franklin 53.39 343 P **P** **09 09 10.5 -1.0**
baz=161
344A Westbrook Farm 53.47 337 P **P** **09 09 12.4 +0.3**
baz=154,SNR=11
HODGE Hodges 53.53 346 IAmb IAmb 09 09 12.9
comp=Z,12nm,0.9s
HODGE Hodges 53.53 346 P **P** **09 09 11.8 -0.7**
baz=164,SNR=5.3
BIRD Birdtown, Kers 53.56 348 IAmb IAmb 09 09 13.0
comp=Z,32nm,0.8s
BIRD Birdtown, Kers 53.56 348 P **P** **09 09 12.2 -0.5**
baz=167,SNR=9.6
Y52A Lilburn 53.61 345 IAmb IAmb 09 09 13.2
comp=Z,30nm,1.4s
Y52A Lilburn 53.61 345 P **P** **09 09 12.1 -1.0**
baz=162
Y52A P **P** **09 09 12.1 -1.0**
baz=162
LRAL Lakeview Retre 53.65 341 IAmb IAmb 09 09 13.2
comp=Z,21nm,1.1s
LRAL Lakeview Retre 53.65 341 P **P** **09 09 12.6 -0.9**
baz=159,SNR=7.9
LRAL Lakeview Retre 53.65 341 P **P** **09 09 12.6 -0.9**
baz=159,SNR=7.9
CNNC Cliffs of the 53.70 351 P **P** **09 09 12.4 -1.3**
baz=170
441A DeRidder 53.81 334 P **P** **09 09 15.8 +1.2**
baz=151
146A Union 53.94 339 P **P** **09 09 15.6 +0.1**
baz=156,SNR=9.9
W57A Gilead 53.97 349 IAmb IAmb 09 09 15.7
comp=Z,21nm,0.8s
W57A Gilead 53.97 349 P **P** **09 09 14.9 -0.8**
baz=167,SNR=6.4
W57A P **P** **09 09 14.9 -0.8**
baz=167,SNR=6.4
PAULI Pauline 54.00 347 IAmb IAmb 09 09 16.0
comp=Z,18nm,0.8s
PAULI Pauline 54.00 347 P **P** **09 09 15.7 -0.3**
baz=165
342B Flagon Creek P 54.01 335 P **P** **09 09 17.2 +1.2**
baz=153,SNR=14
VBMS Vicksburg 54.08 338 P **P** **09 09 16.5 0.0**
baz=155
VBMS Vicksburg 54.08 338 P **P** **09 09 16.6 0.0**
baz=155
Z47A Carrollton 54.13 340 IAmb IAmb 09 09 16.8
comp=Z,34nm,0.8s
Z47A Carrollton 54.13 340 P **P** **09 09 16.2 -0.7**
baz=158,SNR=12
KMSC Kings Mountain 54.21 348 IAmb IAmb 09 09 17.5
comp=Z,20nm,0.8s
KMSC Kings Mountain 54.21 348 P **P** **09 09 16.9 -0.6**
baz=166,SNR=6.7
KMSC Kings Mountain 54.21 348 P **P** **09 09 16.9 -0.6**
baz=166,SNR=6.7
Y49A Blount Mountai 54.24 342 IAmb IAmb 09 09 17.8
comp=Z,20nm,1.1s
Y49A Blount Mountai 54.24 342 P **P** **09 09 16.7 -1.0**
baz=160
HKT Hockley 54.27 331 P **P** **09 09 18.4 +0.5**
HKT Hockley 54.27 331 P **P** **09 09 19.2 +1.2**
baz=148
HKT Hockley 54.27 331 P **P** **09 09 18.4 +0.5**
HKT pmax pmax
comp=Z,12nm,1.0s
HKT Hockley 54.27 331 P **P** **09 09 18.9 +1.0**
735A Kenedy 54.30 329 P **P** **09 09 20.1 +1.9**
baz=146
BG3 Lake Jocassee 54.41 346 IAmb IAmb 09 09 19.6
comp=Z,16nm,1.0s
CASEE Lake Jocassee 54.41 346 P **P** **09 09 18.6 -0.4**
baz=164,SNR=6.5
V58A Windy Hill, Pi 54.44 350 P **P** **09 09 17.7 -1.4**
baz=168
V58A P **P** **09 09 17.7 -1.4**
baz=168
X51A Calhoun 54.48 344 IAmb IAmb 09 09 19.7
comp=Z,23nm,0.9s
X51A Calhoun 54.48 344 P **P** **09 09 18.9 -0.5**
baz=162
X51A P **P** **09 09 18.9 -0.5**
baz=162
FPAL Fort Paine 54.66 343 IAmb IAmb 09 09 20.2
comp=Z,15nm,1.1s
833A Chaparral WMA, 54.66 327 IAmb IAmb 09 09 23.0
comp=Z,30nm,1.1s
833A Chaparral WMA, 54.66 327 P **P** **09 09 22.0 +1.2**
baz=144,SNR=7.6
833A Chaparral WMA, 54.66 327 P **P** **09 09 21.8 +1.0**
baz=144,SNR=7.6
W52A Murphy 54.75 345 P **P** **09 09 20.5 -0.9**
baz=163
U59A Littleton 54.78 351 IAmb IAmb 09 09 20.9
comp=Z,10nm,0.8s
U59A Littleton 54.78 351 P **P** **09 09 20.5 -1.1**
baz=170
U59A P **P** **09 09 20.5 -1.1**
baz=170
143A Socs Landing, 54.84 337 IAmb IAmb 09 09 23.2
comp=Z,59nm,1.3s
143A Socs Landing, 54.84 337 P **P** **09 09 22.3 +0.3**
baz=154
V55A Taylorsville 54.88 348 IAmb IAmb 09 09 23.0
comp=Z,32nm,0.8s
V55A Taylorsville 54.88 348 P **P** **09 09 22.1 -0.2**
baz=166,SNR=10
V55A P **P** **09 09 22.1 -0.2**
baz=166,SNR=10
X48A Hartselle 54.98 342 IAmb IAmb 09 09 23.3
comp=Z,39nm,0.9s
X48A Hartselle 54.98 342 P **P** **09 09 22.1 -0.9**
baz=159,SNR=17
V53A Saluda 55.04 346 IAmb IAmb 09 09 23.4
comp=Z,13nm,0.9s
V53A Saluda 55.04 346 P **P** **09 09 22.9 -0.6**
baz=164,SNR=5.7
V53A P **P** **09 09 22.9 -0.6**
baz=164,SNR=5.7
U56A King 55.20 349 IAmb IAmb 09 09 24.9
comp=Z,21nm,0.8s
U56A King 55.20 349 P **P** **09 09 24.4 -0.1**
baz=167,SNR=5.4
U56A P **P** **09 09 24.4 -0.1**
baz=167,SNR=5.4
W50A Signal Mountai 55.20 344 IAmb IAmb 09 09 24.9
comp=Z,32nm,1.1s
W50A Signal Mountai 55.20 344 P **P** **09 09 23.9 -0.7**
baz=161,SNR=9.6
Y45A Yeager Farm, C 55.23 339 IAmb IAmb 09 09 25.2
comp=Z,47nm,0.8s
Y45A Yeager Farm, C 55.23 339 P **P** **09 09 24.8 -0.1**
baz=156,SNR=7.9
TKL Tuckaleechee C 55.25 345 IAmb IAmb 09 09 25.0
comp=Z,19nm,0.9s
TKL Tuckaleechee C 55.25 345 P **P** **09 09 24.1 -0.9**
baz=163,SNR=7.7
NATX Nacogdoches 55.30 333 P **P** **09 09 27.0 +1.6**
baz=150,SNR=8.4
NATX Nacogdoches 55.30 333 P **P** **09 09 26.8 +1.4**
baz=150,SNR=8.4
T59A Double "B" Far 55.36 352 IAmb IAmb 09 09 25.6
comp=Z,28nm,0.8s
T59A Double "B" Far 55.36 352 P **P** **09 09 24.7 -1.0**
baz=170,SNR=8.7
T59A P **P** **09 09 24.7 -1.0**
baz=170,SNR=8.7
SWET Sewanee 55.38 343 IAmb IAmb 09 09 26.0
comp=Z,36nm,1.1s
V52A Sevierville 55.38 346 IAmb IAmb 09 09 26.1
comp=Z,43nm,1.1s
V52A Sevierville 55.38 346 P **P** **09 09 24.9 -1.0**
baz=163,SNR=14
V51A Loudon 55.53 345 IAmb IAmb 09 09 27.0
comp=Z,26nm,1.4s
V51A Loudon 55.53 345 P **P** **09 09 25.9 -1.0**
baz=162,SNR=5.8
T57A Hurt 55.64 350 IAmb IAmb 09 09 28.0
comp=Z,20nm,1.1s
T57A Hurt 55.64 350 P **P** **09 09 26.7 -1.0**
baz=168,SNR=6.1
T57A P **P** **09 09 26.7 -1.0**
baz=168,SNR=6.1
U54A Nelsons Funny 55.64 348 IAmb IAmb 09 09 28.4
comp=Z,45nm,0.9s
U54A Nelsons Funny 55.64 348 P **P** **09 09 27.4 -0.4**
baz=165,SNR=11
U54A P **P** **09 09 27.4 -0.4**
baz=165,SNR=11
OXF Oxford 55.78 340 P **P** **09 09 27.0 -1.7**
OXF Oxford 55.78 340 P **P** **09 09 28.1 -0.6**
baz=157,SNR=12
OXF Oxford 55.78 340 P **P** **09 09 27.7 -1.0**
baz=157,SNR=12
OXF Oxford 55.78 340 P **P** **09 09 27.0 -1.7**
OXF pmax pmax
comp=Z,79nm,1.0s
435B Jarrell 55.78 330 IAmb IAmb 09 09 30.8
comp=Z,19nm,0.8s
435B Jarrell 55.78 330 P **P** **09 09 30.1 +1.2**
baz=147
435B Jarrell 55.78 330 P **P** **09 09 29.5 +0.6**
baz=147
PLAL Pickwick Lake 55.78 341 P **P** **09 09 27.2 -1.5**
PLAL IAmb IAmb 09 09 28.1
comp=Z,18nm,0.8s
237A Washetta, Mont 56.01 333 P **P** **09 09 32.3 +1.9**
baz=149,SNR=5.9
TZTN Tazewell 56.04 346 IAmb IAmb 09 09 30.8
comp=Z,17nm,1.1s
TZTN Tazewell 56.04 346 P **P** **09 09 29.7 -0.9**
baz=164,SNR=5.0
TZTN Tazewell 56.04 346 P **P** **09 09 29.7 -0.9**
baz=164,SNR=5.0
BLA Blacksburg 56.05 349 IAmb IAmb 09 09 32.4
comp=Z,13nm,0.8s
BLA Blacksburg 56.05 349 P **P** **09 09 30.5 -0.2**
baz=167
V48A Smith Brothers 56.12 343 IAmb IAmb 09 09 30.9
comp=Z,26nm,0.8s
V48A Smith Brothers 56.12 343 P **P** **09 09 30.3 -0.9**
baz=160,SNR=15
W45A Hickory Valley 56.29 340 P **P** **09 09 31.4 -1.0**
baz=157
CLTN Cedars of Leba 56.31 343 IAmb IAmb 09 09 32.7
comp=Z,33nm,1.0s
S57A Dark Hollow, R 56.34 351 IAmb IAmb 09 09 32.6
comp=Z,16nm,0.8s
S57A Dark Hollow, R 56.34 351 P **P** **09 09 32.1 -0.6**
baz=169,SNR=6.2
S57A P **P** **09 09 32.1 -0.6**
baz=169,SNR=6.2
R58B Mineral 56.38 352 IAmb IAmb 09 09 32.8
comp=Z,11nm,0.8s
CBN Corbin Frederi 56.55 352 P **P** **09 09 33.4 -0.8**
baz=171
CBN Corbin Frederi 56.55 352 P **P** **09 09 33.2 -0.9**
baz=171
U49A Red Boiling Sp 56.56 344 IAmb IAmb 09 09 34.2
comp=Z,30nm,1.1s
U49A Red Boiling Sp 56.56 344 P **P** **09 09 33.2 -1.1**
baz=161,SNR=10.0
JCT Junction City 56.61 328 IAmb IAmb 09 09 39.5
comp=Z,11nm,0.7s
JCT Junction City 56.61 328 P **P** **09 09 35.5 +0.6**
baz=145
JCT Junction City 56.61 328 P **P** **09 09 35.4 +0.6**
baz=145
WHTX Lake Whitney, 56.74 331 IAmb IAmb 09 09 37.5
comp=Z,31nm,0.8s
WHTX Lake Whitney, 56.74 331 P **P** **09 09 36.7 +1.1**
baz=148,SNR=6.5
WHTX Lake Whitney, 56.74 331 P **P** **09 09 36.4 +0.8**
baz=148,SNR=6.5
Z38A Mt. Pleasant 56.74 334 IAmb IAmb 09 09 38.4
comp=Z,40nm,0.7s
Z38A Mt. Pleasant 56.74 334 P **P** **09 09 36.9 +1.3**
baz=150,SNR=15
WVT Waverly 56.77 342 P **P** **09 09 33.1 -2.7**
WVT IAmb IAmb 09 09 36.1
comp=Z,35nm,0.8s
WVT Waverly 56.77 342 P **P** **09 09 34.2 -1.6**
baz=159,SNR=26
WVT Waverly 56.77 342 P **P** **09 09 34.4 -1.4**
baz=159
WVT Waverly 56.77 342 P **P** **09 09 33.1 -2.7**
WVT pmax pmax
comp=Z,35nm,0.8s
WVT Waverly 56.77 342 P **P** **09 09 34.0 -1.8**
S54A Dingess, Beckl 56.78 348 IAmb IAmb 09 09 36.0
comp=Z,39nm,0.8s
S54A Dingess, Beckl 56.78 348 P **P** **09 09 35.5 -0.4**
baz=166,SNR=12
S54A P **P** **09 09 35.5 -0.4**
baz=166,SNR=12
T50A Nancy 56.80 345 IAmb IAmb 09 09 36.0
comp=Z,23nm,1.2s
R55A Marlinton 57.04 350 IAmb IAmb 09 09 39.3
comp=Z,16nm,0.8s
R55A Marlinton 57.04 350 P **P** **09 09 37.8 +0.1**
baz=168,SNR=5.4
R55A P **P** **09 09 37.8 +0.1**
baz=168,SNR=5.4
S51A Beattyville 57.10 346 IAmb IAmb 09 09 38.1
comp=Z,17nm,0.9s
S51A Beattyville 57.10 346 P **P** **09 09 37.2 -0.9**
baz=164
S51A P **P** **09 09 37.2 -0.9**
baz=164
HBAR Harrisburg 57.14 339 P **P** **09 09 40.2 +1.9**
baz=156
MIAR Mount Ida 57.30 336 IAmb IAmb 09 09 40.8
comp=Z,32nm,0.8s
MIAR Mount Ida 57.30 336 P **P** **09 09 39.7 +0.2**
baz=152,SNR=21
MIAR Mount Ida 57.30 336 P **P** **09 09 39.7 +0.2**
baz=152,SNR=21
T47A Sharon Grove 57.37 343 P **P** **09 09 39.1 -0.8**
baz=160,SNR=29
R53A Hurricane 57.42 348 IAmb IAmb 09 09 40.2
comp=Z,24nm,0.8s
R53A Hurricane 57.42 348 P **P** **09 09 39.8 -0.5**
baz=166,SNR=6.0
R53A P **P** **09 09 39.8 -0.5**
baz=166,SNR=6.0
FW06 Azle 57.61 332 IAmb IAmb 09 09 46.6
comp=Z,28nm,0.8s
Q56A Snyder Ridge, 57.63 351 IAmb IAmb 09 09 42.7
comp=Z,30nm,0.8s
Q56A Snyder Ridge, 57.63 351 P **P** **09 09 41.9 +0.1**
baz=169,SNR=8.0
Q56A P **P** **09 09 41.9 +0.1**
baz=169,SNR=8.0
TX31 Lajitas Ar. Si 57.76 324 IAmb IAmb 09 09 47.6
comp=Z,14nm,1.1s
TX31 Lajitas Ar. Si 57.76 324 P **P** **09 09 43.7 +0.7**
baz=141
Z35A Perchaven, San 57.77 332 P **P** **09 09 44.1 +1.3**
baz=148,SNR=12
LCAR Lake Charles 57.78 339 P **P** **09 09 42.4 -0.4**
baz=155,SNR=36
T45B Paducah 57.84 342 P **P** **09 09 42.8 -0.5**
baz=158,SNR=13
Q54A Coxs Mills 57.84 349 IAmb IAmb 09 09 43.7
comp=Z,38nm,1.1s
Q54A Coxs Mills 57.84 349 P **P** **09 09 42.5 -0.7**
baz=167,SNR=7.3
Q54A P **P** **09 09 42.5 -0.7**
baz=167,SNR=7.3
R50A Paris 57.88 346 IAmb IAmb 09 09 43.6
comp=Z,24nm,1.0s
R50A Paris 57.88 346 P **P** **09 09 42.5 -1.0**
baz=163,SNR=7.9
R50A P **P** **09 09 42.5 -1.0**
baz=163,SNR=7.9
P57A Homestead Farm 57.89 352 P **P** **09 09 43.8 +0.3**
baz=170
P57A P **P** **09 09 43.8 +0.3**
baz=170
GEDE Greenville 57.94 354 P **P** **09 09 43.0 -0.8**
baz=173
PSUB Penn St. - Bra 58.04 354 P **P** **09 09 43.6 -0.9**
baz=173
X37A Clayton 58.05 335 IAmb IAmb 09 09 48.4
comp=Z,21nm,0.8s
X37A Clayton 58.05 335 P **P** **09 09 45.8 +1.1**
baz=150,SNR=9.6
WUPA West Chester U 58.06 354 IAmb IAmb 09 09 44.4
comp=Z,9.3nm,0.8s
R49A Shelbyville 58.09 345 IAmb IAmb 09 09 44.8
comp=Z,22nm,1.1s
R49A Shelbyville 58.09 345 P **P** **09 09 44.0 -1.0**
baz=162
R49A P **P** **09 09 44.0 -1.0**
baz=162
Q52A Bidwell 58.09 348 IAmb IAmb 09 09 45.3
comp=Z,28nm,0.9s
Q52A Bidwell 58.09 348 P **P** **09 09 44.2 -0.8**
baz=165
Q52A P **P** **09 09 44.2 -0.8**
baz=165
PBMO Poplar Bluff 58.18 340 P **P** **09 09 45.4 -0.2**
baz=156,SNR=13
MVL Millersville 58.20 353 IAmb IAmb 09 09 45.6
comp=Z,18nm,0.8s
TUPA Temple Univers 58.25 355 P **P** **09 09 44.7 -1.3**
baz=173,SNR=5.2
ABTX Abilene, Hawle 58.29 330 IAmb IAmb 09 09 48.2
comp=Z,30nm,1.1s
ABTX Abilene, Hawle 58.29 330 P **P** **09 09 47.2 +0.8**
baz=146,SNR=8.5
ABTX Abilene, Hawle 58.29 330 P **P** **09 09 47.0 +0.5**
baz=146,SNR=8.5
LOOK Love County 58.30 333 IAmb IAmb 09 09 49.5
comp=Z,49nm,1.0s
WCI Wyandotte Cave 58.31 344 P **P** **09 09 45.0 -1.5**
WCI IAmb IAmb 09 09 45.8
comp=Z,22nm,0.8s
WCI Wyandotte Cave 58.31 344 P **P** **09 09 45.2 -1.3**
baz=161,SNR=6.6
WCI Wyandotte Cave 58.31 344 P **P** **09 09 45.0 -1.5**
baz=161
WCI Wyandotte Cave 58.31 344 P **P** **09 09 45.0 -1.5**
WCI pmax pmax
comp=Z,22nm,0.8s
WCI Wyandotte Cave 58.31 344 P **P** **09 09 45.0 -1.5**
MCWV Mont Chateau 58.33 350 IAmb IAmb 09 09 47.0
comp=Z,31nm,0.8s
MCWV Mont Chateau 58.33 350 P **P** **09 09 46.6 0.0**
baz=168,SNR=6.8
MCWV Mont Chateau 58.33 350 P **P** **09 09 46.4 -0.2**
baz=168,SNR=6.8
Q51A Peebles 58.38 347 IAmb IAmb 09 09 47.0
comp=Z,16nm,0.9s
Q51A Peebles 58.38 347 P **P** **09 09 45.9 -1.0**
baz=164
Q51A P **P** **09 09 45.9 -1.0**
baz=164
CGM3 Cape Girardeau 58.41 341 IAmb IAmb 09 09 47.7
comp=Z,127nm,0.9s
PANJ Princeton 58.42 355 P **P** **09 09 46.4 -0.8**
baz=174
P53A Whipple 58.43 349 P **P** **09 09 47.1 -0.2**
baz=166,SNR=14
P53A P **P** **09 09 47.1 -0.2**
baz=166,SNR=14
S44A Carbondale 58.65 341 P **P** **09 09 48.5 -0.3**
baz=158,SNR=36
BRNJ Basking Ridge 58.71 355 P **P** **09 09 48.8 -0.3**
baz=174
P52A Corning 58.71 348 IAmb IAmb 09 09 49.5
comp=Z,42nm,1.1s
P52A Corning 58.71 348 P **P** **09 09 48.1 -1.2**
baz=166,SNR=11
O54A Avella 58.93 350 IAmb IAmb 09 09 51.4
comp=Z,21nm,1.1s
HHAR Hobbs 58.97 337 IAmb IAmb 09 09 52.6
comp=Z,42nm,1.0s
PAL Palisades 58.98 356 P **P** **09 09 50.4 -0.7**
baz=175
SSPA Standing Stone 59.01 352 P **P** **09 09 50.3 -1.0**
SSPA IAmb IAmb 09 10 46.5
comp=Z,63nm,1.9s
SSPA Standing Stone 59.01 352 P **P** **09 09 50.8 -0.5**
baz=170

SSPA	Standing Stone	59.01	352	P	P	09 09 50.8	-0.5
	baz=170						
SSPA	Standing Stone	59.01	352	P	P	09 09 50.5	-0.7
N58A	Sunbury	59.07	353	IAmb	IAmb	09 09 52.2	
	comp=Z,23nm,0.9s						
N58A	Sunbury	59.07	353	P	P	09 09 51.3	-0.4
	baz=172,SNR=6.7						
N58A				P	P	09 09 51.3	-0.4
	baz=172,SNR=6.7						
X34A	Smith Ranch, M	59.10	333	IAmb	IAmb	09 09 55.0	
	comp=Z,48nm,1.0s						
ODNJ	Ogdensburg	59.11	355	P	P	09 09 50.9	-1.1
	baz=174						
O52A	Adamsville	59.12	349	IAmb	IAmb	09 09 52.5	
	comp=Z,41nm,1.2s						
O52A	Adamsville	59.12	349	P	P	09 09 51.2	-0.9
	baz=166						
O52A				P	P	09 09 51.2	-0.9
	baz=166						
O53A	New Philadelph	59.14	349	IAmb	IAmb	09 09 52.7	
	comp=Z,54nm,1.1s						
O53A	New Philadelph	59.14	349	P	P	09 09 51.5	-0.7
	baz=167,SNR=7.0						
P49A	Miami Univ. Ec	59.17	346	IAmb	IAmb	09 09 51.9	
	comp=Z,36nm,1.1s						
P49A	Miami Univ. Ec	59.17	346	P	P	09 09 51.0	-1.3
	baz=163,SNR=6.6						
P49A	Miami Univ. Ec	59.17	346	P	P	09 09 51.0	-1.3
	baz=163,SNR=6.6						
UPAO	U. Pittsburgh	59.17	350	P	P	09 09 52.1	-0.3
	baz=168						
BLO	Bloomington	59.26	344	IAmb	IAmb	09 09 52.5	
	comp=Z,33nm,0.8s						
P48A	Milroy	59.26	345	IAmb	IAmb	09 09 51.9	
	comp=Z,17nm,0.8s						
P48A	Milroy	59.26	345	P	P	09 09 51.4	-1.6
	baz=162						
P48A				P	P	09 09 51.4	-1.6
	baz=162						
U38A	Gravette	59.28	336	IAmb	IAmb	09 09 54.3	
	comp=Z,62nm,1.8s						
U38A	Gravette	59.28	336	P	P	09 09 53.7	+0.5
	baz=152,SNR=6.8						
FVM	French Village	59.28	341	P	P	09 09 52.8	-0.4
	baz=156,SNR=6.0						
RLO	Rose Lookout	59.28	336	IAmb	IAmb	09 09 55.5	
	comp=Z,47nm,0.9s						
TUL1	Leonard	59.37	335	IAmb	IAmb	09 09 57.1	
	comp=Z,12nm,0.7s						
TUL1	Leonard	59.37	335	P	P	09 09 54.7	+0.9
	baz=150,SNR=10.0						
TUL1	Leonard	59.37	335	P	P	09 09 54.2	+0.4
	baz=150,SNR=10.0						
ACSO	Alum Creek Sta	59.46	348	IAmb	IAmb	09 09 54.6	
	comp=Z,42nm,1.0s						
ACSO	Alum Creek Sta	59.46	348	P	P	09 09 53.6	-0.8
	baz=165,SNR=8.1						
ACSO	Alum Creek Sta	59.46	348	P	P	09 09 53.3	-1.1
	baz=165,SNR=8.1						
DEOK	Depew	59.59	334	IAmb	IAmb	09 09 56.8	
	comp=Z,75nm,0.8s						
CCM	Cathedral Cave	59.61	340	P	P	09 09 54.7	-0.7
CCM	Cathedral Cave	59.61	340	P	P	09 09 54.9	-0.6
	baz=156,SNR=58						
CCM	Cathedral Cave	59.61	340	P	P	09 09 55.3	-0.1
	baz=156						
CCM	Cathedral Cave	59.61	340	P	P	09 09 54.7	-0.7
CCM				pmax	pmax		
	comp=Z,96nm,0.8s						
CCM	Cathedral Cave	59.61	340	P	P	09 09 55.0	-0.5
CCM				pP	pP	09 10 30.4	+0.1
M57A	Sunshine Farm,	59.61	353	IAmb	IAmb	09 09 55.8	
	comp=Z,24nm,1.0s						
M57A	Sunshine Farm,	59.61	353	P	P	09 09 55.2	-0.2
	baz=171						
M57A				P	P	09 09 55.2	-0.2
	baz=171						
PSDB	Penn State Uni	59.61	352	P	P	09 09 54.8	-0.7
	baz=169						
N53A	Lisbon	59.62	350	IAmb	IAmb	09 09 56.2	
	comp=Z,39nm,1.1s						
N53A	Lisbon	59.62	350	P	P	09 09 54.9	-0.6
	baz=167,SNR=6.1						
N53A				P	P	09 09 54.9	-0.6
	baz=167,SNR=6.1						
PAMR	Moraine State	59.63	350	P	P	09 09 55.5	-0.1
	baz=168						
WMOK	Wichita Mounta	59.64	332	P	P	09 09 55.8	0.0
	baz=147						
WMOK	Wichita Mounta	59.64	332	P	P	09 09 55.7	-0.1
	baz=147						
Q44A	Meyer Farm, Va	59.70	342	P	P	09 09 54.9	-1.1
	baz=158,SNR=10						
O49A	Covington	59.70	347	IAmb	IAmb	09 09 55.9	
	comp=Z,28nm,1.0s						
O49A	Covington	59.70	347	P	P	09 09 55.0	-1.1
	baz=163,SNR=6.8						
O49A				P	P	09 09 55.0	-1.1
	baz=163,SNR=6.8						
NPNY	Mohonk Preserv	59.74	356	P	P	09 09 56.1	-0.2
	baz=174						
SLM	Saint Louis	59.82	341	IAmb	IAmb	09 09 57.8	
	comp=Z,34nm,0.7s						
P46A	Rosedale	59.86	344	IAmb	IAmb	09 09 56.2	
	comp=Z,14nm,0.8s						
P46A	Rosedale	59.86	344	P	P	09 09 55.7	-1.4
	baz=160						
BCOK	Bluff Creek, N	59.90	333	IAmb	IAmb	09 09 59.7	
	comp=Z,15nm,0.8s						
M55A	Ridgway	59.95	352	IAmb	IAmb	09 09 58.3	
	comp=Z,49nm,1.2s						
M55A	Ridgway	59.95	352	P	P	09 09 57.4	-0.3
	baz=170,SNR=6.7						
M55A				P	P	09 09 57.4	-0.3
	baz=170,SNR=6.7						
O48B	Farmland	59.96	346	P	P	09 09 56.7	-1.1
	baz=162,SNR=5.9						
O48B	Farmland	59.96	346	P	P	09 09 56.7	-1.1
	baz=162,SNR=5.9						
QUOK	Quay	59.96	334	IAmb	IAmb	09 09 59.8	
	comp=Z,71nm,0.9s						
S39A	Bolivar	59.99	338	P	P	09 09 58.5	+0.4
	baz=153,SNR=36						
N51A	Ashland	60.00	348	P	P	09 09 57.2	-0.9
	baz=166						
N51A				P	P	09 09 57.2	-0.9
	baz=166						
QUA2	Belchertown	60.16	357	P	P	09 09 59.4	+0.3
	baz=176						
R40A	Maddies Statio	60.16	339	P	P	09 09 58.7	-0.5
	baz=155,SNR=49						
M53A	WI Miller and	60.21	350	IAmb	IAmb	09 09 59.6	
	comp=Z,39nm,0.8s						
M53A	WI Miller and	60.21	350	P	P	09 09 59.2	-0.3
	baz=167,SNR=5.8						
OK046	Pawnee Station	60.24	334	IAmb	IAmb	09 10 01.9	
	comp=Z,44nm,0.9s						
L59A	Walton	60.25	355	IAmb	IAmb	09 10 00.5	
	comp=Z,26nm,0.9s						
L59A	Walton	60.25	355	P	P	09 09 59.6	-0.2
	baz=174						
L59A				P	P	09 09 59.6	-0.2
	baz=174						
OK048	Pawnee Station	60.27	334	IAmb	IAmb	09 10 01.7	
	comp=Z,47nm,0.9s						
ALLY	Alegheny Colle	60.33	351	P	P	09 09 59.8	-0.5
	baz=168						
BINY	Binghamton	60.34	354	IAmb	IAmb	09 10 00.7	
	comp=Z,35nm,0.8s						
BINY	Binghamton	60.34	354	P	P	09 10 00.3	-0.1
	baz=173,SNR=6.9						
BINY	Binghamton	60.34	354	P	P	09 10 00.0	-0.3
	baz=173,SNR=6.9						
L61B	Northampton	60.35	357	P	P	09 09 59.7	-0.7
	baz=176						
L61B	Northampton	60.35	357	P	P	09 09 59.6	-0.7
	baz=176						
HRV	Adam Dziewonsk	60.36	358	P	P	09 09 59.5	-0.9
HRV				IAmb	IAmb	09 10 01.1	
	comp=Z,54nm,1.0s						
HRV	Adam Dziewonsk	60.36	358	P	P	09 10 00.1	-0.4
	baz=177						
HRV	Adam Dziewonsk	60.36	358	P	P	09 09 59.4	-1.1
	baz=177						
HRV	Adam Dziewonsk	60.36	358	P	P	09 09 59.5	-0.9
HRV				pmax	pmax		
	comp=Z,54nm,1.0s						
HRV	Adam Dziewonsk	60.36	358	P	P	09 09 59.8	-0.7
	baz=180						
CSTR	Hydro, Custer	60.36	332	IAmb	IAmb	09 10 02.3	
	comp=Z,12nm,1.5s						
N49A	Columbus Grove	60.37	347	P	P	09 09 59.8	-0.8
	baz=164,SNR=12						
N49A				P	P	09 09 59.8	-0.8
	baz=164,SNR=12						
L56A	Greenwood	60.45	353	IAmb	IAmb	09 10 01.2	
	comp=Z,18nm,0.8s						
L56A	Greenwood	60.45	353	P	P	09 10 00.7	-0.4
	baz=171						
L56A				P	P	09 10 00.7	-0.4
	baz=171						
MNTX	Cornudas Mount	60.51	325	P	P	09 10 01.9	+0.1
	baz=140,SNR=9.7						
MNTX	Cornudas Mount	60.51	325	P	P	09 10 01.9	+0.1
	baz=140,SNR=9.7						
T35A	Sooner Cattle	60.52	335	IAmb	IAmb	09 10 04.0	
	comp=Z,22nm,0.7s						
T35B	Sooner Cattle	60.52	335	P	P	09 10 02.4	+0.6
	baz=150,SNR=11						
P43A	Skaggs, Pawnee	60.53	342	P	P	09 10 00.7	-1.0
	baz=158,SNR=17						
K62A	Royalston	60.54	357	P	P	09 10 00.8	-0.9
	baz=177						
K62A				P	P	09 10 00.8	-0.9
	baz=177						
SFIN	Lafayette	60.55	344	P	P	09 10 00.3	-1.5
	baz=160,SNR=7.3						
SFIN	Lafayette	60.55	344	P	P	09 10 00.1	-1.6
	baz=160,SNR=7.3						
M50A	Fremont	60.60	348	P	P	09 10 01.5	-0.6
	baz=165						
M50A				P	P	09 10 01.5	-0.6
	baz=165						
N47A	Urbana	60.67	346	P	P	09 10 01.4	-1.3
	baz=162						
N47A				P	P	09 10 01.4	-1.3
	baz=162						
BLOK	Blackwell	60.68	334	IAmb	IAmb	09 10 05.4	
	comp=Z,61nm,0.8s						
HCNY	Howe Caverns	60.70	356	P	P	09 10 02.7	0.0
	baz=174						
O44A	Mansfield	60.70	343	IAmb	IAmb	09 10 02.3	
	comp=Z,42nm,0.8s						
O44A	Mansfield	60.70	343	P	P	09 10 01.3	-1.5
	baz=159,SNR=9.8						
ERPA	Erie	60.76	351	P	P	09 10 02.9	-0.3
	baz=168						
ERPA	Erie	60.76	351	P	P	09 10 02.2	-1.0
	baz=168						
WVNY	West Valley, N	60.85	352	IAmb	IAmb	09 10 04.1	
	comp=Z,28nm,0.8s						
WVNY	West Valley, N	60.85	352	P	P	09 10 03.3	-0.5
	baz=170						
MSTX	Muleshoe	60.91	328	IAmb	IAmb	09 10 08.3	
	comp=Z,16nm,0.8s						
MSTX	Muleshoe	60.91	328	P	P	09 10 04.8	+0.3
	baz=143,SNR=10						
MSTX	Muleshoe	60.91	328	P	P	09 10 04.5	-0.1
	baz=143,SNR=10						
K57A	Scipio Center	60.92	354	P	P	09 10 03.7	-0.6
	baz=172						
ELIS	Ellis County	61.03	332	IAmb	IAmb	09 10 08.6	
	comp=Z,54nm,1.5s						
MMNY	Mt. Morris Dam	61.08	353	IAmb	IAmb	09 10 05.2	
	comp=Z,82nm,1.6s						
U32A	Winter Ranch,	61.11	333	IAmb	IAmb	09 10 08.7	
	comp=Z,28nm,0.9s						
U32A	Winter Ranch,	61.11	333	P	P	09 10 06.8	+1.1
	baz=147						
OK032	Salt Plains WL	61.13	334	IAmb	IAmb	09 10 08.4	
	comp=Z,34nm,0.7s						
KAN14	Manchester OK	61.16	334	IAmb	IAmb	09 10 07.6	
	comp=Z,36nm,1.2s						
P40A	Paris	61.21	340	P	P	09 10 05.8	-0.5
	baz=155,SNR=37						
HDIL	Hopedale	61.31	343	P	P	09 10 05.8	-1.1
	baz=158,SNR=13						
HDIL	Hopedale	61.31	343	P	P	09 10 05.8	-1.1
	baz=158,SNR=13						
KAN06	Argonia West S	61.36	334	IAmb	IAmb	09 10 10.1	
	comp=Z,65nm,0.9s						
L48A	N Adams	61.41	347	IAmb	IAmb	09 10 07.3	
	comp=Z,37nm,0.8s						
L48A	N Adams	61.41	347	P	P	09 10 06.5	-1.0
	baz=164,SNR=6.2						
L48A				P	P	09 10 06.5	-1.0
	baz=164,SNR=6.2						
J59A	Piesco	61.47	356	IAmb	IAmb	09 10 09.0	
	comp=Z,64nm,1.5s						
J59A	Piesco	61.47	356	P	P	09 10 07.4	-0.6
	baz=174,SNR=6.2						
J59A				P	P	09 10 07.4	-0.6
	baz=174,SNR=6.2						
AAM	Ann Arbor	61.59	348	P	P	09 10 07.5	-1.3
	baz=164						
P38A	Dawn	61.79	339	IAmb	IAmb	09 10 11.8	
	comp=Z,23nm,0.7s						
P38A	Dawn	61.79	339	P	P	09 10 09.9	-0.3
	baz=154,SNR=14						
K50A	Casco	61.84	349	P	P	09 10 09.6	-0.9
	baz=166,SNR=5.0						
K50A				P	P	09 10 09.6	-0.9
	baz=166,SNR=5.0						
MCVT	Middlebury Col	61.86	357	P	P	09 10 10.9	+0.3
	baz=176						
L46A	Eue Claire	61.89	346	P	P	09 10 09.2	-1.6
	baz=162						
L46A				P	P	09 10 09.2	-1.6
	baz=162						
N41A	Harden Midland	61.91	341	P	P	09 10 10.2	-0.8
	baz=157,SNR=8.3						
NCB	Newcomb	61.95	356	P	P	09 10 10.7	-0.5
	baz=175						
WCNY	West Carthage	62.08	355	P	P	09 10 11.7	-0.3
	baz=173						
LBNH	Lisbon	62.10	358	IAmb	IAmb	09 10 13.4	
	comp=Z,39nm,1.1s						
LBNH	Lisbon	62.10	358	P	P	09 10 12.0	-0.1
	baz=177						
LBNH	Lisbon	62.10	358	P	P	09 10 12.3	+0.1
	baz=177						
BELA	Belgrano 2	62.12	172	P	P	09 10 13.0	+1.1
BELA				IAmb	IAmb	09 10 14.1	
	comp=Z,8.0nm,0.5s						
VT1	Waterbury	62.23	357	P	P	09 10 12.7	-0.3
	baz=176						
KSU1	Kansas State U	62.45	336	P	P	09 10 14.7	0.0
	baz=150,SNR=22						
KSU1	Kansas State U	62.45	336	P	P	09 10 14.7	0.0
	baz=150,SNR=22						
121A	Cookes Peak, D	62.48	323	P	P	09 10 16.3	+1.1
	baz=138						
319A	Douglas	62.50	322	IAmb	IAmb	09 10 18.2	
	comp=Z,11nm,0.9s						
LONY	Lake Ozonia	62.62	356	IAmb	IAmb	09 10 16.5	
	comp=Z,21nm,0.9s						
LONY	Lake Ozonia	62.62	356	P	P	09 10 15.4	-0.3
	baz=174						
R32A	Long Quarter,	62.71	334	IAmb	IAmb	09 10 19.2	
	comp=Z,46nm,0.9s						
R32A	Long Quarter,	62.71	334	P	P	09 10 17.2	+0.8
	baz=148,SNR=19						
J47A	Sunmer	62.73	347	P	P	09 10 15.6	-0.8
	baz=163,SNR=5.3						
J47A				P	P	09 10 15.6	-0.8
	baz=163,SNR=5.3						
N38A	Joes South For	62.74	340	P	P	09 10 16.1	-0.4
	baz=154,SNR=14						
L42A	Oliver, Polo	62.75	343	P	P	09 10 15.6	-1.0
	baz=158,SNR=8.0						
FRNY	Flat Rock	62.77	356	IAmb	IAmb	09 10 17.1	
	comp=Z,19nm,1.0s						
FRNY	Flat Rock	62.77	356	P	P	09 10 16.1	-0.5
	baz=175,SNR=5.3						
BMNY	Brushton-Moira	62.84	356	P	P	09 10 17.0	0.0
	baz=174,SNR=8.1						
G65A	Princeton	63.02	1	P	P	09 10 18.1	-0.1
	baz=182						
G65A				P	P	09 10 18.1	-0.1
	baz=182						
G62A	West of Eustis	63.04	359	P	P	09 10 18.8	+0.4
	baz=178,SNR=8.9						
G62A				P	P	09 10 18.8	+0.4
	baz=178,SNR=8.9						
K43A	Burlington	63.05	344	P	P	09 10 17.4	-1.0
	baz=160						
PKME	Peaks-Kenny Pk	63.07	360	P	P	09 10 18.2	-0.4
	baz=180						
PKME	Peaks-Kenny Pk	63.07	360	P	P	09 10 18.0	-0.5
	baz=180						
Y22A	Socorro	63.08	325	P	P	09 10 20.5	+1.4
	baz=139						
DUN6	Lazy B Ranch	63.24	323	IAmb	IAmb	09 10 22.3	
	comp=Z,13nm,0.8s						
L40A	Anamosa	63.26	342	P	P	09 10 19.2	-0.6
	baz=156,SNR=11						
VNA3	Neumayer Olymp	63.34	162	P	P	09 10 21.5	+1.4
CBKS	Cedar Bluff	63.47	334	IAmb	IAmb	09 10 25.0	
	comp=Z,42nm,0.8s						
CBKS	Cedar Bluff	63.47	334	P	P	09 10 22.4	+0.9
	baz=147,SNR=17						
CBKS	Cedar Bluff	63.47	334	P	P	09 10 22.4	+0.9
	baz=147,SNR=17						
F63A	Nahmakanta, Br	63.51	0	P	P	09 10 22.2	+0.7
	baz=180						
F63A				P	P	09 10 22.2	+0.7
	baz=180						
VNA1	Neumayer--Stat	63.54	161	P	P	09 10 22.1	+0.8
VNA1	Neumayer--Stat	63.54	161	P	P	09 10 28.5	+7.1
ANMO	Albuquerque	63.57	326	P	P	09 10 22.8	+0.4
ANMO	Albuquerque	63.57	326	P	P	09 10 23.5	+1.2
	baz=140,SNR=8.7						
ANMO	Albuquerque	63.57	326	P	P	09 10 23.3	+0.9
	baz=140						
ANMO	Albuquerque	63.57	326	*i* P	P	09 10 22.3	0.0
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ANMO	Albuquerque	63.57	326	P	P	09 10 23.2	+0.9
ANMO				pP	PcP	09 10 59.2	+1.6
ANMO				sP	sP	09 11 14.4	+0.9
N35A	Tabor	63.63	338	P	P	09 10 22.5	+0.1
	baz=152,SNR=9.3						
F64A	Sherman	63.67	1	P	P	09 10 22.1	-0.5
F64A				IAmb	IAmb	09 10 23.4	
	comp=Z,30nm,0.9s						
F64A	Sherman	63.67	1	P	P	09 10 22.5	0.0
	baz=181						
F64A				P	P	09 10 22.5	0.0
	baz=181						
F62A	Pittston Farm,	63.71	359	P	P	09 10 22.5	-0.2
	baz=179						
F62A				P	P	09 10 22.5	-0.2
	baz=179						
SCIA	State Center	63.73	340	P	P	09 10 23.0	0.0
	baz=154,SNR=7.0						
SCIA	State Center	63.73	340	P	P	09 10 22.9	-0.2
	baz=154,SNR=7.0						
JFWS	Jewell Farm	63.76	343	P	P	09 10 22.7	-0.4
	baz=158,SNR=26						
JFWS	Jewell Farm	63.76	343	P	P	09 10 22.7	-0.4
	baz=158,SNR=26						
VNA2	Neumayer--Watz	63.91	161	P	P	09 10 25.2	+1.4
	baz=283,slow=8.0						
TUC	Tucson	64.06	321	P	P	09 10 27.1	+1.5
	baz=186						
TUC	Tucson	64.06	321	P	P	09 10 27.0	+1.5
TUC				pP	pP	09 11 01.5	+0.6
N33B	J Bar K, Exete	64.19	336	P	P	09 10 26.3	+0.2
	baz=150,SNR=6.2						
GLMI	Grayling	64.20	348	P	P	09 10 26.5	+0.4
	baz=164						
GLMI	Grayling	64.20	348	P	P	09 10 26.1	0.0
	baz=164						
TRQ	Mont Tremblant	64.22	356	IAmb	IAmb	09 10 26.8	
	comp=Z,46nm,0.9s						
E63A	Oxbow	64.23	1	P	P	09 10 26.2	0.0
	baz=181						
E63A				P	P	09 10 26.2	0.0
	baz=181						
T25A	Trinidad	64.23	329	P	P	09 10 27.5	+0.9
	baz=143						
K38A	Parkersburg	64.26	341	IAmb	IAmb	09 10 26.6	
	comp=Z,43nm,0.8s						
K38A	Parkersburg	64.26	341	P	P	09 10 25.9	-0.5
	baz=155,SNR=8.0						
I42A	Draeger Farm,	64.31	344	P	P	09 10 26.3	-0.4
	baz=159,SNR=7.9						
E62A	Clayton Lake	64.43	360	IAmb	IAmb	09 10 28.7	
	comp=Z,35nm,0.9s						
E62A	Clayton Lake	64.43	360	P	P	09 10 27.7	+0.3
	baz=180,SNR=7.2						
E62A				P	P	09 10 27.7	+0.3
	baz=180,SNR=7.2						
H43A	Windswept, Lux	64.56	345	P	P	09 10 27.7	-0.7
	baz=160						
G45A	Suttons Bay	64.63	347	P	P	09 10 28.1	-0.7
	baz=163						
G45A				P	P	09 10 28.1	-0.7
	baz=163						
I40A	Norwalk	64.76	343	P	P	09 10 29.5	-0.2
	baz=157,SNR=11						
L34A	Svendsen Farm,	64.87	338	P	P	09 10 30.6	+0.1
	baz=151,SNR=14						
D62A	Allapoint, All	64.89	0	P	P	09 10 29.4	-1.0
D62A	Allapoint, All	64.89	0	P	P	09 10 30.2	-0.2
	baz=180,SNR=13						
D62A				P	P	09 10 30.2	-0.2
	baz=180,SNR=13						
KSCO	Kaye Shedlock'	64.90	332	IAmb	IAmb	09 10 33.0	
	comp=Z,22nm,0.8s						
KSCO	Kaye Shedlock'	64.90	332	P	P	09 10 32.0	+1.1
	baz=145						
KSCO	Kaye Shedlock'	64.90	332	P	P	09 10 31.7	+0.9
	baz=145						
BGNE	Belgrade	65.04	336	P	P	09 10 32.4	+0.8
	baz=150,SNR=32						
214A	Organ Pipe Nat	65.04	320	IAmb	IAmb	09 10 34.9	
	comp=Z,12nm,0.9s						
214A	Organ Pipe Nat	65.04	320	P	P	09 10 33.9	+2.1
	baz=134,SNR=9.1						
SDCO	Great Sand Dun	65.25	329	IAmb	IAmb	09 10 38.2	
	comp=Z,8.2nm,0.7s						
SDCO	Great Sand Dun	65.25	329	P	P	09 10 34.7	+1.4
	baz=142,SNR=21						
SDCO	Great Sand Dun	65.25	329	P	P	09 10 34.5	+1.2
	baz=142,SNR=21						
LATQ	La Tuque	65.27	357	IAmb	IAmb	09 10 33.7	
	comp=Z,33nm,0.9s						
W18A	Petrified Fore	65.48	324	P	P	09 10 36.2	+1.5
	baz=137,SNR=5.5						
SNAA	Sanae	65.54	161	P	P	09 10 35.9	+1.4
SNAA	Sanae	65.54	161	P	P	09 10 35.8	+1.4
	comp=Z,11nm,0.6s,baz=281,slow=6.3,SNR=21						
SNAA				pP	pP	09 11 11.1	+1.1
	comp=Z,3.9nm,0.8s,baz=328,slow=5.3,SNR=2.5						
	comp=Z,11nm,0.6s						
SNAA	Sanae	65.54	161	P	P	09 10 34.9	+0.4
SNAA				IAmb	IAmb	09 10 36.6	
	comp=Z,13nm,0.7s						
SNAA	Sanae	65.54	161	*de*P	P	09 10 35.6	+1.1
SNAA				pmax	pmax		
	comp=Z,13nm,0.7s						
E46A	Sault Ste Mari	65.63	349	P	P	09 10 34.5	-0.7
	baz=164,SNR=11						
I37B	Waseca	65.69	341	P	P	09 10 35.6	0.0
	baz=155,SNR=16						
S22A	4UR Ranch, Cre	65.91	328	P	P	09 10 38.8	+1.2
	baz=141,SNR=8.6						
G40A	Rib Lake	65.92	344	IAmb	IAmb	09 10 37.5	
	comp=Z,18nm,0.8s						
G40A	Rib Lake	65.92	344	P	P	09 10 36.8	-0.4
	baz=158,SNR=7.4						
Q24A	Divide	66.03	330	IAmb	IAmb	09 10 40.7	
	comp=Z,11nm,0.9s						
Q24A	Divide	66.03	330	P	P	09 10 39.6	+1.2
	baz=142						
113A	Mohawk Valley,	66.19	320	P	P	09 10 41.1	+2.1
E43A	Lone Tree Farm	66.19	347	P	P	09 10 38.2	-0.5
	baz=162,SNR=7.4						
OGNE	Ogallala	66.22	333	IAmb	IAmb	09 10 42.9	
	comp=Z,19nm,0.7s						
OGNE	Ogallala	66.22	333	P	P	09 10 40.3	+1.0
	baz=146						
OGNE	Ogallala	66.22	333	P	P	09 10 40.0	+0.7
	baz=146						
K31A	O'Neill	66.31	337	P	P	09 10 40.5	+0.8
	baz=149,SNR=18						
MVCO	Mesa Verde	66.36	326	P	P	09 10 41.6	+1.2
	baz=139,SNR=8.5						
ECSD	EROS Data Cent	66.50	339	IAmb	IAmb	09 10 43.5	
	comp=Z,77nm,1.6s						
ECSD	EROS Data Cent	66.50	339	P	P	09 10 41.0	+0.1
	baz=152,SNR=22						
ECSD	EROS Data Cent	66.50	339

SPMN	**Marine on St.** baz=156,SNR=25	66.61	342	P		P	09 10 41.2	-0.3
SPMN	**Marine on St.** baz=156,SNR=25	66.61	342	P		P	09 10 41.2	-0.3
WUAZ	**Wupatki** baz=136,SNR=9.1	66.69	323	P		P	09 10 44.4	+2.0
ISCO	**Idaho Springs** baz=142,SNR=9.2	66.91	330	P		P	09 10 45.2	+1.3
ISCO	**Idaho Springs** baz=142,SNR=9.2	66.91	330	P		P	09 10 45.2	+1.3
BRIGG	**Briggsdale** comp=Z,9.9nm,0.7s	66.93	332	IAmb		IAmb	09 10 48.7	
SMCO	**Snowmass** comp=Z,12nm,0.6s	67.08	329	IAmb		IAmb	09 11 19.0	
D41A	**Chassel** baz=160,SNR=11	67.19	346	P		P	09 10 44.9	-0.2
PV15	**Paradox Valley** comp=Z,18nm,0.7s	67.20	327	IAmb		IAmb	09 10 51.5	
TROLL	**Troll, Antarti**	67.25	161	P		P	09 10 47.0	+1.5
F36A	**Milaca** baz=155,SNR=40	67.40	342	P		P	09 10 46.3	-0.2
E38A	**The Farm, Brul** comp=Z,56nm,0.8s	67.52	343	IAmb		IAmb	09 10 48.1	
E38A	**The Farm, Brul** baz=157,SNR=13	67.52	343	P		P	09 10 47.1	-0.1
IKP	**In-Ko-Pah, Jac** baz=131	67.57	318	P		P	09 10 49.7	+1.8
LIC	**Lamto** comp=Z,21nm,0.7s	67.69	75⇑	*e*P		P	09 10 48.2	-0.8
BC3	**Big Chuckawall** baz=132	67.83	319	P		P	09 10 51.5	+1.9
TIC	**Toumodi** comp=Z,8.8nm,0.7s	67.86	75⇑	*e*P		P	09 10 49.3	-0.8
N23A	**Red Feather La** comp=Z,44nm,1.9s	67.93	331	IAmb		IAmb	09 10 54.7	
N23A	**Red Feather La** baz=142	67.93	331	P		P	09 10 51.3	+1.0
SUSD	**Miller** comp=Z,30nm,0.7s	67.95	337	IAmb		IAmb	09 10 53.4	
SUSD	**Miller** baz=149	67.95	337	P		P	09 10 50.5	+0.5
IRM	**Iron Mountain** baz=133,SNR=11	67.97	320	P		P	09 10 52.5	+2.1
KIC	**Kosan Boka** comp=Z,37nm,0.5s	68.01	75⇑	*e*P		P	09 10 50.4	-0.6
DBIC	**Dimbokro**	68.02	75	P		P	09 10 50.1	-0.9
DBIC	comp=Z,34nm,0.7s			IAmb		IAmb	09 10 51.4	
DBIC	**Dimbokro** comp=Z,34nm,0.7s	68.02	75	P		P	09 10 50.1	-0.9
DBIC				pmax		pmax		
DBIC	**Dimbokro**	68.02	75	P		P	09 10 50.4	-0.6
F33A	**5 Mile Ranch,** comp=Z,38nm,0.7s	68.25	340	IAmb		IAmb	09 10 53.4	
F33A	**5 Mile Ranch,** baz=152,SNR=29	68.25	340	P		P	09 10 51.6	-0.1
BELC	**Belle Mtn. Jos** baz=132	68.39	319	P		P	09 10 55.5	+2.3
TPFO	**Pinon Flats** baz=131	68.42	319	P		P	09 10 55.3	+2.0
PFO	**Pinyon Flats O** baz=131	68.42	319	P		P	09 10 55.2	+1.9
PFO	**Pinyon Flats O**	68.42	319‖	*e*P		P	09 10 55.3	+1.9
PFO	comp=Z,15nm,1.0s			pmax		pmax		
PFO	**Pinyon Flats O**	68.42	319	P		P	09 10 55.4	+2.0
O20A	**White River Ci** baz=140,SNR=9.0	68.44	329	P		P	09 10 54.7	+1.3
KNB	**Kanab** comp=Z,24nm,1.0s	68.58	324	IAmb		IAmb	09 10 57.9	
GMRC	**Granite Mounta** baz=132,SNR=8.9	68.71	320	P		P	09 10 57.5	+2.4
MURC	**Murrieta** baz=131	68.88	318	P		P	09 10 58.1	+2.1
HEC	**Hector,Ludlow** baz=132,SNR=7.6	69.15	320	P		P	09 11 00.2	+2.4
MVU	**Marysvale** comp=Z,45nm,0.9s	69.30	325	IAmb		IAmb	09 11 01.9	
K22A	**Casper** baz=142	69.58	331	P		P	09 11 01.6	+1.3
K22A	**Casper** baz=142	69.58	331	P		P	09 11 01.8	+1.4
BFSC	**Mount Baldy Ra** baz=131	69.59	319	P		P	09 11 02.5	+2.0
D32A	**Dogwood Acres,** comp=Z,46nm,0.8s	69.63	340	IAmb		IAmb	09 11 02.0	
D32B	**Dogwood Acres,** baz=152	69.63	340	P		P	09 11 00.7	+0.4
RSSD	**Black Hills**	69.67	334	P		P	09 11 01.5	+0.6
RSSD	**Black Hills** baz=145,SNR=8.7	69.67	334	P		P	09 11 02.3	+1.3
RSSD	**Black Hills** baz=145	69.67	334	P		P	09 11 02.5	+1.5
RSSD	**Black Hills**	69.67	334	P		P	09 11 01.5	+0.6
RSSD	comp=Z,8.0nm,0.7s			pmax		pmax		
RSSD	**Black Hills**	69.67	334	P		P	09 11 02.1	+1.2
RSSD				pP		pP	09 11 38.9	+2.1
GSC	**Goldstone, Bar**	69.75	320	P		P	09 11 01.4	-0.1
GSC	**Goldstone, Bar** baz=132	69.75	320	P		P	09 11 03.5	+2.1
GSC	**Goldstone, Bar**	69.75	320	P		P	09 11 01.4	-0.1
GSC	comp=Z,10.0nm,1.2s			pmax		pmax		
SHOC	**Shoshone, Teco** baz=132	69.83	321	P		P	09 11 04.3	+2.5
NVL	**N'lazarevskaya**	70.06	160	*e*P		P	09 11 04.2	+1.5
NVL	comp=Z,12nm,0.9s			pmax		pmax		
EDW2	**Edwards Air Fo** baz=131	70.21	319	P		P	09 11 06.3	+2.1
E28A	**Huff** comp=Z,35nm,0.7s	70.41	337	IAmb		IAmb	09 11 07.1	
E28A	**Huff** baz=148,SNR=6.9	70.41	337	P		P	09 11 06.2	+1.1
TPNV	**Topopah Spring** baz=132,SNR=14	70.52	321	P		P	09 11 08.8	+2.6
FURC	**Furnace Creek,** baz=132,SNR=9.2	70.56	321	P		P	09 11 08.8	+2.6
MPMC	**Manual Prospec** baz=131,SNR=6.0	70.67	320	P		P	09 11 09.1	+1.9
SPR3	**Spring Creek 3** comp=Z,6.7nm,1.0s	70.82	324	IAmb		IAmb	09 11 10.8	
DUG	**Dugway, Tooele** baz=136	70.84	326	P		P	09 11 10.1	+2.1
ISA	**Isabella, Lake**	71.02	319	P		P	09 11 11.5	+2.4
ISA	**Isabella, Lake** baz=130,SNR=5.6	71.02	319	P		P	09 11 11.6	+2.4
ISA	**Isabella, Lake**	71.02	319	P		P	09 11 11.5	+2.4
ISA	comp=Z,7.0nm,0.9s			pmax		pmax		
R11A	**Troy Canyon, C** baz=133,SNR=6.8	71.08	323	P		P	09 11 11.9	+2.4
BW06	**Boulder Array** baz=139	71.09	330	P		P	09 11 10.5	+0.9
PDAR	**Pinedale Array** comp=Z,2.9nm,0.7s,baz=129,slow=7.8,SNR=19	71.09	330	P		P	09 11 10.1	+0.5
MDND	comp=Z,2.9nm,0.7s **Maddock** baz=150,SNR=10	71.11	339	P		P	09 11 10.5	+1.2
MDND	**Maddock** baz=150,SNR=10	71.11	339	P		P	09 11 10.5	+1.2
GRAC	**Grapevine Rang** baz=132	71.21	321	P		P	09 11 12.3	+2.1
CWC	**Cottonwood Cre** baz=131	71.28	320	P		P	09 11 13.2	+2.5
VES	**Vestal, Richgr** baz=130	71.51	319	P		P	09 11 14.3	+2.4
SMMC	**Simmler** baz=129	71.75	318	P		P	09 11 16.2	+2.7
TPH	**Tonopah** comp=Z,27nm,0.9s	71.84	322	IAmb		IAmb	09 11 17.3	
ULM	**Lac du Bonnet** comp=Z,30nm,0.6s,baz=153,slow=6.0,SNR=7.1	72.04	342	P		P	09 11 14.4	-0.3
ULM				pP		pP	09 11 50.9	+0.1
ULM	comp=Z,5.7nm,0.7s,baz=126,slow=3.7,SNR=1.9 comp=Z,30nm,0.6s **Lac du Bonnet** comp=Z,33nm,0.8s	72.04	342	IAmb		IAmb	09 11 16.3	
QSPA	**South Pole Qui**	72.06	180	P		P	09 11 16.0	+1.0
MLAC	**Mammoth, Mammo** baz=131	72.51	321	P		P	09 11 20.7	+2.5
SCHQ	**Schefferville** comp=Z,47nm,0.8s,baz=191,slow=4.9,SNR=48 comp=Z,47nm,0.8s	72.68	1	P		P	09 11 18.0	-0.5
SCHQ	**Schefferville**	72.68	1	P		P	09 11 18.0	-0.5
SCHQ				IAmb		IAmb	09 11 19.2	
	comp=Z,54nm,0.8s							

NVAR	**Mina Array Bea** comp=Z,4.2nm,0.8s,baz=147,slow=6.2,SNR=25	72.72	322	P		P	09 11 21.4	+2.0
NVAR				pP		pP	09 11 57.2	+1.6
	comp=Z,1.4nm,0.9s,baz=155,slow=4.9,SNR=2.4 comp=Z,4.2nm,0.8s							
RLMT	**Red Lodge** baz=140,SNR=11	72.75	331	P		P	09 11 20.9	+1.5
H17A	**Grant Village** baz=139,SNR=7.4	72.80	330	P		P	09 11 21.9	+2.1
DGMT	**Dagmar** comp=Z,27nm,1.1s	73.30	336	IAmb		IAmb	09 11 24.9	
DGMT	**Dagmar** baz=145	73.30	336	P		P	09 11 24.1	+1.8
DGMT	**Dagmar** baz=145	73.30	336	P		P	09 11 23.9	+1.6
YHL	**Hebgen Lake** comp=Z,42nm,1.7s	73.43	330	IAmb		IAmb	09 11 26.9	
ELIB	**Princess Elisa**	73.69	161	*d*P		P	09 11 26.1	+1.5
HLID	**Hailey** baz=136,SNR=18	74.08	328	P		P	09 11 29.4	+2.1
BOZ	**Bozeman (W)** baz=138,SNR=8.3	74.20	330	P		P	09 11 29.3	+1.5
EGMT	**Eagleton** baz=140,SNR=9.0	75.19	333	P		P	09 11 34.6	+1.2
MSO	**Missoula** baz=136	76.19	330	P		P	09 11 41.1	+2.0
TORD	**Torodi Ar. Bea** comp=Z,42nm,0.6s,baz=255,slow=4.9,SNR=29 comp=Z,42nm,0.6s	76.45	71	P		P	09 11 40.7	-0.4
TORD	**Torodi Ar. Bea** comp=Z,24nm,0.7s	76.45	71	IAmb		IAmb	09 11 42.4	
FFC	**Flin Flon**	77.77	341	P		P	09 11 47.6	0.0
FFC	**Flin Flon**	77.77	341	P		P	09 11 47.6	0.0
FFC	comp=Z,8.0nm,1.0s			pmax		pmax		
NEW	**Newport** baz=134	78.73	330	P		P	09 11 54.5	+1.3
HOOD	**Mount Hood Mea** comp=Z,19nm,0.9s	79.09	325	IAmb		IAmb	09 12 00.7	
MORF	**Marmelete**	79.21	45	*e*P		P	09 11 56.8	+0.8
MORF	**Marmelete**	79.21	45	*e*P		P	09 11 58.0	+2.0
FCC	**Fort Churchill** comp=Z,19nm,0.8s	79.30	347	IAmb		IAmb	09 11 57.5	
PNCL	**Nicolau / Gran**	79.73	44	*e*P		P	09 12 00.7	+2.0
MESJ	**Messejana**	79.79	45	*e*P		P	09 12 00.6	+1.5
PCVE	**Castro Verde** comp=Z,33nm,2.1s	79.80	45	*e*P		P	09 12 00.5	+1.4
PACT	**Alcochete**	79.89	44	*e*P		P	09 11 58.7	-0.8
PVAQ	**Vaqueiros**	79.90	45	*e*P		P	09 12 01.7	+2.1
PBEJ	**Beja** comp=Z,27nm,1.5s	80.13	45	*e*P		P	09 12 02.3	+1.4
VNDA	**Vanda** comp=Z,2.8nm,0.7s,baz=110,slow=4.0,SNR=8.0 comp=Z,2.8nm,0.7s	80.13	190	P		P	09 12 02.7	+2.4
EVO	**Evora**	80.30	44	*e*P		P	09 12 03.1	+1.3
PMTG	**Montargil** comp=Z,18nm,1.7s	80.45	44	*e*P		P	09 12 03.8	+1.2
D05A	**Enumclaw** comp=Z,25nm,0.9s	80.46	327	IAmb		IAmb	09 12 05.1	
PESTR	**Estremoz** comp=Z,22nm,1.4s	80.76	44	*e*P		P	09 12 05.5	+1.3
PBAR	**Barrancos** comp=Z,26nm,1.7s	80.76	45	*e*P		P	09 12 05.6	+1.4
IVI	**Ivigtut**	80.82	10	*e*P		P	09 11 59.2	-4.7
B06A	**Marblemount** comp=Z,19nm,0.9s	81.06	328	IAmb		IAmb	09 12 07.6	
PCBR	**Castelo Branco**	81.35	43	*e*P		P	09 12 08.9	+1.6
PVIS	**Visu**	81.55	42	*e*P		P	09 12 10.1	+1.7
MTE	**Manteigas**	81.60	43	*e*P		P	09 12 09.5	+0.8
PVRL	**Vila Real**	81.96	42	*e*P		P	09 12 11.2	+0.6
POLO	**Lamas de Olo**	81.96	42	*e*P		P	09 12 11.3	+0.6
PGAV	**Gavieira, Arco**	81.98	41	*e*P		P	09 12 11.7	+1.0
PCAB	**Cabril**	82.00	41	*e*P		P	09 12 11.4	+0.7
MVO	**Moncorvo** comp=Z,34nm,1.8s	82.34	42	*e*P		P	09 12 13.3	+0.7
PBRG	**Braganca** comp=Z,26nm,2.1s	82.86	42	*e*P		P	09 12 16.1	+0.9
PAB	**San Pablo**	83.27	45	P		P	09 12 17.9	+0.5
PAB	comp=Z,12nm,0.8s			IAmb		IAmb	09 12 19.7	
PAB	**San Pablo**	83.27	45	P		P	09 12 17.9	+0.5
PAB	comp=Z,12nm,0.9s			pmax		pmax		
ESDC	**Sonseca Array** comp=Z,7.9nm,0.9s,baz=255,slow=5.6,SNR=36 comp=Z,7.9nm,0.9s	83.59	45	P		P	09 12 19.9	+0.8
ESDC	**Sonseca Array**	83.59	45	P		P	09 12 18.6	-0.4
WAPA	**Wapiti River** comp=Z,22nm,1.0s	84.45	334	IAmb		IAmb	09 12 24.8	
DY2G	**Dye2**	86.06	9	*i* P		P	09 12 31.1	+0.2
DY2G	comp=Z,47nm,1.1s			IAmb		IAmb	09 12 32.0	
ISOG	**Isortoq, Green**	86.48	12	*i* P		P	09 12 32.6	-0.1
ISOG	comp=Z,28nm,1.0s			IAmb		IAmb	09 12 34.7	
LBTB	**Lobatse** comp=Z,43nm,18.9s,baz=198,slow=32	86.63	115	LR		LR	09 46 44.4	
MAW	**Mawson** comp=Z,11nm,0.7s,baz=136,slow=4.7,SNR=6.7 comp=Z,11nm,0.7s	87.62	163	P		P	09 12 40.1	+1.7
YKA	**Yellowknife Ar** comp=Z,20nm,0.8s,baz=136,slow=4.7,SNR=274	87.94	341	P		P	09 12 40.5	+0.7
YKA				pP		pP	09 13 18.2	+1.0
	comp=Z,6.8nm,0.9s,baz=133,slow=4.5,SNR=4.2 comp=Z,20nm,0.8s							
ICESG	**Greenland Ices**	89.50	10	*i* P		P	09 12 47.9	+0.5
ICESG	comp=Z,27nm,1.0s			IAmb		IAmb	09 12 49.0	
LIRD	**Liard River Hi** baz=127	90.02	335	P		P	09 12 51.4	+1.7
DLBC	**Dease Lake** comp=Z,6.8nm,0.9s	91.11	333	IAmb		IAmb	09 12 57.5	
DLBC	**Dease Lake** baz=124	91.11	333	P		P	09 12 57.0	+2.1
S34M	**Telegraph Cree** baz=123	91.31	332	P		P	09 12 58.1	+2.4
KEST	**Kesra** comp=Z,5.0nm,0.7s,baz=250,slow=4.3,SNR=4.5 comp=Z,5.0nm,0.7s	91.44	53	P		P	09 12 57.7	+0.7
WTLY	**Watson Lake, Y** comp=Z,20nm,1.8s	91.54	334	IAmb		IAmb	09 14 36.9	
WTLY	**Watson Lake, Y** baz=125	91.54	334	P		P	09 12 58.7	+1.9
LSZ	**Lusaka** comp=Z,74nm,18.5s,baz=350,slow=35	92.07	107	LR		LR	09 53 26.5	
SUMG	**Summit**	92.77	9	*i* P		P	09 13 03.3	+0.7
SUMG	comp=Z,21nm,0.9s			IAmb		IAmb	09 13 05.6	
KULLO	**Kullorsuaq**	92.80	3	*i* P		P	09 13 02.2	0.0
KULLO	comp=Z,30nm,1.4s			IAmb		IAmb	09 13 04.6	
TULEG	**Thule**	94.45	0	*e*P		P	09 13 03.5	-6.3
TULEG	comp=Z,3.6nm,0.7s			IAmb		IAmb	09 13 14.0	
M31M	**Drury Creek, Y** baz=120	94.95	335	P		P	09 13 14.1	+1.7
NEEM	**North Greenlan**	95.95	4	*e*P		P	09 13 16.0	-1.1
NEEM	comp=Z,7.9nm,0.8s			IAmb		IAmb	09 13 19.4	
L29M	**L29M** baz=117	96.90	335	P		P	09 13 22.4	+1.1
K29M	**Barlow Dome** baz=117	96.99	335	P		P	09 13 22.8	+1.0
A36M	**Sachs Harbour** comp=Z,8.2nm,0.8s	97.39	345	IAmb		IAmb	09 13 25.2	
A36M	**Sachs Harbour** baz=127	97.39	345	P		Pdif	09 13 24.4	+1.2
INK	**Inuvik** baz=120	97.70	340	P		Pdif	09 13 25.0	+0.3
L27K	**Beaver Creek,** baz=113	98.41	334	P		Pdif	09 13 28.8	+0.8
GERES	**GERESS Array B** comp=Z,0.9nm,0.7s,baz=244,slow=4.3,SNR=4.0 comp=Z,0.9nm,0.7s	98.84	42	P		Pdif	09 13 30.4	0.0
NACGM	**Naroch** comp=Z,6.0nm,0.6s,baz=264	107.99	37	*e*PKiKP		PKiKP	09 18 17.3	+0.2
STKA	**Stephens Creek**	122.22	211	*i* PKIKP		PKiKP	09 18 45.9	+0.6
TIXI	**Tiksi**	125.42	353	*i* PKIKP		PKiKP	09 18 51.0	+0.7
SEY	**Seymchan**	126.91	338	*i* PKIKP		PKiKP	09 18 55.0	+1.5
H11N3	**WAKE ISLAND Hy** baz=100,slow=75,SNR=9.4	127.16	281	T		T	11 38 37.4	
H11S2	**WAKE ISLAND Hy** baz=101,slow=75,SNR=22	127.17	280	T		T	11 38 38.6	
H11N2	**WAKE ISLAND Hy** baz=100,slow=75,SNR=9.2	127.17	281	T		T	11 38 38.2	
H11N1	**WAKE ISLAND Hy** baz=100,slow=75,SNR=5.4	127.18	281	T		T	11 38 38.4	
H11S1	**WAKE ISLAND Hy** baz=101,slow=75,SNR=17	127.18	280	T		T	11 38 39.9	
H11S3	**WAKE ISLAND Hy** baz=101,slow=75,SNR=18	127.19	280	T		T	11 38 40.3	
ABKAR	**Akbulak array**	128.78	41			PKiKP	09 18 58.1	+0.4
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=138,slow=1.9,SNR=5.3	132.77	209	PKhKP		PKPpre	09 18 49.8	
ASAR				PKP		PKiKP	09 19 06.1	-0.6
	comp=Z,1.4nm,0.6s,baz=140,slow=2.0,SNR=25							
ASAR				pPKP		pPKPdf	09 19 45.2	+0.4
	comp=Z,0.6nm,0.5s,baz=129,slow=1.2,SNR=2.8							
ASAR				SKPbc		SKPab	09 22 21.0	-0.6
	comp=Z,0.9nm,0.8s,baz=148,slow=3.6,SNR=6.1							
YAK	**Yakutsk**	134.18	348‖	*e*PKIKP		PKiKP	09 19 08.6	+0.4
WRA	**Warramunga Arr** comp=Z,0.4nm,0.6s,baz=180,slow=1.6,SNR=6.8	135.72	212	PKhKP		PKPpre	09 18 59.1	
WRA				PKP		PKPdf	09 19 11.8	+0.7
	comp=Z,1.5nm,0.5s,baz=152,slow=1.8,SNR=16							
WRA				pPKP		pPKPdf	09 19 51.3	+0.9
	comp=Z,0.5nm,0.6s,baz=140,slow=1.9,SNR=2.3							
WRA				SKPbc		SKPbc	09 22 30.3	+0.7
	comp=Z,1.8nm,1.0s,baz=144,slow=3.1,SNR=6.9							
WRAB	**Tennant Creek**	135.72	212‖	*i* PKIKP		PKiKP	09 19 11.9	-0.8
KURK	**Kurchatov**	138.58	31‖	*e*PKIKP		PKPdf	09 19 15.8	+0.5
ZAA0	**Zalesovo Array**	138.97	23	PKPdf		PKPdf	09 19 14.2	-1.8
ZALV	**Zalesovo Beam** comp=Z,6.4nm,0.7s,baz=304,slow=2.7,SNR=24	138.97	23	PKP		PKPdf	09 19 16.8	+0.9
ZALV				pPKP		pPKPdf	09 19 57.2	+1.9
	comp=Z,2.2nm,0.7s,baz=271,slow=2.3,SNR=2.5							
ZALV				SKPbc		SKPbc	09 22 39.3	+1.4
	comp=Z,4.0nm,0.9s,baz=316,slow=4.1,SNR=9.4							
ZALV	**Zalesovo Beam**	138.97	23	PKPdf		PKPdf	09 19 15.7	-0.2
AAK	**Ala-Archa**	140.68	44‖	*e*PKIKP		PKPdf	09 19 19.1	-0.6
YSS	**Yuzh-Sakhalins**	141.10	325‖	*i* PKIKP		PKiKP	09 19 24.1	+1.3
MK31	**Makanchi Array**	142.98	33			PKPdf	09 19 20.0	-3.4
MK31	**Makanchi Array**	142.98	33‖	*e*PKIKP		PKPdf	09 19 21.1	-2.4
MKAR	**Makanchi Array**	142.98	33	PKhKP		PKPpre	09 19 20.3	
MKAR	comp=Z,1.4nm,0.8s,baz=294,slow=2.2,SNR=14			SKPbc		SKiKP	09 22 49.3	-0.5
	comp=Z,1.9nm,0.9s,baz=316,slow=3.3,SNR=5.8							
MKAR	**Makanchi Array**	142.98	33	PKPdf		PKPdf	09 19 19.6	-3.9
MKAR	**Makanchi Array**	142.98	33	PKIKP		PKPdf	09 19 19.6	-3.9
KSH	**Kashi**	143.06	47	PKP		PKPdf	09 19 22.6	-1.4
KSH				PP		PP	09 22 35.8	+0.6
DGZ	**Jazzator, Alta**	143.28	26⇑	*e*PKIKP		PKPbc	09 19 21.6	+0.1
KLR	**Kul'dur**	144.67	336‖	*e*PKIKP		PKPbc	09 19 25.4	0.0
HEH	**HeiHe**	145.30	341	*e*P		PKPab	09 19 28.4	+0.8
HEH	comp=Z,33nm,1.0s			pmax		pmax		
MOY	**Mondy**	145.62	11	*e*PKP2		PKPab	09 19 29.6	+0.6
MOY	comp=Z,24nm,1.4s			pmax		pmax		
ZAK	**Zakamensk**	147.24	9	*e*PKP2		PKPbc	09 19 33.9	+0.7
ZAK	comp=Z,8.0nm,1.0s			pmax		pmax		
WMQ	**Urumqi**	147.79	32	*e*P		PKPdf	09 19 31.9	+0.1
HIA	**Hailar**	148.10	349‖	*e*PKIKP		PKPdf	09 19 32.3	+0.2
USA0B	**Ussuriysk Arra**	148.51	330	*c i* PKIKP		PKPbc	09 19 36.4	-0.3
USRK	**Ussuriysk Ar.** comp=Z,10nm,0.7s,baz=32,slow=2.1,SNR=13	148.51	330	PKPbc		PKiKP	09 19 38.5	+0.4
USRK	**Ussuriysk Ar.**	148.51	330			PKiKP	09 19 38.1	0.0
BNX	**BinXian**	149.21	337	⇑P		PKiKP	09 19 39.3	-0.2
BNX	comp=Z,14nm,1.0s			pmax		pmax		
BNX				pmax		pmax		
	comp=Z,360nm,5.3s							
MJAR	**Matsushiro Arr** comp=Z,4.6nm,0.6s,baz=118,slow=1.4,SNR=8.3	149.71	313	PKPbc		PKiKP	09 19 41.7	+0.8
SONM	**Songino Array** comp=Z,14nm,0.7s,baz=286,slow=2.3,SNR=7.0	150.13	6	PKP		PKPdf	09 19 37.7	+2.1
SONM				PKPbc		PKiKP	09 19 42.2	+0.6
	comp=Z,15nm,0.7s,baz=322,slow=1.6,SNR=86							
GTA	**Gaotai**	156.71	22	*e*PKPbc		PKPab	09 20 15.6	+0.4
HHC	**Hu-ho-hao-te**	157.33	359	*e*P		PKPdf	09 19 42.3	-3.7
NJ2	**Nanjing**	164.36	334	*e*P		PKPdf	09 19 53.2	-0.4
NJ2	comp=Z,8.0nm,0.5s			pmax		pmax		
CD2	**Chengdu**	165.72	26	*e*PKP		PKPdf	09 19 54.0	-0.9
TNCH	**TengChong**	166.62	57	PKP		PKPdf	09 19 53.0	-3.0
TNCH				pPKP		pPKPdf	09 20 28.6	-7.0
TNCH				PKPab		PKPab	09 20 59.0	-0.1
PZH	**PanZhiHua**	168.13	44	PKP		PKPdf	09 19 56.1	-0.8

IDC ***12*** *09:22:32.6±1.0, 11°.7N×142°.08E, h0km, mb3.7/7, mbtmp3.7/7, MS3.3/1, Error ellipse: s-maj=43.2km s-min=23.9km az=97.0*

ISC 12 09:22:39.0±1.0, 11°.1N±0°.2×142°.0E±0°.2, h44km, n9, σ0s70/8, mb3.5/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	3.72	49	Sn	Sn	09 24 16.5	0.0
	6.1nm,0.3s,baz=57,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	31.78	194	P	P	09 28 59.1	-0.3
	0.2nm,0.4s,baz=16,slow=9.7,SNR=1.8						
	0.2nm,0.4s						
USRK	**Ussuriysk Ar.** comp=Z,50nm,19.1s,baz=343,slow=35	34.07	347	LR	LR	09 42 20.4	
ASAR	**Alice Springs**	35.48	193	P	P	09 29 31.5	0.0
	0.1nm,0.4s,baz=24,slow=12,SNR=4.2						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	64.72	321	P	P	09 33 12.6	0.0
	1.1nm,0.6s,baz=107,slow=6.8,SNR=6.1						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	70.13	322	P	P	09 33 47.2	+0.4
	2.0nm,0.4s,baz=106,slow=7.0,SNR=9.7						
	2.0nm,0.4s						
ILAR	**Eielson Array**	71.98	25	P	P	09 33 56.6	-1.2
	0.3nm,0.5s,baz=258,slow=5.6,SNR=6.4						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	86.32	27	P	P	09 35 16.3	+0.2
	0.2nm,0.6s,baz=284,slow=5.1,SNR=2.0						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	90.64	51	P	P	09 35 38.4	+0.9
	0.3nm,0.6s,baz=272,slow=6.2,SNR=1.8						
	0.3nm,0.6s						

NDI ***12*** *09:32:06.5±4.0, 26°.40N×95°.46E, h35km±17km, ML4.5, mb4.5(NEIC)*

IDC ***12*** *09:32:06.1±0.7, 26°.27N×95°.50E, h54km±6km, mb3.7/21, mbtmp4.0/21, MS3.6/15, Error ellipse: s-maj=18.1km s-min=11.7km az=52.0*

BJI ***12*** *09:32:07.9±0.0, 26°.77N×95°.41E, h54km, mb4.4/23, mB5.0/11, ML4.1/6, Ms3.8/3, Ms7 3.8/3*

NEIC ***12*** *09:32:08.1±2.0, 26°.41N±0°.06×95°.36E±0°.09, h69km±7km, mb4.5/34, Error ellipse: s-maj=11.1km s-min=8.4km az=84.0*

ISC 12 09:32:06.6±0.5, 26°.39N±0°.05×95°.31E±0°.04, h60km±5km, h60km:pP-P, n113, σ2s01/133, mb4.3/40, 2C, Myanmar-India border region

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

SHL				*e*S	**Sn**	**09 33 33.0 +1.6**	
SHL				IAML		09 33 34.0	
	comp=N,1μm,0.2s						
SHL				IAML		09 33 34.4	
	comp=E,904nm,0.2s						
TNCH	**TengChong**	**3.20**	**114**	P	Pn	09 33 03.2	+8.6
TNCH				S	Sn	09 33 42.6	+11
TNCH				smax	smax		
	comp=E,990nm,1.0s						
TNCH				smax	smax		
	comp=E,1μm,0.9s						
TNCH				LR	LR		
	comp=E,840nm,4.2s						
MND	**Mandalay**	**4.41**	**170**	Pn	**Pn**	**09 33 12.2**	**+1.1**
SAIH	**SAIHA**	**4.42**	**209**	*e*P	**Pn**	**09 33 14.5**	**+3.2**
SAIH				IAML		09 34 10.7	
	comp=E,719nm,0.6s						
SAIH				IAML		09 34 11.3	
	comp=N,461nm,0.8s						
LSA	**Lhasa**	**4.94**	**313**	Pn	**Pn**	**09 33 20.7**	**+2.0**
LSA	**Lhasa**	**4.94**	**313**	P	**Pn**	**09 33 21.7**	**+3.0**
LSA				S	**Sn**	**09 34 16.2**	**+1.4**
LSA				smax	smax		
	comp=N,160nm,1.0s						
LSA				smax	smax		
	comp=N,270nm,0.9s						
PZH	**PanZhiHua**	**5.77**	**87**	P	**Pn**	**09 33 31.5**	**+1.7**
PZH				S	**Sn**	**09 34 36.9**	**+2.2**
PZH				smax	smax		
	comp=N,70nm,1.0s						
PZH				smax	smax		
	comp=N,40nm,1.2s						
GTK	**Tadong**	**6.06**	**280**	*e*P	**Pn**	**09 33 35.4**	**+1.6**
GTK				*e*S	**Sn**	**09 34 39.6**	**-2.3**
TAPN	**Taplejung**	**6.85**	**280**	*e*Pg	**Pn**	**09 33 45.5**	**+0.7**
TAPN				*e*Sg	**Sn**	**09 35 01.2**	**-0.3**
	comp=N,147nm,0.3s						
ODAN	**Odare**	**7.10**	**276**	*e*Pg	**Pn**	**09 33 48.8**	**+0.7**
ODAN				*e*Sg	**Sn**	**09 35 07.4**	**-0.2**
CRAI	**Chiangrai**	**7.69**	**142**	Pn	**Pn**	**09 33 56.7**	**+0.6**
RAMN	**Ramite**	**7.81**	**276**	*e*Pg	**Pn**	**09 33 58.6**	**+0.8**
RAMN				*e*Sg	**Sn**	**09 35 24.2**	**-0.8**
	comp=N,67nm,0.2s						
JIRN	**Jiri**	**8.23**	**281**	*e*Pg	**Pn**	**09 34 04.1**	**+0.4**
JIRN				*e*Sg	**Sn**	**09 35 34.0**	**-1.4**
	comp=N,201nm,0.3s						
CHTO	**Chiang Mai**	**8.25**	**155**		**Pn**	**09 34 05.2**	**+1.6**
CM31	**Chiang Mai Arr**	**8.57**	**156**		**Pn**	**09 34 10.1**	**+2.0**
CMAR	**Chiang Mai Arr**	**8.57**	**156**	P	**Pn**	**09 34 10.2**	**+2.1**
	comp=N,77nm,1.1s,baz=332,slow=12,SNR=98						
CMAR	**Chiang Mai Arr**	**8.57**	**156**		**Pn**	**09 34 09.9**	**+1.8**
PKI	**Pulchoki**	**8.91**	**280**	*e*Pg	**Pn**	**09 34 13.2**	**+0.3**
PKI				*e*Sg	**Sn**	**09 35 50.1**	**-1.9**
	comp=N,72nm,0.4s						
BOK	**Bokaro**	**8.92**	**255**	*e*P	**Pn**	**09 34 13.5**	**+0.7**
BOK				*e*S	**Sn**	**09 35 48.6**	**-3.2**
BOK				IAML		09 35 55.4	
	comp=N,59nm,0.3s						
PKIN	**Phulchoki**	**8.92**	**280**	*e*Pg	**Pn**	**09 34 13.2**	**+0.1**
PKIN				*e*Sg	**Sn**	**09 35 50.2**	**-2.0**
	comp=N,89nm,0.3s						
KKN	**Kakani**	**9.05**	**281**	*e*Pg	**Pn**	**09 34 14.6**	**-0.1**
KKN				*e*Sg	**Sn**	**09 35 52.4**	**-2.8**
	comp=N,13nm,0.2s						
PHRA	**Phrae**	**9.07**	**149**		**Pn**	**09 34 16.5**	**+1.6**
DMN	**Daman**	**9.18**	**280**	*e*Pg	**Pn**	**09 34 16.6**	**0.0**
DMN				*e*Sg	**Sn**	**09 35 57.8**	**-0.8**
	comp=N,50nm,0.3s						
GKN	**Gorkha**	**9.64**	**282**	*e*Pg	**Pn**	**09 34 22.3**	**-0.4**
GKN				*e*Sg	**Sn**	**09 36 07.0**	**-2.6**
	comp=N,60nm,0.2s						
GOMU	**GeErMu**	**9.79**	**358**	P	**Pn**	**09 34 25.0**	**0.0**
GOMU				S	**Sn**	**09 36 08.8**	**-4.8**
GOMU				smax	smax		
	comp=N,8.0nm,1.3s						
GOMU				smax	smax		
	comp=N,7.0nm,1.1s						
DANN	**Dangsing**	**10.45**	**283**	*e*Pg	**Pn**	**09 34 32.9**	**-1.1**
DANN				*e*Sg	**Sn**	**09 36 26.2**	**-3.5**
	comp=N,47nm,0.2s						
KOLN	**Koldanda**	**10.53**	**280**	*e*Pg	**Pn**	**09 34 34.1**	**-0.8**
KOLN				*e*Sg	**Sn**	**09 36 27.9**	**-3.5**
	comp=N,8.2nm,0.3s						
LZH	**Lanzhou**	**12.11**	**35**	*e*P	**Pn**	**09 34 54.7**	**-1.8**
LZH				pP	P	09 35 08.0	+0.8
LZH				sP		09 35 15.9	
LZH				pmax	pmax		
	comp=N,42nm,1.3s						
LZH				pmax	pmax		
	comp=N,270nm,5.0s						
LZH				LR	LR		
	comp=N,370nm,15.1s						
LZH				LR	LR		
	comp=N,220nm,13.4s						
GTA	**Gaotai**	**13.53**	**15**	*e*P	**Pn**	**09 35 12.4**	**-3.3**
GTA				pmax	pmax		
	comp=N,3.0nm,1.2s						
JBP	**Jabalpur**	**14.28**	**260**	*e*S	**S**	**09 38 13.0**	**-7.0**
BHPL	**Bhopal**	**16.54**	**263**	*e*P	**Pn**	**09 35 52.8**	**-1.8**
BHPL				*e*S	**Sn**	**09 38 48.1**	**-9.4**
HYB	**Hyderabad**	**17.91**	**244**	*e*P	**Pn**	**09 36 14.5**	**+2.9**
BTO	**Baotou**	**18.71**	**37**	*e*P	**P**	**09 36 17.2**	**-3.1**
NIL	**Nilore**	**20.40**	**296**		**P**	**09 36 39.4**	**+0.8**
NIL				IAmb	IAmb	09 37 03.9	
	comp=Z,19nm,0.8s						
KSH	**Kashi**	**20.80**	**314**	P	Pn	09 36 45.6	-0.3
KSH				pP	pP	09 36 59.8	+3.6
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIA	**Tai'an**	**21.02**	**57**	⇑P	**P**	**09 36 44.5**	**-0.8**
TIA				pmax	pmax		
	comp=Z,16nm,0.8s						
TARG	**Taragay, Kyrgy**	**21.02**	**321**	P	**P**	**09 36 45.7**	**0.0**
TARG				IAmb	IAmb	09 37 17.9	
	comp=Z,14nm,0.8s						
MK31	**Makanchi Array**	**22.84**	**336**	P	**P**	**09 37 04.5**	**-0.1**
MK31				IAmb	IAmb	09 37 19.0	
	comp=Z,12nm,0.8s						
MKAR	**Makanchi Array**	**22.84**	**336**	P	**P**	**09 37 05.2**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=150,slow=13,SNR=12						
MKAR				pP	**pP**	**09 37 18.7**	**+0.8**
	comp=Z,7.6nm,0.5s,baz=143,slow=14,SNR=32						
MKAR				ScP	**ScP**	**09 44 26.8**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=114,slow=3.0,SNR=5.7						
MKAR				LR	LR	09 47 01.3	
	comp=Z,89nm,21.3s,baz=268,slow=39						
	comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**22.84**	**336**	P	**P**	**09 37 04.5**	**-0.1**
MAKZ	**Makanchi**	**22.96**	**336**	P	**P**	**09 37 06.2**	**+0.3**
MAKZ				IAmb	IAmb	09 37 20.4	
	comp=Z,16nm,0.8s						
SONM	**Songino Array**	**23.12**	**19**	P	**P**	**09 37 06.8**	**-0.7**
	comp=Z,3.0nm,1.0s,baz=200,slow=8.3,SNR=16						
SONM				pP	**pP**	**09 37 21.8**	**+0.5**
	comp=Z,7.1nm,0.8s,baz=197,slow=9.9,SNR=13						
SONM				LR	LR	09 47 29.3	
	comp=Z,91nm,20.4s,baz=182,slow=40						
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**23.12**	**19**	P	**P**	**09 37 07.0**	**-0.6**
ULN	**Ulaanbaatar**	**23.34**	**20**	P	**P**	**09 37 08.1**	**-1.6**
ULN				IAmb	IAmb	09 37 25.1	
	comp=Z,11nm,0.9s						
AAK	**Ala-Archa**	**23.50**	**319**	P	**P**	**09 37 13.0**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=188,slow=20,SNR=1.8						
AAK				LR	LR	09 48 02.4	
	comp=Z,100nm,18.9s,baz=34,slow=40						
	comp=Z,0.8nm,0.4s						
PSI	**Prapat**	**23.70**	**171**	P	**P**	**09 37 12.8**	**-0.5**
	comp=Z,6.9nm,0.8s,baz=332,slow=8.0,SNR=7.1						
PSI				LR	LR	09 47 17.5	
	comp=Z,128nm,18.1s,baz=352,slow=38						
	comp=Z,6.9nm,0.8s						
RPSI	**Rantau Prapat**	**23.81**	**171**	P	**P**	**09 37 12.8**	**-1.3**
RPSI	**Rantau Prapat**	**23.81**	**171**	P	**P**	**09 37 12.8**	**-1.3**
KBL	**Kabul**	**24.01**	**296**	P	**P**	**09 37 17.8**	**+1.8**
KBL				IAmb	IAmb	09 37 33.2	
	comp=Z,33nm,1.1s						
XLT	**XiLinHaoTe**	**24.26**	**39**	*e*P	**P**	**09 37 14.4**	**-3.7**
XLT				pmax	pmax		
	comp=Z,11nm,1.1s						
XLT				pmax	pmax		
	comp=Z,250nm,6.1s						
GAR	**Garm**	**24.42**	**307**	P	**P**	**09 37 20.8**	**+1.2**
GAR				pP	**pP**	**09 37 35.9**	**+1.3**
GSI	**Gunungsitoli**	**25.03**	**175**	P	**P**	**09 37 24.5**	**-0.7**
CHGR	**Chuyangaron**	**25.12**	**306**	P	**P**	**09 37 27.0**	**+1.0**
CHGR				IAmb	IAmb	09 38 10.7	
	comp=Z,11nm,0.8s						
KKAR	**Karatay Array**	**26.19**	**316**	P	**P**	**09 37 36.1**	**+0.6**
KURBB	**Kurchatov Arra**	**27.40**	**336**	P	**P**	**09 37 48.9**	**+2.6**
	comp=Z,1.4nm,0.8s,baz=151,slow=8.1,SNR=2.7						
KURBB				pP	**pP**	**09 38 01.8**	**+0.5**
	comp=Z,7.8nm,0.8s,baz=151,slow=10.0,SNR=13						
	comp=Z,1.4nm,0.8s						
KURK	**Kurchatov**	**27.45**	**337**	P	**P**	**09 37 49.0**	**+2.4**
KURK				IAmb	IAmb	09 38 05.1	
	comp=Z,8.1nm,0.9s						
ZALV	**Zalesovo Beam**	**28.61**	**347**	P	**P**	**09 37 58.6**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=166,slow=7.6,SNR=3.6						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**28.61**	**347**	P	**P**	**09 37 56.9**	**-0.1**
JOW	**Kunigami**	**29.43**	**82**	LR	LR	09 49 50.1	
	comp=Z,70nm,21.2s,baz=100,slow=36						
KSRS	**Korea Array**	**29.66**	**60**	P	**P**	**09 38 04.1**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=241,slow=10,SNR=2.1						
KSRS				LR	LR	09 51 23.4	
	comp=Z,57nm,19.2s,baz=255,slow=39						
	comp=Z,0.8nm,0.6s						
BNX	**BinXian**	**32.04**	**45**	⇑P	**P**	**09 38 29.0**	**+1.6**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,230nm,4.7s						
BVAR	**Borovoye Array**	**32.47**	**332**	P	**P**	**09 38 33.5**	**+2.4**
	comp=Z,2.2nm,0.7s,baz=252,slow=37,SNR=3.9						
BVAR				LR	LR	09 55 06.0	
	comp=Z,84nm,19.9s,baz=80,slow=42						
	comp=Z,2.2nm,0.7s						
GEYT	**Alibeck**	**33.32**	**300**	P	**P**	**09 38 41.7**	**+3.0**
	comp=Z,1.4nm,0.4s,baz=139,slow=9.8,SNR=5.3						
	comp=Z,1.4nm,0.4s						
LEM	**Lembang**	**35.11**	**158**	LR	LR	09 54 57.8	
	comp=Z,69nm,20.6s,baz=281,slow=39						
ABKAR	**Akbulak array**	**35.59**	**319**	P	**P**	**09 38 59.8**	**+1.6**
KLR	**Kul'dur**	**36.21**	**41**	P	**P**	**09 39 04.3**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=266,slow=9.4,SNR=8.0						
KLR				LR	LR	09 55 50.2	
	comp=Z,103nm,18.1s,baz=282,slow=39						
	comp=Z,2.4nm,0.8s						
AKTO	**Aktyubinsk**	**37.23**	**320**	P	**P**	**09 39 13.8**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=134,slow=8.6,SNR=3.5						
	comp=Z,1.3nm,0.8s						
MJAR	**Matsushiro Arr**	**37.70**	**64**	P	**P**	**09 39 15.1**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=272,slow=9.2,SNR=3.2						
	comp=Z,2.0nm,0.7s						
KAPI	**Kappang**	**39.18**	**139**	LR	LR	09 57 46.8	
	comp=Z,92nm,18.8s,baz=178,slow=40						
ARU	**Arti**	**39.93**	**329**	P	**P**	**09 39 36.4**	**+1.8**
	comp=Z,1.4nm,0.3s,baz=84,slow=10,SNR=3.2						
	comp=Z,1.4nm,0.3s						
YAK	**Yakutsk**	**42.37**	**23**	LR	LR	09 57 27.2	
	comp=Z,57nm,21.4s,baz=259,slow=36						
BELG	**Belogornoye**	**44.00**	**319**	LR	LR	10 00 44.0	
	comp=Z,90nm,20.5s,baz=21,slow=39						
KVAR	**Kislovodsk Arr**	**45.65**	**307**	LR	LR	10 00 44.0	
	comp=Z,399nm,19.3s,baz=116,slow=38						
BRTR	**Keskin Array B**	**52.44**	**301**	P	**P**	**09 41 13.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=96,slow=8.5,SNR=4.5						
BRTR				pP	**pP**	**09 41 29.1**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=107,slow=7.3,SNR=5.3						
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**52.44**	**301**	P	**P**	**09 41 14.8**	**+1.4**
MBWA	**Marble Bar**	**52.86**	**151**	P	**P**	**09 41 15.9**	**-0.4**
KNRA	**Kununurra**	**52.97**	**138**	P	**P**	**09 41 17.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.14**	**143**	P	**P**	**09 41 17.9**	**-0.5**
PSA00	**Pilbara Seismi**	**53.28**	**151**	P	**P**	**09 41 18.6**	**-0.8**
AKASG	**Malin Array Be**	**55.08**	**315**	P	**P**	**09 41 34.1**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=76,slow=6.9,SNR=1.9						
AKASG				pP	**pP**	**09 41 47.3**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=74,slow=6.2,SNR=5.0						
	comp=Z,0.2nm,0.4s						
ELL	**Elmali**	**55.72**	**298**	P	**P**	**09 41 38.2**	**+0.9**
FINES	**FINESS Array B**	**57.28**	**328**	P	**P**	**09 41 48.9**	**+1.1**
	comp=Z,8.5nm,1.1s,baz=188,slow=25,SNR=2.2						
	comp=Z,8.5nm,1.1s						
FINES	**FINESS Array B**	**57.28**	**328**	P	**P**	**09 41 49.0**	**+1.2**
BUR08	**Bucovina Ar. S**	**57.86**	**311**	P	**P**	**09 41 53.9**	**+1.7**
BUR08				IAmb	IAmb	09 42 27.3	
	comp=Z,3.5nm,1.2s						
WB0	**Warramunga Arr**	**59.53**	**136**	P	**P**	**09 42 03.1**	**-0.9**
WB0				IAmb	IAmb	09 42 03.9	
	comp=Z,7.2nm,1.0s						
WRAB	**Tennant Creek**	**59.62**	**137**	P	**P**	**09 42 03.4**	**-1.2**
WRAB				IAmb	IAmb	09 42 05.2	
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**59.62**	**137**	P	**P**	**09 42 03.7**	**-1.0**
	comp=Z,3.7nm,0.8s,baz=332,slow=7.7,SNR=25						
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**59.62**	**137**	P	**P**	**09 42 02.5**	**-2.1**
WB2	**Warramunga Arr**	**59.63**	**137**	P	**P**	**09 42 02.9**	**-1.8**
WB2				IAmb	IAmb	09 42 05.2	
	comp=Z,4.6nm,0.9s						
WR0	**Warramunga Arr**	**59.76**	**136**	P	**P**	**09 42 04.6**	**-1.0**
WR0				IAmb	IAmb	09 42 05.6	
	comp=Z,5.7nm,0.9s						
AGG	**Agios Georgios**	**61.20**	**302**	P	**P**	**09 42 14.9**	**-0.4**
COEN	**Coen**	**61.43**	**125**	P	**P**	**09 42 16.1**	**-0.9**
COEN				IAmb	IAmb	09 42 23.1	
	comp=Z,7.5nm,1.2s						
AS31	**Alice Springs**	**62.20**	**140**	P	**P**	**09 42 21.3**	**-0.8**
ASAR	**Alice Springs**	**62.20**	**140**	P	**P**	**09 42 21.3**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=322,slow=6.7,SNR=39						
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**62.20**	**140**	P	**P**	**09 42 21.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**62.57**	**159**	LR	LR	10 15 02.4	
	comp=Z,45nm,18.1s,slow=41						
NWAO	**Narrogin (SRO)**	**62.57**	**159**	P	**P**	**09 42 23.5**	**-0.8**
NB2	**NORSAR Subarra**	**64.47**	**328**	P	pP	09 42 52.8	-0.3
	comp=Z,4nm,0.6s,baz=81,slow=6.5						
NOA	**NORSAR Array B**	**64.47**	**328**	pP	**pP**	**09 42 52.5**	**-0.7**
	comp=Z,3.4nm,0.7s,baz=82,slow=6.5,SNR=7.3						
NOA				LR	LR	10 15 02.1	
	comp=Z,112nm,18.4s,baz=270,slow=40						
GERES	**GERESS Array B**	**65.27**	**314**	P	**P**	**09 42 43.8**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=73,slow=4.6,SNR=4.1						
GERES				pP	**pP**	**09 42 58.7**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=74,slow=5.7,SNR=5.4						
	comp=Z,0.6nm,0.5s						
GERES	**GERESS Array B**	**65.27**	**314**	P	**P**	**09 42 43.7**	**+1.6**
VOI	**Vohitsoka**	**67.18**	**229**	P	**P**	**09 42 55.3**	**+0.6**
VOI				IAmb	IAmb	09 43 12.9	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**72.84**	**140**	P	**P**	**09 43 27.7**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=308,slow=9.6,SNR=5.0						
	comp=Z,1.5nm,0.7s						
H21K	**Melozitna Rive**	**74.71**	**23**	P	**P**	**09 43 40.5**	**+1.0**
H21K				IAmb	IAmb	09 43 58.4	
	comp=Z,6.2nm,1.3s						
ILAR	**Eielson Array**	**77.29**	**23**	P	**P**	**09 43 55.0**	**+0.8**
	comp=Z,0.4nm,1.0s,baz=318,slow=4.9,SNR=2.1						
	comp=Z,0.4nm,1.0s						

*IDC **12** 09:48:00.7±1.4, 6.°09S×154.°11E, h0km, mb3.9/7, mbtmp3.9/10, ML3.1/3, Error ellipse: s-maj=34.9km s-min=21.4km az=100.0*

ISC 12 09:48:07.5±1.0, 6.°0S±0.°1×154.°0E±0.°1, h48km, n14, σ0§98/12, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.61**	**311**	Pn		**Pn**	**09 48 45.8**	**-1.4**
	16nm,0.3s,baz=306,slow=2.7,SNR=12							
KRVT				Sn		Sn	09 49 27.9	+10
	50nm,0.3s,baz=240,slow=21,SNR=5.4							
	38nm,0.3s							
PMG	**Port Moresby**	**7.56**	**243**	Pn		**Pn**	**09 49 54.7**	**-0.6**
	2.4nm,0.3s,baz=327,slow=21,SNR=3.9							
PMG				Sn		**Sn**	**09 51 20.9**	**+1.2**
	1.3nm,0.3s,baz=219,slow=22,SNR=1.9							
	6.2nm,0.4s							
DZM	**Mont Dzumac**	**19.97**	**144**	Pn		**P**	**09 52 36.3**	**+0.2**
	0.2nm,0.3s,baz=254,slow=9.4,SNR=1.9							
	2.1nm,0.6s							
WRA	**Warramunga Arr**	**23.58**	**232**	P		**P**	**09 53 13.9**	**-0.2**
	1.5nm,0.6s,baz=57,slow=9.5,SNR=12							
	1.5nm,0.6s							
ASAR	**Alice Springs**	**26.10**	**226**	P		**P**	**09 53 36.9**	**-0.2**
	1.8nm,0.7s,baz=58,slow=8.9,SNR=20							
	1.8nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**27.40**	**27**	T		T	10 22 12.2	
	baz=207,slow=73,SNR=15							
H11S2	**WAKE ISLAND Hy**	**27.40**	**27**	T		T	10 22 10.7	
	baz=207,slow=73,SNR=10							
H11S1	**WAKE ISLAND Hy**	**27.41**	**27**	T		T	10 22 11.9	
	baz=207,slow=73,SNR=3.4							
STKA	**Stephens Creek**	**28.21**	**203**	P		**P**	**09 53 54.4**	**-1.5**
	1.5nm,0.7s,baz=21,slow=7.6,SNR=3.3							
	1.5nm,0.7s							
SONM	**Songino Array**	**68.00**	**328**	P		**P**	**09 59 02.9**	**+1.0**
	0.3nm,0.5s,baz=120,slow=7.1,SNR=4.1							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**82.03**	**319**	P		**P**	**10 00 23.6**	**+0.9**
	0.6nm,0.7s,baz=120,slow=5.3,SNR=5.6							
	0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**85.50**	**322**	P		**P**	**10 00 40.7**	**+0.4**
	0.2nm,0.2s,baz=107,slow=3.6,SNR=4.2							
	0.2nm,0.2s							
BVAR	**Borovoye Array**	**90.94**	**323**	P		**P**	**10 01 06.7**	**+0.4**
	0.3nm,0.3s,baz=72,slow=4.7,SNR=2.5							
	0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**151.81**	**287**	PKPbc		**PKPbc**	**10 07 58.6**	**+0.5**
	1.4nm,0.3s,baz=90,slow=1.4,SNR=3.6							

*NNC **12** 09:50:05.8±0.8, 38.°73N×75.°47E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=6.2km s-min=5.2km az=118.0*

*SOME **12** 09:50:13.1, 39.°00N×75.°55E, h10km*

ISC 12 09:50:14.2±3.5, 39.°2N±0.°2×75.°49E±0.°06, h10km, n30, σ1§82/30, 5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**3.76**	**1**	⇓Pn		**Pn**	**09 51 11.7**	**-0.8**
	1.4nm,0.6s							
TKM2				⇑Pg		**Pb**	**09 51 22.3**	**+1.5**
	5.0nm,0.4s							
TKM2				⇑Lg		Lg	09 52 19.4	
	25nm,0.4s							
CHMS	**Chumysh**	**3.88**	**352**	⇑Pg		**Pb**	**09 51 23.9**	**+1.2**
	4.8nm,0.6s							
CHMS				⇑Lg		Lg	09 52 23.5	
	16nm,0.4s							
KST	**Kastek**	**3.90**	**5**	Pg		**Pb**	**09 51 24.6**	**+1.5**
	5.5nm,0.6s							
KST				Lg		Lg	09 52 23.7	
	65nm,0.8s							
KST	**Kastek**	**3.90**	**5**	*e*Pg		**Pg**	**09 51 28.9**	**0.0**
	4.5nm,0.5s							
KST				*e*Lg		Lg	09 52 23.7	
	65nm,0.8s							
MRKS	**Merke**	**3.98**	**335**	Pg		**Pb**	**09 51 24.9**	**+0.6**
MRKS				Lg		Lg	09 52 24.0	
MRKS	**Merke**	**3.98**	**335**	*e*Pg		**Pg**	**09 51 28.2**	**-2.1**
	1.9nm,0.4s							
MRKS				*e*Lg		Lg	09 52 22.5	
	6.2nm,0.6s							
TNSS	**Tian-Shan**	**4.03**	**15**	Pg		**Pb**	**09 51 27.1**	**+1.6**
	5.4nm,0.7s							
TNSS				Lg		Lg	09 52 27.5	
	22nm,0.3s							
TNSS	**Tian-Shan**	**4.03**	**15**	*e*Pg		**Pg**	**09 51 30.2**	**-1.2**
	10nm,0.5s							
TNSS				*e*Lg		Lg	09 52 25.8	
	22nm,0.3s							
MTBS	**Maitube**	**4.03**	**10**	Pg		**Pb**	**09 51 27.5**	**+2.1**
	18nm,0.5s							
MTBS				Lg		Lg	09 52 28.4	
	35nm,0.5s							
MTBS	**Maitube**	**4.03**	**10**	*e*Pg		**Pg**	**09 51 30.9**	**-0.6**
	18nm,0.5s							
MTBS				*e*Lg		Lg	09 52 27.1	
	35nm,0.5s							
DGS	**Degeres**	**4.09**	**3**	Pg		**Pb**	**09 51 27.8**	**+1.5**
DGS				Lg		Lg	09 52 28.8	
DGS	**Degeres**	**4.09**	**3**	*e*Pg		**Pg**	**09 51 32.1**	**-0.4**
	6.3nm,0.6s							
DGS				*e*Lg		Lg	09 52 28.8	
	26nm,0.5s							
MDOK	**Medeo**	**4.17**	**16**	Pg		**Pb**	**09 51 28.3**	**+0.5**
	6.2nm,0.6s							
MDOK				Pg		Pg	09 51 28.4	-5.6
	3.4nm,0.3s							
MDOK				Lg		Lg	09 52 30.0	
	63nm,0.6s							
MDOK				Lg		Lg	09 52 30.8	
	68nm,0.7s							
MDOK	**Medeo**	**4.17**	**16**	*e*Pg		**Pg**	**09 51 32.6**	**-1.5**
	6.7nm,0.5s							
MDOK				*e*Lg		Lg	09 52 30.0	
	63nm,0.6s							
KNDC	**Almaty**	**4.21**	**15**	⇑Lg		Lg	09 52 34.3	
	146nm,0.6s							
SATY	**Saty**	**4.48**	**28**	Pg		**Pb**	**09 51 34.7**	**+1.7**
	10.0nm,0.6s							
SATY				Lg		Lg	09 52 40.9	
	36nm,0.5s							
SATY	**Saty**	**4.48**	**28**	*e*Pg		**Pg**	**09 51 38.1**	**-1.9**
	10.0nm,0.6s							
SATY				*e*Lg		Lg	09 52 39.2	
	36nm,0.5s							
ZHN	**Zhinishke**	**4.58**	**28**	Pg		**Pb**	**09 51 36.6**	**+1.8**
ZHN				Lg		Lg	09 52 43.4	
ZHN	**Zhinishke**	**4.58**	**28**	*e*Pg		**Pg**	**09 51 39.3**	**-2.6**
	11nm,0.5s							
ZHN				*e*Lg		Lg	09 52

comp=Z,13nm,0.2s

KU6					SB	**Sg**	**10 00 31.5**	**+0.1**
MSF	**Maaselka**	**1.37**	**326**		PG	**Pg**	**10 00 14.5**	**-1.2**
	baz=150							
MSF					SN	**Sb**	**10 00 33.8**	**-0.1**
OLKF	**Oulanka, Finla**	**1.65**	**338**		PG	**Pn**	**10 00 19.8**	**0.0**
OLKF					MSG		10 00 39.6	

comp=Z,15nm,0.2s

OLKF					SN	**Sg**	**10 00 43.9**	**+1.4**
JOF	**Joensuu**	**1.90**	**175**		PG	**Pn**	**10 00 23.7**	**+0.6**
OUL	**Oulu**	**2.16**	**280**		PG	**Pn**	**10 00 27.5**	**+0.8**
	baz=96							
OUL					SG	**Sn**	**10 00 53.5**	**-0.5**
OUF	**Merijarvi**	**2.71**	**264**		PB	**Pn**	**10 00 36.0**	**+1.8**
	baz=79							
OUF					MSG		10 01 07.4	

comp=Z,21nm,0.2s

OUF					SG	**Sn**	**10 01 09.8**	**+2.3**
RNF	**Rovaniemi**	**2.72**	**314**		PB	**Pn**	**10 00 36.7**	**+2.3**
RNF					SG	**Sb**	**10 01 13.0**	**+0.1**
OBF0	**Syolatti, Pyha**	**2.89**	**267**		PG	**Pb**	**10 00 40.7**	**-1.2**
OBF0					MSG		10 01 12.8	

comp=Z,15nm,0.2s

OBF0					SG	**Sb**	**10 01 18.5**	**+0.8**
APA0	**Apatity Array**	**2.94**	**16**		P	**Pn**	**10 00 39.8**	**+2.4**
APA0					S	**Sb**	**10 01 17.9**	**-1.3**
APA	**Apatity**	**2.96**	**19**		S	**Sn**	**10 01 17.4**	**+3.6**
VRF	**Varrio**	**3.01**	**350**		PB	**Pn**	**10 00 40.9**	**+2.6**
VRF					MSG		10 01 19.3	

comp=Z,4.7nm,0.2s

VRF					SB	**Sb**	**10 01 21.2**	**+0.1**
TOF	**Tornio**	**3.04**	**298**		PB	**Pn**	**10 00 39.8**	**+1.0**
TOF					MSG		10 01 17.7	

comp=Z,4.8nm,0.2s

TOF					SG	**Sb**	**10 01 21.8**	**-0.2**
SGF	**Sodankyl**	**3.20**	**328**		PN	**Pn**	**10 00 42.3**	**+1.3**
	baz=147							
SGF					SG	**Sb**	**10 01 26.5**	**-0.1**
KALU	**Kalix**	**3.35**	**292**		PB	**Pn**	**10 00 44.7**	**+1.7**
KALU					SG	**Sb**	**10 01 30.8**	**0.0**
KAF	**Kangasniemi**	**3.40**	**220**		PB	**Pn**	**10 00 46.0**	**+2.2**
KAF					SG	**Sb**	**10 01 33.2**	**+0.8**
LVZ	**Lovozero**	**3.46**	**24**		PN	**Pn**	**10 00 46.6**	**+2.1**
RUF	**Ruokolahti**	**3.50**	**196**		PN	**Pn**	**10 00 46.8**	**+1.6**
KEF	**Keuruu**	**3.79**	**229**		PB	**Pn**	**10 00 51.4**	**+2.3**
PAJU	**Pajala**	**3.90**	**308**		PN	**Pn**	**10 00 52.3**	**+1.6**
PAJU					SG	**Sb**	**10 01 50.0**	**+3.2**
ERTU	**Ertsjaerv**	**4.02**	**300**		PB	**Pn**	**10 00 56.5**	**+4.2**
ERTU					SB	**Sn**	**10 01 44.6**	**+4.6**
FINES	**FINESS Array B**	**4.02**	**215**		Pn	**Pn**	**10 00 53.2**	**+1.0**

comp=Z,0.2nm,0.3s,baz=36,slow=14,SNR=11

FINES					Pg	**Pb**	**10 00 58.6**	**-2.5**

comp=Z,0.7nm,0.3s,baz=31,slow=16,SNR=8.7

FINES					Sn	**Sn**	**10 01 39.2**	**-0.8**

comp=Z,0.4nm,0.3s,baz=43,slow=21,SNR=2.0

FINES					Lg	Lg	10 01 53.1	

comp=Z,1.4nm,0.3s,baz=34,slow=27,SNR=13
comp=Z,0.7nm,0.2s

VAF	**Ylistaro**	**4.05**	**248**		PB	**Pn**	**10 00 56.1**	**+3.5**
BURU	**Burvik**	**4.10**	**271**		SG	**Sb**	**10 01 55.7**	**+3.1**
UMAU	**Umeaa**	**4.55**	**263**		PN	**Pn**	**10 00 59.1**	**-0.3**
UMAU					SN	**Sn**	**10 01 52.5**	**-0.4**
VJF	**Virojoki**	**4.55**	**201**		PN	**Pn**	**10 00 57.3**	**-2.2**
HEF	**Hetta**	**4.64**	**325**	*eP*		**Pn**	**10 01 01.8**	**+1.1**
HEF				*eS*		**Sn**	**10 01 54.0**	**-1.2**
HEF	**Hetta**	**4.64**	**325**		PN	**Pn**	**10 01 02.1**	**+1.4**
HEF					SG	**Sg**	**10 02 14.2**	**-4.1**
TERR	**Teriberka**	**4.72**	**18**		P	**Pn**	**10 01 05.0**	**+3.2**
TERR					S	**Sn**	**10 01 57.2**	**+0.2**
KTK1	**Kautokeino**	**5.20**	**328**	*eP*		**Pn**	**10 01 09.8**	**+1.4**
KTK1				*eS*		**Sn**	**10 02 08.7**	**-0.3**
KTK1					IAML		10 02 36.3	

comp=Z,3.2nm,0.5s

ARA0	**ARCESS Array S**	**5.20**	**339**	*eP*		**Pn**	**10 01 09.1**	**+0.6**
ARA0				*eS*		**Sn**	**10 02 08.2**	**-0.8**
ARA0					IAML		10 02 32.3	

comp=Z,4.2nm,0.8s

ARCES	**ARCESS Array B**	**5.20**	**339**		Pn	**Pn**	**10 01 09.0**	**+0.5**

comp=Z,0.4nm,0.3s,baz=155,slow=13,SNR=42

ARCES					Sn	**Sn**	**10 02 08.2**	**-0.8**

comp=Z,0.3nm,0.3s,baz=158,slow=24,SNR=6.4

ARCES					Lg	Lg	10 02 28.4	

comp=Z,0.4nm,0.3s,baz=148,slow=33,SNR=7.6
comp=Z,1.1nm,0.2s

ARCES	**ARCESS Array B**	**5.20**	**339**		P	**Pn**	**10 01 08.9**	**+0.5**
ARCES					S	**Sn**	**10 02 08.3**	**-0.8**
KEV	**Kevo**	**5.20**	**345**	*eP*		**Pn**	**10 01 09.3**	**+0.9**
KEV				*e*			10 02 07.8	
VADS	**Vadso**	**5.38**	**354**	*eP*		**Pn**	**10 01 11.6**	**+0.7**
KIF	**Kilpisjarvi**	**5.80**	**321**	*ep*		**Pn**	**10 01 17.8**	**+1.1**
KIF				*eS*		**Sn**	**10 02 23.1**	**-0.6**
I43RU	**DUBNA INFRASON**	**8.67**	**156**		I	I	10 56 10.0	

baz=347,slow=333,SNR=1.7

*IDC **12** 10:04:59.4±1.1, 9.°02S×148.°40E, h0km, mb3.8/7, mbtmp3.9/9, ML3.5/2, MS3.3/7, Error ellipse: s-maj=27.5km s-min=20.3km az=123.0*

ISC 12 10:05:04.6±1.0, 9.°1S±0.°1×148.°3E±0.°1, h35km, n17, σ2s13, mb3.9/6, MS3.2/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.19**	**257**	Pn	**Pn**	**10 05 24.5**	**-0.3**

93nm,0.3s,baz=57,slow=7.7,SNR=188

PMG					Sn	**Sn**	**10 05 43.4**	**+3.7**

120nm,0.3s,baz=68,slow=16,SNR=9.4

PMG					LR	LR	10 06 14.4	

comp=Z,1μm,21.1s,baz=144,slow=58

CTA	**Charters Tower**	**11.07**	**190**		Pn	**Pn**	**10 07 41.9**	**+1.4**

0.2nm,0.3s,baz=16,slow=14,SNR=6.0

CTA					LR	LR	10 11 42.3	

comp=Z,89nm,19.0s,baz=58,slow=36
2.8nm,0.7s

HNR	**Honiara**	**11.46**	**92**	LR		LR	10 11 41.4	

comp=Z,2μm,18.6s,baz=209,slow=35

WRA	**Warramunga Arr**	**17.28**	**230**	P		**P**	**10 09 04.8**	**+0.4**

0.2nm,0.3s,baz=54,slow=12,SNR=12

WRA					S	**Sn**	**10 12 09.4**	**-5.1**

1.2nm,0.8s,baz=51,slow=24,SNR=4.7
3.5nm,0.8s

SIJI	**Sorong**	**18.87**	**295**	LR		LR	10 18 39.8	

comp=Z,146nm,18.4s,baz=116,slow=44

ASAR	**Alice Springs**	**19.98**	**222**	P		**Pn**	**10 09 36.2**	**+0.1**

2.4nm,0.8s,baz=56,slow=10.0,SNR=26
2.4nm,0.8s

GUMO	**Guam**	**22.84**	**351**	LR		LR	10 17 29.0	

comp=Z,35nm,21.9s,baz=152,slow=33

STKA	**Stephens Creek**	**23.48**	**195**	P		**P**	**10 10 10.1**	**-1.0**

1.5nm,0.8s,baz=354,slow=13,SNR=1.9

STKA					LR	LR	10 19 23.2	

comp=Z,77nm,18.3s,baz=23,slow=37
1.5nm,0.8s

BATI	**Baumata**	**24.34**	**265**	LR		LR	10 22 15.6	

comp=Z,134nm,18.2s,baz=85,slow=42

KSRS	**Korea Array**	**50.14**	**339**	LR		LR	10 34 38.8	

comp=Z,14nm,19.5s,baz=75,slow=36

RAR	**Rarotonga**	**51.29**	**110**	LR		LR	10 34 06.1	

comp=Z,51nm,18.3s,baz=260,slow=34

CMAR	**Chiang Mai Arr**	**55.92**	**300**	P		**P**	**10 14 38.6**	**-0.9**

1.3nm,0.3s,baz=207,slow=12,SNR=2.1
1.3nm,0.3s

VNDA	**Vanda**	**68.72**	**177**	P		**P**	**10 16 05.1**	**+0.8**

2.0nm,1.1s,baz=158,slow=10,SNR=1.2
2.0nm,1.1s

MKAR	**Makanchi Array**	**80.75**	**320**	P		**P**	**10 17 14.8**	**+0.3**

0.3nm,0.6s,baz=103,slow=5.2,SNR=3.7
0.3nm,0.6s

ZALV	**Zalesovo Beam**	**82.36**	**328**	P		**P**	**10 17 22.0**	**-0.7**

0.6nm,0.5s,baz=149,slow=5.5,SNR=2.6
0.6nm,0.5s

ILAR	**Eielson Array**	**87.83**	**23**	P		**P**	**10 17 50.3**	**+0.3**

0.7nm,1.1s,baz=217,slow=4.3,SNR=3.3
0.7nm,1.1s

TORD	**Torodi Ar. Bea**	**147.05**	**280**	PKPbc		**PKPab**	**10 24 45.5**	**-0.8**

1.0nm,0.4s,baz=69,slow=1.8,SNR=1.7

*IDC **12** 10:26:53.9±0.6, 16.°70N×98.°44W, h0km, mb4.5/20, mbtmp4.5/24, ML4.1/2, MS4.1/48, Error ellipse: s-maj=18.7km s-min=10.5km az=47.0*

*NEIC **12** 10:26:55.8±2.3, 16.°59N±0.°04×98.°48W±0.°04, h21km±10km, mb5.0/389, Md5.0/81(MEX), Error ellipse: s-maj=6.1km s-min=5.2km az=60.0*

*MOS **12** 10:26:57.7±1.4, 16.°79N×98.°26W, h33km, mb5.1/6, Error ellipse: s-maj=12.5km s-min=5.6km az=102.9*

*MEX **12** 10:26:58.1±0.8, 16.°60N×98.°54W, h39km±12km, MD5.0*

*GCMT **12** 10:27:01.4±0.3, 16.°87N±0.°01×98.°35W±0.°02, h38km±1km, MW5.0/92, Moment Tensor Solution. s41,c58; s92,c125; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.78±.21; Mθθ -4.42±.13; Mϕϕ 3.64±.17; Mrθ 0.09±.14; Mθϕ -1.40±.15; Mϕr 1.41±.15; Best double couple: M0 4.53900×10^16 NP1: ϕs 304.00000°, δ 73.00000°, λ 167.00000°. NP2: ϕs 37.00000°, δ 78.00000°, λ 18.00000°. Principal axes: T 4.4010, Plg 21.0000°, Azm 261.0000°; N 0.2790, Plg 69.0000°, Azm 71.0000°; P -4.6760, Plg 4.0000°, Azm 170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 10:26:57.3±0.7, 16.°64N±0.°03×98.°50W±0.°02, h24km±5km, n807, σ1s70/677, mb5.0/183, MS4.1/51, 24C-15D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.44**	**125**		**Pb**	**10 27 06.4**	**-0.1**
PNIG	**Pinotepa**	**0.44**	**125**	↑*iP*	**Pb**	**10 27 06.4**	**-0.1**
PNIG				*i* S	**Sb**	**10 27 13.0**	**+0.4**
TLIG	**Tlapa**	**0.92**	**356**		**Pb**	**10 27 13.4**	**-1.3**
TLIG				Sg	**Sb**	**10 27 25.5**	**-1.0**
TLIG	**Tlapa**	**0.92**	**356**	↓*eP*	**Pb**	**10 27 13.3**	**-1.4**
TLIG				*eS*	**Sb**	**10 27 25.3**	**-1.2**
TXIG	**Tlaxiaco**	**0.93**	**49**		**Pb**	**10 27 13.6**	**-1.4**
TXIG					**Sb**	**10 27 25.6**	**-1.4**
TXIG	**Tlaxiaco**	**0.93**	**49**	↑*iP*	**Pb**	**10 27 13.6**	**-1.4**
TXIG				*i* S	**Sb**	**10 27 25.6**	**-1.4**
YOIG	**Yosondua**	**0.94**	**77**		**Pb**	**10 27 13.8**	**-1.3**
YOIG					**Sb**	**10 27 27.2**	**-0.1**
YOIG	**Yosondua**	**0.94**	**77**	↑*iP*	**Pb**	**10 27 13.8**	**-1.3**
YOIG				*i* S	**Sb**	**10 27 27.2**	**-0.1**
DAIG	**Los Arroyos**	**1.16**	**289**		**Pn**	**10 27 16.0**	**-2.1**
DAIG					Pb	10 27 25.6	+6.8
DAIG	**Los Arroyos**	**1.16**	**289**	*i* P	**Pn**	**10 27 16.5**	**-1.6**
DAIG				*eS*	**Sn**	**10 27 25.6**	**-7.7**
FTIG	**Fresnillo de T**	**1.31**	**16**		**Pn**	**10 27 19.3**	**-0.9**
FTIG					**Sn**	**10 27 36.0**	**-1.0**
FTIG	**Fresnillo de T**	**1.31**	**16**	↓*iP*	**Pn**	**10 27 19.3**	**-0.9**
FTIG				*eS*	**Sn**	**10 27 36.0**	**-1.0**
HLIG	**Huajuapan de L**	**1.35**	**29**		**Pn**	**10 27 19.8**	**-1.1**
HLIG					**Sn**	**10 27 35.2**	**-3.1**
HLIG	**Huajuapan de L**	**1.35**	**29**	↓*iP*	**Pn**	**10 27 19.8**	**-1.1**
HLIG				*eS*	**Sn**	**10 27 35.2**	**-3.1**
PEIG	**Puerto Escondi**	**1.45**	**116**		**Pn**	**10 27 20.6**	**-1.4**
PEIG					**Sn**	**10 27 37.1**	**-3.2**
PEIG	**Puerto Escondi**	**1.45**	**116**	↑*iP*	**Pn**	**10 27 20.6**	**-1.4**
PEIG				*i* S	**Sn**	**10 27 37.1**	**-3.2**
MEIG	**Mezcala**	**1.66**	**320**		**Pn**	**10 27 24.3**	**-0.8**
MEIG					**Sn**	**10 27 42.8**	**-2.9**
MEIG	**Mezcala**	**1.66**	**320**	↓*eP*	**Pn**	**10 27 24.3**	**-0.8**
MEIG				*eS*	**Sn**	**10 27 42.8**	**-2.9**
CAIG	**El Cayaco**	**1.74**	**284**		**Pn**	**10 27 24.4**	**-1.6**
CAIG					**Sn**	**10 27 43.5**	**-4.0**
CAIG	**El Cayaco**	**1.74**	**284**	↑*eP*	**Pn**	**10 27 24.4**	**-1.6**
CAIG				*eS*	**Sn**	**10 27 43.5**	**-4.0**
VHO	**Vista Hermosa**	**1.75**	**76**	↑*eP*	**Pn**	**10 27 25.3**	**-0.9**
VHO				*eS*	**Sn**	**10 27 46.2**	**-1.7**
OXIG	**Oaxaca**	**1.75**	**76**		**Pn**	**10 27 25.3**	**-1.0**
OXIG					**Sn**	**10 27 46.2**	**-1.7**
PLIG	**Platanillo**	**1.98**	**331**		**Pn**	**10 27 29.4**	**-0.1**
PLIG					**Sn**	**10 27 51.8**	**-1.9**
PLIG	**Platanillo**	**1.98**	**331**	↓*eP*	**Pn**	**10 27 29.4**	**-0.1**
PLIG				*eS*	**Sn**	**10 27 51.8**	**-1.9**
TOIG	**Toxpalan**	**1.99**	**43**		**Pn**	**10 27 28.6**	**-1.0**
TOIG					**Sn**	**10 27 52.6**	**-1.2**
TOIG	**Toxpalan**	**1.99**	**43**	↑*eP*	**Pn**	**10 27 28.6**	**-1.0**
TOIG				*eS*	**Sn**	**10 27 52.6**	**-1.2**
TPIG	**Tehuac#an**	**2.07**	**31**		**Pn**	**10 27 29.8**	**-1.0**
TPIG					**Sn**	**10 27 55.0**	**-0.9**
TPIG	**Tehuac#an**	**2.07**	**31**	↓*eP*	**Pn**	**10 27 29.8**	**-1.0**
TPIG				*eS*	**Sn**	**10 27 55.0**	**-0.9**
YAIG	**Yautepec**	**2.27**	**346**		**Pn**	**10 27 33.1**	**-0.4**
YAIG					**Sn**	**10 27 58.4**	**-2.4**
YAIG	**Yautepec**	**2.27**	**346**	↓*eP*	**Pn**	**10 27 33.1**	**-0.4**
YAIG				*eS*	**Sn**	**10 27 58.4**	**-2.4**
ARIG	**Puente Sto Nin**	**2.40**	**313**		**Pn**	**10 27 35.5**	**+0.3**
ARIG					**Sn**	**10 28 02.3**	**-1.5**
ARIG	**Puente Sto Nin**	**2.40**	**313**	↑*eP*	**Pn**	**10 27 35.5**	**+0.3**
ARIG				*eS*	**Sn**	**10 28 02.3**	**-1.5**
PPM	**Popocatepetl**	**2.41**	**357**	↓*eP*	**Pn**	**10 27 35.5**	**-0.3**
PPM				*eS*	**Sn**	**10 28 03.6**	**-1.2**
PPIG	**Popocatepetl**	**2.41**	**357**		**Pn**	**10 27 35.5**	**-0.3**
PPIG					**Sn**	**10 28 03.6**	**-1.2**
HUIG	**Huatulco**	**2.46**	**110**		**Pn**	**10 27 34.5**	**-1.4**
HUIG					**Sn**	**10 27 59.2**	**-6.0**
HUIG	**Huatulco**	**2.46**	**110**	↑*eP*	**Pn**	**10 27 34.5**	**-1.4**
HUIG				*eS*	**Sn**	**10 27 59.2**	**-6.0**
UNM	**Universidad Na**	**2.75**	**347**		**Pn**	**10 27 41.6**	**+1.4**
UNM	**Universidad Na**	**2.75**	**347**	P	**Pn**	**10 27 41.6**	**+1.4**
ZIIG	**Zihuatanejo**	**2.99**	**289**		**Pn**	**10 27 42.6**	**-0.7**
ZIIG					**Sn**	**10 28 14.9**	**-3.4**
ZIIG					**Sb**	**10 28 27.9**	**+1.9**
ZIIG	**Zihuatanejo**	**2.99**	**289**	↑*iP*	**Pn**	**10 27 42.6**	**-0.7**
ZIIG				*eP*	**Sn**	**10 28 14.9**	**-3.4**
ZIIG				*eS*	**Sb**	**10 28 27.9**	**+1.9**
CMIG	**Matias Romero**	**3.49**	**82**	Pn	**Pn**	**10 27 48.6**	**-1.5**

15nm,0.3s,baz=262,slow=11,SNR=185

CMIG					Lg	Lg	10 28 43.1	

131nm,0.3s,baz=52,slow=21,SNR=7.7

CMIG					LR	LR	10 29 25.0	

comp=Z,4μm,20.6s,baz=326,slow=44
54nm,0.5s

CMIG	**Matias Romero**	**3.49**	**82**		**Pn**	**10 27 48.5**	**-1.6**
CMIG					**Sn**	**10 28 28.0**	**-2.7**
CMIG	**Matias Romero**	**3.49**	**82**	↑*iP*	**Pn**	**10 27 48.5**	**-1.6**
CMIG				*eS*	**Sn**	**10 28 28.0**	**-2.7**
LVIG	**Laguna Verde**	**3.65**	**33**	↓*eP*	**Pn**	**10 27 49.3**	**-3.7**
LVIG				*eS*	**Sn**	**10 28 30.9**	**-3.7**
DHIG	**Demacu**	**3.67**	**352**		**Pn**	**10 27 54.5**	**+1.7**
DHIG					**Sn**	**10 28 33.2**	**-2.3**
DEIG	**Demacu**	**3.67**	**352**	↑*eP*	**Pn**	**10 27 54.5**	**+1.7**
DEIG				*eS*	**Sn**	**10 28 33.2**	**-2.3**
MOIG	**Morelia**	**3.96**	**320**		**Pn**	**10 27 59.0**	**+2.2**
MOIG	**Morelia**	**3.96**	**320**	*eP*	**Pn**	**10 27 56.1**	**-0.6**
MOIG				*eS*	**Sn**	**10 28 41.5**	**-1.0**
TUIG	**Tuzandepetl**	**4.13**	**70**	↑*iP*	**Pn**	**10 27 57.4**	**-1.6**
TUIG				*eS*	**Sn**	**10 28 46.5**	**0.0**
UXUV	**UXUV**	**4.22**	**80**	↑*iP*	**Pn**	**10 27 58.4**	**-1.7**
UXUV				*eS*	**Sn**	**10 28 48.7**	**0.0**
IGIG	**Irapuato, Guan**	**4.89**	**327**		**Pn**	**10 28 09.5**	**0.0**
IGIG					**Sn**	**10 29 03.4**	**-2.1**
IGIG	**Irapuato, Guan**	**4.89**	**327**	*eP*	**Pn**	**10 28 09.5**	**0.0**
IGIG				*eS*	**Sn**	**10 29 03.4**	**-2.1**
MMIG	**Aquila**	**4.91**	**290**		**Pn**	**10 28 08.9**	**-0.6**
MMIG					**Sn**	**10 29 00.6**	**-5.0**
MMIG	**Aquila**	**4.91**	**290**	*eP*	**Pn**	**10 28 08.9**	**-0.6**
MMIG				*eS*	**Sn**	**10 29 00.6**	**-5.0**
TGIG		**5.16**	**88**		**Pn**	**10 28 12.4**	**-0.6**
TGIG					**Sn**	**10 29 09.2**	**-2.7**
TGIG		**5.16**	**88**	↑*eP*	**Pn**	**10 28 12.4**	**-0.6**
TGIG				*eS*	**Sn**	**10 29 09.2**	**-2.7**
PCIG		**5.16**	**100**		**Pn**	**10 28 12.5**	**-0.6**
PCIG					**Sn**	**10 29 05.5**	**-6.4**
PCIG		**5.16**	**100**	↑*eP*	**Pn**	**10 28 12.5**	**-0.6**
PCIG				*eS*	**Sn**	**10 29 05.5**	**-6.4**
RPIG	**Rio Verde**	**5.40**	**345**		**Pn**	**10 28 18.9**	**+2.4**
RPIG					**Sn**	**10 29 16.9**	**-1.1**
RPIG	**Rio Verde**	**5.40**	**345**	↑*eP*	**Pn**	**10 28 18.9**	**+2.4**
RPIG				*eS*	**Sn**	**10 29 16.9**	**-1.1**
CCIG	**Comitan**	**6.12**	**92**	Pn	**Pn**	**10 28 28.4**	**+2.0**
CCIG	**Comitan**	**6.12**	**92**	↓*eP*	**Pn**	**10 28 27.9**	**+1.5**
CCIG				*eS*	**Sn**	**10 29 30.9**	**-4.8**
THIG		**6.25**	**105**		**Pn**	**10 28 27.6**	**-0.4**
THIG					**Sn**	**10 29 32.0**	**-6.6**
THIG		**6.25**	**105**	*eP*	**Pn**	**10 28 27.6**	**-0.4**
THIG				*eS*	**Sn**	**10 29 32.0**	**-6.6**
GTIG	**Gomez Farias**	**6.42**	**354**		**Pn**	**10 28 30.1**	**-0.3**
GTIG	**Gomez Farias**	**6.42**	**354**	↑*eP*	**Pn**	**10 28 30.1**	**-0.3**
AAIG	**Aguscalientes**	**6.44**	**326**		**Pn**	**10 28 30.4**	**-0.5**
AAIG					**Sn**	**10 29 42.1**	**-1.7**
AAIG	**Aguscalientes**	**6.44**	**326**	*eP*	**Pn**	**10 28 30.4**	**-0.5**
AAIG				*eS*	**Sn**	**10 29 42.1**	**-1.7**
CJM	**Chamela**	**6.84**	**296**	↓*eP*	**Pn**	**10 28 36.3**	**+0.1**
CJM				*eS*	**Sn**	**10 29 47.1**	**-6.2**
RTAL	**Retalhuleu**	**6.89**	**107**		**Pn**	**10 28 39.0**	**+2.2**
ANIG	**Ahuacatlan**	**7.19**	**309**		**Pn**	**10 28 43.9**	**+2.8**
ANIG					**Sn**	**10 30 00.9**	**-1.2**
ANIG	**Ahuacatlan**	**7.19**	**309**	*eP*	**Pn**	**10 28 43.9**	**+2.8**
ANIG				*eS*	**Sn**	**10 30 00.9**	**-1.2**
ZAIG	**Zacatecas**	**7.20**	**329**	Pn	**Pn**	**10 28 43.2**	**+1.9**
ZAIG	**Zacatecas**	**7.20**	**329**	*eP*	**Pn**	**10 28 40.9**	**-0.5**
SCIG	**Sabancuy**	**7.34**	**71**	*eP*	**Pn**	**10 28 42.7**	**-0.3**
LNIG	**Linares**	**8.26**	**354**	*eP*	**Pn**	**10 28 55.2**	**-0.5**
PETF	**Flores**	**8.28**	**87**		**Pn**	**10 28 54.7**	**-1.2**
ESQI	**Esquipulas**	**9.06**	**102**		**Pn**	**10 29 08.0**	**+1.2**
MAIG	**Mazatlaan**	**9.89**	**312**		**Pn**	**10 29 19.7**	**+1.7**
MAIG	**Mazatlaan**	**9.89**	**312**	*eP*	**Pn**	**10 29 19.7**	**+1.7**
TEIG	**Tepich**	**10.34**	**68**	Pn	**Pn**	**10 29 24.4**	**+0.2**
PDIG	**Papasquiaro**	**10.55**	**324**		**Pn**	**10 29 27.9**	**+0.6**
PDIG	**Papasquiaro**	**10.55**	**324**	*eP*	**Pn**	**10 29 27.9**	**+0.6**
TGUH	**Tegucigalpa,Un**	**11.13**	**102**	Pn	**Pn**	**10 29 34.2**	**-1.0**
833A	**Chaparral WMA,**	**11.65**	**356**	Pn	**Pn**	**10 29 43.3**	**+1.1**
833A	**Chaparral WMA,**	**11.65**	**356**	P	**Pn**	**10 29 44.1**	**+2.0**

baz=175,SNR=12

833A	**Chaparral WMA,**	**11.65**	**356**	P		**Pn**	**10 29 42.1**	**0.0**

baz=175,SNR=12

H06E1	**SOCORRO T-PHAS**	**12.03**	**282**	T		T	10 42 11.6	

SNR=4.9

735A	**Kenedy**	**12.17**	**3**			**Pn**	**10 29 49.4**	**+0.1**
735A	**Kenedy**	**12.17**	**3**	P		**Pn**	**10 29 49.5**	**+0.3**

baz=182

HPIG		**12.21**	**328**	Pn		**Pn**	**10 29 51.9**	**+1.9**
HPIG		**12.21**	**328**	*eP*		**Pn**	**10 29 50.9**	**+1.0**
SLBS	**Sierra La Lagu**	**12.82**	**305**	Pn		**Pn**	**10 30 00.2**	**+1.9**
TSIG	**Topolobambo**	**13.26**	**314**			**Pn**	**10 30 05.7**	**+1.5**
TSIG	**Topolobambo**	**13.26**	**314**	*eP*		**Pn**	**10 30 05.7**	**+1.5**
LPIG	**La Paz**	**13.32**	**306**	Pn		**Pn**	**10 30 05.9**	**+1.0**

26nm,0.8s,baz=298,slow=3.6,SNR=7.4

LPIG					LR	LR	10 34 44.6	

comp=Z,2μm,20.9s,baz=130,slow=35

HKT	**Hockley**	**13.47**	**10**	P		**Pn**	**10 30 09.6**	**+2.7**

baz=190

HKT	**Hockley**	**13.47**	**10**	P		**Pn**	**10 30 07.5**	**+0.6**
TX31	**Lajitas Ar. Si**	**13.49**	**340**	P		**Pn**	**10 30 09.3**	**+1.9**

baz=158,SNR=14

Y22A Socorro 18.83 338 P Pn 10 31 16.6 +0.3
baz=154,SNR=26
UALR University of 18.88 16 P P 10 31 14.1 -1.9
UALR IAmb IAmb 10 31 17.0
comp=Z,82nm,1.0s
OK025 Westminster Rd 18.89 3 P 10 31 14.4 -1.6
OK025 IAmb IAmb 10 31 25.9
comp=Z,89nm,0.8s
CSTR Hydro, Custer 18.93 360 IAmb IAmb 10 31 18.6
comp=Z,4.4nm,0.8s
Y22D IRIS PASSCAL I 18.94 338 P Pn 10 31 18.3 +0.8
baz=154
Y22D IRIS PASSCAL I 18.94 338 P P 10 31 15.3 -1.4
baz=154
Y22F Passcal Instru 18.94 338 P P 10 31 15.9 -0.8
baz=154
Y45A Yeager Farm, C 18.95 24 P P 10 31 14.7 -2.0
Y45A IAmb IAmb 10 31 26.5
comp=Z,116nm,1.1s
Y45A Yeager Farm, C 18.95 24 P P 10 31 15.5 -1.2
baz=207,SNR=15
BCOK Bluff Creek, N 18.95 2 IAmb IAmb 10 31 18.5
comp=Z,90nm,0.7s
Z47A Carrollton 18.98 28 P P 10 31 15.3 -1.8
Z47A Carrollton 18.98 28 P P 10 31 16.1 -1.0
baz=212
OK029 Liberty Lake 19.10 3 IAmb IAmb 10 31 19.7
comp=Z,78nm,0.8s
TUC Tucson 19.16 327 P Pn 10 31 20.4 +0.2
TUC Tucson 19.16 327 P Pn 10 31 20.1 0.0
baz=141
TUC Tucson 19.16 327 P Pn 10 31 20.4 +0.2
TUC pmax pmax
comp=Z,15nm,1.0s
DEOK Depew 19.21 5 IAmb IAmb 10 31 19.9
comp=Z,176nm,1.1s
352A Blakely 19.25 37 P P 10 31 19.6 -0.5
baz=223
OK052 Battle Ridge R 19.33 4 P P 10 31 18.7 -2.2
TUL1 Leonard 19.34 7 IAmb IAmb 10 31 22.8
comp=Z,63nm,0.8s
TUL1 Leonard 19.34 7 P P 10 31 19.4 -1.6
baz=188,SNR=46
TUL1 Leonard 19.34 7 P P 10 31 18.8 -2.2
baz=188,SNR=46
LRAL Lakeview Retre 19.35 30 P P 10 31 20.2 -0.8
baz=215,SNR=9.3
LRAL Lakeview Retre 19.35 30 P P 10 31 19.3 -1.8
baz=215,SNR=9.3
ELIS Ellis County 19.36 358 P P 10 31 21.3 0.0
ELIS IAmb IAmb 10 31 22.3
comp=Z,41nm,0.9s
WHAR Wooly Hollow 19.38 15 P P 10 31 19.3 -2.1
WHAR IAmb IAmb 10 31 30.9
comp=Z,60nm,1.0s
QUOK Quay 19.52 4 IAmb IAmb 10 31 35.2
comp=Z,137nm,1.1s
ANMO Albuquerque 19.57 340 P P 10 31 24.0 +0.3
comp=Z,0.8nm,0.3s,baz=244,slow=10,SNR=45
ANMO LR LR 10 39 29.2
comp=Z,2µm,18.8s,baz=252,slow=39
comp=Z,15nm,0.8s
ANMO Albuquerque 19.57 340 P P 10 31 23.4 -0.4
ANMO Albuquerque 19.57 340 P P 10 31 24.2 +0.4
baz=156,SNR=38
ANMO Albuquerque 19.57 340 P P 10 31 24.2 +0.4
baz=156
ANMO Albuquerque 19.57 340⇓ eP P 10 31 24.1 +0.4
ANMO pmax pmax
comp=Z,22nm,0.9s
OXF Oxford 19.57 23 P P 10 31 22.0 -1.5
baz=207
OXF Oxford 19.57 23 P P 10 31 22.4 -1.2
baz=207
U32A Winter Ranch, 19.66 359 P P 10 31 23.7 -0.9
baz=178,SNR=21
RLO Rose Lookout 19.69 8 IAmb IAmb 10 31 25.4
comp=Z,67nm,0.7s
CROK Carrier 19.79 1 IAmb IAmb 10 31 26.9
comp=Z,117nm,0.9s
NOKA Waynoka 19.92 359 IAmb IAmb 10 31 27.2
comp=Z,78nm,0.8s
HHAR Hobbs 19.98 11 IAmb IAmb 10 31 29.5
comp=Z,55nm,0.9s
FCAR Ozark Folk Cen 19.99 15 IAmb IAmb 10 31 40.2
comp=Z,84nm,0.9s
214A Organ Pipe Nat 20.03 322 P Pn 10 31 29.9 -0.5
baz=136
U38A Gravette 20.05 10 P P 10 31 26.6 -2.2
baz=191,SNR=28
BLOK Blackwell 20.07 3 IAmb IAmb 10 31 30.4
comp=Z,230nm,0.9s
OK032 Salt Plains WL 20.08 1 IAmb IAmb 10 31 30.9
comp=Z,90nm,0.9s
KAN14 Manchester OK 20.24 1 IAmb IAmb 10 31 33.6
comp=Z,46nm,1.0s
152A Waverly Hall 20.25 35 P P 10 31 29.5 -1.5
baz=221
U40A Yellville 20.27 13 P P 10 31 29.4 -1.7
baz=196,SNR=60
U40A P P 10 31 29.4 -1.7
baz=196,SNR=60
T35B Sooner Cattle 20.27 5 P P 10 31 29.1 -2.0
baz=185,SNR=39
Y49A Blount Mountai 20.30 30 P P 10 31 30.1 -1.4
baz=215,SNR=7.5
KAN17 Caldwell West 20.33 2 IAmb IAmb 10 31 43.1
comp=Z,98nm,1.1s
LCAR Lake Charles 20.42 17 IAmb IAmb 10 31 35.3
comp=Z,47nm,0.9s
LCAR Lake Charles 20.42 17 P P 10 31 31.0 -1.8
baz=200,SNR=33
KAN01 Argonia South 20.44 2 IAmb IAmb 10 31 34.4
comp=Z,73nm,1.0s
X48A Hartselle 20.50 28 IAmb IAmb 10 31 35.2
comp=Z,85nm,1.6s
X48A Hartselle 20.50 28 P P 10 31 31.7 -1.9
baz=213,SNR=15
Z51A Franklin 20.50 33 P P 10 31 33.6 0.0
baz=219,SNR=9.4
PLAL Pickwick Lake 20.51 25 IAmb IAmb 10 31 43.5
comp=Z,60nm,0.9s
KAN06 Argonia West S 20.53 1 IAmb IAmb 10 31 35.9
comp=Z,73nm,0.9s
X18A Snowflake 20.56 332 IAmb IAmb 10 31 49.6
comp=Z,69nm,1.0s
KAN12 Harper NE Stat 20.58 1 IAmb IAmb 10 31 33.6
comp=Z,52nm,0.6s
W18A Petrified Fore 20.96 333 P P 10 31 38.6 -0.3
baz=148
255A Hazlehurst 21.05 41 P P 10 31 38.7 -0.9
baz=227
T25A Trinidad 21.07 347 IAmb IAmb 10 31 45.3
comp=Z,77nm,0.9s
T25A Trinidad 21.07 347 P P 10 31 38.8 -1.3
baz=164,SNR=34
154A Montrose 21.14 38 IAmb IAmb 10 31 49.8
comp=Z,63nm,0.8s
154A Montrose 21.14 38 P P 10 31 40.9 +0.4
baz=225
PBMO Poplar Bluff 21.29 18 P P 10 31 40.8 -1.3
baz=202,SNR=7.0
S39A Bolivar 21.46 11 IAmb IAmb 10 31 47.1
comp=Z,38nm,0.9s
S39A Bolivar 21.46 11 P P 10 31 42.0 -2.0
baz=193,SNR=16
Y52A Lilburn 21.51 34 P P 10 31 42.9 -1.7
baz=220,SNR=8.6
Y52A P P 10 31 42.9 -1.7
baz=220,SNR=8.6
WVT Waverly 21.60 24 IAmb IAmb 10 31 47.1
comp=Z,48nm,1.1s
WVT Waverly 21.60 24 P P 10 31 42.9 -2.5
baz=209,SNR=22
WVT Waverly 21.60 24 P P 10 31 42.3 -3.2
baz=209
WVT Waverly 21.60 24 P P 10 31 43.0 -2.5
X51A Calhoun 21.64 32 IAmb IAmb 10 32 02.9
comp=Z,56nm,1.1s
X51A Calhoun 21.64 32 P P 10 31 45.0 -0.9
baz=218
X51A P P 10 31 45.0 -0.9
baz=218
SWET Sewanee 21.64 29 IAmb IAmb 10 32 00.9
comp=Z,36nm,0.8s
V48A Smith Brothers 21.68 26 P P 10 31 44.2 -2.2
baz=212,SNR=8.7
R32A Long Quarter, 21.70 360 IAmb IAmb 10 31 58.4
comp=Z,46nm,0.8s
R32A Long Quarter, 21.70 360 P P 10 31 45.0 -1.6
baz=179,SNR=18
SDCO Great Sand Dun 21.91 345 P P 10 31 48.8 -0.3
baz=161,SNR=39
SDCO Great Sand Dun 21.91 345 P P 10 31 48.8 -0.3
baz=161,SNR=39
W50A Signal Mountai 21.92 30 IAmb IAmb 10 31 56.3
comp=Z,81nm,1.0s
W50A Signal Mountai 21.92 30 P P 10 31 47.0 -2.0
baz=216,SNR=11
GLA Glamis 22.00 321 IAmb IAmb 10 32 04.7
comp=Z,34nm,0.8s
GLA Glamis 22.00 321 P P 10 31 51.2 +1.3
baz=134,SNR=11
CGM3 Cape Girardeau 22.01 19 IAmb IAmb 10 32 05.1
comp=Z,56nm,1.1s
WUAZ Wupatki 22.03 331 P P 10 31 51.3 +1.1
baz=145,SNR=27
T45B Paducah 22.09 21 P P 10 31 49.2 -1.5
baz=206
CBKS Cedar Bluff 22.11 357 P P 10 31 51.5 +0.4
baz=176,SNR=7.8
CBKS Cedar Bluff 22.11 357 P P 10 31 50.9 -0.2
baz=176,SNR=7.8
R40A Maddies Statio 22.25 13 P P 10 31 50.0 -2.4
baz=196,SNR=52
CCM Cathedral Cave 22.27 15 P P 10 31 50.2 -2.4
CCM Cathedral Cave 22.27 15 P P 10 31 50.1 -2.5
baz=198,SNR=42
CCM Cathedral Cave 22.27 15 P P 10 31 50.2 -2.4
baz=198
CCM Cathedral Cave 22.27 15 P P 10 31 50.2 -2.4
CCM pmax pmax
comp=Z,87nm,1.1s
S22A 4UR Ranch, Cre 22.27 342 P P 10 31 52.9 -0.1
baz=158
MVCO Mesa Verde 22.31 339 IAmb IAmb 10 32 09.7
comp=Z,63nm,1.0s
MVCO Mesa Verde 22.31 339 P P 10 31 53.0 -0.4
baz=154,SNR=32
BLYC Blythe 22.32 323 IAmb IAmb 10 32 09.5
comp=Z,61nm,1.2s
FVM French Village 22.42 17 IAmb IAmb 10 31 57.4
comp=Z,47nm,0.8s
FVM French Village 22.42 17 P P 10 31 51.3 -2.9
baz=200,SNR=18
KSU1 Kansas State U 22.44 4 IAmb IAmb 10 31 59.6
comp=Z,41nm,0.9s
KSU1 Kansas State U 22.44 4 P P 10 31 53.0 -1.5
baz=184,SNR=8.3
KSU1 Kansas State U 22.44 4 P P 10 31 51.8 -2.7
baz=184,SNR=8.3
S44A Carbondale 22.50 19 P P 10 31 53.0 -2.1
baz=204,SNR=27
CPCT Cooper Cave 22.50 31 IAmb IAmb 10 32 02.7
comp=Z,44nm,0.9s
W52A Murphy 22.52 33 IAmb IAmb 10 32 07.4
comp=Z,55nm,0.8s
W52A Murphy 22.52 33 P P 10 31 53.9 -1.6
baz=219,SNR=16
SWSC Sam W. Stewart 22.53 319 P P 10 31 56.8 +1.3
baz=132
IKP In-Ko-Pah, Jac 22.53 318 P P 10 31 57.1 +1.5
baz=130
HAW Hawthorne Fire 22.56 39 P P 10 31 53.4 -2.4
baz=226,SNR=5.6
KSCO Kaye Shedlock' 22.58 352 P P 10 31 55.3 -0.8
baz=169,SNR=11
KSCO Kaye Shedlock' 22.58 352 P P 10 31 55.3 -0.8
baz=169,SNR=11
T47A Sharon Grove 22.64 24 IAmb IAmb 10 32 07.2
comp=Z,55nm,1.0s
T47A Sharon Grove 22.64 24 P P 10 31 56.5 -0.1
baz=209,SNR=16
U49A Red Boiling Sp 22.78 27 P P 10 31 57.7 -0.5
baz=213,SNR=6.2
HODGE Hodges 22.79 37 IAmb IAmb 10 32 09.6
comp=Z,27nm,0.8s
HODGE Hodges 22.79 37 P P 10 31 56.3 -1.9
baz=224,SNR=7.5
BC3 Big Chuckawall 22.80 321 P P 10 32 00.1 +1.6
baz=133,SNR=6.3
TKX Tecate 22.80 317 IAmb IAmb 10 32 13.6
comp=Z,56nm,1.3s
V51A Loudon 22.87 31 P P 10 31 58.5 -0.5
baz=217,SNR=9.3
MONP2 Monument Peak 22.89 318 P P 10 32 01.2 +1.7
baz=130
W13A Hualapai Mount 22.95 326 IAmb IAmb 10 32 16.9
comp=Z,98nm,2.0s
IRM Iron Mountain 22.97 323 P P 10 32 01.8 +1.6
baz=135,SNR=18
CASEE Lake Jocassee 22.97 34 P P 10 31 58.6 -1.6
baz=221
Q24A Divide 22.99 347 P P 10 32 01.3 +0.7
baz=163,SNR=7.6
TKL Tuckaleechee C 23.04 32 P P 10 31 59.7 -1.2
comp=Z,12nm,0.9s,baz=194,slow=12,SNR=9.9
comp=Z,12nm,0.9s
TKL Tuckaleechee C 23.04 32 IAmb IAmb 10 32 16.9
comp=Z,40nm,1.1s
TKL Tuckaleechee C 23.04 32 P P 10 32 00.1 -0.8
baz=218,SNR=6.6
NEE2 Needles Airpor 23.11 324 P P 10 32 03.0 +1.4
baz=137
V52A Sevierville 23.27 32 IAmb IAmb 10 32 15.7
comp=Z,56nm,1.6s
V52A Sevierville 23.27 32 P P 10 32 02.5 -0.7
baz=218
PV13 Radium Mtn., P 23.28 339 IAmb IAmb 10 32 05.1
comp=Z,31nm,0.8s
NHSC New Hope 23.28 42 P P 10 32 03.3 0.0
baz=230,SNR=6.3
NHSC New Hope 23.28 42 P P 10 32 03.3 0.0
baz=230,SNR=6.3
USIN University of 23.28 22 IAmb IAmb 10 32 03.8
comp=Z,55nm,0.9s
P38A Dawn 23.30 10 IAmb IAmb 10 32 15.2
comp=Z,32nm,0.8s
P38A Dawn 23.30 10 P P 10 32 02.0 -1.4
baz=192,SNR=11
109C Camp Elliot, M 23.33 317 P P 10 32 04.7 +1.0
baz=129
PV15 Paradox Valley 23.33 340 IAmb IAmb 10 32 28.1
comp=Z,31nm,0.8s
PMD Palm Desert 23.36 320 IAmb IAmb 10 32 19.5
comp=Z,31nm,1.1s
BELC Belle Mtn. Jos 23.37 321 P P 10 32 05.3 +1.0
baz=133
TPFO Pinon Flats 23.38 320 P P 10 32 06.3 +1.8
baz=131
PFO Pinyon Flats O 23.39 320 P P 10 32 05.2 +0.8
comp=Z,4.5nm,0.8s,baz=149,slow=8.1,SNR=6.2
PFO LR LR 10 41 17.7
comp=Z,829nm,19.4s,baz=140,slow=37
comp=Z,4.5nm,0.8s
PFO Pinyon Flats O 23.39 320 P P 10 32 06.2 +1.7
baz=131
PFO Pinyon Flats O 23.39 320⇓ eP P 10 32 06.0 +1.5
PFO pmax pmax
comp=Z,23nm,1.2s
JSC Jenkinsville 23.41 38 IAmb IAmb 10 32 12.1
comp=Z,54nm,1.5s
JSC Jenkinsville 23.41 38 P P 10 32 02.5 -2.0
baz=226
PV11 David Mesa, Pa 23.42 339 IAmb IAmb 10 32 19.8
comp=Z,94nm,1.6s
PAULI Pauline 23.47 36 IAmb IAmb 10 32 13.5
comp=Z,33nm,1.1s
PAULI Pauline 23.47 36 P P 10 32 03.3 -1.8
baz=224
PV07 Paradox Valley 23.47 340 IAmb IAmb 10 32 19.8
comp=Z,106nm,1.7s
P40A Paris 23.49 13 P P 10 32 04.0 -1.2
baz=195,SNR=20
PV10 Paradox Valley 23.55 339 IAmb IAmb 10 32 19.2
comp=Z,78nm,1.5s
V53A Saluda 23.55 33 IAmb IAmb 10 32 20.0
comp=Z,47nm,0.9s
V53A Saluda 23.55 33 P P 10 32 04.6 -1.3
baz=220,SNR=7.7
V53A P P 10 32 04.6 -1.3
baz=220,SNR=7.7
PV23 Carpenter Ridg 23.61 339 IAmb IAmb 10 32 20.6
comp=Z,84nm,1.5s
T50A Nancy 23.62 28 IAmb IAmb 10 32 19.9
comp=Z,37nm,1.1s
T50A Nancy 23.62 28 P P 10 32 03.0 -3.6
baz=214
T50A P P 10 32 03.0 -3.6
baz=214
Q44A Meyer Farm, Va 23.68 19 P P 10 32 04.9 -2.2
baz=203,SNR=12
GMRC Granite Mounta 23.71 323 P P 10 32 09.5 +1.8
baz=135,SNR=12
Y57A Sumter 23.75 40 IAmb IAmb 10 32 16.1
comp=Z,26nm,0.8s
Y57A Sumter 23.75 40 P P 10 32 05.8 -2.0
baz=228
Y57A P P 10 32 05.8 -2.0
baz=228
DBBC Dabeiba 23.80 111 eP P 10 32 09.5 +1.0
OLIL Olney 23.82 20 IAmb IAmb 10 32 16.3
comp=Z,40nm,0.9s
OLIL Olney 23.82 20 P P 10 32 06.7 -1.8
baz=205,SNR=6.8
MURC Murrieta 23.84 319 P P 10 32 09.6 +0.8
baz=130
TZTN Tazewell 23.85 31 IAmb IAmb 10 32 22.3
comp=Z,44nm,1.0s
TZTN Tazewell 23.85 31 P P 10 32 08.4 -0.4
baz=218
TZTN Tazewell 23.85 31 P P 10 32 09.0 +0.2
baz=218
ISCO Idaho Springs 23.89 346 IAmb IAmb 10 32 11.5
comp=Z,28nm,0.8s
ISCO Idaho Springs 23.89 346 P P 10 32 09.8 +0.3
baz=163,SNR=52
ISCO Idaho Springs 23.89 346 P P 10 32 09.1 -0.4
baz=163,SNR=52
ISCO Idaho Springs 23.89 346 P P 10 32 08.3 -1.2
KNB Kanab 23.93 331 IAmb IAmb 10 32 25.5
comp=Z,65nm,1.0s
KMSC Kings Mountain 23.97 37 IAmb IAmb 10 32 23.3
comp=Z,27nm,0.8s
KMSC Kings Mountain 23.97 37 P P 10 32 09.7 -0.3
baz=224,SNR=8.3
KMSC Kings Mountain 23.97 37 P P 10 32 08.4 -1.6
baz=224,SNR=8.3
N33B J Bar K, Exete 24.03 2 P P 10 32 10.2 -0.2
baz=182,SNR=5.9
WCI Wyandotte Cave 24.03 24 IAmb IAmb 10 32 33.8
comp=Z,42nm,0.8s
WCI Wyandotte Cave 24.03 24 P P 10 32 09.0 -1.4
baz=210,SNR=12
WCI Wyandotte Cave 24.03 24 P P 10 32 08.6 -1.9
baz=210
WCI Wyandotte Cave 24.03 24 P P 10 32 08.3 -2.1
UREC San Jos de Ur 24.10 109 eP P 10 32 10.5 -0.9
Y58A Scranton 24.13 41 P P 10 32 10.9 -0.5
baz=229
Y58A P P 10 32 10.9 -0.5
baz=229
BIRD Birdtown, Kers 24.13 39 P P 10 32 10.1 -1.3
baz=226
HEC Hector,Ludlow 24.14 322 P P 10 32 12.8 +1.2
baz=134,SNR=6.1
P43A Skaggs, Pawnee 24.21 17 IAmb IAmb 10 32 31.6
comp=Z,56nm,0.9s
P43A Skaggs, Pawnee 24.21 17 P P 10 32 10.3 -1.8
baz=201,SNR=5.1
N35A Tabor 24.26 5 P P 10 32 11.8 -0.7
baz=186,SNR=5.8
TUQ Turquoise Moun 24.33 324 P P 10 32 14.4 +1.0
baz=135,SNR=8.0
OGNE Ogallala 24.41 354 P P 10 32 13.8 -0.2
baz=171,SNR=12
OGNE Ogallala 24.41 354 P P 10 32 13.4 -0.7
baz=171,SNR=12
N38A Joes South For 24.49 10 P P 10 32 13.7 -1.0
baz=192,SNR=14
SZCU Shurtz Canyon 24.52 331 IAmb IAmb 10 32 31.5
comp=Z,97nm,1.7s
R49A Shelbyville 24.54 26 P P 10 32 13.5 -1.6
baz=212
R49A P P 10 32 13.5 -1.6
baz=212
BFSC Mount Baldy Ra 24.55 319 P P 10 32 16.0 +0.6
baz=130
V55A Taylorsville 24.55 36 IAmb IAmb 10 32 28.2
comp=Z,32nm,0.9s
V55A Taylorsville 24.55 36 P P 10 32 15.1 -0.2
baz=223,SNR=5.6
V55A P P 10 32 15.1 -0.2
baz=223,SNR=5.6
BGNE Belgrade 24.68 1 IAmb IAmb 10 32 26.3
comp=Z,52nm,1.0s
BGNE Belgrade 24.68 1 P P 10 32 16.0 -0.4
baz=180
BGNE Belgrade 24.68 1 P P 10 32 15.1 -1.3
baz=180
S51A Beattyville 24.70 29 P P 10 32 15.2 -1.4
baz=216,SNR=6.7
S51A P P 10 32 15.2 -1.4
baz=216,SNR=6.7
U54A Nelsons Funny 24.72 34 P P 10 32 16.7 -0.1
baz=221,SNR=15
U54A P P 10 32 16.7 -0.1
baz=221,SNR=15
SRU San Rafael Swe 24.73 337 IAmb IAmb 10 32 19.5
comp=Z,30nm,0.8s
GSC Goldstone, Bar 24.74 322 IAmb IAmb 10 32 32.9
comp=Z,91nm,1.9s
GSC Goldstone, Bar 24.74 322 P P 10 32 17.5 +0.4
baz=134,SNR=5.4
X58A Rowland 24.76 40 IAmb IAmb 10 32 29.9
comp=Z,26nm,0.8s
X58A Rowland 24.76 40 P P 10 32 16.5 -0.6
baz=229
X58A P P 10 32 16.5 -0.6
baz=229
W57A Gilead 24.76 38 IAmb IAmb 10 32 29.3
comp=Z,26nm,0.8s
W57A Gilead 24.76 38 P P 10 32 16.5 -0.7
baz=226
W57A P P 10 32 16.5 -0.7
baz=226
BLO Bloomington 24.77 23 IAmb IAmb 10 32 35.2
comp=Z,31nm,0.8s
Q16A Castle Valley 24.81 336 IAmb IAmb 10 32 20.4
comp=Z,38nm,0.8s
ZARC Zaragoza, Cauc 24.82 109 eP P 10 32 21.1 +3.2
SHOC Shoshone, Teco 24.86 324 P P 10 32 19.4 +1.3
baz=136
N41A Harden Midland 24.88 14 P P 10 32 16.6 -1.5
baz=197
O20A White River Ci 24.89 342 IAmb IAmb 10 32 35.6
comp=Z,34nm,1.0s
O20A White River Ci 24.89 342 P P 10 32 19.0 +0.5
baz=157,SNR=24
R50A Paris 24.89 27 IAmb IAmb 10 32 35.7
comp=Z,50nm,1.6s
R50A Paris 24.89 27 P P 10 32 16.8 -1.5
baz=214
R50A P P 10 32 16.8 -1.5
baz=214
P46A Rosedale 24.92 21 IAmb IAmb 10 32 41.1
comp=Z,31nm,0.9s
P46A Rosedale 24.92 21 P P 10 32 17.2 -1.3
baz=206
DECC Green Verdugo 24.98 318 P P 10 32 20.6 +1.4
baz=129
O44A Mansfield 25.00 18 P P 10 32 18.0 -1.2
baz=203
N23A Red Feather La 25.01 347 IAmb IAmb 10 32 33.7
comp=Z,25nm,1.1s
N23A Red Feather La 25.01 347 P P 10 32 19.9 +0.2
baz=163,SNR=14
HDIL Hopedale 25.13 17 IAmb IAmb 10 32 33.5
comp=Z,48nm,0.9s
HDIL Hopedale 25.13 17 P P 10 32 20.5 +0.1
baz=201,SNR=8.0
HDIL Hopedale 25.13 17 P P 10 32 20.5 +0.1
baz=201,SNR=8.0
TMUT Trail Mountain 25.15 336 IAmb IAmb 10 32 36.5
comp=Z,61nm,1.4s
EDW2 Edwards Air Fo 25.18 320 P P 10 32 22.5 +1.5
baz=131
L34A Svendsen Farm, 25.30 4 P P 10 32 20.8 -1.2
baz=184
PRN Pahroc Range 25.32 328 IAmb IAmb 10 32 39.3
comp=Z,54nm,1.2s
GUY2C Guyana, Caldas 25.36 114 eP P 10 32 23.0 -0.3
CCAC Calif City Air 25.37 320 IAmb IAmb 10 32 38.8
comp=Z,40nm,1.1s

P48A	Milroy	25.44	24	IAmb	IAmb	10 32 48.5			
	comp=Z,84nm,1.7s								
P48A	Milroy	25.44	24	P	P	**10 32 19.9**	**-3.3**		
	baz=210								
P48A				P	P	**10 32 19.9**	**-3.3**		
	baz=210								
PTBC	PUERTO BERRIO,	25.57	110	*e*P	P	**10 32 25.9**	**+1.1**		
SCIA	State Center	25.59	9	P	P	**10 32 23.1**	**-1.4**		
	baz=192,SNR=12								
SCIA	State Center	25.59	9	P	P	**10 32 22.7**	**-1.8**		
	baz=192,SNR=12								
FURC	Furnace Creek,	25.60	324	P	P	**10 32 25.8**	**+1.2**		
	baz=135								
TPNV	Topopah Spring	25.61	326	IAmb	IAmb	10 32 42.0			
	comp=Z,36nm,0.9s								
TPNV	Topopah Spring	25.61	326	P	P	**10 32 26.9**	**+1.9**		
	baz=137								
TPNV	Topopah Spring	25.61	326	P	P	**10 32 28.8**	**+3.8**		
SFIN	Lafayette	25.64	20	P	P	**10 32 24.1**	**-0.9**		
	baz=206								
SFIN	Lafayette	25.64	20	P	P	**10 32 23.3**	**-1.7**		
	baz=206								
CMBC	Cumbal	25.66	125	*e*P	P	**10 32 29.7**	**+3.8**		
MPMC	Manual Prospec	25.67	323	P	P	**10 32 26.9**	**+1.3**		
	baz=134,SNR=12								
WCT	Wildcat Mounta	25.70	325	IAmb	IAmb	10 32 42.6			
	comp=Z,39nm,1.0s								
V58A	Windy Hill, Pi	25.72	38	P	P	**10 32 25.2**	**-0.7**		
	baz=227								
V58A				P	P	**10 32 25.2**	**-0.7**		
	baz=227								
P49A	Miami Univ. Ec	25.78	25	P	P	**10 32 24.5**	**-1.8**		
	baz=212,SNR=16								
P49A	Miami Univ. Ec	25.78	25	P	P	**10 32 24.1**	**-2.2**		
	baz=212,SNR=16								
ARVC	Arvin	25.86	319	P	P	**10 32 27.6**	**+0.5**		
	baz=130								
K31A	O'Neill	25.89	360	P	P	**10 32 28.6**	**+1.2**		
	baz=179,SNR=5.1								
Q51A	Peebles	25.94	28	P	P	**10 32 26.3**	**-1.5**		
	baz=215,SNR=15								
Q51A				P	P	**10 32 26.3**	**-1.5**		
	baz=215,SNR=15								
S54A	Dingess, Beckl	25.95	32	IAmb	IAmb	10 32 48.2			
	comp=Z,29nm,0.8s								
S54A	Dingess, Beckl	25.95	32	P	P	**10 32 26.4**	**-1.5**		
	baz=220								
S54A				P	P	**10 32 26.4**	**-1.5**		
	baz=220								
BLA	Blacksburg	25.98	34	IAmb	IAmb	10 32 47.9			
	comp=Z,27nm,0.8s								
BLA	Blacksburg	25.98	34	P	P	**10 32 27.4**	**-0.9**		
	baz=223								
BLA	Blacksburg	25.98	34	P	P	**10 32 26.1**	**-2.1**		
	baz=223								
ISA	Isabella, Lake	25.99	321	IAmb	IAmb	10 32 45.4			
	comp=Z,28nm,1.1s								
ISA	Isabella, Lake	25.99	321	P	P	**10 32 30.1**	**+1.7**		
	baz=131								
R53A	Hurricane	26.04	31	P	P	**10 32 27.9**	**-0.8**		
	baz=218,SNR=14								
R53A				P	P	**10 32 27.9**	**-0.8**		
	baz=218,SNR=14								
NLU	North Lily Min	26.06	336	IAmb	IAmb	10 32 43.7			
	comp=Z,26nm,0.9s								
RWWY	Rawlins	26.06	345	IAmb	IAmb	10 32 47.4			
	comp=Z,44nm,1.1s								
L40A	Anamosa	26.09	12	P	P	**10 32 27.5**	**-1.7**		
	baz=196,SNR=12								
ORTC	Ortega, Tolima	26.10	116	*e*P	P	**10 32 32.6**	**+3.0**		
CNNC	Cliffs of the	26.11	41	IAmb	IAmb	10 32 47.7			
	comp=Z,35nm,0.9s								
SPR3	Spring Creek 3	26.23	331	IAmb	IAmb	10 32 44.9			
	comp=Z,25nm,1.1s								
O48B	Farmland	26.23	24	P	P	**10 32 28.6**	**-1.8**		
	baz=210,SNR=15								
O48B	Farmland	26.23	24	P	P	**10 32 27.8**	**-2.6**		
	baz=210,SNR=15								
CWC	Cottonwood Cre	26.28	322	P	P	**10 32 32.1**	**+1.0**		
	baz=133								
R11A	Troy Canyon, C	26.32	329	P	P	**10 32 33.5**	**+2.1**		
	baz=140,SNR=11								
PKM	Mcpherson Peak	26.33	318	P	P	**10 32 34.8**	**+3.1**		
	baz=128								
K38A	Parkersburg	26.38	10	P	P	**10 32 29.9**	**-1.8**		
	baz=192,SNR=7.1								
Q52A	Bidwell	26.39	29	P	P	**10 32 30.7**	**-1.1**		
	baz=217,SNR=13								
Q52A				P	P	**10 32 30.7**	**-1.1**		
	baz=217,SNR=13								
L42A	Oliver, Polo	26.39	15	P	P	**10 32 30.4**	**-1.4**		
	baz=199,SNR=9.4								
P51A	Williamsport	26.44	28	IAmb	IAmb	10 32 31.6			
	comp=Z,39nm,0.8s								
P51A	Williamsport	26.44	28	P	P	**10 32 31.1**	**-1.3**		
	baz=215,SNR=7.2								
P51A				P	P	**10 32 31.1**	**-1.3**		
	baz=215,SNR=7.2								
ROSC	El Rosal	26.45	114	P	P	**10 32 34.7**	**+1.6**		
	comp=Z,6.9nm,0.4s,baz=299,slow=23,SNR=4.7								
	comp=Z,6.9nm,0.4s								
T57A	Hurt	26.47	36	IAmb	IAmb	10 32 47.6			
	comp=Z,33nm,0.8s								
T57A	Hurt	26.47	36	P	P	**10 32 32.0**	**-0.6**		
	baz=225								
T57A				P	P	**10 32 32.0**	**-0.6**		
	baz=225								
VES	Vestal, Richgr	26.48	320	P	P	**10 32 33.9**	**+1.2**		
	baz=130,SNR=7.8								
O49A	Covington	26.49	25	IAmb	IAmb	10 32 42.8			
	comp=Z,36nm,0.8s								
O49A	Covington	26.49	25	P	P	**10 32 31.2**	**-1.6**		
	baz=212,SNR=6.5								
O49A				P	P	**10 32 31.2**	**-1.6**		
	baz=212,SNR=6.5								
PORT	Chimborazo Vol	26.51	131	IAmb	IAmb	10 32 37.4			
	comp=Z,44nm,1.3s								
DUG	Dugway, Tooele	26.56	335	IAmb	IAmb	10 32 48.3			
	comp=Z,24nm,0.8s								
DUG	Dugway, Tooele	26.56	335	P	P	**10 32 34.6**	**+1.0**		
	baz=148,SNR=36								
DUG	Dugway, Tooele	26.56	335	P	P	**10 32 34.7**	**+1.1**		
PIAT	Ana Tenorio	26.57	129	*e*P	P	**10 32 36.4**	**+2.3**		
N47A	Urbana	26.57	22	P	P	**10 32 31.8**	**-1.7**		
	baz=208,SNR=6.9								
N47A				P	P	**10 32 31.8**	**-1.7**		
	baz=208,SNR=6.9								
BARC	Barichara	26.70	109	*e*P	P	**10 32 37.4**	**+2.2**		
SMMC	Simmler	26.71	318	P	P	**10 32 35.9**	**+1.0**		
	baz=128								
K22A	Casper	26.81	347	IAmb	IAmb	10 32 49.7			
	comp=Z,45nm,1.1s								
K22A	Casper	26.81	347	P	P	**10 32 36.3**	**+0.4**		
	baz=162,SNR=18								
K22A	Casper	26.81	347	P	P	**10 32 35.5**	**-0.3**		
	baz=162,SNR=18								
PAMC	Pamplona, Colo	26.85	107	*e*P	P	**10 32 38.4**	**+1.6**		
U59A	Littleton	26.89	39	P	P	**10 32 38.1**	**+1.7**		
	baz=228								
U59A				P	P	**10 32 38.1**	**+1.7**		
	baz=228								
R55A	Marlinton	26.93	33	IAmb	IAmb	10 33 03.1			
	comp=Z,29nm,0.8s								
R55A	Marlinton	26.93	33	P	P	**10 32 36.0**	**-0.9**		
	baz=222								
R55A				P	P	**10 32 36.0**	**-0.9**		
	baz=222								
P52A	Corning	26.98	29	IAmb	IAmb	10 32 47.0			
	comp=Z,31nm,1.1s								
P52A	Corning	26.98	29	P	P	**10 32 35.3**	**-1.9**		
	baz=216								
ECSD	EROS Data Cent	27.05	3	IAmb	IAmb	10 32 53.5			
	comp=Z,38nm,1.0s								
ECSD	EROS Data Cent	27.05	3	P	P	**10 32 36.0**	**-1.8**		
	baz=184,SNR=6.5								
ECSD	EROS Data Cent	27.05	3	P	P	**10 32 36.0**	**-1.8**		
	baz=184,SNR=6.5								
RUSC	La Rusia	27.08	110	*e*P	P	**10 32 40.3**	**+1.4**		
ACSO	Alum Creek Sta	27.09	27	IAmb	IAmb	10 32 51.1			
	comp=Z,30nm,0.8s								
ACSO	Alum Creek Sta	27.09	27	P	P	**10 32 36.7**	**-1.4**		
	baz=214								
ACSO	Alum Creek Sta	27.09	27	P	P	**10 32 35.8**	**-2.3**		
	baz=214								
Q54A	Coxs Mills	27.09	31	IAmb	IAmb	10 32 53.2			
	comp=Z,27nm,0.8s								
Q54A	Coxs Mills	27.09	31	P	P	**10 32 37.4**	**-0.9**		
	baz=220								
Q54A				P	P	**10 32 37.4**	**-0.9**		
	baz=220								
JFWS	Jewell Farm	27.12	13	IAmb	IAmb	10 32 50.3			
	comp=Z,37nm,0.8s								
JFWS	Jewell Farm	27.12	13	P	P	**10 32 37.0**	**-1.4**		
	baz=197								
JFWS	Jewell Farm	27.12	13	P	P	**10 32 36.2**	**-2.1**		
	baz=197								
JFWS	Jewell Farm	27.12	13	P	P	**10 32 36.8**	**-1.6**		
S57A	Dark Hollow, R	27.18	35	P	P	**10 32 38.5**	**-0.5**		
	baz=224,SNR=6.4								
S57A				P	P	**10 32 38.5**	**-0.5**		
	baz=224,SNR=6.4								
P53A	Whipple	27.21	30	IAmb	IAmb	10 32 58.0			
	comp=Z,30nm,0.9s								
P53A	Whipple	27.21	30	P	P	**10 32 37.4**	**-1.9**		
	baz=218								
P53A				P	P	**10 32 37.4**	**-1.9**		
	baz=218								
T59A	Double "B" Far	27.44	38	P	P	**10 32 39.9**	**-1.4**		
	baz=228								
T59A				P	P	**10 32 39.9**	**-1.4**		
	baz=228								
O52A	Adamsville	27.51	28	IAmb	IAmb	10 32 54.1			
	comp=Z,31nm,0.9s								
O52A	Adamsville	27.51	28	P	P	**10 32 40.2**	**-1.7**		
	baz=216								
O52A				P	P	**10 32 40.2**	**-1.7**		
	baz=216								
I37A	Lemond, Waseca	27.62	8	IAmb	IAmb	10 32 50.7			
	comp=Z,39nm,1.1s								
I37B	Waseca	27.62	8	P	P	**10 32 40.6**	**-2.3**		
	baz=190,SNR=5.6								
BW06	Boulder Array	27.70	342	IAmb	IAmb	10 32 58.5			
	comp=Z,25nm,1.0s								
BW06	Boulder Array	27.70	342	P	P	**10 32 43.9**	**0.0**		
	baz=156,SNR=17								
PD31	Pinedale Array	27.70	342	IAmb	IAmb	10 32 58.5			
	comp=Z,22nm,1.0s								
PDAR	Pinedale Array	27.70	342	P	P	**10 32 43.8**	**-0.1**		
	comp=Z,5.2nm,0.6s,baz=138,slow=11,SNR=69								
PDAR				LR	LR	10 44 16.6			
	comp=Z,383nm,20.9s,baz=170,slow=38								
	comp=Z,5.2nm,0.6s								
NV11	Mina Array St	27.72	325	IAmb	IAmb	10 33 00.5			
	comp=Z,25nm,1.1s								
LHV	Little Huntoon	27.78	325	IAmb	IAmb	10 33 04.5			
	comp=Z,73nm,1.8s								
RSSD	Black Hills	27.79	351	P	P	**10 32 44.6**	**-0.1**		
	baz=168,SNR=5.6								
RSSD	Black Hills	27.79	351	P	P	**10 32 44.3**	**-0.3**		
	baz=168								
RSSD	Black Hills	27.79	351	P	P	**10 32 44.7**	**0.0**		
NVAR	Mina Array Bea	27.80	325	P	P	**10 32 46.3**	**+1.5**		
	comp=Z,15nm,1.1s,baz=146,slow=9.2,SNR=41								
	comp=Z,15nm,1.1s								
HVU	Hansel Valley	27.90	337	IAmb	IAmb	10 33 00.0			
	comp=Z,26nm,0.8s								
L48A	N Adams	27.96	23	IAmb	IAmb	10 33 01.8			
	comp=Z,29nm,0.7s								
I40A	Norwalk	27.97	12	IAmb	IAmb	10 32 58.6			
	comp=Z,17nm,0.8s								
ELK	Elko	28.05	332	P	P	**10 32 48.5**	**+1.4**		
	comp=Z,6.5nm,0.8s,baz=133,slow=6.8,SNR=11								
ELK				LR	LR	10 43 48.2			
	comp=Z,914nm,19.0s,baz=158,slow=36								
	comp=Z,6.5nm,0.8s								
MCWV	Mont Chateau	28.10	32	IAmb	IAmb	10 32 57.5			
	comp=Z,17nm,0.7s								
MCWV	Mont Chateau	28.10	32	P	P	**10 32 46.2**	**-1.1**		
	baz=220								
SDV	Santo Domingo	28.22	102	P	P	**10 32 49.4**	**+0.6**		
	comp=Z,12nm,0.8s,baz=264,slow=4.0,SNR=11								
SDV				LR	LR	10 45 13.1			
	comp=Z,493nm,19.8s,baz=281,slow=39								
	comp=Z,12nm,0.8s								
N53A	Lisbon	28.52	29	IAmb	IAmb	10 33 03.2			
	comp=Z,23nm,0.8s								
SPMN	Marine on St.	28.89	8	IAmb	IAmb	10 33 06.5			
	comp=Z,25nm,0.8s								
SPMN	Marine on St.	28.89	8	P	P	**10 32 52.5**	**-1.7**		
	baz=191,SNR=9.3								
SPMN	Marine on St.	28.89	8	P	P	**10 32 51.7**	**-2.5**		
	baz=191,SNR=9.3								
P57A	Homestead Farm	28.93	34	IAmb	IAmb	10 33 34.4			
	comp=Z,71nm,1.9s								
M53A	WI Miller and	29.09	28	P	P	**10 32 53.4**	**-2.7**		
	baz=217								
G40A	Rib Lake	29.38	12	IAmb	IAmb	10 33 06.7			
	comp=Z,28nm,1.1s								
F36A	Milaca	29.43	7	P	P	**10 32 56.5**	**-2.4**		
	baz=190,SNR=6.6								
H17A	Grant Village	29.49	342	IAmb	IAmb	10 33 15.4			
	comp=Z,40nm,2.0s								
LKWY	Lake	29.59	343	IAmb	IAmb	10 33 15.9			
	comp=Z,25nm,1.4s								
LKWY	Lake	29.59	343	P	P	**10 33 02.1**	**+1.4**		
PSDB	Penn State Uni	29.76	31	P	P	**10 33 03.4**	**+1.4**		
	baz=221								
RLMT	Red Lodge	29.80	345	P	P	**10 33 03.1**	**+0.5**		
	baz=159,SNR=21								
SSPA	Standing Stone	29.83	33	P	P	**10 33 02.3**	**-0.3**		
	baz=223								
SSPA	Standing Stone	29.83	33	P	P	**10 33 02.0**	**-0.6**		
	baz=223								
YMR	Madison River	29.85	342	IAmb	IAmb	10 33 17.7			
	comp=Z,20nm,1.1s								
E28A	Huff	29.90	357	P	P	**10 33 03.0**	**-0.2**		
	baz=176								
ERPA	Erie	29.94	28	P	P	**10 33 01.8**	**-1.8**		
	baz=217								
ERPA	Erie	29.94	28	P	P	**10 33 01.6**	**-2.0**		
	baz=217								
M55A	Ridgway	30.02	30	P	P	**10 33 02.5**	**-1.8**		
	baz=220								
M55A				P	P	**10 33 02.5**	**-1.8**		
	baz=220								
HLID	Hailey	30.05	337	P	P	**10 33 05.1**	**+0.4**		
	baz=148								
YHL	Hebgen Lake	30.08	342	IAmb	IAmb	10 33 20.9			
	comp=Z,13nm,0.9s								
E38A	The Farm, Brul	30.43	9	IAmb	IAmb	10 34 16.3			
	comp=Z,36nm,1.3s								
LAO	LASA Array	30.64	350	P	P	**10 33 09.7**	**-0.1**		
	baz=165								
M57A	Sunshine Farm,	30.74	32	IAmb	IAmb	10 33 28.6			
	comp=Z,13nm,0.8s								
ATAH	Atahlpa	30.88	138	P	P	**10 33 14.4**	**+1.8**		
	comp=Z,11nm,0.9s,baz=332,slow=6.7,SNR=7.3								
ATAH				LR	LR	10 43 27.4			
	comp=Z,400nm,19.2s,baz=305,slow=32								
	comp=Z,11nm,0.9s								
SJG	San Juan	30.89	82	LR	LR	10 47 04.1			
	comp=Z,222nm,21.3s,baz=270,slow=39								
BOZ	Bozeman (W)	30.89	342	P	P	**10 33 12.6**	**+0.5**		
	baz=155,SNR=7.4								
WVOR	Wild Horse Val	30.95	330	IAmb	IAmb	10 33 27.4			
	comp=Z,41nm,1.4s								
WVOR	Wild Horse Val	30.95	330	P	P	**10 33 14.0**	**+1.4**		
L56A	Greenwood	31.11	31	IAmb	IAmb	10 33 31.1			
	comp=Z,20nm,0.8s								
L56A	Greenwood	31.11	31	P	P	**10 33 15.4**	**+1.5**		
	baz=221								
L56A				P	P	**10 33 15.4**	**+1.5**		
	baz=221								
MDND	Maddock	31.13	359	P	P	**10 33 13.5**	**-0.5**		
	baz=178								
MDND	Maddock	31.13	359	P	P	**10 33 12.6**	**-1.4**		
	baz=178								
MOD	Modoc Plateau	31.37	328	IAmb	IAmb	10 33 31.1			
	comp=Z,26nm,1.2s								
D41A	Chassel	31.43	13	P	P	**10 33 15.9**	**-0.7**		
	baz=198								
PLID	Pearl Lake	31.94	336	IAmb	IAmb	10 33 35.7			
	comp=Z,24nm,1.1s								
BINY	Binghamton	31.95	33	IAmb	IAmb	10 33 31.5			
	comp=Z,18nm,0.8s								
BINY	Binghamton	31.95	33	P	P	**10 33 20.2**	**-1.1**		
	baz=224								
BINY	Binghamton	31.95	33	P	P	**10 33 20.4**	**-0.9**		
	baz=224								
DGMT	Dagmar	32.08	353	IAmb	IAmb	10 33 36.0			
	comp=Z,19nm,0.8s								
DGMT	Dagmar	32.08	353	P	P	**10 33 22.2**	**-0.2**		
	baz=169								
DGMT	Dagmar	32.08	353	P	P	**10 33 21.6**	**-0.8**		
	baz=169								
SADO	Sadowa	32.43	26	P	P	**10 33 25.4**	**-0.1**		
	comp=Z,6.6nm,0.9s,baz=220,slow=0.9,SNR=2.6								
SADO				LR	LR	10 49 32.4			
	comp=Z,166nm,19.6s,baz=245,slow=42								
	comp=Z,6.6nm,0.9s								
YBH	Yreka Blue Hor	32.52	325	LR	LR	10 45 21.4			
	comp=Z,342nm,20.7s,baz=154,slow=34								
NPNY	Mohonk Preserv	32.62	35	P	P	**10 33 28.9**	**+1.8**		
	baz=227								
EGMT	Eagleton	32.63	346	P	P	**10 33 27.4**	**+0.1**		
	baz=159,SNR=5.4								
MSO	Missoula	32.71	340	IAmb	IAmb	10 33 41.9			
	comp=Z,10nm,0.8s								
J57A	Williamstown	32.83	31	P	P	**10 33 30.4**	**+1.5**		
	baz=222								
J57A				P	P	**10 33 30.4**	**+1.5**		
	baz=222								
J58A	Remsen	33.14	32	P	P	**10 33 31.9**	**+0.2**		
	baz=224								
J58A				P	P	**10 33 31.9**	**+0.2**		
	baz=224								
F10A	Beach Ranch, E	33.16	336	IAmb	IAmb	10 33 49.1			
	comp=Z,20nm,0.8s								
WCNY	West Carthage	33.41	31	P	P	**10 33 34.2**	**+0.1**		
	baz=222								
ULM	Lac du Bonnet	33.59	3	P	P	**10 33 33.6**	**-1.9**		
	comp=Z,4.4nm,0.6s,baz=197,slow=7.7,SNR=10								
ULM				LR	LR	10 48 18.0			
	comp=Z,252nm,20.1s,baz=190,slow=38								
	comp=Z,4.4nm,0.6s								
E09A	Wood Farm, Sta	33.97	335	IAmb	IAmb	10 33 51.7			
	comp=Z,43nm,1.9s								
LONY	Lake Ozonia	34.41	31	P	P	**10 33 41.7**	**-1.0**		
	baz=223								
WALA	Waterton Lakes	34.68	342	IAmb	IAmb	10 33 58.4			
	comp=Z,39nm,1.8s								
NEW	Newport	35.04	338	LR	LR	10 49 30.8			
	comp=Z,1µm,18.2s,baz=163,slow=39								
NEW	Newport	35.04	338	P	P	**10 33 49.0**	**+0.8**		
	baz=148								
NEW	Newport	35.04	338	P	P	**10 33 48.3**	**+0.2**		
C09A	Chrisman Ranch	35.07	337	IAmb	IAmb	10 34 02.9			
	comp=Z,14nm,0.8s								
CZSB	Cruzeiro do Su	35.18	132	IAmb	IAmb	10 33 52.1			
	comp=Z,32nm,1.2s								
LTY	Liberty	35.60	334	IAmb	IAmb	10 34 07.8			
	comp=Z,29nm,1.1s								
NNA	Nana	35.61	142	LR	LR	10 45 31.8			
	comp=Z,404nm,21.6s,baz=327,slow=31								
NNA	Nana	35.61	142	*e*P	P	**10 33 55.3**	**+1.9**		
NNA				pmax	pmax				
	comp=Z,34nm,1.9s								
LON	Longmire	35.70	332	IAmb	IAmb	10 34 07.9			
	comp=Z,18nm,1.1s								
B08A	Colville Reser	35.94	336	IAmb	IAmb	10 34 09.1			
	comp=Z,40nm,1.7s								
PKME	Peaks-Kenny Pk	37.59	34	P	P	**10 34 08.9**	**-0.9**		
	baz=230								
FFC	Flin Flon	38.10	357	IAmb	IAmb	10 34 14.0			
	comp=Z,24nm,0.8s								
ETMB	Extrema	41.37	127	IAmb	IAmb	10 34 55.3			
	comp=Z,21nm,1.5s								
WAPA	Wapiti River	41.64	342	IAmb	IAmb	10 34 57.0			
	comp=Z,22nm,0.8s								
FCC	Fort Churchill	42.18	3	IAmb	IAmb	10 35 01.1			
	comp=Z,46nm,2.0s								
RPN	Rapa Nui	44.76	194	LR	LR	10 49 27.8			
	comp=Z,59nm,20.7s,baz=201,slow=30								
SCHQ	Schefferville	45.23	25	P	P	**10 35 11.1**	**-1.5**		
	comp=Z,7.8nm,0.8s,baz=224,slow=7.6,SNR=7.1								
SCHQ				LR	LR	10 57 05.5			
	comp=Z,183nm,18.3s,baz=262,slow=40								
	comp=Z,7.8nm,0.8s								
SCHQ	Schefferville	45.23	25	IAmb	IAmb	10 35 31.2			
	comp=Z,11nm,0.8s								
MNMC	Minye Minye	45.52	140	IAmb	IAmb	10 35 16.8			
	comp=Z,19nm,1.2s								
PB11	IPOC Station P	45.96	141	IAmb	IAmb	10 35 19.7			
	comp=Z,15nm,1.0s								
TA01	Diego Aracena	46.26	142	IAmb	IAmb	10 35 22.1			
	comp=Z,24nm,1.1s								
MDP	Montagnes des	46.36	99	LR	LR	10 56 15.0			
	comp=Z,144nm,20.9s,baz=307,slow=38								
T35M	Bob Quinn	46.80	337	P	P	**10 35 24.8**	**-0.1**		
	baz=136								
CRAG	Craig	46.91	334	P	P	**10 35 27.0**	**+1.4**		
	baz=132								
YKA	Yellowknife Ar	47.18	350	P	P	**10 35 26.7**	**-1.0**		
	comp=Z,5.5nm,0.8s,baz=160,slow=7.1,SNR=44								
	comp=Z,5.5nm,0.8s								
KOTAN	Kotaneelee Air	47.21	343	P	P	**10 35 29.4**	**+1.5**		
	baz=146								
WRAK	Wrangell Islan	47.23	335	P	P	**10 35 29.6**	**+1.5**		
	baz=133								
PB07	IPOC Station P	47.33	143	IAmb	IAmb	10 35 30.2			
	comp=Z,26nm,1.3s								
U33K	Whale Pass	47.34	334	P	P	**10 35 30.6**	**+1.6**		
	baz=132								
PB09	IPOC Station P	47.77	142	IAmb	IAmb	10 35 34.6			
	comp=Z,17nm,1.0s								
DLBC	Dease Lake	47.79	338	LR	LR	10 57 28.6			
	comp=Z,919nm,18.4s,baz=130,slow=38								
DLBC	Dease Lake	47.79	338	IAmb	IAmb	10 35 48.6			
	comp=Z,25nm,1.2s								
DLBC	Dease Lake	47.79	338	P	P	**10 35 34.6**	**+2.0**		
	baz=137								
TAOE	Nuku Hiva Isla	48.37	241	*e*LR	LR	10 49 28.8			
	comp=Z,147nm,23.3s								
TAOE	Nuku Hiva Isla	48.37	241	*e*T	T	11 26 45.4			
	comp=Z,26nm,0.2s								
LVC	Limon Verde	48.59	143	P	P	**10 35 39.1**	**-0.4**		
	comp=Z,2.3nm,0.7s,baz=18,slow=3.4,SNR=3.9								
LVC				LR	LR	10 52 15.9			
	comp=Z,152nm,21.1s,baz=326,slow=31								
	comp=Z,2.3nm,0.7s								
WTLY	Watson Lake, Y	48.63	340	P	P	**10 35 40.4**	**+1.4**		
	baz=140,SNR=19								
R33M	Jennings River	48.82	339	P	P	**10 35 42.1**	**+1.4**		
	baz=137,SNR=6.4								
SIV	San Ignacio	49.14	129	LR	LR	10 55 31.1			
	comp=Z,260nm,18.4s,baz=334,slow=35								
WRGLY	Wrigley	49.66	345	P	P	**10 35 47.3**	**+0.6**		
	baz=148								
P32M	Atlin	49.95	337	P	P	**10 35 50.7**	**+1.5**		
	baz=134								
P33M

RKT	**Rikitea**	**53.23 223**	*e*LR	LR	10 51 43.4	
	comp=Z,54µm,29.0s					
YUK8	**Steele Glacier**	**53.33 337**	P	**P**	**10 36 15.6**	**+1.0**
	baz=128					
MAYO	**Mayo, Yukon**	**53.48 340**	P	**P**	**10 36 16.5**	**+1.1**
	baz=133					
M29M	**Somme Creek**	**53.58 338**	P	**P**	**10 36 17.8**	**+1.5**
	baz=130					
YUK3	**Moose Creek**	**53.89 337**	P	**P**	**10 36 19.9**	**+1.2**
	baz=127					
L29M	**L29M**	**53.90 339**	P	**P**	**10 36 19.2**	**+0.7**
	baz=131					
K29M	**Barlow Dome**	**54.18 340**	P	**P**	**10 36 21.1**	**+0.5**
	baz=132					
BVCY	**Beaver Creek**	**54.43 337**	P	**P**	**10 36 23.9**	**+1.5**
	baz=127					
MCARA	**McCarthy VSAT**	**54.65 336**	P	**P**	**10 36 25.1**	**+1.1**
	baz=124					
M27K	**Edge Creek, AK**	**54.78 337**	P	**P**	**10 36 26.4**	**+1.4**
	baz=126					
DAWY	**Dawson**	**54.95 339**	P	**P**	**10 36 27.3**	**+1.1**
	baz=130					
BMRM	**Bremner River**	**55.06 335**	P	**P**	**10 36 28.7**	**+1.7**
	baz=122					
L27K	**Beaver Creek,**	**55.18 338**	IAmb	IAmb	10 36 42.9	
	comp=Z,13nm,1.1s					
L27K	**Beaver Creek,**	**55.18 338**	P	**P**	**10 36 29.1**	**+1.3**
	baz=127					
M26K	**Nabesna, AK**	**55.23 337**	P	**P**	**10 36 29.2**	**+1.0**
	baz=125					
EYAK	**Cordova Ski Ar**	**55.32 334**	P	**P**	**10 36 31.0**	**+2.3**
	baz=121					
N25K	**Chitina, Valde**	**55.41 335**	P	**P**	**10 36 31.2**	**+1.7**
	baz=123					
I29M	**Ogilvie Camp,**	**55.45 341**	P	**P**	**10 36 30.5**	**+0.8**
	baz=132					
F31M	**Tsiigehtchic**	**55.62 344**	P	**P**	**10 36 31.1**	**+0.3**
	baz=138					
EPYK	**Eagle Plains**	**55.66 342**	P	**P**	**10 36 31.2**	**0.0**
	baz=134					
L26K	**Log Cabin Wild**	**55.72 337**	IAmb	IAmb	10 36 46.8	
	comp=Z,14nm,1.1s					
L26K	**Log Cabin Wild**	**55.72 337**	P	**P**	**10 36 33.4**	**+1.7**
	baz=125					
K27K	**Chicken**	**55.85 338**	P	**P**	**10 36 32.3**	**-0.3**
	baz=127					
KLU	**Klutina**	**55.88 335**	P	**P**	**10 36 34.2**	**+1.2**
	baz=121					
EGAK	**Eagle**	**55.99 339**	IAmb	IAmb	10 36 47.5	
	comp=Z,12nm,0.8s					
EGAK	**Eagle**	**55.99 339**	P	**P**	**10 36 33.7**	**+0.1**
	baz=128,SNR=11					
HARP	**HAARP**	**56.06 336**	P	**P**	**10 36 35.2**	**+1.1**
	baz=123					
CFA	**Coronel Fontan**	**56.08 149**	LR	LR	10 55 50.5	
	comp=Z,77nm,20.4s,baz=320,slow=31					
KIP	**Kipapa**	**56.19 285**⇑	*e*P	**P**	**10 36 37.3**	**+1.7**
KIP			pmax	pmax		
	comp=Z,176nm,2.8s					
INK	**Inuvik**	**56.21 345**	P	**P**	**10 36 35.0**	**-0.1**
	comp=Z,5.9nm,0.6s,baz=127,slow=6.5,SNR=35					
INK			LR	LR	11 03 15.8	
	comp=Z,390nm,18.0s,baz=148,slow=39					
	comp=Z,5.9nm,0.6s					
INK	**Inuvik**	**56.21 345**	IAmb	IAmb	10 36 57.2	
	comp=Z,25nm,1.2s					
INK	**Inuvik**	**56.21 345**	P	**P**	**10 36 34.8**	**-0.3**
	baz=138,SNR=16					
INK	**Inuvik**	**56.21 345**	P	**P**	**10 36 35.0**	**-0.1**
DOT	**Dot Lake**	**56.34 337**	IAmb	IAmb	10 36 51.2	
	comp=Z,24nm,1.1s					
PAX	**Paxson**	**56.49 336**	IAmb	IAmb	10 36 52.0	
	comp=Z,21nm,1.2s					
PAX	**Paxson**	**56.49 336**	P	**P**	**10 36 37.9**	**+0.6**
	baz=123					
SCRK	**Sand Creek**	**56.50 338**	IAmb	IAmb	10 36 52.9	
	comp=Z,18nm,1.1s					
SCRK	**Sand Creek**	**56.50 338**	P	**P**	**10 36 38.1**	**+0.7**
	baz=125					
J26L	**Joseph Creek**	**56.66 338**	P	**P**	**10 36 39.0**	**+0.6**
	baz=126					
I27K	**Kandik River**	**56.66 340**	P	**P**	**10 36 39.1**	**+0.7**
	baz=128					
RIDG	**Independent Ri**	**56.68 337**	P	**P**	**10 36 39.4**	**+0.8**
	baz=124					
M23K	**Glacier View**	**56.77 335**	P	**P**	**10 36 38.9**	**-0.3**
	baz=120					
H27K	**Steamboat Moun**	**57.02 341**	P	**P**	**10 36 41.9**	**+0.9**
	baz=129					
SML	**Sawmill**	**57.03 334**	P	**P**	**10 36 41.4**	**+0.4**
	baz=119					
K24K	**Donnelly Dome**	**57.06 337**	P	**P**	**10 36 42.2**	**+0.9**
	baz=123					
WAT6	**Susitna Watana**	**57.18 335**	P	**P**	**10 36 43.5**	**+1.2**
	baz=120					
KDAK	**Kodiak Island**	**57.21 329**	LR	LR	11 01 38.9	
	comp=Z,246nm,18.1s,baz=131,slow=36					
PMR	**Palmer**	**57.26 334**	P	**P**	**10 36 43.4**	**+0.8**
	baz=118					
DHY	**Denali Highway**	**57.28 336**	P	**P**	**10 36 43.7**	**+0.7**
	baz=121					
RC01	**Rabbit Creek A**	**57.29 333**	P	**P**	**10 36 43.9**	**+1.1**
	baz=117					
G27K	**Doyon Strip**	**57.43 341**	P	**P**	**10 36 44.6**	**+0.9**
	baz=129,SNR=6.0					
A36M	**Sachs Harbour**	**57.53 350**	IAmb	IAmb	10 37 05.2	
	comp=Z,17nm,0.8s					
A36M	**Sachs Harbour**	**57.53 350**	P	**P**	**10 36 45.0**	**+0.7**
	baz=149					
WAT1	**Susitna Watana**	**57.62 335**	P	**P**	**10 36 46.2**	**+0.9**
	baz=119					
HDA	**Harding Lake**	**57.82 337**	IAmb	IAmb	10 37 01.2	
	comp=Z,20nm,1.0s					
HDA	**Harding Lake**	**57.82 337**	P	**P**	**10 36 47.6**	**+1.1**
	baz=122,SNR=6.2					
SUA	**Susitna One**	**57.89 333**	P	**P**	**10 36 47.7**	**+0.5**
	baz=116					
PRP	**Porcupine Dome**	**57.92 339**	P	**P**	**10 36 48.8**	**+1.4**
	baz=124,SNR=6.5					
IL31		**57.99 338**	IAmb	IAmb	10 37 02.6	
	comp=Z,22nm,1.1s					
ILAR	**Eielson Array**	**57.99 338**	P	**P**	**10 36 47.6**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=145,slow=4.3,SNR=20					
ILAR			LR	LR	11 03 55.5	
	comp=Z,650nm,18.0s,baz=119,slow=38					
	comp=Z,2.4nm,0.8s					
RES	**Resolute Bay**	**58.09 1**	LR	LR	11 03 04.7	
	comp=Z,221nm,20.0s,baz=196,slow=37					
RES	**Resolute Bay**	**58.09 1**	IAmb	IAmb	10 37 07.5	
	comp=Z,27nm,1.8s					
RES	**Resolute Bay**	**58.09 1**	P	**P**	**10 36 46.8**	**-1.4**
MCK	**McKinley**	**58.22 336**	IAmb	IAmb	10 37 04.5	
	comp=Z,19nm,1.0s					
MCK	**McKinley**	**58.22 336**	P	**P**	**10 36 50.0**	**+0.6**
	baz=119					
P19K	**Oil Pt**	**58.24 331**	P	**P**	**10 36 49.9**	**+0.3**
	baz=113					
WRH	**Wood River Hil**	**58.28 337**	IAmb	IAmb	10 37 06.5	
	comp=Z,15nm,1.1s					
E27K	**Coleen River**	**58.29 343**	P	**P**	**10 36 50.9**	**+1.1**
	baz=130					
POKR	**Poker Plat Res**	**58.38 338**	P	**P**	**10 36 51.3**	**+0.8**
	baz=122					
COLA	**College**	**58.40 338**	P	**P**	**10 36 52.0**	**+1.5**
	baz=121					
COLA	**College**	**58.40 338**⇑	*e*P	**P**	**10 36 52.3**	**+1.8**
COLA			pmax	pmax		
	comp=Z,24nm,2.9s					
TCOL	**CIGO, UAF Yank**	**58.40 338**	P	**P**	**10 36 51.4**	**+0.9**
	baz=121					
N20K	**Mount Spurr**	**58.41 333**	P	**P**	**10 36 51.0**	**+0.2**
	baz=115					
SPCR	**Spurr Chakacha**	**58.41 333**	P	**P**	**10 36 52.2**	**+1.4**
	baz=115					
SKT	**Skwentna**	**58.46 334**	P	**P**	**10 36 51.6**	**+0.5**
	baz=116					
CPUP	**Villa Florida**	**58.53 136**	P	**P**	**10 36 50.5**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=274,slow=5.0,SNR=3.3					
CPUP			LR	LR	11 01 02.9	
	comp=Z,153nm,21.0s,baz=328,slow=35					
	comp=Z,1.1nm,0.5s					
TRF	**Thorofare Moun**	**58.62 336**	P	**P**	**10 36 53.1**	**+0.8**
	baz=118,SNR=8.2					
NEA2	**Nenana**	**58.70 337**	P	**P**	**10 36 54.4**	**+1.6**
	baz=120					
F26K	**Sheenjek River**	**58.74 341**	P	**P**	**10 36 54.3**	**+1.4**
	baz=126					
G25K	**Bearman Lake**	**58.82 340**	P	**P**	**10 36 54.7**	**+1.2**
	baz=124					
H24K	**Noodor Dome**	**58.91 339**	P	**P**	**10 36 55.2**	**+1.0**
	baz=122					
KTH	**Kantishna Hill**	**58.92 336**	IAmb	IAmb	10 37 13.0	
	comp=Z,10nm,1.0s					
SFJD	**Kangerlussuaq**	**59.04 20**	LR	LR	11 04 09.1	
	comp=Z,180nm,19.8s,baz=238,slow=38					
SFJD	**Kangerlussuaq**	**59.04 20**	*i* P	**P**	**10 36 52.1**	**-2.8**
SFJD			IAmb	IAmb	10 37 01.4	
	comp=Z,22nm,1.2s					
R17K	**Ugashik Creek**	**59.07 328**	P	**P**	**10 36 56.1**	**+0.8**
	baz=109					
I23K	**Minto, Yukon-K**	**59.09 338**	P	**P**	**10 36 55.8**	**+0.4**
	baz=120,SNR=15					
M20K	**Styx River**	**59.10 333**	IAmb	IAmb	10 37 52.8	
	comp=Z,21nm,1.4s					
M20K	**Styx River**	**59.10 333**	P	**P**	**10 36 56.3**	**+0.6**
	baz=114					
PPLA	**Purkeypile**	**59.13 335**	P	**P**	**10 36 56.0**	**+0.1**
	baz=116					
F25K	**Christian River**	**59.15 341**	P	**P**	**10 36 56.3**	**+0.5**
	baz=125					
BPAW	**Bear Paw Mtn.**	**59.20 336**	IAmb	IAmb	10 37 19.9	
	comp=Z,12nm,1.1s					
BPAW	**Bear Paw Mtn.**	**59.20 336**	P	**P**	**10 36 57.0**	**+0.8**
	baz=118					
G24K	**Hadweenzic Riv**	**59.24 340**	P	**P**	**10 36 57.6**	**+1.2**
	baz=122,SNR=7.2					
BDFB	**Brasilia**	**59.24 120**	P	**P**	**10 36 58.0**	**+0.7**
	comp=Z,3.3nm,0.6s,baz=303,slow=9.3,SNR=5.6					
	comp=Z,3.3nm,0.6s					
BDFB	**Brasilia**	**59.24 120**	P	**P**	**10 36 58.0**	**+0.7**
N19K	**Bonanza Creek**	**59.27 332**	IAmb	IAmb	10 37 39.5	
	comp=Z,17nm,1.1s					
N19K	**Bonanza Creek**	**59.27 332**	P	**P**	**10 36 57.5**	**+0.6**
	baz=112					
CAST	**Castle Rocks**	**59.32 335**	IAmb	IAmb	10 37 11.5	
	comp=Z,17nm,1.0s					
CAST	**Castle Rocks**	**59.32 335**	P	**P**	**10 36 56.6**	**-0.5**
	baz=116,SNR=11					
E25K	**Arctic Village**	**59.43 341**	P	**P**	**10 36 58.3**	**+0.6**
	baz=125					
H23K	**Yukon River**	**59.50 338**	IAmb	IAmb	10 37 22.3	
	comp=Z,8.7nm,1.0s					
H23K	**Yukon River**	**59.50 338**	P	**P**	**10 36 58.3**	**+0.1**
	baz=120					
MLY	**Manley**	**59.54 337**	P	**P**	**10 36 59.4**	**+0.8**
	baz=118,SNR=11					
L20K	**Farewell, AK**	**59.66 334**	P	**P**	**10 36 59.2**	**-0.2**
	baz=114					
C27K	**Jago River**	**59.79 343**	P	**P**	**10 37 00.9**	**+0.7**
	baz=128					
F24K	**Squaw Lake**	**59.82 340**	P	**P**	**10 37 01.1**	**+0.7**
	baz=122					
L19K	**White Mountain**	**59.96 333**	IAmb	IAmb	10 37 16.3	
	comp=Z,10nm,1.2s					
L19K	**White Mountain**	**59.96 333**	P	**P**	**10 37 01.5**	**0.0**
	baz=113					
I21K	**Tanana**	**60.08 337**	IAmb	IAmb	10 37 17.1	
	comp=Z,19nm,1.2s					
I21K	**Tanana**	**60.08 337**	P	**P**	**10 37 03.1**	**+1.0**
	baz=117					
K20K	**Telida**	**60.10 335**	P	**P**	**10 37 03.3**	**+0.8**
	baz=114					
G23K	**Bananza Creek**	**60.11 339**	P	**P**	**10 37 03.3**	**+0.9**
	baz=120					
H22K	**Ishtalitna Cre**	**60.19 338**	P	**P**	**10 37 04.3**	**+1.4**
	baz=118					
DY2G	**Dye2**	**60.24 21**	*i* P	**P**	**10 37 06.1**	**+2.5**
DY2G			IAmb	IAmb	10 37 28.4	
	comp=Z,12nm,0.8s					
C26K	**Camden Bay**	**60.30 343**	P	**P**	**10 37 05.3**	**+1.6**
	baz=127					
D25K	**Kavik River**	**60.37 342**	P	**P**	**10 37 05.2**	**+1.1**
	baz=125					
COLD	**Coldfoot**	**60.43 339**	IAmb	IAmb	10 37 20.1	
	comp=Z,12nm,1.0s					
COLD	**Coldfoot**	**60.43 339**	P	**P**	**10 37 05.8**	**+1.2**
	baz=120,SNR=6.1					
J20K	**Nowinta River**	**60.47 335**	IAmb	IAmb	10 37 19.5	
	comp=Z,15nm,1.0s					
J20K	**Nowinta River**	**60.47 335**	P	**P**	**10 37 05.1**	**+0.2**
	baz=114					
O16K	**Kokwok River B**	**60.54 330**	P	**P**	**10 37 06.1**	**+0.7**
	baz=108					
H21K	**Melozitna Rive**	**60.60 337**	IAmb	IAmb	10 37 20.3	
	comp=Z,13nm,1.2s					
H21K	**Melozitna Rive**	**60.60 337**	P	**P**	**10 37 06.3**	**+0.5**
	baz=116					
PPT	**Papeete**	**60.71 238**	LR	LR	10 56 59.0	
	comp=Z,55nm,21.6s,baz=61,slow=30					
G22K	**Bettles**	**60.73 339**	P	**P**	**10 37 08.0**	**+1.4**
	baz=118					
PPT2	**Papeete2**	**60.73 238**	*e*LR	LR	10 55 02.0	
	comp=Z,150nm,27.5s					
PPT2			*e*LR	LR	10 55 09.8	
	comp=Z,57nm,37.8s					
TTA	**Tatalina**	**60.75 334**	P	**P**	**10 37 06.3**	**-0.6**
	baz=112					
N16K	**Nishlik Lake**	**61.13 331**	P	**P**	**10 37 09.2**	**-0.3**
	baz=108					
G21K	**Allakaket**	**61.24 338**	P	**P**	**10 37 11.7**	**+1.6**
	baz=116					
C24K	**Franklin Bluff**	**61.27 342**	P	**P**	**10 37 11.7**	**+1.5**
	baz=123					
D23K	**Nanushuk River**	**61.47 341**	P	**P**	**10 37 12.7**	**+1.2**
	baz=120					
F21K	**Alatna River**	**61.55 339**	P	**P**	**10 37 13.0**	**+0.8**
	baz=117					
PLCA	**Paso Flores**	**62.71 156**	P	**P**	**10 37 20.4**	**0.0**
	comp=Z,5.1nm,0.9s,baz=335,slow=6.2,SNR=6.7					
PLCA			LR	LR	10 59 37.8	
	comp=Z,149nm,18.0s,baz=347,slow=31					
	comp=Z,5.1nm,0.9s					
ICESG	**Greenland Ices**	**63.66 20**	*i* P	**P**	**10 37 25.3**	**-1.4**
ICESG			IAmb	IAmb	10 37 44.8	
	comp=Z,14nm,1.1s					
TBI	**Tubuai**	**63.72 233**	*e*LR	LR	10 56 35.2	
	comp=Z,561nm,27.0s					
TBI			*e*LR	LR	10 56 35.4	
	comp=Z,2µm,23.2s					
TBI	**Tubuai**	**63.72 233**	*e*T	T	11 46 11.9	
	comp=Z,15nm,0.3s					
NEEM	**North Greenlan**	**65.19 10**	*i* P	**P**	**10 37 35.3**	**-1.1**
NEEM			IAmb	IAmb	10 37 51.2	
	comp=Z,16nm,0.9s					
SUMG	**Summit**	**65.44 17**	*i* P	**P**	**10 37 37.0**	**-1.2**
SUMG			IAmb	IAmb	10 38 06.4	
	comp=Z,4.1nm,1.0s					
RCBR	**Riachuelo**	**65.78 104**	LR	LR	11 07 14.3	
	comp=Z,267nm,21.1s,baz=114,slow=37					
BORG	**Borgarnes**	**69.61 27**	LR	LR	11 12 40.3	
	comp=Z,77nm,18.5s,baz=282,slow=40					
RAR	**Rarotonga**	**70.88 240**	LR	LR	11 01 22.6	
	comp=Z,61nm,19.2s,baz=84,slow=29					
DAG	**Danmarks Havn**	**71.58 14**	*i* P	**P**	**10 38 16.0**	**-0.1**
DAG			IAmb	IAmb	10 38 31.4	
	comp=Z,6.9nm,0.9s					
DAG	**Danmarks Havn**	**71.58 14**	P	**P**	**10 38 15.1**	**-1.0**
SHEM	**Shemya Is, Ala**	**75.38 321**	LR	LR	11 07 47.3	
	comp=Z,93nm,21.6s,baz=11,slow=33					
BILL	**Bilibino**	**76.65 337**⇑	*i* P	**P**	**10 38 46.0**	**+0.2**
BILL			*e*		10 41 37.5	
BILL			*e*S	**S**	**10 48 32.1**	**+1.4**
BILL			pmax	pmax		
	comp=Z,9.0nm,1.2s					
BILL			MLR	MLR		
	comp=Z,193nm,21.0s					
BBTS	**Babate**	**78.39 78**	LR	LR	11 08 31.1	
	comp=Z,196nm,21.1s,baz=266,slow=32					
EKA	**Eskdalemuir Ar**	**79.48 35**	LR	LR	11 14 15.2	
	comp=Z,130nm,20.6s,baz=346,slow=36					
ESDC	**Sonseca Array**	**82.97 51**	P	**P**	**10 39 25.0**	**+4.3**
	comp=Z,1.0nm,0.9s,baz=297,slow=5.6,SNR=2.0					
SEY	**Seymchan**	**83.71 334**⇓	*i* P	**P**	**10 39 26.1**	**+2.1**
SEY			pmax	pmax		
	comp=Z,87nm,3.7s					
MDT	**Midelt**	**84.33 58**	LR	LR	11 13 29.9	
	comp=Z,78nm,18.6s,baz=314,slow=33					
NOA	**NORSAR Array B**	**84.76 27**	LR	LR	11 18 23.7	
	comp=Z,60nm,19.1s,baz=280,slow=36					
PETK	**Petropavlovsk-**	**84.88 324**	P	**P**	**10 39 31.4**	**+1.3**
	comp=Z,2.6nm,0.7s,baz=53,slow=9.5,SNR=5.3					
	comp=Z,2.6nm,0.7s					
ARCES	**ARCESS Array B**	**85.53 17**	P	**P**	**10 39 34.2**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=324,slow=9.0,SNR=1.5					
ARCES			LR	LR	11 20 52.7	
	comp=Z,143nm,18.4s,baz=293,slow=38					
	comp=Z,2.2nm,0.8s					
TIXI	**Tiksi**	**86.31 346**	LR	LR	11 23 43.4	
	comp=Z,95nm,19.3s,baz=2.0,slow=40					
TIXI	**Tiksi**	**86.31 346**	IAmb	IAmb	10 39 53.4	
	comp=Z,7.6nm,1.1s					
TIXI	**Tiksi**	**86.31 346***c*	*i* P	**P**	**10 39 35.3**	**-1.5**
TIXI			pmax	pmax		
	comp=Z,11nm,1.5s					
BFO	**Black Forest**	**88.47 40**	*i* P	**P**	**10 39 46.8**	**-1.0**
MSVF	**Nonsavu**	**88.97 251**	LR	LR	11 09 34.4	
	comp=Z,54nm,20.1s,baz=35,slow=29					
CLL	**Collm**	**89.94 36**	*e*P	**P**	**10 39 56.0**	**+1.4**
CLL			*ex*	x	10 40 07.0	
CLL	**Collm**	**89.94 36**	*e*P	**P**	**10 39 56.0**	**+1.4**
CLL			*e**PP	**sP**	**10 40 07.0**	**+1.5**
DAVOX	**Davos/Dischmat**	**90.06 41**	LR	LR	11 23 33.9	
	comp=Z,110nm,18.0s,baz=262,slow=38					
GERES	**GERESS Array B**	**91.47 38**	LR	LR	11 23 39.4	
	comp=Z,105nm,18.3s,baz=276,slow=37					
YAK	**Yakutsk**	**92.88 339**	LR	LR	11 25 37.9	
	comp=Z,168nm,18.5s,baz=82,slow=38					
VRAC	**Vranov**	**92.92 36**	LR	LR	11 23 48.8	
	comp=Z,108nm,19.7s,baz=330,slow=37					
NRIK	**Noril'sk**	**94.14 358**	LR	LR	11 27 30.6	
	comp=Z,72nm,18.0s,baz=356,slow=39					
URZ	**Urewera**	**95.84 232**	LR	LR	11 14 16.1	
	comp=Z,31nm,20.7s,baz=153,slow=30					
ASAJ	**Asahikawa**	**97.83 320**	LR	LR	11 18 00.7	
	comp=Z,43nm,21.7s,baz=358,slow=31					
OBN	**Obninsk**	**99.03 24**⇓	*e*P	**Pdif**	**10 40 37.0**	**+1.0**
OBN			pmax	pmax		
	comp=Z,7.0nm,0.4s					
DZM	**Mont Dzumac**	**100.64 250**	*e*LR	LR	11 13 41.0	
	comp=Z,88nm,29.0s					
HHC	**Hu-ho-hao-te**	**116.35 335**	*e*P	**PKiKP**	**10 45 37.2**	**-2.2**
WMQ	**Urumqi**	**119.57 355**	*e*P	**PKiKP**	**10 45 49.0**	**+3.5**
NJ2	**Nanjing**	**119.78 324**	*e*P	**PKiKP**	**10 45 48.5**	**+2.4**
NJ2			pmax	pmax		
	comp=Z,13nm,0.5s					
LZH	**Lanzhou**	**123.45 338**	*e*PKP	**PKPdf**	**10 45 48.4**	**-4.8**
LZH			sPKP		10 46 02.5	
WRA	**Warramunga Arr**	**129.89 258**	PKP	**PKPdf**	**10 46 05.2**	**-0.5**
	comp=Z,2.4nm,1.0s,baz=82,slow=1.9,SNR=10					
ASAR	**Alice Springs**	**130.53 253**	PKP	**PKPdf**	**10 46 05.9**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=77,slow=2.8,SNR=7.4					
PZH	**PanZhiHua**	**132.81 335**	PKP	**PKiKP**	**10 46 13.2**	**+0.8**
TNCH	**TengChong**	**135.38 338**	PKP	**PKPdf**	**10 46 16.4**	**+0.2**
TNCH			sPKP		10 46 23.5	
CMAR	**Chiang Mai Arr**	**141.12 333**	PKP	**PKPdf**	**10 46 26.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=355,slow=2.0,SNR=4.9					

SNET ***12*** *10:32:43.8±2.1, 12°.90N×88°.03W, h80km±24km, ML2.9*

ISC 12 10:32:42.1±2.2, 12°.6N±0°.1×87°.96W±0°.07, h35km, n12, σ1°10/15, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.72**	**6**⇓	*e*P	**Pn**	**10 32 55.7**	**0.0**
LCND				IAML		10 33 09.0	
	comp=Z,2µm,0.3s						
VSM	**San Miguel**	**0.89**	**340**	*e*P	**Pn**	**10 32 58.4**	**+0.1**
VSM				*e*S	**Sn**	**10 33 12.2**	**+2.1**
CRIN	**San Cristobal**	**0.90**	**83**	*e*P	**Pn**	**10 32 58.5**	**+0.3**
PACA	**Pacayal**	**0.94**	**338**	*e*P	**Pn**	**10 32 58.7**	**-0.2**
PACA				IAML		10 33 13.9	
	comp=Z,2µm,0.2s						
ALJI	**Alcalda de J**	**0.94**	**321**	*e*P	**Pn**	**10 33 00.3**	**+1.5**
ALJI				IAML		10 33 11.0	
	comp=Z,258nm,0.2s						
COEB	**Comit de Eme**	**1.06**	**328**	*e*P	**Pn**	**10 33 01.8**	**+1.3**
COEB				IAML		10 33 23.9	
	comp=Z,182nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.33**	**326**	*e*P	**Pn**	**10 33 03.8**	**-0.5**
SCLA				IAML		10 33 23.7	
	comp=Z,22nm,0.2s						
SJTE	**Alcalda de S**	**1.44**	**315**	*e*P	**Pn**	**10 33 05.5**	**-0.2**
SJTE				*e*S	**Sn**	**10 33 21.5**	**-1.9**
LFRS	**El Faro**	**1.48**	**314**	*e*P	**Pn**	**10 33 06.2**	**-0.2**
LFRS				*e*S	**Sn**	**10 33 23.4**	**-1.2**
TGUH	**Tegucigalpa,Un**	**1.60**	**25**	*e*P	**Pn**	**10 33 07.8**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.60**	**25**	*e*P	**Pn**	**10 33 07.9**	**-0.2**
PMON	**Piamonte**	**1.73**	**310**	*e*P	**Pn**	**10 33 10.3**	**+0.6**

KRSZO 12 10:42:51.6±1.1, 48°.55N×20°.78E, h0km, ML1.7/4, Error ellipse: s-maj=8.9km s-min=4.8km az=168.0, Explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KECS	**Kecovo**	**0.20**	**250**	Pg	Pg	10 42 56.9	+1.4
	comp=Z,146nm,SNR=25						
KECS				Lg	Lg	10 43 00.9	
KECS	**Kecovo**	**0.20**	**250**	*e*PG	Pg	10 42 56.9	+1.3
KECS				*e*SG	Sg	10 43 00.7	+2.5
ABAH	**Abaujker**	**0.40**	**130**	Pg	Pb	10 43 01.5	-0.1
	comp=Z,11nm,SNR=1.0						
ABAH				Lg	Lg	10 43 07.2	
CRVS	**Cervenica-Dubn**	**0.57**	**52**	Pg	Pb	10 43 04.1	-0.5
	comp=Z,2.0nm,SNR=1.1						
CRVS				Lg	Lg	10 43 12.1	
CRVS	**Cervenica-Dubn**	**0.57**	**52**	*e*PG	Pb	10 43 04.1	-0.5
CRVS				*e*SG	Sb	10 43 12.0	-1.3
TRPA	**Tarpa**	**1.25**	**109**	Pg	Pn	10 43 16.7	+0.3
	comp=Z,13nm,SNR=2.3						
TRPA				Sn	Sn	10 43 34.1	+0.2
VYHS	**Vyhne**	**1.29**	**268**	*e*SG	Sn	10 43 34.9	0.0

ROM 12 10:44:39.0±0.2, 43°.134N±0°.010×13°.49E±0°.02, h27km±1km, ML1.9/7, 3C-2D, Error ellipse: s-maj=1.5km s-min=0.2km az=306.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNTP	**Montappone**	**0.01**	**285**	P	Pb	10 44 43.4	-0.2
MNTP				S	Sb	10 44 47.0	+0.3
GUMA	**Gualdo di Mace**	**0.13**	**238**	P	Pb	10 44 44.2	-0.1
GUMA				S	Sb	10 44 48.3	+0.5
GUMA				AML	AML		
	comp=E,982µm,0.3s						
GUMA				AML	AML		
	comp=N,556µm,0.2s						
GUMA				AML	AML		
	comp=N,751µm,0.2s						
GUMA				AML	AML		
	comp=E,655µm,0.4s						
CSP1	**Cessapalombo**	**0.21**	**259**	⇓P	Pb	10 44 45.0	-0.1
CSP1				AML	AML		
	comp=N,164µm,0.6s						
CSP1				AML	AML		
	comp=E,212µm,0.4s						
CSP1				AML	AML		
	comp=N,164µm,1.4s						
CIMA	**Civitanova Mar**	**0.22**	**38**	P	Pb	10 44 45.5	+0.4
OFFI	**Offida**	**0.25**	**144**	P	Pn	10 44 46.3	-0.6
PP3	**Marolino**	**0.26**	**20**	⇑P	Pb	10 44 46.0	+0.4
T1241	**Roccafluvione,**	**0.28**	**189**	P	Pb	10 44 45.8	-0.2
T1241				S	Sb	10 44 51.3	+0.6
T1220	**Camerino, Fraz**	**0.29**	**266**	⇓P	Pb	10 44 46.3	+0.2
T1220				AML	AML		
	comp=E,

EL6					AML	AML		
	comp=N,182μm,0.2s							
EL6					AML	AML		
	comp=E,206μm,0.9s							
T1219	**Muccia, Frazio**	**0.36**	**258**		P	Pb	10 44 47.3	+0.1
T1219					S	Sn	10 44 53.7	-1.0
T1219					AML	AML		
	comp=E,170μm,0.5s							
T1219					AML	AML		
	comp=N,253μm,1.6s							
T1219					AML	AML		
	comp=E,158μm,0.5s							
T1219					AML	AML		
	comp=N,98μm,0.5s							
T1219					AML	AML		
	comp=E,158μm,1.6s							
T1219	**Muccia, Frazio**	**0.36**	**258**		Pn	Pb	10 44 43.9	-3.2
AOI	**Ancona**	**0.42**	**11**		P	Pb	10 44 48.2	+0.1
T1214	**Arquata del Tr**	**0.43**	**209**		P	Pb	10 44 48.0	-0.2
T1214	**Arquata del Tr**	**0.43**	**209**		Pn	Pb	10 44 48.0	-0.2
T1212	**Cascia, Frazio**	**0.50**	**221**		P	Pb	10 44 48.6	-0.7
T1212					AML	AML		
	comp=E,58μm,0.5s							
T1212					AML	AML		
	comp=N,69μm,1.1s							
T1212	**Cascia, Frazio**	**0.50**	**221**		Pn	Pb	10 44 48.6	-0.8
SMA1	**SAN MARTINO**	**0.52**	**193**		AML	AML		
	comp=E,527μm,0.3s							
SMA1					AML	AML		
	comp=N,460μm,0.2s							
TERO	**Teramo**	**0.52**	**170**		P	Pb	10 44 49.1	-0.6
TERO					AML	AML		
	comp=E,76μm,0.6s							
TERO					AML	AML		
	comp=N,73μm,1.0s							
T1218	**Civita (PG)**	**0.54**	**211**		AML	AML		
	comp=N,158μm,0.2s							
T1218					AML	AML		
	comp=E,118μm,0.7s							
T1215	**Vallo di Nera,**	**0.56**	**234**		P	Pb	10 44 50.6	+0.2
LNSS	**Leonessa**	**0.62**	**212**		AML	AML		
	comp=N,469μm,0.2s							
LNSS					AML	AML		
	comp=E,420μm,0.4s							
RM33	**Pellescritta (**	**0.66**	**198**		AML	AML		
	comp=N,377μm,0.8s							
RM33					AML	AML		
	comp=E,486μm,0.1s							
RM33					AML	AML		
	comp=N,356μm,0.8s							
RM33					AML	AML		
	comp=E,496μm,0.1s							

ISU ***12*** *10:49:19.8,41.°53N×70.°96E,h26km*
KRNET ***12*** *10:49:23.0±0.1,41.°05N×70.°28E,h10km,mb2.6*
ISC 12 10:49:23.9±1.2**,41.°08N**±0.°03×**70.°29E**±0.°05**,h25**km±13km**,**
n9,σ1§**89/17,14C,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHDK	**Chadak**	**0.36**	**108**	P		**Pb**	**10 49 30.5**	**-1.4**
CHDK				S		**Sn**	**10 49 39.1**	**-1.0**
CHMG	**Chimgan**	**0.51**	**335**	P		**Pb**	**10 49 32.1**	**-2.3**
CHMG				S		**Sn**	**10 49 42.3**	**-1.6**
TRKS	**Terek-Say**	**0.78**	**55**	⇑*i*	*P*	**Pn**	**10 49 38.1**	**-1.4**
	baz=58							
TRKS				⇑*i*	*S*	**Sn**	**10 49 49.5**	**-0.9**
	baz=58							
BTK	**Batken**	**1.10**	**159**	⇑*i*	*P*	**Pn**	**10 49 43.8**	**0.0**
	baz=57							
BTK				⇑*i*	*S*	**Sn**	**10 49 58.5**	**+0.3**
	baz=57							
ARK	**Arkit**	**1.44**	**60**	⇑*i*	*P*	**Pb**	**10 49 51.0**	**+0.8**
	baz=59							
ARK				⇑*i*	*S*	**Sb**	**10 50 11.1**	**+2.9**
	baz=59							
KK31	**Karatay Array**	**2.03**	**5**	⇑Pg		**Pb**	**10 50 00.6**	**+0.6**
	0.7nm,0.3s,baz=188,slow=17,SNR=12							
KK31				⇑Lg		Lg	10 50 29.3	
	1.1nm,0.3s,baz=194,slow=26							
KKAR	**Karatay Array**	**2.03**	**5**	⇑*i*	*P*	**Pb**	**10 50 00.9**	**+0.9**
	baz=5.0							
KKAR				⇑*i*	*S*	**Sb**	**10 50 28.8**	**+4.0**
	baz=5.0							
GAR	**Garm**	**2.08**	**180**	⇑*i*	*P*	**Pb**	**10 50 00.8**	**-0.2**
	baz=79							
GAR				⇑*i*	*S*	**Sb**	**10 50 28.4**	**+1.9**
	baz=79							
AML	**Almayashu**	**2.76**	**67**	⇑*i*	*P*	**Pb**	**10 50 11.2**	**-1.5**
	baz=66							
AML				⇑*i*	*S*	**Sb**	**10 50 46.1**	**-0.1**
	baz=66							

KRSC ***12*** *10:53:41.4±2.1,50.°89N×157.°54E,h125km±18km,Ml4.2*
MOS ***12*** *10:53:42.0±0.9,51.°13N×156.°74E,h126km,mb4.1/8,Error ellipse: s-maj=16.3km s-min=5.1km az=67.9*
IDC ***12*** *10:53:43.8±1.7,51.°19N×156.°58E,h122km±16km,mb3.5/8, mbtmp3.9/12,MS3.7/4,Error ellipse: s-maj=31.2km s-min=11.6km az=138.0*
NEIC ***12*** *10:53:44.7±1.0,51.°4N±0.°1×156.°5E±0.°2,h124km±10km, mb4.2/50,Error ellipse: s-maj=27.8km s-min=12.1km az=135.0*
ISC 12 10:53:42.8±0.7**,51.°05N**±0.°07×**156.°90E**±0.°07**,h118**km±6km**,**
n139,σ1§**27/143,mb4.2/38,2C-6D,Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**0.61**	**234**	*c*	*i*PN	**Pn**	**10 54 00.2**	**-1.0**
SKR					*i* S	**Sn**	**10 54 14.4**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.06**	**43**		PN	**Pn**	**10 54 04.6**	**-0.6**
KDTR					S	**Sn**	**10 54 21.1**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.06**	**43**	*e*	*P*	**Pn**	**10 54 04.6**	**-0.6**
KDTR					*eS*	**Sn**	**10 54 21.1**	**-1.1**
GRL	**Gorelyy**	**1.68**	**25**		PN	**Pn**	**10 54 12.6**	**+0.4**
GRL					S	**Sn**	**10 54 36.0**	**+1.3**
GRL	**Gorelyy**	**1.68**	**25**	*e*	*P*	**Pn**	**10 54 12.6**	**+0.4**
GRL					*eS*	**Sn**	**10 54 36.0**	**+1.3**
RUS	**Russkaya**	**1.71**	**35**		PN	**Pn**	**10 54 11.9**	**-0.6**
RUS					S	**Sn**	**10 54 34.8**	**-0.5**
RUS	**Russkaya**	**1.71**	**35**	*e*	*P*	**Pn**	**10 54 11.9**	**-0.6**
RUS					*eS*	**Sn**	**10 54 34.8**	**-0.5**
APC	**Apacha**	**1.89**	**5**		PN	**Pn**	**10 54 14.2**	**-0.5**
APC	**Apacha**	**1.89**	**5**	*e*	*P*	**Pn**	**10 54 14.2**	**-0.5**
PEA0B	**Petropavlovsk-**	**2.12**	**13**			**Pn**	**10 54 17.7**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.12**	**13**		PN	**Pn**	**10 54 17.7**	**+0.1**
PETK	**Petropavlovsk-**	**2.12**	**13**		P	**Pn**	**10 54 16.8**	**-0.8**
	20nm,0.4s,baz=185,slow=14,SNR=150							
PETK					S	**Sn**	**10 54 44.5**	**+0.1**
	24nm,0.6s,baz=174,slow=18,SNR=9.2							
PET	**Petropavlovsk**	**2.26**	**28**			**Pn**	**10 54 19.6**	**+0.3**
PET	**Petropavlovsk**	**2.26**	**28**	*d*	*i*PN	**Pn**	**10 54 19.3**	**0.0**
PET	**Petropavlovsk**	**2.26**	**28**	*e*	*P*	**Pn**	**10 54 19.4**	**+0.1**
PET					*eS*	**Sn**	**10 54 47.5**	**+0.2**
INSR	**Institute**	**2.28**	**27**	*e*	*S*	**Sn**	**10 54 49.6**	**+1.7**
DALK	**Dalny**	**2.29**	**29**		PN	**Pn**	**10 54 19.8**	**+0.1**
DALK					S	**Sn**	**10 54 48.5**	**+0.3**
DALK	**Dalny**	**2.29**	**29**	*e*	*P*	**Pn**	**10 54 19.8**	**+0.1**
DALK					*eS*	**Sn**	**10 54 48.5**	**+0.3**
UGLR	**Uglovaya**	**2.47**	**28**		PN	**Pn**	**10 54 23.4**	**+1.2**
UGLR	**Uglovaya**	**2.47**	**28**	*e*	*P*	**Pn**	**10 54 23.4**	**+1.2**
KOK	**Koryaka**	**2.49**	**25**		PN	**Pn**	**10 54 23.8**	**+1.4**
KOK	**Koryaka**	**2.49**	**25**	*e*	*P*	**Pn**	**10 54 23.8**	**+1.4**
AVH	**Avacha**	**2.50**	**26**		PN	**Pn**	**10 54 23.5**	**+1.1**
AVH	**Avacha**	**2.50**	**26**	*e*	*P*	**Pn**	**10 54 23.5**	**+1.1**
SMAR	**Somma**	**2.51**	**27**		PN	**Pn**	**10 54 23.7**	**+0.9**
SMAR	**Somma**	**2.51**	**27**	*e*	*P*	**Pn**	**10 54 23.7**	**+0.9**
KRER	**Koryakskii**	**2.53**	**26**		PN	**Pn**	**10 54 24.1**	**+1.0**
KRER					S	**Sn**	**10 54 56.0**	**+2.0**
KRER	**Koryakskii**	**2.53**	**26**	*e*	*P*	**Pn**	**10 54 24.1**	**+1.0**
KRER					*eS*	**Sn**	**10 54 56.0**	**+2.0**
SDLR	**Sedlovina**	**2.55**	**28**		PN	**Pn**	**10 54 23.8**	**+0.6**
SDLR	**Sedlovina**	**2.55**	**28**	*e*	*P*	**Pn**	**10 54 23.8**	**+0.6**
KRX	**Arik**	**2.56**	**24**		PN	**Pn**	**10 54 24.4**	**+1.1**
KRX	**Arik**	**2.56**	**24**	*e*	*P*	**Pn**	**10 54 24.4**	**+1.1**
NLC	**Nalytchevo**	**2.61**	**34**		PN	**Pn**	**10 54 24.1**	**+0.3**
NLC	**Nalytchevo**	**2.61**	**34**	*e*	*P*	**Pn**	**10 54 24.1**	**+0.3**
SPN	**Mys Shipunski**	**2.82**	**42**		PN	**Pn**	**10 54 26.3**	**-0.2**
SPN	**Mys Shipunski**	**2.82**	**42**	*e*	*P*	**Pn**	**10 54 26.3**	**-0.2**
KBTR	**Krutoberegovo**	**6.25**	**32**		PN	**Pn**	**10 55 11.8**	**-0.7**
KBTR	**Krutoberegovo**	**6.25**	**32**	*e*	*P*	**Pn**	**10 55 11.8**	**-0.7**
BKI	**Bering**	**6.87**	**49**		PN	**Pn**	**10 55 19.3**	**-1.4**
BKI	**Bering**	**6.87**	**49**	*e*	*P*	**Pn**	**10 55 19.3**	**-1.4**
BKI				*e*	*S*	**Sn**	**10 56 29.6**	**-7.7**
JKA	**Kamikawa-asahi**	**11.88**	**240**		Pn	**Pn**	**10 56 29.0**	**+0.8**
ASAJ	**Asahikawa**	**11.88**	**240**		P	**Pn**	**10 56 28.6**	**+0.3**
	13nm,0.8s,baz=82,slow=14,SNR=6.8							
ASAJ	**Asahikawa**	**11.88**	**240**		PN	**Pn**	**10 56 29.0**	**+0.8**
ERM	**Erimo**	**13.06**	**232**		Pn	**Pn**	**10 56 47.0**	**+3.3**
ERM	**Erimo**	**13.06**	**232**		PN	**Pn**	**10 56 47.0**	**+3.3**
KLR	**Kul'dur**	**16.21**	**273**		P	**Pn**	**10 57 22.8**	**-0.6**
	1.0nm,0.6s,baz=258,slow=19,SNR=2.9							
BILL	**Bilibino**	**17.66**	**12**	*e*	*P*	**Pn**	**10 57 41.0**	**+0.1**
BILL					pmax	pmax		
	comp=Z,8.0nm,1.7s							
YAK	**Yakutsk**	**18.45**	**317**	*e*	*P*	**P**	**10 57 47.0**	**-1.8**
YAK					pmax	pmax		
	comp=Z,11nm,1.0s							
HEH	**HeiHe**	**18.66**	**279**	*e*	*P*	**Pn**	**10 57 52.1**	**-0.9**
HEH					pmax	pmax		
	comp=Z,3.0nm,0.7s							
MJA0	**Matsu Arr-Jizo**	**19.70**	**230**	*e*	*P*	**P**	**10 58 04.1**	**+1.3**
MAJO	**Matsushiro**	**19.72**	**230**		P	**P**	**10 58 03.7**	**+0.7**
MAJO	**Matsushiro**	**19.72**	**230**		P	**P**	**10 58 03.7**	**+0.7**
MAJO					pmax	pmax		
	comp=Z,21nm,1.3s							
MJAR	**Matsushiro Arr**	**19.72**	**230**		P	**P**	**10 58 03.5**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=28,slow=8.1,SNR=7.8							
JGF	**Kuroka**	**20.89**	**230**		P	**P**	**10 58 15.6**	**+0.1**
TNA	**Tin City**	**23.08**	**38**		P	**P**	**10 58 37.6**	**-0.1**
HIA	**Hailar**	**23.71**	**280**	⇑*e*	*P*	**P**	**10 58 42.4**	**-1.3**
HIA					pmax	pmax		
	comp=Z,18nm,3.2s							
ANM	**Nome**	**23.77**	**41**		P	**P**	**10 58 44.8**	**+0.8**
ANM					IAmb	IAmb	10 59 10.0	
	comp=Z,12nm,1.4s							
ANM	**Nome**	**23.77**	**41**		P	**P**	**10 58 44.8**	**+0.8**
ANM					pmax	pmax		
	comp=Z,12nm,1.4s							
JNU	**Nakatsue**	**26.13**	**237**		LR	LR	11 09 39.0	
	comp=Z,132nm,18.4s,baz=198,slow=37							
TTA	**Tatalina**	**27.59**	**46**		P	**P**	**10 59 18.8**	**+0.3**
TTA					IAmb	IAmb	10 59 35.5	
	comp=Z,7.8nm,1.4s							
TTA	**Tatalina**	**27.59**	**46**		P	**P**	**10 59 18.8**	**+0.3**
TTA					pmax	pmax		
	comp=Z,8.0nm,1.4s							
J20K	**Nowinta River**	**28.50**	**44**		P	**P**	**10 59 27.0**	**+0.5**
J20K					IAmb	IAmb	10 59 27.5	
	comp=Z,7.3nm,1.4s							
IMAR	**Indian Mountai**	**28.84**	**40**		P	**P**	**10 59 29.4**	**-0.1**
Q19K	**Cape Douglas,**	**28.84**	**55**		P	**P**	**10 59 32.6**	**+3.0**
H21K	**Melozitna Rive**	**29.20**	**41**		P	**P**	**10 59 32.7**	**0.0**
I21K	**Tanana**	**29.50**	**42**		P	**P**	**10 59 35.9**	**+0.5**
KDAK	**Kodiak Island**	**29.55**	**57**		P	**P**	**10 59 35.5**	**-0.3**
KDAK	**Kodiak Island**	**29.55**	**57**		P	**P**	**10 59 35.5**	**-0.3**
KDAK					pmax	pmax		
	comp=Z,31nm,1.4s							
BRLK	**Bradley Lake**	**30.16**	**53**		P	**P**	**10 59 41.5**	**+0.2**
COLD	**Coldfoot**	**30.39**	**38**		P	**P**	**10 59 43.4**	**+0.2**
H23K	**Yukon River**	**30.55**	**41**		P	**P**	**10 59 45.3**	**+0.7**
H23K					IAmb	IAmb	10 59 46.6	
	comp=Z,5.0nm,1.2s							
BWN	**Browne**	**30.55**	**44**		P	**P**	**10 59 45.9**	**+1.3**
I23K	**Minto, Yukon-K**	**30.61**	**42**		P	**P**	**10 59 45.6**	**+0.5**
NEA2	**Nenana**	**30.72**	**43**		P	**P**	**10 59 47.0**	**+0.8**
SEW	**Seward**	**30.83**	**52**		P	**P**	**10 59 46.7**	**-0.3**
GHO	**Glory Hole Cre**	**30.91**	**49**		P	**P**	**10 59 48.0**	**+0.1**
MDM	**Murphy Dome**	**31.08**	**42**		P	**P**	**10 59 49.8**	**+0.5**
MDM					IAmb	IAmb	11 00 13.0	
	comp=Z,7.1nm,1.5s							
WRH	**Wood River Hil**	**31.15**	**43**		P	**P**	**10 59 50.5**	**+0.6**
WRH					IAmb	IAmb	10 59 51.5	
	comp=Z,4.4nm,1.0s							
SML	**Sawmill**	**31.19**	**49**		P	**P**	**10 59 49.8**	**-0.5**
SML					IAmb	IAmb	11 00 31.0	
	comp=Z,8.6nm,1.2s							
H24K	**Noodor Dome**	**31.24**	**41**		P	**P**	**10 59 50.7**	**0.0**
H24K					IAmb	IAmb	11 00 26.4	
	comp=Z,6.8nm,1.4s							
COLA	**College**	**31.24**	**43**	*e*	*P*	**P**	**10 59 49.8**	**-0.9**
COLA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
CCB	**Clear Creek Bu**	**31.27**	**43**		P	**P**	**10 59 50.3**	**-0.6**
PWL	**Port Wells**	**31.29**	**50**		P	**P**	**10 59 50.4**	**-0.8**
DHY	**Denali Highway**	**31.53**	**46**		P	**P**	**10 59 53.0**	**-0.4**
DHY					IAmb	IAmb	10 59 54.0	
	comp=Z,8.2nm,1.4s							
HDA	**Harding Lake**	**31.64**	**43**		P	**P**	**10 59 54.0**	**-0.2**
HDA					IAmb	IAmb	10 59 54.9	
	comp=Z,3.0nm,0.5s							
IL31		**31.66**	**43**		P	**P**	**10 59 54.9**	**+0.6**
IL31					IAmb	IAmb	11 00 23.1	
	comp=Z,5.5nm,1.3s							
ILAR	**Eielson Array**	**31.66**	**43**		P	**P**	**10 59 54.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=262,slow=4.8,SNR=18							
	comp=Z,1.3nm,0.7s							
ILAR	**Eielson Array**	**31.66**	**43**		P	**P**	**10 59 55.2**	**+0.8**
ILAR	**Eielson Array**	**31.66**	**43**		P	**P**	**10 59 55.2**	**+0.8**
M24K	**Tolsona, Glenn**	**32.17**	**48**		P	**P**	**10 59 60.0**	**+1.1**
PRP	**Porcupine Dome**	**32.21**	**41**		P	**P**	**10 59 59.9**	**+0.5**
PRP					IAmb	IAmb	11 00 00.6	
	comp=Z,4.1nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**32.23**	**162**		T	T	11 34 01.0	
	baz=348,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**32.25**	**162**		T	T	11 33 58.4	
	baz=348,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**32.25**	**162**		T	T	11 33 58.6	
	baz=348,slow=76,SNR=7.5							
FYU	**Fort Yukon**	**32.31**	**39**		P	**P**	**11 00 01.1**	**+1.1**
FYU					IAmb	IAmb	11 00 01.3	
	comp=Z,3.7nm,0.6s							
BMAR	**Burnt Mountain**	**32.57**	**38**		P	**P**	**11 00 03.0**	**+0.6**
DOT	**Dot Lake**	**32.97**	**45**		P	**P**	**11 00 04.7**	**-1.1**
SCRK	**Sand Creek**	**32.97**	**44**		P	**P**	**11 00 06.0**	**+0.1**
SCRK					IAmb	IAmb	11 00 11.1	
	comp=Z,4.9nm,1.4s							
H11S1	**WAKE ISLAND Hy**	**33.39**	**163**		T	T	11 35 17.5	
	baz=348,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**33.40**	**163**		T	T	11 35 20.3	
	baz=348,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**33.40**	**163**		T	T	11 35 18.3	
	baz=348,slow=76,SNR=14							
K27K	**Chicken**	**33.80**	**44**		P	**P**	**11 00 13.2**	**+0.3**
K27K					IAmb	IAmb	11 00 46.4	
	comp=Z,5.3nm,1.4s							
L27K	**Beaver Creek,**	**34.04**	**46**		P	**P**	**11 00 16.2**	**+1.1**
L27K					IAmb	IAmb	11 00 17.0	
	comp=Z,3.8nm,0.8s							
BCAR	**Beaver Creek A**	**34.06**	**46**		P	**P**	**11 00 16.9**	**+1.6**
EGAK	**Eagle**	**34.11**	**42**		P	**P**	**11 00 15.5**	**-0.1**
EGAK					IAmb	IAmb	11 00 15.8	
	comp=Z,3.4nm,0.6s							
M27K	**Edge Creek, AK**	**34.13**	**47**		P	**P**	**11 00 17.1**	**+1.1**
M27K					IAmb	IAmb	11 00 31.9	
	comp=Z,6.0nm,1.3s							
DAWY	**Dawson**	**34.96**	**43**		P	**P**	**11 00 23.9**	**+0.9**
DAWY					IAmb	IAmb	11 00 48.9	
	comp=Z,5.8nm,1.5s							
EPYK	**Eagle Plains**	**35.73**	**39**		P	**P**	**11 00 29.9**	**+0.2**
EPYK					IAmb	IAmb	11 00 56.7	
	comp=Z,6.2nm,1.4s							
INK	**Inuvik**	**36.69**	**36**		P	**P**	**11 00 38.0**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=323,slow=6.2,SNR=11							
	comp=Z,1.7nm,0.7s							
INK	**Inuvik**	**36.69**	**36**		P	**P**	**11 00 38.1**	**+0.4**
N31M	**Braeburn, Yuko**	**37.13**	**47**		P	**P**	**11 00 43.0**	**+1.5**
N31M					IAmb	IAmb	11 00 44.2	
	comp=Z,3.2nm,0.8s							
FARO	**Faro, Yukon**	**38.04**	**45**		P	**P**	**11 00 50.6**	**+1.4**
DLBC	**Dease Lake**	**40.86**	**50**		P	**P**	**11 01 14.8**	**+2.2**
DLBC					IAmb	IAmb	11 01 30.5	
	comp=Z,6.3nm,1.4s							
EUNU	**Eureka**	**44.40**	**13**		P	**P**	**11 01 40.4**	**-0.5**
YKA	**Yellowknife Ar**	**46.00**	**40**		P	**P**	**11 01 54.4**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=297,slow=8.0,SNR=8.6							
	comp=Z,0.8nm,0.6s							
KURK	**Kurchatov**	**47.14**	**302**	*e*	*P*	**P**	**11 01 59.9**	**-2.8**
KURK					pmax	pmax		
	comp=Z,18nm,4.8s							
MK31	**Makanchi Array**	**47.26**	**296**		P	**P**	**11 02 02.2**	**-1.6**
MK31	**Makanchi Array**	**47.26**	**296**		P	**P**	**11 02 02.2**	**-1.6**
MK31					pmax	pmax		
	comp=Z,1.0nm,1.4s							
MKAR	**Makanchi Array**	**47.26**	**296**		P	**P**	**11 02 02.3**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=59,slow=6.1,SNR=7.4							
	comp=Z,0.3nm,0.4s							
NVAR	**Mina Array Bea**	**58.33**	**67**		P	**P**	**11 03 27.4**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=297,slow=7.8,SNR=10							
	comp=Z,1.2nm,0.6s							
SPR3	**Spring Creek 3**	**60.22**	**64**		P	**P**	**11 03 40.8**	**+2.2**
SPR3					IAmb	IAmb	11 03 41.6	
	comp=Z,2.2nm,0.6s							
DUG	**Dugway, Tooele**	**60.25**	**62**		P	**P**	**11 03 40.2**	**+1.6**
DUG	**Dugway, Tooele**	**60.25**	**62**		P	**P**	**11 03 40.2**	**+1.6**
DUG					pmax	pmax		
	comp=Z,2.0nm,1.3s							
BW06	**Boulder Array**	**60.26**	**58**		P	**P**	**11 03 40.3**	**+1.6**
BW06					IAmb	IAmb	11 03 40.9	
	comp=Z,1.9nm,0.8s							
PD31	**Pinedale Array**	**60.26**	**58**		P	**P**	**11 03 39.7**	**+1.0**
PD31					IAmb	IAmb	11 03 40.9	
	comp=Z,2.0nm,0.9s							
PDAR	**Pinedale Array**	**60.26**	**58**		P	**P**	**11 03 40.1**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=312,slow=2.2,SNR=20							
	comp=Z,1.4nm,0.7s							
PDAR	**Pinedale Array**	**60.26**	**58**		P	**P**	**11 03 40.3**	**+1.6**
PMG	**Port Moresby**	**60.79**	**191**		LR	LR	11 25 10.2	
	comp=Z,34nm,21.1s,baz=52,slow=31							
BELG	**Belogornoye**	**60.98**	**319**		LR	LR	11 31 15.3	
	comp=Z,131nm,18.2s,baz=326,slow=37							
TMUT	**Trail Mountain**	**61.77**	**62**		P	**P**	**11 03 50.5**	**+1.5**
TMUT					IAmb	IAmb	11 03 51.4	
	comp=Z,2.2nm,0.7s							
SRU	**San Rafael Swe**	**62.28**	**61**		P	**P**	**11 03 53.6**	**+1.3**
SRU	**San Rafael Swe**	**62.28**	**61**		P	**P**	**11 03 53.6**	**+1.3**
SRU					pmax	pmax		
	comp=Z,4.0nm,0.8s							
ANMO	**Albuquerque**	**67.53**	**62**	*e*	*P*	**P**	**11 04 27.4**	**+1.1**
ANMO					pmax	pmax		
	comp=Z,2.0nm,1.7s							
WRA	**Warramunga Arr**	**73.41**	**202**		P	**P**	**11 05 01.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=18,slow=6.0,SNR=4.5							
	comp=Z,0.5nm,0.5s							
WRA	**Warramunga Arr**	**73.41**	**202**	*e*	*P*	**P**	**11 05 03.0**	**+1.2**
CLL	**Collm**	**73.53**	**337**	*e*	*P*	**P**	**11 05 00.0**	**-2.2**
ASAR	**Alice Springs**	**77.10**	**202**		P	**P**	**11 05 24.1**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=12,slow=5.2,SNR=12							
	comp=Z,0.3nm,0.5s							
TKL	**Tuckaleechee C**	**78.56**	**46**		LR	LR	11 42 27.1	
	comp=Z,37nm,18.2s,baz=76,slow=37							
PLCA	**Paso Flores**	**145.95**	**91**		PKPbc	**PKPbc**	**11 13 08.6**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=278,slow=4.5,SNR=6.1							

IDC ***12*** *11:04:18.0±1.9,25.°68N×130.°07E,h0km,mb3.8/5, mbtmp3.8/6,ML3.3/1,MS3.5/1,Error ellipse: s-maj=78.2km s-min=27.7km az=73.0*
JMA ***12*** *11:04:18.9±0.1,26.°N±1.°×130.°1E±0.°4,h41km,MV3.6/21, NEAR MINAMI-DAITOJIMA IS*
NIED ***12*** *11:04:18.9,25.°79N×130.°05E,h41km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=3.10; Mθθ2.97; Mφφ0.13; Mrθ5.50; Mθφ6.36; Mφr1.73; Fault plane solution: M0 8.68000×10¹⁴ NP1: φs263.00000°,δ77.00000°,λ-51.00000°. NP2:φs8.00000°, δ41.00000°,λ-160.00000°.*
ISC 12 11:04:21.3±0.9**,25.°78N**±0.°06×**130.°04E**±0.°04**,h35**km**,n24,**
σ1§99/31,mb3.7/5,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JMZ	**Minamidaito 2**	**1.07**	**88**	P		**Pn**	**11 04 37.6**	**-2.2**
JMZ				*e*	S	**Sn**	**11 04 51.3**	**-2.0**
JKDJ	**Kitadaitoujima**	**1.15**	**81**	P		**Pn**	**11 04 38.9**	**-2.0**
JKDJ				*e*	S	**Sn**	**11 04 52.7**	**-2.6**
JYRO	**Yoronjima**	**1.89**	**311**	*i*	P	**Pn**	**11 04 49.8**	**-1.3**
JYRO					S	**Sn**	**11 05 11.5**	**-2.1**
JOW	**Kunigami**	**1.90**	**304**	LR		LR	11 05 40.4	
	comp=Z,220nm,19.0s,baz=124,slow=42							
JOW	**Kunigami**	**1.90**	**304**	*i*	P	**Pn**	**11 04 50.0**	**-1.2**
JOW				*e*	S	**Sn**	**11 05 11.7**	**-2.2**
JNTH	**Nagotoyohara**	**1.96**	**292**		P	**Pn**	**11 04 50.5**	**-1.5**
JNTH					S	**Sn**	**11 05 12.6**	**-2.8**
JOKE	**Okinoerabujima**	**2.05**	**320**	*i*	P	**Pn**	**11 04 52.3**	**-1.0**
JJT3	**Tamagusuku3**	**2.06**	**281**		P	**Pn**	**11 04 52.8**	**-0.7**
JJT3					S	**Sn**	**11 05 17.1**	**-0.9**
JTK	**Tokunoshima**	**2.22**	**334**	

3.0nm,1.0s,baz=82,slow=6.6,SNR=4.2
3.0nm,1.0s

NEIC ***12*** *11:35:55.0±1.0, 18°.90N±0°.09×145°.6E±0°.2, h140km±5km, mb4.3/66, Error ellipse: s-maj=21.4km s-min=13.2km az=101.0*
IDC ***12*** *11:35:56.3±2.5, 18°.91N×145°.83E, h157km±25km, mb3.5/13, mbtmp4.0/15, MS3.5/2, Error ellipse: s-maj=23.2km s-min=15.0km az=90.0*
ISC 12 11:35:55.6±0.5, 18°.88N±0°.06×145°.7E±0°.1, h150km, n95, σ0ᵗ76/92, mb4.2/45, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.31**	**188**	P	**Pn**	**11 37 14.9**	**+1.7**
	25nm,0.3s,baz=152,slow=22,SNR=7.3						
GUMO				S	**Sn**	**11 38 15.2**	**+1.4**
	32nm,0.3s,baz=204,slow=23,SNR=1.6						
GUMO	**Guam**	**5.31**	**188**	Pn	**Pn**	**11 37 11.6**	**-1.6**
GUMO				Sn	**Sn**	**11 38 11.9**	**-1.9**
PATS	**Pohnpei**	**17.16**	**133**	P	**Pn**	**11 39 47.2**	**+0.7**
JGF	**Kuroka**	**18.21**	**338**	P	**P**	**11 39 56.1**	**-1.1**
MJAR	**Matsushiro Arr**	**18.79**	**341**	P	**Pn**	**11 40 05.0**	**-0.6**
	1.7nm,0.5s,baz=166,slow=9.9,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**19.91**	**88**	T	T	12 01 11.3	
	baz=275,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**19.93**	**88**	T	T	12 01 12.2	
	baz=275,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**19.93**	**88**	T	T	12 01 12.7	
	baz=275,slow=75,SNR=5.9						
KSRS	**Korea Array**	**24.16**	**324**	P	**P**	**11 40 59.0**	**+1.2**
	1.2nm,0.6s,baz=151,slow=11,SNR=4.1						
	1.2nm,0.6s						
KLR	**Kul'dur**	**32.29**	**343**	LR	LR	11 55 01.5	
	comp=Z,55nm,20.0s,baz=68,slow=35						
PETK	**Petropavlovsk-**	**35.42**	**13**	P	**P**	**11 42 37.8**	**+0.7**
	4.5nm,1.0s,baz=182,slow=7.2,SNR=1.9						
	4.5nm,1.0s						
PETK	**Petropavlovsk-**	**35.42**	**13**	P	**P**	**11 42 38.2**	**+1.1**
WR0	**Warramunga Arr**	**40.11**	**196**	P	**P**	**11 43 16.3**	**-0.4**
WR0				IAmb	IAmb	11 44 00.5	
	comp=Z,5.9nm,1.3s						
WB2	**Warramunga Arr**	**40.14**	**197**	P	**P**	**11 43 17.1**	**0.0**
WB2				IAmb	IAmb	11 43 19.7	
	comp=Z,6.7nm,1.3s						
WRA	**Warramunga Arr**	**40.15**	**197**	P	**P**	**11 43 18.6**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=20,slow=8.7,SNR=9.0						
	comp=Z,0.6nm,0.4s						
WRA	**Warramunga Arr**	**40.15**	**197**	P	**P**	**11 43 16.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**41.68**	**209**	P	**P**	**11 43 29.3**	**-0.3**
SONM	**Songino Array**	**42.99**	**321**	P	**P**	**11 43 40.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=141,slow=5.7,SNR=3.6						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**43.81**	**196**	P	**P**	**11 43 47.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=17,slow=9.7,SNR=1.7						
	comp=Z,0.1nm,0.3s						
DZM	**Mont Dzumac**	**45.48**	**153**	LR	LR	12 03 47.7	
	comp=Z,61nm,18.5s,baz=20,slow=37						
BILL	**Bilibino**	**50.85**	**10**	P	**P**	**11 44 41.1**	**+0.5**
BILL				IAmb	IAmb	11 44 42.4	
	comp=Z,4.8nm,1.0s						
SII	**Sitkinak Islan**	**58.08**	**34**	P	**P**	**11 45 32.3**	**-0.7**
MKAR	**Makanchi Array**	**58.32**	**314**	P	**P**	**11 45 36.2**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=98,slow=7.5,SNR=4.3						
	comp=Z,0.4nm,0.6s						
O18K	**Koktuh Hills**	**58.48**	**31**	P	**P**	**11 45 35.9**	**+0.2**
RSO	**Redoubt South**	**59.83**	**30**	P	**P**	**11 45 46.2**	**+1.0**
M20K	**Styx River**	**60.05**	**29**	P	**P**	**11 45 47.5**	**+1.0**
K20K	**Telida**	**60.08**	**27**	P	**P**	**11 45 47.0**	**+0.3**
J20K	**Nowinta River**	**60.31**	**26**	P	**P**	**11 45 49.4**	**+1.3**
J20K				IAmb	IAmb	11 45 50.5	
	comp=Z,5.6nm,1.2s						
SKT	**Skwentna**	**60.80**	**29**	P	**P**	**11 45 51.4**	**-0.1**
CAST	**Castle Rocks**	**60.95**	**27**	P	**P**	**11 45 53.5**	**+0.9**
CAST				IAmb	IAmb	11 45 54.1	
	comp=Z,3.6nm,0.8s						
H21K	**Melozitna Rive**	**61.33**	**25**	P	**P**	**11 45 55.4**	**+0.3**
H21K				IAmb	IAmb	11 46 00.1	
	comp=Z,5.5nm,1.4s						
I21K	**Tanana**	**61.51**	**25**	P	**P**	**11 45 56.9**	**+0.7**
I21K				IAmb	IAmb	11 45 58.1	
	comp=Z,2.9nm,0.8s						
BPAW	**Bear Paw Mtn.**	**61.61**	**26**	P	**P**	**11 45 57.3**	**+0.3**
BPAW				IAmb	IAmb	11 45 58.3	
	comp=Z,3.7nm,0.8s						
GHO	**Glory Hole Cre**	**61.95**	**29**	P	**P**	**11 45 58.7**	**-0.7**
MLY	**Manley**	**61.97**	**26**	P	**P**	**11 45 59.6**	**+0.2**
MLY				IAmb	IAmb	11 46 00.9	
	comp=Z,3.3nm,0.8s						
KNK	**Knik Glacier**	**62.09**	**30**	P	**P**	**11 46 00.6**	**+0.3**
SML	**Sawmill**	**62.23**	**29**	P	**P**	**11 46 01.5**	**+0.3**
I23K	**Minto, Yukon-K**	**62.56**	**26**	P	**P**	**11 46 03.9**	**+0.7**
I23K				IAmb	IAmb	11 46 05.2	
	comp=Z,2.4nm,0.6s						
H23K	**Yukon River**	**62.67**	**25**	P	**P**	**11 46 04.3**	**+0.3**
H23K				IAmb	IAmb	11 46 05.6	
	comp=Z,1.9nm,0.7s						
SCM	**Sheep Creek Mo**	**62.70**	**29**	P	**P**	**11 46 04.5**	**+0.1**
WRH	**Wood River Hil**	**62.93**	**26**	P	**P**	**11 46 04.8**	**-0.9**
WRH				IAmb	IAmb	11 46 06.0	
	comp=Z,2.4nm,0.7s						
MDM	**Murphy Dome**	**62.98**	**26**	P	**P**	**11 46 07.1**	**+1.0**
H24K	**Noodor Dome**	**63.34**	**25**	P	**P**	**11 46 08.7**	**+0.2**
H24K				IAmb	IAmb	11 46 10.5	
	comp=Z,7.5nm,1.4s						
IL31		**63.50**	**26**	P	**P**	**11 46 08.6**	**-0.8**
IL31				IAmb	IAmb	11 46 19.9	
	comp=Z,6.3nm,1.5s						
ILAR	**Eielson Array**	**63.50**	**26**	P	**P**	**11 46 08.3**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=257,slow=5.2,SNR=16						
	comp=Z,1.8nm,0.8s						
RIDG	**Independent Ri**	**64.17**	**28**	P	**P**	**11 46 13.5**	**-0.5**
RIDG				IAmb	IAmb	11 46 14.3	
	comp=Z,4.5nm,0.9s						
DOT	**Dot Lake**	**64.50**	**28**	P	**P**	**11 46 16.3**	**+0.3**
DOT				IAmb	IAmb	11 46 16.8	
	comp=Z,3.1nm,0.8s						
FYU	**Fort Yukon**	**64.54**	**24**	P	**P**	**11 46 16.4**	**+0.2**
SCRK	**Sand Creek**	**64.59**	**27**	P	**P**	**11 46 16.8**	**0.0**
SCRK				IAmb	IAmb	11 46 17.7	
	comp=Z,5.3nm,1.1s						
J26L	**Joseph Creek**	**64.86**	**27**	P	**P**	**11 46 18.6**	**+0.1**
J26L				IAmb	IAmb	11 46 19.2	
	comp=Z,3.8nm,1.1s						
BMAR	**Burnt Mountain**	**64.97**	**24**	P	**P**	**11 46 20.5**	**+1.5**
L27K	**Beaver Creek,**	**65.42**	**29**	P	**P**	**11 46 22.3**	**+0.3**
L27K				IAmb	IAmb	11 46 56.2	
	comp=Z,4.4nm,1.4s						
BCAR	**Beaver Creek A**	**65.44**	**29**	P	**P**	**11 46 22.6**	**+0.4**
TABL	**Table Mountain**	**65.48**	**31**	P	**P**	**11 46 23.1**	**+0.5**
EGAK	**Eagle**	**65.92**	**27**	P	**P**	**11 46 25.8**	**+0.6**
EGAK				IAmb	IAmb	11 46 32.6	
	comp=Z,3.3nm,1.2s						
DAWY	**Dawson**	**66.61**	**28**	P	**P**	**11 46 30.0**	**+0.4**
KKAR	**Karatay Array**	**66.64**	**310**	P	**P**	**11 46 30.6**	**+0.4**
HYT	**Haines Junctio**	**67.29**	**31**	P	**P**	**11 46 34.7**	**+0.6**
HYT				IAmb	IAmb	11 46 36.6	
	comp=Z,5.7nm,1.1s						
M30M	**Minto, Yukon**	**67.69**	**29**	P	**P**	**11 46 37.1**	**+0.7**
N31M	**Braeburn, Yuko**	**68.14**	**30**	P	**P**	**11 46 40.1**	**+0.9**
N31M				IAmb	IAmb	11 47 18.9	
	comp=Z,8.5nm,1.2s						
SKAG	**Skagway**	**68.36**	**33**	P	**P**	**11 46 41.1**	**+0.5**
SKAG				IAmb	IAmb	11 46 46.4	
	comp=Z,7.7nm,1.2s						
M31M	**Drury Creek, Y**	**68.80**	**30**	P	**P**	**11 46 43.6**	**+0.3**
M31M				IAmb	IAmb	11 46 45.2	
	comp=Z,5.9nm,1.4s						
INK	**Inuvik**	**69.22**	**23**	P	**P**	**11 46 44.0**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=277,slow=5.7,SNR=11						
	comp=Z,1.7nm,0.6s						
INK	**Inuvik**	**69.22**	**23**	P	**P**	**11 46 45.4**	**-0.3**
INK				IAmb	IAmb	11 46 47.6	
	comp=Z,5.4nm,1.4s						
FARO	**Faro, Yukon**	**69.29**	**30**	P	**P**	**11 46 46.0**	**-0.3**
P33M	**Teslin, Yukon**	**69.61**	**32**	P	**P**	**11 46 48.9**	**+0.5**
P33M				IAmb	IAmb	11 47 32.7	
	comp=Z,7.9nm,1.4s						
DLBC	**Dease Lake**	**71.16**	**34**	P	**P**	**11 46 58.5**	**+0.6**
DLBC				IAmb	IAmb	11 47 35.4	
	comp=Z,6.4nm,1.2s						
ABKAR	**Akbulak array**	**73.19**	**317**	P	**P**	**11 47 09.6**	**-0.4**
NLWA	**Neilton Lookou**	**76.66**	**44**	P	**P**	**11 47 30.2**	**+0.2**
EUNU	**Eureka**	**77.56**	**8**	P	**P**	**11 47 33.8**	**-0.7**
YKA	**Yellowknife Ar**	**77.85**	**28**	P	**P**	**11 47 36.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=290,slow=5.7,SNR=17						
	comp=Z,1.2nm,0.6s						
HUMO	**Hull Mountain**	**78.45**	**49**	P	**P**	**11 47 40.5**	**+0.4**
LTY	**Liberty**	**78.80**	**44**	P	**P**	**11 47 41.7**	**-0.2**
LTY				IAmb	IAmb	11 47 42.9	
	comp=Z,10nm,1.4s						
RES	**Resolute Bay**	**79.26**	**14**	P	**P**	**11 47 43.9**	**+0.1**
RES				IAmb	IAmb	11 47 44.8	
	comp=Z,2.5nm,0.6s						
B08A	**Colville Reser**	**79.36**	**43**	P	**P**	**11 47 44.7**	**-0.2**
PINE	**Pine Mountain**	**79.56**	**47**	P	**P**	**11 47 47.0**	**+0.7**
PINE				IAmb	IAmb	11 47 47.8	
	comp=Z,4.9nm,0.7s						
NEW	**Newport**	**80.80**	**42**	P	**P**	**11 47 52.3**	**-0.4**
ARCES	**ARCESS Array B**	**82.32**	**342**	P	**P**	**11 48 00.0**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=71,slow=8.7,SNR=9.3						
	comp=Z,1.7nm,0.6s						
ARCES	**ARCESS Array B**	**82.32**	**342**	P	**P**	**11 47 58.8**	**-1.4**
ARCES				IAmb	IAmb	11 48 08.3	
	comp=Z,9.8nm,1.2s						
KVN	**Kaiserville**	**83.01**	**51**	P	**P**	**11 48 04.2**	**-0.4**
KVN				IAmb	IAmb	11 48 05.4	
	comp=Z,2.3nm,0.7s						
NVAR	**Mina Array Bea**	**83.05**	**52**	P	**P**	**11 48 05.1**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=268,slow=5.7,SNR=18						
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**83.05**	**52**	P	**P**	**11 48 05.2**	**+0.3**
LRM	**Limekiln Ridge**	**84.63**	**43**	P	**P**	**11 48 12.7**	**-0.1**
HRY	**Holter Researc**	**84.70**	**42**	P	**P**	**11 48 13.1**	**+0.1**
WCT	**Wildcat Mounta**	**84.84**	**53**	P	**P**	**11 48 13.8**	**0.0**
BOZ	**Bozeman (W)**	**85.25**	**43**	P	**P**	**11 48 15.6**	**-0.1**
YHL	**Hebgen Lake**	**85.82**	**44**	P	**P**	**11 48 19.1**	**+0.3**
YHL				IAmb	IAmb	11 48 20.3	
	comp=Z,3.7nm,0.8s						
FINES	**FINESS Array B**	**86.71**	**335**	P	**P**	**11 48 20.6**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=73,slow=4.7,SNR=12						
	comp=Z,1.0nm,0.3s						
FFC	**Flin Flon**	**86.96**	**32**	P	**P**	**11 48 23.1**	**-0.6**
KNB	**Kanab**	**87.62**	**52**	P	**P**	**11 48 27.8**	**+0.3**
PD31	**Pinedale Array**	**87.72**	**45**	P	**P**	**11 48 27.4**	**-0.6**
PDAR	**Pinedale Array**	**87.72**	**45**	P	**P**	**11 48 27.3**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=231,slow=1.8,SNR=6.6						
	comp=Z,0.2nm,0.4s						
SRU	**San Rafael Swe**	**88.50**	**49**	P	**P**	**11 48 31.4**	**-0.2**
SRU				IAmb	IAmb	11 48 32.1	
	comp=Z,2.2nm,0.9s						
FCC	**Fort Churchill**	**88.52**	**27**	P	**P**	**11 48 30.1**	**-0.8**
PV14	**Lion Creek, Pa**	**89.87**	**49**	P	**P**	**11 48 37.8**	**-0.3**

SOME ***12*** *11:44:32.9, 40°.37N×75°.00E, h5km*
KRNET ***12*** *11:44:32.1±0.1, 40°.26N×75°.12E, mb3.1*
NNC ***12*** *11:44:34.9±0.7, 40°.42N×74°.99E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=5.6km s-min=3.9km az=155.0*
ISC 12 11:44:35.1±1.2, 40°.34N±0°.06×75°.07E±0°.03, h10km, n56, σ1ᵗ18/73, 25C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.30**	**32**	⇓*i*P	**Pn**	**11 44 57.1**	**-2.6**
	baz=29						
NRN				⇓*i*S	**Sb**	**11 45 15.1**	**-1.6**
	baz=29						
OHH	**Osh**	**1.76**	**277**	⇑*i*P	**Pn**	**11 45 05.5**	**-0.2**
	baz=79						
OHH				⇑*i*S	**Sn**	**11 45 29.5**	**+1.3**
	baz=79						
UCH	**Uchtor**	**1.93**	**348**	P	**Pn**	**11 45 08.7**	**+0.2**
	SNR=93						
UCH	**Uchtor**	**1.93**	**348**	⇑*e*P	**Pn**	**11 45 09.2**	**+0.7**
	baz=47						
UCH				⇑*i*S	**Sg**	**11 45 36.2**	**-1.1**
	baz=47						
AML	**Almayashu**	**2.07**	**330**	P	**Pn**	**11 45 10.7**	**+0.4**
	SNR=24						
AML	**Almayashu**	**2.07**	**330**	⇑*e*P	**Pn**	**11 45 11.2**	**+0.9**
	baz=31						
AML				⇑*i*S	**Sb**	**11 45 39.6**	**+0.6**
	baz=31						
ULHL	**Ulahol**	**2.10**	**24**	⇓*i*P	**Pn**	**11 45 10.9**	**+0.4**
	baz=23						
ULHL				⇓*i*S	**Sb**	**11 45 39.2**	**-0.4**
	baz=23						
BOOM	**Boomskoye usch**	**2.25**	**17**	⇓*e*P	**Pn**	**11 45 13.1**	**+0.6**
	baz=15						
BOOM				⇓*i*S	**Sb**	**11 45 43.0**	**-0.8**
	baz=15						
KBK	**Karagaybulak**	**2.32**	**358**	P	**Pb**	**11 45 15.6**	**-1.5**
	SNR=19						
KBK	**Karagaybulak**	**2.32**	**358**	⇑*i*P	**Pn**	**11 45 14.2**	**+0.7**
	baz=57						
KBK				⇑*i*S	**Sb**	**11 45 44.9**	**-1.0**
	baz=57						
AAK	**Ala-Archa**	**2.34**	**349**	P	**Pn**	**11 45 15.6**	**+1.9**
	SNR=48						
AAK	**Ala-Archa**	**2.34**	**349**	⇑*i*P	**Pn**	**11 45 14.5**	**+0.7**
	baz=49						
AAK				⇑*i*S	**Sb**	**11 45 45.5**	**-0.9**
	baz=49						
KDJ	**Kajisay**	**2.39**	**41**	⇑*i*P	**Pn**	**11 45 14.9**	**+0.3**
	baz=39						
KDJ				⇑*i*S	**Sb**	**11 45 46.0**	**-2.1**
	baz=39						
TARG	**Taragay, Kyrgy**	**2.49**	**55**	⇓*i*P	**Pn**	**11 45 16.0**	**-0.1**
	baz=53						
TARG				⇓*i*S	**Sn**	**11 45 47.8**	**+1.1**
	baz=53						
EKS2	**Erkin-Say**	**2.52**	**338**	P	**Pn**	**11 45 18.0**	**+1.8**
	SNR=13						
EKS2	**Erkin-Say**	**2.52**	**338**	⇑*i*P	**Pn**	**11 45 17.3**	**+1.1**
	baz=38						
EKS2				⇑*i*S	**Sb**	**11 45 50.0**	**-1.6**
	baz=38						
TKM2	**Tokmak 2**	**2.61**	**8**	P	**Pn**	**11 45 19.3**	**+1.8**
	SNR=18						
TKM2	**Tokmak 2**	**2.61**	**8**	⇓Pn	**Pn**	**11 45 17.8**	**+0.3**
	6.7nm,0.3s						
TKM2				⇑Lg	Lg	11 45 56.4	
	13nm,0.5s						
TKM2	**Tokmak 2**	**2.61**	**8**	⇑*i*P	**Pn**	**11 45 18.1**	**+0.5**
	baz=8.0						
TKM2				⇑*i*S	**Sb**	**11 45 51.9**	**-2.4**
	baz=8.0						
DRK	**Karamyk**	**2.66**	**252**	⇓*i*P	**Pn**	**11 45 17.9**	**-0.4**
	baz=54						
DRK				⇓*i*S	**Sn**	**11 45 51.2**	**+0.4**
	baz=54						
CHMS	**Chumysh**	**2.67**	**355**	P	**Pn**	**11 45 20.2**	**+2.0**
	SNR=12						
CHMS	**Chumysh**	**2.67**	**355**	⇓Pn	**Pn**	**11 45 19.0**	**+0.8**
	16nm,0.7s						
CHMS				⇓Lg	Lg	11 45 57.1	
	16nm,0.6s						
CHMS	**Chumysh**	**2.67**	**355**	⇑*i*P	**Pn**	**11 45 19.1**	**+0.9**
	baz=54						
CHMS				⇑*i*S	**Sn**	**11 45 53.1**	**+2.5**
	baz=54						
ARK	**Arkit**	**2.77**	**303**	⇓*i*P	**Pn**	**11 45 20.4**	**+0.8**
	baz=4.0						
ARK				⇓*i*S	**Sn**	**11 45 55.9**	**+2.7**
	baz=4.0						
MRKS	**Merke**	**2.78**	**331**	Pg	**Pb**	**11 45 22.9**	**-1.9**
	9.6nm,0.5s						
MRKS				Lg	Lg	11 45 59.2	
	24nm,0.7s						
MRKS	**Merke**	**2.78**	**331**	*e*Pg	**Pb**	**11 45 23.0**	**-1.9**
	9.6nm,0.5s						
MRKS				*e*Lg	Lg	11 45 59.2	
	24nm,0.7s						
KST	**Kastek**	**2.78**	**14**	Pg	**Pb**	**11 45 25.0**	**-0.1**
	8.4nm,0.4s						
KST				Lg	Lg	11 46 02.6	
	22nm,0.5s						
KST	**Kastek**	**2.78**	**14**	*e*Pg	**Pb**	**11 45 25.0**	**-0.1**
	8.4nm,0.4s						
KST				*e*Lg	Lg	11 46 02.2	
	22nm,0.5s						
DGS	**Degeres**	**2.95**	**10**	Pg	**Pb**	**11 45 27.8**	**-0.1**
	17nm,0.4s						
DGS				Lg	Lg	11 46 07.9	
	12nm,0.4s						
DGS	**Degeres**	**2.95**	**10**	*e*Pg	**Pb**	**11 45 27.8**	**-0.1**
	17nm,0.4s						
DGS				*e*Lg	Lg	11 46 07.3	
	12nm,0.4s						
USP	**Ospenovka**	**2.96**	**352**	P	**Pn**	**11 45 23.9**	**+1.7**
	SNR=23						
MTBS	**Maitube**	**2.97**	**20**	Pg	**Pb**	**11 45 28.0**	**-0.1**
	8.1nm,0.3s						
MTBS				Lg	Lg	11 46 08.6	
	13nm,0.3s						
MTBS	**Maitube**	**2.97**	**20**	*e*Pg	**Pb**	**11 45 28.0**	**-0.1**
	8.1nm,0.3s						
MTBS				*e*Lg	Lg	11 46 07.7	
	13nm,0.3s						
TNSS	**Tian-Shan**	**3.04**	**27**	Pg	**Pb**	**11 45 29.3**	**-0.2**
	9.0nm,0.4s						
TNSS				Lg	Lg	11 46 10.5	
	9.9nm,0.6s						
TNSS	**Tian-Shan**	**3.04**	**27**	*e*Pg	**Pb**	**11 45 29.3**	**-0.2**
	9.0nm,0.4s						
TNSS				*e*Lg	Lg	11 46 10.5	
	9.9nm,0.6s						
SGDS	**Sogindy**	**3.13**	**354**	Pg	**Pb**	**11 45 30.4**	**-0.5**
	8.4nm,0.3s						
SGDS				Lg	Lg	11 46 12.0	
	7.5nm,0.5s						
MDOK	**Medeo**	**3.19**	**27**	⇑Pg	**Pb**	**11 45 31.1**	**-0.8**
	5.0nm,0.4s						
MDOK				⇑Lg	Lg	11 46 14.4	
	10nm,0.6s						
KNDC	**Almaty**	**3.21**	**26**	⇑Lg	Lg	11 46 16.5	
	38nm,0.5s						
TRKS	**Terek-Say**	**3.21**	**293**	⇑*i*P	**Pn**	**11 45 25.5**	**-0.2**
	baz=93						
TRKS				⇑*i*S	**Sn**	**11 46 05.0**	**+0.9**
	baz=93						
KOTS	**Kotyrbulak**	**3.27**	**27**	Pg	**Pb**	**11 45 33.6**	**+0.2**
	6.8nm,0.4s						
KOTS				Lg	Lg	11 46 17.3	
	27nm,0.6s						
KOTS	**Kotyrbulak**	**3.27**	**27**	*e*Pg	**Pb**	**11 45 33.6**	**+0.2**
	6.8nm,0.4s						
KOTS				*e*Lg	Lg	11 46 17.3	
	27nm,0.6s						
BTK	**Batken**	**3.27**	**266**	⇓*i*P	**Pn**	**11 45 26.9**	**+0.4**
	baz=68						
BTK				⇓*i*S	**Sn**	**11 46 06.8**	**+1.2**
	baz=68						
KTBS	**Karatobe**	**3.58**	**19**	Pg	**Pb**	**11 45 38.8**	**+0.3**
	6.3nm,0.3s						
KTBS				Lg	Lg	11 46 26.2	
	12nm,0.4s						
KTBS	**Karatobe**	**3.58**	**19**	*e*Pg	**Pb**	**11 45 38.8**	**+0.3**
	6.3nm,0.3s						
KTBS				*e*Lg	Lg	11 46 26.2	
	12nm,0.4s						
KUU	**Kurty**	**3.67**	**14**	Pg	**Pb**	**11 45 40.3**	**+0.2**
	3.5nm,0.4s						
KUU				Lg	Lg	11 46 28.9	
	15nm,0.6s						
KUU	**Kurty**	**3.67**	**14**	*e*Pg	**Pb**	**11 45 40.3**	**+0.2**
	3.5nm,0.4s						
KUU				*e*Lg	Lg	11 46 28.9	
	15nm,0.6s						
SATY	**Saty**	**3.69**	**41**	Pg	**Pb**	**11 45 41.6**	**+1.1**
	3.9nm,0.9s						
SATY				Lg	Lg	11 46 31.1	
	10nm,0.6s						
SATY	**Saty**	**3.69**	**41**	*e*Pg	**Pb**	**11 45 41.6**	**+1.1**
	3.9nm,0.9s						
SATY				*e*Lg	Lg	11 46 31.1	
	10nm,0.6s						
CHKK	**Chushkaly**	**3.79**	**21**	Pg	**Pb**	**11 45 42.6**	**+0.5**
	2.8nm,0.5s						
CHKK				Lg	Lg	11 46 32.9	
	9.8nm,0.4s						
CHKK	**Chushkaly**	**3.79**	**21**	*e*Pg	**Pb**	**11 45 42.6**	**+0.5**
	2.8nm,0.5s						
CHKK				*e*Lg	Lg	11 46 32.9	
	9.8nm,0.4s						
KURS	**Kuram**	**3.90**	**35**	Pg	**Pb**	**11 45 46.1**	**+2.1**
KURS				Lg	Lg	11 46 38.7	
KURS	**Kuram**	**3.90**	**35**	*e*P	**Pb**	**11 45 46.1**	**+2.1**
KURS				*e*S	**Sg**	**11 46 38.7**	**-1.8**
KPKS	**Kokpek**	**4.13**	**40**	Pg	**Pb**	**11 45 49.2**	**+1.3**
	2.4nm,0.4s						
KPKS				Lg	Lg	11 46 44.0	
	16nm,0.6s						
KPKS	**Kokpek**	**4.13**	**40**	*e*Pg	**Pb**	**11 45 49.2**	**+1.3**
	2.4nm,0.4s						
KPKS				*e*Lg	Lg	11 46 44.0	
	16nm,0.6s						
IUG	**Iuzhnay**	**4.21**	**297**	*e*Pg	**Pb**	**11 45 49.3**	**0.0**
	5.5nm,0.4s						
IUG				*e*Lg	Lg	11 46 43.9	
	8.1nm,0.6s						
KK31	**Karatay Array**	**4.39**	**310**	⇓Pg	**Pb**	**11 45 52.8**	**+0.4**
	0.5nm,0.5s,baz=126,slow=17,SNR=6.0						
KK31				⇑Lg	Lg	11 46 50.1	
	1.3nm,0.4s,baz=126,slow=29,SNR=6.8						

NOU ***12*** *11:51:38.6, 15°.09S×177°.50W, h401km, mb4.7/59, Fiji Islands Region*
NEIC ***12*** *11:51:38.5±2.6, 15°.07S±0°.08×177°.56W±0°.06, h388km±6km, mb4.5/147, Error ellipse: s-maj=13.0km s-min=6.1km az=207.0*
IDC ***12*** *11:51:40.8±1.5, 15°.02S×177°.77W, h407km±15km, mb3.7/12, mbtmp4.5/14, Error ellipse: s-maj=18.0km s-min=9.8km az=150.0*
ISC 12 11:51:39.2±0.4, 15°.07S±0°.07×177°.61W±0°.07, h400km, n206, σ0ᵗ93/148, mb4.5/91, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**0.91**	**327**	P	**Pn**	**11 52 28.7**	**-1.4**
TAVE	**Taveuni**	**2.74**	**233**	P	**Pn**	**11 52 40.3**	**-0.1**
LKBA	**Tubou, Lakemba**	**3.35**	**200**	P	**Pn**	**11 52 44.7**	**-0.6**
MSVF	**Nonsavu**	**4.94**	**237**	P	**Pn**	**11 53 01.2**	**+0.5**
	354nm,0.4s,baz=129,slow=3.0,SNR=633						
MSVF	**Non

TV1H	Townsville Har	34.23	258	P	P	11 57 48.8	-0.7
	comp=Z,20nm,0.5s						
CTA	Charters Tower	34.76	256	P	P	11 57 54.1	0.0
CTAO	Charters Tower	34.76	256	P	P	11 57 53.9	-0.2
CTAO				IAmb	IAmb	11 57 55.1	
	comp=Z,43nm,1.4s						
CTAO	Charters Tower	34.76	256	P	P	11 57 54.1	0.0
PMG	Port Moresby	34.86	275	P	P	11 57 55.8	+0.8
PMG				IAmb	IAmb	11 57 57.2	
	comp=Z,24nm,1.0s						
CNB	Canberra Magne	35.80	230	P	P	11 58 02.3	-0.4
CMSA	Cobar Meteorol	37.26	237	P	P	11 58 14.6	-0.3
QLP	Quilpie	37.32	246	P	P	11 58 15.4	-0.1
COEN	Coen	37.95	267	P	P	11 58 21.4	+0.6
COEN				IAmb	IAmb	11 58 22.8	
	comp=Z,19nm,0.8s						
COEN	Coen	37.95	267	P	P	11 58 21.5	+0.7
TOO	Toolangi	39.58	228	P	P	11 58 32.9	-1.0
TOO				IAmb	IAmb	11 58 34.2	
	comp=Z,25nm,1.4s						
TOO	Toolangi	39.58	228	P	P	11 58 33.4	-0.5
INKA	Innaminka	40.58	245	P	P	11 58 42.6	+0.5
STKA	Stephens Creek	40.71	238	P	P	11 58 43.0	-0.1
	comp=Z,3.2nm,0.4s,baz=89,slow=11,SNR=17						
	comp=Z,3.2nm,0.4s						
STKA	Stephens Creek	40.71	238	P	P	11 58 42.8	-0.3
STKA	Stephens Creek	40.71	238	P	P	11 58 43.0	-0.1
QIS	Mount Isa	41.01	256	P	P	11 58 45.3	-0.4
ARPS	Mount Arapiles	41.98	231	P	P	11 58 52.8	-0.4
	comp=Z,11nm,0.7s						
LCRK	Leigh Creek	43.23	241	P	P	11 59 02.8	-0.4
HTT	Hallett	43.28	237	P	P	11 59 03.2	-0.4
OOD	Oodnadatta	45.03	246	P	P	11 59 17.6	+0.3
BBOO	Buckleboo	45.49	239	P	P	11 59 20.5	-0.3
BBOO				IAmb	IAmb	11 59 22.1	
	comp=Z,46nm,1.4s						
BBOO	Buckleboo	45.49	239	P	P	11 59 20.3	-0.5
WR0	Warramunga Arr	45.77	257	P	P	11 59 21.8	-1.5
WR0				IAmb	IAmb	11 59 23.7	
	comp=Z,30nm,1.5s						
WB0	Warramunga Arr	45.92	257	IAmb	IAmb	11 59 24.5	
	comp=Z,21nm,1.0s						
WB2	Warramunga Arr	45.95	257	P	P	11 59 22.9	-1.7
WB2				IAmb	IAmb	11 59 24.9	
	comp=Z,13nm,0.8s						
WRAB	Tennant Creek	45.95	257	P	P	11 59 23.3	-1.3
WRAB	Tennant Creek	45.95	257	P	P	11 59 24.4	-0.2
WRA	Warramunga Arr	45.96	257	P	P	11 59 23.6	-1.1
	comp=Z,6.3nm,0.7s,baz=90,slow=6.9,SNR=60						
WRA				PcP	PcP	12 00 54.8	+0.9
	comp=Z,1.4nm,0.6s,baz=92,slow=3.8,SNR=4.4						
WRA				S	S	12 05 37.2	-1.9
	comp=Z,0.3nm,0.7s,baz=97,slow=14,SNR=2.2						
	comp=Z,6.3nm,0.7s						
WRA	Warramunga Arr	45.96	257	P	P	11 59 23.1	-1.6
AS01	Alice Springs	46.31	252	P	P	11 59 27.0	-0.3
AS31	Alice Springs	46.35	252	P	P	11 59 27.4	-0.2
ASAR	Alice Springs	46.35	252	P	P	11 59 27.3	-0.4
	comp=Z,75nm,0.5s,baz=84,slow=8.3,SNR=1911						
ASAR				PcP	PcP	12 00 55.7	+0.5
	comp=Z,2.3nm,0.5s,baz=100,slow=4.1,SNR=4.6						
ASAR				S	S	12 05 42.8	-1.8
	comp=Z,1.5nm,0.9s,baz=81,slow=16,SNR=8.9						
ASAR	Alice Springs	46.35	252	P	P	11 59 27.7	0.0
MULG	Mulgathing	46.75	243	P	P	11 59 30.2	-0.3
KDU	Kakadu	48.44	266	P	P	11 59 44.0	+0.4
MTN	Manton Dam	49.71	266	P	P	11 59 52.9	-0.1
MTN				IAmb	IAmb	11 59 54.3	
	comp=Z,18nm,0.6s						
MTN	Manton Dam	49.71	266	P	P	11 59 52.9	-0.1
WRKA	Warakurna	51.49	250	P	P	12 00 06.0	-0.1
KNRA	Kununurra	51.59	262	P	P	12 00 06.6	-0.4
KNRA				IAmb	IAmb	12 00 07.7	
	comp=Z,21nm,0.8s						
KNRA	Kununurra	51.59	262	P	P	12 00 07.3	+0.4
FORT	Forrest	51.95	243	P	P	12 00 09.3	0.0
FITZ	Fitzroy Crossi	54.30	258	P	P	12 00 26.3	-0.1
PSA00	Pilbara Seismi	59.40	254	P	P	12 01 01.4	-0.4
PSA00				IAmb	IAmb	12 01 08.2	
	comp=Z,14nm,0.9s						
PSA00	Pilbara Seismi	59.40	254	P	P	12 01 01.5	-0.3
MBWA	Marble Bar	59.55	254	P	P	12 01 02.5	-0.3
KLBR	Kellerberrin	60.80	242	P	P	12 01 10.7	-0.3
NWAO	Narrogin (SRO)	61.24	241	P	P	12 01 12.8	-1.1
NWAO	Narrogin (SRO)	61.24	241	P	P	12 01 12.8	-1.1
NWAO				IAmb	IAmb	12 01 18.4	
	comp=Z,43nm,1.2s						
NWAO	Narrogin (SRO)	61.24	241	P	P	12 01 13.5	-0.4
NWAO	Narrogin (SRO)	61.24	241	P	P	12 01 13.6	-0.4
BLDU	Ballidu	61.71	243	P	P	12 01 16.3	-0.8
MORW	Morawa	62.35	245	P	P	12 01 20.5	-0.8
SBA	Scott Base	63.28	184	P	P	12 01 28.1	+1.6
VNDA	Vanda	63.32	185	P	P	12 01 28.5	+1.8
	comp=Z,3.2nm,0.6s,baz=345,slow=7.4,SNR=13						
	comp=Z,3.2nm,0.6s						
VNDA	Vanda	63.32	185	P	P	12 01 27.6	+0.9
PLAI	Plampang	63.34	268	P	P	12 01 28.1	+0.1
TWSI	Taliwang, Sumb	64.22	267	P	P	12 01 32.9	-0.7
	comp=Z,35nm,1.3s						
MJAR	Matsushiro Arr	66.13	322	P	P	12 01 44.2	-1.1
	comp=Z,3.8nm,1.0s,baz=164,slow=6.1,SNR=4.0						
	comp=Z,3.8nm,1.0s						
UGM	Wanagama	70.54	267	P	P	12 02 12.7	-0.1
PEA0B	Petropavlovsk-	71.16	345	P	P	12 02 14.8	-0.8
PETK	Petropavlovsk-	71.16	345	P	P	12 02 16.1	+0.5
	comp=Z,9.9nm,1.0s,baz=112,slow=8.7,SNR=8.3						
	comp=Z,9.9nm,1.0s						
QSPA	South Pole Qui	74.97	180	P	P	12 02 38.0	+0.3
QSPA				IAmb	IAmb	12 02 39.1	
	comp=Z,9.2nm,0.8s						
KDAK	Kodiak Island	75.48	14	P	P	12 02 40.8	+0.4
P18K	Big Mountain,	76.41	12	P	P	12 02 45.3	-0.3
YERR	Yerington	76.53	43	IAmb	IAmb	12 02 49.1	
	comp=Z,5.5nm,0.7s						
DSP	Deep Springs	76.54	45	P	P	12 02 49.2	+2.5
DSP				IAmb	IAmb	12 02 50.0	
	comp=Z,4.7nm,0.9s						
LHV	Little Huntoon	76.63	44	IAmb	IAmb	12 02 50.5	
	comp=Z,13nm,1.4s						
GRAC	Grapevine Rang	76.76	46	IAmb	IAmb	12 02 51.2	
	comp=Z,8.8nm,0.8s						
NVAR	Mina Array Bea	76.86	44	P	P	12 02 50.6	+1.8
	comp=Z,2.6nm,0.7s,baz=228,slow=9.2,SNR=13						
	comp=Z,2.6nm,0.7s						
NV11	Mina Array Sit	76.96	44	IAmb	IAmb	12 02 53.1	
	comp=Z,15nm,1.5s						
BLYC	Blythe	77.21	50	IAmb	IAmb	12 02 53.5	
	comp=Z,4.3nm,0.8s						
ILSW	Iliamna Southw	77.37	12	IAmb	IAmb	12 02 52.4	
	comp=Z,16nm,1.0s						
TPNV	Topopah Spring	77.51	46	IAmb	IAmb	12 02 55.0	
	comp=Z,6.9nm,0.7s						
SHPR	Sheep Range	78.06	47	P	P	12 02 56.9	+1.5
PINE	Pine Mountain	78.10	38	IAmb	IAmb	12 02 58.0	
	comp=Z,8.6nm,0.8s						
PRN	Pahroc Range	78.57	46	IAmb	IAmb	12 03 01.2	
	comp=Z,6.3nm,0.8s						
SUA	Susitna One	79.21	13	IAmb	IAmb	12 03 02.3	
	comp=Z,6.4nm,0.8s						
J08A	Circle Bar Ran	79.36	40	IAmb	IAmb	12 03 04.3	
	comp=Z,5.5nm,0.8s						
TTA	Tatalina	79.56	10	P	P	12 03 03.6	+0.8
TTA				IAmb	IAmb	12 03 04.9	
	comp=Z,10.0nm,0.9s						
SPR3	Spring Creek 3	79.83	45	IAmb	IAmb	12 03 06.8	
	comp=Z,3.4nm,1.0s						
GHO	Glory Hole Cre	79.89	13	IAmb	IAmb	12 03 05.7	
	comp=Z,6.2nm,0.6s						
U15A	North Rim	80.06	48	IAmb	IAmb	12 03 09.5	
	comp=Z,6.1nm,0.9s						
G08A	Pilot Rock	80.11	38	IAmb	IAmb	12 03 08.2	
	comp=Z,4.4nm,0.9s						
319A	Douglas	80.14	54	IAmb	IAmb	12 03 10.5	
	comp=Z,8.0nm,0.8s						
K20K	Telida	80.29	11	IAmb	IAmb	12 03 08.2	
	comp=Z,8.2nm,0.8s						
HAWA	Hanford	80.38	37	IAmb	IAmb	12 03 09.9	
	comp=Z,7.9nm,0.8s						
PKCU	Pink Cliffs	80.51	47	IAmb	IAmb	12 03 12.4	
	comp=Z,15nm,1.4s						
E08A	Dider Farm, El	80.71	37	IAmb	IAmb	12 03 11.1	
	comp=Z,4.8nm,0.8s						
CAST	Castle Rocks	80.71	11	IAmb	IAmb	12 03 08.7	
	comp=Z,7.3nm,1.0s						
N25K	Chitina, Valde	80.78	15	IAmb	IAmb	12 03 10.6	
	comp=Z,5.7nm,0.7s						
KTH	Kantishna Hill	81.06	12	IAmb	IAmb	12 03 12.5	
	comp=Z,5.8nm,1.0s						
TRF	Thorofare Moun	81.09	12	IAmb	IAmb	12 03 12.7	
	comp=Z,8.8nm,0.8s						
BARN	Barnard Glacie	81.11	17	IAmb	IAmb	12 03 12.6	
	comp=Z,7.3nm,0.6s						
F10A	Beach Ranch, E	81.50	38	IAmb	IAmb	12 03 15.2	
	comp=Z,6.7nm,0.8s						
MCK	McKinley	81.62	12	IAmb	IAmb	12 03 14.5	
	comp=Z,8.4nm,0.9s						
M26K	Nabesna, AK	81.86	16	IAmb	IAmb	12 03 16.8	
	comp=Z,11nm,1.0s						
HLID	Hailey	82.00	41	IAmb	IAmb	12 03 18.9	
	comp=Z,6.8nm,0.8s						
M27K	Edge Creek, AK	82.12	16	IAmb	IAmb	12 03 18.1	
	comp=Z,11nm,1.1s						
MPU	Maple Canyon	82.15	45	IAmb	IAmb	12 03 19.6	
	comp=Z,4.6nm,0.9s						
SPUT	South Promonto	82.20	44	IAmb	IAmb	12 03 19.8	
	comp=Z,6.8nm,1.0s						
HVU	Hansel Valley	82.20	43	IAmb	IAmb	12 03 19.3	
	comp=Z,5.4nm,0.8s						
I21K	Tanana	82.33	11	IAmb	IAmb	12 03 19.0	
	comp=Z,12nm,1.1s						
CTU	Camp Tracy	82.38	44	IAmb	IAmb	12 03 21.1	
	comp=Z,5.8nm,1.0s						
MLY	Manley	82.43	11	IAmb	IAmb	12 03 18.8	
	comp=Z,8.6nm,1.2s						
SRU	San Rafael Swe	82.51	46	IAmb	IAmb	12 03 21.4	
	comp=Z,8.9nm,0.8s						
RIDG	Independent Ri	82.53	14	IAmb	IAmb	12 03 19.4	
	comp=Z,5.8nm,0.8s						
HDA	Harding Lake	82.64	13	IAmb	IAmb	12 03 19.7	
	comp=Z,9.1nm,0.8s						
DOT	Dot Lake	82.64	14	IAmb	IAmb	12 03 20.0	
	comp=Z,8.9nm,0.8s						
I23K	Minto, Yukon-K	82.80	12	IAmb	IAmb	12 03 21.1	
	comp=Z,7.5nm,1.1s						
MDM	Murphy Dome	82.85	12	IAmb	IAmb	12 03 21.2	
	comp=Z,12nm,1.0s						
COLA	College	82.86	12	P	P	12 03 19.9	+0.3
SCRK	Sand Creek	82.94	14	IAmb	IAmb	12 03 21.7	
	comp=Z,6.1nm,0.8s						
ILAR	Eielson Array	82.97	13	P	P	12 03 20.1	-0.1
	comp=Z,8.0nm,0.9s,baz=225,slow=6.0,SNR=43						
	comp=Z,8.0nm,0.9s						
PV11	David Mesa, Pa	83.33	48	IAmb	IAmb	12 03 26.2	
	comp=Z,13nm,1.3s						
BILL	Bilibino	83.71	354	P	P	12 03 23.9	0.0
M30M	Minto, Yukon	83.72	18	IAmb	IAmb	12 03 25.7	
	comp=Z,8.8nm,0.8s						
ANMO	Albuquerque	83.74	51	P	P	12 03 26.7	+1.6
ANMO				IAmb	IAmb	12 03 27.8	
	comp=Z,5.0nm,0.9s						
TX32	Lajitas Array	83.83	58	IAmb	IAmb	12 03 29.1	
	comp=Z,5.8nm,0.9s						
PRP	Porcupine Dome	83.91	13	IAmb	IAmb	12 03 27.0	
	comp=Z,7.9nm,0.9s						
DAWY	Dawson	84.17	16	IAmb	IAmb	12 03 28.0	
	comp=Z,8.4nm,0.8s						
EGAK	Eagle	84.29	15	IAmb	IAmb	12 03 28.4	
	comp=Z,10nm,0.9s						
COLD	Coldfoot	84.50	10	IAmb	IAmb	12 03 30.1	
	comp=Z,7.0nm,1.0s						
YMR	Madison River	84.71	41	IAmb	IAmb	12 03 32.7	
	comp=Z,6.6nm,0.8s						
PDAR	Pinedale Array	84.78	43	P	P	12 03 31.1	+1.0
	comp=Z,1.6nm,0.6s,baz=211,slow=2.8,SNR=19						
	comp=Z,1.6nm,0.6s						
J29M	Klondike Camp	84.79	16	IAmb	IAmb	12 03 31.6	
	comp=Z,8.0nm,0.8s						
H17A	Grst Village	84.83	42	IAmb	IAmb	12 03 34.3	
	comp=Z,5.8nm,0.9s						
BELA	Belgrano 2	84.86	173	P	P	12 03 29.2	-0.5
BELA				IAmb	IAmb	12 03 30.9	
	comp=Z,8.2nm,1.0s						
LKWY	Lake	85.02	41	IAmb	IAmb	12 03 35.3	
	comp=Z,7.1nm,1.0s						
RLMT	Red Lodge	85.99	41	IAmb	IAmb	12 03 38.9	
	comp=Z,5.0nm,0.9s						
EDM	Edmonton	87.38	33	IAmb	IAmb	12 03 43.4	
	comp=Z,3.6nm,0.7s						
CMAR	Chiang Mai Arr	88.67	289	P	P	12 03 50.2	+1.2
	comp=Z,0.5nm,0.3s,baz=85,slow=2.7,SNR=8.6						
	comp=Z,0.5nm,0.3s						
YKA	Yellowknife Ar	91.45	24	P	P	12 04 01.2	+0.4
	comp=Z,0.2nm,0.5s,baz=240,slow=4.6,SNR=4.2						
	comp=Z,0.2nm,0.5s						
SONM	Songino Array	91.92	319	P	P	12 04 03.6	+0.1
	comp=Z,0.4nm,0.5s,baz=132,slow=5.4,SNR=3.7						
	comp=Z,0.4nm,0.5s						
BVAR	Borovoye Array	115.12	322	PKP	PKPdf	12 09 32.4	-1.1
	comp=Z,0.6nm,0.5s,baz=57,slow=5.3,SNR=3.9						
ARCES	ARCESS Array B	123.67	350	PKP	PKPdf	12 09 49.4	0.0
	comp=Z,5.7nm,1.0s,baz=292,slow=0.5,SNR=14						
FINES	FINESS Array B	130.67	345	PKP	PKiKP	12 10 03.9	0.0
	comp=Z,6.4nm,1.1s,baz=113,slow=1.8,SNR=2.0						
BOSA	Bosf	131.26	207	PKP	PKiKP	12 10 07.7	+1.2
	comp=Z,2.5nm,0.6s,baz=155,slow=3.7,SNR=4.1						
DPC	Dobruska-Polom	143.04	345	*e*PKP	PKPbc	12 10 24.2	+0.5
BR131	Keskin Array S	143.27	318		PKPdf	12 10 26.0	-1.1
BRTR	Keskin Array B	143.27	318	PKP	PKPbc	12 10 25.8	+0.9
	comp=Z,2.7nm,0.6s,baz=63,slow=0.6,SNR=13						
BRTR	Keskin Array B	143.27	318		PKPbc	12 10 25.0	+0.1
PRU	Pruhonice	143.80	347	*e*PKP	PKPdf	12 10 26.9	-0.6
VRAC	Vranov	143.93	344	PKP	PKPbc	12 10 27.1	+0.6
	comp=Z,2.6nm,0.6s,baz=352,slow=5.2,SNR=4.0						
VRAC	Vranov	143.93	344	*e*PKP	PKPbc	12 10 26.9	+0.4
VYHS	Vyhne	144.03	341	*e*PKP	PKPdf	12 10 27.5	-0.5
JAVC	Velka Javorina	144.05	343	*e*PKP	PKPdf	12 10 28.6	+0.6
KRUC	Moravsky	144.21	344	*e*PKP	PKPdf	12 10 27.9	-0.3
MODS	Modra-Piesok	144.60	343	*e*PKP	PKPab	12 10 29.6	+0.7
KHC	Kasperske Hory	144.82	347		PKPab	12 10 30.2	+0.4
KHC	Kasperske Hory	144.82	347	*e*PKP	PKPab	12 10 29.7	-0.1
CKRC	Cesky Krumlov	144.95	346	*e*PKP	PKPab	12 10 31.5	+1.3
GERES	GERESS Array B	145.06	347	PKP	PKPab	12 10 30.8	0.0
	comp=Z,1.8nm,0.6s,baz=66,slow=3.6,SNR=8.7						
MMAI	Mount Meron Ar	145.16	307	PKPbc	PKPab	12 10 32.3	+0.6
	comp=Z,4.7nm,0.5s,baz=67,slow=6.5,SNR=4.7						
CONA	Conrad Observa	145.39	344	*i* PKP	PKPab	12 10 32.2	+0.2
	comp=Z,9.2nm,1.1s						
RONA	Rolla, Austri	145.49	343	*i* PKP	PKPab	12 10 32.9	+0.5
	comp=Z,7.1nm,0.8s						
MOA	Molln	145.87	346	*i* PKP	PKPab	12 10 33.3	-0.5
	comp=Z,3.4nm,0.5s						
ARSA	Arzberg	146.11	344	*e*PKP	PKPab	12 10 34.5	-0.2
	comp=Z,8.6nm,1.4s						
SOKA	Soboth	146.76	344	*i* PKP	PKPbc	12 10 35.1	-0.1
	comp=Z,3.1nm,0.8s						
KBA	Koelnbreinsper	146.81	346	*e*PKP	PKPbc	12 10 35.3	-0.1
	comp=Z,7.4nm,0.6s						
WATA	Walderalm	146.94	349	*e*PKP	PKiKP	12 10 37.0	-0.9
	comp=Z,12nm,1.4s						
RETA	Reutte	146.94	350	*e*PKP	PKiKP	12 10 37.0	-0.8
	comp=Z,8.1nm,1.4s						
WTTA	Wattenberg	147.00	348	*i* PKP	PKPbc	12 10 36.2	+0.3
	comp=Z,6.0nm,0.5s						
MOTA	Moosalm	147.02	349	*e*PKP	PKPbc	12 10 36.8	+0.9
	comp=Z,14nm,1.2s						
MYKA	Terra Mystica	147.16	346	*e*PKP	PKPbc	12 10 36.1	-0.2
	comp=Z,5.6nm,0.7s						
ABTA	Abfaltersbach	147.31	347	*e*PKP	PKPdf	12 10 34.6	+0.9
	comp=Z,1.5nm,0.5s						
PRED	Cave del Predi	147.35	346		PKiKP	12 10 38.1	-0.5
CIMO	Cimolais	147.74	347		PKPbc	12 10 37.4	-0.4
DAVOX	Davos/Dischmat	147.78	350	PKPbc	PKiKP	12 10 39.2	-0.4
	comp=Z,4.1nm,0.5s,baz=56,slow=3.5,SNR=5.6						

IDC ***12*** *12:06:47.2± 1.6, 28.0°N × 62.3°E, h0km, mb3.8/7, mbtmp3.8/7, MS2.7/1, Error ellipse: s-maj=35.4km s-min=30.4km az=152.0*

ISC 12 12:06:48.8±1.4, 28.0°N±0.2° × 62.3°E±0.2°, h10km, n9, σ0.86/8, mb3.8/8, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	Wadi Sarin	5.81	216	LR	LR	12 10 53.2	
	comp=Z,66nm,19.7s,baz=116,slow=42						
MKAR	Makanchi Array	24.43	35	P	P	12 12 08.4	+0.8
	0.5nm,0.6s,baz=216,slow=8.3,SNR=8.0						
	0.5nm,0.6s						
BVAR	Borovoye Array	25.69	11	P	P	12 12 19.7	+0.9
	0.8nm,0.6s,baz=184,slow=9.5,SNR=3.5						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	25.71	24	P	P	12 12 17.8	-1.2
	0.4nm,0.7s,baz=217,slow=9.0,SNR=6.2						
	0.4nm,0.7s						
FINES	FINESS Array B	41.20	334	P	P	12 14 32.9	-0.4
	3.7nm,1.1s,baz=132,slow=7.7,SNR=8.7						
	3.7nm,1.1s						
HFS	Hagfors	45.81	328	P	P	12 15 10.0	-0.5
	7.9nm,1.1s,baz=98,slow=9.2,SNR=1.9						
	7.9nm,1.1s						
ARCES	ARCESS Array B	46.65	343	P	P	12 15 16.8	-0.3
	3.3nm,1.0s,baz=153,slow=8.0,SNR=1.4						
	3.3nm,1.0s						
TORD	Torodi Ar. Bea	58.13	268	P	P	12 16 43.5	+0.5
	3.0nm,0.4s,baz=60,slow=7.1,SNR=1.7						
ASAR	Alice Springs	86.01	119	P	P	12 19 29.5	-0.3
	0.2nm,0.6s,baz=311,slow=6.0,SNR=1.9						
	0.2nm,0.6s						

IDC ***12*** *12:39:48.2± 1.4, 18.79°S × 176.20°E, h0km, mb4.1/8, mbtmp4.0/10, ML5.1/1, MS3.5/16, Error ellipse: s-maj=76.1km s-min=15.8km az=152.0*

ISC 12 12:39:49.9±0.7, 18.7°S±0.2° × 176.2°E±0.1°, h10km, n32, σ1.09/14, mb4.0/8, MS3.6/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	1.99	63	Pn	Pn	12 40 22.7	-1.0
	31nm,0.3s,baz=239,slow=15,SNR=71						
MSVF				Sn	Sb	12 40 50.8	-0.2
	46nm,0.3s,baz=312,slow=23,SNR=13						
	66nm,0.3s						
DZM	Mont Dzumac	9.76	248	*e*P	Pn	12 42 19.5	+9.1
	84nm,24.9s						
DZM				*e*LR	LR	12 44 29.5	
	comp=Z,561nm,25.6s						
DZM	Mont Dzumac	9.76	248	Pn	Pn	12 42 11.0	+0.6
	2.4nm,0.7s,baz=76,slow=20,SNR=1.8						
DZM				LR	LR	12 45 26.2	
	comp=Z,372nm,20.0s,baz=88,slow=35						
HNR	Honiara	18.22	298	LR	LR	12 50 00.5	
	comp=Z,2μm,19.8s,baz=19,slow=34						
URZ	Urewera	19.56	178	LR	LR	12 51 07.8	
	comp=Z,55nm,18.9s,baz=93,slow=35						
RAR	Rarotonga	22.73	100	LR	LR	12 51 39.1	
	comp=Z,121nm,21.5s,baz=275,slow=31						
KRVT	Keravat (AS076	27.58	298	LR	LR	12 56 03.2	
	comp=Z,91nm,19.4s,baz=216,slow=35						
CTA	Charters Tower	28.27	262	LR	LR	12 55 03.3	
	comp=Z,136nm,21.1s,baz=80,slow=32						
PMG	Port Moresby	29.59	284	LR	LR	12 56 12.8	
	comp=Z,162nm,18.1s,baz=154,slow=33						
TBI	Tubuai	32.36	104	*e*S	S	12 51 34.5	+0.6
	143nm,24.5s						
TBI				*e*LR	LR	12 54 52.9	
	comp=Z,970nm,29.8s						
TBI				*e*LR	LR	12 54 53.0	
	comp=Z,3μm,27.0s						
PPT2	Papeete2	32.52	94	*e*LR	LR	12 54 59.0	
	comp=Z,193nm,27.8s						
PPT2				*e*LR	LR	12 54 59.2	
	comp=Z,204nm,25.5s						
PPT	Papeete	32.53	94	LR	LR	12 56 10.7	
	comp=Z,57nm,20.9s,baz=246,slow=30						
STKA	Stephens Creek	33.80	240	P	P	12 46 31.9	-0.3
	8.5nm,0.9s,baz=87,slow=11,SNR=16						
STKA				LR	LR	12 58 46.7	
	comp=Z,54nm,20.2s,baz=26,slow=34						
	8.5nm,0.9s						
H11S2	WAKE ISLAND Hy	38.07	345	T	T	13 27 35.4	
	baz=166,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	38.08	345	T	T	13 27 35.7	
	baz=166,slow=76,SNR=9.3						
H11S1	WAKE ISLAND Hy	38.09	345	T	T	13 27 36.9	
	baz=166,slow=76,SNR=10						
WRA	Warramunga Arr	39.45	261	P	P	12 47 18.7	-1.9
	1.4nm,1.0s,baz=96,slow=8.9,SNR=6.7						
WRA				LR	LR	13 02 27.7	
	comp=Z,73nm,18.9s,baz=87,slow=34						
	1.4nm,1.0s						
ASAR	Alice Springs	39.65	255	P	P	12 47 21.5	-0.8
	3.2nm,0.9s,baz=82,slow=9.1,SNR=32						
ASAR				PcP	PcP	12 49 28.3	-1.0
	1.1nm,0.9s,baz=128,slow=3.4,SNR=5.6						
ASAR				LR	LR	13 02 54.1	
	comp=Z,110nm,19.1s,baz=101,slow=35						
	3.2nm,0.9s						
TAOE	Nuku Hiva Isla	43.41	83	*e*LR	LR	13 00 02.8	
	comp=Z,71nm,26.7s						
GUMO	Guam	44.49	314	LR	LR	13 02 41.2	
	comp=Z,52nm,21.2s,baz=180,slow=31						
RKT	Rikitea	45.68	104	*e*LR	LR	13 01 03.1	
	comp=Z,32μm,31.0s						
SIJI	Sorong	47.47	287	LR	LR	13 07 45.5	
	comp=Z,66nm,18.6s,baz=120,slow=35						
NWAO	Narrogin (SRO)	54.33	243	LR	LR	13 10 30.4	
	comp=Z,54nm,22.0s,slow=34						
RPN	Rapa Nui	68.26	112	LR	LR	13 14 39.

MC2	**Monte Cornacci**	**0.03**	**360**	P	Pg	12 41 04.7	+0.2
MC2				S	Sg	12 41 06.3	+0.2
NRCA	**Norcia**	**0.07**	**230**	⇑P	Pg	12 41 05.0	+0.4
NRCA				S	Sg	12 41 06.7	+0.2
NRCA				AML	AML		
	comp=N,2500μm,1.0s						
NRCA				AML	AML		
	comp=E,3580μm,0.2s						
NRCA				AML	AML		
	comp=E,4085μm,0.2s						
NRCA				AML	AML		
	comp=N,2520μm,0.1s						
MMO1	**Montemonaco**	**0.10**	**79**	⇑P	Pg	12 41 05.4	+0.4
MMO1				S	Sg	12 41 07.3	+0.3
T1214	**Arquata del Tr**	**0.12**	**174**	P	Pg	12 41 05.7	+0.4
T1214				S	Sg	12 41 08.0	+0.5
T1214				AML	AML		
	comp=N,364μm,0.8s						
T1214				AML	AML		
	comp=N,399μm,0.7s						
T1214				AML	AML		
	comp=N,364μm,0.8s						
T1214				AML	AML		
	comp=N,364μm,1.2s						
T1214				AML	AML		
	comp=E,526μm,0.5s						
T1214				AML	AML		
	comp=E,512μm,0.5s						
T1216	**Preci, Frazion**	**0.13**	**275**	⇓P	Pb	12 41 06.1	-0.6
T1216				S	Sg	12 41 07.9	+0.4
T1216				AML	AML		
	comp=E,252μm,0.7s						
T1216				AML	AML		
	comp=N,399μm,0.1s						
FEMA	**Monte Fema**	**0.13**	**308**	⇑P	Pg	12 41 06.0	+0.6
FEMA				S	Sg	12 41 08.6	+0.8
FEMA				AML	AML		
	comp=E,6475μm,0.2s						
FEMA				AML	AML		
	comp=N,4795μm,0.2s						
T1212	**Cascia, Frazio**	**0.17**	**220**	⇑P	Pg	12 41 06.5	+0.6
T1212				S	Sg	12 41 09.5	+0.9
T1212				AML	AML		
	comp=N,218μm,0.9s						
T1212				AML	AML		
	comp=E,178μm,0.7s						
T1212				AML	AML		
	comp=E,178μm,0.6s						
T1212				AML	AML		
	comp=N,218μm,0.8s						
T1212				AML	AML		
	comp=N,218μm,1.2s						
FDMO	**Fiordimonte**	**0.17**	**334**	P	Pg	12 41 06.6	+0.5
FDMO				S	Sg	12 41 09.5	+0.8
FDMO				AML	AML		
	comp=E,11750μm,0.3s						
FDMO				AML	AML		
	comp=N,21400μm,0.2s						
T1241	**Roccafluviove,**	**0.18**	**98**	⇓P	Pg	12 41 06.6	+0.5
T1241				S	Sg	12 41 09.7	+0.9
T1241				AML	AML		
	comp=E,699μm,0.1s						
T1241				AML	AML		
	comp=N,1129μm,0.2s						
T1241				AML	AML		
	comp=E,698μm,0.1s						
T1241				AML	AML		
	comp=E,751μm,0.1s						
T1241				AML	AML		
	comp=N,1084μm,0.2s						
T1241				AML	AML		
	comp=N,1125μm,0.2s						
GUMA	**Gualdo di Mace**	**0.21**	**30**	⇑P	Pb	12 41 07.5	-0.6
GUMA				AML	AML		
	comp=N,237μm,1.5s						
GUMA				AML	AML		
	comp=N,217μm,0.3s						
GUMA				AML	AML		
	comp=E,228μm,0.2s						
CSP1	**Cessapalombo**	**0.21**	**3**	P	Pg	12 41 07.3	+0.5
CSP1				S	Sg	12 41 10.8	+1.0
CSP1				AML	AML		
	comp=N,1285μm,0.5s						
CSP1				AML	AML		
	comp=E,1091μm,0.3s						
T1218	**Civita (PG)**	**0.22**	**195**	⇑P	Pg	12 41 07.3	+0.5
T1218				S	Sg	12 41 11.0	+1.0
T1219	**Muccia, Frazio**	**0.22**	**322**	⇓P	Pg	12 41 07.4	+0.6
T1219				S	Sg	12 41 11.2	+1.2
T1219				AML	AML		
	comp=E,6965μm,0.3s						
T1219				AML	AML		
	comp=N,6115μm,0.3s						
T1219				AML	AML		
	comp=E,6255μm,0.3s						
T1219				AML	AML		
	comp=N,6690μm,0.3s						
T1219				AML	AML		
	comp=N,6110μm,0.3s						
T1219				AML	AML		
	comp=N,6690μm,0.3s						
T1220	**Camerino, Fraz**	**0.24**	**342**	P	Pg	12 41 07.8	+0.6
T1220				S	Sg	12 41 12.0	+1.4
T1220				AML	AML		
	comp=E,6685μm,0.3s						
T1220				AML	AML		
	comp=N,4180μm,0.3s						
T1220				AML	AML		
	comp=E,6630μm,0.3s						
T1220				AML	AML		
	comp=N,4215μm,0.3s						
T1220				AML	AML		
	comp=E,6680μm,0.3s						
T1220				AML	AML		
	comp=N,4180μm,0.2s						
T1220				AML	AML		
	comp=E,6625μm,0.3s						
T1220				AML	AML		
	comp=N,4210μm,0.2s						
CESI	**CESI - Serrava**	**0.24**	**301**	⇓P	Pg	12 41 07.9	+0.6
CESI				AML	AML		
	comp=E,1130μm,0.7s						
CESI				AML	AML		
	comp=N,1525μm,0.4s						
T1215	**Vallo di Nera,**	**0.25**	**252**	P	Pg	12 41 07.2	-0.1
T1215				AML	AML		
	comp=E,190μm,0.2s						
T1215				AML	AML		
	comp=N,298μm,0.4s						
T1215				AML	AML		
	comp=E,184μm,0.2s						
T1215				AML	AML		
	comp=N,275μm,0.4s						
T1215				AML	AML		
	comp=E,197μm,1.2s						
LNSS	**Leonessa**	**0.30**	**202**	⇑P	Pg	12 41 08.7	+0.4
LNSS				AML	AML		
	comp=N,318μm,0.3s						
LNSS				AML	AML		
	comp=N,318μm,1.7s						
LNSS				AML	AML		
	comp=E,204μm,0.2s						
RM33	**Pellescritta (**	**0.37**	**177**	P	Pg	12 41 10.0	+0.4
CAMP	**Campotosto**	**0.38**	**155**	⇓P	Pg	12 41 10.0	+0.2
CAMP				AML	AML		
	comp=E,83μm,0.2s						
CAMP				AML	AML		
	comp=N,54μm,0.2s						
TERO	**Teramo**	**0.40**	**130**	⇑P	Pg	12 41 10.1	0.0
TERO				AML	AML		
	comp=E,67μm,1.4s						
TERO				AML	AML		
	comp=N,72μm,0.6s						
TERO				AML	AML		
	comp=N,72μm,1.4s						
TERO				AML	AML		
	comp=E,67μm,0.6s						
SNTG	**Esanatoglia**	**0.42**	**334**	⇑P	Pg	12 41 10.8	+0.4
SNTG				AML	AML		
	comp=E,316μm,1.1s						
SNTG				AML	AML		
	comp=N,383μm,1.0s						
SNTG				AML	AML		
	comp=E,316μm,1.1s						
SNTG				AML	AML		
	comp=N,382μm,1.0s						
ASSB	**Assisi San Ben**	**0.42**	**293**	⇑P	Pg	12 41 10.9	+0.3
ASSB				S	Sb	12 41 19.0	+0.8
ASSB				AML	AML		
	comp=N,1016μm,0.3s						
ASSB				AML	AML		
	comp=E,734μm,0.5s						
EL6	**Elcito**	**0.45**	**352**	S	Sb	12 41 18.9	-0.3
MOMA	**Monte Martano**	**0.46**	**261**	S	Sb	12 41 19.5	+0.1
MOMA				AML	AML		
	comp=E,198μm,0.2s						
MOMA				AML	AML		
	comp=N,152μm,0.9s						
CING	**Cingoli**	**0.49**	**0**	P	Pg	12 41 12.3	+0.4
CING				AML	AML		
	comp=E,428μm,0.6s						
CING				AML	AML		
	comp=N,306μm,1.2s						
ATCC	**AVT- Casa Cast**	**0.51**	**307**	⇓P	Pg	12 41 12.5	+0.4
ATCC				AML	AML		
	comp=N,720μm,0.1s						
ATCC				AML	AML		
	comp=E,1180μm,0.1s						
ATCC				AML	AML		
	comp=N,720μm,0.1s						
GIGS	**Gran Sasso**	**0.51**	**147**	⇓P	Pg	12 41 12.2	0.0
MURB	**Monte Urbino**	**0.62**	**308**	S	Sg	12 41 22.1	-0.3
ARVD	**Arcevia**	**0.64**	**344**	⇓P	Pg	12 41 14.9	+0.2
ARVD				S	Sg	12 41 23.0	-0.2
ARVD				AML	AML		
	comp=N,154μm,0.3s						
ARVD				AML	AML		
	comp=E,236μm,0.2s						
ATFO	**Monte Foce - G**	**0.66**	**317**	S	Sg	12 41 23.0	-0.8
PIEI	**Pieia**	**0.81**	**324**	⇓P	Pg	12 41 18.0	+0.1
PIEI				AML	AML		
	comp=N,47μm,1.6s						
PIEI				AML	AML		
	comp=E,66μm,0.8s						

IDC 12 12:47:58.8±330.0, 5.52S×147.85E, h0km, Error ellipse: s-maj=131.5km s-min=20.0km az=74.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.55**	**314**	I	I	14 41 50.0	
	baz=134,slow=313,SNR=5.8						
I07AU	**WARRAMUNGA INF**	**9.45**	**221**	I	I	14 51 00.0	
	baz=42,slow=305,SNR=3.1						

*SJA **12** 12:57:04.7±0.7, 33.70S×70.57W, h103km±2km, ML4.0, MW3.8*

*NEIC **12** 12:57:05.9±1.8, 33.68S±0.05×70.52W±0.06, h97km±7km, mb4.4/8, ML4.1(GUC), Error ellipse: s-maj=7.8km s-min=6.3km az=133.0*

*GUC **12** 12:57:06.1±0.7, 33.68S×70.53W, h97km±2km, ML4.1*

ISC 12 12:57:05.6±0.7, 33.69S±0.03×70.59W±0.04, h100km±4km, n110, σ1§33/162, mb4.4/4, 10C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT03	**Universidad Ad**	**0.20**	**19**		**Pn**	**12 57 19.9**	**0.0**
MT03	**Universidad Ad**	**0.20**	**19**	⇑*i*P	**Pn**	**12 57 19.8**	**-0.2**
MT03				*i* S	**Sn**	**12 57 30.1**	**-0.5**
MT03				IAML		12 57 31.6	
	comp=N,16μm,0.1s						
MT03	**Universidad Ad**	**0.20**	**19**	*e*P	**Pn**	**12 57 20.0**	**0.0**
MT03				*e*S	**Sn**	**12 57 31.2**	**+0.5**
MT03				IAML		12 57 31.4	
	comp=E,8μm,0.6s						
MT03	**Universidad Ad**	**0.20**	**19**	*e*P	**Pn**	**12 57 20.0**	**0.0**
MT03				*e*S	**Sn**	**12 57 31.2**	**+0.5**
MT03				IAML		12 57 31.4	
	comp=Z,8μm,0.6s						
BO04	**La Punta**	**0.30**	**183**		**Pn**	**12 57 20.4**	**0.0**
BO04	**La Punta**	**0.30**	**183**	⇓*i*P	**Pn**	**12 57 20.3**	**0.0**
BO04				*i* S	**Sn**	**12 57 31.0**	**-0.3**
MT05	**Renca**	**0.32**	**337**		**Pn**	**12 57 20.5**	**+0.1**
MT05	**Renca**	**0.32**	**337**	⇑*i*P	**Pn**	**12 57 20.6**	**+0.1**
MT05				*i* S	**Sn**	**12 57 32.0**	**+0.5**
MT05				IAML		12 57 34.2	
	comp=E,9μm,0.2s						
MT05	**Renca**	**0.32**	**337**	*e*P	**Pn**	**12 57 20.0**	**-0.4**
MT05				*e*P		12 57 20.6	
MT05				*e*S	**Sn**	**12 57 32.4**	**+1.0**
MT05				IAML		12 57 33.5	
	comp=Z,4μm,0.1s						
MT05	**Renca**	**0.32**	**337**	*e*P	**Pn**	**12 57 20.0**	**-0.4**
MT05				*e*P		12 57 20.6	
MT05				*e*S	**Sn**	**12 57 32.4**	**+1.0**
MT05				IAML		12 57 33.5	
	comp=Z,4μm,0.1s						
MT09	**Talagante**	**0.35**	**255**		**Pn**	**12 57 21.0**	**+0.3**
MT09	**Talagante**	**0.35**	**255**	⇑*i*P	**Pn**	**12 57 20.9**	**+0.3**
MT09				*i* S	**Sn**	**12 57 32.1**	**+0.3**
LMEL	**Las Melosas**	**0.36**	**117**		**Pn**	**12 57 20.4**	**-0.4**
LMEL	**Las Melosas**	**0.36**	**117**	*e*P	**Pn**	**12 57 20.3**	**-0.4**
LMEL				*i* S	**Sn**	**12 57 31.6**	**-0.4**
FCH	**Farellones**	**0.44**	**35**	⇑*i*P	**Pn**	**12 57 21.1**	**-0.3**
FCH				*i* S	**Sn**	**12 57 32.9**	**-0.2**
FCH				IAML		12 57 33.8	
	comp=N,12μm,0.1s						
PEL	**Peldehue**	**0.55**	**351**	*e*P	**Pn**	**12 57 21.5**	**-0.4**
PEL				*i* S	**Sn**	**12 57 33.9**	**0.0**
PEL				IAML		12 57 36.0	
	comp=N,9μm,0.1s						
MT01	**Popeta**	**0.58**	**252**		**Pn**	**12 57 22.5**	**+0.5**
MT01	**Popeta**	**0.58**	**252**	⇑*i*P	**Pn**	**12 57 22.4**	**+0.5**
MT01				*i* S	**Sn**	**12 57 34.5**	**+0.1**
MT01				IAML		12 57 35.4	
	comp=N,16μm,0.2s						
MT01	**Popeta**	**0.58**	**252**	*e*P	**Pn**	**12 57 22.1**	**+0.1**
MT01				*e*S	**Sn**	**12 57 35.0**	**+0.7**
MT01				*e*S		12 57 35.0	
MT01				IAML		12 57 35.4	
	comp=Z,5μm,0.1s						
MT01	**Popeta**	**0.58**	**252**	*e*P	**Pn**	**12 57 22.1**	**+0.1**
MT01				*e*S	**Sn**	**12 57 35.0**	**+0.7**
MT01				*e*S		12 57 35.0	
MT01				IAML		12 57 35.4	
	comp=Z,5μm,0.1s						
MT02	**Curacav**	**0.63**	**313**		**Pn**	**12 57 23.0**	**+0.6**
MT02	**Curacav**	**0.63**	**313**	⇑*i*P	**Pn**	**12 57 23.0**	**+0.6**
MT02				*i* S	**Sn**	**12 57 35.5**	**+0.5**
MT02				IAML		12 57 36.1	
	comp=E,4μm,0.3s						
MT02	**Curacav**	**0.63**	**313**	*e*P	**Pn**	**12 57 22.6**	**+0.2**
MT02				*e*S	**Sn**	**12 57 36.0**	**+1.0**
MT02				IAML		12 57 37.1	
	comp=Z,1μm,0.1s						
MT02	**Curacav**	**0.63**	**313**	*e*P	**Pn**	**12 57 22.6**	**+0.2**
MT02				*e*S	**Sn**	**12 57 36.0**	**+1.0**
MT02				IAML		12 57 37.1	
	comp=Z,1μm,0.1s						
ROC1	**El Roble**	**0.79**	**333**		**Pn**	**12 57 24.7**	**+0.5**
ROC1	**El Roble**	**0.79**	**333**	*e*P	**Pn**	**12 57 24.0**	**-0.2**
ROC1	**El Roble**	**0.79**	**333**	*e*P	**Pn**	**12 57 24.0**	**-0.2**
ROCH	**El Roble**	**0.80**	**333**	⇑*i*P	**Pn**	**12 57 24.6**	**+0.3**
ROCH				⇑*i*P	**Pn**	**12 57 24.6**	**+0.3**
ROCH				*i* S	**Sn**	**12 57 38.5**	**+0.4**
ROCH				*i* S	**Sn**	**12 57 38.5**	**+0.4**
ROCH				IAML		12 57 41.2	
	comp=N,11μm,0.2s						
ROCH				IAML		12 57 41.3	
	comp=N,7μm,0.3s						
BO01	**Tunca**	**0.82**	**210**		**Pn**	**12 57 24.5**	**+0.4**
BO01	**Tunca**	**0.82**	**210**	⇓*i*P	**Pn**	**12 57 24.6**	**+0.4**
BO01				*i* S	**Sn**	**12 57 38.5**	**+0.4**
BO01				IAML		12 57 39.0	
	comp=N,7μm,0.3s						
BO01	**Tunca**	**0.82**	**210**	*e*P	**Pn**	**12 57 24.0**	**-0.2**
BO01				*e*S	**Sn**	**12 57 38.9**	**+0.8**
BO01				IAML		12 57 40.0	
	comp=Z,3μm,0.7s						
BO01	**Tunca**	**0.82**	**210**	*e*P	**Pn**	**12 57 24.0**	**-0.2**
BO01				*e*S	**Sn**	**12 57 38.9**	**+0.8**
BO01				IAML		12 57 40.0	
	comp=Z,3μm,0.7s						
VA05	**Santo Domingo**	**0.86**	**272**		**Pn**	**12 57 25.1**	**+0.6**
VA05	**Santo Domingo**	**0.86**	**272**	*e*P	**Pn**	**12 57 25.1**	**+0.6**
VA05				*i* S	**Sn**	**12 57 38.9**	**+0.2**
VA05				IAML		12 57 41.8	
	comp=N,6μm,0.1s						
VA03	**San Esteban**	**0.92**	**2**		**Pn**	**12 57 26.1**	**+0.6**
VA03	**San Esteban**	**0.92**	**2**	⇑*i*P	**Pn**	**12 57 26.0**	**+0.6**
VA03				*i* S	**Sn**	**12 57 40.8**	**+0.7**
VA03				IAML		12 57 42.5	
	comp=E,16μm,0.1s						
VA03	**San Esteban**	**0.92**	**2**	*e*P	**Pn**	**12 57 25.9**	**+0.6**
VA03				*e*S	**Sn**	**12 57 41.1**	**+1.0**
VA03				IAML		12 57 43.1	
	comp=Z,6μm,0.5s						
VA03	**San Esteban**	**0.92**	**2**	*e*P	**Pn**	**12 57 25.9**	**+0.6**
VA03				*e*S	**Sn**	**12 57 41.1**	**+1.0**
VA03				IAML		12 57 43.1	
	comp=Z,6μm,0.5s						
VA01	**Torpederas**	**1.11**	**306**		**Pn**	**12 57 28.5**	**+1.3**
VA01	**Torpederas**	**1.11**	**306**	*e*P	**Pn**	**12 57 28.5**	**+1.3**
VA01	**Torpederas**	**1.11**	**306**	*e*P	**Pn**	**12 57 27.6**	**+0.4**
VA01				*e*S	Sn	12 57 28.5	-15
VA01				IAML		12 57 30.4	
	comp=Z,1μm,0.3s						
VA01	**Torpederas**	**1.11**	**306**	*e*P	**Pn**	**12 57 27.6**	**+0.4**
VA01				*e*S	Sn	12 57 28.5	-15
VA01				IAML		12 57 30.4	
	comp=Z,1μm,0.3s						
BO02	**Sierra Bellavi**	**1.11**	**188**		**Pn**	**12 57 28.2**	**+0.8**
BO02	**Sierra Bellavi**	**1.11**	**188**	⇓*i*P	**Pn**	**12 57 28.3**	**+0.8**
BO02				*i* S	**Sn**	**12 57 44.7**	**+0.9**
BO02				IAML		12 57 48.0	
	comp=N,8μm,0.3s						
BO02	**Sierra Bellavi**	**1.11**	**188**	*e*P	**Pn**	**12 57 28.0**	**+0.6**
BO02				*e*S	**Sn**	**12 57 47.4**	**+3.6**
BO02				IAML		12 57 48.0	
	comp=Z,5μm,0.2s						
BO02	**Sierra Bellavi**	**1.11**	**188**	*e*P	**Pn**	**12 57 28.0**	**+0.6**
BO02				*e*S	**Sn**	**12 57 47.4**	**+3.6**
BO02				IAML		12 57 48.0	
	comp=Z,5μm,0.2s						
VA06	**Catapilco**	**1.27**	**332**	Pn	**Pn**	**12 57 29.8**	**+0.6**
VA06	**Catapilco**	**1.27**	**332**	⇑*i*P	**Pn**	**12 57 29.6**	**+0.5**
VA06				*i* S	**Sn**	**12 57 46.8**	**0.0**
BO03	**Pichilemu**	**1.40**	**234**	⇓*i*P	**Pn**	**12 57 31.3**	**+0.7**
BO03				*i* S	**Sn**	**12 57 50.1**	**+0.6**
BO03				IAML		12 57 55.3	
	comp=N,3μm,0.6s						
GO05	**Huala**	**1.73**	**220**		**Pn**	**12 57 34.9**	**+0.2**
GO05	**Huala**	**1.73**	**220**	*e*P	**Pn**	**12 57 34.9**	**+0.2**
GO05				*i* S	**Sn**	**12 57 56.5**	**-0.4**
GO05				IAML		12 58 05.0	
	comp=E,1μm,0.4s						
GO05	**Huala**	**1.73**	**220**	*e*P	**Pn**	**12 57 35.0**	**+0.2**
GO05				*e*P		12 57 35.0	
GO05				*e*S	**Sn**	**12 57 57.4**	**+0.6**
GO05	**Huala**	**1.73**	**220**	*e*P	**Pn**	**12 57 35.0**	**+0.2**
GO05				*e*P		12 57 35.0	
GO05				*e*S	**Sn**	**12 57 57.4**	**+0.6**
RFA	**San Rafael**	**2.06**	**122**	*e*P	**Pn**	**12 57 39.0**	**-0.1**
RFA	**San Rafael**	**2.06**	**122**	*e*P	**Pn**	**12 57 39.0**	**-0.1**
RTLS	**Leoncito**	**2.17**	**30**	*e*P	**Pn**	**12 57 42.0**	**+1.2**
RTLS				*e*S	**Sn**	**12 58 11.2**	**+3.6**
RTLS				IAML		12 58 23.3	
	comp=Z,592nm,0.5s						
RTLS	**Leoncito**	**2.17**	**30**	*e*P	**Pn**	**12 57 42.0**	**+1.2**
RTLS				*e*S	**Sn**	**12 58 11.2**	**+3.6**
RTLS				IAML		12 58 23.3	
	comp=Z,592nm,0.5s						
ML02	**Panimavida**	**2.18**	**198**		**Pn**	**12 57 41.1**	**+0.5**
ML02	**Panimavida**	**2.18**	**198**	*e*P	**Pn**	**12 57 41.2**	**+0.7**
CO02	**Combarbal**	**2.50**	**352**	Pn	**Pn**	**12 57 44.9**	**+0.1**
CO02	**Combarbal**	**2.50**	**352**	⇓*i*P	**Pn**	**12 57 45.0**	**+0.1**
CO02				*i* S	**Sn**	**12 58 13.6**	**-1.4**
CO02	**Combarbal**	**2.50**	**352**	*e*P	**Pn**	**12 57 45.2**	**+0.3**
CO02				*e*S	**Sn**	**12 58 15.8**	**+0.8**
CO02				IAML		12 58 24.1	
	comp=Z,627nm,0.3s						
CO02	**Combarbal**	**2.50**	**352**	*e*P	**Pn**	**12 57 45.2**	**+0.3**
CO02				*e*S	**Sn**	**12 58 15.8**	**+0.8**
CO02				IAML		12 58 24.1	
	comp=Z,627nm,0.3s						
ZON	**Zonda**	**2.67**	**38**	Pn	**Pn**	**12 57 47.1**	**0.0**
CO03	**El Pedregal**	**2.84**	**358**		**Pn**	**12 57 50.1**	**+0.6**
CO03	**El Pedregal**	**2.84**	**358**	*i* P	**Pn**	**12 57 50.2**	**+0.8**
CO03				*i* S	**Sn**	**12 58 23.2**	**+0.2**
CO03				IAML		12 58 27.8	
	comp=E,1μm,0.4s						
CO03	**El Pedregal**	**2.84**	**358**	*e*P	**Pn**	**12 57 50.0**	**+0.6**
CO03				*e*S	**Sn**	**12 58 24.1**	**+1.1**
CO03				IAML		12 58 30.6	
	comp=Z,332nm,0.3s						
CO03	**El Pedregal**	**2.84**	**358**	*e*P	**Pn**	**12 57 50.0**	**+0.6**
CO03				*e*S	**Sn**	**12 58 24.1**	**+1.1**
CO03				IAML		12 58 30.6	
	comp=Z,332nm,0.3s						
RTLL	**Cerro Villicun**	**2.95**	**38**	*e*P	**Pn**	**12 57 51.3**	**+0.5**
RTLL				*e*S	**Sn**	**12 58 27.1**	**+1.5**
RTLL	**Cerro Villicun**	**2.95**	**38**	*e*P	**Pn**	**12 57 51.3**	**+0.5**
RTLL				*e*S	**Sn**	**12 58 27.1**	**+1.5**
ACCO	**Cerro Coronel**	**3.35**	**23**	*e*P	**Pn**	**12 57 57.0**	**+0.6**
ACCO				*e*P		12 57 57.0	
ACCO				*e*S	**Sn**	**12 58 39.1**	**+3.6**
ACCO	**Cerro Coronel**	**3.35**	**23**	*e*P	**Pn**	**12 57 57.0**	**+0.6**
ACCO				*e*P		12 57 57.0	
ACCO				*e*S	**Sn**	**12 58 39.1**	**+3.6**
GO04	**Tololo Observa**	**3.51**	**357**		**Pn**	**12 57 58.2**	**-0.2**
GO04	**Tololo Observa**	**3.51**	**357**	*e*P	**Pn**	**12 57 58.0**	**-0.4**
GO04	**Tololo Observa**	**3.51**	**357**	*e*P	**Pn**	**12 57 58.1**	**-0.3**
GO04				*e*S	**Sn**	**12 58 39.8**	**+0.6**
GO04	**Tololo Observa**	**3.51**	**357**	*e*P	**Pn**	**12 57 58.1**	**-0.3**
GO04				*e*S	**Sn**	**12 58 39.8**	**+0.6**
AROD	**Rodeo**	**3.63**	**15**	*e*P	**Pn**	**12 57 57.0**	**-3.2**
AROD	**Rodeo**	**3.63**	**15**	*e*P	**Pn**	**12 57 57.0**	**-3.2**
ACDV	**Cuesta del Vie**	**3.72**	**20**	*e*P	**Pn**	**12 58 02.0**	**+0.7**
ACDV				*e*P		12 58 02.0	
ACDV				*e*S	**Sn**	**12 58 38.8**	**-5.4**
ACDV	**Cuesta del Vie**	**3.72**	**20**	*e*P	**Pn**	**12 58 02.0**	**+0.7**
ACDV				*e*P		12 58 02.0	
ACDV				*e*S	**Sn**	**12 58 38.8**	**-5.4**
CO01	**Juntas del Tor**	**3.72**	**7**	*e*P	**Pn**	**12 58 02.0**	**+0.7**
CO01				IAML		12 59 10.8	
	comp=Z,95nm,0.8s						
CO01	**Juntas del Tor**	**3.72**	**7**	*e*P	**Pn**	**12 58 02.0**	**+0.7**
CO01				IAML		12 59 10.8	
	comp=Z,95nm,0.8s						
BI05	**Punta Hualpn**	**3.72**	**214**	Pn	**Pn**	**12 58 00.1**	**-0.9**
BI05	**Punta Hualpn**	**3.72**	**214**	*i* P	**Pn**	**12 58 00.2**	**-0.9**
BI05				*i* S	**Sn**	**12 58 41.5**	**-2.4**
AVFE	**Valle Fertil**	**4.02**	**42**	*e*P	**Pn**	**12 58 04.5**	**-0.7**
AVFE				*e*S	Sn	12 58 34.3	-17
AVFE				IAML		12 58 53.1	
	comp=Z,78nm,0.7s						
AVFE	**Valle Fertil**	**4.02**	**42**	*e*P	**Pn**	**12 58 04.5**	**-0.7**
AVFE				*e*S	Sn	12 58 34.3	-17
AVFE				IAML		12 58 53.1	
	comp=Z,78nm,0.7s						
LCO	**Las Campanas**	**4.66**	**359**	Pn	**Pn**	**12 58 12.9**	**-1.1**
AC04	**Llanos de Chal**	**5.48**	**356**		**Pn**	**12 58 24.4**	**-0.5**
GO06	**Curarrehue**	**5.93**	**187**	Pn	**Pn**	**12 58 30.0**	**-1.0**
GO03	**Copiap**	**6.08**	**3**		**Pn**	**12 58 31.4**	**-1.7**
AC06	**Mina Casimiro**	**6.31**	**2**		**Pn**	**12 58 34.3**	**-1.9**
LR04	**Corral**	**6.59**	**199**		**Pn**	**12 58 36.7**	**-3.2**
AC02	**Maricunga**	**6.94**	**11**	Pn	**Pn**	**12 58 44.4**	**-0.8**
LL04	**Puerto Octay**	**7.35**	**191**		**Pn**	**12 58 48.0**	**-2.3**
AC01	**Pan de Azucar**	**7.51**	**360**	Pn	**Pn**	**12 58 49.2**	**-3.3**
TRQA	**Tornquist**	**8.23**	**124**	Pn	**Pn**	**12 59 00.7**	**-1.6**
PB14	**IPOC Station P**	**9.03**	**1**	Pn	**Pn**	**12 59 11.5**	**-2.0**
LVC	**Limon Verde**	**11.13**	**8**	Pn	**Pn**	**12 59 38.6**	**-3.5**
PB03	**IPOC Station P**	**11.62**	**4**	Pn	**Pn**	**12 59 47.4**	**-1.0**
PB07	**IPOC Station P**	**11.93**	**3**	Pn	**Pn**	**12 59 52.0**	**-0.6**
PB11	**IPOC Station P**	**13.89**	**4**	Pn	**Pn**	**13 00 16.7**	**-1.7**
GO01	**Chusmiza**	**14.02**	**

SNAA					IAmb	IAmb	13 06 01.6		
	comp=Z,4.8nm,1.0s								
QSPA	**South Pole Qui**	**56.55**	**180**		**P**	**P**	**13 06 39.4**	**+2.0**	
QSPA					IAmb	IAmb	13 06 39.9		
	comp=Z,3.4nm,0.9s								

JMA ***12*** *13:13:36.0±0.2,27˚N±2˚×12˚6E±˚, h133km±2km, MV3.3/25, NW OFF OKINAWAJIMA IS*

IDC ***12*** *13:13:36.6±5.8, 26˚54N×126˚14E, h132km±72km, mb3.1/4, mbtmp3.5/5, Error ellipse: s-maj=90.9km s-min=17.9km az=62.0*

ISC 12 13:13:36.3±0.8, 26˚54N±0˚.08×126˚01E±0˚.07, h133km±10km, n26, σ1°16/45, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.72**	**107**	*i* P	**Pn**	**13 13 57.2**	**+0.1**
JKE				S	**Sn**	**13 14 12.5**	**-0.4**
JAGN	**Aguni-jima**	**1.10**	**87**	P	**Pn**	**13 14 00.2**	**-0.1**
JAGN				S	**Sn**	**13 14 17.9**	**-0.8**
JJT3	**Tamagusuku3**	**1.64**	**104**	P	**Pn**	**13 14 06.6**	**+0.5**
JJT3				S	**Sn**	**13 14 29.0**	**+0.2**
JIKM	**Ikemajima**	**1.75**	**203**	P	**Pn**	**13 14 07.3**	**-0.2**
JIKM				S	**Sn**	**13 14 30.8**	**-0.5**
JNTH	**Nagotoyohara**	**1.80**	**90**	P	**Pn**	**13 14 08.0**	**0.0**
JNTH				S	**Sn**	**13 14 30.5**	**-1.7**
JIH	**Iheya**	**1.81**	**74**	P	**Pn**	**13 14 08.4**	**+0.3**
JIH				S	**Sn**	**13 14 31.6**	**-0.9**
JOGS	**Gusukube**	**1.85**	**197**	P	**Pn**	**13 14 09.0**	**+0.3**
JOGS				*e*S	**Sn**	**13 14 33.5**	**+0.1**
JIRB	**Irabujima**	**1.86**	**204**	P	**Pn**	**13 14 08.6**	**-0.2**
JIRB				S	**Sn**	**13 14 32.9**	**-0.7**
JMJ2	**Miyako jima3**	**1.90**	**199**	P	**Pn**	**13 14 09.5**	**+0.3**
JMJ2				S	**Sn**	**13 14 34.6**	**+0.3**
JOW	**Kunigami**	**2.04**	**81**	P	**Pn**	**13 14 10.7**	**-0.3**
	19nm,0.3s,baz=141,slow=13,SNR=58						
JOW				S	**Sn**	**13 14 35.5**	**-2.0**
	196nm,0.3s,baz=125,slow=25,SNR=51						
JOW	**Kunigami**	**2.04**	**81**	P	**Pn**	**13 14 10.6**	**-0.3**
JOW				S	**Sn**	**13 14 35.7**	**-1.8**
JTJ	**Tarama**	**2.23**	**212**	P	**Pn**	**13 14 13.1**	**-0.1**
JTJ				S	**Sn**	**13 14 40.3**	**-1.3**
JYRO	**Yoronjima**	**2.23**	**77**	P	**Pn**	**13 14 13.0**	**-0.2**
JYRO				S	**Sn**	**13 14 39.5**	**-2.1**
JOKE	**Okinoerabujima**	**2.42**	**70**	P	**Pn**	**13 14 15.3**	**-0.4**
JOKE				*e*S	**Sn**	**13 14 45.2**	**-0.7**
JISG	**Ishigakijimahi**	**2.48**	**219**	P	**Pn**	**13 14 16.0**	**-0.3**
JISG				S	**Sn**	**13 14 45.6**	**-1.5**
JIJ	**Ishigaki jima**	**2.75**	**218**	P	**Pn**	**13 14 18.9**	**-0.9**
JIJ				S	**Sn**	**13 14 50.4**	**-2.9**
JTK	**Tokunoshima**	**2.90**	**64**	P	**Pn**	**13 14 20.9**	**-0.7**
JTK				*e*S	**Sn**	**13 14 54.3**	**-2.3**
JKRS	**Kuro-shima**	**2.92**	**219**	P	**Pn**	**13 14 21.4**	**-0.6**
JKRS				*e*S	**Sn**	**13 14 55.7**	**-1.6**
IRIF	**Iriomote-Funau**	**3.01**	**224**	P	**Pn**	**13 14 22.6**	**-0.6**
IRIF				*e*S	**Sn**	**13 14 58.7**	**-0.7**
HATJ	**Hateruma jima**	**3.18**	**219**	*e*S	**Sn**	**13 15 01.4**	**-1.8**
JAMN	**Amaminishikomi**	**3.28**	**58**	*e*S	**Sn**	**13 15 03.7**	**-1.9**
KSRS	**Korea Array**	**11.00**	**8**	P	**Pn**	**13 16 11.7**	**+1.9**
	1.2nm,0.8s,baz=182,slow=12,SNR=2.5						
SONM	**Songino Array**	**26.24**	**329**	P	**P**	**13 19 00.7**	**+1.7**
	0.6nm,0.5s,baz=135,slow=10,SNR=4.2						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**39.85**	**312**	P	**P**	**13 20 55.9**	**-0.9**
	0.2nm,0.5s,baz=102,slow=11,SNR=3.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**46.91**	**169**	P	**P**	**13 21 53.4**	**-0.1**
	0.4nm,0.5s,baz=350,slow=8.6,SNR=2.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**50.49**	**171**	P	**P**	**13 22 21.4**	**+0.5**
	0.4nm,0.3s,baz=360,slow=14,SNR=18						
	0.4nm,0.3s						

ISC 12 13:21:45.4±1.1, 49˚59N±0˚.04×17˚45E±0˚.06, h7km, n7, σ0°96/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.20**	**18**	*e*PG	**Pg**	**13 21 49.3**	**-0.1**
MORC				*e*SG	**Sg**	**13 21 52.8**	**+0.6**
VRAC	**Vranov**	**0.62**	**244**	*e*PG	**Pg**	**13 21 58.0**	**+0.6**
JAVC	**Velka Javorina**	**0.74**	**169**	*e*PG	**Pb**	**13 22 00.7**	**0.0**
KRUC	**Moravsky**	**0.87**	**233**	*e*PG	**Pg**	**13 22 02.1**	**+0.1**
MODS	**Modra-Piesok**	**1.22**	**185**	*e*PG	**Pg**	**13 22 08.8**	**0.0**
MODS				*e*SG	**Sn**	**13 22 25.5**	**-0.1**
LANS	**Liptovska Anna**	**1.39**	**108**	*e*PG	**Pn**	**13 22 11.1**	**-0.2**
LANS				*e*SG	**Sg**	**13 22 32.2**	**+2.1**
VYHS	**Vyhne**	**1.43**	**140**	*e*PG	**Pn**	**13 22 11.0**	**-0.7**
VYHS				*e*SG	**Sb**	**13 22 29.4**	**-1.2**

BJI ***12*** *13:29:01.8±0.0,5˚.91S×102˚.86E, h52km, mb5.3/72, mB5.3/49, Ms5.0/55, Ms7 4.8/51*

MOS ***12*** *13:29:04.6±0.9,4˚.97S×103˚.01E, h21km, mb5.6/69, MS4.5/5, Error ellipse: s-maj=8.3km s-min=4.2km az=113.7*

NEIC ***12*** *13:29:06.3±2.5,5˚.27S±0˚.05×102˚.72E±0˚.07, h23km±3km, mb5.5/100, Error ellipse: s-maj=9.7km s-min=6.6km az=101.0*

DJA ***12*** *13:29:07.3±0.2,5˚S±2˚×10˚3E±˚, h49km±2km, M5.2/72, mB5.6/43, mb5.5/72, mBc6.8/12, Mjma5.3/16, ML5.7/7, MLv5.5/27, Ms(BB)4.9/28, Mw(mB)5.1/43, MwmBc6.1/12, MwMwp4.9/10, Mwp5.2/10*

IDC ***12*** *13:29:09.7±0.4,5˚.08S×102˚.93E, h47km±3km, mb4.9/34, mbtmp5.2/36, MS4.3/61, Error ellipse: s-maj=12.5km s-min=8.1km az=48.0*

GCMT ***12*** *13:29:10.3±0.2,5˚.55S±0˚.01×102˚.69E±0˚.02, h50km±1km, MW5.1/91, Moment Tensor Solution. s74,c113; s91,c135; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.55±.15; Mθθ=-3.07±.11; Mϕϕ=-1.48±.12; Mrθ=2.59±.10; Mθϕ=2.67±.08; Mϕr=-1.50±.10; Best double couple: M=5.66300×10^16^ NP1=ϕs123.00000°, δ61.00000°, λ86.00000°. NP2=ϕs311.00000°, δ29.00000°, λ97.00000°. Principal axes: T 5.4180, Plg74.0000°, Azm23.0000°; N 0.4900, Plg3.0000°, Azm125.0000°; P -5.9080, Plg16.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***12*** *13:29:11,5˚.25S×102˚.57E, h83km, mb5.6*

ISC 12 13:29:09.2±0.3, 5˚25S±0˚.04×102˚81E±0˚.04, h51km±2km, h52km: pP-P, n838, σ1°33/909, mb5.4/158, MS4.5/91, 83C-20D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.89**	**9**	Pn	**Pn**	**13 29 25.6**	**+0.1**
MNAI	**Manna**	**0.89**	**9**	P	**Pn**	**13 29 25.6**	**+0.1**
MNAI				S	**Sn**	**13 29 38.5**	**+1.0**
LWLI	**Liwa**	**1.27**	**80**	P	**Pn**	**13 29 30.2**	**-0.4**
LWLI				S	**Sn**	**13 29 46.3**	**-0.3**
MDSI	**Maura Dua**	**1.56**	**61**	P	**Pn**	**13 29 34.9**	**+0.4**
KASI	**Kota Agung**	**1.70**	**99**	P	**Pn**	**13 29 35.6**	**-0.9**
KASI				S	**Sn**	**13 29 57.3**	**+0.2**
KLI	**Kotabumi**	**2.08**	**80**	P	**Pn**	**13 29 41.9**	**+0.3**
KLI				S	**Sn**	**13 30 12.2**	**+5.9**
MASI	**Maura Aman, Be**	**2.17**	**345**	P	**Pn**	**13 29 43.5**	**+0.6**
MASI				S	**Sn**	**13 30 11.7**	**+3.1**
BLSI	**Bandar Lampung**	**2.43**	**93**	P	**Pn**	**13 29 46.3**	**-0.1**
BLSI				S	**Sn**	**13 30 16.8**	**+1.8**
PMBI	**Palembang**	**3.02**	**40**	Pn	**Pn**	**13 29 55.6**	**+1.0**
PMBI	**Palembang**	**3.02**	**40**	P	**Pn**	**13 29 55.3**	**+0.7**
CGJI	**Cibinong**	**3.17**	**115**	P	**Pn**	**13 29 56.2**	**-0.4**
SBJI	**Serang**	**3.42**	**105**	P	**Pn**	**13 30 00.1**	**+0.1**
JMBI	**JAMBI**	**3.68**	**13**	P	**Pn**	**13 30 05.3**	**+1.7**
PPSI	**Pulau Pagai**	**3.73**	**311**	P	**Pn**	**13 30 03.0**	**-1.2**
SKJI	**Sukabumi**	**4.12**	**115**	P	**Pn**	**13 30 07.4**	**-2.2**
CBJI	**Citeko**	**4.19**	**106**	P	**Pn**	**13 30 14.2**	**+3.7**
SDSI	**Sungai Dareh**	**4.50**	**342**	P	**Pn**	**13 30 15.1**	**+0.2**
PPBI	**Pangkal Pinang**	**4.52**	**47**	P	**Pn**	**13 30 15.7**	**+0.6**
CNJI	**Cibinong**	**4.76**	**116**	P	**Pn**	**13 30 17.0**	**-1.4**
PDSI	**Padang**	**4.90**	**331**	P	**Pn**	**13 30 20.5**	**+0.1**
	866nm,0.7s,10µm4µm6.4nm						
LEM	**Lembang**	**5.03**	**108**	P	**Pn**	**13 30 24.2**	**+1.9**
	328nm,0.7s,baz=205,slow=11,SNR=21						
LEM				LR	LR	13 32 45.1	
	comp=Z,5µm,18.9s,baz=279,slow=43						
LEM	**Lembang**	**5.03**	**108**	P	**Pn**	**13 30 23.9**	**+1.6**
	697nm,1.0s,7µm2.9nm						
DSRI	**Dabo**	**5.05**	**21**	P	**Pn**	**13 30 24.1**	**+1.6**
	1µm,0.7s,12µm8µm3.2nm8.7nm						
SISI	**Saibi**	**5.38**	**316**	P	**Pn**	**13 30 26.4**	**-0.5**
	541nm,0.9s,5µm						
BKNI	**Bangkinang**	**5.81**	**342**	Pn	**Pn**	**13 30 34.1**	**+1.2**
BKNI	**Bangkinang**	**5.81**	**342**	P	**Pn**	**13 30 32.2**	**-0.6**
	618nm,0.9s,10µm4µm10.0nm20nm						
CMJI	**Cimerak**	**6.14**	**115**	P	**Pn**	**13 30 36.3**	**-1.1**
	378nm,0.6s,6µm1.9nm3.4nm						
TPRI	**Tanjung Pinang**	**6.36**	**16**	P	**Pn**	**13 30 41.1**	**+0.7**
	236nm,0.6s,2µm3µm1.1nm						
MNSI	**Mandailing Nat**	**6.81**	**332**	P	**Pn**	**13 30 46.0**	**-0.6**
	217nm,0.4s,3µm1.5nm						
PBSI	**Pulau Batu**	**6.86**	**319**	P	**Pn**	**13 30 46.9**	**-0.3**
	439nm,1.0s,6µm7.7nm						
MYKOM	**Kota Tinggi**	**7.07**	**8**	Pn	**Pn**	**13 30 51.6**	**+1.5**
MYKOM	**Kota Tinggi**	**7.07**	**8**	P	**Pn**	**13 30 52.0**	**+1.9**
SMRI	**Semarang**	**7.80**	**104**	P	**Pn**	**13 31 01.6**	**+1.5**
SMRI	**Semarang**	**7.80**	**104**	P	**Pn**	**13 30 59.8**	**-0.3**
	180nm,0.8s,1.4nm						
YOGI	**Yogyakarta**	**7.86**	**109**	P	**Pn**	**13 30 59.9**	**-1.1**
	187nm,1.0s,1.1nm						
UGM	**Wanagama**	**8.11**	**109**		**Pn**	**13 31 04.8**	**+0.4**
UGM	**Wanagama**	**8.11**	**109**	P	**Pn**	**13 31 02.6**	**-1.8**
	713nm,1.1s						
GSI	**Gunungsitoli**	**8.35**	**321**	Pn	**Pn**	**13 31 06.6**	**-1.0**
GSI	**Gunungsitoli**	**8.35**	**321**	P	**Pn**	**13 31 06.4**	**-1.2**
	257nm,0.6s,3µm						
RPSI	**Rantau Prapat**	**8.79**	**334**	Pn	**Pn**	**13 31 12.6**	**-1.1**
NGJI	**Ngawi**	**8.86**	**104**	P	**Pn**	**13 31 14.7**	**+0.1**
	179nm,1.1s						
PSI	**Prapat**	**8.89**	**334**	P	**Pn**	**13 31 11.4**	**-3.7**
	16nm,0.6s,baz=134,slow=8.7,SNR=11						
PSI					LR	LR	13 34 59.6
	comp=Z,3µm,21.3s,baz=146,slow=40						
PSI	**Prapat**	**8.89**	**334**	P	**Pn**	**13 31 12.6**	**-2.5**
COCO	**West Island**	**9.08**	**220**		**Pn**	**13 31 14.5**	**-3.1**
COCO	**West Island**	**9.08**	**220**	P	**Pn**	**13 31 14.5**	**-3.1**
PBKI	**Pangkalan Bun**	**9.19**	**74**	P	**Pn**	**13 31 20.5**	**+1.3**
	110nm,1.3s,3µm						
IPM	**Ipoh**	**9.82**	**350**		**Pn**	**13 31 28.5**	**+0.6**
SNSI	**Sinabang, Aceh**	**9.99**	**319**	P	**Pn**	**13 31 29.6**	**-0.5**
	352nm,1.2s,3µm						
KCSI	**Kotacane, Aceh**	**10.06**	**330**	P	**Pn**	**13 31 29.3**	**-1.8**
	44nm,0.5s,1µm						
GMJI	**Gumukmas**	**10.98**	**106**	P	**Pn**	**13 31 43.4**	**-0.3**
	146nm,1.0s						
BLJI	**Banyuglugur**	**11.00**	**104**	P	**Pn**	**13 31 43.6**	**-0.3**
	156nm,0.5s						
MLSI	**Meulaboh, Aceh**	**11.41**	**326**	P	**Pn**	**13 31 47.4**	**-2.2**
	245nm,0.5s						
ABJI	**Asem Bagus**	**11.63**	**103**	P	**Pn**	**13 31 52.9**	**+0.3**
	470nm,1.2s,5µm						
JAGI	**Jajag, Banyuwa**	**11.71**	**106**	Pn	**Pn**	**13 31 53.7**	**0.0**
JAGI	**Jajag, Banyuwa**	**11.71**	**106**	P	**Pn**	**13 31 53.7**	**0.0**
	401nm,1.0s,4µm						
LHMI	**Lhok Sumawe**	**11.94**	**331**	P	**Pn**	**13 31 56.5**	**-0.3**
	99nm,0.7s						
SBUM	**Sibu**	**12.12**	**51**		**Pn**	**13 32 00.7**	**+1.5**
SBUM	**Sibu**	**12.12**	**51**	P	P	13 32 05.0	-5.5
BBKI	**Banjar Baru**	**12.13**	**82**	P	**Pn**	**13 32 00.9**	**+1.5**
	84nm,2.0s						
SRBI	**Singaraja**	**12.64**	**104**	P	**Pn**	**13 32 05.5**	**-0.8**
	232nm,0.6s,2µm						
IGBI	**Denpasar**	**12.75**	**107**	P	**Pn**	**13 32 04.8**	**-3.0**
	241nm,1.2s,3µm						
DNP	**Denpasar**	**12.77**	**106**	P	**Pn**	**13 32 07.1**	**-1.0**
	822nm,0.5s						
MTKI	**Muara Teweh, K**	**12.80**	**71**	P	**Pn**	**13 32 08.7**	**+0.1**
	115nm,1.1s						
SRIT	**Nakonsritamara**	**14.12**	**347**	Pn	**Pn**	**13 32 25.6**	**-0.9**
TWSI	**Taliwang, Sumb**	**14.39**	**105**	P	**Pn**	**13 32 25.5**	**-4.6**
	106nm,0.9s						
BKB	**Balikpapan**	**14.61**	**75**	P	**P**	**13 32 35.8**	**-2.4**
	176nm,0.7s,3µm						
PLAI	**Plampang**	**15.27**	**104**	P	**Pn**	**13 32 37.4**	**-4.2**
	181nm,0.6s,2µm						
SPMM	**Sapulut**	**16.85**	**54**	P	**P**	**13 33 05.0**	**+1.9**
KAPI	**Kappang**	**16.88**	**90**	P	**Pn**	**13 33 00.8**	**-1.2**
	29nm,1.0s,baz=256,slow=11,SNR=3.1						
KAPI					LR	LR	13 40 09.8
	comp=Z,1µm,19.1s,baz=268,slow=39						
SPSI	**Sidrap Palu**	**16.95**	**86**	P	**Pn**	**13 33 03.2**	**+0.3**
	112nm,0.9s,1µm						
WBSI	**Waikabubak, Su**	**17.01**	**106**	P	**Pn**	**13 33 02.3**	**-1.4**
	220nm,1.0s						
BKSI	**Bulukumba**	**17.24**	**91**	P	**Pn**	**13 33 06.0**	**-0.5**
	164nm,1.2s,2µm						
KKM	**Kota Kinabalu**	**17.46**	**50**		**P**	**13 33 09.9**	**0.0**
MPSI	**Mapaga**	**17.95**	**73**	P	**P**	**13 33 16.0**	**+0.8**
	90nm,1.3s,1µm2µm						
BASI	**Baing, Sumba**	**18.28**	**107**	P	**Pn**	**13 33 19.3**	**0.0**
	723nm,1.2s,10µm						
MYLDM	**Lahad Datu**	**18.78**	**57**	P	**Pn**	**13 33 25.9**	**+0.6**
TOLI2	**Tolitoli**	**19.03**	**71**	P	**Pn**	**13 33 27.9**	**-0.4**
TOLI2					IAmb	IAmb	13 33 30.0
	comp=Z,155nm,0.7s						
APSI	**Ampana**	**19.30**	**78**	P	**Pn**	**13 33 31.8**	**+0.3**
	comp=Z,389nm,0.9s,comp=Z,4µm						
MMRI	**Maumere**	**19.58**	**101**	P	**P**	**13 33 32.1**	**-1.0**
MMRI					IAmb	IAmb	13 33 36.6
	comp=Z,127nm,0.6s						
MMRI	**Maumere**	**19.58**	**101**	P	**P**	**13 33 32.5**	**-0.6**
	comp=Z,196nm,0.7s,comp=Z,2µm						
MRSI	**Marisa**	**19.94**	**74**	P	**P**	**13 33 37.1**	**+0.1**
	comp=Z,352nm,0.7s,comp=Z,3µm						
LUWI	**Luwuk**	**20.36**	**79**	P	**P**	**13 33 42.1**	**+0.5**
LUWI					IAmb	IAmb	13 33 56.1
	comp=Z,268nm,0.8s						
LUWI	**Luwuk**	**20.36**	**79**	P	**P**	**13 33 42.6**	**+1.0**
	comp=Z,473nm,1.1s,comp=Z,4µm						
UBPT	**Khong Chiam**	**20.56**	**7**	P	**P**	**13 33 43.2**	**-0.5**
UBPT					IAmb	IAmb	13 33 44.9
	comp=Z,119nm,0.9s						
GTOI	**Gorontalo**	**21.01**	**74**	P	**P**	**13 33 46.8**	**-1.8**
	comp=Z,66nm,0.7s,comp=Z,580nm						
BATI	**Baumata**	**21.24**	**105**	P	**P**	**13 33 50.5**	**-0.7**
	comp=Z,199nm,0.5s,baz=355,slow=1.0,SNR=38						
BATI					S	**S**	**13 37 38.5**	**-6.1**
	comp=Z,18nm,0.4s,baz=148,slow=23,SNR=1.9						
	comp=Z,199nm,0.5s						
BATI	**Baumata**	**21.24**	**105**	P	**P**	**13 33 50.2**	**-0.9**
	comp=Z,405nm,0.8s,comp=Z,3µm						
SOEI	**Soe**	**21.74**	**103**	P	**P**	**13 33 55.3**	**-1.3**
SOEI					IAmb	IAmb	13 34 15.9
	comp=Z,144nm,0.6s						
SOEI	**Soe**	**21.74**	**103**	P	**P**	**13 33 54.9**	**-1.7**
	comp=Z,199nm,0.8s,comp=Z,2µm						
PBKT	**Sadao Pong**	**21.75**	**355**	P	**P**	**13 33 54.7**	**-1.8**
PPR	**Puerto Princes**	**21.78**	**47**	*e*P	**P**	**13 33 59.4**	**+2.5**
MBWA	**Marble Bar**	**22.80**	**135**	P	**P**	**13 34 08.1**	**+0.3**
PSA00	**Pilbara Seismi**	**23.15**	**136**	P	**P**	**13 34 11.6**	**+0.3**
SANI	**Sanana**	**23.35**	**83**	P	**P**	**13 34 12.1**	**-1.2**
	comp=Z,115nm,1.3s,comp=Z,1µm						
PHRA	**Phrae**	**23.73**	**354**	P	**P**	**13 34 16.5**	**-0.2**
CM31	**Chiang Mai Arr**	**23.86**	**351**	P	**P**	**13 34 17.6**	**-0.4**
CM31					IAmb	IAmb	13 34 19.7
	comp=Z,125nm,0.9s						
CMAR	**Chiang Mai Arr**	**23.86**	**351**	P	**P**	**13 34 17.0**	**-1.0**
	comp=Z,98nm,0.7s,baz=181,slow=8.9,SNR=540						
CMAR					PcP	**PcP**	**13 38 01.7**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=207,slow=3.5,SNR=5.4						
CMAR					ScP	**ScP**	**13 41 35.8**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=210,slow=3.3,SNR=7.7						
CMAR					LR	LR	13 43 50.5	
	comp=Z,905nm,21.6s,baz=180,slow=37						
	comp=Z,98nm,0.7s						
CMAR	**Chiang Mai Arr**	**23.86**	**351**	P	**P**	**13 34 16.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**23.86**	**351**	*ce*P	**P**	**13 34 17.0**	**-1.0**
CMAR					pmax	pmax	
	comp=Z,108nm,0.7s						
CHTO	**Chiang Mai**	**24.21**	**351**	P	**P**	**13 34 20.0**	**-1.2**
CHTO					IAmb	IAmb	13 34 22.5
	comp=Z,86nm,0.8s						
CHTO	**Chiang Mai**	**24.21**	**351**	P	**P**	**13 34 20.0**	**-1.2**
CHTO					pmax	pmax	
	comp=Z,86nm,0.8s						
NLAI	**Namlea**	**24.30**	**86**	P	**P**	**13 34 17.4**	**-4.7**
BUSP	**Coron**	**24.35**	**45**	*e*P	**P**	**13 34 23.7**	**+1.3**
SGSI	**Sangihe**	**24.37**	**69**	P	**P**	**13 34 17.0**	**-5.7**
SKMP	**Bagumbayan, Su**	**24.64**	**62**	*e*P	**P**	**13 34 26.6**	**+1.4**
CTBH	**Cotabato--PC H**	**24.72**	**60**	*e*P	**P**	**13 34 27.1**	**+1.2**
CNOP	**Candoni, Negro**	**24.79**	**53**	*e*P	**P**	**13 34 26.9**	**+0.4**
QIZ	**Qiongzhong**	**25.10**	**16**	P	**P**	**13 34 31.0**	**+1.8**
QIZ					sP	**sP**	**13 34 46.3**	**-1.5**
QIZ					S	**S**	**13 38 54.1**	**+3.6**
QIZ					sS	**sS**	**13 39 14.8**	**+3.0**
QIZ					pmax	pmax		
	comp=Z,58nm,1.0s						
QIZ					pmax	pmax		
	comp=Z,730nm,3.7s						
QIZ					LR	LR		
	comp=Z,880nm,15.9s						
QIZ					LR	LR		
	comp=Z,1µm,18.3s						
QIZ					LR	LR		
	comp=Z,1µm,16.7s						
TNTI	**Ternate**	**25.25**	**77**	P	**P**	**13 34 28.9**	**-1.8**
TNTI					IAmb	IAmb	13 34 44.9	
	comp=Z,102nm,1.0s						
TNTI	**Ternate**	**25.25**	**77**	P	**P**	**13 34 28.1**	**-2.6**
	comp=Z,115nm,1.5s,comp=Z,1µm						
KCP	**Kidapawan**	**25.35**	**62**	*i*P	**P**	**13 34 32.4**	**+0.7**
CRAI	**Chiangrai**	**25.43**	**355**	P	**P**	**13 34 31.5**	**-0.7**
CRAI					IAmb	IAmb	13 34 34.1	
	comp=Z,69nm,0.7s						
DDMP	**Don Marcelino,**	**25.49**	**64**	*e*P	**P**	**13 34 33.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**25.70**	**122**	P	**P**	**13 34 34.7**	**-0.1**
BUKP	**Musuan**	**25.75**	**60**	*e*P	**P**	**13 34 36.1**	**+0.9**
DAV	**Davao City (W)**	**25.81**	**62**	P	**P**	**13 34 37.0**	**+1.2**
	comp=Z,168nm,0.4s,baz=46,slow=2.1,SNR=7.7						
DAV					LR	LR	13 45 42.6	
	comp=Z,646nm,19.7s,baz=218,slow=39						
	comp=Z,168nm,0.4s						
DAV	**Davao City (W)**	**25.81**	**62**	P	**P**	**13 34 36.5**	**+0.7**
OTRP	**Odiongan**	**25.90**	**47**	*e*P	**P**	**13 34 37.7**	**+1.1**
RCP	**Roxas**	**25.93**	**50**	*e*P	**P**	**13 34 37.5**	**+0.7**
LQP	**Lukban**	**26.75**	**44**	*e*P	**P**	**13 34 44.3**	**-0.2**
MSLP	**Maasin**	**26.76**	**55**	*e*P	**P**	**13 34 47.4**	**+3.1**
BIPH	**Bislig**	**27.02**	**61**	*i*P	**P**	**13 34 45.9**	**-0.8**
KNRA	**Kununurra**	**27.51**	**114**	P	**P**	**13 34 50.8**	**-0.3**
	baz=28,SNR=6.3						
KNRA	**Kununurra**	**27.51**	**114**	P	**P**	**13 34 50.1**	**-1.0**
KNRA					IAmb	IAmb	13 35 13.0	
	comp=Z,181nm,1.4s						
SIJI	**Sorong**	**28.74**	**82**	P	**P**	**13 35 01.4**	**-0.7**
	comp=Z,10nm,0.7s,baz=302,slow=6.1,SNR=7.0						
SIJI					LR	LR	13 47 13.6	
	comp=Z,355nm,21.3s,baz=269,slow=38						
	comp=Z,10nm,0.7s						
MTN	**Manton Dam**	**28.95**	**107**	P	**P**	**13 35 03.6**	**-0.3**
	baz=29,SNR=8.3						
MTN	**Manton Dam**	**28.95**	**107**	P	**P**	**13 35 04.0**	**0.0**
MTN					IAmb	IAmb	13 35 47.2	
	comp=Z,59nm,0.9s						
FAKI	**Fak Fak**	**29.45**	**87**	P	**P**	**13 35 07.4**	**-1.1**
FAKI					IAmb	IAmb	13 35 15.3	
	comp=Z,37nm,0.7s						
FAKI	**Fak Fak**	**29.45**	**87**	P	**P**	**13 35 06.4**	**-2.1**
	comp=Z,55nm,0.9s						
BRDH	**Bariadhala**	**29.82**	**339**	LR	LR	13 50 14.0	
	comp=Z,629nm,19.9s,baz=154,slow=43						
KMI	**Kunming**	**30.19**	**360**	P	**P**	**13 35 16.0**	**+1.0**
KMI				pP	pP	13 35 24.9	-2.8
KMI				sP	pwP	13 35 30.7	+1.0
KMI				PP	**PP**	**13 36 21.3**	**-2.7**
KMI				S	**S**	**13 40 10.2**	**-0.8**
KMI				sS	sS	13 40 34.7	+2.2
KMI				pmax	pmax		
	comp=Z,60nm,0.7s						
KMI				pmax	pmax		
	comp=Z,140nm,3.6s						
KMI				LR	LR		
	comp=Z,2µm,16.7s						
KMI				LR	LR		
	comp=Z,340nm,13.2s						
KMI				LR	LR		
	comp=Z,2µm,15.0s						
KDU	**Kakadu**	**30.20**	**106**	P	**P**	**13 35 14.0**	**-0.9**
	baz=30,SNR=5.6						
H08S2	**Diego Garcia H**	**30.21**	**264**	T	T	14 06 22.9	
	baz=88,slow=75,SNR=2601						
H08S3	**Diego Garcia H**	**30.22**	**264**	T	T	14 06 23.6	
	baz=88,slow=75,SNR=1549						
H08S1	**Diego Carcia H**	**30.23**	**264**	T	T	14 06 29.8	
	baz=88,slow=75,SNR=1018						
TNCH	**TengChong**	**30.38**	**352**	P	**P**	**13 35 16.3**	**-0.4**
TNCH				pP	sP	13 35 34.0	-1.3
TNCH	

FORT	Forrest	34.77	140	P	P	13 35 56.4	+1.6	HNS		S	S	13 43 37.8	-0.1
	baz=35,SNR=9.2							HNS		pmax	pmax		
FORT	Forrest	34.77	140	P	P	13 35 55.7	+0.9		comp=Z,19nm,0.7s				
ASAR	Alice Springs	35.10	125	P	P	13 35 58.5	+0.7	HNS		LR	LR		
	comp=Z,11nm,0.6s,baz=296,slow=8.0,SNR=68								comp=Z,760nm,16.9s				
ASAR				PcP	PcP	13 38 29.9	+1.1	HNS		LR	LR		
	comp=Z,3.2nm,0.6s,baz=302,slow=2.0,SNR=5.0								comp=Z,890nm,19.1s				
ASAR				S	S	13 41 25.9	-1.3	PMG	Port Moresby	44.16	98	P	P	13 37 12.4	-0.9
	comp=Z,4.9nm,1.0s,baz=292,slow=16,SNR=8.6								comp=Z,37nm,1.0s,baz=280,slow=6.4,SNR=12				
ASAR				LR	LR	13 51 19.9		PMG				LR	LR	13 58 53.3	
	comp=Z,445nm,20.4s,baz=302,slow=38								comp=Z,136nm,19.6s,baz=276,slow=40				
	comp=Z,11nm,0.6s								comp=Z,37nm,1.0s				
ASAR	Alice Springs	35.10	125	P	P	13 35 57.8	-0.1	PMG	Port Moresby	44.16	98	P	P	13 37 11.6	-1.6
ASAR				PcP	PcP	13 38 29.2	+0.4	PMG				IAmb	IAmb	13 37 32.2	
AS31	Alice Springs	35.10	125	P	P	13 35 58.2	+0.4		comp=Z,74nm,1.1s						
ODAN	Odare	35.23	336	eP	P	13 35 59.6	+0.5	PMG	Port Moresby	44.16	98 *c*	*i*P	P	13 37 12.4	-0.9
TAPN	Taplejung	35.54	337	eP	P	13 36 02.7	+0.9	PMG				pmax	pmax		
	comp=Z,277nm,1.0s								comp=Z,45nm,1.0s						
RAMN	Ramite	35.64	335	eP	P	13 36 03.6	+0.9	GTA	Gaotai	44.52	357	eP	P	13 37 16.1	+0.2
	comp=Z,110nm,0.9s							GTA				pP	pP	13 37 27.0	-2.1
ENH	Enshi	35.89	10	P	P	13 36 02.2	-2.3	GTA				PcP	PP	13 38 59.7	-1.0
ENH				IAmb	IAmb	13 36 06.9		GTA				pmax	pmax		
	comp=Z,29nm,0.7s								comp=Z,20nm,1.2s						
CD2	Chengdu	35.96	1	P	P	13 36 04.2	-0.9	GTA				pmax	pmax		
CD2				pP	pP	13 36 17.5	-0.5		comp=Z,290nm,6.8s						
CD2				S	S	13 41 44.9	+4.7	GTA				LR	LR		
CD2				pmax	pmax				comp=Z,1μm,16.7s						
	comp=Z,90nm,0.7s							GTA				LR	LR		
CD2				LR	LR				comp=Z,560nm,16.7s						
	comp=Z,890nm,17.5s							GTA				LR	LR		
CD2				LR	LR				comp=Z,2μm,18.5s						
	comp=Z,420nm,19.8s							CTA	Charters Tower	44.72	113	P	P	13 37 18.5	+0.8
CD2				LR	LR				comp=Z,27nm,0.7s,baz=277,slow=9.3,SNR=39						
	comp=Z,2μm,15.7s							CTA				LR	LR	13 58 53.8	
JIRN	Jiri	36.44	335	eP	P	13 36 10.5	+0.9		comp=Z,230nm,18.3s,baz=281,slow=40						
LSA	Lhasa	36.51	343	P	P	13 36 08.7	-1.5		comp=Z,27nm,0.7s						
LSA				IAmb	IAmb	13 36 12.6		CTAO	Charters Tower	44.72	113	P	P	13 37 17.9	+0.2
	comp=Z,42nm,0.7s							CTAO				IAmb	IAmb	13 37 36.8	
LSA	Lhasa	36.51	343	P	P	13 36 08.7	-1.5		comp=Z,76nm,0.9s						
LSA				pmax	pmax			CTAO	Charters Tower	44.72	113	P	P	13 37 17.9	+0.2
	comp=Z,42nm,0.7s							CTAO				pmax	pmax		
PKI	Pulchoki	36.70	334	eP	P	13 36 12.2	+0.4		comp=Z,76nm,0.9s						
	comp=Z,62nm,0.6s							QLP	Quilpie	44.84	123	P	P	13 37 20.1	+1.6
PKIN	Phulchoki	36.71	334	eP	P	13 36 12.1	+0.3		baz=45,SNR=12						
	comp=Z,54nm,0.5s							STKA	Stephens Creek	44.91	131	P	P	13 37 20.4	+1.3
DMN	Daman	36.87	333	eP	P	13 36 13.8	+0.7		comp=Z,41nm,0.6s,baz=306,slow=7.8,SNR=134						
KKN	Kakani	36.95	334	eP	P	13 36 14.4	+0.7	STKA				LR	LR	13 58 40.9	
WHN	Wuhan	37.26	17	⇑P	P	13 36 16.0	-0.1		comp=Z,269nm,19.3s,baz=298,slow=39						
WHN				PP	PnPn	13 37 50.5	+7.6		comp=Z,41nm,0.6s						
WHN				S	S	13 42 04.6	+4.7	STKA	Stephens Creek	44.91	131	P	P	13 37 20.4	+1.3
WHN				pmax	pmax				baz=45,SNR=92						
	comp=Z,76nm,1.1s							STKA	Stephens Creek	44.91	131	P	P	13 37 20.1	+1.0
WHN				LR	LR			GUMO	Guam	45.76	65	LR	LR	13 58 09.6	
	comp=Z,5μm,19.0s								comp=Z,48nm,20.1s,baz=274,slow=38						
WHN				LR	LR			BTO	Baotou	46.11	8	eP	P	13 37 28.8	+0.4
	comp=Z,1μm,11.6s							BTO				LR	LR		
WHN				LR	LR				comp=Z,3μm,16.1s						
	comp=Z,4μm,14.4s							BTO				LR	LR		
GKN	Gorkha	37.42	333	eP	P	13 36 18.4	+0.7		comp=Z,3μm,16.9s						
	comp=Z,140nm,0.6s							JNU	Nakatsue	46.53	33	P	P	13 37 31.5	-0.3
KOLN	Koldanda	37.70	332	eP	P	13 36 21.2	+1.1		comp=Z,32nm,0.9s,baz=187,slow=5.1,SNR=13						
	comp=Z,47nm,0.9s							JNU				LR	LR	13 57 48.7	
DANN	Dangsing	38.12	332	eP	P	13 36 24.6	+0.9		comp=Z,224nm,19.6s,baz=202,slow=37						
	comp=Z,304nm,0.6s								comp=Z,32nm,0.9s						
QIS	Mount Isa	38.83	116	P	P	13 36 29.8	+0.3	JNU	Nakatsue	46.53	33	P	P	13 37 30.1	-1.7
	baz=39,SNR=24							HHC	Hu-ho-hao-te	46.57	9	eP	P	13 37 32.4	+0.3
XAN	Xi'an	39.50	8⇑	*i*P	P	13 36 34.1	-0.8	HHC				pmax	pmax		
XAN				pmax	pmax				comp=Z,42nm,0.8s						
	comp=Z,61nm,0.8s							HHC				pmax	pmax		
XAN				LR	LR				comp=Z,320nm,5.0s						
	comp=Z,1μm,15.1s							HHC				LR	LR		
XAN				LR	LR				comp=Z,2μm,19.0s						
	comp=Z,800nm,14.4s							HHC				LR	LR		
XAN				LR	LR				comp=Z,920nm,17.8s						
	comp=Z,2μm,15.1s							HHC				LR	LR		
NJ2	Nanjing	40.12	21	⇑P	P	13 36 40.2	+0.2		comp=Z,2μm,18.4s						
NJ2				sP	pP	13 36 53.9	+0.8	BJT	Baijiatuau	46.69	14	P	P	13 37 32.4	-0.5
NJ2				pmax	pmax			BJT	Baijiatuau	46.69	14	P	P	13 37 32.4	-0.5
	comp=Z,35nm,0.7s							BJT				pmax	pmax		
NJ2				LR	LR				comp=Z,20nm,0.9s						
	comp=Z,540nm,11.9s							BJI	Beijing	46.72	14	P	P	13 37 32.9	-0.1
NJ2				LR	LR			BJI				PP	PP	13 39 20.8	-2.8
	comp=Z,730nm,12.3s							BJI				pmax	pmax		
NJ2				LR	LR				comp=Z,9.0nm,0.6s						
	comp=Z,820nm,14.2s							BJI				LR	LR		
SSE	Sheshan	40.18	25	P	P	13 36 41.3	+0.8		comp=Z,630nm,15.5s						
SSE				S	S	13 42 49.7	+5.9	BJI				LR	LR		
SSE				pmax	pmax				comp=Z,140nm,16.4s						
	comp=Z,14nm,0.7s							BJI				LR	LR		
SSE				pmax	pmax				comp=Z,690nm,14.8s						
	comp=Z,82nm,5.0s							ARPS	Mount Arapiles	47.52	137	P	P	13 37 42.0	+2.5
SSE				LR	LR				baz=48,SNR=6.4						
	comp=Z,230nm,19.6s							NIL	Nilore	47.74	326	P	P	13 37 40.9	-0.3
SSE				LR	LR			NIL	Nilore	47.74	326	P	P	13 37 40.9	-0.3
	comp=Z,310nm,18.4s							NIL				pmax	pmax		
JOW	Kunigami	40.30	36	P	P	13 36 41.9	+0.2		comp=Z,101nm,0.9s						
	comp=Z,22nm,0.5s,baz=156,slow=7.7,SNR=9.5							CMSA	Cobar Meteorol	47.91	128	P	P	13 37 44.1	+1.6
JOW				LR	LR	13 53 19.5			baz=48,SNR=43						
	comp=Z,302nm,20.5s,baz=306,slow=36							KSAR	Wonju Array Be	48.48	27	P	P	13 37 46.4	-0.3
	comp=Z,22nm,0.5s							KSAR	Wonju Array Be	48.48	27	P	P	13 37 46.4	-0.3
JOW	Kunigami	40.30	36	P	P	13 36 41.1	-0.6	KSRS	Korea Array	48.50	27	P	P	13 37 46.5	-0.4
LYN	LuoYang	40.62	12⇑	*i*P	P	13 36 44.3	+0.2		comp=Z,15nm,0.5s,baz=223,slow=7.5,SNR=82						
LYN				pP	pP	13 36 57.1	-0.2	KSRS				pP	pP	13 37 59.1	-1.3
LYN				sP	sP	13 37 02.0	-1.1		comp=Z,7.1nm,0.7s,baz=215,slow=7.9,SNR=6.5						
LYN				PP	PP	13 38 17.6	-1.0		comp=Z,15nm,0.5s						
LYN				PcP	PcP	13 38 46.7	+1.3	KS19	Wonju Array Si	48.52	27	P	P	13 37 46.9	-0.2
LYN				S	S	13 42 45.1	-5.2	RMQ	Roma	48.63	121	P	P	13 37 50.0	+1.7
LYN				sS	sS	13 43 20.9	+8.6		baz=49,SNR=22						
LYN				SS	SS	13 45 49.9	-2.3	JMN	Monobe	48.65	35	P	P	13 37 47.8	-0.5
LYN				pmax	pmax			KRVT	Keravat (AS076	49.05	91	LR	LR	14 01 09.0	
	comp=Z,50nm,0.7s								comp=Z,135nm,20.5s,baz=43,slow=39						
LYN				pmax	pmax			JHS	Saijyo	49.16	33	P	P	13 37 50.1	-2.0
	comp=Z,260nm,7.8s							JCJ	Chichijima	49.83	48	LR	LR	13 58 14.8	
LYN				LR	LR				comp=Z,194nm,22.0s,baz=24,slow=35						
	comp=Z,2μm,17.6s							EIDS	Eidsvold	50.33	119	P	P	13 38 02.4	+1.2
LYN				LR	LR				baz=50,SNR=6.6						
	comp=Z,2μm,17.9s							EIDS	Eidsvold	50.33	119	P	P	13 38 00.8	-0.4
COEN	Coen	40.67	105	P	P	13 36 43.9	-1.0	XLT	XiLinHaoTe	50.37	12⇓	*i*P	P	13 38 01.3	+0.1
	baz=41,SNR=44							XLT				SS	SS	13 48 43.4	-1.8
COEN	Coen	40.67	105	P	P	13 36 44.5	-0.5	XLT				pmax	pmax		
LZH	Lanzhou	41.13	1	⇑P	P	13 36 48.6	+0.1		comp=Z,100nm,3.8s						
LZH				pP	pP	13 36 56.5	-5.1	XLT				pmax	pmax		
LZH				sP	sP	13 37 02.2	-5.2		comp=Z,29nm,1.1s						
LZH				PcP	PcP	13 38 49.0	+1.7	XLT				LR	LR		
LZH				pmax	pmax				comp=Z,84nm,15.0s						
	comp=Z,55nm,1.1s							XLT				LR	LR		
LZH				pmax	pmax				comp=Z,490nm,17.5s						
	comp=Z,170nm,5.6s							XLT				LR	LR		
LZH				LR	LR				comp=Z,970nm,14.9s						
	comp=Z,1μm,15.1s							WMQ	Urumqi	50.71	346	⇑P	P	13 38 04.8	+1.0
LZH				LR	LR			WMQ				pP	pP	13 38 15.3	-1.9
	comp=Z,1μm,15.8s							WMQ				sP	sP	13 38 22.1	-0.8
LZH				LR	LR			WMQ				pmax	pmax		
	comp=Z,2μm,15.5s								comp=Z,120nm,0.9s						
BBOO	Buckleboo	41.38	136	P	P	13 36 51.1	+0.6	WMQ				pmax	pmax		
	baz=42,SNR=17								comp=Z,620nm,5.5s						
BBOO	Buckleboo	41.38	136	P	P	13 36 50.0	-0.5	WMQ				LR	LR		
NDI	New Delhi	41.77	325	eP	P	13 36 55.5	+1.8		comp=Z,210nm,17.3s						
NDI				eS	S	13 43 08.0	+0.4	KSH	Kashi	50.96	333	P	P	13 38 05.4	-0.4
GOMU	GeErMu	41.90	350	P	P	13 36 55.3	+0.2	KSH				pP	pP	13 38 18.2	-1.0
GOMU				PP	PnPn	13 38 37.3	-1.0	KSH				sP	pwP	13 38 22.4	+1.1
GOMU				S	S	13 43 03.9	-6.2	KSH				S	S	13 45 16.3	-2.9
GOMU				pmax	pmax			KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s								comp=Z,78nm,0.7s						
GOMU				pmax	pmax			WSAR	Wadi Sarin	51.59	305	LR	LR	13 57 42.1	
	comp=Z,140nm,5.5s								comp=Z,400nm,21.0s,baz=139,slow=33						
GOMU				LR	LR			JGF	Kuroka	51.99	36	P	P	13 38 11.6	-1.8
	comp=Z,310nm,17.3s							JGF				IAmb	IAmb	13 38 19.1	
GOMU				LR	LR				comp=Z,135nm,1.7s						
	comp=Z,360nm,18.0s							TARG	Taragay, Kyrgy	52.02	336	P	P	13 38 12.3	-1.8
GOMU				LR	LR			TARG				IAmb	IAmb	13 38 29.3	
	comp=Z,500nm,20.4s								comp=Z,55nm,1.0s						
MTSU	Mount Surprise	42.50	111	P	P	13 37 00.6	+0.7	TARG	Taragay, Kyrgy	52.02	336	P	P	13 38 12.3	-1.8
	baz=42,SNR=45							TARG				pmax	pmax		
TIA	Tai'an	43.37	17	eP	P	13 37 04.8	-1.8		comp=Z,55nm,1.0s						
TIA				pmax	pmax			ARMA	Armidale	52.25	125	P	P	13 38 16.0	+0.3
	comp=Z,11nm,0.8s								baz=52,SNR=4.4						
TIA				LR	LR			ARMA	Armidale	52.25	125	P	P	13 38 17.2	+1.5
	comp=Z,580nm,19.4s							SHLS	Shalkode	52.62	339⇑	*i*P	P	13 38 18.1	0.0
TIA				LR	LR				comp=Z,31nm,0.6s,baz=339						
	comp=Z,410nm,17.1s							SHLS				eS	S	13 45 41.4	-0.5
TIA				LR	LR				baz=339						
	comp=Z,730nm,20.1s							SHLS	Shalkode	52.62	339 *c*	*i*P	P	13 38 18.1	0.0
HTT	Hallett	43.73	135	P	P	13 37 11.0	+1.4	SHLS				eS	S	13 45 41.3	-0.5
	baz=44,SNR=18							SHLS				pmax	pmax		
HNS	HongShan	43.85	14	⇑P	P	13 37 10.1	-0.3		comp=Z,31nm,0.6s						

UZB	Uzynbulak	52.77	338⇑	*i*P	P	13 38 20.1	+0.9
	comp=Z,33nm,0.6s,baz=338						
UZB	Uzynbulak	52.77	338 *c*	*i*P	P	13 38 20.1	+0.9
UZB				pmax	pmax		
	comp=Z,33nm,0.6s						
SATY	Saty	52.92	338⇑	*i*P	P	13 38 21.3	+0.9
	comp=Z,27nm,0.7s,baz=338						
SATY				eS	S	13 45 46.7	+0.6
	baz=338						
SATY	Saty	52.92	338 *c*	*i*P	P	13 38 21.2	+0.9
SATY				eS	S	13 45 46.6	+0.6
SATY				pmax	pmax		
	comp=Z,27nm,0.7s						
CN2	Changchun	52.93	20	P	P	13 38 19.0	-1.2
CN2				pmax	pmax		
	comp=Z,50nm,0.6s						
CN2				LR	LR		
	comp=Z,600nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
SONM	Songino Array	52.95	3	P	P	13 38 21.0	+0.6
	comp=Z,26nm,0.6s,baz=183,slow=9.7,SNR=225						
SONM				pP	pP	13 38 33.7	-0.2
	comp=Z,28nm,0.7s,baz=184,slow=7.7,SNR=12						
SONM				PcP	PcP	13 39 29.3	+0.5
	comp=Z,11nm,0.6s,baz=176,slow=4.2,SNR=6.0						
SONM				LR	LR	14 03 21.8	
	comp=Z,460nm,19.7s,baz=182,slow=39						
	comp=Z,26nm,0.6s						
SONM	Songino Array	52.95	3	P	P	13 38 20.8	+0.3
SONM				IAmb	IAmb	13 38 22.5	
	comp=Z,37nm,0.8s						
SONM				PcP	PcP	13 39 29.3	+0.5
ZHN	Zhinishke	53.00	338	eP	P	13 38 21.6	+0.7
	baz=338						
ZHN	Zhinishke	53.00	338	eP	P	13 38 21.6	+0.7
ULN	Ulaanbaatar	53.02	4	P	P	13 38 20.4	-0.6
ULN	Ulaanbaatar	53.02	4 *c*	*i*P	P	13 38 21.6	+0.6
ULN				pmax	pmax		
	comp=Z,60nm,1.7s						
MAJO	Matsushiro	53.14	36	P	P	13 38 21.2	-0.8
MAJO				IAmb	IAmb	13 38 34.4	
	comp=Z,107nm,1.6s						
MAJO	Matsushiro	53.14	36⇑	eP	P	13 38 20.0	-1.9
MAJO				pmax	pmax		
	comp=Z,145nm,2.8s						
MJAR	Matsushiro Arr	53.14	36	P	P	13 38 19.8	-2.2
	comp=Z,7.2nm,0.7s,baz=287,slow=20,SNR=20						
	comp=Z,7.2nm,0.7s						
MJB9	Matsu-Tunnel	53.14	36	P	P	13 38 19.9	-2.0
MJB9				IAmb	IAmb	13 38 35.8	
	comp=Z,106nm,1.6s						
KPKS	Kokpek	53.17	338⇑	*i*P	P	13 38 22.8	+0.6
	comp=Z,25nm,0.7s,baz=338						
KPKS	Kokpek	53.17	338 *c*	*i*P	P	13 38 22.7	+0.6
KPKS				pmax	pmax		
	comp=Z,25nm,0.7s						
GAR	Garm	53.30	329	P	P	13 38 22.1	-1.2
GAR				IAmb	IAmb	13 38 38.7	
	comp=Z,93nm,1.2s						
TNSS	Tian-Shan	53.47	337	eP	P	13 38 25.2	+0.5
	baz=336						
TNSS	Tian-Shan	53.47	337	eP	P	13 38 25.2	+0.5
AAA	Alma-Ata	53.63	337	eP	P	13 38 26.0	+0.5
	comp=Z,25nm,0.6s,baz=337						
AAA	Alma-Ata	53.63	337	eP	P	13 38 25.9	+0.5
AAA				pmax	pmax		
	comp=Z,25nm,0.6s						
CHGR	Chuyangaron	53.66	327	P	P	13 38 24.4	-1.4
CHGR				IAmb	IAmb	13 38 25.9	
	comp=Z,78nm,1.0s						
CHGR	Chuyangaron	53.66	327	P	P	13 38 24.4	-1.4
CHGR				pmax	pmax		
	comp=Z,78nm,1.0s						
UCH	Uchtor	53.81	334	P	P	13 38 28.0	+0.7
	SNR=26						
TKM2	Tokmak 2	53.92	335	P	P	13 38 28.1	+0.3
	SNR=124						
TKM2	Tokmak 2	53.92	335	P	P	13 38 27.2	-0.6
KBK	Karagaybulak	53.97	335	P	P	13 38 29.3	+1.1
	SNR=47						
AML	Almayashu	54.09	333	P	P	13 38 30.1	+0.8
	SNR=5.2						
CHKK	Chushkaly	54.14	337	eP	P	13 38 28.9	-0.2
	baz=337						
CHKK	Chushkaly	54.14	337	eP	P	13 38 28.9	-0.2
AAK	Ala-Archa	54.15	334	P	P	13 38 30.2	+0.8
	SNR=21						
AAK	Ala-Archa	54.15	334	P	P	13 38 30.2	+0.8
	comp=Z,8.0nm,0.5s,baz=155,slow=6.1,SNR=44						
AAK				LR	LR	14 05 41.3	
	comp=Z,282nm,19.8s,baz=146,slow=40						
	comp=Z,8.0nm,0.5s						
AAK	Ala-Archa	54.15	334	P	P	13 38 29.4	0.0
AAK				IAmb	IAmb	13 38 44.6	
	comp=Z,44nm,1.2s						
AAK	Ala-Archa	54.15	334 *c*	*i*P	P	13 38 30.0	+0.6
AAK				pmax	pmax		
	comp=Z,54nm,2.5s						
CHMS	Chumysh	54.34	335	P	P	13 38 30.8	+0.2
	SNR=15						
KUU	Kurty	54.43	337⇑	*i*P	P	13 38 31.2	-0.1
	comp=Z,46nm,0.7s,baz=337						
KUU	Kurty	54.43	337 *c*	*i*P	P	13 38 31.1	-0.1
KUU				pmax	pmax		
	comp=Z,46nm,0.7s						
EKS2	Erkin-Say	54.48	334	P	P	13 38 32.7	+0.9
	SNR=76						
TDK	Taldyqorghan	54.59	339	eP	P	13 38 32.5	0.0
	comp=Z,40nm,0.8s,baz=339						
TDK	Taldyqorghan	54.59	339	eP	P	13 38 32.4	0.0
TDK				pmax	pmax		
	comp=Z,40nm,0.8s						
USP	Ospenovka	54.66	335	P	P	13 38 33.1	+0.1
	SNR=28						
SGDS	Sogindy	54.76	335⇑	*i*P	P	13 38 33.8	0.0
	baz=335						
SGDS	Sogindy	54.76	335 *c*	*i*P	P	13 38 33.7	0.0
ZSN	Zaisan	54.81	345⇑	*i*P	P	13 38 34.8	+0.8
	comp=Z,46nm,0.8s,baz=345						
ZSN	Zaisan	54.81	345 *c*	*i*P	P	13 38 34.7	+0.8
ZSN				pmax	pmax		
	comp=Z,46nm,0.8s						
MK31	Makanchi Array	54.91	343	P	P	13 38 34.9	+0.2
MK31	Makanchi Array	54.91	343 *c*	*i*P	P	13 38 34.6	-0.1
MKAR	Makanchi Array	54.91	343	P	P	13 38 34.8	+0.1
	comp=Z,106nm,0.7s,baz=147,slow=8.1,SNR=995						
MKAR				S	S	13 46 12.4	-0.2
	comp=Z,1.6nm,1.0s,baz=163,slow=15,SNR=4.2						
MKAR				LR	LR	14 06 36.6	
	comp=Z,207nm,20.7s,baz=162,slow=41						
	comp=Z,106nm,0.7s						
MKAR	Makanchi Array	54.91	343	P	P	13 38 34.9	+0.2
MAKZ	Makanchi	55.02	343	P	P	13 38 34.5	-1.0
MAKZ				IAmb	IAmb	13 38 36.5	
	comp=Z,33nm,0.9s						
MAKZ	Makanchi	55.02	343	P	P	13 38 35.2	-0.2
BNX	BinXian	55.30	21	⇑P	P	13 38 36.9	-0.5
BNX				pmax	pmax		
	comp=Z,87nm,0.7s						
BNX				pmax	pmax		
	comp=Z,390nm,3.8s						
ZAK	Zakamensk	55.41	0	eP	P	13 38 37.7	-0.6
ZAK				*e*		13 39 38.0	
ZAK				pmax	pmax		
	comp=Z,22nm,0.9s						
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
JMM	Marumori	55.55	36	P	P	13 38 38.0	-1.4
JMM				IAmb	IAmb	13 38 51.9	
	comp=Z,64nm,1.3s						
DZA	Taraz	55.77	332	eP	P	13 38 40.7	-0.3
	baz=332						
DZA	Taraz	55.77	332	eP	P	13 38 40.6	-0.3
USA0B	Ussuriysk Arra	55.79	25	P	P	13 38 38.4	-2.5
USA0B				IAmb	IAmb	13 38 54.5	
	comp=Z,48nm,0.9s						
USA0B	Ussuriysk Arra	55.79	25 *de*	P	P	13 38 40.1	-0.9
USRK	Ussuriysk Ar.	55.79	25	P	P	13 38 40.6	-0.4
	comp=Z,21nm,0.7s,baz=213,slow=4.9,SNR=31						
USRK				pP	pP	13 38 53.0	-1.5
	comp=Z,37nm,0.8s,baz=208,slow=4.8,SNR=13						
USRK				LR	LR	14 04 02.5	
	comp=Z,263nm,19.2s,baz=206,slow=38						
	comp=Z,21nm,0.7s						

USRK **Ussuriysk Ar.** 55.79 25 P **P** 13 38 38.9 -2.0
IUG **Iuzhnay** 55.81 331⇑ *i*P **P** 13 38 41.7 +0.4
baz=331
IUG **Iuzhnay** 55.81 331 *c i*P **P** 13 38 41.6 +0.3
KK31 **Karatay Array** 56.31 332 *i* P **P** 13 38 44.0 -0.8
KKAR **Karatay Array** 56.31 332 P **P** 13 38 43.6 -1.2
KKAR **Karatay Array** 56.31 332 P **P** 13 38 43.6 -1.2
DGZ **Jazzator, Alta** 56.33 348 *c i*P **P** 13 38 45.7 +0.7
DGZ pmax pmax
comp=Z,146nm,0.6s
VOI **Vohitsoka** 56.59 247 P **P** 13 38 48.6 +1.3
VOI **Vohitsoka** 56.59 247 P P 13 39 03.7 +16
MOY **Mondy** 56.71 359 *e*P **P** 13 38 48.2 +0.6
MOY pmax pmax
comp=Z,63nm,2.3s
HNR **Honiara** 56.77 98 P **P** 13 38 47.6 -1.0
comp=Z,1μm,0.8s,baz=204,slow=6.8,SNR=8.0
HNR LR LR 14 07 13.9
comp=Z,1μm,18.1s,baz=235,slow=40
HNR **Honiara** 56.77 98 P **P** 13 38 47.8 -0.8
HNR **Honiara** 56.77 98 P **P** 13 38 47.8 -0.8
HNR pmax pmax
comp=Z,125nm,0.8s
IRK **Irkutsk** 57.28 1 *e*P **P** 13 38 50.1 -1.4
IRK pmax pmax
comp=Z,109nm,2.2s
JTM **Tenmabayashi** 57.68 34 P **P** 13 38 52.5 -1.9
HEH **HeiHe** 59.23 18 *e*P **P** 13 39 04.5 -0.6
HEH pmax pmax
comp=Z,33nm,0.9s
HEH LR LR
comp=Z,480nm,18.0s
HEH LR LR
comp=Z,510nm,17.4s
HEH LR LR
comp=Z,740nm,21.0s
KURBB **Kurchatov Arra** 59.45 342 P **P** 13 39 06.7 0.0
comp=Z,44nm,0.8s,baz=158,slow=6.5,SNR=356
KURBB pP **pP** 13 39 19.8 -0.5
comp=Z,34nm,0.8s,baz=160,slow=6.9,SNR=14
KURBB PcP **PcP** 13 39 54.7 +0.8
comp=Z,7.0nm,0.7s,baz=144,slow=3.2,SNR=5.7
KURBB pPcP 13 40 09.0
comp=Z,12nm,0.6s,baz=158,slow=3.7,SNR=8.1
KURBB LR LR 14 09 15.4
comp=Z,418nm,19.0s,baz=160,slow=40
comp=Z,44nm,0.8s
KURBB **Kurchatov Arra** 59.45 342 P **P** 13 39 06.1 -0.5
KURK **Kurchatov** 59.51 342 P **P** 13 39 06.4 -0.6
KURK **Kurchatov** 59.51 342 *c i*P **P** 13 39 06.9 -0.1
KURK pmax pmax
comp=Z,121nm,1.3s
ERM **Erimo** 59.67 34 P **P** 13 39 07.2 -1.1
ERM **Erimo** 59.67 34 P **P** 13 39 07.2 -1.1
ERM pmax pmax
comp=Z,161nm,1.3s
GEYT **Alibeck** 59.72 320 P **P** 13 39 09.6 +0.8
comp=Z,20nm,0.8s,baz=150,slow=6.2,SNR=27
GEYT pP **pP** 13 39 22.4 -0.1
comp=Z,21nm,0.8s,baz=150,slow=6.5,SNR=11
GEYT LR LR 14 06 40.6
comp=Z,167nm,20.4s,baz=139,slow=38
comp=Z,20nm,0.8s
GEYT **Alibeck** 59.72 320 P **P** 13 39 08.8 0.0
GEYT IAmb IAmb 13 39 24.4
comp=Z,54nm,1.2s
GYA0B **ALIBECK ARRAY** 59.72 320 P **P** 13 39 08.4 -0.4
GYA0B IAmb IAmb 13 39 24.4
comp=Z,50nm,1.2s
KLR **Kul'dur** 59.82 22 LR LR 14 05 25.7
comp=Z,342nm,20.6s,baz=224,slow=36
KLR **Kul'dur** 59.82 22 *c i*P **P** 13 39 08.2 -1.0
KLR pmax pmax
comp=Z,26nm,0.7s
ASAJ **Asahikawa** 60.78 32 P **P** 13 39 14.9 -0.9
comp=Z,29nm,0.7s,baz=222,slow=8.9,SNR=28
ASAJ LR LR 14 06 33.8
comp=Z,210nm,20.2s,baz=185,slow=37
comp=Z,29nm,0.7s
JKA **Kamikawa-asahi** 60.78 32 P **P** 13 39 14.6 -1.2
JKA IAmb IAmb 13 39 16.9
comp=Z,32nm,0.7s
ZAA0 **Zalesovo Array** 60.88 348 P **P** 13 39 14.8 -1.5
ZALV **Zalesovo Beam** 60.88 348 P **P** 13 39 16.2 -0.1
comp=Z,112nm,0.5s,baz=162,slow=4.8,SNR=474
ZALV pP **pP** 13 39 29.6 -0.4
comp=Z,60nm,0.7s,baz=165,slow=5.4,SNR=8.9
ZALV S **S** 13 47 28.5 -1.7
comp=Z,1.2nm,0.7s,baz=156,slow=12,SNR=4.1
ZALV LR LR 14 08 52.0
comp=Z,716nm,19.4s,baz=140,slow=39
comp=Z,112nm,0.5s
ZALV **Zalesovo Beam** 60.88 348 P **P** 13 39 16.0 -0.4
KOUNC **Koumac, New Ca** 61.49 110 P **P** 13 39 20.9 -0.2
KOUNC IAmb IAmb 13 39 23.2
comp=Z,33nm,0.9s
ATD **Arta Tunnel** 61.93 286 LR LR 14 03 48.9
comp=Z,52nm,18.2s,baz=68,slow=34
ZEA **Zeya** 62.26 16 *e*P **P** 13 39 25.5 -0.1
ZEA *e* 13 39 38.9
ZEA pmax pmax
comp=N,20nm,0.5s
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=Z,30nm,0.7s
RAYN **Ar Rayn** 62.76 300 P **P** 13 39 31.1 +1.4
YSS **Yuzh-Sakhalins** 62.82 30 P **P** 13 39 28.9 -0.5
YSS **Yuzh-Sakhalins** 62.82 30⇓ *i*P **P** 13 39 29.2 -0.3
YSS pmax pmax
comp=Z,70nm,0.7s
GRNR **Gornyy** 62.84 23⇑ *i*P **P** 13 39 29.3 -0.3
GRNR pmax pmax
comp=E,4.0nm,1.1s
GRNR pmax pmax
comp=N,2.0nm,1.0s
GRNR pmax pmax
comp=Z,7.0nm,1.1s
GRNR MLR MLR
comp=E,320nm,15.0s
GRNR MLR MLR
comp=N,200nm,17.0s
GRNR MLR MLR
comp=Z,350nm,16.0s
BOD **Bodaibo** 63.51 7 *e*P **P** 13 39 33.7 -0.1
BOD pmax pmax
comp=Z,43nm,1.4s
DZM **Mont Dzumac** 63.63 112 *e*P **P** 13 39 35.8 +0.3
comp=Z,40nm,1.2s
DZM *e*S **S** 13 48 07.9 +1.6
comp=Z,96nm,23.9s
DZM **Mont Dzumac** 63.63 112 *e*LR LR 13 58 38.5
comp=Z,274nm,22.1s
DZM **Mont Dzumac** 63.63 112 P **P** 13 39 36.2 +0.7
comp=Z,7.8nm,0.7s,baz=255,slow=11,SNR=14
DZM LR LR 14 08 30.9
comp=Z,179nm,19.9s,baz=246,slow=37
comp=Z,7.8nm,0.7s
DZM **Mont Dzumac** 63.63 112 P **P** 13 39 34.8 -0.7
UGL **Uglegorsk** 63.99 28 *e*P **P** 13 39 36.3 -0.8
UGL pmax pmax
comp=Z,50nm,1.0s
BVA0 **Borovoye Array** 64.19 339 *i* P **P** 13 39 37.4 -1.0
BVAR **Borovoye Array** 64.19 339 LR LR 14 11 13.3
comp=Z,203nm,18.9s,baz=140,slow=39
BRVK **Borovoye** 64.25 339 P **P** 13 39 38.0 -0.8
BRVK IAmb IAmb 13 39 39.8
comp=Z,49nm,1.2s
BRVK **Borovoye** 64.25 339 *c i*P **P** 13 39 38.6 -0.2
BRVK pmax pmax
comp=Z,27nm,0.8s
LIFNC **LIFOU** 64.26 110 P **P** 13 39 38.6 -1.0
TYV **Tymovskoe** 65.53 26 *e*P **P** 13 39 47.6 +0.4
TYV *e*S **S** 13 48 31.4 +3.0
TYV pmax pmax
comp=Z,11nm,1.4s
TYV pmax pmax
comp=Z,500nm,3.4s
TYV smax smax
comp=N,600nm,6.1s
TYV smax smax
comp=E,700nm,6.1s
AB31 **Akbulak array** 65.82 331 P **P** 13 39 47.9 -1.2
ABKAR **Akbulak array** 65.82 331 P **P** 13 39 49.0 -0.1
AKTO **Aktyubinsk** 67.53 331 P **P** 13 39 59.6 -0.4
MAW **Mawson** 67.88 195 pP **pP** 13 40 17.4 +1.5
comp=E,11nm,0.7s,baz=55,slow=9.5,SNR=6.8
MAW LR LR 14 03 29.2
comp=E,721nm,21.7s,baz=21,slow=30
MAW **Mawson** 67.88 195 P **P** 13 40 02.1 +0.2
MAW **Mawson** 67.88 195 P **P** 13 40 02.1 +0.2
MAW pmax pmax
comp=Z,4.0nm,1.0s
AKT **Akhty** 68.38 318 *e*P **P** 13 40 06.9 +1.2
AKT *e**PP **pP** 13 40 16.9 -2.7
AKT *e* 13 40 30.0
AKT pmax pmax
comp=Z,29nm,0.8s
GNI **Garni** 69.79 316 LR LR 14 13 12.4
comp=Z,64nm,19.4s,baz=111,slow=38
YAK **Yakutsk** 70.20 13 P **P** 13 40 15.1 -1.3
comp=Z,59nm,0.6s,baz=47,slow=0.5,SNR=60
YAK LR LR 14 14 24.5
comp=Z,322nm,18.3s,baz=257,slow=39
comp=Z,59nm,0.6s
YAK **Yakutsk** 70.20 13 P **P** 13 40 15.2 -1.2
YAK **Yakutsk** 70.20 13 *e*P **P** 13 40 15.0 -1.3
YAK *e**PP pP 13 40 21.5 -8.8
YAK *e* 13 40 33.4
YAK *e*S **S** 13 49 22.6 -1.2
YAK *e**SS **sS** 13 49 51.1 +3.2
YAK pmax pmax
comp=Z,169nm,1.2s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,19nm,1.4s
YAK pmax pmax
comp=Z,547nm,6.8s
YAK pmax pmax
comp=N,834nm,5.9s
YAK pmax pmax
comp=E,256nm,5.1s
YAK smax smax
comp=N,784nm,6.5s
YAK smax smax
comp=E,325nm,5.1s
GROC **Groznyy** 70.46 319 *e*P **P** 13 40 19.0 +0.7
GROC *e**SP **PcP** 13 40 39.1 -0.3
GROC *e*S **S** 13 49 29.8 +2.2
GROC pmax pmax
comp=Z,107nm,1.0s
RPZ **Rata Peaks** 70.72 134 LR LR 14 10 47.7
comp=Z,572nm,21.0s,baz=278,slow=35
SVE **Sverdlovsk** 70.74 337 *de*P **P** 13 40 20.5 +0.8
SVE pmax pmax
comp=Z,85nm,1.3s
ARU **Arti** 71.29 336 LR LR 14 15 19.8
comp=Z,220nm,18.6s,baz=131,slow=39
ARU **Arti** 71.29 336 P **P** 13 40 23.1 +0.1
ARU **Arti** 71.29 336 *c i*P **P** 13 40 23.4 +0.3
ARU **PP **pP** 13 40 37.0 -0.1
ARU S **S** 13 49 39.3 +2.6
ARU SS **SS** 13 54 09.6 -2.3
ARU pmax pmax
comp=Z,48nm,0.7s
MARD **Mardin** 71.48 312 P **P** 13 40 24.1 -0.7
ZEI **Tsey** 71.51 318 *e*P **P** 13 40 25.6 +0.6
ZEI pmax pmax
comp=Z,17nm,0.8s
MBAR **Mbarara** 72.09 271 LR LR 14 08 31.6
comp=Z,264nm,19.4s,baz=80,slow=33
NEY **Neytrino** 72.49 318⇑ *e*P **P** 13 40 33.6 +2.8
NEY pmax pmax
comp=Z,5.0nm,0.9s
KBZ **Khabaz** 72.58 319 P **P** 13 40 32.2 +1.1
comp=Z,20nm,0.8s,baz=125,slow=6.0,SNR=40
KBZ LR LR 14 15 22.1
comp=Z,78nm,18.8s,baz=86,slow=38
comp=Z,20nm,0.8s
KBZ **Khabaz** 72.58 319 *c i*P **P** 13 40 32.1 +1.1
KBZ pmax pmax
comp=Z,27nm,0.9s
KIV **Kislovodsk** 72.81 319 *e*P **P** 13 40 32.2 -0.4
KIV pmax pmax
comp=Z,16nm,1.0s
EIL **Elat** 73.62 303 LR LR 14 10 47.4
comp=Z,170nm,22.0s,baz=76,slow=34
LSZ **Lusaka** 73.82 256 LR LR 14 07 31.8
comp=Z,349nm,21.6s,baz=98,slow=31
BELG **Belogornoye** 73.94 328 LR LR 14 16 26.2
comp=Z,230nm,20.0s,baz=151,slow=38
BELG **Belogornoye** 73.94 328 *c i*P **P** 13 40 38.9 0.0
BELG pmax pmax
comp=Z,13nm,1.3s
BKZ **Black Stump Fm** 74.06 129 P **P** 13 40 40.2 +0.1
BKZ IAmb IAmb 13 40 56.3
comp=Z,36nm,0.7s
PEA0B **Petropavlovsk-** 74.17 31⇓ *e*P **P** 13 40 38.8 -1.4
PETK **Petropavlovsk-** 74.17 31 P **P** 13 40 39.3 -0.9
comp=Z,5.6nm,0.7s,baz=307,slow=3.1,SNR=12
PETK LR LR 14 13 28.0
comp=Z,109nm,21.3s,baz=244,slow=36
comp=Z,5.6nm,0.7s
MMAI **Mount Meron Ar** 74.20 306 LR LR 14 13 00.6
comp=Z,211nm,20.9s,baz=323,slow=36
MSVF **Nonsavu** 74.38 107⇓ *e*P **P** 13 40 42.8 +0.5
MSVF pmax pmax
comp=Z,15nm,0.8s
RTZ **Ruatahuna** 74.38 129 P **P** 13 40 40.8 -1.2
RTZ IAmb IAmb 13 41 06.7
comp=Z,31nm,0.9s
URZ **Urewera** 74.45 128 LR LR 14 15 59.4
comp=Z,249nm,19.2s,baz=8.0,slow=38
PET **Petropavlovsk** 74.61 31 P **P** 13 40 41.8 -1.0
PET **Petropavlovsk** 74.61 31 *e*P **P** 13 40 42.2 -0.6
PET pmax pmax
comp=Z,60nm,0.5s
SOC **Sochi** 74.63 318 *e*P **P** 13 40 39.4 -3.7
SOC *e* 13 43 27.2
SOC *e*PPP PPP 13 45 14.1
SOC *e*S **S** 13 50 11.0 -4.1
SOC *e*SS **SS** 13 55 02.3 -1.1
SOC *e*SSS SSS 13 58 23.9
SOC MLR MLR
comp=Z,99nm,15.0s
MA2 **Magadan** 74.86 23 LR LR 14 14 05.2
comp=Z,165nm,21.2s,baz=224,slow=36
MA2 **Magadan** 74.86 23⇑ *e*P **P** 13 40 43.9 -0.2
MA2 pmax pmax
comp=Z,69nm,1.7s
NRIK **Noril'sk** 75.16 354 P **P** 13 40 45.3 -0.4
comp=Z,35nm,0.7s,baz=142,slow=5.6,SNR=44
NRIK LR LR 14 16 58.5
comp=Z,266nm,18.1s,baz=172,slow=38
comp=Z,35nm,0.7s
NRIK **Noril'sk** 75.16 354 *c i*P **P** 13 40 44.9 -0.8
NRIK pmax pmax
comp=Z,72nm,1.1s
LBTB **Lobatse** 76.22 246 LR LR 14 08 11.9
comp=Z,560nm,21.7s,baz=88,slow=31
KIRV **Kirov** 76.49 334 *c i*P **P** 13 40 54.3 +0.9
VRH **Novokhopyorsk** 76.57 326 *e*P **P** 13 40 53.5 -0.5
VRH pmax pmax
comp=Z,60nm,0.7s
BOSA **Boshof** 76.58 242 P **P** 13 40 56.5 +1.7
comp=Z,5.2nm,0.7s,baz=99,slow=4.5,SNR=9.7
BOSA pP **pP** 13 41 09.6 +0.5
comp=Z,13nm,0.9s,baz=96,slow=6.2,SNR=9.3
BOSA LR LR 14 08 36.3
comp=Z,420nm,20.2s,baz=95,slow=31
comp=Z,5.2nm,0.7s
ANN **Anapa** 76.61 318 *e*P **P** 13 40 51.5 -2.9
ANN *e**PP **PcP** 13 41 06.4 +0.7
ANN *e* 13 43 43.8
ANN *e*S **S** 13 50 34.7 -2.2
ANN pmax pmax
comp=Z,97nm,1.0s
BR131 **Keskin Array S** 77.57 312 P **P** 13 41 00.2 +0.1
BR131 IAmb IAmb 13 41 01.5
comp=Z,34nm,1.0s
BR131 **Keskin Array S** 77.57 312 *c i*P **P** 13 41 00.5 +0.4
BRTR **Keskin Array B** 77.57 312 P **P** 13 41 00.5 +0.3
comp=Z,17nm,0.9s,baz=133,slow=7.1,SNR=54
BRTR LR LR 14 17 53.7
comp=Z,212nm,18.8s,baz=119,slow=38
comp=Z,17nm,0.9s
BRTR **Keskin Array B** 77.57 312 P **P** 13 41 00.2 +0.1
SEY **Seymchan** 77.61 21⇑ *e*P **P** 13 40 59.7 +0.1
SEY pmax pmax
comp=Z,26nm,1.7s
VSR **Storozhevoye** 78.03 325 *e*P **P** 13 41 01.8 -0.4
VSR pmax pmax
comp=Z,30nm,0.6s
VORR **Voronezh** 78.19 325 P **P** 13 41 03.9 +0.8
VORR *e* 13 41 18.2
VORR pmax pmax
comp=Z,50nm,2.0s
VNDA **Vanda** 78.46 169 P **P** 13 41 06.3 +2.2
comp=Z,3.5nm,0.9s,baz=332,slow=3.7,SNR=2.3
VNDA pP **pwP** 13 41 19.8 -0.9
comp=Z,14nm,1.1s,baz=315,slow=6.0,SNR=7.1
VNDA LR LR 14 11 20.0
comp=Z,255nm,19.8s,baz=298,slow=32
comp=Z,3.5nm,0.9s
TIXI **Tiksi** 78.63 8 LR LR 14 20 50.0
comp=Z,584nm,18.2s,baz=275,slow=40
TIXI **Tiksi** 78.63 8 P **P** 13 41 03.4 -1.7
TIXI **Tiksi** 78.63 8 P **P** 13 41 03.7 -1.4
LPSR **Galich'ya Gora** 78.73 326 *e*P **P** 13 41 06.4 +0.4
LPSR pmax pmax
comp=Z,30nm,0.7s
SIM **Simferopol'** 78.87 318 *e*P **P** 13 41 08.3 +1.3
SIM *e* 13 41 17.0
SIM pmax pmax
comp=Z,79nm,1.1s
PRGR **Permogore** 79.75 336 *e*P **P** 13 41 10.4 -1.0
PRGR *e*S **S** 13 51 07.8 -2.2
PRGR pmax pmax
comp=Z,168nm,0.9s
SUR **Sutherland** 80.46 238 LR LR 14 09 35.2
comp=Z,154nm,21.3s,baz=91,slow=30
MOS **Moscow** 80.71 329 *e*P **P** 13 41 15.8 -0.9
MOS *e* 13 41 23.2
MOS *e* 13 41 29.4
MOS *e* 13 44 20.1
MOS pmax pmax
comp=Z,61nm,0.6s
OBN **Obninsk** 81.02 328⇑ *i*P **P** 13 41 19.2 +0.9
OBN *e* 13 44 22.9
OBN pmax pmax
comp=Z,103nm,1.7s
OBN MLR MLR
comp=Z,154nm,13.0s
KARP **Karpathos** 81.45 307 P **P** 13 41 21.5 +0.3
ELIB **Princess Elisa** 81.77 198 *d*P **P** 13 41 24.9 +2.6
comp=Z,28nm,1.2s
KLMR **Klimovskoe** 81.96 334 *e*P **P** 13 41 21.0 -2.3
KLMR *e*pP **pP** 13 41 35.5 -2.0
KLMR AMP 13 41 39.7
comp=Z,92nm,1.4s
KLMR **Klimovskoe** 81.96 334 *e*P **P** 13 41 20.9 -2.3
KLMR pmax pmax
comp=Z,92nm,1.4s
TIRR **Tirgusor** 82.62 316 ⇑P **P** 13 41 28.3 +1.2
TIRR **Tirgusor** 82.62 316 P **P** 13 41 28.2 +1.2
MILM **Milestii Mici** 82.99 318⇑ *i*P **P** 13 41 30.4 +1.5
comp=Z,160nm,0.7s
MILM **Milestii Mici** 82.99 318 ⇑P **P** 13 41 30.8 +1.9
MILM **Milestii Mici** 82.99 318 *c i*P **P** 13 41 30.4 +1.5
MILM pmax pmax
comp=Z,160nm,0.7s
CFR **Carcaliu** 82.99 317 ⇓P **P** 13 41 29.8 +0.8
CFR **Carcaliu** 82.99 317 P **P** 13 41 29.7 +0.8
GHRR 83.71 317 ⇑P **P** 13 41 34.3 +1.7
AKASG **Malin Array Be** 83.75 322 P **P** 13 41 33.0 +0.3
comp=Z,7.2nm,0.8s,baz=82,slow=4.2,SNR=47
AKASG pP **pP** 13 41 47.3 +0.3
comp=Z,11nm,0.7s,baz=82,slow=4.1,SNR=9.1
AKASG PP **PP** 13 44 41.9 -4.4
comp=Z,2.8nm,0.9s,baz=83,slow=6.2,SNR=4.0
comp=Z,7.2nm,0.8s
AKASG **Malin Array Be** 83.75 322 P **P** 13 41 32.4 -0.4
AKASG IAmb IAmb 13 41 49.2
comp=Z,52nm,1.6s
AKASG **Malin Array Be** 83.75 322 *i* P **P** 13 41 33.0 +0.3
AKASG pmax pmax
comp=Z,13nm,0.8s
AKBB **Malin Array Si** 83.75 322 P **P** 13 41 32.5 -0.2
AKBB IAmb IAmb 13 41 49.7
comp=Z,19nm,0.8s
AKBB **Malin Array Si** 83.75 322⇑ *i*P **P** 13 41 32.9 +0.2
AKBB pmax pmax
comp=Z,15nm,0.8s
TSUM **Tsumeb** 83.80 251 LR LR 14 15 20.0
comp=Z,365nm,19.1s,baz=144,slow=33
ADZR **Andozero** 83.81 336 *e*P **P** 13 41 32.9 +0.2
ADZR pmax pmax
comp=Z,46nm,1.1s
VRI **Vrincioaia** 84.12 317 ⇑P **P** 13 41 36.9 +2.0
VRI **Vrincioaia** 84.12 317 P **P** 13 41 36.8 +2.0
PLOR **Plostina** 84.17 317 ⇑P **P** 13 41 36.6 +1.5
PLOR **Plostina** 84.17 317 P **P** 13 41 36.5 +1.5
TESR **Tescani** 84.33 318 ⇑P **P** 13 41 37.5 +1.7
COVR **Voineasa-Covas** 84.47 317 ⇑P **P** 13 41 37.6 +1.0
MLR **Muntele Rosu** 84.57 317 ⇑P **P** 13 41 38.9 +1.6
MLR **Muntele Rosu** 84.57 317 P **P** 13 41 38.8 +1.6
QSPA **South Pole Qui** 84.73 180 LR LR 14 17 22.6
comp=Z,294nm,18.2s,baz=306,slow=34
PLVB **Pleven** 85.04 314 ⇑P **P** 13 41 41.1 +1.7
DOPR **Dopca** 85.06 317 ⇑P **P** 13 41 40.9 +1.4
BILL **Bilibino** 85.23 20 *de*P **P** 13 41 39.3 -0.6
BILL pmax pmax
comp=Z,30nm,2.5s
BILL MLR MLR
comp=Z,195nm,17.0s
BURAR **Bucovina Array** 85.53 318 ⇑P **P** 13 41 44.3 +2.3
BURAR **Bucovina Array** 85.53 318 P **P** 13 41 43.3 +1.3
BURAR IAmb IAmb 13 41 45.4
comp=Z,27nm,0.8s
BURAR **Bucovina Array** 85.53 318 P **P** 13 41 44.2 +2.3
BUR08 **Bucovina Ar. S** 85.55 319 P **P** 13 41 44.2 +2.1
BUR08 IAmb IAmb 13 41 59.7
comp=Z,24nm,0.9s
MNK **Minsk** 85.57 326 *i* P **P** 13 41 40.2 -1.6
comp=E,4.0nm,1.0s
MNK *i* P **P** 13 41 40.2 -1.6
comp=N,33nm,1.1s
MNK *i* P **P** 13 41 40.2 -1.6
comp=Z,19nm,0.8s,baz=105
MNK *i* PP **PP** 13 45 00.7 -0.4
MNK *i* PPP PPP 13 46 50.2
MNK *i* S S 13 52 00.2 -9.4
MNK *i* SS **SS** 13 57 45.2 -1.3
MNK *i* SSS SSS 14 01 16.4
MNK *i* LQ LQ 14 14 27.3
MNK *i* LR LR 14 17 29.4
MNK *i* LRM MLR 14 21 25.0
comp=N,218nm,10.8s
MNK *i* LRM MLR 14 21 56.1
comp=E,36nm,15.3s
MNK *i* LRM MLR 14 22 12.7
comp=Z,288nm,15.3s
MNK **Minsk** 85.57 326 *i* P **P** 13 41 40.2 -1.6
MNK *i* 13 45 00.6
MNK *i* S S 13 52 00.2 -9.5
MNK *i* SS **SS** 13 57 45.2 -1.3
MNK *i* SSS SSS 14 01 16.3
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK pmax pmax
comp=Z,19nm,0.8s
MNK pmax pmax
comp=N,33nm,1.1s
MNK MLR MLR
comp=N,218nm,11.0s
MNK MLR MLR
comp=E,36nm,15.0s
MNK MLR MLR
comp=Z,288nm,15.0s
VTS **Vitosha** 85.89 313 ⇑P **P** 13 41 45.2 +1.2
VTS **Vitosha** 85.89 313 P **P** 13 41 44.1 +0.3
VTS **Vitosha** 85.89 313 P **P** 13 41 45.1 +1.2
AGG **Agios Georgios** 85.91 310 P **P** 13 41 42.5 -1.4
AGG **Agios Georgios** 85.91 310 P **P** 13 41 42.5 -1.4
AGG pmax pmax
comp=Z,2.0nm,0.8s
LIT **Litokhoron** 85.98 311 P **P** 13 41 43.7 -0.5
LIT IAmb IAmb 13 41 45.2
comp=Z,25nm,0.7s
LIT **Litokhoron** 85.98 311 P **P** 13 41 43.7 -0.5
LIT pmax pmax
comp=Z,25nm,0.7s
NACGM **Naroch** 86.29 326 *e*P **P** 13 41 46.1 +0.7
comp=Z,31nm,0.9s,baz=104
IDID **Didziasalis** 86.42 326 *e*P **P** 13 41 41.7 -4.3
BMR **Baia Mare** 86.68 318 ⇓P **P** 13 41 49.3 +1.7

BMR Baia Mare 86.68 318 P P 13 41 49.2 +1.7
IIGN Ignalina 86.71 326 eP P 13 41 40.0 -7.5
GZR Gura Zlata 86.73 316 ⇑P P 13 41 49.4 +1.5
GZR Gura Zlata 86.73 316 P P 13 41 49.3 +1.5
DEV Deva 86.74 316 ⇑P P 13 41 49.8 +2.0
DEV Deva 86.74 316 P P 13 41 49.8 +2.0
MARR Marisel-Cluj 86.74 317 ⇑P P 13 41 49.8 +1.8
LVV L'vov 86.77 320 eP P 13 41 49.4 +1.5
LVV eS S 13 52 21.0 -0.6
LVV eSS SS 13 58 02.1 -2.3
LVV MLR MLR
comp=N,500nm,20.0s
LVZ Lovozero 86.78 339⇓ eP P 13 41 48.1 +0.5
LVZ pmax pmax
comp=Z,147nm,2.6s
ISAL Salakas 86.82 326 eP P 13 41 49.1 +1.2
HERR Herculane 86.89 315 ⇑P P 13 41 49.9 +1.3
APA Apatity 87.10 339⇓ iP P 13 41 45.7 -3.4
APA pmax pmax
comp=Z,17nm,1.1s
BOVS Bovan 87.17 314 ⇑P P 13 41 50.6 +0.7
VSU Vasula 87.21 329⇓ eP P 13 41 51.2 +1.4
VSU pmax pmax
comp=Z,143nm,1.8s
VSU Vasula 87.21 329 eP P 13 41 50.7 +0.9
SURR Surduc 87.25 316 ⇑P P 13 41 51.9 +1.7
MDVR Moldovita 87.36 315 ⇑P P 13 41 52.2 +1.3
TRPA Tarpa 87.40 319 ⇑P P 13 41 52.7 +1.8
BZS Buzias 87.57 316 ⇑P P 13 41 53.2 +1.4
BZS Buzias 87.57 316 P P 13 41 53.2 +1.4
UZH Uzhgorod 87.66 319 eP P 13 41 52.4 +0.2
UZH e 13 41 56.7
UZH i 13 41 59.8
SIRR Siria 87.66 317 ⇑P P 13 41 54.0 +1.7
PABE Paberze 88.00 326 eP P 13 41 55.0 +1.4
CRVS Cervenica-Dubn 88.25 319 eP P 13 41 56.7 +1.7
CRVS pmax pmax
comp=Z,13nm,1.1s
CRVS Cervenica-Dubn 88.25 319 eP P 13 41 56.7 +1.7
CRVS epP pwP 13 42 11.6 +0.1
FIA1 FINESS Array S 88.27 332 P P 13 41 54.0 -0.8
FIA1 IAmb IAmb 13 42 10.8
comp=Z,29nm,1.1s
FINES FINESS Array B 88.27 332 P P 13 41 55.7 +0.9
comp=Z,8.4nm,0.6s,baz=104,slow=6.3,SNR=29
FINES pP pP 13 42 09.7 +0.5
comp=Z,13nm,0.8s,baz=104,slow=5.1,SNR=6.5
FINES LR LR 14 26 38.0
comp=Z,268nm,18.8s,baz=100,slow=39
comp=Z,8.4nm,0.6s
FINES FINESS Array B 88.27 332 P P 13 41 54.5 -0.2
STHS Stebnicka Huta 88.47 320 eP P 13 41 57.4 +1.3
STHS pmax pmax
comp=Z,18nm,0.9s
STHS Stebnicka Huta 88.47 320 eP P 13 41 57.4 +1.3
STHS epP pwP 13 42 12.2 -0.4
FRGS Fruska Gora 88.76 315 ⇑P P 13 41 59.6 +2.1
NIE Niedzica 89.08 320 eP P 13 42 00.8 +1.8
NIE epP pwP 13 42 16.3 +0.8
OJC Ojcow 89.53 320 eP P 13 41 59.7 -1.3
OJC epP pwP 13 42 17.8 +0.3
LANS Liptovska Anna 89.58 319 eP P 13 42 03.3 +2.0
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 89.58 319 eP P 13 42 03.3 +2.0
LANS epP pwP 13 42 17.0 -0.8
MORH Mrgy, Hungar 89.72 316 ⇑P P 13 42 03.4 +1.5
VYHS Vyhne 89.90 319 eP P 13 42 04.0 +1.2
VYHS pmax pmax
comp=Z,25nm,1.5s
VYHS Vyhne 89.90 319 eP P 13 42 04.0 +1.2
VYHS epP pwP 13 42 19.4 +0.1
SRO Srobarova 90.16 318 eP P 13 42 06.2 +2.3
SRO pmax pmax
comp=Z,24nm,0.7s
SRO Srobarova 90.16 318 eP P 13 42 06.2 +2.3
SRO epP pwP 13 42 20.9 +0.4
ARCES ARCESS Array B 90.46 340 P P 13 42 05.5 +0.6
comp=Z,9.5nm,0.8s,baz=108,slow=4.0,SNR=24
ARCES pP pP 13 42 19.5 +0.2
comp=Z,23nm,0.8s,baz=98,slow=5.0,SNR=13
ARCES LR LR 14 26 35.9
comp=Z,275nm,20.8s,baz=98,slow=38
comp=Z,9.5nm,0.8s
ARCES ARCESS Array B 90.46 340 P P 13 42 05.1 +0.2
OKC Ostrava-Krasne 90.53 320 eP P 13 42 07.7 +2.0
OKC Ostrava-Krasne 90.53 320 eP P 13 42 07.7 +2.0
MAUC Maruska 90.67 319 eP P 13 42 07.7 +1.3
JAVC Velka Javorina 90.71 319 eP P 13 42 08.6 +2.0
MORC Moravsky Berou 90.91 320 ⇑P P 13 42 09.2 +1.6
MORC Moravsky Berou 90.91 320 eP P 13 42 08.7 +1.2
MORC Moravsky Berou 90.91 320 P P 13 42 09.1 +1.6
MODS Modra-Piesok 90.91 318 eP P 13 42 09.2 +1.7
MODS pmax pmax
comp=Z,50nm,1.2s
MODS Modra-Piesok 90.91 318 eP P 13 42 09.2 +1.7
MODS epP pwP 13 42 24.2 +0.1
ZST Bratislava 91.01 318 eP P 13 42 09.9 +2.0
ZST Bratislava 91.01 318 eP P 13 42 09.9 +2.0
ZST epP pwP 13 42 24.4 -0.1
VRAC Vranov 91.47 319 LR LR 14 27 54.6
comp=Z,66nm,18.5s,baz=70,slow=39
VRAC Vranov 91.47 319 eP P 13 42 10.9 +0.8
KRUC Moravsky 91.57 319 eP P 13 42 11.6 +1.1
DPC Dobruska-Polom 91.76 320 eP P 13 42 13.1 +1.7
DPC Dobruska-Polom 91.76 320 eP P 13 42 13.1 +1.7
GOLS Golise 91.78 316 iP P 13 42 13.4 +1.8
KSP Ksiaz 91.83 321 eP P 13 42 13.4 +1.7
OSTC Ostas 91.85 320 eP P 13 42 13.3 +1.5
UPC Upice 91.97 320 eP P 13 42 15.8 +3.5
UPC Upice 91.97 320 eP P 13 42 15.8 +3.5
PERS Pernice 92.19 316 iP P 13 42 15.0 +1.5
LJU Ljubljana 92.54 316 iP P 13 42 16.9 +1.8
GAMB Gambell 92.67 26 P P 13 42 15.5 +0.3
baz=264
SPIA Saint Paul Isl 92.71 33 P P 13 42 16.1 +0.5
baz=265
CKRC Cesky Krumlov 92.92 319 eP P 13 42 19.2 +2.4
BRG Berggiesshubel 93.31 321 eP P 13 42 20.3 +1.8
BRG Amp 13 42 20.6
comp=Z,6.1nm,0.8s
BRG pP pwP 13 42 34.9 -0.1
BRG Amp 13 42 37.0
comp=Z,8.6nm,0.9s
BRG Berggiesshubel 93.31 321 eP P 13 42 20.3 +1.8
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,0.9s
GERES GERESS Array B 93.32 319 P P 13 42 20.1 +1.4
comp=Z,2.7nm,0.8s,baz=106,slow=7.1,SNR=12
GERES pP pwP 13 42 35.0 -0.3
comp=Z,3.3nm,0.9s,baz=84,slow=4.2,SNR=6.3
comp=Z,2.7nm,0.8s
KHC Kasperske Hory 93.42 319 eP P 13 42 14.6 -4.5
KHC ex x 13 42 35.0
KHC Kasperske Hory 93.42 319⇓ eP P 13 42 18.4 -0.7
SPITS Spitsbergen Ar 94.37 348 LR LR 14 32 50.1
comp=Z,284nm,18.8s,baz=53,slow=40
RAR Rarotonga 95.01 112 LR LR 14 25 05.8
comp=Z,50nm,20.7s,baz=216,slow=35
NB2 NORSAR Subarra 95.33 331 P P 13 42 29.5 +1.9
comp=Z,15nm,1.1s,baz=86,slow=5.6
NOA NORSAR Array B 95.33 331 P P 13 42 28.5 +0.9
comp=Z,0.8nm,0.7s,baz=94,slow=6.3,SNR=1.4
NOA pP pP 13 42 41.8 -0.3
comp=Z,1.8nm,0.8s,baz=95,slow=5.0,SNR=2.9
NOA LR LR 14 29 20.2
comp=Z,80nm,20.6s,baz=75,slow=38
comp=Z,0.8nm,0.7s
A21K Barrow 98.33 19 P Pdif 13 42 40.9 0.0
baz=278
N16K Nishlik Lake 98.69 30 P Pdif 13 42 43.2 +0.3
baz=275
O16K Kokwok River B 99.11 31 P Pdif 13 42 44.6 0.0
baz=275
GCSA Galena City Sc 99.12 25 P Pdif 13 42 44.7 +0.2
baz=277
P16K Nushagak River 99.21 31 P Pdif 13 42 45.3 +0.2
baz=275
O17K Koliganek Bris 99.59 30 P Pdif 13 42 46.6 -0.2
baz=276
TTA Tatalina 99.74 27 P Pdif 13 42 47.9 +0.4
baz=278

F21K Alatna River 100.11 23 P Pdif 13 42 49.8 +0.8
baz=281
G21K Allakaket 100.23 23 P Pdif 13 42 49.7 +0.2
baz=281
L19K White Mountain 100.37 28 P Pdif 13 42 50.1 -0.1
baz=279
J20K Nowinta River 100.38 26 P Pdif 13 42 50.4 +0.2
baz=280
O18K Koktuh Hills 100.53 30 P Pdif 13 42 50.9 -0.1
baz=278
K20K Telida 100.55 27 P Pdif 13 42 51.8 +0.8
baz=280
H21K Melozitna Rive 100.67 24 P Pdif 13 42 52.3 +0.8
baz=281
N19K Bonanza Creek 100.75 29 P Pdif 13 42 52.4 +0.4
baz=279
D23K Nanushuk River 100.77 21 P Pdif 13 42 52.5 +0.6
baz=284
L20K Farewell, AK 100.78 27 P Pdif 13 42 52.6 +0.5
baz=280
G22K Bettles 100.93 23 P Pdif 13 42 52.6 +0.1
baz=282
I21K Tanana 101.11 25 P Pdif 13 42 53.7 +0.3
baz=282
H22K Ishtalitna Cre 101.20 24 P Pdif 13 42 54.3 +0.4
baz=282
CHUM Lake Minchumin 101.22 26 P Pdif 13 42 54.5 +0.6
baz=281
M20K Styx River 101.22 28 P Pdif 13 42 54.4 +0.3
baz=280
C24K Franklin Bluff 101.26 20 P Pdif 13 42 54.3 +0.3
baz=286
COLD Coldfoot 101.36 22 P Pdif 13 42 55.1 +0.6
baz=284
CAST Castle Rocks 101.41 26 P Pdif 13 42 55.3 +0.5
baz=281
G23K Bananza Creek 101.55 23 P Pdif 13 42 55.6 +0.1
baz=284
P19K Oil Pt 101.55 30 P Pdif 13 42 55.9 +0.3
baz=280
MLY Manley 101.65 25 P Pdif 13 42 56.4 +0.5
baz=283
BPAW Bear Paw Mtn. 101.75 26 P Pdif 13 42 56.3 0.0
baz=282
N20K Mount Spurr 101.78 29 P Pdif 13 42 56.1 -0.5
baz=281
SPCR Spurr Chakacha 101.78 29 P Pdif 13 42 56.2 -0.4
baz=281
SKT Skwentna 101.95 28 P Pdif 13 42 56.6 -0.7
baz=282
F24K Squaw Lake 102.15 22 P Pdif 13 42 57.9 -0.1
baz=286
D25K Kavik River 102.16 20 P Pdif 13 42 58.6 +0.5
baz=288
I23K Minto, Yukon-K 102.19 24 P Pdif 13 42 58.5 +0.3
baz=284
SUA Susitna One 102.42 28 P Pdif 13 42 58.7 -0.8
baz=282
NEA2 Nenana 102.45 25 P Pdif 13 42 59.5 +0.1
baz=284
C26K Camden Bay 102.45 19 P Pdif 13 42 59.5 +0.2
baz=289
G24K Hadweenzic Riv 102.53 23 P Pdif 13 42 59.6 -0.1
baz=286
H24K Noodor Dome 102.61 23 P Pdif 13 43 00.5 +0.3
baz=286
MCK McKinley 102.72 26 P Pdif 13 43 01.2 +0.6
baz=284
BRSE Bradley Lake S 102.78 30 P Pdif 13 43 01.3 +0.3
baz=282
E25K Arctic Village 102.81 21 P Pdif 13 43 01.4 +0.4
baz=288
C27K Jago River 102.95 19 P Pdif 13 43 02.1 +0.5
baz=290
F25K Christian Rive 102.95 21 P Pdif 13 43 02.7 +1.0
baz=288
RC01 Rabbit Creek A 102.98 28 P Pdif 13 43 01.9 +0.1
baz=283
G25K Bearman Lake 103.04 22 P Pdif 13 43 02.1 +0.2
baz=288
WAT1 Susitna Watana 103.11 27 P Pdif 13 43 02.5 0.0
baz=284
PMR Palmer 103.15 28 P Pdif 13 43 02.3 -0.2
baz=284
ILAR Eielson Array 103.31 24 Pdiff Pdif 13 43 02.2 -1.0
comp=Z,0.3nm,0.6s,baz=282,slow=1.6,SNR=4.2
ILAR PP PKiKP 13 47 20.8 -1.4
comp=Z,0.8nm,0.8s,baz=277,slow=5.7,SNR=4.3
F26K Sheenjek River 103.46 21 P Pdif 13 43 03.8 0.0
baz=290
SML Summill 103.46 28 P Pdif 13 43 03.3 -0.8
baz=284
KNK Knik Glacier 103.50 28 P Pdif 13 43 04.1 0.0
baz=284
WAT6 Susitna Watana 103.53 27 P Pdif 13 43 04.2 -0.3
baz=285
TBI Tubuai 104.06 116 eSS SS 14 02 13.1 +2.3
comp=Z,284nm,31.2s
TBI Tubuai 104.06 116 eLR LR 14 17 22.4
comp=Z,847nm,27.8s
TBI eLR LR 14 17 22.8
comp=Z,3µm,24.0s
E27K Coleen River 104.19 20 P Pdif 13 43 07.3 +0.2
baz=292
M24K Tolsona, Glenn 104.37 27 P Pdif 13 43 08.5 +0.5
baz=286
RIDG Independent Ri 104.46 25 P Pdif 13 43 10.1 +1.6
baz=288
KLU Klutina 104.66 28 P Pdif 13 43 10.4 +1.0
baz=286
G27K Doyon Strip 104.68 22 P Pdif 13 43 10.6 +1.2
baz=292
HARP HAARP 104.74 27 P Pdif 13 43 11.1 +1.4
baz=287
EYAK Cordova Ski Ar 105.00 28 P PKiKP 13 47 25.6 +0.3
baz=286
PPT2 Papeete2 105.08 110 eLR LR 14 17 51.5
comp=Z,239nm,26.0s
PPT2 eLR LR 14 17 51.6
comp=Z,269nm,24.0s
DAWY Dawson 106.61 24 P PKiKP 13 47 29.6 +1.2
baz=293
EPYK Eagle Plains 106.66 21 P PKiKP 13 47 29.4 +1.1
baz=296
WTLY Watson Lake, Y 112.85 25 P PKiKP 13 47 41.2 +1.0
baz=302
TAOE Nuku Hiva Isla 115.69 102 eLR LR 14 22 46.6
comp=Z,159nm,24.2s
YKA Yellowknife Ar 116.60 18 PKP PKPdf 13 47 47.1 -0.1
comp=Z,1.3nm,0.8s,baz=323,slow=2.2,SNR=14
YKA pPKP pPKPdf 13 48 01.9 -0.3
comp=Z,0.4nm,0.6s,baz=349,slow=2.4,SNR=3.3
RKT Rikitea 116.96 119 eLR LR 14 23 21.2
comp=Z,42µm,24.0s
NEW Newport 125.30 32 P PKiKP 13 48 04.8 0.0
baz=309
MSO Missoula 127.87 31 P PKiKP 13 48 10.1 0.0
baz=311
EGMT Eagleton 129.11 28 P PKiKP 13 48 12.6 +0.1
baz=316
HLID Hailey 129.71 35 P PKiKP 13 48 15.0 +1.0
baz=309
SCHQ Schefferville 129.86 352 PKP PKiKP 13 48 13.9 +0.2
comp=Z,1.4nm,0.6s,baz=237,slow=2.7,SNR=5.0
BOZ Bozeman (W) 129.89 31 P PKiKP 13 48 14.8 +0.6
baz=313
NVAR Mina Array Bea 130.21 43 PKhKP PKPpre 13 48 06.8
comp=Z,0.5nm,0.7s,baz=241,slow=4.9,SNR=4.0
NVAR PKP PKiKP 13 48 15.7 +0.5
comp=Z,1.7nm,0.6s,baz=295,slow=2.0,SNR=12
NVAR SKPbc SKPbc 13 51 35.1 +1.8
comp=Z,1.7nm,0.8s,baz=269,slow=5.1,SNR=5.7
CWC Cottonwood Cre 131.36 45 P PKiKP 13 48 18.2 +0.7
baz=300
SCZ2 Santa Cruz Isl 131.38 48 P PKiKP 13 48 18.5 +1.1
baz=297
RLMT Red Lodge 131.42 30 P PKiKP 13 48 18.4 +0.9
baz=315
ISA Isabella, Lake 131.46 46 P PKiKP 13 48 18.4 +0.8
baz=299
GRAC Grapevine Rang 131.58 44 P PKiKP 13 48 18.3 +0.5
baz=301
LAO LASA Array 131.71 27 P PKiKP 13 48 19.5 +1.7
baz=320
MPMC Manual Prospec 131.97 45 P PKiKP 13 48 19.2 +0.4
baz=300
R11A Troy Canyon, C 132.05 41 P PKiKP 13 48 19.9 +1.0
baz=304

EDW2 Edwards Air Fo 132.18 46 P PKiKP 13 48 20.7 +1.6
baz=299
ULM Lac du Bonnet 132.48 16 PKP PKPdf 13 48 18.0 0.0
comp=Z,4.2nm,0.7s,baz=340,slow=5.8,SNR=8.9
ULM SKPbc SKPbc 13 51 40.9 +0.2
comp=Z,1.8nm,0.7s,baz=284,slow=2.7,SNR=3.3
DUG Dugway, Tooele 132.72 37 P PKiKP 13 48 21.4 +1.3
baz=308
BFSC Mount Baldy Ra 132.73 47 P PKiKP 13 48 21.6 +1.4
baz=298
GSC Goldstone, Bar 132.82 45 P PKiKP 13 48 20.9 +0.5
baz=300
BW06 Boulder Array 132.91 33 P PKiKP 13 48 20.4 -0.2
baz=314
PDAR Pinedale Array 132.91 33 PKhKP PKPpre 13 48 08.9
comp=Z,0.3nm,0.8s,baz=106,slow=3.2,SNR=3.6
PDAR PKP PKPdf 13 48 19.4 +0.1
comp=Z,0.7nm,0.5s,baz=144,slow=2.0,SNR=8.8
PDAR pPKP pPKPdf 13 48 35.3 +1.0
comp=Z,1.1nm,0.7s,baz=63,slow=0.8,SNR=6.0
PDAR SKPbc SKPab 13 51 44.0 -0.4
comp=Z,0.7nm,0.8s,baz=318,slow=1.2,SNR=3.2
GMRC Granite Mounta 133.90 45 P PKiKP 13 48 23.2 +0.6
baz=301
TPFO Pinon Flats 133.91 47 P PKiKP 13 48 22.2 -0.5
baz=299
MONP2 Monument Peak 134.28 48 P PKPdf 13 48 22.4 +0.2
baz=299
K22A Casper 134.57 30 P PKPdf 13 48 22.8 +0.4
baz=317
IRM Iron Mountain 134.58 46 P PKiKP 13 48 23.7 -0.2
baz=301
BC3 Big Chuckawall 134.61 47 P PKiKP 13 48 23.9 -0.2
baz=300
IKP In-Ko-Pah, Jac 134.62 48 P PKiKP 13 48 23.4 -0.7
baz=299
RSSD Black Hills 134.66 27 P PKiKP 13 48 23.6 -0.4
baz=321
RSSD Black Hills 134.66 27 P PKiKP 13 48 23.6 -0.4
baz=321
SWSC Sam W. Stewart 134.71 48 P PKiKP 13 48 24.7 +0.6
baz=299
GLA Glamis 135.37 47 P PKiKP 13 48 25.7 +0.1
baz=300
O20A White River Ci 135.43 34 P PKiKP 13 48 26.3 +0.6
baz=313
N23A Red Feather La 136.15 32 P PKiKP 13 48 27.3 +0.1
baz=316
WUAZ Wupatki 136.44 42 P PKiKP 13 48 27.3 -0.5
baz=306
S22A 4UR Ranch, Cre 137.86 36 P PKiKP 13 48 30.4 -0.4
baz=313
ECSD EROS Data Cent 138.02 21 P PKiKP 13 48 31.0 +0.4
baz=330
ECSD EROS Data Cent 138.02 21 P PKiKP 13 48 30.8 +0.2
baz=330
OGNE Ogallala 138.06 28 P PKiKP 13 48 31.1 +0.2
baz=321
T25A Trinidad 139.67 34 P PKiKP 13 48 34.5 +0.1
baz=316
ANMO Albuquerque 139.95 39 P PKiKP 13 48 34.6 -0.5
baz=311
JFWS Jewell Farm 140.74 15 P PKiKP 13 48 35.8 -0.4
baz=339
MNTX Cornudas Mount 142.72 42 P PKPdf 13 48 38.8 +1.4
baz=309
AMTX Amarillo 142.82 34 P PKiKP 13 48 39.9 -0.9
baz=317
CPUP Villa Florida 143.18 211 PKhKP PKPpre 13 48 35.5
comp=Z,1.6nm,0.7s,baz=182,slow=1.4,SNR=3.0
T35A Sooner Cattle 143.85 27 PKPdf PKPdf 13 48 38.2 -1.1
T35B Sooner Cattle 143.85 27 P PKPbc 13 48 37.5 +0.5
baz=326,SNR=10
SFIN Lafayette 143.91 13 P PKPbc 13 48 37.8 +0.7
baz=343
N49A Columbus Grove 143.93 9 P PKPbc 13 48 37.1 +0.1
baz=348
N49A P PKPbc 13 48 37.1 +0.1
baz=348
P43A Skaggs, Pawnee 143.99 16 P PKPbc 13 48 37.3 0.0
baz=339
M57A Sunshine Farm, 144.06 360 P PKPbc 13 48 37.4 -0.1
baz=0.2
M57A P PKPbc 13 48 37.4 -0.1
baz=0.2
N51A Ashland 144.18 7 P PKPbc 13 48 37.9 0.0
baz=351
N51A P PKPbc 13 48 37.9 0.0
baz=351
ODNJ Ogdensburg 144.24 357 P PKPab 13 48 37.7 0.0
baz=4.5
PSDB Penn State Uni 144.25 2 P PKPab 13 48 37.8 +0.1
baz=358
PAL Palisades 144.28 356 P PKPbc 13 48 38.2 +0.1
baz=5.7
R40A Maddies Statio 144.36 21 PKPab 13 48 38.3 +0.1
R40A Maddies Statio 144.36 21 P PKPab 13 48 38.2 +0.1
baz=334,SNR=35
PAMR Moraine State 144.37 4 P PKPbc 13 48 38.5 +0.1
baz=355
O48B Farmland 144.41 10 P PKPbc 13 48 38.6 0.0
baz=346,SNR=5.7
BDFB Brasilia 144.43 234 PKP PKPdf 13 48 41.0 0.0
comp=Z,3.6nm,0.4s,baz=98,slow=4.1,SNR=6.8
BDFB Brasilia 144.43 234 PKIKP PKPdf 13 48 41.0 0.0
BDFB Brasilia 144.43 234 eP PKiKP 13 48 50.9 +6.2
N53A Lisbon 144.44 5 P PKPbc 13 48 39.0 +0.3
baz=354,SNR=5.5
N53A P PKPbc 13 48 39.0 +0.3
baz=354,SNR=5.5
WMOK Wichita Mounta 144.50 31 PKPbc 13 48 39.2 +0.1
WMOK Wichita Mounta 144.50 31 P PKPab 13 48 39.0 +0.1
baz=321,SNR=31
WMOK Wichita Mounta 144.50 31 PKIKP PKPbc 13 48 39.2 +0.1
S39A Bolivar 144.51 22 PKPdf PKPbc 13 48 39.4 +0.3
S39A Bolivar 144.51 22 P PKPab 13 48 38.8 +0.1
baz=332,SNR=11
N58A Sunbury 144.56 359 PKPdf PKPbc 13 48 39.2 +0.2
N58A Sunbury 144.56 359 P PKPbc 13 48 39.1 0.0
baz=0.9,SNR=9.6
N58A P PKPbc 13 48 39.1 0.0
baz=0.9,SNR=9.6
P46A Rosedale 144.61 13 P PKPbc 13 48 39.7 +0.5
baz=343,SNR=9.8
O49A Covington 144.62 9 P PKPbc 13 48 39.4 +0.1
baz=348,SNR=6.2
O49A P PKPbc 13 48 39.4 +0.1
baz=348,SNR=6.2
SLM Saint Louis 144.72 18 P PKPbc 13 48 40.0 +0.4
baz=337
SSPA Standing Stone 144.76 1 PKPab 13 48 39.4 -0.2
SSPA Standing Stone 144.76 1 P PKPbc 13 48 39.9 +0.2
baz=359,SNR=9.6
SSPA Standing Stone 144.76 1 P PKPab 13 48 39.5 0.0
baz=359
ACSO Alum Creek Sta 144.78 8 PKPbc 13 48 40.0 +0.2
ACSO Alum Creek Sta 144.78 8 P PKPbc 13 48 39.8 0.0
baz=350,SNR=23
ACSO Alum Creek Sta 144.78 8 P PKPab 13 48 39.5 -0.2
baz=350,SNR=23
Q44A Meyer Farm, Va 144.82 16 P PKPbc 13 48 40.1 +0.2
baz=339,SNR=16
CCM Cathedral Cave 144.92 19 PKPdf PKPab 13 48 40.2 0.0
CCM Cathedral Cave 144.92 19 P PKPab 13 48 40.0 -0.3
baz=335,SNR=41
CCM Cathedral Cave 144.92 19 P PKPab 13 48 40.0 -0.3
baz=335
CCM Cathedral Cave 144.92 19 PKIKP PKPab 13 48 40.2 0.0
PANJ Princeton 144.95 357 P PKPbc 13 48 40.4 +0.1
baz=4.4,SNR=7.1
O53A New Philadelph 144.96 5 PKPbc 13 48 40.5 +0.1
O53A New Philadelph 144.96 5 P PKPab 13 48 40.3 0.0
baz=353,SNR=20
TUL1 Leonard 145.01 27 P PKPab 13 48 40.9 +0.2
baz=327,SNR=7.9
TUL1 Leonard 145.01 27 P PKPab 13 48 40.7 +0.1
baz=327
O52A Adamsville 145.03 6 P PKPbc 13 48 40.4 -0.2
baz=352,SNR=19
O52A P PKPbc 13 48 40.4 -0.2
baz=352,SNR=19
O54A Avella 145.10 4 P PKPab 13 48 41.0 +0.2
baz=355,SNR=14
O54A P PKPab 13 48 41.0 +0.2
baz=355,SNR=14
P48A Milroy 145.13 11 P PKPbc 13 48 40.8 -0.2
baz=346,SNR=11
P48A P PKPbc 13 48 40.8 -0.2

	baz=346,SNR=11							
U38A	Gravette	145.17	25	P		PKPbc	13 48 41.0	-0.2
	baz=329,SNR=44							
TUPA	Temple Univers	145.19	357	P		PKPab	13 48 41.2	+0.1
	baz=3.6,SNR=9.7							
P49A	Miami Univ. Ec	145.19	10	P		PKPbc	13 48 41.0	-0.1
	baz=347,SNR=17							
P49A	Miami Univ. Ec	145.19	10	P		PKPbc	13 48 40.8	-0.4
	baz=347,SNR=17							
OLIL	Olney	145.23	15	P		PKPdf	13 48 41.6	0.0
	baz=341,SNR=22							
FVM	French Village	145.25	19	P		PKPbc	13 48 41.2	-0.1
	baz=337,SNR=16							
TX31	Lajitas Ar. Si	145.35	43	P		PKPab	13 48 43.2	+1.0
	baz=309							
MGMO	Mountain Grove	145.38	21			PKPbc	13 48 41.7	-0.1
MVL	Millersville	145.39	359			PKPab	13 48 42.5	+0.6
PSUB	Penn St. - Bra	145.44	358	P		PKPab	13 48 42.3	+0.3
	baz=3.2							
P52A	Corning	145.48	7			PKPdf	13 48 41.7	-0.3
P52A	Corning	145.48	7	P		PKPdf	13 48 41.6	-0.3
	baz=352,SNR=16							
P51A	Williamsport	145.51	8	P		PKPdf	13 48 42.0	0.0
	baz=350,SNR=5.0							
P51A				P		PKPdf	13 48 42.0	0.0
	baz=350,SNR=5.0							
GEDE	Greenville	145.56	358	P		PKPab	13 48 42.4	-0.1
	baz=2.9,SNR=12							
ABTX	Abilene, Hawle	145.63	35	P		PKPab	13 48 43.5	+0.4
	baz=318,SNR=20							
ABTX	Abilene, Hawle	145.63	35	P		PKPab	13 48 43.5	+0.4
	baz=318							
MCWV	Mont Chateau	145.66	4	P		PKPab	13 48 43.1	+0.1
	baz=356,SNR=14							
MCWV	Mont Chateau	145.66	4	P		PKPab	13 48 43.0	+0.1
	baz=356,SNR=14							
P61A	Hammonton	145.66	357	P		PKPab	13 48 43.2	+0.3
	baz=4.3							
P61A				P		PKPab	13 48 43.2	+0.3
	baz=4.3							
P53A	Whipple	145.70	6	P		PKPbc	13 48 42.9	+0.1
	baz=353,SNR=19							
P53A				P		PKPbc	13 48 42.9	+0.1
	baz=353,SNR=19							
U40A	Yellville	145.86	23	P		PKPbc	13 48 43.3	-0.1
	baz=332,SNR=50							
U40A				P		PKPbc	13 48 43.3	-0.1
	baz=332,SNR=50							
S44A	Carbondale	145.88	17	P		PKPab	13 48 43.6	-0.1
	baz=338,SNR=16							
P57A	Homestead Farm	145.91	1	P		PKPbc	13 48 43.6	+0.2
	baz=359,SNR=26							
P57A				P		PKPbc	13 48 43.6	+0.2
	baz=359,SNR=26							
Q51A	Peebles	145.91	9	P		PKPbc	13 48 43.4	0.0
	baz=349,SNR=12							
Q51A				P		PKPbc	13 48 43.4	0.0
	baz=349,SNR=12							
SDMD	Soldier's Deli	145.99	360	PKPdf		PKPbc	13 48 43.5	-0.1
SDMD	Soldier's Deli	145.99	360	P		PKPab	13 48 44.6	+0.4
	baz=0.8,SNR=8.3							
Q52A	Bidwell	146.12	7	P		PKPbc	13 48 43.9	-0.2
	baz=351,SNR=8.0							
Q52A				P		PKPbc	13 48 43.9	-0.2
	baz=351,SNR=8.0							
WCI	Wyandotte Cave	146.14	13	PKPdf		PKPab	13 48 44.6	-0.2
WCI	Wyandotte Cave	146.14	13	P		PKPbc	13 48 43.9	-0.2
	baz=344,SNR=20							
WCI	Wyandotte Cave	146.14	13	P		PKPbc	13 48 44.1	0.0
	baz=344							
WCI	Wyandotte Cave	146.14	13	PKP2		PKPab	13 48 44.6	-0.2
Q54A	Coxs Mills	146.25	5			PKPbc	13 48 44.5	0.0
Q54A	Coxs Mills	146.25	5	P		PKPbc	13 48 44.4	0.0
	baz=354,SNR=18							
Q54A				P		PKPbc	13 48 44.4	0.0
	baz=354,SNR=18							
X37A	Clayton	146.30	28	P		PKPbc	13 48 44.6	-0.1
	baz=326,SNR=11							
Q56A	Snyder Ridge,	146.31	3	P		PKPab	13 48 45.1	-0.3
	baz=357,SNR=6.7							
Q56A				P		PKPab	13 48 45.1	-0.3
	baz=357,SNR=6.7							
R49A	Shelbyville	146.31	11	P		PKPbc	13 48 44.5	-0.2
	baz=346,SNR=20							
R49A				P		PKPbc	13 48 44.5	-0.2
	baz=346,SNR=20							
PBMO	Poplar Bluff	146.35	19	P		PKPbc	13 48 44.6	-0.2
	baz=336,SNR=13							
Z35A	Perchaven, San	146.39	31	P		PKPab	13 48 45.5	-0.4
	baz=322							
R50A	Paris	146.48	10			PKPbc	13 48 45.0	-0.2
R50A	Paris	146.48	10	P		PKPbc	13 48 44.8	-0.4
	baz=347,SNR=13							
R50A				P		PKPbc	13 48 44.8	-0.4
	baz=347,SNR=13							
FCAR	Ozark Folk Cen	146.55	22			PKPbc	13 48 45.0	-0.4
T45B	Paducah	146.69	17	P		PKPbc	13 48 46.0	+0.3
	baz=339							
LCAR	Lake Charles	146.75	21			PKPbc	13 48 46.0	+0.1
LCAR	Lake Charles	146.75	21	P		PKPbc	13 48 46.0	+0.1
	baz=334,SNR=43							
R53A	Hurricane	146.78	7	P		PKPbc	13 48 46.2	+0.2
	baz=352,SNR=19							
R53A				P		PKPbc	13 48 46.2	+0.2
	baz=352,SNR=19							
R55A	Marlinton	147.01	4	P		PKPbc	13 48 46.7	0.0
	baz=355,SNR=10							
R55A				P		PKPbc	13 48 46.7	0.0
	baz=355,SNR=10							
JCT	Junction City	147.09	38			PKPab	13 48 48.0	-0.7
JCT	Junction City	147.09	38	P		PKPab	13 48 48.1	-0.7
	baz=315							
JCT	Junction City	147.09	38	P		PKPbc	13 48 47.9	+0.7
	baz=315							
JCT	Junction City	147.09	38	PKP2		PKPab	13 48 48.0	-0.7
T47A	Sharon Grove	147.13	15	P		PKPbc	13 48 47.1	+0.1
	baz=342,SNR=12							
MIAR	Mount Ida	147.13	25	P		PKPbc	13 48 47.5	+0.4
	baz=329,SNR=20							
MIAR	Mount Ida	147.13	25	P		PKPbc	13 48 47.4	+0.4
	baz=329							
S51A	Beattyville	147.23	9	P		PKPbc	13 48 47.5	+0.2
	baz=348,SNR=17							
S51A				P		PKPbc	13 48 47.5	+0.2
	baz=348,SNR=17							
WHTX	Lake Whitney,	147.32	33	P		PKPab	13 48 48.7	-0.9
	baz=320,SNR=6.6							
WHTX	Lake Whitney,	147.32	33	P		PKPbc	13 48 48.1	+0.4
	baz=320							
S54A	Dingess, Beckl	147.38	6	P		PKPbc	13 48 48.0	+0.2
	baz=352,SNR=5.6							
S54A				P		PKPbc	13 48 48.0	+0.2
	baz=352,SNR=5.6							
R58B	Mineral	147.43	1	P		PKPbc	13 48 48.1	+0.3
	baz=359,SNR=9.9							
R58B				P		PKPbc	13 48 48.1	+0.3
	baz=359,SNR=9.9							
X40A	Basin Creek Fa	147.49	24	P		PKPbc	13 48 48.8	+0.7
	baz=330,SNR=6.1							
X40A				P		PKPbc	13 48 48.8	+0.7
	baz=330,SNR=6.1							
Z38A	Mt. Pleasant	147.57	29	P		PKPbc	13 48 49.3	+1.0
	baz=326							
S57A	Dark Hollow, R	147.60	3	P		PKPbc	13 48 48.7	+0.4
	baz=357,SNR=9.4							
S57A				P		PKPbc	13 48 48.7	+0.4
	baz=357,SNR=9.4							
T50A	Nancy	147.61	11	P		PKPbc	13 48 47.8	-0.5
	baz=346							
T50A				P		PKPbc	13 48 47.8	-0.5
	baz=346							
WVT	Waverly	147.75	16			PKPbc	13 48 49.1	+0.3
WVT	Waverly	147.75	16	P		PKPbc	13 48 49.0	+0.3
	baz=340,SNR=52							
WVT	Waverly	147.75	16	P		PKPbc	13 48 48.8	+0.1
	baz=340							
WVT	Waverly	147.75	16	PKP2		PKPbc	13 48 49.1	+0.3
U49A	Red Boiling Sp	147.90	13	P		PKPbc	13 48 49.1	-0.1
	baz=344,SNR=8.3							
BLA	Blacksburg	148.05	5	P		PKPbc	13 48 49.1	-0.5
	baz=354							
BLA	Blacksburg	148.05	5	P		PKPbc	13 48 49.3	-0.3
	baz=354							
435B	Jarrell	148.17	35	P		PKPbc	13 48 50.8	+0.7
	baz=319							
435B	Jarrell	148.17	35	P		PKPbc	13 48 50.7	+0.6
	baz=319							
CLTN	Cedars of Leba	148.17	14			PKPbc	13 48 49.9	0.0
237A	Washetta, Mont	148.18	31	P		PKiKP	13 48 51.3	-0.5
	baz=323							
W45A	Hickory Valley	148.24	19	P		PKPbc	13 48 50.5	+0.4
	baz=337,SNR=5.6							
T60A	Surry	148.25	359	P		PKPbc	13 48 50.1	+0.1
	baz=1.0							
T60A				P		PKPbc	13 48 50.1	+0.1
	baz=1.0							
TZTN	Tazewell	148.31	10	P		PKPbc	13 48 50.4	+0.1
	baz=348,SNR=13							
TZTN	Tazewell	148.31	10	P		PKPbc	13 48 50.3	+0.1
	baz=348							
T57A	Hurt	148.34	3	P		PKPbc	13 48 50.6	+0.3
	baz=356,SNR=6.9							
T57A				P		PKPbc	13 48 50.6	+0.3
	baz=356,SNR=6.9							
V48A	Smith Brothers	148.38	15	P		PKPbc	13 48 50.3	-0.2
	baz=342,SNR=20							
T59A	Double "B" Far	148.42	1	P		PKPbc	13 48 51.1	+0.6
	baz=359,SNR=16							
T59A				P		PKPbc	13 48 51.1	+0.6
	baz=359,SNR=16							
U54A	Nelsons Funny	148.59	7	P		PKPbc	13 48 51.2	+0.1
	baz=351,SNR=5.3							
U54A				P		PKPbc	13 48 51.2	+0.1
	baz=351,SNR=5.3							
PLAL	Pickwick Lake	148.75	17			PKPbc	13 48 51.3	-0.1
OXF	Oxford	148.76	20	P		PKPbc	13 48 51.3	-0.1
	baz=336,SNR=8.7							
OXF	Oxford	148.76	20	P		PKPbc	13 48 51.3	-0.1
	baz=336							
833A	Chaparral WMA,	148.84	40	P		PKiKP	13 48 53.4	+0.1
	baz=314							
833A	Chaparral WMA,	148.84	40	P		PKiKP	13 48 53.1	-0.1
	baz=314							
V51A	Loudon	148.88	11	P		PKPbc	13 48 51.9	+0.2
	baz=346,SNR=9.0							
U56A	King	148.91	5	P		PKPbc	13 48 52.0	+0.1
	baz=354,SNR=5.3							
U56A				P		PKPbc	13 48 52.0	+0.1
	baz=354,SNR=5.3							
NATX	Nacogdoches	148.96	30	P		PKiKP	13 48 53.2	-0.2
	baz=325							
NATX	Nacogdoches	148.96	30	P		PKiKP	13 48 52.9	-0.5
	baz=325							
V52A	Sevierville	148.99	10	P		PKPbc	13 48 52.3	+0.3
	baz=348,SNR=22							
U59A	Littleton	149.04	1	P		PKPbc	13 48 52.9	-0.5
	baz=359							
U59A				P		PKiKP	13 48 52.9	-0.5
	baz=359							
TKL	Tuckaleechee C	149.13	10	P		PKPbc	13 48 52.7	+0.3
	baz=347,SNR=18							
W50A	Signal Mountai	149.26	13	P		PKPbc	13 48 52.8	+0.1
	baz=344,SNR=7.6							
V53A	Saluda	149.28	9			PKPbc	13 48 53.1	+0.3
V53A	Saluda	149.28	9	P		PKPbc	13 48 53.1	+0.3
	baz=349,SNR=23							
V53A				P		PKPbc	13 48 53.1	+0.3
	baz=349,SNR=23							
Y45A	Yeager Farm, C	149.30	20	P		PKiKP	13 48 53.4	-0.6
	baz=336,SNR=15							
V55A	Taylorsville	149.32	6	P		PKPbc	13 48 52.9	0.0
	baz=352,SNR=14							
V55A				P		PKPbc	13 48 52.9	0.0
	baz=352,SNR=14							
X48A	Hartselle	149.54	16	P		PKPbc	13 48 53.1	-0.3
	baz=341,SNR=22							
V58A	Windy Hill, Pi	149.55	3	P		PKPbc	13 48 53.8	+0.4
	baz=356,SNR=5.3							
V58A				P		PKPbc	13 48 53.8	+0.4
	baz=356,SNR=5.3							
V61A	Roper	149.60	359	P		PKiKP	13 48 54.7	+0.2
	baz=1.4							
V61A				P		PKiKP	13 48 54.7	+0.2
	baz=1.4							
143A	Socs Landing,	149.63	24	P		PKiKP	13 48 54.5	-0.2
	baz=331							
W52A	Murphy	149.65	11	P		PKPbc	13 48 54.2	+0.4
	baz=347,SNR=11							
HKT	Hockley	149.78	33	P		PKiKP	13 48 55.4	+0.4
	baz=321							
CASEE	Lake Jocassee	149.93	9	P		PKiKP	13 48 54.9	-0.4
	baz=349,SNR=14							
X51A	Calhoun	149.97	13	P		PKPbc	13 48 54.9	+0.4
	baz=345							
X51A				P		PKPbc	13 48 54.9	+0.4
	baz=345							
KMSC	Kings Mountain	150.01	7	P		PKPbc	13 48 54.8	+0.2
	baz=352,SNR=13							
KMSC	Kings Mountain	150.01	7	P		PKPbc	13 48 54.5	0.0
	baz=352							
W57A	Gilead	150.13	5	P		PKPbc	13 48 55.1	+0.3
	baz=355,SNR=7.2							
W57A				P		PKPbc	13 48 55.1	+0.3
	baz=355,SNR=7.2							
CNNC	Cliffs of the	150.15	1	P		PKiKP	13 48 55.5	-0.2
	baz=359							
PAULI	Pauline	150.26	8	P		PKPbc	13 48 55.3	+0.1
	baz=351,SNR=9.4							
Y49A	Blount Mountai	150.27	16	P		PKPbc	13 48 55.2	0.0
	baz=341,SNR=20							
342B	Flagon Creek P	150.38	27	P		PKiKP	13 48 56.6	+0.3
	baz=328							
Z47A	Carrollton	150.40	19	P		PKPbc	13 48 55.8	+0.3
	baz=338,SNR=5.6							
VBMS	Vicksburg	150.41	23	P		PKiKP	13 48 56.3	-0.1
	baz=332,SNR=5.8							
VBMS	Vicksburg	150.41	23	P		PKiKP	13 48 56.1	-0.2
	baz=332							
441A	DeRidder	150.50	29	P		PKiKP	13 48 57.8	+1.3
	baz=326							
146A	Union	150.58	21	P		PKiKP	13 48 56.8	+0.1
	baz=336,SNR=12							
BIRD	Birdtown, Kers	150.59	5	P		PKiKP	13 48 56.3	-0.3
	baz=354,SNR=5.8							
X58A	Rowland	150.77	4	P		PKPbc	13 48 56.6	+0.2
	baz=356							
X58A				P		PKPbc	13 48 56.6	+0.2
	baz=356							
HODGE	Hodges	150.78	9	P		PKiKP	13 48 56.8	-0.2
	baz=350,SNR=8.1							
Y52A	Lilburn	150.82	12	P		PKiKP	13 48 57.4	+0.2
	baz=346,SNR=7.8							
Y52A				P		PKiKP	13 48 57.4	+0.2
	baz=346,SNR=7.8							
JSC	Jenkinsville	150.86	7	P		PKiKP	13 48 57.7	+0.4
	baz=352,SNR=7.6							
LRAL	Lakeview Retre	150.88	17	P		PKPbc	13 48 56.7	0.0
	baz=340,SNR=7.3							
LRAL	Lakeview Retre	150.88	17	P		PKPbc	13 48 57.3	0.0
	baz=340							
Z51A	Franklin	151.10	14	P		PKiKP	13 48 58.0	+0.2
	baz=344							
Y58A	Scranton	151.39	4	P		PKPbc	13 48 57.8	0.0
	baz=355							
Y58A				P		PKPbc	13 48 57.8	0.0
	baz=355							
346A	Big Creek Wild	151.56	22	P		PKPbc	13 48 58.5	+0.2
	baz=334							
HAW	Hawthorne Fire	151.73	8	P		PKiKP	13 48 59.2	+0.2
	baz=351,SNR=6.0							
152A	Waverly Hall	151.83	14	P		PKiKP	13 48 59.5	+0.2
	baz=344,SNR=10							
250A	Grady	152.08	17	P		PKiKP	13 49 00.1	+0.3
	baz=341							
NHSC	New Hope	152.14	5	P		PKiKP	13 49 00.1	+0.3
	baz=354							
BRAL	Brewton	152.60	19	P		PKiKP	13 49 01.8	+0.9
	baz=338							
BRAL	Brewton	152.60	19	P		PKiKP	13 49 01.1	+0.3
	baz=338							
352A	Blakely	152.91	15	P		PKiKP	13 49 02.3	+0.7
	baz=343							
TIGA	Tifton	153.26	12	P		PKiKP	13 49 02.6	+0.3
	baz=346							
TIGA	Tifton	153.26	12	P		PKPbc	13 49 02.1	0.0
	baz=346							

IDC ***12*** *13:42:37.4±3.5,6.78S×154.72E,h61km±30km,mb3.5/7, mbtmp3.8/10,ML3.7/2,MS3.7/1,Error ellipse: s-maj=26.4km s-min=17.3km az=95.0*

ISC 12 13:42:36.4±0.9,6.73S±0.09×154.81E±0.09,h50km,n14, σ0.79/12,mb3.7/7,Bougainville-Solomon Islands region

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

KRVT	Keravat (AS076	3.67	311	P		Pn	13 43 30.4		-0.2
	7.1nm,0.3s,baz=250,slow=4.8,SNR=10.0								
KRVT				S		Sn	13 44 13.3		+0.7
	74nm,0.5s,baz=177,slow=21,SNR=2.5								
	17nm,0.3s								
PMG	Port Moresby	8.03	250	P		Pn	13 44 31.1		+0.6
	4.3nm,0.6s,baz=39,slow=9.0,SNR=3.9								
PMG				S		Sn	13 46 00.4		+0.5
	18nm,0.6s,baz=80,slow=20,SNR=7.7								
DZM	Mont Dzumac	18.94	145	P		P	13 46 53.8		+0.3
	0.2nm,0.3s,baz=315,slow=20,SNR=2.1								
	3.0nm,0.8s								
WRA	Warramunga Arr	23.82	235	P		P	13 47 43.6		-1.4
	3.0nm,1.1s,baz=58,slow=9.7,SNR=9.8								
	3.0nm,1.1s								
ASAR	Alice Springs	26.21	228	P		P	13 48 05.4		-1.3
	1.2nm,0.9s,baz=58,slow=8.7,SNR=12								
	1.2nm,0.9s								
H11S3	WAKE ISLAND Hy	27.67	25	T		T	14 16 52.7		
	baz=203,slow=75,SNR=15								
H11S2	WAKE ISLAND Hy	27.67	25	T		T	14 16 52.9		
	baz=203,slow=75,SNR=14								
H11S1	WAKE ISLAND Hy	27.69	25	T		T	14 16 54.0		
	baz=203,slow=75,SNR=8.4								
NWAO	Narrogin (SRO)	43.53	228	LR		LR	14 06 25.4		
	comp=Z,89nm,19.6s,slow=33								
MKAR	Makanchi Array	83.08	319	P		P	13 54 56.7		-0.1
	0.6nm,0.6s,baz=97,slow=5.1,SNR=8.0								
	0.6nm,0.6s								
ILAR	Eielson Array	83.20	22	P		P	13 54 57.0		0.0
	0.4nm,0.9s,baz=234,slow=7.7,SNR=2.5								
	0.4nm,0.9s								
KURBB	Kurchatov Arra	86.54	322	P		P	13 55 13.6		-0.4
	0.1nm,0.4s,baz=95,slow=5.6,SNR=2.2								
	0.1nm,0.4s								
NVAR	Mina Array Bea	91.70	52	P		P	13 55 39.8		+0.7
	0.7nm,0.9s,baz=236,slow=6.9,SNR=4.1								
	0.7nm,0.9s								
YKA	Yellowknife Ar	96.19	28	P		P	13 55 58.8		0.0
	0.1nm,0.4s,baz=258,slow=5.6,SNR=4.2								
	0.1nm,0.4s								

SKHL ***12*** *13:49:45.8±0.2,42.80N×144.00E,h74km±2km,mb4.3/2*
JMA ***12*** *13:49:45.3±0.1,42.8N±0.4×144.0E±0.5,h76km,MV2.8/36, SE OFF TOKACHI*

ISC 12 13:49:44.9±1.6,42.79N±0.05×144.03E±0.04,h77km±10km, n19,σ0.54/36,Hokkaido region

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

JOB	Onbets	0.18	309	P		Pn	13 49 56.7		+0.4
JOB				eS		Sn	13 50 04.8		+0.1
JCH	Churui	0.52	251	P		Pn	13 49 58.8		+0.2
JCH				eS		Sn	13 50 08.3		-0.3
JAK	Akkeshi	0.54	67	P		Pn	13 49 58.8		+0.2
JAK				eS		Sn	13 50 09.1		+0.2
JAR	Ashorobuto	0.54	340	P		Pn	13 49 58.6		-0.1
JAR				eS		Sn	13 50 08.3		-0.7
AKK	Akkeshi	0.64	69	eP		Pn	13 49 59.9		+0.2
AKK				eS		Sn	13 50 10.4		-0.3
MYR	Moyori	0.74	228	eP		Pn	13 50 01.2		+0.4
MYR				eS		Sn	13 50 12.8		+0.3
MYR				A		A	13 50 13.4		
	470nm,0.2s								
MYR				A		A	13 50 13.4		
	210nm,0.2s								
JKHN	Kushirohamanak	0.88	70	P		Pn	13 50 02.8		+0.4
JKHN				eS		Sn	13 50 15.6		+0.2
JNK	Nakash	0.94	32	P		Pn	13 50 03.0		-0.2
JNK				eS		Sn	13 50 16.0		-0.7
JNBK	Urakawa-nobuka	1.07	242	eP		Pn	13 50 04.5		-0.1
JNBK				eS		Sn	13 50 18.8		-0.6
JFR	Furan	1.12	290	eP		Pn	13 50 05.6		+0.3
JTKR	Abashiri--Toko	1.18	356	eP		Pn	13 50 06.3		+0.2
JTKR				eS		Sn	13 50 22.1		+0.2
JBT2	Biratori 2	1.22	270	eP		Pn	13 50 06.5		0.0
JMP	Maruseppu	1.31	338	eP		Pn	13 50 07.5		-0.2
JMP				eS		Sn	13 50 24.1		-0.7
NMR	Nemuro--Hokkai	1.38	64	i P		Pn	13 50 08.3		-0.2
NMR				i S		Sn	13 50 25.0		-1.2
NMR				A		A	13 50 25.8		
	410nm,0.2s								
NMR				A		A	13 50 25.8		
	170nm,0.2s								
NEM2	Nemuro 2	1.38	65	eP		Pn	13 50 08.3		-0.3
NEM2				eS		Sn	13 50 25.2		-1.2
JRA	Rausu	1.40	34	eP		Pn	13 50 09.5		+0.7
JRA				eS		Sn	13 50 28.0		+1.2
JKK2	Kamakawa 2	1.43	320	eP		Pn	13 50 09.5		+0.3
JKK2				eS		Sn	13 50 27.5		0.0
YUK	Yuzh-Kuril'sk	1.83	46	eP		Pn	13 50 15.1		+0.7
YUK				AMB	AMB		13 50 16.5		
	110nm,0.2s								
YUK				eS		Sn	13 50 36.2		-0.6
YUK				A		A	13 50 40.9		
	280nm,0.2s								
YUK				A		A	13 50 40.9		
	290nm,0.2s								
KUR	Kuril'sk	3.69	47	eP		Pn	13 50 40.1		+0.5
KUR				AMB	AMB		13 50 41.4		
	40nm,0.7s								
KUR				eS		Sn	13 51 21.8		-0.1
KUR				A		A	13 51 24.9		
	40nm,0.6s								
KUR				A		A	13 51 24.9		
	30nm,0.6s								

IDC ***12*** *14:11:57.1±3.8,27.02S×105.89W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=258.8km s-min=79.7km az=98.0*

ISC 12 14:11:59.3±3.3,26.8S±0.6×10.5W±,h10km,n18,σ0.95/7, mb4.0/3,Easter Island region

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

H03N2	Juan Fernandez	23.65	113	T		T	14 43 41.6		
	baz=283,slow=75,SNR=74								
H03N3	Juan Fernandez	23.66	113	T		T	14 43 42.7		
	baz=283,slow=75,SNR=81								
H03N1	Juan Fernandez	23.67	113	T		T	14 43 42.3		
	baz=283,slow=75,SNR=99								
NVAR	Mina Array Bea	66.04	349	P		P	14 22 46.9		+0.5
	1.0nm,0.7s,baz=170,slow=9.0,SNR=9.3								
	1.0nm,0.7s								
PDAR	Pinedale Array	69.34	357	P		P	14 23 07.2		0.0
	0.3nm,0.6s,baz=179,slow=4.5,SNR=3.7								
	0.3nm,0.6s								
YKA	Yellowknife Ar	89.30	356	P		P	14 24 55.6		+0.5
	0.6nm,0.7s,baz=168,slow=4.6,SNR=7.4								
	0.6nm,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAMC	**Tame, Arauca**	**0.67**	**176**↑	*eP*	**Pg**	**14 45 07.2**	**+0.6**
TAMC				*ePg*	**Pb**	**14 45 07.6**	**-0.2**
TAMC				*eS*	**Sb**	**14 45 16.8**	**-0.5**
TAMC				*i*		14 45 18.2	
	comp=Z,390nm,0.5s						
PAMC	**Pamplona, Colo**	**0.89**	**285**↑	*eP*	**Pg**	**14 45 09.5**	**-1.3**
PAMC				*eS*	**Sg**	**14 45 21.2**	**-1.3**
PAMC				*i*		14 45 22.2	
	comp=Z,412nm,0.7s						
CAPV	**Capacho**	**0.89**	**328**	*eP*	**Pg**	**14 45 10.8**	**-0.1**
CAPV				*eS*	**Sn**	**14 45 26.8**	**+0.6**
BARC	**Barichara**	**1.43**	**249**	*eP*	**Pn**	**14 45 19.3**	**-1.0**
BARC				*i*		14 45 42.3	
	comp=Z,600nm,0.5s						
SOCV	**Socops**	**1.52**	**40**	*eP*	**Pg**	**14 45 23.0**	**+0.1**
SOCV				*eS*	**Sg**	**14 45 44.7**	**+2.1**
RUSC	**La Rusia**	**1.73**	**226**	*eP*	**Pn**	**14 45 24.9**	**+0.2**
RUSC				*eS*	**Sn**	**14 45 47.4**	**+0.1**
RUSC				*i*		14 45 48.6	
	comp=Z,89nm,0.4s						
BRRC	**Barranca, Sant**	**1.86**	**270**	*eP*	**Pb**	**14 45 27.4**	**-0.7**
BRRC				*eS*	**Sb**	**14 45 51.4**	**-0.2**
BRRC				*i*		14 45 55.8	
	comp=Z,125nm,0.5s						
PTBC	**PUERTO BERRIO,**	**2.66**	**258**	*eP*	**Pn**	**14 45 36.8**	**-0.3**
PTBC				*eS*	**Sn**	**14 46 09.2**	**-0.4**
PTBC				*i*		14 46 17.8	
	comp=Z,64nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.90**	**186**	*eP*	**Pg**	**14 45 49.5**	**0.0**
PTGC				*eS*	**Sb**	**14 46 23.9**	**+2.3**
PTGC				*i*		14 46 43.4	
	comp=Z,90nm,0.7s						
MCQV	**Machiques**	**3.00**	**347**	*eP*	**Pn**	**14 45 43.5**	**+1.7**
MCQV				*eS*	**Sn**	**14 46 20.8**	**+2.8**
ZARC	**Zaragoza, Cauc**	**3.02**	**277**	*eP*	**Pn**	**14 45 42.0**	**0.0**
ZARC				*eS*	**Sn**	**14 46 19.0**	**+0.5**
ZARC				*i*		14 46 30.1	
	comp=Z,50nm,0.6s						
CHIC	**Chingaza**	**3.10**	**218**	*eP*	**Pn**	**14 45 44.0**	**+0.5**
CHIC				*i*		14 45 57.5	
	comp=Z,34nm,0.4s						
CHIC				*eS*	**Sn**	**14 46 22.1**	**+1.1**
NORC	**Norcasia**	**3.38**	**243**	*eP*	**Pn**	**14 45 47.1**	**0.0**
NORC				*eS*	**Sn**	**14 46 26.9**	**-0.6**
CURV	**Curarigua**	**3.43**	**33**	*eP*	**Pn**	**14 45 49.5**	**+1.8**
CURV				*eS*	**Sn**	**14 46 30.1**	**+1.3**
UREC	**San Jos de Ur**	**3.72**	**280**	*eP*	**Pn**	**14 45 52.6**	**+0.9**
UREC				*eS*	**Sn**	**14 46 37.7**	**+1.9**
GUY2C	**Guyana, Caldas**	**3.98**	**242**	*eP*	**Pn**	**14 45 56.5**	**+0.9**
GUY2C				*eS*	**Sn**	**14 46 43.9**	**+1.2**
GUY2C				IAML		14 47 03.1	
	comp=Z,22nm,0.6s						
CRJC	**Cerrejon, Guaj**	**4.02**	**345**	*eP*	**Pn**	**14 45 55.9**	**0.0**
CRJC				*eS*	**Sn**	**14 46 43.0**	**-0.4**
CRJC				*i*		14 47 03.5	
	comp=Z,82nm,0.8s						
SIQV	**Siquisique**	**4.05**	**29**	*eP*	**Pn**	**14 45 57.8**	**+1.6**
SIQV				*eS*	**Sn**	**14 46 43.0**	**-1.0**
BAUV	**El Baul**	**4.18**	**64**	*eP*	**Pn**	**14 45 58.3**	**+0.4**
BAUV				*eS*	**Sn**	**14 46 45.9**	**-1.2**
MAPV	**Macapo**	**4.30**	**51**	*eP*	**Pn**	**14 46 00.1**	**+0.4**
MAPV				*eS*	**Sn**	**14 46 49.8**	**-0.3**
SJCC	**San Jacinto, C**	**4.32**	**310**	*eP*	**Pn**	**14 46 01.3**	**+1.4**
ORTC	**Ortega, Tolima**	**4.65**	**227**	*eP*	**Pn**	**14 46 04.2**	**-0.2**
ORTC				*eS*	**Sn**	**14 46 59.8**	**+1.1**
PLMC	**San Jos del P**	**4.94**	**244**	*eP*	**Pn**	**14 46 09.7**	**+1.3**
BENV	**Beln**	**5.06**	**56**	*eP*	**Pn**	**14 46 12.2**	**+2.0**
BENV				*eS*	**Sn**	**14 47 08.0**	**-1.0**
TURV	**Turiamo**	**5.16**	**50**	*eP*	**Pn**	**14 46 12.3**	**+0.9**
TURV				*eS*	**Sn**	**14 47 09.8**	**-1.4**
CACV	**CAICARA DEL OR**	**5.27**	**85**	*eP*	Pb	14 46 20.6	-5.6
CACV				*eS*	**Sb**	**14 47 25.4**	**-4.4**
TACV	**Tcata**	**5.63**	**57**	*eP*	**Pn**	**14 46 18.6**	**+0.7**
TACV				*eS*	**Sn**	**14 47 20.6**	**-2.3**
MERV	**Las Mercedes**	**5.88**	**68**	*eP*	**Pn**	**14 46 22.1**	**+0.8**
MERV				*eS*	**Sn**	**14 47 26.6**	**-2.4**
FUNV	**FUNVISIS**	**5.99**	**56**	*eP*	**Pn**	**14 46 23.2**	**+0.3**
FUNV				*eS*	**Sn**	**14 47 30.1**	**-1.7**

IDC ***12*** *14:47:21.2±0.6,2˚.04S×128˚.28E, h0km, mb4.2/17, mbtmp4.2/19, ML4.4/2, MS3.4/12, Error ellipse: s-maj=24.2km s-min=12.9km az=59.0*

DJA ***12*** *14:47:23.9±0.2,2˚.52×12˚.8E±˚, h10km, M4.6/19, mB5.1/6, mb4.8/14, ML4.8/18, MLv4.5/19, Mw(mB)4.5/6*

NEIC ***12*** *14:47:26.1±2.3, 1˚.94S±0˚.05×128˚.51E±0˚.07, h48km±11km, mb4.3/15, Error ellipse: s-maj=10.8km s-min=7.5km az=110.0*

ISC 12 14:47:25.8±0.4,2˚.04S±0˚.05×128˚.40E±0˚.05,h34km,n88,
σ1s67/83,mb4.3/21,MS3.4/7,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.40**	**158**	P	**Pb**	**14 47 51.9**	**+0.5**
AAI	**Ambon**	**1.64**	**187**	P	**Pb**	**14 47 55.4**	**-0.2**
NLAI	**Namlea**	**1.76**	**227**	P	**Pn**	**14 47 55.1**	**+1.2**
SANI	**Sanana**	**2.41**	**270**	P	**Pn**	**14 48 02.1**	**-0.7**
SANI	**Sanana**	**2.41**	**270**	P	**Pn**	**14 48 01.3**	**-1.5**
BNDI	**Bandanaira**	**2.89**	**149**	P	**Pn**	**14 48 11.7**	**+2.3**
TNTI	**Ternate**	**2.98**	**340**	Pn	**Pn**	**14 48 10.8**	**+0.1**
TNTI	**Ternate**	**2.98**	**340**	P	**Pn**	**14 48 10.7**	**0.0**
SIJI	**Sorong**	**3.10**	**68**	Pn	**Pn**	**14 48 11.5**	**-0.8**
	29nm,0.3s,baz=254,slow=7.8,SNR=126						
SIJI				Sn	**Sn**	**14 48 47.9**	**-0.3**
	81nm,0.3s,baz=154,slow=23,SNR=27						
SIJI				LR	LR	14 49 09.2	
	comp=Z,434nm,20.7s,baz=290,slow=34						
	135nm,0.3s						
FAKI	**Fak Fak**	**3.95**	**103**	Pn	**Pn**	**14 48 23.4**	**-0.7**
FAKI	**Fak Fak**	**3.95**	**103**	P	**Pn**	**14 48 23.0**	**-1.0**
FAKI				S	**Sn**	**14 49 07.6**	**-1.6**
LUWI	**Luwuk**	**5.71**	**280**	Pn	**Pn**	**14 48 49.2**	**+0.9**
LUWI	**Luwuk**	**5.71**	**280**	P	**Pn**	**14 48 50.1**	**+1.8**
LUWI	**Luwuk**	**5.71**	**280**	P	**Pn**	**14 48 48.8**	**+0.5**
	60nm,0.6s,1μm0.8nm1.1nm						
RKPI	**Ransiki, Papua**	**5.80**	**85**	P	**Pn**	**14 48 48.3**	**-1.3**
	89nm,0.7s,1.0nm2.1nm						
APSI	**Ampana**	**6.84**	**279**	P	**Pn**	**14 49 04.7**	**+0.9**
	208nm,0.6s,4μm0.9nm1.3nm						
MRSI	**Marisa**	**6.92**	**291**	P	**Pn**	**14 49 05.0**	**+0.1**
	66nm,0.5s,892nm0.4nm0.5nm						
TOLI2	**Tolitoli**	**8.23**	**292**	Pn	**Pn**	**14 49 26.1**	**+3.2**
TOLI2	**Tolitoli**	**8.23**	**292**	P	**Pn**	**14 49 26.5**	**+3.6**
SOEI	**Soe**	**8.69**	**208**	P	**Pn**	**14 49 31.7**	**+2.4**
	41nm,1.2s						
MPSI	**Mapaga**	**8.82**	**285**	P	**Pn**	**14 49 32.1**	**+1.1**
	22nm,0.7s						
SPSI	**Sidrap Palu**	**8.82**	**257**	P	**Pn**	**14 49 33.9**	**+2.9**
	36nm,0.9s						
BKSI	**Bulukumba**	**8.87**	**248**	P	**Pn**	**14 49 35.6**	**+3.9**
	80nm,0.6s,662nm						
KAPI	**Kappang**	**9.12**	**251**	Pn	Pn	14 49 40.8	+5.7
	5.8nm,0.3s,baz=94,slow=8.3,SNR=11						
KAPI				LR	LR	14 53 13.9	
	comp=Z,132nm,19.0s,baz=74,slow=39						
KAPI	**Kappang**	**9.12**	**251**		**Pn**	**14 49 36.6**	**+1.5**
BATI	**Baumata**	**9.37**	**210**	LR	LR	14 53 49.4	
	comp=Z,337nm,18.3s,baz=28,slow=42						
DAV	**Davao City (W)**	**9.48**	**343**	LR	LR	14 52 48.9	
	comp=Z,107nm,19.9s,baz=300,slow=35						
SMPI	**Sarmi**	**10.31**	**90**	P	**Pn**	**14 49 51.0**	**-0.4**
	19nm,1.0s						
MTN	**Manton Dam**	**11.07**	**166**	Pn	**Pn**	**14 50 04.1**	**+2.3**
MTN	**Manton Dam**	**11.07**	**166**	P	**Pn**	**14 50 02.0**	**+0.2**
KDU	**Kakadu**	**11.32**	**159**	P	**Pn**	**14 50 04.4**	**-0.8**
MYLDM	**Lahad Datu**	**12.21**	**306**	Pn	**Pn**	**14 50 19.8**	**+2.3**
KNRA	**Kununurra**	**13.55**	**178**	Pn	**Pn**	**14 50 38.9**	**+3.1**
KNRA	**Kununurra**	**13.55**	**178**	P	**Pn**	**14 50 35.1**	**-0.7**
WB0	**Warramunga Arr**	**18.57**	**162**	P	**P**	**14 51 37.7**	**-2.3**
WB0				IAmb	IAmb	14 51 55.3	
	comp=Z,15nm,1.0s						
WRAB	**Tennant Creek**	**18.71**	**162**	P	**P**	**14 51 40.3**	**-1.3**
WRAB				IAmb	IAmb	14 51 54.5	
	comp=Z,9.7nm,0.7s						
WRAB	**Tennant Creek**	**18.71**	**162**	P	**P**	**14 51 40.1**	**-1.5**
WRA	**Warramunga Arr**	**18.71**	**162**	P	**P**	**14 51 40.1**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=345,slow=13,SNR=25						
WRA				LR	LR	14 59 57.3	
	comp=Z,154nm,19.1s,baz=340,slow=40						
	comp=Z,2.6nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.71**	**162**	P	**P**	**14 51 40.0**	**-1.6**
WB2	**Warramunga Arr**	**18.72**	**162**	P	**P**	**14 51 40.4**	**-1.3**
WB2				IAmb	IAmb	14 51 55.1	
	comp=Z,10.0nm,0.8s						
WR0	**Warramunga Arr**	**18.79**	**162**	P	**P**	**14 51 41.5**	**-1.0**
COEN	**Coen**	**18.80**	**130**		**P**	**14 51 40.9**	**-1.7**
COEN				IAmb	IAmb	14 51 45.0	
	comp=Z,16nm,0.8s						
COEN	**Coen**	**18.80**	**130**	P	**Pn**	**14 51 42.7**	**-0.6**
PMG	**Port Moresby**	**20.04**	**112**	LR	LR	15 00 55.0	
	comp=Z,137nm,18.6s,baz=298,slow=40						
MBWA	**Marble Bar**	**20.79**	**203**	P	**P**	**14 52 03.9**	**-0.4**
PSA00	**Pilbara Seismi**	**21.12**	**203**	P	**P**	**14 52 06.8**	**-1.0**
PSA00				IAmb	IAmb	14 52 15.8	
	comp=Z,28nm,1.2s						
LEM	**Lembang**	**21.25**	**256**	LR	LR	15 00 37.2	
	comp=Z,142nm,18.3s,baz=230,slow=38						
QIS	**Mount Isa**	**21.41**	**150**	P	**P**	**14 52 11.4**	**+0.5**
AS31	**Alice Springs**	**22.15**	**166**	P	**P**	**14 52 18.0**	**-0.9**
AS31				IAmb	IAmb	14 52 22.8	
	comp=Z,6.1nm,0.7s						
ASAR	**Alice Springs**	**22.15**	**166**	P	**P**	**14 52 18.3**	**-0.6**
	comp=Z,9.9nm,0.6s,baz=348,slow=11,SNR=147						
ASAR				S	**S**	**14 56 17.2**	**-3.9**
	comp=Z,6.0nm,1.0s,baz=349,slow=22,SNR=9.6						
	comp=Z,9.9nm,0.6s						
ASAR	**Alice Springs**	**22.15**	**166**	P	**P**	**14 52 17.9**	**-0.9**
AS01	**Alice Springs**	**22.16**	**166**	P	**P**	**14 52 18.9**	**-0.1**
MTSU	**Mount Surprise**	**22.35**	**137**	P	**P**	**14 52 22.8**	**+1.7**
GUMO	**Guam**	**22.54**	**46**	LR	LR	15 00 14.1	
	comp=Z,58nm,20.5s,baz=228,slow=34						
WRKA	**Warakurna**	**22.86**	**180**	P	**P**	**14 52 26.8**	**+0.4**
KRVT	**Keravat (AS076**	**23.70**	**96**	P	**P**	**14 52 37.2**	**+2.3**
	comp=Z,22nm,0.9s,baz=253,slow=7.0,SNR=6.6						
KRVT				LR	LR	15 01 21.3	
	comp=Z,194nm,20.4s,baz=52,slow=35						
	comp=Z,22nm,0.9s						
CTA	**Charters Tower**	**25.02**	**137**	P	**P**	**14 52 48.7**	**+1.8**
	comp=Z,5.5nm,1.0s,baz=340,slow=10,SNR=5.2						
	comp=Z,5.5nm,1.0s						
CTAO	**Charters Tower**	**25.02**	**137**	P	**P**	**14 52 43.6**	**-3.3**
CTAO				IAmb	IAmb	14 52 53.2	
	comp=Z,14nm,1.4s						
OOD	**Oodnadatta**	**26.54**	**165**	P	**P**	**14 53 00.8**	**+0.3**
INKA	**Innaminka**	**28.15**	**156**	P	**P**	**14 53 16.7**	**+1.7**
FORT	**Forrest**	**28.58**	**181**	P	**P**	**14 53 18.4**	**-0.4**
FORT	**Forrest**	**28.58**	**181**	P	**P**	**14 53 19.5**	**+0.7**
MULG	**Mulgathing**	**28.59**	**170**	P	**P**	**14 53 19.0**	**+0.1**
MORW	**Morawa**	**29.34**	**202**	P	**P**	**14 53 25.6**	**0.0**
LCRK	**Leigh Creek**	**29.74**	**163**	P	**P**	**14 53 31.0**	**+1.9**
KMBL	**Kambalda**	**29.81**	**191**	P	**P**	**14 53 29.8**	**+0.1**
PSI	**Prapat**	**29.85**	**279**	LR	LR	15 07 02.8	
	comp=Z,65nm,18.4s,baz=132,slow=40						
BBOO	**Buckleboo**	**31.44**	**168**	P	**P**	**14 53 44.1**	**-0.1**
STKA	**Stephens Creek**	**32.18**	**159**	P	**P**	**14 53 51.1**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=331,slow=8.3,SNR=8.3						
STKA				LR	LR	15 09 15.1	
	comp=Z,66nm,18.6s,baz=24,slow=41						
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**32.18**	**159**	P	**P**	**14 53 51.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**35.43**	**306**	P	**P**	**14 54 19.9**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=125,slow=6.1,SNR=6.2						
	comp=Z,0.8nm,0.9s						
KSRS	**Korea Array**	**39.30**	**359**	P	**P**	**14 54 51.9**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=174,slow=9.6,SNR=7.4						
	comp=Z,1.4nm,0.6s						
MJAR	**Matsushiro Arr**	**39.46**	**12**	LR	LR	15 08 45.7	
	comp=Z,61nm,21.8s,baz=172,slow=32						
TNCH	**TengChong**	**39.54**	**315**	*eP*	P	14 54 49.1	-4.9
TNCH					pP	sP	14 55 12.1	+5.2
TNCH					S	S	15 00 41.9	-13
TNCH					sS	sS	15 01 22.2	+11
TNCH					SS	**SS**	**15 03 44.0**	**-6.2**
TNCH					pmax	pmax		
	comp=Z,200nm,5.2s							
KLR	**Kul'dur**	**51.15**	**3**	P	**P**	**14 56 26.2**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=139,slow=22,SNR=5.9						
	comp=Z,1.4nm,0.8s						
SONM	**Songino Array**	**53.27**	**342**	P	**P**	**14 56 41.5**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=159,slow=7.5,SNR=5.2						
	comp=Z,0.8nm,0.8s						
PETK	**Petropavlovsk-**	**60.19**	**20**	P	**P**	**14 57 31.7**	**+1.4**
	comp=Z,4.4nm,0.8s,baz=201,slow=2.5,SNR=8.4						
	comp=Z,4.4nm,0.8s						
MKAR	**Makanchi Array**	**63.23**	**326**	P	**P**	**14 57 51.1**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=125,slow=8.3,SNR=48						
	comp=Z,3.7nm,0.7s						
AAK	**Ala-Archa**	**65.76**	**319**	P	**P**	**14 58 07.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=210,slow=3.9,SNR=4.3						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**66.46**	**334**	P	**P**	**14 58 10.8**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=114,slow=6.8,SNR=5.2						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**67.48**	**328**	P	**P**	**14 58 18.3**	**0.0**
	comp=Z,3.2nm,0.6s,baz=126,slow=5.8,SNR=38						
	comp=Z,3.2nm,0.6s						
BVAR	**Borovoye Array**	**73.05**	**328**	P	**P**	**14 58 52.3**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=126,slow=7.5,SNR=16						
	comp=Z,3.0nm,0.8s						
NRIK	**Noril'sk**	**76.40**	**346**	P	**P**	**14 59 12.4**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=121,slow=5.6,SNR=3.6						
	comp=Z,1.5nm,0.3s						
VNDA	**Vanda**	**77.53**	**173**	P	**P**	**14 59 15.7**	**-2.0**
VNDA				IAmb	IAmb	14 59 54.0	
	comp=Z,4.8nm,1.1s						
AKTO	**Aktyubinsk**	**79.20**	**322**	P	**P**	**14 59 27.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=92,slow=7.2,SNR=5.9						
	comp=Z,1.6nm,0.6s						
QSPA	**South Pole Qui**	**87.90**	**180**	P	**P**	**15 00 09.5**	**-2.4**
QSPA				IAmb	IAmb	15 00 35.8	
	comp=Z,4.5nm,1.1s						
ILAR	**Eielson Array**	**89.58**	**25**	P	**P**	**15 00 18.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=236,slow=4.1,SNR=5.7						
	comp=Z,0.4nm,0.7s						
CPUP	**Villa Florida**	**151.25**	**169**	PKPbc	**PKiKP**	**15 07 18.7**	**+1.6**
	comp=Z,2.6nm,0.6s,baz=192,slow=2.2,SNR=9.4						

NEIC ***12*** *15:13:47.3±1.8, 15˚.50S±0˚.09×72˚.4W±0˚.1, h10km±2km, mb4.4/25, Error ellipse: s-maj=18.7km s-min=14.4km az=278.0*

IDC ***12*** *15:13:52.2±0.8, 15˚.51S×71˚.61W, h0km, mb4.3/4, mbtmp4.3/7, ML3.8/3, MS3.5/15, Error ellipse: s-maj=38.0km s-min=21.3km az=78.0*

VAO ***12*** *15:13:56.1±0.7, 15˚.61S×72˚.06W, h55km±7km, mb4.2*

ISC 12 15:13:47.4±0.6,15˚.47S±0˚.06×72˚.42W±0˚.08,h10km,n111,
σ2s02/97,mb4.4/8,MS3.5/11,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.51**	**146**		**Pn**	**15 14 43.3**	**+1.3**
AP01				Sn	**Sn**	**15 15 23.6**	**0.0**
PB12	**IPOC Station P**	**3.71**	**148**	Pn	**Pn**	**15 14 45.6**	**+0.7**
PB12				Sn	**Sn**	**15 15 28.2**	**-0.7**
PB16	**IPOC Station P**	**3.99**	**136**		**Pn**	**15 14 49.7**	**+0.6**
PB16				Sn	**Sn**	**15 15 37.4**	**+1.1**
LPAZ	**La Paz**	**4.21**	**102**	Pn	**Pn**	**15 14 52.3**	**+0.1**
LPAZ	**La Paz**	**4.21**	**102**	*eP*	**Pn**	**15 14 54.1**	**+1.8**
MNMC	**Minye Minye**	**4.53**	**144**		**Pn**	**15 14 55.6**	**-0.8**
MNMC				Sn	**Sn**	**15 15 48.7**	**-0.6**
PSGCX	**Pisagua**	**4.66**	**152**	Pn	**Pn**	**15 14 57.8**	**-0.2**
PB11	**IPOC Station P**	**5.02**	**149**		**Pn**	**15 15 03.0**	**0.0**
PB11				Sn	**Sn**	**15 15 59.2**	**-1.9**
GO01	**Chusmiza**	**5.19**	**144**		**Pn**	**15 15 06.0**	**+0.4**
GO01				Sn	**Sn**	**15 16 05.7**	**-0.1**
TA02	**Huaiquique**	**5.25**	**156**		**Pn**	**15 15 05.5**	**-0.5**
TA01	**Diego Aracena**	**5.50**	**158**		**Pn**	**15 15 08.8**	**-0.7**
NNA	**Nana**	**5.52**	**308**	LR	LR	15 18 17.6	
	comp=Z,92nm,19.4s,baz=125,slow=43						
NNA	**Nana**	**5.52**	**308**	Pn	Pn	15 15 04.9	-4.8
PB08	**IPOC Station P**	**5.59**	**147**		**Pn**	**15 15 11.0**	**-0.1**
PATCX	**Punta Patache**	**5.74**	**158**	Pn	**Pn**	**15 15 12.5**	**-0.4**
PB01	**IPOC Station P**	**6.21**	**154**		**Pn**	**15 15 18.5**	**-0.7**
PB02	**IPOC Station P**	**6.29**	**158**		**Pn**	**15 15 20.4**	**-0.1**
PB07	**IPOC Station P**	**6.67**	**159**		**Pn**	**15 15 25.4**	**-0.3**
PB09	**IPOC Station P**	**6.98**	**155**		**Pn**	**15 15 30.3**	**+0.4**
PB03	**IPOC Station P**	**7.02**	**159**		**Pn**	**15 15 29.0**	**-1.4**
PB04	**IPOC Station P**	**7.16**	**163**	Pn	**Pn**	**15 15 31.7**	**-0.7**
PB06	**IPOC Station P**	**7.69**	**160**		**Pn**	**15 15 39.6**	**0.0**
CZSB	**Cruzeiro do Su**	**7.70**	**358**	Pn	**Pn**	**15 15 38.2**	**-1.4**
CZSB	**Cruzeiro do Su**	**7.70**	**358**	*eP*	Pn	15 15 48.3	+8.6
LVC	**Limon Verde**	**7.84**	**156**	Pn	**Pn**	**15 15 43.7**	**+1.7**
	1.8nm,0.3s,baz=319,slow=1.1,SNR=9.9						
	9.0nm,0.5s						
LVC	**Limon Verde**	**7.84**	**156**	Pn	**Pn**	**15 15 40.0**	**-2.0**
LVC	**Limon Verde**	**7.84**	**156**	*eP*	**Pn**	**15 15 42.5**	**+0.6**
PB15	**IPOC Station P**	**8.19**	**161**		**Pn**	**15 15 45.1**	**-1.5**
PB10	**IPOC Station P**	**8.20**	**168**	Pn	**Pn**	**15 15 45.2**	**-1.3**
ETMB	**Extrema**	**8.26**	**48**	Pn	**Pn**	**15 15 48.2**	**+0.8**
ETMB	**Extrema**	**8.26**	**48**	*eP*	**Pn**	**15 15 51.1**	**+3.8**
AF01	**San Pedro de A**	**8.45**	**152**	Pn	**Pn**	**15 15 47.2**	**-3.1**
PB14	**IPOC Station P**	**9.31**	**169**	Pn	**Pn**	**15 16 00.7**	**-1.3**
AC01	**Pan de Azucar**	**10.76**	**171**	Pn	**Pn**	**15 16 20.2**	**-1.5**
SIV	**San Ignacio**	**10.94**	**94**	Pn	**Pn**	**15 16 21.5**	**-2.7**
	0.1nm,0.3s,baz=272,slow=12,SNR=19						
SIV				LR	LR	15 20 43.6	
	comp=Z,363nm,18.6s,baz=306,slow=40						
	4.9nm,0.7s						
AC02	**Maricunga**	**11.72**	**165**		**Pn**	**15 16 33.1**	**-2.2**
AC06	**Mina Casimiro**	**11.99**	**171**	Pn	**Pn**	**15 16 36.7**	**-1.7**
VILB	**Vilhena**	**12.11**	**80**	Pn	**Pn**	**15 16 37.8**	**-2.3**
GO03	**Copiap**	**12.24**	**171**	Pn	**Pn**	**15 16 37.7**	**-4.2**
AC04	**Llanos de Chal**	**12.74**	**175**	Pn	**Pn**	**15 16 46.1**	**-2.6**
PTLB	**Pontes e Lacer**	**12.81**	**92**	Pn	**Pn**	**15 16 49.5**	**-0.2**
PTLB	**Pontes e Lacer**	**12.81**	**92**	*eP*	**Pn**	**15 16 50.7**	**+1.1**
AC05	**El Transito**	**13.45**	**172**		**Pn**	**15 16 57.9**	**-0.7**
CO01	**Juntas del Tor**	**14.60**	**172**	Pn	**Pn**	**15 17 12.3**	**-2.1**
GO04	**Tololo Observa**	**14.71**	**174**	Pn	**Pn**	**15 17 15.4**	**-0.5**
CO03	**El Pedregal**	**15.38**	**174**	P	**P**	**15 17 27.0**	**-2.5**
CO03				IAmb	IAmb	15 17 36.3	
	comp=Z,33nm,1.1s						
CO02	**Combarbal**	**15.72**	**176**	P	**Pn**	**15 17 30.7**	**+1.5**
CO02				IAmb	IAmb	15 17 40.1	
	comp=Z,26nm,1.1s						
PDRB	**Porto dos Gac**	**15.73**	**78**	*eP*	**P**	**15 17 32.0**	**-1.3**
SALV	**Santo Antonio**	**16.11**	**94**	*eP*	**Pn**	**15 17 34.5**	**+0.3**
ZON	**Zonda**	**16.37**	**169**	P	**P**	**15 17 38.8**	**-1.5**
ZON				IAmb	IAmb	15 17 47.3	
	comp=Z,28nm,1.2s						
CFA	**Coronel Fontan**	**16.51**	**167**	Pn	**P**	**15 17 43.7**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=344,slow=12,SNR=14						
CFA				LR	LR	15 23 44.3	
	comp=Z,83nm,21.8s,baz=302,slow=36						
	comp=Z,34nm,1.2s						
CLDB	**Colider**	**16.82**	**76**	*eP*	**Pn**	**15 17 42.6**	**-0.6**
MACA	**Manacapuru-AM**	**16.83**	**45**	*eP*	**P**	**15 17 45.9**	**+0.5**
RVDE	**Rio Verde (Bra**	**17.07**	**104**	*eP*	**Pn**	**15 17 45.5**	**-0.8**
VA03	**San Esteban**	**17.30**	**175**	P	**Pn**	**15 17 49.2**	**-0.1**
VA03				IAmb	IAmb	15 18 01.4	
	comp=Z,38nm,1.2s						
CPUP	**Villa Florida**	**17.75**	**130**	LR	LR	15 25 50.3	
	comp=Z,110nm,18.5s,baz=321,slow=42						
MT03	**Universidad Ad**	**18.03**	**175**	P	**P**	**15 17 58.2**	**-0.6**
MT03				IAmb	IAmb	15 18 08.3	
	comp=Z,50nm,1.4s						
MT09	**Talagante**	**18.28**	**176**	P	**P**	**15 18 02.1**	**+0.6**
MT09				IAmb	IAmb	15 18 11.5	
	comp=Z,30nm,1.2s						
MT01	**Popeta**	**18.35**	**177**	P	**Pn**	**15 18 01.0**	**-1.1**
MT01				IAmb	IAmb	15 18 05.9	
	comp=Z,34nm,1.2s						
LMEL	**Las Melosas**	**18.41**	**174**	P	**Pn**	**15 18 01.5**	**-1.5**
LMEL				IAmb	IAmb	15 18 12.3	

GII ***12*** *15:14:09.2±0.0,35°.31N×28°.78E,h20km,MD3.1/2, Mm3.5/2*

ISC 12 15:14:05.2±1.0,**35°.75N**±0°.03×**28°.60E**±0°.02,**h32**km±10km, **n111**,σ1§**51**/157,**1C**,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.61**	**321**	P	**Pb**	**15 14 17.2**	**-0.3**
ARG				S	**Sb**	**15 14 25.7**	**-0.2**
	10μm,0.6s						
ARG	**Arkhangelos**	**0.61**	**321**	Pg	**Pb**	**15 14 17.2**	**-0.3**
ARG				Sg	**Sb**	**15 14 25.7**	**-0.2**
ARG	**Arkhangelos**	**0.61**	**321**	*i*P	**Pb**	**15 14 17.2**	**-0.3**
ARG				S	**Sb**	**15 14 26.0**	**+0.1**
ARG				AML	AML	15 14 27.2	
	20nm,0.6s						
ARG				AML	AML	15 14 27.2	
	20nm,0.6s						
ARG				AML	AML	15 14 27.7	
	20nm,0.6s						
ARG				AML	AML	15 14 27.7	
	20nm,0.6s						
ARG	**Arkhangelos**	**0.61**	**321**	P	**Pb**	**15 14 17.3**	**-0.2**
ARG				S	**Sb**	**15 14 25.4**	**-0.5**
ARG				AML	AML	15 14 27.8	
	comp=N,19590μm,0.6s						
ARG				AML	AML	15 14 27.9	
	comp=E,20303μm,0.6s						
KSL	**Kastellorizon**	**0.89**	**63**	P	**Pb**	**15 14 22.8**	**+0.6**
KSL				S	**Sn**	**15 14 35.1**	**+1.8**
	comp=E,1μm,0.5s						
KSL	**Kastellorizon**	**0.89**	**63**	S	**Sb**	**15 14 32.1**	**-1.8**
KSL				AML	AML	15 14 45.4	
	comp=E,1.4nm,0.5s						
KSL				AML	AML	15 14 49.1	
	comp=E,3.2nm,0.5s						
KSL	**Kastellorizon**	**0.89**	**63**	P	**Pb**	**15 14 22.6**	**+0.4**
KSL				AML	AML	15 14 45.7	
	comp=N,1396μm,0.5s						
KSL				AML	AML	15 14 49.2	
	comp=E,3154μm,0.5s						
AKAS	**Kas**	**0.95**	**59**	Pg	**Pb**	**15 14 23.2**	**-0.1**
AKAS				Sg	**Sn**	**15 14 35.9**	**+1.0**
AKAS	**Kas**	**0.95**	**59**	P	**Pb**	**15 14 23.6**	**+0.3**
AKAS				S	**Sn**	**15 14 35.7**	**+0.8**
AKAS				*i* AML	AML	15 14 43.0	
	comp=E,1μm,0.9s						
FETY	**Fethiye**	**0.97**	**24**	Pg	**Pn**	**15 14 22.6**	**0.0**
DALY	**Dalyan (Mula)**	**1.07**	**2**	Pg	**Pn**	**15 14 23.8**	**-0.1**
DALY				Sg	**Sn**	**15 14 36.9**	**-0.8**
KARP	**Karpathos**	**1.19**	**261**	P	**Pb**	**15 14 27.5**	**+0.2**
KARP				S	**Sb**	**15 14 42.7**	**+0.3**
	comp=E,965nm,0.2s						
KARP	**Karpathos**	**1.19**	**261**	Pn	**Pn**	**15 14 26.7**	**+1.1**
KARP				Sn	**Sn**	**15 14 41.8**	**+1.1**
KARP	**Karpathos**	**1.19**	**261**	P	**Pn**	**15 14 26.7**	**+1.1**
KARP				S	**Sb**	**15 14 42.2**	**-0.1**
KARP				AML	AML	15 14 45.8	
	comp=E,1.7nm,0.2s						
KARP				AML	AML	15 14 45.8	
	comp=E,1.7nm,0.2s						
KARP				AML	AML	15 14 48.4	
	comp=E,1.5nm,0.4s						
KARP				AML	AML	15 14 48.4	
	comp=E,1.5nm,0.4s						
KARP	**Karpathos**	**1.19**	**261**	P	**Pb**	**15 14 27.3**	**0.0**
KARP				S	**Sn**	**15 14 41.5**	**+0.8**
KARP				AML	AML	15 14 46.2	
	comp=E,1698μm,0.2s						
KARP				AML	AML	15 14 52.5	
	comp=N,1823μm,0.4s						
DAT	**Datca**	**1.28**	**320**	P	**Pn**	**15 14 27.5**	**+0.5**
DAT				S	**Sn**	**15 14 44.4**	**+1.3**
DAT	**Datca**	**1.28**	**320**	Pn	**Pn**	**15 14 26.9**	**-0.1**
CAME	**Cameli-Denizli**	**1.32**	**25**	Pn	**Pn**	**15 14 27.8**	**+0.2**
YER	**Yerkesik**	**1.41**	**350**	P	**Pn**	**15 14 29.5**	**+0.8**
YER				S	**Sb**	**15 14 48.7**	**+0.1**
YER	**Yerkesik**	**1.41**	**350**	Pn	**Pn**	**15 14 28.7**	**0.0**
ELL	**Elmali**	**1.45**	**46**	Pn	**Pn**	**15 14 30.2**	**+0.8**
ELL	**Elmali**	**1.45**	**46**	S	**Sn**	**15 14 47.2**	**-0.2**
CAEL	**Denizli, Camel**	**1.49**	**23**	P	**Pn**	**15 14 31.3**	**+1.4**
CAEL				S	**Sb**	**15 14 50.2**	**-0.8**
MULA	**Mugla, Merkez-**	**1.52**	**352**	P	**Pn**	**15 14 31.4**	**+1.1**
MULA				S	**Sn**	**15 14 49.7**	**+0.7**
AKUM	**Antalya-Kumluc**	**1.52**	**67**	P	**Pn**	**15 14 31.6**	**+1.5**
AKUM				S	**Sn**	**15 14 48.9**	**0.0**
AKUM				*i* AML	AML	15 14 54.0	
	comp=N,112nm,0.3s						
BDRM	**Kayabasi**	**1.61**	**325**	P	**Pb**	**15 14 34.3**	**-0.1**
BDRM				S	**Sn**	**15 14 49.8**	**-1.3**
BODT	**Bodrum**	**1.68**	**322**	P	**Pn**	**15 14 32.4**	**+0.1**
BODT	**Bodrum**	**1.68**	**322**	Pn	**Pn**	**15 14 32.3**	**0.0**
GOLH	**Golhisar**	**1.68**	**27**	P	**Pn**	**15 14 34.1**	**+1.7**
GOLH				S	**Sn**	**15 14 53.8**	**+0.9**
MLSB	**Milas**	**1.68**	**337**	Pn	**Pn**	**15 14 32.6**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.73**	**8**	P	**Pn**	**15 14 34.0**	**+0.9**
APMY	**Acipayam-Deniz**	**1.81**	**18**	Pn	**Pn**	**15 14 34.7**	**+0.5**
AYDN	**Tasoluk**	**2.00**	**343**	P	**Pn**	**15 14 38.1**	**+1.3**
AYDN				S	**Sn**	**15 15 00.4**	**-0.3**
AYDN				*i* AML	AML	15 15 09.0	
	comp=N,210nm,0.6s						
DDIM	**Aydin, Didim**	**2.03**	**328**	P	**Pb**	**15 14 39.7**	**-1.7**
DDIM				S	**Sn**	**15 15 02.6**	**+1.3**
DDIM				*i* AML	AML	15 15 06.0	
	comp=N,229nm,0.5s						
ZKR	**Zakros**	**2.05**	**253**	P	**Pb**	**15 14 39.9**	**-1.8**
ZKR				S	**Sn**	**15 15 03.5**	**+1.7**
	comp=N,365nm,0.4s						
ZKR	**Zakros**	**2.05**	**253**	Pn	**Pn**	**15 14 39.1**	**+1.7**
ZKR	**Zakros**	**2.05**	**253**	P	**Pn**	**15 14 39.0**	**+1.7**
BUCA	**Burdur, Bucak-**	**2.23**	**44**	P	**Pb**	**15 14 43.5**	**-1.4**
BUCA				S	**Sn**	**15 15 09.5**	**+3.0**
BUCA				*i* AML	AML	15 15 18.0	
	comp=N,67nm,0.6s						
GCAM	**G?zelcami?**	**2.24**	**331**	Pn	**Pn**	**15 14 40.7**	**+0.7**
GCAM	**G?zelcami?**	**2.24**	**331**	P	**Pb**	**15 14 43.3**	**-1.6**
GCAM				S	**Sn**	**15 15 07.7**	**+1.2**
BRDR	**BURDUR-Merkez**	**2.27**	**31**	P	**Pn**	**15 14 42.3**	**+1.7**
BRDR				S	**Sn**	**15 15 09.0**	**+1.5**
BRDR				*i* AML	AML	15 15 10.0	
	comp=N,89nm,0.4s						
BASM	**Basmaki-Afyon**	**2.46**	**28**	Pn	**Pn**	**15 14 43.8**	**+0.7**
DGB	**zmir**	**2.68**	**330**	P	**Pn**	**15 14 46.5**	**+0.4**
DGB				S	**Sn**	**15 15 15.2**	**-2.2**
DGB				*i* AML	AML	15 15 22.0	
	comp=N,30nm,0.7s						
KEPZ	**Antalya-Kepez**	**2.68**	**64**	P	**Pn**	**15 14 48.2**	**+2.0**
KEPZ				S	**Sn**	**15 15 17.1**	**-0.5**
PASA	**Karahalli, USA**	**2.69**	**15**	P	**Pn**	**15 14 46.3**	**0.0**
MANT	**Manisa**	**2.74**	**359**	P	**Pn**	**15 14 46.8**	**-0.3**
KULA	**Kula-Manisa**	**2.76**	**1**	P	**Pn**	**15 14 47.0**	**-0.3**
KULA	**Kula-Manisa**	**2.76**	**1**	Pn	**Pn**	**15 14 47.1**	**-0.3**
KZIL	**AFYON_Kizioren**	**2.79**	**26**	P	**Pn**	**15 14 47.9**	**+0.1**
APE	**Apeiranthos**	**2.81**	**299**	Pn	**Pn**	**15 14 48.1**	**+0.2**
BAGO	**Egridir - ISPA**	**2.84**	**37**	P	**Pn**	**15 14 48.4**	**0.0**
USAK	**Uak-Merkez**	**2.98**	**6**	P	**Pn**	**15 14 50.5**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**3.00**	**327**	P	**Pn**	**15 14 52.1**	**+1.6**
SEDI	**Konya, Seydise**	**3.05**	**55**	P	**Pn**	**15 14 55.0**	**+3.7**
SEDI				S	**Sn**	**15 15 30.2**	**+3.4**
URLA	**Izmir**	**3.06**	**329**	Pn	**Pn**	**15 14 52.1**	**+0.7**
URLA	**Izmir**	**3.06**	**329**	P	Pn	15 14 46.2	-5.2
URLA				S	**Sn**	**15 15 25.1**	**-1.8**
AKMS	**Akamas**	**3.14**	**102**	P	**Pn**	**15 14 53.4**	**+1.1**
AKMS				S	**Sn**	**15 15 29.5**	**+0.8**
AKMS				AML	AML	15 15 30.9	
	comp=N,0.6nm,0.5s						
AKMS				AML	AML	15 15 30.9	
	comp=N,0.6nm,0.5s						
AKMS				AML	AML	15 15 33.4	
	comp=N,0.5nm,0.6s						
AKMS				AML	AML	15 15 33.4	
	comp=N,0.5nm,0.6s						
OSC1	**CSNet OBS 1**	**3.15**	**135**	P	**Pn**	**15 14 53.2**	**+0.8**
OSC1				S	**Sn**	**15 15 31.1**	**+2.2**
AKHS	**Akhisar**	**3.19**	**349**	P	**Pn**	**15 14 55.3**	**+2.2**
SHUT	**Suhut-Afyon**	**3.21**	**28**	Pn	**Pn**	**15 14 54.3**	**+0.9**
YVAC	**Isparta, Yalva**	**3.29**	**39**	P	**Pn**	**15 14 56.4**	**+1.9**
YVAC				S	**Sn**	**15 15 35.5**	**+3.0**
YVAC				*i* AML	AML	15 15 42.0	
	comp=N,17nm,0.5s						
DEMI	**Demirci**	**3.29**	**2**	P	**Pn**	**15 14 53.9**	**-0.7**
ALFC	**Alefka**	**3.32**	**99**	P	**Pn**	**15 14 55.8**	**+0.9**
ALFC				AML	AML	15 15 36.2	
	comp=N,0.6nm,0.3s						
ALFC				AML	AML	15 15 36.2	
	comp=N,0.4nm,0.4s						
CHOS	**Chios island**	**3.33**	**323**	Pn	**Pn**	**15 14 56.1**	**+1.0**
NATA	**Nata**	**3.39**	**105**	P	**Pn**	**15 14 57.4**	**+1.5**
NATA				AML	AML	15 15 39.3	
	comp=N,2.6nm,0.4s						
NATA				AML	AML	15 15 43.2	
	comp=N,1.7nm,0.8s						
DOGA	**KONYA_Doganhis**	**3.40**	**45**	P	**Pn**	**15 14 58.5**	**+2.4**
DOGA				S	**Sn**	**15 15 37.1**	**+1.6**
DOGA				*i* AML	AML	15 15 44.0	
	comp=N,43nm,0.6s						
ZEDA	**zmir-Bergama**	**3.44**	**340**	P	**Pn**	**15 14 58.6**	**+2.1**
KMER	**Konya-Meram**	**3.63**	**55**	P	**Pn**	**15 15 02.4**	**+3.1**
KMER				S	**Sn**	**15 15 43.8**	**+2.7**
SZAC	**Souni**	**3.64**	**105**	P	**Pn**	**15 15 00.4**	**+1.1**
SZAC				S	**Sn**	**15 15 42.2**	**+1.1**
SZAC				AML	AML	15 15 43.2	
	comp=N,0.8nm,0.5s						
SZAC				AML	AML	15 15 43.2	
	comp=N,0.8nm,0.5s						
SZAC				AML	AML	15 15 46.5	
	comp=N,0.6nm,0.5s						
SZAC				AML	AML	15 15 46.5	
	comp=N,0.6nm,0.5s						
STEP	**BALIKESIR_Sava**	**3.69**	**349**	P	**Pn**	**15 15 02.7**	**+2.7**
KONT	**Konya--Tatoy**	**3.73**	**53**	Pn	**Pn**	**15 15 02.8**	**+2.3**
IMMV	**Iera Moni Meta**	**3.78**	**267**	Pn	**Pn**	**15 15 03.4**	**+2.2**
KKBE	**Karaman, Kazim**	**3.79**	**66**	P	**Pn**	**15 15 04.7**	**+3.2**
KKBE				S	**Sn**	**15 15 46.6**	**+1.6**
KKBE				*i* AML	AML	15 15 49.0	
	comp=N,45nm,0.6s						
GVD	**Gavdhos**	**3.80**	**258**	Pn	**Pn**	**15 15 03.6**	**+2.1**
ANDZ	**Kutahya, Merke**	**3.89**	**15**	P	**Pn**	**15 15 02.8**	**-0.1**
ASGA	**Asgata**	**3.92**	**103**	P	**Pn**	**15 15 04.2**	**+1.1**
ASGA				AML	AML	15 15 52.8	
	comp=N,0.3nm,0.4s						
ASGA				AML	AML	15 15 58.4	
	comp=N,0.4nm,0.4s						
BUHA	**Balikesir, Bur**	**3.94**	**343**	P	**Pn**	**15 15 02.9**	**-0.5**
CSS	**Mathiatis**	**3.94**	**100**	P	**Pn**	**15 15 03.9**	**+0.5**
KDHN	**Kadinhani**	**3.94**	**44**	P	**Pn**	**15 15 05.2**	**+1.6**
KDHN				S	Sn	15 15 42.9	-5.9
BALY	**Balya**	**4.06**	**349**	P	**Pn**	**15 15 07.2**	**+2.0**
SGAZ	**Eskisehir, Sey**	**4.17**	**25**	P	**Pn**	**15 15 07.2**	**+0.5**
SGAZ				S	**Sn**	**15 15 50.7**	**-3.7**
SGAZ				*i* AML	AML	15 15 52.0	
	comp=N,15nm,0.4s						
MVOU	**Mavrovouni**	**4.17**	**99**	P	**Pn**	**15 15 06.8**	**+0.2**
ALIN	**Konya, Altinte**	**4.27**	**52**	P	**Pn**	**15 15 07.2**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**4.31**	**338**	P	**Pn**	**15 15 07.7**	**-0.8**
BORA	**Eskisehir**	**4.38**	**19**	P	**Pn**	**15 15 09.8**	**+0.3**
PARAL	**Paralimni**	**4.51**	**98**	P	**Pn**	**15 15 12.3**	**+1.1**
MATC	**Matruh** baz=197	**4.54**	**195**	P	**Pn**	**15 15 13.2**	**+1.6**
KERG	**Konya-Eregli**	**4.75**	**68**	P	**Pn**	**15 15 17.9**	**+3.2**
KERG				S	**Sn**	**15 16 08.8**	**+0.2**
KERG				*i* AML	AML	15 16 11.0	
	comp=N,15nm,0.3s						
BCAM	**Yenicaga**	**5.75**	**27**	P	**Pn**	**15 15 29.0**	**+0.6**
DELI	**KIRIKKALE**	**5.97**	**43**	P	**Pn**	**15 15 30.7**	**-0.8**
HNTI	**Hanita**	**6.05**	**114**	Pn	**Pn**	**15 15 33.5**	**+1.1**
HWQ	**Hawqa**	**6.20**	**102**	*e*P	**Pn**	**15 15 35.0**	**+0.3**
MMA0B	**Mount Meron ar**	**6.25**	**114**	Pn	**Pn**	**15 15 36.1**	**+0.9**
MMA0B				Sn	**Sn**	**15 16 44.7**	**-0.9**
HNAT	**Natroun** baz=164	**6.33**	**164**	P	**Pn**	**15 15 37.2**	**+0.9**
RCY	**Rachaya**	**6.37**	**109**	*e*P	**Pn**	**15 15 37.5**	**+0.5**
MMLI	**Mount Malkishu**	**6.55**	**118**	Pn	**Pn**	**15 15 40.1**	**+0.8**
GLL	**Jalalah** baz=156	**6.69**	**156**	P	**Pn**	**15 15 42.0**	**+0.8**
AMAZ	**Amatzia**	**6.74**	**127**	Pn	**Pn**	**15 15 42.5**	**+0.6**
KZIT	**Kziot**	**6.84**	**133**	Pn	**Pn**	**15 15 43.2**	**-0.1**
KZIT				Sn	**Sn**	**15 16 56.7**	**-3.4**
YTIR	**Yattir**	**6.98**	**127**	Pn	**Pn**	**15 15 45.5**	**+0.3**
YTIR				Sn	**Sn**	**15 17 00.9**	**-2.6**
SWA2	baz=204	**7.01**	**203**	P	**Pn**	**15 15 46.6**	**+1.0**
SWA2	baz=204			S	**Sn**	**15 17 01.8**	**-2.3**
DSI	**Dead Sea**	**7.02**	**124**	Pn	**Pn**	**15 15 46.4**	**+0.7**
DSI				Sn	**Sn**	**15 17 02.6**	**-1.8**
GHAJ	**Ghor Haditha**	**7.31**	**125**	Pn	**Pn**	**15 15 50.6**	**+0.9**
PRNI	**Paran**	**7.60**	**133**	Pn	**Pn**	**15 15 53.7**	**-0.1**
PRNI				Sn	**Sn**	**15 17 15.1**	**-3.7**
KRMI	**Paran Flat**	**7.61**	**136**	Pn	**Pn**	**15 15 53.8**	**-0.1**
HRFI	**Mount Harif**	**7.85**	**135**	Pn	**Pn**	**15 15 57.7**	**+0.5**
HRFI				Sn	**Sn**	**15 17 21.6**	**-3.4**
MBRI	**Mt Berech**	**7.97**	**136**	Pn	**Pn**	**15 15 58.8**	**0.0**
MBRI				Sn	**Sn**	**15 17 24.2**	**-3.7**
EIL	**Elat**	**8.08**	**137**	Pn	**Pn**	**15 16 00.6**	**+0.3**
EIL				Sn	**Sn**	**15 17 26.2**	**-4.4**
HKAT	**Jabal Katrina** baz=146	**8.53**	**146**	P	**Pn**	**15 16 07.0**	**+0.3**
HFRF	**Wahat Farafira** baz=183	**8.58**	**182**	P	**Pn**	**15 16 07.9**	**+0.8**
HHRG	**Al Ghardaqah** baz=152	**9.50**	**152**	P	**Pn**	**15 16 22.8**	**+3.0**

MEX ***12*** *15:27:50.6±0.4,14°.39N×92°.58W,h14km±108km,MD3.9*
GCG ***12*** *15:27:54.0±0.3,14°.76N×92°.14W,h48km±5km,MD3.6*

ISC 12 15:27:50.3±2.9,**14°.6N**±0°.1×**92°.38W**±0°.09,**h25**km±20km,**n9**, σ0§**88**/16,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STG3	**Santiaguito 3,**	**0.79**	**84**	*e*P	**Pn**	**15 28 06.3**	**+0.3**
STG3				*e*S	**Sb**	**15 28 15.9**	**0.0**
SULM	**Suchitepequez,**	**0.85**	**112**	*e*P	**Pn**	**15 28 07.6**	**+0.9**
PCIG		**1.34**	**323**	*i* P	**Pn**	**15 28 12.6**	**-0.9**
PCIG				*i* S	**Sn**	**15 28 30.1**	**-0.5**
FUG	**Fuego 3**	**1.50**	**97**	*e*P	**Pn**	**15 28 16.1**	**+0.3**
FUG				*e*S	**Sn**	**15 28 33.6**	**-1.1**
CCIG	**Comitan**	**1.66**	**8**	*i* P	**Pb**	**15 28 20.0**	**-0.4**
CCIG				*i* S	**Sb**	**15 28 42.1**	**+1.1**
PCG	**Pacaya**	**1.73**	**98**	*e*S	**Sn**	**15 28 39.7**	**-0.8**
TGIG		**2.26**	**342**	*e*P	**Pn**	**15 28 25.5**	**-0.7**
TGIG				*e*S	**Sn**	**15 28 53.6**	**+0.3**
UXUV	**UXUV**	**3.17**	**328**	*i* P	**Pn**	**15 28 39.2**	**+0.5**
UXUV				*e*S	**Sn**	**15 29 16.4**	**+0.7**
CMIG	**Matias Romero**	**3.44**	**316**	*e*P	**Pn**	**15 28 41.7**	**-0.7**
CMIG				*e*S	**Sn**	**15 29 23.8**	**+1.5**

VAO 12 15:27:58.4±1.6,**15°.69S**×**71°.65W**,**h52**km±11km,**mb3.9, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**7.35**	**160**	*e*P	Pn	15 29 43.4	-0.2
ETMB	**Extrema**	**7.88**	**43**	*e*P	Pn	15 29 50.4	-0.1
BBSD	**Serra de San D**	**10.69**	**100**	*e*P	Pn	15 30 28.1	-0.9
BBRB	**Robore, Bolivi**	**11.61**	**104**	*e*P	Pn	15 30 41.8	+0.2
CLDB	**Colider**	**16.15**	**75**	*e*P	P	15 31 43.6	-1.0
NPGB	**Novo Progresso**	**18.12**	**64**	*e*P	P	15 32 05.0	-1.3
ITTB	**Itaituba**	**19.27**	**56**	*e*P	P	15 32 19.4	+0.5
SNDB	**Serra Nova Dou**	**20.10**	**82**	*e*P	P	15 32 28.0	0.0
MCPB	**Macapa, AP**	**24.62**	**54**	*e*P	P	15 33 14.1	0.0

IDC ***12*** *15:40:35.9±4.0,0°.79S×67°.09E,h0km,mb3.8/5, mbtmp3.8/5,MS3.9/40,Error ellipse: s-maj=130.4km s-min=29.7km az=69.0*
NEIC ***12*** *15:40:40.1±2.8,0°.69S±0°.10×67°.50E±0°.08,h15km±5km, mb4.5/34,Error ellipse: s-maj=14.8km s-min=11.2km az=157.0*
GCMT ***12*** *15:40:41.1±0.3,0°.74S±0°.03×67°.31E±0°.03,h13km±1km, MW4.8/82,Moment Tensor Solution. s19,c21; s82,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.00±. 13; $M_{\theta\theta}$1.35±.09; $M_{\phi\phi}$0.65±.09; $M_{r\theta}$-0.17±.23; $M_{r\phi}$-0.59±.06; $M_{\theta\phi}$-0.61±.28; Best double couple: $M_0$1.92900×10^{16} NP1:ϕ_s314.00000°,δ49.00000°,λ-72.00000°. NP2: ϕ_s107.00000°,δ44.00000°,λ-110.00000°. Principal axes: T 1.6990, Plg3.0000°, Azm31.0000°; N 0.4650, Plg14.0000°, Azm122.0000°; P -2.1580, Plg76.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 15:40:38.5±0.6,**0°.72S**±0°.10×**67°.47E**±0°.07,**h10**km,**n80**, σ1§**06**/44,**mb4.4**/18,**MS3.9**/40,**Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAAM	**Kaadhehdhoo**	**5.66**	**78**	Pn	**Pn**	**15 42 01.7**	**-1.0**
HMDM	**Hanimaadhoo**	**9.37**	**37**		**Pn**	**15 42 53.2**	**-0.6**
MNCI	**Minicoy**	**10.54**	**32**		**Pn**	**15 43 09.1**	**-0.6**
MSEY	**Mahe Island**	**12.60**	**252**	Pn	**Pn**	**15 43 38.9**	**+0.8**
PALK	**Pallekele**	**15.40**	**59**	Pn	**Pn**	**15 44 15.8**	**-0.4**
PALK				IAmb	IAmb	15 44 32.6	
	comp=Z,17nm,1.2s						
WSAR	**Wadi Sarin**	**25.32**	**341**	LR	LR	15 53 51.9	
	comp=Z,243nm,20.9s,baz=172,slow=32						
OPO	**Ambohidratompo**	**26.67**	**227**	LR	LR	15 54 27.6	
	comp=Z,267nm,20.2s,baz=179,slow=32						
ATD	**Arta Tunnel**	**27.32**	**297**	LR	LR	15 55 19.4	
	comp=Z,77nm,21.6s,baz=74,slow=33						
GSI	**Gunungsitoli**	**30.17**	**86**	P	**P**	**15 46 50.1**	**+0.9**
PSI	**Prapat**	**31.64**	**84**	LR	LR	15 57 43.9	
	comp=Z,300nm,21.2s,baz=234,slow=32						
LODK	**Lodwar**	**32.35**	**277**	P	**P**	**15 47 08.0**	**-0.6**
LODK				IAmb	IAmb	15 47 18.0	
	comp=Z,4.7nm,1.2s						
BRDH	**Bariadhala**	**33.09**	**44**	LR	LR	16 02 44.0	
	comp=Z,464nm,18.0s,baz=232,slow=40						
KBL	**Kabul**	**35.10**	**2**	P	**P**	**15 47 35.1**	**+2.7**
KBL				IAmb	IAmb	15 48 19.3	
	comp=Z,2.0nm,0.5s						
SHL	**Shillong**	**35.21**	**40**	P	**P**	**15 47 34.5**	**+1.1**
SHL				IAmb	IAmb	15 47 36.2	
	comp=Z,6.7nm,1.0s						
CM31	**Chiang Mai Arr**	**36.34**	**57**	P	**P**	**15 47 42.2**	**-0.8**
CM31				IAmb	IAmb	15 48 11.7	
	comp=Z,9.8nm,1.4s						
CMAR	**Chiang Mai Arr**	**36.34**	**57**	LR	LR	16 02 10.4	
	comp=Z,134nm,18.0s,baz=245,slow=35						
CMAR	**Chiang Mai Arr**	**36.34**	**57**	P	**P**	**15 47 43.5**	**+0.6**
MYKOM	**Kota Tinggi**	**36.46**	**86**		**P**	**15 47 46.0**	**+1.9**
CHTO	**Chiang Mai**	**36.51**	**56**	P	**P**	**15 47 45.4**	**+1.0**
MBAR	**Mbarara**	**36.73**	**270**	LR	LR	16 01 21.9	
	comp=Z,116nm,18.4s,baz=76,slow=34						
LSA	**Lhasa**	**37.76**	**35**	P	**P**	**15 47 56.1**	**+0.7**
LSA				IAmb	IAmb	15 48 04.8	
	comp=Z,16nm,1.4s						
GEYT	**Alibeck**	**39.41**	**348**	LR	LR	16 03 28.7	
	comp=Z,216nm,20.8s,baz=172,slow=35						
GAR	**Garm**	**39.61**	**3**	P	**P**	**15 48 11.3**	**+0.8**
GAR				IAmb	IAmb	15 48 43.0	
	comp=Z,17nm,1.5s						
LEM	**Lembang**	**40.50**	**100**	LR	LR	16 01 57.4	
	comp=Z,105nm,20.7s,baz=234,slow=31						
LSZ	**Lusaka**	**41.39**	**248**	LR	LR	16 03 09.2	
	comp=Z,344nm,20.0s,baz=98,slow=33						
LSZ	**Lusaka**	**41.39**	**248**	P	**P**	**15 48 25.5**	**0.0**
LSZ				IAmb	IAmb	15 48 33.0	
	comp=Z,5.2nm,0.9s						
EIL	**Elat**	**43.31**	**317**	LR	LR	16 03 42.4	
	comp=Z,62nm,21.6s,baz=238,slow=32						
AAK	**Ala-Archa**	**43.62**	**8**	LR	LR	16 05 26.1	
	comp=Z,165nm,19.9s,baz=197,slow=34						
KK31	**Karatay Array**	**43.71**	**3**	P	**P**	**15 48 44.8**	**+1.0**
KKAR	**Karatay Array**	**43.71**	**3**	P	**P**	**15 48 44.6**	**+0.7**
GHAJ	**Ghor Haditha**	**43.93**	**319**	P	**P**	**15 48 46.1**	**+0.4**
GHAJ				IAmb	IAmb	15 48 52.5	
	comp=Z,11nm,1.2s						
MMAI	**Mount Meron Ar**	**45.15**	**321**	LR	LR	16 05 23.4	
	comp=Z,93nm,20.5s,baz=138,slow=33						
GNI	**Garni**	**45.66**	**336**	LR	LR	16 06 22.9	
	comp=Z,87nm,20.4s,baz=126,slow=34						
GNI	**Garni**	**45.66**	**336**	P	**P**	**15 49 00.3**	**+0.6**
GNI				IAmb	IAmb	15 49 05.8	
	comp=Z,8.1nm,1.3s						
LBTB	**Lobatse**	**47.09**	**236**	LR	LR	16 06 16.4	
	comp=Z,172nm,19.2s,baz=20,slow=33						
BOSA	**Boshof**	**48.92**	**232**	LR	LR	16 08 34.1	
	comp=Z,284nm,18.1s,baz=30,slow=34						
MK31	**Makanchi Array**	**49.07**	**13**	P	**P**	**15 49 25.8**	**-0.1**
MKAR	**Makanchi Array**	**49.07**	**13**	P	**P**	**15 49 25.6**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=198,slow=7.4,SNR=5.0						
	comp=Z,0.3nm,0.6s						
KKM	**Kota Kinabalu**	**49.12**	**81**	P	**P**	**15 49 25.5**	**-1.5**
KBZ	**Khabaz**	**49.41**	**337**	LR	LR	16 10 27.2	
	comp=Z,139nm,18.5s,baz=56,slow=36						
KIV	**Kislovodsk**	**49.68**	**337**	P	**P**	**15 49 29.5**	**-1.3**
ABKAR	**Akbulak array**	**50.20**	**354**	P	**P**	**15 49 33.1**	**-1.3**
ABKAR	**Akbulak array**	**50.20**	**354**	P	**P**	**15 49 32.8**	**-1.6**
ABKAR				IAmb	IAmb	15 49 41.2	
	comp=Z,6.0nm,1.4s						
GIRL	**Giralia**	**50.39**

PDAR Pinedale Array 138.05 357 PKP **PKPdf 16 00 04.2 -0.2**
comp=Z,0.2nm,0.6s,baz=44,slow=2.7,SNR=3.6
NVAR Mina Array Bea 142.10 7 PKP **PKPdf 16 00 10.7 -1.1**
comp=Z,0.4nm,0.5s,baz=10,slow=5.5,SNR=1.9

NEIC ***12*** *15:50:04.1±1.1, 4.5°S±0.2°×153.7°E±0.1°, h103km±16km, mb4.0/8, Error ellipse: s-maj=28.5km s-min=12.4km az=161.0*
IDC ***12*** *15:50:05.4±4.8, 4.33°S×153.51°E, h116km±33km, mb3.4/2, mbtmp4.0/3, Error ellipse: s-maj=61.3km s-min=31.5km az=114.0*
ISC 12 15:50:01.4±1.6, **4.4°S**±0.1°×**153.8°E**±0.1°, **h100km, n16, σ1s03/19, mb3.9/6, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.65**	**276**		**Pn**	**15 50 30.8**	**+1.3**
RABL				Sn	**Sn**	**15 50 50.8**	**-0.1**
KRVT	**Keravat (AS076**	**1.78**	**272**	P	**Pn**	**15 50 32.0**	**+1.0**
	58nm,0.5s,baz=80,slow=2.7,SNR=18						
KRVT				S	**Sn**	**15 50 52.8**	**-0.9**
	188nm,0.4s,baz=179,slow=20,SNR=16						
PMG	**Port Moresby**	**8.27**	**233**	P	**Pn**	**15 52 00.5**	**+1.9**
	14nm,0.5s,baz=59,slow=9.9,SNR=8.4						
PMG				S	**Sn**	**15 53 29.8**	**-0.7**
	29nm,0.6s,baz=122,slow=14,SNR=17						
PMG	**Port Moresby**	**8.27**	**233**		**Pn**	**15 51 59.9**	**+1.3**
COEN	**Coen**	**14.16**	**227**	Pn	**Pn**	**15 53 16.6**	**-0.9**
KOUNC	**Koumac, New Ca**	**19.04**	**148**	P	**Pn**	**15 54 16.9**	**-0.6**
KOUNC				IAmb	IAmb	15 54 59.9	
	comp=Z,14nm,1.3s						
MTN	**Manton Dam**	**23.92**	**248**	P	**P**	**15 55 07.4**	**+1.0**
WB0	**Warramunga Arr**	**24.33**	**229**	P	**P**	**15 55 10.8**	**+0.8**
WB0				IAmb	IAmb	15 55 12.4	
	comp=Z,3.3nm,0.6s						
WR0	**Warramunga Arr**	**24.33**	**229**	P	**P**	**15 55 09.2**	**-0.9**
WR0				IAmb	IAmb	15 55 45.0	
	comp=Z,6.6nm,1.3s						
WB2	**Warramunga Arr**	**24.46**	**229**	P	**P**	**15 55 10.2**	**-1.0**
WB2				IAmb	IAmb	15 55 32.6	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**24.47**	**229**	P	**P**	**15 55 12.5**	**+1.2**
	comp=Z,2.0nm,0.5s,baz=54,slow=10.0,SNR=29						
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**24.47**	**229**	P	**P**	**15 55 10.3**	**-1.0**
KNRA	**Kununurra**	**27.05**	**244**	P	**P**	**15 55 34.6**	**-0.1**
ASAR	**Alice Springs**	**27.14**	**223**	P	**P**	**15 55 36.1**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=57,slow=9.0,SNR=9.3						
	comp=Z,0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.74**	**241**	P	**P**	**15 56 07.1**	**-0.2**
FITZ				IAmb	IAmb	15 56 22.6	
	comp=Z,1.4nm,1.4s						
TORD	**Torodi Ar. Bea**	**151.12**	**289**	PKPbc	**PKiKP**	**16 09 45.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=79,slow=3.7,SNR=0.9						

NEIC ***12*** *15:58:51.9±1.3, 23.0°N±0.1°×144.5°E±0.2°, h10km±1km, mb4.5/9, Error ellipse: s-maj=28.9km s-min=17.5km az=77.0*
IDC ***12*** *15:58:55.6±4.4, 22.97°N×144.56°E, h44km±40km, mb3.6/6, mbtmp3.9/7, ML4.2/1, MS3.6/1, Error ellipse: s-maj=49.3km s-min=17.9km az=90.0*
ISC 12 15:58:55.0±0.9, **22.93°N**±0.09°×**144.5°E**±0.2°, **h35km, n22, σ0s96/21, mb4.0/11, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.65**	**334**	P	**Pn**	**16 00 04.9**	**+2.1**
	11nm,0.3s,baz=296,slow=20,SNR=2.1						
JCJ				S	**Sn**	**16 00 55.5**	**0.0**
	306nm,0.8s,baz=299,slow=23,SNR=12						
	46nm,0.4s						
JCJ	**Chichijima**	**4.65**	**334**		**Pn**	**16 00 01.4**	**-1.4**
KSRS	**Korea Array**	**20.32**	**319**	P	Pn	16 03 32.1	+1.9
	3.0nm,0.7s,baz=146,slow=8.9,SNR=12						
KSAR	**Wonju Array Be**	**20.33**	**319**		**P**	**16 03 28.4**	**+0.2**
KLR	**Kul'dur**	**28.12**	**342**	P	**P**	**16 04 43.6**	**+0.1**
	1.0nm,0.6s,baz=172,slow=7.5,SNR=5.4						
	1.0nm,0.6s						
COEN	**Coen**	**36.68**	**182**	P	**P**	**16 05 59.3**	**+0.6**
COEN				IAmb	IAmb	16 06 00.0	
	comp=Z,5.6nm,0.7s						
SONM	**Songino Array**	**39.19**	**319**	P	**P**	**16 06 20.3**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=119,slow=5.9,SNR=5.2						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**39.19**	**319**	P	**P**	**16 06 19.3**	**-0.5**
CTA	**Charters Tower**	**42.79**	**178**	LR	LR	16 25 12.6	
	comp=Z,62nm,18.4s,baz=274,slow=37						
WR0	**Warramunga Arr**	**43.72**	**194**	P	**P**	**16 06 57.1**	**+0.1**
WR0				IAmb	IAmb	16 07 01.8	
	comp=Z,15nm,1.5s						
WRAB	**Tennant Creek**	**43.73**	**194**	P	**P**	**16 06 57.3**	**+0.2**
WRAB				IAmb	IAmb	16 07 02.1	
	comp=Z,9.0nm,1.2s						
WB2	**Warramunga Arr**	**43.74**	**194**	P	**P**	**16 06 57.2**	**+0.1**
WB2				IAmb	IAmb	16 07 02.2	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**43.74**	**194**	P	**P**	**16 06 57.1**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=8.8,slow=9.2,SNR=8.0						
	comp=Z,1.7nm,0.6s						
AS31	**Alice Springs**	**47.44**	**193**	P	**P**	**16 07 26.3**	**-0.1**
ASAR	**Alice Springs**	**47.44**	**193**	P	**P**	**16 07 26.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=13,slow=11,SNR=18						
	comp=Z,0.9nm,0.5s						
GSI	**Gunungsitoli**	**50.33**	**252**	P	**P**	**16 07 48.6**	**-0.2**
BRLK	**Bradley Lake**	**57.73**	**33**	P	**P**	**16 08 41.3**	**-0.9**
IMAR	**Indian Mountai**	**57.87**	**25**	P	**P**	**16 08 44.6**	**+1.6**
H23K	**Yukon River**	**59.50**	**26**	P	**P**	**16 08 56.1**	**+1.7**
H23K				IAmb	IAmb	16 09 07.1	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**60.40**	**27**	P	**P**	**16 08 59.1**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=254,slow=6.4,SNR=7.3						
	comp=Z,0.8nm,0.9s						
ABKAR	**Akbulak array**	**69.51**	**316**	P	**P**	**16 09 59.5**	**-0.5**
FINES	**FINESS Array B**	**82.59**	**335**	P	**P**	**16 11 13.5**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=57,slow=8.3,SNR=7.5						
	comp=Z,0.8nm,0.5s						

IDC 12 16:05:12.4±9.6, **0.65S°×67.54E, h0km, mb3.7/4, mbtmp3.7/4, MS3.8/17, Error ellipse: s-maj=299.7km s-min=33.5km az=70.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**25.28**	**341**	LR	LR	16 18 46.7	
	comp=Z,86nm,20.1s,baz=176,slow=32						
ATD	**Arta Tunnel**	**27.36**	**297**	LR	LR	16 20 02.4	
	comp=Z,49nm,19.4s,baz=52,slow=32						
PSI	**Prapat**	**31.56**	**84**	LR	LR	16 22 17.6	
	comp=Z,183nm,21.5s,baz=228,slow=32						
BRDH	**Bariadhala**	**33.00**	**44**	LR	LR	16 26 49.0	
	comp=Z,304nm,18.2s,baz=245,slow=39						
CMAR	**Chiang Mai Arr**	**36.24**	**57**	LR	LR	16 26 25.2	
	comp=Z,74nm,18.6s,baz=235,slow=35						
MBAR	**Mbarara**	**36.80**	**270**	LR	LR	16 25 27.7	
	comp=Z,80nm,19.3s,baz=73,slow=33						
GEYT	**Alibeck**	**39.37**	**348**	LR	LR	16 28 02.9	
	comp=Z,127nm,19.0s,baz=165,slow=35						
LEM	**Lembang**	**40.44**	**100**	LR	LR	16 26 19.9	
	comp=Z,110nm,19.1s,baz=220,slow=31						
LSZ	**Lusaka**	**41.48**	**248**	LR	LR	16 27 43.6	
	comp=Z,192nm,19.9s,baz=94,slow=33						
AAK	**Ala-Archa**	**43.55**	**7**	LR	LR	16 31 46.3	
	comp=Z,100nm,18.3s,baz=202,slow=37						
LBTB	**Lobatse**	**47.19**	**236**	LR	LR	16 30 40.9	
	comp=Z,119nm,20.9s,baz=4,slow=32						
BOSA	**Boshof**	**49.02**	**232**	LR	LR	16 32 59.8	
	comp=Z,203nm,18.7s,baz=34,slow=34						
TSUM	**Tsumeb**	**52.29**	**246**	LR	LR	16 34 55.2	
	comp=Z,186nm,18.4s,baz=116,slow=34						
KAPI	**Kappang**	**52.31**	**96**	LR	LR	16 37 03.8	
	comp=Z,36nm,18.1s,baz=257,slow=36						
SUR	**Sutherland**	**54.13**	**229**	LR	LR	16 34 56.3	
	comp=Z,257nm,18.9s,baz=78,slow=33						
ZALV	**Zalesovo Beam**	**56.27**	**12**	P	P	16 14 54.0	-0.6
	0.3nm,0.3s,baz=210,slow=8.3,SNR=2.4						
ZALV				LR	LR	16 37 21.5	
	comp=Z,69nm,19.7s,baz=200,slow=34						
	0.3nm,0.3s						
SONM	**Songino Array**	**58.92**	**30**	P	P	16 15 13.9	+0.4
	0.7nm,0.7s,baz=222,slow=8.0,SNR=7.1						
SONM				LR	LR	16 40 42.3	
	comp=Z,246nm,19.9s,baz=226,slow=36						
	0.7nm,0.7s						

WRA Warramunga Arr 68.01 111 P P 16 16 13.6 -0.6
0.8nm,0.7s,baz=285,slow=5.8,SNR=6.4
0.8nm,0.7s
ASAR Alice Springs 68.16 115 P P 16 16 15.5 +0.4
0.6nm,0.7s,baz=287,slow=6.2,SNR=12
0.6nm,0.7s

MOS ***12*** *16:06:30.6±1.0, 6.02°N×78.05°W, h9km, mb5.7/43, Error ellipse: s-maj=8.3km s-min=5.2km az=103.4*
BJI ***12*** *16:06:31.8±0.0, 6.00°N×77.90°W, h10km, mB5.7/5, Ms5.7/2, Ms7 5.3/4*
RSNC ***12*** *16:06:32.4±1.2, 5.96°N×77.93°W, h20km±4km, Mb5.3, ML4.4, Mw4.7, Fault plane solution: NP1:ϕs53.00000°, δ45.00000°, λ-122.00000°.*
VAO ***12*** *16:06:32.2±0.2, 5.77°N×77.95°W, h10km, mb5.2*
NEIC ***12*** *16:06:32.1±1.6, 6.06°N±0.06°×77.94°W±0.06, h6km±2km, mb5.5/702, Mwb5.2/35, Mww5.2/33, Error ellipse: s-maj=9.4km s-min=7.5km az=49.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=7.37; Mθθ=5.02; Mφφ=2.36; Mrθ=2.41; Mθφ=-4.50; Mφr=1.65; Fault plane solution: M0=8.44000×10^16 NP1:ϕs307.87000°, δ34.83000°, λ-88.28000°. NP2:ϕs125.78000°, δ55.18000°, λ-91.20000°. Principal axes: T 8.8998, Plg10.0000°, Azm217.0000°; N -1.0019, Plg1.0000°, Azm126.0000°; P -7.8979, Plg80.0000°, Azm31.0000°;*
UPA ***12*** *16:06:34.2±2.3, 6.24°N×78.03°W, h3km±42km, MW5.1*
IDC ***12*** *16:06:35.3±0.6, 6.00°N×77.96°W, h30km±3km, mb5.0/18, mbtmp5.2/24, ML4.2/4, MS4.4/42, Error ellipse: s-maj=15.7km s-min=10.2km az=62.0*
GCMT ***12*** *16:06:36.9±0.1, 6.08°N±0.01°×77.97°W±0.01°, h18km, MW5.2/135, Moment Tensor Solution. s102,c153; s135,c210; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.72±.01; Mθθ=0.67±.01; Mφφ=0.05±.01; Mrθ=-0.31±.02; Mθφ=-0.16±.01; Mφr=0.20±.03; Best double couple: M0=0.80300×10^17 NP1:ϕs112.00000°, δ59.00000°, λ-81.00000°. NP2:ϕs275.00000°, δ32.00000°, λ-104.00000°. Principal axes: T 0.7890, Plg13.0000°, Azm196.0000°; N 0.0280, Plg7.0000°, Azm287.0000°; P -0.8180, Plg75.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***12*** *16:06:36.6, 6.05°N×77.84°W, h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^16 Nm; Mrr=5.54; Mθθ=4.95; Mφφ=0.59; Mrθ=-3.68; Mθφ=-1.05; Mφr=1.94; Fault plane solution: M0=6.78000×10^16 NP1: ϕs111.60000°, δ63.93000°, λ-82.82000°. NP2: ϕs275.61000°, δ26.97000°, λ-104.33000°. Principal axes: T 6.5446, Plg19.0000°, Azm196.0000°; N 0.4685, Plg6.0000°, Azm288.0000°; P -7.0131, Plg70.0000°, Azm37.0000°;*
BGR ***12*** *16:06:43.8, 6.94°N×76.79°W, h33km, mb5.7, Ms4.6*
ISC 12 16:06:33.4±0.4, **5.97N**±0.03°×**77.93W**±0.03°, **h22**km±3km, **h22**km:**pP-P, n1663,** σ1s**43**/1624, **mb5.5**/478, **MS4.5**/48, **61C-41D, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.58**	**64**	*e*P	**Pb**	**16 06 43.4**	**-1.5**
SOLC				*e*S	**Sb**	**16 06 51.1**	**-1.6**
PIZC	**Pizarro, Choco**	**1.15**	**150**	⇑*e*P	**Pn**	**16 06 52.3**	**-1.9**
PIZC				*e*S	**Sb**	**16 07 06.7**	**-2.4**
PIZC				*i*		16 07 15.0	
	comp=Z,9μm,0.7s						
CBOC	**Ciudad Bolivar**	**1.91**	**93**	⇓*e*P	**Pn**	**16 07 03.1**	**-1.8**
CBOC				*e*S	**Sn**	**16 07 26.2**	**-2.2**
PLMC	**San Jos del P**	**1.95**	**123**	*e*P	**Pn**	**16 07 03.2**	**-2.2**
PLMC				*e*S	**Sn**	**16 07 26.1**	**-3.2**
PLMC				*i*		16 07 29.1	
	comp=Z,3μm,0.4s						
DBBC	**Dabeiba**	**2.00**	**59**	⇑*i*P	**Pn**	**16 07 05.4**	**-0.6**
DBBC				*e*S	**Sn**	**16 07 30.2**	**-0.3**
DBBC				*i*		16 07 31.4	
	comp=Z,2μm,0.3s						
APAC	**Apartado, Choc**	**2.34**	**35**	⇑*i*P	**Pn**	**16 07 10.9**	**+0.3**
APAC				*e*S	**Sn**	**16 07 39.5**	**+0.9**
APAC				*i*		16 07 46.6	
	comp=Z,5μm,0.5s						
YOTC	**Yotoco, Valle**	**2.53**	**141**	⇑*i*P	**Pn**	**16 07 12.1**	**-1.1**
YOTC				*e*S	**Sn**	**16 07 40.6**	**-2.9**
UPD2	**Meteti**	**2.56**	**358**	⇓*i*P	**Pn**	**16 07 12.2**	**-1.4**
UPD2				*i* S	**Sn**	**16 07 42.8**	**-1.3**
UPD2	**Meteti**	**2.56**	**358**	*e*P	**Pn**	**16 07 12.1**	**-1.5**
UPD2				*e*S	**Sn**	**16 07 41.8**	**-2.3**
PEDA3	**Pedasi**	**2.59**	**307**	⇓*i*P	**Pn**	**16 07 11.5**	**-2.5**
PEDA3				*i* S	**Sn**	**16 07 39.5**	**-5.3**
GUY2C	**Guyana, Caldas**	**2.66**	**106**	*e*P	**Pn**	**16 07 14.7**	**-0.7**
GUY2C				*e*S	**Sn**	**16 07 46.3**	**-1.0**
AZU	**Azuero**	**2.95**	**308**	⇑*e*P	**Pn**	**16 07 16.5**	**-2.3**
AZU				*e*S	**Sn**	**16 07 51.9**	**-1.7**
AZU	**Azuero**	**2.95**	**308**	⇑*i*P	**Pn**	**16 07 16.6**	**-2.3**
AZU				*e*S	**Sn**	**16 07 49.0**	**-4.6**
GR1C	**Gorgona, Isla**	**2.96**	**185**	*e*P	**Pn**	**16 07 17.0**	**-2.1**
UREC	**San Jos de Ur**	**2.97**	**53**	⇑*i*P	**Pn**	**16 07 19.6**	**+0.4**
UREC				*e*S	**Sn**	**16 07 54.8**	**+0.6**
UREC				*i*		16 07 58.5	
	comp=Z,2μm,0.8s						
NORC	**Norcasia**	**3.08**	**97**	⇓*e*P	**Pn**	**16 07 21.2**	**+0.5**
NORC				*e*S	**Sn**	**16 07 57.6**	**+0.7**
CHIT3	**Chitre**	**3.16**	**309**	⇓*i*P	**Pn**	**16 07 20.0**	**-1.8**
CHIT3				*i* S	**Sn**	**16 07 56.2**	**-2.6**
CHIT3				*e*S	**Sn**	**16 07 56.2**	**-2.6**
CACAO	**El Cacao, Vera**	**3.21**	**295**	*e*P	**Pn**	**16 07 20.1**	**-2.5**
CACAO				*e*S	**Sn**	**16 07 54.3**	**-5.9**
TABO3	**Taboga, Panama**	**3.23**	**330**	*i* P	**Pn**	**16 07 19.9**	**-3.0**
TABO3				*e*S	**Sn**	**16 07 57.9**	**-2.7**
LCBC	**Los crdobas,**	**3.26**	**28**	⇑*i*P	**Pn**	**16 07 24.5**	**+1.3**
LCBC				*e*S	**Sn**	**16 08 03.4**	**+2.1**
LCBC				*i*		16 08 13.3	
	comp=Z,2μm,0.4s						
PESE3	**Pese, Herrera**	**3.28**	**306**	⇓*i*P	**Pn**	**16 07 22.1**	**-1.4**
PESE3				*i* S	**Sn**	**16 07 59.3**	**-2.7**
CNTA3	**Canitas, Panam**	**3.37**	**344**	⇓*i*P	**Pb**	**16 07 29.0**	**-3.4**
CNTA3				*e*S	**Sn**	**16 08 06.4**	**+2.5**
ORTC	**Ortega, Tolima**	**3.37**	**127**	⇑*i*P	**Pn**	**16 07 25.8**	**+1.0**
ORTC				*e*S	**Sn**	**16 08 02.6**	**-1.5**
ORTC				*i*		16 08 14.9	
	comp=Z,580nm,0.7s						
VTON	**El Valle, Cocl**	**3.40**	**321**	⇓*i*P	**Pn**	**16 07 23.5**	**-1.7**
VTON				*i* S	**Sn**	**16 08 01.6**	**-3.4**
ZARC	**Zaragoza, Cauc**	**3.41**	**63**	⇓*e*P	**Pn**	**16 07 26.6**	**+1.4**
ZARC				*e*S	**Sn**	**16 08 04.9**	**-0.1**
ZARC				*i*		16 08 10.9	
	comp=Z,1μm,0.5s						
PNME	**Penonome**	**3.45**	**317**	⇓*e*P	**Pn**	**16 07 24.2**	**-1.6**
PNME				*i* S	**Sn**	**16 08 04.5**	**-1.4**
PNME	**Penonome**	**3.45**	**317**	*e*P	**Pn**	**16 07 24.5**	**-1.3**
PNME				*e*S	**Sn**	**16 08 04.6**	**-1.4**
PNME				*i*		16 08 05.8	
	comp=Z,2μm,0.6s						
PTBC	**PUERTO BERRIO,**	**3.50**	**81**	⇓*i*P	**Pn**	**16 07 27.8**	**+1.3**
PTBC				*e*S	**Sn**	**16 08 08.3**	**+0.9**
PTBC				*i*		16 08 13.6	
	comp=Z,463nm,0.7s						
BCIP	**Isla Barro Col**	**3.69**	**329**	Pn	**Pn**	**16 07 26.4**	**-2.8**
BCIP				Sn	**Sn**	**16 08 11.4**	**-0.7**
BCIP	**Isla Barro Col**	**3.69**	**329**	⇓*i*P	**Pn**	**16 07 27.9**	**-1.3**
BCIP				*i* S	**Sn**	**16 08 11.0**	**-1.1**
BCIP	**Isla Barro Col**	**3.69**	**329**	*e*P	**Pn**	**16 07 26.9**	**-2.2**
BCIP				*e*S	**Sn**	**16 08 08.9**	**-3.2**
BCIP				*i*		16 08 14.1	
	comp=Z,1μm,0.2s						
ROSC	**El Rosal**	**3.77**	**107**	Pn	**Pn**	**16 07 34.0**	**+3.4**
	comp=Z,50nm,0.4s,baz=27,slow=3.0,SNR=6.3						
ROSC	**El Rosal**	**3.77**	**107**	*e*P	**Pn**	**16 07 33.9**	**+3.3**
ROSC	**El Rosal**	**3.77**	**107**	*e*P	**Pb**	**16 07 36.0**	**-3.5**
RSUS3	**Rio de Jesus,**	**3.78**	**302**	⇓*e*P	**Pn**	**16 07 29.3**	**-1.0**
RSUS3				*e*S	**Sn**	**16 08 13.2**	**-0.9**
TUMC	**Tumaco**	**4.20**	**191**	*e*P	**Pn**	**16 07 38.2**	**+2.1**
BRRC	**Barranca, Sant**	**4.34**	**75**	⇓*e*P	**Pn**	**16 07 39.7**	**+1.6**
BRRC				*e*S	**Sn**	**16 08 29.6**	**+1.5**
BRRC				*i*		16 08 47.2	
	comp=Z,318nm,0.6s						
CHIC	**Chingaza**	**4.39**	**107**	⇑*i*P	**Pn**	**16 07 42.0**	**+2.9**
CHIC				*e*S	**Sn**	**16 08 29.2**	**-0.6**
REME3	**Remedios, Chir**	**4.47**	**300**	*e*P	**Pn**	**16 07 40.2**	**+0.4**
REME3				*e*S	**Sn**	**16 08 29.3**	**-2.0**

GARC Garzon, Huila 4.48 147 ⇑*i*P **Pn 16 07 41.8 +1.6**
GARC *e*S **Sn 16 08 32.5 +0.7**
GARC *i* 16 08 36.7
comp=Z,490nm,0.3s
CRUC La Cruz 4.48 167 *e*P **Pn 16 07 41.3 +1.0**
GCUF Volcan Galeras 4.75 173 ⇑*i*P **Pn 16 07 44.5 +0.3**
GCUF *e*S **Sn 16 08 38.7 -0.1**
GCUF *i* 16 08 45.4
comp=Z,190nm,0.6s
SJCC San Jacinto, C 4.76 35 *e*P **Pn 16 07 44.5 +0.5**
SJCC *e*S **Sn 16 08 35.1 -3.3**
SJCC *i* 16 08 44.7
comp=Z,348nm,0.5s
BARC Barichara 4.76 82 ⇓*e*P **Pn 16 07 45.8 +1.7**
RUSC La Rusia 4.83 91 *e*P **Pn 16 07 47.2 +2.1**
RUSC *e*S **Sb 16 08 56.2 +0.8**
RUSC *i* 16 09 19.4
comp=Z,222nm,0.7s
FLOC Florencia 4.92 152 ⇑*e*P **Pn 16 07 47.6 +1.6**
FLOC *e*S **Sn 16 08 42.8 +0.5**
FLOC *i* 16 08 49.8
comp=Z,139nm,0.7s
CHIR3 Chiriqui UPA, 4.98 299 ⇑*e*P **Pn 16 07 48.2 +1.3**
CHIR3 *e*S **Sn 16 08 42.5 -1.5**
GUAL3 Gualaca, Chiri 5.02 301 ⇑*e*P **Pn 16 07 47.5 0.0**
LOCO3 Loma Colorada, 5.07 299 ⇑*e*P **Pn 16 07 48.1 +0.1**
DVD David 5.11 299 *e*P **Pn 16 07 48.2 -0.4**
DVD *e*S **Sn 16 08 44.9 -2.1**
CHGR2 Aguacate 5.11 305 *e*P **Pn 16 07 48.2 -0.5**
CHGR2 *e*S **Sn 16 08 45.6 -1.5**
TULM Tulcn-Chalpat 5.22 178 **Pn 16 07 51.0 +0.4**
TULM Tulcn-Chalpat 5.22 178 *e*P **Pn 16 07 51.6 +0.9**
PTAR3 Potrerillos Ar 5.27 301 *e*P **Pn 16 07 51.1 +0.1**
BCO2 Palmira 5.31 301 ⇑*e*P **Pn 16 07 51.1 -0.5**
BCO2 *e*S **Sn 16 08 50.8 -1.5**
ARGC Ariguani, Magd 5.32 43 *e*P Pb 16 08 01.0 -4.7
ARGC *e*S **Sn 16 08 51.2 -0.9**
PAMC Pamplona, Colo 5.37 75 *e*P **Pn 16 07 54.5 +1.7**
PAMC *e*S **Sn 16 08 55.5 +1.3**
PAMC *i* 16 08 58.1
comp=Z,219nm,0.6s
BC3P Paso Ancho 5.43 302 *e*P **Pn 16 07 52.6 -0.7**
BRU2 Volcan 5.49 301 Pn **Pn 16 07 52.8 -1.2**
BRU2 Sn **Sn 16 08 54.6 -2.0**
BRU2 Volcan 5.49 301 ⇓*e*P **Pn 16 07 53.8 -0.2**
BRU2 Volcan 5.49 301 *e*P **Pn 16 07 53.5 -0.6**
BRU2 *e*S **Sn 16 08 55.1 -1.5**
BONI La Bonita 5.50 176 *e*P **Pn 16 07 55.3 +1.1**
CDITO Canoas 5.54 298 **Pn 16 07 53.3 -1.3**
CDITO Sn **Sn 16 08 56.9 -0.8**
CDITO Canoas 5.54 298 *e*P **Pn 16 07 54.7 +0.1**
MACC Macarena, Meta 5.57 133 *e*P **Pn 16 07 55.7 +0.7**
MACC *e*S **Sn 16 08 57.3 -1.1**
MACC *i* 16 09 21.5
comp=Z,264nm,0.6s
LL1C La Loma 1 Cana 5.60 50 *e*S **Sb 16 09 22.9 +5.6**
LL1C *i* 16 09 46.5
comp=Z,593nm,0.7s
LL5C La Loma 5 El P 5.61 48 *e*S **Sn 16 08 57.9 -1.6**
CUSE Cuicocha Este 5.65 185 *e*P **Pn 16 07 57.3 +0.9**
CNI2 El Empalme, Bo 5.66 308 *e*P **Pn 16 07 56.9 +0.7**
IMBA Imbabura, San 5.66 183 **Pn 16 07 58.4 +1.7**
PAC1 Pacto, Paraso 5.73 189 *e*P **Pn 16 07 57.7 +0.4**
RGM0 Gandoca 5.86 308 Pn **Pn 16 07 59.7 +0.6**
PULU Pululahua 5.94 186 **Pn 16 08 01.1 +0.7**
PTGC Puerto Gaitan, 6.04 107 *e*P **Pn 16 08 03.5 +2.0**
PTGC *i* 16 09 23.9
comp=Z,89nm,0.8s
TAMC Tame, Arauca 6.12 85 *e*P **Pn 16 08 04.3 +1.6**
TAMC *e*S **Sn 16 09 10.8 -1.3**
TAMC *i* 16 09 24.3
comp=Z,97nm,0.7s
SRBA San Rafael, Bu 6.28 301 **Pn 16 08 03.7 -1.2**
GUVC San Jose del G 6.29 123 *e*P **Pn 16 08 06.1 +1.2**
GUVC *e*S **Sn 16 09 14.2 -2.0**
GUVC *i* 16 09 22.1
comp=Z,67nm,0.3s
SMRC Santa Marta, M 6.33 35 *e*P **Pn 16 08 06.3 +0.9**
SMRC *e*S **Sn 16 09 14.6 -2.5**
SMRC *i* 16 09 19.5
comp=Z,64nm,0.4s
FLF1 Flavio Alfaro- 6.57 197 *e*P **Pn 16 08 12.9 +4.1**
PEZE Perez Zeledon, 6.63 301 **Pn 16 08 08.7 -0.9**
SLOR San Lorenzo - 6.68 185 **Pn 16 08 13.3 +2.6**
BATAN Batan 6.77 308 Pn **Pn 16 08 11.0 -0.5**
BATAN Batan 6.77 308 *e*P **Pn 16 08 11.6 +0.1**
PIAT Ana Tenorio 6.93 183 *e*P **Pn 16 08 16.9 +2.9**
RIMA Rio Macho 6.98 303 Pn **Pn 16 08 14.2 -0.4**
CVTR Volcan Turrial 7.03 305 **Pn 16 08 13.7 -1.8**
CRJC Cerrejon, Guaj 7.08 45 ⇑*e*P **Pn 16 08 15.1 -0.7**
CRJC *e*S **Sn 16 09 31.1 -4.6**
HDC Heredia 7.31 304 **Pn 16 08 18.9 -0.2**
HDC Heredia 7.31 304 *e*P **Pn 16 08 19.7 +0.6**
HDC Heredia 7.31 304 *e*P **Pn 16 08 19.4 +0.3**
PORT Chimborazo Vol 7.43 187 **Pn 16 08 23.4 +2.3**
CHSH Refugio Sur-Vo 7.47 187 **Pn 16 08 25.0 +3.3**
JACO JACO, Garabito 7.61 299 **Pn 16 08 22.6 -0.4**
SDV Santo Domingo 7.80 68 Pn **Pn 16 08 27.0 +1.2**
comp=Z,7.7nm,0.3s,baz=271,slow=11,SNR=39
SDV Sn **Sn 16 09 51.5 -2.0**
comp=Z,8.2nm,0.3s,baz=187,slow=20,SNR=1.7
SDV LR LR 16 11 33.8
comp=Z,4μm,20.3s,baz=250,slow=38
comp=Z,80nm,0.7s
SDV Santo Domingo 7.80 68 Pn **Pn 16 08 26.2 +0.4**
SDV Santo Domingo 7.80 68 *e*P **Pn 16 08 27.3 +1.5**
COVE Coope Vega, Sa 7.95 307 **Pn 16 08 27.0 -0.7**
JTS Las Juntas de 8.17 302 Pn **Pn 16 08 31.7 +1.0**
comp=Z,4.8nm,0.3s,baz=108,slow=11,SNR=26
JTS LR LR 16 11 22.3
comp=Z,3μm,20.9s,baz=102,slow=35
comp=Z,78n

MLPR Magueyes Islan 15.98 41 P **Pn** **16 10 17.7 +0.8**
PRSN Puerto Rico Se 16.09 40 P **Pn** **16 10 18.5 +0.1**
TEFE Tefe 16.28 125 *eP* **Pn** **16 10 18.8 -2.0**
OBIP Obispado Ponce 16.32 42 P **Pn** **16 10 20.3 -1.0**
CELP Cerrillos 16.36 42 P **Pn** **16 10 18.9 -2.9**
AOPR Arecibo Observ 16.44 41 P **Pn** **16 10 21.6 -1.2**
SJG San Juan 16.67 43 Pn **Pn** **16 10 23.2 -2.5**
comp=Z,3.6nm,0.3s,baz=240,slow=8.1,SNR=2.3
SJG LR LR 16 17 49.2
comp=Z,853nm,21.4s,baz=226,slow=40
SJG San Juan 16.67 43 P **Pn** **16 10 25.8 +0.1**
SJG San Juan 16.67 43 P **Pn** **16 10 25.8 +0.1**
SJG pmax pmax
comp=Z,56nm,1.1s
GCPR Guaynabo City 16.85 42 P **Pn** **16 10 28.4 +0.3**
HUMP Col San Antoni 16.89 43 P **Pn** **16 10 26.9 -1.7**
CBYP Canovanas 16.98 43 P **Pn** **16 10 30.5 +0.7**
GRGR Grenville 17.20 68 P **Pn** **16 10 31.0 -1.4**
CCIG Comitan 17.28 308 P **Pn** **16 10 33.0 -0.6**
TEIG Tepich 17.37 326 P **Pn** **16 10 33.2 -1.4**
CDVI St. Croix 17.39 47 P **Pn** **16 10 32.8 -2.1**
CUPR Culebra, Puert 17.40 44 P **Pn** **16 10 33.1 -1.8**
SOR Soroa 17.43 344 P **Pn** **16 10 35.2 0.0**
SOR Soroa 17.43 344 P **Pn** **16 10 35.2 0.0**
SOR pmax pmax
comp=Z,29nm,0.8s
BOAV Boa Vista 17.72 101 P **Pn** **16 10 36.6 -2.3**
BOAV IAmb IAmb 16 10 49.7
comp=Z,39nm,1.2s
BOAV Boa Vista 17.72 101 *eP* **Pn** **16 10 38.5 -0.4**
NNA Nana 17.87 177 P **Pn** **16 10 41.0 +0.2**
comp=Z,3.0nm,0.3s,baz=355,slow=11,SNR=24
NNA LR LR 16 18 28.6
comp=Z,1µm,19.0s,baz=0.5,slow=40
comp=Z,82nm,0.9s
NNA Nana 17.87 177 P **Pn** **16 10 40.7 -0.1**
NNA IAmb IAmb 16 10 47.3
comp=Z,243nm,0.9s
NNA Nana 17.87 177 *c i* P **Pn** **16 10 41.1 +0.2**
NNA pmax pmax
comp=Z,482nm,1.0s
SABA Saba 18.44 50 P **Pn** **16 10 48.1 +0.3**
SABA IAmb IAmb 16 10 52.9
comp=Z,1µm,1.9s
BIM Bigot 18.63 62 P **Pn** **16 10 51.2 +1.1**
MPOM Morne Pois Mar 18.78 62 P **P** **16 10 49.8 -1.5**
SMRT St. Maarten 18.83 49 **P** **16 10 51.4 -0.5**
CBE Ff, Capester 18.89 57 P **P** **16 10 51.0 -1.6**
CBE IAmb IAmb 16 11 01.1
comp=Z,598nm,1.5s
GDSD La Dsirade Is 19.46 57 P **P** **16 10 57.3 -1.5**
GDSD IAmb IAmb 16 11 04.2
comp=Z,229nm,1.1s
MACA Manacapuru-AM 19.47 117 P **P** **16 10 56.4 -2.5**
MACA IAmb IAmb 16 11 08.1
comp=Z,70nm,0.8s
MACA Manacapuru-AM 19.47 117 *eP* **P** **16 10 58.5 -0.4**
ETMB Extrema 19.55 143 P **P** **16 10 58.2 -1.6**
ETMB IAmb IAmb 16 11 00.9
comp=Z,144nm,0.8s
ETMB Extrema 19.55 143 *eP* **P** **16 10 58.4 -1.4**
CMIG Matias Romero 19.93 305 P **P** **16 11 02.5 -1.4**
comp=Z,0.7nm,0.3s,baz=107,slow=9.9,SNR=10
CMIG PcP **PcP** **16 15 21.8 +1.2**
comp=Z,2.2nm,0.7s,baz=32,slow=2.9,SNR=3.9
comp=Z,9.2nm,0.8s
SAML Samuel 20.88 135 P **P** **16 11 11.9 -2.3**
SAML Samuel 20.88 135 P **P** **16 11 11.9 -2.3**
SAML pmax pmax
comp=Z,59nm,0.7s
060A Indiantown 21.08 354 P **P** **16 11 18.4 +2.2**
baz=173
DWPF Disney Wildern 22.27 352 P **P** **16 11 29.6 +0.6**
DWPF IAmb IAmb 16 11 34.2
comp=Z,214nm,0.9s
DWPF Disney Wildern 22.27 352 P **P** **16 11 30.4 +1.3**
baz=171
DWPF Disney Wildern 22.27 352 P **P** **16 11 30.3 +1.3**
baz=171
TLIG Tlapa 23.22 302 P **P** **16 11 41.0 +1.7**
TLIG IAmb IAmb 16 11 45.4
comp=Z,319nm,1.8s
656A Willston 23.68 350 P **P** **16 11 43.4 -0.1**
656A Willston 23.68 350 P **P** **16 11 45.0 +1.5**
baz=168
LPAZ La Paz 24.15 156 P **P** **16 11 46.9 -1.9**
LPAZ La Paz 24.15 156 P **P** **16 11 46.9 -1.9**
LPAZ pmax pmax
comp=Z,56nm,1.2s
LPAZ La Paz 24.15 156 *eP* **P** **16 11 47.9 -0.9**
LPAZ La Paz 24.15 156 *eP* **P** **16 11 48.1 -0.6**
ITTB Itaituba 24.43 114 *eP* **P** **16 11 50.9 +0.2**
MALB Monte Alegre 24.88 108 *eP* **P** **16 11 54.7 -0.1**
456A Hilliard 24.92 352 P **P** **16 11 54.9 -0.1**
456A IAmb IAmb 16 12 01.8
comp=Z,93nm,0.7s
MDP Montagnes des 25.19 91 P **P** **16 11 57.1 -0.5**
comp=Z,52nm,1.0s,baz=263,slow=9.0,SNR=11
MDP PcP **PcP** **16 15 32.7 +1.3**
comp=Z,11nm,1.0s,baz=291,slow=2.7,SNR=3.9
MDP LR LR 16 23 52.6
comp=Z,752nm,18.2s,baz=282,slow=41
comp=Z,52nm,1.0s
AP01 Chacalluta 25.32 163 P **P** **16 11 58.6 0.0**
PB16 IPOC Station P 25.54 161 P **P** **16 12 00.9 -0.4**
PB12 IPOC Station P 25.55 163 P **P** **16 12 01.2 +0.3**
PB12 IAmb IAmb 16 12 12.5
comp=Z,146nm,0.9s
VILB Vilhena 25.77 137 P **P** **16 12 02.0 -0.9**
VILB IAmb IAmb 16 12 05.1
comp=Z,141nm,0.8s
VILB Vilhena 25.77 137 *eP* **P** **16 12 02.4 -0.4**
TIGA Tifton 25.89 349 P **P** **16 12 03.3 -0.4**
TIGA Tifton 25.89 349 P **P** **16 12 06.1 +2.4**
baz=167,SNR=14
TIGA Tifton 25.89 349 P **P** **16 12 05.8 +2.1**
baz=167,SNR=14
NPGB Novo Progresso 25.97 120 *eP* **P** **16 12 02.9 -1.8**
255A Hazlehurst 26.17 351 P **P** **16 12 07.2 +0.9**
255A IAmb IAmb 16 12 11.7
comp=Z,154nm,0.9s
255A Hazlehurst 26.17 351 P **P** **16 12 08.4 +2.1**
baz=170
352A Blakely 26.21 346 P **P** **16 12 06.5 -0.1**
352A Blakely 26.21 346 P **P** **16 12 09.3 +2.6**
baz=164,SNR=12
MNMC Minye Minye 26.26 162 P **P** **16 12 08.4 +0.9**
BRAL Brewton 26.49 342 P **P** **16 12 08.3 -0.9**
BRAL Brewton 26.49 342 P **P** **16 12 11.1 +1.9**
baz=159
BRAL Brewton 26.49 342 P **P** **16 12 11.3 +2.2**
baz=159
PSGCX Pisagua 26.55 163 P **P** **16 12 10.6 +0.7**
PSGCX IAmb IAmb 16 12 12.8
comp=Z,119nm,1.0s
MCPB Macapa, AP 26.59 103 *eP* **P** **16 12 09.7 -0.6**
PB11 IPOC Station P 26.84 163 P **P** **16 12 13.8 +1.2**
GO01 Chusmiza 26.89 162 P **P** **16 12 14.3 +0.9**
GO01 IAmb IAmb 16 12 17.0
comp=Z,96nm,0.8s
154A Montrose 26.94 350 P **P** **16 12 13.1 -0.2**
154A Montrose 26.94 350 P **P** **16 12 15.6 +2.3**
baz=169,SNR=8.1
250A Grady 27.02 344 P **P** **16 12 14.0 +0.1**
250A Grady 27.02 344 P **P** **16 12 16.6 +2.6**
baz=162,SNR=6.1
NHSC New Hope 27.08 356 P **P** **16 12 14.3 -0.1**
NHSC New Hope 27.08 356 P **P** **16 12 17.8 +3.4**
baz=175
NHSC New Hope 27.08 356 P **P** **16 12 16.4 +1.9**
baz=175
TA02 Huaiquique 27.18 164 P **P** **16 12 15.9 +0.4**
TA02 IAmb IAmb 16 12 27.8
comp=Z,129nm,1.1s
152A Waverly Hall 27.31 347 P **P** **16 12 15.9 -0.6**
152A IAmb IAmb 16 12 19.6
comp=Z,99nm,1.1s
152A Waverly Hall 27.31 347 P **P** **16 12 18.5 +2.0**
baz=165,SNR=17
PB08 IPOC Station P 27.35 162 P **P** **16 12 18.4 +1.0**
PB08 IAmb IAmb 16 12 20.9
comp=Z,192nm,1.2s
PDRB Porto dos Gac 27.39 130 *eP* **P** **16 12 16.1 -1.4**
TA01 Diego Aracena 27.45 164 P **P** **16 12 19.0 +1.1**
TA01 IAmb IAmb 16 12 28.0
comp=Z,79nm,0.8s
HAW Hawthorne Fire 27.47 353 P **P** **16 12 20.2 +2.3**
baz=172,SNR=12
SIV San Ignacio 27.47 143 P **P** **16 12 17.8 -0.5**
comp=Z,38nm,0.8s,baz=318,slow=9.8,SNR=152
SIV S **S** **16 16 56.5 -1.4**
comp=Z,6.0nm,1.0s,baz=76,slow=20,SNR=3.1
SIV LR LR 16 23 53.2
comp=Z,2µm,18.0s,baz=332,slow=38
comp=Z,38nm,0.8s
CLDB Colider 27.67 127 *eP* **P** **16 12 19.4 -0.7**
PATCX Punta Patache 27.70 164 P **P** **16 12 21.7 +1.5**
PATCX IAmb IAmb 16 12 27.9
comp=Z,72nm,1.1s
Y60A Bolivia 27.90 359 P **P** **16 12 20.0 -1.8**
Y60A IAmb IAmb 16 12 24.4
comp=Z,95nm,0.9s
Y60A Bolivia 27.90 359 P **P** **16 12 23.6 +1.9**
baz=179
Y60A P **P** **16 12 23.6 +1.9**
baz=179
Z51A Franklin 28.03 347 P **P** **16 12 23.1 +0.1**
Z51A IAmb IAmb 16 12 26.1
comp=Z,90nm,1.1s
Z51A Franklin 28.03 347 P **P** **16 12 25.4 +2.4**
baz=164,SNR=8.1
344A Westbrook Farm 28.04 336 P **P** **16 12 23.1 -0.1**
344A Westbrook Farm 28.04 336 P **P** **16 12 25.8 +2.6**
baz=152,SNR=18
PB01 IPOC Station P 28.10 163 P **P** **16 12 25.1 +1.3**
PB01 IAmb IAmb 16 12 27.0
comp=Z,141nm,1.2s
LRAL Lakeview Retre 28.22 344 P **P** **16 12 24.3 -0.4**
LRAL IAmb IAmb 16 12 27.6
comp=Z,109nm,1.1s
LRAL Lakeview Retre 28.22 344 P **P** **16 12 27.0 +2.3**
baz=161,SNR=32
LRAL Lakeview Retre 28.22 344 P **P** **16 12 26.6 +1.9**
baz=161,SNR=32
PB02 IPOC Station P 28.24 164 P **P** **16 12 25.7 +0.6**
PB02 IAmb IAmb 16 12 39.8
comp=Z,56nm,0.7s
PTLB Pontes e Lacer 28.28 139 P **P** **16 12 24.0 -1.4**
PTLB IAmb IAmb 16 12 25.9
comp=Z,23nm,1.1s
PTLB Pontes e Lacer 28.28 139 *eP* **P** **16 12 25.4 +0.1**
Y52A Lilburn 28.33 349 P **P** **16 12 25.3 -0.4**
Y52A IAmb IAmb 16 12 28.8
comp=Z,96nm,1.4s
Y52A Lilburn 28.33 349 P **P** **16 12 27.9 +2.2**
baz=167,SNR=7.5
Y52A P **P** **16 12 27.9 +2.2**
baz=167,SNR=7.5
HODGE Hodges 28.41 352 P **P** **16 12 26.3 0.0**
HODGE IAmb IAmb 16 12 29.4
comp=Z,96nm,1.4s
HODGE Hodges 28.41 352 P **P** **16 12 28.7 +2.3**
baz=171,SNR=10
BIRD Birdtown, Kers 28.63 356 P **P** **16 12 27.1 -1.2**
BIRD Birdtown, Kers 28.63 356 P **P** **16 12 29.5 +1.2**
baz=175
PB07 IPOC Station P 28.63 164 P **P** **16 12 30.0 +1.3**
PB07 IAmb IAmb 16 12 31.9
comp=Z,101nm,1.4s
VBMS Vicksburg 28.64 337 P **P** **16 12 27.6 -0.9**
VBMS Vicksburg 28.64 337 P **P** **16 12 30.2 +1.8**
baz=153,SNR=7.2
VBMS Vicksburg 28.64 337 P **P** **16 12 30.2 +1.8**
baz=153,SNR=7.2
342B Flagon Creek P 28.65 334 P **P** **16 12 30.2 +1.7**
baz=149
BBSD Serra de San D 28.68 144 *eP* **P** **16 12 27.8 -1.2**
Z47A Carrollton 28.69 342 P **P** **16 12 28.9 +0.1**
Z47A IAmb IAmb 16 12 31.5
comp=Z,126nm,1.0s
Z47A Carrollton 28.69 342 P **P** **16 12 30.8 +2.0**
baz=159,SNR=15
Y49A Blount Mountai 28.84 345 P **P** **16 12 30.4 +0.1**
Y49A IAmb IAmb 16 12 32.9
comp=Z,89nm,0.8s
Y49A Blount Mountai 28.84 345 P **P** **16 12 32.1 +1.8**
baz=162,SNR=28
PB09 IPOC Station P 28.88 163 P **P** **16 12 32.6 +1.7**
PAULI Pauline 28.93 353 P **P** **16 12 30.8 -0.3**
PAULI Pauline 28.93 353 P **P** **16 12 32.7 +1.7**
baz=172
PB03 IPOC Station P 28.98 164 P **P** **16 12 32.7 +1.0**
PB03 IAmb IAmb 16 12 34.9
comp=Z,105nm,1.2s
BBSR BB Station 29.03 24 P **P** **16 12 33.1 +1.2**
baz=208
ZAIG Zacatecas 29.04 308 P **P** **16 12 31.4 -1.1**
W57A Gilead 29.10 357 P **P** **16 12 33.6 +1.1**
baz=176
W57A P **P** **16 12 33.6 +1.1**
baz=176
CNNC Cliffs of the 29.13 0 P **P** **16 12 33.9 +1.2**
baz=180
PB04 IPOC Station P 29.14 165 P **P** **16 12 33.9 +0.6**
PB04 IAmb IAmb 16 12 36.4
comp=Z,114nm,0.9s
X51A Calhoun 29.17 348 P **P** **16 12 32.7 -0.4**
X51A Calhoun 29.17 348 P **P** **16 12 35.2 +2.1**
baz=166,SNR=6.1
X51A P **P** **16 12 35.2 +2.1**
baz=166,SNR=6.1
KMSC Kings Mountain 29.20 354 P **P** **16 12 34.9 +1.5**
baz=173
KMSC Kings Mountain 29.20 354 P **P** **16 12 34.7 +1.3**
baz=173
HKT Hockley 29.21 327 P **P** **16 12 33.4 -0.1**
HKT Hockley 29.21 327 P **P** **16 12 34.3 +0.8**
baz=141
HKT Hockley 29.21 327 P **P** **16 12 33.4 -0.1**
HKT pmax pmax
comp=Z,52nm,1.2s
BG3 Lake Jocassee 29.25 352 P **P** **16 12 33.7 -0.2**
BG3 IAmb IAmb 16 12 37.2
comp=Z,65nm,1.1s
CASEE Lake Jocassee 29.25 352 P **P** **16 12 36.5 +2.6**
baz=170,SNR=19
FPAL Fort Paine 29.30 347 P **P** **16 12 34.1 -0.3**
FPAL IAmb IAmb 16 12 37.1
comp=Z,98nm,1.0s
W52A Murphy 29.50 350 P **P** **16 12 36.3 +0.2**
W52A IAmb IAmb 16 12 39.2
comp=Z,122nm,1.5s
W52A Murphy 29.50 350 P **P** **16 12 38.5 +2.4**
baz=168,SNR=9.6
X48A Hartselle 29.57 345 P **P** **16 12 36.1 -0.5**
X48A IAmb IAmb 16 12 39.1
comp=Z,92nm,0.9s
X48A Hartselle 29.57 345 P **P** **16 12 38.5 +1.9**
baz=161,SNR=31
PB06 IPOC Station P 29.65 164 P **P** **16 12 37.9 +0.2**
PB06 IAmb IAmb 16 12 40.8
comp=Z,91nm,1.3s
V58A Windy Hill, Pi 29.70 358 P **P** **16 12 37.0 -0.8**
V58A Windy Hill, Pi 29.70 358 P **P** **16 12 39.2 +1.4**
baz=178,SNR=11
V58A P **P** **16 12 39.2 +1.4**
baz=178,SNR=11
V61A Roper 29.70 2 P **P** **16 12 39.7 +1.9**
baz=183
V61A P **P** **16 12 39.7 +1.9**
baz=183
LVC Limon Verde 29.75 163 P **P** **16 12 40.8 +2.1**
comp=Z,62nm,1.2s,baz=346,slow=7.0,SNR=38
LVC LR LR 16 26 13.9
comp=Z,2µm,21.0s,baz=324,slow=40
comp=Z,62nm,1.2s
LVC Limon Verde 29.75 163 P **P** **16 12 39.9 +1.1**
LVC IAmb IAmb 16 12 43.3
comp=Z,138nm,1.4s
LVC Limon Verde 29.75 163 *eP* **P** **16 12 37.2 -1.6**
Y45A Yeager Farm, C 29.77 340 P **P** **16 12 39.4 +0.9**
Y45A Yeager Farm, C 29.77 340 P **P** **16 12 40.8 +2.3**
baz=156,SNR=30
W50A Signal Mountai 29.87 348 P **P** **16 12 39.8 +0.4**
W50A IAmb IAmb 16 12 42.4
comp=Z,115nm,1.0s
W50A Signal Mountai 29.87 348 P **P** **16 12 41.2 +1.7**
baz=165,SNR=34
V55A Taylorsville 29.89 355 P **P** **16 12 40.1 +0.6**
V55A Taylorsville 29.89 355 P **P** **16 12 41.1 +1.5**
baz=173
V55A P **P** **16 12 41.1 +1.5**
baz=173
V53A Saluda 29.90 352 P **P** **16 12 40.2 +0.6**
V53A Saluda 29.90 352 P **P** **16 12 42.0 +2.4**
baz=170,SNR=14
V53A P **P** **16 12 42.0 +2.4**
baz=170,SNR=14
CPCT Cooper Cave 29.96 349 P **P** **16 12 40.0 -0.1**
CPCT IAmb IAmb 16 12 43.3
comp=Z,82nm,1.2s
BBRB Robore, Bolivi 30.00 144 *eP* **P** **16 12 39.6 -1.1**
SWET Sewanee 30.02 347 P **P** **16 12 40.9 +0.1**
SWET IAmb IAmb 16 12 43.4
comp=Z,114nm,1.1s
TKL Tuckaleechee C 30.03 350 LR LR 16 26 29.2
comp=Z,518nm,18.6s,baz=146,slow=40
TKL Tuckaleechee C 30.03 350 P **P** **16 12 41.5 +0.7**
TKL IAmb IAmb 16 12 43.7
comp=Z,92nm,1.6s
TKL Tuckaleechee C 30.03 350 P **P** **16 12 42.9 +2.1**
baz=168,SNR=9.3
TKL Tuckaleechee C 30.03 350 P **P** **16 12 41.5 +0.7**
TKL pmax pmax
comp=Z,92nm,1.6s
NATX Nacogdoches 30.05 331 P **P** **16 12 41.4 +0.3**
NATX Nacogdoches 30.05 331 P **P** **16 12 42.7 +1.7**
baz=145
NATX Nacogdoches 30.05 331 P **P** **16 12 42.1 +1.1**
baz=145
833A Chaparral WMA, 30.13 320 P **P** **16 12 41.1 -0.7**
833A Chaparral WMA, 30.13 320 P **P** **16 12 42.4 +0.6**
baz=134,SNR=5.9
833A Chaparral WMA, 30.13 320 P **P** **16 12 42.1 +0.3**
baz=134,SNR=5.9
PB15 IPOC Station P 30.16 164 P **P** **16 12 41.2 -1.0**
PB15 IAmb IAmb 16 12 45.5
comp=Z,77nm,1.3s
PB10 IPOC Station P 30.18 166 P **P** **16 12 43.6 +1.4**
PB10 IAmb IAmb 16 12 45.6
comp=Z,75nm,1.1s
V52A Sevierville 30.18 351 P **P** **16 12 41.6 -0.5**
V52A IAmb IAmb 16 12 45.0
comp=Z,55nm,0.9s
V52A Sevierville 30.18 351 P **P** **16 12 44.2 +2.1**
baz=169,SNR=13
U59A Littleton 30.24 0 P **P** **16 12 42.6 0.0**
U59A Littleton 30.24 0 P **P** **16 12 44.1 +1.6**
baz=180,SNR=5.3
U59A P **P** **16 12 44.1 +1.6**
baz=180,SNR=5.3
V51A Loudon 30.27 350 P **P** **16 12 42.4 -0.5**
V51A IAmb IAmb 16 12 46.0
comp=Z,83nm,1.1s
V51A Loudon 30.27 350 P **P** **16 12 44.8 +1.9**
baz=167,SNR=11
AF01 San Pedro de A 30.29 162 P **P** **16 12 44.9 +1.4**
U56A King 30.32 356 P **P** **16 12 44.1 +0.8**
U56A IAmb IAmb 16 12 46.6
comp=Z,88nm,1.4s
U56A King 30.32 356 P **P** **16 12 45.5 +2.2**
baz=175
U56A P **P** **16 12 45.5 +2.2**
baz=175
OXF Oxford 30.32 341 P **P** **16 12 42.6 -0.7**
OXF IAmb IAmb 16 12 45.0
comp=Z,126nm,1.4s
OXF Oxford 30.32 341 P **P** **16 12 44.5 +1.1**
baz=157,SNR=8.5
OXF Oxford 30.32 341 P **P** **16 12 43.6 +0.3**
baz=157,SNR=8.5
OXF Oxford 30.32 341 P **P** **16 12 42.6 -0.7**
OXF pmax pmax
comp=Z,126nm,1.4s
PLAL Pickwick Lake 30.35 343 P **P** **16 12 43.1 -0.5**
PLAL IAmb IAmb 16 12 45.8
comp=Z,123nm,1.2s
PRPB Parauapebas 30.55 113 *eP* **P** **16 12 45.0 -0.6**
U54A Nelsons Funny 30.61 354 P **P** **16 12 46.5 +0.5**
U54A IAmb IAmb 16 12 49.1
comp=Z,82nm,1.1s
U54A Nelsons Funny 30.61 354 P **P** **16 12 48.5 +2.5**
baz=172,SNR=8.3
U54A P **P** **16 12 48.5 +2.5**
baz=172,SNR=8.3
CCAR Cane Creek 30.63 337 P **P** **16 12 46.2 +0.1**
V48A Smith Brothers 30.73 346 P **P** **16 12 47.9 +0.9**
V48A Smith Brothers 30.73 346 P **P** **16 12 48.6 +1.6**
baz=162,SNR=75
237A Washetta, Mont 30.82 329 P **P** **16 12 48.1 +0.3**
237A IAmb IAmb 16 12 50.1
comp=Z,96nm,0.9s
237A Washetta, Mont 30.82 329 P **P** **16 12 49.2 +1.4**
baz=143,SNR=6.0
435B Jarrell 30.82 326 P **P** **16 12 48.1 +0.3**
435B Jarrell 30.82 326 P **P** **16 12 48.3 +0.5**
baz=139
W45A Hickory Valley 30.84 342 P **P** **16 12 48.0 +0.1**
W45A Hickory Valley 30.84 342 P **P** **16 12 49.2 +1.3**
baz=158,SNR=18
T59A Double "B" Far 30.86 1 P **P** **16 12 48.7 +0.6**
T59A IAmb IAmb 16 12 50.6
comp=Z,51nm,0.8s
T59A Double "B" Far 30.86 1 P **P** **16 12 49.8 +1.7**
baz=181,SNR=13
T59A P **P** **16 12 49.8 +1.7**
baz=181,SNR=13
TZTN Tazewell 30.86 351 IAmb IAmb 16 12 51.1
comp=Z,72nm,1.2s
TZTN Tazewell 30.86 351 P **P** **16 12 50.4 +2.2**
baz=169,SNR=8.8
TZTN Tazewell 30.86 351 P **P** **16 12 49.8 +1.7**
baz=169,SNR=8.8
T57A Hurt 30.91 358 IAmb IAmb 16 12 51.0
comp=Z,45nm,0.9s
T57A Hurt 30.91 358 P **P** **16 12 50.1 +1.6**
baz=177,SNR=12
T57A P **P** **16 12 50.1 +1.6**
baz=177,SNR=12
TMAB Tom-Au,PA,Br 30.93 105 *eP* **P** **16 12 49.8 +0.9**
SALV Santo Antonio 30.94 135 *eP* **P** **16 12 48.6 -0.3**
WLAR White Oak Lake 30.97 335 P **P** **16 12 49.5 +0.4**
T60A Surry 31.04 2 P **P** **16 12 50.4 +0.8**
baz=182
T60A P **P** **16 12 50.4 +0.8**
baz=182
BLA Blacksburg 31.18 356 IAmb IAmb 16 12 54.1
comp=Z,156nm,1.8s
BLA Blacksburg 31.18 356 P **P** **16 12 53.4 +2.5**
baz=175,SNR=6.5
BLA Blacksburg 31.18 356 P **P** **16 12 52.9 +2.0**
baz=175,SNR=6.5
U49A Red Boiling Sp 31.24 348 IAmb IAmb 16 12 54.1
comp=Z,85nm,1.1s
U49A Red Boiling Sp 31.24 348 P **P** **16 12 52.9 +1.5**
baz=165,SNR=23
PB14 IPOC Station P 31.28 167 P **P** **16 12 52.9 +0.6**
WVT Waverly 31.36 344 P **P** **16 12 52.8 +0.3**
WVT IAmb IAmb 16 12 54.2
comp=Z,65nm,0.8s
WVT Waverly 31.36 344 P **P** **16 12 53.1 +0.6**
baz=161,SNR=29
WVT Waverly 31.36 344 P **P** **16 12 53.0 +0.5**
baz=161
WVT Waverly 31.36 344 P **P** **16 12 52.8 +0.3**
WVT pmax pmax
comp=Z,65nm,0.8s
Z38A Mt. Pleasant 31.44 332 P **P** **16 12 53.7 +0.4**
Z38A IAmb IAmb 16 12 55.3
comp=Z,167nm,1.8s
Z38A Mt. Pleasant 31.44 332 P **P** **16 12 54.3 +1.0**
baz=146
T50A Nancy 31.54 349 IAmb IAmb 16 12 56.9
comp=Z,91nm,1.1s
T50A Nancy 31.54 349 P **P** **16 12 55.8 +1.7**
baz=167
T50A P **P** **16 12 55.8 +1.7**
baz=167
X40A Basin Creek Fa 31.55 336 P **P** **16 12 54.2 0.0**
X40A Basin Creek Fa 31.55 336 P **P** **16 12 54.4 +0.2**
baz=151,SNR=24
X40A P **P** **16 12 54.4 +0.2**
baz=151,SNR=24
UALR University of 31.60 337 P **P** **16 12 54.5 -0.2**
UALR IAmb IAmb 16 12 56.3
comp=Z,99nm,0.9s
S57A Dark Hollow, R 31.66 358 P **P** **16 12 56.7 +1.6**

baz=178
S57A P P 16 12 56.7 +1.6
baz=178
WHTX Lake Whitney, 31.67 327 P P **16 12 55.2 -0.1**
WHTX IAmb IAmb 16 12 56.9
comp=Z,37nm,0.8s
WHTX Lake Whitney, 31.67 327 P P **16 12 56.2 +0.9**
baz=141,SNR=7.5
WHTX Lake Whitney, 31.67 327 P P **16 12 55.8 +0.5**
baz=141,SNR=7.5
S54A Dingess, Beckl 31.83 355 IAmb IAmb 16 12 59.8
comp=Z,114nm,1.6s
S54A Dingess, Beckl 31.83 355 P P **16 12 58.4 +1.7**
baz=174
S54A P P **16 12 58.4 +1.7**
baz=174
R58B Mineral 31.85 0 P P **16 12 58.7 +1.9**
baz=180,SNR=6.0
R58B P P **16 12 58.7 +1.9**
baz=180,SNR=6.0
JCT Junction City 31.89 323 P P **16 12 57.7 +0.4**
JCT Junction City 31.89 323 P P **16 12 58.1 +0.7**
baz=136,SNR=7.2
JCT Junction City 31.89 323 P P **16 12 57.5 +0.2**
baz=136,SNR=7.2
JCT Junction City 31.89 323 P P **16 12 57.7 +0.4**
JCT pmax pmax
comp=Z,53nm,1.4s
MIAR Mount Ida 31.90 335 P P **16 12 56.9 -0.4**
MIAR IAmb IAmb 16 12 58.5
comp=Z,40nm,0.8s
MIAR Mount Ida 31.90 335 P P **16 12 57.6 +0.3**
baz=150,SNR=19
MIAR Mount Ida 31.90 335 P P **16 12 57.3 0.0**
baz=150,SNR=19
MIAR Mount Ida 31.90 335 P P **16 12 56.9 -0.4**
MIAR pmax pmax
comp=Z,40nm,0.9s
SNDB Serra Nova Dou 31.93 124 *e*P P **16 12 58.0 +0.2**
S51A Beattyville 31.94 351 IAmb IAmb 16 13 00.5
comp=Z,99nm,1.1s
S51A Beattyville 31.94 351 P P **16 12 59.8 +2.2**
baz=169,SNR=17
S51A P P **16 12 59.8 +2.2**
baz=169,SNR=17
T47A Sharon Grove 31.99 346 P P **16 12 58.6 +0.5**
T47A Sharon Grove 31.99 346 P P **16 12 59.1 +1.1**
baz=163,SNR=65
WHAR Wooly Hollow 32.04 338 P P **16 12 58.2 -0.2**
WHAR IAmb IAmb 16 12 59.9
comp=Z,56nm,0.8s
CBN Corbin Frederi 32.09 1 P P **16 13 00.6 +1.8**
baz=181
R55A Marlinton 32.23 357 IAmb IAmb 16 13 03.7
comp=Z,115nm,1.9s
R55A Marlinton 32.23 357 P P **16 13 02.5 +2.3**
baz=176
R55A P P **16 13 02.5 +2.3**
baz=176
LCAR Lake Charles 32.32 340 P P **16 13 00.6 -0.3**
LCAR Lake Charles 32.32 340 P P **16 13 01.5 +0.6**
baz=155,SNR=42
T45B Paducah 32.41 344 P P **16 13 03.0 +1.2**
baz=160,SNR=8.4
T45A Paducah 32.42 344 P P **16 13 02.0 +0.2**
R53A Hurricane 32.42 354 IAmb IAmb 16 13 04.7
comp=Z,79nm,1.7s
R53A Hurricane 32.42 354 P P **16 13 03.4 +1.6**
baz=172
R53A P P **16 13 03.4 +1.6**
baz=172
FW06 Azle 32.49 328 P P **16 13 02.4 -0.1**
FW06 IAmb IAmb 16 13 04.3
comp=Z,90nm,0.9s
PANT Pantanal (Braz 32.50 140 *e*P P **16 13 02.6 -0.1**
FCAR Ozark Folk Cen 32.51 338 P P **16 13 02.0 -0.6**
FCAR IAmb IAmb 16 13 03.7
comp=Z,59nm,0.9s
Z35A Perchaven, San 32.61 329 P P **16 13 03.7 +0.1**
Z35A Perchaven, San 32.61 329 P P **16 13 04.7 +1.1**
baz=142,SNR=6.6
PP1B Ponte de Pedra 32.66 136 *e*P P **16 13 04.0 -0.1**
R50A Paris 32.68 351 P P **16 13 04.4 +0.3**
R50A Paris 32.68 351 P P **16 13 05.8 +1.8**
baz=168,SNR=33
R50A P P **16 13 05.8 +1.8**
baz=168,SNR=33
AC01 Pan de Azucar 32.71 168 P P **16 13 05.8 +1.3**
AC01 IAmb IAmb 16 13 07.6
comp=Z,55nm,1.1s
X37A Clayton 32.73 333 IAmb IAmb 16 13 06.5
comp=Z,137nm,1.6s
X37A Clayton 32.73 333 P P **16 13 05.9 +1.4**
baz=147,SNR=13
PBMO Poplar Bluff 32.73 341 P P **16 13 05.1 +0.7**
baz=157
R49A Shelbyville 32.84 349 P P **16 13 06.2 +0.8**
R49A Shelbyville 32.84 349 P P **16 13 07.2 +1.8**
baz=167,SNR=26
R49A P P **16 13 07.2 +1.8**
baz=167,SNR=26
Q56A Snyder Ridge, 32.94 358 P P **16 13 08.9 +2.5**
baz=178,SNR=6.1
Q56A P P **16 13 08.9 +2.5**
baz=178,SNR=6.1
CGM3 Cape Girardeau 32.97 343 P P **16 13 06.5 -0.1**
CGM3 IAmb IAmb 16 13 09.1
comp=Z,147nm,1.2s
Q54A Coxs Mills 32.97 356 P P **16 13 06.5 -0.1**
Q54A IAmb IAmb 16 13 09.7
comp=Z,81nm,1.7s
Q54A Coxs Mills 32.97 356 P P **16 13 08.6 +2.0**
baz=175,SNR=5.6
Q54A P P **16 13 08.6 +2.0**
baz=175,SNR=5.6
WCI Wyandotte Cave 33.00 348 P P **16 13 07.4 +0.6**
WCI Wyandotte Cave 33.00 348 P P **16 13 08.1 +1.3**
baz=165,SNR=33
WCI Wyandotte Cave 33.00 348 P P **16 13 08.0 +1.2**
baz=165
WCI Wyandotte Cave 33.00 348 P P **16 13 07.4 +0.6**
WCI pmax pmax
comp=Z,191nm,0.9s
USIN University of 33.06 346 P P **16 13 07.9 +0.6**
Q52A Bidwell 33.08 354 P P **16 13 08.2 +0.7**
Q52A Bidwell 33.08 354 P P **16 13 09.3 +1.8**
baz=172,SNR=9.9
Q52A P P **16 13 09.3 +1.8**
baz=172,SNR=9.9
LOOK Love County 33.10 330 P **16 13 08.3 +0.5**
LOOK IAmb IAmb 16 13 10.0
comp=Z,173nm,1.2s
U40A Yellville 33.19 338 P P **16 13 08.9 +0.3**
baz=152,SNR=86
U40A P P **16 13 08.9 +0.3**
baz=152,SNR=86
S44A Carbondale 33.22 343 P P **16 13 08.8 0.0**
S44A Carbondale 33.22 343 P P **16 13 09.3 +0.6**
baz=159,SNR=30
Q51A Peebles 33.27 352 P P **16 13 09.8 +0.5**
Q51A IAmb IAmb 16 13 12.1
comp=Z,90nm,1.1s
Q51A Peebles 33.27 352 P P **16 13 11.1 +1.8**
baz=170,SNR=16
Q51A P P **16 13 11.1 +1.8**
baz=170,SNR=16
SDMD Soldier's Deli 33.30 2 P P **16 13 11.4 +1.9**
baz=182
ABTX Abilene, Hawle 33.36 325 P P **16 13 10.0 -0.1**
ABTX IAmb IAmb 16 13 11.6
comp=Z,101nm,1.1s
ABTX Abilene, Hawle 33.36 325 P P **16 13 10.6 +0.5**
baz=138,SNR=22
ABTX Abilene, Hawle 33.36 325 P P **16 13 10.4 +0.2**
baz=138,SNR=22
P57A Homestead Farm 33.36 360 IAmb IAmb 16 13 13.8
comp=Z,65nm,1.0s
P57A Homestead Farm 33.36 360 P P **16 13 13.0 +3.0**
baz=180,SNR=12
P57A P P **16 13 13.0 +3.0**
baz=180,SNR=12
P53A Whipple 33.51 355 IAmb IAmb 16 13 13.8
comp=Z,45nm,1.0s
P53A Whipple 33.51 355 P P **16 13 13.4 +2.1**
baz=174,SNR=6.9
P53A P P **16 13 13.4 +2.1**
baz=174,SNR=6.9

HHAR Hobbs 33.55 336 P P **16 13 11.3 -0.4**
HHAR IAmb IAmb 16 13 12.8
comp=Z,112nm,1.0s
MCWV Mont Chateau 33.58 357 P P **16 13 14.4 +2.4**
baz=176
MCWV Mont Chateau 33.58 357 P P **16 13 14.0 +2.0**
baz=176
TX31 Lajitas Ar. Si 33.62 317 IAmb IAmb 16 13 14.9
comp=Z,133nm,1.4s
TX31 Lajitas Ar. Si 33.62 317 P P **16 13 14.1 +1.6**
baz=129,SNR=9.8
HPIG 33.64 311 IAmb IAmb 16 13 16.0
comp=Z,49nm,0.9s
SMTB Santa Maria do 33.65 116 *e*P P **16 13 13.1 +0.2**
ARAG Araguaiana, MT 33.66 130 *e*P P **16 13 12.4 -0.5**
P61A Hammonton 33.67 4 P P **16 13 15.3 +2.6**
baz=186
P61A P P **16 13 15.3 +2.6**
baz=186
P51A Williamsport 33.68 353 P P **16 13 14.1 +1.3**
baz=171,SNR=5.6
P51A P P **16 13 14.1 +1.3**
baz=171,SNR=5.6
MGMO Mountain Grove 33.69 339 P P **16 13 12.6 -0.4**
MGMO IAmb IAmb 16 13 14.4
comp=Z,98nm,1.1s
AC02 Maricunga 33.71 166 P P **16 13 15.4 +1.7**
P52A Corning 33.73 354 P P **16 13 14.8 +1.6**
baz=172,SNR=9.6
FVM French Village 33.83 342 P P **16 13 14.0 -0.1**
FVM French Village 33.83 342 P P **16 13 14.7 +0.5**
baz=157,SNR=33
FVM French Village 33.83 342 P P **16 13 14.0 -0.1**
FVM pmax pmax
comp=Z,160nm,0.9s
U38A Gravette 33.87 336 P P **16 13 14.6 +0.1**
baz=150,SNR=26
PSUB Penn St. - Bra 33.88 3 P P **16 13 16.5 +2.0**
baz=184
OLIL Olney 33.89 346 P P **16 13 15.0 +0.4**
OLIL Olney 33.89 346 P P **16 13 15.5 +0.9**
baz=162,SNR=37
RLO Rose Lookout 33.90 335 P **16 13 14.1 -0.6**
RLO IAmb IAmb 16 13 15.8
comp=Z,56nm,1.1s
MVL Millersville 33.91 2 IAmb IAmb 16 13 18.0
comp=Z,71nm,1.1s
MURT Porto Murtinho 33.93 145 *e*P P **16 13 13.9 -1.2**
AC06 Mina Casimiro 33.93 168 P P **16 13 15.9 +0.7**
AC06 IAmb IAmb 16 13 18.4
comp=Z,69nm,1.4s
BLO Bloomington 33.95 348 P P **16 13 15.6 +0.5**
BLO Bloomington 33.95 348 P P **16 13 15.6 +0.5**
BLO pmax pmax
comp=Z,375nm,0.8s
P49A Miami Univ. Ec 33.97 351 P P **16 13 14.8 -0.5**
P49A Miami Univ. Ec 33.97 351 P P **16 13 16.6 +1.3**
baz=168,SNR=31
P49A Miami Univ. Ec 33.97 351 P P **16 13 16.1 +0.8**
baz=168,SNR=31
TUL1 Leonard 34.02 334 P P **16 13 15.4 -0.4**
TUL1 IAmb IAmb 16 13 17.1
comp=Z,87nm,1.4s
TUL1 Leonard 34.02 334 P P **16 13 16.2 +0.5**
baz=147,SNR=9.8
TUL1 Leonard 34.02 334 P P **16 13 15.9 +0.1**
baz=147,SNR=9.8
P48A Milroy 34.02 350 P P **16 13 15.6 -0.1**
P48A Milroy 34.02 350 P P **16 13 16.4 +0.6**
baz=167,SNR=44
P48A P P **16 13 16.4 +0.6**
baz=167,SNR=44
PAGS Pennsylvania G 34.12 2 IAmb IAmb 16 13 19.8
comp=Z,125nm,1.2s
O54A Avella 34.13 357 P P **16 13 18.6 +1.9**
baz=176,SNR=8.9
O54A P P **16 13 18.6 +1.9**
baz=176,SNR=8.9
TUPA Temple Univers 34.13 4 P P **16 13 18.1 +1.4**
baz=185
PABK Blue Knob Stat 34.15 359 P P **16 13 18.1 +1.2**
baz=179
CCM Cathedral Cave 34.16 341 P P **16 13 16.5 -0.4**
CCM Cathedral Cave 34.16 341 P P **16 13 17.0 +0.1**
baz=156,SNR=78
CCM Cathedral Cave 34.16 341 P P **16 13 17.1 +0.1**
baz=156
CCM Cathedral Cave 34.16 341 P P **16 13 16.5 -0.4**
CCM pmax pmax
comp=Z,179nm,0.7s
O52A Adamsville 34.18 355 P P **16 13 17.6 +0.6**
O52A Adamsville 34.18 355 P P **16 13 18.9 +1.8**
baz=173,SNR=12
O52A P P **16 13 18.9 +1.8**
baz=173,SNR=12
AQDB Aquidauana 34.18 141 P P **16 13 16.1 -1.2**
AQDB IAmb IAmb 16 13 17.8
comp=Z,65nm,1.1s
AQDB Aquidauana 34.18 141 *e*P P **16 13 16.8 -0.5**
GO03 Copiap 34.19 168 P P **16 13 19.1 +1.8**
O53A New Philadelph 34.26 356 IAmb IAmb 16 13 21.8
comp=Z,96nm,1.2s
O53A New Philadelph 34.26 356 P P **16 13 19.6 +1.8**
baz=174,SNR=10
Q44A Meyer Farm, Va 34.29 345 P P **16 13 17.2 -0.8**
Q44A Meyer Farm, Va 34.29 345 P P **16 13 18.6 +0.5**
baz=160,SNR=28
SLM Saint Louis 34.38 343 P P **16 13 18.8 -0.1**
SLM Saint Louis 34.38 343 P P **16 13 19.5 +0.7**
baz=158
SLM Saint Louis 34.38 343 P P **16 13 18.8 -0.1**
SLM pmax pmax
comp=Z,132nm,1.0s
PANJ Princeton 34.38 4 P P **16 13 21.2 +2.4**
baz=186,SNR=6.5
ACSO Alum Creek Sta 34.41 353 IAmb IAmb 16 13 21.9
comp=Z,188nm,1.6s
ACSO Alum Creek Sta 34.41 353 P P **16 13 20.8 +1.7**
baz=171,SNR=5.2
ACSO Alum Creek Sta 34.41 353 P P **16 13 20.5 +1.4**
baz=171,SNR=5.2
UPAO U. Pittsburgh 34.41 357 P P **16 13 21.5 +2.4**
baz=176
WMOK Wichita Mounta 34.50 329 P P **16 13 20.7 +0.7**
baz=141,SNR=13
WMOK Wichita Mounta 34.50 329 P P **16 13 20.0 0.0**
baz=141,SNR=13
SSPA Standing Stone 34.52 0 P P **16 13 20.0 -0.1**
SSPA Standing Stone 34.52 0 P P **16 13 22.2 +2.2**
baz=180,SNR=9.3
SSPA Standing Stone 34.52 0 P P **16 13 22.3 +2.2**
baz=180
P46A Rosedale 34.53 347 P P **16 13 20.1 0.0**
P46A Rosedale 34.53 347 P P **16 13 20.6 +0.5**
baz=164,SNR=26
S39A Bolivar 34.55 338 IAmb IAmb 16 13 21.4
comp=Z,79nm,0.9s
S39A Bolivar 34.55 338 P P **16 13 20.4 +0.1**
baz=152,SNR=33
O49A Covington 34.55 351 P P **16 13 20.2 -0.1**
O49A Covington 34.55 351 P P **16 13 21.8 +1.5**
baz=169,SNR=20
O49A P P **16 13 21.8 +1.5**
baz=169,SNR=20
LUPA Lehigh Univers 34.55 3 IAmb IAmb 16 13 23.9
comp=Z,99nm,1.0s
AC04 Llanos de Chal 34.61 169 P P **16 13 22.1 +1.1**
AC04 IAmb IAmb 16 13 24.5
comp=Z,52nm,1.0s
QUOK Quay 34.64 333 IAmb IAmb 16 13 22.4
comp=Z,108nm,0.9s
BCOK Bluff Creek, N 34.65 331 IAmb IAmb 16 13 22.2
comp=Z,118nm,1.0s
BRNJ Basking Ridge 34.69 4 IAmb IAmb 16 13 24.9
comp=Z,64nm,0.9s
BRNJ Basking Ridge 34.69 4 P P **16 13 24.2 +2.6**
baz=186,SNR=5.4
R40A Maddies Statio 34.71 340 P P **16 13 20.6 -1.2**
R40A IAmb IAmb 16 13 22.5
comp=Z,65nm,0.7s
R40A Maddies Statio 34.71 340 P P **16 13 21.6 -0.1**
baz=154,SNR=38
N58A Sunbury 34.73 2 IAmb IAmb 16 13 25.2
comp=Z,60nm,1.2s
N58A Sunbury 34.73 2 P P **16 13 24.4 +2.5**
baz=182,SNR=7.1
N58A P P **16 13 24.4 +2.5**
baz=182,SNR=7.1
O48B Farmland 34.75 350 P P **16 13 22.8 +0.7**
baz=167,SNR=43
O48B Farmland 34.75 350 P P **16 13 22.8 +0.7**
baz=167,SNR=43
N53A Lisbon 34.78 356 IAmb IAmb 16 13 25.3
comp=Z,147nm,1.8s
N53A Lisbon 34.78 356 P P **16 13 24.1 +1.7**
baz=175,SNR=6.1
N53A P P **16 13 24.1 +1.7**
baz=175,SNR=6.1
PAMR Moraine State 34.87 357 P P **16 13 25.0 +1.9**
baz=176
C2SB Chapadao do Su 34.88 135 *e*P P **16 13 23.3 -0.1**
OK050 Pawnee Station 34.95 333 P P **16 13 23.3 -0.6**
PSDB Penn State Uni 35.01 359 P P **16 13 26.4 +2.1**
baz=179
N51A Ashland 35.02 354 P P **16 13 26.1 +1.7**
baz=172,SNR=9.2
N51A P P **16 13 26.1 +1.7**
baz=172,SNR=9.2
PAL Palisades 35.07 5 IAmb IAmb 16 13 27.4
comp=Z,60nm,0.9s
PAL Palisades 35.07 5 P P **16 13 26.8 +2.1**
baz=187,SNR=5.7
PAL Palisades 35.07 5 P P **16 13 26.3 +1.5**
baz=187,SNR=5.7
ODNJ Ogdensburg 35.09 4 P P **16 13 26.5 +1.6**
baz=186
P43A Skaggs, Pawnee 35.11 344 P P **16 13 26.0 +0.8**
baz=160,SNR=14
CSTR Hydro, Custer 35.16 330 IAmb IAmb 16 13 27.1
comp=Z,15nm,1.2s
T35A Sooner Cattle 35.17 334 P **16 13 25.7 -0.1**
T35B Sooner Cattle 35.17 334 P P **16 13 26.2 +0.4**
baz=147,SNR=16
TRNY Table Rock, Ra 35.18 5 IAmb IAmb 16 13 28.7
comp=Z,97nm,0.8s
M57A Sunshine Farm, 35.22 1 IAmb IAmb 16 13 29.6
comp=Z,107nm,1.1s
M57A Sunshine Farm, 35.22 1 P P **16 13 28.6 +2.5**
baz=181,SNR=17
M57A P P **16 13 28.6 +2.5**
baz=181,SNR=17
SFIN Lafayette 35.23 348 P P **16 13 26.5 +0.3**
baz=164,SNR=16
SFIN Lafayette 35.23 348 P P **16 13 26.5 +0.3**
baz=164,SNR=16
N49A Columbus Grove 35.25 352 P P **16 13 27.8 +1.5**
baz=169,SNR=19
N49A P P **16 13 27.8 +1.5**
baz=169,SNR=19
WSPT Westport, CT 35.29 6 P P **16 13 27.8 +1.1**
WSPT IAmb IAmb 16 13 29.3
comp=Z,74nm,0.8s
O44A Mansfield 35.33 346 P P **16 13 27.3 +0.3**
baz=162,SNR=16
M55A Ridgway 35.35 359 IAmb IAmb 16 13 30.5
comp=Z,168nm,1.9s
M55A Ridgway 35.35 359 P P **16 13 29.2 +2.0**
baz=179,SNR=5.8
M55A P P **16 13 29.2 +2.0**
baz=179,SNR=5.8
BLOK Blackwell 35.36 333 P **16 13 26.7 -0.7**
BLOK IAmb IAmb 16 13 28.8
comp=Z,199nm,1.1s
AC05 El Transito 35.38 168 P P **16 13 28.9 +1.1**
AC05 IAmb IAmb 16 13 31.3
comp=Z,80nm,1.1s
M53A WI Miller and 35.40 356 P P **16 13 29.3 +1.6**
baz=175,SNR=6.4
N47A Urbana 35.45 350 P P **16 13 28.7 +0.6**
baz=167,SNR=21
N47A P P **16 13 28.7 +0.6**
baz=167,SNR=21
SLBS Sierra La Lagu 35.47 303 P P **16 13 30.3 +1.7**
SLBS IAmb IAmb 16 13 33.3
comp=Z,90nm,1.0s
BRNY Black Rk. Fore 35.47 5 P P **16 13 30.4 +2.2**
baz=187,SNR=5.4
LCO Las Campanas 35.47 169 P P **16 13 30.1 +1.4**
LCO Las Campanas 35.47 169 P P **16 13 30.1 +1.4**
LCO pmax pmax
comp=Z,60nm,1.4s
CROK Carrier 35.51 332 IAmb IAmb 16 13 29.8
comp=Z,222nm,1.0s
M52A Chesterland 35.55 356 P P **16 13 30.7 +1.8**
baz=174
M52A P P **16 13 30.7 +1.8**
baz=174
M50A Fremont 35.58 353 IAmb IAmb 16 13 31.5
comp=Z,101nm,1.1s
M50A Fremont 35.58 353 P P **16 13 30.8 +1.6**
baz=171,SNR=7.1
M50A P P **16 13 30.8 +1.6**
baz=171,SNR=7.1
ALLY Alegheny Colle 35.58 357 IAmb IAmb 16 13 31.5
comp=Z,56nm,0.8s
ALLY Alegheny Colle 35.58 357 P P **16 13 31.3 +2.1**
baz=176
M63A Gales Ferry 35.67 8 P P **16 13 32.0 +2.1**
baz=190
M63A P P **16 13 32.0 +2.1**
baz=190
P40A Paris 35.76 341 P P **16 13 29.7 -1.0**
P40A IAmb IAmb 16 13 31.5
comp=Z,80nm,1.0s
P40A Paris 35.76 341 P P **16 13 30.5 -0.2**
baz=156,SNR=24
NPNY Mohonk Preserv 35.79 5 P P **16 13 33.2 +2.2**
baz=186,SNR=16
OK038 West end E0370 35.85 331 IAmb IAmb 16 13 32.7
comp=Z,92nm,1.1s
ELIS Ellis County 35.86 330 IAmb IAmb 16 13 33.6
comp=Z,267nm,1.1s
KS20 Mayfield South 35.90 333 P P **16 13 31.9 -0.1**
U32A Winter Ranch, 35.90 330 P P **16 13 32.7 +0.7**
baz=142,SNR=6.1
HDIL Hopedale 35.91 345 P P **16 13 32.1 0.0**
baz=160,SNR=29
HDIL Hopedale 35.91 345 P P **16 13 31.9 -0.2**
baz=160,SNR=29
GDL2 Guadalupe Moun 35.91 320 P P **16 13 30.4 -1.9**
LPIG La Paz 35.94 304 LR LR 16 29 37.7
comp=Z,194nm,19.5s,baz=111,slow=38
L56A Greenwood 36.02 0 P P **16 13 34.8 +1.8**
baz=181,SNR=7.2
L56A P P **16 13 34.8 +1.8**
baz=181,SNR=7.2
ERPA Erie 36.04 357 P P **16 13 34.7 +1.6**
baz=176
ERPA Erie 36.04 357 P P **16 13 34.8 +1.6**
baz=176
NOKA Waynoka 36.07 331 IAmb IAmb 16 13 35.4
comp=Z,332nm,0.9s
KAN08 Anthony NE Sta 36.09 332 P **16 13 32.7 -0.9**
ESFA Espinillo Form 36.10 149 *e*P P **16 13 32.7 -1.1**
BINY Binghamton 36.12 2 P P **16 13 34.2 +0.4**
BINY IAmb IAmb 16 13 37.3
comp=Z,151nm,1.2s
BINY Binghamton 36.12 2 P P **16 13 36.3 +2.4**
baz=183,SNR=15
BINY Binghamton 36.12 2 P P **16 13 35.9 +2.0**
baz=183,SNR=15
MSTX Muleshoe 36.14 324 IAmb IAmb 16 13 35.5
comp=Z,102nm,1.1s
MSTX Muleshoe 36.14 324 P P **16 13 34.8 +0.6**
baz=135,SNR=28
MSTX Muleshoe 36.14 324 P P **16 13 34.4 +0.1**
baz=135,SNR=28
L59A Walton 36.16 4 P P **16 13 35.1 +0.9**
L59A IAmb IAmb 16 13 37.3
comp=Z,49nm,0.9s
L59A Walton 36.16 4 P P **16 13 36.6 +2.4**
baz=185,SNR=9.0
L59A P P **16 13 36.6 +2.4**
baz=185,SNR=9.0
AMTX Amarillo 36.17 326 IAmb IAmb 16 13 35.2
comp=Z,45nm,0.8s
AMTX Amarillo 36.17 326 P P **16 13 33.0 -1.4**
baz=137,SNR=13
AMTX Amarillo 36.17 326 P P **16 13 34.4 0.0**
baz=137
MNTX Cornudas Mount 36.25 318 P P **16 13 35.3 +0.2**
MNTX Cornudas Mount 36.25 318 P P **16 13 35.9 +0.7**
baz=129,SNR=54
MNTX Cornudas Mount 36.25 318 P P **16 13 35.9 +0.7**
baz=129,SNR=54

L48A	**N Adams**	**36.29**	**352**	P	**P**	**16 13 35.1**	**-0.2**
L48A				IAmb	IAmb	16 13 37.1	
	comp=Z,142nm,1.2s						
L48A	**N Adams**	**36.29**	**352**	P	**P**	**16 13 36.4**	**+1.1**
	baz=169,SNR=8.0						
L48A				P	**P**	**16 13 36.4**	**+1.1**
	baz=169,SNR=8.0						
WVNY	**West Valley, N**	**36.29**	**359**	P	**P**	**16 13 37.4**	**+2.2**
	baz=179,SNR=11						
P38A	**Dawn**	**36.34**	**339**	IAmb	IAmb	16 13 36.5	
	comp=Z,105nm,0.9s						
P38A	**Dawn**	**36.34**	**339**	P	**P**	**16 13 35.6**	**-0.1**
	baz=153,SNR=19						
TICA	**Tres Isletas**	**36.39**	**153**	*eP*	**P**	**16 13 36.0**	**-0.3**
M44A	**Midewin, Midew**	**36.40**	**347**	P	**P**	**16 13 34.8**	**-1.5**
M44A				IAmb	IAmb	16 13 36.7	
	comp=Z,126nm,1.0s						
M44A	**Midewin, Midew**	**36.40**	**347**	P	**P**	**16 13 35.8**	**-0.5**
	baz=163,SNR=7.0						
AMBA	**Amambai (Brazi**	**36.44**	**143**	*eP*	**P**	**16 13 35.5**	**-1.3**
N41A	**Harden Midland**	**36.48**	**343**	IAmb	IAmb	16 13 37.4	
	comp=Z,109nm,0.8s						
N41A	**Harden Midland**	**36.48**	**343**	P	**P**	**16 13 36.6**	**-0.3**
	baz=158,SNR=19						
QUA2	**Belchertown**	**36.49**	**7**	P	**P**	**16 13 39.6**	**+2.6**
	baz=189						
CO01	**Juntas del Tor**	**36.53**	**169**	P	**P**	**16 13 38.5**	**+0.8**
AAM	**Ann Arbor**	**36.53**	**353**	IAmb	IAmb	16 13 39.8	
	comp=Z,58nm,1.0s						
AAM	**Ann Arbor**	**36.53**	**353**	P	**P**	**16 13 39.6**	**+2.3**
	baz=170						
AAM	**Ann Arbor**	**36.53**	**353**	P	**P**	**16 13 38.4**	**+1.1**
	baz=170						
GO04	**Tololo Observa**	**36.58**	**170**	P	**P**	**16 13 38.5**	**+0.3**
GO04				IAmb	IAmb	16 13 41.6	
	comp=Z,101nm,1.4s						
BDFB	**Brasilia**	**36.59**	**126**	P	**P**	**16 13 38.5**	**+0.2**
	comp=Z,9.5nm,0.9s,baz=300,slow=13,SNR=7.3						
BDFB				PcP	**PcP**	**16 16 02.8**	**+1.3**
	comp=Z,6.3nm,0.8s,baz=146,slow=7.8,SNR=3.1						
BDFB				LR	LR	16 29 39.0	
	comp=Z,1µm,18.0s,baz=308,slow=38						
	comp=Z,9.5nm,0.9s						
BDFB	**Brasilia**	**36.59**	**126**	P	**P**	**16 13 37.7**	**-0.6**
BDFB	**Brasilia**	**36.59**	**126**	*eP*	**P**	**16 13 39.0**	**+0.7**
MMNY	**Mt. Morris Dam**	**36.61**	**0**	P	**P**	**16 13 37.8**	**-0.2**
MMNY				IAmb	IAmb	16 13 40.6	
	comp=Z,226nm,1.6s						
L61B	**Northampton**	**36.62**	**7**	P	**P**	**16 13 40.0**	**+1.9**
	baz=189						
L61B	**Northampton**	**36.62**	**7**	P	**P**	**16 13 39.6**	**+1.5**
	baz=189						
K57A	**Scipio Center**	**36.63**	**2**	IAmb	IAmb	16 13 41.1	
	comp=Z,169nm,1.2s						
K57A	**Scipio Center**	**36.63**	**2**	P	**P**	**16 13 40.0**	**+1.8**
	baz=182,SNR=14						
L46A	**Eue Claire**	**36.65**	**350**	P	**P**	**16 13 38.5**	**+0.2**
	baz=166,SNR=7.4						
L46A				P	**P**	**16 13 38.5**	**+0.2**
	baz=166,SNR=7.4						
BCX	**Boston College**	**36.71**	**8**	IAmb	IAmb	16 13 42.0	
	comp=Z,88nm,0.9s						
HCNY	**Howe Caverns**	**36.71**	**4**	P	**P**	**16 13 40.8**	**+1.9**
	baz=186						
WES	**Weston**	**36.73**	**8**	IAmb	IAmb	16 13 42.3	
	comp=Z,112nm,1.3s						
HQIL	**Hanson Quary C**	**36.76**	**348**	IAmb	IAmb	16 13 39.6	
	comp=Z,89nm,0.9s						
HRV	**Adam Dziewonsk**	**36.82**	**8**	P	**P**	**16 13 39.8**	**0.0**
HRV				IAmb	IAmb	16 13 42.8	
	comp=Z,85nm,0.8s						
HRV	**Adam Dziewonsk**	**36.82**	**8**	P	**P**	**16 13 41.7**	**+1.9**
	baz=191						
HRV	**Adam Dziewonsk**	**36.82**	**8**	P	**P**	**16 13 39.8**	**0.0**
HRV				pmax	pmax		
	comp=Z,85nm,0.8s						
K50A	**Casco**	**36.89**	**354**	P	**P**	**16 13 40.6**	**+0.2**
K50A				IAmb	IAmb	16 13 42.4	
	comp=Z,130nm,1.2s						
K50A	**Casco**	**36.89**	**354**	P	**P**	**16 13 42.0**	**+1.6**
	baz=172						
K50A				P	**P**	**16 13 42.0**	**+1.6**
	baz=172						
K62A	**Royalston**	**36.89**	**7**	IAmb	IAmb	16 13 43.3	
	comp=Z,94nm,0.8s						
K62A	**Royalston**	**36.89**	**7**	P	**P**	**16 13 42.5**	**+2.2**
	baz=189,SNR=13						
K62A				P	**P**	**16 13 42.5**	**+2.2**
	baz=189,SNR=13						
MEDO	**Medina**	**37.05**	**359**	IAmb	IAmb	16 13 44.4	
	comp=Z,98nm,1.1s						
KSU1	**Kansas State U**	**37.05**	**336**	P	**P**	**16 13 42.0**	**+0.1**
	baz=148,SNR=20						
KSU1	**Kansas State U**	**37.05**	**336**	P	**P**	**16 13 42.0**	**+0.1**
	baz=148,SNR=20						
L44A	**Lake County Fo**	**37.13**	**348**	P	**P**	**16 13 41.5**	**-0.9**
	baz=163						
J55A	**Hilton**	**37.14**	**0**	IAmb	IAmb	16 13 45.1	
	comp=Z,63nm,0.8s						
J55A	**Hilton**	**37.14**	**0**	P	**P**	**16 13 44.5**	**+2.0**
	baz=180,SNR=6.3						
J55A				P	**P**	**16 13 44.5**	**+2.0**
	baz=180,SNR=6.3						
J54A	**Appleton**	**37.16**	**359**	P	**P**	**16 13 44.7**	**+2.1**
	baz=179						
J54A				P	**P**	**16 13 44.7**	**+2.1**
	baz=179						
J56A	**Wolcott**	**37.16**	**1**	P	**P**	**16 13 41.9**	**-0.8**
J56A				IAmb	IAmb	16 13 45.3	
	comp=Z,127nm,0.8s						
J56A	**Wolcott**	**37.16**	**1**	P	**P**	**16 13 44.5**	**+1.9**
	baz=182,SNR=12						
J56A				P	**P**	**16 13 44.5**	**+1.9**
	baz=182,SNR=12						
ITRB	**Iturama**	**37.25**	**134**	*eP*	**P**	**16 13 42.9**	**-0.8**
CO03	**El Pedregal**	**37.25**	**170**	P	**P**	**16 13 44.4**	**+0.7**
N38A	**Joes South For**	**37.28**	**341**	P	**P**	**16 13 43.6**	**-0.1**
	baz=154,SNR=17						
J58A	**Remsen**	**37.31**	**3**	IAmb	IAmb	16 13 46.9	
	comp=Z,113nm,1.1s						
J58A	**Remsen**	**37.31**	**3**	P	**P**	**16 13 46.0**	**+2.0**
	baz=184,SNR=20						
J58A				P	**P**	**16 13 46.0**	**+2.0**
	baz=184,SNR=20						
J57A	**Williamstown**	**37.33**	**2**	P	**P**	**16 13 44.6**	**+0.6**
J57A				IAmb	IAmb	16 13 46.7	
	comp=Z,64nm,0.9s						
J57A	**Williamstown**	**37.33**	**2**	P	**P**	**16 13 45.8**	**+1.7**
	baz=183,SNR=7.6						
J57A				P	**P**	**16 13 45.8**	**+1.7**
	baz=183,SNR=7.6						
VACA	**Villa Angela C**	**37.33**	**154**	*eP*	**P**	**16 13 44.2**	**-0.1**
L42A	**Oliver, Polo**	**37.37**	**346**	IAmb	IAmb	16 13 44.9	
	comp=Z,107nm,0.9s						
L42A	**Oliver, Polo**	**37.37**	**346**	P	**P**	**16 13 44.0**	**-0.5**
	baz=160,SNR=17						
R32A	**Long Quarter,**	**37.40**	**333**	IAmb	IAmb	16 13 46.4	
	comp=Z,118nm,1.2s						
R32A	**Long Quarter,**	**37.40**	**333**	P	**P**	**16 13 45.4**	**+0.6**
	baz=144,SNR=6.8						
ACCN	**Adirondack Com**	**37.45**	**5**	P	**P**	**16 13 46.7**	**+1.6**
	baz=187						
J59A	**Piesco**	**37.46**	**4**	IAmb	IAmb	16 13 48.3	
	comp=Z,99nm,1.1s						
J59A	**Piesco**	**37.46**	**4**	P	**P**	**16 13 47.6**	**+2.3**
	baz=186,SNR=19						
J59A				P	**P**	**16 13 47.6**	**+2.3**
	baz=186,SNR=19						
UNH	**University of**	**37.49**	**9**	P	**P**	**16 13 47.2**	**+1.8**
	baz=192						
J61A	**Chester**	**37.52**	**6**	P	**P**	**16 13 48.4**	**+2.6**
	baz=189,SNR=5.1						
J61A				P	**P**	**16 13 48.4**	**+2.6**
	baz=189,SNR=5.1						
CO02	**Combarbal**	**37.55**	**170**	P	**P**	**16 13 47.4**	**+1.1**
CO02				IAmb	IAmb	16 13 49.8	
	comp=Z,80nm,1.1s						
SDBA	**SAO DESIDERIO**	**37.57**	**119**	*eP*	**P**	**16 13 45.9**	**-0.6**
J47A	**Sunmer**	**37.61**	**352**	P	**P**	**16 13 47.6**	**+1.1**
	baz=169,SNR=11						
J47A				P	**P**	**16 13 47.6**	**+1.1**
	baz=169,SNR=11						
K43A	**Burlington**	**37.72**	**347**	IAmb	IAmb	16 13 47.7	
	comp=Z,113nm,0.8s						
K43A	**Burlington**	**37.72**	**347**	P	**P**	**16 13 47.2**	**-0.2**
	baz=163,SNR=5.6						
IPMB	**Ipameri, GO**	**37.78**	**130**	*eP*	**P**	**16 13 48.0**	**-0.2**
TRCB	**Terra Rica**	**37.81**	**140**	*eP*	**P**	**16 13 47.4**	**-1.1**
CPUP	**Villa Florida**	**37.82**	**149**	P	**P**	**16 13 46.3**	**-2.1**
	comp=Z,10nm,0.9s,baz=335,slow=8.1,SNR=21						
CPUP				LR	LR	16 32 37.4	
	comp=Z,780nm,18.3s,baz=334,slow=41						
CPUP	**Villa Florida**	**37.82**	**149**	P	**P**	**16 13 46.1**	**-2.3**
CPUP	**Villa Florida**	**37.82**	**149**	P	**P**	**16 13 46.1**	**-2.3**
CPUP				pmax	pmax		
	comp=Z,20nm,1.1s						
CPUP	**Villa Florida**	**37.82**	**149**	*eP*	**P**	**16 13 47.0**	**-1.4**
PECO	**Prince Edward**	**37.82**	**1**	IAmb	IAmb	16 13 50.7	
	comp=Z,86nm,1.0s						
L40A	**Anamosa**	**37.83**	**344**	P	**P**	**16 13 47.4**	**-1.0**
L40A				IAmb	IAmb	16 13 48.9	
	comp=Z,124nm,0.9s						
L40A	**Anamosa**	**37.83**	**344**	P	**P**	**16 13 48.1**	**-0.3**
	baz=158,SNR=26						
PCMB	**Pacaembu**	**37.88**	**137**	*eP*	**P**	**16 13 49.0**	**-0.1**
WCNY	**West Carthage**	**37.91**	**3**	P	**P**	**16 13 51.2**	**+2.2**
	baz=184,SNR=7.8						
NCB	**Newcomb**	**37.99**	**4**	IAmb	IAmb	16 13 52.7	
	comp=Z,83nm,0.9s						
NCB	**Newcomb**	**37.99**	**4**	P	**P**	**16 13 51.7**	**+2.0**
	baz=186,SNR=17						
I49A	**Point Hope**	**38.06**	**354**	P	**P**	**16 13 51.7**	**+1.5**
	baz=172						
I49A				P	**P**	**16 13 51.7**	**+1.5**
	baz=172						
MCVT	**Middlebury Col**	**38.08**	**6**	P	**P**	**16 13 52.7**	**+2.2**
	baz=188						
MCR1	**Marechal Candi**	**38.17**	**143**	*eP*	**P**	**16 13 51.0**	**-0.5**
N35A	**Tabor**	**38.19**	**338**	P	**P**	**16 13 50.3**	**-1.1**
N35A	**Tabor**	**38.19**	**338**	P	**P**	**16 13 51.0**	**-0.4**
	baz=151,SNR=15						
CBKS	**Cedar Bluff**	**38.19**	**332**	P	**P**	**16 13 52.4**	**+0.9**
	baz=143,SNR=17						
CBKS	**Cedar Bluff**	**38.19**	**332**	P	**P**	**16 13 52.2**	**+0.6**
	baz=143,SNR=17						
SCCA	**San Cayetano,**	**38.21**	**152**	*eP*	**P**	**16 13 51.0**	**-0.7**
SCIA	**State Center**	**38.28**	**341**	P	**P**	**16 13 52.1**	**-0.1**
	baz=155,SNR=16						
SCIA	**State Center**	**38.28**	**341**	P	**P**	**16 13 52.0**	**-0.1**
	baz=155,SNR=16						
ZON	**Zonda**	**38.34**	**167**	P	**P**	**16 13 54.4**	**+1.6**
ZON	**Zonda**	**38.34**	**167**	P	**P**	**16 13 54.4**	**+1.6**
ZON				pmax	pmax		
	comp=Z,78nm,1.2s						
121A	**Cookes Peak, D**	**38.37**	**317**	P	**P**	**16 13 56.2**	**+2.9**
	baz=127,SNR=24						
121A	**Cookes Peak, D**	**38.37**	**317**	P	**P**	**16 13 55.6**	**+2.3**
	baz=127,SNR=24						
JFWS	**Jewell Farm**	**38.37**	**345**	P	**P**	**16 13 52.7**	**-0.2**
	baz=160,SNR=31						
JFWS	**Jewell Farm**	**38.37**	**345**	P	**P**	**16 13 52.5**	**-0.5**
	baz=160,SNR=31						
DELO	**Deloro Mine**	**38.40**	**0**	P	**P**	**16 13 53.6**	**+0.5**
I63A	**Otisfield**	**38.47**	**9**	IAmb	IAmb	16 13 56.7	
	comp=Z,57nm,0.8s						
I63A	**Otisfield**	**38.47**	**9**	P	**P**	**16 13 56.2**	**+2.5**
	baz=192,SNR=5.1						
I63A				P	**P**	**16 13 56.2**	**+2.5**
	baz=192,SNR=5.1						
VT1	**Waterbury**	**38.48**	**6**	IAmb	IAmb	16 13 57.1	
	comp=Z,253nm,2.0s						
VT1	**Waterbury**	**38.48**	**6**	P	**P**	**16 13 56.1**	**+2.3**
	baz=188,SNR=5.4						
LBNH	**Lisbon**	**38.48**	**7**	P	**P**	**16 13 54.6**	**+0.8**
LBNH	**Lisbon**	**38.48**	**7**	P	**P**	**16 13 56.0**	**+2.2**
	baz=190,SNR=8.9						
LBNH	**Lisbon**	**38.48**	**7**	P	**P**	**16 13 55.8**	**+1.9**
	baz=190,SNR=8.9						
LBNH	**Lisbon**	**38.48**	**7**	P	**P**	**16 13 54.6**	**+0.8**
LBNH				pmax	pmax		
	comp=Z,50nm,0.9s						
CFA	**Coronel Fontan**	**38.49**	**167**	P	**P**	**16 13 55.9**	**+1.8**
	comp=Z,23nm,0.8s,baz=340,slow=7.9,SNR=38						
CFA				LR	LR	16 32 04.7	
	comp=Z,727nm,21.8s,baz=9.0,slow=40						
	comp=Z,23nm,0.8s						
I45A	**Fountain**	**38.61**	**350**	P	**P**	**16 13 55.1**	**+0.3**
	baz=167						
I45A				P	**P**	**16 13 55.1**	**+0.3**
	baz=167						
LONY	**Lake Ozonia**	**38.61**	**4**	IAmb	IAmb	16 13 57.7	
	comp=Z,92nm,1.1s						
LONY	**Lake Ozonia**	**38.61**	**4**	P	**P**	**16 13 56.4**	**+1.5**
	baz=185,SNR=18						
SADO	**Sadowa**	**38.66**	**359**	LR	LR	16 29 19.6	
	comp=Z,428nm,21.5s,baz=180,slow=35						
SADO	**Sadowa**	**38.66**	**359**	IAmb	IAmb	16 13 57.6	
	comp=Z,124nm,1.1s						
Y22A	**Socorro**	**38.70**	**320**	P	**P**	**16 13 58.1**	**+2.1**
	baz=130,SNR=15						
319A	**Douglas**	**38.73**	**315**	IAmb	IAmb	16 14 00.1	
	comp=Z,130nm,1.2s						
Y22D	**IRIS PASSCAL I**	**38.76**	**320**	P	**P**	**16 13 57.9**	**+1.4**
	baz=130						
Y22F	**Passcal Instru**	**38.76**	**320**	P	**P**	**16 13 58.3**	**+1.8**
	baz=130						
N33B	**J Bar K, Exete**	**38.78**	**336**	P	**P**	**16 13 56.6**	**+0.2**
	baz=148						
K38A	**Parkersburg**	**38.82**	**342**	P	**P**	**16 13 55.2**	**-1.4**
K38A				IAmb	IAmb	16 13 57.1	
	comp=Z,159nm,1.1s						
K38A	**Parkersburg**	**38.82**	**342**	P	**P**	**16 13 56.2**	**-0.5**
	baz=156,SNR=17						
BMNY	**Bruton-Moira**	**38.83**	**4**	P	**P**	**16 13 58.4**	**+1.7**
	baz=185,SNR=12						
VA06	**Catapilco**	**38.84**	**171**	P	**P**	**16 13 57.7**	**+0.9**
FRNY	**Flat Rock**	**38.90**	**5**	P	**P**	**16 13 57.4**	**+0.1**
FRNY				IAmb	IAmb	16 14 00.3	
	comp=Z,104nm,1.2s						
FRNY					**PcP**	**16 16 07.8**	**-0.1**
FRNY	**Flat Rock**	**38.90**	**5**	P	**P**	**16 13 59.1**	**+1.9**
	baz=187,SNR=14						
H62A	**Milan**	**38.91**	**8**	P	**P**	**16 13 59.8**	**+2.4**
	baz=191						
H62A				P	**P**	**16 13 59.8**	**+2.4**
	baz=191						
SRIG	**Santa Rosalia**	**38.91**	**307**	P	**P**	**16 13 58.7**	**+1.1**
I42A	**Draeger Farm,**	**38.98**	**347**	IAmb	IAmb	16 13 58.9	
	comp=Z,146nm,0.8s						
I42A	**Draeger Farm,**	**38.98**	**347**	P	**P**	**16 13 57.9**	**-0.1**
	baz=162,SNR=19						
ANMO	**Albuquerque**	**39.03**	**321**	P	**P**	**16 13 59.4**	**+0.6**
ANMO	**Albuquerque**	**39.03**	**321**	P	**P**	**16 14 00.1**	**+1.4**
	baz=131,SNR=40						
ANMO	**Albuquerque**	**39.03**	**321**	P	**P**	**16 14 00.2**	**+1.4**
	baz=131						
ANMO	**Albuquerque**	**39.03**	**321**	*d iP*	**P**	**16 13 59.7**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,37nm,0.8s						
GLMI	**Grayling**	**39.14**	**352**	P	**P**	**16 14 00.8**	**+1.4**
	baz=169						
GLMI	**Grayling**	**39.14**	**352**	P	**P**	**16 13 59.8**	**+0.5**
	baz=169						
VA03	**Sadseteban**	**39.15**	**170**	P	**P**	**16 14 01.7**	**+2.0**
VA01	**Torpederas**	**39.23**	**172**	P	**P**	**16 14 01.1**	**+0.9**
DUN6	**Lazy B Ranch**	**39.27**	**316**	IAmb	IAmb	16 14 04.7	
	comp=Z,538nm,1.9s						
ROC1	**El Roble**	**39.28**	**171**	P	**P**	**16 14 02.4**	**+1.5**
H43A	**Windswept, Lux**	**39.30**	**349**	P	**P**	**16 14 00.8**	**+0.1**
	baz=164,SNR=12						
T25A	**Trinidad**	**39.32**	**326**	IAmb	IAmb	16 14 04.5	
	comp=Z,108nm,1.1s						
T25A	**Trinidad**	**39.32**	**326**	P	**P**	**16 14 03.2**	**+1.9**
	baz=136,SNR=37						
JANB	**Januaria**	**39.33**	**122**	*eP*	**P**	**16 14 02.0**	**+0.6**
I40A	**Norwalk**	**39.38**	**346**	IAmb	IAmb	16 14 01.8	
	comp=Z,207nm,1.5s						
I40A	**Norwalk**	**39.38**	**346**	P	**P**	**16 14 01.3**	**-0.1**
	baz=160,SNR=8.8						
L34A	**Svendsen Farm,**	**39.42**	**338**	P	**P**	**16 14 00.9**	**-0.9**
L34A				IAmb	IAmb	16 14 01.7	
	comp=Z,94nm,0.7s						
L34A	**Svendsen Farm,**	**39.42**	**338**	P	**P**	**16 14 01.3**	**-0.5**
	baz=150,SNR=6.2						
G45A	**Suttons Bay**	**39.50**	**351**	IAmb	IAmb	16 14 03.7	
	comp=Z,185nm,0.9s						
G45A	**Suttons Bay**	**39.50**	**351**	P	**P**	**16 14 03.0**	**+0.6**
	baz=168,SNR=10						
G45A				P	**P**	**16 14 03.0**	**+0.6**
	baz=168,SNR=10						
MNTQ	**Montreal, Queb**	**39.55**	**5**	IAmb	IAmb	16 14 05.7	
	comp=Z,187nm,0.9s						
PTGB	**Pitanga**	**39.56**	**141**	*eP*	**P**	**16 14 02.2**	**-0.9**
G62A	**West of Eustis**	**39.62**	**8**	P	**P**	**16 14 04.0**	**+0.7**
G62A	**West of Eustis**	**39.62**	**8**	P	**P**	**16 14 05.8**	**+2.4**
	baz=192,SNR=8.7						
G62A				P	**P**	**16 14 05.8**	**+2.4**
	baz=192,SNR=8.7						
BGNE	**Belgrade**	**39.63**	**336**	IAmb	IAmb	16 14 04.3	
	comp=Z,188nm,1.0s						
BGNE	**Belgrade**	**39.63**	**336**	P	**P**	**16 14 03.6**	**+0.1**
	baz=147,SNR=18						
BGNE	**Belgrade**	**39.63**	**336**	P	**P**	**16 14 03.2**	**-0.3**
	baz=147,SNR=18						
EMMW	**East Machias**	**39.66**	**12**	P	**P**	**16 14 05.5**	**+1.9**
	baz=196						
KSCO	**Kaye Shedlock'**	**39.75**	**329**	IAmb	IAmb	16 14 07.2	
	comp=Z,146nm,0.9s						
KSCO	**Kaye Shedlock'**	**39.75**	**329**	P	**P**	**16 14 06.6**	**+1.9**
	baz=140,SNR=6.4						
KSCO	**Kaye Shedlock'**	**39.75**	**329**	P	**P**	**16 14 06.1**	**+1.4**
	baz=140,SNR=6.4						
PKME	**Peaks-Kenny Pk**	**39.86**	**10**	P	**P**	**16 14 06.8**	**+1.5**
PKME	**Peaks-Kenny Pk**	**39.86**	**10**	P	**P**	**16 14 07.5**	**+2.3**
	baz=193,SNR=5.1						
PKME	**Peaks-Kenny Pk**	**39.86**	**10**	P	**P**	**16 14 07.2**	**+1.9**
	baz=193,SNR=5.1						
MT03	**Universidad Ad**	**39.87**	**170**	P	**P**	**16 14 07.5**	**+1.8**
FRBT	**Francisco Belt**	**39.89**	**144**	*eP*	**P**	**16 14 04.4**	**-1.5**
AZCA	**Azaras, Argent**	**39.93**	**149**	*eP*	**P**	**16 14 04.4**	**-1.8**
MT09	**Talagante**	**40.07**	**171**	P	**P**	**16 14 09.2**	**+1.8**
G65A	**Princeton**	**40.11**	**11**	P	**P**	**16 14 09.5**	**+2.1**
	baz=196						
G65A				P	**P**	**16 14 09.5**	**+2.1**
	baz=196						
TRQ	**Mont Tremblant**	**40.21**	**4**	P	**P**	**16 14 09.2**	**+0.9**
FRTB	**Fartura**	**40.21**	**137**	*eP*	**P**	**16 14 07.4**	**-1.2**
I37B	**Waseca**	**40.25**	**343**	P	**P**	**16 14 08.5**	**-0.1**
	baz=156,SNR=9.3						
LMEL	**Las Melosas**	**40.27**	**170**	P	**P**	**16 14 10.5**	**+1.5**
TUC	**Tucson**	**40.31**	**315**	P	**P**	**16 14 10.4**	**+1.0**
TUC	**Tucson**	**40.31**	**315**	P	**P**	**16 14 11.4**	**+1.9**
	baz=124						
TUC	**Tucson**	**40.31**	**315**	P	**P**	**16 14 10.4**	**+1.0**
TUC				pmax	pmax		
	comp=Z,68nm,1.1s						
F63A	**Nahmakanta, Br**	**40.32**	**10**	P	**P**	**16 14 10.2**	**+1.1**
	baz=194						
F63A				P	**P**	**16 14 10.2**	**+1.1**
	baz=194						
BO04	**La Punta**	**40.34**	**171**	P	**P**	**16 14 10.8**	**+1.3**
SDCO	**Great Sand Dun**	**40.36**	**325**	P	**P**	**16 14 11.8**	**+1.7**
	baz=135,SNR=81						
SDCO	**Great Sand Dun**	**40.36**	**325**	P	**P**	**16 14 11.9**	**+1.9**
	baz=135,SNR=81						
F62A	**Pittston Farm,**	**40.37**	**9**	P	**P**	**16 14 11.3**	**+1.8**
	baz=192						
F62A				P	**P**	**16 14 11.3**	**+1.8**
	baz=192						
CRSM	**Crissiumal (Br**	**40.50**	**146**	*eP*	**P**	**16 14 09.3**	**-1.6**
G40A	**Rib Lake**	**40.58**	**347**	IAmb	IAmb	16 14 12.2	
	comp=Z,102nm,1.1s						
G40A	**Rib Lake**	**40.58**	**347**	P	**P**	**16 14 11.3**	**0.0**
	baz=161,SNR=20						
F64A	**Sherman**	**40.60**	**10**	P	**P**	**16 14 12.4**	**+0.9**
F64A	**Sherman**	**40.60**	**10**	P	**P**	**16 14 13.3**	**+1.9**
	baz=195,SNR=6.1						
F64A				P	**P**	**16 14 13.3**	**+1.9**
	baz=195,SNR=6.1						
F42A	**Maple Grove Fa**	**40.61**	**349**	IAmb	IAmb	16 14 12.6	
	comp=Z,85nm,0.8s						
F42A	**Maple Grove Fa**	**40.61**	**349**	P	**P**	**16 14 12.2**	**+0.6**
	baz=164						
E46A	**Sault Ste Mari**	**40.62**	**353**	P	**P**	**16 14 11.1**	**-0.5**
E46A				IAmb	IAmb	16 14 13.2	
	comp=Z,67nm,0.9s						
E46A	**Sault Ste Mari**	**40.62**	**353**	P	**P**	**16 14 12.2**	**+0.6**
	baz=170,SNR=10						
BO01	**Tunca**	**40.66**	**171**	P	**P**	**16 14 13.7**	**+1.6**
NBCL	**Cascavel-CE**	**40.86**	**103**	*eP*	**P**	**16 14 13.3**	**-0.8**
K31A	**O'Neill**	**40.90**	**336**	P	**P**	**16 14 13.4**	**-0.6**
K31A	**O'Neill**	**40.90**	**336**	P	**P**	**16 14 14.0**	**0.0**
	baz=147,SNR=19						
ITQB	**Itaqui**	**40.92**	**151**	P	**P**	**16 14 12.2**	**-2.1**
ITQB	**Itaqui**	**40.92**	**151**	*eP*	**P**	**16 14 12.9**	**-1.4**
OGNE	**Ogallala**	**40.95**	**332**	P	**P**	**16 14 16.0**	**+1.4**
	baz=142,SNR=13						
OGNE	**Ogallala**	**40.95**	**332**	P	**P**	**16 14 15.6**	**+1.0**
	baz=142,SNR=13						
RCLB	**Rio Claro- Sao**	**41.01**	**134**	*eP*	**P**	**16 14 13.9**	**-1.3**
E43A	**Lone Tree Farm**	**41.01**	**350**	P	**P**	**16 14 14.5**	**-0.3**
E43A				IAmb	IAmb	16 14 16.0	
	comp=Z,76nm,0.8s						
E43A	**Lone Tree Farm**	**41.01**	**350**	P	**P**	**16 14 15.2**	**+0.4**
	baz=166,SNR=8.6						
Q24A	**Divide**	**41.04**	**327**	P	**P**	**16 14 16.6**	**+1.1**
	baz=136,SNR=18						
ECSD	**EROS Data Cent**	**41.05**	**339**	P	**P**	**16 14 13.8**	**-1.4**
ECSD				IAmb	IAmb	16 14 15.3	
	comp=Z,70nm,0.8s						
ECSD	**EROS Data Cent**	**41.05**	**339**	P	**P**	**16 14 14.5**	**-0.7**
	baz=151,SNR=35						
ECSD	**EROS Data Cent**	**41.05**	**339**	P	**P**	**16 14 14.3**	**-0.9**
	baz=151,SNR=35						
BO02	**Sierra Bellavi**	**41.10**	**171**	P	**P**	**16 14 17.0**	**+1.2**
S22A	**4UR Ranch, Cre**	**41.12**	**324**	P	**P**	**16 14 18.1**	**+1.8**
	baz=133,SNR=42						
E63A	**Oxbow**	**41.13**	**10**	P	**P**	**16 14 17.8**	**+2.0**
	baz=194						
E63A				P	**P**	**16 14 17.8**	**+2.0**
	baz=194						
E62A	**Clayton Lake**

baz=156,SNR=80
ALGR Alto Alegre (B 42.07 147 *e*P **P 16 14 21.4 -2.5**
E38A The Farm, Brul 42.16 346 IAmb IAmb 16 14 24.9
comp=Z,92nm,0.8s
E38A The Farm, Brul 42.16 346 P **P 16 14 24.0 -0.2**
baz=160,SNR=16
RODS Rosario do Sul 42.18 150 *e*P **P 16 14 23.4 -1.2**
BATG Bathurst New B 42.40 12 IAmb IAmb 16 14 29.0
comp=Z,73nm,1.0s
PV15 Paradox Valley 42.49 324 IAmb IAmb 16 14 30.6
comp=Z,120nm,1.1s
SUSD Miller 42.51 338 P **P 16 14 25.8 -1.4**
SUSD Miller 42.51 338 P **P 16 14 26.5 -0.7**
baz=148,SNR=10.0
SUSD Miller 42.51 338 P **P 16 14 26.5 -0.7**
baz=148,SNR=10.0
WUAZ Wupatki 42.54 318 IAmb IAmb 16 14 31.1
comp=Z,71nm,0.9s
WUAZ Wupatki 42.54 318 P **P 16 14 29.6 +1.9**
baz=126,SNR=36
PV13 Radium Mtn., P 42.57 323 IAmb IAmb 16 14 30.9
comp=Z,77nm,1.0s
SFX San Felipe 42.64 310 P **P 16 14 29.7 +1.3**
PV07 Paradox Valley 42.65 324 P **P 16 14 29.8 +1.1**
PV11 David Mesa, Pa 42.69 323 IAmb IAmb 16 14 31.9
comp=Z,152nm,1.6s
Y14A Wickenburg 42.76 315 P **P 16 14 31.4 +2.0**
F33A 5 Mile Ranch, 42.79 341 IAmb IAmb 16 14 29.3
comp=Z,94nm,0.9s
F33A 5 Mile Ranch, 42.79 341 P **P 16 14 28.5 -0.9**
baz=153,SNR=19
N23A Red Feather La 42.85 328 P **P 16 14 31.7 +1.4**
baz=137,SNR=24
CPSB Cacapava Do Su 43.12 148 *e*P **P 16 14 30.7 -1.6**
O20A White River Ci 43.56 326 P **P 16 14 36.3 +0.3**
O20A White River Ci 43.56 326 P **P 16 14 37.8 +1.8**
baz=133,SNR=21
RCBR Riachuelo 43.56 105 LR LR 16 32 10.2
comp=Z,389nm,19.0s,baz=82,slow=35
RCBR Riachuelo 43.56 105 *e*P **P 16 14 37.1 +0.9**
GLA Glamis 43.60 313 IAmb IAmb 16 14 39.8
comp=Z,101nm,1.1s
GLA Glamis 43.60 313 P **P 16 14 38.6 +2.3**
baz=120,SNR=18
BLYC Blythe 43.74 314 IAmb IAmb 16 14 40.8
comp=Z,95nm,1.1s
GUA01 Guaratinga, BA 43.87 121 *e*P **P 16 14 39.2 +0.8**
VAS01 Vassouras-RJ 43.91 131 *e*P **P 16 14 39.2 +0.4**
W13A Hualapai Mount 44.00 316 P **P 16 14 40.0 +0.4**
RWWY Rawlins 44.09 328 P **P 16 14 41.0 +0.8**
RWWY IAmb IAmb 16 14 43.0
comp=Z,89nm,1.0s
PLTB Pedras Altas 44.12 150 P **P 16 14 38.4 -1.9**
PLTB Pedras Altas 44.12 150 *e*P **P 16 14 38.2 -2.1**
SRU San Rafael Swe 44.20 323 IAmb IAmb 16 14 43.7
comp=Z,174nm,1.7s
SWSC Sam W. Stewart 44.26 312 P **P 16 14 43.3 +1.9**
baz=119,SNR=9.4
NEE2 Needles Airpor 44.33 315 P **P 16 14 44.1 +2.1**
baz=122
IKP In-Ko-Pah, Jac 44.35 312 P **P 16 14 44.5 +2.2**
baz=118,SNR=6.0
BC3 Big Chuckawall 44.36 313 P **P 16 14 44.6 +2.2**
baz=120,SNR=27
RSSD Black Hills 44.36 333 P **P 16 14 42.5 +0.1**
RSSD Black Hills 44.36 333 P **P 16 14 43.4 +1.1**
baz=141,SNR=79
RSSD Black Hills 44.36 333 P **P 16 14 43.5 +1.1**
baz=141
RSSD Black Hills 44.36 333 P **P 16 14 42.5 +0.1**
RSSD pmax pmax
comp=Z,146nm,1.1s
IRM Iron Mountain 44.39 314 P **P 16 14 44.9 +2.3**
baz=121,SNR=64
K22A Casper 44.43 330 IAmb IAmb 16 14 45.2
comp=Z,49nm,0.8s
K22A Casper 44.43 330 P **P 16 14 44.3 +1.4**
baz=137,SNR=20
K22A Casper 44.43 330 P **P 16 14 44.3 +1.4**
baz=137,SNR=20
MTPU Mount Pierson 44.56 321 P **P 16 14 44.7 +0.5**
P17A Butcher Ranch, 44.56 323 IAmb IAmb 16 14 46.7
comp=Z,71nm,1.3s
DUB01 Friburgo-RJ 44.61 130 *e*P **P 16 14 45.9 +1.5**
RIB01 Linhares ES 44.69 125 *e*P **P 16 14 45.0 -0.1**
TMUT Trail Mountain 44.73 323 **PcP 16 16 27.9 +0.2**
RPN Rapa Nui 44.78 221 LR LR 16 28 52.5
comp=Z,632nm,18.2s,baz=58,slow=30
MSU Marysvale 44.84 321 P **P 16 14 46.9 +0.6**
MSU **PcP 16 16 29.0 +1.1**
MSU Marysvale 44.84 321 P **P 16 14 46.9 +0.6**
MSU 16 16 29.0
MVU Marysvale 44.85 321 P **P 16 14 46.2 -0.2**
MVU **PcP 16 16 29.5 +1.5**
BELC Belle Mtn. Jos 44.92 313 P **P 16 14 49.2 +2.3**
baz=120,SNR=58
E28A Huff 44.97 338 P **P 16 14 46.3 -0.7**
E28A Huff 44.97 338 P **P 16 14 47.0 +0.1**
baz=147,SNR=19
V12A Nelson 45.00 316 IAmb IAmb 16 14 50.6
comp=Z,67nm,1.1s
CCUT Cedar City 45.02 319 P **P 16 14 48.9 +1.1**
CCUT PcP **PcP 16 16 27.0 -1.6**
PMD Palm Desert 45.02 313 IAmb IAmb 16 14 50.9
comp=Z,59nm,1.1s
TPFO Pinon Flats 45.06 313 P **P 16 14 50.2 +2.2**
baz=119,SNR=12
TCRU Three Creeks R 45.06 321 P **P 16 14 49.1 +1.0**
TCRU IAmb IAmb 16 14 51.2
comp=Z,47nm,0.9s
PFO Pinyon Flats O 45.07 313 LR LR 16 34 45.1
comp=Z,300nm,21.4s,baz=96,slow=38
PFO Pinyon Flats O 45.07 313 P **P 16 14 48.1 0.0**
PFO IAmb IAmb 16 14 51.5
comp=Z,69nm,1.4s
PFO Pinyon Flats O 45.07 313 P **P 16 14 50.3 +2.3**
baz=119,SNR=10
PFO Pinyon Flats O 45.07 313 *d* iP **P 16 14 50.0 +1.9**
PFO pmax pmax
comp=Z,86nm,1.5s
GMRC Granite Mounta 45.07 315 P **P 16 14 50.1 +2.0**
baz=121,SNR=24
ALF01 Guarapari-ES 45.10 127 *e*P **P 16 14 49.1 +0.8**
109C Camp Elliot, M 45.20 311 P **P 16 14 50.9 +1.9**
baz=118
MPU Maple Canyon 45.44 323 IAmb IAmb 16 14 53.7
comp=Z,57nm,1.2s
ABR01 Abrolhos, BA 45.44 122 *e*P **P 16 14 51.1 0.0**
HEC Hector,Ludlow 45.57 314 P **P 16 14 54.2 +2.2**
baz=120,SNR=16
TUQ Turquoise Moun 45.59 315 P **P 16 14 54.2 +2.0**
baz=121,SNR=19
MURC Murrieta 45.60 312 P **P 16 14 54.4 +2.2**
baz=118,SNR=10
SHPR Sheep Range 45.63 317 P **P 16 14 53.2 +0.7**
MDND Maddock 45.65 340 PcP **PcP 16 16 31.0 +0.7**
MDND Maddock 45.65 340 P **P 16 14 52.2 -0.1**
baz=149,SNR=12
MDND Maddock 45.65 340 P **P 16 14 52.2 -0.1**
baz=149,SNR=12
NLU North Lily Min 45.66 323 IAmb IAmb 16 14 55.7
comp=Z,102nm,1.9s
NLU PcP **PcP 16 16 31.1 +0.3**
BBRC Big Bear Solar 45.72 313 P **P 16 14 55.8 +2.5**
baz=119
GO06 Curarrehue 45.72 173 P **P 16 14 53.9 +0.9**
ELS Elsinore Mount 45.79 312 P **P 16 14 52.8 -1.0**
LR04 Corral 45.81 175 P **P 16 14 54.9 +1.3**
LR04 IAmb IAmb 16 15 07.5
comp=Z,79nm,0.9s
CTU Camp Tracy 45.94 324 IAmb IAmb 16 14 57.5
comp=Z,64nm,1.4s
RRX Edison Barstow 46.07 314 P **P 16 14 58.3 +2.4**
baz=120
SHOC Shoshone, Teco 46.08 316 P **P 16 14 57.8 +1.9**
baz=121,SNR=8.7
BW06 Boulder Array 46.09 328 IAmb IAmb 16 14 58.2
comp=Z,56nm,1.0s
BW06 Boulder Array 46.09 328 P **P 16 14 56.9 +0.8**
baz=134,SNR=41
PD31 Pinedale Array 46.09 328 P **P 16 14 55.6 -0.5**
PD31 IAmb IAmb 16 14 58.2
comp=Z,56nm,1.1s
PDAR Pinedale Array 46.09 328 P **P 16 14 56.7 +0.6**
comp=Z,43nm,1.0s,baz=126,slow=7.7,SNR=152
PDAR PcP **PcP 16 16 32.0 -0.2**
comp=Z,3.1nm,0.8s,baz=124,slow=4.5,SNR=3.3
PDAR LR LR 16 38 44.3
comp=Z,167nm,18.4s,baz=127,slow=42
comp=Z,43nm,1.0s
PDAR Pinedale Array 46.09 328 P **P 16 14 55.7 -0.4**
GSC Goldstone, Bar 46.15 315 P **P 16 14 58.7 +2.1**
baz=120,SNR=8.4
BFSC Mount Baldy Ra 46.24 313 P **P 16 14 59.0 +1.7**
baz=118
TRQA Tornquist 46.25 163 P **P 16 14 57.8 +0.6**
TRQA IAmb IAmb 16 14 59.7
comp=Z,63nm,1.4s
TRQA Tornquist 46.25 163 P **P 16 14 57.8 +0.6**
TRQA pmax pmax
comp=Z,63nm,1.4s
TRQA Tornquist 46.25 163 *e*P **P 16 14 56.7 -0.4**
DUG Dugway, Tooele 46.26 323 P **P 16 14 57.3 -0.1**
DUG IAmb IAmb 16 15 00.3
comp=Z,117nm,1.6s
DUG Dugway, Tooele 46.26 323 P **P 16 14 59.0 +1.6**
baz=128,SNR=46
DUG Dugway, Tooele 46.26 323 P **P 16 14 57.3 -0.1**
DUG pmax pmax
comp=Z,117nm,1.6s
CIS Catalina Islan 46.41 311 P **P 16 15 00.3 +1.7**
baz=117
HWUT Hardware Ranch 46.42 325 P **P 16 14 58.4 -0.3**
HWUT IAmb IAmb 16 15 00.8
comp=Z,46nm,1.0s
HWUT PcP **PcP 16 16 33.0 -0.4**
DRLN Deer Lake 46.47 18 IAmb IAmb 16 15 00.7
comp=Z,64nm,0.9s
SPR3 Spring Creek 3 46.48 320 IAmb IAmb 16 15 02.0
comp=Z,38nm,1.0s
GWY Greenwater Val 46.50 316 P **P 16 14 60.0 +0.6**
GWY PcP **PcP 16 16 32.8 -0.9**
PASC Pasadena Art C 46.59 312 IAmb IAmb 16 15 04.1
comp=Z,102nm,1.6s
TPNV Topopah Spring 46.60 317 P **P 16 14 59.3 -0.9**
TPNV PcP **PcP 16 16 34.6 +0.5**
TPNV Topopah Spring 46.60 317 P **P 16 15 02.5 +2.3**
baz=122,SNR=17
ULM Lac du Bonnet 46.63 344 P **P 16 14 59.2 -0.7**
comp=Z,114nm,0.9s,baz=156,slow=7.9,SNR=92
ULM LR LR 16 35 29.5
comp=Z,582nm,19.4s,baz=94,slow=37
comp=Z,114nm,0.9s
ULM Lac du Bonnet 46.63 344 P **P 16 14 58.8 -1.1**
S11A Rachel 46.64 318 IAmb IAmb 16 15 08.3
comp=Z,33nm,0.9s
SPUT South Promonto 46.73 324 P **P 16 15 01.5 +0.3**
SPUT IAmb IAmb 16 15 03.7
comp=Z,89nm,1.3s
DECC Green Verdugo 46.74 313 P **P 16 15 03.1 +2.0**
baz=118
FURC Furnace Creek, 46.77 316 P **P 16 15 03.5 +2.2**
baz=121,SNR=8.6
WCT Wildcat Mounta 46.78 316 P **P 16 15 01.5 0.0**
WCT **PcP 16 16 34.8 +0.2**
EDW2 Edwards Air Fo 46.79 313 P **P 16 15 03.4 +1.8**
baz=118,SNR=17
BGU Big Grassy Mou 46.84 323 IAmb IAmb 16 15 04.5
comp=Z,64nm,1.3s
LRMC Laurel Mtn Rad 46.85 314 P **P 16 15 04.1 +2.0**
baz=119
R11A Troy Canyon, C 46.92 319 P **P 16 15 02.6 -0.1**
R11A IAmb IAmb 16 15 05.8
comp=Z,34nm,1.1s
R11A PcP **PcP 16 16 35.6 +0.5**
R11A Troy Canyon, C 46.92 319 P **P 16 15 04.5 +1.9**
baz=124,SNR=36
LL04 Puerto Octay 46.93 174 P **P 16 15 03.1 +0.8**
LL04 IAmb IAmb 16 15 14.7
comp=Z,61nm,1.4s
CCAC Calif City Air 46.94 314 IAmb IAmb 16 15 05.9
comp=Z,60nm,0.8s
PLCA Paso Flores 46.97 172 P **P 16 15 04.3 +1.5**
comp=Z,17nm,0.9s,baz=344,slow=8.7,SNR=20
PLCA PcP **PcP 16 16 36.3 +1.3**
comp=Z,4.4nm,0.8s,baz=310,slow=7.4,SNR=2.2
comp=Z,17nm,0.9s
PLCA Paso Flores 46.97 172 P **P 16 15 03.6 +0.8**
PLCA IAmb IAmb 16 15 16.2
comp=Z,30nm,0.8s
PLCA PcP **PcP 16 16 35.4 +0.4**
PLCA Paso Flores 46.97 172 *e*P **P 16 15 01.3 -1.5**
MPMC Manual Prospec 47.00 315 P **P 16 15 04.8 +1.5**
baz=120,SNR=22
LAO LASA Array 47.32 334 P **P 16 15 06.0 +0.5**
baz=140,SNR=9.1
LAO LASA Array 47.32 334 P **P 16 15 06.0 +0.5**
baz=140,SNR=9.1
GRAC Grapevine Rang 47.39 316 P **P 16 15 08.5 +2.2**
baz=121,SNR=15
ISA Isabella, Lake 47.51 314 P **P 16 15 07.3 +0.1**
ISA **PcP 16 16 37.1 -0.1**
ISA Isabella, Lake 47.51 314 P **P 16 15 08.9 +1.7**
baz=119,SNR=20
ARVC Arvin 47.51 313 P **P 16 15 08.9 +1.8**
baz=118
SCZ2 Santa Cruz Isl 47.59 312 P **P 16 15 09.6 +1.9**
baz=116
RLMT Red Lodge 47.59 330 P **P 16 15 08.6 +0.8**
baz=136,SNR=57
CWC Cottonwood Cre 47.61 315 P **P 16 15 09.8 +1.8**
baz=120
LCH Last Change Ra 47.70 316 P **P 16 15 08.8 +0.1**
LCH IAmb IAmb 16 15 11.8
comp=Z,80nm,1.8s
H17A Grant Village 47.74 329 IAmb IAmb 16 15 22.1
comp=Z,28nm,0.9s
H17A Grant Village 47.74 329 P **P 16 15 10.4 +1.3**
baz=134,SNR=29
YMP Mirror Lake Pl 47.77 329 IAmb IAmb 16 15 30.1
comp=Z,31nm,0.8s
LKWY Lake 47.77 329 IAmb IAmb 16 15 30.5
comp=Z,44nm,0.7s
SBC Santa Barbara 47.84 312 P **P 16 15 10.8 +1.1**
baz=117
BCW Bitter Crk WRg 47.85 313 IAmb IAmb 16 15 13.1
comp=Z,53nm,1.3s
DGMT Dagmar 47.88 337 P **P 16 15 09.0 -0.7**
DGMT PcP **PcP 16 16 37.1 -1.0**
DGMT Dagmar 47.88 337 P **P 16 15 10.5 +0.7**
baz=144
DGMT Dagmar 47.88 337 P **P 16 15 10.3 +0.6**
baz=144
YUF Upper Falls 47.93 329 IAmb IAmb 16 15 28.9
comp=Z,52nm,1.5s
DSP Deep Springs 48.00 316 IAmb IAmb 16 15 14.3
comp=Z,63nm,1.5s
YNR Norris Junctio 48.02 329 P **P 16 15 09.9 -1.3**
VES Vestal, Richgr 48.03 314 P **P 16 15 13.3 +2.2**
baz=118,SNR=12
ELK Elko 48.06 322 LR LR 16 37 14.8
comp=Z,135nm,21.8s,baz=121,slow=38
ELK Elko 48.06 322 P **P 16 15 11.0 -0.6**
ELK PcP **PcP 16 16 39.9 +0.6**
ELK Elko 48.06 322 P **P 16 15 11.0 -0.6**
ELK 16 16 39.9
ELK pmax pmax
comp=Z,13nm,1.1s
PKM Mcpherson Peak 48.12 313 P **P 16 15 14.0 +2.0**
baz=117,SNR=6.2
Q09A Carvers 48.23 319 IAmb IAmb 16 15 15.8
comp=Z,31nm,0.9s
GCMT Greycliff 48.26 330 P **P 16 15 13.2 +0.3**
SMMC Simmler 48.44 313 P **P 16 15 16.6 +2.2**
baz=117,SNR=7.2
NVAR Mina Array Bea 48.77 317 P **P 16 15 18.8 +1.8**
comp=Z,18nm,0.7s,baz=129,slow=6.9,SNR=95
NVAR PcP **PcP 16 16 43.0 +1.1**
comp=Z,6.1nm,0.8s,baz=141,slow=4.4,SNR=4.7
comp=Z,18nm,0.7s
NVAR Mina Array Bea 48.77 317 P **P 16 15 17.0 0.0**
NVAR **PcP 16 16 42.3 +0.4**
LHV Little Huntoon 48.81 317 IAmb IAmb 16 15 20.7
comp=Z,117nm,1.7s
KVN Kaiserville 48.95 318 P **P 16 15 17.9 -0.6**
KVN PcP **PcP 16 16 42.0 -0.4**
KVN Kaiserville 48.95 318 P **P 16 15 17.9 -0.6**
KVN 16 16 42.1
KVN pmax pmax
comp=Z,15nm,0.9s
BOZ Bozeman (W) 49.11 329 P **P 16 15 20.7 +1.2**
baz=133,SNR=130
BMN Battle Mountai 49.13 320 IAmb IAmb 16 15 22.2
comp=Z,44nm,1.0s
BCYI Bear Canyon 49.20 327 P **P 16 15 21.4 +1.1**
HLID Hailey 49.28 325 IAmb IAmb 16 15 23.3
comp=Z,43nm,0.9s
HLID Hailey 49.28 325 P **P 16 15 22.2 +1.3**
baz=129,SNR=59
SCHQ Schefferville 49.53 8 P **P 16 15 23.5 +1.2**
comp=Z,40nm,0.6s,baz=197,slow=6.7,SNR=40
SCHQ LR LR 16 34 40.8
comp=Z,286nm,21.4s,baz=220,slow=34
comp=Z,40nm,0.6s
SCHQ Schefferville 49.53 8 IAmb IAmb 16 15 24.6
comp=Z,102nm,1.1s
YERR Yerington 49.68 318 IAmb IAmb 16 15 27.1
comp=Z,114nm,1.7s
LRM Limekiln Ridge 49.69 329 P **P 16 15 24.5 +0.5**
LRM PcP **PcP 16 16 45.1 +0.1**
EGMT Eagleton 49.91 332 P **P 16 15 25.0 -0.4**
EGMT PcP **PcP 16 16 45.3 -0.3**
EGMT Eagleton 49.91 332 P **P 16 15 26.3 +0.8**
baz=137,SNR=17
MFID Camas Ranch 50.01 324 IAmb IAmb 16 15 28.7
comp=Z,60nm,1.0s
WVOR Wild Horse Val 51.12 322 IAmb IAmb 16 15 37.1
comp=Z,123nm,1.3s
PLID Pearl Lake 51.12 326 P **P 16 15 34.4 -0.4**
PLID IAmb IAmb 16 15 36.3
comp=Z,71nm,1.1s
MSO Missoula 51.13 329 IAmb IAmb 16 15 36.6
comp=Z,41nm,0.9s
ORV Oroville 51.49 317 IAmb IAmb 16 15 40.6
comp=Z,105nm,1.3s
COYC Coyhaique 51.58 175 P **P 16 15 39.3 +1.5**
FFC Flin Flon 52.33 343 P **P 16 15 42.9 -0.5**
FFC IAmb IAmb 16 15 44.6
comp=Z,60nm,1.4s
FFC Flin Flon 52.33 343 P **P 16 15 42.9 -0.5**
FFC pmax pmax
comp=Z,60nm,1.4s
F10A Beach Ranch, E 52.35 326 IAmb IAmb 16 15 45.5
comp=Z,78nm,1.2s
G08A Pilot Rock 52.92 324 P **P 16 15 48.2 +0.1**
G08A IAmb IAmb 16 15 50.4
comp=Z,74nm,1.1s
KCPM Cahto Peak 52.97 316 IAmb IAmb 16 15 52.0
comp=Z,79nm,1.1s
E09A Wood Farm, Sta 53.18 326 IAmb IAmb 16 15 51.8
comp=Z,105nm,1.0s
PINE Pine Mountain 53.27 322 P **P 16 15 50.1 -0.7**
PINE IAmb IAmb 16 15 53.5
comp=Z,153nm,1.9s
PINE PcP **PcP 16 16 59.1 +0.7**
KHMM Horse Mountain 53.61 318 IAmb IAmb 16 15 55.9
comp=Z,69nm,0.9s
KMPM Mount Pierce 53.67 317 IAmb IAmb 16 15 57.7
comp=Z,74nm,1.1s
NEW Newport 53.70 328 P **P 16 15 52.8 -0.9**
NEW IAmb IAmb 16 15 55.2
comp=Z,42nm,0.9s
NEW Newport 53.70 328 P **P 16 15 54.3 +0.6**
baz=129,SNR=22
NEW Newport 53.70 328 P **P 16 15 52.8 -0.9**
NEW pmax pmax
comp=Z,42nm,1.0s
F07A Phinny Hill Vi 53.83 325 IAmb IAmb 16 15 57.1
comp=Z,70nm,1.2s
D08A Wollman Farm, 53.93 326 IAmb IAmb 16 15 57.4
comp=Z,51nm,0.9s
C09A Chrisman Ranch 54.02 327 P **P 16 15 55.6 -0.4**
C09A IAmb IAmb 16 15 58.1
comp=Z,46nm,1.1s
FCC Fort Churchill 54.12 350 IAmb IAmb 16 15 57.0
comp=Z,76nm,1.0s
DBO Dodson Butte 54.37 320 IAmb IAmb 16 17 02.5
comp=Z,98nm,2.0s
BUCK Buck Mountain 54.75 321 P **P 16 16 00.5 -0.9**
BUCK IAmb IAmb 16 16 03.1
comp=Z,100nm,1.3s
B08A Colville Reser 54.93 327 IAmb IAmb 16 16 04.5
comp=Z,72nm,1.0s
LTY Liberty 55.02 326 IAmb IAmb 16 16 05.5
comp=Z,59nm,0.8s
COR Corvallis 55.14 322 P **P 16 16 04.9 +0.8**
COR Corvallis 55.14 322 P **P 16 16 04.9 +0.8**
COR pmax pmax
comp=Z,121nm,1.3s
EDM Edmonton 55.25 335 IAmb IAmb 16 16 05.7
comp=Z,97nm,1.2s
LON Longmire 55.39 325 IAmb IAmb 16 16 08.1
comp=Z,47nm,0.9s
D05A Enumclaw 55.73 325 IAmb IAmb 16 16 10.5
comp=Z,75nm,0.9s
B06A Marblemount 56.19 327 P **P 16 16 11.6 0.0**
B06A IAmb IAmb 16 16 13.3
comp=Z,94nm,1.3s
RADR Rader Ridge 56.38 323 IAmb IAmb 16 16 15.9
comp=Z,146nm,1.1s
NLWA Neilton Lookou 56.92 324 P **P 16 16 17.5 +0.6**
B04A Port Angeles 57.06 325 IAmb IAmb 16 16 24.2
comp=Z,62nm,0.8s
PGC Sidney 57.35 326 IAmb IAmb 16 16 24.1
comp=Z,50nm,1.0s
BRLDA Berland Lookou 57.60 334 P **P 16 16 21.4 -0.3**
BRLDA IAmb IAmb 16 16 22.9
comp=Z,81nm,1.0s
CLRS Cowichan Lake 57.82 326 P **P 16 16 23.4 +0.3**
CLRS IAmb IAmb 16 16 26.1
comp=Z,93nm,1.7s
FRB Frobisher Bay 58.06 5 LR LR 16 42 46.3
comp=Z,272nm,18.7s,baz=195,slow=37
IVI Ivigtut 59.44 16 *i* P **P 16 16 36.7 +2.5**
NRS Narsarsuaq 60.20 17 *i* P **P 16 16 39.5 +0.2**
NRS IAmb IAmb 16 16 41.0
comp=Z,38nm,0.8s
BBTS Babate 60.87 77 LR LR 16 41 46.7
comp=Z,223nm,20.1s,baz=241,slow=35
NUUK Nuuk 61.07 13 *i* P **P 16 16 44.6 -0.7**
NUUK IAmb IAmb 16 16 46.9
comp=Z,52nm,0.8s
BBB Bella Bella 61.73 328 LR LR 16 47 42.1
comp=Z,180nm,18.4s,baz=130,slow=40
MACI Morro de la Ar 62.07 61 P **P 16 16 53.1 +0.1**
YKA Yellowknife Ar 62.49 342 P **P 16 16 54.7 -0.2**
comp=Z,38nm,0.8s,baz=133,slow=6.9,SNR=386
YKA PcP **PcP 16 17 34.0 0.0**
comp=Z,6.1nm,0.9s,baz=142,slow=4.0,SNR=3.9
comp=Z,38nm,0.8s
RKT Rikitea 62.75 240 *e*LR LR 16 35 36.8
comp=Z,60um,27.5s
HG4B Hotspring 63.45 327 IAmb IAmb 16 17 04.2
comp=Z,42nm,1.0s
TAOE Nuku Hiva Isla 63.74 257 *e*SS SS 16 29 49.4 +2.8
comp=Z,53nm,27.7s
TAOE *e*LR LR 16 36 03.3
comp=Z,537nm,23.0s
SFJD Kangerlussuaq 63.75 12 LR LR 16 42 01.0
comp=Z,174nm,21.9s,baz=204,slow=33
SFJD Kangerlussuaq 63.75 12 *i* P **P 16 17 02.2 -0.9**
SFJD IAmb IAmb 16 17 05.0
comp=Z,28nm,1.3s
KOTAN Kotaneelee Air 64.24 336 P **P 16 17 07.3 +0.7**
baz=127
DY2G Dye2 64.25 14 *i* P **P 16 17 06.4 -0.4**
DY2G IAmb IAmb 16 17 07.9
comp=Z,497nm,2.4s
V35K Ketchikan 65.07 329 P **P 16 17 13.6 +1.5**
baz=118
T35M Bob Quinn 65.21 331 P **P 16 17 14.5 +1.5**
baz=120,SNR=10.0
ISOG Isortoq, Green 65.42 17 *i* P **P 16 17 14.4 +0.3**
ISOG IAmb IAmb 16 17 15.0
comp=Z,105nm,1.0s
ILULI Ilulissat 65.58 10 *i* P **P 16 17 14.1 -1.0**
ILULI IAmb IAmb 16 17 15.7
comp=Z,94nm,1.3s
DLBC Dease Lake 65.84 333 LR LR 16 51 02.9
comp=Z,337nm,18.3s,baz=100,slow=40
DLBC Dease Lake 65.84 333 P **P 16 17 17.4 +0.4**
DLBC IAmb IAmb 16 17 19.8
comp=Z,50nm,1.2s
DLBC Dease Lake 65.84 333 P **P 16 17 18.6 +1.5**
baz=121,SNR=18
ANGG Ammassalik, Gr 65.86 17 *i* P **P 16 17 16.6 -0.4**
WRGLY Wrigley 65.94 339 P **P 16 17 17.7 +0.2**
baz=129,SNR=19
S34M Telegraph Cree 66.08 332 P **P 16 17 20.0 +1.4**

baz=119,SNR=9.6
WTLY Watson Lake, Y 66.18 335 lAmb lAmb 16 17 21.3
comp=Z,31nm,0.9s
WTLY Watson Lake, Y 66.18 335 P **P** **16 17 20.3 +1.1**
baz=122
U33K Whale Pass 66.19 330 P **P** **16 17 20.4 +1.1**
baz=117
R33M Jennings River 66.75 334 P **P** **16 17 24.1 +1.1**
baz=120
Q32M Nakina River 67.12 333 P **P** **16 17 26.7 +1.3**
baz=119
NUUG Nuugaatsiaq 67.31 8 *i* P **P** **16 17 26.1 0.0**
NUUG lAmb lAmb 16 17 27.4
comp=Z,2µm,4.3s
SIT Sitka 67.70 330 P **P** **16 17 29.8 +1.0**
baz=115
JIS Juneau Island 67.78 332 lAmb lAmb 16 17 31.9
comp=Z,42nm,1.3s
R32K Eaglecrest 67.84 332 P **P** **16 17 31.0 +1.2**
baz=116
ICESG Greenland Ices 67.87 14 *i* P **P** **16 17 30.0 -0.1**
ICESG lAmb lAmb 16 17 30.8
comp=Z,116nm,1.0s
P33M Teslin, Yukon 67.96 334 P **P** **16 17 30.5 -0.1**
P33M lAmb lAmb 16 17 33.1
comp=Z,42nm,1.3s
P33M Teslin, Yukon 67.96 334 P **P** **16 17 31.6 +1.0**
baz=119,SNR=14
UPNV Upernavik 68.06 7 *i* P **P** **16 17 30.5 -0.3**
UPNV lAmb lAmb 16 17 31.6
comp=Z,65nm,1.6s
P32M Atlin 68.07 333 P **P** **16 17 32.4 +1.2**
baz=118,SNR=7.2
S31K Pelican 68.53 331 P **P** **16 17 35.7 +1.7**
baz=115
SKAG Skagway 68.74 333 lAmb lAmb 16 17 38.0
comp=Z,60nm,1.7s
SKAG Skagway 68.74 333 P **P** **16 17 36.5 +1.2**
baz=116
WHY Whitehorse 69.08 334 P **P** **16 17 38.4 +0.8**
baz=117
FARO Faro, Yukon 69.16 336 P **P** **16 17 38.1 +0.2**
FARO Faro, Yukon 69.16 336 P **P** **16 17 39.0 +1.0**
baz=119,SNR=11
PLBC Pleasant Camp 69.22 332 P **P** **16 17 39.7 +1.4**
baz=115
RES Resolute Bay 69.36 355 LR LR 16 49 42.4
comp=Z,296nm,18.9s,baz=176,slow=37
M31M Drury Creek, Y 69.58 335 lAmb lAmb 16 17 43.2
comp=Z,28nm,1.1s
M31M Drury Creek, Y 69.58 335 P **P** **16 17 41.9 +1.4**
baz=118,SNR=16
KULLO Kullorsuaq 69.61 6 *i* P **P** **16 17 40.5 +0.1**
KULLO lAmb lAmb 16 17 41.4
comp=Z,65nm,1.2s
O30N Mendenhall 69.66 334 P **P** **16 17 42.2 +1.1**
baz=116,SNR=18
P30M Million Dollar 69.77 333 P **P** **16 17 43.5 +1.7**
baz=115
PFVI Vila Bisbo 69.78 53 *e*P **P** **16 17 43.8 +1.5**
PFVI *i* LQ LQ 16 17 54.0
OUK Oukaimeden 69.89 59 P **P** **16 17 45.1 +1.7**
PTEO Sao Teotonio 69.92 52 *e*P **P** **16 17 44.8 +1.7**
PTEO *i* LQ LQ 16 17 54.8
MORF Marmelete 69.94 53 *e*P **P** **16 17 44.3 +1.0**
MORF lAmb lAmb 16 17 46.2
comp=Z,103nm,1.2s
MORF Marmelete 69.94 53 *e*P **P** **16 17 44.8 +1.5**
comp=Z,121nm,1.8s
MORF *i* LQ LQ 16 17 54.8
MORF Marmelete 69.94 53 P **P** **16 17 42.7 -0.6**
MORF Marmelete 69.94 53 *e*P **P** **16 17 44.3 +1.0**
C36M Paulatuk 70.05 344 P **P** **16 17 41.7 -1.6**
baz=130
PNCL Nicolau / Gran 70.15 52 *e*P **P** **16 17 45.7 +1.2**
comp=Z,50nm,1.4s
PNCL *i* LQ LQ 16 17 56.2
PSBE So Bento 70.15 50 *e*P **P** **16 17 45.9 +1.4**
comp=Z,64nm,1.5s
HYT Haines Junctio 70.31 333 lAmb lAmb 16 17 48.4
comp=Z,115nm,2.0s
HYT Haines Junctio 70.31 333 P **P** **16 17 47.1 +1.9**
baz=114,SNR=7.6
MESJ Messejana 70.36 52 *e*P **P** **16 17 46.9 +1.0**
MESJ lAmb lAmb 16 17 47.8
comp=Z,30nm,1.0s
MESJ Messejana 70.36 52 *e*P **P** **16 17 47.2 +1.4**
comp=Z,44nm,1.5s
MESJ *i* LQ LQ 16 17 57.0
MESJ Messejana 70.36 52 P **P** **16 17 45.3 -0.5**
MESJ lAmb lAmb 16 17 48.0
comp=Z,29nm,0.9s
MESJ Messejana 70.36 52 *e*P **P** **16 17 46.8 +1.0**
PCAS Casmilo, Conde 70.46 50 *e*P **P** **16 17 47.9 +1.5**
comp=Z,123nm,1.4s
PCVE Castro Verde 70.47 52 *e*P **P** **16 17 47.9 +1.4**
comp=Z,48nm,1.9s
PCVE *i* LQ LQ 16 17 57.9
PMTG Montargil 70.53 51 *e*P **P** **16 17 47.8 +1.0**
comp=Z,47nm,1.0s
PMTG *i* LQ LQ 16 17 57.7
COI Coimbra 70.55 50 *e*P **P** **16 17 48.6 +1.7**
comp=Z,192nm,1.1s
COI *i* LQ LQ 16 17 58.5
COI Coimbra 70.55 50 P **P** **16 17 46.9 0.0**
COI Coimbra 70.55 50 P **P** **16 17 46.9 0.0**
COI pmax pmax
comp=Z,160nm,1.0s
PTO Porto 70.56 49 *e*P **P** **16 17 48.4 +1.5**
comp=Z,93nm,1.4s
O29M Mount Kennedy 70.58 333 P **P** **16 17 48.4 +1.5**
baz=113
EVO Evora 70.61 51 *e*P **P** **16 17 48.2 +0.9**
comp=Z,49nm,1.9s
EVO *i* LQ LQ 16 17 58.3
PBEJ Beja 70.66 52 *e*P **P** **16 17 48.8 +1.2**
comp=Z,42nm,1.7s
PBEJ *i* LQ LQ 16 17 58.7
PVAQ Vaqueiros 70.69 53 *e*P **P** **16 17 49.2 +1.4**
comp=Z,54nm,1.7s
PVAQ Vaqueiros 70.69 53 lAmb lAmb 16 17 50.5
comp=Z,57nm,1.9s
TULEG Thule 70.70 2 *i* P **P** **16 17 47.0 -0.1**
TULEG lAmb lAmb 16 17 48.1
comp=Z,63nm,1.2s
PNL Peninsula 70.72 332 P **P** **16 17 48.5 +0.9**
baz=112
SUMG Summit 70.74 12 *i* P **P** **16 17 47.9 0.0**
SUMG lAmb lAmb 16 17 49.4
comp=Z,140nm,1.0s
YUK6 Outpost Mounta 70.74 333 P **P** **16 17 50.0 +2.0**
baz=114,SNR=18
M30M Minto, Yukon 70.75 335 lAmb lAmb 16 17 50.1
comp=Z,66nm,1.0s
M30M Minto, Yukon 70.75 335 P **P** **16 17 48.9 +1.1**
baz=116,SNR=50
OUZM OUZ 70.81 59 P **P** **16 17 51.0 +2.1**
MAYO Mayo, Yukon 70.83 336 P **P** **16 17 49.1 +0.9**
MAYO lAmb lAmb 16 17 51.0
comp=Z,47nm,0.9s
MAYO Mayo, Yukon 70.83 336 P **P** **16 17 49.9 +1.7**
baz=117
BORG Borgarnes 70.84 22 LR LR 16 45 47.4
comp=Z,423nm,20.9s,baz=228,slow=33
PGAV Gavieira, Arco 70.94 48 *e*P **P** **16 17 50.4 +1.0**
PESTR Estremoz 70.99 51 *e*P **P** **16 17 50.6 +1.0**
comp=Z,89nm,1.3s
PESTR *i* LQ LQ 16 18 00.5
PESTR Estremoz 70.99 51 lAmb lAmb 16 17 51.7
comp=Z,40nm,1.0s
PESTR Estremoz 70.99 51 P **P** **16 17 50.7 +1.1**
PVIS Viseu 71.02 49 *e*P **P** **16 17 50.9 +1.1**
comp=Z,58nm,1.4s
PVIS *i* LQ LQ 16 18 00.7
YUK4 Talbot Arm 71.03 334 P **P** **16 17 50.9 +1.2**
baz=114,SNR=16
PCAB Cabril 71.07 48 *e*P **P** **16 17 50.9 +0.8**
comp=Z,53nm,1.2s
POLO Lamas de Olo 71.19 48 *e*P **P** **16 17 52.0 +1.1**
comp=Z,45nm,1.3s
POLO *i* LQ LQ 16 18 01.9
PCBR Castelo Branco 71.21 50 *e*P **P** **16 17 51.9 +1.0**
comp=Z,53nm,1.5s
PCBR *i* LQ LQ 16 18 01.7
PMRV Marv??o 71.22 50 *e*P **P** **16 17 51.6 +0.6**
comp=Z,44nm,1.7s

PMRV *i* LQ LQ 16 18 02.3
MTE Manteigas 71.24 49 *e*P **P** **16 17 52.1 +0.9**
comp=Z,59nm,1.5s
MTE *i* LQ LQ 16 18 02.0
MTE Manteigas 71.24 49 P **P** **16 17 51.7 +0.5**
MTE lAmb lAmb 16 17 53.0
comp=Z,25nm,0.8s
PVRL Vila Real 71.24 49 *e*P **P** **16 17 52.1 +1.0**
comp=Z,75nm,1.8s
PVRL *i* LQ LQ 16 18 02.3
PINM Pinnacle 71.28 332 P **P** **16 17 52.0 +1.0**
baz=112
PMSA Palmer Station 71.31 174 *e*P **P** **16 17 50.6 -0.3**
PBAR Barrancos 71.33 52 *e*P **P** **16 17 52.8 +1.1**
comp=Z,66nm,1.8s
PBAR *i* LQ LQ 16 18 03.0
M29M Somme Creek 71.39 335 P **P** **16 17 52.9 +1.1**
baz=114
O28M Mount Upton 71.50 333 P **P** **16 17 54.2 +1.6**
baz=112
YUK8 Steele Glacier 71.50 333 P **P** **16 17 53.8 +1.2**
baz=112,SNR=13
L29M L29M 71.53 335 P **P** **16 17 53.1 +0.6**
baz=114
K29M Barlow Dome 71.59 336 P **P** **16 17 53.2 +0.3**
baz=115
MVO Moncorvo 71.73 49 *e*P **P** **16 17 55.3 +1.1**
comp=Z,68nm,1.6s
MVO *i* LQ LQ 16 18 05.2
ZGR Zagora 71.73 60 P **P** **16 17 56.0 +1.6**
TABL Table Mountain 71.82 332 lAmb lAmb 16 17 56.7
comp=Z,26nm,0.9s
TZRR Tazzarine 71.82 60 P **P** **16 17 57.0 +2.1**
F31M Tsiigehtchic 71.88 340 P **P** **16 17 54.6 +0.2**
baz=120,SNR=23
YUK3 Moose Creek 72.00 334 P **P** **16 17 56.9 +1.4**
baz=112,SNR=25
PBRG Braganca 72.04 48 *e*P **P** **16 17 57.1 +1.1**
comp=Z,41nm,1.5s
PBRG *i* LQ LQ 16 18 07.0
A36M Sachs Harbour 72.06 346 P **P** **16 17 54.2 -1.1**
baz=130,SNR=23
J29M Klondike Camp 72.13 337 P **P** **16 17 57.0 +0.9**
baz=115
INK Inuvik 72.25 341 LR LR 16 51 20.4
comp=Z,408nm,19.7s,baz=102,slow=37
INK Inuvik 72.25 341 lAmb lAmb 16 17 58.4
comp=Z,92nm,1.6s
INK Inuvik 72.25 341 P **P** **16 17 57.0 +0.5**
baz=120,SNR=26
BARN Barnard Glacie 72.28 333 lAmb lAmb 16 18 00.2
comp=Z,105nm,1.6s
EPYK Eagle Plains 72.40 339 P **P** **16 17 57.8 +0.1**
EPYK lAmb lAmb 16 17 59.7
comp=Z,71nm,1.4s
EPYK Eagle Plains 72.40 339 P **P** **16 17 58.0 +0.4**
baz=117,SNR=14
BVCY Beaver Creek 72.41 334 P **P** **16 17 59.4 +1.6**
baz=112,SNR=24
TIC Toumodi 72.41 85⇓ *e*P **P** **16 17 58.7 +0.1**
comp=Z,53nm,0.9s
ISLE Juniper Island 72.43 332 lAmb lAmb 16 18 00.8
comp=Z,70nm,1.3s
LIC Lamto 72.43 85⇓ *e*P **P** **16 17 58.8 0.0**
comp=Z,138nm,1.0s
DAWY Dawson 72.44 336 P **P** **16 17 58.6 +0.7**
baz=114,SNR=17
G30M tAoh Zraii Nji 72.50 339 P **P** **16 17 58.6 +0.4**
baz=118
I29M Ogilvie Camp, 72.55 338 P **P** **16 17 59.3 +0.8**
baz=115,SNR=17
DBIC Dimbokro 72.57 85 P **P** **16 17 59.4 -0.2**
DBIC lAmb lAmb 16 18 00.9
comp=Z,36nm,0.9s
DBIC Dimbokro 72.57 85 ⇑P **P** **16 18 00.3 +0.7**
KIC Kosan Boka 72.71 85⇓ *e*P **P** **16 18 00.6 +0.2**
comp=Z,16nm,0.7s
MDT Midelt 72.78 58 P **P** **16 18 02.5 +1.8**
M27K Edge Creek, AK 72.83 334 lAmb lAmb 16 18 03.4
comp=Z,107nm,1.5s
M27K Edge Creek, AK 72.83 334 P **P** **16 18 01.9 +1.5**
baz=111
NEEM North Greenlan 72.85 6 *i* P **P** **16 18 01.0 +0.6**
NEEM lAmb lAmb 16 18 01.9
comp=Z,156nm,1.0s
MCARA McCarthy VSAT 73.01 333 P **P** **16 18 01.8 +0.6**
MCARA McCarthy VSAT 73.01 333 P **P** **16 18 02.8 +1.5**
baz=109,SNR=17
ARF Arif 73.02 59 P **P** **16 18 04.1 +2.0**
L27K Beaver Creek, 73.06 335 lAmb lAmb 16 18 04.5
comp=Z,73nm,1.1s
L27K Beaver Creek, 73.06 335 P **P** **16 18 02.8 +1.2**
baz=111
VRDI Verde Repeater 73.15 333 P **P** **16 18 03.2 +0.8**
VRDI lAmb lAmb 16 18 05.0
comp=Z,67nm,1.2s
M26K Nabesna, AK 73.34 334 lAmb lAmb 16 18 19.9
comp=Z,42nm,1.4s
M26K Nabesna, AK 73.34 334 P **P** **16 18 04.5 +1.2**
baz=110
GLB Gilahina Butte 73.38 333 P **P** **16 18 04.7 +1.1**
GLB lAmb lAmb 16 18 06.4
comp=Z,83nm,1.3s
EGAK Eagle 73.42 336 P **P** **16 18 04.2 +0.6**
baz=112,SNR=16
K27K Chicken 73.52 336 P **P** **16 18 05.7 +1.5**
baz=111
PAB San Pablo 73.57 51 P **P** **16 18 05.5 +0.4**
PAB lAmb lAmb 16 18 07.5
comp=Z,63nm,1.3s
PAB San Pablo 73.57 51 P **P** **16 18 06.1 +1.0**
PAB San Pablo 73.57 51 ⇑P **P** **16 18 06.5 +1.4**
BMRM Bremner River 73.60 332 P **P** **16 18 06.0 +1.1**
baz=108,SNR=17
L26K Log Cabin Wild 73.70 334 lAmb lAmb 16 18 08.2
comp=Z,62nm,1.2s
L26K Log Cabin Wild 73.70 334 P **P** **16 18 07.0 +1.7**
baz=110,SNR=10
N25K Chitina, Valde 73.79 333 lAmb lAmb 16 18 08.8
comp=Z,81nm,1.5s
N25K Chitina, Valde 73.79 333 P **P** **16 18 07.2 +1.2**
baz=108,SNR=12
ESDC Sonseca Array 73.88 51 P **P** **16 18 08.2 +1.3**
comp=Z,22nm,0.8s,baz=270,slow=6.1,SNR=106
ESDC pP **pwP** **16 18 18.0 +0.2**
comp=Z,7.3nm,0.6s,baz=268,slow=6.1,SNR=9.2
comp=Z,22nm,0.8s
ESDC Sonseca Array 73.88 51 P **P** **16 18 06.8 -0.1**
ESDC lAmb lAmb 16 18 09.4
comp=Z,49nm,1.2s
ESBB Sonseca Array 73.88 51 lAmb lAmb 16 18 09.3
comp=Z,54nm,1.1s
I27K Kandik River 73.91 337 P **P** **16 18 07.3 +0.8**
baz=112
EYAK Cordova Ski Ar 74.01 332 P **P** **16 18 08.0 +0.9**
EYAK lAmb lAmb 16 18 09.8
comp=Z,78nm,1.6s
EYAK Cordova Ski Ar 74.01 332 P **P** **16 18 08.5 +1.3**
baz=107
H27K Steamboat Moun 74.11 338 P **P** **16 18 08.2 +0.5**
baz=112
DIV Divide 74.19 332 lAmb lAmb 16 18 10.6
comp=Z,43nm,1.2s
SCRK Sand Creek 74.29 335 P **P** **16 18 09.4 +0.5**
SCRK lAmb lAmb 16 18 11.6
comp=Z,75nm,1.4s
SCRK Sand Creek 74.29 335 P **P** **16 18 10.3 +1.4**
baz=109,SNR=43
HARP HAARP 74.29 334 P **P** **16 18 10.1 +1.3**
baz=108,SNR=8.0
J26L Joseph Creek 74.29 336 lAmb lAmb 16 18 11.6
comp=Z,54nm,1.1s
J26L Joseph Creek 74.29 336 P **P** **16 18 10.0 +1.1**
baz=110
KLU Klutina 74.37 332 lAmb lAmb 16 18 11.7
comp=Z,46nm,1.1s
KLU Klutina 74.37 332 P **P** **16 18 10.3 +1.0**
baz=107,SNR=17
G27K Doyon Strip 74.38 338 P **P** **16 18 09.5 +0.2**
baz=112
PPT Papeete 74.47 250 LR LR 16 43 12.4
comp=Z,300nm,18.9s,baz=76,slow=30
PPT2 Papeete2 74.47 250 *e*S **S** **16 27 47.0 +2.0**
comp=Z,70nm,30.2s
PPT2 *e*SS **SS** **16 32 34.1 +2.1**
comp=Z,69nm,27.2s
PPT2 *e*LR LR 16 41 01.4
comp=Z,745nm,24.0s
PPT2 *e*LR LR 16 41 01.6
comp=Z,724nm,25.8s
PPT2 *e*LR LR 16 41 02.0
comp=Z,608nm,26.2s
RIDG Independent Ri 74.57 335 P **P** **16 18 11.0 +0.6**
RIDG Independent Ri 74.57 335 P **P** **16 18 11.7 +1.3**
baz=108,SNR=64
JBK JBK 74.58 56 P **P** **16 18 13.0 +1.7**
PAX Paxson 74.60 334 lAmb lAmb 16 18 12.8
comp=Z,63nm,1.2s
PAX Paxson 74.60 334 P **P** **16 18 11.3 +0.6**
baz=108,SNR=37
P23K Montague Islan 74.66 331 P **P** **16 18 12.4 +1.5**
baz=105
M24K Tolsona, Glenn 74.66 333 P **P** **16 18 12.2 +1.2**
baz=107,SNR=14
TAF Taforalt 74.73 56 P **P** **16 18 14.0 +2.0**
E27K Coleen River 74.88 340 P **P** **16 18 12.7 +0.5**
baz=112
K24K Donnelly Dome 74.98 335 P **P** **16 18 14.3 +1.5**
baz=108,SNR=28
SCM Sheep Creek Mo 75.11 333 P **P** **16 18 14.4 +0.8**
baz=106,SNR=22
G26K Porcupine Rive 75.21 338 P **P** **16 18 14.2 +0.2**
baz=110
M23K Glacier View 75.28 333 P **P** **16 18 15.3 +0.7**
baz=119,SNR=29
PWL Port Wells 75.32 332 lAmb lAmb 16 18 16.5
comp=Z,54nm,1.0s
PWL Port Wells 75.32 332 P **P** **16 18 15.2 +0.4**
baz=104,SNR=9.4
PRP Porcupine Dome 75.41 337 P **P** **16 18 15.5 +0.1**
PRP lAmb lAmb 16 18 17.2
comp=Z,38nm,1.0s
PRP Porcupine Dome 75.41 337 P **P** **16 18 15.7 +0.4**
baz=108,SNR=36
LPW Lampeter 75.42 38 *e*P **P** **16 18 16.6 +1.1**
DHY Denali Highway 75.46 334 P **P** **16 18 16.2 +0.5**
baz=106,SNR=11
WAT6 Susitna Watana 75.49 333 P **P** **16 18 16.2 +0.3**
baz=105,SNR=33
GAL1 Galloway 75.50 35 *e*P **P** **16 18 16.7 +0.8**
KNK Knik Glacier 75.52 332 P **P** **16 18 15.9 0.0**
KNK lAmb lAmb 16 18 18.0
comp=Z,79nm,1.0s
KNK Knik Glacier 75.52 332 P **P** **16 18 16.5 +0.5**
baz=104,SNR=22
SML Sawmill 75.56 332 P **P** **16 18 16.7 +0.5**
baz=105,SNR=21
FIGM Figuig 75.57 58 P **P** **16 18 19.0 +2.0**
TBI Tubuai 75.59 244 *e*S **S** **16 27 59.5 +2.4**
comp=Z,214nm,33.2s
TBI *e*SS **SS** **16 32 51.3 +2.6**
comp=Z,300nm,30.0s
TBI *e*LR LR 16 41 32.9
comp=Z,974nm,34.8s
TBI *e*LR LR 16 41 33.7
comp=Z,2µm,24.8s
F26K Sheenjek River 75.60 339 P **P** **16 18 16.9 +0.6**
baz=110
FYU Fort Yukon 75.63 338 lAmb lAmb 16 18 18.6
comp=Z,77nm,1.2s
HDA Harding Lake 75.65 335 P **P** **16 18 17.1 +0.4**
baz=106,SNR=66
SEW Seward 75.68 331 lAmb lAmb 16 18 18.4
comp=Z,44nm,1.1s
SEW Seward 75.68 331 P **P** **16 18 16.9 +0.2**
baz=103,SNR=7.4
IL31 75.73 336 P **P** **16 18 17.0 0.0**
IL31 lAmb lAmb 16 18 18.8
comp=Z,40nm,1.2s
ILAR Eielson Array 75.73 336 P **P** **16 18 17.4 +0.4**
comp=Z,14nm,0.9s,baz=108,slow=5.0,SNR=83
ILAR PP **PP** **16 21 05.5 -1.4**
comp=Z,5.8nm,1.0s,baz=112,slow=7.0,SNR=11
ILAR LR LR 16 54 22.5
comp=Z,259nm,20.3s,baz=48,slow=38
comp=Z,14nm,0.9s
GHO Glory Hole Cre 75.82 332 P **P** **16 18 18.0 +0.3**
NEWG New Galloway 75.82 35 *e*P **P** **16 18 18.7 +1.0**
NEWG lAmb lAmb 16 18 19.2
comp=Z,54nm,0.8s
PMR Palmer 75.87 332 lAmb lAmb 16 18 19.7
comp=Z,39nm,1.3s
PMR Palmer 75.87 332 P **P** **16 18 18.4 +0.5**
baz=104,SNR=11
DBG Daneborg 75.88 14 *i* P **P** **16 18 17.1 -0.6**
WAT1 Susitna Watana 75.92 333 P **P** **16 18 18.7 +0.5**
baz=105
G25K Bearman Lake 76.02 338 P **P** **16 18 19.8 +1.2**
baz=108
RC01 Rabbit Creek A 76.04 332 lAmb lAmb 16 18 24.6
comp=Z,38nm,1.0s
RC01 Rabbit Creek A 76.04 332 P **P** **16 18 19.3 +0.4**
baz=103,SNR=12
MCH1 Michaelchurch 76.05 38 *e*P **P** **16 18 19.5 +0.4**
MCH1 lAmb lAmb 16 18 19.9
comp=Z,189nm,1.2s
POKR Poker Plat Res 76.06 336 P **P** **16 18 19.7 +0.8**
baz=106,SNR=8.1
FOEL Foel Wylfa 76.06 37 *e*P **P** **16 18 19.9 +0.7**
PUH Pauahi 76.07 288 P **P** **16 18 18.4 -1.6**
CCB Clear Creek Bu 76.08 335 P **P** **16 18 18.7 -0.3**
CCB lAmb lAmb 16 18 20.6
comp=Z,99nm,2.0s
F25K Christian Rive 76.11 339 P **P** **16 18 20.2 +0.9**
baz=108
C27K Jago River 76.13 341 P **P** **16 18 20.0 +0.7**
baz=111
MONM Monmouth 76.15 38 *e*P **P** **16 18 20.6 +0.9**
MONM lAmb lAmb 16 18 20.8
comp=Z,67nm,0.9s
COLA College 76.16 336 P **P** **16 18 20.1 +0.7**
baz=106
COLA College 76.16 336 *d i*P **P** **16 18 20.0 +0.6**
COLA pmax pmax
comp=Z,33nm,1.1s
TCOL CIGO, UAF Yank 76.16 336 P **P** **16 18 20.1 +0.7**
baz=106
BRSE Bradley Lake S 76.23 330 P **P** **16 18 20.7 +0.7**
baz=102,SNR=8.6
E25K Arctic Village 76.25 339 P **P** **16 18 20.6 +0.6**
baz=109,SNR=30
BRLK Bradley Lake 76.31 330 P **P** **16 18 20.5 0.0**
MCK McKinley 76.31 334 lAmb lAmb 16 18 22.5
comp=Z,76nm,1.2s
MCK McKinley 76.31 334 P **P** **16 18 20.8 +0.4**
baz=104,SNR=26
MDM Murphy Dome 76.34 336 lAmb lAmb 16 18 22.4
comp=Z,62nm,1.2s
M22K Willow 76.37 332 P **P** **16 18 20.9 +0.2**
M22K Willow 76.37 332 P **P** **16 18 21.1 +0.4**
baz=103
H24K Noodor Dome 76.43 337 lAmb lAmb 16 18 23.3
comp=Z,45nm,1.1s
H24K Noodor Dome 76.43 337 P **P** **16 18 21.9 +0.8**
baz=106
CNPM China Poot 76.44 330 lAmb lAmb 16 18 23.1
comp=Z,90nm,1.3s
ESK Eskdalemuir 76.44 35 *e*P **P** **16 18 21.8 +0.5**
G24K Hadweenzic Riv 76.52 337 P **P** **16 18 22.8 +1.2**
baz=107
STRD Stroud 76.53 38 *e*P **P** **16 18 22.8 +0.9**
STRD lAmb lAmb 16 18 23.4
comp=Z,100nm,0.8s
CUT Chulitna 76.59 333 P **P** **16 18 22.6 +0.7**
baz=103,SNR=17
NEA2 Nenana 76.59 335 lAmb lAmb 16 18 23.7
comp=Z,77nm,1.2s
NEA2 Nenana 76.59 335 P **P** **16 18 22.3 +0.3**
baz=105,SNR=40
SUA Susitna One 76.60 332 P **P** **16 18 22.7 +0.5**
SUA lAmb lAmb 16 18 23.7
comp=Z,42nm,0.7s
SUA Susitna One 76.60 332 P **P** **16 18 23.0 +0.8**
baz=102,SNR=23
C26K Camden Bay 76.62 341 P **P** **16 18 23.0 +1.0**
baz=110
CAPN Captain Cook N 76.65 331 P **P** **16 18 24.0 +1.7**
baz=102
BWN Browne 76.65 335 P **P** **16 18 22.2 -0.1**
HOM Homer 76.66 330 P **P** **16 18 22.5 +0.1**
baz=101
STNC Stoke 76.68 37 *e*P **P** **16 18 24.1 +1.4**
STNC lAmb lAmb 16 18 24.5
comp=Z,57nm,0.7s

EDU Dundee 76.74 33 *e*P P **16 18 24.0 +1.1**
MCD Coleburn Disti 76.78 32 *e*P P **16 18 23.9 +0.8**
KDAK Kodiak Island 76.80 328 LR LR 16 55 10.7
comp=Z,192nm,20.2s,baz=104,slow=38
KDAK Kodiak Island 76.80 328 P P **16 18 24.5 +1.2**
baz=100
TRF Thorofare Moun 76.83 334 IAmb IAmb 16 18 27.3
comp=Z,44nm,1.1s
TRF Thorofare Moun 76.83 334 P P **16 18 23.7 +0.2**
baz=103,SNR=20
I23K Minto, Yukon-K 76.85 336 P P **16 18 23.9 +0.6**
I23K IAmb IAmb 16 18 25.5
comp=Z,113nm,1.6s
I23K Minto, Yukon-K 76.85 336 P P **16 18 24.1 +0.7**
baz=104,SNR=25
Q20K Shuyak Island 76.85 329 P P **16 18 24.1 +0.6**
baz=100
F24K Squaw Lake 76.91 338 P P **16 18 24.6 +0.9**
baz=106
LBWR Ladybower, Pea 77.01 37 *e*P P **16 18 25.7 +1.2**
LBWR IAmb IAmb 16 18 26.4
comp=Z,100nm,1.0s
SKT Skwentna 77.07 332 P P **16 18 25.1 +0.3**
baz=102,SNR=26
OHAK Old Harbor 77.08 327 IAmb IAmb 16 18 26.7
comp=Z,31nm,1.0s
OHAK Old Harbor 77.08 327 P P **16 18 25.4 +0.6**
baz=99
H23K Yukon River 77.09 336 P P **16 18 25.1 +0.3**
H23K Yukon River 77.09 336 P P **16 18 25.5 +0.7**
baz=104
KTH Kantishna Hill 77.13 334 IAmb IAmb 16 18 26.8
comp=Z,50nm,1.2s
O20K Slope Mountain 77.23 330 P P **16 18 26.4 +0.7**
baz=100,SNR=13
N20K Mount Spurr 77.24 331 P P **16 18 26.1 +0.4**
baz=101,SNR=20
SPCR Spurr Chakacha 77.24 331 P P **16 18 25.8 +0.1**
baz=101,SNR=10.0
BPAW Bear Paw Mtn. 77.28 334 P P **16 18 25.6 -0.3**
BPAW Bear Paw Mtn. 77.28 334 P P **16 18 26.2 +0.3**
baz=103,SNR=56
E24K Your Creek 77.28 339 P P **16 18 26.6 +0.7**
baz=106
MLY Manley 77.39 335 IAmb IAmb 16 18 28.3
comp=Z,51nm,1.0s
MLY Manley 77.39 335 P P **16 18 26.8 +0.3**
baz=103,SNR=34
DAG Danmarks Havn 77.43 12 *i* P P **16 18 26.0 -0.4**
DAG IAmb IAmb 16 18 27.0
comp=Z,29nm,1.1s
P19K Oil Pt 77.46 330 IAmb IAmb 16 18 28.6
comp=Z,50nm,0.9s
P19K Oil Pt 77.46 330 P P **16 18 27.6 +0.6**
baz=100
ILSW Iliamna Southw 77.47 330 IAmb IAmb 16 18 28.6
comp=Z,77nm,1.0s
SII Sitkinak Islan 77.47 327 P P **16 18 27.8 +0.7**
baz=98
G23K Bananza Creek 77.50 337 P P **16 18 28.4 +1.4**
baz=104
Q19K Cape Douglas, 77.55 329 P P **16 18 27.4 -0.1**
baz=99
PPLA Purkeypile 77.56 333 P P **16 18 27.8 +0.2**
PPLA Purkeypile 77.56 333 P P **16 18 27.7 +0.1**
baz=101,SNR=16
CAST Castle Rocks 77.61 334 IAmb IAmb 16 18 29.2
comp=Z,63nm,1.2s
CAST Castle Rocks 77.61 334 P P **16 18 27.8 0.0**
baz=102,SNR=36
E23K Chandalar 77.69 339 P P **16 18 29.5 +1.4**
baz=105,SNR=30
COLD Coldfoot 77.70 338 P P **16 18 28.2 +0.1**
COLD IAmb IAmb 16 18 30.8
comp=Z,49nm,1.1s
COLD Coldfoot 77.70 338 P P **16 18 29.3 +1.2**
baz=104,SNR=41
M20K Styx River 77.80 332 IAmb IAmb 16 18 29.9
comp=Z,30nm,0.9s
M20K Styx River 77.80 332 P P **16 18 29.2 +0.3**
baz=100
CHUM Lake Minchumin 77.81 334 P P **16 18 29.1 +0.4**
baz=101,SNR=19
C24K Franklin Bluff 77.81 340 P P **16 18 29.4 +0.7**
baz=106
H22K Ishtalitna Cre 77.84 336 P P **16 18 29.5 +0.5**
baz=103
I21K Tanana 77.93 335 IAmb IAmb 16 18 31.0
comp=Z,52nm,1.1s
I21K Tanana 77.93 335 P P **16 18 29.8 +0.3**
baz=102
O19K Port Alsworth 78.08 330 IAmb IAmb 16 18 31.4
comp=Z,39nm,0.8s
O19K Port Alsworth 78.08 330 P P **16 18 30.3 -0.1**
baz=99,SNR=14
G22K Bettles 78.12 337 P P **16 18 31.5 +1.0**
baz=103
CHIR Chirikof Islan 78.17 326 P P **16 18 31.1 +0.2**
baz=97
Q18K Katmai Hardscr 78.21 329 P P **16 18 31.4 +0.1**
baz=98,SNR=7.4
L20K Farewell, AK 78.25 333 P P **16 18 31.3 0.0**
baz=100
N19K Bonanza Creek 78.26 331 P P **16 18 31.1 -0.3**
N19K IAmb IAmb 16 18 32.7
comp=Z,70nm,1.2s
N19K Bonanza Creek 78.26 331 P P **16 18 31.7 +0.2**
baz=99
D23K Nanushuk River 78.30 339 P P **16 18 32.5 +1.1**
baz=104
H21K Melozitna Rive 78.37 336 P P **16 18 31.8 0.0**
baz=101
P18K Big Mountain, 78.42 329 IAmb IAmb 16 18 33.3
comp=Z,109nm,1.6s
P18K Big Mountain, 78.42 329 P P **16 18 32.2 -0.1**
baz=98,SNR=8.7
O18K Koktuh Hills 78.48 330 P P **16 18 32.9 +0.3**
baz=98
K20K Telida 78.48 333 P P **16 18 32.7 +0.1**
baz=100
F22K John River 78.50 338 P P **16 18 33.5 +0.8**
baz=102
TORD Torodi Ar. Bea 78.59 78 P P **16 18 34.3 +0.2**
comp=Z,11nm,0.8s,baz=286,slow=5.1,SNR=18
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 78.59 78 P P **16 18 33.5 -0.6**
TORD IAmb IAmb 16 18 35.8
comp=Z,87nm,1.8s
Q17K Contact Creek 78.61 328 P P **16 18 33.8 +0.3**
baz=97,SNR=12
L19K White Mountain 78.65 332 P P **16 18 33.5 0.0**
L19K IAmb IAmb 16 18 34.9
comp=Z,42nm,1.2s
L19K White Mountain 78.65 332 P P **16 18 33.7 +0.2**
baz=99
J20K Nowinta River 78.66 334 IAmb IAmb 16 18 35.1
comp=Z,101nm,1.4s
J20K Nowinta River 78.66 334 P P **16 18 33.6 +0.1**
baz=100
R17K Ugashik Creek 78.80 328 P P **16 18 35.0 +0.6**
baz=96
G21K Aliakaket 78.81 337 P P **16 18 35.3 +0.9**
baz=101
SVW2 Sparrevohn 78.83 331 P P **16 18 34.3 -0.2**
SVW2 IAmb IAmb 16 18 35.5
comp=Z,63nm,1.0s
F21K Alatna River 78.94 337 P P **16 18 35.9 +0.9**
baz=101
P17K Kvichak River 79.01 329 P P **16 18 35.8 +0.3**
baz=97
Q16K King Salmon 79.06 329 P P **16 18 36.3 +0.6**
baz=96,SNR=12
TTA Tatalina 79.29 333 P P **16 18 37.0 0.0**
baz=98,SNR=12
O17K Koliganek Bris 79.41 330 P P **16 18 38.2 +0.5**
baz=96,SNR=32
R16K Pilot Point 79.43 327 P P **16 18 37.9 +0.1**
baz=96
CHGN Chignik 79.78 326 P P **16 18 39.4 -0.3**
CHGN IAmb IAmb 16 18 41.1
comp=Z,46nm,0.8s
CHGN Chignik 79.78 326 P P **16 18 40.2 +0.4**
baz=94
P16K Nushagak River 79.79 329 P P **16 18 40.0 +0.2**
baz=95,SNR=19
O16K Kokwok River B 79.90 329 P P **16 18 40.4 +0.1**
baz=95
GCSA Galena City Sc 79.91 335 P P **16 18 41.0 +0.8**
baz=97,SNR=13
NOR Nord 80.06 8 *i* P P **16 18 41.1 +0.2**
NOR IAmb IAmb 16 18 42.2
comp=Z,40nm,1.2s
N16K Nishlik Lake 80.31 330 P P **16 18 42.8 +0.2**
baz=95
DOU Dourbes 80.66 40 *d*P P **16 18 45.5 +0.8**
comp=Z,27nm,1.1s
A21K Barrow 80.75 341 IAmb IAmb 16 18 46.4
comp=Z,57nm,1.0s
A21K Barrow 80.75 341 P P **16 18 45.2 +0.5**
baz=99
SDPT Sand Point 80.88 325 P P **16 18 46.6 +0.9**
baz=93
BGES Gesves 80.98 40 *d*P P **16 18 47.4 +1.0**
comp=Z,17nm,1.1s
RCHB Rochefort 81.07 40 *d*P P **16 18 47.4 +0.6**
comp=Z,30nm,1.1s
BCLA Clavier 81.12 40 *d*P P **16 18 47.9 +0.8**
comp=Z,12nm,1.0s
BSTI Sart Tilman 81.29 40 *d*P P **16 18 49.5 +1.5**
BHOU Houvegnez 81.57 40 *d*P P **16 18 51.0 +1.5**
comp=Z,32nm,1.2s
MEM Membach 81.57 40 *d*P P **16 18 50.9 +1.4**
comp=Z,23nm,1.1s
BTNL Ternell 81.65 40 *d*P P **16 18 50.5 +0.5**
comp=Z,16nm,1.4s
WLF Walferdange 81.66 41 *d*P P **16 18 51.2 +1.3**
comp=Z,59nm,1.0s
WLF Walferdange 81.66 41 *e*P P **16 18 51.4 +1.5**
comp=Z,112nm,1.0s,baz=273,slow=5.1
S12K Black Hills 81.79 325 P P **16 18 51.8 +1.3**
baz=91
BNI Bardonecchia 82.00 45 P P **16 18 52.4 +0.3**
BNI IAmb IAmb 16 18 54.9
comp=Z,35nm,1.1s
BNI Bardonecchia 82.00 45 P P **16 18 52.4 +0.3**
BNI pmax pmax
comp=Z,35nm,1.1s
AHRW Bad Neuenahr-A 82.25 40 *e*P P **16 18 54.6 +1.6**
comp=Z,96nm,1.3s,baz=273,slow=5.1
ECH Echery 82.31 42 IAmb IAmb 16 18 55.4
comp=Z,61nm,1.0s
BUG Bochum-Univer 82.38 39 *e*P P **16 18 54.9 +1.2**
comp=Z,60nm,1.2s,baz=273,slow=5.1
RDOG Red Dog Mine 82.62 338 P P **16 18 56.1 +1.5**
baz=92
IBBN Ibbenburen 82.68 38 *e*P P **16 18 56.4 +1.1**
comp=Z,72nm,1.1s,baz=273,slow=5.1
BFO Black Forest 83.09 42 P P **16 18 57.6 0.0**
BFO Black Forest 83.09 42 P P **16 18 57.6 0.0**
BFO Black Forest 83.09 42 *e*P P **16 18 58.0 +0.4**
comp=Z,19nm,0.9s,baz=273,slow=5.1
BFO *e*L L 16 50 27.0
comp=Z,294nm,20.3s
TNS Taunus Mts 83.14 40 *e*P P **16 18 58.9 +1.1**
comp=Z,63nm,1.2s,baz=273,slow=5.1
TNS *e*L L 16 48 37.5
comp=Z,334nm,22.0s
MUD Monsted U'grnd 83.46 34 *e*P P **16 19 00.4 +1.3**
MUD IAmb IAmb 16 19 01.4
comp=Z,104nm,1.2s
ANM Nome 83.55 334 IAmb IAmb 16 19 01.6
comp=Z,23nm,1.0s
ANM Nome 83.55 334 P P **16 19 00.6 +1.1**
baz=90,SNR=9.4
RETH Rethem/Aller, 83.65 38 *e*P P **16 19 01.9 +1.7**
comp=Z,128nm,1.4s,baz=273,slow=5.1
STU Stuttgart 83.66 42 IAmb IAmb 16 19 02.3
comp=Z,50nm,1.1s
TUE Stuetta 83.84 44 P P **16 19 02.1 +0.5**
TUE IAmb IAmb 16 19 04.0
comp=Z,36nm,0.7s
GTTG Gottingen 84.06 39 *e*P P **16 19 03.7 +1.3**
comp=Z,66nm,1.2s,baz=273,slow=5.1
NRDL Niedersach Rie 84.11 38 *e*P P **16 19 04.2 +1.7**
comp=Z,52nm,1.1s,baz=273,slow=5.1
DAVA Damuels 84.17 43 *i* pP P **16 19 04.8 +1.5**
comp=Z,75nm,1.0s,SNR=9.9
BSEG Bad Segeberg 84.19 36 *e*P P **16 19 04.3 +1.3**
comp=Z,36nm,0.9s,baz=273,slow=5.1
DAVOX Davos/Dischmat 84.19 44 LR LR 16 53 32.2
comp=Z,99nm,20.3s,baz=284,slow=34
NBO00 NORSAR Array S 84.19 29 P P **16 19 02.7 -0.2**
CLZ Clausthal 84.30 39 *e*P P **16 19 05.1 +1.5**
comp=Z,71nm,1.2s,baz=273,slow=5.1
UBR Ueberruh 84.31 43 *e*P P **16 19 05.1 +1.2**
comp=Z,95nm,1.8s,baz=273,slow=5.1
UNV Unalaska Valle 84.38 323 P P **16 19 04.6 +0.6**
baz=88,SNR=5.2
NB2 NORSAR Subarra 84.41 29 P P **16 19 04.8 +0.8**
comp=Z,27nm,1.0s,baz=272,slow=5.1
NB2 NORSAR Subarra 84.41 29 P P **16 19 04.8 +0.8**
slow=5.1
NOA NORSAR Array B 84.41 29 P P **16 19 04.9 +0.9**
comp=Z,20nm,1.1s,baz=274,slow=5.1,SNR=18
comp=Z,20nm,1.1s
FUORN Ofenpass-Fuorn 84.47 44 IAmb IAmb 16 19 07.3
comp=Z,27nm,1.0s
ASSE Asse, Remlinge 84.47 38 *e*P P **16 19 06.1 +1.8**
comp=Z,108nm,1.7s,baz=273,slow=5.1
RAR Rarotonga 84.57 248 LR LR 16 48 58.9
comp=Z,120nm,18.5s,baz=94,slow=30
TNA Tin City 84.61 335 P P **16 19 05.3 +0.4**
TNA IAmb IAmb 16 19 07.2
comp=Z,34nm,1.1s
TNA Tin City 84.61 335 P P **16 19 06.1 +1.3**
baz=88
RETA Reutte 84.76 43 *i* P P **16 19 07.3 +1.2**
comp=Z,30nm,1.3s,SNR=5.4
FETA Feichten 84.76 43 *i* P P **16 19 07.3 +1.0**
comp=Z,51nm,1.1s,SNR=19
FLTG Flechtingen 84.81 38 *e*P P **16 19 07.2 +1.0**
comp=Z,48nm,1.0s,baz=273,slow=5.1
GRFO Grafenberg 84.94 41 P P **16 19 08.0 +1.1**
GRFO IAmb IAmb 16 19 09.2
comp=Z,33nm,1.0s
GRFO Grafenberg 84.94 41 P P **16 19 08.0 +1.1**
GRFO pmax pmax
comp=Z,33nm,1.0s
GRA1 Grafenberg Arr 84.94 41 P P **16 19 07.4 +0.4**
GRA1 IAmb IAmb 16 19 09.3
comp=Z,29nm,0.9s
GRF Grafenberg Arr 84.94 41 P P **16 19 07.4 +0.4**
GRF pmax pmax
comp=Z,29nm,0.9s
GRF Grafenberg Arr 84.94 41 *e*P P **16 19 08.3 +1.4**
comp=Z,60nm,1.4s,baz=273,slow=5.1
GRF *e*L L 16 52 29.7
comp=Z,260nm,20.0s
KONS Konsvik 84.99 24 *e*P P **16 19 07.8 +1.0**
MOTA Moosalm 85.00 43 *i* P P **16 19 08.2 +0.8**
comp=Z,17nm,0.8s,SNR=6.3
BE1 Monatshausen 85.05 42 *e*P P **16 19 08.9 +1.3**
comp=Z,127nm,1.2s,baz=273,slow=5.1
FUR Furstenfeldbru 85.07 42 *e*L L 16 48 19.7
comp=Z,247nm,21.9s
SQTA Sankt Quirin 85.08 43 *i* P P **16 19 08.9 +1.1**
comp=Z,26nm,0.9s,SNR=7.7
SPA0 Spitsbergen Ar 85.08 12 *e*P P **16 19 08.1 +1.0**
SPA0 IAmb IAmb 16 19 08.8
comp=Z,138nm,1.4s
MOX Moxa 85.14 40 *e*P P **16 19 08.9 +1.0**
comp=Z,36nm,1.3s,baz=273,slow=5.1
MOX *e*L L 16 50 28.8
comp=Z,370nm,20.0s
NEUB Neuenburg 85.21 39 *e*P P **16 19 09.6 +1.4**
comp=Z,54nm,0.9s,baz=273,slow=5.1
WATA Walderalm 85.32 43 *i* P P **16 19 09.9 +0.9**
comp=Z,17nm,1.1s
WTTA Wattenberg 85.37 43 *i* P P **16 19 10.3 +0.9**
comp=Z,24nm,1.0s,SNR=7.3
CTI Castel Tesino 85.46 44 P P **16 19 09.6 -0.1**
CTI IAmb IAmb 16 19 11.5
comp=Z,50nm,1.2s
CTI Castel Tesino 85.46 44 P P **16 19 09.6 -0.1**
CTI pmax pmax
comp=Z,50nm,1.2s
MANZ Manzenberg 85.50 40 *e*P P **16 19 11.2 +1.4**
comp=Z,13nm,1.2s,baz=273,slow=5.1
MOR8 Moi Rana 85.55 24 *e*P P **16 19 10.9 +1.3**
MOR8 IAmb IAmb 16 19 12.1
comp=Z,100nm,1.2s
ROTZ Rotzenmuhle 85.58 41 *e*P P **16 19 11.5 +1.4**
comp=Z,9.2nm,1.2s,baz=273,slow=5.1
WERD Werda 85.59 40 *e*P P **16 19 11.5 +1.3**
comp=Z,50nm,1.2s,baz=273,slow=5.1
GUNZ Gunzen 85.62 40 *e*P P **16 19 11.7 +1.4**
comp=Z,59nm,1.4s,baz=273,slow=5.1
WERN Wernitzgruen 85.65 40 *e*P P **16 19 12.0 +1.5**
comp=Z,76nm,1.4s,baz=273,slow=5.1
TANN Tannenbergstha 85.70 40 *e*P P **16 19 12.1 +1.4**
comp=Z,69nm,1.1s,baz=273,slow=5.1
NKC Novy Kostel 85.70 40 *e*P P **16 19 12.0 +1.3**
STEI Steigen 85.71 22 *e*P P **16 19 11.4 +1.1**
FAUS Fauske 85.78 23 *e*P P **16 19 11.9 +1.2**
FAUS IAmb IAmb 16 19 12.9
comp=Z,71nm,1.0s
KW1 Garching a.d. 85.95 42 *e*P P **16 19 13.7 +1.7**
comp=Z,135nm,0.9s,baz=273,slow=5.1
CLL Collm 85.97 39 IAmb IAmb 16 19 14.3
comp=Z,51nm,1.1s
CLL Collm 85.97 39⇓ *i*P P **16 19 13.1 +1.1**
comp=Z,43nm,1.0s
CLL *i* PcP PcP **16 19 15.8 +1.1**
CLL *i* x x 16 19 17.0
CLL *i* x x 16 19 23.0
CLL *e*S S 16 29 54.0 +9.4
CLL *e*PS PnS **16 30 43.0 -0.4**
CLL *e*SSS SSS 16 38 42.0
CLL Lm MLR 16 50 00.0
comp=Z,300nm,21.1s
CLL Collm 85.97 39⇓ *i*P P **16 19 13.1 +1.1**
CLL *i* 16 19 15.8
CLL pmax pmax
comp=Z,43nm,1.0s
CLL MLR MLR
comp=Z,300nm,21.1s
CLL Collm 85.97 39 *e*P P **16 19 13.3 +1.3**
comp=Z,43nm,1.0s,baz=273,slow=5.1
CLL *e*L L 16 50 37.3
comp=Z,350nm,21.1s
CIMO Cimolais 85.99 44 IAmb IAmb 16 19 14.0
comp=Z,46nm,0.9s
ABTA Abfaltersbach 86.00 44 *i* P P **16 19 13.4 +1.0**
comp=Z,51nm,1.1s,SNR=13
RJOB Jochberg 86.12 43 *e*P P **16 19 14.1 +1.2**
comp=Z,39nm,0.9s,baz=273,slow=5.1
FBE Freiberg 86.22 39 *e*P P **16 19 14.9 +1.6**
comp=Z,59nm,1.0s,baz=273,slow=5.1
CLUD Cludinico 86.28 44 P P **16 19 13.7 0.0**
MURB Monte Urbino 86.29 47 IAmb IAmb 16 19 14.5
comp=Z,34nm,0.9s
RUE Ruedersdorf 86.36 38 *e*P P **16 19 14.6 +0.7**
RUE Ruedersdorf 86.36 38 *e*P P **16 19 15.3 +1.5**
comp=Z,98nm,1.2s,baz=273,slow=5.1
GAMB Gambell 86.36 334 P P **16 19 14.5 +0.9**
baz=84
CESX Cesi 86.38 48 IAmb IAmb 16 19 15.9
comp=Z,54nm,1.1s
KHC Kasperske Hory 86.52 41 P P **16 19 14.8 0.0**
KHC IAmb IAmb 16 19 17.4
comp=Z,73nm,1.2s
KHC Kasperske Hory 86.52 41 *e*P P **16 19 15.7 +0.9**
KHC *ex* x 16 19 25.0
KHC Kasperske Hory 86.52 41 *d*P P **16 19 16.1 +1.3**
KHC pmax pmax
comp=Z,147nm,1.2s
KBA Koelnbreinsper 86.54 43 *i* P P **16 19 16.3 +1.1**
comp=Z,64nm,1.4s,SNR=13
BRG Berggiesshubel 86.60 39 *i* P P **16 19 16.7 +1.5**
BRG Amp 16 19 17.7
comp=Z,46nm,1.1s
BRG Berggiesshubel 86.60 39 P P 16 19 26.7 +12
BRG Amp 16 19 27.4
comp=Z,15nm,0.8s
BRG Berggiesshubel 86.60 39 *i* P P **16 19 16.6 +1.5**
BRG pmax pmax
comp=Z,47nm,1.1s
BRG pmax pmax
comp=Z,15nm,0.9s
BRG Berggiesshubel 86.60 39 *e*P P **16 19 16.6 +1.5**
comp=Z,47nm,1.1s,baz=273,slow=5.1
GEC2 GERESS Array S 86.63 41 IAmb IAmb 16 19 17.6
comp=Z,45nm,0.9s
GEC2 GERESS Array S 86.63 41 *e*P P **16 19 16.6 +1.1**
comp=Z,56nm,1.0s,baz=273,slow=5.1
GEC2 *e*L L 16 47 58.0
comp=Z,279nm,21.0s
GERES GERESS Array B 86.63 41 P P **16 19 16.3 +0.9**
comp=Z,28nm,0.9s,baz=289,slow=3.0,SNR=82
GERES pP **pwP 16 19 26.4 +0.1**
comp=Z,10nm,0.7s,baz=267,slow=2.7,SNR=13
GERES LR LR 16 50 29.7
comp=Z,241nm,21.9s,baz=276,slow=30
comp=Z,28nm,0.9s
BIOA Bad Ischl, Aus 86.69 43 *i* P P **16 19 16.7 +1.1**
comp=Z,94nm,1.4s,SNR=23
FDMO Fiordimonte 86.72 47 P P **16 19 15.0 -0.9**
NRCA Norcia 86.75 47 IAmb IAmb 16 19 34.6
comp=Z,44nm,1.4s
MYKA Terra Mystica 86.79 44 *i* P P **16 19 17.3 +1.0**
comp=Z,38nm,0.7s,SNR=12
SABO M.te Sabotino 86.82 44 P P **16 19 16.3 0.0**
SABO IAmb IAmb 16 19 18.9
comp=Z,88nm,1.0s
TRO Tromso 86.84 20 *e*P P **16 19 17.2 +1.4**
TRO IAmb IAmb 16 19 17.9
comp=Z,88nm,1.1s
CADS Cadrg 86.89 44 *e*P P **16 19 17.6 +0.9**
CAMP Campotosto 87.00 48 IAmb IAmb 16 19 18.9
comp=Z,35nm,1.2s
BELA Belgrano 2 87.02 172 IAmb IAmb 16 19 28.1
comp=Z,21nm,0.9s
CKRC Cesky Krumlov 87.03 41 *e*P P **16 19 18.8 +1.5**
PVCC Panska Ves 87.03 40 *e*P P **16 19 18.8 +1.6**
PRU Pruhonice 87.06 40 *e*P P **16 19 18.6 +1.2**
MOA Molln 87.09 42 *i* P P **16 19 18.7 +1.0**
comp=Z,32nm,0.9s,SNR=7.2
JETT Jettan, Norway 87.36 20 *e*P P **16 19 19.7 +1.2**
JETT IAmb IAmb 16 19 20.4
comp=Z,131nm,0.8s
INTR Introdacqua 87.41 48 P P **16 19 19.0 -0.4**
OBKA Obir 87.42 44 *i* P P **16 19 20.1 +0.8**
comp=Z,18nm,0.9s
SOKA Soboth 87.74 43 *e*P P **16 19 21.3 +0.5**
comp=Z,18nm,0.9s,SNR=6.4
TREC Trest 87.75 41 *e*P P **16 19 21.9 +1.1**
PERS Pernice 87.80 44 *e*P P **16 19 21.3 +0.2**
UPC Upice 87.95 40 *e*P P **16 19 23.2 +1.6**
ARSA Arzberg 88.01 43 *i* P P **16 19 23.0 +0.9**
comp=Z,19nm,0.9s,SNR=7.4
OSTC Ostas 88.07 40 *e*P P **16 19 24.1 +1.8**
KSP Ksiaz 88.08 39 *e*P P **16 19 22.9 +0.6**
KSP *e*L L 16 50 03.8
comp=Z,568nm,16.3s
CONA Conrad Observa 88.16 42 *i* pP P **16 19 24.1 +1.3**
comp=Z,30nm,0.8s,SNR=11
DPC Dobruska-Polom 88.16 40 *e*P P **16 19 24.3 +1.6**
VAE Valguarnera 88.27 53 LR LR 16 54 26.9
comp=Z,187nm,19.9s,baz=312,slow=32
GKP Gorka Klasztor 88.35 37 *e*P P **16 19 25.1 +1.7**
KRUC Moravsky 88.37 41 *e*P P **16 19 24.8 +1.1**
KTK1 Kautokeino 88.45 21 *e*P P **16 19 24.5 +0.9**
KTK1 IAmb IAmb 16 19 25.2
comp=Z,37nm,0.9s
VRAC Vranov 88.47 41 ⇑P P **16 19 26.0 +1.9**
VRAC Vranov 88.47 41 *e*P P **16 19 25.5 +1.3**
VRAC Vranov 88.47 41 ⇑P P **16 19 26.0 +1.9**
RONA Rosalia, Austr 88.47 42 *i* pP P **16 19 25.6 +1.4**
comp=Z,29nm,0.9s,SNR=10
KRLC Kraliky 88.49 40 *e*P P **16 19 26.0 +1.7**
KOGS Kog 88.60 44 *e*P P **16 19 25.8 +1.0**
ZST Bratislava 88.95 42 *e*P P **16 19 27.8 +1.4**
ZST pmax pmax
comp=Z,97nm,1.3s
ZST Bratislava 88.95 42 *e*P P **16 19 27.8 +1.4**
MORC Moravsky Berou 89.02 40 ⇑P P **16 19 29.0 +2.2**
MORC Moravsky Berou 89.02 40 IAmb IAmb 16 19 29.7
comp=Z,34nm,1.1s
MORC Moravsky Berou 89.02 40 *e*P P **16 19 28.4 +1.6**
MORC Moravsky Berou 89.02 40 ⇑P P **16 19 29.0 +2.2**
MODS Modra-Piesok 89.04 42 *e*P P **16 19 28.4 +1.5**
MODS pmax pmax
comp=Z,93nm,1.4s
MODS Modra-Piesok 89.04 42 *e*P P **16 19 28.4 +1.5**
ARA0 ARCESS Array S 89.12 20 *e*P P **16 19 27.5 +0.8**
ARCES ARCESS Array B 89.12 20 P P **16 19 27.4 +0.6**
comp=Z,11nm,0.6s,baz=289,slow=3.7,SNR=39
ARCES LR LR 17 00 53.0
comp=Z,112nm,18.5s,baz=272,slow=37
comp=Z,11nm,0.6s
ARCES ARCESS Array B 89.12 20 P P **16 19 26.7 -0.1**

JAVC	**Velka Javorina**	**89.23**	**41**	*e*P		**P**	**16 19 30.2**	**+2.4**
MAUC	**Maruska**	**89.26**	**41**	*e*P		**P**	**16 19 30.0**	**+2.1**
OKC	**Ostrava-Krasne**	**89.40**	**40**	*e*P		**P**	**16 19 30.4**	**+1.9**
RAF	**Rauma**	**89.50**	**29**	*e*P		**P**	**16 19 29.0**	**+0.3**
SRO	**Srobarova**	**89.81**	**42**	*e*P		**P**	**16 19 31.6**	**+1.2**
SRO	**Srobarova**	**89.81**	**42**	*e*P		**P**	**16 19 31.6**	**+1.2**
VYHS	**Vyhne**	**90.05**	**41**	*e*P		**P**	**16 19 33.4**	**+1.8**
VYHS					pmax	pmax		
	comp=Z,20nm,1.2s							
VYHS	**Vyhne**	**90.05**	**41**	*e*P		**P**	**16 19 33.3**	**+1.7**
MORH	**Mrgy, Hungar**	**90.27**	**44**	⇑P		**P**	**16 19 34.3**	**+1.7**
LANS	**Liptovska Anna**	**90.35**	**41**	*e*P		**P**	**16 19 36.0**	**+3.0**
LANS					pmax	pmax		
	comp=Z,21nm,1.5s							
LANS	**Liptovska Anna**	**90.35**	**41**	*e*P		**P**	**16 19 36.0**	**+3.0**
OJC	**Ojcow**	**90.39**	**40**	*e*P		**P**	**16 19 35.3**	**+2.2**
OJC				*e*L		L	16 51 53.0	
	comp=Z,376nm,24.2s							
OJC	**Ojcow**	**90.39**	**40**	IAmb		IAmb	16 19 36.1	
	comp=Z,54nm,1.2s							
NIE	**Niedzica**	**90.84**	**40**	*e*P		**P**	**16 19 38.5**	**+3.2**
NIE				*e*L		L	16 52 37.0	
	comp=Z,245nm,22.4s							
MEF	**Metsahovi**	**90.94**	**29**	*e*P		**P**	**16 19 36.3**	**+0.9**
SNAA	**Sanae**	**90.98**	**162**	P		**P**	**16 19 36.2**	**+0.7**
SNAA	**Sanae**	**90.98**	**162**	LR		LR	17 00 29.0	
	comp=Z,80nm,20.1s,baz=332,slow=36							
SNAA	**Sanae**	**90.98**	**162**	P		**P**	**16 19 35.9**	**+0.4**
SNAA	**Sanae**	**90.98**	**162**	⇓*i*P		**P**	**16 19 36.1**	**+0.7**
SNAA					pmax	pmax		
	comp=Z,20nm,2.1s							
FRGS	**Fruska Gora**	**91.25**	**45**	⇑P		**P**	**16 19 39.5**	**+2.3**
FINES	**FINESS Array B**	**91.44**	**28**	P		**P**	**16 19 38.3**	**+0.6**
	comp=Z,15nm,0.9s,baz=282,slow=3.7,SNR=13							
FINES				PKKPbc		**PKKPdf**	**16 36 58.3**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=140,slow=6.5,SNR=3.9							
FINES				LR		LR	16 56 15.1	
	comp=Z,262nm,18.8s,baz=244,slow=33							
	comp=Z,15nm,0.9s							
STHS	**Stebnicka Huta**	**91.45**	**40**	*e*P		**P**	**16 19 39.7**	**+1.6**
STHS					pmax	pmax		
	comp=Z,10.0nm,1.0s							
STHS	**Stebnicka Huta**	**91.45**	**40**	*e*P		**P**	**16 19 39.7**	**+1.6**
DIVS	**Divibare**	**91.56**	**46**	P		**P**	**16 19 38.3**	**-0.5**
DIVS				IAmb		IAmb	16 19 41.6	
	comp=Z,18nm,0.9s							
CRVS	**Cervenica-Dubn**	**91.69**	**41**	*e*P		**P**	**16 19 41.8**	**+2.6**
CRVS					pmax	pmax		
	comp=Z,66nm,1.6s							
CRVS	**Cervenica-Dubn**	**91.69**	**41**	*e*P		**P**	**16 19 41.8**	**+2.6**
PABE	**Paberze**	**91.82**	**34**	IAmb		IAmb	16 19 41.4	
	comp=Z,35nm,1.0s							
PABE	**Paberze**	**91.82**	**34**	*e*P		**P**	**16 19 40.1**	**+0.5**
KEK	**Kerkira**	**92.15**	**50**	IAmb		IAmb	16 19 45.2	
	comp=Z,38nm,1.1s							
UZH	**Uzhgorod**	**92.28**	**41**	*e*P		**P**	**16 19 44.6**	**+2.7**
UZH				*e*			16 19 48.1	
SIRR	**Siria**	**92.32**	**43**	⇑P		**P**	**16 19 43.0**	**+0.8**
BZS	**Buzias**	**92.42**	**44**	⇑P		**P**	**16 19 44.6**	**+2.0**
BZS	**Buzias**	**92.42**	**44**	⇑P		**P**	**16 19 44.6**	**+2.0**
APA	**Apatity**	**92.49**	**21**	⇓*i*P		P	16 19 52.1	+10
APA					pmax	pmax		
	comp=Z,7.0nm,1.0s							
APA				MLR		MLR		
	comp=Z,2μm,17.0s							
TRPA	**Tarpa**	**92.54**	**41**	⇑P		**P**	**16 19 44.5**	**+1.4**
MDVR	**Moldovita**	**92.64**	**45**	⇑P		**P**	**16 19 45.3**	**+1.6**
TROLL	**Troll, Antarti**	**92.69**	**162**	P		**P**	**16 19 44.5**	**+1.0**
BOVS	**Bovan**	**92.86**	**46**	⇑P		**P**	**16 19 46.2**	**+1.5**
ISAL	**Salakas**	**92.99**	**33**	*e*P		**P**	**16 19 46.0**	**+1.0**
IIGN	**Ignalina**	**93.10**	**34**	*e*P		P	16 19 37.4	-8.2
HERR	**Herculane**	**93.12**	**44**	⇑P		**P**	**16 19 47.5**	**+1.7**
FNA	**Florina**	**93.15**	**49**	P		**P**	**16 19 46.3**	**+0.1**
FNA	**Florina**	**93.15**	**49**	P		**P**	**16 19 46.3**	**+0.1**
FNA					pmax	pmax		
	comp=Z,7.0nm,0.8s							
MARR	**Marisel-Cluj**	**93.23**	**43**	⇑P		**P**	**16 19 48.2**	**+1.7**
DJES	**Djerdap**	**93.23**	**45**	⇑P		**P**	**16 19 48.3**	**+1.9**
GZR	**Gura Zlata**	**93.26**	**44**	⇑P		**P**	**16 19 48.5**	**+1.8**
GZR	**Gura Zlata**	**93.26**	**44**	P		**P**	**16 19 48.4**	**+1.8**
IDID	**Didziasalis**	**93.40**	**34**	*e*P		P	16 19 42.0	-4.9
NACGM	**Naroch**	**93.53**	**34**	*e*P		**P**	**16 19 48.2**	**+0.7**
	comp=Z,33nm,0.9s,baz=286							
BILL	**Bilibino**	**93.85**	**340**	P		**P**	**16 19 48.6**	**-0.1**
BILL	**Bilibino**	**93.85**	**340**	⇑*i*P		**P**	**16 19 49.0**	**+0.3**
BILL				*e*			16 23 34.5	
BILL					pmax	pmax		
	comp=Z,14nm,1.0s							
VTS	**Vitosha**	**94.16**	**47**	⇑P		**P**	**16 19 52.5**	**+1.6**
VTS	**Vitosha**	**94.16**	**47**	⇑P		**P**	**16 19 52.5**	**+1.6**
MNK	**Minsk**	**94.25**	**34**	*i* P		**P**	**16 19 49.8**	**-1.1**
	comp=E,4.0nm,1.2s							
MNK				*i* P		**P**	**16 19 49.8**	**-1.1**
	comp=N,41nm,1.2s							
MNK				*i* P		**P**	**16 19 49.8**	**-1.1**
	comp=Z,31nm,1.2s,baz=286							
MNK				*i* PP		**PP**	**16 23 35.8**	**-1.7**
MNK				*i* PPP		PPP	16 25 34.4	
MNK				*i* S		**SKSac**	**16 30 24.8**	**+0.1**
MNK				*i* SS		**SS**	**16 37 19.0**	**-2.9**
MNK				*i* SSS		SSS	16 41 00.5	
MNK				*i* LQ		LQ	16 56 23.2	
MNK				*i* LR		LR	16 59 15.2	
MNK				*i* LRM		MLR	17 04 11.6	
	comp=N,321nm,16.0s							
MNK				*i* LRM		MLR	17 05 30.9	
	comp=Z,188nm,10.8s							
MNK				*i* LRM		MLR	17 05 40.4	
	comp=E,15nm,8.9s							
MNK	**Minsk**	**94.25**	**34**	*i* P		**P**	**16 19 49.7**	**-1.1**
MNK				*i*			16 23 35.7	
MNK				*i* S		**SKSac**	**16 30 24.7**	**+0.1**
MNK				*i* SS		**SS**	**16 37 18.9**	**-2.9**
MNK				*i* SSS		SSS	16 41 00.5	
MNK					pmax	pmax		
	comp=N,41nm,1.2s							
MNK					pmax	pmax		
	comp=E,4.0nm,1.2s							
MNK					pmax	pmax		
	comp=Z,31nm,1.2s							
MNK				MLR		MLR		
	comp=N,321nm,16.0s							
MNK				MLR		MLR		
	comp=Z,188nm,11.0s							
MNK				MLR		MLR		
	comp=E,15nm,9.0s							
BURAR	**Bucovina Array**	**94.42**	**41**	⇑P		**P**	**16 19 53.8**	**+1.9**
BURAR	**Bucovina Array**	**94.42**	**41**	⇑P		**P**	**16 19 53.8**	**+1.9**
PLVB	**Pleven**	**94.98**	**46**	⇑P		**P**	**16 19 55.8**	**+1.3**
MLR	**Muntele Rosu**	**95.42**	**43**	LR		LR	17 03 08.2	
	comp=E,131nm,18.9s,baz=272,slow=36							
MLR	**Muntele Rosu**	**95.42**	**43**	⇑P		**P**	**16 19 58.3**	**+1.7**
MLR	**Muntele Rosu**	**95.42**	**43**	P		**P**	**16 19 56.4**	**-0.2**
MLR				IAmb		IAmb	16 19 58.9	
	comp=Z,20nm,1.0s							
MLR	**Muntele Rosu**	**95.42**	**43**	⇑P		**P**	**16 19 58.3**	**+1.7**
COVR	**Voineasa-Covas**	**95.50**	**43**	⇑P		**P**	**16 19 59.2**	**+2.3**
VRI	**Vrincioaia**	**95.85**	**43**	⇑P		**P**	**16 20 00.4**	**+2.0**
VRI	**Vrincioaia**	**95.85**	**43**	⇑P		**P**	**16 20 00.4**	**+2.0**
QSPA	**South Pole Qui**	**95.98**	**180**	P		**P**	**16 19 59.5**	**+0.8**
SHEM	**Shemya Is, Ala**	**96.00**	**324**	LR		LR	17 07 12.5	
	comp=Z,63nm,18.3s,baz=1.0,slow=38							
AKASG	**Malin Array Be**	**96.13**	**38**	P		**P**	**16 19 59.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=275,slow=3.2,SNR=7.7							
AKASG	**Malin Array Be**	**96.13**	**38**	*e*P		**P**	**16 19 58.5**	**-1.0**
SORM	**Soroca**	**96.32**	**40**	⇑P		**P**	**16 20 01.1**	**+0.7**
SORM	**Soroca**	**96.32**	**40**	⇑P		**P**	**16 20 01.2**	**+0.7**
TSUM	**Tsumeb**	**97.13**	**109**	LR		LR	17 03 29.1	
	comp=Z,154nm,18.5s,baz=294,slow=35							
KLMR	**Klimovskoe**	**97.72**	**26**	*e*P		**P**	**16 20 04.3**	**-2.2**
KLMR					AMP		16 20 07.2	
	comp=Z,35nm,1.5s							
KLMR				*e*PP		**PP**	**16 24 02.2**	**-1.9**
KLMR	**Klimovskoe**	**97.72**	**26**	*e*P		**P**	**16 20 04.3**	**-2.2**
KLMR				*e*			16 24 02.2	
KLMR					pmax	pmax		
	comp=Z,35nm,1.5s							
OBN	**Obninsk**	**98.77**	**32**	⇑P		**P**	**16 20 11.0**	**-0.3**
OBN					pmax	pmax		
	comp=Z,21nm,1.0s							
MOS	**Moscow**	**99.06**	**31**	*e*P		**Pdif**	**16 20 10.0**	**-2.6**
PRGR	**Permogore**	**99.89**	**24**	*e*P		**Pdif**	**16 20 14.4**	**-1.8**
TIXI	**Tiksi**	**100.56**	**352**	⇓*e*P		**Pdif**	**16 20 18.0**	**-0.9**
TIXI					pmax	pmax		
	comp=Z,6.0nm,0.8s							
BR131	**Keskin Array S**	**102.49**	**47**	⇑*e*P		**Pdif**	**16 20 29.1**	**+0.6**
BOSA	**Boshof**	**104.40**	**118**	PP		**PKiKP**	**16 24 54.3**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=255,slow=5.8,SNR=4.4							
BVAR	**Borovoye Array**	**115.40**	**21**	PKKPbc		PKKPbc	16 35 47.0	-2.3
	comp=Z,1.2nm,0.8s,baz=134,slow=4.3,SNR=5.7							
DZM	**Mont Dzumac**	**115.95**	**248**	*e*LR		LR	17 00 15.3	
	comp=Z,101nm,23.7s							
ZALV	**Zalesovo Beam**	**118.56**	**12**	PKP		**PKPdf**	**16 25 19.3**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=302,slow=3.3,SNR=19							
KLR	**Kul'dur**	**119.24**	**338**	⇑*i*PKIKP		**PKPdf**	**16 25 20.3**	**-0.7**
HEH	**HeiHe**	**119.86**	**342**	*e*PKP		**PKPdf**	**16 25 21.3**	**-0.8**
KURK	**Kurchatov**	**120.02**	**17**	⇑*i*PKIKP		**PKiKP**	**16 25 22.9**	**+0.4**
GEYT	**Alibeck**	**120.20**	**39**	PKP		**PKiKP**	**16 25 23.6**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=229,slow=5.7,SNR=6.1							
DGZ	**Jazzator, Alta**	**123.11**	**11**	⇑*i*PKIKP		**PKiKP**	**16 25 29.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**123.25**	**335**	PKP		**PKPdf**	**16 25 28.9**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=332,slow=3.0,SNR=9.4							
VOI	**Vohitsoka**	**124.37**	**112**	PKP		**PKiKP**	**16 25 33.1**	**+1.1**
MAKZ	**Makanchi**	**124.51**	**17**	PKPdf		**PKPdf**	**16 25 30.6**	**-0.6**
MAKZ	**Makanchi**	**124.51**	**17**	PKIKP		**PKPdf**	**16 25 30.6**	**-0.6**
MK31	**Makanchi Array**	**124.61**	**16**	*de*PKIKP		**PKPdf**	**16 25 30.7**	**-0.7**
MKAR	**Makanchi Array**	**124.61**	**16**	PKP		**PKPdf**	**16 25 31.1**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=6.1,slow=3.1,SNR=27							
ABPO	**Ambohimpanom**	**125.13**	**109**			**PKiKP**	**16 25 33.6**	**-0.1**
ABPO	**Ambohimpanom**	**125.13**	**109**	PKIKP		**PKiKP**	**16 25 33.6**	**-0.1**
OPO	**Ambohidratompo**	**125.14**	**108**	PKP		**PKiKP**	**16 25 35.2**	**+1.5**
	comp=Z,7.0nm,0.8s,baz=224,slow=5.1,SNR=6.0							
AAK	**Ala-Archa**	**125.51**	**25**	⇑*i*PKIKP		**PKiKP**	**16 25 34.5**	**+0.7**
MJAR	**Matsushiro Arr**	**125.85**	**324**	PKP		**PKPdf**	**16 25 33.8**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=80,slow=1.2,SNR=6.5							
ULN	**Ulaanbaatar**	**126.22**	**356**	PKPdf		**PKPdf**	**16 25 34.8**	**+0.1**
ULN	**Ulaanbaatar**	**126.22**	**356**	PKIKP		**PKPdf**	**16 25 34.8**	**+0.1**
SONM	**Songino Array**	**126.20**	**39**	PKP		**PKiKP**	**16 25 35.2**	**+0.1**
	comp=Z,6.2nm,0.9s,baz=286,slow=0.6,SNR=32							
SONM				pPKP		**sPKPdf**	**16 25 45.0**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=301,slow=0.8,SNR=4.3							
KSH	**Kashi**	**128.72**	**26**	PKP		**PKiKP**	**16 25 41.7**	**+1.4**
WMQ	**Urumqi**	**128.76**	**13**	*e*PKP		**PKiKP**	**16 25 41.0**	**+0.8**
XLT	**XiLinHaoTe**	**128.77**	**347**	*i* PKP		**PKPdf**	**16 25 39.8**	**+0.3**
KSRS	**Korea Array**	**130.52**	**333**	PKP		**PKPdf**	**16 25 43.1**	**+0.2**
	comp=Z,12nm,1.0s,baz=21,slow=0.7,SNR=22							
KSRS				pPKP		**sPKPdf**	**16 25 53.1**	**+1.8**
	comp=Z,7.5nm,1.0s,baz=291,slow=1.3,SNR=5.2							
BJI	**Beijing**	**132.41**	**345**	PKP		**PKPdf**	**16 25 46.4**	**0.0**
BJI				S		**Sdif**	**16 36 21.9**	**+0.6**
HHC	**Hu-ho-hao-te**	**132.60**	**350**	*e*PKP		**PKiKP**	**16 25 48.1**	**+0.1**
BTO	**Baotou**	**133.08**	**352**	*e*PKP		**PKPdf**	**16 25 47.2**	**-0.6**
GTA	**Gaotai**	**134.80**	**2**	*e*PKP		**PKiKP**	**16 25 52.1**	**-0.5**
GTA				PP		**PP**	**16 28 25.0**	**+1.6**
GTA				PKS		**PKSdf**	**16 29 22.3**	**-5.3**
STKA	**Stephens Creek**	**134.99**	**230**	PKP		**PKPdf**	**16 25 52.0**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=49,slow=1.2,SNR=13							
STKA	**Stephens Creek**	**134.99**	**230**	PKPdf		**PKPdf**	**16 25 51.7**	**+0.2**
GOMU	**GeErMu**	**137.50**	**9**	PKP		**PKPdf**	**16 25 56.3**	**-0.3**
GOMU				AMB		AMB		
	comp=Z,240nm,5.7s							
LZH	**Lanzhou**	**138.13**	**358**	*e*PKP		**PKPdf**	**16 25 51.6**	**-5.9**
LZH				sPKP			16 26 06.4	
COEN	**Coen**	**138.79**	**256**	PKPdf		**PKPdf**	**16 25 58.8**	**-0.2**
NJ2	**Nanjing**	**138.94**	**338**	*e*PKP		**PKPdf**	**16 25 58.1**	**-0.7**
XAN	**Xi'an**	**139.68**	**351**	*i* PKP		**PKPdf**	**16 26 00.4**	**+0.2**
PYUN	**Piuthan**	**141.45**	**28**	*e*P		**PKPdf**	**16 25 57.8**	**-6.0**
	comp=Z,15nm,0.7s							
DANN	**Dangsing**	**141.58**	**26**	*e*P		**PKPdf**	**16 25 58.3**	**-5.8**
	comp=Z,30nm,0.7s							
GKN	**Gorkha**	**142.26**	**26**	*e*P		**PKPdf**	**16 25 59.8**	**-5.4**
DMN	**Daman**	**142.81**	**25**	*e*P		**PKPdf**	**16 26 01.7**	**-4.6**
PKIN	**Phulchoki**	**142.96**	**25**	*e*P		**PKPdf**	**16 26 02.0**	**-4.6**
	comp=Z,28nm,0.8s							
PKI	**Pulchoki**	**142.97**	**25**	*e*P		**PKPdf**	**16 26 02.1**	**-4.5**
JIRN	**Jiri**	**143.21**	**24**	*e*P		PKPab	16 26 02.9	+0.2
	comp=Z,13nm,0.5s							
CD2	**Chengdu**	**143.29**	**358**	PKP		**PKPdf**	**16 26 06.0**	**-0.8**
RAMN	**Ramite**	**144.01**	**24**	*e*P		**PKPab**	**16 26 04.4**	**-1.3**
TAPN	**Taplejung**	**144.08**	**22**	*e*P		**PKPab**	**16 26 05.9**	**-0.1**
ASAR	**Alice Springs**	**144.69**	**237**	PKP		**PKPab**	**16 26 07.2**	**-0.9**
	comp=Z,21nm,0.8s,baz=118,slow=3.6,SNR=170							
ASAR				pPKP		**sPKPdf**	**16 26 17.5**	**-0.3**
	comp=Z,14nm,0.9s,baz=115,slow=3.7,SNR=10							
SSLB	**Suanglung**	**145.15**	**329**			**PKPbc**	**16 26 08.6**	**-1.0**
WRAB	**Tennant Creek**	**145.71**	**243**			**PKPdf**	**16 26 10.4**	**-0.8**
WRAB	**Tennant Creek**	**145.71**	**243**	*d*	*i*PKIKP	**PKPdf**	**16 26 10.5**	**-0.7**
WRA	**Warramunga Arr**	**145.71**	**243**		PKPbc	**PKPdf**	**16 26 10.8**	**-0.4**
	comp=Z,18nm,0.8s,baz=103,slow=3.0,SNR=147							
WB0	**Warramunga Arr**	**145.72**	**243**		PKPdf	**PKPdf**	**16 26 09.5**	**-1.7**
HYB	**Hyderabad**	**147.14**	**45**	*e*	PKPbc	**PKPbc**	**16 26 15.5**	**-0.3**
GYA	**Guiyang**	**147.46**	**352**		PKPbc	**PKPdf**	**16 26 15.1**	**+1.0**
PZH	**PanZhiHua**	**147.72**	**1**		PKPbc	**PKPdf**	**16 26 14.0**	**-0.6**
HMDM	**Hanimaadhoo**	**148.52**	**67**		PKPab	**PKiKP**	**16 26 20.8**	**-0.3**
TNCH	**TengChong**	**149.00**	**6**		PKPbc	**PKPbc**	**16 26 21.0**	**+0.2**
TNCH					PKPab	**pPKPab**	**16 26 30.9**	**0.0**
TNCH					SKKS		16 36 39.9	
TNCH					AMB	AMB		
	comp=Z,170nm,5.7s							
KMI	**Kunming**	**149.09**	**359**	⇑	PKPbc	**PKPdf**	**16 26 17.4**	**+0.4**
PCHI	**Peechi**	**149.59**	**57**	⇓	*e*P	**PKPbc**	**16 26 21.9**	**-0.4**
MTN	**Manton Dam**	**150.54**	**254**		PKPdf	**PKPdf**	**16 26 16.8**	**-2.4**
MTN						**PKPbc**	**16 26 24.1**	**-0.4**
DGAR	**Diego Garcia**	**150.56**	**94**	*c*	*i*PKIKP	**PKiKP**	**16 26 26.6**	**+1.3**
DGAR					pmax	pmax		
	comp=Z,183nm,1.7s							
CHTO	**Chiang Mai**	**155.18**	**7**		PKPdf	**PKPdf**	**16 26 26.1**	**+0.2**
CHTO						**sPKPdf**	**16 26 33.5**	**-0.9**
CHTO					PKPab	**PKPab**	**16 26 48.9**	**-1.5**
CHTO	**Chiang Mai**	**155.18**	**7**		PKP2	**PKPab**	**16 26 48.9**	**-1.5**
CHTO							17 26 26.1	
CM31	**Chiang Mai Arr**	**155.53**	**7**			**PKPdf**	**16 26 26.1**	**-0.3**
CM31					PKPbc	**sPKPdf**	**16 26 35.9**	**+1.0**
CM31						**PKPab**	**16 26 51.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**155.53**	**7**		PKP	**PKPdf**	**16 26 27.3**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=296,slow=2.1,SNR=31							
CMAR					pPKP	**sPKPdf**	**16 26 35.9**	**+1.0**
	comp=Z,6.6nm,1.0s,baz=316,slow=2.9,SNR=15							
CMAR					PKPab	**PKPab**	**16 26 51.5**	**-0.4**
	comp=Z,10.0nm,0.8s,baz=332,slow=5.0,SNR=13							
CMAR					PP	**PP**	**16 30 24.3**	**-2.5**
	comp=Z,1.5nm,1.0s,baz=344,slow=6.3,SNR=5.1							
IPM	**Ipoh**	**169.57**	**6**			**PKPdf**	**16 26 38.6**	**-1.7**
IPM					PKPab	**PKPab**	**16 27 51.7**	**-1.7**
PSI	**Prapat**	**170.74**	**20**		PKIKP	**PKPdf**	**16 26 39.7**	**-1.4**
PSI							16 27 57.4	
RPSI	**Rantau Prapat**	**170.84**	**20**		PKPdf	**PKPdf**	**16 26 39.7**	**-1.3**
RPSI						**PKPab**	**16 27 57.4**	**-1.6**

NOU ***12*** *16:36:29.5, 10˚.44S×161˚.36E, h0km, mb5.0/11, Solomon Islands*
IDC ***12*** *16:36:29.3±0.9, 10˚.56S×161˚.39E, h47km±7km, mb3.8/8, mbtmp4.1/8, MS3.4/6, Error ellipse: s-maj=22.3km s-min=9.5km az=28.0*
NEIC ***12*** *16:36:30.8±1.9, 10˚.38S±0˚.08×161˚.4E±0˚.1, h56km±4km, mb4.6/30, Error ellipse: s-maj=17.1km s-min=8.9km az=54.0*
ISC 12 16:36:30.9±0.5, 10˚.37S±0˚.06×161˚.40E±0˚.07, h61km, n68, σ1§43/65, mb4.5/23, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.71**	**303**	P		P	**Pn**	**16 36 57.3**	**-1.1**
	43μm,0.4s,baz=150,slow=5.7,SNR=499								
HNR				S			**Sn**	**16 37 20.3**	**+1.0**
	32μm,0.4s,baz=221,slow=3.4,SNR=10.0								
HNR				LR		LR		16 37 52.8	
	comp=Z,7μm,19.6s,baz=49,slow=46								
HNR	**Honiara**	**1.71**	**303**				**Pn**	**16 36 57.3**	**-1.1**
HNR						Sn	**Sn**	**16 37 19.3**	**+0.1**
HNR	**Honiara**	**1.71**	**303**			P	**Pn**	**16 37 00.0**	**+1.6**
DVP	**Devils Point**	**9.84**	**139**			P	**Pn**	**16 38 51.4**	**+1.8**
KOUNC	**Koumac, New Ca**	**10.49**	**165**				**Pn**	**16 38 59.8**	**+1.2**
KOUNC						Sn	**Sn**	**16 40 51.8**	**-2.9**
KOUNC	**Koumac, New Ca**	**10.49**	**165**			P	**Pn**	**16 39 00.1**	**+1.5**
LIFNC	**LIFOU**	**11.77**	**152**				**Pn**	**16 39 15.2**	**-0.9**
DZM	**Mont Dzumac**	**12.60**	**158**			P	**Pn**	**16 39 29.5**	**+2.1**
	14nm,0.5s,baz=324,slow=16,SNR=49								
DZM				LR		LR		16 43 33.1	
	comp=Z,223nm,18.6s,baz=15,slow=34								
DZM	**Mont Dzumac**	**12.60**	**158**				**Pn**	**16 39 28.5**	**+1.1**
DZM	**Mont Dzumac**	**12.60**	**158**			P	**Pn**	**16 39 29.7**	**+2.3**
MARNC	**Mare, Loyalty**	**12.75**	**151**				**Pn**	**16 39 30.2**	**+0.9**
MARNC	**Mare, Loyalty**	**12.75**	**151**			P	**Pn**	**16 39 31.0**	**+1.6**
ONTNC	**Ouen Toro**	**12.82**	**158**				**Pn**	**16 39 32.2**	**+1.9**
ONTNC	**Ouen Toro**	**12.82**	**158**			P	**Pn**	**16 39 33.2**	**+2.9**
OUENC	**Ouen Island, N**	**13.06**	**157**				**Pn**	**16 39 35.6**	**+1.9**
OUENC	**Ouen Island, N**	**13.06**	**157**			P	**Pn**	**16 39 35.8**	**+2.1**
PINNC	**Pines Island,**	**13.48**	**155**			Pn	**Pn**	**16 39 39.5**	**+0.2**
PMG	**Port Moresby**	**14.06**	**273**	LR		LR	16 44 52.2		
	comp=Z,169nm,18.2s,baz=77,slow=36								
TARA	**Tarawa**	**16.35**	**45**				**Pn**	**16 40 15.8**	**-0.8**
PATS	**Pohnpei**	**17.37**	**350**				**Pn**	**16 40 27.4**	**-1.9**
PATS						IAmb	IAmb	16 40 32.2	
	comp=Z,128nm,1.2s								
CTA	**Charters Tower**	**17.50**	**235**	LR		LR		16 46 51.1	
	comp=Z,94nm,19.1s,baz=44,slow=36								
CTAO	**Charters Tower**	**17.50**	**235**				**Pn**	**16 40 31.0**	**+0.1**
COEN	**Coen**	**18.16**	**257**	P		P	**Pn**	**16 40 40.6**	**+1.6**
WR0	**Warramunga Arr**	**27.58**	**247**	P		P	**P**	**16 42 11.3**	**-1.2**
WB0	**Warramunga Arr**	**27.66**	**247**	P		P	**P**	**16 42 12.5**	**-0.7**
WRA	**Warramunga Arr**	**27.76**	**247**	P		P	**P**	**16 42 13.5**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=76,slow=9.2,SNR=12								
	comp=Z,1.8nm,0.7s								
STKA	**Stephens Creek**	**28.17**	**218**	LR		LR		16 53 28.8	
	comp=Z,104nm,18.0s,baz=31,slow=36								
GUMO	**Guam**	**28.91**	**325**	LR		LR		16 53 01.2	
	comp=Z,90nm,20.3s,baz=156,slow=34								
H11S2	**WAKE ISLAND Hy**	**29.16**	**10**	T		T		17 11 18.9	
	baz=194								
H11S3	**WAKE ISLAND Hy**	**29.16**	**10**	T		T		17 11 23.7	
	baz=194,slow=74,SNR=9.1								
H11S1	**WAKE ISLAND Hy**	**29.17**	**10**	T		T		17 11 21.8	
	baz=194,slow=74,SNR=8.0								
AS31	**Alice Springs**	**29.35**	**240**	P		P		**16 42 26.9**	**-1.4**
ASAR	**Alice Springs**	**29.35**	**240**	P		P		**16 42 26.8**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=68,slow=9.8,SNR=8.0								
ASAR				LR		LR		16 53 36.6	
	comp=Z,54nm,18.1s,baz=77,slow=35								
	comp=Z,0.9nm,0.8s								
H11N1	**WAKE ISLAND Hy**	**30.38**	**10**	T		T		17 12 52.3	
	baz=194,slow=76,SNR=15								
H11N3	**WAKE ISLAND Hy**	**30.39**	**10**	T		T		17 12 55.8	
	baz=194,slow=76,SNR=10								
H11N2	**WAKE ISLAND Hy**	**30.40**	**10**	T		T		17 12 54.8	
	baz=194,slow=76,SNR=18								
KNRA	**Kununurra**	**32.20**	**257**	P		P		**16 42 52.8**	**-0.7**
BBOO	**Buckleboo**	**32.30**	**222**	P		P		**16 42 54.0**	**-0.1**
BBOO						IAmb	IAmb	16 43 23.5	
	comp=Z,12nm,1.1s								
USRK	**Ussuriysk Ar.**	**60.52**	**336**	P		P		**16 46 35.2**	**+0.5**
	comp=Z,

Azm260.0000°;
NEIC **12** *17:04:59.8±1.3,41˚.75N±0˚.08×133˚.0E±0˚.1,h498km±4km, mb4.8/382,Mwb5.5/10,Mww5.4/21 Error ellipse: s-maj=13.1km s-min=11.8km az=103.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.37; Mθθ=1.92; Mφφ=-0.55; Mrθ=0.12; Mrφ=0.82; Mθφ=1.06; Fault plane solution: M₀2.18000×10¹⁷ NP1:φ₁284.49000°, δ52.88000°,λ-40.65000°. NP2:φ₂41.89000°,δ58.71000°, λ-135.07000°. Principal axes: T 2.1792, Plg3.0000°, Azm162.0000°; N -0.0020, Plg37.0000°, Azm69.0000°; P -2.1772, Plg53.0000°, Azm256.0000°;*

ISC 12 17:04:57.8±0.3,41˚.66N±0˚.03×133˚.09E±0˚.03,h484km±2km, h483km:pP-P,n1610,σ1↑31/1717,mb4.9/380,84C-96D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
USA0B	**Ussuriysk Arra**	**2.66**	**343**			**P**	**17 06 05.7**	**+0.7**
USA0B	**Ussuriysk Arra**	**2.66**	**343**	P		**P**	**17 06 05.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**2.66**	**343**	P		**P**	**17 06 05.7**	**+0.7**
	3μm,0.6s,baz=187,slow=6.5,SNR=6328							
USRK				S		**S**	**17 07 00.3**	**+0.3**
	383nm,1.0s,baz=178,slow=11,SNR=6.1							
I45RU	**USSURIYSK INFR**	**2.66**	**342**	P		**P**	**17 06 05.4**	**+0.4**
	baz=196,slow=5.7,SNR=3.4							
MDJ	**Mudanjiang**	**3.91**	**320**	P		**P**	**17 06 15.0**	**+0.8**
MDJ	**Mudanjiang**	**3.91**	**320**	P		**P**	**17 06 15.1**	**+0.9**
MDJ				pmax	pmax			
	comp=Z,2μm,2.0s							
MDJ				pmax	pmax			
	comp=Z,9μm,5.1s							
MDJ	**Mudanjiang**	**3.91**	**320**	P		**P**	**17 06 14.9**	**+0.8**
TEY	**Ternei**	**4.23**	**36**⇑	*i*P		**P**	**17 06 17.0**	**+0.2**
TEY				*e*			17 07 19.4	
TEY				pmax	pmax			
	comp=N,40nm,0.4s							
TEY				pmax	pmax			
	comp=Z,80nm,0.5s							
TEY				pmax	pmax			
	comp=E,30nm,0.4s							
TEY				pmax	pmax			
	comp=N,500nm,2.4s							
TEY				pmax	pmax			
	comp=E,400nm,2.4s							
TEY				pmax	pmax			
	comp=Z,1μm,2.3s							
TEY				pmax	pmax			
	comp=E,18μm,4.2s							
TEY				pmax	pmax			
	comp=N,13μm,4.3s							
JOSM	**Okushiri--Mats**	**4.78**	**83**⇓	*e*P		**P**	**17 06 20.4**	**-1.4**
JOSM			⇓	*e*S		**S**	**17 07 28.4**	**-2.0**
JOSM	**Okushiri--Mats**	**4.78**	**83**	A		A	17 06 20.4	
	comp=N,5.0nm,2.1s,comp=N,6.0nm,2.1s							
JHG	**Hegura jima**	**4.82**	**141**	P		**P**	**17 06 23.0**	**+0.7**
JHG				*e*S		**S**	**17 07 31.9**	**+0.8**
JOG3	**Oga3**	**4.87**	**109**	A		A	17 06 26.3	
	comp=N,15nm,2.6s,comp=N,44nm,2.2s							
JHST	**Hiyamasetana**	**5.11**	**79**	*e*P		**P**	**17 06 23.6**	**-1.1**
JHST	**Hiyamasetana**	**5.11**	**79**	A		A	17 06 23.6	
	comp=N,12nm,1.7s,comp=N,7.0nm,2.3s							
JSH	**Shimam**	**5.26**	**77**	A		A	17 06 25.1	
	comp=N,12nm,1.5s,comp=N,6.0nm,1.4s							
JIW	**Iwasaki**	**5.33**	**99**	A		A	17 06 25.7	
	comp=N,9.0nm,2.2s,comp=N,8.0nm,2.7s							
JOI	**OKI**	**5.37**	**179**	P		**P**	**17 06 28.3**	**+0.9**
JSD	**Sado**	**5.38**	**131**			**P**	**17 06 26.4**	**-1.0**
JSD	**Sado**	**5.38**	**131**	P		**P**	**17 06 26.7**	**-0.7**
JYM2	**Yakumo 2**	**5.45**	**83**	A		A	17 06 26.7	
	comp=N,12nm,2.9s,comp=N,10.0nm,1.5s							
JSR	**Shiriuchi**	**5.49**	**89**	A		A	17 06 27.1	
	comp=N,9.0nm,1.9s,comp=N,8.0nm,2.7s							
JTB	**Tobi-shima**	**5.51**	**114**	A		A	17 06 27.6	
	comp=N,13nm,11.4s,comp=N,28nm,2.2s							
JJH	**Hakui**	**5.53**	**148**	A		A	17 06 28.9	
	comp=N,9.0nm,4.4s,comp=N,14nm,5.6s							
JSK	**Shakotan**	**5.71**	**70**	A		A	17 06 29.1	
	comp=N,9.0nm,2.8s,comp=N,7.0nm,2.6s							
KS19	**Wonju Array Si**	**5.79**	**226**	P		**P**	**17 06 33.6**	**+2.1**
BNX	**BinXian**	**5.79**	**317**	⇑P		**P**	**17 06 31.5**	**+0.3**
BNX				S		**S**	**17 07 41.3**	**-6.4**
BNX				ScP		**ScP**	**17 15 16.8**	**-1.0**
BNX				ScS		**ScS**	**17 18 47.0**	**-3.7**
BNX				pmax	pmax			
	comp=N,700nm,0.7s							
BNX				pmax	pmax			
	comp=N,3μm,5.9s							
KSRS	**Korea Array**	**5.80**	**225**	P		**P**	**17 06 33.6**	**+2.1**
	comp=N,426nm,0.7s,baz=38,slow=10.0,SNR=1507							
KSRS				S		**S**	**17 07 50.7**	**+2.8**
	comp=N,66nm,1.1s,baz=44,slow=18,SNR=10							
KSRS				ScP		**ScP**	**17 15 17.7**	**-0.2**
	comp=N,4.3nm,0.9s,baz=336,slow=0.7,SNR=9.6							
KSAR	**Wonju Array Be**	**5.83**	**225**			**P**	**17 06 33.3**	**+1.6**
KSAR	**Wonju Array Be**	**5.83**	**225**	P		**P**	**17 06 33.3**	**+1.6**
JYYZ	**Yamagatayuza**	**5.86**	**115**	A		A	17 06 30.7	
	comp=N,19nm,5.1s,comp=N,47nm,3.4s							
JAH	**Hinai**	**5.90**	**102**	A		A	17 06 30.8	
	comp=N,8.0nm,3.5s,comp=N,10.0nm,2.4s							
JYA	**Atsumi**	**5.93**	**119**	A		A	17 06 31.4	
	comp=N,8.0nm,3.8s,comp=N,13nm,3.1s							
JNB	**Noboribetsu**	**5.97**	**80**	A		A	17 06 31.3	
	comp=N,5.0nm,5.2s,comp=N,5.0nm,2.1s							
JOT	**Ohata**	**5.98**	**90**⇓	*i*P		**P**	**17 06 31.2**	**-1.9**
JOT			⇓	*e*S		**S**	**17 07 47.1**	**-4.0**
JOT	**Ohata**	**5.98**	**90**	A		A	17 06 31.2	
	comp=N,8.0nm,2.4s,comp=N,5.0nm,3.3s							
JIZZ	**Izumozaki**	**5.99**	**132**	A		A	17 06 32.4	
	comp=N,28nm,3.5s,comp=N,34nm,2.8s							
CN2	**Changchun**	**6.02**	**293**⇓	*i*P		**P**	**17 06 34.4**	**+0.9**
CN2				S		**S**	**17 07 51.6**	**-0.2**
CN2				sP			17 07 54.7	
CN2				ScP		**ScP**	**17 15 17.5**	**-0.6**
CN2				pmax	pmax			
	comp=N,650nm,0.6s							
JTT	**Ttatey**	**6.03**	**146**	A		A	17 06 33.3	
	comp=N,9.0nm,3.1s							
JTM	**Tenmabayashi**	**6.08**	**96**			**P**	**17 06 32.0**	**-2.1**
JTM	**Tenmabayashi**	**6.08**	**96**	P		**P**	**17 06 32.3**	**-1.8**
JTM	**Tenmabayashi**	**6.08**	**96**	A		A	17 06 32.4	
	comp=N,4.0nm,5.4s,comp=N,7.0nm,2.5s							
JNS	**Sasagawa**	**6.14**	**127**	A		A	17 06 33.6	
	comp=N,7.0nm,2.9s,comp=N,11nm,2.6s							
JRG	**Rokugo**	**6.18**	**109**	A		A	17 06 33.4	
	comp=N,9.0nm,0.9s,comp=N,24nm,3.9s							
JYK	**Kaneyama**	**6.20**	**114**	A		A	17 06 33.7	
	comp=N,16nm,1.6s,comp=N,45nm,2.1s							
JAHD	**Aomorihigashid**	**6.21**	**91**	A		A	17 06 33.5	
	comp=N,10.0nm,1.4s,comp=N,11nm,3.2s							
JSZI	**Iwateshizukuis**	**6.27**	**105**	A		A	17 06 34.8	
	comp=N,17nm,2.6s,comp=N,20nm,2.9s							
JKR	**Kurayoshi**	**6.30**	**175**	A		A	17 06 37.3	
	comp=N,5.0nm,4.3s,comp=N,8.0nm,4.6s							
JEW	**Eniwo**	**6.31**	**76**	A		A	17 06 34.5	
	comp=N,7.0nm,1.8s,comp=N,7.0nm,1.4s							
JGN	**Niukaw**	**6.35**	**147**	A		A	17 06 36.4	
	comp=N,10.0nm,3.7s,comp=N,5.0nm,6.0s							
JISS	**Ishikarishitsu**	**6.36**	**73**	A		A	17 06 35.1	
	comp=N,12nm,28.3s,comp=N,8.0nm,2.5s							
JYS	**Shirataka**	**6.37**	**120**	A		A	17 06 35.5	
	comp=N,17nm,2.4s,comp=N,32nm,2.9s							
JUON	**Uonuma**	**6.41**	**132**	A		A	17 06 36.3	
	comp=N,9.0nm,2.3s,comp=N,7.0nm,2.4s							
JKZ	**Kuzumaki**	**6.47**	**102**	A		A	17 06 36.1	
	comp=N,8.0nm,2.2s,comp=N,8.0nm,2.0s							
MJB9	**Matsu-Tunnel**	**6.47**	**140**			**P**	**17 06 38.2**	**0.0**
MAJO	**Matsushiro**	**6.48**	**140**			**P**	**17 06 36.9**	**-1.4**
MAJO	**Matsushiro**	**6.48**	**140**	P		**P**	**17 06 37.7**	**-0.5**
MAJO	**Matsushiro**	**6.48**	**140**	*c*P		**P**	**17 06 37.6**	**-0.6**
MJAR	**Matsushiro Arr**	**6.48**	**140**	P		**P**	**17 06 37.8**	**-0.4**
	comp=N,54nm,0.8s,baz=327,slow=10,SNR=74							
MJAR				S		**S**	**17 07 59.0**	**-1.4**
	comp=N,43nm,0.9s,baz=269,slow=13,SNR=10							
MJAR				ScP		**ScP**	**17 15 18.7**	**+0.1**
	comp=N,9.1nm,0.9s,baz=353,slow=0.3,SNR=10							
JANG	**Nango**	**6.50**	**99**	A		A	17 06 36.3	
	comp=N,7.0nm,2.6s,comp=N,5.0nm,3.2s							
INCN	**Inchon**	**6.50**	**232**			**P**	**17 06 40.2**	**+1.7**
INCN	**Inchon**	**6.50**	**232**	P		**P**	**17 06 40.2**	**+1.7**
INCN	**Inchon**	**6.50**	**232**	P		**P**	**17 06 40.2**	**+1.7**
INCN	**Inchon**	**6.50**	**232**	P		**P**	**17 06 40.5**	**+2.0**
INCN				S		**S**	**17 08 03.2**	**+2.4**
JFM	**Mihama**	**6.53**	**159**	A		A	17 06 38.6	
	comp=N,6.0nm,4.2s,comp=N,5.0nm,5.5s							
JNG	**Nsakai**	**6.54**	**142**	A		A	17 06 37.9	
	comp=N,4.0nm,2.4s,comp=N,4.0nm,9.2s							
JYAR	**Yonezawaarcadi**	**6.60**	**122**	A		A	17 06 37.8	
	comp=N,11nm,1.9s,comp=N,13nm,1.8s							
JGT2	**ShimaneMisato**	**6.61**	**184**	A		A	17 06 40.7	
	comp=N,6.0nm,3.6s,comp=N,4.0nm,3.6s							
JOM	**Ohasama**	**6.62**	**107**	A		A	17 06 37.5	
	comp=N,7.0nm,2.1s,comp=N,14nm,2.2s							
JWT	**Wachi**	**6.63**	**163**	A		A	17 06 39.8	
	comp=N,5.0nm,4.1s,comp=N,4.0nm,3.6s							
JIAM	**Iburiatsuma**	**6.63**	**79**	A		A	17 06 37.5	
	comp=N,20nm,1.2s,comp=N,10.0nm,1.1s							
JFY	**Yanaizu**	**6.65**	**128**	A		A	17 06 38.4	
	comp=N,5.0nm,2.9s,comp=N,8.0nm,3.6s							
JHS	**Saijyo**	**6.65**	**180**			**P**	**17 06 41.2**	**+1.2**
JHS	**Saijyo**	**6.65**	**180**	P		**P**	**17 06 41.6**	**+1.6**
JHS	**Saijyo**	**6.65**	**180**	*i* P		**P**	**17 06 41.4**	**+1.3**
JHS				*e*S		**S**	**17 08 05.7**	**+2.0**
JHS	**Saijyo**	**6.65**	**180**	A		A	17 06 41.4	
	comp=N,9.0nm,4.0s,comp=N,4.0nm,2.4s							
JGK	**Kuni**	**6.67**	**138**	A		A	17 06 39.0	
	comp=N,8.0nm,4.3s,comp=N,7.0nm,2.5s							
JOU	**Okura**	**6.68**	**117**	A		A	17 06 38.4	
	comp=N,23nm,1.6s,comp=N,31nm,1.8s							
JKEN	**Kujiedanarisaw**	**6.69**	**100**	A		A	17 06 38.1	
	comp=N,9.0nm,3.4s,comp=N,10.0nm,3.1s							
JHR	**Hokuryu**	**6.69**	**69**⇓	*i*P		**P**	**17 06 39.1**	**-1.0**
JHR	**Hokuryu**	**6.69**	**69**	A		A	17 06 39.1	
	comp=N,13nm,4.3s,comp=N,7.0nm,2.9s							
JYTA	**Yamagatataniai**	**6.70**	**154**	A		A	17 06 40.0	
	comp=N,6.0nm,5.3s,comp=N,5.0nm,11.4s							
JYG	**Yagishiri**	**6.70**	**63**	A		A	17 06 38.4	
	comp=N,10.0nm,5.3s,comp=N,5.0nm,2.6s							
JOFO	**Osakifurukawao**	**6.73**	**114**	A		A	17 06 38.8	
	comp=N,30nm,1.9s,comp=N,22nm,2.6s							
JMK	**Ichinoseki**	**6.78**	**111**	*e*P		**P**	**17 06 38.8**	**-2.3**
JMK				*e*S		**S**	**17 07 59.6**	**-6.2**
JMK	**Ichinoseki**	**6.78**	**111**	A		A	17 06 38.8	
	comp=N,16nm,2.0s,comp=N,23nm,2.4s							
JTH	**Tanohata**	**6.88**	**102**	A		A	17 06 39.9	
	comp=N,8.0nm,2.6s,comp=N,9.0nm,3.4s							
JRBN	**Rebuntou**	**6.90**	**54**	A		A	17 06 40.6	
	comp=N,8.0nm,4.3s,comp=N,10.0nm,6.1s							
TJN	**Taejon**	**6.91**	**222**			**P**	**17 06 43.9**	**+1.4**
TJN	**Taejon**	**6.91**	**222**	P		**P**	**17 06 43.7**	**+1.2**
TJN	**Taejon**	**6.91**	**222**	*d* iP		**P**	**17 06 44.1**	**+1.6**
JGF	**Kuroka**	**6.91**	**150**			**P**	**17 06 42.3**	**-0.4**
JGF	**Kuroka**	**6.91**	**150**	P		**P**	**17 06 42.3**	**-0.4**
JGF	**Kuroka**	**6.91**	**150**	A		A	17 06 41.9	
	comp=N,6.0nm,2.7s,comp=N,5.0nm,3.0s							
JRR	**Rishiri**	**6.92**	**57**	A		A	17 06 40.6	
	comp=N,31nm,3.9s,comp=N,60nm,2.4s							
MIYJ	**Miyakonagasawa**	**6.96**	**105**	A		A	17 06 40.8	
	comp=N,11nm,2.2s							
JBT2	**Biratori 2**	**6.97**	**78**	A		A	17 06 40.8	
	comp=N,4.0nm,4.2s							
JSS	**Shosan**	**6.98**	**64**	A		A	17 06 41.0	
	comp=N,11nm,3.6s,comp=N,8.0nm,2.8s							
JAB	**Ashibetsu**	**6.99**	**72**	A		A	17 06 41.0	
	comp=N,11nm,3.7s,comp=N,9.0nm,1.5s							
JNT	**Takato**	**7.00**	**144**	A		A	17 06 42.4	
	comp=N,6.0nm,3.0s,comp=N,9.0nm,1.8s							
JHT	**Toyohira**	**7.01**	**185**	A		A	17 06 44.6	
	comp=N,8.0nm,3.5s,comp=N,7.0nm,4.3s							
INU	**Inuyama**	**7.01**	**153**			**P**	**17 06 42.5**	**-1.1**
INU	**Inuyama**	**7.01**	**153**	P		**P**	**17 06 43.0**	**-0.6**
JKMT	**Kesennumamotoy**	**7.02**	**111**	A		A	17 06 41.5	
	comp=N,12nm,1.9s,comp=N,9.0nm,2.5s							
JSHD	**Hidakashinhida**	**7.02**	**81**	A		A	17 06 41.2	
	comp=N,15nm,1.6s,comp=N,14nm,1.4s							
OFUJ	**Ofunato**	**7.04**	**109**	A		A	17 06 41.6	
	comp=N,6.0nm,2.5s,comp=N,10.0nm,2.7s							
JMM	**Marumori**	**7.04**	**120**	P		**P**	**17 06 41.4**	**-2.4**
JMM	**Marumori**	**7.04**	**120**	P		**P**	**17 06 41.7**	**-2.1**
JSB	**Shiboa**	**7.07**	**129**	A		A	17 06 42.5	
	comp=N,14nm,1.9s,comp=N,15nm,2.2s							
JIO	**Ouri**	**7.10**	**114**	A		A	17 06 42.3	
	comp=N,12nm,1.6s,comp=N,8.0nm,2.5s							
JAO	**Obara**	**7.17**	**152**	A		A	17 06 44.5	
	comp=N,7.0nm,2.1s,comp=N,5.0nm,4.4s							
JMST	**Mimamisoumatoc**	**7.18**	**121**	A		A	17 06 43.3	
	comp=N,8.0nm,3.2s,comp=N,7.0nm,5.1s							
JFR	**Furan**	**7.19**	**75**	A		A	17 06 42.9	
	comp=N,5.0nm,1.5s,comp=N,7.0nm,1.5s							
JAG	**Ashikaga**	**7.20**	**135**	A		A	17 06 44.0	
	comp=N,3.0nm,2.5s,comp=N,5.0nm,3.8s							
JNBK	**Urakawa-nobuka**	**7.23**	**82**	A		A	17 06 43.2	
	comp=N,11nm,1.8s,comp=N,9.0nm,1.1s							
JRY	**Ryogami san**	**7.23**	**139**	*e*P		**P**	**17 06 44.3**	**-1.6**
JRY	**Ryogami san**	**7.23**	**139**	A		A	17 06 44.3	
	comp=N,3.0nm,24.7s,comp=N,2.0nm,17.8s							
JNY	**Yasuok**	**7.32**	**148**	A		A	17 06 45.7	
	comp=N,5.0nm,7.2s,comp=N,9.0nm,3.7s							
JFFD	**Fukushimafurud**	**7.37**	**126**	A		A	17 06 45.3	
	comp=N,9.0nm,1.9s,comp=N,8.0nm,1.8s							
JWK2	**Keihoku**	**7.37**	**57**	P		**P**	**17 06 46.8**	**-0.2**
JWK2				*e*S		**S**	**17 08 13.3**	**-3.4**
JWK2	**Keihoku**	**7.37**	**57**	A		A	17 06 46.8	
	comp=N,7.0nm,1.9s,comp=N,15nm,2.3s							
JFK	**Kawauchi**	**7.39**	**123**	A		A	17 06 45.4	
	comp=N,7.0nm,2.2s,comp=N,6.0nm,2.7s							
ASAJ	**Asahikawa**	**7.40**	**67**	P		**P**	**17 06 45.9**	**-1.5**
	comp=N,1μm,0.5s,baz=255,slow=9.9,SNR=645							
ASAJ				S		**S**	**17 08 11.7**	**-5.7**
	comp=N,391nm,1.0s,baz=46,slow=28,SNR=1.9							
ASAJ	**Asahikawa**	**7.40**	**67**	P		**P**	**17 06 45.6**	**-1.8**
JKA	**Kamikawa-asahi**	**7.40**	**67**			**P**	**17 06 45.6**	**-1.8**
JKK2	**Kamakawa 2**	**7.44**	**70**	A		A	17 06 45.4	
	comp=N,6.0nm,2.2s,comp=N,8.0nm,3.8s							
JYN	**Shimoh**	**7.49**	**144**	A		A	17 06 47.2	
	comp=N,7.0nm,23.8s,comp=N,7.0nm,1.0s							
ONAJ	**Iwakimizuishiy**	**7.51**	**125**	A		A	17 06 46.6	
	comp=N,13nm,1.7s,comp=N,13nm,2.8s							
ERM	**Erimo**	**7.53**	**84**	P		**P**	**17 06 46.5**	**-2.2**
ERM	**Erimo**	**7.53**	**84**	P		**P**	**17 06 46.7**	**-2.0**
ERM	**Erimo**	**7.53**	**84**	P		**P**	**17 06 46.5**	**-2.2**
JEM	**Erimo**	**7.53**	**84**	P		**P**	**17 06 46.0**	**-2.7**
JEM	**Erimo**	**7.53**	**84**	P		**P**	**17 06 46.7**	**-2.0**
JEM	**Erimo**	**7.53**	**84**	A		A	17 06 46.1	
	comp=N,5.0nm,1.3s,comp=N,4.0nm,0.6s							
JHU	**Hanno**	**7.55**	**138**	A		A	17 06 47.6	
	comp=N,5.0nm,1.2s,comp=N,6.0nm,4.6s							
KLR	**Kul'dur**	**7.62**	**353**	P		**P**	**17 06 49.7**	**+0.1**
	comp=N,2μm,0.5s,baz=171,slow=8.9,SNR=7461							
KLR				S		**S**	**17 08 20.1**	**-1.4**
	comp=N,64nm,0.7s,baz=330,slow=23,SNR=6.8							
KLR				ScP		**ScP**	**17 15 19.8**	**+0.5**
	comp=N,8.1nm,0.9s,baz=322,slow=3.1,SNR=6.5							
KLR	**Kul'dur**	**7.62**	**353**	*c* iP		**P**	**17 06 49.6**	**0.0**
KLR				pmax	pmax			
	comp=Z,2μm,0.6s							
JTHR	**Tokachihiroo**	**7.63**	**82**	A		A	17 06 47.2	
	comp=Z,12nm,1.7s,comp=Z,9.0nm,1.5s							
JSE	**Soyaes**	**7.67**	**61**	A		A	17 06 47.8	
	comp=Z,8.0nm,6.5s,comp=Z,11nm,4.2s							
JCH	**Churui**	**7.69**	**79**	*e*P		**P**	**17 06 47.8**	**-2.7**
JCH				*e*S		**S**	**17 08 16.3**	**-6.7**
JCH	**Churui**	**7.69**	**79**	A		A	17 06 47.8	
	comp=Z,6.0nm,2.3s,comp=Z,11nm,1.7s							
JHO	**Hitachi**	**7.69**	**129**	A		A	17 06 48.6	
	comp=Z,6.0nm,2.5s,comp=Z,6.0nm,1.7s							
JTU	**Tsushima**	**7.70**	**203**			**P**	**17 06 52.1**	**+1.3**
JTU	**Tsushima**	**7.70**	**203**	P		**P**	**17 06 52.0**	**+1.3**
JTU	**Tsushima**	**7.70**	**203**	P		**P**	**17 06 52.0**	**+1.3**
JTU				*e*S		**S**	**17 08 25.0**	**+1.7**
JTU	**Tsushima**	**7.70**	**203**	A		A	17 06 52.0	
	comp=Z,4.0nm,3.9s,comp=Z,2.0nm,3.9s							
HMMJ	**Hamamatsu 2**	**7.71**	**150**	A		A	17 06 49.7	
	comp=Z,4.0nm,4.1s,comp=Z,5.0nm,3.0s							
JAA	**Atsumi**	**7.71**	**154**	A		A	17 06 49.9	
	comp=Z,4.0nm,4.6s,comp=Z,6.0nm,2.7s							
JSGW	**Sagamiharawaka**	**7.71**	**140**	A		A	17 06 49.3	
	comp=Z,4.0nm,1.7s,comp=Z,8.0nm,2.4s							
JYT	**Yasato**	**7.75**	**132**	A		A	17 06 49.3	
	comp=Z,4.0nm,11.6s,comp=Z,5.0nm,2.9s							
JIE	**Ise**	**7.80**	**157**	*e*P		**P**	**17 06 51.2**	**-0.6**
JIE				S		**S**	**17 08 22.1**	**-3.1**
JIE	**Ise**	**7.80**	**157**	A		A	17 06 51.2	
	comp=Z,7.0nm,3.3s,comp=Z,3.0nm,3.6s							
JHYU	**Hitachinakayam**	**7.89**	**130**	A		A	17 06 50.7	
	comp=Z,6.0nm,2.6s,comp=Z,8.0nm,2.2s							
JMP	**Maruseppu**	**7.90**	**69**	A		A	17 06 50.0	
	comp=Z,2.0nm,2.9s,comp=Z,4.0nm,4.1s							
JOD2	**Odawara 2**	**7.93**	**142**	P		**P**	**17 06 51.4**	**-1.8**
JOD2	**Odawara 2**	**7.93**	**142**	A		A	17 06 51.4	
	comp=Z,4.0nm,1.4s,comp=Z,5.0nm,5.0s							
JMN	**Monobe**	**7.95**	**175**			**P**	**17 06 54.1**	**+0.7**
JMN	**Monobe**	**7.95**	**175**	P		**P**	**17 06 54.5**	**+1.1**
JSG	**Sagara**	**8.05**	**148**	P		**P**	**17 06 52.7**	**-1.6**
JSG	**Sagara**	**8.05**	**148**	P		**P**	**17 06 53.1**	**-1.2**
JAR	**Ashorobuto**	**8.06**	**75**	A		A	17 06 51.5	
	comp=Z,7.0nm,1.8s,comp=Z,7.0nm,1.5s							
JOB	**Onbets**	**8.06**	**78**	A		A	17 06 51.5	
	comp=Z,10.0nm,1.3s,comp=Z,7.0nm,1.2s							
JTNC	**Tanabenakahech**	**8.08**	**165**	P		**P**	**17 06 53.6**	**-1.1**
JTNC				*e*S		**S**	**17 08 28.2**	**-2.5**
JKI	**Kunimi**	**8.11**	**189**	A		A	17 06 55.8	
	comp=Z,4.0nm,3.3s,comp=Z,5.0nm,2.4s							
JMMH	**Miemihama**	**8.17**	**163**	A		A	17 06 55.0	
	comp=Z,4.0nm,3.6s,comp=Z,6.0nm,2.9s							
JTKR	**Abashiri--Toko**	**8.28**	**70**	*i* P		**P**	**17 06 55.0**	**-1.6**
JTKR				*e*S		**S**	**17 08 28.2**	**-5.9**
JTKR	**Abashiri--Toko**	**8.28**	**70**	A		A	17 06 55.0	
	comp=Z,3.0nm,5.6s,comp=Z,7.0nm,2.2s							
CHOJ	**Chosi**	**8.50**	**132**	A		A	17 06 56.8	
	comp=Z,7.0nm,3.9s,comp=Z,4.0nm,2.6s							
TTO1	**TONANKAI O.B.S**	**8.54**	**159**	*e*P		**P**	**17 06 59.6**	**+0.3**
JNU	**Nakatsue**	**8.71**	**192**	P		**P**	**17 07 02.4**	**+1.1**
	comp=Z,172nm,0.5s,baz=215,slow=2.3,SNR=145							
JNU				S		**S**	**17 08 43.4**	**+0.6**
	comp=Z,28nm,0.7s,baz=251,slow=20,SNR=5.5							
JNU	**Nakatsue**	**8.71**	**192**			**P**	**17 07 02.2**	**+0.9**
JNU	**Nakatsue**	**8.71**	**192**	P		**P**	**17 07 02.2**	**+0.9**
YSS	**Yuzh-Sakhalins**	**8.71**	**49**	P		**P**	**17 06 59.8**	**-1.2**
YSS	**Yuzh-Sakhalins**	**8.71**	**49**	P		**P**	**17 07 00.5**	**-0.6**
YSS	**Yuzh-Sakhalins**	**8.71**	**49**	*d* iP		**P**	**17 07 00.3**	**-0.8**
YSS				*i* S		**S**	**17 08 36.9**	**-5.6**
YSS				pmax	pmax			
	comp=Z,2μm,5.3s							
YSS				pmax	pmax			
	comp=N,700nm,3.9s							
YSS				pmax	pmax			
	comp=E,900nm,3.6s							
YSS				pmax	pmax			
	comp=Z,620nm,0.7s							
YSS				smax	smax			
	comp=N,5μm,3.5s							
YSS				smax	smax			
	comp=E,1μm,2.7s							
YSS				smax	smax			
	comp=N,530nm,0.9s							
YSS				smax	smax			
	comp=E,410nm,1.2s							
YSS				MLR	MLR			
	comp=Z,1μm,19.0s							
JTO	**Tosashimizu**	**8.79**	**182**	*e*P		**P**	**17 07 02.2**	**0.0**
JTO				S		**S**	**17 08 42.7**	**-1.7**
DL2	**Dalian**	**9.18**	**256**	P		**P**	**17 07 07.8**	**+1.6**
DL2				S		**S**	**17 08 54.4**	**+2.6**
DL2				pmax	pmax			
	comp=Z,520nm,0.7s							
DL2				pmax	pmax			
	comp=Z,1μm,3.9s							
RUSJ	**Misakicho**	**9.25**	**71**⇓	*i*P		**P**	**17 07 06.0**	**-0.8**
RUSJ				*e*S		**S**	**17 08 48.8**	**-4.2**
BSO1	**Boso 1**	**9.35**	**136**	P		**P**	**17 07 05.6**	**-1.9**
GRNR	**Gornyy**	**9.39**	**13**⇑	*i*P		**P**	**17 07 07.8**	**-0.5**
GRNR				*e*S		**S**	**17 08 51.0**	**-4.

comp=E,700nm,9.1s
ZEA smax smax
comp=N,2μm,6.3s
BJI Beijing 12.91 268 P **P** **17 07 46.7 +0.7**
BJI S **S** **17 10 06.0 +1.2**
BJI pmax pmax
comp=N,120nm,1.2s
TIA Tai'an 13.56 252 ⇓P **P** **17 07 53.9 +0.9**
TIA S **S** **17 10 18.4 +0.7**
TIA pmax pmax
comp=N,590nm,0.7s
OKH Okha 13.60 26 *de*P **P** **17 07 55.0 +1.9**
OKH *i* S **S** **17 10 18.6 +0.8**
OKH smax smax
comp=N,2μm,6.4s
OKH smax smax
comp=E,2μm,7.4s
JAMN Amaminishikomi 13.77 195 *e*P **P** **17 07 52.6 -2.6**
SSE Sheshan 14.24 226 P **P** **17 08 00.9 +0.7**
SSE S **S** **17 10 30.8 0.0**
SSE pmax pmax
comp=E,320nm,5.8s
HNS HongShan 14.81 259 ⇓P **P** **17 08 06.3 +0.1**
HNS sP 17 10 01.8
HNS S **S** **17 10 42.8 +1.2**
HNS ScP **ScP** **17 15 30.4 +0.8**
HNS ScS **ScS** **17 19 06.7 -1.0**
HNS pmax pmax
comp=E,320nm,0.9s
NJ2 Nanjing 14.88 234 ⇓*i*P **P** **17 08 07.2 +0.2**
NJ2 sP 17 09 57.3
NJ2 S **S** **17 10 43.9 +0.8**
NJ2 ScP **ScP** **17 15 30.2 +0.4**
NJ2 pmax pmax
comp=E,180nm,0.7s
NJ2 pmax pmax
comp=E,360nm,3.5s
JOW Kunigami 15.32 197 P **P** **17 08 06.6 -5.0**
comp=E,24nm,0.4s,baz=108,slow=21,SNR=33
JOW S **S** **17 10 42.6 -9.1**
comp=E,36nm,0.5s,baz=102,slow=29,SNR=16
JOW ScP **ScP** **17 15 31.5 +0.8**
comp=E,13nm,0.6s,baz=287,slow=7.1,SNR=3.8
JOW Kunigami 15.32 197 P **P** **17 08 08.3 -3.4**
JMZ Minamidaito 2 15.88 186 P **P** **17 08 16.9 -0.7**
JMZ Minamidaito 2 15.88 186 P **P** **17 08 17.9 +0.3**
HHC Hu-ho-hao-te 16.21 274 *e*P **P** **17 08 20.9 -0.1**
HHC sP sP 17 10 15.8 -5.5
HHC S **S** **17 11 07.2 -1.4**
HHC pmax pmax
comp=E,320nm,1.1s
JCJ Chichijima 16.34 150 P **P** **17 08 21.9 -0.5**
comp=E,236nm,0.4s,baz=276,slow=22,SNR=12
JCJ S **S** **17 11 08.2 -3.0**
comp=E,112nm,0.3s,baz=289,slow=22,SNR=6.5
JCJ Chichijima 16.34 150 P **P** **17 08 18.2 -4.2**
TIY Taiyuan 16.38 263 *e*P **P** **17 08 22.8 0.0**
TIY sP **sP** **17 10 21.0 -2.1**
TIY S **S** **17 11 10.1 -1.7**
TIY pmax pmax
comp=E,170nm,1.0s
TIY pmax pmax
comp=E,1μm,6.5s
CIT Chita 16.86 315 *e*P **P** **17 08 25.6 -2.0**
CIT *e* 17 11 19.6
CIT pmax pmax
comp=Z,143nm,1.1s
BTO Baotou 17.41 274 *e*P **P** **17 08 33.4 +0.1**
BTO S **S** **17 11 28.0 -1.9**
LYN LuoYang 17.69 253 ⇓*i*P **P** **17 08 34.6 -1.4**
LYN S **S** **17 11 35.4 +0.8**
LYN ScS **ScS** **17 19 11.2 -4.9**
LYN pmax pmax
comp=Z,140nm,0.8s
SKR Severo-Kuril's 18.26 53 *e*P **P** **17 08 41.3 +0.3**
SKR pmax pmax
comp=Z,114nm,0.9s
WHN Wuhan 18.73 240 ⇓*i*P **P** **17 08 44.3 -1.4**
WHN S **S** **17 11 52.4 +0.8**
WHN ScP **ScP** **17 15 37.8 +0.1**
WHN ScS **ScS** **17 19 18.2 -1.3**
WHN pmax pmax
comp=Z,310nm,0.7s
YOJ Yonaguni jima 19.10 209 P **P** **17 08 45.7 -3.4**
YOJ Yonaguni jima 19.10 209 P **P** **17 08 45.7 -3.4**
TATO Taipei 19.23 214 P **P** **17 08 51.9 +1.6**
ULN Ulaanbaatar 19.45 297 P **P** **17 08 52.8 +0.6**
ULN Ulaanbaatar 19.45 297 P **P** **17 08 52.8 +0.6**
ULN Ulaanbaatar 19.45 297 P **P** **17 08 53.1 +0.9**
ULN S **S** **17 12 05.8 +2.7**
YHNB Yeheng 19.55 214 P **P** **17 08 53.7 +0.4**
YHNB Yeheng 19.55 214 P **P** **17 08 54.2 +0.9**
SONM Songino Array 19.88 297 P **P** **17 08 56.9 +0.8**
comp=Z,65nm,0.6s,baz=96,slow=10,SNR=335
SONM ScP **ScP** **17 15 39.4 -0.9**
comp=Z,4.2nm,0.7s,baz=133,slow=2.3,SNR=7.2
SONM Songino Array 19.88 297 P **P** **17 08 56.6 +0.5**
NACB Ninganchiao 19.90 212 P **P** **17 08 55.0 -1.4**
PEA0B Petropavlovsk- 20.10 47 P **P** **17 08 57.7 -0.2**
PEA0B Petropavlovsk- 20.10 47 *de*P **P** **17 08 57.9 0.0**
PETK Petropavlovsk- 20.10 47 P **P** **17 08 56.4 -1.5**
comp=Z,22nm,0.8s,baz=266,slow=22,SNR=31
PETK ScP **ScP** **17 15 40.6 +0.1**
comp=Z,15nm,0.8s,baz=210,slow=5.1,SNR=12
comp=Z,22nm,0.8s
BOD Bodaibo 20.22 330 *e*P **P** **17 08 57.6 -1.3**
BOD pmax pmax
comp=Z,111nm,1.8s
YAK Yakutsk 20.50 355 P **P** **17 09 00.4 -0.9**
comp=Z,130nm,0.5s,baz=149,slow=0.8,SNR=157
comp=Z,130nm,0.5s
YAK Yakutsk 20.50 355 P **P** **17 09 00.1 -1.2**
YAK Yakutsk 20.50 355 *e*P **P** **17 09 00.8 -0.6**
YAK *e*S **S** **17 12 21.0 +1.7**
YAK pmax pmax
comp=Z,251nm,0.9s
YAK pmax pmax
comp=N,83nm,1.1s
YAK pmax pmax
comp=E,15nm,1.2s
YAK smax smax
comp=N,2μm,4.0s
YAK smax smax
comp=E,459nm,2.5s
SSLB Suanglung 20.50 213 P **P** **17 09 01.1 -0.8**
SSLB Suanglung 20.50 213 P **P** **17 09 02.0 0.0**
XAN Xi'an 20.50 256 P **P** **17 08 59.5 -2.4**
XAN sP sP 17 11 13.6 +4.8
XAN pmax pmax
comp=E,2μm,4.2s
PET Petropavlovsk 20.59 48 P **P** **17 09 01.2 -1.2**
PET Petropavlovsk 20.59 48 *e*P **P** **17 09 00.6 -1.7**
PET *e**SP **sP** **17 11 06.9 -2.9**
PET *e*S **S** **17 12 19.1 -2.0**
PET *e* 17 12 50.6
PET MLR MLR
comp=Z,200nm,16.0s
YULB Yu-li 20.72 212 P **P** **17 09 01.7 -2.2**
MA2 Magadan 21.03 26 P **P** **17 09 06.4 +0.2**
comp=Z,50nm,0.6s,baz=222,slow=10.0,SNR=45
MA2 ScP **ScP** **17 15 42.9 +0.3**
comp=Z,5.3nm,0.8s,baz=216,slow=5.7,SNR=4.6
comp=Z,50nm,0.6s
MA2 Magadan 21.03 26 P **P** **17 09 05.8 -0.5**
MA2 Magadan 21.03 26 P **P** **17 09 06.2 0.0**
MA2 Magadan 21.03 26 ⇑*e*P **P** **17 09 06.1 -0.1**
MA2 pmax pmax
comp=Z,166nm,1.7s
KNMB Chin-men Tao 21.07 220 P **P** **17 09 07.4 +0.4**
TPUB Ta-pu 21.07 213 P **P** **17 09 06.7 -0.4**
TWG Pinlang 21.32 212 P **P** **17 09 08.9 -0.5**
TWGBT Beinan 21.32 212 P **P** **17 09 11.6 +2.3**
ENH Enshi 22.16 247 P **P** **17 09 15.8 -1.0**
ENH Enshi 22.16 247 P **P** **17 09 16.2 -0.7**
IRK Irkutsk 22.19 308 *e*P **P** **17 09 14.4 -2.5**
IRK *e*S **S** **17 12 45.7 -0.8**
IRK pmax pmax
comp=E,81nm,2.2s
ZAK Zakamensk 22.34 303 *e*P **P** **17 09 17.8 -0.5**
ZAK pmax pmax
comp=E,47nm,0.9s
LZH Lanzhou 23.38 266 ⇓P **P** **17 09 28.6 +0.7**
LZH S **S** **17 13 02.8 -3.1**
LZH ScP **ScP** **17 15 50.5 +1.1**
LZH ScS **ScS** **17 19 38.2 +1.5**
LZH pmax pmax
comp=Z,280nm,1.6s
LZH pmax pmax
comp=Z,570nm,4.8s
MOY Mondy 24.01 306 *e*P **P** **17 09 32.7 -0.6**
MOY pmax pmax
comp=Z,54nm,3.0s
SEY Seymchan 24.16 22 P **P** **17 09 34.7 +0.5**
comp=Z,8.6nm,0.3s,baz=222,slow=9.2,SNR=42
comp=Z,8.6nm,0.3s
SEY Seymchan 24.16 22 ⇓*i*P **P** **17 09 34.9 +0.7**
SEY pmax pmax
comp=Z,54nm,1.7s
GTA Gaotai 25.30 276 ⇓P **P** **17 09 45.7 +0.8**
GTA S **S** **17 13 35.6 -0.5**
GTA ScP **ScP** **17 15 54.6 -0.2**
GTA PcS **PcS** **17 16 43.2 +0.3**
GTA ScS **ScS** **17 19 43.1 -1.4**
GTA pmax pmax
comp=Z,150nm,0.9s
GTA pmax pmax
comp=Z,470nm,4.8s
CD2 Chengdu 25.85 255 P **P** **17 09 49.2 -0.6**
CD2 sP sP 17 12 07.5 -0.7
CD2 S **S** **17 13 44.8 +0.1**
CD2 pmax pmax
comp=Z,170nm,0.5s
GYA Guiyang 26.50 243 P **P** **17 09 54.6 -1.0**
GYA S **S** **17 13 55.9 +0.9**
GYA ScP **ScP** **17 15 58.9 +0.4**
GYA ScS **ScS** **17 19 46.6 -3.4**
GYA pmax pmax
comp=Z,51nm,1.1s
GYA pmax pmax
comp=Z,420nm,3.5s
LQP Lukban 29.23 203 ⇑*e*P **P** **17 10 15.2 -4.6**
SHEM Shemya Is, Ala 29.59 54 P **P** **17 10 23.1 +0.9**
comp=Z,69nm,0.7s,baz=248,slow=20,SNR=3.6
comp=Z,69nm,0.7s
SMY Shemya 29.59 54 P **P** **17 10 22.8 +0.6**
SMY Shemya 29.59 54 P **P** **17 10 22.8 +0.6**
PZH PanZhiHua 29.85 250 P **P** **17 10 24.2 -0.8**
PZH pP **pP** **17 11 49.7 +1.5**
PZH S **S** **17 14 42.9 -4.3**
PZH ScS **ScS** **17 20 03.3 -2.4**
PZH pmax pmax
comp=Z,70nm,0.7s
PZH pmax pmax
comp=Z,190nm,4.8s
KMI Kunming 30.03 246 ⇓P **P** **17 10 26.3 -0.4**
KMI pP pP 17 11 50.2 +0.3
KMI S **S** **17 14 47.4 -2.9**
KMI ScP **ScP** **17 16 10.4 +0.6**
KMI ScS **ScS** **17 20 03.5 -3.3**
KMI pmax pmax
comp=Z,85nm,1.1s
GOMU GeErMu 30.10 272 P **P** **17 10 27.6 +0.3**
GOMU SS **sS** **17 17 20.0 -4.6**
GOMU pmax pmax
comp=Z,180nm,0.7s
GOMU pmax pmax
comp=Z,120nm,4.3s
TIXI Tiksi 30.14 357 P **P** **17 10 25.6 -1.0**
comp=Z,17nm,0.5s,baz=270,slow=24,SNR=107
TIXI pP **pP** **17 11 50.4 +0.5**
comp=Z,18nm,0.7s,baz=90,slow=23,SNR=5.4
comp=Z,17nm,0.5s
TIXI Tiksi 30.14 357 P **P** **17 10 25.7 -0.9**
OTRP Odiongan 30.75 202 ⇓*e*P **P** **17 10 34.2 +1.5**
BUSP Coron 31.63 205 ⇓*e*P **P** **17 10 39.3 -1.0**
BILL Bilibino 31.84 23 P **P** **17 10 41.8 +0.4**
BILL IAmb IAmb 17 10 43.5
comp=Z,22nm,0.8s
BILL Bilibino 31.84 23 *d* *i*P **P** **17 10 41.6 +0.2**
BILL *i* *PP **pP** **17 12 07.9 +2.4**
BILL *i* S **S** **17 15 17.9 +1.3**
BILL pmax pmax
comp=Z,49nm,1.4s
BILL Bilibino 31.84 23 ⇓P **P** **17 10 41.6 +0.2**
BILL pP **pP** **17 12 07.7 +2.2**
BILL ScP **ScP** **17 16 15.8 +1.0**
MSLP Maasin 32.23 195 ⇑*e*P **P** **17 10 44.5 -0.9**
GUIM Jordan 32.27 200 ⇓*e*P P 17 10 56.2 +11
GLSP General Luna, 32.34 193 ⇓*e*P **P** **17 10 46.5 +0.2**
TABP Talibon, Bohol 32.38 196 ⇑*e*P **P** **17 10 46.6 -0.1**
DGZ Jazzator, Alta 32.47 300 *d* *i*P **P** **17 10 48.2 +1.0**
DGZ pmax pmax
comp=Z,243nm,1.6s
AMKA Amchitka 32.75 57 P **P** **17 10 49.7 +0.4**
GHBP Garcia Hernand 32.83 196 ⇑*e*P **P** **17 10 50.7 +0.2**
CNOP Candoni, Negro 33.02 199 ⇓*i*P **P** **17 10 52.1 0.0**
TNCH TengChong 33.03 251 ⇓P **P** **17 10 52.6 +0.2**
TNCH S **S** **17 15 35.0 -1.3**
TNCH SS **SS** **17 18 25.8 -14**
TNCH pmax pmax
comp=Z,110nm,1.6s
TNCH pmax pmax
comp=Z,560nm,4.1s
WMQ Urumqi 33.09 289 *e*P **P** **17 10 53.0 +0.5**
WMQ S **S** **17 15 36.4 -0.2**
WMQ ScP **ScP** **17 16 18.5 -1.2**
WMQ ScS **ScS** **17 20 24.0 +2.5**
WMQ pmax pmax
comp=Z,79nm,0.7s
WMQ pmax pmax
comp=Z,360nm,4.9s
WMQ Urumqi 33.09 289 P **P** **17 10 53.0 +0.5**
WMQ ScP **ScP** **17 16 20.3 +0.6**
LSIP Lazi, Siquijor 33.46 197 ⇑*e*P **P** **17 10 54.5 -1.4**
TASP Talacogon, Agu 33.70 193 ⇑*e*P **P** **17 10 58.1 +0.2**
ZAA0 Zalesovo Array 34.01 308 P **P** **17 10 59.5 -0.5**
ZAA0 IAmb IAmb 17 11 00.9
comp=Z,111nm,1.4s
ZALV Zalesovo Beam 34.01 308 P **P** **17 10 59.4 -0.6**
comp=Z,19nm,0.4s,baz=93,slow=8.9,SNR=94
ZALV PcP **PcP** **17 13 24.1 -0.1**
comp=Z,13nm,0.7s,baz=81,slow=1.7,SNR=8.2
ZALV ScP **ScP** **17 16 21.6 -1.0**
comp=Z,22nm,0.6s,baz=96,slow=3.2,SNR=29
comp=Z,19nm,0.4s
ZALV Zalesovo Beam 34.01 308 P **P** **17 10 59.8 -0.2**
CDOP Cateel, Davao 34.25 192 ⇓*e*P **P** **17 11 02.2 -0.3**
BUKP Musuan 34.39 194 ⇓*e*P **P** **17 11 04.2 +0.5**
ZSN Zaisan 34.40 296 ⇓*i*P **P** **17 11 04.1 +0.6**
comp=Z,31nm,0.6s,baz=296
ZSN *i* S **S** **17 15 56.3 +0.2**
baz=296
ZSN Zaisan 34.40 296 *d* *i*P **P** **17 11 04.0 +0.6**
ZSN *i* S **S** **17 15 56.3 +0.2**
ZSN pmax pmax
comp=Z,31nm,0.6s
NONG Nongkai 34.74 236 P **P** **17 11 07.5 +0.9**
CRAI Chiangrai 34.95 242 P **P** **17 11 09.2 +0.7**
UBPT Khong Chiam 35.50 230 P **P** **17 11 13.4 +0.4**
UBPT IAmb IAmb 17 11 14.6
comp=Z,28nm,0.7s
UBPT Khong Chiam 35.50 230 P **P** **17 11 13.6 +0.6**
LSA Lhasa 35.77 264 P **P** **17 11 16.2 +0.5**
LSA Lhasa 35.77 264 P **P** **17 11 17.1 +1.4**
LSA pmax pmax
comp=Z,89nm,1.6s
LSA Lhasa 35.77 264 P **P** **17 11 16.2 +0.5**
LSA pmax pmax
comp=Z,340nm,1.8s
LSA Lhasa 35.77 264 *i* P **P** **17 11 16.7 +1.0**
SNR=29
LSA Lhasa 35.77 264 P **P** **17 11 16.9 +1.3**
LSA Lhasa 35.77 264 P **P** **17 11 16.9 +1.3**
DDMP Don Marcelino, 36.02 193 ⇓*e*P **P** **17 11 17.1 -0.2**
MK31 Makanchi Array 36.24 296 P **P** **17 11 19.0 +0.1**
MK31 Makanchi Array 36.24 296 *d* *i*P **P** **17 11 18.8 0.0**
MKAR Makanchi Array 36.24 296 P **P** **17 11 18.9 +0.1**
comp=E,60nm,0.6s,baz=86,slow=10.0,SNR=4.2
MKAR S **S** **17 16 23.4 -0.5**
comp=Z,7.1nm,1.0s,baz=83,slow=15,SNR=6.2
comp=Z,60nm,0.6s
PHRA Phrae 36.28 240 P **P** **17 11 20.5 +1.1**
NRIK Noril'sk 36.35 335 P **P** **17 11 19.1 -0.2**
comp=Z,15nm,0.7s,baz=107,slow=9.2,SNR=20
NRIK PP **PP** **17 12 54.4 -2.0**
comp=Z,5.9nm,0.7s,baz=124,slow=7.0,SNR=5.2
NRIK ScP **ScP** **17 16 31.4 +0.4**
comp=Z,17nm,1.0s,baz=117,slow=6.8,SNR=6.4
NRIK ScS **ScS** **17 20 38.0 -0.3**
comp=Z,3.5nm,0.8s,baz=84,slow=23,SNR=6.1
comp=Z,15nm,0.7s
NRIK Noril'sk 36.35 335 P **P** **17 11 19.3 -0.1**
NRIK IAmb IAmb 17 11 19.8
comp=Z,16nm,0.6s
NRIK Noril'sk 36.35 335 *d* *i*P **P** **17 11 19.0 -0.4**
NRIK pmax pmax
comp=Z,13nm,0.6s
MAKZ Makanchi 36.45 296 P **P** **17 11 20.7 +0.2**
MAKZ Makanchi 36.45 296 P **P** **17 11 20.7 +0.2**
MAKZ pmax pmax
comp=Z,103nm,0.6s
MAKZ Makanchi 36.45 296 ⇓P **P** **17 11 20.7 +0.2**
MAKZ ScP **S** **17 16 26.2 -0.8**
MND Mandalay 36.65 249 P **P** **17 11 22.8 +0.3**
CHTO Chiang Mai 36.90 242 P **P** **17 11 25.2 +0.6**
CHTO Chiang Mai 36.90 242 P **P** **17 11 25.2 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CM31 Chiang Mai Arr 37.16 242 P **P** **17 11 27.4 +0.7**
CMAR Chiang Mai Arr 37.16 242 P **P** **17 11 27.3 +0.6**
comp=Z,38nm,0.7s,baz=35,slow=6.8,SNR=287
CMAR ScP **ScP** **17 16 35.1 +0.2**
comp=Z,11nm,0.8s,baz=16,slow=3.4,SNR=30
comp=Z,38nm,0.7s
CMAR Chiang Mai Arr 37.16 242 P **P** **17 11 27.5 +0.7**
CMAR ScP **ScP** **17 16 34.9 +0.1**
SHL Shillong 37.50 258 P **P** **17 11 29.3 -0.4**
SHL Shillong 37.50 258 P **P** **17 11 29.3 -0.4**
SHL pmax pmax
comp=Z,119nm,0.6s
SHL Shillong 37.50 258 P **P** **17 11 29.5 -0.2**
SNR=47
KURK Kurchatov 38.00 303 P **P** **17 11 33.2 0.0**
KURK Kurchatov 38.00 303 *d* P **P** **17 11 32.8 -0.4**
KURK pmax pmax
comp=Z,230nm,0.6s
KURK Kurchatov 38.00 303 P **P** **17 11 33.2 0.0**
KURK S **S** **17 16 47.2 -2.7**
KURK Kurchatov 38.00 303 ⇓P **P** **17 11 33.0 -0.2**
KURK pP **pP** **17 13 02.0 +1.8**
KURK ScP **ScP** **17 16 36.3 -1.2**
KURBB Kurchatov Arra 38.07 303 P **P** **17 11 33.5 -0.3**
comp=Z,191nm,0.5s,baz=82,slow=8.4,SNR=2649
KURBB pP **pP** **17 13 02.0 +1.1**
comp=Z,2.9nm,0.6s,baz=82,slow=9.1,SNR=2.0
KURBB ScP **ScP** **17 16 37.2 -0.5**
comp=Z,5.2nm,0.9s,baz=82,slow=4.0,SNR=7.7
KURBB S **S** **17 16 48.2 -2.7**
comp=Z,2.4nm,0.5s,baz=82,slow=30,SNR=7.8
comp=Z,191nm,0.5s
SGSI Sangihe 38.41 192 P **P** **17 11 36.9 -0.1**
comp=Z,448nm,0.5s,comp=Z,5μm
KKM Kota Kinabalu 38.52 208 P **P** **17 11 39.3 +1.2**
KKM IAmb IAmb 17 12 12.5
comp=Z,24nm,1.0s
MYLDM Lahad Datu 38.59 204 P **P** **17 11 39.8 +1.3**
MYLDM IAmb IAmb 17 11 43.2
comp=Z,36nm,1.3s
NAYO Nakonayok 38.72 235 P **P** **17 11 40.4 +0.9**
SHLS Shalkode 39.06 291 ⇓*i*P **P** **17 11 39.6 -2.6**
comp=Z,19nm,0.5s,baz=290
SHLS Shalkode 39.06 291 *d* *i*P **P** **17 11 39.5 -2.6**
SHLS pmax pmax
comp=Z,19nm,0.5s
TDK Taldyqorghan 39.28 294 ⇓*i*P **P** **17 11 44.2 +0.4**
baz=294
TDK Taldyqorghan 39.28 294 *d* *i*P **P** **17 11 44.2 +0.4**
UZB Uzynbulak 39.37 291 ⇓*i*P **P** **17 11 44.6 -0.1**
comp=Z,29nm,0.7s,baz=291
UZB *e*S **S** **17 17 09.8 -0.9**
baz=291
UZB Uzynbulak 39.37 291 *d* *i*P **P** **17 11 44.6 -0.1**
UZB *e*S **S** **17 17 09.7 -0.9**
UZB pmax pmax
comp=Z,29nm,0.7s
BRDH Bariadhala 39.41 254 P **P** **17 11 46.4 +1.3**
comp=Z,147nm,0.4s,baz=66,slow=11,SNR=7.2
comp=Z,147nm,0.4s
KPKS Kokpek 39.51 291 ⇓*i*P **P** **17 11 45.7 0.0**
comp=Z,26nm,0.4s,baz=291
KPKS *e*S **S** **17 17 12.3 -0.3**
baz=291
KPKS Kokpek 39.51 291 *d* *i*P **P** **17 11 45.7 0.0**
KPKS *e*S **S** **17 17 12.3 -0.3**
KPKS pmax pmax
comp=Z,26nm,0.4s
TAPN Taplejung 39.58 264 *e*P **P** **17 11 47.6 +0.9**
comp=Z,151nm,0.4s
ZHN Zhinishke 39.77 291 ⇓*i*P **P** **17 11 47.8 -0.2**
baz=291
ZHN Zhinishke 39.77 291 *d* *i*P **P** **17 11 47.7 -0.2**
SATY Saty 39.83 291 ⇓*i*P **P** **17 11 48.5 +0.1**
comp=Z,14nm,0.5s,baz=291
SATY *e*S **S** **17 17 17.0 -0.2**
baz=291
SATY Saty 39.83 291 *d* *i*P **P** **17 11 48.4 +0.1**
SATY *e*S **S** **17 17 17.0 -0.2**
SATY pmax pmax
comp=Z,14nm,0.5s
WUS Wushi 39.84 288 P **P** **17 11 49.0 +0.6**
WUS ScP **ScP** **17 16 44.0 -1.1**
ODAN Odare 40.09 263 *e*P **P** **17 11 51.3 +0.5**
comp=Z,15nm,0.5s
TNA Tin City 40.28 33 P **P** **17 11 52.1 +0.6**
baz=263
JIRN Jiri 40.54 265 *e*P **P** **17 11 55.1 +0.5**
comp=Z,256nm,0.4s
CHKK Chushkaly 40.58 293 ⇓*i*P **P** **17 11 54.2 0.0**
baz=292
CHKK Chushkaly 40.58 293 ⇓*i*P **P** **17 11 54.2 0.0**
RAMN Ramite 40.62 264 *e*P **P** **17 11 55.3 +0.2**
comp=Z,265nm,0.4s
MDOK Medeo 40.74 292 *i* P **P** **17 11 56.2 +0.4**
baz=291
MDOK Medeo 40.74 292 *i* P **P** **17 11 56.1 +0.4**
AAA Alma-Ata 40.82 292 *e*P **P** **17 11 56.7 +0.5**
baz=292
AAA Alma-Ata 40.82 292 *e*P **P** **17 11 56.7 +0.5**
TNSS Tian-Shan 40.85 291 *e*P **P** **17 11 57.7 +0.8**
baz=291
TNSS Tian-Shan 40.85 291 *e*P **P** **17 11 57.7 +0.8**
KUU Kurty 41.02 293 ⇓*i*P **P** **17 11 57.5 -0.3**
comp=Z,64nm,0.7s,baz=293
KUU Kurty 41.02 293 *d* *i*P **P** **17 11 57.4 -0.3**
KUU pmax pmax
comp=Z,64nm,0.7s
TNTI Ternate 41.03 189 P **P** **17 11 58.1 -0.1**
TNTI Ternate 41.03 189 P **P** **17 11 58.4 +0.3**
KKN Kakani 41.15 266 *e*P **P** **17 11 59.6 +0.3**
UNV Unalaska Valle 41.17 52 P **P** **17 11 57.0 -1.8**
PKI Pulchoki 41.17 266 *e*P **P** **17 11 59.7 +0.1**
comp=Z,425nm,0.5s
PKIN Phulchoki 41.18 266 *e*P **P** **17 11 59.7 +0.1**
comp=Z,450nm,0.5s
ANM Nome 41.27 35 P **P** **17 12 00.5 +1.0**
ANM Nome 41.27 35 P **P** **17 12 00.4 +1.0**
baz=267,SNR=6.0
ANM Nome 41.27 35 P **P** **17 12 00.5 +1.0**
ANM pmax pmax
comp=Z,14nm,1.0s
PATS Pohnpei 41.29 140 P **P** **17 12 01.1 +1.0**
PATS Pohnpei 41.29 140 P **P** **17 12 01.1 +1.0**
DMN Daman 41.38 266 *e*P **P** **17 12 01.4 +0.3**
comp=Z,292nm,0.5s
GKN Gorkha 41.52 267 *e*P **P** **17 12 02.1 0.0**
comp=Z,558nm,0.5s
AKUT Akutan 41.56 51 P **P** **17 12 00.9 -0.8**
ULHL Ulahol 41.60 291 P **P** **17 12 02.9 +0.2**
SNR=6.5
TKM2 Tokmak 2 41.83 292 P **P** **17 12 05.1 +0.6**
SNR=128
GTOI Gorontalo 41.84 195 P **P** **17 12 03.0 -1.6**
comp=Z,27nm,0.7s,comp=Z,2μm
TOLI2 Tolitoli 41.87 199 P **P** **17 12 05.0 +0.3**
TOLI2 Tolitoli 41.87 199 P **P** **17 12 05.2 +0.4**
DANN Dangsing 41.99 268 *e*P **P** **17 12 06.8 +0.8**
comp=Z,3μm,0.5s
MRSI Marisa 42.22 197 P **P** **17 12 07.5 0.0**
comp=Z,103nm,0.9s,comp=Z,737nm
SGDS Sogindy 42.33 293 ⇓*i*P **P** **17 12 08.1 -0.1**
baz=293
SGDS Sogindy 42.33 293 *d* *i*P **P** **17 12 08.1 -0.1**
KBK Karagaybulak 42.37 292 P **P** **17 12 09.2 +0.5**
SNR=79

SIJI Sorong 42.37 183 P **P** 17 12 09.5 +0.8
comp=Z,40nm,0.4s,baz=351,slow=13,SNR=100
SIJI PcP **PcP** 17 13 51.9 +0.7
comp=Z,12nm,0.7s,baz=28,slow=3.5,SNR=4.9
SIJI ScP **ScP** 17 16 54.9 -0.3
comp=Z,30nm,0.9s,baz=19,slow=5.6,SNR=18
SIJI S **S** 17 17 55.2 +0.8
comp=Z,2.7nm,1.0s,baz=281,slow=23,SNR=9.8
comp=Z,40nm,0.4s
CHMS Chumysh 42.39 292 P **P** 17 12 08.8 +0.1
SNR=14
KOLN Koldanda 42.42 267 *e*P **P** 17 12 09.8 +0.5
USP Ospenovka 42.48 293 P **P** 17 12 09.4 +0.1
SNR=37
BVAR Borovoye Array 42.66 308 P **P** 17 12 10.2 -0.4
comp=Z,42nm,0.6s,baz=80,slow=7.7,SNR=326
BVAR PcP **PcP** 17 13 52.0 +0.3
comp=Z,16nm,0.5s,baz=99,slow=2.7,SNR=9.5
BVAR ScP **ScP** 17 16 55.0 -0.9
comp=Z,14nm,0.9s,baz=92,slow=3.7,SNR=9.5
BVAR S **S** 17 17 54.8 -3.0
comp=Z,5.8nm,0.9s,baz=81,slow=19,SNR=7.3
BVAR ScS **ScS** 17 21 14.7 -2.1
comp=Z,1.5nm,1.0s,baz=242,slow=3.2,SNR=4.1
comp=Z,42nm,0.6s
AAK Ala-Archa 42.69 292 P **P** 17 12 11.4 +0.2
SNR=33
AAK Ala-Archa 42.69 292 P **P** 17 12 11.3 +0.2
comp=Z,39nm,0.4s
AAK ScP **ScP** 17 16 57.0 +0.5
comp=Z,4.3nm,0.8s,baz=72,slow=8.7,SNR=3.6
comp=Z,39nm,0.4s
AAK Ala-Archa 42.69 292 P **P** 17 12 11.4 +0.2
AAK Ala-Archa 42.69 292 *d* iP **P** 17 12 11.1 -0.1
AAK pmax pmax
comp=Z,102nm,1.7s
AAK Ala-Archa 42.69 292 *i* P **P** 17 12 11.4 +0.2
SNR=42
AAK Ala-Archa 42.69 292 P **P** 17 12 11.5 +0.2
AAK Ala-Archa 42.69 292 ⇓P **P** 17 12 11.3 +0.2
AAK ScP **ScP** 17 16 55.2 -1.3
BRVK Borovoye 42.72 308 P **P** 17 12 10.8 -0.2
BRVK IAmb IAmb 17 12 11.2
comp=Z,49nm,1.4s
BRVK Borovoye 42.72 308 *d* iP **P** 17 12 10.6 -0.4
BRVK pmax pmax
comp=Z,70nm,2.5s
BRVK Borovoye 42.72 308 P **P** 17 12 10.9 -0.2
BRVK S **S** 17 17 55.9 -2.7
BRVK Borovoye 42.72 308 ⇓P **P** 17 12 10.7 -0.2
BRVK ScP **ScP** 17 16 54.9 -1.3
KSH Kashi 42.75 287 P **P** 17 12 16.1 +4.5
KSH PcP **PcP** 17 13 55.5 +3.1
KSH PP **PP** 17 14 09.7 +7.7
KSH S **S** 17 18 07.6 +8.0
KSH ScS **ScS** 17 21 20.4 +2.4
KSH pmax pmax
comp=Z,42nm,0.9s
UCH Uchtor 42.81 291 P **P** 17 12 13.0 +0.5
SNR=24
MPSI Mapaga 42.83 200 P **P** 17 12 11.7 -0.7
comp=Z,17nm,0.6s
EKS2 Erkin-Say 43.18 292 P **P** 17 12 15.1 +0.2
SNR=25
SBUM Sibu 43.31 211 P **P** 17 12 17.8 +1.7
SBUM IAmb IAmb 17 12 19.3
comp=Z,26nm,0.9s
AML Almayashu 43.42 291 P **P** 17 12 17.8 +0.6
SNR=27
S12K Black Hills 43.43 48 P **P** 17 12 17.8 +1.2
baz=280
LUWI Luwuk 43.52 195 P **P** 17 12 15.5 -2.2
LUWI Luwuk 43.52 195 P **P** 17 12 16.3 -1.5
LUWI Luwuk 43.52 195 P **P** 17 12 15.6 -2.2
comp=Z,67nm,0.8s,comp=Z,803nm
SURA Surathani 43.78 232 P **P** 17 12 20.8 +1.0
SANI Sanana 43.98 190 P **P** 17 12 20.4 -1.0
SRIT Nakonsritamara 44.25 231 P **P** 17 12 25.1 +1.6
FAKI Fak Fak 44.38 181 P **P** 17 12 25.1 +0.7
FAKI Fak Fak 44.38 181 P **P** 17 12 25.1 +0.7
SDPT Sand Point 44.38 48 P **P** 17 12 22.7 -1.2
SDPT IAmb IAmb 17 14 15.2
comp=Z,68nm,1.0s
N16K Nishlik Lake 44.48 41 P **P** 17 12 25.8 +1.1
baz=277
GENI Genyem 44.52 170 P **P** 17 12 26.6 +1.1
DZA Taraz 44.79 293 *e*P **P** 17 12 27.4 0.0
comp=Z,33nm,0.6s,baz=293
DZA Taraz 44.79 293 *e*P **P** 17 12 27.3 -0.1
DZA pmax pmax
comp=Z,33nm,0.6s
A21K Barrow 44.90 25 P **P** 17 12 28.3 +0.6
baz=268
O16K Kokwok River B 44.93 42 P **P** 17 12 29.2 +1.1
baz=279
NLAI Namlea 45.02 188 P **P** 17 12 29.9 +0.5
comp=Z,49nm,1.2s
P16K Nushagak River 45.07 43 P **P** 17 12 30.0 +0.8
baz=279
KK31 Karatay Array 45.28 294 P **P** 17 12 31.1 -0.1
KK31 IAmb IAmb 17 12 32.9
comp=Z,36nm,0.8s
KK31 Karatay Array 45.28 294 P **P** 17 12 31.1 -0.1
KK31 pmax pmax
comp=Z,36nm,0.8s
KKAR Karatay Array 45.28 294 P **P** 17 12 31.0 -0.1
KKAR IAmb IAmb 17 12 32.9
comp=Z,36nm,0.8s
KKAR Karatay Array 45.28 294 P **P** 17 12 31.1 -0.1
KKAR Karatay Array 45.28 294 P **P** 17 12 31.1 -0.1
KKAR pmax pmax
comp=Z,36nm,0.8s
CHGN Chignik 45.34 47 P **P** 17 12 29.8 -1.5
CHGN IAmb IAmb 17 12 32.3
comp=Z,37nm,1.2s
CHGN Chignik 45.34 47 P **P** 17 12 32.2 +0.9
baz=282
AAI Ambon 45.35 187 P **P** 17 12 32.4 +0.4
comp=Z,189nm,0.7s,comp=Z,2µm
MANU Manus Island 45.39 160 P **P** 17 12 33.1 +0.8
MANU Manus Island 45.39 160 P **P** 17 12 33.1 +0.8
O17K Koliganek Bris 45.41 42 P **P** 17 12 33.1 +1.3
baz=279,SNR=7.0
TTA Tatalina 45.49 37 P **P** 17 12 33.1 +0.7
TTA Tatalina 45.49 37 P **P** 17 12 33.2 +0.7
baz=277
TTA Tatalina 45.49 37 P **P** 17 12 33.1 +0.7
TTA pmax pmax
comp=Z,10.0nm,1.2s
P17K Kvichak River 45.83 43 P **P** 17 12 36.5 +1.4
baz=280
SVW2 Sparrevohn 45.94 40 P **P** 17 12 37.5 +1.6
SVW2 IAmb IAmb 17 12 38.0
comp=Z,13nm,0.6s
IUG Iuzhnay 45.96 293 ⇓*i* P **P** 17 12 36.6 +0.2
comp=Z,32nm,0.7s,baz=293
IUG Iuzhnay 45.96 293 *d* iP **P** 17 12 36.6 +0.2
IUG pmax pmax
comp=Z,32nm,0.7s
F21K Alatna River 46.11 31 P **P** 17 12 37.6 +0.5
baz=275
L19K White Mountain 46.12 38 P **P** 17 12 38.1 +0.9
L19K White Mountain 46.12 38 P **P** 17 12 38.4 +1.2
baz=279
IMAR Indian Mountai 46.12 33 P **P** 17 12 38.1 +0.9
R17K Ugashik Creek 46.16 45 P **P** 17 12 38.5 +1.0
baz=282
J20K Nowinta River 46.16 35 P **P** 17 12 38.7 +1.2
J20K IAmb IAmb 17 12 39.8
comp=Z,28nm,0.8s
J20K Nowinta River 46.16 35 P **P** 17 12 38.8 +1.3
baz=277
G21K Allakaket 46.17 32 P **P** 17 12 38.5 +0.9
baz=276
PBA Port Blair 46.18 242 P **P** 17 12 39.1 +0.7
Q17K Contact Creek 46.29 44 P **P** 17 12 39.0 +0.3
baz=282
K20K Telida 46.30 37 P **P** 17 12 39.9 +1.3
baz=278
O18K Koktuh Hills 46.33 41 P **P** 17 12 40.3 +1.3
O18K IAmb IAmb 17 12 43.5
comp=Z,12nm,0.7s
O18K Koktuh Hills 46.33 41 P **P** 17 12 40.2 +1.3
baz=281
P18K Big Mountain, 46.41 42 P **P** 17 12 40.5 +1.0
P18K Big Mountain, 46.41 42 P **P** 17 12 40.6 +1.1
baz=281
N19K Bonanza Creek 46.52 40 P **P** 17 12 41.7 +1.3
N19K Bonanza Creek 46.52 40 P **P** 17 12 41.8 +1.4
baz=280
L20K Farewell, AK 46.52 38 P **P** 17 12 41.6 +1.3
baz=279
H21K Melozitna Rive 46.55 33 P **P** 17 12 41.0 +0.6
H21K Melozitna Rive 46.55 33 P **P** 17 12 41.3 +0.9
baz=277
F22K John River 46.59 31 P **P** 17 12 41.8 +1.1
baz=276
Q18K Katmai Hardscr 46.67 43 P **P** 17 12 42.4 +0.8
baz=282
O19K Port Alsworth 46.71 41 P **P** 17 12 43.0 +1.4
baz=281
NDI New Delhi 46.72 272 *e*P **P** 17 12 43.0 +0.7
IPM Ipoh 46.81 227 P **P** 17 12 43.3 +0.2
IPM IAmb IAmb 17 12 44.6
comp=Z,36nm,1.1s
IPM Ipoh 46.81 227 P **P** 17 12 43.3 +0.2
G22K Bettles 46.91 31 P **P** 17 12 43.7 +0.6
baz=277
I21K Tanana 46.95 34 P **P** 17 12 44.4 +1.0
I21K IAmb IAmb 17 12 45.8
comp=Z,17nm,0.9s
I21K Tanana 46.95 34 P **P** 17 12 44.7 +1.3
baz=278
M20K Styx River 46.97 38 P **P** 17 12 45.3 +1.5
baz=280
CHIR Chirikof Islan 46.97 47 P **P** 17 12 44.0 +0.3
GAR Garm 46.99 289 P **P** 17 12 44.2 -0.1
D23K Nanushuk River 47.00 29 P **P** 17 12 45.4 +1.5
baz=276
CHUM Lake Minchumin 47.00 36 P **P** 17 12 45.6 +1.7
baz=279,SNR=14
H22K Ishtalitna Cre 47.10 33 P **P** 17 12 45.7 +1.1
baz=278
CAST Castle Rocks 47.18 36 P **P** 17 12 46.7 +1.4
CAST IAmb IAmb 17 12 47.6
comp=Z,28nm,0.8s
CAST Castle Rocks 47.18 36 P **P** 17 12 46.8 +1.6
baz=280,SNR=28
NIL Nilore 47.21 281 P **P** 17 12 46.7 +0.7
NIL Nilore 47.21 281 P **P** 17 12 46.7 +0.7
NIL pmax pmax
comp=Z,215nm,0.7s
NIL Nilore 47.21 281 P **P** 17 12 47.1 +1.1
NIL Nilore 47.21 281 P **P** 17 12 46.9 +0.9
NIL ScP **ScP** 17 17 14.2 -1.0
PPLA Purkeypile 47.22 37 P **P** 17 12 47.3 +1.5
PPLA IAmb IAmb 17 12 48.5
comp=Z,72nm,1.6s
PPLA Purkeypile 47.22 37 P **P** 17 12 47.2 +1.5
baz=280,SNR=6.5
ILSW Iliamna Southw 47.33 41 P **P** 17 12 47.4 +0.8
ILSW IAmb IAmb 17 12 49.5
comp=Z,40nm,1.6s
SVE Sverdlovsk 47.36 315 *ce*P **P** 17 12 46.8 +0.1
SVE *e*S **S** 17 19 03.0 -0.9
SVE pmax pmax
comp=Z,42nm,0.9s
COLD Coldfoot 47.38 31 P **P** 17 12 47.6 +0.8
COLD Coldfoot 47.38 31 P **P** 17 12 47.7 +1.0
baz=278,SNR=19
RSO Redoubt South 47.42 40 P **P** 17 12 48.6 +1.3
MLY Manley 47.49 34 P **P** 17 12 48.7 +1.0
MLY Manley 47.49 34 P **P** 17 12 48.8 +1.2
baz=279,SNR=18
G23K Bananza Creek 47.52 32 P **P** 17 12 48.5 +0.6
baz=278
SPCR Spurr Chakacha 47.53 39 P **P** 17 12 49.5 +1.4
baz=282,SNR=13
N20K Mount Spurr 47.53 39 P **P** 17 12 49.6 +1.6
baz=282,SNR=23
BPAW Bear Paw Mtn. 47.54 35 P **P** 17 12 49.0 +1.0
BPAW Bear Paw Mtn. 47.54 35 P **P** 17 12 49.2 +1.1
baz=280,SNR=14
O20K Slope Mountain 47.56 41 P **P** 17 12 49.0 +0.7
baz=282
SII Sitkinak Islan 47.57 46 P **P** 17 12 48.6 +0.3
SII Sitkinak Islan 47.57 46 P **P** 17 12 49.1 +0.8
baz=284
SPU Mont Spurr 47.61 39 P **P** 17 12 49.9 +1.4
C24K Franklin Bluff 47.62 28 P **P** 17 12 49.4 +1.0
baz=277
MYKOM Kota Tinggi 47.62 221 P **P** 17 12 49.8 +0.6
MYKOM IAmb IAmb 17 12 51.8
comp=Z,26nm,0.9s
KTH Kantishna Hill 47.67 36 P **P** 17 12 50.3 +1.3
KTH IAmb IAmb 17 12 51.4
comp=Z,46nm,1.0s
SKT Skwentna 47.69 38 P **P** 17 12 49.7 +0.5
SKT Skwentna 47.69 38 P **P** 17 12 49.8 +0.6
baz=282,SNR=6.5
H23K Yukon River 47.86 33 P **P** 17 12 51.6 +1.3
H23K IAmb IAmb 17 12 52.9
comp=Z,29nm,0.8s
H23K Yukon River 47.86 33 P **P** 17 12 51.8 +1.4
baz=280
OHAK Old Harbor 47.88 45 P **P** 17 12 50.6 +0.1
OHAK IAmb IAmb 17 14 35.4
comp=Z,69nm,1.5s
OHAK Old Harbor 47.88 45 P **P** 17 12 50.2 -0.4
baz=284
BBKI Banjar Baru 47.89 205 P **P** 17 12 50.9 -0.3
comp=Z,119nm,0.8s,comp=Z,10µm
E24K Your Creek 47.91 30 P **P** 17 12 51.7 +0.9
baz=279
CHGR Chuyangaron 47.95 289 P **P** 17 12 51.5 -0.1
CHGR Chuyangaron 47.95 289 P **P** 17 12 51.5 -0.1
CHGR pmax pmax
comp=Z,303nm,0.6s
TRF Thorofare Moun 47.97 36 P **P** 17 12 52.0 +0.6
TRF Thorofare Moun 47.97 36 P **P** 17 12 51.9 +0.5
baz=281
Q20K Shuyak Island 48.01 43 P **P** 17 12 51.3 -0.2
baz=284
KAPI Kappang 48.02 198 P **P** 17 12 52.2 0.0
KAPI S **S** 17 19 12.4 -1.7
KAPI Kappang 48.02 198 P **P** 17 12 52.2 0.0
I23K Minto, Yukon-K 48.05 34 P **P** 17 12 52.9 +1.2
I23K IAmb IAmb 17 12 53.9
comp=Z,52nm,1.6s
I23K Minto, Yukon-K 48.05 34 P **P** 17 12 52.7 +1.0
baz=280,SNR=14
SIMJ Simiganj 48.06 289 P **P** 17 12 52.1 -0.4
SIMJ pP **pP** 17 14 26.2 +1.3
SIMJ ScP **ScP** 17 17 17.4 -1.4
KDAK Kodiak Island 48.11 44 P **P** 17 12 52.2 0.0
comp=Z,9.9nm,0.5s,baz=343,slow=2.7,SNR=26
KDAK PcP **PcP** 17 14 12.2 +1.5
comp=Z,12nm,0.7s,baz=16,slow=0.5,SNR=5.7
comp=Z,9.9nm,0.5s
KDAK Kodiak Island 48.11 44 P **P** 17 12 52.3 0.0
KDAK IAmb IAmb 17 14 30.3
comp=Z,152nm,1.9s
KDAK Kodiak Island 48.11 44 P **P** 17 12 51.9 -0.4
baz=284
KDAK Kodiak Island 48.11 44 P **P** 17 12 52.3 0.0
KDAK pmax pmax
comp=Z,152nm,1.9s
KDAK Kodiak Island 48.11 44 P **P** 17 12 52.1 -0.2
KDAK PcP **PcP** 17 14 12.0 +1.3
SUA Susitna One 48.17 39 P **P** 17 12 53.1 +0.2
SUA Susitna One 48.17 39 P **P** 17 12 53.0 +0.2
baz=283,SNR=10
BWN Browne 48.19 35 P **P** 17 12 54.6 +1.8
BWN IAmb IAmb 17 12 55.6
comp=Z,118nm,1.2s
CUT Chulitna 48.19 37 P **P** 17 12 53.1 +0.3
CUT IAmb IAmb 17 12 54.4
comp=Z,31nm,0.8s
CUT Chulitna 48.19 37 P **P** 17 12 53.6 +0.8
baz=282,SNR=6.2
F24K Squaw Lake 48.23 30 P **P** 17 12 54.1 +1.0
baz=280
BKSI Bulukumba 48.24 197 P **P** 17 12 54.1 +0.3
comp=Z,39nm,1.3s
NEA2 Nenana 48.27 34 P **P** 17 12 54.5 +1.0
NEA2 IAmb IAmb 17 12 55.4
comp=Z,30nm,0.7s
NEA2 Nenana 48.27 34 P **P** 17 12 54.2 +0.8
baz=281,SNR=38
CNPM China Poot 48.37 41 P **P** 17 12 54.1 -0.2
FIS Fire Island 48.49 39 P **P** 17 12 56.1 +1.1
FIS IAmb IAmb 17 12 57.2
comp=Z,59nm,1.0s
BRLK Bradley Lake 48.49 41 P **P** 17 12 54.9 -0.2
MCK McKinley 48.51 36 P **P** 17 12 55.9 +0.7
MCK IAmb IAmb 17 12 56.8
comp=Z,22nm,0.9s
MCK McKinley 48.51 36 P **P** 17 12 55.7 +0.5
baz=282,SNR=14
MCK McKinley 48.51 36 P **P** 17 12 55.9 +0.7
MCK pmax pmax
comp=Z,22nm,0.9s
G24K Hadweenzic Riv 48.53 31 P **P** 17 12 56.5 +1.2
baz=281
H24K Noodor Dome 48.53 33 P **P** 17 12 56.7 +1.3
H24K IAmb IAmb 17 12 57.9
comp=Z,26nm,1.1s
H24K Noodor Dome 48.53 33 P **P** 17 12 56.8 +1.3
baz=281
MDM Murphy Dome 48.56 34 P **P** 17 12 56.6 +1.1
MDM IAmb IAmb 17 12 57.6
comp=Z,28nm,0.7s
BRSE Bradley Lake S 48.56 41 P **P** 17 12 56.3 +0.6
baz=284
ARU Arti 48.57 314 P **P** 17 12 55.3 -0.4
comp=Z,23nm,0.5s,baz=80,slow=4.6,SNR=53
ARU PcP **PcP** 17 14 12.4 0.0
comp=Z,18nm,0.4s,baz=57,slow=3.2,SNR=7.6
ARU ScP **ScP** 17 17 19.2 -1.3
comp=Z,4.7nm,0.4s,baz=140,slow=9.9,SNR=4.3
comp=Z,23nm,0.5s
ARU Arti 48.57 314 P **P** 17 12 55.4 -0.4
ARU IAmb IAmb 17 12 55.9
comp=Z,104nm,1.6s
ARU Arti 48.57 314 *d* iP **P** 17 12 55.3 -0.4
ARU 17 14 12.0
ARU *PP **pP** 17 14 28.0 -0.4
ARU S **S** 17 19 19.9 -0.7
ARU SS **SS** 17 22 58.8 +0.9
ARU pmax pmax
comp=Z,51nm,1.1s
ARU Arti 48.57 314 ⇓P **P** 17 12 55.4 -0.4
ARU PcP **PcP** 17 14 12.4 0.0
ARU pP **pP** 17 14 29.8 +1.5
ARU ScP **ScP** 17 17 18.8 -1.7
RND Reindeer 48.61 36 P **P** 17 12 55.2 -0.8
RND Reindeer 48.61 36 P **P** 17 12 55.2 -0.8
RND pmax pmax
comp=Z,13nm,1.0s
WRH Wood River Hil 48.71 34 P **P** 17 12 57.4 +0.6
RC01 Rabbit Creek A 48.73 39 P **P** 17 12 57.0 +0.2
RC01 IAmb IAmb 17 12 57.7
comp=Z,13nm,0.6s
RC01 Rabbit Creek A 48.73 39 P **P** 17 12 57.4 +0.5
baz=284,SNR=7.1
TCOL CIGO, UAF Yank 48.73 34 P **P** 17 12 58.2 +1.4
TCOL IAmb IAmb 17 12 58.8
comp=Z,57nm,0.8s
TCOL CIGO, UAF Yank 48.73 34 P **P** 17 12 58.0 +1.2
baz=282,SNR=10
COLA College 48.73 34 P **P** 17 12 58.2 +1.4
COLA IAmb IAmb 17 12 58.9
comp=Z,57nm,0.8s
COLA College 48.73 34 P **P** 17 12 57.9 +1.1
baz=282
COLA College 48.73 34 P **P** 17 12 58.1 +1.3
COLA College 48.73 34 *c* iP **P** 17 12 57.7 +0.9
COLA pmax pmax
comp=Z,48nm,0.8s
COLA College 48.73 34 P **P** 17 12 57.9 +1.1
COLA pP **pP** 17 14 33.6 +4.1
CCB Clear Creek Bu 48.80 34 P **P** 17 12 57.9 +0.6
CCB IAmb IAmb 17 12 59.5
comp=Z,16nm,0.7s
RABL Rabaul 48.84 154 P **P** 17 13 00.0 +1.7
RABL Rabaul 48.84 154 P **P** 17 13 00.4 +2.1
POKR Poker Plat Res 48.85 34 P **P** 17 12 59.0 +1.2
POKR IAmb IAmb 17 13 00.3
comp=Z,37nm,0.8s
POKR Poker Plat Res 48.85 34 P **P** 17 12 59.3 +1.5
baz=282,SNR=12
WAT1 Susitna Watana 48.87 37 P **P** 17 12 58.3 +0.3
baz=283
C26K Camden Bay 48.89 27 P **P** 17 12 59.5 +1.6
baz=280
PMR Palmer 48.89 38 P **P** 17 12 58.8 +0.8
PMR IAmb IAmb 17 12 59.3
comp=Z,29nm,1.2s
PMR Palmer 48.89 38 P **P** 17 12 58.5 +0.4
baz=284,SNR=6.1
PMR Palmer 48.89 38 P **P** 17 12 58.8 +0.8
PMR pmax pmax
comp=Z,29nm,1.2s
KRVT Keravat (AS076 48.90 155 P **P** 17 12 59.7 +0.9
comp=Z,65nm,0.6s,baz=306,slow=3.7,SNR=28
comp=Z,65nm,0.6s
GHO Glory Hole Cre 48.95 38 P **P** 17 12 59.3 +0.8
GHO IAmb IAmb 17 13 00.4
comp=Z,33nm,0.8s
E25K Arctic Village 48.98 29 P **P** 17 13 00.1 +1.3
baz=281,SNR=18
G25K Bearman Lake 49.05 31 P **P** 17 13 00.6 +1.5
baz=282
F25K Christian Rive 49.06 30 P **P** 17 13 00.9 +1.6
baz=282
SEW Seward 49.10 40 P **P** 17 13 00.1 +0.4
SEW IAmb IAmb 17 14 46.3
comp=Z,33nm,1.2s
SEW Seward 49.10 40 P **P** 17 12 59.9 +0.2
baz=285
IL31 49.16 34 P **P** 17 13 00.2 +0.3
IL31 IAmb IAmb 17 13 02.1
comp=Z,19nm,0.6s
ILAR Eielson Array 49.16 34 P **P** 17 13 00.1 +0.1
comp=Z,12nm,0.6s,baz=282,slow=7.1,SNR=123
ILAR PP **PP** 17 14 56.6 -2.9
comp=Z,4.6nm,0.9s,baz=284,slow=6.7,SNR=4.6
comp=Z,12nm,0.6s
SML Sawmill 49.21 38 P **P** 17 13 01.3 +0.7
SML IAmb IAmb 17 13 02.2
comp=Z,24nm,1.1s
SML Sawmill 49.21 38 P **P** 17 13 01.1 +0.6
baz=284,SNR=7.8
HDA Harding Lake 49.21 34 P **P** 17 13 00.6 +0.2
HDA IAmb IAmb 17 13 01.4
comp=Z,39nm,0.8s
HDA Harding Lake 49.21 34 P **P** 17 13 00.5 0.0
baz=283,SNR=35
KNK Knik Glacier 49.25 38 P **P** 17 13 01.1 +0.3
KNK IAmb IAmb 17 13 02.4
comp=Z,24nm,0.8s
KNK Knik Glacier 49.25 38 P **P** 17 13 01.3 +0.5
baz=284,SNR=10
WAT6 Susitna Watana 49.29 37 P **P** 17 13 01.4 +0.1
baz=284,SNR=11
DHY Denali Highway 49.34 36 P **P** 17 13 01.7 +0.2
DHY Denali Highway 49.34 36 P **P** 17 13 01.9 +0.4
baz=284,SNR=12
C27K Jago River 49.35 27 P **P** 17 13 02.6 +1.2
baz=281,SNR=55
PSI Prapat 49.36 228 P **P** 17 13 02.9 +0.6
PSI Prapat 49.36 228 P **P** 17 13 02.6 +0.3
PSI pmax pmax
comp=Z,86nm,1.4s
KCSI Kotacane, Aceh 49.41 229 P **P** 17 13 00.9 -1.7
comp=Z,29nm,1.0s
FYU Fort Yukon 49.43 31 P **P** 17 13 03.4 +1.4
FYU IAmb IAmb 17 13 04.6
comp=Z,36nm,0.9s
SAUI Saumlaki 49.43 182 P **P** 17 13 04.0 +1.3
SAUI Saumlaki 49.43 182 P **P** 17 13 04.0 +1.3
RPSI Rantau Prapat 49.44 228 P **P** 17 13 02.6 -0.2
RPSI IAmb IAmb 17 13 04.5
comp=Z,86nm,1.4s
PWL Port Wells 49.45 39 P **P** 17 13 02.9 +0.6
PWL IAmb IAmb 17 13 03.5
comp=Z,21nm,0.8s
PWL Port Wells 49.45 39 P **P** 17 13 02.6 +0.3
baz=285,SNR=5.2
M23K Glacier View 49.49 38 P **P** 17 13 03.3 +0.7
baz=285,SNR=8.1
BMAR Burnt Mountain 49.49 30 P **P** 17 13 04.2 +1.7
PRP Porcupine Dome 49.55 33 P **P** 17 13 03.9 +0.8
PRP IAmb IAmb 17 13 05.3
comp=Z,28nm,1.0s
PRP Porcupine Dome 49.55 33 P **P** 17 13 04.0 +0.9
baz=283,SNR=26
F26K Sheenjek River 49.60 30 P **P** 17 13 04.6 +1.3

baz=283,SNR=18
SCM Sheep Creek Mo 49.66 38 P P 17 13 04.9 +1.0
SCM IAmb IAmb 17 13 05.3
comp=Z,46nm,0.5s
SCM Sheep Creek Mo 49.66 38 P P 17 13 04.8 +0.9
baz=285,SNR=18
SCM Sheep Creek Mo 49.66 38 P P 17 13 04.9 +1.0
SCM pmax pmax
comp=Z,46nm,0.5s
K24K Donnelly Dome 49.85 35 P P 17 13 05.3 +0.1
baz=285,SNR=18
ABKAR Akbulak array 50.01 305 P P 17 13 06.3 -0.2
ABKAR Akbulak array 50.01 305 P P 17 13 06.4 -0.2
ABKAR IAmb IAmb 17 13 06.6
comp=Z,64nm,0.5s
M24K Tolsona, Glenn 50.12 37 P P 17 13 08.7 +1.5
M24K IAmb IAmb 17 13 10.7
comp=Z,58nm,1.3s
M24K Tolsona, Glenn 50.12 37 P P 17 13 08.9 +1.7
baz=286,SNR=7.9
P23K Montague Islan 50.12 40 P P 17 13 07.9 +0.7
baz=286
PAX Paxson 50.20 36 P P 17 13 08.4 +0.6
PAX Paxson 50.20 36 P P 17 13 08.3 +0.4
baz=286
PAX Paxson 50.20 36 P P 17 13 08.5 +0.6
PAX pmax pmax
comp=Z,6.0nm,0.7s
RIDG Independent Ri 50.27 35 P P 17 13 08.2 -0.2
RIDG Independent Ri 50.27 35 P P 17 13 08.1 -0.2
baz=285,SNR=19
BKNI Bangkinang 50.30 224 P P 17 13 09.6 +0.5
BKNI Bangkinang 50.30 224 P P 17 13 12.2 +3.1
KLU Klutina 50.40 38 P P 17 13 10.2 +0.8
KLU Klutina 50.40 38 P P 17 13 10.2 +0.8
baz=286,SNR=6.6
E27K Coleen River 50.42 29 P P 17 13 10.6 +1.2
baz=284,SNR=11
HARP HAARP 50.50 37 P P 17 13 11.2 +1.2
baz=286,SNR=9.2
DIV Divide 50.58 38 P P 17 13 11.8 +1.2
SCRK Sand Creek 50.58 35 P P 17 13 10.8 +0.2
SCRK IAmb IAmb 17 13 11.7
comp=Z,32nm,0.9s
SCRK Sand Creek 50.58 35 P P 17 13 10.9 +0.2
baz=286,SNR=32
J26L Joseph Creek 50.61 34 P P 17 13 10.3 -0.5
baz=286
DOT Dot Lake 50.63 35 P P 17 13 10.9 0.0
DOT IAmb IAmb 17 13 11.9
comp=Z,16nm,0.6s
G27K Doyon Strip 50.75 31 P P 17 13 13.1 +1.3
baz=286
EYAK Cordova Ski Ar 50.75 39 P P 17 13 13.0 +1.2
EYAK Cordova Ski Ar 50.75 39 P P 17 13 12.8 +1.0
baz=287
EYAK Cordova Ski Ar 50.75 39 P P 17 13 13.2 +1.4
AKTO Aktyubinsk 50.76 307 P P 17 13 11.3 -0.8
comp=Z,28nm,0.6s,baz=91,slow=6.6,SNR=66
AKTO PcP **PcP 17 14 21.7 +1.0**
comp=Z,8.1nm,0.7s,baz=342,slow=3.2,SNR=1.8
AKTO S **S 17 19 48.4 -2.4**
comp=Z,2.0nm,0.8s,baz=11,slow=17,SNR=6.0
comp=Z,28nm,0.6s
H27K Steamboat Moun 50.96 31 P P 17 13 15.0 +1.6
baz=286
N25K Chitina, Valde 50.98 38 P P 17 13 15.0 +1.5
N25K IAmb IAmb 17 13 16.7
comp=Z,16nm,0.7s
N25K Chitina, Valde 50.98 38 P P 17 13 14.8 +1.2
baz=287,SNR=12
MMRI Maumere 51.03 194 P P 17 13 14.2 -0.3
MMRI Maumere 51.03 194 P P 17 13 14.1 -0.3
MMRI Maumere 51.03 194 P P 17 13 13.0 -1.4
comp=Z,148nm,0.7s,comp=Z,1µm
I27K Kandik River 51.10 32 P P 17 13 15.5 +1.2
baz=286
L26K Log Cabin Wild 51.12 36 P P 17 13 15.6 +1.1
L26K Log Cabin Wild 51.12 36 P P 17 13 15.3 +0.8
baz=287,SNR=8.6
BMRM Bremner River 51.16 38 P P 17 13 15.9 +1.0
BMRM Bremner River 51.16 38 P P 17 13 15.8 +0.9
baz=288
SDSI Sungai Dareh 51.17 222 P P 17 13 15.9 +0.4
comp=Z,80nm,1.3s,comp=Z,1µm
GSI Gunungsitoli 51.34 228 P P 17 13 17.0 +0.3
GSI Gunungsitoli 51.34 228 P P 17 13 17.3 +0.6
GSI Gunungsitoli 51.34 228 P P 17 13 16.3 -0.4
comp=Z,174nm,1.5s,comp=Z,3µm
K27K Chicken 51.37 34 P P 17 13 17.3 +1.0
baz=287
GLB Gilahina Butte 51.39 38 P P 17 13 17.6 +1.1
M26K Nabesna, AK 51.46 36 P P 17 13 18.3 +1.3
M26K IAmb IAmb 17 13 19.4
comp=Z,22nm,0.8s
M26K Nabesna, AK 51.46 36 P P 17 13 18.4 +1.4
baz=288,SNR=24
EGAK Eagle 51.52 33 P P 17 13 18.1 +0.7
EGAK IAmb IAmb 17 13 18.8
comp=Z,79nm,1.6s
EGAK Eagle 51.52 33 P P 17 13 17.9 +0.6
baz=288,SNR=24
VRDI Verde Repeater 51.62 38 P P 17 13 19.5 +1.2
VRDI IAmb IAmb 17 13 20.0
comp=Z,16nm,0.6s
PDSI Padang 51.65 223 P P 17 13 16.3 -2.7
comp=Z,20nm,0.5s
MCARA McCarthy VSAT 51.76 38 P P 17 13 20.6 +1.4
MCARA IAmb IAmb 17 13 22.4
comp=Z,57nm,1.5s
MCARA McCarthy VSAT 51.76 38 P P 17 13 20.8 +1.6
baz=289,SNR=8.0
L27K Beaver Creek, 51.77 35 P P 17 13 20.6 +1.4
L27K Beaver Creek, 51.77 35 P P 17 13 20.4 +1.2
baz=288,SNR=15
BCAR Beaver Creek A 51.78 35 P P 17 13 20.8 +1.5
SOEI Soe 51.80 191 P P 17 13 20.4 +0.2
comp=Z,73nm,1.1s
M27K Edge Creek, AK 51.97 36 P P 17 13 21.9 +1.1
M27K Edge Creek, AK 51.97 36 P P 17 13 22.0 +1.2
baz=289
SRBI Singaraja 52.15 203 P P 17 13 22.2 -0.3
comp=Z,83nm,1.1s
PLAI Plampang 52.17 199 P P 17 13 21.7 -1.0
PLAI Plampang 52.17 199 P P 17 13 21.1 -1.6
comp=Z,95nm,0.7s
SNH Sunshine Point 52.24 39 P P 17 13 24.2 +1.5
SNH IAmb IAmb 17 15 00.1
comp=Z,183nm,1.5s
TWSI Taliwang, Sumb 52.32 200 P P 17 13 22.6 -1.1
comp=Z,88nm,0.9s
BVCY Beaver Creek 52.40 36 P P 17 13 24.8 +1.0
baz=290,SNR=6.8
PMG Port Moresby 52.44 162 P P 17 13 24.9 +0.3
comp=Z,19nm,0.6s,baz=3.5,slow=5.4,SNR=25
PMG ScP **ScP 17 17 37.2 -0.5**
comp=Z,5.7nm,0.8s,baz=326,slow=9.1,SNR=4.7
comp=Z,19nm,0.6s
PMG Port Moresby 52.44 162 P P 17 13 24.8 +0.1
PMG IAmb IAmb 17 13 25.4
comp=Z,35nm,0.8s
PMG Port Moresby 52.44 162 P P 17 13 24.9 +0.3
PMG Port Moresby 52.44 162 P P 17 13 25.0 +0.4
PMG Port Moresby 52.44 162 P P 17 13 24.7 +0.1
PMG ScP **ScP 17 17 36.9 -0.8**
DAWY Dawson 52.48 34 P P 17 13 24.7 +0.4
DAWY Dawson 52.48 34 P P 17 13 24.7 +0.4
baz=289,SNR=10
I29M Ogilvie Camp, 52.49 32 P P 17 13 25.3 +0.9
I29M Ogilvie Camp, 52.49 32 P P 17 13 25.4 +1.0
baz=289,SNR=11
BARN Barnard Glacie 52.49 38 P P 17 13 26.0 +1.3
BARN IAmb IAmb 17 13 26.7
comp=Z,28nm,0.6s
KIRV Kirov 52.60 319 P P 17 13 25.0 -0.2
comp=Z,39nm,0.5s,baz=30,slow=2.0,SNR=18
KIRV PcP **PcP 17 14 27.9 +0.5**
comp=Z,21nm,0.4s,baz=81,slow=2.0,SNR=6.6
KIRV pP **pP 17 15 00.5 +0.5**
comp=Z,15nm,0.7s,baz=64,slow=8.3,SNR=2.3
KIRV ScP **ScP 17 17 37.3 -0.6**
comp=Z,1.8nm,0.4s,baz=0.0,slow=8.1,SNR=3.6
comp=Z,39nm,0.5s
MESA MESA 52.66 39 P P 17 13 27.0 +1.1
baz=290
G30M tAoh Zraii Nji 52.74 30 P P 17 13 26.8 +0.6
baz=290
EPYK Eagle Plains 52.77 30 P P 17 13 27.1 +0.8
EPYK IAmb IAmb 17 13 28.0
comp=Z,44nm,0.8s
EPYK Eagle Plains 52.77 30 P P 17 13 27.3 +1.0
baz=290,SNR=34
YUK3 Moose Creek 52.79 37 P P 17 13 27.6 +0.7
baz=290
J29M Klondike Camp 52.83 33 P P 17 13 28.0 +1.1
baz=290,SNR=7.3
MDSI Maura Dua 52.96 217 P P 17 13 28.2 -0.1
comp=Z,50nm,1.7s
INK Inuvik 53.25 28 P P 17 13 30.3 +0.7
comp=Z,21nm,0.5s,baz=297,slow=7.4,SNR=55
INK PcP **PcP 17 14 30.7 +0.9**
comp=Z,5.1nm,0.5s,baz=276,slow=3.8,SNR=4.2
INK ScP **ScP 17 17 41.1 +0.6**
comp=Z,6.9nm,1.0s,baz=306,slow=5.6,SNR=5.5
comp=Z,21nm,0.5s
INK Inuvik 53.25 28 P P 17 13 30.3 +0.7
INK IAmb IAmb 17 13 30.8
comp=Z,22nm,0.6s
INK Inuvik 53.25 28 P P 17 13 30.0 +0.3
baz=291,SNR=22
INK Inuvik 53.25 28 P P 17 13 30.3 +0.7
INK pmax pmax
comp=Z,22nm,0.6s
O28M Mount Upton 53.27 38 P P 17 13 31.3 +1.0
baz=291
YUK8 Steele Glacier 53.28 37 P P 17 13 31.3 +0.9
baz=291
PRGR Permogore 53.30 323 *eP* **P 17 13 28.1 -2.0**
PRGR *e**PP **pP 17 15 03.3 -1.8**
PRGR pmax pmax
comp=Z,20nm,0.4s
K29M Barlow Dome 53.33 34 P P 17 13 31.8 +1.3
baz=291
L29M L29M 53.34 35 P P 17 13 32.3 +1.8
baz=291
TNG Tangerang 53.40 213 P P 17 13 27.2 -4.3
M29M Somme Creek 53.44 35 P P 17 13 33.3 +2.0
baz=291
PCA Pinnacle 53.48 38 P P 17 13 32.6 +1.1
PCA IAmb IAmb 17 13 58.3
comp=Z,33nm,1.2s
PINM Pinnacle 53.48 38 P P 17 13 32.7 +1.0
baz=292
F31M Tsiigehtchic 53.49 29 P P 17 13 31.4 0.0
baz=292,SNR=15
YUK4 Talbot Arm 53.76 37 P P 17 13 34.9 +1.2
baz=292,SNR=12
BCPM Bancas Point 53.83 39 P P 17 13 35.2 +1.2
BCPM IAmb IAmb 17 13 36.4
comp=Z,69nm,1.5s
YUK6 Outpost Mounta 54.04 37 P P 17 13 37.4 +1.7
baz=292
PNL Peninsula 54.05 39 P P 17 13 36.9 +1.3
baz=292
KDU Kakadu 54.08 181 P P 17 13 36.4 +0.1
MAYO Mayo, Yukon 54.09 33 P P 17 13 37.2 +1.4
MAYO IAmb IAmb 17 13 38.1
comp=Z,35nm,0.7s
MAYO Mayo, Yukon 54.09 33 P P 17 13 37.2 +1.4
baz=292
M30M Minto, Yukon 54.10 35 P P 17 13 37.3 +1.4
M30M Minto, Yukon 54.10 35 P P 17 13 37.8 +1.8
baz=292,SNR=8.3
O29M Mount Kennedy 54.18 38 P P 17 13 38.5 +1.8
baz=293,SNR=10
MTN Manton Dam 54.26 182 P P 17 13 37.8 +0.3
MTN Manton Dam 54.26 182 P P 17 13 37.6 0.0
A36M Sachs Harbour 54.39 22 P P 17 13 38.7 +1.0
A36M Sachs Harbour 54.39 22 P P 17 13 38.4 +0.7
baz=296,SNR=34
HYT Haines Junctio 54.47 37 P P 17 13 40.3 +1.6
HYT IAmb IAmb 17 13 41.4
comp=Z,28nm,0.9s
HYT Haines Junctio 54.47 37 P P 17 13 40.5 +1.8
baz=293,SNR=18
SPA0 Spitsbergen Ar 54.65 347 *eP* **P 17 13 40.1 +0.6**
SPA0 IAmb IAmb 17 13 40.9
comp=Z,58nm,1.1s
SPB2 Spitsbergen Ar 54.65 347 P P 17 13 40.2 +0.7
SPB2 IAmb IAmb 17 13 44.3
comp=Z,39nm,1.1s
SPITS Spitsbergen Ar 54.65 347 P P 17 13 40.1 +0.6
comp=Z,19nm,0.8s,baz=84,slow=7.7,SNR=26
SPITS PcP **PcP 17 14 36.1 +1.0**
comp=Z,1.8nm,0.4s,baz=102,slow=7.8,SNR=1.6
comp=Z,19nm,0.8s
SPITS Spitsbergen Ar 54.65 347 P P 17 13 40.1 +0.6
SPITS pmax pmax
comp=Z,49nm,1.1s
JOHN Johnston Islan 54.79 99 P P 17 13 43.4 +2.0
HRA Herat 54.86 287 P P 17 13 42.3 +0.4
HRA IAmb IAmb 17 13 43.8
comp=Z,40nm,0.8s
KBS Kingsbay 54.91 348 P P 17 13 42.4 +1.1
KBS IAmb IAmb 17 13 48.0
comp=Z,194nm,2.0s
KBS Kingsbay 54.91 348 *i* **P P 17 13 41.8 +0.5**
KBS Kingsbay 54.91 348 P P 17 13 42.4 +1.1
KBS pmax pmax
comp=Z,194nm,2.0s
KBS Kingsbay 54.91 348 *eP* **P 17 13 41.8 +0.5**
KBS IAmb IAmb 17 13 43.1
comp=Z,28nm,0.9s
KBS Kingsbay 54.91 348 P P 17 13 42.1 +0.8
P30M Million Dollar 55.00 38 P P 17 13 44.0 +1.8
baz=294
O30N Mendenhall 55.13 37 P P 17 13 44.4 +1.3
baz=294
LVZ Lovozero 55.15 333 P P 17 13 43.1 -0.1
LVZ Lovozero 55.15 333 P P 17 13 43.1 -0.1
LVZ pmax pmax
comp=Z,241nm,1.9s
LVZ Lovozero 55.15 333 P P 17 13 42.5 -0.8
M31M Drury Creek, Y 55.28 35 P P 17 13 45.3 +1.1
M31M Drury Creek, Y 55.28 35 P P 17 13 45.4 +1.1
baz=295,SNR=7.2
HSPB Hornsund (broa 55.49 346 *eP* **P 17 13 45.8 +0.5**
ADZR Andozero 55.50 328 *eP* **P 17 13 45.2 -0.4**
ADZR pmax pmax
comp=Z,85nm,1.3s
PLBC Pleasant Camp 55.55 38 P P 17 13 47.5 +1.5
baz=295
FARO Faro, Yukon 55.71 34 P P 17 13 48.6 +1.3
FARO Faro, Yukon 55.71 34 P P 17 13 48.3 +1.1
baz=295,SNR=11
WHY Whitehorse 55.71 37 P P 17 13 48.7 +1.4
WHY Whitehorse 55.71 37 P P 17 13 48.8 +1.4
baz=295
ALE Alert 55.83 2 ⇑*P* **P 17 13 48.1 +0.4**
ALE pP **pP 17 15 26.9 +3.1**
VADS Vadso 55.84 336 *eP* **P 17 13 48.2 +0.3**
VADS IAmb IAmb 17 13 49.2
comp=Z,24nm,0.6s
C36M Paulatuk 55.94 25 P P 17 13 49.2 +0.6
C36M Paulatuk 55.94 25 P P 17 13 48.9 +0.3
baz=298,SNR=62
NOR Nord 55.95 355 *i* **P P 17 13 47.7 -0.9**
NOR IAmb IAmb 17 13 48.8
comp=Z,13nm,0.6s
BELG Belogornoye 55.97 313 P P 17 13 48.5 -0.5
comp=Z,49nm,0.6s,baz=308,slow=1.0,SNR=47
BELG PcP **PcP 17 14 41.5 +0.9**
comp=Z,26nm,1.0s,baz=223,slow=3.1,SNR=3.7
comp=Z,49nm,0.6s
BELG Belogornoye 55.97 313 *d i* **P P 17 13 48.4 -0.7**
BELG pmax pmax
comp=Z,10.0nm,0.7s
GEYT Alibeck 56.02 293 P P 17 13 49.7 -0.1
comp=Z,31nm,0.6s,baz=36,slow=3.2,SNR=79
GEYT S **S 17 21 00.5 -0.2**
comp=Z,1.5nm,0.8s,baz=211,slow=5.2,SNR=2.0
comp=Z,31nm,0.6s
GEYT Alibeck 56.02 293 P P 17 13 49.7 -0.1
GEYT IAmb IAmb 17 13 51.1
comp=Z,35nm,0.7s
GEYT Alibeck 56.02 293 P P 17 13 49.7 -0.1
GEYT pmax pmax
comp=Z,35nm,0.7s
GYA0B ALIBECK ARRAY 56.02 293 P P 17 13 49.7 0.0
GYA0B IAmb IAmb 17 13 51.1
comp=Z,31nm,0.7s
SKAG Skagway 56.02 38 P P 17 13 50.9 +1.5
baz=296,SNR=7.0
SKAG Skagway 56.02 38 P P 17 13 51.2 +1.9
COEN Coen 56.12 168 P P 17 13 51.4 +0.9
COEN Coen 56.12 168 P P 17 13 51.4 +0.9
S31K Pelican 56.25 40 P P 17 13 52.6 +1.7
baz=296
KLMR Klimovskoe 56.32 324 *eP* **P 17 13 48.9 -2.4**
KLMR AMP 17 13 52.3
comp=Z,51nm,0.7s
KLMR *e*pP **pP 17 15 26.8 -0.9**
KLMR Klimovskoe 56.32 324 *eP* **P 17 13 48.8 -2.5**
KLMR *e**PP **pP 17 15 26.8 -0.9**
KLMR pmax pmax
comp=Z,51nm,0.7s
HNR Honiara 56.51 148 P P 17 13 54.3 +0.9
comp=Z,1µm,0.7s,baz=252,slow=2.5,SNR=8.2
HNR Honiara 56.51 148 P P 17 13 54.4 +1.1
HNR Honiara 56.51 148 P P 17 13 54.5 +1.1
HNR Honiara 56.51 148 P P 17 13 54.4 +1.1
HNR pmax pmax
comp=Z,234nm,0.9s
HNR Honiara 56.51 148 P P 17 13 53.9 +0.6
EUNU Eureka 56.52 8 P P 17 13 52.7 +0.1
EUNU IAmb IAmb 17 13 53.5
comp=Z,35nm,0.8s
P32M Atlin 56.71 37 P P 17 13 55.5 +1.3
baz=297
KEV Kevo 56.73 336 P P 17 13 54.5 +0.4
KEV IAmb IAmb 17 14 07.5
comp=Z,222nm,1.8s
KEV Kevo 56.73 336 P P 17 13 54.5 +0.4
KEV pmax pmax
comp=Z,222nm,1.8s
KEV Kevo 56.73 336 P P 17 13 54.3 +0.3
P33M Teslin, Yukon 56.83 37 P P 17 13 56.6 +1.5
P33M Teslin, Yukon 56.83 37 P P 17 13 56.7 +1.7
baz=297,SNR=15
R32K Eaglecrest 56.92 39 P P 17 13 57.1 +1.5
baz=297
SIT Sitka 57.09 41 P P 17 13 58.4 +1.7
baz=297
KNRA Kununurra 57.19 185 P P 17 13 58.4 +0.5
KNRA Kununurra 57.19 185 P P 17 13 58.2 +0.3
HAMF Hammerfest 57.23 338 *eP* **P 17 13 57.7 +0.2**
HAMF IAmb IAmb 17 13 58.3
comp=Z,29nm,0.5s
ARA0 ARCESS Array S 57.29 337 *eP* **P 17 13 58.2 +0.2**
ARA0 IAmb IAmb 17 13 59.2
comp=Z,22nm,0.6s
ARCES ARCESS Array B 57.29 337 P P 17 13 58.2 +0.2
comp=Z,14nm,0.5s,baz=57,slow=9.0,SNR=155
comp=Z,14nm,0.5s
ARCES ARCESS Array B 57.29 337 P P 17 13 58.3 +0.3
ARCES IAmb IAmb 17 15 41.6
comp=Z,135nm,1.9s
ARCES ARCESS Array B 57.29 337 P P 17 13 58.3 +0.3
ARCES pmax pmax
comp=Z,135nm,1.9s
PALK Pallekele 57.53 249 P P 17 14 00.4 -0.1
PALK IAmb IAmb 17 14 01.9
comp=Z,167nm,1.8s
PALK Pallekele 57.53 249 P P 17 14 00.4 -0.1
PALK pmax pmax
comp=Z,167nm,1.8s
PALK Pallekele 57.53 249 P P 17 14 00.6 +0.2
PALK Pallekele 57.53 249 P P 17 14 00.5 0.0
Q32M Nakina River 57.66 38 P P 17 14 02.5 +1.6
baz=298
R33M Jennings River 58.04 37 P P 17 14 05.0 +1.6
baz=299
KTK1 Kautokeino 58.26 337 *eP* **P 17 14 04.5 -0.1**
KTK1 IAmb IAmb 17 14 05.8
comp=Z,30nm,0.9s
PCHI Peechi 58.38 255⇓ *eP* **P 17 14 06.3 +0.2**
U33K Whale Pass 58.61 41 P P 17 14 08.9 +1.8
baz=299
WTLY Watson Lake, Y 58.65 35 P P 17 14 08.5 +1.1
WTLY Watson Lake, Y 58.65 35 P P 17 14 08.3 +0.9
baz=300
S34M Telegraph Cree 58.68 38 P P 17 14 09.3 +1.7
baz=299
JETT Jettan, Norway 58.77 338 *eP* **P 17 14 08.5 +0.5**
JETT IAmb IAmb 17 14 09.3
comp=Z,29nm,0.5s
DLBC Dease Lake 58.93 38 P P 17 14 11.2 +1.8
DLBC Dease Lake 58.93 38 P P 17 14 11.1 +1.8
baz=300,SNR=5.3
TRO Tromso 59.14 338 *eP* **P 17 14 10.6 +0.2**
TRO IAmb IAmb 17 14 11.4
comp=Z,19nm,0.9s
T35M Bob Quinn 59.56 39 P P 17 14 15.1 +1.5
baz=300
MOS Moscow 59.62 319 *eP* **P 17 14 12.9 -1.0**
MOS *e**PP **pP 17 15 52.0 +0.2**
MOS *eS* **S 17 21 44.4 -1.6**
MOS pmax pmax
comp=Z,65nm,0.7s
RES Resolute Bay 59.66 13 P P 17 14 14.1 +0.2
RES IAmb IAmb 17 14 14.7
comp=Z,28nm,0.6s
RES Resolute Bay 59.66 13 P P 17 14 14.1 +0.2
RES pmax pmax
comp=Z,28nm,0.6s
VRH Novokhopyorsk 59.77 313 *eP* **P 17 14 13.7 -1.3**
VRH pmax pmax
comp=Z,80nm,0.5s
FITZ Fitzroy Crossi 59.86 188 P P 17 14 16.6 +0.7
DIB Dawson Inlet, 60.38 44 P P 17 14 19.9 +0.9
DIB IAmb IAmb 17 16 14.8
comp=Z,46nm,1.4s
MTSU Mount Surprise 60.40 168 P P 17 14 20.2 +0.6
OBN Obninsk 60.45 319 P P 17 14 18.7 -0.8
comp=Z,6.3nm,0.5s,baz=53,slow=9.4,SNR=7.4
comp=Z,6.3nm,0.5s
OBN Obninsk 60.45 319 ⇑*P* **P 17 14 18.6 -0.9**
OBN Obninsk 60.45 319 *P* **P 17 14 18.5 -0.9**
OBN Obninsk 60.45 319 *c i* **P P 17 14 18.6 -0.9**
OBN *i* *PP **pP 17 15 56.0 -1.7**
OBN *eS* **S 17 21 57.9 +1.4**
OBN pmax pmax
comp=Z,106nm,1.7s
DAG Danmarks Havn 60.50 353 *i* **P P 17 14 18.9 -0.6**
DAG IAmb IAmb 17 14 20.3
comp=Z,14nm,0.6s
NGCH Negor - Chabah 60.52 279 P P 17 14 21.9 +1.5
LPSR Galich'ya Gora 60.55 316 *eP* **P 17 14 19.5 -0.7**
LPSR pmax pmax
comp=Z,110nm,1.7s
VORR Voronezh 60.88 315 *eP* **P 17 14 22.0 -0.4**
VORR *e**PP **pP 17 15 56.2 -4.6**
VORR pmax pmax
comp=Z,80nm,0.5s
WB0 Warramunga Arr 61.13 179 P P 17 14 24.3 -0.1
NEEM North Greenlan 61.14 1 *i* **P P 17 14 24.4 +0.3**
NEEM IAmb IAmb 17 14 24.9
comp=Z,48nm,0.7s
VSR Storozhevoye 61.14 314 *eP* **P 17 14 22.9 -1.2**
VSR pmax pmax
comp=Z,30nm,0.4s
AKT Akhty 61.15 301⇓ *i* *P* **P 17 14 23.7 -0.8**
AKT *e* 17 15 00.6
AKT *e**PP **pP 17 16 02.4 -0.6**
AKT pmax pmax
comp=Z,45nm,0.5s
TULEG Thule 61.25 6 P P 17 14 24.4 -0.1
TULEG IAmb IAmb 17 14 25.1
comp=Z,33nm,0.6s
TULEG Thule 61.25 6 *i* **P P 17 14 24.0 -0.4**
TULEG IAmb IAmb 17 14 24.8
comp=Z,32nm,0.7s
STEI Steigen 61.26 338 *eP* **P 17 14 24.5 0.0**
STEI IAmb IAmb 17 14 25.2
comp=Z,44nm,0.6s
WRAB Tennant Creek 61.29 179 P P 17 14 25.4 -0.1
WRAB IAmb IAmb 17 14 26.3
comp=Z,69nm,0.8s
WRAB Tennant Creek 61.29 179 P P 17 14 25.2 -0.2
WRAB Tennant Creek 61.29 179 *c i* **P P 17 14 25.3 -0.1**
WRAB Tennant Creek 61.29 179 ⇑*P* **P 17 14 25.3 -0.1**
WB2 Warramunga Arr 61.30 179 P P 17 14 25.4 -0.1
WRA Warramunga Arr 61.30 179 P P 17 14 25.4 -0.2
comp=Z,55nm,0.6s,baz=353,slow=7.2,SNR=242
WRA PP **PP 17 16 43.9 -4.5**
comp=Z,4.2nm,0.9s,baz=2.5,slow=8.1,SNR=5.0
WRA ScP **ScP 17 18 16.1 -0.6**

comp=Z,5,6nm,0.8s,baz=353,slow=4.9,SNR=7.8
WRA S **S** **17 22 07.9 0.0**
comp=Z,4.2nm,1.0s,baz=15,slow=16,SNR=7.6
comp=Z,55nm,0.6s
WRA Warramunga Arr 61.30 179 P **P** **17 14 24.3 -1.2**
WR0 Warramunga Arr 61.32 178 P **P** **17 14 25.4 -0.2**
GROC Groznyy 61.47 304 *e*P **P** **17 14 25.6 -0.8**
GROC *e* 17 15 02.9
GROC *e**PP **pP** **17 16 02.7 -2.3**
GROC *e*S **S** **17 22 07.5 -2.1**
GROC pmax pmax
comp=Z,37nm,0.6s
FAUS Fauske 61.61 337 *e*P **P** **17 14 26.9 +0.1**
FAUS IAmb IAmb 17 14 27.9
comp=Z,16nm,0.6s
FIA1 FINESS Array S 61.61 329 P **P** **17 14 26.6 -0.4**
FIA1 IAmb IAmb 17 14 28.6
comp=Z,66nm,1.1s
FIA0 FINESS Array S 61.61 329 P **P** **17 14 26.7 -0.3**
FIA0 FINESS Array S 61.61 329 P **P** **17 14 26.7 -0.3**
FINES FINESS Array B 61.61 329 P **P** **17 14 26.9 -0.1**
comp=Z,35nm,0.5s,baz=94,slow=6.1,SNR=370
FINES pP **pP** **17 16 06.5 +0.8**
comp=Z,5,6nm,0.8s,baz=74,slow=8.1,SNR=3.9
comp=Z,35nm,0.5s
FINES FINESS Array B 61.61 329 P **P** **17 14 26.4 -0.5**
SEKA Sheki 61.63 301 P **P** **17 14 26.9 -0.7**
LKRN Lenkeran, Azer 61.93 298 P **P** **17 14 29.0 -0.5**
TV1H Townsville Har 61.93 165 P **P** **17 14 30.1 +0.5**
MNGR Mingechevir, A 61.94 301 P **P** **17 14 29.9 +0.4**
QIS Mount Isa 62.20 173 P **P** **17 14 31.2 -0.2**
MNCI Minicoy 62.28 256 P **P** **17 14 31.4 -0.7**
MNCI IAmb IAmb 17 14 32.1
comp=Z,31nm,0.5s
GANJ Ganja 62.49 301 P **P** **17 14 32.9 -0.3**
CTA Charters Tower 62.64 166 P **P** **17 14 34.5 +0.2**
comp=Z,45nm,0.9s,baz=352,slow=6.4,SNR=51
comp=Z,45nm,0.9s
CTA Charters Tower 62.64 166 P **P** **17 14 34.4 +0.2**
CTAO Charters Tower 62.64 166 P **P** **17 14 34.4 +0.2**
CTAO Charters Tower 62.64 166 P **P** **17 14 34.5 +0.2**
CTAO Charters Tower 62.64 166 P **P** **17 14 34.4 +0.2**
CTAO pmax pmax
comp=Z,109nm,1.4s
CTAO Charters Tower 62.64 166 ⇑P **P** **17 14 34.3 +0.2**
CTAO pP **pwP** **17 16 17.5 +2.6**
JASK Jask - Hormozg 62.65 281 P **P** **17 14 35.9 +1.5**
MOR8 Moi Rana 62.67 336 *e*P **P** **17 14 32.5 -1.3**
MOR8 IAmb IAmb 17 14 33.5
comp=Z,54nm,0.7s
KONS Konsvik 62.83 337 *e*P **P** **17 14 35.2 +0.4**
ZEI Tsey 62.87 304 *e*P **P** **17 14 33.5 -2.3**
ZEI pmax pmax
comp=Z,8.0nm,0.5s
DBG Daneborg 62.93 352 *i* P **P** **17 14 34.2 -1.2**
DBG IAmb IAmb 17 14 37.1
comp=Z,10nm,1.1s
YKA Yellowknife Ar 62.97 29 PKPPKP 17 43 20.2
comp=Z,0.3nm,0.7s,baz=166,slow=2.2,SNR=4.2
KBZ Khabaz 62.98 306 P **P** **17 14 35.9 -0.4**
comp=Z,9.6nm,0.5s,baz=128,slow=0.7,SNR=77
comp=Z,9.6nm,0.5s
KBZ Khabaz 62.98 306 *d* *i* P **P** **17 14 35.8 -0.4**
KBZ pmax pmax
comp=Z,41nm,1.7s
KVAR Kislovodsk Arr 62.98 306 P **P** **17 14 36.3 0.0**
comp=Z,18nm,0.6s,baz=266,slow=22,SNR=6.9
comp=Z,18nm,0.6s
STOK Stokkvaagen 62.98 337 *e*P **P** **17 14 36.2 +0.4**
KIV Kislovodsk 62.98 306 ⇑P **P** **17 14 36.1 -0.3**
KIV Kislovodsk 62.98 306 P **P** **17 14 36.2 -0.2**
KIV IAmb IAmb 17 14 37.5
comp=Z,84nm,1.4s
KIV Kislovodsk 62.98 306 *e*P **P** **17 14 36.2 -0.2**
KIV *e**PP **pP** **17 16 16.4 +0.7**
KIV *e*S **S** **17 22 26.8 -1.6**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV Kislovodsk 62.98 306 *i* P **P** **17 14 36.2 -0.2**
SNR=11
KIV Kislovodsk 62.98 306 P **P** **17 14 36.4 +0.1**
KIV S **S** **17 22 27.9 -0.4**
KIV Kislovodsk 62.98 306 ⇓P **P** **17 14 36.3 -0.1**
KIV pP **pP** **17 16 17.5 +1.8**
MEF Metsahovi 63.00 328 *e*P **P** **17 14 37.2 +1.2**
VSU Vasula 63.10 326 ⇓ *i*P **P** **17 14 36.8 +0.1**
VSU pmax pmax
comp=Z,116nm,0.6s
VSU Vasula 63.10 326 *e*P **P** **17 14 36.9 +0.3**
HMDM Hanimaadhoo 63.21 254 P **P** **17 14 37.6 -0.5**
HMDM Hanimaadhoo 63.21 254 P **P** **17 14 38.1 0.0**
ONI Oni 63.25 304 P **P** **17 14 38.0 -0.1**
ONI IAmb IAmb 17 14 39.7
comp=Z,30nm,1.3s
ONI Oni 63.25 304 P **P** **17 14 38.1 -0.1**
ONI pmax pmax
comp=Z,29nm,1.3s
NEY Neytrino 63.35 305 ⇓ *i*P **P** **17 14 39.3 +0.5**
NEY pmax pmax
comp=Z,4.0nm,0.6s
RAF Rauma 63.53 330 *e*P **P** **17 14 39.0 -0.5**
WSAR Wadi Sarin 63.61 278 P **P** **17 14 41.2 +0.6**
comp=Z,7.6nm,0.6s,baz=104,slow=5.0,SNR=17
comp=Z,7.6nm,0.6s
JLN Jalan Bani Buh 63.68 277 P **P** **17 14 41.6 +0.6**
JLN P **P** **17 14 43.0 +1.9**
SNR=8.1
MBWA Marble Bar 63.72 194 P **P** **17 14 41.5 +0.4**
MBWA Marble Bar 63.72 194 P **P** **17 14 41.4 +0.3**
MBWA Marble Bar 63.72 194 P **P** **17 14 41.4 +0.3**
MBWA Marble Bar 63.72 194 P **P** **17 14 41.4 +0.3**
WBK Wadi Bani Khal 63.73 278 P **P** **17 14 42.4 +1.0**
WBK P **P** **17 14 44.0 +2.5**
SNR=8.6
BANOM Banah 63.76 282 *i* P **P** **17 14 41.8 +0.2**
SNR=11
BANOM Banah 63.76 282 P **P** **17 14 42.2 +0.6**
GNI Garni 63.78 301 P **P** **17 14 42.1 +0.5**
comp=Z,16nm,0.5s,baz=317,slow=2.8,SNR=16
comp=Z,16nm,0.5s
GNI Garni 63.78 301 P **P** **17 14 41.9 +0.3**
GNI IAmb IAmb 17 14 43.5
comp=Z,79nm,1.4s
GNI Garni 63.78 301 P **P** **17 14 41.7 +0.1**
GNI Garni 63.78 301 P **P** **17 14 42.2 +0.5**
GNI Garni 63.78 301 P **P** **17 14 42.1 +0.5**
SHME Shamm 63.80 282 P **P** **17 14 42.1 +0.3**
NAX Nakhchivan 63.83 300 P **P** **17 14 41.3 -0.6**
AKH Akhalkalaki 63.88 303 P **P** **17 14 42.5 +0.3**
AKH Akhalkalaki 63.88 303 P **P** **17 14 42.6 +0.3**
AKH pmax pmax
comp=Z,48nm,0.6s
PSA00 Pilbara Seismi 64.10 194 P **P** **17 14 43.9 +0.3**
PSA00 Pilbara Seismi 64.10 194 P **P** **17 14 43.0 -0.6**
PSA00 IAmb IAmb 17 14 44.7
comp=Z,36nm,0.7s
PSA00 Pilbara Seismi 64.10 194 P **P** **17 14 43.9 +0.3**
MDH Madha 64.12 282 P **P** **17 14 43.9 0.0**
MDH Madha 64.12 282 P **P** **17 14 45.4 +1.5**
SMDO Samad 64.15 279 P **P** **17 14 44.8 +0.6**
SNR=11
MTSE Matsula 64.16 327 *e*P **P** **17 14 43.9 +0.4**
MASF Masafi 64.19 282 P **P** **17 14 45.1 +0.8**
MSFE Esma-Masafi 64.19 282 P **P** **17 14 43.7 -0.6**
HOQ Hoqain 64.39 280 P **P** **17 14 46.0 +0.4**
SNR=7.4
UOSS Minazif 64.40 281 P **P** **17 14 46.0 +0.3**
UOSS Minazif 64.40 281 *i* P **P** **17 14 45.2 -0.5**
SNR=10
UOSS Minazif 64.40 281 P **P** **17 14 46.3 +0.6**
UOSS Minazif 64.40 281 P **P** **17 14 45.9 +0.3**
HILA High Level 64.51 33 P **P** **17 14 45.9 +0.2**
JMDO Jabal Madar 64.52 278 P **P** **17 14 46.9 +0.5**
SNR=12
HATD Hatta, Dubai 64.52 281 *i* P **P** **17 14 47.1 +0.6**
SNR=18
HATD Hatta, Dubai 64.52 281 P **P** **17 14 47.0 +0.6**
NSS Namsos 64.55 336 *e*P **P** **17 14 45.5 -0.4**
NSS IAmb IAmb 17 14 47.9
comp=Z,18nm,0.6s
KARS Kars 64.57 303 P **P** **17 14 47.1 +0.5**
KARS Kars 64.57 303 P **P** **17 14 47.2 +0.5**
KARS pmax pmax
comp=Z,83nm,0.7s

SOHO SOHO 64.64 280 *i* P **P** **17 14 47.2 +0.1**
SNR=7.0
SOHO SOHO 64.64 280 P **P** **17 14 47.4 +0.2**
ASHO Ashiyiah 64.66 281 *i* P **P** **17 14 47.8 +0.5**
SNR=9.4
ASHO Ashiyiah 64.66 281 P **P** **17 14 47.9 +0.5**
NAZ Nazwa, Dubai 64.77 282 P **P** **17 14 47.5 -0.5**
MNK Minsk 64.96 322 *i* P **P** **17 14 49.0 +0.3**
comp=E,8.0nm,1.4s
MNK *i* P **P** **17 14 49.0 +0.3**
comp=N,52nm,1.2s
MNK *i* P **P** **17 14 49.0 +0.3**
comp=Z,113nm,1.2s,baz=53
MNK *i* pP **pP** **17 16 28.9 +0.2**
MNK *i* PP **PP** **17 17 18.7 -0.1**
MNK *i* PPP PPP 17 18 60.0
MNK *i* S **S** **17 22 53.3 +1.7**
MNK *i* sS **sS** **17 25 51.5 +3.3**
MNK *i* SS **SS** **17 27 16.2 +2.3**
MNK *i* SSS SSS 17 30 33.5
MNK *i* LRM MLR 17 46 25.4
comp=Z,190nm,14.2s
MNK *i* LRM MLR 17 46 33.7
comp=E,43nm,15.7s
MNK *i* LRM MLR 17 46 54.7
comp=N,1μm,15.7s
MNK Minsk 64.96 322 *i* P **P** **17 14 48.9 +0.3**
MNK *i* *PP **pP** **17 16 28.9 +0.2**
MNK *i* 17 17 18.7
MNK *i* PPP PPP 17 18 59.9
MNK *i* S **S** **17 22 53.3 +1.7**
MNK *i* SS **SS** **17 27 16.2 +2.3**
MNK pmax pmax
comp=Z,113nm,1.2s
MNK pmax pmax
comp=E,8.0nm,1.4s
MNK pmax pmax
comp=N,52nm,1.2s
MNK MLR MLR
comp=Z,190nm,14.0s
MNK MLR MLR
comp=E,43nm,16.0s
MNK MLR MLR
comp=N,1μm,16.0s
BSY Bisya 64.97 279 P **P** **17 14 50.3 +1.0**
SNR=12
FAQ Al Faqa, Dubai 64.97 282 *i* P **P** **17 14 49.0 -0.2**
SNR=5.7
FAQ Al Faqa, Dubai 64.97 282 P **P** **17 14 49.3 +0.1**
SOC Sochi 64.98 307 *e*P **P** **17 14 48.0 -1.0**
SOC *e**PP **pP** **17 16 26.8 -2.3**
SOC *e* 17 17 18.6
SOC *e*PPP PPP 17 18 58.1
SOC *e*S **S** **17 22 50.7 -1.6**
SOC *e*SS **SS** **17 27 14.1 -0.8**
SOC pmax pmax
comp=Z,43nm,0.5s
IDID Didziasalis 64.99 323 *e*P P 17 14 43.4 -5.4
AS01 Alice Springs 65.00 179 P **P** **17 14 49.6 +0.3**
AS31 Alice Springs 65.00 179 P **P** **17 14 49.5 +0.2**
AS31 IAmb IAmb 17 14 51.9
comp=Z,24nm,0.5s
ASAR Alice Springs 65.00 179 P **P** **17 14 49.6 +0.3**
comp=Z,39nm,0.4s,baz=355,slow=6.7,SNR=1308
ASAR PcP **PcP** **17 15 18.3 +0.8**
comp=Z,7.6nm,0.9s,baz=2.9,slow=3.6,SNR=5.4
ASAR S **S** **17 22 54.3 +1.3**
comp=Z,0.7nm,0.8s,baz=16,slow=17,SNR=2.9
ASAR PKP2bc 17 43 31.4
comp=Z,1.2nm,0.8s,baz=172,slow=2.6,SNR=9.7
comp=Z,39nm,0.4s
ASAR Alice Springs 65.00 179 P **P** **17 14 49.5 +0.2**
ISAL Salakas 65.11 323 *e*P **P** **17 14 51.1 +1.5**
ARQ Araqi 65.11 280 P **P** **17 14 51.2 +1.0**
SNR=6.6
IIGN Ignalina 65.20 323 *e*P P 17 14 41.5 -8.7
NACGM Naroch 65.22 322 ⇑ *i*P **P** **17 14 50.7 +0.4**
comp=Z,133nm,1.2s,baz=52
ASUD Al Ashush, Dub 65.23 282 *i* P **P** **17 14 50.9 0.0**
SNR=8.5
ASUD Al Ashush, Dub 65.23 282 P **P** **17 14 51.6 +0.7**
ALNE Al Ain 65.26 281 *i* P **P** **17 14 51.1 0.0**
SNR=34
ALNE Al Ain 65.26 281 P **P** **17 14 51.6 +0.5**
MHTO MHTO 65.45 277 P **P** **17 14 52.7 +0.4**
SNR=25
SLIT Slitere, Latvi 65.47 326 *e*P **P** **17 14 52.2 +0.4**
AJN Ajban 65.52 282 P **P** **17 14 53.5 +0.8**
ANN Anapa 65.64 309 *e*P **P** **17 14 49.1 -4.0**
ANN *e**PP **pP** **17 16 31.0 -2.5**
ANN *e*PPP PPP 17 19 02.1
ANN *e*S **S** **17 22 54.5 -5.6**
ANN pmax pmax
comp=Z,216nm,1.3s
WAPA Wapiti River 65.66 37 P **P** **17 14 53.5 +0.4**
WAPA IAmb IAmb 17 14 54.6
comp=Z,23nm,0.9s
UPNV Upernavik 65.67 3 *i* P **P** **17 14 52.9 +0.1**
UPNV IAmb IAmb 17 14 53.7
comp=Z,23nm,0.5s
SUMG Summit 65.91 357 *i* P **P** **17 14 55.2 +0.4**
SUMG IAmb IAmb 17 14 56.5
comp=Z,35nm,0.8s
PABE Paberze 66.11 324 P **P** **17 14 55.8 -0.1**
PABE Paberze 66.11 324 *e*P **P** **17 14 56.1 +0.3**
DQM DQM 66.41 276 P **P** **17 14 58.9 +0.5**
GURO Guroymak-BITLI 66.41 301 P **P** **17 14 58.5 +0.2**
GURO IAmb IAmb 17 14 60.0
comp=Z,36nm,0.6s
UMZA Um Al Zommool 66.49 280 P **P** **17 14 58.6 -0.2**
WRKA Warakurna 66.51 185 P **P** **17 14 59.2 +0.4**
AKASG Malin Array Be 66.61 318 P **P** **17 14 58.5 -0.6**
comp=Z,46nm,0.5s,baz=48,slow=6.6,SNR=705
AKASG pP **pP** **17 16 39.9 +0.1**
comp=Z,3.7nm,0.8s,baz=40,slow=7.0,SNR=2.2
comp=Z,46nm,0.5s
AKASG Malin Array Be 66.61 318 P **P** **17 14 58.3 -0.8**
AKBB Malin Array Si 66.61 318 P **P** **17 14 58.5 -0.7**
AKBB Malin Array Si 66.61 318 *d* *i*P **P** **17 14 58.4 -0.7**
AKBB pmax pmax
comp=Z,48nm,0.6s
AK05 Malin Array Si 66.67 318 P **P** **17 14 58.7 -0.8**
RK1H Rockhampton Ha 66.70 163 P **P** **17 15 00.4 +0.5**
SCO Scoresbysund 66.71 351 *i* P **P** **17 14 59.1 -0.3**
SCO IAmb IAmb 17 15 00.9
comp=Z,9.2nm,0.8s
MZWR Madinat Zayed 66.81 282 P **P** **17 15 00.4 -0.3**
JRN Qarnain Island 66.86 283 P **P** **17 15 00.5 -0.6**
NC405 NORSAR Array S 67.08 333 P **P** **17 15 00.7 -1.2**
HFS Hagfors 67.09 332 P **P** **17 15 01.6 -0.3**
comp=Z,29nm,0.4s,baz=64,slow=6.8,SNR=220
comp=Z,29nm,0.4s
NC303 NORSAR Array S 67.11 333 P **P** **17 15 02.0 0.0**
NC303 IAmb IAmb 17 15 03.2
comp=Z,23nm,0.8s
BRLDA Berland Lookou 67.18 37 P **P** **17 15 03.1 +0.4**
BRLDA IAmb IAmb 17 15 03.7
comp=Z,18nm,0.7s
DOMB Dombas 67.26 335 *e*P **P** **17 15 02.9 0.0**
DOMB IAmb IAmb 17 15 03.9
comp=Z,26nm,0.9s
NB201 NORSAR Array S 67.26 333 P **P** **17 15 02.8 -0.2**
NC204 NORSAR Array S 67.28 334 P **P** **17 15 03.1 0.0**
NB2 NORSAR Subarra 67.30 333 P **P** **17 15 02.3 -0.9**
comp=Z,17nm,0.6s,baz=41,slow=6.5
NB2 NORSAR Subarra 67.30 333 P **P** **17 15 02.3 -0.9**
slow=6.5
NOA NORSAR Array B 67.30 333 P **P** **17 15 02.3 -0.9**
comp=Z,12nm,0.5s,baz=41,slow=6.1,SNR=65
comp=Z,12nm,0.5s
MOL Molde 67.34 336 *e*P **P** **17 15 03.8 +0.4**
MOL IAmb IAmb 17 15 04.8
comp=Z,32nm,0.6s
NC602 NORSAR Array S 67.41 333 P **P** **17 15 03.0 -0.8**
NC602 NORSAR Array S 67.41 333 *e*P **P** **17 15 03.5 -0.4**
GHWR Ruwais 67.42 282 P **P** **17 15 04.0 -0.6**
NBO00 NORSAR Array S 67.45 334 P **P** **17 15 03.1 -1.1**
NAO01 NORSAR Array S 67.55 333 P **P** **17 15 04.3 -0.4**
MZR Muzera 67.56 281 *i* P **P** **17 15 04.7 -0.7**
SNR=25
MZR Muzera 67.56 281 P **P** **17 15 05.3 -0.1**
SHMA Al-Shehemyia 67.68 285 P **P** **17 15 05.7 -0.4**
AKN Aaknes 67.81 336 *e*P **P** **17 15 06.6 +0.3**
SAKB Bahrain 67.92 286 P **P** **17 15 06.2 -1.3**
MARD Mardin 67.94 301 P **P** **17 15 07.5 -0.2**

SLWR Sila 68.22 283 P **P** **17 15 09.2 -0.3**
KOUNC Koumac, New Ca 68.31 149 P **P** **17 15 11.2 +1.4**
KOUNC IAmb IAmb 17 15 12.0
comp=Z,29nm,0.8s
KOUNC Koumac, New Ca 68.31 149 P **P** **17 15 11.0 +1.2**
SMRA Abu-Samra 68.45 284 P **P** **17 15 10.1 -0.7**
SKAR Skarslia 68.53 334 *e*P **P** **17 15 11.3 +0.6**
SORM Soroca 68.65 316 ⇑P **P** **17 15 11.2 -0.4**
SORM Soroca 68.65 316 P **P** **17 15 11.2 -0.4**
QLP Quilpie 68.68 169 P **P** **17 15 13.1 +1.1**
EIDS Eidsvold 68.75 163 P **P** **17 15 13.4 +1.0**
EIDS Eidsvold 68.75 163 P **P** **17 15 13.5 +1.1**
B06A Marblemount 68.77 43 P **P** **17 15 12.5 +0.2**
B06A IAmb IAmb 17 15 13.4
comp=Z,10nm,0.6s
DIKM Dikmen 68.78 307 ⇑P **P** **17 15 13.4 +0.8**
HYA Hoyanger 68.83 335 *e*P **P** **17 15 12.9 +0.4**
HYA IAmb IAmb 17 15 13.3
comp=Z,27nm,0.6s
TOKA Tokat 68.84 305 P **P** **17 15 13.3 +0.2**
KONO Kongsberg 68.87 333 P **P** **17 15 11.9 -0.8**
KONO Kongsberg 68.87 333 P **P** **17 15 11.9 -0.8**
KONO pmax pmax
comp=Z,219nm,1.9s
KONO Kongsberg 68.87 333 *e* **P** **17 15 13.1 +0.4**
E03A Lebam 68.91 46 P **P** **17 15 12.5 -0.7**
E03A IAmb IAmb 17 15 15.4
comp=Z,21nm,0.9s
OOD Oodnadatta 69.15 178 P **P** **17 15 15.5 +0.7**
MILM Milestii Mici 69.18 315 ⇑P **P** **17 15 15.1 +0.2**
MILM Milestii Mici 69.18 315 P **P** **17 15 15.0 +0.2**
BZK Bozkurt 69.34 308 P **P** **17 15 13.8 -2.1**
RMQ Roma 69.34 165 P **P** **17 15 17.5 +1.5**
ILULI Ilulissat 69.40 2 P **P** **17 15 15.8 0.0**
ILULI IAmb IAmb 17 15 59.3
comp=Z,54nm,1.1s
ILULI Ilulissat 69.40 2 *i* P **P** **17 15 16.1 +0.3**
ILULI IAmb IAmb 17 15 16.6
comp=Z,30nm,0.6s
ILULI Ilulissat 69.40 2 P **P** **17 15 15.8 0.0**
ILULI pmax pmax
comp=Z,53nm,1.1s
INKA Innaminka 69.42 173 P **P** **17 15 18.0 +1.6**
ICESG Greenland Ices 69.43 357 *i* P **P** **17 15 17.3 +0.9**
ICESG IAmb IAmb 17 15 17.7
comp=Z,727nm,2.8s
HEBO Mount Hebo 69.64 47 P **P** **17 15 18.1 +0.3**
ODD1 Odda 69.65 334 *e*P **P** **17 15 18.0 +0.5**
ASK Askoy 69.67 335 *e*P **P** **17 15 17.9 +0.4**
IAS Iasi 69.67 316 ⇑P **P** **17 15 17.5 -0.3**
IAS Iasi 69.67 316 P **P** **17 15 17.5 -0.3**
DMTO DMTO 69.69 276 P **P** **17 15 18.3 -0.1**
BER Bergen 69.70 335 *e*P **P** **17 15 18.2 +0.5**
LIFNC LIFOU 69.71 146 P **P** **17 15 19.0 +0.6**
LIFNC LIFOU 69.71 146 P **P** **17 15 18.9 +0.6**
LON Longmire 69.72 45 P **P** **17 15 19.0 +0.8**
LON Longmire 69.72 45 P **P** **17 15 19.0 +0.8**
LON pmax pmax
comp=Z,6.0nm,0.9s
DOK Doka 69.75 277 P **P** **17 15 18.5 -0.2**
LVV L'vov 69.75 319 *e*P **P** **17 15 16.9 -1.4**
VASR Vaslui 69.89 315 ⇑P **P** **17 15 19.5 +0.3**
B08A Colville Reser 69.97 43 P **P** **17 15 20.2 +0.6**
LTY Liberty 69.99 44 P **P** **17 15 20.2 +0.3**
BLS5 Blasjo 70.09 334 *e*P **P** **17 15 20.5 +0.4**
BNN Bunyan 70.13 305 P **P** **17 15 20.8 -0.1**
BSD Bornholm Skovb 70.20 327 *i* P **P** **17 15 20.3 -0.4**
BSD IAmb IAmb 17 15 21.9
comp=Z,52nm,0.7s
BSD Bornholm Skovb 70.20 327 *e*P **P** **17 15 20.6 -0.2**
BIR Birlad 70.22 315 ⇑P **P** **17 15 22.0 +0.8**
BIR Birlad 70.22 315 P **P** **17 15 21.9 +0.8**
VLDR Vladesti 70.25 314 ⇑P **P** **17 15 21.9 +0.6**
TLCR 70.27 313 ⇑P **P** **17 15 21.5 0.0**
TLCR 70.27 313 P **P** **17 15 21.4 0.0**
HOMB Homborsund 70.28 332 *e*P **P** **17 15 21.5 +0.3**
GAZ Gaziantep 70.30 302 P **P** **17 15 21.5 -0.4**
GAZ IAmb IAmb 17 15 22.8
comp=Z,20nm,0.6s
RBK Rabkut 70.38 276 P **P** **17 15 22.1 -0.5**
SCTR Scanteiesti 70.41 314 ⇑P **P** **17 15 22.9 +0.7**
WHFO Wadi Hawf 70.44 277 P **P** **17 15 22.3 -0.7**
GHRR 70.47 315 ⇑P **P** **17 15 23.1 +0.5**
JURR Jurilovca 70.50 313 ⇑P **P** **17 15 22.1 -0.7**
NOUC Port Laguerre 70.51 147 P **P** **17 15 24.7 +1.7**
GKP Gorka Klasztor 70.53 325 *e*P **P** **17 15 23.6 +0.8**
DZM Mont Dzumac 70.54 147 P **P** **17 15 25.3 +1.9**
DZM Mont Dzumac 70.54 147 P **P** **17 15 25.1 +1.8**
DZM Mont Dzumac 70.54 147 P **P** **17 15 25.3 +1.9**
TESR Tescani 70.58 315 ⇑P **P** **17 15 23.5 +0.2**
BUR08 Bucovina Ar. S 70.59 317 P **P** **17 15 23.5 0.0**
BUR08 IAmb IAmb 17 15 25.1
comp=Z,25nm,0.6s
SCHL Schela 70.60 314 ⇑P **P** **17 15 23.9 +0.5**
BURAR Bucovina Array 70.61 317 ⇓P **P** **17 15 23.8 +0.2**
BURAR Bucovina Array 70.61 317 P **P** **17 15 23.7 +0.2**
BURAR Bucovina Array 70.61 317 P **P** **17 15 23.7 +0.2**
IZVR Izvoarele 70.61 314 ⇑P **P** **17 15 23.8 +0.4**
AUBSH Beerwah State 70.61 161 P **P** **17 15 25.1 +1.6**
CFR Carcaliu 70.65 314 ⇑P **P** **17 15 23.2 -0.4**
CFR Carcaliu 70.65 314 P **P** **17 15 23.2 -0.4**
MARNC Mare, Loyalty 70.67 146 P **P** **17 15 25.3 +1.4**
MARNC Mare, Loyalty 70.67 146 P **P** **17 15 25.4 +1.4**
TPGR Topolog 70.70 313 ⇑P **P** **17 15 24.3 +0.3**
ONTNC Ouen Toro 70.76 147 P **P** **17 15 26.5 +2.1**
ONTNC Ouen Toro 70.76 147 P **P** **17 15 26.6 +2.1**
COP Copenhagen 70.77 329 *i* P **P** **17 15 24.2 +0.1**
ODBI Odobesti 70.85 315 ⇑P **P** **17 15 25.9 +1.1**
C09A Chrisman Ranch 70.87 43 P **P** **17 15 25.8 +0.9**
C09A IAmb IAmb 17 15 26.7
comp=Z,30nm,0.8s
BR131 Keskin Array S 70.93 306 P **P** **17 15 25.4 -0.2**
BR131 IAmb IAmb 17 15 26.8
comp=Z,25nm,0.6s
BR131 Keskin Array S 70.93 306 P **P** **17 15 25.4 -0.2**
BR131 pmax pmax
comp=Z,25nm,0.6s
BRTR Keskin Array B 70.93 306 P **P** **17 15 25.4 -0.3**
comp=Z,15nm,0.5s,baz=98,slow=3.5,SNR=130
BRTR PcP **PcP** **17 15 43.0 +0.2**
comp=Z,5.0nm,0.6s,baz=85,slow=3.4,SNR=5.6
comp=Z,15nm,0.5s
VRI Vrincioaia 70.96 315 ⇑P **P** **17 15 26.3 +0.7**
VRI Vrincioaia 70.96 315 P **P** **17 15 26.2 +0.7**
PLOR Plostina 71.01 315 ⇑P **P** **17 15 26.0 +0.1**
PLOR Plostina 71.01 315 P **P** **17 15 25.9 +0.1**
OUENC Ouen Island, N 71.01 147 P **P** **17 15 27.9 +1.9**
OUENC Ouen Island, N 71.01 147 P **P** **17 15 28.2 +2.2**
D08A Wollman Farm, 71.03 43 P **P** **17 15 26.6 +0.7**
D08A IAmb IAmb 17 15 27.5
comp=Z,21nm,1.2s
HARR Harsova 71.07 313 ⇑P **P** **17 15 26.0 -0.2**
HARR Harsova 71.07 313 P **P** **17 15 26.0 -0.2**
TLBR Topalu 71.10 313 ⇑P **P** **17 15 26.5 +0.1**
NEW Newport 71.14 42 P **P** **17 15 26.6 0.0**
NEW Newport 71.14 42 P **P** **17 15 27.6 +1.0**
baz=312
NEW Newport 71.14 42 P **P** **17 15 26.6 0.0**
NEW pmax pmax
comp=Z,8.0nm,0.8s
GRER 71.14 314 ⇑P **P** **17 15 27.1 +0.5**
HAWA Hanford 71.15 44 P **P** **17 15 27.2 +0.5**
HAWA IAmb IAmb 17 15 28.5
comp=Z,15nm,0.8s
ABTO Aybut 71.15 277 P **P** **17 15 26.7 -0.4**
AUWSH Wavell State H 71.15 161 P **P** **17 15 28.1 +1.4**
COVR Voineasa-Covas 71.25 315 ⇑P **P** **17 15 27.5 +0.2**
DBO Dodson Butte 71.25 49 P **P** **17 15 28.4 +1.0**
DBO IAmb IAmb 17 17 19.5
comp=Z,38nm,1.6s
F07A Phinny Hill Vi 71.27 45 P **P** **17 15 27.9 +0.6**
F07A IAmb IAmb 17 15 29.4
comp=Z,17nm,0.7s
OZUR 71.31 315 ⇑P **P** **17 15 28.7 +1.1**
E08A Dider Farm, El 71.33 44 P **P** **17 15 27.8 +0.2**
E08A IAmb IAmb 17 15 29.6
comp=Z,14nm,0.8s
ANTO Ankara 71.35 307 P **P** **17 15 28.4 +0.4**
ANTO Ankara 71.35 307 P **P** **17 15 28.2 +0.2**
STHS Stebnicka Huta 71.37 320 *e*P **P** **17 15 27.8 -0.1**
STHS pmax pmax
comp=Z,33nm,0.6s

STHS Stebnicka Huta 71.37 320 eP P 17 15 27.8 -0.1
BR231 Keskin MP Arra 71.38 307 P P 17 15 28.3 0.0
BR231 IAmb IAmb 17 15 28.9
comp=Z,33nm,0.6s
UZH Uzhgorod 71.39 319 eP P 17 15 27.2 -0.8
UZH i 17 15 39.8
ARCR ARCALIA 71.40 317 ⇑P P 17 15 29.2 +1.2
MUD Monsted U'grnd 71.42 331 eP P 17 15 26.6 -1.3
MUD IAmb IAmb 17 15 29.3
comp=Z,15nm,0.6s
PINNC Pines Island, 71.43 147 P P 17 15 29.8 +1.3
PINNC Pines Island, 71.43 147 P P 17 15 29.7 +1.3
BMR Baia Mare 71.44 318 ⇑P P 17 15 29.0 +0.7
BMR Baia Mare 71.44 318 P P 17 15 29.0 +0.7
OJC Ojcow 71.51 322 eP P 17 15 29.2 +0.6
OJC Ojcow 71.51 322 P P 17 15 28.8 +0.2
OJC Ojcow 71.51 322 P P 17 15 28.8 +0.2
OJC pmax pmax
comp=Z,83nm,1.0s
ISR Istrita 71.54 314 ⇑P P 17 15 29.7 +0.6
ISR Istrita 71.54 314 P P 17 15 29.6 +0.6
MULG Mulgathing 71.59 179 P P 17 15 29.9 +0.7
DOPR Dopca 71.60 316 ⇓P P 17 15 30.2 +0.9
TRPA Tarpa 71.61 319 ⇑P P 17 15 30.3 +1.1
CRVS Cervenica-Dubn 71.62 320 eP P 17 15 29.6 +0.3
CRVS pmax pmax
comp=Z,44nm,1.1s
CRVS Cervenica-Dubn 71.62 320 eP P 17 15 29.6 +0.3
MLR Muntele Rosu 71.62 315 P P 17 15 29.9 +0.3
comp=Z,11nm,0.5s,baz=349,slow=6.0,SNR=20
comp=Z,11nm,0.5s
MLR Muntele Rosu 71.62 315 ⇑P P 17 15 30.1 +0.5
MLR Muntele Rosu 71.62 315 P P 17 15 29.2 -0.4
MLR IAmb IAmb 17 15 30.9
comp=Z,81nm,1.5s
MLR Muntele Rosu 71.62 315 P P 17 15 30.1 +0.5
SFJD Kangerlussuaq 71.63 2 i P P 17 15 29.2 +0.2
SFJD Kangerlussuaq 71.63 2 P P 17 15 29.0 0.0
HUMO Hull Mountain 71.74 49 P P 17 15 30.8 +0.6
E09A Wood Farm, Sta 71.79 44 P P 17 15 31.5 +1.1
E09A IAmb IAmb 17 15 32.3
comp=Z,18nm,0.8s
NIE Niedzica 71.82 321 eP P 17 15 31.7 +1.1
SECR 71.85 314 ⇑P P 17 15 31.9 +1.1
LCRK Leigh Creek 71.91 175 P P 17 15 32.4 +1.3
MDUB Mudurnu 71.92 308 P P 17 15 31.0 -0.4
DGTI Dogotuki 71.99 133 P P 17 15 34.2 +2.4
GC1S Gold Coast 1 S 72.00 161 P P 17 15 32.8 +1.2
CBBR Cluj-Babes-Bol 72.02 317 ⇑P P 17 15 32.6 +0.9
CJR Cluj-Napoca 72.03 317 ⇑P P 17 15 32.8 +1.0
CJR Cluj-Napoca 72.03 317 P P 17 15 32.8 +1.0
AULRC Lightning Rdg 72.06 166 P P 17 15 33.1 +1.1
MESR Meseseni 72.07 318 ⇑P P 17 15 32.9 +0.9
PINE Pine Mountain 72.09 47 P P 17 15 33.7 +1.2
PINE IAmb IAmb 17 15 34.8
comp=Z,24nm,0.8s
MORW Morawa 72.12 196 P P 17 15 32.9 +0.5
MORW IAmb IAmb 17 15 34.0
comp=Z,52nm,1.1s
MORW Morawa 72.12 196 P P 17 15 32.9 +0.5
WALA Waterton Lakes 72.17 40 P P 17 15 33.2 +0.5
G08A Pilot Rock 72.17 45 P P 17 15 33.6 +0.8
DY2G Dye2 72.19 360 ⇑P P 17 15 33.5 +0.8
DY2G IAmb IAmb 17 15 34.1
comp=Z,31nm,0.7s
FORT Forrest 72.23 185 P P 17 15 33.5 +0.6
FORT Forrest 72.23 185 P P 17 15 33.6 +0.6
MSVF Nonsavu 72.25 135 P P 17 15 36.2 +2.8
comp=Z,43nm,1.2s,baz=173,slow=1.5,SNR=14
comp=Z,43nm,1.2s
MSVF Nonsavu 72.25 135 P P 17 15 36.0 +2.5
MSVF IAmb IAmb 17 15 37.4
comp=Z,85nm,1.3s
MSVF Nonsavu 72.25 135 P P 17 15 34.7 +1.2
MARR Marisel-Cluj 72.30 317 ⇑P P 17 15 33.9 +0.4
ARR Arges 72.39 315 ⇑P P 17 15 34.7 +0.7
LANS Liptovska Anna 72.40 321 eP P 17 15 35.3 +1.4
LANS pmax pmax
comp=Z,25nm,1.4s
LANS Liptovska Anna 72.40 321 eP P 17 15 35.3 +1.4
YBH Yreka Blue Hor 72.44 50 P P 17 15 35.6 +1.2
YBH Yreka Blue Hor 72.44 50 P P 17 15 35.6 +1.2
YBH pmax pmax
comp=Z,10.0nm,1.1s
OKC Ostrava-Krasne 72.54 322 eP P 17 15 35.4 +0.8
OKC Ostrava-Krasne 72.54 322 eP P 17 15 35.4 +0.8
FCC Fort Churchill 72.55 24 P P 17 15 34.5 -0.1
FCC IAmb IAmb 17 15 35.7
comp=Z,25nm,0.9s
FCC Fort Churchill 72.55 24 P P 17 15 34.5 -0.1
FCC pmax pmax
comp=Z,25nm,0.9s
RAZG Razgrad 72.58 313 ⇑P P 17 15 35.4 +0.4
F10A Beach Ranch, E 72.62 43 P P 17 15 35.9 +0.5
KSP Ksiaz 72.66 324 eP P 17 15 36.0 +0.7
BORA Eskisehir 72.73 308 P P 17 15 35.7 -0.4
BORA IAmb IAmb 17 15 37.2
comp=Z,37nm,0.5s
HUMR Humele 72.77 315 ⇑P P 17 15 35.7 -0.4
ANGG Ammassalik, Gr 72.81 356 i P P 17 15 36.3 +0.4
MORC Moravsky Berou 72.86 322 ⇑P P 17 15 37.6 +1.0
MORC Moravsky Berou 72.86 322 P P 17 15 36.7 +0.1
MORC IAmb IAmb 17 15 38.5
comp=Z,32nm,1.0s
MORC Moravsky Berou 72.86 322 eP P 17 15 37.1 +0.5
MORC Moravsky Berou 72.86 322 P P 17 15 37.5 +1.0
OSTC Ostas 72.90 323 eP P 17 15 37.3 +0.5
COPA Copaceanca 72.91 314 ⇑P P 17 15 36.7 -0.1
ISOG Isortoq, Green 72.95 357 i P P 17 15 36.8 +0.2
KRLC Kraliky 72.99 323 eP P 17 15 37.8 +0.5
KRLC Kraliky 72.99 323 eP P 17 15 37.8 +0.5
DPC Dobruska-Polom 73.00 323 eP P 17 15 38.2 +0.8
DPC Dobruska-Polom 73.00 323 eP P 17 15 38.2 +0.8
MAUC Maruska 73.02 322 eP P 17 15 37.9 +0.4
UPC Upice 73.03 324 eP P 17 15 38.1 +0.6
UPC Upice 73.03 324 eP P 17 15 38.1 +0.6
RAYN Ar Rayn 73.04 287 P P 17 15 37.3 -0.8
RAYN Ar Rayn 73.04 287 P P 17 15 38.3 +0.2
RAYN Ar Rayn 73.04 287 i P P 17 15 37.6 -0.5
SNR=46
RAYN Ar Rayn 73.04 287 P P 17 15 38.1 0.0
PSZ Piszkesteto 73.05 320 P P 17 15 38.0 +0.2
PSZ IAmb IAmb 17 15 39.9
comp=Z,34nm,1.0s
PSZ Piszkesteto 73.05 320 P P 17 15 38.0 +0.2
PSZ pmax pmax
comp=Z,34nm,1.0s
FFC Flin Flon 73.11 30 P P 17 15 37.6 -0.3
FFC IAmb IAmb 17 15 39.0
comp=Z,16nm,0.8s
FFC Flin Flon 73.11 30 P P 17 15 37.6 -0.3
FFC pmax pmax
comp=Z,16nm,0.8s
VYHS Vyhne 73.16 321 eP P 17 15 38.9 +0.6
VYHS pmax pmax
comp=Z,42nm,1.4s
VYHS Vyhne 73.16 321 eP P 17 15 38.9 +0.6
SIRR Siria 73.32 318 ⇑P P 17 15 40.1 +0.8
BMO Blue Mountains 73.34 44 P P 17 15 40.2 +0.7
BMO IAmb IAmb 17 15 41.4
comp=Z,14nm,0.8s
BMO Blue Mountains 73.34 44 P P 17 15 40.2 +0.7
BMO pmax pmax
comp=Z,14nm,0.8s
GZR Gura Zlata 73.34 316 ⇓P P 17 15 39.6 +0.1
GZR Gura Zlata 73.34 316 P P 17 15 39.6 +0.1
KMBL Kambalda 73.40 190 P P 17 15 39.9 +0.2
VLAD Vladila 73.43 314 ⇑P P 17 15 39.6 -0.3
SURR Surduc 73.43 317 ⇑P P 17 15 40.6 +0.8
JAVC Velka Javorina 73.45 322 eP P 17 15 41.5 +1.5
STKA Stephens Creek 73.60 172 P P 17 15 42.2 +1.4
comp=Z,55nm,0.6s,baz=348,slow=6.5,SNR=187
comp=Z,55nm,0.6s
STKA Stephens Creek 73.60 172 P P 17 15 41.9 +1.1
STKA IAmb IAmb 17 15 42.7
comp=Z,12nm,0.6s
STKA Stephens Creek 73.60 172 P P 17 15 42.0 +1.2
ASF Jabal al Asfar 73.60 298 P P 17 15 41.5 +0.2
comp=Z,10nm,0.5s,baz=46,slow=4.0,SNR=24
comp=Z,10nm,0.5s
SRE Strehaia 73.62 316 ⇑P P 17 15 41.7 +0.7
SRE Strehaia 73.62 316 P P 17 15 41.7 +0.7
VRAC Vranov 73.63 322 P P 17 15 42.0 +1.1
comp=Z,14nm,0.7s,baz=57,slow=7.6,SNR=17
comp=Z,14nm,0.7s
VRAC Vranov 73.63 322 ⇑P P 17 15 42.1 +1.1
VRAC Vranov 73.63 322 eP P 17 15 41.6 +0.7
PVCC Panska Ves 73.65 324 eP P 17 15 41.7 +0.7
PVCC Panska Ves 73.65 324 eP P 17 15 41.7 +0.7
BRG Berggiesshubel 73.67 325 i P P 17 15 41.5 +0.3
BRG Amp 17 15 42.9
comp=Z,18nm,0.8s
BRG r 17 23 32.1
BRG Amp 17 23 33.3
comp=Z,2.1nm,0.5s
BRG S SKiKP 17 23 51.5 -27
BRG Amp 17 23 55.5
comp=Z,4.3nm,0.6s
BRG Berggiesshubel 73.67 325 i P P 17 15 41.5 +0.3
BRG pmax pmax
comp=Z,18nm,0.8s
BRG pmax pmax
comp=Z,2.0nm,0.5s
BRG Berggiesshubel 73.67 325 eP P 17 15 41.5 +0.3
comp=Z,18nm,0.8s,baz=41,slow=4.8
MOD Modoc Plateau 73.69 48 P P 17 15 41.8 +0.2
MSO Missoula 73.70 41 P P 17 15 42.0 +0.4
baz=314
J08A Circle Bar Ran 73.72 46 P P 17 15 42.8 +1.0
J08A IAmb IAmb 17 15 44.0
comp=Z,27nm,1.1s
PLVB Pleven 73.73 314 ⇑P P 17 15 42.1 +0.5
FLTG Flechtingen 73.73 327 eP P 17 15 41.4 0.0
comp=Z,39nm,1.1s,baz=41,slow=4.8
ARMA Armidale 73.74 163 P P 17 15 43.3 +1.5
ARMA IAmb IAmb 17 15 44.8
comp=Z,63nm,1.0s
ARMA Armidale 73.74 163 P P 17 15 43.7 +1.9
CLL Collm 73.75 326 P P 17 15 41.3 -0.3
CLL IAmb IAmb 17 15 43.4
comp=Z,25nm,0.7s
CLL Collm 73.75 326 ⇓i P P 17 15 41.8 +0.2
comp=Z,30nm,0.8s
CLL Collm 73.75 326 ⇓i P P 17 15 41.8 +0.2
CLL e*PP pP 17 17 25.0 +0.1
CLL pmax pmax
comp=Z,30nm,0.8s
CLL Collm 73.75 326 eP P 17 15 41.8 +0.2
comp=Z,30nm,0.8s,baz=41,slow=4.8
CMSA Cobar Meteorol 73.76 169 P P 17 15 43.6 +1.9
BZS Buzias 73.79 317 ⇑P P 17 15 41.9 0.0
BZS Buzias 73.79 317 P P 17 15 41.9 0.0
SMOL Smolenice 73.81 321 eP P 17 15 43.5 +1.5
SMOL pmax pmax
comp=Z,31nm,1.4s
PLID Pearl Lake 73.86 44 P P 17 15 42.8 +0.2
HERR Herculane 73.88 316 ⇑P P 17 15 42.3 -0.2
SRO Srobarova 73.89 320 eP P 17 15 43.6 +1.2
SRO pmax pmax
comp=Z,57nm,1.2s
SRO Srobarova 73.89 320 eP P 17 15 43.6 +1.2
FBE Freiberg 73.89 325 eP P 17 15 43.2 +0.8
comp=Z,43nm,1.0s,baz=41,slow=4.8
KRUC Moravsky 73.89 322 eP P 17 15 43.0 +0.5
DJES Djerdap 73.97 316 ⇑P P 17 15 42.9 -0.2
DJES Djerdap 73.97 316 P P 17 15 42.8 -0.2
MODS Modra-Piesok 73.98 321 eP P 17 15 44.0 +1.0
MODS pmax pmax
comp=Z,144nm,1.6s
MODS Modra-Piesok 73.98 321 eP P 17 15 44.0 +1.0
GOPC GO Pecny, Ondr 74.00 324 eP P 17 15 43.5 +0.4
GOPC GO Pecny, Ondr 74.00 324 eP P 17 15 43.5 +0.4
ISP Isparta 74.02 306 P P 17 15 42.1 -1.4
ISP IAmb IAmb 17 15 44.5
comp=Z,86nm,1.6s
ISP Isparta 74.02 306 P P 17 15 42.2 -1.4
ISP pmax pmax
comp=Z,87nm,1.6s
PUNG Punghina 74.02 315 ⇑P P 17 15 43.4 +0.2
MMAI Mount Meron Ar 74.04 300 P P 17 15 43.8 +0.1
comp=Z,7.9nm,0.5s,baz=64,slow=9.6,SNR=33
comp=Z,7.9nm,0.5s
PRU Pruhonice 74.06 324 eP P 17 15 43.6 +0.2
PRU Pruhonice 74.06 324 eP P 17 15 43.6 +0.2
CSS Mathiatis 74.13 303 P P 17 15 43.7 -0.4
CSS IAmb IAmb 17 15 45.1
comp=Z,42nm,0.7s
TREC Trest 74.14 323 eP P 17 15 44.4 +0.5
TREC Trest 74.14 323 eP P 17 15 44.4 +0.5
BBOO Buckleboo 74.16 177 P P 17 15 44.3 +0.3
BBOO IAmb IAmb 17 15 45.2
comp=Z,37nm,0.8s
BBOO Buckleboo 74.16 177 P P 17 15 44.7 +0.7
ZST Bratislava 74.19 321 eP P 17 15 45.4 +1.3
ZST pmax pmax
comp=Z,54nm,0.6s
ZST Bratislava 74.19 321 eP P 17 15 45.4 +1.3
AUPHS Peel High Scho 74.24 164 P P 17 15 46.4 +1.9
WVOR Wild Horse Val 74.26 47 P P 17 15 45.4 +0.6
WVOR Wild Horse Val 74.26 47 P P 17 15 45.4 +0.6
WVOR pmax pmax
comp=Z,20nm,1.3s
MDVR Moldovita 74.31 316 ⇑P P 17 15 45.2 +0.3
NEUB Neuenburg 74.34 326 eP P 17 15 45.3 +0.3
comp=Z,36nm,0.8s,baz=41,slow=4.8
BALB Balikesir 74.39 309 P P 17 15 45.5 0.0
BALB IAmb IAmb 17 15 46.8
comp=Z,125nm,1.7s
NUUK Nuuk 74.43 2 i P P 17 15 45.5 +0.4
WHYH Whyalla 74.44 176 P P 17 15 46.8 +1.2
CLZ Clausthal 74.45 327 eP P 17 15 46.1 +0.6
comp=Z,22nm,1.0s,baz=41,slow=4.8
PGB Panagyurishte 74.54 314 eP P 17 15 47.0 +0.7
ALN Alexandroupoli 74.61 311 P P 17 15 46.0 -0.6
ALN IAmb IAmb 17 15 48.1
comp=Z,90nm,1.8s
ALN Alexandroupoli 74.61 311 P P 17 15 46.0 -0.6
ALN pmax pmax
comp=Z,90nm,1.8s
TANN Tannenbergstha 74.65 325 eP P 17 15 47.2 +0.4
comp=Z,59nm,2.1s,baz=41,slow=4.8
WERD Werda 74.69 325 eP P 17 15 47.4 +0.5
comp=Z,28nm,1.3s,baz=41,slow=4.8
RDO Rodhopi 74.73 312 P P 17 15 47.1 -0.2
GUNZ Gunzen 74.74 325 eP P 17 15 48.0 +0.7
comp=Z,20nm,0.7s,baz=41,slow=4.8
MANT Manisa 74.76 308 P P 17 15 47.2 -0.6
MANT IAmb IAmb 17 15 48.9
comp=Z,97nm,1.9s
WERN Wernitzgruen 74.78 325 eP P 17 15 48.2 +0.7
comp=Z,26nm,0.8s,baz=41,slow=4.8
NKC Novy Kostel 74.79 325 eP P 17 15 48.0 +0.5
NKC Novy Kostel 74.79 325 eP P 17 15 48.0 +0.5
HRY Holter Researc 74.81 40 P P 17 15 48.0 +0.2
RZN Rozhen 74.82 313 eP P 17 15 48.7 +0.6
MOX Moxa 74.83 326 eP P 17 15 48.1 +0.4
comp=Z,12nm,0.6s,baz=41,slow=4.8
EGMT Eagleton 74.85 38 P P 17 15 48.7 +0.7
EGMT IAmb IAmb 17 15 49.7
comp=Z,25nm,0.8s
EGMT Eagleton 74.85 38 P P 17 15 48.7 +0.7
baz=316
MORH Mrgy, Hungar 74.86 319 ⇑P P 17 15 47.8 -0.2
AUDCS Dubbo College 74.91 166 P P 17 15 50.0 +1.8
HTT Hallett 74.92 175 P P 17 15 49.7 +1.4
CONA Conrad Observa 74.96 322 eP P 17 15 49.7 +1.1
comp=Z,13nm,0.5s
VTS Vitosha 74.99 314 ⇑P P 17 15 49.3 +0.3
VTS Vitosha 74.99 314 P P 17 15 49.0 0.0
VTS IAmb IAmb 17 15 51.1
comp=Z,46nm,0.7s
VTS Vitosha 74.99 314 P P 17 15 49.3 +0.3
VTS Vitosha 74.99 314 eP P 17 15 49.5 +0.5
CKRC Cesky Krumlov 75.02 323 eP P 17 15 50.1 +1.3
FRGS Fruska Gora 75.02 318 ⇑P P 17 15 49.6 +0.6
ELL Elmali 75.09 306 P P 17 15 48.9 -0.7
ELL Elmali 75.09 306 P P 17 15 48.9 -0.7
ELL pmax pmax
comp=Z,121nm,1.0s
MFID Camas Ranch 75.10 45 P P 17 15 50.1 +0.6
MFID IAmb IAmb 17 15 51.6
comp=Z,21nm,0.9s
BOVS Bovan 75.11 316 ⇑P P 17 15 48.6 -0.8
KHC Kasperske Hory 75.11 324 P P 17 15 49.1 -0.2
KHC IAmb IAmb 17 15 51.4
comp=Z,23nm,0.7s
KHC Kasperske Hory 75.11 324 eP P 17 15 49.2 -0.2
KHC ex x 17 17 00.0
KHC Kasperske Hory 75.11 324 d i P P 17 15 49.8 +0.4
KHC pmax pmax
comp=Z,54nm,0.7s
MANZ Manzenberg 75.12 325 eP P 17 15 50.0 +0.6
comp=Z,4.2nm,0.7s,baz=41,slow=4.8
LRM Limekiln Ridge 75.14 41 P P 17 15 50.6 +0.7
ROTZ Rotzenmuhle 75.24 325 eP P 17 15 50.9 +0.9
comp=Z,5.7nm,0.9s,baz=41,slow=4.8
GEC2 GERESS Array S 75.27 323 P P 17 15 50.6 +0.2
GEC2 IAmb IAmb 17 15 51.8
comp=Z,19nm,1.1s
GEC2 GERESS Array S 75.27 323 eP P 17 15 50.6 +0.2
comp=Z,20nm,1.2s,baz=41,slow=4.8
GERES GERESS Array B 75.27 323 P P 17 15 50.5 +0.2
comp=Z,7.4nm,0.5s,baz=40,slow=5.9,SNR=71
comp=Z,7.4nm,0.5s
GERES GERESS Array B 75.27 323 P P 17 15 50.2 -0.2
MMB Musomiste 75.43 313 eP P 17 15 51.7 +0.4
KPL Plockton 75.46 338 eP P 17 15 51.8 +0.7
KKB Krupnik 75.59 314 eP P 17 15 52.8 +0.6
ARSA Arzberg 75.61 321 i P P 17 15 53.1 +0.9
comp=Z,10nm,0.5s,SNR=5.6
MCMT McKenzie Canyo 75.64 42 P P 17 15 53.3 +0.6
DIVS Divibare 75.67 317 P P 17 15 52.1 -0.6
BOZ Bozeman (W) 75.70 41 P P 17 15 53.8 +0.9
baz=316
GRA1 Grafenberg Arr 75.72 325 P P 17 15 53.4 +0.6
GRA1 IAmb IAmb 17 15 55.0
comp=Z,40nm,0.8s
GRF Grafenberg Arr 75.72 325 P P 17 15 53.4 +0.6
GRF pmax pmax
comp=Z,40nm,0.8s
GRF Grafenberg Arr 75.72 325 eP P 17 15 53.8 +1.1
comp=Z,61nm,1.0s,baz=41,slow=4.8
GRFO Grafenberg 75.72 325 P P 17 15 53.7 +1.0
GRFO IAmb IAmb 17 15 54.9
comp=Z,40nm,0.9s
GRFO Grafenberg 75.72 325 P P 17 15 53.7 +1.0
GRFO pmax pmax
comp=Z,40nm,0.9s
BCYI Bear Canyon 75.73 43 P P 17 15 53.2 0.0
HLID Hailey 75.73 44 P P 17 15 53.5 +0.4
HLID Hailey 75.73 44 P P 17 15 54.4 +1.2
baz=315
INVG Invergeldie, C 75.79 337 eP P 17 15 53.1 +0.2
YER Yerkesik 75.82 307 P P 17 15 57.1 +3.5
YER pmax pmax
comp=Z,22nm,1.1s
STIP Stip 76.19 314 ⇓i P P 17 15 54.8 -0.7
CMB Columbia Colle 76.23 51 P P 17 15 56.5 +0.8
CMB IAmb IAmb 17 15 57.6
comp=Z,13nm,0.7s
CMB Columbia Colle 76.23 51 P P 17 15 56.6 +0.8
CMB pmax pmax
comp=Z,13nm,0.7s
YERR Yerington 76.25 50 P P 17 15 57.1 +1.0
YERR IAmb IAmb 17 15 58.1
comp=Z,22nm,1.1s
SOKA Soboth 76.25 321 i P P 17 15 56.5 +0.7
comp=Z,21nm,0.5s,SNR=12
BMN Battle Mountai 76.40 48 P P 17 15 58.0 +1.1
BMN Battle Mountai 76.40 48 P P 17 15 58.0 +1.1
BMN pmax pmax
comp=Z,14nm,0.8s
SKO Skopje 76.40 315 i P P 17 15 57.3 +0.7
EKA Eskdalemuir Ar 76.45 336 P P 17 15 57.0 +0.3
comp=Z,7.9nm,0.5s,baz=34,slow=4.8,SNR=63
EKA pP pP 17 17 41.4 +0.7
comp=Z,4.8nm,0.8s,baz=27,slow=4.8,SNR=4.2
comp=Z,7.9nm,0.5s
EKA Eskdalemuir Ar 76.45 336 P P 17 15 57.0 +0.3
EIL Elat 76.48 298 P P 17 15 57.5 +0.2
comp=Z,17nm,0.7s,baz=26,slow=6.9,SNR=15
comp=Z,17nm,0.7s
ESK Eskdalemuir 76.48 336 eP P 17 15 57.1 +0.3
EDMD Edmundbyers 76.51 335 eP P 17 15 56.7 -0.3
GCMT Greycliff 76.52 40 P P 17 15 58.3 +0.9
ARG Arkhangelos 76.52 307 P P 17 15 57.4 0.0
ARG Arkhangelos 76.52 307 P P 17 15 57.4 0.0
ARG pmax pmax
comp=Z,138nm,1.2s
KVN Kaiserville 76.85 49 P P 17 16 00.5 +1.1
KVN Kaiserville 76.85 49 P P 17 16 00.5 +1.1
KVN pmax pmax
comp=Z,15nm,0.8s
RYN Ryan 76.90 50 P P 17 16 00.6 +0.9
DGMT Dagmar 77.01 35 P P 17 16 00.4 +0.5
baz=320
H17A Grant Village 77.09 41 P P 17 16 03.3 +2.6
baz=317
BTNL Ternell 77.11 328 dP P 17 16 00.2 -0.2
comp=Z,16nm,0.8s
HPK Haverah Park 77.13 334 eP P 17 16 00.9 +0.5
HPK IAmb IAmb 17 16 03.1
comp=Z,287nm,1.6s
LIT Litokhoron 77.13 313 P P 17 16 00.5 -0.3
LIT IAmb IAmb 17 16 01.3
comp=Z,111nm,1.6s
LIT Litokhoron 77.13 313 P P 17 16 00.5 -0.3
MEM Membach 77.14 329 dP P 17 16 00.3 -0.2
comp=Z,16nm,0.8s
NVAR Mina Array Bea 77.16 50 P P 17 16 02.3 +1.1
comp=Z,12nm,0.7s,baz=292,slow=5.1,SNR=81
NVAR pP pwP 17 17 48.1 -0.8
comp=Z,1.5nm,0.7s,baz=290,slow=5.4,SNR=2.7
comp=Z,12nm,0.7s
NVAR Mina Array Bea 77.16 50 P P 17 16 02.1 +0.9
LHV Little Huntoon 77.17 50 P P 17 16 02.1 +1.2
LHV IAmb IAmb 17 17 56.3
comp=Z,38nm,1.3s
RLMT Red Lodge 77.20 40 P P 17 16 02.0 +0.8
baz=317
PDG Podgorica 77.23 316 ⇑P P 17 16 01.8 +0.6
PDG Podgorica 77.23 316 P P 17 16 01.4 +0.2
NV11 Mina Array Sit 77.25 50 P P 17 16 03.2 +1.6
MDPB Devils Postpil 77.26 51 P P 17 16 02.7 +0.9
FNA Florina 77.27 314 P P 17 16 00.9 -0.6
FNA Florina 77.27 314 P P 17 16 00.9 -0.6
FNA pmax pmax
comp=Z,10.0nm,1.4s
ELK Elko 77.27 46 P P 17 16 03.0 +1.3
ELK Elko 77.27 46 P P 17 16 03.1 +1.3
ELK pmax pmax
comp=Z,5.0nm,0.7s
GAL1 Galloway 77.32 337 eP P 17 16 01.6 +0.2
BSTI Sart Tilman 77.33 329 dP P 17 16 02.4 +0.8
BHOU Houvegnez 77.34 328 dP P 17 16 02.8 +1.1
OHR Ohrid 77.35 314 i P P 17 16 02.7 +0.7
LAO LASA Array 77.46 37 P P 17 16 03.3 +0.8
baz=319
APE Apeiranthos 77.49 309 ⇑P P 17 16 01.9 -0.9
APE Apeiranthos 77.49 309 P P 17 16 01.8 -0.9
Q09A Carvers 77.52 49 P P 17 16 04.1 +1.1
KARP Karpathos 77.55 307 P P 17 16 02.5 -0.6
BCLA Clavier 77.56 329 dP P 17 16 02.8 0.0
comp=Z,12nm,0.7s
RETA Reutte 77.59 324 i P P 17 16 03.8 +0.7
comp=Z,18nm,0.5s,SNR=5.2
LBWR Ladybower, Pea 77.63 334 eP P 17 16 03.6 +0.5
LBWR IAmb IAmb 17 16 05.4
comp=Z,54nm,0.8s
BGES Gesves 77.68 329 dP P 17 16 03.2 -0.2
comp=Z,10nm,0.8s
KBN Korca 77.70 314 P P 17 16 03.8 -0.1
KBN IAmb IAmb 17 16 05.3
comp=Z,51nm,1.1s
KBN Korca 77.70 314 P P 17 16 03.8 -0.1
KBN pmax pmax
comp=Z,51nm,1.1s
CIMO Cimolais 77.73 322 P P 17 16 03.0 -0.8
CIMO IAmb IAmb 17 16 04.1
comp=Z,20nm,0.6s
RCHB Rochefort 77.80 329 dP P 17 16 04.6 +0.4
comp=Z,18nm,1.1s
WLF Walferdange 77.83 328 dP P 17 16 04.6 +0.3
HVU Hansel Valley 77.85 44 P P 17 16 05.4 +0.6
HVU Hansel Valley 77.85 44 P P 17 16 05.4 +0.6
HVU pmax pmax
comp=Z,33nm,1.7s
BMRD Maredsous 77.87 329 dP P 17 16 04.6 +0.1
comp=Z,25nm,0.9s
CAN Canberra 77.99 167 P P 17 16 06.6 +1.4
CAN IAmb IAmb 17 16 08.2
comp=Z,48nm,1.0s

CAN	**Canberra**	**77.99**	**167**	P	**P**	**17 16 07.0 +1.8**		
CAN	**Canberra**	**77.99**	**167**	P	**P**	**17 16 06.6 +1.4**		
CAN	comp=Z,48nm,1.0s			pmax	pmax			
TPH	**Tonopah**	**78.02**	**49**	P	**P**	**17 16 06.8 +0.9**		
TPH	comp=Z,83nm,1.0s			IAmb	IAmb	17 16 07.9		
TPH	**Tonopah**	**78.02**	**49**	P	**P**	**17 16 06.8 +0.9**		
TPH	comp=Z,83nm,1.0s			pmax	pmax			
DSP	**Deep Springs**	**78.08**	**50**	P	**P**	**17 16 07.2 +1.3**		
DOU	**Dourbes**	**78.10**	**329**	*d*P	**P**	**17 16 06.1 +0.4**		
AUMAG	**Moama Anglican**	**78.12**	**170**	P	**P**	**17 16 07.7 +1.9**		
DAVA	**Damuels**	**78.13**	**324**	*i* P	**P**	**17 16 06.8 +0.6**		
	comp=Z,15nm,0.6s,SNR=5.3							
BGU	**Big Grassy Mou**	**78.33**	**45**	P	**P**	**17 16 08.1 +0.8**		
LCH	**Last Change Ra**	**78.36**	**50**	P	**P**	**17 16 08.3 +0.7**		
ARPS	**Mount Arapiles**	**78.47**	**173**	P	**P**	**17 16 08.8 +1.1**		
FUORN	**Ofenpass-Fuorn**	**78.47**	**324**	P	**P**	**17 16 08.3 +0.2**		
FUORN	comp=Z,41nm,0.6s			IAmb	IAmb	17 16 10.1		
VES	**Vestal, Richgr**	**78.48**	**52**	P	**P**	**17 16 08.5 +0.4**		
	baz=314							
DAVOX	**Davos/Dischmat**	**78.52**	**324**	P	**P**	**17 16 09.0 +0.7**		
	comp=Z,22nm,0.6s,baz=45,slow=3.4,SNR=18							
	comp=Z,22nm,0.6s							
FOEL	**Foel Wylfa**	**78.54**	**335**	*e*P	**P**	**17 16 08.5 +0.4**		
CWC	**Cottonwood Cre**	**78.66**	**51**	P	**P**	**17 16 10.0 +0.8**		
	baz=314							
GRAC	**Grapevine Rang**	**78.69**	**50**	P	**P**	**17 16 10.7 +1.5**		
	baz=314,SNR=7.4							
PKM	**Mcpherson Peak**	**78.69**	**53**	P	**P**	**17 16 10.1 +0.6**		
	baz=313							
R11A	**Troy Canyon, C**	**78.76**	**48**	P	**P**	**17 16 10.4 +0.7**		
R11A	**Troy Canyon, C**	**78.76**	**48**	P	**P**	**17 16 10.7 +1.0**		
	baz=315,SNR=8.8							
BW06	**Boulder Array**	**78.78**	**42**	P	**P**	**17 16 10.2 +0.3**		
BW06	comp=Z,18nm,0.8s			IAmb	IAmb	17 16 11.2		
BW06	**Boulder Array**	**78.78**	**42**	P	**P**	**17 16 10.2 +0.3**		
	baz=318							
PD31	**Pinedale Array**	**78.78**	**42**	P	**P**	**17 16 10.3 +0.4**		
PDAR	**Pinedale Array**	**78.78**	**42**	P	**P**	**17 16 10.3 +0.4**		
	comp=Z,14nm,0.8s,baz=329,slow=1.3,SNR=12							
	comp=Z,14nm,0.8s							
PDAR	**Pinedale Array**	**78.78**	**42**	P	**P**	**17 16 10.1 +0.3**		
KEK	**Kerkira**	**78.88**	**314**	P	**P**	**17 16 10.5 +0.4**		
ULM	**Lac du Bonnet**	**78.93**	**30**	P	**P**	**17 16 10.0 -0.2**		
	comp=Z,16nm,0.6s,baz=318,slow=6.3,SNR=20							
	comp=Z,16nm,0.6s							
ULM	**Lac du Bonnet**	**78.93**	**30**	P	**P**	**17 16 09.8 -0.4**		
ULM	comp=Z,16nm,0.7s			IAmb	IAmb	17 16 10.8		
ISA	**Isabella, Lake**	**78.96**	**52**	P	**P**	**17 16 11.0 +0.3**		
	baz=314							
DUG	**Dugway, Tooele**	**78.96**	**45**	P	**P**	**17 16 11.8 +1.1**		
DUG	**Dugway, Tooele**	**78.96**	**45**	P	**P**	**17 16 12.1 +1.3**		
	baz=316							
DUG	**Dugway, Tooele**	**78.96**	**45**	P	**P**	**17 16 11.8 +1.1**		
DUG	comp=Z,18nm,1.1s			pmax	pmax			
SPR3	**Spring Creek 3**	**78.99**	**47**	P	**P**	**17 16 12.6 +1.4**		
SPR3	comp=Z,15nm,1.3s			IAmb	IAmb	17 16 13.9		
AUSMG	**Snowy Mountain**	**79.00**	**167**	P	**P**	**17 16 08.8 -1.8**		
STRD	**Stroud**	**79.15**	**334**	*e*P	**P**	**17 16 10.9 -0.4**		
STRD	comp=Z,126nm,1.2s			IAmb	IAmb	17 16 12.9		
MCH1	**Michaelchurch**	**79.23**	**334**	*e*P	**P**	**17 16 11.8 0.0**		
MCH1	comp=Z,52nm,0.7s			IAmb	IAmb	17 16 13.1		
SWN1	**Swindon**	**79.25**	**333**	*e*P	**P**	**17 16 11.0 -0.8**		
SWN1	comp=Z,1µm,2.1s			IAmb	IAmb	17 16 14.2		
WCT	**Wildcat Mounta**	**79.25**	**50**	P	**P**	**17 16 13.1 +0.8**		
MPMC	**Manual Prospec**	**79.27**	**51**	P	**P**	**17 16 13.4 +0.9**		
	baz=314,SNR=9.1							
MONM	**Monmouth**	**79.31**	**334**	*e*P	**P**	**17 16 12.4 +0.3**		
FURC	**Furnace Creek,**	**79.34**	**50**	P	**P**	**17 16 13.8 +1.1**		
	baz=314							
TPNV	**Topopah Spring**	**79.36**	**50**	P	**P**	**17 16 13.8 +0.8**		
TPNV	**Topopah Spring**	**79.36**	**50**	P	**P**	**17 16 14.0 +1.1**		
	baz=315,SNR=14							
TPNV	**Topopah Spring**	**79.36**	**50**	P	**P**	**17 16 13.8 +0.8**		
TPNV	comp=Z,11nm,0.6s			pmax	pmax			
SCZ2	**Santa Cruz Isl**	**79.41**	**54**	P	**P**	**17 16 13.6 +0.5**		
	baz=314							
MDND	**Maddock**	**79.42**	**33**	P	**P**	**17 16 13.0 +0.2**		
	baz=323							
BRAT	**Ballarat**	**79.46**	**171**	P	**P**	**17 16 15.2 +2.3**		
ITM	**Ithomi**	**79.49**	**311**	P	**P**	**17 16 12.4 -1.0**		
ITM	comp=Z,58nm,0.7s			IAmb	IAmb	17 16 14.1		
NLU	**North Lily Min**	**79.53**	**45**	P	**P**	**17 16 14.8 +0.9**		
GWY	**Greenwater Val**	**79.65**	**50**	P	**P**	**17 16 15.2 +0.7**		
GWY	comp=Z,13nm,0.6s			IAmb	IAmb	17 16 15.9		
TOO	**Toolangi**	**79.67**	**170**	P	**P**	**17 16 15.7 +1.6**		
TOO	comp=Z,64nm,1.1s			IAmb	IAmb	17 16 17.2		
TOO	**Toolangi**	**79.67**	**170**	P	**P**	**17 16 16.3 +2.2**		
TOO	**Toolangi**	**79.67**	**170**	P	**P**	**17 16 15.7 +1.6**		
TOO	comp=Z,64nm,1.1s			pmax	pmax			
MILA	**Mila**	**79.71**	**167**	P	**P**	**17 16 16.2 +1.8**		
PRN	**Pahroc Range**	**79.72**	**49**	P	**P**	**17 16 15.5 +0.7**		
EDW2	**Edwards Air Fo**	**79.78**	**52**	P	**P**	**17 16 15.8 +0.7**		
	baz=314							
FDMO	**Fiordimonte**	**79.89**	**320**	P	**P**	**17 16 16.1 +0.6**		
FDMO	comp=Z,48nm,0.5s			IAmb	IAmb	17 16 17.3		
SENIN	**Lac Senin/Sane**	**79.96**	**325**	P	**P**	**17 16 16.1 +0.1**		
SENIN	comp=Z,64nm,0.8s			IAmb	IAmb	17 16 17.3		
SNCC	**San Nicolas Is**	**79.99**	**54**	P	**P**	**17 16 16.9 +0.7**		
	baz=314							
NRCA	**Norcia**	**80.03**	**320**	P	**P**	**17 16 16.6 +0.4**		
NRCA	comp=Z,74nm,1.1s			IAmb	IAmb	17 16 18.2		
SHOC	**Shoshone, Teco**	**80.08**	**50**	P	**P**	**17 16 17.6 +1.0**		
	baz=315							
GSC	**Goldstone, Bar**	**80.19**	**51**	P	**P**	**17 16 18.0 +0.7**		
GSC	**Goldstone, Bar**	**80.19**	**51**	P	**P**	**17 16 18.3 +1.0**		
	baz=315,SNR=7.0							
GSC	**Goldstone, Bar**	**80.19**	**51**	P	**P**	**17 16 18.0 +0.7**		
GSC	comp=Z,25nm,1.4s			pmax	pmax			
SHPR	**Sheep Range**	**80.29**	**49**	P	**P**	**17 16 19.0 +1.1**		
TCRU	**Three Creeks R**	**80.30**	**46**	P	**P**	**17 16 19.0 +1.0**		
TCRU	comp=Z,19nm,0.4s			IAmb	IAmb	17 17 25.0		
RRX	**Edison Barstow**	**80.38**	**52**	P	**P**	**17 16 19.2 +1.0**		
	baz=315							
RSSD	**Black Hills**	**80.41**	**38**	P	**P**	**17 16 18.8 +0.4**		
	baz=321							
BFSC	**Mount Baldy Ra**	**80.43**	**52**	P	**P**	**17 16 18.5 -0.1**		
	baz=314							
MVU	**Marysvale**	**80.50**	**46**	P	**P**	**17 16 20.5 +1.5**		
MVU	comp=Z,39nm,0.7s			IAmb	IAmb	17 16 21.2		
MSU	**Marysvale**	**80.52**	**46**	P	**P**	**17 16 20.6 +1.5**		
MSU	**Marysvale**	**80.52**	**46**	P	**P**	**17 16 20.6 +1.5**		
CCUT	**Cedar City**	**80.56**	**48**	P	**P**	**17 16 19.9 +0.6**		
P17A	**Butcher Ranch,**	**80.59**	**45**	P	**P**	**17 16 20.3 +0.9**		
P17A	comp=Z,28nm,1.2s			IAmb	IAmb	17 16 21.5		
TUQ	**Turquoise Moun**	**80.61**	**51**	P	**P**	**17 16 20.5 +1.0**		
	baz=315,SNR=9.5							
Q16A	**Castle Valley**	**80.76**	**45**	P	**P**	**17 16 21.1 +0.8**		
Q16A	comp=Z,36nm,1.7s			IAmb	IAmb	17 16 22.8		
HEC	**Hector,Ludlow**	**80.80**	**51**	P	**P**	**17 16 21.2 +0.8**		
	baz=315							
BBRC	**Big Bear Solar**	**80.85**	**52**	P	**P**	**17 16 21.6 +0.7**		
	baz=315							
MTPU	**Mount Pierson**	**80.85**	**47**	P	**P**	**17 16 22.6 +1.6**		
LCMT	**Little Creek M**	**81.01**	**48**	P	**P**	**17 16 22.4 +0.9**		
V12A	**Nelson**	**81.02**	**50**	P	**P**	**17 16 22.5 +0.9**		
LDF	**La Druitiere**	**81.10**	**331**	P	**P**	**17 16 23.9 +2.3**		
LDF	comp=Z,22nm,1.1s			pmax	pmax			
MURC	**Murrieta**	**81.15**	**53**	P	**P**	**17 16 22.8 +0.5**		
	baz=315							
PKCU	**Pink Cliffs**	**81.22**	**47**	P	**P**	**17 16 24.0 +1.2**		
PKCU	comp=Z,19nm,0.7s			IAmb	IAmb	17 16 25.2		
GMRC	**Granite Mounta**	**81.22**	**51**	P	**P**	**17 16 23.7 +1.0**		
	baz=315,SNR=9.9							
KNB	**Kanab**	**81.24**	**48**	P	**P**	**17 16 24.2 +1.4**		
KNB	**Kanab**	**81.24**	**48**	P	**P**	**17 16 24.2 +1.4**		
KNB	comp=Z,9.0nm,0.9s			pmax	pmax			
BNI	**Bardonecchia**	**81.27**	**325**	P	**P**	**17 16 23.0 +0.3**		
BNI	comp=Z,21nm,1.1s			IAmb	IAmb	17 16 24.2		
BNI	**Bardonecchia**	**81.27**	**325**	P	**P**	**17 16 23.0 +0.3**		
BNI	comp=Z,21nm,1.2s			pmax	pmax			
O20A	**White River Ci**	**81.39**	**43**	P	**P**	**17 16 23.9 +0.4**		
	baz=319							
BELC	**Belle Mtn. Jos**	**81.58**	**52**	P	**P**	**17 16 25.1 +0.6**		
	baz=315,SNR=5.1							
PFO	**Pinyon Flats O**	**81.58**	**52**	P	**P**	**17 16 25.0 +0.5**		
PFO	comp=Z,19nm,1.1s			IAmb	IAmb	17 16 26.1		
PFO	**Pinyon Flats O**	**81.58**	**52**	P	**P**	**17 16 25.0 +0.5**		
	baz=315							
PFO	**Pinyon Flats O**	**81.58**	**52**	P	**P**	**17 16 25.0 +0.5**		
PFO	comp=Z,19nm,1.1s			pmax	pmax			
TPFO	**Pinon Flats**	**81.59**	**52**	P	**P**	**17 16 25.3 +0.7**		
	baz=315,SNR=7.4							
PMD	**Palm Desert**	**81.60**	**52**	P	**P**	**17 16 25.0 +0.5**		
PMD	comp=Z,12nm,0.9s			IAmb	IAmb	17 16 26.0		
109C	**Camp Elliot, M**	**81.70**	**53**	P	**P**	**17 16 25.6 +0.6**		
	baz=315							
U15A	**North Rim**	**81.96**	**48**	P	**P**	**17 16 28.2 +1.6**		
U15A	comp=Z,29nm,0.8s			IAmb	IAmb	17 16 29.2		
IRM	**Iron Mountain**	**81.97**	**51**	P	**P**	**17 16 27.3 +0.9**		
	baz=316,SNR=14							
W13A	**Hualapai Mount**	**82.02**	**50**	P	**P**	**17 16 27.7 +0.8**		
CEL	**Celeste**	**82.02**	**315**	P	**P**	**17 16 26.9 +0.3**		
CEL	comp=Z,71nm,1.2s			IAmb	IAmb	17 16 28.8		
BC3	**Big Chuckawall**	**82.14**	**52**	P	**P**	**17 16 28.1 +0.7**		
	baz=316							
PV23	**Carpenter Ridg**	**82.25**	**44**	P	**P**	**17 16 28.8 +0.8**		
PV10	**Paradox Valley**	**82.29**	**45**	P	**P**	**17 16 29.6 +1.3**		
PV10	comp=Z,32nm,1.0s			IAmb	IAmb	17 16 30.6		
SCHQ	**Schefferville**	**82.38**	**11**	P	**P**	**17 16 28.3 +0.3**		
	comp=Z,10nm,0.8s,baz=346,slow=4.9,SNR=21							
	comp=Z,10nm,0.8s							
SUSD	**Miller**	**82.41**	**35**	P	**P**	**17 16 28.9 +0.5**		
SUSD	comp=Z,50nm,0.7s			IAmb	IAmb	17 16 29.7		
SUSD	**Miller**	**82.41**	**35**	P	**P**	**17 16 28.6 +0.2**		
	baz=324							
SWSC	**Sam W. Stewart**	**82.44**	**52**	P	**P**	**17 16 29.3 +0.5**		
	baz=315							
IKP	**In-Ko-Pah, Jac**	**82.46**	**53**	P	**P**	**17 16 29.5 +0.5**		
	baz=315							
PV13	**Radium Mtn., P**	**82.57**	**45**	P	**P**	**17 16 30.5 +0.9**		
PV15	**Paradox Valley**	**82.61**	**44**	P	**P**	**17 16 30.6 +0.7**		
GLA	**Glamis**	**82.94**	**52**	P	**P**	**17 16 32.4 +1.0**		
	baz=316							
ISCO	**Idaho Springs**	**82.97**	**42**	P	**P**	**17 16 32.5 +0.7**		
	baz=320							
ESJX	**Sierra Juarez**	**83.02**	**53**	P	**P**	**17 16 33.0 +1.1**		
WUAZ	**Wupatki**	**83.13**	**48**	P	**P**	**17 16 33.9 +1.4**		
WUAZ	**Wupatki**	**83.13**	**48**	P	**P**	**17 16 33.9 +1.4**		
	baz=317							
MVCO	**Mesa Verde**	**83.44**	**45**	P	**P**	**17 16 35.1 +1.1**		
MVCO	**Mesa Verde**	**83.44**	**45**	P	**P**	**17 16 34.9 +0.9**		
	baz=319							
E38A	**The Farm, Brul**	**83.56**	**29**	P	**P**	**17 16 34.1 0.0**		
E38A	comp=Z,18nm,0.6s			IAmb	IAmb	17 16 34.9		
OGNE	**Ogallala**	**83.81**	**39**	P	**P**	**17 16 36.2 +0.6**		
	baz=322							
Q24A	**Divide**	**83.84**	**42**	P	**P**	**17 16 36.6 +0.5**		
	baz=320							
S22A	**4UR Ranch, Cre**	**83.91**	**44**	P	**P**	**17 16 37.6 +1.1**		
S22A	**4UR Ranch, Cre**	**83.91**	**44**	P	**P**	**17 16 37.6 +1.1**		
	baz=320							
ECSD	**EROS Data Cent**	**83.97**	**34**	P	**P**	**17 16 36.5 +0.2**		
ECSD	comp=Z,18nm,0.7s			IAmb	IAmb	17 16 37.4		
ECSD	**EROS Data Cent**	**83.97**	**34**	P	**P**	**17 16 36.5 +0.2**		
	baz=325							
SPMN	**Marine on St.**	**84.26**	**31**	P	**P**	**17 16 37.7 0.0**		
SPMN	comp=Z,11nm,0.8s			IAmb	IAmb	17 16 38.5		
SPMN	**Marine on St.**	**84.26**	**31**	P	**P**	**17 16 38.1 +0.4**		
	baz=326							
W18A	**Petrified Fore**	**84.33**	**47**	P	**P**	**17 16 39.5 +1.0**		
	baz=318							
SDCO	**Great Sand Dun**	**84.60**	**43**	P	**P**	**17 16 40.4 +0.5**		
SDCO	**Great Sand Dun**	**84.60**	**43**	P	**P**	**17 16 40.8 +1.0**		
	baz=320							
X18A	**Snowflake**	**84.65**	**48**	P	**P**	**17 16 41.0 +1.0**		
214A	**Organ Pipe Nat**	**84.91**	**51**	P	**P**	**17 16 41.9 +0.8**		
214A	comp=Z,32nm,1.8s			IAmb	IAmb	17 16 42.9		
214A	**Organ Pipe Nat**	**84.91**	**51**	P	**P**	**17 16 42.3 +1.1**		
	baz=317							
I37A	**Lemond, Waseca**	**85.04**	**32**	P	**P**	**17 16 42.1 +0.6**		
I37A	comp=Z,25nm,0.8s			IAmb	IAmb	17 16 43.1		
G40A	**Rib Lake**	**85.19**	**29**	P	**P**	**17 16 42.7 +0.4**		
G40A	comp=Z,25nm,0.7s			IAmb	IAmb	17 16 43.5		
BGNE	**Belgrade**	**85.21**	**36**	P	**P**	**17 16 42.5 +0.1**		
	baz=324							
T25A	**Trinidad**	**85.62**	**43**	P	**P**	**17 16 45.1 +0.4**		
T25A	comp=Z,13nm,1.0s			IAmb	IAmb	17 16 46.2		
T25A	**Trinidad**	**85.62**	**43**	P	**P**	**17 16 45.3 +0.6**		
	baz=321							
TUC	**Tucson**	**85.82**	**50**	P	**P**	**17 16 46.7 +1.1**		
	baz=318							
ANMO	**Albuquerque**	**86.23**	**45**	P	**P**	**17 16 48.8 +1.1**		
ANMO	**Albuquerque**	**86.23**	**45**	P	**P**	**17 16 49.0 +1.3**		
	baz=320							
ANMO	**Albuquerque**	**86.23**	**45**⇑	*e*P	**P**	**17 16 49.0 +1.3**		
ANMO	comp=Z,8.0nm,1.1s			pmax	pmax			
CBKS	**Cedar Bluff**	**86.58**	**39**	P	**P**	**17 16 49.0 0.0**		
	baz=324							
JFWS	**Jewell Farm**	**87.19**	**30**	P	**P**	**17 16 51.5 -0.3**		
	baz=329							
KUZ	**Kuaotunu**	**87.23**	**147**	P	**P**	**17 16 54.1 +2.3**		
121A	**Cookes Peak, D**	**87.34**	**48**	P	**P**	**17 16 53.9 +1.0**		
	baz=319							
KEST	**Kesra**	**87.34**	**317**	P	**P**	**17 16 52.7 0.0**		
	comp=Z,2.7nm,0.4s,baz=351,slow=1.4,SNR=11							
	comp=Z,2.7nm,0.4s							
L40A	**Anamosa**	**87.55**	**31**	P	**P**	**17 16 53.8 +0.3**		
L40A	comp=Z,18nm,0.8s			IAmb	IAmb	17 16 54.6		
KSU1	**Kansas State U**	**87.77**	**36**	P	**P**	**17 16 55.4 +0.8**		
	baz=325							
N38A	**Joes South For**	**87.81**	**33**	P	**P**	**17 16 55.5 +0.7**		
N38A	comp=Z,30nm,1.1s			IAmb	IAmb	17 16 56.4		
P38A	**Dawn**	**88.67**	**34**	P	**P**	**17 16 59.8 +1.0**		
P38A	comp=Z,24nm,0.6s			IAmb	IAmb	17 17 00.6		
AMTX	**Amarillo**	**88.75**	**42**	P	**P**	**17 17 00.2 +0.8**		
	baz=322							
TRQ	**Mont Tremblant**	**89.09**	**19**	P	**P**	**17 17 01.0 +0.3**		
TRQ	comp=Z,33nm,1.4s			IAmb	IAmb	17 18 50.1		
URZ	**Urewera**	**89.09**	**147**	P	**P**	**17 17 00.6 +0.1**		
	comp=Z,15nm,0.8s,baz=217,slow=1.2,SNR=7.3							
	comp=Z,15nm,0.8s							
MNTX	**Cornudas Mount**	**89.29**	**47**	P	**P**	**17 17 02.8 +0.9**		
	baz=321							
RTZ	**Ruatahuna**	**89.35**	**147**	P	**P**	**17 17 01.7 0.0**		
P40A	**Paris**	**89.36**	**33**	P	**P**	**17 17 02.7 +0.7**		
P40A	comp=Z,23nm,0.8s			IAmb	IAmb	17 17 03.9		
GDL2	**Guadalupe Moun**	**89.46**	**46**	P	**P**	**17 17 03.5 +0.7**		
HDIL	**Hopedale**	**89.58**	**31**	P	**P**	**17 17 03.3 +0.3**		
	baz=330							
T35A	**Sooner Cattle**	**89.60**	**38**	P	**P**	**17 17 04.0 +0.8**		
T35A	comp=Z,18nm,1.1s			IAmb	IAmb	17 20 31.3		
BKZ	**Black Stump Fm**	**89.62**	**148**	P	**P**	**17 17 03.6 +0.6**		
BKZ	**Black Stump Fm**	**89.62**	**148**	P	**P**	**17 17 03.4 +0.4**		
ESDC	**Sonseca Array**	**90.13**	**328**	P	**P**	**17 17 05.3 -0.3**		
	comp=Z,1.8nm,0.6s,baz=22,slow=4.3,SNR=11							
	comp=Z,1.8nm,0.6s							
WMOK	**Wichita Mounta**	**90.31**	**40**	P	**P**	**17 17 07.4 +0.9**		
WMOK	comp=Z,21nm,1.8s			IAmb	IAmb	17 19 20.9		
WMOK	**Wichita Mounta**	**90.31**	**40**	P	**P**	**17 17 07.4 +0.9**		
	baz=324							
WMOK	**Wichita Mounta**	**90.31**	**40**	P	**P**	**17 17 07.4 +0.9**		
WMOK	comp=Z,21nm,1.8s			pmax	pmax			
R40A	**Maddies Statio**	**90.32**	**34**	P	**P**	**17 17 07.0 +0.6**		
S39A	**Bolivar**	**90.38**	**35**	P	**P**	**17 17 06.8 +0.1**		
S39A	comp=Z,10.0nm,0.7s			IAmb	IAmb	17 17 07.9		
SFIN	**Lafayette**	**90.57**	**30**	P	**P**	**17 17 08.4 +0.9**		
	baz=331							
CCM	**Cathedral Cave**	**90.95**	**33**	P	**P**	**17 17 10.1 +0.7**		
CCM	comp=Z,14nm,0.7s			IAmb	IAmb	17 17 11.0		
CCM	**Cathedral Cave**	**90.95**	**33**	P	**P**	**17 17 10.2 +0.8**		
	baz=329							
CCM	**Cathedral Cave**	**90.95**	**33**	P	**P**	**17 17 10.1 +0.7**		
CCM	comp=Z,14nm,0.7s			pmax	pmax			
PKME	**Peaks-Kenny Pk**	**91.17**	**16**	P	**P**	**17 17 11.5 +1.3**		
	baz=344							
MGMO	**Mountain Grove**	**91.28**	**35**	P	**P**	**17 17 11.3 +0.3**		
MGMO	comp=Z,7.4nm,0.9s			IAmb	IAmb	17 17 12.3		
RPZ	**Rata Peaks**	**91.59**	**153**	P	**P**	**17 17 12.3 +0.4**		
	comp=Z,14nm,0.8s,baz=19,slow=7.6,SNR=4.3							
	comp=Z,14nm,0.8s							
M53A	**WI Miller and**	**91.81**	**25**	P	**P**	**17 17 13.8 +0.5**		
	baz=336							
TX31	**Lajitas Ar. Si**	**92.05**	**47**	P	**P**	**17 17 15.4 +0.6**		
TX31	comp=Z,15nm,0.8s			IAmb	IAmb	17 17 16.7		
TX32	**Lajitas Array**	**92.05**	**47**	P	**P**	**17 17 15.4 +0.6**		
TX32	comp=Z,5.0nm,0.8s			IAmb	IAmb	17 17 16.7		
TXAR	**Lajitas Array**	**92.05**	**47**	P	**P**	**17 17 15.4 +0.6**		
TXAR	**Lajitas Array**	**92.05**	**47**	P	**P**	**17 17 15.4 +0.6**		
ACSO	**Alum Creek Sta**	**92.15**	**27**	P	**P**	**17 17 15.6 +0.7**		
	baz=334							
FCAR	**Ozark Folk Cen**	**92.41**	**35**	P	**P**	**17 17 16.7 +0.6**		
FCAR	comp=Z,8.6nm,0.9s			IAmb	IAmb	17 19 22.6		
LCAR	**Lake Charles**	**92.67**	**34**	P	**P**	**17 17 17.9 +0.6**		
LCAR	comp=Z,7.4nm,0.8s			IAmb	IAmb	17 17 19.1		
O53A	**New Philadelph**	**92.72**	**26**	P	**P**	**17 17 18.3 +0.8**		
	baz=335							
WHAR	**Wooly Hollow**	**92.84**	**36**	P	**P**	**17 17 18.5 +0.4**		
WHAR	comp=Z,8.0nm,0.9s			IAmb	IAmb	17 17 19.6		
MIAR	**Mount Ida**	**92.90**	**37**	P	**P**	**17 17 19.6 +1.2**		
	baz=327							
SSPA	**Standing Stone**	**93.40**	**23**	P	**P**	**17 17 21.0 +0.4**		
	baz=337							
LODK	**Lodwar**	**93.52**	**278**	P	**P**	**17 17 21.9 +0.3**		
LODK	comp=Z,18nm,1.6s			IAmb	IAmb	17 17 23.7		
LODK	**Lodwar**	**93.52**	**278**	P	**P**	**17 17 23.1 +1.4**		
WVT	**Waverly**	**93.99**	**32**	P	**P**	**17 17 24.1 +0.8**		
	baz=331							
KMBO	**Kilima Mbogo**	**95.11**	**273**	P	**P**	**17 17 29.0 -0.1**		
KMBO	comp=Z,20nm,1.6s			IAmb	IAmb	17 17 30.3		
KMBO	**Kilima Mbogo**	**95.11**	**273**	P	**P**	**17 17 29.0 -0.1**		
KMBO	comp=Z,20nm,1.7s			pmax	pmax			
TORD	**Torodi Ar. Bea**	**109.45**	**309**	PKiKP	**PKiKP**	**17 22 32.4 -0.6**		
	comp=Z,0.9nm,0.3s,baz=36,slow=1.9,SNR=4.0							
TIC	**Toumodi**	**118.55**	**311**⇑	*e*PKIKP	**PKPdf**	**17 22 49.7 -0.8**		
	comp=Z,11nm,0.5s							
KIC	**Kosan Boka**	**118.63**	**311**⇑	*e*PKIKP	**PKPdf**	**17 22 49.8 -0.9**		
	comp=Z,7.0nm,0.5s							
LIC	**Lamto**	**118.90**	**311**⇑	*e*PKIKP	**PKPdf**	**17 22 50.4 -0.8**		
	comp=Z,21nm,0.5s							
VNDA	**Vanda**	**120.23**	**173**	PKP	**PKPdf**	**17 22 51.7 0.0**		
	comp=Z,1.6nm,0.7s,baz=323,slow=3.1,SNR=5.5							
BOSA	**Boshof**	**121.15**	**258**	PKP	**PKiKP**	**17 22 55.3 0.0**		
	comp=Z,2.5nm,0.7s,baz=66,slow=4.6,SNR=4.4							
SDV	**Santo Domingo**	**125.18**	**29**		**PKPdf**	**17 23 03.0 -0.4**		
SDV	**Santo Domingo**	**125.18**	**29**	*e*P	**PKiKP**	**17 23 04.2 +0.3**		
BOAV	**Boa Vista**	**134.44**	**19**	*e*P	**PKiKP**	**17 23 22.6 +0.3**		
SGCB	**SZo Gabriel d**	**134.82**	**29**	*e*P	**PKiKP**	**17 23 22.6 -0.5**		
ELIB	**Princess Elisa**	**135.09**	**205**	*d*PKPdf	**PKiKP**	**17 23 21.9 0.0**		
TROLL	**Troll, Antarti**	**141.34**	**202**	PKPdf	**PKPdf**	**17 23 27.9 -3.9**		
NBCL	**Cascavel-CE**	**141.93**	**346**	*e*P	**PKiKP**	**17 23 36.6 -1.0**		
SNAA	**Sanae**	**142.99**	**201**	PKPdf	**PKPdf**	**17 23 32.5 -2.1**		
SNAA	**Sanae**	**142.99**	**201**	SKPbc	**SKPbc**	**17 26 25.8 -0.9**		
	comp=Z,32nm,1.0s,baz=47,slow=1.7,SNR=14							
SNAA	**Sanae**	**142.99**	**201**	PKiKP	**PKPdf**	**17 23 32.3 -2.3**		
BELA	**Belgrano 2**	**143.33**	**184**	PKPdf	PKPab	17 23 33.0 0.0		
ETMB	**Extrema**	**144.01**	**34**		PKPbc	17 23 36.5 -0.6		
SAML	**Samuel**	**144.38**	**28**		PKPbc	17 23 38.0 -0.4		
SAML	**Samuel**	**144.38**	**28**	PKIKP	PKPbc	17 23 38.0 -0.4		
VNA2	**Neumayer--Watz**	**144.63**	**201**	PKPdf	PKPbc	17 23 37.7 +0.2		
	baz=96,slow

IDC 12 17:19:23.2±30.0, 22°37S×178°96W, h499km±276km, mb3.3/4, mbtmp4.2/4, Error ellipse: s-maj=196.9km s-min=62.8km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.19**	**246**	P	P		P	17 25 43.6	+0.5
	1.2nm,0.6s,baz=82,slow=14,SNR=3.2								
	1.2nm,0.6s								
ASAR	**Alice Springs**	**43.25**	**259**	P	P		P	17 26 40.0	-0.2
	2.1nm,0.7s,baz=100,slow=7.4,SNR=16								
ASAR				PcP	PcP		PcP	17 28 18.3	-0.1
	0.4nm,0.6s,baz=111,slow=3.9,SNR=4.5								
	2.1nm,0.7s								
WRA	**Warramunga Arr**	**43.49**	**264**	P	P		P	17 26 41.3	-0.8
	1.5nm,0.8s,baz=99,slow=7.5,SNR=9.3								
	1.5nm,0.8s								
SIJI	**Sorong**	**52.88**	**287**	P	P		P	17 27 52.6	+0.2
	6.4nm,0.7s,baz=78,slow=6.1,SNR=9.5								
	6.4nm,0.7s								
AKASG	**Malin Array Be**	**144.18**	**329**	PKP	PKPbc			17 38 00.7	-0.4
	0.6nm,0.5s,baz=42,slow=4.3,SNR=13								

*VIE **12** 17:21:44.8, 47°32N×11°46E, h6km, mb1.9/16, ml2.7/19*
5 km NW of Hall in Tirol felt 3-4 ems98 Karwendel / Tyrol
*ROM **12** 17:21:45.6±0.4, 47°32N±0°03×11°50E±0°02, h10km, ML2.4/18, Error ellipse: s-maj=2.9km s-min=1.5km az=354.0*
*LDG **12** 17:21:45.3±0.1, 47°30N×11°40E, h2km, Ml2.6/17, Error ellipse: s-maj=3.5km s-min=2.9km az=15.0*
*BGR **12** 17:21:47.2±0.3, 47°31N×11°39E, h10km, ML2.5/14, Error ellipse: s-maj=6.7km s-min=4.4km az=174.0*
*PRU **12** 17:21:50.3±0.0, 47°51N×11°54E, h1km, Hall In Titol*
ISC 12 17:21:45.1±0.9, 47°32N±0°02×11°42E±0°01, h6km±7km, n97, σ2s14/152, 2D, Austria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.11**	**80**	*e*Pg			**Pg**	**17 21 46.6**	**-0.8**
	83nm,0.1s,SNR=1059								
WATA				*e*Sg			**Sg**	**17 21 48.4**	**-0.7**
	1µm,0.2s								
WTTA	**Wattenberg**	**0.16**	**110**	*i* Pg			**Pg**	**17 21 47.9**	**-0.4**
	78nm,0.2s,SNR=500								
WTTA				*i* Sg			**Sg**	**17 21 50.4**	**-0.1**
	649nm,0.2s								
WTTA	**Wattenberg**	**0.16**	**110**	*e*Pg			**Pg**	**17 21 48.0**	**-0.3**
	SNR=132								
WTTA				*e*Sg			**Sg**	**17 21 50.3**	**-0.2**
	SNR=18								
WTTA	**Wattenberg**	**0.16**	**110**	⇓P			**Pg**	**17 21 47.9**	**-0.4**
WTTA				S			**Sg**	**17 21 50.2**	**-0.2**
WTTA					AML	AML			
	comp=N,1255µm,1.4s								
WTTA					AML	AML			
	comp=E,2905µm,0.4s								
WTTA					AML	AML			
	comp=N,1255µm,0.6s								
SQTA	**Sankt Quirin**	**0.17**	**236**	*i* Pg			**Pg**	**17 21 48.7**	**+0.1**
	comp=N,50nm,0.1s,SNR=305								
SQTA				*i* Sg			**Sg**	**17 21 51.9**	**+1.1**
	comp=N,347nm,0.1s								
MOTA	**Moosalm**	**0.21**	**277**	*i* Pg			**Pg**	**17 21 49.2**	**-0.2**
	comp=N,124nm,0.1s,SNR=396								
MOTA				*i* Sg			**Sg**	**17 21 53.5**	**+1.3**
	comp=N,783nm,0.1s								
PART	**Garmisch-Parte**	**0.27**	**311**	*e*Pg			**Pg**	**17 21 50.0**	**-0.4**
	SNR=35								
PART				*e*Sg			**Sg**	**17 21 54.5**	**+0.5**
	SNR=3.1								
ZUGS	**Zugspitze, Sch**	**0.31**	**289**	*e*Pg			**Pg**	**17 21 51.1**	**-0.2**
	SNR=42								
ZUGS				*e*Sg			**Sg**	**17 21 57.2**	**+1.7**
	SNR=7.2								
ROSI	**Rosskopf**	**0.39**	**180**	⇓P			**Pg**	**17 21 52.8**	**+0.1**
ROSI				S			**Sb**	**17 21 59.3**	**-1.5**
ROSI					AML	AML			
	comp=E,648µm,1.2s								
ROSI					AML	AML			
	comp=N,964µm,1.0s								
ROSI					AML	AML			
	comp=N,964µm,1.0s								
ROSI					AML	AML			
	comp=E,648µm,0.8s								
RETA	**Reutte**	**0.48**	**291**	*e*Pg			**Pg**	**17 21 53.7**	**-0.6**
	comp=E,3.8nm,0.1s,SNR=15								
RETA				*i* Sg			**Sg**	**17 22 00.9**	**+0.4**
	comp=E,36nm,0.1s								
FETA	**Feichten**	**0.56**	**238**	*e*Pg			**Pg**	**17 21 55.6**	**-0.2**
	comp=E,1.1nm,0.1s,SNR=38								
FETA				*i* Sg			**Sg**	**17 22 04.5**	**+1.5**
	comp=E,19nm,0.1s								
RISI	**Rein**	**0.58**	**129**	P			**Pg**	**17 21 56.0**	**-0.3**
RISI				S			**Sg**	**17 22 03.7**	**-0.3**
RISI					AML	AML			
	comp=E,390µm,1.0s								
RISI					AML	AML			
	comp=E,390µm,1.0s								
RISI					AML	AML			
	comp=N,711µm,0.3s								
OBER	**Oberstdorf**	**0.77**	**277**	*e*Pg			**Pg**	**17 21 59.9**	**+0.1**
	SNR=4.9								
OBER				*e*Sg			**Sb**	**17 22 11.9**	**+0.2**
	SNR=6.0								
APPI	**Appiano**	**0.85**	**189**	P			**Pg**	**17 22 01.5**	**+0.1**
APPI					AML	AML			
	comp=E,180µm,0.2s								
APPI					AML	AML			
	comp=N,124µm,0.7s								
APPI					AML	AML			
	comp=E,179µm,0.2s								
APPI					AML	AML			
	comp=N,124µm,1.3s								
FUR	**Furstenfeldbru**	**0.85**	**354**	*e*Pg			**Pn**	**17 22 04.1**	**+0.4**
	SNR=4.2								
FUR				*e*Sg			**Sn**	**17 22 17.5**	**+0.9**
	SNR=2.7								
MOSI	**Grossmontoni**	**0.92**	**221**	P			**Pg**	**17 22 02.8**	**+0.1**
MOSI				S			**Sb**	**17 22 15.8**	**-0.3**
MOSI					AML	AML			
	comp=N,278µm,0.4s								
MOSI					AML	AML			
	comp=E,218µm,1.5s								
MOSI					AML	AML			
	comp=N,278µm,1.6s								
ABTA	**Abfaltersbach**	**0.94**	**127**	*i* Pg			**Pg**	**17 22 02.5**	**-0.6**
	comp=N,2.8nm,0.2s,SNR=15								
ABTA				*i* Sg			**Sg**	**17 22 14.6**	**-0.8**
	comp=N,12nm,0.3s								
UBR	**Ueberruh**	**0.96**	**293**	*e*Sg			**Sb**	**17 22 18.7**	**+1.5**
	SNR=2.2								
RJOB	**Jochberg**	**1.02**	**65**	*e*Pg			**Pn**	**17 22 06.9**	**+0.8**
	SNR=23								
RJOB				*e*Sg			**Sn**	**17 22 24.1**	**+3.3**
	SNR=8.4								
DAVA	**Damuels**	**1.05**	**269**	*e*Pg			**Pg**	**17 22 05.7**	**+0.6**
	comp=N,2.4nm,0.2s								
DAVA	**Damuels**	**1.05**	**269**	*e*Pg			**Pn**	**17 22 08.1**	**+1.6**
	SNR=70								
AGOR	**Agordo**	**1.12**	**157**	P			**Pg**	**17 22 06.5**	**-0.1**
AGOR					AML	AML			
	comp=E,171µm,1.5s								
AGOR					AML	AML			
	comp=N,151µm,0.3s								
AGOR					AML	AML			
	comp=E,172µm,1.5s								
AGOR					AML	AML			
	comp=E,80µm,1.4s								
AGOR					AML	AML			
	comp=N,273µm,0.6s								
DAVOX	**Davos/Dischmat**	**1.18**	**243**	P			**Pg**	**17 22 07.0**	**-0.7**
DAVOX					AML	AML			
	comp=N,526µm,0.5s								
DAVOX					AML	AML			
	comp=N,526µm,0.5s								
DAVOX					AML	AML			
	comp=E,362µm,0.2s								
DAVOX					AML	AML			
	comp=N,526µm,1.5s								
FVI	**Forni Avoltri**	**1.18**	**127**	P			**Pg**	**17 22 07.1**	**-0.6**
FVI					AML	AML			
	comp=E,80µm,1.3s								
FVI					AML	AML			
	comp=E,80µm,1.3s								
FVI					AML	AML			
	comp=N,89µm,0.4s								
FVI					AML	AML			
	comp=N,89µm,1.6s								
FVI					AML	AML			
	comp=E,80µm,0.7s								
GAGG	**Gaggia**	**1.27**	**194**	P			**Pg**	**17 22 09.4**	**-0.1**
GAGG					AML	AML			
	comp=N,87µm,1.0s								
GAGG					AML	AML			
	comp=E,78µm,1.5s								
GAGG					AML	AML			
	comp=N,87µm,1.0s								
GAGG					AML	AML			
	comp=N,87µm,1.0s								
CTI	**Castel Tesino**	**1.28**	**173**	P			**Pg**	**17 22 09.4**	**-0.2**
CTI				S			**Sn**	**17 22 27.5**	**+0.3**
CTI					AML	AML			
	comp=E,301µm,0.2s								
CTI					AML	AML			
	comp=E,301µm,1.8s								
CTI					AML	AML			
	comp=N,300µm,0.3s								
CLUD	**Cludinico**	**1.32**	**130**	P			**Pg**	**17 22 09.6**	**-0.8**
CLUD					AML	AML			
	comp=N,58µm,0.9s								
CLUD					AML	AML			
	comp=E,40µm,0.8s								
CLUD					AML	AML			
	comp=N,58µm,1.1s								
KBA	**Koelnbreinsper**	**1.34**	**100**	*i* Pg			**Pg**	**17 22 10.1**	**-0.6**
	comp=N,2.1nm,0.1s								
KBA				*e*Sg			**Sn**	**17 22 33.6**	**+5.0**
	comp=N,11nm,0.2s								
STAL	**STALIGIAL**	**1.38**	**139**	P			**Pb**	**17 22 11.2**	**-0.1**
STAL					AML	AML			
	comp=E,120µm,0.4s								
STAL					AML	AML			
	comp=N,110µm,0.6s								
LUSI	**Trento, Gardas**	**1.40**	**194**	P			**Pn**	**17 22 11.5**	**+0.3**
LUSI				S			**Sn**	**17 22 30.8**	**+0.8**
LUSI					AML	AML			
	comp=E,93µm,1.5s								
LUSI					AML	AML			
	comp=N,148µm,1.0s								
LUSI					AML	AML			
	comp=E,93µm,0.5s								
LUSI					AML	AML			
	comp=N,148µm,1.0s								
PLONS	**Plons/SG**	**1.41**	**260**	*e*Pn			**Pg**	**17 22 12.9**	**+0.6**
	SNR=1.6								
PLONS				*e*Sg			**Sn**	**17 22 33.3**	**+2.9**
	SNR=13								
PLONS	**Plons/SG**	**1.41**	**260**	P			**Pg**	**17 22 12.8**	**+0.6**
PLONS					AML	AML			
	comp=E,137µm,0.5s								
PLONS					AML	AML			
	comp=E,137µm,0.5s								
PLONS					AML	AML			
	comp=E,137µm,1.5s								
PLONS					AML	AML			
	comp=N,222µm,0.3s								
DOSS	**Dosso del Somm**	**1.45**	**186**	P			**Pn**	**17 22 12.4**	**+0.4**
DOSS				S			**Sn**	**17 22 32.2**	**+0.9**
DOSS					AML	AML			
	comp=N,292µm,0.3s								
DOSS					AML	AML			
	comp=N,216µm,0.3s								
DOSS					AML	AML			
	comp=E,304µm,0.4s								
DOSS					AML	AML			
	comp=E,202µm,0.3s								
NORI	**Noerdlinger Ri**	**1.50**	**340**	*e*Pn			**Pn**	**17 22 12.0**	**-0.6**
	SNR=2.2								
NORI				*e*Pg			**Pb**	**17 22 13.6**	**+0.3**
	SNR=18								
NORI				*e*Sg			**Sg**	**17 22 35.0**	**+1.7**
	SNR=4.7								
BIOA	**Bad Ischl, Aus**	**1.55**	**75**	*e*Pg			**Pg**	**17 22 14.7**	**-0.1**
	comp=E,0.9nm,0.1s,SNR=15								
BIOA				*i* Sg			**Sg**	**17 22 38.0**	**+3.1**
	comp=E,32nm,0.3s								
PTCC	**Patocco-Chiusa**	**1.61**	**124**	P			**Pb**	**17 22 15.0**	**-0.3**
PTCC					AML	AML			
	comp=E,64µm,0.8s								
PTCC					AML	AML			
	comp=N,50µm,0.4s								
PTCC					AML	AML			
	comp=N,50µm,1.6s								
PTCC					AML	AML			
	comp=E,64µm,1.2s								
ACOM	**Acomizza, Ital**	**1.63**	**117**	P			**Pn**	**17 22 14.8**	**+0.3**
ACOM					AML	AML			
	comp=E,100µm,0.4s								
ACOM					AML	AML			
	comp=N,122µm,1.1s								
ACOM					AML	AML			
	comp=N,122µm,0.9s								
MYKA	**Terra Mystica**	**1.67**	**113**	*e*Pg			**Pg**	**17 22 17.7**	**+0.6**
	comp=N,7.7nm,0.3s,SNR=8.2								
MYKA				*i* Sg			**Sg**	**17 22 39.0**	**+0.3**
	comp=N,7.1nm,0.3s								
ROVR	**Rover Verones**	**1.69**	**188**	P			**Pb**	**17 22 16.6**	**0.0**
ROVR				S			**Sg**	**17 22 40.3**	**+1.0**
ROVR					AML	AML			
	comp=E,27µm,0.9s								
ROVR					AML	AML			
	comp=N,88µm,1.2s								
WILA	**Wila**	**1.71**	**274**	*e*Pn			**Pb**	**17 22 17.8**	**+0.9**
	SNR=2.9								
WILA				*e*Sg			**Sg**	**17 22 41.8**	**+1.9**
	SNR=6.5								
TEOL	**Teolo**	**1.97**	**175**	P			**Pb**	**17 22 21.1**	**-0.2**
TEOL					AML	AML			
	comp=N,408µm,0.6s								
TEOL					AML	AML			
	comp=E,616µm,0.5s								
MOA	**Molln**	**2.00**	**74**	*e*Pg			**Pb**	**17 22 21.2**	**-0.7**
	comp=E,2.5nm,0.2s,SNR=13								
MOA				*i* Sn			**Sb**	**17 22 46.5**	**-0.6**
	comp=E,17nm,0.3s								
MOA	**Molln**	**2.00**	**74**	*e*Pn			**Pb**	**17 22 21.6**	**-0.3**
	SNR=3.8								
MOA				*e*Sn			**Sb**	**17 22 46.5**	**-0.6**
	SNR=1.5								
SLE	**Schleitheim**	**2.03**	**284**	*e*Sg			**Sg**	**17 22 50.6**	**+0.3**
	SNR=5.9								
FUSIO	**Fusio**	**2.08**	**246**	P			**Pb**	**17 22 23.5**	**+0.3**
SULZ	**Cheisacher**	**2.25**	**277**	*e*Sg			**Sg**	**17 22 58.8**	**+1.4**
	SNR=4.3								
OBKA	**Obir**	**2.29**	**109**	*e*Pg			**Pb**	**17 22 27.4**	**+0.5**
	comp=E,4.0nm,0.3s								
OBKA				*e*Sg			**Sg**	**17 23 00.4**	**+1.7**
	comp=E,8.9nm,0.4s								
BFO	**Black Forest**	**2.31**	**297**	*e*Sn			**Sn**	**17 22 51.2**	**-1.4**
	SNR=1.5								
BFO				*e*Sg			**Sg**	**17 22 59.5**	**+0.1**
	SNR=1.4								
KHC	**Kasperske Hory**	**2.32**	**38**	*e*PN			**Pb**	**17 22 27.4**	**+0.1**
KHC				*e*SN			**Sn**	**17 22 53.0**	**+0.2**
CKRC	**Cesky Krumlov**	**2.45**	**51**	*e*PN			**Pb**	**17 22 29.3**	**-0.3**
BALST	**Balsthal**	**2.53**	**272**	*e*Pn			**Pn**	**17 22 28.9**	**+2.1**
	SNR=1.3								
ARSA	**Arzberg**	**2.80**	**90**	Sg			**Sg**	**17 23 15.6**	**+0.8**
	comp=E,2.5nm,0.6s								
NKC	**Novy Kostel**	**3.00**	**13**	*e*PN			**Pn**	**17 22 35.2**	**+2.0**
NKC				*e*SG			**Sg**	**17 23 19.5**	**-1.8**
	comp=E,8.5nm,0.4s								
HINF	**Hinteralfeld**	**3.13**	**281**	*e*Pn			**Pn**	**17 22 35.9**	**+0.9**
HINF				*e*Sn			**Sn**	**17 23 09.1**	**-3.6**
	comp=E,4.7nm,0.2s								
HINF				*e*Sg			**Sb**	**17 23 22.7**	**+3.1**
	comp=E,4.9nm,0.3s								
TANN	**Tannenbergstha**	**3.18**	**12**	*e*Pn			**Pn**	**17 22 35.8**	**+0.1**
	SNR=2.0								
WERD	**Werda**	**3.19**	**10**	*e*Pn			**Pn**	**17 22 35.5**	**-0.3**
	SNR=1.8								
RONA	**Rosalia, Austr**	**3.33**	**82**	*i* Sg			**Sg**	**17 23 33.7**	**+1.7**
	comp=E,2.5nm,0.4s								
MOX	**Moxa**	**3.33**	**2**	*e*Pn			**Pn**	**17 22 36.5**	**-1.3**
	SNR=1.5								
MOX				*e*Sn			**Sn**	**17 23 16.3**	**-1.4**
	SNR=2.3								
MOX				*e*Sg			**Sg**	**17 23 32.0**	**0.0**
	SNR=0.9								
PRU	**Pruhonice**	**3.38**	**37**	*e*SG			**Sg**	**17 23 31.3**	**-2.3**
	comp=E,3.4nm,0.3s								
GOPC	**GO Pecny, Ondr**	**3.43**	**39**	*e*SG			**Sg**	**17 23 32.4**	**-2.7**
	comp=E,9.2nm,0.4s								
HAU	**Haudompre**	**3.49**	**283**	*e*P			**Pn**	**17 22 41.1**	**+1.1**
HAU				*e*Sg			**Sb**	**17 23 34.0**	**+4.0**
	comp=E,11nm,0.4s								
TNS	**Taunus Mts**	**3.51**	**327**	*e*Pn			**Pn**	**17 22 40.8**	**+0.6**
	SNR=4.1								
LPL	**La Plagne**	**3.71**	**243**	*e*P			**Pn**	**17 22 45.6**	**+2.5**
LPL				*e*Sn			**Sn**	**17 23 23.8**	**-3.4**
	comp=E,6.7nm,0.7s								
CABF	**La Chapelle**	**3.72**	**261**	*e*P			**Pn**	**17 22 44.9**	**+1.8**
CABF				*e*Sn			**Sn**	**17 23 23.2**	**-4.1**
CABF				*e*Sg			**Sg**	**17 23 42.3**	**-2.1**
	comp=E,8.0nm,0.5s								
KRUC	**Moravsky**	**3.76**	**61**	*e*SG			**Sg**	**17 23 42.5**	**-3.3**
VRAC	**Vranov**	**3.99**	**58**	*e*SG			**Sg**	**17 23 50.0**	**-3.1**
PAGF	**Fort de Pagny**	**4.02**	**290**	*e*P			**Pn**	**17 22 47.8**	**+0.6**
PAGF				*e*Sg			**Sb**	**17 23 50.1**	**+4.9**
	comp=E,2.5nm,0.2s								
CLL	**Collm**	**4.13**	**14**	*e*(Pn)			**Pn**	**17 22 47.0**	**-1.6**
CLL				*e*Sg			**Sb**	**17 23 53.0**	**+4.8**
	comp=Z,10.0nm,0.9s								
MBDF	**Montbardon**	**4.14**	**233**	*e*P			**Pn**	**17 22 51.6**	**+2.5**
MBDF				*e*Sn			**Sn**	**17 23 34.5**	**-3.4**
	comp=Z,4.5nm,0.7s								
T1220	**Camerino, Fraz**	**4.37**	**164**	AML	AML				
	comp=N,204µm,0.6s								
T1220				AML	AML				
	comp=E,214µm,0.3s								
SFTF	**Sexfontaines**	**4.39**	**284**	*e*Pn			**Pn**	**17 22 50.2**	**-2.1**
	baz=106								
UPC	**Upice**	**4.40**	**42**	*e*SG			**Sg**	**17 24 03.2**	**-3.1**
	comp=E,16nm,1.2s								
SAVF	**Savonnieres en**	**4.42**	**289**	*e*Pn			**Pn**	**17 22 50.5**	**-2.2**
	baz=105								
CESI	**CESI - Serrava**	**4.44**	**166**	AML	AML				
	comp=E,52µm,0.9s								
CESI					AML	AML			
	comp=N,43µm,0.3s								
CESI					AML	AML			
	comp=N,43µm,1.7s								
DPC	**Dobruska-Polom**	**4.44**	**45**	*e*SG			**Sg**	**17 24 05.3**	**-2.2**
SBF	**Sospel**	**4.44**	**220**	*e*Pn			**Pn**	**17 22 51.6**	**-1.5**
SBF	**Sospel**	**4.44**	**220**	*e*P			**Pn**	**17 22 55.6**	**+2.5**
SBF				*e*Sn			**Sn**	**17 23 41.6**	**-3.5**
SBF				*e*Sg			**Sb**	**17 24 02.8**	**+5.4**
	comp=N,3.2nm,0.2s								
ARCI	**Arcidosso**	**4.47**	**179**	AML	AML				
	comp=N,114µm,1.6s								
ARCI				AML	AML				
	comp=E,80µm,1.6s								
KRLC	**Kraliky**	**4.50**	**50**	*e*SG			**Sg**	**17 24 07.3**	**-2.2**
OSTC	**Ostas**	**4.53**	**43**	*e*SG			**Sg**	**17 24 07.3**	**-3.1**
ORIF	**Oris-en-Rattie**	**4.54**	**240**	*e*P			**Pn**	**17 22 56.4**	**+2.0**
ORIF				*e*Sn			**Sn**	**17 23 43.9**	**-3.6**
	comp=E,2.5nm,0.3s								
PGF	**Pioggiola**	**5.07**	**201**	*e*P			**Pn**	**17 23 04.5**	**+2.8**
LOR	**Lormes**	**5.14**	**272**	*e*P			**Pn**	**17 23 04.4**	**+1.8**
	baz=93								
LOR				*e*Sg			**Sg**	**17 24 26.9**	**-3.2**
	comp=E,2.1nm,0.3s								
SMF	**Signal de Mont**	**5.23**	**265**	*e*P			**Pn**	**17 23 04.7**	**+0.9**
SMF				*e*Sn			**Sn**	**17 23 58.5**	**-5.9**
SMF				*e*Sg			**Sg**	**17 24 28.6**	**-4.3**
	comp=E,2.2nm,0.3s								
LMR	**La Mourre**	**5.28**	**223**	*e*P			**Pn**	**17 23 06.9**	**+2.5**
LMR				*e*Sn			**Sn**	**17 24 01.0**	**-4.5**
	comp=E,0.5nm,0.3s								
SMRF	**Simiane la Rot**	**5.29**	**233**	*e*P			**Pn**	**17 23 07.2**	**+2.6**
SMRF				*e*Sn			**Sn**	**17 24 01.9**	**-4.0**
VIVF	**Saint-Julien-l**	**5.30**	**245**	*e*P			**Pn**	**17 23 06.2**	**+1.4**
VIVF				*e*Sn			**Sn**	**17 24 02.1**	**-4.1**
	comp=E,1.8nm,0.2s								
SSF	**Saint Saulge**	**5.40**	**270**	*e*P			**Pn**	**17 23 07.9**	**+1.8**
BAIF	**Baives**	**5.51**	**303**	*e*P			**Pn**	**17 23 09.0**	**+1.4**
AVF	**Avril sur Loir**	**5.54**	**267**	*e*P			**Pn**	**17 23 09.4**	**+1.4**
AVF				*e*Sg			**Sg**	**17 24 38.4**	**-4.4**
	comp=E,0.2nm,0.2s								
BGF	**Bois d'Agland**	**5.92**	**266**	*e*P			**Pn**	**17 23 14.8**	**+1.5**
HYF	**Humbligny**	**5.97**	**273**	*e*P			**Pn**	**17 23 16.1**	**+2.1**
LASF	**Ste Croix**	**6.21**	**241**	*e*P			**Pn**	**17 23 19.2**	**+1.9**
LASF				*e*Sn			**Sn**	**17 24 23.9**	**-4.6**
	comp=E,1.6nm,0.2s								
LASF				*e*Sg			**Sg**	**17 25 00.5**	**-3.8**
TCF	**Toulx Ste Croi**	**6.40**	**264**	*e*P			**Pn**	**17 23 21.4**	**+1.4**
CAF	**Calviac**	**6.92**	**253**	*e*P			**Pn**	**17 23 28.1**	**+1.0**
CAF				*e*Sn			**Sn**	**17 24 40.5**	**-5.7**
	comp=E,0.8nm,0.3s								
MTLF	**Montolieu**	**7.60**	**242**	*e*Pn			**Pn**	**17 23 33.5**	**-2.9**
MFF	**Saint Martin d**	**7.95**	**269**	*e*Pn			**Pn**	**17 23 37.9**	**-3.2**

*IDC **12** 17:22:11.7±1.4, 10°44N×94°08E, h23km±5km, mb3.7/6, mbtmp3.8/6, Error ellipse: s-maj=67.9km s-min=21.2km az=53.0*
ISC 12 17:22:12.9±1.4, 10°5N±0°3×94°1E±0°4, h35km, n6, σ1s41/10, mb3.9/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**41.98**	**345**	P			**P**	**17 30 01.3**	**+0.8**
	0.3nm,0.7s,baz=165,slow=7.5,SNR=5.2								
KURBB					pP		**pP**	**17 30 08.4**	**-1.5**
	0.5nm,0.6s,baz=164,slow=7.2,SNR=6.0								
	0.3nm,0.7s								
GEYT	**Alibeck**	**42.22**	**316**	P			**P**	**17 30 04.0**	**+1.3**
	2.0nm,0.5s,baz=153,slow=6.1,SNR=4.4								
GEYT					pP		**pP**	**17 30 11.2**	**-1.0**
	2.5nm,0.4s,baz=120,slow=8.8,SNR=4.7								
	2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**43.94**	**352**	P			**P**	**17 30 17.6**	**+1.3**
	1.0nm,0.5s,baz=180,slow=9.3,SNR=6.0								
ZALV					pP		**pP**	**17 30 24.9**	**-0.7**
	1.8nm,0.5s,baz=183,slow=8.7,SNR=7.6								
	1.0nm,0.5s								
WRA	**Warramunga Arr**	**49.88**	**127**	P			**P**	**17 31 03.8**	**+0.6**
	0.4nm,0.5s,baz=305,slow=8.4,SNR=2.4								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**51.69**	**132**	P			**P**	**17 31 16.5**	**-0.4**
	0.6nm,0.7s,baz=320,slow=8.5,SNR=5.9								
	0.6nm,0.7s								
ARCES	**ARCESS Array B**	**72.77**	**340**	P			**P**	**17 33 37.6**	**+0.2**
	2.6nm,0.9s,baz=90,slow=3.6,SNR=4.2								
ARCES					pP		**pP**	**17 33 44.9**	**-2.3**
	1.6nm,0.8s,baz=92,slow=3.6,SNR=1.2								
	2.6nm,0.9s								

*GUC **12** 17:34:03.0±0.8, 32°75S×69°41W, h164km±6km, ML3.9*
*IDC **12** 17:34:04.6±5.0, 32°92S×69°09W, h150km±49km, mb3.8/1, mbtmp3.9/2, Error ellipse: s-maj=58.8km s-min=41.0km az=32.0*
**ISC 12 17:34:03.3±1.0, 32°73S±0°05×69°16W±0°09,

MT09	**Talagante**	**1.85**	**235**	*eP*	**Pn**	**17 34 35.9**	**-0.4**
MT09				*i* S	**Sn**	**17 35 01.4**	**-0.2**
MT09				IAML		17 35 04.1	
	comp=N,2μm,0.5s						
MT01	**Popeta**	**2.08**	**237**	*eP*	**Pn**	**17 34 38.0**	**-0.8**
MT01				*i* S	**Sn**	**17 35 05.0**	**-1.3**
MT01				IAML		17 35 07.6	
	comp=N,881nm,0.2s						
VA01	**Torpederas**	**2.11**	**261**	*eP*	**Pn**	**17 34 38.5**	**-0.7**
VA01				*i* S	**Sn**	**17 35 05.3**	**-1.5**
CO02	**Combarbal**	**2.18**	**314**	*eP*	**Pn**	**17 34 40.4**	**+0.2**
CO02				*i* S	**Sn**	**17 35 08.9**	**+0.3**
CO03	**El Pedregal**	**2.29**	**325**	*eP*	**Pn**	**17 34 42.3**	**+0.7**
CO03				*i* S	**Sn**	**17 35 11.7**	**+0.8**
BO01	**Tunca**	**2.31**	**224**	*eP*	**Pn**	**17 34 40.7**	**-0.9**
BO01				*i* S	**Sn**	**17 35 10.5**	**-0.6**
BO02	**Sierra Bellavi**	**2.46**	**213**	*eP*	**Pn**	**17 34 43.7**	**+0.1**
BO02				*i* S	**Sn**	**17 35 15.5**	**+0.9**
GO04	**Tololo Observa**	**2.91**	**331**	*eP*	**Pn**	**17 34 49.3**	**-0.1**
PLCA	**Paso Flores**	**8.06**	**188**	P	**Pn**	**17 35 56.6**	**-0.9**
	comp=N,1.3nm,0.4s,baz=351,slow=15,SNR=11						
H03N1	**Juan Fernandez**	**8.21**	**262**	P	**Pn**	**17 36 01.0**	**+1.7**
H03N1				T	T	17 43 13.1	
	baz=82,slow=73,SNR=28						
H03N3	**Juan Fernandez**	**8.22**	**262**	P	**Pn**	**17 36 01.1**	**+1.7**
H03N3				T	T	17 43 14.1	
	baz=82,slow=73,SNR=25						
H03N2	**Juan Fernandez**	**8.23**	**262**	P	**Pn**	**17 36 01.2**	**+1.8**
H03N2				T	T	17 43 09.8	
	baz=82,slow=73,SNR=27						
H03S1	**Juan Fernandez**	**8.23**	**260**	T	T	17 42 32.4	
	baz=95,slow=75,SNR=3.7						
H03S3	**Juan Fernandez**	**8.24**	**260**	T	T	17 42 37.2	
	baz=85,slow=75,SNR=4.2						
TORD	**Torodi Ar. Bea**	**81.51**	**69**	P	**P**	**17 46 05.4**	**+0.2**
	comp=N,1.4nm,0.6s,baz=256,slow=1.7,SNR=5.4						
TORD				pP	**pP**	**17 46 39.8**	**-1.1**
	comp=N,0.5nm,0.7s,baz=261,slow=5.1,SNR=2.5						
	comp=N,1.4nm,0.6s						
WRA	**Warramunga Arr**	**123.01**	**207**	PKP	**PKPdf**	**17 52 42.9**	**-0.5**
	comp=N,0.3nm,0.8s,baz=154,slow=1.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**151.86**	**33**	PKPbc	**PKiKP**	**17 53 41.5**	**+0.5**
	comp=N,2.0nm,0.4s,baz=326,slow=2.5,SNR=12						

JMA ***12*** *17:46:40.5±0.4,23°N±1°×12°1E±°, h0km,MV3.7/9,*
TAIWAN REGION
ASIES ***12*** *17:46:42.3,23.11N×120.69E,h13km,MW3.5*
TAP ***12*** *17:46:42.0,23.11N×120.67E,h8km,ML3.9,C*
ISC 12 17:46:42.8±0.8,23.12N±0.01×120.68E±0.01,h10km±4km, n135,σ1§11/227,46C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.10**	**61**	⇑*iP*		**Pg**		**17 46 45.2**	**-0.2**
	baz=60								
STYH				S		**Sg**		**17 46 47.3**	**0.0**
	baz=60								
SGST	**Jiashian**	**0.10**	**246**	⇑*iP*		**Pg**		**17 46 43.7**	**-1.8**
	baz=246								
SGST				*i* S		**Sg**		**17 46 45.5**	**-1.8**
	baz=246								
SLGT	**Liugui**	**0.13**	**195**	⇑*iP*		**Pg**		**17 46 46.0**	**0.0**
	baz=189								
SLGT				S		**Sg**		**17 46 48.4**	**+0.3**
	baz=189								
WTP	**Ta-pu**	**0.14**	**333**	⇑*iP*		**Pg**		**17 46 45.8**	**-0.2**
	baz=340								
WTP				S		**Sg**		**17 46 48.6**	**+0.3**
	baz=340								
CHN1	**Nanshi**	**0.15**	**293**	⇓*iP*		**Pg**		**17 46 46.1**	**-0.2**
	baz=299								
CHN1				*eS*		**Sg**		**17 46 49.2**	**+0.5**
	baz=299								
TPUB	**Ta-pu**	**0.18**	**344**	P		**Pg**		**17 46 46.8**	**0.0**
TPUB	**Ta-pu**	**0.18**	**344**	⇑*iP*		**Pg**		**17 46 46.8**	**0.0**
	baz=349								
TPUB				*eS*		**Sg**		**17 46 50.7**	**+1.2**
	baz=349								
TWK	**Hsinying**	**0.23**	**309**	⇓*iP*		**Pg**		**17 46 47.7**	**+0.1**
	baz=314								
TWK				*eS*		**Sg**		**17 46 52.3**	**+1.5**
	baz=314								
CHN4	**Tsaushan**	**0.24**	**340**	⇑*iP*		**Pb**		**17 46 48.1**	**-1.3**
	baz=350								
CHN4				*eS*		**Sb**		**17 46 53.4**	**+2.2**
	baz=350								
SCST	**Cishan**	**0.29**	**216**	⇑*iP*		**Pb**		**17 46 48.9**	**-1.3**
	baz=205								
CHN3	**Shinhua**	**0.30**	**261**	⇑*iP*		**Pb**		**17 46 50.0**	**-0.3**
	baz=262								
CHN3				*eS*		**Sb**		**17 46 56.3**	**+1.1**
	baz=262								
ELDTW	**Lidau**	**0.31**	**78**	⇑*iP*		**Pg**		**17 46 49.3**	**+0.1**
	baz=78								
ELDTW				*eS*		**Sb**		**17 46 54.2**	**-1.7**
	baz=78								
WCKO	**Fanlu**	**0.32**	**347**	⇑*iP*		**Pb**		**17 46 49.7**	**-1.0**
	baz=351								
WCKO				*eS*		**Sb**		**17 46 56.3**	**+0.3**
	baz=351								
SHHT	**Tainan City**	**0.33**	**252**	⇑*iP*		**Pb**		**17 46 50.7**	**0.0**
	baz=252								
SSHA	**Shanhua**	**0.36**	**272**	⇓*iP*		**Pb**		**17 46 51.5**	**+0.1**
	baz=284								
SSHA				*eS*		**Sb**		**17 46 59.1**	**+2.0**
	baz=284								
TWM1	**Shoushan**	**0.38**	**219**	⇑*iP*		**Pb**		**17 46 51.4**	**-0.4**
	baz=208								
ALS	**Alishan**	**0.40**	**16**	⇑P		**Pg**		**17 46 51.0**	**+0.1**
	baz=21								
ALS				*eS*		**Sg**		**17 46 56.6**	**+0.4**
	baz=21								
TSMG	**Majia**	**0.42**	**185**	⇑*iP*		**Pg**		**17 46 50.6**	**-0.5**
	baz=175								
TSMG				S		**Sg**		**17 46 56.1**	**-0.5**
	baz=175								
TAI1	**Yung-k'ang**	**0.43**	**259**	⇓P		**Pn**		**17 46 53.2**	**-1.8**
	baz=274								
TAI1				*eS*		**Sb**		**17 47 01.8**	**+2.9**
	baz=274								
SGLT	**Jiouru**	**0.43**	**204**	⇑*eP*		**Pb**		**17 46 52.6**	**0.0**
	baz=191								
SGLT				*eS*		**Sb**		**17 47 03.2**	**+4.0**
	baz=191								
ICHU	**Yijhu**	**0.44**	**303**	*eP*		**Pb**		**17 46 52.5**	**-0.2**
	baz=304								
ICHU				*eS*		**Sb**		**17 47 00.8**	**+1.5**
	baz=304								
CHY	**Chiayi**	**0.44**	**327**	⇓*iP*		**Pb**		**17 46 52.3**	**-0.5**
	baz=331								
CHY				*eS*		**Sb**		**17 47 00.5**	**+1.1**
	baz=331								
CHN2	**Minshiung**	**0.45**	**335**	⇓P		**Pb**		**17 46 52.5**	**-0.4**
	baz=338								
CHN2				*eS*		**Sb**		**17 47 00.4**	**+0.8**
	baz=338								
SCLT	**Jiali**	**0.45**	**277**	⇓*eP*		**Pb**		**17 46 52.6**	**-0.3**
	baz=292								
SCLT				*i* S		**Sb**		**17 47 02.5**	**+2.8**
	baz=292								
LONT	**Longtian**	**0.47**	**118**	⇓*iP*		**Pb**		**17 46 52.1**	**-1.0**
	baz=116								
LONT				S		**Sb**		**17 46 59.5**	**-0.6**
	baz=116								
TWG	**Pinlang**	**0.47**	**130**	⇓*iP*		**Pb**		**17 46 52.2**	**-1.0**
	baz=128								
TWG				*eS*		**Sb**		**17 46 60.0**	**-0.2**
	baz=128								
CHN5	**Tsauling**	**0.47**	**359**	⇑*eP*		**Pb**		**17 46 52.4**	**-0.9**
	baz=4.0								
CHN5				S		**Sb**		**17 47 01.0**	**+0.6**
	baz=4.0								
TWGBT	**Beinan**	**0.48**	**130**	P		**Pb**		**17 46 52.2**	**-1.1**
TWGBT	**Beinan**	**0.48**	**130**	⇓P		**Pb**		**17 46 52.2**	**-1.1**
	baz=128								
TWGBT				*eS*		**Sb**		**17 46 59.7**	**-0.7**
	baz=128								
EHD	**Haiduan**	**0.48**	**87**	⇑*iP*		**Pb**		**17 46 52.3**	**-1.2**
	baz=84								
EHD				*eS*		**Sb**		**17 46 59.2**	**-1.4**
	baz=84								
CHN8	**Yiju**	**0.49**	**297**	⇑*eP*		**Pb**		**17 46 53.0**	**-0.6**
	baz=299								
CHN8				*eS*		**Sb**		**17 47 02.8**	**+2.1**
	baz=299								
MASBT	**Mashibuluo**	**0.51**	**185**	⇑*eP*		**Pb**		**17 46 52.3**	**-1.6**
	baz=176								
TSCK	**Chigu Township**	**0.55**	**273**	⇓*eP*		**Pb**		**17 46 54.1**	**-0.5**
	baz=288								
FULB	**Fuli**	**0.57**	**82**	⇑P		**Pb**		**17 46 54.5**	**-0.4**
	baz=83								
FULB				*eS*		**Sb**		**17 47 04.0**	**+1.0**
	baz=83								
WSL	**Shuilin Townsh**	**0.58**	**314**	⇑*eP*		**Pb**		**17 46 54.8**	**-0.2**
	baz=315								
WDLH	**Douliu**	**0.58**	**347**	*eP*		**Pb**		**17 46 55.1**	**0.0**
	baz=349								
WDLH				*eS*		**Sn**		**17 47 05.1**	**-1.6**
	baz=349								
ECL	**Taimali**	**0.58**	**154**	⇓P		**Pg**		**17 46 53.6**	**-0.5**
	baz=152								
ECL				*eS*		**Sb**		**17 47 02.5**	**-0.9**
	baz=152								
WHYT	**Xinyi Township**	**0.59**	**15**	⇑*eP*		**Pb**		**17 46 54.4**	**-1.0**
	baz=26								
WHYT				*eS*		**Sb**		**17 47 04.6**	**+0.8**
	baz=26								
EDH	**Donghe**	**0.59**	**105**	⇓P		**Pb**		**17 46 54.8**	**-0.5**
	baz=109								
EDH				*eS*		**Sb**		**17 47 04.0**	**+0.3**
	baz=109								
WTK	**Tuku**	**0.62**	**334**	*eP*		**Pb**		**17 46 55.6**	**-0.2**
	baz=337								
WTK				*eS*		**Sn**		**17 47 06.1**	**-1.7**
	baz=337								
YULB	**Yu-li**	**0.62**	**65**	P		**Pg**		**17 46 54.7**	**-0.3**
YULB	**Yu-li**	**0.62**	**65**	⇑P		**Pg**		**17 46 54.7**	**-0.3**
	baz=66								
EYUL	**Yuli**	**0.63**	**69**	⇑P		**Pg**		**17 46 54.9**	**-0.1**
	baz=70								
CHKT	**Chengkung**	**0.63**	**92**	⇓P		**Pb**		**17 46 56.0**	**+0.1**
	baz=92								
CHKT				*eS*		**Sn**		**17 47 06.3**	**-1.6**
	baz=92								
KAU	**Kaohsiung**	**0.65**	**212**	*eP*		**Pn**		**17 46 57.6**	**-0.5**
	baz=225								
WSF	**Szhu**	**0.66**	**321**	⇑P		**Pb**		**17 46 56.2**	**-0.3**
	baz=323								
WSF				*eS*		**Sb**		**17 47 06.9**	**+1.1**
	baz=323								
WJS	**Zhushan**	**0.70**	**3**	⇑P		**Pb**		**17 46 56.9**	**-0.2**
	baz=7.0								
WJS				*eS*		**Sb**		**17 47 07.8**	**+1.0**
	baz=7.0								
EHY	**Hungye**	**0.70**	**57**	*eP*		**Pg**		**17 46 56.2**	**-0.2**
	baz=68								
EHY				*eS*		**Sb**		**17 47 06.0**	**-0.9**
	baz=68								
SSLB	**Suanglung**	**0.71**	**21**	P		**Pg**		**17 46 56.1**	**-0.5**
SSLB	**Suanglung**	**0.71**	**21**	⇑P		**Pg**		**17 46 56.0**	**-0.5**
	baz=30								
SSLB				*eS*		**Sb**		**17 47 07.1**	**0.0**
	baz=30								
SCZT	**Fangliau**	**0.75**	**184**	⇑P		**Pb**		**17 46 56.8**	**-1.2**
	baz=173								
WNT	**Mingjian**	**0.75**	**0**	⇑P		**Pb**		**17 46 57.9**	**-0.1**
	baz=5.0								
WNT				*eS*		**Sn**		**17 47 09.6**	**-1.3**
	baz=5.0								
EAST	**Anshuo**	**0.75**	**168**	⇓P		**Pb**		**17 46 57.0**	**-1.1**
	baz=166								
EAST				*eS*		**Sb**		**17 47 08.5**	**+0.1**
	baz=166								
VWDT	**VWDT**	**0.76**	**34**	⇑P		**Pg**		**17 46 57.2**	**-0.2**
	baz=45								
HGSD	**Ruisui**	**0.77**	**62**	⇑P		**Pb**		**17 46 58.1**	**-0.3**
	baz=69								
HGSD				*eS*		**Sn**		**17 47 11.1**	**-0.4**
	baz=69								
SMLT	**Sun Moon Lake**	**0.78**	**15**	⇑P		**Pb**		**17 46 58.2**	**-0.5**
	baz=26								
SMLT				*eS*		**Sn**		**17 47 10.8**	**-1.1**
	baz=26								
TAW	**Tawu**	**0.79**	**165**	*eP*		**Pb**		**17 46 57.5**	**-1.2**
	baz=169								
TYC	**Yuchr**	**0.79**	**12**	⇑P		**Pb**		**17 46 58.5**	**-0.2**
	baz=16								
TYC				*eS*		**Sn**		**17 47 11.2**	**-0.8**
	baz=16								
TAWH	**Dawu Township**	**0.80**	**166**	⇓*eP*		**Pb**		**17 46 57.8**	**-1.1**
	baz=170								
WRL	**Guolierlin Hig**	**0.82**	**340**	*eP*		**Pb**		**17 46 59.0**	**-0.3**
	baz=329								
WRL				*eS*		**Sn**		**17 47 11.6**	**-1.1**
	baz=329								
WTCT	**Ta-ch'eng**	**0.82**	**333**	*eS*		**Sb**		**17 47 11.2**	**+0.8**
	baz=336								
LDUT	**Ludao**	**0.85**	**122**	⇓*eP*		**Pb**		**17 46 59.0**	**-0.8**
	baz=120								
LDUT				S		**Sn**		**17 47 13.2**	**-0.3**
	baz=120								
EGFH	**Guangfu**	**0.87**	**51**	⇑*eP*		**Pg**		**17 46 59.2**	**-0.4**
	baz=61								
SLIU	**Shizi**	**0.91**	**173**	⇓*eP*		**Pb**		**17 46 59.6**	**-1.1**
	baz=171								
SLIU				*eS*		**Sn**		**17 47 15.2**	**+0.4**
	baz=171								
OWD	**Renai**	**0.94**	**29**	⇑*eP*		**Pg**		**17 47 00.2**	**-0.8**
	baz=40								
OWD				*eS*		**Sn**		**17 47 15.3**	**-0.6**
	baz=40								
WDGT	**Dungji**	**0.95**	**278**	⇑*eP*		**Pb**		**17 47 00.4**	**-1.0**
	baz=278								
WDGT				*eS*		**Sn**		**17 47 14.3**	**-1.5**
	baz=278								
WUSB	**Renai**	**0.95**	**25**	⇑*eP*		**Pg**		**17 47 00.5**	**-0.8**
	baz=36								
WUSB				*eS*		**Sn**		**17 47 15.1**	**-1.0**
	baz=36								
WCS	**Beigang Elemen**	**0.95**	**13**	⇑*eP*		**Pb**		**17 47 01.1**	**-0.3**
	baz=17								
WCS				*eS*		**Sn**		**17 47 15.0**	**-1.0**
	baz=17								
WCHH	**Zhanghua**	**0.96**	**353**	*eP*		**Pb**		**17 47 01.1**	**-0.4**
	baz=357								
WCHH				*eS*		**Sn**		**17 47 15.4**	**-0.7**
	baz=357								
ESL	**Shilin**	**0.97**	**45**	*eP*		**Pg**		**17 47 01.1**	**-0.4**
	baz=49								
ESL				*eS*		**Sn**		**17 47 16.3**	**-0.1**
	baz=49								
TCU	**Taichung**	**1.02**	**360**	*eP*		**Pn**		**17 47 02.5**	**-0.7**
	baz=4.0								
TCU				*eS*		**Sn**		**17 47 17.7**	**+0.2**
	baz=4.0								
CHGB	**Renai**	**1.03**	**26**	⇑P		**Pg**		**17 47 02.1**	**-0.7**
	baz=37								
CHGB				*eS*		**Sn**		**17 47 18.4**	**+0.1**
	baz=37								
PHUB	**P'eng-hu**	**1.09**	**291**	*eP*		**Pg**		**17 47 02.3**	**-1.5**
	baz=291								
PHUB				*eS*		**Sn**		**17 47 18.5**	**-0.8**
	baz=291								
SMST	**Manzhou Townsh**	**1.11**	**173**	*eP*		**Pn**		**17 47 03.6**	**-0.8**
	baz=170								
SMST				*eS*		**Sn**		**17 47 21.4**	**+1.7**
	baz=170								
HEN	**Hengchun**	**1.11**	**177**	*eP*		**Pn**		**17 47 05.3**	**+0.8**
	baz=167								
HEN				*eS*		**Sn**		**17 47 23.6**	**+3.7**
	baz=167								
PNG	**Penghu**	**1.13**	**293**	*eP*		**Pg**		**17 47 03.2**	**-1.3**
	baz=293								
PNG				*eS*		**Sb**		**17 47 18.7**	**-0.5**
	baz=293								
WHF	**Hehuan Shan**	**1.15**	**28**	⇑*eP*		**Pg**		**17 47 04.1**	**-0.9**
	baz=21								
WHF				*eS*		**Sn**		**17 47 22.3**	**+0.9**
	baz=21								
WHP	**Taichung City**	**1.17**	**12**	*eP*		**Pn**		**17 47 05.4**	**0.0**
	baz=27								
WHP				*eS*		**Sn**		**17 47 23.1**	**+1.6**
	baz=27								
TWK1	**Hengchun**	**1.18**	**174**	*eP*		**Pn**		**17 47 06.0**	**+0.6**
	baz=165								
TWK1				*eS*		**Sn**		**17 47 23.4**	**+1.9**
	baz=165								
TWKBT	**Hengchun**	**1.18**	**174**	*eP*		**Pn**		**17 47 05.2**	**-0.3**
	baz=165								
TWKBT				S		**Sn**		**17 47 23.7**	**+2.0**
	baz=165								
HWA	**Hwalien**	**1.20**	**45**	⇑*eP*		**Pg**		**17 47 06.2**	**+0.3**
	baz=49								
HWA				*eS*		**Sn**		**17 47 25.8**	**+3.8**
	baz=49								
TDCB	**Techi**	**1.21**	**21**	*eP*		**Pb**		**17 47 05.3**	**-0.5**
	baz=26								
TDCB				*eS*		**Sn**		**17 47 22.2**	**-0.3**
	baz=26								
TWT	**Tachien**	**1.21**	**22**	*eP*		**Pb**		**17 47 05.6**	**-0.4**
	baz=26								
TWT				*eS*		**Sn**		**17 47 23.5**	**+0.9**
	baz=26								
WDJ	**Dajia District**	**1.22**	**358**	*eP*		**Pg**		**17 47 05.9**	**-0.4**
	baz=3.0								
WDJ				*eS*		**Sn**		**17 47 23.7**	**+1.2**
	baz=3.0								
TWQ1	**Liyutan**	**1.22**	**4**	*eP*		**Pg**		**17 47 06.1**	**-0.2**
	baz=9.0								
TWQ1				*eS*		**Sn**		**17 47 23.9**	**+1.3**
	baz=9.0								
FUSS	**Fushou**	**1.23**	**25**	⇑*eP*		**Pb**		**17 47 05.6**	**-0.8**
	baz=29								
FUSS				*eS*		**Sn**		**17 47 24.4**	**+1.3**
	baz=29								
TSEB	**Hengchuen, Pin**	**1.23**	**171**	*eP*		**Pg**		**17 47 07.2**	**+0.6**
	baz=163								
TWD	**Chiawan**	**1.27**	**41**	*eP*		**Pg**		**17 47 07.0**	**-0.3**
	baz=46								
TWD				*eS*		**Sn**		**17 47 25.5**	**+1.7**
	baz=46								
NSY	**Sanyi**	**1.29**	**3**	*eP*		**Pg**		**17 47 07.4**	**-0.2**
	baz=8.0								
NSY				*eS*		**Sn**		**17 47 27.2**	**+2.9**
	baz=8.0								
ETLH	**Xiulin Townshi**	**1.30**	**34**	*eP*		**Pn**		**17 47 06.8**	**-0.4**
	baz=29								
ETLH				S		**Sn**		**17 47 25.9**	**+1.1**
	baz=29								
NACB	**Ninganchiao**	**1.34**	**38**	P		**Pb**		**17 47 07.5**	**-0.5**
NACB	**Ninganchiao**	**1.34**	**38**	⇑*eP*		**Pn**		**17 47 07.3**	**-0.3**
	baz=59								
NACB				*eS*		**Sg**		**17 47 25.6**	**-0.4**
	baz=59								
ETL	**Fush Village**	**1.34**	**40**	*eP*		**Pg**		**17 47 08.1**	**-0.5**
	baz=54								
ETL				*eS*		**Sg**		**17 47 27.1**	**+1.0**
	baz=54								
LAY	**Lan-yu**	**1.34**	**143**	*eP*		**Pn**		**17 47 06.3**	**-1.4**
	baz=140								
LAY				*eS*		**Sg**		**17 47 27.9**	**+1.8**
	baz=140								
NNSB	**Datong**	**1.45**	**26**	⇑*eP*		**Pb**		**17 47 09.2**	**-0.8**
	baz=17								
NNSB				*eS*		**Sg**		**17 47 30.1**	**+0.6**
	baz=17								
NNS	**Nan Shan**	**1.46**	**26**	*eP*		**Pb**		**17 47 09.3**	**-0.8**
	baz=17								
NNS				*eS*		**Sg**		**17 47 30.9**	**+1.2**
	baz=17								
NSTT	**Nanjuang**	**1.53**	**11**	*eP*		**Pb**		**17 47 10.9**	**-0.4**
	baz=16								
NSTT				*eS*		**Sg**		**17 47 32.0**	**-0.1**
	baz=16								
LIOB	**Emei**	**1.54**	**11**	*eP*		**Pb**		**17 47 11.2**	**-0.4**
	baz=15								
LIOB				*eS*		**Sg**		**17 47 32.9**	**+0.3**
	baz=15								
NFF	**Wufeng Townshi**	**1.55**	**15**	⇑*eP*		**Pb**		**17 47 11.6**	**-0.2**
	baz=20								
NFF				*eS*		**Sg**		**17 47 33.5**	**+0.7**
	baz=20								
LATG	**Datong**	**1.60**	**29**	⇑*eP*		**Pb**		**17 47 12.2**	**-0.4**
	baz=21								
LATG				*eS*		**Sg**		**17 47 35.2**	**+0.7**
	baz=21								
ENA	**Nanau**	**1.62**	**37**	*eP*		**Pg**		**17 47 13.1**	**-0.9**
	baz=55								
ENA				*eS*		**Sg**		**17 47 35.8**	**+0.7**
	baz=55								
EWUT	**Wuta**	**1.66**	**37**	*eP*		**Pb**		**17 47 13.3**	**-0.1**
	baz=55								
EWUT				*eS*		**Sg**		**17 47 37.0**	**+0.9**
	baz=55								
NSK	**Sanguang**	**1.66**	**22**	⇓*eP*		**Pb**		**17 47 13.6**	**-0.1**
	baz=27								
NSK				*eS*		**Sg**		**17 47 37.0**	**+0.5**
	baz=27								
YHNB	**Yeheng**	**1.67**	**22**	*eP*		**Pb**		**17 47 13.0**	**-0.7**
	baz=28								
ENTT	**Nioudou**	**1.71**	**28**	*eP*		**Pb**		**17 47 14.1**	**-0.3**
	baz=24								
ENTT				*eS*		**Sg**		**17 47 39.2**	**+1.2**
	baz=24								
NDS	**Dongshan**	**1.78**	**32**	*eP*		**Pg**		**17 47 16.1**	**-0.8**
	baz=53								
NDS				*eS*		**Sg**		**17 47 42.0**	**+2.0**
	baz=53								
NWLT	**Wulai**	**1.81**	**24**	*eP*		**Pb**		**17 47 16.1**	**+0.1**
	baz=30								
NWLT				*eS*		**Sg**		**17 47 41.8**	**+0.7**
	baz=30								
TWC	**Suao**	**1.82**	**36**	*eP*		**Pg**		**17 47 16.7**	**-1.2**
	baz=53								
TWC				*eS*		**Sg**		**17 47 40.7**	**-0.8**
	baz=53								
FUSB	**Fushanzhiwuyua**	**1.83**	**27**	*eP*		**Pb**		**17 47 16.6**	**+0.2**
	baz=22								
FUSB				*eS*		**Sg**		**17 47 42.3**	**+0.6**
	baz=22								
TWE	**Neicheng**	**1.83**	**29**	*eP*		**Pg**		**17 47 16.7**	**-1.2**
	baz=53								
TWA	**Mucha**	**2.02**	**24**	*eP*		**Pg**		**17 47 21.0**	**-0.7**
	baz=12								
TIPB	**Shuangxi**	**2.12**	**29**	*eP*		**Pb**		**17 47 21.2**	**-0.1**
	baz=14								
YM01	**YM01**	**2.17**	**22**	*eP*		**Pn**		**17 47 20.1**	**+1.0**
	baz=27								
NWF	**Wu-fen Shan**	**2.18**	**27**	*eP*		**Pb**		**17 47 21.0**	**-1.5**
	baz=14								
ANP	**Anpu**	**2.19**	**20**	*eP*		**Pn**		**17 47 19.9**	**+0.5**
	baz=25								
TWB1	**Santiao Chiao**	**2.22**	**32**	*eP*		**Pb**		**17 47 22.4**	**-0.7**
	baz=51								
TWB1				*eS*		**Sg**		**17 47 52.9**	**-1.4**
	baz=51								
SXI1	**Grass Mountain**	**2.24**	**29**	*eP*		**Pb**		**17 47 23.3**	**-0.3**
	baz=15								
PTMZ	**Houxiangcun**	**2.38**	**323**	*eP*		**Pn**		**17 47 20.5**	**-1.5**
	baz=326								
KNM	**Kinmen**	**2.43**	**302**	*eP*		**Pn**		**17 47 22.7**	**+0.1**
	baz=304								

DGRG	**David-gareji**	**0.52**	**193**	P	**Pn**	**18 08 27.4**	**-0.4**
DGRG				S	**Sn**	**18 08 37.6**	**+1.0**
LGD	**Lagodekhi**	**0.54**	**103**	P	**Pg**	**18 08 25.6**	**+0.5**
LGD				S	**Sb**	**18 08 34.0**	**+0.2**
SEAG	**Tbilisi Sea**	**0.58**	**251**	P	**Pn**	**18 08 28.6**	**+0.1**
SEAG				S	**Sn**	**18 08 38.9**	**+0.9**
BTNK	**Botanikuri**	**0.61**	**244**	P	Pb	18 08 21.7	-5.5
BTNK				S	**Sb**	**18 08 32.1**	**-3.7**
DDFL	**Dedoflistskaro**	**0.67**	**139**	P	**Pn**	**18 08 30.1**	**+0.2**
DDFL				S	**Sn**	**18 08 43.6**	**+3.2**
BTLR	**Botlikh**	**0.87**	**36**	*e*Pg	**Pb**	**18 08 31.2**	**-0.4**
	21nm,0.4s						
BTLR				*e*Sg	**Sb**	**18 08 42.7**	**-0.5**
	7.0nm,0.2s						
PNSH	**Pansheti**	**0.96**	**315**	P	**Pb**	**18 08 32.7**	**-0.5**
PNSH				S	**Sg**	**18 08 45.8**	**+0.2**
KZRT	**Kazreti**	**1.02**	**236**	P	**Pb**	**18 08 33.6**	**-0.6**
KZRT				S	**Sb**	**18 08 48.2**	**+0.6**
XNZR	**Khunzakh**	**1.05**	**56**	*e*Pg	**Pb**	**18 08 34.1**	**-0.5**
	24nm,0.3s						
XNZR				*e*Sg	**Sb**	**18 08 48.1**	**-0.2**
	126nm,0.3s						
DVE	**Vedeno**	**1.09**	**24**	*i* Pg	**Pg**	**18 08 36.1**	**+0.6**
DVE				*e*Sg	**Sg**	**18 08 50.2**	**+0.5**
GNBR	**Gunib**	**1.15**	**67**	*e*Pg	**Pn**	**18 08 35.3**	**-1.1**
	17nm,0.4s						
GNBR				*e*Sg	**Sb**	**18 08 50.3**	**-0.8**
	41nm,0.6s						
TRLG	**Trialeti**	**1.15**	**249**	P	**Pn**	**18 08 35.8**	**-0.8**
TRLG				S	**Sn**	**18 08 51.9**	**-0.4**
KMKR	**Kumukh**	**1.18**	**81**	*e*Pg	**Pn**	**18 08 35.7**	**-1.3**
	4.0nm,0.1s						
KMKR				*e*Sg	**Sb**	**18 08 51.2**	**-1.0**
	28nm,0.4s						
DMNI	**Dmanisi**	**1.19**	**238**	P	**Pn**	**18 08 35.9**	**-1.1**
DMNI				S	**Sb**	**18 08 52.9**	**+0.5**
UNCR	**Uncukul**	**1.20**	**51**	*e*Pg	**Pn**	**18 08 37.0**	**-0.2**
	14nm,0.2s						
UNCR				*e*Sg	**Sg**	**18 08 53.1**	**-0.1**
	48nm,0.6s						
GROC	**Groznyy**	**1.26**	**9**	*e*Pg	**Pn**	**18 08 37.0**	**-0.9**
	17nm,0.2s						
GROC				*e*Sg	**Sn**	**18 08 53.8**	**-0.9**
	25nm,0.4s						
ARKR	**Arakani**	**1.26**	**59**	*e*Pg	**Pb**	**18 08 38.1**	**-0.1**
	1.0nm,0.5s						
ARKR				*e*Sg	**Sg**	**18 08 55.2**	**0.0**
	10.0nm,0.6s						
LACR	**Lac**	**1.26**	**314**	*e*Pg	**Pn**	**18 08 37.8**	**-0.3**
LACR				*e*Sg	**Sg**	**18 08 55.6**	**+0.4**
BRNG	**Burnasheti**	**1.32**	**256**	P	**Pn**	**18 08 38.6**	**-0.3**
BRNG				S	**Sb**	**18 08 57.3**	**+1.1**
KRNR	**Karanay**	**1.34**	**49**	*e*Pg	**Pn**	**18 08 38.9**	**-0.2**
	6.0nm,0.2s						
KRNR				*e*Sg	**Sb**	**18 08 56.5**	**-0.2**
	10.0nm,0.5s						
ALIG	**Mtskhetisjvari**	**1.41**	**277**	P	**Pn**	**18 08 39.8**	**-0.3**
ALIG				S	**Sb**	**18 08 59.2**	**+0.5**
DBC	**Dubki**	**1.43**	**42**	*e*Pg	**Pn**	**18 08 40.4**	**+0.1**
	9.0nm,0.2s						
DBC				*e*Sg	**Sb**	**18 08 59.5**	**+0.2**
	43nm,0.4s						
ZEI	**Tsey**	**1.47**	**305**	*i* Pg	**Pn**	**18 08 41.2**	**+0.2**
ZEI				*e*Sg	**Sb**	**18 09 01.0**	**+0.5**
KORR	**Kora**	**1.56**	**317**	*e*Pg	**Pn**	**18 08 42.5**	**+0.4**
KORR				*e*Sg	**Sb**	**18 09 03.4**	**+0.3**
ONI	**Oni**	**1.67**	**293**	P	**Pn**	**18 08 44.3**	**+0.7**
ONI				S	**Sb**	**18 09 07.1**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.73**	**304**	*e*Pg	**Pb**	**18 08 45.6**	**-0.6**
DIGR				*e*Sg	**Sb**	**18 09 08.7**	**+0.8**
LSNR	**Lesken**	**1.82**	**317**	*e*Pg	**Pb**	**18 08 47.5**	**-0.3**
LSNR				*e*Sg	**Sg**	**18 09 12.1**	**-1.1**
TKB	**Tkibuli**	**1.93**	**283**	P	**Pn**	**18 08 47.8**	**+0.7**
TKB				S	**Sb**	**18 09 13.5**	**-0.1**
ABS	**Abastumani**	**2.04**	**265**	P	**Pn**	**18 08 48.4**	**-0.4**
ABS				S	**Sg**	**18 09 19.1**	**-1.0**

*IDC **12** 18:31:28.5±20.0, 23.°56S×179.°21W, h354km±159km, mb3.7/6, mbtmp4.4/7, Error ellipse: s-maj=159.4km s-min=20.9km az=42.0*
*NEIC **12** 18:31:41.1±0.9, 24.°2S±0.°2×179.°3W±0.°1, h492km±15km, mb4.7/35, Error ellipse: s-maj=23.2km s-min=12.4km az=159.0*

ISC 12 18:31:41.1±0.9, 24.°0S±0.°1×179.°4W±0.°1, h500km, n50, σ2°31/50, mb4.5/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.06**	**62**	P	**P**	**18 33 57.6**	**-1.6**
DZM	**Mont Dzumac**	**13.22**	**276**	P	**P**	**18 34 33.3**	**+0.6**
MXZ	**Matakaoa Point**	**13.64**	**188**	P	**P**	**18 34 35.6**	**-1.2**
URZ	**Urewera**	**14.50**	**191**	P	**P**	**18 34 43.1**	**-2.8**
	5.2nm,0.4s,baz=13,slow=4.6,SNR=9.8						
BKZ	**Black Stump Fm**	**15.49**	**192**	P	**P**	**18 34 53.8**	**-2.6**
BKZ				IAmb	IAmb	18 35 12.1	
	comp=Z,45nm,1.4s						
BFZ	**Birch Farm**	**17.01**	**191**	P	**P**	**18 35 08.4**	**-3.6**
MRZ	**Mangatainoka R**	**17.12**	**193**	P	**P**	**18 35 09.5**	**-3.6**
MRZ				IAmb	IAmb	18 35 09.5	
	comp=Z,55nm,1.5s						
SNZO	**South Karori**	**17.93**	**195**	P	**P**	**18 35 17.3**	**-3.3**
TCW	**Tory Channel**	**17.94**	**196**	P	**P**	**18 35 18.7**	**-2.0**
BHW	**Baring Head**	**17.99**	**194**	P	**P**	**18 35 17.4**	**-3.7**
PLWZ	**Palliser**	**18.06**	**193**	P	**P**	**18 35 19.9**	**-2.0**
QRZ	**Quartz Range**	**18.08**	**200**	P	**P**	**18 35 19.8**	**-2.3**
TKNZ	**Takaka Hill**	**18.14**	**199**	P	**P**	**18 35 19.5**	**-3.1**
NNZ	**Nelson**	**18.18**	**198**	P	**P**	**18 35 21.2**	**-1.7**
MRNZ	**Matariki Terra**	**18.53**	**199**	P	**P**	**18 35 21.3**	**-4.9**
THZ	**Tophouse**	**18.82**	**198**	P	**P**	**18 35 23.6**	**-5.3**
THZ				IAmb	IAmb	18 35 50.9	
	comp=Z,54nm,1.4s						
DSZ	**Denniston Nort**	**19.14**	**201**	P	**P**	**18 35 27.7**	**-4.1**
KHZ	**Kahutara**	**19.26**	**196**	P	**P**	**18 35 29.3**	**-3.5**
KHZ				IAmb	IAmb	18 35 58.8	
	comp=Z,25nm,1.2s						
GVZ	**Greta Valley S**	**19.91**	**197**	P	**P**	**18 35 34.4**	**-4.3**
LTZ	**Lake Taylor**	**19.94**	**198**	P	**P**	**18 35 35.9**	**-3.2**
LTZ				IAmb	IAmb	18 36 17.2	
	comp=Z,46nm,1.5s						
INZ	**Inchbonnie**	**20.14**	**200**	P	**P**	**18 35 39.0**	**-1.8**
RPZ	**Rata Peaks**	**21.16**	**200**	P	**P**	**18 35 50.5**	**+0.4**
	comp=Z,14nm,1.0s,baz=30,slow=6.8,SNR=1.8						
	comp=Z,14nm,1.0s						
EIDS	**Eidsvold**	**26.87**	**261**	P	**P**	**18 36 40.2**	**-1.0**
CTAO	**Charters Tower**	**32.06**	**270**	P	**P**	**18 37 27.9**	**+1.5**
CTAO				IAmb	IAmb	18 37 28.6	
	comp=Z,11nm,0.8s						
TOO	**Toolangi**	**32.87**	**237**	P	**P**	**18 37 32.2**	**-0.9**
TOO				IAmb	IAmb	18 37 55.2	
	comp=Z,22nm,1.5s						
TAU	**Tasmania Unive**	**33.28**	**227**	P	**P**	**18 37 36.0**	**-0.4**
TAU				IAmb	IAmb	18 38 07.0	
	comp=Z,77nm,1.5s						
STKA	**Stephens Creek**	**35.22**	**248**	P	**P**	**18 37 52.6**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=93,slow=10,SNR=12						
	comp=Z,1.5nm,0.4s						
STKA	**Stephens Creek**	**35.22**	**248**	P	**P**	**18 37 52.7**	**-0.2**
BBOO	**Buckleboo**	**39.93**	**247**	P	**P**	**18 38 30.1**	**-1.5**
BBOO				IAmb	IAmb	18 38 30.8	
	comp=Z,34nm,1.5s						
AS31	**Alice Springs**	**42.59**	**261**	P	**P**	**18 38 53.1**	**+0.3**
ASAR	**Alice Springs**	**42.59**	**261**	P	**P**	**18 38 52.8**	**0.0**
	comp=Z,1.5nm,0.4s,baz=90,slow=6.8,SNR=113						
	comp=Z,1.5nm,0.4s						
ASAR	**Alice Springs**	**42.59**	**261**	P	**P**	**18 38 52.6**	**-0.3**
WR0	**Warramunga Arr**	**42.80**	**266**	P	**P**	**18 38 54.7**	**+0.3**
WB2	**Warramunga Arr**	**42.97**	**266**	P	**P**	**18 38 56.1**	**+0.3**
WB2				IAmb	IAmb	18 38 56.5	
	comp=Z,7.7nm,0.5s						
WRAB	**Tennant Creek**	**42.98**	**266**	P	**P**	**18 38 56.0**	**+0.1**
WRAB				IAmb	IAmb	18 38 56.4	
	comp=Z,7.1nm,0.4s						
WB0	**Warramunga Arr**	**42.98**	**266**	P	**P**	**18 38 56.0**	**+0.1**
WB0				IAmb	IAmb	18 38 56.7	
	comp=Z,9.2nm,0.5s						
WRA	**Warramunga Arr**	**42.98**	**266**	P	**P**	**18 38 56.1**	**+0.3**
	comp=Z,5.4nm,0.4s,baz=99,slow=7.2,SNR=141						
	comp=Z,5.4nm,0.4s						
WRA	**Warramunga Arr**	**42.98**	**266**	P	**P**	**18 38 56.2**	**+0.3**
FORT	**Forrest**	**46.81**	**250**	P	**P**	**18 39 24.2**	**-1.1**
FORT				IAmb	IAmb	18 39 43.7	
	comp=Z,32nm,1.1s						

MTN	**Manton Dam**	**48.05**	**274**	P	**P**	**18 39 34.2**	**-0.6**
MTN				IAmb	IAmb	18 40 12.9	
	comp=Z,31nm,1.3s						
KNRA	**Kununurra**	**49.27**	**270**	P	**P**	**18 39 44.4**	**+0.5**
KNRA				IAmb	IAmb	18 39 50.9	
	comp=Z,39nm,1.4s						
VNDA	**Vanda**	**54.30**	**185**	P	**P**	**18 40 22.4**	**+3.1**
	comp=Z,6.3nm,1.2s,baz=50,slow=7.9,SNR=2.3						
	comp=Z,6.3nm,1.2s						
VNDA	**Vanda**	**54.30**	**185**	P	**P**	**18 40 18.4**	**-0.8**
VNDA				IAmb	IAmb	18 40 36.0	
	comp=Z,24nm,1.5s						
PSA00	**Pilbara Seismi**	**55.72**	**260**	P	**P**	**18 40 30.2**	**+0.1**
PSA00				IAmb	IAmb	18 40 35.7	
	comp=Z,36nm,1.5s						
CASY	**Casey**	**60.25**	**206**	P	**P**	**18 41 00.6**	**+0.4**
CASY				IAmb	IAmb	18 41 37.6	
	comp=Z,25nm,1.4s						
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**18 41 41.0**	**+3.3**
	comp=Z,1.9nm,0.6s,baz=38,slow=18,SNR=18						
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**18 41 41.0**	**+3.3**
SMAI	**San Martin Ant**	**75.78**	**159**	P	**P**	**18 42 35.0**	**+0.2**
SMAI				IAmb	IAmb	18 43 18.9	
	comp=Z,36nm,1.2s						
BELA	**Belgrano 2**	**76.23**	**173**	P	**P**	**18 42 38.0**	**+0.8**
SNAA	**Sanae**	**84.53**	**179**	P	**P**	**18 43 21.0**	**+0.4**

*IDC **12** 18:39:07.5±2.0, 33.°10S×179.°78E, h0km, mb3.8/3, mbtmp3.9/4, ML4.0/1, MS3.5/1, Error ellipse: s-maj=46.7km s-min=28.9km az=68.0*

ISC 12 18:39:07.7±1.1, 33.°1S±0.°1×180.°0E±0.°2, h10km, n27, σ1°9/13/21, mb3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.93**	**195**	P	**Pn**	**18 40 22.4**	**+0.6**
HAZ	**Te Kaha**	**5.03**	**200**	P	**Pn**	**18 40 24.9**	**+1.7**
PKGZ	**Pakihiroa**	**5.08**	**197**	P	**Pn**	**18 40 24.4**	**+0.5**
PUZ	**Puketiti**	**5.21**	**195**	P	**Pn**	**18 40 25.6**	**0.0**
RUGZ	**Raukumara Rang**	**5.26**	**200**	P	**Pn**	**18 40 28.5**	**+2.0**
TWGZ	**Tauwhareparae**	**5.37**	**197**	P	**Pn**	**18 40 28.6**	**+0.6**
CNGZ	**Carnagh Statio**	**5.61**	**195**	P	**Pn**	**18 40 31.0**	**-0.3**
MWZ	**Matawai**	**5.64**	**200**	P	**Pn**	**18 40 32.6**	**+0.9**
URZ	**Urewera**	**5.71**	**204**	Pn	**Pn**	**18 40 33.1**	**+0.7**
	4.3nm,0.3s,baz=4.3,slow=2.4,SNR=16						
URZ				Sn	**Sn**	**18 41 38.4**	**+0.4**
	3.8nm,0.3s,baz=224,slow=23,SNR=1.7						
	20nm,0.5s						
URZ	**Urewera**	**5.71**	**204**	P	**Pn**	**18 40 34.3**	**+1.8**
KMRZ	**Kaimai**	**5.82**	**214**	P	**Pb**	**18 40 47.7**	**-1.5**
SNGZ	**Shannon Statio**	**6.11**	**200**	P	**Pn**	**18 40 39.7**	**+1.6**
MTHZ	**Maungataniwha**	**6.33**	**203**	P	**Pn**	**18 40 42.1**	**+1.0**
WHHZ	**Waihua**	**6.42**	**200**	P	**Pn**	**18 40 42.1**	**-0.2**
ETVZ	**East Tongariro**	**6.99**	**209**	P	**Pn**	**18 40 52.2**	**+1.9**
DVHZ	**Dannevirke**	**7.86**	**202**	P	**Pn**	**18 41 01.5**	**-0.6**
DZM	**Mont Dzumac**	**16.23**	**309**	LR	LR	18 47 52.1	
	comp=Z,175nm,20.0s,baz=99,slow=32						
ASAR	**Alice Springs**	**41.35**	**271**	P	**P**	**18 46 53.7**	**-0.4**
	1.0nm,0.7s,baz=106,slow=7.6,SNR=14						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**42.59**	**276**	P	**P**	**18 47 03.7**	**-0.5**
	0.9nm,0.8s,baz=118,slow=7.4,SNR=8.2						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**57.07**	**180**	P	**P**	**18 48 54.4**	**+0.6**
	1.5nm,0.8s,baz=52,slow=6.6,SNR=10						
	1.5nm,0.8s						
H03S2	**Juan Fernandez**	**80.41**	**124**	T	T	20 19 48.3	
	baz=235,slow=74,SNR=60						
H03S1	**Juan Fernandez**	**80.42**	**124**	T	T	20 19 50.4	
	baz=235,slow=74,SNR=53						
H03S3	**Juan Fernandez**	**80.43**	**124**	T	T	20 19 50.9	
	baz=235,slow=74,SNR=58						
H03N3	**Juan Fernandez**	**80.62**	**124**	T	T	20 20 01.7	
	baz=239,slow=72,SNR=241						
H03N2	**Juan Fernandez**	**80.62**	**124**	T	T	20 19 58.5	
	baz=239,slow=72,SNR=137						
H03N1	**Juan Fernandez**	**80.64**	**124**	T	T	20 20 01.8	
	baz=239,slow=72,SNR=289						
FINES	**FINESS Array B**	**146.98**	**337**	PKPbc	**PKPab**	**18 58 51.3**	**0.0**
	3.9nm,0.8s,baz=64,slow=3.2,SNR=3.0						

*IDC **12** 18:48:31.9±1.5, 5.°57S×130.°49E, h0km, mb3.8/5, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=73.7km s-min=26.0km az=79.0*

ISC 12 18:48:35.7±0.9, 5.°52S±0.°08×131.°2E±0.°4, h35km, n8, σ1°9/15/11, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.62**	**1**	Pn	**Pn**	**18 49 43.9**	**+0.8**
	7.9nm,0.3s,baz=204,slow=11,SNR=59						
SIJI				Sn	**Sn**	**18 50 34.1**	**-1.4**
	5.8nm,0.3s,baz=83,slow=21,SNR=14						
	19nm,0.3s						
WRA	**Warramunga Arr**	**14.65**	**168**	Pn	**Pn**	**18 52 01.1**	**+0.5**
	0.2nm,0.3s,baz=348,slow=13,SNR=10						
WRA				Sn	**Sn**	**18 54 41.6**	**-0.3**
	0.3nm,0.3s,baz=354,slow=22,SNR=7.0						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**18.23**	**172**	P	**Pn**	**18 52 47.4**	**+1.3**
	0.2nm,0.3s,baz=345,slow=10,SNR=6.4						
ASAR				S	**Sn**	**18 56 06.5**	**-2.2**
	0.6nm,0.7s,baz=360,slow=25,SNR=4.0						
	0.6nm,0.6s						
SONM	**Songino Array**	**57.45**	**340**	P	**P**	**18 58 21.5**	**+0.3**
	0.2nm,0.5s,baz=157,slow=7.7,SNR=2.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.67**	**326**	P	**P**	**18 59 28.7**	**-0.7**
	1.0nm,0.7s,baz=125,slow=8.0,SNR=15						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**70.81**	**333**	P	**P**	**18 59 48.0**	**-0.5**
	0.3nm,0.3s,baz=132,slow=6.0,SNR=3.9						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**71.90**	**328**	P	**P**	**18 59 54.9**	**-0.3**
	1.4nm,0.7s,baz=130,slow=5.0,SNR=16						
	1.4nm,0.7s						
BVAR	**Bovoye Array**	**77.47**	**327**	P	**P**	**19 00 27.7**	**+0.2**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=3.6						
	0.3nm,0.4s						

NNC 12 18:50:02.1±4.0, 37.°02N×70.°80E, h0km, mb4.2, mpv3.8, 3C, Error ellipse: s-maj=31.1km s-min=28.7km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.08**	**358**	P	Pn	18 51 33.5	+0.2
	1.7nm,0.2s,baz=175,slow=11,SNR=52						
KK31				S	Sn	18 52 44.6	+1.0
	1.3nm,0.4s,baz=190,slow=20,SNR=7.8						
CHMS	**Chumysh**	**6.70**	**26**	⇑S	Sn	18 53 01.1	+2.3
	6.1nm,0.9s						
TKM2	**Tokmak 2**	**6.95**	**31**	⇑P	Pn	18 51 45.2	-0.2
	3.7nm,0.4s						
TKM2				⇑S	Sn	18 53 05.7	+0.4
	2.4nm,0.8s						

*BJI **12** 19:19:53.1±0.0, 5.°46N×94.°66E, h89km, mb4.5/25, mB4.8/8*
*IDC **12** 19:19:56.0±1.9, 5.°78N×94.°76E, h79km±17km, mb4.3/26, mbtmp4.6/27, MS3.5/22, Error ellipse: s-maj=14.8km s-min=9.3km az=55.0*
*DJA **12** 19:19:57.9±0.3, 5.°N±3.°×9.°5E±.°, h102km±4km, M5.2/32, mB5.4/17, mb5.2/32, mBc6.4/17, MLv5.5/12, Mw(mB)4.9/17, MwmBc5.7/17*
*NEIC **12** 19:19:57.7±1.7, 5.°76N±0.°07×94.°80E±0.°07, h88km±6km, mb4.9/83, Error ellipse: s-maj=11.9km s-min=9.1km az=220.0*

ISC 12 19:19:57.0±0.3, 5.°68N±0.°04×94.°77E±0.°04, h90km±2km, h91km:pP-P, n317, σ1°54/347, mb4.8/79, 18C-10D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.15**	**131**	P	**Pn**	**19 20 31.7**	**+0.5**
MLSI				S	**Sn**	**19 20 56.0**	**-1.2**
LHMI	**Lhok Sumawe**	**2.21**	**102**		**Pn**	**19 20 33.0**	**+1.0**
LHMI	**Lhok Sumawe**	**2.21**	**102**	P	**Pn**	**19 20 33.8**	**+1.8**
LHMI	**Lhok Sumawe**	**2.21**	**102**	P	**Pn**	**19 20 33.4**	**+1.4**
LHMI				S	**Sn**	**19 21 00.9**	**+2.1**

SNSI	**Sinabang, Aceh**	**3.60**	**154**	P	**Pn**	**19 20 48.9**	**-1.7**
SNSI				S	**Sn**	**19 21 27.3**	**-4.8**
KCSI	**Kotacane, Aceh**	**3.68**	**125**	P	**Pn**	**19 20 52.4**	**+0.7**
TSI	**Tuntungan**	**4.35**	**120**	P	**Pn**	**19 21 01.6**	**+0.7**
PSI	**Prapat**	**5.03**	**124**	P	**Pn**	**19 21 10.4**	**+0.2**
	612nm,0.5s,baz=303,slow=9.9,SNR=659						
PSI				S	**Sn**	**19 22 07.7**	**+0.5**
	68nm,0.5s,baz=341,slow=18,SNR=0.9						
PSI				LR	LR	19 22 56.7	
	comp=Z,179nm,21.0s,baz=306,slow=35						
PSI	**Prapat**	**5.03**	**124**	P	**Pn**	**19 21 12.0**	**+1.8**
RPSI	**Rantau Prapat**	**5.09**	**125**	Pn	**Pn**	**19 21 11.7**	**+0.8**
RPSI	**Rantau Prapat**	**5.09**	**125**		**Pn**	**19 21 10.4**	**-0.5**
RPSI					**Sn**	**19 22 07.7**	**-0.8**
GSI	**Gunungsitoli**	**5.17**	**147**	Pn	**Pn**	**19 21 10.0**	**-2.0**
GSI	**Gunungsitoli**	**5.17**	**147**	P	**Pn**	**19 21 10.2**	**-1.8**
GSI	**Gunungsitoli**	**5.17**	**147**	P	**Pn**	**19 21 10.2**	**-1.8**
GSI				S	**Sn**	**19 22 04.9**	**-5.4**
SRIT	**Nakonsritamara**	**5.60**	**59**	Pn	**Pn**	**19 21 18.5**	**+0.7**
SRIT	**Nakonsritamara**	**5.60**	**59**	P	**Pn**	**19 21 19.8**	**+2.0**
SURA	**Surathani**	**5.93**	**54**	P	**Pn**	**19 21 24.7**	**+2.3**
PBA	**Port Blair**	**6.27**	**341**	Pn	**Pn**	**19 21 24.8**	**-2.2**
IPM	**Ipoh**	**6.34**	**101**	Pn	**Pn**	**19 21 27.4**	**-0.6**
IPM	**Ipoh**	**6.34**	**101**	P	**Pn**	**19 21 29.0**	**+1.0**
PBSI	**Pulau Batu**	**6.68**	**148**	P	**Pn**	**19 21 30.4**	**-2.2**
	252nm,0.8s,6μm1.5nm						
PBSI				S	Sn	19 22 39.0	-8.3
	252nm,0.8s,6μm1.5nm						
MNSI	**Mandailing Nat**	**6.82**	**135**	P	**Pn**	**19 21 33.7**	**-0.8**
DGPR	**DIGLIPUR**	**7.67**	**346**	*e*P	**Pn**	**19 21 43.9**	**-2.2**
DGPR				IAmb	IAmb	19 21 45.7	
	comp=Z,70nm,0.4s						
SISI	**Saibi**	**8.18**	**148**	P	**Pn**	**19 21 51.3**	**-1.8**
	comp=Z,168nm,0.8s,comp=Z,2μm						
BKNI	**Bangkinang**	**8.21**	**130**	Pn	**Pn**	**19 21 53.7**	**+0.3**
BKNI	**Bangkinang**	**8.21**	**130**	P	**Pn**	**19 21 54.0**	**+0.6**
BKNI	**Bangkinang**	**8.21**	**130**	P	**Pn**	**19 21 53.0**	**-0.4**
	comp=Z,578nm,0.6s,comp=Z,6μm						
PDSI	**Padang**	**8.67**	**139**	P	**Pn**	**19 21 58.1**	**-1.6**
	comp=Z,254nm,0.5s,comp=Z,4μm						
SDSI	**Sungai Dareh**	**9.34**	**134**	P	**Pn**	**19 22 07.8**	**-1.1**
	comp=Z,70nm,0.8s,comp=Z,819nm						
MYKOM	**Kota Tinggi**	**9.85**	**113**	Pn	**Pn**	**19 22 15.9**	**+0.2**
PPSI	**Pulau Pagai**	**9.88**	**148**	P	**Pn**	**19 22 13.4**	**-2.8**
	comp=Z,229nm,0.8s						
TPRI	**Tanjung Pinang**	**10.82**	**116**	P	**Pn**	**19 22 29.2**	**+0.1**
	comp=Z,89nm,0.5s,comp=Z,1μm						
MASI	**Maura Aman, Be**	**11.50**	**139**	P	**Pn**	**19 22 36.8**	**-1.5**
	comp=Z,57nm,0.7s						
DSRI	**Dabo**	**11.54**	**122**	P	**Pn**	**19 22 38.8**	**0.0**
	comp=Z,33nm,0.9s,comp=Z,713nm						
MNAI	**Manna**	**12.89**	**140**	Pn	**Pn**	**19 22 54.1**	**-2.8**
MNAI	**Manna**	**12.89**	**140**	P	**Pn**	**19 22 53.7**	**-3.2**
	comp=Z,271nm,0.9s						
PMBI	**Palembang**	**13.14**	**130**	P	Pn	19 22 56.6	-3.7
	comp=Z,155nm,0.4s						
CM31	**Chiang Mai Arr**	**13.34**	**17**		**Pn**	**19 23 01.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**13.34**	**17**	P	**Pn**	**19 23 04.2**	**+1.4**
	comp=Z,32nm,0.7s,baz=210,slow=13,SNR=37						
CMAR				LR	LR	19 27 57.5	
	comp=Z,69nm,18.1s,baz=220,slow=36						
CMAR	**Chiang Mai Arr**	**13.34**	**17**	Pn	**Pn**	**19 23 04.4**	**+1.6**
CHTO	**Chiang Mai**	**13.68**	**17**	Pn	**Pn**	**19 23 08.2**	**+1.0**
PPBI	**Pangkal Pinang**	**13.76**	**124**	P	**Pn**	**19 23 08.3**	**-0.1**
	comp=Z,44nm,0.9s						
MDSI	**Maura Dua**	**13.79**	**137**	P	**Pn**	**19 23 05.3**	**-3.4**
	comp=Z,108nm,0.9s,comp=Z,1μm						
PHRA	**Phrae**	**13.81**	**22**		**P**	**19 23 15.8**	**+1.5**
PALK	**Pallekele**	**14.07**	**277**	Pn	**Pn**	**19 23 12.9**	**+0.5**
LWLI	**Liwa**	**14.10**	**139**	P	**Pn**	**19 23 10.4**	**-2.5**
	comp=Z,241nm,0.7s,comp=Z,3μm						
KLI	**Kotabumi**	**14.53**	**136**	P	**Pn**	**19 23 16.2**	**-2.0**
	comp=Z,86nm,0.9s,comp=Z,4μm						
KASI	**Kota Agung**	**14.77**	**139**	P	**Pn**	**19 23 18.7**	**-2.6**
	comp=Z,139nm,0.7s						
NONG	**Nongkai**	**14.78**	**33**	P	**P**	**19 23 23.4**	**-1.7**
CRAI	**Chiangrai**	**15.46**	**20**		**Pn**	**19 23 28.8**	**-1.3**
MDRS	**Chennai**	**16.10**	**298**	*e*P	**Pn**	**19 23 38.9**	**+0.8**
MND	**Mandalay**	**16.30**	**4**		**Pn**	**19 23 37.5**	**-3.0**
MND	**Mandalay**	**16.30**	**4**	P	**Pn**	**19 23 39.6**	**-0

MPSI Mapaga 25.64 101 P **P** 19 25 18.9 +0.4
comp=Z,37nm,0.8s,comp=Z,507nm
H08S3 Diego Garcia H 25.87 240 T T 19 52 46.3
baz=60,slow=76,SNR=1378
H08S2 Diego Garcia H 25.87 239 T T 19 52 42.3
baz=60,slow=76,SNR=1988
H08S1 Diego Garcia H 25.88 239 T T 19 52 43.4
baz=60,slow=76,SNR=1439
TWSI Taliwang, Sumb 26.29 123 P P 19 25 34.2 +10
TOLI2 Tolitoli 26.35 99 P **P** 19 25 24.1 -0.8
KAPI Kappang 27.11 113 P **P** 19 25 32.9 +1.2
comp=Z,20nm,0.5s,baz=297,slow=3.9,SNR=22
comp=Z,20nm,0.5s
KAPI Kappang 27.11 113 P **P** 19 25 32.3 +0.6
KAPI IAmb IAmb 19 25 33.5
comp=Z,27nm,0.6s
LGTI Lohaghat 27.34 332 *e*P **P** 19 25 33.4 -0.1
BKSI Bulukumba 27.57 113 P **P** 19 25 36.2 +0.4
comp=Z,113nm,0.7s,comp=Z,745nm
MRSI Marisa 27.61 100 P **P** 19 25 37.0 +0.8
comp=Z,32nm,0.6s
ENH Enshi 28.12 28 P **P** 19 25 39.5 -1.0
GTOI Gorontalo 28.63 99 P **P** 19 25 47.3 +2.0
LUWI Luwuk 28.75 103 P **P** 19 25 46.9 +0.6
LUWI Luwuk 28.75 103 P **P** 19 25 47.4 +1.1
LUWI Luwuk 28.75 103 P **P** 19 25 50.5 +4.2
XAN Xi'an 31.12 23 ⇓*i*P **P** 19 26 06.1 -1.1
XAN pmax pmax
comp=Z,27nm,0.8s
XAN Xi'an 31.12 23 P **P** 19 26 05.9 -1.3
XAN pP **pP** 19 26 26.2 -1.3
XAN sP **sP** 19 26 37.3 -0.5
LZH Lanzhou 31.39 14 *e*P **P** 19 26 09.2 -0.4
LZH pmax pmax
comp=Z,18nm,1.5s
DHRM DHARAMSHALA 31.57 329 *e*P **P** 19 26 11.3 0.0
DHRM IAmb IAmb 19 26 14.2
comp=Z,8.0nm,0.5s
THN Thein Dam 32.02 329 *e*P **P** 19 26 15.6 +0.6
SOEI Soe 33.15 117 P **P** 19 26 22.6 -2.6
GTA Gaotai 33.89 7 ⇑P **P** 19 26 31.0 -0.4
GTA pmax pmax
comp=Z,7.0nm,1.0s
NIL Nilore 34.27 327 P **P** 19 26 35.1 +0.5
NIL Nilore 34.27 327 P **P** 19 26 37.9 +3.3
HNS HongShan 36.44 27 ⇑P **P** 19 26 54.4 +1.3
HNS pmax pmax
comp=Z,22nm,1.0s
KSH Kashi 37.72 336 P **P** 19 27 03.0 -1.1
KSH pP pP 19 27 21.6 -3.1
KSH sP sP 19 27 31.5 -3.3
KSH S **S** **19 32 45.4 -2.6**
KSH pmax pmax
comp=Z,12nm,0.6s
WUS Wushi 38.01 341 P **P** 19 27 06.9 +0.4
WUS pP **pP** 19 27 27.6 +0.5
FITZ Fitzroy Crossi 38.54 128 P **P** 19 27 11.0 -0.1
TARG Taragay, Kyrgy 38.96 340 P **P** 19 27 15.2 +0.4
BJT Baijiatuau 39.24 26 P **P** 19 27 18.4 +1.7
BJT IAmb IAmb 19 27 19.2
comp=Z,9.6nm,0.8s
KNRA Kununurra 39.79 123 P **P** 19 27 21.0 -0.5
baz=40,SNR=7.5
GAR Garm 39.87 330 P **P** 19 27 23.8 +1.7
GAR IAmb IAmb 19 27 42.3
comp=Z,27nm,0.9s
CHGR Chuyangaron 40.21 328 P **P** 19 27 25.0 +0.2
SIMJ Simiganj 40.29 328 P **P** 19 27 25.8 +0.2
SIMJ pP **pP** 19 27 46.7 +0.4
MTN Manton Dam 40.54 117 P **P** 19 27 27.0 -0.8
baz=41,SNR=12
MTN Manton Dam 40.54 117 P **P** 19 27 26.8 -1.0
UCH Uchtor 40.61 337 P **P** 19 27 29.2 +0.7
SNR=14
TKM2 Tokmak 2 40.79 338 P **P** 19 27 30.2 +0.5
SNR=13
KBK Karagaybulak 40.80 337 P **P** 19 27 31.0 +1.2
SNR=29
AML Almayashu 40.85 336 P **P** 19 27 31.4 +1.0
SNR=17
AAK Ala-Archa 40.96 337 P **P** 19 27 32.4 +1.3
SNR=14
AAK Ala-Archa 40.96 337 LR LR 19 45 22.8
comp=Z,80nm,20.3s,baz=156,slow=37
AAK Ala-Archa 40.96 337 P **P** 19 27 31.9 +0.9
AAK IAmb IAmb 19 27 37.5
comp=Z,13nm,0.8s
AAK Ala-Archa 40.96 337 P **P** 19 27 31.8 +0.8
AAK pP **pP** 19 27 51.8 -0.1
CHMS Chumysh 41.17 338 P **P** 19 27 33.2 +0.5
SNR=7.5
EKS2 Erkin-Say 41.26 336 P **P** 19 27 34.4 +0.8
SNR=13
HRA Herat 41.48 318 P **P** 19 27 34.9 -0.7
USP Ospenovka 41.50 338 P **P** 19 27 35.8 +0.5
SNR=23
KDU Kakadu 41.67 116 P **P** 19 27 36.4 -0.7
baz=42,SNR=14
MKAR Makanchi Array 42.36 347 P **P** 19 27 41.8 -0.4
comp=Z,3.4nm,0.5s,baz=164,slow=7.9,SNR=72
comp=Z,3.4nm,0.5s
MKAR Makanchi Array 42.36 347 P **P** 19 27 41.6 -0.6
MAKZ Makanchi 42.44 347 P **P** 19 27 42.5 -0.4
MAKZ Makanchi 42.44 347 P **P** 19 27 42.5 -0.4
MAKZ pP **pP** 19 28 03.6 -0.2
MUN Mundaring 42.66 153 P **P** 19 27 46.4 +1.6
baz=43,SNR=5.1
KK31 Karatay Array 43.00 334 P **P** 19 27 47.7 +0.2
KK31 IAmb IAmb 19 28 15.7
comp=Z,10nm,0.7s
KKAR Karatay Array 43.00 334 P **P** 19 27 47.4 -0.1
KKAR IAmb IAmb 19 28 15.7
comp=Z,10nm,0.7s
SONM Songino Array 43.17 11 P **P** 19 27 48.5 -0.4
comp=Z,4.7nm,0.8s,baz=190,slow=8.6,SNR=46
SONM PcP **PcP** **19 29 37.5 +0.6**
comp=Z,2.4nm,0.6s,baz=198,slow=5.0,SNR=5.1
comp=Z,4.7nm,0.8s
SONM Songino Array 43.17 11 P **P** 19 27 48.2 -0.7
ULN Ulaanbaatar 43.33 12 P **P** 19 27 49.5 -0.7
ULN Ulaanbaatar 43.33 12 P **P** 19 27 49.6 -0.6
ULN pP **pP** 19 28 10.1 -1.1
KSRS Korea Array 43.73 39 P **P** 19 27 53.3 -0.1
comp=Z,2.5nm,0.8s,baz=216,slow=7.7,SNR=5.3
KSRS LR LR 19 48 27.4
comp=Z,28nm,18.4s,baz=320,slow=39
comp=Z,2.5nm,0.8s
WRKA Warakurna 44.67 135 P **P** 19 28 02.1 +1.0
baz=45,SNR=18
GEYT Alibeck 46.25 319 P **P** 19 28 13.1 -0.4
comp=Z,3.0nm,0.5s,baz=148,slow=8.7,SNR=6.1
GEYT LR LR 19 47 59.1
comp=Z,65nm,19.2s,baz=136,slow=36
comp=Z,3.0nm,0.5s
GEYT Alibeck 46.25 319 P **P** 19 28 13.7 +0.2
GEYT IAmb IAmb 19 28 40.4
comp=Z,9.9nm,0.7s
GYA0B ALIBECK ARRAY 46.25 319 P **P** 19 28 13.4 -0.1
GYA0B IAmb IAmb 19 28 40.4
comp=Z,11nm,0.7s
WB0 Warramunga Arr 46.46 124 P **P** 19 28 15.4 +0.1
WRA Warramunga Arr 46.50 124 P **P** 19 28 16.1 +0.5
comp=Z,14nm,0.7s,baz=304,slow=9.5,SNR=199
WRA PcP **PcP** **19 29 48.9 +0.1**
comp=Z,1.1nm,0.4s,baz=328,slow=2.5,SNR=1.8
WRA S **S** **19 34 53.5 -4.0**
comp=Z,3.5nm,1.0s,baz=300,slow=15,SNR=8.0
WRA LR LR 19 48 57.4
comp=Z,81nm,18.0s,baz=300,slow=37
comp=Z,14nm,0.7s
WRA Warramunga Arr 46.50 124 P **P** 19 28 15.7 +0.1
WRAB Tennant Creek 46.50 124 P **P** 19 28 16.1 +0.5
WRAB Tennant Creek 46.50 124 P **P** 19 28 16.3 +0.6
WB2 Warramunga Arr 46.51 124 P **P** 19 28 15.9 +0.3
CN2 Changchun 46.57 31 P **P** 19 28 15.6 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
WR0 Warramunga Arr 46.67 124 P **P** 19 28 16.8 -0.2
WR0 IAmb IAmb 19 28 18.5
comp=Z,21nm,0.8s
KURBB Kurchatov Arra 46.82 346 PcP **PcP** **19 29 49.9 +0.6**
comp=Z,2.5nm,0.7s,baz=167,slow=4.2,SNR=2.3
KURBB ScP **ScP** **19 33 36.0 +1.0**
comp=Z,0.3nm,0.3s,baz=176,slow=3.9,SNR=2.7
KURBB S **S** **19 35 01.5 +0.3**
comp=Z,0.3nm,0.3s,baz=156,slow=16,SNR=1.8
KURK Kurchatov 46.88 346 P **P** 19 28 18.2 +0.1
KURK IAmb IAmb 19 28 42.2
comp=Z,28nm,1.5s
KURK Kurchatov 46.88 346 P **P** 19 28 18.4 +0.3
KURK pP **pP** 19 28 41.0 +1.7
AS31 Alice Springs 48.04 129 P **P** 19 28 28.0 +0.4
AS31 IAmb IAmb 19 28 28.9
comp=Z,8.4nm,0.4s
ASAR Alice Springs 48.04 129 P **P** 19 28 28.2 +0.6
comp=Z,12nm,0.4s,baz=298,slow=8.0,SNR=393
ASAR PcP **PcP** **19 29 55.1 +0.8**
comp=Z,2.4nm,0.5s,baz=311,slow=3.1,SNR=2.0
ASAR ScP **ScP** **19 33 40.2 -0.6**
comp=Z,0.7nm,0.6s,baz=310,slow=3.5,SNR=4.3
ASAR S **S** **19 35 17.9 -1.5**
comp=Z,6.1nm,0.8s,baz=302,slow=14,SNR=28
ASAR LR LR 19 49 18.1
comp=Z,60nm,20.6s,baz=290,slow=37
comp=Z,12nm,0.4s
ASAR Alice Springs 48.04 129 P **P** 19 28 28.0 +0.4
FORT Forrest 48.25 141 P **P** 19 28 29.9 +1.0
ZAA0 Zalesovo Array 48.80 352 P **P** 19 28 32.6 -0.3
ZAA0 IAmb IAmb 19 28 33.6
comp=Z,12nm,1.0s
ZALV Zalesovo Beam 48.80 352 P **P** 19 28 32.1 -0.7
comp=Z,3.9nm,0.3s,baz=180,slow=7.1,SNR=46
ZALV ScP **ScP** **19 33 41.8 -1.5**
comp=Z,0.5nm,0.4s,baz=165,slow=4.6,SNR=3.0
ZALV S **S** **19 35 28.8 -0.3**
comp=Z,1.1nm,0.8s,baz=180,slow=13,SNR=4.2
comp=Z,3.9nm,0.3s
ZALV Zalesovo Beam 48.80 352 P **P** 19 28 32.6 -0.3
JGF Kuroka 49.15 47 P **P** 19 28 35.6 -0.3
MDJ Mudanjiang 49.29 33 P **P** 19 28 37.7 +0.9
MDJ Mudanjiang 49.29 33 P **P** 19 28 37.8 +1.0
MDJ pP **pP** 19 28 60.0 +1.6
MDJ sP **sP** **19 29 10.7 +2.2**
GUMO Guam 49.93 77 LR LR 19 52 59.5
comp=Z,44nm,18.1s,baz=230,slow=40
USRK Ussuriysk Ar. 50.34 34 P **P** 19 28 44.8 +0.1
comp=Z,1.8nm,0.6s,baz=232,slow=7.0,SNR=6.0
comp=Z,1.8nm,0.6s
RAYN Ar Rayn 50.58 296 P **P** 19 28 47.8 +0.8
RAYN IAmb IAmb 19 28 49.0
comp=Z,8.4nm,0.8s
RAYN Ar Rayn 50.58 296 P **P** 19 28 48.2 +1.2
RAYN pP **pP** 19 29 09.6 +1.3
RAYN sP **sP** **19 29 20.6 +2.4**
QIS Mount Isa 51.17 122 P **P** 19 28 51.8 +0.4
baz=51,SNR=12
BVAR Borovoye Array 51.26 341 LR LR 19 55 00.2
comp=Z,83nm,18.8s,baz=114,slow=41
BRVK Borovoye 51.32 341 P **P** 19 28 51.6 -0.3
BRVK IAmb IAmb 19 29 23.8
comp=Z,7.6nm,0.8s
BRVK Borovoye 51.32 341 P **P** 19 28 51.8 -0.1
COEN Coen 51.84 113 P **P** 19 28 57.8 +1.3
baz=52,SNR=4.4
COEN Coen 51.84 113 P **P** 19 28 55.1 -1.3
COEN IAmb IAmb 19 30 00.8
comp=Z,19nm,1.5s
HEH HeiHe 52.17 26 *e*P **P** 19 28 58.3 0.0
HEH pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 52.45 332 P **P** 19 29 00.3 -0.1
ABKAR IAmb IAmb 19 29 21.6
comp=Z,12nm,0.7s
ABKAR Akbulak array 52.45 332 P **P** 19 29 00.2 -0.2
OPO Ambohidratompo 52.73 242 P **P** 19 29 03.5 +0.3
comp=Z,13nm,0.7s,baz=75,slow=6.5,SNR=25
comp=Z,13nm,0.7s
ABPO Ambohimpanom 52.87 241 P **P** 19 29 06.6 +2.5
ABPO IAmb IAmb 19 29 07.6
comp=Z,16nm,0.9s
ABPO Ambohimpanom 52.87 241 P **P** 19 29 06.7 +2.5
KLR Kul'dur 53.46 29 LR LR 19 52 50.6
comp=Z,49nm,18.2s,baz=170,slow=37
MTSU Mount Surprise 54.29 117 P **P** 19 29 15.2 +0.7
baz=54,SNR=7.9
PMG Port Moresby 54.31 106 P **P** 19 29 15.0 +0.4
PMG IAmb IAmb 19 29 23.4
comp=Z,7.1nm,0.8s
PMG Port Moresby 54.31 106 P **P** 19 29 14.7 +0.1
PMG sP **sP** **19 29 47.5 +0.5**
VOI Vohitsoka 54.40 238 P **P** 19 29 15.8 +0.5
VOI IAmb IAmb 19 29 18.1
comp=Z,13nm,0.7s
BBOO Buckleboo 54.78 137 P **P** 19 29 18.3 +0.6
baz=55,SNR=6.2
GNI Garni 56.42 315 LR LR 19 57 54.2
comp=Z,42nm,19.4s,baz=70,slow=40
CTA Charters Tower 56.70 118 LR LR 19 57 10.3
comp=Z,58nm,18.5s,baz=308,slow=39
CTAO Charters Tower 56.70 118 P **P** 19 29 32.4 +0.6
CTAO IAmb IAmb 19 29 33.2
comp=Z,9.0nm,0.8s
CTAO Charters Tower 56.70 118 P **P** 19 29 32.3 +0.6
HTT Hallett 57.09 136 P **P** 19 29 35.5 +1.2
baz=57,SNR=8.6
KIBK Kibwezi 57.21 264 P **P** 19 29 36.2 +0.7
KIBK IAmb IAmb 19 29 38.6
comp=Z,9.0nm,1.0s
QLP Quilpie 57.62 126 P **P** 19 29 39.6 +1.5
baz=58,SNR=4.1
GURO Guroymak-BITLI 57.77 312 P **P** 19 29 39.5 +0.4
KMBO Kilima Mbogo 57.83 265 P **P** 19 29 40.4 +0.3
KMBO IAmb IAmb 19 29 43.6
comp=Z,7.7nm,1.0s
KMBO Kilima Mbogo 57.83 265 P **P** 19 29 42.4 +2.3
ARU Arti 58.15 337 LR LR 19 55 47.8
comp=Z,80nm,20.7s,baz=102,slow=37
ARU Arti 58.15 337 P **P** 19 29 40.1 -1.1
ARU IAmb IAmb 19 30 09.2
comp=Z,13nm,0.8s
ARU Arti 58.15 337 P **P** 19 29 40.7 -0.5
ARU pP **pP** 19 30 02.4 -0.8
STKA Stephens Creek 58.15 133 P **P** 19 29 42.5 +0.9
comp=Z,4.8nm,0.5s,baz=304,slow=7.1,SNR=27
STKA LR LR 19 58 54.7
comp=Z,52nm,18.4s,baz=4.2,slow=40
comp=Z,4.8nm,0.5s
STKA Stephens Creek 58.15 133 P **P** 19 29 42.5 +0.9
baz=58,SNR=14
STKA Stephens Creek 58.15 133 P **P** 19 29 42.4 +0.7
MARD Mardin 58.28 311 P **P** 19 29 41.0 -1.7
MARD IAmb IAmb 19 30 12.6
comp=Z,6.0nm,0.7s
KBZ Khabaz 59.13 318 P **P** 19 29 47.6 -0.6
comp=Z,4.2nm,0.9s,baz=131,slow=20,SNR=4.6
comp=Z,4.2nm,0.9s
LODK Lodwar 59.25 271 P **P** 19 29 51.6 +1.9
KIV Kislovodsk 59.36 319 P **P** 19 29 49.8 -0.2
KIV IAmb IAmb 19 30 11.8
comp=Z,7.5nm,0.8s
GAZ Gaziantep 60.95 310 P **P** 19 30 00.8 -0.2
GAZ IAmb IAmb 19 30 23.4
comp=Z,8.4nm,0.7s
CMSA Cobar Meteorol 61.02 131 P **P** 19 30 02.6 +1.2
baz=61,SNR=22
EIL Elat 61.07 301 LR LR 19 57 55.9
comp=Z,19nm,18.0s,baz=73,slow=37
RMQ Roma 61.26 124 P **P** 19 30 05.2 +2.1
baz=61,SNR=6.5
NRIK Noril'sk 63.75 357 P **P** 19 30 18.4 -0.6
comp=Z,6.4nm,0.6s,baz=160,slow=5.2,SNR=8.7
comp=Z,6.4nm,0.6s
NRIK Noril'sk 63.75 357 P **P** 19 30 18.4 -0.6
NRIK IAmb IAmb 19 30 19.1
comp=Z,6.7nm,0.6s
MBAR Mbarara 64.24 267 LR LR 19 55 07.0
comp=Z,43nm,20.1s,baz=52,slow=33
MBAR Mbarara 64.24 267 P **P** 19 30 23.9 +0.5
MBAR IAmb IAmb 19 30 26.6
comp=Z,23nm,1.4s
MBAR Mbarara 64.24 267 P **P** 19 30 25.7 +2.4
BRTR Keskin Array B 64.34 311 P **P** 19 30 22.5 -1.1
comp=Z,2.8nm,0.7s,baz=120,slow=7.3,SNR=14
BRTR LR LR 19 59 53.6
comp=Z,36nm,18.7s,baz=338,slow=37
comp=Z,2.8nm,0.7s
BRTR Keskin Array B 64.34 311 P **P** 19 30 22.3 -1.2
BR131 Keskin Array S 64.34 311 P **P** 19 30 22.4 -1.1
BR131 IAmb IAmb 19 30 49.4
comp=Z,11nm,0.9s
ELL Elmali 66.54 308 P **P** 19 30 37.5 -0.3
MANT Manisa 67.92 309 P **P** 19 30 46.1 -0.5
MANT IAmb IAmb 19 30 47.0
comp=Z,8.2nm,0.6s
KARP Karpathos 68.53 306 P **P** 19 30 51.0 +0.7
BALB Balikesir 68.65 310 P **P** 19 30 50.2 -0.6
BALB IAmb IAmb 19 30 51.3
comp=Z,16nm,1.0s
KLMR Klimovskoe 68.69 334 *e*P **P** 19 30 48.9 -1.8
KLMR AMP 19 30 50.3
comp=Z,24nm,1.6s
KLMR *e*pP **pP** 19 31 09.9 -3.4
LSZ Lusaka 69.15 251 P **P** 19 30 55.9 +1.5
LSZ Lusaka 69.15 251 P **P** 19 30 56.0 +1.5
LSZ pP **PcP** 19 31 19.0 +1.1
TIXI Tiksi 69.25 11 P **P** 19 30 52.4 -1.6
TIXI Tiksi 69.25 11 P **P** 19 30 52.7 -1.2
TIXI pP **pP** 19 31 16.6 -0.1
PETK Petropavlovsk- 69.42 35 LR LR 20 04 21.6
comp=Z,45nm,22.0s,baz=135,slow=38
AKASG Malin Array Be 70.26 322 P **P** 19 30 58.6 -1.9
comp=Z,0.4nm,0.4s,baz=81,slow=5.0,SNR=12
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 70.26 322 P **P** 19 30 59.0 -1.5
AKBB Malin Array Si 70.26 322 P **P** 19 31 01.4 +0.9
VRI Vrincioaia 70.72 317 ⇓P **P** 19 31 03.9 +0.4
VRI ⇑S **pP** 19 31 24.7 -1.4
PLOR Plostina 70.77 317 ⇓P **P** 19 31 04.5 +0.7
PLOR ⇑S **pP** 19 31 22.5 -3.9
TESR Tescani 70.90 317 ⇑P **P** 19 31 04.3 -0.3
TESR ⇑S **pP** 19 31 26.5 -0.7
COVR Voineasa-Covas 71.07 317 ⇓P **P** 19 31 05.0 -0.6
COVR ⇑S **pP** 19 31 22.6 -5.8
MLR Muntele Rosu 71.18 316 ⇑P **P** 19 31 07.1 +0.8
MLR ⇑S **pP** 19 31 27.3 -1.8
MLR Muntele Rosu 71.18 316 P **P** 19 31 05.4 -1.0
MLR IAmb IAmb 19 31 28.0
comp=Z,15nm,1.1s
PLVB Pleven 71.72 314 ⇑P **P** 19 31 09.2 -0.4
PLVB ⇓S **pP** 19 31 31.9 -0.4
BURAR Bucovina Array 72.09 318 ⇑P **P** 19 31 15.6 +3.8
BURAR ⇑S pP 19 31 42.8 +8.3
BURAR Bucovina Array 72.09 318 P **P** 19 31 11.7 -0.1
BUR08 Bucovina Ar. S 72.11 318 P **P** 19 31 11.8 -0.1
VTS Vitosha 72.61 313 ⇓P **P** 19 31 14.7 -0.4
VTS ⇓S **pP** 19 31 35.2 -2.7
VTS Vitosha 72.61 313 P **P** 19 31 13.8 -1.2
NACGM Naroch 72.81 326 *e*P **P** 19 31 15.3 -0.4
comp=Z,10.0nm,0.7s,baz=105
LIT Litokhoron 72.82 310 P **P** 19 31 14.9 -1.2
LIT IAmb IAmb 19 31 15.6
comp=Z,8.7nm,0.6s
KOUNC Koumac, New Ca 73.02 113 P **P** 19 31 16.1 -1.6
KOUNC IAmb IAmb 19 31 46.5
comp=Z,12nm,0.7s
MARR Marisel-Cluj 73.33 317 ⇑P **P** 19 31 19.1 0.0
DJES Djerdap 73.42 315 P **P** 19 31 18.2 -1.4
LBTB Lobatse 73.76 242 P **P** 19 31 23.4 +1.3
LBTB IAmb IAmb 19 31 24.8
comp=Z,14nm,0.8s
BOVS Bovan 73.86 314 ⇑P **P** 19 31 20.8 -1.3
TRPA Tarpa 73.96 318 ⇑P **P** 19 31 22.6 -0.1
TRPA ⇑S **pP** 19 31 46.2 +0.7
MDVR Moldovita 74.01 315 ⇓P **P** 19 31 22.6 -0.5
BZS Buzias 74.19 316 ⇑P **P** 19 31 23.1 -1.0
FIA1 FINESS Array S 74.94 332 P **P** 19 31 27.4 -0.6
FINES FINESS Array B 74.94 332 P **P** 19 31 27.5 -0.5
comp=Z,2.9nm,0.4s,baz=91,slow=5.2,SNR=32
comp=Z,2.9nm,0.4s
FINES FINESS Array B 74.94 332 P **P** 19 31 27.3 -0.7
BOSA Boshof 74.97 239 P **P** 19 31 29.8 +0.8
comp=Z,11nm,0.6s,baz=94,slow=4.7,SNR=28
comp=Z,11nm,0.6s
BOSA Boshof 74.97 239 P **P** 19 31 30.0 +0.9
BOSA IAmb IAmb 19 31 31.4
comp=Z,24nm,1.1s
STHS Stebnicka Huta 75.01 320 *e*P **P** 19 31 28.3 -0.5
FRGS Fruska Gora 75.40 315 ⇓P **P** 19 31 31.2 +0.2
MORH Mrgy, Hungar 76.33 316 ⇓P **P** 19 31 35.4 -0.9
VYHS Vyhne 76.45 318 *e*P **P** 19 31 36.8 -0.2
VADS Vadso 76.47 341 *e* **P** 19 31 36.2 -0.4
MAW Mawson 76.53 192 P **P** 19 31 38.4 +1.5
comp=Z,3.5nm,0.6s,baz=8.7,slow=12,SNR=6.6
comp=Z,3.5nm,0.6s
MAW Mawson 76.53 192 P **P** 19 31 37.1 +0.2
OKC Ostrava-Krasne 77.06 320 *e*P **P** 19 31 40.4 0.0
MORC Moravsky Berou 77.44 320 P **P** 19 31 43.0 +0.5
ARA0 ARCESS Array S 77.53 340 *e*P **P** 19 31 42.6 0.0
ARA0 IAmb IAmb 19 31 43.9
comp=Z,62nm,1.5s
ARCES ARCESS Array B 77.53 340 P **P** 19 31 42.6 0.0
comp=Z,2.5nm,0.5s,baz=99,slow=6.3,SNR=33
ARCES LR LR 20 08 20.7
comp=Z,106nm,18.2s,baz=248,slow=38
comp=Z,2.5nm,0.5s
ARCES ARCESS Array B 77.53 340 P **P** 19 31 42.8 +0.2
KRLC Kraliky 77.96 320 *e*P **P** 19 31 45.7 +0.2
KTK1 Kautokeino 78.16 340 *e*P **P** 19 31 45.9 -0.2
DPC Dobruska-Polom 78.28 320 *e*P **P** 19 31 47.5 +0.3
JETT Jettan, Norway 79.27 340 *e* **P** 19 31 52.2 0.0
CKRC Cesky Krumlov 79.47 318 *e*P **P** 19 31 54.5 +0.8
SUR Sutherland 79.61 236 P **P** 19 31 57.4 +2.4
SABO M.te Sabotino 79.81 316 P **P** 19 31 55.1 -0.5
SABO IAmb IAmb 19 32 27.1
comp=Z,77nm,1.6s
PRED Cave del Predi 79.85 316 P **P** 19 31 56.1 +0.2
PRED IAmb IAmb 19 32 26.1
comp=Z,31nm,1.6s
GEC2 GERESS Array S 79.88 318 P **P** 19 31 56.2 +0.2
GEC2 IAmb IAmb 19 32 43.1
comp=Z,30nm,1.9s
GERES GERESS Array B 79.88 318 P **P** 19 31 56.0 0.0
comp=Z,3.5nm,0.8s,baz=100,slow=5.7,SNR=24
comp=Z,3.5nm,0.8s
GERES GERESS Array B 79.88 318 P **P** 19 31 56.2 +0.2
KHC Kasperske Hory 79.97 319 *e*P **P** 19 31 55.1 -1.3
KHC *e*pP **pP** 19 32 20.5 +1.0
CIMO Cimolais 80.63 316 P **P** 19 31 59.8 -0.2
CIMO IAmb IAmb 19 32 00.8
comp=Z,8.0nm,0.8s
FAUS Fauske 80.74 337 *e*P **P** 19 31 59.9 -0.2
STEI Steigen 80.83 338 *e*P **P** 19 32 00.3 -0.3
NOA NORSAR Array B 81.94 331 P **P** 19 32 05.8 -0.9
comp=Z,2.1nm,0.9s,baz=112,slow=4.9,SNR=1.6
NOA LR LR 20 09 28.1
comp=Z,27nm,18.7s,baz=280,slow=36
comp=Z,2.1nm,0.9s
SPA0 Spitsbergen Ar 82.10 348 *e*P **P** 19 32 07.6 +0.4
SPA0 IAmb IAmb 19 32 08.2
comp=Z,38nm,1.1s
KEST Kesra 83.01 305 P **P** 19 32 13.4 +0.6
comp=Z,6.4nm,0.7s,baz=222,slow=4.6,SNR=6.4
comp=Z,6.4nm,0.7s
VNDA Vanda 90.67 168 P **P** 19 32 50.6 +1.6
comp=Z,2.7nm,0.3s,baz=180,slow=5.5,SNR=43
comp=Z,2.7nm,0.3s
TORD Torodi Ar. Bea 91.71 283 P **P** 19 32 55.8 +0.6
comp=Z,2.5nm,0.7s,baz=85,slow=4.4,SNR=17
comp=Z,2.5nm,0.7s
TORD Torodi Ar. Bea 91.71 283 P **P** 19 32 56.2 +1.0
ESDC Sonseca Array 93.11 310 P **P** 19 33 00.8 -0.5
comp=Z,0.8nm,0.7s,baz=41,slow=4.2,SNR=4.5
comp=Z,0.8nm,0.7s
K20K Telida 94.26 25 P **P** 19 33 06.7 +0.7
K20K IAmb IAmb 19 33 48.2
comp=Z,4.3nm,0.8s
CAST Castle Rocks 95.06 25 P **P** 19 33 10.0 +0.3
CAST IAmb IAmb 19 33 51.5
comp=Z,5.2nm,1.0s
ILAR Eielson Array 96.53 22 P **P** 19 33 15.9 -0.4
comp=Z,0.3nm,0.5s,baz=286,slow=5.1,SNR=4.9
comp=Z,0.3nm,0.5s
A36M Sachs Harbour 98.26 12 P **P** 19 33 24.1 +0.2
NVAR Mina Array Bea 126.45 32 PKP **PKPdf** **19 38 49.9 -0.4**
comp=Z,0.3nm,0.4s,baz=279,slow=2.9,SNR=4.8
PDAR Pinedale Array 126.96 22 PKP **PKPdf** **19 38 51.0 -0.1**
comp=Z,0.9nm,0.9s,baz=108,slow=2.3,SNR=5.1
PLCA Paso Flores 142.70 199 PKP **PKPdf** **19 39 17.9 -2.4**
comp=Z,2.1nm,0.7s,baz=104,slow=6.7,SNR=3.8
CPUP Villa Florida 146.37 229 PKPbc **PKPdf** **19 39 28.2 +1.3**
comp=Z,5.7nm,0.8s,baz=129,slow=2.8,SNR=10.0

IDC **12** *19:23:51.6±0.7, 30°.33S×71°.89W, h0km, mb4.1/5,*

mbtmp4.1/9,ML4.1/5,MS3.8/17,Error ellipse: s-maj=22.7km s-min=20.1km az=172.0

SJA **12** *19:23:52.8±0.7,30°.35S×71°.88W,h14km,ML4.7,MW4.4*

NEIC **12** *19:23:57.7±1.6,30°.38S±0°.05×71°.6W±0°.1,h33km±4km, mb4.7/24,Mwr4.4/56,ML4.6(GUC),Error ellipse: s-maj=12.5km s-min=6.6km az=97.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.70; $M_{\theta\theta}$-0.89; $M_{\phi\phi}$-2.81; $M_{r\theta}$-0.04; $M_{r\phi}$2.08; $M_{\theta\phi}$-3.31; Fault plane solution: $M_0$5.14000×10^{15} NP1:ϕ₁167.69000°, δ65.68000°,λ108.84000°. NP2:ϕ₂308.04000°,δ30.41000°, λ54.45000°. Principal axes: T 5.2098, Plg64.0000°, Azm109.0000°; N -0.1339, Plg17.0000°, Azm340.0000°; P -5.0759, Plg19.0000°, Azm244.0000°;*

GUC **12** *19:23:57.5±0.7,30°.40S×71°.49W,h24km±7km,ML4.7*

NEIC **12** *19:23:57.7,30°.38S×71°.58W,h33km*

ISC 12 19:23:52.9±0.9,30°.37S±0°.02×71°.83W±0°.03,h8km±5km, n213,σ1ˢ99/245,mb4.7/14,**MS3.9**/14,**1C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.68**	**49**			**Pn**	**19 24 08.7**	**-0.2**
CO05	**La Serena**	**0.68**	**49**	*i* P		**Pn**	**19 24 08.8**	**-0.1**
CO05				*e*S		**Sb**	**19 24 16.3**	**-0.4**
CO05				IAML			19 24 19.4	
	comp=E,75μm,0.4s							
GO04	**Tololo Observa**	**0.91**	**78**			**Pg**	**19 24 11.0**	**+0.5**
GO04	**Tololo Observa**	**0.91**	**78**	*i* P		**Pb**	**19 24 11.3**	**+0.1**
GO04				*e*S		**Sg**	**19 24 21.8**	**-0.6**
GO04	**Tololo Observa**	**0.91**	**78**	*e*P		**Pg**	**19 24 11.0**	**+0.5**
GO04	**Tololo Observa**	**0.91**	**78**	*e*P		**Pg**	**19 24 11.0**	**+0.5**
CO03	**El Pedregal**	**1.09**	**116**			**Pb**	**19 24 13.5**	**-0.6**
CO03	**El Pedregal**	**1.09**	**116**	⇓ *i*P		**Pb**	**19 24 13.7**	**-0.4**
CO03				*e*S		**Sb**	**19 24 25.8**	**-2.7**
CO03				IAML			19 24 27.1	
	comp=N,27μm,0.3s							
CO03	**El Pedregal**	**1.09**	**116**	*e*P		**Pb**	**19 24 13.7**	**-0.4**
CO03	**El Pedregal**	**1.09**	**116**	*e*P		**Pb**	**19 24 13.7**	**-0.4**
CO02	**Combarbal**	**1.09**	**140**			**Pn**	**19 24 15.0**	**+0.3**
CO02	**Combarbal**	**1.09**	**140**	*e*P		**Pn**	**19 24 15.0**	**+0.3**
CO02				*e*S		**Sb**	**19 24 28.3**	**-0.5**
CO02				IAML			19 24 30.7	
	comp=N,80μm,0.3s							
CO02	**Combarbal**	**1.09**	**140**	*e*P		**Pb**	**19 24 14.0**	**-0.3**
CO02				IAML			19 24 30.9	
	comp=Z,13μm,0.3s							
CO02	**Combarbal**	**1.09**	**140**	*e*P		**Pb**	**19 24 14.0**	**-0.3**
CO02				IAML			19 24 30.9	
	comp=Z,13μm,0.3s							
CO01	**Juntas del Tor**	**1.55**	**76**			**Pn**	**19 24 21.3**	**+0.1**
CO01	**Juntas del Tor**	**1.55**	**76**	⇓ *i*P		**Pn**	**19 24 21.3**	**+0.1**
CO01				*e*S		**Sn**	**19 24 40.2**	**-1.5**
CO01	**Juntas del Tor**	**1.55**	**76**	*e*P		**Pn**	**19 24 21.6**	**+0.4**
CO01				*e*S		**Sn**	**19 24 38.1**	**-3.6**
CO01				IAML			19 24 41.6	
	comp=Z,8μm,0.8s							
CO01	**Juntas del Tor**	**1.55**	**76**	*e*P		**Pn**	**19 24 21.6**	**+0.4**
CO01				*e*S		**Sn**	**19 24 38.1**	**-3.6**
CO01				IAML			19 24 41.6	
	comp=Z,8μm,0.8s							
LCO	**Las Campanas**	**1.67**	**36**			**Pb**	**19 24 24.2**	**0.0**
AC05	**El Transito**	**2.04**	**42**			**Pb**	**19 24 29.5**	**-0.9**
AC05	**El Transito**	**2.04**	**42**	*e*P		**Pb**	**19 24 30.0**	**-0.4**
AC05				*e*S		**Sn**	**19 24 54.3**	**+0.7**
AC05				IAML			19 24 58.1	
	comp=N,11μm,0.4s							
AC05	**El Transito**	**2.04**	**42**	*e*P		**Pb**	**19 24 29.7**	**-0.7**
AC05				*e*P		**Pb**	**19 24 30.0**	**-0.4**
AC05				IAML			19 25 03.9	
	comp=Z,6μm,0.5s							
AC05	**El Transito**	**2.04**	**42**	*e*P		**Pb**	**19 24 29.7**	**-0.7**
AC05				*e*P		**Pb**	**19 24 30.0**	**-0.4**
AC05				IAML			19 25 03.9	
	comp=Z,6μm,0.5s							
AROD	**Rodeo**	**2.05**	**85**	*e*P		**Pb**	**19 24 30.0**	**-0.6**
AROD	**Rodeo**	**2.05**	**85**	*e*P		**Pb**	**19 24 30.0**	**-0.6**
VA06	**Catapilco**	**2.23**	**168**	Pn		**Pn**	**19 24 32.1**	**+1.9**
AC04	**Llanos de Chal**	**2.26**	**17**			**Pn**	**19 24 32.3**	**+1.7**
AC04	**Llanos de Chal**	**2.26**	**17**	*e*P		**Pn**	**19 24 32.1**	**+1.5**
AC04				*e*S		**Sn**	**19 25 00.2**	**+1.5**
AC04				IAML			19 25 12.0	
	comp=N,3μm,0.5s							
AC04	**Llanos de Chal**	**2.26**	**17**	*e*P		**Pn**	**19 24 32.0**	**+1.4**
AC04	**Llanos de Chal**	**2.26**	**17**	*e*P		**Pn**	**19 24 32.0**	**+1.4**
ACDV	**Cuesta del Vie**	**2.35**	**86**	*e*P		**Pn**	**19 24 30.3**	**-1.8**
ACDV				*e*P		**Pb**	**19 24 35.9**	**+0.2**
ACDV				*e*S		**Sb**	**19 25 05.4**	**+0.4**
ACDV				IAML			19 25 06.3	
	comp=Z,2μm,0.5s							
ACDV	**Cuesta del Vie**	**2.35**	**86**	*e*P		**Pn**	**19 24 30.3**	**-1.8**
ACDV				*e*P		**Pb**	**19 24 35.9**	**+0.2**
ACDV				*e*S		**Sb**	**19 25 05.4**	**+0.4**
ACDV				IAML			19 25 06.3	
	comp=Z,2μm,0.5s							
ACCO	**Cerro Coronel**	**2.40**	**96**	*e*P		**Pb**	**19 24 35.9**	**-0.6**
ACCO	**Cerro Coronel**	**2.40**	**96**	*e*P		**Pb**	**19 24 35.9**	**-0.6**
RTLS	**Leoncito**	**2.60**	**124**	*e*P		**Pb**	**19 24 38.0**	**-2.0**
RTLS				*e*S		**Sg**	**19 25 15.7**	**-0.7**
RTLS				IAML			19 25 16.8	
	comp=Z,5μm,0.5s							
RTLS	**Leoncito**	**2.60**	**124**	*e*P		**Pb**	**19 24 38.0**	**-2.0**
RTLS				*e*S		**Sg**	**19 25 15.7**	**-0.7**
RTLS				IAML			19 25 16.8	
	comp=Z,5μm,0.5s							
VA03	**San Esteban**	**2.62**	**156**			**Pn**	**19 24 36.3**	**+0.5**
VA03	**San Esteban**	**2.62**	**156**	*e*P		**Pn**	**19 24 38.9**	**-1.4**
VA03				*e*S		**Sb**	**19 25 13.8**	**+1.0**
VA03				IAML			19 25 16.5	
	comp=N,5μm,0.2s							
VA03	**San Esteban**	**2.62**	**156**	*e*P		**Pn**	**19 24 38.0**	**+2.2**
VA03				*e*S		**Sb**	**19 25 12.2**	**-0.5**
VA03				IAML			19 25 20.7	
	comp=Z,3μm,0.7s							
VA03	**San Esteban**	**2.62**	**156**	*e*P		**Pn**	**19 24 38.0**	**+2.2**
VA03				*e*S		**Sb**	**19 25 12.2**	**-0.5**
VA03				IAML			19 25 20.7	
	comp=Z,3μm,0.7s							
VA01	**Torpederas**	**2.65**	**177**			**Pn**	**19 24 37.5**	**+1.6**
VA01	**Torpederas**	**2.65**	**177**	*e*P		**Pn**	**19 24 38.0**	**+2.0**
VA01				*e*S		**Sb**	**19 25 13.3**	**0.0**
VA01	**Torpederas**	**2.65**	**177**	*e*P		**Pn**	**19 24 38.0**	**+2.0**
VA01				*e*S		**Sb**	**19 25 13.3**	**0.0**
ROCH	**El Roble**	**2.69**	**165**	*e*P		**Pb**	**19 24 38.9**	**-2.6**
ROCH				*e*P		**Pn**	**19 24 38.8**	**+2.0**
ROCH				*e*S		**Sb**	**19 25 14.8**	**+0.2**
ROCH				*e*S		**Sg**	**19 25 17.3**	**-2.0**
ROCH				IAML			19 25 19.0	
	comp=N,6μm,0.5s							
ROCH				IAML			19 25 24.5	
	comp=N,5μm,0.5s							
ROC1	**El Roble**	**2.69**	**165**			**Pn**	**19 24 38.5**	**+1.7**
ROC1	**El Roble**	**2.69**	**165**	*e*P		**Pn**	**19 24 35.3**	**-1.5**
ROC1				*e*P		**Pb**	**19 24 38.8**	**-2.7**
ROC1	**El Roble**	**2.69**	**165**	*e*P		**Pn**	**19 24 35.3**	**-1.5**
ROC1				*e*P		**Pb**	**19 24 38.8**	**-2.7**
ROC1				*e*S		**Sb**	**19 25 17.0**	**+2.2**
MT02	**Curacav**	**2.94**	**169**			**Pn**	**19 24 42.1**	**+2.0**
MT02	**Curacav**	**2.94**	**169**	*e*P		**Pn**	**19 24 42.0**	**+2.0**
MT02				*e*S		**Sn**	**19 25 17.6**	**+2.0**
MT02				IAML			19 25 33.9	
	comp=E,2μm,0.7s							
MT02	**Curacav**	**2.94**	**169**	*e*P		**Pn**	**19 24 42.0**	**+2.0**
MT02				*e*S		**Sg**	**19 25 25.1**	**-2.3**
MT02				IAML			19 25 30.2	
	comp=Z,1μm,0.6s							
MT02	**Curacav**	**2.94**	**169**	*e*P		**Pn**	**19 24 42.0**	**+2.0**
MT02				*e*S		**Sg**	**19 25 25.1**	**-2.3**
MT02				IAML			19 25 30.2	
	comp=Z,1μm,0.6s							
ZON	**Zonda**	**2.95**	**114**	Pn		**Pn**	**19 24 41.7**	**+1.5**
RTLL	**Cerro Villicun**	**3.04**	**109**	*e*P		**Pn**	**19 24 44.0**	**+2.6**
RTLL				*e*S		**Sb**	**19 25 20.8**	**-3.9**
RTLL	**Cerro Villicun**	**3.04**	**109**	*e*P		**Pn**	**19 24 44.0**	**+2.6**
RTLL				*e*S		**Sb**	**19 25 20.8**	**-3.9**
GO03	**Copiap**	**3.10**	**27**			**Pn**	**19 24 43.5**	**+1.2**
GO03	**Copiap**	**3.10**	**27**	*e*P		**Pn**	**19 24 44.0**	**+1.7**
GO03				*e*P		**Pb**	**19 24 44.3**	**-4.1**
GO03				*e*S		**Sn**	**19 25 21.8**	**+2.2**
GO03	**Copiap**	**3.10**	**27**	*e*P		**Pn**	**19 24 44.0**	**+1.7**
GO03				*e*P		**Pb**	**19 24 44.3**	**-4.1**
GO03				*e*S		**Sn**	**19 25 21.8**	**+2.2**
MT05	**Renca**	**3.15**	**163**	Pn		**Pn**	**19 24 45.0**	**+2.0**
MT05	**Renca**	**3.15**	**163**	*e*P		**Pn**	**19 24 46.1**	**+3.1**
MT05				*e*S		**Sb**	**19 25 24.3**	**-3.6**
MT05				IAML			19 25 39.5	
	comp=Z,2μm,0.9s							
MT05	**Renca**	**3.15**	**163**	*e*P		**Pn**	**19 24 46.1**	**+3.1**
MT05				*e*S		**Sb**	**19 25 24.3**	**-3.6**
MT05				IAML			19 25 39.5	
	comp=Z,2μm,0.9s							
AC06	**Mina Casimiro**	**3.27**	**24**			**Pn**	**19 24 45.8**	**+1.2**
VA05	**Santo Domingo**	**3.28**	**177**			**Pn**	**19 24 45.9**	**+1.2**
MT03	**Universidad Ad**	**3.31**	**161**	Pn		**Pn**	**19 24 47.2**	**+2.0**
MT03	**Universidad Ad**	**3.31**	**161**	*e*P		**Pn**	**19 24 48.6**	**+3.4**
MT03				*e*S		**Sb**	**19 25 30.3**	**-2.2**
MT03				IAML			19 25 42.4	
	comp=Z,2μm,0.4s							
MT03	**Universidad Ad**	**3.31**	**161**	*e*P		**Pn**	**19 24 48.6**	**+3.4**
MT03				*e*S		**Sb**	**19 25 30.3**	**-2.2**
MT03				IAML			19 25 42.4	
	comp=Z,2μm,0.4s							
CFA	**Coronel Fontan**	**3.32**	**113**	Pn		**Pn**	**19 24 47.2**	**+1.9**
	comp=Z,159nm,0.3s,baz=338,slow=8.9,SNR=315							
CFA				Sn		**Sb**	**19 25 28.5**	**-4.3**
	comp=Z,180nm,0.3s,baz=89,slow=19,SNR=5.5							
CFA				LR		LR	19 26 16.1	
	comp=Z,1μm,20.7s,baz=260,slow=43							
ASAL	**Salagasta**	**3.38**	**132**	*e*P		**Pb**	**19 24 50.0**	**-3.3**
ASAL	**Salagasta**	**3.38**	**132**	*e*P		**Pb**	**19 24 50.0**	**-3.3**
MT09	**Talagante**	**3.47**	**168**			**Pn**	**19 24 48.9**	**+1.5**
MT09	**Talagante**	**3.47**	**168**	*i* P		**Pn**	**19 24 49.7**	**+2.2**
MT09				*e*S		**Sn**	**19 25 29.6**	**+0.8**
MT09				IAML			19 25 44.2	
	comp=E,2μm,0.4s							
MT01	**Popeta**	**3.52**	**172**			**Pn**	**19 24 49.7**	**+1.7**
MT01	**Popeta**	**3.52**	**172**	*e*P		**Pn**	**19 24 50.0**	**+2.0**
MT01				*e*P		Pb	19 24 50.1	-5.4
MT01				*e*S		**Sb**	**19 25 35.3**	**-3.1**
MT01				IAML			19 25 44.0	
	comp=Z,1μm,0.6s							
MT01	**Popeta**	**3.52**	**172**	*e*P		**Pn**	**19 24 50.0**	**+2.0**
MT01				*e*P		Pb	19 24 50.1	-5.4
MT01				*e*S		**Sb**	**19 25 35.3**	**-3.1**
MT01				IAML			19 25 44.0	
	comp=Z,1μm,0.6s							
VCA	**Vinchina**	**3.55**	**64**	⇑ *i*P		**Pb**	**19 24 53.0**	**-3.2**
VCA				*e*S		**Sb**	**19 25 35.2**	**-4.3**
VCA	**Vinchina**	**3.55**	**64**	*e*P		**Pb**	**19 24 52.9**	**-3.2**
VCA				*e*S		**Sb**	**19 25 36.4**	**-3.2**
VCA				IAML			19 25 48.9	
	comp=Z,4μm,0.7s							
VCA	**Vinchina**	**3.55**	**64**	*e*P		**Pb**	**19 24 52.9**	**-3.2**
VCA				*e*S		**Sb**	**19 25 36.4**	**-3.2**
VCA				IAML			19 25 48.9	
	comp=Z,4μm,0.7s							
AAGR	**Agrelo**	**3.72**	**137**	*e*P		**Pn**	**19 24 55.0**	**+4.1**
AAGR				*e*S		**Sb**	**19 25 48.2**	**+3.8**
AAGR	**Agrelo**	**3.72**	**137**	*e*P		**Pn**	**19 24 55.0**	**+4.1**
AAGR				*e*S		**Sb**	**19 25 48.2**	**+3.8**
LMEL	**Las Melosas**	**3.73**	**159**	Pn		**Pn**	**19 24 51.4**	**+0.3**
BO04	**La Punta**	**3.75**	**164**			**Pn**	**19 24 53.3**	**+2.0**
BO04	**La Punta**	**3.75**	**164**	*e*P		**Pn**	**19 24 53.5**	**+2.2**
BO04				*e*S		**Sn**	**19 25 35.8**	**+0.1**
BO01	**Tunca**	**4.06**	**171**	Pn		**Pn**	**19 24 57.1**	**+1.7**
BO01	**Tunca**	**4.06**	**171**	*e*P		**Pn**	**19 24 58.0**	**+2.6**
BO01				*e*S		**Sn**	**19 25 48.3**	**+5.2**
BO01				*e*S		**Sb**	**19 25 51.8**	**-2.1**
BO01				IAML			19 26 00.3	
	comp=Z,642nm,0.7s							
BO01	**Tunca**	**4.06**	**171**	*e*P		**Pn**	**19 24 58.0**	**+2.6**
BO01				*e*S		**Sn**	**19 25 48.3**	**+5.2**
BO01				*e*S		**Sb**	**19 25 51.8**	**-2.1**
BO01				IAML			19 26 00.3	
	comp=Z,642nm,0.7s							
AC02	**Maricunga**	**4.25**	**35**	Pn		**Pn**	**19 24 59.8**	**+1.3**
AC02	**Maricunga**	**4.25**	**35**	*e*P		**Pn**	**19 25 01.5**	**+3.0**
AC02				*e*S		**Sn**	**19 25 51.8**	**+3.3**
AC02				IAML			19 26 08.5	
	comp=Z,1μm,0.9s							
AC02	**Maricunga**	**4.25**	**35**	*e*P		**Pn**	**19 25 01.5**	**+3.0**
AC02				*e*S		**Sn**	**19 25 51.8**	**+3.3**
AC02				IAML			19 26 08.5	
	comp=Z,1μm,0.9s							
AC01	**Pan de Azucar**	**4.34**	**15**	Pn		**Pn**	**19 24 59.3**	**-0.1**
BO02	**Sierra Bellavi**	**4.50**	**169**	Pn		**Pn**	**19 25 03.4**	**+1.9**
BO02	**Sierra Bellavi**	**4.50**	**169**	*e*P		**Pn**	**19 25 04.0**	**+2.5**
BO02				*e*S		**Sn**	**19 25 58.3**	**+4.2**
BO02				IAML			19 26 16.6	
	comp=Z,795nm,1.1s							
BO02	**Sierra Bellavi**	**4.50**	**169**	*e*P		**Pn**	**19 25 04.0**	**+2.5**
BO02				*e*S		**Sn**	**19 25 58.3**	**+4.2**
BO02				IAML			19 26 16.6	
	comp=Z,795nm,1.1s							
APLL	**PUNTA DE LOS L**	**4.58**	**92**	*e*S		**Sb**	**19 26 10.5**	**+1.4**
APLL	**PUNTA DE LOS L**	**4.58**	**92**	*e*S		**Sb**	**19 26 10.5**	**+1.4**
GO05	**Huala**	**4.63**	**181**			**Pn**	**19 25 03.8**	**+0.5**
GO05	**Huala**	**4.63**	**181**	*e*P		**Pn**	**19 25 04.1**	**+0.9**
GO05	**Huala**	**4.63**	**181**	*e*P		**Pn**	**19 25 04.1**	**+0.9**
RFA	**San Rafael**	**5.23**	**148**	*e*P		**Pn**	**19 25 14.0**	**+2.5**
RFA	**San Rafael**	**5.23**	**148**	*e*P		**Pn**	**19 25 14.0**	**+2.5**
ML02	**Panimavida**	**5.39**	**176**			**Pn**	**19 25 14.2**	**+0.6**
PB14	**IPOC Station P**	**5.86**	**13**	Pn		**Pn**	**19 25 19.4**	**-1.1**
BI05	**Punta Hualpn**	**6.46**	**190**	Pn		**Pn**	**19 25 30.6**	**+2.2**
H03N1	**Juan Fernandez**	**6.75**	**241**	T		T	19 32 36.1	
	baz=70,slow=72,SNR=6139							
H03N2	**Juan Fernandez**	**6.77**	**241**	T		T	19 32 33.9	
	baz=70,slow=72,SNR=5608							
H03N3	**Juan Fernandez**	**6.77**	**241**	T		T	19 32 35.5	
	baz=70,slow=72,SNR=4357							
VA04	**Juan Fernndez**	**6.78**	**239**			**Pn**	**19 25 35.2**	**+2.4**
H03S3	**Juan Fernandez**	**6.92**	**238**	T		T	19 32 48.0	
	baz=72,slow=77,SNR=12							
PB10	**IPOC Station P**	**6.92**	**10**	Pn		**Pn**	**19 25 35.4**	**+0.6**
H03S1	**Juan Fernandez**	**6.93**	**238**	T		T	19 32 49.8	
	baz=72,slow=77,SNR=14							
H03S2	**Juan Fernandez**	**6.94**	**238**	T		T	19 32 46.5	
	baz=72,slow=77,SNR=16							
PB15	**IPOC Station P**	**7.44**	**17**			**Pn**	**19 25 41.6**	**-0.4**
PB06	**IPOC Station P**	**7.90**	**15**	Pn		**Pn**	**19 25 49.5**	**+1.2**
AF01	**San Pedro de A**	**8.08**	**25**	Pn		**Pn**	**19 25 53.1**	**+2.2**
PB04	**IPOC Station P**	**8.14**	**11**	Pn		**Pn**	**19 25 50.9**	**-0.8**
LVC	**Limon Verde**	**8.16**	**19**	Pn		**Pn**	**19 25 52.4**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=156,slow=7.5,SNR=8.6							
LVC				Sn		**Sn**	**19 27 26.5**	**+1.8**
	comp=Z,7.8nm,0.3s,baz=280,slow=6.9,SNR=3.2							
LVC				LR		LR	19 28 52.7	
	comp=Z,539nm,18.9s,baz=214,slow=37							
	comp=Z,3.3nm,0.2s							
LVC	**Limon Verde**	**8.16**	**19**			**Pn**	**19 25 50.7**	**-1.4**
LVC	**Limon Verde**	**8.16**	**19**	*e*P		Pb	19 26 04.4	-10
PB03	**IPOC Station P**	**8.49**	**13**			**Pn**	**19 25 58.5**	**+2.0**
PB07	**IPOC Station P**	**8.78**	**12**	Pn		**Pn**	**19 26 00.2**	**-0.3**
PB09	**IPOC Station P**	**8.85**	**16**	Pn		**Pn**	**19 26 04.0**	**+2.6**
PB02	**IPOC Station P**	**9.18**	**11**	Pn		**Pn**	**19 26 07.1**	**+1.3**
GO06	**Curarrehue**	**9.20**	**178**	Pn		**Pn**	**19 26 07.2**	**+1.2**
PB01	**IPOC Station P**	**9.53**	**13**	Pn		**Pn**	**19 26 09.8**	**-0.8**
PATCX	**Punta Patache**	**9.63**	**9**	Pn		**Pn**	**19 26 13.0**	**+1.0**
TA01	**Diego Aracena**	**9.88**	**9**	Pn		**Pn**	**19 26 16.1**	**+0.8**
TA02	**Huaiquique**	**10.17**	**9**	Pn		**Pn**	**19 26 21.6**	**+2.2**
PLCA	**Paso Flores**	**10.39**	**175**	Pn		**Pn**	**19 26 23.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=352,slow=19,SNR=2.1							
PLCA				LR		LR	19 30 51.7	
	comp=Z,390nm,19.6s,baz=350,slow=40							
	comp=Z,1.0nm,0.4s							
LL04	**Puerto Octay**	**10.53**	**182**	Pn		**Pn**	**19 26 24.5**	**+0.3**
PB11	**IPOC Station P**	**10.75**	**11**			**Pn**	**19 26 28.7**	**+1.4**
PSGCX	**Pisagua**	**10.84**	**9**	Pn		**Pn**	**19 26 27.2**	**-1.4**
GO01	**Chusmiza**	**10.92**	**13**	Pn		**Pn**	**19 26 30.7**	**+0.7**
TRQA	**Tornquist**	**11.19**	**136**			**Pn**	**19 26 32.4**	**-0.9**
MNMC	**Minye Minye**	**11.37**	**11**			**Pn**	**19 26 36.8**	**+0.7**
PB12	**IPOC Station P**	**11.78**	**7**	Pn		**Pn**	**19 26 42.9**	**+1.3**
ITQB	**Itaqui**	**13.20**	**91**			**Pn**	**19 26 58.9**	**-1.8**
CPUP	**Villa Florida**	**13.39**	**76**	Pn		**Pn**	**19 27 03.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=252,slow=12,SNR=5.9							
CPUP				Sn		**Sn**	**19 29 33.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=164,slow=14,SNR=4.2							
CPUP				Lg		Lg	19 30 58.0	
	comp=Z,0.8nm,0.3s,baz=348,slow=20,SNR=1.7							
CPUP				LR		LR	19 32 47.5	
	comp=Z,400nm,18.1s,baz=249,slow=40							
	comp=Z,2.4nm,0.4s							
CPUP	**Villa Florida**	**13.39**	**76**	*e*P		P	19 27 24.8	+12
RODS	**Rosario do Sul**	**14.36**	**94**	*e*P		P	19 27 29.5	+5.7
LPAZ	**La Paz**	**14.42**	**14**			**Pn**	**19 27 18.7**	**+0.7**
LPAZ	**La Paz**	**14.42**	**14**	*e*P		**Pn**	**19 27 21.5**	**+3.4**
PLTB	**Pedras Altas**	**15.68**	**100**			**Pn**	**19 27 31.9**	**-2.5**
CRSM	**Crissiumal (Br**	**15.84**	**84**	*e*P		P	19 27 49.1	+8.9
ALGR	**Alto Alegre (B**	**16.43**	**89**	*e*P		**P**	**19 27 53.8**	**+6.9**
AMBA	**Amambai (Brazi**	**16.77**	**68**	*e*P		P	19 28 02.1	+12
FRBT	**Francisco Belt**	**17.11**	**80**	*e*P		P	19 28 04.7	+10
SIV	**San Ignacio**	**17.38**	**37**	P		**Pn**	**19 27 56.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=204,slow=9.7,SNR=14							
SIV				LR		LR	19 35 53.9	
	comp=Z,425nm,20.9s,baz=214,slow=42							
	comp=Z,5.1nm,0.6s							
ITAB	**Concordia**	**17.55**	**85**			**Pn**	**19 27 55.4**	**-2.6**
ITAB				IAmb		IAmb	19 28 12.5	
	comp=Z,49nm,1.1s							
PANT	**Pantanal (Braz**	**17.85**	**54**	*e*P		P	19 28 12.4	+10
NNA	**Nana**	**18.88**	**345**	LR		LR	19 33 53.7	
	comp=Z,152nm,21.2s,baz=170,slow=32							
PTLB	**Pontes e Lacer**	**18.88**	**41**	P		**P**	**19 28 12.4**	**-1.4**
PTLB				IAmb		IAmb	19 28 29.3	
	comp=Z,8.9nm,0.9s							
TIJ01	**Guaruva-PR**	**20.79**	**82**	*e*P		Pn	19 28 38.3	+1.1
ETMB	**Extrema**	**21.11**	**16**	P		**P**	**19 28 38.0**	**-0.2**
ETMB				IAmb		IAmb	19 28 57.2	
	comp=Z,7.1nm,0.8s							
CZSB	**Cruzeiro do Su**	**22.54**	**358**	P		**P**	**19 28 53.8**	**+0.2**
CZSB				IAmb		IAmb	19 29 14.7	
	comp=Z,25nm,1.1s							
SAML	**Samuel**	**22.79**	**23**	P		**P**	**19 28 55.3**	**-0.9**
ATAH	**Atahualpa**	**23.92**	**344**	LR		LR	19 36 41.3	
	comp=Z,108nm,21.0s,baz=179,slow=32							
BDFB	**Brasilia**	**26.29**	**61**	P		**P**	**19 29 28.0**	**-1.3**
	comp=Z,8.5nm,0.5s,baz=240,slow=7.9,SNR=15							
BDFB				LR		LR	19 40 44.8	
	comp=Z,318nm,20.6s,baz=266,slow=38							
	comp=Z,8.5nm,0.5s							
BDFB	**Brasilia**	**26.29**	**61**	P		**P**	**19 29 27.3**	**-2.0**
BDFB				IAmb		IAmb	19 29 43.0	
	comp=Z,20nm,1.2s							
BDFB	**Brasilia**	**26.29**	**61**	*e*P		**P**	**19 29 28.6**	**-0.7**
SNDB	**Serra Nova Dou**	**26.41**	**51**	*e*P		**P**	**19 29 29.3**	**-1.0**
JANB	**Januaria**	**29.50**	**65**	*e*P		**P**	**19 29 56.6**	**-1.4**
RPN	**Rapa Nui**	**32.94**	**266**	LR		LR	19 40 04.0	
	comp=Z,189nm,19.7s,baz=114,slow=30							
BOAV	**Boa Vista**	**34.32**	**20**	P		**P**	**19 30 39.7**	**-0.5**
BOAV				IAmb		IAmb	19 30 41.4	
	comp=Z,3.7nm,0.6s							
PMSA	**Palmer Station**	**34.77**	**174**	LR		LR	19 45 19.2	
	comp=Z,145nm,18.4s,baz=7.5,slow=37							
RUSC	**La Rusia**	**36.08**	**358**	P		**P**	**19 30 56.0**	**+0.2**
MDP	**Montagnes des**	**39.77**	**31**	LR		LR	19 49 42.7	
	comp=Z,114nm,18.8s,baz=216,slow=39							
RCBR	**Riachuelo**	**41.67**	**61**	LR		LR	19 49 54.2	
	comp=Z,212nm,18.3s,baz=358,slow=38							
SNAA	**Sanae**	**54.88**	**159**	P		**P**	**19 33 23.6**	**-0.1**
SNAA	**Sanae**	**54.88**	**159**	LR		LR	19 57 14.7	
	comp=Z,84nm,18.7s,baz=350,slow=36							
**RK

TGY	**Tagaytay City**	**1.42**	**34**	⇓	*e*P	Pn	19 35 41.6	-1.3
TGY					*e*S	Sb	19 35 56.5	-5.3
MACP	**Maragondon, Ca**	**1.46**	**23**	⇓	*e*P	Pn	19 35 42.8	-0.6
LQP	**Lukban**	**1.81**	**49**	⇑	*e*P	Pn	19 35 48.0	-0.6
LQP					*i* S	Sg	19 36 14.2	-0.7
ENPP	**El Nido**	**1.83**	**202**	⇓	*e*P	Pn	19 35 49.0	+0.4
OTRP	**Odiongan**	**1.93**	**106**	⇓	*e*P	Pn	19 35 50.1	+0.2

MAN **12** *19:39:34.8, 10˚.10N×126˚.29E, h8km, mb4.7, ML3.6, MS3.5*
NEIC **12** *19:39:42.3±1.3, 9˚.91N±0˚.04×125˚.7E±0˚.2, h91km±11km, mb4.6/11, Error ellipse: s-maj=29.1km s-min=6.0km az=89.0*
IDC **12** *19:39:44.1±2.3, 9˚.90N×126˚.11E, h120km±22km, mb3.6/15, mbtmp4.0/16, MS3.1/1, Error ellipse: s-maj=30.1km s-min=13.1km az=72.0*

ISC 12 19:39:36.1±0.7, **10˚.05N**±0˚.04×**126˚.30E**±0˚.06, **h37**km±1km, **n58**,σ1**s97**/63, **mb4.0**/20, **9C-15D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.32**	**213**	⇓	*e*P		**Pn**	**19 39 42.9**	**-1.5**
SCPH	**Surigao**	**0.85**	**252**		*e*P		**Pn**	**19 39 50.6**	**-1.0**
SCPH					*e*S		**Sn**	**19 40 01.8**	**-1.0**
MSLP	**Maasin**	**1.43**	**273**	⇓	*e*P		**Pn**	**19 39 58.9**	**-0.6**
MSLP					*e*S		**Sn**	**19 40 18.6**	**+1.6**
TASP	**Talacogon, Agu**	**1.67**	**197**	⇓	*e*P		**Pn**	**19 40 04.9**	**+2.1**
TASP					*e*S		**Sn**	**19 40 22.5**	**-0.4**
BIPH	**Bislig**	**1.86**	**178**	⇓	*i*P		**Pn**	**19 40 05.7**	**+0.2**
BIPH					*i* S		**Sn**	**19 40 27.3**	**-0.3**
TABP	**Talibon, Bohol**	**1.94**	**271**	⇓	*e*P		**Pn**	**19 40 07.6**	**+1.1**
TABP					*e*S		Sn	19 40 18.7	-11
GHBP	**Garcia Hernand**	**2.00**	**258**	⇓	*e*P		**Pn**	**19 40 08.4**	**+1.1**
GHBP					*e*S		**Sn**	**19 40 31.7**	**+0.6**
CGP	**Cagayan de Oro**	**2.25**	**225**	⇑	*e*P		**Pn**	**19 40 12.1**	**+1.3**
CGP					*e*S		**Sn**	**19 40 38.6**	**+1.4**
CDOP	**Cateel, Davao**	**2.26**	**177**	⇑	*e*P		**Pn**	**19 40 12.1**	**+1.2**
CDOP					*e*S		**Sn**	**19 40 38.5**	**+1.0**
LLP	**Lapu-Lapu**	**2.32**	**277**	⇓	*i*P		Pn	19 40 13.6	+1.9
LLP					*i* S		**Sn**	**19 40 41.9**	**+2.9**
TBP	**Tagbilaran**	**2.43**	**262**	⇓	*i*P		**Pn**	**19 40 14.9**	**+1.6**
TBP					*i* S		**Sn**	**19 40 44.9**	**+3.0**
BUKP	**Musuan**	**2.48**	**210**	⇑	*e*P		**Pn**	**19 40 16.7**	**+2.6**
BUKP					*e*S		**Sn**	**19 40 43.9**	**+0.7**
LSIP	**Lazi, Siquijor**	**2.79**	**251**	⇓	*e*P		**Pn**	**19 40 19.5**	**+1.3**
LSIP					*e*S		**Sn**	**19 40 51.9**	**+1.2**
CNP	**Catarman**	**2.92**	**327**	⇓	*e*P		**Pn**	**19 40 22.0**	**+1.9**
DAV	**Davao City (W)**	**3.05**	**194**		P		Pn	19 40 29.8	+8.0
	96nm,0.3s,baz=70,slow=15,SNR=1.4								
DAV					S		**Sn**	**19 41 03.2**	**+6.2**
	126nm,0.4s,baz=274,slow=21,SNR=1.9								
DAV					LR		LR	19 42 07.6	
	comp=Z,290nm,18.7s,baz=29,slow=50								
DAV	**Davao City (W)**	**3.05**	**194**		Pn		**Pn**	**19 40 25.5**	**+3.6**
SNPH	**Sibulan**	**3.11**	**257**	⇑	*e*P		Pn	19 40 24.7	+2.0
SNPH					*e*S		**Sn**	**19 41 00.7**	**+2.1**
KCP	**Kidapawan**	**3.25**	**202**	⇓	*e*P		**Pn**	**19 40 27.2**	**+2.5**
KCP					*i* S		**Sn**	**19 41 00.7**	**-1.5**
DCPH	**Dipolog City**	**3.26**	**244**	⇑	*e*P		**Pn**	**19 40 25.8**	**+1.1**
CTBH	**Cotabato--PC H**	**3.47**	**216**	⇓	*i*P		**Pn**	**19 40 30.1**	**+2.4**
CNOP	**Candoni, Negro**	**3.62**	**267**	⇓	*e*P		Pn	19 40 31.8	+2.2
CNOP					*e*S		Sn	19 40 58.2	-13
PAGZ	**Pagadian**	**3.62**	**233**	⇑	*e*P		Pn	19 40 32.2	+2.5
GUIM	**Jordan**	**3.70**	**279**	⇓	*e*P		Pn	19 40 32.8	+2.1
GUIM					*e*S		**Sn**	**19 41 15.1**	**+2.0**
RCP	**Roxas**	**3.80**	**294**	⇑	*e*P		Pn	19 40 34.9	+2.7
DDMP	**Don Marcelino,**	**3.97**	**189**	⇓	*e*P		**Pn**	**19 40 36.3**	**+1.9**
DDMP					*e*S		Sn	19 41 31.0	+11
GSPH	**General Santos**	**4.16**	**199**	⇑	*e*P		**Pn**	**19 40 38.7**	**+1.4**
JAP	**San Jose, Anti**	**4.34**	**280**	⇑	*e*P		Pn	19 40 44.0	+4.4
SBUM	**Sibu**	**15.90**	**243**		Pn		**Pn**	**19 43 12.3**	**-4.9**
JOW	**Kunigami**	**16.79**	**6**		P		**P**	**19 43 32.8**	**+2.4**
BATI	**Baumata**	**20.30**	**188**		P		**P**	**19 44 08.9**	**-0.1**
	11nm,0.5s,baz=3.8,slow=19,SNR=5.1								
	11nm,0.5s								
MTN	**Manton Dam**	**23.25**	**168**		P		**P**	**19 44 40.4**	**+0.1**
MTN					IAmb		IAmb	19 45 05.6	
	comp=Z,39nm,1.4s								
KNRA	**Kununurra**	**25.68**	**175**		P		**P**	**19 45 02.7**	**-0.1**
KNRA					IAmb		IAmb	19 45 36.5	
	comp=Z,37nm,1.4s								
CMAR	**Chiang Mai Arr**	**27.77**	**291**		P		**P**	**19 45 21.9**	**+0.1**
	comp=Z,1.3nm,1.0s,baz=113,slow=7.5,SNR=5.2								
	comp=Z,1.3nm,1.0s								
MJAR	**Matsushiro Arr**	**28.49**	**20**		P		**P**	**19 45 30.1**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=223,slow=18,SNR=4.9								
	comp=Z,0.8nm,0.6s								
MAJO	**Matsushiro**	**28.49**	**20**		P		**P**	**19 45 31.4**	**+3.4**
MAJO					IAmb		IAmb	19 45 51.2	
	comp=Z,28nm,1.4s								
MJB9	**Matsu-Tunnel**	**28.49**	**20**		P		**P**	**19 45 32.5**	**+4.5**
MJB9					IAmb		IAmb	19 45 52.6	
	comp=Z,28nm,1.4s								
WRA	**Warramunga Arr**	**30.84**	**165**		P		**P**	**19 45 46.5**	**-2.3**
	comp=Z,0.6nm,0.9s,baz=343,slow=8.8,SNR=3.2								
	comp=Z,0.6nm,0.9s								
AS31	**Alice Springs**	**34.33**	**168**		P		**P**	**19 46 18.8**	**-0.6**
ASAR	**Alice Springs**	**34.33**	**168**		P		**P**	**19 46 18.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=352,slow=7.1,SNR=18								
ASAR					PcP		**PcP**	**19 48 54.1**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=6.7,slow=3.2,SNR=1.3								
	comp=Z,0.3nm,0.3s								
ASAR	**Alice Springs**	**34.33**	**168**		P		**P**	**19 46 19.2**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**40.29**	**71**		T		T	20 30 25.9	
	baz=265,slow=74,SNR=59								
H11N2	**WAKE ISLAND Hy**	**40.30**	**71**		T		T	20 30 26.9	
	baz=265,slow=74,SNR=47								
H11N3	**WAKE ISLAND Hy**	**40.31**	**71**		T		T	20 30 31.0	
	baz=265,slow=74,SNR=63								
FORT	**Forrest**	**40.63**	**178**		P		**P**	**19 47 13.0**	**+0.3**
ULN	**Ulaanbaatar**	**41.04**	**340**		P		**P**	**19 47 15.8**	**-0.2**
ULN					IAmb		IAmb	19 47 16.8	
	comp=Z,2.1nm,0.7s								
SONM	**Songino Array**	**41.23**	**340**		P		**P**	**19 47 17.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=153,slow=12,SNR=5.1								
	comp=Z,0.7nm,0.7s								
STKA	**Stephens Creek**	**44.19**	**161**		P		**P**	**19 47 40.2**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=324,slow=8.4,SNR=4.4								
	comp=Z,0.9nm,0.4s								
MKAR	**Makanchi Array**	**52.22**	**323**		P		**P**	**19 48 42.4**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=115,slow=7.6,SNR=9.5								
	comp=Z,1.7nm,0.9s								
MKAR	**Makanchi Array**	**52.22**	**323**		P		**P**	**19 48 41.9**	**-1.6**
ZALV	**Zalesovo Beam**	**54.83**	**331**		P		**P**	**19 49 00.5**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=116,slow=5.6,SNR=2.9								
	comp=Z,0.4nm,0.4s								
KURK	**Kurchatov**	**56.26**	**326**		P		**P**	**19 49 11.7**	**-1.1**
KURK					IAmb		IAmb	19 49 13.5	
	comp=Z,4.3nm,1.1s								
KURBB	**Kurchatov Arra**	**56.27**	**325**		P		**P**	**19 49 11.7**	**-1.1**
	comp=Z,2.6nm,0.2s,baz=124,slow=6.9,SNR=1.7								
	comp=Z,2.6nm,0.2s								
TIXI	**Tiksi**	**61.57**	**1**		P		**P**	**19 49 49.1**	**-0.1**
	comp=Z,2.9nm,1.1s,baz=270,slow=11,SNR=6.0								
	comp=Z,2.9nm,1.1s								
TIXI	**Tiksi**	**61.57**	**1**		P		**P**	**19 49 49.5**	**+0.3**
TIXI					IAmb		IAmb	19 49 50.2	
	comp=Z,6.8nm,1.4s								
BVAR	**Borovoye Array**	**61.86**	**325**		P		**P**	**19 49 50.5**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=90,slow=7.9,SNR=3.8								
	comp=Z,0.9nm,0.9s								
FINES	**FINESS Array B**	**86.10**	**332**		P		**P**	**19 52 11.5**	**-1.4**
	comp=Z,2.7nm,1.0s,baz=59,slow=5.4,SNR=1.2								
	comp=Z,2.7nm,1.0s								
AKASG	**Malin Array Be**	**86.75**	**321**		P		**P**	**19 52 15.1**	**-1.3**
	comp=Z,0.1nm,0.2s,baz=58,slow=4.9,SNR=4.4								
	comp=Z,0.1nm,0.2s								
YKA	**Yellowknife Ar**	**93.94**	**24**		P		**P**	**19 52 50.6**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=298,slow=4.6,SNR=8.3								
	comp=Z,0.6nm,0.7s								

BEO **12** *19:42:10.2±0.2, 43˚.10N×18˚.28E, h3km±1km, ML2.5/9*
RHSSO **12** *19:42:10.6±0.2, 43˚.05N×18˚.31E, h7km±2km, ML2.6/12*
PDG **12** *19:42:10.6±0.2, 43˚.01N×18˚.32E, h16km, MD2.8/3, ML2.7/12, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*

ISC 12 19:42:10.2±0.9, **43˚.07N**±0˚.02×**18˚.31E**±0˚.01, **h11**km±7km, **n83**,σ1**s37**/150, **29C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.24**	**135**	⇑	*i*Pg		**Pg**	**19 42 15.3**	**0.0**
BRY					*e*Sg		**Sg**	**19 42 19.5**	**+0.8**
BRY	**Bratogost**	**0.24**	**135**	⇑	*i*Pg		**Pg**	**19 42 15.2**	**0.0**
BRY					*i* Sg		**Sg**	**19 42 18.7**	**0.0**
TREB	**Trebinje**	**0.35**	**175**		*e*Pg		**Pg**	**19 42 16.7**	**-0.6**
TREB					*e*Sg		**Sg**	**19 42 22.4**	**+0.4**
TREB	**Trebinje**	**0.35**	**175**	⇑	*i*Pg		**Pg**	**19 42 16.7**	**-0.6**
TREB					*e*Sg		**Sg**	**19 42 22.1**	**+0.1**
DBRK	**Dubrovnik**	**0.42**	**197**		*e*Pg		**Pg**	**19 42 17.7**	**-0.8**
DBRK					Sg		**Sg**	**19 42 24.4**	**+0.3**
UPM	**Unac-Piva**	**0.46**	**73**	⇑	*i*Pg		**Pg**	**19 42 19.5**	**+0.3**
UPM					*e*Sg		**Sg**	**19 42 26.3**	**+1.0**
UPM	**Unac-Piva**	**0.46**	**73**	⇑	*i*Pg		**Pg**	**19 42 19.5**	**+0.3**
UPM					*i* Sg		**Sb**	**19 42 27.4**	**+0.2**
STON	**Ston**	**0.49**	**246**		*e*Pg		**Pg**	**19 42 18.6**	**-1.1**
STON					Sg		**Sg**	**19 42 26.3**	**+0.1**
STON	**Ston**	**0.49**	**246**		*e*Pg		**Pg**	**19 42 18.9**	**-0.9**
STON					*e*Sg		**Sg**	**19 42 26.6**	**+0.4**
STON	**Ston**	**0.49**	**246**	⇑	*i*Pg		**Pg**	**19 42 18.9**	**-0.9**
STON					*e*Sg		**Sg**	**19 42 26.4**	**+0.1**
NKME	**Niksic**	**0.56**	**122**	⇑	*i*Pg		**Pg**	**19 42 20.4**	**-0.8**
NKME					*i* Sg		**Sg**	**19 42 29.1**	**+0.5**
HCY	**Herceg Novi**	**0.64**	**168**		*e*Pg		**Pg**	**19 42 21.6**	**-1.0**
HCY					*e*Sg		**Sg**	**19 42 31.4**	**+0.5**
HCY	**Herceg Novi**	**0.64**	**168**	⇑	*i*Pg		**Pg**	**19 42 21.4**	**-1.2**
HCY					*i* Sg		**Sg**	**19 42 31.2**	**+0.3**
CEME	**Cevo**	**0.69**	**139**	⇓	*i*Pg		**Pg**	**19 42 22.6**	**-1.0**
CEME					*i* Sg		**Sg**	**19 42 33.2**	**+0.6**
PLE	**Pljevlja**	**0.83**	**71**	⇑	*i*Pg		**Pg**	**19 42 26.4**	**+0.1**
PLE					*i* Sg		**Sn**	**19 42 39.8**	**-0.4**
KOME	**Kolasin**	**0.91**	**103**	⇓	*i*Pg		**Pg**	**19 42 27.4**	**-0.4**
KOME					*i* Sg		**Sb**	**19 42 41.7**	**+1.5**
PDG	**Podgorica**	**0.95**	**132**	⇑	P		**Pg**	**19 42 26.3**	**-2.1**
PDG					⇑S		**Sg**	**19 42 27.4**	**-0.1**
PDG	**Podgorica**	**0.95**	**132**		*e*Pg		**Pg**	**19 42 27.4**	**-1.0**
PDG					*e*Sg		**Sb**	**19 42 41.7**	**+0.6**
PDG	**Podgorica**	**0.95**	**132**	⇑	*i*Pg		**Pg**	**19 42 27.3**	**-1.1**
PDG					*i* Sg		**Sb**	**19 42 41.7**	**+0.6**
RUDO	**Rudo**	**0.95**	**54**		*e*Pg		**Pg**	**19 42 27.6**	**-0.9**
RUDO					*e*Sg		**Sg**	**19 42 41.2**	**+0.3**
RUDO	**Rudo**	**0.95**	**54**		*e*Pg		**Pg**	**19 42 27.8**	**-0.7**
RUDO					*e*Sg		**Sg**	**19 42 40.9**	**0.0**
RICI	**Ricice**	**0.96**	**297**		*e*Pg		**Pg**	**19 42 27.6**	**-1.0**
MAKA	**Makarska**	**0.97**	**283**		*e*Pg		**Pg**	**19 42 27.4**	**-1.4**
MAKA					Sg		**Sg**	**19 42 40.9**	**-0.6**
LSTV	**Lastovo**	**1.08**	**254**		*e*Pg		**Pg**	**19 42 29.5**	**-1.6**
LSTV					Sg		**Sg**	**19 42 43.7**	**-1.4**
DRME	**Dracevica, Mon**	**1.09**	**144**	⇑	*i*Pg		**Pg**	**19 42 30.3**	**-0.9**
DRME					*e*Sg		**Sg**	**19 42 45.4**	**-0.1**
DRME	**Dracevica, Mon**	**1.09**	**144**	⇓	*i*Pg		**Pg**	**19 42 30.2**	**-1.0**
DRME					*i* Sg		**Sb**	**19 42 46.4**	**+1.1**
HAPS	**Han Pijesak,Bl**	**1.12**	**24**		*e*Pg		**Pg**	**19 42 31.6**	**-0.1**
HAPS					*e*Sg		**Sb**	**19 42 46.8**	**+0.6**
BBLS	**Lazi?i**	**1.13**	**45**		*e*Pn		**Pn**	**19 42 32.4**	**+0.4**
BBLS					*e*Sn		**Sn**	**19 42 48.1**	**+0.7**
BBLS	**Lazi?i**	**1.13**	**45**	⇑	*i*Pg		**Pg**	**19 42 31.5**	**-0.4**
BBLS					*e*Sg		**Sn**	**19 42 47.4**	**0.0**
IVA	**Berane**	**1.18**	**99**	⇑	*i*Pg		**Pb**	**19 42 32.2**	**-0.4**
IVA					*i* Sg		**Sn**	**19 42 50.4**	**+1.7**
SJES	**Sjenica**	**1.23**	**81**		*e*Pn		**Pg**	**19 42 34.6**	**+0.7**
SJES					*e*Sn		**Sn**	**19 42 51.7**	**+1.6**
SJES	**Sjenica**	**1.23**	**81**		*e*Pg		**Pn**	**19 42 33.2**	**-0.2**
SJES					*e*Sg		**Sb**	**19 42 49.5**	**0.0**
SRKY	**Kupres RS**	**1.30**	**321**		*e*Pg		**Pb**	**19 42 34.8**	**+0.1**
SRKY					*e*Sg		**Sn**	**19 42 52.4**	**+0.7**
PVY	**Plav**	**1.30**	**111**	⇑	*i*Pg		**Pn**	**19 42 34.0**	**-0.4**
PVY					*i* Sg		**Sn**	**19 42 54.0**	**+2.1**
ULC	**Ulcinj**	**1.30**	**148**	⇑	*i*Pg		**Pn**	**19 42 33.5**	**-0.8**
ULC					*i* Sg		**Sn**	**19 42 53.1**	**+1.4**
HVAR	**Hvar**	**1.37**	**275**		*e*Pg		**Pn**	**19 42 34.9**	**-0.2**
HVAR					Sg		**Sn**	**19 42 53.6**	**+0.4**
IVAS	**Ivanjica**	**1.44**	**69**		*e*Pn		**Pb**	**19 42 37.0**	**0.0**
IVAS					*e*Sn		**Sg**	**19 42 57.6**	**+1.1**
DIVS	**Divibare**	**1.60**	**49**		*e*Pn		**Pn**	**19 42 38.7**	**+0.3**
DIVS					*e*Sn		**Sb**	**19 43 00.1**	**+0.2**
DIVS	**Divibare**	**1.60**	**49**	⇑	*i*Pn		**Pn**	**19 42 38.6**	**+0.2**
DIVS					*e*Sn		**Sb**	**19 43 00.5**	**+0.6**
MGRS	**Mrkonjic Grad**	**1.61**	**327**		*e*Pn		**Pb**	**19 42 40.2**	**+0.2**
MGRS					*e*Sn		**Sg**	**19 43 01.8**	**-0.3**
KIJV	**Kijevo**	**1.67**	**305**		*i* Pn		**Pb**	**19 42 41.0**	**+0.1**
KIJV					Sn		**Sg**	**19 43 03.7**	**-0.2**
BLY	**Banja Luka**	**1.86**	**335**		*e*Pn		**Pn**	**19 42 43.1**	**+1.0**
BLY					*e*Sn		**Sb**	**19 43 07.2**	**-0.4**
BLY	**Banja Luka**	**1.86**	**335**		*e*Pn		**Pn**	**19 42 43.0**	**+1.0**
BLY					*e*Sn		**Sb**	**19 43 06.9**	**-0.7**
TRUS	**Trudelj**	**1.91**	**52**		*e*Pn		**Pn**	**19 42 42.9**	**+0.3**
A050A	**Klekovaca**	**1.91**	**318**		*e*Pn		**Pn**	**19 42 40.7**	**+1.2**
A050A					*e*Sn		**Sb**	**19 43 08.8**	**-0.1**
GRUS	**Gruza**	**1.93**	**64**		*e*Pn		**Pn**	**19 42 43.3**	**+0.3**
ZIRJ	**Zirje**	**2.03**	**288**		Sn		**Sn**	**19 43 11.0**	**+1.4**
MORI	**Morici**	**2.06**	**294**		*e*Pn		**Pn**	**19 42 45.7**	**+1.1**
MORI					Sn		**Sb**	**19 43 13.2**	**+0.2**
A051A	**Mrakovica**	**2.19**	**333**		*e*Pn		**Pn**	**19 42 47.5**	**+0.9**
A051A					*e*Sn		**Sn**	**19 43 15.1**	**+1.4**
FRGS	**Fruska Gora**	**2.35**	**27**	⇑	P		**Pn**	**19 42 45.4**	**-3.3**
FRGS					⇑S		**Sn**	**19 43 16.5**	**-1.0**
FRGS	**Fruska Gora**	**2.35**	**27**		*e*Pn		**Pn**	**19 42 49.2**	**+0.5**
FRGS					*e*Sn		**Sn**	**19 43 18.9**	**+1.4**
FRGS	**Fruska Gora**	**2.35**	**27**		*e*Pn		**Pn**	**19 42 49.1**	**+0.4**
FRGS					*e*Sn		**Sn**	**19 43 19.0**	**+1.4**
DUGI	**Dugi Otok**	**2.54**	**292**		*e*Pn		**Pn**	**19 42 53.3**	**+2.0**
DUGI					Sn		**Sn**	**19 43 23.5**	**+1.4**
BOVS	**Bovan**	**2.54**	**76**	⇑	S		**Sn**	**19 43 21.5**	**-0.7**
BOVS	**Bovan**	**2.54**	**76**		*e*Pn		**Pn**	**19 42 53.6**	**+2.3**
BOVS					*e*Sn		**Sn**	**19 43 24.0**	**+1.8**
BARS	**Barje**	**2.59**	**94**		*e*Pn		**Pn**	**19 42 53.4**	**+1.4**
BARS					*e*Sn		**Sn**	**19 43 24.3**	**+0.9**
PLIT	**Plitvice**	**2.65**	**314**		Sn		**Sn**	**19 43 26.7**	**+1.7**
VIRC	**Vir**	**2.66**	**298**		*e*Pn		**Pn**	**19 42 55.1**	**+2.2**
VIRC					Sn		**Sn**	**19 43 26.3**	**+1.2**
MATE	**Matera**	**2.70**	**207**	⇑	P		**Pn**	**19 42 51.8**	**-1.7**
PRVS	**Prvonek**	**2.83**	**100**		*e*Pn		**Pn**	**19 42 56.5**	**+1.2**
PRVS					*e*Sn		**Sn**	**19 43 32.7**	**+3.3**
NVLJ	**Novalja**	**2.90**	**302**		*e*Pn		**Pn**	**19 42 58.0**	**+1.8**
NVLJ					Sn		**Sn**	**19 43 32.2**	**+1.1**
ZAGS	**Zajecar**	**2.95**	**74**		*e*Pn		**Pn**	**19 42 56.8**	**-0.2**
MDVR	**Moldovita**	**3.00**	**54**	⇑	P		**Pn**	**19 42 55.4**	**-2.2**
MDVR					⇓S		**Sn**	**19 43 32.3**	**-1.2**
MORH	**Mrgy, Hungar**	**3.15**	**4**	⇓	P		**Pn**	**19 42 57.3**	**-2.4**
MORH	**Mrgy, Hungar**	**3.15**	**4**		*e*Pn		**Pn**	**19 42 59.3**	**-0.4**
MORH	**Mrgy, Hungar**	**3.15**	**4**		*e*Sn		**Sn**	**19 43 38.5**	**+1.2**
ZAPS	**Zavoj**	**3.17**	**85**		*e*Pn		**Pn**	**19 43 01.2**	**+1.2**
ZAPS					*e*Sn		**Sn**	**19 43 39.3**	**+1.5**
FNA	**Florina**	**3.23**	**134**		*e*Pn		**Pn**	**19 43 02.7**	**+1.8**
FNA					*e*Sn		**Sn**	**19 43 41.2**	**+1.8**
OZLJ	**Ozalj**	**3.26**	**322**		*e*Pn		**Pn**	**19 43 03.0**	**+1.8**
BOJS	**Bojanci**	**3.28**	**319**		*e*Pn		**Pn**	**19 43 02.5**	**+1.1**
BOJS					*e*Sn		**Sn**	**19 43 41.9**	**+1.5**
CRES	**Cresnjev**	**3.43**	**324**		*e*Pn		**Pn**	**19 43 04.5**	**+1.0**
CRES					*e*Sn		**Sn**	**19 43 44.5**	**+0.3**
BZS	**Buzias**	**3.48**	**42**	⇑	P		**Pn**	**19 43 02.0**	**-2.2**
BZS					⇓S		**Sn**	**19 43 43.7**	**-1.7**
BZS	**Buzias**	**3.48**	**42**		*e*Pn		**Pn**	**19 43 03.8**	**-0.4**
BZS					*e*Sn		**Sn**	**19 43 45.0**	**-0.4**
VTS	**Vitosha**	**3.65**	**95**	⇑	P		**Pn**	**19 43 04.7**	**-2.0**
VTS					⇑S		**Sn**	**19 43 48.3**	**-1.5**
VTS	**Vitosha**	**3.65**	**95**		*e*Pn		**Pn**	**19 43 08.1**	**+1.4**
VTS	**Vitosha**	**3.65**	**95**		*e*Pn		**Pn**	**19 43 08.2**	**+1.5**
VTS					*e*Sn		**Sn**	**19 43 50.4**	**+0.6**
VTS					*e*Sn		**Sb**	**19 43 50.9**	**-8.2**
SURR	**Surduc**	**3.83**	**44**	⇑	P		**Pn**	**19 43 07.0**	**-2.0**
SURR					⇑S		**Sn**	**19 43 51.9**	**-2.1**
CEY	**Cerknica**	**3.85**	**315**		*e*Pn		**Pn**	**19 43 10.9**	**+1.5**
CEY					*e*Sn		**Sn**	**19 43 54.8**	**+0.1**
SKDS	**Skadanscina**	**3.95**	**310**		*e*Sn		**Sn**	**19 43 56.9**	**-0.2**
GZR	**Gura Zlata**	**3.96**	**53**	⇑	P		**Pn**	**19 43 08.5**	**-2.4**
GZR					⇓S		**Sn**	**19 43 56.0**	**-1.3**
SOKA	**Soboth**	**4.29**	**328**		*e*Pn		**Pn**	**19 43 17.3**	**+1.8**
	2.3nm,0.4s								
OBKA	**Obir**	**4.36**	**323**		Pn		**Pn**	**19 43 19.4**	**+3.0**
	0.4nm,0.2s								
ARSA	**Arzberg**	**4.62**	**336**		*e*Pn		**Pn**	**19 43 20.5**	**+0.6**

DJA **12** *19:44:57.6±0.6, 8˚.5±4˚×10˚.7E±˚, h27km±5km, M4.6/21, mb4.6/11, mB5.2/4, ML4.8/21, MLv4.6/21, Mw(mB)4.6/4*
NEIC **12** *19:45:01.1±1.3, 7˚.41S±0˚.08×106˚.93E±0˚.05, h94km±7km, mb4.5/11, Error ellipse: s-maj=12.2km s-min=6.4km az=159.0*
IDC **12** *19:45:02.6±1.2, 7˚.13S×107˚.20E, h97km±8km, mb3.9/17, mbtmp4.2/18, MS3.4/5, Error ellipse: s-maj=28.2km s-min=11.5km az=42.0*

ISC 12 19:44:58.7±0.8, **7˚.61S**±0˚.07×**106˚.91E**±0˚.05, **h75**km±7km, **n78**,σ1**s74**/80, **mb4.3**/24, **1C, Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.37**	**37**		P		**Pn**	**19 45 08.7**	**-2.3**
SKJI	**Sukabumi**	**0.69**	**330**		P		**Pn**	**19 45 13.0**	**-1.0**
SKJI					S		**Sn**	**19 45 23.7**	**-1.6**
LEM	**Lembang**	**1.05**	**42**		P		**Pn**	**19 45 19.4**	**+1.0**
	5µm,0.3s,baz=87,slow=7.8,SNR=590								
LEM					S		**Sn**	**19 45 36.7**	**+3.8**
	2µm,0.5s,baz=283,slow=24,SNR=5.8								
LEM	**Lembang**	**1.05**	**42**		P		**Pn**	**19 45 18.1**	**-0.2**
TNG	**Tangerang**	**1.45**	**350**		P		**Pn**	**19 45 24.1**	**+0.8**
CMJI	**Cimerak**	**1.54**	**96**		P		**Pn**	**19 45 23.0**	**-1.4**
CMJI					S		**Sn**	**19 45 40.1**	**-3.7**
CGJI	**Cibinong**	**1.56**	**309**		P		**Pn**	**19 45 24.0**	**-0.6**
CGJI					S		**Sn**	**19 45 42.4**	**-1.8**
SBJI	**Serang**	**1.67**	**332**		P		**Pn**	**19 45 26.7**	**+0.6**
SBJI					S		**Sn**	**19 45 49.1**	**+2.3**
BLSI	**

comp=Z,1.0nm,0.6s,baz=108,slow=4.7,SNR=5.6
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 88.11 322 P **P** **19 57 41.3 +0.3**
comp=Z,1.3nm,0.8s,baz=77,slow=4.4,SNR=9.6
comp=Z,1.3nm,0.8s
FINES FINESS Array B 92.26 332 P **P** **19 58 00.2 +0.1**
comp=Z,4.1nm,1.0s,baz=123,slow=6.8,SNR=1.9
comp=Z,4.1nm,1.0s
ARCES ARCESS Array B 94.07 340 P **P** **19 58 07.9 -0.5**
comp=Z,3.8nm,0.9s,baz=104,slow=5.9,SNR=6.6
comp=Z,3.8nm,0.9s

*MOS **12** 20:10:34.8±0.0, 43˚.16N×46˚.26E, h11km, MPVA3.7*
*NORS **12** 20:10:35.0±0.0, 42˚.70N×46˚.39E, h12km, MPVA3.9*
*DRS **12** 20:10:36.0±0.0, 43˚.31N×46˚.25E, h18km, ML2.6/5*
ISC 12 20:10:36.6±1.0, **43˚.19N**±0˚.03×**46˚.28E**±0˚.02, **h11**km±8km, **n46**, σ1°13/91, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.26**	**205**	*i* Pg			**Pg**	**20 10 41.7**	**-0.4**
DVE				*e*Sg			**Sg**	**20 10 46.3**	**+0.6**
DLMR	**Dylym**	**0.29**	**116**	*e*Pg			**Pg**	**20 10 42.2**	**-0.3**
DLMR				*e*Sg			**Sb**	**20 10 47.5**	**-1.2**
DLMR					AML		AML	20 10 48.3	
	1μm,0.2s								
GROC	**Groznyy**	**0.35**	**272**	*e*Pg			**Pg**	**20 10 43.6**	**-0.1**
GROC				*e*Sg			**Sg**	**20 10 48.8**	**+0.4**
DBC	**Dubki**	**0.44**	**113**	*e*Pg			**Pg**	**20 10 44.9**	**-0.4**
	78nm,0.2s								
DBC				*e*Sg			**Sg**	**20 10 51.9**	**+0.7**
	123nm,0.2s								
DBC					AML		AML	20 10 52.3	
	259nm,0.5s								
BTLR	**Botlikh**	**0.53**	**184**	*e*Pg			**Pg**	**20 10 46.2**	**-0.8**
	143nm,0.6s								
BTLR				*e*Sg			**Sg**	**20 10 54.2**	**+0.1**
	57nm,0.6s								
BTLR					AML		AML	20 10 55.2	
	252nm,0.5s								
KRNR	**Karanay**	**0.59**	**128**	*e*Pg			**Pg**	**20 10 47.3**	**-0.9**
	21nm,0.4s								
KRNR				*e*Sg			**Sg**	**20 10 56.1**	**+0.2**
	319nm,0.5s								
UNCR	**Uncukul**	**0.61**	**141**	*e*Pg			**Pg**	**20 10 47.8**	**-0.7**
	78nm,0.2s								
UNCR				*e*Sg			**Sg**	**20 10 56.9**	**+0.3**
	4.0nm,0.2s								
UNCR					AML		AML	20 10 56.9	
	326nm,0.5s								
BUJR	**Buynaksk**	**0.71**	**121**	*e*Pg			**Pg**	**20 10 50.2**	**-0.2**
	65nm,0.5s								
BUJR				*e*Sg			**Sb**	**20 11 01.3**	**+0.4**
	120nm,0.4s								
XNZR	**Khunzakh**	**0.72**	**154**	*e*Pg			**Pg**	**20 10 49.8**	**-0.9**
	61nm,0.5s								
XNZR				*e*Sg			**Sg**	**20 11 00.2**	**+0.1**
	384nm,0.4s								
XNZR					AML		AML	20 11 01.0	
	155nm,0.2s								
ARKR	**Arakani**	**0.79**	**138**	*e*Pg			**Pg**	**20 10 51.5**	**-0.5**
	1.0nm,0.3s								
ARKR				*e*Sg			**Sb**	**20 11 02.9**	**-0.4**
	120nm,0.4s								
MAK	**Makhachkala**	**0.93**	**104**	*e*Pg			**Pg**	**20 10 52.1**	**-2.5**
MAK				*e*Sg			**Sb**	**20 11 08.1**	**+0.9**
GNBR	**Gunib**	**0.95**	**148**	*e*Pg			**Pg**	**20 10 54.5**	**-0.5**
	57nm,0.6s								
GNBR				*e*Sg			**Sb**	**20 11 08.6**	**+0.7**
	41nm,0.8s								
KMGR	**Komgaron**	**1.04**	**263**	*e*Pg			**Pn**	**20 10 57.3**	**0.0**
KMGR				*e*Sg			**Sn**	**20 11 12.0**	**+0.1**
VLKR	**Vladikavkaz**	**1.18**	**263**	*e*Pg			**Pn**	**20 10 59.5**	**+0.3**
VLKR				*e*Sg			**Sn**	**20 11 17.0**	**+1.7**
KMKR	**Kumukh**	**1.22**	**150**	*e*Pg			**Pg**	**20 10 59.5**	**-0.7**
KMKR				*e*Pg			**Pg**	**20 10 59.5**	**-0.7**
	4.0nm,0.2s								
KMKR				*e*Sg			**Sn**	**20 11 16.8**	**+0.2**
KMKR				*e*Sg			**Sn**	**20 11 16.8**	**+0.2**
	119nm,0.6s								
TRKR	**Terskaya**	**1.24**	**296**	*e*Pg			**Pb**	**20 11 00.5**	**+0.3**
TRKR				*e*Sg			**Sn**	**20 11 18.4**	**+1.6**
BTKR	**Batakoyurt**	**1.28**	**279**	*e*Pg			**Pg**	**20 11 02.7**	**+1.5**
BTKR				*e*Sg			**Sn**	**20 11 18.5**	**+0.8**
PNSH	**Pansheti**	**1.34**	**246**	P			**Pn**	**20 11 00.9**	**-0.6**
PNSH				S			**Sb**	**20 11 18.6**	**-0.6**
LGD	**Lagodekhi**	**1.36**	**181**	P			**Pb**	**20 11 01.8**	**-0.4**
LGD				S			**Sg**	**20 11 20.4**	**0.0**
URKR	**Urkarakh**	**1.44**	**135**	*e*Pg			**Pb**	**20 11 03.5**	**+0.1**
URKR				*e*Sg			**Sg**	**20 11 24.1**	**+1.3**
ARNR	**Ardon**	**1.46**	**270**	*e*Pg			**Pn**	**20 11 02.8**	**-0.1**
ARNR				*e*Sg			**Sn**	**20 11 22.2**	**+0.1**
LACR	**Lac**	**1.50**	**256**	*e*Pg			**Pn**	**20 11 02.7**	**-0.9**
LACR				*e*Sg			**Sn**	**20 11 23.3**	**+0.1**
PRTR	**Priterechnaya**	**1.56**	**292**	*e*Pg			**Pn**	**20 11 04.5**	**+0.3**
PRTR				*e*Sg			**Sg**	**20 11 27.9**	**+1.3**
KORR	**Kora**	**1.62**	**267**	*e*Pg			**Pb**	**20 11 07.1**	**+0.5**
KORR				*e*Sg			**Sg**	**20 11 28.2**	**-0.5**
STDR	**Stavd-Durt**	**1.63**	**277**	*e*Pg			**Pb**	**20 11 06.5**	**-0.2**
STDR				*e*Sg			**Sg**	**20 11 29.9**	**+1.0**
DDFL	**Dedoflistskaro**	**1.75**	**184**	P			**Pg**	**20 11 11.5**	**+1.3**
ZEI	**Tsey**	**1.79**	**258**	*e*Pg			**Pn**	**20 11 06.5**	**-1.2**
ZEI				*e*Sg			**Sn**	**20 11 28.9**	**-1.7**
LSNR	**Lesken**	**1.79**	**274**	*e*Pg			**Pn**	**20 11 08.5**	**+0.9**
LSNR				*e*Sg			**Sg**	**20 11 33.7**	**-0.6**
BTNK	**Botanikuri**	**1.86**	**216**	P			**Pn**	**20 11 04.5**	**-4.0**
DGRG	**David-gareji**	**1.87**	**201**	P			**Pg**	**20 11 12.0**	**-0.5**
DRN	**Derbent**	**1.91**	**127**	*e*Pg			**Pn**	**20 11 10.1**	**+1.0**
	41nm,0.8s								
DRN				*e*Sg			**Sb**	**20 11 36.2**	**+0.9**
	92nm,0.2s								
DIGR	**Digorskoe uzhe**	**2.00**	**262**	*e*Pg			**Pn**	**20 11 10.8**	**+0.3**
DIGR				*e*Sg			**Sn**	**20 11 35.0**	**-0.7**
AKT	**Akhty**	**2.02**	**147**	*e*Pg			**Pn**	**20 11 11.7**	**+0.8**
	24nm,0.3s								
AKT				*e*Sg			**Sb**	**20 11 38.8**	**0.0**
	214nm,0.4s								
KSMR	**Kasumkent**	**2.10**	**139**	*e*Pg			**Pn**	**20 11 12.9**	**+1.0**
	2.0nm,0.6s								
KSMR				*e*Sg			**Sb**	**20 11 41.5**	**+0.6**
	214nm,0.4s								
ONI	**Oni**	**2.16**	**255**	P			**Pn**	**20 11 13.4**	**+0.7**
ONI				S			**Sb**	**20 11 43.4**	**+0.7**
ALIG	**Mtskhetisjvari**	**2.22**	**242**	P			**Pn**	**20 11 15.0**	**+1.4**
ALIG				S			**Sb**	**20 11 44.9**	**+0.5**
TRLG	**Trialeti**	**2.31**	**225**	P			**Pn**	**20 11 16.1**	**+1.3**
TRLG				S			**Sb**	**20 11 47.4**	**+0.3**
BRNG	**Burnasheti**	**2.40**	**230**	P			**Pb**	**20 11 18.2**	**-1.7**
BRNG				S			**Sg**	**20 11 52.0**	**-1.8**
KBZ	**Khabaz**	**2.52**	**283**	*e*Pn			**Pn**	**20 11 15.4**	**-2.1**
KBZ				*e*Sn			**Sn**	**20 11 45.7**	**-2.4**
NEY	**Neytrino**	**2.60**	**272**	*e*Pn			**Pn**	**20 11 18.7**	**-0.1**
NEY				*e*Sn			**Sn**	**20 11 52.0**	**+1.5**
BEYR	**Belyy Ugol+**	**2.64**	**289**	*e*Pn			**Pn**	**20 11 19.1**	**-0.2**
BEYR				*e*Sn			**Sn**	**20 11 48.9**	**-2.5**
SHA1	**Shidzhatmaz**	**2.69**	**283**	*e*Pn			**Pn**	**20 11 18.1**	**-2.0**
SHA1				*e*Sn			**Sn**	**20 11 52.7**	**-0.1**
KIV0	**Kislovodsk Arr**	**2.71**	**288**	*e*Pn			**Pn**	**20 11 19.6**	**-0.7**
KIV0				*e*Sn			**Sn**	**20 11 50.7**	**-2.5**
KIV	**Kislovodsk**	**2.72**	**287**	*e*Pn			**Pn**	**20 11 19.2**	**-1.1**
KIV				*e*Sn			**Sn**	**20 11 52.0**	**-1.3**
ALER	**Alexandrovskoy**	**2.89**	**304**	*e*Pn			**Pb**	**20 11 28.6**	**+0.3**
ALER				*e*Sn			**Sn**	**20 11 57.6**	**+0.2**
GNI	**Garni**	**3.25**	**201**	*e*Pn			**Pn**	**20 11 30.5**	**+2.7**
GNI				*e*Sn			**Sn**	**20 12 07.5**	**+1.0**

*MAN **12** 20:14:11.0, 9˚.97N×126˚.30E, h18km, mb4.6, ML3.5, MS3.4*
*IDC **12** 20:14:19.6±2.7, 9˚.90N×126˚.07E, h123km±26km, mb3.5/14, mbtmp3.9/15, MS3.0/1, Error ellipse: s-maj=38.0km s-min=14.6km az=68.0*
ISC 12 20:14:07.9±0.7, **10˚.07N**±0˚.04×**126˚.39E**±0˚.05, **h10**km, **n40**, σ2°.03/46, **mb3.8**/13, **8C-14D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.38**	**222**	↓*e*P			**Pb**	**20 14 18.1**	**+1.4**
GLSP				*e*S			**Sb**	**20 14 23.5**	**+0.7**
SCPH	**Surigao**	**0.93**	**252**	↓*i*P			**Pg**	**20 14 25.8**	**-0.1**
SCPH				*i* S			**Sg**	**20 14 36.4**	**-1.5**
MSLP	**Maasin**	**1.51**	**273**	↓*e*P			**Pn**	**20 14 34.1**	**-0.9**
MSLP				*e*S			**Sn**	**20 14 55.4**	**+0.7**
TASP	**Talacogon, Agu**	**1.71**	**200**	↓*e*P			**Pb**	**20 14 40.2**	**+0.8**
TASP				*e*S			**Sg**	**20 15 09.4**	**+6.6**
TASP	**Talacogon, Agu**	**1.71**	**200**	↓*e*P			Pg	20 14 47.4	+6.8
BIPH	**Bislig**	**1.87**	**181**	↓*i*P			**Pn**	**20 14 40.9**	**+0.8**
BIPH				*i* S			**Sn**	**20 15 03.2**	**-0.6**
TABP	**Talibon, Bohol**	**2.02**	**271**	↓*e*P			**Pn**	**20 14 42.7**	**+0.6**
TABP				*e*S			Sn	20 14 58.2	-9.2
GHBP	**Garcia Hernand**	**2.08**	**258**	↓*e*P			**Pn**	**20 14 44.1**	**+1.2**
GHBP				*e*S			**Sn**	**20 15 05.0**	**-3.9**
CGP	**Cagayan de Oro**	**2.32**	**226**	↑*e*P			**Pn**	**20 14 47.6**	**+1.5**
CGP				*e*S			**Sn**	**20 15 13.8**	**-0.9**
LLP	**Lapu-Lapu**	**2.40**	**276**	↓*i*P			**Pn**	**20 14 48.9**	**+1.7**
LLP				*i* S			**Sn**	**20 15 17.2**	**+0.5**
TBP	**Tagbilaran**	**2.52**	**262**	↓*e*P			**Pn**	**20 14 50.1**	**+1.2**
TBP				*i* S			**Sn**	**20 15 20.8**	**+1.1**
BUKP	**Musuan**	**2.54**	**211**	↑*e*P			**Pn**	**20 14 52.1**	**+2.9**
BUKP				*e*S			**Sn**	**20 15 20.0**	**-0.3**
CNP	**Catarman**	**2.96**	**325**	↓*e*P			**Pn**	**20 14 58.0**	**+3.0**
CNP				*e*S			**Sn**	**20 15 30.5**	**-0.1**
DAV	**Davao City (W)**	**3.08**	**195**	P			**Pb**	**20 15 04.7**	**+1.8**
	93nm,0.3s,baz=121,slow=6.7,SNR=1.6								
DAV				*S*			**Sb**	**20 15 38.8**	**-1.9**
	84nm,0.4s,baz=270,slow=23,SNR=3.6								
DAV					LR		LR	20 16 32.7	
	comp=Z,242nm,18.7s,baz=19,slow=47								
SNPH	**Sibulan**	**3.19**	**257**	↓*e*P			**Pn**	**20 15 00.5**	**+2.3**
SNPH				*e*S			**Sb**	**20 15 40.7**	**-3.0**
DCPH	**Dipolog City**	**3.34**	**244**	↑*e*P			**Pn**	**20 15 01.1**	**+0.9**
CTBH	**Cotabato--PC H**	**3.53**	**217**	↑*i*P			**Pn**	**20 15 01.5**	**-1.4**
PAGZ	**Pagadian**	**3.70**	**234**	↑*e*P			**Pn**	**20 15 07.5**	**+2.3**
CNOP	**Candoni, Negro**	**3.70**	**267**	↓*e*P			**Pn**	**20 15 06.9**	**+1.8**
CNOP				*e*S			**Sn**	**20 15 50.1**	**+1.3**
CNOP	**Candoni, Negro**	**3.70**	**267**	↓*e*P			**Pn**	**20 15 07.1**	**+1.9**
CNOP				*e*S			**Sn**	**20 15 50.1**	**+1.3**
RCP	**Roxas**	**3.87**	**293**	↑*e*P			**Pn**	**20 15 10.0**	**+2.5**
JAP	**San Jose, Anti**	**4.42**	**279**	↑*e*P			**Pn**	**20 15 18.6**	**+3.5**
LQP	**Lukban**	**6.21**	**311**	↑*e*P			**Pn**	**20 15 43.6**	**+3.7**
BATI	**Baumata**	**20.32**	**188**	P			**P**	**20 18 44.8**	**+0.4**
	6.7nm,0.6s,baz=342,slow=2.1,SNR=2.2								
	6.7nm,0.6s								
CMAR	**Chiang Mai Arr**	**27.84**	**291**	P			**P**	**20 19 56.8**	**-1.1**
	0.4nm,0.6s,baz=106,slow=9.4,SNR=1.8								
	0.4nm,0.6s								
WRA	**Warramunga Arr**	**30.83**	**165**	P			P	20 20 21.7	-2.7
	0.5nm,0.9s,baz=347,slow=8.8,SNR=1.0								
	0.5nm,0.9s								
ASAR	**Alice Springs**	**34.33**	**168**	P			**P**	**20 20 53.6**	**-1.3**
	0.2nm,0.3s,baz=352,slow=6.8,SNR=9.9								
	0.2nm,0.3s								
H11N1	**WAKE ISLAND Hy**	**40.21**	**71**	T			T	21 05 05.2	
	baz=264,slow=74,SNR=17								
H11N2	**WAKE ISLAND Hy**	**40.22**	**71**	T			T	21 05 06.1	
	baz=264,slow=74,SNR=17								
H11N3	**WAKE ISLAND Hy**	**40.23**	**71**	T			T	21 05 07.0	
	baz=264,slow=74,SNR=15								
SONM	**Songino Array**	**41.25**	**340**	P			**P**	**20 21 52.5**	**-0.8**
	0.5nm,0.5s,baz=157,slow=8.4,SNR=8.6								
	0.5nm,0.5s								
STKA	**Stephens Creek**	**44.17**	**161**	P			**P**	**20 22 16.1**	**-0.9**
	1.2nm,0.6s,baz=321,slow=13,SNR=4.3								
	1.2nm,0.6s								
MKAR	**Makanchi Array**	**52.26**	**323**	P			P	20 23 17.5	-1.9
	1.0nm,0.7s,baz=120,slow=8.4,SNR=12								
MKAR						PcP	**PcP**	**20 24 28.2**	**-2.6**
	0.2nm,0.5s,baz=106,slow=5.5,SNR=1.2								
	1.0nm,0.7s								
ZALV	**Zalesovo Beam**	**54.86**	**331**	P			P	20 23 35.2	-3.2
	0.4nm,0.4s,baz=118,slow=8.3,SNR=2.5								
	0.4nm,0.4s								
TIXI	**Tiksi**	**61.55**	**1**	P			**P**	**20 24 24.5**	**-0.4**
	0.7nm,0.5s,baz=270,slow=13,SNR=2.3								
	0.7nm,0.5s								
ILAR	**Eielson Array**	**79.57**	**26**	P			P	20 26 13.8	-1.1
	0.3nm,0.9s,baz=242,slow=5.7,SNR=4.1								
	0.3nm,0.9s								
ARCES	**ARCESS Array B**	**84.42**	**340**	P			**P**	**20 26 39.8**	**-0.6**
	3.6nm,1.0s,baz=67,slow=6.9,SNR=3.6								
	3.6nm,1.0s								
FINES	**FINESS Array B**	**86.12**	**332**	P			P	20 26 46.5	-2.5
	3.9nm,0.9s,baz=94,slow=2.0,SNR=6.0								
	3.9nm,0.9s								
AKASG	**Malin Array Be**	**86.79**	**321**	P			P	20 26 47.9	-4.7
	0.3nm,0.5s,baz=57,slow=2.9,SNR=2.3								
	0.3nm,0.5s								
YKA	**Yellowknife Ar**	**93.89**	**24**	P			**P**	**20 27 25.8**	**+0.3**
	0.4nm,0.6s,baz=300,slow=5.1,SNR=7.3								
	0.4nm,0.6s								

*IDC **12** 20:23:15.7±0.9, 22˚.48S×172˚.62E, h0km, mb4.2/12, mbtmp4.2/15, ML4.3/3, MS3.9/42, Error ellipse: s-maj=23.4km s-min=18.3km az=149.0*
*NOU **12** 20:23:18.8, 22˚.40S×172˚.63E, h0km, mb4.8/26, Southeast of Loyalty Islands*
*GCMT **12** 20:23:20.4±0.2, 22˚.27S±0˚.01×172˚.73E±0˚.01, h17km±1km, MW4.8/83, Moment Tensor Solution. s18,c27; s83,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.73±.10; Mθθ=0.35±.10; Mϕϕ=0.38±.09; Mrθ=-0.34±.23; Mθϕ=2.35±.07; Mϕr=0.02±.21; Best double couple: Mo=2.38400×10¹⁶ NP1:ϕ=89.00000°, δ=85.00000°, λ=-11.00000°. NP2: ϕ=180.00000°, δ=79.00000°, λ=-175.00000°. Principal axes: T 2.7320, Plg4.0000°, Azm135.0000°; N -0.6970, Plg78.0000°, Azm243.0000°; P -2.0350, Plg11.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **12** 20:23:21.4±1.9, 22˚.21S±0˚.09×172˚.61E±0˚.08, h35km±2km, mb4.6/21 Error ellipse: s-maj=16.1km s-min=12.4km az=171.0*
ISC 12 20:23:21.5±0.5, **22˚.36S**±0˚.07×**172˚.63E**±0˚.06, **h35**km, **n131**, σ1°.39/86, **mb4.3**/18, **MS4.0**/44, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**4.35**	**281**				**Pn**	**20 24 23.8**	**-1.4**
MARNC	**Mare, Loyalty**	**4.35**	**281**	P			**Pn**	**20 24 24.9**	**-0.3**
PINNC	**Pines Island,**	**4.80**	**266**				**Pn**	**20 24 31.3**	**0.0**
PINNC	**Pines Island,**	**4.80**	**266**	P			**Pn**	**20 24 31.3**	**0.0**
LIFNC	**LIFOU**	**5.25**	**286**				**Pn**	**20 24 36.3**	**-1.2**
LIFNC	**LIFOU**	**5.25**	**286**	P			**Pn**	**20 24 39.2**	**+1.6**
OUENC	**Ouen Island, N**	**5.35**	**268**				**Pn**	**20 24 38.7**	**-0.3**
OUENC	**Ouen Island, N**	**5.35**	**268**	P			**Pn**	**20 24 38.6**	**-0.3**
ONTNC	**Ouen Toro**	**5.71**	**269**				**Pn**	**20 24 43.4**	**-0.5**
ONTNC	**Ouen Toro**	**5.71**	**269**	P			**Pn**	**20 24 44.1**	**+0.2**
DZM	**Mont Dzumac**	**5.73**	**272**	*e*Pn			**Pn**	**20 24 42.5**	**-1.8**
	132nm,0.9s								
DZM				*e*Sn			**Sn**	**20 25 48.3**	**-0.6**
	489nm,1.4s								
DZM				*e*LR			LR	20 26 04.1	
	comp=Z,514nm,22.1s								
DZM	**Mont Dzumac**	**5.73**	**272**	Pn			**Pn**	**20 24 43.8**	**-0.5**
	6.1nm,0.3s,baz=126,slow=13,SNR=142								
DZM						Sn	**Sn**	**20 25 50.0**	**+1.1**
	2.8nm,0.3s,baz=62,slow=21,SNR=5.8								
	30nm,0.4s								
DZM	**Mont Dzumac**	**5.73**	**272**				**Pn**	**20 24 43.9**	**-0.4**
DZM						Sn	**Sn**	**20 25 48.4**	**-0.6**
DZM	**Mont Dzumac**	**5.73**	**272**	P			**Pn**	**20 24 44.2**	**-0.1**
RTV	**Rentapao**	**6.01**	**318**	P			**Pn**	**20 24 50.9**	**+2.9**
DVP	**Devils Point**	**6.21**	**317**	P			**Pn**	**20 24 52.1**	**+1.3**
MSVF	**Nonsavu**	**6.87**	**49**	Pn			**Pn**	**20 24 59.9**	**+0.1**
	0.5nm,0.3s,baz=198,slow=8.4,SNR=11								
MSVF						LR	LR	20 27 10.3	
	comp=Z,μm,19.3s,baz=233,slow=34								
	17nm,0.9s								
MSVF	**Nonsavu**	**6.87**	**49**	Pn			**Pn**	**20 24 58.0**	**-1.8**
MSVF	**Nonsavu**	**6.87**	**49**	P			**Pn**	**20 25 00.6**	**+0.8**
NFK	**Norfolk Island**	**7.89**	**211**	P			**Pn**	**20 25 14.0**	**+0.3**
KOUNC	**Koumac, New Ca**	**7.97**	**281**				**Pn**	**20 25 13.5**	**-1.4**
KOUNC	**Koumac, New Ca**	**7.97**	**281**	P			**Pn**	**20 25 16.7**	**+1.8**
URZ	**Urewera**	**16.31**	**167**	Pn			**Pn**	**20 27 05.4**	**-2.4**
	0.2nm,0.3s,baz=344,slow=7.4,SNR=1.6								
URZ						LR	LR	20 32 04.3	
	comp=Z,419nm,18.4s,baz=72,slow=33								
	7.4nm,1.0s								
RTZ	**Ruatahuna**	**16.63**	**168**	P			**Pn**	**20 27 14.2**	**+2.2**
RTZ						lAmb	lAmb	20 27 20.5	
	comp=Z,90nm,1.5s								
BKZ	**Black Stump Fm**	**17.08**	**170**				**Pn**	**20 27 17.6**	**0.0**
HNR	**Honiara**	**17.70**	**315**	P			**P**	**20 27 26.0**	**0.0**
	comp=Z,208nm,0.3s,baz=236,slow=1.9,SNR=6.3								
HNR						LR	LR	20 33 23.0	
	comp=Z,6μm,20.3s,baz=152,slow=34								
HNR	**Honiara**	**17.70**	**315**				**Pn**	**20 27 24.0**	**-1.3**
MRZ	**Mangatainoka R**	**18.42**	**173**	P			**P**	**20 27 34.2**	**+0.5**
MRZ						lAmb	lAmb	20 27 38.4	
	comp=Z,42nm,1.1s								
AUBSH	**Beerwah State**	**18.44**	**252**	P			**Pn**	**20 27 36.2**	**+1.8**
AUWSH	**Wavell State H**	**18.46**	**250**	P			**Pn**	**20 27 37.2**	**+2.6**
TCW	**Tory Channel**	**18.85**	**176**	P			**P**	**20 27 39.9**	**+1.4**
TUWZ	**Tuamarina**	**19.05**	**177**	P			**P**	**20 27 41.3**	**+0.7**
EIDS	**Eidsvold**	**19.93**	**257**				**P**	**20 27 51.6**	**+1.1**
EIDS						lAmb	lAmb	20 27 56.4	
	comp=Z,29nm,1.1s								
EIDS	**Eidsvold**	**19.93**	**257**	P			**P**	**20 27 52.2**	**+1.8**
LTZ	**Lake Taylor**	**20.37**	**181**	P			**P**	**20 27 57.1**	**+2.0**
LTZ						lAmb	lAmb	20 28 04.5	
	comp=Z,44nm,1.1s								
RK1H	**Rockhampton Ha**	**20.42**	**263**	P			Pn	20 27 59.1	+1.1
ARMA	**Armidale**	**20.43**	**242**	P			**P**	**20 27 56.6**	**+0.7**
ARMA						lAmb	lAmb	20 28 16.0	
	comp=Z,24nm,1.1s								
AUPHS	**Peel High Scho**	**21.25**	**241**	P			**P**	**20 28 07.6**	**+2.9**
RPZ	**Rata Peaks**	**21.34**	**183**	P			**P**	**20 28 04.3**	**-1.3**
	comp=Z,11nm,0.9s,baz=352,slow=7.1,SNR=1.8								
RPZ						LR	LR	20 35 40.3	
	comp=Z,150nm,18.7s,baz=12,slow=35								
	comp=Z,11nm,0.9s								
RMQ	**Roma**	**22.11**	**254**	P			**P**	**20 28 17.3**	**+3.3**
AULRC	**Lightning Ridg**	**23.24**	**247**	P			**P**	**20 28 27.1**	**+1.4**
CNB	**Canberra Magne**	**24.05**	**232**	P			**P**	**20 28 35.8**	**+2.2**
CTA	**Charters Tower**	**24.68**	**270**	P			**P**	**20 28 38.8**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=86,slow=12,SNR=1.7								
CTA						LR	LR	20 37 38.3	
	comp=Z,176nm,18.6s,baz=92,slow=35								
	comp=Z,1.1nm,0.7s								
AUSMG	**Snowy Mountain**	**25.10**	**231**	P			**P**	**20 28 43.7**	**+0.6**
CMSA	**Cobar Meteorol**	**25.64**	**243**	P			**P**	**20 28 48.8**	**+0.9**
RAR	**Rarotonga**	**25.64**	**93**	LR			LR	20 36 30.3	
	comp=Z,226nm,21.5s,baz=254,slow=31								
QLP	**Quilpie**	**26.16**	**255**	P			**P**	**20 28 54.3**	**+1.6**
KRVT	**Keravat (AS076**	**26.83**	**309**	P			**P**	**20 28 59.8**	**+0.9**
	comp=Z,42nm,0.8s,baz=338,slow=18,SNR=5.3								
MTSU	**Mount Surprise**	**26.87**	**274**	P			**P**	**20 29 00.0**	**+0.8**
PMG	**Port Moresby**	**27.61**	**294**	P			**P**	**20 29 05.4**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=264,slow=5.1,SNR=3.2								
	comp=Z,2.0nm,0.3s								
PMG	**Port Moresby**	**27.61**	**294**	P			**P**	**20 29 05.4**	**-0.4**
PMG						lAmb	lAmb	20 29 42.2	
	comp=Z,12nm,1.1s								
STKA	**Stephens Creek**	**29.12**	**244**	P			**P**	**20 29 17.7**	**-1.5**
	comp=Z,4.6nm,0.8s,baz=99,slow=12,SNR=9.7								
STKA						LR	LR	20 39 34.9	
	comp=Z,469nm,22.0s,baz=68,slow=34								
	comp=Z,4.6nm,0.8s								
STKA	**Stephens Creek**	**29.12**	**244**	P			**P**	**20 29 18.9**	**-0.2**
BBOO	**Buckleboo**	**33.89**	**244**	P			**P**	**20 29 59.9**	**-1.2**
TBI	**Tubuai**	**34.89**	**99**	*e*LR			LR	20 39 14.8	
	comp=Z,6μm,26.5s								
TBI				*e*LR			LR	20 39 14.9	
	comp=Z,2μm,28.5s								
WR0	**Warramunga Arr**	**

SPR3					IAmb	IAmb	20 36 28.6		
	comp=Z,2.1nm,0.9s								
G08A	**Pilot Rock**	**91.57**	**41**	P		**P**	**20 36 24.7**	**-0.1**	
G08A				IAmb		IAmb	20 36 38.3		
	comp=Z,2.2nm,0.9s								
SONM	**Songino Array**	**91.61**	**322**	P		**P**	**20 36 24.2**	**-0.7**	
	comp=Z,0.7nm,1.1s,baz=134,slow=4.2,SNR=1.9								
SONM				LR		LR	21 15 16.6		
	comp=Z,35nm,21.7s,baz=172,slow=34								
	comp=Z,0.7nm,1.1s								
ELK	**Elko**	**91.73**	**46**	LR		LR	21 10 03.7		
	comp=Z,93nm,19.9s,baz=260,slow=31								
H03S2	**Juan Fernandez**	**91.96**	**128**	T		T	22 18 18.8		
	baz=239,slow=74,SNR=8.4								
H03S1	**Juan Fernandez**	**91.97**	**128**	T		T	22 18 23.5		
	baz=239,slow=74,SNR=9.2								
H03S3	**Juan Fernandez**	**91.98**	**128**	T		T	22 18 22.3		
	baz=239,slow=74,SNR=13								
H03N3	**Juan Fernandez**	**92.14**	**127**	T		T	22 18 34.3		
	baz=258								
H03N2	**Juan Fernandez**	**92.15**	**127**	T		T	22 18 34.3		
	baz=258								
H03N1	**Juan Fernandez**	**92.16**	**127**	T		T	22 18 34.3		
	baz=258								
ILAR	**Eielson Array**	**92.29**	**16**	P		**P**	**20 36 26.1**	**-1.4**	
	comp=Z,1.2nm,0.8s,baz=235,slow=4.6,SNR=3.2								
ILAR				LR		LR	21 09 37.0		
	comp=Z,57nm,22.0s,baz=232,slow=30								
	comp=Z,1.2nm,0.8s								
M30M	**Minto, Yukon**	**93.61**	**21**	P		**P**	**20 36 31.4**	**-2.3**	
PLCA	**Paso Flores**	**94.11**	**137**	LR		LR	21 09 01.9		
	comp=Z,60nm,21.4s,baz=180,slow=29								
NEW	**Newport**	**94.15**	**39**	LR		LR	21 12 36.8		
	comp=Z,57nm,19.2s,baz=260,slow=31								
ANMO	**Albuquerque**	**95.49**	**55**	LR		LR	21 11 55.4		
	comp=Z,59nm,18.9s,baz=358,slow=31								
PDAR	**Pinedale Array**	**96.43**	**46**	LR		LR	21 14 33.7		
	comp=Z,58nm,18.9s,baz=276,slow=32								
TIXI	**Tiksi**	**98.45**	**347**	LR		LR	21 22 59.4		
	comp=Z,22nm,19.1s,baz=4.5,slow=36								
OSTC	**Ostas**	**146.34**	**333**	*e*PKP		**PKPab**	**20 43 00.8**	**+1.5**	
DPC	**Dobruska-Polom**	**146.45**	**332**	*e*PKP		**PKiKP**	**20 43 01.6**	**-0.2**	
KRLC	**Kraliky**	**146.45**	**332**	*e*PKP		**PKPab**	**20 43 00.5**	**+0.7**	
UPC	**Upice**	**146.47**	**333**	*e*PKP		**PKiKP**	**20 43 03.3**	**+1.5**	
CLL	**Collm**	**147.05**	**336**	*i* PKPbc		**PKPab**	**20 43 02.7**	**+0.7**	
	comp=Z,7.0nm,0.9s								
PRU	**Pruhonice**	**147.48**	**333**	*e*PKP		**PKiKP**	**20 43 05.0**	**+1.2**	
CKRC	**Cesky Krumlov**	**148.47**	**332**	*e*PKP		**PKiKP**	**20 43 06.4**	**+0.4**	
KHC	**Kasperske Hory**	**148.54**	**333**	*e*PKP		**PKPab**	**20 43 11.3**	**+3.2**	
GERES	**GERESS Array B**	**148.71**	**333**	PKPbc		**PKPbc**	**20 43 05.8**	**+0.7**	
	comp=Z,1.5nm,0.8s,baz=35,slow=3.6,SNR=6.2								
ABTA	**Abfaltersbach**	**150.83**	**331**	*e*PKP		**PKPbc**	**20 43 09.3**	**-1.1**	
	comp=Z,2.0nm,0.6s								
ESDC	**Sonseca Array**	**162.49**	**351**	PKPab		**PKPab**	**20 44 09.3**	**+1.7**	
	comp=Z,1.2nm,1.1s,baz=7.0,slow=5.3,SNR=3.4								
TORD	**Torodi Ar. Bea**	**167.42**	**225**	PKPab		**PKPab**	**20 44 29.0**	**-0.9**	
	comp=Z,0.6nm,0.8s,baz=151,slow=3.3,SNR=2.6								

*UUSS **12** 20:40:35.9±1.0, 37°.58N±0°.02×113°.72W±0°.04, h1km±2km, ML2.6/4, ML2.5/75(NEIC), Error ellipse: s-maj=5.7km s-min=3.3km az=64.0*

NEIC 12 20:40:35.9±1.1, 37°.57N±0°.02×113°.70W±0°.03, h4km±10km, Error ellipse: s-maj=3.9km s-min=3.0km az=62.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCUT	**Cedar City**	**0.27**	**93**	Pg		Pg		20 40 40.5	-0.7
CCUT				IAML				20 40 46.1	
	comp=E,620nm,0.5s								
CCUT				IAML				20 40 47.0	
	comp=N,915nm,1.0s								
ARUT	**Antelope Range**	**0.30**	**43**			Pg		20 40 41.9	+0.1
ICU	**Indian Springs**	**0.45**	**203**			Pg		20 40 43.9	-0.8
SZCU	**Shurtz Canyon**	**0.49**	**87**	Pg		Pg		20 40 45.7	+0.4
SZCU				IAML				20 40 52.4	
	comp=E,530nm,0.2s								
SZCU				IAML				20 40 54.1	
	comp=N,375nm,0.3s								
ZNPU	**Zion National**	**0.51**	**115**			Pg		20 40 46.0	+0.4
LCMT	**Little Creek M**	**0.66**	**147**			Pg		20 40 47.6	-1.1
LCMT				IAML				20 40 59.9	
	comp=E,204nm,0.2s								
LCMT				IAML				20 41 00.1	
	comp=N,186nm,0.1s								
BHU	**Blowhard Mount**	**0.67**	**88**			Pb		20 40 49.8	-0.6
DWU	**Dry Willow Pea**	**0.77**	**46**			Pg		20 40 50.8	+0.1
KNB	**Kanab**	**0.89**	**128**			Pg		20 40 52.5	-0.5
KNB				Sg		Sg		20 41 03.2	-1.3
PSUT	**Pine Spring**	**0.97**	**353**			Pg		20 40 54.8	+0.3
PSUT				IAML				20 41 13.0	
	comp=E,90nm,0.4s								
PRN	**Pahroc Range**	**1.08**	**262**	Pn		Pg		20 40 57.0	+0.3
PRN				IAML				20 41 20.4	
	comp=N,194nm,0.6s								
PRN				IAML				20 41 20.4	
	comp=E,174nm,0.6s								
PKCU	**Pink Cliffs**	**1.11**	**96**			Pg		20 40 57.4	+0.1
PKCU				IAML				20 41 13.1	
	comp=N,160nm,0.3s								
IMU	**Iron Mountain**	**1.15**	**22**			Pg		20 40 57.9	0.0
NMUT	**North Mineral**	**1.16**	**35**			Pg		20 40 57.8	-0.4
MTPU	**Mount Pierson**	**1.29**	**68**	Pg		Pg		20 41 00.3	-0.4
MTPU				IAML				20 41 22.0	
	comp=N,72nm,0.7s								
MTPU				IAML				20 41 23.6	
	comp=E,53nm,0.5s								
TCRU	**Three Creeks R**	**1.44**	**43**			Pn		20 41 02.8	-0.2
TCRU				IAML				20 41 22.4	
	comp=N,69nm,0.4s								
TCRU				IAML				20 41 22.5	
	comp=E,92nm,0.2s								
MVU	**Marysvale**	**1.50**	**51**			Pn		20 41 04.2	+0.3
SPR3	**Spring Creek 3**	**1.51**	**341**	Pn		Pn		20 41 02.8	-1.3
SPR3				IAML				20 41 24.1	
	comp=E,42nm,0.5s								
SPR3				IAML				20 41 24.8	
	comp=N,71nm,0.5s								
MSU	**Marysvale**	**1.53**	**51**			Pn		20 41 04.4	+0.2
SHPR	**Sheep Range**	**1.58**	**228**	Pn		Pn		20 41 04.8	0.0
U15A	**North Rim**	**1.60**	**135**			Pn		20 41 04.9	-0.4
U15A				IAML				20 41 25.4	
	comp=N,70nm,0.3s								
U15A				IAML				20 41 29.7	
	comp=E,89nm,0.8s								
S11A	**Rachel**	**1.63**	**273**			Pn		20 41 05.9	+0.4
R11A	**Troy Canyon, C**	**1.68**	**298**			Pn		20 41 05.2	-1.1
TPNV	**Topopah Spring**	**2.12**	**254**			Pn		20 41 12.6	+0.3
TPNV				IAML				20 41 48.2	
	comp=E,32nm,0.6s								
TPNV				IAML				20 41 48.3	
	comp=E,26nm,0.6s								
W13A	**Hualapai Mount**	**2.47**	**184**			Pn		20 41 16.9	-0.3
TMUT	**Trail Mountain**	**2.61**	**48**			Pn		20 41 18.2	-1.0
TMUT				IAML				20 42 03.0	
	comp=N,15nm,0.6s								
TMUT				IAML				20 42 09.6	
	comp=E,14nm,0.7s								
NLU	**North Lily Min**	**2.70**	**28**			Pn		20 41 20.2	-0.1
NLU				IAML				20 42 04.5	
	comp=N,11nm,1.1s								
GWY	**Greenwater Val**	**2.75**	**241**			Pg		20 41 28.0	-0.6
GWY				IAML				20 42 08.0	
	comp=N,17nm,2.9s								
GWY				IAML				20 42 13.4	
	comp=E,18nm,0.9s								
TPH	**Tonopah**	**2.83**	**281**			Pn		20 41 22.0	-0.1
SRU	**San Rafael Swe**	**2.94**	**57**	IAML				20 42 27.9	
	comp=E,9.6nm,1.6s								
LCH	**Last Change Ra**	**3.16**	**265**			Pn		20 41 26.5	0.0
LCH				IAML				20 42 45.5	
	comp=E,9.1nm,4.6s								
GSC	**Goldstone, Bar**	**3.37**	**229**			Pn		20 41 28.9	-0.6
GSC				IAML				20 42 28.3	
	comp=N,14nm,5.0s								
GSC				IAML				20 43 16.0	
	comp=E,15nm,1.1s								
ELK	**Elko**	**3.39**	**340**			Pn		20 41 30.0	+0.2
DSP	**Deep Springs**	**3.40**	**268**			Pn		20 41 29.9	+0.2
DSP				IAML				20 42 31.8	
	comp=N,7.7nm,3.9s								
DSP				IAML				20 43 09.5	
	comp=E,6.5nm,4.8s								
NV11	**Mina Array Sit**	**3.62**	**285**			Pn		20 41 31.9	-1.0
NV11				IAML				20 42 09.0	
	comp=E,11nm,4.7s								
NV11				IAML				20 43 54.8	
	comp=N,8.5nm,2.9s								
NVAR	**Mina Array Bea**	**3.74**	**285**			Pb		20 41 40.6	-2.0
KVN	**Kaiserville**	**3.76**	**295**			Pn		20 41 35.2	+0.3
KVN				IAML				20 42 36.8	
	comp=N,8.6nm,3.1s								
KVN				IAML				20 42 47.4	
	comp=E,7.8nm,3.8s								
PV23	**Carpenter Ridg**	**3.81**	**75**			Pn		20 41 35.9	+0.3
RYN	**Ryan**	**3.95**	**287**			Pg		20 41 50.8	-0.8
W18A	**Petrified Fore**	**4.03**	**126**			Pg		20 41 51.0	-2.1
MVCO	**Mesa Verde**	**4.16**	**93**			Pn		20 41 41.0	+0.6
MVCO				Pg		Pg		20 41 53.5	-2.1

*IDC **12** 20:57:11.9±1.7, 6°.42S×154°.39E, h0km, mb3.4/5, mbtmp3.4/5, MS2.4/1, Error ellipse: s-maj=71.7km s-min=28.9km az=120.0*

ISC 12 20:57:18.8±1.8, 6°.5S±0°.3×154°.3E±0°.4, h48km, n10, σ1ᵎ12/8, mb3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.15**	**313**	LR		LR		20 59 31.5	
	comp=Z,72nm,21.5s,baz=310,slow=44								
WRA	**Warramunga Arr**	**23.59**	**234**	P		**P**		**21 02 24.3**	**-1.1**
	0.4nm,0.7s,baz=53,slow=9.8,SNR=5.8								
WRA				PcP		**PcP**		**21 06 09.9**	**+0.3**
	0.3nm,0.9s,baz=62,slow=2.6,SNR=1.7								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**26.04**	**227**	P		**P**		**21 02 49.0**	**+1.2**
	0.2nm,0.4s,baz=55,slow=9.3,SNR=2.9								
ASAR				PcP		**PcP**		**21 06 15.6**	**+0.6**
	0.3nm,0.5s,baz=58,slow=2.7,SNR=7.3								
	0.2nm,0.4s								
H11S3	**WAKE ISLAND Hy**	**27.64**	**26**	T		T		21 31 24.1	
	baz=207								
H11S2	**WAKE ISLAND Hy**	**27.64**	**26**	T		T		21 31 22.0	
	baz=207								
H11S1	**WAKE ISLAND Hy**	**27.66**	**26**	T		T		21 31 24.9	
	baz=207								
SONM	**Songino Array**	**68.55**	**327**	P		**P**		**21 08 17.4**	**+0.8**
	0.2nm,0.5s,baz=146,slow=6.3,SNR=2.9								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**82.58**	**319**	P		**P**		**21 09 37.1**	**+0.2**
	0.2nm,0.6s,baz=115,slow=4.8,SNR=1.5								
	0.2nm,0.6s								
ILAR	**Eielson Array**	**83.13**	**22**	P		**P**		**21 09 38.8**	**-0.5**
	0.6nm,0.8s,baz=239,slow=5.1,SNR=4.5								
	0.6nm,0.8s								
TORD	**Torodi Ar. Bea**	**152.25**	**286**	PKPab		**PKPab**		**21 17 18.8**	**-1.5**
	0.4nm,0.5s,baz=76,slow=3.3,SNR=2.5								

IDC 12 21:15:32.6±9.9, 0°.88S×67°.09E, h0km, mb3.5/5, mbtmp3.5/5, MS3.5/4, Error ellipse: s-maj=310.5km s-min=31.7km az=69.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.74**	**57**	LR		LR		21 35 34.9	
	comp=Z,21nm,20.6s,baz=190,slow=33								
BOSA	**Boshof**	**48.52**	**232**	LR		LR		21 41 51.4	
	comp=Z,40nm,19.6s,baz=40,slow=32								
MKAR	**Makanchi Array**	**49.32**	**14**	P		P		21 24 23.5	0.0
	0.2nm,0.6s,baz=203,slow=9.4,SNR=1.9								
	0.2nm,0.6s								
SUR	**Sutherland**	**53.63**	**229**	LR		LR		21 44 49.8	
	comp=Z,58nm,19.0s,baz=92,slow=33								
ZALV	**Zalesovo Beam**	**56.59**	**12**	P		P		21 25 16.7	-0.3
	0.6nm,0.6s,baz=211,slow=8.1,SNR=3.9								
	0.6nm,0.6s								
SONM	**Songino Array**	**59.34**	**30**	P		P		21 25 36.7	+0.1
	0.5nm,0.6s,baz=222,slow=7.8,SNR=5.9								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**68.35**	**111**	P		P		21 26 36.2	-0.2
	0.4nm,0.6s,baz=290,slow=5.6,SNR=5.0								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**68.47**	**115**	P		P		21 26 37.4	+0.2
	0.7nm,1.0s,baz=283,slow=5.6,SNR=4.4								
	0.7nm,1.0s								
KLR	**Kul'dur**	**74.40**	**38**	LR		LR		21 58 52.6	
	comp=Z,64nm,19.9s,baz=68,slow=35								

*IDC **12** 21:32:39.1±1.0, 35°.52N×74°.46E, h0km, mb3.7/8, mbtmp3.8/13, ML2.9/5, Error ellipse: s-maj=26.3km s-min=17.9km az=57.0*

*NNC **12** 21:32:49.3±3.1, 35°.74N×74°.03E, h48km±38km, mb3.9, mpv3.7, Error ellipse: s-maj=30.0km s-min=25.2km az=50.0*

ISC 12 21:32:43.5±0.7, 35°.46N±0°.07×74°.6E±0°.1, h36km, n32, σ1ᵎ91/35, mb3.6/8, 3C-5D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**7.11**	**161**	*e*P		**Sn**		**21 35 45.0**	**+0.5**
AAK	**Ala-Archa**	**7.17**	**359**	Pn		**Pn**		**21 34 28.2**	**+2.3**
	0.4nm,0.3s,baz=148,slow=14,SNR=4.7								
AAK				Sn		**Sn**		**21 35 47.3**	**+1.2**
	0.1nm,0.3s,baz=66,slow=20,SNR=1.7								
	1.7nm,0.5s								
TKM2	**Tokmak 2**	**7.49**	**6**	⇑P		**Pn**		**21 34 32.5**	**+2.2**
	2.8nm,0.8s								
TKM2				⇑S		**Sn**		**21 35 54.7**	**+0.6**
	6.1nm,1.1s								
CHMS	**Chumysh**	**7.53**	**1**	⇓P		**Pn**		**21 34 32.3**	**+1.7**
	4.4nm,0.8s								
KK31	**Karatay Array**	**8.27**	**339**	⇓P		**Pn**		**21 34 40.7**	**-0.1**
	2.5nm,0.4s,baz=149,slow=12,SNR=45								
KK31				⇓S		**Sn**		**21 36 09.6**	**-3.2**
	3.3nm,0.5s,baz=172,slow=24,SNR=8.0								
DANN	**Dangsing**	**10.52**	**130**	*e*P		**Pn**		**21 35 11.4**	**-0.6**
	25nm,0.4s								
KOLN	**Koldanda**	**10.84**	**133**	*e*P		**Pn**		**21 35 15.2**	**-1.0**
GKN	**Gorkha**	**11.32**	**128**	*e*P		**Pn**		**21 35 21.1**	**-1.7**
	43nm,0.4s								
KKN	**Kakani**	**11.88**	**127**	*e*P		**Pn**		**21 35 28.7**	**-1.8**
DMN	**Daman**	**11.89**	**128**	*e*P		**Pn**		**21 35 28.4**	**-2.3**
PKIN	**Phulchoki**	**12.10**	**128**	*e*P		**Pn**		**21 35 31.6**	**-1.9**
	71nm,0.6s								
PKI	**Pulchoki**	**12.11**	**128**	*e*P		**Pn**		**21 35 31.9**	**-1.9**
	46nm,0.6s								
JIRN	**Jiri**	**12.56**	**125**	*e*P		**Pn**		**21 35 37.2**	**-2.8**
	69nm,0.4s								
MK31	**Makanchi Array**	**12.71**	**25**	⇓P		**P**		**21 35 49.0**	**-3.3**
	2.2nm,1.1s,baz=210,slow=11,SNR=5.2								
MKAR	**Makanchi Array**	**12.71**	**25**	Pn		**Pn**		**21 35 42.6**	**+1.0**
	baz=198,slow=13,SNR=2.3								
RAMN	**Ramite**	**13.31**	**126**	*e*P		**Pn**		**21 35 46.1**	**-4.0**
	14nm,0.5s								
TAPN	**Taplejung**	**13.80**	**122**	*e*P		**Pn**		**21 35 53.0**	**-3.8**
	17nm,0.4s								
KURBB	**Kurchatov Arra**	**15.42**	**9**	Pn		**Pn**		**21 36 16.0**	**-2.2**
	baz=196,slow=12,SNR=8.8								
	0.6nm,0.7s								
KURK	**Kurchatov**	**15.52**	**10**	⇑P		**P**		**21 36 22.6**	**-0.9**
	5.0nm,1.0s								
BVA0	**Borovoye Array**	**17.81**	**352**	P		**P**		**21 36 49.0**	**+0.2**
	3.0nm,0.9s,baz=154,slow=8.4,SNR=8.6								
BVAR	**Borovoye Array**	**17.81**	**352**	P		**Pn**		**21 36 46.7**	**-1.6**
	baz=156,slow=8.9,SNR=9.9								
	1.7nm,0.6s								
AKTO	**Aktyubinsk**	**19.21**	**326**	P		**P**		**21 37 03.9**	**-0.3**
	3.6nm,0.4s,baz=117,slow=8.3,SNR=12								
AKTO	**Aktyubinsk**	**19.21**	**326**	⇓P		**P**		**21 37 03.7**	**-0.4**
	2.6nm,0.7s								
ZALV	**Zalesovo Beam**	**19.82**	**18**	P		**P**		**21 37 10.7**	**-0.1**
	0.3nm,0.3s,baz=219,slow=9.8,SNR=15								
	3.1nm,0.7s								
SONM	**Songino Array**	**26.58**	**52**	P		**P**		**21 38 19.2**	**+1.0**
	0.4nm,0.5s,baz=257,slow=9.8,SNR=4.1								
	0.4nm,0.5s								
CMAR	**Chiang Mai Arr**	**27.41**	**122**	P		**P**		**21 38 27.6**	**+1.8**
	1.2nm,0.7s,baz=309,slow=10,SNR=8.3								
	1.2nm,0.7s								
FINES	**FINESS Array B**	**39.98**	**326**	P		**P**		**21 40 14.3**	**+0.1**
	1.8nm,0.9s,baz=111,slow=7.7,SNR=3.5								
	1.8nm,0.9s								
ARCES	**ARCESS Array B**	**43.23**	**337**	P		**P**		**21 40 40.8**	**+0.1**
	4.1nm,1.0s,baz=106,slow=8.5,SNR=4.2								
	4.1nm,1.0s								
NOA	**NORSAR Array B**	**46.96**	**323**	P		**P**		**21 41 11.5**	**+1.0**
	0.4nm,0.6s,baz=95,slow=7.6,SNR=1.2								
	0.4nm,0.6s								
TORD	**Torodi Ar. Bea**	**68.64**	**271**	P		**P**		**21 43 42.4**	**-0.9**
	0.3nm,0.6s,baz=52,slow=5.2,SNR=2.0								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**78.97**	**124**	P		**P**		**21 44 46.2**	**+2.6**
	0.4nm,0.6s,baz=326,slow=5.9,SNR=7.3								
	0.4nm,0.6s								
YKA	**Yellowknife Ar**	**82.11**	**4**	P		**P**		**21 45 01.1**	**+1.2**
	0.3nm,0.7s,baz=347,slow=6.0,SNR=4.9								
	0.3nm,0.7s								

*IDC **12** 21:33:18.4±0.7, 6°.23N×126°.68E, h0km, mb3.7/11, mbtmp3.8/13, ML3.7/2, MS3.4/11, Error ellipse: s-maj=32.0km s-min=11.4km az=54.0*

*MAN **12** 21:33:21.8, 6°.07N×126°.46E, h18km, mb4.9, ML3.8, MS3.9*

*NEIC **12** 21:33:23.4±1.4, 6°.10N±0°.06×126°.39E±0°.09, h19km±4km, mb4.3/13, Error ellipse: s-maj=14.8km s-min=5.4km az=62.0*

*DJA **12** 21:33:24.6±0.5, 6°.N±3°×12°.6E±°, h10km, M4.5/8, mb4.6/8, mB4.9/4, MLv4.6/8, Mw(mB)4.2/4*

ISC 12 21:33:20.6±1.7, 6°.12N±0°.04×126°.46E±0°.05, h9km±10km, n70, σ1ᵎ88/85, mb4.1/19, MS3.4/9, 5C-16D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.74**	**269**	⇓*e*P		**Pb**		**21 33 36.4**	**+0.7**
DDMP				*e*S		**Sn**		**21 33 48.4**	**-0.2**
MATI	**Mati**	**0.85**	**347**	⇓*e*P		**Pn**		**21 33 38.1**	**-0.6**
MATI				*e*S		**Sn**		**21 33 52.0**	**+0.7**
DAV	**Davao City (W)**	**1.29**	**317**	Pg		**Pn**		**21 33 44.1**	**-0.7**
	86nm,0.3s,baz=106,slow=2.6,SNR=17								
DAV				Lg		Lg		21 34 02.9	
	424nm,0.3s,baz=279,slow=23,SNR=9.5								
DAV				LR		LR		21 34 12.0	
	comp=Z,736nm,19.8s,baz=92,slow=39								
DAV	**Davao City (W)**	**1.29**	**317**	Pn		**Pg**		**21 33 45.7**	**+0.3**
DAV				Sn		**Sb**		**21 34 02.0**	**+0.3**
GSPH	**General Santos**	**1.50**	**269**	⇓*i*P		**Pn**		**21 33 45.3**	**-2.5**
GSPH				*i* S		**Sn**		**21 34 04.9**	**-2.7**
KCP	**Kidapawan**	**1.62**	**303**	⇓*e*P		**Pn**		**21 33 49.1**	**-0.4**
KCP				*i* S		**Sn**		**21 34 09.8**	**-0.7**
CDOP	**Cateel, Davao**	**1.66**	**359**	⇑*e*P		**Pn**		**21 33 49.5**	**-0.3**
CDOP				*e*S		**Sn**		**21 34 05.7**	**-5.6**
SKMP	**Bagumbayan, Su**	**1.94**	**282**	⇓*e*P		**Pn**		**21 33 54.7**	**+0.9**
SKMP				*e*S		**Sn**		**21 34 17.2**	**-1.2**
BIPH	**Bislig**	**2.06**	**357**	⇓*e*P		**Pn**		**21 33 54.8**	**-0.6**
BIPH				*e*S		**Sb**		**21 34 22.8**	**-1.1**
BUKP	**Musuan**	**2.23**	**322**	⇓*e*P		**Pn**		**21 33 59.3**	**+1.5**
BUKP				*e*S		**Sb**		**21 34 28.0**	**-0.9**
TASP	**Talacogon, Agu**	**2.41**	**345**	⇑*e*P		**Pb**		**21 34 05.1**	**+1.0**
TASP				*e*S		**Sg**		**21 34 37.1**	**-0.9**
CTBH	**Cotabato--PC H**	**2.45**	**297**	⇓*i*P		**Pn**		**21 34 02.7**	**+1.9**
CTBH				*i* S		**Sn**		**21 34 33.5**	**+2.5**
CGP	**Cagayan de Oro**	**2.91**	**323**	⇑*i*P		**Pn**		**21 34 08.7**	**+1.6**
CGP				*i* S		**Sb**		**21 34 46.8**	**-1.5**
PAGZ	**Pagadian**	**3.50**	**300**	⇓*e*P		**Pb**		**21 34 19.5**	**-3.3**
GLSP	**General Luna,**	**3.66**	**355**	⇓*e*P		**Pn**		**21 34 19.2**	**+1.8**
SCPH	**Surigao**	**3.77**	**345**	*e*P		**Pn**		**21 34 18.7**	**-0.2**
SCPH				*e*S		**Sb**		**21 35 09.5**	**-3.5**
DCPH	**Dipolog City**	**3.94**	**309**	⇑*e*P		**Pb**		**21 34 27.3**	**-2.9**
GHBP	**Garcia Hernand**	**4.08**	**329**	⇓*e*P		**Pn**		**21 34 25.0**	**+1.8**
LSIP	**Lazi, Siquijor**	**4.10**	**317**	⇓*e*P		**Pn**		**21 34 25.7**	**+2.2**
MSLP	**Maasin**	**4.29**	**338**	⇓*e*P		**Pn**		**21 34 27.5**	**+1.4**
MSLP				*e*S		**Sn**		**21 35 18.5**	**+2.1**
TBP	**Tagbilaran**	**4.38**	**324**	*e*P		**Pn**		**21 34 29.1**	**+1.7**
TBP				*i* S		**Sn**		**21 35 22.8**	**+3.5**
SNPH	**Sibulan**	**4.52**	**315**	⇓*e*P		**Pn**		**21 34 31.5**	**+2.2**
SNPH				*e*S		**Sn**		**21 35 21.7**	**-0.4**
LLP	**Lapu-Lapu**	**4.85**	**330**	*e*P		**Pn**		**21 34 31.0**	**-2.7**
LLP				*e*S		**Sn**		**21 35 31.5**	**+1.5**
CNOP	**Candoni, Negro**	**5.28**	**315**	⇓*e*P		**Pn**		**21 34 42.4**	**+2.7**
TNTI	**Ternate**	**5.39**	**170**	P		**Pn**		**21 34 44.4**	**+3.2**
	37nm,0.5s,0.4nm								
RCP	**Roxas**	**6.53**	**326**	⇑*e*P		**Pn**		**21 34 54.3**	**-2.7**
MRSI	**Marisa**	**7.19**	**219**	P		**Pn**		**21 35 05.7**	**-0.3**
	87nm,0.7s,932nm0.3nm								
MRSI				S		**Sn**		**21 36 23.1**	**-4.7**
	87nm,0.7s,932nm0.3nm								

comp=Z,0.6nm,0.7s,baz=120,slow=10,SNR=1.7
comp=Z,0.6nm,0.7s
KURBB Kurchatov Arra 59.60 327 P **P** **21 43 24.0 -0.8**
comp=Z,0.7nm,0.6s,baz=123,slow=7.2,SNR=7.3
KURBB LR LR 22 09 00.8
comp=Z,68nm,18.7s,baz=164,slow=36
comp=Z,0.7nm,0.6s
KURK Kurchatov 59.60 327 P **P** **21 43 25.2 +0.4**
URZ Urewera 64.47 138 LR LR 22 10 52.8
comp=Z,32nm,20.4s,baz=4,0,slow=35
BVAR Borovoye Array 65.19 326 P **P** **21 44 01.2 -1.0**
comp=Z,0.6nm,0.5s,baz=108,slow=9.3,SNR=2.1
comp=Z,0.6nm,0.5s
NRIK Noril'sk 68.06 346 P **P** **21 44 18.8 -1.4**
comp=Z,1.0nm,0.3s,baz=116,slow=6.0,SNR=3.8
comp=Z,1.0nm,0.3s
ILAR Eielson Array 83.08 26 P **P** **21 45 45.1 -1.3**
comp=Z,0.5nm,0.9s,baz=245,slow=5.8,SNR=1.8
comp=Z,0.5nm,0.9s
NOA NORSAR Array B 96.54 334 LR LR 22 37 49.2
comp=Z,98nm,20.4s,baz=260,slow=40
TORD Torodi Ar. Bea 121.89 290 PKP **PKPdf** **21 52 14.8 -1.7**
comp=Z,0.6nm,0.7s,baz=27,slow=0.6,SNR=2.9

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*JMA **12** 21:47:28.9±0.1, 38.3°N±0.3× 141.9°E±0.5, h63km, MV3.7/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
*IDC **12** 21:47:28.4±2.8, 38.31°N× 142.16°E, h68km±24km, mb3.4/5, mbtmp3.6/8, MS2.6/1, Error ellipse: s-maj=37.5km s-min=16.8km az=95.0*
ISC 12 21:47:27.7±1.4, 38.25°N±0.06°×142.1°E±0.1, h58km±10km, n28, σ0°60/33, mb3.6/5, 19D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.48**	**277**	⇓*iP*		**Pn**	**21 47 40.0**	**+0.7**
JIKH				⇓S		**Sn**	**21 47 47.8**	**+0.1**
JIO	**Ouri**	**0.61**	**290**	⇓*iP*		**Pn**	**21 47 41.1**	**+0.5**
JIO				⇓S		**Sn**	**21 47 49.8**	**-0.3**
JKMT	**Kesennumamotoy**	**0.73**	**320**	⇓*iP*		**Pn**	**21 47 42.6**	**+0.4**
JKMT				⇓S		**Sn**	**21 47 52.4**	**-0.4**
OFUJ	**Ofunato**	**0.89**	**339**	*iP*		**Pn**	**21 47 44.7**	**+0.5**
OFUJ				S		**Sn**	**21 47 56.1**	**-0.2**
JMK	**Ichinoseki**	**0.97**	**316**	⇓*iP*		**Pn**	**21 47 45.6**	**+0.4**
JMK				⇓S		**Sn**	**21 47 57.8**	**-0.4**
JMM	**Marumori**	**1.08**	**250**	⇓*iP*		**Pn**	**21 47 46.8**	**+0.1**
JMM				⇓S		**Sn**	**21 47 60.0**	**-0.9**
JOU	**Okura**	**1.12**	**276**	⇓*iP*		**Pn**	**21 47 47.3**	**+0.2**
JOU				⇓S		**Sn**	**21 48 01.0**	**-0.7**
JFK	**Kawauchi**	**1.30**	**227**	⇓*iP*		**Pn**	**21 47 50.2**	**+0.5**
JFK				⇓S		**Sn**	**21 48 05.7**	**-0.4**
JOM	**Ohasama**	**1.36**	**334**	⇓*iP*		**Pn**	**21 47 51.1**	**+0.6**
JOM				⇓S		**Sn**	**21 48 07.4**	**-0.2**
JYK	**Kaneyama**	**1.50**	**297**	*iP*		**Pn**	**21 47 52.5**	**+0.2**
JYS	**Shirataka**	**1.58**	**270**	⇓*iP*		**Pn**	**21 47 53.9**	**+0.4**
JYS				⇓S		**Sn**	**21 48 12.9**	**0.0**
JRG	**Rokugo**	**1.60**	**316**	P		**Pn**	**21 47 54.1**	**+0.4**
JRG				S		**Sn**	**21 48 13.7**	**+0.3**
JYA	**Atsumi**	**1.89**	**281**	⇓P		**Pn**	**21 47 57.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.52**	**242**	P		**Pn**	**21 48 21.8**	**+1.9**
	12nm,0.5s,baz=55,slow=10,SNR=41							
ASAJ	**Asahikawa**	**5.87**	**4**	P		**Pn**	**21 48 52.0**	**0.0**
	4.0nm,0.4s,baz=230,slow=8.1,SNR=4.9							
ASAJ				S		**Sn**	**21 49 57.5**	**-0.4**
	5.9nm,0.5s,baz=290,slow=28,SNR=2.0							
USRK	**Ussuriysk Ar.**	**9.64**	**311**	P		**Pn**	**21 49 44.9**	**+1.2**
	0.4nm,0.3s,baz=119,slow=14,SNR=1.2							
KSRS	**Korea Array**	**11.22**	**270**	LR		LR	21 53 55.2	
	comp=Z,27nm,19.1s,baz=200,slow=34							
H11N2	**WAKE ISLAND Hy**	**28.35**	**124**	T		T	22 23 39.8	
	baz=316,slow=76,SNR=56							
H11N1	**WAKE ISLAND Hy**	**28.36**	**124**	T		T	22 23 41.4	
	baz=316,slow=76,SNR=52							
H11N3	**WAKE ISLAND Hy**	**28.37**	**124**	T		T	22 23 39.3	
	baz=316,slow=76,SNR=39							
H11S1	**WAKE ISLAND Hy**	**29.11**	**126**	T		T	22 24 39.8	
	baz=318,slow=75							
H11S3	**WAKE ISLAND Hy**	**29.11**	**126**	T		T	22 24 48.4	
	baz=318,slow=75							
H11S2	**WAKE ISLAND Hy**	**29.13**	**126**	T		T	22 24 39.1	
	baz=318,slow=75							
ZALV	**Zalesovo Beam**	**41.49**	**311**	P		**P**	**21 55 08.2**	**-0.5**
	0.3nm,0.4s,baz=86,slow=9.1,SNR=2.3							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**43.93**	**301**	P		**P**	**21 55 28.2**	**-0.4**
	0.3nm,0.7s,baz=88,slow=9.9,SNR=4.5							
	0.3nm,0.7s							
WRA	**Warramunga Arr**	**58.34**	**189**	P		**P**	**21 57 16.6**	**-0.2**
	0.7nm,0.6s,baz=5.7,slow=7.2,SNR=12							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**62.07**	**188**	P		**P**	**21 57 42.8**	**+0.6**
	0.3nm,0.6s,baz=21,slow=5.4,SNR=3.0							
	0.3nm,0.6s							
FINES	**FINESS Array B**	**67.98**	**332**	P		**P**	**21 58 20.1**	**-0.1**
	3.0nm,0.8s,baz=38,slow=7.0,SNR=5.1							
	3.0nm,0.8s							

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*SOME **12** 22:20:25.5, 40.38°N× 77.87°E, h5km*
*KRNET **12** 22:20:25.6±0.1, 40.30°N× 77.79°E, mb3.0*
*NNC **12** 22:20:28.0±0.8, 40.42°N× 77.84°E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=5.6km s-min=5.2km az=143.0*
ISC 12 22:20:27.7±2.6, 40.3°N±0.1×77.88°E±0.06, h10km, n55, σ1§41/67, 25C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.85**	**310**	⇑*iP*		**Pn**	**22 20 58.9**	**-1.0**
	baz=10.0							
NRN				⇑*i*S		**Sn**	**22 21 23.3**	**-0.2**
	baz=10.0							
KDJ	**Kajisay**	**1.95**	**344**	⇑*iP*		**Pn**	**22 21 00.8**	**-0.3**
	baz=46							
KDJ				⇑*i*S		**Sn**	**22 21 26.4**	**+0.6**
	baz=46							
PRZ	**Przheval'sk**	**2.27**	**10**	⇓*iP*		**Pn**	**22 21 06.3**	**+0.9**
	baz=12							
PRZ				⇓*i*S		**Sn**	**22 21 35.8**	**+2.3**
	baz=12							
ULHL	**Ulahol**	**2.34**	**329**	⇑*iP*		**Pn**	**22 21 06.8**	**+0.2**
	baz=30							
ULHL				⇑*i*S		**Sn**	**22 21 36.6**	**+1.1**
	baz=30							
ANVS	**Anan'yevo**	**2.54**	**356**	⇑*iP*		**Pn**	**22 21 09.8**	**+0.7**
	baz=58							
ANVS				⇑*i*S		**Sn**	**22 21 41.8**	**+1.6**
	baz=58							
BOOM	**Boomskoye usch**	**2.67**	**327**	⇑*iP*		**Pn**	**22 21 11.1**	**+0.1**
	baz=28							
BOOM				⇑*i*S		**Sn**	**22 21 44.0**	**+0.5**
	baz=28							
SATY	**Saty**	**2.83**	**8**	Pg		**Pb**	**22 21 16.8**	**-1.8**
	8.5nm,0.3s							
SATY				Lg		Lg	22 21 53.5	
	29nm,0.6s							
SATY	**Saty**	**2.83**	**8**	*e*Pg		**Pb**	**22 21 16.8**	**-1.8**
	8.5nm,0.3s							
SATY				*e*Lg		Lg	22 21 53.5	
	29nm,0.6s							
TNSS	**Tian-Shan**	**2.87**	**346**	Pg		**Pb**	**22 21 17.6**	**-1.7**
	41nm,0.3s							
TNSS				Lg		Lg	22 21 55.2	
	12nm,0.4s							
TNSS	**Tian-Shan**	**2.87**	**346**	*e*Pg		**Pb**	**22 21 17.6**	**-1.7**
	41nm,0.3s							
TNSS				*e*Lg		Lg	22 21 55.2	
	12nm,0.4s							
ZHN	**Zhinishke**	**2.94**	**8**	Pg		**Pb**	**22 21 18.8**	**-1.6**
ZHN				Lg		Lg	22 21 57.3	
ZHN	**Zhinishke**	**2.94**	**8**	*e*P		**Pb**	**22 21 18.8**	**-1.6**
ZHN				*e*S		**Sb**	**22 21 57.3**	**+0.9**
MDOK	**Medeo**	**2.98**	**348**	⇑Pn		**Pn**	**22 21 15.3**	**+0.2**
	3.2nm,0.8s							
MDOK				⇑Pg		**Pb**	**22 21 19.1**	**-1.8**
	13nm,0.5s							
MDOK				Pg		Pg	22 21 19.2	-5.5
	21nm,0.4s							
MDOK				⇑Lg		Lg	22 21 57.7	
	30nm,0.6s							
MDOK				Lg		Lg	22 21 58.0	
	33nm,0.6s							
KOTS	**Kotyrbulak**	**3.04**	**349**	Pg		**Pb**	**22 21 20.7**	**-1.3**
	14nm,0.3s							
KOTS				Lg		Lg	22 22 00.3	
	19nm,0.5s							
KOTS	**Kotyrbulak**	**3.04**	**349**	*e*Pg		**Pb**	**22 21 20.7**	**-1.3**
	14nm,0.3s							
KOTS				*e*Lg		Lg	22 22 00.3	
	19nm,0.5s							
KNDC	**Almaty**	**3.04**	**347**	⇑Pg		**Pb**	**22 21 20.5**	**-1.5**
	18nm,0.5s							
KNDC				⇓Lg		Lg	22 22 00.7	
	73nm,0.7s							
AAA	**Alma-Ata**	**3.04**	**347**	Pg		**Pb**	**22 21 20.8**	**-1.2**
	57nm,0.2s							
AAA				Lg		Lg	22 22 00.5	
	43nm,0.3s							
AAA	**Alma-Ata**	**3.04**	**347**	*e*Pg		**Pb**	**22 21 20.8**	**-1.2**
	57nm,0.2s							
AAA				*e*Lg		Lg	22 22 00.5	
	43nm,0.3s							
MTBS	**Maitube**	**3.08**	**340**	Pg		**Pb**	**22 21 21.1**	**-1.5**
	18nm,0.4s							
MTBS				Lg		Lg	22 22 01.2	
	16nm,0.4s							
MTBS	**Maitube**	**3.08**	**340**	*e*Pg		**Pb**	**22 21 21.1**	**-1.5**
	18nm,0.4s							
MTBS				*e*Lg		Lg	22 22 01.2	
	16nm,0.4s							
SHLS	**Shalkode**	**3.14**	**22**	Pg		**Pb**	**22 21 24.2**	**+0.6**
	3.4nm,0.2s							
SHLS				Lg		Lg	22 22 06.5	
	16nm,0.6s							
SHLS	**Shalkode**	**3.14**	**22**	*e*Pg		**Pb**	**22 21 24.2**	**+0.6**
	3.4nm,0.2s							
SHLS				*e*Lg		Lg	22 22 06.5	
	16nm,0.6s							
KST	**Kastek**	**3.14**	**333**	Pg		**Pb**	**22 21 22.2**	**-1.5**
	10nm,0.4s							
KST				Lg		Lg	22 22 03.0	
	12nm,0.6s							
KST	**Kastek**	**3.14**	**333**	*e*Pg		**Pb**	**22 21 22.2**	**-1.5**
	10nm,0.4s							
KST				*e*Lg		Lg	22 22 03.0	
	12nm,0.6s							
TKM2	**Tokmak 2**	**3.17**	**328**	P		**Pb**	**22 21 23.0**	**-1.3**
	SNR=9.9							
TKM2	**Tokmak 2**	**3.17**	**328**	⇑Pn		**Pn**	**22 21 18.5**	**+0.6**
	2.3nm,0.7s							
TKM2				⇓Pg		**Pb**	**22 21 22.7**	**-1.6**
	4.4nm,0.6s							
TKM2				⇑Lg		Lg	22 22 04.3	
	8.4nm,0.6s							
TKM2	**Tokmak 2**	**3.17**	**328**	⇑*eP*		**Pn**	**22 21 18.3**	**+0.4**
	baz=29							
TKM2				⇑*i*S		**Sn**	**22 21 56.2**	**+0.3**
	baz=29							
UCH	**Uchtor**	**3.22**	**309**	P		**Pb**	**22 21 23.7**	**-1.5**
	SNR=10							
UCH	**Uchtor**	**3.22**	**309**	⇑*eP*		**Pn**	**22 21 18.8**	**+0.1**
	baz=9.0							
UCH				⇑*i*S		**Sn**	**22 21 57.4**	**0.0**
	baz=9.0							
KBK	**Karagaybulak**	**3.26**	**318**	P		**Pb**	**22 21 24.2**	**-1.6**
	SNR=7.0							
KBK	**Karagaybulak**	**3.26**	**318**	⇑*eP*		**Pn**	**22 21 19.3**	**+0.2**
	baz=19							
KBK				⇑*i*S		**Sn**	**22 21 58.4**	**+0.3**
	baz=19							
KPKS	**Kokpek**	**3.27**	**10**	Pg		**Pb**	**22 21 24.3**	**-1.6**
	9.4nm,0.3s							
KPKS				Lg		Lg	22 22 07.4	
	15nm,0.4s							
KPKS	**Kokpek**	**3.27**	**10**	*e*Pg		**Pb**	**22 21 24.3**	**-1.6**
	9.4nm,0.3s							
KPKS				*e*Lg		Lg	22 22 06.0	
	15nm,0.4s							
DGS	**Degeres**	**3.38**	**333**	Pg		**Pb**	**22 21 26.4**	**-1.4**
	15nm,0.5s							
DGS				Lg		Lg	22 22 10.4	
	18nm,0.3s							
DGS	**Degeres**	**3.38**	**333**	*e*Pg		**Pb**	**22 21 26.4**	**-1.4**
	15nm,0.5s							
DGS				*e*Lg		Lg	22 22 10.4	
	18nm,0.3s							
AAK	**Ala-Archa**	**3.49**	**314**	P		**Pb**	**22 21 28.2**	**-1.4**
	SNR=6.7							
KTBS	**Karatobe**	**3.57**	**346**	Pg		**Pb**	**22 21 29.3**	**-1.7**
	12nm,0.3s							
KTBS				Lg		Lg	22 22 15.5	
	35nm,0.4s							
KTBS	**Karatobe**	**3.57**	**346**	*e*Pg		**Pb**	**22 21 29.3**	**-1.7**
	12nm,0.3s							
KTBS				*e*Lg		Lg	22 22 15.4	
	35nm,0.4s							
CHMS	**Chumysh**	**3.61**	**321**	⇑Pg		**Pb**	**22 21 30.7**	**-1.0**
	7.4nm,0.6s							
CHMS				⇑Lg		Lg	22 22 17.7	
	13nm,0.8s							
CHKK	**Chushkaly**	**3.66**	**350**	Pg		**Pb**	**22 21 30.8**	**-1.8**
	7.7nm,0.3s							
CHKK				Lg		Lg	22 22 18.0	
	14nm,0.2s							
CHKK	**Chushkaly**	**3.66**	**350**	*e*Pg		**Pb**	**22 21 30.8**	**-1.8**
	7.7nm,0.3s							
CHKK				*e*Lg		Lg	22 22 18.0	
	14nm,0.2s							
KTMS	**Ketmen**	**3.69**	**29**	Pg		**Pb**	**22 21 30.6**	**-2.5**
	1.0nm,0.2s							
KTMS				Lg		Lg	22 22 16.6	
	3.6nm,0.3s							
KTMS	**Ketmen**	**3.69**	**29**	*e*Pg		**Pb**	**22 21 29.9**	**-3.2**
	0.6nm,0.3s							
KTMS				*e*Lg		Lg	22 22 16.6	
	3.6nm,0.3s							
KRBS	**Karabastau**	**3.81**	**335**	Pg		**Pb**	**22 21 34.4**	**-0.8**
	3.3nm,0.1s							
KRBS				Lg		Lg	22 22 23.1	
	12nm,0.5s							
KRBS	**Karabastau**	**3.81**	**335**	*e*Pg		**Pb**	**22 21 33.8**	**-1.4**
	3.3nm,0.1s							
KRBS				*e*Lg		Lg	22 22 23.1	
	12nm,0.5s							
KUU	**Kurty**	**3.82**	**343**	Pg		**Pb**	**22 21 33.3**	**-1.9**
	6.4nm,0.3s							
KUU				Lg		Lg	22 22 22.1	
	16nm,0.6s							
KUU	**Kurty**	**3.82**	**343**	*e*Pg		**Pb**	**22 21 33.3**	**-1.9**
	6.4nm,0.3s							
KUU				*e*Lg		Lg	22 22 22.1	
	16nm,0.6s							
BLB	**Baldybastay**	**3.87**	**6**	Pg		**Pb**	**22 21 35.3**	**-0.9**
	8.5nm,0.3s							
BLB				Lg		Lg	22 22 25.0	
	23nm,0.3s							
USP	**Ospenovka**	**3.93**	**321**	P		**Pb**	**22 21 36.1**	**-1.1**
	SNR=19							
ARXS	**Arharly**	**3.96**	**359**	Pg		**Pb**	**22 21 35.6**	**-2.0**
	3.0nm,0.4s							
ARXS				Lg		Lg	22 22 26.3	
	17nm,0.7s							
ARXS	**Arharly**	**3.96**	**359**	*e*Pg		**Pb**	**22 21 35.6**	**-2.0**
	3.0nm,0.4s							
ARXS				*e*Lg		Lg	22 22 26.3	
	17nm,0.7s							
SGDS	**Sogindy**	**4.02**	**324**	Pg		**Pb**	**22 21 37.3**	**-1.3**
	5.4nm,0.5s							
SGDS				Lg		Lg	22 22 29.1	
	3.9nm,0.8s							
TDK	**Taldyqorghan**	**4.76**	**4**	Pg		**Pb**	**22 21 51.2**	**-0.1**
	9.4nm,0.2s							
TDK				Lg		Lg	22 22 52.9	
	17nm,0.8s							
TDK	**Taldyqorghan**	**4.76**	**4**	*e*Pg		**Pb**	**22 21 51.2**	**-0.1**
	9.4nm,0.2s							
TDK				*e*Lg		Lg	22 22 53.0	
	17nm,0.8s							
KK31	**Karatay Array**	**6.21**	**300**	⇑Pg		**Pb**	**22 22 18.0**	**+2.1**
	0.2nm,0.3s							
KK31				⇓Lg		Lg	22 23 38.9	
	2.2nm,0.8s,baz=116,slow=27,SNR=4.4							

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*IDC **12** 23:06:10.2±0.7, 51.42°N× 178.17°W, h0km, mb3.8/16, mbtmp3.9/18, ML4.0/2, MS3.0/6, Error ellipse: s-maj=29.6km s-min=13.1km az=171.0*
*AEIC **12** 23:06:17.1±2.4, 51.3°N±0.1×178.0°W±0.1, h43km±7km, Error ellipse: s-maj=22.2km s-min=5.3km az=158.0*
*NEIC **12** 23:06:19.1±2.1, 51.5°N±0.2×178.1°W±0.1, h60km±10km, mb4.0/77, ML3.9(AEIC), Error ellipse: s-maj=25.5km s-min=5.3km az=162.0*

ISC 12 23:06:14.8±0.6, 51.2°N±0.1×178.03°W±0.04, h34km, n128, σ1§34/121, mb4.0/36, MS3.2/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.85**	**40**			**Pb**	**23 06 31.7**	**+0.6**
KIWB					Sn	**Sb**	**23 06 42.8**	**+0.6**
ADK	**Adak**	**1.08**	**51**			**Pb**	**23 06 34.9**	**-0.1**
ADK					Sn	**Sb**	**23 06 48.5**	**-0.2**
GSTR	**Great Sitkin T**	**1.51**	**53**		Pn	**Pb**	**23 06 41.5**	**-0.8**
AMKA	**Amchitka**	**1.69**	**277**			**Pb**	**23 06 44.2**	**-1.0**
AMKA					Sn	**Sb**	**23 07 06.1**	**0.0**
SHEM	**Shemya Is, Ala**	**5.10**	**290**		Pn	**Pn**	**23 07 27.2**	**-1.6**
	2.5nm,0.3s,baz=123,slow=17,SNR=2.1							
SHEM					Sn	**Sn**	**23 08 28.0**	**+1.6**
	1.2nm,0.3s,baz=36,slow=20,SNR=1.6							
SHEM				LR	LR	LR	23 09 00.8	
	comp=Z,65nm,18.7s,baz=82,slow=34							
	94nm,1.0s							
UNV	**Unalaska Valle**	**7.51**	**65**		Pn	**Pn**	**23 08 04.9**	**+3.2**
SPIA	**Saint Paul Isl**	**7.52**	**34**		Pn	**Pn**	**23 08 01.3**	**-0.5**
CHGN	**Chignik**	**12.66**	**59**		Pn	**Pn**	**23 09 12.5**	**+0.3**
PETK	**Petropavlovsk-**	**15.00**	**287**		LR	LR	23 15 10.4	
	comp=Z,42nm,20.5s,baz=102,slow=36							
P18K	**Big Mountain,**	**15.29**	**49**		Pn	Pn	23 09 38.2	-10
P18K						Pn	23 09 40.4	-7.4
P18K					IAmb	IAmb	23 09 55.9	
	comp=Z,13nm,1.2s							
OHAK	**Old Harbor**	**15.62**	**58**		Pn	**Pn**	**23 09 49.2**	**-2.9**
OHAK						**P**	**23 09 49.4**	**-6.5**
OHAK						**Pn**	**23 09 50.8**	**-1.3**
Q19K	**Cape Douglas,**	**15.89**	**51**		Pn	**Pn**	**23 09 55.5**	**-0.1**
KDAK	**Kodiak Island**	**16.11**	**56**		Pn	**Pn**	**23 09 54.3**	**-4.1**
	comp=Z,1.5nm,0.3s,baz=253,slow=3.4,SNR=26							
KDAK					Sn	**Sn**	**23 12 53.3**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=54,slow=19,SNR=2.0							
	comp=Z,3.0nm,0.4s							
KDAK	**Kodiak Island**	**16.11**	**56**		Pn	**Pn**	**23 09 57.4**	**-1.0**
ILSW	**Iliamna Southw**	**16.49**	**48**		Pn	**Pn**	**23 10 03.7**	**+0.3**
ILSW					IAmb	IAmb	23 10 10.4	
	comp=Z,11nm,1.2s							
TTA	**Tatalina**	**16.66**	**37**		P	**P**	**23 10 07.7**	**+0.2**
L19K	**White Mountain**	**16.70**	**40**		P	**P**	**23 10 09.2**	**+1.2**
L19K					IAmb	IAmb	23 10 12.5	
	comp=Z,7.4nm,0.9s							
CNPM	**China Poot**	**17.25**	**51**			**Pn**	**23 10 13.0**	**+0.2**
CNPM					IAmb	IAmb	23 10 37.7	
	comp=Z,20nm,1.3s							
M20K	**Styx River**	**17.27**	**42**		P	**P**	**23 10 17.6**	**+3.3**
M20K					IAmb	IAmb	23 10 30.1	
	comp=Z,13nm,1.4s							
BRLK	**Bradley Lake**	**17.49**	**50**			**Pn**	**23 10 15.2**	**-0.6**
BRLK					IAmb	IAmb	23 10 54.9	
	comp=Z,19nm,1.2s							
K20K	**Telida**	**17.63**	**37**			**P**	**23 10 18.5**	**+0.3**
SKT	**Skwentna**	**17.99**	**43**		P	**P**	**23 10 22.5**	**+0.3**
J20K	**Nowinta River**	**18.05**	**35**			**P**	**23 10 23.1**	**+0.2**
PPLA	**Purkeypile**	**18.13**	**40**			**P**	**23 10 24.9**	**+1.1**
PPLA					IAmb	IAmb	23 11 02.1	
	comp=Z,20nm,1.4s							
SUA	**Susitna One**	**18.13**	**45**			**Pn**	**23 10 23.5**	**-0.2**
SEW	**Seward**	**18.28**	**50**		P	**P**	**23 10 24.3**	**-1.0**
SEW					IAmb	IAmb	23 10 31.2	
	comp=Z,15nm,1.1s							
CAST	**Castle Rocks**	**18.43**	**39**			**Pn**	**23 10 28.4**	**+1.2**
RC01	**Rabbit Creek A**	**18.45**	**47**			**P**	**23 10 26.4**	**-0.8**
RC01					IAmb	IAmb	23 10 27.4	
	comp=Z,14nm,1.4s							
CUT	**Chulitna**	**18.71**	**43**		P	**P**	**23 10 29.8**	**-0.3**
KTH	**Kantishna Hill**	**18.95**	**39**		P	**Pn**	**23 10 33.2**	**-0.4**
KTH					IAmb	IAmb	23 10 34.6	
	comp=Z,7.0nm,0.8s							
PWL	**Port Wells**	**19.03**	**48**		P	**P**	**23 10 33.0**	**-0.6**
PWL					IAmb	IAmb	23 10 38.6	
	comp=Z,16nm,1.1s							
GHO	**Glory Hole Cre**	**19.05**	**45**		P	**P**	**23 10 34.1**	**+0.2**
GHO					IAmb	IAmb	23 11 09.1	
	comp=Z,17nm,1.5s							
KNK	**Knik Glacier**	**19.14**	**46**		P	**Pn**	**23 10 35.3**	**-0.6**
KNK					IAmb	IAmb	23 11 07.8	
	comp=Z,14nm,1.3s							
TRF	**Thorofare Moun**	**19.15**	**40**		P	**P**	**23 10 35.0**	**-0.1**
TRF					IAmb	IAmb	23 10 42.2	
	comp=Z,6.4nm,0.9s							
BPAW	**Bear Paw Mtn.**	**19.19**	**37**		P	**Pn**	**23 10 36.0**	**-0.3**
IMAR	**Indian Mountai**	**19.27**	**31**		P	**P**	**23 10 36.2**	**0.0**
SML	**Sawmill**	**19.33**	**45**		P	**P**	**23 10 37.1**	**+0.1**
SML					IAmb	IAmb	23 10 42.7	
	comp=Z,17nm,1.4s							
H21K	**Melozitna Rive**	**19.38**	**32**		P	**Pn**	**23 10 38.1**	**-0.6**
I21K	**Tanana**	**19.39**	**34**		P	**P**	**23 10 37.8**	**+0.3**
MLY	**Manley**	**19.75**	**35**		P	**P**	**23 10 42.0**	**+0.5**
SCM	**Sheep Creek Mo**	**19.79**	**46**		P	**P**	**23 10 41.0**	**-1.0**
MCK	**McKinley**	**19.82**	**40**		P	**P**	**23 10 41.2**	**-1.0**
NEA2	**Nenana**	**20.16**	**37**		P	**P**	**23 10 44.3**	**-1.5**
DHY	**Denali Highway**	**20.20**	**42**		P	**P**	**23 10 45.4**	**-1.0**
DHY					IAmb	IAmb	23 10 46.6	
	comp=Z,7.2nm,0.6s							
I23K	**Minto, Yukon-K**	**20.32**	**36**		P	**P**	**23 10 48.0**	**+0.5**
I23K					IAmb	IAmb	23 11 25.2	
	comp=Z,6.0nm,1.1s							
KLU	**Klutina**	**20.33**	**47**		P	Pn	23 10 49.4	-0.6
M24K	**Tolsona, Glenn**	**20.39**	**45**		P	**P**	**23 10 47.9**	**-0.6**
WRH	**Wood River Hil**	**20.48**	**38**		P	**P**	**23 10 48.7**	**-0.6**
MDM	**Murphy Dome**	**20.65**	**37**		P	**P**	**23 10 51.2**	**+0.1**
MDM					IAmb	IAmb	23 11 07.7	
	comp=Z,9.3nm,1.2s							
CCB	**Clear Creek Bu**	**20.67**	**38**		P	**P**	**23 10 51.0**	**-0.3**
BMRM	**Bremner River**	**20.82**	**49**			Pn	23 10 55.0	-0.7
HDA	**Harding Lake**	**20.90**	**39**		P	**P**	**23 10 53.5**	**-0.3**
N25K	**Chitina, Valde**	**20.97**	**47**		P	**P**	**23 10 54.8**	**0.0**
N25K					IAmb	IAm

DAWY	**Dawson**	**23.90**	**43**	P	**P**	**23 11 24.1**	**-1.0**
DAWY				IAmb	IAmb	23 11 27.0	
	comp=Z,3.8nm,1.1s						
INK	**Inuvik**	**27.32**	**35**	P	**P**	**23 11 55.2**	**-0.7**
INK	comp=Z,0.7nm,0.5s,baz=309,slow=16,SNR=4.3			PcP	**PcP**	**23 15 14.5**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=273,slow=0.8,SNR=2.0						
	comp=Z,0.7nm,0.5s						
INK	**Inuvik**	**27.32**	**35**	P	**P**	**23 11 55.0**	**-0.9**
INK				IAmb	IAmb	23 12 02.3	
	comp=Z,3.1nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**33.59**	**206**	T	T	23 49 20.0	
	baz=18,slow=76,SNR=374						
H11N3	**WAKE ISLAND Hy**	**33.59**	**206**	T	T	23 49 30.3	
	baz=18,slow=76,SNR=294						
H11N1	**WAKE ISLAND Hy**	**33.60**	**206**	T	T	23 49 22.7	
	baz=18,slow=76,SNR=278						
USRK	**Ussuriysk Ar.**	**33.80**	**278**	P	**P**	**23 12 52.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=49,slow=9.3,SNR=4.8						
	comp=Z,1.9nm,0.6s						
MJAR	**Matsushiro Arr**	**34.24**	**262**	P	**P**	**23 12 56.2**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=52,slow=7.9,SNR=2.6						
	comp=Z,1.4nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**34.80**	**206**	T	T	23 50 21.9	
	baz=17,slow=76,SNR=418						
H11S2	**WAKE ISLAND Hy**	**34.82**	**206**	T	T	23 50 22.1	
	baz=17,slow=76,SNR=134						
H11S3	**WAKE ISLAND Hy**	**34.82**	**206**	T	T	23 50 20.0	
	baz=17,slow=76,SNR=132						
YKA	**Yellowknife Ar**	**35.00**	**46**	P	**P**	**23 13 02.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=279,slow=8.0,SNR=6.9						
YKA				PcP	**PcP**	**23 15 35.2**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=291,slow=3.6,SNR=4.6						
	comp=Z,0.3nm,0.5s						
B08A	**Colville Reser**	**37.13**	**71**	P	**P**	**23 13 23.2**	**+1.2**
HAWA	**Hanford**	**37.94**	**74**	P	**P**	**23 13 29.4**	**+0.6**
YBH	**Yreka Blue Hor**	**38.42**	**82**	P	**P**	**23 13 35.4**	**+2.4**
	comp=Z,2.0nm,0.7s,baz=318,slow=8.3,SNR=4.5						
	comp=Z,2.0nm,0.7s						
NEW	**Newport**	**38.49**	**70**	P	**P**	**23 13 34.4**	**+0.9**
	comp=Z,5.3nm,0.6s,baz=294,slow=6.0,SNR=9.2						
	comp=Z,5.3nm,0.6s						
NEW	**Newport**	**38.49**	**70**	P	**P**	**23 13 34.3**	**+0.8**
K05A	**Summer Lake**	**39.01**	**80**	P	**P**	**23 13 40.2**	**+2.2**
KSRS	**Korea Array**	**40.13**	**272**	LR	LR	23 29 05.0	
	comp=Z,13nm,21.6s,baz=105,slow=34						
JNU	**Nakatsue**	**41.04**	**264**	LR	LR	23 30 46.1	
	comp=Z,22nm,19.5s,baz=62,slow=36						
MSO	**Missoula**	**41.07**	**70**	P	**P**	**23 13 55.5**	**+0.5**
MSO				IAmb	IAmb	23 13 56.1	
	comp=Z,3.1nm,0.7s						
BCYI	**Bear Canyon**	**42.72**	**73**	P	**P**	**23 14 09.8**	**+1.2**
BOZ	**Bozeman (W)**	**43.08**	**70**	P	**P**	**23 14 12.4**	**+0.9**
NVAR	**Mina Array Bea**	**43.09**	**83**	P	**P**	**23 14 12.8**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=291,slow=8.5,SNR=5.1						
	comp=Z,0.9nm,0.7s						
ELK	**Elko**	**43.62**	**78**	P	**P**	**23 14 17.4**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=310,slow=7.8,SNR=10.0						
	comp=Z,1.5nm,0.6s						
ELK	**Elko**	**43.62**	**78**	P	**P**	**23 14 17.4**	**+1.5**
ELK				IAmb	IAmb	23 14 18.1	
	comp=Z,2.0nm,0.8s						
H17A	**Grant Village**	**44.36**	**71**	P	**P**	**23 14 24.2**	**+2.3**
R11A	**Troy Canyon, C**	**44.83**	**81**	P	**P**	**23 14 26.5**	**+0.9**
R11A				IAmb	IAmb	23 14 27.0	
	comp=Z,1.6nm,0.7s						
SPR3	**Spring Creek 3**	**45.22**	**80**	P	**P**	**23 14 30.6**	**+1.7**
SPR3				IAmb	IAmb	23 14 31.2	
	comp=Z,1.9nm,0.7s						
PDAR	**Pinedale Array**	**45.90**	**73**	P	**P**	**23 14 34.5**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=331,slow=2.5,SNR=31						
	comp=Z,1.8nm,0.5s						
PDAR	**Pinedale Array**	**45.90**	**73**	P	**P**	**23 14 34.9**	**+0.8**
MSU	**Marysvale**	**46.84**	**79**	P	**P**	**23 14 43.1**	**+1.6**
MTPU	**Mount Pierson**	**47.13**	**79**	P	**P**	**23 14 45.4**	**+1.4**
MTPU				IAmb	IAmb	23 14 45.9	
	comp=Z,1.9nm,0.9s						
SONM	**Songino Array**	**47.16**	**297**	LR	LR	23 33 48.0	
	comp=Z,37nm,20.6s,baz=20,slow=35						
PFO	**Pinyon Flats O**	**47.29**	**87**	LR	LR	23 30 29.2	
	comp=Z,36nm,20.9s,baz=229,slow=31						
HHC	**Hu-ho-hao-te**	**48.20**	**287**	*e*P	**P**	**23 14 52.2**	**+0.3**
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,240nm,6.0s						
LZH	**Lanzhou**	**55.90**	**287**	*e*P	**P**	**23 15 50.5**	**+1.2**
LZH				pP	pP	23 15 57.9	-0.8
LZH				pmax	pmax		
	comp=Z,12nm,0.9s						
TX31	**Lajitas Ar. Si**	**58.20**	**82**	P	**P**	**23 16 06.0**	**+0.4**
TX32	**Lajitas Array**	**58.20**	**82**	P	**P**	**23 16 06.0**	**+0.4**
TXAR	**Lajitas Array**	**58.20**	**82**	P	**P**	**23 16 06.0**	**+0.4**
P40A	**Paris**	**58.20**	**65**	P	**P**	**23 16 04.9**	**-0.4**
R40A	**Maddies Statio**	**58.91**	**66**	P	**P**	**23 16 09.2**	**-1.1**
KURBB	**Kurchatov Arra**	**59.59**	**314**	P	**P**	**23 16 15.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=46,slow=6.8,SNR=2.4						
	comp=Z,0.3nm,0.5s						
WMQ	**Urumqi**	**59.84**	**303**	*e*P	**P**	**23 16 20.2**	**+3.5**
MKAR	**Makanchi Array**	**60.52**	**309**	P	**P**	**23 16 20.2**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=44,slow=8.4,SNR=2.3						
	comp=Z,0.2nm,0.7s						
BVAR	**Borovoye Array**	**61.33**	**320**	P	**P**	**23 16 25.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=47,slow=8.5,SNR=1.9						
	comp=Z,0.5nm,0.5s						
TKL	**Tuckaleechee C**	**65.60**	**63**	P	**P**	**23 16 54.4**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=297,slow=2.3,SNR=4.8						
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**82.23**	**225**	P	**P**	**23 18 32.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=32,slow=6.0,SNR=3.6						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**85.69**	**223**	P	**P**	**23 18 51.3**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=21,slow=5.7,SNR=2.8						
	comp=Z,0.6nm,0.8s						
H03N2	**Juan Fernandez**	**120.63**	**106**	T	T	01 37 56.6	
	baz=317,slow=76						
H03N1	**Juan Fernandez**	**120.64**	**106**	T	T	01 37 49.1	
	baz=317,slow=76						
H03N3	**Juan Fernandez**	**120.65**	**106**	T	T	01 37 55.7	
	baz=317						
BOSA	**Boshof**	**151.45**	**313**	PKPbc	**PKPbc**	**23 26 04.8**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=130,slow=1.8,SNR=1.6						

HEL 12 23:06:24.4±0.5, 67°16N×20°64E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.86**	**134**	PG	Pg	23 06 39.4	-1.5
PAJU	**Pajala**	**0.98**	**97**	PG	Pg	23 06 41.8	-1.3
	baz=292						
PAJU				SB	Sg	23 06 55.2	-0.5
KALU	**Kalix**	**1.70**	**139**	PG	Pn	23 06 55.0	-0.2
	baz=334						
KALU				SN	Sg	23 07 19.1	+0.3
HEF	**Hetta**	**1.70**	**41**	MSG		23 07 15.2	
	comp=Z,1.1nm,0.2s						
HEF				SG	Sn	23 07 17.7	-0.1
TOF	**Tornio**	**1.83**	**125**	PG	Pn	23 06 57.1	+0.1
	baz=297						
TOF				MSG		23 07 18.8	
	comp=Z,0.8nm,0.2s						
TOF				SG	Sb	23 07 22.0	0.0
KIF	**Kilpisjarvi**	**1.86**	**2**	MSG		23 07 20.9	
	comp=Z,1.3nm,0.2s						
KIF				SG	Sb	23 07 23.2	+0.3
KTK1	**Kautokeino**	**2.10**	**26**	SG	Sb	23 07 29.1	-0.9
RNF	**Rovaniemi**	**2.19**	**102**	SG	Sb	23 07 32.3	-0.2
SGF	**Sodankyl**	**2.30**	**80**	SG	Sb	23 07 35.4	-0.3
ARA0	**ARCESS Array S**	**2.99**	**35**	SN	Sn	23 07 48.1	-1.5
HUSU	**Husum**	**3.88**	**190**	SN	Sn	23 08 10.7	-0.7

UPP 12 23:06:56.1±0.1, 67°15N×20°68E, h1km, ML1.7, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.05**	**240**	P	Pg	23 06 57.3	+0.2
DUNU				S	Sg	23 06 58.2	+0.5
MASU	**Masugnsbyn**	**0.60**	**58**	P	Pg	23 07 07.3	-0.2
RATU	**Laukkuluspa**	**0.80**	**329**	P	Pg	23 07 11.0	-0.4
ERTU	**Ertsjaerv**	**0.84**	**134**	P	Pg	23 07 11.9	-0.3
SALU	**Saltoluokta**	**0.88**	**286**	P	Pg	23 07 12.5	-0.4
PAJU	**Pajala**	**0.96**	**96**	P	Pg	23 07 13.9	-0.6
NIKU	**Nikkaluokta**	**0.96**	**320**	P	Pg	23 07 14.1	-0.4

*IDC **12** 23:13:43.3±1.8, 27°.88N×87°.60E, h0km, mb3.7/6, mbtmp3.6/8, ML4.0/2, MS3.6/1, Error ellipse: s-maj=69.7km s-min=20.1km az=64.0*

ISC 12 23:13:48.4±1.8, 27°.9N±0°.2×87°.7E±0°.4, h35km, n9, σ0s64/8, mb3.6/6, Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.96**	**130**	Pn	**Pn**	**23 17 03.1**	**-0.7**
	0.4nm,0.3s,baz=320,slow=15,SNR=2.5						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**19.34**	**349**	P	**P**	**23 18 10.9**	**+0.3**
	0.2nm,0.3s,baz=166,slow=11,SNR=11						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**23.75**	**345**	P	**P**	**23 18 57.1**	**-0.2**
	1.1nm,0.6s,baz=163,slow=8.9,SNR=11						
	1.1nm,0.6s						
SONM	**Songino Array**	**24.67**	**31**	P	**P**	**23 19 06.2**	**+0.2**
	0.7nm,0.5s,baz=211,slow=9.9,SNR=4.9						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**26.12**	**356**	P	**P**	**23 19 18.9**	**0.0**
	0.4nm,0.3s,baz=184,slow=8.7,SNR=2.7						
	0.4nm,0.3s						
KAPI	**Kappang**	**45.02**	**132**	LR	LR	23 44 46.2	
	comp=Z,62nm,18.2s,baz=226,slow=41						
ARCES	**ARCESS Array B**	**54.49**	**338**	P	**P**	**23 23 11.6**	**-0.6**
	2.7nm,0.9s,baz=102,slow=8.4,SNR=2.0						
	2.7nm,0.9s						
WRA	**Warramunga Arr**	**65.55**	**131**	P	**P**	**23 24 29.6**	**+0.9**
	0.4nm,0.8s,baz=329,slow=6.0,SNR=1.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**67.92**	**134**	P	**P**	**23 24 44.4**	**+0.6**
	0.3nm,0.5s,baz=311,slow=6.0,SNR=4.5						
	0.3nm,0.5s						

*NEIC **12** 23:27:13.0±1.3, 15°.2S±0°.1×174°.0W±0°.2, h381km±8km, mb4.2/16, Error ellipse: s-maj=25.3km s-min=16.8km az=56.0*

*IDC **12** 23:27:41.0±2.4, 16°.47S×175°.11W, h634km±31km, mb3.1/6, mbtmp4.1/7, Error ellipse: s-maj=39.8km s-min=21.7km az=146.0*

ISC 12 23:27:12.8±1.1, 15°.1S±0°.2×173°.9W±0°.1, h400km, n25, σ1s11/22, mb4.0/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.33**	**60**	Pn	**Pn**	**23 28 10.0**	**-1.0**
NIUE	**Niue**	**5.46**	**137**		**Pn**	**23 29 39.2**	**-0.4**
NIUE					**S**	**23 29 48.8**	**-1.4**
MSVF	**Nonsavu**	**8.21**	**250**	P	P	23 29 29.7	+19
	25nm,0.7s,baz=126,slow=13,SNR=24						
URZ	**Urewera**	**24.42**	**197**	P	**P**	**23 31 57.4**	**+0.3**
	15nm,0.9s,baz=33,slow=10,SNR=3.0						
	15nm,0.9s						
BKZ	**Black Stump Fm**	**25.44**	**198**	P	**P**	**23 32 05.2**	**-1.1**
BKZ				IAmb	IAmb	23 32 28.3	
	comp=Z,20nm,1.3s						
LHI	**Lord Howe Isla**	**29.65**	**232**	P	**P**	**23 32 41.6**	**-1.9**
COEN	**Coen**	**41.57**	**266**	P	**P**	**23 34 24.1**	**+0.4**
COEN				IAmb	IAmb	23 34 27.9	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**48.59**	**239**	P	**P**	**23 35 17.3**	**-0.8**
BBOO				IAmb	IAmb	23 35 45.4	
	comp=Z,30nm,1.4s						
WR0	**Warramunga Arr**	**49.30**	**257**	P	**P**	**23 35 23.9**	**+0.4**
WR0				IAmb	IAmb	23 35 49.9	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**49.45**	**257**	P	**P**	**23 35 24.6**	**0.0**
WB2	**Warramunga Arr**	**49.48**	**257**	P	**P**	**23 35 24.7**	**-0.1**
WB2				IAmb	IAmb	23 35 42.8	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**49.49**	**257**	P	**P**	**23 35 24.4**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=93,slow=8.3,SNR=37						
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**49.49**	**257**	P	**P**	**23 35 24.5**	**-0.5**
AS31	**Alice Springs**	**49.79**	**252**	P	**P**	**23 35 27.3**	**+0.1**
AS31				IAmb	IAmb	23 35 28.4	
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**49.79**	**252**	P	**P**	**23 35 27.4**	**+0.2**
	comp=Z,17nm,0.6s,baz=86,slow=8.1,SNR=189						
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**49.79**	**252**	P	**P**	**23 35 27.5**	**+0.3**
MTN	**Manton Dam**	**53.32**	**265**	P	**P**	**23 35 53.6**	**+0.5**
MTN				IAmb	IAmb	23 36 20.9	
	comp=Z,28nm,1.4s						
FORT	**Forrest**	**55.17**	**243**	P	**P**	**23 36 06.5**	**+0.6**
KNRA	**Kununurra**	**55.18**	**261**	P	**P**	**23 36 04.1**	**-2.1**
KNRA				IAmb	IAmb	23 36 23.1	
	comp=Z,23nm,1.1s						
PSA00	**Pilbara Seismi**	**62.88**	**253**	P	**P**	**23 36 58.4**	**+0.1**
NVAR	**Mina Array Bea**	**74.39**	**42**	P	P	23 38 26.6	+18
	comp=Z,0.6nm,0.7s,baz=217,slow=8.9,SNR=3.9						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**	**23 38 13.1**	**+1.9**
ILAR	**Eielson Array**	**82.23**	**11**	P	P	23 39 03.9	+14
	comp=Z,0.2nm,0.6s,baz=223,slow=6.2,SNR=1.5						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**82.33**	**42**	P	P	23 39 08.5	+17
	comp=Z,0.4nm,0.7s,baz=205,slow=4.0,SNR=2.1						
	comp=Z,0.4nm,0.7s						
SNAA	**Sanae**	**93.24**	**177**	P	**P**	**23 39 45.0**	**+2.3**

IDC 12 23:27:30.1±3.0, 6°.59S×150°.45E, h0km, mb3.2/2, mbtmp3.3/2, MS2.9/1, Error ellipse: s-maj=186.3km s-min=39.9km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.51**	**228**	P	P	23 32 09.6	-0.6
	0.4nm,0.5s,baz=54,slow=11,SNR=6.3						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**56.56**	**297**	LR	LR	00 02 46.9	
	comp=Z,10nm,18.8s,baz=300,slow=37						
ILAR	**Eielson Array**	**84.69**	**22**	P	P	23 40 05.1	-0.6
	0.2nm,0.5s,baz=252,slow=5.2,SNR=1.4						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.56**	**284**	PKPbc	PKPbc	23 47 20.4	+0.2
	0.4nm,0.4s,baz=70,slow=4.1,SNR=4.9						

*ASRS **12** 23:37:09.6±0.2, 53°.N±1°.×8°.8E±°., h2km±2km, ML3.5/20, Error ellipse: s-maj=3.2km s-min=2.1km az=78.6, confirmed*

*IDC **12** 23:37:10.6±1.4, 52°.97N×87°.95E, h0km, mb3.7/2, mbtmp3.7/5, ML3.3/3, Error ellipse: s-maj=16.0km s-min=12.2km az=109.0*

*MOS **12** 23:37:11.6±3.0, 52°.92N×87°.95E, h11km, mb4.1/1, Error ellipse: s-maj=9.6km s-min=5.2km az=88.7*

*NNC **12** 23:37:13.3±1.3, 52°.84N×87°.73E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=11.0km s-min=4.5km az=77.0, Suspected Mining explosion.*

ISC 12 23:37:10.1±0.6, 52°.92N±0°.02×88°.00E±0°.02, h0km, n68, σ1s38/110, 9C-25D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TASR	**Tashtagol**	**0.18**	**205**	⇓Pg	**Pg**	**23 37 13.3**	**-0.2**
TASR				Sg	**Sg**	**23 37 15.7**	**0.0**
TASR	**Tashtagol**	**0.18**	**205**	PG	**Pg**	**23 37 13.3**	**-0.2**
MALIN	**Malinovka, Kuz**	**0.67**	**319**	Pg	**Pg**	**23 37 23.5**	**+0.6**
MALIN				Sg	**Sg**	**23 37 32.7**	**+1.2**
TAIL	**Tailep, Kuzbas**	**0.72**	**318**	Pg	**Pg**	**23 37 24.4**	**+0.5**
TAIL				Sg	**Sg**	**23 37 34.0**	**+0.9**
LUZB	**Luzhba, Kemero**	**0.92**	**36**	⇓Pg	**Pg**	**23 37 26.5**	**-1.2**
LUZB				Sg	**Sg**	**23 37 39.0**	**-0.5**
LUZB	**Luzhba, Kemero**	**0.92**	**36**	*i* PG	**Pg**	**23 37 26.1**	**-1.6**
LUZB				*i* S	**Sg**	**23 37 39.1**	**-0.5**
ELT	**Eltsovka**	**1.12**	**289**	⇓Pg	**Pg**	**23 37 30.0**	**-1.5**
ELT				Sg	**Sg**	**23 37 44.9**	**-1.1**
ELT	**Eltsovka**	**1.12**	**289**	PG	**Pg**	**23 37 30.0**	**-1.5**
ELT						23 37 44.8	
ARTR	**Artybash**	**1.21**	**202**	⇓Pg	**Pg**	**23 37 31.8**	**-1.4**
ARTR				⇓Sg	**Sg**	**23 37 48.1**	**-0.8**
ARTR	**Artybash**	**1.21**	**202**	PG	**Pg**	**23 37 31.8**	**-1.4**
ARTR						23 37 48.0	
ERU	**Erunakovo, Kuz**	**1.28**	**343**	⇓Pg	**Pg**	**23 37 34.7**	**+0.1**
VCHU	**Verkh-Chumysh,**	**1.40**	**319**	⇓Pg	**Pg**	**23 37 36.5**	**-0.3**
VCHU				Sg	**Sn**	**23 37 56.5**	**+0.6**
VCHU	**Verkh-Chumysh,**	**1.40**	**319**	PG	**Pg**	**23 37 36.5**	**-0.3**
VCHU						23 37 56.5	
KOTO	**Kotino, Kuzbas**	**1.42**	**334**	⇓Pg	**Pn**	**23 37 36.8**	**-0.4**
KOTO				Sg	**Sn**	**23 37 56.9**	**+0.3**
GALT	**Gorno-Altaysk,**	**1.58**	**233**	Pg	**Pn**	**23 37 39.5**	**0.0**
GALT				Sg	**Sg**	**23 38 02.0**	**+1.0**
GALT	**Gorno-Altaysk,**	**1.58**	**233**	PN	**Pn**	**23 37 39.4**	**0.0**
GALT						23 38 01.9	
TBTR	**Tabat**	**1.65**	**89**	*i* PN	Pn	23 37 35.6	-4.7
BJR3	**Bachatsky-3 (S**	**1.71**	**321**	⇓Pg	**Pb**	**23 37 42.1**	**-0.3**
BJR3				Sg	**Sg**	**23 38 05.8**	**+0.8**
BJR4	**Bachatsky-4, K**	**1.73**	**324**	⇓Pg	**Pb**	**23 37 42.7**	**+0.1**
BJR4				Sg	**Sg**	**23 38 06.9**	**+1.4**
POMOR	**Pomortsevo, Ku**	**1.73**	**330**	⇓Pg	**Pg**	**23 37 43.9**	**+0.7**
POMOR				Sg	**Sg**	**23 38 08.4**	**+2.8**
POMOR	**Pomortsevo, Ku**	**1.73**	**330**	PN	**Pg**	**23 37 43.9**	**+0.7**
POMOR						23 38 08.4	
BJR2	**Bachatsky-2, K**	**1.76**	**321**	⇓Pg	**Pn**	**23 37 42.0**	**+0.1**
BJR2				Sg	**Sg**	**23 38 06.7**	**0.0**
BJR2	**Bachatsky-2, K**	**1.76**	**321**	PN	**Pn**	**23 37 42.0**	**+0.1**
BJR2						23 38 06.6	
SALR	**Pechorkino, Sa**	**2.03**	**319**	⇓Pg	**Pn**	**23 37 42.1**	**-3.5**
SALR				Sg	**Sn**	**23 38 09.7**	**-1.9**
SALR	**Pechorkino, Sa**	**2.03**	**319**	PN	**Pn**	**23 37 42.0**	**-3.5**
SALR						23 38 09.7	
SHRR	**Shira**	**2.03**	**38**	*i* PN	**Pn**	**23 37 46.4**	**+0.8**
SHRR				*i* S	**Sb**	**23 38 14.8**	**+1.1**
DJOS	**Djoyskaya Sosn**	**2.06**	**92**	Pg	**Pb**	**23 37 49.3**	**+0.9**
DJOS				Sg	**Sg**	**23 38 16.8**	**+0.5**
DJOS	**Djoyskaya Sosn**	**2.06**	**92**	PN	**Pb**	**23 37 49.3**	**+0.9**
DJOS						23 38 16.7	
ZAA0	**Zalesovo Array**	**2.17**	**300**	⇓P	**Pn**	**23 37 48.5**	**+1.1**
	4.3nm,0.3s						
ZAA0				⇑S	**Sb**	**23 38 17.0**	**-0.5**
	14nm,0.6s						
ZALV	**Zalesovo Beam**	**2.17**	**300**	Pn	**Pn**	**23 37 48.8**	**+1.3**
	18nm,0.3s,baz=116,slow=16,SNR=299						
ZALV				Lg	Lg	23 38 17.2	
	36nm,0.3s,baz=117,slow=26,SNR=41						
	67nm,0.4s						
ZALV	**Zalesovo Beam**	**2.17**	**300**	*i* PN	**Pn**	**23 37 48.7**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,70nm,0.4s						
ULGR	**Ulagan, Altay**	**2.30**	**181**	⇑P	**Pb**	**23 37 53.4**	**+0.8**
ULGR				Pg	**Pg**	**23 37 53.7**	**-0.4**
ULGR				Sg	**Sg**	**23 38 25.1**	**+1.2**
ULGR	**Ulagan, Altay**	**2.30**	**181**	PN	**Pb**	**23 37 53.3**	**+0.8**
ULGR						23 37 53.7	
CHBI	**Chibit, Altay**	**2.63**	**187**	⇓P	**Pb**	**23 37 58.7**	**+0.5**
CHBI				Pg	**Pg**	**23 37 59.1**	**-1.3**
CHBI				Sg	**Sg**	**23 38 33.3**	**-1.2**
CHBI	**Chibit, Altay**	**2.63**	**187**	PN	**Pb**	**23 37 58.6**	**+0.5**
CHBI						23 38 33.3	
KEM	**Kemerovo**	**2.68**	**336**	Pg	**Pb**	**23 37 58.4**	**-0.5**
KEM				Sg	**Sg**	**23 38 35.0**	**-1.0**
KEM	**Kemerovo**	**2.68**	**336**	PN	**Pb**	**23 37 58.3**	**-0.5**
KEM						23 38 35.0	
BLRR	**Bol'shaya Rech**	**2.68**	**86**	*i* PN	**Pn**	**23 37 56.7**	**+2.2**
BLRR				*i* S	**Sb**	**23 38 32.2**	**-0.1**
BRCR	**Berchikul'**	**2.73**	**4**	⇓P	**Pn**	**23 37 57.3**	**+2.0**
BRCR				Sg	**Sb**	**23 38 35.1**	**+1.2**
BRCR	**Berchikul'**	**2.73**	**4**	PN	**Pn**	**23 37 57.2**	**+2.0**
BRCR						23 38 35.0	
UKR	**Ust'-Kan**	**2.82**	**226**	P	**Pn**	**23 37 56.3**	**-0.2**
UKR				Pg	**Pb**	**23 38 01.1**	**-0.3**
UKR				Sg	**Sb**	**23 38 38.2**	**+1.8**
UKR	**Ust'-Kan**	**2.82**	**226**	PN	**Pn**	**23 37 56.2**	**-0.2**
UKR						23 38 38.1	
CUR	**Chagan-Uzun**	**2.83**	**175**	P	**Pb**	**23 37 59.7**	**-1.9**
CUR				Sg	**Sb**	**23 38 37.5**	**+0.7**
CUR	**Chagan-Uzun**	**2.83**	**175**	PN	**Pb**	**23 37 59.7**	**-1.9**
CUR						23 38 37.5	
KHAR	**Kharino, NSO,**	**3.12**	**305**	Sg	**Sb**	**23 38 44.9**	**0.0**
DGZ	**Jazzator, Alta**	**3.24**	**187**	P	**Pb**	**23 38 06.3**	**-2.3**
DGZ				Sg	**Sb**	**23 38 49.4**	**+0.7**
DGZ	**Jazzator, Alta**	**3.24**	**187**	*ce*PN	**Pb**	**23 38 06.8**	**-1.8**
DGZ				*i* S	**Sb**	**23 38 51.3**	**+2.6**
NVSII	**Novosibirsk**	**3.42**	**306**	P	**Pb**	**23 38 08.7**	**-2.8**
NVSII				Sg	**Sb**	**23 38 53.4**	**0.0**
NVSII	**Novosibirsk**	**3.42**	**306**	PN	**Pb**	**23 38 08.6**	**-2.8**
NVSII						23 38 53.4	
NVS	**Novosibirsk**	**3.42**	**306**	Pn	**Pn**	**23 38 05.0**	**+0.4**
NVS				Pg	**Pb**	**23 38 11.1**	**-0.3**
NVS				Sg	**Sb**	**23 38 53.4**	**0.0**
NVS	**Novosibirsk**	**3.42**	**306**	PN	**Pn**	**23 38 04.9**	**+0.4**
NVS						23 38 11.0	
NVS			

	0.5nm,0.7s							
ASAR	**Alice Springs**	**26.30**	**226**	P	P	23 45 23.8	-0.2	
	0.7nm,0.9s,baz=60,slow=9.6,SNR=5.9							
	0.7nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**27.31**	**26**	T	T	00 14 00.8		
	baz=208							
H11S2	**WAKE ISLAND Hy**	**27.31**	**26**	T	T	00 13 55.0		
	baz=208							
H11S1	**WAKE ISLAND Hy**	**27.32**	**26**	T	T	00 13 53.8		
	baz=208							
MKAR	**Makanchi Array**	**82.33**	**319**	P	P	23 52 10.4	+0.2	
	0.2nm,0.6s,baz=92,slow=4.7,SNR=2.6							
	0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**152.18**	**287**	PKPbc	PKPbc	23 59 45.1	0.0	
	0.8nm,0.7s,baz=62,slow=2.8,SNR=5.4							

IDC ***12*** *23:41:45.2±0.8, 37.38N×139.75E, h0km, mb3.5/10, mbtmp3.5/11, ML3.6/1, MS3.1/3, Error ellipse: s-maj=24.3km s-min=12.7km az=137.0*
JMA ***12*** *23:41:45.6±0.0, 37.44N±0.08×139.7E±0.1, h5km, MV3.5/20, WESTERN FUKUSHIMA PREF*
JMA Felt III J1 at WESTERN FUKUSHIMA PREF .
NIED ***12*** *23:41:45.6, 37.44N×139.70E, h5km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.31; $M_{\theta\theta}$2.03; $M_{\phi\phi}$ 1.29; $M_{r\theta}$2.11; $M_{\theta\phi}$-2.63; $M_{\phi r}$-2.43; Fault plane solution: $M_0$4.99000×10^{14} NP1: ϕ_s317.00000°,δ65.00000°,λ-83.00000°. NP2: ϕ_s122.00000°,δ26.00000°,λ-104.00000°.*

ISC 12 23:41:45.8±1.0, 37.44N±0.04×139.70E±0.04, h3km±6km, n25,σ0.88/27, mb3.6/10, 2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFY	**Yanaizu**	**0.04**	**167**	*i* P	**Pg**	**23 41 46.6**	**-0.1**
JFY				S	**Sg**	**23 41 47.4**	**0.0**
JNS	**Sasagawa**	**0.48**	**322**	⇓*i* P	**Pg**	**23 41 55.0**	**0.0**
JNS				⇓S	**Sg**	**23 42 01.6**	**+0.3**
JSB	**Shiboa**	**0.51**	**159**	P	**Pg**	**23 41 55.7**	**+0.2**
JSB				S	**Sg**	**23 42 02.6**	**+0.6**
JUON	**Uonuma**	**0.56**	**246**	*i* P	**Pg**	**23 41 56.4**	**-0.2**
JUON				*i* S	**Sg**	**23 42 03.8**	**0.0**
JKT	**Katashina**	**0.76**	**208**	*i* P	**Pg**	**23 42 00.1**	**-0.3**
JKT				S	**Sg**	**23 42 10.1**	**-0.2**
JMM	**Marumori**	**0.97**	**64**	P	**Pg**	**23 42 03.8**	**-0.6**
JSD	**Sado**	**1.28**	**298**	P	**Pg**	**23 42 09.4**	**-1.0**
MAJO	**Matsushiro**	**1.49**	**233**	P	**Pn**	**23 42 13.4**	**-0.1**
MJAR	**Matsushiro Arr**	**1.49**	**233**	Pg	**Pn**	**23 42 13.0**	**-0.5**
	16nm,0.3s,baz=43,slow=12,SNR=294						
MJAR				Lg	Lg	23 42 32.3	
	6.8nm,0.3s,baz=41,slow=22,SNR=3.2						
MJAR				LR	LR	23 43 08.0	
	comp=Z,374nm,18.4s,baz=40,slow=56						
JGF	**Kuroka**	**2.63**	**226**	P	**Pn**	**23 42 30.4**	**+1.2**
JSG	**Sagara**	**3.02**	**204**	P	**Pn**	**23 42 33.8**	**-0.7**
JNU	**Nakatsue**	**8.40**	**242**	LR	LR	23 47 27.9	
	comp=Z,70nm,20.7s,baz=37,slow=41						
KSRS	**Korea Array**	**9.36**	**274**	P	**Pn**	**23 44 03.0**	**+1.4**
	0.6nm,0.3s,baz=29,slow=20,SNR=3.2						
	1.5nm,0.4s						
PETK	**Petropavlovsk-**	**20.06**	**33**	LR	LR	23 54 14.8	
	comp=Z,49nm,20.2s,baz=111,slow=37						
GUMO	**Guam**	**24.20**	**168**	LR	LR	23 54 37.5	
	comp=Z,79nm,18.4s,baz=115,slow=32						
SONM	**Songino Array**	**26.42**	**304**	P	**P**	**23 47 25.5**	**+1.8**
	0.2nm,0.3s,baz=114,slow=9.6,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**42.74**	**301**	P	**P**	**23 49 43.4**	**-0.8**
	0.4nm,0.8s,baz=77,slow=8.3,SNR=3.3						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**49.89**	**32**	P	**P**	**23 50 39.4**	**-0.7**
	0.4nm,0.9s,baz=271,slow=6.6,SNR=1.6						
	0.4nm,0.9s						
INK	**Inuvik**	**54.65**	**27**	P	**P**	**23 51 13.8**	**-1.6**
	0.4nm,0.4s,baz=317,slow=7.2,SNR=1.7						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**57.30**	**186**	P	**P**	**23 51 33.5**	**-1.4**
	0.6nm,0.5s,baz=0.6,slow=7.5,SNR=20						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**61.03**	**186**	P	**P**	**23 52 00.4**	**-0.3**
	0.6nm,0.9s,baz=11,slow=7.5,SNR=2.4						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**64.14**	**30**	P	**P**	**23 52 21.8**	**+0.8**
	0.3nm,0.8s,baz=296,slow=6.7,SNR=4.2						
	0.3nm,0.8s						
AKASG	**Malin Array Be**	**73.13**	**321**	P	**P**	**23 53 17.1**	**-0.3**
	0.2nm,0.3s,baz=46,slow=6.3,SNR=6.7						
	0.2nm,0.3s						
NVAR	**Mina Array Bea**	**75.83**	**52**	P	**P**	**23 53 34.9**	**+1.3**
	0.3nm,0.5s,baz=302,slow=4.1,SNR=1.3						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**78.35**	**45**	P	**P**	**23 53 48.6**	**+0.9**
	0.3nm,0.6s,baz=282,slow=4.5,SNR=4.3						
	0.3nm,0.6s						

IDC ***12*** *23:45:23.9±7.8, 9.08N×82.58W, h0km, mb3.6/3, mbtmp3.7/4, ML4.1/1, MS3.6/4, Error ellipse: s-maj=172.1km s-min=41.9km az=5.0*
UCR ***12*** *23:45:26.7±1.0, 8.59N×82.92W, h29km±2km, MW4.1*
UPA ***12*** *23:45:27.0±1.6, 8.56N×82.89W, h16km±3km, MW4.2*

ISC 12 23:45:26.7±0.8, 8.57N±0.03×82.92W±0.02, h32km±4km, n77,σ1.9/69/99, mb3.5/3, MS3.6/3, 7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.04**	**90**	*e*P	**Pb**	**23 45 31.6**	**-0.5**
CDITO				*e*S	**Sb**	**23 45 36.0**	**+0.2**
LPPC	**Paso Canoas**	**0.09**	**118**	*e*P	**Pb**	**23 45 31.8**	**-0.5**
LPPC				*e*S	**Sb**	**23 45 36.0**	**0.0**
CCOL	**Caracol de Cor**	**0.17**	**199**	*e*P	**Pb**	**23 45 32.5**	**-0.4**
CCOL				*e*S	**Sb**	**23 45 38.1**	**+1.0**
FITO	**Golfito**	**0.24**	**282**	*e*P	**Pb**	**23 45 32.5**	**-1.1**
FITO				*e*S	**Sb**	**23 45 37.2**	**-1.1**
VITO	**San Vito**	**0.25**	**348**	*e*P	**Pb**	**23 45 33.8**	**0.0**
EDSV	**San Vito**	**0.25**	**347**	*e*P	**Pb**	**23 45 33.8**	**0.0**
EDSV				*e*S	**Sb**	**23 45 40.4**	**+1.7**
EDAD	**Golfito**	**0.26**	**288**	*e*P	**Pb**	**23 45 32.9**	**-1.0**
EDAD				*e*S	**Sb**	**23 45 37.7**	**-1.1**
BRU2	**Volcan**	**0.31**	**45**	⇓*i* P	**Pb**	**23 45 34.2**	**-0.5**
BRU2				*i* S	**Sn**	**23 45 40.5**	**-0.2**
BRU2	**Volcan**	**0.31**	**45**	*e*P	**Pb**	**23 45 34.1**	**-0.5**
CTCR	**Cotoan**	**0.36**	**26**	*e*P	**Pb**	**23 45 34.6**	**-0.7**
BC3P	**Paso Ancho**	**0.39**	**51**	⇓*i* P	**Pb**	**23 45 35.0**	**-0.7**
BC3P				*i* S	**Sn**	**23 45 45.6**	**+3.0**
JIME	**Puerto Jimenez**	**0.41**	**265**	*e*P	**Pb**	**23 45 35.3**	**-0.5**
JIME				*e*S	**Sn**	**23 45 44.0**	**+1.2**
BCO2	**Palmira**	**0.41**	**69**	⇓*i* P	**Pb**	**23 45 35.6**	**-0.4**
BCO2				*i* S	**Sn**	**23 45 42.8**	**-0.3**
PTAR3	**Potrerillos Ar**	**0.43**	**74**	⇓*i* P	**Pb**	**23 45 35.8**	**-0.4**
PTAR3				*e*S	**Sb**	**23 45 42.7**	**-0.2**
DVD	**David**	**0.48**	**107**	*i* P	**Pb**	**23 45 36.0**	**-0.8**
DVD				*i* S	**Sb**	**23 45 43.4**	**-0.5**
EDP2	**Potrero Grande**	**0.51**	**330**	*e*P	**Pb**	**23 45 36.9**	**-0.5**
EDP2				*e*S	**Sn**	**23 45 45.7**	**+0.3**
POTG	**Potrero Grande**	**0.52**	**337**	*e*P	**Pb**	**23 45 36.9**	**-0.6**
LOCO3	**Loma Colorada,**	**0.52**	**108**	*e*P	**Pb**	**23 45 36.7**	**-0.8**
LOCO3				*e*S	**Sb**	**23 45 45.7**	**+0.8**
CHIR3	**Chiriqui UPA,**	**0.60**	**107**	⇓*i* P	**Pb**	**23 45 39.0**	**+0.1**
CHIR3				*e*S	**Sb**	**23 45 48.0**	**+0.7**
EDPN	**Palmar Norte**	**0.66**	**306**	*e*P	**Pb**	**23 45 38.7**	**-1.1**
EDPN				*e*S	**Sb**	**23 45 48.3**	**-0.5**
EDBA	**Buenos Aires**	**0.69**	**329**	*e*P	**Pb**	**23 45 39.6**	**-0.7**
BURE	**Buenos Aires**	**0.73**	**325**	*e*P	**Pb**	**23 45 39.9**	**-1.1**
SRBA	**San Rafael, Bu**	**0.79**	**326**	*e*P	**Pb**	**23 45 40.4**	**-1.7**
SRBA				*e*S	**Sb**	**23 45 51.2**	**-1.3**
CHGR2	**Aguacate**	**0.84**	**65**	⇓*i* P	**Pn**	**23 45 41.8**	**-0.6**
CHGR2				*i* S	**Sb**	**23 45 53.3**	**-0.7**
CNI2	**El Empalme, Bo**	**0.95**	**27**	⇓*e*P	**Pn**	**23 45 43.3**	**-0.5**
CNI2				*e*S	**Sn**	**23 45 56.7**	**+0.4**
BRIBI	**Bribri**	**1.05**	**4**	*e*P	**Pb**	**23 45 46.0**	**-0.2**
BRIBI				*e*S	**Sb**	**23 46 02.2**	**+2.5**
RGM0	**Gandoca**	**1.05**	**17**	*e*P	**Pn**	**23 45 46.7**	**+0.2**
PEZE	**Perez Zeledon,**	**1.10**	**317**	*e*P	**Pn**	**23 45 44.9**	**-1.0**
REME3	**Remedios, Chir**	**1.13**	**108**	*e*P	**Pn**	**23 45 46.6**	**+0.4**
EDDO	**Dominical**	**1.16**	**306**	*e*P	**Pn**	**23 45 47.8**	**+1.2**
BUS1	**Rivas**	**1.27**	**320**	*e*P	**Pn**	**23 45 48.0**	**-0.7**
BUS1				*e*S	**Sn**	**23 46 04.7**	**-0.2**
CDM	**Cerro de Muert**	**1.28**	**319**	*e*P	**Pn**	**23 45 48.0**	**-0.8**
MRVA	**Moravia de Chi**	**1.35**	**337**	*e*P	**Pn**	**23 45 49.4**	**0.0**
RIMA	**Rio Macho**	**1.51**	**322**	*e*P	**Pn**	**23 45 51.4**	**-0.3**
TURIB	**Turrialba**	**1.53**	**330**	*e*P	**Pn**	**23 45 52.2**	**+0.4**
VINA	**Juan Vinas**	**1.55**	**328**	*e*P	**Pn**	**23 45 52.7**	**+0.5**
REPA	**Paraso**	**1.56**	**323**	*e*P	**Pn**	**23 45 52.6**	**+0.2**
VERB	**Verbena**	**1.56**	**331**	*e*P	**Pn**	**23 45 52.7**	**+0.3**
BATAN	**Batan**	**1.58**	**343**	*e*P	**Pn**	**23 45 53.5**	**+1.0**
ABE2	**San Pablo**	**1.59**	**315**	*e*P	**Pn**	**23 45 52.4**	**-0.4**
VTCV	**VTCV, Calle Va**	**1.61**	**330**	*e*P	**Pn**	**23 45 53.6**	**+0.5**
LCOCO	**El Coco**	**1.63**	**337**	*e*P	**Pn**	**23 45 54.3**	**+1.1**
CVTV	**Tajo**	**1.64**	**330**	*e*P	**Pn**	**23 45 54.5**	**+0.8**
RVLA	**Villa Bonita**	**1.66**	**337**	*e*P	**Pn**	**23 45 54.3**	**+0.7**
VTLO	**VTLO**	**1.67**	**331**	*e*P	**Pn**	**23 45 54.6**	**+0.7**
HAYA	**Volcan Irazu**	**1.67**	**327**	*e*P	**Pn**	**23 45 55.0**	**+0.9**
VICA	**Volcano Irazu**	**1.68**	**327**	*e*P	**Pn**	**23 45 54.8**	**+0.6**
SAFE3	**Santa Fe, Vera**	**1.82**	**92**	*e*P	**Pn**	**23 45 56.5**	**+0.8**
SAFE3				*e*S	**Sn**	**23 46 19.2**	**+1.5**
HDC	**Heredia**	**1.85**	**320**	*e*P	**Pn**	**23 45 57.3**	**+1.0**
HDC				*e*S	**Sb**	**23 46 22.6**	**-0.1**
JACO	**JACO, Garabito**	**2.03**	**302**	*e*P	**Pn**	**23 45 59.5**	**+0.8**
SOCE	**Pocosol**	**2.46**	**317**	*e*P	**Pn**	**23 46 07.5**	**+2.9**
FORC	**Fortuna**	**2.56**	**318**	*e*P	**Pn**	**23 46 09.1**	**+3.2**
VACR	**Volcan Arenal**	**2.57**	**318**	*e*P	**Pn**	**23 46 09.6**	**+3.6**
CEDE	**Laguna Cedeo**	**2.59**	**317**	*e*P	**Pn**	**23 46 09.9**	**+3.5**
JTS	**Las Juntas de**	**2.64**	**310**	Pn	**Pn**	**23 46 08.4**	**+1.4**
	32nm,0.3s,baz=109,slow=21,SNR=40						
JTS				Sn	**Sn**	**23 46 39.8**	**+1.8**
	17nm,0.3s,baz=315,slow=22,SNR=2.4						
JTS				LR	LR	23 47 18.5	
	comp=Z,59nm,21.9s,baz=112,slow=44						
	93nm,0.3s						
JTS	**Las Juntas de**	**2.64**	**310**	*e*P	**Pb**	**23 46 11.2**	**-2.0**
JTS				*i* S	**Sn**	**23 46 41.2**	**+3.2**
TABAC	**Tabacon**	**2.65**	**316**	*e*P	**Pb**	**23 46 11.1**	**-2.4**
VTON	**El Valle, Cocl**	**2.77**	**89**	*e*P	**Pn**	**23 46 08.9**	**0.0**
ACAL	**Aguas Claras**	**2.93**	**315**	*e*P	**Pn**	**23 46 14.5**	**+3.4**
PTEN	**Parque Tenorio**	**2.95**	**316**	*e*P	**Pn**	**23 46 13.9**	**+2.5**
SAAN	**San Antonio**	**2.97**	**303**	*e*P	**Pn**	**23 46 13.9**	**+2.3**
COLC	**Colonia**	**3.07**	**313**	*e*P	**Pn**	**23 46 17.0**	**+4.0**
CANAL	**Canalete**	**3.08**	**317**	*e*P	**Pn**	**23 46 16.7**	**+3.6**
VMAR	**Armenia, Volca**	**3.11**	**316**	*e*P	**Pn**	**23 46 16.2**	**+2.7**
MESS	**Mesas**	**3.11**	**314**	*e*P	**Pn**	**23 46 17.6**	**+4.0**
GP14	**Hacienda Santa**	**3.23**	**312**	*e*P	**Pn**	**23 46 19.0**	**+3.8**
GPS2	**Hotel Rincn d**	**3.23**	**312**	*e*P	**Pn**	**23 46 19.2**	**+3.9**
GPS3	**Bodega del ICE**	**3.25**	**312**	*e*P	**Pn**	**23 46 19.2**	**+3.8**
LAPC	**Finca la Perla**	**3.30**	**311**	*e*P	**Pn**	**23 46 19.6**	**+3.4**
BUEV	**Buena Vista**	**3.31**	**312**	*e*P	**Pn**	**23 46 19.7**	**+3.4**
GBS3	**Finca Las Img**	**3.33**	**311**	*e*P	**Pn**	**23 46 18.0**	**+1.5**
SJG	**San Juan**	**18.85**	**58**	LR	LR	23 56 33.9	
	comp=Z,125nm,18.6s,baz=289,slow=37						
TKL	**Tuckaleechee C**	**26.97**	**358**	LR	LR	00 00 30.9	
	comp=Z,53nm,19.0s,baz=144,slow=34						
ULM	**Lac du Bonnet**	**42.92**	**348**	P	**P**	**23 53 20.9**	**-1.4**
	1.7nm,0.6s,baz=174,slow=9.5,SNR=4.0						
	1.7nm,0.6s						
YKA	**Yellowknife Ar**	**58.54**	**343**	P	**P**	**23 55 19.4**	**-0.4**
	0.3nm,0.7s,baz=139,slow=6.8,SNR=4.1						
YKA				LR	LR	00 24 00.2	
	comp=Z,41nm,18.4s,baz=288,slow=40						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**71.35**	**336**	P	**P**	**23 56 42.9**	**-0.2**
	0.2nm,0.5s,baz=103,slow=4.1,SNR=1.9						
	0.2nm,0.5s						
VRAC	**Vranov**	**89.71**	**40**	LR	LR	00 39 22.3	
	comp=Z,131nm,18.4s,baz=332,slow=36						

DNK ***13*** *00:14:58.3±0.8, 67.99N×18.39E, h4km, ML2.9(UPP), Probable volcanic*
NAO ***13*** *00:14:58.9±0.6, 67.99N×18.57E, ML3.6*
UPP ***13*** *00:14:58.4±0.2, 67.99N×18.44E, h4km, ML2.9, Confirmed Earthquake*
BER ***13*** *00:14:59.8±1.5, 67.96N×18.55E, h0km±5km, ML3.2, ML2.6(UPP), Confirmed Earthquake*
IDC ***13*** *00:14:59.5±0.6, 67.97N×18.86E, h0km, mb3.6/9, mbtmp3.6/17, ML3.4/8, Error ellipse: s-maj=11.2km s-min=5.8km az=121.0*
HEL ***13*** *00:14:59.3±0.2, 67.99N×18.43E, h5km, ML3.1, ML2.9(UPP), Confirmed Earthquake*
IEPN ***13*** *00:15:01.0, 67.81N×18.35E, h10km*

ISC 13 00:14:58.9±1.0, 67.97N±0.02×18.50E±0.02, h8km±7km, n97,σ1.9/35/166, mb3.5/8, 3C-4D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKU	**Nikkaluokta**	**0.23**	**116**	P	**Pg**	**00 15 03.3**	**-0.1**
NIKU				S	**Sg**	**00 15 06.9**	**+0.4**
NIKU	**Nikkaluokta**	**0.23**	**116**	P	**Pg**	**00 15 03.3**	**-0.1**
NIKU				S	**Sg**	**00 15 06.9**	**+0.4**
NIKU	**Nikkaluokta**	**0.23**	**116**	P	**Pg**	**00 15 03.3**	**-0.1**
NIKU				S	**Sg**	**00 15 06.9**	**+0.4**
NIKU	**Nikkaluokta**	**0.23**	**116**	*i* P	**Pg**	**00 15 03.3**	**-0.1**
NIKU				*i* S	**Sg**	**00 15 06.9**	**+0.4**
RATU	**Laukkuluspa**	**0.44**	**108**	P	**Pg**	**00 15 07.1**	**-0.3**
RATU				S	**Sg**	**00 15 13.5**	**+0.4**
RATU	**Laukkuluspa**	**0.44**	**108**	P	**Pg**	**00 15 07.1**	**-0.3**
RATU				S	**Sg**	**00 15 13.5**	**+0.4**
RATU	**Laukkuluspa**	**0.44**	**108**	P	**Pg**	**00 15 07.1**	**-0.3**
RATU				S	**Sg**	**00 15 13.5**	**+0.4**
RATU	**Laukkuluspa**	**0.44**	**108**	*i* P	**Pg**	**00 15 07.1**	**-0.3**
RATU				*i* S	**Sg**	**00 15 13.5**	**+0.4**
SALU	**Saltoluokta**	**0.59**	**180**	⇓P	**Pg**	**00 15 09.9**	**-0.3**
SALU				S	**Sg**	**00 15 17.5**	**-0.3**
SALU	**Saltoluokta**	**0.59**	**180**	⇓P	**Pg**	**00 15 09.9**	**-0.3**
SALU				S	**Sg**	**00 15 17.5**	**-0.3**
SALU	**Saltoluokta**	**0.59**	**180**	⇓P	**Pg**	**00 15 09.9**	**-0.3**
SALU				S	**Sg**	**00 15 17.5**	**-0.3**
SALU	**Saltoluokta**	**0.59**	**180**	⇓*i* P	**Pg**	**00 15 09.9**	**-0.3**
SALU				*i* S	**Sg**	**00 15 17.5**	**-0.3**
KOVU	**Salmi**	**0.68**	**67**	P	**Pg**	**00 15 11.1**	**-0.8**
KOVU				S	**Sg**	**00 15 20.1**	**-0.5**
KOVU	**Salmi**	**0.68**	**67**	P	**Pg**	**00 15 11.1**	**-0.8**
KOVU				S	**Sg**	**00 15 20.1**	**-0.5**
KOVU	**Salmi**	**0.68**	**67**	P	**Pg**	**00 15 11.1**	**-0.8**
KOVU				S	**Sg**	**00 15 20.1**	**-0.5**
KOVU	**Salmi**	**0.68**	**67**	*i* P	**Pg**	**00 15 11.1**	**-0.8**
KOVU				*i* S	**Sg**	**00 15 20.1**	**-0.5**
DUNU	**Dundret**	**1.16**	**136**	P	**Pg**	**00 15 20.0**	**-1.1**
DUNU	**Dundret**	**1.16**	**136**	P	**Pg**	**00 15 20.0**	**-1.1**
DUNU	**Dundret**	**1.16**	**136**	P	**Pg**	**00 15 20.0**	**-1.1**
DUNU	**Dundret**	**1.16**	**136**	*e*P	**Pg**	**00 15 20.0**	**-1.1**
STEI	**Steigen**	**1.23**	**270**	Pg	**Pg**	**00 15 21.2**	**-1.2**
STEI				Lg	Lg	00 15 38.9	
STEI	**Steigen**	**1.23**	**270**	*e*P	**Pg**	**00 15 21.4**	**-1.0**
STEI				*e*S	**Sn**	**00 15 38.8**	**-0.1**
STEI				IAML		00 15 44.6	
	comp=Z,258nm,0.4s						
LANU	**Lannavaara**	**1.32**	**85**	⇑P	**Pn**	**00 15 22.9**	**-0.6**
LANU	**Lannavaara**	**1.32**	**85**	⇑P	**Pn**	**00 15 22.9**	**-0.6**
LANU	**Lannavaara**	**1.32**	**85**	⇑P	**Pn**	**00 15 22.9**	**-0.6**
LANU	**Lannavaara**	**1.32**	**85**	*e*P	**Pn**	**00 15 23.0**	**-0.6**
LANU				*e*S	**Sn**	**00 15 42.0**	**+0.8**
KIF	**Kilpisjarvi**	**1.35**	**38**	Pg	**Pn**	**00 15 23.6**	**-0.2**
KIF				Lg	Lg	00 15 41.3	
KIF	**Kilpisjarvi**	**1.35**	**38**	*e*P	**Pn**	**00 15 23.7**	**-0.2**
KIF				*e*S	**Sb**	**00 15 41.6**	**0.0**
KIF	**Kilpisjarvi**	**1.35**	**38**	*e*P	**Pn**	**00 15 23.5**	**-0.3**
KIF				*e*S	**Sg**	**00 15 40.9**	**-1.2**
KIF				MSG		00 15 48.1	
	comp=Z,434nm,0.2s						
FAUS	**Fauske**	**1.36**	**246**	*e*P	**Pn**	**00 15 23.7**	**-0.3**
FAUS				*e*Pg	**Pg**	**00 15 25.4**	**+0.6**
FAUS				*e*S	**Sn**	**00 15 42.3**	**+0.1**
FAUS				IAML		00 15 47.7	
	comp=Z,323nm,0.2s						
MASU	**Masugnsbyn**	**1.43**	**109**	P	**Pn**	**00 15 25.2**	**+0.1**
MASU				S	**Sb**	**00 15 44.9**	**+0.8**
MASU	**Masugnsbyn**	**1.43**	**109**	P	**Pn**	**00 15 25.2**	**+0.1**
MASU				S	**Sb**	**00 15 44.9**	**+0.8**
MASU	**Masugnsbyn**	**1.43**	**109**	P	**Pn**	**00 15 25.2**	**+0.1**
MASU	**Masugnsbyn**	**1.43**	**109**	*e*P	**Pn**	**00 15 25.2**	**+0.1**
MASU				*e*S	**Sb**	**00 15 44.9**	**+0.8**
TRO	**Tromso**	**1.68**	**5**	*e*P	**Pn**	**00 15 28.8**	**+0.3**
TRO				*e*Pg	**Pg**	**00 15 30.5**	**-0.6**
TRO				*e*S	**Sn**	**00 15 48.9**	**-1.3**
TRO				IAML		00 15 54.7	
	comp=Z,456nm,0.2s						
TRO	**Tromso**	**1.68**	**5**	*e*P	**Pn**	**00 15 28.8**	**+0.3**
TRO				*e*S	**Sn**	**00 15 49.9**	**-0.2**
JETT	**Jettan, Norway**	**1.74**	**23**	Pn	**Pn**	**00 15 29.8**	**+0.4**
JETT				Sn	**Sn**	**00 15 52.0**	**+0.3**
JETT	**Jettan, Norway**	**1.74**	**23**	Pn	**Pn**	**00 15 29.8**	**+0.4**
JETT				Sn	**Sn**	**00 15 52.0**	**+0.3**
LOF	**Lofoten**	**1.87**	**277**	Pn	**Pb**	**00 15 32.0**	**-1.2**
LOF				Sn	**Sg**	**00 15 58.4**	**-0.4**
LOF	**Lofoten**	**1.87**	**277**	*e*P	**Pn**	**00 15 31.6**	**+0.5**
LOF				*e*Sg	**Sg**	**00 15 59.0**	**+0.2**
LOF				IAML		00 15 59.6	
	comp=Z,868nm,0.4s						
HEF	**Hetta**	**1.98**	**75**	Pn	**Pb**	**00 15 34.3**	**-0.8**
HEF				Sn	**Sb**	**00 16 00.4**	**+0.5**
HEF	**Hetta**	**1.98**	**75**	*e*P	**Pb**	**00 15 34.2**	**-0.9**
HEF				*e*Sg	**Sb**	**00 16 00.9**	**+1.0**
HEF	**Hetta**	**1.98**	**75**	*e*P	**Pb**	**00 15 34.1**	**-1.0**
HEF				*e*S	**Sb**	**00 16 00.2**	**+0.3**
HEF				MSG		00 16 04.1	
	comp=Z,175nm,0.2s						
PAJU	**Pajala**	**2.01**	**116**	*e*P	**Pb**	**00 15 34.8**	**-0.8**
PAJU				*e*S	**Sb**	**00 16 01.3**	**+0.4**
ERTU	**Ertsjaerv**	**2.02**	**133**	*e*P	**Pb**	**00 15 35.0**	**-0.8**
ERTU				*e*S	**Sb**	**00 16 01.8**	**+0.9**
KTK1	**Kautokeino**	**2.04**	**57**	Pn	**Pn**	**00 15 34.6**	**+1.2**
KTK1				Sn	**Sb**	**00 16 01.3**	**-0.3**
KTK1	**Kautokeino**	**2.04**	**57**	*e*P	**Pn**	**00 15 34.7**	**+1.3**
KTK1				*e*Sg	**Sb**	**00 16 02.1**	**+0.5**
KTK1				IAML		00 16 07.3	
	comp=Z,282nm,0.3s						
KTK1	**Kautokeino**	**2.04**	**57**	*e*P	**Pn**	**00 15 34.6**	**+1.2**
KTK1				*e*S	**Sb**	**00 16 01.0**	**-0.6**
MOR8	**Moi Rana**	**2.40**	**223**	Pn	**Pn**	**00 15 38.8**	**+0.4**
MOR8				Sn	**Sn**	**00 16 08.8**	**+0.8**
MOR8	**Moi Rana**	**2.40**	**223**	*e*P	**Pn**	**00 15 37.7**	**-0.7**
MOR8				IAML		00 16 12.1	
	comp=Z,389nm,0.4s						
KONS	**Konsvik**	**2.56**	**237**	Pn	**Pn**	**00 15 41.6**	**+1.1**
KONS				Sn	**Sb**	**00 16 15.7**	**-0.7**
KONS	**Konsvik**	**2.56**	**237**	*e*P	**Pn**	**00 15 41.7**	**+1.2**
KONS				IAML		00 16 20.8	
	comp=Z,295nm,0.4s						
STOK	**Stokkvaagen**	**2.69**	**235**	*e*P	**Pn**	**00 15 43.8**	**+1.5**
KALU	**Kalix**	**2.85**	**136**	*e*P	**Pn**	**00 15 45.9**	**+1.4**
KALU				*e*S	**Sn**	**00 16 20.6**	**+1.6**
TOF	**Tornio**	**2.97**	**127**	*e*P	**Pn**	**00 15 47.9**	**+1.8**
TOF				*e*S	**Sn**	**00 16 24.5**	**+2.6**
TOF				MSG		00 16 33.6	
	comp=Z,61nm,0.3s						
ARA0	**ARCESS Array S**	**3.00**	**55**	Pn	**Pn**	**00 15 47.0**	**+0.4**
	baz=236,slow=14						
ARA0				Sn	**Sn**	**00 16 22.6**	**-0.1**
	baz=236,slow=28						
ARA0				Lg	Lg	00 16 29.2	
	baz=238,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**55**	Pn	**Pn**	**00 15 47.0**	**+0.4**
	baz=236,slow=14						
ARA0				Sn	**Sn**	**00 16 22.6**	**-0.1**
	baz=236,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**55**	*e*P	**Pn**	**00 15 47.1**	**+0.4**
ARA0				*e*S	**Sn**	**00 16 23.8**	**+1.1**
ARCES	**ARCESS Array B**	**3.00**	**55**	Pn	**Pn

comp=Z,0.1nm,0.3s,baz=24,slow=9.7,SNR=2.8
comp=Z,0.3nm,0.5s

BELG	**Belogornoye**	**20.96**	**124**	P		**P**	**00 19 41.4**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=339,slow=4.0,SNR=4.8							
	comp=Z,5.3nm,0.8s							
ARU	**Arti**	**21.50**	**103**	P		**P**	**00 19 47.3**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=314,slow=7.9,SNR=8.6							
	comp=Z,3.6nm,0.6s							
AKTO	**Aktyubinsk**	**26.09**	**112**	P		**P**	**00 20 34.7**	**+2.1**
	comp=Z,3.7nm,0.4s,baz=323,slow=7.5,SNR=7.4							
	comp=Z,3.7nm,0.4s							
BVAR	**Borovoye Array**	**28.52**	**95**	P		**P**	**00 20 53.7**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=320,slow=13,SNR=2.3							
	comp=Z,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**33.49**	**90**	P		**P**	**00 21 40.7**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=327,slow=7.9,SNR=3.0							
	comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**38.06**	**91**	P		**P**	**00 22 17.8**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=350,slow=7.5,SNR=8.5							
	comp=Z,0.2nm,0.4s							
INK	**Inuvik**	**42.62**	**345**	P		**P**	**00 22 55.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=35,slow=5.0,SNR=4.4							
	comp=Z,0.4nm,0.4s							
ILAR	**Eielson Array**	**47.14**	**352**	P		**P**	**00 23 31.9**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=360,slow=6.0,SNR=6.9							
	comp=Z,0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**55.86**	**200**	P		**P**	**00 24 37.0**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=358,slow=9.0,SNR=2.1							
	comp=Z,0.2nm,0.5s							

KRSC 13 00:20:13.5±1.6, 51°12N×157°70E, h119km±18km, MI3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.73**	**19**	*e*P		Pn	00 20 35.0	+2.1
KDTR				*e*S		Sn	00 20 50.1	+2.4
SKR	**Severo-Kuril's**	**1.09**	**247**	*e*P		Pn	00 20 37.5	+1.2
SKR				*e*S		Sn	00 20 54.4	+0.8
MTVR	**Mutnovka**	**1.40**	**12**	*e*P		Pn	00 20 41.8	+2.0
RUS	**Russkaya**	**1.41**	**21**	*e*P		Pn	00 20 41.7	+2.0
RUS				*e*S		Sn	00 21 01.3	+1.6
GRL	**Gorelyy**	**1.45**	**9**	*e*P		Pn	00 20 42.5	+2.0
APC	**Apacha**	**1.83**	**350**	*e*P		Pn	00 20 45.8	+1.0
APC				*e*S		Sn	00 21 08.6	-0.1
PET	**Petropavlovsk**	**1.99**	**17**	*e*P		Pn	00 20 48.3	+1.6
PET				*e*S		Sn	00 21 13.3	+1.1
DALK	**Dalny**	**2.02**	**18**	*e*P		Pn	00 20 49.1	+2.0
DALK				*e*S		Sn	00 21 14.0	+1.2
UGLR	**Uglovaya**	**2.20**	**18**	*e*P		Pn	00 20 52.2	+2.6
AVH	**Avacha**	**2.24**	**16**	*e*P		Pn	00 20 52.8	+2.8
KOK	**Koryaka**	**2.25**	**15**	*e*P		Pn	00 20 52.8	+2.7
SMAR	**Somma**	**2.25**	**17**	*e*P		Pn	00 20 52.3	+2.1
NLC	**Nalytchevo**	**2.29**	**26**	*e*P		Pn	00 20 52.6	+2.1
NLC				*e*S		Sn	00 21 19.3	+0.4
KRX	**Arik**	**2.31**	**14**	*e*P		Pn	00 20 53.3	+2.3
SPN	**Mys Shipunski**	**2.44**	**35**	*e*P		Pn	00 20 54.2	+1.7
SPN				*e*S		Sn	00 21 23.3	+0.9
TUMR	**Tumrok**	**4.42**	**19**	*e*P		Pn	00 21 22.4	+3.7
BKI	**Bering**	**6.44**	**47**	*e*S		Sn	00 22 54.2	-3.5

NEIC 13 00:27:00.9±1.3, 43°38N±0°09×127°4W±0°2, h10km±2km,
ML3.0/34, Error ellipse: s-maj=22.2km s-min=14.7km
az=257.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DBO	**Dodson Butte**	**3.01**	**93**	Pn		Pn	00 27 47.7	-1.1
DBO				IAML			00 28 27.3	
	comp=E,26nm,4.7s							
COR	**Corvallis**	**3.16**	**66**	Pn		Pn	00 27 50.3	-0.4
COR				IAML			00 28 48.2	
	comp=E,26nm,4.2s							
COR				IAML			00 29 50.7	
	comp=E,29nm,4.8s							
HEBO	**Mount Hebo**	**3.17**	**53**			Pn	00 27 50.0	-0.9
HEBO				IAML			00 29 11.6	
	comp=E,44nm,2.9s							
BUCK	**Buck Mountain**	**3.26**	**74**			Pn	00 27 51.8	-0.4
BUCK				IAML			00 29 06.9	
	comp=N,26nm,4.5s							
BUCK				IAML			00 29 39.9	
	comp=E,27nm,5.0s							
HUMO	**Hull Mountain**	**3.31**	**102**	Pn		Pn	00 27 52.5	-0.4
G03D	**McMinnville, O**	**3.46**	**57**			Pn	00 27 54.3	-0.5
B022	**Seaside**	**3.55**	**42**			Pn	00 27 55.6	-0.4
KMOR	**Kings Mountain**	**3.57**	**49**			Pn	00 27 55.5	-0.9
F03A	**Seaside**	**3.72**	**45**			Pn	00 27 58.1	-0.3
YBH	**Yreka Blue Hor**	**3.80**	**114**	Pn		Pn	00 27 59.5	-0.1
G04A	**Mulino**	**3.94**	**61**			Pn	00 28 02.0	+0.5
RADR	**Rader Ridge**	**3.95**	**38**	Pn		Pn	00 28 01.5	-0.1
RADR				IAML			00 30 11.0	
	comp=E,34nm,3.5s							
RADR				IAML			00 30 37.3	
	comp=N,30nm,3.8s							
B023	**Clatskanie**	**4.09**	**47**			Pn	00 28 03.2	-0.3
E03A	**Lebam**	**4.15**	**39**			Pn	00 28 04.1	-0.2
E03A				IAML			00 28 54.0	
	comp=N,23nm,1.0s							
RVW	**Rose Valley**	**4.29**	**48**			Pn	00 28 06.5	+0.2
TDH	**Tom, Dick, Har**	**4.42**	**62**			Pn	00 28 08.6	+0.3
B017	**Montesano**	**4.50**	**35**			Pn	00 28 09.3	+0.2
WISH	**Wishkah**	**4.51**	**33**	Pn		Pn	00 28 10.0	+0.8
HOOD	**Mount Hood Mea**	**4.52**	**63**			Pn	00 28 10.3	+0.7
HOOD				IAML			00 29 18.7	
	comp=N,18nm,3.0s							
SHW	**Mount Saint He**	**4.60**	**50**			Pn	00 28 11.6	+0.9
PINE	**Pine Mountain**	**4.67**	**83**			Pn	00 28 11.5	-0.3
PINE				IAML			00 28 52.9	
	comp=N,15nm,4.2s							
PINE				IAML			00 30 41.8	
	comp=E,10nm,4.2s							
B202	**Windy Ridge, M**	**4.69**	**50**			Pn	00 28 12.4	+0.6
NLWA	**Neilton Lookou**	**4.70**	**30**	Pn		Pn	00 28 12.3	+0.3
NLWA				IAML			00 29 09.3	
	comp=E,15nm,4.4s							
NLWA				IAML			00 29 35.9	
	comp=E,12nm,4.0s							
K05A	**Summer Lake**	**4.78**	**96**	Pn		Pn	00 28 13.2	+0.1
K05A				IAML			00 29 07.2	
	comp=N,13nm,4.0s							
K05A				IAML			00 31 09.5	
	comp=E,16nm,4.4s							
KOSW	**Kosmos**	**4.79**	**48**			Pn	00 28 14.1	+0.9
LON	**Longmire**	**5.17**	**47**			Pn	00 28 19.4	+1.0
LON				IAML			00 31 23.0	
	comp=E,5.5nm,4.8s							
GMW	**Gold Mountain**	**5.26**	**36**			Pn	00 28 19.7	+0.1
FMW	**Mount Fremont**	**5.36**	**47**			Pn	00 28 22.0	+0.8
D05A	**Enumclaw**	**5.37**	**43**			Pn	00 28 22.5	+1.4
RATT	**Rattlesnake La**	**5.62**	**42**			Pn	00 28 25.2	+0.6
C05A	**Tolt Reservoir**	**5.87**	**41**			Pn	00 28 28.7	+0.8
HTW	**Haystack Looko**	**5.91**	**40**			Pn	00 28 28.8	+0.3
LTY	**Liberty**	**6.10**	**48**	Pn		Pn	00 28 32.3	+1.1
G08A	**Pilot Rock**	**6.31**	**69**			Pn	00 28 34.4	+0.2
HAWA	**Hanford**	**6.32**	**59**	Pn		Pn	00 28 34.6	+0.5
WRW	**Wenatchee Ridg**	**6.37**	**43**			Pn	00 28 35.9	+0.9
BMO	**Blue Mountains**	**7.38**	**75**			Pn	00 28 48.7	-0.1
B08A	**Colville Reser**	**7.49**	**46**	Pn		Pn	00 28 52.7	+2.5
F10A	**Beach Ranch, E**	**7.67**	**67**	Pn		Pn	00 28 52.7	0.0
SHPR	**Sheep Range**	**11.60**	**122**	Pn		Pn	00 29 47.5	+0.9

UPP 13 00:28:18.6±0.0, 67°84N×20°20E, h0km, ML2.6, Suspected explosion

ISC 13 00:28:18.8±1.2, 67°83N±0°04×20°21E±0°04, h10km, n12,
σ0s69/13, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.23**	**269**	P		**Pg**	**00 28 23.2**	**-0.4**
RATU				S		**Sg**	**00 28 26.4**	**-0.4**
KOVU	**Salmi**	**0.40**	**358**	P		**Pg**	**00 28 26.1**	**-0.5**
NIKU	**Nikkaluokta**	**0.45**	**275**	P		**Pg**	**00 28 27.1**	**-0.4**
LANU	**Lannavaara**	**0.71**	**71**	P		**Pg**	**00 28 32.0**	**-0.5**
DUNU	**Dundret**	**0.73**	**169**	P		**Pg**	**00 28 32.6**	**-0.2**
MASU	**Masugnsbyn**	**0.78**	**118**	P		**Pg**	**00 28 33.4**	**-0.4**
SALU	**Saltoluokta**	**0.79**	**236**	P		**Pg**	**00 28 33.6**	**-0.4**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P		**Pg**	**00 28 42.7**	**+0.9**
PAJU	**Pajala**	**1.38**	**124**	P		**Pn**	**00 28 44.0**	**-0.2**
HEF	**Hetta**	**1.42**	**64**	*e*P		**Pn**	**00 28 44.3**	**-0.3**
ERTU	**Ertsjaerv**	**1.50**	**148**	P		**Pn**	**00 28 46.4**	**+0.7**
HARU	**Harads**	**1.70**	**169**	P		**Pn**	**00 28 49.9**	**+1.4**

IDC 13 00:31:23.6±0.7, 6°83N×73°11W, h153km±9km, mb3.5/7, mbtmp4.0/9, Error ellipse: s-maj=26.3km s-min=7.8km az=131.0

RSNC 13 00:31:24.8±0.8, 6°80N×73°13W, h149km±3km, ML3.7, Mw4.1, Fault plane solution: NP1:φ=38.00000°, δ71.00000°, λ158.00000°.

ISC 13 00:31:23.6±0.7, 6°84N±0°03×73°10W±0°04, h154km±5km,
n42, σ1s55/72, mb3.6/7, 6C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**198**	↑*i*P		**Pn**	**00 31 45.0**	**+0.2**
BARC				*e*S		**Sn**	**00 32 00.0**	**-0.9**
BARC				*i*			00 32 02.9	
	comp=Z,2μm,0.4s							
PAMC	**Pamplona, Colo**	**0.64**	**39**	↓*i*P		**Pn**	**00 31 47.8**	**+1.1**
PAMC				*e*S		**Sn**	**00 32 04.8**	**+0.5**
PAMC				*i*			00 32 09.1	
	comp=Z,582nm,0.4s							
BRRC	**Barranca, Sant**	**0.66**	**294**	↓*e*P		**Pn**	**00 31 46.8**	**+0.6**
BRRC				*e*S		**Sn**	**00 32 03.7**	**+0.3**
BRRC				*i*			00 32 08.1	
	comp=Z,333nm,0.2s							
RUSC	**La Rusia**	**0.94**	**179**	↑*i*P		**Pn**	**00 31 48.9**	**0.0**
RUSC				*e*S		**Sn**	**00 32 07.3**	**-0.8**
RUSC				*i*			00 32 08.9	
	comp=Z,621nm,0.3s							
TAMC	**Tame, Arauca**	**1.36**	**107**	↓*i*P		**Pn**	**00 31 53.3**	**+1.2**
TAMC				*e*S		**Sn**	**00 32 14.1**	**+0.2**
TAMC				*i*			00 32 16.4	
	comp=Z,471nm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*e*P		**Pn**	**00 31 51.4**	**-0.8**
PTBC				*e*S		**Sn**	**00 32 12.6**	**-1.5**
PTBC				*i*			00 32 19.0	
	comp=Z,627nm,0.5s							
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*e*P		**Pn**	**00 31 57.5**	**+0.2**
ZARC				*e*S		**Sn**	**00 32 22.8**	**-0.4**
ZARC				*i*			00 32 28.6	
	comp=Z,568nm,0.5s							
NORC	**Norcasia**	**2.17**	**234**	*e*P		**Pn**	**00 32 00.9**	**0.0**
NORC				*e*S		**Sn**	**00 32 28.8**	**-0.9**
NORC				*i*			00 32 34.8	
	comp=Z,668nm,0.4s							
CHIC	**Chingaza**	**2.28**	**196**	↑*i*P		**Pn**	**00 32 02.7**	**0.0**
CHIC				*e*S		**Sn**	**00 32 32.0**	**-0.9**
CHIC				*i*			00 32 38.2	
	comp=Z,427nm,0.3s							
ROSC	**El Rosal**	**2.33**	**211**	P		**Pn**	**00 32 04.8**	**+1.6**
	comp=Z,575nm,0.3s,baz=307,slow=6.8,SNR=242							
ROSC				S		**Sn**	**00 32 33.6**	**-0.1**
	comp=Z,527nm,0.3s,baz=116,slow=16,SNR=9.5							
ROSC	**El Rosal**	**2.33**	**211**	↑*i*P		**Pn**	**00 32 04.7**	**+1.5**
ROSC				*e*S		**Sn**	**00 32 35.0**	**+1.3**
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P		**Pn**	**00 32 04.9**	**-0.9**
UREC				*e*S		**Sn**	**00 32 35.8**	**-2.6**
UREC				*i*			00 32 49.4	
	comp=Z,182nm,0.4s							
LL1C	**La Loma 1 Cana**	**2.72**	**351**	*e*P		**Pn**	**00 32 09.9**	**+2.3**
LL1C				*e*S		**Sn**	**00 32 43.3**	**+1.6**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*e*P		**Pn**	**00 32 09.2**	**+0.6**
GUY2C				*e*S		**Sn**	**00 32 43.2**	**-0.1**
GUY2C				*i*			00 32 51.5	
	comp=Z,815nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.80**	**160**	↑*i*P		**Pn**	**00 32 08.0**	**-0.6**
PTGC				*e*S		**Sn**	**00 32 40.9**	**-2.6**
PTGC				*i*			00 32 53.5	
	comp=Z,228nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.05**	**252**	↓*i*P		**Pn**	**00 32 12.1**	**+0.2**
CBOC				*e*S		**Sn**	**00 32 49.7**	**+0.5**
CBOC				*i*			00 33 03.8	
	comp=Z,186nm,0.4s							
DBBC	**Dabeiba**	**3.09**	**273**	↓*e*P		**Pn**	**00 32 12.5**	**+0.2**
DBBC				*e*S		**Sn**	**00 32 49.7**	**-0.3**
DBBC				*i*			00 32 51.9	
	comp=Z,126nm,0.4s							
SDV	**Santo Domingo**	**3.18**	**50**	P		**Pn**	**00 32 14.4**	**+0.8**
	comp=Z,155nm,0.3s,baz=207,slow=4.1,SNR=205							
SDV				S		**Sn**	**00 32 52.0**	**-0.3**
	comp=Z,112nm,0.5s,baz=48,slow=19,SNR=12							
ARGC	**Ariguani, Magd**	**3.20**	**339**	*e*P		**Pn**	**00 32 15.1**	**+1.4**
ARGC				*e*S		**Sn**	**00 32 54.2**	**+1.6**
ARGC				*i*			00 33 01.7	
	comp=Z,74nm,0.3s							
ORTC	**Ortega, Tolima**	**3.61**	**216**	*e*P		**Pn**	**00 32 19.1**	**+0.2**
ORTC				*e*S		**Sn**	**00 33 02.5**	**+0.6**
ORTC				*i*			00 33 08.2	
	comp=Z,434nm,0.4s							
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P		**Pn**	**00 32 18.8**	**-0.9**
SJCC				*e*S		**Sn**	**00 32 59.8**	**-3.5**
SJCC				*i*			00 33 15.1	
	comp=Z,96nm,0.5s							
PLMC	**San Jos del P**	**3.70**	**239**	↓*i*P		**Pn**	**00 32 20.4**	**+0.3**
PLMC				*e*S		**Sn**	**00 33 02.6**	**-1.4**
PLMC				*i*			00 33 09.8	
	comp=Z,186nm,0.4s							
LCBC	**Los crdobas,**	**3.80**	**302**	*e*S		**Sn**	**00 33 06.5**	**+0.1**
LCBC				*i*			00 33 09.4	
	comp=Z,97nm,0.4s							
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*e*P		**Pn**	**00 32 25.2**	**-0.9**
CRJC				*e*S		**Sn**	**00 33 12.3**	**-2.5**
CRJC				*i*			00 33 16.8	
	comp=Z,110nm,0.4s							
YOTC	**Yotoco, Valle**	**4.30**	**229**	*e*P		**Pn**	**00 32 27.6**	**-0.4**
YOTC				*e*S		**Sn**	**00 33 18.9**	**+0.8**
YOTC				*i*			00 33 31.0	
	comp=Z,26nm,0.4s							
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P		**Pn**	**00 32 30.0**	**+0.3**
SMRC				*e*S		**Sn**	**00 33 17.4**	**-3.8**
SMRC				*i*			00 33 24.7	
	comp=Z,69nm,0.4s							
PIZC	**Pizarro, Choco**	**4.63**	**246**	*e*P		**Pn**	**00 32 33.4**	**+1.3**
PIZC				*e*S		**Sn**	**00 33 29.9**	**+4.3**
PIZC				*i*			00 33 43.5	
	comp=Z,87nm,0.5s							
MACC	**Macarena, Meta**	**4.72**	**189**	↑*i*P		**Pn**	**00 32 31.7**	**-1.8**
MACC				*e*S		**Sn**	**00 33 23.6**	**-4.4**
MACC				*i*			00 33 30.4	
	comp=Z,93nm,0.7s							
BETC	**Betania**	**4.74**	**210**	*e*P		**Pn**	**00 32 33.6**	**-0.2**
BETC				*e*S		**Sn**	**00 33 26.0**	**-2.5**
URIC	**Uribia, Colomb**	**4.95**	**13**	*e*P		**Pn**	**00 32 35.5**	**-1.0**
URIC				*e*S		**Sn**	**00 33 29.5**	**-3.8**
URIC				*i*			00 33 37.0	
	comp=Z,23nm,0.5s							
FLOC	**Florencia**	**5.81**	**206**	*e*P		**Pn**	**00 32 46.2**	**-1.6**
FLOC				*e*S		**Sn**	**00 33 51.9**	**-1.9**
FLOC				*i*			00 34 00.6	
	comp=Z,22nm,0.4s							
GCUF	**Volcan Galeras**	**7.00**	**217**	*e*P		**Pn**	**00 33 05.1**	**+1.0**
GCUF				*i*			00 34 28.3	
	comp=Z,12nm,0.5s							
ULM	**Lac du Bonnet**	**47.27**	**340**	P		**P**	**00 39 41.0**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=136,slow=7.2,SNR=5.9							
	comp=Z,2.3nm,0.4s							
PDAR	**Pinedale Array**	**48.07**	**324**	P		**P**	**00 39 48.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=128,slow=10,SNR=7.4							
	comp=Z,0.6nm,0.6s							
SCHQ	**Schefferville**	**48.12**	**5**	P		**P**	**00 39 48.3**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=195,slow=6.7,SNR=7.2							
	comp=Z,2.0nm,0.5s							
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**00 41 35.6**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=132,slow=6.5,SNR=33							
	comp=Z,1.8nm,0.6s							
INK	**Inuvik**	**73.02**	**340**	P		**P**	**00 42 36.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=65,slow=3.9,SNR=5.8							
	comp=Z,0.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P		**P**	**00 42 43.4**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=267,slow=2.9,SNR=1.8							
	comp=Z,0.2nm,0.6s							
ILAR	**Eielson Array**	**76.95**	**335**	P		**P**	**00 42 58.9**	**0.0**
	comp=Z,0.2nm,0.7s,baz=116,slow=6.1,SNR=3.4							
	comp=Z,0.2nm,0.7s							
MKAR	**Makanchi Array**	**122.30**	**20**	PKP		**PKPdf**	**00 49 59.5**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=316,slow=2.8,SNR=4.5							
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc		**PKPbc**	**00 50 53.8**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=124,slow=3.1,SNR=2.3							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**	**00 50 56.1**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=107,slow=2.7,SNR=11							

TIR 13 00:51:07.8, 41°41N×19°55E, h14km±1km, Md2.6, Ml2.2
PDG 13 00:51:08.9±0.2, 41°46N×19°58E, h13km±1km, ML2.1/1,
Error ellipse: s-maj=0.8km s-min=1.0km az=0.0

BEO 13 00:51:08.1±0.5, 41°38N×19°48E, h11km±2km, ML2.0/7

ISC 13 00:51:07.3±1.0, 41°39N±0°03×19°48E±0°03, h14km±8km,
n38, σ1s12/70, 6C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.29**	**99**	P		**Pg**	**00 51 13.1**	**-0.3**
	baz=105							
TIR				S		**Sg**	**00 51 17.8**	**+0.2**
	baz=105							
TIR				AMP				
	comp=N,1.3nm,0.2s,baz=105							
TIR	**Tirane**	**0.29**	**99**	*e*Pg		**Pg**	**00 51 13.1**	**-0.3**
TIR				*e*Sg		**Sb**	**00 51 18.5**	**-0.5**
TIR	**Tirane**	**0.29**	**99**	*i* Pg		**Pg**	**00 51 13.2**	**-0.3**
TIR				*e*Sg		**Sb**	**00 51 18.5**	**-0.5**
ULC	**Ulcinj**	**0.59**	**343**	↑*i*Pg		**Pg**	**00 51 19.2**	**+0.2**
ULC				*i* Sg		**Sb**	**00 51 27.6**	**-0.1**
DRME	**Dracevica, Mon**	**0.82**	**344**	↓*i*Pg		**Pg**	**00 51 23.1**	**-0.1**
DRME				*i* Sg		**Sb**	**00 51 34.5**	**+0.3**
OHR	**Ohrid**	**1.03**	**105**	*e*Pg		**Pb**	**00 51 26.9**	**0.0**
OHR				*e*Sg		**Sn**	**00 51 42.1**	**+0.5**
OHR	**Ohrid**	**1.03**	**105**	*i* Pg		**Pg**	**00 51 27.2**	**-0.1**
OHR				*e*Sg		**Sn**	**00 51 44.2**	**+2.6**
PDG	**Podgorica**	**1.05**	**351**	*e*Pg		**Pn**	**00 51 28.2**	**+0.7**
PDG				*e*Sg		**Sn**	**00 51 42.8**	**+0.9**
PDG	**Podgorica**	**1.05**	**351**	↓*i*Pg		**Pb**	**00 51 26.9**	**-0.3**
PDG				*i* Sg		**Sn**	**00 51 41.8**	**-0.1**
BCI	**Bajram Curri**	**1.07**	**24**	P		**Pb**	**00 51 26.3**	**-1.2**
	baz=21							
BCI				S		**Sn**	**00 51 42.5**	**+0.1**
	baz=21							
BCI				AMP				
	comp=N,0.3nm,0.4s,baz=21							
CEME	**Cevo**	**1.23**	**340**	↓*i*Pg		**Pb**	**00 51 30.3**	**+0.1**
CEME				*i* Sg		**Sg**	**00 51 48.1**	**+1.2**
PVY	**Plav**	**1.25**	**16**	↑*i*Pg		**Pn**	**00 51 30.4**	**0.0**
PVY				*i* Sg		**Sn**	**00 51 47.2**	**+0.1**
HCY	**Herceg Novi**	**1.28**	**325**	↑*i*Pg		**Pb**	**00 51 31.4**	**+0.2**
HCY				*i* Sg		**Sg**	**00 51 50.5**	**+1.8**
NKME	**Niksic**	**1.43**	**344**	↑*i*Pg		**Pn**	**00 51 33.2**	**+0.4**
NKME				*i* Sg		**Sg**	**00 51 53.9**	**+0.6**
KOME	**Kolasin**	**1.46**	**1**	↑*i*Pg		**Pn**	**00 51 33.3**	**+0.1**
KOME				*i* Sg		**Sg**	**00 51 54.5**	**+0.3**
IVA	**Berane**	**1.51**	**12**	↓*i*Pg		**Pn**	**00 51 34.0**	**+0.1**
IVA				*i* Sg		**Sg**	**00 51 55.7**	**-0.2**
FNA	**Florina**	**1.56**	**112**	P		**Pb**	**00 51 36.0**	**+0.1**
	baz=113							
FNA				S		**Sn**	**00 51 54.6**	**+0.1**
	baz=113							
FNA	**Florina**	**1.56**	**112**	*e*Pn		**Pb**	**00 51 36.0**	**+0.1**
FNA				*e*Sn		**Sg**	**00 51 57.4**	**-0.1**
SRN	**Sarande**	**1.56**	**165**	P		**Pb**	**00 51 35.8**	**-0.1**
	baz=167							
SRN				S		**Sn**	**00 51 53.3**	**-1.3**
	baz=167							
TREB	**Trebinje**	**1.57**	**328**	*e*Pn		**Pb**	**00 51 35.7**	**-0.3**
TREB				*e*Sn		**Sb**	**00 51 55.7**	**0.0**
DBRK	**Dubrovnik**	**1.61**	**322**	*e*Pn		**Pb**	**00 51 36.4**	**-0.5**
DBRK				Sg		**Sn**	**00 51 56.7**	**+0.8**
DBRK				Sn		**Sb**	**00 51 57.1**	**0.0**
BRY	**Bratogost**	**1.66**	**335**	↑*i*Pn		**Pb**	**00 51 37.7**	**0.0**
BRY				*i* Sn		**Sg**	**00 52 01.0**	**+0.2**
SJES	**Sjenica**	**1.90**	**11**	*e*Pn		**Pb**	**00 51 41.5**	**-0.3**
SJES				*e*Sn		**Sb**	**00 52 06.0**	**+0.6**
STON	**Ston**	**1.98**	**319**	*e*Pn		**Pb**	**00 51 42.0**	**-1.0**
STON				Sn		**Sn**	**00 52 04.1**	**-0.8**
STIP	**Stip**	**2.05**	**81**	*e*Pn		**Pb**	**00 51 44.6**	**+0.3**
STIP				*e*Sg		**Sg**	**00 52 13.7**	**+0.4**
PRVS	**Prvonek**	**2.23**	**59**	*e*Pn		**Pn**	**00 51 45.0**	**+1.2**
PRVS				*e*Sn		**Sn**	**00 52 12.0**	**+0.8**
IVAS	**Ivanjica**	**2.24**	**13**	*e*Pn		**Pn**	**00 51 44.0**	**+0.1**
IVAS				*e*Sn		**Sn**	**00 52 12.7**	**+1.4**
BARS	**Barje**	**2.25**	**50**	*e*Pn		**Pn**	**00 51 45.0**	**+1.0**
BARS				*e*Sn		**Sn**	**00 52 12.9**	**+1.5**
BBLS	**Lazići**	**

WVZ	Waitaha Valley	2.77	245	P		Pn	01 09 27.1	+1.0
PKVZ	Pokaka	2.80	19	P		Pb	01 09 31.3	-0.8
MOVZ	Moawhango	2.81	26	P		Pn	01 09 27.1	+0.3
WNVZ	Wahianoa	2.83	23	P		Pn	01 09 28.3	+1.0
TRVZ	Turoa	2.85	22	P		Pn	01 09 29.0	+1.5
KRHZ	Kereru	2.85	37	P		Pn	01 09 26.5	-0.8
BHHZ	Black Hill Sta	2.85	31	P		Pb	01 09 34.5	+1.6
VRZ	Vera Road	2.85	9	P		Pn	01 09 29.4	+2.0
DRZ	Dome Shelter	2.87	22	P		Pb	01 09 33.3	-0.1
WHVZ	Whangaehu Hut	2.87	23	P		Pb	01 09 31.5	-1.9
RPZ	Rata Peaks	2.89	231	P		Pn	01 09 27.6	-0.3
RPZ	Rata Peaks	2.89	231	P		Pn	01 09 27.7	-0.1
FWVZ	Far West T-bar	2.89	22	P		Pb	01 09 33.4	-0.3
TUVZ	Tukino	2.91	24	P		Pn	01 09 29.3	+1.1
ARCZ	Arundel	2.96	227	P		Pn	01 09 28.7	-0.2
NGZ	Ngauruhoe	2.98	22	P		Pn	01 09 30.5	+1.3
SNVZ	South Ngauruho	2.98	23	P		Pn	01 09 31.6	+2.3
KAHZ	Kahuranaki	2.98	45	P		Pn	01 09 27.7	-1.4
OTVZ	Oturere	3.01	23	P		Pb	01 09 35.2	-0.4
NNVZ	North Ngauruho	3.02	22	P		Pn	01 09 31.2	+1.4
WTVZ	West Tongariro	3.03	22	P		Pn	01 09 31.5	+1.6
TWVZ	Taurewa	3.03	19	P		Pn	01 09 32.4	+2.5
ETVZ	East Tongariro	3.04	23	P		Pn	01 09 31.3	+1.2
KWHZ	Kaweka Forest	3.05	35	P		Pn	01 09 29.5	-0.6
TMVZ	Te Maari	3.06	23	P		Pn	01 09 31.2	+0.9
KRVZ	Karewarewa	3.06	22	P		Pb	01 09 37.2	+0.7
GCSZ	Gaunt Creek Bo	3.14	243	P		Pn	01 09 33.2	+1.9
MCHZ	McNeill Hill	3.16	39	P		Pn	01 09 30.2	-1.4
RITZ	Rihia Road	3.23	24	P		Pb	01 09 39.0	-0.5
BKZ	Black Stump Fm	3.30	33	P		Pn	01 09 34.4	+0.9
RATZ	Rangitukua	3.31	22	P		Pb	01 09 40.6	-0.2
TMZ	Timaru	3.35	222	P		Pn	01 09 34.0	-0.3
HIZ	Hauiti	3.47	9	P		Pn	01 09 37.5	+1.7
HIZ	Hauiti	3.47	9	P		Pn	01 09 38.2	+2.3
FOZ	Fox Glacier	3.57	242	P		Pn	01 09 37.9	+0.7
TLZ	Tolley Road	3.76	17	P		Pb	01 09 45.0	-3.4
LBZ	Lake Benmore	3.79	229	P		Pn	01 09 40.4	+0.1
ODZ	Otahua Downs	4.02	218	P		Pn	01 09 42.2	-1.1
ODZ	Otahua Downs	4.02	218	P		Pn	01 09 42.7	-0.7
URZ	Urewera	4.32	33	P		Pn	01 09 46.7	-0.8
URZ	Urewera	4.32	33	P		Pn	01 09 46.3	-1.3
TOZ	Tahuroa Road	4.33	14	P		Pn	01 09 49.6	+1.9
JCZ	Jackson Bay	4.48	240	P		Pn	01 09 50.6	+0.8
JCZ	Jackson Bay	4.48	240	P		Pn	01 09 50.9	+1.1
MKAZ	Moumakai	4.89	9	P		Pn	01 09 56.8	+1.4
SYZ	Scrubby Hill	5.84	216	P		Pn	01 10 09.1	+0.8

*MOS **13** 01:20:49.5±1.0, 37°.41N×141°.56E, h13km, mb4.7/28, Error ellipse: s-maj=10.3km s-min=6.1km az=108.9*
*IDC **13** 01:20:49.6±0.7, 37°.38N×141°.48E, h0km, mb4.2/17, mbtmp4.1/20, ML3.4/4, MS3.3/5, Error ellipse: s-maj=17.1km s-min=13.0km az=147.0*
*JMA **13** 01:20:51.7±0.1, 37°.4N±0°.3×141°.6E±0°.7, h29km±1km, MD4.4/39, MV4.2/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **13** 01:20:51.7, 37°.38N×141°.59E, h29km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.32; $M_{\theta\theta}$0.23; $M_{\phi\phi}$1.09; $M_{r\theta}$0.02; $M_{\theta\phi}$0.80; $M_{\phi r}$0.07; Fault plane solution: $M_0$1.45000×10^{15} NP1: ϕ_s210.00000°, δ46.00000°, λ-91.00000°. NP2:ϕ_s32.00000°, δ44.00000°, λ-89.00000°.*
*NEIC **13** 01:20:52.4±1.8, 37°.47N±0°.05×141°.53E±0°.06, h10km±1km, mb4.5/55 Error ellipse: s-maj=10.3km s-min=6.2km az=212.0*

ISC 13 01:20:53.7±1.2, **37°.45N**±0°.04×**141°.47E**±0°.05, **h23**km±7km, **n179**, σ1=**22**/167, **mb4.4**/66, **MS3.6**/4, **7C-13D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.48**	**261**	*i* P	**Pb**	**01 21 02.8**	**-0.7**
JFK				S	**Sb**	**01 21 10.3**	**0.0**
JFK	**Kawauchi**	**0.48**	**261**	A	A	01 21 02.8	
	comp=E,28nm,0.5s,comp=E,20nm,1.0s						
JMST	**Minamisoumatoc**	**0.54**	**301**	*i* P	**Pb**	**01 21 04.1**	**-0.4**
JMST				S	**Sn**	**01 21 12.8**	**-1.4**
JMST	**Minamisoumatoc**	**0.54**	**301**	A	A	01 21 04.1	
	comp=E,32nm,1.1s,comp=E,28nm,0.4s						
ONAJ	**Iwakimizuishiy**	**0.64**	**238**	⇓*i* P	**Pb**	**01 21 04.6**	**-1.6**
ONAJ				⇓S	**Sb**	**01 21 14.2**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.64**	**238**	A	A	01 21 04.6	
	comp=E,23nm,0.4s,comp=E,14nm,0.4s						
JMM	**Marumori**	**0.68**	**308**		**Pn**	**01 21 06.4**	**-1.5**
JMM					**Sn**	**01 21 16.0**	**-1.8**
JMM	**Marumori**	**0.68**	**308**	*i* P	**Pn**	**01 21 06.4**	**-1.5**
JMM				S	**Sn**	**01 21 16.8**	**-1.0**
JMM	**Marumori**	**0.68**	**308**	A	A	01 21 06.4	
	comp=E,13nm,0.4s,comp=E,18nm,0.6s						
JFFD	**Fukushimafurud**	**0.81**	**244**	⇓*i* P	**Pb**	**01 21 07.5**	**-1.6**
JFFD				⇓S	**Sb**	**01 21 18.7**	**-0.9**
JIO	**Ouri**	**1.01**	**354**	*i* P	**Pb**	**01 21 10.9**	**-1.5**
JIO				S	**Sn**	**01 21 24.4**	**-1.5**
JHO	**Hitachi**	**1.10**	**221**	P	**Pn**	**01 21 10.8**	**-2.8**
JOU	**Okura**	**1.12**	**325**	*i* P	**Pb**	**01 21 14.0**	**-0.3**
JOU				S	**Sn**	**01 21 29.9**	**+1.3**
JOU	**Okura**	**1.12**	**325**	A	A	01 21 14.0	
	comp=E,25nm,0.4s,comp=E,28nm,1.1s						
JYAR	**Yonezawaarcadi**	**1.15**	**294**	A	A	01 21 13.8	
	comp=E,38nm,1.2s,comp=E,30nm,0.5s						
JOFO	**Osakifurukawao**	**1.24**	**339**	A	A	01 21 14.8	
	comp=E,35nm,3.1s,comp=E,55nm,1.6s						
JSB	**Shiboa**	**1.33**	**249**	A	A	01 21 15.7	
	comp=E,24nm,1.2s,comp=E,14nm,0.9s						
JYS	**Shirataka**	**1.36**	**305**	A	A	01 21 16.9	
	comp=E,14nm,0.5s,comp=E,12nm,0.7s						
JFY	**Yanaizu**	**1.41**	**269**	P	**Pb**	**01 21 18.0**	**-1.3**
JFY				*e*S	**Sb**	**01 21 36.9**	**+0.1**
JFY	**Yanaizu**	**1.41**	**269**	A	A	01 21 18.0	
	comp=E,9.0nm,0.8s,comp=E,6.0nm,2.5s						
JMK	**Ichinoseki**	**1.52**	**353**	A	A	01 21 18.8	
	comp=E,14nm,2.0s,comp=E,4.0nm,2.0s						
JYK	**Kaneyama**	**1.71**	**329**	A	A	01 21 22.0	
	comp=E,8.0nm,1.0s,comp=E,8.0nm,1.1s						
JYA	**Atsumi**	**1.80**	**310**	A	A	01 21 23.4	
	comp=E,7.0nm,1.1s,comp=E,7.0nm,2.3s						
JOM	**Ohasama**	**2.03**	**356**	A	A	01 21 26.1	
	comp=E,5.0nm,2.4s,comp=E,3.0nm,0.9s						
JRG	**Rokugo**	**2.05**	**342**	A	A	01 21 26.8	
	comp=E,5.0nm,2.0s,comp=E,4.0nm,2.4s						
JSZI	**Iwateshizukuis**	**2.33**	**350**	A	A	01 21 31.0	
	comp=E,9.0nm,5.6s,comp=E,9.0nm,1.7s						
JSD	**Sado**	**2.61**	**284**		**Pn**	**01 21 34.0**	**-0.4**
JKEN	**Kujiedanarisaw**	**2.76**	**4**	A	A	01 21 36.4	
	comp=E,10.0nm,0.8s,comp=E,8.0nm,5.4s						
MJAR	**Matsushiro Arr**	**2.77**	**252**	Pn	**Pn**	**01 21 36.6**	**+0.1**
	1.3nm,0.3s,baz=87,slow=16,SNR=25						
MJAR				Lg	Lg	01 22 16.7	
	1.4nm,0.3s,baz=74,slow=18,SNR=6.2						
MAJO	**Matsushiro**	**2.77**	**252**		**Pn**	**01 21 37.3**	**+0.8**
MAJO	**Matsushiro**	**2.77**	**252**	*ce*P	**Pn**	**01 21 37.9**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.77**	**252**		**Pn**	**01 21 39.0**	**+2.4**
JTM	**Tenmabayashi**	**3.35**	**355**		**Pn**	**01 21 44.8**	**+0.2**
JGF	**Kuroka**	**3.79**	**242**	Pn	**Pn**	**01 21 51.2**	**+0.6**
INU	**Inuyama**	**4.16**	**241**	Pn	**Pn**	**01 21 56.2**	**+0.5**
ERM	**Erimo**	**4.74**	**15**	Pn	**Pn**	**01 22 03.3**	**-0.4**
ERM	**Erimo**	**4.74**	**15**	P	**Pn**	**01 22 03.3**	**-0.4**
JKA	**Kamikawa-asahi**	**6.72**	**7**	Pn	**Pn**	**01 22 29.8**	**-1.0**
ASAJ	**Asahikawa**	**6.72**	**7**	Pn	**Pn**	**01 22 29.1**	**-1.7**
	2.4nm,0.3s,baz=218,slow=12,SNR=4.2						
ASAJ				Sn	**Sn**	**01 23 41.5**	**-5.0**
	0.9nm,0.3s,baz=178,slow=21,SNR=1.5						
	5.1nm,0.3s						
ASAJ	**Asahikawa**	**6.72**	**7**	P	**Pn**	**01 22 29.8**	**-1.0**
YSS	**Yuzh-Sakhalins**	**9.55**	**5**	*e*P	**Pn**	**01 23 09.5**	**-0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s						
USA0B	**Ussuriysk Arra**	**9.85**	**316**	Pn	**Pn**	**01 23 12.2**	**-1.6**
USA0B	**Ussuriysk Arra**	**9.85**	**316**	⇓*e*P	**Pn**	**01 23 13.7**	**-0.1**
KSRS	**Korea Array**	**10.77**	**274**	Pn	**Pn**	**01 23 27.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=83,slow=14,SNR=1.7						
KSRS				LR	LR	01 27 12.9	
	comp=Z,70nm,18.8s,baz=85,slow=36						
	comp=Z,0.7nm,0.3s						
KSRS	**Korea Array**	**10.77**	**274**	P	**Pn**	**01 23 27.0**	**+0.6**
KLR	**Kul'dur**	**13.72**	**332**	Pn	**Pn**	**01 24 05.0**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=234,slow=10,SNR=1.6						
KLR				LR	LR	01 28 46.3	
	comp=Z,72nm,21.4s,baz=150,slow=35						
	comp=Z,0.4nm,0.4s						
ZEA	**Zeya**	**19.03**	**333**	*e*P	**Pn**	**01 25 15.6**	**+1.0**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,100nm,14.0s						
NJ2	**Nanjing**	**19.33**	**261**	*e*P	**Pn**	**01 25 19.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC	**Hu-ho-hao-te**	**23.39**	**288**	*e*P	**P**	**01 26 00.8**	**0.0**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,4.5s						
YAK	**Yakutsk**	**25.68**	**347**	⇓*e*P	**P**	**01 26 20.9**	**-0.6**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s						
SEY	**Seymchan**	**26.38**	**11**	P	**P**	**01 26 28.4**	**+0.5**
	comp=Z,3.1nm,0.4s,baz=196,slow=3.4,SNR=5.8						
	comp=Z,3.1nm,0.4s						
SEY	**Seymchan**	**26.38**	**11**	⇓*e*P	**P**	**01 26 29.3**	**+1.5**
SEY				pmax	pmax		
	comp=Z,29nm,2.5s						
ULN	**Ulaanbaatar**	**27.16**	**304**	⇑*e*P	**P**	**01 26 35.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BOD	**Bodaibo**	**27.21**	**327**	*e*P	**P**	**01 26 34.2**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s						
ENH	**Enshi**	**27.42**	**264**	P	**P**	**01 26 39.3**	**+1.7**
SONM	**Songino Array**	**27.60**	**303**	P	**P**	**01 26 38.4**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=103,slow=9.3,SNR=12						
SONM				LR	LR	01 36 38.0	
	comp=Z,40nm,18.0s,baz=27,slow=34						
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**27.60**	**303**	P	**P**	**01 26 38.5**	**-0.7**
SONM	**Songino Array**	**27.60**	**303**	P	**P**	**01 26 38.5**	**-0.7**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.32**	**122**	T	T	01 56 14.3	
	baz=315,slow=75,SNR=706						
H11N1	**WAKE ISLAND Hy**	**28.33**	**122**	T	T	01 56 14.9	
	baz=315,slow=75,SNR=550						
H11N3	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	01 56 15.7	
	baz=315,slow=75,SNR=691						
H11S1	**WAKE ISLAND Hy**	**29.05**	**124**	T	T	01 57 09.7	
	baz=316,slow=76,SNR=288						
H11S3	**WAKE ISLAND Hy**	**29.05**	**124**	T	T	01 57 06.8	
	baz=316,slow=76,SNR=273						
H11S2	**WAKE ISLAND Hy**	**29.06**	**124**	T	T	01 57 09.8	
	baz=316,slow=76,SNR=141						
LZH	**Lanzhou**	**30.05**	**279**	*e*P	**P**	**01 27 05.1**	**+4.0**
LZH				pP	sP	01 27 09.7	-1.2
LZH				sP	pP	01 27 12.9	+4.8
GTA	**Gaotai**	**32.49**	**287**	*e*P	**P**	**01 27 26.6**	**+4.1**
GTA				sP	sP	01 27 33.6	+1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	**Tiksi**	**34.89**	**353**	P	**P**	**01 27 42.0**	**-0.8**
TIXI				IAmb	IAmb	01 27 44.9	
	comp=Z,7.3nm,1.2s						
TIXI	**Tiksi**	**34.89**	**353**	⇑*e*P	**P**	**01 27 42.4**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.8s						
KMI	**Kunming**	**35.07**	**261**	⇑P	**P**	**01 27 44.6**	**-0.6**
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
PZH	**PanZhiHua**	**35.19**	**264**	P	**P**	**01 27 48.5**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,60nm,4.8s						
TNCH	**TengChong**	**38.45**	**264**	P	**P**	**01 28 14.5**	**+0.6**
TNCH				pmax	pmax		
	comp=Z,110nm,4.2s						
DGZ	**Jazzator, Alta**	**40.19**	**305**	*d* iP	**P**	**01 28 29.4**	**+1.2**
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ	**Urumqi**	**40.70**	**296**	*e*P	**P**	**01 28 33.4**	**+1.1**
WMQ				sP	sP	01 28 42.9	+0.6
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
ZAA0	**Zalesovo Array**	**41.67**	**312**	P	**P**	**01 28 40.3**	**+0.2**
ZALV	**Zalesovo Beam**	**41.67**	**312**	P	**P**	**01 28 39.7**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=90,slow=7.4,SNR=14						
ZALV				PcP	**PcP**	**01 30 35.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=90,slow=2.9,SNR=2.8						
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**41.67**	**312**	P	**P**	**01 28 40.3**	**+0.2**
ZALV	**Zalesovo Beam**	**41.67**	**312**	*i* P	**P**	**01 28 40.4**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**43.94**	**302**	P	**P**	**01 28 58.2**	**-0.4**
MK31	**Makanchi Array**	**43.94**	**302**	*c* iP	**P**	**01 28 59.0**	**+0.3**
MKAR	**Makanchi Array**	**43.94**	**302**	P	**P**	**01 28 59.0**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=88,slow=9.9,SNR=40						
MKAR				LR	LR	01 47 15.6	
	comp=Z,52nm,19.0s,baz=304,slow=36						
	comp=Z,4.2nm,0.8s						
MAKZ	**Makanchi**	**44.15**	**302**	P	**P**	**01 29 00.2**	**-0.1**
MAKZ				IAmb	IAmb	01 29 01.5	
	comp=Z,5.2nm,0.9s						
MAKZ	**Makanchi**	**44.15**	**302**	P	**P**	**01 29 00.2**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
L19K	**White Mountain**	**45.55**	**36**	P	**P**	**01 29 12.1**	**+0.8**
L19K				IAmb	IAmb	01 29 21.3	
	comp=Z,5.1nm,1.2s						
KURK	**Kurchatov**	**45.72**	**308**	P	**P**	**01 29 12.6**	**-0.1**
KURK	**Kurchatov**	**45.72**	**308**	P	**P**	**01 29 12.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
K20K	**Telida**	**45.96**	**34**	P	**P**	**01 29 15.9**	**+1.5**
K20K				IAmb	IAmb	01 29 21.4	
	comp=Z,9.6nm,1.4s						
J20K	**Nowinta River**	**45.97**	**33**	P	**P**	**01 29 15.7**	**+1.1**
IMAR	**Indian Mountai**	**46.27**	**31**	P	**P**	**01 29 17.1**	**+0.2**
H21K	**Melozitna Rive**	**46.64**	**31**	P	**P**	**01 29 20.8**	**+1.1**
PPLA	**Purkeypile**	**46.80**	**35**	P	**P**	**01 29 21.5**	**+0.2**
PPLA				IAmb	IAmb	01 29 28.6	
	comp=Z,7.2nm,1.2s						
CAST	**Castle Rocks**	**46.86**	**34**	P	**P**	**01 29 22.8**	**+1.3**
CAST				IAmb	IAmb	01 29 37.8	
	comp=Z,6.0nm,1.4s						
BPAW	**Bear Paw Mtn.**	**47.35**	**33**	P	**P**	**01 29 26.5**	**+1.1**
BPAW				IAmb	IAmb	01 29 28.4	
	comp=Z,7.8nm,1.4s						
KTH	**Kantishna Hill**	**47.38**	**34**	P	**P**	**01 29 27.1**	**+1.5**
KTH				IAmb	IAmb	01 29 28.1	
	comp=Z,2.9nm,0.8s						
MLY	**Manley**	**47.48**	**32**	P	**P**	**01 29 28.0**	**+1.6**
MLY				IAmb	IAmb	01 29 47.1	
	comp=Z,4.2nm,1.3s						
COLD	**Coldfoot**	**47.77**	**29**	P	**P**	**01 29 29.7**	**+1.2**
H23K	**Yukon River**	**47.99**	**31**	P	**P**	**01 29 32.1**	**+1.8**
H23K				IAmb	IAmb	01 29 32.9	
	comp=Z,3.8nm,0.9s						
MCK	**McKinley**	**48.26**	**34**	P	**P**	**01 29 33.1**	**+0.6**
MCK				IAmb	IAmb	01 29 35.0	
	comp=Z,6.3nm,1.3s						
MCK	**McKinley**	**48.26**	**34**	P	**P**	**01 29 33.1**	**+0.6**
MCK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
WRH	**Wood River Hil**	**48.61**	**33**	P	**P**	**01 29 35.9**	**+0.8**
WRH				IAmb	IAmb	01 29 43.9	
	comp=Z,3.0nm,1.0s						
POKR	**Poker Plat Res**	**48.88**	**32**	P	**P**	**01 29 38.3**	**+1.2**
DHY	**Denali Highway**	**48.99**	**35**	P	**P**	**01 29 39.3**	**+1.1**
DHY				IAmb	IAmb	01 29 54.4	
	comp=Z,7.3nm,1.4s						
IL31		**49.12**	**33**	P	**P**	**01 29 38.6**	**-0.3**
IL31				IAmb	IAmb	01 29 40.0	
	comp=Z,4.1nm,0.8s						
ILAR	**Eielson Array**	**49.12**	**33**	P	**P**	**01 29 39.4**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=269,slow=6.3,SNR=26						
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**49.12**	**33**	P	**P**	**01 29 39.9**	**+0.9**
BMAR	**Burnt Mountain**	**49.95**	**29**	P	**P**	**01 29 46.0**	**+0.7**
AAK	**Ala-Archa**	**50.34**	**298**	LR	LR	01 53 43.8	
	comp=Z,68nm,18.0s,baz=8.5,slow=39						
BRVK	**Borovoye**	**50.39**	**312**	⇑*e*P	**P**	**01 29 49.3**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,9.0nm,2.3s						
DOT	**Dot Lake**	**50.44**	**34**	P	**P**	**01 29 49.9**	**+0.9**
DOT				IAmb	IAmb	01 29 54.9	
	comp=Z,8.5nm,1.4s						
SCRK	**Sand Creek**	**50.44**	**33**	P	**P**	**01 29 49.2**	**0.0**
SCRK				IAmb	IAmb	01 29 50.4	
	comp=Z,4.5nm,0.9s						
J26L	**Joseph Creek**	**50.57**	**33**	P	**P**	**01 29 50.0**	**0.0**
L26K	**Log Cabin Wild**	**50.83**	**35**	P	**P**	**01 29 53.1**	**+1.1**
L26K				IAmb	IAmb	01 29 54.3	
	comp=Z,4.5nm,0.8s						
L27K	**Beaver Creek,**	**51.51**	**34**	P	**P**	**01 29 58.6**	**+1.5**
KK31	**Karatay Array**	**52.96**	**300**	P	**P**	**01 30 07.8**	**-0.4**
KK31				IAmb	IAmb	01 30 17.3	
	comp=Z,5.5nm,1.3s						
KK31	**Karatay Array**	**52.96**	**300**	P	**P**	**01 30 07.8**	**-0.4**
KK31				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KKAR	**Karatay Array**	**52.96**	**300**	P	**P**	**01 30 08.3**	**+0.1**
KKAR				IAmb	IAmb	01 30 17.3	
	comp=Z,5.5nm,1.3s						
KKAR	**Karatay Array**	**52.96**	**300**	P	**P**	**01 30 08.3**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HYT	**Haines Junctio**	**53.94**	**37**	P	**P**	**01 30 17.4**	**+2.1**
HYT				IAmb	IAmb	01 30 19.0	
	comp=Z,4.4nm,0.9s						
INK	**Inuvik**	**54.00**	**27**	P	**P**	**01 30 15.0**	**-0.3**
INK				IAmb	IAmb	01 30 22.4	
	comp=Z,2.3nm,0.7s						
INK	**Inuvik**	**54.00**	**27**	P	**P**	**01 30 15.0**	**-0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WHY	**Whitehorse**	**55.23**	**37**	P	**P**	**01 30 26.0**	**+1.5**
A36M	**Sachs Harbour**	**55.86**	**22**	P	**P**	**01 30 29.4**	**+0.6**
ARU	**Arti**	**56.08**	**318**	P	**P**	**01 30 30.9**	**+0.3**
ARU	**Arti**	**56.08**	**318**	*d* iP	**P**	**01 30 28.4**	**-2.2**
ARU						01 31 27.8	
ARU						01 32 32.2	
ARU				S	**S**	**01 38 14.2**	**-3.6**
ARU				pmax	pmax		
	comp=Z,12nm,1.2s						
C36M	**Paulatuk**	**57.03**	**25**	IAmb	IAmb	01 30 38.7	
	comp=Z,5.6nm,0.9s						
WRAB	**Tennant Creek**	**57.47**	**188**	⇓*e*P	**P**	**01 30 39.2**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.7s						
WR0	**Warramunga Arr**	**57.47**	**188**	P	**P**	**01 30 41.0**	**+0.3**
WR0				IAmb	IAmb	01 30 41.2	
	comp=Z,3.7nm,0.9s						
WB2	**Warramunga Arr**	**57.47**	**188**	P	**P**	**01 30 40.8**	**0.0**
WB2				IAmb	IAmb	01 30 53.7	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**57.48**	**188**	P	**P**	**01 30 39.5**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=4.7,slow=7.5,SNR=42						
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**57.48**	**188**	P	**P**	**01 30 39.9**	**-0.9**
ABKAR	**Akbulak array**	**57.71**	**310**	P	**P**	**01 30 42.0**	**-0.3**
KIRV	**Kirov**	**59.95**	**323**	*i* iP	**P**	**01 30 57.7**	**+0.1**
ASAR	**Alice Springs**	**61.20**	**188**	P	**P**	**01 31 05.4**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=14,slow=6.8,SNR=12						
	comp=Z,1.4nm,0.8s						
RES	**Resolute Bay**	**62.19**	**14**	P	**P**	**01 31 12.8**	**+0.2**
RES				IAmb	IAmb	01 31 13.5	
	comp=Z,3.9nm,0.8s						
RES	**Resolute Bay**	**62.19**	**14**	P	**P**	**01 31 12.8**	**+0.2**
RES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HRA	**Herat**	**62.39**	**294**	P	**P**	**01 31 15.6**	**+0.7**
HRA				IAmb	IAmb	01 31 15.8	
	comp=Z,3.3nm,1.1s						
YKA	**Yellowknife Ar**	**63.43**	**30**	P	**P**	**01 31 21.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=302,slow=6.9,SNR=16						
	comp=Z,0.9nm,0.6s						
YKA	**Yellowknife Ar**	**63.43**	**30**	P	**P**	**01 31 21.1**	**+0.1**
BELG	**Belogornoye**	**63.53**	**317**	⇓*e*P	**P**	**01 31 22.6**	**+0.8**
BELG				pmax	pmax		
	comp=Z,5.0nm,2.0s						
ARCES	**ARCESS Array B**	**63.63**	**339**	P	**P**	**01 31 22.6**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=61,slow=6.1,SNR=4.9						
	comp=Z,0.8nm,0.5s						
GEYT	**Alibeck**	**63.68**	**299**	P	**P**	**01 31 23.4**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=40,slow=2.5,SNR=6.8						
	comp=Z,3.0nm,0.7s						
GEYT	**Alibeck**	**63.68**	**299**	P	**P**	**01 31 23.2**	**+0.1**
OBN	**Obninsk

comp=Z,5.6nm,1.1s
IMW Indian Meadow 75.85 45 P P 01 32 39.4 +1.1
R11A Troy Canyon, C 76.47 52 P P 01 32 41.8 0.0
PDAR Pinedale Array 77.34 46 P P 01 32 46.9 +0.2
comp=Z,0.8nm,0.7s,baz=301,slow=3.4,SNR=9.9
comp=Z,0.8nm,0.7s
PDAR Pinedale Array 77.34 46 P P 01 32 47.2 +0.5
BURAR Bucovina Array 78.02 322 P P 01 32 50.7 +0.5
BURAR IAmb IAmb 01 32 57.4
comp=Z,3.2nm,0.9s
BRTR Keskin Array B 78.61 312 P P 01 32 53.2 -0.5
comp=Z,1.5nm,1.1s,baz=67,slow=5.1,SNR=1.9
comp=Z,1.5nm,1.1s
OJC Ojcow 78.72 326 P P 01 32 54.5 +0.5
OJC Ojcow 78.72 326 P P 01 32 54.5 +0.5
OJC pmax pmax
comp=Z,10.0nm,1.0s
PFO Pinyon Flats O 78.77 56 iP P 01 32 52.5 -2.2
VYHS Vyhne 80.41 325 eP P 01 33 09.9 +6.7
VYHS Vyhne 80.41 325 eP P 01 33 09.9 +6.7
CKRC Cesky Krumlov 82.15 328 eP P 01 33 19.5 +7.1
KHC Kasperske Hory 82.22 328 eP P 01 33 19.0 +6.2
KHC Kasperske Hory 82.22 328 eP P 01 33 19.0 +6.2
GERES GERESS Array B 82.39 328 P P 01 33 13.2 -0.6
comp=Z,0.3nm,0.5s,baz=32,slow=3.8,SNR=3.9
comp=Z,0.3nm,0.5s
H03N2 Juan Fernandez 147.02 95 T T 04 24 42.1
baz=292,slow=76,SNR=17
H03N3 Juan Fernandez 147.03 95 T T 04 24 43.8
baz=292,slow=76,SNR=17
H03N1 Juan Fernandez 147.03 95 T T 04 24 43.3
baz=292,slow=76,SNR=20

IDC ***13*** *01:56:11.3±3.0, 10.°35S×161.°17E, h63km±20km, mb3.7/5, mbtmp4.2/7, MS3.4/4, Error ellipse: s-maj=35.4km s-min=18.6km az=65.0*

ISC 13 01:56:11.0±1.3, 10.°3S±0.°2×161.°2E±0.°2, h62km, n11, σ0°79/9, mb3.8/5, Bougainville-Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 1.54 306 P Pn 01 56 36.4 +0.1
13μm,0.7s,baz=187,slow=11,SNR=14
HNR S Sn 01 56 55.0 -0.4
11μm,0.3s,baz=94,slow=24,SNR=6.8
HNR LR LR 01 57 28.4
comp=Z,6μm,21.8s,baz=123,slow=51
KRVT Keravat (AS076 10.90 303 LR LR 02 03 28.8
comp=Z,116nm,18.0s,baz=234,slow=40
DZM Mont Dzumac 12.70 157 P Pn 01 59 08.8 -0.1
11nm,0.5s,baz=35,slow=4.4,SNR=82
DZM S Sn 02 01 20.3 -8.3
1.5nm,0.6s,baz=57,slow=15,SNR=1.4
DZM LR LR 02 03 08.7
comp=Z,96nm,18.7s,baz=35,slow=33
PMG Port Moresby 13.88 273 LR LR 02 04 15.0
comp=Z,200nm,19.7s,baz=118,slow=35
CTA Charters Tower 17.37 234 P P 02 00 10.8 +1.0
12nm,0.8s,baz=61,slow=12,SNR=14
WRA Warramunga Arr 27.60 247 P P 02 01 52.7 0.0
2.0nm,0.7s,baz=77,slow=8.7,SNR=12
2.0nm,0.7s
ASAR Alice Springs 29.21 240 P P 02 02 06.1 -1.0
0.6nm,0.4s,baz=60,slow=9.8,SNR=7.4
0.6nm,0.4s
CMAR Chiang Mai Arr 67.76 295 P P 02 07 03.3 +0.6
0.9nm,0.3s,baz=124,slow=6.1,SNR=4.1
0.9nm,0.3s
SEY Seymchan 73.37 356 LR LR 02 36 51.3
comp=Z,44nm,19.3s,baz=184,slow=33
SONM Songino Array 75.51 325 P P 02 07 49.6 +0.7
1.3nm,0.8s,baz=138,slow=5.1,SNR=5.3
1.3nm,0.8s
MKAR Makanchi Array 89.98 318 P P 02 09 02.9 -0.9
0.3nm,0.6s,baz=97,slow=4.9,SNR=3.6
0.3nm,0.6s

IDC ***13*** *02:12:41.5±1.5, 9.°78S×160.°63E, h0km, mb3.8/4, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=34.9km s-min=20.7km az=8.0*

ISC 13 02:12:46.8±1.3, 9.8S±0.°2×160.°6E±0.°1, h37km, n6, σ0°65/7, mb3.6/4, Bougainville-Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 0.74 303 Pn Pn 02 12 59.9 -0.9
2μm,0.3s,baz=164,slow=4.6,SNR=13
HNR Sn Sn 02 13 11.5 +0.7
10μm,0.3s,baz=139,slow=22,SNR=13
CTA Charters Tower 17.17 232 P P 02 16 45.6 +0.3
0.1nm,0.3s,baz=62,slow=13,SNR=6.2
5.0nm,0.9s
WRA Warramunga Arr 27.24 245 P P 02 18 27.4 -0.2
0.5nm,0.6s,baz=75,slow=9.0,SNR=3.1
0.5nm,0.6s
SONM Songino Array 74.75 326 P P 02 24 23.6 +0.6
0.4nm,0.5s,baz=123,slow=7.1,SNR=2.9
0.4nm,0.5s
ILAR Eielson Array 84.06 20 P P 02 25 13.3 +0.1
0.3nm,0.7s,baz=246,slow=4.8,SNR=6.9
0.3nm,0.7s
YKA Yellowknife Ar 96.26 28 P P 02 26 10.8 -0.2
0.4nm,0.8s,baz=258,slow=4.8,SNR=7.2
0.4nm,0.8s

IDC ***13*** *02:29:47.2±2.9, 26.°07S×70.°85E, h0km, mb3.8/7, mbtmp3.8/7, MS3.5/3, Error ellipse: s-maj=91.0km s-min=29.0km az=44.0*

ISC 13 02:29:49.1±2.7, 26.°0S±0.°4×70.°9E±0.°4, h11km, n16, σ0°43/7, mb3.8/7, MS3.5/3, Indian Ocean Triple Junction

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H08S1 Diego Carcia H 18.36 5 T T 02 52 55.0
baz=186,slow=76,SNR=14
H08S2 Diego Garcia H 18.36 5 T T 02 52 54.3
baz=186,slow=76,SNR=15
H08S3 Diego Garcia H 18.38 5 T T 02 52 55.4
baz=186,slow=76,SNR=18
H01W2 Cape Leeuwin H 38.07 114 T T 03 17 23.4
baz=272,slow=75,SNR=5.9
H01W3 Cape Leeuwin H 38.07 114 T T 03 17 23.4
baz=272,slow=75,SNR=5.3
H01W1 Cape Leeuwin H 38.09 114 T T 03 17 24.5
baz=272,slow=75,SNR=5.6
LEM Lembang 39.87 68 LR LR 02 50 50.1
comp=Z,112nm,19.0s,baz=150,slow=32
BOSA Boshof 40.43 256 LR LR 02 51 26.0
comp=Z,60nm,19.9s,baz=168,slow=32
LBTB Lobatse 40.72 261 LR LR 02 50 50.3
comp=Z,49nm,20.3s,baz=111,slow=31
CMAR Chiang Mai Arr 51.97 35 P P 02 38 58.0 -0.4
1.0nm,0.3s,baz=219,slow=7.0,SNR=1.4
1.0nm,0.3s
ASAR Alice Springs 56.74 102 P P 02 39 33.5 +0.1
0.6nm,0.6s,baz=248,slow=6.1,SNR=11
0.6nm,0.6s
WRA Warramunga Arr 58.25 98 P P 02 39 43.8 -0.2
0.6nm,0.7s,baz=254,slow=8.2,SNR=5.5
0.6nm,0.7s
MKAR Makanchi Array 73.22 8 P P 02 41 20.4 +0.4
1.0nm,0.6s,baz=198,slow=6.2,SNR=12
1.0nm,0.6s
BRTR Keskin Array B 74.07 331 P P 02 41 24.9 -0.3
1.2nm,1.0s,baz=146,slow=10,SNR=3.0
1.2nm,1.0s
SONM Songino Array 80.17 23 P P 02 41 59.8 +0.4
0.2nm,0.5s,baz=207,slow=2.9,SNR=1.6
0.2nm,0.5s
ZALV Zalesovo Beam 80.57 8 P P 02 42 01.2 +0.1
0.3nm,0.4s,baz=195,slow=3.9,SNR=2.1
0.3nm,0.4s

INET ***13*** *02:30:35.5±0.3, 11.°59N×88.°77W, h15km±4km, MW3.6*
SNET ***13*** *02:30:39.5±1.6, 11.°93N×88.°62W, h27km±121km, ML3.4*

ISC 13 02:30:37.7±1.9, 11.°77N±0.°09×88.°61W±0.°09, h33km, n13, σ1°92/17, Off coast of central America

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ALJI Alcalda de J 1.54 1 eP Pn 02 31 03.4 +0.4
LCND La Caada 1.68 25 eP Pn 02 31 05.4 +0.6
LCND IAML 02 31 33.5
comp=Z,476nm,0.3s
COEB Comit de Eme 1.72 2 eP Pn 02 31 06.0 +0.6
COEB eS Sn 02 31 25.6 -0.7
COEB IAML 02 31 32.9
comp=Z,306nm,0.2s
TECO Alcaldia de Te 1.76 354 eP Pn 02 31 06.2 +0.2
CRIN San Cristobal 1.78 59 eP Pb 02 31 07.8 -1.9
CRIN eS Sb 02 31 33.1 +1.3
SJTE Alcalda de S 1.87 348 eS Sn 02 31 29.4 -0.7
SCLA Alcaldia de Sa 1.92 356 eP Pn 02 31 09.1 +0.9
SCLA eS Sn 02 31 32.9 +1.7
PAVA Las Pavas 1.96 351 eP Pn 02 31 08.1 -0.6
PAVA eS Sn 02 31 32.7 +0.5
PAVA IAML 02 31 35.8
comp=Z,366nm,0.4s
JAYA Jayaque - finc 2.04 336 IAML 02 31 38.3
comp=Z,329nm,0.3s
MOMN Momotombo 2.12 72 eP Pn 02 31 11.8 +0.9
NUBE Las Nubes 2.41 332 eP Pn 02 31 15.3 +0.4
SLOZ Alcaldia de Sa 2.52 333 eP Pn 02 31 17.6 +1.3
ORTG Ortega, Santa 3.39 114 eP Pn 02 31 28.9 +0.5
ORTG eS Sn 02 32 07.9 +0.3

IDC 13 02:45:47.7±5.5, 34.°97N×23.°09E, h0km, mb4.0/4, mbtmp3.7/6, ML3.1/2, Error ellipse: s-maj=96.2km s-min=39.9km az=27.0, Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BRTR Keskin Array B 9.64 57 Pn Pn 02 48 10.7 +2.9
0.1nm,0.3s,baz=248,slow=11,SNR=1.6
0.3nm,0.5s
AKASG Malin Array Be 16.35 14 Pn Pn 02 49 36.9 -1.5
0.2nm,0.3s,baz=205,slow=10,SNR=1.4
0.1nm,0.3s
HFS Hagfors 25.91 349 P P 02 51 22.3 +1.0
3.7nm,0.9s,baz=178,slow=15,SNR=1.9
3.7nm,0.9s
ARCES ARCESS Array B 34.65 1 P P 02 52 37.6 -0.8
5.9nm,1.1s,baz=185,slow=9.0,SNR=3.8
5.9nm,1.1s
KURBB Kurchatov Arra 42.56 51 P P 02 53 44.5 -0.5
0.4nm,0.6s,baz=278,slow=8.8,SNR=4.4
0.4nm,0.6s
MKAR Makanchi Array 45.29 56 P P 02 54 07.2 0.0
1.1nm,0.5s,baz=268,slow=7.6,SNR=25
1.1nm,0.5s

KRSC 13 03:03:38.0±1.1, 55.°98N×164.°13E, h15km±20km, MI4.0, Komandorsky Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KBTR Krutoberegovo 0.77 288 eP Pg 03 03 52.6 -0.4
KBTR eS Sb 03 04 03.5 +0.1
KBG Krutoberegovo 0.84 290 eP Pb 03 03 53.4 -0.9
KBG eS Sg 03 04 05.4 -0.1
BKI Bering 1.30 126 iP Pn 03 04 01.9 +0.3
BKI eS Sn 03 04 18.9 +0.1
SMKR Semkarok 1.60 293 eP Pn 03 04 05.8 -0.1
SMKR eS Sn 03 04 25.4 -0.9
KLY Klyuchi 1.97 281 eP Pn 03 04 10.7 -0.2
KLY eS Sn 03 04 34.3 -1.1
BZP Bezymyannyi-Pe 2.02 270 eP Pn 03 04 13.1 +1.4
BZWR Bezymyannyi-We 2.04 271 eP Pb 03 04 13.8 -1.1
BZMR Bezymyannaya 2.04 270 eP Pb 03 04 13.7 -1.3
KIRR Kirishev 2.13 271 eP Pb 03 04 15.7 -0.7
KPT Kopyto 2.19 271 eP Pb 03 04 16.3 -1.2
KMNR Kamenistaya 2.20 266 eP Pb 03 04 16.9 -0.7
TUMD Tumrok D 2.25 251 eP Pb 03 04 17.6 -0.8
TUMR Tumrok 2.36 255 eP Pb 03 04 19.5 -0.8
KOZ Kozyrevsk 2.39 274 eP Pb 03 04 19.0 -1.7
SRDR Sredinnyy 2.49 280 eP Pn 03 04 20.0 +1.9
SRDR eS Sb 03 04 50.8 -2.2
ESO Esso 3.05 271 eP Pn 03 04 28.2 +2.5
SPN Mys Shipunski 3.75 221 eP Pn 03 04 37.4 +2.2
SPN eS Sn 03 05 19.9 +0.9
NLC Nalytchevo 3.95 227 eP Pb 03 04 42.9 -4.5
NLC eS Sn 03 05 29.1 +4.9
SMAR Somma 4.12 231 eP Pn 03 04 44.4 +3.8
AVH Avacha 4.14 231 eP Pb 03 04 46.2 -4.5
UGLR Uglovaya 4.15 230 eP Pn 03 04 44.8 +4.0
KOK Koryaka 4.17 232 eP Pn 03 04 45.1 +3.9
PET Petropavlovsk 4.35 229 eP Pn 03 04 47.1 +3.6
PET eS Sn 03 05 38.8 +4.9
KRMR Karymshinskiy 4.71 231 eP Pn 03 04 53.0 +4.5
KRMR eS Sn 03 05 49.0 +6.2
GRL Gorelyy 4.93 228 eP Pn 03 04 56.8 +5.1
MTVR Mutnovka 4.94 227 eP Pn 03 04 56.7 +4.9
APC Apacha 5.09 236 eP Pn 03 04 58.9 +5.2
KDTR Khodutka, Kamc 5.50 223 eP Pn 03 05 02.6 +3.3

REN ***13*** *03:17:52.9±1.3, 38.°426N±0.°008×118.°90W±0.°04, h9km±6km, ML3.5/19, ML3.4/42(NEIC), Error ellipse: s-maj=5.0km s-min=1.0km az=96.0*
ANF ***13*** *03:17:52.3±0.9, 38.°46N×118.°97W, h4km±4km, ML3.6/9, Error ellipse: s-maj=6.7km s-min=2.9km az=129.0*
NEIC ***13*** *03:17:53.1±1.3, 38.°43N±0.°02×118.°90W±0.°04, h12km±5km, Error ellipse: s-maj=4.7km s-min=2.6km az=90.0*

ISC 13 03:17:52.9±0.9, 38.°43N±0.°02×118.°91W±0.°02, h13km±7km, n91, σ0°73/96, California-Nevada border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TVH1 TV Hill, Hawth 0.11 75 Pg 03 17 56.1 -0.3
TVH1 Sg 03 17 58.5 -0.4
RYN Ryan 0.36 56 Pg 03 18 00.6 +0.3
RYN Sg 03 18 05.8 +0.6
RYN Ryan 0.36 56 IAML 03 18 06.0
comp=N,13μm,0.2s
RYN IAML 03 18 06.3
comp=E,14μm,0.2s
LHV Little Huntoon 0.36 119 Pg 03 18 00.5 +0.3
LHV Little Huntoon 0.36 119 Sg 03 18 05.9 +0.8
LUL Lundy Lake 0.43 210 Pg 03 18 01.8 +0.1
NV09 Mina Array Sit 0.45 89 Pg 03 18 01.9 +0.1
YERR Yerington 0.61 335 Pg 03 18 05.2 +0.2
YERR Sb 03 18 13.9 -0.4
YERR Yerington 0.61 335 IAML 03 18 19.3
comp=E,2μm,0.4s
YERR IAML 03 18 20.7
comp=N,2μm,0.4s
BENR Benton 0.76 160 Pg 03 18 07.5 -0.2
MDYM Dry Creek 0.77 186 Pg 03 18 08.1 0.0
MDYM Sb 03 18 19.0 0.0
MCBM Casa Benchmark 0.78 179 Pg 03 18 08.2 +0.1
MCBM Sg 03 18 18.9 +0.5
MLAC Mammoth, Mammo 0.80 176 Pg 03 18 08.5 0.0
MLAC Sg 03 18 19.5 +0.5
MLAC Mammoth, Mammo 0.80 176 P Pg 03 18 08.7 +0.3
baz=357
MLAC S Sg 03 18 19.4 +0.5
baz=357
KVN Kaiserville 0.89 45 Pg 03 18 10.0 -0.1
KVN Sb 03 18 22.1 0.0
KVN Kaiserville 0.89 45 IAML 03 18 26.2
comp=N,1μm,0.3s
KVN IAML 03 18 26.3
comp=E,1μm,0.7s
MLNR Milner Canyon 0.94 152 Pg 03 18 11.1 -0.1
VCNR Virginia City 1.04 326 Pg 03 18 13.0 -0.1
VCNR IAML 03 18 31.3
comp=E,2μm,0.6s
VCNR Virginia City 1.04 326 Sb 03 18 27.6 +0.9
KCC Kaiser Creek 1.15 197 Pb 03 18 14.5 -0.3
CMB Columbia Colle 1.23 252 Pn 03 18 15.9 0.0
CMB IAML 03 18 32.8
comp=N,754nm,0.5s
CMB IAML 03 18 35.6
comp=E,579nm,0.6s
DSP Deep Springs 1.29 145 Pn Pb 03 18 17.5 +0.4
TPH Tonopah 1.37 104 Pn Pn 03 18 18.4 +0.4
MZP Montezuma Peak 1.40 121 Pb Pb 03 18 19.3 +0.1
MZP Montezuma Peak 1.40 121 IAML 03 18 42.1
comp=N,429nm,0.5s
MZP IAML 03 18 42.2
comp=E,443nm,0.4s
Q09A Carvers 1.41 73 Pb 03 18 19.2 0.0
PEAR Peavine Mounta 1.44 325 Pb 03 18 19.9 +0.2
R09A Tonopah 1.45 97 Pn 03 18 19.3 +0.2
TIN Tinemaha, Big 1.47 158 S Sg 03 18 41.1 +0.7
baz=339
LCH Last Change Ra 1.56 140 Pn 03 18 21.2 +0.8
WVA Winnemucca Val 1.67 335 Pn 03 18 23.0 +0.9
AFDM Forest Hills D 1.70 288 Pb 03 18 23.9 -0.2
GRAC Grapevine Rang 1.88 139 Pb 03 18 26.8 -0.4
GRAC IAML 03 18 57.1
comp=E,516nm,0.7s
GRAC IAML 03 18 57.7
comp=N,412nm,1.0s
GRAC Grapevine Rang 1.88 139 P Pn 03 18 26.1 +1.3
baz=320
GRAC Sb Sg 03 18 54.5 +1.1
baz=320
R10A Warm Springs 2.05 93 Pn 03 18 27.8 +0.5
SGV South Grapevin 2.07 134 Pn 03 18 28.4 +0.8
VOG Valley Oaks Go 2.14 190 Sb Sg 03 19 00.4 -1.3
baz=10
ORV Oroville 2.31 300 Pn 03 18 32.4 +1.6
ORV Oroville 2.31 300 IAML 03 19 05.8
comp=N,216nm,0.7s
ORV IAML 03 19 06.1
comp=E,273nm,0.6s
PLTX Planet X, Gerl 2.32 349 Pn Pn 03 18 32.5 +1.6
BMN Battle Mountai 2.39 33 Pn 03 18 32.1 +0.2
WENL Wente Vineyard 2.39 251 Pb 03 18 35.5 -0.3
WCT Wildcat Mounta 2.44 131 Pn 03 18 33.5 +0.9
BBGB Big Mountain B 2.51 223 Pn 03 18 35.7 +2.1
FURC Furnace Creek, 2.54 140 Sb Sg 03 19 15.0 +0.3
baz=321
TPNV Topopah Spring 2.57 124 Pn 03 18 34.7 +0.2
TPNV IAML 03 19 23.5
comp=E,277nm,0.6s
TPNV Topopah Spring 2.57 124 P Pn 03 18 35.7 +1.2
baz=306
TPNV Sb Sg 03 19 15.6 0.0
baz=306
Q11A Duckwater 2.58 80 Pn 03 18 35.0 +0.4
VES Vestal, Richgr 2.59 183 Sb Sg 03 19 14.9 -1.1
baz=3.3
R11A Troy Canyon, C 2.61 91 Pn 03 18 34.8 -0.2
R11A Troy Canyon, C 2.61 91 IAML 03 19 15.7
comp=N,285nm,0.8s
R11A IAML 03 19 17.6
comp=E,215nm,0.3s
R11A Troy Canyon, C 2.61 91 Pb Pb 03 18 40.6 +0.9
baz=273
R11A Sb Sg 03 19 15.0 -1.9
baz=273
SAO San Andreas Ge 2.62 231 Pn 03 18 36.9 +2.0
MPMC Manual Prospec 2.62 154 P Pg 03 18 42.4 -0.8
baz=335
PMPB Monarch Peak 2.68 215 Pn Pn 03 18 36.6 +0.8
GWY Greenwater Val 2.86 141 Pn 03 18 38.7 +0.3
GDXM Geysers 3.07 278 Pn Pn 03 18 40.7 -0.5
PRN Pahroc Range 3.21 107 Pn 03 18 44.0 +0.8
CCAC Calif City Air 3.35 167 Pn Pn 03 18 43.8 -1.2
SHPR Sheep Range 3.54 122 Pn Pn 03 18 48.4 +0.6
GSC Goldstone, Bar 3.55 151 Pn Pn 03 18 47.4 -0.4
SPR3 Spring Creek 3 3.62 80 Pn Pn 03 18 49.2 +0.2
MOD Modoc Plateau 3.63 343 Pn Pn 03 18 48.9 -0.1
ELK Elko 3.66 50 Pn 03 18 49.2 -0.3
ELK IAML 03 19 51.5
comp=E,55nm,0.4s
ELK IAML 03 19 51.7
comp=E,48nm,0.4s
WTNK Soaring Height 3.82 125 Pn Pn 03 18 51.2 -0.4
WVOR Wild Horse Val 4.01 3 Pn Pn 03 18 54.3 +0.2
V12A Nelson 4.22 129 Pn Pn 03 18 57.1 +0.1
YBH Yreka Blue Hor 4.41 320 03 18 58.8 -0.8
K05A Summer Lake 4.55 341 Pn 03 19 01.3 -0.4
SZCU Shurtz Canyon 4.67 98 Pn Pn 03 19 03.6 +0.2
J08A Circle Bar Ran 4.94 4 Pn Pn 03 19 07.6 +0.7
DUG Dugway, Tooele 5.04 68 Pn 03 19 08.8 +0.3
TCRU Three Creeks R 5.07 86 Pn Pn 03 19 09.1 +0.2
W13A Hualapai Mount 5.22 128 Pn Pn 03 19 10.9 0.0
MVU Marysvale 5.25 87 Pn Pn 03 19 12.9 +1.6
MTPU Mount Pierson 5.31 92 Pn Pn 03 19 12.1 -0.2
MFID Camas Ranch 5.50 24 Pn Pn 03 19 13.7 -0.9
SPUT South Promonto 5.74 58 Pn Pn 03 19 17.5 -0.5
MPU Maple Canyon 5.87 72 Pn Pn 03 19 20.3 +0.5
CTU Camp Tracy 5.97 66 Pn Pn 03 19 22.3 +1.1
TMUT Trail Mountain 6.07 79 Pn Pn 03 19 22.8 +0.2
HLID Hailey 6.15 32 Pn Pn 03 19 23.7 +0.1
P17A Butcher Ranch, 6.45 78 Pn Pn 03 19 27.5 -0.2
HWUT Hardware Ranch 6.47 58 Pn Pn 03 19 28.3 +0.3
WUAZ Wupatki 6.69 113 Pn Pn 03 19 31.4 +0.3
AHID Auburn Hatcher 7.35 51 Pn Pn 03 19 39.9 -0.2
ECR Eagle Creek 7.35 49 Pn Pn 03 19 39.1 -1.0
MCMT McKenzie Canyo 7.84 33 Pn Pn 03 19 46.1 -0.8
PV11 David Mesa, Pa 7.88 88 Pn Pn 03 19 47.2 -0.3
HAWA Hanford 7.97 357 Pn Pn 03 19 47.5 -1.0
X18A Snowflake 8.20 116 Pn Pn 03 19 50.7 -1.1

BGR ***13*** *03:25:24.8, 35.°08N×141.°71E, h33km, mb5.2, Ms4.5*
BJI ***13*** *03:25:28.0±0.0, 35.°60N×140.°70E, h63km, mb5.0/76, mB5.1/46, Ms4.5/62, Ms7 4.4/60*
MOS ***13*** *03:25:28.3±1.1, 35.°65N×140.°59E, h41km, mb5.2/60, MS4.0/7, Error ellipse: s-maj=7.9km s-min=4.3km az=118.1*
NIED ***13*** *03:25:30.7, 35.°73N×140.°61E, h50km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}3.03; $M_{\theta\theta}$-0.51; $M_{\phi\phi}$-2.52; $M_{r\theta}$0.05; $M_{\theta\phi}$-0.04; $M_{r\phi}$4.17; Fault plane solution: $M_0$5.01000×10^{16} NP1:ϕ_s1.00000°, δ73.00000°, λ,90.00000°. NP2:ϕ_s181.00000°, δ17.00000°, λ,90.00000°.*
NEIC ***13*** *03:25:30.7±2.0, 35.°66N±0.°05×140.°77E±0.°09, h49km±4km, mb5.0/136, Mww5.0 Error ellipse: s-maj=10.2km s-min=7.3km az=105.0*
NEIC ***13*** *03:25:30, 35.°65N×140.°78E, h60km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.91; $M_{\theta\theta}$0.95; $M_{\phi\phi}$-3.86; $M_{r\theta}$0.09; $M_{\theta\phi}$-1.18; $M_{r\phi}$2.95; Fault plane solution: $M_0$4.72000×10^{16} NP1: ϕ_s208.00000°, δ27.00000°, λ,112.00000°. NP2:ϕ_s3.00000°, δ65.00000°, λ,79.00000°. Principal axes: T 4.0542, Plg68.0000°, Azm253.0000°; N 1.1213, Plg10.0000°, Azm8.0000°; P -5.1755, Plg20.0000°, Azm101.0000°;*
JMA ***13*** *03:25:30.7±0.2, 35.°7N±0.°5×140.°6E±0.°6, h50km±1km, MD4.9/35, MW5.1/35, NEAR CHOSHI CITY*
JMA Felt III J1 at NEAR CHOSHI CITY .
IDC ***13*** *03:25:31.3±1.3, 35.°59N×140.°51E, h53km±11km, mb4.4/28, mbtmp4.7/33, MS4.1/84, Error ellipse: s-maj=11.9km s-min=7.4km az=75.0*
GCMT ***13*** *03:25:33.7±0.2, 35.°60N±0.°01×140.°67E±0.°02, h51km±1km, MW5.1/107, Moment Tensor Solution. s61,c91; s107,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.43±.15; $M_{\theta\theta}$-0.28±.12; $M_{\phi\phi}$-4.15±.10; $M_{r\theta}$-0.35±.09; $M_{\theta\phi}$-0.54±.09; $M_{r\phi}$3.44±.10; Best double couple: $M_0$5.53500×10^{16} NP1:ϕ_s360.00000°, δ64.00000°, λ,83.00000°. NP2:ϕ_s195.00000°, δ26.00000°, λ,104.00000°. Principal axes: T 5.6820, Plg70.0000°, Azm256.0000°; N -0.2970, Plg6.0000°, Azm3.0000°; P -5.3890, Plg19.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 03:25:31.5±0.3, 35.°68N±0.°03×140.°63E±0.°04, h56km±2km, h56km:pP-P, n740, σ1°61/630, mb5.0/167, MS4.2/103, 53C-16D, Near east coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JSMT Sammumatsuo 0.15 256 ||iP Pn 03 25 39.1 -1.1
JSMT Sammumatsuo 0.15 256 A A 03 25 39.1
comp=E,1μm,1.4s,comp=E,341nm,0.9s
CHOJ Chosi 0.19 83 iP Pn 03 25 38.9 -1.6
CHOJ Chosi 0.19 83 A A 03 25 38.9
comp=E,168nm,2.4s,comp=E,116nm,4.7s
JIHU Itakohorinouch 0.30 344 ||iP Pn 03 25 39.9 -1.3
JIHU Itakohorinouch 0.30 344 A A 03 25 39.9
comp=E,656nm,1.4s,comp=E,350nm,2.0s
JCN Nagara 0.43 233 iP Pn 03 25 42.2 -0.3
JCN Nagara 0.43 233 A A 03 25 42.2
comp=E,225nm,0.9s,comp=E,261nm,3.8s
JKUC kamogawauchiur 0.62 214 A A 03 25 44.0
comp=E,98nm,1.8s,comp=E,100nm,1.3s
JYT Yasato 0.65 328 iP Pn 03 25 43.2 -1.7
JYT eS Sn 03 25 52.3 -2.3
JYT Yasato 0.65 328 A A 03 25 43.2

comp=E,68nm,2.8s,comp=E,53nm,0.4s
JHYU Hitachinakayam 0.66 357 A A 03 25 43.2
comp=E,66nm,3.9s,comp=E,52nm,1.9s
TOK Tokyo 0.70 271 A A 03 25 44.5
comp=E,321nm,3.1s,comp=E,147nm,0.8s
BSO4 Boso 4 0.73 199 *i* P **Pn 03 25 45.5 -0.3**
BSO3 Boso 3 0.88 186 *i* P **Pn 03 25 47.3 -0.3**
TATJ Tateyama 2 0.88 223 A A 03 25 47.4
comp=E,82nm,5.1s,comp=E,106nm,1.3s
JYO Yokosk 0.91 240 A A 03 25 47.6
comp=E,115nm,2.7s,comp=E,117nm,2.0s
JHO Hitachi 0.93 357 A A 03 25 46.9
comp=E,51nm,1.7s,comp=E,37nm,1.7s
BSO1 Boso 1 1.06 164 P **Pn 03 25 49.8 0.0**
JHU Hanno 1.11 279 A A 03 25 49.9
comp=E,53nm,2.5s,comp=E,34nm,2.8s
JSGW Sagamiharawaka 1.16 267 A A 03 25 50.8
comp=E,49nm,1.8s,comp=E,41nm,3.9s
JAG Ashikaga 1.21 308 A A 03 25 51.0
comp=E,23nm,2.9s,comp=E,33nm,1.9s
JOD2 Odawara 2 1.32 252 A A 03 25 53.4
comp=E,44nm,1.8s,comp=E,54nm,5.8s
JIM2 Oshima 3 1.37 226 A A 03 25 54.3
comp=E,65nm,0.7s,comp=E,68nm,1.4s
JSB Shiboa 1.41 336 A A 03 25 53.7
comp=E,79nm,2.8s,comp=E,63nm,2.7s
JFFD Fukushimafurud 1.41 358 A A 03 25 53.7
comp=E,244nm,2.6s,comp=E,17nm,3.9s
ONAJ Iwakimizuishiy 1.43 6 A A 03 25 54.0
comp=E,24nm,2.9s,comp=E,13nm,2.1s
JRY Ryogami san 1.44 284 A A 03 25 54.6
comp=E,26nm,5.4s,comp=E,22nm,1.6s
JHTM Izuhatsuma 1.50 242 A A 03 25 56.1
comp=E,95nm,2.0s,comp=E,64nm,1.8s
JTHY Toshimahigashi 1.59 224 A A 03 25 57.5
comp=E,41nm,1.3s,comp=E,39nm,3.3s
JFNN Fujinakano 1.66 254 A A 03 25 58.1
comp=E,46nm,4.9s,comp=E,55nm,4.7s
JFK Kawauchi 1.70 7 A A 03 25 57.8
comp=E,10.0nm,2.1s,comp=E,6.0nm,2.8s
JYN Shimob 1.71 264 A A 03 25 58.7
comp=E,24nm,2.7s,comp=E,33nm,3.6s
JIZS Izushimoda 1.72 237 A A 03 25 59.3
comp=E,25nm,1.6s,comp=E,25nm,2.4s
JSKK Shikinejimakit 1.77 221 A A 03 26 00.2
comp=E,46nm,1.4s,comp=E,23nm,4.1s
JGK Kuni 1.83 299 A A 03 26 00.1
comp=E,19nm,2.6s,comp=E,17nm,3.3s
JMYK Miyake Tsubota 1.84 209 A A 03 26 01.3
comp=E,39nm,3.1s,comp=E,29nm,1.5s
JFY Yanaizu 1.88 337 A A 03 26 00.4
comp=E,27nm,2.7s,comp=E,13nm,4.9s
JKO Kozu shima 1.93 220 A A 03 26 02.4
comp=E,48nm,4.6s,comp=E,42nm,4.2s
JMKN Mikurajimanish 1.98 206 A A 03 26 03.2
comp=E,17nm,1.0s,comp=E,15nm,1.1s
JUON Uonuma 1.98 321 A A 03 26 02.0
comp=E,13nm,2.3s,comp=E,14nm,3.6s
JNT Takato 2.03 276 A A 03 26 03.2
comp=E,16nm,4.0s,comp=E,16nm,4.9s
JMST Minamisoumatoc 2.05 6 A A 03 26 02.9
comp=E,12nm,2.4s,comp=E,7.0nm,2.9s
SHZ3 Shizuoka 3 2.07 253 A A 03 26 04.0
comp=E,24nm,1.3s,comp=E,41nm,2.2s
MJAR Matsushiro Arr 2.14 294 P **Pn 03 26 03.8 -1.0**
268nm,0.4s,baz=94,slow=11,SNR=592
MJAR S **Sn 03 26 28.6 -1.6**
272nm,0.6s,baz=45,slow=33,SNR=2.4
MJAR LR LR 03 27 07.6
comp=Z,10μm,20.2s,baz=143,slow=46
MAJO Matsushiro 2.14 294 Pn **Pn 03 26 05.6 +0.8**
MAJO Matsushiro 2.14 294 P **Pn 03 26 06.1 +1.3**
MAJO Matsushiro 2.14 294*d* *i*P **Pn 03 26 05.5 +0.7**
MJB9 Matsu-Tunnel 2.14 295 Pn **Pn 03 26 06.8 +1.9**
JNG Nsakai 2.17 290 A A 03 26 05.0
comp=E,12nm,1.5s,comp=E,16nm,2.6s
JMM Marumori 2.19 3 **Pn 03 26 05.5 0.0**
JMM Marumori 2.19 3 P **Pn 03 26 06.1 +0.6**
JMM Marumori 2.19 3 A A 03 26 04.8
comp=E,13nm,1.9s,comp=E,7.0nm,1.9s
JSG Sagara 2.23 244 **Pn 03 26 07.3 +1.2**
JSG Sagara 2.23 244 P **Pn 03 26 08.2 +2.1**
JSG Sagara 2.23 244 A A 03 26 06.5
comp=E,32nm,3.3s,comp=E,45nm,1.9s
JYAR Yonezawaarcadi 2.26 350 A A 03 26 05.8
comp=E,20nm,1.7s,comp=E,17nm,1.2s
JNY Yasuok 2.28 263 A A 03 26 06.8
comp=E,15nm,1.5s,comp=E,16nm,1.1s
JKKS Kakegawashinom 2.35 248 A A 03 26 08.1
comp=E,34nm,2.8s,comp=E,30nm,2.8s
JNS Sasagawa 2.38 334 A A 03 26 07.6
comp=E,11nm,6.0s,comp=E,9.0nm,3.4s
JIZZ Izumozaki 2.41 321 A A 03 26 08.1
comp=E,50nm,2.4s,comp=E,38nm,3.1s
JJN Nakama 2.44 306 A A 03 26 08.7
comp=E,16nm,4.7s,comp=E,18nm,5.3s
HMMJ Hamamatsu 2 2.51 252 A A 03 26 10.3
comp=E,7.0nm,1.6s,comp=E,9.0nm,2.8s
JYS Shirataka 2.58 350 A A 03 26 10.4
comp=E,27nm,2.2s,comp=E,15nm,4.2s
JHJ Hachijo jima 2 2.65 195 P **Pn 03 26 11.3 -0.4**
718nm,0.3s,baz=203,slow=3.6,SNR=7.2
JHJ S **Sn 03 26 40.0 -2.6**
2μm,0.3s,baz=243,slow=23,SNR=7.8
JHJ2 Mitsune 2.65 195 Pn **Pn 03 26 11.3 -0.5**
JHJ2 Mitsune 2.65 195 P **Pn 03 26 12.9 +1.1**
JHJ2 Mitsune 2.65 195 A A 03 26 12.8
comp=E,18nm,1.4s,comp=E,13nm,1.2s
JSSY Shinshiroyabe 2.66 254 A A 03 26 12.4
comp=E,7.0nm,3.2s,comp=E,13nm,4.1s
JGF Kuroka 2.66 269 Pn **Pn 03 26 13.2 +1.2**
JGF Kuroka 2.66 269 P **Pn 03 26 13.9 +1.9**
JGF Kuroka 2.66 269 A A 03 26 12.2
comp=E,11nm,3.1s,comp=E,13nm,2.6s
JOU Okura 2.68 1 A A 03 26 11.8
comp=E,14nm,1.5s,comp=E,17nm,2.1s
JGN Niukaw 2.74 282 A A 03 26 13.2
comp=E,9.0nm,3.5s,comp=E,6.0nm,3.2s
JAO Obara 2.78 262 A A 03 26 14.0
comp=E,12nm,3.0s,comp=E,13nm,2.8s
JTT Ttatey 2.82 290 A A 03 26 14.2
comp=E,12nm,7.5s,comp=E,15nm,4.2s
JOFO Osakifurukawao 2.93 4 A A 03 26 15.3
comp=E,45nm,1.9s,comp=E,48nm,5.2s
INU Inuyama 2.96 261 Pn **Pn 03 26 16.7 +0.6**
INU Inuyama 2.96 265 P **Pn 03 26 17.0 +0.9**
JYA Atsumi 3.00 346 A A 03 26 16.3
comp=E,12nm,2.6s,comp=E,9.0nm,3.4s
JSD Sado 3.02 322 Pn **Pn 03 26 17.6 +0.7**
JSD Sado 3.02 322 P **Pn 03 26 18.2 +1.3**
JSD Sado 3.02 322 A A 03 26 16.8
comp=E,7.0nm,5.0s,comp=E,7.0nm,3.9s
JAA Atsumi 3.04 251 A A 03 26 17.8
comp=E,7.0nm,5.9s,comp=E,8.0nm,3.2s
JICN Ichinomiyachia 3.11 264 A A 03 26 18.6
comp=E,16nm,2.0s,comp=E,29nm,3.2s
JYK Kaneyama 3.24 356 A A 03 26 19.7
comp=E,12nm,3.4s,comp=E,9.0nm,2.6s
JAOM Aogashimamukai 3.29 193 A A 03 26 21.9
comp=E,22nm,4.0s,comp=E,14nm,3.0s
JYYZ Yamagatayuza 3.38 351 A A 03 26 21.6
comp=E,33nm,3.4s,comp=E,31nm,2.5s
JIE Ise 3.46 249 A A 03 26 23.8
comp=E,5.0nm,6.8s,comp=E,7.0nm,3.3s
JEG Eigenji 3.50 262 A A 03 26 24.2
comp=E,3.0nm,3.9s,comp=E,7.0nm,3.5s
JKG Kaga 3.53 281 A A 03 26 24.4
comp=E,9.0nm,5.7s,comp=E,10.0nm,4.4s
JRG Rokugo 3.71 0 A A 03 26 26.4
comp=E,9.0nm,3.7s,comp=E,7.0nm,2.9s
JFM Mihama 3.79 269 A A 03 26 28.1
comp=E,6.0nm,2.4s,comp=E,8.0nm,3.3s
JSZI Iwateshizukuis 4.06 4 A A 03 26 31.8
comp=E,11nm,2.4s,comp=E,11nm,2.7s
JKY Yasaka 4.50 271 A A 03 26 38.0
comp=E,5.0nm,3.5s,comp=E,11nm,4.9s
JMIK Miki 4.64 261 A A 03 26 40.2
comp=E,5.0nm,2.8s,comp=E,7.0nm,4.8s
JTM Tenmabayashi 5.11 4 Pn **Pn 03 26 45.7 +0.2**
JTM Tenmabayashi 5.11 4 P **Pn 03 26 46.0 +0.5**
JMN Monobe 5.89 253 **Pn 03 26 57.2 +1.0**
JMN Monobe 5.89 253 P **Pn 03 26 57.8 +1.6**
JHS Saijyo 6.17 266 Pn **Pn 03 27 01.9 +1.8**
JHS Saijyo 6.17 266 P **Pn 03 27 02.1 +2.0**
ERM Erimo 6.63 17 **Pn 03 27 04.8 -1.4**
ERM Erimo 6.63 17 P **Pn 03 27 04.8 -1.4**
JNU Nakatsue 8.45 255 P **Pn 03 27 33.1 +1.9**
21nm,0.6s,baz=84,slow=10,SNR=4.8
JNU LR LR 03 31 09.8
comp=Z,7μm,18.5s,baz=80,slow=41
JNU Nakatsue 8.45 255 P **Pn 03 27 34.2 +2.9**
ASAJ Asahikawa 8.56 10 P **Pn 03 27 31.1 -1.6**
14nm,0.4s,baz=204,slow=14,SNR=18
ASAJ LR LR 03 31 38.3
comp=Z,866nm,21.3s,baz=216,slow=42
ASAJ Asahikawa 8.56 10 P **Pn 03 27 30.8 -1.9**
JKA Kamikawa-asahi 8.56 10 **Pn 03 27 30.8 -1.9**
NMR Nemuro--Hokkai 8.63 26 *e*P **Pn 03 27 29.6 -4.1**
JCJ Chichijima 8.66 171 P **Pn 03 27 34.5 +0.3**
212nm,0.4s,baz=322,slow=8.5,SNR=19
JCJ S **Sn 03 29 04.4 -6.0**
222nm,0.6s,baz=307,slow=22,SNR=3.8
JCJ Chichijima 8.66 171 Pn **Pn 03 27 31.3 -2.9**
RUSJ Misakicho 9.13 21 *e*P **Pn 03 27 36.8 -3.7**
YUK Yuzh-Kuril'sk 9.26 24 P **Pn 03 27 39.1 -3.2**
YUK pmax pmax
comp=N,98nm,0.4s
YUK pmax pmax
comp=E,195nm,0.4s
YUK pmax pmax
comp=Z,328nm,0.4s
TEY Ternei 9.84 343⇑ *e*P Pn 03 28 04.1 +14
TEY pmax pmax
comp=Z,20nm,0.9s
TEY pmax pmax
comp=N,30nm,1.0s
KSRS Korea Array 10.37 284 P **Pn 03 28 00.7 +3.2**
comp=N,46nm,1.0s,baz=98,slow=14,SNR=52
KSRS LR LR 03 32 01.7
comp=N,3μm,19.1s,baz=95,slow=38
KSAR Wonju Array Be 10.40 283 **Pn 03 27 59.2 +1.3**
KSAR Wonju Array Be 10.40 283 P **Pn 03 27 59.2 +1.3**
KS19 Wonju Array Si 10.42 284 **Pn 03 27 58.6 +0.5**
USA0B Ussuriysk Arra 10.78 325 **Pn 03 28 03.4 +0.3**
USA0B Ussuriysk Arra 10.78 325⇓ *e*P **Pn 03 28 04.0 +0.9**
USRK Ussuriysk Ar. 10.78 325 P **Pn 03 28 04.7 +1.6**
comp=N,9.6nm,0.8s,baz=139,slow=13,SNR=12
USRK LR LR 03 31 55.7
comp=N,1μm,19.7s,baz=133,slow=36
USRK Ussuriysk Ar. 10.78 325 **Pn 03 28 02.8 -0.2**
KUR Kuril'sk 11.02 28 *e*P **Pn 03 28 05.6 -0.7**
KUR *e*S **Sn 03 30 00.9 -7.0**
KUR pmax pmax
comp=Z,56nm,0.4s
YSS Yuzh-Sakhalins 11.38 7 P **Pn 03 28 13.2 +2.0**
comp=Z,38nm,0.9s
YSS Yuzh-Sakhalins 11.38 7 *e*P Pn 03 28 06.3 -4.9
YSS *e*S **Sn 03 30 09.2 -7.4**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS MLR MLR
comp=N,500nm,15.0s
YSS MLR MLR
comp=E,500nm,15.0s
MDJ Mudanjiang 12.27 320 **Pn 03 28 24.1 +0.6**
MDJ Mudanjiang 12.27 320 P **P 03 28 30.3 -3.7**
MDJ S Sn 03 30 49.0 +10
MDJ pmax pmax
comp=Z,63nm,1.6s
MDJ pmax pmax
comp=Z,370nm,4.3s
MDJ LR LR
comp=N,1μm,19.5s
MDJ LR LR
comp=E,490nm,8.9s
MDJ LR LR
comp=Z,1μm,17.2s
JOW Kunigami 13.75 234 P **Pn 03 28 39.8 -3.9**
comp=Z,16nm,0.9s,baz=319,slow=27,SNR=1.4
JOW LR LR 03 33 38.5
comp=Z,1μm,21.9s,baz=100,slow=36
JOW Kunigami 13.75 234 Pn **Pn 03 28 42.0 -1.7**
BNX BinXian 14.18 319 ⇓P **Pn 03 28 48.3 -0.9**
BNX pmax pmax
comp=Z,13nm,1.1s
BNX pmax pmax
comp=Z,240nm,4.1s
CN2 Changchun 14.20 309 *e*P **Pn 03 28 49.3 -0.3**
CN2 sP P 03 29 08.0 +13
CN2 S **Sn 03 31 25.8 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,800nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,900nm,19.0s
SNY Shenyang 14.64 300 ⇓P **Pn 03 28 56.0 +0.7**
SNY S **Sn 03 31 33.3 -2.9**
SNY pmax pmax
comp=Z,100nm,1.0s
SNY pmax pmax
comp=Z,280nm,3.5s
SNY LR LR
comp=Z,960nm,18.0s
SNY LR LR
comp=Z,1μm,19.2s
SNY LR LR
comp=Z,2μm,20.5s
KLR Kul'dur 15.03 337 P **Pn 03 28 58.0 -2.3**
comp=Z,1.1nm,0.4s,baz=158,slow=16,SNR=5.3
KLR LR LR 03 34 40.8
comp=Z,834nm,19.7s,baz=152,slow=36
KLR Kul'dur 15.03 337‖ *e*P **Pn 03 28 57.5 -2.8**
KLR pmax pmax
comp=Z,24nm,1.5s
TYV Tymovskoe 15.25 5 *e*P **P 03 29 08.3 +1.3**
TYV *e*S **S 03 32 00.2 -4.6**
TYV pmax pmax
comp=Z,31nm,1.3s
TYV pmax pmax
comp=Z,200nm,2.8s
TYV smax smax
comp=N,700nm,4.9s
TYV smax smax
comp=E,600nm,4.9s
GRNR Gornyy 15.39 350 *e*P **Pn 03 29 02.8 -2.2**
GRNR MLR MLR
comp=E,410nm,17.0s
GRNR MLR MLR
comp=N,330nm,19.0s
GRNR MLR MLR
comp=Z,460nm,16.0s
DL2 Dalian 15.46 288 P **P 03 29 08.9 -0.5**
DL2 pmax pmax
comp=Z,76nm,1.0s
DL2 LR LR
comp=Z,880nm,16.5s
DL2 LR LR
comp=Z,1μm,21.6s
DL2 LR LR
comp=Z,2μm,21.7s
SSE Sheshan 16.86 260 P **P 03 29 24.8 -0.2**
SSE S **S 03 32 34.5 -3.5**
SSE pmax pmax
comp=Z,18nm,1.0s
SSE pmax pmax
comp=Z,210nm,6.7s
SSE LR LR
comp=Z,310nm,18.2s
SSE LR LR
comp=Z,480nm,18.6s
HEH HeiHe 17.44 331 *e*P **Pn 03 29 27.0 -3.7**
HEH pmax pmax
comp=Z,9.0nm,0.9s
HEH LR LR
comp=Z,740nm,18.4s
HEH LR LR
comp=Z,740nm,16.6s
HEH LR LR
comp=Z,1μm,19.6s
NJ2 Nanjing 18.43 265 *e*P **P 03 29 42.3 0.0**
NJ2 pmax pmax
comp=Z,15nm,0.8s
NJ2 pmax pmax
comp=Z,510nm,5.4s
NJ2 LR LR
comp=Z,1μm,18.0s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,2μm,21.8s
TIA Tai'an 19.03 279⇑ P **P 03 29 47.3 -1.6**
TIA pmax pmax
comp=Z,59nm,1.2s
TIA LR LR
comp=Z,690nm,16.3s
TIA LR LR
comp=Z,860nm,19.0s
TIA LR LR
comp=Z,1μm,22.5s
BJI Beijing 19.77 290 P **P 03 29 54.6 -2.3**
BJI PP **pP 03 30 11.4 +2.1**
BJI S **S 03 33 37.0 +0.4**
BJI pmax pmax
comp=Z,18nm,1.1s
ZEA Zeya 20.34 337 *e*P **P 03 29 59.5 -3.5**
ZEA *e* 03 30 13.3
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA pmax pmax
comp=Z,200nm,3.8s
ZEA MLR MLR
comp=Z,400nm,18.0s
XLT XiLinHaoTe 20.52 301 *e*P **P 03 30 01.6 -3.5**
XLT PP **sP 03 30 28.8 +4.2**
XLT S **S 03 33 43.4 -8.1**
XLT pmax pmax
comp=Z,37nm,0.9s
XLT pmax pmax
comp=Z,230nm,6.2s
XLT LR LR
comp=Z,900nm,17.4s
XLT LR LR
comp=Z,890nm,20.0s
YULB Yu-li 20.76 239 P **P 03 30 06.5 -1.3**
YULB IAmb IAmb 03 30 24.9
comp=Z,87nm,1.5s
HNS HongShan 20.88 282⇑ P **P 03 30 05.8 -3.1**
HNS S **S 03 33 57.3 -1.3**
HNS pmax pmax
comp=Z,52nm,1.3s
HNS LR LR
comp=Z,390nm,16.3s
HNS LR LR
comp=Z,810nm,16.7s
HNS LR LR
comp=Z,1μm,17.8s
PETK Petropavlovsk- 21.18 29 P **P 03 30 13.3 +1.3**
comp=Z,6.2nm,1.0s,baz=325,slow=4.2,SNR=4.0
PETK LR LR 03 38 29.0
comp=Z,191nm,21.6s,baz=221,slow=36
comp=Z,6.2nm,1.0s
TWGBT Beinan 21.28 238 P **P 03 30 15.9 +2.5**
comp=Z,37nm,1.1s
TPUB Ta-pu 21.28 240 P **P 03 30 11.3 -2.1**
TPUB IAmb IAmb 03 30 17.4
comp=Z,193nm,1.6s
PET Petropavlovsk 21.50 31 *e*P **P 03 30 22.1 +6.7**
PET *e*S **S 03 34 15.6 +4.9**
PET pmax pmax
comp=Z,59nm,1.2s
PET MLR MLR
comp=Z,1μm,18.0s
WHN Wuhan 22.57 264⇑ P **P 03 30 26.3 -0.8**
WHN sP **sP 03 30 47.6 +1.0**
WHN pmax pmax
comp=Z,150nm,0.7s
LYN LuoYang 23.03 275⇓ P **P 03 30 25.8 -6.1**
LYN PP **PnPn 03 31 03.8 +5.0**
LYN S **S 03 34 37.5 -0.9**
LYN SS **SnSn 03 35 20.0 +4.9**
LYN pmax pmax
comp=Z,50nm,0.8s
LYN pmax pmax
comp=Z,260nm,8.5s
LYN LR LR
comp=Z,760nm,17.3s
LYN LR LR
comp=Z,910nm,18.0s
LYN LR LR
comp=Z,1μm,23.1s
HHC Hu-ho-hao-te 23.34 292 *e*P **P 03 30 32.4 -2.5**
HHC pmax pmax
comp=Z,50nm,0.9s
HHC pmax pmax
comp=Z,340nm,5.5s
HHC LR LR
comp=Z,660nm,15.9s
HHC LR LR
comp=Z,720nm,12.4s
HHC LR LR
comp=Z,760nm,14.9s
BTO Baotou 24.50 291 *e*P **P 03 30 44.0 -1.6**
BTO LR LR
comp=Z,2μm,13.1s
BTO LR LR
comp=Z,2μm,12.2s
MA2 Magadan 24.81 12 P **P 03 30 48.7 +0.6**
comp=Z,11nm,0.7s,baz=206,slow=8.6,SNR=4.1
MA2 LR LR 03 40 26.9
comp=Z,374nm,21.3s,baz=171,slow=36
comp=Z,11nm,0.7s
MA2 Magadan 24.81 12⇑ *e*P **P 03 30 50.1 +2.0**
MA2 pmax pmax
comp=Z,138nm,2.3s
XAN Xi'an 26.01 276⇓ *i*P **P 03 30 58.1 -1.2**
XAN pmax pmax
comp=Z,51nm,0.8s
XAN pmax pmax
comp=Z,280nm,3.7s
XAN LR LR
comp=Z,880nm,17.9s
XAN LR LR
comp=Z,800nm,20.6s
XAN LR LR
comp=Z,1μm,19.2s
ENH Enshi 26.61 267 P **P 03 31 02.2 -2.5**
YAK Yakutsk 27.26 349 P **P 03 31 11.9 +1.7**
comp=Z,7.5nm,0.3s,baz=147,slow=18,SNR=8.4
YAK LR LR 03 41 57.9
comp=Z,549nm,21.7s,baz=114,slow=36
comp=Z,7.5nm,0.3s
YAK Yakutsk 27.26 349 P **P 03 31 08.7 -1.4**
YAK Yakutsk 27.26 349 *e*P **P 03 31 10.3 +0.1**
YAK *e*S **S 03 35 46.5 +1.3**
YAK *e*'SS **sS 03 36 09.8 +0.9**
YAK *e*SS **SnSn 03 36 56.2 -1.7**
YAK *e* 03 41 51.3
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,148nm,3.2s
YAK pmax pmax
comp=N,218nm,3.3s
YAK pmax pmax
comp=E,142nm,3.8s
YAK smax smax
comp=N,308nm,3.6s
YAK smax smax
comp=E,275nm,3.7s
ULN Ulaanbaatar 27.62 307 P **P 03 31 13.2 -0.5**
ULN Ulaanbaatar 27.62 307*c* *i*P **P 03 31 12.5 -1.3**
SONM Songino Array 28.04 306 P **P 03 31 17.0 -0.5**
comp=E,8.1nm,0.8s,baz=104,slow=9.0,SNR=18
SONM ScP **ScP 03 38 08.8 +1.8**
comp=E,1.5nm,0.9s,baz=122,slow=1.9,SNR=7.3
SONM LR LR 03 42 46.5
comp=E,714nm,18.7s,baz=136,slow=37
comp=E,8.1nm,0.8s
SONM Songino Array 28.04 306 P **P 03 31 16.9 -0.6**
H11N2 WAKE ISLAND Hy 28.05 118 T T 04 00 41.3
baz=309,slow=75,SNR=154
H11N1 WAKE ISLAND Hy 28.05 118 T T 04 00 37.6
baz=309,slow=75,SNR=159
H11N3 WAKE ISLAND Hy 28.06 118 T T 04 00 38.5
baz=309,slow=75,SNR=166
SEY Seymchan 28.24 11 LR LR 03 43 29.9
comp=E,433nm,20.0s,baz=169,slow=38

SEY	**Seymchan**	28.24	11⇓	*e*P		**P**		**03 31 20.6**	**+1.7**
SEY				pmax		pmax			
	comp=Z,35nm,2.0s								
BOD	**Bodaibo**	28.35	330	*e*P		**P**		**03 31 19.8**	**-0.2**
BOD				pmax		pmax			
	comp=Z,27nm,1.9s								
H11S1	**WAKE ISLAND Hy**	28.70	120	T		T		04 01 13.5	
	baz=312,slow=75,SNR=286								
H11S3	**WAKE ISLAND Hy**	28.70	120	T		T		04 01 15.9	
	baz=312,slow=75,SNR=212								
H11S2	**WAKE ISLAND Hy**	28.72	120	T		T		04 01 17.6	
	baz=312,slow=75,SNR=208								
SHEM	**Shemya Is, Ala**	29.08	44	LR		LR		03 41 52.5	
	comp=Z,293nm,20.0s,baz=240,slow=34								
LZH	**Lanzhou**	29.69	282	*e*P		**P**		**03 31 31.3**	**-1.0**
LZH				pmax		pmax			
	comp=Z,46nm,1.4s								
LZH				pmax		pmax			
	comp=Z,140nm,4.1s								
LZH				LR		LR			
	comp=Z,650nm,13.1s								
LZH				LR		LR			
	comp=Z,760nm,14.1s								
LZH				LR		LR			
	comp=Z,920nm,16.8s								
GYA	**Guiyang**	30.38	262⇓	*i*P		**P**		**03 31 36.9**	**-1.6**
GYA				pP		pP		03 31 51.8	-0.7
GYA				S		S		03 36 22.8	-12
GYA				sS		sS		03 36 59.3	+0.2
GYA				pmax		pmax			
	comp=Z,77nm,1.0s								
GYA				pmax		pmax			
	comp=Z,300nm,4.4s								
GYA				LR		LR			
	comp=Z,740nm,13.9s								
ZAK	**Zakamensk**	30.63	310	*e*P		**P**		**03 31 39.0**	**-1.4**
ZAK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CD2	**Chengdu**	31.06	272	P		**P**		**03 31 42.8**	**-1.5**
CD2				pP		pP		03 31 53.8	-4.6
CD2				S		**S**		**03 36 49.0**	**+3.3**
CD2				pmax		pmax			
	comp=Z,40nm,0.8s								
CD2				LR		LR			
	comp=Z,550nm,12.3s								
CD2				LR		LR			
	comp=Z,610nm,12.7s								
CD2				LR		LR			
	comp=Z,2μm,19.6s								
DAV	**Davao City (W)**	31.64	209	LR		LR		03 42 46.1	
	comp=Z,291nm,21.2s,baz=358,slow=33								
QIZ	**Qiongzhong**	31.80	247	P		**P**		**03 31 53.8**	**+3.0**
QIZ				LR		LR			
	comp=Z,830nm,27.1s								
QIZ				LR		LR			
	comp=Z,620nm,23.9s								
QIZ				LR		LR			
	comp=Z,810nm,20.7s								
GTA	**Gaotai**	32.38	289	*e*P		**P**		**03 31 54.8**	**-1.1**
GTA				PcP		**PcP**		**03 34 43.5**	**+1.1**
GTA				pmax		pmax			
	comp=Z,12nm,0.9s								
GTA				pmax		pmax			
	comp=Z,210nm,7.6s								
GTA				LR		LR			
	comp=Z,380nm,20.0s								
GTA				LR		LR			
	comp=Z,410nm,22.5s								
GTA				LR		LR			
	comp=Z,690nm,24.7s								
KMI	**Kunming**	34.14	263	⇑P		**P**		**03 32 09.8**	**-1.7**
KMI				PP		**PP**		**03 33 28.9**	**-0.7**
KMI				pmax		pmax			
	comp=Z,31nm,1.0s								
KMI				pmax		pmax			
	comp=Z,170nm,3.6s								
KMI				LR		LR			
	comp=Z,360nm,13.3s								
KMI				LR		LR			
	comp=Z,520nm,14.9s								
KMI				LR		LR			
	comp=Z,710nm,23.2s								
PZH	**PanZhiHua**	34.35	266	P		**P**		**03 32 11.5**	**-1.7**
PZH				PP		**PnPn**		**03 33 30.1**	**+1.0**
PZH				S		**S**		**03 37 41.3**	**+4.3**
PZH				sS		**sS**		**03 38 00.6**	**-0.3**
PZH				pmax		pmax			
	comp=Z,50nm,0.8s								
PZH				pmax		pmax			
	comp=Z,170nm,4.1s								
PZH				LR		LR			
	comp=Z,2μm,21.6s								
PZH				LR		LR			
	comp=Z,2μm,21.1s								
PZH				LR		LR			
	comp=Z,1μm,21.1s								
BILL	**Bilibino**	35.50	16	P		**P**		**03 32 22.0**	**-0.5**
BILL	**Bilibino**	35.50	16*c*	*i*P		**P**		**03 32 23.1**	**+0.6**
BILL				*i*				03 32 30.8	
BILL				pmax		pmax			
	comp=Z,11nm,1.3s								
BILL				MLR		MLR			
	comp=Z,185nm,17.0s								
BILL	**Bilibino**	35.50	16	P		**P**		**03 32 23.5**	**+1.0**
MYLDM	**Lahad Datu**	36.56	219	P		**P**		**03 32 30.6**	**-1.4**
MYLDM				IAmb		IAmb		03 32 32.2	
	comp=Z,24nm,1.0s								
TIXI	**Tiksi**	36.56	354	P		**P**		**03 32 31.3**	**-0.1**
	comp=Z,6.7nm,0.9s,baz=270,slow=23,SNR=7.8								
TIXI				LR		LR		03 49 35.0	
	comp=Z,285nm,18.2s,baz=26,slow=39								
	comp=Z,6.7nm,0.9s								
TIXI	**Tiksi**	36.56	354	P		**P**		**03 32 30.1**	**-1.3**
TIXI	**Tiksi**	36.56	354⇑	*i*P		**P**		**03 32 30.8**	**-0.6**
TIXI				pmax		pmax			
	comp=Z,8.0nm,1.0s								
TIXI	**Tiksi**	36.56	354	P		**P**		**03 32 31.3**	**-0.1**
TIXI				sP		**sP**		**03 32 51.5**	**-0.7**
GOMU	**GeErMu**	36.83	285	P		**P**		**03 32 34.0**	**-0.6**
GOMU				S		**S**		**03 38 18.1**	**+2.8**
GOMU				pmax		pmax			
	comp=Z,20nm,1.6s								
GOMU				pmax		pmax			
	comp=Z,130nm,5.7s								
GOMU				LR		LR			
	comp=Z,340nm,17.5s								
GOMU				LR		LR			
	comp=Z,360nm,21.4s								
GOMU				LR		LR			
	comp=Z,330nm,20.2s								
NONG	**Nongkai**	37.48	252	P		**P**		**03 32 39.8**	**0.0**
TNCH	**TengChong**	37.60	265	P		**P**		**03 32 39.4**	**-1.7**
TNCH				sP		sP		03 33 00.8	-1.1
TNCH				PP		**PP**		**03 34 08.8**	**+1.1**
TNCH				pmax		pmax			
	comp=Z,400nm,3.8s								
CRAI	**Chiangrai**	38.45	257	P		**P**		**03 32 47.1**	**-1.0**
TOLI2	**Tolitoli**	39.03	213	P		**P**		**03 32 50.7**	**-2.1**
TOLI2				IAmb		IAmb		03 32 53.1	
	comp=Z,20nm,1.3s								
TOLI2	**Tolitoli**	39.03	213	P		**P**		**03 32 52.9**	**0.0**
	comp=Z,10nm,1.1s								
NIKH	**Nikolski High**	39.15	48	P		**P**		**03 32 54.0**	**+0.5**
	baz=264								
FAKI	**Fak Fak**	39.19	193	P		**P**		**03 32 51.9**	**-2.3**
FAKI				IAmb		IAmb		03 32 54.7	
	comp=Z,36nm,0.8s								
FAKI	**Fak Fak**	39.19	193	P		**P**		**03 32 53.5**	**-0.7**
SANI	**Sanana**	39.95	203	P		**P**		**03 32 59.1**	**-1.4**
CHTO	**Chiang Mai**	40.35	257	P		**P**		**03 33 02.8**	**-1.1**
CHTO	**Chiang Mai**	40.35	257	P		**P**		**03 33 02.8**	**-1.1**
CHTO				pmax		pmax			
	comp=Z,18nm,1.3s								
CMAR	**Chiang Mai Arr**	40.55	256	P		**P**		**03 33 04.5**	**-1.1**
	comp=Z,2.3nm,0.4s,baz=44,slow=8.3,SNR=12								
CMAR				PcP		**PcP**		**03 35 08.7**	**+1.6**
	comp=Z,1.7nm,0.3s,baz=17,slow=2.3,SNR=7.7								
CMAR				LR		LR		03 51 33.6	
	comp=Z,506nm,18.1s,baz=60,slow=39								
	comp=Z,2.3nm,0.4s								
CMAR	**Chiang Mai Arr**	40.55	256	P		**P**		**03 33 05.0**	**-0.5**
CMAR	**Chiang Mai Arr**	40.55	256	P		**P**		**03 33 05.0**	**-0.5**
DGZ	**Jazzator, Alta**	40.68	307*c*	*i*P		**P**		**03 33 07.2**	**+0.7**
DGZ				pmax		pmax			
	comp=Z,68nm,1.2s								
WMQ	**Urumqi**	40.90	298	*e*P		**P**		**03 33 09.3**	**+1.1**
WMQ				pmax		pmax			
	comp=Z,64nm,1.5s								
WMQ				pmax		pmax			
	comp=Z,270nm,7.3s								
WMQ				LR		LR			
	comp=Z,450nm,22.3s								
WMQ	**Urumqi**	40.90	298	P		**P**		**03 33 10.6**	**+2.3**
WMQ				sP		**sP**		**03 33 29.3**	**+0.1**
MND	**Mandalay**	40.96	263	P		**P**		**03 33 09.9**	**+1.0**
	comp=Z,20nm,1.2s								
KRVT	**Keravat (AS076**	41.19	163	LR		LR		03 49 37.0	
	comp=Z,95nm,20.8s,baz=133,slow=35								
LSA	**Lhasa**	41.71	276	P		**P**		**03 33 16.8**	**+1.3**
LSA				pmax		pmax			
	comp=Z,52nm,1.1s								
LSA				LR		LR			
	comp=Z,230nm,22.8s								
LSA				LR		LR			
	comp=Z,470nm,19.9s								
LSA				LR		LR			
	comp=Z,650nm,21.4s								
LSA	**Lhasa**	41.71	276	P		**P**		**03 33 17.0**	**+1.5**
SBUM	**Sibu**	42.26	225	P		**P**		**03 33 17.4**	**-2.1**
ZAA0	**Zalesovo Array**	42.37	313	IAmb		IAmb		03 33 21.1	
	comp=Z,31nm,1.1s								
ZALV	**Zalesovo Beam**	42.37	313	P		**P**		**03 33 19.8**	**-0.3**
	comp=Z,18nm,0.9s,baz=90,slow=6.7,SNR=60								
ZALV				LR		LR		03 50 48.2	
	comp=Z,200nm,19.0s,baz=82,slow=36								
	comp=Z,18nm,0.9s								
ZALV	**Zalesovo Beam**	42.37	313	P		**P**		**03 33 19.4**	**-0.6**
ZALV	**Zalesovo Beam**	42.37	313	*i* P		**P**		**03 33 20.2**	**+0.2**
ZALV				pmax		pmax			
	comp=Z,18nm,0.9s								
ZSN	**Zaisan**	42.49	304⇑	*i*P		**P**		**03 33 22.0**	**+0.8**
	comp=Z,21nm,1.1s,baz=304								
ZSN	**Zaisan**	42.49	304*c*	*i*P		**P**		**03 33 21.9**	**+0.8**
ZSN				pmax		pmax			
	comp=Z,21nm,1.1s								
SHL	**Shillong**	42.77	270	P		**P**		**03 33 22.8**	**-1.0**
SHL				IAmb		IAmb		03 33 26.7	
	comp=Z,15nm,0.7s								
SHL	**Shillong**	42.77	270	P		**P**		**03 33 22.8**	**-1.0**
SHL				pmax		pmax			
	comp=Z,15nm,0.7s								
NRIK	**Noril'sk**	44.24	336	P		**P**		**03 33 35.4**	**+0.6**
	comp=Z,16nm,0.9s,baz=106,slow=9.3,SNR=12								
NRIK				LR		LR		03 53 34.1	
	comp=Z,339nm,19.0s,baz=126,slow=38								
	comp=Z,16nm,0.9s								
NRIK	**Noril'sk**	44.24	336	P		**P**		**03 33 34.6**	**-0.3**
NRIK				IAmb		IAmb		03 33 36.1	
	comp=Z,25nm,1.1s								
NRIK	**Noril'sk**	44.24	336*c*	*i*P		**P**		**03 33 34.8**	**0.0**
NRIK				pmax		pmax			
	comp=Z,26nm,1.1s								
BRDH	**Bariadhala**	44.27	267	LR		LR		03 55 43.9	
	comp=Z,628nm,18.0s,baz=76,slow=41								
SAUI	**Saumlaki**	44.31	193	P		**P**		**03 33 34.8**	**-1.2**
MK31	**Makanchi Array**	44.31	303	P		**P**		**03 33 35.9**	**+0.1**
MK31				IAmb		IAmb		03 33 37.2	
	comp=Z,28nm,1.1s								
MK31	**Makanchi Array**	44.31	303	P		**P**		**03 33 35.9**	**+0.1**
MK31				pmax		pmax			
	comp=Z,28nm,1.1s								
MKAR	**Makanchi Array**	44.31	303	P		**P**		**03 33 36.0**	**+0.2**
	comp=Z,18nm,0.9s,baz=87,slow=8.9,SNR=131								
MKAR				LR		LR		03 52 41.3	
	comp=Z,444nm,19.6s,baz=126,slow=37								
	comp=Z,18nm,0.9s								
MAKZ	**Makanchi**	44.52	303	P		**P**		**03 33 37.5**	**0.0**
MAKZ				IAmb		IAmb		03 33 39.0	
	comp=Z,27nm,1.1s								
MAKZ	**Makanchi**	44.52	303	P		**P**		**03 33 37.5**	**0.0**
MAKZ				pmax		pmax			
	comp=Z,27nm,1.1s								
MAKZ	**Makanchi**	44.52	303	P		**P**		**03 33 37.6**	**+0.1**
MAKZ				pP		**pP**		**03 33 51.5**	**-0.6**
KAPI	**Kappang**	44.97	210	LR		LR		03 51 32.3	
	comp=Z,98nm,21.3s,baz=15,slow=35								
PMG	**Port Moresby**	45.26	171	LR		LR		03 50 25.9	
	comp=Z,112nm,21.9s,baz=335,slow=33								
N16K	**Nishlik Lake**	45.38	37	P		**P**		**03 33 45.7**	**+1.5**
	baz=265								
O17K	**Koliganek Bris**	46.17	38	P		**P**		**03 33 51.1**	**+0.8**
	baz=267								
KURK	**Kurchatov**	46.28	309	P		**P**		**03 33 51.1**	**-0.2**
KURK	**Kurchatov**	46.28	309*c*	*i*P		**P**		**03 33 50.9**	**-0.3**
KURK				pmax		pmax			
	comp=Z,76nm,1.0s								
KURK	**Kurchatov**	46.28	309	P		**P**		**03 33 51.0**	**-0.3**
KURK				pP		**pP**		**03 34 04.5**	**-1.4**
KURK				sP		**sP**		**03 34 10.4**	**-2.0**
KURBB	**Kurchatov Arra**	46.34	309	P		**P**		**03 33 51.6**	**-0.2**
	comp=Z,37nm,0.9s,baz=84,slow=8.3,SNR=180								
KURBB				LR		LR		03 53 51.8	
	comp=Z,425nm,19.3s,baz=168,slow=37								
	comp=Z,37nm,0.9s								
KURBB	**Kurchatov Arra**	46.34	309	P		**P**		**03 33 51.2**	**-0.6**
SHLS	**Shalkode**	46.91	299	*e*P		**P**		**03 33 54.3**	**-2.3**
	comp=Z,8.8nm,0.7s,baz=298								
SHLS	**Shalkode**	46.91	299	*e*P		**P**		**03 33 54.2**	**-2.3**
SHLS				pmax		pmax			
	comp=Z,9.0nm,0.7s								
UZB	**Uzynbulak**	47.23	299	*e*P		**P**		**03 33 59.1**	**+0.1**
	baz=299								
UZB	**Uzynbulak**	47.23	299	*e*P		**P**		**03 33 59.1**	**+0.1**
TDK	**Taldyqorghan**	47.28	301	*e*P		**P**		**03 33 59.6**	**+0.3**
	baz=301								
TDK	**Taldyqorghan**	47.28	301	*e*P		**P**		**03 33 59.5**	**+0.3**
KPKS	**Kokpek**	47.40	299	*e*P		**P**		**03 34 00.4**	**0.0**
	baz=299								
KPKS	**Kokpek**	47.40	299	*e*P		**P**		**03 34 00.3**	**0.0**
WUS	**Wushi**	47.54	296	P		**P**		**03 34 02.3**	**+0.8**
WUS				pP		**pP**		**03 34 16.2**	**0.0**
SATY	**Saty**	47.69	299	*e*P		**P**		**03 34 02.8**	**+0.1**
	comp=Z,18nm,1.4s,baz=299								
SATY	**Saty**	47.69	299	*e*P		**P**		**03 34 02.7**	**+0.1**
SATY				pmax		pmax			
	comp=Z,18nm,1.4s								
SOEI	**Soe**	47.76	202	P		**P**		**03 34 02.8**	**-0.5**
K20K	**Telida**	47.80	34	IAmb		IAmb		03 34 17.4	
	comp=Z,7.5nm,0.8s								
K20K	**Telida**	47.80	34	P		**P**		**03 34 04.6**	**+1.5**
	baz=267								
J20K	**Nowinta River**	47.82	32	P		**P**		**03 34 05.1**	**+1.9**
	baz=266								
L20K	**Farewell, AK**	47.85	35	P		**P**		**03 34 05.8**	**+2.4**
	baz=268								
A21K	**Barrow**	47.95	23	P		**P**		**03 34 05.0**	**+1.0**
A21K	**Barrow**	47.95	23	P		**P**		**03 34 06.4**	**+2.5**
	baz=257								
G21K	**Aliakakeet**	48.29	29	P		**P**		**03 34 08.5**	**+1.8**
	baz=264								
BATI	**Baumata**	48.37	203	LR		LR		03 53 43.6	
	comp=Z,136nm,21.4s,baz=16,slow=35								
F21K	**Alatna River**	48.37	28	P		**P**		**03 34 09.3**	**+2.0**
	baz=264								
HNR	**Honiara**	48.43	154	LR		LR		03 53 20.5	
	comp=Z,2μm,21.8s,baz=320,slow=34								
H21K	**Melozitna Rive**	48.50	31	P		**P**		**03 34 10.4**	**+2.0**
	baz=266								
CHKK	**Chushkaly**	48.51	300	*e*P		**P**		**03 34 08.9**	**+0.1**
	baz=300								
CHKK	**Chushkaly**	48.51	300	*e*P		**P**		**03 34 08.9**	**+0.1**
KDAK	**Kodiak Island**	48.53	41	P		**P**		**03 34 09.5**	**+0.9**
	comp=Z,4.8nm,0.6s,baz=295,slow=7.6,SNR=7.8								
KDAK				LR		LR		03 54 25.4	
	comp=Z,259nm,21.8s,baz=266,slow=36								
	comp=Z,4.8nm,0.6s								
Q20K	**Shuyak Island**	48.59	40	P		**P**		**03 34 10.5**	**+1.4**
	baz=272								
CHUM	**Lake Minchumin**	48.61	33	P		**P**		**03 34 11.8**	**+2.6**
	baz=268								
N20K	**Mount Spurr**	48.62	36	P		**P**		**03 34 12.1**	**+2.7**
	baz=270								
MDOK	**Medeo**	48.63	299	P		**P**		**03 34 10.2**	**+0.3**
PPLA	**Purkeypile**	48.64	34	P		**P**		**03 34 12.2**	**+2.6**
	baz=269								
CAST	**Castle Rocks**	48.70	34	P		**P**		**03 34 11.8**	**+1.8**
	baz=268								
AAA	**Alma-Ata**	48.72	299	*e*P		**P**		**03 34 10.8**	**+0.3**
	baz=299								
AAA	**Alma-Ata**	48.72	299	*e*P		**P**		**03 34 10.7**	**+0.3**
TNSS	**Tian-Shan**	48.73	299	*e*P		**P**		**03 34 11.9**	**+0.9**
	baz=299								
TNSS	**Tian-Shan**	48.73	299	*e*P		**P**		**03 34 11.9**	**+0.9**
I21K	**Tanana**	48.81	31	P		**P**		**03 34 12.2**	**+1.5**
	baz=267								
F22K	**John River**	48.90	28	P		**P**		**03 34 13.3**	**+1.9**
	baz=265								
SKT	**Skwentna**	48.94	35	P		**P**		**03 34 13.6**	**+1.8**
	baz=270								
KUU	**Kurty**	48.96	300	*e*P		**P**		**03 34 12.1**	**-0.1**
	comp=Z,21nm,1.0s,baz=300								
KUU	**Kurty**	48.96	300	*e*P		**P**		**03 34 12.1**	**-0.1**
KUU				pmax		pmax			
	comp=Z,21nm,1.0s								
MTN	**Manton Dam**	49.09	192	P		**P**		**03 34 11.7**	**-1.7**
G22K	**Bettles**	49.11	29	P		**P**		**03 34 14.9**	**+1.9**
	baz=266								
BPAW	**Bear Paw Mtn.**	49.20	33	P		**P**		**03 34 15.1**	**+1.3**
	baz=269								
KTH	**Kantishna Hill**	49.23	33	P		**P**		**03 34 14.6**	**+0.6**
KTH				IAmb		IAmb		03 34 31.1	
	comp=Z,17nm,1.3s								
SUA	**Susitna One**	49.32	36	P		**P**		**03 34 16.2**	**+1.3**
	baz=271								
MLY	**Manley**	49.33	31	IAmb		IAmb		03 34 27.0	
	comp=Z,8.7nm,0.9s								
MLY	**Manley**	49.33	31	P		**P**		**03 34 16.6**	**+1.8**
	baz=268,SNR=8.5								
BRSE	**Bradley Lake S**	49.39	38	P		**P**		**03 34 16.7**	**+1.5**
	baz=273								
COEN	**Coen**	49.42	177	P		**P**		**03 34 16.0**	**+0.1**
COEN				IAmb		IAmb		03 34 24.8	
	comp=Z,18nm,0.9s								
TRF	**Thorofare Moun**	49.51	34	P		**P**		**03 34 17.7**	**+1.4**
	baz=270								
D23K	**Nanushuk River**	49.59	26	P		**P**		**03 34 18.7**	**+2.1**
	baz=265								
COLD	**Coldfoot**	49.64	29	P		**P**		**03 34 18.8**	**+1.8**
	baz=267								
G23K	**Bananza Creek**	49.69	29	P		**P**		**03 34 19.4**	**+1.9**
	baz=267								
RC01	**Rabbit Creek A**	49.82	37	P		**P**		**03 34 20.2**	**+1.7**
	baz=272								
E23K	**Chandalar**	49.91	27	P		**P**		**03 34 21.1**	**+1.9**
	baz=267								
I23K	**Minto, Yukon-K**	49.92	31	IAmb		IAmb		03 34 40.0	
	comp=Z,38nm,2.0s								
I23K	**Minto, Yukon-K**	49.92	31	P		**P**		**03 34 21.0**	**+1.8**
	baz=269								
SEW	**Seward**	50.02	38	P		**P**		**03 34 21.4**	**+1.5**
	baz=274								
NEA2	**Nenana**	50.04	32	IAmb		IAmb		03 34 36.5	
	comp=Z,15nm,1.1s								
NEA2	**Nenana**	50.04	32	P		**P**		**03 34 22.0**	**+1.9**
	baz=270								
PMR	**Palmer**	50.09	36	P		**P**		**03 34 21.5**	**+1.0**
	baz=273								
MCK	**McKinley**	50.11	33	P		**P**		**03 34 21.9**	**+1.3**
	baz=271								
GHO	**Glory Hole Cre**	50.18	36	IAmb		IAmb		03 34 36.4	
	comp=Z,24nm,1.2s								
SGDS	**Sogindy**	50.27	300	*e*P		**P**		**03 34 22.5**	**+0.2**
	baz=300								
SGDS	**Sogindy**	50.27	300	*e*P		**P**		**03 34 22.4**	**+0.2**
WAT1	**Susitna Watana**	50.31	34	P		**P**		**03 34 23.1**	**+0.9**
	baz=272								
E24K	**Your Creek**	50.34	27	P		**P**		**03 34 24.3**	**+1.9**
	baz=268								
C24K	**Franklin Bluff**	50.34	25	P		**P**		**03 34 23.6**	**+1.3**
	baz=266								
KSH	**Kashi**	50.39	295	P		**P**		**03 34 27.4**	**+4.1**
KSH				sP		sP		03 34 42.9	-1.6
KSH				pmax		pmax			
	comp=Z,11nm,0.9s								
KSH				LR		LR			
	comp=Z,670nm,19.0s								
MDM	**Murphy Dome**	50.40	32	IAmb		IAmb		03 34 34.8	
	comp=Z,18nm,0.9s								
KNK	**Knik Glacier**	50.42	36	P		**P**		**03 34 24.9**	**+1.8**
	baz=273								
SML	**Sawmill**	50.46	36	P		**P**		**03 34 24.0**	**+0.6**
	baz=273								
PWL	**Port Wells**	50.52	37	P		**P**		**03 34 24.3**	**+0.5**
	baz=274								
H24K	**Noodor Dome**	50.54	30	IAmb		IAmb		03 34 36.3	
	comp=Z,9.6nm,0.9s								
H24K	**Noodor Dome**	50.54	30	P		**P**		**03 34 26.5**	**+2.6**
	baz=270								
F24K	**Squaw Lake**	50.55	28	P		**P**		**03 34 26.1**	**+2.2**
	baz=269								
PSI	**Prapat**	50.55	239	LR		LR		03 58 08.9	
	comp=Z,136nm,18.5s,baz=24,slow=39								
TCOL	**CIGO, UAF Yank**	50.56	32	P		**P**		**03 34 26.8**	**+2.8**
	baz=271								
COLA	**College**	50.56	32	P		**P**		**03 34 26.3**	**+2.3**
	baz=271								
COLA	**College**	50.56	32*ce*	*e*P		**P**		**03 34 26.1**	**+2.1**
COLA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
COLA	**College**	50.56	32	P		**P**		**03 34 26.0**	**+2.0**
AAK	**Ala-Archa**	50.58	299	LR		LR		03 57 01.4	
	comp=Z,649nm,19.6s,baz=80,slow=37								
AAK	**Ala-Archa**	50.58	299	P		**P**		**03 34 24.0**	**-0.7**
AAK				IAmb		IAmb		03 34 34.7	
	comp=Z,10.0nm,0.8s								
AAK	**Ala-Archa**	50.58	299*c*	*i*P		**P**		**03 34 24.7**	**0.0**
AAK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
AAK	**Ala-Archa**	50.58	299	P		**P**		**03 34 25.1**	**+0.4**
WAT6	**Susitna Watana**	50.70	35	P		**P**		**03 34 27.0**	**+1.7**
	baz=273								
G24K	**Hadweenzic Riv**	50.70	29	P		**P**		**03 34 27.4**	**+2.3**
	baz=270								
POKR	**Poker Plat Res**	50.73	31	P		**P**		**03 34 27.6**	**+2.2**
	baz=271								
M23K	**Glacier View**	50.75	36	P		**P**		**03 34 27.7**	**+2.2**
	baz=274								
DHY	**Denali Highway**	50.84	34	P		**P**		**03 34 28.5**	**+2.2**
	ba

C27K Jago River 52.09 25 P P 03 34 37.2 +1.8
baz=271
SCRK Sand Creek 52.29 33 P P 03 34 37.8 +0.7
SCRK IAmb IAmb 03 34 48.3
comp=Z,8.1nm,0.9s
SCRK Sand Creek 52.29 33 P P 03 34 38.3 +1.2
baz=275,SNR=9.0
BMRM Bremner River 52.32 36 P P 03 34 38.6 +1.2
baz=277
J26L Joseph Creek 52.42 32 IAmb IAmb 03 34 54.5
comp=Z,16nm,1.6s
J26L Joseph Creek 52.42 32 P P 03 34 38.4 +0.4
baz=275
I26K Coal Creek Min 52.53 31 P P 03 34 39.6 +0.9
baz=275
GSI Gunungsitoli 52.56 239 P P 03 34 38.2 -1.4
GSI Gunungsitoli 52.56 239 P P 03 34 40.9 +1.3
comp=Z,69nm,1.1s
GLB Gilahina Butte 52.65 36 P P 03 34 41.1 +1.4
GLB IAmb IAmb 03 34 54.5
comp=Z,44nm,1.9s
L26K Log Cabin Wild 52.67 34 IAmb IAmb 03 34 52.0
comp=Z,8.8nm,0.9s
L26K Log Cabin Wild 52.67 34 P P 03 34 40.9 +1.1
baz=276
DZA Taraz 52.75 300 *e*P P 03 34 40.8 +0.1
baz=300
DZA Taraz 52.75 300 *e*P P 03 34 40.8 +0.1
M26K Nabesna, AK 52.91 35 P P 03 34 42.9 +1.3
baz=277
E27K Coleen River 52.92 27 P P 03 34 43.4 +1.8
baz=274
G27K Doyon Strip 53.00 29 P P 03 34 44.1 +1.9
baz=275
MCARA McCarthy VSAT 53.03 36 P P 03 34 42.5 0.0
MCARA IAmb IAmb 03 34 59.4
comp=Z,16nm,1.1s
MCARA McCarthy VSAT 53.03 36 P P 03 34 44.0 +1.5
baz=276
H27K Steamboat Moun 53.11 30 P P 03 34 44.6 +1.5
baz=276,SNR=6.0
K27K Chicken 53.12 32 P P 03 34 45.2 +2.1
baz=277
I27K Kandik River 53.14 30 P P 03 34 45.1 +1.9
baz=276
KK31 Karatay Array 53.26 301 P P 03 34 44.8 +0.3
KK31 IAmb IAmb 03 34 48.5
comp=Z,14nm,0.9s
KK31 Karatay Array 53.26 301 *i* P P 03 34 43.9 -0.6
KKAR Karatay Array 53.26 301 P P 03 34 43.5 -1.0
KKAR IAmb IAmb 03 34 48.5
comp=Z,14nm,0.9s
KKAR Karatay Array 53.26 301 P P 03 34 43.5 -1.0
KKAR pmax pmax
comp=Z,14nm,1.0s
L27K Beaver Creek, 53.35 34 IAmb IAmb 03 35 01.5
comp=Z,8.6nm,0.8s
L27K Beaver Creek, 53.35 34 P P 03 34 46.9 +2.0
baz=278,SNR=7.3
EGAK Eagle 53.42 31 P P 03 34 47.2 +1.9
baz=277
M27K Edge Creek, AK 53.43 35 P P 03 34 47.5 +2.0
baz=278
BVCY Beaver Creek 53.89 34 P P 03 34 50.0 +1.2
baz=279
IUG luzhnay 53.89 300 *e*P P 03 34 49.8 +0.5
baz=300
IUG luzhnay 53.89 300 *e*P P 03 34 49.7 +0.5
YUK3 Moose Creek 54.18 35 P P 03 34 52.1 +0.9
baz=280
DAWY Dawson 54.28 32 P P 03 34 53.7 +2.0
baz=279
NIL Nilore 54.44 289 P P 03 34 53.4 +0.1
NIL Nilore 54.44 289 P P 03 34 53.4 +0.1
NIL pmax pmax
comp=Z,27nm,0.9s
NIL Nilore 54.44 289 P P 03 34 53.8 +0.6
NIL pP *pP* 03 35 07.1 -1.2
I29M Ogilvie Camp, 54.54 31 P P 03 34 55.5 +2.1
baz=279,SNR=8.8
M29M Somme Creek 54.98 34 P P 03 34 58.8 +2.0
baz=281,SNR=7.9
L29M L29M 55.01 33 P P 03 34 59.2 +2.3
baz=281
EPYK Eagle Plains 55.02 29 IAmb IAmb 03 35 05.2
comp=Z,44nm,1.6s
EPYK Eagle Plains 55.02 29 P P 03 34 58.8 +1.9
baz=280,SNR=8.3
G30M tAoh Zraii Nji 55.11 28 P P 03 34 59.6 +2.0
baz=280
YUK4 Talbot Arm 55.11 35 P P 03 35 00.1 +2.2
baz=282
K29M Barlow Dome 55.13 32 P P 03 35 00.5 +2.6
baz=281
YUK6 Outpost Mounta 55.33 36 P P 03 35 01.2 +1.7
baz=282
FITZ Fitzroy Crossi 55.34 197 P P 03 34 59.5 -0.2
O29M Mount Kennedy 55.36 37 P P 03 35 01.9 +2.3
baz=282
WRAB Tennant Creek 55.63 187 P P 03 35 00.4 -1.3
WRAB Tennant Creek 55.63 187 P P 03 35 01.2 -0.5
WRAB Tennant Creek 55.63 187 *c i*P P 03 35 01.2 -0.5
WRAB pmax pmax
comp=Z,49nm,1.7s
WB2 Warramunga Ar 55.64 187 P P 03 35 00.4 -1.4
WRA Warramunga Ar 55.64 187 P P 03 35 00.4 -1.4
comp=Z,16nm,0.8s,baz=2.4,slow=7.5,SNR=112
WRA LR LR 03 58 32.7
comp=Z,118nm,20.9s,baz=355,slow=36
comp=Z,16nm,0.8s
WRA Warramunga Ar 55.64 187 *i* P P 03 35 01.2 -0.6
WRA pmax pmax
comp=Z,16nm,0.8s
M30M Minto, Yukon 55.71 34 P P 03 35 04.0 +2.0
baz=282
CTA Charters Tower 55.72 174 LR LR 03 58 15.4
comp=Z,41nm,21.9s,baz=346,slow=35
CTAO Charters Tower 55.72 174 P P 03 35 02.5 +0.1
SVE Sverdlovsk 55.75 319 *e*P P 03 35 02.9 +0.7
SVE pmax pmax
comp=Z,37nm,1.0s
HYT Haines Junctio 55.77 36 P P 03 35 04.4 +1.9
baz=283
SIMJ Simiganj 55.79 296 P P 03 35 03.1 +0.1
INK Inuvik 55.88 27 P P 03 35 04.1 +1.1
comp=Z,2.2nm,0.6s,baz=300,slow=7.3,SNR=13
INK LR LR 04 01 49.0
comp=Z,70nm,18.2s,baz=282,slow=39
comp=Z,2.2nm,0.6s
INK Inuvik 55.88 27 P P 03 35 02.8 -0.2
INK IAmb IAmb 03 35 20.6
comp=Z,14nm,1.5s
INK Inuvik 55.88 27 P P 03 35 04.3 +1.3
baz=281,SNR=6.3
F31M Tsiigehtchic 55.97 28 P P 03 35 05.4 +1.8
baz=282,SNR=6.8
M31M Drury Creek, Y 56.89 34 P P 03 35 12.1 +1.8
baz=284
ARU Arti 56.96 319 LR LR 04 01 57.1
comp=Z,310nm,18.2s,baz=64,slow=38
ARU Arti 56.96 319 P P 03 35 10.6 -0.3
ARU Arti 56.96 319 *c i*P P 03 35 10.9 +0.1
ARU *PP *pP* 03 35 28.1 +2.2
ARU 03 36 03.4
ARU S S 03 43 02.5 +1.9
ARU SS SS 03 46 49.5 +0.4
ARU pmax pmax
comp=Z,56nm,1.0s
ARU Arti 56.96 319 P P 03 35 10.9 +0.1
ARU pP *pP* 03 35 25.0 -0.9
WHY Whitehorse 57.05 36 P P 03 35 12.6 +0.9
baz=285
FARO Faro, Yukon 57.35 34 P P 03 35 15.4 +1.8
baz=285
HYB Hyderabad 57.53 269⇑ *e*P P 03 35 15.5 0.0
A36M Sachs Harbour 57.75 22 IAmb IAmb 03 35 32.1
comp=Z,13nm,0.9s
A36M Sachs Harbour 57.75 22 P P 03 35 18.0 +1.8
baz=286,SNR=8.2
P33M Teslin, Yukon 58.16 36 P P 03 35 21.4 +2.0
baz=287
AB31 Akbulak array 58.33 311 P P 03 35 20.2 -0.4
ABKAR Akbulak array 58.33 311 P P 03 35 20.2 -0.4
C36M Paulatuk 58.92 24 P P 03 35 25.0 +0.6
C36M IAmb IAmb 03 35 45.6
comp=Z,12nm,1.0s
C36M Paulatuk 58.92 24 P P 03 35 25.9 +1.5
baz=289,SNR=5.9
AKTO Aktyubinsk 59.11 312 LR LR 04 01 57.8
comp=Z,301nm,20.0s,baz=65,slow=37
AKTO Aktyubinsk 59.11 312 P P 03 35 25.7 -0.3
AS31 Alice Springs 59.36 187 P P 03 35 27.2 -0.8
ASAR Alice Springs 59.37 187 P P 03 35 27.3 -0.7
comp=Z,7.7nm,0.8s,baz=9.9,slow=6.4,SNR=54
ASAR S S 03 43 34.6 +1.9
comp=Z,0.9nm,0.9s,baz=12,slow=21,SNR=5.5
ASAR LR LR 03 58 35.5
comp=Z,86nm,20.8s,baz=350,slow=34
comp=Z,7.7nm,0.8s
MBWA Marble Bar 59.90 203 P P 03 35 31.0 -0.6
MBWA Marble Bar 59.90 203 P P 03 35 31.3 -0.4
DLBC Dease Lake 60.08 37 LR LR 04 02 09.0
comp=Z,37nm,21.3s,baz=268,slow=36
WTLY Watson Lake, Y 60.10 35 P P 03 35 34.0 +1.3
baz=290
KIRV Kirov 60.95 323 LR LR 04 04 03.5
comp=Z,336nm,18.6s,baz=70,slow=38
KIRV Kirov 60.95 323 *c i*P P 03 35 38.8 +0.4
PALK Pallekele 61.46 258 P P 03 35 41.9 -0.7
PALK Pallekele 61.46 258 P P 03 35 41.9 -0.7
PALK pmax pmax
comp=Z,38nm,1.4s
ALE Alert 61.50 3 P P 03 35 41.0 -0.8
EIDS Eidsvold 61.52 169 P P 03 35 41.5 -1.2
EIDS IAmb IAmb 03 35 59.2
comp=Z,11nm,1.1s
PRGR Permogore 61.55 327 *e*P P 03 35 41.5 -1.0
PRGR pmax pmax
comp=Z,13nm,0.8s
SPITS Spitsbergen Ar 61.73 349 LR LR 04 04 42.4
comp=Z,128nm,18.3s,baz=16,slow=38
DZM Mont Dzumac 62.43 153 *e*P P 03 35 50.0 +1.1
comp=Z,40nm,1.4s
DZM Mont Dzumac 62.43 153 *e*LR LR 03 54 21.6
comp=Z,420nm,25.1s
DZM Mont Dzumac 62.43 153 LR LR 04 03 19.2
comp=Z,94nm,19.8s,baz=30,slow=36
DZM Mont Dzumac 62.43 153 P P 03 35 51.4 +2.5
HRA Herat 62.48 294 P P 03 35 49.4 -0.1
HRA IAmb IAmb 03 35 55.1
comp=Z,7.5nm,0.8s
ADZR Andozero 63.64 331 *e*P P 03 35 54.9 -1.4
ADZR *e*PP *pP* 03 36 12.9 +1.3
ADZR *e* 03 36 29.9
ADZR pmax pmax
comp=Z,30nm,1.4s
MSVF Nonsavu 63.87 140 LR LR 03 58 48.1
comp=Z,74nm,20.9s,baz=173,slow=31
GEYT Alibeck 63.94 299 P P 03 35 58.7 -0.1
comp=Z,8.8nm,1.0s,baz=64,slow=3.4,SNR=13
GEYT LR LR 04 05 30.9
comp=Z,235nm,18.9s,baz=70,slow=38
comp=Z,8.8nm,1.0s
GEYT Alibeck 63.94 299 IAmb IAmb 03 36 00.5
comp=Z,14nm,1.1s
GYA0B ALIBECK ARRAY 63.94 299 P P 03 35 59.0 +0.2
GYA0B IAmb IAmb 03 36 00.5
comp=Z,13nm,1.1s
RES Resolute Bay 64.07 14 LR LR 04 06 04.4
comp=Z,110nm,20.6s,baz=16,slow=38
RES Resolute Bay 64.07 14 P P 03 35 59.1 +0.1
RES Resolute Bay 64.07 14 P P 03 35 59.1 +0.1
RES pmax pmax
comp=Z,7.0nm,1.0s
BELG Belogornoye 64.36 317 LR LR 04 05 58.4
comp=Z,241nm,18.5s,baz=176,slow=38
BELG Belogornoye 64.36 317 *c i*P P 03 36 01.2 0.0
BELG pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 64.56 328 *e*P P 03 35 59.2 -3.2
KLMR AMP 03 36 07.5
comp=Z,55nm,2.3s
KLMR Klimovskoe 64.56 328 *e*P P 03 35 59.2 -3.2
KLMR pmax pmax
comp=Z,55nm,2.3s
ARCES ARCESS Array B 65.04 339 P P 03 36 04.7 -0.7
comp=Z,5.2nm,0.8s,baz=48,slow=1.3,SNR=7.9
ARCES LR LR 04 07 42.3
comp=Z,187nm,21.2s,baz=68,slow=39
comp=Z,5.2nm,0.8s
YKA Yellowknife Ar 65.30 30 P P 03 36 07.5 +0.3
comp=Z,1.1nm,0.7s,baz=303,slow=7.1,SNR=4.6
comp=Z,1.1nm,0.7s
AFI Afiamalu 66.77 129 LR LR 04 00 27.4
comp=Z,139nm,20.4s,baz=298,slow=31
WAPA Wapiti River 66.82 38 P P 03 36 17.7 +0.5
WAPA IAmb IAmb 03 36 33.8
comp=Z,25nm,1.1s
NEEM North Greenlan 66.91 3 *i* P P 03 36 18.4 +0.7
MNCI Minicoy 67.01 264 P P 03 36 17.8 -1.1
DAG Danmarks Havn 67.06 355 *i* P P 03 36 19.0 +0.7
FORT Forrest 67.16 192 P P 03 36 18.3 -1.0
STKA Stephens Creek 67.21 179 P P 03 36 18.5 -1.2
comp=Z,7.5nm,0.9s,baz=338,slow=10,SNR=6.5
STKA LR LR 04 06 21.9
comp=Z,91nm,20.7s,baz=19,slow=36
comp=Z,7.5nm,0.9s
STKA Stephens Creek 67.21 179 P P 03 36 19.3 -0.4
STKA Stephens Creek 67.21 179⇑ *e*P P 03 36 19.5 -0.2
MOS Moscow 67.96 324 *e*P P 03 36 21.7 -2.6
MOS *e* 03 36 45.7
MOS pmax pmax
comp=Z,35nm,0.8s
VRH Novokhopyorsk 68.16 318 *e*P P 03 36 23.7 -1.9
VRH pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 68.80 323 LR LR 04 09 42.8
comp=Z,56nm,18.4s,baz=28,slow=38
OBN Obninsk 68.80 323 P P 03 36 30.0 +0.5
OBN IAmb IAmb 03 36 30.7
comp=Z,35nm,1.1s
OBN Obninsk 68.80 323 *e*P P 03 36 30.5 +1.0
OBN *i* 03 36 51.7
OBN pmax pmax
comp=Z,12nm,0.6s
OBN MLR MLR
comp=Z,241nm,16.0s
LPSR Galich'ya Gora 68.93 320 *e*P P 03 36 29.5 -0.9
LPSR pmax pmax
comp=Z,20nm,0.9s
B06A Marblemount 68.94 45 P P 03 36 30.0 -0.5
VORR Voronezh 69.27 319 *e*P P 03 36 33.1 +0.6
VORR pmax pmax
comp=Z,20nm,1.0s
AKT Akhty 69.37 307 *e*P P 03 36 33.7 +0.2
AKT *e*PP *pP* 03 36 48.8 -0.2
AKT *e* 03 36 57.1
AKT *e* 03 39 06.4
AKT pmax pmax
comp=Z,28nm,1.0s
VSR Storozhevoye 69.53 319 *e*P P 03 36 31.9 -2.2
VSR pmax pmax
comp=Z,20nm,0.9s
FINES FINESS Array B 69.71 332 P P 03 36 35.2 +0.1
comp=Z,3.2nm,0.5s,baz=60,slow=6.6,SNR=34
FINES LR LR 04 12 48.9
comp=Z,179nm,18.0s,baz=32,slow=41
comp=Z,3.2nm,0.5s
FINES FINESS Array B 69.71 332 P P 04 36 35.4 +0.3
GROC Groznyy 69.76 309 *e*P P 03 36 33.7 -2.0
GROC *e*PP *pP* 03 36 53.2 +2.0
GROC *e* 03 36 57.5
GROC pmax pmax
comp=Z,21nm,0.7s
WSAR Wadi Sarin 70.60 285 LR LR 04 10 19.0
comp=Z,107nm,21.8s,baz=82,slow=38
ZEI Tsey 71.17 309 *e*P P 03 36 43.6 -1.0
ZEI pmax pmax
comp=Z,18nm,1.5s
VSU Vasula 71.30 330⇓ *e*P P 03 36 43.9 -0.8
VSU pmax pmax
comp=Z,89nm,1.3s
KBZ Khabaz 71.30 311 P P 03 36 45.6 +0.5
comp=Z,18nm,0.9s,baz=83,slow=2.2,SNR=14
KBZ LR LR 04 11 51.7
comp=Z,171nm,19.1s,baz=52,slow=39
comp=Z,18nm,0.9s
KBZ Khabaz 71.30 311 *c i*P P 03 36 45.0 0.0
KBZ pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 71.31 311 P P 03 36 46.0 +0.7
KIV Kislovodsk 71.31 311 *e*P P 03 36 45.0 -0.3
KIV pmax pmax
comp=Z,37nm,1.0s
KIV MLR MLR
comp=Z,126nm,18.0s
KIV Kislovodsk 71.31 311 P P 03 36 45.8 +0.5
NEW Newport 71.55 44 LR LR 04 08 34.1
comp=Z,38nm,18.1s,baz=308,slow=36
NEW Newport 71.55 44 P P 03 36 47.9 +1.4
baz=303
ONI Oni 71.55 309 IAmb IAmb 03 36 49.0
comp=Z,22nm,1.2s
NEY Neytrino 71.66 310⇓ *e*P P 03 36 47.6 +0.1
NEY pmax pmax
comp=Z,5.0nm,1.1s
YBH Yreka Blue Hor 71.68 52 LR LR 04 03 55.2
comp=Z,42nm,21.6s,baz=298,slow=32
NWAO Narrogin (SRO) 71.68 201 P P 03 36 47.0 -0.3
GNI Garni 72.00 307 LR LR 04 11 05.1
comp=Z,264nm,19.6s,baz=60,slow=38
GNI Garni 72.00 307 P P 03 36 50.1 +0.5
GNI IAmb IAmb 03 36 56.4
comp=Z,24nm,1.1s
GNI Garni 72.00 307 P P 03 36 50.1 +0.5
GNI pmax pmax
comp=Z,24nm,1.1s
SUMG Summit 72.03 360 *i* P P 03 36 51.0 +1.5
MNK Minsk 73.26 326 *i* P P 03 36 57.7 +1.1
comp=E,2.0nm,1.0s
MNK *i* P P 03 36 57.7 +1.1
comp=N,36nm,0.8s
MNK *i* P P 03 36 57.7 +1.1
comp=Z,22nm,0.9s,baz=232
MNK *i* pP PcP 03 37 14.2 +1.4
MNK *i* PP PP 03 39 41.1 +1.4
MNK *i* PPP PPP 03 41 26.0
MNK *i* S SKiKP 03 46 21.8 -1.1
MNK *i* sS sS 03 46 50.3 +3.6
MNK *i* ScS ScS 03 47 00.6 +0.5
MNK *i* SS SS 03 51 05.3 +3.3
MNK *i* SSS SSS 03 54 26.4
MNK *i* LQ LQ 04 04 19.7
MNK *i* LR LR 04 07 56.8
MNK *i* LRM MLR 04 11 23.3
comp=N,285nm,14.3s
MNK *i* LRM MLR 04 11 29.7
comp=Z,289nm,15.2s
MNK *i* LRM MLR 04 11 48.0
comp=E,32nm,14.3s
MNK Minsk 73.26 326 *i* P P 03 36 57.6 +1.1
MNK *i* *PP PcP 03 37 14.1 +1.4
MNK *i* 03 39 41.1
MNK *i* PPP PPP 03 41 25.9
MNK *i* S SKiKP 03 46 21.7 -1.1
MNK *i* *SS sS 03 46 50.2 +3.6
MNK *i* 03 47 00.5
MNK *i* SS SS 03 51 05.2 +3.3
MNK pmax pmax
comp=Z,22nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,36nm,0.8s
MNK MLR MLR
comp=N,285nm,14.0s
MNK MLR MLR
comp=Z,289nm,15.0s
MNK MLR MLR
comp=E,32nm,14.0s
NACGM Naroch 73.50 327 *e*P P 03 36 59.1 +1.1
comp=Z,22nm,1.1s,baz=51
ANN Anapa 74.01 314 *e*P P 03 37 06.8 +5.7
ANN pmax pmax
comp=Z,233nm,1.3s
MSO Missoula 74.13 43 P P 03 37 01.5 -0.5
GURO Guroymak-BITLI 74.63 306 IAmb IAmb 03 37 07.4
comp=Z,24nm,1.1s
AKASG Malin Array Be 74.98 322 P P 03 37 06.4 -0.2
comp=Z,12nm,0.9s,baz=47,slow=5.9,SNR=45
comp=Z,12nm,0.9s
AKASG Malin Array Be 74.98 322 P P 03 37 06.8 +0.2
AKBB Malin Array Si 74.98 322 P P 03 37 05.4 -1.2
AKBB IAmb IAmb 03 37 07.6
comp=Z,29nm,1.1s
AKBB Malin Array Si 74.98 322 *c i*P P 03 37 06.5 -0.1
AKBB pmax pmax
comp=Z,31nm,1.1s
MFID Camas Ranch 75.01 47 P P 03 37 07.0 -0.1
HFS Hagfors 75.06 336 LR LR 04 12 34.7
comp=Z,422nm,18.3s,baz=38,slow=38
NC204 NORSAR Array S 75.15 337 IAmb IAmb 03 37 09.6
comp=Z,19nm,0.9s
NB2 NORSAR Subarra 75.19 337 P P 03 37 08.0 +0.3
comp=Z,1.5nm,0.5s,baz=42,slow=5.9
NOA NORSAR Array B 75.19 337 P P 03 37 07.6 -0.1
comp=Z,7.1nm,0.8s,baz=39,slow=5.8,SNR=16
NOA LR LR 04 12 53.5
comp=Z,258nm,20.1s,baz=60,slow=38
comp=Z,7.1nm,0.8s
FFC Flin Flon 75.19 32 P P 03 37 08.2 +0.4
FFC IAmb IAmb 03 37 11.0
comp=Z,33nm,1.9s
FFC Flin Flon 75.19 32 P P 03 37 08.2 +0.4
FFC pmax pmax
comp=Z,33nm,1.9s
FCC Fort Churchill 75.50 26 P P 03 37 10.2 +0.8
FCC IAmb IAmb 03 37 11.3
comp=Z,16nm,1.2s
FCC Fort Churchill 75.50 26 P P 03 37 10.2 +0.8
FCC pmax pmax
comp=Z,17nm,1.3s
LRM Limekiln Ridge 75.56 44 P P 03 37 11.2 +0.8
EGMT Eagleton 75.71 41 P P 03 37 10.7 -0.3
EGMT IAmb IAmb 03 37 22.4
comp=Z,15nm,1.0s
EGMT Eagleton 75.71 41 P P 03 37 12.6 +1.6
baz=308
HLID Hailey 75.76 46 P P 03 37 12.7 +1.2
baz=306
MARD Mardin 76.14 306 P P 03 37 14.3 +0.5
BOZ Bozeman (W) 76.16 44 P P 03 37 14.4 +0.7
BOZ Bozeman (W) 76.16 44 P P 03 37 15.2 +1.5
baz=307
BOZ Bozeman (W) 76.16 44 P P 03 37 14.4 +0.7
BOZ pmax pmax
comp=Z,8.0nm,1.0s
NVAR Mina Array Bea 76.31 52 P P 03 37 16.2 +1.4
comp=Z,3.7nm,0.8s,baz=300,slow=4.9,SNR=18
comp=Z,3.7nm,0.8s
ELK Elko 76.91 49 LR LR 04 03 30.9
comp=Z,44nm,21.9s,baz=320,slow=30
SORM Soroca 77.03 320 ⇑P P 03 37 17.8 -0.6
SORM Soroca 77.03 320 ⇑P P 03 37 17.8 -0.6
SFJD Kangerlussuaq 77.28 5 LR LR 04 16 12.1
comp=Z,90nm,18.3s,baz=347,slow=39
H17A Grant Village 77.48 44 P P 03 37 22.7 +1.3
baz=307
RLMT Red Lodge 77.77 43 P P 03 37 24.1 +1.3
baz=308
LVV L'vov 78.09 324 *e*P P 03 37 24.5 +0.2
R11A Troy Canyon, C 78.10 51 P P 03 37 26.9 +2.1
baz=306
MPMC Manual Prospec 78.20 54 P P 03 37 27.2 +1.8
baz=306
FRB Frobisher Bay 78.23 13 LR LR 04 16 33.9
comp=Z,108nm,18.7s,baz=5.0,slow=39
LAO LASA Array 78.42 40 P P 03 37 25.8 -0.5
baz=310
LAO LASA Array 78.42 40 P P 03 37 27.8 +1.6
baz=310
TPNV Topopah Spring 78.50 53 P P 03 37 29.1 +2.1
baz=306
EDW2 Edwards Air Fo 78.55 55 P P 03 37 29.1 +1.9
baz=306
DUG Dugway, Tooele 78.72 48 P P 03 37 30.7 +2.6
baz=307
BORG Borgarnes 78.90 352 LR LR 04 12 17.0
comp=Z,41nm,21.9s,baz=37,slow=36
TESR Tescani 78.96 320 ⇑P P 03 37 29.6 +0.4
BUR08 Bucovina Ar. S 78.96 322 P P 03 37 29.1 -0.1
BURAR Bucovina Array 78.97 321 ⇑P P 03 37 30.1 +0.8
BURAR Bucovina Array 78.97 321 ⇑P P 03 37 30.1 +0.8
CFR Carcaliu 79.03 318 ⇑P P 03 37 30.4 +0.9
CFR Carcaliu 79.03 318 ⇑P P 03 37 30.4 +0.9
BW06 Boulder Array 79.07 45 P P 03 37 31.2 +1.0
baz=309
PDAR Pinedale Array 79.07 45 P P 03 37 31.4 +1.3

comp=Z,1.3nm,0.6s,baz=258,slow=2.3,SNR=15
PDAR LR LR 04 10 02.8
comp=Z,37nm,21.2s,baz=318,slow=34
comp=Z,1.3nm,0.6s
TPGR Topolog 79.09 318 ⇑P **P 03 37 30.2 +0.3**
BR131 Keskin Array S 79.27 311 IAmb IAmb 03 37 35.8
comp=Z,11nm,0.9s
BR131 Keskin Array S 79.27 311 ⇓*e*P **P 03 37 31.0 -0.1**
BRTR Keskin Array B 79.27 311 P **P 03 37 31.6 +0.4**
comp=Z,6.3nm,0.9s,baz=88,slow=3.4,SNR=18
BRTR LR LR 04 17 00.7
comp=Z,156nm,18.4s,baz=55,slow=39
comp=Z,6.3nm,0.9s
BRTR Keskin Array B 79.27 311 P **P 03 37 30.8 -0.3**
BRTR Keskin Array B 79.27 311 *c*e**P P 03 37 32.0 +0.9**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
VRI Vrincioaia 79.34 319 ⇑P **P 03 37 33.2 +2.0**
VRI Vrincioaia 79.34 319 ⇑P **P 03 37 33.2 +2.0**
PLOR Plostina 79.39 319 ⇑P **P 03 37 33.0 +1.4**
PLOR Plostina 79.39 319 ⇑P **P 03 37 33.0 +1.4**
BISRR Bisoca 79.56 319 ⇑P **P 03 37 34.6 +2.1**
STHS Stebnicka Huta 79.70 325 *e*P **P 03 37 33.9 +0.8**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 79.70 325 *e*P **P 03 37 33.9 +0.8**
UZH Uzhgorod 79.74 324 ⇑*i*P **P 03 37 34.2 +0.9**
UZH *e* 03 37 38.0
UZH *i* 03 37 48.4
OJC Ojcow 79.80 326 IAmb IAmb 03 37 35.6
comp=Z,22nm,1.1s
RAR Rarotonga 79.89 125 LR LR 04 07 58.0
comp=Z,132nm,19.2s,baz=321,slow=32
CRVS Cervenica-Dubn 79.95 324 *e*P **P 03 37 35.9 +1.4**
CRVS Cervenica-Dubn 79.95 324 *e*P **P 03 37 35.9 +1.4**
TRPA Tarpa 79.96 323 ⇑P **P 03 37 35.8 +1.3**
DOPR Dopca 79.98 320 ⇑P **P 03 37 36.8 +2.1**
MLR Muntele Rosu 80.00 320 LR LR 04 15 36.8
comp=Z,316nm,19.9s,baz=46,slow=38
MDUB Mudurnu 80.28 313 P **P 03 37 36.3 -0.2**
PFO Pinyon Flats O 80.32 56 LR LR 04 05 22.6
comp=Z,280nm,21.6s,baz=278,slow=30
TPFO Pinon Flats **80.33 56** P **P 03 37 38.5 +1.5**
baz=306
BELC Belle Mtn. Jos 80.40 55 P **P 03 37 38.9 +1.5**
baz=307
RAYN Ar Rayn 80.58 292 P **P 03 37 37.9 -0.4**
RAYN IAmb IAmb 03 37 39.8
comp=Z,30nm,1.1s
RAYN Ar Rayn 80.58 292 ⇑P **P 03 37 38.9 +0.6**
LANS Liptovska Anna 80.71 325 *e*P **P 03 37 40.4 +1.8**
LANS pmax pmax
comp=Z,6.0nm,1.1s
LANS Liptovska Anna 80.71 325 *e*P **P 03 37 40.4 +1.8**
MONP2 Monument Peak **80.78 56** P **P 03 37 41.6 +2.1**
baz=307
K22A Casper 80.87 44 P **P 03 37 40.0 +0.2**
baz=310
K22A Casper 80.87 44 P **P 03 37 41.9 +2.2**
baz=311
IRM Iron Mountain 80.88 54 P **P 03 37 41.5 +1.7**
baz=307
URZ Urewera 80.95 152 LR LR 04 09 29.2
comp=Z,104nm,20.9s,baz=63,slow=33
ULM Lac du Bonnet 80.98 33 LR LR 04 13 11.5
comp=Z,81nm,22.0s,baz=341,slow=35
BORA Eskisehir 81.09 313 IAmb IAmb 03 37 42.2
comp=Z,12nm,1.1s
MORC Moravsky Berou 81.14 327 ⇑P **P 03 37 42.4 +1.5**
MORC Moravsky Berou 81.14 327 P **P 03 37 40.0 -0.8**
MORC Moravsky Berou 81.14 327 *e*P **P 03 37 41.5 +0.6**
MORC Moravsky Berou 81.14 327 ⇑P **P 03 37 42.4 +1.5**
DPC Dobruska-Polom 81.26 328 *e*P **P 03 37 42.3 +0.8**
DPC *e*pP **pP 03 37 56.7 -0.6**
DPC Dobruska-Polom 81.26 328 *e*P **P 03 37 42.3 +0.8**
DPC *e* 03 37 56.7
KRLC Kraliky 81.26 327 *e*P **P 03 37 42.3 +0.8**
KRLC Kraliky 81.26 327 *e*P **P 03 37 42.3 +0.8**
RSSD Black Hills 81.26 41 P **P 03 37 42.1 +0.2**
baz=312
E28A Huff 81.33 38 P **P 03 37 43.1 +1.2**
baz=314
VYHS Vyhne 81.47 325 *e*P **P 03 37 43.5 +0.9**
VYHS pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 81.47 325 *e*P **P 03 37 43.5 +0.9**
O20A White River Ci **81.50 46** P **P 03 37 43.9 +0.7**
baz=310
JAVC Velka Javorina 81.75 326 *e*P **P 03 37 45.5 +1.4**
SURR Surduc 81.80 322 ⇑P **P 03 37 45.6 +1.2**
FLTG Flechtingen 81.87 331 *e*P **P 03 37 44.7 +0.1**
comp=Z,15nm,1.0s,baz=39,slow=5.0
BRG Berggiesshubel 81.89 329 *e*P **P 03 37 45.5 +0.8**
BRG Amp 03 37 46.5
comp=Z,14nm,1.2s
BRG pP **pP 03 38 01.9 +1.3**
BRG Amp 03 38 03.3
comp=Z,8.2nm,1.0s
BRG Berggiesshubel 81.89 329 *e*P **P 03 37 45.5 +0.8**
BRG 03 38 01.8
BRG pmax pmax
comp=Z,14nm,1.2s
BRG pmax pmax
comp=Z,8.0nm,1.0s
VRAC Vranov 81.91 327 LR LR 04 18 45.1
comp=Z,93nm,18.5s,baz=26,slow=39
VRAC Vranov 81.91 327 ⇑P **P 03 37 46.6 +1.7**
VRAC Vranov 81.91 327 *e*P **P 03 37 45.3 +0.4**
VRAC Vranov 81.91 327 ⇑P **P 03 37 46.6 +1.7**
CLL Collm 81.95 330 IAmb IAmb 03 37 46.3
comp=Z,19nm,1.0s
CLL Collm 81.95 330 *i* P **P 03 37 44.8 -0.2**
comp=Z,19nm,1.0s
CLL *e*pP **pP 03 38 01.0 +0.1**
CLL *e*(sP) **sP 03 38 09.0 +1.9**
CLL Collm 81.95 330 *i* P **P 03 37 44.8 -0.2**
CLL *e**PP **pP 03 38 01.0 +0.1**
CLL pmax pmax
comp=Z,19nm,1.0s
CLL Collm 81.95 330 *e*P **P 03 37 45.3 +0.2**
comp=Z,19nm,1.0s,baz=39,slow=5.0
FBE Freiberg 82.10 329 *e*P **P 03 37 46.4 +0.6**
comp=Z,20nm,1.1s,baz=39,slow=5.0
SMOL Smolenice 82.11 326 *e*P **P 03 37 47.2 +1.2**
PLVB Pleven 82.11 319 ⇑P **P 03 37 47.3 +1.2**
KRUC Moravsky 82.17 327 *e*P **P 03 37 47.0 +0.7**
NRDL Niedersach Rie 82.18 332 *e*P **P 03 37 46.3 +0.2**
comp=Z,58nm,1.8s,baz=39,slow=5.0
MMAI Mount Meron Ar 82.22 305 LR LR 04 17 45.7
comp=Z,234nm,20.5s,baz=316,slow=38
RETH Rethem/Aller, 82.27 333 *e*P **P 03 37 47.8 +1.2**
comp=Z,51nm,1.7s,baz=39,slow=5.0
PRU Pruhonice 82.30 328 *e*P **P 03 37 47.8 +0.9**
PRU Pruhonice 82.30 328 *e*P **P 03 37 47.8 +0.9**
N23A Red Feather La **82.34 45** P **P 03 37 49.4 +1.7**
baz=311
TREC Trest 82.41 327 *e*P **P 03 37 48.4 +0.9**
TREC Trest 82.41 327 *e*P **P 03 37 48.4 +0.9**
WUAZ Wupatki 82.50 51 P **P 03 37 49.9 +1.5**
baz=309
THZ Tophouse 82.55 156 P **P 03 37 47.2 -0.9**
CLZ Clausthal 82.59 331 *e*P **P 03 37 48.6 +0.2**
comp=Z,47nm,1.6s,baz=39,slow=5.0
WERN Wernitzgruen 82.98 329 *e*P **P 03 37 51.1 +0.6**
comp=Z,16nm,1.2s,baz=39,slow=5.0
MOX Moxa 83.02 330 *e*L L 04 19 38.6
comp=Z,171nm,20.6s
RDO Rodhopi 83.11 316 IAmb IAmb 03 37 53.2
comp=Z,21nm,1.1s
MORH Mrgy, Hungar 83.20 324 ⇑P **P 03 37 52.6 +0.9**
RONA Rosalia, Austr 83.22 326 *e*PcP **P 03 37 53.4 +1.6**
comp=Z,18nm,1.4s
MVCO Mesa Verde **83.22 49** P **P 03 37 54.8 +2.5**
baz=310
CONA Conrad Observa 83.25 326 *e*P **P 03 37 53.4 +1.4**
comp=Z,18nm,1.5s
ISCO Idaho Springs 83.25 45 P **P 03 37 53.2 +0.8**
baz=311
ISCO Idaho Springs **83.25 45** P **P 03 37 54.8 +2.3**
baz=311
MANZ Manzenberg 83.33 329 *e*P **P 03 37 53.1 +0.8**
comp=Z,2.2nm,0.9s,baz=39,slow=5.0
KHC Kasperske Hory 83.36 328 IAmb IAmb 03 37 54.3
comp=Z,9.5nm,1.0s
KHC Kasperske Hory 83.36 328 *e*P **P 03 37 52.8 +0.3**
KHC *e*pP **pP 03 38 08.6 +0.2**
KHC Kasperske Hory 83.36 328 ⇓*e*P **P 03 37 53.5 +1.0**
KHC pmax pmax
comp=Z,27nm,1.2s
VTS Vitosha 83.38 319 ⇓P **P 03 37 54.3 +1.5**
VTS Vitosha 83.38 319 IAmb IAmb 03 37 55.2
comp=Z,17nm,1.1s
VTS Vitosha 83.38 319 ⇓P **P 03 37 54.3 +1.5**
ROTZ Rotzenmuhle 83.45 329 *e*P **P 03 37 53.6 +0.6**
comp=Z,10nm,1.6s,baz=39,slow=5.0
BOVS Bovan 83.49 320 ⇑P **P 03 37 53.0 -0.2**
GEC2 GERESS Array S 83.52 328 IAmb IAmb 03 37 54.3
comp=Z,11nm,1.2s
GEC2 GERESS Array S 83.52 328 *e*P **P 03 37 53.5 +0.1**
comp=Z,11nm,1.3s,baz=39,slow=5.0
GERES GERESS Array B 83.52 328 *e*P **P 03 37 53.4 0.0**
comp=Z,2.1nm,0.8s,baz=48,slow=2.0,SNR=8.4
GERES LR LR 04 19 22.5
comp=Z,288nm,18.0s,baz=76,slow=39
comp=Z,2.1nm,0.8s
GERES GERESS Array B 83.52 328 P **P 03 37 53.8 +0.4**
GERES GERESS Array B 83.52 328 P **P 03 37 53.8 +0.4**
RPZ Rata Peaks 83.73 158 LR LR 04 09 48.6
comp=Z,130nm,21.6s,baz=324,slow=32
S22A 4UR Ranch, Cre 83.89 47 P **P 03 37 58.0 +2.2**
baz=311
ARSA Arzberg 83.91 326 *e*P **P 03 37 56.5 +1.1**
comp=Z,5.7nm,1.0s
GRF Grafenberg Arr 83.92 330 *e*L L 04 17 19.2
comp=Z,231nm,19.9s
GRB3 Grafenberg Arr 83.95 329 *e*P **P 03 37 56.1 +0.7**
comp=Z,42nm,1.4s,baz=39,slow=5.0
F33A 5 Mile Ranch, **84.00 36** P **P 03 37 55.8 0.0**
baz=317
MOA Molln 84.03 327 *e*P **P 03 37 57.0 +1.1**
comp=Z,9.2nm,1.2s
DIVS Divibare 84.04 321 IAmb IAmb 03 37 57.8
comp=Z,22nm,1.2s
EKA Eskiemuir Ar 84.19 340 LR LR 04 22 32.6
comp=Z,136nm,18.5s,baz=3.0,slow=41
BIOA Bad Ischl, Aus 84.42 327 *e*P **P 03 37 58.2 +0.3**
comp=Z,11nm,1.2s
SOKA Soboth 84.56 326 *e*P **P 03 37 59.5 +0.8**
comp=Z,21nm,1.1s
PPT Papeete 84.61 116 LR LR 04 08 46.5
comp=Z,186nm,20.6s,baz=300,slow=31
PPT2 Papeete2 84.62 116 *e*LR LR 04 04 38.0
comp=Z,768nm,30.0s
PPT2 *e*LR LR 04 04 38.2
comp=Z,437nm,28.5s
PPT2 Papeete2 84.62 116 *e*T T 05 11 00.8
comp=Z,2.9nm,0.3s
SDCO Great Sand Dun 84.68 47 P **P 03 38 00.5 +0.8**
baz=312
SDCO Great Sand Dun 84.68 47 P **P 03 38 01.6 +1.9**
baz=312
TIAR Tiare 84.77 116 *e*T T 05 11 09.6
comp=Z,0.7nm,0.2s
TUC Tucson 84.89 54 P **P 03 38 00.0 -0.6**
TUC Tucson 84.89 54 P **P 03 38 02.2 +1.6**
baz=309
TUC Tucson 84.89 54 P **P**
TUC pmax pmax **03 38 00.0 -0.6**
comp=Z,4.0nm,1.1s
K31A O'Neill 85.08 40 P **P 03 38 01.5 +0.1**
baz=315
ECSD EROS Data Cent 85.37 38 P **P 03 38 02.7 0.0**
baz=317
ECSD EROS Data Cent 85.37 38 P **P 03 38 03.8 +1.0**
baz=317
KSCO Kaye Shedlock' 85.49 44 P **P 03 38 03.2 -0.4**
baz=313
KSCO Kaye Shedlock' 85.49 44 P **P 03 38 04.1 +0.5**
baz=313
LIT Litokhoron 85.52 317 IAmb IAmb 03 38 04.6
comp=Z,17nm,0.9s
PDG Pogorica 85.61 321 ⇑P **P 03 38 05.0 +1.1**
ABTA Abfaltersbach 85.64 327 *e*P **P 03 38 03.8 -0.3**
comp=Z,11nm,1.0s
T25A Trinidad 85.73 47 P **P 03 38 05.8 +0.8**
baz=312
RETA Reutte 85.83 329 *e*P **P 03 38 05.4 +0.4**
comp=Z,8.5nm,1.1s
MEH Mehetia 85.91 115 *e*T T 05 12 36.0
comp=Z,16nm,0.2s
ANMO Albuquerque 85.95 49 LR LR 04 10 47.8
comp=Z,87nm,20.4s,baz=58,slow=32
ANMO Albuquerque 85.95 49 P **P 03 38 07.2 +1.1**
baz=311
ANMO Albuquerque 85.95 49 P **P 03 38 07.1 +1.1**
baz=311
KBN Korca 86.08 319 IAmb IAmb 03 38 15.5
comp=Z,14nm,0.9s
BFO Black Forest 86.17 330 *e*P **P 03 38 06.6 0.0**
comp=Z,19nm,1.2s,baz=39,slow=5.0
Y22A Socorro 86.29 50 P **P 03 38 06.9 -0.8**
baz=311
DAVA Damuels 86.36 329 *e*PcP **P 03 38 08.5 +0.8**
comp=Z,22nm,1.3s
TAOE Nuku Hiva Isla 86.47 103 *e*LR LR 04 05 28.7
comp=Z,580nm,28.9s
121A Cookes Peak, D 86.69 52 P **P 03 38 09.9 +0.2**
baz=311
I37B Waseca 86.73 36 P **P 03 38 10.6 +1.2**
baz=319
DAVOX Davos/Dischmat 86.75 329 LR LR 04 20 31.2
comp=Z,228nm,18.4s,baz=266,slow=38
SCHQ Schefferville 86.81 15 P **P 03 38 09.6 -0.1**
comp=Z,3.8nm,0.8s,baz=320,slow=6.9,SNR=3.6
SCHQ LR LR 04 18 42.8
comp=Z,110nm,21.4s,baz=3.0,slow=37
comp=Z,3.8nm,0.8s
CBKS Cedar Bluff 87.25 43 P **P 03 38 12.9 +0.8**
baz=315
CBKS Cedar Bluff 87.25 43 P **P 03 38 12.8 +0.6**
baz=315
TBI Tubuai 88.39 120 *e*LR LR 04 06 22.4
comp=Z,2μm,27.2s
TBI *e*LR LR 04 06 22.5
comp=Z,7μm,21.8s
TBI Tubuai 88.39 120 *e*T T 05 15 43.8
comp=Z,5.3nm,0.3s
MNTX Comdas Mount 88.77 51 P **P 03 38 19.2 -0.2**
baz=312
ATD Arta Tunnel 89.58 284 LR LR 04 21 04.7
comp=Z,61nm,21.6s,baz=26,slow=37
LPIG La Paz 90.42 60 LR LR 04 20 29.0
comp=Z,56nm,18.4s,baz=312,slow=36
TX32 Lajitas Array 91.45 52 IAmb IAmb 03 38 37.4
comp=Z,7.6nm,1.2s
TXAR Lajitas Array 91.45 52 P **P 03 38 32.6 +0.5**
TXAR Lajitas Array 91.45 52 P **P 03 38 32.6 +0.5**
HPIG 91.75 55 P **P 03 38 35.3 +1.7**
HPIG IAmb IAmb 03 38 49.1
comp=Z,5.0nm,1.0s
VAE Valguarnera 91.77 320 LR LR 04 22 14.0
comp=Z,35nm,18.2s,baz=30,slow=37
SADO Sadowa 92.19 27 LR LR 04 22 45.5
comp=Z,83nm,18.8s,baz=300,slow=37
MIAR Mount Ida 93.75 42 P **P 03 38 41.7 -0.7**
MIAR IAmb IAmb 03 38 56.5
comp=Z,10nm,1.1s
MIAR Mount Ida 93.75 42 P **P 03 38 41.7 -0.7**
MIAR pmax pmax
comp=Z,10.0nm,1.2s
X40A Basin Creek Fa 94.19 42 IAmb IAmb 03 38 46.3
comp=Z,3.4nm,0.7s
KEST Kesra 95.70 322 LR LR 04 28 38.1
comp=Z,128nm,18.1s,baz=328,slow=40
TKL Tuckaleechee C 97.86 35 LR LR 04 27 23.5
comp=Z,49nm,18.7s,baz=319,slow=38
ESDC Sonseca Array 98.21 333 LR LR 04 28 02.1
comp=Z,81nm,19.4s,baz=14,slow=38
RKT Rikitea 98.83 112 *e*LR LR 04 11 12.8
comp=Z,95μm,26.8s
H03N2 Juan Fernandez 147.50 98 T T 06 29 60.0
baz=289,slow=76,SNR=48
H03N3 Juan Fernandez 147.50 98 T T 06 29 58.4
baz=289,slow=76,SNR=39
H03N1 Juan Fernandez 147.51 98 T T 06 30 06.3
baz=289,slow=76,SNR=62
PB12 IPOC Station P 147.82 66 PKPbc **PKPdf 03 45 09.1 +1.4**
LPAZ La Paz 147.92 60 PKPbc **PKPdf 03 45 09.7 +1.1**
LPAZ La Paz 147.92 60 PKP2 **PKPdf 03 45 09.7 +1.1**
PB16 IPOC Station P 148.25 65 PKPbc **PKPbc 03 45 11.8 -0.6**
MNMC Minye Minye 148.68 66 PKPbc **PKPbc 03 45 12.0 -1.2**
PB11 IPOC Station P 149.02 67 PKPbc **PKPdf 03 45 11.7 +1.9**
GO01 Chusmiza 149.31 67 PKPbc **PKPbc 03 45 14.3 -0.8**
PB07 IPOC Station P 149.98 71 PKPbc **PKPdf 03 45 13.6 +2.3**

KRSC 13 03:43:06.6±2.2, 53.75N×167.66E, h19km±35km, Ml3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**1.76**	**327**	*e*P		Pn	03 43 36.2	+0.2
BKI				*e*S		Sb	03 44 01.0	+1.1
SPN	**Mys Shipunski**	**4.62**	**265**	*e*P		Pn	03 44 19.4	+4.2
SPN				*e*S		Sn	03 45 13.8	+5.6
TUMR	**Tumrok**	**4.64**	**292**	*e*P		Pn	03 44 20.3	+4.6
KMNR	**Kamenistaya**	**4.75**	**298**	*e*P		Pn	03 44 21.5	+4.4
NLC	**Nalytchevo**	**5.00**	**267**	*e*S		Sn	03 45 21.1	+3.4
KRMR	**Karymshinskiy**	**5.79**	**265**	*e*P		Pn	03 44 36.9	+5.6
KRMR				*e*S		Sn	03 45 42.0	+4.8

WEL 13 03:57:24.7±1.3, 46°S±5°×16°7E±°, h91km±10km, M3.4/8, ML3.6/8, MLv3.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=101.0, confirmed, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.26**	**221**	P		Pn	03 57 39.1	+1.0
PYZ				S		Sn	03 57 50.1	+2.2
DCZ	**Deep Cove**	**0.53**	**17**	P		Pn	03 57 40.5	+0.8
WHZ	**Wether Hill Ro**	**0.71**	**84**	P		Pn	03 57 42.3	+0.9
WHZ				S		Sn	03 57 55.8	+2.0
MLZ	**Mavora Lakes**	**1.03**	**55**	P		Pn	03 57 45.5	+0.7
MLZ				S		Sn	03 58 01.5	+1.6
APZ	**The Paps**	**1.14**	**140**	P		Pn	03 57 46.7	+0.7
APZ				S		Sn	03 58 02.9	+0.8
MSZ	**Milford Sound**	**1.47**	**29**	P		Pn	03 57 50.2	+0.1
MSZ				S		Sn	03 58 09.9	+0.6
SYZ	**Scrubby Hill**	**1.64**	**111**	P		Pn	03 57 52.3	+0.1
SYZ				S		Sn	03 58 13.1	+0.1
EAZ	**Earnscleugh**	**1.82**	**67**	P		Pn	03 57 54.5	-0.1
EAZ				S		Sn	03 58 16.5	-0.9
WKZ	**Wanaka**	**1.86**	**53**	P		Pn	03 57 55.4	+0.3
TUZ	**Tuapeka**	**1.89**	**91**	P		Pn	03 57 55.3	-0.1
JCZ	**Jackson Bay**	**2.31**	**35**	P		Pn	03 58 00.5	-0.5
HHSZ	**Highcliff Hill**	**2.56**	**89**	P		Pn	03 58 04.8	+0.5
ODZ	**Otahua Downs**	**2.77**	**72**	P		Pn	03 58 05.3	-1.9
LBZ	**Lake Benmore**	**2.79**	**57**	P		Pn	03 58 05.4	-2.1
FOZ	**Fox Glacier**	**3.19**	**41**	P		Pn	03 58 10.7	-2.0
TMZ	**Timaru**	**3.29**	**63**	P		Pn	03 58 11.6	-2.6
GCSZ	**Gaunt Creek Bo**	**3.59**	**44**	P		Pn	03 58 15.7	-2.5
ARCZ	**Arundel**	**3.63**	**58**	P		Pn	03 58 15.7	-3.0
RPZ	**Rata Peaks**	**3.70**	**54**	P		Pn	03 58 16.7	-2.9
MHCZ	**Mount Hutt**	**4.10**	**55**	P		Pn	03 58 22.0	-3.2
OXZ	**Oxford**	**4.50**	**56**	P		Pn	03 58 26.1	-4.4
INZ	**Inchbonnie**	**4.58**	**47**	P		Pn	03 58 29.0	-2.6
LTZ	**Lake Taylor**	**4.98**	**52**	P		Pn	03 58 33.8	-3.2
DSZ	**Denniston Nort**	**5.50**	**42**	P		Pn	03 58 40.9	-3.2
THZ	**Tophouse**	**6.03**	**48**	P		Pn	03 58 48.0	-3.3
MRNZ	**Matariki Terra**	**6.22**	**45**	P		Pn	03 58 51.0	-2.9
QRZ	**Quartz Range**	**6.56**	**40**	P		Pn	03 58 55.4	-3.2

IDC 13 04:13:06.3±1.4, 4.94S×133.09E, h0km, mb3.9/4, mbtmp3.9/6, ML3.5/2, MS3.2/2, Error ellipse: s-maj=72.9km s-min=28.0km az=82.0

ISC 13 04:13:11.2±1.1, 5.1S±0.1×133.2E±0.5, h35km, n8, σ0.99/7, mb3.8/4, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**4.60**	**335**	LR		LR	04 16 44.7	
	comp=Z,168nm,18.2s,baz=100,slow=49							
WRA	**Warramunga Arr**	**14.83**	**176**	Pn		**Pn**	**04 16 39.0**	**+0.5**
	0.2nm,0.3s,baz=355,slow=13,SNR=9.4							
WRA				Sn		**Sn**	**04 19 20.7**	**-0.9**
	0.1nm,0.3s,baz=360,slow=23,SNR=2.4							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**18.50**	**178**	P		**Pn**	**04 17 25.8**	**+0.9**
	0.3nm,0.3s,baz=358,slow=12,SNR=12							
	2.5nm,0.9s							
URZ	**Urewera**	**51.74**	**136**	LR		LR	04 46 37.2	
	comp=Z,37nm,18.4s,baz=114,slow=39							
PETK	**Petropavlovsk-**	**61.54**	**17**	P		**P**	**04 23 24.6**	**-0.1**
	6.9nm,1.0s,baz=216,slow=7.1,SNR=3.9							
	6.9nm,1.0s							
MKAR	**Makanchi Array**	**68.43**	**325**	P		**P**	**04 24 09.9**	**+0.3**
	0.4nm,0.7s,baz=107,slow=7.7,SNR=4.3							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**72.59**	**327**	P		**P**	**04 24 33.6**	**-1.3**
	0.2nm,0.2s,baz=140,slow=6.1,SNR=1.7							
	0.2nm,0.2s							
BVAR	**Borovoye Array**	**78.18**	**327**	P		**P**	**04 25 06.5**	**-0.4**
	0.3nm,0.3s,baz=111,slow=3.6,SNR=3.9							
	0.3nm,0.3s							

IDC 13 04:30:40.0±1.2, 6.38S×68.85E, h0km, mb3.9/6, mbtmp3.9/6, MS3.7/6, Error ellipse: s-maj=29.5km s-min=28.4km az=47.0

ISC 13 04:30:41.3±1.1, 6.3S±0.2×68.8E±0.1, h10km, n19, σ1.18/13, mb4.0/6, MS3.7/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S1	**Diego Carcia H**	**3.90**	**110**	Pn		**Pn**	**04 31 39.8**	**-1.3**
	baz=299,slow=17							
H08S1				Sn		**Sn**	**04 32 28.3**	**+1.4**
H08S3	**Diego Garcia H**	**3.91**	**109**	Pn		**Pn**	**04 31 39.5**	**-1.6**
	baz=299,slow=17							
H08S3				Sn		**Sn**	**04 32 28.3**	**+1.3**
H08S2	**Diego Garcia H**	**3.92**	**110**	Pn		**Pn**	**04 31 40.1**	**-1.3**
	baz=299,slow=17							
H08S2				Sn		**Sn**	**04 32 28.3**	**+1.0**
OPO	**Ambohidratompo**	**24.29**	**238**	P		**P**	**04 36 00.2**	**+0.9**
	2.0nm,0.6s,baz=104,slow=18,SNR=1.9							
	2.0nm,0.6s							
WSAR	**Wadi Sarin**	**31.02**	**342**	LR		LR	04 47 40.7	
	comp=Z,83nm,18.6s,baz=137,slow=33							
PSI	**Prapat**	**31.45**	**74**	LR		LR	04 48 26.1	
	comp=Z,79nm,18.0s,baz=230,slow=34							
CMAR	**Chiang Mai Arr**	**38.64**	**50**	P		**P**	**04 38 05.6**	**+0.4**
	1.7nm,0.3s,baz=239,slow=10,SNR=1.8							
	1.7nm,0.3s							
GEYT	**Ailbeck**	**45.14**	**348**	LR		LR	04 56 52.0	
	comp=Z,92nm,18.1s,baz=186,slow=35							
H01W3	**Cape Leeuwin H**	**50.47**	**131**	T		T	05 33 35.8	
	baz=292,slow=75,SNR=36							
H01W2	**Cape Leeuwin H**	**50.47**	**131**	T		T	05 33 36.1	
	baz=292,slow=75,SNR=38							
H01W1	**Cape Leeuwin H**	**50.49**	**131**	T		T	05 33 37.6	
	baz=292,slow=75,SNR=42							
KAPI	**Kappang**	**50.74**	**91**	LR		LR	04 58 03.5	
	comp=Z,92nm,21.7s,baz=232,slow=32							
MKAR	**Makanchi Array**	**54.24**	**11**	P		**P**	**04 40 06.6**	**-0.8**
	0.4nm,0.6s,baz=197,slow=7.0,SNR=5.6							
	0.4nm,0.6s							
BRTR	**Keskin Array B**	**56.14**	**328**	LR		LR	05 03 27.2	
	comp=Z,51nm,19.1s,baz=350,slow=35							
BELG	**Belogornoye**	**61.22**	**345**	LR		LR	05 06 37.8	
	comp=Z,88nm,18.3s,baz=269,slow=35							
SONM	**Songino Array**	**63.30**	**27**	P		**P**	**04 41 11.6**	**+1.1**
	1.2nm,0.6s,baz=221,slow=7.4,SNR=8.1							
	1.2nm,0.6s							
ASAR	**Alice Springs**	**64.73**	**113**	P		**P**	**04 41 20.0**	**-0.3**
	0.7nm,0.7s,baz=287,slow=6.5,SNR=4.8							
	0.7nm,0.7s							
WRA	**Warramunga Arr**	**64.92**	**109**	P		**P**	**04 41 21.0**	**-0.6**
	1.3nm,0.8s,baz=281,slow=6.7,SNR=6.2							
	1.3nm,0.8s							
NVAR	**Mina Array Bea**	**147.42**	**10**	PKPbc		**PKPbc**	**04 50 26.0**	**-0.2**
	0.4nm,0.7s,baz=290,slow=2.6,SNR=2.3							

IDC 13 04:31:25.5±5.8, 22.85S×148.35E, h0km, mbtmp3.4/4, ML3.5/4, Error ellipse: s-maj=74.8km s-min=23.6km az=80.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**3.37**	**324**	Pn		Pn	04 32 19.1	-0.3
	7.1nm,0.3s,baz=133,slow=16,SNR=38							
CTA				Pg		Pb	04 32 27.9	+1.8
	5.3nm,0.3s,baz=143,slow=17,SNR=11							
CTA				Sn		Sn	04 33 00.8	+0.7
	3.6nm,0.3s,baz=126,slow=19,SNR=4.4							

CTA			Lg	Lg	04 33 12.7		
	6.9nm,0.3s,baz=217,slow=20,SNR=13						
	17nm,0.2s						
STKA	**Stephens Creek**	**10.81 212**	Pn	Pn	04 34 01.9	+0.3	
	0.2nm,0.3s,baz=17,slow=17,SNR=3.2						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**13.31 264**	Pn	Pn	04 34 36.1	+0.3	
	0.2nm,0.3s,baz=92,slow=13,SNR=5.0						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**13.37 280**	Pn	Pn	04 34 35.5	-1.2	
	0.2nm,0.3s,baz=99,slow=11,SNR=9.9						
	0.2nm,0.3s						
I07AU	**WARRAMUNGA INF**	**13.38 280**	I	I	05 55 40.0		
	baz=108,slow=305,SNR=6.2						

IDC ***13*** *04:31:46.5±6.9, 12°.24N×141°.46E, h98km±76km, mb3.7/6, mbtmp4.0/7, ML4.3/1, Error ellipse: s-maj=91.4km s-min=20.3km az=92.0*

ISC 13 04:31:40.8±0.9, 12°.2N±0°.1×141°.0E±0°.2, h35km, n7, σ1s07/7, mb3.9/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
GUMO	**Guam**	**4.01**	**70**	P	**Pn**	**04**	**32**	**40.1**	**+0.2**
	24nm,0.3s,baz=198,slow=12,SNR=8.1								
	105nm,0.5s								
WRA	**Warramunga Arr**	**32.62**	**192**	P	**P**	**04**	**38**	**09.5**	**0.0**
	1.3nm,0.8s,baz=10,slow=9.7,SNR=6.1								
	1.3nm,0.8s								
ASAR	**Alice Springs**	**36.33**	**191**	P	**P**	**04**	**38**	**42.3**	**+0.8**
	0.6nm,0.8s,baz=20,slow=13,SNR=6.0								
	0.6nm,0.8s								
STKA	**Stephens Creek**	**43.85**	**179**	P	**P**	**04**	**39**	**43.3**	**-0.4**
	1.3nm,0.5s,baz=333,slow=6.8,SNR=3.0								
	1.3nm,0.5s								
MKAR	**Makanchi Array**	**59.89**	**317**	P	**P**	**04**	**41**	**44.4**	**+1.1**
	0.4nm,0.7s,baz=99,slow=8.9,SNR=2.1								
	0.4nm,0.7s								
ARCES	**ARCESS Array B**	**87.20**	**341**	P	**P**	**04**	**44**	**22.5**	**-0.7**
	1.4nm,0.7s,baz=51,slow=7.1,SNR=4.0								
	1.4nm,0.7s								
FINES	**FINESS Array B**	**90.77**	**334**	P	**P**	**04**	**44**	**38.7**	**-1.4**
	3.3nm,0.8s,baz=66,slow=3.4,SNR=6.9								
	3.3nm,0.8s								

JMA ***13*** *04:44:06.8±0.2, 36°.3N±0°.3×14°.2E±°, h57km±3km, MV3.3/31, FAR E OFF IBARAKI PREF*

IDC ***13*** *04:44:10.2±4.2, 36°.18N×141°.57E, h60km±38km, mb3.2/5, mbtmp3.6/7, ML3.5/2, MS3.1/1, Error ellipse: s-maj=36.0km s-min=14.1km az=64.0*

ISC 13 04:44:07.8±1.0, 36°.32N±0°.05×141°.64E±0°.09, h35km, n25, σ1s02/21, mb3.4/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JHYU	**Hitachinakayam**	**0.85**	**272**	*e*P	**Pn**	**04**	**44**	**22.3**	**-0.9**
CHOJ	**Chosi**	**0.88**	**226**	⇓P	**Pn**	**04**	**44**	**22.8**	**-0.9**
CHOJ				⇓*e*S	**Sn**	**04**	**44**	**34.7**	**-0.5**
JHO	**Hitachi**	**0.91**	**289**	⇓P	**Pn**	**04**	**44**	**23.0**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.03**	**320**	⇓P	**Pn**	**04**	**44**	**24.8**	**-1.0**
JFK	**Kawauchi**	**1.21**	**330**	P	**Pn**	**04**	**44**	**27.6**	**-0.7**
JMM	**Marumori**	**1.69**	**337**	*e*P	**Pn**	**04**	**44**	**34.8**	**0.0**
JAG	**Ashikaga**	**1.76**	**274**	*e*P	**Pn**	**04**	**44**	**35.2**	**-0.6**
JFY	**Yanaizu**	**1.89**	**306**	*e*P	**Pn**	**04**	**44**	**38.0**	**+0.3**
JKT	**Katashina**	**1.97**	**284**	*e*P	**Pn**	**04**	**44**	**39.1**	**+0.3**
JIO	**Ouri**	**2.15**	**354**	*e*S	**Sn**	**04**	**45**	**06.5**	**0.0**
JRY	**Ryogami san**	**2.23**	**263**	*e*P	**Pn**	**04**	**44**	**41.7**	**-0.6**
MJAR	**Matsushiro Arr**	**2.77**	**276**	P	**Pn**	**04**	**44**	**51.1**	**+1.4**
	2.9nm,0.3s,baz=114,slow=9.3,SNR=60								
MJAR				S	**Sn**	**04**	**45**	**24.0**	**+2.0**
	15nm,0.6s,baz=93,slow=9.0,SNR=5.6								
	11nm,0.4s								
JHJ	**Hachijo jima 2**	**3.54**	**206**	P	**Pn**	**04**	**45**	**01.9**	**+1.7**
	29nm,0.3s,baz=65,slow=17,SNR=1.7								
JHJ				S	**Sn**	**04**	**45**	**38.9**	**-1.9**
	76nm,0.3s,baz=60,slow=21,SNR=1.7								
	67nm,0.3s								
JNU	**Nakatsue**	**9.41**	**253**	LR	LR	04	50	16.0	
	comp=Z,98nm,18.6s,baz=38,slow=39								
H11N2	**WAKE ISLAND Hy**	**27.63**	**120**	T	T	05	18	43.7	
	baz=312,slow=75,SNR=11								
H11N1	**WAKE ISLAND Hy**	**27.64**	**120**	T	T	05	18	49.0	
	baz=312,slow=75,SNR=6.7								
H11N3	**WAKE ISLAND Hy**	**27.65**	**120**	T	T	05	18	47.3	
	baz=312,slow=75,SNR=9.5								
H11S1	**WAKE ISLAND Hy**	**28.32**	**122**	T	T	05	19	36.8	
	baz=314,slow=76,SNR=6.0								
H11S3	**WAKE ISLAND Hy**	**28.33**	**122**	T	T	05	19	40.1	
	baz=314,slow=76,SNR=7.2								
SONM	**Songino Array**	**28.34**	**305**	P	**P**	**04**	**49**	**58.3**	**-0.1**
	0.6nm,0.7s,baz=102,slow=8.6,SNR=4.1								
	0.6nm,0.7s								
H11S2	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	05	19	38.2	
	baz=314,slow=76,SNR=3.8								
ZALV	**Zalesovo Beam**	**42.53**	**313**	P	**P**	**04**	**51**	**59.0**	**-0.7**
	1.0nm,0.6s,baz=76,slow=6.1,SNR=4.1								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**44.65**	**303**	P	**P**	**04**	**52**	**17.0**	**+0.1**
	0.7nm,0.7s,baz=79,slow=11,SNR=4.8								
	0.7nm,0.7s								
WRA	**Warramunga Arr**	**56.38**	**188**	P	**P**	**04**	**53**	**45.6**	**0.0**
	0.2nm,0.6s,baz=1.4,slow=7.5,SNR=3.0								
	0.2nm,0.6s								
YKA	**Yellowknife Ar**	**64.34**	**30**	P	**P**	**04**	**54**	**40.1**	**+0.5**
	0.1nm,0.5s,baz=300,slow=7.0,SNR=2.0								
	0.1nm,0.5s								

IDC ***13*** *05:13:59.6±5.2, 12°.95N×143°.32E, h124km±72km, mb3.5/5, mbtmp3.9/5, Error ellipse: s-maj=95.0km s-min=17.6km az=87.0*

ISC 13 05:14:01.2±1.0, 13°.0N±0°.2×143°.6E±0°.2, h150km, n6, σ0s32/7, mb3.8/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
GUMO	**Guam**	**1.36**	**62**	P	**Pn**	**05**	**14**	**28.9**	**-0.4**
	46nm,0.3s,baz=247,slow=0.7,SNR=6.8								
GUMO				S	**Sn**	**05**	**14**	**51.2**	**+0.4**
	178nm,0.3s,baz=169,slow=23,SNR=11								
WRA	**Warramunga Arr**	**33.95**	**196**	P	**P**	**05**	**20**	**30.3**	**-0.1**
	1.3nm,0.5s,baz=17,slow=9.4,SNR=16								
	1.3nm,0.5s								
ASAR	**Alice Springs**	**37.63**	**195**	P	**P**	**05**	**21**	**01.9**	**+0.2**
	0.7nm,0.7s,baz=17,slow=12,SNR=9.3								
	0.7nm,0.7s								
MKAR	**Makanchi Array**	**61.11**	**316**	P	**P**	**05**	**23**	**59.6**	**0.0**
	0.3nm,0.5s,baz=90,slow=7.7,SNR=5.3								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**64.33**	**320**	P	**P**	**05**	**24**	**20.8**	**+0.1**
	0.7nm,0.2s,baz=105,slow=6.6,SNR=6.1								
	0.7nm,0.2s								
BVAR	**Borovoye Array**	**69.67**	**322**	P	**P**	**05**	**24**	**54.5**	**0.0**
	0.7nm,0.4s,baz=103,slow=7.5,SNR=6.4								
	0.7nm,0.4s								

IDC ***13*** *05:30:50.0±0.6, 6°.55S×68°.48E, h0km, mb4.4/27, mbtmp4.4/27, MS4.3/54, Error ellipse: s-maj=16.5km s-min=14.6km az=40.0*

MOS ***13*** *05:30:49.8±1.1, 6°.64S×68°.49E, h12km, mb5.1/44, MS4.3/5, Error ellipse: s-maj=8.6km s-min=5.7km az=104.0*

BJI ***13*** *05:30:49.5±0.0, 6°.70S×68°.50E, h5km, mb4.7/53, mB5.1/24, Ms4.9/21, Ms7 4.5/22*

NEIC ***13*** *05:30:51.9±2.4, 6°.74S±0°.09×68°.53E±0°.07, h10km±1km, mb5.1/51, Error ellipse: s-maj=15.2km s-min=11.7km az=197.0*

GCMT ***13*** *05:30:52.9±0.2, 6°.71S±0°.01×68°.38E±0°.01, h14km±1km, MW5.1/121, Moment Tensor Solution. s37,c43; s121,c182; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr1.08±.14; Mθθ-5.16±.15; Mϕϕ4.08±.12; Mrθ-1.73±.30; Mθϕ-0.21±.10; Mrϕ0.18±.23; Best double couple: Mo4.85600×10^16 NP1:ϕs134.00000°, δ83.00000°, λ-166.00000°. NP2:ϕs43.00000°, δ76.00000°, λ-7.00000°. Principal axes: T 4.1020, Plg5.0000°, Azm268.0000°; N 1.5080, Plg75.0000°, Azm161.0000°; P -5.6100, Plg14.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 05:30:51.7±0.3, 6.72S±0.06×68.47E±0.05, h12km, n305, σ1s25/285, mb4.9/113, MS4.4/70, 31C-10D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
DGAR	**Diego Garcia**	**4.01**	**100**		**Pn**	**05**	**31**	**51.0**	**-1.9**
DGAR	**Diego Garcia**	**4.01**	**100**	*ce*P	**Pn**	**05**	**31**	**51.6**	**-1.4**
DGAR				pmax	pmax				
	comp=Z,548nm,0.7s								
H08S1	**Diego Carcia H**	**4.08**	**103**	Pn	**Pn**	**05**	**31**	**51.7**	**-2.0**
	baz=296,slow=16								
H08S3	**Diego Garcia H**	**4.08**	**103**	Pn	**Pn**	**05**	**31**	**51.6**	**-2.2**
	baz=296,slow=16								
H08S2	**Diego Garcia H**	**4.10**	**103**	Pn	**Pn**	**05**	**31**	**52.0**	**-1.9**
	baz=296,slow=16								
KAAM	**Kaadhehdhoo**	**8.46**	**32**	Pn	**Pn**	**05**	**32**	**54.5**	**+0.3**
MSEY	**Mahe Island**	**13.09**	**278**	Pn	**Pn**	**05**	**33**	**57.6**	**+0.1**
MSEY	**Mahe Island**	**13.09**	**278**	P	**Pn**	**05**	**33**	**57.7**	**+0.1**
HMDM	**Hanimaadhoo**	**14.20**	**19**	Pn	**Pn**	**05**	**34**	**13.0**	**+0.2**
PCHI	**Peechi**	**18.84**	**25**	*e*P	**P**	**05**	**35**	**09.5**	**-2.2**
PCHI				*e*S	**S**	**05**	**38**	**48.0**	**+2.0**
OPO	**Ambohidratompo**	**23.84**	**238**	P	**P**	**05**	**36**	**07.0**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=42,slow=11,SNR=4.6								
	comp=Z,1.5nm,0.6s								
ABPO	**Ambohimpanom**	**24.01**	**237**	P	**P**	**05**	**36**	**06.2**	**-0.6**
ABPO				IAmb	IAmb	05	36	12.1	
	comp=Z,81nm,1.7s								
ABPO	**Ambohimpanom**	**24.01**	**237**	P	**P**	**05**	**36**	**06.2**	**-0.6**
ABPO				pmax	pmax				
	comp=Z,81nm,1.7s								
VOI	**Vohitsoka**	**25.81**	**232**	P	**P**	**05**	**36**	**22.8**	**-0.3**
VOI				IAmb	IAmb	05	36	28.9	
	comp=Z,68nm,1.6s								
VOI	**Vohitsoka**	**25.81**	**232**	P	**P**	**05**	**36**	**29.2**	**+6.1**
KIBK	**Kibwezi**	**30.63**	**277**	P	**P**	**05**	**37**	**05.0**	**-1.2**
LHMI	**Lhok Sumawe**	**30.80**	**68**	P	**P**	**05**	**37**	**07.1**	**-0.5**
ATD	**Arta Tunnel**	**31.28**	**305**	LR	LR	05	47	54.7	
	comp=Z,291nm,18.2s,baz=124,slow=33								
ATD	**Arta Tunnel**	**31.28**	**305**	P	**P**	**05**	**37**	**11.7**	**-0.2**
ATD				IAmb	IAmb	05	37	16.1	
	comp=Z,24nm,1.3s								
WSAR	**Wadi Sarin**	**31.29**	**342**	LR	LR	05	47	44.1	
	comp=Z,747nm,18.0s,baz=172,slow=33								
KMBO	**Kilima Mbogo**	**31.62**	**279**	LR	LR	05	48	00.9	
	comp=Z,14nm,20.9s,baz=101,slow=33								
KMBO	**Kilima Mbogo**	**31.62**	**279**	P	**P**	**05**	**37**	**14.6**	**-0.6**
KMBO				IAmb	IAmb	05	37	18.1	
	comp=Z,37nm,1.9s								
KMBO	**Kilima Mbogo**	**31.62**	**279**	P	**P**	**05**	**37**	**14.6**	**-0.6**
KMBO				pmax	pmax				
	comp=Z,37nm,1.9s								
PPSI	**Pulau Pagai**	**31.67**	**84**	P	**P**	**05**	**37**	**13.7**	**-1.6**
	comp=Z,141nm,1.2s								
PSI	**Prapat**	**31.84**	**74**	LR	LR	05	48	18.9	
	comp=Z,1μm,19.8s,baz=251,slow=33								
BKNI	**Bangkinang**	**33.24**	**79**	P	**P**	**05**	**37**	**30.2**	**+1.1**
BKNI	**Bangkinang**	**33.24**	**79**	P	**P**	**05**	**37**	**27.6**	**-1.5**
	comp=Z,42nm,0.9s								
UOSS	**Minazif**	**33.66**	**340**	P	**P**	**05**	**37**	**33.0**	**+0.5**
LODK	**Lodwar**	**34.55**	**286**	P	**P**	**05**	**37**	**40.2**	**-0.3**
MDSI	**Maura Dua**	**35.60**	**88**	P	**P**	**05**	**37**	**47.7**	**-1.8**
	comp=Z,12nm,1.8s,comp=Z,1μm								
KASI	**Kota Agung**	**35.84**	**90**	P	**P**	**05**	**37**	**49.8**	**-1.8**
	comp=Z,51nm,1.3s								
PMBI	**Palembang**	**36.36**	**86**	P	**P**	**05**	**37**	**53.7**	**-2.3**
	comp=Z,234nm,0.4s								
DSRI	**Dabo**	**36.55**	**82**	P	**P**	**05**	**37**	**55.8**	**-1.8**
	comp=Z,7.1nm,0.7s								
CGJI	**Cilnong**	**36.97**	**92**	P	**P**	**05**	**37**	**59.3**	**-1.9**
	comp=Z,7.9nm,1.2s								
BRDH	**Bariadhala**	**36.98**	**37**	LR	LR	05	54	44.4	
	comp=Z,400nm,18.2s,baz=225,slow=39								
RAYN	**Ar Rayn**	**37.51**	**324**	P	**P**	**05**	**38**	**05.8**	**+0.1**
RAYN	**Ar Rayn**	**37.51**	**324**	P	**P**	**05**	**38**	**05.8**	**+0.1**
RAYN				pmax	pmax				
	comp=Z,27nm,1.8s								
MBAR	**Mbarara**	**38.12**	**278**	P	**P**	**05**	**38**	**11.0**	**-0.2**
	comp=Z,5.8nm,0.9s,baz=69,slow=6.0,SNR=11								
MBAR				LR	LR	05	52	34.8	
	comp=Z,511nm,18.0s,baz=86,slow=34								
	comp=Z,5.8nm,0.9s								
MBAR	**Mbarara**	**38.12**	**278**	P	**P**	**05**	**38**	**11.0**	**-0.2**
MBAR				IAmb	IAmb	05	38	15.4	
	comp=Z,40nm,1.6s								
MBAR	**Mbarara**	**38.12**	**278**	*de*P	**P**	**05**	**38**	**11.1**	**-0.2**
MBAR				pmax	pmax				
	comp=Z,27nm,1.6s								
CNJI	**Cibinong**	**38.37**	**93**	P	**P**	**05**	**38**	**11.7**	**-1.4**
	comp=Z,27nm,1.1s								
LEM	**Lembang**	**38.87**	**93**	LR	LR	05	51	17.2	
	comp=Z,712nm,21.9s,baz=230,slow=32								
CMAR	**Chiang Mai Arr**	**39.11**	**50**	P	**P**	**05**	**38**	**19.2**	**0.0**
	comp=Z,0.9nm,0.3s,baz=243,slow=8.0,SNR=7.1								
CMAR				PcP	**PcP**	**05**	**40**	**28.9**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=232,slow=5.3,SNR=6.3								
CMAR				LR	LR	05	53	02.2	
	comp=Z,93nm,18.4s,baz=235,slow=34								
	comp=Z,0.9nm,0.3s								
CMAR	**Chiang Mai Arr**	**39.11**	**50**	P	**P**	**05**	**38**	**18.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.11**	**50**	P	**P**	**05**	**38**	**18.7**	**-0.5**
CHTO	**Chiang Mai**	**39.32**	**49**	P	**P**	**05**	**38**	**21.0**	**0.0**
CHTO	**Chiang Mai**	**39.32**	**49**	P	**P**	**05**	**38**	**21.0**	**0.0**
CHTO				pmax	pmax				
	comp=Z,14nm,1.2s								
SHL	**Shillong**	**39.34**	**34**	P	**P**	**05**	**38**	**21.7**	**+0.4**
SHL				IAmb	IAmb	05	38	32.0	
	comp=Z,121nm,1.9s								
SHL	**Shillong**	**39.34**	**34**	P	**P**	**05**	**38**	**21.7**	**+0.4**
SHL				pmax	pmax				
	comp=Z,121nm,1.9s								
CMJI	**Cimerak**	**39.66**	**94**	P	**P**	**05**	**38**	**22.1**	**-1.8**
	comp=Z,89nm,1.3s								
NIL	**Nilore**	**40.40**	**6**	P	**P**	**05**	**38**	**28.9**	**-0.9**
NIL	**Nilore**	**40.40**	**6**	P	**P**	**05**	**38**	**28.9**	**-0.9**
NIL				pmax	pmax				
	comp=Z,25nm,1.2s								
KBL	**Kabul**	**41.04**	**1**	P	**P**	**05**	**38**	**34.8**	**-0.4**
KBL	**Kabul**	**41.04**	**1**	P	**P**	**05**	**38**	**34.8**	**-0.4**
KBL				pmax	pmax				
	comp=Z,17nm,1.0s								
HRA	**Herat**	**41.30**	**352**	P	**P**	**05**	**38**	**37.4**	**0.0**
LSA	**Lhasa**	**42.26**	**30**	P	**P**	**05**	**38**	**47.6**	**+1.9**
LSA				pmax	pmax				
	comp=Z,13nm,1.4s								
TNCH	**TengChong**	**43.03**	**42**	P	**P**	**05**	**38**	**53.8**	**+2.2**
TNCH				sP	pwP	05	38	58.8	+0.9
GMJI	**Gumukmas**	**44.60**	**95**	P	**P**	**05**	**39**	**02.6**	**-1.7**
	comp=Z,37nm,2.8s								
LBTB	**Lobatse**	**44.83**	**241**	LR	LR	05	56	11.6	
	comp=Z,364nm,18.7s,baz=72,slow=34								
CHGR	**Chuyangaron**	**45.15**	**1**	P	**P**	**05**	**39**	**09.4**	**+1.1**
CHGR				IAmb	IAmb	05	39	22.0	
	comp=Z,18nm,1.0s								
CHGR	**Chuyangaron**	**45.15**	**1**	P	**P**	**05**	**39**	**09.4**	**+1.1**
CHGR				pmax	pmax				
	comp=Z,18nm,1.0s								
GEYT	**Alibeck**	**45.45**	**348**	P	**P**	**05**	**39**	**10.6**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=215,slow=6.7,SNR=2.1								
GEYT				LR	LR	05	56	36.5	
	comp=Z,822nm,21.8s,baz=160,slow=34								
	comp=Z,0.9nm,0.3s								
GEYT	**Alibeck**	**45.45**	**348**	P	**P**	**05**	**39**	**11.1**	**+0.4**
GEYT	**Alibeck**	**45.45**	**348**	P	**P**	**05**	**39**	**11.1**	**+0.4**
GEYT				pmax	pmax				
	comp=Z,14nm,1.3s								
GAR	**Garm**	**45.52**	**2**	P	**P**	**05**	**39**	**11.5**	**+0.2**
PZH	**PanZhiHua**	**46.17**	**43**	P	**P**	**05**	**39**	**16.8**	**+0.2**
PZH				sP	**pwP**	**05**	**39**	**25.0**	**+2.1**
PZH				pmax	pmax				
	comp=Z,30nm,0.8s								
PZH				pmax	pmax				
	comp=Z,120nm,3.8s								
PZH				LR	LR				
	comp=Z,440nm,22.0s								
PZH				LR	LR				
	comp=Z,500nm,20.0s								
PZH				LR	LR				
	comp=Z,720nm,24.5s								
BOSA	**Boshof**	**46.23**	**236**	P	**P**	**05**	**39**	**18.4**	**+1.2**
	comp=Z,12nm,0.8s,baz=89,slow=8.4,SNR=6.0								
BOSA				LR	LR	05	55	01.8	
	comp=Z,186nm,21.6s,baz=76,slow=31								
	comp=Z,12nm,0.8s								
BOSA	**Boshof**	**46.23**	**236**	P	**P**	**05**	**39**	**17.4**	**+0.2**
BOSA				IAmb	IAmb	05	39	23.0	
	comp=Z,15nm,0.9s								
BOSA	**Boshof**	**46.23**	**236**	P	**P**	**05**	**39**	**17.4**	**+0.2**
BOSA				pmax	pmax				
	comp=Z,15nm,0.9s								
KSH	**Kashi**	**46.52**	**8**	P	**P**	**05**	**39**	**15.8**	**-3.4**
KSH				pP	pP	05	39	22.3	+0.2
KSH				pmax	pmax				
	comp=Z,13nm,1.6s								
KSH				LR	LR				
	comp=Z,710nm,20.3s								
KSH				LR	LR				
	comp=Z,620nm,16.1s								
KSH				LR	LR				
	comp=Z,1μm,20.6s								
GRHM	**Grahamstown, E**	**47.09**	**230**	P	**P**	**05**	**39**	**24.7**	**+0.9**
QIZ	**Qiongzhong**	**48.13**	**57**	P	**P**	**05**	**39**	**33.6**	**+1.7**
QIZ				S	**S**	**05**	**46**	**32.0**	**+1.1**
QIZ				LR	LR				
	comp=Z,400nm,19.9s								
EIL	**Elat**	**48.44**	**320**	LR	LR	05	58	01.5	
	comp=Z,269nm,18.5s,baz=132,slow=34								
PLAI	**Plampang**	**48.87**	**96**	P	**P**	**05**	**39**	**36.1**	**-1.7**
	comp=Z,20nm,1.9s								
GOMU	**GeErMu**	**49.34**	**28**	P	**P**	**05**	**39**	**42.5**	**+1.1**
GOMU				pP	pwP	05	39	47.1	-1.1
GOMU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
GOMU				pmax	pmax				
	comp=Z,110nm,5.1s								
GOMU				LR	LR				
	comp=Z,340nm,20.0s								
GOMU				LR	LR				
	comp=Z,200nm,19.2s								
GOMU				LR	LR				
	comp=Z,290nm,17.5s								
AAK	**Ala-Archa**	**49.42**	**6**	P	**P**	**05**	**39**	**40.8**	**-0.8**
	comp=Z,3.0nm,0.9s,baz=189,slow=4.7,SNR=7.9								
AAK				LR	LR	05	59	17.0	
	comp=Z,366nm,20.4s,baz=195,slow=35								
	comp=Z,3.0nm,0.9s								
AAK	**Ala-Archa**	**49.42**	**6**	P	**P**	**05**	**39**	**42.2**	**+0.5**
AAK				IAmb	IAmb	05	39	48.7	
	comp=Z,34nm,1.6s								
AAK	**Ala-Archa**	**49.42**	**6**	⇓*e*P	**P**	**05**	**39**	**41.8**	**+0.1**
AAK				pmax	pmax				
	comp=Z,16nm,1.7s								
GYA	**Guiyang**	**49.59**	**47**	P	**P**	**05**	**39**	**44.0**	**+0.8**
GYA				pmax	pmax				
	comp=Z,12nm,1.2s								
KK31	**Karatay Array**	**49.62**	**2**	P	**P**	**05**	**39**	**43.9**	**+1.0**
KK31				IAmb	IAmb	05	39	48.4	
	comp=Z,32nm,1.9s								
KK31	**Karatay Array**	**49.62**	**2**	P	**P**	**05**	**39**	**43.9**	**+1.0**
KK31				pmax	pmax				
	comp=Z,33nm,2.0s								
KKAR	**Karatay Array**	**49.62**	**2**	P	**P**	**05**	**39**	**43.9**	**+1.0**
KKAR	**Karatay Array**	**49.62**	**2**	P	**P**	**05**	**39**	**43.9**	**+1.0**
CD2	**Chengdu**	**50.40**	**40**	P	**P**	**05**	**39**	**49.1**	**-0.1**
CD2				pP	sP	05	39	53.1	+0.1
CD2				sP	pwP	05	39	54.8	-1.4
CD2				S	**S**	**05**	**47**	**05.3**	**+2.8**
CD2				pmax	pmax				
	comp=Z,30nm,1.0s								
H01W3	**Cape Leeuwin H**	**50.45**	**130**	T	T	06	33	53.2	
	baz=292,slow=75,SNR=192								
H01W2	**Cape Leeuwin H**	**50.45**	**130**	T	T	06	33	53.4	
	baz=292,slow=75,SNR=220								
H01W1	**Cape Leeuwin H**	**50.47**	**130**	T	T	06	33	54.5	
	baz=292,slow=75,SNR=224								
MMAI	**Mount Meron Ar**	**50.48**	**324**	LR	LR	05	58	43.9	
	comp=Z,137nm,18.7s,baz=138,slow=33								
MARD	**Mardin**	**50.87**	**331**	P	**P**	**05**	**39**	**53.7**	**+1.0**
MARD				IAmb	IAmb	05	39	55.7	
	comp=Z,53nm,1.6s								
TSUM	**Tsumeb**	**50.94**	**251**	LR	LR	06	00	04.9	
	comp=Z,395nm,18.2s,baz=46,slow=34								
KAPI	**Kappang**	**51.02**	**91**	LR	LR	05	58	51.3	
	comp=Z,453nm,21.6s,baz=247,slow=33								
SUR	**Sutherland**	**51.10**	**233**	LR	LR	06	00	35.2	
	comp=Z,235nm,18.0s,baz=70,slow=35								
GURO	**Guroymak-BITLI**	**51.30**	**333**	P	**P**	**05**	**39**	**56.4**	**+0.4**
GNI	**Garni**	**51.51**	**337**	LR	LR	06	01	06.6	
	comp=Z,261nm,18.8s,baz=138,slow=35								
GNI	**Garni**	**51.51**	**337**	P	**P**	**05**	**39**	**59.2**	**+1.7**
GNI	**Garni**	**51.51**	**337**	P	**P**	**05**	**39**	**59.2**	**+1.7**
GNI				pmax	pmax				
	comp=Z,79nm,1.7s								
NWAO	**Narrogin (SRO)**	**52.16**	**127**	LR	LR	05	57	43.8	
	comp=Z,326nm,20.8s,slow=31								
WMQ	**Urumqi**	**53.23**	**17**	*e*P	**P**	**05**	**40**	**10.8**	**+0.7**
WMQ				pP

ABKAR **Akbulak array** 56.23 353 P P 05 40 29.3 -2.4
comp=Z,38nm,1.5s
BR131 **Keskin Array S** 56.30 328*c* *i*P P 05 40 33.3 +0.7
BRTR **Keskin Array B** 56.30 328 P P 05 40 31.7 -0.8
comp=Z,3.1nm,1.1s,baz=150,slow=5.1,SNR=10
BRTR LR LR 06 03 37.7
comp=Z,224nm,19.7s,baz=144,slow=35
comp=Z,3.1nm,1.1s
BRTR **Keskin Array B** 56.30 328 P P 05 40 32.7 +0.1
BRTR **Keskin Array B** 56.30 328 *i* P P 05 40 33.4 +0.8
BRTR pmax pmax
comp=Z,4.0nm,1.0s
SOC **Sochi** 56.43 335 *e*P P 05 40 31.0 -2.2
SOC *e* 05 42 36.9
SOC *e*PPP PPP 05 43 50.3
SOC *e*S **S** 05 48 21.3 -2.6
SOC *e*SS **SS** 05 52 12.8 +1.4
SOC MLR MLR
comp=Z,190nm,15.0s
AKTO **Aktyubinsk** 57.63 352 P P 05 40 40.1 -1.5
comp=Z,16nm,1.2s,baz=176,slow=7.2,SNR=12
AKTO LR LR 06 04 50.9
comp=Z,285nm,18.4s,baz=64,slow=36
comp=Z,16nm,1.2s
KURBB **Kurchatov Arra** 57.77 8 P P 05 40 41.1 -1.4
comp=Z,1.8nm,0.7s,baz=201,slow=7.5,SNR=18
KURBB LR LR 06 04 07.8
comp=Z,443nm,20.7s,baz=149,slow=35
comp=Z,1.8nm,0.7s
KURK **Kurchatov** 57.87 8 P P 05 40 42.9 -0.3
KURK IAmb IAmb 05 40 49.1
comp=Z,23nm,1.4s
KURK **Kurchatov** 57.87 8 P P 05 40 42.9 -0.3
KURK pmax pmax
comp=Z,23nm,1.5s
DGZ **Jazzator, Alta** 58.56 14⇑ *i*P P 05 40 47.2 -1.1
DGZ pmax pmax
comp=Z,11nm,1.3s
DAV **Davao City (W)** 58.59 78 LR LR 06 04 08.0
comp=Z,260nm,21.9s,baz=210,slow=34
BVAR **Bovoye Array** 59.53 1 P P 05 40 54.3 -0.5
comp=Z,2.8nm,1.0s,baz=145,slow=5.4,SNR=11
BVAR LR LR 06 06 24.5
comp=Z,179nm,20.0s,baz=191,slow=36
comp=Z,2.8nm,1.0s
BRVK **Borovoye** 59.56 1 P P 05 40 54.3 -0.7
BRVK **Borovoye** 59.56 1⇑ *e*P P 05 40 53.7 -1.3
BRVK pmax pmax
comp=Z,11nm,1.1s
MAW **Mawson** 60.92 182 LR LR 06 02 29.2
comp=Z,333nm,18.7s,baz=346,slow=31
BELG **Belogornoye** 61.51 346 P P 05 41 06.6 -1.6
comp=Z,12nm,0.8s,baz=212,slow=0.5,SNR=4.7
comp=Z,12nm,0.8s
BELG **Belogornoye** 61.51 346⇑ *i*P P 05 41 08.7 +0.5
BELG pmax pmax
comp=Z,7.0nm,1.4s
HNS **HongShan** 61.52 41 ⇑P P 05 41 08.6 -0.1
HNS pmax pmax
comp=Z,14nm,1.1s
NJ2 **Nanjing** 61.55 48 *e*P P 05 41 09.6 +0.7
NJ2 pmax pmax
comp=Z,11nm,0.5s
HHC **Hu-ho-hao-te** 61.67 36 *e*P P 05 41 12.6 +2.8
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,310nm,5.4s
ZAA0 **Zalesovo Array** 61.99 11 P P 05 41 10.5 -1.0
ZAA0 IAmb IAmb 05 41 29.9
comp=Z,10nm,1.2s
ZALV **Zalesovo Beam** 61.99 11 P P 05 41 09.6 -1.9
comp=Z,1.0nm,0.6s,baz=207,slow=7.0,SNR=6.3
ZALV LR LR 06 07 53.7
comp=Z,353nm,19.9s,baz=210,slow=36
comp=Z,1.0nm,0.6s
ZALV **Zalesovo Beam** 61.99 11 P P 05 41 09.8 -1.7
VRH **Novokhopyorsk** 62.12 341 *e*P P 05 41 11.2 -1.2
VRH pmax pmax
comp=Z,20nm,1.2s
SIJI **Sorong** 62.89 88 LR LR 06 06 26.3
comp=Z,71nm,21.2s,baz=223,slow=34
LIT **Litokhoron** 62.94 322 P P 05 41 18.3 +0.1
LIT **Litokhoron** 62.94 322 P P 05 41 18.3 +0.1
LIT pmax pmax
comp=Z,49nm,1.6s
VSR **Storozhevoye** 62.97 340 *e*P P 05 41 17.3 -0.8
VSR pmax pmax
comp=Z,20nm,1.5s
CFR **Carcaliu** 63.04 329 ⇑P P 05 41 19.1 +0.4
CFR **Carcaliu** 63.04 329 P P 05 41 19.1 +0.4
VORR **Voronezh** 63.34 340 *e*P P 05 41 21.5 +1.0
VORR pmax pmax
comp=Z,20nm,1.3s
ARU **Arti** 63.45 354 P P 05 41 20.2 -1.0
comp=Z,3.9nm,0.2s,baz=190,slow=3.2,SNR=13
ARU LR LR 06 10 15.9
comp=Z,140nm,18.5s,baz=146,slow=37
comp=Z,3.9nm,0.2s
ARU **Arti** 63.45 354 P P 05 41 21.4 +0.2
ARU **Arti** 63.45 354*c* *i*P P 05 41 19.8 -1.4
ARU 05 43 37.9
ARU S **S** 05 49 54.1 +0.3
ARU SS **SS** 05 53 57.6 -3.5
ARU pmax pmax
comp=Z,37nm,1.4s
SONM **Songino Array** 63.77 27 P P 05 41 23.8 +0.1
comp=Z,7.0nm,0.7s,baz=217,slow=7.2,SNR=46
SONM LR LR 06 08 42.3
comp=Z,393nm,21.0s,baz=194,slow=36
comp=Z,7.0nm,0.7s
SONM **Songino Array** 63.77 27 P P 05 41 23.6 -0.1
SONM IAmb IAmb 05 41 30.9
comp=Z,22nm,1.4s
SONM **Songino Array** 63.77 27 P P 05 41 23.6 -0.1
SONM pmax pmax
comp=Z,22nm,1.4s
BJI **Beijing** 63.98 39 P P 05 41 25.8 +0.8
BJI pmax pmax
comp=Z,4.0nm,0.6s
VTS **Vitosha** 64.03 324 ⇑P P 05 41 26.1 +0.6
VTS **Vitosha** 64.03 324 P P 05 41 26.1 +0.6
ULN **Ulaanbaatar** 64.09 28 P P 05 41 25.4 -0.4
ULN IAmb IAmb 05 41 33.7
comp=Z,28nm,1.8s
ULN **Ulaanbaatar** 64.09 28⇓ *e*P P 05 41 26.1 +0.3
ULN pmax pmax
comp=Z,15nm,1.7s
LPSR **Galich'ya Gora** 64.22 340 *e*P P 05 41 24.2 -2.1
LPSR pmax pmax
comp=Z,30nm,1.7s
VRI **Vrincioaia** 64.23 329 ⇑P P 05 41 27.8 +1.2
VRI **Vrincioaia** 64.23 329 P P 05 41 27.8 +1.2
PLOR **Plostina** 64.26 329 ⇑P P 05 41 28.1 +1.2
PLOR **Plostina** 64.26 329 P P 05 41 28.0 +1.2
ZAK **Zakamensk** 64.35 24 *e*P P 05 41 26.9 -0.5
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ZAK pmax pmax
comp=Z,4.0nm,1.4s
MLR **Muntele Rosu** 64.39 328 ⇑P P 05 41 28.7 +0.9
MLR **Muntele Rosu** 64.39 328 P P 05 41 27.3 -0.5
MLR IAmb IAmb 05 41 30.8
comp=Z,38nm,1.6s
MLR **Muntele Rosu** 64.39 328 P P 05 41 27.3 -0.5
MLR pmax pmax
comp=Z,38nm,1.6s
MOY **Mondy** 64.49 22 *e*P P 05 41 28.6 +0.3
TESR **Tescani** 64.71 329 ⇑P P 05 41 29.9 +0.2
ASAR **Alice Springs** 64.85 113 P P 05 41 31.4 +0.2
comp=Z,7.0nm,1.0s,baz=280,slow=5.9,SNR=24
comp=Z,7.0nm,1.0s
ASAR **Alice Springs** 64.85 113 P P 05 41 30.9 -0.3
ASAR **Alice Springs** 64.85 113 P P 05 41 30.9 -0.3
AS31 **Alice Springs** 64.85 113 P P 05 41 30.3 -0.9
OZUR 64.87 329 ⇑P P 05 41 30.6 -0.2
DOPR **Dopca** 64.99 328 ⇑P P 05 41 31.6 0.0
WRA **Warramunga Arr** 65.08 109 P P 05 41 32.7 0.0
comp=Z,8.1nm,0.8s,baz=282,slow=6.6,SNR=33
comp=Z,8.1nm,0.8s
WRA **Warramunga Arr** 65.08 109 P P 05 41 32.7 0.0
WRA **Warramunga Arr** 65.08 109 P P 05 41 32.7 0.0
WRA pmax pmax
comp=Z,2.0nm,1.3s
WRAB **Tennant Creek** 65.09 109 P P 05 41 32.4 -0.4
WRAB **Tennant Creek** 65.09 109*c* *i*P P 05 41 33.6 +0.9
WRAB pmax pmax
comp=Z,29nm,1.7s
WB2 **Warramunga Arr** 65.09 109 P P 05 41 31.8 -1.0
WB2 IAmb IAmb 05 41 41.0
comp=Z,27nm,1.2s
WB0 **Warramunga Arr** 65.12 109 P P 05 41 33.4 +0.4
WB0 IAmb IAmb 05 41 34.6
comp=Z,13nm,0.8s
BOVS **Bovan** 65.54 324 ⇑P P 05 41 34.8 -0.4
GZR **Gura Zlata** 66.02 327 ⇑P P 05 41 39.1 +0.7
GZR **Gura Zlata** 66.02 327 P P 05 41 39.0 +0.7
BUR01 **Bucovina Ar. S** 66.18 330 ⇑P P 05 41 40.5 +1.2
XLT **XiLinHaoTe** 66.19 36 *e*P P 05 41 42.4 +3.0
XLT pP pwP 05 41 46.5 0.0
XLT sP sP 05 41 49.6 +6.3
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,140nm,5.5s
ARCR **ARCALIA** 66.27 329 P P 05 41 40.7 +0.9
AKASG **Malin Array Be** 66.45 334 P P 05 41 39.4 -1.5
comp=Z,1.6nm,0.7s,baz=138,slow=4.9,SNR=17
comp=Z,1.6nm,0.7s
AKASG **Malin Array Be** 66.45 334 *i*P P 05 41 40.5 -0.3
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB **Malin Array Si** 66.45 334⇑ *i*P P 05 41 40.8 0.0
AKBB pmax pmax
comp=Z,20nm,1.3s
SURR **Surduc** 66.60 326 P P 05 41 42.4 +0.5
JOW **Kunigami** 66.78 57 LR LR 06 11 20.8
comp=Z,95nm,18.3s,baz=240,slow=36
BZS **Buzias** 66.80 326 ⇑P P 05 41 43.7 +0.5
BZS **Buzias** 66.80 326 P P 05 41 43.7 +0.5
KIRV **Kirov** 66.87 349 P P 05 41 43.6 +0.3
comp=Z,111nm,0.6s,baz=158,slow=5.2,SNR=8.5
KIRV LR LR 06 10 12.4
comp=Z,246nm,21.5s,baz=160,slow=35
comp=Z,11nm,0.6s
KIRV **Kirov** 66.87 349*de*P P 05 41 41.7 -1.6
OBN **Obninsk** 67.08 341 *e*P P 05 41 44.8 +0.1
OBN *e* 05 42 13.4
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,215nm,14.0s
MOS **Moscow** 67.27 342 *e*P P 05 41 45.4 -0.5
MOS *e* 05 42 06.9
MOS pmax pmax
comp=Z,99nm,1.5s
FRGS **Fruska Gora** 67.54 325 ⇑P P 05 41 48.1 +0.2
TRPA **Tarpa** 67.88 329 ⇑P P 05 41 50.9 +0.9
LVV **L'vov** 68.23 331 *e*P P 05 41 51.8 -0.4
UZH **Uzhgorod** 68.33 329 *e*P P 05 41 52.6 -0.2
UZH *i* 05 42 00.7
UZH *i* 05 42 13.2
MORH **Mrgy. Hungar** 68.82 325 ⇑P P 05 41 56.4 +0.5
CRVS **Cervenica-Dubn** 68.92 329 *e*P P 05 41 57.0 +0.5
CRVS **Cervenica-Dubn** 68.92 329 *e*P P 05 41 57.0 +0.5
MNK **Minsk** 69.78 336 *i*P P 05 42 00.5 -1.2
comp=E,5.0nm,0.9s
MNK *i*P P 05 42 00.5 -1.2
comp=N,15nm,0.7s
MNK *i*P P 05 42 00.5 -1.2
comp=Z,9.0nm,0.8s,baz=136
MNK *i*PcP **PcP** 05 42 23.1 -1.2
MNK *i*PP **PP** 05 44 34.3 -1.9
MNK *i*PPP PPP 05 46 15.4
MNK *i*S **S** 05 51 09.8 -0.8
MNK *i*ScS **SKSac** 05 52 02.1 -0.1
MNK *i*SS **SS** 05 55 38.9 -0.6
MNK *i*SSS SSS 05 58 59.8
MNK *i*LR LR 06 13 02.4
MNK *i*LRM MLR 06 14 53.0
comp=E,24nm,17.2s
MNK *i*LRM MLR 06 14 54.2
comp=N,488nm,19.8s
MNK *i*LRM MLR 06 15 29.4
comp=Z,157nm,16.6s
MNK **Minsk** 69.78 336 *i*P P 05 42 00.5 -1.2
MNK *i* 05 42 23.1
MNK *i* 05 44 34.3
MNK *i*PPP PPP 05 46 15.4
MNK *i*S **S** 05 51 09.8 -0.8
MNK *i* 05 52 02.1
MNK *i*SS **SS** 05 55 38.9 -0.6
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,15nm,0.6s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=E,24nm,17.0s
MNK MLR MLR
comp=N,488nm,20.0s
MNK MLR MLR
comp=Z,157nm,17.0s
VYHS **Vyhne** 70.05 327 *e*P P 05 42 03.8 +0.3
VYHS pmax pmax
comp=Z,25nm,1.6s
VYHS **Vyhne** 70.05 327 *e*P P 05 42 03.8 +0.3
LANS **Liptovska Anna** 70.11 328 *e*P P 05 42 04.6 +0.7
LANS pmax pmax
comp=Z,5.0nm,1.1s
LANS **Liptovska Anna** 70.11 328 *e*P P 05 42 04.6 +0.7
PRGR **Permogore** 70.42 349 *e*P P 05 42 05.1 -0.4
PRGR pmax pmax
comp=Z,12nm,1.0s
KSRS **Korea Array** 70.65 47 LR LR 06 12 40.2
comp=Z,87nm,20.4s,baz=130,slow=36
ELIB **Princess Elisa** 70.80 194 *d*P P 05 42 07.5 -0.4
comp=Z,9.7nm,1.1s
RONA **Rosalia, Austr** 70.99 326 *e*P P 05 42 10.6 +1.3
comp=Z,6.7nm,1.0s
KLMR **Klimovskoe** 71.08 345 *e*P P 05 42 06.4 -3.1
KLMR AMP 05 42 12.1
comp=Z,74nm,1.5s
KLMR **Klimovskoe** 71.08 345 *e*P P 05 42 06.4 -3.1
KLMR pmax pmax
comp=Z,74nm,1.5s
ARSA **Arzberg** 71.17 325 *e*P P 05 42 12.3 +1.9
comp=Z,9.1nm,1.2s
CN2 **Changchun** 71.83 40 *e*P P 05 42 16.1 +1.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s
STKA **Stephens Creek** 72.16 121 P P 05 42 17.6 +0.9
comp=Z,7.8nm,0.9s,baz=295,slow=7.4,SNR=6.9
STKA LR LR 06 13 00.7
comp=Z,252nm,18.0s,baz=254,slow=35
comp=Z,7.8nm,0.9s
BIOA **Bad Ischl, Aus** 72.49 325 *e*P P 05 42 19.6 +1.3
comp=Z,14nm,1.2s
ABTA **Abfaltersbach** 72.66 323 *e*P P 05 42 20.7 +1.3
comp=Z,20nm,1.4s
VSU **Vasula** 73.10 339⇑ *e*P P 05 42 22.8 +1.2
VSU pmax pmax
comp=Z,390nm,4.8s
NVL **N'lazarevskaya** 73.11 197 *e*P P 05 42 21.6 +0.1
NVL pmax pmax
comp=Z,16nm,0.8s
WTTA **Wattenberg** 73.44 324 *e*P P 05 42 25.3 +1.1
comp=Z,21nm,1.3s
WATA **Walderalm** 73.51 324 *e*P P 05 42 24.9 +0.4
comp=Z,25nm,1.4s
SQTA **Sankt Quirin** 73.67 323 *e*P P 05 42 26.1 +0.6
comp=Z,19nm,1.3s
MOTA **Moosalm** 73.80 323 *e*P P 05 42 26.8 +0.6
comp=Z,19nm,1.2s
FETA **Feichten** 73.86 323 *e*P P 05 42 29.0 +2.4
comp=Z,14nm,1.1s
BRG **Berggiesshubel** 74.02 328 *e*P P 05 42 27.7 +0.5
BRG Amp 05 42 30.6
comp=Z,6.4nm,1.1s
BRG **Berggiesshubel** 74.02 328 *e*P P 05 42 27.7 +0.5
BRG pmax pmax
comp=Z,6.0nm,1.1s
RETA **Reutte** 74.07 323 *e*P P 05 42 28.1 +0.4
comp=Z,24nm,1.7s
DAVOX **Davos/Dischmat** 74.26 322 LR LR 06 14 02.3
comp=Z,97nm,19.5s,baz=79,slow=35
DAVA **Damuels** 74.50 323 *e*P P 05 42 31.4 +1.1
comp=Z,23nm,1.3s
CLL **Collm** 74.75 328 *i*P P 05 42 32.2 +0.7
comp=Z,69nm,1.9s
CLL **Collm** 74.75 328 *i*P P 05 42 32.2 +0.7
CLL pmax pmax
comp=Z,69nm,1.9s
FINES **FINESS Array B** 75.49 340 P P 05 42 34.5 -1.0
comp=Z,4.0nm,1.0s,baz=140,slow=6.7,SNR=2.3
FINES LR LR 06 18 02.1
comp=Z,221nm,18.3s,baz=90,slow=38
comp=Z,4.0nm,1.0s
HEH **HeiHe** 76.12 35 *e*P P 05 42 38.3 -1.1
HEH pmax pmax
comp=Z,5.0nm,0.7s
USRK **Ussuriysk Ar.** 76.24 42 LR LR 06 17 56.1
comp=Z,78nm,19.4s,baz=223,slow=37
CTA **Charters Tower** 76.28 109 LR LR 06 17 34.9
comp=Z,140nm,18.4s,baz=261,slow=37
CTAO **Charters Tower** 76.28 109 P P 05 42 41.5 +0.5
CTAO IAmb IAmb 05 42 43.4
comp=Z,21nm,1.1s
CTAO **Charters Tower** 76.28 109 P P 05 42 41.5 +0.5
CTAO pmax pmax
comp=Z,21nm,1.1s
NRIK **Noril'sk** 77.03 7 P P 05 42 44.5 +0.4
comp=Z,1.7nm,0.4s,baz=194,slow=5.7,SNR=4.9
NRIK LR LR 06 17 35.0
comp=Z,273nm,19.1s,baz=198,slow=36
comp=Z,1.7nm,0.4s
NRIK **Noril'sk** 77.03 7⇑ *i*P P 05 42 45.8 +1.7
NRIK pmax pmax
comp=Z,13nm,1.5s
ZEA **Zeya** 77.74 31 *e*P P 05 42 48.8 +0.4
ZEA *e*S **S** 05 52 43.3 +2.8
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA smax smax
comp=E,500nm,18.5s
ZEA smax smax
comp=N,600nm,17.0s
ZEA MLR MLR
comp=Z,300nm,17.0s
PMG **Port Moresby** 77.81 98 LR LR 06 13 53.9
comp=Z,98nm,22.0s,baz=300,slow=33
SNAA **Sanae** 77.82 198 LR LR 06 09 45.1
comp=Z,258nm,19.4s,baz=20,slow=30
SNAA **Sanae** 77.82 198⇑ *e*P P 05 42 49.7 +1.0
SNAA pmax pmax
comp=Z,37nm,2.8s
MJAR **Matsushiro Arr** 77.99 51 P P 05 42 51.0 +0.7
comp=Z,0.8nm,0.3s,baz=259,slow=9.3,SNR=5.9
comp=Z,0.8nm,0.3s
KLR **Kul'dur** 78.17 37 P P 05 42 49.9 -1.0
comp=Z,3.9nm,0.9s,baz=285,slow=8.8,SNR=10
KLR LR LR 06 17 39.9
comp=Z,88nm,21.8s,baz=246,slow=36
comp=Z,3.9nm,0.9s
KLR **Kul'dur** 78.17 37⇓ *e*P P 05 42 50.2 -0.7
KLR pmax pmax
comp=Z,9.0nm,1.2s
GUMO **Guam** 78.46 75 LR LR 06 14 01.3
comp=Z,117nm,21.9s,baz=122,slow=33
HFS **Hagfors** 79.27 335 LR LR 06 18 09.7
comp=Z,297nm,19.9s,baz=111,slow=36
MDT **Midelt** 79.58 305 LR LR 06 19 27.9
comp=Z,134nm,18.4s,baz=114,slow=37
NOA **NORSAR Array B** 80.79 336 LR LR 06 19 38.9
comp=Z,227nm,19.9s,baz=105,slow=36
ESDC **Sonseca Array** 80.94 312 P P 05 43 06.3 0.0
comp=Z,3.0nm,1.1s,baz=96,slow=4.4,SNR=8.1
comp=Z,3.0nm,1.1s
ARCES **ARCESS Array B** 81.55 346 LR LR 06 19 24.3
comp=Z,257nm,21.5s,baz=119,slow=36
YAK **Yakutsk** 82.93 25 LR LR 06 19 39.8
comp=Z,63nm,19.1s,baz=264,slow=35
YAK **Yakutsk** 82.93 25⇓ *e*P P 05 43 17.9 +1.7
YAK pmax pmax
comp=Z,9.0nm,0.5s
VNDA **Vanda** 84.22 167 LR LR 06 16 32.6
comp=Z,301nm,18.1s,baz=268,slow=32
YSS **Yuzh-Sakhalins** 84.28 42⇓ *e*P P 05 43 23.6 +0.2
BBTS **Babate** 86.88 285 LR LR 06 23 01.9
comp=Z,260nm,18.3s,baz=88,slow=36
TIXI **Tiksi** 87.41 16 P P 05 43 38.0 -0.4
comp=Z,2.1nm,0.3s,baz=90,slow=24,SNR=7.5
TIXI LR LR 06 23 52.1
comp=Z,319nm,18.8s,baz=318,slow=36
comp=Z,2.1nm,0.3s
TIXI **Tiksi** 87.41 16 P P 05 43 37.8 -0.6
TIXI IAmb IAmb 05 43 56.3
comp=Z,16nm,1.2s
TIXI **Tiksi** 87.41 16⇑ *i*P P 05 43 38.0 -0.4
TIXI pmax pmax
comp=Z,16nm,1.7s
SPITS **Spitsbergen Ar** 89.31 351 LR LR 06 26 35.6
comp=Z,116nm,19.5s,baz=100,slow=38
DZM **Mont Dzumac** 94.84 113 *e*LR LR 06 14 46.3
comp=Z,306nm,21.4s
PETK **Petropavlovsk-** 94.86 37 LR LR 06 31 16.3
comp=Z,108nm,18.9s,baz=274,slow=38
PET **Petropavlovsk** 95.42 37⇓ *i*P P 05 44 13.6 -2.5
PET pmax pmax
comp=Z,154nm,3.4s
BORG **Borgarnes** 95.94 334 LR LR 06 29 56.9
comp=Z,177nm,18.5s,baz=83,slow=37
YKA **Yellowknife Ar** 124.29 2 PKP PKPdf 05 49 49.0 -1.1
comp=Z,0.7nm,0.8s,baz=338,slow=2.0,SNR=7.3
YKA PKKPbc PKKPab 05 59 34.6 +0.8
comp=Z,0.5nm,0.9s,baz=175,slow=4.7,SNR=6.2
TBI **Tubuai** 132.40 130 *e*LR LR 06 32 09.0
comp=Z,528nm,31.8s
HLID **Hailey** 143.21 4 P PKiKP 05 50 28.6 -1.0
baz=355
BW06 **Boulder Array** 144.05 358 P PKPdf 05 50 29.6 +1.6
baz=3.2
PDAR **Pinedale Array** 144.05 358 PKP PKPdf 05 50 28.6 +0.7
comp=Z,0.8nm,0.8s,baz=85,slow=3.1,SNR=6.3
KSU1 **Kansas State U** 145.06 340 P PKPbc 05 50 28.5 -0.3
baz=26
LRAL **Lakeview Retre** 145.29 322 P PKPbc 05 50 29.3 -0.4
baz=46
N23A **Red Feather La** 145.60 352 P PKPab 05 50 31.6 +0.5
baz=9.7
OXF **Oxford** 145.62 327 P PKPab 05 50 30.9 -0.1
baz=41
ORV **Oroville** 146.09 14 PKPdf PKPdf 05 50 31.6 +0.3
ORV **Oroville** 146.09 14 PKP2 PKPdf 05 50 31.6 +0.3
Y45A **Yeager Farm, C** 146.18 326 PKPdf 05 50 31.6 +0.1
CBKS **Cedar Bluff** 146.31 343 PKPdf 05 50 30.8 -0.9
CBKS **Cedar Bluff** 146.31 343 P PKPab 05 50 33.5 -0.1
baz=21
CBKS **Cedar Bluff** 146.31 343 PKP2 PKPdf 05 50 30.8 -0.9
O20A **White River Ci** 146.59 355 PKPdf 05 50 33.0 +0.7
O20A **White River Ci** 146.59 355 P PKPab 05 50 34.3 -0.5
baz=5.8
DUG **Dugway, Tooele** 146.65 2 P PKPbc 05 50 34.1 +0.3
baz=358
KSCO **Kaye Shedlock'** 146.86 347 P PKPbc 05 50 35.1 +0.6
baz=16
TAOE **Nuku Hiva Isla** 147.55 118 *e*LR LR 06 39 11.5
comp=Z,96nm,24.8s
TUL1 **Leonard** 147.56 336 P PKPbc 05 50 35.2 -1.1
baz=30
MIAR **Mount Ida** 147.73 332 P PKPbc 05 50 36.3 -0.5
baz=35
NVAR **Mina Array Bea** 147.84 10 PKPbc PKPbc 05 50 37.3 -0.1
comp=Z,2.7nm,0.8s,baz=322,slow=0.9,SNR=17
R11A **Troy Canyon, C** 148.30 6 P PKPbc 05 50 37.1 -1.5
baz=352
SDCO **Great Sand Dun** 148.63 351 P PKPbc 05 50 39.7 +0.1
baz=11
S22A **4UR Ranch, Cre** 148.82 353 P PKPbc 05 50 40.3 +0.2
baz=8.9
WMOK **Wichita Mounta** 149.74 339 P PKPbc 05 50 41.7 -0.4
baz=26
CWC **Cottonwood Cre** 149.81 11 P PKiKP 05 50 43.4 0.0
baz=347
VES **Vestal, Richgr** 150.19 12 P PKPbc 05 50 43.2 0.0
baz=345
MPMC **Manual Prospec** 150.29 10 P PKiKP 05 50 45.2 +0.8
baz=348
GSC **Goldstone, Bar** 151.14 9 P PKiKP 05 50 46.6 +0.5
baz=349
GMRC **Granite Mounta** 151.81 7 P PKiKP 05 50 49.1 +1.6
baz=351
IRM **Iron Mountain** 152.49 6 P PKiKP 05 50 50.3 +1.5
baz=352
BELC **Belle Mtn. Jos** 152.54 8 P PKPbc 05 50 47.8 -1.0
baz=350
MONP2 **Monument Peak** 153.56 9 P PKPbc 05 50 48.6 -2.6
baz=349

NEIC ***13*** *05:31:59.0±1.7, 10°.68S±0°.09×161°.92E±0°.06, h35km±6km, mb4.8/27, Error ellipse: s-maj=14.4km s-min=5.4km az=210.0*

NOU ***13*** *05:32:00.1, 10°.73S×161°.87E, h27km, mb5.0/22, Solomon Islands*

IDC ***13*** *05:32:00.9±2.5, 10°.69S×161°.71E, h61km±21km, mb3.9/10, mbtmp4.3/12, ML4.5/2, MS3.7/17, Error ellipse: s-maj=21.4km s-min=14.7km az=77.0*

ISC 13 05:31:58.7±0.4, 10°.78S±0°.06×161°.94E±0°.06, h35km, n98, σ1§78/79, mb4.7/31, MS3.6/15, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.38**	**304**	P	**Pn**	**05 32 34.2**	**-1.0**
	21µm,0.4s,baz=185,slow=8.2,SNR=56						
HNR				S	**Sn**	**05 33 00.5**	**-2.7**
	22µm,0.3s,baz=144,slow=14,SNR=11						
HNR				LR	LR	05 33 37.2	
	comp=Z,18µm,19.2s,baz=200,slow=45						
HNR	**Honiara**	**2.38**	**304**	P	**Pn**	**05 32 35.1**	**-0.1**
DVP	**Devils Point**	**9.18**	**139**	P	**Pn**	**05 34 11.4**	**+2.7**
RTV	**Rentapao**	**9.38**	**139**	P	**Pn**	**05 34 15.6**	**+4.1**
KOUNC	**Koumac, New Ca**	**9.97**	**167**	Pn	**Pn**	**05 34 19.7**	**+0.2**
KOUNC	**Koumac, New Ca**	**9.97**	**167**	P	**Pn**	**05 34 22.4**	**+2.8**
LIFNC	**LIFOU**	**11.17**	**153**	Pn	**Pn**	**05 34 36.0**	**+0.1**
KRVT	**Keravat (AS076**	**11.74**	**302**	LR	LR	05 39 36.0	
	comp=Z,399nm,20.9s,baz=270,slow=40						
DZM	**Mont Dzumac**	**12.03**	**160**	*e*Pn	**Pn**	**05 34 49.3**	**+1.5**
	54nm,1.3s						
DZM				*e*Sn	**Sn**	**05 36 54.3**	**-6.5**
	33nm,1.2s						
DZM				*e*LR	LR	05 37 34.4	
	comp=Z,546nm,25.6s						
DZM	**Mont Dzumac**	**12.03**	**160**	P	**Pn**	**05 34 50.8**	**+3.0**
	3.0nm,0.3s,baz=320,slow=14,SNR=68						
DZM				S	**Sn**	**05 36 57.8**	**-2.9**
	9.2nm,0.6s,baz=346,slow=16,SNR=4.5						
DZM				LR	LR	05 38 39.1	
	comp=Z,238nm,22.0s,baz=8.5,slow=33						
	7.0nm,0.3s						
DZM	**Mont Dzumac**	**12.03**	**160**	Pn	**Pn**	**05 34 49.9**	**+2.1**
DZM	**Mont Dzumac**	**12.03**	**160**	P	**Pn**	**05 34 51.0**	**+3.2**
MARNC	**Mare, Loyalty**	**12.14**	**152**		**Pn**	**05 34 50.1**	**+0.9**
ONTNC	**Ouen Toro**	**12.25**	**160**		**Pn**	**05 34 52.9**	**+2.2**
ONTNC	**Ouen Toro**	**12.25**	**160**	P	**Pn**	**05 34 54.8**	**+4.1**
OUENC	**Ouen Island, N**	**12.48**	**159**		**Pn**	**05 34 53.1**	**-0.8**
PINNC	**Pines Island,**	**12.89**	**157**	Pn	**Pn**	**05 35 00.9**	**+1.4**
PMG	**Port Moresby**	**14.62**	**274**	P	**Pn**	**05 35 23.7**	**+0.6**
	9.0nm,0.3s,baz=58,slow=9.3,SNR=6.7						
PMG				LR	LR	05 41 03.5	
	comp=Z,297nm,19.3s,baz=146,slow=38						
PMG	**Port Moresby**	**14.62**	**274**	Pn	**Pn**	**05 35 22.6**	**-0.5**
PMG	**Port Moresby**	**14.62**	**274**	P	**Pn**	**05 35 25.2**	**+2.1**
PMG	**Port Moresby**	**14.62**	**274**	P	**Pn**	**05 35 25.0**	**+1.9**
TARA	**Tarawa**	**16.27**	**43**	P	**Pn**	**05 35 44.7**	**-0.1**
TARA	**Tarawa**	**16.27**	**43**	P	**P**	**05 35 47.4**	**0.0**
TV1H	**Townsville Har**	**16.87**	**238**	P	**P**	**05 35 54.2**	**+0.2**
MSVF	**Nonsavu**	**17.07**	**116**	LR	LR	05 41 29.0	
	comp=Z,127nm,20.9s,baz=340,slow=33						
FUNA	**Funafuti**	**17.16**	**84**	P	**Pn**	**05 35 55.9**	**0.0**
FUNA				IAmb	IAmb	05 36 01.8	
	comp=Z,66nm,1.1s						
CTA	**Charters Tower**	**17.71**	**237**	P	**P**	**05 36 03.6**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=61,slow=12,SNR=16						
CTA				LR	LR	05 41 43.9	
	comp=Z,183nm,20.4s,baz=76,slow=33						
	comp=Z,20nm,0.8s						
CTA	**Charters Tower**	**17.71**	**237**	P	**P**	**05 36 04.0**	**+0.7**
CTAO	**Charters Tower**	**17.71**	**237**		**Pn**	**05 36 03.3**	**+0.6**
CTAO	**Charters Tower**	**17.71**	**237**	P	**P**	**05 36 04.1**	**+0.7**
EIDS	**Eidsvold**	**17.79**	**214**	P	**P**	**05 36 05.2**	**+1.0**
EIDS	**Eidsvold**	**17.79**	**214**	P	**P**	**05 36 06.0**	**+1.8**
MTSU	**Mount Surprise**	**18.55**	**245**	P	**Pn**	**05 36 14.7**	**+1.6**
COEN	**Coen**	**18.60**	**258**		**Pn**	**05 36 14.1**	**+0.4**
COEN	**Coen**	**18.60**	**258**	P	**Pn**	**05 36 14.8**	**+1.2**
RMQ	**Roma**	**19.97**	**217**	P	**Pn**	**05 36 31.2**	**+1.2**
ARMA	**Armidale**	**21.77**	**205**	P	**P**	**05 36 48.2**	**+0.7**
ARMA				IAmb	IAmb	05 36 51.5	
	comp=Z,34nm,1.6s						
AULRC	**Lightning Ridg**	**22.68**	**213**	P	**P**	**05 36 58.6**	**+1.4**
SMPI	**Sarmi**	**24.66**	**289**	P	**P**	**05 37 18.0**	**+1.5**
	comp=Z,67nm,1.2s						
AFI	**Afiamalu**	**25.86**	**100**	LR	LR	05 45 55.9	
	comp=Z,143nm,19.4s,baz=269,slow=32						
AFI	**Afiamalu**	**25.86**	**100**	P	**P**	**05 37 27.1**	**-0.2**
AFI				IAmb	IAmb	05 37 31.5	
	comp=Z,31nm,1.1s						
INKA	**Innaminka**	**26.10**	**227**	P	**P**	**05 37 31.9**	**+2.6**
WR0	**Warramunga Arr**	**27.91**	**248**	P	**P**	**05 37 45.4**	**-0.5**
WB0	**Warramunga Arr**	**28.00**	**248**	P	**P**	**05 37 45.1**	**-1.5**
WRA	**Warramunga Arr**	**28.09**	**248**	P	**P**	**05 37 45.4**	**-2.0**
	comp=Z,2.9nm,0.9s,baz=75,slow=9.3,SNR=11						
WRA				LR	LR	05 48 13.5	
	comp=Z,192nm,19.8s,baz=34,slow=35						
	comp=Z,2.9nm,0.9s						
STKA	**Stephens Creek**	**28.18**	**219**	P	**P**	**05 37 47.8**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=44,slow=10,SNR=3.0						
STKA				LR	LR	05 49 03.9	
	comp=Z,343nm,18.2s,baz=33,slow=36						
	comp=Z,2.0nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**29.46**	**9**	T	T	06 08 46.1	
	baz=189,slow=76,SNR=323						
H11S3	**WAKE ISLAND Hy**	**29.47**	**9**	T	T	06 08 42.3	
	baz=189,slow=76,SNR=58						
H11S1	**WAKE ISLAND Hy**	**29.48**	**9**	T	T	06 08 46.4	
	baz=189,slow=76,SNR=27						
GUMO	**Guam**	**29.55**	**325**	LR	LR	05 48 42.8	
	comp=Z,108nm,21.4s,baz=124,slow=34						
ASAR	**Alice Springs**	**29.61**	**241**	P	**P**	**05 37 58.5**	**-2.5**
	comp=Z,0.6nm,0.4s,baz=64,slow=10.0,SNR=9.0						
ASAR				LR	LR	05 49 25.9	
	comp=Z,243nm,19.0s,baz=79,slow=36						
	comp=Z,0.6nm,0.4s						
TOO	**Toolangi**	**30.50**	**206**	P	**P**	**05 38 09.3**	**+0.7**
TOO				IAmb	IAmb	05 38 58.4	
	comp=Z,57nm,1.8s						
URZ	**Urewera**	**30.55**	**156**	LR	LR	05 48 38.6	
	comp=Z,131nm,20.0s,baz=64,slow=32						
H11N1	**WAKE ISLAND Hy**	**30.69**	**9**	T	T	06 10 18.6	
	baz=188,slow=76,SNR=39						
H11N3	**WAKE ISLAND Hy**	**30.70**	**9**	T	T	06 10 29.5	
	baz=188,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**30.71**	**9**	T	T	06 10 24.4	
	baz=188,slow=76,SNR=38						
BKZ	**Black Stump Fm**	**31.10**	**158**	P	**P**	**05 38 14.9**	**+1.0**
TCW	**Tory Channel**	**32.20**	**162**	P	**P**	**05 38 23.9**	**+0.5**
BBOO	**Buckleboo**	**32.36**	**223**	P	**P**	**05 38 24.5**	**-0.5**
KNRA	**Kununurra**	**32.64**	**258**	P	**P**	**05 38 25.8**	**-1.8**
KNRA				IAmb	IAmb	05 38 30.2	
	comp=Z,34nm,1.2s						
RPZ	**Rata Peaks**	**33.75**	**168**	LR	LR	05 51 07.5	
	comp=Z,83nm,18.0s,baz=312,slow=34						
RAR	**Rarotonga**	**38.14**	**111**	LR	LR	05 52 05.3	
	comp=Z,103nm,20.7s,baz=268,slow=31						
JCJ	**Chichijima**	**42.25**	**333**	LR	LR	05 56 09.8	
	comp=Z,58nm,18.8s,baz=168,slow=34						
PPT	**Papeete**	**47.39**	**104**	LR	LR	05 57 40.8	
	comp=Z,42nm,19.2s,baz=324,slow=32						
PPT2	**Papeete2**	**47.39**	**104**	*e*LR	LR	05 53 56.6	
	comp=Z,133nm,25.5s						
TBI	**Tubuai**	**47.90**	**112**	*e*LR	LR	05 54 10.6	
	comp=Z,400nm,32.2s						
TAOE	**Nuku Hiva Isla**	**57.03**	**94**	*e*LR	LR	05 58 23.4	
	comp=Z,55nm,22.9s						
NJ2	**Nanjing**	**59.26**	**318**	*e*P	**P**	**05 41 57.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
RKT	**Rikitea**	**61.18**	**110**	*e*LR	LR	06 00 19.7	
	comp=Z,20µm,25.2s						
VNDA	**Vanda**	**66.72**	**180**	P	**P**	**05 42 46.2**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=325,slow=6.9,SNR=11						
	comp=Z,5.2nm,0.7s						
VNDA	**Vanda**	**66.72**	**180**	P	**P**	**05 42 46.6**	**+0.8**
XLT	**XiLinHaoTe**	**68.52**	**326**	*e*P	P	05 43 06.0	+8.2
XLT				pP	PcP	05 43 19.0	-3.8
XLT				sP	sP	05 43 21.1	+8.3
XLT				pmax	pmax		
	comp=Z,190nm,5.1s						
XLT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**68.59**	**295**	P	**P**	**05 42 56.9**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=126,slow=5.4,SNR=5.0						
	comp=Z,0.8nm,0.4s						
PZH	**PanZhiHua**	**69.20**	**304**	P	**P**	**05 43 03.0**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**69.25**	**321**	*e*P	**P**	**05 43 06.5**	**+4.1**
HHC				pmax	pmax		
	comp=Z,19nm,1.2s						
HHC				pmax	pmax		
	comp=Z,260nm,5.3s						
LZH	**Lanzhou**	**71.84**	**314**	*e*P	**P**	**05 43 20.6**	**+2.2**
LZH				pP	pP	05 43 27.5	-1.9
LZH				pmax	pmax		
	comp=Z,11nm,1.5s						
GTA	**Gaotai**	**76.21**	**315**	*e*P	P	05 43 51.9	+8.1
GTA				pP	sP	05 44 00.8	+1.8
GTA				sP	PcP	05 44 04.5	+8.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
SONM	**Songino Array**	**76.28**	**325**	P	**P**	**05 43 42.3**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=142,slow=6.2,SNR=5.0						
	comp=Z,1.8nm,0.7s						
SONM	**Songino Array**	**76.28**	**325**	P	**P**	**05 43 42.0**	**-2.0**
OHAK	**Old Harbor**	**77.09**	**23**	P	**P**	**05 43 48.3**	**+0.2**
BILL	**Bilibino**	**78.68**	**2**	P	**P**	**05 43 55.8**	**-1.0**
BILL				IAmb	IAmb	05 43 57.8	
	comp=Z,5.7nm,1.0s						
CAST	**Castle Rocks**	**81.88**	**19**	P	**P**	**05 44 13.2**	**-1.0**
CAST				IAmb	IAmb	05 44 24.6	
	comp=Z,31nm,1.9s						
SML	**Sawmill**	**82.06**	**21**	P	**P**	**05 44 14.4**	**-0.8**
SML				IAmb	IAmb	05 44 28.6	
	comp=Z,13nm,0.8s						
KLU	**Klutina**	**82.75**	**22**	P	**P**	**05 44 19.8**	**+1.0**
KLU				IAmb	IAmb	05 44 38.1	
	comp=Z,9.0nm,0.6s						
NEA2	**Nenana**	**83.66**	**19**	P	**P**	**05 44 23.1**	**-0.2**
NEA2				IAmb	IAmb	05 44 33.8	
	comp=Z,4.8nm,1.0s						
HDA	**Harding Lake**	**84.23**	**20**	P	**P**	**05 44 27.1**	**+0.7**
HDA				IAmb	IAmb	05 44 28.3	
	comp=Z,5.0nm,0.7s						
ILAR	**Eielson Array**	**84.49**	**20**	P	**P**	**05 44 26.6**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=245,slow=5.2,SNR=15						
	comp=Z,0.6nm,0.5s						
M27K	**Edge Creek, AK**	**84.80**	**23**	P	**P**	**05 44 29.7**	**+0.3**
M27K				IAmb	IAmb	05 44 42.4	
	comp=Z,13nm,1.3s						
WMQ	**Urumqi**	**86.28**	**316**	*e*P	**P**	**05 44 38.1**	**+1.0**
EGAK	**Eagle**	**86.45**	**21**	P	**P**	**05 44 37.1**	**-0.2**
DAWY	**Dawson**	**86.69**	**22**	P	**P**	**05 44 38.9**	**+0.2**
DAWY				IAmb	IAmb	05 44 51.5	
	comp=Z,9.1nm,1.1s						
I29M	**Ogilvie Camp,**	**87.78**	**21**	P	**P**	**05 44 44.2**	**+0.3**
I29M				IAmb	IAmb	05 44 55.6	
	comp=Z,12nm,1.1s						
NVAR	**Mina Array Bea**	**88.73**	**51**	P	**P**	**05 44 49.5**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=235,slow=6.6,SNR=15						
	comp=Z,1.7nm,0.7s						
KVN	**Kaiserville**	**89.04**	**50**	P	**P**	**05 44 50.8**	**+0.1**
KVN				IAmb	IAmb	05 47 35.7	
	comp=Z,4.9nm,1.5s						
MKAR	**Makanchi Array**	**90.79**	**317**	P	**P**	**05 44 55.6**	**-2.8**
	comp=Z,0.7nm,0.4s,baz=103,slow=5.1,SNR=8.7						
	comp=Z,0.7nm,0.4s						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**05 45 23.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=259,slow=4.7,SNR=12						
	comp=Z,0.6nm,0.6s						
PMSA	**Palmer Station**	**97.16**	**162**	LR	LR	06 25 47.2	
	comp=Z,112nm,18.2s,baz=131,slow=33						
CPUP	**Villa Florida**	**126.92**	**135**	PKP	**PKPdf**	**05 50 58.5**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=332,slow=2.7,SNR=4.0						

NEIC ***13*** *05:46:08.7±1.2, 52°.5N±0°.1×176°.4W±0°.1, h182km±5km, mb4.7/86, ML4.3(AEIC), Error ellipse: s-maj=18.3km s-min=9.4km az=151.0*

AEIC ***13*** *05:46:09.7±2.8, 52°.2N±0°.2×176°.3W±0°.1, h191km±6km, Error ellipse: s-maj=23.7km s-min=10.4km az=163.0*

IDC ***13*** *05:46:10.9±0.8, 52°.61N×176°.36W, h211km±6km, mb3.9/19, mbtmp4.4/23, Error ellipse: s-maj=15.3km s-min=7.6km az=167.0*

ISC 13 05:46:09.2±0.5, 52°.44N±0°.10×176°.25W±0°.05, h200km, n355, σ1§13/359, mb4.5/44, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**0.62**	**206**	Pn	**Pn**	**05 46 34.4**	**-2.5**
KIWB	**Kanaga Island**	**0.81**	**224**		**Pn**	**05 46 35.7**	**-2.1**
AMKA	**Amchitka**	**2.95**	**251**		**Pn**	**05 46 56.0**	**-2.3**
NIKH	**Nikolski High**	**4.53**	**80**	Pn	**Pn**	**05 47 16.6**	**-0.9**
NIKH	**Nikolski High**	**4.53**	**80**	P	**Pn**	**05 47 17.5**	**0.0**
	baz=264						
SPIA	**Saint Paul Isl**	**5.88**	**34**	P	**Pn**	**05 47 33.7**	**-1.0**
	baz=218						
UNV	**Unalaska Valle**	**6.03**	**73**		**Pn**	**05 47 36.9**	**+0.2**
UNV	**Unalaska Valle**	**6.03**	**73**	P	**Pn**	**05 47 36.9**	**+0.2**
	baz=259						
S12K	**Black Hills**	**8.96**	**63**	P	**Pn**	**05 48 15.2**	**+0.4**
	baz=254						
SDPT	**Sand Point**	**9.76**	**66**	P	**Pn**	**05 48 24.0**	**-1.1**
	baz=258						
CHGN	**Chignik**	**11.09**	**63**	P	**Pn**	**05 48 41.8**	**-0.5**
	baz=256						
GAMB	**Gambell**	**11.62**	**10**	P	**Pn**	**05 48 49.9**	**+1.0**
	baz=194						
R16K	**Pilot Point**	**11.87**	**57**	P	**Pn**	**05 48 53.2**	**+1.0**
	baz=252						
P16K	**Nushagak River**	**12.20**	**50**	P	**Pn**	**05 48 57.6**	**+1.2**
	baz=245,SNR=5.4						
O16K	**Kokwok River B**	**12.40**	**48**	P	**Pn**	**05 48 59.6**	**+0.7**
	baz=242						
R17K	**Ugashik Creek**	**12.50**	**58**	P	**Pn**	**05 48 59.5**	**-0.8**
	baz=253						
N16K	**Nishlik Lake**	**12.54**	**43**	P	**Pn**	**05 49 02.6**	**+1.9**
	baz=237						
Q16K	**King Salmon**	**12.70**	**53**	P	**Pn**	**05 49 04.1**	**+1.5**
	baz=248,SNR=6.3						
O17K	**Koliganek Bris**	**12.93**	**48**	P	**Pn**	**05 49 06.5**	**+0.9**
	baz=243						
Q17K	**Contact Creek**	**12.94**	**55**	P	**Pn**	**05 49 05.7**	**-0.2**
	baz=252,SNR=7.3						
P17K	**Kvichak River**	**13.00**	**51**	P	**Pn**	**05 49 06.8**	**+0.4**
	baz=247						
ANM	**Nome**	**13.39**	**21**	P	**Pn**	**05 49 12.1**	**+0.8**
	baz=210						
SII	**Sitkinak Islan**	**13.45**	**63**	P	**Pn**	**05 49 10.9**	**-1.1**
	baz=261						
Q18K	**Katmai Hardscr**	**13.50**	**54**	P	**Pn**	**05 49 13.0**	**+0.2**
	baz=251,SNR=13						
P18K	**Big Mountain,**	**13.65**	**51**	Pn	**Pn**	**05 49 14.8**	**+0.3**
P18K	**Big Mountain,**	**13.65**	**51**	P	**Pn**	**05 49 14.5**	**0.0**
	baz=248,SNR=6.5						
O18K	**Koktuh Hills**	**13.83**	**49**		**Pn**	**05 49 17.4**	**+0.6**
O18K	**Koktuh Hills**	**13.83**	**49**	P	**Pn**	**05 49 17.4**	**+0.6**
	baz=246,SNR=14						
OHAK	**Old Harbor**	**14.04**	**61**	P	**Pn**	**05 49 17.0**	**-2.3**
	baz=259,SNR=12						
Q19K	**Cape Douglas,**	**14.26**	**54**		**Pn**	**05 49 22.0**	**-0.1**
Q19K	**Cape Douglas,**	**14.26**	**54**	P	**Pn**	**05 49 22.4**	**+0.2**
	baz=252						
O19K	**Port Alsworth**	**14.38**	**49**	P	**Pn**	**05 49 24.8**	**+1.3**
	baz=247,SNR=11						
KDAK	**Kodiak Island**	**14.52**	**59**	P	**Pn**	**05 49 23.1**	**-2.2**
	30nm,0.3s,baz=233,slow=2.5,SNR=249						
KDAK				S	**S**	**05 51 59.6**	**-6.8**
	2.4nm,0.3s,baz=236,slow=24,SNR=7.2						
KDAK	**Kodiak Island**	**14.52**	**59**	P	**Pn**	**05 49 23.3**	**-2.0**
	baz=258						
N19K	**Bonanza Creek**	**14.56**	**46**	P	**P**	**05 49 27.6**	**+0.5**
	baz=244						
P19K	**Oil Pt**	**14.69**	**52**	P	**P**	**05 49 28.7**	**+0.3**
	baz=250						
Q20K	**Shuyak Island**	**14.80**	**56**	P	**Pn**	**05 49 28.2**	**-0.6**
	baz=255						
ILSW	**Iliamna Southw**	**14.85**	**50**	P	**P**	**05 49 30.7**	**+0.4**
TTA	**Tatalina**	**15.01**	**38**	P	**Pn**	**05 49 32.0**	**+0.7**
TTA				IAmb	IAmb	05 49 35.6	
	comp=Z,28nm,0.9s						
TTA	**Tatalina**	**15.01**	**38**	P	**P**	**05 49 32.3**	**+0.4**
	baz=235,SNR=15						
TTA	**Tatalina**	**15.01**	**38**	PKIKP	**Pn**	**05 49 32.0**	**+0.7**
TTA	**Tatalina**	**15.01**	**38**	pmax	pmax		
	comp=Z,28nm,0.9s						
L19K	**White Mountain**	**15.05**	**41**	P	**P**	**05 49 33.2**	**+0.8**
L19K	**White Mountain**	**15.05**	**41**	P	**P**	**05 49 32.8**	**+0.4**
	baz=239						
O20K	**Slope Mountain**	**15.13**	**50**	P	P	**05 49 34.2**	**+0.9**
	baz=250						
L20K	**Farewell, AK**	**15.59**	**41**	P	**P**	**05 49 39.8**	**+1.4**
	baz=240						
M20K	**Styx River**	**15.62**	**44**	P	**Pn**	**05 49 40.6**	**+1.9**
M20K				IAmb	IAmb	05 49 47.9	
	comp=Z,47nm,1.1s						
M20K	**Styx River**	**15.62**	**44**	P	**Pn**	**05 49 40.3**	**+1.6**
	baz=243						
CNPM	**China Poot**	**15.62**	**53**	P	**P**	**05 49 38.9**	**+0.1**
CNPM				IAmb	IAmb	05 49 41.7	
	comp=Z,33nm,0.8s						
SPCR	**Spurr Chakacha**	**15.73**	**47**	P	**Pn**	**05 49 41.8**	**+1.7**
	baz=247,SNR=15						
N20K	**Mount Spurr**	**15.73**	**47**	P	**Pn**	**05 49 41.9**	**+1.8**
	baz=247,SNR=26						
PETK	**Petropavlovsk-**	**15.76**	**283**	P	**Pn**	**05 49 40.6**	**+0.2**
	comp=Z,7.8nm,0.7s,baz=96,slow=11,SNR=7.9						
GCSA	**Galena City Sc**	**15.84**	**31**	P	**Pn**	**05 49 42.7**	**+1.5**
	baz=228						
BRSE	**Bradley Lake S**	**15.92**	**53**	P	**P**	**05 49 42.6**	**+0.6**
	baz=254						
K20K	**Telida**	**15.98**	**38**	P	**Pn**	**05 49 43.8**	**+0.8**
K20K				IAmb	IAmb	05 49 59.2	
	comp=Z,36nm,0.8s						
K20K	**Telida**	**15.98**	**38**	P	**Pn**	**05 49 43.9**	**+0.9**
	baz=237						
SKT	**Skwentna**	**16.34**	**45**	P	**Pn**	**05 49 48.4**	**+1.1**
SKT	**Skwentna**	**16.34**	**45**	P	**Pn**	**05 49 48.0**	**+0.6**
	baz=245,SNR=30						
J20K	**Nowinta River**	**16.41**	**36**	P	**Pn**	**05 49 48.7**	**+0.6**
	baz=234,SNR=8.0						
PPLA	**Purkeypile**	**16.48**	**41**	P	**Pn**	**05 49 51.2**	**+2.1**
	baz=241,SNR=24						
SUA	**Susitna One**	**16.48**	**47**	P	**P**	**05 49 47.9**	**-0.3**
SUA				IAmb	IAmb	05 49 54.3	
	comp=Z,27nm,0.8s						
SUA	**Susitna One**	**16.48**	**47**	P	**Pn**	**05 49 49.8**	**+0.6**
	baz=248,SNR=16						
SEW	**Seward**	**16.65**	**52**		**P**	**05 49 50.7**	**+0.8**
SEW	**Seward**	**16.65**	**52**	P	**P**	**05 49 50.5**	**+0.6**
	baz=254,SNR=11						
CAST	**Castle Rocks**	**16.77**	**40**	P	**Pn**	**05 49 52.5**	**+0.1**
CAST				IAmb	IAmb	05 49 54.2	
	comp=Z,26nm,0.6s						
CAST	**Castle Rocks**	**16.77**	**40**	P	**Pn**	**05 49 53.4**	**+0.9**
	baz=240,SNR=28						
RC01	**Rabbit Creek A**	**16.81**	**49**	P	**P**	**05 49 52.7**	**+1.0**
RC01	**Rabbit Creek A**	**16.81**	**49**	P	**Pn**	**05 49 53.9**	**+1.0**
	baz=251						
M22K	**Willow**	**16.87**	**46**	P	**P**	**05 49 53.1**	**+0.8**
	baz=248						
CHUM	**Lake Minchumin**	**16.92**	**38**	P	**Pn**	**05 49 54.5**	**+0.3**
	baz=238,SNR=16						
CUT	**Chulitna**	**17.06**	**44**	P	**P**	**05 49 55.5**	**+1.1**
CUT	**Chulitna**	**17.06**	**44**	P	**P**	**05 49 55.3**	**+1.0**
	baz=246,SNR=21						
PMR	**Palmer**	**17.25**	**47**		**P**	**05 49 57.1**	**+0.6**
PMR	**Palmer**	**17.25**	**47**	P	**P**	**05 49 57.2**	**+0.6**
	baz=250						
KTH	**Kantishna Hill**	**17.30**	**40**	P	**P**	**05 49 58.1**	**+1.0**
PWL	**Port Wells**	**17.39**	**50**	P	**P**	**05 49 58.2**	**+0.1**
PWL				IAmb	IAmb	05 50 02.7	
	comp=Z,31nm,1.0s						
PWL	**Port Wells**	**17.39**	**50**	P	**P**	**05 49 58.6**	**+0.5**
	baz=253,SNR=7.8						
GHO	**Glory Hole Cre**	**17.41**	**47**	P	**P**	**05 49 58.7**	**+0.4**
GHO				IAmb	IAmb	05 50 04.5	
	comp=Z,17nm,0.8s						
KNK	**Knik Glacier**	**17.50**	**48**	P	**P**	**05 49 59.9**	**+0.7**
KNK				IAmb	IAmb	05 50 05.4	
	comp=Z,25nm,0.6s						
KNK	**Knik Glacier**	**17.50**	**48**	P	**P**	**05 49 59.6**	**+0.4**
	baz=251,SNR=9.0						
TRF	**Thorofare Moun**	**17.50**	**41**	P	**P**	**05 50 00.1**	**+0.7**
TRF	**Thorofare Moun**	**17.50**	**41**	P	**P**	**05 49 60.0**	**+0.6**
	baz=243,SNR=20						
BPAW	**Bear Paw Mtn.**	**17.54**	**38**	P	**Pn**	**05 50 01.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**17.54**	**38**	P	**P**	**05 50 00.9**	**+1.2**
	baz=240,SNR=51						
P23K	**Montague Islan**	**17.62**	**53**	P	**Pn**	**05 50 02.6**	**+0.2**
	baz=257						
IMAR	**Indian Mountai**	**17.65**	**31**	P	**P**	**05 50 01.7**	**+0.8**
SML	**Sawmill**	**17.68**	**47**	P	**P**	**05 50 02.1**	**+0.8**
SML				IAmb	IAmb	05 50 07.2	
	comp=Z,29nm,0.8s						
SML	**Sawmill**	**17.68**	**47**	P	**P**	**05 50 01.6**	**+0.3**
	baz=250,SNR=5.4						
H21K	**Melozitna Rive**	**17.75**	**33**	P	**P**	**05 50 03.2**	**+1.2**
	baz=233						
I21K	**Tanana**	**17.75**	**35**	P	**P**	**05 50 03.2**	**+1.2**
	baz=235						
BILL	**Bilibino**	**17.77**	**338**	P	**P**	**05 50 02.7**	**+0.5**
M23K	**Glacier View**	**17.95**	**47**	P	**P**	**05 50 04.0**	**-0.2**
	baz=251,SNR=6.8		

baz=243,SNR=15
ILAR Eielson Array 19.43 39 P P 05 50 18.4 -1.6
comp=Z,3.1nm,0.4s,baz=238,slow=8.9,SNR=102
ILAR ScP ScP 05 57 47.4 -1.2
comp=Z,0.7nm,0.5s,baz=276,slow=3.5,SNR=11
K24K Donnelly Dome 19.48 42 P P 05 50 20.9 +0.1
baz=248,SNR=17
COLD Coldfoot 19.53 31 P P 05 50 22.6 +1.5
COLD IAmb IAmb 05 50 26.1
comp=Z,19nm,0.7s
COLD Coldfoot 19.53 31 P P 05 50 22.1 +0.9
baz=233,SNR=18
H24K Noodor Dome 19.55 36 P P 05 50 22.2 +0.7
baz=240
SEY Seymchan 19.57 315 P P 05 50 21.6 0.0
comp=Z,12nm,0.7s,baz=109,slow=9.9,SNR=18
MA2 Magadan 19.61 304 P P 05 50 22.4 +0.3
comp=Z,24nm,0.8s,baz=96,slow=10,SNR=8.9
GLB Gilahina Butte 19.66 50 P P 05 50 22.5 -0.1
VRDI Verde Repeater 19.78 51 P P 05 50 24.1 0.0
VRDI IAmb IAmb 05 50 30.8
comp=Z,12nm,0.6s
RIDG Independent Ri 19.85 43 P P 05 50 24.1 -0.5
RIDG IAmb IAmb 05 50 39.2
comp=Z,46nm,1.2s
RIDG Independent Ri 19.85 43 P P 05 50 24.7 +0.1
baz=250,SNR=16
MCARA McCarthy VSAT 20.02 50 P P 05 50 27.6 +1.2
baz=258
MENT Mentasta 20.08 46 P P 05 50 27.4 +0.3
MENT IAmb IAmb 05 50 36.2
comp=Z,26nm,0.7s
G24K Hadweenzic Riv 20.13 34 P P 05 50 28.4 +0.9
baz=239
DOT Dot Lake 20.14 44 P P 05 50 27.7 -0.1
E23K Chandalar 20.21 29 P P 05 50 29.7 +1.2
baz=232
M26K Nabesna, AK 20.26 48 P P 05 50 28.7 -0.4
baz=256
L26K Log Cabin Wild 20.26 46 P P 05 50 29.8 +0.7
L26K IAmb IAmb 05 50 37.4
comp=Z,22nm,0.7s
L26K Log Cabin Wild 20.26 46 P P 05 50 30.1 +1.0
baz=254,SNR=26
PRP Porcupine Dome 20.27 38 P P 05 50 28.7 -0.5
PRP Porcupine Dome 20.27 38 P P 05 50 28.8 -0.4
baz=244,SNR=6.2
SCRK Sand Creek 20.29 43 P P 05 50 28.9 -0.5
SCRK IAmb IAmb 05 50 31.4
comp=Z,25nm,1.0s
SCRK Sand Creek 20.29 43 P P 05 50 28.7 -0.7
baz=250,SNR=32
F24K Squaw Lake 20.43 32 P P 05 50 32.3 +1.5
baz=236,SNR=63
D23K Nanushuk River 20.49 26 P P 05 50 31.8 +0.4
baz=229,SNR=36
BARN Barnard Glacie 20.61 52 P P 05 50 34.2 +1.3
BARN IAmb IAmb 05 50 36.3
comp=Z,14nm,0.7s
G25K Bearman Lake 20.64 34 P P 05 50 33.3 +0.3
baz=240
J26L Joseph Creek 20.64 42 P P 05 50 32.2 -0.9
J26L IAmb IAmb 05 50 35.0
comp=Z,18nm,0.7s
J26L Joseph Creek 20.64 42 P P 05 50 32.3 -0.9
baz=250
M27K Edge Creek, AK 20.75 48 P P 05 50 34.7 +0.3
M27K Edge Creek, AK 20.75 48 P P 05 50 35.0 +0.6
baz=257,SNR=27
FYU Fort Yukon 20.84 35 P P 05 50 35.5 +0.3
FYU IAmb IAmb 05 50 36.6
comp=Z,27nm,0.7s
L27K Beaver Creek, 20.94 46 P P 05 50 36.1 -0.1
L27K Beaver Creek, 20.94 46 P P 05 50 36.0 -0.3
baz=255
BCAR Beaver Creek A 20.96 46 P P 05 50 36.9 +0.4
I26K Coal Creek Min 21.09 40 P P 05 50 36.4 -1.3
baz=248
K27K Chicken 21.10 43 P P 05 50 38.3 +0.4
K27K IAmb IAmb 05 50 39.9
comp=Z,36nm,1.4s
K27K Chicken 21.10 43 P P 05 50 38.3 +0.4
baz=252
F25K Christian Rive 21.20 33 P P 05 50 39.4 +0.3
baz=239
BVCY Beaver Creek 21.23 48 P P 05 50 40.1 +0.8
baz=258,SNR=27
O28M Mount Upton 21.28 53 P P 05 50 40.1 0.0
baz=263
YUK3 Moose Creek 21.29 50 P P 05 50 40.3 +0.1
baz=260,SNR=15
BMAR Burnt Mountain 21.48 34 P P 05 50 42.5 +0.7
E25K Arctic Village 21.50 31 P P 05 50 42.6 +0.5
baz=238,SNR=25
C24K Franklin Bluff 21.51 26 P P 05 50 42.1 +0.1
baz=230
G26K Porcupine Rive 21.53 35 P P 05 50 42.5 +0.2
baz=243
YUK8 Steele Glacier 21.55 51 P P 05 50 43.1 +0.2
baz=262,SNR=7.0
EGAK Eagle 21.71 42 P P 05 50 44.0 -0.1
EGAK IAmb IAmb 05 50 46.2
comp=Z,42nm,1.4s
EGAK Eagle 21.71 42 P P 05 50 43.6 -0.5
baz=252,SNR=19
F26K Sheenjek River 21.75 33 P P 05 50 44.5 -0.1
baz=241
I27K Kandik River 21.80 39 P P 05 50 44.0 -1.1
baz=249
D25K Kavik River 21.92 28 P P 05 50 46.7 +0.4
baz=235
O29M Mount Kennedy 22.03 54 P P 05 50 47.3 -0.1
baz=266
H27K Steamboat Moun 22.06 38 P P 05 50 45.8 -1.8
baz=248
YUK4 Talbot Arm 22.09 51 P P 05 50 48.2 0.0
baz=263,SNR=7.7
YUK6 Outpost Mounta 22.19 53 P P 05 50 48.3 -0.8
baz=264
G27K Doyon Strip 22.23 36 P P 05 50 49.0 -0.3
baz=246
DAWY Dawson 22.25 44 P P 05 50 49.2 -0.2
DAWY IAmb IAmb 05 50 53.4
comp=Z,19nm,0.8s
DAWY Dawson 22.25 44 P P 05 50 49.2 -0.2
baz=256,SNR=22
M29M Somme Creek 22.33 49 P P 05 50 50.1 -0.1
baz=261
HYT Haines Junctio 22.59 53 P P 05 50 52.8 +0.1
baz=265
L29M L29M 22.59 47 P P 05 50 52.6 0.0
baz=259
C26K Camden Bay 22.68 28 P P 05 50 54.3 +1.1
baz=236
E27K Coleen River 22.84 33 P P 05 50 55.5 +0.8
baz=244
C27K Jago River 22.87 29 P P 05 50 55.4 +0.5
baz=238
K29M Barlow Dome 23.00 45 P P 05 50 56.5 +0.2
baz=258
I29M Ogilvie Camp, 23.03 41 P P 05 50 56.2 -0.3
baz=254,SNR=20
M30M Minto, Yukon 23.12 49 P P 05 50 56.7 -0.6
M30M Minto, Yukon 23.12 49 P P 05 50 56.8 -0.4
baz=262,SNR=7.7
O30N Mendenhall 23.28 53 P P 05 50 59.5 +0.8
baz=267
MAYO Mayo, Yukon 23.67 46 P P 05 51 03.2 +0.9
baz=261
WHY Whitehorse 23.87 54 P P 05 51 04.8 +0.5
baz=268
EPYK Eagle Plains 23.94 39 P P 05 51 04.6 -0.1
EPYK Eagle Plains 23.94 39 P P 05 51 04.1 -0.6
baz=254,SNR=5.3
M31M Drury Creek, Y 24.19 50 P P 05 51 06.8 -0.2
baz=265,SNR=5.2
G30M tAoh Zraii Nji 24.31 38 P P 05 51 07.5 -0.5
baz=253
FARO Faro, Yukon 24.68 50 P P 05 51 11.9 +0.4
baz=266
P33M Teslin, Yukon 24.90 55 P P 05 51 14.2 +0.8
P33M Teslin, Yukon 24.90 55 P P 05 51 14.3 +0.8
baz=271
F31M Tsiigehtchic 25.36 37 P P 05 51 17.9 +0.4
baz=255,SNR=5.5
INK Inuvik 25.68 36 P P 05 51 20.2 -0.1
comp=Z,2.2nm,0.3s,baz=245,slow=8.2,SNR=26
comp=Z,2.2nm,0.3s
INK Inuvik 25.68 36 P P 05 51 20.4 +0.1
baz=253,SNR=6.2
WTLY Watson Lake, Y 26.91 55 P P 05 51 31.8 +0.4
baz=275
ASAJ Asahikawa 28.30 270 P P 05 51 44.0 +0.1
comp=Z,11nm,0.9s,baz=346,slow=3.5,SNR=4.1
comp=Z,11nm,0.9s
WRGLY Wrigley 29.23 48 P P 05 51 52.9 +1.0
baz=273
C36M Paulatuk 29.25 35 P P 05 51 52.2 +0.2
baz=262
KOTAN Kotaneelee Air 29.27 54 P P 05 51 53.2 +0.9
baz=278
A36M Sachs Harbour 29.39 30 P P 05 51 54.3 +1.0
A36M IAmb IAmb 05 51 55.3
comp=Z,18nm,0.9s
A36M Sachs Harbour 29.39 30 P P 05 51 54.2 +1.0
baz=256,SNR=14
KLR Kul'dur 32.42 285 P P 05 52 18.5 -1.6
comp=Z,2.8nm,0.6s,baz=71,slow=8.2,SNR=13
KLR pP pwP 05 53 02.6 -2.1
comp=Z,1.0nm,0.6s,baz=73,slow=9.6,SNR=2.6
comp=Z,2.8nm,0.6s
YKA Yellowknife Ar 33.35 48 P P 05 52 28.0 +0.1
comp=Z,7.6nm,0.6s,baz=282,slow=8.6,SNR=82
YKA pP pwP 05 53 12.0 -0.7
comp=Z,1.8nm,0.9s,baz=282,slow=9.7,SNR=3.2
YKA PcP PcP 05 55 04.8 +0.3
comp=Z,0.1nm,0.4s,baz=284,slow=3.2,SNR=2.8
YKA ScP ScP 05 58 29.0 -0.6
comp=Z,0.3nm,0.6s,baz=290,slow=3.5,SNR=5.6
comp=Z,7.6nm,0.6s
NLWA Neilton Lookou 33.48 77 P P 05 52 31.1 +1.8
NLWA IAmb IAmb 05 52 32.6
comp=Z,27nm,1.3s
E03A Lebam 34.07 78 P P 05 52 36.5 +2.2
E03A IAmb IAmb 05 52 37.7
comp=Z,21nm,1.0s
HEH HeiHe 34.50 289 eP P 05 52 35.5 -2.5
HEH pmax pmax
comp=Z,8.0nm,0.7s
LON Longmire 35.02 77 P P 05 52 43.9 +1.3
LON IAmb IAmb 05 52 45.4
comp=Z,8.3nm,0.7s
H11N2 WAKE ISLAND Hy 35.19 208 T T 06 29 46.0
baz=18,slow=76,SNR=58
H11N3 WAKE ISLAND Hy 35.20 208 T T 06 29 49.9
baz=18,slow=76,SNR=53
H11N1 WAKE ISLAND Hy 35.20 208 T T 06 29 54.2
baz=18,slow=76,SNR=55
MJAR Matsushiro Arr 35.51 262 P P 05 52 47.1 +0.4
comp=Z,10.0nm,0.7s,baz=44,slow=6.7,SNR=19
comp=Z,10.0nm,0.7s
B08A Colville Reser 35.70 73 P P 05 52 49.5 +1.2
HOOD Mount Hood Mea 35.84 79 P P 05 52 51.4 +1.7
HOOD IAmb IAmb 05 52 52.1
comp=Z,14nm,0.5s
H11S1 WAKE ISLAND Hy 36.40 208 T T 06 31 09.0
baz=18,slow=74,SNR=69
H11S2 WAKE ISLAND Hy 36.42 208 T T 06 31 14.7
baz=18,slow=74
H11S3 WAKE ISLAND Hy 36.42 208 T T 06 31 14.0
baz=18
HAWA Hanford 36.56 76 P P 05 52 56.9 +1.3
HAWA IAmb IAmb 05 52 57.9
comp=Z,16nm,0.7s
BNX BinXian 36.68 283 ⇑P P 05 52 54.1 -2.5
BNX pmax pmax
comp=Z,10.0nm,0.7s
BNX pmax pmax
comp=Z,280nm,3.9s
NEW Newport 37.04 72 P P 05 53 00.2 +0.5
NEW Newport 37.04 72 P P 05 52 59.9 +0.2
baz=299,SNR=10
PINE Pine Mountain 37.10 81 P P 05 53 02.1 +1.7
YBH Yreka Blue Hor 37.19 85 P P 05 53 03.3 +2.3
YBH IAmb IAmb 05 53 05.2
comp=Z,8.9nm,0.8s
K05A Summer Lake 37.72 82 P P 05 53 08.1 +2.4
K05A IAmb IAmb 05 53 09.3
comp=Z,32nm,1.3s
MSO Missoula 39.63 72 P P 05 53 21.3 0.0
baz=302
YERR Yerington 40.95 86 P P 05 53 34.0 +1.6
HLID Hailey 41.14 77 P P 05 53 35.1 +1.3
HLID Hailey 41.14 77 P P 05 53 34.9 +1.1
baz=305,SNR=9.1
KSRS Korea Array 41.20 272 P P 05 53 34.2 +0.2
comp=Z,2.3nm,0.7s,baz=60,slow=9.3,SNR=4.2
comp=Z,2.3nm,0.7s
MCMT McKenzie Canyo 41.36 74 P P 05 53 36.5 +0.9
EGMT Eagleton 41.41 69 P P 05 53 35.5 -0.4
baz=302
KVN Kaiserville 41.61 85 P P 05 53 39.2 +1.5
RYN Ryan 41.61 86 P P 05 53 39.5 +1.8
BOZ Bozeman (W) 41.64 73 P P 05 53 38.2 +0.3
baz=304,SNR=5.4
NVAR Mina Array Bea 41.87 86 P P 05 53 42.0 +2.1
comp=Z,3.6nm,0.7s,baz=298,slow=7.1,SNR=18
NVAR PcP PcP 05 55 33.1 +1.6
comp=Z,0.7nm,0.7s,baz=269,slow=3.6,SNR=2.6
comp=Z,3.6nm,0.7s
DSP Deep Springs 42.75 87 P P 05 53 48.8 +2.2
TIN Tinemaha, Big 42.79 87 P P 05 53 48.8 +1.7
baz=310
SMMC Simmler 42.85 91 P P 05 53 48.6 +1.1
baz=311
H17A Grant Village 42.94 74 P P 05 53 50.1 +1.7
H17A Grant Village 42.94 74 P P 05 53 50.2 +1.8
baz=305,SNR=5.4
VES Vestal, Richgr 43.06 89 P P 05 53 50.4 +1.2
baz=311,SNR=7.0
CWC Cottonwood Cre 43.28 88 P P 05 53 52.5 +1.3
baz=311
RLMT Red Lodge 43.29 72 P P 05 53 51.7 +0.6
baz=305,SNR=5.5
GRAC Grapevine Rang 43.36 87 P P 05 53 53.0 +1.4
baz=310
R11A Troy Canyon, C 43.58 84 P P 05 53 54.9 +1.4
R11A Troy Canyon, C 43.58 84 P P 05 53 54.9 +1.4
baz=309,SNR=18
MPMC Manual Prospec 43.89 88 P P 05 53 57.7 +1.6
baz=311,SNR=5.2
SPR3 Spring Creek 3 43.93 82 P P 05 53 58.8 +2.3
SPR3 IAmb IAmb 05 53 59.5
comp=Z,5.9nm,0.6s
FURC Furnace Creek, 44.01 87 P P 05 53 58.3 +1.7
baz=311,SNR=7.3
TPNV Topopah Spring 44.07 86 P P 05 53 59.0 +1.6
baz=310,SNR=15
DUG Dugway, Tooele 44.11 80 P P 05 53 59.1 +1.5
DUG IAmb IAmb 05 54 00.1
comp=Z,27nm,1.3s
DUG Dugway, Tooele 44.11 80 P P 05 53 58.9 +1.2
baz=308,SNR=11
LAO LASA Array 44.15 68 P P 05 53 58.0 +0.2
baz=304
LRMC Laurel Mtn Rad 44.15 89 P P 05 53 57.8 -0.2
baz=311
NRIK Noril'sk 44.29 330 P P 05 53 58.1 -0.4
comp=Z,2.5nm,0.7s,baz=62,slow=10,SNR=3.6
comp=Z,2.5nm,0.7s
QSM Queen of Sheba 44.33 87 P P 05 54 01.1 +1.7
EDW2 Edwards Air Fo 44.36 89 P P 05 53 59.7 +0.1
baz=312
BW06 Boulder Array 44.49 75 P P 05 54 00.9 +0.2
baz=307,SNR=9.4
PDAR Pinedale Array 44.49 75 P P 05 54 01.2 +0.5
comp=Z,5.8nm,0.7s,baz=331,slow=2.9,SNR=82
comp=Z,5.8nm,0.7s
PRN Pahroc Range 44.51 85 P P 05 54 02.8 +2.0
PRN IAmb IAmb 05 54 03.9
comp=Z,16nm,0.9s
SHOC Shoshone, Teco 44.74 87 P P 05 54 03.9 +1.4
baz=311,SNR=10
GSC Goldstone, Bar 44.81 88 P P 05 54 04.8 +1.7
GSC IAmb IAmb 05 54 05.9
comp=Z,14nm,0.8s
GSC Goldstone, Bar 44.81 88 P P 05 54 04.8 +1.7
baz=312,SNR=14
BFSC Mount Baldy Ra 44.99 90 P P 05 54 06.5 +1.8
baz=312
TUQ Turquoise Moun 45.26 87 P P 05 54 08.6 +1.8
baz=311,SNR=5.4
HEC Hector,Ludlow 45.41 88 P P 05 54 09.4 +1.5
baz=312
MURC Murrieta 45.71 90 P P 05 54 11.7 +1.5
baz=313
GMRC Granite Mounta 45.85 88 P P 05 54 12.8 +1.4
baz=312,SNR=8.8
PFO Pinyon Flats O 46.15 90 P P 05 54 14.3 +0.5
baz=313
TPFO Pinon Flats 46.16 90 P P 05 54 15.2 +1.3
baz=313
SRU San Rafael Swe 46.16 79 P P 05 54 15.0 +1.1
SRU IAmb IAmb 05 54 16.3
comp=Z,8.1nm,0.6s
BELC Belle Mtn. Jos 46.17 89 P P 05 54 15.1 +1.2
baz=312,SNR=6.1
109C Camp Elliot, M 46.25 91 P P 05 54 16.3 +1.9
baz=313
K22A Casper 46.35 73 P P 05 54 15.1 -0.1
baz=307
IRM Iron Mountain 46.59 88 P P 05 54 18.2 +1.2
baz=312,SNR=7.1
BC3 Big Chuckawall 46.74 89 P P 05 54 19.1 +0.8
baz=313
U15A North Rim 46.82 84 P P 05 54 20.8 +1.6
U15A IAmb IAmb 05 54 21.9
comp=Z,18nm,0.6s
O20A White River Ci 46.88 77 P P 05 54 20.2 +0.6
O20A IAmb IAmb 05 54 20.9
comp=Z,31nm,1.4s
O20A White River Ci 46.88 77 P P 05 54 20.1 +0.6
baz=309,SNR=7.5
IKP In-Ko-Pah, Jac 47.02 90 P P 05 54 21.6 +1.1
baz=313
MDND Maddock 47.18 63 P P 05 54 21.7 +0.3
baz=306
GLA Glamis 47.53 89 P P 05 54 25.7 +1.3
baz=313
SONM Songino Array 47.58 297 P P 05 54 24.0 -0.6
comp=Z,1.2nm,0.7s,baz=50,slow=7.5,SNR=8.7
SONM pP pP 05 55 09.2 +2.1
comp=Z,0.8nm,0.6s,baz=69,slow=7.5,SNR=4.2
SONM ScP ScP 05 59 24.6 -1.2
comp=Z,0.6nm,0.7s,baz=56,slow=3.7,SNR=4.2
comp=Z,1.2nm,0.7s
PV11 David Mesa, Pa 47.67 79 P P 05 54 26.7 +1.1
N23A Red Feather La 47.77 75 P P 05 54 27.1 +0.7
baz=309
ULM Lac du Bonnet 47.78 59 P P 05 54 25.0 -0.9
comp=Z,1.2nm,0.3s,baz=301,slow=9.0,SNR=4.5
comp=Z,1.2nm,0.3s
WUAZ Wupatki 47.98 84 P P 05 54 29.4 +1.5
baz=312,SNR=8.7
MVCO Mesa Verde 48.61 80 P P 05 54 33.8 +1.0
baz=311
ISCO Idaho Springs 48.66 75 P P 05 54 34.0 +0.8
baz=310
HHC Hu-ho-hao-te 48.91 287 eP P 05 54 35.1 +0.2
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,280nm,5.9s
W18A Petrified Fore 49.24 83 P P 05 54 38.9 +1.3
baz=312
S22A 4UR Ranch, Cre 49.26 78 P P 05 54 37.8 0.0
baz=311
214A Organ Pipe Nat 49.52 88 P P 05 54 41.1 +1.6
baz=314
SDCO Great Sand Dun 50.06 77 P P 05 54 45.0 +1.3
SDCO Great Sand Dun 50.06 77 P P 05 54 44.3 +0.6
baz=311,SNR=6.8
NJ2 Nanjing 50.35 273 eP P 05 54 46.1 +0.5
NJ2 pmax pmax
comp=Z,12nm,0.5s
TUC Tucson 50.51 86 P P 05 54 48.5 +1.5
baz=314
T25A Trinidad 51.11 77 P P 05 54 52.4 +0.9
baz=312
ANMO Albuquerque 51.35 81 P P 05 54 54.4 +1.0
baz=313
SBM South Baldy 51.57 82 P P 05 54 58.1 +2.9
Y22D IRIS PASSCAL I 51.66 82 P P 05 54 55.9 +0.3
baz=313
Y22F Passcal Instru 51.66 82 P P 05 54 55.7 +0.1
baz=313
121A Cookes Peak, D 52.19 84 P P 05 55 01.1 +1.5
baz=314,SNR=5.8
CBKS Cedar Bluff 52.76 73 P P 05 55 05.1 +1.6
baz=312
MNTX Cornudas Mount 54.23 83 P P 05 55 15.8 +1.5
MNTX IAmb IAmb 05 55 16.7
comp=Z,8.8nm,0.8s
MNTX Cornudas Mount 54.23 83 P P 05 55 15.5 +1.3
baz=314,SNR=15
MSTX Muleshoe 54.23 79 P P 05 55 15.0 +0.7
baz=314
AMTX Amarillo 54.26 78 P P 05 55 14.8 +0.3
baz=313
WMOK Wichita Mounta 56.09 76 P P 05 55 27.8 +0.4
baz=314
LZH Lanzhou 56.59 287 eP P 05 55 36.8 +5.6
LZH pP pP 05 56 08.5 -6.6
LZH pmax pmax
comp=Z,19nm,1.5s
TX31 Lajitas Ar. Si 56.95 84 P P 05 55 34.8 +1.1
ABTX Abilene, Hawle 57.05 78 P P 05 55 35.2 +0.9
baz=315
ARCES ARCESS Array B 57.30 351 P P 05 55 34.9 -0.6
comp=Z,3.1nm,0.9s,baz=20,slow=7.1,SNR=12
comp=Z,3.1nm,0.9s
HDIL Hopedale 57.53 64 P P 05 55 38.2 +0.8
baz=314
SCHQ Schefferville 58.18 40 P P 05 55 42.0 +0.2
comp=Z,2.9nm,0.5s,baz=300,slow=10,SNR=13
comp=Z,2.9nm,0.5s
JCT Junction City 58.47 80 P P 05 55 44.7 +0.5
baz=316,SNR=5.7
WHTX Lake Whitney, 58.80 77 P P 05 55 47.0 +0.6
baz=315
MIAR Mount Ida 59.28 72 P P 05 55 50.0 +0.4
baz=315
O48B Farmland 60.00 62 P P 05 55 53.2 -1.3
baz=315
WMQ Urumqi 60.08 304 eP P 05 55 59.1 +4.0
833A Chaparral WMA, 60.27 81 P P 05 55 57.6 +1.2
baz=317
MKAR Makanchi Array 60.60 309 P P 05 55 57.1 -1.4
comp=Z,1.1nm,0.5s,baz=49,slow=6.7,SNR=8.9
MKAR PcP PcP 05 56 40.4 -0.3
comp=Z,0.3nm,0.5s,baz=44,slow=4.6,SNR=1.9
MKAR pP pwP 05 56 46.2 -1.7
comp=Z,1.5nm,0.7s,baz=55,slow=7.5,SNR=6.6
comp=Z,1.1nm,0.5s
P49A Miami Univ. Ec 60.75 62 P P 05 55 58.4 -1.2
baz=315
WCI Wyandotte Cave 60.81 64 P P 05 55 58.7 -1.3
baz=315
OXF Oxford 61.72 69 P P 05 56 06.5 +0.4
baz=316
SSPA Standing Stone 63.56 57 P P 05 56 18.5 +0.2
baz=317
LRAL Lakeview Retre 64.17 69 P P 05 56 21.8 -0.4
baz=317
PKME Peaks-Kenny Pk 64.30 49 P P 05 56 22.5 -0.4
baz=320
PZH PanZhiHua 64.71 281 P P 05 56 28.3 +2.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,140nm,4.3s
BLA Blacksburg 64.75 61 P P 05 56 26.4 +0.3
baz=318
KMSC Kings Mountain 65.79 64 P P 05 56 32.6 -0.1
baz=318
SIJI Sorong 68.85 238 P P 05 56 52.8 +0.6
comp=Z,12nm,0.5s,baz=20,slow=18,SNR=3.3
comp=Z,12nm,0.5s
KSH Kashi 69.11 308 P P 05 56 57.1 +3.5
KSH pP pwP 05 57 47.0 +2.7
KSH pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 72.46 278 P P 05 57 14.1 +0.2
comp=Z,1.7nm,0.3s,baz=21,slow=7.4,SNR=2.5
CMAR pP pwP 05 58 02.8 -2.1
comp=Z,1.1nm,0.3s,baz=15,slow=7.2,SNR=1.4
comp=Z,1.7nm,0.3s
WRA Warramunga Arr 83.88 226 P P 05 58 16.4 +0.1
comp=Z,0.9nm,0.5s,baz=33,slow=5.7,SNR=17
comp=Z,0.9nm,0.5s
BRTR Keskin Array B 84.61 337 P P 05 58 19.5 -0.6
comp=Z,0.9nm,0.9s,baz=64,slow=2.6,SNR=2.8

comp=Z,0.9nm,0.9s
ASAR Alice Springs 87.34 225 P **P** 05 58 34.1 +0.8
comp=Z,1.9nm,0.6s,baz=23,slow=5.0,SNR=22
comp=Z,1.9nm,0.6s
BOSA Boshof 151.34 318 PKPbc **PKPbc** 06 05 38.2 -0.7
comp=Z,2.1nm,0.7s,baz=3.3,slow=3.0,SNR=5.7

IDC 13 05:50:51.6±1.9, 4°54.S×119°50.E, h0km, mb3.4/4, mbtmp3.4/4, MS3.1/1, Error ellipse: s-maj=271.4km s-min=23.3km az=56.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.05**	**138**	P	P	05 55 37.4	-0.1
	1.5nm,0.6s,baz=315,slow=12,SNR=10.0						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**23.55**	**145**	P	P	05 56 03.9	0.0
	0.7nm,1.0s,baz=334,slow=9.9,SNR=3.7						
	0.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.54**	**319**	LR	LR	06 10 18.5	
	comp=Z,32nm,18.2s,baz=255,slow=38						
MKAR	**Makanchi Array**	**60.77**	**332**	P	P	06 01 05.6	+0.2
	0.2nm,0.4s,baz=120,slow=7.9,SNR=7.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**65.24**	**333**	P	P	06 01 34.7	-0.3
	0.2nm,0.5s,baz=126,slow=7.1,SNR=2.1						
	0.2nm,0.5s						

MAN 13 05:51:37.7, 5°.61N×126°.68E, h72km, mb4.5, ML3.3, MS3.1, 4C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.08**	**297⇑**	*eP*	Pn	05 51 57.8	+0.4
DDMP				*eS*	Sn	05 52 11.5	-0.6
MATI	**Mati**	**1.39**	**342⇑**	*eP*	Pn	05 52 02.2	+0.8
MATI				*eS*	Sn	05 52 20.5	+1.3
GSPH	**General Santos**	**1.79**	**285⇑**	*iP*	Pn	05 52 05.2	-1.5
GSPH				*eS*	Sn	05 52 25.2	-3.5
KCP	**Kidapawan**	**2.11**	**311⇓**	*eP*	Pn	05 52 10.9	-0.1
KCP				*i* S	Sn	05 52 34.2	-2.1
BIPH	**Bislig**	**2.58**	**353⇑**	*eP*	Pn	05 52 20.4	+3.2
BIPH				*eS*	Sn	05 52 49.7	+2.1
BUKP	**Musuan**	**2.77**	**325⇓**	*eP*	Pn	05 52 21.6	+1.6
PAGZ	**Pagadian**	**3.96**	**304⇓**	*eP*	Pn	05 52 36.8	+0.7
MSLP	**Maasin**	**4.84**	**338⇓**	*eP*	Pn	05 52 46.4	-1.8

IDC 13 05:58:18.6±5.9, 6°.01S×147°.52E, h0km, mb3.9/2, mbtmp3.9/4, ML3.8/1, MS2.7/1, Error ellipse: s-maj=85.5km s-min=58.7km az=64.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.40**	**186**	Pn	Pn	05 59 13.4	+0.4
	12nm,0.3s,baz=47,slow=4.9,SNR=5.8						
PMG				Sn	Sn	05 59 54.4	+0.4
	18nm,0.3s,baz=211,slow=23,SNR=17						
PMG				LR	LR	06 00 59.1	
	comp=Z,102nm,20.2s,baz=12,slow=47						
WRA	**Warramunga Arr**	**18.87**	**222**	P	P	06 02 40.2	-0.5
	0.3nm,0.3s,baz=47,slow=11,SNR=16						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**21.91**	**215**	P	P	06 03 13.4	-0.3
	2.0nm,0.4s,baz=50,slow=8.9,SNR=36						
	2.0nm,0.4s						
STKA	**Stephens Creek**	**26.33**	**191**	P	P	06 03 56.9	+0.5
	1.4nm,0.6s,baz=21,slow=14,SNR=2.1						
	1.4nm,0.6s						

VIE ***13*** *05:59:53.0, 51°.27N×16°.08E, h0km, ml2.5/3 68 km WNW of Wroclaw Suspected Mining induced.*
PRU ***13*** *05:59:52.4±0.0, 51°.41N×16°.14E, h0km*
ISC 13 05:59:52.9±1.2, 51°.34N±0°.05×16°.10E±0°.03, h0km, n24, σ0s93/45, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.51**	**166**	*e*Pg	**Pg**	**06 00 02.6**	**-0.1**
KSP				*e*Sg	**Sg**	**06 00 10.2**	**+0.8**
OSTC	**Ostas**	**0.79**	**175**	*e*PG	**Pg**	**06 00 08.2**	**+0.2**
OSTC				*e*SG	**Sb**	**06 00 19.7**	**-1.1**
UPC	**Upice**	**0.84**	**184**	*e*PG	**Pg**	**06 00 09.1**	**+0.2**
UPC				*e*SG	**Sg**	**06 00 21.1**	**+1.3**
	comp=Z,104nm,0.6s						
DPC	**Dobruska-Polom**	**1.00**	**172**	*e*PG	**Pg**	**06 00 11.4**	**-0.7**
DPC				*e*SG	**Sg**	**06 00 25.4**	**+0.3**
	comp=Z,19nm,0.2s						
PVCC	**Panska Ves**	**1.27**	**231**	*e*PG	**Pn**	**06 00 17.8**	**-0.1**
PVCC				*e*SG	**Sn**	**06 00 35.8**	**+0.2**
	comp=Z,105nm,0.3s						
KRLC	**Kraliky**	**1.34**	**161**	*e*PG	**Pg**	**06 00 17.4**	**-1.2**
KRLC				*e*SG	**Sg**	**06 00 36.2**	**+0.3**
	comp=Z,18nm,0.5s						
BRG	**Berggiesshubel**	**1.44**	**252**	Pg	**Pn**	**06 00 20.1**	**-0.2**
BRG				Sg	**Sn**	**06 00 40.8**	**+1.0**
BRG				Amp		06 00 43.4	
	comp=Z,20nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.66**	**211**	*e*PG	**Pb**	**06 00 24.2**	**-0.1**
PRU	**Pruhonice**	**1.68**	**217**	*e*PG	**Pb**	**06 00 24.4**	**-0.3**
PRU				*e*SG	**Sg**	**06 00 47.8**	**+1.0**
	comp=Z,20nm,0.4s						
MORC	**Moravsky Berou**	**1.82**	**149**	*e*PN	**Pn**	**06 00 24.8**	**-0.7**
MORC				*e*SG	**Sb**	**06 00 49.6**	**-0.8**
CLL	**Collm**	**1.94**	**270**	*e*Pg	**Pg**	**06 00 30.0**	**-0.2**
CLL				*e*Sg	**Sg**	**06 00 56.0**	**+0.7**
	comp=Z,12nm,0.4s						
VRAC	**Vranov**	**2.06**	**171**	*e*PN	**Pn**	**06 00 28.6**	**-0.2**
VRAC				*e*SG	**Sb**	**06 00 58.3**	**+1.0**
TREC	**Trest**	**2.09**	**191**	*e*SG	**Sg**	**06 01 00.9**	**+1.0**
KRUC	**Moravsky**	**2.29**	**175**	*e*PN	**Pn**	**06 00 31.8**	**-0.1**
KRUC				*e*SG	**Sg**	**06 01 06.8**	**+0.3**
NKC	**Novy Kostel**	**2.57**	**246**	*e*SG	**Sg**	**06 01 16.4**	**+1.0**
	comp=Z,24nm,0.3s						
OJC	**Ojcow**	**2.60**	**114**	*e*Pg	**Pb**	**06 00 40.8**	**+0.4**
OJC				*e*Sg	**Sg**	**06 01 14.4**	**-2.1**
KHC	**Kasperske Hory**	**2.74**	**217**	*e*PN	**Pn**	**06 00 37.2**	**-1.0**
KHC				*e*PG	**Pb**	**06 00 42.4**	**-0.4**
KHC				*e*SN	**Sn**	**06 01 11.3**	**-0.8**
KHC				*e*SG	**Sg**	**06 01 20.9**	**-0.1**
CKRC	**Cesky Krumlov**	**2.78**	**205**	*e*SG	**Sg**	**06 01 21.6**	**-0.4**
	comp=Z,11nm,0.4s						
MODS	**Modra-Piesok**	**3.07**	**165**	*e*PG	**Pg**	**06 00 51.0**	**-0.7**
MODS				*e*SG	**Sg**	**06 01 33.0**	**+1.6**
LANS	**Liptovska Anna**	**3.08**	**134**	*e*PG	**Pg**	**06 00 53.1**	**+1.2**
VYHS	**Vyhne**	**3.35**	**147**	*e*PG	**Pg**	**06 00 57.0**	**-0.2**
VYHS				*e*SG	**Sg**	**06 01 43.7**	**+3.1**
CONA	**Conrad Observa**	**3.42**	**183**	*e*Pn	**Pn**	**06 00 48.4**	**+0.9**
	comp=Z,0.3nm,0.1s						
CONA				*e*Sg	**Sg**	**06 01 41.4**	**-1.4**
	comp=Z,7.9nm,0.4s						
MOA	**Molln**	**3.69**	**200**	*e*Pn	**Pn**	**06 00 51.6**	**+0.4**
	comp=Z,0.5nm,0.2s						
MOA				*e*Pg	**Pg**	**06 01 03.3**	**-0.3**
	comp=Z,3.0nm,0.5s						
MOA				*e*Sg	**Sg**	**06 01 52.3**	**+0.7**
	comp=Z,3.1nm,0.2s						
ARSA	**Arzberg**	**4.11**	**185**	*e*Sg	**Sg**	**06 02 04.8**	**-0.2**
	comp=Z,1.9nm,0.4s						

DJA 13 06:08:00.7±0.7, 8°S±4°×107°E±°, h30km±9km, M4.2/13, mb5.1/5, mB5.3/1, MLv3.7/13, Mw(mB)4.7/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.63**	**7**	P	Pn	06 08 13.8	+0.2
SKJI	**Sukabumi**	**1.05**	**332**	P	Pn	06 08 19.8	+0.4
SKJI				S	Sb	06 08 33.6	-0.1
LEM	**Lembang**	**1.24**	**27**	P	Pn	06 08 22.2	0.0
LEM				S	Sn	06 08 38.4	+0.4
CMJI	**Cimerak**	**1.39**	**84**	P	Pn	06 08 24.4	+0.3
CMJI				S	Sn	06 08 41.7	+0.2
TNG	**Tangerang**	**1.80**	**347**	P	Pb	06 08 30.1	-3.0
TNG				P	Pn	06 08 29.8	+0.1
CGJI	**Cibinong**	**1.88**	**314**	P	Pn	06 08 30.7	-0.2
SBJI	**Serang**	**2.03**	**333**	P	Pn	06 08 33.1	+0.3
YOGI	**Yogyakarta**	**3.22**	**88**	P	Pn	06 08 49.2	0.0
UGM	**Wanagama**	**3.44**	**90**	P	Pn	06 08 52.2	-0.1
SMRI	**Semarang**	**3.48**	**75**	P	Pn	06 08 52.9	+0.1
KASI	**Kota Agung**	**3.49**	**313**	P	Pn	06 08 52.5	-0.5
NGJI	**Ngawi**	**4.41**	**83**	P	Pn	06 09 05.7	+0.1
BWJI	**Bawean**	**5.94**	**70**	P	Pn	06 09 26.9	+0.2
	520nm,1.1s,1.8nm						
TWSI	**Taliwang, Sumb**	**9.76**	**95**	P	Pn	06 10 19.0	-0.2
	28nm,1.4s						
KBKI	**Kotabaru**	**10.18**	**64**	P	Pn	06 10 24.3	-0.5
	3μm,0.7s						

BJI ***13*** *06:10:15.8±0.0, 12°.16N×141°.30E, h5km, mb4.6/39, mB5.0/19, Ms4.4/1, Ms7 4.2/2*
NEIC ***13*** *06:10:20.6±1.4, 12°.26N±0°.08×141°.07E±0°.03, h10km±1km, mb4.8/38, Error ellipse: s-maj=14.2km s-min=3.7km az=161.0*
IDC ***13*** *06:10:26.1±3.1, 12°.28N×141°.17E, h60km±30km, mb4.3/25, mbtmp4.6/27, ML4.6/2, MS3.4/9, Error ellipse: s-maj=18.6km s-min=9.7km az=76.0*
ISC 13 06:10:23.6±0.4, 12°.23N±0°.06×141°.09E±0°.08, h35km, n89, σ0s80/85, mb4.7/51, MS3.5/7, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.92**	**70**	P	**Pn**	**06 11 22.2**	**+0.8**
	40nm,0.3s,baz=198,slow=6.1,SNR=19						
	364nm,0.6s						
GUMO	**Guam**	**3.92**	**70**		**Pn**	**06 11 21.3**	**-0.1**
JCJ	**Chichijima**	**14.82**	**4**	Pn	**Pn**	**06 13 49.6**	**-1.0**
MANU	**Manus Island**	**15.49**	**156**	Pn	**Pn**	**06 13 59.8**	**+0.2**
SIJI	**Sorong**	**16.27**	**218**	LR	LR	06 19 28.4	
	comp=Z,98nm,20.7s,baz=298,slow=33						
FAKI	**Fak Fak**	**17.43**	**211**	P	**P**	**06 14 25.1**	**0.0**
JOW	**Kunigami**	**18.86**	**322**	LR	LR	06 20 21.0	
	comp=Z,118nm,19.6s,baz=252,slow=32						
RABL	**Rabaul**	**19.68**	**145**	P	**Pn**	**06 14 51.7**	**+0.1**
KRVT	**Keravat (AS076**	**19.70**	**146**	P	**Pn**	**06 14 51.8**	**0.0**
	1.7nm,0.3s,baz=356,slow=14,SNR=4.6						
	67nm,0.9s						
JSU	**Suzuyama**	**21.54**	**335**	P	**P**	**06 15 09.3**	**-0.6**
JSU				IAmb	IAmb	06 15 11.1	
	comp=Z,48nm,0.8s						
PMG	**Port Moresby**	**22.33**	**164**	P	**P**	**06 15 18.0**	**-0.4**
	comp=Z,12nm,0.2s,baz=342,slow=14,SNR=7.2						
	comp=Z,12nm,0.2s						
PMG	**Port Moresby**	**22.33**	**164**	P	**P**	**06 15 17.9**	**-0.5**
PMG				IAmb	IAmb	06 15 20.0	
	comp=Z,28nm,1.1s						
LUWI	**Luwuk**	**22.47**	**235**	P	**P**	**06 15 18.9**	**-1.1**
LUWI				IAmb	IAmb	06 15 30.2	
	comp=Z,56nm,0.9s						
JNU	**Nakatsue**	**22.80**	**337**	P	**P**	**06 15 23.6**	**+0.3**
	comp=Z,19nm,0.8s,baz=186,slow=7.2,SNR=3.7						
JNU				LR	LR	06 22 47.0	
	comp=Z,74nm,19.6s,baz=206,slow=32						
	comp=Z,19nm,0.8s						
TOLI2	**Tolitoli**	**22.97**	**243**	P	**P**	**06 15 24.2**	**-1.0**
MYLDM	**Lahad Datu**	**23.39**	**255**	P	**P**	**06 15 30.1**	**+0.6**
COEN	**Coen**	**26.10**	**175**	P	**P**	**06 15 54.0**	**-0.3**
KSRS	**Korea Array**	**27.75**	**337**	LR	LR	06 25 16.9	
	comp=Z,50nm,21.7s,baz=275,slow=32						
NJ2	**Nanjing**	**28.41**	**318**	*e*P	**P**	**06 16 15.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KNRA	**Kununurra**	**30.30**	**204**	P	**P**	**06 16 30.8**	**-1.0**
WB0	**Warramunga Arr**	**32.48**	**192**	P	**P**	**06 16 50.7**	**-0.2**
WB0				IAmb	IAmb	06 16 51.6	
	comp=Z,19nm,1.1s						
CTA	**Charters Tower**	**32.52**	**171**	P	**P**	**06 16 52.0**	**+0.7**
	comp=Z,15nm,0.8s,baz=346,slow=8.3,SNR=29						
	comp=Z,15nm,0.8s						
CTAO	**Charters Tower**	**32.52**	**171**	P	**P**	**06 16 51.6**	**+0.3**
CTAO				IAmb	IAmb	06 16 52.9	
	comp=Z,18nm,0.8s						
WR0	**Warramunga Arr**	**32.63**	**191**	P	**P**	**06 16 51.9**	**-0.4**
WR0				IAmb	IAmb	06 16 53.1	
	comp=Z,21nm,0.9s						
WB2	**Warramunga Arr**	**32.66**	**192**	P	**P**	**06 16 52.3**	**-0.2**
WRA	**Warramunga Arr**	**32.66**	**192**	P	**P**	**06 16 52.5**	**-0.1**
	comp=Z,17nm,0.9s,baz=11,slow=9.4,SNR=62						
	comp=Z,17nm,0.9s						
WRA	**Warramunga Arr**	**32.66**	**192**	P	**P**	**06 16 51.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**32.80**	**348**	P	**P**	**06 16 52.7**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=194,slow=9.6,SNR=2.3						
	comp=Z,2.0nm,0.7s						
BJI	**Beijing**	**35.35**	**326**	P	**P**	**06 17 15.8**	**+0.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BNX	**BinXian**	**35.36**	**343**	⇑P	**P**	**06 17 16.3**	**+0.5**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BNX				pmax	pmax		
	comp=Z,180nm,4.2s						
AS31	**Alice Springs**	**36.36**	**191**	P	**P**	**06 17 24.7**	**+0.1**
ASAR	**Alice Springs**	**36.37**	**191**	P	**P**	**06 17 24.5**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=38,slow=7.2,SNR=21						
ASAR				LR	LR	06 32 19.9	
	comp=Z,92nm,19.1s,baz=6.5,slow=36						
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**36.37**	**191**	P	**P**	**06 17 23.9**	**-0.7**
KLR	**Kul'dur**	**37.69**	**350**	P	**P**	**06 17 35.7**	**+0.1**
	comp=Z,10nm,0.8s,baz=148,slow=8.0,SNR=46						
	comp=Z,10nm,0.8s						
XLT	**XiLinHaoTe**	**38.20**	**330**	*e*P	**P**	**06 17 43.6**	**+3.6**
XLT				pP	pP	06 17 48.5	-0.8
XLT				sP	pwP	06 17 51.9	-1.5
XLT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,160nm,5.1s						
HHC	**Hu-ho-hao-te**	**38.51**	**323**	*e*P	**P**	**06 17 44.1**	**+1.3**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,300nm,4.8s						
HEH	**HeiHe**	**39.54**	**346**	*e*P	**P**	**06 17 50.5**	**-0.5**
HEH				pmax	pmax		
	comp=Z,23nm,1.0s						
PZH	**PanZhiHua**	**39.56**	**297**	P	**P**	**06 17 52.6**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,4.3s						
CMAR	**Chiang Mai Arr**	**41.04**	**284**	P	**P**	**06 18 05.5**	**+1.5**
	comp=Z,3.1nm,0.5s,baz=86,slow=6.1,SNR=24						
CMAR				LR	LR	06 33 00.5	
	comp=Z,28nm,20.8s,baz=85,slow=33						
	comp=Z,3.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.04**	**284**	P	**P**	**06 18 04.5**	**+0.5**
LZH	**Lanzhou**	**41.08**	**312**	*e*P	**P**	**06 18 04.8**	**+0.6**
LZH				pP	pP	06 18 08.6	-5.1
LZH				sP	pwP	06 18 10.6	-6.6
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
DZM	**Mont Dzumac**	**42.20**	**144**	P	**P**	**06 18 14.2**	**+0.8**
	comp=Z,15nm,0.9s,baz=308,slow=12,SNR=13						
	comp=Z,15nm,0.9s						
DZM	**Mont Dzumac**	**42.20**	**144**	P	**P**	**06 18 13.7**	**+0.2**
DZM				IAmb	IAmb	06 18 15.2	
	comp=Z,18nm,1.0s						
STKA	**Stephens Creek**	**43.86**	**179**	P	**P**	**06 18 26.2**	**-0.4**
	comp=Z,8.4nm,0.6s,baz=355,slow=8.6,SNR=21						
	comp=Z,8.4nm,0.6s						
STKA	**Stephens Creek**	**43.86**	**179**	P	**P**	**06 18 25.8**	**-0.9**
GTA	**Gaotai**	**45.39**	**314**	*e*P	**P**	**06 18 39.0**	**0.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ULN	**Ulaanbaatar**	**45.48**	**328**	P	**P**	**06 18 39.5**	**-0.1**
ULN				IAmb	IAmb	06 18 41.0	
	comp=Z,12nm,1.2s						
SONM	**Songino Array**	**45.80**	**328**	P	**P**	**06 18 42.2**	**0.0**
	comp=Z,2.2nm,1.1s,baz=135,slow=9.2,SNR=10						
SONM				LR	LR	06 38 01.0	
	comp=Z,55nm,18.9s,baz=317,slow=36						
	comp=Z,2.2nm,1.1s						
SONM	**Songino Array**	**45.80**	**328**	P	**P**	**06 18 42.9**	**+0.8**
MSVF	**Nonsavu**	**47.10**	**129**	P	**P**	**06 18 53.1**	**+0.6**
	comp=Z,17nm,0.8s,baz=197,slow=2.9,SNR=5.1						
	comp=Z,17nm,0.8s						
MSVF	**Nonsavu**	**47.10**	**129**	P	**P**	**06 18 52.5**	**-0.1**
GOMU	**GeErMu**	**47.91**	**308**	P	**P**	**06 19 00.5**	**+1.5**
GOMU				pP	pP	06 19 04.9	-3.4
GOMU				sP	sP	06 19 05.9	-6.1
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOMU				pmax	pmax		

comp=Z,78nm,5.6s
YAK Yakutsk 50.40 353 P **P** 06 19 16.6 -0.5
comp=Z,6.1nm,0.4s,baz=342,slow=4.0,SNR=4.2
comp=Z,6.1nm,0.4s
WMQ Urumqi 55.44 315 *e*P **P** 06 19 55.8 +0.9
WMQ pP pP 06 19 59.8 -4.5
WMQ sP sP 06 20 08.1 +0.2
WMQ pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 59.84 356 P **P** 06 20 25.2 0.0
comp=Z,4.3nm,0.5s,baz=90,slow=20,SNR=6.9
comp=Z,4.3nm,0.5s
TIXI Tiksi 59.84 356 P **P** 06 20 24.9 -0.3
TIXI IAmb IAmb 06 20 38.5
comp=Z,6.5nm,1.1s
MK31 Makanchi Array 59.94 317 P **P** 06 20 26.7 +0.3
MKAR Makanchi Array 59.94 317 P **P** 06 20 26.8 +0.4
comp=Z,4.5nm,1.0s,baz=98,slow=9.1,SNR=20
comp=Z,4.5nm,1.0s
MKAR Makanchi Array 59.94 317 P **P** 06 20 25.9 -0.5
MAKZ Makanchi 60.15 317 P **P** 06 20 28.0 +0.2
MAKZ IAmb IAmb 06 20 29.2
comp=Z,5.9nm,1.0s
ZAA0 Zalesovo Array 60.61 326 P **P** 06 20 30.1 -0.6
ZALV Zalesovo Beam 60.61 326 P **P** 06 20 30.6 -0.2
comp=Z,1.2nm,0.5s,baz=102,slow=8.2,SNR=5.7
comp=Z,1.2nm,0.5s
ZALV Zalesovo Beam 60.61 326 P **P** 06 20 30.4 -0.4
OXZ Oxford 62.10 155 P **P** 06 20 41.5 +0.6
KURK Kurchatov 63.27 321 P **P** 06 20 48.2 -0.5
KURBB Kurchatov Arra 63.30 321 P **P** 06 20 48.6 -0.3
comp=Z,6.1nm,0.8s,baz=104,slow=6.8,SNR=53
comp=Z,6.1nm,0.8s
AAK Ala-Archa 64.62 311 LR LR 06 49 51.5
comp=Z,32nm,20.0s,baz=352,slow=37
NRIK Noril'sk 66.23 342 P **P** 06 21 07.3 -0.3
comp=Z,3.9nm,0.7s,baz=112,slow=5.3,SNR=8.2
comp=Z,3.9nm,0.7s
SVW2 Sparrevohn 66.60 28 P **P** 06 21 11.1 +0.9
SVW2 IAmb IAmb 06 21 14.4
comp=Z,11nm,1.2s
GAR Garm 67.49 307 P **P** 06 21 16.7 +0.3
GAR IAmb IAmb 06 21 26.6
comp=Z,12nm,1.1s
BRLK Bradley Lake 68.49 30 P **P** 06 21 21.9 -0.3
PPLA Purkeypile 68.65 27 P **P** 06 21 23.7 +0.5
PPLA IAmb IAmb 06 21 37.2
comp=Z,18nm,1.5s
BVAR Borovoye Array 68.72 322 P **P** 06 21 23.4 -0.3
comp=Z,5.9nm,0.7s,baz=109,slow=8.3,SNR=23
comp=Z,5.9nm,0.7s
BRVK Borovoye 68.78 322 P **P** 06 21 24.3 +0.2
BRVK IAmb IAmb 06 21 25.1
comp=Z,7.8nm,0.8s
CAST Castle Rocks 68.83 26 P **P** 06 21 25.6 +1.3
CAST IAmb IAmb 06 21 34.1
comp=Z,11nm,1.4s
IMAR Indian Mountai 68.89 23 P **P** 06 21 25.7 +1.2
BPAW Bear Paw Mtn. 69.48 26 P **P** 06 21 29.8 +1.5
BPAW IAmb IAmb 06 21 30.9
comp=Z,5.5nm,1.0s
MLY Manley 69.82 25 P **P** 06 21 30.3 -0.1
MLY IAmb IAmb 06 21 40.2
comp=Z,5.9nm,1.1s
ILAR Eielson Array 71.37 25 P **P** 06 21 37.9 -1.8
comp=Z,1.1nm,0.7s,baz=254,slow=5.0,SNR=14
comp=Z,1.1nm,0.7s
ILAR Eielson Array 71.37 25 P **P** 06 21 39.4 -0.3
BMAR Burnt Mountain 72.77 23 P **P** 06 21 48.7 +0.5
ABKAR Akbulak array 75.07 318 P **P** 06 22 00.9 -1.0
INK Inuvik 77.02 22 P **P** 06 22 11.9 -0.6
comp=Z,2.5nm,1.0s,baz=242,slow=5.5,SNR=7.5
comp=Z,2.5nm,1.0s
GEYT Alibeck 77.09 306 P **P** 06 22 13.3 -0.3
comp=Z,1.1nm,0.4s,baz=48,slow=2.1,SNR=2.0
GEYT LR LR 06 58 43.3
comp=Z,44nm,19.8s,baz=354,slow=38
comp=Z,1.1nm,0.4s
A36M Sachs Harbour 79.59 18 P **P** 06 22 26.0 -0.7
A36M IAmb IAmb 06 22 35.0
comp=Z,6.9nm,0.9s
RES Resolute Bay 86.69 13 P **P** 06 23 04.1 +0.7
RES IAmb IAmb 06 23 12.6
comp=Z,8.5nm,1.4s
ARCES ARCESS Array B 87.21 341 P **P** 06 23 05.5 -0.5
comp=Z,2.8nm,0.8s,baz=57,slow=4.5,SNR=6.0
comp=Z,2.8nm,0.8s
NVAR Mina Array Bea 90.63 51 P **P** 06 23 22.6 -0.5
comp=Z,0.7nm,0.7s,baz=271,slow=7.5,SNR=3.5
comp=Z,0.7nm,0.7s
FINES FINESS Array B 90.80 334 P **P** 06 23 21.3 -1.7
comp=Z,4.7nm,0.8s,baz=50,slow=3.4,SNR=15
comp=Z,4.7nm,0.8s

IDC 13 06:35:53.8±2.4, 54°.17N×86°.33E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=19.6km s-min=11.7km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**256**	I	I	06 42 10.0	
	baz=75,slow=350,SNR=4.6						
ZALV	**Zalesovo Beam**	**0.92**	**256**	Pg	Pg	06 36 10.0	-1.3
	2.6nm,0.3s,baz=74,slow=16,SNR=28						
ZALV				Lg	Lg	06 36 24.8	
	4.2nm,0.3s,baz=78,slow=30,SNR=21						
KURBB	**Kurchatov Arra**	**5.95**	**236**	Pn	Pn	06 37 23.8	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=26						
	2.4nm,0.7s						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	06 37 50.0	+1.2
	0.2nm,0.3s,baz=25,slow=13,SNR=15						
MKAR				Lg	Lg	06 40 02.2	
	baz=34,slow=32,SNR=6.8						
	0.3nm,0.3s						

IDC 13 06:36:45.7±3.1, 12°.13N×140°.67E, h0km, mb3.7/5, mbtmp3.7/5, MS4.5/1, Error ellipse: s-maj=145.7km s-min=23.3km az=75.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.48**	**191**	P	P	06 43 17.7	-0.4
	1.3nm,0.8s,baz=12,slow=9.1,SNR=6.5						
	1.3nm,0.8s						
CTA	**Charters Tower**	**32.48**	**170**	P	P	06 43 18.3	+0.1
	2.4nm,0.8s,baz=336,slow=11,SNR=3.9						
	2.4nm,0.8s						
ASAR	**Alice Springs**	**36.19**	**191**	P	P	06 43 50.5	+0.2
	0.1nm,0.4s,baz=21,slow=11,SNR=4.8						
	0.1nm,0.4s						
MSVF	**Nonsavu**	**47.35**	**128**	LR	LR	07 02 30.4	
	comp=Z,516nm,21.3s,baz=358,slow=33						
MKAR	**Makanchi Array**	**59.74**	**317**	P	P	06 46 53.0	+0.5
	0.3nm,0.7s,baz=87,slow=7.4,SNR=3.8						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**68.55**	**322**	P	P	06 47 49.8

RABL	**Rabaul**	**5.01 66**	Pn	**Pn**	**06 44 11.3**	**-0.6**
RABL	**Rabaul**	**5.01 66**	P	**Pn**	**06 44 12.2**	**+0.3**
GENI	**Genyem**	**8.21 296**	P	**Pn**	**06 44 54.2**	**-1.4**
	53nm,0.8s					
COEN	**Coen**	**8.80 209**	Pn	**Pn**	**06 45 02.5**	**-1.1**
COEN	**Coen**	**8.80 209**	P	**Pn**	**06 45 02.9**	**-0.8**
SMPI	**Sarmi**	**9.79 295**	P	**Pn**	**06 45 15.1**	**-2.0**
	36nm,1.0s					
MTSU	**Mount Surprise**	**12.24 195**	P	**Pn**	**06 45 50.8**	**+0.2**
HNR	**Honiara**	**12.67 105**	LR	LR	06 49 47.7	
	comp=Z,3µm,21.9s,baz=320,slow=32					
CTA	**Charters Tower**	**13.83 185**	P	**Pn**	**06 46 12.5**	**+0.8**
	0.9nm,0.3s,baz=3.9,slow=14,SNR=15					
CTA			LR	LR	06 51 32.0	
	comp=Z,124nm,18.5s,baz=5.5,slow=37					
	7.5nm,0.7s					
CTA	**Charters Tower**	**13.83 185**	P	**Pn**	**06 46 10.1**	**-1.6**
CTAO	**Charters Tower**	**13.83 185**	Pn	**Pn**	**06 46 11.3**	**-0.4**
CTAO	**Charters Tower**	**13.83 185**	P	**Pn**	**06 46 10.3**	**-1.4**
QIS	**Mount Isa**	**16.19 208**	P	**Pn**	**06 46 42.4**	**+0.3**
KDU	**Kakadu**	**16.20 245**	P	**Pn**	**06 46 41.6**	**-0.6**
SAUI	**Saumlaki**	**16.23 263**	Pn	**Pn**	**06 46 42.6**	**0.0**
PATS	**Pohnpei**	**16.84 40**	P	**Pn**	**06 46 50.6**	**+0.4**
PATS			IAmb	IAmb	06 46 54.5	
	comp=Z,369nm,2.0s					
SIJI	**Sorong**	**17.11 288**	P	**P**	**06 46 56.5**	**+2.4**
	comp=Z,9.6nm,0.6s,baz=145,slow=10,SNR=4.6					
SIJI			LR	LR	06 55 05.4	
	comp=Z,102nm,18.2s,baz=106,slow=43					
SWI	**Sorong**	**17.12 288**	P	**Pn**	**06 46 52.4**	**-1.2**
	comp=Z,107nm,0.9s,comp=Z,1µm					
WR0	**Warramunga Arr**	**18.61 222**	P	**P**	**06 47 10.4**	**-0.1**
WR0			IAmb	IAmb	06 47 19.3	
	comp=Z,54nm,1.0s					
WRAB	**Tennant Creek**	**18.71 222**	P	**P**	**06 47 11.8**	**+0.1**
WRAB	**Tennant Creek**	**18.71 222**	P	**P**	**06 47 11.3**	**-0.4**
WRA	**Warramunga Arr**	**18.73 222**	P	**P**	**06 47 11.5**	**-0.3**
	comp=Z,3.4nm,0.3s,baz=48,slow=11,SNR=124					
WRA			S	**S**	**06 50 38.2**	**-2.6**
	comp=Z,8.9nm,1.1s,baz=43,slow=22,SNR=8.4					
WRA			ScP	**ScP**	**06 55 08.3**	**+2.3**
	comp=Z,1.7nm,1.1s,baz=31,slow=2.1,SNR=6.0					
	comp=Z,21nm,0.9s					
WRA	**Warramunga Arr**	**18.73 222**	P	**P**	**06 47 11.9**	**0.0**
WB1	**Warramunga Ar.**	**18.73 222**	P	**P**	**06 47 11.6**	**-0.3**
EIDS	**Eidsvold**	**19.32 170**	P	**P**	**06 47 18.9**	**+0.7**
EIDS			IAmb	IAmb	06 47 22.1	
	comp=Z,28nm,1.0s					
GUMO	**Guam**	**19.88 352**	LR	LR	06 53 46.1	
	comp=Z,106nm,20.5s,baz=114,slow=33					
GUMO	**Guam**	**19.88 352**	P	**P**	**06 47 24.2**	**-0.2**
GUMO			IAmb	IAmb	06 47 40.5	
	comp=Z,165nm,1.1s					
RMQ	**Roma**	**20.17 177**	P	Pn	06 47 29.4	-0.6
QLP	**Quilpie**	**20.48 189**	P	**P**	**06 47 31.7**	**+0.9**
KNRA	**Kununurra**	**20.69 242**	P	**P**	**06 47 32.3**	**-0.8**
KNRA			IAmb	IAmb	06 47 52.4	
	comp=Z,42nm,0.9s					
KNRA	**Kununurra**	**20.69 242**	P	**P**	**06 47 33.0**	**-0.1**
KOUNC	**Koumac, New Ca**	**21.58 133**	P	**P**	**06 47 42.0**	**-0.6**
AS01	**Alice Springs**	**21.72 216**	P	**P**	**06 47 44.5**	**+0.3**
AS31	**Alice Springs**	**21.75 216**	P	**P**	**06 47 43.7**	**-0.7**
AS31			IAmb	IAmb	06 47 49.2	
	comp=Z,15nm,0.3s					
ASAR	**Alice Springs**	**21.75 216**	P	**P**	**06 47 44.8**	**+0.3**
	comp=Z,10nm,0.4s,baz=50,slow=8.6,SNR=217					
ASAR			S	**S**	**06 51 42.8**	**+1.8**
	comp=Z,3.4nm,0.8s,baz=40,slow=23,SNR=10					
ASAR			ScP	**ScP**	**06 55 15.8**	**+2.6**
	comp=Z,1.5nm,1.0s,baz=51,slow=2.4,SNR=4.5					
	comp=Z,10nm,0.4s					
ASAR	**Alice Springs**	**21.75 216**	P	**P**	**06 47 44.2**	**-0.3**
SANI	**Sanana**	**21.91 280**	P	**P**	**06 47 46.1**	**-0.2**
	comp=Z,34nm,0.8s					
INKA	**Innaminka**	**22.34 196**	P	**P**	**06 47 50.8**	**0.0**
LIFNC	**LIFOU**	**23.93 129**	P	**P**	**06 48 05.4**	**-0.8**
BATI	**Baumata**	**23.98 259**	LR	LR	06 59 58.9	
	comp=Z,302nm,18.2s,baz=87,slow=43					
BATI	**Baumata**	**23.98 259**	P	**P**	**06 48 06.4**	**-0.4**
	comp=Z,82nm,1.2s					
DZM	**Mont Dzumac**	**24.09 133**	P	**P**	**06 48 07.5**	**-0.3**
	comp=Z,15nm,0.8s,baz=344,slow=7.4,SNR=16					
	comp=Z,15nm,0.8s					
DZM	**Mont Dzumac**	**24.09 133**	P	**P**	**06 48 06.8**	**-0.9**
DZM			IAmb	IAmb	06 48 09.4	
	comp=Z,16nm,0.9s					
DZM	**Mont Dzumac**	**24.09 133**	P	**P**	**06 48 07.7**	**-0.1**
OOD	**Oodnadatta**	**24.22 206**	P	**P**	**06 48 10.3**	**+1.5**
ONTNC	**Ouen Toro**	**24.25 133**	P	**P**	**06 48 07.3**	**-1.8**
ONTNC			IAmb	IAmb	06 48 09.2	
	comp=Z,49nm,1.4s					
ARMA	**Armidale**	**24.36 171**	P	**P**	**06 48 10.3**	**+0.2**
ARMA			IAmb	IAmb	06 48 12.8	
	comp=Z,33nm,1.0s					
ARMA	**Armidale**	**24.36 171**	P	**P**	**06 48 10.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.42 239**	P	**P**	**06 48 10.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**24.42 239**	P	**P**	**06 48 11.6**	**+0.9**
MARNC	**Mare, Loyalty**	**24.93 129**	P	**P**	**06 48 15.0**	**-0.4**
PINNC	**Pines Island,**	**25.16 132**	P	**P**	**06 48 16.8**	**-0.5**
PINNC			IAmb	IAmb	06 48 38.3	
	comp=Z,26nm,1.0s					
CMSA	**Cobar Meteorol**	**25.23 184**	P	**P**	**06 48 19.1**	**+1.2**
LCRK	**Leigh Creek**	**25.64 199**	P	**P**	**06 48 22.0**	**+0.4**
STKA	**Stephens Creek**	**26.11 192**	P	**P**	**06 48 25.9**	**0.0**
	comp=Z,8.8nm,0.6s,baz=4.2,slow=9.6,SNR=16					
STKA			LR	LR	06 59 25.1	
	comp=Z,113nm,20.1s,baz=17,slow=38					
	comp=Z,8.8nm,0.6s					
STKA	**Stephens Creek**	**26.11 192**	P	**P**	**06 48 26.6**	**+0.7**
STKA	**Stephens Creek**	**26.11 192**	P	**P**	**06 48 27.3**	**+1.4**
WRKA	**Warakurna**	**26.27 223**	P	**P**	**06 48 27.3**	**-0.2**
APSI	**Ampana**	**26.39 281**	P	**P**	**06 48 28.6**	**0.0**
MGCD	**Mangrove Creek**	**27.04 173**	P	**P**	**06 48 35.4**	**+1.2**
MULG	**Mulgathing**	**27.08 206**	P	**P**	**06 48 35.4**	**+0.7**
KAPI	**Kappang**	**27.70 271**	LR	LR	07 02 20.1	
	comp=Z,51nm,20.5s,baz=99,slow=42					
HTT	**Hallett**	**28.22 195**	P	**P**	**06 48 46.0**	**+1.1**
BBOO	**Buckleboo**	**28.53 201**	P	**P**	**06 48 46.8**	**-0.7**
BBOO			IAmb	IAmb	06 49 38.8	
	comp=Z,94nm,1.9s					
BBOO	**Buckleboo**	**28.53 201**	P	**P**	**06 48 48.7**	**+1.2**
FORT	**Forrest**	**30.52 214**	P	**P**	**06 49 05.9**	**+0.7**
MBWA	**Marble Bar**	**30.76 238**	P	**P**	**06 49 07.2**	**-0.2**
MBWA			IAmb	IAmb	06 49 33.4	
	comp=Z,53nm,1.6s					
MBWA	**Marble Bar**	**30.76 238**	P	**P**	**06 49 07.9**	**+0.4**
MBWA	**Marble Bar**	**30.76 238**	P	**P**	**06 49 07.8**	**+0.4**
MBWA			sP	**pP**	**06 49 30.8**	**+5.0**
PSA00	**Pilbara Seismi**	**30.84 238**	P	**P**	**06 49 07.9**	**-0.2**
PSA00			IAmb	IAmb	06 49 36.4	
	comp=Z,50nm,1.6s					
PSA00	**Pilbara Seismi**	**30.84 238**	P	**P**	**06 49 08.5**	**+0.4**
FUNA	**Funafuti**	**31.45 96**	P	**P**	**06 49 14.5**	**+0.9**
JCJ	**Chichijima**	**32.54 351**	P	**P**	**06 49 28.9**	**-2.8**
	comp=Z,41nm,0.4s,baz=274,slow=19,SNR=1.5					
KMBL	**Kambalda**	**34.68 221**	P	**P**	**06 49 41.2**	**-0.4**
MORW	**Morawa**	**37.44 229**	P	**P**	**06 50 05.5**	**+0.4**
KLBR	**Kellerberrin**	**37.59 224**	P	**P**	**06 50 06.4**	**0.0**
BLDU	**Ballidu**	**37.77 226**	P	**P**	**06 50 08.8**	**+0.8**
RAO	**Raoul Island**	**39.80 129**	P	P	06 50 31.0	+6.0
JSU	**Suzuyama**	**40.94 337**	P	**P**	**06 50 35.8**	**+1.6**
URZ	**Urewera**	**41.63 144**	LR	LR	07 06 59.7	
	comp=Z,83nm,18.1s,baz=44,slow=34					
JNU	**Nakatsue**	**42.23 339**	LR	LR	07 04 41.5	
	comp=Z,75nm,21.7s,baz=128,slow=31					
RPZ	**Rata Peaks**	**42.65 155**	P	**P**	**06 50 48.9**	**+0.8**
	comp=Z,14nm,0.7s,baz=263,slow=3.7,SNR=5.8					
	comp=Z,14nm,0.7s					
RPZ	**Rata Peaks**	**42.65 155**	P	**P**	**06 50 49.1**	**+1.0**
NIUE	**Niue**	**43.27 111**	P	**P**	**06 50 53.8**	**+0.4**
WHZ	**Wether Hill Ro**	**43.27 159**	P	**P**	**06 50 52.9**	**-0.2**
MJAR	**Matsushiro Arr**	**43.45 349**	P	**P**	**06 50 52.9**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=178,slow=6.4,SNR=1.7					
	comp=Z,1.0nm,0.3s					
NJ2	**Nanjing**	**46.89 326**	*eP*	**P**	**06 51 24.1**	**+2.2**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
KSRS	**Korea Array**	**47.17 339**	LR	LR	07 07 59.6	
	comp=Z,31nm,21.7s,baz=180,slow=32					
USRK	**Ussuriysk Ar.**	**52.13 346**	LR	LR	07 10 55.7	
	comp=Z,59nm,20.6s,baz=157,slow=32					
CN2	**Changchun**	**53.67 340**	*eP*	**P**	**06 52 16.3**	**+3.4**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CMAR	**Chiang Mai Arr**	**53.86 298**	LR	LR	07 16 10.8	
	comp=Z,11nm,19.4s,baz=335,slow=37					
PZH	**PanZhiHua**	**55.05 308**	P	**P**	**06 52 25.4**	**+2.0**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,150nm,4.7s					
TNCH	**TengChong**	**56.92 305**	P	**P**	**06 52 37.9**	**+1.0**
TNCH			pmax	pmax		
	comp=Z,220nm,4.3s					
HHC	**Hu-ho-hao-te**	**57.33 328**	*eP*	P	06 52 44.5	+5.1
HHC			pmax	pmax		
	comp=Z,23nm,0.9s					
HHC			pmax	pmax		
	comp=Z,250nm,5.4s					
LZH	**Lanzhou**	**58.76 319**	*eP*	**P**	**06 52 47.6**	**-1.9**
LZH			pP	pP	06 52 57.8	-11
LZH			pmax	pmax		
	comp=Z,13nm,1.4s					
DRV	**Dumont d'Urvil**	**60.55 183**	P	**P**	**06 53 01.4**	**+0.3**
GTA	**Gaotai**	**63.28 320**	*eP*	P	06 53 25.5	+5.4
GTA			pP	pP	06 53 38.3	-1.6
GTA			sP	sP	06 53 43.1	-5.3
GTA			pmax	pmax		
	comp=Z,3.0nm,1.1s					
SONM	**Songino Array**	**64.88 331**	P	**P**	**06 53 29.7**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=140,slow=11,SNR=2.0					
	comp=Z,0.8nm,0.5s					
SONM	**Songino Array**	**64.88 331**	P	**P**	**06 53 30.0**	**-0.4**
CASY	**Casey**	**65.18 196**	P	**P**	**06 53 32.1**	**+0.3**
CASY	**Casey**	**65.18 196**	P	**P**	**06 53 33.5**	**+1.7**
CASY			pP	**pP**	**06 53 50.5**	**-1.7**
CASY			sP	**sP**	**06 53 57.2**	**-3.6**
TAOE	**Nuku Hiva Isla**	**71.61 97**	P	**P**	**06 54 14.3**	**+1.1**
TAOE			IAmb	IAmb	06 54 23.6	
	comp=Z,69nm,1.3s					
VNDA	**Vanda**	**71.64 177**	P	**P**	**06 54 12.4**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=350,slow=7.4,SNR=9.1					
	comp=Z,2.3nm,0.7s					
VNDA	**Vanda**	**71.64 177**	P	**P**	**06 54 12.3**	**+0.3**
VNDA			IAmb	IAmb	06 56 32.6	
	comp=Z,46nm,1.6s					
VNDA	**Vanda**	**71.64 177**	P	**P**	**06 54 12.2**	**+0.2**
VNDA			pP	**PcP**	**06 54 29.9**	**-0.8**
VNDA			sP	**sP**	**06 54 37.0**	**-4.1**
WMQ	**Urumqi**	**73.34 319**	*eP*	**P**	**06 54 25.3**	**+2.5**
MKAR	**Makanchi Array**	**78.04 320**	P	**P**	**06 54 47.6**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=95,slow=6.9,SNR=4.7					
ZALV	**Zalesovo Beam**	**79.51 328**	P	**P**	**06 54 54.0**	**-3.4**
	comp=Z,0.6nm,0.4s,baz=122,slow=6.3,SNR=2.5					
ZALV			LR	LR	07 31 46.6	
	comp=Z,35nm,18.4s,baz=110,slow=37					
	comp=Z,0.6nm,0.4s					
KDAK	**Kodiak Island**	**79.84 28**	LR	LR	07 22 56.0	
	comp=Z,48nm,20.7s,baz=240,slow=30					
QSPA	**South Pole Qui**	**83.73 180**	P	**P**	**06 55 19.0**	**-0.6**
QSPA			IAmb	IAmb	06 55 20.4	
	comp=Z,6.1nm,0.7s					
ILAR	**Eielson Array**	**85.48 23**	P	**P**	**06 55 25.4**	**-2.8**
	comp=Z,0.7nm,0.6s,baz=248,slow=4.7,SNR=3.7					
	comp=Z,0.7nm,0.6s					
BBB	**Bella Bella**	**91.40 38**	LR	LR	07 31 27.5	
	comp=Z,33nm,18.8s,baz=290,slow=32					
YBH	**Yreka Blue Hor**	**93.90 49**	LR	LR	07 31 42.0	
	comp=Z,44nm,19.8s,baz=285,slow=31					
CLL	**Collm**	**121.46 328**	*e*PKPdf	**PKiKP**	**07 01 45.0**	**+1.2**
PLCA	**Paso Flores**	**121.62 147**	PKP	**PKiKP**	**07 01 45.5**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=204,slow=2.6,SNR=3.3					
BDFB	**Brasilia**	**153.34 145**	PKPbc	**PKPbc**	**07 02 49.4**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=192,slow=2.7,SNR=9.2					

IDC 13 06:50:45.4±3.1, 53°83N×88°19E, h0km, mbtmp2.9/2, ML2.6/2, 3C, Error ellipse: s-maj=26.8km s-min=16.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**275**	I		I	I	07 06 30.0	
	baz=90,slow=332,SNR=2.8								
ZAA0	**Zalesovo Array**	**2.00**	**275**	⇑Pn		Pn	Pn	06 51 20.5	0.0
	0.9nm,0.7s,baz=96,slow=15								
ZAA0				⇑Sn		Sb	Sb	06 51 48.7	+0.6
	2.0nm,0.4s,baz=98,slow=27								
ZALV	**Zalesovo Beam**	**2.00**	**275**	Pg		Pn	Pn	06 51 21.0	+0.6
	1.2nm,0.3s,baz=92,slow=14,SNR=21								
ZALV				Lg		Lg	Lg	06 51 48.9	
	7.7nm,0.3s,baz=93,slow=27,SNR=31								
KURBB	**Kurchatov Arra**	**6.75**	**245**	Pn		Pn	Pn	06 52 26.4	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=11								
KURBB				Lg		Lg	Lg	06 54 19.6	
	0.1nm,0.3s,baz=64,slow=31,SNR=3.6								
	0.6nm,0.3s								
KURBB	**Kurchatov Arra**	**6.75**	**245**	⇑Lg		Lg	Lg	06 54 17.7	
	3.8nm,0.6s								
MKAR	**Makanchi Array**	**7.99**	**211**	Pn		Pn	Pn	06 52 44.0	+1.3
	0.1nm,0.3s,baz=31,slow=14,SNR=4.8								
MKAR				Sn		Sn	Sn	06 54 12.7	-1.1
	0.1nm,0.3s,baz=23,slow=17,SNR=6.1								
MKAR				Lg		Lg	Lg	06 54 59.2	
	0.1nm,0.3s,baz=28,slow=34,SNR=2.0								
	0.2nm,0.4s								

IDC 13 06:55:38.8±2.7, 54°38N×87°08E, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=22.4km s-min=15.4km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**253**	I		I	I	07 04 05.0	
	baz=73,slow=352,SNR=6.9								
ZALV	**Zalesovo Beam**	**1.40**	**253**	Pg		Pn	Pn	06 56 02.9	-2.6
	3.7nm,0.3s,baz=72,slow=17,SNR=18								
ZALV				Lg		Lg	Lg	06 56 23.2	
	3.9nm,0.3s,baz=70,slow=29,SNR=8.2								
KURBB	**Kurchatov Arra**	**6.43**	**238**	Pn		Pn	Pn	06 57 15.4	+0.8
	0.3nm,0.3s,baz=52,slow=14,SNR=21								
KURBB				Sn		Sn	Sn	06 58 28.8	+0.1
	0.1nm,0.3s,baz=52,slow=31,SNR=4.7								
KURBB				Lg		Lg	Lg	06 59 01.7	
	baz=60,slow=31,SNR=4.2								
	2.6nm,0.5s								
MKAR	**Makanchi Array**	**8.18**	**204**	Pn		Pn	Pn	06 57 40.0	+1.3
	0.2nm,0.3s,baz=24,slow=13,SNR=7.3								
MKAR				Sn		Sn	Sn	06 59 11.5	-0.3
	0.1nm,0.3s,baz=22,slow=28,SNR=3.2								
MKAR				Lg		Lg	Lg	06 59 57.4	
	0.1nm,0.3s,baz=24,slow=28,SNR=3.4								
	0.4nm,0.3s								

*NEIC **13** 07:15:18.4±1.7, 20°47S±0°08×66°82W±0°10, h250km±5km, mb4.1/3, Error ellipse: s-maj=13.4km s-min=11.5km az=72.0*
*SCB **13** 07:15:19.4±1.4, 20°51S×66°83W, h227km±13km, ML3.7/2, MW3.4, Error ellipse: s-maj=5.5km s-min=3.9km az=1.0*
*VAO **13** 07:15:19.0±0.5, 20°36S×66°75W, h233km±9km, mb3.7*
ISC 13 07:15:18.4±0.7, 20°47S±0°05×66°84W±0°04, h238km±8km, n74, σ1s10/91, 10C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.37**	**125**	Pg		Pn	Pn	**07 15 55.7**	**+0.6**
MOCB				Sg		Sg	**S**	**07 16 22.1**	**-1.7**
MOCB				IAML				07 16 23.0	
	1µm,0.6s								
YJA	**Yavi**	**2.10**	**144**	Pg		Pg	Pn	**07 16 01.8**	**+0.5**
AOVT	**TarijaAcel**	**2.26**	**118**	Pg		Pg	Pn	**07 16 02.3**	**-0.3**
GO01	**Chusmiza**	**2.35**	**289**				Pn	**07 16 04.8**	**+0.9**
GO01	**Chusmiza**	**2.35**	**289**	Pg		Pn	Pn	**07 16 05.3**	**+1.5**
SOET	**ToroToro**	**2.53**	**23**	Pg		Pn	Pn	**07 16 05.9**	**+0.3**
SOET				Sg			**S**	**07 16 42.5**	**-0.1**
SOET				IAML				07 16 43.6	
	43nm,0.7s								
PB01	**IPOC Station P**	**2.54**	**257**				Pn	**07 16 06.0**	**+0.7**
PB09	**IPOC Station P**	**2.60**	**239**				Pn	**07 16 07.0**	**+0.9**
PB09	**IPOC Station P**	**2.60**	**239**	⇑*eP*			Pn	**07 16 07.4**	**+1.3**
PB09				*eS*			**S**	**07 16 43.8**	**+0.3**
PB11	**IPOC Station P**	**2.74**	**284**	Pn			Pn	**07 16 07.8**	**+0.3**
PB11	**IPOC Station P**	**2.74**	**284**	⇑*eP*			Pn	**07 16 08.3**	**+0.8**
PB11				*eS*			**S**	**07 16 45.7**	**-0.4**
PB11				IAML				07 16 48.0	
	comp=N,388nm,0.4s								
AF01	**San Pedro de A**	**2.77**	**206**				Pn	**07 16 08.9**	**+0.9**
LVC	**Limon Verde**	**2.87**	**222**	Pn			Pn	**07 16 09.3**	**+0.2**
LVC	**Limon Verde**	**2.87**	**222**	Pg			Pn	**07 16 10.2**	**+1.1**
LVC	**Limon Verde**	**2.87**	**222**	⇑*eP*			Pn	**07 16 09.7**	**+0.6**
MNMC	**Minye Minye**	**2.92**	**297**	Pn			Pn	**07 16 10.6**	**+1.1**
MNMC	**Minye Minye**	**2.92**	**297**	⇑*eP*			Pn	**07 16 10.9**	**+1.3**
MNMC				*eS*			**S**	**07 16 50.1**	**+0.3**
MNMC				IAML				07 16 54.9	
	comp=N,492nm,0.2s								
PB02	**IPOC Station P**	**2.98**	**253**				Pn	**07 16 11.0**	**+1.0**
PB02	**IPOC Station P**	**2.98**	**253**	⇑*eP*			Pn	**07 16 11.0**	**+1.0**
PB02				*eS*			**S**	**07 16 49.7**	**-1.0**
PB02				IAML				07 16 51.3	
	comp=N,877nm,0.2s								
PB02	**IPOC Station P**	**2.98**	**253**	Pg			Pn	**07 16 11.4**	**+1.3**
PB02				Sg			**S**	**07 16 49.6**	**-1.1**
TA02	**Huaiquique**	**3.09**	**273**				Pn	**07 16 11.3**	**+0.1**
TA02	**Huaiquique**	**3.09**	**273**	⇑*eP*			Pn	**07 16 11.9**	**+0.6**
TA02				*eS*			**S**	**07 16 51.2**	**-1.6**
TA02	**Huaiquique**	**3.09**	**273**	Pg			Pn	**07 16 11.8**	**+0.6**
PB07	**IPOC Station P**	**3.11**	**246**				Pn	**07 16 11.8**	**+0.2**
PB07	**IPOC Station P**	**3.11**	**246**	*eP*			Pn	**07 16 12.5**	**+1.0**
PB07				*eS*			**S**	**07 16 52.2**	**-1.1**
PB07				IAML				07 16 53.8	
	comp=E,393nm,0.2s								
PATCX	**Punta Patache**	**3.12**	**263**				Pn	**07 16 11.6**	**0.0**
TA01	**Diego Aracena**	**3.13**	**268**	Pn			Pn	**07 16 11.3**	**-0.3**
TA01	**Diego Aracena**	**3.13**	**268**	⇑*eP*			Pn	**07 16 12.0**	**+0.4**
TA01				*eS*			**S**	**07 16 51.6**	**-1.9**
TA01	**Diego Aracena**	**3.13**	**268**	Pg			Pn	**07 16 12.0**	**+0.4**
PB03	**IPOC Station P**	**3.14**	**239**				Pn	**07 16 12.7**	**+0.8**
PB03	**IPOC Station P**	**3.14**	**239**	*eP*			Pn	**07 16 13.2**	**+1.3**
PB03				*eS*			**S**	**07 16 53.0**	**-1.0**
PSGC	**Pisagua**	**3.21**	**285**	*eP*			Pn	**07 16 13.1**	**+0.5**
PSGC				*eS*			**S**	**07 16 53.6**	**-1.6**
PSGCX	**Pisagua**	**3.21**	**285**	Pn			Pn	**07 16 12.7**	**+0.1**
PB16	**IPOC Station P**	**3.29**	**310**				Pn	**07 16 15.5**	**+1.4**
PB16	**IPOC Station P**	**3.29**	**310**	⇑*eP*			Pn	**07 16 16.0**	**+1.9**
PB16				*eS*			**S**	**07 16 58.5**	**+0.7**
PB06	**IPOC Station P**	**3.38**	**228**				Pn	**07 16 15.5**	**+0.9**
PB06	**IPOC Station P**	**3.38**	**228**	*eP*			Pn	**07 16 15.8**	**+1.2**
PB06				*eS*			**S**	**07 16 58.1**	**-0.8**
PB06	**IPOC Station P**	**3.38**	**228**	Pg			Pn	**07 16 16.0**	**+1.4**
PB04	**IPOC Station P**	**3.60**	**238**	Pn			Pn	**07 16 17.3**	**+0.2**
PB04	**IPOC Station P**	**3.60**	**238**	⇑*eP*			Pn	**07 16 17.8**	**+0.6**
PB04				*eS*			**S**	**07 17 01.7**	**-1.8**
PB04	**IPOC Station P**	**3.60**	**238**	Pg			Pn	**07 16 17.9**	**+0.8**
PB15	**IPOC Station P**	**3.66**	**221**				Pn	**07 16 18.6**	**+0.7**
PB15	**IPOC Station P**	**3.66**	**221**	⇑*eP*			Pn	**07 16 18.2**	**+0.3**
PB15				*eS*			**S**	**07 17 04.4**	**-0.5**
PB15	**IPOC Station P**	**3.66**	**221**	Pg			Pn	**07 16 19.3**	**+1.4**
SOEJ	**Jacaque**	**3.70**	**340**	Pg			Pn	**07 16 21.2**	**+2.4**
PB12	**IPOC Station P**	**3.77**	**299**	Pn			Pn	**07 16 18.4**	**-0.7**
PB12	**IPOC Station P**	**3.77**	**299**	⇑*eP*			Pn	**07 16 19.1**	**0.0**
PB12				*eS*			**S**	**07 17 05.1**	**-1.9**
BBOE	**La Paz, Chanca**	**3.79**	**343**	Pg			Pn	**07 16 22.2**	**+2.3**
AP01	**Chacalluta**	**3.91**	**302**	Pg			Pn	**07 16 21.4**	**+0.8**
BBOD	**La Paz, Gloria**	**4.16**	**336**	Pg			Pn	**07 16 26.1**	**+1.9**
LPAZ	**La Paz**	**4.33**	**343**				Pn	**07 16 27.0**	**+0.6**
LPAZ	**La Paz**	**4.33**	**343**	Pg			Pn	**07 16 28.0**	**+1.6**
LPAZ	**La Paz**	**4.33**	**343**	*eP*			Pn	**07 16 26.3**	**-0.1**
PB10	**IPOC Station P**	**4.59**	**228**	Pn			Pn	**07 16 28.2**	**-0.6**
AC01	**Pan de Azucar**	**6.62**	**211**	Pn			Pn	**07 16 52.7**	**-1.5**
AC02	**Maricunga**	**6.68**	**198**	Pn			Pn	**07 16 55.5**	**+0.2**
PTLB	**Pontes e Lacer**	**8.87**	**57**	Pn			Pn	**07 17 21.0**	**-1.9**
AC05	**El Transito**	**8.90**	**200**	Pn			Pn	**07 17 21.7**	**-1.5**
AQDB	**Aquidauana**	**10.44**	**92**	Pn			Pn	**07 17 42.0**	**-0.8**
AQDB	**Aquidauana**	**10.44**	**92**	*eP*			Pn	**07 17 42.0**	**-0.8**
**AM

comp=Z,150nm,24.5s
DZM **Mont Dzumac** **20.71 255** P **P** **07 32 47.0 -1.8**
comp=Z,2.4nm,0.6s,baz=90,slow=19,SNR=1.8
DZM LR LR 07 38 55.0
comp=Z,100nm,18.4s,baz=184,slow=32
comp=Z,2.4nm,0.6s
DZM **Mont Dzumac** **20.71 255** P **P** **07 32 49.4 +0.6**
DZM IAmb IAmb 07 33 04.0
comp=Z,12nm,1.2s
PPT2 **Papeete2** **21.32 93** eLR LR 07 37 42.8
comp=Z,88nm,44.8s
PPT2 eLR LR 07 37 49.2
comp=Z,159nm,25.8s
PPT **Papeete** **21.32 93** LR LR 07 39 30.2
comp=Z,52nm,18.7s,baz=256,slow=31
TBI **Tubuai** **21.74 108** eLR LR 07 37 50.9
comp=Z,798nm,30.8s
TBI eLR LR 07 38 02.6
comp=Z,2µm,25.0s
BKZ **Black Stump Fm** **23.46 203** P **P** **07 33 16.8 -1.0**
BKZ IAmb IAmb 07 33 18.6
comp=Z,33nm,1.4s
TUWZ **Tuamarina** **26.39 204** P **P** **07 33 46.2 +1.5**
TAOE **Nuku Hiva Isla** **32.18 78** eLR LR 07 42 49.4
comp=Z,74nm,26.5s
RKT **Rikitea** **34.97 105** eLR LR 07 44 09.6
comp=Z,32µm,44.2s
CTA **Charters Tower** **39.50 260** LR LR 07 49 54.5
comp=Z,82nm,19.1s,baz=80,slow=33
CTAO **Charters Tower** **39.50 260** P **P** **07 35 37.3 -1.9**
CTAO IAmb IAmb 07 36 02.9
comp=Z,3.9nm,0.9s
COEN **Coen** **43.24 268** P **P** **07 36 08.7 -1.3**
COEN IAmb IAmb 07 36 46.7
comp=Z,6.7nm,1.2s
STKA **Stephens Creek** **44.05 242** P **P** **07 36 14.9 -1.5**
comp=Z,2.6nm,0.8s,baz=114,slow=13,SNR=3.6
comp=Z,2.6nm,0.8s
STKA **Stephens Creek** **44.05 242** P **P** **07 36 15.2 -1.1**
WB0 **Warramunga Arr** **50.63 259** P **P** **07 37 05.6 -2.3**
WB0 IAmb IAmb 07 37 10.0
comp=Z,6.3nm,0.9s
WRA **Warramunga Arr** **50.66 259** P **P** **07 37 05.9 -2.1**
comp=Z,3.2nm,0.8s,baz=97,slow=7.5,SNR=35
WRA LR LR 07 57 28.3
comp=Z,50nm,18.1s,baz=212,slow=35
comp=Z,3.2nm,0.8s
WRA **Warramunga Arr** **50.66 259** P **P** **07 37 05.7 -2.3**
AS31 **Alice Springs** **50.70 254** P **P** **07 37 07.2 -1.1**
AS31 IAmb IAmb 07 37 07.8
comp=Z,2.5nm,0.8s
ASAR **Alice Springs** **50.70 254** P **P** **07 37 06.7 -1.6**
comp=Z,7.5nm,0.7s,baz=87,slow=8.5,SNR=72
comp=Z,7.5nm,0.7s
ASAR **Alice Springs** **50.70 254** P **P** **07 37 06.3 -1.9**
RPN **Rapa Nui** **58.08 111** LR LR 07 57 52.5
comp=Z,27nm,20.6s,baz=248,slow=30
SBA **Scott Base** **60.90 185** P **P** **07 38 21.2 +0.7**
VNDA **Vanda** **61.06 186** P **P** **07 38 22.6 +1.0**
NVAR **Mina Array Bea** **75.28 41** P **P** **07 39 55.1 +3.4**
comp=Z,1.2nm,0.9s,baz=227,slow=7.7,SNR=5.8
comp=Z,1.2nm,0.9s
PDAR **Pinedale Array** **83.21 41** P **P** **07 40 37.1 +2.2**
comp=Z,0.3nm,0.7s,baz=256,slow=5.6,SNR=3.7
comp=Z,0.3nm,0.7s
ILAR **Eielson Array** **84.62 11** P **P** **07 40 43.1 +1.8**
comp=Z,0.7nm,0.7s,baz=227,slow=5.9,SNR=15
comp=Z,0.7nm,0.7s
YKA **Yellowknife Ar** **91.83 23** P **P** **07 41 18.6 +2.7**
comp=Z,0.2nm,0.8s,baz=212,slow=5.6,SNR=4.0
comp=Z,0.2nm,0.8s
LVC **Limon Verde** **94.70 115** LR LR 08 14 41.4
comp=Z,17nm,19.6s,baz=278,slow=29
CLL **Collm** **146.43 354** *e*PKiKP **PKPab** **07 47 51.0 +0.9**
CLL *i* pPKPbc **PKiKP** **07 47 54.3 +2.0**
comp=Z,12nm,0.8s
BRTR **Keskin Array B** **148.95 320** PKPbc **PKPbc** **07 47 57.8 +1.0**
comp=Z,1.1nm,0.7s,baz=76,slow=5.2,SNR=3.8

ROM 13 07:34:04.0±0.0,42.657N±0.003×13.318E±0.004,h11km, ML2.3/12,3C-2D,Error ellipse: s-maj=0.4km s-min=0.1km az=45.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.03**	**154**	P	Pg	07 34 06.5	+0.3
SMA1				S	Sg	07 34 07.9	+0.2
SMA1	**SAN MARTINO**	**0.03**	**154**	P	Pg	07 34 06.5	+0.3
SMA1				S	Sg	07 34 07.9	+0.2
SMA1				AML	AML		
	comp=E,17600µm,0.4s						
SMA1				AML	AML		
	comp=N,30200µm,0.3s						
SMA1				AML	AML		
	comp=E,17600µm,0.4s						
SMA1				AML	AML		
	comp=N,30200µm,0.3s						
SMA1				AML	AML		
	comp=E,17600µm,0.4s						
SMA1				AML	AML		
	comp=N,30200µm,0.3s						
SMA1				AML	AML		
	comp=N,30200µm,0.3s						
SMA1				AML	AML		
	comp=E,17600µm,0.4s						
T1214	**Arquata del Tr**	**0.13**	**322**	P	Pg	07 34 07.7	+0.4
T1214				S	Sg	07 34 10.3	+0.7
T1214	**Arquata del Tr**	**0.13**	**322**	P	Pg	07 34 07.8	+0.5
T1214				S	Sg	07 34 10.3	+0.6
T1214				AML	AML		
	comp=E,2100µm,0.7s						
T1214				AML	AML		
	comp=N,2445µm,0.3s						
T1214				AML	AML		
	comp=E,2115µm,0.8s						
T1214				AML	AML		
	comp=N,2390µm,0.3s						
T1214				AML	AML		
	comp=E,2100µm,0.7s						
T1214				AML	AML		
	comp=N,2445µm,0.3s						
T1214				AML	AML		
	comp=E,2115µm,0.8s						
T1214				AML	AML		
	comp=N,2390µm,0.3s						
T1214				AML	AML		
	comp=E,2115µm,0.8s						
T1214				AML	AML		
	comp=E,2100µm,1.3s						
T1214				AML	AML		
	comp=N,2390µm,1.7s						
T1214				AML	AML		
	comp=N,2445µm,1.7s						
CAMP	**Campotosto**	**0.14**	**151**	⇓P	Pg	07 34 07.9	+0.5
CAMP				S	Sg	07 34 10.4	+0.6
CAMP				AML	AML		
	comp=N,2425µm,0.4s						
CAMP				AML	AML		
	comp=E,2220µm,0.5s						
T1246	**Crognaleto (TE**	**0.15**	**120**	P	Pg	07 34 08.0	+0.5
T1246				S	Sg	07 34 10.7	+0.7
T1218	**Civita (PG)**	**0.15**	**275**	P	Pg	07 34 07.9	+0.4
T1218				S	Sg	07 34 10.7	+0.7
T1218	**Civita (PG)**	**0.15**	**275**	P	Pg	07 34 07.9	+0.4
T1218				S	Sg	07 34 10.8	+0.8
T1218				AML	AML		
	comp=E,1805µm,1.4s						
T1218				AML	AML		
	comp=N,6995µm,0.3s						
T1218				AML	AML		
	comp=E,1870µm,1.0s						
T1218				AML	AML		
	comp=N,6810µm,0.3s						
T1218				AML	AML		
	comp=E,1805µm,1.4s						
T1218				AML	AML		
	comp=N,6995µm,0.3s						
T1218				AML	AML		
	comp=E,1865µm,1.0s						
T1218				AML	AML		
	comp=N,6810µm,0.3s						
T1218				AML	AML		
	comp=N,6995µm,0.3s						
T1218				AML	AML		
	comp=E,1865µm,1.0s						
T1218				AML	AML		
	comp=E,1805µm,0.6s						
T1218				AML	AML		
	comp=N,6810µm,0.3s						
RM33	**Pellescritta (**	**0.17**	**207**	P	Pg	07 34 08.3	+0.5
RM33				S	Sg	07 34 11.3	+0.9
RM33				AML	AML		
	comp=E,3930µm,0.7s						
RM33				AML	AML		
	comp=N,5130µm,1.2s						
RM33				AML	AML		
	comp=E,4085µm,0.2s						
RM33				AML	AML		
	comp=N,5080µm,0.3s						
RM33				AML	AML		
	comp=E,3935µm,0.7s						
RM33				AML	AML		
	comp=N,5135µm,1.2s						
RM33				AML	AML		
	comp=N,5085µm,0.3s						
RM33				AML	AML		
	comp=N,5135µm,0.8s						
RM33				AML	AML		
	comp=E,3935µm,1.3s						
RM33	**Pellescritta (**	**0.17**	**207**	P	Pg	07 34 08.3	+0.5
RM33				S	Sg	07 34 11.3	+0.9
RM33				AML	AML		
	comp=E,3930µm,0.7s						
RM33				AML	AML		
	comp=N,5130µm,1.2s						
RM33				AML	AML		
	comp=E,4085µm,0.2s						
RM33				AML	AML		
	comp=N,5080µm,0.3s						
RM33				AML	AML		
	comp=E,3935µm,0.6s						
RM33				AML	AML		
	comp=N,5130µm,1.3s						
RM33				AML	AML		
	comp=E,4085µm,0.2s						
RM33				AML	AML		
	comp=N,5080µm,0.3s						
RM33				AML	AML		
	comp=E,3935µm,0.7s						
RM33				AML	AML		
	comp=N,5135µm,1.2s						
RM33				AML	AML		
	comp=E,4085µm,0.2s						
RM33				AML	AML		
	comp=N,5085µm,0.3s						
RM33				AML	AML		
	comp=E,4085µm,0.2s						
RM33				AML	AML		
	comp=E,3935µm,1.3s						
RM33				AML	AML		
	comp=N,5135µm,0.8s						
RM33				AML	AML		
	comp=N,5085µm,0.3s						
LNSS	**Leonessa**	**0.21**	**255**	P	Pg	07 34 09.0	+0.5
LNSS				S	Sg	07 34 12.7	+1.1
LNSS	**Leonessa**	**0.21**	**255**	P	Pg	07 34 09.0	+0.4
LNSS				S	Sg	07 34 12.8	+1.1
LNSS				AML	AML		
	comp=E,2025µm,0.5s						
LNSS				AML	AML		
	comp=N,1220µm,0.3s						
LNSS				AML	AML		
	comp=E,2025µm,0.5s						
LNSS				AML	AML		
	comp=N,1220µm,0.3s						
LNSS				AML	AML		
	comp=E,2025µm,0.5s						
LNSS				AML	AML		
	comp=N,1220µm,0.3s						
LNSS				AML	AML		
	comp=N,1220µm,1.7s						
LNSS				AML	AML		
	comp=E,2025µm,0.5s						
T1247	**Pizzolo (AQ)**	**0.22**	**184**	⇑P	Pg	07 34 09.2	+0.6
T1247				S	Sg	07 34 12.9	+1.2
T1247				AML	AML		
	comp=N,3790µm,0.2s						
T1247				AML	AML		
	comp=E,4015µm,1.1s						
T1247				AML	AML		
	comp=N,3790µm,1.8s						
T1212	**Cascia, Frazio**	**0.22**	**295**	P	Pg	07 34 09.0	+0.3
T1212				S	Sg	07 34 12.6	+0.7
T1212	**Cascia, Frazio**	**0.22**	**295**	P	Pg	07 34 09.1	+0.4
T1212				S	Sg	07 34 12.6	+0.7
T1212				AML	AML		
	comp=E,1065µm,0.5s						
T1212				AML	AML		
	comp=N,995µm,1.6s						
T1212				AML	AML		
	comp=E,1060µm,0.5s						
T1212				AML	AML		
	comp=N,992µm,1.6s						
T1212				AML	AML		
	comp=E,1060µm,0.5s						
T1212				AML	AML		
	comp=N,992µm,0.4s						
NRCA	**Norcia**	**0.23**	**320**	P	Pg	07 34 09.2	+0.3
NRCA				S	Sg	07 34 13.0	+0.8
NRCA	**Norcia**	**0.23**	**320**	P	Pg	07 34 09.2	+0.4
NRCA				S	Sg	07 34 13.0	+0.8
NRCA				AML	AML		
	comp=E,1525µm,0.2s						
NRCA				AML	AML		
	comp=N,949µm,0.8s						
NRCA				AML	AML		
	comp=E,1610µm,0.2s						
NRCA				AML	AML		
	comp=N,912µm,0.7s						
NRCA				AML	AML		
	comp=E,1525µm,0.1s						
NRCA				AML	AML		
	comp=N,948µm,0.8s						
NRCA				AML	AML		
	comp=E,1610µm,0.2s						
NRCA				AML	AML		
	comp=N,912µm,0.7s						
NRCA				AML	AML		
	comp=E,1610µm,0.2s						
NRCA				AML	AML		
	comp=E,1525µm,0.1s						
NRCA				AML	AML		
	comp=N,912µm,0.7s						
NRCA				AML	AML		
	comp=N,948µm,0.8s						
MMO1	**Montemonaco**	**0.24**	**2**	P	Pg	07 34 09.6	+0.5
MMO1				S	Sg	07 34 13.5	+1.0
MMO1	**Montemonaco**	**0.24**	**2**	P	Pg	07 34 09.6	+0.5
MMO1				S	Sg	07 34 13.6	+1.1
MC2	**Monte Cornacci**	**0.27**	**340**	P	Pg	07 34 10.4	+0.7
MC2	**Monte Cornacci**	**0.27**	**340**	P	Pg	07 34 10.2	+0.5
GIGS	**Gran Sasso**	**0.28**	**138**	P	Pg	07 34 09.9	+0.2
GIGS				S	Sg	07 34 14.2	+0.7
GIGS				AML	AML		
	comp=N,410µm,1.5s						
GIGS				AML	AML		
	comp=E,526µm,0.6s						
GIGS				AML	AML		
	comp=N,410µm,0.5s						
AQU	**L'Aquila**	**0.31**	**168**	P	Pg	07 34 10.7	+0.4
AQU				S	Sb	07 34 16.1	-0.6
AQU				AML	AML		
	comp=E,544µm,1.2s						
AQU				AML	AML		
	comp=N,679µm,0.3s						
AQU				AML	AML		
	comp=N,705µm,0.3s						
AQU				AML	AML		
	comp=E,532µm,1.0s						
AQU				AML	AML		
	comp=E,544µm,0.8s						
T1216	**Preci, Frazion**	**0.32**	**317**	P	Pg	07 34 10.9	+0.4
T1216				S	Sb	07 34 15.9	-1.1
T1216	**Preci, Frazion**	**0.32**	**317**	P	Pg	07 34 10.8	+0.3
T1216				S	Sg	07 34 15.9	+1.1
T1216				AML	AML		
	comp=E,949µm,0.4s						
T1216				AML	AML		
	comp=N,586µm,1.5s						
T1216				AML	AML		
	comp=E,949µm,0.4s						
T1216				AML	AML		
	comp=N,586µm,1.5s						
T1216				AML	AML		
	comp=E,949µm,0.4s						
T1216				AML	AML		
	comp=N,586µm,1.5s						
T1215	**Vallo di Nera,**	**0.36**	**294**	P	Pg	07 34 11.3	+0.1
T1215				S	Sb	07 34 17.3	-0.9
T1215				AML	AML		
	comp=E,262µm,0.4s						
T1215				AML	AML		
	comp=N,252µm,0.3s						
T1215				AML	AML		
	comp=E,262µm,0.4s						
T1215				AML	AML		
	comp=N,252µm,0.3s						
T1215				AML	AML		
	comp=N,252µm,0.3s						
T1215				AML	AML		
	comp=E,262µm,1.6s						
OFFI	**Offida**	**0.39**	**44**	P	Pb	07 34 13.0	+0.1
OFFI				AML	AML		
	comp=E,1435µm,0.4s						
OFFI				AML	AML		
	comp=N,2505µm,0.6s						
OFFI				AML	AML		
	comp=E,1435µm,0.4s						
OFFI				AML	AML		
	comp=N,2505µm,0.6s						
OFFI				AML	AML		
	comp=E,1435µm,0.4s						
OFFI				AML	AML		
	comp=N,2505µm,0.6s						
GUMA	**Gualdo di Mace**	**0.41**	**2**	P	Pb	07 34 12.8	-0.4
GUMA				S	Sb	07 34 19.7	+0.3
GUMA				AML	AML		
	comp=E,1780µm,0.6s						
GUMA				AML	AML		
	comp=N,5255µm,0.9s						
GUMA				AML	AML		
	comp=E,1610µm,0.3s						
GUMA				AML	AML		
	comp=N,1730µm,0.5s						
GUMA				AML	AML		
	comp=E,1780µm,0.6s						
GUMA				AML	AML		
	comp=N,5260µm,0.8s						
GUMA				AML	AML		
	comp=E,1610µm,0.3s						
GUMA				AML	AML		
	comp=N,1730µm,0.5s						
GUMA				AML	AML		
	comp=N,1730µm,0.5s						
GUMA				AML	AML		
	comp=E,1610µm,1.7s						
GUMA				AML	AML		
	comp=N,5260µm,0.8s						
GUMA				AML	AML		
	comp=E,1780µm,1.4s						
ARRO	**Arrone**	**0.41**	**259**	P	Pg	07 34 12.3	+0.2
ARRO				AML	AML		
	comp=E,248µm,0.3s						
ARRO				AML	AML		
	comp=N,202µm,0.3s						
ARRO				AML	AML		
	comp=E,248µm,0.3s						
ARRO				AML	AML		
	comp=N,202µm,0.3s						
ARRO				AML	AML		
	comp=N,202µm,0.3s						
ARRO				AML	AML		
	comp=E,248µm,1.7s						
FDMO	**Fiordimonte**	**0.41**	**336**	AML	AML		
	comp=E,207µm,0.4s						
FDMO				AML	AML		
	comp=N,246µm,0.3s						
FDMO				AML	AML		
	comp=E,207µm,0.4s						
FDMO				AML	AML		
	comp=N,246µm,0.3s						
FDMO				AML	AML		
	comp=N,246µm,0.3s						
FDMO				AML	AML		
	comp=E,207µm,1.6s						
FIAM	**Fiamignano**	**0.42**	**201**	⇑P	Pg	07 34 12.4	+0.2
FIAM				S	Sg	07 34 18.7	+0.9
FIAM				AML	AML		
	comp=N,433µm,1.4s						
FIAM				AML	AML		
	comp=N,433µm,0.6s						
FIAM				AML	AML		
	comp=E,640µm,0.3s						
FAGN	**Fagnano**	**0.44**	**153**	AML	AML		
	comp=E,1230µm,0.7s						
FAGN				AML	AML		
	comp=N,850µm,0.7s						
CSP1	**Cessapalombo**	**0.44**	**349**	⇑P	Pg	07 34 13.1	+0.3
CSP1				S	Sb	07 34 20.1	-0.5
CSP1				AML	AML		
	comp=E,306µm,1.5s						
CSP1				AML	AML		
	comp=N,400µm,0.9s						
CSP1				AML	AML		
	comp=E,306µm,1.5s						
CSP1				AML	AML		
	comp=E,306µm,0.5s						
CSP1				AML	AML		
	comp=N,400µm,1.1s						
T1219	**Muccia, Frazio**	**0.46**	**330**	AML	AML		
	comp=N,470µm,1.2s						
T1219				AML	AML		
	comp=E,312µm,1.6s						
T1219				AML	AML		
	comp=N,470µm,1.2s						
T1219				AML	AML		
	comp=E,310µm,0.4s						
T1219				AML	AML		
	comp=N,386µm,1.5s						
T1219				AML	AML		
	comp=E,312µm,1.6s						
T1219				AML	AML		
	comp=E,310µm,0.4s						
T1219				AML	AML		
	comp=N,385µm,1.6s						
T1219				AML	AML		
	comp=N,385µm,0.4s						
T1219				AML	AML		
	comp=E,310µm,1.6s						
T1219				AML	AML		
	comp=E,312µm,1.6s						
T1219				AML	AML		
	comp=N,470µm,1.2s						
CESI	**CESI - Serrava**	**0.46**	**319**	P	Pg	07 34 13.2	+0.1
CESI				S	Sb	07 34 20.5	-0.5
CESI				AML	AML		
	comp=N,315µm,0.4s						
CESI				AML	AML		
	comp=E,309µm,0.4s						
TRTR	**Tortoreto Alta**	**0.46**	**71**	P	Pb	07 34 14.7	+0.5
CESX	**Cesi**	**0.55**	**265**	P	Pg	07 34 14.5	-0.2
CESX				AML	AML		
	comp=E,223µm,0.8s						
CESX				AML	AML		
	comp=N,206µm,1.5s						
CESX				AML	AML		
	comp=E,223µm,0.8s						
CESX				AML	AML		
	comp=N,206µm,1.5s						
CESX				AML	AML		
	comp=E,223µm,1.2s						
CESX				AML	AML		
	comp=N,206µm,0.5s						
T0110	**Collepietro**	**0.55**	**141**	P	Pg	07 34 14.9	+0.2
T0110				AML	AML		
	comp=E,832µm,0.4s						
T0110				AML	AML		
	comp=N,718µm,1.6s						
EL6	**Elcito**	**0.69**	**347**	AML	AML		
	comp=E,248µm,0.5s						
EL6				AML	AML		
	comp=E,248µm,1.5s						
EL6				AML	AML		
	comp=N,307µm,1.0s						
PP3	**Marolino**	**0.75**	**16**	⇓P	Pb	07 34 19.5	+0.4
INTR	**Introdacqua**	**0.78**	**146**	P	Pg	07 34 19.1	+0.1
INTR				AML	AML		
	comp=E,161µm,0.4s						
INTR				AML	AML		
	comp=N,264µm,1.5s						

INTR				AML	AML			
	comp=N,264μm,0.5s							
LPEL	**Lama dei Pelig**	**0.89**	**133**	S	Sb	07 34 34.0	+0.8	
LPEL				AML	AML			
	comp=E,194μm,1.1s							
LPEL				AML	AML			
	comp=N,187μm,1.3s							
LPEL				AML	AML			
	comp=N,187μm,0.7s							
CIGN	**Sant'Elia a Pi**	**1.55**	**130**	P	Pn	07 34 30.6	-0.9	
PAOL	**Paolisi**	**1.87**	**150**	P	Pb	07 34 37.7	-0.6	
PAOL				AML	AML			
	comp=E,226μm,1.6s							
PAOL				AML	AML			
	comp=N,146μm,1.5s							

IDC 13 07:43:20.7±3.2, 54°55N×87°10E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=28.1km s-min=19.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**247**	I	I	07 53 30.0	
	baz=61,slow=350,SNR=8.7						
ZALV	**Zalesovo Beam**	**1.47**	**247**	Pg	Pn	07 43 46.6	-1.7
	1.6nm,0.3s,baz=67,slow=16,SNR=9.9						
ZALV				Lg	Lg	07 44 07.7	
	1.4nm,0.3s,baz=72,slow=28,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.54**	**236**	Pn	Pn	07 44 59.2	+1.2
	0.2nm,0.3s,baz=53,slow=14,SNR=5.9						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**8.35**	**203**	Pn	Pn	07 45 23.8	+0.9
	0.1nm,0.3s,baz=27,slow=14,SNR=6.1						
MKAR				Sn	Sn	07 46 56.0	-1.7
	0.1nm,0.3s,baz=18,slow=27,SNR=3.9						
MKAR				Lg	Lg	07 47 44.4	
	0.1nm,0.3s,baz=28,slow=28,SNR=2.4						
	0.2nm,0.4s						

SOME 13 07:45:51.6, 42°55N×81°20E, h0km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.71**	**291**	*e*P	Pg	07 46 24.7	+0.4
	3.1nm,0.2s						
UZB				*e*S	Sg	07 46 48.6	+2.1
	3.9nm,0.1s						
KPKS	**Kokpek**	**2.06**	**297**	*e*Pg	Pg	07 46 31.1	+0.1
	4.3nm,0.5s						
KPKS				*e*Lg	Lg	07 46 59.6	
	9.0nm,0.1s						
SATY	**Saty**	**2.12**	**285**	*e*Pg	Pg	07 46 31.6	-0.6
	5.2nm,0.9s						
SATY				*e*Lg	Lg	07 47 00.4	
	6.1nm,0.1s						

WEL ***13*** *07:52:00.7±0.5, 43°S±4°×17°2E±°, h8km±6km, M3.7/39, ML3.9/25, MLv3.7/39, Error ellipse: s-maj=0.0km s-min=0.0km az=99.2, confirmed*

WEL ***13*** *07:52:00, 42°.69S×172°.34E, h2km, ML3.7, Mw3.7, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁴ Nm; Mrr1.53; Mθθ 0.10; Mϕϕ -1.62; Mrθ -1.98; Mϕθ -4.23; Mϕr 1.96; Fault plane solution: M₀5.29000×10¹⁴ NP1: ϕs259.00000°, δ64.00000°, λ155.00000°. NP2: ϕs360.00000°, δ68.00000°, λ28.00000°. Principal axes: T 54.9300, Plg35.0000°, Azm221.0000°; N -50.8700, Plg55.0000°, Azm35.0000°; P -4.0600, Plg3.0000°, Azm129.0000°;*

NOU ***13*** *07:52:02.6, 42°.92S×172°.56E, h22km, MLv4.1/13, South Island, New Zealand*

ISC 13 07:52:01.6±1.0, 42°76S±0°.03×172°36E±0°.03, h12km±7km, n97, σ1s51/98, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.07**	**249**	P	**Pg**	**07 52 01.9**	**-1.2**
AMCZ	**Amberley**	**0.47**	**153**	P	**Pb**	**07 52 12.1**	**+0.2**
AMCZ				S	**Sn**	**07 52 20.4**	**+3.3**
GVZ	**Greta Valley S**	**0.54**	**113**	P	**Pb**	**07 52 12.8**	**-0.3**
OXZ	**Oxford**	**0.62**	**202**	P	**Pg**	**07 52 14.2**	**+0.6**
INZ	**Inchbonnie**	**0.68**	**272**	P	**Pb**	**07 52 13.6**	**-1.7**
KHZ	**Kahutara**	**0.94**	**69**	P	**Pb**	**07 52 19.4**	**-0.4**
KHZ	**Kahutara**	**0.94**	**69**	P	**Pb**	**07 52 18.8**	**-1.0**
MHCZ	**Mount Hutt**	**0.97**	**217**	P	**Pb**	**07 52 20.5**	**+0.1**
MHCZ				S	**Sn**	**07 52 34.8**	**0.0**
MQZ	**McQueen's Vall**	**0.97**	**167**	P	**Pg**	**07 52 20.1**	**-0.3**
MQZ				S	**Sn**	**07 52 34.9**	**0.0**
RACZ	**Rakaia**	**0.98**	**189**	P	**Pb**	**07 52 20.5**	**-0.1**
THZ	**Tophouse**	**1.07**	**22**	P	**Pb**	**07 52 19.6**	**-2.6**
DSZ	**Denniston Nort**	**1.09**	**338**	P	**Pn**	**07 52 20.6**	**-2.2**
AKCZ	**Akaroa Harbour**	**1.19**	**160**	P	**Pn**	**07 52 23.5**	**-0.6**
WVZ	**Waitaha Valley**	**1.23**	**255**	P	**Pn**	**07 52 24.3**	**-0.4**
WACZ	**Wakanui South**	**1.25**	**198**	P	**Pn**	**07 52 23.4**	**-1.5**
RPZ	**Rata Peaks**	**1.35**	**224**	P	**Pn**	**07 52 26.2**	**-0.2**
RPZ	**Rata Peaks**	**1.35**	**224**	P	**Pn**	**07 52 25.9**	**-0.5**
MRNZ	**Matariki Terra**	**1.39**	**12**	P	**Pn**	**07 52 26.0**	**-0.8**
MRNZ				S	**Sn**	**07 52 46.1**	**+0.9**
ARCZ	**Arundel**	**1.47**	**216**	P	**Pn**	**07 52 27.1**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**1.59**	**249**	P	**Pn**	**07 52 30.2**	**+0.6**
GCSZ				S	**Sn**	**07 52 51.4**	**+1.2**
CMWZ	**Cape Campbell**	**1.71**	**54**	P	**Pb**	**07 52 32.9**	**-0.1**
NNZ	**Nelson**	**1.72**	**27**	P	**Pn**	**07 52 31.3**	**-0.1**
TUWZ	**Tuamarina**	**1.77**	**42**	P	**Pn**	**07 52 32.5**	**+0.3**
TKNZ	**Takaka Hill**	**1.78**	**15**	P	**Pn**	**07 52 33.0**	**+0.7**
TKNZ				S	**Sn**	**07 52 55.6**	**+0.8**
TMZ	**Timaru**	**1.90**	**211**	P	**Pn**	**07 52 33.2**	**-0.7**
QRZ	**Quartz Range**	**1.93**	**4**	P	**Pn**	**07 52 35.6**	**+1.2**
QRZ	**Quartz Range**	**1.93**	**4**	P	**Pn**	**07 52 33.8**	**-0.6**
FOZ	**Fox Glacier**	**2.02**	**247**	P	**Pn**	**07 52 36.2**	**+0.7**
TCW	**Tory Channel**	**2.10**	**43**	P	**Pn**	**07 52 36.4**	**-0.3**
SNZO	**South Karori**	**2.27**	**51**	P	**Pn**	**07 52 38.5**	**-0.4**
LBZ	**Lake Benmore**	**2.27**	**221**	P	**Pn**	**07 52 38.7**	**-0.3**
DUWZ	**D'Urville Isla**	**2.28**	**31**	P	**Pn**	**07 52 39.9**	**+0.8**
PLWZ	**Palliser**	**2.46**	**62**	P	**Pn**	**07 52 40.2**	**-1.4**
ODZ	**Otahua Downs**	**2.60**	**208**	P	**Pn**	**07 52 42.7**	**-0.9**
ODZ	**Otahua Downs**	**2.60**	**208**	P	**Pn**	**07 52 42.6**	**-0.9**
CAW	**Cannon Point**	**2.61**	**52**	P	**Pn**	**07 52 42.6**	**-1.0**
PAWZ	**Paruwai Farm**	**2.67**	**60**	P	**Pn**	**07 52 43.0**	**-1.4**
KIW	**Kapiti Island**	**2.69**	**46**	P	**Pn**	**07 52 44.3**	**-0.4**
TRWZ	**Traveller**	**2.83**	**62**	P	**Pn**	**07 52 45.1**	**-1.5**
MTW	**Mount Morrison**	**2.84**	**57**	P	**Pn**	**07 52 45.4**	**-1.4**
OGWZ	**Otaki Gorge**	**2.86**	**48**	P	**Pn**	**07 52 46.1**	**-1.0**
JCZ	**Jackson Bay**	**2.92**	**242**	P	**Pn**	**07 52 47.8**	**-0.2**
JCZ	**Jackson Bay**	**2.92**	**242**	P	**Pn**	**07 52 47.8**	**-0.2**
HOWZ	**Holdsworth Sta**	**3.00**	**53**	P	**Pn**	**07 52 48.2**	**-0.9**
TMWZ	**Te Maipa**	**3.11**	**59**	P	**Pn**	**07 52 48.1**	**-2.4**
WKZ	**Wanaka**	**3.18**	**228**	P	**Pn**	**07 52 50.7**	**-0.9**
MRZ	**Mangatainoka R**	**3.19**	**50**	P	**Pn**	**07 52 50.1**	**-1.5**
EAZ	**Earnscleugh**	**3.31**	**221**	P	**Pn**	**07 52 51.8**	**-1.5**
HHSZ	**Highcliff Hill**	**3.37**	**201**	P	**Pn**	**07 52 53.1**	**-1.1**
PRWZ	**Pori Road**	**3.49**	**52**	P	**Pn**	**07 52 55.0**	**-0.7**
NMEZ	**Namu Road**	**3.53**	**19**	P	**Pn**	**07 52 58.8**	**+2.4**
BFZ	**Birch Farm**	**3.57**	**56**	P	**Pn**	**07 52 55.3**	**-1.6**
BFZ	**Birch Farm**	**3.57**	**56**	P	**Pn**	**07 52 55.8**	**-1.1**
WAZ	**Wanganui**	**3.59**	**34**	P	**Pn**	**07 53 00.5**	**+3.3**
LREZ	**Lake Rotokare**	**3.64**	**26**	P	**Pn**	**07 53 00.8**	**+3.0**
NBEZ	**Newall Road No**	**3.67**	**19**	P	**Pn**	**07 53 01.0**	**+2.8**
KHEZ	**Kahui Hut**	**3.68**	**20**	P	**Pn**	**07 53 00.8**	**+2.4**
KHEZ	**Kahui Hut**	**3.68**	**20**	P	**Pn**	**07 53 00.9**	**+2.4**
NEZ	**North Egmont**	**3.72**	**21**	P	**Pn**	**07 53 02.0**	**+2.9**
MSZ	**Milford Sound**	**3.74**	**238**	P	**Pn**	**07 52 58.5**	**-0.7**
TUZ	**Tuapeka**	**3.75**	**211**	P	**Pn**	**07 52 59.1**	**-0.2**
PKE	**Pukeiti**	**3.77**	**20**	P	**Pn**	**07 53 02.3**	**+2.7**
TSZ	**Takapari Road**	**3.82**	**46**	P	**Pn**	**07 52 58.5**	**-1.9**
DREZ	**Durham Road**	**3.83**	**22**	P	**Pn**	**07 53 02.7**	**+2.3**
MLZ	**Mavora Lakes**	**4.02**	**228**	P	**Pn**	**07 53 02.0**	**-1.1**
PNHZ	**Pukenui**	**4.05**	**47**	P	**Pn**	**07 53 02.4**	**-1.1**
VRZ	**Vera Road**	**4.06**	**27**	P	**Pn**	**07 53 08.5**	**+5.0**
WPHZ	**Waipukurau**	**4.08**	**50**	P	**Pn**	**07 53 04.7**	**+0.8**
PKVZ	**Pokaka**	**4.13**	**34**	P	Pn	07 53 09.7	+5.0
WNVZ	**Wahianoa**	**4.21**	**37**	P	**Pn**	**07 53 06.4**	**+0.6**
TRVZ	**Turoa**	**4.21**	**36**	P	**Pn**	**07 53 06.8**	**+0.9**
MOVZ	**Moawhango**	**4.22**	**39**	P	**Pn**	**07 53 06.8**	**+1.0**
BHHZ	**Black Hill Sta**	**4.30**	**42**	P	**Pn**	**07 53 06.1**	**-0.9**
NGZ	**Ngauruhoe**	**4.34**	**36**	P	**Pn**	**07 53 07.9**	**+0.3**
KRHZ	**Kereru**	**4.34**	**46**	P	**Pn**	**07 53 05.2**	**-2.3**
SNVZ	**South Ngauruho**	**4.35**	**36**	P	Pn	07 53 13.6	+5.9
TWVZ	**Taurewa**	**4.36**	**33**	P	**Pn**	**07 53 11.1**	**+3.3**
NNVZ	**North Ngauruho**	**4.38**	**35**	P	**Pn**	**07 53 09.2**	**+1.0**
WTVZ	**West Tongariro**	**4.38**	**35**	P	**Pn**	**07 53 10.9**	**+2.8**
ETVZ	**East Tongariro**	**4.42**	**36**	P	**Pn**	**07 53 08.7**	**+0.1**
SYZ	**Scrubby Hill**	**4.42**	**210**	P	**Pn**	**07 53 08.2**	**-0.4**
SYZ	**Scrubby Hill**	**4.42**	**210**	P	**Pn**	**07 53 08.0**	**-0.6**
TMVZ	**Te Maari**	**4.43**	**36**	P	**Pn**	**07 53 09.2**	**+0.4**
WHZ	**Wether Hill Ro**	**4.46**	**224**	P	**Pn**	**07 53 06.6**	**-2.4**
HIZ	**Hauiti**	**4.64**	**25**	P	**Pn**	**07 53 12.9**	**+1.3**
HIZ	**Hauiti**	**4.64**	**25**	P	**Pn**	**07 53 12.8**	**+1.1**
BKZ	**Black Stump Fm**	**4.76**	**42**	P	**Pn**	**07 53 13.4**	**+0.1**
TLZ	**Tolley Road**	**5.04**	**30**	P	**Pn**	**07 53 19.3**	**+2.2**
APZ	**The Paps**	**5.13**	**216**	P	**Pn**	**07 53 16.9**	**-1.3**
RRRZ	**Republican Roa**	**5.43**	**37**	P	Pn	07 53 28.2	+5.8
TOZ	**Tahuroa Road**	**5.56**	**27**	P	**Pn**	**07 53 26.3**	**+2.1**
MKAZ	**Moumakai**	**6.04**	**22**	P	**Pn**	**07 53 32.4**	**+1.6**
CNGZ	**Carnagh Statio**	**6.16**	**48**	P	Pn	07 53 38.4	+5.9
WIAZ	**Waiheke Island**	**6.33**	**21**	P	**Pn**	**07 53 37.0**	**+2.3**
KUZ	**Kuaotunu**	**6.54**	**24**	P	**Pn**	**07 53 39.6**	**+2.0**
WCZ	**Waipu Caves**	**6.98**	**13**	P	**Pn**	**07 53 46.6**	**+2.8**
OUZ	**Omahuta**	**7.59**	**8**	P	**Pn**	**07 53 53.8**	**+1.8**

IDC 13 08:03:59.3±2.4, 6°56S×130°30E, h0km, mb3.3/1, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=113.4km s-min=33.2km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.87**	**164**	Pn	Pn	08 07 17.7	+0.3
	0.5nm,0.3s,baz=344,slow=11,SNR=19						
WRA				Sn	Sn	08 09 41.3	-11
	0.9nm,0.3s,baz=332,slow=22,SNR=11						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**17.36**	**169**	P	Pn	08 08 03.0	-0.2
	0.3nm,0.3s,baz=338,slow=10,SNR=17						
ASAR				S	Sn	08 11 04.1	-13
	1.0nm,0.6s,baz=318,slow=16,SNR=6.3						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**68.02**	**327**	P	P	08 15 00.6	0.0
	0.3nm,0.8s,baz=111,slow=7.9,SNR=2.5						
	0.3nm,0.8s						

IDC 13 08:05:35.6±2.4, 54°33N×86°13E, h0km, mbtmp3.1/2, ML2.9/2, 1C-1D, Error ellipse: s-maj=19.3km s-min=12.1km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**244**	I	I	08 11 10.0	
	baz=66,slow=347,SNR=2.8						
ZAA0	**Zalesovo Array**	**0.86**	**244**	⇑P	Pg	08 05 50.0	-2.1
	0.2nm,0.2s,baz=60,slow=17						
ZAA0				⇓S	Sg	08 06 03.7	+0.5
	0.8nm,0.2s,baz=60,slow=29						
ZALV	**Zalesovo Beam**	**0.86**	**244**	Pg	Pg	08 05 51.0	-1.1
	1.5nm,0.3s,baz=59,slow=18,SNR=9.3						
ZALV				Lg	Lg	08 06 04.4	
	3.0nm,0.3s,baz=59,slow=28,SNR=10						
KURBB	**Kurchatov Arra**	**5.94**	**234**	Pn	Pn	08 07 05.9	+1.1
	0.1nm,0.3s,baz=51,slow=14,SNR=12						
KURBB				Lg	Lg	08 08 44.9	
	baz=54,slow=34,SNR=2.0						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.93**	**199**	Pn	Pn	08 07 32.8	+0.7
	0.4nm,0.3s,baz=25,slow=13,SNR=20						
	0.5nm,0.3s						

IDC ***13*** *08:11:10.1±1.7, 2°18N×125°14E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=192.5km s-min=22.4km az=65.0*

DJA ***13*** *08:11:13.8±0.4, 3°N±4°×12°6E±°, h10km, M3.8/8, mb4.4/2, mB6.0/1, MLv3.5/8, Mw(mB)5.7/1*

ISC 13 08:11:11.6±1.2, 2°62N±0°.06×126°4E±0°.1, h10km, n10, σ1s82/12, mb3.4/4, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.34**	**322**	P	**Pb**	**08 11 36.4**	**-0.6**
SGSI				S	**Sg**	**08 11 54.6**	**-0.4**
GTOI	**Gorontalo**	**3.88**	**240**	P	**Pn**	**08 12 13.9**	**+2.5**
SKMP	**Bagumbayan, Su**	**4.28**	**335**	⇑*e*P	**Pn**	**08 12 19.4**	**+2.5**
SKMP				*e*S	**Sn**	**08 13 08.2**	**+1.3**
SANI	**Sanana**	**4.65**	**185**	P	**Pn**	**08 12 24.2**	**+2.2**
LUWI	**Luwuk**	**5.11**	**225**	P	**Pn**	**08 12 29.1**	**+0.8**
	42nm,0.8s,16μm1.1nm						
APSI	**Ampana**	**5.87**	**233**	P	**Pn**	**08 12 39.6**	**+0.8**
WRA	**Warramunga Arr**	**23.75**	**161**	P	**P**	**08 16 24.1**	**-0.2**
	1.0nm,0.6s,baz=337,slow=11,SNR=8.9						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**27.14**	**165**	P	**P**	**08 16 55.1**	**-0.1**
	0.2nm,0.3s,baz=342,slow=9.1,SNR=7.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.26**	**326**	P	**P**	**08 21 04.0**	**-2.4**
	0.1nm,0.3s,baz=123,slow=7.4,SNR=1.6						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**62.47**	**328**	P	**P**	**08 21 33.4**	**-1.8**
	0.3nm,0.6s,baz=128,slow=6.6,SNR=4.4						
	0.3nm,0.6s						

IDC ***13*** *08:23:48.6±15.0, 7°.06S×67°.65E, h0km, mb3.5/4, mbtmp3.5/4, MS3.7/2, Error ellipse: s-maj=491.2km s-min=37.0km az=67.0*

ISC 13 08:23:54.9±3.4, 6°.7S±0°.4×68°.6E±0°.4, h10km, n11, σ0s32/7, mb3.7/4, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**3.98**	**105**	Pn	**Pn**	**08 24 55.6**	**-0.2**
	baz=297,slow=17						
H08S1				T	T	08 29 43.9	
	baz=325,slow=72,SNR=14						
H08S3	**Diego Garcia H**	**3.99**	**104**	Pn	**Pn**	**08 24 56.1**	**+0.2**
	baz=297,slow=17						
H08S3				T	T	08 29 57.3	
	baz=325,slow=72,SNR=9.1						
H08S2	**Diego Garcia H**	**4.00**	**104**	Pn	**Pn**	**08 24 56.0**	**-0.1**
	baz=297,slow=17						
H08S2				T	T	08 29 30.1	
	baz=325,slow=72,SNR=13						
H01W3	**Cape Leeuwin H**	**50.40**	**130**	T	T	09 27 09.6	
	baz=292,slow=75,SNR=9.8						
H01W2	**Cape Leeuwin H**	**50.41**	**130**	T	T	09 27 08.0	
	baz=292,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**50.42**	**130**	T	T	09 27 09.8	
	baz=292,slow=75,SNR=10						
MKAR	**Makanchi Array**	**54.59**	**12**	P	**P**	**08 33 23.2**	**-0.3**
	0.2nm,0.6s,baz=201,slow=8.7,SNR=2.5						
MKAR				LR	LR	08 55 52.7	
	comp=Z,56nm,18.6s,baz=301,slow=35						
	0.2nm,0.6s						
SONM	**Songino Array**	**63.66**	**27**	P	**P**	**08 34 26.9**	**+0.3**
	0.5nm,0.6s,baz=209,slow=6.2,SNR=5.0						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**64.77**	**113**	P	**P**	**08 34 34.1**	**-0.2**
	0.4nm,0.9s,baz=275,slow=6.0,SNR=2.1						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**64.99**	**109**	P	**P**	**08 34 36.0**	**+0.3**
	0.8nm,0.9s,baz=278,slow=6.0,SNR=4.9						
	0.8nm,0.9s						
VRAC	**Vranov**	**71.74**	**327**	LR	LR	09 08 27.7	
	comp=Z,56nm,19.0s,baz=340,slow=37						

HVO ***13*** *08:50:32.5±1.8, 20°.18N±0°.03×155°.84W±0°.03, h37km±5km, ML2.4/11, ML2.8/50(NEIC), Error ellipse: s-maj=4.8km s-min=2.9km az=217.0*

NEIC 13 08:50:29.5±1.8, 20°.19N±0°.03×155°.86W±0°.02, h45km±3km, Error ellipse: s-maj=4.7km s-min=2.3km az=201.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	**Mahukona**	**0.04**	**261**		Pn	08 50 37.2	+0.7
MHA					Sn	08 50 41.6	+0.2
HPAH	**Hawaii Prepara**	**0.22**	**137**		Pn	08 50 38.4	+0.8
HPAH					Sn	08 50 42.6	-0.6
HPAH				IAML		08 50 43.2	
	comp=N,1μm,0.2s						
HUH	**Hualalai**	**0.51**	**177**	Pn	Pn	08 50 42.6	+1.8
HUH				IAML		08 50 51.9	
	comp=N,457nm,0.2s						
HUH				IAML		08 50 52.6	
	comp=E,450nm,0.4s						
POHA	**Pohakuloa**	**0.53**	**145**		Pn	08 50 41.6	+0.6
POHA					Sn	08 50 49.2	-0.1
POHA				IAML		08 50 49.9	
	comp=E,528nm,0.2s						
POHA				IAML		08 50 50.2	
	comp=E,640nm,0.2s						
KHLU	**Kahalu`u**	**0.60**	**183**		Pn	08 50 42.4	+0.6
KHLU					Sn	08 50 50.2	-0.5
HLK	**Haleakala**	**0.67**	**327**		Pn	08 50 42.8	-0.1
HLK					Sn	08 50 51.4	-1.1
HLK	**Haleakala**	**0.67**	**327**	IAML		08 50 56.9	
	comp=E,260nm,2.3s						
HLK				IAML		08 51 05.5	
	comp=N,294nm,4.3s						
ALEP	**Alea Permanent**	**0.68**	**163**		Pn	08 50 43.3	+0.1
ALEP					Sn	08 50 52.1	-0.8
HMH	**Humu'ula Sheep**	**0.69**	**149**		Pn	08 50 43.8	+0.6
HMH					Sn	08 50 52.7	-0.2
CPH	**Captain Cook**	**0.70**	**184**		Pn	08 50 43.0	-0.1
CPH					Sn	08 50 52.0	-0.9
MLOA	**Mauna Loa Obse**	**0.71**	**158**	Pn	Pn	08 50 43.8	+0.3
MWH	**Moku'aweowe**	**0.75**	**161**		Pn	08 50 44.7	+0.5
MWH	**Moku'aweowe**	**0.75**	**161**	IAML		08 51 02.9	
	comp=E,265nm,2.2s						
MLH	**Mauna Loa**	**0.83**	**147**		Pn	08 50 45.8	+0.8
MLH					Sn	08 50 55.7	-0.5
MLH	**Mauna Loa**	**0.83**	**147**	IAML		08 50 56.6	
	comp=N,273nm,0.1s						
KHLH	**Kahului Airpor**	**0.88**	**323**		Pn	08 50 46.2	+0.7
KHLH					Sn	08 50 57.2	+0.1
KHLH	**Kahului Airpor**	**0.88**	**323**	IAML		08 50 59.0	
	comp=E,229nm,0.3s						
AIN	**Ainahou**	**0.90**	**155**		Pn	08 50 45.8	-0.1
AIN					Sn	08 50 56.5	-1.5
AIN	**Ainahou**	**0.90**	**155**	IAML		08 50 58.5	
	comp=E,256nm,0.3s						
RSD	**Rainshed**	**0.91**	**143**		Pn	08 50 45.9	-0.1
RSD					Sn	08 50 56.7	-1.4
UWE	**Uwekahuna**	**0.94**	**145**		Pn	08 50 47.0	+0.7
UWB	**Uwekahuna B**	**0.94**	**144**		Pn	08 50 45.9	-0.5
UWB					Sn	08 50 56.5	-2.3
UWB	**Uwekahuna B**	**0.94**	**144**	IAML		08 51 06.6	
	comp=N,292nm,3.8s						
OBL	**Observatory Le**	**0.94**	**145**		Pn	08 50 47.0	+0.6
WRMHI	**West Rim**	**0.94**	**146**		Pn	08 50 47.1	+0.6
SBLHI	**Steaming Bluff**	**0.94**	**144**		Pn	08 50 47.0	+0.5
SBLHI	**Steaming Bluff**	**0.94**	**144**	IAML		08 51 04.0	
	comp=N,354nm,3.1s						
SBLHI				IAML		08 51 07.1	
	comp=E,275nm,2.2s						
HATHI	**Halema'uma'u T**	**0.95**	**144**		Pn	08 50 47.0	+0.5
HATHI	**Halema'uma'u T**	**0.95**	**144**	IAML		08 51 22.3	
	comp=N,309nm,0.9s						
BYL	**Byron's Ledge**	**0.96**	**144**		Pn	08 50 47.1	+0.5
BYL	**Byron's Ledge**	**0.96**	**144**	IAML		08 51 05.0	
	comp=N,312nm,1.2s						
BYL				IAML		08 51 25.5	
	comp=E,265nm,1.4s						
SDHHI	**Sand Hill**	**0.96**	**146**		Pn	08 50 47.3	+0.6
KKO	**Keanakako`i**	**0.97**	**145**		Pn	08 50 47.5	+0.7
KKO	**Keanakako`i**	**0.97**	**145**	IAML		08 51 12.2	
	comp=E,297nm,1.5s						
KHU	**Kahuku**	**0.97**	**166**		Sn	08 50 58.4	-1.3
KHU	**Kahuku**	**0.97**	**166**		Pn	08 50 47.4	+0.5
KHU				IAML		08 51 21.6	
	comp=N,180nm,3.1s						
KHU	**Kahuku**	**0.97**	**166**	IAML		08 50 58.4	
	comp=E,300nm,4.0s						
PUH	**Pauahi**	**1.02**	**143**		Pn	08 50 48.1	+0.7
PUH					Sn	08 50 59.7	-0.9
PUH	**Pauahi**	**1.02**	**143**	IAML		08 51 13.8	
	comp=N,275nm,2.2s						
HLP	**Hilina Pali**	**1.03**	**150**		Pn	08 50 47.3	-0.3
HLP					Sn	08 50 59.1	-1.9
HLP	**Hilina Pali**	**1.03**	**150**	IAML		08 51 05.1	
	comp=N,300nm,1.9s						
KNHH	**Kane Nui o Ham**	**1.04**	**141**		Pn	08 50 47.3	-0.5
HTC	**Hot Caves**	**1.05**	**155**		Pn	08 50 47.5	-0.3
STCH	**Steam Cracks**	**1.06**	**139**		Sn	08 51 00.7	-1.0
STCH	**Steam Cracks**	**1.06**	**139**		Pn	08 50 48.5	+0.5
STCH				IAML		08 51 11.6	
	comp=E,261nm,2.0s						
STCH	**Steam Cracks**	**1.06**	**139**	IAML		08 51 00.2	
	comp=N,273nm,1.8s						
JCUZ	**Jacuzzi**	**1.08**	**138**		Pn	08 50 48.7	+0.5
JCUZ	**Jacuzzi**	**1.08**	**138**	IAML		08 50 59.2	
	comp=E,246nm,0.6s						
JCUZ				IAML		08 51 09.5	
	comp=N,288nm,0.6s						
JOKA	**Jonika Flow**	**1.10**	**133**		Pn	08 50 49.1	+0.6
WMR	**Waimanalo Ridg**	**2.04**	**304**		Pn	08 51 01.5	+0.2
DHH	**Diamond Head**	**2.10**	**301**		Pn	08 51 02.6	+0.4
HON	**Honolulu**	**2.30**	**300**		Pn	08 51 05.1	+0.2
HON					Sn	08 51 31.4	-0.5
KEKH	**Kekaha**	**4.

*CNRM **13** 09:03:56.2,36˚.28N×7˚.47W,h6^{km},ml2.1*
*MDD **13** 09:03:59.6±0.7,36˚.50N×7˚.41W,h11^{km},mb_Lg2.4/8, Error ellipse: s-maj=6.1km s-min=2.7km az=11.0*
*INMG **13** 09:03:59.5±1.4,36˚.50N×7˚.39W,h2^{km}±3^{km},ML2.2, Error ellipse: s-maj=2.9km s-min=2.4km az=20.0*
*SFS **13** 09:03:59.2,36˚.47N×7˚.42W,h0^{km},ML2.6/7,MLv2.6/7*

ISC 13 09:03:57.1±1.3,36˚.44N±0˚.04×7˚.37W±0˚.02,h11^{km}±10^{km}, n38,σ1§15/75,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PVAQ	**Vaqueiros**	**1.00**	**344**	*eP*		**Pb**	**09 04 16.6**	**+0.1**
PVAQ				*eS*		**Sb**	**09 04 29.7**	**0.0**
PVAQ				A	A		09 04 32.0	
	42nm,0.2s							
PVAQ	**Vaqueiros**	**1.00**	**344**	P		**Pn**	**09 04 17.4**	**+0.3**
PVAQ				S		**Sn**	**09 04 33.8**	**+2.6**
PVAQ	**Vaqueiros**	**1.00**	**344**	Pg		**Pb**	**09 04 16.6**	**+0.1**
PVAQ				Pn		**Pn**	**09 04 18.3**	**+1.1**
PVAQ				S		**Sb**	**09 04 29.7**	**0.0**
EGRO	**El Granado**	**1.09**	**355**	S		**Sn**	**09 04 33.7**	**+0.1**
EGRO				P		**Pn**	**09 04 19.2**	**+0.8**
EGRO	**El Granado**	**1.09**	**355**	Pg		**Pn**	**09 04 18.9**	**+0.5**
EGRO				Sg		**Sb**	**09 04 32.7**	**+0.3**
EGRO				*i* Vmb_Lg			09 04 36.1	
ESPR	**Espera**	**1.29**	**70**	S		**Sn**	**09 04 40.5**	**+2.0**
ESPR				P		**Pb**	**09 04 23.5**	**+2.1**
ESPR	**Espera**	**1.29**	**70**	Pg		**Pb**	**09 04 22.7**	**+1.3**
ESPR				Sg		**Sn**	**09 04 39.8**	**+1.3**
ESPR				*i* Vmb_Lg			09 04 41.3	
PCVE	**Castro Verde**	**1.30**	**336**	*eP*		**Pb**	**09 04 21.7**	**+0.1**
PCVE				*eS*		**Sn**	**09 04 39.1**	**+0.4**
PCVE				A	A		09 04 40.4	
	34nm,0.1s							
PCVE	**Castro Verde**	**1.30**	**336**	S		**Sb**	**09 04 38.9**	**+0.5**
PCVE				P		**Pb**	**09 04 21.7**	**+0.1**
MORF	**Marmelete**	**1.34**	**310**	*eS*		**Sg**	**09 04 38.9**	**-1.3**
MORF				IAML			09 04 42.1	
	comp=N,44nm,0.2s							
MORF	**Marmelete**	**1.34**	**310**	*eP*		**Pb**	**09 04 22.6**	**+0.3**
MORF				*eS*		**Sn**	**09 04 40.0**	**+0.3**
MORF				A	A		09 04 43.8	
	comp=N,48nm,0.2s							
PFVI	**Vila Bisbo**	**1.35**	**301**	*eP*		**Pg**	**09 04 23.1**	**0.0**
PFVI				*eS*		**Sn**	**09 04 40.9**	**+0.9**
PFVI				A	A		09 04 46.9	
	comp=N,14nm,0.4s							
PFVI	**Vila Bisbo**	**1.35**	**301**	P		**Pn**	**09 04 21.8**	**-0.3**
PFVI				S		**Sn**	**09 04 41.7**	**+1.6**
PFVI	**Vila Bisbo**	**1.35**	**301**	P		**Pg**	**09 04 23.2**	**+0.1**
PFVI				S		**Sn**	**09 04 40.9**	**+0.9**
EMIN	**Mina Concepcio**	**1.44**	**23**	S		**Sg**	**09 04 44.8**	**+1.4**
EMIN				P		**Pg**	**09 04 24.9**	**+0.2**
EMIN	**Mina Concepcio**	**1.44**	**23**	Pg		**Pg**	**09 04 24.9**	**+0.2**
EMIN				Sg		**Sg**	**09 04 44.0**	**+0.6**
EMIN				*i* Vmb_Lg			09 04 47.8	
PTEO	**Sao Teotonio**	**1.54**	**316**	*eP*		**Pn**	**09 04 23.3**	**-1.3**
PTEO				*eSn*		**Sg**	**09 04 46.7**	**-0.1**
PTEO				A	A		09 04 48.0	
	comp=N,10nm,0.2s							
MESJ	**Messejana**	**1.55**	**334**	*eP*		**Pn**	**09 04 25.0**	**+0.4**
MESJ	**Messejana**	**1.55**	**334**	*ePn*		**Pn**	**09 04 25.1**	**+0.4**
MESJ				*eSg*		**Sg**	**09 04 47.4**	**+0.4**
MESJ				A	A		09 04 51.5	
	comp=N,17nm,0.5s							
PBEJ	**Beja**	**1.63**	**346**	*eSg*		**Sg**	**09 04 49.5**	**-0.1**
PBEJ				A	A		09 04 51.8	
	comp=N,9.9nm,0.1s							
PBAR	**Barrancos**	**1.75**	**9**	*ePn*		**Pb**	**09 04 28.7**	**-0.6**
PBAR				*eSg*		**Sg**	**09 04 54.2**	**+0.8**
PBAR				A	A		09 04 58.5	
	comp=N,13nm,0.2s							
PBAR	**Barrancos**	**1.75**	**9**	Sg		**Sg**	**09 04 53.9**	**+0.5**
PBAR				P		**Pb**	**09 04 28.6**	**-0.6**
PNCL	**Nicolau / Gran**	**1.91**	**331**	*ePn*		**Pn**	**09 04 29.3**	**-0.3**
PNCL				*eSg*		**Sg**	**09 04 58.3**	**-0.1**
PNCL				A	A		09 04 59.1	
	comp=N,14nm,0.2s							
ECAB	**El Cabril**	**2.26**	**43**	P		**Pb**	**09 04 36.2**	**-1.8**
ECAB	**El Cabril**	**2.26**	**43**	Pn		**Pn**	**09 04 35.8**	**+1.4**
ECAB				Sn		**Sn**	**09 05 01.1**	**-1.2**
ECAB				Sg		**Sg**	**09 05 08.2**	**-1.5**
ECAB				*i* Vmb_Lg			09 05 09.8	
EBAD	**Badajoz**	**2.33**	**7**	S		**Sn**	**09 05 39.2**	**+1.2**
EBAD				P		**Pb**	**09 04 37.1**	**-2.0**
EBAD	**Badajoz**	**2.33**	**7**	Pn		**Pn**	**09 04 36.1**	**+0.7**
EBAD				Sn		**Sn**	**09 05 03.5**	**-0.6**
EBAD				Sg		**Sg**	**09 05 10.2**	**-1.8**
EBAD				*i* Vmb_Lg			09 05 14.3	
PESTR	**Estremoz**	**2.43**	**356**	*ePn*		**Pn**	**09 04 37.6**	**+0.8**
PESTR				*eSg*		**Sg**	**09 05 15.2**	**+0.1**
PESTR	**Estremoz**	**2.43**	**356**	P		**Pb**	**09 04 39.2**	**-1.6**
PESTR				S		**Sb**	**09 05 11.6**	**+0.8**
PMTG	**Montargil**	**2.71**	**346**	*ePn*		**Pn**	**09 04 41.3**	**+0.7**
PMTG				*eSn*		**Sn**	**09 05 12.5**	**-0.9**
PMTG				*eSg*		**Sg**	**09 05 23.4**	**-0.7**
PMTG				A	A		09 05 29.2	
	comp=N,5.9nm,0.5s							
EADA	**Adamuz**	**2.82**	**51**	Pn		**Pn**	**09 04 43.5**	**+1.3**
EADA				Sn		**Sn**	**09 05 15.8**	**-0.4**
EADA				*i* Vmb_Lg			09 05 20.5	
PMRV	**Marv??o**	**2.98**	**360**	*ePn*		**Pn**	**09 04 45.2**	**+0.8**
PMRV				*eSg*		**Sg**	**09 05 33.0**	**+0.1**
PMRV				A	A		09 05 36.4	
	comp=N,4.8nm,0.9s							
PSIM	**Granatula de C**	**3.73**	**49**	Sn		**Sn**	**09 05 37.1**	**-1.5**
EPLA	**Plasencia**	**3.76**	**15**	Pn		**Pn**	**09 04 56.0**	**+0.9**
EPLA				*i* Vmb_Lg			09 06 02.0	
PAB	**San Pablo**	**3.91**	**37**	Sn		**Sn**	**09 05 41.9**	**-1.4**
PAB				Sg		**Sg**	**09 06 01.7**	**-1.1**
MDT	**Midelt**	**4.28**	**147**	P		**Pn**	**09 05 02.7**	**+0.4**
MDT				S		**Sn**	**09 05 49.8**	**-2.4**
GUD	**Guadarrama**	**4.90**	**30**	Pn		**Pn**	**09 05 11.8**	**+1.0**
GUD				*i* Vmb_Lg			09 05 56.9	
GUD				Sn		**Sn**	**09 06 04.5**	**-3.1**
GUD				Sg		**Sg**	**09 06 32.3**	**-2.0**
ETOB	**Tobarra**	**5.12**	**63**	Pn		**Pn**	**09 05 15.1**	**+1.2**
ETOB				Sn		**Sn**	**09 06 10.6**	**-2.5**

ZUR 13 09:04:04.3,46˚.68N×8˚.50E,h4^{km}±2^{km},MLh0.8/11,4C-2D, Error ellipse: s-maj=4.4km s-min=0.9km az=209.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GRIMS	**Grimsel Gerste**	**0.16**	**231**	⇑Pg		Pg	09 04 07.8	+0.3
GRIMS				Sg		Sg	09 04 10.0	+0.4
NALPS	**Val Nalps**	**0.19**	**116**	⇑Pg		Pg	09 04 08.5	+0.5
BNALP	**Bannalp**	**0.20**	**345**	⇓Pg		Pg	09 04 08.6	+0.4
BNALP				Sg		Sg	09 04 11.6	+0.7
FUSIO	**Fusio**	**0.25**	**153**	⇓Pg		Pg	09 04 09.4	+0.3
HASLI	**Hasliberg/Brie**	**0.25**	**288**	⇑Pg		Pg	09 04 09.5	+0.4
HASLI				Sg		Sg	09 04 13.0	+0.5
FIESA	**Fiescheralp**	**0.36**	**228**	⇑Pg		Pg	09 04 11.5	+0.2

ROM 13 09:04:46.4±0.1,42˚.969N±0˚.002×13˚.039E±0˚.004, h7^{km},ML1.5/7,5C-2D,Error ellipse: s-maj=0.3km s-min=0.0km az=79.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FDMO	**Fiordimonte**	**0.08**	**27**	P		Pg	09 04 48.5	+0.1
FDMO				S		Sg	09 04 49.9	+0.1
FDMO				AML	AML			
	comp=N,398μm,0.2s							
FDMO				AML	AML			
	comp=N,398μm,0.2s							
FDMO				AML	AML			
	comp=E,482μm,0.5s							
T1216	**Preci, Frazion**	**0.08**	**191**	P		Pg	09 04 48.7	+0.2
T1216				S		Sg	09 04 50.2	+0.4
T1216				AML	AML			
	comp=N,922μm,0.2s							
T1216				AML	AML			
	comp=E,540μm,0.6s							
T1216				AML	AML			
	comp=N,923μm,0.2s							
T1219	**Muccia, Frazio**	**0.09**	**345**	⇑P		Pg	09 04 48.8	+0.2
T1219				S		Sg	09 04 50.6	+0.5
T1219				AML	AML			
	comp=E,324μm,1.1s							
T1219				AML	AML			
	comp=N,352μm,0.2s							
T1219				AML	AML			
	comp=E,328μm,0.2s							
T1219				AML	AML			
	comp=N,356μm,0.2s							
T1219				AML	AML			
	comp=E,327μm,0.2s							
T1219				AML	AML			
	comp=E,324μm,0.9s							
T1219				AML	AML			
	comp=N,356μm,1.8s							
CESI	**CESI - Serrava**	**0.10**	**290**	⇑P		Pg	09 04 49.2	+0.4
CESI				S		Sg	09 04 51.3	+0.8
CESI				AML	AML			
	comp=E,318μm,0.4s							
CESI				AML	AML			
	comp=N,774μm,0.2s							
MC2	**Monte Cornacci**	**0.12**	**117**	P		Pg	09 04 49.6	+0.3
MC2				S		Sg	09 04 52.5	+1.3
NRCA	**Norcia**	**0.15**	**158**	⇓P		Pg	09 04 49.9	+0.4
NRCA				S		Sg	09 04 52.6	+1.0
NRCA				AML	AML			
	comp=E,362μm,0.8s							
NRCA				AML	AML			
	comp=N,318μm,0.9s							
NRCA				AML	AML			
	comp=E,394μm,0.8s							
NRCA				AML	AML			
	comp=N,250μm,0.2s							
T1220	**Camerino, Fraz**	**0.15**	**14**	⇑P		Pg	09 04 50.0	+0.5
T1220				S		Sg	09 04 52.8	+1.2
T1220				AML	AML			
	comp=E,340μm,0.3s							
T1220				AML	AML			
	comp=N,575μm,0.5s							
T1220				AML	AML			
	comp=E,328μm,0.3s							
T1220				AML	AML			
	comp=N,538μm,0.5s							
T1220				AML	AML			
	comp=E,340μm,0.3s							
T1220				AML	AML			
	comp=N,575μm,0.5s							
T1220				AML	AML			
	comp=N,538μm,0.5s							
T1220				AML	AML			
	comp=N,538μm,1.5s							
T1220				AML	AML			
	comp=N,575μm,1.5s							
T1215	**Vallo di Nera,**	**0.21**	**217**	P		Pg	09 04 51.1	+0.5
T1215				S		Sg	09 04 54.9	+1.5
T1212	**Cascia, Frazio**	**0.22**	**179**	⇑P		Pg	09 04 51.4	+0.6
T1212				S		Sg	09 04 55.2	+1.5
MMO1	**Montemonaco**	**0.22**	**108**	⇑P		Pg	09 04 51.3	+0.5
MMO1				S		Sg	09 04 55.1	+1.3
SNTG	**Esanatoglia**	**0.29**	**346**	P		Pg	09 04 53.1	+0.8
SNTG				S		Sb	09 04 58.3	-0.9
SNTG				AML	AML			
	comp=N,44μm,1.3s							
SNTG				AML	AML			
	comp=E,78μm,1.6s							
SNTG				AML	AML			
	comp=N,44μm,1.3s							
SNTG				AML	AML			
	comp=N,44μm,0.7s							
SNTG				AML	AML			
	comp=E,78μm,0.4s							
T1241	**Roccafluvione,**	**0.31**	**111**	⇓P		Pg	09 04 52.9	+0.4
T1241				AML	AML			
	comp=N,50500μm,1.6s							
T1241				AML	AML			
	comp=E,44000μm,1.6s							
T1241				AML	AML			
	comp=N,50500μm,0.4s							
T1241				AML	AML			
	comp=E,44000μm,0.4s							
ATTE	**AVT- Monte Tez**	**0.55**	**295**	P		Pg	09 04 57.5	+0.5
T0110	**Collepietro**	**0.92**	**143**	P		Pg	09 05 01.9	-2.2

*IDC **13** 09:16:09.0±3.6,53˚.60N×88˚.02E,h0^{km},mbtmp3.1/2, ML2.4/2,Error ellipse: s-maj=32.1km s-min=18.1km az=58.0*
*NNC **13** 09:16:09.7±5.4,53˚.55N×87˚.92E,h0^{km},mb2.1,mpv1.7, Error ellipse: s-maj=41.2km s-min=25.0km az=102.0, Suspected Mining explosion.*

ISC 13 09:16:08.8±5.7,53˚.7N±0˚.2×88˚.1E±0˚.3,h0^{km},n7,σ0§12/5, 3C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**279**	I		I	09 31 40.0	
	baz=96,slow=340,SNR=1.2							
ZAA0	**Zalesovo Array**	**1.96**	**279**	⇓Pn		**Pn**	**09 16 43.2**	**-0.1**
	0.4nm,0.6s,baz=97,slow=16							
ZAA0				⇑Sn		**Sn**	**09 17 08.6**	**0.0**
	1.1nm,0.5s,baz=103,slow=23							
ZALV	**Zalesovo Beam**	**1.96**	**279**	Pg		**Pn**	**09 16 43.4**	**+0.1**
	1.2nm,0.3s,baz=102,slow=14,SNR=17							
ZALV				Lg		Lg	09 17 10.3	
	2.0nm,0.3s,baz=104,slow=25,SNR=17							
KURBB	**Kurchatov Arra**	**6.65**	**246**	Pn		**Pn**	**09 17 47.6**	**0.0**
	0.1nm,0.3s,baz=63,slow=15,SNR=3.6							
	1.9nm,0.2s							
KURBB	**Kurchatov Arra**	**6.65**	**246**	⇑Lg		Lg	09 19 34.1	
	7.1nm,0.8s,baz=97,slow=16							
MK31	**Makanchi Array**	**7.85**	**211**	⇑Lg		Lg	09 20 12.2	
	2.0nm,1.0s,baz=97,slow=16							
MKAR	**Makanchi Array**	**7.85**	**211**	Pn		**Pn**	**09 18 04.2**	**0.0**
	0.1nm,0.3s,baz=34,slow=10,SNR=2.8							
MKAR				Lg		Lg	09 20 13.6	
	0.1nm,0.3s,baz=36,slow=32,SNR=8.3							
	0.2nm,0.4s							

*DJA **13** 09:23:40.3±0.1,1˚.N±2˚×10˚.0E±˚,h266^{km}±2^{km},M5.0/38, mb4.7/38,mB5.6/13,MLv5.0/27,Mw(mB)5.0/13, MwMwp5.2/1,Mwp5.4/1*
*IDC **13** 09:23:41.9±0.6,0˚.88N×100˚.51E,h234^{km}±5^{km},mb3.9/19, mbtmp4.5/22,Error ellipse: s-maj=13.0km s-min=8.1km az=51.0*
*NEIC **13** 09:23:43.2±2.0,0˚.85N±0˚.07×100˚.54E±0˚.06,h243^{km}±4^{km}, mb4.6/76,Error ellipse: s-maj=10.7km s-min=7.5km az=213.0*

ISC 13 09:23:41.9±0.5,0˚.79N±0˚.05×100˚.54E±0˚.05,h239^{km}±4^{km}, n183,σ1§50/206,mb4.5/58,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKNI	**Bangkinang**	**0.68**	**132**	Pn		**Pn**	**09 24 16.2**	**+1.9**
BKNI				Sn		**S**	**09 24 40.7**	**+1.1**
BKNI	**Bangkinang**	**0.68**	**132**	P		**Pn**	**09 24 16.3**	**+2.1**
BKNI	**Bangkinang**	**0.68**	**132**	P		**Pn**	**09 24 15.5**	**+1.3**
BKNI				S		**S**	**09 24 40.4**	**+0.9**
MNSI	**Mandailing Nat**	**0.96**	**270**	P		**Pn**	**09 24 15.6**	**+0.1**
MNSI				S		**S**	**09 24 41.1**	**-0.7**
PDSI	**Padang**	**1.69**	**183**	P		**Pn**	**09 24 21.3**	**+0.5**
SDSI	**Sungai Dareh**	**1.93**	**152**	P		**Pn**	**09 24 23.8**	**+1.0**
SDSI				S		**S**	**09 24 55.5**	**+0.5**
RGRI	**Rengat**	**2.12**	**122**	P		**Pn**	**09 24 26.3**	**+1.6**
PBSI	**Pulau Batu**	**2.41**	**250**	P		**Pn**	**09 24 28.2**	**+0.8**
RPSI	**Rantau Prapat**	**2.49**	**320**	Pn		**Pn**	**09 24 28.9**	**+0.6**
RPSI				Sn		**S**	**09 25 03.4**	**-1.4**
SISI	**Saibi**	**2.55**	**215**	P		**Pn**	**09 24 28.9**	**0.0**
PSI	**Prapat**	**2.57**	**321**	P		**Pn**	**09 24 28.1**	**-1.2**
	148nm,0.5s,baz=161,slow=7.8,SNR=112							
PSI				S		**S**	**09 25 02.5**	**-4.0**
	188nm,0.8s,baz=6.0,slow=18,SNR=22							
PSI	**Prapat**	**2.57**	**321**	P		**Pn**	**09 24 29.2**	**-0.1**
GSI	**Gunungsitoli**	**3.00**	**280**	Pn		**Pn**	**09 24 34.1**	**+0.3**
GSI	**Gunungsitoli**	**3.00**	**280**	P		**Pn**	**09 24 34.7**	**+0.9**
GSI	**Gunungsitoli**	**3.00**	**280**	P		**Pn**	**09 24 34.0**	**+0.2**
TSI	**Tuntungan**	**3.34**	**324**	P		**Pn**	**09 24 38.0**	**+0.5**
MYKOM	**Kota Tinggi**	**3.46**	**73**	Pn		**Pn**	**09 24 40.1**	**+1.2**
PPSI	**Pulau Pagai**	**3.57**	**188**	P		**Pn**	**09 24 39.6**	**-0.6**
IPM	**Ipoh**	**3.70**	**8**	Pn		**Pn**	**09 24 43.1**	**+1.3**
IPM	**Ipoh**	**3.70**	**8**	P		**Pn**	**09 24 43.5**	**+1.8**
KCSI	**Kotacane, Aceh**	**3.87**	**315**	P		**Pn**	**09 24 43.3**	**-0.5**
JMBI	**JAMBI**	**3.93**	**128**	P		**Pn**	**09 24 44.8**	**+0.4**
TPRI	**Tanjung Pinang**	**3.99**	**88**	P		**Pn**	**09 24 45.8**	**+0.7**
DSRI	**Dabo**	**4.23**	**107**	P		**Pn**	**09 24 48.7**	**+0.7**
MASI	**Maura Aman, Be**	**4.26**	**156**	P		**Pn**	**09 24 47.7**	**-0.7**
SNSI	**Sinabang, Aceh**	**4.51**	**291**	P		**Pn**	**09 24 50.9**	**-0.4**
MLSI	**Meulaboh, Aceh**	**5.38**	**310**	P		**Pn**	**09 25 01.5**	**-0.7**
	891nm,0.4s,33μm7.4nm							
PMBI	**Palembang**	**5.62**	**131**	Pn		**Pn**	**09 25 06.9**	**+1.8**
PMBI	**Palembang**	**5.62**	**131**	P		**Pn**	**09 25 07.1**	**+2.0**
PMBI	**Palembang**	**5.62**	**131**	P		**Pn**	**09 25 03.5**	**-1.6**
	934nm,1.1s,3.9nm							
MNAI	**Manna**	**5.66**	**155**	Pn		**Pn**	**09 25 05.0**	**-0.6**
MNAI	**Manna**	**5.66**	**155**	P		**Pn**	**09 25 04.6**	**-1.0**
	329nm,0.5s,12μm4.3nm							
LHMI	**Lhok Sumawe**	**5.68**	**321**	Pn		**Pn**	**09 25 05.8**	**-0.1**
LHMI	**Lhok Sumawe**	**5.68**	**321**	P		**Pn**	**09 25 06.3**	**+0.4**
LHMI	**Lhok Sumawe**	**5.68**	**321**	P		**Pn**	**09 25 05.5**	**-0.4**
	2μm,0.6s,27μm9.2nm							
PPBI	**Pangkal Pinang**	**6.32**	**118**	P		**Pn**	**09 25 13.7**	**-0.2**
MDSI	**Maura Dua**	**6.38**	**145**	P		**Pn**	**09 25 13.8**	**-0.8**
	152nm,1.0s,1μm0.5nm							
LWLI	**Liwa**	**6.76**	**149**	P		**Pn**	**09 25 17.9**	**-1.6**
	402nm,0.5s,19μm3.1nm							
KLI	**Kotabumi**	**7.08**	**142**	P		**Pn**	**09 25 22.0**	**-1.5**
	163nm,0.4s,8μm0.9nm							
KASI	**Kota Agung**	**7.41**	**148**	P		**Pn**	**09 25 25.6**	**-2.2**
	115nm,0.6s,2μm0.8nm							
BLSI	**Bandar Lampung**	**7.71**	**142**	P		**Pn**	**09 25 30.1**	**-1.5**
	151nm,0.4s,0.9nm							
SRIT	**Nakonsritamara**	**7.81**	**353**	Pn		**Pn**	**09 25 31.7**	**-1.1**
SRIT	**Nakonsritamara**	**7.81**	**353**	P		**Pn**	**09 25 33.8**	**+1.0**
SURA	**Surathani**	**8.37**	**354**	P		**Pn**	**09 25 40.1**	**+0.1**
CGJI	**Cibinong**	**8.97**	**145**	P		**Pn**	**09 25 44.5**	**-3.2**
	133nm,0.9s,3μm							
SKJI	**Sukabumi**	**9.80**	**142**	P		**Pn**	**09 25 56.0**	**-2.1**
	98nm,0.5s,3μm							
LEM	**Lembang**	**10.35**	**137**	P		**Pn**	**09 26 05.5**	**+0.2**
	27nm,0.4s,baz=201,slow=19,SNR=3.7							
LEM	**Lembang**	**10.35**	**137**	P		**Pn**	**09 26 03.2**	**-2.1**
	53nm,1.4s							
CNJI	**Cibinong**	**10.39**	**141**	P		**Pn**	**09 26 02.0**	**-3.6**
	44nm,0.8s,1μm							
CMJI	**Cimerak**	**11.61**	**137**	P		**Pn**	**09 26 18.1**	**-2.9**
	84nm,1.8s							
SBUM	**Sibu**	**11.79**	**82**	Pn		**Pn**	**09 26 23.1**	**-0.3**
SBUM				P		**P**	**09 26 26.1**	**-0.8**
SMRI	**Semarang**	**12.58**	**128**	Pn		**P**	**09 26 34.2**	**-1.5**
SMRI	**Semarang**	**12.58**	**128**	P		**Pn**	**09 26 30.1**	**-3.0**
	202nm,1.0s							
YOGI	**Yogyakarta**	**12.95**	**131**	P		**Pn**	**09 26 35.6**	**-2.1**
	191nm,1.5s							
UGM	**Wanagama**	**13.19**	**131**	Pn		**Pn**	**09 26 40.1**	**-0.5**
UGM	**Wanagama**	**13.19**	**131**	P		**Pn**	**09 26 38.6**	**-2.0**
	228nm,1.5s							
NGJI	**Ngawi**	**13.58**	**127**	P		**Pn**	**09 26 43.3**	**-2.1**
	116nm,1.0s							
DGPR	**DIGLIPUR**	**14.43**	**329**	*eP*		**Pn**	**09 26 54.2**	**-1.5**
BBKI	**Banjar Baru**	**14.91**	**107**	P		**P**	**09 26 58.9**	**-2.6**
	122nm,0.9s,8μm							
UBPT	**Khong Chiam**	**15.20**	**18**	P		**Pn**	**09 27 05.3**	**+0.3**
UBPT				IAmb		IAmb	09 27 07.0	
	comp=Z,36nm,1.0s							
UBPT	**Khong Chiam**	**15.20**	**18**	P		**Pn**	**09 27 06.3**	**+1.3**
BLJI	**Banyuglugur**	**15.54**	**123**	P		**P**	**09 27 05.6**	**-2.8**
	comp=Z,152nm,0.8s,comp=Z,16μm							
ABJI	**Asem Bagus**	**16.10**	**122**	P		**P**	**09 27 11.8**	**-2.8**
	comp=Z,101nm,0.8s							
KBKI	**Kotabaru**	**16.14**	**105**	P		**P**	**09 27 12.8**	**-2.3**
	comp=Z,4μm,0.5s							
JAGI	**Jajag, Banyuwa**	**16.39**	**124**	P		**P**	**09 27 14.9**	**-3.0**
	comp=Z,59nm,1.2s							
SRBI	**Singaraja**	**17.08**	**121**	P		**P**	**09 27 22.4**	**-3.0**
	comp=Z,539nm,1.2s,comp=Z,5μm							
NONG	**Nongkai**	**17.36**	**8**	P		**Pn**	**09 27 30.2**	**-0.3**
PHRA	**Phrae**	**17.60**	**359**	P		**P**	**09 27 32.0**	**+1.0**
CM31	**Chiang Mai Arr**	**17.63**	**355**	P		**P**	**09 27 32.3**	**+1.1**
CM31				IAmb		IAmb	09 27 33.0	
	comp=Z,21nm,0.9s							
CMAR	**Chiang Mai Arr**	**17.63**	**355**	P		**P**	**09 27 32.0**	**+0.7**
	comp=Z,12nm,0.8s,baz=186,slow=10,SNR=58							
CMAR				PcP		**PcP**	**09 31 59.9**	**+1.6**
	comp=Z,2.3nm,0.7s,baz=208,slow=2.4,SNR=7.7							
CMAR				ScP		**ScP**	**09 35 08.9**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=222,slow=3.3,SNR=5.4							
CMAR	**Chiang Mai Arr**	**17.63**	**355**	P		**P**	**09 27 31.0**	**-0.3**
CHTO	**Chiang Mai**	**17.98**	**355**	P		**P**	**09 27 35.4**	**+0.3**
TWSI	**Taliwang, Sumb**	**18.84**	**121**	P		**P**	**09 27 41.3**	**-3.1**
	comp=Z,34nm,1.1s							
CRAI	**Chiangrai**	**19.32**	**360**	P		**P**	**09 27 49.8**	**+0.3**
CRAI				IAmb		IAmb	09 27 50.7	
	comp=Z,20nm,1.1s							
MPSI	**Mapaga**	**19.36**	**91**	P		**P**	**09 27 47.9**	**-2.2**
	comp=Z,22nm,1.6s							
PLAI	**Plampang**	**19.66**	**119**	P		**P**	**09 27 50.1**	**-3.0**
	comp=Z,23nm,1.1s							
SPSI	**Sidrap Palu**	**19.79**	**104**	P		**P**	**09 27 52.0**	**-2.6**
	comp=Z,8.6nm,0.8s,comp=Z,3μm							
BKSI	**Bulukumba**	**20.48**	**107**	P		**P**	**09 27 59.2**	**-2.8**
	comp=Z,16nm,1.6s,comp=Z,1μm							
APSI	**Ampana**	**21.18**	**95**	P		**P**	**09 28 06.3**	**-2.9**
	comp=Z,20nm,0.8s							
MRSI	**Marisa**	**21.41**	**91**	P		**P**	**09 28 08.7**	**-2.7**
	comp=Z,41nm,1.4

AS31	**Alice Springs**	**40.52**	**129**	P	**P**	**09 30 58.1**	**-0.1**
FORT	**Forrest**	**40.87**	**143**	P	**P**	**09 31 01.8**	**+1.0**
NIL	**Nilore**	**41.51**	**325**	P	**P**	**09 31 06.2**	**+0.1**
NIL				IAmb	IAmb	09 31 06.9	
	comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**44.37**	**32**	P	**P**	**09 31 29.2**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=222,slow=9.1,SNR=6.5						
	comp=Z,3.2nm,0.8s						
KS19	**Wonju Array Si**	**44.38**	**31**	P	**P**	**09 31 29.7**	**+0.8**
KS19				IAmb	IAmb	09 31 48.4	
	comp=Z,48nm,1.4s						
KBL	**Kabul**	**44.64**	**322**	P	**P**	**09 31 32.0**	**+0.7**
COEN	**Coen**	**44.70**	**111**	P	**P**	**09 31 33.1**	**+1.4**
JMN	**Monobe**	**45.27**	**40**	P	**P**	**09 31 37.4**	**+1.3**
JMN				IAmb	IAmb	09 32 05.5	
	comp=Z,48nm,1.2s						
SONM	**Songino Array**	**47.13**	**5**	P	**P**	**09 31 50.6**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=184,slow=8.2,SNR=6.6						
SONM				PcP	**PcP**	**09 33 18.2**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=250,slow=4.7,SNR=5.2						
SONM				ScP	**ScP**	**09 36 47.1**	**-1.9**
	comp=Z,9.1nm,0.9s,baz=194,slow=3.9,SNR=30						
	comp=Z,1.5nm,0.9s						
BBOO	**Buckleboo**	**47.31**	**138**	P	**P**	**09 31 52.4**	**+0.5**
BBOO				IAmb	IAmb	09 32 34.7	
	comp=Z,37nm,1.4s						
MK31	**Makanchi Array**	**48.52**	**343**	P	**P**	**09 32 00.7**	**-0.2**
MKAR	**Makanchi Array**	**48.52**	**343**	P	**P**	**09 32 00.6**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=161,slow=8.5,SNR=52						
MKAR				ScP	**ScP**	**09 36 52.9**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=164,slow=5.7,SNR=3.9						
	comp=Z,1.8nm,0.3s						
MAKZ	**Makanchi**	**48.62**	**343**	P	**P**	**09 32 01.2**	**-0.4**
JGF	**Kuroka**	**48.68**	**41**	P	**P**	**09 32 01.8**	**-0.5**
JGF				IAmb	IAmb	09 32 32.5	
	comp=Z,61nm,1.5s						
UOSS	**Minazif**	**49.08**	**303**	P	**P**	**09 32 06.7**	**+1.2**
UOSS				IAmb	IAmb	09 32 42.1	
	comp=Z,49nm,1.4s						
CTA	**Charters Tower**	**49.34**	**118**	P	**P**	**09 32 08.9**	**+1.4**
	comp=Z,6.8nm,0.9s,baz=286,slow=8.5,SNR=9.1						
	comp=Z,6.8nm,0.9s						
CTAO	**Charters Tower**	**49.34**	**118**	P	**P**	**09 32 07.9**	**+0.3**
CTAO				IAmb	IAmb	09 32 10.2	
	comp=Z,11nm,1.0s						
MJAR	**Matsushiro Arr**	**49.80**	**40**	P	**P**	**09 32 11.8**	**+1.1**
	comp=Z,5.0nm,0.9s,baz=212,slow=7.2,SNR=6.1						
	comp=Z,5.0nm,0.9s						
KK31	**Karatay Array**	**49.96**	**331**	P	**P**	**09 32 11.7**	**-0.1**
KKAR	**Karatay Array**	**49.96**	**331**	P	**P**	**09 32 12.2**	**+0.4**
STKA	**Stephens Creek**	**50.63**	**134**	P	**P**	**09 32 17.8**	**+0.7**
	comp=Z,2.1nm,0.4s,baz=297,slow=9.0,SNR=4.2						
	comp=Z,2.1nm,0.4s						
KURK	**Kurchatov**	**53.11**	**343**	P	**P**	**09 32 35.0**	**+0.1**
OPO	**Ambohidratompo**	**55.82**	**247**	P	**P**	**09 32 56.0**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=82,slow=3.3,SNR=9.9						
	comp=Z,6.3nm,0.8s						
ERM	**Erimo**	**56.12**	**37**	P	**P**	**09 32 56.0**	**-0.7**
TOO	**Toolangi**	**56.36**	**138**	P	**P**	**09 32 57.6**	**-0.9**
TOO				IAmb	IAmb	09 33 00.7	
	comp=Z,24nm,1.3s						
VOI	**Vohitsoka**	**57.04**	**243**	P	**P**	**09 33 04.6**	**+1.0**
VOI				IAmb	IAmb	09 33 06.6	
	comp=Z,8.7nm,0.9s						
BVAR	**Borovoye Array**	**57.78**	**339**	P	**P**	**09 33 07.3**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=142,slow=9.2,SNR=8.0						
BVAR				pP	**PcP**	**09 33 54.9**	**-3.0**
	comp=Z,2.3nm,0.7s,baz=134,slow=8.6,SNR=3.1						
	comp=Z,0.9nm,0.3s						
RAYN	**Ar Rayn**	**57.90**	**297**	P	**P**	**09 33 09.6**	**0.0**
ABKAR	**Akbulak array**	**59.48**	**330**	P	**P**	**09 33 19.1**	**-0.8**
KIBK	**Kibwezi**	**62.55**	**267**	P	**P**	**09 33 43.4**	**+2.2**
KIBK				IAmb	IAmb	09 33 44.4	
	comp=Z,6.6nm,1.0s						
KMBO	**Kilima Mbogo**	**63.31**	**268**	P	**P**	**09 33 48.8**	**+2.3**
KMBO				IAmb	IAmb	09 33 49.7	
	comp=Z,6.1nm,0.9s						
LODK	**Lodwar**	**65.17**	**273**	P	**P**	**09 33 57.7**	**-0.6**
LODK				IAmb	IAmb	09 34 01.9	
	comp=Z,6.7nm,1.3s						
GURO	**Guroymak-BITLI**	**65.29**	**313**	P	**P**	**09 33 59.7**	**+1.0**
GURO				IAmb	IAmb	09 34 01.1	
	comp=Z,7.8nm,0.9s						
MARD	**Mardin**	**65.81**	**311**	P	**P**	**09 34 01.9**	**-0.1**
KOUNC	**Koumac, New Ca**	**65.81**	**113**	P	**P**	**09 34 03.8**	**+1.7**
KBZ	**Khabaz**	**66.58**	**318**	P	**P**	**09 34 07.0**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=158,slow=7.0,SNR=4.0						
	comp=Z,3.9nm,0.8s						
DZM	**Mont Dzumac**	**68.07**	**114**	P	**P**	**09 34 18.3**	**+1.9**
DZM				IAmb	IAmb	09 34 20.1	
	comp=Z,14nm,1.1s						
ONTNC	**Ouen Toro**	**68.12**	**114**	P	**P**	**09 34 18.5**	**+1.9**
OUENC	**Ouen Island, N**	**68.49**	**114**	P	**P**	**09 34 21.4**	**+2.5**
LIFNC	**LIFOU**	**68.58**	**113**	P	**P**	**09 34 20.7**	**+1.2**
PINNC	**Pines Island,**	**69.08**	**114**	P	**P**	**09 34 23.9**	**+1.3**
MBAR	**Mbarara**	**69.81**	**269**	P	**P**	**09 34 29.4**	**+2.0**
MBAR				IAmb	IAmb	09 34 30.7	
	comp=Z,8.7nm,0.8s						
BR131	**Keskin Array S**	**71.86**	**312**	P	**P**	**09 34 39.0**	**-0.3**
BRTR	**Keskin Array B**	**71.86**	**312**	P	**P**	**09 34 38.9**	**-0.3**
	comp=Z,7.9nm,0.8s,baz=131,slow=7.8,SNR=38						
BRTR				pP	**pP**	**09 35 34.1**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=121,slow=7.7,SNR=3.3						
	comp=Z,7.9nm,0.8s						
BRTR	**Keskin Array B**	**71.86**	**312**	P	**P**	**09 34 39.0**	**-0.3**
TIXI	**Tiksi**	**73.04**	**9**	P	**P**	**09 34 44.8**	**-0.5**
TIXI				IAmb	IAmb	09 34 45.3	
	comp=Z,3.6nm,0.3s						
MAW	**Mawson**	**73.10**	**194**	P	**P**	**09 34 46.5**	**+0.8**
	comp=Z,9.0nm,0.8s,baz=50,slow=7.9,SNR=3.4						
	comp=Z,9.0nm,0.8s						
LSZ	**Lusaka**	**73.20**	**254**	P	**P**	**09 34 49.2**	**+1.7**
LSZ				IAmb	IAmb	09 34 50.6	
	comp=Z,13nm,1.3s						
LBTB	**Lobatse**	**76.70**	**244**	P	**P**	**09 35 07.0**	**-0.4**
LBTB				IAmb	IAmb	09 35 09.8	
	comp=Z,9.9nm,0.8s						
TIRR	**Tirgusor**	**76.74**	**316**	P	**P**	**09 35 07.4**	**+0.3**
THZ	**Tophouse**	**77.44**	**133**	P	**P**	**09 35 11.5**	**+0.5**
BOSA	**Boshof**	**77.48**	**241**	P	**P**	**09 35 12.6**	**+1.0**
	comp=Z,6.3nm,0.7s,baz=112,slow=6.2,SNR=11						
	comp=Z,6.3nm,0.7s						
BOSA	**Boshof**	**77.48**	**241**	P	**P**	**09 35 12.4**	**+0.8**
BOSA				IAmb	IAmb	09 35 14.1	
	comp=Z,8.3nm,0.8s						
AKASG	**Malin Array Be**	**77.63**	**322**	P	**P**	**09 35 11.3**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=81,slow=4.5,SNR=17						
AKASG				pP	**pP**	**09 36 07.0**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=82,slow=4.1,SNR=2.3						
	comp=Z,0.8nm,0.5s						
AKASG	**Malin Array Be**	**77.63**	**322**	P	**P**	**09 35 11.2**	**-0.6**
AKBB	**Malin Array Si**	**77.63**	**322**	P	**P**	**09 35 11.7**	**-0.1**
MSVF	**Nonsavu**	**78.35**	**108**	P	**P**	**09 35 18.9**	**+2.3**
MLR	**Muntele Rosu**	**78.66**	**316**	P	**P**	**09 35 18.9**	**+1.1**
MLR				IAmb	IAmb	09 35 19.4	
	comp=Z,16nm,1.1s						
BURAR	**Bucovina Array**	**79.54**	**318**	P	**P**	**09 35 23.4**	**+0.9**
BUR08	**Bucovina Ar. S**	**79.56**	**318**	P	**P**	**09 35 22.9**	**+0.3**
VTS	**Vitosha**	**80.13**	**313**	P	**P**	**09 35 25.7**	**-0.1**
VTS				IAmb	IAmb	09 35 26.7	
	comp=Z,4.0nm,0.7s						
LIT	**Litokhoron**	**80.35**	**310**	P	**P**	**09 35 26.5**	**-0.4**
LIT				IAmb	IAmb	09 35 51.3	
	comp=Z,8.8nm,1.0s						
FINES	**FINESS Array B**	**81.91**	**332**	P	**P**	**09 35 34.3**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=120,slow=5.2,SNR=15						
FINES				pP	**pP**	**09 36 30.6**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=83,slow=4.8,SNR=1.7						
	comp=Z,1.5nm,0.4s						
DIVS	**Divibare**	**82.66**	**314**	P	**P**	**09 35 37.9**	**-1.0**
DIVS				IAmb	IAmb	09 36 16.7	
	comp=Z,11nm,1.2s						
TSUM	**Tsumeb**	**83.60**	**251**	P	**P**	**09 35 44.6**	**+0.3**
TSUM				IAmb	IAmb	09 35 48.0	
	comp=Z,21nm,1.2s						
ARCES	**ARCESS Array B**	**84.05**	**340**	P	**P**	**09 35 45.0**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=92,slow=6.2,SNR=11						
	comp=Z,4.8nm,1.0s						
GERES	**GERESS Array B**	**87.32**	**319**	P	**P**	**09 36 03.0**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=54,slow=6.8,SNR=4.3						
	comp=Z,1.1nm,0.6s						
GERES	**GERESS Array B**	**87.32**	**319**	P	**P**	**09 36 01.3**	**-0.7**
AFI	**Afiamalu**	**87.94**	**104**	P	**P**	**09 36 04.7**	**-0.8**
KEST	**Kesra**	**90.51**	**306**	P	**P**	**09 36 19.0**	**+1.8**
	comp=Z,8.6nm,0.9s,baz=4.3,slow=5.0,SNR=5.2						
	comp=Z,8.6nm,0.9s						

QSPA	**South Pole Qui**	**90.73**	**180**	P	**P**	**09 36 18.8**	**+1.3**
QSPA				IAmb	IAmb	09 36 35.5	
	comp=Z,8.4nm,1.3s						
IMAR	**Indian Mountai**	**95.64**	**23**	P	**P**	**09 36 39.7**	**-0.3**
YKA	**Yellowknife Ar**	**111.56**	**17**	PKiKP	**PKiKP**	**09 41 46.7**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=309,slow=1.8,SNR=4.0						
SCHQ	**Schefferville**	**123.60**	**351**	PKP	**PKPdf**	**09 42 10.7**	**-0.3**
	comp=Z,3.3nm,1.0s,baz=14,slow=4.2,SNR=1.9						
NVAR	**Mina Array Bea**	**127.10**	**38**	PKP	**PKiKP**	**09 42 19.3**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=337,slow=1.3,SNR=6.7						
ULM	**Lac du Bonnet**	**127.25**	**13**	PKP	**PKPdf**	**09 42 17.6**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=325,slow=3.0,SNR=7.3						
PDAR	**Pinedale Array**	**128.89**	**28**	PKP	**PKPdf**	**09 42 21.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=48,slow=2.2,SNR=5.1						
PLCA	**Paso Flores**	**139.43**	**190**	PKhKP	PKPpre	09 42 35.5	
	comp=Z,2.5nm,1.1s,baz=182,slow=4.5,SNR=3.7						
BDFB	**Brasilia**	**145.64**	**243**	PKPbc	**PKPab**	**09 42 54.5**	**+0.2**
	comp=Z,8.7nm,0.5s,baz=132,slow=3.4,SNR=13						
CPUP	**Villa Florida**	**146.85**	**218**	PKPbc	**PKPab**	**09 42 57.6**	**-1.0**
	comp=Z,16nm,0.9s,baz=130,slow=4.5,SNR=31						

*DDA **13** 09:52:10.5±0.0,38.7°71N×38.7°11E,h7km±1km,ML2.5*
*ISK **13** 09:52:11.4,38.7°77N×37.7°98E,h1km,ML3.0/16*

ISC 13 09:52:11.5±1.1,38.7°71N±0.0°03×38.7°08E±0.0°03,h9km±12km, n22,σ1s10/32,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARPR	**Arapgir-MALATY**	**0.43**	**28**	Pg	**Pg**	**09 52 20.0**	**0.0**
ARPR				Sg	**Sb**	**09 52 27.4**	**-0.7**
MAYA	**Malatya/Merkez**	**0.47**	**145**	P	**Pg**	**09 52 19.6**	**-1.2**
MAYA				S	**Sg**	**09 52 26.6**	**-0.3**
MAYA				*i* AML	AML	09 52 29.0	
	comp=N,277nm,0.5s						
DARE	**Darende-Malaty**	**0.49**	**253**	Pg	**Pg**	**09 52 20.7**	**-0.3**
CUGUR	**Gurin_SVAS**	**0.63**	**271**	P	**Pg**	**09 52 23.4**	**-0.4**
CUGUR				S	**Sb**	**09 52 33.3**	**-0.6**
CUGUR				*i* AML	AML	09 52 37.0	
	comp=E,529nm,0.6s						
ELBS	**KAHRAMANMARAS**	**0.84**	**243**	P	**Pg**	**09 52 27.5**	**-0.2**
ELBS				S	**Sb**	**09 52 40.0**	**+0.2**
ELBS				*i* AML	AML	09 52 41.0	
	comp=N,177nm,0.4s						
AKCA	**Adyaman/G¶l**	**0.97**	**199**	P	**Pg**	**09 52 28.8**	**-1.4**
AKCA				S	**Sb**	**09 52 43.8**	**+0.3**
AKCA				*i* AML	AML	09 52 48.0	
	comp=N,154nm,0.6s						
SARI	**SarD1z-Kayseri**	**1.34**	**257**	Pn	**Pg**	**09 52 37.1**	**-0.1**
SARI				Sn	**Sg**	**09 52 55.2**	**+0.6**
KOVA	**Elazig, Kovanc**	**1.36**	**90**	P	**Pn**	**09 52 36.4**	**-0.4**
KOVA				S	**Sg**	**09 52 56.5**	**+1.3**
URFA	**Urfa**	**1.40**	**155**	Pn	**Pg**	**09 52 40.3**	**+1.9**
GZT	**Gaziantep**	**1.42**	**197**	P	**Pg**	**09 52 38.4**	**-0.3**
GZT				S	**Sg**	**09 52 58.6**	**+1.5**
GZT				*i* AML	AML	09 53 01.0	
	comp=N,149nm,0.4s						
SVSK	**Karacayir**	**1.47**	**325**	Pn	**Pb**	**09 52 38.9**	**-0.1**
KAHM	**Kahramanmaras,**	**1.47**	**216**	P	**Pb**	**09 52 39.0**	**-0.1**
KAHM				S	**Sg**	**09 52 59.3**	**+0.4**
KAHM				*i* AML	AML	09 53 03.0	
	comp=N,68nm,0.4s						
GAZ	**Gaziantep**	**1.69**	**204**	Pn	**Pb**	**09 52 42.9**	**+0.1**
NZIP	**Nizip/Gaziante**	**1.70**	**191**	P	**Pg**	**09 52 43.9**	**-0.2**
NZIP				S	**Sg**	**09 53 08.7**	**+2.6**
NZIP				*i* AML	AML	09 53 12.0	
	comp=E,86nm,0.5s						
BNN	**Bunyan**	**1.75**	**275**	Pn	**Pb**	**09 52 43.0**	**-0.9**
RSDY	**Resadiye-TOKAT**	**1.78**	**341**	Pn	**Pb**	**09 52 43.4**	**-1.0**
TOKT	**Tokat**	**2.00**	**324**	Pn	**Pb**	**09 52 46.0**	**+0.4**
KOZT	**Kozan**	**2.16**	**236**	Pn	**Pb**	**09 52 49.7**	**-1.2**
YOZ	**Yozgat**	**2.34**	**294**	Pn	**Pn**	**09 52 51.2**	**+0.9**
KOZK	**Kozakli-Nevseh**	**2.55**	**282**	Pn	**Pn**	**09 52 54.1**	**+0.8**
CORM	**Corum**	**3.04**	**300**	Pn	**Pn**	**09 53 00.7**	**+0.7**
YAYL	**Yayladag**	**3.10**	**211**	Pn	**Pb**	**09 53 04.1**	**-2.9**

DJA 13 10:01:08.1±0.7,1°N±4°×12°2E±°,h24km±6km,M3.8/10, mb4.3/3,MLv3.6/10,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.61**	**170**	P	Pb	10 01 20.7	+0.6
MRSI				S	Sn	10 01 29.5	-0.8
GTOI	**Gorontalo**	**1.26**	**110**	P	Pn	10 01 27.6	-2.6
GTOI				S	Sn	10 01 42.6	-3.8
APSI	**Ampana**	**1.99**	**185**	P	Pn	10 01 40.4	+0.2
MPSI	**Mapaga**	**2.07**	**249**	P	Pn	10 01 42.0	+0.7
LUWI	**Luwuk**	**2.31**	**156**	P	Pn	10 01 44.8	+0.1
SGSI	**Sangihe**	**4.51**	**55**	P	Pn	10 02 14.9	-0.1
SANI	**Sanana**	**5.19**	**127**	P	Pn	10 02 24.2	-0.1
	6.1nm,0.9s,0.0nm						
BBSI	**Bau Bau**	**6.57**	**174**	P	Pn	10 02 42.5	-0.7

*DSN **13** 10:07:14.7±1.9,27.°45N×58.°43E,h10km,ML3.2/5,Error ellipse: s-maj=31.5km s-min=14.6km az=158.0*
*TEH **13** 10:07:17.3,27.°53N×57.°83E,h6km±28km,ML3.5*
*OMAN **13** 10:07:31.6±0.1,26.°57N×57.°48E,h7km,ml2.9/12,ms2.4/1, Error ellipse: s-maj=1.5km s-min=0.9km az=30.0*

ISC 13 10:07:18.0±1.2,27.°46N±0.°03×57.°91E±0.°04,h27km±13km, n50,σ3s40/64,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.52**	**340**	Pg	**Pb**	**10 07 26.9**	**-1.8**
KHNJ				Sg	**Sb**	**10 07 32.6**	**-3.4**
IBND	**Bandar-abas**	**1.21**	**270**	Pg	**Pb**	**10 07 41.8**	**+1.4**
GENO	**Geno**	**1.54**	**268**	Pg	**Pb**	**10 07 47.4**	**+1.3**
BNDS	**Bandar-Abbas**	**1.54**	**268**	Pg	**Pb**	**10 07 47.3**	**+1.2**
JASK	**Jask - Hormozg**	**1.58**	**181**	P	**Pb**	**10 07 49.1**	**+2.5**
JASK				S	**Sn**	**10 07 58.8**	**-5.1**
JASK	**Jask - Hormozg**	**1.58**	**181**	Pg	**Pb**	**10 07 48.1**	**+1.4**
BANOM	**Banah**	**2.10**	**224**	P	**Pb**	**10 07 53.4**	**-2.0**
BANOM				S	**Sb**	**10 08 25.3**	**+4.2**
BANOM	**Banah**	**2.10**	**224**	P	**Pb**	**10 07 55.9**	**+0.4**
BANOM				S	**Sn**	**10 08 13.7**	**-2.9**
	SNR=208						
SHME	**Shamm**	**2.11**	**229**	P	**Pb**	**10 07 55.6**	**0.0**
	SNR=8.5						
SHME				S	**Sn**	**10 08 15.1**	**-1.8**
NGRK	**Negar Kerman**	**2.41**	**335**	Pn	**Pn**	**10 07 58.4**	**+2.3**
CHMN	**Cheshme madani**	**2.42**	**352**	Pn	**Pn**	**10 07 59.5**	**+3.4**
MDH	**Madha**	**2.59**	**214**	P	**Pn**	**10 08 00.3**	**+2.2**
MDH				S	**Sn**	**10 08 24.0**	**-4.7**
MSFE	**Esma-Masafi**	**2.61**	**217**	P	**Pb**	**10 08 02.2**	**-2.0**
KRBR	**Kerman**	**2.71**	**338**	Pn	**Pb**	**10 08 04.2**	**-1.9**
UOSS	**Minazif**	**2.93**	**212**	P	**Pn**	**10 08 05.0**	**+2.1**
UOSS	**Minazif**	**2.93**	**212**	P	**Pn**	**10 08 05.6**	**+2.8**
CHBR	**Chabahar**	**2.96**	**128**	Pn	**Pb**	**10 08 08.3**	**-1.9**
HATD	**Hatta, Dubai**	**3.07**	**212**	P	**Pb**	**10 08 10.1**	**-1.9**
KHGB	**Koh Gabri**	**3.17**	**337**	Pn	**Pn**	**10 08 09.6**	**+3.3**
ZHDN	**Zahedan**	**3.21**	**52**	Pn	**Pn**	**10 08 10.9**	**+4.1**
ASHO	**Ashiyiah**	**3.22**	**211**	P	**Pn**	**10 08 09.9**	**+3.0**
ASHO	**Ashiyiah**	**3.22**	**211**	P	**Pb**	**10 08 12.1**	**-2.5**
ASHO				S	**Sn**	**10 08 37.8**	**-6.7**
ZHSF	**Zahedan**	**3.31**	**49**	Pn	**Pb**	**10 08 15.2**	**-1.0**
FAQ	**Al Faqa, Dubai**	**3.41**	**218**	P	**Pn**	**10 08 12.7**	**+3.3**
SOHO	**SOHO**	**3.53**	**201**	P	**Pn**	**10 08 11.4**	**+0.3**
SOHO	**SOHO**	**3.53**	**201**	P	**Pn**	**10 08 12.8**	**+1.7**
SOHO				S	**Sn**	**10 08 46.1**	**-5.9**
ASUD	**Al Ashush, Dub**	**3.65**	**220**	P	**Pb**	**10 08 17.5**	**-4.4**
ASUD				S	**Sn**	**10 08 50.9**	**-4.0**
HOQ	**Hoqain**	**3.90**	**188**	P	**Pn**	**10 08 18.8**	**+2.7**
	SNR=17						
HOQ				S	**Sn**	**10 08 56.0**	**-5.1**
ARQ	**Araqi**	**4.29**	**197**	P	Pn	10 08 26.4	+4.8
ARQ				S	**Sn**	**10 09 05.0**	**-5.7**
NHDN	**Nehbandan**	**4.34**	**25**	Pn	**Pn**	**10 08 26.8**	**+4.4**
SMDO	**Samad**	**4.38**	**178**	P	**Pn**	**10 08 27.2**	**+4.3**
SMDO				S	**Sn**	**10 09 09.3**	**-3.9**
GHIR	**Ghir-Karzin**	**4.43**	**282**	Pn	**Pn**	**10 08 28.0**	**+4.4**
IBAF	**Bafgh**	**4.59**	**334**	Pn	**Pn**	**10 08 29.4**	**+3.5**
BSRN	**Basiran**	**4.62**	**13**	Pn	**Pn**	**10 08 29.5**	**+3.3**
BSY	**Bisya**	**4.74**	**188**	P	Pn	10 08 33.1	+5.3
BSY				S	**Sn**	**10 09 17.1**	**-4.7**
IMEH	**Mehriz**	**4.86**	**325**	Pn	**Pn**	**10 08 33.1**	**+3.5**
WBK	**Wadi Bani Khal**	**4.92**	**168**	P	Pn	10 08 34.5	+4.2
	SNR=25						
WBK				S	**Sn**	**10 09 23.5**	**-2.8**
JLN	**Jalan Bani Buh**	**5.46**	**165**	P	Pn	10 08 41.5	+3.9
	SNR=15						
JLN				S	**Sn**	**10 09 41.5**	**+2.0**
ITEG	**Tejag**	**5.47**	**7**	Pn	**Pn**	**10 08 41.1**	**+3.1**
YZKH	**Yazd**	**5.70**	**330**	Pn	**Pn**	**10 08 45.0**	**+4.0**
TABS	**Tabas**	**6.21**	**354**	Pn	**Pn**	**10 08 52.5**	**+4.4**
IRAM	**Ramesheh**	**6.47**	**313**	Pn	**Pn**	**10 08 54.6**	**+2.8**
KLNJ	**Kolanjah**	**6.55**	**304**	Pn	**Pn**	**10 08 55.3**	**+2.4**
ANAR	**Anarak**	**6.76**	**329**	Pn	**Pn**	**10 08 58.9**	**+3.3**
IZEF	**Zefreh**	**7.26**	**320**	Pn	**Pn**	**10 09 04.9**	**+2.3**
IBRJ	**Brojen**	**7.29**	**309**	Pn	**Pn**	**10 09 06.3**	**+3.4**
IKLH	**Kolahrood**	**8.00**	**318**	Pn	**Pn**	**10 09 16.7**	**+4.0**
DOK	**Doka**	**9.46**	**202**	P	Pn	10 09 34.6	+2.1
DOK				S	**Sn**	**10 11 13.9**	**-4.1**
WHFO	**Wadi Hawf**	**10.23**	**203**	P	**Pn**	**10 09 44.9**	**+1.7**
WHFO				S	**Sn**	**10 11 34.3**	**-2.7**
ABTO	**Aybut**	**10.92**	**204**	P	**Pn**	**10 09 54.4**	**+1.8**
ABTO				S	**Sn**	**10 11 49.5**	**-4.5**

NEIC 13 10:11:24.1±0.7,31.°43N±0.°01×103.°63W±0.°04,h3km±6km, ML1.8/4,Error ellipse: s-maj=5.5km s-min=1.5km az=87.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLNB	**Carlsbad**	**0.86**	**346**		Pg	10 11 40.2	-0.3
GDL2	**Guadalupe Moun**	**0.99**	**321**	Pg	Pg	10 11 43.1	0.0
GDL2				Sg	Sg	10 11 56.3	+0.4
CLN7	**Carlsbad 7**	**0.99**	**351**	Pg	Pb	10 11 43.5	-0.4
HTMS	**Hat Mesa**	**1.04**	**360**	Pg	Pg	10 11 43.7	-0.3
MNTX	**Cornudas Mount**	**1.52**	**281**		Pn	10 11 52.4	+0.2
MNTX					Pb	10 11 52.8	-0.1
MNTX				IAML		10 12 19.0	
	4.5nm,1.6s						
CPRX	**Cap Rock**	**1.61**	**353**	Pn	Pn	10 11 53.4	-0.1
TX31	**Lajitas Ar. Si**	**2.09**	**181**		Pn	10 11 59.7	-0.4
TX32	**Lajitas Array**	**2.09**	**181**		Pn	10 11 59.9	-0.1
TXAR	**Lajitas Array**	**2.09**	**181**		Pn	10 11 59.8	-0.3
JCT	**Junction City**	**3.42**	**105**	Pn	Pn	10 12 17.1	-1.2
JCT				IAML		10 13 19.0	
	6.7nm,0.7s						

IDC 13 10:18:58.9±4.8,7.°51S×155.°79E,h0km,mb3.5/3, mbtmp3.5/3,MS2.9/1,Error ellipse: s-maj=142.5km s-min=43.6km az=115.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.92**	**310**	LR	LR	10 21 59.7	
	comp=Z,110nm,18.2s,baz=347,slow=37						
WRA	**Warramunga Arr**	**24.19**	**237**	P	P	10 24 16.6	-0.7
	0.5nm,0.6s,baz=63,slow=9.0,SNR=3.1						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.44**	**230**	P	P	10 24 37.7	0.0
	1.0nm,0.7s,baz=59,slow=8.4,SNR=15						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**84.31**	**319**	P	P	10 31 33.4	+0.5
	0.3nm,0.6s,baz=104,slow=6.1,SNR=3.0						
	0.3nm,0.6s						

*IDC **13** 10:23:14.7±3.0,10.°65S×161.°75E,h62km±25km,mb3.2/4, mbtmp3.7/6,ML4.3/3,MS3.3/4,Error ellipse: s-maj=31.8km s-min=19.4km az=58.0*

ISC 13 10:23:10.9±1.3,10.°8S±0.°1×162.°0E±0.°2,h35km,n14, σ1s10/8,mb3.4/4,Bougainville-Solomon Islands region

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

ETL				*e*S	**Sn**	**10 23 59.6**	**+0.1**	
	baz=255							
NACB	**Ninganchiao**	**1.20**	**258**	*e*P	**Pn**	**10 23 42.8**	**0.0**	
	baz=256							
NACB				*e*S	**Sn**	**10 23 58.9**	**-1.1**	
	baz=256							
ENTT	**Nioudou**	**1.22**	**280**	*e*P	**Pn**	**10 23 43.6**	**+0.7**	
	baz=282							
ENTT				*e*S	**Sn**	**10 24 00.4**	**+0.2**	
	baz=282							
FUSB	**Fushanzhiwuyua**	**1.22**	**286**	*e*P	**Pn**	**10 23 43.6**	**+0.5**	
	baz=292							
FUSB				*e*S	**Sn**	**10 23 59.8**	**-0.7**	
	baz=292							
TWD	**Chiawan**	**1.23**	**254**	*e*P	**Pn**	**10 23 43.0**	**0.0**	
	baz=251							
TWD				*e*S	**Sn**	**10 23 59.5**	**-0.9**	
	baz=251							
LATG	**Datong**	**1.24**	**275**	P	**Pn**	**10 23 43.8**	**+0.4**	
	baz=270							
LATG				*e*S	**Sn**	**10 24 00.3**	**-0.6**	
	baz=270							
ETLH	**Xiulin Townshi**	**1.30**	**260**	*e*P	**Pn**	**10 23 44.3**	**+0.3**	
	baz=256							
ETLH				*e*S	**Sn**	**10 24 01.1**	**-0.9**	
	baz=256							
NWLT	**Wulai**	**1.30**	**286**	*e*P	**Pn**	**10 23 44.6**	**+0.6**	
	baz=291							
NWLT				*e*S	**Sn**	**10 24 02.0**	**0.0**	
	baz=291							
JISG	**Ishigakijimahi**	**1.31**	**83**	P	**Pn**	**10 23 44.0**	**0.0**	
JISG				*e*S	**Sn**	**10 24 01.0**	**-1.1**	
YHNB	**Yeheng**	**1.39**	**280**	*e*P	**Pn**	**10 23 45.6**	**+0.5**	
	baz=280							
YHNB				*e*S	**Sn**	**10 24 03.8**	**-0.2**	
	baz=280							
NSK	**Sanguang**	**1.41**	**280**	P	**Pn**	**10 23 45.8**	**+0.4**	
	baz=280							
NSK				S	**Sn**	**10 24 04.0**	**-0.4**	
	baz=280							
ESL	**Shilin**	**1.46**	**245**	*e*P	**Pn**	**10 23 46.0**	**+0.1**	
	baz=249							
ESL				*e*S	**Sn**	**10 24 04.5**	**-0.9**	
	baz=249							
WHF	**Hehuan Shan**	**1.50**	**259**	P	**Pn**	**10 23 47.0**	**+0.2**	
	baz=264							
WHF				S	**Sn**	**10 24 06.3**	**-0.7**	
	baz=264							
FUSS	**Fushou**	**1.51**	**263**	*e*P	**Pn**	**10 23 47.1**	**+0.4**	
	baz=266							
FUSS				*e*S	**Sn**	**10 24 06.1**	**-0.7**	
	baz=266							
EGFH	**Guangfu**	**1.53**	**240**	P	**Pn**	**10 23 46.9**	**+0.1**	
	baz=235							
EGFH				S	**Sn**	**10 24 06.1**	**-0.9**	
	baz=235							
TWT	**Tachien**	**1.57**	**264**	*e*P	**Pn**	**10 23 47.6**	**+0.2**	
	baz=265							
TWT				*e*S	**Sn**	**10 24 07.7**	**-0.4**	
	baz=265							
TDCB	**Techi**	**1.58**	**264**	*e*P	**Pn**	**10 23 48.2**	**+0.7**	
	baz=265							
TDCB				*e*S	**Sn**	**10 24 07.8**	**-0.5**	
	baz=265							
CHGB	**Renai**	**1.60**	**257**	*e*P	**Pn**	**10 23 48.2**	**+0.3**	
	baz=250							
CHGB				*e*S	**Sn**	**10 24 08.4**	**-0.4**	
	baz=250							
NFF	**Wufeng Townshi**	**1.62**	**277**	*e*P	**Pn**	**10 23 48.1**	**+0.2**	
	baz=283							
NFF				*e*S	**Sn**	**10 24 08.4**	**-0.6**	
	baz=283							
OWD	**Renai**	**1.63**	**253**	*e*P	**Pn**	**10 23 48.1**	**0.0**	
	baz=252							
OWD				*e*S	**Sn**	**10 24 08.8**	**-0.6**	
	baz=252							
HGSD	**Ruisui**	**1.63**	**235**	P	**Pn**	**10 23 48.0**	**0.0**	
	baz=232							
HGSD				*e*S	**Sn**	**10 24 08.9**	**-0.2**	
	baz=232							
JTJ	**Tarama**	**1.67**	**83**	P	**Pn**	**10 23 48.9**	**+0.4**	
JTJ				S	**Sn**	**10 24 09.5**	**-0.5**	
WUSB	**Renai**	**1.67**	**255**	P	**Pn**	**10 23 49.3**	**+0.7**	
	baz=250							
WUSB				S	**Sn**	**10 24 09.8**	**-0.4**	
	baz=250							
LIOB	**Emei**	**1.71**	**277**	*e*P	**Pn**	**10 23 49.4**	**+0.3**	
	baz=277							
LIOB				*e*S	**Sn**	**10 24 10.3**	**-0.8**	
	baz=277							
NSTT	**Nanjuang**	**1.72**	**277**	*e*P	**Pn**	**10 23 49.8**	**+0.6**	
	baz=277							
NSTT				*e*S	**Sn**	**10 24 10.8**	**-0.4**	
	baz=277							
VWDT	**VWDT**	**1.73**	**247**	*e*P	**Pn**	**10 23 50.0**	**+0.8**	
	baz=241							
VWDT				*e*S	**Sn**	**10 24 11.6**	**+0.2**	
	baz=241							
WHP	**Taichung City**	**1.77**	**265**	*e*P	**Pn**	**10 23 50.6**	**+0.7**	
	baz=266							
WHP				*e*S	**Sn**	**10 24 12.0**	**-0.5**	
	baz=266							
YULB	**Yu-li**	**1.78**	**235**	*e*P	**Pn**	**10 23 49.9**	**0.0**	
	baz=241							
YULB				S	**Sn**	**10 24 11.2**	**-1.4**	
	baz=241							
EYUL	**Yuli**	**1.79**	**233**	*e*P	**Pn**	**10 23 50.8**	**+0.7**	
	baz=229							
EYUL				*e*S	**Sn**	**10 24 13.3**	**+0.4**	
	baz=229							
WCS	**Beigang Elemen**	**1.84**	**259**	*e*P	**Pn**	**10 23 50.9**	**+0.3**	
	baz=256							
WCS				*e*S	**Sn**	**10 24 13.4**	**-0.4**	
	baz=256							
SSLB	**Suanglung**	**1.88**	**250**	P	**Pn**	**10 23 51.8**	**+0.7**	
	baz=249							
SSLB				*e*S	**Sn**	**10 24 14.4**	**-0.4**	
	baz=249							
SMLT	**Sun Moon Lake**	**1.89**	**254**	*e*P	**Pn**	**10 23 52.3**	**+0.9**	
	baz=250							
SMLT				*e*S	**Sn**	**10 24 15.0**	**-0.2**	
	baz=250							
FULB	**Fuli**	**1.91**	**230**	P	**Pn**	**10 23 51.6**	**0.0**	
	baz=223							
FULB				S	**Sn**	**10 24 15.2**	**-0.2**	
	baz=223							
TYC	**Yuchr**	**1.92**	**254**	*e*P	**Pn**	**10 23 52.8**	**+1.1**	
	baz=249							
TYC				*e*S	**Sn**	**10 24 15.6**	**-0.2**	
	baz=249							
EHD	**Haiduan**	**2.00**	**231**	P	**Pn**	**10 23 52.8**	**+0.1**	
	baz=238							
EHD				S	**Sn**	**10 24 16.9**	**-0.7**	
	baz=238							
EDH	**Donghe**	**2.05**	**225**	*e*P	**Pn**	**10 23 53.3**	**-0.1**	
	baz=223							
EDH				*e*S	**Sn**	**10 24 17.5**	**-1.3**	
	baz=223							
WJS	**Zhushan**	**2.06**	**253**	*e*P	**Pn**	**10 23 55.4**	**+1.9**	
	baz=252							
WJS				*e*S	**Sn**	**10 24 20.9**	**+2.0**	
	baz=252							
ELDTW	**Lidau**	**2.11**	**234**	*e*P	**Pn**	**10 23 55.1**	**+0.8**	
	baz=233							
ELDTW				*e*S	**Sn**	**10 24 20.4**	**0.0**	
	baz=233							
ALS	**Alishan**	**2.11**	**245**	*e*P	**Pn**	**10 23 56.0**	**+1.5**	
	baz=238							
ALS				*e*S	**Sn**	**10 24 19.9**	**-0.7**	
	baz=238							
CHN5	**Tsauling**	**2.18**	**248**	*e*P	**Pn**	**10 23 56.0**	**+0.9**	
	baz=241							
CHN5				*e*S	**Sn**	**10 24 21.3**	**-0.6**	
	baz=241							
LONT	**Longtian**	**2.21**	**227**	*e*P	**Pn**	**10 23 56.6**	**+1.1**	
	baz=233							
LONT				*e*S	**Sn**	**10 24 22.5**	**0.0**	
	baz=233							
STYH	**Taoyuan**	**2.30**	**237**	*e*P	**Pn**	**10 23 57.6**	**+0.9**	
	baz=233							
STYH				*e*S	**Sn**	**10 24 24.5**	**-0.1**	
	baz=233							
TWGBT	**Beinan**	**2.31**	**226**	*e*P	**Pn**	**10 23 56.5**	**-0.2**	
	baz=232							
TWGBT				*e*S	**Sn**	**10 24 23.3**	**-1.5**	
	baz=232							
WCKO	**Fanlu**	**2.31**	**245**	*e*P	**Pn**	**10 23 57.7**	**+1.0**	
	baz=237							
WCKO				*e*S	**Sn**	**10 24 24.3**	**-0.4**	
	baz=237							
TWG	**Pinlang**	**2.31**	**226**	*e*P	**Pn**	**10 23 57.1**	**+0.3**	
	baz=232							
TWG				*e*S	**Sn**	**10 24 23.1**	**-1.7**	
	baz=232							
TPUB	**Ta-pu**	**2.35**	**242**	*e*P	**Pn**	**10 23 58.4**	**+1.0**	
	baz=235							
TPUB				*e*S	**Sn**	**10 24 25.5**	**-0.3**	
	baz=235							
WTP	**Ta-pu**	**2.39**	**241**	*e*P	**Pn**	**10 23 58.6**	**+0.7**	
	baz=239							
WTP				*e*S	**Sn**	**10 24 25.3**	**-1.4**	
	baz=239							
TWK	**Hsinying**	**2.48**	**243**	*e*P	**Pn**	**10 23 60.0**	**+0.9**	
	baz=241							
TWK				*e*S	**Sn**	**10 24 28.1**	**-0.8**	
	baz=241							
CHN1	**Nanshi**	**2.49**	**241**	*e*P	**Pn**	**10 24 00.3**	**+1.2**	
	baz=239							
CHN1				*e*S	**Sn**	**10 24 28.6**	**-0.4**	
	baz=239							
MASBT	**Mashibuluo**	**2.75**	**229**	*e*P	**Pn**	**10 24 03.4**	**+0.8**	
	baz=226							
MASBT				*e*S	**Sn**	**10 24 34.5**	**-0.7**	
	baz=226							
SLIU	**Shizi**	**2.92**	**221**	*e*P	**Pn**	**10 24 05.9**	**+1.0**	
	baz=212							
SLIU				*e*S	**Sn**	**10 24 39.4**	**+0.1**	
	baz=212							
SMST	**Manzhou Townsh**	**3.05**	**218**	*e*P	**Pn**	**10 24 07.6**	**+1.0**	
	baz=217							
PHUB	**P'eng-hu**	**3.16**	**254**	*e*S	**Sn**	**10 24 41.8**	**-3.2**	
	baz=262							

NOU ***13*** *10:29:20.1, 42°.62S×173°.84E, h0km, MLv3.6/8, South Island, New Zealand*
WEL ***13*** *10:29:23.7±0.7, 42°.5±3°×17°.4E±°, h5km±4km, M3.3/9, ML3.5/9, MLv3.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4, confirmed*
ISC 13 10:29:19.9±1.4, **42°.57S**±0°.03×**173°.83E**±0°.04, **h2**km±11km, **n68**, σ1§**19**/83, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**305**	P	**Pg**	**10 29 25.4**	**+0.6**
KHZ	**Kahutara**	**0.26**	**305**	P	**Pg**	**10 29 25.5**	**+0.6**
KHZ				S	**Sg**	**10 29 27.4**	**-0.8**
GVZ	**Greta Valley S**	**0.71**	**235**	P	**Pn**	**10 29 37.5**	**+0.7**
GVZ				S	**Sn**	**10 29 48.3**	**0.0**
CMWZ	**Cape Campbell**	**0.87**	**20**	P	**Pn**	**10 29 40.4**	**+1.4**
THZ	**Tophouse**	**1.05**	**319**	P	**Pb**	**10 29 40.4**	**-0.5**
THZ				S	**Sg**	**10 29 52.8**	**-1.0**
AMCZ	**Amberley**	**1.06**	**234**	P	**Pn**	**10 29 42.6**	**+1.0**
AMCZ				S	**Sn**	**10 29 57.4**	**+0.5**
TUWZ	**Tuamarina**	**1.14**	**4**	P	**Pn**	**10 29 43.1**	**+0.3**
TUWZ				S	**Sb**	**10 29 57.3**	**-0.1**
LTZ	**Lake Taylor**	**1.17**	**259**	P	**Pb**	**10 29 43.1**	**+0.4**
LTZ				S	**Sb**	**10 29 58.2**	**-0.2**
OKCZ	**Okains Bay**	**1.29**	**206**	P	**Pn**	**10 29 46.3**	**+1.4**
NNZ	**Nelson**	**1.39**	**346**	P	**Pg**	**10 29 46.3**	**-0.1**
NNZ				S	**Sn**	**10 30 04.5**	**-0.5**
TCW	**Tory Channel**	**1.40**	**14**	P	**Pn**	**10 29 46.6**	**+0.3**
TCW				S	**Sg**	**10 30 04.1**	**-0.6**
MRNZ	**Matariki Terra**	**1.41**	**325**	P	**Pg**	**10 29 46.7**	**-0.2**
MRNZ				S	**Sb**	**10 30 04.4**	**-0.9**
SNZO	**South Karori**	**1.42**	**28**	P	**Pn**	**10 29 47.4**	**+0.9**
MQZ	**McQueen's Vall**	**1.43**	**217**	P	**Pn**	**10 29 46.9**	**+0.2**
MQZ				S	**Sg**	**10 30 05.3**	**-0.4**
PLWZ	**Palliser**	**1.46**	**47**	P	**Pn**	**10 29 47.9**	**+0.7**
PLWZ				S	**Sb**	**10 30 05.4**	**-1.3**
WEL	**Wellington**	**1.46**	**29**	P	**Pn**	**10 29 48.1**	**+0.9**
AKCZ	**Akaroa Harbour**	**1.47**	**207**	P	**Pn**	**10 29 48.3**	**+1.0**
AKCZ				S	**Sb**	**10 30 07.2**	**+0.2**
OXZ	**Oxford**	**1.52**	**239**	P	**Pn**	**10 29 47.8**	**-0.2**
OXZ				S	**Sb**	**10 30 06.1**	**-2.2**
TKNZ	**Takaka Hill**	**1.66**	**337**	P	**Pb**	**10 29 50.8**	**-0.4**
TKNZ				S	**Sn**	**10 30 10.4**	**-1.5**
PAWZ	**Paruwai Farm**	**1.68**	**46**	P	**Pn**	**10 29 50.8**	**+0.5**
RACZ	**Rakaia**	**1.69**	**226**	P	**Pn**	**10 29 50.9**	**+0.5**
DSZ	**Denniston Nort**	**1.71**	**298**	P	**Pn**	**10 29 51.1**	**+0.4**
DSZ				S	**Sn**	**10 30 12.2**	**-1.0**
CAW	**Cannon Point**	**1.73**	**33**	P	**Pn**	**10 29 51.6**	**+0.7**
DUWZ	**D'Urville Isla**	**1.76**	**2**	P	**Pn**	**10 29 52.4**	**+1.0**
INZ	**Inchbonnie**	**1.77**	**264**	P	**Pn**	**10 29 51.9**	**+0.5**
TRWZ	**Traveller**	**1.81**	**51**	P	**Pn**	**10 29 52.5**	**+0.5**
MTW	**Mount Morrison**	**1.88**	**42**	P	**Pn**	**10 29 53.2**	**+0.2**
KIW	**Kapiti Island**	**1.89**	**26**	P	**Pn**	**10 29 53.9**	**+0.8**
MHCZ	**Mount Hutt**	**1.92**	**239**	P	**Pn**	**10 29 53.3**	**-0.2**
QRZ	**Quartz Range**	**1.99**	**330**	P	**Pn**	**10 29 55.7**	**+1.2**
QRZ	**Quartz Range**	**1.99**	**330**	P	**Pn**	**10 29 55.5**	**+1.1**
WACZ	**Wakanui South**	**2.00**	**226**	P	**Pn**	**10 29 55.2**	**+0.6**
OGWZ	**Otaki Gorge**	**2.02**	**30**	P	**Pn**	**10 29 55.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**2.09**	**38**	P	**Pn**	**10 29 56.3**	**+0.4**
TMWZ	**Te Maipa**	**2.12**	**47**	P	**Pn**	**10 29 56.4**	**+0.1**
MRZ	**Mangatainoka R**	**2.31**	**35**	P	**Pn**	**10 29 59.1**	**+0.2**
WVZ	**Waitaha Valley**	**2.33**	**256**	P	**Pn**	**10 29 59.9**	**+0.8**
RPZ	**Rata Peaks**	**2.33**	**240**	P	**Pn**	**10 29 59.1**	**-0.1**
RPZ	**Rata Peaks**	**2.33**	**240**	P	**Pn**	**10 29 59.2**	**-0.1**
ARCZ	**Arundel**	**2.38**	**234**	P	**Pn**	**10 29 59.9**	**+0.1**
PRWZ	**Pori Road**	**2.58**	**39**	P	**Pb**	**10 30 07.1**	**+0.4**
BFZ	**Birch Farm**	**2.61**	**45**	P	**Pn**	**10 30 03.0**	**-0.1**
BFZ	**Birch Farm**	**2.61**	**45**	P	**Pn**	**10 30 02.9**	**-0.1**
TMZ	**Timaru**	**2.74**	**228**	P	**Pn**	**10 30 05.3**	**+0.5**
TSZ	**Takapari Road**	**2.98**	**33**	P	**Pn**	**10 30 08.0**	**0.0**
KHEZ	**Kahui Hut**	**3.27**	**3**	P	**Pn**	**10 30 15.5**	**+3.3**
NEZ	**North Egmont**	**3.30**	**4**	P	**Pn**	**10 30 15.8**	**+3.3**
ODZ	**Otahua Downs**	**3.38**	**222**	P	**Pn**	**10 30 13.9**	**+0.3**
ODZ	**Otahua Downs**	**3.38**	**222**	P	**Pn**	**10 30 14.0**	**+0.4**
WNVZ	**Wahianoa**	**3.50**	**23**	P	**Pn**	**10 30 17.3**	**+1.9**
VRZ	**Vera Road**	**3.51**	**12**	P	**Pn**	**10 30 17.5**	**+2.1**
TRVZ	**Turoa**	**3.52**	**22**	P	**Pn**	**10 30 18.0**	**+2.3**
NGZ	**Ngauruhoe**	**3.64**	**22**	P	**Pn**	**10 30 19.9**	**+2.6**
NNVZ	**North Ngauruho**	**3.69**	**22**	P	**Pn**	**10 30 19.5**	**+1.5**
ETVZ	**East Tongariro**	**3.71**	**23**	P	**Pn**	**10 30 20.0**	**+1.7**
TMVZ	**Te Maari**	**3.73**	**23**	P	**Pn**	**10 30 20.0**	**+1.5**
NTVZ	**North Tongarir**	**3.74**	**23**	P	**Pn**	**10 30 20.1**	**+1.5**
BKZ	**Black Stump Fm**	**3.95**	**32**	P	**Pn**	**10 30 21.7**	**+0.2**
BKZ	**Black Stump Fm**	**3.95**	**32**	P	**Pn**	**10 30 22.7**	**+1.2**
JCZ	**Jackson Bay**	**3.98**	**246**	P	**Pn**	**10 30 24.8**	**+3.0**
HIZ	**Hauiti**	**4.12**	**11**	P	**Pn**	**10 30 25.7**	**+1.9**
HIZ	**Hauiti**	**4.12**	**11**	P	**Pn**	**10 30 25.7**	**+1.9**
TLZ	**Tolley Road**	**4.43**	**18**	P	**Pn**	**10 30 29.6**	**+1.5**
TUZ	**Tuapeka**	**4.53**	**220**	P	**Pn**	**10 30 30.1**	**+0.7**
AWAZ	**Awhitu Peninsu**	**5.53**	**7**	P	**Pn**	**10 30 44.7**	**+1.5**
MKAZ	**Moumakai**	**5.55**	**11**	P	**Pn**	**10 30 44.1**	**+0.7**
ETAZ	**East Tamaki Re**	**5.67**	**9**	P	**Pn**	**10 30 46.6**	**+1.6**
WIAZ	**Waiheke Island**	**5.85**	**10**	P	**Pn**	**10 30 49.2**	**+1.7**

IDC ***13*** *10:47:15.4±1.3, 9°.97N×126°.09E, h0km, mb3.6/5, mbtmp3.6/5, MS2.2/1, Error ellipse: s-maj=55.8km s-min=23.5km az=64.0*
MAN ***13*** *10:47:20.8, 9°.99N×126°.30E, h16km, mb4.4, ML3.3, MS3.0*
ISC 13 10:47:19.5±1.4, **10°.07N**±0°.04×**126°.36E**±0°.06, **h25**km±10km, **n35**, σ2§**07**/46, **mb3.6**/5, **10C-13D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.36**	**219**	*e*P	**Pb**	**10 47 28.0**	**+0.5**
GLSP				*e*S	**Sb**	**10 47 33.1**	**+0.2**
SCPH	**Surigao**	**0.90**	**252**	*i*P	**Pb**	**10 47 35.8**	**-0.7**
SCPH				*i* S	**Sb**	**10 47 47.5**	**-0.6**
MSLP	**Maasin**	**1.47**	**273**	*e*P	**Pn**	**10 47 44.4**	**-0.1**
MSLP				*e*S	**Sn**	**10 48 02.1**	**-0.8**
TASP	**Talacogon, Agu**	**1.69**	**199**	*e*P	**Pb**	**10 47 50.1**	**+0.1**
TASP				*e*S	**Sb**	**10 48 11.3**	**+0.4**
BIPH	**Bislig**	**1.87**	**180**	*e*P	**Pn**	**10 47 50.9**	**+1.0**
BIPH				*i* S	**Sb**	**10 48 14.9**	**-1.1**
OCLP	**Ormoc**	**1.98**	**300**	*e*P	**Pb**	**10 47 53.5**	**-1.3**
OCLP				*e*S	**Sb**	**10 48 18.9**	**-0.2**
TABP	**Talibon, Bohol**	**1.99**	**271**	*e*P	**Pn**	**10 47 52.7**	**+1.1**
TABP				*e*S	**Sn**	**10 48 16.9**	**+1.2**
GHBP	**Garcia Hernand**	**2.05**	**258**	*e*P	**Pn**	**10 47 54.2**	**+1.8**
GHBP				*e*S	**Sn**	**10 48 15.3**	**-1.9**
CDOP	**Cateel, Davao**	**2.27**	**178**	*e*P	**Pb**	**10 47 58.2**	**-1.6**
CDOP				*e*S	**Sn**	**10 48 23.6**	**+1.0**
CGP	**Cagayan de Oro**	**2.29**	**226**	*i*P	**Pn**	**10 47 56.5**	**+0.8**
CGP				*i* S	**Sn**	**10 48 24.5**	**+1.4**
LLP	**Lapu-Lapu**	**2.37**	**276**	*e*P	**Pn**	**10 47 58.9**	**+2.2**
LLP				*e*S	**Sb**	**10 48 28.5**	**-1.7**
TBP	**Tagbilaran**	**2.48**	**262**	*e*P	**Pn**	**10 48 00.6**	**+2.2**
TBP				*i* S	**Sn**	**10 48 29.8**	**+1.9**
BUKP	**Musuan**	**2.52**	**211**	*e*P	**Pb**	**10 48 02.1**	**-2.1**
BUKP				*e*S	**Sb**	**10 48 33.3**	**-1.5**
LSIP	**Lazi, Siquijor**	**2.84**	**251**	*e*P	Pn	10 47 57.8	-5.5
CNP	**Catarman**	**2.94**	**326**	*e*P	**Pn**	**10 48 06.3**	**+1.7**
CNP				*e*S	**Sn**	**10 48 41.0**	**+1.8**
DAV	**Davao City (W)**	**3.07**	**195**	LR	LR	10 48 41.7	
	comp=Z,41nm,21.5s,baz=20,slow=29						
KCP	**Kidapawan**	**3.29**	**202**	*e*P	**Pn**	**10 48 12.9**	**+3.5**
KCP				*i* S	**Sn**	**10 48 50.4**	**+2.6**
DCPH	**Dipolog City**	**3.31**	**244**	*e*P	**Pn**	**10 48 11.4**	**+1.7**
CTBH	**Cotabato--PC H**	**3.51**	**217**	*e*P	**Pn**	**10 48 15.3**	**+2.8**
CTBH				*i* S	**Sn**	**10 48 49.6**	**-3.6**
CNOP	**Candoni, Negro**	**3.67**	**267**	*e*P	**Pn**	**10 48 17.1**	**+2.4**
CNOP				*e*S	**Sn**	**10 48 59.8**	**+2.7**
PAGZ	**Pagadian**	**3.67**	**233**	*e*P	**Pn**	**10 48 17.0**	**+2.3**
PAGZ				*e*S	**Sn**	**10 49 00.2**	**+3.0**
PAGZ	**Pagadian**	**3.67**	**233**	*e*P	**Pn**	**10 48 17.6**	**+2.9**
RCP	**Roxas**	**3.84**	**293**	*e*P	**Pn**	**10 48 20.2**	**+3.1**
DDMP	**Don Marcelino,**	**3.99**	**189**	*e*P	**Pn**	**10 48 23.2**	**+4.1**
DDMP				*e*S	**Sb**	**10 49 12.8**	**-4.1**
CMAR	**Chiang Mai Arr**	**27.81**	**291**	P	**P**	**10 53 05.2**	**-1.8**
	0.5nm,0.4s,baz=102,slow=8.4,SNR=1.5 0.5nm,0.4s						
WRA	**Warramunga Arr**	**30.84**	**165**	P	**P**	**10 53 33.2**	**-0.5**
	0.4nm,0.9s,baz=342,slow=8.8,SNR=2.0 0.4nm,0.9s						
ASAR	**Alice Springs**	**34.33**	**168**	P	**P**	**10 54 03.6**	**-0.7**
	0.2nm,0.5s,baz=351,slow=7.2,SNR=17 0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**39.90**	**73**	T	T	11 37 48.5	
	baz=261,slow=73,SNR=19						
H11S1	**WAKE ISLAND Hy**	**39.91**	**73**	T	T	11 37 49.3	
	baz=261,slow=73,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**39.92**	**73**	T	T	11 37 47.4	
	baz=261,slow=73,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**40.24**	**71**	T	T	11 38 13.8	
	baz=265,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**40.25**	**71**	T	T	11 38 17.2	
	baz=265,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.26**	**71**	T	T	11 38 15.5	
	baz=265,slow=74,SNR=17						
MKAR	**Makanchi Array**	**52.24**	**323**	P	**P**	**10 56 27.4**	**-1.2**
	0.4nm,0.4s,baz=126,slow=7.3,SNR=5.1 0.4nm,0.4s						
YKA	**Yellowknife Ar**	**93.91**	**24**	P	**P**	**11 00 35.7**	**+1.0**
	0.4nm,0.7s,baz=298,slow=4.7,SNR=7.1 0.4nm,0.7s						

IDC 13 10:52:39.4±1.3, **51°.72N×75°.49E, h0km, mbtmp2.6**/2, **ML2.4**/2, **Error ellipse: s-maj=31.2km s-min=9.0km az=31.0, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.21**	**119**	Pg	Pb	**10 53 19.3**	**-0.8**
	0.3nm,0.3s,baz=300,slow=18,SNR=4.4						
KURBB				Lg	Lg	10 53 48.8	
	0.3nm,0.3s,baz=305,slow=36,SNR=7.1						
BVAR	**Borovoye Array**	**3.39**	**295**	Pg	Pb	**10 53 39.1**	**-1.3**
	baz=107,slow=17,SNR=3.6						
BVAR				Lg	Lg	10 54 26.4	
	0.1nm,0.3s,baz=119,slow=27,SNR=5.3						
ZALV	**Zalesovo Beam**	**6.08**	**65**	Pn	Pn	**10 54 10.5**	**+0.1**
	0.5nm,0.3s,baz=249,slow=18,SNR=3.1 0.7nm,0.3s						
I46RU	**ZALESSOVO INFRA**	**6.08**	**65**	I	I	11 31 50.0	
	baz=249,slow=320,SNR=2.2						
MKAR	**Makanchi Array**	**6.64**	**135**	Pn	Pn	**10 54 18.3**	**+0.1**
	0.1nm,0.3s,baz=332,slow=12,SNR=1.7						
MKAR				Sn	Sn	**10 55 33.0**	**-1.5**
	0.1nm,0.3s,baz=315,slow=25,SNR=2.0						
MKAR				Lg	Lg	10 56 07.5	
	0.1nm,0.3s,baz=319,slow=26,SNR=6.2 0.1nm,0.4s						

UPP ***13*** *10:54:41.7±0.1, 67°.64N×21°.02E, h10km±10km, ML2.6, Suspected explosion*
HEL ***13*** *10:54:42.1±0.4, 67°.64N×20°.99E, h0km, ML1.4, Explosion*
ISC 13 10:54:40.9±0.9, **67°.62N**±0°.02×**20°.95E**±0°.03, **h0**km, **n24**, σ0§**96**/37, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.44**	**112**	P	**Pg**	**10 54 49.5**	**+0.3**
MASU				S	**Sg**	**10 54 55.1**	**+0.2**
DUNU	**Dundret**	**0.52**	**196**	P	**Pb**	**10 54 50.0**	**-0.9**
DUNU				S	**Sb**	**10 54 59.5**	**-1.5**
RATU	**Laukkuluspa**	**0.56**	**292**	P	**Pb**	**10 54 52.5**	**-1.0**
LANU	**Lannavaara**	**0.58**	**42**	P	**Pg**	**10 54 52.0**	**-0.1**
LANU	**Lannavaara**	**0.58**	**42**	PG	**Pg**	**10 54 51.8**	**-0.3**
NIKU	**Nikkaluokta**	**0.77**	**290**	P	**Pb**	**10 54 56.1**	**-1.0**
SALU	**Saltoluokta**	**0.97**	**257**	P	**Pb**	**10 55 00.1**	**-0.5**
PAJU	**Pajala**	**1.03**	**124**	P	**Pg**	**10 55 00.4**	**-0.3**
PAJU	**Pajala**	**1.03**	**124**	PG	**Pg**	**

*NEIC **13** 11:11:53.7±2.3,39.16N±0.08×109.8E±0.1,h10km±2km, mb4.2/16,Error ellipse: s-maj=15.3km s-min=12.8km az=263.0*

ISC 13 11:11:52.9±0.5,38.98N±0.04×109.73E±0.04,h10km,n46, σ1§91/50,mb4.0/10,1C-1D,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**1.64**	**8**	*e*P	**Pn**	**11 12 20.3**	**-1.6**
HNS	**HongShan**	**4.22**	**110**	↑P	Pn	11 12 49.5	-7.8
HNS				Pg	Pb	11 13 00.3	-7.0
HNS				Sg	**Sn**	**11 13 47.6**	**+0.9**
HNS				smax	smax		
	comp=N,230nm,1.0s						
HNS				smax	smax		
	comp=E,190nm,1.0s						
XAN	**Xi'an**	**4.98**	**188**	↓*i*Pn	**Pn**	**11 13 07.9**	**+0.2**
XAN				P*	**Pb**	**11 13 17.0**	**-3.2**
XAN				Pg	**Pg**	**11 13 27.1**	**-1.1**
XAN				Sn	**Sn**	**11 14 06.1**	**+0.7**
XAN				S*	**Sb**	**11 14 19.3**	**-0.8**
XAN				Sg	**Sg**	**11 14 30.5**	**-2.2**
XAN				smax	smax		
	comp=N,100nm,1.0s						
XAN				smax	smax		
	comp=E,78nm,1.5s						
BJT	**Baijiatuau**	**5.08**	**76**	Pn	**Pn**	**11 13 09.3**	**+0.2**
LZH	**Lanzhou**	**5.50**	**240**	*e*Pn	**Pn**	**11 13 13.6**	**-1.5**
LZH				Pg	**Pg**	**11 13 36.3**	**-2.0**
LZH				Sg	**Sg**	**11 14 51.5**	**+2.0**
LZH				smax	smax		
	comp=N,100nm,1.3s						
LZH				smax	smax		
	comp=E,120nm,1.4s						
TIA	**Tai'an**	**6.49**	**113**	Pn	**Pn**	**11 13 29.5**	**+1.1**
TIA				Pg	**Pb**	**11 13 48.1**	**+2.2**
TIA				Sg	Sb	11 14 55.0	-8.4
TIA				smax	smax		
	comp=N,31nm,1.0s						
TIA				smax	smax		
	comp=E,25nm,1.0s						
GTA	**Gaotai**	**7.72**	**276**	Pn	Pn	11 13 50.8	+5.4
GTA				Pg	**Pg**	**11 14 20.1**	**-0.5**
GTA				Sn	Sn	11 15 24.0	+11
GTA				Sg	**Sg**	**11 16 05.6**	**+5.1**
GTA				smax	smax		
	comp=N,20nm,1.0s						
GTA				smax	smax		
	comp=E,20nm,0.8s						
ENH	**Enshi**	**8.69**	**181**	Pn	**Pn**	**11 13 59.9**	**+1.1**
ULN	**Ulaanbaatar**	**9.09**	**349**	Pn	**Pn**	**11 14 01.1**	**-3.2**
SONM	**Songino Array**	**9.18**	**346**	Pn	**Pn**	**11 14 03.1**	**-2.3**
	comp=E,0.1nm,0.3s,baz=158,slow=14,SNR=22						
SONM				Sn	Sn	11 15 39.4	-9.3
	comp=E,0.1nm,0.3s,baz=152,slow=25,SNR=1.3						
SONM				Lg	Lg	11 16 37.8	
	comp=E,0.3nm,0.3s,baz=159,slow=26,SNR=5.8						
	comp=E,4.5nm,0.8s						
SONM	**Songino Array**	**9.18**	**346**	Pn	**Pn**	**11 14 02.5**	**-2.9**
GOMU	**GeErMu**	**12.16**	**261**	P	Pn	11 14 51.8	+5.3
GOMU				pP		11 14 54.8	
GOMU				sP		11 14 56.6	
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KS19	**Wonju Array Si**	**14.33**	**90**	Pn	**Pn**	**11 15 16.0**	**+0.1**
KSAR	**Wonju Array Be**	**14.36**	**90**	Pn	**Pn**	**11 15 15.9**	**-0.3**
MDJ	**Mudanjiang**	**15.83**	**63**	Pn	**Pn**	**11 15 34.8**	**-1.0**
MDJ				IAmb	IAmb	11 15 49.2	
	comp=Z,17nm,1.3s						
TNCH	**TengChong**	**16.83**	**218**	*e*P	**P**	**11 15 57.6**	**+6.6**
TNCH				sP	sP	11 16 02.9	+7.2
TNCH				S	**S**	**11 19 08.6**	**+1.8**
TNCH				sS	sS	11 19 11.9	+0.1
TNCH				pmax	pmax		
	comp=Z,29nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,130nm,3.4s						
TNCH				LR	LR		
	comp=Z,85nm,7.0s						
WMQ	**Urumqi**	**17.21**	**293**	*e*P	**Pn**	**11 15 52.8**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**17.43**	**65**	Pn	**Pn**	**11 15 54.4**	**-1.6**
USA0B				IAmb	IAmb	11 16 22.6	
	comp=Z,11nm,0.8s						
USRK	**Ussuriysk Ar.**	**17.43**	**65**		**Pn**	**11 15 56.5**	**+0.4**
LSA	**Lhasa**	**17.90**	**244**	P	**P**	**11 16 06.7**	**+3.6**
YULB	**Yu-li**	**18.39**	**144**	P	**P**	**11 16 07.9**	**-0.2**
YULB				IAmb	IAmb	11 16 27.9	
	comp=Z,45nm,1.4s						
TWG	**Pinlang**	**18.79**	**146**	P	**Pn**	**11 16 15.5**	**+2.6**
JOW	**Kunigami**	**19.68**	**122**	P	**Pn**	**11 16 23.8**	**+0.2**
SHL	**Shillong**	**20.12**	**234**	P	Pn	11 16 28.7	-0.3
SHL				IAmb	IAmb	11 16 30.9	
	comp=Z,24nm,1.5s						
CRAI	**Chiangrai**	**20.36**	**206**	P	**P**	**11 16 30.1**	**+0.5**
MK31	**Makanchi Array**	**21.49**	**300**	P	**P**	**11 16 42.1**	**+0.4**
MKAR	**Makanchi Array**	**21.49**	**300**	P	**P**	**11 16 42.6**	**+0.9**
	comp=Z,5.3nm,0.9s,baz=100,slow=12,SNR=40						
	comp=Z,5.3nm,0.9s						
MKAR	**Makanchi Array**	**21.49**	**300**	P	**P**	**11 16 42.4**	**+0.7**
MAKZ	**Makanchi**	**21.71**	**300**	P	**P**	**11 16 44.3**	**+0.3**
MAKZ				IAmb	IAmb	11 16 47.2	
	comp=Z,13nm,1.1s						
CM31	**Chiang Mai Arr**	**22.50**	**208**	P	**P**	**11 16 52.8**	**+0.2**
CM31				IAmb	IAmb	11 16 55.0	
	comp=Z,9.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.50**	**208**	P	**P**	**11 16 52.4**	**-0.3**
	comp=Z,5.7nm,0.8s,baz=13,slow=9.2,SNR=33						
	comp=Z,5.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.50**	**208**	P	**P**	**11 16 53.8**	**+1.1**
MJB9	**Matsu-Tunnel**	**22.60**	**87**	P	**P**	**11 16 53.8**	**+0.1**
ZAA0	**Zalesovo Array**	**22.60**	**320**	P	**P**	**11 16 53.4**	**-0.2**
ZALV	**Zalesovo Beam**	**22.60**	**320**	P	**P**	**11 16 53.4**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=114,slow=7.2,SNR=4.6						
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**22.60**	**320**	P	**P**	**11 16 53.8**	**+0.2**
MAJO	**Matsushiro**	**22.61**	**87**	P	**P**	**11 16 52.7**	**-1.1**
KURK	**Kurchatov**	**24.79**	**308**	P	**P**	**11 17 15.2**	**+0.3**
KURK				IAmb	IAmb	11 17 18.4	
	comp=Z,8.6nm,1.3s						
KURBB	**Kurchatov Arra**	**24.82**	**308**	P	**P**	**11 17 15.1**	**0.0**
	comp=Z,1.7nm,0.9s,baz=108,slow=9.9,SNR=9.3						
	comp=Z,1.7nm,0.9s						
KKAR	**Karatay Array**	**29.68**	**291**	P	**P**	**11 17 59.9**	**+1.1**
ABKAR	**Akbulak array**	**36.58**	**303**	P	**P**	**11 18 59.4**	**+0.5**
GNI	**Garni**	**49.09**	**293**	LR	LR	11 46 03.9	
	comp=Z,30nm,18.9s,baz=318,slow=41						
BMAR	**Burnt Mountain**	**60.22**	**25**	P	**P**	**11 21 58.4**	**-2.4**
WRA	**Warramunga Arr**	**62.98**	**154**	P	P	11 22 14.4	-5.5
	comp=Z,1.1nm,1.0s,baz=348,slow=7.1,SNR=5.0						
	comp=Z,1.1nm,1.0s						
ASAR	**Alice Springs**	**66.30**	**156**	P	P	11 22 35.9	-5.6
	comp=Z,0.9nm,0.9s,baz=356,slow=5.9,SNR=5.2						
	comp=Z,0.9nm,0.9s						
YKA	**Yellowknife Ar**	**72.78**	**20**	P	P	11 23 14.4	-6.6
	comp=Z,0.3nm,0.8s,baz=329,slow=5.9,SNR=4.6						
	comp=Z,0.3nm,0.8s						

*NOU **13** 11:16:17.0,25.07S×179.48W,h574km,mb4.4/18,South of Fiji Islands*

*IDC **13** 11:16:19.3±1.4,25.40S×179.63E,h509km±13km, mb3.6/12,mbtmp4.4/15,Error ellipse: s-maj=13.8km s-min=13.6km az=64.0*

*NEIC **13** 11:16:19.7±1.5,25.5S±0.1×179.8E±0.1,h514km±9km, mb4.5/22,Error ellipse: s-maj=17.8km s-min=17.3km az=113.0*

ISC 13 11:16:18.3±0.5,25.45S±0.07×179.71E±0.08,h500km,n75, σ1§32/75,mb4.4/31,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.34**	**151**	P	**P**	**11 17 41.0**	**+1.6**
RAO	**Raoul Island**	**4.34**	**151**	P	**P**	**11 17 42.5**	**+3.1**
MSVF	**Nonsavu**	**7.83**	**348**	P	**P**	**11 18 12.9**	**-0.3**
	6.6nm,0.7s,baz=147,slow=11,SNR=5.3						
MSVF	**Nonsavu**	**7.83**	**348**	P	**P**	**11 18 14.9**	**+1.7**
MARNC	**Mare, Loyalty**	**11.42**	**288**	P	**P**	**11 18 52.1**	**+1.3**
NIUE	**Niue**	**11.50**	**59**	P	**P**	**11 18 51.2**	**-0.5**
PINNC	**Pines Island,**	**11.56**	**282**	P	**P**	**11 18 54.1**	**+1.9**
KUZ	**Kuaotunu**	**11.77**	**196**	P	P	11 19 00.5	+6.3
	35nm,1.5s						
MXZ	**Matakaoa Point**	**12.14**	**185**	P	**P**	**11 19 01.4**	**+3.3**
	61nm,1.4s						
DZM	**Mont Dzumac**	**12.60**	**283**	P	**P**	**11 19 05.0**	**+1.6**
	7.2nm,0.8s,baz=107,slow=15,SNR=7.5						
DZM	**Mont Dzumac**	**12.60**	**283**	P	**P**	**11 19 05.5**	**+2.0**
DZM	**Mont Dzumac**	**12.60**	**283**	P	**P**	11 19 09.3	+5.9
URZ	**Urewera**	**12.96**	**189**	P	**P**	**11 19 05.7**	**-1.1**
	5.5nm,0.4s,baz=41,slow=2.7,SNR=12						
URZ				S	**S**	**11 21 20.8**	**-5.1**
	15nm,1.0s,baz=155,slow=10.0,SNR=2.3						
AFI	**Afiamalu**	**13.99**	**36**	P	**P**	**11 19 17.5**	**-0.7**
KOUNC	**Koumac, New Ca**	**15.01**	**286**	P	**P**	**11 19 29.9**	**+1.2**
QRZ	**Quartz Range**	**16.46**	**200**	P	**P**	**11 19 43.7**	**+0.1**
	58nm,1.3s						
LHI	**Lord Howe Isla**	**19.12**	**247**	P	P	**11 20 11.0**	**+2.1**
	145nm,1.1s						
RPZ	**Rata Peaks**	**19.55**	**199**	P	P	**11 20 13.3**	**+0.7**
	2.9nm,0.4s,baz=43,slow=7.3,SNR=6.4						
RPZ	**Rata Peaks**	**19.55**	**199**	P	P	**11 20 14.5**	**+1.9**
	46nm,2.1s						
ARMA	**Armidale**	**25.26**	**252**	P	**P**	**11 21 06.3**	**+2.0**
ARMA				IAmb	IAmb	11 21 06.9	
	comp=Z,14nm,0.8s						
ARMA	**Armidale**	**25.26**	**252**	P	**P**	**11 21 05.5**	**+1.2**
	comp=Z,22nm,1.0s						
EIDS	**Eidsvold**	**25.84**	**264**	P	**P**	**11 21 10.2**	**+0.9**
EIDS	**Eidsvold**	**25.84**	**264**	P	**P**	**11 21 09.6**	**+0.3**
	comp=Z,24nm,0.7s						
RMQ	**Roma**	**27.81**	**261**	P	P	**11 21 28.0**	**+1.3**
	comp=Z,44nm,0.7s						
CNB	**Canberra Magne**	**27.87**	**242**	P	P	**11 21 29.2**	**+2.0**
	comp=Z,15nm,1.6s						
CAN	**Canberra**	**28.16**	**242**	P	**P**	**11 21 31.0**	**+1.3**
CMSA	**Cobar Meteorol**	**30.43**	**251**	P	**P**	**11 21 49.6**	**+0.2**
	comp=Z,13nm,0.7s						
TV1H	**Townsville Har**	**31.00**	**275**	P	P	**11 21 54.6**	**+0.1**
	comp=Z,17nm,0.9s						
CTA	**Charters Tower**	**31.25**	**273**	P	**P**	**11 21 57.2**	**+0.6**
	comp=Z,26nm,0.6s,baz=102,slow=9.9,SNR=23						
	comp=Z,26nm,0.6s						
CTA	**Charters Tower**	**31.25**	**273**	P	P	**11 21 56.9**	**+0.3**
	comp=Z,48nm,0.7s						
CTAO	**Charters Tower**	**31.25**	**273**	P	**P**	**11 21 57.5**	**+0.8**
TOO	**Toolangi**	**31.41**	**239**	P	**P**	**11 21 59.1**	**+1.3**
TOO				IAmb	IAmb	11 22 41.7	
	comp=Z,17nm,1.1s						
TOO	**Toolangi**	**31.41**	**239**	P	**P**	**11 21 59.2**	**+1.4**
	comp=Z,20nm,1.6s						
MTSU	**Mount Surprise**	**33.58**	**275**	P	**P**	**11 22 16.9**	**+0.4**
	comp=Z,33nm,0.8s						
KRVT	**Keravat (AS076**	**33.87**	**304**	P	**P**	**11 22 18.6**	**-0.4**
	comp=Z,11nm,0.4s,baz=353,slow=3.6,SNR=4.9						
	comp=Z,11nm,0.4s						
STKA	**Stephens Creek**	**33.92**	**250**	P	**P**	**11 22 19.4**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=96,slow=11,SNR=8.7						
	comp=Z,2.2nm,0.4s						
STKA	**Stephens Creek**	**33.92**	**250**	P	**P**	**11 22 19.7**	**+0.5**
PMG	**Port Moresby**	**34.78**	**291**	P	**P**	**11 22 26.6**	**+0.1**
PMG				IAmb	IAmb	11 22 27.3	
	comp=Z,18nm,0.8s						
INKA	**Innaminka**	**34.82**	**257**	P	P	**11 22 28.0**	**+1.2**
	comp=Z,40nm,1.8s						
COEN	**Coen**	**36.13**	**281**	P	**P**	**11 22 38.8**	**+1.0**
COEN				IAmb	IAmb	11 22 39.3	
	comp=Z,14nm,0.7s						
BBOO	**Buckleboo**	**38.62**	**249**	P	P	**11 22 57.6**	**-0.4**
MANU	**Manus Island**	**38.88**	**302**	P	**P**	**11 23 00.3**	**-0.1**
MANU				IAmb	IAmb	11 23 01.6	
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**41.54**	**262**	P	**P**	**11 23 21.6**	**-0.1**
AS31				IAmb	IAmb	11 23 23.3	
	comp=Z,4.8nm,0.3s						
ASAR	**Alice Springs**	**41.54**	**262**	P	**P**	**11 23 21.5**	**-0.3**
	comp=Z,7.0nm,0.6s,baz=88,slow=7.6,SNR=111						
ASAR				ScP	**ScP**	**11 28 10.8**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=110,slow=4.1,SNR=2.6						
ASAR				S	**S**	**11 29 00.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=93,slow=17,SNR=4.3						
	comp=Z,7.0nm,0.6s						
ASAR	**Alice Springs**	**41.54**	**262**	P	**P**	**11 23 21.3**	**-0.5**
WR0	**Warramunga Arr**	**41.87**	**268**	P	**P**	**11 23 23.9**	**-0.5**
WR0				IAmb	IAmb	11 23 25.0	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**42.05**	**268**	P	**P**	**11 23 25.2**	**-0.6**
WB2				IAmb	IAmb	11 23 26.1	
	comp=Z,27nm,1.3s						
WB0	**Warramunga Arr**	**42.06**	**268**	P	**P**	**11 23 25.2**	**-0.6**
WB0				IAmb	IAmb	11 23 26.1	
	comp=Z,21nm,1.1s						
WRA	**Warramunga Arr**	**42.06**	**268**	P	**P**	**11 23 25.1**	**-0.8**
	comp=Z,7.5nm,0.6s,baz=104,slow=8.0,SNR=58						
WRA				S	**S**	**11 29 07.0**	**-1.7**
	comp=Z,0.8nm,1.0s,baz=101,slow=15,SNR=6.1						
	comp=Z,7.5nm,0.6s						
WRA	**Warramunga Arr**	**42.06**	**268**	P	**P**	**11 23 25.0**	**-0.8**
GENI	**Genyem**	**44.30**	**294**	P	**P**	**11 23 41.0**	**-2.4**
KNRA	**Kununurra**	**48.44**	**271**	P	**P**	**11 24 15.1**	**+0.2**
KNRA				IAmb	IAmb	11 24 16.5	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.46**	**267**	P	**P**	**11 24 30.3**	**+0.5**
VNDA	**Vanda**	**52.82**	**185**	P	**P**	**11 24 46.8**	**+0.9**
	comp=Z,3.2nm,1.0s,baz=153,slow=18,SNR=2.5						
	comp=Z,3.2nm,1.0s						
VNDA	**Vanda**	**52.82**	**185**	P	**P**	**11 24 45.9**	**-0.1**
MORW	**Morawa**	**56.11**	**251**	P	**P**	**11 25 08.0**	**-1.9**
MORW				IAmb	IAmb	11 25 39.0	
	comp=Z,19nm,1.1s						
QSPA	**South Pole Qui**	**64.64**	**180**	P	**P**	**11 26 06.5**	**+0.6**
	comp=Z,4.9nm,0.6s,baz=344,slow=0.5,SNR=41						
	comp=Z,4.9nm,0.6s						
QSPA	**South Pole Qui**	**64.64**	**180**	P	**P**	**11 26 07.2**	**+1.2**
MJAR	**Matsushiro Arr**	**73.02**	**326**	P	**P**	**11 26 56.6**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=171,slow=5.9,SNR=6.1						
	comp=Z,4.4nm,0.9s						
BELA	**Belgrano 2**	**74.94**	**173**	P	**P**	**11 27 07.1**	**-0.1**
BELA				IAmb	IAmb	11 27 37.5	
	comp=Z,15nm,1.4s						
KSRS	**Korea Array**	**79.26**	**320**	P	**P**	**11 27 32.0**	**+0.8**
	comp=Z,0.0nm,0.8s,baz=246,slow=32,SNR=4.7						
	comp=Z,2.0nm,0.8s						
PETK	**Petropavlovsk-**	**80.54**	**347**	P	**P**	**11 27 37.7**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=132,slow=6.0,SNR=1.1						
	comp=Z,1.4nm,0.7s						
NVAR	**Mina Array Bea**	**86.05**	**44**	P	**P**	**11 28 05.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=220,slow=6.7,SNR=4.4						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.81**	**290**	P	**P**	**11 28 23.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=139,slow=3.4,SNR=5.1						
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**133.34**	**348**	PKP	**PKiKP**	**11 34 36.6**	**-1.1**
	comp=Z,4.5nm,1.0s,baz=29,slow=2.1,SNR=2.4						
ARCES				SKPbc	**SKPbc**	**11 37 15.6**	**-2.0**
	comp=Z,2.7nm,1.0s,baz=35,slow=3.3,SNR=6.1						
FINES	**FINESS Array B**	**139.82**	**341**	SKPbc	**SKPbc**	**11 37 37.2**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=57,slow=5.1,SNR=1.5						
KBZ	**Khabaz**	**140.55**	**309**	PKP	**PKPdf**	**11 34 50.1**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=262,slow=1.3,SNR=3.7						
MARD	**Mardin**	**143.26**	**299**	PKPdf	**PKPdf**	**11 34 54.4**	**-1.2**
NB201	**NORSAR Array S**	**143.54**	**351**	PKPbc	PKPab	11 34 53.0	-0.6
NB2	**NORSAR Subarra**	**143.56**	**351**	PKP	PKPbc	11 34 53.3	-0.5
	comp=Z,0.8nm,0.6s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143.56**	**351**	PKP	PKPab	11 34 52.8	-0.8
	comp=Z,0.7nm,0.8s,baz=12,slow=3.7,SNR=4.9						
NAO01	**NORSAR Array S**	**143.79**	**351**	PKPbc	**PKPdf**	**11 34 54.6**	**-1.0**
NC602	**NORSAR Array S**	**143.80**	**350**	PKPbc	PKPbc	11 34 54.1	-0.4
AKASG	**Malin Array Ba**	**146.11**	**326**	PKPbc	**PKPbc**	**11 35 01.2**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=35,slow=4.1,SNR=7.4						
BRTR	**Keskin Array B**	**148.27**	**305**	PKPbc	**PKPbc**	**11 35 07.5**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=82,slow=4.0,SNR=2.3						
BRTR				PKPab	**PKPab**	**11 35 12.6**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=85,slow=4.0,SNR=6.2						

ATH 13 12:11:50.7,38.12N×20.45E,h19km±2km,ML1.4/1,Error ellipse: s-maj=3.3km s-min=1.6km az=202.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSDA	**Pessada-Kefalo**	**0.10**	**90**	P	Pg	12 11 54.6	+0.1
PSDA				S	Sg	12 11 57.2	+0.1
KEF3	**Kipouria, Keph**	**0.12**	**317**	P	Pg	12 11 54.8	0.0
KEF3				S	Sg	12 11 57.6	+0.2
VLS	**Valsamata**	**0.12**	**60**	P	Pg	12 11 54.7	-0.1
VLS				S	Sg	12 11 57.3	-0.3
VLS				AML	AML	12 11 57.6	
	comp=E,568μm,0.1s						
VLS				AML	AML	12 11 57.8	
	comp=N,241μm,0.1s						
KEF4	**Livadi, Kephal**	**0.14**	**351**	P	Pg	12 11 55.1	0.0
KEF4				S	Sg	12 11 58.2	+0.2
FSK	**Fiskardo**	**0.35**	**14**	P	Pg	12 11 57.9	-0.4
FSK				S	Sg	12 12 03.3	-0.1
EVGI	**Lefkada island**	**0.53**	**17**	P	Pb	12 12 00.9	-0.5
EVGI				S	Sb	12 12 08.9	+0.2

*IDC **13** 12:12:03.5±0.7,37.08N×22.19E,h0km,mb4.0/17, mbtmp4.0/25,ML3.6/8,MS3.3/3,Error ellipse: s-maj=16.4km s-min=11.2km az=30.0*

*ISK **13** 12:12:04.8,37.19N×22.21E,h5km,ML3.8/28*

*BEO **13** 12:12:05.7±0.7,36.89N×22.02E,h8km±9km,ML4.1/4*

*DDA **13** 12:12:05.0±0.0,37.14N×22.40E,h8km±10km,MW4.0*

*THE **13** 12:12:05.7,37.10N×22.21E,h2km±1km,ML3.9/11,Error ellipse: s-maj=1.6km s-min=0.7km az=248.0*

*NEIC **13** 12:12:05.6±1.9,37.15N±0.07×22.19E±0.03,h10km±1km, mb4.5/21,Error ellipse: s-maj=12.8km s-min=4.6km az=188.0*

*ATH **13** 12:12:05.8,37.11N×22.17E,h6km,Mw3.8,Moment Tensor Solution. s6 Moment tensor: Mrr=4.16; Mθθ=0.40; Mφφ=3.77; Mrθ=1.43; Mrφ=0.64; Mθφ=-4.24; Fault plane solution: NP1:φs=203.00000°,δ=24.00000°,λ=-59.00000°. NP2: φs=350.00000°,δ=69.00000°,λ=-103.00000°.*

ISC 13 12:12:05.4±0.8,37.09N±0.02×22.18E±0.02,h11km±5km, n235,σ1§58/265,mb4.3/25,6C-3D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLMT	**Kalamata**	**0.10**	**254**	P	**Pg**	**12 12 08.2**	**+0.1**
KLMT				S	**Sg**	**12 12 10.4**	**+0.3**
ITM	**Ithomi**	**0.22**	**294**		**Pg**	**12 12 10.2**	**0.0**
ITM				Sg	**Sg**	**12 12 13.5**	**+0.2**
ITM	**Ithomi**	**0.22**	**294**	P	**Pg**	**12 12 10.1**	**0.0**
ITM				S	**Sg**	**12 12 13.5**	**+0.2**
	99μm,0.1s						
ITM	**Ithomi**	**0.22**	**294**	Pg	**Pg**	**12 12 10.1**	**0.0**
ITM				Sg	**Sg**	**12 12 13.5**	**+0.2**
ITM	**Ithomi**	**0.22**	**294**	P	**Pg**	**12 12 10.1**	**0.0**
ITM				S	**Sg**	**12 12 13.5**	**+0.2**
ITM				AML	AML	12 12 13.7	
ITM				AML	AML	12 12 13.8	
PYL	**PYLOS**	**0.40**	**241**	P	**Pg**	**12 12 13.2**	**-0.1**
PYL				S	**Sg**	**12 12 19.6**	**+1.0**
	19μm,0.4s						
PYL	**PYLOS**	**0.40**	**241**	P	**Pg**	**12 12 13.3**	**-0.1**
PYL				S	**Sg**	**12 12 19.4**	**+0.8**
PYL				AML	AML	12 12 20.7	
	comp=E,39909μm,0.4s						
PYL				AML	AML	12 12 23.2	
	comp=N,36014μm,0.4s						
VLI	**Velíai**	**0.71**	**121**	P	**Pg**	**12 12 19.4**	**+0.2**
VLI				S	**Sg**	**12 12 29.0**	**+0.5**
	comp=N,5μm,0.4s						
VLI	**Velíai**	**0.71**	**121**	P	**Pg**	**12 12 19.4**	**+0.2**
VLI				AML	AML	12 12 33.9	
	comp=N,8956μm,0.4s						
VLI				AML	AML	12 12 34.5	
	comp=E,12438μm,0.4s						
MNVA	**Monemvasia**	**0.80**	**120**	P	**Pb**	**12 12 21.8**	**+0.6**
KRND	**KRANIDI**	**0.83**	**69**	P	**Pb**	**12 12 21.6**	**-0.2**
KRND	**KRANIDI**	**0.83**	**69**	P	**Pg**	**12 12 21.4**	**0.0**
KRND				AML	AML	12 12 38.2	
	comp=E,13164μm,0.3s						
KRND				AML	AML	12 12 38.5	
	comp=N,11787μm,0.7s						
EPID	**Epidavros**	**0.92**	**55**	P	**Pg**	**12 12 22.9**	**-0.1**
EPID	**Epidavros**	**0.92**	**55**	P	**Pg**	**12 12 22.9**	**-0.1**
DRO	**Drossia**	**0.94**	**337**	P	**Pg**	**12 12 23.1**	**-0.4**
DRO				S	**Sn**	**12 12 37.7**	**-0.2**
	comp=N,12μm,0.3s						
DRO	**Drossia**	**0.94**	**337**	P	**Pg**	**12 12 23.4**	**-0.1**
DRO				AML	AML	12 12 42.9	
	comp=N,21035μm,0.2s						
DRO				AML	AML	12 12 44.0	
	comp=E,27628μm,0.3s						
KLV	**Kalavryta, Ach**	**0.95**	**359**	P	**Pg**	**12 12 22.8**	**-1.0**
KLV				S	**Sb**	**12 12 36.3**	**-0.3**
	comp=E,2μm,0.6s						
KLV	**Kalavryta, Ach**	**0.95**	**359**	P	**Pg**	**12 12 22.8**	**-1.0**
KLV				S	**Sb**	**12 12 36.5**	**-0.1**
KLV				AML	AML	12 12 40.3	
	comp=E,5381μm,0.6s						
KLV				AML	AML	12 12 46.7	
	comp=N,4532μm,0.5s						
THAL	**Thalero**	**1.02**	**22**	P	**Pg**	**12 12 24.2**	**-0.9**
THAL	**Thalero**	**1.02**	**22**	P	**Pg**	**12 12 24.2**	**-0.9**
THAL				AML	AML	12 12 44.6	
	comp=N,20900μm,0.4s						
THAL				AML	AML	12 12 55.3	
	comp=E,33320μm,0.5s						
LOUT	**Loutraki**	**1.10**	**35**	P	**Pb**	**12 12 25.7**	**-0.7**
LOUT	**Loutraki**	**1.10**	**35**	P	**Pb**	**12 12 25.7**	**-0.7**
LOUT				AML	AML	12 12 46.5	
	comp=E,2738μm,1.1s						
LOUT				AML	AML	12 12 47.2	
	comp=N,1658μm,0.8s						
RLS

KEF4	Livadi, Kephal	1.82	311	P		Pb	12 12 38.2	-0.4	
KEF3	Kipouria, Keph	1.83	308	P		Pb	12 12 38.3	-0.5	
FSK	Fiskardo	1.87	317	P		Pb	12 12 39.8	+0.3	
MAKR	Makrakomi, Fth	1.92	359	P		Pb	12 12 40.2	-0.2	
EREA	Eretria	1.92	46	P		Pn	12 12 38.9	+0.9	
EREA	Eretria	1.92	46	P		Pn	12 12 38.9	+0.9	
AGG	Agios Georgios	1.93	4	Pn		Pb	12 12 40.4	-0.3	
AGG	Agios Georgios	1.93	4	Pn		Pb	12 12 40.0	-0.6	
AGG	Agios Georgios	1.93	4	P		Pb	12 12 40.3	-0.3	
AGG				S		Sg	12 13 08.0	+0.4	
AGG	Agios Georgios	1.93	4	P		Pb	12 12 40.4	-0.3	
IMMV	Iera Moni Meta	2.18	138	Pn		Pb	12 12 43.9	-0.9	
KNDR	Palaiochora Ch	2.22	146	Pn		Pb	12 12 44.1	-1.3	
KNDR	Palaiochora Ch	2.22	146	P		Pb	12 12 46.0	+0.6	
XOR	Xorichti	2.41	19	P		Pn	12 12 46.0	+1.3	
TYRN	Tyrnavos	2.62	1	P		Pn	12 12 49.3	+1.7	
APE	Apeiranthos	2.68	89	⇑P		Pn	12 12 49.2	+0.8	
APE	Apeiranthos	2.68	89	Pn		Pn	12 12 49.2	+0.8	
APE	Apeiranthos	2.68	89	P		Pn	12 12 49.1	+0.7	
GVDS	Gavdos	2.73	145	Pn		Pb	12 12 51.7	-2.4	
GVD	Gavdhos	2.73	145	Pn		Pn	12 12 51.7	+2.6	
IDI	Anoyia	2.84	129	Pn		Pn	12 12 51.9	+1.3	
	comp=E,9.3nm,0.3s,baz=318,slow=16,SNR=40								
IDI				Lg		Lg	12 13 33.0		
	comp=E,27nm,0.3s,baz=88,slow=20,SNR=3.9								
IDI				LR		LR	12 14 22.7		
	comp=E,141nm,19.2s,baz=1.5,slow=49								
	comp=E,16nm,0.3s								
HRKL	Herakleio	2.96	126	Pn		Pn	12 12 54.7	+2.5	
LIT	Litokhoron	3.02	5	Pn		Pn	12 12 54.3	+1.2	
LIT	Litokhoron	3.02	5	P		Pn	12 12 54.8	+1.7	
KEK	Kerkira	3.22	325	Pn		Pn	12 12 54.8	-1.0	
CHOS	Chios island	3.33	66	Pn		Pn	12 12 58.2	+0.7	
OUR	Ouranopolis	3.53	23	Pn		Pn	12 13 00.7	+0.6	
HORT	Hortiatis	3.58	11	Pn		Pn	12 13 01.8	+1.0	
SIGR	SIGRI	3.59	53	Pn		Pn	12 13 01.7	+0.8	
ZEYE	Izmir, Urla-Ze	3.62	70	P		Pn	12 13 02.5	+1.3	
URLA	Izmir	3.73	69	Pn		Pn	12 13 03.2	+0.4	
URLA	Izmir	3.73	69	P		Pn	12 13 03.8	+1.0	
FNA	Florina	3.74	351	Pn		Pn	12 13 03.9	+0.8	
FNA	Florina	3.74	351	P		Pn	12 13 06.3	+3.3	
FNA	Florina	3.74	351	ePn		Pn	12 13 06.9	+3.8	
DGB	zmir	3.86	74	P		Pn	12 13 05.3	+0.8	
KOSK	Kos Island	3.86	94	Pn		Pn	12 13 07.5	+2.9	
GRG	Griva	3.87	3	Pn		Pn	12 13 05.6	+0.8	
KOCA	Canakkale, Ayv	3.94	51	P		Pn	12 13 05.4	-0.3	
VLO	Vlora	3.97	329	Pn		Pn	12 13 04.5	-1.6	
DDIM	Aydin, Didim	4.05	83	P		Pb	12 13 13.0	-3.7	
BOZC	Bozcaada	4.10	47	Pn		Pn	12 13 08.5	+0.6	
BOZC	Bozcaada	4.10	47	P		Pn	12 13 07.9	0.0	
BODT	Bodrum	4.10	89	Pn		Pn	12 13 09.8	+1.8	
BODT	Bodrum	4.10	89	P		Pn	12 13 09.4	+1.4	
OHR	Ohrid	4.16	345	ePn		Pn	12 13 12.3	+3.5	
OHR	Ohrid	4.16	345	ePn		Pn	12 13 13.5	+4.7	
OHR				eSn		Sb	12 14 05.5	-3.2	
SCTE	Santa Cesarea	4.16	317	Pn		Pn	12 13 08.6	-0.2	
SRS	Serrai	4.17	15	ePn		Pn	12 13 11.4	+2.5	
BDRM	Kayabasi	4.21	89	P		Pn	12 13 12.7	+3.2	
VAY	Valandovo	4.24	4	ePn		Pn	12 13 13.1	+3.3	
VAY				eSn		Sn	12 14 04.4	+5.2	
VAY	Valandovo	4.24	4	ePn		Pn	12 13 13.0	+3.3	
VAY				eSn		Sn	12 14 01.9	+2.7	
EZN	Ezine	4.25	49	Pn		Pn	12 13 11.2	+1.2	
GADA	Gvkgeada	4.25	42	Pn		Pn	12 13 11.4	+1.4	
ZEDA	zmir-Bergama	4.30	63	P		Pn	12 13 11.9	+1.2	
KARP	Karpathos	4.31	109	Pn		Pn	12 13 13.5	+2.7	
BAYC	CANAKKALE_Bayr	4.33	51	P		Pn	12 13 11.4	+0.2	
DAT	Datca	4.34	93	Pn		Pn	12 13 12.6	+1.2	
BUHA	Balikesir, Bur	4.54	57	P		Pn	12 13 14.6	+0.5	
AYDN	Tasoluk	4.58	81	P		Pn	12 13 16.7	+2.1	
TIR	Tirane	4.62	338	Pn		Pn	12 13 14.3	-0.8	
TIR	Tirane	4.62	338	ePn		Pn	12 13 15.7	+0.7	
MMB	Musomiste	4.65	14	eP		Pn	12 13 18.1	+2.6	
GELI	Tayfur-Gelibol	4.71	44	Pn		Pn	12 13 17.5	+1.2	
TIP	Timpagrande	4.75	298	Pn		Pn	12 13 17.0	0.0	
RDO	Rodhopi	4.82	32	Pn		Pn	12 13 16.9	-1.0	
KKB	Krupnik	4.82	8	eP		Pn	12 13 20.5	+2.6	
ALN	Alexandroupoli	4.85	37	Pn		Pn	12 13 21.3	+3.1	
LPK	Lapseki	4.86	46	Pn		Pn	12 13 19.7	+1.4	
ARG	Arkhangelos	4.86	99			Pn	12 13 19.8	+1.4	
YER	Yerkesik	4.88	88	Pn		Pn	12 13 20.6	+1.9	
SKO	Skopje	4.91	354	ePn		Pn	12 13 23.2	+4.1	
RZN	Rozhen	5.00	22	eP		Pn	12 13 22.6	+2.2	
CEL	Celeste	5.12	285	Pn		Pn	12 13 22.0	0.0	
BALB	Balikesir	5.15	59	Pn		Pn	12 13 21.8	-0.6	
DALY	Dalyan (Mula)	5.19	91	Pn		Pn	12 13 25.7	+2.8	
KDZ	Kurdzhali	5.20	28	Pn		Pn	12 13 23.4	+0.3	
KDZ	Kurdzhali	5.20	28	eP		Pn	12 13 23.8	+0.7	
MANT	Manisa	5.24	73	Pn		Pn	12 13 23.0	-0.9	
PLD	Plovdiv	5.38	20	ePn		Pn	12 13 29.4	+4.0	
PRVS	Prvonek	5.41	359	ePn		Pn	12 13 28.9	+2.9	
MATE	Matera	5.56	311	Pn		Pn	12 13 29.9	+2.0	
VTS	Vitosha	5.58	8	⇓P		Pn	12 13 31.9	+3.5	
VTS	Vitosha	5.58	8	Pn		Pn	12 13 27.9	-0.6	
VTS	Vitosha	5.58	8	ePn		Pn	12 13 31.6	+3.2	
VTS	Vitosha	5.58	8	ePn		Pn	12 13 31.7	+3.3	
VTS				eSn		Sn	12 14 35.3	+2.7	
VTS				eSn		Sn	12 14 35.4	+2.8	
VTS	Vitosha	5.58	8	eP		Pn	12 13 31.9	+3.5	
BARS	Barje	5.73	357	ePn		Pn	12 13 33.5	+3.2	
CUC	Castrocucco	5.77	302	Pn		Pn	12 13 30.1	-0.8	
PDG	Podgorica	5.79	338	⇓P		Pn	12 13 35.6	+4.5	
PDG	Podgorica	5.79	338	ePn		Pn	12 13 34.5	+3.4	
PDG				eSn		Sn	12 14 40.6	+3.1	
AKAS	Kas	6.03	96	Pn		Pn	12 13 33.3	-1.3	
SELS	Selova	6.18	353	ePn		Pn	12 13 38.9	+2.4	
ZAPS	Zavoj	6.19	3	ePn		Pn	12 13 39.4	+2.8	
ELL	Elmali	6.20	91	Pn		Pn	12 13 38.3	+1.4	
VAE	Valguarnera	6.21	276	Pn		Pn	12 13 36.8	-0.2	
	comp=E,3.5nm,0.3s,baz=223,slow=16,SNR=2.2								
VAE				Sn		Sn	12 14 50.5	+2.6	
	comp=E,0.9nm,0.3s,baz=227,slow=12,SNR=1.1								
	comp=E,7.8nm,0.3s								
RAFF	Raffo Rosso	6.24	274			Pn	12 13 37.3	-0.1	
TREB	Trebinje	6.34	334	ePn		Pn	12 13 40.2	+1.4	
TREB				eSn		Sn	12 14 51.2	0.0	
MPEP	Malo Peshtene	6.37	10	eP		Pn	12 13 44.1	+5.0	
SJES	Sjenica	6.39	345	ePn		Pn	12 13 42.1	+2.6	
SJES				eSn		Sn	12 14 55.1	+2.6	
BOVS	Bovan	6.55	357	⇑P		Pn	12 13 43.1	+1.6	
BOVS	Bovan	6.55	357	ePn		Pn	12 13 43.3	+1.8	
IVAS	Ivanjica	6.66	347	ePn		Pn	12 13 45.6	+2.4	
ISP	Isparta	6.68	81	Pn		Pn	12 13 41.4	-2.1	
ZAGS	Zajecar	6.72	0	ePn		Pn	12 13 46.4	+2.6	
GRUS	Gruza	6.86	351	ePn		Pn	12 13 47.4	+1.3	
BORA	Eskisehir	7.06	64	Pn		Pn	12 13 46.5	-2.2	
BBLS	Lazići	7.09	344	ePn		Pn	12 13 51.9	+2.8	
BBLS				eSn		Sn	12 15 09.4	-0.3	
CLTB	Caltabellotta	7.16	277	Pn		Pn	12 13 51.0	+1.0	
DIVS	Divibare	7.20	347	Pn		Pn	12 13 50.1	-0.5	
DIVS	Divibare	7.20	347	ePn		Pn	12 13 51.8	+1.3	
DIVS				eSn		Sn	12 15 11.8	-0.5	
TRUS	Trudelj	7.25	350	ePn		Pn	12 13 52.7	+1.5	
MDVR	Moldovita	7.69	358	⇑P		Pg	12 14 39.6	+7.0	
FRGS	Fruska Gora	8.26	348	ePn		Pn	12 14 07.3	+2.3	
FRGS				eSn		Sn	12 15 38.7	+0.5	
GZR	Gura Zlata	8.31	3	⇑P		Pn	12 14 09.0	+3.2	
BZS	Buzias	8.53	357	⇓P		Pn	12 14 10.0	+1.2	
BZS	Buzias	8.53	357	ePn		Pn	12 14 09.8	+1.1	
MLR	Muntele Rosu	8.86	17	Pn		Pn	12 14 14.6	+1.2	
	comp=E,0.2nm,0.3s,baz=194,slow=1.9,SNR=1.7								
	comp=E,1.1nm,0.4s								
MLR	Muntele Rosu	8.86	17	⇑P		Pn	12 14 21.0	+7.7	
MLR	Muntele Rosu	8.86	17	Pn		Pn	12 14 12.0	-1.4	
CESX	Cesi	9.21	310	Pn		Pn	12 14 16.2	-1.9	
CSS	Mathiatis	9.28	100	Pn		Pn	12 14 17.4	-1.7	
BR131	Keskin Array S	9.37	70	Pn		Pn	12 14 20.1	-0.4	
BRTR	Keskin Array B	9.37	70	Pn		Pn	12 14 23.6	+3.1	
	comp=E,0.4nm,0.3s,baz=255,slow=11,SNR=12								
	comp=E,1.6nm,0.5s								
BRTR	Keskin Array B	9.37	70	Pn		Pn	12 14 18.6	-1.8	
VRI	Vrincioaia	9.41	20	⇑P		Pn	12 14 26.7	+5.9	
MORH	Mrgy, Hungar	9.49	345	ePn		Pn	12 14 24.4	+2.5	
KEST	Kesra	10.43	266	Pn		Pn	12 14 34.9	0.0	
	comp=E,0.2nm,0.3s,baz=280,slow=5.0,SNR=4.0								
	comp=E,5.4nm,0.7s								
KEST	Kesra	10.43	266	Pn		Pn	12 14 35.2	+0.3	
OBKA	Obir	10.99	331	*i* Pn		Pn	12 14 45.3	+2.7	
	comp=E,1.4nm,0.4s								
ARSA	Arzberg	11.29	336	*i* Pn		Pn	12 14 48.2	+1.7	
	comp=E,1.0nm,0.3s								
MYKA	Terra Mystica	11.46	329	*e*Pn		Pn	12 14 47.5	-1.3	
	comp=E,1.0nm,0.2s								
MMAI	Mount Meron Ar	11.57	107	Pn		Pn	12 14 48.6	-2.0	
	comp=E,1.3nm,0.3s,baz=292,slow=12,SNR=1.9								
GHAJ	Ghor Haditha	12.49	114	Pn		Pn	12 15 04.9	+1.9	
EIL	Elat	12.98	121	Pn		Pn	12 15 08.5	-1.2	
	comp=E,0.8nm,0.3s,baz=209,slow=5.3,SNR=7.2								
EIL				Sn		Sn	12 17 22.0	-12	
	comp=E,0.2nm,0.3s,baz=76,slow=21,SNR=1.6								
	comp=E,3.5nm,0.7s								
GERES	GERESS Array B	13.28	335	Pn		Pn	12 15 14.7	+1.0	
	comp=E,0.1nm,0.3s,baz=156,slow=14,SNR=1.6								
	comp=E,0.3nm,0.3s								
AKASG	Malin Array Be	14.51	18	Pn		Pn	12 15 29.9	-0.6	
	comp=E,0.5nm,0.3s,baz=211,slow=12,SNR=2.6								
CLL	Collm	15.64	338	*e*PP		P	12 15 53.0	+3.2	
KBZ	Khabaz	17.09	61	P		P	12 16 06.9	+1.1	
	comp=E,2.0nm,0.7s,baz=289,slow=16,SNR=1.7								
ESDC	Sonseca Array	20.63	285	P		P	12 16 44.6	-0.2	
	comp=E,2.5nm,0.9s,baz=76,slow=11,SNR=5.4								
	comp=E,2.5nm,0.9s								
HFS	Hagfors	23.70	349	P		P	12 17 16.4	-0.4	
	comp=E,2.9nm,0.4s,baz=154,slow=11,SNR=27								
	comp=E,2.9nm,0.4s								
RAYN	Ar Rayn	24.18	117	P		P	12 17 21.5	-0.3	
FINES	FINESS Array B	24.50	5	P		P	12 17 23.7	-0.6	
	comp=E,7.0nm,1.0s,baz=188,slow=8.2,SNR=11								
FINES				PcP		PcP	12 21 02.4	0.0	
	comp=E,2.0nm,0.3s,baz=166,slow=2.3,SNR=22								
	comp=E,7.0nm,1.0s								
FINES	FINESS Array B	24.50	5	P		P	12 17 24.3	-0.1	
FIA1	FINESS Array S	24.50	5	P		P	12 17 24.1	-0.2	
FIA1				IAmb		IAmb	12 17 26.7		
	comp=E,16nm,1.1s								
NC602	NORSAR Array S	24.61	347	P		P	12 17 24.8	-0.6	
NC602				IAmb		IAmb	12 17 40.2		
	comp=E,37nm,1.2s								
NAO01	NORSAR Array S	24.83	347	P		P	12 17 27.6	+0.3	
NC405	NORSAR Array S	24.94	348	P		P	12 17 28.0	-0.3	
NB201	NORSAR Array S	24.95	347	P		P	12 17 27.4	-1.1	
NB201				IAmb		IAmb	12 17 41.0		
	comp=E,38nm,1.2s								
NB2	NORSAR Subarra	24.95	347	P		P	12 17 28.7	+0.2	
	comp=E,0.9nm,0.5s,baz=156,slow=9.3								
NOA	NORSAR Array B	24.95	347	P		P	12 17 28.2	-0.4	
	comp=E,0.7nm,0.7s,baz=151,slow=8.6,SNR=7.5								
NOA				LR		LR	12 29 10.4		
	comp=E,66nm,18.7s,baz=340,slow=41								
	comp=E,0.7nm,0.7s								
NBO00	NORSAR Array S	25.02	347	P		P	12 17 27.1	-2.0	
EKA	Eskdalemuir Ar	25.07	325	P		P	12 17 30.1	+0.5	
	comp=E,2.8nm,0.6s,baz=126,slow=9.4,SNR=7.2								
	comp=E,2.8nm,0.6s								
NC303	NORSAR Array S	25.10	348	P		P	12 17 29.9	+0.1	
NC303				IAmb		IAmb	12 18 00.6		
	comp=E,33nm,1.4s								
GEYT	Alibeck	28.41	77	P		P	12 17 58.8	-1.1	
	comp=E,1.8nm,0.5s,baz=286,slow=10,SNR=2.7								
	comp=E,1.8nm,0.5s								
GEYT	Alibeck	28.41	77	P		P	12 17 59.0	-0.9	
GEYT				IAmb		IAmb	12 18 04.2		
	comp=E,9.2nm,1.4s								
GYA0B	ALIBECK ARRAY	28.41	77	P		P	12 17 59.2	-0.7	
GYA0B				IAmb		IAmb	12 18 04.7		
	comp=E,6.7nm,1.1s								
ABKAR	Akbulak array	29.79	54	P		P	12 18 11.6	-0.4	
TORD	Torodi Ar. Bea	30.07	223	P		P	12 18 14.2	-0.5	
	comp=E,5.4nm,0.4s,baz=28,slow=9.3,SNR=1.4								
	comp=E,5.4nm,0.4s								
ARCES	ARCESS Array B	32.55	2	P		P	12 18 36.0	-0.1	
	comp=E,1.5nm,0.6s,baz=187,slow=9.6,SNR=11								
ARCES				PcP		PcP	12 21 22.4	+0.1	
	comp=E,3.2nm,0.9s,baz=196,slow=2.6,SNR=8.6								
	comp=E,1.5nm,0.6s								
ARCES	ARCESS Array B	32.55	2	P		P	12 18 36.5	+0.4	
ARCES				IAmb		IAmb	12 19 01.9		
	comp=E,3.6nm,1.1s								
BRVK	Borovoye	36.77	49	P		P	12 19 11.0	-1.7	
JMIC	Jan Mayen	37.56	344	LR		LR	12 34 02.1		
	comp=E,176nm,20.1s,baz=50,slow=35								
SPB2	Spitsbergen Ar	41.27	358	P		P	12 19 48.9	-1.1	
KURK	Kurchatov	41.88	53	P		P	12 19 55.4	0.0	
MK31	Makanchi Array	44.76	58	P		P	12 20 19.1	+0.4	
MKAR	Makanchi Array	44.76	58	P		P	12 20 18.6	-0.1	
	comp=E,0.9nm,0.4s,baz=276,slow=7.2,SNR=14								
MKAR				PcP		PcP	12 22 00.9	+0.1	
	comp=E,0.5nm,0.6s,baz=276,slow=4.9,SNR=2.7								
ZAA0	Zalesovo Array	45.45	47	P		P	12 20 24.2	+0.2	
ZAA0				IAmb		IAmb	12 20 27.6		
	comp=E,2.4nm,0.7s								
ZALV	Zalesovo Beam	45.45	47	P		P	12 20 23.4	-0.6	
	comp=E,2.1nm,0.5s,baz=275,slow=8.9,SNR=8.7								
	comp=E,2.1nm,0.5s								
ZALV	Zalesovo Beam	45.45	47	P		P	12 20 23.7	-0.4	
SONM	Songino Array	60.13	51	P		P	12 22 12.7	-0.2	
	comp=E,3.3nm,0.4s,baz=287,slow=5.6,SNR=2.0								
	comp=E,2.3nm,0.4s								
SCHQ	Schefferville	60.15	318	P		P	12 22 13.0	+0.3	
	comp=E,2.8nm,0.9s,baz=155,slow=16,SNR=1.6								
	comp=E,2.8nm,0.9s								
CMAR	Chiang Mai Arr	68.73	83	P		P	12 23 08.8	-0.7	
	comp=E,0.5nm,0.3s,baz=298,slow=7.8,SNR=5.2								
	comp=E,0.5nm,0.3s								
A36M	Sachs Harbour	68.84	350	P		P	12 23 09.5	+0.3	
A36M				IAmb		IAmb	12 23 11.1		
	comp=E,5.2nm,1.1s								
CRAI	Chiangrai	68.90	80	P		P	12 23 10.8	+0.3	
CRAI				IAmb		IAmb	12 23 19.2		
	comp=E,2.1nm,0.8s								
YKA	Yellowknife Ar	74.86	341	P		P	12 23 45.9	+0.4	
	comp=E,0.4nm,0.5s,baz=31,slow=5.2,SNR=8.9								
	comp=E,0.4nm,0.5s								
USRK	Ussuriysk Ar.	77.16	44	P		P	12 23 58.9	0.0	
	comp=E,0.8nm,0.4s,baz=300,slow=2.9,SNR=1.5								
	comp=E,0.8nm,0.4s								
KSRS	Korea Array	78.99	51	P		P	12 24 09.3	+0.1	
	comp=E,0.9nm,0.4s,baz=308,slow=4.5,SNR=6.6								
	comp=E,0.9nm,0.4s								
MJAR	Matsushiro Arr	85.79	47	P		P	12 24 45.0	+0.1	
	comp=E,1.9nm,0.6s,baz=299,slow=4.3,SNR=2.6								
	comp=E,1.9nm,0.6s								
PDAR	Pinedale Array	89.18	327	P		P	12 25 01.0	-0.3	
	comp=E,2.0nm,0.6s,baz=1.8,slow=2.9,SNR=2.1								
	comp=E,2.0nm,0.6s								
WRA	Warramunga Arr	119.17	94	PKP		PKPdf	12 30 54.0	-0.8	
	comp=E,0.1nm,0.4s,baz=311,slow=2.3,SNR=2.0								
ASAR	Alice Springs	120.73	98	PKP		PKPdf	12 30 57.3	-0.4	
	comp=E,0.3nm,0.5s,baz=307,slow=1.7,SNR=9.3								

NOU 13 12:18:08.7, 22°.22S × 172°.17E, h57km, MLv4.1/6, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	3.92	280	P	Pn	12 19 06.4	+0.1
PINNC	Pines Island,	4.39	264	P	Pn	12 19 12.8	0.0
LIFNC	LIFOU	4.81	286	P	Pn	12 19 18.6	0.0
OUENC	Ouen Island, N	4.94	267	P	Pn	12 19 20.2	-0.2
ONTNC	Ouen Toro	5.29	268	P	Pn	12 19 25.7	+0.4
DZM	Mont Dzumac	5.31	271	P	Pn	12 19 25.3	-0.3

*IDC **13** 12:18:27.4±1.8, 61°.36N × 151°.01W, h81km±18km, mb3.5/2, mbtmp3.5/7, Error ellipse: s-maj=40.6km s-min=12.3km az=113.0*

*ANF **13** 12:18:29.3±0.1, 61°.48N × 151°.27W, h80km±2km, ML3.7/80, ML3.7/79, Error ellipse: s-maj=1.3km s-min=1.1km az=140.0*

*NEIC **13** 12:18:29.0±1.1, 61°.50N±0°.04 × 151°.31W±0°.06, h89km±7km, Error ellipse: s-maj=5.4km s-min=4.5km az=180.0*

*AEIC **13** 12:18:30.0±1.2, 61°.49N±0°.04 × 151°.32W±0°.08, h84km±5km, ML3.3, ML3.5/154(NEIC), Error ellipse: s-maj=6.4km s-min=4.9km az=51.0*

ISC 13 12:18:28.3±0.7, 61°.49N±0°.03 × 151°.30W±0°.03, h93km±6km, n277, ₙ₀0°90/311, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUA	Susitna One	0.27	95		Pn	12 18 42.4	+0.3
SUA	Susitna One	0.27	95		Sn	12 18 52.0	-0.4
SUA				IAML		12 18 53.0	
	comp=N,2µm,0.9s						
SUA				IAML		12 18 54.3	
	comp=E,3µm,0.5s						
SUA	Susitna One	0.27	95	P	Pn	12 18 42.5	+0.3
	baz=276,SNR=459						
SUA				S	Sn	12 18 52.0	-0.4
	baz=276						
SPU	Mount Spurr	0.47	230		Pn	12 18 43.0	-0.2
SKT	Skwentna	0.51	348		Pn	12 18 43.2	-0.2
SKT					Sn	12 18 53.7	-1.1
SKT	Skwentna	0.51	348	P	Pn	12 18 43.3	-0.2
	baz=168,SNR=75						
SKT				S	Sn	12 18 53.9	-0.9
	baz=168						
N20K	Mount Spurr	0.52	237	P	Pn	12 18 43.4	-0.3
	baz=55,SNR=148						
N20K				S	Sn	12 18 53.9	-1.1
	baz=55						
SPCR	Spurr Chakacha	0.52	237	P	Pn	12 18 43.3	-0.3
	baz=55,SNR=103						
SPCR				S	Sn	12 18 54.1	-1.0
	baz=55						
FIS	Fire Island	0.62	123		Pn	12 18 45.5	+1.1
M22K	Willow	0.62	64		Pn	12 18 44.9	+0.6
M22K	Willow	0.62	64	P	Pn	12 18 44.9	+0.6
	baz=246						
CAPN	Captain Cook N	0.72	174		Pn	12 18 47.2	+1.9
CAPN	Captain Cook N	0.72	174	P	Pn	12 18 47.2	+1.9
	baz=354,SNR=24						
RC01	Rabbit Creek A	0.85	117		Pn	12 18 47.2	+0.6
RC01				IAML		12 19 01.8	
	comp=E,1µm,0.3s						
RC01	Rabbit Creek A	0.85	117		Sn	12 19 00.9	+0.5
RC01	Rabbit Creek A	0.85	117	P	Pn	12 18 47.2	+0.6
	baz=299,SNR=60						
RC01				S	Sn	12 19 00.8	+0.5
	baz=299						
M20K	Styx River	0.96	295		Pn	12 18 48.1	+0.2
M20K	Styx River	0.96	295	P	Pn	12 18 48.1	+0.2
	baz=114						
M20K				S	Sn	12 19 01.5	-1.0
	baz=114						
CUT	Chulitna	1.04	27		Pn	12 18 49.4	+0.7
CUT	Chulitna	1.04	27	P	Pn	12 18 49.3	+0.7
	baz=209,SNR=45						
CUT				S	Sn	12 19 04.6	+0.6
	baz=209						
PMR	Palmer	1.04	83		Pn	12 18 48.8	+0.1
PMR				IAML		12 19 04.1	
	comp=N,737nm,0.3s						
PMR	Palmer	1.04	83	P	Pn	12 18 48.8	+0.1
	baz=266,SNR=120						
PMR				S	Sn	12 19 03.6	-0.4
	baz=266						
SLKM	Skilak Lake	1.11	151		Pn	12 18 49.7	+0.2
GHO	Glory Hole Cre	1.17	75		Pn	12 18 50.5	+0.2
GHO				IAML		12 19 08.2	
	comp=N,548nm,0.4s						
GHO				IAML		12 19 10.7	
	comp=E,511nm,0.4s						
RSO	Redoubt South	1.25	215		Pn	12 18 51.7	+0.4
KNK	Knik Glacier	1.37	92		Pn	12 18 52.5	-0.1
KNK				IAML		12 19 12.3	
	comp=E,1µm,0.7s						
KNK	Knik Glacier	1.37	92	P	Pn	12 18 52.8	+0.2
	baz=275,SNR=76						
KNK				S	Sn	12 19 11.2	+0.4
	baz=275						
SML	Sawmill	1.45	76		Pn	12 18 53.5	-0.1
SML	Sawmill	1.45	76	P	Pn	12 18 53

baz=239
TRF Thorofare Moun 2.03 13 Pn 12 19 01.6 +0.5
TRF IAML 12 19 27.2
comp=E,542nm,0.3s
TRF IAML 12 19 27.7
comp=N,581nm,0.5s
TRF Thorofare Moun 2.03 13 P Pn 12 19 01.6 +0.5
baz=194,SNR=36
TRF S Sn 12 19 25.7 -0.4
baz=194
P19K Oil Pt 2.07 208 Pn 12 19 02.5 +0.9
P19K Oil Pt 2.07 208 P Pn 12 19 02.7 +1.1
baz=26
P19K S Sn 12 19 28.0 +1.1
baz=26
KTH Kantishna Hill 2.08 5 Pn 12 19 02.3 +0.6
KTH IAML 12 19 27.9
comp=E,412nm,0.6s
KTH IAML 12 19 30.4
comp=N,407nm,0.6s
SVW2 Sparrevohn 2.10 261 Pn 12 19 02.4 +0.4
RND Reindeer 2.24 29 Pn 12 19 04.6 +0.9
RND IAML 12 19 32.4
comp=E,180nm,0.4s
K20K Telida 2.28 327 Pn 12 19 04.6 +0.4
K20K Telida 2.28 327 P Pn 12 19 04.6 +0.4
baz=144
K20K S Sn 12 19 30.3 -1.4
baz=144
P23K Montague Islan 2.43 126 P Pn 12 19 05.8 -0.4
baz=310
P23K S Sn 12 19 33.8 -1.4
baz=310
DHY Denali Highway 2.43 47 Pn 12 19 07.1 +0.8
DHY IAML 12 19 38.3
comp=N,408nm,0.5s
DHY Denali Highway 2.43 47 P Pn 12 19 07.2 +0.8
baz=231,SNR=12
DHY S Sn 12 19 35.3 -0.3
baz=231
CHUM Lake Minchumin 2.45 349 Pn 12 19 06.9 +0.4
CHUM Lake Minchumin 2.45 349 P Pn 12 19 06.9 +0.4
baz=169,SNR=64
MCK McKinley 2.51 25 Pn 12 19 08.4 +1.1
MCK IAML 12 19 40.1
comp=E,200nm,0.5s
MCK IAML 12 19 40.4
comp=N,263nm,0.3s
MCK McKinley 2.51 25 P Pn 12 19 08.3 +1.1
baz=207,SNR=16
MCK S Sn 12 19 37.3 +0.2
baz=207
M24K Tolsona, Glenn 2.51 73 Pn Pn 12 19 08.4 +1.0
M24K IAML 12 19 50.0
comp=E,288nm,0.5s
M24K IAML 12 19 56.7
comp=N,251nm,1.0s
M24K Tolsona, Glenn 2.51 73 P Pn 12 19 08.4 +1.0
baz=258,SNR=26
O18K Koktuh Hills 2.53 231 Pn 12 19 08.4 +0.9
O18K IAML 12 19 38.2
comp=E,170nm,0.7s
O18K IAML 12 19 39.5
comp=N,280nm,0.7s
O18K Koktuh Hills 2.53 231 P Pn 12 19 08.3 +0.8
baz=48
KLU Klutina 2.58 87 Pn 12 19 08.0 -0.3
KLU Klutina 2.58 87 IAML 12 19 39.3
comp=N,274nm,0.5s
KLU IAML 12 19 39.9
comp=E,211nm,0.4s
KLU Klutina 2.58 87 P Pn 12 19 08.0 -0.3
baz=272,SNR=14
KLU S Sn 12 19 38.8 -0.1
baz=272
BPAW Bear Paw Mtn. 2.63 3 Pn 12 19 09.0 +0.1
BPAW IAML 12 19 40.0
comp=E,141nm,0.6s
BPAW Bear Paw Mtn. 2.63 3 P Pn 12 19 08.9 +0.1
baz=183,SNR=15
BPAW S Sn 12 19 39.5 -0.5
baz=183
TTA Tatalina 2.64 305 Pn 12 19 09.3 +0.2
TTA Tatalina 2.64 305 P Pn 12 19 09.3 +0.2
baz=121,SNR=12
DIV Divide 2.69 95 Pn 12 19 09.4 -0.4
Q19K Cape Douglas, 2.82 206 Pn Pn 12 19 13.1 +1.6
Q19K IAML 12 20 17.9
comp=N,208nm,0.8s
Q19K IAML 12 20 27.4
comp=E,267nm,1.0s
Q19K Cape Douglas, 2.82 206 P Pn 12 19 12.6 +1.1
baz=23
BWN Browne 2.83 17 Pn 12 19 13.0 +1.5
BWN IAML 12 20 07.9
comp=E,253nm,0.7s
BWN IAML 12 20 08.8
comp=N,294nm,0.8s
EYAK Cordova Ski Ar 2.86 107 Pn 12 19 11.3 -0.6
EYAK Cordova Ski Ar 2.86 107 P Pn 12 19 11.3 -0.6
baz=292
P18K Big Mountain, 2.86 225 Pn 12 19 12.9 +0.9
P18K Big Mountain, 2.86 225 P Pn 12 19 12.6 +0.6
baz=41
Q20K Shuyak Island 2.94 191 P Pn 12 19 13.4 +0.5
baz=10
J20K Nowinta River 3.00 335 Pn 12 19 13.9 +0.1
J20K Nowinta River 3.00 335 P Pn 12 19 14.0 +0.1
baz=153
HARP HAARP 3.04 70 P Pn 12 19 15.6 +1.2
baz=255,SNR=19
PAX Paxson 3.11 59 Pn 12 19 16.4 +1.0
PAX Paxson 3.11 59 P Pn 12 19 16.1 +0.8
baz=244,SNR=17
Q23K Middleton Isla 3.20 128 Pn Pn 12 19 17.4 +0.9
MID Middleton Isla 3.21 128 Pn Pn 12 19 17.2 +0.6
MID IAML 12 20 03.2
comp=N,183nm,1.4s
N25K Chitina, Valde 3.21 85 Pn Pn 12 19 16.5 -0.2
N25K Chitina, Valde 3.21 85 P Pn 12 19 16.5 -0.2
baz=271,SNR=9.8
BMRM Bremner River 3.28 96 Pn 12 19 16.9 -0.7
BMRM Bremner River 3.28 96 P Pn 12 19 16.6 -1.0
baz=282
NEA2 Nenana 3.28 17 Pn 12 19 17.5 0.0
NEA2 Nenana 3.28 17 P Pn 12 19 17.4 -0.2
baz=199,SNR=13
O17K Koliganek Bris 3.33 242 P Pn 12 19 19.4 +1.2
baz=56,SNR=11
WRH Wood River Hil 3.34 25 Pn Pn 12 19 18.8 +0.4
WRH IAML 12 19 56.0
comp=N,62nm,0.3s
WRH IAML 12 19 56.1
comp=E,93nm,0.5s
Q18K Katmai Hardscr 3.40 215 P Pn 12 19 20.1 +0.7
baz=31
P17K Kvichak River 3.44 230 P Pn 12 19 21.2 +1.5
baz=46,SNR=6.8
K24K Donnelly Dome 3.45 45 P Pn 12 19 22.9 +3.0
baz=230,SNR=28
HDA Harding Lake 3.54 32 Pn 12 19 21.8 +0.6
HDA IAML 12 20 01.6
comp=E,129nm,0.4s
HDA Harding Lake 3.54 32 P Pn 12 19 21.9 +0.8
baz=216,SNR=13
CCB Clear Creek Bu 3.55 25 Pn 12 19 21.5 +0.4
CCB IAML 12 20 01.4
comp=E,60nm,0.3s
MLY Manley 3.57 4 Pn 12 19 21.9 +0.4
MLY Manley 3.57 4 P Pn 12 19 22.0 +0.5
baz=184,SNR=15
GLB Gilahina Butte 3.59 87 Pn 12 19 21.6 -0.3
GLB IAML 12 20 30.1
comp=N,63nm,0.7s
HMT Hamilton 3.63 105 Pn Pn 12 19 22.5 +0.3
I21K Tanana 3.72 356 Pn 12 19 23.7 +0.2
I21K Tanana 3.72 356 P Pn 12 19 23.6 +0.2
baz=175
TCOL CIGO, UAF Yank 3.74 23 Pn 12 19 24.4 +0.6
TCOL CIGO, UAF Yank 3.74 23 P Pn 12 19 24.3 +0.5
baz=206,SNR=29
COLA College 3.74 23 Pn 12 19 24.2 +0.5
COLA College 3.74 23 P Pn 12 19 24.3 +0.5
baz=206
RIDG Independent Ri 3.74 50 Pn 12 19 25.7 +1.9
RIDG IAML 12 20 10.3
comp=N,116nm,1.0s
RIDG Independent Ri 3.74 50 P Pn 12 19 25.8 +1.9
baz=236,SNR=15
MDM Murphy Dome 3.75 20 Pn 12 19 24.4 +0.5
MDM IAML 12 19 56.7
comp=N,44nm,0.6s
KDAK Kodiak Island 3.77 191 P Pn 12 19 23.0 -1.2
comp=N,7.6nm,0.5s,baz=20,slow=12,SNR=108
KDAK S Sn 12 20 04.3 -3.2
comp=N,15nm,0.2s,baz=187,slow=15,SNR=17
KDAK Kodiak Island 3.77 191 Pn Pn 12 19 23.3 -0.9
KDAK IAML 12 20 18.1
comp=N,62nm,0.9s
KDAK IAML 12 21 33.5
comp=N,58nm,2.9s
KDAK Kodiak Island 3.77 191 P Pn 12 19 23.3 -0.9
baz=9.3
N16K Nishlik Lake 3.78 258 P Pn 12 19 24.9 +0.6
baz=71
I23K Minto, Yukon-K 3.78 13 Pn 12 19 24.3 0.0
I23K IAML 12 20 30.7
comp=N,54nm,0.8s
I23K Minto, Yukon-K 3.78 13 P Pn 12 19 24.6 +0.4
baz=194,SNR=35
VRDI Verde Repeater 3.79 90 Pn 12 19 24.0 -0.6
MENT Mentasta 3.84 64 Pn 12 19 25.9 +0.8
MENT IAML 12 20 30.5
comp=E,119nm,0.7s
O16K Kowok River B 3.85 244 P Pn 12 19 26.0 +0.7
baz=57
IL31 3.86 29 Pn 12 19 25.9 +0.5
ILAR Eielson Array 3.86 29 P Pn 12 19 25.5 +0.1
comp=E,9.2nm,0.5s,baz=212,slow=13,SNR=105
ILAR S Sn 12 20 07.0 -2.6
comp=E,45nm,0.6s,baz=220,slow=22,SNR=3.9
ILAR Eielson Array 3.86 29 Pn 12 19 26.0 +0.7
Q16K King Salmon 3.89 226 P Pn 12 19 26.4 +0.6
baz=41
Q17K Contact Creek 3.97 218 P Pn 12 19 28.2 +1.2
baz=34
MCARA McCarthy VSAT 3.98 88 Pn 12 19 27.0 0.0
MCARA IAML 12 20 38.7
comp=N,74nm,0.9s
MCARA IAML 12 20 40.5
comp=E,83nm,0.8s
MCARA McCarthy VSAT 3.98 88 P Pn 12 19 27.3 +0.3
baz=275
DOT Dot Lake 3.99 54 Pn 12 19 28.4 +1.2
L26K Log Cabin Wild 4.03 64 Pn 12 19 28.9 +1.2
L26K Log Cabin Wild 4.03 64 P Pn 12 19 28.8 +1.2
baz=251,SNR=13
M26K Nabesna, AK 4.03 73 Pn 12 19 28.2 +0.4
M26K IAML 12 20 38.6
comp=N,59nm,0.5s
M26K IAML 12 20 48.3
comp=E,52nm,0.4s
M26K Nabesna, AK 4.03 73 P Pn 12 19 28.1 +0.4
baz=261,SNR=9.9
POKR Poker Plat Res 4.04 24 Pn 12 19 28.5 +0.7
POKR IAML 12 20 14.7
comp=E,40nm,0.8s
POKR IAML 12 20 15.7
comp=N,45nm,0.5s
POKR Poker Plat Res 4.04 24 P Pn 12 19 28.4 +0.6
baz=207,SNR=17
GCSA Galena City Sc 4.14 325 Pn 12 19 29.9 +0.8
GCSA Galena City Sc 4.14 325 P Pn 12 19 29.7 +0.6
baz=140,SNR=21
P16K Nunagak River 4.14 236 P Pn 12 19 30.8 +1.6
baz=50
SCRK Sand Creek 4.19 50 Pn 12 19 30.6 +0.6
SCRK IAML 12 20 25.2
comp=N,60nm,0.7s
SCRK IAML 12 20 33.9
comp=E,57nm,0.7s
SCRK Sand Creek 4.19 50 P Pn 12 19 30.7 +0.7
baz=237
H21K Melozitna Rive 4.24 352 Pn 12 19 30.8 +0.2
H21K Melozitna Rive 4.24 352 P Pn 12 19 30.8 +0.2
baz=170
WAX Waxell Ridge 4.25 100 Pn 12 19 30.3 -0.4
WAX IAML 12 20 18.9
comp=E,101nm,0.5s
SNH Sunshine Point 4.34 104 Pn Pn 12 19 32.9 +0.9
BALM Baldy 4.35 92 Pn 12 19 31.6 -0.5
KIAG Kiagna River 4.36 93 Pn 12 19 31.8 -0.6
OHAK Old Harbor 4.40 194 Pn Pn 12 19 31.6 -1.1
OHAK IAML 12 20 28.9
comp=E,54nm,3.3s
OHAK IAML 12 20 35.0
comp=N,77nm,3.0s
OHAK Old Harbor 4.40 194 P Pn 12 19 31.5 -1.1
baz=12
ISLE Juniper Island 4.45 98 Pn Pn 12 19 33.1 -0.3
ISLE IAML 12 20 34.9
comp=E,57nm,1.4s
ISLE IAML 12 20 53.2
comp=N,71nm,1.7s
M27K Edge Creek, AK 4.54 75 Pn 12 19 35.7 +1.0
M27K Edge Creek, AK 4.54 75 P Pn 12 19 35.9 +1.2
baz=263
H24K Noodor Dome 4.63 18 Pn 12 19 36.9 +1.1
H24K IAML 12 20 27.4
comp=N,31nm,0.6s
H24K IAML 12 20 27.8
comp=E,41nm,0.6s
H24K Noodor Dome 4.63 18 P Pn 12 19 36.6 +0.8
baz=201
R17K Ugashik Creek 4.64 216 P Pn 12 19 37.8 +1.8
baz=32
IMAR Indian Mountai 4.64 348 Pn 12 19 36.2 +0.2
J26L Joseph Creek 4.65 46 Pn 12 19 37.3 +1.2
J26L IAML 12 20 28.6
comp=E,60nm,0.6s
J26L IAML 12 20 28.7
comp=N,68nm,0.6s
J26L Joseph Creek 4.65 46 P Pn 12 19 37.3 +1.2
baz=233
BARN Barnard Glacie 4.67 91 Pn 12 19 36.6 +0.1
BARN IAML 12 20 52.4
comp=N,26nm,0.8s
BARN IAML 12 20 53.0
comp=E,32nm,0.5s
L27K Beaver Creek, 4.70 66 Pn 12 19 37.7 +0.9
L27K IAML 12 20 54.9
comp=N,22nm,1.4s
L27K Beaver Creek, 4.70 66 P Pn 12 19 37.5 +0.7
baz=255
BCAR Beaver Creek A 4.72 66 Pn 12 19 37.9 +0.9
MESA MESA 4.76 102 Pn 12 19 39.4 +1.6
PRP Porcupine Dome 4.80 30 Pn 12 19 39.4 +1.1
PRP IAML 12 20 34.8
comp=E,46nm,0.5s
PRP IAML 12 20 35.1
comp=N,43nm,0.5s
PRP Porcupine Dome 4.80 30 P Pn 12 19 39.6 +1.3
baz=215,SNR=58
K27K Chicken 4.95 55 Pn 12 19 41.5 +1.4
K27K IAML 12 20 40.7
comp=E,22nm,0.9s
K27K IAML 12 20 47.9
comp=N,26nm,1.6s
K27K Chicken 4.95 55 P Pn 12 19 40.7 +0.6
baz=243
BVCY Beaver Creek 5.02 75 P Pn 12 19 42.2 +1.1
baz=264,SNR=14
TABL Table Mountain 5.06 97 Pn Pn 12 19 42.0 +0.2
TABL IAML 12 20 39.8
comp=E,40nm,2.9s
TABL IAML 12 20 58.4
comp=N,38nm,2.9s
G21K Allakaket 5.14 350 P Pn 12 19 43.2 +0.4
baz=168
YUK3 Moose Creek 5.18 82 P Pn 12 19 43.8 +0.3
baz=272
G23K Bananza Creek 5.28 6 P Pn 12 19 45.8 +1.2
baz=187,SNR=23
I26K Coal Creek Min 5.30 40 Pn 12 19 45.9 +0.9
I26K IAML 12 20 51.2
comp=E,37nm,0.7s
I26K Coal Creek Min 5.30 40 P Pn 12 19 45.8 +0.9
baz=228,SNR=17
O28M Mount Upton 5.43 93 P Pn 12 19 48.0 +1.0
baz=282
G22K Bettles 5.46 359 P Pn 12 19 48.2 +1.2
baz=179
G24K Hadweenzic Riv 5.50 16 P Pn 12 19 48.8 +1.2
baz=200
YUK8 Steele Glacier 5.55 87 P Pn 12 19 49.5 +1.0
baz=277
PCA Pinnacle 5.59 100 Pn Pn 12 19 49.1 +0.2
PINM Pinnacle 5.59 100 P Pn 12 19 48.8 -0.1
baz=289
EGAK Eagle 5.66 50 Pn Pn 12 19 50.5 +0.8
EGAK Eagle 5.66 50 P Pn 12 19 50.5 +0.8
baz=239,SNR=5.1
FYU Fort Yukon 5.75 25 Pn Pn 12 19 52.6 +1.6
G25K Bearman Lake 5.77 21 P Pn 12 19 52.6 +1.4
baz=206
COLD Coldfoot 5.79 4 Pn 12 19 52.8 +1.3
COLD Coldfoot 5.79 4 P Pn 12 19 52.4 +0.9
baz=185
F21K Alatna River 5.84 352 P Pn 12 19 52.7 +0.5
baz=170
BCPM Bancas Point 5.93 100 Pn Pn 12 19 52.6 -0.9
I27K Kandik River 5.98 42 P Pn 12 19 55.0 +0.8
baz=231
DAWY Dawson 6.05 59 Pn 12 19 56.0 +1.0
DAWY Dawson 6.05 59 P Pn 12 19 55.8 +0.7
baz=250,SNR=6.2
YUK4 Talbot Arm 6.08 86 P Pn 12 19 56.4 +0.7
baz=276
M29M Somme Creek 6.13 75 P Pn 12 19 57.3 +1.0
baz=267,SNR=17
F24K Squaw Lake 6.23 12 P Pn 12 19 58.6 +1.0
baz=195,SNR=8.5
YUK6 Outpost Mounta 6.28 89 P Pn 12 19 58.8 +0.4
baz=281
O29M Mount Kennedy 6.32 95 P Pn 12 19 59.3 +0.3
baz=286
L29M L29M 6.36 69 P Pn 12 20 00.1 +0.8
baz=261
CHGN Chignik 6.37 218 Pn Pn 12 20 00.2 +0.8
G26K Porcupine Rive 6.39 28 P Pn 12 20 00.4 +0.8
baz=214,SNR=10.0
H27K Steamboat Moun 6.42 38 P Pn 12 20 00.7 +0.5
baz=227
F25K Christian Rive 6.60 19 P Pn 12 20 03.6 +1.1
baz=204
BMAR Burnt Mountain 6.63 23 Pn Pn 12 20 03.9 +0.9
E23K Chandalar 6.64 5 P Pn 12 20 04.9 +1.7
baz=187
J29M Klondike Camp 6.66 58 Pn 12 20 04.8 +1.3
J29M Klondike Camp 6.66 58 P Pn 12 20 04.3 +0.9
baz=250,SNR=5.9
HYT Haines Junctio 6.71 90 Pn Pn 12 20 04.3 +0.1
HYT Haines Junctio 6.71 90 P Pn 12 20 04.5 +0.3
baz=282
K29M Barlow Dome 6.77 64 P Pn 12 20 05.5 +0.5
baz=256
G27K Doyon Strip 6.80 34 P Pn 12 20 06.1 +0.8
baz=223
M30M Minto, Yukon 6.91 75 Pn Pn 12 20 07.1 +0.2
M30M Minto, Yukon 6.91 75 P Pn 12 20 07.2 +0.4
baz=267
F26K Sheenjek River 6.95 23 P Pn 12 20 07.9 +0.6
baz=210
I29M Ogilvie Camp, 7.00 51 Pn 12 20 08.6 +0.6
E25K Arctic Village 7.09 18 P Pn 12 20 10.4 +1.2
baz=203,SNR=39
P30M Million Dollar 7.15 95 P Pn 12 20 10.4 +0.3
baz=287
O30N Mendenhall 7.40 89 P Pn 12 20 13.3 -0.2
baz=282
MAYO Mayo, Yukon 7.43 67 Pn Pn 12 20 14.4 +0.5
MAYO Mayo, Yukon 7.43 67 P Pn 12 20 14.5 +0.7
baz=260
N31M Braeburn, Yuko 7.43 83 Pn Pn 12 20 14.8 +0.9
N31M Braeburn, Yuko 7.43 83 P Pn 12 20 14.9 +1.0
baz=277
D23K Nanushuk River 7.52 2 P Pn 12 20 17.5 +2.5
baz=182
PLBC Pleasant Camp 7.65 99 P Pn 12 20 17.2 +0.3
baz=292
SDPT Sand Point 7.81 222 P Pn 12 20 19.3 +0.3
baz=34
E27K Coleen River 7.88 27 P Pn 12 20 20.6 +0.5
baz=216
WHY Whitehorse 8.00 89 Pn Pn 12 20 21.8 0.0
WHY Whitehorse 8.00 89 P Pn 12 20 21.8 0.0
baz=283
M31M Drury Creek, Y 8.03 77 Pn Pn 12 20 22.4 +0.4
M31M Drury Creek, Y 8.03 77 P Pn 12 20 22.7 +0.7
baz=272
EPYK Eagle Plains 8.06 46 Pn Pn 12 20 23.9 +1.3
EPYK Eagle Plains 8.06 46 P Pn 12 20 23.4 +0.9
baz=240
D25K Kavik River 8.13 12 P Pn 12 20 24.9 +1.5
baz=197
RDOG Red Dog Mine 8.23 328 Pn Pn 12 20 26.9 +2.1
C24K Franklin Bluff 8.34 6 P Pn 12 20 28.1 +2.0
baz=189
TNA Tin City 8.46 306 Pn Pn 12 20 31.2 +3.4
FARO Faro, Yukon 8.52 77 Pn Pn 12 20 29.6 +1.0
FARO Faro, Yukon 8.52 77 P Pn 12 20 29.3 +0.6
baz=273
G30M tAoh Zraii Nji 8.56 43 P Pn 12 20 29.5 +0.3
baz=237
C27K Jago River 8.75 18 P Pn 12 20 32.6 +0.8
baz=205
C26K Camden Bay 8.86 14 P Pn 12 20 34.2 +0.9
baz=200
P32M Atlin 8.87 95 P Pn 12 20 33.6 +0.1
baz=290
P33M Teslin, Yukon 9.11 90 Pn Pn 12 20 36.7 0.0
P33M Teslin, Yukon 9.11 90 P Pn 12 20 36.5 -0.3
baz=286
F31M Tsiigehtchic 9.62 44 P Pn 12 20 43.9 +0.3
baz=240
GAMB Gambell 9.66 293 P Pn 12 20 45.1 +0.9
baz=94
Q32M Nakina River 9.79 97 P Pn 12 20 46.6 +0.4
baz=293
A21K Barrow 10.10 350 Pn Pn 12 20 50.4 +0.3
A21K Barrow 10.10 350 P Pn 12 20 50.0 -0.1
baz=165
INK Inuvik 10.15 40 P Pn 12 20 50.4 -0.4
comp=E,2.6nm,0.6s,baz=241,slow=13,SNR=22
INK S Sn 12 22 38.6 -3.9
comp=E,0.9nm,0.4s,baz=220,slow=19,SNR=3.6
INK Inuvik 10.15 40 Pn Pn 12 20 50.8 0.0
INK Inuvik 10.15 40 P Pn 12 20 51.1 +0.3
baz=236
R33M Jennings River 10.25 93 P Pn 12 20 52.3 -0.1
baz=291
DLBC Dease Lake 11.07 97 P Pn 12 20 58.6 -4.9
comp=E,1.2nm,0.9s,baz=285,slow=19,SNR=1.0
CLES Cleveland East 13.26 238 Pn Pn 12 21 31.2 -1.5
C36M Paulatuk 13.68 43 Pn Pn 12 21 37.0 -0.9
C36M Paulatuk 13.68 43 P Pn 12 21 36.6 -1.2
baz=248
A36M Sachs Harbour 14.55 33 Pn Pn 12 21 50.2 +1.0
A36M Sachs Harbour 14.55 33 P Pn 12 21 48.2 -1.0
baz=237,SNR=5.3
YKA Yellowknife Ar 17.12 70 P Pn 12 22 20.0 -1.3
comp=E,0.1nm,0.4s,baz=286,slow=11,SNR=1.5
RES Resolute Bay 23.60 34 P P 12 23 31.2 +1.0
comp=E,0.5nm,0.5s,baz=252,slow=9.6,SNR=2.0
RES ScP ScP 12 30 42.8 +1.6
comp=E,1.4nm,0.5s,baz=303,slow=2.9,SNR=9.8
comp=E,0.5nm,0.5s
ARCES ARCESS Array B 49.25 1 P P 12 27 07.3 +0.6
comp=E,3.8nm,1.0s,baz=12,slow=9.2,SNR=1.8
comp=E,3.8nm,1.0s

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*BJI **13** 12:28:35.5±0.0, 26˚.26N×127˚.89E, h53km, mb4.4/43, mB4.6/19, Ms3.9/3, Ms7 3.6/4*
*NEIC **13** 12:28:38.8±2.5, 26˚.42N±0˚.07×127˚.91E±0˚.06, h48km±5km, mb4.6/95, Error ellipse: s-maj=10.6km s-min=7.8km az=171.0*
*IDC **13** 12:28:39.2±1.2, 26˚.71N×127˚.75E, h43km±12km, mb4.1/27, mbtmp4.4/28, ML3.8/1, MS3.4/28, Error ellipse: s-maj=17.6km s-min=14.5km az=81.0*
*JMA **13** 12:28:40.1±0.2, 26˚.7N±0˚.6×127˚.8E±0˚.6, h47km±2km, MD4.0/10, MV4.0/10, NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
*NIED **13** 12:28:40.1, 26˚.67N×127˚.76E, h47km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.32; Mθθ-0.85; Mϕϕ-0.47; Mrθ4.19; Mϕθ-0.60; Mϕr3.71; Fault plane solution: Mo5.75000×10¹⁵ NP1:ϕs49.00000°,*

δ83.00000°,λ89.00000°. NP2:φ239.00000°,δ7.00000°, λ100.00000°.

ISC 13 12:28:39.4s0.6,**26°58N**0°04×**127°83E**0°04,**h54**km5km, **n213,**σ1♀**24**/198,**mb4.6**/82,**MS3.4**/24,**1C-2D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.18**	**108**	P	**Pn**	**12 28 48.5**	**+0.5**
JNTH				S	**Sn**	**12 28 54.4**	**+0.2**
JNTH	**Nagotoyohara**	**0.18**	**108**	A	A	12 28 48.5	
	comp=E,17nm,0.3s,comp=E,16nm,0.4s						
JJT3	**Tamagusuku3**	**0.43**	**185**	P	**Pn**	**12 28 51.8**	**+1.7**
JJT3				S	**Sn**	**12 29 00.3**	**+2.5**
JJT3	**Tamagusuku3**	**0.43**	**185**	A	A	12 28 51.8	
	comp=E,34nm,3.9s,comp=E,34nm,2.3s						
JIH	**Iheya**	**0.48**	**15**	P	**Pn**	**12 28 50.2**	**-0.4**
JIH				S	**Sn**	**12 28 57.6**	**-1.1**
JIH	**Iheya**	**0.48**	**15**	A	A	12 28 50.2	
	comp=E,32nm,0.9s,comp=E,15nm,0.8s						
JOW	**Kunigami**	**0.48**	**57**	P	**Pn**	**12 28 50.8**	**+0.1**
	3μm,0.3s,baz=176,slow=11,SNR=1632						
JOW				S	**Sn**	**12 28 57.4**	**-1.4**
	6μm,0.3s,baz=136,slow=27,SNR=28						
JOW	**Kunigami**	**0.48**	**57**		**Pn**	**12 28 51.0**	**+0.3**
JOW	**Kunigami**	**0.48**	**57**	P	**Pn**	**12 28 50.9**	**+0.3**
JOW				S	**Sn**	**12 28 58.9**	**+0.1**
JOW	**Kunigami**	**0.48**	**57**	A	A	12 28 50.9	
	comp=E,15nm,0.4s,comp=E,27nm,0.5s						
JAGN	**Aguni-jima**	**0.52**	**272**	P	**Pn**	**12 28 50.7**	**-0.4**
JAGN				S	**Sn**	**12 28 58.6**	**-1.0**
JAGN	**Aguni-jima**	**0.52**	**272**	A	A	12 28 50.7	
	comp=E,25nm,0.3s,comp=E,78nm,0.4s						
JYRO	**Yoronjima**	**0.72**	**51**	P	**Pn**	**12 28 53.7**	**+0.2**
JYRO				S	**Sn**	**12 29 04.0**	**+0.3**
JYRO	**Yoronjima**	**0.72**	**51**	A	A	12 28 53.7	
	comp=E,5.0nm,1.9s,comp=E,11nm,3.9s						
JKE	**Kume jima 2**	**0.96**	**255**	P	**Pn**	**12 28 56.3**	**-0.4**
JKE				S	**Sn**	**12 29 08.3**	**-1.2**
JKE	**Kume jima 2**	**0.96**	**255**	A	A	12 28 56.3	
	comp=E,4.0nm,1.6s,comp=E,4.0nm,0.6s						
JOKE	**Okinoerabujima**	**1.03**	**40**	P	**Pn**	**12 28 57.5**	**-0.1**
JOKE	**Okinoerabujima**	**1.03**	**40**	A	A	12 28 57.5	
	comp=E,4.0nm,1.9s,comp=E,5.0nm,1.0s						
JMZ	**Minamidaito 2**	**3.14**	**103**	Pn	**Pn**	**12 29 23.4**	**-3.0**
JMZ				Sn	**Sn**	**12 30 00.4**	**-2.3**
YOJ	**Yonaguni jima**	**4.83**	**245**	Pn	**Pn**	**12 29 49.0**	**-0.5**
JSU	**Suzuyama**	**5.43**	**24**	Pn	**Pn**	**12 29 57.1**	**-0.7**
TATO	**Taipei**	**5.93**	**256**	Pn	**Pn**	**12 30 04.5**	**-0.2**
NACB	**Ninganchiao**	**6.12**	**248**	Pn	**Pn**	**12 30 05.9**	**-1.4**
YHNB	**Yeheng**	**6.12**	**253**	Pn	**Pn**	**12 30 08.1**	**+0.7**
YULB	**Yu-li**	**6.72**	**243**	Pn	**Pn**	**12 30 13.4**	**-2.1**
SSLB	**Suanglung**	**6.81**	**247**	Pn	**Pn**	**12 30 14.3**	**-2.6**
JNU	**Nakatsue**	**7.04**	**21**	P	**Pn**	**12 30 21.8**	**+1.9**
	37nm,0.8s,baz=354,slow=2.8,SNR=20						
JNU				S	**Sn**	**12 31 38.2**	**-0.4**
	29nm,1.2s,baz=168,slow=16,SNR=1.7						
JNU				LR	LR	12 33 09.9	
	comp=Z,118nm,19.6s,baz=214,slow=39						
TPUB	**Ta-pu**	**7.30**	**245**	Pn	**Pn**	**12 30 22.6**	**-0.9**
JMN	**Monobe**	**8.85**	**35**	Pn	**Pn**	**12 30 44.5**	**-0.1**
TJN	**Taejon**	**9.78**	**358**	Pn	**Pn**	**12 30 58.9**	**+1.5**
JWT	**Wachi**	**10.84**	**35**	Pn	**Pn**	**12 31 12.1**	**+0.2**
KSRS	**Korea Array**	**10.85**	**0**	P	**Pn**	**12 31 14.2**	**+2.3**
	3.8nm,0.8s,baz=174,slow=12,SNR=6.1						
KSRS				LR	LR	12 35 33.9	
	comp=Z,116nm,18.4s,baz=185,slow=39						
KS19	**Wonju Array Si**	**10.89**	**0**	Pn	**Pn**	**12 31 13.8**	**+1.2**
MAJO	**Matsushiro**	**13.30**	**39**	Pn	**Pn**	**12 31 45.5**	**0.0**
MJAR	**Matsushiro Arr**	**13.30**	**39**	P	**P**	**12 31 52.4**	**-1.2**
	10nm,0.9s,baz=228,slow=9.5,SNR=13						
MJB9	**Matsu-Tunnel**	**13.30**	**39**	Pn	**Pn**	**12 31 46.6**	**+1.2**
LYN	**LuoYang**	**15.42**	**305**	⇑P	**P**	**12 32 19.3**	**+2.2**
LYN				pmax	pmax		
	comp=Z,20nm,0.7s						
JMM	**Marumori**	**15.70**	**41**	Pn	**Pn**	**12 32 15.2**	**-1.9**
CN2	**Changchun**	**17.30**	**354**	*e*P	**P**	**12 32 39.3**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**17.91**	**10**	P	**P**	**12 32 44.6**	**+0.1**
	0.3nm,0.3s,baz=179,slow=8.1,SNR=5.0						
USRK				LR	LR	12 39 08.3	
	comp=Z,70nm,20.6s,baz=140,slow=35						
	1.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**17.91**	**10**		**P**	**12 32 44.9**	**+0.4**
DAV	**Davao City (W)**	**19.52**	**187**	LR	LR	12 39 57.2	
	comp=Z,73nm,21.9s,baz=30,slow=34						
HHC	**Hu-ho-hao-te**	**19.59**	**321**	*e*P	**Pn**	**12 33 05.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,230nm,4.7s						
XLT	**XiLinHaoTe**	**19.73**	**334**	*e*P	**P**	**12 33 05.3**	**+0.6**
XLT				pP	pP	12 33 17.3	+0.8
XLT				sP	sP	12 33 25.4	+2.2
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,140nm,4.5s						
GUMO	**Guam**	**20.54**	**126**	LR	LR	12 39 37.9	
	comp=Z,45nm,20.0s,baz=52,slow=32						
ASAJ	**Asahikawa**	**21.19**	**31**	P	**P**	**12 33 20.4**	**+0.1**
	6.8nm,1.0s,baz=142,slow=29,SNR=2.2						
	6.8nm,1.0s						
JKA	**Kamikawa-asahi**	**21.19**	**31**	P	**P**	**12 33 20.1**	**-0.2**
JKA				IAmb	IAmb	12 33 23.6	
	comp=Z,43nm,1.5s						
LZH	**Lanzhou**	**22.52**	**301**	*e*P	**P**	**12 33 34.6**	**-0.3**
LZH				pP	pP	12 33 42.3	-4.5
LZH				pmax	pmax		
	comp=Z,11nm,1.5s						
KLR	**Kul'dur**	**22.82**	**7**	P	**P**	**12 33 37.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=72,slow=6.8,SNR=2.7						
KLR				LR	LR	12 41 38.6	
	comp=Z,42nm,21.2s,baz=174,slow=34						
	comp=Z,0.7nm,0.5s						
PZH	**PanZhiHua**	**23.32**	**276**	P	**P**	**12 33 42.3**	**-0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
YSS	**Yuzh-Sakhalins**	**23.52**	**26**	P	**P**	**12 33 44.4**	**-0.1**
YSS				IAmb	IAmb	12 33 46.5	
	comp=Z,14nm,0.6s						
CRAI	**Chiangrai**	**25.94**	**262**	P	**P**	**12 34 06.2**	**-0.8**
TNCH	**TengChong**	**26.41**	**273**	⇓P	**P**	**12 34 17.1**	**+5.8**
TNCH				PP	**PnPn**	**12 34 51.0**	**-2.2**
TNCH				S	S	12 38 30.3	-11
TNCH				sS	sS	12 39 01.3	-2.7
TNCH				pmax	pmax		
	comp=Z,25nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,130nm,4.8s						
TNCH				LR	LR		
	comp=N,150nm,4.1s						
TNCH				LR	LR		
	comp=E,150nm,5.7s						
TNCH				LR	LR		
	comp=Z,98nm,9.1s						
GTA	**Gaotai**	**26.64**	**306**	*e*P	**P**	**12 34 11.6**	**-1.6**
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
PHRA	**Phrae**	**26.68**	**258**	P	**P**	**12 34 12.0**	**-1.6**
SONM	**Songino Array**	**27.07**	**327**	P	**P**	**12 34 17.2**	**+0.3**
	comp=Z,3.8nm,0.5s,baz=141,slow=11,SNR=20						
SONM				LR	LR	12 45 14.2	
	comp=Z,108nm,19.9s,baz=171,slow=37						
	comp=Z,3.8nm,0.5s						
SONM	**Songino Array**	**27.07**	**327**	P	**P**	**12 34 16.9**	**-0.1**
SIJI	**Sorong**	**27.48**	**173**	LR	LR	12 43 25.8	
	comp=Z,43nm,21.5s,baz=104,slow=32						
CHTO	**Chiang Mai**	**27.70**	**260**	P	**P**	**12 34 23.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.83**	**259**	P	**P**	**12 34 24.7**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=57,slow=8.0,SNR=14						
CMAR				LR	LR	12 45 10.6	
	comp=Z,26nm,19.9s,baz=70,slow=36						
	comp=Z,1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.83**	**259**	P	**P**	**12 34 24.0**	**+0.1**
KAPI	**Kappang**	**32.36**	**195**	LR	LR	12 48 44.8	
	comp=Z,30nm,20.1s,baz=360,slow=37						
PETK	**Petropavlovsk-**	**34.60**	**32**	LR	LR	12 48 32.7	
	comp=Z,23nm,21.0s,baz=223,slow=35						
YAK	**Yakutsk**	**35.47**	**2**	LR	LR	12 49 39.1	
	comp=Z,55nm,20.8s,baz=84,slow=36						
TAPN	**Taplejung**	**35.66**	**281**	*e*P	**P**	**12 35 33.4**	**+0.5**
	comp=Z,3.9nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**36.46**	**92**	T	T	13 14 10.9	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**36.46**	**92**	T	T	13 14 07.3	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**36.48**	**92**	T	T	13 14 03.0	
	baz=290						
MA2	**Magadan**	**36.61**	**19**	LR	LR	12 50 06.8	
	comp=Z,24nm,19.6s,baz=162,slow=35						
WMQ	**Urumqi**	**36.62**	**309**	*e*P	**P**	**12 35 41.0**	**+0.4**
WMQ				pP	pP	12 35 56.4	+2.2
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**36.67**	**94**	T	T	13 14 31.0	
	baz=291						
H11S1	**WAKE ISLAND Hy**	**36.68**	**94**	T	T	13 14 29.7	
	baz=291						
H11S2	**WAKE ISLAND Hy**	**36.69**	**94**	T	T	13 14 36.9	
	baz=291						
RAMN	**Ramite**	**36.70**	**280**	*e*P	**P**	**12 35 41.8**	**+0.1**
	comp=Z,4.6nm,0.4s						
JIRN	**Jiri**	**36.95**	**281**	*e*P	**P**	**12 35 43.9**	**-0.1**
	comp=Z,5.3nm,0.4s						
PKI	**Pulchoki**	**37.65**	**281**	*e*P	**P**	**12 35 49.4**	**-0.4**
PKIN	**Phulchoki**	**37.66**	**281**	*e*P	**P**	**12 35 49.7**	**-0.2**
	comp=Z,18nm,0.4s						
DMN	**Daman**	**37.91**	**282**	*e*P	**P**	**12 35 51.5**	**-0.5**
	comp=Z,3.8nm,0.2s						
GKN	**Gorkha**	**38.26**	**282**	*e*P	**P**	**12 35 55.0**	**+0.2**
	comp=Z,21nm,0.4s						
DANN	**Dangsing**	**38.98**	**283**	*e*P	**P**	**12 36 01.3**	**+0.3**
	comp=Z,20nm,0.4s						
MTN	**Manton Dam**	**39.31**	**175**	P	**P**	**12 36 01.5**	**-1.9**
SEY	**Seymchan**	**39.80**	**17**	P	**P**	**12 36 07.0**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=162,slow=3.2,SNR=3.7						
	comp=Z,1.6nm,0.4s						
PMG	**Port Moresby**	**40.40**	**150**	LR	LR	12 51 36.9	
	comp=Z,46nm,20.0s,baz=12,slow=34						
PMG	**Port Moresby**	**40.40**	**150**	P	**P**	**12 36 08.9**	**-3.5**
PMG				IAmb	IAmb	12 36 30.9	
	comp=Z,6.5nm,0.6s						
MK31	**Makanchi Array**	**41.03**	**312**	P	**P**	**12 36 17.4**	**0.0**
MK31				IAmb	IAmb	12 36 18.6	
	comp=Z,7.4nm,0.8s						
MKAR	**Makanchi Array**	**41.03**	**312**	P	**P**	**12 36 17.0**	**-0.5**
	comp=Z,10nm,0.7s,baz=101,slow=9.9,SNR=93						
MKAR				PcP	**PcP**	**12 38 17.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=113,slow=2.4,SNR=3.4						
MKAR				LR	LR	12 53 30.3	
	comp=Z,63nm,19.2s,baz=32,slow=36						
	comp=Z,10nm,0.7s						
MKAR	**Makanchi Array**	**41.03**	**312**	P	**P**	**12 36 17.0**	**-0.5**
MAKZ	**Makanchi**	**41.25**	**312**	P	**P**	**12 36 19.2**	**0.0**
MAKZ				IAmb	IAmb	12 36 20.6	
	comp=Z,8.4nm,0.8s						
ZAA0	**Zalesovo Array**	**41.75**	**323**	P	**P**	**12 36 22.2**	**-1.0**
ZAA0				IAmb	IAmb	12 36 23.3	
	comp=Z,6.3nm,0.6s						
ZALV	**Zalesovo Beam**	**41.75**	**323**	P	**P**	**12 36 22.6**	**-0.6**
	comp=Z,6.9nm,0.5s,baz=107,slow=7.9,SNR=39						
ZALV				LR	LR	12 56 18.1	
	comp=Z,41nm,18.9s,baz=96,slow=40						
	comp=Z,6.9nm,0.5s						
TARG	**Taragay, Kyrgy**	**43.47**	**304**	P	**P**	**12 36 38.2**	**+0.4**
KURK	**Kurchatov**	**44.32**	**316**	P	**P**	**12 36 43.8**	**-0.2**
KURK				IAmb	IAmb	12 36 44.5	
	comp=Z,10nm,0.7s						
FITZ	**Fitzroy Crossi**	**44.46**	**183**	P	**P**	**12 36 43.9**	**-1.5**
KSH	**Kashi**	**44.77**	**300**	P	**P**	**12 36 51.9**	**+4.0**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**45.12**	**0**	P	**P**	**12 36 49.4**	**-0.6**
AAK	**Ala-Archa**	**45.98**	**305**	LR	LR	12 59 47.6	
	comp=Z,77nm,18.7s,baz=76,slow=41						
AAK	**Ala-Archa**	**45.98**	**305**	P	**P**	**12 36 57.8**	**+0.3**
WB0	**Warramunga Arr**	**46.51**	**171**	P	**P**	**12 37 02.2**	**+0.7**
WB0				IAmb	IAmb	12 37 28.4	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**46.67**	**172**	P	**P**	**12 37 04.3**	**+1.5**
	comp=Z,1.2nm,0.4s,baz=354,slow=8.5,SNR=20						
	comp=Z,1.2nm,0.4s						
WRA	**Warramunga Arr**	**46.67**	**172**	P	**P**	**12 37 03.0**	**+0.2**
WB2	**Warramunga Arr**	**46.67**	**172**	P	**P**	**12 37 03.6**	**+0.7**
WR0	**Warramunga Arr**	**46.71**	**171**	P	**P**	**12 37 03.0**	**-0.2**
BILL	**Bilibino**	**47.46**	**19**	P	**P**	**12 37 08.8**	**+0.4**
BILL				IAmb	IAmb	12 37 09.3	
	comp=Z,4.5nm,0.6s						
NRIK	**Noril'sk**	**48.81**	**342**	P	**P**	**12 37 17.9**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=68,slow=4.5,SNR=2.5						
NRIK				PcP	**PcP**	**12 38 44.4**	**+1.5**
	comp=Z,2.0nm,0.9s,baz=153,slow=2.3,SNR=5.0						
NRIK				LR	LR	12 59 31.9	
	comp=Z,87nm,19.4s,baz=42,slow=38						
	comp=Z,1.2nm,0.3s						
KK31	**Karatay Array**	**48.91**	**305**	P	**P**	**12 37 20.5**	**+0.4**
KK31				IAmb	IAmb	12 37 21.9	
	comp=Z,4.2nm,0.8s						
KKAR	**Karatay Array**	**48.91**	**305**	P	**P**	**12 37 20.2**	**+0.1**
GAR	**Garm**	**49.18**	**300**	P	**P**	**12 37 22.6**	**+0.3**
CTA	**Charters Tower**	**49.71**	**157**	LR	LR	12 56 17.6	
	comp=Z,24nm,21.8s,baz=66,slow=33						
BVAR	**Borovoye Array**	**49.78**	**318**	LR	LR	12 59 48.4	
	comp=Z,92nm,18.4s,baz=85,slow=38						
BRVK	**Borovoye**	**49.84**	**318**	P	**P**	**12 37 26.9**	**-0.1**
CHGR	**Chuyangaron**	**50.10**	**299**	P	**P**	**12 37 29.5**	**+0.2**
AS31	**Alice Springs**	**50.29**	**173**	P	**P**	**12 37 31.5**	**+0.9**
ASAR	**Alice Springs**	**50.29**	**173**	P	**P**	**12 37 32.7**	**+2.0**
	comp=Z,1.3nm,0.5s,baz=1.8,slow=13,SNR=34						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**50.29**	**173**	P	**P**	**12 37 31.4**	**+0.8**
KBL	**Kabul**	**50.63**	**294**	P	**P**	**12 37 33.1**	**-0.5**
ABKAR	**Akbulak array**	**56.15**	**313**	P	**P**	**12 38 13.3**	**-0.1**
ARU	**Arti**	**56.90**	**322**	LR	LR	13 04 43.7	
	comp=Z,85nm,18.1s,baz=70,slow=38						
JOHN	**Johnston Islan**	**58.56**	**86**	P	**P**	**12 38 28.8**	**-2.1**
GEYT	**Alibeck**	**58.80**	**300**	P	**P**	**12 38 33.1**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=338,slow=1.6,SNR=5.3						
	comp=Z,3.7nm,0.6s						
GEYT	**Alibeck**	**58.80**	**300**	P	**P**	**12 38 33.1**	**+0.7**
GEYT				IAmb	IAmb	12 38 34.1	
	comp=Z,5.0nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**58.80**	**300**	P	**P**	**12 38 33.2**	**+0.7**
GYA0B				IAmb	IAmb	12 38 34.1	
	comp=Z,6.7nm,0.8s						
CHGN	**Chignik**	**59.40**	**38**	P	**P**	**12 38 34.4**	**-1.7**
BBOO	**Buckleboo**	**59.57**	**172**	P	**P**	**12 38 37.0**	**-0.5**
STKA	**Stephens Creek**	**59.59**	**166**	LR	LR	13 06 31.3	
	comp=Z,36nm,19.0s,baz=21,slow=38						
TTA	**Tatalina**	**60.42**	**31**	P	**P**	**12 38 43.8**	**+0.7**
TTA				IAmb	IAmb	12 39 20.1	
	comp=Z,5.3nm,1.4s						
SVW2	**Sparrevohn**	**60.67**	**33**	P	**P**	**12 38 45.9**	**+1.1**
L19K	**White Mountain**	**60.98**	**32**	P	**P**	**12 38 46.7**	**-0.2**
J20K	**Nowinta River**	**61.23**	**29**	P	**P**	**12 38 50.8**	**+2.3**
J20K				IAmb	IAmb	12 38 53.2	
	comp=Z,8.6nm,1.2s						
IMAR	**Indian Mountai**	**61.34**	**27**	P	**P**	**12 38 49.7**	**+0.4**
H21K	**Melozitna Rive**	**61.74**	**28**	P	**P**	**12 38 54.1**	**+2.1**
H21K				IAmb	IAmb	12 38 56.4	
	comp=Z,12nm,1.4s						
I21K	**Tanana**	**62.11**	**28**	P	**P**	**12 38 56.7**	**+2.3**
I21K				IAmb	IAmb	12 39 13.1	
	comp=Z,10nm,1.3s						
PPLA	**Purkeypile**	**62.17**	**31**	P	**P**	**12 38 56.6**	**+1.5**
CAST	**Castle Rocks**	**62.18**	**30**	P	**P**	**12 38 56.8**	**+1.9**
CAST				IAmb	IAmb	12 39 01.0	
	comp=Z,5.3nm,1.1s						
MLY	**Manley**	**62.65**	**28**	P	**P**	**12 39 00.1**	**+2.1**
MLY				IAmb	IAmb	12 39 00.9	
	comp=Z,3.4nm,0.8s						
SUA	**Susitna One**	**62.97**	**32**	P	**P**	**12 39 01.9**	**+1.5**
SUA				IAmb	IAmb	12 39 17.8	
	comp=Z,6.8nm,1.0s						
I23K	**Minto, Yukon-K**	**63.22**	**28**	P	**P**	**12 39 03.4**	**+1.6**
I23K				IAmb	IAmb	12 39 38.7	
	comp=Z,9.9nm,1.4s						
NEA2	**Nenana**	**63.40**	**29**	P	**P**	**12 39 04.5**	**+1.5**
NEA2				IAmb	IAmb	12 39 05.4	
	comp=Z,5.5nm,0.6s						
MCK	**McKinley**	**63.55**	**30**	P	**P**	**12 39 03.9**	**-0.2**
MCK				IAmb	IAmb	12 39 06.5	
	comp=Z,5.6nm,0.8s						
BELG	**Belogornoye**	**63.58**	**318**	P	**P**	**12 39 03.8**	**-0.6**
	comp=Z,5.7nm,0.5s,baz=245,slow=1.7,SNR=4.6						
	comp=Z,5.7nm,0.5s						
RND	**Reindeer**	**63.63**	**30**	P	**P**	**12 39 05.6**	**+0.9**
RND				IAmb	IAmb	12 39 06.3	
MDM	**Murphy Dome**	**63.71**	**28**	P	**P**	**12 39 07.0**	**+1.9**
H24K	**Noodor Dome**	**63.76**	**27**	P	**P**	**12 39 07.6**	**+2.1**
H24K				IAmb	IAmb	12 39 10.3	
	comp=Z,12nm,1.4s						
TCOL	**CIGO, UAF Yank**	**63.88**	**28**	P	**P**	**12 39 08.0**	**+1.9**
TCOL				IAmb	IAmb	12 39 09.1	
	comp=Z,6.1nm,0.8s						
COLA	**College**	**63.88**	**28**	P	**P**	**12 39 08.0**	**+1.8**
COLA				IAmb	IAmb	12 39 09.1	
	comp=Z,6.0nm,0.8s						
CCB	**Clear Creek Bu**	**63.93**	**28**	P	**P**	**12 39 07.8**	**+1.3**
CCB				IAmb	IAmb	12 39 39.6	
	comp=Z,6.6nm,1.4s						
POKR	**Poker Plat Res**	**64.03**	**28**	P	**P**	**12 39 09.1**	**+1.9**
POKR				IAmb	IAmb	12 39 10.4	
	comp=Z,9.3nm,1.1s						
IL31		**64.31**	**28**	P	**P**	**12 39 09.2**	**+0.3**
ILAR	**Eielson Array**	**64.31**	**28**	P	**P**	**12 39 09.2**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=259,slow=4.8,SNR=12						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**64.31**	**28**	P	**P**	**12 39 08.5**	**-0.5**
HDA	**Harding Lake**	**64.33**	**29**	P	**P**	**12 39 09.0**	**-0.2**
HDA				IAmb	IAmb	12 39 10.8	
	comp=Z,4.6nm,0.9s						
PRP	**Porcupine Dome**	**64.77**	**27**	P	**P**	**12 39 13.3**	**+1.2**
BMAR	**Burnt Mountain**	**64.85**	**25**	P	**P**	**12 39 15.1**	**+2.5**
PAX	**Paxson**	**65.21**	**30**	P	**P**	**12 39 17.0**	**+2.0**
PAX				IAmb	IAmb	12 39 33.3	
	comp=Z,4.6nm,1.0s						
SCRK	**Sand Creek**	**65.68**	**29**	P	**P**	**12 39 18.8**	**+0.7**
SCRK				IAmb	IAmb	12 39 20.1	
	comp=Z,2.7nm,0.6s						
DOT	**Dot Lake**	**65.71**	**29**	P	**P**	**12 39 18.3**	**+0.1**
DOT				IAmb	IAmb	12 39 45.8	
	comp=Z,6.2nm,1.0s						
J26L	**Joseph Creek**	**65.76**	**28**	P	**P**	**12 39 18.9**	**+0.4**
J26L				IAmb	IAmb	12 39 20.3	
	comp=Z,4.5nm,0.8s						
I26K	**Coal Creek Min**	**65.78**	**27**	P	**P**	**12 39 19.2**	**+0.7**
I26K				IAmb	IAmb	12 39 59.0	
	comp=Z,9.4nm,1.4s						
MENT	**Mentasta**	**66.00**	**30**	P	**P**	**12 39 20.6**	**+0.6**
MENT				IAmb	IAmb	12 39 26.4	
	comp=Z,4.2nm,0.7s						
M26K	**Nabesna, AK**	**66.44**	**31**	P	**P**	**12 39 24.6**	**+1.8**
M26K				IAmb	IAmb	12 39 25.8	
	comp=Z,4.6nm,0.9s						
K27K	**Chicken**	**66.50**	**29**	P	**P**	**12 39 23.6**	**+0.5**
EGAK	**Eagle**	**66.72**	**28**	P	**P**	**12 39 26.2**	**+1.6**
EGAK				IAmb	IAmb	12 39 27.9	
	comp=Z,8.6nm,1.1s						
L27K	**Beaver Creek,**	**66.82**	**30**	P	**P**	**12 39 27.9**	**+2.6**
BCAR	**Beaver Creek A**	**66.83**	**30**	P	**P**	**12 39 27.0**	**+1.6**
BARN	**Barnard Glacie**	**67.36**	**32**	P	**P**	**12 39 29.4**	**+0.5**
MESA	**MESA**	**67.44**	**33**	P	**P**	**12 39 28.6**	**-0.9**
DAWY	**Dawson**	**67.64**	**28**	P	**P**	**12 39 32.4**	**+1.9**
DAWY				IAmb	IAmb	12 39 35.6	
	comp=Z,7.6nm,1.5s						
I29M	**Ogilvie Camp,**	**67.75**	**27**	P	**P**	**12 39 31.7**	**+0.6**
J29M	**Klondike Camp**	**68.03**	**28**	P	**P**	**12 39 31.9**	**-1.1**
EPYK	**Eagle Plains**	**68.11**	**26**	P	**P**	**12 39 34.9**	**+1.6**
EPYK				IAmb	IAmb	12 39 35.6	
	comp=Z,7.5nm,0.7s						
KBZ	**Khabaz**	**68.66**	**309**	P	**P**	**12 39 37.5**	**+0.4**
	comp=Z,10nm,0.9s,baz=85,slow=3.5,SNR=12						
	comp=Z,10nm,0.9s						
INK	**Inuvik**	**68.72**	**23**	P	**P**	**12 39 38.6**	**+1.5**
INK				IAmb	IAmb	12 39 41.3	
	comp=Z,6.4nm,1.0s						
AKH	**Akhalkalaki**	**68.92**	**307**	P	**P**	**12 39 40.2**	**+1.2**
ARCES	**ARCESS Array B**	**69.55**	**338**	P	**P**	**12 39 41.9**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=61,slow=6.1,SNR=8.2						
	comp=Z,2.5nm,0.9s						
A36M	**Sachs Harbour**	**70.02**	**18**	P	**P**	**12 39 46.5**	**+1.5**
AFI	**Afiamalu**	**71.14**	**117**	LR	LR	13 03 54.8	
	comp=Z,32nm,21.6s,baz=303,slow=30						
C36M	**Paulatuk**	**71.50**	**21**	P	**P**	**12 39 55.0**	**+0.9**
C36M				IAmb	IAmb	12 39 55.8	
	comp=Z,6.7nm,0.8s						
EUNU	**Eureka**	**71.97**	**6**	P	**P**	**12 39 57.2**	**+0.3**
FINES	**FINESS Array B**	**72.39**	**330**	P	**P**	**12 39 59.5**	**-0.1**
	comp=Z,9.2nm,0.8s,baz=80,slow=

comp=Z,0.5nm,0.9s,baz=301,slow=0.9,SNR=4.2
comp=Z,0.5nm,0.9s

NEIC ***13*** *12:38:53.5±1.5, 49.°1S±0.°1×125.°2E±0.°3, h10km±2km, mb4.3/9, Error ellipse: s-maj=57.1km s-min=8.8km az=286.0*

IDC ***13*** *12:38:57.8±3.8, 49.°20S×125.°73E, h0km, mb3.8/3, mbtmp3.9/3, MS3.5/2, Error ellipse: s-maj=111.2km s-min=66.3km az=105.0*

ISC 13 12:38:53.1±1.3, 49.°1S±0.°2×124.°9E±0.°3, h10km, n22, σ1°13/12, mb4.1/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.26**	**327**	T		T	13 00 26.3	
	baz=150,slow=74,SNR=12							
H01W2	**Cape Leeuwin H**	**16.26**	**327**	T		T	13 00 26.7	
	baz=150,slow=74,SNR=14							
H01W3	**Cape Leeuwin H**	**16.27**	**327**	T		T	13 00 28.2	
	baz=150,slow=74,SNR=9.4							
STKA	**Stephens Creek**	**21.27**	**42**	P		**P**	**12 43 42.1**	**+2.7**
	4.0nm,0.8s,baz=201,slow=13,SNR=5.6							
	4.0nm,0.8s							
STKA	**Stephens Creek**	**21.27**	**42**	P		**P**	**12 43 39.6**	**+0.2**
ASAR	**Alice Springs**	**26.33**	**19**	P		P	12 44 35.1	+6.0
	1.5nm,0.6s,baz=191,slow=8.8,SNR=25							
	1.5nm,0.6s							
ASAR	**Alice Springs**	**26.33**	**19**	P		**P**	**12 44 29.7**	**+0.6**
PSA00	**Pilbara Seismi**	**27.74**	**350**	P		**P**	**12 44 41.5**	**-0.2**
WRA	**Warramunga Arr**	**30.03**	**18**	P		P	12 45 08.1	+6.0
	0.7nm,1.0s,baz=191,slow=11,SNR=3.1							
	0.7nm,1.0s							
WRA	**Warramunga Arr**	**30.03**	**18**	P		**P**	**12 45 01.7**	**-0.4**
WB2	**Warramunga Arr**	**30.04**	**18**	P		**P**	**12 45 02.3**	**+0.2**
WB2				IAmb		IAmb	12 45 37.5	
	comp=Z,4.5nm,1.2s							
WRAB	**Tennant Creek**	**30.04**	**18**	P		**P**	**12 45 02.0**	**-0.2**
WRAB				IAmb		IAmb	12 45 47.4	
	comp=Z,7.0nm,1.4s							
WR0	**Warramunga Arr**	**30.06**	**18**	P		**P**	**12 45 01.4**	**-0.9**
WR0				IAmb		IAmb	12 45 42.0	
	comp=Z,11nm,1.4s							
WB0	**Warramunga Arr**	**30.21**	**18**	P		**P**	**12 45 03.9**	**+0.2**
WB0				IAmb		IAmb	12 45 49.3	
	comp=Z,8.8nm,1.4s							
EIDS	**Eidsvold**	**31.24**	**50**	P		**P**	**12 45 11.2**	**-1.5**
VNDA	**Vanda**	**31.82**	**166**	LR		LR	12 57 10.2	
	comp=Z,47nm,18.8s,baz=310,slow=35							
QSPA	**South Pole Qui**	**41.05**	**180**	P		**P**	**12 46 36.4**	**0.0**
QSPA				IAmb		IAmb	12 46 54.9	
	comp=Z,6.1nm,1.5s							
MSVF	**Nonsavu**	**52.82**	**73**	LR		LR	13 06 16.4	
	comp=Z,86nm,21.5s,baz=354,slow=31							
H08S2	**Diego Garcia H**	**60.21**	**295**	T		T	13 55 31.7	
	baz=144							
H08S1	**Diego Carcia H**	**60.22**	**295**	T		T	13 55 30.1	
	baz=144							
H08S3	**Diego Garcia H**	**60.23**	**295**	T		T	13 55 33.9	
	baz=144							
YKA	**Yellowknife Ar**	**145.29**	**45**	PKPbc		**PKiKP**	**12 58 34.3**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=273,slow=3.8,SNR=7.9							

MAN 13 12:55:27.6, 14.°12N×120.°42E, h116km, mb3.7, ML2.4, MS1.9, Luzon

IDC ***13*** *13:14:42.7±0.5, 58.°71S×26.°10W, h109km±4km, mb4.5/12, mbtmp4.9/14, MS3.4/19, Error ellipse: s-maj=14.9km s-min=11.9km az=52.0*

NEIC ***13*** *13:14:47.3±1.6, 58.°9S±0.°1×26.°2W±0.°2, h145km±5km, mb5.1/71, Error ellipse: s-maj=18.0km s-min=14.5km az=213.0*

GCMT ***13*** *13:14:47.3±0.3, 59.°28S±0.°03×25.°82W±0.°05, h110km±5km, MW5.0/73, Moment Tensor Solution. s11,c11; s73,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.70±.18; Mθθ=2.07±.23; Mφφ=1.38±.22; Mrθ=0.77±.12; Mrφ=-2.49±.18; Mθφ=2.03±.09; Best double couple: Mo=3.73100×10^16 NP1:φs=158.00000°, δ71.00000°, λ=-28.00000°. NP2: φs=258.00000°, δ64.00000°, λ=-159.00000°. Principal axes: T 3.3940, Plg4.0000°, Azm209.0000°; N 0.6670, Plg57.0000°, Azm306.0000°; P -4.0670, Plg33.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 13:14:43.4±0.5, 58.°81S±0.°06×26.°17W±0.°06, h116km±3km, h115km: pP-P, n426, σ0°90/439, mb5.1/63, 5C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.04**	**155**	P		**Pn**	**13 17 59.1**	**+2.3**
VNA3	**Neumayer Olymp**	**14.21**	**158**	P		**Pn**	**13 18 00.5**	**+1.5**
VNA3				S		Sn	13 20 27.5	-8.0
VNA2	**Neumayer--Watz**	**14.44**	**155**	P		**P**	**13 18 04.3**	**-1.0**
	baz=315,slow=13							
VNA2				S		Sn	13 20 30.7	-10
	baz=314,slow=21							
SNAA	**Sanae**	**16.01**	**153**	P		**Pn**	**13 18 21.1**	**-0.5**
SNAA				S		Sn	13 21 07.3	-12
SNAA	**Sanae**	**16.01**	**153**	P		**Pn**	**13 18 21.9**	**+0.4**
	42nm,0.7s,baz=298,slow=11,SNR=65							
SNAA				S		Sn	13 21 03.5	-15
	5.7nm,0.7s,baz=270,slow=18,SNR=2.2							
SNAA				LR		LR	13 23 31.4	
	comp=Z,121nm,18.4s,baz=351,slow=33							
SNAA	**Sanae**	**16.01**	**153**	P		**Pn**	**13 18 22.1**	**+0.5**
SNAA	**Sanae**	**16.01**	**153**	P		**Pn**	**13 18 21.6**	**0.0**
TROLL	**Troll, Antarti**	**17.55**	**150**	P		**P**	**13 18 39.6**	**-0.2**
TROLL				S		Sn	13 21 45.4	-11
PMSA	**Palmer Station**	**18.64**	**235**	P		**Pn**	**13 18 53.6**	**+0.3**
	124nm,0.7s,baz=84,slow=7.2,SNR=50							
PMSA				LR		LR	13 23 57.5	
	comp=Z,117nm,21.5s,baz=106,slow=30							
PMSA	**Palmer Station**	**18.64**	**235**	P		**Pn**	**13 18 54.0**	**+0.7**
BELA	**Belgrano 2**	**19.37**	**185**	P		**P**	**13 18 57.7**	**-1.8**
SMAI	**San Martin Ant**	**20.12**	**226**	P		**P**	**13 19 09.4**	**+1.8**
USHA	**Ushuaia**	**23.18**	**261**	P		**P**	**13 19 39.9**	**+0.4**
	94nm,0.8s,baz=120,slow=10,SNR=24							
	94nm,0.8s							
MG02	**Cerro Sombrero**	**24.59**	**265**	P		**P**	**13 19 52.1**	**-0.2**
GO10	**Punta Arenas**	**25.34**	**263**	P		**P**	**13 19 58.9**	**-0.3**
GO10				IAmb		IAmb	13 20 02.4	
	comp=Z,74nm,0.8s							
MG05	**Puerto Natales**	**26.88**	**265**	P		**P**	**13 20 12.9**	**-0.1**
GO09	**Cerro Castillo**	**27.03**	**266**	P		**P**	**13 20 13.7**	**-0.6**
GO09				IAmb		IAmb	13 20 58.6	
	comp=Z,197nm,1.9s							
TRQA	**Tornquist**	**30.98**	**296**	P		**P**	**13 20 50.9**	**+1.5**
TRQA				IAmb		IAmb	13 20 51.7	
	comp=Z,44nm,0.8s							
QSPA	**South Pole Qui**	**31.43**	**180**	P		**P**	**13 20 54.3**	**+0.9**
	comp=Z,9.3nm,0.9s,baz=18,slow=1.0,SNR=79							
QSPA				PcP		**PcP**	**13 23 43.7**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=293,slow=2.3,SNR=3.0							
QSPA				LR		LR	13 32 40.1	
	comp=Z,45nm,18.5s,baz=186,slow=34							
	comp=Z,9.3nm,0.9s							
QSPA	**South Pole Qui**	**31.43**	**180**	P		**P**	**13 20 54.4**	**+1.0**
QSPA				IAmb		IAmb	13 21 29.0	
	comp=Z,38nm,1.7s							
QSPA	**South Pole Qui**	**31.43**	**180**	P		**P**	**13 20 54.2**	**+0.9**
QSPA				ScP		**ScP**	**13 27 14.0**	**-1.7**
AY01	**Puyuhuapi**	**31.52**	**276**	P		**P**	**13 20 54.4**	**+0.3**
AY01				IAmb		IAmb	13 20 55.0	
	comp=Z,17nm,0.6s							
GO07	**Milladeo Hill,**	**32.96**	**277**	P		**P**	**13 21 06.6**	**-0.1**
PLCA	**Paso Flores**	**33.10**	**283**	P		**P**	**13 21 08.2**	**+0.2**
	comp=Z,13nm,0.7s,baz=149,slow=8.4,SNR=56							
PLCA				PcP		**PcP**	**13 23 48.6**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=159,slow=10,SNR=2.5							
PLCA				LR		LR	13 34 25.7	
	comp=Z,27nm,19.2s,baz=138,slow=36							
	comp=Z,13nm,0.7s							
PLCA	**Paso Flores**	**33.10**	**283**	P		**P**	**13 21 08.6**	**+0.5**
PLCA				IAmb		IAmb	13 21 09.4	
	comp=Z,20nm,0.8s							
PLCA	**Paso Flores**	**33.10**	**283**	*eP*		**P**	**13 21 08.8**	**+0.8**
PLCA	**Paso Flores**	**33.10**	**283**	P		**P**	**13 21 08.4**	**+0.3**
PLCA				pP		**pwP**	**13 21 35.2**	**-1.5**
LL04	**Puerto Octay**	**33.91**	**281**	P		**P**	**13 21 15.1**	**+0.1**
CPSB	**Cacapava Do Su**	**33.93**	**315**	*eP*		**P**	**13 21 15.3**	**0.0**
CNLB	**Canela**	**34.01**	**319**	*eP*		**P**	**13 21 16.4**	**+0.5**
GO06	**Curarrehue**	**34.43**	**284**	P		**P**	**13 21 19.7**	**+0.1**
GO06				IAmb		IAmb	13 21 21.1	
	comp=Z,11nm,0.6s							
LR03	**Panguipulli**	**34.84**	**283**	P		**P**	**13 21 23.0**	**+0.1**
LR03				IAmb		IAmb	13 21 24.1	
	comp=Z,42nm,1.1s							
LR04	**Corral**	**35.20**	**281**	P		**P**	**13 21 27.1**	**+1.0**
ITQB	**Itaqui**	**35.80**	**311**	P		**P**	**13 21 31.9**	**+0.6**
ITQB				IAmb		IAmb	13 21 32.2	
	comp=Z,25nm,0.7s							
ITQB	**Itaqui**	**35.80**	**311**	*eP*		**P**	**13 21 31.2**	**-0.1**
ML02	**Panimavida**	**37.36**	**288**	P		**P**	**13 21 44.6**	**+0.1**
BI05	**Punta Hualpn**	**37.47**	**285**	P		**P**	**13 21 46.7**	**+1.3**
MAW	**Mawson**	**37.62**	**141**	P		**P**	**13 21 46.7**	**+0.4**
	comp=Z,22nm,0.7s,baz=231,slow=7.8,SNR=20							
MAW				LR		LR	13 37 59.6	
	comp=Z,37nm,18.0s,baz=248,slow=37							
	comp=Z,22nm,0.7s							
MAW	**Mawson**	**37.62**	**141**	P		**P**	**13 21 46.8**	**+0.5**
BO02	**Sierra Bellavi**	**37.82**	**289**	P		**P**	**13 21 48.6**	**+0.2**
BO02				IAmb		IAmb	13 21 51.5	
	comp=Z,35nm,0.5s							
GO05	**Huala**	**38.21**	**288**	P		**P**	**13 21 52.1**	**+0.5**
GO05				IAmb		IAmb	13 21 52.8	
	comp=Z,40nm,0.7s							
BO01	**Tunca**	**38.29**	**290**	P		**P**	**13 21 52.8**	**+0.5**
BO01				IAmb		IAmb	13 21 53.7	
	comp=Z,41nm,0.8s							
LMEL	**Las Melosas**	**38.30**	**291**	P		**P**	**13 21 53.0**	**+0.5**
LMEL				IAmb		IAmb	13 22 00.8	
	comp=Z,17nm,0.8s							
SPB	**Sao Paulo**	**38.30**	**328**	*eP*		**P**	**13 21 53.6**	**+1.2**
BO04	**La Punta**	**38.38**	**290**	P		**P**	**13 21 53.5**	**+0.3**
PTGB	**Pitanga**	**38.66**	**321**	*eP*		**P**	**13 21 55.4**	**-0.2**
VAO	**Valinhos**	**38.73**	**328**	*eP*		**P**	**13 21 56.3**	**+0.1**
MT03	**Universidad Ad**	**38.73**	**291**	P		**P**	**13 21 56.8**	**+0.7**
MT09	**Talagante**	**38.74**	**290**	P		**P**	**13 21 56.8**	**+0.6**
MT01	**Popeta**	**38.79**	**290**	P		**P**	**13 21 56.8**	**+0.3**
MT01				IAmb		IAmb	13 21 57.7	
	comp=Z,68nm,0.8s							
MT05	**Renca**	**38.93**	**291**	P		**P**	**13 21 58.4**	**+0.7**
CPUP	**Villa Florida**	**39.07**	**313**	P		**P**	**13 21 58.4**	**-0.4**
	comp=Z,3.1nm,0.4s,baz=155,slow=7.5,SNR=10.0							
CPUP				PcP		**PcP**	**13 24 06.1**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=172,slow=8.6,SNR=2.1							
	comp=Z,3.1nm,0.4s							
CPUP	**Villa Florida**	**39.07**	**313**	P		**P**	**13 21 58.5**	**-0.4**
CPUP	**Villa Florida**	**39.07**	**313**	*eP*		**P**	**13 21 58.6**	**-0.2**
CPUP	**Villa Florida**	**39.07**	**313**	P		**P**	**13 21 58.3**	**-0.6**
CPUP				pP		**pwP**	**13 22 26.1**	**-1.6**
PEL	**Peldehue**	**39.10**	**291**	P		**P**	**13 22 00.2**	**+1.1**
PEL				pP		**pwP**	**13 22 30.0**	**+1.8**
VA05	**Santo Domingo**	**39.14**	**290**	P		**P**	**13 22 00.4**	**+1.0**
FRTB	**Fartura**	**39.15**	**325**	*eP*		**P**	**13 21 59.8**	**+0.2**
CFA	**Coronel Fontan**	**39.20**	**295**	LR		LR	13 37 09.9	
	comp=Z,66nm,21.7s,baz=156,slow=34							
MT02	**Curacav**	**39.23**	**291**	P		**P**	**13 22 01.3**	**+1.2**
VA03	**San Esteban**	**39.35**	**292**	P		**P**	**13 22 02.6**	**+1.3**
VA03				IAmb		IAmb	13 22 03.6	
	comp=Z,78nm,1.0s							
ROC1	**El Roble**	**39.40**	**291**	P		**P**	**13 22 02.8**	**+0.9**
ROC1				IAmb		IAmb	13 22 06.6	
	comp=Z,43nm,0.6s							
ZON	**Zonda**	**39.45**	**295**	P		**P**	**13 22 02.6**	**+0.5**
ZON				IAmb		IAmb	13 22 03.8	
	comp=Z,144nm,1.9s							
VA06	**Catapilco**	**39.87**	**291**	P		**P**	**13 22 06.5**	**+1.1**
TRCB	**Terra Rica**	**40.63**	**321**	P		**P**	**13 22 11.8**	**0.0**
TRCB				IAmb		IAmb	13 22 12.2	
	comp=Z,22nm,0.9s							
TRCB	**Terra Rica**	**40.63**	**321**	*eP*		**P**	**13 22 11.8**	**0.0**
RIB01	**Linhares ES**	**40.78**	**339**	*eP*		**P**	**13 22 11.9**	**-1.1**
CO02	**Combarbal**	**40.84**	**293**	P		**P**	**13 22 14.3**	**+0.6**
CO02				IAmb		IAmb	13 22 17.0	
	comp=Z,78nm,1.3s							
SUR	**Sutherland**	**40.93**	**71**	LR		LR	13 35 29.6	
	comp=Z,48nm,18.0s,baz=193,slow=30							
SUR	**Sutherland**	**40.93**	**71**	P		**P**	**13 22 16.0**	**+1.6**
SUR				IAmb		IAmb	13 22 32.5	
	comp=Z,95nm,1.8s							
CO03	**El Pedregal**	**41.00**	**293**	P		**P**	**13 22 15.9**	**+1.0**
CO03				IAmb		IAmb	13 22 16.9	
	comp=Z,34nm,1.2s							
CVNA	**Calvinia**	**41.15**	**69**	*eP*		**P**	**13 22 18.1**	**+2.0**
CVNA				IAmb		IAmb	13 22 18.9	
	comp=Z,41nm,1.2s							
PCMB	**Pacaembu**	**41.30**	**323**	*eP*		**P**	**13 22 17.4**	**0.0**
KROM	**Kromhout**	**41.42**	**76**	*eP*		**P**	**13 22 20.1**	**+1.9**
CO01	**Juntas del Tor**	**41.43**	**295**	P		**P**	**13 22 20.5**	**+1.9**
CO01				IAmb		IAmb	13 22 22.6	
	comp=Z,42nm,0.8s							
KOMG	**Komaggas**	**41.45**	**65**	*eP*		**P**	**13 22 20.8**	**+2.3**
KOMG				IAmb		IAmb	13 22 21.1	
	comp=Z,28nm,0.9s							
SJMB	**Sao Joao De Ma**	**41.53**	**338**	*eP*		**P**	**13 22 20.4**	**+1.3**
FRAZ	**Fraserburg**	**41.59**	**71**	*eP*		**P**	**13 22 21.5**	**+1.8**
FRAZ				IAmb		IAmb	13 22 22.1	
	comp=Z,13nm,0.6s							
GO04	**Tololo Observa**	**41.60**	**294**	P		**P**	**13 22 20.9**	**+0.9**
GO04				IAmb		IAmb	13 22 21.6	
	comp=Z,41nm,0.9s							
GRAN	**Grantham**	**41.66**	**72**	*i* P		**P**	**13 22 21.5**	**+1.3**
GRAN				IAmb		IAmb	13 22 22.1	
	comp=Z,16nm,0.5s							
CO05	**La Serena**	**42.02**	**293**	P		**P**	**13 22 23.6**	**+0.5**
DIAM	**Diamantina, MG**	**42.44**	**335**	*eP*		**P**	**13 22 27.3**	**+0.6**
AC05	**El Transito**	**42.47**	**295**	P		**P**	**13 22 28.1**	**+1.1**
LCO	**Las Campanas**	**42.53**	**295**	P		**P**	**13 22 28.0**	**+0.5**
LCO				IAmb		IAmb	13 22 29.0	
	comp=Z,40nm,0.8s							
LCO	**Las Campanas**	**42.53**	**295**	P		**P**	**13 22 27.8**	**+0.3**
ITRB	**Iturama**	**42.82**	**325**	*eP*		**P**	**13 22 30.1**	**+0.4**
BFON	**Badsfontein, M**	**42.82**	**73**	*eP*		**P**	**13 22 30.9**	**+1.1**
BFON				IAmb		IAmb	13 22 31.3	
	comp=Z,11nm,0.5s							
GRAF	**Camdeboo Natio**	**42.84**	**74**	*eP*		**P**	**13 22 31.0**	**+1.2**
GRAF				IAmb		IAmb	13 22 32.0	
	comp=Z,21nm,0.7s							
GRHM	**Grahamstown, E**	**42.99**	**77**	P		**P**	**13 22 31.1**	**+0.2**
GRHM	**Grahamstown, E**	**42.99**	**77**	*eP*		**P**	**13 22 32.2**	**+1.2**
GRHM				IAmb		IAmb	13 22 32.5	
	comp=Z,8.2nm,0.6s							
GUA01	**Guaratinga, BA**	**43.34**	**341**	*eP*		**P**	**13 22 34.3**	**+0.5**
AC04	**Llanos de Chal**	**43.38**	**295**	P		**P**	**13 22 35.0**	**+0.9**
AC04				IAmb		IAmb	13 22 36.0	
	comp=Z,79nm,0.8s							
GO03	**Copiap**	**43.50**	**296**	P		**P**	**13 22 35.6**	**+0.5**
GO03				IAmb		IAmb	13 22 36.3	
	comp=Z,20nm,0.7s							
AC02	**Maricunga**	**43.63**	**298**	P		**P**	**13 22 38.0**	**+1.3**
AC02				IAmb		IAmb	13 22 39.0	
	comp=Z,31nm,0.8s							
AC06	**Mina Casimiro**	**43.76**	**296**	P		**P**	**13 22 37.4**	**+0.2**
AQDB	**Aquidauana**	**43.82**	**318**	*eP*		**P**	**13 22 36.5**	**-1.1**
VNDA	**Vanda**	**43.84**	**183**	P		**P**	**13 22 38.5**	**+1.2**
	comp=Z,6.0nm,1.0s,baz=178,slow=6.7,SNR=15							
VNDA				PcP		**PcP**	**13 24 21.5**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=154,slow=2.6,SNR=1.3							
	comp=Z,6.0nm,1.0s							
VNDA	**Vanda**	**43.84**	**183**	P		**P**	**13 22 38.4**	**+1.2**
VNDA	**Vanda**	**43.84**	**183**	P		**P**	**13 22 38.6**	**+1.4**
VNDA				pP		**pwP**	**13 23 07.2**	**+1.2**
VNDA				ScP		**ScP**	**13 28 01.6**	**-0.3**
IPMB	**Ipameri, GO**	**43.85**	**329**	*eP*		**P**	**13 22 39.0**	**+1.1**
KEIM	**Keimoes**	**44.03**	**68**	*eP*		**P**	**13 22 41.2**	**+1.8**
KEIM				IAmb		IAmb	13 22 41.7	
	comp=Z,8.7nm,0.8s							
C2SB	**Chapadao do Su**	**44.46**	**323**	*eP*		**P**	**13 22 43.1**	**+0.4**
CCD	**Concordia, Ant**	**44.86**	**169**	P		**P**	**13 22 45.9**	**+0.1**
AC01	**Pan de Azucar**	**44.90**	**297**	P		**P**	**13 22 47.1**	**+0.8**
JANB	**Januaria**	**45.71**	**335**	*eP*		**P**	**13 22 53.5**	**+0.8**
BDFB	**Brasilia**	**46.03**	**330**	P		**P**	**13 22 55.2**	**-0.1**
	comp=Z,9.4nm,0.5s,baz=155,slow=9.5,SNR=18							
BDFB				PcP		**PcP**	**13 24 29.6**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=74,slow=4.0,SNR=2.1							
	comp=Z,9.4nm,0.5s							
BDFB	**Brasilia**	**46.03**	**330**	P		**P**	**13 22 56.3**	**+1.0**
BDFB	**Brasilia**	**46.03**	**330**	*eP*		**P**	**13 22 56.5**	**+1.1**
PB14	**IPOC Station P**	**46.11**	**298**	P		**P**	**13 22 55.9**	**-0.3**
BOSA	**Boshof**	**46.20**	**72**	P		**P**	**13 22 57.3**	**+0.7**
	comp=Z,24nm,0.6s,baz=211,slow=6.8,SNR=50							
BOSA				LR		LR	13 38 18.7	
	comp=Z,23nm,19.6s,baz=196,slow=31							
	comp=Z,24nm,0.6s							
BOSA	**Boshof**	**46.20**	**72**	P		**P**	**13 22 57.5**	**+0.9**
BOSA				IAmb		IAmb	13 22 58.1	
	comp=Z,31nm,0.8s							
BOSA	**Boshof**	**46.20**	**72**	*i* P		**P**	**13 22 57.7**	**+1.1**
BOSA	**Boshof**	**46.20**	**72**	*i* P		**P**	**13 22 57.2**	**+0.6**
BOSA				IAmb		IAmb	13 22 58.0	
	comp=Z,30nm,0.8s							
BOSA	**Boshof**	**46.20**	**72**	P		**P**	**13 22 57.1**	**+0.6**
PP1B	**Ponte de Pedra**	**46.21**	**321**	*eP*		**P**	**13 22 56.3**	**-0.3**
ARAG	**Araguaiana, MT**	**47.03**	**325**	*eP*		**P**	**13 23 03.6**	**+0.6**
PB10	**IPOC Station P**	**47.14**	**299**	P		**P**	**13 23 04.3**	**+0.5**
PB10				IAmb		IAmb	13 23 05.1	
	comp=Z,18nm,0.8s							
LVC	**Limon Verde**	**47.19**	**301**	LR		LR	13 46 32.7	
	comp=Z,16nm,18.7s,baz=171,slow=40							
LVC	**Limon Verde**	**47.19**	**301**	P		**P**	**13 23 05.3**	**+0.7**
LVC	**Limon Verde**	**47.19**	**301**	*eP*		**P**	**13 23 05.7**	**+1.1**
LVC	**Limon Verde**	**47.19**	**301**	P		**P**	**13 23 05.2**	**+0.7**
LVC				pP		**pwP**	**13 23 35.8**	**+2.0**
SWZ	**Schweizer**	**47.42**	**71**	*eP*		**P**	**13 23 06.8**	**+0.6**
SWZ				IAmb		IAmb	13 23 07.3	
	comp=Z,44nm,0.8s							
SNKL	**Senekal, Frees**	**47.73**	**74**	*eP*		**P**	**13 23 09.4**	**+0.8**
SNKL				IAmb		IAmb	13 23 10.2	
	comp=Z,28nm,0.9s							
SALV	**Santo Antonio**	**48.07**	**320**	*eP*		**P**	**13 23 10.9**	**0.0**
SDBA	**SAO DESIDERIO**	**48.41**	**335**	*eP*		**P**	**13 23 14.5**	**+0.8**
PRYS	**Parys**	**48.64**	**73**	*i* P		**P**	**13 23 16.0**	**+0.5**
PRYS				IAmb		IAmb	13 23 16.6	
	comp=Z,16nm,0.8s							
KSR	**Koster**	**49.30**	**72**	*eP*		**P**	**13 23 21.3**	**+0.7**
KSR				IAmb		IAmb	13 23 21.6	
	comp=Z,47nm,0.7s							
LBTB	**Lobatse**	**49.36**	**70**	LR		LR	13 39 21.8	
	comp=Z,56nm,21.0s,baz=200,slow=30							
LBTB	**Lobatse**	**49.36**	**70**	P		**P**	**13 23 21.9**	**+0.9**
LBTB				IAmb		IAmb	13 23 22.6	
	comp=Z,25nm,0.8s							
LBTB	**Lobatse**	**49.36**	**70**	*i* P		**P**	**13 23 22.4**	**+1.5**
LBTB	**Lobatse**	**49.36**	**70**	*i* P		**P**	**13 23 21.8**	**+0.8**
LBTB				IAmb		IAmb	13 23 22.4	
	comp=Z,25nm,0.8s							
LBTB	**Lobatse**	**49.36**	**70**	P		**P**	**13 23 21.7**	**+0.8**
LBTB				ScP		**ScP**	**13 28 25.0**	**-1.0**
PTLB	**Pontes e Lacer**	**49.67**	**317**	P		**P**	**13 23 23.2**	**-0.1**
PTLB				IAmb		IAmb	13 23 24.1	
	comp=Z,8.5nm,0.7s							
PTLB	**Pontes e Lacer**	**49.67**	**317**	*eP*		**P**	**13 23 22.9**	**-0.3**
PSGCX	**Pisagua**	**50.36**	**302**	P		**P**	**13 23 28.8**	**+0.2**
H10S2	**ASCENSION HYDR**	**50.51**	**15**	T		T	14 18 17.1	
	baz=188,slow=74,SNR=14							
H10S3	**ASCENSION HYDR**	**50.51**	**15**	T		T	14 18 17.4	
	baz=32,slow=74,SNR=31							
MNMC	**Minye Minye**	**50.54**	**303**	P		**P**	**13 23 29.8**	**-0.3**
MNMC				IAmb		IAmb	13 23 31.5	
	comp=Z,22nm,0.8s							
TSUM	**Tsumeb**	**50.62**	**58**	LR		LR	13 41 35.0	
	comp=Z,31nm,18.0s,baz=62,slow=32							
TSUM	**Tsumeb**	**50.62**	**58**	P		**P**	**13 23 32.2**	**+1.6**
TSUM	**Tsumeb**	**50.62**	**58**	P		**P**	**13 23 32.2**	**+1.6**
CASY	**Casey**	**51.12**	**159**	P		**P**	**13 23 34.2**	**+0.7**
CASY	**Casey**	**51.12**	**159**	P		**P**	**13 23 33.9**	**+0.4**
PB12	**IPOC Station P**	**51.32**	**302**	P		**P**	**13 23 36.2**	**+0.5**
LEPH	**Lephalale, Lim**	**51.41**	**71**	*eP*		**P**	**13 23 37.0**	**+0.6**
LEPH				IAmb		IAmb	13 23 37.6	
	comp=Z,25nm,1.0s							
H10N1	**ASCENSION HYDR**	**51.63**	**15**	T		T	14 19 41.5	
	baz=188,slow=75							
H10N3	**ASCENSION HYDR**	**51.65**	**15**	T		T	14 19 38.6	
	baz=188,slow=75							
H10N2	**ASCENSION HYDR**	**51.65**	**15**	T		T	14 19 43.9	
	baz=188,slow=75							
VILB	**Vilhena**	**52.36**	**316**	P		**P**	**13 23 43.0**	**-0.5**
VILB				IAmb		IAmb	13 23 43.6	
	comp=Z,14nm,0.8s							
VILB	**Vilhena**	**52.36**	**316**	*eP*		**P**	**13 23 43.2**	**-0.2**
PDRB	**Porto dos Gac**	**52.42**	**321**	*

comp=Z,0.9nm,0.8s,baz=187,slow=4.7,SNR=2.2
ASAR PKKPbc **PKKPbc** **13 44 43.0 +1.8**
comp=Z,1.9nm,0.5s,baz=14,slow=2.2,SNR=18
comp=Z,1.6nm,0.6s
WRA Warramunga Arr 99.91 161 P **Pdif** **13 28 14.2 -0.7**
comp=Z,0.4nm,0.7s,baz=196,slow=4.2,SNR=2.4
WRA PKKPbc **PKKPbc** **13 44 32.3 +1.4**
comp=Z,0.9nm,0.5s,baz=354,slow=3.0,SNR=8.0
WRA LR LR 14 09 49.4
comp=Z,29nm,22.0s,baz=116,slow=33
comp=Z,0.4nm,0.7s
ERPA Erie 110.00 320 P **PKiK** **13 33 00.2 +0.1**
baz=154
LONY Lake Ozonia 110.55 325 P **PKiK** **13 33 02.9 +1.8**
baz=156
WMOK Wichita Mounta 110.87 303 P **PKiK** **13 33 02.4 +0.3**
baz=148
MSTX Muleshoe 112.00 299 P **PKiK** **13 33 05.0 +0.6**
baz=147
121A Cookes Peak, D 113.13 295 P **PKiK** **13 33 07.2 +0.6**
baz=146
TUC Tucson 114.38 292 P **PKiK** **13 33 09.1 +0.2**
baz=146
CBKS Cedar Bluff 114.71 304 P **PKiK** **13 33 10.3 +1.0**
baz=147
214A Organ Pipe Nat 115.08 290 P **PKiK** **13 33 10.8 +0.6**
baz=145
T25A Trinidad 115.38 300 P **PKiK** **13 33 11.4 +0.6**
baz=146
W18A Petrified Fore 116.18 295 P **PKiK** **13 33 12.7 +0.3**
baz=145
SDCO Great Sand Dun 116.37 300 P **PKiK** **13 33 13.1 +0.3**
baz=145
WUAZ Wupatki 117.28 294 P **PKiK** **13 33 15.0 +0.5**
baz=144
MVCO Mesa Verde 117.30 297 P **PKiK** **13 33 14.7 +0.1**
baz=145
SIJI Sorong 117.89 154 PKP **PKiK** **13 33 16.7 +0.5**
comp=Z,1.8nm,0.4s,baz=157,slow=23,SNR=1.8
SCHQ Schefferville 117.91 335 PKP **PKPdf** **13 33 14.3 -0.6**
comp=Z,9.2nm,0.7s,baz=287,slow=0.3,SNR=20
IRM Iron Mountain 118.00 290 P **PKiK** **13 33 16.5 +0.7**
baz=144
ISCO Idaho Springs 118.09 301 P **PKiK** **13 33 16.5 +0.4**
baz=145
AKASG Malin Array Be 118.10 36 PKP **PKPdf** **13 33 13.3 -2.0**
comp=Z,0.4nm,0.4s,baz=236,slow=1.2,SNR=7.0
AKASG Malin Array Be 118.10 36 PKPdf **PKPdf** **13 33 14.9 -0.3**
BELC Belle Mtn. Jos 118.29 289 P **PKiK** **13 33 16.7 +0.2**
baz=144
MURC Murrieta 118.56 288 P **PKPdf** **13 33 16.8 0.0**
baz=144
GMRC Granite Mounta 118.76 290 P **PKiK** **13 33 17.6 +0.2**
baz=144
CIS Catalina Islan 119.01 287 P **PKiK** **13 33 18.6 +0.8**
baz=144
FMP Fort Macarthur 119.20 287 P **PKPdf** **13 33 17.7 -0.3**
baz=144
O20A White River Ci 119.55 299 P **PKiK** **13 33 19.1 +0.2**
baz=144
GSC Goldstone, Bar 119.73 290 P **PKiK** **13 33 19.6 +0.4**
baz=143
SHOC Shoshone, Teco 119.95 290 P **PKiK** **13 33 20.0 +0.5**
baz=143
EDW2 Edwards Air Fo 119.98 288 P **PKiK** **13 33 20.1 +0.5**
baz=143
SCZ2 Santa Cruz Isl 120.09 287 P **PKiK** **13 33 20.4 +0.6**
baz=143
TMUT Trail Mountain 120.24 297 **PKiK** **13 33 21.4 +1.0**
SBC Santa Barbara 120.48 287 P **PKiK** **13 33 20.9 +0.3**
baz=143
MPMC Manual Prospec 120.67 290 P **PKPdf** **13 33 21.0 0.0**
baz=143
FURC Furnace Creek, 120.69 290 P **PKPdf** **13 33 20.7 0.0**
baz=143
TPNV Topopah Spring 120.77 291 P **PKPdf** **13 33 21.0 -0.2**
baz=143
K22A Casper 120.80 302 P **PKPdf** **13 33 21.2 +0.1**
baz=144
RSSD Black Hills 120.90 305 P **PKPdf** **13 33 21.1 -0.1**
baz=144
R11A Troy Canyon, C 121.56 293 P **PKPdf** **13 33 22.6 0.0**
baz=142
DUG Dugway, Tooele 121.71 296 P **PKPdf** **13 33 22.8 0.0**
baz=142
VOG Valley Oaks Go 121.81 288 P **PKPdf** **13 33 22.8 -0.1**
baz=142
MZP Montezuma Peak 121.92 291 **PKiK** **13 33 24.4 +0.7**
PD31 Pinedale Array 122.25 300 PKPdf **PKPdf** **13 33 23.2 -0.7**
PDAR Pinedale Array 122.25 300 PKP **PKPdf** **13 33 23.1 -0.7**
comp=Z,0.5nm,0.4s,baz=124,slow=4.8,SNR=13
BGU Big Grassy Mou 122.39 296 **PKiK** **13 33 24.8 +0.5**
ULM Lac du Bonnet 122.60 314 PKP **PKPdf** **13 33 23.1 -0.8**
comp=Z,2.9nm,0.7s,baz=75,slow=2.4,SNR=6.1
NVAR Mina Array Bea 122.94 291 PKP **PKiK** **13 33 25.6 0.0**
comp=Z,1.1nm,0.6s,baz=128,slow=3.6,SNR=10
NB2 NORSAR Subarra 123.00 21 PKPdf **PKiK** **13 33 24.8 +0.1**
comp=Z,1.0nm,0.5s,baz=202,slow=1.9
NOA NORSAR Array B 123.00 21 PKP **PKPdf** **13 33 24.3 -0.1**
comp=Z,0.7nm,0.6s,baz=148,slow=3.6,SNR=8.3
LOHW Long Hollow 123.38 300 **PKiK** **13 33 26.4 +0.2**
MOOW Moose Ponds 123.55 300 **PKPdf** **13 33 26.4 +0.1**
CMAR Chiang Mai Arr 123.56 111 PKP **PKPdf** **13 33 26.5 -0.4**
comp=Z,0.5nm,0.5s,baz=224,slow=2.5,SNR=2.4
CMAR pPKP **pPKPdf** **13 33 56.9 -0.6**
comp=Z,2.9nm,0.7s,baz=235,slow=3.6,SNR=7.1
IMW Indian Meadow 123.76 300 **PKiK** **13 33 27.6 +0.5**
LAO LASA Array 123.88 305 P **PKPdf** **13 33 26.5 -0.2**
baz=142
RLMT Red Lodge 123.97 302 P **PKPdf** **13 33 27.0 -0.1**
baz=142
H17A Grant Village 123.98 301 P **PKPdf** **13 33 26.5 -0.7**
baz=142
DGMT Dagmar 124.44 308 P **PKPdf** **13 33 27.6 -0.1**
baz=142
HLID Hailey 125.08 297 P **PKPdf** **13 33 29.5 +0.2**
baz=141
BOZ Bozeman (W) 125.39 301 P **PKiK** **13 33 30.4 +0.3**
baz=141
FRB Frobisher Bay 126.43 338 PKP **PKPdf** **13 33 29.8 -1.1**
comp=Z,20nm,0.6s,baz=151,slow=3.3,SNR=39
EGMT Eagleton 126.43 304 P **PKiK** **13 33 32.7 +0.7**
baz=140
FINES FINESS Array B 126.56 28 PKP **PKiK** **13 33 31.5 -0.2**
comp=Z,3.1nm,0.5s,baz=171,slow=2.3,SNR=26
FINES pPKP **pPKPdf** **13 33 59.9 -1.9**
comp=Z,1.8nm,0.8s,baz=201,slow=7.4,SNR=1.2
FINES SKPbc SKPbc 13 36 34.9
comp=Z,3.9nm,1.0s,baz=224,slow=3.8,SNR=4.4
SFJD Kangerlussuaq 126.80 348 PKP **PKiK** **13 33 32.0 +0.1**
comp=Z,4.9nm,0.6s,baz=31,slow=6.3,SNR=1.9
MSO Missoula 127.36 300 P **PKPdf** **13 33 33.5 +0.1**
baz=139
BMO Blue Mountains 127.41 296 PKPdf **PKiK** **13 33 34.2 +0.1**
ABKAR Akbulak array 128.46 57 **PKPdf** **13 33 35.4 +0.2**
ABKAR Akbulak array 128.46 57 PKPdf **PKiK** **13 33 35.6 -0.3**
TNCH TengChong 128.90 107 PKP **PKPdf** **13 33 33.3 -3.8**
TNCH sPKP 13 34 15.8
NEW Newport 129.87 299 P **PKPdf** **13 33 38.4 +0.4**
baz=138
PZH PanZhiHua 131.73 109 PKP **PKPdf** **13 33 42.1 -0.3**
ARCES ARCESS Array B 133.30 22 PKP **PKPdf** **13 33 43.6 -0.2**
comp=Z,4.7nm,0.6s,baz=214,slow=1.7,SNR=25
ARCES SKPbc **SKPbc** **13 37 00.2 -0.8**
comp=Z,5.2nm,0.9s,baz=215,slow=1.5,SNR=11
MKAR Makanchi Array 137.19 74 PKhKP PKPpre 13 33 40.3
comp=Z,0.2nm,0.4s,baz=226,slow=2.2,SNR=1.4
MKAR PKP **PKPdf** **13 33 51.2 -0.6**
comp=Z,0.8nm,0.6s,baz=149,slow=1.8,SNR=4.1
MKAR pPKP pPKPdf 13 34 21.0 -1.4
comp=Z,1.3nm,0.8s,baz=222,slow=1.8,SNR=3.9
MKAR SKPbc **SKPbc** **13 37 11.8 -2.3**
comp=Z,3.0nm,1.1s,baz=225,slow=1.5,SNR=9.8
TULEG Thule 137.77 346 **PKPdf** **13 33 52.3 +0.4**
WMQ Urumqi 137.87 81 *e*P **PKiK** **13 33 54.4 -0.8**
YKA Yellowknife Ar 138.56 315 PKhKP PKPpre 13 33 41.9
comp=Z,0.4nm,0.6s,baz=124,slow=3.5,SNR=9.3
YKA PKP **PKPdf** **13 33 53.2 -0.5**
comp=Z,11nm,0.7s,baz=130,slow=2.2,SNR=110
YKA SKPbc **SKPbc** **13 37 16.3 -1.1**
comp=Z,3.2nm,0.8s,baz=133,slow=2.4,SNR=17
SPITS Spitsbergen Ar 139.15 12 PKhKP PKPpre 13 33 46.2
comp=Z,8.5nm,0.8s,baz=151,slow=7.1,SNR=11
LZH Lanzhou 140.52 103 *e*PKP **PKPdf** **13 33 52.5 -5.9**
LZH sPKP 13 34 51.6
RES Resolute Bay 140.62 337 PKhKP PKPpre 13 33 49.9
comp=Z,7.5nm,0.8s,baz=138,slow=7.2,SNR=6.8
RES SKPbc **SKPbc** **13 37 22.3 -0.3**
comp=Z,6.3nm,0.8s,baz=144,slow=3.7,SNR=13
KOTAN Kotaneelee Air 140.80 308 P **PKPdf** **13 33 58.8 +0.8**
baz=126
GTA Gaotai 140.97 95 *e*PKPbc **PKiK** **13 34 01.6 -0.2**
GTA sPKP 13 35 00.3
GTA PP PP 13 37 23.1 +21
DLBC Dease Lake 142.35 303 PKhKP PKPpre 13 33 56.1
comp=Z,2.3nm,0.6s,baz=71,slow=2.7,SNR=7.0
DLBC Dease Lake 142.35 303 P **PKPdf** **13 34 01.7 +0.8**
baz=124
S34M Telegraph Cree 142.54 302 P **PKPdf** **13 34 00.2 -0.9**
baz=124
T33K Petersburg 142.73 300 P **PKPdf** **13 34 00.5 -0.9**
baz=125
WTLY Watson Lake, Y 142.75 306 P **PKPdf** **13 34 00.5 -1.0**
baz=123
ZALV Zalesovo Beam 143.03 67 PKhKP PKPpre 13 33 57.8
comp=Z,2.0nm,0.5s,baz=245,slow=3.4,SNR=10.0
ZALV SKP 13 37 26.1
comp=Z,1.0nm,0.6s,baz=274,slow=3.8,SNR=5.1
SIT Sitka 143.95 299 P **PKPdf** **13 34 03.5 0.0**
baz=124
NJ2 Nanjing 144.40 123 *e*P **PKPdf** **13 34 04.8 -0.4**
NJ2 pmax pmax
comp=Z,18nm,0.6s
P33M Teslin, Yukon 144.51 305 P PKPbc 13 34 03.9 +0.2
baz=121
P32M Atlin 144.58 303 P **PKPdf** **13 34 04.5 -0.2**
baz=121
S31K Pelican 144.85 300 P **PKPdf** **13 34 04.9 -0.2**
baz=122
C36M Paulatuk 145.46 322 P **PKPbc** **13 34 06.2 0.0**
baz=115
WHY Whitehorse 145.63 304 P **PKPdf** **13 34 06.6 +0.1**
baz=119
PLBC Pleasant Camp 145.68 302 P **PKPab** **13 34 07.6 -0.1**
baz=120
FARO Faro, Yukon 145.73 307 **PKPab** **13 34 08.4 +0.6**
FARO Faro, Yukon 145.73 307 P **PKPab** **13 34 08.1 +0.2**
baz=118
M31M Drury Creek, Y 146.15 307 P **PKPbc** **13 34 08.5 0.0**
baz=118
O30N Mendenhall 146.20 304 P **PKPab** **13 34 09.4 -0.4**
baz=118
N31M Braeburn, Yuko 146.41 305 P **PKPbc** **13 34 09.6 +0.3**
baz=118
A36M Sachs Harbour 146.83 326 P **PKPbc** **13 34 10.5 +0.4**
baz=110
HYT Haines Junctio 146.84 303 P **PKPbc** **13 34 10.8 +0.1**
baz=118
HNS HongShan 146.93 113 ⇑P **PKPab** **13 34 12.5 -0.7**
M30M Minto, Yukon 147.32 307 P **PKPbc** **13 34 10.8 -1.1**
baz=116
MAYO Mayo, Yukon 147.38 309 P **PKPbc** **13 34 11.4 -0.6**
baz=115
YUK4 Talbot Arm 147.57 304 P **PKPbc** **13 34 12.2 -0.6**
baz=116
PINM Pinnacle 147.71 301 P **PKPbc** **13 34 12.4 -0.6**
baz=117
M29M Somme Creek 147.97 306 P **PKPbc** **13 34 13.1 -0.6**
baz=115,SNR=14
O28M Mount Upton 147.99 302 P **PKPbc** **13 34 13.9 -0.1**
baz=116
YUK8 Steele Glacier 148.03 303 P **PKPbc** **13 34 13.8 -0.2**
baz=116,SNR=6.3
F31M Tsiigehtchic 148.04 316 P **PKPbc** **13 34 13.1 -0.4**
baz=110
HHC Hu-ho-hao-te 148.05 105 *e*P **PKPdf** **13 34 10.9 -0.4**
L29M L29M 148.10 307 P **PKPbc** **13 34 13.6 -0.3**
baz=114
K29M Barlow Dome 148.15 309 P **PKPbc** **13 34 13.8 -0.3**
baz=113
INK Inuvik 148.25 318 PKP **PKPdf** **13 34 08.7 -1.9**
comp=Z,3.9nm,0.8s,baz=178,slow=5.6,SNR=3.4
INK PKPbc **PKPbc** **13 34 13.8 -0.2**
comp=Z,8.2nm,0.4s,baz=81,slow=2.6,SNR=21
INK Inuvik 148.25 318 P **PKPbc** **13 34 14.2 +0.1**
baz=109
YUK3 Moose Creek 148.54 304 P **PKPbc** **13 34 14.6 -0.8**
baz=115
EPYK Eagle Plains 148.77 313 P **PKPbc** **13 34 15.0 -0.6**
baz=110
G30M tAoh Zraii Nji 148.79 315 P **PKPbc** **13 34 15.2 -0.4**
baz=110
BVCY Beaver Creek 148.97 305 P **PKPbc** **13 34 15.5 -0.7**
baz=114
DAWY Dawson 149.00 308 **PKPbc** **13 34 16.1 -0.1**
DAWY Dawson 149.00 308 P **PKPbc** **13 34 15.5 -0.7**
baz=112,SNR=29
I29M Ogilvie Camp, 149.03 311 P **PKPbc** **13 34 16.6 +0.4**
baz=111
M27K Edge Creek, AK 149.39 304 PKPdf **PKPdf** **13 34 11.1 -1.6**
M27K **PKPbc** **13 34 17.4 0.0**
M27K Edge Creek, AK 149.39 304 P **PKPbc** **13 34 17.3 0.0**
baz=113
MCARA McCarthy VSAT 149.50 302 P **PKPbc** **13 34 17.7 +0.3**
baz=114
BCAR Beaver Creek A 149.62 306 PKPdf **PKPdf** **13 34 11.9 -1.1**
BCAR **PKPbc** **13 34 17.9 +0.2**
BCAR PKPab **PKPab** **13 34 23.8 +0.3**
L27K Beaver Creek, 149.63 306 P **PKPbc** **13 34 18.1 +0.3**
baz=112
M26K Nabesna, AK 149.88 304 P **PKiK** **13 34 18.9 -0.4**
baz=112
EGAK Eagle 149.97 309 P **PKiK** **13 34 19.2 -0.1**
baz=110
BMRM Bremner River 150.03 301 P **PKiK** **13 34 19.3 -0.3**
baz=114
K27K Chicken 150.09 307 P **PKiK** **13 34 19.8 +0.3**
baz=110
SONM Songino Array 150.25 91 PKPbc **PKiK** **13 34 20.3 -0.3**
comp=Z,3.9nm,0.6s,baz=211,slow=3.1,SNR=9.7
SONM PKPab **PKPab** **13 34 25.2 -1.3**
comp=Z,4.4nm,0.6s,baz=221,slow=3.1,SNR=14
SONM pPKPbc **pPKPbc** **13 34 49.2 -1.1**
comp=Z,7.1nm,0.8s,baz=207,slow=3.3,SNR=9.1
L26K Log Cabin Wild 150.27 305 P **PKiK** **13 34 19.8 -0.3**
baz=111
N25K Chitina, Valde 150.28 302 P **PKPbc** **13 34 19.8 +0.4**
baz=113
EYAK Cordova Ski Ar 150.38 300 P **PKiK** **13 34 20.1 -0.1**
baz=114
I27K Kandik River 150.41 311 P **PKiK** **13 34 20.0 -0.3**
baz=108
H27K Steamboat Moun 150.57 312 P **PKPbc** **13 34 20.2 +0.2**
baz=107
NRIK Noril'sk 150.76 42 PKPbc **PKPbc** **13 34 19.9 -0.3**
comp=Z,2.8nm,0.4s,baz=186,slow=0.7,SNR=6.5
G27K Doyon Strip 150.78 313 P **PKPbc** **13 34 20.5 +0.1**
baz=106
HARP HAARP 150.82 303 P **PKiK** **13 34 21.1 0.0**
baz=111
KLU Klutina 150.82 301 P **PKiK** **13 34 21.1 -0.2**
baz=112
J26L Joseph Creek 150.86 308 P **PKiK** **13 34 21.1 -0.2**
baz=108
SCRK Sand Creek 150.86 307 P **PKiK** **13 34 21.2 -0.1**
baz=109,SNR=11
P23K Montague Islan 150.91 298 P **PKiK** **13 34 21.4 0.0**
baz=114
I26K Coal Creek Min 150.94 310 P **PKiK** **13 34 21.4 +0.1**
baz=107
E27K Coleen River 151.11 316 P **PKiK** **13 34 21.5 -0.1**
baz=104
RIDG Independent Ri 151.15 306 P **PKiK** **13 34 21.9 0.0**
baz=109
PAX Paxson 151.15 304 P **PKPbc** **13 34 21.5 +0.1**
baz=110
M24K Tolsona, Glenn 151.16 302 P **PKiK** **13 34 22.1 +0.1**
baz=111
K24K Donnelly Dome 151.56 306 P **PKiK** **13 34 22.6 -0.1**
baz=108
SCM Sheep Creek Mo 151.57 301 P **PKiK** **13 34 23.0 +0.2**
baz=111
PWL Port Wells 151.67 299 P **PKPbc** **13 34 22.8 +0.2**
baz=112
M23K Glacier View 151.73 301 P **PKPbc** **13 34 22.9 +0.2**
baz=111
SEW Seward 151.90 297 P **PKiK** **13 34 23.5 +0.1**
baz=113
KNK Knik Glacier 151.93 300 P **PKiK** **13 34 23.5 0.0**
baz=111
F26K Sheenjek River 151.94 314 P **PKiK** **13 34 23.5 +0.1**
baz=102
PRP Porcupine Dome 151.95 309 P **PKPbc** **13 34 23.3 0.0**
baz=105
SML Sawmill 152.01 301 P **PKiK** **13 34 23.6 -0.1**
baz=110
WAT6 Susitna Watana 152.01 303 P **PKiK** **13 34 24.0 +0.2**
baz=109
DHY Denali Highway 152.01 304 P **PKiK** **13 34 23.7 -0.1**
baz=109
BMAR Burnt Mountain 152.04 314 **PKiK** **13 34 23.8 +0.2**
C27K Jago River 152.14 318 P **PKiK** **13 34 23.9 +0.2**
baz=99
HDA Harding Lake 152.23 307 P **PKiK** **13 34 24.2 +0.2**
baz=106
PMR Palmer 152.29 300 P **PKPbc** **13 34 24.0 +0.1**
baz=110
ILAR Eielson Array 152.30 308 PKP **PKPdf** **13 34 13.5 -3.5**
comp=Z,0.9nm,0.8s,baz=0.9,slow=1.6,SNR=6.4
ILAR PKPbc **PKPbc** **13 34 23.8 -0.1**
comp=Z,4.5nm,0.4s,baz=144,slow=2.6,SNR=128
ILAR pPKP **pPKPdf** **13 34 45.0 -2.8**
comp=Z,1.1nm,0.7s,baz=81,slow=1.2,SNR=1.2
ILAR pPKPbc **pPKPbc** **13 34 53.1 -1.4**
comp=Z,2.3nm,1.0s,baz=158,slow=3.1,SNR=1.9
BRSE Bradley Lake S 152.36 296 P **PKPbc** **13 34 23.8 -0.4**
baz=113
RC01 Rabbit Creek A 152.39 299 P **PKPbc** **13 34 24.3 +0.1**
baz=111
KDAK Kodiak Island 152.44 291 P **PKPbc** **13 34 24.3 -0.1**
baz=115
WAT1 Susitna Watana 152.44 303 P **PKiK** **13 34 24.5 0.0**
baz=108
F25K Christian River 152.47 314 P **PKiK** **13 34 25.0 +0.5**
baz=102
G25K Bearman Lake 152.48 312 P **PKiK** **13 34 24.8 +0.4**
baz=103
E25K Arctic Village 152.55 315 P **PKiK** **13 34 24.9 +0.3**
baz=100
C26K Camden Bay 152.59 319 P **PKiK** **13 34 25.0 +0.4**
baz=98
POKR Poker Plat Res 152.62 308 P **PKiK** **13 34 25.3 +0.5**
baz=105
COLA College 152.73 308 P **PKPbc** **13 34 24.9 +0.1**
baz=105
TCOL CIGO, UAF Yank 152.73 308 P **PKPbc** **13 34 24.9 +0.1**
baz=105
HOM Homer 152.75 295 P **PKPbc** **13 34 25.2 +0.2**
baz=112
M22K Willow 152.79 300 P **PKiK** **13 34 25.7 +0.5**
baz=109
KSRS Korea Array 152.83 130 PKPab **PKPab** **13 34 36.9 -0.4**
comp=Z,2.1nm,0.8s,baz=238,slow=4.6,SNR=4.0
MCK McKinley 152.88 305 P **PKPbc** **13 34 25.3 +0.1**
baz=106
H24K Noodor Dome 152.97 310 **PKiK** **13 34 25.9 +0.3**
H24K Noodor Dome 152.97 310 P **PKPbc** **13 34 25.5 +0.1**
baz=103
SUA Susitna One 152.98 300 P **PKiK** **13 34 25.9 +0.1**
baz=110
G24K Hadweenzic Riv 153.00 312 P **PKiK** **13 34 25.9 +0.4**
baz=102
D25K Kavik River 153.03 317 P **PKPbc** **13 34 25.4 -0.1**
baz=98
CUT Chulitna 153.06 302 P **PKiK** **13 34 25.8 +0.1**
baz=108
NEA2 Nenana 153.16 307 P **PKiK** **13 34 26.1 +0.2**
baz=105
F24K Squaw Lake 153.31 313 P **PKiK** **13 34 26.5 +0.3**
baz=100
O20K Slope Mountain 153.36 296 P **PKiK** **13 34 26.6 0.0**
baz=111
TRF Thorofare Moun 153.38 304 P **PKPbc** **13 34 26.5 0.0**
baz=106
I23K Minto, Yukon-K 153.42 308 P **PKPbc** **13 34 26.4 +0.1**
baz=103
SKT Skwentna 153.50 300 P **PKPbc** **13 34 26.7 +0.1**
baz=108
N20K Mount Spurr 153.56 298 P **PKPbc** **13 34 26.7 -0.2**
baz=109
SPCR Spurr Chakacha 153.56 298 P **PKiK** **13 34 27.0 0.0**
baz=109
E24K Your Creek 153.62 314 P **PKiK** **13 34 27.5 +0.6**
baz=98
BPAW Bear Paw Mtn. 153.85 305 P **PKiK** **13 34 27.4 0.0**
baz=104
C24K Franklin Bluff 153.88 318 P **PKiK** **13 34 27.6 +0.4**
baz=95
MLY Manley 153.96 307 P **PKiK** **13 34 28.0 +0.4**
baz=103
G23K Bananza Creek 154.00 311 P **PKiK** **13 34 28.1 +0.5**
baz=100
E23K Chandalar 154.04 314 P **PKiK** **13 34 28.9 +1.2**
baz=97
PPLA Purkeypile 154.06 302 P **PKiK** **13 34 28.7 +0.7**
baz=106
COLD Coldfoot 154.15 312 P **PKiK** **13 34 28.8 +0.9**
baz=99
CAST Castle Rocks 154.15 303 **PKPbc** **13 34 25.8 -2.2**
CAST PKPab **PKPab** **13 34 41.5 -0.9**
CAST Castle Rocks 154.15 303 P **PKiK** **13 34 29.2 +1.1**
baz=105
M20K Styx River 154.19 300 P **PKPbc** **13 34 28.0 -0.2**
baz=107
O19K Port Alsworth 154.20 295 P **PKiK** **13 34 28.6 +0.4**
baz=110
R17K Ugashik Creek 154.24 289 P **PKiK** **13 34 28.7 +0.4**
baz=114
Q17K Contact Creek 154.24 291 P **PKiK** **13 34 29.2 +0.7**
baz=113
CHUM Lake Minchumin 154.36 304 P **PKiK** **13 34 29.1 +0.7**
baz=104
I21K Tanana 154.51 307 P **PKiK** **13 34 29.6 +0.9**
baz=102
G22K Bettles 154.61 311 P **PKiK** **13 34 29.6 +0.8**
baz=98
H21K Melozitna Rive 154.93 308 PKPdf **PKPdf** **13 34 19.4 -1.4**
H21K **PKiK** **13 34 30.2 +0.6**
H21K PKPab **PKPab** **13 34 42.6 +0.6**
H21K Melozitna Rive 154.93 308 P **PKiK** **13 34 30.2 +0.6**
baz=100
K20K Telida 155.00 303 P **PKPab** **13 34 45.4 -0.6**
baz=104
J20K Nowinta River 155.22 305 P **PKPab** **13 34 46.3 -0.6**
baz=102
G21K Allakaket 155.34 310 P **PKPab** **13 34 48.0 +0.6**
baz=98
O17K Koliganek Bris 155.37 293 P **PKPab** **13 34 47.8 +0.2**
baz=110
F21K Alatna River 155.41 312 P **PKPab** **13 34 48.5 +0.8**
baz=96
O16K Kokwok River B 155.79 293 P **PKPab** **13 34 50.8 +1.3**
baz=109
S12K Black Hills 156.27 282 P **PKPab** **13 34 52.1 +0.5**
baz=116
GCSA Galena City Sc 156.48 305 P **PKPab** **13 34 53.2 +0.9**
baz=99
PETK Petropavlovsk- 173.89 202 PKPab **PKPab** **13 36 09.0 -0.2**
comp=Z,3.0nm,0.8s,baz=134,slow=7.3,SNR=5.5

DJA ***13*** *13:34:47.8±0.1,3˚S±2˚×12˚7E±˚, h10km,M4.5/27, mb4.8/27,mBB5.1/10,MLv4.6/25,Mw(mB)4.4/10*
NEIC ***13*** *13:34:51.9±1.8,3˚46S±0˙06×126˚88E±0˙06, h42km±8km, mb4.5/21,Error ellipse: s-maj=9.4km s-min=7.7km az=146.0*
IDC ***13*** *13:34:52.4±1.6,3˚35S×126˚88E,h50km±16km, mb4.0/10, mbtmp4.3/13,ML4.4/3,MS3.2/12,Error ellipse: s-maj=15.7km s-min=14.0km az=138.0*
ISC 13 13:34:48.0±1.1,3°41S±0˙05×126°94E±0˙05,h15km±7km, n87,σ1s47/87,mb4.4/19,MS3.1/8,Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.23**	**43**	P	**Pg**	**13 34 52.7**	**-0.6**
NLAI				S	**Sg**	**13 34 55.2**	**-1.6**
AAI	**Ambon**	**1.28**	**102**	P	**Pn**	**13 35 11.1**	**-0.3**
SANI	**Sanana**	**1.65**	**325**	P	**Pn**	**13 35 13.7**	**-2.9**
MSAI	**Masohi**	**1.99**	**88**	P	**Pn**	**13 35 21.5**	**+0.4**
BNDI	**Bandanaira**	**3.16**	**111**	P	**Pn**	**13 35 37.2**	**0.0**
TNTI	**Ternate**	**4.18**	**6**	Pn	**Pn**	**13 35 51.9**	**+0.6**
TNTI	**Ternate**	**4.18**	**6**	P	**Pn**	**13 35 50.1**	**-1.2**
LUWI	**Luwuk**	**4.78**	**299**	Pn	**Pn**	**13 35 58.8**	**-0.8**
LUWI	**Luwuk**	**4.78**	**299**	P	**Pn**	**13 35 58.4**	**-1.2**
BBSI	**Bau Bau**	**4.82**	**245**	P	**Pn**	**13 36 01.7**	**+1.6**
SIJI	**Sorong**	**5.01**	**60**	P	**Pn**	**13 36 04.8**	**+2.0**
	33nm,0.3s,baz=228,slow=14,SNR=63			S	**Sn**	**13 37 03.4**	**+3.0**
SIJI	70nm,0.6s,baz=57,slow=22,SNR=17			LR	LR	13 39 07.4	
	comp=Z,264nm,19.1s,baz=320,slow=51 73nm,0.3s						

FAKI	**Fak Fak**	**5.32**	**85**	Pn	**Pn**	**13 36 08.4 +1.4**
FAKI	**Fak Fak**	**5.32**	**85**	P	**Pn**	**13 36 08.1 +1.0**
	71nm,0.6s,1μm0.4nm					
GTOI	**Gorontalo**	**5.62**	**316**	P	**Pn**	**13 36 12.3 +1.2**
	127nm,0.7s,1μm0.4nm					
APSI	**Ampana**	**5.84**	**295**	P	**Pn**	**13 36 14.0 -0.2**
	414nm,0.8s,3μm1.4nm					
SAUI	**Saumlaki**	**6.28**	**136**		**Pn**	**13 36 21.9 +1.7**
SAUI	**Saumlaki**	**6.28**	**136**	P	**Pn**	**13 36 21.0 +0.8**
	122nm,1.0s,0.5nm					
MRSI	**Marisa**	**6.32**	**308**	P	**Pn**	**13 36 20.6 -0.1**
	425nm,0.5s,5μm1.8nm					
SOEI	**Soe**	**6.84**	**203**	Pn	**Pn**	**13 36 30.1 +2.1**
SOEI	**Soe**	**6.84**	**203**	P	**Pn**	**13 36 30.0 +2.0**
	64nm,0.7s,0.3nm					
BSSI	**Bau Bau, Buton**	**6.97**	**247**	P	**Pn**	**13 36 30.2 +0.4**
	101nm,0.9s,0.4nm					
BKSI	**Bulukumba**	**7.06**	**254**	P	**Pn**	**13 36 32.3 +1.4**
	88nm,1.2s,916nm0.3nm					
SPSI	**Sidrap Palu**	**7.18**	**265**	P	**Pn**	**13 36 33.6 +1.1**
	54nm,0.9s,0.2nm					
KAPI	**Kappang**	**7.34**	**257**	P	**Pn**	**13 36 37.4 +2.6**
	5.2nm,0.3s,baz=95,slow=5.8,SNR=11					
KAPI				LR	LR	13 39 33.5
	comp=Z,133nm,18.8s,baz=62,slow=38					
	29nm,0.6s					
KAPI	**Kappang**	**7.34**	**257**		**Pn**	**13 36 35.4 +0.6**
RKPI	**Ransiki, Papua**	**7.47**	**76**	P	**Pn**	**13 36 36.8 +0.2**
	93nm,0.8s,6μm1.1nm					
BATI	**Baumata**	**7.49**	**206**	P	**Pn**	**13 36 39.4 +2.5**
	3.7nm,0.3s,baz=254,slow=1.0,SNR=7.1					
BATI				LR	LR	13 39 38.5
	comp=Z,184nm,18.1s,baz=11,slow=38					
	29nm,0.6s					
BATI	**Baumata**	**7.49**	**206**	P	**Pn**	**13 36 38.2 +1.3**
	41nm,0.8s,0.2nm					
TOLI2	**Tolitoli**	**7.62**	**306**	Pn	**Pn**	**13 36 39.4 +0.8**
MPSI	**Mapaga**	**7.96**	**298**	P	**Pn**	**13 36 43.0 -0.3**
	53nm,0.9s,469nm0.2nm					
WBSI	**Waikabubak, Su**	**9.72**	**230**	P	**Pn**	**13 37 09.0 +1.5**
	39nm,1.0s					
MTN	**Manton Dam**	**10.25**	**156**	Pn	**Pn**	**13 37 15.3 +0.7**
PLAI	**Plampang**	**10.58**	**239**	P	**Pn**	**13 37 20.4 +1.2**
	27nm,0.8s					
TWSI	**Taliwang, Sumb**	**11.31**	**242**	P	**Pn**	**13 37 31.1 +1.8**
SMPI	**Sarmi**	**11.84**	**83**	P	**Pn**	**13 37 36.8 +0.3**
	19nm,1.5s					
MYLDM	**Lahad Datu**	**12.00**	**315**		**Pn**	**13 37 41.3 +2.7**
KNRA	**Kununurra**	**12.32**	**172**	Pn	**Pn**	**13 37 41.6 -1.4**
FITZ	**Fitzroy Crossi**	**14.65**	**185**	Pn	**Pn**	**13 38 13.4 -1.5**
SBUM	**Sibu**	**15.82**	**291**	Pn	**Pn**	**13 38 29.2 -1.3**
SMRI	**Semarang**	**16.82**	**257**	P	**Pn**	**13 38 44.1 +0.9**
	260nm,2.2s					
UGM	**Wanagama**	**16.93**	**254**	P	**Pn**	**13 38 45.9 +1.2**
	329nm,2.2s					
WB0	**Warramunga Arr**	**17.81**	**156**		**Pn**	**13 38 53.3 -2.2**
WB0				IAmb	IAmb	13 39 00.5
	comp=Z,44nm,1.3s					
WRAB	**Tennant Creek**	**17.94**	**157**	P	**Pn**	**13 38 56.1 -1.1**
WRAB				IAmb	IAmb	13 38 60.0
	comp=Z,21nm,0.8s					
WRA	**Warramunga Arr**	**17.95**	**157**	P	**Pn**	**13 38 54.9 -2.4**
	comp=Z,17nm,1.0s,baz=339,slow=11,SNR=43					
WRA				LR	LR	13 46 08.8
	comp=Z,74nm,19.5s,baz=326,slow=38					
WRA	**Warramunga Arr**	**17.95**	**157**	P	**Pn**	**13 38 56.7 -0.6**
WB2	**Warramunga Arr**	**17.95**	**157**		**Pn**	**13 38 55.5 -1.8**
WB2				IAmb	IAmb	13 39 00.0
	comp=Z,22nm,0.8s					
WR0	**Warramunga Arr**	**18.04**	**156**	P	**Pn**	**13 38 55.9 -2.5**
WR0				IAmb	IAmb	13 39 01.2
	comp=Z,34nm,1.4s					
CMJI	**Cimerak**	**18.90**	**256**	P	**P**	**13 39 09.1 +0.8**
	comp=Z,105nm,1.5s					
MBWA	**Marble Bar**	**18.98**	**201**	P	**P**	**13 39 08.0 -1.1**
COEN	**Coen**	**19.15**	**124**	P	**P**	**13 39 10.7 -0.3**
COEN				IAmb	IAmb	13 39 12.8
	comp=Z,24nm,1.1s					
CBJI	**Citeko**	**20.23**	**261**	P	Pn	13 39 39.3 +14
PMG	**Port Moresby**	**20.95**	**107**	LR	LR	13 50 05.5
	comp=Z,101nm,19.6s,baz=23,slow=43					
AS31	**Alice Springs**	**21.23**	**162**	P	**P**	**13 39 34.8 +1.1**
AS31				IAmb	IAmb	13 39 35.7
	comp=Z,18nm,0.8s					
ASAR	**Alice Springs**	**21.23**	**162**	P	**P**	**13 39 34.4 +0.8**
	comp=Z,59nm,0.8s,baz=344,slow=12,SNR=472					
ASAR				ScP	**ScP**	**13 47 11.7 -3.7**
	comp=Z,0.3nm,0.7s,baz=352,slow=2.8,SNR=1.8					
ASAR				LR	LR	13 47 44.5
	comp=Z,85nm,19.3s,baz=338,slow=36					
	comp=Z,59nm,0.8s					
ASAR	**Alice Springs**	**21.23**	**162**	P	**P**	**13 39 34.3 +0.6**
MDSI	**Maura Dua**	**22.73**	**267**	P	**P**	**13 39 51.0 +1.2**
CTA	**Charters Tower**	**25.09**	**133**	P	**P**	**13 40 13.4 +1.0**
	comp=Z,4.0nm,1.0s,baz=314,slow=7.6,SNR=3.6					
CTA				LR	LR	13 50 24.9
	comp=Z,62nm,19.7s,baz=332,slow=37					
	comp=Z,4.0nm,1.0s					
CTAO	**Charters Tower**	**25.09**	**133**	P	**P**	**13 40 12.7 +0.3**
SDSI	**Sungai Dareh**	**25.61**	**275**	P	**P**	**13 40 20.2 +3.1**
FORT	**Forrest**	**27.24**	**178**	P	**P**	**13 40 31.9 +0.2**
FORT				IAmb	IAmb	13 40 54.8
	comp=Z,20nm,0.9s					
TPUB	**Ta-pu**	**27.25**	**347**	P	**P**	**13 40 32.2 +0.3**
PSI	**Prapat**	**28.67**	**282**	P	**P**	**13 40 44.4 -0.4**
	comp=Z,4.3nm,0.8s,baz=84,slow=8.6,SNR=5.2					
PSI				LR	LR	13 52 51.9
	comp=Z,50nm,18.7s,baz=76,slow=38					
	comp=Z,4.3nm,0.8s					
BBOO	**Buckleboo**	**30.47**	**165**	P	**P**	**13 40 59.8 -0.6**
NWAO	**Narrogin (SRO)**	**30.74**	**196**	P	**P**	**13 41 02.8 +0.1**
NWAO				IAmb	IAmb	13 41 11.4
	comp=Z,34nm,1.4s					
STKA	**Stephens Creek**	**31.49**	**156**	P	**P**	**13 41 10.8 +1.4**
	comp=Z,2.2nm,0.6s,baz=334,slow=6.8,SNR=4.6					
STKA				LR	LR	13 53 22.2
	comp=Z,80nm,21.6s,baz=17,slow=35					
	comp=Z,2.2nm,0.6s					
CMAR	**Chiang Mai Arr**	**35.11**	**309**	P	**P**	**13 41 40.5 -0.7**
	comp=Z,0.5nm,0.7s,baz=140,slow=7.1,SNR=1.8					
CMAR				PcP	**PcP**	**13 44 11.6 -1.2**
	comp=Z,0.4nm,0.6s,baz=168,slow=1.7,SNR=5.6					
CMAR				LR	LR	13 57 52.4
	comp=Z,15nm,18.2s,baz=105,slow=39					
	comp=Z,0.5nm,0.7s					
CAN	**Canberra**	**37.76**	**150**	P	**P**	**13 42 03.2 -0.4**
KSRS	**Korea Array**	**40.67**	**1**	LR	LR	14 04 56.3
	comp=Z,11nm,18.0s,baz=165,slow=44					
USRK	**Ussuriysk Ar.**	**47.61**	**5**	P	**P**	**13 43 23.0 -0.4**
	comp=Z,4.1nm,0.7s,baz=193,slow=8.5,SNR=6.4					
	comp=Z,4.1nm,0.7s					
USRK	**Ussuriysk Ar.**	**47.61**	**5**	P	**P**	**13 43 23.6 +0.2**
JKA	**Kamikawa-asahi**	**49.36**	**15**	P	**P**	**13 43 37.1 +0.2**
GTA	**Gaotai**	**49.39**	**332**	*eP*	**P**	**13 43 41.4 +4.0**
GTA				pP	sP	13 43 44.5 +0.4
GTA				sP	pP	13 43 47.4 +5.2
GTA				pmax	pmax	
	comp=Z,3.0nm,1.0s					
GOMU	**GeErMu**	**49.53**	**326**	P	P	13 43 51.5 +13
GOMU				pP	sP	13 43 54.5 +9.0
GOMU				sP	pP	13 43 56.0 +12
GOMU				pmax	pmax	
	comp=Z,2.0nm,0.7s					
GOMU				pmax	pmax	
	comp=Z,79nm,5.0s					
HEH	**HeiHe**	**53.46**	**0**	*eP*	**P**	**13 44 07.3 -0.1**
HEH				pmax	pmax	
	comp=Z,4.0nm,0.9s					
HEH				pmax	pmax	
	comp=Z,120nm,4.4s					
SONM	**Songino Array**	**54.12**	**343**	P	**P**	**13 44 11.9 -0.7**
	comp=Z,2.2nm,1.0s,baz=168,slow=8.1,SNR=3.4					
SONM				PcP	**PcP**	**13 45 15.7 -1.5**
	comp=Z,0.8nm,0.5s,baz=193,slow=4.6,SNR=4.3					
	comp=Z,2.2nm,1.0s					
PETK	**Petropavlovsk-**	**61.97**	**20**	P	**P**	**13 45 06.7 -0.6**
	comp=Z,2.1nm,0.8s,baz=252,slow=7.4,SNR=1.7					
	comp=Z,2.1nm,0.8s					
MK31	**Makanchi Array**	**63.58**	**327**	P	**P**	**13 45 17.9 -0.3**
MK31				IAmb	IAmb	13 45 29.0
	comp=Z,2.8nm,0.9s					
MKAR	**Makanchi Array**	**63.58**	**327**	P	**P**	**13 45 17.4 -0.9**
	comp=Z,1.6nm,0.7s,baz=124,slow=8.0,SNR=19					
	comp=Z,1.6nm,0.7s					
MKAR	**Makanchi Array**	**63.58**	**327**	P	**P**	**13 45 18.4 +0.2**
MAKZ	**Makanchi**	**63.76**	**327**	P	**P**	**13 45 18.8 -0.6**
ZALV	**Zalesovo Beam**	**67.05**	**334**	P	**P**	**13 45 39.4 -1.1**
	comp=Z,2.5nm,1.0s,baz=131,slow=4.1,SNR=5.7					
	comp=Z,2.5nm,1.0s					
KURK	**Kurchatov**	**67.89**	**329**	P	**P**	**13 45 45.9 0.0**
KURK				IAmb	IAmb	13 45 50.8
	comp=Z,5.3nm,0.9s					
VNDA	**Vanda**	**76.36**	**173**	LR	LR	14 19 04.2
	comp=Z,36nm,19.2s,baz=3.0,slow=35					
ABKAR	**Akbulak array**	**77.82**	**322**	P	**P**	**13 46 44.2 -0.7**
QSPA	**South Pole Qui**	**86.54**	**180**	P	**P**	**13 47 27.2 -3.2**
QSPA				IAmb	IAmb	13 48 03.5
	comp=Z,9.1nm,1.4s					
N19K	**Bonanza Creek**	**87.40**	**29**	P	**P**	**13 47 35.1 +0.4**
PDAR	**Pinedale Array**	**116.47**	**43**	PKP	**PKPdf**	**13 53 31.2 -0.8**
	comp=Z,0.3nm,0.8s,baz=270,slow=0.9,SNR=2.7					

IDC ***13*** *13:42:56.2±2.1,30.7°45S×71.7°97W,h0km,mbtmp3.5/2, ML3.7/1,Error ellipse: s-maj=57.3km s-min=44.3km az=125.0*
GUC ***13*** *13:43:03.1±0.8,30.7°71S×71.7°39W,h48km±4km,ML4.0*
NEIC ***13*** *13:43:04.2±1.1,30.7°73S±0.7°02×71.7°34W±0.7°1,h50km±7km, mb4.4/4,Mwr4.0/44,ML4.0(GUC),Error ellipse: s-maj=15.7km s-min=2.0km az=86.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.03; Mθθ-0.29; Mϕϕ-0.74; Mrθ0.04; Mrϕ0.20; Mθϕ-0.61; Fault plane solution: M₀1.12000×10¹⁵ NP1:ϕ₀167.67000°, δ61.69000°, λ96.44000°. NP2:ϕ₀334.29000°,δ28.98000°, λ78.24000°. Principal axes: T 1.2172, Plg73.0000°, Azm93.0000°; N -0.2263, Plg6.0000°, Azm345.0000°; P -0.9909, Plg16.0000°, Azm253.0000°;*
NEIC ***13*** *13:43:04.2,30.7°73S×71.7°28W,h52km*
ISC 13 13:43:03.5±1.2,30.7°71S±0.7°03×71.7°43W±0.7°09,h45km±13km, n46,σ1s00/47,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CO02	**Combarbal**	**0.61**	**143**			**Pn**	**13 43 15.6**	**-0.5**
CO02	**Combarbal**	**0.61**	**143**	↓*i*	P	**Pn**	**13 43 15.6**	**-0.5**
CO02				*i*	S	**Sn**	**13 43 24.6**	**-0.5**
CO02				IAML			13 43 25.8	
	comp=E,30μm,0.7s							
CO03	**El Pedregal**	**0.65**	**102**			**Pn**	**13 43 16.1**	**-0.5**
CO03	**El Pedregal**	**0.65**	**102**	↓*i*	P	**Pn**	**13 43 16.1**	**-0.5**
CO03				*i*	S	**Sn**	**13 43 25.1**	**-0.8**
CO03				IAML			13 43 27.0	
	comp=N,10μm,0.1s							
GO04	**Tololo Observa**	**0.76**	**46**			**Pn**	**13 43 17.9**	**-0.2**
GO04	**Tololo Observa**	**0.76**	**46**	*e*	P	**Pn**	**13 43 17.6**	**-0.6**
GO04				*i*	S	**Sn**	**13 43 28.3**	**-0.4**
CO05	**La Serena**	**0.81**	**12**	↑*e*	P	**Pn**	**13 43 18.5**	**-0.1**
CO05				*i*	S	**Sn**	**13 43 29.4**	**0.0**
CO05				IAML			13 43 36.2	
	comp=N,5μm,0.3s							
CO01	**Juntas del Tor**	**1.37**	**58**	↓*i*	P	**Pn**	**13 43 27.1**	**+0.7**
CO01				IAML			13 43 49.3	
	comp=N,2μm,0.1s							
LCO	**Las Campanas**	**1.81**	**21**			**Pn**	**13 43 32.5**	**+0.1**
LCO	**Las Campanas**	**1.81**	**21**	*e*	P	**Pn**	**13 43 32.4**	**-0.1**
LCO				*i*	S	**Sn**	**13 43 54.9**	**+0.5**
VA06	**Catapilco**	**1.85**	**177**			**Pn**	**13 43 33.2**	**+0.4**
VA06	**Catapilco**	**1.85**	**177**	*e*	P	**Pn**	**13 43 32.7**	**-0.1**
AC05	**El Transito**	**2.12**	**29**			**Pn**	**13 43 37.9**	**+1.3**
AC05	**El Transito**	**2.12**	**29**	*e*	P	**Pn**	**13 43 37.8**	**+1.1**
AC05				*i*	S	**Sn**	**13 44 03.0**	**+1.2**
AC05				IAML			13 44 07.5	
	comp=N,2μm,0.7s							
VA03	**San Esteban**	**2.18**	**160**	*e*	P	**Pn**	**13 43 38.1**	**+0.7**
VA03				*i*	S	**Sn**	**13 44 03.4**	**+0.1**
VA03				IAML			13 44 11.7	
	comp=E,1μm,0.6s							
VA01	**Torpederas**	**2.31**	**185**	*e*	P	**Pn**	**13 43 38.3**	**-0.8**
PEL	**Peldehue**	**2.51**	**166**	*e*	P	**Pn**	**13 43 42.3**	**+0.4**
PEL				*i*	S	**Sn**	**13 44 14.8**	**+3.6**
PEL				IAML			13 44 26.0	
	comp=E,718nm,0.3s							
AC04	**Llanos de Chal**	**2.52**	**7**			**Pn**	**13 43 42.5**	**+0.6**
AC04	**Llanos de Chal**	**2.52**	**7**	*e*	P	**Pn**	**13 43 42.2**	**+0.2**
AC04				IAML			13 44 22.3	
	comp=N,929nm,0.7s							
MT02	**Curacav**	**2.55**	**174**			**Pn**	**13 43 43.7**	**+1.2**
MT02	**Curacav**	**2.55**	**174**	*e*	P	**Pn**	**13 43 42.3**	**-0.1**
VA05	**Santo Domingo**	**2.94**	**183**	*e*	P	**Pn**	**13 43 48.3**	**+0.5**
MT09	**Talagante**	**3.08**	**173**	*e*	P	**Pn**	**13 43 50.0**	**+0.2**
MT09				*i*	S	**Sn**	**13 44 26.9**	**+1.5**
MT09				IAML			13 44 41.3	
	comp=N,611nm,0.1s							
MT01	**Popeta**	**3.15**	**177**	Pn		**Pn**	**13 43 50.6**	**-0.1**
LMEL	**Las Melosas**	**3.30**	**162**			**Pn**	**13 43 54.7**	**+1.9**
BO04	**La Punta**	**3.34**	**168**			**Pn**	**13 43 53.9**	**+0.6**
BO04	**La Punta**	**3.34**	**168**	*e*	P	**Pn**	**13 43 53.8**	**+0.4**
BO01	**Tunca**	**3.68**	**176**	Pn		**Pn**	**13 43 59.2**	**+1.3**
GO05	**Huala**	**4.31**	**185**			**Pn**	**13 44 04.8**	**-1.7**
H03N1	**Juan Fernandez**	**6.91**	**245**	T		T	13 51 31.1	
	baz=72,slow=72,SNR=2437							
H03N3	**Juan Fernandez**	**6.92**	**245**	T		T	13 51 30.4	
	baz=72,slow=72,SNR=2416							
H03N2	**Juan Fernandez**	**6.92**	**245**	T		T	13 51 31.7	
	baz=72,slow=72,SNR=2252							
PLCA	**Paso Flores**	**10.03**	**176**	Pn		**Pn**	**13 45 25.7**	**+0.7**
	comp=N,0.1nm,0.3s,baz=350,slow=14,SNR=2.8							
	comp=N,1.2nm,0.8s							
TRQA	**Tornquist**	**10.70**	**136**	Pn		**Pn**	**13 45 32.7**	**-1.5**
CPUP	**Villa Florida**	**13.14**	**74**	Pn		**Pn**	**13 46 08.8**	**+1.2**
	comp=N,0.5nm,0.3s,baz=249,slow=4.5,SNR=1.0							
CPUP				Sn		S	13 48 42.6	-13
	baz=187,slow=5.5							
MLPR	**Magueyes Islan**	**48.58**	**6**	P		**P**	**13 51 41.1**	**-1.5**
SNAA	**Sanae**	**54.44**	**159**	P		**P**	**13 52 25.2**	**-0.8**
SNAA				IAmb		IAmb	13 52 45.8	
	comp=Z,3.4nm,0.9s							
QSPA	**South Pole Qui**	**59.52**	**180**	P		**P**	**13 53 01.7**	**-0.4**
TXAR	**Lajitas Array**	**67.14**	**330**	P		**P**	**13 53 53.1**	**+0.3**
TX31	**Lajitas Ar. Si**	**67.14**	**330**	P		**P**	**13 53 53.2**	**+0.3**
TX31				IAmb		IAmb	13 54 22.1	
	comp=Z,6.1nm,1.2s							
H11S2	**WAKE ISLAND Hyl**	**26.28**	**271**	T		T	16 20 48.7	
	baz=115,slow=75,SNR=53							
H11S1	**WAKE ISLAND Hyl**	**26.29**	**271**	T		T	16 20 47.7	
	baz=115,slow=75,SNR=43							
H11S3	**WAKE ISLAND Hyl**	**26.29**	**271**	T		T	16 20 49.2	
	baz=115,slow=75,SNR=43							
H11N3	**WAKE ISLAND Hyl**	**26.61**	**273**	T		T	16 21 12.2	
	baz=153,slow=74,SNR=8.4							
H11N2	**WAKE ISLAND Hyl**	**26.62**	**273**	T		T	16 21 12.5	
	baz=121,slow=74,SNR=15							
ZALV	**Zalesovo Beam**	**151.15**	**30**	PKPbc		**PKPbc**	**14 02 50.7**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=316,slow=4.4,SNR=17							

IDC ***13*** *14:24:56.7±2.1,8.10°S×110.42E,h0km,mb3.7/3, mbtmp3.7/4,ML3.5/1,Error ellipse: s-maj=145.5km s-min=23.3km az=29.0*
DJA ***13*** *14:24:58.5±0.3,8°S±4°×11°E±°,h10km,M4.1/18,mb4.4/4, MLv4.0/18*
NEIC ***13*** *14:24:58.8±2.1,7.90S±0.08×110.34E±0.03,h10km±2km, mb4.2/10,Error ellipse: s-maj=13.6km s-min=5.7km az=355.0*
ISC 13 14:24:58.5±1.0,7.96S±0.07×110.36E±0.05,h15km±6km, n37,σ1s26/40,mb4.1/6,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
YOGI	**Yogyakarta**	**0.16**	**334**	P		**Pg**	**14 25 03.0**	**+0.4**
UGM	**Wanagama**	**0.17**	**74**	Pg		**Pg**	**14 25 02.6**	**-0.1**
UGM				Sg		**Sg**	**14 25 05.3**	**-0.2**
UGM	**Wanagama**	**0.17**	**74**	P		**Pg**	**14 25 02.6**	**-0.1**
UGM				S		**Sg**	**14 25 05.3**	**-0.2**
SMRI	**Semarang**	**0.91**	**5**	Pn		**Pb**	**14 25 17.3**	**+1.3**
SMRI	**Semarang**	**0.91**	**5**	P		**Pb**	**14 25 17.3**	**+1.3**
NGJI	**Ngawi**	**1.24**	**62**	P		**Pg**	**14 25 22.4**	**0.0**
UWJI	**Ujung Watu**	**1.64**	**21**	P		**Pn**	**14 25 28.1**	**+1.4**
CMJI	**Cimerak**	**1.91**	**275**	P		**Pn**	**14 25 30.7**	**+0.3**
LEM	**Lembang**	**2.95**	**292**	Pn		**Pn**	**14 25 45.8**	**+0.9**
	6.2nm,0.3s,baz=341,slow=18,SNR=2.2							
LEM				Sn		**Sb**	**14 26 25.8**	**-1.0**
	14nm,0.3s,baz=60,slow=20,SNR=6.2							
	17nm,0.4s							
LEM	**Lembang**	**2.95**	**292**	P		**Pn**	**14 25 45.7**	**+0.8**
GMJI	**Gumukmas**	**3.07**	**96**	P		**Pn**	**14 25 47.0**	**+0.6**
BWJI	**Bawean**	**3.09**	**48**	P		**Pn**	**14 25 48.0**	**+1.2**
BLJI	**Banyuglugur**	**3.21**	**86**	P		**Pn**	**14 25 49.2**	**+0.8**
CNJI	**Cibinong**	**3.27**	**281**	P		**Pn**	**14 25 49.7**	**+0.5**
JAGI	**Jajag, Banyuwa**	**3.79**	**98**	Pn		**Pn**	**14 25 58.0**	**+1.7**
JAGI				Sn		**Sn**	**14 26 42.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**3.79**	**98**	P		**Pn**	**14 25 57.2**	**+0.9**
ABJI	**Asem Bagus**	**3.84**	**88**	P		**Pn**	**14 25 58.2**	**+1.2**
SRBI	**Singaraja**	**4.80**	**92**	P		**Pn**	**14 26 10.7**	**+0.4**
CGJI	**Cibinong**	**4.82**	**286**	P		**Pn**	**14 26 11.6**	**+1.0**
TWSI	**Taliwang, Sumb**	**6.50**	**97**	P		**Pn**	**14 26 34.1**	**+0.5**
	16nm,0.8s,0.1nm							
PLAI	**Plampang**	**7.38**	**97**	P		**Pn**	**14 26 45.8**	**0.0**
	24nm,1.4s,0.1nm							
MNAI	**Manna**	**8.19**	**295**	P		**Pn**	**14 26 57.4**	**+0.6**
TOLI2	**Tolitoli**	**13.75**	**50**	Pn		**Pn**	**14 28 09.7**	**-3.4**
SOEI	**Soe**	**13.85**	**98**	Pn		**Pn**	**14 28 14.6**	**0.0**
MBWA	**Marble Bar**	**15.94**	**146**	P		**Pn**	**14 28 42.0**	**-0.4**
MBWA				IAmb		IAmb	14 29 15.4	
	comp=Z,14nm,1.1s							
FITZ	**Fitzroy Crossi**	**17.96**	**126**	P		**P**	**14 29 11.1**	**+2.9**
KNRA	**Kununurra**	**19.56**	**115**	P		**Pn**	**14 29 27.4**	**+0.2**
KNRA				IAmb		IAmb	14 29 59.0	
	comp=Z,28nm,1.2s							
MTN	**Manton Dam**	**20.99**	**105**	P		Pn	14 29 43.6	-0.6
WRA	**Warramunga Arr**	**26.09**	**120**	P		**P**	**14 30 32.6**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=294,slow=11,SNR=2.3							
	comp=Z,0.3nm,0.8s							
WRA	**Warramunga Arr**	**26.09**	**120**	P		**P**	**14 30 35.0**	**+3.0**
WRAB	**Tennant Creek**	**26.10**	**120**	P		**P**	**14 30 32.0**	**+0.1**
WRAB				IAmb		IAmb	14 31 05.6	
	comp=Z,12nm,1.5s							
WB2	**Warramunga Arr**	**26.11**	**120**			**P**	**14 30 32.6**	**+0.6**
WB2				IAmb		IAmb	14 30 37.4	
	comp=Z,8.3nm,1.4s							
PBA	**Port Blair**	**26.21**	**318**	P		**P**	**14 30 31.9**	**-1.0**
WR0	**Warramunga Arr**	**26.28**	**120**			**P**	**14 30 34.8**	**+1.3**
WR0				IAmb		IAmb	14 31 11.7	
	comp=Z,9.0nm,1.4s							
ASAR	**Alice Springs**	**27.44**	**127**	P		**P**	**14 30 41.9**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=297,slow=8.1,SNR=8.1							
	comp=Z,0.5nm,0.7s							
STKA	**Stephens Creek**	**37.55**	**134**	P		**P**	**14 32 12.1**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=315,slow=7.5,SNR=13							
	comp=Z,2.5nm,0.4s							
STKA	**Stephens Creek**	**37.55**	**134**			**P**	**14 32 12.1**	**-0.1**
STKA				IAmb		IAmb	14 32 55.5	
	comp=Z,1.8nm,1.2s							

TIR ***13*** *15:14:50.7,41.1°11N×20.1°12E,h2km,Md2.6,Ml2.2*
SKO ***13*** *15:14:51.6,41.1°04N×19.9°96E,h6km,ML2.2*
BEO ***13*** *15:14:53.5±0.9,41.1°05N×20.0°07E,h1km±3km,ML2.1/5*
ISC 13 15:14:51.9±1.3,41.0°06N±0.0°04×20.0°06E±0.0°03,h2km±12km, n20,σ1s27/31,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TIR	**Tirane**	**0.32**	**333**	P		**Pg**	**15 14 57.6**	**-0.5**
	baz=322							
TIR				S		**Sg**	**15 15 02.8**	**+0.5**
	baz=322							
TIR				AMP				
	comp=E,1.5nm,0.6s,baz=322							
TIR	**Tirane**	**0.32**	**333**	*e*Pg		**Pg**	**15 14 57.6**	**-0.5**
TIR				*e*Sg		**Sb**	**15 15 04.6**	**-1.5**
TIR	**Tirane**	**0.32**	**333**	*e*Pg		**Pg**	**15 14 57.5**	**-0.7**
TIR				*e*Sg		**Sg**	**15 15 03.6**	**+1.3**
OHR	**Ohrid**	**0.56**	**85**	*e*Pg		**Pb**	**15 15 03.3**	**-1.3**
OHR				*e*Sg		**Sb**	**15 15 11.8**	**-1.3**
OHR	**Ohrid**	**0.56**	**85**	*e*Pg		**Pb**	**15 15 03.2**	**-1.4**
OHR				*e*Sg		**Sb**	**15 15 11.7**	**-1.4**
OHR				*e*Lg		Lg	15 15 15.8	
	comp=N,84nm,0.6s							
OHR				*e*Lg		Lg	15 15 21.2	
	comp=E,110nm,0.6s							
LSK	**Leskovik**	**1.00**	**155**	P		**Pb**	**15 15 11.2**	**-0.9**
	baz=159							
FNA	**Florina**	**1.04**	**105**	*e*Pg		**Pb**	**15 15 12.5**	**-0.2**
FNA				*e*Sg		**Sb**	**15 15 26.2**	**-0.6**
FNA	**Florina**	**1.04**	**105**	*e*Pg		**Pg**	**15 15 11.4**	**-0.5**
SRN	**Sarande**	**1.18**	**182**	P		**Pn**	**15 15 15.1**	**-0.4**
	baz=185							
SRN				S		**Sn**	**15 15 33.6**	**+1.4**
	baz=185							

STKA	Stephens Creek	38.99	242	P	P	15 40 25.9	+0.5
BBOO	Buckleboo	43.76	242	P	P	15 41 03.4	+0.3
BBOO				IAmb	IAmb	15 41 10.8	
	comp=Z,21nm,1.1s						
WR0	Warramunga Arr	45.03	260	P	P	15 41 12.9	-0.1
WR0				IAmb	IAmb	15 41 15.6	
	comp=Z,5.8nm,1.1s						
WB0	Warramunga Arr	45.20	260	P	P	15 41 13.8	-0.4
WB2	Warramunga Arr	45.21	260	P	P	15 41 12.9	-1.5
WB2				IAmb	IAmb	15 41 14.5	
	comp=Z,9.6nm,0.6s						
WRAB	Tennant Creek	45.22	260	P	P	15 41 14.0	-0.3
WRAB				IAmb	IAmb	15 41 14.4	
	comp=Z,9.1nm,0.5s						
WRA	Warramunga Arr	45.23	260	P	P	15 41 13.3	-1.1
	comp=Z,5.5nm,0.4s,baz=97,slow=7.0,SNR=131						
WRA				PcP	PcP	15 42 41.4	-0.1
	comp=Z,0.9nm,0.4s,baz=94,slow=3.7,SNR=5.4						
	comp=Z,5.5nm,0.4s						
WRA	Warramunga Arr	45.23	260	P	P	15 41 13.0	-1.4
AS31	Alice Springs	45.32	255	P	P	15 41 15.0	-0.2
ASAR	Alice Springs	45.32	255	P	P	15 41 14.6	-0.5
	comp=Z,11nm,0.7s,baz=92,slow=7.5,SNR=123						
ASAR				PcP	PcP	15 42 41.5	-0.2
	comp=Z,1.7nm,0.5s,baz=101,slow=4.0,SNR=13						
ASAR				S	S	15 47 10.4	-3.0
	comp=Z,2.7nm,0.9s,baz=90,slow=15,SNR=14						
	comp=Z,11nm,0.7s						
MTN	Manton Dam	49.48	269	P	P	15 41 44.9	-1.3
MTN				IAmb	IAmb	15 41 46.5	
	comp=Z,12nm,0.8s						
KNRA	Kununurra	51.13	264	P	P	15 41 57.1	-1.1
KNRA				IAmb	IAmb	15 41 58.6	
	comp=Z,8.0nm,0.7s						
SIJI	Sorong	53.04	283	P	P	15 42 12.0	+0.1
	comp=Z,22nm,0.5s,baz=122,slow=3.9,SNR=38						
	comp=Z,22nm,0.5s						
SOEI	Soe	56.77	270	P	P	15 42 37.5	-0.5
SOEI				IAmb	IAmb	15 42 40.0	
	comp=Z,28nm,0.9s						
BATI	Baumata	57.23	270	P	P	15 42 42.0	+1.0
	comp=Z,12nm,0.5s,baz=138,slow=0.9,SNR=4.3						
	comp=Z,12nm,0.5s						
VNDA	Vanda	59.97	185	P	P	15 42 59.0	+0.8
	comp=Z,1.9nm,0.6s,baz=18,slow=5.4,SNR=5.7						
	comp=Z,1.9nm,0.6s						
VNDA	Vanda	59.97	185	P	P	15 42 59.2	+1.0
MJAR	Matsushiro Arr	68.76	323	P	P	15 43 53.5	-0.8
	comp=Z,3.2nm,0.7s,baz=160,slow=5.9,SNR=7.5						
	comp=Z,3.2nm,0.7s						
QSPA	South Pole Qui	71.61	180	P	P	15 44 11.6	+0.8
ASAJ	Asahikawa	72.09	331	P	P	15 44 14.7	+1.1
	comp=Z,3.1nm,0.5s,baz=236,slow=7.3,SNR=4.8						
	comp=Z,3.1nm,0.5s						
LEM	Lembang	73.40	268	P	P	15 44 21.1	-1.0
	comp=Z,21nm,0.8s,baz=97,slow=4.4,SNR=4.9						
	comp=Z,21nm,0.8s						
PETK	Petropavlovsk-	74.38	345	P	P	15 44 26.2	-0.3
	comp=Z,4.5nm,0.6s,baz=121,slow=7.2,SNR=6.3						
	comp=Z,4.5nm,0.6s						
YBH	Yreka Blue Hor	78.50	39	P	P	15 44 50.9	+1.5
	comp=Z,1.9nm,0.6s,baz=199,slow=2.2,SNR=6.0						
	comp=Z,1.9nm,0.6s						
NVAR	Mina Array Bea	79.33	43	P	P	15 44 55.3	+1.3
	comp=Z,1.5nm,0.6s,baz=227,slow=9.2,SNR=10						
	comp=Z,1.5nm,0.6s						
U15A	North Rim	82.36	48	P	P	15 45 10.6	+0.9
U15A				IAmb	IAmb	15 45 12.3	
	comp=Z,5.8nm,0.8s						
L19K	White Mountain	82.38	11	P	P	15 45 08.9	0.0
SUA	Susitna One	82.50	13	P	P	15 45 09.1	-0.6
SUA				IAmb	IAmb	15 45 26.9	
	comp=Z,6.8nm,1.0s						
ELK	Elko	82.57	43	P	P	15 45 11.2	+0.6
	comp=Z,2.0nm,0.9s,baz=244,slow=5.7,SNR=7.8						
	comp=Z,2.0nm,0.9s						
G08A	Pilot Rock	82.81	37	P	P	15 45 12.4	+0.8
TTA	Tatalina	82.88	10	P	P	15 45 10.5	-0.9
CAST	Castle Rocks	84.02	11	P	P	15 45 15.6	-1.4
CAST				IAmb	IAmb	15 45 16.4	
	comp=Z,7.5nm,0.9s						
TRF	Thorofare Moun	84.39	12	P	P	15 45 17.8	-1.2
TRF				IAmb	IAmb	15 45 19.0	
	comp=Z,11nm,0.8s						
SEY	Seymchan	84.46	347	P	P	15 45 18.9	-0.2
	comp=Z,6.7nm,0.8s,baz=143,slow=5.7,SNR=21						
	comp=Z,6.7nm,0.8s						
TXAR	Lajitas Array	85.69	57	P	P	15 45 27.6	+1.6
IL31		86.26	13	P	P	15 45 26.6	-1.0
IL31				IAmb	IAmb	15 45 29.1	
	comp=Z,1.9nm,0.7s						
ILAR	Eielson Array	86.26	13	P	P	15 45 26.9	-0.8
	comp=Z,1.0nm,0.4s,baz=218,slow=4.9,SNR=35						
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	87.26	43	P	P	15 45 34.0	+0.7
	comp=Z,1.0nm,0.6s,baz=203,slow=3.6,SNR=11						
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	89.72	289	P	P	15 45 45.8	+0.8
	comp=Z,1.8nm,0.9s,baz=111,slow=3.3,SNR=13						
	comp=Z,1.8nm,0.9s						
INK	Inuvik	92.22	15	P	P	15 45 54.7	-0.6
	comp=Z,1.6nm,0.6s,baz=196,slow=4.2,SNR=5.3						
	comp=Z,1.6nm,0.6s						
YKA	Yellowknife Ar	94.53	25	P	P	15 46 05.7	-0.2
	comp=Z,0.5nm,0.6s,baz=242,slow=4.6,SNR=10						
	comp=Z,0.5nm,0.6s						
MKAR	Makanchi Array	110.01	314	PKiKP	PKiKP	15 51 12.1	-1.2
	comp=Z,0.5nm,0.5s,baz=236,slow=0.7,SNR=13						
ARCES	ARCESS Array B	126.97	350	PKP	PKPdf	15 51 44.3	-0.8
	comp=Z,1.7nm,0.5s,baz=18,slow=1.7,SNR=14						
FINES	FINESS Array B	133.90	344	PKP	PKPdf	15 51 58.0	-0.4
	comp=Z,1.1nm,0.4s,baz=80,slow=2.5,SNR=13						
SORM	Soroca	143.61	330	⇑P	PKPab	15 52 15.1	-0.4
BURAR	Bucovina Array	145.42	332	⇓P	PKiKP	15 52 23.5	-0.5
TESR	Tescani	145.58	330	⇑P	PKPbc	15 52 21.8	+0.2
BRTR	Keskin Array B	145.66	315	PKPbc	PKPdf	15 52 20.9	+0.4
	comp=Z,2.8nm,0.7s,baz=132,slow=4.8,SNR=13						
BRTR	Keskin Array B	145.66	315		PKPdf	15 52 21.1	+0.7
OSTC	Ostas	146.10	344	*e*PKP	PKPbc	15 52 23.3	+0.4
TRPA	Tarpa	146.13	335	⇑P	PKPbc	15 52 23.4	+0.4
CLL	Collm	146.14	348		PKPbc	15 52 23.2	+0.3
CLL	Collm	146.14	348	*i* PKPbc	PKPbc	15 52 22.7	-0.2
	comp=Z,17nm,0.6s						
OKC	Ostrava-Krasne	146.21	341	*e*PKP	PKPbc	15 52 23.3	+0.2
DPC	Dobruska-Polom	146.26	344	*e*PKP	PKPbc	15 52 23.5	+0.1
MORC	Moravsky Berou	146.44	342	⇑P	PKPbc	15 52 24.3	+0.4
PVCC	Panska Ves	146.54	346	*e*PKP	PKPbc	15 52 24.6	+0.6
DOPR	Dopca	146.57	330	⇓P	PKiKP	15 52 25.9	-0.5
MAUC	Maruska	146.72	341	*e*PKP	PKPbc	15 52 25.2	+0.6
PRU	Pruhonice	147.04	345	*e*PKP	PKPbc	15 52 25.1	-0.3
MARR	Marisel-Cluj	147.05	333	⇑P	PKPbc	15 52 26.4	+0.8
VYHS	Vyhne	147.17	340	*e*	PKPbc	15 52 26.2	+0.4
MODS	Modra-Piesok	147.77	341	*e*	PKiKP	15 52 28.1	-0.6
KHC	Kasperske Hory	148.07	346	*e*PKP	PKPbc	15 52 28.1	0.0
CKRC	Cesky Krumlov	148.19	345	*e*PKP	PKiKP	15 52 29.2	-0.4
SURR	Surduc	148.20	333	⇑P	PKPbc	15 52 28.5	0.0
GERES	GERESS Array B	148.31	346	PKPbc	PKPbc	15 52 28.8	0.0
	comp=Z,2.3nm,0.7s,baz=29,slow=3.0,SNR=9.8						
BZS	Buzias	148.53	334	⇓P	PKiKP	15 52 30.1	-0.2
CONA	Conrad Observa	148.59	342	*i* P	PKiKP	15 52 30.0	-0.5
	comp=Z,6.8nm,0.9s						
RONA	Rosalia, Austr	148.67	342	*i* P	PKPbc	15 52 30.1	+0.4
	comp=Z,9.1nm,1.3s						
HERR	Herculane	148.76	332	⇓P	PKPbc	15 52 29.1	-0.8
MOA	Molln	149.10	344	*i* P	PKPbc	15 52 30.2	-0.4
	comp=Z,4.3nm,0.6s						
MORH	Mrgy, Hungar	149.20	338	⇓P	PKPbc	15 52 30.1	-0.7
ARSA	Arzberg	149.30	342	*i* P	PKPbc	15 52 30.7	-0.5
	comp=Z,2.0nm,0.6s						
BIOA	Bad Ischl, Aus	149.40	345	*e*P	PKPbc	15 52 29.6	-1.8
	comp=Z,8.9nm,1.4s						
KBA	Koelnbreinsper	150.05	345	*i* P	PKPbc	15 52 31.9	-1.2
	comp=Z,14nm,1.6s						
BOVS	Bovan	150.05	331	⇑P	PKPbc	15 52 31.6	-1.4
VTS	Vitosha	150.08	328	⇑P	PKPbc	15 52 33.5	+0.2
WATA	Walderalm	150.21	347	*i* P	PKPbc	15 52 33.4	-0.1
	comp=Z,4.4nm,0.5s						
WTTA	Wattenberg	150.26	347	*i* P	PKPbc	15 52 33.8	+0.1
	comp=Z,11nm,0.6s						
MOTA	Moosalm	150.30	348	*i* P	PKPbc	15 52 33.5	-0.1
	comp=Z,6.0nm,0.9s						
MYKA	Terra Mystica	150.39	344	*i* P	PKPbc	15 52 33.1	-0.7
	comp=Z,4.1nm,0.6s						
SQTA	Sankt Quirin	150.39	348	*i* P	PKPbc	15 52 33.9	+0.1
	comp=Z,5.2nm,0.6s						
ABTA	Abfaltersbach	150.56	346	*i* P	PKPbc	15 52 33.7	-0.4
	comp=Z,9.0nm,0.6s						
DAVA	Damuels	150.58	350	*i* P	PKPbc	15 52 34.5	+0.1
	comp=Z,7.5nm,0.7s						
FETA	Feichten	150.68	348	*i* P	PKiKP	15 52 34.8	-0.2
	comp=Z,10nm,1.1s						

IDC ***13*** *15:36:36.4±3.1, 25°.50N×141°.30E, h43km±31km, mb3.3/7, mbtmp3.5/7, Error ellipse: s-maj=37.0km s-min=18.5km az=100.0*

ISC 13 15:36:35.6±1.0, 25°.5N±0°.1×141°.3E±0°.2, h35km, n14, σ1§07/9, mb3.5/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	1.82	27	P	Pn	15 37 04.8	+0.3
	151nm,0.3s,baz=274,slow=22,SNR=15						
JCJ				S	Sn	15 37 26.2	-0.2
	105nm,0.5s,baz=262,slow=23,SNR=7.6						
H11N1	WAKE ISLAND Hy	24.33	98	T	T	16 07 05.8	
	baz=293						
H11N2	WAKE ISLAND Hy	24.33	98	T	T	16 07 02.9	
	baz=293,slow=74						
H11N3	WAKE ISLAND Hy	24.34	98	T	T	16 07 05.4	
	baz=293,slow=74						
H11S3	WAKE ISLAND Hy	24.55	101	T	T	16 07 19.5	
	baz=291,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy	24.56	101	T	T	16 07 21.8	
	baz=291,slow=75,SNR=22						
H11S2	WAKE ISLAND Hy	24.57	101	T	T	16 07 22.6	
	baz=291,slow=75,SNR=29						
SONM	Songino Array	35.34	318	P	P	15 43 28.4	+0.7
	0.2nm,0.3s,baz=126,slow=7.3,SNR=1.7						
	0.2nm,0.3s						
WRA	Warramunga Arr	45.63	189	P	P	15 44 52.2	-0.6
	1.1nm,0.6s,baz=8.3,slow=8.6,SNR=11						
	1.1nm,0.6s						
ASAR	Alice Springs	49.36	189	P	P	15 45 22.6	+0.9
	0.2nm,0.6s,baz=17,slow=13,SNR=1.4						
	0.2nm,0.6s						
MKAR	Makanchi Array	50.89	311	P	P	15 45 33.7	+0.6
	0.3nm,0.7s,baz=81,slow=10,SNR=3.0						
	0.3nm,0.7s						
ILAR	Eielson Array	59.54	28	P	P	15 46 35.6	+0.4
	0.5nm,0.8s,baz=264,slow=8.9,SNR=2.1						
	0.5nm,0.8s						
YKA	Yellowknife Ar	73.97	28	P	P	15 48 07.1	0.0
	0.3nm,0.7s,baz=295,slow=6.0,SNR=4.4						
	0.3nm,0.7s						
FINES	FINESS Array B	79.04	334	P	P	15 48 33.7	-2.1
	1.1nm,0.6s,baz=93,slow=3.8,SNR=5.0						
	1.1nm,0.6s						

IDC 13 15:37:30.1±24.0, 3°.42N×93°.14E, h0km, mb3.6/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=504.8km s-min=117.3km az=144.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	15.99	20	Pn	Pn	15 41 16.6	0.0
	0.1nm,0.3s,baz=212,slow=12,SNR=4.8						
	0.4nm,0.6s						
H08S2	Diego Garcia H	23.35	242	T	T	16 07 48.9	
	baz=64,slow=76,SNR=17						
H08S3	Diego Garcia H	23.35	242	T	T	16 07 51.7	
	baz=64,slow=76,SNR=18						
H08S1	Diego Garcia H	23.37	242	T	T	16 07 48.3	
	baz=64,slow=76,SNR=18						
MKAR	Makanchi Array	44.22	349	P	P	15 45 41.4	+0.3
	0.3nm,0.5s,baz=172,slow=9.3,SNR=7.0						
	0.3nm,0.5s						
ZALV	Zasovoi Beam	50.83	354	P	P	15 46 31.7	-0.6
	0.5nm,0.3s,baz=164,slow=8.3,SNR=3.2						
	0.5nm,0.3s						

DJA ***13*** *15:43:08.7±0.4, 4°.S±4°×12°.9E±°, h86km±6km, M4.3/15, mB5.3/5, mb4.2/6, MLv4.1/15, Mw(mB)4.7/5*

IDC ***13*** *15:43:09.0±3.6, 3°.68S×129°.07E, h130km±35km, mb3.5/3, mbtmp3.8/5, MS3.3/2, Error ellipse: s-maj=45.8km s-min=13.1km az=81.0*

ISC 13 15:43:06.5±0.8, 3°.68S±0°.06×128°.78E±0°.06, h100km, n20, σ1§67/22, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	Masohi	0.36	25	P	Pn	15 43 23.1	+1.7
AAI	Ambon	0.58	269	P	Pn	15 43 24.0	+1.2
BNDI	Bandanaira	1.40	127	P	Pn	15 43 35.3	+3.8
NLAI	Namlea	1.73	285	P	Pn	15 43 37.2	+1.6
NLAI				S	Sn	15 43 58.8	+1.1
SANI	Sanana	3.22	300	P	Pn	15 43 54.7	-0.5
FAKI	Fak Fak	3.55	78	P	Pn	15 44 02.0	+2.4
SIJI	Sorong	3.74	42	P	Pn	15 44 04.1	+1.9
	24nm,0.2s,baz=219,slow=13,SNR=67						
SIJI				S	Sn	15 44 44.7	-0.6
	72nm,0.3s,baz=198,slow=20,SNR=23						
TNTI	Ternate	4.64	342	P	Pn	15 44 14.2	-0.2
RKPI	Ranaki, Papua	5.81	68	P	Pn	15 44 32.2	+2.0
	46nm,0.6s,13μm0.6nm						
LUWI	Luwuk	6.54	293	P	Pn	15 44 40.9	+0.7
	29nm,0.8s,0.1nm						
APSI	Ampana	7.63	291	P	Pn	15 44 56.6	+1.6
	11nm,0.8s,0.1nm						
MRSI	Marisa	7.98	301	P	Pn	15 45 00.3	+0.5
	7.5nm,1.0s,546nm0.1nm						
SGSI	Sangihe	8.00	336	P	Pn	15 45 01.2	+1.1
MMRI	Maumere	8.15	233	P	Pn	15 45 03.9	+1.8
WRA	Warramunga Arr	17.05	162	P	Pn	15 46 57.9	-1.0
	0.3nm,0.3s,baz=344,slow=12,SNR=8.7						
WRA				S	Sn	15 50 07.3	-1.1
	0.2nm,0.4s,baz=340,slow=21,SNR=1.9						
ASAR	Alice Springs	20.48	166	P	P	15 47 36.8	+0.4
	2.0nm,0.7s,baz=347,slow=11,SNR=25						
ASAR				S	S	15 51 18.2	-2.1
	0.4nm,0.6s,baz=348,slow=20,SNR=5.6						
	2.0nm,0.7s						
KRVT	Keruet(AS076	23.20	92	LR	LR	15 58 44.0	
	comp=Z,84nm,18.1s,baz=252,slow=41						
KLR	Kul'dur	52.76	2	LR		16 13 48.9	
	comp=Z,25nm,20.3s,baz=138,slow=35						
PETK	Petropavlovsk-	61.59	19	P	P	15 53 11.6	-1.6
	4.3nm,1.0s,baz=277,slow=7.0,SNR=2.4						
	4.3nm,1.0s						
MKAR	Makanchi Array	64.80	327	P	P	15 53 34.8	+0.2
	0.5nm,0.8s,baz=118,slow=7.5,SNR=4.9						
	0.5nm,0.8s						

HEL ***13*** *16:31:40.4±0.2, 67°.86N×33°.71E, h0km, ML2.0, Explosion*

BER ***13*** *16:31:41.2±0.8, 67°.57N×34°.64E, h0km, ML1.9, Suspected explosion*

KOLA ***13*** *16:31:42.4, 67°.65N×34°.22E, h0km, ML2.3, Murmansk region, Kirovsk district*

IDC ***13*** *16:31:44.5±2.1, 67°.67N×33°.73E, h0km, mbtmp3.6/3, ML2.1/2, Error ellipse: s-maj=23.2km s-min=10.4km az=81.0*

ISC 13 16:31:41.6±1.0, 67°.68N±0°.04×34°.21E±0°.05, h0km, n28, σ1§22/48, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVZ	Lovozero	0.28	37	PG	Pg	16 31 47.1	+0.2
LVZ				SG	Sg	16 31 51.3	+0.8
APA	Apatity	0.33	250	P	Pg	16 31 48.4	+0.5
APA				S	Sg	16 31 52.6	+0.6
APA0	Apatity Array	0.47	262	P	Pg	16 31 50.3	-0.3
APA0				S	Sg	16 31 57.3	+0.6
TERR	Teriberka	1.56	12	P	Pn	16 32 10.6	-0.1
TERR				S	Sn	16 32 31.5	-0.1
OLKF	Oulanka, Finla	2.33	236	PG	Pn	16 32 22.7	+1.6
OLKF				MSG		16 32 48.0	
	comp=Z,8.4nm,0.2s						
KU6	Riekki	2.38	228	PG	Pn	16 32 23.0	+1.1
	baz=41						
KU6				MSG		16 32 50.6	
	comp=Z,5.2nm,0.2s						
KU6				SG	Sb	16 32 54.9	-0.3
MSF	Maaselka	2.71	231	PG	Pn	16 32 28.4	+2.1
MSF				SG	Sb	16 33 03.2	-1.5
VADS	Vadso	3.01	327	*e*P	Pn	16 32 30.8	+0.2
VADS				*e*S	Sn	16 33 07.8	+0.5
VADS				IAML		16 33 17.5	
	comp=Z,6.5nm,0.3s						
KEV	Kevo	3.35	312	*e*P	Pn	16 32 36.1	+0.9
KEV				*e*S	Sn	16 33 15.6	0.0
KEV	Kevo	3.35	312	PG	Pn	16 32 35.5	+0.3
	baz=122						
KEV				MSG		16 33 11.1	
	comp=Z,4.0nm,0.2s						
KEV				SG	Sn	16 33 16.1	+0.5
RNF	Rovaniemi	3.37	255	PB	Pn	16 32 35.4	-0.1
RNF				SB	Sn	16 33 16.6	+0.4
ARA0	ARCESS Array S	3.69	304	*e*P	Pn	16 32 40.1	+0.2
ARA0				*e*S	Sn	16 33 24.3	+0.3
ARA0				IAML		16 33 38.5	
	comp=Z,6.1nm,0.2s						
ARA0	ARCESS Array S	3.69	304	PG	Pn	16 32 43.1	+3.2
	baz=117						
ARA0				SB	Sn	16 33 22.9	-1.1
ARCES	ARCESS Array B	3.69	304	Pn	Pn	16 32 39.9	0.0
	comp=Z,0.4nm,0.3s,baz=121,slow=16,SNR=54						
ARCES				Pg	Pb	16 32 48.1	+0.5
	comp=Z,0.6nm,0.3s,baz=117,slow=14,SNR=18						
ARCES				Sn	Sn	16 33 22.8	-1.3
	comp=Z,0.6nm,0.3s,baz=115,slow=26,SNR=3.0						
ARCES				Lg	Lg	16 33 34.9	
	comp=Z,2.1nm,0.3s,baz=122,slow=23,SNR=4.7						
	comp=Z,0.9nm,0.3s						
ARCES	ARCESS Array B	3.69	304	P	Pn	16 32 39.9	0.0
ARCES				S	Sn	16 33 23.6	-0.5
RMF	Romuvaara	3.89	209	PN	Pn	16 32 42.7	+0.1
	baz=22						
HEF	Hetta	4.03	285	*e*P	Pn	16 32 44.8	+0.3
HEF				*e*S	Sn	16 33 32.3	0.0
HEF	Hetta	4.03	285	PB	Pn	16 32 44.3	-0.2
HEF				SB	Sn	16 33 33.0	+0.7
TOF	Tornio	4.21	252	SB	Sn	16 33 37.5	+0.7
KTK1	Kautokeino	4.28	293	*e*P	Pn	16 32 48.2	+0.3
KTK1				*e*S	Sn	16 33 37.8	-0.7
KTK1				IAML		16 33 52.6	
	comp=Z,6.4nm,0.3s						
KTK1	Kautokeino	4.28	293	PB	Pn	16 32 49.0	+1.1
PAJU	Pajala	4.34	266	PB	Pn	16 32 49.1	+0.3
LANU	Lannavaara	4.64	280	PB	Pn	16 32 54.2	+1.3
HAMF	Hammerfest	4.79	313	*e*	Pn	16 32 55.7	+0.8
HAMF				*e*S	Sn	16 33 49.3	-1.7
HAMF				IAML		16 34 15.6	
	comp=Z,5.9nm,0.3s						
KIF	Kilpisjarvi	5.14	291	*e*P	Pn	16 32 59.4	-0.3
KIF				*e*S	Sn	16 33 57.6	-2.0
FINES	FINESS Array B	7.17	213	Pn	Pn	16 33 27.9	+0.4
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=2.0						
FINES				Sn	Sn	16 34 44.7	-4.8
	comp=Z,0.1nm,0.3s,baz=38,slow=21,SNR=2.1						
FINES				Lg	Lg	16 35 23.7	
	comp=Z,0.2nm,0.3s,baz=30,slow=23,SNR=1.7						
	comp=Z,2.7nm,1.0s						
I43RU	DUBNA INFRASONI	1.09	171	I	I	17 43 50.0	
	baz=359,slow=330,SNR=1.1						
SPITS	Spitsbergen Ar	11.68	342	Pn	Pn	16 34 27.5	-1.7
	comp=Z,8.4nm,0.9s,baz=152,slow=23,SNR=1.5						

BJI ***13*** *16:39:22.6±0.0, 0°.16S×125°.10E, h45km, mb5.4/86, mB5.4/62, Ms5.1/91, Ms7 4.9/83*

MOS ***13*** *16:39:22.9±1.2, 0°.03S×124°.98E, h40km, mb5.9/68, MS4.8/18, Error ellipse: s-maj=7.5km s-min=4.0km az=116.0*

IDC ***13*** *16:39:23.2±2.1, 0°.10S×124°.90E, h30km±14km, mb5.2/28, mbtmp5.4/29, ML4.8/1, MS4.6/56, Error ellipse: s-maj=13.3km s-min=8.7km az=55.0*

KLM ***13*** *16:39:23, 0°.32S×125°.23E, h10km, mb5.7*

NEIC ***13*** *16:39:25.2±2.3, 0°.03N±0°.06×125°.08E±0°.05, h42km±1km, mb5.7/150, Ms_20 5.0/70, Mwb5.6/37, Mww5.7, Error ellipse: s-maj=10.8km s-min=9.2km az=180.0, Moment Tensor Solution. Moment tensor: Scale 10 17 Nm; Mrr1.64; Mθθ-0.33; Mφφ-1.31; Mrθ0.99; Mrφ-0.13; Mθφ2.25; Fault plane solution: Mo2.89000×10 17 NP1: φs182.50000°, δ16.14000°, λ72.05000°. NP2:φs21.14000°, δ74.66000°, λ95.10000°. Principal axes: T 3.0563, Plg60.0000°, Azm298.0000°; N -0.3679, Plg5.0000°, Azm200.0000°; P -2.6884, Plg29.0000°, Azm107.0000°;*

DJA ***13*** *16:39:26.6±0.1, 0°.S±1°×12°.5E±°, h61km±2km, M5.5/106, mB5.9/88, mb5.6/106, MLv5.8/25, Mw(mB)5.5/88, MwMwp5.4/61, Mwp5.6/61*

NEIC ***13*** *16:39:27, 0°.07S×125°.17E, h46km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10 17 Nm; Mrr2.55; Mθθ-1.90; Mφφ-0.65; Mrθ1.72; Mrφ-1.31; Mθφ2.66; Fault plane solution: Mo4.13000×10 17 NP1: φs255.00000°, δ23.00000°, λ123.00000°. NP2: φs39.00000°, δ71.00000°, λ77.00000°. Principal axes: T 4.1905, Plg62.0000°, Azm289.0000°; N -0.1325, Plg12.0000°, Azm44.0000°; P -4.0580, Plg25.0000°, Azm139.0000°;*

GCMT ***13*** *16:39:28.2±0.1, 0°.20S±0°.01×125°.04E±0°.01, h36km, MW5.7/140, Moment Tensor Solution. s140,c246; s129,c220; Duration: 1s6 Moment tensor: Scale 10 17 Nm; Mrr3.02±.04; Mθθ-1.95±.03; Mφφ-1.06±.04; Mrθ0.62±.05; Mrφ-1.57±.03; Mθφ2.20±.06; Best double couple: Mo3.82700×10 17 NP1:φs33.00000°, δ63.00000°, λ71.00000°. NP2:φs250.00000°, δ32.00000°, λ123.00000°. Principal axes: T 3.9810, Plg66.0000°, Azm268.0000°; N -0.2980, Plg17.0000°, Azm42.0000°; P -3.6730, Plg16.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 16:39:25.7±0.2, 0°.10S±0°.02×124°.99E±0°.03, h50km±1km, h52km:pP-P, n1381, σ1§62/1556, mb5.6/223, MS4.8/127, 90C-35D, Southern Molucca Sea

| Code |

DAV Sn **Sn** **16 42 26.8 -0.8**
158nm,0.3s,baz=61,slow=4.9,SNR=5.2
DAV LR LR 16 44 08.1
comp=Z,29µm,19.6s,baz=192,slow=40
DAV Davao City (W) 7.14 5 P **Pn** **16 41 11.3 +3.7**
DAV P **Pn** **16 41 11.3 +3.7**
DAV P **Pn** **16 41 11.3 +3.7**
DAV S **Sn** **16 42 34.2 +6.7**
DAV S **Sn** **16 42 34.2 +6.7**
DAV S **Sn** **16 42 34.2 +6.7**
KAPI Kappang 7.16 227 Pn **Pn** **16 41 11.3 +3.4**
58nm,0.3s,baz=61,slow=4.6,SNR=58
KAPI Sn **Sn** **16 42 29.7 +1.8**
99nm,0.3s,baz=83,slow=23,SNR=8.3
KAPI LR LR 16 44 34.5
comp=Z,19µm,21.2s,baz=66,slow=44
KAPI Kappang 7.16 227 Pn 16 41 08.1 +0.2
KAPI Kappang 7.16 227 P **Pn** **16 41 10.9 +3.0**
KAPI Kappang 7.16 227 P **Pn** **16 41 08.1 +0.2**
KAPI Kappang 7.16 227 P **Pn** **16 41 10.5 +2.6**
KAPI P **Pn** **16 41 10.5 +2.6**
KAPI P **Pn** **16 41 10.5 +2.6**
KAPI S **Sn** **16 42 28.5 +0.6**
KAPI S **Sn** **16 42 28.5 +0.6**
KAPI S **Sn** **16 42 28.5 +0.6**
SGKI Sangatta, Kali 7.40 267 P **Pn** **16 41 13.5 +2.3**
495nm,0.8s,8µm27µm
BSSI Bau Bau, Buton 7.50 217 P **Pn** **16 41 14.2 +1.6**
731nm,1.1s,8µm6µm3.2nm
ZCP Zamboanga City 7.56 337⇑ *e*P **Pn** **16 41 15.8 +2.4**
FAKI Fak Fak 7.78 111 Pn **Pn** **16 41 14.2 -2.2**
FAKI Fak Fak 7.78 111 P **Pn** **16 41 14.8 -1.6**
FAKI Fak Fak 7.78 111 P **Pn** **16 41 13.3 -3.1**
334nm,1.1s,4µm18µm1.5nm
BUKP Musuan 7.92 1⇓ *e*P **Pn** **16 41 21.9 +3.4**
BUKP Musuan 7.92 1⇑ *e*P **Pn** **16 41 22.2 +3.8**
CDOP Cateel, Davao 7.96 10⇓ *e*P **Pn** **16 41 21.0 +2.1**
PAGZ Pagadian 8.05 349⇓ *e*P **Pn** **16 41 22.2 +2.1**
BKB Balikpapan 8.18 262 Pn **Pn** **16 41 23.0 +1.2**
BKB Balikpapan 8.18 262 P **Pn** **16 41 22.7 +0.9**
BKB Balikpapan 8.18 262 P **Pn** **16 41 24.4 +2.6**
1µm,0.9s,11µm22µm
MYLDM Lahad Datu 8.34 309 Pn 16 41 22.1 -2.0
BIPH Bislig 8.34 9⇑ *i*P **Pn** **16 41 27.3 +3.2**
CGP Cagayan de Oro 8.50 358⇓ *e*P Pn 16 41 31.6 +5.3
TASP Talacogon, Agu 8.53 5⇑ *e*P **Pn** **16 41 31.1 +4.4**
DCPH Dipolog City 8.78 349⇑ *e*P **Pn** **16 41 34.7 +4.7**
MMRI Maumere 8.91 198 Pn **Pn** **16 41 34.9 +2.9**
MMRI Maumere 8.91 198 P **Pn** **16 41 34.5 +2.5**
MMRI Maumere 8.91 198 P **Pn** **16 41 33.3 +1.3**
245nm,1.1s,6µm9µm
LSIP Lazi, Siquijor 9.27 352⇓ *e*P **Pn** **16 41 39.9 +3.1**
RKPI Ransiki, Papua 9.29 99 P **Pn** **16 41 37.1 0.0**
496nm,0.8s,5µm16µm
SNPH Sibulan 9.54 349 *e*P **Pn** **16 41 44.6 +4.0**
SOEI Soe 9.62 184 Pn **Pn** **16 41 45.3 +3.6**
SOEI Soe 9.62 184 P **Pn** **16 41 44.8 +3.0**
1µm,1.0s,11µm15µm
GHBP Garcia Hernand 9.69 356⇓ *e*P **Pn** **16 41 41.9 -0.6**
SPMM Sapulut 9.76 299 P **Pn** **16 41 47.0 +3.4**
TBP Tagbilaran 9.79 353⇑ *e*P **Pn** **16 41 43.7 -0.3**
GLSP General Luna, 9.88 7⇑ *e*P **Pn** **16 41 47.5 +2.3**
SAUI Saumlaki 10.04 141 Pn **Pn** **16 41 48.5 +0.7**
SAUI Saumlaki 10.04 141 P **Pn** **16 41 48.4 +0.9**
SAUI Saumlaki 10.04 141 P **Pn** **16 41 48.0 +0.6**
962nm,1.0s,9µm18µm
BATI Baumata 10.13 187 Pn **Pn** **16 41 52.0 +3.4**
22nm,0.3s,baz=61,slow=0.6,SNR=81
BATI Baumata 10.13 187 P **Pn** **16 41 50.8 +2.2**
704nm,0.9s,5µm10µm
CNOP Candoni, Negro 10.13 347⇓ *e*P **Pn** **16 41 51.7 +3.1**
TABP Talibon, Bohol 10.14 356⇓ *e*P **Pn** **16 41 52.1 +3.4**
MSLP Maasin 10.16 359⇓ *e*P **Pn** **16 41 50.6 +1.5**
KKM Kota Kinabalu 10.68 305 **Pn** **16 41 59.5 +3.4**
KKM Kota Kinabalu 10.68 305 P **Pn** **16 42 00.8 +4.6**
BBKI Banjar Baru 10.68 252 P **Pn** **16 41 59.0 +2.8**
338nm,1.2s,9µm11µm
GUIM Jordan 10.92 347⇑ *e*P **Pn** **16 42 03.1 +3.7**
BASI Baing, Sumba 10.97 203 P **Pn** **16 42 01.0 +0.9**
358nm,1.0s,9µm10µm
WBSI Waikabubak, Su 11.00 210 P **Pn** **16 42 02.1 +1.6**
144nm,1.4s,2µm
PLAI Plampang 11.26 219 P **Pn** **16 42 07.8 +3.7**
PLAI Plampang 11.26 219 P **Pn** **16 42 06.6 +2.5**
194nm,1.1s,3µm7µm
SRPI Serui, Papua 11.38 99 P **Pn** **16 42 04.6 -1.2**
103nm,1.3s,8µm
CUYO Cuyo Island 11.57 340⇑ *e*P Pn 16 42 13.2 +4.9
TWSI Taliwang, Sumb 11.79 223 P **Pn** **16 42 11.7 +0.4**
175nm,1.4s,2µm6µm
RCP Roxas 11.79 349⇑ *e*P **Pn** **16 42 15.1 +3.8**
ENPP El Nido 12.52 334⇑ *e*P **Pn** **16 42 23.4 +2.1**
SRBI Singaraja 12.57 231 P **Pn** **16 42 26.6 +4.7**
186nm,1.1s,2µm6µm
BUSP Coron 12.93 339⇑ *e*P **Pn** **16 42 31.2 +4.3**
DNP Denpasar 12.95 229 P **P** **16 42 35.3 -1.0**
2µm,1.4s,18µm
SBUM Sibu 13.02 281 Pn 16 42 29.2 +1.1
IGBI Denpasar 13.09 228 P **Pn** **16 42 31.0 +2.0**
170nm,1.7s,3µm
ABJI Asem Bagus 13.17 234 P **Pn** **16 42 32.7 +2.5**
340nm,1.6s,5µm7µm
PBKI Pangkalan Bun 13.57 259 P **Pn** **16 42 38.2 +2.6**
318nm,1.2s
JAGI Jajag, Banyuwa 13.63 232 P 16 42 40.5 -3.5
JAGI Jajag, Banyuwa 13.63 232 P **Pn** **16 42 39.7 +3.2**
291nm,1.3s,4µm5µm
BLJI Banyuglugur 13.67 236 P **P** **16 42 41.2 -3.1**
241nm,1.0s,3µm6µm
SMPI Sarmi 13.84 98 P **Pn** **16 42 38.3 -1.1**
205nm,1.0s,4µm10µm
MTN Manton Dam 14.05 155 P **Pn** **16 42 41.6 -0.6**
baz=14,SNR=91
MTN Manton Dam 14.05 155 Pn 16 42 41.6 -0.6
MTN Manton Dam 14.05 155 P **Pn** **16 42 42.3 +0.1**
GMJI Gumukmas 14.09 234 P **Pn** **16 42 45.2 +2.6**
232nm,1.2s,4µm
JCNP Jose Panganiba 14.47 351⇓ *e*P **P** **16 42 52.1 -1.2**
LUBP Lubang 14.52 341⇑ *e*P **P** **16 42 51.8 -2.0**
LQP Lukban 14.53 347⇑ *e*P **P** **16 42 52.8 -1.3**
KDU Kakadu 14.54 150 P **Pn** **16 42 46.9 -1.8**
baz=15,SNR=72
KDU Kakadu 14.54 150 P Pn 16 42 47.4 -1.3
TGY Tagaytay City 14.67 344⇑ *e*P **P** **16 42 57.4 +1.8**
MACP Maragondon, Ca 14.88 344⇑ *e*P **P** **16 42 55.5 -2.3**
QVP Quezon City--P 15.15 345⇓ *e*P **P** **16 43 02.2 +1.4**
NGJI Ngawi 15.30 242 P **P** **16 43 03.0 +0.5**
926nm,1.1s,12µm
UWJI Ujung Watu 15.36 246 P **P** **16 43 01.9 -1.2**
306nm,0.9s
GENI Genyem 15.37 99 P **Pn** **16 42 58.3 -1.2**
267nm,1.1s,5µm10µm
KNRA Kununurra 15.92 167 P **Pn** **16 43 06.2 -0.3**
baz=16,SNR=125
KNRA Kununurra 15.92 167 Pn 16 43 06.3 -0.3
KNRA IAmb IAmb 16 43 07.7
comp=Z,847nm,0.9s
KNRA Kununurra 15.92 167 P **Pn** **16 43 06.5 0.0**
PCPH Palayan 16.03 346⇑ *e*P **P** **16 43 10.9 +0.3**
SMRI Semarang 16.07 244 P **P** **16 43 11.5 +0.4**
comp=Z,806nm,1.2s,comp=Z,11µmcomp=Z,10µm
BALP Baler 16.09 348⇑ *e*P **P** **16 43 14.2 +2.9**
UGM Wanagama 16.38 241 P **P** **16 43 15.4 +0.9**
UGM IAmb IAmb 16 43 19.3
comp=Z,1µm,1.6s
UGM Wanagama 16.38 241 P **P** **16 43 16.2 +1.7**
UGM Wanagama 16.38 241 P **P** **16 43 15.6 +1.1**
comp=Z,630nm,1.5s,comp=Z,9µm
YOGI Yogyakarta 16.54 242 P **P** **16 43 17.1 +0.9**
comp=Z,778nm,1.6s,comp=Z,10µm
SMPP San Manuel, Pa 16.70 345⇑ *e*P **Pn** **16 43 16.1 -0.2**
SMPP eS S 16 46 50.5 +21
SAMP Sagada Mountai 17.54 347⇑ *e*P **Pn** **16 43 23.8 -3.0**
FITZ Fitzroy Crossi 17.90 178 **Pn** **16 43 31.1 0.0**
CVP Callao Caves 17.96 350⇓ *e*P **P** **16 43 32.5 +0.6**
CMJI Cimerak 18.17 245 P **Pn** **16 43 35.7 +1.1**
comp=Z,448nm,1.8s,comp=Z,8µmcomp=Z,8µm
SGCP Gonzaga 18.45 351⇑ *e*P **Pn** **16 43 38.4 +0.5**
LEM Lembang 18.58 249 P **Pn** **16 43 40.1 +0.4**
comp=Z,385nm,1.0s,baz=80,slow=13,SNR=37
LEM LR LR 16 51 22.2
comp=Z,9µm,20.7s,baz=58,slow=39
LEM Lembang 18.58 249 P **Pn** **16 43 41.3 +1.7**
comp=Z,554nm,1.2s,comp=Z,7µmcomp=Z,10µm

BBJI Bungbulang 18.78 247 P **Pn** **16 43 43.1 +1.2**
PACPP Pamplona Cagay 18.78 349⇑ *e*P **P** **16 43 39.9 -1.1**
PPBI Pangkal Pinang 18.96 264 P **P** **16 43 43.4 +0.4**
comp=Z,124nm,1.1s,comp=Z,3µm
CBJI Citeko 19.16 251 P **Pn** **16 43 46.6 +0.1**
comp=Z,1µm,1.2s,comp=Z,12µmcomp=Z,11µm
CNJI Cibinong 19.20 248 P **P** **16 43 45.7 +0.1**
comp=Z,209nm,1.3s,comp=Z,2µmcomp=Z,3µm
TNG Tangerang 19.28 251 P **Pn** **16 43 51.8 +3.9**
TNG P **P** **16 43 44.6 -1.9**
CICP Calayan Island 19.55 350⇑ *e*P **P** **16 43 47.0 -2.3**
SKJI Sukabumi 19.63 249 P **Pn** **16 43 54.4 +2.4**
comp=Z,399nm,0.5s,comp=Z,5µm
SBJI Serang 19.75 252 P **Pn** **16 43 54.7 +1.2**
comp=Z,253nm,1.2s,comp=Z,8µm
DLV T Lat 20.29 307 P Pn 16 44 00.8 +0.8
CGJI Cibinong 20.31 251 P Pn 16 43 59.8 -0.3
comp=Z,708nm,0.8s,comp=Z,6µm
BLSI Bandar Lampung 20.40 255 P Pn 16 44 07.8 +6.6
PMBI Palembang 20.41 262 IAMs_20 IAMs_20 16 52 39.8
comp=Z,5µm,22.0s
PMBI Palembang 20.41 262 P Pn 16 44 00.4 -0.8
comp=Z,568nm,1.1s,comp=Z,7µmcomp=Z,7µm
DSRI Dabo 20.42 269 P **P** **16 43 59.1 +0.2**
comp=Z,167nm,1.3s,comp=Z,3µmcomp=Z,7µm
TPRI Tanjung Pinang 20.49 273 P Pn 16 44 01.9 -0.3
comp=Z,252nm,1.2s,comp=Z,3µmcomp=Z,7µm
KLI Kotabumi 20.66 256 P Pn 16 44 13.1 +8.9
KASI Kota Agung 21.16 255 P **P** **16 44 09.2 +2.3**
comp=Z,198nm,1.1s,comp=Z,3µm
MYKOM Kota Tinggi 21.22 275 P **P** **16 44 07.7 +0.2**
MYKOM IAmb IAmb 16 44 12.3
comp=Z,906nm,1.9s
MDSI Maura Dua 21.24 258 P **P** **16 44 07.9 +0.1**
comp=Z,154nm,1.2s,comp=Z,2µmcomp=Z,7µm
JMBI JAMBI 21.40 266 P **P** **16 44 10.9 +1.4**
comp=Z,155nm,1.4s,comp=Z,3µm
LWLI Liwa 21.47 257 P **P** **16 44 12.5 +2.2**
comp=Z,240nm,0.7s,comp=Z,4µmcomp=Z,7µm
MBWA Marble Bar 21.55 193 P **P** **16 44 12.1 +1.1**
MBWA Marble Bar 21.55 193 P **P** **16 44 12.5 +1.5**
MBWA Marble Bar 21.55 193 P **P** **16 44 11.9 +0.8**
MBWA P **P** **16 44 11.9 +0.8**
MBWA S **S** **16 48 06.7 -0.7**
MBWA S **S** **16 48 06.7 -0.7**
WB0 Warramunga Arr 21.61 155 P **P** **16 44 10.4 -1.2**
WB0 IAmb IAmb 16 44 19.7
comp=Z,304nm,0.9s
WRAB Tennant Creek 21.74 156 P **P** **16 44 11.9 -1.1**
WRAB IAmb IAmb 16 44 35.7
comp=Z,550nm,1.3s
WRAB Tennant Creek 21.74 156 P **P** **16 44 12.2 -0.9**
WRAB Tennant Creek 21.74 156 *ce*P **P** **16 44 11.7 -1.4**
WRAB pmax pmax
comp=Z,401nm,1.7s
WRA Warramunga Arr 21.75 156 P **P** **16 44 11.5 -1.6**
comp=Z,118nm,0.9s,baz=338,slow=11,SNR=71
WRA PcP **PcP** **16 48 10.1 -2.4**
comp=Z,34nm,1.1s,baz=336,slow=16,SNR=7.6
WRA LR LR 16 54 19.0
comp=Z,2µm,21.8s,baz=320,slow=41
comp=Z,118nm,0.9s
WRA Warramunga Arr 21.75 156 P **P** **16 44 11.6 -1.6**
WRA Warramunga Arr 21.75 156 P **P** **16 44 11.6 -1.6**
WRA pmax pmax
comp=Z,48nm,1.3s
WB2 Warramunga Arr 21.75 156 P **P** **16 44 11.6 -1.5**
WB2 IAmb IAmb 16 44 35.7
comp=Z,665nm,1.4s
XMI Christmas Isla 21.78 241 P **P** **16 44 15.6 +2.1**
WR0 Warramunga Arr 21.84 155 P **P** **16 44 12.9 -1.3**
WR0 IAmb IAmb 16 44 19.8
comp=Z,309nm,1.1s
PSA00 Pilbara Seismi 21.93 193 P **P** **16 44 15.9 +0.9**
PSA00 Pilbara Seismi 21.93 193 P **P** **16 44 16.1 +1.1**
MNAI Manna 22.42 259 P **P** **16 44 19.7 -0.7**
MNAI IAmb IAmb 16 44 26.0
comp=Z,374nm,1.1s
MNAI IAMs_20 IAMs_20 16 53 29.5
comp=Z,4µm,20.0s
MNAI Manna 22.42 259 P **P** **16 44 22.9 +2.5**
COEN Coen 22.67 128 P **P** **16 44 21.5 -1.6**
baz=23,SNR=281
COEN Coen 22.67 128 P **P** **16 44 21.1 -1.9**
COEN Coen 22.67 128 P **P** **16 44 23.3 +0.3**
MASI Maura Aman, Be 22.94 262 P **P** **16 44 26.1 +0.2**
comp=Z,304nm,1.0s,comp=Z,3µmcomp=Z,3µm
TWG Pinlang 23.10 351 P **P** **16 44 23.6 -3.7**
SDSI Sungai Dareh 23.58 268 P **P** **16 44 32.1 0.0**
comp=Z,263nm,1.5s,comp=Z,3µmcomp=Z,5µm
YULB Yu-li 23.62 352 P **P** **16 44 29.5 -2.8**
YULB Yu-li 23.62 352 P **P** **16 44 33.1 +0.7**
TPUB Ta-pu 23.64 350 IAMs_20 IAMs_20 16 53 23.0
comp=Z,6µm,22.0s
TPUB Ta-pu 23.64 350 P **P** **16 44 34.8 +2.2**
PMG Port Moresby 23.93 113 P **P** **16 44 34.0 -1.2**
comp=Z,50nm,0.9s,baz=323,slow=8.4,SNR=25
PMG S **S** **16 48 51.4 +2.9**
comp=Z,7.9nm,0.9s,baz=217,slow=18,SNR=1.6
comp=Z,50nm,0.9s
PMG Port Moresby 23.93 113 P **P** **16 44 34.5 -0.8**
PMG IAmb IAmb 16 44 59.9
comp=Z,165nm,1.0s
PMG Port Moresby 23.93 113 P **P** **16 44 35.8 +0.5**
PMG Port Moresby 23.93 113 P **P** **16 44 36.0 +0.7**
PMG Port Moresby 23.93 113 *ce*P **P** **16 44 34.1 -1.2**
PMG pmax pmax
comp=Z,178nm,1.3s
GUMO Guam 23.93 55 P **P** **16 44 35.3 0.0**
comp=Z,62nm,0.7s,baz=27,slow=20,SNR=1.8
comp=Z,62nm,0.7s
GUMO Guam 23.93 55 P **P** **16 44 32.1 -3.2**
GUMO IAmb IAmb 16 44 51.2
comp=Z,384nm,1.2s
BKNI Bangkinang 23.95 271 P **P** **16 44 36.6 +1.0**
comp=Z,221nm,1.3s,comp=Z,3µmcomp=Z,5µm
SSLB Suanglung 24.06 351 P **P** **16 44 35.5 -1.0**
SSLB Suanglung 24.06 351 P **P** **16 44 38.7 +2.2**
QIZ Qiongzhong 24.13 323 P **P** **16 44 36.0 -1.2**
QIZ Qiongzhong 24.13 323 P **P** **16 44 36.5 -0.6**
QIZ sP **pwP** **16 44 51.6 -2.4**
QIZ S **S** **16 48 45.8 -5.9**
QIZ sS **sS** **16 49 05.6 -6.0**
QIZ pmax pmax
comp=Z,67nm,1.7s
QIZ pmax pmax
comp=Z,2µm,3.8s
QIZ LR LR
comp=Z,2µm,20.7s
QIZ LR LR
comp=Z,2µm,19.9s
QIZ LR LR
comp=Z,3µm,21.5s
QIZ Qiongzhong 24.13 323 P **P** **16 44 39.6 +2.5**
NACB Ninganchiao 24.35 352 IAMs_20 IAMs_20 16 53 43.3
comp=Z,4µm,22.0s
IPM Ipoh 24.37 281 P **P** **16 44 39.5 +0.1**
IPM IAmb IAmb 16 44 42.1
comp=Z,222nm,1.0s
IPM Ipoh 24.37 281 P **P** **16 44 40.2 +0.8**
PDSI Padang 24.54 268 P **P** **16 44 40.2 -0.8**
comp=Z,245nm,1.3s,comp=Z,3µmcomp=Z,5µm
UBPT Khong Chiam 24.61 309 P **P** **16 44 42.0 +0.6**
UBPT Khong Chiam 24.61 309 P **P** **16 44 44.0 +2.5**
comp=Z,107nm,1.6s
HKPS Hong Kong Po S 24.62 335 IAMs_20 IAMs_20 16 55 08.7
comp=Z,5µm,19.0s
GIRL Giralia 24.74 204 P **P** **16 44 44.4 +1.8**
baz=25,SNR=6.3
GIRL Giralia 24.74 204 P **P** **16 44 44.2 +1.6**
GIRL IAmb IAmb 16 44 46.6
comp=Z,472nm,1.2s
GIRL Giralia 24.74 204 P **P** **16 44 45.0 +2.4**
QIS Mount Isa 24.86 146 P **P** **16 44 44.3 +0.6**
baz=25,SNR=205
QIS Mount Isa 24.86 146 P **P** **16 44 44.8 +1.1**
YHNB Yeheng 24.87 352 P **P** **16 44 42.7 -1.2**
YHNB Yeheng 24.87 352 P **P** **16 44 46.0 +2.2**
AS31 Alice Springs 24.98 160 P **P** **16 44 45.1 +0.3**
ASAR Alice Springs 24.98 160 P **P** **16 44 44.9 0.0**
comp=Z,313nm,1.1s,baz=337,slow=6.8,SNR=351
ASAR PcP **PcP** **16 48 20.7 +1.5**
comp=Z,30nm,1.2s,baz=357,slow=2.1,SNR=5.6
ASAR S **S** **16 49 04.0 -1.3**
comp=Z,68nm,1.1s,baz=350,slow=20,SNR=12

ASAR ScP **ScP** **16 51 54.6 +0.4**
comp=Z,11nm,1.0s,baz=350,slow=3.4,SNR=9.7
ASAR LR LR 16 55 02.0
comp=Z,2µm,21.8s,baz=318,slow=38
ASAR P3KPbc 17 17 44.0
comp=Z,0.4nm,0.9s,baz=62,slow=12,SNR=2.5
comp=Z,313nm,1.1s
ASAR Alice Springs 24.98 160 P **P** **16 44 45.2 +0.4**
AS01 Alice Springs 24.99 160 P **P** **16 44 45.5 +0.6**
WRKA Warakurna 25.00 173 P **P** **16 44 45.8 +0.8**
baz=25,SNR=164
WRKA Warakurna 25.00 173 P **P** **16 44 46.5 +1.5**
PPSI Pulau Pagai 25.11 264 P **P** **16 44 45.7 -0.4**
comp=Z,333nm,1.2s,comp=Z,6µm
TATO Taipei 25.15 353 IAMs_20 IAMs_20 16 54 17.9
comp=Z,6µm,22.0s
TATO Taipei 25.15 353 P **P** **16 44 47.0 +0.7**
MNSI Mandailing Nat 25.43 272 P **P** **16 44 50.8 +1.8**
comp=Z,65nm,1.1s
MTSU Mount Surprise 26.12 134 P **P** **16 44 55.6 +0.4**
baz=26,SNR=21
MTSU Mount Surprise 26.12 134 P **P** **16 44 56.8 +1.6**
PSI Prapat 26.22 277 P **P** **16 44 54.5 -1.8**
comp=Z,43nm,0.9s,baz=94,slow=9.8,SNR=54
PSI PcP **PcP** **16 48 21.9 -0.4**
comp=Z,22nm,1.1s,baz=190,slow=10,SNR=2.6
PSI LR LR 16 57 41.5
comp=Z,2µm,20.3s,baz=104,slow=42
comp=Z,43nm,0.9s
JMZ Minamidaito 2 26.46 13 P **P** **16 45 02.3 +4.2**
PBSI Pulau Batu 26.71 270 P **P** **16 45 00.6 0.0**
comp=Z,74nm,0.9s,comp=Z,4µm
JOW Kunigami 26.96 6 P **P** **16 45 02.9 +0.2**
comp=Z,159nm,0.8s,baz=203,slow=8.1,SNR=19
JOW LR LR 16 55 28.9
comp=Z,2µm,21.9s,baz=276,slow=36
comp=Z,159nm,0.8s
JOW Kunigami 26.96 6 P **P** **16 45 02.9 +0.2**
JOW IAmb IAmb 16 45 06.0
comp=Z,238nm,0.9s
JOW Kunigami 26.96 6 P **P** **16 45 04.4 +1.7**
MEEK Meekatharra 27.09 193 P **P** **16 45 03.9 +0.1**
baz=27,SNR=20
MEEK Meekatharra 27.09 193 P **P** **16 45 04.0 +0.1**
KRVT Keravat (AS076 27.33 99 P **P** **16 45 06.1 -0.1**
comp=Z,251nm,0.8s,baz=188,slow=0.8,SNR=22
KRVT LR LR 16 56 03.2
comp=Z,3µm,20.8s,baz=61,slow=36
comp=Z,251nm,0.8s
KCSI Kotacane, Aceh 27.44 278 P **P** **16 45 06.1 -1.1**
comp=Z,95nm,1.4s,comp=Z,1µm
GSI Gunungsitoli 27.45 273 P **P** **16 45 04.8 -2.4**
GSI IAMs_20 IAMs_20 16 57 10.0
comp=Z,3µm,19.0s
GSI Gunungsitoli 27.45 273 P **P** **16 45 08.4 +1.2**
GSI Gunungsitoli 27.45 273 P **P** **16 45 05.7 -1.5**
comp=Z,124nm,1.3s,comp=Z,3µmcomp=Z,3µm
RABL Rabaul 27.45 99 P **P** **16 45 05.8 -1.5**
RABL IAmb IAmb 16 45 41.8
comp=Z,214nm,0.8s
RABL Rabaul 27.45 99 P **P** **16 45 08.5 +1.2**
NONG Nongkai 28.06 311 P **P** **16 45 13.2 +0.6**
LHMI Lhok Sumawe 28.50 281 P **P** **16 45 17.1 +0.5**
comp=Z,100nm,0.8s,comp=Z,3µm
TV1H Townsville Har 28.64 133 P **P** **16 45 19.1 +1.4**
SNSI Sinabang, Aceh 28.76 275 P **P** **16 45 19.3 +0.3**
comp=Z,82nm,1.4s
CTA Charters Tower 28.78 135 P **P** **16 45 18.6 -0.4**
comp=Z,13nm,1.0s,baz=306,slow=8.7,SNR=15
CTA ScP **ScP** **16 52 06.2 +0.6**
comp=Z,33nm,1.2s,baz=276,slow=2.8,SNR=6.4
comp=Z,13nm,1.0s
CTAO Charters Tower 28.78 135 P **P** **16 45 18.9 0.0**
CTAO Charters Tower 28.78 135 P **P** **16 45 20.1 +1.1**
CTAO Charters Tower 28.78 135 P **P** **16 45 19.0 0.0**
CTAO pmax pmax
comp=Z,72nm,1.1s
MLSI Meulaboh, Aceh 28.89 279 P **P** **16 45 19.0 -1.1**
comp=Z,69nm,0.5s
OOD Oodnadatta 29.39 160 P **P** **16 45 25.8 +1.5**
MORW Morawa 30.05 196 P **P** **16 45 30.8 +0.6**
baz=30,SNR=8.5
MORW Morawa 30.05 196 P **P** **16 45 31.0 +0.8**
MORW Morawa 30.05 196 P **P** **16 45 31.7 +1.5**
PHRA Phrae 30.55 309 P **P** **16 45 36.2 +1.5**
FORT Forrest 30.65 175 P **P** **16 45 36.5 +1.1**
baz=31,SNR=47
FORT Forrest 30.65 175 P **P** **16 45 34.3 -1.2**
FORT IAmb IAmb 16 45 37.3
comp=Z,157nm,0.8s
FORT Forrest 30.65 175 P **P** **16 45 37.3 +1.9**
SSE Sheshan 31.23 354 P **P** **16 45 43.3 +2.8**
SSE S **S** **16 50 40.3 -3.2**
SSE pmax pmax
comp=Z,20nm,2.0s
SSE pmax pmax
comp=Z,180nm,8.4s
SSE LR LR
comp=Z,740nm,21.6s
SSE LR LR
comp=Z,440nm,21.8s
MULG Mulgathing 31.23 165 P **P** **16 45 41.9 +1.3**
KMBL Kambalda 31.24 185 P **P** **16 45 41.3 +0.7**
baz=32,SNR=9.5
KMBL Kambalda 31.24 185 P **P** **16 45 41.4 +0.7**
comp=Z,131nm,1.1s
BLDU Ballidu 31.36 194 P **P** **16 45 41.8 +0.1**
baz=32,SNR=17
BLDU Ballidu 31.36 194 P **P** **16 45 42.7 +1.0**
INKA Innaminka 31.37 152 P **P** **16 45 45.0 +3.2**
CMAR Chiang Mai Arr 31.54 307 P **P** **16 45 42.4 -1.1**
comp=Z,47nm,1.2s,baz=137,slow=7.0,SNR=135
CMAR PcP **PcP** **16 48 36.8 +1.4**
comp=Z,20nm,1.0s,baz=167,slow=1.7,SNR=12
CMAR ScP **ScP** **16 52 16.2 +1.6**
comp=Z,4.2nm,0.9s,baz=158,slow=2.4,SNR=5.8
comp=Z,47nm,1.2s
CMAR Chiang Mai Arr 31.54 307 P **P** **16 45 40.9 -2.6**
CMAR PcP **PcP** **16 48 37.3 +1.8**
CMAR Chiang Mai Arr 31.54 307 *i*P **P** **16 45 44.2 +0.7**
CMAR pmax pmax
comp=Z,24nm,1.0s
JCJ Chichijima 31.69 30 LR LR 16 58 52.6
comp=Z,261nm,18.3s,baz=209,slow=37
JCJ Chichijima 31.69 30 P **P** **16 45 46.9 +2.2**
CHTO Chiang Mai 31.74 308 P **P** **16 45 45.1 -0.1**
CHTO IAmb IAmb 16 45 47.5
comp=Z,126nm,1.1s
CHTO Chiang Mai 31.74 308 P **P** **16 45 45.1 -0.1**
CHTO pmax pmax
comp=Z,126nm,1.1s
CHTO MLR MLR
comp=Z,2µm,22.0s
GYA Guiyang 31.76 328⇓ *i*P **P** **16 45 47.1 +1.6**
GYA pP pwP 16 46 00.4 -1.5
GYA PcP **PcP** **16 48 37.8 +1.8**
GYA S **S** **16 50 48.3 -3.9**
GYA ScS **ScS** **16 56 12.9 -1.0**
GYA pmax pmax
comp=Z,43nm,1.6s
GYA pmax pmax
comp=Z,430nm,6.2s
GYA LR LR
comp=Z,810nm,15.2s
GYA LR LR
comp=Z,1µm,15.4s
GYA LR LR
comp=Z,2µm,23.6s
JSU Suzuyama 31.86 9 P **P** **16 45 45.4 -0.7**
JSU IAmb IAmb 16 46 50.9
comp=Z,192nm,1.6s
KLBR Kellerberrin 32.06 192 P **P** **16 45 48.6 +0.7**
baz=32,SNR=10
KLBR Kellerberrin 32.06 192 P **P** **16 45 48.8 +0.9**
comp=Z,125nm,1.3s
WHN Wuhan 32.11 343⇓ *i*P **P** **16 45 49.1 +0.8**
WHN pP **pP** **16 46 00.8 +0.6**
WHN PcP **PcP** **16 48 38.5 +1.8**
WHN S **S** **16 50 57.8 +0.6**
WHN pmax pmax
comp=Z,160nm,1.2s
WHN LR LR
comp=Z,3µm,15.2s
WHN LR LR
comp=Z,4µm,18.2s
WHN LR LR

comp=Z,7μm,18.5s
NJ2 Nanjing 32.50 350 *e*P **P** **16 45 52.0 +0.4**
NJ2 pP **pP** **16 46 04.8 +1.0**
NJ2 S **S** **16 51 05.9 +2.7**
NJ2 sS **sS** **16 51 25.0 +1.5**
NJ2 ScS **ScS** **16 56 17.8 +0.8**
NJ2 pmax pmax
comp=Z,22nm,0.5s
NJ2 pmax pmax
comp=Z,420nm,3.5s
NJ2 LR LR
comp=Z,2μm,22.4s
NJ2 LR LR
comp=Z,1μm,22.7s
NJ2 LR LR
comp=Z,3μm,24.6s
LCRK Leigh Creek 32.70 159 P **P** **16 45 55.5 +2.0**
MUN Mundaring 32.78 194 P **P** **16 45 55.0 +0.9**
baz=33,SNR=12
MUN Mundaring 32.78 194 P **P** **16 45 55.9 +1.8**
KMI Kunming 33.04 321 ⇑P **P** **16 45 57.8 +1.0**
KMI pP pP 16 46 07.1 -1.6
KMI PP **PP** **16 47 12.8 +0.5**
KMI PcP **PcP** **16 48 41.9 +2.2**
KMI S **S** **16 51 11.8 -0.6**
KMI sS sS 16 51 32.5 -0.1
KMI pmax pmax
comp=Z,530nm,5.9s
KMI LR LR
comp=Z,980nm,18.0s
KMI LR LR
comp=Z,1μm,18.0s
KMI LR LR
comp=Z,2μm,18.1s
KMI Kunming 33.04 321 P **P** **16 45 57.7 +1.0**
KMI pP **pP** **16 46 08.4 -0.3**
NWAO Narrogin (SRO) 33.46 192 LR LR 17 02 22.8
comp=Z,857nm,19.1s,slow=41
NWAO Narrogin (SRO) 33.46 192 P **P** **16 46 00.8 +0.7**
baz=34,SNR=8.6
NWAO P **P** **16 46 00.8 +0.7**
baz=34,SNR=8.6
NWAO Narrogin (SRO) 33.46 192 P **P** **16 45 59.6 -0.5**
NWAO Narrogin (SRO) 33.46 192 P **P** **16 46 00.8 +0.7**
NWAO Narrogin (SRO) 33.46 192 P **P** **16 45 59.6 -0.5**
NWAO pmax pmax
comp=Z,60nm,1.2s
NWAO MLR MLR
comp=Z,1μm,19.0s
NWAO Narrogin (SRO) 33.46 192 P **P** **16 46 00.3 +0.2**
NWAO P **P** **16 46 00.3 +0.2**
NWAO Narrogin (SRO) 33.46 192 P **P** **16 45 59.9 -0.2**
NWAO pP **pP** **16 46 10.4 -1.8**
NWAO sP **pwP** **16 46 15.9 -0.8**
JNU Nakatsue 33.50 9 P **P** **16 45 57.8 -2.7**
JNU Nakatsue 33.50 9 P **P** **16 46 01.5 +1.0**
comp=Z,108nm,0.9s
ENH Enshi 33.61 335 P **P** **16 46 00.5 -1.0**
ENH IAmb IAmb 16 46 04.2
comp=Z,114nm,1.0s
ENH IAMs_20 IAMs_20 17 00 40.8
comp=Z,3μm,18.0s
ENH Enshi 33.61 335 P **P** **16 46 03.2 +1.7**
ENH Enshi 33.61 335 P **P** **16 46 01.7 +0.2**
ENH pP **pP** **16 46 12.5 -1.0**
RK1H Rockhampton Ha 33.91 135 P **P** **16 46 04.9 +0.8**
comp=Z,57nm,1.0s
BBOO Buckleboo 34.17 163 P **P** **16 46 06.9 +0.7**
baz=34,SNR=8.7
BBOO Buckleboo 34.17 163 P **P** **16 46 06.5 +0.2**
BBOO IAmb IAmb 16 47 24.3
comp=Z,131nm,1.2s
BBOO Buckleboo 34.17 163 P **P** **16 46 07.7 +1.4**
PZH PanZhiHua 34.66 322 P **P** **16 46 10.9 +0.2**
PZH pP **pP** **16 46 22.9 +0.3**
PZH PcP **PcP** **16 48 44.4 +0.2**
PZH S **S** **16 51 40.0 +2.9**
PZH ScS **ScS** **16 56 22.1 -6.8**
PZH pmax pmax
comp=Z,50nm,1.4s
PZH pmax pmax
comp=Z,430nm,5.3s
PZH LR LR
comp=Z,3μm,21.1s
PZH LR LR
comp=Z,3μm,20.1s
PZH LR LR
comp=Z,5μm,21.0s
JMN Monobe 34.67 13 P **P** **16 46 08.7 -1.9**
JMN IAmb IAmb 16 46 15.7
comp=Z,129nm,1.0s
JMN Monobe 34.67 13 P **P** **16 46 12.3 +1.7**
JTU Tsushima 34.69 6 P **P** **16 46 15.2 +4.5**
RMQ Roma 34.82 141 P **P** **16 46 12.2 +0.2**
baz=35,SNR=12
RMQ Roma 34.82 141 P **P** **16 46 13.1 +1.1**
WHYH Whyalla 34.84 161 P **P** **16 46 13.7 +1.7**
RKGY Rocky Gully 35.14 192 P **P** **16 46 16.8 +2.2**
baz=35,SNR=8.3
STKA Stephens Creek 35.30 155 P **P** **16 46 15.9 -0.1**
comp=Z,95nm,0.5s,baz=333,slow=8.4,SNR=219
STKA S **S** **16 51 42.2 -4.3**
comp=Z,30nm,1.2s,baz=238,slow=21,SNR=7.3
comp=Z,95nm,0.5s
STKA Stephens Creek 35.30 155 P **P** **16 46 16.9 +1.0**
baz=36,SNR=256
STKA Stephens Creek 35.30 155 P **P** **16 46 16.7 +0.7**
STKA Stephens Creek 35.30 155 P **P** **16 46 17.3 +1.3**
STKA Stephens Creek 35.30 155*d* *i*P **P** **16 46 16.6 +0.6**
EIDS Eidsvold 35.59 137 P **P** **16 46 18.2 -0.4**
baz=36,SNR=5.1
EIDS Eidsvold 35.59 137 P **P** **16 46 18.6 0.0**
EIDS IAmb IAmb 16 46 43.1
comp=Z,104nm,1.6s
EIDS Eidsvold 35.59 137 P **P** **16 46 21.1 +2.5**
HTT Hallett 35.65 160 P **P** **16 46 20.1 +1.0**
baz=36,SNR=16
HTT Hallett 35.65 160 P **P** **16 46 21.2 +2.1**
JHS Saijyo 35.73 11 P **P** **16 46 21.7 +2.0**
TNCH TengChong 35.77 316 ⇑P **P** **16 46 20.8 +0.4**
TNCH pP pP 16 46 33.9 +1.5
TNCH sP sP 16 46 37.8 -0.1
TNCH PP **PP** **16 47 44.9 +2.5**
TNCH S **S** **16 51 54.4 0.0**
TNCH sS sS 16 52 14.3 -0.5
TNCH SS **SnSn** **16 54 18.6 -2.0**
TNCH ScS **ScS** **16 56 36.5 +1.4**
TNCH pmax pmax
comp=Z,66nm,1.8s
TNCH pmax pmax
comp=Z,460nm,7.0s
TNCH LR LR
comp=Z,440nm,27.9s
TNCH LR LR
comp=Z,710nm,25.8s
TNCH LR LR
comp=Z,2μm,30.6s
HNR Honiara 36.01 106 P **P** **16 46 20.7 -1.6**
HNR pP **pP** **16 46 31.6 -3.2**
LYN LuoYang 36.41 342 ⇓P **P** **16 46 25.5 0.0**
LYN pP pP 16 46 36.3 -1.2
LYN PP **PP** **16 47 48.1 -1.0**
LYN S **S** **16 51 55.3 -8.2**
LYN pmax pmax
comp=Z,50nm,1.4s
LYN pmax pmax
comp=Z,410nm,2.9s
LYN LR LR
comp=Z,740nm,16.0s
LYN LR LR
comp=Z,880nm,22.4s
LYN LR LR
comp=Z,2μm,26.9s
CD2 Chengdu 36.84 329 P **P** **16 46 29.4 +0.1**
CD2 pP pP 16 46 40.8 -0.7
CD2 sP sP 16 46 48.5 +1.5
CD2 PP **PnPn** **16 47 54.5 0.0**
CD2 S **S** **16 52 05.4 -5.0**
CD2 sS sS 16 52 29.0 -1.8
CD2 pmax pmax
comp=Z,80nm,0.8s
CD2 pmax pmax
comp=Z,360nm,5.5s
CD2 LR LR
comp=Z,980nm,9.6s
CD2 LR LR
comp=Z,1μm,8.8s
CD2 LR LR
comp=Z,2μm,23.9s
TIA Tai'an 36.86 349 ⇑P **P** **16 46 28.3 -1.0**
TIA pmax pmax
comp=Z,22nm,1.1s
TIA pmax pmax
comp=Z,380nm,3.4s
TIA LR LR
comp=Z,1μm,24.3s
TIA LR LR
comp=Z,530nm,19.4s
TIA LR LR
comp=Z,2μm,29.9s
CMSA Cobar Meteorol 36.91 150 P **P** **16 46 31.0 +1.3**
baz=37,SNR=69
CMSA Cobar Meteorol 36.91 150 P **P** **16 46 30.9 +1.1**
INU Inuyama 37.01 16 P **P** **16 46 29.9 -0.6**
INU IAmb IAmb 16 46 52.5
comp=Z,111nm,1.1s
INU Inuyama 37.01 16 P **P** **16 46 30.7 +0.2**
INU pP **pP** **16 46 41.0 -1.9**
XAN Xi'an 37.16 338 ⇓*i*P **P** **16 46 32.8 +0.9**
XAN pmax pmax
comp=Z,110nm,1.1s
XAN pmax pmax
comp=Z,310nm,4.2s
XAN LR LR
comp=Z,2μm,20.6s
XAN LR LR
comp=Z,900nm,19.2s
XAN LR LR
comp=Z,3μm,18.5s
XAN Xi'an 37.16 338 P **P** **16 46 31.2 -0.7**
INCN Inchon 37.42 2 IAMs_20 IAMs_20 17 02 27.4
comp=Z,2μm,21.0s
INCN Inchon 37.42 2 P **P** **16 46 34.0 -0.1**
KSAR Wonju Array Be 37.45 4 P **P** **16 46 35.0 +0.8**
KSAR PcP **PcP** **16 48 52.5 +0.4**
KSAR Wonju Array Be 37.45 4 P **P** **16 46 35.0 +0.8**
KSAR 16 48 52.5
KSRS Korea Array 37.46 4 P **P** **16 46 35.0 +0.6**
comp=Z,36nm,0.8s,baz=180,slow=10,SNR=67
KSRS PcP **PcP** **16 48 53.0 +0.9**
comp=Z,7.3nm,0.7s,baz=122,slow=39,SNR=2.5
KSRS LR LR 17 01 49.0
comp=Z,2μm,21.4s,baz=185,slow=36
comp=Z,36nm,0.8s
KSRS Korea Array 37.46 4 P **P** **16 46 35.0 +0.6**
KSRS 16 48 53.0
KS19 Wonju Array Si 37.51 4 P **P** **16 46 35.1 +0.3**
KS19 IAmb IAmb 16 46 37.0
comp=Z,160nm,1.2s
SAIH SAIHA 38.40 308 *e*P **P** **16 46 42.4 -0.3**
MAJO Matsushiro 38.46 17 P **P** **16 46 41.9 -0.9**
MAJO IAmb IAmb 16 46 59.3
comp=Z,104nm,0.9s
MAJO Matsushiro 38.46 17 P **P** **16 46 43.8 +0.9**
MAJO Matsushiro 38.46 17*d* *i*P **P** **16 46 41.0 -1.9**
MAJO pmax pmax
comp=Z,101nm,1.2s
MAJO Matsushiro 38.46 17 P **P** **16 46 42.0 -0.9**
MAJO pP **pP** **16 46 53.7 -1.5**
MAJO sP **pwP** **16 46 58.1 -1.2**
MJAR Matsushiro Arr 38.46 17 P **P** **16 46 42.2 -0.7**
comp=Z,30nm,0.9s,baz=190,slow=8.7,SNR=30
comp=Z,30nm,0.9s
MJB9 Matsu-Tunnel 38.47 17 P **P** **16 46 41.3 -1.6**
MJB9 IAmb IAmb 16 47 00.7
comp=Z,95nm,0.9s
HNS HongShan 38.50 347 ⇑P **P** **16 46 42.4 -0.7**
HNS S **S** **16 52 33.1 -2.1**
HNS pmax pmax
comp=Z,47nm,1.3s
DL2 Dalian 38.94 356 P **P** **16 46 47.0 +0.3**
DL2 S **S** **16 52 42.5 +0.8**
DL2 pmax pmax
comp=Z,55nm,1.3s
DL2 pmax pmax
comp=Z,240nm,4.3s
DL2 LR LR
comp=Z,2μm,23.5s
DL2 LR LR
comp=Z,900nm,20.4s
DL2 LR LR
comp=Z,2μm,24.7s
IMP Imphal 38.94 312 *e*P **P** **16 46 45.8 -1.4**
IMP *i* PCP **PcP** **16 48 57.7 +0.6**
LKP Lekhapani 39.09 317 *e*P **P** **16 46 47.7 -0.5**
KOHI KOHIMA 39.34 313 *e*P **P** **16 46 49.3 -1.2**
KOHI *i* x **PcP** **16 48 58.9 +0.5**
TIY Taiyuan 39.37 344 *e*P **P** **16 46 51.3 +0.8**
TIY PP **PP** **16 48 28.6 +6.9**
TIY S **S** **16 52 43.4 -5.1**
TIY SS **SS** **16 55 32.4 -12**
TIY pmax pmax
comp=Z,51nm,0.6s
TIY pmax pmax
comp=Z,250nm,3.9s
TIY LR LR
comp=Z,680nm,15.7s
TIY LR LR
comp=Z,860nm,17.6s
TIY LR LR
comp=Z,1μm,26.8s
ARMA Armidale 39.38 142 P **P** **16 46 52.3 +1.6**
baz=40,SNR=14
ARMA Armidale 39.38 142 P **P** **16 46 50.3 -0.4**
ARMA IAmb IAmb 16 47 16.6
comp=Z,235nm,1.7s
ARMA Armidale 39.38 142 P **P** **16 46 51.9 +1.2**
MOKO MOKOCHONG 39.40 314 *e*P **P** **16 46 51.1 +0.1**
MOKO *i* x **PcP** **16 49 00.1 +1.5**
BRDH Bariadhala 39.57 307 LR LR 17 05 05.0
comp=Z,802nm,21.6s,baz=141,slow=39
ARPS Mount Arapiles 39.69 159 P **P** **16 46 54.7 +1.6**
baz=40,SNR=43
ARPS Mount Arapiles 39.69 159 P **P** **16 46 55.5 +2.4**
JORH JORHAT 39.84 314 *i* x **PcP** **16 49 01.2 +1.5**
ITAN ITANAGAR 40.46 315 *e*P **P** **16 46 60.0 +0.4**
ITAN *i* x **PcP** **16 49 03.0 +1.2**
JMM Marumori 40.49 19 P **P** **16 47 00.1 +0.4**
JMM Marumori 40.49 19 P **P** **16 47 01.3 +1.6**
ZIRO ZIRO 40.60 315 *e*P **P** **16 47 00.3 -0.6**
ZIRO *i* x **PcP** **16 49 03.3 +0.8**
BJT Baijiatuau 40.73 350 P **P** **16 47 01.0 -0.6**
BJT Baijiatuau 40.73 350 P **P** **16 47 01.0 -0.6**
BJT pmax pmax
comp=Z,138nm,1.6s
BJT MLR MLR
comp=Z,900nm,22.0s
BJT Baijiatuau 40.73 350 P **P** **16 47 00.7 -1.0**
BJI Beijing 40.75 350 P **P** **16 47 00.8 -1.0**
BJI PP **PP** **16 48 37.3 +0.8**
BJI PcP **PcP** **16 49 04.1 +1.7**
BJI S **S** **16 53 08.5 -0.3**
BJI pmax pmax
comp=Z,23nm,1.3s
BJI pmax pmax
comp=Z,130nm,4.0s
BJI LR LR
comp=Z,620nm,27.7s
BJI LR LR
comp=Z,280nm,29.8s
BJI LR LR
comp=Z,1μm,29.0s
TEZP TEZPUR 40.81 313 *e*P **P** **16 47 02.1 -0.4**
TEZP *i* x **PcP** **16 49 04.2 +1.3**
SHL Shillong 40.90 311 *e*P **P** **16 47 02.4 -1.1**
SHL IAmb IAmb 16 47 06.9
comp=Z,26nm,0.7s
SHL *i* x **PcP** **16 49 04.3 +0.9**
SHL Shillong 40.90 311 P **P** **16 47 02.5 -1.1**
SNR=35
LZH Lanzhou 41.02 334 *e*P **P** **16 47 04.4 +0.1**
LZH pP pP 16 47 17.0 +0.4
LZH sP sP 16 47 22.3 +0.2
LZH PP **PnPn** **16 48 44.6 +0.2**
LZH ScP **ScP** **16 52 51.1 +1.7**
LZH PcS **PcS** **16 52 55.9 +1.1**
LZH S **S** **16 53 08.4 -5.0**
LZH ScS **ScS** **16 57 04.3 -0.6**
LZH pmax pmax
comp=Z,160nm,2.0s
LZH pmax pmax
comp=Z,590nm,4.5s
LZH LR LR
comp=Z,2μm,15.8s
LZH LR LR
comp=Z,2μm,17.2s
LZH LR LR
comp=Z,3μm,17.2s
GUWA GUWAHATI 41.39 312 *e*P **P** **16 47 07.1 -0.2**
CAN Canberra 41.59 150 P **P** **16 47 09.2 +0.4**
CAN IAmb IAmb 16 47 35.8
comp=Z,174nm,1.0s
CAN Canberra 41.59 150 P **P** **16 47 11.7 +2.9**
CAN Canberra 41.59 150 P **P** **16 47 09.2 +0.4**
CAN pmax pmax
comp=Z,174nm,1.0s
CAN Canberra 41.59 150 P **P** **16 47 10.6 +1.8**
CAN pP **pP** **16 47 21.3 -0.1**
SNY Shenyang 41.75 358 ⇓P **P** **16 47 10.3 +0.3**
SNY S **S** **16 53 18.6 -5.0**
SNY pmax pmax
comp=Z,78nm,1.1s
SNY pmax pmax
comp=Z,380nm,3.6s
SNY LR LR
comp=Z,2μm,20.5s
SNY LR LR
comp=Z,1μm,22.0s
SNY LR LR
comp=Z,3μm,23.3s
CNB Canberra Magne 41.76 150 P **P** **16 47 13.2 +2.9**
TOO Toolangi 41.82 155 P **P** **16 47 13.6 +2.9**
baz=42,SNR=9.2
TOO Toolangi 41.82 155 P **P** **16 47 12.8 +2.1**
TOO IAmb IAmb 16 47 31.2
comp=Z,160nm,1.2s
TOO Toolangi 41.82 155 P **P** **16 47 13.4 +2.7**
TOO Toolangi 41.82 155 P **P** **16 47 12.8 +2.1**
TOO pmax pmax
comp=Z,160nm,1.3s
HHC Hu-ho-hao-te 42.54 345 *e*P **P** **16 47 17.8 +1.2**
HHC pP pP 16 47 28.1 -1.0
HHC PP **PP** **16 48 59.6 +3.5**
HHC S **S** **16 53 36.9 +1.3**
HHC pmax pmax
comp=Z,68nm,0.9s
HHC pmax pmax
comp=Z,360nm,4.5s
HHC LR LR
comp=Z,1μm,20.4s
HHC LR LR
comp=Z,1μm,18.4s
HHC LR LR
comp=Z,2μm,18.1s
BTO Baotou 42.74 343 *e*P **P** **16 47 18.6 +0.4**
BTO LR LR
comp=Z,4μm,20.4s
BTO LR LR
comp=Z,5μm,20.2s
JTM Tenmabayashi 43.24 18 P **P** **16 47 22.7 +0.7**
JTM IAmb IAmb 16 47 39.6
comp=Z,258nm,1.2s
JTM Tenmabayashi 43.24 18 P **P** **16 47 23.4 +1.3**
KOUNC Koumac, New Ca 43.46 120 P **P** **16 47 24.0 -0.2**
KOUNC Koumac, New Ca 43.46 120 P **P** **16 47 25.6 +1.4**
CN2 Changchun 43.71 0 ⇑P **P** **16 47 25.3 -0.5**
CN2 sP pwP 16 47 41.3 -1.3
CN2 S **S** **16 53 52.3 -0.1**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,700nm,20.0s
CN2 LR LR
comp=Z,700nm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
LSA Lhasa 43.79 316 P **P** **16 47 27.9 +0.6**
LSA Lhasa 43.79 316 P **P** **16 47 28.9 +1.6**
LSA pP **pP** **16 47 35.6 -4.0**
LSA PP **PcP** **16 49 16.6 +3.2**
LSA S **S** **16 53 55.6 +0.6**
LSA ScS **ScS** **16 57 19.1 -3.8**
LSA pmax pmax
comp=Z,44nm,0.5s
LSA LR LR
comp=Z,460nm,18.5s
LSA LR LR
comp=Z,500nm,15.7s
LSA LR LR
comp=Z,1μm,22.8s
LSA Lhasa 43.79 316 P **P** **16 47 27.9 +0.6**
LSA pmax pmax
comp=Z,62nm,0.7s
LSA MLR MLR
comp=Z,600nm,21.0s
LSA Lhasa 43.79 316 *i* P **P** **16 47 27.8 +0.4**
SNR=37
LSA Lhasa 43.79 316 P **P** **16 47 27.8 +0.4**
LSA Lhasa 43.79 316 P **P** **16 47 28.1 +0.7**
LSA sP **pwP** **16 47 43.4 -1.4**
USA0B Ussuriysk Arra 44.54 7 P **P** **16 47 32.9 +0.4**
USA0B IAmb IAmb 16 47 49.4
comp=Z,155nm,1.4s
USA0B Ussuriysk Arra 44.54 7*d* *i*P **P** **16 47 30.5 -2.0**
USRK Ussuriysk Ar. 44.54 7 P **P** **16 47 32.3 -0.2**
comp=Z,45nm,0.8s,baz=190,slow=6.0,SNR=51
USRK PcP **PcP** **16 49 15.2 +0.2**
comp=Z,14nm,1.1s,baz=204,slow=5.5,SNR=1.2
USRK LR LR 17 04 35.5
comp=Z,768nm,21.6s,baz=176,slow=34
comp=Z,45nm,0.8s
USRK Ussuriysk Ar. 44.54 7 P **P** **16 47 32.4 -0.1**
USRK Ussuriysk Ar. 44.54 7 P **P** **16 47 32.4 -0.1**
VIS Vishakhapatnam 44.64 296 ⇑*i*P **P** **16 47 32.8 -0.9**
VIS IAmb IAmb 16 47 38.7
comp=Z,40nm,1.2s
MDJ Mudanjiang 44.71 5 P **P** **16 47 34.5 +0.7**
MDJ Mudanjiang 44.71 5 P **P** **16 47 34.3 +0.5**
MDJ PP **PP** **16 49 20.4 +1.4**
MDJ S **S** **16 54 07.3 +0.4**
MDJ pmax pmax
comp=Z,75nm,2.2s
MDJ pmax pmax
comp=Z,840nm,4.0s
MDJ LR LR
comp=Z,680nm,19.7s
MDJ LR LR
comp=Z,750nm,21.6s
MDJ LR LR
comp=Z,1μm,21.4s
MDJ Mudanjiang 44.71 5 P **P** **16 47 35.3 +1.5**
MDJ Mudanjiang 44.71 5 P **P** **16 47 34.5 +0.7**
MDJ sP **pwP** **16 47 49.9 -0.2**
BOK Bokaro 44.76 305 *e*P **P** **16 47 34.5 -0.1**
BOK IAmb IAmb 16 47 39.3
comp=Z,118nm,2.0s
PALK Pallekele 44.77 280 P **P** **16 47 32.9 -2.0**
PALK Pallekele 44.77 280 IAMs_20 IAMs_20 17 08 25.6
comp=Z,2μm,21.0s
PALK Pallekele 44.77 280 P **P** **16 47 32.9 -2.0**
PALK pmax pmax
comp=Z,109nm,1.9s
PALK MLR MLR
comp=Z,2μm,21.0s
PALK Pallekele 44.77 280 P **P** **16 47 35.5 +0.6**
PALK P **P** **16 47 35.5 +0.6**
PALK Pallekele 44.77 280 P **P** **16 47 34.2 -0.6**
ERM Erimo 45.01 19 P **P** **16 47 39.8 +3.5**
ERM Erimo 45.01 19*ce*P **P** **16 47 34.2 -2.1**
ERM pmax pmax
comp=Z,98nm,1.7s
GTA Gaotai 45.57 333 ⇑P **P** **16 47 40.4 -0.5**
GTA pP pP 16 47 52.1 -1.3
GTA sP pwP 16 47 56.3 -1.7
GTA PcP **PcP** **16 49 19.3 +0.5**
GTA ScP **ScP** **16 53 07.8 +0.1**
GTA S **S** **16 54 18.5 -1.3**
GTA sS sS 16 54 42.4 +1.7
GTA ScS **ScS** **16 57 30.3 -2.8**
GTA pmax pmax
comp=Z,110nm,1.5s
GTA pmax pmax
comp=Z,390nm,4.5s

GTA LR LR
comp=Z,760nm,17.8s
GTA LR LR
comp=Z,2μm,18.5s
GTA LR LR
comp=Z,2μm,18.5s
JHSG JHARSUGUGA 45.68 301 *e*P **P 16 47 42.0 0.0**
BNX BinXian 45.69 2 ⇑P **P 16 47 41.3 -0.3**
BNX S **S 16 54 19.6 -1.5**
BNX sS **sS 16 54 42.0 +0.1**
BNX pmax pmax
comp=Z,71nm,1.3s
BNX pmax pmax
comp=Z,530nm,5.9s
BNX LR LR
comp=Z,1μm,24.1s
BNX LR LR
comp=Z,500nm,18.4s
BNX LR LR
comp=Z,1μm,22.3s
GOMU GeErMu 45.71 325 P **P 16 47 43.5 +1.1**
GOMU S **S 16 54 20.9 -1.5**
GOMU SS **ScS 16 57 33.3 -1.4**
GOMU pmax pmax
comp=Z,49nm,1.5s
GOMU pmax pmax
comp=Z,200nm,4.8s
GOMU LR LR
comp=Z,800nm,20.4s
GOMU LR LR
comp=Z,340nm,17.4s
GOMU LR LR
comp=Z,730nm,18.8s
NOUC Port Laguerre 45.80 121 P **P 16 47 42.2 -0.6**
NOUC pP **pP 16 47 53.6 -2.0**
NOUC sP **pwP 16 47 58.7 -0.1**
DZM Mont Dzumac 45.90 121 *e*P **P 16 47 40.9 -2.9**
comp=Z,88nm,1.2s
DZM Mont Dzumac 45.90 121 *e*SS SS 16 57 51.5 +1.0
comp=Z,2μm,28.4s
DZM *e*LR LR 17 00 41.2
comp=Z,3μm,27.2s
DZM Mont Dzumac 45.90 121 P **P 16 47 41.7 -2.1**
DZM Mont Dzumac 45.90 121 P **P 16 47 45.9 +2.1**
DZM Mont Dzumac 45.90 121 P **P 16 47 44.5 +0.7**
DZM pP **pP 16 47 56.3 -0.3**
DVP Devils Point 45.95 115 P **P 16 47 44.8 +0.8**
TEY Ternei 46.10 11⇓*e*P **P 16 47 45.2 +0.4**
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=Z,30nm,1.2s
LIFNC LIFOU 46.11 119 P **P 16 47 45.3 0.0**
LIFNC LIFOU 46.11 119 P **P 16 47 45.8 +0.5**
comp=Z,182nm,1.4s
MDRS Chennai 46.23 288 *e*P **P 16 47 46.0 -0.4**
MDRS IAmb IAmb 16 47 48.9
comp=Z,57nm,0.8s
OUENC Ouen Island, N 46.38 121 P **P 16 47 49.4 +2.0**
ASAJ Asahikawa 46.74 17 LR LR 17 09 06.2
comp=Z,613nm,20.5s,baz=230,slow=38
ASAJ Asahikawa 46.74 17 P **P 16 47 50.2 +0.4**
ASAJ pmax pmax
comp=Z,103nm,1.2s
JKA Kamikawa-asahi 46.74 17 P **P 16 47 50.2 +0.4**
JKA IAmb IAmb 16 47 52.3
comp=Z,103nm,1.2s
PINNC Pines Island, 46.97 121 P **P 16 47 51.9 -0.1**
TAU Tasmania Unive 47.10 158 P **P 16 47 54.6 +1.9**
YUK Yuzh-Kuril'sk 47.72 20 *i* P **P 16 47 57.8 +0.3**
VAR Varanasi 47.76 305 *i* x x 17 03 38.8
SALM Salem 47.90 286 *e*P **P 16 47 59.9 +0.5**
SALM *i* x x 17 03 14.6
KOD Kodaikanal 48.37 284 *e*P **P 16 48 03.2 -0.2**
ALBI Allahabad 48.76 305 *e*P **P 16 48 05.5 -0.3**
ALBI *i* x x 17 03 54.9
HYB Hyderabad 48.90 293⇑*e*P **P 16 48 05.5 -1.5**
HYB IVmB_BB 16 48 07.9
comp=Z,522nm,1.6s
HYB IVMs_BB IVMs_BB 17 07 39.8
comp=Z,205nm,19.8s
HYB Hyderabad 48.90 293 *e*P **P 16 48 05.9 -1.2**
YSS Yuzh-Sakhalins 49.37 16 P **P 16 48 10.3 +0.2**
YSS IAmb IAmb 16 48 11.9
comp=Z,68nm,1.2s
YSS Yuzh-Sakhalins 49.37 16 *e*P **P 16 48 10.3 +0.2**
YSS *e*S **S 16 55 12.7 -0.6**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,700nm,19.0s
YSS Yuzh-Sakhalins 49.37 16 P **P 16 48 10.3 +0.2**
HIA Hailar 49.38 355 IAMs_20 IAMs_20 17 10 41.3
comp=Z,1μm,22.0s
HIA Hailar 49.38 355 P **P 16 48 10.8 +0.5**
KLR Kul'dur 49.48 6 LR LR 17 10 26.9
comp=Z,666nm,20.6s,baz=203,slow=38
KLR Kul'dur 49.48 6*ce*P **P 16 48 10.3 -0.6**
KLR pmax pmax
comp=Z,68nm,1.3s
PCHI Peechi 49.50 284⇓*e*P **P 16 48 11.8 +0.1**
PCHI *e*S **S 16 55 14.2 -1.9**
HEH HeiHe 50.20 2 *e*P **P 16 48 16.4 0.0**
HEH pP **pP 16 48 27.6 -1.5**
HEH sP **pwP 16 48 31.8 -1.6**
HEH PcP **PcP 16 49 36.0 +1.0**
HEH PP **PP 16 50 12.3 +0.2**
HEH S **S 16 55 21.9 -2.9**
HEH sS **sS 16 55 42.8 -3.3**
HEH pmax pmax
comp=Z,110nm,0.9s
HEH pmax pmax
comp=Z,650nm,4.8s
HEH LR LR
comp=Z,1μm,21.7s
HEH LR LR
comp=Z,420nm,16.7s
HEH LR LR
comp=Z,2μm,22.7s
ULN Ulaanbaatar 50.26 344 P **P 16 48 15.8 -1.2**
ULN IAmb IAmb 16 48 21.1
comp=Z,103nm,1.2s
ULN Ulaanbaatar 50.26 344*ce*P **P 16 48 16.4 -0.7**
ULN pmax pmax
comp=Z,149nm,1.7s
ULN Ulaanbaatar 50.26 344 P **P 16 48 16.7 -0.4**
ULN P **P 16 48 16.7 -0.4**
ULN P **P 16 48 16.7 -0.4**
ULN S **S 16 55 25.4 -0.5**
ULN S **S 16 55 25.4 -0.5**
ULN S **S 16 55 25.4 -0.5**
ULN Ulaanbaatar 50.26 344 P **P 16 48 17.2 +0.2**
ULN pP **pP 16 48 29.2 -0.6**
ULN sP **sP 16 48 35.3 0.0**
SONM Songino Array 50.41 344 P **P 16 48 17.5 -0.6**
comp=Z,51nm,1.1s,baz=163,slow=7.9,SNR=49
SONM LR LR 17 10 52.5
comp=Z,905nm,20.4s,baz=150,slow=38
comp=Z,51nm,1.1s
SONM Songino Array 50.41 344 P **P 16 48 17.4 -0.8**
SONM IAmb IAmb 16 48 21.3
comp=Z,82nm,1.1s
SONM PcP **PcP 16 49 37.7 +1.7**
UGL Uglegorsk 51.15 14*c i*P **P 16 48 24.4 +0.9**
UGL *e* 16 50 26.5
UGL pmax pmax
comp=Z,140nm,1.2s
UGL pmax pmax
comp=Z,1μm,4.4s
AKL Akola 51.23 297 *e*P **P 16 48 23.8 -0.9**
JHNI Jhansi 51.53 303 *e*P **P 16 48 24.8 -2.0**
GRNR Gornyy 51.60 9⇑*i*P **P 16 48 27.9 +0.9**
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR MLR MLR
comp=E,500nm,19.0s
BHPL Bhopal 51.69 300⇓*i*P **P 16 48 25.1 -3.1**
LGTI Lohaghat 51.78 309 *e*P **P 16 48 28.6 0.0**
PTH Pithoragarh 51.85 309 *e*P **P 16 48 28.4 -1.0**
PTH IAmb IAmb 16 48 38.8
comp=Z,2μm,1.5s
KAAM Kaadhehdhoo 52.00 271 IAMs_20 IAMs_20 17 11 27.8
comp=Z,1μm,21.0s
KAAM Kaadhehdhoo 52.00 271 P **P 16 48 31.2 +0.6**
CIT Chita 52.82 351 *e*P **P 16 48 36.5 +0.5**
CIT *e* 16 48 45.8
CIT *e* 16 48 51.9
CIT *e* 16 49 46.9
CIT pmax pmax
comp=Z,173nm,1.5s
DGAR Diego Garcia 52.88 261 P **P 16 48 35.6 -1.5**
DGAR Diego Garcia 52.88 261 P **P 16 48 35.6 -1.5**
DGAR pmax pmax
comp=Z,139nm,0.9s
DGAR Diego Garcia 52.88 261 P **P 16 48 36.6 -0.5**
DGAR P **P 16 48 36.6 -0.5**
DGAR P **P 16 48 36.6 -0.5**
DGAR Diego Garcia 52.88 261 P **P 16 48 36.6 -0.5**
TYV Tymovskoe 52.95 14 *e*P **P 16 48 37.3 +0.4**
TYV *e*S **S 16 56 05.0 +2.5**
TYV pmax pmax
comp=Z,25nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.2s
TYV smax smax
comp=N,600nm,5.0s
TYV smax smax
comp=E,300nm,5.0s
ZAK Zakamensk 53.59 343 *e*P **P 16 48 41.1 -0.7**
ZAK *e* 16 49 48.9
ZAK pmax pmax
comp=Z,35nm,1.2s
ZAK pmax pmax
comp=Z,31nm,1.3s
ZEA Zeya 53.68 2 *e*P **P 16 48 42.4 +0.2**
ZEA *e* 16 49 01.0
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=N,40nm,1.1s
ZEA pmax pmax
comp=Z,70nm,1.2s
ZEA pmax pmax
comp=Z,200nm,3.9s
SONA Sohna 53.80 306 *e*P **P 16 48 42.5 -1.0**
NDI New Delhi 53.87 306 *e*P **P 16 48 43.2 -0.9**
NDI *i* x x 17 06 40.3
FUNA Funafuti 54.64 100 P **P 16 48 50.5 +0.6**
FUNA pP **pP 16 49 01.9 -1.1**
NKL Nikolayevsk 54.65 12 *e*P **P 16 48 48.9 -0.4**
NKL *e*S **S 16 56 25.1 -0.4**
NKL pmax pmax
comp=E,90nm,1.0s
NKL pmax pmax
comp=N,208nm,1.1s
NKL pmax pmax
comp=Z,487nm,1.2s
NKL smax smax
comp=E,92nm,2.3s
NKL smax smax
comp=N,338nm,4.5s
SMLA Simla 54.91 309 *e*P **P 16 48 50.9 -0.6**
SMLA IAmb IAmb 16 48 54.4
comp=Z,762nm,1.3s
WMQ Urumqi 54.92 328 *e*P **P 16 48 52.1 +0.5**
WMQ pP pP 16 49 03.6 -0.7
WMQ sP sP 16 49 09.8 +0.1
WMQ PcP **PcP 16 49 53.1 0.0**
WMQ PP **PP 16 50 52.1 -2.9**
WMQ S **S 16 56 20.8 -8.9**
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.7s
WMQ LR LR
comp=Z,2μm,20.3s
WMQ LR LR
comp=Z,1μm,17.9s
WMQ LR LR
comp=Z,2μm,23.5s
WMQ Urumqi 54.92 328 P **P 16 48 52.1 +0.5**
WMQ pP **pP 16 49 04.6 +0.2**
IRK Irkutsk 54.98 345 *e*P **P 16 48 51.0 -0.8**
IRK pmax pmax
comp=Z,89nm,2.0s
MSVF Nonsavu 55.02 112 LR LR 17 12 43.5
comp=Z,597nm,21.2s,baz=301,slow=36
MSVF Nonsavu 55.02 112 *i* P **P 16 48 51.5 -1.2**
MSVF pmax pmax
comp=Z,33nm,1.4s
AJM Ajmer 55.17 303 *e*P **P 16 48 52.3 -1.3**
AJM IAmb IAmb 16 48 54.8
comp=Z,24nm,0.9s
AJM *i* x x 17 06 40.3
MOY Mondy 55.41 342 *e*P **P 16 48 55.3 +0.3**
MOY pmax pmax
comp=Z,95nm,1.8s
BHK Bhakra 55.61 309 *e*P **P 16 48 56.9 +0.2**
BHK IAmb IAmb 16 49 00.2
comp=Z,300nm,1.2s
DGTI Dogotuki 56.30 110 P **P 16 49 03.2 +1.3**
THN Thein Dam 56.58 310 *e*P **P 16 49 03.1 -0.4**
THN IAmb IAmb 16 49 06.1
comp=Z,318nm,1.5s
JMU Jammu 57.32 310 *e*P **P 16 49 09.2 +0.4**
WCZ Waipu Caves 58.02 133 P P 16 49 31.3 +18
WUS Wushi 58.31 321 P **P 16 49 16.8 +1.0**
WUS pP **pP 16 49 28.5 -0.2**
BOD Bodaibo 58.40 353 *e*P **P 16 49 16.0 +0.1**
BOD pmax pmax
comp=Z,274nm,1.4s
BHUJ Bhuj 58.51 297 *e*P **P 16 49 17.2 -0.1**
JCZ Jackson Bay 58.57 144 P **P 16 49 19.8 +2.3**
ZSN Zaisan 58.82 329 *e*P **P 16 49 18.7 -0.3**
baz=329
ZSN *e*S **S 16 57 21.2 +0.3**
baz=329
ZSN Zaisan 58.82 329 *e*P **P 16 49 18.7 -0.3**
ZSN *e*S **S 16 57 21.2 +0.3**
MLZ Mavora Lakes 58.96 146 P **P 16 49 18.4 -1.6**
MLZ IAmb IAmb 16 49 57.2
comp=Z,116nm,1.5s
NIL Nilore 58.96 310 P **P 16 49 18.4 -1.9**
NIL Nilore 58.96 310 IAMs_20 IAMs_20 17 16 37.3
comp=Z,1μm,22.0s
NIL Nilore 58.96 310 P **P 16 49 18.4 -1.9**
NIL pmax pmax
comp=Z,291nm,1.5s
NIL MLR MLR
comp=Z,1μm,22.0s
NIL Nilore 58.96 310 P **P 16 49 19.8 -0.5**
NIL P **P 16 49 19.8 -0.5**
NIL Nilore 58.96 310 P **P 16 49 18.9 -1.4**
NIL pP **pP 16 49 30.9 -2.1**
DGZ Jazzator, Alta 59.11 333*c i*P **P 16 49 20.4 -0.8**
DGZ pmax pmax
comp=Z,96nm,1.1s
SHLS Shalkode 59.24 323 *e*P **P 16 49 20.5 -1.7**
comp=Z,67nm,1.2s,baz=323
SHLS *e*S **S 16 57 23.6 -3.0**
baz=323
SHLS Shalkode 59.24 323 *e*P **P 16 49 20.4 -1.7**
SHLS *e*S **S 16 57 23.6 -3.0**
SHLS pmax pmax
comp=Z,67nm,1.2s
KUZ Kuaotunu 59.38 134 P **P 16 49 24.5 +1.5**
TARG Taragay, Kyrgy 59.50 320 P **P 16 49 24.2 -0.1**
TARG Taragay, Kyrgy 59.50 320 P **P 16 49 24.2 -0.1**
TARG pmax pmax
comp=Z,121nm,1.1s
UZB Uzynbulak 59.50 322 *e*P **P 16 49 24.1 0.0**
comp=Z,88nm,1.5s,baz=322
UZB *e*S **S 16 57 30.5 +0.3**
baz=322
UZB Uzynbulak 59.50 322 *e*P **P 16 49 24.0 0.0**
UZB *e*S **S 16 57 30.4 +0.3**
UZB pmax pmax
comp=Z,88nm,1.5s
LBZ Lake Benmore 59.57 144 IAMs_20 IAMs_20 17 14 45.9
comp=Z,1μm,21.0s
KSH Kashi 59.59 317 P **P 16 49 25.4 +0.8**
KSH pP pP 16 49 38.8 +1.2
KSH PcP **PcP 16 50 13.8 +2.3**
KSH S **S 16 57 31.3 0.0**
KSH ScS **ScS 16 59 04.0 -7.0**
KSH pmax pmax
comp=Z,87nm,1.4s
KSH pmax pmax
comp=Z,230nm,3.6s
KSH LR LR
comp=Z,840nm,22.2s
KSH LR LR
comp=Z,640nm,23.9s
KSH LR LR
comp=Z,1μm,27.1s
PEA0B Petropavlovsk- 59.61 22 P **P 16 49 23.5 -0.9**
PEA0B IAmb IAmb 16 49 27.9
comp=Z,77nm,1.0s
PEA0B Petropavlovsk- 59.61 22*ce*P **P 16 49 23.2 -1.1**
PETK Petropavlovsk- 59.61 22 P **P 16 49 25.5 +1.2**
comp=Z,41nm,0.9s,baz=208,slow=8.2,SNR=26
PETK LR LR 17 16 52.2
comp=Z,300nm,19.7s,baz=224,slow=38
comp=Z,41nm,0.9s
RPZ Rata Peaks 59.72 143 LR LR 17 16 55.8
comp=Z,601nm,19.9s,baz=300,slow=38
RPZ Rata Peaks 59.72 143 P **P 16 49 28.7 +3.4**
MK31 Makanchi Array 59.75 327 P **P 16 49 24.8 -0.8**
MK31 IAmb IAmb 16 49 28.3
comp=Z,102nm,1.1s
MK31 Makanchi Array 59.75 327 *e*P **P 16 49 24.5 -1.0**
MKAR Makanchi Array 59.75 327 P **P 16 49 24.6 -0.9**
comp=Z,33nm,0.5s,baz=122,slow=8.7,SNR=83
MKAR LR LR 17 16 53.9
comp=Z,2μm,19.1s,baz=131,slow=38
MKAR PKP2bc 17 19 03.5
comp=Z,1.9nm,1.0s,baz=289,slow=3.7,SNR=8.2
MKAR P4KPbc 17 26 32.0
comp=Z,2.1nm,1.0s,baz=124,slow=4.3,SNR=9.5
comp=Z,33nm,0.5s
MKAR Makanchi Array 59.75 327 P **P 16 49 24.2 -1.4**
SATY Saty 59.83 322 *e*P **P 16 49 26.5 +0.2**
comp=Z,86nm,0.9s,baz=322
SATY Saty 59.83 322 *e*P **P 16 49 26.4 +0.2**
SATY pmax pmax
comp=Z,86nm,0.9s
ZHN Zhinishke 59.87 322 *e*P **P 16 49 26.4 -0.2**
comp=Z,58nm,1.2s,baz=322
ZHN Zhinishke 59.87 322 *e*P **P 16 49 26.3 -0.2**
ZHN pmax pmax
comp=Z,58nm,1.2s
KPKS Kokpek 59.88 323 *e*P **P 16 49 26.3 -0.2**
comp=Z,87nm,1.1s,baz=322
KPKS *e*S **S 16 57 34.9 -0.1**
baz=322
KPKS Kokpek 59.88 323 *e*P **P 16 49 26.3 -0.2**
KPKS *e*S **S 16 57 34.8 -0.1**
KPKS pmax pmax
comp=Z,87nm,1.1s
PET Petropavlovsk 59.91 23 *e*P **P 16 49 27.1 +0.8**
PET *e*S **S 16 57 40.2 +5.6**
PET pmax pmax
comp=Z,139nm,1.2s
PET pmax pmax
comp=Z,200nm,14.1s
PET Petropavlovsk 59.91 23 P **P 16 49 27.2 +0.9**
MAKZ Makanchi 59.93 327 P **P 16 49 26.1 -0.7**
MAKZ Makanchi 59.93 327 P **P 16 49 26.1 -0.7**
MAKZ pmax pmax
comp=Z,149nm,1.2s
MAKZ MLR MLR
comp=Z,2μm,20.0s
MAKZ Makanchi 59.93 327 P **P 16 49 25.6 -1.1**
MAKZ pP **pP 16 49 37.8 -1.8**
KMRZ Kaimai 60.02 135 P P 16 49 20.2 -7.3
TUWZ Tuamarina 60.34 139 P **P 16 49 29.1 -0.5**
TCW Tory Channel 60.45 139 P **P 16 49 29.7 -0.7**
MQZ McQueen's Vall 60.69 142 IAMs_20 IAMs_20 17 13 47.4
comp=Z,975nm,18.0s
TNSS Tian-Shan 60.72 321 *e*P **P 16 49 32.6 -0.2**
baz=321
TNSS Tian-Shan 60.72 321 *e*P **P 16 49 32.5 -0.2**
ULHL Ulahol 60.76 320 P **P 16 49 35.1 +2.4**
SNR=8.3
SNZO South Karori 60.78 139 P **P 16 49 35.1 +2.6**
comp=Z,226nm,1.9s
AAA Alma-Ata 60.83 321 *e*P **P 16 49 33.1 +0.1**
comp=Z,110nm,0.9s,baz=321
AAA Alma-Ata 60.83 321 *e*P **P 16 49 33.1 +0.1**
AAA pmax pmax
comp=Z,110nm,0.9s
BHHZ Black Hill Sta 60.84 136 P **P 16 49 35.7 +2.6**
TDK Taldyqorghan 60.90 324 *e*P **P 16 49 33.1 -0.2**
comp=Z,86nm,0.9s,baz=324
TDK Taldyqorghan 60.90 324 *e*P **P 16 49 33.1 -0.2**
TDK pmax pmax
comp=Z,86nm,0.9s
BKZ Black Stump Fm 60.99 136 P **P 16 49 33.4 -0.7**
BKZ IAmb IAmb 16 50 06.5
comp=Z,157nm,1.8s
BKZ Black Stump Fm 60.99 136 P **P 16 49 36.1 +2.0**
BKZ Black Stump Fm 60.99 136 P **P 16 49 35.1 +0.9**
URZ Urewera 61.03 135 P **P 16 49 38.3 +4.0**
MRZ Mangatainoka R 61.05 138 IAMs_20 IAMs_20 17 11 39.8
comp=Z,684nm,18.0s
MTHZ Maungataniwha 61.09 135 P **P 16 49 38.3 +3.5**
CHKK Chushkaly 61.13 322 *e*P **P 16 49 34.5 -0.5**
baz=322
CHKK Chushkaly 61.13 322 *e*P **P 16 49 34.4 -0.5**
NMHZ Naumai 61.18 136 P **P 16 49 38.5 +3.0**
MCHZ McNeill Hill 61.26 136 P **P 16 49 39.4 +3.5**
RUGZ Raukumara Rang 61.30 134 P **P 16 49 40.3 +3.9**
RAGZ Rawiri 61.34 135 P **P 16 49 38.1 +1.5**
MWZ Matawai 61.35 135 P **P 16 49 38.0 +1.3**
TKM2 Tokmak 2 61.51 321 P **P 16 49 36.8 -1.1**
SNR=79
KUU Kurty 61.55 322 *e*P **P 16 49 37.0 -0.8**
baz=322
KUU *e*S **S 16 57 55.6 -0.4**
baz=322
KUU Kurty 61.55 322 *e*P **P 16 49 37.0 -0.8**
KUU *e*S **S 16 57 55.5 -0.4**
RIGZ Rimuhau 61.68 135 P P 16 49 44.4 +5.6
PUZ Puketiti 61.77 134 P P 16 49 46.4 +7.0
WMGZ Waiomatatini S 61.77 134 P **P 16 49 43.2 +3.8**
KBK Karagaybulak 61.80 320 P **P 16 49 40.3 +0.6**
SNR=46
UCH Uchtor 61.87 319 P **P 16 49 39.5 -1.1**
SNR=80
YAK Yakutsk 62.07 3 LR LR 17 18 14.2
comp=Z,608nm,20.8s,baz=215,slow=38
YAK Yakutsk 62.07 3 P **P 16 49 40.3 -0.6**
YAK Yakutsk 62.07 3*c i*P **P 16 49 40.7 -0.2**
YAK *e**PP **pwP 16 49 58.6 +0.8**
YAK *e* 16 50 19.0
YAK *e* 16 51 53.7
YAK *e*S **S 16 57 59.7 -2.1**
YAK *e**SS **sS 16 58 31.5 +7.7**
YAK *e* 16 59 24.6
YAK *e*SS **SS 17 02 07.2 +1.9**
YAK pmax pmax
comp=Z,248nm,0.8s
YAK pmax pmax
comp=N,110nm,1.0s
YAK pmax pmax
comp=E,59nm,1.1s
YAK pmax pmax
comp=Z,44nm,1.4s
YAK pmax pmax
comp=N,55nm,1.8s
YAK smax smax
comp=N,781nm,3.1s
YAK smax smax
comp=E,237nm,2.5s
YAK Yakutsk 62.07 3 P **P 16 49 41.0 +0.1**
YAK pP **pP 16 49 53.7 -0.3**
YAK sP **pwP 16 49 58.6 +0.8**
AAK Ala-Archa 62.08 320 P **P 16 49 42.7 +1.2**
SNR=32
AAK Ala-Archa 62.08 320 LR LR 17 17 50.7
comp=E,708nm,20.9s,baz=108,slow=37
AAK Ala-Archa 62.08 320 P **P 16 49 42.2 +0.6**
AAK IAmb IAmb 16 49 45.1
comp=Z,106nm,1.1s
AAK Ala-Archa 62.08 320*ce*P **P 16 49 41.4 -0.2**
AAK pmax pmax
comp=Z,168nm,1.7s
AAK Ala-Archa 62.08 320 *i* P **P 16 49 42.4 +0.8**
SNR=20
AAK Ala-Archa 62.08 320 P **P 16 49 42.0 +0.4**
AAK P **P 16 49 42.0 +0.4**
AAK S **S 16 58 02.4 -0.7**

AAK S **S** **16 58 02.4 -0.7**
AAK Ala-Archa 62.08 320 P **P** **16 49 42.2 +0.6**
AAK sP **pwP** **16 49 59.2 +0.1**
CHMS Chumysh 62.09 320 P **P** **16 49 41.4 -0.1**
SNR=18
AML Almayashu 62.35 319 P **P** **16 49 43.4 -0.4**
SNR=98
USP Ospenovka 62.38 321 P **P** **16 49 42.8 -0.7**
SNR=92
SGDS Sogindy 62.39 321 *e*P **P** **16 49 43.0 -0.5**
baz=321
SGDS Sogindy 62.39 321 *e*P **P** **16 49 43.0 -0.5**
KBL Kabul 62.53 310 P **P** **16 49 43.1 -1.7**
KBL Kabul 62.53 310 P **P** **16 49 43.1 -1.7**
KBL pmax pmax
comp=Z,249nm,1.2s
KBL Kabul 62.53 310 P **P** **16 49 43.8 -1.0**
SNR=106
KBL S **S** **16 58 00.6 -8.5**
EKS2 Erkin-Say 62.55 320 P **P** **16 49 45.5 +0.8**
SNR=36
MA2 Magadan 62.82 14 P **P** **16 49 44.5 -1.4**
MA2 Magadan 62.82 14 P **P** **16 49 49.6 +3.7**
comp=Z,132nm,1.1s
MA2 Magadan 62.82 14 *ce*P **P** **16 49 47.3 +1.4**
MA2 pmax pmax
comp=Z,170nm,1.3s
MA2 Magadan 62.82 14 P **P** **16 49 47.4 +1.4**
MA2 sP **pwP** **16 50 03.7 +0.8**
ZAA0 Zalesovo Array 63.24 335 P **P** **16 49 46.9 -1.9**
ZAA0 IAmb IAmb 16 49 51.1
comp=Z,41nm,0.9s
ZALV Zalesovo Beam 63.24 335 P **P** **16 49 47.0 -1.8**
comp=Z,33nm,0.8s,baz=135,slow=4.8,SNR=47
ZALV PKPPKP **P'P'df** **17 18 47.0 +0.1**
comp=Z,0.3nm,0.3s,baz=74,slow=2.1,SNR=2.9
ZALV PKP2bc 17 18 54.6
comp=Z,3.7nm,1.1s,baz=280,slow=4.4,SNR=8.8
ZALV LR LR 17 19 01.0
comp=Z,921nm,18.5s,baz=128,slow=38
comp=Z,33nm,0.8s
ZALV Zalesovo Beam 63.24 335 P **P** **16 49 47.4 -1.5**
ROCAM Rodrigues Isla 63.37 248 P **P** **16 49 50.1 -0.3**
BTLS Baital 63.54 322 *e*P **P** **16 49 50.4 -0.7**
baz=322
BTLS Baital 63.54 322 *e*P **P** **16 49 50.3 -0.7**
CHGR Chuyangaron 63.98 314 P **P** **16 49 53.8 -0.4**
CHGR Chuyangaron 63.98 314 P **P** **16 49 53.8 -0.4**
CHGR pmax pmax
comp=Z,402nm,1.1s
KURBB Kurchatov Arra 64.06 329 P **P** **16 49 53.2 -1.1**
comp=Z,54nm,0.7s,baz=130,slow=6.0,SNR=116
comp=Z,54nm,0.7s
KURBB Kurchatov Arra 64.06 329 P **P** **16 49 53.3 -1.0**
KURK Kurchatov 64.07 329 P **P** **16 49 53.4 -1.0**
KURK Kurchatov 64.07 329 P **P** **16 49 53.4 -1.0**
KURK pmax pmax
comp=Z,136nm,0.9s
KURK Kurchatov 64.07 329 P **P** **16 49 53.1 -1.2**
SIMJ Simiganj 64.09 314 P **P** **16 49 53.9 -1.1**
SIMJ pP **pP** **16 50 05.5 -2.5**
DZA Taraz 64.26 319 *e*P **P** **16 49 55.4 -0.5**
baz=319
DZA Taraz 64.26 319 *e*P **P** **16 49 55.3 -0.5**
IUG Iuzhnay 64.80 318 *e*P **P** **16 49 59.3 -0.2**
baz=318
IUG Iuzhnay 64.80 318 *e*P **P** **16 49 59.2 -0.2**
KK31 Karatay Array 64.89 319 *i* P **P** **16 49 59.2 -0.7**
KKAR Karatay Array 64.89 319 P **P** **16 49 59.1 -0.9**
KKAR Karatay Array 64.89 319 P **P** **16 49 59.1 -0.9**
SEY Seymchan 66.13 13 LR LR 17 18 26.9
comp=Z,294nm,21.8s,baz=198,slow=35
SEY Seymchan 66.13 13 *ce*P **P** **16 50 08.8 +1.3**
SEY pmax pmax
comp=Z,115nm,1.7s
CASY Casey 66.84 186 P **P** **16 50 12.7 +0.8**
CASY IAmb IAmb 16 50 33.2
comp=Z,71nm,1.3s
CASY Casey 66.84 186 IAMs_20 IAMs_20 17 16 20.2
comp=Z,778nm,22.0s
CASY Casey 66.84 186 P **P** **16 50 12.4 +0.4**
DRV Dumont d'Urvil 67.28 174 P **P** **16 50 15.1 +0.3**
WSAR Wadi Sarin 68.40 295 LR LR 17 21 58.0
comp=Z,289nm,20.9s,baz=104,slow=37
MHTO MHTO 68.64 293 P **P** **16 50 22.4 -1.8**
MHTO P **P** **16 50 22.4 -1.8**
MHTO P **P** **16 50 22.4 -1.8**
JMDO Jabal Madar 68.73 294 P **P** **16 50 23.8 -1.0**
JMDO P **P** **16 50 23.8 -1.0**
DQM DQM 68.89 291 P **P** **16 50 25.3 -0.5**
DQM P **P** **16 50 25.3 -0.5**
DQM P **P** **16 50 25.3 -0.5**
SMDO Samad 68.89 295 P **P** **16 50 24.8 -1.1**
SMDO P **P** **16 50 24.8 -1.1**
MSEY Mahe Island 69.57 265 P **P** **16 50 30.2 -0.1**
BVA0 Borovoye Array 69.60 328 P **P** **16 50 28.7 -0.9**
BVAR Borovoye Array 69.60 328 LR LR 17 23 04.0
comp=Z,311nm,21.0s,baz=123,slow=38
BSY Bisya 69.62 294 P **P** **16 50 29.9 -0.4**
BSY P **P** **16 50 29.9 -0.4**
HOQ Hoqain 69.65 295 P **P** **16 50 29.7 -0.8**
HOQ P **P** **16 50 29.7 -0.8**
HOQ P **P** **16 50 29.7 -0.8**
BRVK Borovoye 69.67 328 P **P** **16 50 29.4 -0.7**
BRVK IAmb IAmb 16 50 33.6
comp=Z,94nm,1.2s
BRVK Borovoye 69.67 328 *ce*P **P** **16 50 29.3 -0.7**
BRVK pmax pmax
comp=Z,70nm,1.0s
BRVK Borovoye 69.67 328 P **P** **16 50 30.1 +0.1**
BRVK P **P** **16 50 30.1 +0.1**
BRVK P **P** **16 50 30.1 +0.1**
BRVK Borovoye 69.67 328 P **P** **16 50 29.5 -0.5**
ARQ Araqi 70.33 295 P **P** **16 50 32.8 -1.8**
ARQ P **P** **16 50 32.8 -1.8**
SOHO SOHO 70.44 296 P **P** **16 50 34.5 -0.8**
RER Riviere de l'E 70.65 248 P **P** **16 50 38.1 +1.4**
RER sP **sP** **16 50 54.1 -0.8**
HATD Hatta, Dubai 70.91 296 P **P** **16 50 37.7 -0.5**
HATD Hatta, Dubai 70.91 296 P **P** **16 50 38.1 -0.1**
ASHO Ashiyiah 70.96 296 P **P** **16 50 38.6 +0.1**
ASHO P **P** **16 50 38.8 +0.3**
DMTO DMTO 71.05 289 P **P** **16 50 38.8 -0.2**
DMTO P **P** **16 50 38.8 -0.2**
DMTO P **P** **16 50 41.0 +1.9**
SNR=5.7
DMTO P **P** **16 50 41.0 +1.9**
SNR=5.7
ALNE Al Ain 71.14 295 *i* P **P** **16 50 38.0 -1.5**
SNR=10
ALNE Al Ain 71.14 295 P **P** **16 50 38.7 -0.8**
FAQ Al Faqa, Dubai 71.38 296 P **P** **16 50 40.9 -0.1**
ASUD Al Ashush, Dub 71.60 296 P **P** **16 50 39.6 -2.7**
TIXI Tiksi 71.67 1 LR LR 17 25 16.9
comp=Z,521nm,19.4s,baz=1.0,slow=38
TIXI Tiksi 71.67 1 P **P** **16 50 40.9 -0.9**
TIXI IAmb IAmb 16 50 59.9
comp=Z,63nm,1.0s
TIXI IAMs_20 IAMs_20 17 22 28.0
comp=Z,986nm,21.0s
TIXI Tiksi 71.67 1 P **P** **16 50 40.9 -0.9**
TIXI pmax pmax
comp=Z,63nm,1.0s
TIXI MLR MLR
comp=Z,1μm,21.0s
TIXI Tiksi 71.67 1 P **P** **16 50 41.2 -0.6**
TIXI sP **pwP** **16 50 58.9 -0.5**
RBK Rabkut 71.73 288 P **P** **16 50 42.8 -0.5**
RBK P **P** **16 50 42.8 -0.5**
DOK Doka 71.92 290 P **P** **16 50 42.3 -2.0**
SNR=15
DOK P **P** **16 50 42.3 -2.0**
SNR=15
GEYT Alibeck 71.97 310 P **P** **16 50 43.9 -0.5**
comp=Z,35nm,0.8s,baz=134,slow=4.3,SNR=48
GEYT LR LR 17 27 58.9
comp=Z,305nm,19.3s,baz=102,slow=40
comp=Z,35nm,0.8s
GEYT Alibeck 71.97 310 P **P** **16 50 44.8 +0.5**
GEYT IAmb IAmb 16 50 47.6
comp=Z,55nm,0.9s
GEYT Alibeck 71.97 310 P **P** **16 50 44.8 +0.5**
GEYT pmax pmax
comp=Z,55nm,0.9s

GYA0B ALIBECK ARRAY 71.97 310 P **P** **16 50 44.2 -0.2**
WHFO Wadi Hawf 72.18 289 P **P** **16 50 44.4 -1.6**
WHFO P **P** **16 50 44.4 -1.6**
ABTO Aybut 72.57 288 P **P** **16 50 47.4 -0.9**
ABTO P **P** **16 50 47.4 -0.9**
MZWR Madinat Zayed 72.79 295 P **P** **16 50 49.1 -0.3**
MZWR P **P** **16 50 49.1 -0.3**
MZR Muzera 73.05 294 P **P** **16 50 49.2 -1.9**
MZR Muzera 73.05 294 P **P** **16 50 50.1 -0.9**
MZR P **P** **16 50 50.1 -0.9**
BILL Bilibino 73.67 15 *d* P **P** **16 50 53.3 -0.4**
BILL *i* 16 51 05.3
BILL *i* S **SKiKP** **17 00 14.4 -4.9**
BILL pmax pmax
comp=Z,18nm,1.2s
BILL MLR MLR
comp=Z,214nm,18.0s
GHWR Ruwais 73.72 295 P **P** **16 50 54.8 -0.1**
NRIK Noril'sk 73.73 347 P **P** **16 50 54.4 +0.3**
comp=Z,91nm,0.7s,baz=126,slow=5.8,SNR=147
NRIK S **S** **17 00 20.4 -0.5**
comp=Z,1.3nm,0.3s,baz=11,slow=21,SNR=5.7
NRIK LR LR 17 24 46.9
comp=Z,676nm,21.9s,baz=138,slow=37
comp=Z,91nm,0.7s
NRIK Noril'sk 73.73 347 P **P** **16 50 52.9 -1.1**
NRIK Noril'sk 73.73 347 *ce*P **P** **16 50 54.2 +0.2**
NRIK pmax pmax
comp=Z,178nm,0.9s
AB31 Akbulak array 74.03 322 P **P** **16 50 55.1 -1.1**
ABKAR Akbulak array 74.03 322 P **P** **16 50 54.4 -1.8**
SLWR Sila 74.81 295 P **P** **16 51 00.8 -0.4**
SLWR P **P** **16 51 00.8 -0.4**
SBV Sambava 75.46 256 P **P** **16 51 06.6 +1.5**
SNR=7.7
AKTO Aktyubinsk 75.59 323 LR LR 17 26 40.1
comp=Z,890nm,19.5s,baz=92,slow=38
SMRA Abu-Samra 75.68 295 P **P** **16 51 05.8 -0.4**
SHMA Al-Shehemyia 75.69 297 P **P** **16 51 06.2 -0.1**
RAR Rarotonga 76.21 112 LR LR 17 27 17.7
comp=Z,84nm,18.1s,baz=277,slow=38
SVE Sverdlovsk 76.32 329 *de*P **P** **16 51 08.3 -0.9**
SVE *e*S **S** **17 00 43.7 -6.4**
SVE pmax pmax
comp=Z,208nm,1.4s
ARU Arti 77.25 329 LR LR 17 27 55.6
comp=Z,322nm,19.7s,baz=116,slow=38
ARU Arti 77.25 329 P **P** **16 51 12.8 -1.6**
ARU IAmb IAmb 16 51 17.4
comp=Z,89nm,0.9s
ARU Arti 77.25 329 *c i* P **P** **16 51 13.4 -1.0**
ARU *PP **pP** **16 51 27.6 -0.1**
ARU 16 54 05.3
ARU S **S** **17 01 00.9 +0.6**
ARU SS **SS** **17 06 00.2 +1.1**
ARU pmax pmax
comp=Z,129nm,1.0s
UNV Unalaska Valle 77.54 34 P **P** **16 51 17.8 +1.7**
baz=252
ABPO Ambohimpanom 78.40 251 P **P** **16 51 21.9 0.0**
ABPO Ambohimpanom 78.40 251 IAMs_20 IAMs_20 17 22 03.3
comp=Z,597nm,20.0s
ABPO Ambohimpanom 78.40 251 P **P** **16 51 21.9 0.0**
ABPO pmax pmax
comp=Z,57nm,1.1s
ABPO MLR MLR
comp=Z,600nm,20.0s
OPO Ambohidratompo 78.41 251 LR LR 17 19 21.9
comp=Z,233nm,21.6s,baz=232,slow=31
VOI Vohitsoka 79.01 248 P **P** **16 51 23.5 -1.6**
VOI IAmb IAmb 16 51 27.3
comp=Z,81nm,0.9s
VOI Vohitsoka 79.01 248 P **P** **16 51 26.5 +1.4**
VOI Vohitsoka 79.01 248 P **P** **16 51 25.6 +0.4**
SNR=10
LKRN Lenkeran, Azer 79.31 309 P **P** **16 51 28.1 +1.8**
MAW Mawson 79.59 200 P **P** **16 51 27.9 +0.8**
comp=Z,33nm,1.0s,baz=63,slow=7.3,SNR=12
MAW LR LR 17 24 29.6
comp=Z,274nm,19.4s,baz=58,slow=34
comp=Z,33nm,1.0s
MAW Mawson 79.59 200 P **P** **16 51 29.1 +2.0**
baz=80,SNR=7.0
VNDA Vanda 79.88 172 P **P** **16 51 29.3 +0.7**
comp=Z,9.5nm,0.8s,baz=331,slow=5.1,SNR=13
VNDA LR LR 17 27 08.9
comp=Z,393nm,21.4s,baz=335,slow=36
comp=Z,9.5nm,0.8s
VNDA Vanda 79.88 172 P **P** **16 51 29.9 +1.3**
VNDA Vanda 79.88 172 P **P** **16 51 29.9 +1.3**
VNDA pmax pmax
comp=Z,48nm,1.3s
RAYN Ar Rayn 80.40 294 P **P** **16 51 31.2 -1.3**
RAYN IAmb IAmb 16 51 37.2
comp=Z,111nm,1.6s
RAYN Ar Rayn 80.40 294 P **P** **16 51 31.3 -1.3**
RAYN pmax pmax
comp=Z,111nm,1.6s
RAYN MLR MLR
comp=Z,1μm,22.0s
RAYN Ar Rayn 80.40 294 *i* P **P** **16 51 31.6 -1.0**
SNR=40
RAYN Ar Rayn 80.40 294 P **P** **16 51 31.9 -0.6**
AKT Akhty 80.53 312 *e*P **P** **16 51 33.6 +0.7**
AKT *e* 16 51 40.3
AKT pmax pmax
comp=Z,122nm,0.8s
TNA Tin City 80.77 23 P **P** **16 51 34.9 +1.4**
baz=249
SEKA Sheki 80.88 312 P **P** **16 51 35.5 +0.7**
MNGR Mingechevir, A 80.91 311 P **P** **16 51 36.5 +1.7**
MAK Makhachkala 80.91 313 *e*P **P** **16 51 33.8 -1.0**
MAK *e*PP **pP** **16 51 46.2 -2.0**
MAK *e*SP **pwP** **16 51 52.8 -0.1**
MAK *e*PPP PPP 16 56 29.0
MAK *e*S **S** **17 01 38.9 -0.9**
MAK *e*SS **SS** **17 06 56.4 +1.7**
MAK pmax pmax
comp=Z,632nm,1.6s
SDPT Sand Point 81.32 34 P **P** **16 51 37.2 +0.5**
baz=257
ANM Nome 81.44 24 P **P** **16 51 34.8 -2.4**
ANM Nome 81.44 24 P **P** **16 51 39.2 +2.0**
baz=251
ANM Nome 81.44 24 P **P** **16 51 34.8 -2.4**
ANM pmax pmax
comp=Z,26nm,1.1s
GANJ Ganja 81.47 311 P **P** **16 51 39.1 +1.2**
NAX Nakhchivan 81.92 309 P **P** **16 51 42.2 +1.9**
GROC Groznyy 82.19 314 *e*P **P** **16 51 40.8 -0.7**
GROC *e*PP **pP** **16 51 56.1 +1.1**
GROC pmax pmax
comp=Z,400nm,1.1s
ATD Arta Tunnel 82.32 282 LR LR 17 28 15.0
comp=Z,290nm,19.8s,baz=58,slow=36
BELG Belogornoye 82.37 323 LR LR 17 31 41.3
comp=Z,393nm,19.2s,baz=131,slow=38
BELG Belogornoye 82.37 323 *c i* P **P** **16 51 41.9 -0.4**
BELG pmax pmax
comp=Z,87nm,1.3s
KIRV Kirov 82.58 329 *ce*P **P** **16 51 42.7 -0.5**
GNI Garni 82.60 310 LR LR 17 36 24.1
comp=Z,207nm,18.8s,baz=103,slow=41
GNI Garni 82.60 310 P **P** **16 51 44.4 +0.4**
CHGN Chignik 82.66 33 P **P** **16 51 44.1 +0.4**
baz=259
N16K Nishlik Lake 83.32 29 P **P** **16 51 49.3 +2.2**
baz=258
R16K Pilot Point 83.35 32 P **P** **16 51 48.0 +0.8**
baz=259
P16K Nushagak River 83.41 30 P **P** **16 51 49.3 +1.8**
baz=259,SNR=13
O16K Kokwok River B 83.47 30 P **P** **16 51 49.4 +1.6**
baz=259
ZEI Tsey 83.52 313 *e*P **P** **16 51 48.1 -0.6**
ZEI pmax pmax
comp=Z,155nm,1.4s
R17K Ugashik Creek 83.99 32 P **P** **16 51 51.1 +0.6**
baz=260
O17K Koliganek Bris 84.00 30 P **P** **16 51 52.2 +1.7**
baz=260,SNR=22
Q16K King Salmon 84.03 31 P **P** **16 51 51.2 +0.6**
baz=260
P17K Kvichak River 84.23 30 P **P** **16 51 52.9 +1.2**
baz=260,SNR=5.6

KBZ Khabaz 84.34 314 P **P** **16 51 52.6 0.0**
comp=Z,33nm,0.9s,baz=104,slow=4.1,SNR=29
KBZ LR LR 17 34 28.7
comp=Z,213nm,19.6s,baz=78,slow=39
comp=Z,33nm,0.9s
KBZ Khabaz 84.34 314 *c i* P **P** **16 51 52.3 -0.3**
KBZ pmax pmax
comp=Z,84nm,1.3s
Q17K Contact Creek 84.36 31 P **P** **16 51 52.6 +0.1**
baz=261
NEY Neytrino 84.42 313 *i* P **P** **16 51 53.8 +0.5**
NEY pmax pmax
comp=Z,36nm,1.2s
KVAR Kislovodsk Arr 84.51 314 LR LR 17 33 18.9
comp=Z,185nm,21.7s,baz=232,slow=38
KIV Kislovodsk 84.52 314 *e*P **P** **16 51 54.2 +0.6**
KIV *e* 16 55 09.3
KIV *e* 17 02 12.7
KIV *e*SSS SSS 17 11 12.2
KIV pmax pmax
comp=Z,132nm,3.8s
KIV pmax pmax
comp=Z,54nm,1.0s
KIV Kislovodsk 84.52 314 *i* P **P** **16 51 54.4 +0.8**
SNR=12
KIV Kislovodsk 84.52 314 P **P** **16 51 53.4 -0.2**
KIV P **P** **16 51 53.4 -0.2**
SHA1 Shidzhatmaz 84.52 314 *i* P **P** **16 51 53.1 -0.7**
Q18K Katmai Hardscr 84.87 31 P **P** **16 51 55.6 +0.5**
baz=261,SNR=14
P18K Big Mountain, 84.87 30 P **P** **16 51 53.8 -1.2**
P18K IAmb IAmb 16 51 57.7
comp=Z,106nm,1.5s
P18K Big Mountain, 84.87 30 P **P** **16 51 55.7 +0.7**
baz=261,SNR=8.2
O18K Koktuh Hills 84.96 30 P **P** **16 51 54.6 -0.8**
O18K Koktuh Hills 84.96 30 P **P** **16 51 56.5 +1.1**
baz=261
SII Sitkinak Islan 85.02 33 P **P** **16 51 57.5 +1.8**
baz=262
GCSA Galena City Sc 85.03 25 P **P** **16 51 56.8 +1.2**
baz=259
PRGR Permogore 85.03 332 *e*P **P** **16 51 54.1 -1.5**
PRGR *e*S **S** **17 02 13.3 -7.5**
TTA Tatalina 85.08 27 P **P** **16 51 55.3 -0.7**
TTA IAmb IAmb 16 52 00.1
comp=Z,88nm,1.5s
TTA Tatalina 85.08 27 P **P** **16 51 57.4 +1.4**
baz=260
TTA Tatalina 85.08 27 P **P** **16 51 55.3 -0.7**
TTA pmax pmax
comp=Z,88nm,1.5s
O19K Port Alsworth 85.45 30 P **P** **16 51 59.2 +1.5**
baz=262
N19K Bonanza Creek 85.46 29 P **P** **16 51 57.9 0.0**
N19K Bonanza Creek 85.46 29 P **P** **16 51 58.6 +0.6**
baz=262
L19K White Mountain 85.48 28 P **P** **16 51 58.7 +0.7**
L19K IAmb IAmb 16 52 02.3
comp=Z,45nm,1.1s
L19K White Mountain 85.48 28 P **P** **16 51 58.9 +0.9**
baz=261
OHAK Old Harbor 85.59 33 P **P** **16 51 57.4 -1.1**
OHAK Old Harbor 85.59 33 P **P** **16 51 59.8 +1.3**
baz=263
PPT Papeete 85.61 108 LR LR 17 29 24.4
comp=Z,109nm,19.9s,baz=254,slow=35
PPT2 Papeete2 85.61 108 *e*P **P** **16 51 59.6 0.0**
comp=Z,170nm,26.5s
PPT2 Papeete2 85.61 108 *e*S **S** **17 02 27.0 -1.5**
comp=Z,690nm,25.8s
PPT2 *e*SS **SS** **17 08 03.8 -1.8**
comp=Z,732nm,40.8s
PPT2 Papeete2 85.61 108 *e*LR LR 17 19 03.2
comp=Z,895nm,25.8s
PPT2 *e*LR LR 17 19 04.0
comp=Z,661nm,33.8s
VRH Novokhopyorsk 85.85 321 *e*P **P** **16 51 59.5 -0.5**
VRH pmax pmax
comp=Z,240nm,1.1s
TBI Tubuai 85.87 113 *e*P **P** **16 52 01.0 +0.3**
comp=Z,449nm,26.8s
TBI Tubuai 85.87 113 *e*S **S** **17 02 29.4 -1.3**
comp=Z,3μm,26.5s
TBI *e*SS **SS** **17 08 08.8 -0.2**
comp=Z,3μm,40.5s
TBI Tubuai 85.87 113 *e*LR LR 17 19 11.2
comp=Z,4μm,29.2s
TBI *e*LR LR 17 19 11.9
comp=Z,11μm,27.8s
L20K Farewell, AK 85.98 27 P **P** **16 52 01.7 +1.3**
baz=262
ILSW Iliamna Southw 86.00 30 P **P** **16 52 00.3 -0.4**
ILSW IAmb IAmb 16 52 01.9
comp=Z,98nm,1.6s
K20K Telida 86.01 27 P **P** **16 52 01.2 +0.6**
K20K IAmb IAmb 16 52 02.8
comp=Z,55nm,1.5s
K20K Telida 86.01 27 P **P** **16 52 01.2 +0.6**
baz=262
KDAK Kodiak Island 86.03 32 P **P** **16 52 00.1 -0.6**
KDAK Kodiak Island 86.03 32 P **P** **16 52 02.2 +1.5**
baz=264
KDAK Kodiak Island 86.03 32 P **P** **16 52 00.1 -0.6**
KDAK pmax pmax
comp=Z,116nm,1.2s
J20K Nowinta River 86.10 26 P **P** **16 52 01.2 +0.2**
J20K IAmb IAmb 16 52 05.2
comp=Z,49nm,1.2s
J20K Nowinta River 86.10 26 P **P** **16 52 02.3 +1.4**
baz=262
Q20K Shuyak Island 86.22 31 P **P** **16 52 02.2 +0.5**
baz=264
M20K Styx River 86.25 28 P **P** **16 52 01.9 0.0**
M20K IAmb IAmb 16 52 06.3
comp=Z,85nm,1.4s
M20K Styx River 86.25 28 P **P** **16 52 02.5 +0.6**
baz=263
FURI Furi 86.37 279 IAMs_20 IAMs_20 17 33 13.2
comp=Z,605nm,21.0s
A21K Barrow 86.37 18 P **P** **16 52 01.9 -0.2**
A21K Barrow 86.37 18 P **P** **16 52 03.7 +1.6**
baz=259
IMAR Indian Mountai 86.52 24 P **P** **16 52 02.5 -0.5**
N20K Mount Spurr 86.61 29 P **P** **16 52 03.7 +0.1**
baz=264,SNR=9.2
SPCR Spurr Chakacha 86.61 29 P **P** **16 52 03.9 +0.3**
baz=264,SNR=6.4
SOC Sochi 86.63 313 *e*P **P** **16 52 01.1 -2.9**
SOC *e* 16 55 23.3
SOC *e*PPP PPP 16 57 18.5
SOC *e*S **SKSac** **17 02 22.5 -4.2**
SOC *e*SS **SS** **17 08 18.2 -1.1**
SOC MLR MLR
comp=Z,234nm,21.0s
G21K Allakaket 86.69 23 P **P** **16 52 04.5 +0.6**
baz=262
HOM Homer 86.72 30 P **P** **16 52 04.9 +0.8**
baz=264
F21K Alatna River 86.80 23 P **P** **16 52 04.6 +0.3**
baz=262
PPLA Purkeypile 86.80 27 P **P** **16 52 04.8 +0.1**
baz=264
CHUM Lake Minchumin 86.86 26 P **P** **16 52 05.5 +0.8**
baz=263,SNR=14
H21K Melozitna Rive 86.86 24 P **P** **16 52 05.0 +0.3**
H21K Melozitna Rive 86.86 24 P **P** **16 52 05.4 +0.7**
baz=263
CAST Castle Rocks 86.91 27 P **P** **16 52 04.6 -0.4**
CAST Castle Rocks 86.91 27 P **P** **16 52 05.4 +0.4**
baz=264
KIBK Kibwezi 86.94 268 P **P** **16 52 07.9 +1.6**
SNR=41
SKT Skwentna 87.01 28 P **P** **16 52 04.9 -0.6**
SKT IAmb IAmb 16 52 07.0
comp=Z,42nm,1.2s
SKT Skwentna 87.01 28 P **P** **16 52 05.5 0.0**
baz=264,SNR=6.8
BRLK Bradley Lake 87.11 30 P **P** **16 52 04.3 -1.8**
BRLK IAmb IAmb 16 52 09.4
comp=Z,81nm,1.4s
I21K Tanana 87.15 25 P **P** **16 52 06.7 +0.6**
I21K Tanana 87.15 25 P **P** **16 52 07.2 +1.2**
baz=264,SNR=10
BRSE Bradley Lake S 87.18 30 P **P** **16 52 06.9 +0.5**
baz=265

SUA Susitna One 87.33 29 P P 16 52 06.0 -1.2
SUA IAmb IAmb 16 52 08.4
comp=Z,51nm,1.2s
SUA Susitna One 87.33 29 P P 16 52 07.0 -0.2
baz=265,SNR=13
F22K John River 87.34 22 P P 16 52 08.3 +1.3
baz=263
VSR Storozhevoye 87.45 321 *e*P P 16 52 06.1 -1.7
VSR pmax pmax
comp=Z,140nm,1.2s
VORR Voronezh 87.45 322 *e*P P 16 52 07.8 0.0
VORR *e**PP **pP** 16 52 19.9 -1.4
VORR pmax pmax
comp=Z,140nm,0.6s
BPAW Bear Paw Mtn. 87.47 26 P P 16 52 07.9 +0.3
baz=265,SNR=5.7
G22K Bettles 87.53 23 P P 16 52 08.7 +0.9
baz=264
CUT Chulitna 87.64 28 P P 16 52 09.4 +0.9
baz=265
M22K Willow 87.66 28 P P 16 52 09.2 +0.7
baz=265,SNR=7.0
MLY Manley 87.66 25 P P 16 52 08.6 0.0
MLY Manley 87.66 25 P P 16 52 09.4 +0.8
baz=265,SNR=22
LPSR Galich'ya Gora 87.68 322 *e*P P 16 52 08.1 -0.8
LPSR pmax pmax
comp=Z,210nm,0.9s
TRF Thorofare Moun 87.72 27 P P 16 52 07.1 -1.9
TRF IAmb IAmb 16 52 10.3
comp=Z,51nm,1.4s
TRF Thorofare Moun 87.72 27 P P 16 52 08.8 -0.3
baz=265,SNR=7.4
KMBO Kilima Mbogo 87.74 269 P P 16 52 09.4 -0.9
comp=Z,2.6nm,1.0s,baz=66,slow=23,SNR=58
KMBO LR LR 17 30 16.3
comp=Z,11nm,20.2s,baz=93,slow=35
KMBO Kilima Mbogo 87.74 269 P P 16 52 09.9 -0.4
KMBO Kilima Mbogo 87.74 269 IAMs_20 IAMs_20 17 30 35.2
comp=Z,638nm,20.0s
KMBO Kilima Mbogo 87.74 269 *c* iP P 16 52 10.0 -0.4
KMBO Kilima Mbogo 87.74 269 *i* P P 16 52 11.8 +1.5
SNR=107
KMBO Kilima Mbogo 87.74 269 *e*P P 16 52 01.4 -8.9
KMBO *e*S **SKSac** **17 02 35.3 +0.1**
KMBO Kilima Mbogo 87.74 269 P P 16 52 11.9 +1.5
RC01 Rabbit Creek A 87.79 29 P P 16 52 07.2 -2.0
RC01 Rabbit Creek A 87.79 29 P P 16 52 09.0 -0.2
baz=266,SNR=7.7
SEW Seward 87.86 30 P P 16 52 09.7 +0.2
baz=266
KLMR Klimovskoe 87.87 331 *e*P P 16 52 08.9 -0.7
KLMR AMP 16 52 15.4
comp=Z,190nm,1.3s
KLMR *e*PP **PP** **16 55 36.1 +0.1**
KLMR LQ LQ 17 25 04.7
KLMR LR LR 17 28 09.3
KLMR AMP 17 35 47.5
comp=Z,1μm,18.8s
KLMR Klimovskoe 87.87 331 *e*P P 16 52 08.8 -0.8
KLMR *e* 16 55 36.1
KLMR pmax pmax
comp=Z,190nm,1.3s
D23K Nanushuk River 88.05 21 P P 16 52 11.6 +1.3
baz=265
COLD Coldfoot 88.07 23 P P 16 52 10.0 -0.5
COLD IAmb IAmb 16 52 13.1
comp=Z,38nm,0.9s
COLD Coldfoot 88.07 23 P P 16 52 11.5 +1.0
baz=265,SNR=27
G23K Bananza Creek 88.10 23 P P 16 52 11.9 +1.2
baz=265,SNR=52
MQOL MQOL 88.11 291 *i* P P 16 52 13.1 +1.5
PMR Palmer 88.11 29 P P 16 52 10.6 -0.2
baz=266,SNR=7.3
I23K Minto, Yukon-K 88.25 25 P P 16 52 10.9 -0.4
I23K Minto, Yukon-K 88.25 25 P P 16 52 12.2 +0.9
baz=266,SNR=34
NEA2 Nenana 88.34 25 P P 16 52 11.7 -0.1
baz=266
MCK McKinley 88.34 26 P P 16 52 11.8 -0.1
baz=266,SNR=15
KNK Knik Glacier 88.43 29 P P 16 52 10.9 -1.4
KNK Knik Glacier 88.43 29 P P 16 52 12.7 +0.4
baz=267,SNR=10
PWL Port Wells 88.46 29 P P 16 52 12.5 +0.1
baz=267
WAT1 Susitna Watana 88.46 27 P P 16 52 12.4 0.0
baz=267
SML Sawmill 88.51 28 P P 16 52 10.6 -2.1
SML Sawmill 88.51 28 P P 16 52 13.1 +0.4
baz=267,SNR=15
MOS Moscow 88.59 326 *e*P P 16 52 09.8 -3.3
MOS *e* 17 02 36.0
MOS *e* 17 02 47.6
MOS pmax pmax
comp=Z,212nm,1.4s
MOS pmax pmax
comp=Z,700nm,2.8s
ADZR Andozero 88.63 334 *e*P P 16 52 10.7 -2.4
ADZR *e**PP **pP** 16 52 23.1 -3.8
ADZR *e* 16 55 40.3
ADZR pmax pmax
comp=Z,84nm,1.4s
KSLA Kassala 88.63 285 *i* P P 16 52 15.7 +1.4
WRH Wood River Hil 88.75 26 P P 16 52 12.6 -1.1
WRH IAmb IAmb 16 52 15.4
comp=Z,60nm,1.2s
E24K Your Creek 88.78 22 P P 16 52 14.6 +0.7
baz=267
M23K Glacier View 88.79 28 P P 16 52 14.3 +0.3
baz=268
C24K Franklin Bluff 88.80 20 P P 16 52 14.6 +0.8
baz=266
WAT6 Susitna Watana 88.82 28 P P 16 52 13.9 -0.4
baz=268,SNR=16
P23K Montague Islan 88.88 30 P P 16 52 14.8 +0.4
baz=268
CCB Clear Creek Bu 88.88 25 P P 16 52 12.8 -1.5
CCB IAmb IAmb 16 52 15.7
comp=Z,44nm,1.1s
H24K Noodor Dome 88.91 24 P P 16 52 14.9 +0.4
H24K IAmb IAmb 16 52 17.1
comp=Z,64nm,1.4s
H24K Noodor Dome 88.91 24 P P 16 52 15.2 +0.7
baz=267
F24K Squaw Lake 88.98 23 P P 16 52 15.4 +0.6
baz=267,SNR=30
SCM Sheep Creek Mo 88.98 28 P P 16 52 15.6 +0.6
baz=268,SNR=7.2
DHY Denali Highway 89.01 27 P P 16 52 14.0 -1.1
DHY Denali Highway 89.01 27 P P 16 52 15.2 0.0
baz=268,SNR=5.8
POKR Poker Plat Res 89.06 25 P P 16 52 16.1 +1.0
baz=268
G24K Hadweenzic Riv 89.11 23 P P 16 52 16.7 +1.3
baz=268
OBN Obninsk 89.17 325 LR LR 17 34 45.9
comp=Z,110nm,21.2s,baz=102,slow=37
OBN Obninsk 89.17 325 *c* iP P 16 52 15.4 -0.4
OBN *i* 16 52 29.9
OBN *i* S **S** **17 02 55.6 -5.4**
OBN MLR MLR
comp=Z,594nm,20.0s
HDA Harding Lake 89.24 26 P P 16 52 15.3 -0.8
baz=268,SNR=12
ILAR Eielson Array 89.28 25 P P 16 52 15.2 -1.0
comp=Z,8.2nm,1.0s,baz=243,slow=3.9,SNR=38
ILAR PKKP **PKKPdf** **17 09 46.9 -3.3**
comp=Z,0.4nm,0.9s,baz=192,slow=8.3,SNR=1.6
ILAR PKKPbc **PKKPbc** **17 09 53.7 -1.6**
comp=Z,1.3nm,1.0s,baz=52,slow=0.8,SNR=7.8
comp=Z,8.2nm,1.0s
ILAR Eielson Array 89.28 25 P P 16 52 14.8 -1.4
Q23K Middleton Isla 89.40 31 P P 16 52 17.6 +0.8
baz=269
M24K Tolsona, Glenn 89.54 28 P P 16 52 18.6 +1.0
baz=269,SNR=8.8
GHAJ Ghor Haditha 89.56 301 P P 16 52 18.8 +0.6
GHAJ IAMs_20 IAMs_20 17 39 26.6
comp=Z,604nm,19.0s
LODK Lodwar 89.64 273 IAMs_20 IAMs_20 17 33 09.2
comp=Z,411nm,21.0s
LODK Lodwar 89.64 273 P P 16 52 20.4 +1.3
SNR=39
KLU Klutina 89.65 29 P P 16 52 18.6 +0.5
baz=269
G25K Bearman Lake 89.66 23 P P 16 52 19.1 +1.3
baz=269
MMAI Mount Meron Ar 89.71 303 LR LR 17 40 39.8
comp=Z,301nm,18.6s,baz=320,slow=41
EYAK Cordova Ski Ar 89.72 30 P P 16 52 19.0 +0.7
baz=269
K24K Donnelly Dome 89.75 26 P P 16 52 19.0 +0.6
baz=269,SNR=9.8
QSPA South Pole Qui 89.84 180 LR LR 17 31 14.4
comp=Z,469nm,21.6s,baz=349,slow=35
QSPA South Pole Qui 89.84 180 P P 16 52 19.8 +0.8
QSPA IAmb IAmb 16 52 21.5
comp=Z,35nm,1.0s
F25K Christian Rive 89.85 23 P P 16 52 20.0 +1.1
baz=269
PRP Porcupine Dome 89.87 25 P P 16 52 20.0 +0.9
baz=270
PAX Paxson 89.88 27 P P 16 52 19.2 +0.1
baz=270,SNR=17
E25K Arctic Village 89.88 22 P P 16 52 20.2 +1.2
baz=269,SNR=36
HARP HAARP 90.02 28 P P 16 52 20.2 +0.5
baz=270,SNR=5.9
EIL Elat 90.08 300 LR LR 17 38 48.0
comp=Z,460nm,18.9s,baz=74,slow=40
C26K Camden Bay 90.12 20 P P 16 52 21.3 +1.3
baz=270
RIDG Independent Ri 90.16 26 P P 16 52 20.7 +0.3
baz=270,SNR=13
LVZ Lovozero 90.22 338 *ce*P P 16 52 19.6 -1.0
LVZ pmax pmax
comp=Z,48nm,1.2s
BMAR Burnt Mountain 90.25 23 P P 16 52 19.0 -1.8
BMRM Bremner River 90.28 29 P P 16 52 21.4 +0.3
baz=270
N25K Chitina, Valde 90.28 29 P P 16 52 21.3 +0.3
N25K IAmb IAmb 16 52 23.5
comp=Z,31nm,1.0s
N25K Chitina, Valde 90.28 29 P P 16 52 21.8 +0.7
baz=270,SNR=6.4
F26K Sheenjek River 90.42 22 P P 16 52 22.9 +1.4
baz=271
DOT Dot Lake 90.51 27 P P 16 52 20.7 -1.3
DOT IAmb IAmb 16 52 23.8
comp=Z,25nm,1.0s
SCRK Sand Creek 90.54 26 P P 16 52 22.5 +0.3
baz=271,SNR=8.7
C27K Jago River 90.54 20 P P 16 52 23.2 +1.1
baz=271
SIM Simferopol' 90.69 315 *i* P P 16 52 23.6 +0.4
SIM pmax pmax
comp=Z,80nm,0.6s
APA Apatity 90.70 337 ⇓ *i*P P 16 52 21.2 -1.5
APA pmax pmax
comp=Z,19nm,1.0s
J26L Joseph Creek 90.71 26 P P 16 52 22.9 -0.2
J26L Joseph Creek 90.71 26 P P 16 52 23.0 0.0
baz=271
VRDI Verde Repeater 90.84 29 P P 16 52 22.8 -1.0
VRDI IAmb IAmb 16 55 49.4
comp=Z,78nm,1.7s
L26K Log Cabin Wild 90.84 27 P P 16 52 24.1 +0.5
baz=271,SNR=5.1
I26K Coal Creek Min 90.87 25 P P 16 52 23.9 +0.4
I26K IAmb IAmb 16 52 25.4
comp=Z,36nm,1.2s
I26K Coal Creek Min 90.87 25 P P 16 52 23.6 0.0
baz=272
M26K Nabesna, AK 91.02 28 P P 16 52 24.4 -0.1
M26K IAmb IAmb 16 52 42.2
comp=Z,69nm,1.8s
M26K Nabesna, AK 91.02 28 P P 16 52 25.0 +0.5
baz=272
MCARA McCarthy VSAT 91.04 29 P P 16 52 25.5 +1.1
baz=272
BR131 Keskin Array S 91.10 310 *i* P P 16 52 25.0 -0.5
BRTR Keskin Array B 91.10 310 *i* P P 16 52 25.0 -0.5
comp=Z,5.4nm,0.8s,baz=132,slow=5.3,SNR=26
BRTR LR LR 17 42 50.9
comp=Z,154nm,18.2s,baz=98,slow=42
comp=Z,5.4nm,0.8s
BRTR Keskin Array B 91.10 310 *i* P P 16 52 25.0 -0.5
BRTR pmax pmax
comp=Z,6.0nm,0.8s
E27K Coleen River 91.36 22 P P 16 52 27.1 +1.2
baz=273,SNR=52
K27K Chicken 91.38 26 P P 16 52 26.5 +0.5
K27K Chicken 91.38 26 P P 16 52 27.8 +1.8
baz=273
G27K Doyon Strip 91.42 23 P P 16 52 27.5 +1.3
baz=273
I27K Kandik River 91.50 25 P P 16 52 27.8 +1.2
baz=273
H27K Steamboat Moun 91.50 24 P P 16 52 28.0 +1.4
baz=273
L27K Beaver Creek, 91.53 27 P P 16 52 27.1 +0.3
L27K IAmb IAmb 16 52 29.5
comp=Z,33nm,0.9s
L27K Beaver Creek, 91.53 27 P P 16 52 28.0 +1.2
baz=273
M27K Edge Creek, AK 91.55 28 P P 16 52 27.0 0.0
M27K Edge Creek, AK 91.55 28 P P 16 52 27.9 +0.9
baz=273
BCAR Beaver Creek A 91.55 27 P P 16 52 26.6 -0.3
BARN Barnard Glacie 91.71 29 P P 16 52 27.3 -0.5
BARN IAmb IAmb 16 52 30.7
comp=Z,48nm,0.9s
EGAK Eagle 91.74 25 P P 16 52 27.3 -0.4
EGAK Eagle 91.74 25 P P 16 52 28.3 +0.7
baz=273,SNR=6.0
ANTO Ankara 91.75 310 P P 16 52 27.9 -0.5
BVCY Beaver Creek 92.02 28 P P 16 52 30.4 +1.3
baz=274,SNR=10
YUK3 Moose Creek 92.25 28 P P 16 52 31.0 +0.6
baz=274,SNR=5.6
JAWL J.Aulia 92.44 285 *i* P P 16 52 32.7 +0.7
O28M Mount Upton 92.45 29 P P 16 52 32.1 +0.7
baz=274
PINM Pinnacle 92.46 30 P P 16 52 31.8 +0.5
baz=274
DAWY Dawson 92.55 26 P P 16 52 32.6 +1.1
baz=275,SNR=25
YUK8 Steele Glacier 92.61 29 P P 16 52 33.1 +1.0
baz=275,SNR=8.0
MRWI Hamdab 92.80 289 *i* P P 16 52 34.3 +0.7
I29M Ogilvie Camp, 92.89 25 P P 16 52 33.8 +0.8
baz=276,SNR=19
J29M Klondike Camp 93.03 26 P P 16 52 35.0 +1.3
baz=276,SNR=9.2
M29M Somme Creek 93.12 28 P P 16 52 35.7 +1.4
baz=276,SNR=22
YUK4 Talbot Arm 93.15 29 P P 16 52 36.1 +1.6
baz=276,SNR=5.9
L29M L29M 93.21 27 P P 16 52 36.2 +1.6
baz=276
O29M Mnt Kennedy 93.28 30 P P 16 52 36.5 +1.5
baz=276
YUK6 Outpost Mounta 93.32 29 P P 16 52 35.9 +0.6
baz=276
K29M Barlow Dome 93.40 26 P P 16 52 36.6 +1.1
baz=277
ARA0 ARCESS Array S 93.41 340 *e*P P 16 52 34.4 -0.9
ARA0 IAmb IAmb 16 52 35.9
comp=Z,42nm,1.1s
ARCES ARCESS Array B 93.41 340 P P 16 52 34.7 -0.6
comp=Z,11nm,0.8s,baz=79,slow=4.5,SNR=13
ARCES LR LR 17 40 17.7
comp=Z,497nm,18.4s,baz=94,slow=39
comp=Z,11nm,0.8s
ARCES ARCESS Array B 93.41 340 P P 16 52 32.2 -3.1
ARCES IAmb IAmb 16 52 35.6
comp=Z,39nm,1.1s
EPYK Eagle Plains 93.42 24 P P 16 52 35.0 -0.4
EPYK Eagle Plains 93.42 24 P P 16 52 35.9 +0.4
baz=278,SNR=39
ELIB Princess Elisa 93.52 198 *d*P P 16 52 37.9 +2.0
comp=Z,44nm,1.2s
G30M tAoh Zraii Nji 93.53 23 P P 16 52 36.2 +0.2
baz=278
ISP Isparta 93.60 308 *i* P P 16 52 36.3 -0.7
ISP pmax pmax
comp=Z,72nm,1.8s
PURM Purcari 93.60 316 ⇓P P 16 52 37.5 +0.9
AKASG Malin Array Be 93.74 321 P P 16 52 35.9 -1.2
comp=Z,13nm,0.9s,baz=70,slow=3.8,SNR=59
AKASG LR LR 17 38 46.3
comp=Z,315nm,21.4s,baz=81,slow=38
comp=Z,13nm,0.9s
AKASG Malin Array Be 93.74 321 *i* P P 16 52 35.9 -1.2
AKASG pmax pmax
comp=Z,11nm,0.8s
AKBB Malin Array Si 93.74 321 *ce*P P 16 52 35.8 -1.4
AKBB pmax pmax
comp=Z,43nm,1.2s
HYT Haines Junctio 93.75 29 P P 16 52 37.9 +0.7
baz=276,SNR=7.2
HAMF Hammerfest 93.84 341 *e*P P 16 52 36.6 -0.5
SPB2 Spitsbergen Ar 93.87 349 P P 16 52 35.8 -1.4
SPA0 Spitsbergen Ar 93.87 349 *e*P P 16 52 37.8 +0.5
SPA0 IAmb IAmb 16 52 38.5
comp=Z,72nm,1.1s
SPITS Spitsbergen Ar 93.87 349 LR LR 17 41 44.8
comp=Z,220nm,18.7s,baz=30,slow=40
SPITS Spitsbergen Ar 93.87 349 P P 16 52 36.6 -0.7
SPITS pmax pmax
comp=Z,61nm,1.0s
M30M Minto, Yukon 93.88 27 P P 16 52 38.0 +0.3
M30M Minto, Yukon 93.88 27 P P 16 52 38.9 +1.3
baz=277,SNR=23
P30M Million Dollar 94.10 30 P P 16 52 39.5 +0.7
baz=277
MAYO Mayo, Yukon 94.15 26 P P 16 52 39.9 +1.1
baz=278
MNK Minsk 94.22 325 *i* P P 16 52 40.0 +0.7
comp=E,18nm,1.1s
MNK *i* P P 16 52 40.0 +0.7
comp=N,57nm,0.9s
MNK *i* P P 16 52 40.0 +0.7
comp=Z,131nm,0.9s,baz=264
MNK *i* pP **pP** **16 52 54.6 +1.8**
MNK *i* PP **PP** **16 56 26.9 +0.5**
MNK *i* PPP PPP 16 58 28.0
MNK *i* S **SKSac** **17 03 10.2 +0.1**
MNK *i* sS **SKKSac** **17 03 36.4 +5.2**
MNK *i* PS **PS** **17 05 09.2 +1.3**
MNK *i* SS **SS** **17 10 10.1 +2.0**
MNK *i* SSS SSS 17 13 51.8
MNK *i* LQ LQ 17 29 19.3
MNK *i* LR LR 17 33 55.2
MNK *i* LRM MLR 17 35 53.1
comp=N,1μm,22.1s
MNK *i* LRM MLR 17 35 58.2
comp=Z,431nm,17.8s
MNK *i* LRM MLR 17 36 01.9
comp=E,185nm,20.4s
MNK Minsk 94.22 325 *i* P P 16 52 39.9 +0.7
MNK *i* *PP **pP** **16 52 54.6 +1.8**
MNK *i* 16 56 26.9
MNK *i* PPP PPP 16 58 28.0
MNK *i* S **SKSac** **17 03 10.2 +0.1**
MNK *i* *SS **SKKSac** **17 03 36.3 +5.2**
MNK *i* PS **PS** **17 05 09.2 +1.3**
MNK *i* SS **SS** **17 10 10.1 +2.0**
MNK *i* SSS SSS 17 13 51.8
MNK pmax pmax
comp=E,18nm,1.0s
MNK pmax pmax
comp=Z,131nm,0.9s
MNK pmax pmax
comp=N,57nm,0.9s
MNK MLR MLR
comp=N,1μm,22.0s
MNK MLR MLR
comp=Z,431nm,18.0s
MNK MLR MLR
comp=E,185nm,20.0s
MBAR Mbarara 94.25 269 LR LR 17 33 34.4
comp=E,430nm,21.7s,baz=71,slow=34
MBAR Mbarara 94.25 269 IAMs_20 IAMs_20 17 33 24.8
comp=Z,400nm,19.0s
MBAR Mbarara 94.25 269 *i* P P 16 52 40.7 +0.1
MBAR pmax pmax
comp=Z,24nm,1.3s
MBAR Mbarara 94.25 269 P P 16 52 39.1 -1.5
MBAR P P 16 52 39.1 -1.5
KTK1 Kautokeino 94.30 339 *e*P P 16 52 38.5 -0.9
KTK1 IAmb IAmb 16 52 39.6
comp=Z,20nm,1.2s
MILM Milestii Mici 94.30 317 *e*P P 16 52 40.0 +0.2
comp=Z,60nm,1.0s
MILM Milestii Mici 94.30 317 *e*P P 16 52 40.0 +0.2
MILM *e* 16 52 51.0
MILM *e* 16 52 56.0
MILM pmax pmax
comp=Z,60nm,1.0s
INK Inuvik 94.33 21 LR LR 17 35 53.2
comp=Z,119nm,22.0s,baz=288,slow=36
INK Inuvik 94.33 21 P P 16 52 39.8 +0.3
baz=281,SNR=38
FIA1 FINESS Array S 94.35 332 P P 16 52 37.2 -2.5
FIA1 IAmb IAmb 16 54 18.5
comp=Z,64nm,1.6s
FINES FINESS Array B 94.36 332 P P 16 52 37.9 -1.9
comp=Z,5.5nm,0.7s,baz=79,slow=4.9,SNR=16
comp=Z,5.5nm,0.7s
FINES FINESS Array B 94.36 332 P P 16 52 37.6 -2.2
FINES FINESS Array B 94.36 332 *i* P P 16 52 38.7 -1.0
FINES pmax pmax
comp=Z,6.0nm,0.6s
VSU Vasula 94.41 329 *i* P P 16 52 38.8 -1.2
VSU pmax pmax
comp=Z,96nm,1.2s
VSU Vasula 94.41 329 *e*P P 16 52 39.6 -0.4
F31M Tsiigehtchic 94.41 22 P P 16 52 40.0 +0.1
baz=280,SNR=30
TLCR 94.43 315 P P 16 52 41.0 +0.5
TLCR 94.43 315 P P 16 52 40.9 +0.5
O30N Mendenhall 94.45 29 P P 16 52 41.3 +1.0
baz=278,SNR=6.0
PLBC Pleasant Camp 94.48 30 P P 16 52 41.5 +1.1
baz=277
N31M Braeburn, Yuko 94.50 28 P P 16 52 42.2 +1.7
baz=278,SNR=14
SORM Soroca 94.51 318 ⇑P P 16 52 40.8 0.0
SORM Soroca 94.51 318 P P 16 52 40.7 0.0
TPGR Topolog 94.74 315 ⇑P P 16 52 42.6 +0.7
S31K Pelican 94.75 32 P P 16 52 42.4 +0.8
baz=277
TIRR Tirgusor 94.77 314 ⇑P P 16 52 42.3 +0.3
TIRR Tirgusor 94.77 314 P P 16 52 42.3 +0.3
IDID Didziasalis 94.79 325 *e*P P 16 52 36.6 -5.3
TAOE Nuku Hiva Isla 94.79 99 *e*S S **17 03 49.5 -3.9**
comp=Z,339nm,29.2s
TAOE Nuku Hiva Isla 94.79 99 *e*LR LR 17 23 18.4
comp=Z,1μm,23.6s
NACGM Naroch 94.81 325 ⇑ *i*P P 16 52 41.7 -0.3
comp=Z,144nm,1.0s,baz=84
CFR Carcaliu 94.91 315 ⇑P P 16 52 43.1 +0.4
CFR Carcaliu 94.91 315 P P 16 52 43.1 +0.4
SKAG Skagway 95.01 30 P P 16 52 44.3 +1.5
baz=278
M31M Drury Creek, Y 95.04 28 P P 16 52 43.5 +0.5
M31M IAmb IAmb 16 52 45.3
comp=Z,55nm,1.4s
M31M Drury Creek, Y 95.04 28 P P 16 52 43.5 +0.5
baz=279,SNR=11
WHY Whitehorse 95.05 29 P P 16 52 43.6 +0.4
WHY Whitehorse 95.05 29 P P 16 52 44.2 +1.1
baz=279,SNR=16
IIGN Ignalina 95.07 325 *e*P P 16 52 34.0 -9.2
HARR Harsova 95.10 315 ⇓P P 16 52 44.3 +0.7
HARR Harsova 95.10 315 P P 16 52 44.2 +0.7
ISAL Salakas 95.10 326 *e*P P 16 52 45.7 +2.4
JETT Jettan, Norway 95.17 340 *e*P P 16 52 42.4 -1.0
JETT IAmb IAmb 16 52 43.4
comp=Z,37nm,0.8s
FARO Faro, Yukon 95.52 27 P P 16 52 46.0 +0.8
baz=280,SNR=35
R32K Eaglecrest 95.60 31 P P 16 52 46.2 +0.6
baz=279
P32M Atlin 95.80 30 P P 16 52 47.0 +0.5
baz=280
TESR Tescani 95.82 317 ⇑P P 16 52 47.4 +0.6
VRI Vrincioaia 95.83 316 ⇑P P 16 52 47.7 +0.7
VRI Vrincioaia 95.83 316 P P 16 52 47.6 +0.7
GIRR Girov 95.88 317 P P 16 52 47.7 +0.6
PLOR Plostina 95.89 316 ⇑P P 16 52 48.1 +0.8
PLOR Plostina 95.89 316 P P 16 52 48.0 +0.8
A36M Sachs Harbour 96.13 17 P P 16 52 47.8 +0.2
baz=289
P33M Teslin, Yukon 96.14 29 P P 16 52 48.2 +0.2

baz=281
NEHR Nehoiu 96.18 316 ⇑P P 16 52 49.6 +1.0
COVR Voineasa-Covas 96.20 316 ⇓P P 16 52 48.9 +0.3
PABE Paberze 96.33 326 P P 16 52 46.7 -2.1
PABE Paberze 96.33 326 eP P 16 52 48.9 +0.1
MLR Muntele Rosu 96.42 316 LR LR 17 42 31.3
comp=Z,396nm,20.2s,baz=66,slow=39
MLR Muntele Rosu 96.42 316 ⇑P P 16 52 50.4 +0.7
MLR Muntele Rosu 96.42 316 P P 16 52 50.4 +0.7
KARP Karpathos 96.44 306 IAMs_20 IAMs_20 17 40 06.1
comp=Z,323nm,20.0s
BURAR Bucovina Array 96.67 318 ⇑P P 16 52 51.8 +1.0
BURAR Bucovina Array 96.67 318 P P 16 52 50.6 -0.2
BURAR Bucovina Array 96.67 318 P P 16 52 51.7 +1.0
U33K Whale Pass 96.71 33 P P 16 52 51.5 +0.9
baz=280
DOPR Dopca 96.75 316 ⇓P P 16 52 51.7 +0.6
CRAG Craig 96.81 34 P P 16 52 52.0 +0.9
baz=280
WRAK Wrangell Islan 97.08 33 P Pdif 16 52 52.8 +0.5
baz=281
COPA Copaceanca 97.09 314 ⇑P Pdif 16 52 52.9 +0.2
LVV L'vov 97.15 320 eP P 16 52 52.1 -0.7
HUMR Humele 97.21 315 ⇑P Pdif 16 52 53.4 +0.2
R33M Jennings River 97.21 30 P Pdif 16 52 53.5 +0.4
baz=282
ARCR ARCALIA 97.32 317 ⇑P Pdif 16 52 53.7 +0.1
C36M Paulatuk 97.38 20 P P 16 52 52.4 -0.9
C36M IAmb IAmb 16 52 54.8
comp=Z,23nm,0.9s
C36M Paulatuk 97.38 20 P Pdif 16 52 53.6 +0.3
baz=290,SNR=16
STEI Steigen 97.43 339 eP P 16 52 53.2 -0.4
S34M Telegraph Cree 97.44 32 P Pdif 16 52 55.5 +1.6
baz=282
FAUS Fauske 97.58 338 eP Pdif 16 52 54.3 0.0
PLVB Pleven 97.61 314 P Pdif 16 52 55.3 +0.3
V35K Ketchikan 97.69 34 P Pdif 16 52 55.5 +0.4
baz=281
BMR Baia Mare 97.81 318 ⇑P Pdif 16 52 57.2 +1.3
BMR Baia Mare 97.81 318 P Pdif 16 52 57.1 +1.3
CJR Cluj-Napoca 97.88 317 ⇑P Pdif 16 52 57.5 +1.2
CJR Cluj-Napoca 97.88 317 P Pdif 16 52 57.4 +1.1
DLBC Dease Lake 97.90 31 LR LR 17 32 44.7
comp=Z,294nm,21.8s,baz=286,slow=33
DLBC Dease Lake 97.90 31 P Pdif 16 52 56.9 +0.8
baz=283
T35M Bob Quinn 98.10 32 P Pdif 16 52 57.3 +0.4
baz=282
MARR Marisei-Cluj 98.21 317 ⇑P Pdif 16 52 58.7 +0.9
IDI Anoyia 98.31 306 LR LR 17 44 49.8
comp=Z,128nm,20.9s,baz=70,slow=40
TRPA Tarpa 98.38 319 ⇑P Pdif 16 52 59.3 +1.0
UZH Uzhgorod 98.46 319 eP P 16 52 54.8 -3.9
UZH i 16 53 05.3
UZH e 16 53 11.0
DRGR 98.47 317 ⇑P Pdif 16 52 59.7 +0.7
DRGR 98.47 317 P Pdif 16 52 59.6 +0.7
LBTB Lobatse 98.47 245 LR LR 17 34 34.6
comp=Z,505nm,20.5s,baz=92,slow=34
BOSA Boshof 98.50 241 LR LR 17 33 42.2
comp=Z,871nm,20.1s,baz=96,slow=33
GZR Gura Zlata 98.64 316 ⇑P Pdif 16 53 00.4 +0.7
GZR Gura Zlata 98.64 316 P Pdif 16 53 00.4 +0.7
VTS Vitosha 98.72 313 ⇑P Pdif 16 53 00.4 +0.2
VTS Vitosha 98.72 313 P Pdif 16 53 00.4 +0.2
DJES Djerdap 98.93 315 ⇑P Pdif 16 53 01.4 +0.5
CRVS Cervenica-Dubn 98.95 320 eP Pdif 16 53 02.0 +1.1
CRVS Cervenica-Dubn 98.95 320 ePDIFF Pdif 16 53 02.0 +1.1
HERR Herculane 98.97 315 ⇑P P 16 53 00.7 -0.3
STHS Stebnicka Huta 99.00 320 eP Pdif 16 53 01.2 +0.1
STHS Stebnicka Huta 99.00 320 ePDIFF Pdif 16 53 01.2 +0.1
SURR Surduc 99.04 316 ⇑P Pdif 16 53 02.6 +1.3
RKT Rikitea 99.19 113 eP Pdif 16 53 02.6 +0.1
comp=Z,22µm,45.5s
RKT Rikitea 99.19 113 eS S 17 04 26.5 -4.2
comp=Z,69µm,26.2s
RKT Rikitea 99.19 113 eLR LR 17 25 21.3
comp=Z,96µm,30.0s
BZS Buzias 99.41 316 ⇑P Pdif 16 53 03.6 +0.6
BZS Buzias 99.41 316 P Pdif 16 53 03.6 +0.6
BOVS Bovan 99.67 314 ⇓P Pdif 16 53 04.5 +0.2
LANS Liptovska Anna 100.19 320 eP Pdif 16 53 08.0 +1.5
KOTAN Kotaneelee Air 100.40 28 P Pdif 16 53 07.5 +0.4
baz=288
VYHS Vyhne 100.74 319 eP Pdif 16 53 09.7 +0.8
FRGS Fruska Gora 100.75 316 ⇑P Pdif 16 53 10.6 +1.6
OKC Ostrava-Krasne 100.89 321 ePDIFF Pdif 16 53 11.0 +1.5
OKC Ostrava-Krasne 100.89 321 eP Pdif 16 53 11.0 +1.5
MAUC Maruska 101.20 320 ePDIFF Pdif 16 53 11.7 +0.8
MORC Moravsky Berou 101.28 321 ePDIFF Pdif 16 53 11.6 +0.3
MORH Mrgy, Hungar 101.34 317 ⇑P Pdif 16 53 12.4 +0.9
NC602 NORSAR Array S 101.36 333 ePdif Pdif 16 53 11.8 +0.5
NB2 NORSAR Subarra 101.40 333 P Pdif 16 53 10.2 -1.4
comp=Z,11nm,1.2s,baz=71,slow=4.3
NB2 NORSAR Subarra 101.40 333 P Pdif 16 53 10.2 -1.4
slow=4.3
NOA NORSAR Array B 101.40 333 P Pdif 16 53 09.6 -1.9
comp=Z,5.2nm,1.1s,baz=68,slow=4.5,SNR=5.3
JAVC Velka Javorina 101.41 320 ePDIFF Pdif 16 53 12.4 +0.5
DPC Dobruska-Polom 101.91 322 ePDIFF Pdif 16 53 15.4 +1.3
DPC Dobruska-Polom 101.91 322 eP Pdif 16 53 15.4 +1.3
OSTC Ostas 101.92 322 ePDIFF Pdif 16 53 15.2 +1.1
VRAC Vranov 102.00 321 ⇑P Pdif 16 53 16.0 +1.5
VRAC Vranov 102.00 321 ePDIFF Pdif 16 53 14.8 +0.3
VRAC Vranov 102.00 321 P Pdif 16 53 15.9 +1.5
KRUC Moravsky 102.18 320 ePDIFF Pdif 16 53 15.6 +0.3
RONA Rosalia, Austr 102.58 319 i Pdiff Pdif 16 53 17.9 +0.8
comp=Z,8.1nm,1.3s
CONA Conrad Observa 102.81 319 ePdiff Pdif 16 53 17.9 -0.2
comp=Z,9.7nm,1.2s
RUE Ruedersdorf 102.86 324 eP Pdif 16 53 19.2 +1.1
ARSA Arzberg 103.20 319 ePdiff Pdif 16 53 20.8 +1.0
comp=Z,23nm,1.8s
BRG Berggiesshubel 103.23 323 ⇓i Pif 16 53 20.6
BRG Amp 16 53 22.5
comp=Z,31nm,1.3s
BRG ⇓pPif 16 53 39.9
BRG Amp 16 53 41.5
comp=Z,26nm,1.5s
BRG PKiPK 16 57 27.4
BRG Amp 16 57 32.5
comp=Z,11nm,1.4s
BRG Berggiesshubel 103.23 323 i P Pdif 16 53 20.6 +0.7
BRG pmax pmax
comp=Z,31nm,1.3s
BRG pmax pmax
comp=Z,26nm,1.5s
BRG MLR MLR
comp=Z,1µm,23.5s
CKRC Cesky Krumlov 103.57 320 ePDIFF Pdif 16 53 23.9 +2.4
CLL Collm 103.67 323 i Pdif Pdif 16 53 21.6 -0.2
comp=Z,22nm,1.2s
CLL i sPdif sPdif 16 53 40.8 +0.3
CLL ePP PKiKP 16 57 40.0 +0.1
CLL epPP 16 57 50.0
CLL ePPP PPP 16 59 54.0
CLL eSKKSac SKKSac 17 04 44.0 +4.3
CLL eSdif Sdif 17 05 10.0 +3.1
CLL ePS PS 17 06 48.0 -1.8
CLL ePPS PPS 17 07 47.0
CLL ex x 17 09 18.0
CLL ePKPdf PKPdf 17 09 23.0 -0.9
CLL eSS SS 17 12 18.0 -2.5
CLL ex x 17 13 30.0
CLL ePPPrev 17 17 12.0
CLL ex x 17 21 18.0
CLL Collm 103.67 323 i P Pdif 16 53 21.6 -0.2
CLL e 16 57 40.0
CLL e 17 04 44.0
CLL pmax pmax
comp=Z,22nm,1.2s
YKA Yellowknife Ar 103.68 24 Pdiff Pdif 16 53 22.1 +0.5
comp=Z,2.3nm,1.0s,baz=293,slow=5.0,SNR=22
YKA PKiKP PP 16 57 38.0 -0.1
comp=Z,1.5nm,0.9s,baz=305,slow=2.2,SNR=5.2
YKA PKKPbc PKKPbc 17 09 13.9 -1.9
comp=Z,0.6nm,0.7s,baz=116,slow=2.3,SNR=13
KHC Kasperske Hory 103.95 321 ePDIFF Pdif 16 53 24.1 +0.9
KHC Kasperske Hory 103.95 321 eP Pdif 16 53 24.1 +0.9
GERES GERESS Array B 103.95 321 Pdiff Pdif 16 53 23.1 -0.2
comp=Z,1.3nm,0.8s,baz=79,slow=6.9,SNR=9.5
GERES PKiKP PP 16 57 41.4 +0.6
comp=Z,0.3nm,0.3s,baz=206,slow=27,SNR=3.0

BIOA Bad Ischl, Aus 104.31 320 i Pdiff Pdif 16 53 23.9 -1.0
comp=Z,22nm,1.9s
WTTA Wattenberg 105.74 319 i Pdiff Pdif 16 53 32.0 +0.6
comp=Z,30nm,1.9s
WATA Walderalm 105.75 320 i Pdiff Pdif 16 53 31.3 -0.1
comp=Z,17nm,1.5s
SQTA Sankt Quirin 106.03 320 i Pdiff Pdif 16 53 28.8 -3.7
comp=Z,13nm,1.6s
SQTA ePKiKP PKiKP 16 57 42.2 -2.3
comp=Z,22nm,1.6s
MOTA Moosalm 106.06 320 i Pdiff Pdif 16 53 33.3 +0.5
comp=Z,21nm,1.7s
DAVA Damuels 106.87 320 i Pdiff Pdif 16 53 37.0 +0.6
comp=Z,16nm,1.3s
BMO Blue Mountains 109.38 42 IAMs_20 IAMs_20 17 39 05.2
comp=Z,352nm,20.0s
NVAR Mina Array Bea 110.73 49 PKiKP PKiKP 16 57 55.8 +2.0
comp=Z,1.3nm,0.7s,baz=278,slow=2.4,SNR=7.1
NVAR PKKP PKKPab 17 09 04.1 +0.9
comp=Z,1.0nm,0.7s,baz=131,slow=5.4,SNR=7.3
MSO Missoula 110.83 39 P PKiKP 16 57 54.3 +0.8
baz=294
HLID Hailey 111.79 42 P PKiKP 16 57 57.6 +2.1
baz=292
GRAC Grapevine Rang 111.87 50 P PKiKP 16 57 57.6 +1.9
baz=288
EDW2 Edwards Air Fo 111.99 52 P PKiKP 16 57 58.0 +1.9
baz=286
MPMC Manual Prospec 112.05 51 P PKiKP 16 57 58.1 +1.8
baz=287
LRMC Laurel Mtn Rad 112.06 51 P PKiKP 16 57 58.4 +2.2
baz=287
BFSC Mount Baldy Ra 112.43 53 P PKiKP 16 57 58.7 +1.7
baz=286
TPNV Topopah Spring 112.73 50 IAMs_20 IAMs_20 17 39 28.6
comp=Z,365nm,19.0s
TPNV Topopah Spring 112.73 50 P PKiKP 16 57 59.0 +1.5
baz=288
R11A Troy Canyon, C 112.79 48 P PKiKP 16 57 58.9 +1.3
baz=289,SNR=5.8
BOZ Bozeman (W) 112.80 39 P PKiKP 16 57 58.9 +1.5
baz=295
GSC Goldstone, Bar 112.80 51 P PKiKP 16 57 59.0 +1.4
baz=287
EGMT Eagleton 112.88 37 P PKiKP 16 57 58.6 +1.3
baz=298
SHOC Shoshone, Teco 113.03 51 P PKiKP 16 57 59.7 +1.8
baz=288
HEC Hector,Ludlow 113.31 52 P PKiKP 16 57 59.7 +1.1
baz=287
TUQ Turquoise Moun 113.45 51 P PKiKP 16 57 59.9 +1.0
baz=288
PFO Pinyon Flats O 113.56 53 P PKiKP 16 58 00.1 +0.9
baz=287
TPFO Pinon Flats 113.57 53 P PKiKP 16 57 60.0 +0.8
baz=287
BELC Belle Mtn. Jos 113.82 53 P PKiKP 16 58 01.1 +1.5
baz=287
GMRC Granite Mounta 113.85 52 P PKiKP 16 58 00.8 +1.1
baz=288,SNR=6.0
H17A Grant Village 113.99 40 P PKiKP 16 58 01.2 +1.4
baz=296
FXWY Fox Creek 114.01 41 IAMs_20 IAMs_20 17 30 10.4
comp=Z,281nm,21.0s
IKP In-Ko-Pah, Jac 114.12 54 P PKiKP 16 58 01.1 +0.9
baz=287
DUG Dugway, Tooele 114.16 45 P PKiKP 16 58 01.4 +1.2
baz=292
REDW Red Top Meadow 114.25 41 IAMs_20 IAMs_20 17 47 09.6
comp=Z,287nm,20.0s
SWSC Sam W. Stewart 114.28 54 P PKiKP 16 58 01.8 +1.4
baz=287
LOHW Long Hollow 114.30 41 IAMs_20 IAMs_20 17 41 05.1
comp=Z,376nm,18.0s
BC3 Big Chuckawall 114.35 53 P PKiKP 16 58 02.0 +1.4
baz=287
IRM Iron Mountain 114.45 52 P PKiKP 16 58 02.1 +1.4
baz=288,SNR=5.1
RLMT Red Lodge 114.50 39 P PKPdf 16 58 02.2 +1.5
baz=297
BW06 Boulder Array 115.36 42 P PKPdf 16 58 04.2 +1.7
baz=296,SNR=6.6
PDAR Pinedale Array 115.36 42 PKP PKPdf 16 58 02.9 +0.4
comp=Z,3.6nm,1.1s,baz=186,slow=1.5,SNR=13
PDAR PKKPbc PKKPbc 17 08 36.7 -1.4
comp=Z,1.0nm,0.9s,baz=114,slow=3.6,SNR=6.1
LAO LASA Array 115.62 37 P PKPdf 16 58 03.6 +1.0
baz=300,SNR=5.7
LAO LASA Array 115.62 37 P PKPdf 16 58 04.1 +1.5
baz=300
WUAZ Wauzaki 116.92 50 P PKiKP 16 58 06.9 +1.3
baz=291,SNR=5.5
214A Organ Pipe Nat 116.99 54 P PKiKP 16 58 06.8 +1.2
baz=288
O20A White River Ci 117.39 44 P PKiKP 16 58 08.6 +2.1
baz=296,SNR=7.4
K22A Casper 117.40 41 P PKiKP 16 58 06.6 +0.2
baz=298
K22A Casper 117.40 41 P PKiKP 16 58 07.0 +0.6
baz=298
RSSD Black Hills 118.25 38 P PKiKP 16 58 08.3 +0.2
baz=301
RSSD Black Hills 118.25 38 P PKiKP 16 58 08.8 +0.8
baz=301
MVCO Mesa Verde 118.42 47 P PKiKP 16 58 09.8 +1.2
baz=294,SNR=9.3
TUC Tucson 118.50 53 IAMs_20 IAMs_20 17 42 50.7
comp=Z,426nm,19.0s
TUC Tucson 118.50 53 P PKiKP 16 58 09.6 +0.9
baz=292
N23A Red Feather La 118.61 42 P PKiKP 16 58 09.5 +0.6
baz=298
SMCO Snowmass 118.68 44 IAMs_20 IAMs_20 17 42 40.6
comp=Z,360nm,19.0s
ESDC Sonseca Array 119.10 317 PKP PKiKP 16 58 10.3 +0.7
comp=Z,0.7nm,0.8s,baz=143,slow=3.7,SNR=5.2
ULM Lac du Bonnet 119.13 29 PKP PKiKP 16 58 09.7 +0.4
comp=Z,6.7nm,0.8s,baz=284,slow=1.9,SNR=9.0
ULM PKKPbc PKKPbc 17 08 24.1 -0.4
comp=Z,2.4nm,0.8s,baz=118,slow=2.8,SNR=4.0
ISCO Idaho Springs 119.34 43 P PKiKP 16 58 10.9 +0.5
baz=298
ISCO Idaho Springs 119.34 43 P PKiKP 16 58 11.4 +1.0
baz=298,SNR=5.9
S22A 4UR Ranch, Cre 119.41 46 P PKiKP 16 58 11.6 +1.1
baz=296,SNR=7.8
Q24A Divide 120.05 44 P PKiKP 16 58 13.4 +1.6
baz=298
SDCO Great Sand Dun 120.35 45 P PKiKP 16 58 13.2 +0.8
baz=297
SDCO Great Sand Dun 120.35 45 P PKiKP 16 58 13.5 +1.1
baz=297,SNR=7.0
MVO Moncorvo 120.43 319 ePKP PKiKP 16 58 13.5 +1.3
121A Cookes Peak, D 120.79 52 P PKiKP 16 58 15.6 +2.4
baz=292,SNR=6.3
121A Cookes Peak, D 120.79 52 P PKiKP 16 58 15.0 +1.7
baz=292
ANMO Albuquerque 120.86 48 P PKiKP 16 58 14.6 +1.2
baz=294
ANMO Albuquerque 120.86 48 P PKiKP 16 58 14.8 +1.4
baz=294
Y22A Socorro 120.88 50 P PKiKP 16 58 15.1 +1.7
baz=294
OGNE Ogallala 121.16 40 P PKiKP 16 58 15.1 +1.4
baz=301
T25A Trinidad 121.40 45 P PKiKP 16 58 15.2 +0.8
baz=297,SNR=6.5
F33A 5 Mile Ranch, 121.77 33 P PKiKP 16 58 15.9 +1.4
baz=309,SNR=5.6
PBAR Barrancos 121.92 316 ePKP PKiKP 16 58 16.7 +1.6
PMTG Montargil 122.28 318 ePKP PKiKP 16 58 18.3 +2.5
TORD Torodi Ar. Bea 122.35 285 PKP PKPdf 16 58 16.2 -0.2
comp=Z,9.7nm,0.8s,baz=298,slow=0.1,SNR=11
EYMN Ely 122.81 28 P PKiKP 16 58 16.8 +0.2
baz=315
EYMN Ely 122.81 28 P PKiKP 16 58 16.8 +0.2
baz=315
PCVE Castro Verde 122.87 316 ePKP PKPdf 16 58 16.3 -0.5
ECSD EROS Data Cent 122.90 35 PKPdf PKPdf 16 58 16.8 +0.1
ECSD EROS Data Cent 122.90 35 P PKiKP 16 58 17.2 +0.3
baz=308
ECSD EROS Data Cent 122.90 35 P PKiKP 16 58 17.1 +0.2
baz=308,SNR=17
MNTX Cornudas Mount 122.99 52 PKPdf PKiKP 16 58 18.5 +1.1
MNTX Cornudas Mount 122.99 52 P PKiKP 16 58 18.8 +1.4
baz=294,SNR=33
MNTX Cornudas Mount 122.99 52 P PKiKP 16 58 18.4 +1.0
baz=294

BGNE Belgrade 123.36 38 P PKiKP 16 58 18.5 +0.6
baz=305
BGNE Belgrade 123.36 38 P PKiKP 16 58 18.0 +0.1
baz=305,SNR=8.2
E38A The Farm, Brul 123.72 30 P PKiKP 16 58 19.1 +0.8
baz=314
CBKS Cedar Bluff 123.78 41 P PKiKP 16 58 19.7 +0.9
baz=302
CBKS Cedar Bluff 123.78 41 P PKiKP 16 58 19.0 +0.2
baz=302
MSTX Muleshoe 124.03 48 P PKiKP 16 58 20.4 +0.9
baz=297
MSTX Muleshoe 124.03 48 P PKiKP 16 58 20.2 +0.7
baz=297
SPMN Marine on St. 124.03 32 P PKiKP 16 58 19.9 +0.9
baz=312
SPMN Marine on St. 124.03 32 P PKiKP 16 58 19.3 +0.3
baz=312
L34A Svendsen Farm, 124.11 37 P PKiKP 16 58 19.9 +0.6
baz=307
N33B J Bar K, Exete 124.18 38 P PKiKP 16 58 20.0 +0.5
baz=306
AMTX Amarillo 124.41 46 P PKiKP 16 58 21.5 +1.3
baz=298
AMTX Amarillo 124.41 46 P PKiKP 16 58 20.8 +0.6
baz=298
I37B Waseca 124.52 33 P PKiKP 16 58 20.9 +0.9
baz=311,SNR=11
SCHQ Schefferville 124.59 8 PKP PKiKP 16 58 19.8 -0.1
comp=Z,7.0nm,0.7s,baz=27,slow=1.8,SNR=12
TX31 Lajitas Ar. Si 125.28 53 P PKiKP 16 58 23.0 +0.8
baz=293
TXAR Lajitas Array 125.28 53 PKPdf PKiKP 16 58 23.1 +1.0
TXAR Lajitas Array 125.28 53 PKIKP PKiKP 16 58 23.1 +1.0
G40A Rib Lake 125.33 30 P PKiKP 16 58 21.8 +0.2
baz=315,SNR=6.2
KSU1 Kansas State U 125.66 39 P PKiKP 16 58 22.5 0.0
baz=305
KSU1 Kansas State U 125.66 39 P PKiKP 16 58 22.7 +0.2
baz=305
K38A Parkersburg 125.76 34 P PKiKP 16 58 23.1 +0.6
baz=311
SCIA State Center 125.99 35 P PKiKP 16 58 24.0 +0.9
baz=310
SCIA State Center 125.99 35 P PKiKP 16 58 23.2 +0.2
baz=310
I40A Norwalk 126.08 31 P PKiKP 16 58 23.5 +0.4
baz=314
WMOK Wichita Mounta 126.56 45 P PKiKP 16 58 24.6 +0.2
baz=301
WMOK Wichita Mounta 126.56 45 P PKiKP 16 58 24.6 +0.2
baz=301
N38A Joes South For 126.69 36 P PKiKP 16 58 24.8 +0.3
baz=310
JFWS Jewell Farm 126.95 32 P PKiKP 16 58 25.1 +0.2
baz=314,SNR=5.7
JFWS Jewell Farm 126.95 32 P PKiKP 16 58 25.5 +0.5
baz=314,SNR=5.7
I42A Draeger Farm, 126.96 30 P PKiKP 16 58 24.8 -0.1
baz=316
T35B Sooner Cattle 126.96 42 P PKiKP 16 58 25.6 +0.4
baz=304
ABTX Abilene, Hawle 126.97 48 P PKiKP 16 58 25.7 +0.4
baz=299
ABTX Abilene, Hawle 126.97 48 P PKiKP 16 58 25.1 -0.2
baz=299
L40A Anamosa 127.01 33 P PKiKP 16 58 25.1 0.0
baz=312,SNR=7.4
E46A Sault Ste Mari 127.24 25 P PKiKP 16 58 25.9 +0.5
baz=322
P38A Dawn 127.25 37 P PKiKP 16 58 26.3 +0.7
baz=309
OK031 K. Brethren Rd 127.27 43 IAMs_20 IAMs_20 17 48 23.4
comp=Z,431nm,22.0s
JCT Junction City 127.84 50 P PKiKP 16 58 28.2 +1.1
baz=297,SNR=11
JCT Junction City 127.84 50 P PKiKP 16 58 26.9 -0.2
baz=297
L42A Oliver, Polo 127.89 32 P PKiKP 16 58 26.9 +0.1
baz=314,SNR=5.7
TUL1 Leonard 128.00 42 P PKiKP 16 58 27.4 +0.2
baz=304
TUL1 Leonard 128.00 42 P PKiKP 16 58 27.5 +0.2
baz=304
K43A Burlington 128.10 31 P PKiKP 16 58 28.1 +0.9
baz=318
N41A Harden Midland 128.12 34 P PKiKP 16 58 27.3 0.0
baz=312,SNR=5.3
P40A Paris 128.20 36 P PKiKP 16 58 27.4 -0.1
baz=310,SNR=7.0
S39A Bolivar 128.57 39 P PKiKP 16 58 28.7 +0.4
baz=308,SNR=12
U38A Gravette 128.63 41 P PKiKP 16 58 28.9 +0.4
baz=306,SNR=10
L44A Lake County Fo 128.70 31 P PKiKP 16 58 28.8 +0.4
baz=316
L44A Lake County Fo 128.70 31 P PKiKP 16 58 28.9 +0.4
baz=316
R40A Maddies Statio 128.85 38 P PKiKP 16 58 29.0 +0.1
baz=309,SNR=17
WHTX Lake Whitney, 128.90 47 P PKiKP 16 58 30.4 +1.3
baz=300
WHTX Lake Whitney, 128.90 47 P PKiKP 16 58 28.9 -0.2
baz=300
HQIL Hanson Quary C 129.00 31 IAMs_20 IAMs_20 17 50 05.8
comp=Z,366nm,20.0s
HHAR Hobbs 129.02 41 P PKiKP 16 58 30.2 +0.9
baz=306
X37A Clayton 129.02 43 P PKiKP 16 58 29.7 +0.4
baz=304
HDIL Hopedale 129.10 34 P PKiKP 16 58 29.9 +0.7
baz=314
HDIL Hopedale 129.10 34 P PKPdf 16 58 28.8 +0.3
baz=314
833A Chaparral WMA, 129.11 53 P PKiKP 16 58 30.7 +1.0
baz=296
833A Chaparral WMA, 129.11 53 P PKiKP 16 58 30.1 +0.5
baz=296
M44A Midewin, Midew 129.19 32 P PKiKP 16 58 29.8 +0.4
baz=315
435B Jarrell 129.39 49 P PKiKP 16 58 30.1 -0.1
baz=299
J47A Sunmer 129.44 28 P PKiKP 16 58 30.7 +0.8
baz=320
J47A P PKiKP 16 58 30.7 +0.8
baz=320
KIC Kosan Boka 129.46 278 ⇑i PKIKP PKiKP 16 58 30.8 +0.1
comp=Z,3.1nm,0.5s
DBIC Dimbokro 129.54 279 PKPdf PKiKP 16 58 31.6 +0.8
DBIC Dimbokro 129.54 279 PKIKP PKiKP 16 58 31.7 +0.8
P43A Skaggs, Pawnee 129.59 35 P PKiKP 16 58 30.8 +0.5
baz=313
CCM Cathedral Cave 129.62 37 P PKiKP 16 58 30.5 +0.1
baz=310,SNR=9.0
CCM Cathedral Cave 129.62 37 P PKiKP 16 58 30.1 -0.3
baz=310
U40A Yellville 129.68 40 P PKiKP 16 58 30.5 -0.1
baz=307,SNR=13
U40A P PKiKP 16 58 30.5 -0.1
baz=307,SNR=13
TIC Toumodi 129.71 279 ⇑i PKIKP PKiKP 16 58 31.3 0.0
comp=Z,6.0nm,0.3s
LIC Lamto 129.75 278 ⇑i PKIKP PKiKP 16 58 31.3 0.0
comp=Z,18nm,0.6s
735A Kenedy 130.12 51 P PKiKP 16 58 32.8 +1.1
baz=298
FVM French Village 130.16 37 P PKiKP 16 58 31.8 +0.3
baz=311,SNR=7.4
MIAR Mount Ida 130.27 42 P PKiKP 16 58 33.4 +1.5
baz=305,SNR=12
MIAR Mount Ida 130.27 42 P PKiKP 16 58 31.5 -0.3
baz=305
Q44A Meyer Farm, Va 130.38 35 P PKiKP 16 58 32.4 +0.5
baz=313
SFIN Lafayette 130.41 32 P PKiKP 16 58 32.0 +0.1
baz=316
SFIN Lafayette 130.41 32 P PKiKP 16 58 31.6 -0.3
baz=316
L48A N Adams 130.61 29 P PKiKP 16 58 32.1 -0.2
baz=320
L48A P PKiKP 16 58 32.1 -0.2
baz=320
N47A Urbana 130.78 31 P PKiKP 16 58 32.8 +0.1
baz=318
N47A P PKiKP 16 58 32.8 +0.1
baz=318
P46A Rosedale 130.90 33 P PKiKP 16 58 33.9 +1.0
baz=315

OLIL	**Olney**	**131.02**	**34**	P	**PKiKP**	**16 58 34.0**	**+0.8**
	baz=314						
S44A	**Carbondale**	**131.05**	**36**	P	**PKiKP**	**16 58 34.2**	**+0.9**
	baz=312						
HKT	**Hockley**	**131.12**	**49**	P	**PKiKP**	**16 58 34.1**	**+0.6**
	baz=300						
N49A	**Columbus Grove**	**131.51**	**30**	P	**PKiKP**	**16 58 34.7**	**+0.5**
	baz=320						
N49A				P	**PKiKP**	**16 58 34.7**	**+0.5**
	baz=320						
O48B	**Farmland**	**131.52**	**31**	P	**PKiKP**	**16 58 34.5**	**+0.3**
	baz=318						
O48B	**Farmland**	**131.52**	**31**	P	**PKPdf**	**16 58 33.4**	**+0.2**
	baz=318						
E62A	**Clayton Lake**	**131.95**	**13**	P	**PKiKP**	**16 58 35.3**	**+0.5**
	baz=340						
E62A				P	**PKiKP**	**16 58 35.3**	**+0.5**
	baz=340						
P48A	**Milroy**	**131.96**	**32**	P	**PKiKP**	**16 58 35.1**	**0.0**
	baz=317						
P48A				P	**PKiKP**	**16 58 35.1**	**0.0**
	baz=317						
O49A	**Covington**	**131.99**	**30**	P	**PKiKP**	**16 58 35.4**	**+0.2**
	baz=319						
O49A				P	**PKiKP**	**16 58 35.4**	**+0.2**
	baz=319						
P49A	**Miami Univ. Ec**	**132.28**	**31**	P	**PKPdf**	**16 58 34.7**	**0.0**
	baz=318						
WCI	**Wyandotte Cave**	**132.38**	**34**	P	**PKPdf**	**16 58 35.2**	**+0.4**
	baz=316						
ERPA	**Erie**	**132.50**	**25**	P	**PKPdf**	**16 58 35.3**	**+0.3**
	baz=325						
ACSO	**Alum Creek Sta**	**132.63**	**29**	P	**PKPdf**	**16 58 35.8**	**+0.5**
	baz=320						
WVT	**Waverly**	**132.95**	**37**	P	**PKiKP**	**16 58 37.0**	**-0.2**
	baz=312						
WVT	**Waverly**	**132.95**	**37**	P	**PKPdf**	**16 58 36.2**	**+0.2**
	baz=312						
OXF	**Oxford**	**133.02**	**40**	P	**PKPdf**	**16 58 36.1**	**-0.1**
	baz=310						
P51A	**Williamsport**	**133.16**	**30**	P	**PKiKP**	**16 58 38.1**	**+0.6**
	baz=320						
P51A				P	**PKiKP**	**16 58 38.1**	**+0.6**
	baz=320						
J58A	**Remsen**	**133.26**	**20**	P	**PKiKP**	**16 58 37.7**	**+0.1**
	baz=332						
J58A				P	**PKiKP**	**16 58 37.7**	**+0.1**
	baz=332						
O52A	**Adamsville**	**133.27**	**28**	P	**PKiKP**	**16 58 38.5**	**+0.8**
	baz=322						
O52A				P	**PKiKP**	**16 58 38.5**	**+0.8**
	baz=322						
Y45A	**Yeager Farm, C**	**133.34**	**40**	P	**PKiKP**	**16 58 38.5**	**+0.4**
	baz=309						
Q51A	**Peebles**	**133.37**	**31**	P	**PKiKP**	**16 58 38.3**	**+0.4**
	baz=319						
Q51A				P	**PKiKP**	**16 58 38.3**	**+0.4**
	baz=319						
R50A	**Paris**	**133.41**	**32**	P	**PKiKP**	**16 58 38.9**	**+0.9**
	baz=318						
R50A				P	**PKiKP**	**16 58 38.9**	**+0.9**
	baz=318						
J59A	**Piesco**	**133.43**	**20**	P	**PKiKP**	**16 58 39.1**	**+1.1**
	baz=333						
J59A				P	**PKiKP**	**16 58 39.1**	**+1.1**
	baz=333						
H62A	**Milan**	**133.45**	**16**	P	**PKiKP**	**16 58 39.1**	**+1.2**
	baz=338						
H62A				P	**PKiKP**	**16 58 39.1**	**+1.2**
	baz=338						
O53A	**New Philadelph**	**133.46**	**28**	P	**PKPdf**	**16 58 37.2**	**+0.3**
	baz=323						
L56A	**Greenwood**	**133.47**	**23**	P	**PKiKP**	**16 58 39.1**	**+1.0**
	baz=328						
L56A				P	**PKiKP**	**16 58 39.1**	**+1.0**
	baz=328						
MCVT	**Middlebury Col**	**133.48**	**18**	P	**PKiKP**	**16 58 38.8**	**+0.7**
	baz=335						
P52A	**Corning**	**133.50**	**29**	P	**PKiKP**	**16 58 37.6**	**-0.6**
	baz=321						
V48A	**Smith Brothers**	**133.81**	**36**	P	**PKiKP**	**16 58 38.8**	**-0.1**
	baz=313						
PSDB	**Penn State Uni**	**133.84**	**25**	P	**PKiKP**	**16 58 38.6**	**-0.3**
	baz=326						
U49A	**Red Boiling Sp**	**133.88**	**35**	P	**PKiKP**	**16 58 38.7**	**-0.3**
	baz=315						
Q52A	**Bidwell**	**133.96**	**30**	P	**PKiKP**	**16 58 38.7**	**-0.4**
	baz=321						
Q52A				P	**PKiKP**	**16 58 38.7**	**-0.4**
	baz=321						
P53A	**Whipple**	**133.97**	**29**	P	**PKiKP**	**16 58 39.7**	**+0.5**
	baz=322						
P53A				P	**PKiKP**	**16 58 39.7**	**+0.5**
	baz=322						
BINY	**Binghamton**	**134.02**	**22**	P	**PKiKP**	**16 58 39.9**	**+0.7**
	baz=330						
BINY	**Binghamton**	**134.02**	**22**	P	**PKPdf**	**16 58 38.1**	**+0.2**
	baz=330						
T50A	**Nancy**	**134.05**	**34**	P	**PKiKP**	**16 58 39.5**	**+0.1**
	baz=316						
T50A				P	**PKiKP**	**16 58 39.5**	**+0.1**
	baz=316						
S51A	**Beattyville**	**134.28**	**32**	P	**PKiKP**	**16 58 39.9**	**+0.1**
	baz=318						
S51A				P	**PKiKP**	**16 58 39.9**	**+0.1**
	baz=318						
M57A	**Sunshine Farm,**	**134.32**	**23**	P	**PKiKP**	**16 58 40.0**	**+0.2**
	baz=328						
M57A				P	**PKiKP**	**16 58 40.0**	**+0.2**
	baz=328						
L59A	**Walton**	**134.37**	**21**	P	**PKiKP**	**16 58 39.7**	**-0.3**
	baz=331						
L59A				P	**PKiKP**	**16 58 39.7**	**-0.3**
	baz=331						
X48A	**Hartselle**	**134.54**	**38**	P	**PKPdf**	**16 58 39.7**	**+0.6**
	baz=312						
MCWV	**Mont Chateau**	**134.56**	**27**	P	**PKPdf**	**16 58 39.2**	**+0.2**
	baz=324						
R53A	**Hurricane**	**134.60**	**30**	P	**PKiKP**	**16 58 40.5**	**+0.1**
	baz=321						
R53A				P	**PKiKP**	**16 58 40.5**	**+0.1**
	baz=321						
SSPA	**Standing Stone**	**134.61**	**25**	P	**PKiKP**	**16 58 40.3**	**-0.1**
	baz=327						
SSPA	**Standing Stone**	**134.61**	**25**	P	**PKPdf**	**16 58 39.6**	**+0.6**
	baz=327						
Q54A	**Coxs Mills**	**134.64**	**28**	P	**PKiKP**	**16 58 40.3**	**-0.2**
	baz=322						
Q54A				P	**PKiKP**	**16 58 40.3**	**-0.2**
	baz=322						
N58A	**Sunbury**	**134.91**	**23**	P	**PKiKP**	**16 58 41.1**	**+0.1**
	baz=329						
N58A				P	**PKiKP**	**16 58 41.1**	**+0.1**
	baz=329						
L61B	**Northampton**	**134.94**	**19**	P	**PKPdf**	**16 58 39.9**	**+0.4**
	baz=335						
W50A	**Signal Mountai**	**135.07**	**36**	P	**PKiKP**	**16 58 41.1**	**-0.4**
	baz=315						
TZTN	**Tazewell**	**135.11**	**33**	P	**PKiKP**	**16 58 42.6**	**+1.0**
	baz=318						
TZTN	**Tazewell**	**135.11**	**33**	P	**PKPdf**	**16 58 40.5**	**+0.5**
	baz=318						
V51A	**Loudon**	**135.20**	**34**	P	**PKiKP**	**16 58 41.7**	**-0.1**
	baz=316						
HRV	**Adam Dziewonsk**	**135.23**	**17**	P	**PKiKP**	**16 58 42.0**	**+0.4**
	baz=336						
HRV	**Adam Dziewonsk**	**135.23**	**17**	P	**PKPdf**	**16 58 40.6**	**+0.5**
	baz=336						
Q56A	**Snyder Ridge,**	**135.36**	**27**	P	**PKiKP**	**16 58 41.6**	**-0.4**
	baz=324						
Q56A				P	**PKiKP**	**16 58 41.6**	**-0.4**
	baz=324						
LRAL	**Lakeview Retre**	**135.51**	**39**	P	**PKiKP**	**16 58 42.5**	**0.0**
	baz=311						
LRAL	**Lakeview Retre**	**135.51**	**39**	P	**PKPdf**	**16 58 41.3**	**+0.4**
	baz=311						
P57A	**Homestead Farm**	**135.51**	**26**	P	**PKiKP**	**16 58 42.7**	**+0.4**
	baz=326						
P57A				P	**PKiKP**	**16 58 42.7**	**+0.4**
	baz=326						
R55A	**Marlinton**	**135.53**	**28**	P	**PKiKP**	**16 58 43.0**	**+0.6**
	baz=323						
R55A				P	**PKiKP**	**16 58 43.0**	**+0.6**
	baz=323						
V52A	**Sevierville**	**135.60**	**34**	P	**PKiKP**	**16 58 42.5**	**-0.1**
	baz=317						
TKL	**Tuckaleechee C**	**135.63**	**34**	P	**PKiKP**	**16 58 42.7**	**0.0**
	baz=317						
X51A	**Calhoun**	**135.78**	**36**	P	**PKiKP**	**16 58 43.3**	**+0.4**
	baz=315						
X51A				P	**PKiKP**	**16 58 43.3**	**+0.4**
	baz=315						
PAL	**Palisades**	**135.82**	**21**	P	**PKiKP**	**16 58 43.7**	**+0.9**
	baz=332						
PAL	**Palisades**	**135.82**	**21**	P	**PKPdf**	**16 58 41.8**	**+0.6**
	baz=332						
BRNJ	**Basking Ridge**	**135.87**	**21**	P	**PKiKP**	**16 58 42.8**	**-0.1**
	baz=331						
V53A	**Saluda**	**136.16**	**33**	P	**PKiKP**	**16 58 43.9**	**+0.1**
	baz=318						
V53A				P	**PKiKP**	**16 58 43.9**	**+0.1**
	baz=318						
BLA	**Blacksburg**	**136.23**	**30**	P	**PKiKP**	**16 58 43.7**	**-0.1**
	baz=322						
BLA	**Blacksburg**	**136.23**	**30**	P	**PKPdf**	**16 58 42.5**	**+0.3**
	baz=322						
CASEE	**Lake Jocassee**	**136.59**	**34**	P	**PKiKP**	**16 58 45.0**	**+0.4**
	baz=317						
Y52A	**Lilburn**	**136.75**	**36**	P	**PKiKP**	**16 58 45.2**	**+0.2**
	baz=315						
Y52A				P	**PKiKP**	**16 58 45.2**	**+0.2**
	baz=315						
V55A	**Taylorsville**	**136.88**	**32**	P	**PKiKP**	**16 58 45.1**	**0.0**
	baz=320						
V55A				P	**PKiKP**	**16 58 45.1**	**0.0**
	baz=320						
T57A	**Hurt**	**136.97**	**29**	P	**PKiKP**	**16 58 44.6**	**-0.7**
	baz=323						
T57A				P	**PKiKP**	**16 58 44.6**	**-0.7**
	baz=323						
PLCA	**Paso Flores**	**136.97**	**163**	PKP	**PKiKP**	**16 58 45.9**	**+0.5**
	comp=Z,10nm,1.0s,baz=222,slow=3.4,SNR=11						
PLCA				SKPbc	**SKPbc**	**17 02 13.8**	**+1.4**
	comp=Z,9.7nm,1.1s,baz=188,slow=4.2,SNR=5.6						
PLCA	**Paso Flores**	**136.97**	**163**	*eP*	**PKiKP**	**16 58 45.9**	**+0.5**
152A	**Waverly Hall**	**137.18**	**38**	P	**PKiKP**	**16 58 45.7**	**-0.1**
	baz=313						
PAULI	**Pauline**	**137.33**	**33**	P	**PKiKP**	**16 58 45.3**	**-0.8**
	baz=318						
KMSC	**Kings Mountain**	**137.35**	**32**	P	**PKiKP**	**16 58 46.2**	**+0.1**
	baz=319						
KMSC	**Kings Mountain**	**137.35**	**32**	P	**PKPdf**	**16 58 44.5**	**+0.3**
	baz=319						
HODGE	**Hodges**	**137.52**	**34**	P	**PKiKP**	**16 58 46.4**	**-0.1**
	baz=318						
T59A	**Double "B" Far**	**137.79**	**27**	P	**PKiKP**	**16 58 47.7**	**+0.7**
	baz=325						
T59A				P	**PKiKP**	**16 58 47.7**	**+0.7**
	baz=325						
V58A	**Windy Hill, Pi**	**137.99**	**30**	P	**PKiKP**	**16 58 47.8**	**+0.3**
	baz=322						
V58A				P	**PKiKP**	**16 58 47.8**	**+0.3**
	baz=322						
W57A	**Gilead**	**138.05**	**31**	P	**PKiKP**	**16 58 48.0**	**+0.4**
	baz=321						
W57A				P	**PKiKP**	**16 58 48.0**	**+0.4**
	baz=321						
BIRD	**Birdtown, Kers**	**138.19**	**32**	P	**PKiKP**	**16 58 48.6**	**+0.8**
	baz=320						
HAW	**Hawthorne Fire**	**138.53**	**34**	P	**PKiKP**	**16 58 48.1**	**-0.5**
	baz=318						
TIGA	**Tifton**	**138.72**	**38**	P	**PKiKP**	**16 58 48.6**	**-0.4**
	baz=314						
TIGA	**Tifton**	**138.72**	**38**	P	**PKiKP**	**16 58 48.0**	**-1.0**
	baz=314						
255A	**Hazlehurst**	**139.06**	**37**	P	**PKiKP**	**16 58 49.8**	**+0.1**
	baz=315						
BO01	**Tunca**	**142.53**	**158**	PKPdf	**PKPdf**	**16 58 51.7**	**-2.0**
CO02	**Combarbal**	**145.37**	**155**	PKPdf	**PKiKP**	**16 59 01.2**	**-1.6**
CRIN	**San Cristobal**	**145.85**	**67**	*eP*	**PKPab**	**16 59 02.4**	**+1.2**
BBSR	**BB Station**	**146.62**	**15**	P	**PKPab**	**16 59 03.3**	**-0.1**
	baz=342						
ACON	**Acoyapa**	**147.82**	**67**	*eP*	**PKPbc**	**16 59 07.1**	**+0.9**
PLTB	**Pedras Altas**	**148.28**	**182**	*eP*	**PKPbc**	**16 59 06.3**	**-0.7**
JTS	**Las Juntas de**	**148.55**	**70**	*eP*	**PKiKP**	**16 59 09.1**	**-0.7**
CPSB	**Cacapava Do Su**	**149.63**	**183**	*eP*	**PKPbc**	**16 59 08.4**	**-2.1**
CNLB	**Canela**	**150.49**	**187**	*eP*	**PKPbc**	**16 59 11.2**	**-1.4**
BRU2	**Volcan**	**151.11**	**72**	*eP*	**PKPdf**	**16 59 11.5**	**+2.8**
CPUP	**Villa Florida**	**153.63**	**175**	PKP	**PKPdf**	**16 59 12.0**	**0.0**
	comp=Z,6.5nm,1.0s,baz=194,slow=3.0,SNR=7.1						
CPUP				PKPab	**sPKPdf**	**16 59 30.1**	**-1.1**
	comp=Z,19nm,1.1s,baz=97,slow=3.4,SNR=7.6						
LVC	**Limon Verde**	**153.68**	**150**	*eP*	**PKPdf**	**16 59 15.3**	**+2.7**
MCRA	**Macar, Loja**	**154.69**	**100**	*eP*	**PKPdf**	**16 59 14.2**	**+0.3**
OTAV	**Otavalo**	**156.56**	**90**	*eP*	**PKPdf**	**16 59 16.9**	**0.0**
OTAV	**Otavalo**	**156.56**	**90**	*eP*	**PKPdf**	**16 59 18.8**	**+1.9**
NAN01	**Guarapari, ES**	**156.93**	**219**	*eP*	**PKPdf**	**16 59 18.4**	**+1.8**
ARGC	**Ariguani, Magd**	**158.54**	**63**	*eP*	**PKPdf**	**16 59 19.6**	**+0.8**
DIAM	**Diamantina, MG**	**158.59**	**211**	*eP*	**PKPdf**	**16 59 21.6**	**+2.8**
ZARC	**Zaragoza, Cauc**	**158.89**	**69**	*eP*	**PKPdf**	**16 59 20.1**	**+0.9**
MTP	**Monte Pirata**	**159.32**	**30**		**PKPab**	**16 59 58.1**	**+1.2**
ROSC	**El Rosal**	**160.15**	**76**	PKP	**PKPdf**	**16 59 21.6**	**+0.4**
	comp=Z,5.9nm,0.4s,baz=332,slow=1.0,SNR=8.9						
ROSC	**El Rosal**	**160.15**	**76**	*eP*	**PKPdf**	**16 59 22.4**	**+1.3**
BARC	**Barichara**	**160.75**	**70**	*eP*	**PKPdf**	**16 59 22.4**	**+0.8**
CHIC	**Chingaza**	**160.76**	**76**	*eP*	**PKPdf**	**16 59 22.4**	**+0.5**
PAMC	**Pamplona, Colo**	**160.95**	**67**	*eP*	**PKPdf**	**16 59 23.1**	**+1.0**
PANT	**Pantanal (Braz**	**160.97**	**175**	*eP*	**PKPdf**	**16 59 23.7**	**+2.3**
MACC	**Macarena, Meta**	**161.06**	**84**	*eP*	**PKPdf**	**16 59 20.8**	**-0.9**
RUSC	**La Rusia**	**161.06**	**72**	*eP*	**PKPdf**	**16 59 22.6**	**+0.4**
SDV	**Santo Domingo**	**162.16**	**60**	*eP*	**PKPdf**	**16 59 24.3**	**+1.3**
PP1B	**Ponte de Pedra**	**162.41**	**180**	*eP*	**PKPdf**	**16 59 24.9**	**+1.9**
BDFB	**Brasilia**	**162.90**	**204**	PKP	**PKPdf**	**16 59 24.1**	**+0.5**
	comp=Z,4.9nm,0.7s,baz=9.4,slow=6.4,SNR=7.0						
BDFB				PKPab	**PKPab**	**17 00 13.1**	**+0.5**
	comp=Z,7.2nm,0.9s,baz=168,slow=2.2,SNR=5.4						
BDFB	**Brasilia**	**162.90**	**204**	*eP*	**PKPdf**	**16 59 26.3**	**+2.7**
PTLB	**Pontes e Lacer**	**164.02**	**165**	*eP*	**PKPdf**	**16 59 26.5**	**+2.0**
VILB	**Vilhena**	**166.05**	**159**	*eP*	**PKPdf**	**16 59 28.5**	**+2.2**
SMTB	**Santa Maria do**	**168.43**	**220**	*eP*	**PKPdf**	**16 59 29.5**	**+1.4**
ROSB	**Rosrio**	**168.72**	**255**	*eP*	**PKPdf**	**16 59 30.1**	**+1.9**
TMAB	**Tom-Au,PA,Br**	**172.67**	**250**	*eP*	**PKPdf**	**16 59 31.9**	**+1.5**
NPGB	**Novo Progresso**	**172.90**	**177**	*eP*	**PKPdf**	**16 59 31.7**	**+1.2**
BOAV	**Boa Vista**	**174.03**	**67**	*eP*	**PKPdf**	**16 59 30.9**	**0.0**

IDC 13 16:47:04.8±331.0,5.66S×147.93E,h0km,Error ellipse: s-maj=129.6km s-min=35.3km az=73.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**18.71**	**314**	I	I	18 41 40.0	
	baz=134,slow=314,SNR=4.9						
I07AU	**WARRAMUNGA INF**	**19.40**	**222**	I	I	18 49 50.0	
	baz=41,slow=307,SNR=1.3						

*IDC **13** 17:02:26.0±1.1,9.01S×109.59W,h0km,mb4.1/11, mbtmp4.1/11,MS4.2/14,Error ellipse: s-maj=42.9km s-min=17.7km az=58.0*

*NEIC **13** 17:02:29.0±1.5,9.0S±0.1×109.6W±0.1,h10km±1km, mb4.8/168,Error ellipse: s-maj=20.4km s-min=17.4km az=263.0*

*GCMT **13** 17:02:31.0±0.4,8.88S±0.02×109.58W±0.02,h18km±1km, MW5.0/83,Moment Tensor Solution. s18,c24; s83,c104; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.26±.17; Mθθ-0.90±.18; Mφφ0.64±.16; Mrθ-0.15±.33; Mθφ3.26±.14; Mφr-0.09±.34; Best double couple: Mo3.35500×10^16^ NP1:φs263.00000°,δ88.00000°,λ3.00000°. NP2: φs173.00000°,δ87.00000°,λ178.00000°. Principal axes: T 3.2290, Plg3.0000°, Azm128.0000°; N 0.2520, Plg87.0000°, Azm291.0000°; P -3.4810, Plg1.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 17:02:29.5±0.5,9.01S±0.07×109.6W±0.1,h20km,n204, σθ91/187,mb4.8/91,MS4.3/14,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**18.02**	**179**	P	**Pn**	**17 06 38.7**	**-0.2**
VA02	**Isla de Pascua**	**18.05**	**180**	P	**P**	**17 06 39.6**	**0.0**
PTCN	**Pitcairn Islan**	**25.23**	**228**	P	**P**	**17 07 54.7**	**+0.4**
CMIG	**Matias Romero**	**29.73**	**29**	P	**P**	**17 08 33.4**	**-1.2**
	12nm,1.0s,baz=233,slow=8.7,SNR=6.9						
CMIG				LR	LR	17 17 49.2	
	comp=Z,512nm,21.6s,baz=187,slow=31 12nm,1.0s						
MCRA	**Macar, Loja**	**29.77**	**83**	P	**P**	**17 08 34.8**	**-0.4**
MTO3	**Montecristo**	**30.71**	**41**	P	**P**	**17 08 41.1**	**-2.5**
MTO3				IAmb	IAmb	17 08 42.6	
	comp=Z,10.0nm,0.9s						
ATAH	**Atahualpa**	**30.93**	**89**	LR	LR	17 17 51.0	
	comp=Z,460nm,20.9s,baz=246,slow=30						
JTS	**Las Juntas de**	**31.12**	**53**	LR	LR	17 18 33.9	
	comp=Z,158nm,21.8s,baz=232,slow=31						
PETF	**Flores**	**32.30**	**37**	P	**P**	**17 08 58.0**	**+0.6**
NNA	**Nana**	**32.31**	**98**	LR	LR	17 18 38.9	
	comp=Z,406nm,19.0s,baz=296,slow=30						
OTAV	**Otavalo**	**32.34**	**75**	P	**P**	**17 08 59.0**	**+0.8**
OTAV				IAmb	IAmb	17 09 26.3	
	comp=Z,15nm,1.6s						
SLBS	**Sierra La Lagu**	**32.50**	**359**	P	**P**	**17 08 59.7**	**+0.6**
H03N2	**Juan Fernandez**	**37.26**	**135**	T	T	17 49 06.3	
	baz=307,slow=77,SNR=247						
H03N1	**Juan Fernandez**	**37.27**	**135**	T	T	17 49 05.2	
	baz=307,slow=77,SNR=541						
H03N3	**Juan Fernandez**	**37.27**	**135**	T	T	17 49 04.7	
	baz=307,slow=77,SNR=320						
TX31	**Lajitas Ar. Si**	**38.54**	**8**	P	**P**	**17 09 52.4**	**+1.4**
TX32	**Lajitas Array**	**38.54**	**8**	P	**P**	**17 09 52.8**	**+1.8**
TXAR	**Lajitas Array**	**38.54**	**8**	P	**P**	**17 09 52.7**	**+1.7**
PB12	**IPOC Station P**	**39.22**	**108**	P	**P**	**17 09 57.4**	**+0.6**
RUSC	**La Rusia**	**39.28**	**69**	P	**P**	**17 09 58.0**	**+0.2**
RUSC				IAmb	IAmb	17 10 38.1	
	comp=Z,32nm,1.4s						
PB04	**IPOC Station P**	**40.07**	**114**	P	**P**	**17 10 03.0**	**-1.0**
PB04				IAmb	IAmb	17 10 11.7	
	comp=Z,27nm,1.3s						
319A	**Douglas**	**40.16**	**0**	P	**P**	**17 10 05.6**	**+1.2**
PB07	**IPOC Station P**	**40.18**	**113**	P	**P**	**17 10 04.9**	**-0.1**
PB07				IAmb	IAmb	17 10 33.5	
	comp=Z,25nm,1.4s						
PB03	**IPOC Station P**	**40.37**	**113**	P	**P**	**17 10 07.6**	**+1.1**
PB01	**IPOC Station P**	**40.41**	**112**	P	**P**	**17 10 07.8**	**+1.1**
PB14	**IPOC Station P**	**40.41**	**118**	P	**P**	**17 10 07.2**	**+0.2**
PB14				IAmb	IAmb	17 11 18.0	
	comp=Z,9.0nm,0.5s						
GO01	**Chusmiza**	**40.44**	**110**	P	**P**	**17 10 08.0**	**+0.6**
MNTX	**Cornudas Mount**	**40.67**	**5**	P	**P**	**17 10 08.6**	**0.0**
AC01	**Pan de Azucar**	**40.68**	**120**	P	**P**	**17 10 09.4**	**+0.6**
PB09	**IPOC Station P**	**40.78**	**113**	P	**P**	**17 10 09.4**	**-0.6**
PB09				IAmb	IAmb	17 10 39.1	
	comp=Z,36nm,1.7s						
CCX	**Cicese**	**41.21**	**351**	P	**P**	**17 10 12.2**	**-0.7**
LVC	**Limon Verde**	**41.25**	**114**	P	**P**	**17 10 12.2**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=164,slow=19,SNR=1.4						
LVC				LR	LR	17 22 36.4	
	comp=Z,541nm,21.9s,baz=299,slow=29 comp=Z,1.5nm,0.7s						
LVC	**Limon Verde**	**41.25**	**114**	P	**P**	**17 10 14.3**	**+0.3**
AC06	**Mina Casimiro**	**41.26**	**121**	P	**P**	**17 10 14.3**	**+0.7**
AC06				IAmb	IAmb	17 10 21.3	
	comp=Z,42nm,1.6s						
DUN6	**Lazy B Ranch**	**41.33**	**1**	P	**P**	**17 10 16.6**	**+2.5**
DUN6				IAmb	IAmb	17 10 37.4	
	comp=Z,40nm,1.3s						
121A	**Cookes Peak, D**	**41.34**	**2**	P	**P**	**17 10 15.4**	**+1.1**
121A				IAmb	IAmb	17 10 19.7	
	comp=Z,29nm,1.9s						
LCO	**Las Campanas**	**41.53**	**124**	P	**P**	**17 10 17.0**	**+0.9**
AC02	**Maricunga**	**42.14**	**120**	P	**P**	**17 10 22.4**	**+1.1**
AC02				IAmb	IAmb	17 10 30.2	
	comp=Z,39nm,1.6s						
VA01	**Torpederas**	**42.36**	**130**	P	**P**	**17 10 21.2**	**-1.3**
ABTX	**Abilene, Hawle**	**42.47**	**12**	P	**P**	**17 10 24.4**	**+1.1**
ABTX				IAmb	IAmb	17 10 50.8	
	comp=Z,34nm,1.9s						
ETMB	**Extrema**	**42.77**	**95**	P	**P**	**17 10 24.7**	**-1.4**
ETMB				IAmb	IAmb	17 11 29.4	
	comp=Z,12nm,1.5s						
BLYC	**Blythe**	**42.78**	**354**	P	**P**	**17 10 26.5**	**+0.7**
BNM	**Barren Site**	**43.01**	**4**	P	**P**	**17 10 27.0**	**-1.0**
MT05	**Renca**	**43.20**	**130**	P	**P**	**17 10 30.1**	**+0.6**
MSTX	**Muleshoe**	**43.23**	**8**	P	**P**	**17 10 30.4**	**+0.9**
MSTX				IAmb	IAmb	17 10 56.1	
	comp=Z,21nm,1.6s						
FW03	**Perrin-Whitt E**	**43.23**	**14**	P	**P**	**17 10 30.1**	**+0.6**
FW03				IAmb	IAmb	17 10 32.2	
	comp=Z,81nm,2.0s						
X18A	**Snowflake**	**43.30**	**360**	P	**P**	**17 10 30.8**	**+0.5**
BO01	**Tunca**	**43.38**	**131**	P	**P**	**17 10 31.4**	**+0.6**
BO01				IAmb	IAmb	17 10 37.7	
	comp=Z,16nm,1.1s						
MT03	**Universidad Ad**	**43.42**	**130**	P	**P**	**17 10 31.2**	**0.0**
MT03				IAmb	IAmb	17 10 37.4	
	comp=Z,22nm,0.9s						
BO04	**La Punta**	**43.56**	**131**	P	**P**	**17 10 32.6**	**+0.3**
BO04				IAmb	IAmb	17 10 43.3	
	comp=Z,14nm,0.9s						
BO02	**Sierra Bellavi**	**43.78**	**132**	P	**P**	**17 10 33.8**	**-0.3**
BO02				IAmb	IAmb	17 10 40.7	
	comp=Z,23nm,1.1s						
LMEL	**Las Melosas**	**43.80**	**130**	P	**P**	**17 10 33.8**	**-0.6**
LMEL				IAmb	IAmb	17 10 41.2	
	comp=Z,25nm,1.1s						
ANMO	**Albuquerque**	**43.81**	**4**	P	**P**	**17 10 36.2**	**+1.8**
W18A	**Petrified Fore**	**43.89**	**360**	P	**P**	**17 10 35.9**	**+1.0**
W13A	**Hualapai Mount**	**44.06**	**355**	P	**P**	**17 10 38.4**	**+2.0**
AMTX	**Amarillo**	**44.29**	**9**	P	**P**	**17 10 39.8**	**+1.7**
WUAZ	**Wupatki**	**44.32**	**358**	P	**P**	**17 10 39.3**	**+0.9**
LOOK	**Love County**	**44.35**	**15**	P	**P**	**17 10 39.5**	**+1.0**
LOOK				IAmb	IAmb	17 11 12.2	
	comp=Z,13nm,0.9s						
CFA	**Coronel Fontan**	**44.45**	**126**	P	**P**	**17 10 39.7**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=276,slow=6.4,SNR=5.3						
CFA				LR	LR	17 24 53.6	
	comp=Z,358nm,18.5s,baz=306,slow=30 comp=Z,4.5nm,0.9s

Y45A	**Yeager Farm, C**	**46.69**	**23**	P	**P**	**17 10 57.6**	**+0.6**
Z47A	**Carrollton**	**46.70**	**25**	P	**P**	**17 10 56.8**	**-0.3**
OK046	**Pawnee Station**	**46.71**	**14**	P	**P**	**17 10 57.4**	**+0.3**
OK046				IAmb	IAmb	17 11 04.3	
	comp=Z,15nm,1.1s						
OK048	**Pawnee Station**	**46.72**	**14**	P	**P**	**17 10 57.3**	**+0.1**
OK048				IAmb	IAmb	17 10 59.5	
	comp=Z,18nm,1.1s						
PLCA	**Paso Flores**	**46.82**	**139**	P	**P**	**17 10 56.8**	**-1.4**
	comp=Z,2.9nm,0.8s,baz=256,slow=8.6,SNR=3.6						
PLCA				LR	LR	17 25 55.8	
	comp=Z,438nm,18.4s,baz=287,slow=30						
	comp=Z,2.9nm,0.8s						
PLCA	**Paso Flores**	**46.82**	**139**	P	**P**	**17 10 57.5**	**-0.7**
BLOK	**Blackwell**	**46.98**	**14**	P	**P**	**17 10 59.2**	**-0.1**
BLOK				IAmb	IAmb	17 11 29.9	
	comp=Z,29nm,1.7s						
WHAR	**Wooly Hollow**	**46.99**	**19**	P	**P**	**17 11 00.0**	**+0.7**
LRAL	**Lakeview Retre**	**47.02**	**26**	P	**P**	**17 10 59.3**	**-0.3**
LRAL				IAmb	IAmb	17 11 01.9	
	comp=Z,10.0nm,0.8s						
MZP	**Montezuma Peak**	**47.03**	**352**	P	**P**	**17 11 00.8**	**+0.8**
T35A	**Sooner Cattle**	**47.30**	**14**	P	**P**	**17 11 02.6**	**+0.9**
T35A				IAmb	IAmb	17 11 09.1	
	comp=Z,9.8nm,1.0s						
OXF	**Oxford**	**47.31**	**23**	P	**P**	**17 11 02.5**	**+0.7**
MVU	**Marysvale**	**47.33**	**357**	P	**P**	**17 11 03.3**	**+1.1**
MSU	**Marysvale**	**47.34**	**357**	P	**P**	**17 11 02.5**	**+0.3**
TPH	**Tonopah**	**47.38**	**352**	P	**P**	**17 11 04.2**	**+1.6**
U38A	**Gravette**	**47.41**	**17**	P	**P**	**17 11 03.0**	**+0.3**
U38A				IAmb	IAmb	17 11 04.6	
	comp=Z,12nm,1.3s						
R11A	**Troy Canyon, C**	**47.44**	**354**	P	**P**	**17 11 03.7**	**+0.7**
FCAR	**Ozark Folk Cen**	**47.59**	**19**	P	**P**	**17 11 04.2**	**+0.2**
FCAR				IAmb	IAmb	17 11 22.2	
	comp=Z,22nm,1.7s						
152A	**Waverly Hall**	**47.75**	**29**	P	**P**	**17 11 06.5**	**+1.2**
152A				IAmb	IAmb	17 11 15.3	
	comp=Z,19nm,1.2s						
LHV	**Little Huntoon**	**47.75**	**351**	P	**P**	**17 11 07.0**	**+1.9**
LHV				IAmb	IAmb	17 11 22.2	
	comp=Z,16nm,1.7s						
SIV	**San Ignacio**	**47.77**	**103**	P	**P**	**17 11 06.1**	**+0.2**
	comp=Z,5.9nm,1.0s,baz=269,slow=9.1,SNR=2.4						
SIV				LR	LR	17 28 12.9	
	comp=Z,230nm,19.9s,baz=290,slow=32						
	comp=Z,5.9nm,1.0s						
CMB	**Columbia Colle**	**47.88**	**348**	P	**P**	**17 11 07.7**	**+1.5**
CMB				IAmb	IAmb	17 12 07.4	
	comp=Z,9.1nm,1.5s						
SRU	**San Rafael Swe**	**47.88**	**359**	P	**P**	**17 11 07.7**	**+1.2**
SRU				IAmb	IAmb	17 11 26.2	
	comp=Z,7.8nm,1.3s						
NVAR	**Mina Array Bea**	**47.89**	**351**	P	**P**	**17 11 07.9**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=178,slow=10.0,SNR=5.2						
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**47.89**	**351**	P	**P**	**17 11 07.7**	**+1.1**
Q24A	**Divide**	**47.90**	**5**	P	**P**	**17 11 07.8**	**+1.0**
Q24A				IAmb	IAmb	17 11 11.0	
	comp=Z,8.4nm,1.4s						
SPR3	**Spring Creek 3**	**47.97**	**355**	P	**P**	**17 11 07.9**	**+0.6**
SPR3				IAmb	IAmb	17 11 57.0	
	comp=Z,8.2nm,1.4s						
W45A	**Hickory Valley**	**47.97**	**23**	P	**P**	**17 11 07.1**	**+0.2**
Y49A	**Blount Mountai**	**47.97**	**26**	P	**P**	**17 11 07.4**	**+0.4**
Y49A				IAmb	IAmb	17 11 16.0	
	comp=Z,8.3nm,0.9s						
Z51A	**Franklin**	**48.07**	**28**	P	**P**	**17 11 08.0**	**+0.2**
Z51A				IAmb	IAmb	17 11 10.0	
	comp=Z,17nm,1.0s						
LCAR	**Lake Charles**	**48.08**	**20**	P	**P**	**17 11 07.6**	**-0.2**
LCAR				IAmb	IAmb	17 11 09.9	
	comp=Z,11nm,0.9s						
X48A	**Hartselle**	**48.21**	**25**	P	**P**	**17 11 08.3**	**-0.5**
X48A				IAmb	IAmb	17 11 10.2	
	comp=Z,6.2nm,0.8s						
P17A	**Butcher Ranch,**	**48.25**	**359**	P	**P**	**17 11 10.1**	**+0.9**
P17A				IAmb	IAmb	17 11 26.1	
	comp=Z,15nm,1.6s						
PLAL	**Pickwick Lake**	**48.25**	**24**	P	**P**	**17 11 08.9**	**-0.2**
PLAL				IAmb	IAmb	17 11 18.9	
	comp=Z,15nm,1.2s						
154A	**Montrose**	**48.48**	**30**	P	**P**	**17 11 10.9**	**0.0**
VILB	**Vilhena**	**48.58**	**99**	P	**P**	**17 11 12.5**	**+0.4**
VILB				IAmb	IAmb	17 11 19.6	
	comp=Z,19nm,1.1s						
YERR	**Yerington**	**48.59**	**350**	P	**P**	**17 11 13.1**	**+1.2**
YERR				IAmb	IAmb	17 11 52.7	
	comp=Z,15nm,1.6s						
ISCO	**Idaho Springs**	**48.70**	**4**	P	**P**	**17 11 14.3**	**+1.4**
MGMO	**Mountain Grove**	**48.70**	**18**	P	**P**	**17 11 13.0**	**+0.4**
MGMO				IAmb	IAmb	17 11 14.5	
	comp=Z,6.7nm,0.8s						
S39A	**Bolivar**	**48.88**	**17**	P	**P**	**17 11 15.0**	**+1.0**
S39A				IAmb	IAmb	17 11 15.6	
	comp=Z,5.2nm,0.8s						
FPAL	**Fort Paine**	**48.90**	**26**	P	**P**	**17 11 15.1**	**+0.9**
FPAL				IAmb	IAmb	17 11 24.2	
	comp=Z,16nm,1.2s						
Y52A	**Lilburn**	**49.04**	**28**	P	**P**	**17 11 16.2**	**+0.9**
Y52A				IAmb	IAmb	17 11 17.2	
	comp=Z,13nm,1.1s						
SWET	**Sewanee**	**49.34**	**26**	P	**P**	**17 11 18.5**	**+0.9**
SWET				IAmb	IAmb	17 11 19.4	
	comp=Z,8.3nm,0.7s						
PTLB	**Pontes e Lacer**	**49.62**	**103**	P	**P**	**17 11 20.4**	**+0.4**
PTLB				IAmb	IAmb	17 11 26.0	
	comp=Z,12nm,1.2s						
CGM3	**Cape Girardeau**	**49.70**	**21**	P	**P**	**17 11 20.7**	**+0.5**
CGM3				IAmb	IAmb	17 11 21.8	
	comp=Z,11nm,1.1s						
R40A	**Maddies Statio**	**49.75**	**18**	P	**P**	**17 11 20.7**	**+0.1**
R40A				IAmb	IAmb	17 11 29.1	
	comp=Z,12nm,1.4s						
ELK	**Elko**	**49.78**	**354**	P	**P**	**17 11 21.0**	**-0.1**
CCM	**Cathedral Cave**	**49.85**	**19**	P	**P**	**17 11 20.6**	**-0.8**
CCM				IAmb	IAmb	17 11 24.6	
	comp=Z,25nm,1.5s						
FVM	**French Village**	**50.06**	**20**	P	**P**	**17 11 23.6**	**+0.7**
FVM				IAmb	IAmb	17 11 24.6	
	comp=Z,10nm,1.1s						
W52A	**Murphy**	**50.12**	**28**	P	**P**	**17 11 24.6**	**+1.2**
W52A				IAmb	IAmb	17 11 25.8	
	comp=Z,14nm,1.1s						
CPCT	**Cooper Cave**	**50.15**	**27**	P	**P**	**17 11 24.5**	**+0.9**
CPCT				IAmb	IAmb	17 11 25.6	
	comp=Z,10nm,1.0s						
OGNE	**Ogallala**	**50.19**	**7**	P	**P**	**17 11 24.1**	**+0.1**
OGNE				IAmb	IAmb	17 11 40.2	
	comp=Z,32nm,1.5s						
S44A	**Carbondale**	**50.20**	**21**	P	**P**	**17 11 23.5**	**-0.5**
S44A				IAmb	IAmb	17 11 25.7	
	comp=Z,11nm,0.7s						
PHWY	**Pilot Hill**	**50.20**	**4**	P	**P**	**17 11 24.8**	**+0.5**
OBIP	**Obispado Ponce**	**50.23**	**58**	P	**P**	**17 11 25.2**	**+0.7**
T47A	**Sharon Grove**	**50.38**	**23**	P	**P**	**17 11 25.5**	**+0.1**
BG3	**Lake Jocassee**	**50.50**	**29**	P	**P**	**17 11 27.6**	**+1.3**
BG3				IAmb	IAmb	17 11 28.5	
	comp=Z,15nm,1.1s						
V51A	**Loudon**	**50.52**	**27**	P	**P**	**17 11 27.4**	**+1.0**
V51A				IAmb	IAmb	17 11 28.3	
	comp=Z,9.7nm,0.9s						
KMPM	**Mount Pierce**	**50.98**	**346**	P	**P**	**17 11 31.1**	**+1.1**
KMPM				IAmb	IAmb	17 13 07.9	
	comp=Z,20nm,0.9s						
USIN	**University of**	**51.02**	**22**	P	**P**	**17 11 31.2**	**+1.0**
USIN				IAmb	IAmb	17 11 31.9	
	comp=Z,24nm,1.1s						
V53A	**Saluda**	**51.11**	**28**	P	**P**	**17 11 31.4**	**+0.4**
V53A				IAmb	IAmb	17 11 40.9	
	comp=Z,14nm,1.1s						
BGNE	**Belgrade**	**51.26**	**11**	P	**P**	**17 11 33.1**	**+1.1**
BGNE				IAmb	IAmb	17 11 39.2	
	comp=Z,18nm,0.8s						
T50A	**Nancy**	**51.33**	**25**	P	**P**	**17 11 33.6**	**+1.0**
T50A				IAmb	IAmb	17 11 42.2	
	comp=Z,11nm,1.2s						
Q44A	**Meyer Farm, Va**	**51.37**	**21**	P	**P**	**17 11 32.9**	**+0.1**
TZTN	**Tazewell**	**51.49**	**27**	P	**P**	**17 11 34.9**	**+1.1**
PDAR	**Pinedale Array**	**51.52**	**0**	P	**P**	**17 11 35.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=159,slow=8.9,SNR=4.0						
	comp=Z,0.4nm,0.6s						
OLIL	**Olney**	**51.54**	**21**	P	**P**	**17 11 34.2**	**+0.1**
WVOR	**Wild Horse Val**	**51.86**	**351**	P	**P**	**17 11 37.7**	**+1.1**
V55A	**Taylorsville**	**52.02**	**29**	P	**P**	**17 11 38.5**	**+0.8**
R49A	**Shelbyville**	**52.28**	**24**	P	**P**	**17 11 40.0**	**+0.4**
CPUP	**Villa Florida**	**52.31**	**116**	P	**P**	**17 11 41.0**	**+0.9**
	comp=Z,3.8nm,1.0s,baz=322,slow=7.3,SNR=2.2						
CPUP				LR	LR	17 29 52.8	
	comp=Z,256nm,21.1s,baz=294,slow=32						
	comp=Z,3.8nm,1.0s						
FXWY	**Fox Creek**	**52.41**	**359**	P	**P**	**17 11 41.5**	**+0.7**
MFID	**Camas Ranch**	**52.48**	**354**	P	**P**	**17 11 42.4**	**+1.2**
HLID	**Hailey**	**52.50**	**356**	P	**P**	**17 11 42.8**	**+1.4**
P46A	**Rosedale**	**52.64**	**22**	P	**P**	**17 11 43.0**	**+0.8**
P46A				IAmb	IAmb	17 11 44.4	
	comp=Z,20nm,0.8s						
IMW	**Indian Meadow**	**52.67**	**359**	P	**P**	**17 11 43.2**	**+0.5**
IMW				IAmb	IAmb	17 11 56.7	
	comp=Z,18nm,1.7s						
FLWY	**Flagg Ranch**	**52.85**	**359**	P	**P**	**17 11 44.2**	**+0.3**
FLWY				IAmb	IAmb	17 11 59.7	
	comp=Z,22nm,1.5s						
BCYI	**Bear Canyon**	**53.18**	**357**	P	**P**	**17 11 46.0**	**-0.4**
BLA	**Blacksburg**	**53.49**	**29**	P	**P**	**17 11 48.0**	**-0.6**
HUH	**Hualalai**	**53.74**	**302**	P	**P**	**17 11 49.5**	**-1.5**
GCMT	**Greycliff**	**54.55**	**360**	P	**P**	**17 11 55.8**	**-0.6**
G08A	**Pilot Rock**	**54.70**	**352**	P	**P**	**17 11 56.7**	**-0.7**
Q54A	**Coxs Mills**	**54.72**	**27**	P	**P**	**17 11 57.3**	**-0.2**
T59A	**Double "B" Far**	**54.72**	**31**	P	**P**	**17 11 57.8**	**+0.2**
COR	**Corvallis**	**54.77**	**348**	P	**P**	**17 11 59.0**	**+1.3**
I37A	**Lemond, Waseca**	**54.78**	**14**	P	**P**	**17 11 58.0**	**+0.2**
ACSO	**Alum Creek Sta**	**54.82**	**25**	P	**P**	**17 11 58.5**	**+0.3**
P53A	**Whipple**	**54.88**	**27**	P	**P**	**17 11 59.6**	**+0.9**
P53A				IAmb	IAmb	17 12 00.8	
	comp=Z,14nm,0.9s						
ULM	**Lac du Bonnet**	**60.21**	**10**	P	**P**	**17 12 36.1**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=214,slow=8.1,SNR=4.7						
	comp=Z,3.9nm,0.9s						
ULM	**Lac du Bonnet**	**60.21**	**10**	P	**P**	**17 12 36.4**	**+0.4**
ULM				IAmb	IAmb	17 12 42.0	
	comp=Z,11nm,1.1s						
BDFB	**Brasilia**	**60.34**	**103**	LR	LR	17 35 59.2	
	comp=Z,204nm,20.0s,baz=150,slow=33						
EDM	**Edmonton**	**62.07**	**357**	P	**P**	**17 12 49.2**	**+0.6**
BATG	**Bathurst New B**	**68.05**	**30**	P	**P**	**17 13 27.6**	**+0.1**
FCC	**Fort Churchill**	**68.69**	**9**	P	**P**	**17 13 32.2**	**+0.9**
FCC				IAmb	IAmb	17 13 42.3	
	comp=Z,14nm,1.3s						
URZ	**Urewera**	**71.38**	**233**	LR	LR	17 37 26.0	
	comp=Z,198nm,21.5s,baz=14,slow=29						
YKA	**Yellowknife Ar**	**71.39**	**358**	P	**P**	**17 13 46.0**	**-1.8**
	comp=Z,1.2nm,1.0s,baz=178,slow=5.9,SNR=9.0						
	comp=Z,1.2nm,1.0s						
YKA	**Yellowknife Ar**	**71.39**	**358**	P	**P**	**17 13 47.6**	**-0.3**
RPZ	**Rata Peaks**	**76.16**	**227**	LR	LR	17 40 36.7	
	comp=Z,180nm,20.0s,baz=358,slow=30						
ILAR	**Eielson Array**	**78.69**	**345**	P	**P**	**17 14 28.9**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=170,slow=5.0,SNR=4.8						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**81.07**	**180**	P	**P**	**17 14 43.7**	**+0.6**
QSPA				IAmb	IAmb	17 14 58.8	
	comp=Z,16nm,1.1s						
COLD	**Coldfoot**	**81.45**	**345**	P	**P**	**17 14 45.8**	**+1.0**
COLD				IAmb	IAmb	17 14 53.0	
	comp=Z,7.0nm,1.0s						
A36M	**Sachs Harbour**	**81.48**	**355**	P	**P**	**17 14 45.9**	**+1.0**
A36M				IAmb	IAmb	17 14 51.5	
	comp=Z,7.8nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**86.93**	**289**	T	T	18 51 13.4	
	baz=100,slow=74,SNR=671						
H11S1	**WAKE ISLAND Hy**	**86.94**	**289**	T	T	18 51 14.0	
	baz=100,slow=74,SNR=340						
H11S3	**WAKE ISLAND Hy**	**86.95**	**289**	T	T	18 51 14.7	
	baz=100,slow=74,SNR=304						
H11N3	**WAKE ISLAND Hy**	**86.96**	**290**	T	T	18 51 19.7	
	baz=101,slow=75,SNR=106						
H11N2	**WAKE ISLAND Hy**	**86.98**	**290**	T	T	18 51 16.1	
	baz=101,slow=75,SNR=123						
H11N1	**WAKE ISLAND Hy**	**86.98**	**290**	T	T	18 51 20.9	
	baz=101,slow=75,SNR=80						
SHEM	**Shemya Is, Ala**	**88.94**	**324**	LR	LR	17 47 15.9	
	comp=Z,138nm,20.9s,baz=26,slow=30						
SUMG	**Summit**	**92.98**	**17**	*i* P	**P**	**17 15 40.0**	**-1.5**
KRVT	**Keravat (AS076**	**97.60**	**264**	LR	LR	17 54 40.2	
	comp=Z,118nm,18.0s,baz=252,slow=32						
AKASG	**Malin Array Be**	**126.35**	**31**	PKP	**PKPdf**	**17 21 30.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=309,slow=12,SNR=3.6						
BRTR	**Keskin Array B**	**135.17**	**41**	PKP	**PKiKP**	**17 21 49.2**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=5.7,slow=1.2,SNR=4.3						
MKAR	**Makanchi Array**	**141.01**	**347**	PKP	**PKPdf**	**17 21 58.0**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=42,slow=1.6,SNR=4.6						
GEYT	**Alibeck**	**149.14**	**19**	PKPbc	**PKPbc**	**17 22 15.7**	**-1.3**
	comp=Z,3.8nm,0.8s,baz=338,slow=3.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**150.78**	**292**	PKPbc	**PKPbc**	**17 22 21.5**	**0.0**
	comp=Z,2.0nm,1.0s,baz=30,slow=0.8,SNR=12						

*NEIC **13** 17:18:02.8±1.2, 19°.3N±0°.1×67°.02W±0°.02, h35km±18km, ML2.8/32, Md3.3/21(RSPR), Error ellipse: s-maj=15.2km s-min=3.4km az=179.0*
*RSPR **13** 17:18:03.8, 19°.35N×67°.06W, h35km±14km, MD3.3/6*
ISC 13 17:18:01.8±1.6, 19°.32N±0°.08×67°.06W±0°.04, h25km, n54, σ0s42/50, 4C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.85**	**183**	‖*e*P	**Pn**	**17 18 18.6**	**+0.5**
AGPR	**Aguadilla, PR**	**0.85**	**183**	*e*S	**Sn**	**17 18 29.7**	**-0.1**
AGPR	**Aguadilla, PR**	**0.85**	**183**		**Sn**	**17 18 29.7**	**-0.1**
AGPR	**Aguadilla, PR**	**0.85**	**183**		**Pn**	**17 18 18.3**	**+0.2**
AGPR	**Aguadilla, PR**	**0.85**	**183**	IAML		17 18 32.7	
	comp=E,265nm,1.3s						
AGPR				IAML		17 18 38.0	
	comp=N,229nm,1.1s						
EMPR	**Esperanza - Ma**	**0.97**	**149**	Pn	**Pb**	**17 18 20.6**	**+0.6**
EMPR				IAML		17 18 53.0	
	comp=N,614nm,0.5s						
AOPR	**Arecibo Observ**	**1.01**	**163**	‖*e*P	**Pn**	**17 18 20.1**	**-0.2**
AOPR	**Arecibo Observ**	**1.01**	**163**	*e*S	**Sb**	**17 18 33.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.01**	**163**		**Sb**	**17 18 33.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.01**	**163**		**Pn**	**17 18 19.5**	**-0.9**
AOPR	**Arecibo Observ**	**1.01**	**163**	IAML		17 18 35.8	
	comp=N,177nm,0.3s						
AOPR				IAML		17 18 36.6	
	comp=E,352nm,0.4s						
PRSN	**Puerto Rico Se**	**1.10**	**184**	Pn	**Pb**	**17 18 22.1**	**-0.1**
PRSN				Sn	**Sb**	**17 18 36.0**	**0.0**
UUPR	**Utuado, UPR, P**	**1.11**	**163**	‖*e*P	**Pn**	**17 18 21.9**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.11**	**163**	*e*S	**Sn**	**17 18 36.1**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.11**	**163**		**Sn**	**17 18 36.1**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.11**	**163**		**Pn**	**17 18 21.4**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.11**	**163**	IAML		17 18 38.7	
	comp=E,1μm,0.3s						
UUPR				IAML		17 18 42.8	
	comp=N,662nm,0.4s						
LSP	**Las Mesas**	**1.14**	**181**	‖*e*P	**Pb**	**17 18 22.9**	**+0.1**
LSP	**Las Mesas**	**1.14**	**181**	*e*S	**Sb**	**17 18 37.3**	**+0.1**
LSP	**Las Mesas**	**1.14**	**181**		**Pb**	**17 18 22.9**	**+0.1**
LSP					**Sb**	**17 18 37.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.30**	**182**	‖*e*P	**Pn**	**17 18 24.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.30**	**182**	*e*S	**Sn**	**17 18 41.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.30**	**182**		**Sn**	**17 18 41.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.30**	**182**		**Pn**	**17 18 24.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.30**	**182**	IAML		17 18 41.7	
	comp=N,157nm,0.3s						
CRPR				IAML		17 18 42.5	
	comp=E,93nm,0.5s						
CELP	**Cerrillos**	**1.32**	**160**	‖*e*P	**Pn**	**17 18 24.8**	**+0.2**
CELP	**Cerrillos**	**1.32**	**160**	*e*S	**Sn**	**17 18 41.1**	**-0.2**
CELP	**Cerrillos**	**1.32**	**160**		**Sn**	**17 18 41.1**	**-0.2**
CELP	**Cerrillos**	**1.32**	**160**		**Pn**	**17 18 24.5**	**-0.2**
CELP	**Cerrillos**	**1.32**	**160**	IAML		17 18 42.1	
	comp=E,107nm,0.7s						
CELP				IAML		17 18 43.6	
	comp=N,88nm,0.4s						
OBIP	**Obispado Ponce**	**1.34**	**161**	‖*e*P	**Pn**	**17 18 25.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.34**	**161**	*e*S	**Sn**	**17 18 42.3**	**+0.4**
OBIP	**Obispado Ponce**	**1.34**	**161**		**Pn**	**17 18 25.1**	**+0.2**
OBIP					**Sn**	**17 18 42.0**	**+0.1**
OBIP				IAML		17 18 42.8	
	comp=N,147nm,0.6s						
OBIP				IAML		17 18 42.9	
	comp=E,119nm,0.4s						
MLPR	**Magueyes Islan**	**1.34**	**179**	‖*e*P	**Pn**	**17 18 24.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.34**	**179**	*e*S	**Sn**	**17 18 41.7**	**-0.2**
MLPR	**Magueyes Islan**	**1.34**	**179**		**Sn**	**17 18 41.7**	**-0.2**
MLPR	**Magueyes Islan**	**1.34**	**179**		**Pn**	**17 18 23.5**	**-1.5**
GCPR	**Guaynabo City**	**1.36**	**137**	Pn	**Pn**	**17 18 24.9**	**-0.3**
PCDR	**Punta Cana, DR**	**1.49**	**238**	Pn	**Pb**	**17 18 29.2**	**+0.4**
PCDR				IAML		17 18 59.7	
	comp=N,245nm,2.2s						
PCDR				IAML		17 19 13.0	
	comp=E,141nm,1.9s						
CBYP	**Canovanas**	**1.54**	**132**	⇑*e*P	**Pn**	**17 18 27.5**	**-0.2**
CBYP	**Canovanas**	**1.54**	**132**	*e*S	**Sn**	**17 18 47.1**	**+0.1**
CBYP	**Canovanas**	**1.54**	**132**		**Sn**	**17 18 47.1**	**+0.1**
CBYP	**Canovanas**	**1.54**	**132**		**Pn**	**17 18 26.7**	**-1.1**
CBYP	**Canovanas**	**1.54**	**132**	IAML		17 18 55.5	
	comp=N,169nm,0.2s						
CBYP				IAML		17 18 57.3	
	comp=E,181nm,0.2s						
HUMP	**Col San Antoni**	**1.64**	**135**	*e*S	**Sn**	**17 18 48.7**	**-0.5**
HUMP	**Col San Antoni**	**1.64**	**135**		**Sn**	**17 18 48.7**	**-0.5**
HUMP	**Col San Antoni**	**1.64**	**135**	Pn	**Pn**	**17 18 28.3**	**-0.7**
HUMP	**Col San Antoni**	**1.64**	**135**	IAML		17 18 55.0	
	comp=E,43nm,0.2s						
HUMP				IAML		17 18 59.7	
	comp=N,51nm,0.3s						
MTP	**Monte Pirata**	**1.87**	**130**	‖*e*P	**Pn**	**17 18 33.2**	**+0.9**
MTP	**Monte Pirata**	**1.87**	**130**	*e*S	**Sn**	**17 18 55.1**	**0.0**
MTP	**Monte Pirata**	**1.87**	**130**		**Sn**	**17 18 55.1**	**0.0**
MTP	**Monte Pirata**	**1.87**	**130**		**Pn**	**17 18 32.5**	**+0.3**
MTP				IAML		17 18 54.3	
	comp=N,52nm,3.7s						
SDDR	**Presa de Saban**	**4.01**	**266**	Pn	**Pn**	**17 19 01.4**	**-0.4**
SDDR				IAML		17 19 53.6	
	comp=N,28nm,4.5s						
SEUS	**St. Eustatius**	**4.27**	**114**	Pn	**Pn**	**17 19 05.2**	**-0.1**

IDC 13 17:39:24.8±10.0, 12°.66S×166°.40E, h141km±75km, mb3.3/3, mbtmp4.0/4, Error ellipse: s-maj=87.0km s-min=47.3km az=106.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.10**	**296**	P	Pn	17 41 06.2	-0.1
	293nm,0.5s,baz=102,slow=9.3,SNR=1.9						
HNR				S	Sn	17 42 26.4	+0.7
	144nm,0.3s,baz=72,slow=19,SNR=2.0						
CTA	**Charters Tower**	**20.68**	**246**	P	Pn	17 43 57.5	-0.2
	2.0nm,0.8s,baz=50,slow=12,SNR=2.1						
WRA	**Warramunga Arr**	**31.57**	**253**	P	P	17 45 34.2	-0.1
	0.5nm,0.8s,baz=86,slow=9.1,SNR=2.1						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**32.68**	**246**	P	P	17 45 44.0	0.0
	0.4nm,0.6s,baz=68,slow=9.5,SNR=12						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**95.13**	**317**	P	P	17 52 32.0	-0.1
	0.5nm,0.9s,baz=99,slow=4.5,SNR=4.1						
	0.5nm,0.9s						

*TAP **13** 18:20:51.1, 25°.71N×122°.91E, h224km±1km, ML3.8, D*
*JMA **13** 18:20:51.6±0.3, 25°.7N±3°.3×122°.3E±°, h244km, MV3.4/19, NW OFF ISHIGAKIJIMA IS*
ISC 13 18:20:50.6±1.9, 25°.58N±0°.09×122°.76E±0°.04, h243km±10km, n81, σ0s95/143, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.90**	**231**	*e*P	**Pn**	**18 21 24.6**	**+0.3**
	baz=227						
SXI1	**Grass Mountain**	**0.94**	**239**	*e*P	**Pn**	**18 21 24.5**	**-0.1**
	baz=240						
SXI1				S	**S**	**18 21 50.0**	**-1.2**
	baz=240						
TIPB	**Shuangxi**	**1.04**	**235**	*e*P	**Pn**	**18 21 26.0**	**+0.8**
	baz=235						
TIPB				*e*S	**S**	**18 21 52.2**	**-0.1**
	baz=235						
JYNG	**Yonagunijimaku**	**1.14**	**171**	*e*S	**S**	**18 21 54.0**	**+0.7**
YOJ	**Yonaguni jima**	**1.14**	**168**	*e*S	**S**	**18 21 53.8**	**+0.4**
YOJ	**Yonaguni jima**	**1.14**	**168**	*e*P	**Pn**	**18 21 26.0**	**+0.3**
	baz=173						
YOJ				*e*S	**S**	**18 21 49.8**	**-3.5**
	baz=173						
TWA	**Mucha**	**1.22**	**241**	*e*P	**Pn**	**18 21 27.1**	**+0.8**
	baz=240						
TWC	**Suao**	**1.27**	**221**	*e*P	**Pn**	**18 21 26.5**	**-0

LIOB	**Emei**	**1.83**	**240**	*eP*	**Pn**	**18 21 32.0 +1.0**
	baz=230					
LIOB				*eS*	**S**	**18 22 02.5 -0.3**
	baz=230					
NSTT	**Nanjuang**	**1.85**	**240**	*eS*	**S**	**18 22 02.9 -0.1**
	baz=231					
HWA	**Hwalien**	**1.91**	**214**	*eS*	**S**	**18 22 04.2 +0.2**
	baz=213					
FUSS	**Fushou**	**1.91**	**226**	P	**Pn**	**18 21 33.1 +1.1**
	baz=225					
FUSS				S	**S**	**18 22 04.3 -0.1**
	baz=225					
TWT	**Tachien**	**1.95**	**228**	*eP*	**Pn**	**18 21 33.7 +1.5**
	baz=226					
TWT				*eS*	**S**	**18 22 03.8 -1.2**
	baz=226					
TDCB	**Techi**	**1.96**	**228**	*eP*	**Pn**	**18 21 33.2 +0.9**
	baz=226					
TDCB				*eS*	**S**	**18 22 03.3 -1.8**
	baz=226					
WHF	**Hehuan Shan**	**1.97**	**224**	*eP*	**Pn**	**18 21 33.5 +0.8**
	baz=218					
WHF				S	**S**	**18 22 04.9 -0.9**
	baz=218					
ETM	**Tongmen**	**1.98**	**216**	*eP*	**Pn**	**18 21 32.4 +0.1**
	baz=222					
ETM				*eS*	**S**	**18 22 03.6 -1.5**
	baz=222					
JTJ	**Tarama**	**2.00**	**118**	P	**Pn**	**18 21 33.6 +1.2**
JTJ				S	**S**	**18 22 05.4 +0.2**
TEYL	**Yanliau Villag**	**2.01**	**212**	*eP*	**Pn**	**18 21 32.5 -0.1**
	baz=217					
CHGB	**Renai**	**2.09**	**224**	*eP*	**Pn**	**18 21 35.0 +1.4**
	baz=218					
CHGB				*eS*	**S**	**18 22 06.9 -0.5**
	baz=218					
WHP	**Taichung City**	**2.10**	**232**	*eS*	**S**	**18 22 06.5 -0.7**
	baz=235					
ESL	**Shilin**	**2.13**	**215**	P	**Pn**	**18 21 34.6 +0.8**
	baz=220					
ESL				*eS*	**S**	**18 22 06.0 -1.7**
	baz=220					
OWD	**Renai**	**2.17**	**222**	*eP*	**Pn**	**18 21 35.5 +1.3**
	baz=219					
OWD				*eS*	**S**	**18 22 08.2 -0.3**
	baz=219					
WUSB	**Renai**	**2.17**	**224**	P	**Pn**	**18 21 35.6 +1.3**
	baz=228					
WUSB				*eS*	**S**	**18 22 08.4 -0.3**
	baz=228					
EGFH	**Guangfu**	**2.26**	**213**	*eP*	**Pn**	**18 21 35.7 +0.7**
	baz=220					
EGFH				*eS*	**S**	**18 22 09.0 -0.8**
	baz=220					
WCS	**Beigang Elemen**	**2.26**	**228**	P	**Pn**	**18 21 35.7 +0.7**
	baz=233					
WCS				S	**S**	**18 22 08.9 -1.0**
	baz=233					
JIRB	**Irabujima**	**2.31**	**108**	P	**Pn**	**18 21 36.1 +0.7**
VWDT	**VWDT**	**2.34**	**219**	P	**Pn**	**18 21 37.4 +1.6**
	baz=218					
VWDT				S	**S**	**18 22 11.4 +0.1**
	baz=218					
JIKM	**Ikemajima**	**2.35**	**106**	P	**Pn**	**18 21 37.0 +1.2**
JIKM				*eS*	**S**	**18 22 11.5 +0.2**
SMLT	**Sun Moon Lake**	**2.39**	**225**	*eP*	**Pn**	**18 21 37.2 +0.8**
	baz=231					
SMLT				*eS*	**S**	**18 22 11.9 -0.5**
	baz=231					
HGSD	**Ruisui**	**2.41**	**211**	P	**Pn**	**18 21 37.6 +1.2**
	baz=204					
HGSD				S	**S**	**18 22 11.2 -1.4**
	baz=204					
SSLB	**Suanglung**	**2.42**	**223**	P	**Pn**	**18 21 37.3 +0.6**
	baz=222					
SSLB				*eS*	**S**	**18 22 11.1 -1.8**
	baz=222					
EHY	**Hungye**	**2.44**	**213**	*eS*	**S**	**18 22 11.2 -2.0**
	baz=218					
JMJ2	**Miyako jima3**	**2.47**	**109**	P	**Pn**	**18 21 38.3 +1.2**
JMJ2				*eS*	**S**	**18 22 14.3 +0.7**
JOGS	**Gusukube**	**2.54**	**108**	P	**Pn**	**18 21 39.0 +1.4**
JOGS				*eS*	**S**	**18 22 15.1 +0.4**
WJS	**Zhushan**	**2.54**	**227**	*eP*	**Pn**	**18 21 39.6 +1.8**
	baz=233					
WJS				*eS*	**S**	**18 22 14.4 -0.7**
	baz=233					
YULB	**Yu-li**	**2.55**	**212**	*i* P	**Pn**	**18 21 37.4 -0.5**
	baz=217					
YULB				S	**S**	**18 22 11.6 -3.7**
	baz=217					
EYUL	**Yuli**	**2.58**	**211**	*eP*	**Pn**	**18 21 39.3 +1.1**
	baz=218					
EYUL				*eS*	**S**	**18 22 14.6 -1.2**
	baz=218					
FULB	**Fuli**	**2.72**	**210**	*eS*	**S**	**18 22 18.0 -0.5**
	baz=209					
ALS	**Alishan**	**2.72**	**221**	*eP*	**Pn**	**18 21 40.5 +0.5**
	baz=220					
ALS				*eS*	**S**	**18 22 19.1 +0.2**
	baz=220					
CHN5	**Tsauling**	**2.74**	**224**	*eP*	**Pn**	**18 21 40.8 +0.8**
	baz=223					
CHN5				*eS*	**S**	**18 22 19.0 +0.1**
	baz=223					
WDLH	**Douliu**	**2.76**	**227**	*eS*	**S**	**18 22 18.7 -0.4**
	baz=232					
EHD	**Haiduan**	**2.81**	**211**	*eP*	**Pn**	**18 21 41.6 +1.0**
	baz=204					
EHD				*eS*	**S**	**18 22 19.1 -0.9**
	baz=204					
ELDTW	**Lidau**	**2.86**	**214**	*eP*	**Pn**	**18 21 41.1 -0.2**
	baz=213					
ELDTW				*eS*	**S**	**18 22 20.7 -0.6**
	baz=213					
WTK	**Tuku**	**2.86**	**229**	*eS*	**S**	**18 22 20.7 -0.4**
	baz=228					
WCKO	**Fanlu**	**2.90**	**223**	*eP*	**Pn**	**18 21 42.2 +0.6**
	baz=217					
WCKO				S	**S**	**18 22 21.6 -0.2**
	baz=217					
CHN4	**Tsaushan**	**2.97**	**222**	*eP*	**Pn**	**18 21 42.9 +0.5**
	baz=221					
CHN4				*eS*	**S**	**18 22 23.2 0.0**
	baz=221					
TPUB	**Ta-pu**	**2.99**	**221**	*eP*	**Pn**	**18 21 43.0 +0.4**
	baz=220					
TPUB				*eS*	**S**	**18 22 23.0 -0.6**
	baz=220					
STYH	**Taoyuan**	**3.00**	**217**	*eP*	**Pn**	**18 21 43.6 +0.9**
	baz=217					
STYH				*eS*	**S**	**18 22 23.9 +0.1**
	baz=217					
WTP	**Ta-pu**	**3.04**	**221**	*eP*	**Pn**	**18 21 43.6 +0.4**
	baz=219					
WTP				S	**S**	**18 22 24.1 -0.5**
	baz=219					
TWK	**Hsinying**	**3.10**	**222**	*eP*	**Pn**	**18 21 44.5 +0.7**
	baz=221					
TWK				*eS*	**S**	**18 22 25.5 -0.3**
	baz=221					
CHN1	**Nanshi**	**3.13**	**221**	*eP*	**Pn**	**18 21 44.7 +0.5**
	baz=220					
CHN1				*eS*	**S**	**18 22 26.2 -0.3**
	baz=220					
TWGBT	**Beinan**	**3.15**	**209**	*eP*	**Pn**	**18 21 44.5 +0.2**
	baz=206					
SGST	**Jiashian**	**3.18**	**219**	*eP*	**Pn**	**18 21 44.8 0.0**
	baz=223					
SGST				*eS*	**S**	**18 22 26.8 -0.7**
	baz=223					
MASBT	**Mashibuluo**	**3.54**	**214**	*eP*	**Pn**	**18 21 49.5 +0.8**
	baz=213					
MASBT				*eS*	**S**	**18 22 33.7 -1.0**
	baz=213					
EAST	**Anshuo**	**3.63**	**209**	*eP*	**Pn**	**18 21 51.4 +1.6**
	baz=206					
JJT3	**Tamagusuku3**	**4.56**	**82**	*eP*	**Pn**	**18 22 00.6 -0.2**
JNTH	**Nagotoyohara**	**4.83**	**78**	*eP*	**Pn**	**18 22 02.4 -1.6**

*GCG **13** 18:28:45.6±0.3, 13°.97N×90°.78W, h53km±14km, MD3.7*
ISC 13 18:28:40.0±2.7, 13°.48N±0°.10×90°.58W±0°.07, h29km±17km, n26, σ0s64/40, 5C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.89**	**61**↑	*eP*	**Pn**	**18 28 56.0**	**-0.6**
NUBE				*eS*	**Sn**	**18 29 07.4**	**-1.2**
PCG	**Pacaya**	**0.91**	**358**	*eP*	**Pn**	**18 28 57.4**	**+0.4**
SLOZ	**Alcaldia de Sa**	**0.95**	**55**	*eP*	**Pn**	**18 28 57.0**	**-0.4**
SLOZ				*eS*	**Sb**	**18 29 09.6**	**-0.5**
CEVE	**Cerro Verde**	**0.99**	**69**↑	*eP*	**Pn**	**18 28 58.0**	**-0.2**
CEVE				*eS*	**Sb**	**18 29 12.4**	**+0.8**
CEVE				IAML		18 29 14.0	
	comp=Z,5μm,0.3s						
FUG	**Fuego 3**	**1.00**	**345**	*eP*	**Pn**	**18 28 57.4**	**-0.8**
RTR	**El Retiro**	**1.00**	**65**	*eP*	**Pn**	**18 28 58.1**	**-0.1**
SNJE	**San Jose**	**1.03**	**68**	*eP*	**Pn**	**18 28 58.2**	**-0.4**
JAYA	**Jayaque - finc**	**1.12**	**81**↑	*eP*	**Pn**	**18 28 59.3**	**-0.5**
JAYA				*eS*	**Sn**	**18 29 14.0**	**-0.3**
JAYA				IAML		18 29 15.9	
	comp=Z,13μm,0.2s						
NBG	**Las Nubes**	**1.13**	**12**↑	*eP*	**Pn**	**18 29 01.0**	**+0.9**
NBG				*eS*	**Sb**	**18 29 17.1**	**+1.7**
CEDA	**San Andres**	**1.20**	**74**	*eP*	**Pn**	**18 29 00.6**	**-0.2**
CEDA				*eS*	**Sb**	**18 29 16.5**	**-0.7**
CEDA				IAML		18 29 20.2	
	comp=Z,4μm,0.3s						
SULM	**Suchitepequez,**	**1.26**	**311**	*eP*	**Pn**	**18 29 01.1**	**-0.5**
BOQS	**Boqueron**	**1.29**	**78**	*eP*	**Pn**	**18 29 02.5**	**+0.2**
BOQS				*eS*	**Sb**	**18 29 19.4**	**-0.7**
UEES	**Universidad Ev**	**1.33**	**80**	*eP*	**Pn**	**18 29 02.7**	**+0.1**
UEES				*eS*	**Sn**	**18 29 18.9**	**-0.5**
SNET	**Serv Nac Est T**	**1.33**	**81**	*eP*	**Pn**	**18 29 02.6**	**-0.1**
SNET				*eS*	**Sb**	**18 29 20.1**	**-1.0**
SNET				IAML		18 29 21.7	
	comp=Z,3μm,0.3s						
LFU	**La Fuente**	**1.45**	**79**	*eP*	**Pn**	**18 29 04.4**	**0.0**
LFRS	**El Faro**	**1.49**	**84**	*eP*	**Pn**	**18 29 05.1**	**+0.2**
LFRS				*eS*	**Sn**	**18 29 23.8**	**+0.5**
MTO3	**Montecristo**	**1.50**	**52**↑	*eP*	**Pn**	**18 29 04.7**	**-0.4**
LBRS	**Las Brisas**	**1.52**	**80**	*eP*	**Pn**	**18 29 06.0**	**+0.8**
SJTE	**Alcalda de S**	**1.54**	**85**	*eP*	**Pn**	**18 29 05.6**	**0.0**
SJTE				*eS*	**Sn**	**18 29 24.9**	**+0.3**
SJTE				IAML		18 29 28.7	
	comp=Z,863nm,0.3s						
PAVA	**Las Pavas**	**1.62**	**81**	*eP*	**Pn**	**18 29 06.7**	**0.0**
TECO	**Alcaldia de Te**	**1.75**	**88**	*eP*	**Pn**	**18 29 08.7**	**+0.2**
TECO				*eS*	**Sn**	**18 29 29.5**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.82**	**83**	*eP*	**Pn**	**18 29 09.6**	**+0.3**
COEB	**Comit de Eme**	**2.00**	**89**	*eP*	**Pn**	**18 29 12.1**	**+0.2**
COEB				IAML		18 29 39.7	
	comp=Z,358nm,0.3s						
PACA	**Pacayal**	**2.20**	**90**	*eP*	**Pn**	**18 29 15.2**	**+0.6**
PACA				IAML		18 29 51.2	
	comp=Z,3μm,0.3s						
VSM	**San Miguel**	**2.25**	**91**	*eP*	**Pn**	**18 29 16.7**	**+1.3**
VSM				*eS*	**Sn**	**18 29 43.2**	**+0.9**
LCND	**La Caada**	**2.62**	**93**	*eP*	**Pn**	**18 29 20.5**	**+0.1**
LCND				*eS*	**Sn**	**18 29 51.9**	**+0.6**
LCND				IAML		18 30 00.4	
	comp=Z,395nm,0.4s						

*IDC **13** 18:56:38.1±2.0, 6°.40S×154°.72E, h0km, mb3.4/3, mbtmp3.5/5, ML1.4/1, MS3.5/1, Error ellipse: s-maj=39.4km s-min=30.5km az=105.0*
ISC 13 18:56:44.5±1.8, 6°.4S±0°.1×154°.7E±0°.2, h48km, n7, σ1s44/8, mb3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.36**	**308**	Pn	**Pn**	**18 57 34.0**	**-0.4**
	19nm,0.6s,baz=161,slow=18,SNR=1.6						
KRVT				Sn	**Sn**	**18 58 12.7**	**-0.4**
	5.4nm,0.3s,baz=141,slow=22,SNR=2.1						
PMG	**Port Moresby**	**8.05**	**248**	Pn	**Pn**	**18 58 37.0**	**-1.9**
	0.3nm,0.3s,baz=235,slow=19,SNR=1.5						
PMG				Sn	**Sn**	**19 00 10.8**	**+2.3**
	0.7nm,0.3s,baz=158,slow=19,SNR=1.6						
	3.9nm,0.8s						
DZM	**Mont Dzumac**	**19.30**	**145**	LR	LR	19 07 08.9	
	comp=Z,135nm,18.0s,baz=15,slow=33						
WRA	**Warramunga Arr**	**23.93**	**234**	P	**P**	**19 01 54.1**	**-0.2**
	0.5nm,0.5s,baz=58,slow=9.5,SNR=6.5						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.36**	**227**	P	**P**	**19 02 15.9**	**-0.5**
	0.3nm,0.4s,baz=56,slow=9.3,SNR=12						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**82.74**	**319**	P	**P**	**19 09 04.2**	**+0.8**
	0.5nm,1.0s,baz=105,slow=5.1,SNR=2.9						
	0.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**152.57**	**286**	PKPbc	**PKiKP**	**19 16 37.6**	**+0.6**
	2.2nm,0.3s,baz=92,slow=2.3,SNR=5.9						

*NEIC **13** 18:59:43.2±2.8, 10°.61S±0°.07×161°.54E±0°.08, h19km±5km, mb4.4/19, Error ellipse: s-maj=14.6km s-min=3.3km az=48.0*
*IDC **13** 18:59:46.5±3.4, 10°.78S×161°.56E, h40km±28km, mb3.7/9, mbtmp4.0/12, ML4.0/3, MS3.7/7, Error ellipse: s-maj=25.8km s-min=22.6km az=104.0*
ISC 13 18:59:45.2±0.5, 10°.74S±0°.07×161°.61E±0°.08, h35km, n43, σ1s30/42, mb4.2/16, MS3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.09**	**308**	Pn	**Pn**	**19 00 18.3**	**+0.5**
	480nm,0.3s,baz=189,slow=6.0,SNR=7.7						
HNR				Sn	**Sn**	**19 00 42.8**	**+0.2**
	2μm,0.3s,baz=110,slow=17,SNR=11						
HNR				LR	LR	19 01 10.4	
	comp=Z,5μm,21.9s,baz=194,slow=40						
	2μm,0.4s						
HNR	**Honiara**	**2.09**	**308**		**Pn**	**19 00 14.0**	**-3.8**
KOUNC	**Koumac, New Ca**	**10.09**	**166**	Pn	**Pn**	**19 02 07.8**	**+0.1**
LIFNC	**LIFOU**	**11.36**	**152**	Pn	**Pn**	**19 02 24.0**	**-1.0**
DZM	**Mont Dzumac**	**12.18**	**158**	Pn	**Pn**	**19 02 38.4**	**+1.9**
	0.4nm,0.3s,baz=38,slow=8.9,SNR=20						
DZM				Sn	**Sn**	**19 04 49.3**	**-1.8**
	0.2nm,0.3s,baz=155,slow=22,SNR=1.8						
	1.3nm,0.4s						
DZM	**Mont Dzumac**	**12.18**	**158**	Pn	**Pn**	**19 02 37.8**	**+1.3**
MARNC	**Mare, Loyalty**	**12.33**	**151**	Pn	**Pn**	**19 02 37.7**	**-0.7**
ONTNC	**Ouen Toro**	**12.40**	**159**	Pn	**Pn**	**19 02 38.4**	**-1.0**
OUENC	**Ouen Island, N**	**12.65**	**157**	Pn	**Pn**	**19 02 43.8**	**+1.1**
PINNC	**Pines Island,**	**13.06**	**155**	Pn	**Pn**	**19 02 48.8**	**+0.5**
PMG	**Port Moresby**	**14.29**	**274**	LR	LR	19 08 19.9	
	comp=Z,290nm,19.3s,baz=98,slow=36						
CTA	**Charters Tower**	**17.46**	**236**	P	**P**	**19 03 48.5**	**+1.3**
	0.1nm,0.3s,baz=58,slow=13,SNR=5.5						
CTA				LR	LR	19 10 14.7	
	comp=Z,96nm,18.2s,baz=68,slow=36						
	4.8nm,0.9s						
CTAO	**Charters Tower**	**17.46**	**236**	Pn	**Pn**	**19 03 44.5**	**-1.7**
FUNA	**Funafuti**	**17.48**	**84**	Pn	**Pn**	**19 03 45.8**	**-0.6**
FUNA				IAmb	IAmb	19 03 50.8	
	comp=Z,34nm,0.9s						
EIDS	**Eidsvold**	**17.64**	**213**	P	**P**	**19 03 50.3**	**+1.3**
COEN	**Coen**	**18.29**	**258**	P	**Pn**	**19 03 56.6**	**+0.2**
AFI	**Afiamalu**	**26.19**	**100**	LR	LR	19 14 03.6	
	comp=Z,97nm,18.9s,baz=285,slow=33						
WR0	**Warramunga Arr**	**27.63**	**247**	P	**P**	**19 05 27.4**	**-2.4**
WR0				IAmb	IAmb	19 05 32.1	
	comp=Z,7.6nm,1.4s						
WB0	**Warramunga Arr**	**27.71**	**248**	P	**P**	**19 05 28.5**	**-2.1**
WB0				IAmb	IAmb	19 05 43.6	
	comp=Z,10nm,1.2s						
WB2	**Warramunga Arr**	**27.79**	**248**	P	**P**	**19 05 31.3**	**+0.1**
WB2				IAmb	IAmb	19 06 12.0	
	comp=Z,5.5nm,1.0s						
WRA	**Warramunga Arr**	**27.80**	**248**	P	**P**	**19 05 31.3**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=77,slow=9.8,SNR=7.5						
WRA				LR	LR	19 16 52.5	
	comp=Z,152nm,18.2s,baz=80,slow=37						
	comp=Z,1.7nm,0.9s						
STKA	**Stephens Creek**	**28.01**	**218**	LR	LR	19 16 18.7	
	comp=Z,192nm,18.7s,baz=34,slow=36						
AS31	**Alice Springs**	**29.35**	**240**	P	**P**	**19 05 43.6**	**-1.5**
ASAR	**Alice Springs**	**29.35**	**240**	P	**P**	**19 05 44.5**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=63,slow=9.8,SNR=14						
ASAR				LR	LR	19 17 27.4	
	comp=Z,119nm,18.1s,baz=68,slow=36						
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**29.35**	**240**	P	**P**	**19 05 44.7**	**-0.4**
WAKE	**Wake Island**	**30.25**	**9**	P	**P**	**19 05 51.7**	**-1.2**
BKZ	**Black Stump Fm**	**31.27**	**157**	P	**P**	**19 06 02.8**	**+0.9**
BKZ				IAmb	IAmb	19 06 33.6	
	comp=Z,20nm,1.4s						
KNRA	**Kununurra**	**32.33**	**258**	P	**P**	**19 06 10.6**	**-0.8**
MQZ	**McQueen's Vall**	**34.21**	**166**	P	**P**	**19 06 28.6**	**+1.1**
JKA	**Kamikawa-asahi**	**57.26**	**344**	P	**P**	**19 09 29.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**60.93**	**336**	P	**P**	**19 09 56.6**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=212,slow=10,SNR=1.4						
	comp=Z,1.2nm,0.7s						
CRAI	**Chiangrai**	**67.64**	**297**	P	**P**	**19 10 39.0**	**-0.1**
CRAI				IAmb	IAmb	19 10 52.9	
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**68.28**	**295**	P	**P**	**19 10 44.8**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=122,slow=5.0,SNR=4.6						
	comp=Z,0.5nm,0.6s						
ULN	**Ulaanbaatar**	**75.71**	**326**	P	**P**	**19 11 27.9**	**+0.6**
ULN				IAmb	IAmb	19 11 31.6	
	comp=Z,5.0nm,1.5s						
SONM	**Songino Array**	**76.06**	**325**	P	**P**	**19 11 30.7**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=146,slow=5.5,SNR=5.6						
	comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**76.06**	**325**	P	**P**	**19 11 30.6**	**+1.3**
SONM				IAmb	IAmb	19 11 39.9	
	comp=Z,1.9nm,0.9s						
CAST	**Castle Rocks**	**81.95**	**19**	P	**P**	**19 12 00.5**	**-0.6**
CAST				IAmb	IAmb	19 12 25.0	
	comp=Z,5.9nm,1.3s						
GLB	**Gilahina Butte**	**83.61**	**23**	P	**P**	**19 12 08.2**	**-1.6**
PAX	**Paxson**	**83.92**	**22**	P	**P**	**19 12 10.6**	**-0.7**
ILAR	**Eielson Array**	**84.56**	**20**	P	**P**	**19 12 14.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=238,slow=4.8,SNR=5.6						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**88.95**	**51**	P	**P**	**19 12 37.4**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=263,slow=6.8,SNR=5.7						
	comp=Z,1.2nm,0.4s						
MKAR	**Makanchi Array**	**90.54**	**318**	P	**P**	**19 12 44.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=92,slow=5.6,SNR=15						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	**P**	**19 13 11.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=261,slow=5.0,SNR=2.8						
	comp=Z,0.2nm,0.6s						

IDC 13 19:11:07.3±1.9, 8°.15S×129°.88E, h0km, mb3.3/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=48.0km s-min=25.9km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.47**	**251**	Pn	Pn	19 12 45.3	+1.4
	1.2nm,0.3s,baz=60,slow=19,SNR=1.9						
BATI				Sn	Sn	19 14 04.3	+5.8
	1.2nm,0.3s,baz=255,slow=22,SNR=1.7						
	3.3nm,0.4s						
WRA	**Warramunga Arr**	**12.49**	**160**	Pn	Pn	19 14 05.1	-1.4
	0.3nm,0.3s,baz=339,slow=13,SNR=11						
WRA				Sn	Sn	19 16 29.1	+2.6
	0.3nm,0.3s,baz=333,slow=22,SNR=7.8						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**15.90**	**166**	Pn	Pn	19 14 53.4	+0.8
	0.1nm,0.3s,baz=342,slow=8.8,SNR=13						
ASAR				Sn	Sn	19 17 50.2	+0.5
	0.1nm,0.3s,baz=346,slow=25,SNR=2.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.12**	**327**	P	P	19 22 15.2	-0.2
	0.2nm,0.4s,baz=110,slow=7.3,SNR=5.6						
	0.2nm,0.4s						

IDC 13 19:12:48.9±6.1, 4°.52S×153°.72E, h116km±39km, mb3.0/3, mbtmp3.6/4, MS3.4/1, Error ellipse: s-maj=66.9km s-min=27.7km az=101.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.70**	**277**	P	Pn	19 13 18.1	-0.5
	48nm,0.3s,baz=273,slow=24,SNR=1.5						
KRVT				S	Sn	19 13 41.2	+0.1
	45nm,0.4s,baz=184,slow=22,SNR=1.3						
PMG	**Port Moresby**	**8.12**	**233**	P	Pn	19 14 45.4	+1.2
	8.7nm,0.4s,baz=44,slow=10,SNR=9.7						
PMG				S	Sn	19 16 15.7	+1.4
	8.5nm,0.7s,baz=278,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**24.32**	**229**	P	P	19 17 55.8	-0.2
	1.0nm,0.6s,baz=55,slow=10.0,SNR=6.8						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**26.98**	**223**	P	P	19 18 19.4	-0.6
	0.6nm,0.8s,baz=49,slow=7.3,SNR=4.9						
	0.6nm,0.8s						
MSVF	**Nonsavu**	**27.19**	**121**	LR	LR	19 30 04.4	
	comp=Z,82nm,18.6s,baz=80,slow=38						
MKAR	**Makanchi Array**	**80.72**	**319**	P	P	19 24 50.0	+0.5
	0.1nm,0.4s,baz=112,slow=6.4,SNR=1.3						
	0.1nm,0.4s						

JMA 13 19:39:11.4±0.4, 35°.6N±0°.8×14°1E±°, h14km±1km, MV1.3/17, NEAR CHOSHI CITY, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.47**	**314**	*eP*	Pb	19 39 21.1	-0.3
JYT	**Yasato**	**0.84**	**314**	*eP*	Pg	19 39 27.2	-0.5

*IDC **13** 19:43:02.9±0.6, 30°.91N×141°.33E, h0km, mb4.0/22, mbtmp4.0/26, ML3.5/4, MS3.5/11, Error ellipse: s-maj=20.3km s-min=12.7km az=82.0*
*NEIC **13** 19:43:07.2±1.2, 31°.03N±0°.07×141°.3E±0°.1, h24km±6km, mb4.3/18, Error ellipse: s-maj=15.5km s-min=9.0km az=74.0*
ISC 13 19:43:08.4±0.5, 30°.96N±0°.06×141°.39E±0°.10, h37km, n70, σ1s14/64, mb4.1/27, MS3.5/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.53**	**329**	Pn	**Pn**	**19 43 42.9**	**-4.0**
JHJ	**Hachijo jima 2**	**2.55**	**328**	Pn	**Pn**	**19 43 46.5**	**-0.7**
	12nm,0.3s,baz=74,slow=22,SNR=1.6						
JHJ				Sn	**Sn**	**19 44 16.3**	**-0.6**
	11nm,0.3s,baz=231,slow=23,SNR=1.8						
	181nm,0.8s						
JCJ	**Chichijima**	**3.91**	**170**	Pn	**Pn**	**19 44 04.2**	**-1.7**
	1.2nm,0.3s,baz=122,slow=24,SNR=2.6						
JCJ				Sn	**Sn**	**19 44 51.7**	**+1.1**
	16nm,0.3s,baz=294,slow=22,SNR=2.4						
	119nm,0.8s						
JCJ	**Chichijima**	**3.91**	**170**	Pn	**Pn**	**19 44 06.2**	**+0.3**
JSG	**Sagara**	**4.58**	**325**	Pn	**Pn**	**19 44 14.0**	**-1.1**
INU	**Inuyama**	**5.71**	**321**	Pn	**Pn**	**19 44 29.2**	**-1.4**
JGF	**Kuroka**	**5.73**	**325**	Pn	**Pn**	**19 44 29.7**	**-1.2**
MJAR	**Matsushiro Arr**	**6.17**	**335**	Pn	**Pn**	**19 44 38.2**	**+1.4**
	0.3nm,0.3s,baz=159

CRAI	**Chiangrai**	**38.31**	**264**	P	**P**	**19 50 25.3**	**-0.4**
PHRA	**Phrae**	**39.18**	**261**	P	**P**	**19 50 32.5**	**-0.4**
CHTO	**Chiang Mai**	**40.13**	**263**	P	**P**	**19 50 40.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**40.29**	**262**	P	**P**	**19 50 41.2**	**-1.0**
	0.8nm,0.6s,baz=58,slow=6.5,SNR=12						
CMAR				LR	LR	20 08 45.5	
	comp=Z,40nm,18.6s,baz=65,slow=38						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**46.16**	**317**	P	**P**	**19 51 28.6**	**-0.6**
	0.6nm,0.5s,baz=110,slow=8.1,SNR=4.6						
ZALV				PcP	**PcP**	**19 53 04.2**	**-0.3**
	0.3nm,0.3s,baz=113,slow=3.7,SNR=4.0						
ZALV				LR	LR	20 11 37.1	
	comp=Z,50nm,18.8s,baz=86,slow=37						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**47.54**	**307**	P	**P**	**19 51 40.0**	**-0.1**
	1.2nm,0.7s,baz=91,slow=10,SNR=14						
MKAR				PcP	**PcP**	**19 53 10.3**	**+0.6**
	0.5nm,0.7s,baz=66,slow=3.7,SNR=1.8						
MKAR				LR	LR	20 11 33.3	
	comp=Z,49nm,18.5s,baz=92,slow=36						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**47.54**	**307**	P	**P**	**19 51 39.5**	**-0.6**
MAKZ	**Makanchi**	**47.76**	**307**	P	**P**	**19 51 41.4**	**-0.4**
NRIK	**Noril'sk**	**48.81**	**338**	P	**P**	**19 51 49.7**	**+0.2**
	1.9nm,0.5s,baz=109,slow=9.0,SNR=5.0						
	1.9nm,0.5s						
KURK	**Kurchatov**	**49.83**	**312**	P	**P**	**19 51 57.0**	**-0.5**
KURK				IAmb	IAmb	19 51 57.9	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**51.06**	**189**	P	**P**	**19 52 06.5**	**-0.7**
	comp=Z,2.7nm,0.3s,baz=6.2,slow=7.7,SNR=96						
	comp=Z,2.7nm,0.3s						
AAK	**Ala-Archa**	**53.54**	**302**	LR	LR	20 16 14.1	
	comp=Z,48nm,18.1s,baz=58,slow=37						
ILAR	**Eielson Array**	**54.69**	**30**	P	**P**	**19 52 33.2**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=266,slow=7.2,SNR=2.8						
	comp=Z,0.5nm,1.0s						
AS31	**Alice Springs**	**54.78**	**188**	P	**P**	**19 52 34.1**	**-0.5**
AS31				IAmb	IAmb	19 52 36.1	
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**54.79**	**188**	P	**P**	**19 52 34.0**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=357,slow=4.8,SNR=42						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**54.79**	**188**	P	**P**	**19 52 33.9**	**-0.7**
BRVK	**Borovoye**	**54.83**	**316**	P	**P**	**19 52 34.6**	**0.0**
BRVK				IAmb	IAmb	19 52 35.6	
	comp=Z,3.0nm,0.9s						
KLU	**Klutina**	**55.13**	**34**	P	**P**	**19 52 38.6**	**+1.9**
SCRK	**Sand Creek**	**55.95**	**31**	P	**P**	**19 52 41.8**	**-0.9**
SCRK				IAmb	IAmb	19 53 20.4	
	comp=Z,8.0nm,1.4s						
J26L	**Joseph Creek**	**56.12**	**30**	P	**P**	**19 52 45.1**	**+1.2**
J26L				IAmb	IAmb	19 53 05.2	
	comp=Z,6.6nm,1.2s						
KKAR	**Karatay Array**	**56.31**	**304**	P	**P**	**19 52 45.6**	**+0.1**
KKAR	**Karatay Array**	**56.31**	**304**	P	**P**	**19 52 45.6**	**+0.1**
KKAR				IAmb	IAmb	19 53 12.3	
	comp=Z,1.6nm,0.8s						
BCAR	**Beaver Creek A**	**56.98**	**32**	P	**P**	**19 52 48.1**	**-1.8**
CHGR	**Chuyangaron**	**58.42**	**299**	P	**P**	**19 53 00.6**	**+0.1**
INK	**Inuvik**	**59.83**	**25**	P	**P**	**19 53 11.0**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=28,slow=2.5,SNR=1.6						
	comp=Z,0.3nm,0.3s						
ARU	**Arti**	**60.97**	**321**	P	**P**	**19 53 17.3**	**-0.3**
ABKAR	**Akbulak array**	**61.94**	**313**	P	**P**	**19 53 24.6**	**+0.4**
ABKAR	**Akbulak array**	**61.94**	**313**	P	**P**	**19 53 24.3**	**0.0**
ABKAR				IAmb	IAmb	19 53 24.8	
	comp=Z,3.2nm,0.6s						
STKA	**Stephens Creek**	**62.49**	**180**	P	**P**	**19 53 27.0**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=290,slow=15,SNR=3.4						
	comp=Z,2.4nm,0.9s						
STKA	**Stephens Creek**	**62.49**	**180**	P	**P**	**19 53 28.2**	**+0.2**
STKA				IAmb	IAmb	19 54 02.9	
	comp=Z,2.3nm,1.4s						
FORT	**Forrest**	**62.69**	**193**	P	**P**	**19 53 29.5**	**+0.2**
GEYT	**Alibeck**	**66.86**	**301**	P	**P**	**19 53 57.6**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=47,slow=6.9,SNR=2.8						
GEYT				LR	LR	20 23 59.0	
	comp=Z,51nm,20.2s,baz=122,slow=37						
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**69.09**	**29**	P	**P**	**19 54 10.2**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=298,slow=6.8,SNR=3.0						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**69.68**	**340**	P	**P**	**19 54 14.8**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=352,slow=5.5,SNR=1.4						
	comp=Z,1.9nm,0.9s						
YBH	**Yreka Blue Hor**	**74.14**	**51**	LR	LR	20 21 05.7	
	comp=Z,32nm,20.3s,baz=291,slow=31						
FINES	**FINESS Array B**	**74.19**	**333**	P	**P**	**19 54 40.9**	**0.0**
	comp=Z,6.0nm,1.1s,baz=54,slow=7.5,SNR=8.7						
	comp=Z,6.0nm,1.1s						
KBZ	**Khabaz**	**74.89**	**312**	P	**P**	**19 54 45.6**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=77,slow=3.8,SNR=8.6						
	comp=Z,5.0nm,0.8s						
NVAR	**Mina Array Bea**	**78.69**	**52**	P	**P**	**19 55 08.9**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=309,slow=4.7,SNR=3.5						
	comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**79.11**	**323**	P	**P**	**19 55 08.8**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=47,slow=5.5,SNR=14						
	comp=Z,1.2nm,0.4s						
NOA	**NORSAR Array B**	**79.78**	**338**	P	**P**	**19 55 11.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=38,slow=6.2,SNR=2.1						
NOA				LR	LR	20 32 55.4	
	comp=Z,16nm,20.5s,baz=290,slow=38						
	comp=Z,0.8nm,0.7s						
PDAR	**Pinedale Array**	**81.96**	**45**	P	**P**	**19 55 25.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=347,slow=7.4,SNR=2.7						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**82.88**	**312**	P	**P**	**19 55 29.6**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=62,slow=3.4,SNR=7.0						
	comp=Z,1.1nm,0.7s						
GERES	**GERESS Array B**	**87.86**	**328**	P	**P**	**19 55 53.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=12,slow=5.3,SNR=1.7						
	comp=Z,0.2nm,0.3s						
ANMO	**Albuquerque**	**88.52**	**50**	LR	LR	20 31 05.9	
	comp=Z,41nm,20.6s,baz=34,slow=32						

ISC 13 20:10:12.4±1.1, 64°66N±0°03×134°12W±0°07, h10km, n21, σ2s35/26, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAYO	**Mayo, Yukon**	**1.32**	**217**	P			**Pg**	**20 10 38.6**	**+1.0**
	baz=36								
MAYO				S			**Sg**	**20 10 54.8**	**0.0**
	baz=36								
K29M	**Barlow Dome**	**1.70**	**243**	P			**Pg**	**20 10 44.4**	**-0.5**
	baz=60								
K29M				Sb			**Sg**	**20 11 06.7**	**-0.2**
	baz=60								
I29M	**Ogilvie Camp,**	**1.92**	**294**	Sb			**Sg**	**20 11 12.6**	**-1.3**
	baz=110								
EPYK	**Eagle Plains**	**2.04**	**329**	P			**Pb**	**20 10 48.8**	**-0.6**
	baz=147,SNR=18								
EPYK				Sb			**Sg**	**20 11 16.1**	**-1.6**
	baz=147								
L29M	**L29M**	**2.36**	**231**	P			**Pb**	**20 10 52.6**	**-2.3**
	baz=47								
DAWY	**Dawson**	**2.37**	**258**	P			**Pb**	**20 10 53.6**	**-1.5**
	baz=73,SNR=85								
M30M	**Minto, Yukon**	**2.41**	**211**	P			**Pb**	**20 10 53.5**	**-2.2**
	baz=29,SNR=135								
M31M	**Drury Creek, Y**	**2.47**	**183**	P			**Pb**	**20 10 55.0**	**-1.7**
	baz=2.7,SNR=34								
F31M	**Tsiigehtchic**	**2.80**	**3**	P			**Pb**	**20 10 58.7**	**-3.8**
	baz=183,SNR=7.7								
F31M				S			**Sn**	**20 11 32.0**	**+1.0**
	baz=183								
M29M	**Somme Creek**	**2.95**	**223**	P			**Pb**	**20 11 01.2**	**-3.9**
	baz=39								
N31M	**Braeburn, Yuko**	**3.27**	**194**	P			**Pb**	**20 11 06.1**	**-4.4**
	baz=13,SNR=22								
INK	**Inuvik**	**3.67**	**3**	P			**Pn**	**20 11 11.4**	**+2.3**
	baz=184								
INK				S			**Sn**	**20 11 54.2**	**+1.8**
	baz=184								
BVCY	**Beaver Creek**	**3.77**	**236**	P			**Pn**	**20 11 12.8**	**+2.3**
	baz=50,SNR=33								
YUK4	**Talbot Arm**	**3.91**	**214**	P			**Pn**	**20 11 13.4**	**+0.7**
	baz=30,SNR=13								
O30N	**Mendenhall**	**4.00**	**194**	P			**Pn**	**20 11 16.1**	**+2.3**
	baz=12,SNR=9.0								
YUK3	**Moose Creek**	**4.07**	**228**	P			**Pn**	**20 11 17.4**	**+2.5**
	baz=42,SNR=28								
HYT	**Haines Junctio**	**4.15**	**204**	P			**Pn**	**20 11 18.6**	**+2.8**
	baz=21,SNR=11								
M27K	**Edge Creek, AK**	**4.17**	**240**	P			**Pn**	**20 11 18.4**	**+2.3**
	baz=53								
YUK6	**Outpost Mounta**	**4.21**	**210**	P			**Pn**	**20 11 19.3**	**+2.6**
	baz=26,SNR=18								
E27K	**Coleen River**	**4.64**	**323**	P			**Pn**	**20 11 23.9**	**+1.4**
	baz=136								
O29M	**Mount Kennedy**	**4.83**	**207**	P			**Pn**	**20 11 28.1**	**+2.8**
	baz=23								

*IDC **13** 20:26:23.0±1.0, 37°.37N×141°.56E, h0km, mb3.7/9, mbtmp3.8/12, ML3.7/3, MS3.3/10, Error ellipse: s-maj=27.1km s-min=18.3km az=97.0*
*NEIC **13** 20:26:24.7±1.9, 37°.40N±0°.05×141°.58E±0°.05, h10km±2km, mb4.2/4, Error ellipse: s-maj=11.1km s-min=3.0km az=38.0*
*JMA **13** 20:26:24.8±0.2, 37°.4N±0°.4×141°.6E±0°.8, h25km±1km, MD4.2/40, MV4.1/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **13** 20:26:24.8, 37°.39N×141°.60E, h25km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-6.90; $M_{\theta\theta}$2.34; $M_{\phi\phi}$4.56; $M_{r\theta}$0.42; $M_{\theta\phi}$5.24; $M_{\phi r}$-0.35; Fault plane solution: $M_0$7.88000×10^{14} NP1:ϕ_s33.00000°, δ45.00000°, λ-99.00000°. NP2:ϕ_s225.00000°, δ45.00000°, λ-81.00000°.*

ISC 13 20:26:23.3±1.8, 37°.36N±0°.04×141°.65E±0°.06, h4km±11km, n66, σ1s02/52, mb3.8/11, MS3.5/6, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.62**	**271**	*i* P			**Pg**	**20 26 36.0**	**+0.8**
JFK				S			**Sg**	**20 26 43.9**	**+0.7**
JFK	**Kawauchi**	**0.62**	**271**	A			A	20 26 36.0	
	comp=E,6.0nm,0.2s,comp=E,7.0nm,0.9s								
JMST	**Minamisoumatoc**	**0.70**	**301**	*i* P			**Pg**	**20 26 37.2**	**+0.4**
JMST				S			**Sg**	**20 26 46.2**	**+0.3**
JMST	**Minamisoumatoc**	**0.70**	**301**	A			A	20 26 37.2	
	comp=E,11nm,3.4s,comp=E,7.0nm,0.4s								
ONAJ	**Iwakimizuishiy**	**0.73**	**249**	⇓*i* P			**Pg**	**20 26 38.0**	**+0.8**
ONAJ				⇓S			**Sb**	**20 26 47.7**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.73**	**249**	A			A	20 26 38.0	
	comp=E,19nm,0.2s,comp=E,13nm,0.2s								
JMM	**Marumori**	**0.84**	**307**				**Pg**	**20 26 39.5**	**0.0**
JMM							**Sg**	**20 26 49.8**	**-0.7**
JMM	**Marumori**	**0.84**	**307**	*i* P			**Pg**	**20 26 39.5**	**0.0**
JMM				S			**Sg**	**20 26 50.4**	**-0.1**
JMM	**Marumori**	**0.84**	**307**	A			A	20 26 39.5	
	comp=E,8.0nm,1.5s,comp=E,7.0nm,0.4s								
JFFD	**Fukushimafurud**	**0.91**	**253**	⇓*i* P			**Pg**	**20 26 40.9**	**+0.2**
JFFD				⇓S			**Sg**	**20 26 52.6**	**+0.1**
JIO	**Ouri**	**1.11**	**348**	*i* P			**Pg**	**20 26 44.2**	**-0.5**
JIO				*e*S			**Sg**	**20 26 57.9**	**-1.2**
JHO	**Hitachi**	**1.15**	**229**	⇓P			**Pb**	**20 26 44.0**	**-1.6**
JOU	**Okura**	**1.27**	**322**	*i* P			**Pn**	**20 26 47.3**	**-0.5**
JOU				S			**Sb**	**20 27 03.5**	**-0.9**
JOU	**Okura**	**1.27**	**322**	A			A	20 26 47.3	
	comp=E,9.0nm,0.8s,comp=E,13nm,0.6s								
JYAR	**Yonezawaarcadi**	**1.31**	**295**	A			A	20 26 47.1	
	comp=E,22nm,0.8s,comp=E,18nm,0.4s								
JOFO	**Osakifurukawao**	**1.37**	**335**	A			A	20 26 48.0	
	comp=E,21nm,1.4s,comp=E,26nm,1.1s								
JSB	**Shiboa**	**1.44**	**255**	A			A	20 26 49.2	
	comp=E,7.0nm,3.4s,comp=E,15nm,1.3s								
JYS	**Shirataka**	**1.52**	**305**	P			**Pb**	**20 26 51.7**	**-0.3**
JYS				S			**Sb**	**20 27 10.8**	**-0.8**
JYS	**Shirataka**	**1.52**	**305**	A			A	20 26 51.7	
	comp=E,7.0nm,1.4s,comp=E,8.0nm,1.5s								
JFY	**Yanaizu**	**1.55**	**272**	P			**Pn**	**20 26 51.4**	**-0.3**
JFY				S			**Sb**	**20 27 11.8**	**-0.6**
JFY	**Yanaizu**	**1.55**	**272**	A			A	20 26 51.4	
	comp=E,4.0nm,1.2s,comp=E,5.0nm,1.1s								
JYK	**Kaneyama**	**1.86**	**327**	A			A	20 26 55.4	
	comp=E,5.0nm,1.1s,comp=E,7.0nm,1.0s								
JYA	**Atsumi**	**1.96**	**309**	A			A	20 26 56.8	
	comp=E,6.0nm,1.2s,comp=E,4.0nm,0.8s								
JSD	**Sado**	**2.77**	**285**	A			**Pn**	**20 27 09.9**	**+1.6**
MJAR	**Matsushiro Arr**	**2.88**	**254**	Pn			**Pn**	**20 27 10.4**	**+0.6**
	1.7nm,0.3s,baz=83,slow=16,SNR=65								
MJAR				Lg			Lg	20 27 48.1	
	1.2nm,0.3s,baz=63,slow=33,SNR=5.9								
	5.6nm,0.3s								
MAJO	**Matsushiro**	**2.88**	**255**				**Pn**	**20 27 10.6**	**+0.8**
MJB9	**Matsu-Tunnel**	**2.88**	**255**				**Pn**	**20 27 12.2**	**+2.3**
JTM	**Tenmabayashi**	**3.45**	**353**				**Pn**	**20 27 19.0**	**+1.3**
JGF	**Kuroka**	**3.88**	**244**				**Pn**	**20 27 25.2**	**+1.6**
INU	**Inuyama**	**4.24**	**243**				**Pn**	**20 27 29.6**	**+0.9**
JHJ2	**Mitsune**	**4.50**	**200**	Pn			**Pn**	**20 27 32.9**	**+0.7**
JHJ	**Hachijo jima 2**	**4.50**	**200**	Pn			**Pn**	**20 27 32.6**	**+0.4**
	25nm,0.3s,baz=66,slow=20,SNR=1.6								
JHJ				Sn			**Sn**	**20 28 23.5**	**-1.4**
	17nm,0.3s,baz=60,slow=20,SNR=1.3								
	69nm,0.3s								
ERM	**Erimo**	**4.79**	**14**	Pn			**Pn**	**20 27 39.0**	**+2.8**
ASAJ	**Asahikawa**	**6.79**	**6**	Pn			**Pn**	**20 28 04.1**	**+0.6**
	1.9nm,0.3s,baz=206,slow=7.7,SNR=16								
ASAJ				Sn			**Sn**	**20 29 21.0**	**-0.2**
	0.3nm,0.3s,baz=163,slow=20,SNR=1.7								
	3.5nm,0.3s								
JKA	**Kamikawa-asahi**	**6.79**	**6**	Pn			**Pn**	**20 28 03.5**	**0.0**
JHS	**Saijyo**	**7.29**	**254**	Pn			**Pn**	**20 28 11.7**	**+1.2**
JMN	**Monobe**	**7.30**	**243**	Pn			**Pn**	**20 28 10.6**	**-0.1**
JNU	**Nakatsue**	**9.77**	**248**	LR			LR	20 32 28.9	
	comp=Z,51nm,21.2s,baz=40,slow=38								
USRK	**Ussuriysk Ar.**	**10.01**	**316**	Pn			**Pn**	**20 28 50.0**	**+2.2**
	0.2nm,0.3s,baz=126,slow=14,SNR=1.4								
USRK				LR			LR	20 32 21.3	
	comp=Z,126nm,18.7s,baz=113,slow=36								
KSRS	**Korea Array**	**10.92**	**275**	LR			LR	20 32 59.9	
	comp=Z,66nm,20.9s,baz=80,slow=36								
KLR	**Kul'dur**	**13.86**	**332**	LR			LR	20 34 44.0	
	comp=Z,51nm,20.2s,baz=74,slow=36								
YAK	**Yakutsk**	**25.79**	**347**	LR			LR	20 42 14.1	
	comp=Z,43nm,18.6s,baz=122,slow=37								
YAK	**Yakutsk**	**25.79**	**347**	P			**P**	**20 31 55.2**	**+0.3**
YAK				IAmb			IAmb	20 31 59.6	
	comp=Z,5.2nm,0.8s								
SONM	**Songino Array**	**27.76**	**303**	P			**P**	**20 32 11.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=113,slow=9.6,SNR=2.4								
	comp=Z,0.3nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**28.16**	**122**	T			T	21 01 44.9	
	baz=314,slow=75,SNR=606								
H11N1	**WAKE ISLAND Hy**	**28.16**	**122**	T			T	21 01 45.6	
	baz=314,slow=75,SNR=389								
H11N3	**WAKE ISLAND Hy**	**28.18**	**122**	T			T	21 01 46.3	
	baz=314,slow=75,SNR=465								
H11S1	**WAKE ISLAND Hy**	**28.88**	**124**	T			T	21 02 39.4	
	baz=316,slow=76,SNR=288								
H11S3	**WAKE ISLAND Hy**	**28.88**	**124**	T			T	21 02 39.5	
	baz=316,slow=76,SNR=221								
H11S2	**WAKE ISLAND Hy**	**28.90**	**124**	T			T	21 02 40.8	
	baz=316,slow=76,SNR=184								
ZALV	**Zalesovo Beam**	**41.83**	**312**	P			**P**	**20 34 13.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=100,slow=7.3,SNR=2.9								
	comp=Z,0.4nm,0.3s								
NRIK	**Noril'sk**	**43.05**	**335**	LR			LR	20 53 07.2	
	comp=Z,74nm,18.6s,baz=86,slow=37								
MK31	**Makanchi Array**	**44.10**	**302**	P			**P**	**20 34 32.1**	**-0.4**
MKAR	**Makanchi Array**	**44.10**	**302**	P			**P**	**20 34 32.4**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=88,slow=9.8,SNR=11								
MKAR				LR			LR	20 52 15.3	
	comp=Z,33nm,19.4s,baz=118,slow=35								
	comp=Z,0.9nm,0.8s								
MKAR	**Makanchi Array**	**44.10**	**302**	P			**P**	**20 34 31.4**	**-1.0**
MAKZ	**Makanchi**	**44.31**	**302**	P			**P**	**20 34 32.7**	**-1.5**
MAKZ				IAmb			IAmb	20 34 35.8	
	comp=Z,4.6nm,1.4s								
KURK	**Kurchatov**	**45.88**	**308**	P			**P**	**20 34 45.8**	**-0.6**
ILAR	**Eielson Array**	**49.12**	**33**	P			**P**	**20 35 12.8**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=271,slow=6.5,SNR=3.0								
	comp=Z,0.5nm,0.8s								
AAK	**Ala-Archa**	**50.50**	**298**	LR			LR	20 57 41.3	
	comp=Z,34nm,18.8s,baz=61,slow=37								
WRA	**Warramunga Arr**	**57.41**	**188**	P			**P**	**20 36 13.0**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=2.6,slow=7.4,SNR=6.4								
	comp=Z,1.0nm,0.9s								
ASAR	**Alice Springs**	**61.14**	**188**	P			**P**	**20 36 39.0**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=359,slow=6.5,SNR=5.1								
	comp=Z,0.7nm,0.9s								
YKA	**Yellowknife Ar**	**63.43**	**30**	P			**P**	**20 36 54.5**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=300,slow=6.9,SNR=2.5								
	comp=Z,0.2nm,0.7s								
FINES	**FINESS Array B**	**68.61**	**332**	P			**P**	**20 37 27.3**	**+0.4**
	comp=Z,3.9nm,1.0s,baz=39,slow=9.1,SNR=3.7								
	comp=Z,3.9nm,1.0s								
STKA	**Stephens Creek**	**68.88**	**180**	LR			LR	21 06 14.2	
	comp=Z,40nm,20.0s,baz=207,slow=35								
AKASG	**Malin Array Be**	**74.15**	**322**	P			**P**	**20 38 00.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=46,slow=6.1,SNR=4.3								
	comp=Z,0.4nm,0.4s								
MLR	**Muntele Rosu**	**79.25**	**320**	LR			LR	21 18 51.1	
	comp=Z,55nm,18.2s,baz=283,slow=40								

MEX 13 20:43:41.2±0.6, 15°.84N×98°.33W, h15km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.58**	**19**	*e*P			Pg	20 43 50.4	-2.2
PNIG				*e*S			Sg	20 43 57.3	-3.0
PNIG	**Pinotepa**	**0.58**	**19**	*e*P			Pg	20 43 50.4	-2.2
PNIG				*e*S			Sg	20 43 57.4	-3.0
PEIG	**Puerto Escondi**	**1.15**	**82**	*e*P			Pn	20 43 58.9	-3.8
PEIG				*e*S			Sb	20 44 12.4	-5.1
YOIG	**Yosondua**	**1.26**	**37**	*e*P			Pn	20 44 01.0	-3.5
YOIG				*e*S			Sb	20 44 16.9	-4.0
YOIG	**Yosondua**	**1.26**	**37**	*e*P			Pn	20 44 01.0	-3.5
YOIG				*e*S			Sb	20 44 17.6	-3.3
TXIG	**Tlaxiaco**	**1.50**	**21**	*e*P			Pn	20 44 05.0	-2.8
TXIG				*e*S			Sn	20 44 24.2	-3.1
TXIG	**Tlaxiaco**	**1.50**	**21**	*e*P			Pn	20 44 05.0	-2.9
TXIG				*e*S			Sn	20 44 24.2	-3.2
HLIG	**Huajuapan de L**	**2.04**	**14**	*e*P			Pn	20 44 12.4	-2.8
HLIG				*e*S			Sn	20 44 38.2	-2.3
FTIG	**Fresnillo de T**	**2.06**	**5**	*e*P			Pn	20 44 12.3	-3.2
FTIG				*e*S			Sn	20 44 37.3	-3.7

*NOU **13** 21:03:26.3, 41°.36S×174°.01E, h61km, MLv4.0/15, Cook Strait, New Zealand*
*WEL **13** 21:03:26.1, 41°.5±4°×17°.4E±°, h55km±7km, M3.6/16, ML3.9/16, MLv3.6/16, Error ellipse: s-maj=0.0km s-min=0.0km az=133.6, confirmed*

ISC 13 21:03:26.0±1.3, 41°.36S±0°.03×173°.87E±0°.03, h65km±7km, n131, σ1s30/142, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TUWZ	**Tuamarina**	**0.10**	**142**	P			**Pn**	**21 03 35.3**	**-0.3**
TUWZ				S			**Sn**	**21 03 41.6**	**-0.9**
TCW	**Tory Channel**	**0.34**	**65**	P			**Pn**	**21 03 37.1**	**+0.3**
TCW				S			**Sn**	**21 03 44.4**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.36**	**179**	P			**Pn**	**21 03 37.3**	**+0.2**
BSWZ				S			**Sn**	**21 03 45.2**	**+0.1**
NNZ	**Nelson**	**0.39**	**290**	P			**Pn**	**21 03 36.7**	**-1.1**
CMWZ	**Cape Campbell**	**0.47**	**146**	P			**Pn**	**21 03 39.6**	**+1.6**
CMWZ				S			**Sn**	**21 03 50.0**	**+3.1**
DUWZ	**D'Urville Isla**	**0.55**	**4**	P			**Pn**	**21 03 38.4**	**-0.5**
DUWZ				S			**Sn**	**21 03 47.2**	**-1.1**
SNZO	**South Karori**	**0.63**	**86**	P			**Pn**	**21 03 40.5**	**+0.8**
WEL	**Wellington**	**0.68**	**84**	P			**Pn**	**21 03 41.1**	**+0.8**
WEL				S			**Sn**	**21 03 52.3**	**+1.5**
TKNZ	**Takaka Hill**	**0.75**	**295**	P			**Pn**	**21 03 40.3**	**-0.9**
THZ	**Tophouse**	**0.83**	**240**	P			**Pn**	**21 03 41.5**	**-0.6**
MRNZ	**Matariki Terra**	**0.83**	**267**	P			**Pn**	**21 03 41.6**	**-0.5**
MRNZ				S			**Sn**	**21 03 53.2**	**-0.8**
KIW	**Kapiti Island**	**0.93**	**58**	P			**Pn**	**21 03 44.2**	**+0.8**
KIW				S			**Sn**	**21 03 57.3**	**+1.1**
CAW	**Cannon Point**	**0.94**	**75**	P			**Pn**	**21 03 44.0**	**+0.6**
CAW				S			**Sn**	**21 03 57.5**	**+1.1**
PLWZ	**Palliser**	**1.07**	**102**	P			**Pn**	**

KNZ	Kokohu	3.73	53	P		Pn	21 04 18.5	-2.6
MHGZ	Mahia Peninsul	3.79	56	P		Pn	21 04 19.7	-2.2
URZ	Urewera	3.98	40	P		Pn	21 04 21.9	-2.5
URZ	Urewera	3.98	40	P		Pn	21 04 22.0	-2.4
RIGZ	Rimuhau	3.99	50	P		Pn	21 04 22.2	-2.5
MWZ	Matawai	4.13	44	P		Pn	21 04 23.9	-2.7
AWAZ	Awhitu Peninsu	4.33	8	P		Pn	21 04 30.5	+1.2
MKAZ	Moumakai	4.36	14	P		Pn	21 04 30.9	+1.2
ODZ	Otahua Downs	4.37	211	P		Pn	21 04 31.1	+1.2
ODZ	Otahua Downs	4.37	211	P		Pn	21 04 29.2	-0.6
RUGZ	Raukumara Rang	4.49	42	P		Pn	21 04 28.7	-2.8
TWGZ	Tauwhareparae	4.49	46	P		Pn	21 04 29.2	-2.3
JCZ	Jackson Bay	4.62	232	P		Pn	21 04 34.0	+0.6
JCZ	Jackson Bay	4.62	232	P		Pn	21 04 33.3	-0.1
WIAZ	Waiheke Island	4.66	13	P		Pn	21 04 35.1	+1.3
HAZ	Te Kaha	4.70	41	P		Pn	21 04 30.9	-3.4
PKGZ	Pakihiroa	4.75	45	P		Pn	21 04 32.6	-2.4
KUZ	Kuaotunu	4.82	18	P		Pn	21 04 37.6	+1.6
WKZ	Wanaka	4.96	224	P		Pn	21 04 37.7	-0.2
WMGZ	Waiomatatini S	4.98	46	P		Pn	21 04 34.8	-3.3
MXZ	Matakaoa Point	5.11	44	P		Pn	21 04 37.0	-3.0
MXZ	Matakaoa Point	5.11	44	P		Pn	21 04 37.2	-2.8
WCZ	Waipu Caves	5.42	4	P		Pn	21 04 45.5	+1.3
OUZ	Omahuta	6.13	358	P		Pn	21 04 55.1	+1.2
OUZ	Omahuta	6.13	358	P		Pn	21 04 55.0	+1.2
CTZ	Chatham Island	7.42	112	P		Pn	21 05 11.2	-0.3
CTZ	Chatham Island	7.42	112	P		Pn	21 05 10.6	-0.9

NNC ***13*** *21:04:59.6±0.7, 38°.31N×72°.20E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=5.5km s-min=3.3km az=0.0*
IDC ***13*** *21:05:01.1±3.8, 37°.04N×71°.46E, h111km±31km, mb3.2/3, mbtmp3.7/10, MS3.3/1, Error ellipse: s-maj=34.5km s-min=25.4km az=152.0*
SOME ***13*** *21:05:04.9, 38°.72N×72°.38E, h0km*

ISC 13 21:05:00.2±1.3, 37°.0N±0°.1×71°.4E±0°.1, h100km, n25, σ1§11/25, mb3.4/3, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**5.24**	**349**	Pg	**Pn**	**21 06 15.7**	**-0.5**
	20nm,0.4s						
IUG				Lg	Lg	21 07 12.4	
	58nm,0.5s						
IUG	**Iuzhnay**	**5.24**	**349**	*e*Pg	**Pn**	**21 06 15.7**	**-0.5**
	20nm,0.4s						
IUG				*e*Lg	Lg	21 07 12.4	
	58nm,0.5s						
AML	**Almayashu**	**5.41**	**18**	P	**Pn**	**21 06 19.7**	**+0.9**
	SNR=28						
UCH	**Uchtor**	**5.73**	**24**	P	**Pn**	**21 06 24.5**	**+1.3**
	SNR=8.0						
DZA	**Taraz**	**5.87**	**359**	*e*Pg	**Pn**	**21 06 25.2**	**+0.4**
	58nm,0.2s						
DZA				*e*Lg	Lg	21 07 29.6	
	63nm,0.3s						
MRKS	**Merke**	**5.89**	**13**	*e*Pg	**Pn**	**21 06 25.9**	**+0.8**
	26nm,0.4s						
MRKS				*e*Lg	Lg	21 07 30.9	
	20nm,0.2s						
EKS2	**Erkin-Say**	**5.93**	**17**	P	**Pn**	**21 06 27.1**	**+1.5**
	SNR=8.2						
AAK	**Ala-Archa**	**6.10**	**22**	P	**Pn**	**21 06 29.9**	**+2.0**
	SNR=7.2						
AAK	**Ala-Archa**	**6.10**	**22**	P	**Pn**	**21 06 29.4**	**+1.5**
	6.3nm,0.4s,baz=210,slow=13,SNR=30						
AAK				S	**Sn**	**21 07 35.6**	**-0.7**
	3.4nm,0.4s,baz=357,slow=21,SNR=1.9						
CHMS	**Chumysh**	**6.50**	**22**	P	**Pn**	**21 06 34.7**	**+1.4**
	SNR=14						
USP	**Ospenovka**	**6.68**	**20**	P	**Pn**	**21 06 36.5**	**+0.8**
	SNR=12						
TKM2	**Tokmak 2**	**6.72**	**27**	P	**Pn**	**21 06 38.2**	**+1.8**
	SNR=11						
SGDS	**Sogindy**	**6.88**	**20**	Pg	**Pn**	**21 06 39.1**	**+0.6**
	8.6nm,0.6s						
SGDS				Lg	Lg	21 07 53.0	
	3.6nm,0.7s						
DGS	**Degeres**	**7.06**	**27**	Pg	**Pn**	**21 06 42.3**	**+1.3**
	5.4nm,0.8s						
DGS				Lg	Lg	21 07 58.1	
	3.4nm,0.6s						
DGS	**Degeres**	**7.06**	**27**	*e*Pg	**Pn**	**21 06 40.5**	**-0.4**
	5.4nm,0.8s						
DGS				*e*Lg	Lg	21 07 56.8	
	3.4nm,0.6s						
GEYT	**Alibeck**	**10.61**	**279**	P	**Pn**	**21 07 30.1**	**+0.9**
	0.7nm,0.4s,baz=96,slow=14,SNR=2.4						
GEYT				S	Sn	21 09 13.8	-12
	1.6nm,0.7s,baz=110,slow=13,SNR=1.8						
MKAR	**Makanchi Array**	**12.68**	**36**	P	**Pn**	**21 07 57.7**	**+0.9**
	0.6nm,0.7s,baz=224,slow=15,SNR=8.2						
KURBB	**Kurchatov Arra**	**14.53**	**18**	P	**Pn**	**21 08 21.2**	**+0.5**
	0.3nm,0.2s,baz=208,slow=10,SNR=1.5						
BVAR	**Borovoye Array**	**16.03**	**358**	P	**Pn**	**21 08 38.0**	**-1.6**
	0.8nm,0.4s,baz=163,slow=11,SNR=13						
AKTO	**Aktyubinsk**	**16.51**	**329**	P	**Pn**	**21 08 45.1**	**-0.4**
	2.6nm,0.3s,baz=142,slow=8.0,SNR=13						
AKTO				S	Sn	21 11 32.7	-16
	0.9nm,0.6s,baz=52,slow=23,SNR=2.1						
ZALV	**Zalesovo Beam**	**19.31**	**24**	P	**P**	**21 09 17.2**	**+0.1**
	0.8nm,0.4s,baz=224,slow=12,SNR=4.9						
ARU	**Arti**	**21.26**	**340**	P	**P**	**21 09 38.6**	**+0.4**
	0.6nm,0.3s,baz=151,slow=9.6,SNR=3.1						
	0.6nm,0.3s						
KIRV	**Kirov**	**25.93**	**333**	LR	LR	21 21 02.3	
	comp=Z,64nm,19.0s,baz=257,slow=37						
YKA	**Yellowknife Ar**	**80.72**	**3**	P	**P**	**21 17 01.6**	**-0.3**
	0.4nm,0.7s,baz=348,slow=5.5,SNR=8.0						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**81.98**	**122**	P	**P**	**21 17 08.2**	**-1.0**
	0.3nm,0.7s,baz=325,slow=4.9,SNR=1.8						
	0.3nm,0.7s						

REY ***13*** *21:20:06.8, 62°.29N×25°.25W, h10km*
IDC ***13*** *21:20:11.0±1.1, 62°.75N×25°.53W, h0km, mb3.5/7, mbtmp3.6/8, ML4.0/1, MS3.3/14, Error ellipse: s-maj=33.6km s-min=19.4km az=22.0*

ISC 13 21:20:12.1±0.9, 62°.72N±0°.09×25°.17W±0°.08, h10km, n44, σ1§66/43, mb3.5/7, MS3.3/12, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRNE	**Reykjanes**	**1.57**	**44**	S	**Sb**	**21 21 01.9**	**+0.9**
	baz=36						
IRNE				P	**Pn**	**21 20 37.4**	**-2.6**
	baz=36						
INYL	**Nylenda**	**1.67**	**40**	P	**Pn**	**21 20 40.0**	**-1.3**
	baz=33						
INYL				S	**Sb**	**21 21 05.2**	**+1.2**
	baz=33						
IGRV	**Grindav??k**	**1.68**	**46**	P	**Pn**	**21 20 39.7**	**-1.7**
	baz=38						
IGRV				S	**Sb**	**21 21 04.8**	**+0.6**
	baz=38						
IVOG	**Vogar**	**1.78**	**44**	P	**Pn**	**21 20 41.2**	**-1.6**
	baz=36						
IVOG				S	**Sb**	**21 21 08.2**	**+1.2**
	baz=36						
IKRI	**Krysuvik**	**1.82**	**49**	S	**Sb**	**21 21 08.6**	**+0.3**
	baz=41						
IKRI				P	**Pn**	**21 20 41.6**	**-1.8**
	baz=41						
IVOS	**Vogsosar**	**1.94**	**52**	P	**Pn**	**21 20 43.0**	**-2.0**
	baz=44						
IVOS				S	**Sb**	**21 21 12.0**	**+0.4**
	baz=44						
IKAS	**Kald??rsel**	**1.99**	**47**	P	**Pn**	**21 20 44.2**	**-1.5**
	baz=40						
IKAS				S	**Sb**	**21 21 13.3**	**+0.2**
	baz=40						
ISAN	**Sandskeio**	**2.11**	**49**	P	**Pn**	**21 20 45.8**	**-1.5**
	baz=42						
ISAN				S	**Sb**	**21 21 15.8**	**-0.7**
	baz=42						
IBJA	**Bjarnastaoir**	**2.14**	**53**	P	**Pn**	**21 20 46.0**	**-1.8**
	baz=45						
IBJA				S	**Sb**	**21 21 16.7**	**-0.7**
	baz=45						
ISOL	**Solvholt**	**2.26**	**56**	P	**Pn**	**21 20 47.5**	**-2.0**
	baz=48						
IKRO	**Krokur**	**2.29**	**51**	P	**Pn**	**21 20 48.2**	**-1.6**
	baz=44						
IHEI	**Heioarbar**	**2.31**	**48**	P	**Pn**	**21 20 48.6**	**-1.5**
	baz=42						
IHEI				S	**Sb**	**21 21 22.6**	**+0.2**
	baz=42						
ISAU	**Saurbar**	**2.50**	**57**	P	**Pn**	**21 20 50.8**	**-1.9**
	baz=50						
BORG	**Borgarnes**	**2.66**	**38**	Pn	**Pn**	**21 20 55.0**	**+0.1**
	27nm,0.3s,baz=238,slow=6.5,SNR=152						
BORG				Sn	**Sn**	**21 21 27.0**	**-0.2**
	baz=186,slow=22						
	205nm,0.7s						
IASB	**`sbjarnarst**	**2.66**	**38**	P	**Pn**	**21 20 54.9**	**0.0**
	baz=34						
IASB				S	**Sb**	**21 21 30.5**	**-1.9**
	baz=34						
IHAU	**Haukadalur**	**2.66**	**60**	P	**Pn**	**21 20 53.1**	**-1.9**
	baz=53						
IGYG	**Gygjarholskot**	**2.72**	**53**	P	**Pn**	**21 20 54.8**	**-1.1**
	baz=46						
IESK	**Eystri-Skogar**	**2.72**	**70**	P	**Pn**	**21 20 52.8**	**-3.0**
	baz=62						
IFED	**Fedgar**	**2.80**	**60**	P	**Pn**	**21 20 55.2**	**-1.6**
	baz=53						
IALF	**Alftagrof**	**2.83**	**71**	P	**Pn**	**21 20 54.4**	**-2.9**
	baz=64						
IHES	**Hestalda**	**2.86**	**60**	P	**Pn**	**21 20 56.2**	**-1.5**
	baz=53						
IGFL	**Graenufjoll**	**2.87**	**71**	P	**Pn**	**21 20 55.4**	**-2.5**
	baz=63						
IAUS	**Austmannsbunga**	**2.92**	**68**	P	**Pn**	**21 20 56.4**	**-2.3**
	baz=61						
IJOK	**Jokulheimar**	**3.50**	**60**	P	**Pn**	**21 21 06.0**	**-0.5**
	baz=54						
SFJD	**Kangerlussuaq**	**11.59**	**303**	LR	LR	21 26 46.3	
	comp=Z,187nm,19.8s,baz=140,slow=35						
FRB	**Frobisher Bay**	**19.29**	**292**	LR	LR	21 31 26.6	
	comp=Z,81nm,18.6s,baz=353,slow=35						
SCHQ	**Schefferville**	**22.62**	**269**	LR	LR	21 32 35.3	
	comp=Z,29nm,20.0s,baz=235,slow=33						
DAVOX	**Davos/Dischmat**	**25.32**	**113**	LR	LR	21 36 07.6	
	comp=Z,77nm,18.4s,baz=250,slow=38						
GERES	**GERESS Array B**	**25.41**	**105**	P	**P**	**21 25 42.4**	**+2.9**
	0.2nm,0.5s,baz=315,slow=12,SNR=1.7						
GERES				LR	LR	21 34 44.3	
	comp=Z,51nm,20.1s,baz=288,slow=34						
	0.2nm,0.5s						
VRAC	**Vranov**	**26.37**	**101**	LR	LR	21 37 56.9	
	comp=Z,85nm,18.8s,baz=268,slow=40						
AKASG	**Malin Array Be**	**31.18**	**87**	LR	LR	21 39 26.5	
	comp=Z,35nm,19.5s,baz=299,slow=37						
SADO	**Sadowa**	**35.31**	**265**	LR	LR	21 39 59.9	
	comp=Z,56nm,18.1s,baz=110,slow=34						
YKA	**Yellowknife Ar**	**37.99**	**311**	P	**P**	**21 27 28.9**	**-0.6**
	0.9nm,0.9s,baz=44,slow=9.8,SNR=9.3						
	0.9nm,0.9s						
ULM	**Lac du Bonnet**	**38.90**	**285**	LR	LR	21 43 52.1	
	comp=Z,20nm,19.9s,baz=44,slow=37						
ARU	**Arti**	**40.02**	**59**	LR	LR	21 43 42.4	
	comp=Z,37nm,20.5s,baz=318,slow=35						
BRTR	**Keskin Array B**	**41.50**	**95**	P	**P**	**21 27 59.8**	**+0.6**
	0.6nm,0.8s,baz=0.0,slow=10,SNR=2.7						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**45.73**	**329**	P	**P**	**21 28 31.0**	**-1.8**
	0.3nm,0.8s,baz=22,slow=9.7,SNR=5.7						
	0.3nm,0.8s						
BBB	**Bella Bella**	**50.52**	**309**	LR	LR	21 51 20.7	
	comp=Z,41nm,19.8s,baz=276,slow=37						
PDAR	**Pinedale Array**	**50.68**	**289**	P	**P**	**21 29 11.2**	**-0.3**
	0.9nm,0.9s,baz=62,slow=6.9,SNR=6.7						
	0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**53.06**	**147**	P	**P**	**21 29 29.6**	**+0.3**
	0.6nm,0.3s,baz=347,slow=9.4,SNR=1.4						
	0.6nm,0.3s						
ELK	**Elko**	**54.79**	**292**	LR	LR	21 51 26.6	
	comp=Z,67nm,19.9s,baz=1.5,slow=34						
ANMO	**Albuquerque**	**55.71**	**281**	LR	LR	21 51 37.1	
	comp=Z,36nm,19.8s,baz=158,slow=34						
MKAR	**Makanchi Array**	**56.64**	**52**	P	**P**	**21 29 57.5**	**+2.5**
	0.4nm,0.8s,baz=335,slow=5.4,SNR=5.1						
	0.4nm,0.8s						
LPIG	**La Paz**	**66.67**	**277**	LR	LR	21 59 31.8	
	comp=Z,54nm,18.1s,baz=68,slow=36						

KOLA ***13*** *21:37:53.0, 80°.38N×20°.71E, h0km, ML2.3, Spitsbergen,Arctic Ocean*
BER ***13*** *21:37:58.9±1.2, 80°.28N×20°.29E, h23km±6km, ML2.6, ML2.6(NAO), Confirmed Earthquake*
IEPN ***13*** *21:38:00.0, 80°.13N×19°.96E, h10km*

ISC 13 21:37:57.9±1.4, 80°.05N±0°.05×20°.71E±0°.04, h13km±10km, n26, σ1§94/50, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.96**	**239**	Pn	**Pn**	**21 38 30.6**	**-0.3**
KBS				Pg	**Pg**	**21 38 34.8**	**-0.7**
KBS				Lg	Lg	21 39 00.2	
KBS	**Kingsbay**	**1.96**	**239**	*e*P	**Pn**	**21 38 30.5**	**-0.3**
KBS				*e*Pg	**Pg**	**21 38 34.8**	**-0.7**
KBS				*e*Sg	**Sg**	**21 39 00.5**	**-0.5**
KBS				IAML		21 39 02.1	
	comp=Z,112nm,0.4s						
KBS	**Kingsbay**	**1.96**	**239**	P	**Pn**	**21 38 31.4**	**+0.6**
KBS				S	**Sb**	**21 38 57.6**	**-0.2**
SPA0	**Spitsbergen Ar**	**2.06**	**206**	Pn	**Pn**	**21 38 32.4**	**+0.4**
	baz=22,slow=14						
SPA0				Pg	**Pg**	**21 38 36.9**	**-0.3**
	baz=25,slow=16						
SPA0				Sn	**Sn**	**21 38 58.2**	**+0.6**
	baz=25,slow=14						
SPA0				Lg	Lg	21 39 05.5	
SPA0	**Spitsbergen Ar**	**2.06**	**206**	*e*P	**Pn**	**21 38 32.3**	**+0.2**
SPA0				*e*S	**Sn**	**21 38 58.1**	**+0.6**
SPA0	**Spitsbergen Ar**	**2.06**	**206**	Pn	**Pn**	**21 38 32.4**	**+0.4**
SPA0				Pg	**Pg**	**21 38 36.9**	**-0.3**
SPA0				*e*Sg	**Sg**	**21 39 05.1**	**+1.2**
SPA0				IAML		21 39 13.1	
	comp=Z,54nm,0.8s						
SPITS	**Spitsbergen Ar**	**2.06**	**206**	P	**Pn**	**21 38 32.4**	**+0.4**
SPITS				S	**Sg**	**21 39 03.6**	**-0.3**
BRBB	**Barentsburg B**	**2.33**	**215**	Pn	**Pn**	**21 38 36.2**	**+0.5**
BRBB				Sn	**Sn**	**21 39 03.5**	**-0.6**
BRBB				Lg	Lg	21 39 12.9	
BRBB	**Barentsburg B**	**2.33**	**215**	*e*P	**Pn**	**21 38 36.1**	**+0.3**
BRBB				*e*S	**Sn**	**21 39 04.2**	**+0.1**
BRBB				*e*Sg	**Sg**	**21 39 12.7**	**+0.2**
BRBB	**Barentsburg B**	**2.33**	**215**	P	**Pn**	**21 38 35.9**	**+0.2**
BRBA	**Barentsburg A**	**2.35**	**215**	Pn	**Pn**	**21 38 36.6**	**+0.5**
BRBA				Sn	**Sn**	**21 39 04.8**	**0.0**
BRBA				Lg	Lg	21 39 14.1	
BRBA	**Barentsburg A**	**2.35**	**215**	*e*P	**Pn**	**21 38 36.7**	**+0.5**
BRBA				*e*Sg	**Sg**	**21 39 13.9**	**+0.5**
BRBA				IAML		21 39 20.5	
	comp=Z,55nm,0.3s						
HSPB	**Hornsund (broa**	**3.24**	**201**	Pn	**Pn**	**21 38 50.1**	**+1.8**
HSPB				Pg	**Pg**	**21 38 58.5**	**-1.2**
HSPB				Sn	**Sn**	**21 39 28.2**	**+1.7**
HSPB				Lg	Lg	21 39 39.6	
HSPB	**Hornsund (broa**	**3.24**	**201**	*e*P	**Pn**	**21 38 50.0**	**+1.8**
HSPB				*e*S	**Sn**	**21 39 27.0**	**+0.5**
HSPB	**Hornsund (broa**	**3.24**	**201**	*e*Sg	**Sg**	**21 39 40.1**	**-1.5**
HSPB				IAML		21 39 45.2	
	comp=Z,28nm,0.4s						
HOPEN	**Hopen**	**3.67**	**164**	P	**Pn**	**21 38 57.4**	**+3.3**
HOPEN				*e*S	**Sn**	**21 39 38.6**	**+1.4**
HOPEN	**Hopen**	**3.67**	**164**	*e*S	**Sn**	**21 39 38.8**	**+1.6**
HOPEN				*e*Sg	**Sg**	**21 39 55.4**	**-0.1**
HOPEN				IAML		21 40 28.5	
	comp=Z,36nm,0.8s						
ZFI2	**Zemlya Franca-**	**4.53**	**67**	P	**Pn**	**21 39 07.0**	**+1.0**
ZFI2				*e*S	**Sn**	**21 39 57.3**	**-1.1**
	comp=Z,16nm,0.6s						
ZFI	**Zemlya Franca-**	**4.53**	**67**	P	**Pn**	**21 39 07.0**	**+1.0**
ZFI				*e*S	**Sn**	**21 39 56.1**	**-2.3**
	comp=Z,20nm,2.2s						
DBG	**Daneborg**	**10.47**	**259**	Pn	**Pn**	**21 40 26.9**	**-0.5**
DBG	**Daneborg**	**10.47**	**259**	Pn	**Pn**	**21 40 26.9**	**-0.5**
KEV	**Kevo**	**10.47**	**168**	Pn	**Pn**	**21 40 29.3**	**+1.9**
KEV	**Kevo**	**10.47**	**168**	Pn	**Pn**	**21 40 29.3**	**+1.9**
ARA0	**ARCESS Array S**	**10.64**	**171**	Pn	**Pn**	**21 40 31.8**	**+2.1**
	baz=357,slow=12						
ARA0				Sn	**Sn**	**21 42 21.1**	**-7.4**
	baz=2.8,slow=22						
ARA0	**ARCESS Array S**	**10.64**	**171**	Pn	**Pn**	**21 40 31.8**	**+2.1**
	slow=12						
ARCES	**ARCESS Array B**	**10.64**	**171**	P	**Pn**	**21 40 32.9**	**+3.2**
ARCES				S	**Sn**	**21 42 21.7**	**-6.9**

IDC ***13*** *21:38:25.2±3.3, 9°.85N×125°.48E, h0km, mb3.4/3, mbtmp3.4/3, MS3.3/3, Error ellipse: s-maj=267.8km s-min=28.9km az=65.0*
MAN ***13*** *21:38:31.1, 10°.13N×126°.08E, h13km, mb4.5, ML3.3, MS3.1*

ISC 13 21:38:27.1±1.4, 10°.11N±0°.03×126°.05E±0°.04, h17km±9km, n27, σ1§88/41, mb3.3/3, 12C-9D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.33**	**166**	↑*e*P	**Pn**	**21 38 38.9**	**+1.7**
GLSP				*e*S	**Sn**	**21 38 44.4**	**+0.8**
SCPH	**Surigao**	**0.64**	**240**	↓*e*P	**Pn**	**21 38 44.5**	**+3.1**
SCPH				*e*S	**Sn**	**21 38 55.1**	**+4.0**
MSLP	**Maasin**	**1.17**	**271**	↑*e*P	**Pg**	**21 38 51.8**	**+2.1**
MSLP				*e*S	**Sg**	**21 39 08.6**	**+3.6**
TASP	**Talacogon, Agu**	**1.66**	**188**	↓*e*P	**Pg**	**21 39 01.3**	**+2.2**
TASP				*e*S	**Sg**	**21 39 22.7**	**+2.0**
TABP	**Talibon, Bohol**	**1.69**	**270**	↓*e*P	**Pg**	**21 39 00.3**	**+0.7**
TABP				*e*S	**Sg**	**21 39 20.8**	**-0.8**
GHBP	**Garcia Hernand**	**1.76**	**255**	↓*e*P	**Pg**	**21 39 01.8**	**+0.8**
BIPH	**Bislig**	**1.94**	**171**	↑*i*P	**Pb**	**21 39 01.7**	**-0.3**
BIPH				*i* S	**Sb**	**21 39 25.0**	**-0.8**
LLP	**Lapu-Lapu**	**2.06**	**276**	↑*e*P	**Pg**	**21 39 06.3**	**-0.3**
LLP				*i* S	**Sg**	**21 39 34.2**	**+0.8**
CGP	**Cagayan de Oro**	**2.11**	**219**	↓*e*P	**Pg**	**21 39 06.7**	**-1.1**
CGP				*e*S	**Sg**	**21 39 32.8**	**-2.4**
TBP	**Tagbilaran**	**2.19**	**259**	↓*e*P	**Pg**	**21 39 08.0**	**-1.2**
TBP				*i* S	**Sg**	**21 39 37.3**	**-0.4**
CDOP	**Cateel, Davao**	**2.34**	**170**	↓*e*P	**Pb**	**21 39 08.1**	**-0.8**
BUKP	**Musuan**	**2.42**	**204**	↑*e*P	**Pg**	**21 39 12.0**	**-1.6**
BUKP				*e*S	**Sg**	**21 39 43.7**	**-1.2**
LSIP	**Lazi, Siquijor**	**2.57**	**248**	↓*e*P	**Pb**	**21 39 12.9**	**+0.1**
CNP	**Catarman**	**2.75**	**331**	↑*e*P	**Pb**	**21 39 15.5**	**-0.3**
CNP				*e*S	**Sb**	**21 39 47.1**	**-2.2**
DAV	**Davao City (W)**	**3.05**	**189**	LR	LR	21 40 43.1	
	comp=Z,81nm,21.2s,baz=85,slow=50						
DCPH	**Dipolog City**	**3.06**	**241**	↑*e*P	**Pb**	**21 39 19.8**	**-1.3**
DCPH				*e*S	**Sb**	**21 39 58.0**	**-0.3**
KCP	**Kidapawan**	**3.22**	**197**	↓*e*P	**Pb**	**21 39 22.9**	**-1.1**
KCP				*i* S	**Sb**	**21 40 02.3**	**-0.6**
CNOP	**Candoni, Negro**	**3.37**	**266**	↑*e*P	**Pb**	**21 39 24.3**	**-2.1**
CNOP				*e*S	**Sb**	**21 40 03.9**	**-3.2**
PAGZ	**Pagadian**	**3.46**	**230**	↑*e*P	**Pb**	**21 39 26.1**	**-1.9**
PAGZ				*e*S	**Sb**	**21 40 08.2**	**-1.6**
RCP	**Roxas**	**3.55**	**294**	↑*e*P	**Pb**	**21 39 27.3**	**-2.3**
PVCP	**Virac**	**3.93**	**332**	↑*e*P	**Pb**	**21 39 36.7**	**+0.6**
PVCP				*e*S	**Sg**	**21 40 30.4**	**-3.1**
DDMP	**Don Marcelino,**	**3.99**	**185**	↑*e*P	**Pb**	**21 39 33.2**	**-3.8**
DDMP				*e*S	**Sb**	**21 40 24.8**	**-0.2**
JHJ	**Hachijo jima 2**	**26.17**	**27**	LR	LR	21 52 53.0	
	comp=Z,302nm,20.1s,baz=26,slow=33						
WRA	**Warramunga Arr**	**30.96**	**165**	P	**P**	**21 44 42.6**	**-1.0**
	0.2nm,0.5s,baz=343,slow=9.0,SNR=1.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**34.43**	**167**	P	**P**	**21 45 14.1**	**+0.1**
	0.4nm,0.4s,baz=351,slow=6.9,SNR=18						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**52.02**	**323**	P	**P**	**21 47 35.6**	**-0.3**
	0.3nm,0.8s,baz=119,slow=8.2,SNR=3.6						
	0.3nm,0.8s						
MSVF	**Nonsavu**	**58.34**	**118**	LR	LR	22 14 08.1	
	comp=Z,40nm,18.1s,baz=201,slow=36						

HLW ***13*** *21:43:27.7, 35°.78N×32°.46E, h32km±41km, Md4.3*
NIC ***13*** *21:43:30.6±0.0, 35°.58N×32°.43E, h83km±5km, Ml4.4/9*
ISK ***13*** *21:43:30.5, 35°.59N×32°.48E, h86km, ML4.2/35*
NEIC ***13*** *21:43:31.9±2.0, 35°.55N±0°.05×32°.40E±0°.04, h76km±11km, mb4.4/38, Error ellipse: s-maj=8.6km s-min=2.0km az=146.0*
MOS ***13*** *21:43:31.3±0.9, 35°.56N×32°.36E, h95km, mb4.3/11, Error ellipse: s-maj=7.5km s-min=4.1km az=108.4*
IDC ***13*** *21:43:31.6±1.3, 35°.62N×32°.41E, h79km±14km, mb3.8/13, mbtmp4.2/23, MS3.1/3, Error ellipse: s-maj=12.3km s-min=11.7km az=68.0*
DDA ***13*** *21:43:31.4±0.0, 35°.68N×32°.55E, h30km±1km, MW4.0*
GII ***13*** *21:43:34.3±0.5, 35°.41N×32°.56E, h60km, mb4.2/8, MD4.0/9, Mm3.8/5*
GRAL ***13*** *21:43:35.6±1.1, 35°.01N×32°.41E, h47km±24km, MD4.2*

ISC 13 21:43:31.6±0.5, 35°.56N±0°.02×32°.40E±0°.02, h81km±5km, n363, σ1§35/444, mb4.3/28, 20C-3D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alefka**	**0.43**	**157**	↑*e*P	**Pn**	**21 43 44.6**	**-0.4**
ALFC				S	**Sn**	**21 43 53.6**	**-1.2**
ALFC				AML	AML	21 43 54.8	
	146nm,0.2s						
ALFC				AML	AML	21 43 54.8	
	146nm,0.2s						
AKDN	**Akdeniz- Kıbrı**	**0.53**	**119**	Pg	**Pn**	**21 43 46.1**	**+0.4**
AKDN				Sg	**Sn**	**21 43 56.5**	**+0.3**
AKMS	**Akamas**	**0.54**	**185**	↑*e*P	**Pn**	**21 43 46.3**	**+0.5**
AKMS				S	**Sn**	**21 43 56.9**	**+0.6**
AKMS				AML	AML

32nm,0.3s
MVOU AML AML 21 44 07.2
32nm,0.3s
MVOU AML AML 21 44 15.3
24nm,0.5s
MVOU AML AML 21 44 15.3
24nm,0.5s
TEPK Tepekoy-MERSIN 1.15 54 Pg **Pn 21 43 51.7 -0.8**
YESI Yesilovacik-Me 1.20 57 Pn **Pn 21 43 52.3 -0.7**
TISA Tisan-Mersin 1.20 60 Pn **Pn 21 43 52.1 -1.0**
KARG Kargicak-Mersi 1.25 58 Pn **Pn 21 43 54.1 +0.4**
KARG Sn **Sn 21 44 09.3 -1.0**
IKL Isikli 1.25 57 Pn **Pn 21 43 53.1 -0.6**
IKL Sn **Sn 21 44 09.3 -1.1**
EREN Erenkoy 1.45 91 Pn **Pn 21 43 56.0 -0.2**
EREN Sn **Sn 21 44 14.1 -0.7**
PARAL Paralimni 1.46 112 P **Pn 21 43 57.5 +1.1**
PARAL S **Sn 21 44 15.1 0.0**
PARAL AML AML 21 44 20.8
21nm,0.4s
PARAL AML AML 21 44 20.8
21nm,0.4s
PARAL AML AML 21 44 22.2
29nm,0.5s
PARAL AML AML 21 44 22.2
29nm,0.5s
SILI Silifke-Mersin 1.48 56 Pn **Pn 21 43 56.5 -0.1**
SILI Sn **Sn 21 44 14.4 -1.2**
KEPZ Antalya-Kepez 1.49 335 P **Pn 21 43 57.4 +0.6**
KEPZ S **Sn 21 44 16.9 +1.1**
KEPZ *i* AML AML 21 44 17.0
comp=E,3µm,0.7s
KEPZ *i* AML AML 21 44 21.0
comp=N,2µm,0.7s
KIZK Mersin 1.69 56 Pn **Pn 21 43 59.2 -0.2**
KIZK Sn **Sn 21 44 19.3 -1.2**
KIZK Mersin 1.69 56 P **Pn 21 43 59.3 0.0**
KIZK S **Sn 21 44 19.6 -0.8**
KIZK *i* AML AML 21 44 21.0
comp=N,1µm,0.2s
KIZK *i* AML AML 21 44 22.0
comp=E,2µm,0.3s
KKBE Karaman, Kazim 1.72 15 P **Pn 21 44 00.4 +0.6**
KKBE S **Sn 21 44 21.6 +0.3**
KKBE *i* AML AML 21 44 29.0
comp=N,1µm,0.5s
KKBE *i* AML AML 21 44 29.0
comp=E,1µm,0.4s
ANTB Antalya 1.94 314 Pn **Pn 21 44 02.8 +0.1**
SEDI Konya, Seydise 1.96 345 P **Pn 21 44 04.5 +1.5**
SEDI S **Sn 21 44 29.6 +2.6**
SEDI *i* AML AML 21 44 31.0
comp=N,963nm,0.4s
SEDI *i* AML AML 21 44 32.0
comp=E,1µm,0.7s
KORT Korkueli 2.19 312 Pn **Pn 21 44 06.5 +0.3**
KMER Konya-Meram 2.21 359 P **Pn 21 44 07.2 +0.8**
KMER S **Sn 21 44 33.9 +1.0**
KMER *i* AML AML 21 44 35.0
comp=N,950nm,0.6s
KMER *i* AML AML 21 44 35.0
comp=E,1µm,0.5s
OSC1 CSNet OBS 1 2.25 205 P **Pn 21 44 07.3 +0.5**
OSC1 S **Sn 21 44 33.2 -0.5**
OSC1 AML AML 21 44 39.4
1.9nm,0.3s
OSC1 AML AML 21 44 39.4
1.9nm,0.3s
KERG Konya-Eregli 2.32 36 P **Pn 21 44 08.5 +0.6**
KERG S **Sn 21 44 35.6 0.0**
KERG *i* AML AML 21 44 37.0
comp=N,2µm,0.5s
KERG *i* AML AML 21 44 37.0
comp=E,2µm,0.3s
ELL Elmali 2.34 301 **Pn 21 44 08.7 +0.6**
ELL Elmali 2.34 301 Pn **Pn 21 44 08.9 +0.8**
ELL Elmali 2.34 301 P **Pn 21 44 08.9 +0.8**
ELL S **Sn 21 44 37.8 +1.7**
ELL Elmali 2.34 301 P **Pn 21 44 08.7 +0.6**
KSL Kastellorizon 2.36 285 P **Pn 21 44 08.0 -0.3**
KSL S **Sn 21 44 32.7 -3.7**
KSL Kastellorizon 2.36 285 P **Pn 21 44 08.1 -0.1**
KSL S **Sn 21 44 35.4 -1.0**
AKAS Kas 2.36 287 Pn **Pn 21 44 08.2 -0.3**
AKAS Kas 2.36 287 Pn **Pn 21 44 09.3 +0.8**
KONT Konya--Tatoy 2.38 359 Pn **Pn 21 44 09.7 +1.1**
BCK Bucak 2.39 323 Pn **Pn 21 44 09.8 +1.0**
DED Mersin 2.40 53 P **Pn 21 44 08.7 -0.1**
DED S **Sn 21 44 36.6 -0.7**
DED *i* AML AML 21 44 44.0
comp=N,374nm,0.5s
DED *i* AML AML 21 44 49.0
comp=E,390nm,0.4s
YESY Yesilyurt 2.47 26 Pn **Pn 21 44 10.3 +0.4**
LADK Ladik-KONYA 2.64 359 Pn **Pn 21 44 12.7 +0.6**
ISP Isparta 2.72 327 Pn **Pn 21 44 13.7 +0.6**
ISP Isparta 2.72 327 Pn **Pn 21 44 13.8 +0.6**
ISP Isparta 2.72 327 *i* P **Pn 21 44 13.5 +0.3**
KARA Karaisali 2.74 51 Pn **Pn 21 44 13.8 +0.4**
CAME Cameli-Denizli 2.86 300 Pn **Pn 21 44 16.1 +1.0**
FETY Fethiye 2.89 293 Pn **Pn 21 44 16.2 +0.8**
BASM Basmaki-Afyon 3.02 322 Pn **Pn 21 44 18.1 +0.9**
YAYL Yayladag 3.05 80 Pn **Pn 21 44 17.0 -0.7**
CEYT Ceyhan 3.07 61 Pn **Pn 21 44 16.9 -0.9**
GULA Gulagac 3.15 27 Pn **Pn 21 44 19.1 +0.1**
BHL Bhannes 3.15 121 *e*P **Pn 21 44 17.9 -1.2**
BHL *e*S **Sn 21 44 49.9 -5.8**
HWQ Hawqa 3.18 113 *e*P **Pn 21 44 19.5 0.0**
HWQ *e*S **Sn 21 44 52.8 -3.7**
DQRL Deir Qamar 3.20 124 *e*P **Pn 21 44 18.4 -1.4**
DQRL *e*S **Sn 21 44 50.1 -6.9**
ZAHL Zahle 3.34 120 *e*P **Pn 21 44 21.2 -0.4**
ZAHL *e*S **Sn 21 44 55.2 -5.1**
KOZT Kozan 3.36 54 Pn **Pn 21 44 20.9 -0.9**
HNTI Hanita 3.37 136 Pn **Pn 21 44 21.6 -0.4**
HNTI Sn **Sn 21 44 59.1 -1.8**
HNTI Hanita 3.37 136 P **Pn 21 44 21.7 -0.3**
RCY Rachaya 3.50 125 *e*P **Pn 21 44 23.6 -0.3**
RCY *e*S **Sn 21 44 57.5 -6.8**
ARG Arkhangelos 3.53 282 **Pn 21 44 24.1 0.0**
ARG Sn **Sn 21 45 02.4 -2.3**
ARG Arkhangelos 3.53 282 P **Pn 21 44 24.0 0.0**
ARG S **Sn 21 45 01.7 -3.0**
ARG Arkhangelos 3.53 282 P **Pn 21 44 24.0 0.0**
ARG S **Sn 21 45 02.2 -2.5**
MMA0B Mount Meron ar 3.55 135 Pn **Pn 21 44 23.9 -0.6**
MMA0B Sn **Sn 21 45 03.2 -2.2**
MMAI Mount Meron Ar 3.55 135 P **Pn 21 44 24.2 -0.3**
342nm,0.2s,baz=301,slow=12,SNR=4084
MMAI S **Sn 21 45 03.1 -2.3**
76nm,0.3s,baz=16,slow=16,SNR=11
GEM Giv'at Ha'Em 3.57 130 Pn **Pn 21 44 24.5 -0.2**
GEM Sn **Sn 21 45 01.9 -3.9**
GEM Giv'at Ha'Em 3.57 130 P **Pn 21 44 24.7 0.0**
OFRI `Ofer 3.63 143 Pn **Pn 21 44 25.1 -0.4**
OFRI Sn **Sn 21 45 05.0 -2.3**
BLGI Bet Lehem HaGe 3.65 140 Pn **Pn 21 44 25.6 -0.1**
BLGI Sn **Sn 21 45 06.3 -1.3**
BLGI Bet Lehem HaGe 3.65 140 P **Pn 21 44 25.6 -0.1**
YER Yerkesik 3.67 297 P **Pn 21 44 26.6 +0.5**
YER S **Sn 21 45 06.0 -2.3**
SHMJ Saham 3.97 134 P **Pn 21 44 30.8 +0.7**
MMLI Mount Malkishu 4.00 140 Pn **Pn 21 44 31.0 +0.3**
MMLI Mount Malkishu 4.00 140 P **Pn 21 44 30.8 +0.3**
MMLI S **Sn 21 45 14.5 -1.7**
MMLI Mount Malkishu 4.00 140 Pn **Pn 21 44 30.7 +0.2**
MMLI Sn **Sn 21 45 14.4 -1.8**
DAT Datca 4.07 288 P **Pn 21 44 31.2 -0.3**
DAT S **Sn 21 45 15.5 -2.6**
SALP Salfit 4.19 145 Pn **Pn 21 44 33.1 0.0**
HMDT Nahal Hemdat 4.20 141 Pn **Pn 21 44 33.9 +0.7**
HMDT Sn **Sn 21 45 20.3 -0.7**
HMDT Nahal Hemdat 4.20 141 P **Pn 21 44 34.0 +0.7**
KULA Kula-Manisa 4.20 316 P **Pn 21 44 33.6 +0.3**
GAZ Gaziantep 4.21 66 Pn **Pn 21 44 32.1 -1.2**
GAZ Gaziantep 4.21 66 P **Pn 21 44 32.1 -1.2**
GAZ S **Sn 21 45 18.7 -2.7**
MANT Manisa 4.24 315 **Pn 21 44 33.8 -0.1**
MANT Sn **Sn 21 45 20.5 -1.9**
KARP Karpathos 4.27 271 Pn **Pn 21 44 34.0 -0.2**
KARP Sn **Sn 21 45 21.4 -1.4**
KARP Karpathos 4.27 271 P **Pn 21 44 34.2 +0.1**
KARP S **Sn 21 45 19.8 -3.0**
KARP Karpathos 4.27 271 P **Pn 21 44 34.2 +0.1**
KARP S **Sn 21 45 20.5 -2.2**
BR131 Keskin Array S 4.28 13 Pn **Pn 21 44 34.6 +0.2**
BR131 Sn **Sn 21 45 21.7 -1.4**
BR131 Keskin Array S 4.28 13 *i* P **Pn 21 44 34.5 +0.2**
BRTR Keskin Array B 4.28 13 P **Pn 21 44 34.8 +0.4**
16nm,0.6s,baz=194,slow=16,SNR=108
BRTR S **Sn 21 45 21.2 -1.9**
38nm,0.8s,baz=202,slow=26,SNR=5.1
BRTR LR LR 21 46 43.9
comp=Z,90nm,18.8s,baz=192,slow=46
BRTR Keskin Array B 4.28 13 Pn **Pn 21 44 34.6 +0.2**
BRTR Sn **Sn 21 45 21.7 -1.4**
BRTR Keskin Array B 4.28 13 *i* P **Pn 21 44 34.7 +0.4**
BRTR pmax pmax
comp=Z,13nm,0.4s
BR231 Keskin MP Arra 4.29 4 **Pn 21 44 34.9 +0.4**
BNN Bunyan 4.29 39 Pn **Pn 21 44 34.6 +0.1**
ANTO Ankara 4.32 4 **Pn 21 44 35.4 +0.6**
ANTO Ankara 4.32 4 P **Pn 21 44 35.4 +0.6**
BODT Bodrum 4.37 292 P **Pn 21 44 35.6 0.0**
BODT S **Sn 21 45 22.6 -2.7**
UJAP Al Uja 4.41 144 Pn **Pn 21 44 36.6 +0.6**
UJAP Al Uja 4.41 144 P **Pn 21 44 36.7 +0.7**
AMAZ Amatzia 4.53 152 Pn **Pn 21 44 38.1 +0.3**
AMAZ Sn **Sn 21 45 28.1 -1.1**
AMAZ Amatzia 4.53 152 P **Pn 21 44 38.3 +0.5**
BORA Eskisehir 4.58 341 Pn **Pn 21 44 39.0 +0.6**
HSUJ Al Zarqa 4.67 136 P **Pn 21 44 41.8 +2.1**
DSI Dead Sea 4.69 147 Pn **Pn 21 44 40.6 +0.7**
DSI Sn **Sn 21 45 31.9 -1.2**
YTIR Yattir 4.76 151 Pn **Pn 21 44 41.3 +0.4**
YTIR Sn **Sn 21 45 33.6 -1.3**
YTIR Yattir 4.76 151 P **Pn 21 44 41.6 +0.7**
WALJ Wala 4.90 143 P **Pn 21 44 43.4 +0.7**
MDBI Mazsada 4.90 149 Pn **Pn 21 44 43.5 +0.8**
MDBI Mazsada 4.90 149 P **Pn 21 44 43.6 +0.8**
MSBI Mazada 4.90 149 Pn **Pn 21 44 43.6 +0.8**
KZIT Kziot 4.93 160 Pn **Pn 21 44 43.6 +0.4**
KZIT Kziot 4.93 160 P **Pn 21 44 43.4 +0.2**
MDUB Mudurnu 5.00 349 Pn **Pn 21 44 45.0 +0.9**
GHAJ Ghor Haditha 5.00 147 **Pn 21 44 45.3 +1.2**
GHAJ Ghor Haditha 5.00 147 Pn **Pn 21 44 45.2 +1.1**
GHAJ Ghor Haditha 5.00 147 P **Pn 21 44 45.6 +1.5**
LISJ El Lisan 5.02 148 P **Pn 21 44 45.9 +1.6**
ASF Jabal al Asfar 5.04 131 P **Pn 21 44 46.1 +1.4**
comp=Z,43nm,0.3s,baz=300,slow=5.1,SNR=162
ASF S **Sn 21 45 40.3 -1.5**
comp=Z,77nm,0.4s,baz=252,slow=12,SNR=4.0
ASF Jabal al Asfar 5.04 131 P **Pn 21 44 46.0 +1.2**
DAMI2 DAM2 5.06 149 Pn **Pn 21 44 46.4 +1.5**
ZKR Zakros 5.07 267 P **Pn 21 44 45.1 0.0**
ZKR S **Sn 21 45 39.6 -2.7**
ZKR Zakros 5.07 267 P **Pn 21 44 45.0 -0.1**
ZKR S **Sn 21 45 39.2 -3.1**
STIA Sitia Lasithi 5.16 268 P **Pn 21 44 46.5 +0.2**
STIA S **Sn 21 45 42.2 -2.4**
KARJ KARJ 5.20 147 P Pn 21 44 36.9 -10
SWQJ Swaqa 5.28 144 P **Pn 21 44 47.7 -0.3**
BALB Balikesir 5.43 320 **Pn 21 44 50.6 +0.7**
FRMA Ierapetra Chan 5.48 266 P **Pn 21 44 49.2 -1.4**
FRMA S **Sn 21 45 46.9 -5.3**
ZFRI Zfri 5.51 154 Pn **Pn 21 44 51.1 0.0**
ZFRI Zfri 5.51 154 P **Pn 21 44 51.0 0.0**
HHAG Hagoal 5.59 183 P **Pn 21 44 52.8 +0.6**
baz=184
KOT Kottamia 5.63 185 P **Pn 21 44 52.7 -0.1**
baz=186
PRNI Paran 5.63 156 Pn **Pn 21 44 52.8 0.0**
PRNI Paran 5.63 156 P **Pn 21 44 52.9 +0.1**
APE Apeiranthos 5.75 287 P **Pn 21 44 54.5 +0.2**
APE Apeiranthos 5.75 287 *i* P **Pn 21 44 53.1 -1.2**
KRMI Paran Flat 5.77 159 Pn **Pn 21 44 54.3 -0.3**
KRMI Sn **Sn 21 45 58.3 -1.1**
CHOS Chios island 5.81 301 P **Pn 21 44 55.0 -0.2**
CHOS S **Sn 21 45 59.0 -1.4**
HRFI Mount Harif 5.94 157 Pn **Pn 21 44 56.9 0.0**
HRFI Sn **Sn 21 46 01.4 -2.2**
HRKL Herakleio 5.96 270 P **Pn 21 44 57.7 +0.5**
HRKL S **Sn 21 46 00.9 -3.1**
HSNJ Maan 5.97 151 P **Pn 21 44 59.1 +1.7**
HNAT Natroun 6.09 195 S **Sn 21 46 05.5 -1.9**
baz=195
MBRI Mt Berech 6.13 159 Pn **Pn 21 44 59.6 0.0**
MBRI Sn **Sn 21 46 07.4 -0.9**
MBRI Mt Berech 6.13 159 P **Pn 21 44 59.6 0.0**
IDI Anoyia 6.13 270 P **Pn 21 44 59.0 -0.6**
comp=Z,26nm,0.5s,baz=17,slow=4.4,SNR=58
IDI S **Sn 21 46 03.2 -5.2**
comp=Z,160nm,0.4s,baz=289,slow=20,SNR=8.5
ZNM Zenema 6.18 176 P **Pn 21 45 00.1 -0.1**
baz=176
AQBJ Aqaba 6.23 158 P **Pn 21 45 01.3 +0.4**
EIL Elat 6.25 159 P **Pn 21 45 01.2 -0.1**
comp=Z,133nm,0.4s,baz=326,slow=5.7,SNR=292
EIL S **Sn 21 46 07.7 -3.6**
comp=Z,90nm,0.4s,baz=302,slow=21,SNR=6.8
EIL Elat 6.25 159 Pn **Pn 21 45 01.1 -0.1**
EIL Sn **Sn 21 46 09.8 -1.5**
EIL Elat 6.25 159 P **Pn 21 45 01.2 -0.1**
BZK Bozkurt 6.51 11 Pn **Pn 21 45 03.8 -0.9**
HBST Basata 6.62 162 P **Pn 21 45 06.3 0.0**
baz=163
RYAN Fayoum 6.70 196 P **Pn 21 45 07.7 +0.3**
baz=197
NUB Nuweibaa 6.78 163 P **Pn 21 45 09.1 +0.6**
baz=164
GVD Gavdhos 6.84 266 P **Pn 21 45 09.1 -0.1**
GVD S **Sn 21 46 23.4 -2.2**
IMMV Iera Moni Meta 6.86 272 P **Pn 21 45 09.9 +0.4**
HRDS Abu Rudays 6.87 173 P **Pn 21 45 09.1 -0.5**
baz=174
NBNS Bani Suef 6.98 188 P **Pn 21 45 10.6 -0.5**
baz=189
MARD Mardin 6.98 73 Pn **Pn 21 45 11.4 +0.1**
HDHB Dhahab 7.07 164 P **Pn 21 45 12.1 -0.3**
baz=164
KNDR Kalaiochora Ch 7.12 270 P **Pn 21 45 14.1 +1.1**
HKAT Jabal Katrina 7.14 169 P **Pn 21 45 12.4 -1.1**
baz=169
SLUM Salum 7.24 238 P **Pn 21 45 14.1 -0.6**
baz=237
ALN Alexandroupoli 7.31 319 Pn **Pn 21 45 17.4 +1.9**
ALN Alexandroupoli 7.31 319 P **Pn 21 45 17.4 +1.9**
ANKY Antikythira Is 7.41 275 P **Pn 21 45 17.2 +0.3**
VLI Veliai 7.74 281 P **Pn 21 45 20.9 -0.6**
VLI S **Sn 21 46 45.6 -1.9**
RDO Rodhopi 7.75 318 Pn **Pn 21 45 22.9 +1.3**
HHRG Al Ghardaqah 8.37 173 P **Pn 21 45 32.1 +2.0**
baz=173
ITM Ithomi 8.60 284 Pn **Pn 21 45 33.5 +0.3**
LIT Litokhoron 9.05 303 Pn **Pn 21 45 40.5 +1.1**
LIT Litokhoron 9.05 303 P **Pn 21 45 40.5 +1.1**
ICOR Ion Corvin 9.25 339 ⇑P **Pn 21 45 44.7 +2.7**
TIRR Tirgusor 9.40 342 ⇑P **Pn 21 45 45.6 +1.7**
TIRR Tirgusor 9.40 342 Pn **Pn 21 45 45.7 +1.7**
TIRR Tirgusor 9.40 342 P **Pn 21 45 45.7 +1.7**
HARR Harsova 9.74 341 ⇑P **Pn 21 45 49.2 +0.5**
VTS Vitosha 10.02 317 ⇑P **Pn 21 45 53.4 +0.8**
VTS Vitosha 10.02 317 Pn **Pn 21 45 53.6 +1.0**
VTS Vitosha 10.02 317 P **Pn 21 45 53.6 +1.0**
FNA Florina 10.12 304 Pn **Pn 21 45 55.3 +1.3**
FNA Florina 10.12 304 P **Pn 21 45 55.3 +1.3**
AKH Akhalkalaki 10.47 53 Pn **Pn 21 46 01.4 +2.5**
AKH Akhalkalaki 10.47 53 P **Pn 21 46 01.4 +2.5**
NEHR Nehoiu 10.89 337 ⇑P **Pn 21 46 07.2 +2.8**
MLR Muntele Rosu 11.07 336 P **Pn 21 46 06.1 -0.8**
comp=Z,4.9nm,0.8s,baz=143,slow=7.5,SNR=5.3
MLR Muntele Rosu 11.07 336 Pn **Pn 21 46 07.3 +0.4**
MLR Muntele Rosu 11.07 336 P **Pn 21 46 07.3 +0.4**
NEY Neytrino 11.07 43 *i* P **Pn 21 46 06.5 -0.6**
VRI Vrincioaia 11.16 339 ⇑P **Pn 21 46 09.7 +1.7**
PLOR Plostina 11.16 339 ⇑P **Pn 21 46 10.2 +2.1**
COVR Voineasa-Covas 11.30 337 ⇑P **Pn 21 46 12.0 +2.1**
ARR Arges 11.44 331 ⇓P **Pn 21 46 12.0 +0.1**
KBZ Khabaz 11.49 42 P **Pn 21 46 13.4 +0.9**
comp=Z,5.0nm,1.0s,baz=217,slow=5.3,SNR=4.6
KBZ LR LR 21 51 49.7
comp=Z,61nm,18.1s,baz=246,slow=44
KBZ Khabaz 11.49 42 *i* P **Pn 21 46 14.1 +1.7**
KIV Kislovodsk 11.53 40 *e*P **Pn 21 46 14.5 +1.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,26nm,11.0s
MILM Milestii Mici 11.66 348 *e*P **Pn 21 46 16.0 +1.1**
comp=Z,5.0nm,0.2s
MILM Milestii Mici 11.66 348 *e*P **Pn 21 46 16.0 +1.1**
MILM pmax pmax
comp=Z,5.0nm,0.2s
DOPR Dopca 11.67 335 ⇑P **Pn 21 46 15.3 +0.3**
BZS Buzias 12.95 324 ⇑P **Pn 21 46 31.6 -0.7**
TIP Timpagrande 12.95 291 Pn **Pn 21 46 29.9 -2.5**
BURAR Bucovina Array 13.18 338 ⇑P **P 21 46 45.3 +2.9**
BURAR Bucovina Array 13.18 338 Pn **Pn 21 46 35.8 +0.4**
BURAR Bucovina Array 13.18 338 P **Pn 21 46 35.8 +0.4**
BUR08 Bucovina Ar. S 13.21 338 Pn **Pn 21 46 38.5 +2.6**
BMR Baia Mare 13.80 334 ⇓P **P 21 46 50.6 +1.5**
CUC Castrocucco 13.84 294 Pn **Pn 21 46 40.8 -3.3**
HORU Horodok 14.34 344 P **P 21 46 55.1 0.0**
VAE Valguarnera 14.59 283 P **Pn 21 46 53.0 -0.9**
comp=Z,18nm,1.0s,baz=314,slow=0.8,SNR=6.2
VAE S Sn 21 49 19.6 -15
comp=Z,5.0nm,0.3s,baz=20,slow=19,SNR=1.5
RAFF Raffo Rosso 14.62 282 Pn **Pn 21 46 51.5 -2.7**
UZH Uzhgorod 15.04 333 ⇓P **P 21 47 03.0 +0.1**
AKASG Malin Array Be 15.31 352 P **P 21 47 06.2 +0.4**
comp=Z,11nm,0.5s,baz=176,slow=9.6,SNR=51
AKASG Malin Array Be 15.31 352 **Pn 21 47 03.9 +1.1**
AKASG IAmb IAmb 21 47 07.4
comp=Z,56nm,1.2s
AKASG Malin Array Be 15.31 352 *i* P **Pn 21 47 04.3 +1.4**
AKASG pmax pmax
comp=Z,11nm,0.4s
AKBB Malin Array Si 15.31 352 **P 21 47 06.4 +0.5**
AKBB IAmb IAmb 21 47 07.8
comp=Z,25nm,0.7s
AKBB Malin Array Si 15.31 352 *c i* P **P 21 47 05.2 -0.7**
LVV L'vov 15.51 339 *e*P **Pn 21 47 06.1 +0.7**
VYHS Vyhne 16.36 326 *e*P **P 21 47 18.7 +1.2**
VYHS Vyhne 16.36 326 *e*P **P 21 47 18.7 +1.2**
MODS Modra-Piesok 17.00 324 *e*P **P 21 47 25.0 +0.4**
MODS Modra-Piesok 17.00 324 *e*P **P 21 47 25.0 +0.4**
JAVC Velka Javorina 17.15 325 *e*P **P 21 47 27.4 +1.0**
ARSA Arzberg 17.18 318 *e*P **P 21 47 27.2 +0.6**
comp=Z,5.1nm,0.8s,SNR=4.4
OJC Ojcow 17.28 332 **P 21 47 28.1 +0.4**
OJC Ojcow 17.28 332 P **P 21 47 28.1 +0.4**
OJC pmax pmax
comp=Z,7.0nm,0.7s
OBKA Obir 17.31 315 *i* P **P 21 47 29.5 +1.4**
comp=Z,6.1nm,0.6s
SABO M.te Sabotino 17.60 312 **Pn 21 47 30.9 -0.4**
SABO IAmb IAmb 21 47 36.0
comp=Z,162nm,1.5s
MORC Moravsky Berou 17.87 327 P **Pn 21 47 35.1 +0.4**
MORC Moravsky Berou 17.87 327 *e*P **Pn 21 47 35.0 +0.4**
MORC Moravsky Berou 17.87 327 P **Pn 21 47 35.1 +0.4**
MORC pmax pmax
comp=Z,4.0nm,0.9s
KRUC Moravsky 17.90 324 *e*P **P 21 47 34.2 -0.3**
MYKA Terra Mystica 17.90 314 *e*Pn **Pn 21 47 36.1 +1.1**
comp=Z,9.2nm,0.4s,SNR=5.9
VRAC Vranov 17.97 325 P **Pn 21 47 36.0 +0.2**
comp=Z,5.8nm,0.6s,baz=126,slow=11,SNR=8.8
VRAC Vranov 17.97 325 *e*P **Pn 21 47 35.9 +0.1**
MOA Molln 18.22 318 *i* Pn **Pn 21 47 39.1 +0.2**
comp=Z,1.5nm,0.4s,SNR=12
CLUD Cludinico 18.27 313 P **P 21 47 39.0 +0.4**
CLUD IAmb IAmb 21 47 44.2
comp=Z,13nm,0.8s
STAL STALIGIAL 18.27 312 P **Pn 21 47 39.6 +0.1**
STAL IAmb IAmb 21 47 51.3
comp=Z,28nm,1.3s
KBA Koelnbreinsper 18.31 315 *i* Pn **Pn 21 47 40.7 +0.5**
comp=Z,5.8nm,0.5s,SNR=6.4
CIMO Cimolais 18.46 312 P **Pn 21 47 41.9 +0.1**
CIMO IAmb IAmb 21 47 44.6
comp=Z,9.2nm,1.1s
TEOL Teolo 18.52 308 P **P 21 47 41.6 +0.3**
ZCCA Zocca 18.58 305 P **Pn 21 47 43.6 +0.4**
ABTA Abfaltersbach 18.63 313 *i* P **P 21 47 41.5 -1.1**
comp=Z,2.7nm,0.5s
CKRC Cesky Krumlov 18.79 320 *e*P **Pn 21 47 45.7 +0.1**
CTI Castel Tesino 18.83 310 P **P 21 47 45.5 +0.7**
CTI IAmb IAmb 21 47 48.8
comp=Z,22nm,0.9s
CTI Castel Tesino 18.83 310 P **P 21 47 45.5 +0.7**
CTI pmax pmax
comp=Z,22nm,0.9s
DPC Dobruska-Polom 18.83 327 *e*P **P 21 47 45.3 +0.5**
DPC Dobruska-Polom 18.83 327 *e*P **P 21 47 45.3 +0.5**
OSTC Ostas 19.03 327 *e*P **P 21 47 47.2 +0.3**
GEC2 GERESS Array S 19.12 320 P **P 21 47 48.4 +0.4**
GEC2 IAmb IAmb 21 47 54.4
comp=Z,11nm,0.8s
GERES GERESS Array B 19.12 320 P **P 21 47 48.4 +0.4**
comp=Z,2.4nm,0.4s,baz=127,slow=11,SNR=27
GERES GERESS Array B 19.12 320 P **P 21 47 48.6 +0.6**
GERES GERESS Array B 19.12 320 P **P 21 47 48.6 +0.6**
MNK Minsk 19.20 352 *i* P **P 21 47 47.7 -1.0**
comp=E,2.0nm,0.9s
MNK *i* P **P 21 47 47.7 -1.0**
comp=N,36nm,0.9s
MNK *i* P **P 21 47 47.7 -1.0**
comp=Z,34nm,1.1s,baz=169
MNK *i* pP **pP 21 48 03.4 -1.6**
MNK *i* S **S 21 51 23.2 +1.3**
MNK *i* sS **sS 21 51 45.3 -2.0**
MNK *i* LQ LQ 21 53 52.2
MNK *i* LR LR 21 55 12.4
MNK *i* LRM MLR 21 56 03.5
comp=N,2µm,18.5s
MNK *i* LRM MLR 21 56 18.1
comp=E,44nm,20.6s
MNK *i* LRM MLR 21 56 31.9
comp=Z,58nm,14.2s
MNK Minsk 19.20 352 *i* P **P 21 47 47.7 -1.0**
MNK *i* S **S 21 51 23.1 +1.3**
MNK pmax pmax
comp=N,36nm,0.9s
MNK pmax pmax
comp=Z,34nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,2µm,18.0s
MNK MLR MLR
comp=E,44nm,21.0s
MNK MLR MLR
comp=Z,58nm,14.0s
KHC Kasperske Hory 19.36 320 IAmb IAmb 21 47 52.0
comp=Z,7.8nm,0.5s
KHC Kasperske Hory 19.36 320 *e*P **P 21 47 50.6 +0.1**
KHC Kasperske Hory 19.36 320 *e*P **P 21 47 50.6 +0.1**
WTTA Wattenberg 19.41 313 *i* P **P 21 47 52.1 +0.8**
comp=Z,7.8nm,0.4s,SNR=17
PRU Pruhonice 19.41 323 *e*P **P 21 47 51.1 0.0**
PRU Pruhonice 19.41 323 *e*P **P 21 47 51.1 0.0**
WATA Walderalm 19.48 314 *i* P **P 21 47 52.1 +0.2**
comp=Z,6.8nm,0.4s,SNR=6.9
SQTA Sankt Quirin 19.64 313 *e*P **P 21 47 54.7 +0.9**
comp=Z,8.8nm,0.4s,SNR=13
NACGM Naroch 19.73 350 *e*P **P 21 47 54.3 -0.2**
comp=Z,55nm,0.9s,baz=167
MOTA Moosalm 19.76 313 *i* P **P 21 47 55.3 +0.2**
comp=Z,37nm,0.2s,SNR=13
PVCC Panska Ves 19.76 325 *e*P **P 21 47 55.1 +0.3**
PVCC Panska Ves 19.76 325 *e*P **P 21 47 55.1 +0.3**
OBN Obninsk 19.77 7 *i* P **P 21 47 54.7 -0.1**
OBN pmax pmax
comp=Z,26nm,1.6s
OBN MLR MLR
comp=Z,111nm,17.0s
FETA Feichten 19.84 312 *i* Pn **P 21 47 57.3 +1.4**
comp=Z,5.7nm,0.4s,SNR=8.6
FUORN Ofenpass-Fuorn 19.94 310 P **Pn 21 47 58.9 -0.6**
FUORN IAmb IAmb 21 48 02.3
comp=Z,14nm,0.8s
BELG Belogornoye 20.01 28 P **P 21 47 57.3 -0.2**
comp=Z,6.0nm,0.7s,baz=233,slow=10,SNR=1.5
RETA Reutte 20.04 313 *i* P **P 21 47 57.6 -0.3**
comp=Z,19nm,0.4s,SNR=11
IDID Didziasalis 20.14 351 *e*P **P 21 47 52.5 -6.3**
IIGN Ignalina 20.25 350 *e*P P 21 47 49.9 -10
DAVOX Davos/Dischmat 20.25 311 P **P 21 48 00.6 +0.2**

comp=Z,4.7nm,0.4s,baz=149,slow=14,SNR=21
comp=Z,4.7nm,0.4s
BRG Berggiesshubel 20.29 325 *i* P **P 21 48 00.7 +0.2**
BRG Amp 21 48 01.5
comp=Z,13nm,0.8s
BRG Berggiesshubel 20.29 325 *i* P **P 21 48 00.7 +0.2**
BRG pmax pmax
comp=Z,13nm,0.8s
DAVA Damuels 20.47 312 *i* P **P 21 48 02.3 -0.4**
comp=Z,13nm,0.3s,SNR=22
ISAL Salakas 20.48 350 *e*P **P 21 48 03.2 +0.7**
NKC Novy Kostel 20.61 322 *e*P **P 21 48 03.6 -0.5**
NKC Novy Kostel 20.61 322 *e*P **P 21 48 03.6 -0.5**
GKP Gorka Klasztor 20.68 334 *e*P **P 21 48 04.2 -0.5**
GEYT Alibeck 20.73 76 P **P 21 48 05.8 +0.4**
comp=Z,8.6nm,0.8s,baz=278,slow=11,SNR=14
comp=Z,8.6nm,0.8s
GEYT Alibeck 20.73 76 P **P 21 48 05.4 -0.1**
GYA0B ALIBECK ARRAY 20.73 76 P **P 21 48 03.6 -1.8**
GYA0B IAmb IAmb 21 48 10.5
comp=Z,8.6nm,0.8s
PABE Paberze 20.77 346 P **P 21 48 05.2 -0.4**
PABE Paberze 20.77 346 *e*P **P 21 48 05.4 -0.3**
CLL Collm 21.02 324 P **P 21 48 08.7 +0.3**
CLL Collm 21.02 324 *e*P **P 21 48 08.0 -0.4**
comp=Z,7.0nm,0.7s
CLL Collm 21.02 324 *e*P **P 21 48 08.0 -0.4**
CLL pmax pmax
comp=Z,7.0nm,0.7s
BNI Bardonecchia 21.71 304 P **P 21 48 17.5 +1.5**
BNI IAmb IAmb 21 48 17.8
comp=Z,24nm,1.5s
BNI Bardonecchia 21.71 304 P **P 21 48 17.5 +1.5**
BNI pmax pmax
comp=Z,24nm,1.5s
SENIN Lac Senin/Sane 21.72 307 P **P 21 48 15.7 -0.5**
BFO Black Forest 21.88 313 P **P 21 48 18.0 +0.4**
BFO IAmb IAmb 21 48 19.4
comp=Z,10nm,0.6s
BFO Black Forest 21.88 313 P **P 21 48 18.0 +0.4**
BFO pmax pmax
comp=Z,10.0nm,0.6s
ECH Echery 22.53 312 P **P 21 48 23.9 -0.7**
ECH IAmb IAmb 21 48 39.4
comp=Z,13nm,1.4s
ECH Echery 22.53 312 P **P 21 48 23.9 -0.7**
ECH pmax pmax
comp=Z,13nm,1.4s
BSD Bornholm Skovb 22.98 334 *e*P **P 21 48 26.2 -2.8**
VSU Vasula 23.22 352 *e*P **P 21 48 31.9 +0.5**
AKTO Aktyubinsk 23.76 43 P **P 21 48 36.7 +0.4**
comp=Z,1.6nm,0.6s,baz=222,slow=9.5,SNR=4.8
comp=Z,1.6nm,0.6s
MTSE Matsula 23.85 349 *e*P **P 21 48 37.1 +0.1**
ABKAR Akbulak array 24.35 47 P **P 21 48 42.5 +0.8**
HRA Herat 24.45 84 **P 21 48 42.6 -0.4**
MEF Metsahovi 25.21 351 *e*P **P 21 48 49.5 +0.1**
KLMR Klimovskoe 25.72 8 *e*P **P 21 48 53.5 -0.5**
KLMR AMP 21 48 54.7
comp=Z,14nm,0.7s
KLMR Klimovskoe 25.72 8 *e*P **P 21 48 53.5 -0.5**
KLMR pmax pmax
comp=Z,14nm,0.7s
FINES FINESS Array B 26.22 353 P **P 21 48 58.1 -0.2**
comp=Z,10nm,0.6s,baz=156,slow=11,SNR=107
comp=Z,10nm,0.6s
FINES FINESS Array B 26.22 353 *i* P **P 21 48 58.2 -0.2**
FINES pmax pmax
comp=Z,11nm,0.6s
FIA1 FINESS Array S 26.22 353 P **P 21 48 58.1 -0.3**
FIA1 IAmb IAmb 21 48 58.6
comp=Z,12nm,0.6s
HFS Hagfors 27.41 340 P **P 21 49 08.7 -0.5**
comp=Z,2.5nm,0.5s,baz=154,slow=11,SNR=11
comp=Z,2.5nm,0.5s
KONO Kongsberg 28.30 335 P **P 21 49 18.1 +1.0**
KONO Kongsberg 28.30 335 P **P 21 49 18.1 +1.0**
KONO pmax pmax
comp=Z,28nm,1.3s
KONO Kongsberg 28.30 335 *e*P **P 21 49 16.2 -0.9**
NC602 NORSAR Array S 28.52 339 P **P 21 49 20.7 +1.6**
NC602 IAmb IAmb 21 49 28.4
comp=Z,12nm,1.2s
NC602 NORSAR Array S 28.52 339 *e*P **P 21 49 19.8 +0.7**
NAO01 NORSAR Array S 28.81 338 P **P 21 49 20.8 -0.8**
NB201 NORSAR Array S 28.85 339 P **P 21 49 21.7 -0.3**
NB2 NORSAR Subarra 28.86 339 P **P 21 49 21.7 -0.5**
comp=Z,14nm,1.2s,baz=142,slow=9.3
NB2 NORSAR Subarra 28.86 339 P **P 21 49 21.7 -0.5**
slow=9.3
NOA NORSAR Array B 28.86 339 P **P 21 49 21.4 -0.8**
comp=Z,1.7nm,0.8s,baz=140,slow=9.3,SNR=3.3
comp=Z,1.7nm,0.8s
ESBB Sonseca Array 28.96 289 P **P 21 49 24.3 +1.0**
ESBB IAmb IAmb 21 49 24.8
comp=Z,11nm,1.1s
ESDC Sonseca Array 28.96 289 P **P 21 49 23.9 +0.6**
comp=Z,2.7nm,0.7s,baz=73,slow=9.4,SNR=27
comp=Z,2.7nm,0.7s
ESDC Sonseca Array 28.96 289 P **P 21 49 24.7 +1.3**
NBO00 NORSAR Array S 28.99 338 P **P 21 49 21.9 -1.3**
NBO00 IAmb IAmb 21 49 31.2
comp=Z,7.1nm,1.1s
PAB San Pablo 29.27 289 P **P 21 49 26.9 +0.8**
PAB IAmb IAmb 21 49 40.1
comp=Z,12nm,1.4s
PAB San Pablo 29.27 289 P **P 21 49 26.9 +0.8**
PAB pmax pmax
comp=Z,12nm,1.4s
ESK Eskdalemuir 31.35 320 P **P 21 49 42.9 -1.2**
ESK Eskdalemuir 31.35 320 P **P 21 49 42.9 -1.2**
ESK pmax pmax
comp=Z,47nm,1.4s
PVAQ Vaqueiros 32.14 285 P **P 21 49 52.6 +1.4**
PVAQ IAmb IAmb 21 50 07.7
comp=Z,18nm,1.5s
MOR8 Moi Rana 32.42 346 *e*P **P 21 49 53.3 -0.1**
FAUS Fauske 33.35 348 *e*P **P 21 50 01.1 -0.3**
STEI Steigen 33.86 348 *e*P **P 21 50 06.2 +0.4**
KTK1 Kautokeino 33.89 354 *e*P **P 21 50 05.8 -0.3**
ARA0 ARCESS Array S 34.24 356 *e*P **P 21 50 09.6 +0.4**
ARCES ARCESS Array B 34.24 356 P **P 21 50 08.7 -0.5**
comp=Z,2.7nm,0.7s,baz=174,slow=8.4,SNR=26
comp=Z,2.7nm,0.7s
ARCES ARCESS Array B 34.24 356 P **P 21 50 09.0 -0.2**
ARCES IAmb IAmb 21 50 25.7
comp=Z,6.6nm,1.2s
ARCES ARCESS Array B 34.24 356 P **P 21 50 09.0 -0.2**
ARCES pmax pmax
comp=Z,7.0nm,1.2s
TORD Torodi Ar. Bea 35.53 239 P **P 21 50 22.1 +1.2**
comp=Z,2.8nm,0.7s,baz=35,slow=8.1,SNR=6.8
comp=Z,2.8nm,0.7s
MAKZ Makanchi 38.38 57 P **P 21 50 45.4 +0.6**
MAKZ IAmb IAmb 21 51 02.2
comp=Z,3.6nm,1.5s
MAKZ Makanchi 38.38 57 P **P 21 50 45.4 +0.6**
MAKZ pmax pmax
comp=Z,4.0nm,1.5s
MK31 Makanchi Array 38.60 57 *i* P **P 21 50 46.2 -0.4**
MKAR Makanchi Array 38.60 57 P **P 21 50 46.2 -0.4**
comp=Z,0.3nm,0.6s,baz=262,slow=7.1,SNR=6.7
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 38.60 57 P **P 21 50 47.4 +0.8**
ZALV Zalesovo Beam 40.46 46 P **P 21 51 02.6 +0.8**
comp=Z,0.7nm,0.5s,baz=259,slow=8.1,SNR=3.9
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 40.46 46 *i* P **P 21 51 01.3 -0.6**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
DGZ Jazzator, Alta 41.95 53 *i* P **P 21 51 13.8 -0.6**
DGZ pmax pmax
comp=Z,3.0nm,1.9s
WMQ Urumqi 42.66 61 *e*P **P 21 51 22.9 +2.8**
SPB2 Spitsbergen Ar 43.27 355 P **P 21 51 24.4 0.0**
SPA0 Spitsbergen Ar 43.27 355 *e*P **P 21 51 24.9 +0.4**
SPITS Spitsbergen Ar 43.27 355 P **P 21 51 25.1 +0.6**
SPITS pmax pmax
comp=Z,65nm,1.4s
HHC Hu-ho-hao-te 60.43 59 *e*P **P 21 53 34.3 +1.6**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,300nm,5.7s
CMAR Chiang Mai Arr 60.65 88 P **P 21 53 33.1 -1.2**
comp=Z,0.3nm,0.3s,baz=301,slow=7.3,SNR=1.5
comp=Z,0.3nm,0.3s
BILL Bilibino 71.10 17 *i* P **P 21 54 38.8 -1.9**
BILL pmax pmax
comp=Z,2.0nm,1.2s
YKA Yellowknife Ar 78.74 345 P **P 21 55 24.2 -0.5**
comp=Z,0.3nm,0.5s,baz=28,slow=5.6,SNR=5.0
comp=Z,0.3nm,0.5s
YKA Yellowknife Ar 78.74 345 *i* P **P 21 55 24.6 -0.1**
LEM Lembang 82.06 104 LR LR 22 36 01.0
comp=Z,39nm,19.2s,baz=219,slow=38

IDC ***13*** *21:48:06.5±1.8, 2.67N×125.92E, h0km, mb3.9/4, mbtmp3.9/4, MS3.0/1, Error ellipse: s-maj=173.5km s-min=22.4km az=64.0*
NEIC ***13*** *21:48:13.3±1.3, 3.05N±0.10×126.8E±0.1, h58km±9km, mb4.1/17, Error ellipse: s-maj=18.0km s-min=12.4km az=56.0*
ISC 13 21:48:10.1±0.8, 3.13N±0.09×126.9E±0.1, h35km, n25, σ1§38/25, mb4.1/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TNTI	**Ternate**	**2.39**	**169**	Pn		**Pn**	**21 48 49.0**	**+2.1**
LUWI	**Luwuk**	**5.85**	**225**	Pn		**Pn**	**21 49 35.1**	**+0.7**
TOLI2	**Tolitoli**	**6.44**	**252**	Pn		**Pn**	**21 49 44.4**	**+2.0**
KNRA	**Kununurra**	**18.78**	**174**	P		**P**	**21 52 26.3**	**-0.2**
KNRA				IAmb	IAmb	IAmb	21 52 29.7	
	comp=Z,12nm,1.1s							
TPUB	**Ta-pu**	**20.95**	**344**	P		**P**	**21 52 50.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.13**	**183**	P		**P**	**21 52 53.6**	**+1.5**
WB0	**Warramunga Arr**	**23.92**	**162**	P		**P**	**21 53 20.7**	**-0.3**
WB0				IAmb	IAmb	IAmb	21 53 21.4	
	comp=Z,4.4nm,0.8s							
WRAB	**Tennant Creek**	**24.06**	**163**	P		**P**	**21 53 20.6**	**-1.7**
WRAB				IAmb	IAmb	IAmb	21 53 34.9	
	comp=Z,5.7nm,0.8s							
WRA	**Warramunga Arr**	**24.07**	**163**	P		**P**	**21 53 22.1**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=339,slow=11,SNR=9.6							
	comp=Z,2.4nm,0.7s							
WRA	**Warramunga Arr**	**24.07**	**163**	P		**P**	**21 53 22.6**	**+0.2**
WB2	**Warramunga Arr**	**24.07**	**163**	P		**P**	**21 53 22.0**	**-0.4**
WB2				IAmb	IAmb	IAmb	21 53 35.0	
	comp=Z,6.0nm,0.8s							
MBWA	**Marble Bar**	**25.14**	**196**	P		**P**	**21 53 28.0**	**-4.1**
MBWA				IAmb	IAmb	IAmb	21 53 39.5	
	comp=Z,8.0nm,0.9s							
PSA00	**Pilbara Seismi**	**25.51**	**195**	P		**P**	**21 53 35.9**	**+0.5**
PSA00				IAmb	IAmb	IAmb	21 53 47.7	
	comp=Z,14nm,1.1s							
ASAR	**Alice Springs**	**27.50**	**166**	P		**P**	**21 53 53.6**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=340,slow=7.5,SNR=5.2							
	comp=Z,0.3nm,0.7s							
FORT	**Forrest**	**33.74**	**178**	P		**P**	**21 54 48.0**	**-0.4**
STKA	**Stephens Creek**	**37.51**	**159**	P		**P**	**21 55 21.9**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=343,slow=12,SNR=4.7							
	comp=Z,4.3nm,0.8s							
STKA	**Stephens Creek**	**37.51**	**159**	P		**P**	**21 55 21.7**	**+0.9**
MK31	**Makanchi Array**	**58.14**	**325**	P		**P**	**21 58 01.0**	**+0.6**
MKAR	**Makanchi Array**	**58.14**	**325**	P		**P**	**21 58 00.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=119,slow=7.1,SNR=13							
MKAR				LR		LR	22 23 35.2	
	comp=Z,12nm,19.3s,baz=38,slow=37							
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**58.14**	**325**	P		**P**	**21 58 01.1**	**+0.7**
MAKZ	**Makanchi**	**58.33**	**325**	P		**P**	**21 58 02.2**	**+0.5**
MAKZ				IAmb	IAmb	IAmb	21 58 05.4	
	comp=Z,0.9nm,0.8s							
KURK	**Kurchatov**	**62.33**	**328**	P		**P**	**21 58 29.4**	**+0.4**
KURK				IAmb	IAmb	IAmb	21 58 32.4	
	comp=Z,1.7nm,0.8s							
GAR	**Garm**	**62.45**	**313**	P		**P**	**21 58 28.2**	**-2.0**
BFZ	**Birch Farm**	**62.65**	**139**	P		**P**	**21 58 30.3**	**-0.9**
TIXI	**Tiksi**	**68.43**	**1**	P		**P**	**21 59 09.5**	**+1.5**
TIXI				IAmb	IAmb	IAmb	21 59 27.5	
	comp=Z,1.5nm,1.1s							

IDC ***13*** *22:02:30.6±3.3, 10.65N×125.59E, h0km, mb3.3/4, mbtmp3.3/4, MS2.9/1, Error ellipse: s-maj=292.6km s-min=24.8km az=66.0*
MAN ***13*** *22:02:33.0, 10.29N×125.13E, h1km, mb4.4, ML3.2, MS3.0*
ISC 13 22:02:32.8±1.6, 10.31N±0.07×125.18E±0.04, h10km±11km, n16, σ1§48/23, mb3.4/4, 5C-6D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MSLP	**Maasin**	**0.36**	**241**	⇓*i*	P	**Pg**	**22 02 39.9**	**-0.1**
MSLP				*e*	S	**Sb**	**22 02 45.3**	**-1.7**
SCPH	**Surigao**	**0.60**	**150**	⇑*e*	P	**Pg**	**22 02 44.9**	**+0.4**
TABP	**Talibon, Bohol**	**0.86**	**256**	⇓*e*	P	**Pb**	**22 02 49.0**	**-0.8**
TABP				*e*	S	**Sn**	**22 03 05.2**	**+1.7**
GLSP	**General Luna,**	**1.07**	**119**	⇑*e*	P	**Pb**	**22 02 51.8**	**-1.6**
GLSP				*e*	S	**Sn**	**22 03 10.2**	**+1.6**
GHBP	**Garcia Hernand**	**1.08**	**232**	⇓*e*	P	**Pn**	**22 02 53.8**	**-0.2**
LLP	**Lapu-Lapu**	**1.20**	**271**	⇓*e*	P	**Pb**	**22 02 54.8**	**-0.7**
LLP				*e*	S	**Sn**	**22 03 10.6**	**-1.2**
TBP	**Tagbilaran**	**1.44**	**245**	⇓*e*	P	**Pb**	**22 02 59.1**	**-0.5**
TBP				*i*	S	**Sg**	**22 03 22.4**	**+3.4**
LSIP	**Lazi, Siquijor**	**1.93**	**233**	⇓*e*	P	**Pg**	**22 03 08.8**	**-0.9**
LSIP				*e*	S	**Sg**	**22 03 33.9**	**-0.8**
BIPH	**Bislig**	**2.41**	**151**	⇑*i*	P	**Pb**	**22 03 15.1**	**-1.2**
BIPH				*i*	S	**Sg**	**22 03 50.2**	**-0.1**
CNOP	**Candoni, Negro**	**2.55**	**259**	⇑*e*	P	**Pn**	**22 03 15.5**	**+1.4**
RCP	**Roxas**	**2.70**	**298**	⇑*e*	P	**Pn**	**22 03 17.8**	**+1.6**
RCP				*e*	S	**Sb**	**22 03 52.3**	**-2.0**
DAV	**Davao City (W)**	**3.24**	**173**	LR		LR	22 05 15.9	
	comp=Z,152nm,18.3s,baz=42,slow=46							
WRA	**Warramunga Arr**	**31.38**	**163**	P		**P**	**22 08 55.3**	**+1.3**
	0.2nm,0.2s,baz=344,slow=9.4,SNR=1.5							
	0.2nm,0.2s							
ASAR	**Alice Springs**	**34.83**	**166**	P		**P**	**22 09 25.4**	**+1.3**
	0.2nm,0.6s,baz=349,slow=7.4,SNR=5.8							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**51.35**	**323**	P		**P**	**22 11 36.0**	**-1.5**
	0.3nm,0.7s,baz=125,slow=7.2,SNR=1.6							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**55.44**	**326**	P		**P**	**22 12 07.0**	**-0.4**
	0.2nm,0.4s,baz=128,slow=6.9,SNR=1.8							
	0.2nm,0.4s							

IDC 13 22:39:18.0±6.3, 30.58S×179.01W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=251.1km s-min=58.8km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ASAR	**Alice Springs**	**42.23**	**268**	P		P	22 47 12.9	-0.2
	0.1nm,0.4s,baz=106,slow=7.0,SNR=1.6							
	0.1nm,0.4s							
WRA	**Warramunga Arr**	**43.23**	**273**	P		P	22 47 21.1	-0.2
	0.4nm,0.3s,baz=113,slow=8.0,SNR=9.6							
	0.4nm,0.3s							
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc		PKPbc	22 58 55.4	-0.5
	3.2nm,1.1s,baz=44,slow=4.2,SNR=6.5							

NNC ***13*** *22:44:30.2±0.7, 47.25N×75.47E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=7.4km s-min=4.5km az=100.0*
SOME ***13*** *22:44:34.8, 47.00N×75.62E, h0km*
ISC 13 22:44:32.0±0.9, 47.29N±0.04×75.41E±0.05, h10km, n38, σ1§31/49, 17C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BTLS	**Baital**	**2.44**	**203**	Pg		**Pb**	**22 45 16.7**	**+0.8**
	26nm,0.3s							
BTLS				Lg		Lg	22 45 46.4	
	50nm,0.2s							
BTLS	**Baital**	**2.44**	**203**	*e*Pg		**Pb**	**22 45 16.8**	**+0.8**
	26nm,0.3s							
BTLS				*e*Lg		Lg	22 45 45.8	
	50nm,0.2s							
TDK	**Taldyqorghan**	**3.09**	**137**	*e*Pg		**Pb**	**22 45 26.0**	**-1.1**
	23nm,0.2s							
TDK				*e*Lg		Lg	22 46 01.7	
	45nm,0.3s							
KUU	**Kurty**	**3.46**	**169**	Pg		**Pb**	**22 45 33.7**	**+0.4**
	9.0nm,0.3s							
KUU				Lg		Lg	22 46 15.0	
	30nm,0.2s							
KUU	**Kurty**	**3.46**	**169**	*e*Pg		**Pb**	**22 45 33.7**	**+0.4**
	9.0nm,0.3s							
KUU				*e*Lg		Lg	22 46 15.0	
	30nm,0.2s							
KRBS	**Karabastau**	**3.60**	**177**	Pg		**Pb**	**22 45 36.6**	**+0.9**
	2.6nm,0.2s							
KRBS				Lg		Lg	22 46 19.8	
	23nm,0.4s							
KRBS	**Karabastau**	**3.60**	**177**	*e*Pg		**Pb**	**22 45 36.6**	**+0.9**
	2.6nm,0.2s							
KRBS				*e*Lg		Lg	22 46 19.8	
	23nm,0.4s							
CHKK	**Chushkaly**	**3.61**	**162**	Pg		**Pb**	**22 45 36.1**	**+0.3**
	5.0nm,0.2s							
CHKK				Lg		Lg	22 46 19.1	
	48nm,0.4s							
CHKK	**Chushkaly**	**3.61**	**162**	*e*Pg		**Pb**	**22 45 36.3**	**+0.4**
	2.1nm,0.1s							
CHKK				*e*Lg		Lg	22 46 19.0	
	24nm,0.2s							
KTBS	**Karatobe**	**3.69**	**166**	Pg		**Pb**	**22 45 38.2**	**+0.9**
	10nm,0.3s							
KTBS				Lg		Lg	22 46 22.4	
	46nm,0.4s							
KTBS	**Karatobe**	**3.69**	**166**	*e*Pg		**Pb**	**22 45 38.1**	**+0.8**
	7.0nm,0.2s							
KTBS				*e*Lg		Lg	22 46 22.4	
	46nm,0.3s							
BLB	**Baldybastay**	**3.85**	**145**	Pg		**Pb**	**22 45 40.0**	**-0.1**
	15nm,0.5s							
BLB				Lg		Lg	22 46 26.2	
	24nm,0.6s							
SGDS	**Sogindy**	**3.88**	**188**	Pg		**Pb**	**22 45 42.5**	**+2.0**
	4.7nm,0.3s							
SGDS				Lg		Lg	22 46 29.8	
	7.8nm,0.6s							
KURBB	**Kurchatov Arra**	**3.92**	**30**	⇓Pg		**Pb**	**22 45 41.1**	**0.0**
	0.7nm,0.3s							
KURBB				⇑Sn		**Sn**	**22 46 18.6**	**+0.4**
	4.5nm,0.5s							
KURBB				⇑Lg		Lg	22 46 32.5	
	24nm,0.7s							
DGS	**Degeres**	**4.05**	**176**	Pg		**Pb**	**22 45 45.1**	**+1.5**
	16nm,0.3s							
DGS				Lg		Lg	22 46 35.0	
	22nm,0.6s							
DGS	**Degeres**	**4.05**	**176**	*e*Pg		**Pb**	**22 45 45.1**	**+1.5**
	7.0nm,0.1s							
DGS				*e*Lg		Lg	22 46 34.6	
	22nm,0.6s							
MTBS	**Maitube**	**4.22**	**170**	*e*Pg		**Pb**	**22 45 47.4**	**+1.0**
	9.6nm,0.1s							
MTBS				*e*Lg		Lg	22 46 38.3	
	22nm,0.2s							
KOTS	**Kotyrbulak**	**4.23**	**163**	Pg		**Pb**	**22 45 48.1**	**+1.6**
	8.1nm,0.4s							
KOTS				Lg		Lg	22 46 39.5	
	57nm,0.6s							
KOTS	**Kotyrbulak**	**4.23**	**163**	*e*Pg		**Pb**	**22 45 48.0**	**+1.4**
	4.4nm,0.2s							
KOTS				*e*Lg		Lg	22 46 40.2	
	48nm,0.3s							
DJR	**Jarkent**	**4.25**	**132**	Pg		**Pb**	**22 45 48.9**	**+1.9**
	1.7nm,0.3s							
DJR				Lg		Lg	22 46 41.0	
	11nm,0.6s							
DJR	**Jarkent**	**4.25**	**132**	*e*Pg		**Pb**	**22 45 48.9**	**+1.9**
	1.7nm,0.3s							
DJR				*e*Lg		Lg	22 46 41.0	
	11nm,0.6s							
KST	**Kastek**	**4.26**	**175**	*e*Pg		**Pb**	**22 45 48.2**	**+1.1**
	6.8nm,0.2s							
KST				*e*Lg		Lg	22 46 39.6	
	15nm,0.6s							
KURS	**Kuram**	**4.27**	**152**	Pg		**Pb**	**22 45 49.4**	**+2.3**
	4.9nm,0.7s							
KURS				Lg		Lg	22 46 42.1	
	11nm,0.8s							
KURS	**Kuram**	**4.27**	**152**	*e*Pg		**Pb**	**22 45 49.4**	**+2.3**
	4.9nm,0.7s							
KURS				*e*Lg		Lg	22 46 42.1	
	11nm,0.8s							
MDOK	**Medeo**	**4.28**	**164**	⇑Pn		**Pn**	**22 45 35.6**	**-1.8**
	22nm,1.4s							
MDOK				⇑Pg		**Pb**	**22 45 47.7**	**+0.3**
	24nm,1.5s							
MDOK				⇑Sn		**Sn**	**22 46 26.4**	**-1.1**
	23nm,1.5s							
MDOK				⇑Lg		Lg	22 46 43.2	
	23nm,0.7s							
MDOK	**Medeo**	**4.28**	**164**	*e*Pg		**Pb**	**22 45 48.6**	**+1.1**
	3.9nm,0.2s							
MDOK				*e*Lg		Lg	22 46 40.4	
	16nm,0.2s							
CHMS	**Chumysh**	**4.31**	**186**	⇑Pg		**Pb**	**22 45 48.1**	**+0.2**
	5.2nm,0.8s							
CHMS				⇓Sn		**Sn**	**22 46 26.1**	**-2.0**
	1.1nm,0.3s							
CHMS				⇓Lg		Lg	22 46 45.4	
	8.0nm,0.4s							
IZV	**Izvestkoviy**	**4.33**	**168**	Pg		**Pb**	**22 45 50.6**	**+2.2**
	3.5nm,0.5s							
IZV				Lg		Lg	22 46 43.9	
	15nm,0.6s							
IZV	**Izvestkoviy**	**4.33**	**168**	*e*Pg		**Pb**	**22 45 50.6**	**+2.2**
	3.5nm,0.5s							
IZV				*e*Lg		Lg	22 46 43.9	
	15nm,0.6s							
TKM2	**Tokmak 2**	**4.37**	**178**	⇑Pn		**Pn**	**22 45 37.8**	**-0.8**
	0.9nm,0.7s							
TKM2				⇑Pg		**Pb**	**22 45 48.9**	**-0.1**
	1.2nm,0.3s							
TKM2				⇑Sn		**Sn**	**22 46 29.4**	**-0.3**
	1.6nm,0.4s							
TKM2				⇑Lg		Lg	22 46 46.6	
	12nm,0.8s							
TNSS	**Tian-Shan**	**4.39**	**165**	*e*Pg		**Pb**	**22 45 51.4**	**+2.0**
	5.0nm,0.4s							
TNSS				*e*Lg		Lg	22 46 45.4	
	11nm,0.2s							
KPKS	**Kokpek**	**4.46**	**148**	*e*Pg		**Pb**	**22 45 51.8**	**+1.3**
	2.5nm,0.1s							
KPKS				*e*Lg		Lg	22 46 46.0	
	26nm,0.2s							
MAKZ	**Makanchi**	**4.51**	**94**	⇓Pn		**Pn**	**22 45 40.0**	**-0.4**
	2.1nm,1.0s							
MAKZ				⇑Pg		**Pb**	**22 45 51.1**	**-0.2**
	1.1nm,0.2s							
MAKZ				⇑Lg		Lg	22 46 51.2	
	4.8nm,0.5s							
MK31	**Makanchi Array**	**4.73**	**93**	Pn		**Pn**	**22 45 43.3**	**-0.1**
	0.1nm,0.1s,baz=92,slow=18,SNR=70							
MK31				⇓Pg		**Pb**	**22 45 56.1**	**+1.1**
	1.2nm,0.3s,baz=300,slow=8.6,SNR=21							
MK31				⇓Lg		Lg	22 46 58.8	
	6.4nm,0.5s							
SATY	**Saty**	**4.73**	**152**	*e*Pg		**Pb**	**22 45 57.4**	**+2.3**
	6.1nm,0.2s							
SATY				*e*Lg		Lg	22 46 55.4	
	12nm,0.2s							
KK31	**Karatay Array**	**5.43**	**221**	Pn		**Pn**	**22 45 52.6**	**-0.4**
	0.2nm,0.2s,baz=38,slow=13,SNR=10							
KK31				⇑Sn		**Sn**	**22 46 54.8**	**-0.7**
	0.6nm,0.3s,baz=42,slow=22							
KK31				⇓Lg		Lg	22 47 22.5	
	5.1nm,0.6s							
BVA0	**Borovoye Array**	**6.59**	**333**	Pn		**Pn**	**22 46 08.1**	**-0.7**
	2.3nm,1.1s,baz=144,slow=14,SNR=7.0							
BVA0				⇓Sn		**Sn**	**22 47 25.7**	**+1.7**
	4.1nm,1.3s							
BVA0				⇓Lg		Lg	22 47 58.6	
	11nm,1.3s							
BRVK	**Borovoye**	**6.65**	**332**	⇑Pn		**Pn**	**22 46 10.9**	**+1.2**
	2.1nm,1.1s							
BRVK				⇑Sn		**Sn**	**22 47 24.8**	**-0.6**
	0.8nm,0.4s							
BRVK				⇑Lg		Lg	22 48 00.3	
	7.6nm,0.8s							

TEH ***13*** *22:56:08.3, 32.73N×47.60E, h8km±49km, ML2.6*
ISN ***13*** *22:56:09.9±1.9, 32.74N×47.55E, h8km±16km, ML2.5*
ISC 13 22:56:08.5±0.9, 32.69N±0.05×47.58E±0.03, h10km, n16, σ1§10/20, Iran-Iraq border region

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

IDOB					Sg		**Sn**		**22 56 47.5 -0.7**
IBDR	**Badra**	**1.45**	**287**	*e*Pg		**Pb**		**22 56 35.0 -0.5**	
	baz=105								
IBDR				*e*Sg		**Sg**		**22 56 55.5 +0.4**	
IKOM	**Komasi**	**1.48**	**358**	Pg		**Pb**		**22 56 35.9 -0.3**	
RAFI	**Al-Rafai**	**1.57**	**232**	*e*Pn		**Pn**		**22 56 36.0 -0.5**	
RAFI				*e*Sn		**Sb**		**22 56 57.5 -0.1**	
RAFI				AML		AML		22 57 01.9	
	comp=E,64nm,0.2s								
KCHF	**Cheshme Sefid,**	**1.64**	**344**	Pg		**Pb**		**22 56 38.7 -0.3**	
KER	**Karmanshah**	**1.73**	**348**	Pg		**Pb**		**22 56 40.4 -0.1**	
HSAM	**Samen**	**1.74**	**29**	Pg		**Pb**		**22 56 40.6 -0.2**	
AMIS	**Naft Sefid**	**1.77**	**125**	Pg		**Pg**		**22 56 41.3 -1.3**	
IBZA	**Bozab**	**1.79**	**8**	Pg		**Pb**		**22 56 41.3 -0.2**	
IDHR	**Dehrash**	**2.23**	**334**	Pn		**Pn**		**22 56 46.7 +0.8**	
IPIR	**Pirpir**	**2.80**	**89**	Pn		**Pn**		**22 56 55.2 +1.6**	
SHK1	**Shahrekord**	**2.82**	**96**	Pn		**Pn**		**22 56 54.7 +0.8**	
QAMS	**Qamsar**	**3.37**	**71**	Pn		**Pn**		**22 57 03.2 +1.8**	
IKLH	**Kolahrood**	**3.42**	**78**	Pn		**Pn**		**22 57 04.2 +2.0**	

IDC ***13*** *23:00:01.0±0.9,32˚.70N×47˚.50E,h0km,mb4.0/17, mbtmp4.0/27,ML3.7/9,MS3.3/2,Error ellipse: s-maj=20.5km s-min=12.1km az=173.0*
MOS ***13*** *23:00:01.6±1.1,32˚.63N×47˚.47E,h21km,mb4.3/14,Error ellipse: s-maj=8.5km s-min=5.2km az=89.3*
ISN ***13*** *23:00:03.1±1.3,32˚.67N×47˚.63E,h16km,7km,ML3.8*
NEIC ***13*** *23:00:03.2±1.3,32˚.71N±0˚.09×47˚.50E±0˚.09,h10km±2km, mb4.1/25,Error ellipse: s-maj=15.5km s-min=12.2km az=210.0*
TEH ***13*** *23:00:03.0,32˚.75N×47˚.62E,h8km±40km,ML3.9*
OMAN ***13*** *23:00:15.1±0.1,31˚.67N×47˚.49E,h35km,mb4.5/9,ms2.6/2, Error ellipse: s-maj=1.7km s-min=1.5km az=259.0*

ISC 13 23:00:04.2±0.8,32˚.66N±0˚.03×47˚.54E±0˚.03,h24km±6km, n204,σ2§20/230,mb4.2/39,6C,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	**Dehloran**	**0.22**	**275**	Pg		**Pb**	**23 00 09.1**	**-1.0**
DHL1				Sg		**Sb**	**23 00 13.7**	**-0.4**
IKFM	**Kafar-mosalman**	**0.90**	**17**	Pg		**Pb**	**23 00 18.8**	**-2.4**
IKFM				Sg		**Sb**	**23 00 30.8**	**-1.9**
IDOB	**Doab**	**1.24**	**25**	Pg		**Pn**	**23 00 24.8**	**-1.5**
IDOB				Sg		**Sn**	**23 00 41.4**	**-1.0**
IBDR	**Badra**	**1.43**	**289**	*e*Pg		**Pb**	**23 00 30.5**	**+0.4**
IBDR				*e*Sg		**Sb**	**23 00 50.0**	**+2.1**
IBDR				AML	AML		23 00 56.0	
	comp=N,1μm,0.4s							
IBDR				AML	AML		23 00 59.4	
	comp=E,1μm,0.6s							
IKOM	**Komasi**	**1.51**	**359**	Pg		**Pn**	**23 00 30.6**	**+0.7**
IKOM				Sg		**Sn**	**23 00 50.1**	**+1.2**
RAFI	**Al-Rafai**	**1.53**	**233**	*e*Pn		**Pb**	**23 00 33.0**	**+1.1**
RAFI				*e*Sn		**Sb**	**23 00 54.0**	**+3.2**
RAFI				AML	AML		23 00 58.1	
	comp=E,1μm,0.3s							
AHWZ	**Ahwaz**	**1.63**	**144**	Pg		**Pb**	**23 00 33.7**	**+0.2**
AHWZ				Sg		**Sb**	**23 00 59.2**	**+5.6**
KCHF	**Cheshme Sefid,**	**1.66**	**346**	Pg		**Pn**	**23 00 33.5**	**+1.4**
KER	**Kermanshah**	**1.75**	**349**	Pg		**Pn**	**23 00 34.8**	**+1.6**
HSAM	**Samen**	**1.78**	**30**	Pg		**Pn**	**23 00 35.6**	**+1.8**
AMIS	**Naft Sefid**	**1.79**	**123**	Pg		**Pb**	**23 00 36.0**	**-0.3**
IBZA	**Bozab**	**1.82**	**8**	Pg		**Pn**	**23 00 36.2**	**+1.9**
IGHG	**Ghaleghazi**	**1.85**	**334**	Pn		**Pb**	**23 00 36.6**	**-1.0**
IDHR	**Dehrash**	**2.25**	**335**	Pn		**Pn**	**23 00 41.6**	**+1.5**
KHMZ	**Khomeyn**	**2.30**	**61**	Pn		**Pn**	**23 00 43.3**	**+2.5**
ILIN	**Lien**	**2.30**	**348**	Pn		**Pn**	**23 00 42.7**	**+1.8**
SNGE	**Sanandaj**	**2.43**	**356**	Pn		**Pn**	**23 00 44.8**	**+2.1**
HAGD	**Aghdareh**	**2.53**	**31**	Pn		**Pn**	**23 00 45.5**	**+1.4**
BHD	**Baghdad**	**2.72**	**284**	*e*Pn		**Pb**	**23 00 49.0**	**-3.3**
BHD				*e*Sn		**Sb**	**23 01 23.0**	**-2.2**
BHD				AML	AML		23 01 38.1	
	comp=E,703nm,0.6s							
ASAO	**Ashtian**	**2.80**	**47**	Pn		**Pn**	**23 00 50.2**	**+2.4**
IPIR	**Pirpir**	**2.83**	**89**	Pn		**Pn**	**23 00 50.7**	**+2.5**
SHK1	**Shahrekord**	**2.85**	**96**	Pn		**Pn**	**23 00 50.0**	**+1.6**
ABEH	**Behbahan**	**3.10**	**131**	Pn		**Pn**	**23 00 54.9**	**+3.3**
IBRJ	**Brojen**	**3.24**	**102**	Pn		**Pn**	**23 00 55.4**	**+1.5**
IRAZ	**Razeghan**	**3.38**	**35**	Pn		**Pn**	**23 00 57.1**	**+1.4**
QAMS	**Qamsar**	**3.41**	**71**	Pn		**Pn**	**23 00 58.3**	**+2.2**
IKLH	**Kolahrood**	**3.46**	**78**	Pn		**Pn**	**23 00 59.0**	**+2.2**
GHVR	**GHOM**	**3.62**	**59**	Pn		**Pn**	**23 01 01.1**	**+2.2**
IQOM	**Qom**	**3.66**	**53**	Pn		**Pn**	**23 01 00.6**	**+1.1**
IKRK	**Kirkuk**	**3.81**	**317**	*e*Pn		**Pn**	**23 01 03.0**	**+1.6**
IKRK				*e*Sn		**Sn**	**23 01 49.0**	**+3.6**
IGAR	**Gharneh**	**3.81**	**93**	Pn		**Pn**	**23 01 03.3**	**+1.6**
KLNJ	**Kolanjah**	**3.82**	**114**	Pn		**Pn**	**23 01 03.7**	**+1.8**
IMHD	**Mahdasht**	**3.98**	**40**	Pn		**Pn**	**23 01 05.2**	**+1.4**
IZEF	**Zefreh**	**4.04**	**85**	Pn		**Pn**	**23 01 06.5**	**+1.7**
KRSH	**Karshahi**	**4.06**	**70**	Pn		**Pn**	**23 01 06.4**	**+1.4**
ZNJK	**Zanjan**	**4.11**	**13**	Pn		**Pn**	**23 01 08.2**	**+2.5**
IRAM	**Ramesheh**	**4.19**	**100**	Pn		**Pn**	**23 01 08.0**	**+1.1**
IVRN	**Varamin**	**4.19**	**55**	Pn		**Pn**	**23 01 08.6**	**+1.9**
THKV	**Tehran--Karaj**	**4.26**	**40**	Pn		**Pn**	**23 01 10.1**	**+2.2**
ISFB	**Sefidab**	**4.27**	**66**	Pn		**Pn**	**23 01 09.1**	**+1.2**
IGZV	**Ghazvin**	**4.32**	**30**	Pn		**Pn**	**23 01 09.8**	**+1.1**
MAHB	**Mahabad**	**4.36**	**340**	Pn		**Pn**	**23 01 10.4**	**+1.2**
CHTH	**Charan**	**4.39**	**42**	Pn		**Pn**	**23 01 10.2**	**+0.5**
NASN	**Na'in**	**4.44**	**87**	Pn		**Pn**	**23 01 11.3**	**+0.9**
JIR1	**Jirandeh**	**4.45**	**24**	Pn		**Pn**	**23 01 12.0**	**+1.7**
QALM	**Alamut, Qazvin**	**4.55**	**33**	Pn		**Pn**	**23 01 13.7**	**+1.8**
IHSH	**Hashtrud**	**4.64**	**357**	Pn		**Pn**	**23 01 14.7**	**+1.6**
GIDE	**GILAN DEYLAMAN**	**4.68**	**24**	Pn		**Pn**	**23 01 15.7**	**+2.2**
DAMV	**Damavand**	**4.72**	**50**	Pn		**Pn**	**23 01 14.5**	**+0.3**
IDMV	**Damavand**	**4.73**	**51**	Pn		**Pn**	**23 01 15.3**	**+1.1**
KLST	**Kelardasht - M**	**4.82**	**36**	Pn		**Pn**	**23 01 17.6**	**+2.0**
LHJ2	**Lahijan - Gila**	**4.95**	**24**	Pn		**Pn**	**23 01 18.9**	**+1.9**
MZPU	**Pul - Mazandar**	**5.03**	**40**	Pn		**Pn**	**23 01 20.7**	**+2.4**
ISRB	**Sarab**	**5.15**	**1**	Pn		**Pn**	**23 01 21.8**	**+1.8**
ANAR	**Anarak**	**5.23**	**83**	Pn		**Pn**	**23 01 21.8**	**+0.7**
IFIR	**Firoozkooh**	**5.25**	**54**	Pn		**Pn**	**23 01 22.3**	**+0.9**
ILAS	**Lasjerd**	**5.25**	**57**	Pn		**Pn**	**23 01 22.5**	**+1.0**
ISAD	**Sadrabad**	**5.26**	**97**	Pn		**Pn**	**23 01 22.6**	**+1.1**
ISHM	**Shahmirzad**	**5.70**	**55**	Pn		**Pn**	**23 01 28.9**	**+1.2**
GAS1	**Astara - Iran**	**5.81**	**10**	Pn		**Pn**	**23 01 30.4**	**+1.5**
ICHK	**Chekchek**	**5.82**	**92**	Pn		**Pn**	**23 01 30.1**	**+0.8**
TVRZ	**Varzaqan**	**5.87**	**353**	Pn		**Pn**	**23 01 30.8**	**+0.9**
YZKH	**Yazd**	**5.96**	**91**	Pn		**Pn**	**23 01 32.1**	**+1.0**
IANJ	**Anjilo**	**5.99**	**60**	Pn		**Pn**	**23 01 32.7**	**+1.1**
LKRN	**Lenkeran, Azer**	**6.12**	**9**	P		**Pn**	**23 01 35.0**	**+1.9**
IMEH	**Mehriz**	**6.14**	**100**	Pn		**Pn**	**23 01 34.3**	**+0.6**
IGLG	**Ghaloghah**	**6.45**	**52**	Pn		**Pn**	**23 01 39.4**	**+1.5**
NAX	**Nakhchivan**	**6.71**	**346**	P		**Pn**	**23 01 43.2**	**+1.9**
IBAF	**Bafgh**	**6.89**	**97**	Pn		**Pn**	**23 01 45.0**	**+1.0**
MARD	**Mardin**	**7.23**	**312**	Pn		**Pn**	**23 01 48.3**	**-0.2**
MARD				Sn		**Sn**	**23 03 08.3**	**-1.7**
TNSJ	**Nastanj**	**7.70**	**78**	Pn		**Pn**	**23 01 56.4**	**+1.4**
TPRV	**Parvadeh(Tabas**	**7.71**	**85**	Pn		**Pn**	**23 01 56.8**	**+1.8**
GNI	**Garni**	**7.80**	**344**	Pn		**Pn**	**23 01 59.1**	**+2.7**
	comp=E,0.2nm,0.3s,baz=187,slow=23,SNR=1.4							
	comp=E,1.6nm,0.6s							
TKDS	**Koohdasht(Taba**	**8.09**	**81**	Pn		**Pn**	**23 02 01.9**	**+1.6**
TABS	**Tabas**	**8.09**	**80**	Pn		**Pn**	**23 02 01.7**	**+1.3**
MNGR	**Mingechevir, A**	**8.10**	**358**	P		**Pn**	**23 02 02.3**	**+2.0**
SEKA	**Sheki**	**8.54**	**358**	P		**Pn**	**23 02 08.2**	**+1.9**
ASF	**Jabal al Asfar**	**9.01**	**270**	Pn		**Pn**	**23 02 12.3**	**-0.6**
	comp=E,0.7nm,0.3s,baz=86,slow=8.8,SNR=7.7							
ASF				Sn		**Sn**	**23 03 50.3**	**-3.4**
	comp=E,0.6nm,0.3s,baz=284,slow=22,SNR=1.5							
ASF				Lg		Lg	23 04 45.3	
	comp=E,0.5nm,0.3s,baz=267,slow=20,SNR=1.5							
	comp=E,1.4nm,0.3s							
RAYN	**Ar Rayn**	**9.28**	**192**			**Pn**	**23 02 16.8**	**+0.2**
RAYN	**Ar Rayn**	**9.28**	**192**	P		**Pn**	**23 02 16.8**	**+0.2**
RAYN	**Ar Rayn**	**9.28**	**192**	Pn		**Pn**	**23 02 16.3**	**-0.3**
RAYN	**Ar Rayn**	**9.28**	**192**	P		**Pn**	**23 02 16.0**	**-0.6**
RAYN				S		Sn	23 03 48.0	-12
GEYT	**Alibeck**	**10.11**	**56**	Pn		**Pn**	**23 02 29.1**	**+1.2**
	comp=E,0.3nm,0.3s,baz=215,slow=12,SNR=2.2							
GEYT				LR		LR	23 06 51.4	
	comp=E,93nm,18.7s,baz=241,slow=41							
	comp=E,0.8nm,0.5s							
MMAI	**Mount Meron Ar**	**10.22**	**275**	Pn		**Pn**	**23 02 29.4**	**0.0**
	comp=E,0.2nm,0.3s,baz=80,slow=12,SNR=2.3							
	comp=E,3.2nm,1.0s							
MSFE	**Esma-Masafi**	**10.48**	**132**	Pn		**Pn**	**23 02 30.4**	**-2.7**
UOSS	**Minazif**	**10.81**	**133**	Pn		**Pn**	**23 02 38.4**	**+0.9**
UOSS	**Minazif**	**10.81**	**133**	Pn		**Pn**	**23 02 35.1**	**-2.4**
UOSS	**Minazif**	**10.81**	**133**	P		**Pn**	**23 02 39.3**	**+1.8**
UOSS				S		**Sn**	**23 04 32.0**	**-5.6**

HATD	**Hatta, Dubai**	**10.85**	**134**	Pn		**Pn**	**23 02 35.8**	**-2.3**	
HATD				Sn		**Sn**	**23 04 33.3**	**-5.4**	
HATD	**Hatta, Dubai**	**10.85**	**134**	P		**Pn**	**23 02 40.1**	**+2.0**	
HATD				S		**Sn**	**23 04 34.8**	**-4.0**	
ASHO	**Ashiyiah**	**10.91**	**135**	Pn		Pn	23 02 33.6	-5.3	
ASHO				Sn		**Sn**	**23 04 35.2**	**-5.1**	
ASHO	**Ashiyiah**	**10.91**	**135**	P		**Pn**	**23 02 39.9**	**+1.0**	
ASHO				S		**Sn**	**23 04 35.1**	**-5.2**	
MZR	**Muzera**	**10.96**	**150**	Pn		**Pn**	**23 02 38.9**	**-0.7**	
MZR	**Muzera**	**10.96**	**150**	P		**Pn**	**23 02 38.8**	**-0.9**	
MZR				S		**Sn**	**23 04 35.2**	**-6.3**	
EIL	**Elat**	**11.19**	**258**	Pn		**Pn**	**23 02 43.0**	**+0.3**	
	comp=E,0.2nm,0.3s,baz=48,slow=16,SNR=2.3								
EIL				Lg		Lg	23 05 57.2		
	comp=E,0.3nm,0.3s,baz=25,slow=19,SNR=1.8								
	comp=E,2.5nm,0.6s								
ALNE	**Al Ain**	**11.21**	**138**	Pn		**Pn**	**23 02 42.3**	**-0.8**	
ALNE	**Al Ain**	**11.21**	**138**	P		**Pn**	**23 02 43.6**	**+0.6**	
ALNE				S		**Sn**	**23 04 40.7**	**-7.0**	
ARQ	**Araqi**	**12.21**	**137**	P		**Pn**	**23 02 57.4**	**+0.7**	
	SNR=11								
ARQ				S		**Sn**	**23 05 08.6**	**-3.5**	
BSY	**Bisya**	**13.06**	**137**	P		**Pn**	**23 03 09.4**	**+1.1**	
BSY				S		**Sn**	**23 05 29.2**	**-3.8**	
BRTR	**Keskin Array B**	**13.25**	**306**	Pn		**Pn**	**23 03 11.7**	**+0.8**	
	comp=E,0.7nm,0.9s,baz=131,slow=11,SNR=3.0								
SMDO	**Samad**	**13.33**	**133**	P		**Pn**	**23 03 14.0**	**+1.9**	
SMDO				S		**Sn**	**23 05 35.1**	**-4.5**	
WSAR	**Wadi Sarin**	**13.56**	**131**	Pn		**Pn**	**23 03 15.1**	**-0.1**	
	comp=E,1.0nm,0.3s,baz=301,slow=11,SNR=12								
	comp=E,4.7nm,0.6s								
WBK	**Wadi Bani Khal**	**14.23**	**132**	P		**Pn**	**23 03 25.0**	**+0.6**	
JLN	**Jalan Bani Buh**	**14.85**	**132**	P		**Pn**	**23 03 34.0**	**+1.3**	
ELL	**Elmali**	**15.06**	**291**	P		**P**	**23 03 43.2**	**+2.5**	
ELL	**Elmali**	**15.06**	**291**	P		**P**	**23 03 43.2**	**+2.5**	
ELL				pmax		pmax			
	comp=Z,18nm,1.0s								
DOK	**Doka**	**15.19**	**155**	P		**Pn**	**23 03 34.6**	**-2.6**	
	SNR=7.0								
DOK				S		Sn	23 06 13.9	-11	
DQM	**DQM**	**15.52**	**142**	P		**Pn**	**23 03 39.7**	**-1.8**	
DQM				S		**Sn**	**23 06 24.6**	**-8.2**	
BORA	**Eskisehir**	**15.54**	**302**			**Pn**	**23 03 41.5**	**-0.3**	
WHFO	**Wadi Hawf**	**15.72**	**158**	P		**Pn**	**23 03 41.1**	**-3.1**	
	SNR=19								
WHFO				P		**Pn**	**23 03 41.1**	**-3.1**	
	SNR=19								
WHFO				S		**Sn**	**23 06 27.5**	**-10**	
WHFO				S		**Sn**	**23 06 27.5**	**-10**	
ABTO	**Aybut**	**16.11**	**160**	P		**Pn**	**23 03 47.4**	**-1.8**	
ABTO				S		Sn	23 06 35.8	-11	
RBK	**Rabkut**	**16.25**	**157**	P		**Pn**	**23 03 48.5**	**-2.5**	
	SNR=6.9								
RBK				S		Sn	23 06 39.5	-11	
DMTO	**DMTO**	**16.31**	**154**	P		**Pn**	**23 03 49.2**	**-2.6**	
	SNR=8.4								
DMTO				S		Sn	23 06 41.2	-11	
KBL	**Kabul**	**18.01**	**78**	P		**P**	**23 04 14.8**	**+1.3**	
KBL	**Kabul**	**18.01**	**78**	P		**P**	**23 04 14.8**	**+1.3**	
KBL				pmax		pmax			
	comp=Z,7.0nm,1.0s								
IDI	**Anoyia**	**18.96**	**284**	P		**Pn**	**23 04 24.5**	**-0.1**	
	comp=Z,0.4nm,0.3s,baz=44,slow=16,SNR=1.8								
	comp=Z,1.6nm,0.4s								
ABKAR	**Akbulak array**	**19.00**	**26**	P		**P**	**23 04 24.4**	**+0.4**	
VRH	**Novokhopyorsk**	**19.01**	**349**	*e*P		**P**	**23 04 22.8**	**-1.3**	
VRH				pmax		pmax			
	comp=Z,7.0nm,0.5s								
AKTO	**Aktyubinsk**	**19.38**	**21**	P		**P**	**23 04 28.1**	**-0.1**	
	comp=Z,0.9nm,0.3s,baz=207,slow=10,SNR=22								
	comp=Z,6.0nm,0.6s								
GAR	**Garm**	**19.50**	**65**	P		**P**	**23 04 30.1**	**+0.4**	
GAR				lAmb		lAmb	23 04 36.9		
	comp=Z,5.5nm,0.7s								
VSR	**Storozhevoye**	**19.53**	**344**	*e*P		**P**	**23 04 28.5**	**-1.3**	
VSR				pmax		pmax			
	comp=Z,9.0nm,0.5s								
BELG	**Belogornoye**	**19.72**	**0**	P		**P**	**23 04 31.4**	**-0.4**	
	comp=Z,0.9nm,0.3s,baz=112,slow=5.4,SNR=6.0								
	comp=Z,10.0nm,0.7s								
BELG	**Belogornoye**	**19.72**	**0**	*i* P		**P**	**23 04 31.8**	**0.0**	
BELG				pmax		pmax			
	comp=Z,2.0nm,0.9s								
VORR	**Voronezh**	**19.95**	**345**	P		**Pn**	**23 04 35.9**	**-0.2**	
VORR				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KK31	**Karatay Array**	**20.85**	**53**	P		**P**	**23 04 45.0**	**+0.7**	
KK31	**Karatay Array**	**20.85**	**53**	P		**P**	**23 04 45.0**	**+0.7**	
KK31				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KKAR	**Karatay Array**	**20.85**	**53**	P		**P**	**23 04 45.0**	**+0.7**	
KKAR	**Karatay Array**	**20.85**	**53**	P		**P**	**23 04 45.0**	**+0.7**	
LPSR	**Galich'ya Gora**	**20.88**	**345**	*e*P		**P**	**23 04 43.7**	**-0.7**	
LPSR				pmax		pmax			
	comp=Z,40nm,1.3s								
MLR	**Muntele Rosu**	**21.02**	**314**	P		**P**	**23 04 45.5**	**-0.7**	
	comp=Z,1.3nm,0.5s,baz=225,slow=10.0,SNR=2.0								
	comp=Z,1.3nm,0.5s								
TESR	**Tescani**	**21.14**	**317**	⇑P		**P**	**23 04 49.1**	**+1.7**	
SORM	**Soroca**	**21.18**	**322**	⇑P		**P**	**23 04 49.8**	**+2.1**	
LIT	**Litokhoron**	**21.45**	**297**	P		**P**	**23 04 50.6**	**-0.1**	
LIT	**Litokhoron**	**21.45**	**297**	P		**P**	**23 04 50.6**	**-0.1**	
LIT				pmax		pmax			
	comp=Z,21nm,1.2s								
NIL	**Nilore**	**21.54**	**80**	P		**P**	**23 04 52.6**	**+0.8**	
NIL				lAmb		lAmb	23 04 58.2		
	comp=Z,13nm,1.0s								
NIL	**Nilore**	**21.54**	**80**	P		**P**	**23 04 52.6**	**+0.8**	
NIL				pmax		pmax			
	comp=Z,13nm,1.0s								
DOPR	**Dopca**	**21.59**	**314**	⇑P		**P**	**23 04 54.5**	**+2.3**	
AKASG	**Malin Array Be**	**22.52**	**329**	P		**P**	**23 05 00.7**	**-1.3**	
	comp=Z,0.6nm,0.5s,baz=134,slow=9.5,SNR=8.5								
	comp=Z,0.6nm,0.5s								
AKASG	**Malin Array Be**	**22.52**	**329**	*i* P		**P**	**23 04 59.5**	**-2.6**	
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.6s								
AKBB	**Malin Array Si**	**22.52**	**329**	*i* P		**P**	**23 05 01.5**	**-0.6**	
AKBB				pmax		pmax			
	comp=Z,3.0nm,0.6s								
BURAR	**Bucovina Array**	**22.56**	**318**	⇑P		**P**	**23 05 07.3**	**+4.6**	
BURAR	**Bucovina Array**	**22.56**	**318**	P		**P**	**23 05 03.1**	**+0.4**	
BURAR	**Bucovina Array**	**22.56**	**318**	P		**P**	**23 05 03.9**	**+1.2**	
BUR08	**Bucovina Ar. S**	**22.59**	**318**	P		**P**	**23 05 03.4**	**+0.4**	
BUR08				lAmb		lAmb	23 05 12.1		
	comp=Z,3.2nm,1.1s								
OBN	**Obninsk**	**23.74**	**344**	*i* P		**P**	**23 05 12.2**	**-2.1**	
OBN				pmax		pmax			
	comp=Z,19nm,1.4s								
KSH	**Kashi**	**23.91**	**65**	P		**P**	**23 05 15.8**	**-0.6**	
KSH				sP		pP	23 05 22.6	-1.0	
KSH				pmax		pmax			
	comp=Z,3.0nm,0.7s								
SIRR	**Siria**	**24.03**	**312**	⇑P		**P**	**23 05 19.2**	**+2.0**	
ARU	**Arti**	**24.96**	**15**	P		**P**	**23 05 25.4**	**-0.2**	
	comp=Z,2.3nm,0.6s,baz=208,slow=9.9,SNR=5.4								
	comp=Z,2.3nm,0.6s								
ARU	**Arti**	**24.96**	**15**	P		**P**	**23 05 26.6**	**+1.0**	
ARU				lAmb		lAmb	23 05 29.0		
	comp=Z,2.8nm,0.7s								
ARU	**Arti**	**24.96**	**15**	*c i* P		**P**	**23 05 25.6**	**0.0**	
ARU				S		**S**	**23 09 50.1**	**+2.4**	
ARU				pmax		pmax			
	comp=Z,12nm,3.0s								
KIRV	**Kirov**	**25.96**	**2**	P		**P**	**23 05 35.0**	**+0.5**	
	comp=Z,8.8nm,0.6s,baz=211,slow=12,SNR=3.3								
	comp=Z,8.8nm,0.6s								
KIRV	**Kirov**	**25.96**	**2**	*i* P		**P**	**23 05 35.2**	**+0.7**	
BRVK	**Borovoye**	**26.13**	**32**	*i* P		**P**	**23 05 35.7**	**-0.5**	
BRVK				pmax		pmax			
	comp=Z,16nm,4.3s								
BVAR	**Borovoye Array**	**26.16**	**32**	P		**P**	**23 05 37.0**	**+0.5**	
	comp=Z,2.3nm,0.6s,baz=234,slow=7.7,SNR=11								
BVAR				PcP		**PcP**	**23 09 03.9**	**+0.7**	
	comp=Z,0.3nm,0.4s,baz=336,slow=3.2,SNR=2.5								
BVAR				ScP		**ScP**	**23 12 41.6**	**+0.3**	
	comp=Z,0.9nm,0.7s,baz=250,slow=4.3,SNR=4.8								
	comp=Z,2.3nm,0.6s								
LANS	**Liptovska Anna**	**26.64**	**316**	*e*P		**P**	**23 05 43.6**	**+2.6**	
LANS	**Liptovska Anna**	**26.64**	**316**	*e*P		**P**	**23 05 43.5**	**+2.6**	
KLMR	**Klimovskoe**	**28.69**	**352**	*e*P		**P**	**23 05 57.0**	**-2.0**	
KLMR				AMP			23 06 02.4		
	comp=Z,31nm,2.1s								
KLMR	**Klimovskoe**	**28.69**	**352**	*e*P		**P**	**23 05 57.0**	**-2.0**	
KLMR				pmax		pmax			

	comp=Z,31nm,2.1s								
KURBB	**Kurchatov Arra**	**29.00**	**43**	P		**P**	**23 06 02.9**	**+1.0**	
	comp=Z,2.0nm,0.7s,baz=247,slow=9.3,SNR=16								
	comp=Z,2.0nm,0.7s								
KURK	**Kurchatov**	**29.09**	**42**	P		**P**	**23 06 02.9**	**+0.2**	
SABO	**M.te Sabotino**	**29.19**	**307**	P		**P**	**23 06 02.8**	**-1.0**	
SABO				lAmb		lAmb	23 06 19.9		
	comp=Z,3.4nm,0.8s								
CESX	**Cesi**	**29.23**	**300**	P		**P**	**23 06 03.5**	**-0.6**	
CESX				lAmb		lAmb	23 06 07.1		
	comp=Z,5.7nm,0.9s								
MURB	**Monte Urbino**	**29.37**	**301**	P		**P**	**23 06 03.8**	**-1.6**	
MAKZ	**Makanchi**	**29.75**	**52**	P		**P**	**23 06 10.2**	**+1.6**	
MAKZ	**Makanchi**	**29.75**	**52**	P		**P**	**23 06 10.3**	**+1.6**	
MAKZ				pmax		pmax			
	comp=Z,1.0nm,1.1s								
MK31	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 06 10.9**	**+0.4**	
MK31				lAmb		lAmb	23 06 12.2		
	comp=Z,1.9nm,0.7s								
MK31	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 06 10.9**	**+0.4**	
MK31				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 06 11.6**	**+1.1**	
	comp=Z,1.6nm,0.6s,baz=247,slow=7.9,SNR=18								
	comp=Z,1.6nm,0.6s								
MKAR	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 06 10.4**	**-0.1**	
CIMO	**Cimolais**	**30.06**	**307**	P		**P**	**23 06 11.3**	**-0.2**	
CIMO				lAmb		lAmb	23 06 11.7		
	comp=Z,4.2nm,1.2s								
CTI	**Castel Tesino**	**30.53**	**307**	P		**P**	**23 06 15.3**	**-0.4**	
CTI				lAmb		lAmb	23 06 20.3		
	comp=Z,4.9nm,0.9s								
CTI	**Castel Tesino**	**30.53**	**307**	P		**P**	**23 06 15.3**	**-0.4**	
CTI				pmax		pmax			
	comp=Z,5.0nm,0.9s								
SQTA	**Sankt Quirin**	**31.11**	**309**	*i* P		**P**	**23 06 21.5**	**+0.7**	
	comp=Z,3.6nm,0.6s								
MOTA	**Moosalm**	**31.21**	**309**	*i* P		**P**	**23 06 22.2**	**+0.4**	
	comp=Z,3.4nm,0

BLJI Banyuglugur 16.84 232 P P 23 10 52.3 +10
JAGI Jajag, Banyuwa 16.88 228 P **Pn** **23 10 41.0 -0.4**
KNRA Kununurra 18.43 174 P **P** **23 10 59.1 -0.9**
UGM Wanagama 19.43 237 P **P** **23 11 10.0 -1.1**
TWG Pinlang 20.70 345 P **P** **23 11 22.0 -2.8**
TWG IAmb IAmb 23 11 27.2
comp=Z,75nm,1.4s
FITZ Fitzroy Crossi 20.77 183 P **P** **23 11 25.6 +0.1**
GUMO Guam 20.81 58 LR LR 23 18 46.2
comp=Z,88nm,20.0s,baz=234,slow=35
YULB Yu-li 21.19 346 P **P** **23 11 27.6 -2.5**
YULB IAmb IAmb 23 12 02.4
comp=Z,54nm,1.4s
TPUB Ta-pu 21.28 344 P **P** **23 11 29.1 -1.9**
TPUB IAmb IAmb 23 11 39.1
comp=Z,66nm,1.2s
LEM Lembang 21.43 244 LR LR 23 20 05.7
comp=Z,134nm,21.0s,baz=38,slow=38
SSLB Suanglung 21.66 345 P **P** **23 11 33.8 -1.3**
SSLB IAmb IAmb 23 11 41.0
comp=Z,32nm,1.2s
NACB Ninganchiao 21.87 347 P **P** **23 11 35.5 -1.9**
NACB IAmb IAmb 23 11 39.3
comp=Z,31nm,1.1s
YHNB Yeheng 22.40 347 P **P** **23 11 40.9 -2.3**
YHNB IAmb IAmb 23 11 51.2
comp=Z,71nm,1.3s
COEN Coen 23.21 136 P **P** **23 11 51.1 -0.4**
WB0 Warramunga Arr 23.59 162 P **P** **23 11 53.7 -1.5**
WB0 IAmb IAmb 23 11 56.1
comp=Z,20nm,0.7s
WRAB Tennant Creek 23.74 162 P **P** **23 11 55.4 -1.1**
WRAB IAmb IAmb 23 11 58.9
comp=Z,62nm,1.4s
WRA Warramunga Arr 23.74 162 P **P** **23 11 55.2 -1.3**
comp=Z,12nm,0.5s,baz=343,slow=11,SNR=122
WRA PcP **PcP** **23 15 39.9 +0.2**
comp=Z,0.5nm,0.4s,baz=342,slow=2.0,SNR=3.0
comp=Z,12nm,0.5s
WRA Warramunga Arr 23.74 162 P **P** **23 11 54.1 -2.5**
WB2 Warramunga Arr 23.75 162 P **P** **23 11 55.3 -1.3**
WB2 IAmb IAmb 23 11 58.7
comp=Z,78nm,1.4s
WR0 Warramunga Arr 23.82 162 P **P** **23 11 56.0 -1.2**
WR0 IAmb IAmb 23 11 58.9
comp=Z,22nm,1.0s
UBPT Khong Chiam 24.46 302 P **P** **23 12 02.5 -0.7**
UBPT IAmb IAmb 23 12 03.5
comp=Z,31nm,1.5s
MBWA Marble Bar 24.78 196 P **P** **23 12 05.6 -0.4**
MBWA IAmb IAmb 23 12 44.3
comp=Z,14nm,1.0s
PSA00 Pilbara Seismi 25.14 195 P **P** **23 12 09.5 +0.1**
PSA00 IAmb IAmb 23 12 12.1
comp=Z,44nm,1.4s
AS31 Alice Springs 27.16 166 P **P** **23 12 27.1 -0.5**
ASAR Alice Springs 27.16 166 P **P** **23 12 26.4 -1.2**
ASAR PcP **PcP** **23 15 48.0 +0.6**
comp=Z,1.0nm,0.7s,baz=354,slow=1.3,SNR=5.7
comp=Z,2.1nm,0.6s
ASAR Alice Springs 27.16 166 P **P** **23 12 26.8 -0.9**
PSI Prapat 27.88 271 P **P** **23 12 32.6 -1.7**
comp=Z,2.0nm,0.3s,baz=335,slow=19,SNR=2.3
comp=Z,2.0nm,0.3s
RPSI Rantau Prapat 27.89 271 P **P** **23 12 32.6 -1.6**
GSI Gunungsitoli 29.28 268 P **P** **23 12 46.7 +0.1**
GSI IAmb IAmb 23 12 49.7
comp=Z,6.9nm,0.6s
NJ2 Nanjing 30.08 346 *eP* **P** **23 12 54.8 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PHRA Phrae 30.39 303 P **P** **23 12 56.2 -0.1**
JNU Nakatsue 30.43 7 LR LR 23 24 31.4
comp=Z,45nm,21.3s,baz=194,slow=35
CRAI Chiangrai 31.11 306 P **P** **23 13 01.7 -1.0**
CMAR Chiang Mai Arr 31.46 302 P **P** **23 13 05.4 -0.4**
comp=Z,1.2nm,0.4s,baz=115,slow=7.0,SNR=16
CMAR LR LR 23 27 11.1
comp=Z,23nm,19.3s,baz=105,slow=39
comp=Z,1.2nm,0.4s
CHTO Chiang Mai 31.62 302 P **P** **23 13 06.9 -0.3**
KMI Kunming 32.14 316 ⇑P P 23 13 18.3 +6.4
KMI sP sP 23 13 36.0 +7.3
KMI pmax pmax
comp=Z,7.0nm,0.6s
MORW Morawa 33.31 197 P **P** **23 13 21.7 -0.2**
PZH PanZhiHua 33.71 317 P **P** **23 13 27.3 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.5s
KSRS Korea Array 34.53 2 P **P** **23 13 32.6 +0.2**
comp=Z,2.8nm,0.7s,baz=178,slow=9.0,SNR=7.9
comp=Z,2.8nm,0.7s
MJAR Matsushiro Arr 35.21 16 P **P** **23 13 38.2 0.0**
comp=Z,0.8nm,0.4s,baz=202,slow=8.6,SNR=2.5
MJAR LR LR 23 26 46.5
comp=Z,55nm,21.8s,baz=210,slow=34
comp=Z,0.8nm,0.4s
BBOO Buckleboo 36.45 167 P **P** **23 13 48.0 -0.9**
EIDS Eidsvold 36.53 141 P **P** **23 13 49.1 -0.6**
EIDS IAmb IAmb 23 13 51.4
comp=Z,7.4nm,1.0s
NWAO Narrogin (SRO) 36.65 194 P **P** **23 13 50.7 +0.1**
STKA Stephens Creek 37.20 159 P **P** **23 13 54.5 -0.8**
comp=Z,12nm,0.7s,baz=334,slow=8.4,SNR=18
STKA PcP **PcP** **23 16 15.2 +0.6**
comp=Z,4.4nm,0.8s,baz=4.4,slow=6.5,SNR=6.0
comp=Z,12nm,0.7s
STKA Stephens Creek 37.20 159 P **P** **23 13 54.9 -0.4**
BJT Baijiatuau 38.32 347 P **P** **23 14 05.9 +1.3**
BJT IAmb IAmb 23 14 11.0
comp=Z,5.7nm,0.7s
LZH Lanzhou 39.38 330 *eP* **P** **23 14 14.8 +1.0**
LZH pP sP 23 14 32.8 +2.1
LZH pmax pmax
comp=Z,12nm,1.4s
HHC Hu-ho-hao-te 40.34 342 *eP* **P** **23 14 24.8 +3.2**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,180nm,6.3s
SHL Shillong 40.54 307 P **P** **23 14 22.8 -0.8**
SHL IAmb IAmb 23 14 23.2
comp=Z,19nm,0.6s
ARMA Armidale 40.61 146 P **P** **23 14 23.8 -0.3**
ARMA IAmb IAmb 23 14 57.2
comp=Z,19nm,1.5s
USRK Ussuriysk Ar. 41.51 6 P **P** **23 14 31.4 +0.4**
comp=Z,4.6nm,0.8s,baz=160,slow=8.8,SNR=5.4
comp=Z,4.6nm,0.8s
XLT XiLinHaoTe 42.05 348 *eP* **P** **23 14 33.3 -2.3**
XLT pP pP 23 14 48.1 +0.7
XLT sP sP 23 14 54.8 +2.2
XLT pmax pmax
comp=Z,13nm,0.8s
XLT pmax pmax
comp=Z,130nm,5.3s
LSA Lhasa 43.16 312 P **P** **23 14 43.0 -2.3**
ASAJ Asahikawa 43.47 17 P **P** **23 14 47.8 +0.8**
comp=Z,5.4nm,0.7s,baz=203,slow=15,SNR=1.8
comp=Z,5.4nm,0.7s
TOO Toolangi 43.71 158 P **P** **23 14 47.8 -1.3**
TOO IAmb IAmb 23 15 22.6
comp=Z,34nm,1.4s
GTA Gaotai 43.97 330 *eP* **P** **23 14 51.3 0.0**
GTA pP sP 23 15 10.6 +2.3
GTA sP pwP 23 15 17.0 +11
GTA PcP **PcP** **23 16 38.0 +1.4**
GTA pmax pmax
comp=Z,2.0nm,0.9s
GOMU GeErMu 44.51 322 P **P** **23 14 56.3 +0.4**
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU pmax pmax
comp=Z,65nm,4.8s
PALK Pallekele 46.16 277 P **P** **23 15 07.9 -1.1**
PALK IAmb IAmb 23 15 33.9
comp=Z,26nm,1.2s
HEH HeiHe 47.31 0 *eP* **P** **23 15 17.3 0.0**
HEH pmax pmax
comp=Z,6.0nm,0.6s
HEH pmax pmax
comp=Z,220nm,5.5s
ULN Ulaanbaatar 48.06 342 P **P** **23 15 23.0 -0.4**
ULN IAmb IAmb 23 15 26.5
comp=Z,5.6nm,0.9s
SONM Songino Array 48.24 342 P **P** **23 15 24.8 +0.1**
comp=Z,3.2nm,0.7s,baz=159,slow=7.4,SNR=13
SONM PcP **PcP** **23 16 52.4 +1.1**
comp=Z,1.8nm,0.9s,baz=151,slow=3.4,SNR=3.7
comp=Z,3.2nm,0.7s
SONM Songino Array 48.24 342 P **P** **23 15 25.3 +0.5**
WMQ Urumqi 53.57 325 *eP* **P** **23 16 07.3 +2.5**
PEA0B Petropavlovsk- 56.27 22 P **P** **23 16 25.2 +1.1**
PETK Petropavlovsk- 56.27 22 P **P** **23 16 25.3 +1.2**
comp=Z,3.0nm,0.7s,baz=193,slow=4.0,SNR=4.8
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 58.40 326 P **P** **23 16 39.2 -0.1**
MK31 IAmb IAmb 23 16 40.7
comp=Z,4.6nm,0.7s
MKAR Makanchi Array 58.40 326 P **P** **23 16 38.9 -0.4**
comp=Z,5.8nm,0.6s,baz=121,slow=7.6,SNR=81
MKAR PcP **PcP** **23 17 29.7 -0.1**
comp=Z,0.8nm,0.6s,baz=109,slow=5.2,SNR=1.3
MKAR LR LR 23 44 22.0
comp=Z,29nm,18.3s,baz=116,slow=39
comp=Z,5.8nm,0.6s
MKAR Makanchi Array 58.40 326 P **P** **23 16 39.2 -0.1**
MAKZ Makanchi 58.59 325 P **P** **23 16 40.3 -0.3**
MAKZ IAmb IAmb 23 16 41.6
comp=Z,5.9nm,0.7s
NIL Nilore 58.60 308 P **P** **23 16 41.0 +0.1**
NIL IAmb IAmb 23 17 01.7
comp=Z,7.6nm,1.1s
KSH Kashi 58.80 315 P **P** **23 16 44.0 +1.7**
KSH sP sP 23 17 08.8 +9.2
KSH pmax pmax
comp=Z,6.0nm,0.9s
YAK Yakutsk 59.16 2 P **P** **23 16 45.2 +1.0**
WKZ Wanaka 60.46 147 P **P** **23 16 55.0 +1.5**
ZALV Zalesovo Beam 61.49 333 P **P** **23 16 59.3 -1.0**
comp=Z,2.1nm,0.6s,baz=127,slow=5.6,SNR=13
ZALV LR LR 23 43 50.9
comp=Z,41nm,19.2s,baz=82,slow=36
comp=Z,2.1nm,0.6s
RTZ Ruatahuna 61.86 137 P **P** **23 17 02.6 -0.5**
RTZ IAmb IAmb 23 17 19.2
comp=Z,19nm,1.4s
KBL Kabul 62.19 308 P **P** **23 17 05.2 -0.5**
KBL IAmb IAmb 23 17 06.1
comp=Z,4.2nm,0.7s
KURBB Kurchatov Arra 62.60 328 P **P** **23 17 07.4 -0.4**
comp=Z,7.2nm,0.7s,baz=124,slow=6.4,SNR=82
comp=Z,7.2nm,0.7s
KURK Kurchatov 62.60 328 P **P** **23 17 07.3 -0.6**
GAR Garm 62.65 313 P **P** **23 17 08.6 0.0**
CHGR Chuyangaron 63.39 312 P **P** **23 17 13.2 -0.3**
CHGR IAmb IAmb 23 17 15.2
comp=Z,12nm,1.2s
KK31 Karatay Array 64.01 317 P **P** **23 17 17.2 -0.1**
KK31 IAmb IAmb 23 17 19.3
comp=Z,3.5nm,0.8s
KKAR Karatay Array 64.01 317 P **P** **23 17 16.9 -0.4**
BVAR Borovoye Array 68.18 327 P **P** **23 17 43.6 -0.3**
comp=Z,2.0nm,0.5s,baz=104,slow=4.4,SNR=21
comp=Z,2.0nm,0.5s
BRVK Borovoye 68.25 327 P **P** **23 17 43.9 -0.4**
TIXI Tiksi 68.80 1 P **P** **23 17 47.1 -0.2**
NRIK Noril'sk 71.38 346 P **P** **23 18 03.5 +0.3**
comp=Z,4.2nm,0.6s,baz=130,slow=6.1,SNR=14
comp=Z,4.2nm,0.6s
NRIK Noril'sk 71.38 346 P **P** **23 18 03.7 +0.5**
NRIK IAmb IAmb 23 18 04.5
comp=Z,4.4nm,0.7s
GEYT Alibeck 71.58 309 P **P** **23 18 05.1 0.0**
comp=Z,2.3nm,0.8s,baz=127,slow=3.9,SNR=4.9
comp=Z,2.3nm,0.8s
ABKAR Akbulak array 72.96 321 P **P** **23 18 12.4 -0.7**
ABKAR Akbulak array 72.96 321 P **P** **23 18 12.4 -0.7**
ARU Arti 75.80 328 P **P** **23 18 28.8 -0.6**
RAYN Ar Rayn 80.96 293 P **P** **23 18 57.8 -0.9**
ABPO Ambohimpanom 81.09 250 P **P** **23 19 01.1 +1.5**
ABPO IAmb IAmb 23 19 34.3
comp=Z,10nm,1.4s
VNDA Vanda 82.47 173 P **P** **23 19 04.7 -0.7**
comp=Z,3.5nm,0.9s,baz=323,slow=6.6,SNR=7.8
comp=Z,3.5nm,0.9s
VNDA Vanda 82.47 173 P **P** **23 19 05.5 +0.1**
VNDA IAmb IAmb 23 19 24.6
comp=Z,11nm,1.4s
IMAR Indian Mountai 83.17 24 P **P** **23 19 11.1 +1.7**
AKH Akhalkalaki 83.19 311 P **P** **23 19 10.7 +0.5**
PPLA Purkeypile 83.43 27 P **P** **23 19 11.9 +1.0**
CAST Castle Rocks 83.54 27 P **P** **23 19 13.1 +1.8**
CAST IAmb IAmb 23 19 13.4
comp=Z,8.9nm,1.1s
ATD Arta Tunnel 83.57 281 LR LR 23 58 20.3
comp=Z,9.4nm,18.1s,baz=82,slow=37
SKT Skwentna 83.63 28 P **P** **23 19 12.5 +0.7**
SKT IAmb IAmb 23 19 12.9
comp=Z,8.6nm,1.0s
KBZ Khabaz 83.72 314 P **P** **23 19 12.5 -0.1**
comp=Z,2.7nm,1.0s,baz=180,slow=5.1,SNR=3.6
comp=Z,2.7nm,1.0s
GURO Guroymak-BITLI 84.22 308 P **P** **23 19 16.8 +1.2**
GURO IAmb IAmb 23 19 17.5
comp=Z,6.7nm,0.9s
KNK Knik Glacier 85.04 29 P **P** **23 19 20.1 +1.1**
SML Sawmill 85.12 28 P **P** **23 19 20.1 +0.7**
ILAR Eielson Array 85.92 25 P **P** **23 19 22.6 -0.6**
comp=Z,0.3nm,0.6s,baz=242,slow=5.5,SNR=5.1
comp=Z,0.3nm,0.6s
KLMR Klimovskoe 86.29 331 *eP* **P** **23 19 26.0 +0.9**
KLMR AMP 23 19 32.0
comp=Z,11nm,1.4s
BMAR Burnt Mountain 86.91 23 P **P** **23 19 29.5 +1.3**
BCAR Beaver Creek A 88.18 27 P **P** **23 19 35.1 +0.8**
BR131 Keskin Array S 90.72 310 P **P** **23 19 46.1 -0.7**
BR131 IAmb IAmb 23 19 47.9
comp=Z,6.9nm,1.1s
BRTR Keskin Array B 90.72 310 P **P** **23 19 46.2 -0.6**
comp=Z,2.0nm,0.8s,baz=113,slow=4.8,SNR=12
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 90.72 310 P **P** **23 19 46.7 -0.1**
CSS Mathiatis 91.31 305 P **P** **23 19 49.5 -0.1**
ARCES ARCESS Array B 91.38 340 P **P** **23 19 48.5 -0.6**
comp=Z,2.6nm,0.8s,baz=79,slow=6.3,SNR=5.6
comp=Z,2.6nm,0.8s
ARCES ARCESS Array B 91.38 340 P **P** **23 19 48.7 -0.4**
QSPA South Pole Qui 92.68 180 P **P** **23 19 54.3 -1.0**
AKASG Malin Array Be 92.70 321 P **P** **23 19 54.6 -0.9**
comp=Z,0.1nm,0.3s,baz=56,slow=4.1,SNR=1.5
comp=Z,0.1nm,0.3s
FINES FINESS Array B 92.72 332 P **P** **23 19 55.4 -0.1**
comp=Z,1.7nm,0.8s,baz=5.7,slow=3.8,SNR=4.7
FINES LR LR 00 06 24.3
comp=Z,40nm,19.1s,baz=242,slow=39
comp=Z,1.7nm,0.8s
BURAR Bucovina Array 95.79 318 **P** **23 20 11.5 +1.6**
ESDC Sonseca Array 118.25 318 PKP **PKPdf** **23 25 30.9 -0.2**
comp=Z,0.9nm,1.1s,baz=135,slow=0.4,SNR=2.6
TORD Torodi Ar. Bea 123.32 288 PKP **PKPdf** **23 25 41.4 0.0**
comp=Z,0.8nm,0.3s,baz=63,slow=2.3,SNR=2.1

*IDC **13** 23:13:22.5±1.6,5°.46S×151°.38E,h72km±14km,mb3.4/5, mbtmp3.8/6,Error ellipse: s-maj=65.7km s-min=13.8km az=126.0*

ISC 13 23:13:15.0±1.3,5°.7S±0°.1×151°.7E±0°.2,h10km,n7,σ2s22/9, mb3.8/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.43**	**13**	P	**Pg**	**23 13 43.3**	**+0.8**
KRVT	1μm,0.4s,baz=290,slow=0.9,SNR=102			S	**Sg**	**23 14 02.2**	**+1.1**
	895nm,0.3s,baz=160,slow=23,SNR=7.5						
PMG	**Port Moresby**	**5.82**	**231**	P	**Pn**	**23 14 44.1**	**+2.8**
PMG	17nm,0.4s,baz=42,slow=5.6,SNR=6.2			S	**Sn**	**23 15 46.1**	**-2.1**
	14nm,0.2s,baz=147,slow=1.3,SNR=1.5						
WRA	**Warramunga Arr**	**22.03**	**228**	P	**P**	**23 18 11.1**	**+1.1**
	0.7nm,0.4s,baz=53,slow=9.9,SNR=8.0						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**24.75**	**222**	P	**P**	**23 18 37.9**	**+0.9**
	1.8nm,0.9s,baz=58,slow=9.2,SNR=13						
	1.8nm,0.9s						
MKAR	**Makanchi Array**	**80.31**	**319**	P	**P**	**23 25 23.6**	**-2.7**
	0.4nm,0.8s,baz=98,slow=6.2,SNR=3.8						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**23 25 40.0**	**-2.3**
	0.6nm,0.7s,baz=247,slow=5.6,SNR=11						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**93.50**	**52**	P	**P**	**23 26 32.5**	**+0.9**
	0.2nm,0.3s,baz=263,slow=5.4,SNR=4.1						
	0.2nm,0.3s						

*KRNET **13** 23:16:37.9±0.1,42°.62N×77°.85E,h20km,mb2.9*
*SOME **13** 23:16:38.6,42°.63N×77°.83E,h15km*
*NNC **13** 23:16:38.3±0.4,42°.67N×77°.84E,h0km,mb2.9,mpv3.0, Error ellipse: s-maj=3.6km s-min=1.4km az=176.0*

ISC 13 23:16:38.4±1.1,42°.60N±0°.02×77°.82E±0°.02,h19km±3km, n65,σ1$43/128,10C-10D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANVS	**Anan'yevo**	**0.22**	**329**	⇓*e*P	**Pg**	**23 16 43.2**	**-0.8**
ANVS	baz=22			⇓*e*S	**Sg**	**23 16 46.6**	**-1.2**
	baz=22						
PRZ	**Przheval'sk**	**0.44**	**104**	⇓*e*P	**Pb**	**23 16 46.7**	**-1.1**
PRZ	baz=6.0			⇓*e*S	**Sb**	**23 16 52.4**	**-1.7**
	baz=6.0						
SATY	**Saty**	**0.63**	**43**	P	**Pg**	**23 16 49.8**	**-1.4**
SATY	4.1nm,0.1s			S	**Sg**	**23 16 57.5**	**-2.2**
	270nm,0.2s						
SATY	**Saty**	**0.63**	**43**	*e*P	**Pg**	**23 16 49.7**	**-1.4**
SATY	baz=43			*e*S	**Sg**	**23 16 57.5**	**-2.2**
	baz=43						
SATY	**Saty**	**0.63**	**43**	*e*P	**Pg**	**23 16 49.7**	**-1.4**
SATY	4.1nm,0.1s			*e*S	**Sg**	**23 16 57.5**	**-2.2**
	270nm,0.2s						
KDJ	**Kajisay**	**0.66**	**226**	⇑*e*P	**Pb**	**23 16 51.1**	**-0.3**
KDJ	baz=25			⇑*i*S	**Sg**	**23 17 00.8**	**+0.2**
	baz=25						
ZHN	**Zhinishke**	**0.73**	**38**	P	**Pb**	**23 16 51.4**	**-1.2**
ZHN	4.7nm,0.1s			S	**Sb**	**23 17 00.4**	**-1.8**
	105nm,0.2s						
ZHN	**Zhinishke**	**0.73**	**38**	*e*P	**Pb**	**23 16 51.4**	**-1.2**
ZHN	baz=38			*e*S	**Sb**	**23 17 00.4**	**-1.8**
	baz=38						
ZHN	**Zhinishke**	**0.73**	**38**	*e*P	**Pb**	**23 16 51.4**	**-1.2**
ZHN	4.7nm,0.1s			*e*S	**Sb**	**23 17 00.4**	**-1.8**
	196nm,0.1s						
TNSS	**Tian-Shan**	**0.78**	**305**	P	**Pb**	**23 16 53.0**	**-0.6**
TNSS	6.5nm,0.2s			S	**Sb**	**23 17 03.3**	**-0.6**
	20nm,0.3s						
TNSS	**Tian-Shan**	**0.78**	**305**	*e*P	**Pb**	**23 16 53.0**	**-0.6**
TNSS	baz=3.0			*e*S	**Sb**	**23 17 03.3**	**-0.6**
	baz=3.0						
TNSS	**Tian-Shan**	**0.78**	**305**	*e*P	**Pb**	**23 16 53.0**	**-0.6**
TNSS	6.5nm,0.2s			*e*S	**Sb**	**23 17 03.3**	**-0.6**
	28nm,0.1s						
MDOK	**Medeo**	**0.80**	**315**	⇓P	**Pb**	**23 16 53.1**	**-0.7**
MDOK	11nm,1.1s			Pg	**Pb**	**23 16 53.3**	**-0.5**
	7.1nm,0.2s						
MDOK				⇑S	**Sb**	**23 17 03.1**	**-1.2**
	30nm,0.4s						
MDOK				Lg	Lg	23 17 04.0	
	55nm,0.4s						
MDOK	**Medeo**	**0.80**	**315**	*e*P	**Pb**	**23 16 53.4**	**-0.5**
MDOK	baz=13			*e*S	**Sb**	**23 17 04.0**	**-0.4**
	baz=13						
MDOK	**Medeo**	**0.80**	**315**	*e*P	**Pb**	**23 16 53.4**	**-0.5**
MDOK	7.1nm,0.2s			*e*S	**Sb**	**23 17 03.9**	**-0.4**
	55nm,0.4s						
KOTS	**Kotyrbulak**	**0.82**	**321**	P	**Pb**	**23 16 53.8**	**-0.4**
KOTS	7.8nm,0.2s			S	**Sb**	**23 17 05.0**	**0.0**
	66nm,0.3s						
KOTS	**Kotyrbulak**	**0.82**	**321**	*e*P	**Pb**	**23 16 53.8**	**-0.4**
KOTS	baz=19			*e*S	**Sb**	**23 17 04.7**	**-0.2**
	baz=19						
KOTS	**Kotyrbulak**	**0.82**	**321**	*e*P	**Pb**	**23 16 53.8**	**-0.4**
KOTS	7.8nm,0.2s			*e*S	**Sb**	**23 17 04.8**	**-0.2**
	79nm,0.1s						
TARG	**Taragay, Kyrgy**	**0.87**	**181**	⇓*e*P	**Pg**	**23 16 54.7**	**-0.8**
TARG	baz=82			⇓*i*S	**Sg**	**23 17 06.7**	**-0.3**
	baz=82						
AAA	**Alma-Ata**	**0.90**	**313**	P	**Pg**	**23 16 55.8**	**-0.3**
AAA	34nm,0.1s			S	**Sg**	**23 17 08.2**	**+0.1**
	122nm,0.2s						
AAA	**Alma-Ata**	**0.90**	**313**	*e*P	**Pg**	**23 16 55.8**	**-0.3**
AAA	34nm,0.1s			*e*S	**Sg**	**23 17 08.2**	**+0.1**
	168nm,0.1s						
KURS	**Kuram**	**0.93**	**16**	P	**Pb**	**23 16 55.2**	**-0.7**
KURS	3.5nm,0.1s			S	**Sb**	**23 17 06.9**	**-1.0**
	5.5nm,0.4s						
KURS	**Kuram**	**0.93**	**16**	*e*P	**Pb**	**23 16 55.2**	**-0.7**
KURS	baz=15			*e*S	**Sb**	**23 17 06.9**	**-1.0**
	baz=15						
KURS	**Kuram**	**0.93**	**16**	*e*P	**Pb**	**23 16 55.2**	**-0.7**
KURS	3.5nm,0.1s			*e*S	**Sb**	**23 17 06.9**	**-1.0**
	5.5nm,0.2s						
IZV	**Izvestkoviy**	**0.99**	**297**	P	**Pb**	**23 16 56.9**	**-0.1**
IZV	5.9nm,0.2s			S	**Sb**	**23 17 10.3**	**+0.5**
	26nm,0.3s						
IZV	**Izvestkoviy**	**0.99**	**297**	*e*P	**Pb**	**23 16 56.9**	**-0.1**
IZV	baz=95			*e*S	**Sb**	**23 17 10.0**	**+0.2**
	baz=95						
IZV	**Izvestkoviy**	**0.99**	**297**	*e*P	**Pb**	**23 16 56.9**	**-0.1**
IZV	4.6nm,0.1s			*e*S	**Sb**	**23 17 10.0**	**+0.2**
	26nm,0.3s						
UZB	**Uzynbulak**	**1.04**	**58**	P	**Pb**	**23 16 56.6**	**-1.3**
UZB	3.6nm,0.2s			S	**Sb**	**23 17 09.4**	**-1.8**
	55nm,0.3s						
UZB	**Uzynbulak**	**1.04**	**58**	*e*P	**Pb**	**23 16 56.6**	**-1.3**
UZB	3.6nm,0.2s			*e*S	**Sb**	**23 17 09.4**	**-1.8**
	55nm,0.3s						
KPKS	**Kokpek**	**1.08**	**36**	P	**Pn**	**23 16 57.6**	**-0.9**
KPKS	20nm,0.1s			S	**Sb**	**23 17 11.2**	**-1.0**
	54nm,0.3s						
KPKS	**Kokpek**	**1.08**	**36**	*e*P	**Pn**	**23 16 57.6**	**-0.9**
KPKS	baz=36			*e*S	**Sb**	**23 17 11.2**	**-1.0**
	baz=36						
KPKS	**Kokpek**	**1.08**	**36**	*e*P	**Pn**	**23 16 57.6**	**-0.9**
KPKS	20nm,0.1s			*e*S	**Sb**	**23 17 11.2**	**-1.0**
	156nm,0.2s						
MTBS	**Maitube**	**1.15**	**298**	P	**Pb**	**23 16 59.6**	**-0.1**
MTBS	7.0nm,0.2s			S	**Sb**	**23 17 14.6**	**+0.2**
	18nm,0.3s						
MTBS	**Maitube**	**1.15**	**298**	*e*P	**Pb**	**23 16 59.7**	**-0.1**
MTBS	baz=97			*e*S	**Sb**	**23 17 14.6**	**+0.2**
	baz=97						
MTBS	**Maitube**	**1.15**	**298**	*e*P	**Pb**	**23 16 59.6**	**-0.1**
MTBS	7.0nm,0.2s			*e*S	**Sb**	**23 17 14.6**	**+0.2**
	18nm,0.3s						
ULHL	**Ulahol**	**1.22**	**254**	⇑*i*P	**Pb**	**23 17 00.8**	**-0.2**
ULHL	baz=53			⇑*i*S	**Sn**	**23 17 17.1**	**+0.4**
	baz=53						
SHLS	**Shalkode**	**1.33**	**65**	P	**Pg**	**23 17 07.2**	**+3.0**
SHLS	4.5nm,0.3s			S	**Sg**	**23 17 28.2**	**+6.6**
	147nm,0.3s						

SHLS	**Shalkode**	**1.33**	**65**	*e*P		**Pg**	**23 17 07.5**	**+3.3**
	baz=70							
SHLS				*e*S		**Sg**	**23 17 28.0**	**+6.3**
	baz=70							
SHLS	**Shalkode**	**1.33**	**65**	*e*P		**Pg**	**23 17 07.5**	**+3.3**
	4.5nm,0.3s							
SHLS				*e*S		**Sg**	**23 17 27.9**	**+6.3**
	152nm,0.2s							
KTBS	**Karatobe**	**1.39**	**324**	P		**Pb**	**23 17 04.0**	**+0.1**
	1.7nm,0.2s							
KTBS				S		**Sb**	**23 17 21.9**	**+0.7**
	29nm,0.3s							
KTBS	**Karatobe**	**1.39**	**324**	*e*P		**Pb**	**23 17 03.9**	**+0.1**
	baz=22							
KTBS				*e*S		**Sb**	**23 17 21.9**	**+0.7**
	baz=22							
KTBS	**Karatobe**	**1.39**	**324**	*e*P		**Pb**	**23 17 03.9**	**+0.1**
	1.7nm,0.2s							
KTBS				*e*S		**Sb**	**23 17 21.9**	**+0.7**
	30nm,0.1s							
CHKK	**Chushkaly**	**1.40**	**335**	P		**Pb**	**23 17 03.6**	**-0.3**
	4.9nm,0.2s							
CHKK				S		**Sb**	**23 17 21.9**	**+0.6**
	50nm,0.3s							
CHKK	**Chushkaly**	**1.40**	**335**	*e*P		**Pb**	**23 17 03.6**	**-0.3**
	baz=34							
CHKK				*e*S		**Sb**	**23 17 21.6**	**+0.3**
	baz=34							
CHKK	**Chushkaly**	**1.40**	**335**	*e*P		**Pb**	**23 17 03.6**	**-0.3**
	4.9nm,0.2s							
CHKK				*e*S		**Sb**	**23 17 21.6**	**+0.3**
	50nm,0.3s							
KST	**Kastek**	**1.44**	**289**	P		**Pb**	**23 17 04.8**	**+0.2**
	13nm,0.2s							
KST				S		**Sb**	**23 17 23.9**	**+1.3**
	14nm,0.4s							
KST	**Kastek**	**1.44**	**289**	*e*P		**Pb**	**23 17 04.7**	**+0.1**
	baz=88							
KST				*e*S		**Sb**	**23 17 23.4**	**+0.8**
	baz=88							
KST	**Kastek**	**1.44**	**289**	*e*P		**Pb**	**23 17 04.7**	**+0.1**
	13nm,0.2s							
KST				*e*S		**Sb**	**23 17 23.4**	**+0.8**
	14nm,0.4s							
BLB	**Baldybastay**	**1.58**	**18**	P		**Pb**	**23 17 06.4**	**-0.6**
	25nm,0.2s							
BLB				S		**Sb**	**23 17 26.5**	**-0.1**
	30nm,0.3s							
DGS	**Degeres**	**1.64**	**294**	P		**Pb**	**23 17 08.4**	**+0.3**
	4.5nm,0.3s							
DGS				S		**Sb**	**23 17 29.8**	**+1.5**
	12nm,0.3s							
DGS	**Degeres**	**1.64**	**294**	*e*P		**Pb**	**23 17 08.4**	**+0.3**
	baz=93							
DGS				*e*S		**Sb**	**23 17 29.7**	**+1.4**
	baz=93							
DGS	**Degeres**	**1.64**	**294**	*e*P		**Pb**	**23 17 08.4**	**+0.3**
	4.5nm,0.3s							
DGS				*e*S		**Sb**	**23 17 29.7**	**+1.4**
	12nm,0.3s							
TKM2	**Tokmak 2**	**1.67**	**282**	⇓P		**Pb**	**23 17 08.7**	**0.0**
	0.6nm,0.3s							
TKM2				⇑S		**Sg**	**23 17 31.4**	**-0.9**
	4.3nm,0.4s							
TKM2	**Tokmak 2**	**1.67**	**282**	⇓*i*P		**Pb**	**23 17 08.7**	**0.0**
	baz=81							
TKM2				⇓*i*S		**Sb**	**23 17 30.8**	**+1.5**
	baz=81							
KUU	**Kurty**	**1.69**	**321**	P		**Pb**	**23 17 08.9**	**0.0**
	1.2nm,0.5s							
KUU				S		**Sb**	**23 17 30.4**	**+0.7**
	18nm,0.4s							
KUU	**Kurty**	**1.69**	**321**	*e*P		**Pb**	**23 17 08.9**	**0.0**
	baz=20							
KUU				*e*S		**Sb**	**23 17 30.4**	**+0.7**
	baz=20							
KUU	**Kurty**	**1.69**	**321**	*e*P		**Pb**	**23 17 08.9**	**0.0**
	1.2nm,0.5s							
KUU				*e*S		**Sb**	**23 17 30.4**	**+0.7**
	18nm,0.4s							
KRBS	**Karabastau**	**1.92**	**306**	P		**Pb**	**23 17 12.8**	**0.0**
	3.2nm,0.3s							
KRBS				S		**Sb**	**23 17 37.8**	**+1.5**
	22nm,0.4s							
KRBS	**Karabastau**	**1.92**	**306**	*e*P		**Pb**	**23 17 12.8**	**0.0**
	3.2nm,0.3s							
KRBS				*e*S		**Sb**	**23 17 37.2**	**+0.9**
	22nm,0.4s							
KTMS	**Ketmen**	**2.04**	**65**	P		**Pb**	**23 17 14.5**	**-0.5**
	1.3nm,0.2s							
KTMS				S		**Sb**	**23 17 39.9**	**-0.1**
	12nm,0.3s							
KTMS	**Ketmen**	**2.04**	**65**	*e*Pg		**Pb**	**23 17 14.4**	**-0.5**
	1.3nm,0.2s							
KTMS				*e*Lg		Lg	23 17 39.9	
	12nm,0.3s							
KBK	**Karagaybulak**	**2.12**	**273**	⇑*e*P		**Pb**	**23 17 14.9**	**-1.4**
	baz=72							
KBK				⇑*e*S		**Sb**	**23 17 41.9**	**-0.4**
	baz=72							
DJR	**Jarkent**	**2.25**	**39**	Pg		**Pb**	**23 17 18.0**	**-0.5**
	1.2nm,0.3s							
DJR				Lg		Lg	23 17 46.1	
	11nm,0.4s							
DJR	**Jarkent**	**2.25**	**39**	*e*Pg		**Pb**	**23 17 18.0**	**-0.5**
	1.2nm,0.3s							
DJR				*e*Lg		Lg	23 17 46.1	
	11nm,0.4s							
AAK	**Ala-Archa**	**2.45**	**272**	⇑*e*P		**Pb**	**23 17 19.7**	**-2.3**
	baz=72							
AAK				⇑*i*S		**Sb**	**23 17 49.8**	**-2.1**
	baz=72							

IDC ***13*** *23:26:39.7±0.8, 19°.49S×173°.55W, h0km, mb4.5/14, mbtmp4.5/14, Error ellipse: s-maj=37.1km s-min=16.6km az=145.0*
NEIC ***13*** *23:27:18.4±2.0, 20°.2S±0°.1×176°.0W±0°.1, h178km±8km, mb4.7/25, Error ellipse: s-maj=19.2km s-min=17.3km az=188.0*

ISC 13 23:26:41.2±0.8, 19°.3S±0°.2×173°.6W±0°.1, h10km, n55, σ1§50/51, mb4.8/22, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.66**	**18**	Pn	**Pn**	**23 28 03.4**	**-2.1**
	6.4nm,0.3s,baz=265,slow=0.6,SNR=5.2						
AFI				Sn	Sn	23 28 57.3	-13
	11nm,0.3s,baz=36,slow=19,SNR=2.0						
AFI	**Afiamalu**	**5.66**	**18**	Pn	Sn	23 29 03.8	-7.0
MSVF	**Nonsavu**	**8.07**	**280**	Pn	Pn	23 28 48.4	+10
	0.8nm,0.3s,baz=126,slow=14,SNR=9.6						
MSVF	**Nonsavu**	**8.07**	**280**	Pn	Pn	23 28 45.1	+6.4
RAO	**Raoul Island**	**10.63**	**201**	Pn	Pn	23 29 26.8	+13
RAR	**Rarotonga**	**13.12**	**101**	Pn	Pn	23 29 36.1	-12
	5.6nm,0.3s,baz=256,slow=11,SNR=11						
RAR				Sn	Sn	23 31 46.7	-27
	0.7nm,0.3s,baz=143,slow=6.1,SNR=2.1						
MARNC	**Mare, Loyalty**	**17.35**	**260**	Pn	**P**	**23 30 45.2**	**+0.3**
PINNC	**Pines Island,**	**17.99**	**256**	P	**Pn**	**23 30 49.7**	**-1.8**
PINNC				IAmb	IAmb	23 31 12.1	
	comp=Z,43nm,1.0s						
OUENC	**Ouen Island, N**	**18.53**	**257**	P	**P**	**23 30 51.8**	**-6.2**
OUENC				IAmb	IAmb	23 31 27.5	
	comp=Z,27nm,1.0s						
DZM	**Mont Dzumac**	**18.86**	**258**	P	**Pn**	**23 31 05.1**	**+2.9**
	comp=Z,17nm,0.7s,baz=78,slow=19,SNR=22						
ONTNC	**Ouen Toro**	**18.87**	**257**	P	**P**	**23 30 57.4**	**-4.3**
ONTNC				IAmb	IAmb	23 31 23.8	
	comp=Z,37nm,0.9s						
KOUNC	**Koumac, New Ca**	**20.82**	**263**	P	**P**	**23 31 21.7**	**-1.3**
CTA	**Charters Tower**	**37.73**	**262**	P	**P**	**23 33 57.1**	**-0.4**
	comp=Z,15nm,0.6s,baz=96,slow=9.8,SNR=35						
	comp=Z,15nm,0.6s						
CTAO	**Charters Tower**	**37.73**	**262**	P	**P**	**23 33 57.6**	**+0.1**
CTAO				IAmb	IAmb	23 33 60.0	
	comp=Z,19nm,0.8s						
PMG	**Port Moresby**	**39.18**	**279**	P	**P**	**23 34 11.0**	**+1.3**
	comp=Z,9.8nm,0.4s,baz=343,slow=21,SNR=1.5						
	comp=Z,9.8nm,0.4s						
TOO	**Toolangi**	**39.93**	**234**	P	**P**	**23 34 15.4**	**-0.3**
TOO				IAmb	IAmb	23 34 28.4	
	comp=Z,36nm,1.5s						
COEN	**Coen**	**41.67**	**271**	P	**P**	**23 34 31.2**	**+0.9**
COEN				IAmb	IAmb	23 34 33.5	
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**42.01**	**244**	P	**P**	**23 34 31.8**	**-1.1**
	comp=Z,4.9nm,0.8s,baz=98,slow=11,SNR=5.4						
	comp=Z,4.9nm,0.8s						
STKA	**Stephens Creek**	**42.01**	**244**	P	**P**	**23 34 32.6**	**-0.3**
BBOO	**Buckleboo**	**46.76**	**243**	P	**P**	**23 35 09.2**	**-1.7**
WR0	**Warramunga Arr**	**48.67**	**260**	P	**P**	**23 35 25.5**	**-0.5**
AS31	**Alice Springs**	**48.81**	**255**	P	**P**	**23 35 27.3**	**+0.2**
ASAR	**Alice Springs**	**48.81**	**255**	P	**P**	**23 35 26.6**	**-0.4**
	comp=Z,16nm,0.9s,baz=97,slow=7.9,SNR=79						
ASAR				PcP	**PcP**	**23 36 52.9**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=104,slow=4.9,SNR=0.7						
	comp=Z,16nm,0.9s						
ASAR	**Alice Springs**	**48.81**	**255**	P	**P**	**23 35 27.1**	**+0.1**
WB0	**Warramunga Arr**	**48.84**	**260**	P	**P**	**23 35 27.1**	**-0.2**
WB2	**Warramunga Arr**	**48.85**	**260**	P	**P**	**23 35 26.7**	**-0.6**
WB2				IAmb	IAmb	23 35 39.6	
	comp=Z,19nm,1.1s						
WRAB	**Tennant Creek**	**48.86**	**260**	P	**P**	**23 35 26.0**	**-1.4**
WRAB				IAmb	IAmb	23 35 39.5	
	comp=Z,18nm,1.1s						
WRA	**Warramunga Arr**	**48.87**	**260**	P	**P**	**23 35 26.9**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=97,slow=8.8,SNR=70						
WRA				PcP	**PcP**	**23 36 53.1**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=102,slow=3.6,SNR=1.1						
	comp=Z,2.8nm,0.5s						
WRA	**Warramunga Arr**	**48.87**	**260**	P	**P**	**23 35 26.8**	**-0.6**
MTN	**Manton Dam**	**53.31**	**268**	P	**P**	**23 36 01.2**	**+0.3**
MTN				IAmb	IAmb	23 36 42.4	
	comp=Z,19nm,1.2s						
FORT	**Forrest**	**53.55**	**246**	P	**P**	**23 36 02.3**	**-0.2**
FORT				IAmb	IAmb	23 36 45.9	
	comp=Z,25nm,0.8s						
KNRA	**Kununurra**	**54.88**	**264**	P	**P**	**23 36 13.1**	**+0.7**
KNRA				IAmb	IAmb	23 36 14.9	
	comp=Z,17nm,0.8s						
FITZ	**Fitzroy Crossi**	**57.29**	**261**	P	**P**	**23 36 30.3**	**+0.8**
SOEI	**Soe**	**60.62**	**270**	P	**P**	**23 36 54.8**	**+1.9**
PSA00	**Pilbara Seismi**	**61.96**	**255**	P	**P**	**23 37 02.0**	**+0.3**
MBWA	**Marble Bar**	**62.15**	**256**	P	**P**	**23 37 03.4**	**+0.4**
NWAO	**Narrogin (SRO)**	**62.58**	**242**	P	**P**	**23 37 05.8**	**+0.1**
	comp=Z,19nm,1.1s						
	comp=Z,19nm,1.1s						
NWAO	**Narrogin (SRO)**	**62.58**	**242**	P	**P**	**23 37 06.8**	**+1.0**
QSPA	**South Pole Qui**	**70.74**	**180**	P	**P**	**23 37 56.9**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=145,slow=1.5,SNR=4.4						
	comp=Z,1.5nm,0.7s						
NVAR	**Mina Array Bea**	**77.38**	**41**	P	**P**	**23 38 37.1**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=222,slow=8.8,SNR=7.9						
	comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**85.31**	**42**	P	**P**	**23 39 18.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=231,slow=7.1,SNR=5.9						
	comp=Z,0.7nm,0.8s						
SEY	**Seymchan**	**86.24**	**345**	P	**P**	**23 39 24.0**	**+1.5**
	comp=Z,2.7nm,0.7s,baz=173,slow=6.6,SNR=4.8						
	comp=Z,2.7nm,0.7s						
ILAR	**Eielson Array**	**86.31**	**11**	P	**P**	**23 39 23.5**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=219,slow=5.3,SNR=25						
	comp=Z,1.4nm,0.7s						
SNAA	**Sanae**	**89.02**	**177**	P	P	23 39 50.2	+14
SNAA				IAmb	IAmb	23 40 13.7	
	comp=Z,14nm,1.3s						
INK	**Inuvik**	**92.11**	**14**	P	**P**	**23 39 49.9**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=194,slow=4.0,SNR=4.2						
	comp=Z,1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.65**	**288**	P	**P**	**23 40 00.5**	**+2.0**
	comp=Z,2.5nm,0.3s,baz=95,slow=4.5,SNR=6.2						
	comp=Z,2.5nm,0.3s						
YKA	**Yellowknife Ar**	**93.76**	**24**	P	**P**	**23 39 58.4**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=235,slow=4.4,SNR=13						
	comp=Z,0.7nm,0.8s						
AKASG	**Malin Array Be**	**143.84**	**335**	PKP	**PKPdf**	**23 46 15.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=47,slow=4.3,SNR=6.6						
OSTC	**Ostas**	**147.87**	**348**	*e*PKP	**PKPab**	**23 46 28.5**	**-0.5**
DPC	**Dobruska-Polom**	**148.05**	**348**	*e*PKP	**PKPab**	**23 46 29.0**	**-0.7**
BRTR	**Keskin Array B**	**148.97**	**317**	PKPbc	**PKiKP**	**23 46 31.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=132,slow=4.0,SNR=9.9						
VYHS	**Vyhne**	**149.21**	**344**	*e*	**PKPab**	**23 46 32.2**	**-2.2**
KHC	**Kasperske Hory**	**149.71**	**351**	*e*PKP	**PKiKP**	**23 46 32.0**	**-0.3**
CKRC	**Cesky Krumlov**	**149.89**	**350**	*e*PKP	**PKiKP**	**23 46 33.1**	**+0.5**
GERES	**GERESS Array B**	**149.97**	**350**	PKPbc	**PKiKP**	**23 46 32.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=46,slow=3.9,SNR=3.8						

IDC ***13*** *23:28:27.4±1.0, 18°.70S×176°.22E, h0km, mb4.3/5, mbtmp4.3/5, MS3.7/11, Error ellipse: s-maj=46.1km s-min=20.5km az=146.0*
GCMT ***13*** *23:28:34.0±0.4, 18°.76S±0°.05×176°.10E±0°.02, h20km±1km, MW4.8/64, Moment Tensor Solution. s20,c22; s64,c80; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.70±.17; Mθθ0.10±.12; Mϕϕ1.60±.11; Mrθ-1.10±.32; Mθϕ0.60±.07; Mϕr0.50±.18; Best double couple: M₀2.08100×10¹⁶ NP1:ϕs173.00000°, δ53.00000°, λ-126.00000°. NP2: ϕs44.00000°, δ49.00000°, λ-52.00000°. Principal axes: T 1.8140, Plg2.0000°, Azm288.0000°; N 0.5380, Plg28.0000°, Azm197.0000°; P -2.3480, Plg62.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 13 23:28:28.3±0.8, 18°.6S±0°.2×176°.2E±0°.1, h10km, n25, σ1§63/10, mb4.4/5, MS3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.95**	**64**	Pn	**Pn**	**23 29 01.6**	**0.0**
	13nm,0.3s,baz=204,slow=12,SNR=28						
MSVF				Sn	**Sb**	**23 29 27.7**	**-0.7**
	50nm,0.3s,baz=166,slow=20,SNR=12						
DZM	**Mont Dzumac**	**9.79**	**248**	*e*LR	LR	23 35 48.0	
	comp=Z,1µm,35.8s						
DZM	**Mont Dzumac**	**9.79**	**248**	Pn	Pn	23 30 54.4	+5.0
	0.1nm,0.3s,baz=92,slow=15,SNR=5.2						
DZM				LR	LR	23 33 20.2	
	comp=Z,101nm,18.4s,baz=39,slow=30						
DZM	**Mont Dzumac**	**9.79**	**248**	IAmb	IAmb	23 31 19.6	
	comp=Z,33nm,0.9s						
DZM	**Mont Dzumac**	**9.79**	**248**	P	Pn	23 30 54.0	+4.6
HNR	**Honiara**	**18.21**	**298**	LR	LR	23 38 39.0	
	comp=Z,1µm,19.2s,baz=144,slow=34						
RAR	**Rarotonga**	**22.73**	**101**	LR	LR	23 40 18.4	
	comp=Z,164nm,21.8s,baz=284,slow=31						
KRVT	**Keravat (AS076**	**27.57**	**298**	LR	LR	23 44 42.7	
	comp=Z,178nm,19.9s,baz=257,slow=35						
CTA	**Charters Tower**	**28.29**	**262**	LR	LR	23 43 56.0	
	comp=Z,258nm,21.2s,baz=92,slow=33						
PMG	**Port Moresby**	**29.59**	**284**	LR	LR	23 44 42.7	
	comp=Z,190nm,19.2s,baz=118,slow=33						
TBI	**Tubuai**	**32.35**	**104**	*e*LR	LR	23 36 47.3	
TBI				*e*LR	LR	23 36 47.3	
	comp=Z,3µm,24.2s						
PPT2	**Papeete2**	**32.51**	**94**	*e*LR	LR	23 36 53.2	
	comp=Z,174nm,38.2s						
PPT2				*e*LR	LR	23 36 53.5	
	comp=Z,328nm,26.5s						
PPT	**Papeete**	**32.51**	**94**	LR	LR	23 44 50.7	
	comp=Z,139nm,21.9s,baz=262,slow=30						
STKA	**Stephens Creek**	**33.83**	**240**	P	**P**	**23 35 11.0**	**0.0**
	comp=Z,8.5nm,0.8s,baz=73,slow=8.4,SNR=7.4						
STKA				LR	LR	23 47 54.9	
	comp=Z,123nm,18.3s,baz=45,slow=34						
	comp=Z,8.5nm,0.8s						
WRA	**Warramunga Arr**	**39.48**	**261**	LR	LR	23 50 34.1	
	comp=Z,167nm,21.2s,baz=102,slow=34						
DAV	**Davao City (W)**	**56.06**	**292**	LR	LR	00 01 16.9	
	comp=Z,57nm,18.7s,baz=68,slow=35						
QSPA	**South Pole Qui**	**71.45**	**180**	P	**P**	**23 39 49.0**	**+0.1**
	comp=Z,6.8nm,1.0s,baz=30,slow=3.3,SNR=4.3						
	comp=Z,6.8nm,1.0s						
LPIG	**La Paz**	**83.24**	**62**	LR	LR	00 12 55.5	
	comp=Z,62nm,18.6s,baz=201,slow=32						
NVAR	**Mina Array Bea**	**83.52**	**46**	P	**P**	**23 40 59.5**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=222,slow=7.5,SNR=4.9						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**84.34**	**292**	P	**P**	**23 41 02.0**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=112,slow=4.0,SNR=1.7						
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**87.79**	**15**	P	**P**	**23 41 17.7**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=243,slow=5.0,SNR=3.1						
	comp=Z,0.6nm,0.9s						
CMIG	**Matias Romero**	**94.32**	**74**	LR	LR	00 14 30.5	
	comp=Z,44nm,21.4s,baz=206,slow=29						
BRTR	**Keskin Array B**	**141.50**	**311**	PKP	**PKiKP**	**23 48 01.2**	**-1.8**
	comp=Z,1.0nm,1.0s,baz=45,slow=2.2,SNR=1.7						
BRG	**Berggiesshubel**	**144.85**	**340**	*e*PKP	**PKiKP**	**23 48 06.8**	**-2.6**
BRG				Amp		23 48 11.0	
	comp=Z,7.1nm,1.0s						
GERES	**GERESS Array B**	**146.67**	**339**	PKPbc	**PKPab**	**23 48 10.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=305,slow=3.5,SNR=4.7						

WEL ***13*** *23:30:00.41°.63S×174°.31E, h26km, ML4.5, Mw4.3, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁵ Nm; Mrr1.94; Mθθ1.07; Mϕϕ-3.01; Mrθ-1.78; Mθϕ-0.97; Mϕr0.35; Fault plane solution: M₀3.34000×10¹⁵ NP1: ϕs340.00000°, δ57.00000°, λ40.00000°. NP2: ϕs225.00000°, δ58.00000°, λ139.00000°. Principal axes: T 345.9800, Plg50.0000°, Azm192.0000°; N -23.3000, Plg40.0000°, Azm13.0000°; P -322.6800, Plg1.0000°, Azm283.0000°;*
IDC ***13*** *23:30:02.6±0.8, 41°.44S×174°.25E, h0km, mb4.1/4, mbtmp4.1/5, ML3.6/2, MS3.5/4 Error ellipse: s-maj=29.2km s-min=12.7km az=129.0*
NOU ***13*** *23:30:05.7, 41°.83S×174°.49E, h15km, MLv4.7/14, Cook Strait, New Zealand*
WEL ***13*** *23:30:06.9±0.4, 42°.2S±3°×17°.4E±°, h9km±3km, M4.5/113, ML4.7/37, MLv4.5/113, Error ellipse: s-maj=0.0km s-min=0.0km az=151.7, confirmed*
NEIC ***13*** *23:30:06.8, 41°.67S×174°.30E, h22km*
NEIC ***13*** *23:30:06.8±2.4, 41°.64S±0°.03×174°.30E±0°.04, h18km±4km, mb4.3/8, Mwr4.2/47, Error ellipse: s-maj=4.7km s-min=2.9km az=131.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.23; Mθθ0.28; Mϕϕ-2.51; Mrθ-0.42; Mθϕ-0.79; Mϕr-0.09; Fault plane solution: M₀2.54000×10¹⁵ NP1:ϕs2.89000°, δ43.99000°, λ72.74000°. NP2:ϕs206.25000°, δ48.46000°, λ105.98000°. Principal axes: T 2.3148, Plg78.0000°, Azm184.0000°; N 0.4074, Plg12.0000°, Azm15.0000°; P -2.7222, Plg2.0000°, Azm285.0000°;*

ISC 13 23:30:06.5±0.8, 41°.71S±0°.03×174°.36E±0°.02, h24km±5km, n187, σ1§30/204, mb4.3/8, MS3.9/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**251**		**Pb**	**23 30 11.0**	**-0.1**
CMWZ					**Sb**	**23 30 14.3**	**+0.1**
CMWZ	**Cape Campbell**	**0.11**	**251**	P	**Pb**	**23 30 10.9**	**-0.2**
CMWZ				S	**Sb**	**23 30 14.4**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.36**	**269**		**Pb**	**23 30 14.0**	**-0.4**
BSWZ					**Sb**	**23 30 19.2**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.36**	**269**	P	**Pb**	**23 30 13.9**	**-0.4**
BSWZ				S	**Sb**	**23 30 19.2**	**-0.5**
TUWZ	**Tuamarina**	**0.42**	**312**		**Pb**	**23 30 14.4**	**-0.9**
TUWZ					**Sb**	**23 30 19.8**	**-1.5**
TUWZ	**Tuamarina**	**0.42**	**312**	P	**Pb**	**23 30 14.4**	**-0.9**
TUWZ				S	**Sb**	**23 30 20.0**	**-1.3**
SNZO	**South Karori**	**0.48**	**33**		**Pb**	**23 30 16.3**	**0.0**
SNZO					**Sb**	**23 30 23.1**	**+0.1**
SNZO	**South Karori**	**0.48**	**33**	P	**Pb**	**23 30 16.4**	**+0.1**
BHW	**Baring Head**	**0.49**	**52**		**Pb**	**23 30 16.9**	**+0.4**
BHW					**Sb**	**23 30 24.2**	**+0.9**
TCW	**Tory Channel**	**0.51**	**353**		**Pb**	**23 30 15.8**	**-0.9**
TCW					**Sb**	**23 30 22.2**	**-1.4**
TCW	**Tory Channel**	**0.51**	**353**	P	**Pb**	**23 30 15.9**	**-0.9**
TCW				S	**Sb**	**23 30 22.1**	**-1.5**
WEL	**Wellington**	**0.53**	**36**	P	**Pb**	**23 30 17.2**	**+0.1**
PLWZ	**Palliser**	**0.69**	**78**	Pg	**Pn**	**23 30 21.4**	**+0.7**
PLWZ					**Sn**	**23 30 32.9**	**+2.2**
PLWZ	**Palliser**	**0.69**	**78**	P	**Pn**	**23 30 21.4**	**+0.7**
MSWZ	**Moikau Station**	**0.73**	**66**		**Pn**	**23 30 21.9**	**+0.6**
MSWZ	**Moikau Station**	**0.73**	**66**	P	**Pn**	**23 30 22.0**	**+0.7**
CAW	**Cannon Point**	**0.81**	**42**	P	**Pb**	**23 30 22.0**	**+0.2**
PAWZ	**Paruwai Farm**	**0.87**	**68**	P	**Pn**	**23 30 23.8**	**+0.6**
PAWZ				S	**Sn**	**23 30 36.9**	**+1.7**
NNZ	**Nelson**	**0.89**	**304**		**Pb**	**23 30 22.5**	**-0.6**
NNZ	**Nelson**	**0.89**	**304**	P	**Pb**	**23 30 22.5**	**-0.6**
KHZ	**Kahutara**	**0.93**	**221**		**Pn**	**23 30 25.0**	**+1.0**
KHZ	**Kahutara**	**0.93**	**221**	P	**Pn**	**23 30 25.0**	**+1.0**
KHZ	**Kahutara**	**0.93**	**221**	P	**Pn**	**23 30 24.9**	**+1.0**
KHZ				S	**Sn**	**23 30 38.6**	**+2.1**
KIW	**Kapiti Island**	**0.95**	**26**	P	**Pb**	**23 30 24.1**	**-0.1**
DUWZ	**D'Urville Isla**	**0.97**	**340**	P	**Pb**	**23 30 23.9**	**-0.7**
DUWZ				S	**Sb**	**23 30 35.7**	**-1.2**
MTW	**Mount Morrison**	**1.02**	**58**	P	**Pn**	**23 30 25.8**	**+0.5**
TRWZ	**Traveller**	**1.05**	**73**	P	**Pn**	**23 30 26.1**	**+0.5**
OGWZ	**Otaki Gorge**	**1.08**	**35**	P	**Pn**	**23 30 26.5**	**+0.4**
THZ	**Tophouse**	**1.09**	**267**		**Pn**	**23 30 26.6**	**+0.4**
THZ	**Tophouse**	**1.09**	**267**	P	**Pn**	**23 30 26.6**	**+0.4**
THZ				S	**Sn**	**23 30 41.9**	**+1.3**
HOWZ	**Holdsworth Sta**	**1.19**	**47**	P	**Pn**	**23 30 28.1**	**+0.5**
MRNZ	**Matariki Terra**	**1.24**	**284**		**Pb**	**23 30 28.9**	**-0.2**
MRNZ	**Matariki Terra**	**1.24**	**284**	P	**Pb**	**23 30 29.0**	**-0.2**
MRNZ				S	**Sb**	**23 30 46.4**	**+1.7**
TKNZ	**Takaka Hill**	**1.25**	**302**		**Pn**	**23 30 28.7**	**+0.3**
TKNZ	**Takaka Hill**	**1.25**	**302**	P	**Pn**	**23 30 28.9**	**+0.5**
TMWZ	**Te Maipa**	**1.30**	**63**	P	**Pn**

RITZ	**Rihia Road**	**2.96**	**23**	P		**Pb**	**23 30 57.2**	**-1.3**
WVZ	**Waitaha Valley**	**3.01**	**242**	P		**Pn**	**23 30 53.0**	**+0.4**
BKZ	**Black Stump Fm**	**3.02**	**33**			**Pn**	**23 30 52.5**	**-0.4**
BKZ	**Black Stump Fm**	**3.02**	**33**	P		**Pn**	**23 30 53.1**	**+0.3**
BKZ	**Black Stump Fm**	**3.02**	**33**	P		**Pb**	**23 30 57.8**	**-1.8**
RATZ	**Rangitukua**	**3.04**	**21**	P		**Pb**	**23 31 00.0**	**+0.1**
RPZ	**Rata Peaks**	**3.15**	**229**	Pn		**Pn**	**23 30 54.3**	**-0.3**
	39nm,0.3s,baz=82,slow=2.7,SNR=101							
RPZ				Pg		**Pb**	**23 31 01.7**	**0.0**
	44nm,0.3s,baz=337,slow=2.3,SNR=22							
RPZ				Sn		**Sn**	**23 31 29.8**	**-1.6**
	21nm,0.3s,baz=32,slow=12,SNR=4.5							
RPZ				Lg		Lg	23 31 45.1	
	30nm,0.3s,baz=98,slow=19,SNR=3.8							
RPZ				LR		LR	23 31 46.5	
	comp=Z,103nm,21.2s,baz=57,slow=32							
	84nm,0.4s							
RPZ	**Rata Peaks**	**3.15**	**229**	P		**Pn**	**23 30 54.4**	**-0.2**
RPZ	**Rata Peaks**	**3.15**	**229**	P		**Pn**	**23 30 54.2**	**-0.3**
ARHZ	**Aropaoanui**	**3.17**	**40**	P		**Pn**	**23 30 54.0**	**-0.8**
WATZ	**Wairara**	**3.18**	**20**	P		**Pb**	**23 31 02.5**	**+0.2**
NMHZ	**Naumai**	**3.21**	**36**	P		**Pn**	**23 30 54.8**	**-0.7**
HIZ	**Hauiti**	**3.22**	**7**			**Pn**	**23 30 57.8**	**+2.4**
HIZ	**Hauiti**	**3.22**	**7**	P		**Pn**	**23 30 57.9**	**+2.4**
HIZ	**Hauiti**	**3.22**	**7**	P		**Pn**	**23 30 58.2**	**+2.7**
ARCZ	**Arundel**	**3.23**	**225**	P		**Pn**	**23 30 55.0**	**-0.7**
MRHZ	**Matea Rd**	**3.28**	**29**	P		**Pn**	**23 30 55.9**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**3.38**	**240**	P		**Pn**	**23 30 58.2**	**+0.5**
MTHZ	**Maungataniwha**	**3.43**	**34**	P		**Pn**	**23 30 58.5**	**+0.1**
RAHZ	**Arahi**	**3.49**	**38**	P		**Pn**	**23 30 58.7**	**-0.5**
ALRZ	**Allen Road**	**3.50**	**26**	P		**Pb**	**23 31 06.0**	**-1.6**
TLZ	**Tolley Road**	**3.50**	**15**	P		**Pn**	**23 31 03.6**	**+4.2**
TMZ	**Timaru**	**3.63**	**221**	P		**Pn**	**23 31 00.5**	**-0.7**
RTZ	**Ruatahuna**	**3.69**	**34**	Pn		**Pn**	**23 31 02.6**	**+0.6**
FOZ	**Fox Glacier**	**3.81**	**240**			**Pn**	**23 31 06.6**	**+3.0**
FOZ	**Fox Glacier**	**3.81**	**240**	P		**Pn**	**23 31 03.6**	**0.0**
RIGZ	**Rimuhau**	**3.98**	**42**	P		**Pn**	**23 31 04.5**	**-1.5**
URZ	**Urewera**	**4.04**	**32**	Pn		**Pn**	**23 31 04.9**	**-1.9**
	0.7nm,0.3s,baz=295,slow=7.7,SNR=2.0							
URZ				Pg		Pb	23 31 11.8	-5.2
	1.7nm,0.3s,baz=322,slow=8.5,SNR=8.7							
URZ				Sn		**Sn**	**23 31 50.5**	**-2.9**
	5.4nm,0.3s,baz=242,slow=9.8,SNR=4.4							
URZ				Lg		Lg	23 32 03.5	
	2.4nm,0.3s,baz=152,slow=2.3,SNR=1.0							
URZ	**Urewera**	**4.04**	**32**	P		**Pn**	**23 31 06.2**	**-0.6**
KMRZ	**Kaimai**	**4.05**	**18**	P		**Pn**	**23 31 06.7**	**-0.3**
LBZ	**Lake Benmore**	**4.06**	**227**	Pn		**Pn**	**23 31 07.3**	**+0.2**
LBZ	**Lake Benmore**	**4.06**	**227**	P		**Pn**	**23 31 07.0**	**-0.1**
TOZ	**Tahuroa Road**	**4.07**	**13**	P		**Pb**	**23 31 13.6**	**-3.9**
ODZ	**Otahua Downs**	**4.29**	**218**			**Pn**	**23 31 09.7**	**-0.6**
ODZ	**Otahua Downs**	**4.29**	**218**	P		**Pn**	**23 31 09.3**	**-0.9**
ODZ	**Otahua Downs**	**4.29**	**218**	P		**Pn**	**23 31 09.2**	**-0.9**
TWGZ	**Tauwhareparae**	**4.50**	**39**	P		**Pn**	**23 31 13.0**	**-0.1**
RUGZ	**Raukumara Rang**	**4.53**	**35**	P		**Pn**	**23 31 12.7**	**-0.9**
MKAZ	**Moumakai**	**4.64**	**8**	P		**Pn**	**23 31 16.6**	**+1.5**
AWAZ	**Awhitu Peninsu**	**4.65**	**3**	P		**Pn**	**23 31 18.6**	**+3.4**
JCZ	**Jackson Bay**	**4.72**	**238**	P		**Pn**	**23 31 15.4**	**-0.9**
JCZ	**Jackson Bay**	**4.72**	**238**	P		**Pn**	**23 31 15.3**	**-1.0**
WIAZ	**Waiheke Island**	**4.95**	**7**	P		**Pn**	**23 31 22.3**	**+3.0**
HHSZ	**Highcliff Hill**	**4.98**	**212**	P		**Pn**	**23 31 19.0**	**-0.7**
WKZ	**Wanaka**	**4.99**	**230**			**Pn**	**23 31 19.1**	**-0.8**
WKZ	**Wanaka**	**4.99**	**230**	P		**Pn**	**23 31 18.9**	**-0.9**
EAZ	**Earnscleugh**	**5.09**	**225**	P		**Pn**	**23 31 20.6**	**-0.5**
MXZ	**Matakaoa Point**	**5.14**	**38**	Pn		**Pn**	**23 31 21.6**	**-0.3**
MSZ	**Milford Sound**	**5.55**	**236**	P		Pn	23 31 33.8	+6.3
WCZ	**Waipu Caves**	**5.76**	**360**	P		**Pn**	**23 31 33.1**	**+2.6**
MLZ	**Mavora Lakes**	**5.82**	**229**			**Pn**	**23 31 31.0**	**-0.3**
MLZ	**Mavora Lakes**	**5.82**	**229**	P		**Pn**	**23 31 30.1**	**-1.1**
SYZ	**Scrubby Hill**	**6.11**	**216**	P		**Pn**	**23 31 35.0**	**-0.2**
SYZ	**Scrubby Hill**	**6.11**	**216**	P		**Pn**	**23 31 35.1**	**-0.2**
WHZ	**Wether Hill Ro**	**6.24**	**226**	Pn		**Pn**	**23 31 37.4**	**+0.3**
DCZ	**Deep Cove**	**6.43**	**232**	Pn		**Pn**	**23 31 40.3**	**+0.7**
OUZ	**Omahuta**	**6.51**	**354**	P		**Pn**	**23 31 44.2**	**+3.5**
OUZ	**Omahuta**	**6.51**	**354**	P		**Pn**	**23 31 44.8**	**+4.1**
CTZ	**Chatham Island**	**6.95**	**110**	P		**Pn**	**23 31 46.1**	**-0.6**
CTZ	**Chatham Island**	**6.95**	**110**	P		**Pn**	**23 31 46.6**	**0.0**
VNDA	**Vanda**	**36.29**	**185**	P		**P**	**23 37 08.4**	**+0.9**
VNDA				IAmb		IAmb	23 37 38.3	
	comp=Z,9.3nm,1.3s							
AS31	**Alice Springs**	**38.10**	**285**	P		**P**	**23 37 22.6**	**-0.9**
ASAR	**Alice Springs**	**38.10**	**285**	P		**P**	**23 37 22.6**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=124,slow=6.8,SNR=8.1							
ASAR				PcP		**PcP**	**23 39 36.9**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=123,slow=3.4,SNR=1.8							
	comp=Z,0.7nm,0.4s							
WB2	**Warramunga Arr**	**40.16**	**290**	P		**P**	**23 37 39.5**	**-1.2**
WB2				IAmb		IAmb	23 37 49.3	
	comp=Z,5.8nm,0.8s							
WRAB	**Tennant Creek**	**40.16**	**290**	P		**P**	**23 37 40.3**	**-0.4**
WRAB				IAmb		IAmb	23 38 12.9	
	comp=Z,4.0nm,0.8s							
WRA	**Warramunga Arr**	**40.16**	**290**	P		**P**	**23 37 39.5**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=128,slow=7.7,SNR=8.1							
WRA				PcP		**PcP**	**23 39 43.8**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=128,slow=2.9,SNR=1.2							
	comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**40.16**	**290**	P		**P**	**23 37 39.4**	**-1.3**
WB0	**Warramunga Arr**	**40.24**	**291**	P		**P**	**23 37 39.5**	**-2.0**
WB0				IAmb		IAmb	23 37 47.8	
	comp=Z,11nm,1.2s							
MTN	**Manton Dam**	**47.27**	**295**	P		**P**	**23 38 37.6**	**-0.3**
QSPA	**South Pole Qui**	**48.42**	**180**	P		**P**	**23 38 49.1**	**+2.7**
	comp=Z,6.1nm,1.1s,baz=352,slow=6.8,SNR=9.6							
	comp=Z,6.1nm,1.1s							
QSPA	**South Pole Qui**	**48.42**	**180**	P		**P**	**23 38 49.1**	**+2.7**
CFA	**Coronel Fontan**	**87.04**	**131**	LR		LR	00 13 05.2	
	comp=Z,46nm,21.3s,baz=110,slow=30							
CMAR	**Chiang Mai Arr**	**91.70**	**293**	P		**P**	**23 43 12.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=121,slow=3.5,SNR=1.4							
	comp=Z,0.4nm,0.3s							
NNA	**Nana**	**95.70**	**111**	LR		LR	00 17 43.0	
	comp=Z,57nm,21.1s,baz=234,slow=30							
CPUP	**Villa Florida**	**97.13**	**135**	LR		LR	00 20 12.2	
	comp=Z,30nm,18.5s,baz=212,slow=31							
YKA	**Yellowknife Ar**	**118.30**	**30**	PKP		**PKPdf**	**23 48 50.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=258,slow=2.0,SNR=11							
ARCES	**ARCESS Array B**	**147.77**	**340**	PKPbc		**PKPdf**	**23 49 46.4**	**+1.3**
	comp=Z,3.1nm,0.7s,baz=85,slow=2.7,SNR=6.6							
BRTR	**Keskin Array B**	**150.33**	**279**	PKPbc		**PKPbc**	**23 49 54.1**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=94,slow=4.0,SNR=2.6							
TORD	**Torodi Ar. Bea**	**150.83**	**195**	PKPbc		**PKPbc**	**23 49 57.8**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=169,slow=1.7,SNR=3.8							
FINES	**FINESS Array B**	**152.54**	**327**	PKPbc		**PKPbc**	**23 49 58.6**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=97,slow=4.6,SNR=8.2							

*NEIC **13** 23:50:51.7±1.6, 20.4S±0.2×177.6W±0.2, h503km±22km, mb4.2/19, Error ellipse: s-maj=26.2km s-min=22.7km az=201.0*
*IDC **13** 23:51:05.7±14.0, 20.18S×178.31W, h650km±160km, mb2.9/5, mbtmp4.0/5, Error ellipse: s-maj=132.1km s-min=67.1km az=127.0*
ISC 13 23:50:51.2±0.9, **20.3S**±0.1×**177.3W**±0.1, **h550**km, **n31,** σ1ᵗˢ**44/30, mb4.0/12, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.08**	**300**	P	**P**	**23 52 20.1**	**-1.8**
NIUE	**Niue**	**7.08**	**81**	P	**P**	**23 52 40.9**	**+0.9**
AFI	**Afiamalu**	**8.31**	**41**	P	**P**	**23 52 52.5**	**+0.3**
RAO	**Raoul Island**	**8.89**	**183**	P	**P**	**23 52 55.0**	**-2.6**
PINNC	**Pines Island,**	**14.35**	**258**	P	**P**	**23 53 52.7**	**-1.3**
KOUNC	**Koumac, New Ca**	**17.23**	**266**	P	**P**	**23 54 20.4**	**-1.7**
KOUNC				IAmb	IAmb	23 54 38.1	
	comp=Z,9.9nm,1.2s						
RTZ	**Ruatahuna**	**18.86**	**194**	P	**P**	**23 54 37.9**	**+1.1**
RTZ				IAmb	IAmb	23 55 12.2	
	comp=Z,12nm,1.2s						
BKZ	**Black Stump Fm**	**19.50**	**195**	P	**P**	**23 54 42.5**	**-0.1**
BKZ				IAmb	IAmb	23 55 12.8	
	comp=Z,18nm,1.4s						
BFZ	**Birch Farm**	**21.00**	**194**	P	**P**	**23 54 56.7**	**+0.5**
MRZ	**Mangatainoka R**	**21.14**	**195**	P	**P**	**23 54 56.9**	**-0.5**
THZ	**Tophouse**	**22.90**	**199**	P	**P**	**23 55 16.2**	**+2.9**
THZ				IAmb	IAmb	23 55 25.9	
	comp=Z,34nm,1.4s						
DSZ	**Denniston Nort**	**23.24**	**201**	P	**P**	**23 55 17.0**	**+0.8**
EIDS	**Eidsvold**	**29.50**	**254**	P	**P**	**23 56 12.0**	**+0.6**
EIDS				IAmb	IAmb	23 56 40.5	
	comp=Z,6.6nm,1.2s						
ARMA	**Armidale**	**29.70**	**244**	P	**P**	**23 56 14.5**	**+1.2**
ARMA				IAmb	IAmb	23 56 26.0	
	comp=Z,14nm,1.5s						
CTA	**Charters Tower**	**34.13**	**264**	P	**P**	**23 56 52.2**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=102,slow=9.3,SNR=1.3						
	comp=Z,0.8nm,0.3s						
CTAO	**Charters Tower**	**34.13**	**264**	P	**P**	**23 56 52.0**	**+1.0**
CTAO				IAmb	IAmb	23 57 11.1	
	comp=Z,7.9nm,1.4s						
COEN	**Coen**	**38.20**	**273**	P	**P**	**23 57 24.7**	**+0.1**
COEN				IAmb	IAmb	23 57 46.1	
	comp=Z,9.1nm,1.5s						
STKA	**Stephens Creek**	**38.42**	**244**	P	**P**	**23 57 28.2**	**+2.0**
	comp=Z,1.0nm,0.4s,baz=84,slow=10,SNR=3.9						
	comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**38.42**	**244**	P	**P**	**23 57 27.6**	**+1.5**
BBOO	**Buckleboo**	**43.18**	**243**	P	**P**	**23 58 03.9**	**0.0**
WR0	**Warramunga Arr**	**45.06**	**262**	P	**P**	**23 58 19.4**	**+0.8**
WR0				IAmb	IAmb	23 59 02.1	
	comp=Z,6.3nm,1.4s						
AS31	**Alice Springs**	**45.17**	**256**	P	**P**	**23 58 21.2**	**+1.7**
ASAR	**Alice Springs**	**45.17**	**256**	P	**P**	**23 58 21.3**	**+1.8**
	comp=Z,1.7nm,0.5s,baz=92,slow=7.6,SNR=33						
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**45.17**	**256**	P	**P**	**23 58 20.8**	**+1.4**
WB0	**Warramunga Arr**	**45.22**	**262**	P	**P**	**23 58 21.4**	**+1.5**
WB0				IAmb	IAmb	23 58 49.2	
	comp=Z,6.8nm,1.3s						
WB2	**Warramunga Arr**	**45.23**	**262**	P	**P**	**23 58 21.7**	**+1.7**
WB2				IAmb	IAmb	23 58 49.6	
	comp=Z,6.3nm,1.4s						
WRAB	**Tennant Creek**	**45.24**	**262**	P	**P**	**23 58 21.3**	**+1.3**
WRA	**Warramunga Arr**	**45.25**	**262**	P	**P**	**23 58 21.1**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=98,slow=7.7,SNR=19						
	comp=Z,0.5nm,0.3s						
WRA	**Warramunga Arr**	**45.25**	**262**	P	**P**	**23 58 21.4**	**+1.3**
ILAR	**Eielson Array**	**88.02**	**13**	P	P	00 02 48.5	+5.9
	comp=Z,0.2nm,0.4s,baz=198,slow=5.5,SNR=1.6						
	comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**143.18**	**332**	PKP	**PKiKP**	**00 09 25.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=39,slow=4.3,SNR=4.2						

*BER **13** 23:56:22.0±0.4, 67.00N×20.71E, h0km, ML1.2, Suspected explosion*
*UPP **13** 23:56:22.1±0.1, 67.19N×20.70E, h1km, ML2.6, Confirmed Induced event*
*HEL **13** 23:56:22.3±0.4, 67.18N×20.65E, h0km, ML1.2, Explosion*
ISC 13 23:56:21.8±0.8, **67.19N**±0.02×**20.73E**±0.02, **h0**km, **n26,** σ0ˢ**67/41, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.09**	**221**	P	**Pg**	**23 56 24.0**	**+0.4**
DUNU				S	**Sg**	**23 56 25.1**	**+0.5**
RATU	**Laukkuluspa**	**0.77**	**326**	P	**Pg**	**23 56 36.4**	**-0.1**
RATU				S	**Sg**	**23 56 46.7**	**+0.2**
ERTU	**Ertsjaerv**	**0.86**	**137**	PB	**Pg**	**23 56 37.9**	**-0.3**
ERTU				SB	**Sg**	**23 56 50.3**	**+0.8**
SALU	**Saltoluokta**	**0.88**	**283**	P	**Pg**	**23 56 38.4**	**-0.2**
SALU	**Saltoluokta**	**0.88**	**283**	*e*P	**Pg**	**23 56 38.5**	**-0.2**
SALU				*e*S	**Sb**	**23 56 51.2**	**-1.1**
NIKU	**Nikkaluokta**	**0.94**	**317**	P	**Pg**	**23 56 39.4**	**-0.3**
PAJU	**Pajala**	**0.95**	**99**	P	**Pg**	**23 56 40.0**	**+0.1**
PAJU	**Pajala**	**0.95**	**99**	PB	**Pg**	**23 56 39.9**	**0.0**
	baz=281						
PAJU				SB	**Sn**	**23 56 57.7**	**+1.1**
LANU	**Lannavaara**	**0.99**	**29**	PG	**Pg**	**23 56 40.6**	**0.0**
LANU				SB	**Sb**	**23 56 55.1**	**-0.2**
HARU	**Harads**	**1.04**	**174**	P	**Pg**	**23 56 41.1**	**-0.5**
KOVU	**Salmi**	**1.06**	**349**	P	**Pg**	**23 56 41.8**	**-0.2**
HEF	**Hetta**	**1.65**	**41**	*e*P	**Pg**	**23 56 52.2**	**+0.2**
HEF				*e*S	**Sg**	**23 57 14.7**	**-0.1**
HEF	**Hetta**	**1.65**	**41**	PG	**Pn**	**23 56 52.1**	**+0.1**
	baz=222						
HEF				MSG		23 57 12.6	
	comp=Z,1.4nm,0.2s						
HEF				SG	**Sb**	**23 57 14.5**	**+0.1**
KALU	**Kalix**	**1.70**	**141**	PN	**Pb**	**23 56 53.5**	**-0.3**
	baz=320						
TOF	**Tornio**	**1.82**	**126**	PG	**Pb**	**23 56 55.4**	**-0.4**
TOF				MSG		23 57 17.0	
	comp=Z,0.8nm,0.2s						
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*P	**Pb**	**23 56 55.7**	**-0.2**
KIF				*e*S	**Sg**	**23 57 20.6**	**+0.4**
KIF	**Kilpisjarvi**	**1.82**	**1**	PG	**Pb**	**23 56 55.6**	**-0.2**
	baz=186						
KIF				MSG		23 57 18.3	
	comp=Z,2.4nm,0.2s						
KIF				SG	**Sg**	**23 57 20.8**	**+0.7**
KTK1	**Kautokeino**	**2.06**	**26**	*e*P	**Pn**	**23 56 58.4**	**+0.9**
KTK1				*e*S	**Sb**	**23 57 25.0**	**-1.0**
KTK1				IAML		23 57 28.1	
	comp=Z,3.6nm,0.3s						
KTK1	**Kautokeino**	**2.06**	**26**	PG	**Pb**	**23 56 59.5**	**-0.4**
KTK1				SG	**Sg**	**23 57 26.9**	**-0.8**
FAUS	**Fauske**	**2.12**	**278**	*e*Sg	**Sg**	**23 57 29.0**	**-0.8**
FAUS				IAML		23 57 32.1	
	comp=Z,2.5nm,0.6s						
RNF	**Rovaniemi**	**2.17**	**103**	PG	**Pb**	**23 57 00.8**	**-0.9**
RNF				SG	**Sg**	**23 57 30.8**	**-0.4**
SGF	**Sodankyl**	**2.26**	**81**	PG	**Pb**	**23 57 02.5**	**-0.9**
SGF				SG	**Sg**	**23 57 33.6**	**-0.8**
TRO	**Tromso**	**2.54**	**346**	SG	**Sg**	**23 57 42.4**	**-0.9**
ARA0	**ARCESS Array S**	**2.95**	**35**	PB	**Pn**	**23 57 11.0**	**+1.3**
ARA0				SB	**Sb**	**23 57 50.9**	**-0.7**
KEV	**Kevo**	**3.46**	**39**	SN	**Sn**	**23 58 00.2**	**+1.7**
MSF	**Maaselka**	**3.56**	**107**	PN	**Pn**	**23 57 18.4**	**+0.1**

*IDC **14** 00:11:25.2±6.1, 33.44N×87.49E, h55km±55km, mb3.0/4, mbtmp3.5/6, ML2.9/1, MS3.4/1, Error ellipse: s-maj=79.7km s-min=26.9km az=70.0*
ISC 14 00:11:27.3±0.9, **33.82N**±0.08×**88.4E**±0.2, **h35**km, **n15,** σ2ᵗˢ**35/14, Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIRN	**Jiri**	**6.43**	**198**	*e*P	**Pn**	**00 13 03.9**	**+4.1**
	4.4nm,0.4s						
TAPN	**Taplejung**	**6.47**	**186**	*e*P	**Pn**	**00 13 02.6**	**+2.2**
	10.0nm,0.5s						
GKN	**Gorkha**	**6.64**	**210**	*e*P	**Pn**	**00 13 04.1**	**+1.6**
	3.5nm,0.5s						
PKIN	**Phulchoki**	**6.74**	**203**	*e*P	**Pn**	**00 13 06.0**	**+2.0**
	5.0nm,0.4s						
PKI	**Pulchoki**	**6.74**	**203**	*e*P	**Pn**	**00 13 05.8**	**+1.8**
	5.0nm,0.4s						
DANN	**Dangsing**	**6.75**	**217**	*e*P	**Pn**	**00 13 03.6**	**-0.6**
	1.4nm,0.3s						
DMN	**Daman**	**6.81**	**206**	*e*P	**Pn**	**00 13 06.3**	**+1.4**
	7.4nm,0.3s						
RAMN	**Ramite**	**7.02**	**193**	*e*P	**Pn**	**00 13 08.2**	**+0.4**
	28nm,0.5s						
MKAR	**Makanchi Array**	**13.77**	**342**	P	**Pn**	**00 14 40.7**	**+0.8**
	0.1nm,0.3s,baz=149,slow=13,SNR=8.2						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.96**	**146**	P	**Pn**	**00 15 32.4**	**-2.0**
	1.9nm,0.4s,baz=329,slow=11,SNR=1.4						
SONM	**Songino Array**	**19.46**	**39**	P	**Pn**	**00 15 56.0**	**+3.7**
	0.3nm,0.3s,baz=232,slow=7.1,SNR=2.3						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**20.28**	**354**	P	**P**	**00 15 58.5**	**-1.2**
	1.1nm,0.7s,baz=179,slow=10,SNR=7.7						
	1.1nm,0.7s						
GEYT	**Alibeck**	**24.83**	**288**	LR	LR	00 28 25.8	
	comp=Z,85nm,18.4s,baz=13,slow=42						
WRA	**Warramunga Arr**	**69.09**	**134**	P	**P**	**00 22 27.6**	**-2.2**
	0.2nm,0.5s,baz=326,slow=6.2,SNR=1.3						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**82.25**	**11**	P	**P**	**00 23 43.1**	**-1.5**
	0.3nm,0.9s,baz=330,slow=5.5,SNR=4.3						
	0.3nm,0.9s						

*DDA **14** 00:15:06.3±0.0, 35.64N×32.52E, h33km±2km, ML2.3*
*NIC **14** 00:15:06.7±0.0, 35.60N×32.42E, h75km±5km, Ml3.1/9*
*ISK **14** 00:15:08.5, 35.64N×32.51E, h29km, ML3.0/20*
*GII **14** 00:15:09.2±0.0, 35.39N×32.45E, h40km, MD3.0/1, Mm3.2/4*
ISC 14 00:15:07.1±1.2, **35.55N**±0.02×**32.42E**±0.03, **h79**km±7km, **n87,** σ1ᵗˢ**09/120, 3C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alefka**	**0.42**	**160**	*e*P	**Pn**	**00 15 20.0**	**-0.1**
ALFC				S	**Sn**	**00 15 29.0**	**-0.7**
ALFC				AML	AML	00 15 30.3	
	4.3nm,0.2s						
ALFC				AML	AML	00 15 30.3	
	4.3nm,0.2s						
ALFC				AML	AML	00 15 31.0	
	4.2nm,0.2s						
ALFC				AML	AML	00 15 31.0	
	4.2nm,0.2s						
AKDN	**Akdeniz- Kıbrı**	**0.51**	**120**	Pg	**Pn**	**00 15 19.9**	**-0.9**
AKMS	**Akamas**	**0.54**	**188**	P	**Pn**	**00 15 21.8**	**+0.7**
AKMS				S	**Sn**	**00 15 32.3**	**+0.9**
AKMS				AML	AML	00 15 33.3	
	2.5nm,0.2s						
AKMS				AML	AML	00 15 33.3	
	2.5nm,0.2s						
AKMS				AML	AML	00 15 33.4	
	1.8nm,0.2s						
AKMS				AML	AML	00 15 33.4	
	1.8nm,0.2s						
LEF	**Lefka**	**0.58**	**138**	Pg	**Pn**	**00 15 21.4**	**0.0**
LEF				Sg	**Sn**	**00 15 30.7**	**-1.3**
BOZY	**Bozyazi-Mersin**	**0.71**	**39**	Pg	**Pn**	**00 15 21.3**	**-1.4**
NATA	**Nata**	**0.78**	**171**	*e*P	**Pn**	**00 15 24.7**	**+1.1**
NATA				S	**Sn**	**00 15 36.2**	**+0.5**
NATA				AML	AML	00 15 49.6	
	3.7nm,0.5s						
NATA				AML	AML	00 15 49.6	
	3.7nm,0.5s						
NATA				AML	AML	00 15 50.8	
	3.1nm,0.6s						
NATA				AML	AML	00 15 50.8	
	3.1nm,0.6s						
SZAC	**Souni**	**0.88**	**155**	P	**Pn**	**00 15 25.6**	**+1.0**
SZAC				S	**Sn**	**00 15 40.4**	**+2.6**
SZAC				AML	AML	00 15 40.9	
	1.4nm,0.4s						
SZAC				AML	AML	00 15 40.9	
	1.4nm,0.4s						
SZAC				AML	AML	00 15 41.7	
	2.4nm,0.3s						
SZAC				AML	AML	00 15 41.7	
	2.4nm,0.3s						
ATHAL	**Athalassa**	**0.90**	**117**	P	**Pn**	**00 15 25.0**	**+0.2**
ATHAL				S	**Sn**	**00 15 38.2**	**+0.2**
ATHAL				AML	AML	00 15 38.6	
	2.0nm,0.6s						
ATHAL				AML	AML	00 15 38.6	
	2.0nm,0.6s						
ATHAL				AML	AML	00 15 49.5	
	1.7nm,0.6s						
ATHAL				AML	AML	00 15 49.5	
	1.7nm,0.6s						
LFK	**Lefkose**	**0.95**	**106**	Pg	**Pn**	**00 15 25.7**	**+0.3**
CSS	**Mathiatis**	**0.95**	**128**	Pg	**Pn**	**00 15 25.1**	**-0.3**
CSS	**Mathiatis**	**0.95**	**128**	*e*P	**Pn**	**00 15 25.2**	**-0.3**
CSS				S	**Sn**	**00 15 38.6**	**-0.6**
CSS				AML	AML	00 15 45.2	
	0.2nm,0.4s						
CSS				AML	AML	00 15 45.2	
	0.2nm,0.4s						
CSS				AML	AML	00 15 46.6	
	0.2nm,0.8s						
CSS				AML	AML	00 15 46.6	
	0.2nm,0.8s						
ASGA	**Asgata**	**1.02**	**138**	P	**Pn**	**00 15 26.8**	**+0.5**
ASGA				S	**Sn**	**00 15 42.1**	**+1.5**
ASGA				AML	AML	00 15 47.6	
	0.6nm,0.4s						
ASGA				AML	AML	00 15 47.6	
	0.6nm,0.4s						
BERE	**Bereket-Mersin**	**1.02**	**39**	Pg	**Pn**	**00 15 25.9**	**-0.6**
OREN	**Orenkoy-Mersin**	**1.06**	**52**	Pg	**Pn**	**00 15 26.1**	**-0.7**
AKK2	**Akkuyu-Mersin**	**1.08**	**57**	Pg	**Pn**	**00 15 26.7**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.10**	**56**	Pg	**Pn**	**00 15 26.8**	**-0.4**
MVOU	**Mavrovouni**	**1.12**	**118**	P	**Pn**	**00 15 27.3**	**-0.3**
MVOU				S	**Sn**

HNTI	**Hanita**	**3.35**	**136**	Pn		**Pn**	00 15 57.4	+0.2
HNTI				Sn		**Sn**	**00 16 35.1**	**-0.8**
HNTI	**Hanita**	**3.35**	**136**	P		**Pn**	00 15 57.3	+0.1
RCY	**Rachaya**	**3.48**	**125**	*e*P		**Pn**	**00 15 59.0**	**-0.1**
MMA0B	**Mount Meron ar**	**3.53**	**135**	Pn		**Pn**	**00 16 00.1**	**+0.4**
GEM	**Giv'at Ha'Em**	**3.55**	**130**	Pn		**Pn**	**00 16 00.3**	**+0.4**
GEM				Sn		**Sn**	**00 16 39.9**	**-0.9**
GEM	**Giv'at Ha'Em**	**3.55**	**130**	P		**Pn**	**00 15 59.6**	**-0.3**
OFRI	**`Ofer**	**3.62**	**143**	Pn		**Pn**	**00 16 00.7**	**-0.1**
OFRI				Sn		**Sn**	**00 16 41.4**	**-0.9**
OFRI	**`Ofer**	**3.62**	**143**	P		**Pn**	**00 16 00.6**	**-0.2**
BLGI	**Bet Lehem HaGe**	**3.63**	**140**	Pn		**Pn**	**00 16 01.1**	**+0.2**
BLGI	**Bet Lehem HaGe**	**3.63**	**140**	P		**Pn**	**00 16 01.6**	**+0.7**
SHMJ	**Saham**	**3.95**	**135**	P		**Pn**	**00 16 06.5**	**+1.2**
MMLI	**Mount Malkishu**	**3.98**	**140**	P		**Pn**	**00 16 06.3**	**+0.5**
MMLI				S		**Sn**	**00 16 50.2**	**-1.1**
MMLI	**Mount Malkishu**	**3.98**	**140**	Pn		**Pn**	**00 16 06.3**	**+0.5**
MMLI				Sn		**Sn**	**00 16 50.6**	**-0.7**
HMDT	**Nahal Hemdat**	**4.18**	**141**	Pn		**Pn**	**00 16 09.8**	**+1.4**
HMDT				Sn		**Sn**	**00 16 55.9**	**-0.2**
HMDT	**Nahal Hemdat**	**4.18**	**141**	P		**Pn**	**00 16 09.5**	**+1.1**
KARP	**Karpathos**	**4.29**	**271**	P		**Pn**	**00 16 09.7**	**-0.3**
UJAP	**Al Uja**	**4.39**	**144**	P		**Pn**	**00 16 12.3**	**+1.0**
AMAZ	**Amatzia**	**4.52**	**152**	P		**Pn**	**00 16 13.9**	**+0.8**
AMAZ				S		**Sn**	**00 17 03.7**	**-0.6**
AMAZ	**Amatzia**	**4.52**	**152**	Pn		**Pn**	**00 16 13.9**	**+0.8**
AMAZ				Sn		**Sn**	**00 17 03.1**	**-1.2**
HSUJ	**Al Zarqa**	**4.65**	**137**	P		**Pn**	**00 16 17.1**	**+2.2**
DSI	**Dead Sea**	**4.68**	**147**	Pn		**Pn**	**00 16 16.4**	**+1.2**
DSI	**Dead Sea**	**4.68**	**147**	P		**Pn**	**00 16 16.4**	**+1.2**
YTIR	**Yattir**	**4.75**	**151**	Pn		**Pn**	**00 16 17.3**	**+1.1**
YTIR				Sn		**Sn**	**00 17 09.4**	**-0.6**
YTIR	**Yattir**	**4.75**	**151**	P		**Pn**	**00 16 17.4**	**+1.2**
WALJ	**Wala**	**4.88**	**144**	P		**Pn**	**00 16 19.5**	**+1.5**
MDBI	**Mazsada**	**4.89**	**149**	P		**Pn**	**00 16 19.3**	**+1.3**
MSBI	**Mazada**	**4.89**	**149**	Pn		**Pn**	**00 16 19.6**	**+1.6**
MSBI				Sn		**Sn**	**00 17 13.6**	**+0.3**
KZIT	**Kziot**	**4.92**	**160**	P		**Pn**	**00 16 18.9**	**+0.3**
KZIT				S		**Sn**	**00 17 12.0**	**-2.2**
KZIT	**Kziot**	**4.92**	**160**	Pn		**Pn**	**00 16 19.0**	**+0.5**
KZIT				Sn		**Sn**	**00 17 13.1**	**-1.1**
KZIT	**Kziot**	**4.92**	**160**	P		**Pn**	**00 16 18.8**	**+0.3**
LISJ	**El Lisan**	**5.00**	**148**	P		**Pn**	**00 16 21.4**	**+1.8**
ASF	**Jabal al Asfar**	**5.02**	**131**	P		**Pn**	**00 16 21.7**	**+1.7**
KARJ	**KARJ**	**5.18**	**148**	P		Pn	00 16 12.2	-10
PRNI	**Paran**	**5.62**	**157**	Pn		**Pn**	**00 16 28.6**	**+0.5**
PRNI				Sn		**Sn**	**00 17 30.9**	**-0.4**
PRNI	**Paran**	**5.62**	**157**	P		**Pn**	**00 16 28.4**	**+0.3**
KRMI	**Paran Flat**	**5.75**	**160**	Pn		**Pn**	**00 16 29.9**	**-0.1**
HRFI	**Mount Harif**	**5.92**	**157**	Pn		**Pn**	**00 16 32.7**	**+0.4**
HRFI				Sn		**Sn**	**00 17 37.4**	**-1.4**
MBRI	**Mt Berech**	**6.11**	**159**	Pn		**Pn**	**00 16 35.3**	**+0.4**
MBRI	**Mt Berech**	**6.11**	**159**	P		**Pn**	**00 16 35.1**	**+0.2**
EIL	**Elat**	**6.24**	**159**	Pn		**Pn**	**00 16 37.1**	**+0.5**
EIL	**Elat**	**6.24**	**159**	P		**Pn**	**00 16 37.1**	**+0.5**

*UPP **14** 00:27:41.5±0.0, 67°.85N×20°.21E, h0km, ML2.1, Suspected explosion*
*HEL **14** 00:27:41.9±0.1, 67°.84N×20°.20E, h0km, ML1.8, Suspected explosion*
*IDC **14** 00:27:42.3±1.1, 67°.77N×20°.86E, h0km, mbtmp3.1/4, ML2.1/4, Error ellipse: s-maj=21.4km s-min=7.4km az=121.0*

ISC 14 00:27:41.8±0.8, **67°.84N**±0°.02×**20°.22E**±0°.03, **h0**km, **n32**, σ0§**96**/46, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.24**	**266**	P	**Pg**	**00 27 46.2**	**-0.2**
RATU				S	**Sg**	**00 27 49.8**	**+0.3**
KOVU	**Salmi**	**0.38**	**356**	P	**Pg**	**00 27 48.8**	**-0.4**
KOVU				S	**Sg**	**00 27 54.0**	**-0.1**
NIKU	**Nikkaluokta**	**0.45**	**274**	P	**Pg**	**00 27 50.1**	**-0.4**
LANU	**Lannavaara**	**0.70**	**72**	P	**Pg**	**00 27 54.8**	**-0.4**
LANU	**Lannavaara**	**0.70**	**72**	PG	**Pg**	**00 27 54.7**	**-0.4**
	baz=256						
LANU				SG	**Sg**	**00 28 03.9**	**-0.2**
DUNU	**Dundret**	**0.73**	**169**	P	**Pg**	**00 27 55.5**	**-0.4**
MASU	**Masugnsbyn**	**0.78**	**119**	P	**Pg**	**00 27 56.5**	**-0.2**
SALU	**Saltoluokta**	**0.81**	**236**	P	**Pg**	**00 27 56.6**	**-0.5**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pg**	**00 28 04.0**	**-0.5**
KIF	**Kilpisjarvi**	**1.19**	**10**	PG	**Pg**	**00 28 04.1**	**-0.5**
KIF				MSG		00 28 19.2	
	comp=Z,15nm,0.2s						
KIF				SB	**Sb**	**00 28 20.3**	**-0.7**
PAJU	**Pajala**	**1.39**	**125**	P	**Pg**	**00 28 07.0**	**-1.3**
PAJU	**Pajala**	**1.39**	**125**	PG	**Pg**	**00 28 06.7**	**-1.5**
PAJU				SN	**Sg**	**00 28 25.9**	**-0.3**
HEF	**Hetta**	**1.41**	**65**	*e*P	**Pn**	**00 28 07.5**	**-1.2**
HEF	**Hetta**	**1.41**	**65**	PG	**Pn**	**00 28 07.4**	**-1.2**
	baz=251						
HEF				MSG		00 28 24.4	
	comp=Z,9.8nm,0.2s						
HEF				SB	**Sg**	**00 28 26.7**	**-0.2**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**00 28 09.1**	**-0.9**
ERTU	**Ertsjaerv**	**1.50**	**148**	PG	**Pn**	**00 28 09.0**	**-1.0**
ERTU				SN	**Sn**	**00 28 30.5**	**+0.3**
KTK1	**Kautokeino**	**1.62**	**42**	PG	**Pn**	**00 28 11.1**	**-0.5**
KTK1				SN	**Sb**	**00 28 33.0**	**-0.4**
HARU	**Harads**	**1.71**	**170**	P	**Pn**	**00 28 12.8**	**0.0**
TRO	**Tromso**	**1.86**	**346**	PG	**Pn**	**00 28 15.4**	**+0.5**
TRO				SG	**Sb**	**00 28 40.0**	**-0.4**
TOF	**Tornio**	**2.39**	**136**	PB	**Pn**	**00 28 23.3**	**+1.2**
TOF				MSG		00 28 52.9	
	comp=Z,2.8nm,0.2s						
TOF				SG	**Sb**	**00 28 56.2**	**+0.5**
SGF	**Sodankyl**	**2.44**	**97**	PB	**Pn**	**00 28 23.9**	**+1.0**
SGF				SG	**Sb**	**00 28 57.8**	**+0.6**
RNF	**Rovaniemi**	**2.57**	**116**	PB	**Pn**	**00 28 26.2**	**+1.6**
	baz=305						
RNF				SG	**Sb**	**00 29 00.0**	**-0.7**
ARA0	**ARCESS Array S**	**2.57**	**46**	PN	**Pn**	**00 28 25.0**	**+0.3**
ARA0				SG	**Sb**	**00 28 59.9**	**-1.0**
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**00 28 25.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=225,slow=15,SNR=34						
ARCES				Lg	Lg	00 28 58.0	
	comp=Z,0.9nm,0.3s,baz=224,slow=24,SNR=12						
	comp=Z,1.2nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	PN	**Pn**	**00 28 33.0**	**+0.7**
KEV				SB	**Sn**	**00 29 12.4**	**+2.2**
KEV				MSG		00 29 13.9	
	comp=Z,1.9nm,0.2s						
VRF	**Varrio**	**3.56**	**87**	PB	**Pn**	**00 28 41.2**	**+2.9**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**00 28 43.8**	**+1.0**
MSF	**Maaselka**	**3.98**	**115**	PN	**Pn**	**00 28 45.5**	**+1.5**
KU6	**Riekki**	**4.22**	**111**	PN	**Pn**	**00 28 48.6**	**+1.3**
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**00 29 23.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=349,slow=3.9,SNR=4.6						
FINES				Lg	Lg	00 31 11.3	
	comp=Z,0.1nm,0.3s,baz=346,slow=26,SNR=3.0						
	comp=Z,3.3nm,1.1s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**00 29 36.1**	**-1.0**
	baz=23,slow=11,SNR=4.2						
NOA				Lg	Lg	00 31 48.4	
	baz=28,slow=21,SNR=1.3						
	comp=Z,0.6nm,0.8s						
HFS	**Hagfors**	**8.25**	**203**	Pn	**Pn**	**00 29 42.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=13,slow=14,SNR=1.5						
	comp=Z,2.3nm,0.9s						

WEL 14 00:27:47.7±0.6, **42°S**±2°×**17°4E**±°, **h5**km±3km, **M2.4/8, ML2.6/8, MLv2.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=116.5, confirmed, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.31**	**31**	P	Pg	00 27 54.2	+0.4
BSWZ				S	Sg	00 27 59.5	+1.6
KHZ	**Kahutara**	**0.44**	**192**	P	Pg	00 27 56.4	+0.3
KHZ				S	Sg	00 28 02.7	+0.8
TUWZ	**Tuamarina**	**0.59**	**21**	P	Pg	00 27 59.3	+0.3
TUWZ				S	Sb	00 28 05.5	-0.8
THZ	**Tophouse**	**0.61**	**291**	P	Pg	00 27 59.7	+0.4
THZ				S	Sg	00 28 08.4	+1.2
NNZ	**Nelson**	**0.80**	**344**	P	Pg	00 28 02.8	-0.1
NNZ				S	Sg	00 28 13.5	+0.2
MRNZ	**Matariki Tera**	**0.90**	**310**	P	Pb	00 28 05.4	-0.3
MRNZ				S	Sb	00 28 17.7	-0.3
TCW	**Tory Channel**	**0.90**	**31**	P	Pg	00 28 04.5	-0.4
TCW				S	Sg	00 28 16.9	+0.3
GVZ	**Greta Valley S**	**1.09**	**205**	P	Pg	00 28 08.2	-0.3
GVZ				S	Sb	00 28 23.9	+0.4
TKNZ	**Takaka Hill**	**1.09**	**331**	P	Pg	00 28 08.4	-0.1
TKNZ				S	Sb	00 28 23.3	-0.2
DUWZ	**D'Urville Isla**	**1.20**	**9**	P	Pg	00 28 09.8	-0.8
DUWZ				S	Sb	00 28 26.8	0.0
PLWZ	**Palliser**	**1.26**	**71**	P	Pg	00 28 09.9	-1.9
LTZ	**Lake Taylor**	**1.30**	**232**	P	Pn	00 28 11.6	-1.0
CAW	**Cannon Point**	**1.37**	**51**	P	Pn	00 28 12.1	-1.4
DSZ	**Denniston Nort**	**1.41**	**279**	P	Pg	00 28 15.0	+0.3
QRZ	**Quartz Range**	**1.44**	**323**	P	Pn	00 28 14.1	-0.3
KIW	**Kapiti Island**	**1.46**	**40**	P	Pn	00 28 13.3	-1.5
MTW	**Mount Morrison**	**1.61**	**60**	P	Pn	00 28 14.5	-2.2
OGWZ	**Otaki Gorge**	**1.63**	**45**	P	Pn	00 28 15.8	-1.3
INZ	**Inchbonnie**	**1.80**	**245**	P	Pn	00 28 19.4	0.0
MQZ	**McQueen's Vall**	**1.87**	**203**	P	Pn	00 28 17.4	-3.0
MRZ	**Mangatainoka R**	**1.96**	**48**	P	Pn	00 28 19.7	-1.9
AKCZ	**Akaroa Harbour**	**1.97**	**196**	P	Pn	00 28 19.8	-1.9
WAZ	**Wanganui**	**2.44**	**25**	P	Pb	00 28 32.0	-0.1
OTVZ	**Oturere**	**3.20**	**29**	P	Pb	00 28 42.5	-2.7

*IDC **14** 00:39:46.7±11.0, 23°.78S×179°.74W, h536km±125km, mb3.8/4, mbtmp4.6/5, Error ellipse: s-maj=119.0km s-min=41.7km az=18.0*
*NEIC **14** 00:39:46.5±1.0, 23°.6S±0°.2×179°.4W±0°.1, h565km±17km, mb4.4/20, Error ellipse: s-maj=28.1km s-min=15.1km az=212.0*

ISC 14 00:39:45.6±0.9, **23°.7S**±0°.2×**179°.5W**±0°.1, **h536**km, **n34**, σ1§**23**/33, **mb4.4**/11, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.06**	**64**	P	**P**	**00 42 03.7**	**-0.4**
MARNC	**Mare, Loyalty**	**11.73**	**279**	P	**P**	**00 42 23.8**	**+2.5**
PINNC	**Pines Island,**	**12.05**	**273**	P	**P**	**00 42 24.2**	**-0.5**
URZ	**Urewera**	**14.76**	**190**	P	**P**	**00 42 52.4**	**-0.1**
	2.7nm,0.3s,baz=4.2,slow=2.8,SNR=7.1						
RTZ	**Ruatahuna**	**15.12**	**191**	P	**P**	**00 42 58.4**	**+1.9**
BKZ	**Black Stump Fm**	**15.75**	**192**	P	**P**	**00 43 03.6**	**+0.7**
BKZ				IAmb	IAmb	00 43 07.9	
	comp=Z,11nm,0.8s						
BFZ	**Birch Farm**	**17.26**	**191**	P	**P**	**00 43 18.1**	**+0.9**
MRZ	**Mangatainoka R**	**17.37**	**193**	P	**P**	**00 43 18.9**	**+0.7**
MRZ				IAmb	IAmb	00 43 20.6	
	comp=Z,12nm,1.0s						
QRZ	**Quartz Range**	**18.30**	**200**	P	**P**	**00 43 28.6**	**+1.9**
TKNZ	**Takaka Hill**	**18.36**	**198**	P	**P**	**00 43 28.9**	**+1.6**
MRNZ	**Matariki Terra**	**18.76**	**198**	P	**P**	**00 43 32.0**	**+1.2**
THZ	**Tophouse**	**19.05**	**198**	P	**P**	**00 43 35.0**	**+1.4**
DSZ	**Denniston Nort**	**19.36**	**200**	P	**P**	**00 43 37.1**	**+0.7**
INZ	**Inchbonnie**	**20.36**	**199**	P	**P**	**00 43 46.6**	**+1.1**
INZ				IAmb	IAmb	00 43 49.7	
	comp=Z,14nm,1.0s						
EIDS	**Eidsvold**	**26.77**	**260**	P	**P**	**00 44 42.7**	**-0.1**
EIDS				IAmb	IAmb	00 44 43.3	
	comp=Z,4.8nm,0.6s						
CTA	**Charters Tower**	**31.92**	**270**	P	**P**	**00 45 27.2**	**-0.3**
	comp=Z,14nm,0.4s,baz=94,slow=10,SNR=49						
	comp=Z,14nm,0.4s						
CTAO	**Charters Tower**	**31.92**	**270**	P	**P**	**00 45 27.3**	**-0.2**
TOO	**Toolangi**	**32.91**	**237**	P	**P**	**00 45 35.3**	**-0.4**
TOO				IAmb	IAmb	00 45 39.0	
	comp=Z,9.7nm,0.9s						
BBOO	**Buckleboo**	**39.92**	**247**	P	**P**	**00 46 32.4**	**-1.1**
BBOO				IAmb	IAmb	00 46 34.1	
	comp=Z,9.8nm,0.9s						
AS31	**Alice Springs**	**42.50**	**260**	P	**P**	**00 46 53.3**	**-0.8**
ASAR	**Alice Springs**	**42.50**	**260**	P	**P**	**00 46 53.5**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=100,slow=7.2,SNR=61						
	comp=Z,5.2nm,0.7s						
ASAR	**Alice Springs**	**42.50**	**260**	P	**P**	**00 46 53.3**	**-0.9**
WR0	**Warramunga Arr**	**42.68**	**266**	P	**P**	**00 46 54.4**	**-1.2**
WB2	**Warramunga Arr**	**42.85**	**266**	P	**P**	**00 46 55.6**	**-1.3**
WB2				IAmb	IAmb	00 46 56.3	
	comp=Z,7.7nm,0.8s						
WB0	**Warramunga Arr**	**42.86**	**266**	P	**P**	**00 46 55.5**	**-1.5**
WB0				IAmb	IAmb	00 46 56.3	
	comp=Z,9.5nm,0.7s						
WRAB	**Tennant Creek**	**42.86**	**266**	P	**P**	**00 46 55.7**	**-1.2**
WRAB				IAmb	IAmb	00 46 56.3	
	comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**42.86**	**266**	P	**P**	**00 46 55.5**	**-1.6**
	comp=Z,7.1nm,0.5s,baz=92,slow=8.3,SNR=96						
	comp=Z,7.1nm,0.5s						
WRA	**Warramunga Arr**	**42.86**	**266**	P	**P**	**00 46 55.7**	**-1.3**
FORT	**Forrest**	**46.78**	**249**		**P**	**00 47 26.1**	**-0.9**
KNRA	**Kununurra**	**49.13**	**269**	P	**P**	**00 47 43.8**	**-0.9**
KNRA				IAmb	IAmb	00 47 45.2	
	comp=Z,6.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P	**P**	**00 51 50.0**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=152,slow=4.1,SNR=5.4						
	comp=Z,0.5nm,0.3s						
AKASG	**Malin Array Be**	**145.08**	**328**	PKPbc	PKPbc	00 58 22.2	-0.3
	comp=Z,0.7nm,0.4s,baz=47,slow=3.9,SNR=9.5						
BRTR	**Keskin Array B**	**147.84**	**308**	PKPbc	**PKiKP**	**00 58 30.9**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=64,slow=3.4,SNR=3.1						
CLL	**Collm**	**150.83**	**344**	*e*PKPbc	**PKiKP**	**00 58 38.0**	**+0.3**

*NOU **14** 00:50:11.7, 42°.52S×174°.00E, h6km, MLv3.8/9, Off E. Coast of S. Island, N.Z.*
*WEL **14** 00:50:13.4±0.5, 42°.5S±2°×17°.4E±°, h8km±3km, M3.4/17, ML3.6/17, MLv3.4/17, Error ellipse: s-maj=0.0km s-min=0.0km az=115.7, confirmed*

ISC 14 00:50:11.8±1.2, **42°.42S**±0°.03×**173°.96E**±0°.03, **h11**km±10km, **n64**, σ1§**16**/74, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**271**	P	**Pb**	**00 50 19.1**	**-0.2**
KHZ	**Kahutara**	**0.31**	**271**	P	**Pg**	**00 50 18.4**	**+0.4**
KHZ				S	**Sg**	**00 50 22.7**	**+0.6**
CMWZ	**Cape Campbell**	**0.70**	**16**	P	**Pn**	**00 50 28.7**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.71**	**355**	P	**Pn**	**00 50 26.8**	**-1.0**
BSWZ				S	**Sb**	**00 50 35.7**	**-0.1**
GVZ	**Greta Valley S**	**0.87**	**231**	P	**Pn**	**00 50 25.5**	**+0.4**
GVZ				S	**Sn**	**00 50 43.3**	**+0.5**
TUWZ	**Tuamarina**	**0.99**	**359**	P	**Pn**	**00 50 32.2**	**+0.6**
TUWZ				S	**Sn**	**00 50 45.7**	**+0.1**
THZ	**Tophouse**	**1.02**	**310**	P	**Pb**	**00 50 30.9**	**-0.7**
AMCZ	**Amberley**	**1.22**	**231**	P	**Pg**	**00 50 35.5**	**+0.3**
TCW	**Tory Channel**	**1.23**	**11**	P	**Pg**	**00 50 35.6**	**+0.2**
TCW				S	**Sg**	**00 50 51.6**	**+0.2**
SNZO	**South Karori**	**1.24**	**27**	P	**Pg**	**00 50 36.3**	**+0.7**
NNZ	**Nelson**	**1.28**	**340**	P	**Pg**	**00 50 36.0**	**-0.3**
NNZ				S	**Sg**	**00 50 52.6**	**-0.2**
WEL	**Wellington**	**1.29**	**28**	P	**Pg**	**00 50 36.9**	**+0.4**
PLWZ	**Palliser**	**1.29**	**49**	P	**Pg**	**00 50 36.8**	**+0.3**
LTZ	**Lake Taylor**	**1.30**	**253**	P	**Pn**	**00 50 35.9**	**0.0**
LTZ				S	**Sb**	**00 50 52.5**	**-0.4**
MRNZ	**Matariki Terra**	**1.36**	**318**	P	**Pg**	**00 50 37.3**	**-0.6**
MRNZ				S	**Sg**	**00 50 55.8**	**+0.4**
OKCZ	**Okains Bay**	**1.46**	**206**	P	**Pb**	**00 50 39.0**	**0.0**
PAWZ	**Paruwai Farm**	**1.51**	**47**	P	**Pb**	**00 50 39.8**	**-0.2**
CAW	**Cannon Point**	**1.55**	**33**	P	**Pb**	**00 50 40.4**	**-0.2**
TKNZ	**Takaka Hill**	**1.57**	**331**	P	**Pb**	**00 50 40.7**	**-0.2**
TKNZ				S	**Sg**	**00 51 02.0**	**-0.3**
MQZ	**McQueen's Vall**	**1.60**	**216**	P	**Pn**	**00 50 40.0**	**0.0**
DUWZ	**D'Urville Isla**	**1.62**	**359**	P	**Pb**	**00 50 41.6**	**0.0**
DUWZ				S	**Sg**	**00 51 02.1**	**-1.6**
AKCZ	**Akaroa Harbour**	**1.64**	**207**	P	**Pn**	**00 50 41.2**	**+0.5**
TRWZ	**Traveller**	**1.65**	**52**	P	**Pb**	**00 50 41.4**	**-0.8**
OXZ	**Oxford**	**1.68**	**237**	P	**Pn**	**00 50 40.9**	**-0.2**
MTW	**Mount Morrison**	**1.71**	**43**	P	**Pn**	**00 50 42.2**	**+0.6**
KIW	**Kapiti Island**	**1.71**	**25**	P	**Pb**	**00 50 42.8**	**-0.5**
DSZ	**Denniston Nort**	**1.74**	**292**	P	**Pn**	**00 50 42.5**	**+0.5**
OGWZ	**Otaki Gorge**	**1.84**	**30**	P	**Pb**	**00 50 44.2**	**-1.3**
RACZ	**Rakaia**	**1.86**	**225**	P	**Pn**	**00 50 43.7**	**0.0**
INZ	**Inchbonnie**	**1.88**	**260**	P	**Pn**	**00 50 44.0**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.92**	**38**	P	**Pb**	**00 50 45.9**	**-0.9**
QRZ	**Quartz Range**	**1.92**	**326**	P	**Pb**	**00 50 46.0**	**-0.8**
QRZ	**Quartz Range**	**1.92**	**326**	P	**Pb**	**00 50 45.7**	**-1.1**
TMWZ	**Te Maipa**	**1.95**	**48**	P	**Pn**	**00 50 45.3**	**+0.3**
MHCZ	**Mount Hutt**	**2.08**	**237**	P	**Pn**	**00 50 46.3**	**-0.3**
MRZ	**Mangatainoka R**	**2.14**	**35**	P	**Pn**	**00 50 47.9**	**+0.5**
WACZ	**Wakanui South**	**2.17**	**225**	P	**Pn**	**00 50 48.1**	**+0.2**
BFZ	**Birch Farm**	**2.44**	**45**	P	**Pn**	**00 50 51.9**	**+0.3**
BFZ	**Birch Farm**	**2.44**	**45**	P	**Pn**	**00 50 51.7**	**+0.1**
WVZ	**Waitaha Valley**	**2.46**	**253**	P	**Pn**	**00 50 52.4**	**+0.6**
RPZ	**Rata Peaks**	**2.49**	**238**	P	**Pn**	**00 50 52.3**	**0.0**
RPZ	**Rata Peaks**	**2.49**	**238**	P	**Pn**	**00 50 52.2**	**-0.1**
ARCZ	**Arundel**	**2.54**	**232**	P	**Pn**	**00 50 52.9**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.81**	**250**	P	**Pn**	**00 50 57.4**	**+0.6**
TMZ	**Timaru**	**2.91**	**227**	P	**Pn**	**00 50 58.3**	**+0.2**
KHEZ	**Kahui Hut**	**3.12**	**1**	P	**Pb**	**00 51 09.0**	**+1.7**
FOZ	**Fox Glacier**	**3.24**	**249**	P	**Pn**	**00 51 03.1**	**+0.6**
WNVZ	**Wahianoa**	**3.33**	**22**	P	**Pn**	**00 51 07.1**	**+3.1**
BHHZ	**Black Hill Sta**	**3.33**	**29**	P	**Pb**	**00 51 09.2**	**-1.7**
TRVZ	**Turoa**	**3.34**	**22**	P	**Pb**	**00 51 11.5**	**+0.2**
LBZ	**Lake Benmore**	**3.38**	**233**	P	**Pn**	**00 51 04.9**	**+0.4**
SNVZ	**South Ngauruho**	**3.47**	**22**	P	**Pb**	**00 51 09.9**	**-3.5**
OTVZ	**Oturere**	**3.50**	**22**	P	**Pb**	**00 51 10.1**	**-3.8**
NNVZ	**North Ngauruho**	**3.52**	**22**	P	**Pb**	**00 51 12.5**	**-1.7**
ETVZ	**East Tongariro**	**3.54**	**23**	P	**Pb**	**00 51 10.6**	**-3.9**
ODZ	**Otahua Downs**	**3.56**	**221**	P	**Pn**	**00 51 06.9**	**0.0**
ODZ	**Otahua Downs**	**3.56**	**221**	P	**Pn**	**00 51 06.9**	**0.0**
TMVZ	**Te Maari**	**3.56**	**22**	P	**Pb**	**00 51 14.9**	**+0.1**
HIZ	**Hauiti**	**3.96**	**10**	P	**Pn**	**00 51 14.9**	**+2.4**
HIZ	**Hauiti**	**3.96**	**10**	P	**Pb**	**00 51 15.9**	**+3.3**
JCZ	**Jackson Bay**	**4.12**	**245**	P	**Pn**	**00 51 15.0**	**+0.2**
JCZ	**Jackson Bay**	**4.12**	**245**	P	**Pn**	**00 51 15.3**	**+0.5**
EAZ	**Earnscleugh**	**4.38**	**229**	P	**Pn**	**00 51 18.7**	**+0.4**
SYZ	**Scrubby Hill**	**5.37**	**218**	P	**Pn**	**00 51 32.0**	**+0.2**

*IDC **14** 00:53:28.4±0.8, 21°.42N×145°.81E, h0km, mb4.0/17, mbtmp4.0/18, ML2.8/1, MS3.2/10, Error ellipse: s-maj=26.0km s-min=17.6km az=86.0*

ISC 14 00:53:32.9±0.9, **21°.5N**±0°.1×**145°.8E**±0°.2, **h29**km, **n31**, σ0§**94**/20, **mb3.9**/17, **MS3.2**/8, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.86**	**186**	LR	LR	00 57 53.3	
	comp=Z,102nm,18.8s,baz=126,slow=34						
MJAR	**Matsushiro Arr**	**16.42**	**338**	Pn	**Pn**	**00 57 20.1**	**-1.1**
	baz=165,slow=9.7,SNR=3.3						
	2.9nm,0.9s						
JNU	**Nakatsue**	**17.59**	**314**	LR	LR	01 02 51.9	
	comp=Z,65nm,19.6s,baz=119,slow=32						
H11N1	**WAKE ISLAND Hy 19.85**	**91**		T	T	01 19 05.4	
	baz=276,slow=75,SNR=4.0						
H11N2	**WAKE ISLAND Hy 19.85**	**91**		T	T	01 19 01.9	
	baz=276,slow=75,SNR=4.4						
H11N3	**WAKE ISLAND Hy 19.87**	**91**		T	T	01 19 12.0	
	baz=276,slow=75,SNR=3.4						
H11S3	**WAKE ISLAND Hy 19.88**	**95**		T	T	01 18 57.8	
	baz=274,slow=76,SNR=5.0						
H11S1	**WAKE ISLAND Hy 19.89**	**95**		T	T	01 18 59.2	
	baz=274,slow=76,SNR=3.8						
H11S2	**WAKE ISLAND Hy 19.89**	**95**		T	T	01 19 04.6	
	baz=274,slow=76,SNR=2.9						
KSRS	**Korea Array**	**22.21**	**320**	P	**P**	**00 58 28.6**	**+1.6**
	2.7nm,0.9s

PB09					IAML			00 59 25.3	
	comp=N,140nm,0.3s								
PB09					IAML			00 59 25.9	
	comp=E,140nm,0.3s								
PB03	**IPOC Station P**	**3.07 306**				**Pn**		**00 58 49.1**	**+0.8**
PB03				Sn		**Sn**		**00 59 26.4**	**-0.8**
PB03	**IPOC Station P**	**3.07 306**	⇑	*eP*		**Pn**		**00 58 49.3**	**+1.0**
PB03				*eS*		**Sn**		**00 59 26.1**	**-1.1**
PB03				IAML				00 59 27.3	
	comp=E,222nm,0.3s								
PB14	**IPOC Station P**	**3.12 256**	Pn			**Pn**		**00 58 49.5**	**+0.5**
PB14			Sn			**Sn**		**00 59 28.5**	**+0.1**
PB14	**IPOC Station P**	**3.12 256**	⇑	*eP*		**Pn**		**00 58 49.7**	**+0.7**
PB14				*eS*		**Sn**		**00 59 27.8**	**-0.6**
PB14				IAML				00 59 31.6	
	comp=E,100nm,0.5s								
PB10	**IPOC Station P**	**3.20 276**				**Pn**		**00 58 50.6**	**+0.9**
PB10			Sn			**Sn**		**00 59 29.4**	**-0.3**
PB10	**IPOC Station P**	**3.20 276**	⇑	*eP*		**Pn**		**00 58 50.9**	**+1.2**
PB10				*eS*		**Sn**		**00 59 28.4**	**-1.4**
PB10				IAML				00 59 32.2	
	comp=E,149nm,0.3s								
PB04	**IPOC Station P**	**3.22 298**	Pn			**Pn**		**00 58 50.8**	**+0.7**
PB04			Sn			**Sn**		**00 59 29.9**	**-0.6**
PB04	**IPOC Station P**	**3.22 298**	⇑	*eP*		**Pn**		**00 58 50.6**	**+0.5**
PB04				*eS*		**Sn**		**00 59 28.3**	**-2.2**
PB04				IAML				00 59 31.8	
	comp=N,256nm,0.3s								
PB07	**IPOC Station P**	**3.37 309**	Pn			**Pn**		**00 58 52.5**	**+0.6**
PB07			Sn			**Sn**		**00 59 32.3**	**-1.4**
PB07	**IPOC Station P**	**3.37 309**	⇑	*eP*		**Pn**		**00 58 52.7**	**+0.8**
PB07				*eS*		**Sn**		**00 59 32.1**	**-1.6**
PB07				IAML				00 59 34.1	
	comp=E,354nm,0.5s								
AC02	**Maricunga**	**3.46 212**	Pn			**Pn**		**00 58 54.7**	**+1.3**
AC02			Sn			**Sn**		**00 59 38.2**	**+1.7**
PB01	**IPOC Station P**	**3.60 321**				**Pn**		**00 58 54.8**	**0.0**
PB01	**IPOC Station P**	**3.60 321**	⇑	*eP*		**Pn**		**00 58 54.5**	**-0.3**
PB01				*eS*		**Sn**		**00 59 37.4**	**-1.5**
PB02	**IPOC Station P**	**3.65 314**				**Pn**		**00 58 55.9**	**+0.5**
PB02			Sn			**Sn**		**00 59 38.0**	**-1.9**
PB02	**IPOC Station P**	**3.65 314**	⇑	*eP*		**Pn**		**00 58 55.7**	**+0.3**
PB02				*eS*		**Sn**		**00 59 37.8**	**-2.1**
PB02				IAML				00 59 43.2	
	comp=E,298nm,0.3s								
AC01	**Pan de Azucar**	**3.90 234**	Pn			**Pn**		**00 58 58.3**	**0.0**
AC01			Sn			**Sn**		**00 59 42.8**	**-2.6**
AC01	**Pan de Azucar**	**3.90 234**	⇑	*eP*		**Pn**		**00 58 58.2**	**-0.2**
AC01				*eS*		**Sn**		**00 59 43.4**	**-1.9**
AC01				IAML				00 59 44.3	
	comp=E,147nm,0.5s								
PATCX	**Punta Patache**	**4.17 317**	Pn			**Pn**		**00 59 02.1**	**+0.1**
PATCX	**Punta Patache**	**4.17 317**	⇑	*eP*		**Pn**		**00 59 02.3**	**+0.3**
PATCX				*eS*		**Sn**		**00 59 49.2**	**-2.6**
PATCX				IAML				00 59 56.6	
	comp=E,114nm,0.4s								
PB08	**IPOC Station P**	**4.20 332**				**Pn**		**00 59 02.5**	**-0.2**
PB08			Sn			**Sn**		**00 59 52.6**	**-0.2**
PB08	**IPOC Station P**	**4.20 332**	⇑	*eP*		**Pn**		**00 59 03.6**	**+1.0**
PB08				*eS*		**Sn**		**00 59 51.3**	**-1.5**
PB08				IAML				00 59 58.4	
	comp=E,78nm,0.6s								
TA01	**Diego Aracena**	**4.38 319**				**Pn**		**00 59 04.1**	**-0.4**
HMBC	**Humberstone**	**4.44 324**	⇑	*eP*		**Pn**		**00 59 05.0**	**-0.4**
HMBC				*eS*		**Sn**		**00 59 54.5**	**-3.4**
HMBC				IAML				01 00 02.5	
	comp=N,170nm,0.3s								
AC06	**Mina Casimiro**	**4.54 220**	Sn			**Sn**		**00 59 57.2**	**-2.9**
TA02	**Huaiquique**	**4.58 321**	Pn			**Pn**		**00 59 07.5**	**+0.4**
GO01	**Chusmiza**	**4.64 335**				**Pn**		**00 59 08.0**	**-0.3**
GO03	**Copiap**	**4.65 217**	Pn			**Pn**		**00 59 07.5**	**-0.6**
PB11	**IPOC Station P**	**4.76 329**				**Pn**		**00 59 08.9**	**-0.6**
PB11	**IPOC Station P**	**4.76 329**	⇑	*eP*		**Pn**		**00 59 09.6**	**+0.1**
PB11				*eS*		**Sn**		**01 00 02.6**	**-2.8**
PB11				IAML				01 00 09.6	
	comp=N,85nm,0.5s								
PSGCX	**Pisagua**	**5.12 326**	Pn			**Pn**		**00 59 13.2**	**-1.0**
MNMC	**Minye Minye**	**5.28 333**				**Pn**		**00 59 16.4**	**0.0**
AC04	**Llanos de Chal**	**5.59 219**				**Pn**		**00 59 20.6**	**+0.4**
AC05	**El Transito**	**5.69 209**	Pn			**Pn**		**00 59 21.2**	**-0.4**
PB16	**IPOC Station P**	**5.97 337**				**Pn**		**00 59 25.5**	**-0.2**
LCO	**Las Campanas**	**6.04 212**	Pn			**Pn**		**00 59 25.3**	**-0.9**
PB12	**IPOC Station P**	**6.06 329**	Pn			**Pn**		**00 59 26.0**	**-0.4**
CO01	**Juntas del Tor**	**6.63 203**	Pn			**Pn**		**00 59 34.9**	**+1.0**
GO04	**Tololo Observa**	**7.08 207**	Pn			**Pn**		**00 59 39.0**	**-0.8**
CO03	**El Pedregal**	**7.62 204**	Pn			**Pn**		**00 59 46.9**	**+0.1**
LPAZ	**La Paz**	**7.63 352**	P			**Pn**		**00 59 49.5**	**+1.9**
	comp=N,0.5nm,0.3s,baz=297,slow=15,SNR=2.6								
LPAZ			S			**Sn**		**01 01 10.8**	**-3.0**
	comp=N,0.7nm,0.5s,baz=241,slow=15,SNR=2.2								
LPAZ	**La Paz**	**7.63 352**	Pn			**Pn**		**00 59 47.2**	**-0.3**
CFA	**Coronel Fontan**	**7.75 187**	P			**Pn**		**00 59 48.2**	**-0.2**
	comp=N,0.8nm,0.3s,baz=17,slow=17,SNR=2.4								
CFA			S			**Sn**		**01 01 11.4**	**-4.2**
	comp=N,1.8nm,0.4s,baz=296,slow=20,SNR=2.7								
BBRB	**Robore, Bolivi**	**8.79**	**52**	*eP*		**Pn**		**00 59 59.6**	**-2.6**
BBSD	**Serra de San D**	**9.02**	**43**	*eP*		**Pn**		**01 00 04.1**	**-1.0**
MURT	**Porto Murtinho**	**9.02**	**78**	*eP*		**Pn**		**01 00 04.3**	**-0.9**
CPUP	**Villa Florida**	**9.17**	**107**	P		**Pn**		**01 00 06.3**	**-0.8**
	comp=N,1.8nm,0.7s,baz=300,slow=14,SNR=5.0								
SIV	**San Ignacio**	**9.68**	**37**	P		**Pn**		**01 00 11.9**	**-2.0**
	comp=N,3.7nm,0.5s,baz=212,slow=13,SNR=25								
SIV			S			**Sn**		**01 01 57.4**	**-4.5**
	comp=N,1.4nm,0.8s,baz=111,slow=22,SNR=2.2								
AQDB	**Aquidauana**	**11.08**	**74**	*eP*		**Pn**		**01 00 33.7**	**+1.7**
PTLB	**Pontes e Lacer**	**11.25**	**43**			**Pn**		**01 00 30.1**	**-4.1**
PTLB	**Pontes e Lacer**	**11.25**	**43**	*eP*		**Pn**		**01 00 33.1**	**-1.1**
SALV	**Santo Antonio**	**13.34**	**55**	*eP*		**Pn**		**01 01 00.1**	**-0.7**
PTGB	**Pitanga**	**13.72**	**96**	*eP*		**P**		**01 01 09.1**	**+0.7**
CPSB	**Cacapava Do Su**	**13.77**	**121**	*eP*		**P**		**01 01 09.8**	**+1.2**
ITAB	**Concordia**	**13.90**	**107**			**Pn**		**01 01 06.5**	**-1.2**
ITAB	**Concordia**	**13.90**	**107**	*eP*		**P**		**01 01 10.8**	**+0.7**
TRQA	**Tornquist**	**14.78**	**164**			**Pn**		**01 01 18.0**	**-0.6**
FRTB	**Fartura**	**16.07**	**92**	*eP*		**P**		**01 01 34.6**	**+0.3**
GO06	**Curarrehue**	**16.08**	**192**	Pn		**Pn**		**01 01 35.9**	**+1.4**
GO06				IAmb		IAmb		01 01 37.8	
	comp=Z,3.4nm,0.8s								
ITRB	**Iturama**	**16.08**	**78**	*eP*		**Pn**		**01 01 36.6**	**+2.0**
ARAG	**Araguaiana, MT**	**16.51**	**63**	*eP*		**Pn**		**01 01 40.6**	**+0.8**
CLDB	**Colider**	**16.83**	**42**	*eP*		**P**		**01 01 41.8**	**-0.9**
PLCA	**Paso Flores**	**17.04**	**189**	P		**Pn**		**01 01 46.6**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=349,slow=13,SNR=1.7								
PLCA	**Paso Flores**	**17.04**	**189**	Pn		**Pn**		**01 01 46.3**	**+0.3**
IPMB	**Ipameri, GO**	**18.58**	**75**	*eP*		**P**		**01 02 02.4**	**+0.7**
PARB	**Paraibuna**	**19.68**	**93**	*eP*		**P**		**01 02 15.2**	**+1.6**
BDFB	**Brasilia**	**19.72**	**69**	P		**P**		**01 02 15.0**	**+0.8**
	comp=Z,10nm,0.7s,baz=229,slow=9.7,SNR=17								
BDFB	**Brasilia**	**19.72**	**69**	P		**P**		**01 02 14.8**	**+0.6**
BDFB				IAmb		IAmb		01 02 15.8	
	comp=Z,9.6nm,0.8s								
BDFB	**Brasilia**	**19.72**	**69**	*eP*		**P**		**01 02 14.7**	**+0.6**
GO07	**Milladeo Hill,**	**19.93**	**194**	P		**P**		**01 02 16.8**	**+0.7**
ITTB	**Itaituba**	**22.29**	**31**	*eP*		**P**		**01 02 39.3**	**-1.5**
DIAM	**Diamantina, MG**	**22.53**	**80**	*eP*		**P**		**01 02 43.8**	**+0.6**
JANB	**Januaria**	**23.17**	**72**	*eP*		**P**		**01 02 48.8**	**-0.1**
SMTB	**Santa Maria do**	**23.89**	**55**	*eP*		**P**		**01 02 55.3**	**-0.2**
SDBA	**SAO DESIDERIO**	**23.93**	**65**	*eP*		**P**		**01 02 55.8**	**-0.1**
SJMB	**Sao Joao De Ma**	**24.66**	**83**	*eP*		**P**		**01 03 02.3**	**-0.1**
NAN01	**Guarapari, ES**	**25.88**	**82**	*eP*		**P**		**01 03 12.8**	**-0.6**
GDU01	**Guandu, BA**	**27.89**	**74**	*eP*		**P**		**01 03 30.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**76.60**	**69**	P		**P**		**01 09 29.3**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=258,slow=6.3,SNR=2.5								
	comp=Z,1.7nm,0.3s								
PDAR	**Pinedale Array**	**77.02**	**329**	P		**P**		**01 09 32.9**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=150,slow=7.3,SNR=2.8								
	comp=Z,0.2nm,0.6s								
ULM	**Lac du Bonnet**	**78.10**	**342**	P		**P**		**01 09 38.1**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=154,slow=5.7,SNR=4.2								
	comp=Z,1.6nm,0.5s								
BOSA	**Boshof**	**80.85**	**117**	P		**P**		**01 09 53.1**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=254,slow=4.9,SNR=5.0								
	comp=Z,0.8nm,0.4s								
YKA	**Yellowknife Ar**	**94.00**	**340**	P		**P**		**01 10 56.5**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=9.5								
	comp=Z,0.4nm,0.5s								
ASAR	**Alice Springs**	**128.52**	**205**	PKP		**PKiKP**		**01 16 45.4**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=148,slow=2.7,SNR=6.8								
WRA	**Warramunga Arr**	**131.68**	**207**	PKP		**PKiKP**		**01 16 51.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=156,slow=1.8,SNR=9.9								
ZALV	**Zalesovo Beam**	**143.34**	**28**	PKP		**PKPdf**		**01 17 09.5**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=325,slow=1.8,SNR=5.9								
MKAR	**Makanchi Array**	**146.49**	**39**	PKPbc		**PKiKP**		**01 17 19.4**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=300,slow=3.5,SNR=13								
PZH	**PanZhiHua**	**169.55**	**73**	PKP		**PKPdf**		**01 17 42.3**	**-2.2**

IDC 14 01:05:27.2±16.0, 0°.33N×126°.35E, h0km, mb4.1/3, mbtmp4.1/3, MS3.4/3, Error ellipse: s-maj=253.1km s-min=169.3km az=160.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.47**	**231**	LR	LR	01 11 20.3	
	comp=Z,61nm,18.2s,baz=286,slow=42						
WRA	**Warramunga Arr**	**21.62**	**159**	P	P	01 10 19.0	-0.1
	3.3nm,0.9s,baz=338,slow=11,SNR=16						
	3.3nm,0.9s						
ASAR	**Alice Springs**	**24.96**	**163**	P	P	01 10 53.0	+0.3
	4.8nm,0.9s,baz=345,slow=11,SNR=40						
ASAR				LR	LR	01 20 43.6	
	comp=Z,97nm,19.2s,baz=125,slow=37						
	4.8nm,0.9s						
STKA	**Stephens Creek**	**35.14**	**157**	P	P	01 12 22.3	-0.4
	3.2nm,0.7s,baz=350,slow=9.6,SNR=5.4						
	3.2nm,0.7s						
DLBC	**Dease Lake**	**96.83**	**31**	LR	LR	02 02 17.6	
	comp=Z,61nm,18.9s,baz=182,slow=35						

*NNC **14** 01:05:59.6±0.8, 42°.54N×78°.67E, h0km, mb3.4, mpv3.7, Error ellipse: s-maj=5.9km s-min=3.0km az=164.0*
*KRNET **14** 01:06:01.1±0.1, 42°.58N×78°.68E, h27km, mb3.5*
*SOME **14** 01:06:01.0, 42°.57N×78°.68E, h20km*

ISC 14 01:06:02.0±1.0, 42°.59N±0°.03×78°.64E±0°.02, h16km±6km, n69, σ1°.916/124, 18C-31D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.21**	**239**	⇓*iP*	**Pb**	**01 06 07.3**	**-0.3**
	baz=50						
PRZ				⇓*iS*	**Sb**	**01 06 11.5**	**+0.2**
	baz=50						
SATY	**Saty**	**0.50**	**340**	P	**Pg**	**01 06 11.7**	**-0.3**
	90nm,0.1s						
SATY				S	**Sb**	**01 06 19.2**	**-0.4**
	549nm,0.1s						
SATY	**Saty**	**0.50**	**340**	⇓*eP*	**Pg**	**01 06 11.7**	**-0.3**
	baz=37						
SATY				⇓*eS*	**Sb**	**01 06 19.2**	**-0.4**
	baz=37						
SATY	**Saty**	**0.50**	**340**	⇓*eP*	**Pg**	**01 06 11.7**	**-0.3**
	90nm,0.1s						
SATY				*eS*	**Sb**	**01 06 19.1**	**-0.4**
	549nm,0.1s						
ZHN	**Zhinishke**	**0.59**	**345**	P	**Pg**	**01 06 13.3**	**-0.5**
	193nm,0.1s						
ZHN				S	**Sb**	**01 06 22.0**	**-0.4**
	1μm,0.2s						
ZHN	**Zhinishke**	**0.59**	**345**	⇓*iP*	**Pg**	**01 06 13.3**	**-0.5**
	baz=43						
ZHN				⇓*eS*	**Sb**	**01 06 22.0**	**-0.4**
	baz=43						
ZHN	**Zhinishke**	**0.59**	**345**	⇓*iP*	**Pg**	**01 06 13.3**	**-0.5**
	193nm,0.1s						
ZHN				*eS*	**Sb**	**01 06 22.0**	**-0.4**
	1μm,0.2s						
UZB	**Uzynbulak**	**0.62**	**27**	P	**Pb**	**01 06 13.3**	**-1.3**
	58nm,0.1s						
UZB				S	**Sb**	**01 06 21.9**	**-1.3**
	405nm,0.1s						
UZB	**Uzynbulak**	**0.62**	**27**	⇓*iP*	**Pb**	**01 06 13.3**	**-1.3**
	baz=23						
UZB				⇓*eS*	**Sb**	**01 06 21.9**	**-1.3**
	baz=23						
UZB	**Uzynbulak**	**0.62**	**27**	⇓*iP*	**Pb**	**01 06 13.3**	**-1.3**
	58nm,0.1s						
UZB				*eS*	**Sb**	**01 06 21.9**	**-1.3**
	405nm,0.1s						
ANVS	**Anan'yevo**	**0.74**	**285**	⇑*iP*	**Pg**	**01 06 16.1**	**-0.4**
	baz=86						
ANVS				⇑*iS*	**Sb**	**01 06 27.1**	**+0.3**
	baz=86						
SHLS	**Shalkode**	**0.82**	**47**	P	**Pn**	**01 06 20.9**	**+1.8**
	16nm,0.1s						
SHLS				S	**Sn**	**01 06 35.2**	**+4.1**
	2μm,0.3s						
SHLS	**Shalkode**	**0.82**	**47**	*eP*	**Pn**	**01 06 21.1**	**+1.9**
	baz=56						
SHLS				*eS*	**Sn**	**01 06 35.4**	**+4.3**
	baz=56						
SHLS	**Shalkode**	**0.82**	**47**	*eP*	**Pn**	**01 06 21.1**	**+1.9**
	16nm,0.1s						
SHLS				*eS*	**Sn**	**01 06 35.4**	**+4.3**
	2μm,0.3s						
KPKS	**Kokpek**	**0.87**	**2**	P	**Pb**	**01 06 18.0**	**-0.9**
	136nm,0.1s						
KPKS				S	**Sb**	**01 06 29.8**	**-0.6**
	138nm,0.1s						
KPKS	**Kokpek**	**0.87**	**2**	⇓*eP*	**Pb**	**01 06 18.0**	**-0.9**
	baz=0.0						
KPKS				⇓*eS*	**Sg**	**01 06 30.1**	**-0.4**
	baz=0.0						
KPKS	**Kokpek**	**0.87**	**2**	⇓*eP*	**Pb**	**01 06 18.0**	**-0.9**
	136nm,0.1s						
KPKS				*eS*	**Sg**	**01 06 30.1**	**-0.4**
	138nm,0.1s						
KURS	**Kuram**	**0.96**	**339**	P	**Pb**	**01 06 19.8**	**-0.5**
	43nm,0.2s						
KURS				S	**Sg**	**01 06 33.1**	**-0.1**
	86nm,0.2s						
KURS	**Kuram**	**0.96**	**339**	⇓*eP*	**Pb**	**01 06 19.8**	**-0.5**
	baz=38						
KURS				⇓*eS*	**Sg**	**01 06 33.1**	**-0.1**
	baz=38						
KURS	**Kuram**	**0.96**	**339**	⇓*eP*	**Pb**	**01 06 19.8**	**-0.5**
	43nm,0.2s						
KURS				*eS*	**Sg**	**01 06 33.1**	**-0.1**
	86nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.06**	**216**	⇑*iP*	**Pb**	**01 06 21.1**	**-1.2**
	baz=18						
TARG				⇑*iS*	**Sg**	**01 06 35.9**	**-0.7**
	baz=18						
KDJ	**Kajisay**	**1.18**	**247**	⇓*iP*	**Pn**	**01 06 23.2**	**-0.8**
	baz=48						
KDJ				⇓*iS*	**Sn**	**01 06 39.4**	**-0.5**
	baz=48						
KOTS	**Kotyrbulak**	**1.29**	**300**	P	**Pn**	**01 06 25.4**	**-0.2**
	14nm,0.1s						
KOTS				S	**Sn**	**01 06 42.7**	**-0.1**
	79nm,0.2s						
KOTS	**Kotyrbulak**	**1.29**	**300**	*eP*	**Pb**	**01 06 25.6**	**-0.5**
	baz=0.0						
KOTS				*eS*	**Sb**	**01 06 43.3**	**+0.7**
	baz=0.0						
KOTS	**Kotyrbulak**	**1.29**	**300**	*eP*	**Pb**	**01 06 25.6**	**-0.5**
	14nm,0.1s						
KOTS				*eS*	**Sb**	**01 06 43.2**	**+0.7**
	79nm,0.2s						
MDOK	**Medeo**	**1.30**	**296**	Pg	**Pn**	**01 06 25.3**	**-0.4**
	14nm,0.2s						
MDOK				⇓P	**Pb**	**01 06 25.5**	**-0.8**
	2.0nm,0.2s						
MDOK				Lg	Lg	01 06 42.8	
	37nm,0.2s						
MDOK				⇑S	**Sb**	**01 06 43.3**	**+0.5**
	8.3nm,0.2s						
MDOK	**Medeo**	**1.30**	**296**	*eP*	**Pn**	**01 06 25.4**	**-0.4**
	14nm,0.2s						
MDOK				*eS*	**Sn**	**01 06 42.9**	**-0.1**
	37nm,0.2s						
TNSS	**Tian-Shan**	**1.32**	**290**	P	**Pn**	**01 06 25.9**	**-0.4**
	20nm,0.1s						
TNSS				S	**Sn**	**01 06 43.8**	**-0.1**
	24nm,0.2s						
TNSS	**Tian-Shan**	**1.32**	**290**	⇓*iP*	**Pn**	**01 06 25.9**	**-0.4**
	baz=91						
TNSS				⇓*eS*	**Sn**	**01 06 43.6**	**-0.2**
	baz=91						
TNSS	**Tian-Shan**	**1.32**	**290**	⇓*iP*	**Pn**	**01 06 25.9**	**-0.4**
	16nm,0.2s						
TNSS				*eS*	**Sn**	**01 06 43.6**	**-0.2**
	24nm,0.2s						
KNDC	**Almaty**	**1.38**	**297**	⇑Pg	**Pn**	**01 06 22.5**	**-4.2**
	12nm,0.3s						
KNDC				⇑Lg	Lg	01 06 47.5	
	19nm,0.2s						
AAA	**Alma-Ata**	**1.41**	**296**	P	**Pb**	**01 06 28.1**	**+0.1**
	20nm,0.1s						
AAA				S	**Sg**	**01 06 47.2**	**-0.3**
	55nm,0.2s						
AAA	**Alma-Ata**	**1.41**	**296**	*eP*	**Pb**	**01 06 28.1**	**+0.1**
	baz=97						
AAA				*eS*	**Sg**	**01 06 47.2**	**-0.3**
	baz=97						
AAA	**Alma-Ata**	**1.41**	**296**	*eP*	**Pb**	**01 06 28.1**	**+0.1**
	20nm,0.1s						
AAA				*eS*	**Sg**	**01 06 47.2**	**-0.3**
	55nm,0.2s						
BLB	**Baldybastay**	**1.51**	**355**	P	**Pb**	**01 06 28.9**	**-0.9**
	124nm,0.1s						
BLB				S	**Sb**	**01 06 48.4**	**-0.3**
	215nm,0.2s						
KTMS	**Ketmen**	**1.52**	**55**	P	**Pb**	**01 06 28.3**	**-1.5**
	2.4nm,0.1s						
KTMS				S	**Sb**	**01 06 47.6**	**-1.3**
	26nm,0.2s						
KTMS	**Ketmen**	**1.52**	**55**	*eP*	**Pb**	**01 06 28.3**	**-1.5**
	baz=54						
KTMS				*eS*	**Sb**	**01 06 47.8**	**-1.1**
	baz=54						
KTMS	**Ketmen**	**1.52**	**55**	*eP*	**Pb**	**01 06 28.3**	**-1.5**
	2.4nm,0.1s						
KTMS				*eS*	**Sb**	**01 06 47.8**	**-1.1**
	26nm,0.2s						
IZV	**Izvestkoviy**	**1.56**	**287**	P	**Pb**	**01 06 29.7**	**-0.8**
	23nm,0.2s						
IZV				S	**Sb**	**01 06 50.0**	**-0.2**
	56nm,0.1s						
IZV	**Izvestkoviy**	**1.56**	**287**	*eP*	**Pb**	**01 06 29.8**	**-0.8**
	baz=87						
IZV				*eS*	**Sb**	**01 06 50.5**	**+0.3**
	baz=87						
IZV	**Izvestkoviy**	**1.56**	**287**	*eP*	**Pb**	**01 06 29.8**	**-0.8**
	23nm,0.2s						
IZV				*eS*	**Sb**	**01 06 50.5**	**+0.3**
	56nm,0.1s						
MTBS	**Maitube**	**1.71**	**289**	P	**Pb**	**01 06 32.3**	**-0.8**
	20nm,0.1s						
MTBS				S	**Sb**	**01 06 54.5**	**-0.1**
	27nm,0.3s						
MTBS	**Maitube**	**1.71**	**289**	*eP*	**Pb**	**01 06 32.4**	**-0.8**
	baz=89						
MTBS				*eS*	**Sb**	**01 06 55.1**	**+0.5**
	baz=89						
MTBS	**Maitube**	**1.71**	**289**	*eP*	**Pb**	**01 06 32.4**	**-0.8**
	20nm,0.1s						
MTBS				*eS*	**Sb**	**01 06 55.1**	**+0.5**
	27nm,0.3s						
ARXS	**Arharly**	**1.73**	**340**	P	**Pb**	**01 06 32.5**	**-0.9**
	6.6nm,0.1s						
ARXS				S	**Sb**	**01 06 54.7**	**-0.2**
	94nm,0.2s						
ARXS	**Arharly**	**1.73**	**340**	*eP*	**Pb**	**01 06 32.6**	**-0.7**
	6.6nm,0.1s						
ARXS				*eS*	**Sb**	**01 06 55.0**	**+0.1**
	94nm,0.2s						
CHKK	**Chushkaly**	**1.75**	**317**	P	**Pb**	**01 06 33.0**	**-0.7**
	7.9nm,0.1s						
CHKK				S	**Sb**	**01 06 55.7**	**+0.2**
	168nm,0.3s						
CHKK	**Chushkaly**	**1.75**	**317**	*eP*	**Pb**	**01 06 33.0**	**-0.7**
	11nm,0.2s						
CHKK				*eS*	**Sb**	**01 06 56.1**	**+0.7**
	168nm,0.3s						
ULHL	**Ulahol**	**1.81**	**260**	⇑*iP*	**Pn**	**01 06 32.8**	**0.0**
	baz=60						
ULHL				⇑*iS*	**Sn**	**01 06 56.3**	**+0.8**
	baz=60						
KTBS	**Karatobe**	**1.82**	**309**	P	**Pb**	**01 06 34.5**	**-0.5**
	24nm,0.3s						
KTBS				S	**Sb**	**01 06 58.1**	**+0.5**
	216nm,0.3s						
KTBS	**Karatobe**	**1.82**	**309**	*eP*	**Pb**	**01 06 34.4**	**-0.5**
	24nm,0.3s						
KTBS				*eS*	**Sb**	**01 06 58.8**	**+1.2**
	216nm,0.3s						
DJR	**Jarkent**	**1.93**	**25**	P	**Pb**	**01 06 34.7**	**-2.1**
	17nm,0.2s						
DJR				S	**Sb**	**01 06 58.5**	**-2.2**
	50nm,0.3s						
DJR	**Jarkent**	**1.93**	**25**	*eP*	**Pb**	**01 06 34.7**	**-2.1**
	17nm,0.2s						
DJR				*eS*	**Sb**	**01 06 59.2**	**-1.5**
	50nm,0.3s						
KST	**Kastek**	**2.02**	**284**	Pg	**Pb**	**01 06 37.5**	**-0.9**
	23nm,0.2s						
KST				Lg	Lg	01 07 03.4	
	18nm,0.3s						
KST	**Kastek**	**2.02**	**284**	*e*Pg	**Pb**	**01 06 37.5**	**-0.9**
	23nm,0.2s						
KST				*e*Lg	Lg	01 07 03.8	
	18nm,0.3s						
TKM2	**Tokmak 2**	**2.27**	**279**	⇑Pg	**Pb**	**01 06 41.3**	**-1.4**

	350nm,0.5s							
YUK				A	A	01 09 57.7		
	340nm,0.5s							
NEM2	**Nemuro 2**	**3.14**	**243**	*e*P	**Pn**	**01 09 24.0**	**0.0**	
NEM2				*e*S	**Sn**	**01 09 59.5**	**-0.8**	
NMR	**Nemuro--Hokkai**	**3.15**	**243**	*i* P	**Pn**	**01 09 23.5**	**-0.6**	
NMR				*e*S	**Sn**	**01 09 59.2**	**-1.2**	
JRA	**Rausu**	**3.33**	**256**	*e*P	**Pn**	**01 09 28.4**	**+2.0**	
JNK	**Nakash**	**3.72**	**252**	*e*P	**Pn**	**01 09 33.4**	**+1.5**	
JNK				*e*S	**Sn**	**01 10 14.8**	**+0.4**	
AKK	**Akkeshi**	**3.89**	**243**	*e*P	**Pn**	**01 09 34.0**	**-0.2**	
JAK	**Akkeshi**	**3.99**	**244**	*e*P	**Pn**	**01 09 36.2**	**+0.7**	
JAK				*e*S	**Sn**	**01 10 20.3**	**-0.7**	
JAR	**Ashorobuto**	**4.47**	**252**	*e*P	**Pn**	**01 09 45.1**	**+2.9**	
JAR				*e*S	**Sn**	**01 10 35.4**	**+2.5**	
JOB	**Onbets**	**4.59**	**247**	*e*P	**Pn**	**01 09 45.3**	**+1.5**	
JOB				*e*S	**Sn**	**01 10 36.5**	**+0.7**	
JCH	**Churui**	**5.03**	**246**	*e*P	**Pn**	**01 09 50.1**	**+0.2**	
JCH				*e*S	**Sn**	**01 10 46.8**	**+0.1**	
MYR	**Moyori**	**5.25**	**243**	*e*P	**Pn**	**01 09 54.5**	**+1.7**	
JNBK	**Urakawa-nobuka**	**5.59**	**245**	*e*P	**Pn**	**01 09 58.8**	**+1.3**	
JANG	**Nango**	**7.45**	**236**	*e*S	**Sn**	**01 11 41.1**	**-4.8**	

*IDC **14** 01:08:43.8±1.2, 19°.60S×174°.61W, h0km, mb4.0/7, mbtmp4.1/10, ML4.2/3, MS3.5/1, Error ellipse: s-maj=39.9km s-min=19.4km az=134.0*
*NOU **14** 01:08:45.7, 19°.90S×173°.78W, h3km, MLv4.9/10, Tonga Islands*
*NEIC **14** 01:08:48.5±1.2, 19°.6S±0°.1×173°.8W±0°.1, h89km±13km, mb4.3/7, Error ellipse: s-maj=17.7km s-min=14.2km az=177.0*
ISC 14 01:08:47.1±0.6, 19°.70S±0°.07×173°.96W±0°.07, h50km, n33, σ2s77/27, mb4.2/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.86**	**81**	Pn	**Pn**	**01 09 43.2**	**-0.7**
NIUE	**Niue**	**3.86**	**81**	P	**Pn**	**01 09 45.4**	**+1.5**
AFI	**Afiamalu**	**6.12**	**20**	Pn	**Pn**	**01 10 17.9**	**+2.7**
	10nm,0.3s,baz=159,slow=0.1,SNR=4.8						
AFI				Sn	**Sn**	**01 11 22.5**	**-1.5**
	11nm,0.3s,baz=218,slow=22,SNR=2.9						
	25nm,0.4s						
AFI	**Afiamalu**	**6.12**	**20**	Pn	**Pn**	**01 10 14.6**	**-0.6**
MSVF	**Nonsavu**	**7.82**	**283**	Pn	**Pn**	**01 10 39.8**	**+1.4**
RAO	**Raoul Island**	**10.17**	**200**	Pn	**Pn**	**01 11 13.6**	**+3.1**
RAR	**Rarotonga**	**13.38**	**99**	Pn	**Pn**	**01 11 53.5**	**-0.9**
DZM	**Mont Dzumac**	**18.46**	**259**	P	**P**	**01 12 53.3**	**-5.6**
	0.3nm,0.3s,baz=31,slow=16,SNR=2.0						
	3.5nm,1.0s						
DZM	**Mont Dzumac**	**18.46**	**259**	P	**Pn**	**01 13 05.3**	**+5.8**
URZ	**Urewera**	**20.05**	**201**	P	**P**	**01 13 15.9**	**-0.3**
	1.1nm,0.3s,baz=357,slow=3.3,SNR=8.3						
URZ				S	S	01 16 43.7	-15
	12nm,1.1s,baz=26,slow=1.0,SNR=3.3						
	4.5nm,0.5s						
URZ	**Urewera**	**20.05**	**201**	P	**Pn**	**01 13 17.1**	**-1.1**
BFZ	**Birch Farm**	**22.53**	**200**	P	**P**	**01 13 44.9**	**+2.1**
QRZ	**Quartz Range**	**24.02**	**206**	P	**P**	**01 14 01.1**	**+3.8**
RPZ	**Rata Peaks**	**27.04**	**204**	P	**P**	**01 14 27.3**	**+2.6**
	9.9nm,0.7s,baz=335,slow=23,SNR=2.2						
	9.9nm,0.7s						
CTA	**Charters Tower**	**37.35**	**262**	P	**P**	**01 15 53.5**	**-1.6**
	1.3nm,0.4s,baz=106,slow=7.4,SNR=7.6						
	1.3nm,0.4s						
CTAO	**Charters Tower**	**37.35**	**262**	P	**P**	**01 15 52.6**	**-2.5**
CTAO				IAmb	IAmb	01 15 55.4	
	comp=Z,3.0nm,0.9s						
STKA	**Stephens Creek**	**41.55**	**244**	P	**P**	**01 16 29.8**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=86,slow=13,SNR=1.9						
	comp=Z,1.9nm,0.8s						
STKA	**Stephens Creek**	**41.55**	**244**	P	**P**	**01 16 27.0**	**-3.0**
STKA				IAmb	IAmb	01 16 45.5	
	comp=Z,3.0nm,1.4s						
AS31	**Alice Springs**	**48.40**	**255**	P	**P**	**01 17 22.6**	**-2.0**
ASAR	**Alice Springs**	**48.40**	**255**	P	**P**	**01 17 23.9**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=100,slow=7.9,SNR=17						
ASAR				LR	LR	01 36 58.5	
	comp=Z,53nm,19.2s,baz=87,slow=35						
	comp=Z,1.3nm,0.7s						
WB0	**Warramunga Arr**	**48.45**	**261**	P	**P**	**01 17 22.6**	**-2.5**
WB0				IAmb	IAmb	01 17 38.3	
	comp=Z,5.6nm,1.4s						
WB2	**Warramunga Arr**	**48.46**	**260**	P	**P**	**01 17 22.1**	**-3.0**
WRAB	**Tennant Creek**	**48.47**	**260**	P	**P**	**01 17 22.9**	**-2.2**
WRAB				IAmb	IAmb	01 17 39.9	
	comp=Z,7.9nm,1.5s						
WRA	**Warramunga Arr**	**48.48**	**260**	P	**P**	**01 17 23.3**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=96,slow=7.7,SNR=28						
	comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**70.37**	**180**	P	**P**	**01 19 53.1**	**-2.5**
QSPA				IAmb	IAmb	01 20 05.5	
	comp=Z,9.3nm,1.4s						
NVAR	**Mina Array Bea**	**77.87**	**42**	P	P	01 20 45.6	+5.8
	comp=Z,0.2nm,0.3s,baz=234,slow=10.0,SNR=4.0						
	comp=Z,0.2nm,0.3s						
H03S2	**Juan Fernandez**	**83.28**	**123**	T	T	02 53 36.4	
	baz=249,slow=75,SNR=375						
H03S1	**Juan Fernandez**	**83.30**	**123**	T	T	02 53 36.8	
	baz=249,slow=75,SNR=318						
H03S3	**Juan Fernandez**	**83.30**	**123**	T	T	02 53 36.3	
	baz=249,slow=75,SNR=302						
H03N2	**Juan Fernandez**	**83.41**	**123**	T	T	02 53 40.2	
	baz=257,slow=71,SNR=23						
H03N3	**Juan Fernandez**	**83.41**	**123**	T	T	02 53 41.2	
	baz=257,slow=71,SNR=8.5						
H03N1	**Juan Fernandez**	**83.43**	**123**	T	T	02 53 39.3	
	baz=257,slow=71,SNR=12						
ILAR	**Eielson Array**	**86.74**	**11**	P	**P**	**01 21 29.2**	**+3.9**
	comp=Z,0.3nm,0.6s,baz=214,slow=5.6,SNR=7.5						
	comp=Z,0.3nm,0.6s						

*IDC **14** 01:21:25.7±3.1, 5°.24S×153°.67E, h52km±25km, mb3.5/7, mbtmp3.8/8, ML2.3/1, MS3.1/3, Error ellipse: s-maj=26.0km s-min=14.7km az=72.0*
ISC 14 01:21:25.2±0.9, 5°.26S±0°.09×153°.7E±0°.1, h50km, n15, σ0s71/14, mb3.5/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.92**	**299**	P	**Pn**	**01 21 56.2**	**+0.6**
	97nm,0.4s,baz=210,slow=1.6,SNR=8.2						
KRVT				S	**Sn**	**01 22 18.4**	**-0.2**
	425nm,0.7s,baz=189,slow=22,SNR=9.0						
KRVT				LR	LR	01 22 57.3	
	comp=Z,363nm,20.9s,baz=270,slow=49						
PMG	**Port Moresby**	**7.69**	**237**	P	**Pn**	**01 23 14.3**	**-0.4**
	2.3nm,0.3s,baz=203,slow=23,SNR=1.8						
PMG				S	**Sn**	**01 24 40.8**	**+0.3**
	13nm,0.3s,baz=244,slow=22,SNR=2.3						
PMG				LR	LR	01 25 41.5	
	comp=Z,79nm,20.3s,baz=6.5,slow=33						
	12nm,0.4s						
CTA	**Charters Tower**	**16.43**	**206**	LR	LR	01 31 04.3	
	comp=Z,73nm,19.2s,baz=26,slow=35						
DZM	**Mont Dzumac**	**20.77**	**145**	P	**P**	**01 26 03.3**	**+1.1**
	7.9nm,0.4s,baz=288,slow=7.4,SNR=49						
	7.9nm,0.4s						
WRA	**Warramunga Arr**	**23.84**	**231**	P	**P**	**01 26 33.2**	**-0.9**
	0.4nm,0.5s,baz=55,slow=10,SNR=9.2						
WRA				PcP	**PcP**	**01 30 16.7**	**+0.4**
	1.0nm,0.7s,baz=54,slow=2.2,SNR=8.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**26.44**	**224**	P	**P**	**01 26 57.8**	**+0.1**
	0.3nm,0.6s,baz=56,slow=8.9,SNR=6.8						
ASAR				PcP	**PcP**	**01 30 22.9**	**+0.7**
	0.7nm,0.6s,baz=66,slow=2.2,SNR=7.5						
	0.3nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**26.85**	**28**	T	T	01 55 15.4	
	baz=209,slow=76,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**26.85**	**28**	T	T	01 55 26.0	
	baz=209,slow=76,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**26.86**	**28**	T	T	01 55 25.8	
	baz=209,slow=76,SNR=5.3						
STKA	**Stephens Creek**	**28.81**	**202**	LR	LR	01 37 33.6	
	comp=Z,63nm,19.2s,baz=213,slow=34						
SONM	**Songino Array**	**67.19**	**328**	P	**P**	**01 32 14.2**	**-0.1**
	0.2nm,0.3s,baz=142,slow=9.1,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**81.26**	**319**	P	**P**	**01 33 36.6**	**+0.4**
	0.7nm,0.5s,baz=92,slow=7.1,SNR=12						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**82.03**	**326**	P	**P**	**01 33 40.5**	**+0.5**
	0.5nm,0.4s,baz=108,slow=5.2,SNR=4.1						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**82.24**	**22**	P	**P**	**01 33 39.6**	**-1.3**
	0.4nm,1.0s,baz=234,slow=6.1,SNR=4.1						
	0.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**151.31**	**288**	PKPbc	**PKPbc**	**01 41 13.8**	**-0.6**
	2.0nm,0.4s,baz=41,slow=3.3,SNR=2.0						

*JMA **14** 01:53:26.6±0.2, 25°.N±1°.×122°.4E±0°.3, h18km±2km, MV3.0/10, TAIWAN REGION*
*TAP **14** 01:53:29.3, 24°.53N×122°.43E, h15km, ML3.2, D*
ISC 14 01:53:29.3±0.9, 24°.55N±0°.02×122°.46E±0°.02, h17km±8km, n81, σ1s08/144, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.46**	**103**	*e*P	**Pg**	**01 53 38.4**	**-0.1**
JYNG				S	**Sg**	**01 53 47.0**	**+2.3**
YOJ	**Yonaguni jima**	**0.51**	**100**	P	**Pg**	**01 53 39.4**	**-0.2**
YOJ				*e*S	**Sg**	**01 53 48.4**	**+1.9**
YOJ	**Yonaguni jima**	**0.51**	**100**	P	**Pg**	**01 53 39.5**	**-0.1**
	baz=97						
TWC	**Suao**	**0.56**	**276**	P	**Pg**	**01 53 39.6**	**-0.8**
	baz=280						
TWC				S	**Sb**	**01 53 47.4**	**-0.8**
	baz=280						
EGS		**0.56**	**301**	P	**Pb**	**01 53 40.6**	**0.0**
	baz=305						
TWB1	**Santiao Chiao**	**0.62**	**317**	P	**Pb**	**01 53 42.0**	**+0.3**
	baz=320						
TWB1				S	**Sb**	**01 53 50.5**	**+0.4**
	baz=320						
EWUT	**Wuta**	**0.63**	**260**	P	**Pg**	**01 53 41.1**	**-0.6**
	baz=262						
EWUT				S	**Sg**	**01 53 49.5**	**-0.5**
	baz=262						
ENA	**Nanau**	**0.66**	**259**	P	**Pg**	**01 53 41.5**	**-0.9**
	baz=261						
ENA				S	**Sg**	**01 53 50.0**	**-1.2**
	baz=261						
ILA	**Ilan**	**0.68**	**288**	P	**Pb**	**01 53 42.8**	**+0.2**
	baz=282						
ILA				S	**Sb**	**01 53 52.4**	**+0.7**
	baz=282						
NDS	**Dongshan**	**0.68**	**277**	P	**Pb**	**01 53 42.4**	**-0.2**
	baz=279						
NDS				S	**Sb**	**01 53 51.5**	**-0.2**
	baz=279						
TIPB	**Shuangxi**	**0.71**	**306**	P	**Pb**	**01 53 43.3**	**+0.1**
	baz=309						
TIPB				S	**Sn**	**01 53 54.0**	**-1.1**
	baz=309						
TWE	**Neicheng**	**0.74**	**283**	P	**Pb**	**01 53 43.2**	**-0.4**
	baz=286						
TWE				S	**Sb**	**01 53 53.6**	**+0.2**
	baz=286						
SXI1	**Grass Mountain**	**0.75**	**316**	P	**Pn**	**01 53 44.7**	**-0.5**
	baz=326						
SXI1				S	**Sn**	**01 53 55.5**	**-0.7**
	baz=326						
NWF	**Wu-fen Shan**	**0.80**	**310**	P	**Pn**	**01 53 45.7**	**-0.1**
	baz=313						
NWF				S	**Sn**	**01 53 57.5**	**+0.2**
	baz=313						
WFSB	**Wu-fen Shan**	**0.80**	**310**	P	**Pn**	**01 53 45.8**	**+0.1**
	baz=313						
WFSB				S	**Sn**	**01 53 57.2**	**0.0**
	baz=313						
ENTT	**Nioudou**	**0.81**	**276**	P	**Pb**	**01 53 45.0**	**0.0**
	baz=278						
ENTT				S	**Sb**	**01 53 56.2**	**+0.5**
	baz=278						
FUSB	**Fushanzhiwuyua**	**0.82**	**285**	*e*P	**Pb**	**01 53 45.5**	**+0.4**
	baz=287						
FUSB				*i* S	**Sb**	**01 53 56.0**	**+0.2**
	baz=287						
LATG	**Datong**	**0.85**	**269**	*e*P	**Pg**	**01 53 45.0**	**-0.8**
	baz=271						
LATG				S	**Sb**	**01 53 56.8**	**+0.1**
	baz=271						
ETL	**Fush Village**	**0.86**	**243**	P	**Pg**	**01 53 45.5**	**-0.5**
	baz=242						
ETL				S	**Sb**	**01 53 57.7**	**+0.9**
	baz=242						
TNOU	**National Taiwa**	**0.86**	**314**	P	**Pn**	**01 53 46.3**	**-0.2**
	baz=330						
TNOU				S	**Sn**	**01 53 58.1**	**-0.6**
	baz=330						
NACB	**Ninganchiao**	**0.87**	**244**	P	**Pg**	**01 53 45.0**	**-1.3**
	baz=244						
NACB				S	**Sg**	**01 53 57.5**	**-0.3**
	baz=244						
NWLT	**Wulai**	**0.90**	**285**	P	**Pn**	**01 53 46.8**	**-0.3**
	baz=287						
NWLT				S	**Sn**	**01 53 58.4**	**-1.2**
	baz=287						
TWA	**Mucha**	**0.90**	**298**	P	**Pb**	**01 53 46.6**	**+0.2**
	baz=301						
TWA				S	**Sn**	**01 53 59.2**	**-0.5**
	baz=301						
TWD	**Chiawan**	**0.92**	**239**	P	**Pg**	**01 53 46.5**	**-0.6**
	baz=238						
TWD				S	**Sn**	**01 54 01.5**	**+1.4**
	baz=238						
NHDH	**Xindian Distri**	**0.94**	**296**	P	**Pn**	**01 53 48.1**	**+0.5**
	baz=298						
NHDH				S	**Sn**	**01 53 59.8**	**-0.8**
	baz=298						
ETLH	**Xiulin Townshi**	**0.95**	**249**	P	**Pg**	**01 53 47.0**	**-0.9**
	baz=249						
NWRT	**Kuosheng**	**0.97**	**312**	S	**Sn**	**01 54 01.1**	**-0.4**
	baz=315						
TATO	**Taipei**	**0.97**	**296**	P	**Pg**	**01 53 47.0**	**-1.2**
	baz=298						
TATO				S	**Sn**	**01 54 01.0**	**-0.5**
	baz=298						
NNSB	**Datong**	**0.99**	**263**	P	**Pg**	**01 53 47.5**	**-0.9**
	baz=276						
NNSB				S	**Sb**	**01 54 01.2**	**+0.5**
	baz=276						
NNS	**Nan Shan**	**0.99**	**264**	P	**Pb**	**01 53 48.2**	**+0.1**
	baz=265						
NNS				S	**Sb**	**01 54 00.7**	**-0.3**
	baz=265						
NSK	**Sanguang**	**1.01**	**277**	P	**Pb**	**01 53 48.5**	**+0.2**
	baz=279						
NSK				S	**Sb**	**01 54 01.4**	**+0.1**
	baz=279						
ETM	**Tongmen**	**1.06**	**237**	P	**Pb**	**01 53 48.8**	**-0.3**
	baz=219						
ETM				S	**Sn**	**01 54 04.4**	**+0.9**
	baz=219						
ANP	**Anpu**	**1.06**	**307**	P	**Pn**	**01 53 50.3**	**+1.0**
	baz=309						
TWY	**Chenhua**	**1.06**	**313**	P	**Pg**	**01 53 48.1**	**-1.7**
	baz=316						
TWY				S	**Sn**	**01 54 04.7**	**+1.0**
	baz=316						
TWS1	**Kuangyinshan**	**1.09**	**300**	P	**Pn**	**01 53 51.7**	**+2.0**
	baz=302						
NTST	**Danshui**	**1.10**	**304**	P	**Pb**	**01 53 49.4**	**-0.4**
	baz=306						
NTST				S	**Sn**	**01 54 05.5**	**+0.9**
	baz=306						
FUSS	**Fushou**	**1.15**	**255**	P	**Pb**	**01 53 50.7**	**-0.1**
	baz=255						
FUSS				S	**Sn**	**01 54 07.5**	**+1.4**
	baz=255						
IRIF	**Iriomote-Funau**	**1.18**	**100**	P	**Pn**	**01 53 50.1**	**-0.8**
IRIF				S	**Sb**	**01 54 06.2**	**0.0**
ESL	**Shilin**	**1.19**	**232**	S	**Sb**	**01 54 06.9**	**+0.5**
	baz=230						
TWT	**Tachien**	**1.21**	**256**	P	**Pg**	**01 53 53.0**	**+0.4**
	baz=255						
NFF	**Wufeng Townshi**	**1.22**	**274**	P	**Pg**	**01 53 52.2**	**-0.7**
	baz=290						
NFF				S	**Sn**	**01 54 09.7**	**+2.0**
	baz=290						
TDCB	**Techi**	**1.22**	**256**	P	**Pb**	**01 53 52.1**	**+0.1**
	baz=255						
CHGB	**Renai**	**1.27**	**247**	P	**Pn**	**01 53 52.5**	**+0.1**
	baz=228						
CHGB				S	**Sg**	**01 54 09.9**	**-0.6**
	baz=228						
EGFH	**Guangfu**	**1.29**	**227**	P	**Pn**	**01 53 51.6**	**-0.8**
	baz=209						
EGFH				S	**Sb**	**01 54 08.9**	**-0.4**
	baz=209						
OWD	**Renai**	**1.31**	**243**	P	**Pn**	**01 53 53.5**	**+0.5**
	baz=242						
OWD				S	**Sb**	**01 54 10.8**	**+0.7**
	baz=242						
LIOB	**Emei**	**1.31**	**274**	P	**Pg**	**01 53 54.8**	**+0.1**
	baz=290						
LIOB				S	**Sg**	**01 54 12.1**	**+0.2**
	baz=290						
HATJ	**Hateruma jima**	**1.33**	**112**	*e*S	**Sn**	**01 54 11.1**	**+0.9**
NSTT	**Nanjuang**	**1.33**	**274**	P	**Pg**	**01 53 54.6**	**-0.3**
	baz=289						
NSTT				S	**Sg**	**01 54 12.1**	**-0.2**
	baz=289						
SBCB	**Hsinchu**	**1.36**	**280**	*e*S	**Sg**	**01 54 13.3**	**0.0**
	baz=300						
HGSD	**Ruisui**	**1.42**	**222**	P	**Pn**	**01 53 53.7**	**-0.6**
	baz=206						
HGSD				S	**Sn**	**01 54 12.1**	**-0.4**
	baz=206						
VWDT	**VWDT**	**1.44**	**237**	P	**Pn**	**01 53 55.0**	**+0.4**
	baz=235						
VWDT				S	**Sn**	**01 54 13.1**	**+0.1**
	baz=235						
JKRS	**Kuro-shima**	**1.45**	**102**	P	**Pn**	**01 53 54.5**	**-0.1**
JKRS				S	**Sn**	**01 54 12.9**	**-0.4**
EHY	**Hungye**	**1.47**	**225**	P	**Pn**	**01 53 53.5**	**-1.5**
	baz=223						
EHY				S	**Sn**	**01 54 13.7**	**-0.2**
	baz=223						
WCS	**Beigang Elemen**	**1.49**	**251**	P	**Pb**	**01 53 57.1**	**+0.5**
	baz=250						
WCS				*e*S	**Sb**	**01 54 15.9**	**+0.7**
	baz=250						
JIJ	**Ishigaki jima**	**1.55**	**97**	P	**Pn**	**01 53 55.1**	**-0.9**
JIJ				S	**Sn**	**01 54 14.4**	**-1.3**
NSY	**Sanyi**	**1.55**	**265**	*e*P	**Pg**	**01 53 58.5**	**-0.6**
	baz=264						
NSY				*e*S	**Sg**	**01 54 18.9**	**-0.5**
	baz=264						
SMLT	**Sun Moon Lake**	**1.57**	**245**	P	**Pn**	**01 53 57.4**	**+1.0**
	baz=229						
SMLT				S	**Sn**	**01 54 17.0**	**+0.6**
	baz=229						
SSLB	**Suanglung**	**1.57**	**241**	P	**Pn**	**01 53 57.3**	**+1.0**
	baz=240						
SSLB				S	**Sb**	**01 54 18.3**	**+0.8**
	baz=240						
EYUL	**Yuli**	**1.59**	**221**	S	**Sn**	**01 54 17.4**	**+0.6**
	baz=237						
TYC	**Yuchr**	**1.60**	**246**	P	**Pn**	**01 53 58.1**	**+1.4**
	baz=231						
TYC				S	**Sb**	**01 54 19.3**	**+1.1**
	baz=231						
JISG	**Ishigakijimahi**	**1.69**	**88**	*e*P	**Pn**	**01 53 56.8**	**-1.2**
JISG				*e*S	**Sn**	**01 54 19.0**	**-0.1**
FULB	**Fuli**	**1.72**	**219**	P	**Pn**	**01 53 57.7**	**-0.7**
	baz=202						
FULB				S	**Sn**	**01 54 19.7**	**-0.2**
	baz=202						
CHKT	**Chengkung**	**1.76**	**215**	S	**Sn**	**01 54 17.3**	**-3.6**
	baz=199						
EHD	**Haiduan**	**1.81**	**220**	S	**Sn**	**01 54 21.4**	**-0.8**
	baz=233						
ALS	**Alishan**	**1.83**	**236**	P	**Pn**	**01 54 01.8**	**+1.5**
	baz=220						
ALS				S	**Sn**	**01 54 24.2**	**+1.1**
	baz=220						
CHN5	**Tsauling**	**1.88**	**240**	P	**Pn**	**01 54 02.3**	**+1.6**
	baz=238						
CHN5				S	**Sb**	**01 54 26.3**	**-0.2**
	baz=238						
ELDTW	**Lidau**	**1.89**	**224**	P	**Pn**	**01 54 00.5**	**-0.4**
	baz=222						
ELDTW				S	**Sn**	**01 54 23.0**	**-1.4**
	baz=222						
EDH	**Donghe**	**1.90**	**214**	P	**Pn**	**01 54 00.5**	**-0.3**
	baz=199						
EDH				S	**Sn**	**01 54 22.7**	**-1.6**
	baz=199						
WCKO	**Fanlu**	**2.02**	**237**	P	**Pn**	**01 54 04.7**	**+2.1**
	baz=235						
JTJ	**Tarama**	**2.05**	**87**	*e*P	**Pn**	**01 54 02.8**	**0.0**
JTJ				S	**Sn**	**01 54 28.4**	**+0.4**
STYH	**Taoyuan**	**2.06**	**229**	P	**Pn**	**01 54 03.5**	**+0.4**
	baz=215						
STYH				S	**Sn**	**01 54 29.6**	**+1.2**
	baz=215						
LDUT	**Ludao**	**2.08**	**206**	*e*S	**Sn**	**01 54 26.8**	**-2.0**
	baz=203						
CHN4	**Tsaushan**	**2.08**	**235**	P	**Pn**	**01 54 05.9**	**+2.5**
	baz=220						
CHN4				S	**Sb**	**01 54 32.3**	**+0.1**
	baz=220						
TPUB	**Ta-pu**	**2.09**	**234**	P	**Pn**	**01 54 05.5**	**+2.1**
	baz=220						
TPUB				S	**Sn**	**01 54 31.1**	**+2.1**
	baz=220						
TWK	**Hsinying**	**2.21**	**235**	P	**Pn**	**01 54 07.6**	**+2.4**
	baz=233						
TWK				S	**Sn**	**01 54 35.0**	**+2.9**
	baz=233						
CHN1	**Nanshi**	**2.23**	**233**	P	**Pn**	**01 54 07.7**	**+2.2**
	baz=231						
CHN1				S	**Sb**	**01 54 36.6**	**+0.2**
	baz=231						
TSMG	**Majia**	**2.48**	**222**	P	**Pn**	**01 54 11.0**	**+2.1**
	baz=209						
TSMG				S	**Sn**	**01 54 41.0**	**+2.3**
	baz=209						
EAST	**Anshuo**	**2.62**	**215**	P	**Pn**	**01 54 10.8**	**0.0**
	baz=212						
EAST				*e*S	**Sn**	**01 54 40.7**	**-1.5**
	baz=212						
LYUB	**Lan-yu**	**2.66**	**198**	P	**Pn**	**01 54 11.3**	**-0.1**
	baz=204						
LYUB				S	**Sn**	**01 54 39.3**	**-4.0**
	baz=204						
SLIU	**Shizi**	**2.78**	**214**	P	**Pn**	**01 54 14.7**	**+1.7**
	baz=211						
SMST	**Manzhou Townsh**	**2.93**	**211**	P	**Pn**	**01 54 15.6**	**+0.6**
	baz=208						

*TEH **14** 02:52:15.6, 32°.73N×47°.60E, h6km±58km, ML2.6*
*ISN **14** 02:52:16.9±2.0, 32°.72N×47°.61E, h6km, ML2.3*
ISC 14 02:52:16.1±1.1, 32°.75N±0°.05×47°.57E±0°.04, h10km, n10, σ1s17/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.25**	**255**	Pg	**Pg**	**02 52 20.4**	**-0.8**
DHL1				Sg	**Sg**	**02 52 25.7**	**+1.0**
IKFM	**Kafar-mosalman**	**0.81**	**17**	Pg	**Pg**	**02 52 30.7**	**-1.1**
IDOB	**Doab**	**1.16**	**26**	Pg	**Pb**	**02 52 37.9**	**-0.4**
IBDR	**Badra**	**1.43**	**285**	*e*Pg	**Pn**	**02 52 42.0**	**-0.1**
	baz=105						
IBDR				*e*Sg	**Sg**	**02 53 04.0**	**+2.0**
IBDR				AML	AML	02 53 08.4	
	comp=E,50nm,0.5s						
IBDR				AML	AML	02 53 18.2	
	comp=N,39nm,0.6s						
IKOM	**Komasi**	**1.43**	**358**	Pg	**Pg**	**02 52 43.2**	**-0.3**
IBZA	**Bozab**	**1.74**	**8**	Pg	**Pb**	**02 52 47.8**	**-0.5**
IGHG	**Ghaleghazi**	**1.79**	**332**	Pn	**Pb**	**02 52 49.1**	**0.

TCW	**Tory Channel**	**1.16**	**28**	P	Pg	03 04 01.5	-0.8
TCW				S	Sg	03 04 17.2	0.0
TKNZ	**Takaka Hill**	**1.27**	**340**	P	Pn	03 04 04.0	-0.3
DSZ	**Denniston Nort**	**1.39**	**290**	P	Pn	03 04 05.5	-0.4
DSZ				S	Sg	03 04 25.5	+0.9
DUWZ	**D'Urville Isla**	**1.46**	**11**	P	Pn	03 04 06.9	+0.1
DUWZ				S	Sg	03 04 27.6	+0.7
QRZ	**Quartz Range**	**1.60**	**331**	P	Pn	03 04 09.3	+0.5
CAW	**Cannon Point**	**1.60**	**46**	P	Pn	03 04 07.3	-1.5
MQZ	**McQueen's Vall**	**1.61**	**204**	P	Pn	03 04 06.7	-2.3
INZ	**Inchbonnie**	**1.63**	**252**	P	Pn	03 04 09.3	+0.1
AKCZ	**Akaroa Harbour**	**1.71**	**196**	P	Pn	03 04 08.6	-1.7
MHEZ	**Mangahewa**	**3.21**	**11**	P	Pn	03 04 28.6	-2.3
WCZ	**Waipu Caves**	**6.31**	**6**	P	Pn	03 05 12.8	-0.8

NEIC ***14*** *03:08:56.5±1.9, 6°.83S±0°.09×155°.27E±0°.04, h43km±11km, mb4.1/11, Error ellipse: s-maj=13.0km s-min=4.5km az=161.0*

IDC ***14*** *03:08:57.9±3.4, 6°.84S×154°.97E, h29km±21km, mb4.0/12, mbtmp4.2/14, ML2.9/2, MS3.5/11, Error ellipse: s-maj=27.8km s-min=17.0km az=128.0*

ISC 14 03:08:58.6±0.5, 6°.94S±0°.07×155°.11E±0°.07, h41km, n57, σ1s99/53, mb4.2/18, MS3.6/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**4.00**	**313**	Pn		**Pn**	**03 09 56.4**	**-1.1**
RABL	**Rabaul**	**4.00**	**313**	P		Pn	03 10 06.2	+8.7
KRVT	**Keravat (AS076**	**4.03**	**310**	Pn		**Pn**	**03 09 55.3**	**-2.5**
	7.4nm,0.3s,baz=22,slow=11,SNR=2.4							
KRVT				Sn		**Sn**	**03 10 47.1**	**+3.3**
	16nm,0.3s,baz=237,slow=6.6,SNR=4.5							
	52nm,0.4s							
HNR	**Honiara**	**5.39**	**118**	Pn		**Pn**	**03 10 13.5**	**-3.1**
PMG	**Port Moresby**	**8.24**	**252**	Pn		**Pn**	**03 10 56.2**	**+0.5**
	2.1nm,0.3s,baz=28,slow=5.6,SNR=6.5							
PMG				Sn		**Sn**	**03 12 26.6**	**-0.9**
	2.2nm,0.3s,baz=74,slow=20,SNR=6.5							
PMG				LR		LR	03 14 11.2	
	comp=Z,306nm,18.8s,baz=338,slow=38							
	26nm,0.6s							
PMG	**Port Moresby**	**8.24**	**252**			**Pn**	**03 10 55.7**	**0.0**
PMG				Sn		**Sn**	**03 12 28.6**	**+1.1**
MANU	**Manus Island**	**9.12**	**302**	Pn		**Pn**	**03 11 06.7**	**-1.0**
COEN	**Coen**	**13.64**	**238**			**Pn**	**03 12 09.2**	**-0.4**
MTSU	**Mount Surprise**	**15.31**	**222**	P		**P**	**03 12 35.4**	**-0.8**
	5.8nm,1.2s							
CTA	**Charters Tower**	**15.64**	**212**	Pn		**P**	**03 12 42.0**	**+2.1**
	0.3nm,0.3s,baz=38,slow=12,SNR=18							
CTA				LR		LR	03 18 10.4	
	comp=Z,189nm,18.2s,baz=68,slow=35							
CTA	**Charters Tower**	**15.64**	**212**	P		**P**	**03 12 41.7**	**+1.9**
CTAO	**Charters Tower**	**15.64**	**212**	Pn		**Pn**	**03 12 35.4**	**-0.8**
CTAO				IAmb		IAmb	03 12 42.9	
	comp=Z,9.3nm,0.8s							
CTAO	**Charters Tower**	**15.64**	**212**	P		**P**	**03 12 41.7**	**+1.9**
KOUNC	**Koumac, New Ca**	**16.19**	**148**	Pn		**Pn**	**03 12 39.6**	**-3.6**
KOUNC				IAmb		IAmb	03 12 43.0	
	comp=Z,13nm,1.4s							
DZM	**Mont Dzumac**	**18.60**	**145**	P		**Pn**	**03 13 19.7**	**+6.5**
	comp=Z,3.4nm,0.8s,baz=154,slow=19,SNR=2.4							
DZM				LR		LR	03 18 38.5	
	comp=Z,160nm,18.3s,baz=346,slow=31							
QIS	**Mount Isa**	**20.22**	**226**	P		**P**	**03 13 30.9**	**+0.6**
RMQ	**Roma**	**20.36**	**197**	P		Pn	03 13 35.4	+1.4
QLP	**Quilpie**	**22.11**	**207**	P		**P**	**03 13 53.2**	**+2.7**
	comp=Z,13nm,1.0s							
GUMO	**Guam**	**22.79**	**334**	LR		LR	03 22 31.6	
	comp=Z,30nm,21.0s,baz=134,slow=36							
AULRC	**Lightning Ridg**	**23.36**	**196**	P		**P**	**03 14 06.2**	**+2.7**
	comp=Z,42nm,1.2s							
WR0	**Warramunga Arr**	**23.78**	**235**	P		**P**	**03 14 05.3**	**-2.3**
WB0	**Warramunga Arr**	**23.81**	**236**	P		**P**	**03 14 06.1**	**-1.8**
WB0				IAmb		IAmb	03 14 43.5	
	comp=Z,6.9nm,0.9s							
WRAB	**Tennant Creek**	**23.93**	**235**	P		**P**	**03 14 08.8**	**-0.2**
WB2	**Warramunga Arr**	**23.93**	**235**	P		**P**	**03 14 07.6**	**-1.5**
WB2				IAmb		IAmb	03 14 10.0	
	comp=Z,9.2nm,0.8s							
WRA	**Warramunga Arr**	**23.94**	**235**	P		**P**	**03 14 08.6**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=60,slow=9.7,SNR=38							
WRA				PcP		**PcP**	**03 17 52.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=64,slow=3.1,SNR=3.5							
WRA				ScP		**ScP**	**03 21 28.6**	**+2.3**
	comp=Z,0.7nm,0.9s,baz=55,slow=3.3,SNR=3.7							
WRA				LR		LR	03 22 48.7	
	comp=Z,105nm,21.4s,baz=46,slow=35							
	comp=Z,5.7nm,0.7s							
INKA	**Innaminka**	**24.77**	**212**	P		**P**	**03 14 17.5**	**+0.9**
AS31	**Alice Springs**	**26.29**	**228**	P		**P**	**03 14 28.4**	**-2.1**
ASAR	**Alice Springs**	**26.29**	**228**	P		**P**	**03 14 30.2**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=61,slow=8.7,SNR=36							
ASAR				PcP		**PcP**	**03 17 57.9**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=57,slow=4.4,SNR=2.0							
ASAR				ScP		**ScP**	**03 21 34.6**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=38,slow=4.7,SNR=5.4							
ASAR				LR		LR	03 24 21.5	
	comp=Z,84nm,18.5s,baz=168,slow=35							
	comp=Z,2.6nm,0.7s							
ASAR	**Alice Springs**	**26.29**	**228**	P		**P**	**03 14 29.4**	**-1.1**
H11S3	**WAKE ISLAND Hy**	**27.74**	**24**	T		T	03 43 09.0	
	baz=202,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**27.74**	**24**	T		T	03 43 15.9	
	baz=202,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**27.75**	**24**	T		T	03 43 27.8	
	baz=202,slow=75,SNR=6.2							
STKA	**Stephens Creek**	**27.83**	**205**	P		**P**	**03 14 46.3**	**+2.1**
	comp=Z,1.5nm,0.5s,baz=63,slow=24,SNR=1.6							
STKA				LR		LR	03 24 24.3	
	comp=Z,151nm,18.4s,baz=52,slow=33							
	comp=Z,1.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**30.77**	**246**	P		**P**	**03 15 09.1**	**-1.4**
BATI	**Baumata**	**31.25**	**262**	LR		LR	03 30 37.6	
	comp=Z,101nm,18.3s,baz=52,slow=42							
PETK	**Petropavlovsk-**	**59.86**	**2**	P		**P**	**03 19 01.1**	**+1.2**
	comp=Z,4.9nm,0.8s,baz=178,slow=11,SNR=2.8							
	comp=Z,4.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**60.86**	**295**	P		**P**	**03 19 07.4**	**0.0**
	comp=Z,1.4nm,0.3s,baz=123,slow=4.8,SNR=7.5							
	comp=Z,1.4nm,0.3s							
CMAR	**Chiang Mai Arr**	**60.86**	**295**	P		**P**	**03 19 04.9**	**-2.5**
CHTO	**Chiang Mai**	**60.98**	**296**	P		**P**	**03 19 06.2**	**-2.0**
CHTO				IAmb		IAmb	03 19 25.9	
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**69.35**	**327**	P		**P**	**03 20 02.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=142,slow=5.4,SNR=2.1							
	comp=Z,0.3nm,0.3s							
ILAR	**Eielson Array**	**83.28**	**21**	P		**P**	**03 21 20.7**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=247,slow=5.5,SNR=9.2							
ILAR				LR		LR	03 56 32.0	
	comp=Z,37nm,18.2s,baz=235,slow=34							
	comp=Z,0.8nm,0.8s							
MK31	**Makanchi Array**	**83.44**	**319**	P		**P**	**03 21 20.6**	**-1.3**
MK31				IAmb		IAmb	03 21 23.1	
	comp=Z,1.1nm,0.8s							
MKAR	**Makanchi Array**	**83.44**	**319**	P		**P**	**03 21 21.4**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=99,slow=5.2,SNR=17							
	comp=Z,1.4nm,0.7s							
MKAR	**Makanchi Array**	**83.44**	**319**	P		**P**	**03 21 20.3**	**-1.6**
MAKZ	**Makanchi**	**83.65**	**319**	P		**P**	**03 21 21.7**	**-1.3**
ZAA0	**Zalesovo Array**	**84.20**	**326**	P		P	03 21 20.6	-4.9
ZAA0				IAmb		IAmb	03 21 21.7	
	comp=Z,2.1nm,1.1s							
ZALV	**Zalesovo Beam**	**84.20**	**326**	P		**P**	**03 21 24.2**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=116,slow=3.4,SNR=2.4							
	comp=Z,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**84.20**	**326**	P		**P**	**03 21 20.9**	**-4.6**
NVAR	**Mina Array Bea**	**91.60**	**52**	P		**P**	**03 22 04.0**	**+2.2**
	comp=Z,1.1nm,0.8s,baz=250,slow=7.4,SNR=7.0							
	comp=Z,1.1nm,0.8s							
PFO	**Pinyon Flats O**	**92.49**	**57**	LR		LR	03 58 40.8	
	comp=Z,29nm,18.2s,baz=269,slow=32							
NEW	**Newport**	**93.64**	**42**	LR		LR	03 57 35.7	
	comp=Z,43nm,20.2s,baz=282,slow=31							
YKA	**Yellowknife Ar**	**96.24**	**28**	P		**P**	**03 22 23.3**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=266,slow=5.0,SNR=9.7							
	comp=Z,0.8nm,0.9s							
PDAR	**Pinedale Array**	**98.58**	**48**	P		Pdif	03 22 34.2	+0.5
	comp=Z,0.2nm,0.6s,baz=328,slow=1.4,SNR=2.5							
	comp=Z,0.2nm,0.6s							
AKASG	**Malin Array Be**	**117.56**	**324**	PKP		**PKiKP**	**03 27 40.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=54,slow=2.0,SNR=5.1							
BRTR	**Keskin Array B**	**118.43**	**312**	PKP		**PKiKP**	**03 27 42.2**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=90,slow=1.4,SNR=2.0							
BDFB	**Brasilia**	**147.94**	**135**	PKPbc		**PKPbc**	**03 28 39.8**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=195,slow=14,SNR=3.1							
TORD	**Torodi Ar. Bea**	**153.12**	**285**	PKPbc		**PKiKP**	**03 28 53.0**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=62,slow=2.7,SNR=2.1							

PRE ***14*** *03:23:02.5±3.9, 14°.91S×34°.21E, h10km, mb4.3*

ISC 14 03:22:53.7±2.0, 14°.0S±0°.1×34°.65E±0°.08, h28km, n26, σ2s21/32, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZOMB	**Zomba**	**1.54**	**154**	*i* P		**Pn**	**03 23 17.8**	**-1.6**
ZOMB				S		**Sn**	**03 23 36.9**	**-1.7**
LSZ	**Lusaka**	**6.38**	**258**	*e*P		**Pn**	**03 24 28.1**	**+2.0**
LSZ				*e*S		**Sn**	**03 25 38.4**	**+0.2**
MUSN	**Musina, Limpop**	**9.42**	**208**	*i* P		Pn	03 25 02.3	-5.4
MUSN				*i* S		**Sn**	**03 26 50.9**	**-1.9**
MUSN	**Musina, Limpop**	**9.42**	**208**	*i* P		Pn	03 25 02.3	-5.4
MUSN				*i* S		**Sn**	**03 26 50.9**	**-1.9**
MUSN	**Musina, Limpop**	**9.42**	**208**	*e*P		**Pn**	**03 25 08.5**	**+0.8**
MOPA	**Mopani**	**9.96**	**198**	*i* P		**Pn**	**03 25 12.9**	**-2.2**
MOPA				*i* S		**Sn**	**03 27 10.1**	**+4.1**
MOPA	**Mopani**	**9.96**	**198**	*i* P		**Pn**	**03 25 12.9**	**-2.2**
MOPA				*i* S		**Sn**	**03 27 10.1**	**+4.1**
MOPA	**Mopani**	**9.96**	**198**	*e*P		**Pn**	**03 25 14.2**	**-0.9**
LEPH	**Lephalale, Lim**	**11.76**	**212**	*e*P		**Pn**	**03 25 39.2**	**-0.6**
CNG	**Changalane**	**12.45**	**190**	*e*P		**Pn**	**03 25 48.3**	**-0.9**
KSR	**Koster**	**13.86**	**210**	*e*P		**Pn**	**03 26 05.5**	**-3.1**
KSR				IAmb		IAmb	03 26 20.1	
	comp=Z,5.3nm,1.0s							
LBTB	**Lobatse**	**13.88**	**216**	*i* P		Pn	03 26 04.2	-4.6
LBTB				*i* S		**Sn**	**03 28 42.5**	**+0.3**
LBTB	**Lobatse**	**13.88**	**216**	*i* P		Pn	03 26 04.2	-4.6
LBTB				*i* S		**Sn**	**03 28 42.5**	**+0.3**
LBTB	**Lobatse**	**13.88**	**216**	*e*P		**Pn**	**03 26 07.6**	**-1.3**
PRYS	**Parys**	**14.56**	**207**	*e*P		**Pn**	**03 26 17.4**	**-0.8**
BOSA	**Boshof**	**16.96**	**209**	*i* P		**Pn**	**03 26 46.1**	**-3.2**
BOSA				*i* S		**Sn**	**03 29 57.1**	**0.0**
BOSA	**Boshof**	**16.96**	**209**	*i* P		**Pn**	**03 26 46.1**	**-3.2**
BOSA				*i* S		**Sn**	**03 29 57.1**	**0.0**
BOSA	**Boshof**	**16.96**	**209**	*e*P		**Pn**	**03 26 49.7**	**+0.5**
TSUM	**Tsumeb**	**17.15**	**250**	*i* P		**Pn**	**03 26 48.3**	**-3.4**
TSUM				*i* S		**Sn**	**03 30 01.4**	**-0.4**
TSUM	**Tsumeb**	**17.15**	**250**	*i* P		**Pn**	**03 26 48.3**	**-3.4**
TSUM				*i* S		**Sn**	**03 30 01.4**	**-0.4**
TSUM	**Tsumeb**	**17.15**	**250**	*e*P		**P**	**03 26 54.4**	**+1.3**
KEIM	**Keimoes**	**19.38**	**219**	*e*P		**Pn**	**03 27 22.9**	**+4.1**
KEIM				IAmb		IAmb	03 27 57.4	
	comp=Z,38nm,1.5s							
ROOI	**Rooidraai Farm**	**21.02**	**207**	*e*P		**P**	**03 27 37.1**	**+1.7**
ROOI				IAmb		IAmb	03 28 15.2	
	comp=Z,533nm,3.1s							
FRAZ	**Fraserburg**	**21.58**	**212**	*e*P		**P**	**03 27 43.1**	**+1.7**
MERW	**Merweville**	**22.12**	**211**	*e*P		P	03 27 55.5	+8.3
MERW				IAmb		IAmb	03 29 18.8	
	comp=Z,730nm,3.3s							
CVNA	**Calvinia**	**22.12**	**216**	*e*P		P	03 27 56.8	+10
CVNA				IAmb		IAmb	03 27 57.1	
	comp=Z,397nm,3.4s							

WEL ***14*** *03:32:16.2±0.5, 43°.5S×17°.0E±°, h5km, M3.1/11, ML3.2/11, MLv3.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=71.9, confirmed*

NOU ***14*** *03:32:16.9, 43°.48S×170°.36E, h10km, MLv3.6/6, South Island, New Zealand*

ISC 14 03:32:16.4±1.0, 43°.44S±0°.03×170°.33E±0°.03, h6km±10km, n47, σ0s95/52, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GCSZ	**Gaunt Creek Bo**	**0.13**	**359**	P		**Pg**	**03 32 18.9**	**-0.1**
GCSZ				S		**Sg**	**03 32 20.4**	**-0.3**
FOZ	**Fox Glacier**	**0.39**	**256**	P		**Pg**	**03 32 24.1**	**+0.3**
WVZ	**Waitaha Valley**	**0.47**	**39**	P		**Pg**	**03 32 25.1**	**-0.4**
RPZ	**Rata Peaks**	**0.59**	**118**	P		**Pg**	**03 32 28.1**	**+0.3**
RPZ	**Rata Peaks**	**0.59**	**118**	P		**Pg**	**03 32 28.1**	**+0.3**
RPZ				S		**Sg**	**03 32 36.4**	**+0.9**
ARCZ	**Arundel**	**0.79**	**130**	P		**Pg**	**03 32 31.7**	**+0.1**
ARCZ				S		**Sg**	**03 32 42.0**	**0.0**
MHCZ	**Mount Hutt**	**0.91**	**96**	P		**Pg**	**03 32 33.9**	**+0.2**
LBZ	**Lake Benmore**	**0.95**	**186**	P		**Pg**	**03 32 34.4**	**-0.1**
TMZ	**Timaru**	**1.06**	**153**	P		**Pg**	**03 32 36.6**	**-0.1**
INZ	**Inchbonnie**	**1.09**	**49**	P		**Pg**	**03 32 35.9**	**-1.3**
INZ				S		**Sb**	**03 32 51.9**	**0.0**
WACZ	**Wakanui South**	**1.20**	**115**	P		**Pn**	**03 32 39.8**	**+0.1**
OXZ	**Oxford**	**1.25**	**85**	P		**Pn**	**03 32 39.8**	**-0.6**
OXZ				S		**Sn**	**03 32 57.1**	**-0.4**
JCZ	**Jackson Bay**	**1.28**	**240**	P		**Pn**	**03 32 40.5**	**-0.4**
JCZ	**Jackson Bay**	**1.28**	**240**	P		**Pn**	**03 32 40.2**	**-0.7**
RACZ	**Rakaia**	**1.34**	**103**	P		**Pg**	**03 32 42.1**	**0.0**
LTZ	**Lake Taylor**	**1.57**	**66**	P		**Pn**	**03 32 45.0**	**+0.2**
ODZ	**Otahua Downs**	**1.62**	**172**	P		**Pn**	**03 32 45.5**	**+0.1**
ODZ	**Otahua Downs**	**1.62**	**172**	P		**Pn**	**03 32 45.3**	**-0.1**
WKZ	**Wanaka**	**1.68**	**214**	P		**Pn**	**03 32 46.3**	**+0.1**
MQZ	**McQueen's Vall**	**1.71**	**100**	P		**Pn**	**03 32 46.0**	**-0.7**
AMCZ	**Amberley**	**1.71**	**82**	P		**Pg**	**03 32 50.5**	**+1.3**
AKCZ	**Akaroa Harbour**	**1.92**	**104**	P		**Pb**	**03 32 50.8**	**-1.0**
EAZ	**Earnscleugh**	**1.93**	**202**	P		**Pn**	**03 32 49.2**	**-0.5**
OKCZ	**Okains Bay**	**2.00**	**99**	P		**Pb**	**03 32 51.9**	**-1.3**
DSZ	**Denniston Nort**	**2.02**	**33**	P		**Pn**	**03 32 50.5**	**-0.5**
GVZ	**Greta Valley S**	**2.03**	**77**	P		**Pn**	**03 32 51.7**	**+0.5**
MSZ	**Milford Sound**	**2.12**	**234**	P		**Pn**	**03 32 53.2**	**+0.8**
HHSZ	**Highcliff Hill**	**2.45**	**176**	P		**Pb**	**03 33 01.3**	**+0.5**
MLZ	**Mavora Lakes**	**2.49**	**219**	P		**Pn**	**03 32 57.3**	**-0.2**
THZ	**Tophouse**	**2.54**	**49**	P		**Pn**	**03 32 59.3**	**+1.2**
MRNZ	**Matariki Terra**	**2.72**	**42**	P		**Pn**	**03 33 01.6**	**+1.0**
WHZ	**Wether Hill Ro**	**2.98**	**214**	P		**Pn**	**03 33 03.2**	**-1.0**
DCZ	**Deep Cove**	**3.04**	**227**	P		**Pb**	**03 33 11.4**	**+0.6**
QRZ	**Quartz Range**	**3.08**	**33**	P		**Pn**	**03 33 05.4**	**-0.2**
QRZ	**Quartz Range**	**3.08**	**33**	P		**Pn**	**03 33 05.3**	**-0.3**
TKNZ	**Takaka Hill**	**3.10**	**40**	P		**Pn**	**03 33 06.7**	**+0.9**
NNZ	**Nelson**	**3.17**	**47**	P		**Pn**	**03 33 08.7**	**+1.9**
SYZ	**Scrubby Hill**	**3.21**	**195**	P		**Pn**	**03 33 06.1**	**-1.2**
SYZ	**Scrubby Hill**	**3.21**	**195**	P		**Pn**	**03 33 06.0**	**-1.2**
TCW	**Tory Channel**	**3.68**	**54**	P		**Pn**	**03 33 17.1**	**+3.3**
PYZ	**Puysegur Point**	**3.76**	**222**	P		**Pn**	**03 33 15.8**	**+0.9**
APZ	**The Paps**	**3.77**	**205**	P		**Pn**	**03 33 13.3**	**-1.8**
KHEZ	**Kahui Hut**	**4.99**	**35**	P		**Pn**	**03 33 32.4**	**+0.6**
	187nm,1.2s							
KHEZ	**Kahui Hut**	**4.99**	**35**	P		**Pn**	**03 33 32.5**	**+0.7**
PKE	**Pukeiti**	**5.06**	**34**	P		**Pn**	**03 33 34.5**	**+1.7**
TUVZ	**Tukino**	**5.78**	**46**	P		**Pn**	**03 33 42.4**	**-0.5**
TOZ	**Tahuroa Road**	**6.93**	**36**	P		**Pn**	**03 33 57.0**	**-1.4**

VAO ***14*** *03:34:26.3±0.6, 10°.82N×62°.28W, h10km, mb4.1*

IDC ***14*** *03:34:30.0±3.6, 10°.96N×62°.22W, h60km±35km, mb3.7/8, mbtmp4.0/10, ML3.4/2, MS3.4/8, Error ellipse: s-maj=26.8km s-min=19.0km az=56.0*

NEIC ***14*** *03:34:32.8±1.1, 10°.70N±0°.07×62°.33W±0°.04, h91km±9km, mb4.4/14, Error ellipse: s-maj=9.9km s-min=4.9km az=171.0*

FUNV ***14*** *03:34:33.8, 10°.71N×62°.32W, h24km, MW4.0*

TRN ***14*** *03:34:34.9, 10°.81N×62°.36W, h30km, MD4.2*

TRN Felt Trinidad, MMI III.

ISC 14 03:34:31.9±0.7, 10°.74N±0°.04×62°.42W±0°.04, h81km±7km, n101, σ1s88/117, mb4.3/15, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRUV	**Carupano**	**0.80**	**266**	*e*P		**Pn**	**03 34 51.3**	**+2.5**
CRUV				*e*S		**Sn**	**03 35 00.0**	**-1.3**
TRN	**Trinidad (W)**	**1.01**	**95**	*e*P		**Pn**	**03 34 51.7**	**+0.6**
TRN				*e*S		**Sn**	**03 35 03.9**	**-1.6**
TPP	**Pointe-a-Pierr**	**1.04**	**114**	*i*P		**Pn**	**03 34 54.6**	**+3.0**
TBH	**Brigand Hill**	**1.36**	**101**	*e*P		**Pn**	**03 34 58.4**	**+2.9**
TBH				*e*S		**Sn**	**03 35 13.7**	**+0.5**
GRGR	**Grenville**	**1.58**	**28**	Pn		**Pn**	**03 34 59.9**	**+1.5**
GRGR	**Grenville**	**1.58**	**28**	*e*P		**Pn**	**03 34 59.6**	**+1.3**
GRGR				*e*S		**Sn**	**03 35 19.2**	**+1.0**
TPR	**Prospect**	**1.68**	**74**	*e*P		**Pn**	**03 35 02.0**	**+2.4**
TPR				*e*S		**Sn**	**03 35 21.0**	**+0.4**
BOT	**Bacolet**	**1.73**	**76**	*e*P		**Pn**	**03 35 02.8**	**+2.5**
BOT				*e*S		**Sn**	**03 35 23.4**	**+1.6**
TOSP	**Speyside**	**1.93**	**73**			**Pn**	**03 35 03.2**	**+0.2**
TOSP	**Speyside**	**1.93**	**73**	*e*P		**Pn**	**03 35 04.1**	**+1.1**
TOSP				*e*S		**Sn**	**03 35 26.5**	**-0.2**
GCMP	**Grenada, Carri**	**1.99**	**29**	*e*P		**Pn**	**03 35 05.2**	**+1.5**
GCMP				*e*S		**Sn**	**03 35 28.5**	**+0.5**
SVB	**Belmont**	**2.77**	**24**	Pn		**Pn**	**03 35 13.6**	**-0.6**
SVB	**Belmont**	**2.77**	**24**	*e*P		**Pn**	**03 35 16.3**	**+2.1**
SVB				*e*S		**Sn**	**03 35 47.4**	**+0.8**
SSV	**Crater Summit**	**2.84**	**25**	*e*P		**Pn**	**03 35 18.6**	**+3.3**
SSV				*e*S		**Sn**	**03 35 47.1**	**-1.5**
PRGV	**PARIAGUAN**	**2.94**	**228**	*e*P		**Pn**	**03 35 18.3**	**+1.7**
PRGV				*e*S		**Sn**	**03 35 52.5**	**+1.5**
MCLT	**Moule a Chique**	**3.29**	**26**	Pn		**Pn**	**03 35 22.8**	**+1.6**
MCLT	**Moule a Chique**	**3.29**	**26**	*e*P		**Pn**	**03 35 23.0**	**+1.8**
MCLT				*e*S		**Sn**	**03 35 59.5**	**+0.2**
SLB	**Belfond**	**3.35**	**24**	*e*P		**Pn**	**03 35 25.3**	**+3.1**
SLCP	**Castries, St.**	**3.54**	**23**	*e*S		**Sn**	**03 36 06.1**	**+0.7**
SLBI	**Saint Lucia, B**	**3.56**	**23**	*e*P		**Pn**	**03 36 26.3**	**+1.4**
SLBI				*e*S		**Sn**	**03 36 06.1**	**+0.3**
BBGH	**Gun Hill**	**3.68**	**49**	*e*P		**Pn**	**03 35 29.2**	**+2.6**
BBGH				*e*S		**Sn**	**03 36 09.3**	**+0.4**
BBSP	**Saint Philip**	**3.73**	**51**	*e*P		**Pn**	**03 35 29.9**	**+2.6**
BBSP				*e*S		**Sn**	**03 36 10.0**	**-0.2**
H05S1	**Guadeloupe/Mar**	**3.98**	**23**	P		**Pn**	**03 35 33.9**	**+3.4**
H05S1				S		**Sn**	**03 36 16.4**	**+0.3**
	SNR=199							
BIM	**Bigot**	**3.98**	**19**			**Pn**	**03 35 31.5**	**+0.8**
BIM	**Bigot**	**3.98**	**19**	*e*P		**Pn**	**03 35 32.5**	**+1.8**
BIM				*e*S		**Sn**	**03 36 15.7**	**-0.5**
MPOM	**Morne Pois Mar**	**3.99**	**22**			**Pn**	**03 35 32.1**	**+1.4**
MPOM	**Morne Pois Mar**	**3.99**	**22**	*e*P		**Pn**	**03 35 32.7**	**+1.9**
MPOM				*e*S		**Sn**	**03 36 16.1**	**-0.2**
MERV	**Las Mercedes**	**4.09**	**249**	*e*P		**Pn**	**03 35 34.2**	**+2.0**
MERV				*e*S		**Sn**	**03 36 19.3**	**+0.4**
FDF	**Fort de France**	**4.16**	**17**	*e*P		**Pn**	**03 35 35.0**	**+1.8**
FDF				*e*S		**Sn**	**03 36 19.8**	**-0.9**
FUNV	**FUNVISIS**	**4.32**	**267**	*e*P		**Pn**	**03 35 38.3**	**+2.9**
FUNV				*e*S		**Sn**	**03 36 26.8**	**+2.2**
CARV	**Caracas**	**4.44**	**267**	*e*P		**Pn**	**03 35 39.6**	**+2.6**
CARV				*e*S		**Sn**	**03 36 28.8**	**+1.3**
TACV	**Tcata**	**4.57**	**263**	*e*P		**Pn**	**03 35 41.4**	**+2.7**
TACV				*e*S		**Sn**	**03 36 31.3**	**+0.7**
DLPL	**La Plaine**	**4.71**	**14**	Pn		**Pn**	**03 35 41.4**	**+0.8**
TBG	**Guadaloupe-3**	**5.14**	**8**	*e*P		**Pn**	**03 35 49.8**	**+3.3**
CACV	**CAICARA DEL OR**	**5.14**	**233**	*e*P		**Pn**	**03 35 42.2**	**-4.3**
CACV				*e*S		Sn	03 36 34.6	-10
BENV	**Beln**	**5.15**	**262**	*e*P		**Pn**	**03 35 49.5**	**+2.8**
BEN

comp=Z,25nm,19.8s,baz=26,slow=33
ARU Arti 97.30 29 LR LR 04 26 50.5
comp=Z,28nm,18.5s,baz=308,slow=32

*IDC **14** 03:37:02.3±2.1,26°.83N×125°.59E,h188km±23km,mb3.3/6,mbtmp3.8/7,Error ellipse: s-maj=36.5km s-min=15.8km az=64.0*
*JMA **14** 03:37:02.5±0.3,27°.N±2°×12°5E±°,h189km,MV3.5/25,NW OFF OKINAWAJIMA IS*
ISC 14 03:37:01.8±0.9,26°.80N±0°.10×125°.46E±0°.08, h186km±10km,n27,σ1°26/41,mb3.4/6,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.28**	**111**	P	**Pn**	**03 37 33.5**	**+1.2**
JAGN	**Aguni-jima**	**1.61**	**97**	P	**Pn**	**03 37 36.3**	**+1.0**
JAGN				S	**Sn**	**03 38 00.9**	**-0.3**
JIKM	**Ikemajima**	**1.88**	**186**	*eS*	**Sn**	**03 38 06.8**	**+0.6**
JIRB	**Irabujima**	**1.98**	**187**	P	**Pn**	**03 37 39.8**	**+0.7**
JIRB				*eS*	**Sn**	**03 38 07.9**	**-0.2**
JOGS	**Gusukube**	**2.03**	**181**	P	**Pn**	**03 37 40.7**	**+1.0**
JMJ2	**Miyako jima3**	**2.06**	**183**	P	**Pn**	**03 37 40.6**	**+0.7**
JMJ2				S	**Sn**	**03 38 09.7**	**+0.2**
JJT3	**Tamagusuku3**	**2.19**	**107**	*eS*	**Sn**	**03 38 12.2**	**+0.2**
JIH	**Iheya**	**2.25**	**84**	P	**Pn**	**03 37 43.1**	**+1.1**
JIH				S	**Sn**	**03 38 12.5**	**-0.8**
JTJ	**Tarama**	**2.26**	**198**	P	**Pn**	**03 37 42.5**	**+0.4**
JTJ				S	**Sn**	**03 38 11.9**	**-1.6**
JNTH	**Nagotoyohara**	**2.31**	**96**	P	**Pn**	**03 37 43.6**	**+0.9**
JNTH				S	**Sn**	**03 38 12.8**	**-1.7**
JISG	**Ishigakijimahi**	**2.44**	**205**	P	**Pn**	**03 37 44.4**	**+0.2**
JISG				S	**Sn**	**03 38 15.2**	**-1.8**
JOW	**Kunigami** 44nm,0.2s,baz=148,slow=22,SNR=38	**2.52**	**89**	P	**Pn**	**03 37 46.0**	**+0.9**
JOW				S	**Sn**	**03 38 16.8**	**-1.9**
JOW	**Kunigami** 126nm,0.2s,baz=127,slow=26,SNR=32	**2.52**	**89**	P	**Pn**	**03 37 45.8**	**+0.7**
JOW				S	**Sn**	**03 38 16.5**	**-2.2**
JYRO	**Yoronjima**	**2.68**	**85**	P	**Pn**	**03 37 47.4**	**+0.5**
JYRO				*eS*	**Sn**	**03 38 19.7**	**-2.4**
JIJ	**Ishigaki jima**	**2.70**	**206**	P	**Pn**	**03 37 47.0**	**-0.2**
JIJ				S	**Sn**	**03 38 19.7**	**-2.9**
JOKE	**Okinoerabujima**	**2.83**	**78**	*eP*	**Pn**	**03 37 49.3**	**+0.6**
JOKE				S	**Sn**	**03 38 23.6**	**-1.7**
JKRS	**Kuro-shima**	**2.87**	**207**	*eP*	**Pn**	**03 37 49.8**	**+0.6**
JKRS				S	**Sn**	**03 38 24.4**	**-1.7**
IRIF	**Iriomote-Funau**	**2.91**	**213**	*eP*	**Pn**	**03 37 50.2**	**+0.5**
IRIF				S	**Sn**	**03 38 26.3**	**-0.7**
HATJ	**Hateruma jima**	**3.11**	**209**	*eS*	**Sn**	**03 38 29.6**	**-1.9**
JAMN	**Amaminishikomi**	**3.60**	**66**	P	**Pn**	**03 37 57.9**	**-0.1**
JMZ	**Minamidaito 2**	**5.26**	**99**	P	**Pn**	**03 38 19.4**	**0.0**
SONM	**Songino Array** 1.8nm,0.4s,baz=148,slow=11,SNR=9.0 1.8nm,0.4s	**25.77**	**330**	P	**P**	**03 42 17.9**	**+2.5**
MKAR	**Makanchi Array** 0.9nm,0.5s,baz=90,slow=9.1,SNR=21 0.9nm,0.5s	**39.31**	**312**	P	**P**	**03 44 12.2**	**-0.5**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=350,slow=8.4,SNR=6.1 0.4nm,0.5s	**47.26**	**169**	P	**P**	**03 45 16.1**	**-0.4**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=358,slow=15,SNR=4.9 0.2nm,0.5s	**50.83**	**170**	P	**P**	**03 45 44.7**	**+1.1**
FINES	**FINESS Array B** 3.1nm,1.1s,baz=57,slow=5.1,SNR=1.7 3.1nm,1.1s	**71.14**	**330**	P	**P**	**03 47 59.2**	**-0.6**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=299,slow=5.9,SNR=4.5 0.3nm,0.7s	**79.04**	**24**	P	**P**	**03 48 44.9**	**-0.1**

*NEIC **14** 03:46:14.7±0.9,22°.4S±0°.2×176°.9W±0°.2,h395km±14km, mb4.1/16,Error ellipse: s-maj=32.1km s-min=21.8km az=187.0*
*IDC **14** 03:46:42.6±2.1,22°.93S×179°.65W,h503km±23km,mb3.3/7, mbtmp4.2/9,Error ellipse: s-maj=36.7km s-min=16.1km az=147.0*
ISC 14 03:46:42.8±0.6,23°.05S±0°.07×179°.57W±0°.08,h526km, n44,σ2°.46/49,mb4.2/14,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**6.36**	**167**	P	**P**	**03 48 23.3**	**-0.2**
GLKZ				S	**S**	**03 49 50.9**	**+4.9**
MARNC	**Mare, Loyalty**	**11.59**	**275**	P	**P**	**03 49 17.0**	**0.0**
AFI	**Afiamalu** 14nm,0.3s,baz=47,slow=12,SNR=6.3	**11.71**	**40**	P	**P**	**03 49 17.2**	**-1.3**
AFI				S	**S**	**03 51 21.0**	**-5.6**
PINNC	**Pines Island,** 7.6nm,0.3s,baz=17,slow=22,SNR=1.9	**11.98**	**270**	P	**P**	**03 49 22.0**	**+0.9**
LIFNC	**LIFOU**	**12.45**	**278**	P	**P**	**03 49 26.2**	**+0.2**
DZM	**Mont Dzumac** 3.9nm,0.8s,baz=67,slow=16,SNR=3.4	**12.96**	**272**	P	**P**	**03 49 32.1**	**+0.6**
KUZ	**Kuaotunu**	**14.24**	**196**	P	**P**	**03 49 44.8**	**+0.2**
KUZ				S	S	03 51 59.1	-15
WIAZ	**Waiheke Island**	**14.44**	**197**	P	**P**	**03 49 46.1**	**-0.6**
MKAZ	**Moumakai**	**14.73**	**197**	P	**P**	**03 49 49.6**	**0.0**
HAZ	**Te Kaha**	**14.84**	**188**	P	**P**	**03 49 51.2**	**+0.5**
PKGZ	**Pakihiroa**	**14.93**	**187**	P	**P**	**03 49 53.4**	**+1.6**
RUGZ	**Raukumara Rang**	**15.05**	**188**	P	**P**	**03 49 52.9**	**-0.2**
TWGZ	**Tauwhareparae**	**15.23**	**187**	P	**P**	**03 49 55.4**	**+0.5**
URZ	**Urewera**	**15.43**	**190**	P	**P**	**03 49 54.4**	**-2.5**
URZ				S	**S**	**03 52 28.9**	**-7.7**
MWZ	**Matawai**	**15.44**	**189**	P	**P**	**03 49 57.4**	**+0.4**
MWZ				S	**S**	**03 52 31.4**	**-5.5**
BKZ	**Black Stump Fm**	**16.41**	**191**	P	**P**	**03 50 02.8**	**-4.1**
ETVZ	**East Tongariro**	**16.53**	**193**	P	**P**	**03 50 06.4**	**-1.8**
OTVZ	**Oturere**	**16.57**	**193**	P	**P**	**03 50 05.0**	**-3.5**
KWHZ	**Kaweka Forest**	**16.68**	**191**	P	**P**	**03 50 09.0**	**-0.5**
WNVZ	**Wahianoa**	**16.74**	**193**	P	**P**	**03 50 06.9**	**-3.3**
BHHZ	**Black Hill Sta**	**16.81**	**192**	P	**P**	**03 50 08.9**	**-1.8**
RPZ	**Rata Peaks** 8.8nm,0.5s,baz=103,slow=15,SNR=2.5 8.8nm,0.5s	**22.02**	**198**	P	**P**	**03 51 00.0**	**+1.9**
CTAO	**Charters Tower**	**31.88**	**269**	P	**P**	**03 52 25.9**	**+1.0**
TOO	**Toolangi**	**33.25**	**236**	P	**P**	**03 52 38.3**	**+2.0**
TOO	comp=Z,17nm,1.2s			IAmb	IAmb	03 52 51.4	
STKA	**Stephens Creek** comp=Z,4.5nm,0.6s,baz=98,slow=11,SNR=12 comp=Z,4.5nm,0.6s	**35.41**	**247**	P	**P**	**03 52 55.8**	**+1.2**
STKA	**Stephens Creek**	**35.41**	**247**	P	**P**	**03 52 55.1**	**+0.6**
BBOO	**Buckleboo**	**40.15**	**246**	P	**P**	**03 53 32.9**	**-0.3**
AS31	**Alice Springs**	**42.57**	**260**	P	**P**	**03 53 53.4**	**+0.8**
AS31	comp=Z,2.4nm,0.5s			IAmb	IAmb	03 53 54.5	
ASAR	**Alice Springs** comp=Z,5.4nm,0.6s,baz=96,slow=8.0,SNR=69 comp=Z,5.4nm,0.6s	**42.57**	**260**	P	**P**	**03 53 53.4**	**+0.9**
ASAR	**Alice Springs**	**42.57**	**260**	P	**P**	**03 53 52.2**	**-0.4**
WB2	**Warramunga Arr**	**42.86**	**265**	P	**P**	**03 53 55.3**	**+0.5**
WB2	comp=Z,7.8nm,0.8s			IAmb	IAmb	03 53 55.9	
WRA	**Warramunga Arr** comp=Z,5.8nm,0.6s,baz=102,slow=8.1,SNR=48	**42.87**	**265**	P	**P**	**03 53 55.2**	**+0.3**
WRA	comp=Z,0.5nm,0.7s,baz=95,slow=3.6,SNR=3.5			ScP	**ScP**	**03 58 38.6**	**+3.6**
WRA	comp=Z,0.4nm,0.9s,baz=99,slow=14,SNR=2.7 comp=Z,5.8nm,0.6s			S	**S**	**03 59 35.6**	**-5.8**
WRA	**Warramunga Arr**	**42.87**	**265**	P	**P**	**03 53 55.0**	**+0.2**
FORT	**Forrest**	**46.98**	**249**	P	**P**	**03 54 26.7**	**+0.4**
MTN	**Manton Dam**	**47.79**	**273**	P	**P**	**03 54 31.8**	**-0.9**
MTN	comp=Z,17nm,1.2s			IAmb	IAmb	03 54 41.5	
KNRA	**Kununurra**	**49.09**	**269**	P	**P**	**03 54 42.3**	**0.0**
FITZ	**Fitzroy Crossi**	**51.30**	**265**	P	**P**	**03 54 58.7**	**+0.3**
MBWA	**Marble Bar**	**55.91**	**259**	P	**P**	**03 55 30.5**	**-0.6**
MBWA	comp=Z,12nm,1.0s			IAmb	IAmb	03 55 32.6	
NWAO	**Narrogin (SRO)**	**55.95**	**245**	P	**P**	**03 55 31.4**	**+0.2**
NWAO	comp=Z,12nm,1.2s			IAmb	IAmb	03 55 49.4	
MORW	**Morawa**	**57.54**	**249**	P	**P**	**03 55 41.8**	**-0.4**
MORW	comp=Z,8.4nm,0.8s			IAmb	IAmb	03 55 43.4	
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.5s,baz=225,slow=8.9,SNR=3.0 comp=Z,0.2nm,0.5s	**83.87**	**44**	P	**P**	**03 58 19.7**	**+2.3**
ILAR	**Eielson Array** comp=Z,0.3nm,0.8s,baz=231,slow=6.1,SNR=5.4	**91.11**	**13**	P	**P**	**03 58 53.0**	**+2.4**
	comp=Z,0.3nm,0.8s						
PDAR	**Pinedale Array** comp=Z,0.2nm,0.6s,baz=227,slow=3.6,SNR=3.5 comp=Z,0.2nm,0.6s	**91.80**	**44**	P	**P**	**03 58 56.0**	**+1.4**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.4s,baz=34,slow=4.0,SNR=5.6	**144.47**	**328**	PKP	PKPbc	04 05 18.8	0.0

*IDC **14** 03:59:43.0±1.3,30°.99N×69°.11E,h0km,mb3.7/5, mbtmp3.7/6,ML3.3/1,MS2.9/5,Error ellipse: s-maj=38.5km s-min=31.8km az=109.0*
ISC 14 03:59:48.5±1.2,31°.1N±0°.2×69°.2E±0°.2,h35km,n9,σ1°36/6, mb3.4/5,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin** comp=Z,25nm,21.3s,baz=66,slow=40	**12.21**	**233**	LR	LR	04 07 51.4	
AAK	**Ala-Archa** comp=Z,90nm,19.0s,baz=205,slow=42	**12.27**	**19**	LR	LR	04 08 21.6	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=209,slow=11,SNR=8.1	**18.66**	**29**	P	**Pn**	**04 04 02.5**	**-1.3**
MKAR	comp=Z,22nm,19.1s,baz=279,slow=38 0.6nm,0.6s			LR	LR	04 11 42.4	
ZALV	**Zalesovo Beam** 2.2nm,0.6s,baz=216,slow=9.2,SNR=10	**25.47**	**22**	P	**P**	**04 05 14.3**	**+1.2**
ZALV	comp=Z,42nm,20.1s,baz=75,slow=39 2.2nm,0.6s			LR	LR	04 16 25.2	
ATD	**Arta Tunnel** comp=Z,27nm,18.0s,baz=164,slow=43	**31.16**	**237**	LR	LR	04 22 11.7	
TORD	**Torodi Ar. Bea** 1.5nm,0.3s,baz=64,slow=5.5,SNR=1.6 1.5nm,0.3s	**64.12**	**270**	P	**P**	**04 10 19.1**	**-0.5**
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=328,slow=4.8,SNR=2.4 0.3nm,0.8s	**80.54**	**120**	P	**P**	**04 11 56.5**	**-0.9**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=315,slow=5.5,SNR=1.8 0.1nm,0.4s	**82.52**	**123**	P	**P**	**04 12 08.8**	**+0.9**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=345,slow=5.1,SNR=4.3 0.1nm,0.5s	**86.68**	**2**	P	**P**	**04 12 28.8**	**+0.6**

*IDC **14** 04:00:08.7±1.0,37°.83N×135°.08E,h382km±14km,mb2.9/3, mbtmp3.8/9,Error ellipse: s-maj=23.7km s-min=15.9km az=66.0*
*JMA **14** 04:00:08.4±0.2,37°.8N±0°.9×13°5E±°,h381km±2km, MV3.4/14,SEA OF JAPAN*
ISC 14 04:00:08.3±0.8,37°.74N±0°.08×135°.18E±0°.08,h400km,n18, σ1°38/20,mb3.2/3,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**2.46**	**82**	P	**Pn**	**04 01 06.8**	**-0.5**
JWT	**Wachi**	**2.46**	**176**	P	**Pn**	**04 01 06.8**	**-0.6**
JWT				*eS*	**S**	**04 01 52.4**	**-2.8**
MAT	**Matsushiro**	**2.70**	**115**	P	**Pn**	**04 01 09.1**	**0.0**
MJAR	**Matsushiro Arr** 16nm,0.7s,baz=305,slow=9.2,SNR=36	**2.70**	**115**	P	**Pn**	**04 01 09.3**	**+0.2**
JHS	**Saijyo**	**3.20**	**212**	P	**Pn**	**04 01 12.1**	**-1.2**
JIE	**Ise**	**3.56**	**159**	P	**Pn**	**04 01 16.7**	**+0.3**
JOD2	**Odawara 2**	**4.00**	**127**	P	**Pn**	**04 01 21.2**	**+0.7**
JMK	**Ichinoseki**	**4.90**	**74**	P	**Pn**	**04 01 29.5**	**+0.3**
JMK				*eS*	**S**	**04 02 33.1**	**-1.9**
BSO1	**Boso 1**	**5.61**	**122**	*eS*	**S**	**04 02 45.4**	**-2.4**
KSRS	**Korea Array** 6.4nm,0.6s,baz=85,slow=12,SNR=17	**5.77**	**269**	P	**Pn**	**04 01 37.1**	**-1.2**
JNU	**Nakatsue** 6.6nm,0.6s,baz=30,slow=14,SNR=2.1	**5.79**	**219**	P	**Pn**	**04 01 39.0**	**+0.2**
JOT	**Ohata**	**5.81**	**49**	P	**Pn**	**04 01 39.3**	**+0.6**
USRK	**Ussuriysk Ar.** 11nm,0.5s,baz=150,slow=11,SNR=25	**6.89**	**341**	P	**Pn**	**04 01 49.4**	**-1.1**
ASAJ	**Asahikawa** 3.8nm,0.3s,baz=206,slow=10,SNR=5.3	**8.49**	**39**	P	**Pn**	**04 02 08.2**	**-0.4**
KLR	**Kul'dur** 2.1nm,0.4s,baz=170,slow=8.2,SNR=18	**11.75**	**349**	P	**P**	**04 02 44.9**	**-0.1**
SONM	**Songino Array** 1.0nm,0.4s,baz=118,slow=10,SNR=2.4 1.0nm,0.4s	**23.29**	**305**	P	**P**	**04 04 44.2**	**+1.7**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=89,slow=9.7,SNR=4.5 0.4nm,0.7s	**39.51**	**301**	P	**P**	**04 07 01.9**	**-0.2**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=354,slow=7.6,SNR=13 0.4nm,0.4s	**57.38**	**181**	P	**P**	**04 09 19.2**	**+2.5**

*WEL **14** 04:09:12.3±0.4,42°.S±3°×17°.3E±°,h5km,M3.1/17, ML3.3/19,MLv3.1/17,Error ellipse: s-maj=0.0km s-min=0.0km az=104.9,confirmed*
*NOU **14** 04:09:12.7,42°.31S×172°.72E,h0km,MLv3.6/7,South Island, New Zealand*
ISC 14 04:09:12.1±1.2,42°.27S±0°.02×172°.74E±0°.03,h8km±11km, n59,σ1°55/64,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.52**	**14**	P	**Pg**	**04 09 21.9**	**-0.1**
KHZ	**Kahutara**	**0.61**	**105**	P	**Pg**	**04 09 24.4**	**+0.6**
KHZ	**Kahutara**	**0.61**	**105**	P	**Pg**	**04 09 24.7**	**+0.8**
LTZ	**Lake Taylor**	**0.62**	**214**	P	**Pg**	**04 09 24.5**	**+0.4**
LTZ				S	**Sg**	**04 09 32.4**	**+0.1**
GVZ	**Greta Valley S**	**0.73**	**163**	P	**Pb**	**04 09 27.5**	**+0.4**
GVZ				S	**Sb**	**04 09 38.3**	**+0.9**
MRNZ	**Matariki Terra**	**0.87**	**1**	P	**Pg**	**04 09 28.4**	**-0.3**
DSZ	**Denniston Nort**	**0.87**	**306**	P	**Pb**	**04 09 29.2**	**-0.2**
AMCZ	**Amberley**	**0.91**	**184**	P	**Pb**	**04 09 31.1**	**+0.9**
BSWZ	**Blackbirch Sta**	**1.01**	**57**	P	**Pg**	**04 09 31.5**	**0.0**
INZ	**Inchbonnie**	**1.06**	**244**	P	**Pg**	**04 09 31.9**	**-0.6**
INZ				S	**Sb**	**04 09 46.9**	**+0.1**
NNZ	**Nelson**	**1.15**	**25**	P	**Pg**	**04 09 32.9**	**-1.2**
OXZ	**Oxford**	**1.18**	**206**	P	**Pg**	**04 09 35.0**	**+0.3**
CMWZ	**Cape Campbell**	**1.21**	**65**	P	**Pn**	**04 09 37.1**	**+1.8**
TUWZ	**Tuamarina**	**1.23**	**47**	P	**Pg**	**04 09 34.8**	**-0.8**
TKNZ	**Takaka Hill**	**1.24**	**8**	P	**Pg**	**04 09 34.8**	**-1.1**
MQZ	**McQueen's Vall**	**1.44**	**183**	P	**Pn**	**04 09 37.4**	**-1.0**
MQZ				S	**Sn**	**04 09 55.9**	**-1.6**
QRZ	**Quartz Range**	**1.45**	**354**	P	**Pb**	**04 09 39.1**	**-0.1**
QRZ	**Quartz Range**	**1.45**	**354**	P	**Pn**	**04 09 38.6**	**+0.1**
QRZ				S	**Sn**	**04 09 57.8**	**+0.1**
OKCZ	**Okains Bay**	**1.48**	**171**	P	**Pn**	**04 09 38.8**	**-0.1**
RACZ	**Rakaia**	**1.53**	**197**	P	**Pn**	**04 09 38.8**	**-0.8**
MHCZ	**Mount Hutt**	**1.53**	**214**	P	**Pn**	**04 09 39.3**	**-0.4**
TCW	**Tory Channel**	**1.56**	**48**	P	**Pn**	**04 09 40.4**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.61**	**176**	P	**Pn**	**04 09 40.3**	**-0.5**
WVZ	**Waitaha Valley**	**1.69**	**241**	P	**Pb**	**04 09 43.2**	**-0.1**
DUWZ	**D'Urville Isla**	**1.71**	**32**	P	**Pn**	**04 09 42.5**	**+0.3**
SNZO	**South Karori**	**1.75**	**58**	P	**Pb**	**04 09 44.6**	**+0.2**
WACZ	**Wakanui South**	**1.80**	**201**	P	**Pn**	**04 09 42.5**	**-0.9**
RPZ	**Rata Peaks**	**1.91**	**220**	P	**Pn**	**04 09 46.5**	**+1.6**
RPZ	**Rata Peaks**	**1.91**	**220**	P	**Pn**	**04 09 45.2**	**+0.4**
ARCZ	**Arundel**	**2.04**	**214**	P	**Pn**	**04 09 46.1**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.06**	**239**	P	**Pn**	**04 09 48.5**	**+1.5**
CAW	**Cannon Point**	**2.09**	**57**	P	**Pn**	**04 09 47.8**	**+0.5**
KIW	**Kapiti Island**	**2.15**	**50**	P	**Pn**	**04 09 49.5**	**+1.3**
OGWZ	**Otaki Gorge**	**2.33**	**52**	P	**Pn**	**04 09 51.4**	**+0.8**
MTW	**Mount Morrison**	**2.34**	**63**	P	**Pn**	**04 09 50.4**	**-0.5**
TMZ	**Timaru**	**2.47**	**210**	P	**Pn**	**04 09 51.6**	**-0.9**
FOZ	**Fox Glacier**	**2.50**	**239**	P	**Pn**	**04 09 54.4**	**+1.5**
MRZ	**Mangatainoka R**	**2.67**	**54**	P	**Pn**	**04 09 55.2**	**-0.1**
LBZ	**Lake Benmore**	**2.82**	**221**	P	**Pn**	**04 09 58.2**	**+0.7**
WAZ	**Wanganui**	**3.03**	**35**	P	**Pb**	**04 10 06.4**	**+0.2**
NBEZ	**Newall Road No**	**3.11**	**16**	P	**Pb**	**04 10 05.1**	**-2.5**
KHEZ	**Kahui Hut**	**3.12**	**18**	P	**Pn**	**04 10 04.5**	**+2.9**
KHEZ	**Kahui Hut**	**3.12**	**18**	P	**Pn**	**04 10 04.5**	**+2.9**
ODZ	**Otahua Downs**	**3.17**	**208**	P	**Pn**	**04 10 02.0**	**-0.2**
ODZ	**Otahua Downs**	**3.17**	**208**	P	**Pn**	**04 10 01.1**	**-1.0**
PKE	**Pukeiti**	**3.21**	**18**	P	**Pn**	**04 10 05.4**	**+2.6**
PNHZ	**Pukenui**	**3.51**	**49**	P	**Pn**	**04 10 05.8**	**-1.2**
WNVZ	**Wahianoa**	**3.65**	**37**	P	**Pn**	**04 10 10.6**	**+1.7**
TRVZ	**Turoa**	**3.65**	**37**	P	**Pn**	**04 10 12.6**	**+3.6**
SNVZ	**South Ngauruho**	**3.78**	**37**	P	**Pb**	**04 10 15.7**	**-3.5**
OTVZ	**Oturere**	**3.81**	**37**	P	**Pb**	**04 10 18.0**	**-1.6**
WTVZ	**West Tongariro**	**3.82**	**35**	P	**Pb**	**04 10 17.6**	**-2.1**
KRVZ	**Karewarewa**	**3.86**	**36**	P	**Pb**	**04 10 17.8**	**-2.6**
HIZ	**Hauiti**	**4.08**	**24**	P	**Pn**	**04 10 16.9**	**+2.2**
HIZ	**Hauiti**	**4.08**	**24**	P	**Pn**	**04 10 17.2**	**+2.4**
TLZ	**Tolley Road**	**4.47**	**29**	P	**Pn**	**04 10 24.0**	**+3.8**
TOZ	**Tahuroa Road**	**5.00**	**26**	P	**Pn**	**04 10 30.4**	**+3.1**
MKAZ	**Moumakai**	**5.48**	**21**	P	**Pn**	**04 10 36.4**	**+2.5**
WMGZ	**Waiomatatini S**	**6.22**	**46**	P	**Pn**	**04 10 44.8**	**+0.8**

*IDC **14** 04:30:54.4±1.3,12°.31N×88°.64W,h0km,mb3.7/5, mbtmp3.7/7,ML3.3/2,Error ellipse: s-maj=57.7km s-min=19.1km az=45.0*
*SNET **14** 04:30:57.7±1.5,12°.12N×89°.07W,h10km,ML4.2*
ISC 14 04:30:53.6±2.0,12°.00N±0°.06×89°.00W±0°.07,h4km±11km, n30,σ1°34/43,mb3.6/5,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.39**	**17**	*eP*	**Pg**	**04 31 21.7**	**+1.5**
TECO	**Alcaldia de Te**	**1.55**	**8**	*eP*	**Pg**	**04 31 23.3**	**0.0**
COEB	**Comit de Eme**	**1.56**	**17**	*eP*	**Pg**	**04 31 23.9**	**+0.3**
VSM	**San Miguel**	**1.59**	**26**	*eP*	**Pg**	**04 31 25.1**	**+1.0**
PACA	**Pacayal**	**1.60**	**24**	*eP*	**Pg**	**04 31 25.3**	**+0.9**
SJTE	**Alcalda de S**	**1.61**	**360**	*eP*	**Pg**	**04 31 24.2**	**-0.3**
SJTE				*eS*	**Sg**	**04 31 44.8**	**-0.6**
BLLM	**Bellamira**	**1.62**	**27**	*eP*	**Pg**	**04 31 24.6**	**0.0**
LFRS	**El Faro**	**1.62**	**358**	*eP*	**Pg**	**04 31 24.4**	**-0.2**
PQSS	**Presa 15 de Se**	**1.67**	**15**	*eP*	**Pg**	**04 31 25.7**	**0.0**
LCND	**La Caada**	**1.69**	**39**	*eP*	**Pg**	**04 31 25.9**	**-0.1**
SNET	**Serv Nac Est T**	**1.70**	**352**	*eP*	**Pb**	**04 31 25.4**	**-0.1**
SNET				*eS*	**Sn**	**04 31 46.2**	**-0.1**
JAYA	**Jayaque - finc**	**1.71**	**345**	*eP*	**Pb**	**04 31 25.5**	**-0.1**
JAYA				*eS*	**Sn**	**04 31 46.0**	**-0.7**
PAVA	**Las Pavas**	**1.71**	**2**	*eP*	**Pb**	**04 31 25.8**	**+0.1**
PAVA				*eS*	**Sg**	**04 31 48.2**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.72**	**9**	*eP*	**Pg**	**04 31 26.3**	**-0.2**
SCLA				*eS*	**Sg**	**04 31 47.9**	**-0.9**
UEES	**Universidad Ev**	**1.73**	**352**	*eP*	**Pb**	**04 31 26.0**	**0.0**
UEES				*eS*	**Sn**	**04 31 47.1**	**0.0**
P5NO	**Presa 5 de nov**	**1.99**	**7**	*eP*	**Pb**	**04 31 30.3**	**-0.1**
P5NO				*eS*	**Sb**	**04 31 55.4**	**-0.2**
RTR	**El Retiro**	**1.99**	**342**	*eP*	**Pb**	**04 31 30.0**	**-0.6**
NUBE	**Las Nubes**	**2.04**	**338**	*eP*	**Pn**	**04 31 29.9**	**+1.0**
NUBE				*eS*	**Sn**	**04 31 53.5**	**-1.5**
SLOZ	**Alcaldia de Sa**	**2.16**	**339**	*eP*	**Pn**	**04 31 31.9**	**+1.5**
SLOZ				*eS*	**Sn**	**04 31 57.7**	**0.0**
MTO3	**Montecristo**	**2.42**	**352**	*eP*	**Pb**	**04 31 36.4**	**-1.4**
MTO3				*eS*	**Sn**	**04 32 05.0**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.65**	**39**	*eP*	**Pb**	**04 31 40.1**	**-1.6**
JTS	**Las Juntas de** 1.9nm,0.3s,baz=300,slow=22,SNR=3.1	**4.31**	**113**	Pn	**Pn**	**04 32 00.8**	**+0.8**
JTS	2.6nm,0.3s,baz=302,slow=20,SNR=1.5 3.8nm,0.3s			Sn	**Sn**	**04 32 50.1**	**-0.8**
CMIG	**Matias Romero** 0.4nm,0.3s,baz=135,slow=7.1,SNR=13	**7.63**	**312**	Pn	**Pn**	**04 32 46.6**	**+1.0**
CMIG	0.1nm,0.3s,baz=240,slow=3.9,SNR=1.7 2.4nm,0.6s			Sn	**Sn**	**04 34 06.7**	**-5.8**
NVAR	**Mina Array Bea** 1.0nm,1.8s,baz=135,slow=9.0,SNR=3.6 1.0nm,1.0s	**37.07**	**320**	P	**P**	**04 38 07.2**	**+2.0**
SIV	**San Ignacio** 1.4nm,0.8s,baz=292,slow=5.4,SNR=7.3 1.4nm,0.8s	**39.20**	**135**	P	**P**	**04 38 23.4**	**+0.3**
SCHQ	**Schefferville** 1.8nm,0.8s,baz=225,slow=7.1,SNR=1.0 1.8nm,0.8s	**46.16**	**18**	P	**P**	**04 39 16.0**	**-3.2**
YKA	**Yellowknife Ar** 0.5nm,0.7s,baz=148,slow=6.3,SNR=3.4	**53.66**	**346**	P	**P**	**04 40 16.6**	**+0.5**
YKA	0.4nm,0.9s,baz=130,slow=3.5,SNR=2.6 0.5nm,0.7s			PcP	**PcP**	**04 41 23.8**	**+1.4**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=151,slow=5.8,SNR=4.3 0.4nm,0.9s	**65.83**	**337**	P	**P**	**04 41 40.4**	**+0.4**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=99,slow=1.5,SNR=3.0	**137.69**	**254**	PKP	**PKPdf**	**04 50 20.3**	**+0.2**
CMAR	**Chiang Mai Arr** 1.5nm,0.6s,baz=357,slow=3.6,SNR=1.9	**148.74**	**345**	PKPbc	**PKPbc**	**04 50 44.2**	**+1.0**

*IDC **14** 04:30:46.6±1.1,14°.01N×121°.59E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=96.0km s-min=21.0km az=66.0*
*MAN **14** 04:31:01.1,13°.64N×120°.55E,h104km,mb4.5,ML3.4, MS3.2*
ISC 14 04:31:00.7±0.8,13°.62N±0°.03×120°.59E±0°.06,h119km±6km, n19,σ1°23/30,mb3.6/5,10C-4D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**289**	*iP*	**Pn**	**04 31 18.2**	**+0.5**
LUBP				*eS*	**Sn**	**04 31 28.9**	**-1.6**
TGY	**Tagaytay City**	**0.59**	**35**	*eP*	**Pn**	**04 31 21.0**	**+1.8**
TGY				*i S*	**Sn**

IDC ***14*** *04:52:16.1±1.2,29.°53N×51.°45E,h0km,mb3.9/17, mbtmp3.8/22,ML3.4/5,MS2.8/8,Error ellipse: s-maj=27.8km s-min=15.6km az=19.0*
TEH ***14*** *04:52:17.0,29.°76N×51.°49E,h5km,ML3.9*
DSN ***14*** *04:52:23.4±1.5,29.°34N×51.°51E,h32km±24km,ML3.5/3, Error ellipse: s-maj=24.3km s-min=4.7km az=0.0*
ISC 14 04:52:18.0±1.3**,29.°75N**±0.°03×**51.°50E**±0.°04,**h9**km±8km, **n74**,σ2**°31/77**,**mb3.9**/17,**MS2.9**/3,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	**Kazerun**	**0.18**	**135**	**Pg**	**Pg**	**04 52 21.6**	**-0.2**
SHI	**Shiraz**	**0.89**	**97**	**Pg**	**Pn**	**04 52 34.9**	**-0.8**
AHBU	**AHRAM**	**0.90**	**191**	**Pg**	**Pb**	**04 52 35.5**	**-0.3**
AHBU				Sg	**Sn**	**04 52 50.4**	**+0.5**
KLNJ	**Kolanjah**	**1.25**	**4**	**Pg**	**Pg**	**04 52 40.8**	**-1.4**
ABEH	**Behbahan**	**1.37**	**308**	**Pg**	**Pg**	**04 52 44.9**	**+0.6**
ABEH				Sg	**Sn**	**04 53 07.3**	**+5.8**
DSBU	**Dashti - Bushe**	**1.40**	**189**	**Pg**	**Pg**	**04 52 45.7**	**+0.9**
DSBU				Sg	**Sn**	**04 53 07.7**	**+5.4**
QIR1	**Qir**	**1.86**	**133**	Pn	**Pb**	**04 52 51.9**	**-0.2**
IBRJ	**Brojen**	**2.16**	**355**	Pn	**Pb**	**04 52 56.4**	**-1.0**
IRAM	**Ramesheh**	**2.19**	**20**	Pn	**Pb**	**04 52 56.5**	**-1.4**
JHRM	**Jahrom**	**2.21**	**124**	Pn	**Pb**	**04 52 57.2**	**-0.9**
SHK1	**Shahrekord**	**2.62**	**349**	Pn	**Pn**	**04 53 02.1**	**+1.4**
IGAR	**Gharneh**	**2.68**	**10**	Pn	**Pb**	**04 53 03.8**	**-2.6**
AMIS	**Naft Sefid**	**2.69**	**316**	Pn	**Pb**	**04 53 03.7**	**-2.7**
ISAD	**Sadrabad**	**2.86**	**41**	Pn	**Pb**	**04 53 06.5**	**-2.9**
IPIR	**Pirpir**	**2.97**	**350**	Pn	**Pn**	**04 53 07.5**	**+2.0**
IMEH	**Mehriz**	**3.15**	**58**	Pn	**Pn**	**04 53 10.1**	**+2.2**
IZEF	**Zefreh**	**3.21**	**13**	Pn	**Pn**	**04 53 11.4**	**+2.5**
ICHK	**Chekchek**	**3.52**	**44**	Pn	**Pn**	**04 53 15.4**	**+2.3**
IKLH	**Kolahrood**	**3.56**	**1**	Pn	**Pn**	**04 53 15.6**	**+2.0**
ANAR	**Anarak**	**3.92**	**29**	Pn	**Pn**	**04 53 20.8**	**+2.3**
IBAF	**Bafgh**	**3.96**	**61**	Pn	**Pn**	**04 53 21.4**	**+2.4**
QAMS	**Qamsar**	**3.97**	**359**	Pn	**Pn**	**04 53 21.7**	**+2.4**
KRSH	**Karshahi**	**4.24**	**7**	Pn	**Pn**	**04 53 24.9**	**+2.0**
KHGB	**Koh Gabri**	**4.36**	**81**	Pn	**Pn**	**04 53 26.7**	**+2.1**
TVBK	**TV Kerman**	**4.58**	**86**	Pn	**Pn**	**04 53 30.0**	**+2.3**
ISFB	**Sefidab**	**4.63**	**8**	Pn	**Pn**	**04 53 30.2**	**+2.0**
GENO	**Geno**	**4.73**	**119**	Pn	**Pn**	**04 53 31.2**	**+1.5**
IDOB	**Doab**	**4.92**	**326**	Pn	**Pn**	**04 53 35.0**	**+2.8**
IVRN	**Varamin**	**5.23**	**2**	Pn	**Pn**	**04 53 38.6**	**+2.2**
CHMN	**Cheshme madani**	**5.25**	**87**	Pn	**Pn**	**04 53 39.5**	**+2.5**
TPRV	**Parvadeh(Tabas**	**5.51**	**52**	Pn	**Pn**	**04 53 42.4**	**+2.2**
IKOM	**Komasi**	**5.56**	**323**	Pn	**Pn**	**04 53 42.6**	**+1.6**
IBZA	**Bozab**	**5.62**	**328**	Pn	**Pn**	**04 53 44.1**	**+2.1**
IRAZ	**Razeghan**	**5.79**	**347**	Pn	**Pn**	**04 53 47.0**	**+2.7**
IDMV	**Damavand**	**5.83**	**4**	Pn	**Pn**	**04 53 46.6**	**+1.8**
IFIR	**Firoozkooh**	**5.97**	**10**	Pn	**Pn**	**04 53 48.7**	**+1.9**
NAZ	**Nazwa, Dubai**	**6.02**	**141**	P	**Pn**	**04 53 46.1**	**-1.1**
TNSJ	**Nastanj**	**6.04**	**45**	Pn	**Pn**	**04 53 49.7**	**+2.1**
IGHG	**Ghaleghazi**	**6.19**	**319**	Pn	**Pn**	**04 53 51.8**	**+2.1**
ISHM	**Shahmirzad**	**6.22**	**14**	Pn	**Pn**	**04 53 52.2**	**+2.0**
ASHO	**Ashiyiah**	**6.48**	**140**	P	**Pn**	**04 53 52.8**	**-0.8**
IDHR	**Dehrash**	**6.56**	**320**	Pn	**Pn**	**04 53 56.7**	**+1.9**
BSRN	**Basiran**	**6.92**	**69**	Pn	**Pn**	**04 54 02.6**	**+2.9**
MZR	**Muzera**	**6.95**	**165**	P	**Pn**	**04 53 57.9**	**-2.2**
IGLO	**Ghaloghah**	**7.01**	**16**	Pn	**Pn**	**04 54 03.4**	**+2.4**
SOHO	**SOHO**	**7.18**	**140**	P	**Pn**	**04 54 01.4**	**-1.8**
RAYN	**Ar Rayn**	**8.20**	**222**	P	**Pn**	**04 54 16.4**	**-0.8**
RAYN				S	**Sn**	**04 55 45.8**	**-4.2**
SHRT	**Shahrakht**	**8.44**	**60**	Pn	**Pn**	**04 54 22.7**	**+2.2**
WSAR	**Wadi Sarin**	**9.10**	**134**	Pn	**Pn**	**04 54 28.4**	**-1.1**
	1.5nm,0.3s,baz=322,slow=9.0,SNR=9.2						
WSAR				Sn	**Sn**	**04 56 05.0**	**-7.2**
	0.3nm,0.3s,baz=126,slow=17,SNR=1.3						
WSAR				LR	LR	04 58 45.7	
	comp=Z,90nm,20.7s,baz=352,slow=43 9.8nm,0.6s						
GEYT	**Alibeck**	**9.84**	**32**	LR	LR	04 58 37.0	
	comp=Z,44nm,19.6s,baz=270,slow=38						
GNI	**Garni**	**11.75**	**334**	LR	LR	05 00 42.5	
	comp=Z,30nm,19.5s,baz=94,slow=42						
ASF	**Jabal al Asfar**	**12.76**	**285**	Pn	**Pn**	**04 55 18.7**	**-1.0**
	0.3nm,0.3s,baz=255,slow=22,SNR=2.7						
ASF				Sn	**Sn**	**04 57 36.4**	**-5.6**
	0.2nm,0.3s,baz=298,slow=14,SNR=3.5 1.2nm,0.4s						
MMAI	**Mount Meron Ar**	**14.13**	**287**	Pn	**Pn**	**04 55 37.2**	**-1.1**
	0.1nm,0.3s,baz=116,slow=16,SNR=1.4						
MMAI				Sn	**Sn**	**04 58 13.2**	**-2.1**
	0.4nm,0.3s,baz=120,slow=29,SNR=3.1 0.4nm,0.4s						
EIL	**Elat**	**14.38**	**274**	LR	LR	05 01 50.0	
	comp=Z,24nm,20.8s,baz=57,slow=40						
KBZ	**Khabaz**	**15.54**	**336**	Pn	**P**	**04 56 00.9**	**-0.7**
	0.1nm,0.3s,baz=164,slow=15,SNR=2.8						
KBZ				LR	LR	05 03 04.1	
	comp=Z,44nm,18.1s,baz=248,slow=41 2.3nm,0.9s						
BRTR	**Keskin Array B**	**17.70**	**309**	P	**P**	**04 56 25.2**	**-0.6**
	0.1nm,0.3s,baz=127,slow=12,SNR=1.4 0.3nm,0.6s						
AKTO	**Aktyubinsk**	**21.23**	**12**	P	**P**	**04 57 06.6**	**+2.5**
	1.7nm,0.5s,baz=245,slow=11,SNR=3.9 1.7nm,0.5s						
AAK	**Ala-Archa**	**22.49**	**49**	LR	LR	05 07 55.6	
	comp=Z,26nm,20.2s,baz=62,slow=41						
BELG	**Belogornoye**	**22.80**	**354**	P	**P**	**04 57 23.4**	**+2.6**
	2.6nm,0.5s,baz=44,slow=14,SNR=1.7 2.6nm,0.5s						
IDI	**Anoyia**	**23.07**	**291**	P	**P**	**04 57 24.4**	**+0.5**
	8.5nm,1.0s,baz=263,slow=16,SNR=3.6 8.5nm,1.0s						
MLR	**Muntele Rosu**	**25.47**	**315**	P	**P**	**04 57 47.7**	**+1.3**
	3.1nm,0.9s,baz=325,slow=7.3,SNR=2.2 3.1nm,0.9s						
AKASG	**Malin Array Be**	**26.77**	**328**	P	**P**	**04 57 58.5**	**+0.5**
	0.4nm,0.4s,baz=134,slow=9.2,SNR=5.3 0.4nm,0.4s						
BVAR	**Borovoye Array**	**27.07**	**25**	P	**P**	**04 58 02.0**	**+1.4**
	0.6nm,0.5s,baz=224,slow=8.1,SNR=5.0 0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**29.07**	**37**	P	**P**	**04 58 20.1**	**+1.5**
	0.7nm,0.6s,baz=236,slow=9.3,SNR=8.9 0.7nm,0.6s						
MKAR	**Makanchi Array**	**29.31**	**46**	P	**P**	**04 58 21.5**	**+0.7**
	0.3nm,0.6s,baz=229,slow=8.9,SNR=4.4 0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**34.13**	**35**	P	**P**	**04 59 05.2**	**+2.2**
	2.3nm,0.6s,baz=250,slow=8.5,SNR=9.7 2.3nm,0.6s						
GERES	**GERESS Array B**	**34.45**	**314**	P	**P**	**04 59 07.1**	**+1.2**
	0.4nm,0.6s,baz=88,slow=9.0,SNR=2.1 0.4nm,0.6s						
FINES	**FINESS Array B**	**35.86**	**339**	P	**P**	**04 59 18.5**	**+0.7**
	3.1nm,1.1s,baz=133,slow=9.7,SNR=1.8 3.1nm,1.1s						
NOA	**NORSAR Array B**	**41.05**	**331**	P	**P**	**05 00 00.7**	**-0.8**
	0.6nm,0.8s,baz=58,slow=10.0,SNR=1.7						
NOA				LR	LR	05 18 28.2	
	comp=Z,22nm,19.8s,baz=215,slow=38 0.6nm,0.8s						
ARCES	**ARCESS Array B**	**42.51**	**347**	P	**P**	**05 00 15.6**	**+2.3**
	4.6nm,1.1s,baz=132,slow=3.4,SNR=5.6 4.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.47**	**94**	P	**P**	**05 00 29.4**	**-0.4**
	1.7nm,0.3s,baz=291,slow=7.6,SNR=2.4						
CMAR				LR	LR	05 24 30.4	
	comp=Z,12nm,18.9s,baz=275,slow=44 1.7nm,0.3s						
KSRS	**Korea Array**	**62.52**	**61**	P	**P**	**05 02 40.7**	**-1.3**
	0.5nm,0.3s,baz=279,slow=6.8,SNR=1.7 0.5nm,0.3s						
YKA	**Yellowknife Ar**	**87.40**	**354**	P	**P**	**05 05 06.4**	**+1.1**
	0.1nm,0.6s,baz=12,slow=5.2,SNR=3.1 0.1nm,0.6s						
WRA	**Warramunga Arr**	**93.75**	**111**	P	**P**	**05 05 35.1**	**-0.6**
	0.7nm,1.2s,baz=315,slow=4.5,SNR=2.5 0.7nm,1.2s						

IDC ***14*** *05:27:03.5±0.6,2.°62S×128.°90E,h0km,mb4.2/15, mbtmp4.2/18,ML4.3/3,MS3.5/11,Error ellipse: s-maj=19.9km s-min=14.4km az=74.0*
DJA ***14*** *05:27:06.7±0.8,3.°3S×12.°9E±.°,h24km±8km,M4.7/14, mB5.5/3,mb4.9/6,MLv4.5/14,Mw(mB)5.0/3*
NEIC ***14*** *05:27:08.2±2.0,2.°62S±0.°07×128.°91E±0.°07,h29km±6km, mb4.3/18,Error ellipse: s-maj=10.9km s-min=9.1km az=206.0*
ISC 14 05:27:08.3±0.4,2**°65S**±0.°04×**128.°91E**±0.°04,**h35**km,**n78**, σ1**°61/78**,**mb4.2**/22,**MS3.5**/8,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.69**	**179**	P	**Pn**	**05 27 23.1**	**+1.5**
AAI	**Ambon**	**1.25**	**215**	P	**Pn**	**05 27 31.9**	**+2.6**
NLAI	**Namlea**	**1.90**	**252**	P	**Pn**	**05 27 39.1**	**+0.8**
NLAI				S	**Sn**	**05 28 04.0**	**+3.0**
BNDI	**Bandanaira**	**2.10**	**152**	P	Pn	05 27 48.0	+7.0
BNDI	**Bandanaira**	**2.10**	**152**	P	**Pn**	**05 27 39.8**	**-1.2**
SWI	**Sorong**	**2.94**	**53**	P	**Pn**	**05 27 51.9**	**-0.7**
SWI				S	**Sn**	**05 28 26.6**	**-0.1**
SIJI	**Sorong**	**2.94**	**53**	Pn	**Pn**	**05 27 52.8**	**+0.2**
	40nm,0.3s,baz=235,slow=6.5,SNR=37						
SIJI				Sn	**Sn**	**05 28 27.9**	**+1.1**
	59nm,0.3s,baz=223,slow=23,SNR=16						
SIJI				LR	LR	05 29 24.7	
	comp=Z,1μm,20.1s,baz=238,slow=48 95nm,0.3s						
SANI	**Sanana**	**2.98**	**282**	P	**Pn**	**05 27 50.7**	**-2.4**
SANI				S	**Sn**	**05 28 26.4**	**-1.3**
FAKI	**Fak Fak**	**3.34**	**95**	Pn	**Pn**	**05 27 58.9**	**+0.8**
FAKI	**Fak Fak**	**3.34**	**95**	P	**Pn**	**05 27 55.6**	**-2.5**
TNTI	**Ternate**	**3.74**	**336**	Pn	**Pn**	**05 28 03.3**	**-0.2**
TNTI	**Ternate**	**3.74**	**336**	P	**Pn**	**05 28 00.4**	**-3.1**
RKPI	**Ransiki, Papua**	**5.38**	**78**	P	**Pn**	**05 28 24.2**	**-1.9**
	113nm,0.6s,13μm1.8nm						
LUWI	**Luwuk**	**6.34**	**284**	P	**Pn**	**05 28 36.4**	**-3.0**
	106nm,0.9s,0.7nm						
APSI	**Ampana**	**7.46**	**283**	P	**Pn**	**05 28 54.3**	**-0.5**
	413nm,0.6s,4μm1.5nm						
MRSI	**Marisa**	**7.63**	**294**	P	**Pn**	**05 28 54.6**	**-2.5**
	62nm,1.0s,0.3nm						
SOEI	**Soe**	**8.43**	**213**	P	**Pn**	**05 29 07.0**	**-1.2**
TOLI2	**Tolitoli**	**8.95**	**295**	Pn	**Pn**	**05 29 14.4**	**-0.7**
BATI	**Baumata**	**9.14**	**215**	LR	LR	05 32 58.5	
	comp=Z,574nm,21.8s,baz=47,slow=39						
KAPI	**Kappang**	**9.44**	**255**	Pn	**Pn**	**05 29 22.1**	**+0.2**
	1.8nm,0.3s,baz=163,slow=14,SNR=2.0 6.5nm,0.4s						
DAV	**Davao City (W)**	**10.22**	**341**	LR	LR	05 34 25.0	
	comp=Z,356nm,19.5s,baz=67,slow=43						
MTN	**Manton Dam**	**10.36**	**168**	Pn	**Pn**	**05 29 36.8**	**+2.3**
KNRA	**Kununurra**	**12.94**	**181**	Pn	**Pn**	**05 30 11.5**	**+1.7**
MYLDM	**Lahad Datu**	**12.99**	**307**		**Pn**	**05 30 09.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**15.68**	**192**	Pn	**P**	**05 30 48.7**	**-1.7**
SBUM	**Sibu**	**17.44**	**287**	P	**P**	**05 31 11.9**	**+1.9**
WB0	**Warramunga Arr**	**17.83**	**163**		**Pn**	**05 31 13.3**	**-0.5**
WB0				IAmb	IAmb	05 31 23.5	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**17.98**	**163**	P	**Pn**	**05 31 15.0**	**-0.6**
WRAB				IAmb	IAmb	05 31 17.5	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**17.98**	**163**	P	**Pn**	**05 31 13.1**	**-2.5**
WRA	**Warramunga Arr**	**17.98**	**163**	P	**Pn**	**05 31 13.6**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=342,slow=12,SNR=50						
WRA				S	**Sn**	**05 34 27.6**	**-7.8**
	comp=Z,2.1nm,0.9s,baz=342,slow=22,SNR=4.8 comp=Z,6.7nm,0.7s						
WRA	**Warramunga Arr**	**17.98**	**163**	P	**Pn**	**05 31 15.3**	**-0.4**
COEN	**Coen**	**18.02**	**129**	P	**Pn**	**05 31 15.4**	**-0.7**
MBWA	**Marble Bar**	**20.45**	**205**	P	**P**	**05 31 42.2**	**-0.8**
MBWA				IAmb	IAmb	05 31 43.8	
	comp=Z,24nm,0.9s						
MBWA	**Marble Bar**	**20.45**	**205**	P	**P**	**05 31 42.5**	**-0.4**
QIS	**Mount Isa**	**20.63**	**150**	P	**P**	**05 31 45.7**	**+0.8**
PSA00	**Pilbara Seismi**	**20.77**	**204**	P	**P**	**05 31 45.6**	**-0.8**
PSA00	**Pilbara Seismi**	**20.77**	**204**	P	**P**	**05 31 45.6**	**-0.8**
	comp=Z,44nm,0.8s						
AS31	**Alice Springs**	**21.44**	**167**	P	**P**	**05 31 53.2**	**-0.4**
AS31				IAmb	IAmb	05 31 55.6	
	comp=Z,9.9nm,0.8s						
ASAR	**Alice Springs**	**21.44**	**167**	P	**P**	**05 31 53.6**	**0.0**
	comp=Z,26nm,0.7s,baz=348,slow=11,SNR=127						
ASAR				S	**S**	**05 35 47.0**	**-2.8**
	comp=Z,3.9nm,0.8s,baz=348,slow=20,SNR=6.3 comp=Z,26nm,0.7s						
ASAR	**Alice Springs**	**21.44**	**167**	P	**P**	**05 31 53.2**	**-0.4**
AS01	**Alice Springs**	**21.45**	**167**	P	**P**	**05 31 53.1**	**-0.6**
WRKA	**Warakurna**	**22.26**	**181**	P	**P**	**05 32 00.7**	**-1.7**
GUMO	**Guam**	**22.60**	**44**	LR	LR	05 40 04.6	
	comp=Z,52nm,21.5s,baz=242,slow=35						
KRVT	**Keravat (AS076**	**23.13**	**95**	LR	LR	05 41 30.1	
	comp=Z,202nm,18.4s,baz=59,slow=37						
CTA	**Charters Tower**	**24.23**	**137**	P	**P**	**05 32 22.2**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=308,slow=9.6,SNR=6.0 comp=Z,4.5nm,0.8s						
CTAO	**Charters Tower**	**24.23**	**137**	P	**P**	**05 32 21.7**	**-0.3**
CTAO				IAmb	IAmb	05 32 30.8	
	comp=Z,20nm,1.4s						
MEEK	**Meekatharra**	**25.82**	**202**	P	**P**	**05 32 37.7**	**+1.3**
OOD	**Oodnadatta**	**25.83**	**166**	P	**P**	**05 32 38.6**	**+2.2**
MULG	**Mulgathing**	**27.91**	**170**	P	**P**	**05 32 56.1**	**+0.9**
	comp=Z,17nm,2.8s						
KMBL	**Kambalda**	**29.32**	**192**	P	**P**	**05 33 08.2**	**+0.4**
RPSI	**Rantau Prapat**	**30.45**	**280**	P	**P**	**05 33 18.3**	**+0.4**
RPSI				IAmb	IAmb	05 33 20.2	
	comp=Z,9.4nm,1.0s						
RPSI	**Rantau Prapat**	**30.45**	**280**	P	**P**	**05 33 17.6**	**-0.3**
PSI	**Prapat**	**30.46**	**280**	P	**P**	**05 33 17.6**	**-0.6**
	comp=Z,7.6nm,0.9s,baz=45,slow=2.4,SNR=7.1 comp=Z,7.6nm,0.9s						
STKA	**Stephens Creek**	**31.43**	**159**	P	**P**	**05 33 26.9**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=326,slow=15,SNR=2.9						
STKA				LR	LR	05 49 17.0	
	comp=Z,129nm,19.2s,baz=357,slow=42 comp=Z,1.5nm,0.4s						
NWAO	**Narrogin (SRO)**	**32.05**	**199**	P	**P**	**05 33 31.9**	**+0.1**
JNU	**Nakatsue**	**35.63**	**3**	LR	LR	05 48 44.9	
	comp=Z,74nm,20.0s,baz=177,slow=37						
CMAR	**Ching Mai Arr**	**36.20**	**307**	P	**P**	**05 34 07.5**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=143,slow=6.6,SNR=1.9						
CMAR				PcP	**PcP**	**05 36 35.4**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=174,slow=1.8,SNR=5.3 comp=Z,1.2nm,0.3s						
CAN	**Canberra**	**37.47**	**153**	P	**P**	**05 34 19.8**	**+1.1**
MJAR	**Matsushiro Arr**	**39.95**	**12**	P	**P**	**05 34 37.6**	**-1.7**
	comp=Z,3.1nm,0.8s,baz=176,slow=8.6,SNR=6.4						
MJAR				LR	LR	05 49 17.9	
	comp=Z,53nm,21.8s,baz=185,slow=33 comp=Z,3.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**46.72**	**3**	P	**P**	**05 35 34.5**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=185,slow=8.7,SNR=2.2						
USRK				LR	LR	05 55 37.7	
	comp=Z,51nm,19.5s,baz=127,slow=37 comp=Z,1.2nm,0.4s						
ASAJ	**Asahikawa**	**48.15**	**13**	LR	LR	05 56 17.3	
	comp=Z,47nm,20.4s,baz=55,slow=36						
KLR	**Kul'dur**	**51.73**	**2**	LR	LR	05 57 58.8	
	comp=Z,23nm,19.0s,baz=228,slow=36						
SONM	**Songino Array**	**54.00**	**341**	P	**P**	**05 36 28.9**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=162,slow=6.1,SNR=3.7						
SONM				PcP	**PcP**	**05 37 35.7**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=163,slow=5.7,SNR=4.4 comp=Z,0.6nm,0.7s						
MK31	**Makanchi Array**	**64.03**	**326**	P	**P**	**05 37 38.4**	**-0.1**
MK31				IAmb	IAmb	05 37 39.7	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**64.03**	**326**	P	**P**	**05 37 38.6**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=126,slow=7.8,SNR=14 comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**64.03**	**326**	P	**P**	**05 37 38.1**	**-0.3**
ZALV	**Zalesovo Beam**	**67.23**	**334**	P	**P**	**05 37 58.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=104,slow=6.1,SNR=2.3 comp=Z,0.5nm,0.6s						
SEY	**Seymchan**	**67.77**	**11**	P	**P**	**05 38 03.5**	**+1.3**
	comp=Z,1.7nm,0.4s,baz=152,slow=6.3,SNR=5.3 comp=Z,1.7nm,0.4s						
KURK	**Kurchatov**	**68.27**	**328**	P	**P**	**05 38 06.2**	**+0.6**
KURK				IAmb	IAmb	05 38 39.1	
	comp=Z,7.0nm,1.3s						
BRVK	**Borovoye**	**73.91**	**328**	P	**P**	**05 38 39.9**	**+0.2**
BRVK				IAmb	IAmb	05 38 52.5	
	comp=Z,2.6nm,0.9s						
TIXI	**Tiksi**	**74.17**	**360**	P	**P**	**05 38 40.7**	**-0.1**
TIXI				IAmb	IAmb	05 38 48.7	
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**76.86**	**173**	P	**P**	**05 38 57.0**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=303,slow=9.1,SNR=1.7 comp=Z,2.1nm,0.9s						
NRIK	**Noril'sk**	**77.11**	**346**	P	**P**	**05 38 58.1**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=108,slow=4.3,SNR=1.8 comp=Z,1.5nm,0.5s						
ABKAR	**Akbulak array**	**78.45**	**321**	P	**P**	**05 39 05.2**	**-0.4**
RAYN	**Ar Rayn**	**85.01**	**294**	P	**P**	**05 39 41.7**	**+0.9**
ILAR	**Eielson Array**	**89.90**	**25**	P	**P**	**05 40 03.6**	**+0.1**
	comp=Z,0.8nm,1.1s,baz=261,slow=5.6,SNR=5.7 comp=Z,0.8nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**95.75**	**309**	P	**P**	**05 40 31.1**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=81,slow=8.1,SNR=5.2 comp=Z,1.3nm,0.9s						
CPUP	**Villa Florida**	**150.56**	**169**	PKPbc	**PKiKP**	**05 46 58.9**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=250,slow=3.3,SNR=6.2						

MAN ***14*** *05:37:06.2,18.°30N×121.°02E,h20km,mb4.8,ML3.7, MS3.6*
IDC ***14*** *05:37:08.5±5.9,18.°17N×121.°27E,h64km±53km,mb3.7/19, mbtmp4.0/19,MS3.2/7,Error ellipse: s-maj=28.6km s-min=14.1km az=67.0*
NEIC ***14*** *05:37:11.5±2.2,18.°97N±0.°09×121.°01E±0.°08,h35km±2km, mb4.4/17,Error ellipse: s-maj=18.3km s-min=6.7km az=320.0*
ISC 14 05:37:05.8±1.1,**18.°32N**±0.°04×**121.°01E**±0.°06,**h31**km±8km, **n67**,σ1**°48/63**,**mb4.2**/26,**MS3.1**/6,**10C-2D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACPP	**Pamplona Cagay**	**0.36**	**67**	i*eP*	**Pb**	**05 37 14.0**	**-0.2**
PACPP				*eS*	**Sb**	**05 37 19.6**	**-0.3**
APYP	**Conner**	**0.51**	**154**	i*eP*	**Pb**	**05 37 16.3**	**-0.2**
APYP				*eS*	**Sn**	**05 37 24.6**	**0.0**
CVP	**Callao Caves**	**0.99**	**128**	i*iP*	**Pn**	**05 37 24.1**	**+0.5**
CVP				*i S*	**Sb**	**05 37 37.7**	**+0.5**
SGCP	**Gonzaga**	**0.99**	**94**	i*iP*	**Pb**	**05 37 24.3**	**-0.2**
SGCP				*eS*	**Sb**	**05 37 39.1**	**+1.8**
CICP	**Calayan Island**	**1.04**	**26**	i*eP*	**Pn**	**05 37 25.0**	**+0.6**
SAMP	**Sagada Mountai**	**1.24**	**185**	i*eP*	**Pn**	**05 37 26.8**	**-0.3**
SAMP				*eS*	**Sn**	**05 37 43.2**	**+0.5**
SMPP	**San Manuel, Pa**	**2.18**	**188**	i*eP*	**Pn**	**05 37 41.9**	**+1.9**
SMPP				*eS*	**Sb**	**05 38 10.3**	**-1.0**
BOLP	**Bolinao**	**2.19**	**209**	i*eP*	**Pn**	**05 37 41.7**	**+1.5**
BOLP				*eS*	**Sn**	**05 38 09.2**	**+3.0**
SCZP	**Santa Cruz**	**2.74**	**203**	i*eP*	**Pn**	**05 37 49.1**	**+1.5**
SCZP				*eS*	**Sn**	**05 38 19.9**	**+0.2**
QVP	**Quezon City--P**	**3.68**	**180**	i*eP*	**Pb**	**05 38 09.4**	**-0.7**
LQP	**Lukban**	**4.22**	**173**	i*eP*	**Pb**	**05 38 16.1**	**-3.3**
JCNP	**Jose Panganiba**	**4.33**	**158**	i*eP*	**Pn**	**05 38 12.7**	**+3.2**
TPUB	**Ta-pu**	**4.97**	**356**	Pn	**Pn**	**05 38 14.5**	**-3.8**
YULB	**Yu-li**	**5.05**	**3**	Pn	**Pn**	**05 38 17.1**	**-2.4**
DAV	**Davao City (W)**	**12.04**	**158**	LR	LR	05 44 56.4	
	comp=Z,113nm,21.6s,baz=340,slow=40						
KS19	**Wonju Array Si**	**20.04**	**16**	P	**P**	**05 41 34.9**	**-1.4**
KS19				IAmb	IAmb	05 41 37.2	
	comp=Z,50nm,1.4s						
CHTO	**Chiang Mai**	**20.92**	**275**	P	Pn	05 41 49.2	+0.5
CMAR	**Chiang Mai Arr**	**20.94**	**274**	P	Pn	05 41 50.5	+1.6
	comp=Z,0.9nm,0.3s,baz=79,slow=9.1,SNR=9.7						
CMAR				LR	LR	05 49 18.2	
	comp=Z,27nm,20.4s,baz=140,slow=34 comp=Z,0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**20.94**	**274**	P	Pn	05 41 49.5	+0.6
KAPI	**Kappang**	**23.22**	**183**	LR	LR	05 50 47.1	
	comp=Z,51nm,20.6s,baz=328,slow=36						
GUMO	**Guam**	**23.41**	**98**	LR	LR	05 51 28.1	
	comp=Z,37nm,18.7s,baz=182,slow=37						
IPM	**Ipoh**	**23.89**	**237**	P	P	05 42 26.5	+10
IPM				IAmb	IAmb	05 42 38.4	
	comp=Z,9.8nm,1.0s						
SONM	**Songino Array**	**31.77**	**341**	P	**P**	**05 43 29.2**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=148,slow=8.5,SNR=2.4 comp=Z,0.5nm,0.5s						
KLR	**Kul'dur**	**32.03**	**13**	P

comp=Z,2.0nm,0.6s,baz=116,slow=3.4,SNR=7.5
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 83.32 333 P **P** **05 49 28.8 -0.8**
comp=Z,1.7nm,0.8s,baz=64,slow=5.3
NOA NORSAR Array B 83.32 333 P **P** **05 49 28.6 -0.9**
comp=Z,1.3nm,0.7s,baz=64,slow=5.1,SNR=5.8
comp=Z,1.3nm,0.7s
YKA Yellowknife Ar 88.42 23 P **P** **05 49 54.7 0.0**
comp=Z,0.9nm,0.8s,baz=308,slow=4.9,SNR=13
comp=Z,0.9nm,0.8s

DJA ***14*** *05:53:04.8±0.5,4.7°N±11.7°×12.2°E±0.7°,h700km,M4.2/7, MLv4.2/7*
IDC ***14*** *05:53:14.6±1.5,4.4°41N×122.7°11E,h650km±20km,mb3.4/10, mbtmp4.6/12,Error ellipse: s-maj=37.3km s-min=8.7km az=64.0*
NEIC ***14*** *05:53:14.2±1.8,4.4°49N±0.9°×122.1°1E±0.1°,h638km±10km, mb4.2/21,Error ellipse: s-maj=15.4km s-min=12.7km az=123.0*
ISC 14 05:53:14.4±0.5,4.42N±0.0°09×122.1E±0.1°,h650km,n46, σ1§10/49,mb4.0/20,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**3.55**	**202**	P	**P**		**05 54 39.3**	**-1.5**
MYLDM	**Lahad Datu**	**3.68**	**282**	P	**P**		**05 54 40.7**	**-0.9**
GTOI	**Gorontalo**	**3.86**	**167**	P	**P**		05 54 34.3	-8.5
APSI	**Ampana**	**5.32**	**185**	P	**P**		05 54 43.8	-9.1
LUWI	**Luwuk**	**5.46**	**173**	P	**P**		**05 54 51.8**	**-2.2**
LUWI	**Luwuk**	**5.46**	**173**	P	**P**		05 54 44.3	-10
KKM	**Kota Kinabalu**	**6.09**	**286**	P	**P**		**05 54 58.3**	**-0.9**
TNTI	**Ternate**	**6.38**	**124**	P	**P**		**05 54 58.9**	**-2.5**
FAKI	**Fak Fak**	**12.48**	**126**	P	**P**		**05 55 57.0**	**-0.6**
SOEI	**Soe**	**14.24**	**171**	P	**P**		**05 56 13.6**	**-0.3**
BATI	**Baumata**	**14.61**	**174**	P	**P**		**05 56 17.5**	**+0.3**
	36nm,0.4s,baz=36,slow=18,SNR=4.3							
LEM	**Lembang**	**18.28**	**232**	P	**P**		**05 56 51.0**	**+0.1**
	25nm,0.4s,baz=14,slow=22,SNR=2.3							
MTN	**Manton Dam**	**19.35**	**153**	P	**P**		**05 57 00.3**	**0.0**
MTN				IAmb	IAmb		05 57 05.9	
	comp=Z,31nm,1.4s							
KNRA	**Kununurra**	**21.02**	**162**	P	**P**		**05 57 15.4**	**+0.2**
KNRA				IAmb	IAmb		05 57 57.6	
	comp=Z,27nm,1.5s							
MBWA	**Marble Bar**	**25.53**	**185**	P	**P**		**05 57 55.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**26.60**	**303**	P	**P**		**05 58 04.9**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=119,slow=7.3,SNR=1.4							
	comp=Z,1.2nm,0.3s							
WRAB	**Tennant Creek**	**27.02**	**154**	P	**P**		**05 58 07.9**	**-0.2**
WRA	**Warramunga Arr**	**27.03**	**154**	P	**P**		**05 58 08.1**	**0.0**
	comp=Z,11nm,0.5s,baz=336,slow=9.5,SNR=97							
WRA				S	**S**		06 01 59.7	-3.2
	comp=Z,0.8nm,0.8s,baz=335,slow=16,SNR=6.2							
WRA				ScP	**ScP**		**06 03 47.5**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=340,slow=3.1,SNR=5.2							
	comp=Z,11nm,0.5s							
WRA	**Warramunga Arr**	**27.03**	**154**	P	**P**		**05 58 06.9**	**-1.3**
AS31	**Alice Springs**	**30.19**	**158**	P	**P**		**05 58 36.0**	**+0.6**
AS31				IAmb	IAmb		05 58 36.9	
	comp=Z,2.5nm,0.6s							
ASAR	**Alice Springs**	**30.19**	**158**	P	**P**		**05 58 36.3**	**+0.9**
	comp=Z,5.7nm,0.5s,baz=334,slow=7.0,SNR=139							
ASAR				S	**S**		**06 02 50.5**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=352,slow=25,SNR=7.4							
ASAR				ScP	**ScP**		**06 03 57.8**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=340,slow=2.8,SNR=14							
	comp=Z,5.7nm,0.5s							
ASAR	**Alice Springs**	**30.19**	**158**	P	**P**		**05 58 35.9**	**+0.5**
BBOO	**Buckleboo**	**39.32**	**161**	P	**P**		**05 59 51.5**	**+1.0**
STKA	**Stephens Creek**	**40.58**	**154**	P	**P**		**06 00 01.7**	**+1.2**
	comp=Z,4.2nm,0.3s,baz=329,slow=7.7,SNR=19							
	comp=Z,4.2nm,0.3s							
STKA	**Stephens Creek**	**40.58**	**154**	P	**P**		**06 00 01.2**	**+0.7**
EIDS	**Eidsvold**	**40.84**	**138**	P	**P**		**06 00 02.0**	**-0.6**
EIDS				IAmb	IAmb		06 00 29.2	
	comp=Z,6.9nm,1.2s							
ARMA	**Armidale**	**44.69**	**143**	P	**P**		**06 00 35.3**	**+2.9**
ARMA				IAmb	IAmb		06 00 58.9	
	comp=Z,23nm,1.4s							
SONM	**Songino Array**	**45.31**	**345**	P	**P**		**06 00 36.5**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=150,slow=6.8,SNR=4.9							
	comp=Z,1.3nm,0.6s							
SONM	**Songino Array**	**45.31**	**345**	P	**P**		**06 00 35.8**	**-1.2**
CAN	**Canberra**	**46.91**	**150**	P	**P**		**06 00 50.8**	**+1.8**
CAN				IAmb	IAmb		06 01 23.1	
	comp=Z,28nm,1.4s							
KOUNC	**Koumac, New Ca**	**48.26**	**123**	P	**P**		**06 01 00.7**	**+1.5**
KOUNC				IAmb	IAmb		06 01 43.8	
	comp=Z,8.3nm,1.3s							
MK31	**Makanchi Array**	**54.43**	**327**	P	**P**		**06 01 43.5**	**+0.5**
MKAR	**Makanchi Array**	**54.43**	**327**	P	**P**		**06 01 43.9**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=125,slow=7.5,SNR=80							
MKAR				PcP	**PcP**		**06 02 36.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=123,slow=3.8,SNR=8.4							
	comp=Z,2.7nm,0.4s							
MKAR	**Makanchi Array**	**54.43**	**327**	P	**P**		**06 01 43.7**	**+0.7**
MKAR				PcP	**PcP**		**06 02 35.8**	**-0.3**
MAKZ	**Makanchi**	**54.60**	**327**	P	**P**		**06 01 44.6**	**+0.4**
MAKZ				IAmb	IAmb		06 01 45.4	
	comp=Z,3.2nm,0.5s							
ZALV	**Zalesovo Beam**	**57.95**	**335**	P	**P**		**06 02 06.6**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=163,slow=8.3,SNR=3.9							
	comp=Z,0.9nm,0.3s							
KURBB	**Kurchatov Arra**	**58.73**	**329**	P	**P**		**06 02 12.4**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=130,slow=6.1,SNR=20							
	comp=Z,2.6nm,0.6s							
KURK	**Kurchatov**	**58.74**	**329**	P	**P**		**06 02 12.6**	**+0.4**
KURK				IAmb	IAmb		06 02 13.1	
	comp=Z,8.6nm,0.4s							
KKAR	**Karatay Array**	**59.62**	**318**	P	**P**		**06 02 19.2**	**+0.9**
BRVK	**Borovoye**	**64.35**	**328**	P	**P**		**06 02 48.6**	**+0.2**
BRVK				IAmb	IAmb		06 02 49.1	
	comp=Z,2.1nm,0.4s							
BKZ	**Black Stump Fm**	**66.21**	**136**	P	**P**		**06 03 00.8**	**+0.5**
BKZ				IAmb	IAmb		06 03 07.6	
	comp=Z,19nm,1.3s							
NRIK	**Noril'sk**	**68.72**	**348**	P	**P**		**06 03 15.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=108,slow=3.2,SNR=2.1							
	comp=Z,1.4nm,0.3s							
ABKAR	**Akbulak array**	**68.73**	**322**	P	**P**		**06 03 15.3**	**0.0**
ABKAR	**Akbulak array**	**68.73**	**322**	P	**P**		**06 03 14.9**	**-0.4**
SPB2	**Spitsbergen Ar**	**88.90**	**349**	P	**P**		**06 05 00.6**	**-0.4**
FINES	**FINESS Array B**	**89.04**	**331**	P	**P**		**06 05 01.0**	**-0.9**
	comp=Z,7.8nm,1.2s,baz=74,slow=6.8,SNR=4.9							
	comp=Z,7.8nm,1.2s							

BJI ***14*** *06:11:38.6±0.0,18.3°83S×176.4°7E,h5km,mb5.1/63, mb5.9/65,Ms5.8/78,Ms7 5.6/74*
IDC ***14*** *06:11:39.9±0.4,18.9°94S×176.1°6E,h0km,mb5.0/30, mbtmp5.0/34,ML3.5/2,MS5.4/57,Error ellipse: s-maj=13.6km s-min=12.0km az=156.0*
NEIC ***14*** *06:11:40.9±2.1,18.6°2S±0.0°09×176.2°4E±0.0°07,h4km±3km, mb5.6/75,Ms_20 5.6/367,Mwb5.8/63,Mww5.9/32,Error ellipse: s-maj=14.2km s-min=7.6km az=154.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=5.26; Mθθ0.48; Mφφ4.78; Mrθ0.85; Mθφ2.29; Mφr2.72; Fault plane solution: M₀6.22000×10¹⁷ NP1:φs26.73000°, δ31.51000°, λ-84.56000°. NP2:φs200.36000°, δ58.65000°, λ-93.33000°. Principal axes: T 6.4544, Plg14.0000°, Azm293.0000°; N -0.4936, Plg3.0000°, Azm202.0000°; P -5.9608, Plg76.0000°, Azm101.0000°;*
MOS ***14*** *06:11:40.6±1.6,18.86S×176.09E,h10km,mb5.7/34, MS5.6/24 Error ellipse: s-maj=8.6km s-min=7.8km az=43.7*
BGR ***14*** *06:11:40.3,20.94S×176.97E,h33km,Ms5.7*
NOU ***14*** *06:11:46.3,18.84S×176.29E,h41km,ML5.6/101,Fiji Islands Region*
GCMT ***14*** *06:11:46.9±0.1,18.74S×176.17E,h12km,MW5.9/172, Moment Tensor Solution. s163,c345; s172,c607; Duration: 2s2 Moment tensor: Scale 10¹⁸Nm; Mrr-0.93±.01; Mθθ0.07±.01; Mφφ0.85±.01; Mrθ-0.12±.01; Mθφ0.24±.00; Mφr0.14±.01; Best double couple: M₀0.94500×10¹⁸ NP1:φs187.00000°, δ49.00000°, λ-102.00000°. NP2:φs25.00000°, δ43.00000°, λ-77.00000°. Principal axes: T 0.9310, Plg3.0000°, Azm285.0000°; N 0.0270, Plg9.0000°, Azm195.0000°; P -0.9590, Plg81.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***14*** *06:11:51.5,18.55S×176.25E,h12km,Moment Tensor Solution. Duration: 4s8 Moment tensor: Scale 10¹⁸Nm; Mrr-0.90; Mθθ0.08; Mφφ0.82; Mrθ0.05; Mθφ0.14; Mφr0.51; Fault plane solution: M₀1.01000×10¹⁸ NP1: φs187.77000°, δ60.25000°, λ-92.41000°. NP2:φs12.61000°, δ29.84000°, λ-85.80000°. Principal axes: T 0.9793, Plg15.0000°, Azm280.0000°; N 0.0603, Plg2.0000°, Azm189.0000°; P -1.0396, Plg75.0000°, Azm91.0000°;*
ISC 14 06:11:42.3±0.4,18.86S±0.0°04×176.31E±0.0°04,h13km±2km, h13km:pP-P,n1043,σ1§77/872,mb5.3/124,MS5.6/277, 52C-33D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.00**	**56**	Pn		**Pn**	**06 12 15.4**	**-0.4**
	431nm,0.4s,baz=209,slow=9.8,SNR=70							
MSVF				Sn		**Sb**	**06 12 41.9**	**-1.5**
	489nm,0.3s,baz=152,slow=17,SNR=16							
MSVF				LR		LR	06 13 17.8	
	comp=Z,308μm,18.1s,baz=198,slow=46							
MSVF	**Nonsavu**	**2.00**	**56**			**Pn**	**06 12 13.9**	**-2.0**
MSVF				Sn		**Sn**	**06 12 39.8**	**-1.0**
MSVF	**Nonsavu**	**2.00**	**56**	P		**Pn**	**06 12 15.5**	**-0.3**
MSVF	**Nonsavu**	**2.00**	**56**	⇑P		**Pn**	**06 12 13.8**	**-2.0**
MSVF	**Nonsavu**	**2.00**	**56**	*ic* *iP*		**Pn**	**06 12 13.4**	**-2.4**
DGTI	**Dogotuki**	**4.14**	**53**	P		**Pn**	**06 12 46.2**	**+0.9**
TAVE	**Taveuni**	**4.20**	**60**	P		**Pn**	**06 12 45.7**	**-0.3**
LKBA	**Tubou, Lakemba**	**4.67**	**83**	P		**Pn**	**06 12 53.3**	**+0.8**
FUTU	**Fugatoga**	**7.00**	**51**	P		**Pn**	**06 13 28.1**	**+3.5**
RTV	**Rentapao**	**7.56**	**277**	P		**Pn**	**06 13 34.8**	**+2.6**
DVP	**Devils Point**	**7.79**	**277**	P		**Pn**	**06 13 37.8**	**+2.3**
MARNC	**Mare, Loyalty**	**8.20**	**250**			**Pn**	**06 13 40.9**	**-0.1**
MARNC	**Mare, Loyalty**	**8.20**	**250**	P		**Pn**	**06 13 42.6**	**+1.6**
MARNC	**Mare, Loyalty**	**8.20**	**250**	⇓P		**Pn**	**06 13 42.2**	**+1.2**
LIFNC	**LIFOU**	**8.74**	**256**	Pn		**Pn**	**06 13 47.5**	**-1.0**
LIFNC	**LIFOU**	**8.74**	**256**	P		**Pn**	**06 13 48.2**	**-0.3**
PINNC	**Pines Island,**	**9.09**	**244**			**Pn**	**06 13 54.7**	**+1.4**
PINNC	**Pines Island,**	**9.09**	**244**	P		**Pn**	**06 13 55.7**	**+2.5**
OUENC	**Ouen Island, N**	**9.54**	**247**	Pn		**Pn**	**06 14 00.6**	**+1.2**
OUENC	**Ouen Island, N**	**9.54**	**247**	P		**Pn**	**06 14 01.0**	**+1.6**
DZM	**Mont Dzumac**	**9.78**	**249**	*e*Pn		**Pn**	**06 14 02.4**	**-0.4**
	649nm,1.6s							
DZM				*e*LR		LR	06 16 14.0	
	comp=Z,110μm,25.9s							
DZM	**Mont Dzumac**	**9.78**	**249**	Pn		**Pn**	**06 14 00.3**	**-2.5**
	0.1nm,0.3s,baz=84,slow=16,SNR=6.4							
	12nm,1.0s							
DZM	**Mont Dzumac**	**9.78**	**249**	Pn		**Pn**	**06 14 03.6**	**+0.8**
DZM	**Mont Dzumac**	**9.78**	**249**	P		**Pn**	**06 14 03.9**	**+1.1**
DZM	**Mont Dzumac**	**9.78**	**249**	⇑P		**Pn**	**06 14 04.0**	**+1.1**
ONTNC	**Ouen Toro**	**9.85**	**248**	Pn		**Pn**	**06 14 05.3**	**+1.8**
ONTNC	**Ouen Toro**	**9.85**	**248**	P		**Pn**	**06 14 05.4**	**+1.8**
ONTNC	**Ouen Toro**	**9.85**	**248**	⇑P		**Pn**	**06 14 05.9**	**+2.3**
FUNA	**Funafuti**	**10.65**	**16**	Pn		**Pn**	**06 14 10.5**	**-4.1**
KOUNC	**Koumac, New Ca**	**11.45**	**260**	Pn		**Pn**	**06 14 25.8**	**+0.3**
KOUNC	**Koumac, New Ca**	**11.45**	**260**	P		**Pn**	**06 14 27.8**	**+2.3**
KOUNC	**Koumac, New Ca**	**11.45**	**260**	⇑P		**Pn**	**06 14 26.4**	**+0.9**
AFI	**Afiamalu**	**12.45**	**68**	Pn		**Pn**	**06 14 40.3**	**+1.0**
	1.2nm,0.3s,baz=221,slow=19,SNR=1.5							
AFI				LR		LR	06 18 54.1	
	comp=Z,20μm,18.9s,baz=241,slow=34							
	8.7nm,0.6s							
OUZ	**Omahuta**	**16.47**	**188**	⇑P		**P**	**06 15 37.2**	**+1.4**
KUZ	**Kuaotunu**	**17.83**	**182**	P		**P**	**06 15 51.7**	**+1.0**
HNR	**Honiara**	**18.41**	**298**	P		**Pn**	**06 15 54.3**	**-3.1**
	624nm,0.5s,baz=201,slow=18,SNR=0.9							
HNR				LR		LR	06 21 53.8	
	comp=Z,335μm,19.9s,baz=135,slow=34							
MXZ	**Matakaoa Point**	**18.72**	**175**	P		**Pn**	**06 16 02.3**	**+1.3**
OPRZ	**Ohinepanea**	**18.92**	**179**	P		Pn	06 16 12.7	+9.3
KMRZ	**Kaimai**	**18.92**	**181**	P		**P**	**06 16 03.0**	**+0.2**
RUGZ	**Raukumara Rang**	**19.07**	**177**	P		**Pn**	**06 16 10.5**	**+5.1**
TWGZ	**Tauwhareparae**	**19.30**	**176**	P		**Pn**	**06 16 12.8**	**+4.7**
URZ	**Urewera**	**19.34**	**178**	P		**Pn**	**06 16 10.2**	**+1.7**
	128nm,0.9s,baz=79,slow=4.6,SNR=29							
URZ				LR		LR	06 22 17.0	
	comp=Z,6μm,18.4s,baz=100,slow=33							
URZ	**Urewera**	**19.34**	**178**	⇓P		**Pn**	**06 16 10.2**	**+1.7**
URZ	**Urewera**	**19.34**	**178**	P		**Pn**	**06 16 12.9**	**+4.4**
MWZ	**Matawai**	**19.43**	**177**	P		**Pn**	**06 16 11.5**	**+1.8**
CNGZ	**Carnagh Statio**	**19.62**	**176**	P		**Pn**	**06 16 12.2**	**+0.3**
RTZ	**Ruatahuna**	**19.70**	**178**	P		**Pn**	**06 16 14.4**	**+1.6**
RTZ				IAmb		IAmb	06 16 25.6	
	comp=Z,377nm,1.6s							
SNGZ	**Shannon Statio**	**19.87**	**178**	P		**Pn**	**06 16 16.5**	**+1.6**
LHI	**Lord Howe Isla**	**20.03**	**228**	P		Pn	06 16 16.3	-0.4
LHI				IAmb		IAmb	06 16 23.9	
	comp=Z,388nm,1.5s							
KATZ	**Kakaramea**	**20.05**	**181**	P		Pn	06 16 23.8	+6.7
TMVZ	**Te Maari**	**20.19**	**181**	P		Pn	06 16 23.0	+4.2
WTVZ	**West Tongariro**	**20.20**	**182**	P		Pn	06 16 23.5	+4.8
BKZ	**Black Stump Fm**	**20.24**	**180**	P		Pn	06 16 18.9	-0.3
NGZ	**Ngauruhoe**	**20.26**	**182**	P		Pn	06 16 25.4	+5.9
BHHZ	**Black Hill Sta**	**20.56**	**181**	P		Pn	06 16 23.2	+0.2
BFZ	**Birch Farm**	**21.75**	**180**	P		**P**	**06 16 36.1**	**+2.6**
QRZ	**Quartz Range**	**22.13**	**188**	P		**P**	**06 16 40.8**	**+3.2**
QRZ				IAmb		IAmb	06 16 48.9	
	comp=Z,473nm,1.3s							
SNZO	**South Karori**	**22.42**	**183**	P		**P**	**06 16 43.5**	**+2.9**
SNZO	**South Karori**	**22.42**	**183**	⇓P		**P**	**06 16 42.1**	**+1.5**
RAR	**Rarotonga**	**22.59**	**100**	P		**P**	**06 16 44.3**	**+1.6**
	comp=Z,27nm,1.1s,baz=315,slow=7.1,SNR=2.2							
RAR				LR		LR	06 23 32.7	
	comp=Z,17μm,22.0s,baz=228,slow=31							
	comp=Z,27nm,1.1s							
RAR	**Rarotonga**	**22.59**	**100**	P		**P**	**06 16 41.9**	**-0.8**
RAR				IAmb		IAmb	06 17 01.9	
	comp=Z,443nm,1.7s							
RAR	**Rarotonga**	**22.59**	**100**	IAMs_20		IAMs_20	06 23 11.4	
	comp=Z,17μm,22.0s							
RAR	**Rarotonga**	**22.59**	**100**	P		**P**	**06 16 41.9**	**-0.8**
RAR				pmax		pmax		
	comp=Z,443nm,1.7s							
GC1S	**Gold Coast 1 S**	**22.83**	**242**	P		**P**	**06 16 46.5**	**+1.4**
	comp=Z,102nm,0.9s							
AUBSH	**Beerwah State**	**22.92**	**245**	P		**P**	**06 16 48.0**	**+1.9**
AUWSH	**Wivell State H**	**22.99**	**244**	P		**P**	**06 16 47.9**	**+1.0**
KHZ	**Kahutara**	**23.60**	**185**	⇑P		**P**	**06 16 53.4**	**+0.6**
GD1S	**Gladstone Soft**	**23.92**	**254**	P		**P**	**06 16 58.3**	**+2.3**
	comp=Z,100nm,1.4s							
EIDS	**Eidsvold**	**24.23**	**250**	P		**P**	**06 16 58.1**	**-0.9**
	baz=24,SNR=8.7							
EIDS	**Eidsvold**	**24.23**	**250**	P		**P**	**06 16 57.6**	**-1.3**
EIDS	**Eidsvold**	**24.23**	**250**	P		**P**	**06 16 57.8**	**-1.2**
EIDS	**Eidsvold**	**24.23**	**250**	⇑P		**P**	**06 16 58.1**	**-0.9**
RK1H	**Rockhampton Ha**	**24.48**	**255**	P		**P**	**06 17 01.8**	**+0.5**
ARMA	**Armidale**	**25.15**	**238**	P		**P**	**06 17 07.8**	**+0.3**
	baz=25,SNR=30							
ARMA	**Armidale**	**25.15**	**238**	P		**P**	**06 17 07.4**	**0.0**
RPZ	**Rata Peaks**	**25.17**	**189**	P		**P**	**06 17 06.4**	**-0.9**
	comp=Z,23nm,0.6s,baz=299,slow=13,SNR=7.3							
RPZ				LR		LR	06 25 35.8	
	comp=Z,4μm,18.5s,baz=24,slow=33							
	comp=Z,23nm,0.6s							
AUPHS	**Peel High Scho**	**26.00**	**237**	P		**P**	**06 17 15.6**	**+0.6**
NTLH	**Newcastle Hard**	**26.10**	**233**	P		**P**	**06 17 18.0**	**+2.2**
RMQ	**Roma**	**26.49**	**248**	P		**P**	**06 17 19.2**	**-0.3**
	baz=26,SNR=28							
RMQ	**Roma**	**26.49**	**248**	P		**P**	**06 17 21.6**	**+2.1**
MGCD	**Mangrove Creek**	**26.68**	**233**	P		**P**	**06 17 22.1**	**+1.0**
KRVT	**Keravat (AS076**	**27.78**	**298**	P		**P**	**06 17 29.3**	**-1.8**
	comp=Z,56nm,0.6s,baz=140,slow=7.8,SNR=4.8							
KRVT				LR		LR	06 27 46.9	
	comp=Z,20μm,21.5s,baz=265,slow=35							
	comp=Z,56nm,0.6s							
AULRC	**Lightning Ridg**	**27.84**	**242**	P		**P**	**06 17 31.6**	**0.0**
TV1H	**Townsville Har**	**27.88**	**264**	P		**P**	**06 17 34.4**	**+2.4**
AUDCS	**Dubbo College**	**28.20**	**236**	P		**P**	**06 17 35.4**	**+0.6**
SYZ	**Scrubby Hill**	**28.23**	**190**	P		**P**	**06 17 37.4**	**+2.6**
CTA	**Charters Tower**	**28.34**	**263**	P		**P**	**06 17 34.8**	**-1.4**
	comp=Z,4.4nm,0.7s,baz=80,slow=11,SNR=12							
CTA				LR		LR	06 27 21.2	
	comp=Z,19μm,21.0s,baz=88,slow=33							
	comp=Z,4.4nm,0.7s							
CTA	**Charters Tower**	**28.34**	**263**	P		**P**	**06 17 37.0**	**+0.8**
CTAO	**Charters Tower**	**28.34**	**263**	P		**P**	**06 17 35.2**	**-1.0**
CTAO				IAmb		IAmb	06 17 50.1	
	comp=Z,100nm,1.6s							
CTAO	**Charters Tower**	**28.34**	**263**	IAMs_20		IAMs_20	06 27 08.1	
	comp=Z,18μm,20.0s							
CTAO	**Charters Tower**	**28.34**	**263**	P		**P**	**06 17 36.8**	**+0.6**
CTAO	**Charters Tower**	**28.34**	**263**	⇑P		**P**	**06 17 39.3**	**+3.1**
CTAO	**Charters Tower**	**28.34**	**263**	P		**P**	**06 17 35.2**	**-1.0**
CTAO				pmax		pmax		
	comp=Z,100nm,1.6s							
CTAO				MLR		MLR		
	comp=Z,18μm,20.0s							
KWAJ	**Kwajalein Atol**	**28.79**	**342**	IAMs_20		IAMs_20	06 26 09.0	
	comp=Z,11μm,20.0s							
PMG	**Port Moresby**	**29.74**	**284**	P		**P**	**06 17 47.5**	**-1.1**
	comp=Z,8.4nm,0.3s,baz=56,slow=14,SNR=5.0							
PMG				LR		LR	06 28 26.1	
	comp=Z,20μm,18.0s,baz=119,slow=34							
	comp=Z,8.4nm,0.3s							
PMG	**Port Moresby**	**29.74**	**284**	P		**P**	**06 17 46.1**	**-2.6**
PMG				IAmb		IAmb	06 18 47.5	
	comp=Z,138nm,1.7s							
PMG	**Port Moresby**	**29.74**	**284**	*i* P		**P**	**06 17 45.0**	**-3.6**
PMG				pmax		pmax		
	comp=Z,42nm,1.1s							
MTSU	**Mount Surprise**	**30.32**	**266**	P		**P**	**06 17 53.0**	**-0.8**
	baz=30,SNR=10.0							
MTSU	**Mount Surprise**	**30.32**	**266**	P		**P**	**06 17 53.0**	**-0.8**
CMSA	**Cobar Meteorol**	**30.33**	**239**	P		**P**	**06 17 53.3**	**-0.5**
	baz=30,SNR=18							
CMSA	**Cobar Meteorol**	**30.33**	**239**	P		**P**	**06 17 53.2**	**-0.5**
QLP	**Quilpie**	**30.50**	**250**	P		**P**	**06 17 54.3**	**-1.0**
PATS	**Pohnpei**	**31.09**	**324**	IAMs_20		IAMs_20	06 27 51.4	
	comp=Z,11μm,19.0s							
COEN	**Coen**	**32.12**	**274**	P		**P**	**06 18 08.4**	**-1.3**
	baz=32,SNR=4.9							
COEN	**Coen**	**32.12**	**274**	P		**P**	**06 18 07.4**	**-2.2**
COEN	**Coen**	**32.12**	**274**	P		**P**	**06 18 08.9**	**-0.8**
COEN	**Coen**	**32.12**	**274**	⇓P		**P**	**06 18 08.7**	**-1.0**
TBI	**Tubuai**	**32.20**	**104**	*e*P		**P**	**06 18 12.6**	**+2.4**
	comp=Z,2μm,30.2s							
TBI				*e*S		**S**	**06 23 25.4**	**+2.3**
	comp=Z,21μm,26.5s							
TBI				*e*LQ		LQ	06 25 17.8	
	comp=Z,21μm,26.8s							
TBI				*e*LR		LR	06 26 39.5	
	comp=Z,206μm,30.2s							
TBI				*e*LR		LR	06 26 39.7	
	comp=Z,542μm,26.5s							
PPT2	**Papeete2**	**32.40**	**93**	*e*P		**P**	**06 18 12.0**	**-0.2**
	comp=Z,636nm,25.2s							
PPT2				*e*S		**S**	**06 23 28.3**	**+1.8**
	comp=Z,6μm,26.0s							
PPT2				*e*LR		LR	06 26 44.5	
	comp=Z,47μm,26.0s							
PPT2				*e*LR		LR	06 26 44.6	
	comp=Z,36μm,28.2s							
PPT	**Papeete**	**32.41**	**93**	P		**P**	**06 18 12.6**	**+0.5**
	comp=Z,61nm,1.1s,baz=252,slow=20,SNR=2.1							
PPT				LR		LR	06 28 04.7	
	comp=Z,13μm,21.6s,baz=245,slow=30							
	comp=Z,61nm,1.1s							
PPTF	**Pamatai, Papee**	**32.41**	**93**	IAMs_20		IAMs_20	06 27 43.0	
	comp=Z,11μm,22.0s							
PPTF	**Pamatai, Papee**	**32.41**	**93**	P		**P**	**06 18 13.5**	**+1.2**
TOO	**Toolangi**	**32.72**	**229**	P		**P**	**06 18 15.5**	**+0.8**
	baz=33,SNR=4.5							
TOO	**Toolangi**	**32.72**	**229**	P		**P**	**06 18 14.8**	**+0.1**
TOO				IAmb		IAmb	06 18 20.4	
	comp=Z,116nm,1.2s							
TOO	**Toolangi**	**32.72**	**229**	P		**P**	**06 18 15.3**	**+0.6**
TOO	**Toolangi**	**32.72**	**229**	⇑P		**P**	**06 18 15.6**	**+0.8**
TOO	**Toolangi**	**32.72**	**229**	P		**P**	**06 18 14.8**	**+0.1**
TOO				pmax		pmax		
	comp=Z,116nm,1.2s							
MANU	**Manus Island**	**32.90**	**297**	P		**P**	**06 18 13.3**	**-3.2**
MANU				IAmb		IAmb	06 18 25.7	
	comp=Z,73nm,1.1s							
MANU	**Manus Island**	**32.90**	**297**	P		**P**	**06 18 18.0**	**+1.5**
INKA	**Innaminka**	**33.74**	**248**	P		**P

FORT Forest 45.06 245 ⇓P **P** **06 19 56.9 -1.2**
KNRA Kununurra 45.41 266 P **P** **06 19 58.9 -2.1**
baz=45,SNR=11
KNRA Kununurra 45.41 266 P **P** **06 19 58.9 -2.1**
KNRA IAmb IAmb 06 20 04.0
comp=Z,63nm,1.0s
KNRA Kununurra 45.41 266 P **P** **06 19 59.3 -1.7**
SIJI Sorong 47.63 287 LR LR 06 39 20.2
comp=Z,14μm,21.1s,baz=124,slow=35
SWI Sorong 47.64 287 P **P** **06 20 21.5 +2.9**
comp=Z,41nm,1.4s,comp=Z,3μm
FITZ Fitzroy Crossi 47.92 262 P **P** **06 20 19.4 -1.3**
FITZ Fitzroy Crossi 47.92 262 P **P** **06 20 19.7 -1.0**
AAI Ambon 49.34 282 P P 06 20 43.9 +12
PTCN Pitcairn Islan 49.83 107 IAMs_20 IAMs_20 06 36 15.9
comp=Z,6μm,22.0s
KMBL Kambalda 50.38 245 P **P** **06 20 38.6 -0.8**
baz=50,SNR=6.4
KMBL Kambalda 50.38 245 P **P** **06 20 38.2 -1.2**
SOEI Soe 51.08 273 P **P** **06 20 44.1 -1.0**
SOEI IAmb IAmb 06 21 32.4
comp=Z,90nm,1.2s
SOEI IAMs_20 IAMs_20 06 44 42.6
comp=Z,8μm,20.0s
SOEI Soe 51.08 273 P **P** **06 20 45.3 +0.3**
SOEI Soe 51.08 273 P **P** **06 20 48.7 +3.7**
comp=Z,63nm,1.1s,comp=Z,2μmcomp=Z,4μm
BATI Baumata 51.52 272 LR LR 06 41 15.5
comp=Z,7μm,21.8s,baz=116,slow=34
BATI Baumata 51.52 272 P P 06 20 58.3 +10
TNTI Ternate 51.85 287 P P 06 20 59.4 +8.7
SANI Sanana 52.00 283 P **P** **06 20 51.8 0.0**
SANI Sanana 52.00 283 P **P** **06 20 53.2 +1.4**
comp=Z,28nm,1.6s,comp=Z,2μmcomp=Z,4μm
PSA00 Pilbara Seismi 52.81 257 P **P** **06 20 56.4 -1.3**
PSA00 IAmb IAmb 06 21 01.3
comp=Z,94nm,1.1s
PSA00 Pilbara Seismi 52.81 257 P **P** **06 20 56.9 -0.8**
MBWA Marble Bar 52.97 257 P **P** **06 20 57.4 -1.5**
MBWA IAmb IAmb 06 21 03.1
comp=Z,126nm,1.1s
MBWA Marble Bar 52.97 257 P **P** **06 20 57.9 -1.0**
MBWA Marble Bar 52.97 257 ⇓P **P** **06 20 57.7 -1.3**
MEEK Meekatharra 53.40 250 P **P** **06 21 00.4 -1.6**
baz=53,SNR=18
MEEK Meekatharra 53.40 250 P **P** **06 21 00.6 -1.4**
KLBR Kellerberrin 53.91 244 P **P** **06 21 04.4 -1.3**
baz=54,SNR=18
KLBR Kellerberrin 53.91 244 P **P** **06 21 04.4 -1.3**
NWAO Narrogin (SRO) 54.33 243 LR LR 06 42 48.8
comp=Z,8μm,21.5s,slow=34
NWAO Narrogin (SRO) 54.33 243 P **P** **06 21 07.5 -1.2**
baz=54,SNR=7.9
NWAO P **P** **06 21 07.5 -1.2**
baz=54,SNR=7.9
NWAO Narrogin (SRO) 54.33 243 P **P** **06 21 07.5 -1.2**
NWAO Narrogin (SRO) 54.33 243 IAMs_20 IAMs_20 06 42 26.2
comp=Z,8μm,22.0s
NWAO Narrogin (SRO) 54.33 243 P **P** **06 21 07.6 -1.2**
NWAO Narrogin (SRO) 54.33 243 P **P** **06 21 07.6 -1.2**
NWAO pmax pmax
comp=Z,198nm,1.5s
RKGY Rocky Gully 54.54 241 P **P** **06 21 09.1 -1.2**
BLDU Ballidu 54.83 245 P **P** **06 21 11.6 -0.8**
baz=55,SNR=4.1
BLDU Ballidu 54.83 245 P **P** **06 21 10.6 -1.8**
MUN Mundaring 55.21 244 P **P** **06 21 14.8 -0.4**
baz=55,SNR=5.5
MUN Mundaring 55.21 244 P **P** **06 21 16.4 +1.2**
MORW Morawa 55.50 247 P **P** **06 21 15.9 -1.4**
baz=56,SNR=9.2
MORW Morawa 55.50 247 P **P** **06 21 15.7 -1.6**
MORW Morawa 55.50 247 P **P** **06 21 16.1 -1.2**
MORW Morawa 55.50 247 ⇑P **P** **06 21 16.1 -1.2**
GTOI Gorontalo 55.78 284 P P 06 21 24.0 +4.6
comp=Z,14nm,1.4s,comp=Z,439nm
DAV Davao City (W) 56.24 292 LR LR 06 44 09.4
comp=Z,2μm,19.2s,baz=116,slow=35
DAV Davao City (W) 56.24 292 IAMs_20 IAMs_20 06 44 49.1
comp=Z,4μm,20.0s
JCJ Chichijima 56.41 323 LR LR 06 40 51.8
comp=Z,3μm,21.7s,baz=141,slow=31
PLAI Plampang 57.48 271 P **P** **06 21 29.5 -2.1**
PLAI Plampang 57.48 271 P **P** **06 21 32.2 +0.6**
comp=Z,82nm,1.9s,comp=Z,2μmcomp=Z,3μm
TWSI Taliwang, Sumb 58.35 271 P **P** **06 21 38.5 +0.8**
comp=Z,121nm,1.7s,comp=Z,2μm
MPSI Mapaga 58.53 282 P **P** **06 21 40.7 +1.8**
comp=Z,21nm,1.7s,comp=Z,1μmcomp=Z,3μm
VNDA Vanda 59.13 184 P **P** **06 21 42.0 -0.1**
comp=Z,2.2nm,0.8s,baz=34,slow=7.3,SNR=2.3
VNDA LR LR 06 43 26.4
comp=Z,2μm,20.9s,baz=24,slow=32
comp=Z,2.2nm,0.8s
VNDA Vanda 59.13 184 P **P** **06 21 42.5 +0.4**
VNDA IAmb IAmb 06 22 35.0
comp=Z,64nm,1.7s
VNDA Vanda 59.13 184 P **P** **06 21 42.5 +0.4**
VNDA pmax pmax
comp=Z,64nm,1.7s
SBA Scott Base 59.22 182 P **P** **06 21 44.2 +1.5**
SBA Scott Base 59.22 182 P **P** **06 21 44.2 +1.5**
SBA pmax pmax
comp=Z,272nm,1.9s
BKB Balikpapan 60.74 279 IAMs_20 IAMs_20 06 48 36.3
comp=Z,4μm,22.0s
JAGI Jajag, Banyuwa 61.02 271 P **P** **06 21 55.6 -0.5**
JAGI Jajag, Banyuwa 61.02 271 P **P** **06 21 59.5 +3.4**
comp=Z,68nm,1.4s
BBKI Banjar Baru 61.91 276 P P 06 22 06.9 +4.8
comp=Z,52nm,0.9s
JHJ Hachijo jima 2 62.36 326 LR LR 06 45 11.0
comp=Z,2μm,20.5s,baz=108,slow=32
CASY Casey 63.19 204 P **P** **06 22 09.3 -0.5**
CASY Casey 63.19 204 ⇓P **P** **06 22 09.4 -0.3**
KKM Kota Kinabalu 64.15 287 IAMs_20 IAMs_20 06 50 10.0
comp=Z,3μm,22.0s
KKM Kota Kinabalu 64.15 287 P **P** **06 22 17.8 +0.7**
UGM Wanagama 64.61 270 P **P** **06 22 18.4 -1.7**
UGM IAMs_20 IAMs_20 06 48 55.5
comp=Z,4μm,22.0s
JGF Kuroka 65.55 326 P **P** **06 22 28.0 +2.3**
MJAR Matsushiro Arr 65.81 327 P **P** **06 22 26.9 -0.5**
MJAR LR LR 06 46 00.0
comp=Z,26nm,1.1s,baz=157,slow=6.4,SNR=13
comp=Z,2μm,21.8s,baz=149,slow=31
comp=Z,26nm,1.1s
MAJO Matsushiro 65.82 327 IAMs_20 IAMs_20 06 45 48.2
comp=Z,3μm,20.0s
MAJO Matsushiro 65.82 327 P **P** **06 22 28.9 +1.5**
MAJO Matsushiro 65.82 327 *i* P **P** **06 22 25.1 -2.3**
MAJO pmax pmax
comp=Z,85nm,1.4s
SBUM Sibu 66.43 281 P **P** **06 22 29.6 -2.2**
SBUM IAmb IAmb 06 22 41.6
comp=Z,39nm,1.4s
SBUM Sibu 66.43 281 ⇑P **P** **06 22 33.3 +1.5**
BBJI Bungbulang 67.47 270 P **P** **06 22 37.7 -0.8**
JNU Nakatsue 67.48 320 P **P** **06 22 37.9 -0.2**
comp=Z,14nm,0.9s,baz=118,slow=9.5,SNR=2.7
JNU LR LR 06 48 10.6
comp=Z,2μm,21.4s,baz=135,slow=32
comp=Z,14nm,0.9s
LEM Lembang 67.69 270 LR LR 06 50 36.7
comp=Z,2μm,21.6s,baz=106,slow=35
CNJI Cibinong 68.00 270 P **P** **06 22 43.9 +2.1**
comp=Z,59nm,1.4s
TWG Pinlang 68.02 305 IAMs_20 IAMs_20 06 48 21.4
comp=Z,5μm,20.0s
RPN Rapa Nui 68.08 112 LR LR 06 44 56.2
comp=Z,3μm,21.6s,baz=275,slow=29
NACB Ninganchiao 68.36 307 IAMs_20 IAMs_20 06 46 53.4
comp=Z,5μm,22.0s
NACB Ninganchiao 68.36 307 P **P** **06 22 45.7 +2.0**
CBJI Citeko 68.53 270 P **P** **06 22 47.2 +2.1**
CGJI Cibinong 69.57 270 P **P** **06 22 52.3 +0.7**
comp=Z,106nm,0.9s
ASAJ Asahikawa 69.85 335 P **P** **06 22 53.6 +1.0**
comp=Z,7.4nm,0.7s,baz=198,slow=6.4,SNR=2.8
ASAJ LR LR 06 48 01.7
comp=Z,7μm,21.8s,baz=164,slow=31
comp=Z,7.4nm,0.7s
PPBI Pangkal Pinang 70.55 274 P **P** **06 23 01.3 +3.7**
comp=Z,37nm,2.0s
ADK Adak 70.70 5 IAMs_20 IAMs_20 06 46 02.3
comp=Z,4μm,21.0s

KNMB Chin-men Tao 70.97 305 IAMs_20 IAMs_20 06 53 03.9
comp=Z,3μm,19.0s
KASI Kota Agung 71.03 271 P **P** **06 22 59.9 -0.6**
comp=Z,121nm,1.4s,comp=Z,2μm
QSPA South Pole Qui 71.20 180 LR LR 06 49 51.8
comp=Z,764nm,20.9s,baz=36,slow=32
QSPA South Pole Qui 71.20 180 P **P** **06 23 00.6 -0.1**
QSPA South Pole Qui 71.20 180 ⇓P **P** **06 23 00.7 -0.1**
SHEM Shemya Is, Ala 71.31 359 LR LR 06 48 14.8
comp=Z,3μm,21.0s,baz=149,slow=31
SKR Severo-Kuril's 71.49 347 *e*P P 06 22 47.5 -15
SKR pmax pmax
comp=Z,700nm,4.1s
SKR MLR MLR
comp=Z,1μm,13.0s
PMBI Palembang 71.59 273 IAMs_20 IAMs_20 06 56 58.2
comp=Z,3μm,18.0s
LWLI Liwa 71.61 271 P **P** **06 23 06.8 +2.7**
comp=Z,172nm,0.8s,comp=Z,8μm
MDSI Maura Dua 71.66 271 P **P** **06 23 03.3 -1.0**
comp=Z,33nm,1.8s,comp=Z,1μm
YSS Yuzh-Sakhalins 72.15 337 P **P** **06 23 04.1 -2.4**
YSS IAmb IAmb 06 23 17.2
comp=Z,93nm,1.2s
YSS Yuzh-Sakhalins 72.15 337 P **P** **06 23 08.7 +2.3**
YSS Yuzh-Sakhalins 72.15 337 ⇓sP sP 06 23 16.4 +5.2
YSS Yuzh-Sakhalins 72.15 337 *e*P **P** **06 23 05.8 -0.6**
YSS *e*S **S** **06 32 31.0 +2.7**
YSS pmax pmax
comp=Z,400nm,3.6s
YSS pmax pmax
comp=Z,60nm,1.3s
YSS smax smax
comp=N,900nm,10.4s
KSRS Korea Array 72.18 321 P **P** **06 23 07.6 +0.7**
comp=N,7.6nm,1.0s,baz=141,slow=6.1,SNR=9.0
KSRS LR LR 06 53 46.9
comp=N,2μm,18.6s,baz=130,slow=35
comp=N,7.6nm,1.0s
KSAR Wonju Array Be 72.20 321 P **P** **06 23 04.8 -2.2**
KSAR Wonju Array Be 72.20 321 P **P** **06 23 04.8 -2.2**
DSRI Dabo 72.57 276 P **P** **06 23 13.4 +3.6**
comp=N,59nm,1.5s,comp=N,1μm
SSE Sheshan 72.58 312 P **P** **06 23 07.4 -2.0**
SSE S **S** **06 32 36.8 +2.9**
SSE pmax pmax
comp=N,6.0nm,0.7s
SSE pmax pmax
comp=N,350nm,11.7s
SSE LR LR
comp=N,710nm,23.2s
SSE LR LR
comp=N,740nm,23.4s
MNAI Manna 72.85 271 IAMs_20 IAMs_20 06 56 54.9
comp=Z,3μm,20.0s
INCN Inchon 72.97 321 IAMs_20 IAMs_20 06 51 05.2
comp=Z,3μm,21.0s
PET Petropavlovsk 73.20 349 *e*P **P** **06 23 15.0 +2.5**
PET *e*S **SKiKP** **06 32 45.1 +0.7**
PET *e*PS **PnS** **06 33 17.0 +4.5**
PET pmax pmax
comp=Z,1μm,10.7s
PET MLR MLR
comp=Z,3μm,15.0s
PET MLR MLR
comp=Z,3μm,15.0s
PEA0B Petropavlovsk- 73.46 348 *ce*P **P** **06 23 15.0 +0.9**
PETK Petropavlovsk- 73.46 348 P **P** **06 23 15.1 +1.0**
comp=Z,15nm,1.0s,baz=170,slow=8.8,SNR=5.7
PETK LR LR 06 49 53.8
comp=Z,2μm,21.2s,baz=169,slow=31
comp=Z,15nm,1.0s
MASI Maura Aman, Be 73.92 272 P P 06 23 23.6 +5.8
comp=Z,40nm,1.3s,comp=Z,1μm
UGL Uglegorsk 74.17 337 *e*P **P** **06 23 18.8 +0.4**
UGL *e*S **SKiKP** **06 32 43.8 -2.2**
UGL pmax pmax
comp=Z,2μm,11.0s
UGL smax smax
comp=E,900nm,13.0s
UGL smax smax
comp=N,2μm,16.0s
USA0B Ussuriysk Arra 74.69 329 *i* P **P** **06 23 19.0 -2.5**
USRK Ussuriysk Ar. 74.69 329 P **P** **06 23 23.2 +1.7**
comp=N,6.6nm,0.9s,baz=99,slow=6.4,SNR=8.2
USRK LR LR 06 50 58.4
comp=N,2μm,21.9s,baz=132,slow=32
comp=N,6.6nm,0.9s
NJ2 Nanjing 74.75 312 *e*P **P** **06 23 21.0 -1.2**
NJ2 pP **sP** **06 23 25.4 -1.5**
NJ2 sP **pwP** **06 23 29.3 -0.2**
NJ2 S **S** **06 32 59.8 +1.3**
NJ2 sS **sS** **06 33 09.3 +4.7**
NJ2 pmax pmax
comp=N,25nm,1.2s
NJ2 pmax pmax
comp=N,1μm,7.1s
NJ2 LR LR
comp=N,2μm,21.1s
NJ2 LR LR
comp=N,2μm,19.1s
NJ2 LR LR
comp=N,3μm,20.1s
QIZ Qiongzhong 75.31 296 IAMs_20 IAMs_20 06 50 47.8
comp=Z,4μm,22.0s
QIZ Qiongzhong 75.31 296 P **P** **06 23 24.3 -1.4**
QIZ sP **pwP** **06 23 31.9 -1.0**
QIZ S **S** **06 33 05.8 +0.6**
QIZ sS **sS** **06 33 13.1 +2.3**
QIZ LR LR
comp=Z,2μm,19.9s
QIZ LR LR
comp=Z,2μm,27.1s
QIZ LR LR
comp=Z,5μm,23.1s
SDSI Sungai Dareh 75.39 274 P **P** **06 23 25.3 -1.0**
comp=Z,23nm,1.7s,comp=Z,2μm
TYV Tymovskoe 75.46 339 *e*P **P** **06 23 28.0 +2.2**
TYV *e*S **S** **06 33 13.2 +7.6**
TYV pmax pmax
comp=Z,300nm,3.1s
TYV pmax pmax
comp=Z,29nm,1.3s
TYV smax smax
comp=N,200nm,6.2s
TYV smax smax
comp=E,600nm,6.2s
BKNI Bangkinang 76.17 275 P **P** **06 23 29.5 -1.3**
BKNI IAMs_20 IAMs_20 06 58 41.5
comp=Z,2μm,20.0s
MDJ Mudanjiang 76.18 328 IAMs_20 IAMs_20 06 56 28.5
comp=Z,3μm,19.0s
MDJ Mudanjiang 76.18 328 P **P** **06 23 28.0 -2.1**
MDJ pP pwP 06 23 38.0 +1.2
MDJ sP PcP 06 23 40.1 -2.0
MDJ S **S** **06 33 14.6 +0.8**
MDJ pmax pmax
comp=Z,16nm,1.7s
MDJ pmax pmax
comp=Z,660nm,6.3s
MDJ LR LR
comp=Z,2μm,20.8s
MDJ LR LR
comp=Z,1μm,19.0s
MDJ LR LR
comp=Z,3μm,22.6s
MDJ Mudanjiang 76.18 328 P **P** **06 23 30.8 +0.7**
PDSI Padang 76.31 274 P **P** **06 23 33.6 +2.0**
comp=Z,17nm,1.7s,comp=Z,3μmcomp=Z,2μm
DL2 Dalian 76.92 319 P **P** **06 23 36.8 +2.4**
DL2 S **S** **06 33 25.6 +3.4**
DL2 pmax pmax
comp=Z,41nm,1.4s
DL2 pmax pmax
comp=Z,720nm,5.2s
DL2 LR LR
comp=Z,2μm,21.1s
DL2 LR LR
comp=Z,2μm,21.5s
DL2 LR LR
comp=Z,3μm,21.9s
CNSH ChangSha 77.07 306 ⇑P **P** **06 23 37.4 +1.9**
CNSH S **S** **06 33 28.8 +4.5**
CNSH pmax pmax
comp=Z,430nm,4.7s
CNSH LR LR
comp=Z,2μm,22.6s
CNSH LR LR
comp=Z,2μm,25.9s
CNSH LR LR
comp=Z,4μm,25.9s
WHN Wuhan 77.19 309 ⇓P **P** **06 23 38.5 +2.4**
WHN sP **PcP** **06 23 45.8 -1.0**
WHN S **S** **06 33 30.1 +4.6**
WHN pmax pmax
comp=Z,390nm,1.8s
WHN pmax pmax
comp=Z,3μm,4.7s
WHN LR LR
comp=Z,10μm,22.0s
WHN LR LR
comp=Z,16μm,21.6s
WHN LR LR
comp=Z,32μm,26.3s
SISI Saibi 77.47 273 P **P** **06 23 40.9 +2.8**
comp=Z,60nm,1.8s,comp=Z,1μm
SNY Shenyang 77.58 322 ⇑P **P** **06 23 39.3 +1.3**
SNY S **S** **06 33 35.6 +6.5**
SNY pmax pmax
comp=Z,24nm,1.2s
SNY pmax pmax
comp=Z,1μm,7.7s
SNY LR LR
comp=Z,1μm,19.6s
SNY LR LR
comp=Z,2μm,21.6s
SNY LR LR
comp=Z,4μm,21.6s
IPM Ipoh 77.59 279 P **P** **06 23 37.0 -1.7**
IPM IAmb IAmb 06 23 48.0
comp=Z,48nm,1.1s
IPM IAMs_20 IAMs_20 06 57 28.7
comp=Z,2μm,21.0s
IPM Ipoh 77.59 279 P **P** **06 23 38.3 -0.5**
comp=Z,39nm,1.4s
GRNR Gornyy 77.69 335 ⇓*i*P **P** **06 23 38.8 +0.3**
GRNR pmax pmax
comp=Z,5.0nm,1.2s
GRNR MLR MLR
comp=E,1μm,12.0s
GRNR MLR MLR
comp=N,500nm,17.0s
GRNR MLR MLR
comp=Z,930nm,15.0s
CN2 Changchun 77.81 325 P **P** **06 23 38.5 -0.8**
CN2 PP **PP** **06 26 36.3 +1.1**
CN2 S **S** **06 33 27.3 -4.3**
CN2 SS **SS** **06 38 31.3 -1.3**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,1μm,6.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,2μm,21.0s
BNX BinXian 78.08 327 ⇓P **P** **06 23 40.9 +0.2**
BNX pP **sP** **06 23 44.3 -1.2**
BNX sP **pwP** **06 23 45.8 -1.6**
BNX PP **PP** **06 26 36.4 -1.0**
BNX S **S** **06 33 39.3 +4.9**
BNX SS **SS** **06 38 42.4 +5.9**
BNX pmax pmax
comp=Z,14nm,0.8s
BNX pmax pmax
comp=Z,1μm,7.6s
BNX LR LR
comp=Z,670nm,13.6s
BNX LR LR
comp=Z,750nm,12.5s
BNX LR LR
comp=Z,1μm,19.5s
TIA Tai'an 78.27 315 ⇑P **P** **06 23 42.0 0.0**
TIA pmax pmax
comp=Z,7.0nm,0.8s
TIA pmax pmax
comp=Z,540nm,5.7s
TIA LR LR
comp=Z,1μm,16.3s
TIA LR LR
comp=Z,1μm,22.6s
TIA LR LR
comp=Z,2μm,20.6s
KLR Kul'dur 78.48 332 P **P** **06 23 43.5 +0.7**
comp=Z,7.3nm,0.9s,baz=117,slow=3.7,SNR=12
KLR LR LR 06 52 39.7
comp=Z,2μm,21.7s,baz=150,slow=31
comp=Z,7.3nm,0.9s
KLR Kul'dur 78.48 332 *ce*P **P** **06 23 42.1 -0.8**
KLR pmax pmax
comp=Z,44nm,1.7s
RPSI Rantau Prapat 78.95 277 P **P** **06 23 43.9 -2.4**
RPSI IAmb IAmb 06 23 49.5
comp=Z,71nm,1.5s
PSI Prapat 78.99 277 LR LR 07 00 48.2
comp=Z,2μm,19.5s,baz=136,slow=37
PSI Prapat 78.99 277 P **P** **06 23 44.2 -2.4**
PSI Prapat 78.99 277 P **P** **06 23 43.9 -2.7**
PSI pmax pmax
comp=Z,71nm,1.5s
PSI MLR MLR
comp=Z,5μm,21.0s
R17K Ugashik Creek 79.53 15 P **P** **06 23 49.9 +1.5**
baz=206
GSI Gunungsitoli 79.76 275 P **P** **06 23 49.2 -1.5**
GSI IAmb IAmb 06 23 55.2
comp=Z,114nm,1.5s
GSI Gunungsitoli 79.76 275 P **P** **06 23 50.0 -0.7**
GSI Gunungsitoli 79.76 275 P **P** **06 23 51.4 +0.7**
comp=Z,47nm,1.5s,comp=Z,3μmcomp=Z,3μm
OHAK Old Harbor 79.94 16 P **P** **06 23 52.5 +1.9**
baz=209
Q17K Contact Creek 80.21 14 P **P** **06 23 52.9 +0.6**
baz=207
Q16K King Salmon 80.41 14 P **P** **06 23 53.6 +0.5**
baz=206
MCCM Marconi Confer 80.42 44 IAMs_20 IAMs_20 06 52 08.4
comp=Z,2μm,20.0s
P16K Nushagak River 80.43 13 P **P** **06 23 54.0 +0.8**
baz=205
SURA Surathani 80.52 283 P **P** **06 23 56.3 +1.5**
HNS HongShan 80.54 315 ⇓P **P** **06 23 54.5 +0.2**
HNS PP **PP** **06 26 58.8 +0.7**
HNS S **S** **06 34 07.4 +6.5**
HNS pmax pmax
comp=Z,23nm,1.6s
HNS pmax pmax
comp=Z,1μm,10.9s
HNS LR LR
comp=Z,690nm,21.5s
HNS LR LR
comp=Z,2μm,20.5s
HNS LR LR
comp=Z,3μm,20.4s
LYN LuoYang 80.61 311 ⇑*i*P **P** **06 23 56.8 +2.0**
LYN sP PcP 06 24 04.1 +2.5
LYN PP **PP** **06 27 03.3 +4.6**
LYN S **S** **06 34 06.8 +5.1**
LYN SS **SS** **06 39 16.3 +1.3**
LYN pmax pmax
comp=Z,20nm,1.1s
LYN pmax pmax
comp=Z,1μm,6.5s
LYN LR LR
comp=Z,2μm,18.1s
LYN LR LR
comp=Z,2μm,19.9s
LYN LR LR
comp=Z,3μm,19.8s
KDAK Kodiak Island 80.62 16 LR LR 06 52 10.8
comp=Z,3μm,22.0s,baz=243,slow=30
KDAK Kodiak Island 80.62 16 IAMs_20 IAMs_20 06 52 51.3
comp=Z,3μm,19.0s
KDAK Kodiak Island 80.62 16 P **P** **06 23 55.6 +1.3**
baz=210
SAO San Andreas Ge 80.64 46 IAMs_20 IAMs_20 06 52 34.5
comp=Z,3μm,20.0s
NONG Nongkai 80.68 293 P **P** **06 23 55.7 +0.2**
ENH Enshi 80.72 306 IAMs_20 IAMs_20 06 55 25.7
comp=Z,2μm,22.0s
ENH Enshi 80.72 306 P **P** **06 23 55.9 +0.4**

HOPS	Hopland Field	80.75	43		IAMs_20	IAMs_20	06 55 46.2			
	comp=Z,2µm,18.0s									
Q18K	Katmai Hardscr	80.77	15		P	P	06 23 56.4	+1.2		
	baz=208									
PKM	Mcpherson Peak	80.81	48		P	P	06 23 56.9	+0.8		
	baz=240									
MA2	Magadan	80.89	347		P	P	06 23 55.0	-0.7		
	comp=Z,7.1nm,0.8s,baz=132,slow=9.9,SNR=4.3									
MA2					LR	LR	06 58 17.2			
	comp=Z,2µm,18.9s,baz=171,slow=35									
	comp=Z,7.1nm,0.8s									
MA2	Magadan	80.89	347		IAMs_20	IAMs_20	06 59 11.3			
	comp=Z,3µm,20.0s									
MA2	Magadan	80.89	347		P	P	06 23 55.3	-0.4		
MA2	Magadan	80.89	347	*i*	P	P	06 23 53.8	-1.9		
MA2					pmax	pmax				
	comp=Z,71nm,1.6s									
SMMC	Simmler	80.89	48		P	P	06 23 57.8	+1.4		
	baz=239									
P17K	Kvichak River	80.92	14		P	P	06 23 56.5	+0.6		
	baz=206									
O16K	Kokwok River B	80.92	13		P	P	06 23 56.5	+0.6		
	baz=205									
BJT	Baijiatuau	81.01	318		IAMs_20	IAMs_20	06 58 41.1			
	comp=Z,2µm,21.0s									
BJT	Baijiatuau	81.01	318		P	P	06 23 58.8	+2.0		
BJI	Beijing	81.02	318		P	P	06 23 58.3	+1.5		
BJI					S	S	06 34 09.6	+3.8		
BJI					SS	SS	06 39 25.0	+4.2		
BJI					pmax	pmax				
	comp=Z,4.0nm,0.7s									
BJI					pmax	pmax				
	comp=Z,220nm,4.5s									
BJI					LR	LR				
	comp=Z,940nm,20.0s									
BJI					LR	LR				
	comp=Z,600nm,19.6s									
BJI					LR	LR				
	comp=Z,1µm,20.2s									
CIS	Catalina Islan	81.07	50		P	P	06 23 58.4	+1.1		
	baz=241									
JCC	Jacoby Creek,	81.15	42		IAMs_20	IAMs_20	06 53 29.5			
	comp=Z,2µm,20.0s									
HEH	HeiHe	81.18	331	*e*	P	P	06 23 58.9	+1.4		
HEH					pP	sP	06 24 00.1	-2.2		
HEH					S	S	06 34 13.1	+6.0		
HEH					SKS	SKSac	06 34 15.0	-1.1		
HEH					sS	ScS	06 34 22.3	-2.8		
HEH					pmax	pmax				
	comp=Z,18nm,1.6s									
HEH					pmax	pmax				
	comp=Z,2µm,6.9s									
HEH					LR	LR				
	comp=Z,2µm,19.2s									
HEH					LR	LR				
	comp=Z,1µm,18.4s									
HEH					LR	LR				
	comp=Z,3µm,22.4s									
GYA	Guiyang	81.20	302	⇓ *i*	P	P	06 23 56.3	-2.0		
GYA					S	S	06 34 08.9	+0.3		
GYA					pmax	pmax				
	comp=Z,1µm,9.1s									
GYA					LR	LR				
	comp=Z,2µm,24.0s									
GYA					LR	LR				
	comp=Z,2µm,23.6s									
GYA					LR	LR				
	comp=Z,4µm,27.9s									
MAW	Mawson	81.23	201		P	P	06 23 57.0	-0.6		
	comp=Z,22nm,0.9s,baz=110,slow=5.8,SNR=7.3									
	comp=Z,22nm,0.9s									
MAW	Mawson	81.23	201		P	P	06 23 57.2	-0.4		
	baz=81,SNR=8.1									
MAW	Mawson	81.23	201		P	P	06 23 58.0	+0.4		
MAW	Mawson	81.23	201		P	P	06 23 57.0	-0.6		
O17K	Koliganek Bris	81.30	13		P	P	06 23 58.8	+1.0		
	baz=206									
SNSI	Sinabang, Aceh	81.30	276		P	P	06 24 03.0	+4.0		
	comp=Z,53nm,1.4s,comp=Z,2µm									
FMP	Fort Macarthur	81.31	50		P	P	06 23 59.5	+0.9		
	baz=241									
Q19K	Cape Douglas,	81.35	15		IAMs_20	IAMs_20	06 52 17.6			
	comp=Z,3µm,21.0s									
P18K	Big Mountain,	81.38	14		IAMs_20	IAMs_20	07 01 44.2			
	comp=Z,2µm,19.0s									
P18K	Big Mountain,	81.38	14		P	P	06 23 59.1	+0.7		
	baz=207									
OSI	Osito Audit: C	81.44	49		P	P	06 24 00.2	+0.8		
	baz=240									
DECC	Green Verdugo	81.55	50		P	P	06 24 01.1	+1.2		
	baz=241									
N16K	Nishlik Lake	81.59	12		P	P	06 24 00.4	+0.9		
	baz=204									
ARVC	Arvin	81.62	49		P	P	06 23 60.0	-0.3		
	baz=240									
LHMI	Lhok Sumawe	81.66	278		IAMs_20	IAMs_20	07 01 21.7			
	comp=Z,3µm,22.0s									
109C	Camp Elliot, M	81.78	51		IAMs_20	IAMs_20	06 56 49.5			
	comp=Z,2µm,18.0s									
109C	Camp Elliot, M	81.78	51		P	P	06 24 02.0	+0.9		
	baz=242									
O18K	Koktuh Hills	81.79	14		IAMs_20	IAMs_20	07 01 55.2			
	comp=Z,3µm,20.0s									
O18K	Koktuh Hills	81.79	14		P	P	06 24 00.9	+0.4		
	baz=207									
VES	Vestal, Richgr	81.80	48		P	P	06 24 02.5	+1.4		
	baz=240									
VOG	Valley Oaks Go	81.83	47		P	P	06 24 02.5	+1.3		
	baz=240									
SMAI	San Martin Ant	82.00	160		P	P	06 24 03.0	+1.3		
SMAI					IAmb	IAmb	06 24 07.0			
	comp=Z,83nm,1.3s									
CMB	Columbia Colle	82.02	45		IAMs_20	IAMs_20	06 52 06.1			
	comp=Z,3µm,22.0s									
BFSC	Mount Baldy Ra	82.03	50		P	P	06 24 03.7	+1.2		
	baz=241									
MURC	Murrieta	82.06	51		P	P	06 24 04.4	+1.8		
	baz=241									
P19K	Oil Pt	82.09	15		IAMs_20	IAMs_20	06 51 56.1			
	comp=Z,3µm,20.0s									
EDW2	Edwards Air Fo	82.10	49		P	P	06 24 03.4	+0.6		
	baz=241									
ISA	Isabella, Lake	82.14	48		P	P	06 24 04.9	+1.8		
	baz=240									
TIY	Taiyuan	82.24	314	⇑	P	P	06 24 05.9	+2.4		
TIY					S	S	06 34 24.1	+5.3		
TIY					SS	SS	06 39 40.0	+0.6		
TIY					pmax	pmax				
	comp=Z,26nm,0.9s									
TIY					pmax	pmax				
	comp=Z,940nm,5.5s									
TIY					LR	LR				
	comp=Z,2µm,23.1s									
TIY					LR	LR				
	comp=Z,1µm,22.4s									
TIY					LR	LR				
	comp=Z,2µm,22.0s									
O19K	Port Alsworth	82.30	14		P	P	06 24 02.5	-0.7		
O19K					IAMs_20	IAMs_20	07 02 11.7			
	comp=Z,2µm,20.0s									
O19K	Port Alsworth	82.30	14		P	P	06 24 03.4	+0.3		
	baz=208									
ILSW	Iliamna Southw	82.40	15		P	P	06 24 01.8	-2.0		
ILSW					IAmb	IAmb	06 24 13.6			
	comp=Z,94nm,1.2s									
IKP	In-Ko-Pah, Jac	82.41	52		P	P	06 24 05.6	+1.1		
	baz=242									
YBH	Yreka Blue Hor	82.49	41		LR	LR	06 54 15.8			
	comp=Z,1µm,20.3s,baz=260,slow=31									
BBRC	Big Bear Solar	82.57	50		P	P	06 24 06.4	+0.9		
	baz=242									
PFO	Pinyon Flats O	82.60	51		LR	LR	06 52 50.6			
	comp=Z,2µm,21.2s,baz=246,slow=30									
PFO	Pinyon Flats O	82.60	51		IAMs_20	IAMs_20	06 57 22.2			
	comp=Z,2µm,18.0s									
PFO	Pinyon Flats O	82.60	51		P	P	06 24 07.1	+1.5		
	baz=242									
PFO	Pinyon Flats O	82.60	51	*i*	P	P	06 24 04.5	-1.0		
PFO					pmax	pmax				
	comp=Z,40nm,1.5s									
TPFO	Pinon Flats	82.60	51		P	P	06 24 07.0	+1.5		
	baz=242									
O20K	Slope Mountain	82.61	15		P	P	06 24 06.8	+2.0		
	baz=210									
LRMC	Laurel Mtn Rad	82.61	49		P	P	06 24 07.5	+1.9		
	baz=241									
SWSC	Sam W. Stewart	82.78	52		P	P	06 24 07.6	+1.3		
	baz=242									
BRLK	Bradley Lake	82.78	16		IAMs_20	IAMs_20	06 54 53.0			
	comp=Z,4µm,21.0s									
BRSE	Bradley Lake S	82.80	16		P	P	06 24 06.1	+0.3		
	baz=211									
CWC	Cottonwood Cre	82.80	48		P	P	06 24 07.9	+1.4		
	baz=240									
RRX	Edison Barstow	82.81	50		P	P	06 24 08.5	+2.0		
	baz=241									
N19K	Bonanza Creek	82.81	14		IAMs_20	IAMs_20	07 02 37.2			
	comp=Z,2µm,20.0s									
N19K	Bonanza Creek	82.81	14		P	P	06 24 07.7	+1.7		
	baz=208									
MLAC	Mammoth, Mammo	82.87	46		P	P	06 24 09.2	+2.2		
	baz=240									
GAMB	Gambell	82.89	5		P	P	06 24 07.5	+1.3		
	baz=192									
XAN	Xi'an	82.91	309		P	P	06 24 08.3	+1.2		
XAN					pP	pwP	06 24 16.6	+2.2		
XAN					sP	PcP	06 24 20.8	+9.0		
XAN					pmax	pmax				
	comp=Z,29nm,1.9s									
TIN	Tinemaha, Big	83.00	47		P	P	06 24 09.1	+1.6		
	baz=240									
MPMC	Manual Prospec	83.03	48		P	P	06 24 09.5	+1.7		
	baz=241,SNR=20									
BELC	Belle Mtn. Jos	83.12	51		P	P	06 24 08.8	+0.6		
	baz=242,SNR=14									
GSC	Goldstone, Bar	83.15	49		P	P	06 24 09.6	+1.2		
	baz=241,SNR=10									
XLT	XiLinHaoTe	83.23	321	*e*	P	P	06 24 07.8	-0.7		
XLT					pP	pwP	06 24 13.8	-2.0		
XLT					sP	PcP	06 24 17.6	+4.6		
XLT					S	S	06 34 25.1	-3.5		
XLT					sS	sS	06 34 33.3	-1.5		
XLT					SS	SS	06 39 54.9	+1.1		
XLT					pmax	pmax				
	comp=Z,13nm,1.4s									
XLT					pmax	pmax				
	comp=Z,460nm,4.7s									
XLT					LR	LR				
	comp=Z,2µm,23.0s									
XLT					LR	LR				
	comp=Z,3µm,23.4s									
HEC	Hector,Ludlow	83.27	50		P	P	06 24 10.1	+1.2		
	baz=242,SNR=18									
LPIG	La Paz	83.28	62		LR	LR	06 53 29.0			
	comp=Z,3µm,19.4s,baz=244,slow=30									
BC3	Big Chuckawall	83.36	51		P	P	06 24 11.3	+1.8		
	baz=242,SNR=9.6									
SLBS	Sierra La Lagu	83.42	62		P	P	06 24 09.4	-0.6		
SLBS	Sierra La Lagu	83.42	62		IAMs_20	IAMs_20	06 52 43.4			
	comp=Z,3µm,21.0s									
GLA	Glamis	83.55	52		P	P	06 24 12.3	+1.9		
	baz=243									
GRAC	Grapevine Rang	83.58	48		P	P	06 24 11.5	+1.1		
	baz=241,SNR=20									
NVAR	Mina Array Bea	83.64	46		P	P	06 24 12.3	+1.4		
	comp=Z,16nm,1.1s,baz=230,slow=7.7,SNR=35									
NVAR					LR	LR	06 53 45.1			
	comp=Z,2µm,21.4s,baz=252,slow=30									
	comp=Z,16nm,1.1s									
NVAR	Mina Array Bea	83.64	46		P	P	06 24 10.9	0.0		
SEY	Seymchan	83.67	349		P	P	06 24 10.0	-0.1		
	comp=Z,14nm,0.8s,baz=134,slow=5.4,SNR=20									
SEY					LR	LR	06 59 10.1			
	comp=Z,2µm,19.4s,baz=159,slow=34									
	comp=Z,14nm,0.8s									
SEY	Seymchan	83.67	349	*i*	P	P	06 24 09.3	-0.9		
SEY					pmax	pmax				
	comp=Z,118nm,1.5s									
FURC	Furnace Creek,	83.67	48		P	P	06 24 12.8	+2.0		
	baz=241									
ZEA	Zeya	83.67	333	*e*	P	P	06 24 12.5	+2.1		
ZEA					pmax	pmax				
	comp=Z,20nm,1.8s									
ZEA					pmax	pmax				
	comp=E,200nm,5.9s									
ZEA					pmax	pmax				
	comp=N,300nm,4.6s									
ZEA					pmax	pmax				
	comp=Z,700nm,8.9s									
N20K	Mount Spurr	83.69	15		P	P	06 24 10.1	-0.3		
	baz=210									
SPCR	Spurr Chakacha	83.69	15		P	P	06 24 10.3	-0.1		
	baz=210									
SPU	Mount Spurr	83.71	15		P	P	06 24 08.9	-1.6		
GMRC	Granite Mounta	83.74	50		P	P	06 24 13.4	+2.0		
	baz=242,SNR=17									
Q23K	Middleton Isla	83.76	18		P	P	06 24 11.8	+1.1		
	baz=215									
SHOC	Shoshone, Teco	83.82	49		P	P	06 24 13.2	+1.5		
	baz=242									
IRM	Iron Mountain	83.82	51		P	P	06 24 13.2	+1.5		
	baz=243,SNR=35									
KMI	Kunming	83.85	299	*e*	P	P	06 24 12.3	0.0		
KMI					sP	PcP	06 24 15.8	-0.5		
KMI					PP	PP	06 27 24.3	-1.6		
KMI					S	SKSac	06 34 28.1	-7.5		
KMI					SS	SS	06 40 00.4	-3.6		
KMI					pmax	pmax				
	comp=Z,30nm,1.7s									
KMI					pmax	pmax				
	comp=Z,800nm,7.6s									
KMI					LR	LR				
	comp=Z,2µm,18.7s									
KMI					LR	LR				
	comp=Z,2µm,21.1s									
KMI					LR	LR				
	comp=Z,3µm,21.1s									
TUQ	Turquoise Moun	83.85	49		P	P	06 24 13.4	+1.4		
	baz=242									
P23K	Montague Islan	83.92	17		P	P	06 24 13.2	+1.6		
	baz=214									
L19K	White Mountain	83.95	13		P	P	06 24 11.4	-0.3		
L19K	White Mountain	83.95	13		P	P	06 24 12.8	+1.1		
	baz=207									
M20K	Styx River	84.07	14		IAMs_20	IAMs_20	07 02 58.4			
	comp=Z,2µm,19.0s									
RC01	Rabbit Creek A	84.21	16		IAMs_20	IAMs_20	07 01 16.3			
	comp=Z,2µm,21.0s									
SUA	Susitna One	84.27	15		IAMs_20	IAMs_20	06 54 00.9			
	comp=Z,3µm,22.0s									
SUA	Susitna One	84.27	15		P	P	06 24 12.9	-0.6		
	baz=211									
HIA	Hailar	84.32	327		IAMs_20	IAMs_20	06 57 31.8			
	comp=Z,3µm,22.0s									
TPNV	Topopah Spring	84.34	48		IAMs_20	IAMs_20	06 55 06.7			
	comp=Z,2µm,20.0s									
TPNV	Topopah Spring	84.34	48		P	P	06 24 15.8	+1.3		
	baz=242									
ANM	Nome	84.35	8		P	P	06 24 13.6	0.0		
	baz=198									
TTA	Tatalina	84.38	12		P	P	06 24 13.8	-0.1		
	baz=206									
PWL	Port Wells	84.39	17		P	P	06 24 14.0	+0.1		
	baz=214									
HHC	Hu-ho-hao-te	84.42	316	*e*	P	P	06 24 14.6	-0.1		
HHC					S	S	06 34 39.9	-0.9		
HHC					SS	SS	06 40 15.0	+3.3		
HHC					pmax	pmax				
	comp=Z,26nm,1.4s									
HHC					pmax	pmax				
	comp=Z,1µm,5.8s									
HHC					LR	LR				
	comp=Z,2µm,17.8s									
HHC					LR	LR				
	comp=Z,3µm,17.1s									
HHC					LR	LR				
	comp=Z,4µm,16.5s									
L20K	Farewell, AK	84.42	13		P	P	06 24 13.6	-0.5		
	baz=208									
NEE2	Needles Airpor	84.49	51		P	P	06 24 16.1	+1.1		
	baz=243									
CMAR	Chiang Mai Arr	84.52	291		P	P	06 24 15.3	-0.3		
	comp=Z,3.6nm,0.7s,baz=124,slow=3.8,SNR=22									
CMAR					LR	LR	06 57 53.8			
	comp=Z,1µm,21.5s,baz=115,slow=33									
	comp=Z,3.6nm,0.7s									
CMAR	Chiang Mai Arr	84.52	291		P	P	06 24 14.9	-0.7		
CMAR	Chiang Mai Arr	84.52	291		P	P	06 24 14.9	-0.7		
SKT	Skwentna	84.53	15		IAMs_20	IAMs_20	07 04 20.6			
	comp=Z,2µm,18.0s									
214A	Organ Pipe Nat	84.58	54		P	P	06 24 16.6	+1.0		
	baz=244									
CHTO	Chiang Mai	84.65	292		P	P	06 24 14.6	-1.6		
CHTO					IAmb	IAmb	06 24 26.5			
	comp=Z,41nm,1.2s									
CHTO	Chiang Mai	84.65	292		P	P	06 24 14.6	-1.6		
CHTO					pmax	pmax				
	comp=Z,41nm,1.3s									
CHTO					MLR	MLR				
	comp=Z,1µm,19.0s									
M22K	Willow	84.68	15		IAMs_20	IAMs_20	06 54 46.6			
	comp=Z,3µm,21.0s									
M22K	Willow	84.68	15		P	P	06 24 14.5	-0.8		
	baz=212									
PMR	Palmer	84.79	16		P	P	06 24 15.1	-0.8		
	baz=213									
KNK	Knik Glacier	84.82	16		P	P	06 24 15.6	-0.5		
	baz=213									
EYAK	Cordova Ski Ar	84.85	18		P	P	06 24 15.4	-0.8		
	baz=216									
PMSA	Palmer Station	84.86	158		P	P	06 24 16.6	+0.2		
	comp=Z,24nm,0.9s,baz=204,slow=4.8,SNR=4.6									
PMSA					LR	LR	06 53 14.4			
	comp=Z,1µm,21.9s,baz=239,slow=29									
	comp=Z,24nm,0.9s									
SHPR	Sheep Range	84.90	49		P	P	06 24 18.3	+1.0		
SHPR					IAmb	IAmb	06 24 24.4			
	comp=Z,70nm,1.9s									
GHO	Glory Hole Cre	85.00	16		IAMs_20	IAMs_20	07 03 57.1			
	comp=Z,2µm,18.0s									
TNA	Tin City	85.01	7		P	P	06 24 17.9	+1.0		
	baz=195									
HOOD	Mount Hood Mea	85.09	39		P	P	06 24 18.6	+0.6		
HOOD					IAmb	IAmb	06 24 43.0			
	comp=Z,36nm,1.1s									
HMT	Hamilton	85.12	18		IAMs_20	IAMs_20	07 07 22.5			
	comp=Z,3µm,18.0s									
K20K	Telida	85.16	13		P	P	06 24 17.3	-0.5		
	baz=208									
PPLA	Purkeypile	85.17	14		P	P	06 24 17.3	-0.7		
	baz=210									
SML	Sawmill	85.18	16		IAMs_20	IAMs_20	07 01 36.0			
	comp=Z,2µm,20.0s									
SML	Sawmill	85.18	16		P	P	06 24 17.8	-0.1		
	baz=214									
CUT	Chulitna	85.20	15		P	P	06 24 18.4	+0.4		
CUT					IAMs_20	IAMs_20	06 54 44.4			
	comp=Z,3µm,21.0s									
CUT	Chulitna	85.20	15		P	P	06 24 20.2	+2.3		
	baz=212									
PZH	PanZhiHua	85.22	300		P	P	06 24 18.1	-1.0		
PZH					sP	pwP	06 24 28.3	+1.9		
PZH					PP	PP	06 27 40.8	+3.8		
PZH					SKS	SKSac	06 34 39.9	-4.2		
PZH					S	SKKSac	06 34 50.3	-0.3		
PZH					pmax	pmax				
	comp=Z,10.0nm,0.6s									
PZH					pmax	pmax				
	comp=Z,340nm,5.9s									
PZH					LR	LR				
	comp=Z,3µm,17.2s									
PZH					LR	LR				
	comp=Z,4µm,16.6s									
PZH					LR	LR				
	comp=Z,5µm,20.6s									
M23K	Glacier View	85.33	16		P	P	06 24 17.5	-1.1		
	baz=214									
CD2	Chengdu	85.42	305		P	P	06 24 19.8	-0.1		
CD2					sP	sP	06 24 23.4	-1.3		
CD2					PP	PP	06 27 37.5	-0.9		
CD2					SKS	SKSac	06 34 42.5	-2.5		
CD2					S	S	06 34 49.6	-1.4		
CD2					SS	SS	06 40 28.8	+2.1		
CD2					pmax	pmax				
	comp=Z,30nm,1.3s									
CD2					pmax	pmax				
	comp=Z,1µm,7.7s									
CD2					LR	LR				
	comp=Z,710nm,16.5s									
CD2					LR	LR				
	comp=Z,700nm,16.7s									
CD2					LR	LR				
	comp=Z,3µm,22.2s									
WVOR	Wild Horse Val	85.43	42		IAMs_20	IAMs_20	06 59 42.9			
	comp=Z,2µm,18.0s									
WVOR	Wild Horse Val	85.43	42		P	P	06 24 21.4	+1.6		
R11A	Troy Canyon, C	85.46	47		P	P	06 24 20.2	+0.1		
	baz=242									
SCM	Sheep Creek Mo	85.47	16		IAMs_20	IAMs_20	06 54 01.6			
	comp=Z,2µm,21.0s									
KLU	Klutina	85.57	17		IAMs_20	IAMs_20	07 01 47.4			
	comp=Z,2µm,21.0s									
BBB	Bella Bella	85.62	31		LR	LR	06 54 45.7			
	comp=Z,2µm,20.8s,baz=247,slow=30									
WAX	Waxell Ridge	85.64	19		IAMs_20	IAMs_20	07 01 14.3			
	comp=Z,3µm,20.0s									
CAST	Castle Rocks	85.65	14		P	P	06 24 19.5	-0.7		
CAST					IAMs_20	IAMs_20	06 56 33.1			
	comp=Z,2µm,20.0s									
CAST	Castle Rocks	85.65	14		P	P	06 24 22.4	+2.2		
	baz=210									
J20K	Nowinta River	85.87	13		IAMs_20	IAMs_20	06 57 37.9			
	comp=Z,2µm,20.0s									
J20K	Nowinta River	85.87	13		P	P	06 24 24.9	+3.7		
	baz=208									
ISLE	Juniper Island	85.92	19		IAMs_20	IAMs_20	07 01 21.7			
	comp=Z,2µm,20.0s									
PGC	Sidney	85.92	35		P	P	06 24 20.8	-1.0		
J08A	Circle Bar Ran	86.00	42		P	P	06 24 21.8	-0.8		
J08A					IAmb	IAmb	06 24 34.1			
	comp=Z,4.1nm,1.2s									
N25K	Chitina, Valde	86.04	18		IAMs_20	IAMs_20	06 54 14.8			
	comp=Z,2µm,21.0s									
N25K	Chitina, Valde	86.04	18		P	P	06 24 27.2	+5.0		
	baz=217									
TRF	Thorofare Moun	86.09	14		IAMs_20	IAMs_20	07 04 51.8			
	comp=Z,3µm,19.0s									
TRF	Thorofare Moun	86.09	14		P	P	06 24 24.5	+1.9		
	baz=212									
TABL	Table Mountain	86.16	20		IAMs_20	IAMs_20	06 54 56.3			
	comp=Z,2µm,21.0s									
PINM	Pinnacle	86.19	20		P	P	06 24 24.5	+1.5		
	baz=221									
TUC	Tucson	86.29	54		IAMs_20	IAMs_20	06 55 40.2			
	comp=Z,3µm,20.0s									
TUC	Tucson	86.29	54		P	P	06 24 23.6	-0.6		
	baz=245									
TUC	Tucson	86.29	54		P	P	06 24 27.8	+3.6		
MCARA	McCarthy VSAT	86.32	18		P	P	06 24 28.6	+5.0		
	baz=218									
RND	Reindeer	86.39	15		P	P	06 24 24.4	+0.4		
RND					IAMs_20	IAMs_20	06 56 53.9			
	comp=Z,2µm,20.0s									
RND	Reindeer	86.39	15		P	P	06 24 24.4	+0.4		
RND					pmax	pmax				
	comp=Z,35nm,1.4s									
BARN	Barnard Glacie	86.48	19		IAMs_20	IAMs_20	06 56 06.6			
	comp=Z,2µm,21.0s									
BPAW	Bear Paw Mtn.	86.48	14		IAMs_20	IAMs_20

BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL MLR MLR
comp=Z,618nm,19.0s
M26K Nabesna, AK 87.13 18 P **P** 06 24 28.9 +1.3
baz=218
WUAZ Wupatki 87.20 51 P **P** 06 24 28.0 -0.7
baz=245
YUK8 Steele Glacier 87.25 20 P **P** 06 24 25.9 -2.5
baz=221
P30M Million Dollar 87.31 21 P **P** 06 24 31.1 +2.5
baz=224
TNCH TengChong 87.33 297 ⇓P **P** 06 24 28.9 -0.7
TNCH pP pwP 06 24 39.3 +2.4
TNCH PP **PP** **06 27 52.4 -1.8**
TNCH S **S** **06 35 03.3 -6.9**
TNCH sS ScS 06 35 21.3 +3.9
TNCH pmax pmax
comp=Z,91nm,0.6s
TNCH pmax pmax
comp=Z,620nm,9.6s
TNCH LR LR
comp=Z,1µm,28.3s
TNCH LR LR
comp=Z,1µm,25.0s
TNCH LR LR
comp=Z,3µm,26.3s
MLY Manley 87.34 13 P **P** 06 24 29.9 +1.3
baz=211
NEA2 Nenana 87.34 14 IAMs_20 IAMs_20 06 57 26.0
comp=Z,2µm,20.0s
NEA2 Nenana 87.34 14 P **P** 06 24 30.1 +1.6
baz=213
YUK3 Moose Creek 87.40 19 P **P** 06 24 30.9 +1.8
baz=221
SKAG Skagway 87.42 22 P **P** 06 24 31.0 +2.1
baz=225
M27K Edge Creek, AK 87.42 18 P **P** 06 24 31.6 +2.5
baz=219
H21K Melozitna Rive 87.45 12 IAMs_20 IAMs_20 07 04 58.7
comp=Z,2µm,19.0s
H21K Melozitna Rive 87.45 12 P **P** 06 24 30.4 +1.4
baz=209
WRH Wood River Hil 87.47 15 IAMs_20 IAMs_20 06 55 53.4
comp=Z,3µm,22.0s
BMO Blue Mountains 87.48 41 P **P** 06 24 30.0 +0.3
BMO IAmb IAmb 06 24 34.4
comp=Z,78nm,1.7s
BMO Blue Mountains 87.48 41 P **P** 06 24 30.0 +0.3
BMO pmax pmax
comp=Z,78nm,1.7s
K24K Donnelly Dome 87.50 16 P **P** 06 24 30.3 +1.0
baz=216
L26K Log Cabin Wild 87.53 17 IAMs_20 IAMs_20 07 03 21.1
comp=Z,2µm,21.0s
L26K Log Cabin Wild 87.53 17 P **P** 06 24 29.4 0.0
baz=218
LZH Lanzhou 87.55 309 ⇓P **P** **06 24 31.0 +0.6**
LZH sP pwP 06 24 40.8 +3.1
LZH S **S** **06 35 08.3 -3.5**
LZH sS ScS 06 35 21.0 +2.3
LZH pmax pmax
comp=Z,84nm,1.5s
LZH pmax pmax
comp=Z,960nm,7.2s
LZH LR LR
comp=Z,3µm,19.2s
LZH LR LR
comp=Z,5µm,19.6s
LZH LR LR
comp=Z,8µm,17.5s
ELIB Princess Elisa 87.58 188 *d*P **P** **06 24 28.6 -1.3**
comp=Z,32nm,1.1s
CCB Clear Creek Bu 87.69 15 P **P** **06 24 29.5 -0.6**
CCB IAMs_20 IAMs_20 06 55 48.1
comp=Z,3µm,21.0s
RIDG Independent Ri 87.69 16 IAMs_20 IAMs_20 07 05 23.3
comp=Z,2µm,20.0s
HDA Harding Lake 87.70 15 IAMs_20 IAMs_20 06 55 48.5
comp=Z,2µm,22.0s
HDA Harding Lake 87.70 15 P **P** **06 24 31.0 +0.8**
baz=215
MFID Camas Ranch 87.71 42 P **P** **06 24 31.7 +0.8**
MFID IAmb IAmb 06 24 42.4
comp=Z,46nm,1.2s
I23K Minto, Yukon-K 87.75 14 P **P** **06 24 29.6 -0.8**
baz=212
BVCY Beaver Creek 87.77 18 P **P** **06 24 32.3 +1.7**
baz=220
MDM Murphy Dome 87.85 14 IAMs_20 IAMs_20 06 56 17.4
comp=Z,3µm,22.0s
TCOL CIGO, UAF Yank 87.86 14 P **P** **06 24 29.8 -1.2**
TCOL IAmb IAmb 06 25 10.6
comp=Z,64nm,1.9s
TCOL IAMs_20 IAMs_20 06 56 16.8
comp=Z,3µm,22.0s
TCOL CIGO, UAF Yank 87.86 14 P **P** **06 24 31.1 +0.1**
baz=214
COLA College 87.87 14 P **P** **06 24 29.9 -1.0**
COLA College 87.87 14 IAMs_20 IAMs_20 06 56 04.8
comp=Z,3µm,22.0s
COLA College 87.87 14 P **P** **06 24 31.6 +0.7**
baz=214
COLA College 87.87 14 P **P** **06 24 30.2 -0.7**
COLA College 87.87 14 *i*P **P** **06 24 29.6 -1.3**
COLA pmax pmax
comp=Z,15nm,1.1s
H22K Ishtalitna Cre 87.95 13 P **P** **06 24 33.1 +1.7**
baz=210
S34M Telegraph Cree 87.96 25 P **P** **06 24 34.4 +2.8**
baz=229
L27K Beaver Creek, 87.98 18 P **P** **06 24 32.3 +0.6**
baz=219
RDOG Red Dog Mine 87.99 8 IAMs_20 IAMs_20 07 04 28.5
comp=Z,2µm,22.0s
IL31 88.01 15 P **P** **06 24 30.4 -1.3**
ILAR Eielson Array 88.01 15 P **P** **06 24 30.5 -1.2**
comp=Z,3.8nm,0.8s,baz=228,slow=4.6,SNR=18
ILAR LR LR 06 57 44.7
comp=Z,2µm,20.7s,baz=224,slow=31
comp=Z,3.8nm,0.8s
ILAR Eielson Array 88.01 15 P **P** **06 24 30.8 -0.9**
ILAR Eielson Array 88.01 15 P **P** **06 24 30.8 -0.9**
B08A Colville Reser 88.06 37 P **P** **06 24 33.4 +1.1**
G21K Allakaket 88.07 12 P **P** **06 24 29.8 -2.2**
baz=208
F10A Beach Ranch, E 88.08 40 P **P** **06 24 32.9 +0.3**
P32M Atlin 88.10 23 P **P** **06 24 30.7 -1.6**
baz=227
SCRK Sand Creek 88.11 16 IAMs_20 IAMs_20 07 05 46.3
comp=Z,2µm,20.0s
SCRK Sand Creek 88.11 16 P **P** **06 24 31.4 -0.9**
baz=217
POKR Poker Plat Res 88.17 14 IAMs_20 IAMs_20 06 58 00.8
comp=Z,3µm,20.0s
POKR Poker Plat Res 88.17 14 P **P** **06 24 32.4 0.0**
baz=214
Q32M Nakina River 88.21 24 P **P** **06 24 32.7 -0.3**
baz=228
DUG Dugway, Tooele 88.22 46 IAMs_20 IAMs_20 06 57 28.3
comp=Z,2µm,20.0s
DUG Dugway, Tooele 88.22 46 P **P** **06 24 35.3 +1.9**
baz=244
W18A Petrified Fore 88.25 52 P **P** **06 24 32.3 -1.5**
baz=246
MND Mandalay 88.28 294 P **P** **06 24 34.9 +0.9**
USHA Ushuaia 88.38 148 LR LR 06 54 41.8
comp=Z,2µm,21.4s,baz=226,slow=29
PLID Pearl Lake 88.40 41 P **P** **06 24 34.0 -0.3**
PLID IAMs_20 IAMs_20 06 59 49.3
comp=Z,2µm,19.0s
WHY Whitehorse 88.42 22 P **P** **06 24 33.7 -0.2**
baz=226
M29M Somme Creek 88.53 19 P **P** **06 24 33.4 -0.9**
baz=222
J26L Joseph Creek 88.64 16 P **P** **06 24 34.2 -0.6**
J26L IAmb IAmb 06 24 45.0
comp=Z,36nm,1.6s
J26L Joseph Creek 88.64 16 P **P** **06 24 36.2 +1.4**
baz=218
H24K Noodor Dome 88.67 14 IAMs_20 IAMs_20 06 58 47.9
comp=Z,2µm,20.0s
H24K Noodor Dome 88.67 14 P **P** **06 24 37.2 +2.4**
baz=214
YAK Yakutsk 88.67 340 P **P** **06 24 34.3 -0.5**
comp=Z,25nm,0.8s,baz=156,slow=1.2,SNR=7.7
YAK LR LR 06 57 50.8
comp=Z,2µm,21.6s,baz=132,slow=31
comp=Z,25nm,0.8s
YAK Yakutsk 88.67 340 P **P** **06 24 34.0 -0.8**
YAK IAMs_20 IAMs_20 06 57 28.0
comp=Z,2µm,22.0s
YAK Yakutsk 88.67 340 *e*P **P** **06 24 33.1 -1.7**
YAK *e* 06 27 58.9
YAK *e*PPP PPP 06 29 57.6
YAK *e*S **SKSac** **06 34 56.5 -6.9**
YAK *e*'SS **sS** **06 35 25.0 -2.0**
YAK *e*SS **SS** **06 41 06.5 -6.2**
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=N,15nm,1.6s
YAK pmax pmax
comp=E,14nm,1.5s
YAK pmax pmax
comp=Z,428nm,4.8s
YAK pmax pmax
comp=N,247nm,4.1s
YAK pmax pmax
comp=E,144nm,3.9s
YAK smax smax
comp=N,125nm,4.1s
YAK smax smax
comp=E,102nm,3.7s
HLID Hailey 88.69 43 P **P** **06 24 36.8 +1.1**
baz=242
121A Cookes Peak, D 88.69 55 P **P** **06 24 36.3 +0.4**
baz=247
121A Cookes Peak, D 88.69 55 P **P** **06 24 35.8 -0.1**
baz=247
F21K Alatna River 88.70 11 P **P** **06 24 34.9 0.0**
baz=209
N31M Braeburn, Yuko 88.70 21 IAMs_20 IAMs_20 07 04 32.5
comp=Z,2µm,19.0s
N31M Braeburn, Yuko 88.70 21 P **P** **06 24 35.7 +0.6**
baz=225
DLBC Dease Lake 88.75 25 LR LR 06 59 31.9
comp=Z,1µm,19.0s,baz=262,slow=32
DLBC Dease Lake 88.75 25 P **P** **06 24 35.9 +0.5**
baz=230
G22K Bettles 88.81 12 P **P** **06 24 37.4 +2.0**
baz=210
G23K Bananza Creek 88.94 13 P **P** **06 24 38.2 +2.1**
baz=212
PRP Porcupine Dome 88.96 15 IAMs_20 IAMs_20 06 56 47.7
comp=Z,3µm,22.0s
PRP Porcupine Dome 88.96 15 P **P** **06 24 38.3 +2.0**
baz=216
R33M Jennings River 89.00 24 P **P** **06 24 37.1 +0.5**
baz=229
L29M L29M 89.12 19 P **P** **06 24 34.8 -2.3**
baz=223
M30M Minto, Yukon 89.15 20 IAMs_20 IAMs_20 06 59 49.3
comp=Z,2µm,20.0s
M30M Minto, Yukon 89.15 20 P **P** **06 24 35.6 -1.6**
baz=224
F22K John River 89.19 12 P **P** **06 24 36.5 -0.8**
baz=210
TROLL Troll, Antarti 89.27 182 P **P** **06 24 36.8 -1.1**
NEW Newport 89.28 38 LR LR 06 59 26.0
comp=Z,934nm,19.6s,baz=232,slow=32
NEW Newport 89.28 38 P **P** **06 24 36.3 -1.8**
baz=240
COLD Coldfoot 89.34 12 P **P** **06 24 36.5 -1.5**
baz=212
I26K Coal Creek Min 89.38 16 IAMs_20 IAMs_20 07 06 06.1
comp=Z,2µm,20.0s
I26K Coal Creek Min 89.38 16 P **P** **06 24 35.2 -2.9**
baz=218
KIDD KIDD Seismic O 89.40 56 P **P** **06 24 39.6 +0.5**
baz=248
EPT El Paso 89.40 56 IAMs_20 IAMs_20 06 58 45.9
comp=Z,3µm,19.0s
DAWY Dawson 89.46 18 P **P** **06 24 37.5 -1.1**
DAWY Dawson 89.46 18 P **P** **06 24 34.9 -3.7**
baz=222
EGAK Eagle 89.50 17 P **P** **06 24 38.3 -0.4**
EGAK IAmb IAmb 06 24 48.6
comp=Z,57nm,1.6s
EGAK IAMs_20 IAMs_20 06 57 43.3
comp=Z,2µm,21.0s
EGAK Eagle 89.50 17 P **P** **06 24 34.3 -4.3**
baz=220
M31M Drury Creek, Y 89.67 21 IAMs_20 IAMs_20 06 59 26.3
comp=Z,3µm,19.0s
M31M Drury Creek, Y 89.67 21 P **P** **06 24 40.3 +0.7**
baz=226
SNAA Sanae 89.70 180 P **P** **06 24 38.4 -1.4**
SNAA Sanae 89.70 180 LR LR 07 03 53.3
comp=Z,485nm,18.0s,baz=187,slow=35
SNAA Sanae 89.70 180 P **P** **06 24 38.9 -1.0**
SNAA IAmb IAmb 06 24 48.6
comp=Z,33nm,1.3s
SNAA Sanae 89.70 180 *i*P **P** **06 24 36.6 -3.3**
SNAA pmax pmax
comp=Z,27nm,1.3s
K29M Barlow Dome 89.85 19 P **P** **06 24 41.0 +0.4**
baz=223
Y22A Socorro 89.87 54 P **P** **06 24 41.8 +0.4**
baz=247
FYU Fort Yukon 89.88 14 IAMs_20 IAMs_20 06 58 32.0
comp=Z,3µm,21.0s
NVL N'lazarevskaya 89.96 185 *e*P **P** **06 24 38.6 -2.3**
NVL *e*S **SKSac** **06 35 08.9 -2.3**
NVL pmax pmax
comp=Z,28nm,1.0s
NVL MLR MLR
comp=Z,839nm,17.0s
Y22D IRIS PASSCAL I 89.96 54 IAMs_20 IAMs_20 06 58 09.5
comp=Z,3µm,20.0s
MVCO Mesa Verde 90.02 51 IAMs_20 IAMs_20 07 00 50.4
comp=Z,2µm,18.0s
MVCO Mesa Verde 90.02 51 P **P** **06 24 41.3 -0.8**
baz=246
I27K Kandik River 90.02 16 P **P** **06 24 42.3 +1.1**
baz=220
VNA3 Neumayer Olymp 90.04 178 P **P** **06 24 39.7 -1.7**
FARO Faro, Yukon 90.05 21 P **P** **06 24 42.1 +0.7**
baz=227
F24K Squaw Lake 90.07 13 P **P** **06 24 40.6 -0.8**
baz=214
J29M Klondike Camp 90.09 18 IAMs_20 IAMs_20 07 02 06.0
comp=Z,2µm,18.0s
MNTX Cornudas Mount 90.26 57 IAMs_20 IAMs_20 06 58 45.7
comp=Z,3µm,19.0s
MNTX Cornudas Mount 90.26 57 P **P** **06 24 44.3 +1.2**
baz=248
MNTX Cornudas Mount 90.26 57 P **P** **06 24 43.2 +0.1**
baz=248
WTLY Watson Lake, Y 90.31 24 P **P** **06 24 44.8 +2.1**
baz=231
VNA2 Neumayer--Watz 90.42 179 P **P** **06 24 41.0 -2.1**
baz=205,slow=3.0
MSO Missoula 90.49 40 IAMs_20 IAMs_20 06 58 23.4
comp=Z,2µm,21.0s
MSO Missoula 90.49 40 P **P** **06 24 45.7 +1.8**
baz=243
H27K Steamboat Moun 90.53 16 P **P** **06 24 44.3 +0.7**
baz=220
ANMO Albuquerque 90.65 53 LR LR 06 58 25.4
comp=Z,3µm,19.9s,baz=340,slow=31
ANMO Albuquerque 90.65 53 P **P** **06 24 46.2 +1.2**
ANMO IAmb IAmb 06 24 51.0
comp=Z,45nm,1.4s
ANMO Albuquerque 90.65 53 IAMs_20 IAMs_20 06 57 53.6
comp=Z,3µm,20.0s
ANMO Albuquerque 90.65 53 P **P** **06 24 46.3 +1.2**
baz=248
ANMO Albuquerque 90.65 53 P **P** **06 24 46.7 +1.7**
baz=248
ANMO Albuquerque 90.65 53 *ce*P **P** **06 24 43.4 -1.7**
ANMO pmax pmax
comp=Z,42nm,1.4s
ULN Ulaanbaatar 90.67 321 P **P** **06 24 43.8 -1.0**
ULN IAmb IAmb 06 24 54.7
comp=Z,27nm,1.2s
ULN Ulaanbaatar 90.67 321 IAMs_20 IAMs_20 07 02 42.4
comp=Z,2µm,22.0s
ULN Ulaanbaatar 90.67 321 *ce*P **P** **06 24 43.0 -1.8**
ULN pmax pmax
comp=Z,27nm,1.2s
VNA1 Neumayer--Stat 90.67 178 P **P** **06 24 44.2 -0.1**
I29M Ogilvie Camp, 90.74 17 IAMs_20 IAMs_20 07 05 09.0
comp=Z,2µm,20.0s
I29M Ogilvie Camp, 90.74 17 P **P** **06 24 46.0 +1.5**
baz=222
D23K Nanushuk River 90.74 11 P **P** **06 24 46.3 +1.9**
baz=211
TX31 Lajitas Ar. Si 90.77 59 P **P** **06 24 47.3 +1.7**
baz=249
REDW Red Top Meadow 90.92 44 P **P** **06 24 47.1 +1.0**
REDW IAmb IAmb 06 24 52.0
comp=Z,57nm,1.4s
COYC Coyhaique 90.94 139 P **P** **06 24 48.0 +1.9**
COYC IAmb IAmb 06 24 57.5
comp=Z,51nm,1.4s
COYC Coyhaique 90.94 139 IAMs_20 IAMs_20 06 56 30.0
comp=Z,3µm,21.0s
G27K Doyon Strip 90.94 15 P **P** **06 24 46.9 +1.5**
baz=220
SONM Songino Array 91.05 321 P **P** **06 24 46.4 -0.1**
comp=Z,2.7nm,0.8s,baz=133,slow=4.9,SNR=11
SONM LR LR 07 06 32.2
comp=Z,1µm,18.1s,baz=122,slow=36
comp=Z,2.7nm,0.8s
SONM Songino Array 91.05 321 P **P** **06 24 45.4 -1.1**
O20A White River Ci 91.37 48 P **P** **06 24 50.2 +1.9**
baz=247
BOZ Bozeman (W) 91.38 42 IAMs_20 IAMs_20 07 00 43.1
comp=Z,2µm,20.0s
BOZ Bozeman (W) 91.38 42 P **P** **06 24 49.8 +1.7**
baz=244
S22A 4UR Ranch, Cre 91.45 51 P **P** **06 24 50.8 +1.9**
baz=247
BW06 Boulder Array 91.53 45 IAMs_20 IAMs_20 07 02 02.7
comp=Z,2µm,18.0s
BW06 Boulder Array 91.53 45 P **P** **06 24 49.0 0.0**
baz=246,SNR=12
PD31 Pinedale Array 91.53 45 P **P** **06 24 49.1 +0.1**
PDAR Pinedale Array 91.53 45 P **P** **06 24 49.9 +0.8**
comp=Z,2.4nm,0.8s,baz=224,slow=3.9,SNR=18
PDAR PP **PP** **06 28 24.0 -3.4**
comp=Z,0.2nm,0.6s,baz=258,slow=7.1,SNR=2.1
PDAR LR LR 07 01 56.3
comp=Z,2µm,18.2s,baz=252,slow=33
comp=Z,2.4nm,0.8s
PDAR Pinedale Array 91.53 45 P **P** **06 24 48.9 -0.2**
H17A Grant Village 91.54 43 P **P** **06 24 51.3 +2.3**
baz=245
LKWY Lake 91.72 43 IAMs_20 IAMs_20 07 00 52.5
comp=Z,2µm,21.0s
C24K Franklin Bluff 91.76 12 P **P** **06 24 48.3 -0.7**
baz=213
GTA Gaotai 91.82 311 *e*P **P** **06 24 50.0 -0.3**
GTA sP pwP 06 24 57.9 +0.3
GTA S **S** **06 35 53.6 +2.3**
GTA pmax pmax
comp=Z,16nm,1.6s
GTA pmax pmax
comp=Z,610nm,7.0s
GTA LR LR
comp=Z,1µm,23.3s
GTA LR LR
comp=Z,1µm,23.6s
GTA LR LR
comp=Z,4µm,24.7s
A21K Barrow 91.86 8 IAMs_20 IAMs_20 07 01 16.9
comp=Z,2µm,20.0s
EPYK Eagle Plains 91.92 17 P **P** **06 24 50.3 +0.3**
baz=224
E27K Coleen River 92.03 15 P **P** **06 24 48.9 -1.6**
baz=220
BOD Bodaibo 92.06 332 *e*P **P** **06 24 51.3 +0.6**
BOD pmax pmax
comp=Z,21nm,2.0s
KOTAN Kotaneelee Air 92.21 26 P **P** **06 24 52.6 +1.2**
baz=235
BRDH Bariadhala 92.40 293 LR LR 07 04 54.0
comp=Z,1µm,22.0s,baz=99,slow=35
SDCO Great Sand Dun 92.42 51 IAMs_20 IAMs_20 07 03 19.1
comp=Z,2µm,18.0s
SDCO Great Sand Dun 92.42 51 P **P** **06 24 54.3 +1.0**
baz=248
SDCO Great Sand Dun 92.42 51 P **P** **06 24 55.1 +1.8**
baz=248,SNR=18
G30M tAoh Zraii Nji 92.50 17 P **P** **06 24 50.4 -2.3**
baz=224
C26K Camden Bay 92.67 13 P **P** **06 24 54.4 +1.2**
baz=216
C27K Jago River 92.68 13 P **P** **06 24 55.6 +2.2**
baz=218
RLMT Red Lodge 92.69 43 IAMs_20 IAMs_20 06 59 16.0
comp=Z,2µm,20.0s
RLMT Red Lodge 92.69 43 P **P** **06 24 56.0 +1.8**
baz=246
RWWY Rawlins 92.70 47 IAMs_20 IAMs_20 07 00 44.9
comp=Z,3µm,20.0s
T25A Trinidad 93.00 52 P **P** **06 24 55.1 -0.9**
baz=249,SNR=5.6
PAYG Puerto Ayora 93.01 92 IAMs_20 IAMs_20 06 56 11.8
comp=Z,2µm,20.0s
ISCO Idaho Springs 93.11 49 P **P** **06 24 57.6 +1.1**
baz=248
ISCO Idaho Springs 93.11 49 P **P** **06 24 55.5 -0.9**
baz=248,SNR=6.4
MSTX Muleshoe 93.12 55 P **P** **06 24 57.9 +1.5**
baz=250
MSTX Muleshoe 93.12 55 P **P** **06 24 57.1 +0.7**
baz=250
Q24A Divide 93.13 50 P **P** **06 24 56.4 -0.2**
baz=248,SNR=5.4
N23A Red Feather La 93.28 48 P **P** **06 24 53.4 -3.8**
baz=248
F31M Tsiigehtchic 93.52 17 P **P** **06 24 54.3 -3.0**
baz=227
K22A Casper 93.54 46 P **P** **06 24 59.9 +1.6**
baz=248
K22A Casper 93.54 46 P **P** **06 24 55.3 -2.9**
baz=248
EGMT Eagleton 93.57 40 P **P** **06 24 54.0 -4.1**
baz=246
ZAK Zakamensk 94.00 322 *e*P **P** **06 24 57.7 -2.4**
ZAK pmax pmax
comp=Z,6.0nm,1.7s
INK Inuvik 94.17 17 P **P** **06 25 01.0 +0.7**
comp=Z,7.9nm,1.2s,baz=202,slow=5.4,SNR=7.5
INK PP **PP** **06 28 43.5 -3.7**
comp=Z,1.1nm,0.9s,baz=231,slow=10.0,SNR=4.7
INK LR LR 07 00 18.4
comp=Z,1µm,21.8s,baz=235,slow=31
comp=Z,7.9nm,1.2s
INK Inuvik 94.17 17 P **P** **06 24 59.9 -0.3**
INK IAmb IAmb 06 25 09.6
comp=Z,48nm,1.6s
INK Inuvik 94.17 17 P **P** **06 25 02.6 +2.4**
baz=227
INK Inuvik 94.17 17 P **P** **06 24 59.9 -0.3**
INK pmax pmax
comp=Z,48nm,1.6s
WRGLY Wrigley 94.22 23 P **P** **06 24 58.2 -2.3**
baz=236
PLCA Paso Flores 94.24 136 P **P** **06 25 03.2 +1.6**
comp=Z,6.5nm,1.1s,baz=248,slow=3.7,SNR=5.9
PLCA LR LR 06 57 52.8
comp=Z,2µm,21.1s,baz=253,slow=29
comp=Z,6.5nm,1.1s
AMTX Amarillo 94.29 55 IAMs_20 IAMs_20 06 59 51.1
comp=Z,2µm,21.0s
AMTX Amarillo 94.29 55 P **P** **06 25 03.0 +1.3**
baz=250
AMTX Amarillo 94.29 55 P **P** **06 25 01.0 -0.8**
baz=250
CMIG Matias Romero 94.30 74 LR LR 06 58 25.4
comp=Z,4µm,20.7s,baz=260,slow=30
JCT Junction City 94.31 59 P **P** **06 25 03.1 +1.2**
baz=251
JCT Junction City 94.31 59 P **P** **06 24 59.7 -2.2**
baz=251
GOMU GeErMu 94.33 307 P **P** **06 25 03.3 +1.0**
GOMU pP pwP 06 25 07.9 -1.7
GOMU sP sP 06 25 09.5 +2.4
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU pmax pmax
comp=Z,400nm,8.2s
GOMU LR LR
comp=Z,1µm,21.0s
GOMU LR LR
comp=Z,2µm,20.4s
GOMU LR LR
comp=Z,2µm,20.1s
KVTX Kingsville 94.95 63 IAMs_20 IAMs_20 07 05 41.8

comp=Z,2µm,18.0s
KSCO Kaye Shedlock' 94.98 51 P **P 06 25 05.8 +0.9**
baz=250
KSCO Kaye Shedlock' 94.98 51 P **P 06 25 03.4 -1.5**
baz=250
LSA Lhasa 95.09 299 IAMs_20 IAMs_20 07 05 02.1
comp=Z,2µm,20.0s
ABTX Abilene, Hawle 95.14 57 P **P 06 25 06.9 +1.3**
baz=251
ABTX Abilene, Hawle 95.14 57 P **P 06 25 04.1 -1.5**
baz=251
LAO LASA Array 95.26 42 IAMs_20 IAMs_20 07 03 05.9
comp=Z,2µm,20.0s
LAO LASA Array 95.26 42 P **P 06 25 06.7 +0.8**
baz=248
LAO LASA Array 95.26 42 P **P 06 25 04.6 -1.3**
baz=248
EFI East Falkland 95.28 149 IAMs_20 IAMs_20 06 57 58.6
comp=Z,3µm,22.0s
RSSD Black Hills 95.77 45 P **P 06 25 08.7 +0.2**
RSSD IAmb IAmb 06 25 13.2
comp=Z,36nm,1.6s
RSSD Black Hills 95.77 45 IAMs_20 IAMs_20 07 00 35.8
comp=Z,2µm,22.0s
RSSD Black Hills 95.77 45 P **P 06 25 09.2 +0.7**
baz=250
RSSD Black Hills 95.77 45 P **P 06 25 09.9 +1.4**
baz=250
RSSD Black Hills 95.77 45 P **P 06 25 08.7 +0.2**
RSSD pmax pmax
comp=Z,36nm,1.6s
TIXI Tiksi 95.85 346 LR LR 07 02 45.0
comp=Z,3µm,21.9s,baz=90,slow=32
TIXI Tiksi 95.85 346 P **P 06 25 06.6 -1.2**
TIXI IAmb IAmb 06 25 16.6
comp=Z,23nm,1.5s
TIXI IAMs_20 IAMs_20 07 02 00.1
comp=Z,3µm,22.0s
TIXI Tiksi 95.85 346 *i* P **P 06 25 05.9 -1.9**
TIXI pmax pmax
comp=Z,17nm,1.5s
OGNE Ogallala 96.07 49 IAMs_20 IAMs_20 07 06 28.3
comp=Z,1µm,19.0s
WMOK Wichita Mounta 96.49 56 IAMs_20 IAMs_20 07 01 17.7
comp=Z,3µm,21.0s
WMOK Wichita Mounta 96.49 56 P **P 06 25 12.7 +0.9**
baz=252
WMOK Wichita Mounta 96.49 56 P **P 06 25 11.0 -0.8**
baz=252
U32A Winter Ranch, 96.84 54 P **P 06 25 13.9 +0.6**
baz=252
CBKS Cedar Bluff 97.05 52 IAMs_20 IAMs_20 07 02 33.7
comp=Z,2µm,20.0s
CBKS Cedar Bluff 97.05 52 P Pdif 06 25 15.3 +1.0
baz=252
CBKS Cedar Bluff 97.05 52 P Pdif 06 25 15.5 +1.3
baz=252
DGMT Dagmar 97.18 41 P **P 06 25 12.5 -2.0**
baz=250
YKA Yellowknife Ar 97.33 26 P **P 06 25 14.2 -0.6**
comp=Z,1.5nm,0.8s,baz=248,slow=4.3,SNR=16
YKA PP **PP 06 29 12.9 +1.1**
comp=Z,0.9nm,1.1s,baz=246,slow=7.7,SNR=4.6
comp=Z,1.5nm,0.8s
C36M Paulatuk 97.50 18 P **P 06 25 14.4 -1.0**
baz=236
OK032 Salt Plains WL 97.57 54 IAMs_20 IAMs_20 07 03 42.0
comp=Z,2µm,20.0s
PALK Pallekele 97.59 275 IAMs_20 IAMs_20 07 08 46.3
comp=Z,2µm,21.0s
R32A Long Quarter, 97.69 52 P Pdif 06 25 18.1 +1.0
baz=252
PEL Peldehue 97.80 129 IAMs_20 IAMs_20 07 01 48.6
comp=Z,1µm,21.0s
OK025 Westminster Rd 97.88 55 IAMs_20 IAMs_20 07 02 14.2
comp=Z,3µm,21.0s
OK033 Mehan 98.33 55 IAMs_20 IAMs_20 07 02 09.0
comp=Z,3µm,21.0s
OK031 S. Brethren Rd 98.38 55 IAMs_20 IAMs_20 07 02 20.4
comp=Z,3µm,21.0s
OK050 Pawnee Station 98.39 55 IAMs_20 IAMs_20 07 03 57.8
comp=Z,3µm,20.0s
OK048 Pawnee Station 98.43 55 IAMs_20 IAMs_20 07 04 27.8
comp=Z,3µm,19.0s
OK046 Pawnee Station 98.45 55 IAMs_20 IAMs_20 07 02 33.4
comp=Z,3µm,21.0s
A36M Sachs Harbour 98.69 16 **P 06 25 19.5 -1.2**
A36M Sachs Harbour 98.69 16 P **P 06 25 18.2 -2.5**
baz=235
T35B Sooner Cattle 98.91 54 P Pdif 06 25 23.9 +1.3
baz=253
TUL1 Leonard 99.18 55 IAMs_20 IAMs_20 07 04 47.6
comp=Z,1µm,19.0s
KSU1 Kansas State U 99.46 52 IAMs_20 IAMs_20 07 03 54.6
comp=Z,3µm,20.0s
LCO Las Campanas 99.73 125 IAMs_20 IAMs_20 06 59 08.4
comp=Z,2µm,22.0s
TGUH Tegucigalpa,Un 100.39 79 IAMs_20 IAMs_20 07 00 12.1
comp=Z,3µm,21.0s
FFC Flin Flon 100.52 36 IAMs_20 IAMs_20 07 04 25.0
comp=Z,2µm,21.0s
TEIG Tepich 101.21 72 IAMs_20 IAMs_20 07 01 57.0
comp=Z,3µm,22.0s
JTS Las Juntas de 101.46 83 IAMs_20 IAMs_20 07 02 26.9
comp=Z,2µm,19.0s
WMQ Urumqi 101.83 312 ⇑*i* P **Pdif 06 25 35.3 -0.2**
WMQ S **Sdif 06 37 14.3 -2.8**
WMQ SS **SS 06 44 16.8 -4.1**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ LR LR
comp=Z,800nm,15.1s
WMQ LR LR
comp=Z,2µm,20.1s
WMQ LR LR
comp=Z,3µm,27.7s
HDC Heredia 102.16 83 IAMs_20 IAMs_20 07 03 26.7
comp=Z,2µm,20.0s
VBMS Vicksburg 102.41 60 IAMs_20 IAMs_20 07 05 52.1
comp=Z,2µm,20.0s
AGMN Agassiz Nation 102.43 43 IAMs_20 IAMs_20 07 07 09.7
comp=Z,2µm,20.0s
SCIA State Center 102.69 50 IAMs_20 IAMs_20 07 12 45.8
comp=Z,2µm,18.0s
LVC Limon Verde 104.12 120 IAMs_20 IAMs_20 07 03 52.7
comp=Z,2µm,22.0s
HMDM Hanimaadhoo 104.55 272 IAMs_20 IAMs_20 07 10 51.8
comp=Z,3µm,21.0s
BRAL Brewton 105.03 62 IAMs_20 IAMs_20 07 08 59.8
comp=Z,2µm,20.0s
JFWS Jewell Farm 105.06 49 IAMs_20 IAMs_20 07 11 22.3
comp=Z,2µm,19.0s
EYMN Ely 105.20 44 IAMs_20 IAMs_20 07 18 30.3
comp=Z,1µm,18.0s
HDIL Hopedale 105.27 52 IAMs_20 IAMs_20 07 13 52.5
comp=Z,2µm,18.0s
WVT Waverly 105.48 57 P **PKiKP 06 30 03.8 -1.6**
baz=258
LRAL Lakeview Retre 105.49 60 IAMs_20 IAMs_20 07 09 43.6
comp=Z,2µm,20.0s
LRAL Lakeview Retre 105.49 60 P **PKiKP 06 30 05.2 -0.2**
baz=258
MKAR Makanchi Array 106.20 314 Pdiff **Pdif 06 25 54.3 -0.5**
comp=Z,1.3nm,0.8s,baz=98,slow=4.4,SNR=9.4
MKAR PKKPbc **PKKPbc 06 41 24.5 -4.6**
comp=Z,0.3nm,0.7s,baz=323,slow=0.7,SNR=1.1
MKAR PKKPab **PKKPdf 06 41 41.8 +0.6**
comp=Z,1.5nm,1.1s,baz=254,slow=3.1,SNR=4.4
MAKZ Makanchi 106.42 314 IAMs_20 IAMs_20 07 10 27.9
comp=Z,2µm,22.0s
HQIL Hanson Quary C 106.58 51 IAMs_20 IAMs_20 07 14 37.0
comp=Z,2µm,18.0s
WCI Wyandotte Cave 107.10 55 IAMs_20 IAMs_20 07 09 14.3
comp=Z,2µm,20.0s
KURK Kurchatov 109.18 318 IAMs_20 IAMs_20 07 19 11.4
comp=Z,1µm,19.0s
KURBB Kurchatov Arra 109.23 318 PKKPbc PKKPbc 06 41 20.2 +0.6
comp=Z,1.3nm,0.9s,baz=273,slow=4.1,SNR=8.1
AAM Ann Arbor 109.75 51 IAMs_20 IAMs_20 07 14 11.7
comp=Z,2µm,18.0s
MTDJ Mount Denham 110.51 77 IAMs_20 IAMs_20 07 06 06.1
comp=Z,2µm,21.0s
AAK Ala-Archa 111.09 309 PKKPbc PKKPbc 06 41 13.4 -0.1
comp=Z,9.8nm,1.1s,baz=302,slow=5.7,SNR=10
AAK Ala-Archa 111.09 309 IAMs_20 IAMs_20 07 19 36.5
comp=Z,2µm,19.0s
NHSC New Hope 111.13 61 IAMs_20 IAMs_20 07 10 21.0
comp=Z,2µm,22.0s

M53A WI Miller and 111.85 52 IAMs_20 IAMs_20 07 10 12.7
comp=Z,2µm,21.0s
TULEG Thule 113.93 13 IAMs_20 IAMs_20 07 14 01.5
comp=Z,1µm,20.0s
BVAR Borovoye Array 114.39 320 PKP PKPdf 06 30 20.5 -1.1
comp=Z,1.1nm,0.7s,baz=108,slow=0.5,SNR=5.6
BRVK Borovoye 114.45 320 IAMs_20 IAMs_20 07 21 54.5
comp=Z,1µm,18.0s
SDV Santo Domingo 114.57 89 IAMs_20 IAMs_20 07 11 17.0
comp=Z,1µm,21.0s
BINY Binghamton 115.41 52 IAMs_20 IAMs_20 07 14 42.6
comp=Z,2µm,20.0s
VOI Vohitsoka 116.13 233 IAMs_20 IAMs_20 07 16 40.1
comp=Z,1µm,21.0s
LONY Lake Ozonia 116.51 49 IAMs_20 IAMs_20 07 19 00.2
comp=Z,2µm,18.0s
ABPO Ambohimpanom 117.43 236 IAMs_20 IAMs_20 07 16 42.8
comp=Z,2µm,20.0s
KBS Kingsbay 119.44 357 IAMs_20 IAMs_20 07 18 26.1
comp=Z,1µm,22.0s
SVE Sverdlovsk 119.60 325 *i* PKIKP **PKPdf 06 30 30.9 -0.6**
SVE MLR MLR
comp=Z,2µm,22.0s
ARU Arti 120.80 325 PKP **PKPdf 06 30 32.6 -1.3**
comp=Z,3.1nm,0.5s,baz=53,slow=2.5,SNR=6.7
ARU Arti 120.80 325 IAMs_20 IAMs_20 07 21 14.7
comp=Z,2µm,22.0s
ARU Arti 120.80 325 *i* PKIKP **PKPdf 06 30 31.9 -2.0**
ARU 06 31 58.0
ARU 06 37 43.7
ARU MLR MLR
comp=Z,2µm,21.0s
AKTO Aktyubinsk 122.28 318 PKP **PKPdf 06 30 36.0 -0.9**
comp=Z,3.7nm,0.8s,baz=29,slow=1.0,SNR=10
AKTO Aktyubinsk 122.28 318 PKIKP **PKPdf 06 30 36.0 -0.9**
GEYT Alibeck 123.39 303 PKP **PKPdf 06 30 38.7 -0.8**
comp=Z,3.8nm,0.7s,baz=22,slow=1.6,SNR=6.3
SEUS St. Eustatius 123.89 81 IAMs_20 IAMs_20 07 13 09.0
comp=Z,2µm,22.0s
BDFB Brasilia 124.52 125 PKP **PKPdf 06 30 41.8 -0.6**
comp=Z,3.6nm,0.8s,baz=180,slow=6.4,SNR=6.1
KIRV Kirov 124.85 329 PKP **PKPdf 06 30 40.1 -1.4**
comp=Z,7.3nm,0.4s,baz=276,slow=1.7,SNR=4.5
BOSA Boshof 125.13 211 PKP **PKPdf 06 30 42.8 -0.5**
comp=Z,13nm,1.2s,baz=192,slow=3.8,SNR=5.0
PRGR Permogore 125.24 334 *e*PKIKP **PKiKP 06 30 44.3 +1.7**
ARCES ARCESS Array B 126.26 348 PKP **PKPdf 06 30 43.3 -0.7**
comp=Z,4.7nm,0.8s,baz=100,slow=1.0,SNR=4.3
BELG Belogornoye 128.07 323 PKP **PKPdf 06 30 46.8 -1.1**
comp=Z,28nm,1.2s,baz=226,slow=1.7,SNR=9.3
KLMR Klimovskoe 128.17 335 *e*PKPdf **PKiKP 06 30 49.4 +1.0**
KLMR AMP 06 30 58.5
comp=Z,44nm,1.6s
KLMR LQ LQ 07 10 20.0
KLMR LQ LQ 07 10 20.0
KLMR LR LR 07 14 43.4
KLMR AMP 07 23 07.3
comp=Z,3µm,17.9s
KLMR Klimovskoe 128.17 335 *e*PKIKP **PKiKP 06 30 49.4 +1.0**
KLMR pmax pmax
comp=Z,44nm,1.6s
MAK Makhachkala 130.83 311 *i* PKIKP **PKPdf 06 30 46.6 -6.8**
MAK pmax pmax
comp=Z,251nm,1.2s
MOS Moscow 131.85 330 *i* PKIKP **PKPdf 06 30 55.0 0.0**
MOS *e* 06 31 02.2
MOS pmax pmax
comp=Z,59nm,1.5s
MOS MLR MLR
comp=Z,2µm,22.0s
FINES FINESS Array B 132.59 341 PKP **PKPdf 06 30 55.1 -1.1**
comp=Z,2.4nm,0.8s,baz=17,slow=2.0,SNR=4.3
OBN Obninsk 132.70 330 *i* PKIKP **PKPdf 06 30 56.2 -0.4**
OBN pmax pmax
comp=Z,19nm,1.6s
OBN MLR MLR
comp=Z,2µm,21.0s
VORR Voronezh 133.11 325 *e*PKIKP **PKiKP 06 30 59.8 +1.1**
VORR *e* 06 31 07.0
VORR pmax pmax
comp=Z,50nm,1.9s
ZEI Tsey 133.44 312 *i* PKIKP **PKiKP 06 31 03.1 +3.2**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 133.47 308 IAMs_20 IAMs_20 07 33 48.9
comp=Z,936nm,22.0s
KIV Kislovodsk 133.95 313 IAMs_20 IAMs_20 07 33 03.6
comp=Z,1µm,20.0s
KIV Kislovodsk 133.95 313 *i* PKIKP **PKPdf 06 30 56.8 -2.7**
KIV *e* 06 33 25.4
KIV *e*PPP PPP 06 36 20.2
KIV *e*PS PS 06 43 44.6 -5.1
KIV *e*SS SS 06 51 14.9 -2.5
KIV *e*SSS SSS 06 56 13.1
KIV pmax pmax
comp=Z,7.0nm,1.1s
RAYN Ar Rayn 134.07 285 IAMs_20 IAMs_20 07 35 02.7
comp=Z,983nm,20.0s
RAYN Ar Rayn 134.07 285 ⇓PKIKP **PKPdf 06 30 59.9 -0.3**
SOC Sochi 136.11 314 *i* PKIKP **PKPdf 06 31 00.8 -2.6**
SOC *e* 06 33 38.5
SOC *e*PPP PPP 06 36 36.6
SOC *e*SS SS 06 51 42.7 -0.3
SOC *e*SSS SSS 06 56 41.2
SOC MLR MLR
comp=Z,915nm,17.0s
TSUM Tsumeb 136.79 210 PKP **PKPdf 06 31 04.8 -0.8**
comp=Z,4.3nm,0.8s,baz=140,slow=2.1,SNR=4.8
MNK Minsk 137.01 333 *i* PKP **PKiKP 06 31 05.7 -0.9**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKiKP 06 31 05.7 -0.9**
comp=N,20nm,1.0s
MNK *i* PKP **PKiKP 06 31 05.7 -0.9**
comp=Z,8.0nm,1.0s,baz=47
MNK *i* PP **PP 06 33 49.7 +1.6**
MNK *i* SKP 06 34 23.1
MNK *i* PKS 06 34 41.9
MNK *i* PPP PPP 06 36 48.5
MNK *i* SKS 06 39 18.9
MNK *i* SP **SP 06 44 14.1 +2.5**
MNK *i* PS PS 06 44 37.3 +22
MNK *i* SS **SS 06 51 56.5 +3.9**
MNK *i* SSS SSS 06 56 56.0
MNK *i* LQ LQ 07 24 07.9
MNK *i* LR LR 07 25 17.5
MNK *i* LRM MLR 07 28 59.2
comp=E,258nm,20.0s
MNK *i* LRM MLR 07 29 16.0
comp=Z,2µm,19.9s
MNK *i* LRM MLR 07 29 40.5
comp=N,1µm,20.0s
MNK Minsk 137.01 333 *i* PKIKP **PKiKP 06 31 05.6 -0.9**
MNK *i* 06 33 49.7
MNK *i* PPP PPP 06 36 48.4
MNK *i* SP SP 06 44 14.0 +2.4
MNK *i* SS **SS 06 51 56.4 +3.9**
MNK *i* SSS SSS 06 56 55.9
MNK pmax pmax
comp=N,20nm,1.0s
MNK pmax pmax
comp=Z,8.0nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=E,258nm,20.0s
MNK MLR MLR
comp=Z,2µm,20.0s
MNK MLR MLR
comp=N,1µm,20.0s
ANN Anapa 137.18 316 *e*PKIKP **PKPdf 06 31 01.0 -4.3**
ANN MLR MLR
comp=N,3µm,21.0s
ANN MLR MLR
comp=Z,3µm,25.0s
ANN MLR MLR
comp=E,933nm,25.0s
NACGM Naroch 137.19 334 *e*PKP **PKPdf 06 31 04.6 -0.4**
comp=Z,37nm,1.4s,baz=46
LODK Lodwar 138.86 253 IAMs_20 IAMs_20 07 28 56.4
comp=Z,1µm,20.0s
AKASG Malin Array Be 138.89 328 PKP **PKPdf 06 31 08.3 +0.1**
comp=Z,2.7nm,0.8s,baz=56,slow=2.6,SNR=6.3
ASF Jabal al Asfar 141.27 298 PKP **PKPdf 06 31 12.3 -1.0**
comp=Z,4.5nm,0.9s,baz=125,slow=2.0,SNR=3.0
KIS Kishinev 141.34 324 *e*PKP **PKPdf 06 31 14.0 +1.2**
KIS *e*L L 07 23 33.0
KIS LRM MLR 07 33 34.0
comp=Z,600nm,21.0s
KIS Kishinev 141.34 324 *e*PKIKP **PKPdf 06 31 14.0 +1.2**
BRTR Keskin Array B 141.74 311 PKhKP PKPpre 06 31 10.1
comp=Z,2.0nm,0.8s,baz=116,slow=3.8,SNR=7.8
LVV L'vov 141.98 331 *e*PKIKP **PKiKP 06 31 21.4 +4.6**
LVV *e* 06 34 27.6
LVV MLR MLR
comp=Z,1µm,23.0s
MMAI Mount Meron Ar 142.35 300 PKhKP PKPpre 06 31 10.9
comp=Z,3.4nm,0.8s,baz=74,slow=4.4,SNR=4.0
BSEG Bad Segeberg 143.36 346 *e*L L 07 36 49.2
comp=Z,1µm,22.0s
CSS Mathiatis 143.54 304 IAMs_20 IAMs_20 07 39 11.3
comp=Z,1µm,22.0s
UZH Uzhgorod 143.62 331 *e*PKIKP **PKPdf 06 31 17.0 +0.2**
MLR Muntele Rosu 143.84 324 PKP PKPab 06 31 14.5 -0.1
comp=Z,18nm,1.1s,baz=9.8,slow=2.3,SNR=12
MLR Muntele Rosu 143.84 324 ⇑P PKPbc 06 31 15.8 +0.6
MLR Muntele Rosu 143.84 324 ⇑PKIKP PKPbc 06 31 15.8 +0.6
DOPR Dopca 143.85 325 ⇓P PKPbc 06 31 15.9 +0.9
TRPA Tarpa 143.86 330 ⇓P **PKPdf 06 31 16.4 -0.9**
PRD Provadia 144.31 320 P **PKPab 06 31 14.0 -2.1**
CJR Cluj-Napoca 144.31 327 ⇑P **PKPab 06 31 16.0 -0.2**
CJR Cluj-Napoca 144.31 327 ⇑PKIKP **PKPab 06 31 16.0 -0.2**
ISK Istanbul-Kandi 144.34 315 P **PKPab 06 31 15.3 -1.0**
KSP Ksiaz 144.36 338 *e*PKP **PKPdf 06 31 17.8 -0.3**
LANS Liptovska Anna 144.49 334 *e*PKIKP **PKPdf 06 31 19.6 +1.2**
LANS Liptovska Anna 144.49 334 *e*PKP **PKPdf 06 31 19.6 +1.2**
OKC Ostrava-Krasne 144.49 336 *e*PKP PKPbc 06 31 17.3 +0.4
OKC AMS AMS 07 29 50.0
comp=Z,2µm,23.1s
OKC Ostrava-Krasne 144.49 336 *e*PKIKP PKPbc 06 31 17.3 +0.4
OKC MLR MLR
comp=Z,2µm,23.1s
MARR Marisel-Cluj 144.58 328 ⇓P PKPbc 06 31 17.8 +0.4
OSTC Ostas 144.62 338 *e*PKP **PKPdf 06 31 18.0 -0.6**
OSTC AMS AMS 07 32 50.0
comp=Z,2µm,22.1s
ARR Arges 144.64 325 ⇑P **PKPdf 06 31 19.4 +0.6**
RAZG Razgrad 144.64 321 ⇑P **PKPdf 06 31 18.6 -0.2**
DRGR 144.71 328 ⇓P PKPbc 06 31 17.9 +0.1
DRGR 144.71 328 ⇓PKIKP PKPbc 06 31 17.9 +0.1
ISP Isparta 144.72 310 IAMs_20 IAMs_20 07 43 49.3
comp=Z,1µm,20.0s
UPC Upice 144.74 338 *e*PKP PKPbc 06 31 17.9 +0.2
UPC AMS AMS 07 32 50.0
comp=Z,3µm,20.9s
UPC Upice 144.74 338 *e*PKIKP PKPbc 06 31 17.9 +0.2
UPC MLR MLR
comp=Z,3µm,20.9s
DPC Dobruska-Polom 144.76 338 *e*PKP PKPbc 06 31 17.7 -0.1
DPC AMS AMS 07 33 00.0
comp=Z,2µm,26.7s
DPC Dobruska-Polom 144.76 338 *e*PKIKP PKPbc 06 31 17.7 -0.1
DPC MLR MLR
comp=Z,2µm,26.7s
MORC Moravsky Berou 144.77 336 ⇑P PKPbc 06 31 18.2 +0.3
MORC Moravsky Berou 144.77 336 *e*PKP PKPbc 06 31 18.0 +0.1
MORC Moravsky Berou 144.77 336 ⇑PKIKP PKPbc 06 31 18.2 +0.3
KRLC Kraliky 144.82 337 *e*PKP PKPbc 06 31 18.0 0.0
KRLC AMS AMS 07 32 50.0
comp=Z,2µm,23.3s
KRLC Kraliky 144.82 337 *e*PKIKP PKPbc 06 31 18.0 0.0
KRLC MLR MLR
comp=Z,2µm,23.3s
HUMR Humele 144.97 323 ⇑P **PKPab 06 31 18.0 -0.5**
MAUC Maruska 144.99 335 *e*PKP **PKPdf 06 31 18.9 -0.4**
CLL Collm 145.03 342 *e*SSSS 07 02 30.0
CLL Collm 145.03 342 *i* PKIKP **PKPab 06 31 18.3 -0.3**
CLL pmax pmax
comp=Z,266nm,1.8s
CLL Collm 145.03 342 *e*PKPbc **PKPab 06 31 18.3 -0.3**
baz=27,slow=2.7
CLL *e*L L 07 35 36.8
comp=Z,900nm,21.8s
CLL Collm 145.03 342 *i* PKPdf **PKPab 06 31 18.3 -0.3**
comp=Z,266nm,1.8s
CLL Collm 145.03 342 *e*PKPlp 06 31 24.0
comp=Z,1µm,13.7s
CLL Collm 145.03 342 *i* x x 06 31 27.2
comp=Z,219nm,1.5s
CLL Collm 145.03 342 *i* x x 06 31 39.2
CLL Collm 145.03 342 *e*PP PP 06 34 36.0 -0.8
CLL Collm 145.03 342 *e*PPP PPP 06 37 48.0
CLL Collm 145.03 342 *e*x x 06 40 24.0
CLL Collm 145.03 342 *e*PSKS 06 44 42.0
CLL Collm 145.03 342 *e*x x 06 48 43.0
CLL Collm 145.03 342 *e*x x 06 51 12.0
CLL Collm 145.03 342 *e*SS SS 06 53 36.0 +10
CLL Collm 145.03 342 *e*x x 06 55 30.0
CLL Collm 145.03 342 *e*SSS SSS 06 58 48.0
BRG Berggiesshubel 145.12 340 Amp 06 31 20.1
comp=Z,17nm,1.0s
BRG Berggiesshubel 145.12 340 P **PKPdf 06 31 21.1 +1.7**
BRG Amp 06 31 23.5
comp=Z,128nm,1.4s
BRG Berggiesshubel 145.12 340 P **PKiKP 06 31 28.3 +5.1**
BRG Amp 06 31 30.1
comp=Z,256nm,1.6s
BRG Berggiesshubel 145.12 340 *i* PKIKP **PKPab 06 31 18.7 -0.2**
BRG 06 31 21.1
BRG pmax pmax
comp=Z,17nm,1.0s
BRG pmax pmax
comp=Z,128nm,1.4s
BRG pmax pmax
comp=Z,256nm,1.6s
BRG Berggiesshubel 145.12 340 *e*PKPbc **PKPab 06 31 18.9 0.0**
baz=27,slow=2.7
BRG Berggiesshubel 145.12 340 *i* PKP **PKPab 06 31 18.7 -0.2**
SZH Strazhica 145.16 321 P **PKPbc 06 31 18.0 -1.2**
JMB Yambol 145.21 319 P **PKPbc 06 31 19.0 -0.4**
PVCC Panska Ves 145.22 339 *e*PKP **PKPdf 06 31 19.4 -0.2**
PVCC AMS AMS 07 32 50.0
comp=Z,3µm,23.9s
PVCC Panska Ves 145.22 339 *e*PKIKP **PKPdf 06 31 19.4 -0.2**
PVCC MLR MLR
comp=Z,3µm,23.9s
DEV Deva 145.22 327 ⇑P **PKPdf 06 31 20.5 +0.7**
DEV Deva 145.22 327 ⇑PKIKP **PKPdf 06 31 20.5 +0.7**
PSZ Piszkesteto 145.24 332 IAMs_20 IAMs_20 07 35 41.1
comp=Z,1µm,20.0s
JAWL J.Aulia 145.25 270 *i* P **PKPbc 06 31 20.1 -0.2**
VYHS Vyhne 145.26 333 *e*PKIKP **PKPdf 06 31 19.7 0.0**
VYHS *e* 06 54 15.5
VYHS Vyhne 145.26 333 *e*PKP **PKPdf 06 31 19.7 0.0**
VYHS Vyhne 145.26 333 *e* 06 54 15.5
FBE Freiberg 145.26 341 *e*PKPbc **PKPdf 06 31 19.5 -0.2**
baz=27,slow=2.7
CLZ Clausthal 145.27 345 *e*PKPbc **PKPab 06 31 19.4 -0.1**
baz=27,slow=2.7
IBBN Ibbenburen 145.43 348 *e*PKPbc **PKPbc 06 31 19.6 -0.2**
baz=27,slow=2.7
EDRB Edirne 145.44 318 P **PKPbc 06 31 16.0 -4.2**
JAVC Velka Javorina 145.46 335 *e*PKP **PKPab 06 31 20.9 +0.6**
NEUB Neuenburg 145.47 343 *e*PKPbc **PKPab 06 31 20.0 -0.1**
baz=27,slow=2.7
VRAC Vranov 145.51 336 PKPbc **PKPab 06 31 20.3 -0.1**
comp=Z,22nm,1.1s,baz=51,slow=2.5,SNR=25
VRAC Vranov 145.51 336 ⇑P **PKPab 06 31 20.7 +0.2**
VRAC Vranov 145.51 336 *e*PKP **PKPab 06 31 20.6 +0.2**
VRAC Vranov 145.51 336 ⇑PKIKP **PKPab 06 31 20.7 +0.2**
SIRR Siria 145.59 328 ⇑P **PKPab 06 31 20.8 -0.1**
GZR Gura Zlata 145.62 326 ⇑P **PKPdf 06 31 19.6 -0.9**
GZR Gura Zlata 145.62 326 ⇑PKIKP **PKPdf 06 31 19.6 -0.9**
GTTG Gottingen 145.65 345 *e*PKPbc **PKPab 06 31 20.6 -0.2**
baz=27,slow=2.7
GOPC GO Pecny, Ondr 145.66 339 *e*PKP **PKPab 06 31 20.7 -0.3**
GOPC AMS AMS 07 35 10.0
comp=Z,2µm,21.8s
GOPC GO Pecny, Ondr 145.66 339 *e*PKIKP **PKPab 06 31 20.7 -0.3**
GOPC MLR MLR
comp=Z,2µm,21.8s
PRU Pruhonice 145.69 339 *e*PKP **PKPbc 06 31 20.6 -0.1**
PRU AMS AMS 07 33 20.0
comp=Z,3µm,25.3s
PRU Pruhonice 145.69 339 *e*PKIKP **PKPbc 06 31 20.6 -0.1**
PRU MLR MLR
comp=Z,3µm,25.3s
SURR Surduc 145.71 327 ⇑P **PKPbc 06 31 20.9 -0.1**
KULA Kula-Manisa 145.77 312 P **PKPdf 06 31 20.0 -1.0**
KRUC Moravsky 145.79 336 *e*PKP **PKPdf 06 31 20.6 0.0**
SMOL Smolenice 145.83 335 *e*PKP2 **PKPab 06 31 22.0 +0.4**

PLVB	Pleven	145.86	322	⇑P		PKPbc	06 31 21.4	0.0
TREC	Trest	145.94	337	AMS		AMS	07 33 30.0	
	comp=Z,3μm,23.8s							
TANN	Tannenbergstha	145.98	341	*e*PKPbc		PKPbc	06 31 21.6	-0.1
	baz=27,slow=2.7							
WERD	Werda	146.00	342	*e*PKPbc		PKPab	06 31 21.8	-0.5
	baz=27,slow=2.7							
MODS	Modra-Piesok	146.00	335	*e*PKP2		PKPab	06 31 22.4	+0.1
MODS				*e*			06 54 18.6	
MODS	Modra-Piesok	146.00	335	*e*			06 54 18.6	
MODS	Modra-Piesok	146.00	335	*e*PKP		PKPab	06 31 22.4	+0.1
SRO	Srobarova	146.01	333	*e*PKP2		PKPab	06 31 22.5	+0.2
SRO	Srobarova	146.01	333	*e*PKP		PKPab	06 31 22.5	+0.2
MOX	Moxa	146.03	342	*e*PKPbc		PKPbc	06 31 21.8	0.0
	baz=27,slow=2.7							
MOX				*e*L		L	07 31 10.5	
	comp=Z,760nm,21.9s							
KSL	Kastellorizon	146.04	307	P		PKPdf	06 31 17.7	-3.7
GUNZ	Gunzen	146.07	342	*e*PKPbc		PKPbc	06 31 22.0	+0.1
	baz=27,slow=2.7							
BZS	Buzias	146.07	327	⇑P		PKPbc	06 31 22.0	0.0
BZS	Buzias	146.07	327	⇑PKP2		PKPbc	06 31 22.0	0.0
DIM	Dimitrovgrad	146.09	319	P		PKPdf	06 31 21.5	+0.2
WERN	Wernitzgruen	146.12	341	*e*PKPbc		PKPab	06 31 22.2	-0.5
	baz=27,slow=2.7							
NKC	Novy Kostel	146.15	341	*e*PKP		PKPab	06 31 22.3	-0.5
NKC				AMS		AMS	07 32 50.0	
	comp=Z,2μm,22.3s							
NKC	Novy Kostel	146.15	341	*e*PKP2		PKPab	06 31 22.3	-0.5
NKC				MLR		MLR		
	comp=Z,2μm,22.3s							
MRWI	Hamdab	146.16	276	*i*		PKPdf	06 31 21.0	-1.1
	baz=312,slow=7.4							
MRWI				*i* P		PKPbc	06 31 22.6	-0.6
MRWI				*i* S			06 33 19.7	
ZST	Bratislava	146.21	335	*e*PKP2		PKPab	06 31 23.3	+0.2
ZST	Bratislava	146.21	335	*e*PKP		PKPab	06 31 23.3	+0.2
DJES	Djerdap	146.24	325	⇑P		PKPbc	06 31 22.4	-0.2
UBBA	Unterbreizbach	146.30	344	*e*PKPbc		PKPbc	06 31 22.2	-0.2
	baz=27,slow=2.7							
KASTN	Kahler Asten	146.33	346	*e*PKPbc		PKPbc	06 31 22.2	-0.4
	baz=27,slow=2.7							
BUG	Bochum--Univer	146.35	348	*e*PKPbc		PKPbc	06 31 22.5	-0.1
	baz=27,slow=2.7							
ALN	Alexandrougoli	146.39	317	P		PKPbc	06 31 22.4	-0.7
MANZ	Manzenberg	146.47	341	*e*PKPbc		PKPbc	06 31 23.1	-0.1
	baz=27,slow=2.7							
RDO	Rodhopi	146.59	318	P		PKPbc	06 31 23.4	-0.3
YER	Yerkesik	146.62	310	P		PKPbc	06 31 24.0	-0.1
PGB	Panagyurishte	146.63	321	P		PKPbc	06 31 23.0	-0.9
ROTZ	Rotzenmuhle	146.63	341	*e*PKPbc		PKPbc	06 31 23.5	-0.1
	baz=27,slow=2.7							
KHC	Kasperske Hory	146.74	339	*e*PKP		PKPbc	06 31 23.6	-0.4
KHC				*ex*		x	06 31 32.5	
KHC				*ex*		x	06 35 44.0	
KHC				AMS		AMS	07 33 50.0	
	comp=Z,4μm,23.2s							
KHC	Kasperske Hory	146.74	339	*e*PKP2		PKPbc	06 31 23.6	-0.4
KHC				MLR		MLR		
	comp=Z,4μm,23.2s							
CKRC	Cesky Krumlov	146.76	338	*e*PKP		PKPab	06 31 24.8	-0.4
CKRC				AMS		AMS	07 35 50.0	
	comp=Z,2μm,23.6s							
EZN	Ezine	146.76	315	P		PKPdf	06 31 21.8	-0.7
CONA	Conrad Observa	146.92	336	*ep*PKP		PKPbc	06 31 24.4	-0.2
	comp=Z,156nm,1.7s,SNR=13							
RONA	Rosalia, Austr	146.93	335	*ep*PKP		pPKPdf	06 31 24.8	-1.5
	comp=Z,96nm,1.6s,SNR=10							
GEC2	GERESS Array S	146.95	339	*e*PKPbc		PKPbc	06 31 24.1	-0.5
	baz=27,slow=2.7							
GEC2				*e*L		L	07 37 57.8	
	comp=Z,2μm,21.3s							
GERES	GERESS Array B	146.95	339	PKPbc		PKPbc	06 31 24.1	-0.5
	comp=Z,8.3nm,0.9s,baz=270,slow=1.3,SNR=18							
GRF	Grafenberg Arr	146.99	342	*e*PKPbc		PKPbc	06 31 25.0	+0.3
	baz=27,slow=2.7							
GRF				*e*L		L	07 40 36.0	
	comp=Z,1μm,21.7s							
MORH	Mrgy, Hungar	147.08	331	⇑P		PKPbc	06 31 23.8	-1.1
PRK	Paraskevi	147.09	314	P		PKPbc	06 31 25.5	+0.3
ARG	Arkhangelos	147.11	308	P		PKPab	06 31 26.0	-1.0
VTS	Vitosha	147.14	322	P		PKiKP	06 31 31.7	+3.8
VTS	Vitosha	147.14	322	PKP2		PKiKP	06 31 31.7	+3.8
TNS	Taunus Mts	147.24	346	*e*PKPbc		PKPbc	06 31 25.2	-0.2
	baz=27,slow=2.7							
TNS				*e*L		L	07 36 53.2	
	comp=Z,2μm,21.9s							
DAT	Datca	147.31	309	P		PKPdf	06 31 23.0	-0.7
KAVA	Kavala	147.31	319	P		PKPbc	06 31 25.4	-0.4
BOVS	Bovan	147.35	325	⇑P		PKPdf	06 31 23.2	-0.2
BODT	Bodrum	147.36	310	P		PKPdf	06 31 23.1	-0.6
BTNL	Ternell	147.39	348	*d*PKP		PKPab	06 31 26.6	-0.9
MEM	Membach	147.39	349	*d*PKP		PKPbc	06 31 26.4	+0.7
MMB	Musomiste	147.46	320	P		PKPbc	06 31 25.0	-1.2
BSTI	Sart Tilman	147.50	349	*d*PKP		PKPab	06 31 27.6	-0.4
NVR	Nevrokopi	147.52	320	P		PKPbc	06 31 25.7	-0.7
MOA	Molln	147.59	337	*e*PKP		PKPbc	06 31 26.2	-0.1
	comp=Z,40nm,1.4s,SNR=5.2							
ARSA	Arzberg	147.61	335	*e*PKiKP		PKPbc	06 31 27.1	+0.6
	comp=Z,42nm,1.4s,SNR=7.2							
BHOU	Houvegnez	147.64	348	*d*PKP		PKPbc	06 31 25.6	-0.8
CHOS	Chios island	147.65	313	P		PKPbc	06 31 27.3	+0.4
KOKK	Kokkinochori,	147.74	319	P		PKPdf	06 31 25.2	+1.1
BGES	Gesves	147.77	349	*d*PKP		PKPdf	06 31 25.1	+1.2
SRS	Serrai	147.82	319	P		PKPbc	06 31 26.0	-1.2
BMRD	Maredsous	147.91	350	*d*PKP		PKPbc	06 31 27.0	-0.1
BIOA	Bad Ischl, Aus	147.95	338	*i* PKP		PKPbc	06 31 27.1	-0.3
	comp=Z,32nm,1.6s,SNR=6.0							
RCHB	Rochefort	147.97	349	*d*PKP		PKPbc	06 31 27.8	+0.6
KARP	Karpathos	148.09	308	IAMs_20		IAMs_20	07 43 26.0	
	comp=Z,1μm,21.0s							
KARP	Karpathos	148.09	308	P		PKPdf	06 31 24.1	-0.9
DOU	Dourbes	148.14	350	*d*PKiKP		PKPbc	06 31 27.7	0.0
WLF	Walferdange	148.26	348	*d*PKP		PKPbc	06 31 28.6	+0.6
WLF	Walferdange	148.26	348	*e*PKPbc		PKPbc	06 31 27.9	-0.2
	baz=27,slow=2.7							
SOKA	Soboth	148.27	335	*e*PKiKP		PKPbc	06 31 27.9	-0.4
	comp=Z,46nm,1.8s							
VAY	Valandovo	148.32	321	*i* P		PKPbc	06 31 27.6	-0.8
STIP	Stip	148.32	322	*i* P		PKPbc	06 31 27.6	-0.9
FUR	Furstenfeldbru	148.33	341	*e*L		L	07 36 29.8	
	comp=Z,1μm,22.0s							
KBA	Koelnbreinsper	148.58	337	*i* pPKP		pPKPdf	06 31 28.0	-1.3
	comp=Z,17nm,1.0s							
SKO	Skopje	148.58	323	*i* P		PKPbc	06 31 29.7	+0.5
MYKA	Terra Mystica	148.85	337	*e*PKP		PKPbc	06 31 28.6	-1.2
	comp=Z,65nm,1.6s							
WATA	Walderalm	148.97	340	*ep*PKP		pPKPdf	06 31 27.8	-2.1
	comp=Z,38nm,1.2s,SNR=7.1							
ZKR	Zakros	148.97	308	P		PKPdf	06 31 24.2	-2.2
WTTA	Wattenberg	149.01	340	*i* PKP		PKPbc	06 31 28.9	-1.4
	comp=Z,66nm,1.5s,SNR=8.0							
BFO	Black Forest	149.02	344	*e*PKPbc		PKPbc	06 31 29.5	-0.6
	baz=27,slow=2.7							
BFO				*e*L		L	07 35 32.0	
	comp=Z,2μm,21.8s							
STIA	Sitia Lasithi	149.03	308	P		PKPdf	06 31 25.5	-0.9
LIT	Litokhoron	149.09	319	P		PKPbc	06 31 29.1	-1.4
RETA	Reutte	149.10	341	*i* PKiKP		PKPbc	06 31 30.2	-0.2
	comp=Z,46nm,1.7s							
MOTA	Moosalm	149.11	340	*e*PKP		PKPbc	06 31 29.7	-0.9
	comp=Z,71nm,1.8s,SNR=8.7							
UBR	Ueberruh	149.12	342	*e*PKPbc		PKPbc	06 31 29.6	-0.9
	baz=27,slow=2.7							
ABTA	Abfaltersbach	149.16	338	*i* PKP		PKPbc	06 31 29.1	-1.5
	comp=Z,38nm,1.2s							
SQTA	Sankt Quirin	149.19	340	*i* PKiKP		PKPbc	06 31 30.2	-0.5
	comp=Z,58nm,1.5s,SNR=6.5							
FNA	Florina	149.36	321	P		PKPbc	06 31 29.4	-1.9
ATHU	Athens Univers	149.41	314	P		PKPbc	06 31 30.4	-1.0
PDG	Podgorica	149.50	325	⇑P		PKPbc	06 31 30.4	-1.0
PDG	Podgorica	149.50	325	IAMs_20		IAMs_20	07 42 16.6	
	comp=Z,1μm,21.0s							
OHR	Ohrid	149.50	322	*i* P		PKPbc	06 31 30.8	-0.7
FETA	Feichten	149.52	340	*e*PKP		PKPbc	06 31 29.7	-1.9
	comp=Z,58nm,1.5s,SNR=5.6							
DAVA	Damuels	149.54	342	*e*PKP		PKPbc	06 31 30.5	-1.1
	comp=Z,80nm,1.6s,SNR=8.4							
AXAR	Agios Charalam	149.74	316	P		PKPbc	06 31 30.9	-1.3
AGG	Agios Georgios	149.81	317	P		PKPdf	06 31 28.9	+1.3
IDI	Anoyia	149.89	309	PKPbc		PKPbc	06 31 32.5	-0.2
	comp=Z,28nm,0.9s,baz=49,slow=3.4,SNR=3.7							
LOUT	Loutraki	149.95	315	P		PKPbc	06 31 30.8	-1.9
DAVOX	Davos/Dischmat	150.00	341	PKPbc		PKPbc	06 31 32.9	+0.1
	comp=Z,15nm,0.8s,baz=13,slow=8.5,SNR=16							
EPID	Epidavros	150.05	314	P		PKPbc	06 31 30.9	-2.1
THAL	Thalero	150.13	315	P		PKPdf	06 31 30.3	+2.2
KRND	KRANIDI	150.14	314	P		PKPdf	06 31 29.2	+1.1
LSK	Leskovik	150.22	321	P		PKPbc	06 31 31.1	-2.3
ANX	Ano Chora	150.31	317	P		PKiKP	06 31 34.9	+0.4
SERG	Sergoula	150.33	316	P		PKPbc	06 31 33.4	-0.2
VLI	Velíai	150.63	313	P		PKPdf	06 31 25.2	-3.7
GVDS	Gavdos	150.67	308	P		PKPdf	06 31 29.4	+0.4
GVD	Gavdhos	150.68	308	P		PKPbc	06 31 33.5	-1.0
NYDR	Nydri-Lefkada	151.03	318	P		PKPdf	06 31 32.2	+2.8
KLMT	Kalamata	151.05	314	P		PKPdf	06 31 26.6	-2.9
ESDC	Sonseca Array	159.25	1	PKPab		PKPab	06 32 17.7	0.0
	comp=Z,4.0nm,1.2s,baz=357,slow=4.4,SNR=5.3							
LIS	Lisbon	159.65	12	*e*PKPdf		PKPdf	06 31 41.6	+0.5
LIS				*e*PP		PP	06 36 01.2	+1.4
LIS	Lisbon	159.65	12	*e*PKIKP		PKPdf	06 31 41.6	+0.5
LIS				*e*			06 36 01.1	
MESJ	Messejana	160.68	11	*e*PKPdf		PKPdf	06 31 42.8	+0.5
MESJ				*e*PP		PP	06 36 06.7	+1.3
MESJ				IAMs_20		IAMs_20	07 48 27.8	
	comp=Z,2μm,23.8s							
MESJ	Messejana	160.68	11	*e*PKIKP		PKPdf	06 31 42.7	+0.5
MESJ				*e*			06 36 06.6	
MORF	Marmelete	161.12	12	*e*PKPdf		PKPdf	06 31 43.1	+0.2
MORF				*e*PP		PP	06 36 09.1	+1.3
MORF				IAMs_20		IAMs_20	07 43 15.3	
	comp=Z,4μm,29.6s							
MORF	Marmelete	161.12	12	*e*PKIKP		PKPdf	06 31 43.0	+0.2
MORF				*e*			06 36 09.0	
MDT	Midelt	166.08	3	PKP		PKPdf	06 31 47.5	-0.2
	comp=Z,3.5nm,0.9s,baz=178,slow=7.8,SNR=3.8							
MDT				PKPab		PKPab	06 32 48.5	+0.7
	comp=Z,5.5nm,1.0s,baz=1.0,slow=6.7,SNR=4.4							
DBIC	Dimbokro	167.83	175	PKP		PKPdf	06 31 47.0	-2.4
	comp=Z,3.7nm,0.8s,baz=285,slow=4.0,SNR=3.4							
DBIC				PKPab		PKPab	06 32 53.7	-2.1
	comp=Z,4.9nm,0.9s,baz=137,slow=4.6,SNR=3.0							
TORD	Torodi Ar. Bea	172.31	223	PKP		PKPdf	06 31 50.7	-1.2
	comp=Z,5.0nm,0.3s,baz=322,slow=1.2,SNR=1.8							
TORD				PKPab		PKPab	06 33 14.9	-0.9
	comp=Z,4.5nm,0.4s,baz=108,slow=5.1,SNR=1.6							

*IDC **14** 06:16:38.3±2.7, 17.°57S×175.°93E, h0km, mb3.9/3, mbtmp3.9/5, ML4.9/1, Error ellipse: s-maj=128.5km s-min=21.1km az=176.0*

ISC 14 06:16:37.9±2.6, 17.°2S±0.°5×176.°01E±0.°07, h10km, n5, σ0 72°/6, mb3.8/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.01	104	Pn	Pb	06 17 14.8	+0.2
	19nm,0.3s,baz=111,slow=12,SNR=4.1						
MSVF				Sn	Sb	06 17 39.5	-0.2
	24nm,0.3s,baz=124,slow=23,SNR=3.3						
	43nm,0.5s						
DZM	Mont Dzumac	10.21	240	Pn	Pn	06 19 05.1	+0.3
	4.3nm,0.8s,baz=281,slow=20,SNR=2.7						
STKA	Stephens Creek	34.36	238	P	P	06 23 24.3	-0.9
	2.7nm,0.8s,baz=75,slow=12,SNR=2.2						
	2.7nm,0.8s						
WRA	Warramunga Arr	39.52	259	P	P	06 24 09.1	-0.1
	0.7nm,0.8s,baz=96,slow=8.6,SNR=2.9						
	0.7nm,0.8s						
ASAR	Alice Springs	39.86	254	P	P	06 24 12.8	+0.8
	1.7nm,0.8s,baz=81,slow=9.3,SNR=4.9						
	1.7nm,0.8s						

PRU 14 06:26:21.6±0.0, 50.°03N×19.°11E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANS	Liptovska Anna	0.91	165	*e*PG	Pg	06 26 38.0	-1.0
LANS				*e*SG	Sg	06 26 50.7	-0.1
LANS				*e*LG	Lg	06 26 51.2	
MORC	Moravsky Berou	1.04	257	*e*PG	Pg	06 26 41.8	+0.2
MORC				*e*SG	Sb	06 26 56.7	-0.1
KRLC	Kraliky	1.50	273	*e*PG	Pn	06 26 48.1	-1.7
KRLC				*e*SG	Sg	06 27 08.5	-1.3
VYHS	Vyhne	1.55	187	*e*SN	Sn	06 27 09.5	-1.7
DPC	Dobruska-Polom	1.82	281	*e*PG	Pn	06 26 54.2	0.0
DPC				*e*SG	Sb	06 27 19.0	-0.2

*IDC **14** 06:28:42.6±1.2, 34.°50N×24.°51E, h0km, mb3.5/5, mbtmp3.4/8, ML3.4/3, MS3.8/1, Error ellipse: s-maj=29.1km s-min=12.0km az=114.0*
*ISK **14** 06:28:49.4, 34.°71N×25.°00E, h22km, ML3.4/15*
*ATH **14** 06:28:50.8, 34.°72N×24.°94E, h17km±1km, ML3.4/8, Error ellipse: s-maj=2.9km s-min=1.2km az=12.0*
*THE **14** 06:28:51.2, 34.°75N×24.°95E, h10km±1km, ML3.1/8, Error ellipse: s-maj=2.0km s-min=0.7km az=336.0*

ISC 14 06:28:50.9±1.3, 34.°74N±0.°05×24.°93E±0.°03, h37km±1km, n54, σ1 98°/75, mb3.4/6, 2C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMBK	Timbaki Herakl	0.35	338	P	Pn	06 28 58.6	-0.7
TMBK				S	Sn	06 29 04.7	-1.4
	3μm,0.5s						
TMBK	Timbaki Herakl	0.35	338	P	Pn	06 28 58.7	-0.6
TMBK				S	Sn	06 29 04.4	-1.7
TMBK				AML	AML	06 29 07.3	
	comp=N,11838μm,0.4s						
TMBK				AML	AML	06 29 07.3	
	comp=E,23706μm,0.6s						
IDI	Anoyia	0.54	357	Pg	Pn	06 29 00.7	-1.6
	comp=E,115nm,0.3s,baz=192,slow=9.9,SNR=234						
IDI				Lg	Lg	06 29 09.8	
	comp=E,564nm,0.3s,baz=65,slow=20,SNR=60						
IACM	Heraklion	0.57	12	P	Pn	06 29 01.9	-0.8
IACM				S	Sn	06 29 10.3	-0.5
IACM	Heraklion	0.57	12	P	Pn	06 29 02.2	-0.5
IACM				S	Sn	06 29 11.2	+0.3
IACM				AML	AML	06 29 17.7	
	comp=N,25434μm,0.8s						
IACM				AML	AML	06 29 20.7	
	comp=E,27227μm,0.5s						
HRKL	Herakleio	0.58	14	P	Pn	06 29 02.4	-0.4
HRKL				S	Sn	06 29 11.4	+0.3
	comp=E,6μm,0.6s						
HRKL	Herakleio	0.58	14	Pg	Pn	06 29 02.2	-0.6
HRKL				Sg	Sn	06 29 11.3	+0.2
HRKL	Herakleio	0.58	14	P	Pn	06 29 02.3	-0.6
HRKL				S	Sn	06 29 11.0	-0.1
HRKL				AML	AML	06 29 14.2	
	comp=N,33262μm,0.4s						
HRKL				AML	AML	06 29 20.2	
	comp=E,37270μm,0.7s						
GVDS	Gavdos	0.70	279	P	Pn	06 29 04.8	+0.5
GVDS				S	Sn	06 29 16.9	+3.1
	comp=E,2μm,0.4s						
GVDS	Gavdos	0.70	279	Pg	Pn	06 29 05.5	+1.2
GVDS				Sg	Sn	06 29 16.8	+3.0
GVD	Gavdhos	0.70	278	P	Pn	06 29 04.6	+0.3
GVD				S	Sn	06 29 15.8	+2.0
	comp=E,3μm,0.4s						
GVD	Gavdhos	0.70	278	Pg	Pn	06 29 04.7	+0.4
GVD				Sg	Sn	06 29 16.0	+2.2
PRNS	Prines Rethymn	0.71	331	P	Pn	06 29 04.4	0.0
PRNS				S	Sn	06 29 15.5	+1.4
	comp=E,828nm,0.5s						
FRMA	Ierapetra Chan	0.72	68	P	Pn	06 29 05.6	+1.1
FRMA				S	Sn	06 29 18.6	+4.4
	comp=E,635nm,0.5s						
FRMA	Ierapetra Chan	0.72	68	P	Pn	06 29 05.6	+1.1
FRMA				S	Sn	06 29 16.7	+2.5
FRMA				AML	AML	06 29 23.5	
	comp=N,3737μm,0.5s						
FRMA				AML	AML	06 29 26.2	
	comp=E,3746μm,0.5s						
IMMV	Iera Moni Meta	1.05	313	P	Pn	06 29 10.1	+0.9
IMMV				S	Sn	06 29 25.9	+3.3
	comp=E,1μm,0.7s						
IMMV	Iera Moni Meta	1.05	313	Pn	Pn	06 29 10.4	+1.3
IMMV				Sn	Sn	06 29 25.4	+2.8
IMMV	Iera Moni Meta	1.05	313	P	Pn	06 29 10.0	+0.9
IMMV				S	Sn	06 29 24.9	+2.3
IMMV				AML	AML	06 29 31.8	
	comp=N,2599μm,0.6s						
IMMV				AML	AML	06 29 32.4	
	comp=E,2596μm,0.8s						
STIA	Sitia Lasithi	1.06	64	P	Pn	06 29 11.1	+1.9
STIA				S	Sn	06 29 25.4	+2.7
STIA	Sitia Lasithi	1.06	64	P	Pn	06 29 10.5	+1.4
STIA				S	Sn	06 29 23.6	+0.9
STIA				AML	AML	06 29 31.7	
	comp=E,2014μm,0.6s						
STIA				AML	AML	06 29 32.4	
	comp=N,1987μm,0.7s						
CHAN	Chania	1.06	317	P	Pn	06 29 10.6	+1.5
CHAN				S	Sn	06 29 24.5	+1.8
CHAN				AML	AML	06 29 37.8	
	comp=E,1998μm,0.8s						
CHAN				AML	AML	06 29 38.8	
	comp=N,2244μm,0.5s						
ZKR	Zakros	1.12	70	P	Pn	06 29 10.9	+0.8
ZKR				S	Sn	06 29 26.8	+2.5
	comp=N,642nm,0.5s						
ZKR	Zakros	1.12	70	Pn	Pn	06 29 09.8	-0.3
ZKR	Zakros	1.12	70	P	Pn	06 29 10.8	+0.8
ZKR				S	Sn	06 29 25.9	+1.6
ZKR				AML	AML	06 29 36.3	
	comp=E,1839μm,0.6s						
ZKR				AML	AML	06 29 37.1	
	comp=N,731μm,0.4s						
KNDR	Palaiochora Ch	1.13	296	P	Pn	06 29 13.1	+3.0
MHLO	Agia Marina, M	1.99	348	P	Pn	06 29 24.5	+2.5
MHLO				S	Sn	06 29 48.8	+3.2
KARP	Karpathos	2.00	66	P	Pn	06 29 24.8	+2.7
KARP	Karpathos	2.00	66	Pn	Pn	06 29 22.7	+0.6
APE	Apeiranthos	2.37	12	P	Pn	06 29 28.2	+0.9
APE	Apeiranthos	2.37	12	Pn	Pn	06 29 28.4	+1.1
ARG	Arkhangelos	3.00	60	Pn	Pn	06 29 36.4	+0.6
ITM	Ithomi	3.44	316	Pn	Pn	06 29 44.5	+2.6
YER	Yerkesik	3.62	48	Pn	Pn	06 29 45.6	+1.2
DALY	Dalyan (Mula)	3.67	55	Pn	Pn	06 29 46.2	+1.2
URLA	Izmir	3.85	20	Pn	Pn	06 29 49.7	+2.1
FETY	Fethiye	3.87	60	Pn	Pn	06 29 48.6	+0.7
AKAS	Kas	4.10	67	Pn	Pn	06 29 52.0	+0.9
CAME	Cameli-Denizli	4.18	57	Pn	Pn	06 29 53.4	+1.2
APMY	Acipayam-Deniz	4.47	51	Pn	Pn	06 29 57.5	+1.4
BRTR	Keskin Array B	8.54	52	Pn	Pn	06 30 56.6	+4.5
	comp=N,0.1nm,0.3s,baz=248,slow=15,SNR=1.5						
	comp=N,0.5nm,0.6s						
BRTR	Keskin Array B	8.54	52	PKHKP	Pn	06 30 56.6	+4.5
EIL	Elat	9.88	118	Pn	Pn	06 31 07.7	-2.6
	comp=N,0.4nm,0.3s,baz=326,slow=0.8,SNR=8.1						
EIL				Sn	Sn	06 32 50.2	-10
	comp=N,0.3nm,0.3s,baz=22,slow=15,SNR=1.5						
	comp=N,1.4nm,0.4s						
HERR	Herculane	10.31	350	⇓P	Pn	06 31 20.4	+4.3
SECR		10.32	5	⇓P	Pn	06 31 15.9	-0.3
MDVR	Moldovita	10.32	347	⇑P	Pn	06 31 20.0	+3.6
FRGS	Fruska Gora	11.12	341	⇑P	Pn	06 31 26.5	-0.7
AKASG	Malin Array Be	16.25	10	Pn	Pn	06 32 35.6	-0.6
	comp=N,0.5nm,0.3s,baz=202,slow=11,SNR=4.5						
	comp=N,0.2nm,0.3s						
FINES	FINESS Array B	26.73	1	P	P	06 34 24.4	-2.2
	comp=N,0.4nm,0.4s,baz=176,slow=8.4,SNR=1.5						
	comp=N,0.4nm,0.4s						
NOA	NORSAR Array B	27.75	346	P	P	06 34 33.8	-2.0
	comp=N,0.6nm,0.8s,baz=154,slow=8.4,SNR=2.2						
	comp=N,0.6nm,0.8s						
TORD	Torodi Ar. Bea	30.07	230	P	P	06 34 51.0	-5.8
	comp=N,4.3nm,0.4s,baz=34,slow=9.0,SNR=1.5						
JMIC	Jan Mayen	40.43	344	LR	LR	06 52 34.7	
	comp=N,129nm,18.9s,baz=246,slow=35						
MKAR	Makanchi Array	44.16	56	P	P	06 36 55.9	-0.1
	comp=N,0.3nm,0.3s,baz=270,slow=8.2,SNR=9.2						
	comp=N,0.3nm,0.3s						
ZALV	Zalesovo Beam	45.43	46	P	P	06 37 06.2	+0.3
	comp=N,0.4nm,0.4s,baz=267,slow=10,SNR=2.3						
	comp=N,0.4nm,0.4s						
YKA	Yellowknife Ar	77.78	342	P	P	06 40 41.4	-2.4
	comp=N,0.1nm,0.6s,baz=32,slow=5.0,SNR=3.4						
	comp=N,0.1nm,0.6s						

ROM 14 06:29:15.8±0.1, 42.°657N±0.°004×13.°321E±0.°006, h12km, ML1.6/4, Error ellipse: s-maj=0.5km s-min=0.4km az=222.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	Pellescritta (	0.17	208	P	Pg	06 29 20.3	+0.6
RM33				S	Sg	06 29 23.

ISK ***14*** *06:32:00.6, 35°.20N×23°.41E, h5km, ML3.6/13*

ISC 14 06:31:58.0±1.2, 35°.29N±0°.04×23°.26E±0°.04, h13km±7km, n50, σ1§45/63, mb3.8/14, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KNDR	**Palaiochora Ch**	**0.35**	**99**	P	**Pg**		**06 32 05.2**	**+0.1**
KNDR				S	**Sg**		**06 32 09.4**	**-0.4**
	6μm,0.5s							
KNDR	**Palaiochora Ch**	**0.35**	**99**	Pg	**Pg**		**06 32 04.9**	**-0.1**
KNDR	**Palaiochora Ch**	**0.35**	**99**	P	**Pg**		**06 32 04.9**	**-0.1**
KNDR				S	**Sg**		**06 32 09.8**	**0.0**
KNDR				AML	AML		06 32 16.0	
	comp=E,41907μm,0.5s							
KNDR				AML	AML		06 32 18.3	
	comp=N,29431μm,0.5s							
ANKY	**Antikythira Is**	**0.57**	**3**	P	**Pb**		**06 32 10.5**	**+0.5**
ANKY				S	**Sn**		**06 32 19.9**	**-1.4**
	comp=N,3μm,0.7s							
ANKY	**Antikythira Is**	**0.57**	**3**	P	**Pb**		**06 32 10.6**	**+0.6**
ANKY				S	**Sn**		**06 32 20.1**	**-1.2**
ANKY				AML	AML		06 32 22.6	
	comp=N,7031μm,0.6s							
ANKY				AML	AML		06 32 24.1	
	comp=E,6338μm,0.8s							
IMMV	**Iera Moni Meta**	**0.61**	**74**	P	**Pb**		**06 32 11.3**	**+0.7**
IMMV				S	**Sn**		**06 32 20.2**	**-1.9**
	comp=E,4μm,0.7s							
IMMV	**Iera Moni Meta**	**0.61**	**74**	Pg	**Pn**		**06 32 11.7**	**-0.7**
IMMV				Sg	**Sb**		**06 32 19.6**	**+0.5**
IMMV	**Iera Moni Meta**	**0.61**	**74**	P	**Pn**		**06 32 11.5**	**-0.9**
IMMV				S	**Sb**		**06 32 19.7**	**+0.7**
CHAN	**Chania**	**0.68**	**70**	P	**Pn**		**06 32 12.4**	**-0.9**
CHAN				S	**Sn**		**06 32 22.4**	**-1.3**
CHAN				AML	AML		06 32 31.3	
	comp=E,4855μm,1.0s							
CHAN				AML	AML		06 32 34.2	
	comp=N,6070μm,0.8s							
GVD	**Gavdhos**	**0.81**	**124**	P	**Pg**		**06 32 13.8**	**+0.1**
GVD				S	**Sn**		**06 32 26.8**	**-0.3**
	comp=N,4μm,0.4s							
GVD	**Gavdhos**	**0.81**	**124**	Pg	**Pg**		**06 32 14.0**	**+0.3**
GVD	**Gavdhos**	**0.81**	**124**	P	**Pg**		**06 32 13.5**	**-0.3**
GVD				S	**Sg**		**06 32 24.1**	**-0.3**
GVDS	**Gavdos**	**0.81**	**123**	P	**Pg**		**06 32 13.6**	**-0.1**
GVDS				S	**Sb**		**06 32 25.8**	**+0.9**
	comp=N,2μm,0.5s							
GVDS	**Gavdos**	**0.81**	**123**	Pg	**Pg**		**06 32 13.3**	**-0.4**
PRNS	**Prines Rethymn**	**1.01**	**85**	P	**Pn**		**06 32 17.7**	**-0.3**
PRNS				S	**Sb**		**06 32 30.9**	**+0.2**
	comp=N,1μm,0.8s							
IDI	**Anoyia**	**1.33**	**90**	Pg	**Pg**		**06 32 25.1**	**+1.6**
	comp=N,51nm,0.3s,baz=259,slow=16,SNR=29							
IDI				Lg	Lg		06 32 47.1	
	comp=N,51nm,0.3s,baz=312,slow=18,SNR=5.0							
VLI	**Veliai**	**1.45**	**350**	P	**Pg**		**06 32 26.3**	**+0.5**
VLI				S	**Sg**		**06 32 46.8**	**+2.1**
	comp=N,1μm,0.9s							
VLI	**Veliai**	**1.45**	**350**	P	**Pb**		**06 32 24.6**	**-0.2**
VLI				S	**Sb**		**06 32 42.9**	**-0.4**
HRKL	**Herakleio**	**1.50**	**89**	Pn	**Pg**		**06 32 27.6**	**+0.7**
PYL	**PYLOS**	**2.02**	**323**	P	**Pg**		**06 32 36.0**	**-0.8**
KRND	**KRANIDI**	**2.09**	**358**	P	**Pg**		**06 32 36.8**	**-1.3**
ITM	**Ithomi**	**2.17**	**331**	Pn	**Pg**		**06 32 40.5**	**+0.8**
EPID	**Epidavros**	**2.32**	**357**	P	**Pb**		**06 32 40.3**	**+0.5**
ZKR	**Zakros**	**2.42**	**93**	Pn	**Pb**		**06 32 40.9**	**-0.6**
APE	**Apeiranthos**	**2.55**	**45**	Pn	**Pb**		**06 32 43.6**	**-0.1**
VLY	**Voula,Athens**	**2.59**	**9**	P	**Pb**		**06 32 42.5**	**-1.9**
KARP	**Karpathos**	**3.19**	**84**	Pn	**Pb**		**06 32 51.7**	**-2.9**
AGG	**Agios Georgios**	**3.80**	**349**	Pn	**Pb**		**06 33 03.2**	**-1.7**
CHOS	**Chios island**	**3.81**	**35**	Pn	**Pb**		**06 33 02.1**	**-3.1**
ARG	**Arkhangelos**	**4.06**	**75**	Pn	**Pn**		**06 33 03.9**	**+4.0**
URLA	**Izmir**	**4.07**	**40**	Pn	**Pb**		**06 33 05.1**	**-4.4**
BRTR	**Keskin Array B**	**9.35**	**59**	Pn	Pn		06 34 18.2	+5.5
	comp=N,0.2nm,0.3s,baz=229,slow=13,SNR=8.7							
	comp=N,3.5nm,1.0s							
MMAI	**Mount Meron Ar**	**10.31**	**99**	Pn	**Pn**		**06 34 24.7**	**-1.1**
	comp=N,1.3nm,0.3s,baz=294,slow=14,SNR=2.6							
	comp=N,1.2nm,0.5s							
GERES	**GERESS Array B**	**15.27**	**335**	Pn	**Pn**		**06 35 35.9**	**+2.5**
	comp=N,0.1nm,0.3s,baz=158,slow=11,SNR=1.9							
	comp=N,0.4nm,0.6s							
AKASG	**Malin Array Be**	**16.00**	**14**	Pn	**P**		**06 35 44.8**	**-1.3**
	comp=N,0.7nm,0.3s,baz=204,slow=11,SNR=3.4							
	comp=N,0.2nm,0.3s							
KBZ	**Khabaz**	**17.31**	**55**	P	**P**		**06 36 02.4**	**+1.7**
	comp=N,0.1nm,0.3s,baz=258,slow=8.7,SNR=4.2							
	comp=N,3.9nm,1.0s							
ESDC	**Sonseca Array**	**22.01**	**290**	P	**P**		**06 36 48.1**	**-3.9**
	comp=N,1.3nm,1.1s,baz=89,slow=11,SNR=2.5							
	comp=N,1.3nm,1.1s							
HFS	**Hagfors**	**25.62**	**349**	P	**P**		**06 37 28.4**	**+1.4**
	comp=N,1.2nm,0.5s,baz=156,slow=11,SNR=7.4							
	comp=N,1.2nm,0.5s							
FINES	**FINESS Array B**	**26.23**	**3**	P	**P**		**06 37 33.0**	**+0.6**
	comp=N,1.3nm,0.8s,baz=165,slow=12,SNR=5.6							
	comp=N,1.3nm,0.8s							
NOA	**NORSAR Array B**	**26.90**	**347**	P	**P**		**06 37 38.6**	**+0.1**
	comp=N,1.5nm,1.1s,baz=159,slow=9.9,SNR=2.1							
	comp=N,1.5nm,1.1s							
EKA	**Eskdalemuir Ar**	**27.05**	**326**	P	**P**		**06 37 39.0**	**-0.9**
	comp=N,1.3nm,0.8s,baz=126,slow=8.0,SNR=1.0							
	comp=N,1.3nm,0.8s							
GEYT	**Alibeck**	**28.00**	**74**	P	**P**		**06 37 48.3**	**-0.4**
	comp=N,0.9nm,0.4s,baz=291,slow=5.7,SNR=2.3							
	comp=N,0.9nm,0.4s							
ARU	**Arti**	**31.88**	**37**	P	**P**		**06 38 23.5**	**+0.7**
	comp=N,1.6nm,0.4s,baz=8.7,slow=21,SNR=4.0							
	comp=N,1.6nm,0.4s							
ARCES	**ARCESS Array B**	**34.32**	**1**	P	**P**		**06 38 44.5**	**+0.5**
	comp=N,1.9nm,0.9s,baz=182,slow=8.1,SNR=5.6							
	comp=N,1.9nm,0.9s							
AAK	**Ala-Archa**	**39.99**	**64**	P	**P**		**06 39 33.7**	**+1.1**
	comp=N,0.5nm,0.4s,baz=240,slow=14,SNR=1.3							
	comp=N,0.5nm,0.4s							
KURBB	**Kurchatov Array**	**42.25**	**51**	P	**P**		**06 39 52.1**	**+1.3**
	comp=N,1.3nm,0.2s,baz=279,slow=8.6,SNR=5.2							
	comp=N,1.3nm,0.2s							
MKAR	**Makanchi Array**	**45.00**	**56**	P	**P**		**06 40 14.7**	**+1.6**
	comp=N,0.8nm,0.6s,baz=277,slow=6.3,SNR=6.0							
	comp=N,0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**46.03**	**46**	P	**P**		**06 40 21.7**	**+0.6**
	comp=N,0.8nm,0.4s,baz=277,slow=8.0,SNR=4.3							
	comp=N,0.8nm,0.4s							
INK	**Inuvik**	**75.26**	**351**	P	**P**		**06 43 39.7**	**-0.4**
	comp=N,0.5nm,0.3s,baz=346,slow=4.2,SNR=5.6							
	comp=N,0.5nm,0.3s							
YKA	**Yellowknife Ar**	**76.84**	**341**	P	**P**		**06 43 48.9**	**-0.4**
	comp=N,0.8nm,0.9s,baz=29,slow=5.1,SNR=6.9							
	comp=N,0.8nm,0.9s							

IDC ***14*** *06:34:36.1±0.8, 18°.73S×176°.12E, h0km, mb4.1/10, mbtmp4.2/13, ML4.5/2, MS4.2/5, Error ellipse: s-maj=32.3km s-min=16.7km az=145.0*

NEIC ***14*** *06:34:37.8±3.0, 18°.8S±0°.1×176°.37E±0°.09, h10km±1km, mb4.7/14, Error ellipse: s-maj=20.2km s-min=11.0km az=148.0*

ISC 14 06:34:39.3±0.5, 18°.74S±0°.08×176°.30E±0°.08, h23km, n53, σ1§25/50, mb4.3/15, MS3.9/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSVF	**Nonsavu**	**1.94**	**59**	Pn	**Pn**		**06 35 11.2**	**+0.2**
	15nm,0.3s,baz=190,slow=13,SNR=11							
MSVF				Sn	**Sb**		**06 35 36.0**	**-1.9**
	46nm,0.3s,baz=158,slow=18,SNR=9.1							
MSVF				LR	LR		06 36 04.3	
	comp=Z,4μm,19.0s,baz=183,slow=42							
	572nm,1.3s							
MSVF	**Nonsavu**	**1.94**	**59**	Pn	**Pn**		**06 35 10.2**	**-0.9**
MARNC	**Mare, Loyalty**	**8.23**	**249**	Pn	**Pn**		**06 36 37.9**	**+0.5**
LIFNC	**LIFOU**	**8.77**	**255**	Pn	**Pn**		**06 36 43.5**	**-1.2**
OUENC	**Ouen Island, N**	**9.58**	**246**	Pn	**Pn**		**06 36 56.1**	**+0.2**
DZM	**Mont Dzumac**	**9.82**	**249**	Pn	**Pn**		**06 36 58.3**	**-0.9**
	14nm,1.1s,baz=88,slow=16,SNR=6.1							
DZM	**Mont Dzumac**	**9.82**	**249**		**Pn**		**06 36 59.2**	**-0.1**
FUNA	**Funafuti**	**10.54**	**16**	Pn	**Pn**		**06 37 09.1**	**0.0**
KOUNC	**Koumac, New Ca**	**11.46**	**259**	Pn	**Pn**		**06 37 22.1**	**+0.4**
AFI	**Afiamalu**	**12.41**	**69**	LR	LR		06 41 25.7	
	comp=Z,613nm,20.4s,baz=234,slow=33							
MXZ	**Matakaoa Point**	**18.84**	**175**	P	**Pn**		**06 38 58.6**	**+0.4**
MXZ				IAmb	IAmb		06 39 14.9	
	comp=Z,51nm,1.2s							
URZ	**Urewera**	**19.46**	**178**	P	**Pn**		**06 39 05.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=111,slow=6.1,SNR=17							
	comp=Z,38nm,0.9s							

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BKZ	**Black Stump Fm**	**20.36**	**180**	P	**P**		**06 39 14.1**	**-0.1**
BKZ				IAmb	IAmb		06 39 25.4	
	comp=Z,26nm,1.2s							
RAR	**Rarotonga**	**22.62**	**100**	LR	LR		06 47 36.8	
	comp=Z,317nm,19.9s,baz=252,slow=34							
TUWZ	**Tuamarina**	**22.70**	**185**	P	**P**		**06 39 39.8**	**+0.4**
THZ	**Tophouse**	**23.13**	**186**	P	**P**		**06 39 44.4**	**+0.5**
THZ				IAmb	IAmb		06 39 46.9	
	comp=Z,31nm,0.9s							
RPZ	**Rata Peaks**	**25.29**	**189**	P	**P**		**06 40 04.7**	**+0.7**
RPZ				IAmb	IAmb		06 40 42.6	
	comp=Z,37nm,1.1s							
PPT	**Papeete**	**32.42**	**93**	LR	LR		06 51 18.9	
	comp=Z,242nm,20.2s,baz=271,slow=31							
STKA	**Stephens Creek**	**33.84**	**240**	P	**P**		**06 41 19.7**	**-0.4**
	comp=Z,14nm,0.8s,baz=74,slow=10.0,SNR=18							
	comp=Z,14nm,0.8s							
STKA	**Stephens Creek**	**33.84**	**240**	P	**P**		**06 41 20.1**	**0.0**
STKA				IAmb	IAmb		06 41 20.7	
	comp=Z,3.7nm,0.9s							
MCQ	**Macquarie Isla**	**38.09**	**196**	P	**P**		**06 41 57.3**	**+1.1**
H11S2	**WAKE ISLAND Hy**	**38.18**	**345**	T	T		07 22 36.6	
	baz=166,slow=76							
H11S3	**WAKE ISLAND Hy**	**38.19**	**345**	T	T		07 22 38.5	
	baz=166							
H11S1	**WAKE ISLAND Hy**	**38.20**	**345**	T	T		07 22 38.2	
	baz=166,slow=76							
WB0	**Warramunga Arr**	**39.50**	**261**	P	**P**		**06 42 05.9**	**-2.7**
WB0				IAmb	IAmb		06 42 07.1	
	comp=Z,5.9nm,0.9s							
WRA	**Warramunga Arr**	**39.54**	**261**	P	**P**		**06 42 06.4**	**-2.4**
	comp=Z,1.6nm,0.8s,baz=96,slow=7.8,SNR=12							
WRA				PcP	**PcP**		**06 44 14.8**	**-1.4**
	comp=Z,0.7nm,1.0s,baz=119,slow=5.2,SNR=2.5							
	comp=Z,1.6nm,0.8s							
WRA	**Warramunga Arr**	**39.54**	**261**	P	**P**		**06 42 06.5**	**-2.4**
AS31	**Alice Springs**	**39.72**	**255**	P	**P**		**06 42 08.7**	**-1.7**
ASAR	**Alice Springs**	**39.72**	**255**	P	**P**		**06 42 08.5**	**-1.9**
	comp=Z,4.0nm,0.8s,baz=84,slow=9.0,SNR=37							
ASAR				PcP	**PcP**		**06 44 15.6**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=92,slow=3.4,SNR=5.2							
ASAR				LR	LR		06 57 07.0	
	comp=Z,2μm,21.9s,baz=360,slow=34							
	comp=Z,4.0nm,0.8s							
ASAR	**Alice Springs**	**39.72**	**255**	P	**P**		**06 42 08.4**	**-2.0**
FORT	**Forrest**	**45.11**	**245**	P	**P**		**06 42 52.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**47.93**	**262**	P	**P**		**06 43 15.2**	**-1.2**
MBWA	**Marble Bar**	**52.99**	**257**	P	**P**		**06 43 54.1**	**-0.5**
MBWA				IAmb	IAmb		06 44 04.4	
	comp=Z,22nm,1.3s							
TOLI2	**Tolitoli**	**57.98**	**284**	P	**P**		**06 44 31.8**	**+1.2**
QSPA	**South Pole Qui**	**71.31**	**180**	P	**P**		**06 45 56.3**	**-0.7**
QSPA				IAmb	IAmb		06 46 03.7	
	comp=Z,16nm,1.2s							
KLR	**Kul'dur**	**78.37**	**332**	P	**P**		**06 46 39.2**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=124,slow=7.3,SNR=3.6							
	comp=Z,0.7nm,0.6s							
SEY	**Seymchan**	**83.55**	**349**	P	**P**		**06 47 05.5**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=113,slow=7.5,SNR=4.4							
	comp=Z,2.2nm,0.9s							
NVAR	**Mina Array Bea**	**83.56**	**46**	P	**P**		**06 47 07.9**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=225,slow=8.9,SNR=7.5							
	comp=Z,1.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**84.47**	**291**	P	**P**		**06 47 11.8**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=119,slow=3.6,SNR=6.5							
	comp=Z,0.8nm,0.3s							
ILAR	**Eielson Array**	**87.90**	**15**	P	**P**		**06 47 26.4**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=226,slow=6.3,SNR=5.2							
	comp=Z,0.8nm,0.8s							
SONM	**Songino Array**	**90.95**	**321**	P	**P**		**06 47 41.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=74,slow=5.2,SNR=1.9							
	comp=Z,0.8nm,0.7s							
PDAR	**Pinedale Array**	**91.45**	**45**	P	**P**		**06 47 45.0**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=275,slow=4.4,SNR=2.7							
	comp=Z,0.3nm,0.8s							
DPC	**Dobruska-Polom**	**144.65**	**338**	*e*P		**PKPdf**	**06 54 13.9**	**-0.2**
KRLC	**Kraliky**	**144.71**	**337**	*e*P		**PKPdf**	**06 54 14.1**	**-0.1**
MAUC	**Maruska**	**144.88**	**335**	*e*P		**PKPdf**	**06 54 14.5**	**0.0**
CLL	**Collm**	**144.92**	**342**	*i* PKPbc		**PKPdf**	**06 54 14.2**	**-0.2**
	comp=Z,15nm,1.2s							
CLL				*i* PKiKP		**PKiKP**	**06 54 19.1**	**+0.9**
	comp=Z,11nm,1.2s							
BRG	**Berggiesshubel**	**145.01**	**340**	*e*P		**PKPdf**	**06 54 15.1**	**+0.4**
BRG				Amp			06 54 15.9	
	comp=Z,16nm,1.4s							
BRG	**Berggiesshubel**	**145.01**	**340**	P		**PKiKP**	**06 54 22.4**	**+3.9**
BRG				Amp			06 54 23.2	
	comp=Z,18nm,1.3s							
BRG	**Berggiesshubel**	**145.01**	**340**	P		PKiKP	06 54 27.7	+9.2
BRG				Amp			06 54 28.8	
	comp=Z,21nm,1.5s							
BRG				Amp			07 32 15.0	
	comp=Z,2.3nm,22.2s							
BRG				Amp			07 32 21.0	
	comp=N,1.4nm,19.4s							
BRG				Amp			07 32 22.0	
	comp=E,1.2nm,21.6s							
KHC	**Kasperske Hory**	**146.63**	**339**	*e*P		**PKPab**	**06 54 20.3**	**+0.1**
CKRC	**Cesky Krumlov**	**146.65**	**338**	*e*P		**PKiKP**	**06 54 20.8**	**-1.1**
GERES	**GERESS Array B**	**146.84**	**339**	PKPbc		**PKPab**	**06 54 20.0**	**-1.0**
	comp=E,1.4nm,0.9s,baz=27,slow=1.5,SNR=5.2							
TORD	**Torodi Ar. Bea**	**172.40**	**224**	PKPab		**PKPab**	**06 56 11.0**	**-0.7**
	comp=E,2.6nm,0.3s,baz=128,slow=3.6,SNR=1.4							

IDC ***14*** *06:40:57.6±0.5, 2°.62S×128°.95E, h0km, mb4.3/17, mbtmp4.3/20, ML4.5/2, Error ellipse: s-maj=19.5km s-min=12.4km az=70.0*

DJA ***14*** *06:41:02.1±1.1, 2°.5±3°×12°.9E±°, h20km±10km, M4.9/12, mb5.0/9, mB5.5/4, MLv4.8/12, Mw(mB)5.0/4*

NEIC ***14*** *06:41:03.5±1.3, 2°.58S±0°.07×128°.97E±0°.02, h39km±8km, mb4.8/24, Error ellipse: s-maj=10.0km s-min=2.1km az=170.0*

ISC 14 06:41:04.4±0.3, 2°.68S±0°.04×128°.92E±0°.05, h50km, n106, σ1§40/118, mb4.5/30, MS5.0/3, 1C, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSAI	**Masohi**	**0.67**	**179**	P	**Pn**		**06 41 18.0**	**+0.3**
AAI	**Ambon**	**1.24**	**216**	P	**Pn**		**06 41 27.5**	**+2.2**
NLAI	**Namlea**	**1.90**	**253**	P	**Pn**		**06 41 33.9**	**-0.5**
BNDI	**Bandanaira**	**2.08**	**152**	P	**Pn**		**06 41 39.9**	**+3.0**
BNDI	**Bandanaira**	**2.08**	**152**	P	**Pn**		**06 41 38.9**	**+2.0**
SWI	**Sorong**	**2.95**	**52**	P	**Pn**		**06 41 47.2**	**-1.6**
SWI				S	**Sn**		**06 42 21.4**	**-1.7**
SIJI	**Sorong**	**2.96**	**53**	Pn	**Pn**		**06 41 46.6**	**-2.2**
	44nm,0.3s,baz=241,slow=22,SNR=77							
SIJI				Sn	**Sn**		**06 42 21.5**	**-1.6**
	32nm,0.3s,baz=232,slow=7.2,SNR=5.0							
	112nm,0.3s							
SANI	**Sanana**	**2.99**	**282**	P	**Pn**		**06 41 47.4**	**-2.0**
SANI	**Sanana**	**2.99**	**282**	P	**Pn**		**06 41 46.1**	**-3.3**
SANI				S	**Sn**		**06 42 21.9**	**-2.1**
FAKI	**Fak Fak**	**3.34**	**94**	Pn	**Pn**		**06 41 52.7**	**-1.4**
FAKI	**Fak Fak**	**3.34**	**94**	P	**Pn**		**06 41 52.8**	**-1.3**
TNTI	**Ternate**	**3.76**	**336**	Pn	**Pn**		**06 41 57.2**	**-2.7**
TNTI	**Ternate**	**3.76**	**336**	P	**Pn**		**06 41 59.7**	**-0.2**
RKPI	**Ransiki, Papua**	**5.38**	**78**	P	**Pn**		**06 42 21.1**	**-1.1**
	388nm,0.9s,17μm4.8nm							
LUWI	**Luwuk**	**6.35**	**285**		**Pn**		**06 42 33.4**	**-2.1**
LUWI	**Luwuk**	**6.35**	**285**	P	**Pn**		**06 42 33.6**	**-1.9**
	130nm,0.6s,1.2nm							
GTOI	**Gorontalo**	**6.76**	**299**	P	**Pn**		**06 42 41.2**	**+0.1**
	47nm,1.3s,958nm0.3nm							
APSI	**Ampana**	**7.47**	**283**	P	**Pn**		**06 42 49.4**	**-1.5**
	507nm,0.9s,6μm2.1nm							
MRSI	**Marisa**	**7.64**	**294**	P	**Pn**		**06 42 50.9**	**-2.3**
	116nm,0.7s,2μm0.4nm							
SOEI	**Soe**	**8.41**	**213**		**Pn**		**06 43 03.1**	**-0.8**
SOEI	**Soe**	**8.41**	**213**	P	**Pn**		**06 43 18.7**	**+15**
TOLI2	**Tolitoli**	**8.96**	**295**	Pn	**Pn**		**06 43 09.8**	**-1.5**
TOLI2	**Tolitoli**	**8.96**	**295**	P	**Pn**		**06 43 10.0**	**-1.3**
BKSI	**Bulukumba**	**9.16**	**253**	P	**Pn**		**06 43 14.0**	**0.0**
	53nm,0.9s							
SPSI	**Sidrap Palu**	**9.22**	**262**	P	**Pn**		**06 43 14.6**	**-0.3**
	72nm,0.9s							
KAPI	**Kappang**	**9.44**	**255**	Pn	**Pn**		**06 43 16.4**	**-1.4**
	3.2nm,0.4s,baz=64,slow=17,SNR=1.5							
KAPI	**Kappang**	**9.44**	**255**	Pn	**Pn**		**06 43 20.4**	**+2.6**
MPSI	**Mapaga**	**9.50**	**288**	P	**Pn**		**06 43 16.8**	**-1.9**
MTN	**Manton Dam**	**10.34**	**168**	Pn	**Pn**		**06 43 30.6**	**+0.5**
MTN	**Manton Dam**	**10.34**	**168**	P	**Pn**		**06 43 30.7**	**+0.5**
KDU	**Kakadu**	**10.55**	**161**	P	**Pn**		**06 43 31.5**	**-1.5**
KNRA	**Kununurra**	**12.92**	**181**	Pn	**Pn**		**06 44 05.4**	**0.0**
MYLDM	**Lahad Datu**	**13.01**	**307**	Pn	**Pn**		**06 44 05.7**	**-0.9**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**15.66**	**192**	Pn	**Pn**		**06 44 41.7**	**-0.2**
WB0	**Warramunga Arr**	**17.81**	**163**	P	**Pn**		**06 45 06.5**	**-2.3**
WB0				IAmb	IAmb		06 45 22.3	
	comp=Z,43nm,0.9s							
WRAB	**Tennant Creek**	**17.95**	**163**	P	**P**		**06 45 08.7**	**-1.9**
WRAB				IAmb	IAmb		06 45 12.8	
	comp=Z,78nm,1.3s							
WRA	**Warramunga Arr**	**17.96**	**163**	P	**P**		**06 45 08.3**	**-2.3**
	comp=Z,2.3nm,0.3s,baz=344,slow=12,SNR=32							
WRA				S	**Sn**		**06 48 26.1**	**-4.1**
	comp=Z,1.8nm,0.8s,baz=336,slow=24,SNR=2.6							
	comp=Z,19nm,0.6s							
COEN	**Coen**	**18.00**	**129**	P	**P**		**06 45 10.1**	**-1.1**
COEN	**Coen**	**18.00**	**129**	P	**Pn**		**06 45 11.8**	**+0.6**
MBWA	**Marble Bar**	**20.43**	**205**	P	**P**		**06 45 36.8**	**-1.0**
MBWA				IAmb	IAmb		06 45 38.1	
	comp=Z,85nm,1.0s							
MBWA	**Marble Bar**	**20.43**	**205**	P	**P**		**06 45 36.7**	**-1.0**
QIS	**Mount Isa**	**20.61**	**150**	P	**P**		**06 45 39.7**	**+0.1**
PSA00	**Pilbara Seismi**	**20.75**	**204**	P	**P**		**06 45 40.4**	**-0.8**
PSA00	**Pilbara Seismi**	**20.75**	**204**	P	**P**		**06 45 40.2**	**-0.9**
AS31	**Alice Springs**	**21.42**	**167**	P	**P**		**06 45 48.1**	**-0.2**
AS31				IAmb	IAmb		06 45 50.4	
	comp=Z,30nm,0.8s							
ASAR	**Alice Springs**	**21.42**	**167**	P	**P**		**06 45 48.2**	**-0.2**
	comp=Z,72nm,0.6s,baz=347,slow=11,SNR=264							
ASAR				S	**S**		**06 49 40.1**	**-3.3**
	comp=Z,8.6nm,0.9s,baz=348,slow=21,SNR=5.7							
ASAR	**Alice Springs**	**21.42**	**167**	P	**P**		**06 45 48.4**	**+0.1**
AS01	**Alice Springs**	**21.43**	**167**	P	**P**		**06 45 48.3**	**-0.1**
MTSU	**Mount Surprise**	**21.54**	**137**	P	**P**		**06 45 52.8**	**+3.1**
WRKA	**Warakurna**	**22.24**	**181**	P	**P**		**06 45 56.4**	**-0.7**
CTA	**Charters Tower**	**24.21**	**137**	P	**P**		**06 46 16.6**	**0.0**
	comp=Z,8.5nm,0.9s,baz=321,slow=9.6,SNR=9.1							
	comp=Z,8.5nm,0.9s							
CTAO	**Charters Tower**	**24.21**	**137**	P	**P**		**06 46 17.2**	**+0.6**
CTAO				IAmb	IAmb		06 46 23.6	
	comp=Z,30nm,1.5s							
CTAO	**Charters Tower**	**24.21**	**137**	P	**P**		**06 46 18.8**	**+2.3**
MYKOM	**Kota Tinggi**	**25.45**	**280**	P	**P**		**06 46 28.8**	**+0.9**
MEEK	**Meekatharra**	**25.80**	**202**	P	**P**		**06 46 29.6**	**-1.3**
OOD	**Oodnadatta**	**25.80**	**166**	P	**P**		**06 46 31.2**	**+0.3**
INKA	**Innaminka**	**27.37**	**157**	P	**P**		**06 46 46.8**	**+1.8**
MULG	**Mulgathing**	**27.89**	**170**	P	**P**		**06 46 49.4**	**-0.2**
RPSI	**Rantau Prapat**	**30.45**	**280**	P	**P**		**06 47 12.2**	**-0.4**
RPSI				IAmb	IAmb		06 47 14.2	
	comp=Z,9.1nm,0.8s							
RPSI	**Rantau Prapat**	**30.45**	**280**	P	**P**		**06 47 12.2**	**-0.4**
PSI	**Prapat**	**30.47**	**280**	P	**P**		**06 47 12.2**	**-0.7**
	comp=Z,11nm,0.9s,baz=107,slow=5.1,S

comp=Z,4.3nm,0.9s,baz=310,slow=7.0,SNR=7.8
comp=Z,4.3nm,0.9s

VNDA	**Vanda**	**76.84**	**173**	P		**P**	**06 52 51.5**	**+0.9**
VNDA				IAmb		IAmb	06 52 54.7	

comp=Z,18nm,1.4s

NRIK	**Noril'sk**	**77.13**	**346**	P		**P**	**06 52 51.6**	**-0.6**

comp=Z,1.6nm,0.3s,baz=133,slow=5.4,SNR=5.3
comp=Z,1.6nm,0.3s

RAYN	**Ar Rayn**	**85.02**	**294**	P		**P**	**06 53 35.0**	**-0.3**
RAYN				IAmb		IAmb	06 53 38.2	

comp=Z,13nm,1.1s

QSPA	**South Pole Qui**	**87.27**	**180**	P		**P**	**06 53 46.1**	**+0.5**

comp=Z,5.0nm,1.0s,baz=335,slow=2.9,SNR=7.9
comp=Z,5.0nm,1.0s

QSPA	**South Pole Qui**	**87.27**	**180**	P		**P**	**06 53 46.1**	**+0.5**
QSPA				IAmb		IAmb	06 53 47.2	

comp=Z,7.9nm,1.1s

KBZ	**Khabaz**	**88.95**	**314**	P		**P**	**06 53 54.2**	**+0.4**

comp=Z,1.7nm,0.8s,baz=127,slow=5.1,SNR=2.7
comp=Z,1.7nm,0.8s

ILAR	**Eielson Array**	**89.92**	**25**	P		**P**	**06 53 58.0**	**+0.1**

comp=Z,0.5nm,0.8s,baz=292,slow=5.8,SNR=4.4
comp=Z,0.5nm,0.8s

BRTR	**Keskin Array B**	**95.76**	**309**	P		**P**	**06 54 24.9**	**-0.8**

comp=Z,0.8nm,0.8s,baz=29,slow=3.3,SNR=2.3
comp=Z,0.8nm,0.8s

PDAR	**Pinedale Array**	**114.58**	**44**	PKP		**PKiKP**	**06 59 39.2**	**-0.5**

comp=Z,0.2nm,0.7s,baz=180,slow=0.9,SNR=1.8

LVC	**Limon Verde**	**149.43**	**146**	PKPbc		**PKPbc**	**07 00 49.1**	**-0.2**

comp=Z,2.8nm,0.6s,baz=243,slow=2.3,SNR=3.4

CPUP	**Villa Florida**	**150.54**	**169**	PKPbc		**PKiKP**	**07 00 52.0**	**-0.2**

comp=Z,8.2nm,0.9s,baz=214,slow=2.9,SNR=17

NNA	**Nana**	**150.54**	**120**	PKPbc		**PKiKP**	**07 00 52.0**	**-0.6**

comp=Z,4.0nm,0.3s,baz=272,slow=5.2,SNR=4.5

SIV	**San Ignacio**	**158.99**	**152**	PKPab		**PKPab**	**07 01 36.4**	**+2.2**

comp=Z,1.0nm,0.4s,baz=242,slow=6.7,SNR=7.7

WEL 14 06:47:52.8±0.3, 42.5°S±2.1°×17.3°E±1.1°, h37km±4km, M2.4/8, ML2.7/13, MLv2.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=114.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.17**	**72**	P		Pn	06 48 01.3	-1.7
KHZ				S		Sn	06 48 06.9	-6.4
GVZ	**Greta Valley S**	**0.54**	**203**	P		Pn	06 48 05.8	+1.7
GVZ				S		Sn	06 48 14.1	+2.1
THZ	**Tophouse**	**0.77**	**336**	P		Pn	06 48 07.8	+0.6
THZ				S		Sn	06 48 18.1	+0.5
LTZ	**Lake Taylor**	**0.84**	**248**	P		Pn	06 48 09.3	+1.2
LTZ				S		Sn	06 48 20.2	+1.0
BSWZ	**Blackbirch Sta**	**0.86**	**29**	P		Pn	06 48 10.2	+1.8
BSWZ				S		Sn	06 48 21.8	+2.1
MRNZ	**Matariki Terra**	**1.15**	**338**	P		Pn	06 48 13.6	+1.3
MRNZ				S		Sn	06 48 27.4	+0.6
NNZ	**Nelson**	**1.25**	**2**	P		Pn	06 48 15.0	+1.3
NNZ				S		Sn	06 48 30.8	+1.6
OKCZ	**Okains Bay**	**1.27**	**189**	P		Pn	06 48 14.9	+0.9
OKCZ				S		Sn	06 48 30.6	+0.8
MQZ	**McQueen's Vall**	**1.33**	**201**	P		Pn	06 48 14.8	0.0
MQZ				S		Sn	06 48 30.0	-1.2
DSZ	**Denniston Nort**	**1.34**	**302**	P		Pn	06 48 16.2	+1.2
DSZ				S		Sn	06 48 31.6	+0.1
INZ	**Inchbonnie**	**1.41**	**259**	P		Pn	06 48 17.0	+1.2
INZ				S		Sn	06 48 33.0	-0.2
AKCZ	**Akaroa Harbour**	**1.44**	**192**	P		Pn	06 48 16.7	+0.5
AKCZ				S		Sn	06 48 34.0	+0.2
TCW	**Tory Channel**	**1.45**	**30**	P		Pn	06 48 17.3	+0.9
TCW				S		Sn	06 48 33.5	-0.6
TKNZ	**Takaka Hill**	**1.46**	**349**	P		Pn	06 48 18.4	+1.8
CAW	**Cannon Point**	**1.89**	**44**	P		Pn	06 48 22.9	+0.5
CAW				S		Sn	06 48 43.9	-1.0
ARCZ	**Arundel**	**2.15**	**226**	P		Pn	06 48 26.6	+0.4
ARCZ				S		Sn	06 48 51.6	0.0
OGWZ	**Otaki Gorge**	**2.15**	**41**	P		Pn	06 48 26.6	+0.5
OGWZ				S		Sn	06 48 50.3	-1.3

*IDC **14** 06:49:14.9±4.0, 50.59°S×113.66°E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=235.7km s-min=26.1km az=109.0*

ISC 14 06:49:17.1±4.2, 50.8°S±0.6×11.4°E±1.1°, h10km, n8, σ1s 02/5, mb3.7/3, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.85**	**359**	T		T	07 08 26.3	

baz=188,slow=74,SNR=5.06

H01W1	**Cape Leeuwin H**	**15.85**	**359**	T		T	07 08 19.5	

baz=188,slow=74,SNR=101

H01W3	**Cape Leeuwin H**	**15.86**	**359**	T		T	07 08 25.9	

baz=188,slow=74,SNR=78

ASAR	**Alice Springs**	**31.01**	**37**	P		**P**	**06 55 35.2**	**+0.5**

0.5nm,0.6s,baz=210,slow=7.4,SNR=8.5
0.5nm,0.6s

WRA	**Warramunga Arr**	**34.57**	**35**	P		**P**	**06 56 05.0**	**-1.0**

0.9nm,0.7s,baz=204,slow=10,SNR=7.6
0.9nm,0.7s

QSPA	**South Pole Qui**	**39.37**	**180**	P		**P**	**06 56 46.2**	**-0.3**

1.1nm,0.6s,baz=223,slow=2.7,SNR=6.9
1.1nm,0.6s

PDAR	**Pinedale Array**	**149.26**	**88**	PKPbc		**PKiKP**	**07 09 07.7**	**+0.9**

0.2nm,0.6s,baz=200,slow=2.4,SNR=2.8

YKA	**Yellowknife Ar**	**151.37**	**47**	PKPbc		**PKiKP**	**07 09 10.2**	**+0.1**

0.2nm,0.9s,baz=276,slow=4.9,SNR=2.6

*IDC **14** 06:59:11.8±2.1, 37.42°S×73.32°W, h0km, mb4.1/5, mbtmp4.0/9, ML3.7/4, Error ellipse: s-maj=56.2km s-min=26.7km az=95.0*
*GUC **14** 06:59:13.9±0.6, 37.56°S×73.61°W, h37km±4km, ML4.3*
*NEIC **14** 06:59:13.3±1.1, 37.49°S±0.05°×73.9°W±0.1°, h30km±8km, mb4.4/10, ML4.3(GUC), Error ellipse: s-maj=14.7km s-min=7.3km az=97.0*
*VAO **14** 06:59:15.2±0.8, 37.36°S×73.25°W, h10km, mb4.4*

ISC 14 06:59:12.6±3.7, 37.50°S±0.04°×73.68°W±0.08°, h18km±21km, n117, σ1s 06/118, mb4.3/7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.80**	**35**	*eP*		**Pn**	**06 59 29.5**	**+0.5**
CCSP				*i* S		**Sn**	**06 59 40.9**	**+0.4**
BI05	**Punta Hualpn**	**0.85**	**27**			**Pn**	**06 59 30.0**	**+0.3**
BI05				Sn		**Sn**	**06 59 42.4**	**+0.7**
BI05	**Punta Hualpn**	**0.85**	**27**	*i* P		**Pn**	**06 59 29.9**	**+0.3**
BI05				*i* S		**Sn**	**06 59 41.7**	**0.0**
BI05				IAML			06 59 44.2	

comp=E,31µm,0.2s

BI04	**Isla Mocha**	**0.92**	**190**	*eP*		**Pb**	**06 59 29.9**	**-0.2**
BI04				*i* S		**Sb**	**06 59 42.4**	**+0.4**
BI04				IAML			06 59 48.3	

comp=E,10µm,0.4s

LC02	**Puerto Saavedr**	**1.31**	**170**			**Pn**	**06 59 35.8**	**-0.3**
LC02	**Puerto Saavedr**	**1.31**	**170**	*i* P		**Pn**	**06 59 35.7**	**-0.3**
LC02				*i* S		**Sn**	**06 59 52.2**	**-0.8**
LC02				IAML			06 59 59.2	

comp=N,14µm,0.4s

LR03	**Panguipulli**	**2.37**	**154**			**Pn**	**06 59 51.8**	**+1.1**
LR03	**Panguipulli**	**2.37**	**154**	IAML			07 00 29.4	

comp=E,2µm,0.7s

LR04	**Corral**	**2.38**	**175**			**Pn**	**06 59 50.7**	**-0.1**
LR04	**Corral**	**2.38**	**175**	IAML			07 00 21.1	

comp=E,1µm,0.3s

ML02	**Panimavida**	**2.51**	**47**			**Pn**	**06 59 53.7**	**+1.1**
ML02	**Panimavida**	**2.51**	**47**	*eP*		**Pn**	**06 59 53.7**	**+1.1**
GO06	**Curarrehue**	**2.70**	**141**	Pn		**Pn**	**06 59 56.9**	**+1.5**
GO06	**Curarrehue**	**2.70**	**141**	*eP*		**Pn**	**06 59 56.8**	**+1.5**
GO06				*eS*		**Sn**	**07 00 27.3**	**-0.3**
GO05	**Huala**	**2.86**	**30**			**Pn**	**06 59 58.2**	**+0.8**
GO05	**Huala**	**2.86**	**30**	IAML			07 00 53.8	

comp=E,2µm,0.6s

BO03	**Pichilemu**	**3.31**	**25**	*eP*		**Pn**	**07 00 03.8**	**+0.3**
BO03				IAML			07 01 04.8	

comp=N,608nm,0.4s

LL04	**Puerto Octay**	**3.54**	**164**	Pn		**Pn**	**07 00 07.1**	**+0.3**
LL04	**Puerto Octay**	**3.54**	**164**	*eP*		**Pn**	**07 00 07.1**	**+0.3**
BO02	**Sierra Bellavi**	**3.58**	**42**	Pn		**Pn**	**07 00 08.9**	**+1.6**
BO02	**Sierra Bellavi**	**3.58**	**42**	*eP*		**Pn**	**07 00 08.2**	**+0.8**
BO01	**Tunca**	**3.75**	**35**	Pn		**Pn**	**07 00 10.6**	**+0.9**
BO01	**Tunca**	**3.75**	**35**	*eP*		**Pn**	**07 00 10.4**	**+0.7**
PLCA	**Paso Flores**	**4.04**	**144**	Pn		**Pn**	**07 00 15.6**	**+1.9**

comp=N,0.7nm,0.3s,baz=315,slow=12,SNR=3.9

PLCA				Lg		Lg	07 01 14.6	

comp=N,2.2nm,0.3s,baz=73,slow=23,SNR=3.6
comp=N,5.9nm,0.7s

PLCA	**Paso Flores**	**4.04**	**144**	Pn		**Pn**	**07 00 15.4**	**+1.8**
PLCA	**Paso Flores**	**4.04**	**144**	*eP*		**Pn**	**07 00 15.5**	**+1.9**
MT01	**Popeta**	**4.13**	**29**			**Pn**	**07 00 15.0**	**+0.1**
MT01	**Popeta**	**4.13**	**29**	*eP*		**Pn**	**07 00 15.3**	**+0.4**
VA05	**Santo Domingo**	**4.19**	**24**			**Pn**	**07 00 15.6**	**0.0**
BO04	**La Punta**	**4.30**	**36**	Pn		**Pn**	**07 00 17.8**	**+0.5**
BO04	**La Punta**	**4.30**	**36**	*eP*		**Pn**	**07 00 18.4**	**+1.1**
MT09	**Talagante**	**4.32**	**31**			**Pn**	**07 00 18.5**	**+0.9**
MT09	**Talagante**	**4.32**	**31**	*iP*		**Pn**	**07 00 18.5**	**+0.9**
LMEL	**Las Melosas**	**4.61**	**39**			**Pn**	**07 00 23.1**	**+1.5**
MT02	**Curacav**	**4.71**	**27**			**Pn**	**07 00 23.1**	**+0.1**
MT05	**Renca**	**4.75**	**31**			**Pn**	**07 00 24.6**	**+1.1**
MT03	**Universidad Ad**	**4.76**	**34**	Pn		**Pn**	**07 00 25.1**	**+1.4**
VA01	**Torpederas**	**4.77**	**21**			**Pn**	**07 00 23.7**	**+0.1**
PEL	**Peldehue**	**4.99**	**30**			**Pn**	**07 00 27.3**	**+0.6**
PEL	**Peldehue**	**4.99**	**30**	*eP*		**Pn**	**07 00 27.8**	**+1.1**
ROC1	**El Roble**	**5.01**	**27**			**Pn**	**07 00 27.7**	**+0.4**
VA06	**Catapilco**	**5.30**	**22**	Pn		**Pn**	**07 00 30.3**	**-0.6**
VA03	**San Esteban**	**5.38**	**29**			**Pn**	**07 00 32.0**	**-0.1**
GO07	**Milladeo Hill,**	**5.60**	**180**	Pn		**Pn**	**07 00 34.4**	**-0.7**
H03S1	**Juan Fernandez**	**5.61**	**309**	T		T	07 06 11.9	

baz=128,slow=75,SNR=2743

H03S3	**Juan Fernandez**	**5.62**	**309**	T		T	07 06 13.8	

baz=128,slow=75,SNR=2857

H03S2	**Juan Fernandez**	**5.63**	**309**	T		T	07 06 11.7	

baz=128,slow=75,SNR=2329

H03N3	**Juan Fernandez**	**5.89**	**312**	Pn		**Pn**	**07 00 41.0**	**+2.2**

baz=270,slow=74

H03N1	**Juan Fernandez**	**5.89**	**312**	Pn		**Pn**	**07 00 41.0**	**+2.2**

baz=119,slow=74

H03N2	**Juan Fernandez**	**5.90**	**312**	Pn		**Pn**	**07 00 40.8**	**+1.9**
CO02	**Combarbal**	**6.66**	**20**	Pn		**Pn**	**07 00 49.9**	**+0.1**
CO03	**El Pedregal**	**7.09**	**21**			**Pn**	**07 00 55.5**	**-0.2**
CFA	**Coronel Fontan**	**7.40**	**39**	Pn		**Pn**	**07 00 59.7**	**-0.1**

comp=N,3.6nm,0.3s,baz=206,slow=11,SNR=29

CFA				Sn		**Sn**	**07 02 22.4**	**-0.9**

comp=N,5.5nm,0.3s,baz=79,slow=14,SNR=2.8
comp=N,9.5nm,0.4s

GO04	**Tololo Observa**	**7.69**	**19**			**Pn**	**07 01 03.9**	**-0.2**
CO05	**La Serena**	**7.83**	**16**			**Pn**	**07 01 05.2**	**-0.5**
LCO	**Las Campanas**	**8.83**	**17**			**Pn**	**07 01 19.3**	**-0.4**
AC05	**El Transito**	**9.10**	**19**			**Pn**	**07 01 23.2**	**-0.1**
TRQA	**Tornquist**	**9.28**	**97**			**Pn**	**07 01 27.6**	**+2.0**
LVC	**Limon Verde**	**15.40**	**17**	Pn		**Pn**	**07 02 49.5**	**+0.1**

comp=N,0.2nm,0.3s,baz=222,slow=9.6,SNR=1.2
comp=N,1.3nm,0.5s

ITQB	**Itaqui**	**16.20**	**66**	*eP*		**Pn**	**07 02 57.3**	**-2.1**
PB02	**IPOC Station P**	**16.46**	**13**	P		**P**	**07 03 05.0**	**-0.5**
PB02				IAmb		IAmb	07 03 10.5	

comp=Z,12nm,0.7s

PB01	**IPOC Station P**	**16.80**	**14**	P		**P**	**07 03 09.0**	**-0.3**
PLTB	**Pedras Altas**	**17.47**	**77**	P		**Pn**	**07 03 13.6**	**-1.8**
PLTB				IAmb		IAmb	07 03 31.2	

comp=Z,16nm,1.1s

AZCA	**Azaras, Argent**	**17.57**	**63**	*eP*		**Pn**	**07 03 15.4**	**-1.3**
CPUP	**Villa Florida**	**17.77**	**56**	P		**Pn**	**07 03 18.1**	**-0.9**

comp=Z,0.1nm,0.3s,baz=211,slow=10,SNR=3.0
comp=Z,1.8nm,0.6s

CPUP	**Villa Florida**	**17.77**	**56**	*eP*		**Pn**	**07 03 19.1**	**0.0**
CPSB	**Cacapava Do Su**	**18.20**	**73**	*eP*		**Pn**	**07 03 22.4**	**-2.0**
CRSM	**Crissiumal (Br**	**19.30**	**65**	*eP*		**Pn**	**07 03 37.6**	**-0.2**
ALGR	**Alto Alegre (B**	**19.32**	**69**	*eP*		**P**	**07 03 35.5**	**-1.4**
CNLB	**Canela**	**20.69**	**73**	*eP*		**P**	**07 03 51.3**	**-0.6**
ITAB	**Concordia**	**20.84**	**67**	P		**P**	**07 03 53.5**	**+0.1**
ITAB				IAmb		IAmb	07 04 09.2	

comp=Z,22nm,1.2s

ITAB	**Concordia**	**20.84**	**67**	*eP*		**P**	**07 03 53.2**	**-0.2**
FRBT	**Francisco Belt**	**20.91**	**63**	*eP*		**P**	**07 03 53.9**	**-0.4**
MURT	**Porto Murtinho**	**21.03**	**46**	*eP*		**P**	**07 03 55.6**	**+0.1**
MCR1	**Marechal Candi**	**21.22**	**58**	*eP*		**P**	**07 03 58.8**	**+1.2**
AMBA	**Amambai (Brazi**	**21.66**	**53**	*eP*		**P**	**07 04 03.1**	**+0.8**
LPAZ	**La Paz**	**21.69**	**15**	P		**P**	**07 04 03.0**	**-0.3**

comp=Z,0.5nm,0.5s,baz=184,slow=24,SNR=4.3
comp=Z,0.5nm,0.5s

LPAZ	**La Paz**	**21.69**	**15**	P		**P**	**07 04 04.7**	**+1.4**
LPAZ	**La Paz**	**21.69**	**15**	*eP*		**P**	**07 04 05.5**	**+2.2**
TER01	**Tubaro-SC**	**22.39**	**74**	*eP*		**P**	**07 04 09.4**	**-0.7**
PTGB	**Pitanga**	**22.41**	**61**	*eP*		**P**	**07 04 10.1**	**-0.3**
BDQN	**Bodoquena, MS**	**22.48**	**46**	*eP*		**P**	**07 04 10.0**	**-1.0**
BBRB	**Robore, Bolivi**	**22.69**	**36**	*eP*		**P**	**07 04 14.2**	**+0.9**
BBLB	**La Banda, Boli**	**22.85**	**39**	*eP*		**P**	**07 04 14.2**	**-0.8**
AQDB	**Aquidauana**	**23.06**	**48**	*eP*		**P**	**07 04 16.5**	**-0.7**
BBSD	**Serra de San D**	**23.28**	**33**	*eP*		**P**	**07 04 19.0**	**-0.5**
TRCB	**Terra Rica**	**23.29**	**57**	*eP*		**P**	**07 04 19.4**	**-0.1**
PANT	**Pantanal (Braz**	**23.72**	**44**	*eP*		**P**	**07 04 22.8**	**-0.9**
SIV	**San Ignacio**	**24.16**	**31**	P		**P**	**07 04 27.8**	**-0.1**

comp=Z,3.1nm,0.8s,baz=223,slow=9.5,SNR=12
comp=Z,3.1nm,0.8s

RVDE	**Rio Verde (Bra**	**24.64**	**47**	*eP*		**P**	**07 04 32.3**	**0.0**
PCMB	**Pacaembu**	**25.03**	**57**	*eP*		**P**	**07 04 35.1**	**-0.7**
FRTB	**Fartura**	**25.04**	**63**	*eP*		**P**	**07 04 36.6**	**+0.7**
PTLB	**Pontes e Lacer**	**25.47**	**34**	*eP*		**P**	**07 04 40.3**	**+0.6**
POCN	**Pocone**	**25.61**	**40**	*eP*		**P**	**07 04 42.7**	**+1.6**
PP1B	**Ponte de Pedra**	**25.81**	**45**	*eP*		**P**	**07 04 41.9**	**-1.0**
PET01	**Itanhaem-SP**	**26.10**	**67**	*eP*		**P**	**07 04 46.2**	**+0.7**
SPB	**Sao Paulo**	**26.41**	**66**	*eP*		**P**	**07 04 49.5**	**+1.3**
PTET	**Porto Estrela**	**26.45**	**38**	*eP*		**P**	**07 04 48.8**	**+0.1**
SALV	**Santo Antonio**	**26.76**	**41**	*eP*		**P**	**07 04 51.4**	**0.0**
ITRB	**Iturama**	**26.96**	**55**	*eP*		**P**	**07 04 52.8**	**-0.6**
VAO	**Valinhos**	**27.11**	**65**	*eP*		**P**	**07 04 56.4**	**+1.8**
BB19B	**Bebedouro**	**27.25**	**60**	*eP*		**P**	**07 04 57.0**	**+1.0**
ETMB	**Extrema**	**28.38**	**16**	P		**P**	**07 05 06.8**	**+0.9**
ETMB				IAmb		IAmb	07 05 14.9	

comp=Z,7.1nm,1.3s

BDFB	**Brasilia**	**31.45**	**53**	P		**P**	**07 05 31.1**	**-2.3**

comp=Z,0.7nm,0.3s,baz=219,slow=13,SNR=1.7
comp=Z,0.7nm,0.3s

RIB01	**Linhares ES**	**34.19**	**67**	*eP*		**P**	**07 05 58.8**	**+1.7**
JANB	**Januaria**	**34.30**	**57**	*eP*		**P**	**07 05 58.3**	**+0.1**
SDBA	**SAO DESIDERIO**	**35.86**	**53**	*eP*		**P**	**07 06 11.4**	**-0.2**
SMTB	**Santa Maria do**	**37.00**	**46**	*eP*		**P**	**07 06 21.8**	**+0.5**
CMC01	**Camacan, BA**	**37.39**	**63**	*eP*		**P**	**07 06 27.2**	**+2.6**
BAUV	**El Baul**	**46.50**	**8**	P		**P**	**07 07 40.0**	**+1.0**
SRBA	**San Rafael, Bu**	**47.37**	**347**	P		**P**	**07 07 42.9**	**-2.9**
SRBA				IAmb		IAmb	07 07 49.3	

comp=Z,12nm,1.1s

DBIC	**Dimbokro**	**77.56**	**72**	P		**P**	**07 11 06.8**	**-1.0**

comp=Z,4.4nm,1.0s,baz=224,slow=6.8,SNR=2.5
comp=Z,4.4nm,1.0s

DBIC	**Dimbokro**	**77.56**	**72**	P		**P**	**07 11 07.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**86.64**	**71**	P		**P**	**07 11 55.7**	**+0.3**

comp=Z,3.1nm,0.3s,baz=239,slow=3.8,SNR=1.3
comp=Z,3.1nm,0.3s

BVAR	**Borovoye Array**	**150.70**	**46**	PKPbc		**PKiKP**	**07 19 04.8**	**+1.1**

comp=Z,0.8nm,0.6s,baz=318,slow=4.1,SNR=4.4

ZALV	**Zalesovo Beam**	**157.87**	**35**	PKPab		**PKPab**	**07 19 42.3**	**+1.7**

comp=Z,0.7nm,0.6s,baz=288,slow=1.4,SNR=2.1

MKAR	**Makanchi Array**	**159.97**	**55**	PKPab		**PKPab**	**07 19 50.3**	**+0.3**

comp=Z,0.7nm,1.0s,baz=297,slow=5.3,SNR=4.0

*NNC **14** 07:12:38.8±0.5, 49.99°N×78.68°E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=16.0km s-min=2.0km az=75.0, Suspected Mining explosion.*
*IDC **14** 07:12:39.6±0.9, 50.07°N×78.75°E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=11.5km s-min=6.2km az=60.0*

ISC 14 07:12:39.4±1.0, 50.02°N±0.05°×78.60°E±0.08°, h0km, n16, σ0s 97/28, 15C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**355**	↓P		**Pg**	**07 12 50.7**	**+0.4**
KUR07				↓S		**Sb**	**07 12 59.6**	**-1.2**
KUR06	**Kurchatov Arra**	**0.59**	**355**	↑P		**Pg**	**07 12 51.0**	**+0.4**
KUR06				↑S		**Sb**	**07 12 60.0**	**-1.4**
KUR14	**Kurchatov Arra**	**0.60**	**360**	↑P		**Pg**	**07 12 50.8**	**0.0**
KUR14				↓S		**Sg**	**07 12 59.9**	**+1.3**
KUR15	**Kurchatov Arra**	**0.60**	**358**	↓P		**Pg**	**07 12 51.0**	**+0.1**
KUR15				↓S		**Sb**	**07 13 00.5**	**-1.3**
KURBB	**Kurchatov Arra**	**0.61**	**356**	Pg		**Pg**	**07 12 51.1**	**+0.1**

1.8nm,0.3s,baz=167,slow=19,SNR=91

KURBB				Lg		Lg	07 12 59.0	

3.4nm,0.3s,baz=164,slow=40,SNR=30

KURBB	**Kurchatov Arra**	**0.61**	**356**	↑P		**Pg**	**07 12 51.1**	**+0.1**

12nm,0.3s

KURBB				↑S		**Sg**	**07 13 00.2**	**+1.3**

45nm,0.6s

KUR16	**Kurchatov Arra**	**0.61**	**354**	↑P		**Pg**	**07 12 51.5**	**+0.4**
KUR16				↑S		**Sb**	**07 13 01.1**	**-1.1**
KUR17	**Kurchatov Arra**	**0.62**	**352**	↓P		**Pg**	**07 12 51.7**	**+0.4**
KUR17				↑S		**Sb**	**07 13 01.2**	**-1.2**
KUR05	**Kurchatov Arra**	**0.63**	**356**	↑P		**Pg**	**07 12 51.5**	**+0.1**
KUR05				↓S		**Sg**	**07 13 00.6**	**+1.1**
KUR04	**Kurchatov Arra**	**0.65**	**357**	↑P		**Pg**	**07 12 51.9**	**+0.2**
KUR04				↑S		**Sg**	**07 13 01.1**	**+0.9**
MAKZ	**Makanchi**	**3.92**	**144**	↑Pg		**Pb**	**07 13 49.9**	**+0.5**

1.5nm,0.6s

MAKZ				↑Lg		Lg	07 14 39.8	

4.4nm,0.5s

MK31	**Makanchi Array**	**4.06**	**141**	↓Pn		**Pn**	**07 13 43.1**	**+0.4**

0.1nm,0.2s,baz=94,slow=46,SNR=16

MK31				↑Pg		**Pb**	**07 13 51.9**	**+0.2**

0.6nm,0.3s,baz=319,slow=13,SNR=9.2

MK31				↑Lg		Lg	07 14 44.9	

3.7nm,0.5s,baz=327,slow=26,SNR=19

MKAR	**Makanchi Array**	**4.06**	**141**	Pn		**Pn**	**07 13 43.4**	**+0.6**

0.2nm,0.3s,baz=322,slow=10.0,SNR=12

MKAR				Pg		**Pb**	**07 13 49.7**	**-2.0**

0.5nm,0.3s,baz=323,slow=15,SNR=13

MKAR				Lg		Lg	07 14 44.8	

1.2nm,0.3s,baz=332,slow=28,SNR=17
0.2nm,0.4s

MHEZ Mangahewa 3.82 18 P **Pb** 07 58 52.8 -3.4
VRZ Vera Road 3.89 23 P **Pn** 07 58 50.8 +2.9
WNVZ Wahianoa 4.00 33 P **Pn** 07 58 51.5 +2.0
WHVZ Whangaehu Hut 4.03 32 P **Pn** 07 58 53.5 +3.5
FWVZ Far West T-bar 4.04 32 P **Pn** 07 58 52.9 +2.8
BHHZ Black Hill Sta 4.06 38 P **Pn** 07 58 50.7 +0.5
KRHZ Kereru 4.08 42 P **Pn** 07 58 50.0 -0.6
NGZ Ngauruhoe 4.13 32 P **Pn** 07 58 53.1 +1.8
SNVZ South Ngauruho 4.13 32 P **Pn** 07 58 53.1 +1.7
TWVZ Taurewa 4.16 29 P **Pn** 07 58 55.8 +4.1
NNVZ North Ngauruho 4.17 32 P **Pn** 07 58 53.4 +1.5
WTVZ West Tongariro 4.17 31 P **Pn** 07 58 53.5 +1.6
ETVZ East Tongariro 4.20 32 P **Pn** 07 58 53.3 +1.0
KRVZ Karewarewa 4.21 31 P **Pn** 07 58 55.4 +3.0
TMVZ Te Maari 4.22 32 P **Pn** 07 58 53.6 +1.1
NTVZ North Tongariro 4.22 32 P **Pn** 07 58 53.9 +1.4
KAHZ Kahuranaki 4.24 48 P **Pn** 07 58 53.0 +0.3
KWHZ Kaweka Forest 4.28 41 P **Pn** 07 58 54.9 +1.6
MLZ Mavora Lakes 4.29 230 P **Pn** 07 58 52.4 -1.0
RITZ Rihia Road 4.40 33 P Pb 07 59 00.9 -5.2
HIZ Hauiti 4.49 21 P **Pn** 07 58 57.9 +1.8
HIZ Hauiti 4.49 21 P **Pn** 07 58 57.9 +1.8
BKZ Black Stump Fm 4.52 39 P **Pn** 07 58 57.4 +0.8
BKZ Black Stump Fm 4.52 39 P **Pn** 07 58 56.3 -0.3
SYZ Scrubby Hill 4.62 213 P **Pn** 07 58 57.8 -0.1
SYZ Scrubby Hill 4.62 213 P **Pn** 07 58 57.7 -0.3
WHZ Wether Hill Ro 4.71 226 P **Pn** 07 58 58.1 -1.0
TLZ Tolley Road 4.86 26 P **Pn** 07 59 03.7 +2.5
PRRZ Plateau Road 5.02 34 P Pb 07 59 10.8 -5.9
MUGZ Murupara 5.20 37 P **Pn** 07 59 07.1 +1.2
APZ The Paps 5.35 218 P **Pn** 07 59 06.7 -1.2
OMRZ Omania 5.35 32 P **Pn** 07 59 10.8 +2.7
TOZ Tahuroa Road 5.40 23 P **Pn** 07 59 11.3 +2.7
KMRZ Kaimai 5.43 27 P **Pn** 07 59 11.2 +2.1
URZ Urewera 5.53 38 Pn **Pn** 07 59 09.3 -1.1
1.0nm,0.3s,baz=180,slow=18,SNR=8.0
URZ Sn **Sn** 08 00 10.7 -2.7
1.5nm,0.3s,baz=169,slow=19,SNR=1.4
2.3nm,0.3s
URZ Urewera 5.53 38 P **Pn** 07 59 11.2 +0.8
URZ Urewera 5.53 38 P **Pn** 07 59 09.4 -1.1
AWAZ Awhitu Peninsu 5.83 15 P **Pn** 07 59 17.0 +2.5
MKAZ Moumakai 5.90 19 P **Pn** 07 59 17.2 +1.8
ETAZ East Tamaki Re 5.99 16 P **Pn** 07 59 20.4 +3.7
RUGZ Raukumara Rang 6.03 40 P **Pn** 07 59 18.0 +0.5
RVAZ Riverhead Bore 6.10 13 P Pn 07 59 23.1 +4.9
MBAZ Motutapu North 6.16 16 P **Pn** 07 59 23.6 +4.5
WIAZ Waiheke Island 6.19 18 P **Pn** 07 59 21.7 +2.2
HAZ Te Kaha 6.25 39 P **Pn** 07 59 19.1 -1.1
KUZ Kuaotunu 6.38 22 P **Pn** 07 59 24.3 +2.3
KUZ Kuaotunu 6.38 22 P **Pn** 07 59 24.4 +2.3
OUZ Omahuta 7.52 5 P **Pn** 07 59 40.2 +2.5
ASAR Alice Springs 37.29 288 P **P** 08 04 59.8 -0.1
0.6nm,0.7s,baz=125,slow=6.7,SNR=7.0
ASAR PcP **PcP** 08 07 19.9 +0.9
0.2nm,0.6s,baz=120,slow=3.2,SNR=1.3
0.6nm,0.7s
WRA Warramunga Arr 39.47 293 P **P** 08 05 18.1 -0.1
0.3nm,0.6s,baz=130,slow=7.8,SNR=6.3
0.3nm,0.6s
ARCES ARCESS Array B 148.31 339 PKPbc **PKiKP** 08 17 34.0 -0.2
2.5nm,0.9s,baz=57,slow=3.3,SNR=1.8
TORD Torodi Ar. Bea 149.54 197 PKPbc **PKPbc** 08 17 37.9 +0.6
3.7nm,0.3s,baz=183,slow=2.2,SNR=1.4

*IDC **14** 08:16:28.5±2.5, 9°.81S×78°.78W, h69km±22km, mb3.4/7, mbtmp3.7/12, Error ellipse: s-maj=37.1km s-min=14.9km az=64.0*
*VAO **14** 08:16:37.1±1.1, 9°.49S×78°.04W, h109km±11km, mb4.3*
ISC 14 08:16:27.6±0.9, 9°.76S±0°.06×78°.7W±0°.1, h55km, n50, σ1s64/42, mb3.6/7, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.63**	**6**	P	**Pn**	**08 17 10.6**	**+2.7**
	29nm,0.3s,baz=177,slow=2.3,SNR=132						
ATAH				S	**Sn**	**08 17 39.5**	**+0.7**
	199nm,0.6s,baz=135,slow=20,SNR=8.9						
NNA	**Nana**	**2.85**	**141**	P	**Pn**	**08 17 11.3**	**+0.6**
	198nm,0.3s,baz=332,slow=12,SNR=50						
NNA				S	**Sn**	**08 17 45.8**	**+2.0**
	259nm,0.3s,baz=325,slow=16,SNR=4.9						
PIAT	**Ana Tenorio**	**8.72**	**3**	*e*P	**Pn**	**08 18 35.1**	**+3.6**
OTAV	**Otavalo**	**9.94**	**1**	*e*P	Pn	08 18 53.7	+5.5
PAC1	**Pacto, Paraso**	**9.96**	**359**	*e*P	**Pn**	**08 18 51.5**	**+3.2**
TBTG	**Tabatinga, AM**	**10.31**	**58**	*e*P	**Pn**	**08 18 53.7**	**+0.8**
TBTG	**Tabatinga, AM**	**10.31**	**58**	*e*P	**Pn**	**08 18 53.6**	**+0.7**
LPAZ	**La Paz**	**12.15**	**123**	P	**Pn**	**08 19 19.8**	**+1.2**
	0.5nm,0.5s,baz=312,slow=16,SNR=2.0						
GARC	**Garzon, Huila**	**12.29**	**15**	*e*P	**Pn**	**08 19 20.4**	**+0.3**
MACC	**Macarena, Meta**	**12.77**	**25**	*e*P	**Pn**	**08 19 26.7**	**+0.2**
SGCB	**SÃ£o Gabriel d**	**15.03**	**51**	*e*P	**Pn**	**08 19 53.2**	**-3.6**
ROSC	**El Rosal**	**15.14**	**17**	P	**Pn**	**08 19 59.4**	**+0.8**
	2.5nm,0.5s,baz=264,slow=6.9,SNR=1.7						
GUY2C	**Guyana, Caldas**	**15.25**	**13**	*e*P	**P**	**08 20 06.4**	**+2.4**
TEFE	**Tefe**	**15.26**	**67**	*e*P	**Pn**	**08 19 59.1**	**-0.7**
CBOC	**Ciudad Bolivar**	**15.75**	**10**	*e*P	**Pn**	**08 20 05.5**	**-0.6**
LVC	**Limon Verde**	**15.84**	**145**	P	**Pn**	**08 20 07.8**	**+0.4**
	1.3nm,0.6s,baz=304,slow=15,SNR=1.8						
LVC	**Limon Verde**	**15.84**	**145**	*e*P	**P**	**08 20 12.2**	**+1.9**
RUSC	**La Rusia**	**16.52**	**20**	*e*P	**P**	**08 20 20.5**	**+2.4**
SIV	**San Ignacio**	**18.24**	**112**	P	**P**	**08 20 36.3**	**-0.3**
	3.6nm,0.9s,baz=293,slow=11,SNR=19						
VILB	**Vilhena**	**18.39**	**102**	*e*P	**P**	**08 20 37.5**	**-0.8**
MACA	**Manacapuru-AM**	**19.03**	**71**	*e*P	**P**	**08 20 44.3**	**-1.0**
PTLB	**Pontes e Lacer**	**19.88**	**108**	*e*P	**P**	**08 20 54.7**	**+0.2**
SDV	**Santo Domingo**	**20.18**	**24**	P	**P**	**08 20 59.1**	**+1.1**
	1.9nm,0.2s,baz=171,slow=13,SNR=2.5						
	1.9nm,0.2s						
PDRB	**Porto dos Gac**	**21.64**	**97**	*e*P	**P**	**08 21 12.6**	**-1.0**
BOAV	**Boa Vista**	**21.75**	**57**	*e*P	**P**	**08 21 11.4**	**-3.2**
SALV	**Santo Antonio**	**23.21**	**108**	*e*P	**P**	**08 21 29.9**	**-0.2**
NPGB	**Novo Progresso**	**23.22**	**85**	*e*P	**P**	**08 21 27.7**	**-2.6**
ITTB	**Itaituba**	**23.38**	**78**	*e*P	**P**	**08 21 30.4**	**-1.3**
H03N2	**Juan Fernandez**	**23.57**	**181**	T	T	08 45 36.6	
	baz=0.8,slow=75,SNR=34						
H03N1	**Juan Fernandez**	**23.57**	**180**	T	T	08 45 37.5	
	baz=0.8,slow=75,SNR=34						
H03N3	**Juan Fernandez**	**23.58**	**181**	T	T	08 45 33.3	
	baz=0.8,slow=75,SNR=34						
CFA	**Coronel Fontan**	**23.80**	**157**	P	**P**	**08 21 35.6**	**+0.2**
	0.3nm,0.3s,baz=80,slow=15,SNR=1.1						
	0.3nm,0.3s						
CPUP	**Villa Florida**	**26.07**	**132**	P	**P**	**08 21 57.0**	**+0.8**
	1.6nm,0.9s,baz=355,slow=13,SNR=3.9						
	1.6nm,0.9s						
AMBA	**Amambai (Brazi**	**26.17**	**123**	*e*P	**P**	**08 21 57.5**	**+0.4**
SNDB	**Serra Nova Dou**	**26.98**	**97**	*e*P	**P**	**08 22 04.1**	**-0.3**
MCPB	**Macapa, AP**	**28.08**	**72**	*e*P	**P**	**08 22 13.9**	**-0.4**
SMTB	**Santa Maria do**	**30.69**	**91**	*e*P	**P**	**08 22 36.6**	**-0.8**
PDAR	**Pinedale Array**	**59.40**	**334**	P	**P**	**08 26 22.8**	**-1.9**
	0.3nm,0.7s,baz=124,slow=7.5,SNR=3.8						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**60.53**	**325**	P	**P**	**08 26 32.4**	**-0.1**
	1.2nm,0.7s,baz=136,slow=7.5,SNR=8.5						
	1.2nm,0.7s						
YKA	**Yellowknife Ar**	**77.21**	**344**	P	**P**	**08 28 14.4**	**-1.0**
	0.3nm,0.6s,baz=140,slow=5.7,SNR=10						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.96**	**75**	P	**P**	**08 28 46.8**	**-0.6**
	4.4nm,0.5s,baz=263,slow=5.5,SNR=1.5						
ESDC	**Sonseca Array**	**84.64**	**48**	P	**P**	**08 28 56.1**	**+0.5**
	0.3nm,0.5s,baz=256,slow=3.8,SNR=2.7						
	0.3nm,0.5s						
H11N3	**WAKE ISLAND Hyl**	**16.12**	**287**	T	T	10 41 52.7	
	baz=100						
H11N2	**WAKE ISLAND Hyl**	**16.14**	**287**	T	T	10 41 57.3	
	baz=100						
H11N1	**WAKE ISLAND Hyl**	**16.14**	**287**	T	T	10 41 49.1	
	baz=100						
H11S2	**WAKE ISLAND Hyl**	**16.28**	**286**	T	T	10 42 02.5	
	baz=88						
H11S1	**WAKE ISLAND Hyl**	**16.29**	**286**	T	T	10 42 05.7	
	baz=88						
H11S3	**WAKE ISLAND Hyl**	**16.30**	**286**	T	T	10 42 04.5	
	baz=88						
ASAR	**Alice Springs**	**133.97**	**223**	PKP	**PKPdf**	**08 35 37.0**	**-2.6**
	0.3nm,0.8s,baz=123,slow=3.4,SNR=2.6						
WRA	**Warramunga Arr**	**136.09**	**228**	PKP	**PKPdf**	**08 35 42.9**	**-0.7**
	0.5nm,0.7s,baz=135,slow=1.7,SNR=3.0						

*IDC **14** 08:40:41.4±1.0, 49°.95N×19°.14E, h0km, mbtmp3.3/5,*

ML2.7/4, Error ellipse: s-maj=18.0km s-min=7.2km az=152.0
*MCSM **14** 08:40:41.1±0.6, 50°.N±5°.×1°.9E±°, h6km±5km, ML3.4*
*VIE **14** 08:40:41.8, 50°.00N×19°.17E, h0km, mb2.5/1, ml2.4/1 30 km S of Sosnowice Suspected Mining induced.*
*PRU **14** 08:40:41.9±0.0, 50°.16N×19°.03E, h0km*
*IPEC **14** 08:40:41.4±0.2, 50°.19N×19°.10E, h1km, ML2.5/4, Error ellipse: s-maj=2.5km s-min=1.0km az=167.0*
ISC 14 08:40:39.8±0.6, 50°.18N±0°.03×19°.17E±0°.02, h0km, n56, σ1s24/85, 7C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.41**	**84**	*e*Pg	**Pb**	**08 40 49.9**	**0.0**
OJC				*e*Sg	**Sb**	**08 40 57.5**	**+0.9**
OJC	**Ojcow**	**0.41**	**84**	Pg	**Pb**	**08 40 49.7**	**-0.2**
OKC	**Ostrava-Krasne**	**0.74**	**243**	*e*PG	**Pb**	**08 40 55.2**	**-0.4**
OKC				*e*SG	**Sg**	**08 41 04.5**	**+0.8**
OKC	**Ostrava-Krasne**	**0.74**	**243**	Pg	**Pb**	**08 40 55.3**	**-0.4**
LANS	**Liptovska Anna**	**1.05**	**169**	*e*PG	**Pb**	**08 41 00.9**	**+0.1**
LANS				*e*SG	**Sb**	**08 41 14.8**	**-0.3**
LANS				*e*LG	Lg	08 41 15.2	
NIE	**Niedzica**	**1.06**	**136**	*e*Pg	**Pn**	**08 41 02.0**	**+0.1**
NIE				*e*Sg	**Sn**	**08 41 18.8**	**+1.4**
NIE	**Niedzica**	**1.06**	**136**	Pg	**Pg**	**08 41 00.4**	**+0.4**
MORC	**Moravsky Berou**	**1.13**	**250**	⇑P	**Pn**	**08 41 02.8**	**-0.1**
MORC				⇑S	**Sn**	**08 41 18.9**	**-0.2**
MORC	**Moravsky Berou**	**1.13**	**250**	*e*PG	**Pb**	**08 41 02.6**	**+0.4**
MORC				*e*SG	**Sg**	**08 41 15.6**	**-0.4**
MORC	**Moravsky Berou**	**1.13**	**250**	*e*Pg	**Pb**	**08 41 02.5**	**+0.4**
	baz=67						
MORC				*e*Sg	**Sg**	**08 41 15.6**	**-0.4**
	89nm,0.5s,baz=67						
MAUC	**Maruska**	**1.19**	**227**	*e*PG	**Pb**	**08 41 03.6**	**+0.3**
MAUC				*e*SG	**Sb**	**08 41 19.5**	**+0.2**
	comp=Z,237nm,0.5s						
KRLC	**Kraliky**	**1.54**	**267**	*e*PG	**Pn**	**08 41 08.0**	**-0.6**
KRLC				*e*SG	**Sg**	**08 41 28.5**	**-0.8**
	comp=Z,54nm,0.4s						
KRLC	**Kraliky**	**1.54**	**267**	Pn	**Pn**	**08 41 08.2**	**-0.4**
STHS	**Stebnicka Huta**	**1.54**	**119**	*e*PN	**Pg**	**08 41 10.4**	**+1.0**
STHS				*e*SN	**Sb**	**08 41 33.9**	**+4.5**
JAVC	**Velka Javorina**	**1.64**	**217**	*e*PN	**Pb**	**08 41 11.2**	**+0.2**
JAVC	**Velka Javorina**	**1.64**	**217**	*e*Pn	**Pb**	**08 41 11.2**	**+0.2**
	baz=34						
VYHS	**Vyhne**	**1.70**	**188**	Pn	**Pn**	**08 41 10.7**	**-0.1**
VYHS	**Vyhne**	**1.70**	**188**	*e*PN	**Pn**	**08 41 10.6**	**-0.2**
VYHS				*e*SN	**Sn**	**08 41 33.2**	**0.0**
DPC	**Dobruska-Polom**	**1.84**	**276**	*e*PG	**Pn**	**08 41 13.2**	**+0.6**
DPC				*e*SG	**Sn**	**08 41 37.4**	**+0.8**
	comp=Z,42nm,0.6s						
DPC	**Dobruska-Polom**	**1.84**	**276**	Pn	**Pn**	**08 41 13.3**	**+0.6**
VRAC	**Vranov**	**1.89**	**243**	Pg	**Pb**	**08 41 14.7**	**-0.4**
	3.5nm,0.3s,baz=70,slow=16,SNR=18						
VRAC				Lg	Lg	08 41 38.4	
	9.4nm,0.3s,baz=143,slow=20,SNR=14						
VRAC	**Vranov**	**1.89**	**243**	⇑P	**Pb**	**08 41 14.7**	**-0.4**
VRAC				⇑S	**Sb**	**08 41 38.8**	**-0.4**
VRAC	**Vranov**	**1.89**	**243**	*e*PN	**Pn**	**08 41 14.3**	**+0.9**
VRAC				*e*SG	**Sb**	**08 41 39.3**	**+0.1**
VRAC	**Vranov**	**1.89**	**243**	*e*Pn	**Pn**	**08 41 14.2**	**+0.9**
	baz=60						
VRAC				*e*Sg	**Sb**	**08 41 39.3**	**+0.1**
	34nm,0.4s,baz=60						
KECS	**Kecovo**	**1.90**	**153**	*e*PN	**Pn**	**08 41 13.6**	**+0.1**
KECS				*e*LG	Lg	08 41 45.3	
OSTC	**Ostas**	**1.93**	**282**	*e*PG	**Pn**	**08 41 14.6**	**+0.7**
OSTC				*e*SG	**Sn**	**08 41 39.6**	**+0.7**
	comp=Z,36nm,0.9s						
OSTC	**Ostas**	**1.93**	**282**	Pn	**Pn**	**08 41 14.7**	**+0.8**
KSP	**Ksiaz**	**1.95**	**291**	*e*Pg	**Pg**	**08 41 17.9**	**+0.6**
KSP				*e*Sn	**Sn**	**08 41 40.1**	**+0.6**
KSP				*e*Sg	**Sg**	**08 41 43.2**	**+0.7**
KRUC	**Moravsky**	**2.12**	**239**	*e*PN	**Pn**	**08 41 17.8**	**+1.2**
KRUC				*e*SG	**Sb**	**08 41 46.9**	**+0.8**
KRUC	**Moravsky**	**2.12**	**239**	*e*Pn	**Pn**	**08 41 17.7**	**+1.2**
	baz=56						
KRUC				*e*Sg	**Sb**	**08 41 46.8**	**+0.7**
	17nm,0.3s,baz=56						
MODS	**Modra-Piesok**	**2.19**	**215**	*e*PN	**Pn**	**08 41 18.0**	**+0.5**
MODS				*e*SN	**Sn**	**08 41 43.6**	**-1.7**
PSZ	**Piszkesteto**	**2.31**	**168**	⇓P	**Pn**	**08 41 20.4**	**+1.2**
PSZ				⇑S	**Sn**	**08 41 47.2**	**-1.2**
PRU	**Pruhonice**	**2.99**	**268**	*e*SG	**Sb**	**08 42 12.5**	**+1.6**
	comp=Z,13nm,0.6s						
CONA	**Conrad Observa**	**3.13**	**225**	*e*Pn	**Pn**	**08 41 30.6**	**+0.1**
	0.9nm,0.3s						
CONA				*i* Sn	**Sn**	**08 42 08.2**	**-0.5**
	4.7nm,0.4s						
BRG	**Berggiesshubel**	**3.41**	**284**	Pg	**Pg**	**08 41 48.9**	**+3.7**
BRG				Sg	**Sg**	**08 42 29.3**	**0.0**
BRG				Amp		08 42 32.5	
	comp=Z,7.4nm,0.5s						
CKRC	**Cesky Krumlov**	**3.45**	**249**	*e*SG	**Sg**	**08 42 29.0**	**-1.6**
	comp=Z,23nm,0.9s						
KHC	**Kasperske Hory**	**3.78**	**256**	*e*PN	**Pn**	**08 41 39.5**	**+0.1**
KHC				*e*PG	**Pb**	**08 41 48.7**	**+1.2**
KHC				*e*SG	**Sg**	**08 42 39.0**	**-2.3**
	comp=Z,38nm,1.4s						
GERES	**GERESS Array B**	**3.81**	**252**	Pn	**Pn**	**08 41 40.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=66,slow=11,SNR=2.9						
GERES				Pg	**Pb**	**08 41 47.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=68,slow=18,SNR=7.2						
GERES				Lg	Lg	08 42 39.1	
	comp=Z,1.5nm,0.3s,baz=71,slow=30,SNR=7.9						
	comp=Z,0.3nm,0.4s						
CLL	**Collm**	**4.08**	**288**	*e*Sg	**Sg**	**08 42 51.0**	**+0.2**
	comp=Z,10.0nm,0.7s						
DRGR		**4.13**	**144**	⇑P	**Pn**	**08 41 45.7**	**+1.5**
DRGR				⇓S	**Sn**	**08 42 32.5**	**-0.6**
RNPP1	**Kostyukhnivka**	**4.35**	**72**	Pn	**Pn**	**08 41 48.1**	**+1.0**
BZS	**Buzias**	**4.85**	**159**	⇑P	**Pn**	**08 41 55.1**	**+1.0**
KMPD	**K-Podol'skiy**	**5.03**	**106**	Pn	**Pn**	**08 41 57.2**	**+1.3**
GZR	**Gura Zlata**	**5.37**	**152**	⇓P	**Pn**	**08 42 02.6**	**+1.3**
LUBAR	**Lubar, Ukraine**	**5.54**	**89**	Pn	**Pn**	**08 42 03.4**	**-0.1**
DIVS	**Divibare**	**6.11**	**174**	Pn	**Pn**	**08 42 11.9**	**+0.5**
AK17	**Malin Array Si**	**6.34**	**82**	Pn	**Pn**	**08 42 15.2**	**+0.8**
SORM	**Soroca**	**6.36**	**105**	Pn	**Pn**	**08 42 15.3**	**+0.6**
AK16	**Malin Array Si**	**6.37**	**82**	Pn	**Pn**	**08 42 15.3**	**+0.5**
AK14	**Malin Array Si**	**6.37**	**82**	Pn	**Pn**	**08 42 15.0**	**+0.1**
AKASG	**Malin Array Be**	**6.44**	**81**	Pn	**Pn**	**08 42 15.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=270,slow=13,SNR=1.3						
AKASG				Sn	**Sn**	**08 43 27.4**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=262,slow=23,SNR=4.2						
AKASG				Lg	Lg	08 43 59.6	
	comp=Z,0.8nm,0.3s,baz=270,slow=27,SNR=4.4						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**6.44**	**81**	Sn	**Sn**	**08 43 32.0**	**+1.9**
DAVOX	**Davos/Dischmat**	**7.05**	**245**	Lg	Lg	08 44 23.2	
	comp=Z,0.2nm,0.3s,baz=18,slow=19,SNR=2.0						
HFS	**Hagfors**	**10.45**	**345**	Pn	**Pn**	**08 43 10.1**	**-0.7**
	comp=Z,3.2nm,1.1s,baz=158,slow=16,SNR=1.4						
FINES	**FINESS Array B**	**11.93**	**16**	Pn	**Pn**	**08 43 30.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=195,slow=11,SNR=5.9						
FINES				Sn	**Sn**	**08 45 38.6**	**-6.0**
	comp=Z,0.1nm,0.3s,baz=201,slow=19,SNR=1.5						
	comp=Z,1.6nm,0.8s						
ARCES	**ARCESS Array B**	**19.66**	**7**	Pn	**P**	**08 45 09.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=1.2						
	comp=Z,2.0nm,0.9s						

IDC 14 08:44:07.0±3.3, 3°.27S×146°.42E, h0km, mb3.8/3, mbtmp3.9/4, ML1.6/1, MS3.0/1, Error ellipse: s-maj=94.6km s-min=31.5km az=89.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**5.68**	**101**	LR	LR	08 47 21.1	
	comp=Z,143nm,18.7s,baz=43,slow=34						
PMG	**Port Moresby**	**6.14**	**173**	Pn	Pn	08 45 39.6	+0.6
	0.8nm,0.3s,baz=298,slow=14,SNR=2.9						
	5.5nm,0.4s						
WRA	**Warramunga Arr**	**20.34**	**215**	P	P	08 48 45.2	+0.1
	6.9nm,0.9s,baz=38,slow=11,SNR=35						
	6.9nm,0.9s						
ASAR	**Alice Springs**	**23.61**	**210**	P	P	08 49 19.7	-0.2
	3.1nm,0.8s,baz=44,slow=7.5,SNR=33						
	3.1nm,0.8s						
MKAR	**Makanchi Array**	**75.04**	**320**	P	P	08 55 50.8	0.0
	0.3nm,0.8s,baz=92,slow=7.2,SNR=1.8						
	0.3nm,0.8s						

*MDD **14** 08:47:31.3±0.9, 29°.03N×16°.81W, h35km±30km, mb_Lg2.9/10, Error ellipse: s-maj=12.6km s-min=4.8km az=179.0*
ISC 14 08:47:25.7±1.7, 29°.06N±0°.03×16°.81W±0°.05, h13km±13km, n16, σ1s72/29, 7C, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBOL	**Buenavista del**	**0.74**	**181**	⇑P	**Pn**	**08 47 43.6**	**+1.5**
CBOL				S	**Sn**	**08 47 51.6**	**-1.7**
CBOL				*i* Vmb_Lg		08 47 55.3	
CNOR	**Icod de los Vi**	**0.76**	**170**	⇑P	**Pn**	**08 47 44.4**	**+2.1**
CNOR				S	**Sn**	**08 47 53.6**	**-0.1**
CGUI	**Guimar, Teneri**	**0.81**	**156**	⇑P	**Pn**	**08 47 44.7**	**+1.9**
CGUI				S	**Sb**	**08 47 53.1**	**+0.7**
CGUI				*i* Vmb_Lg		08 47 56.1	
CRAJ	**Montana Rajada**	**0.82**	**167**	P	**Pn**	**08 47 45.0**	**+1.8**
CRAJ				S	**Sn**	**08 47 54.8**	**-0.5**
CRAJ				*i* Vmb_Lg		08 47 59.4	
MACI	**Morro de la Ar**	**0.85**	**162**	⇑P	**Pn**	**08 47 45.3**	**+1.7**
MACI				S	**Sn**	**08 47 54.9**	**-1.2**
MACI				*i* Vmb_Lg		08 47 58.6	
CCAN	**Las Canadas**	**0.85**	**168**	⇑P	**Pn**	**08 47 45.3**	**+1.5**
CCAN				S	**Sb**	**08 47 54.2**	**0.0**
CCAN				*i* Vmb_Lg		08 47 56.2	
CVIL	**Vilaflor**	**0.91**	**171**	⇑P	**Pn**	**08 47 46.1**	**+1.7**
CVIL				S	**Sn**	**08 47 56.3**	**-1.2**
EGOM	**La Gomera**	**0.96**	**201**	⇑P	**Pn**	**08 47 46.3**	**+1.4**
EGOM				S	**Sb**	**08 47 56.2**	**-0.7**
EGOM				*i* Vmb_Lg		08 48 02.4	
TBT	**Taburiente**	**1.04**	**249**	P	**Pn**	**08 47 47.5**	**+1.5**
TBT				S	**Sg**	**08 47 58.6**	**-0.8**
TBT				*i* Vmb_Lg		08 48 01.4	
CTIG	**El Hierro**	**1.60**	**218**	P	**Pg**	**08 47 55.9**	**-0.6**
CTIG				S	**Sn**	**08 48 13.8**	**-0.4**
CTIG				*i* Vmb_Lg		08 48 17.9	
CJUL	**El Julan, El H**	**1.74**	**220**	P	**Pb**	**08 47 57.5**	**-0.1**
CJUL				S	**Sn**	**08 48 17.0**	**-0.8**
CJUL				*i* Vmb_Lg		08 48 21.0	
CGIN	**Giniginamar, F**	**2.55**	**109**	P	**Pn**	**08 48 08.3**	**+1.5**
CGIN				S	**Sn**	**08 48 34.6**	**-3.0**
CGIN				*i* Vmb_Lg		08 48 40.2	
PMAR	**Madeira**	**3.65**	**359**	*e*P	**Pn**	**08 48 24.6**	**+2.5**
PMOZ	**Porto Moniz, M**	**3.76**	**355**	*e*P	**Pn**	**08 48 26.3**	**+2.7**
PMOZ				*e*S	**Sn**	**08 49 05.5**	**-2.3**
PMPS	**Porto Santo**	**4.00**	**6**	*e*P	**Pn**	**08 48 28.6**	**+1.8**
PMPST	**Porto Santo, M**	**4.03**	**6**	*e*S	**Sn**	**08 49 11.7**	**-2.4**
PMPST				A	A	08 49 12.9	
	90nm,0.5s						

*IDC **14** 08:49:59.2±0.9, 7°.32S×147°.16E, h0km, mb4.1/11, mbtmp4.2/14, ML3.8/2, MS3.2/2, Error ellipse: s-maj=39.2km s-min=14.8km az=91.0*
*NEIC **14** 08:50:06.7±2.3, 7°.57S±0°.06×147°.04E±0°.10, h49km±6km, mb4.3/22, Error ellipse: s-maj=14.3km s-min=7.7km az=72.0*
*DJA **14** 08:50:08.7±0.4, 8°.S±4°.×14°.7E±°, h10km, M4.3/8, mB6.4/1, mb4.4/8, MLv4.3/3, Mw(mB)6.2/1*
ISC 14 08:50:04.3±0.5, 7°.49S±0°.05×147°.13E±0°.10, h32km, n63, σ1s28/62, mb4.2/18, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.90**	**179**	Pn	**Pn**	**08 50 35.8**	**+1.3**
	636nm,0.7s,baz=9.4,slow=5.2,SNR=79						
PMG				Sn	**Sb**	**08 51 02.2**	**+0.4**
	105nm,0.3s,baz=351,slow=18,SNR=13						
PMG				LR	LR	08 51 42.0	
	comp=Z,812nm,20.7s,baz=336,slow=50						
PMG	**Port Moresby**	**1.90**	**179**		**Pn**	**08 50 34.9**	**+0.3**
PMG	**Port Moresby**	**1.90**	**179**	P	**Pn**	**08 50 36.2**	**+1.6**
PMG	**Port Moresby**	**1.90**	**179**	P	**Pn**	**08 50 36.0**	**+1.4**
MANU	**Manus Island**	**5.42**	**3**		**Pn**	**08 51 25.0**	**+2.0**
MANU	**Manus Island**	**5

	comp=Z,4.3nm,0.7s								
KURBB	**Kurchatov Arra**	**82.49**	**323**	P		**P**	**09 02 23.2**	**-0.5**	
	comp=Z,0.5nm,0.6s,baz=119,slow=3.9,SNR=6.5								
	comp=Z,0.5nm,0.6s								
M20K	**Styx River**	**82.95**	**24**	P		**P**	**09 02 28.3**	**+2.3**	
K20K	**Telida**	**83.34**	**23**	P		**P**	**09 02 30.7**	**+2.9**	
J20K	**Nowinta River**	**83.74**	**22**	P		**P**	**09 02 32.5**	**+2.6**	
J20K				IAmb		IAmb	09 02 39.6		
	comp=Z,8.4nm,1.4s								
RC01	**Rabbit Creek A**	**84.00**	**26**	P		**P**	**09 02 31.7**	**+0.4**	
CAST	**Castle Rocks**	**84.14**	**23**	P		**P**	**09 02 33.7**	**+1.7**	
CAST				IAmb		IAmb	09 02 35.6		
	comp=Z,3.4nm,1.0s								
KKAR	**Karatay Array**	**85.42**	**314**	P		**P**	**09 02 38.7**	**-0.1**	
ILAR	**Eielson Array**	**86.79**	**23**	P		**P**	**09 02 43.6**	**-1.6**	
	comp=Z,2.3nm,0.9s,baz=246,slow=4.6,SNR=16								
	comp=Z,2.3nm,0.9s								
ILAR	**Eielson Array**	**86.79**	**23**	P		**P**	**09 02 45.9**	**+0.8**	
BVAR	**Borovoye Array**	**88.04**	**324**	P		**P**	**09 02 51.1**	**-0.3**	
	comp=Z,0.6nm,0.5s,baz=182,slow=4.3,SNR=2.4								
	comp=Z,0.6nm,0.5s								
TORD	**Torodi Ar. Bea**	**145.56**	**282**	PKPbc		**PKPdf**	**09 09 40.1**	**-0.3**	
	comp=Z,3.8nm,0.6s,baz=80,slow=3.6,SNR=5.9								
BDFB	**Brasilia**	**152.56**	**147**	PKPbc		**PKiKP**	**09 09 59.3**	**+0.4**	
	comp=Z,2.2nm,0.5s,baz=208,slow=1.7,SNR=3.8								

AUST 14 08:58:01.9±2.7, 32.72S×116.46E, h3km±24km, Error ellipse: s-maj=31.9km s-min=15.3km az=69.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**0.69**	**108**	P		Pg	08 58 15.3	+0.3
	baz=0.7,SNR=10							
NWAO				P		Pg	08 58 15.3	+0.3
	baz=0.7,SNR=10							
MUN	**Mundaring**	**0.77**	**344**	P		Pg	08 58 15.8	-0.9
	baz=0.8,SNR=4.7							
MUN				S		Sb	08 58 28.3	-0.5
	baz=0.8,SNR=6.6							
KLBR	**Kellerberrin**	**1.57**	**45**	P		Pn	08 58 30.4	-0.3
	baz=1.6,SNR=13							
KLBR				S		Sg	08 58 52.8	+0.3
	baz=1.6,SNR=6.4							
RKGY	**Rocky Gully**	**1.93**	**167**	P		Pn	08 58 36.1	+0.3
	baz=1.9,SNR=5.1							
KDU	**Kakadu**	**24.75**	**40**	S		S	09 07 39.9	-7.9
	baz=25,SNR=3.5							
NFK	**Norfolk Island**	**43.98**	**99**	P		P	09 06 12.3	+1.6
	baz=44,SNR=5.2							

IDC ***14*** *09:16:56.4±0.9, 33.7°17N×140.80E, h0km, mb3.6/7, mbtmp3.7/10, ML3.4/3, MS3.6/1, Error ellipse: s-maj=19.7km s-min=17.0km az=150.0*
JMA ***14*** *09:17:03.4±0.2, 33.2°2N±0.4°×14.1°0E±0.1°, h43km±2km, MV3.8/28, E OFF HACHIJOJIMA ISLAND*
ISC 14 09:16:59.1±1.7, 33.15N±0.07°×140.64E±0.07°, h12km±10km, n38, σ1s97/37, mb4.0/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**0.69**	**267**	P		**Pg**	**09 17 13.3**	**+0.7**
JHJ2	**Mitsune**	**0.69**	**267**	*eP*		**Pg**	**09 17 13.4**	**+0.8**
JHCJ	**Hachijojimakas**	**0.71**	**264**	*eP*		**Pg**	**09 17 13.6**	**+0.6**
JHCJ				*eS*		**Sg**	**09 17 20.1**	**-2.2**
JHJ	**Hachijo jima 2**	**0.72**	**268**	Pn		**Pg**	**09 17 13.5**	**+0.3**
	350nm,0.3s,baz=88,slow=22,SNR=33							
JHJ				Sn		**Sn**	**09 17 30.2**	**+4.1**
	653nm,0.3s,baz=251,slow=23,SNR=7.5							
JMKN	**Mikurajimanish**	**1.15**	**310**	*eP*		**Pn**	**09 17 20.5**	**-0.5**
JMKN				*eS*		**Sb**	**09 17 33.1**	**-2.7**
BSO1	**Boso 1**	**1.53**	**10**	*i* P		**Pb**	**09 17 27.8**	**+0.8**
JKO	**Kozu shima**	**1.63**	**310**	P		**Pn**	**09 17 28.0**	**+0.4**
BSO3	**Boso 3**	**1.65**	**356**	P		**Pn**	**09 17 29.5**	**+1.8**
BSO3				*eS*		**Sn**	**09 17 49.7**	**+1.0**
JTHY	**Toshimahigashi**	**1.78**	**321**	P		**Pn**	**09 17 30.4**	**+0.8**
BSO4	**Boso 4**	**1.85**	**352**	*eP*		**Pb**	**09 17 33.0**	**+0.1**
JIM2	**Oshima 3**	**1.86**	**328**	P		**Pn**	**09 17 31.4**	**+0.6**
JIZS	**Izushimoda**	**2.15**	**317**	P		**Pn**	**09 17 35.4**	**+0.8**
KTJ3	**Kamata3**	**2.21**	**324**	P		**Pn**	**09 17 36.3**	**+0.7**
KTJ3				*eS*		**Sn**	**09 18 00.6**	**-2.1**
JGF	**Kuroka**	**3.66**	**313**	P		**Pn**	**09 17 57.4**	**+1.9**
INU	**Inuyama**	**3.72**	**307**	P		**Pn**	**09 17 57.9**	**+1.6**
MJAR	**Matsushiro Arr**	**3.93**	**330**	Pn		**Pn**	**09 18 02.2**	**+2.9**
	5.0nm,0.3s,baz=160,slow=13,SNR=278							
MJAR				Sn		**Sn**	**09 18 47.9**	**+2.5**
	baz=51,slow=30							
MAJO	**Matsushiro**	**3.93**	**330**	P		**Pn**	**09 18 02.6**	**+3.3**
JMM	**Marumori**	**4.71**	**1**	P		**Pn**	**09 18 12.8**	**+2.9**
JTM	**Tenmabayashi**	**7.63**	**2**	P		**Pn**	**09 18 53.0**	**+3.0**
JNU	**Nakatsue**	**8.19**	**272**	Pn		**Pn**	**09 18 60.0**	**+2.2**
	0.2nm,0.3s,baz=80,slow=12,SNR=2.2							
	13nm,1.1s							
ERM	**Erimo**	**9.07**	**12**	P		**Pn**	**09 19 12.6**	**+2.8**
JEM	**Erimo**	**9.07**	**12**	P		**Pn**	**09 19 12.8**	**+3.0**
ASAJ	**Asahikawa**	**11.06**	**7**	Pn		**Pn**	**09 19 36.2**	**-0.8**
	0.9nm,0.3s,baz=226,slow=11,SNR=11							
	3.8nm,0.5s							
KLR	**Kul'dur**	**17.38**	**340**	P		**Pn**	**09 21 00.5**	**-0.9**
	0.2nm,0.3s,baz=180,slow=5.1,SNR=2.4							
	0.9nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**26.95**	**113**	T		T	09 51 33.2	
	baz=306,slow=75,SNR=170							
H11N1	**WAKE ISLAND Hy**	**26.95**	**113**	T		T	09 51 33.7	
	baz=306,slow=75,SNR=163							
H11N3	**WAKE ISLAND Hy**	**26.97**	**113**	T		T	09 51 34.5	
	baz=306,slow=75,SNR=172							
H11S3	**WAKE ISLAND Hy**	**27.51**	**116**	T		T	09 52 04.4	
	baz=308,slow=76,SNR=46							
H11S1	**WAKE ISLAND Hy**	**27.52**	**116**	T		T	09 52 03.1	
	baz=308,slow=76,SNR=46							
H11S2	**WAKE ISLAND Hy**	**27.53**	**116**	T		T	09 52 05.7	
	baz=308,slow=76,SNR=38							
MKAR	**Makanchi Array**	**45.74**	**305**	P		**P**	**09 25 21.1**	**+0.9**
	0.2nm,0.6s,baz=85,slow=9.9,SNR=2.1							
	0.2nm,0.6s							
LEM	**Lembang**	**50.64**	**224**	LR		LR	09 48 38.4	
	comp=Z,59nm,18.4s,baz=238,slow=38							
ILAR	**Eielson Array**	**53.13**	**31**	P		**P**	**09 26 14.3**	**-2.0**
	0.4nm,1.0s,baz=272,slow=5.9,SNR=2.1							
	0.4nm,1.0s							
WRA	**Warramunga Arr**	**53.13**	**187**	P		**P**	**09 26 16.0**	**-0.8**
	0.9nm,0.3s,baz=2.1,slow=7.5,SNR=28							
	0.9nm,0.3s							
ASAR	**Alice Springs**	**56.86**	**187**	P		**P**	**09 26 43.6**	**-0.1**
	0.9nm,0.6s,baz=2.9,slow=6.3,SNR=17							
	0.9nm,0.6s							
YKA	**Yellowknife Ar**	**67.49**	**29**	P		**P**	**09 27 51.9**	**-2.6**
	baz=289,slow=4.5,SNR=1.8							
FINES	**FINESS Array B**	**71.96**	**333**	P		**P**	**09 28 21.9**	**-0.1**
	2.7nm,1.0s,baz=59,slow=8.6,SNR=2.5							
	2.7nm,1.0s							
AKASG	**Malin Array Be**	**76.98**	**323**	P		**P**	**09 28 52.5**	**+1.0**
	0.6nm,0.5s,baz=56,slow=4.5,SNR=2.4							
	0.6nm,0.5s							

VAO ***14*** *09:22:04.2±0.6, 20.84S×68.94W, h122km±6km, mb4.0*
GUC ***14*** *09:22:04.2±0.6, 20.82S×69.03W, h92km±4km, ML3.7*
ISC 14 09:22:02.3±0.8, 20.81S±0.03°×69.08W±0.08°, h104km±10km, n31, σ1s21/44, 10C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB01	**IPOC Station P**	**0.44**	**239**	*i*P		**Pn**	**09 22 18.4**	**+0.2**
PB01				*i* S		**Sn**	**09 22 28.6**	**-1.6**
PB01				IAML			09 22 30.7	
	comp=E,8μm,0.3s							
PB02	**IPOC Station P**	**0.91**	**236**	*i*P		**Pn**	**09 22 22.9**	**+0.7**
PB02				*i* S		**Sn**	**09 22 38.0**	**+0.8**
PB02				IAML			09 22 43.2	
	comp=N,5μm,0.2s							
HMBC	**Humberstone**	**0.92**	**305**	*i*P		**Pn**	**09 22 23.1**	**+0.7**
HMBC				*eS*		**Sn**	**09 22 37.8**	**+0.4**
PB09	**IPOC Station P**	**0.99**	**189**	*i*P		**Pn**	**09 22 24.0**	**+0.9**
PB09				*i* S		**Sn**	**09 22 39.6**	**+0.8**
PATCX	**Punta Patache**	**1.00**	**269**	*i*P		**Pn**	**09 22 23.9**	**+0.8**
PATCX				*i* S		**Sn**	**09 22 39.4**	**+0.6**
PATCX				IAML			09 22 45.0	
	comp=N,3μm,0.3s							
TA01	**Diego Aracena**	**1.06**	**283**	*i*P		**Pn**	**09 22 24.2**	**+0.6**
TA01				*eS*		**Sn**	**09 22 40.2**	**+0.6**
TA01				IAML			09 22 42.3	
	comp=N,2μm,0.2s							
TA02	**Huaiquique**	**1.12**	**298**	*eP*		**Pn**	**09 22 25.1**	**+0.8**
GO01	**Chusmiza**	**1.14**	**355**	*i*P		**Pn**	**09 22 26.2**	**+1.1**
PB11	**IPOC Station P**	**1.18**	**333**	*i*P		**Pn**	**09 22 26.1**	**+1.0**
PB11				IAML			09 22 45.3	
	comp=E,3μm,0.5s							
PB07	**IPOC Station P**	**1.18**	**219**	*i*P		**Pn**	**09 22 25.9**	**+0.8**
PB07				*i* S		**Sn**	**09 22 43.1**	**+0.6**
PB07				IAML			09 22 43.8	
	comp=E,2μm,0.3s							
PB03	**IPOC Station P**	**1.38**	**207**	*i*P		**Pn**	**09 22 28.3**	**+0.8**
PB03				*eS*		**Sn**	**09 22 47.1**	**+0.6**
PB03				IAML			09 22 48.9	
	comp=N,1μm,0.4s							
PSGC	**Pisagua**	**1.55**	**321**	*i*P		**Pn**	**09 22 30.3**	**+0.8**
PSGC				*i* S		**Sn**	**09 22 50.4**	**+0.3**
PSGC				IAML			09 22 54.3	
	comp=N,1μm,0.6s							
MNMC	**Minye Minye**	**1.74**	**344**	*eP*		**Pn**	**09 22 33.5**	**+1.5**
MNMC				*eS*		**Sn**	**09 22 56.3**	**+1.7**
MNMC				IAML			09 23 02.3	
	comp=N,1μm,0.2s							
LVC	**Limon Verde**	**1.80**	**175**	*i* P		**Pn**	**09 22 34.4**	**+1.6**
LVC	**Limon Verde**	**1.80**	**175**	*eP*		**Pn**	**09 22 34.8**	**+2.0**
PB04	**IPOC Station P**	**1.81**	**213**	*i*P		**Pn**	**09 22 33.3**	**+0.5**
PB04				*i* S		**Sn**	**09 22 57.1**	**+1.1**
PB04				IAML			09 23 09.0	
	comp=N,588nm,0.5s							
PB06	**IPOC Station P**	**1.94**	**193**	*i*P		**Pn**	**09 22 35.7**	**+1.3**
PB06				*eS*		**Sn**	**09 23 00.2**	**+1.3**
PB06				IAML			09 23 03.6	
	comp=E,619nm,0.2s							
PB15	**IPOC Station P**	**2.41**	**189**	*eP*		**Pn**	**09 22 42.1**	**+1.5**
PB12	**IPOC Station P**	**2.48**	**332**	*i*P		**Pn**	**09 22 41.7**	**+0.4**
PB12				*eS*		**Sn**	**09 23 12.2**	**+0.9**
PB12				IAML			09 23 19.3	
	comp=N,284nm,0.6s							
PB16	**IPOC Station P**	**2.50**	**351**	*eP*		**Pn**	**09 22 44.3**	**+2.3**
LPAZ	**La Paz**	**4.59**	**11**	*eP*		**Pn**	**09 23 12.8**	**+2.7**
PTLB	**Pontes e Lacer**	**10.85**	**62**	*eP*		**Pn**	**09 24 33.9**	**-0.7**
VILB	**Vilhena**	**11.54**	**49**	*eP*		**Pn**	**09 24 44.4**	**+0.5**
PDRB	**Porto dos Gac**	**14.97**	**54**	*eP*		**P**	**09 25 28.5**	**-3.0**
IPMB	**Ipameri, GO**	**19.89**	**85**	*eP*		**P**	**09 26 24.8**	**-0.8**
SGCB	**São Gabriel d**	**20.66**	**6**	*eP*		**P**	**09 26 33.6**	**-0.3**
ITTB	**Itaituba**	**20.87**	**40**	*eP*		**P**	**09 26 34.8**	**-1.3**
PRPB	**Parauapebas**	**23.68**	**55**	*eP*		**P**	**09 27 04.1**	**-0.6**
JANB	**Januaria**	**24.24**	**80**	*eP*		**P**	**09 27 08.7**	**-1.1**
BOAV	**Boa Vista**	**24.54**	**21**	*eP*		**P**	**09 27 13.1**	**+0.7**
NAN01	**Guarapari, ES**	**27.47**	**89**	*eP*		**P**	**09 27 38.9**	**0.0**

IDC ***14*** *09:31:43.5±0.7, 18.82S×176.31E, h0km, mb4.3/12, mbtmp4.5/15, ML3.9/2, MS3.9/33, Error ellipse: s-maj=25.3km s-min=14.4km az=146.0*
NOU ***14*** *09:31:44.8, 18.80S×176.37E, h0km, mb4.8/27, Fiji Islands Region*
NEIC ***14*** *09:31:47.0±1.0, 18.7°S±0.1°×176.34E±0.09°, h25km±6km, mb4.9/42, Error ellipse: s-maj=21.0km s-min=8.7km az=156.0*
GCMT ***14*** *09:31:50.0±0.3, 18.90S±0.04°×176.20E±0.02°, h18km±1km, MW4.9/80, Moment Tensor Solution. s25,c26; s80,c101; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.91±.20; Mθθ=0.29±. 12; Mϕϕ=2.62±.12; Mrθ=-1.60±.42; Mrϕ=0.36±.09; Mθϕ=0.37±.23; Best double couple: Mw=3.14400×10¹⁶ NP1:ϕs=167.0000°, δ51.00000°, λ=-120.00000°. NP2: ϕs=29.00000°, δ48.00000°, λ=-58.00000°. Principal axes: T 2.6780, Plg2.0000°, Azm278.0000°; N 0.9300, Plg23.0000°, Azm187.0000°; P -3.6100, Plg67.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 09:31:49.2±0.4, 18.83S±0.07°×176.30E±0.06°, h35km, n173, σ1s31/132, mb4.9/45, MS4.0/33, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**1.99**	**57**	Pn		**Pn**	**09 32 17.3**	**-3.1**
	25nm,0.3s,baz=243,slow=11,SNR=71							
MSVF				Sn		**Sn**	**09 32 43.3**	**-0.8**
	54nm,0.3s,baz=143,slow=22,SNR=11							
MSVF	**Nonsavu**	**1.99**	**57**	Pn		**Pn**	**09 32 17.5**	**-2.9**
MSVF	**Nonsavu**	**1.99**	**57**	P		**Pn**	**09 32 18.3**	**-2.1**
DGTI	**Dogotuki**	**4.13**	**53**	P		**Pn**	**09 32 47.8**	**-2.1**
TAVE	**Taveuni**	**4.19**	**60**	P		**Pn**	**09 32 49.2**	**-1.4**
RTV	**Rentapao**	**7.55**	**277**	P		**Pn**	**09 33 37.6**	**+0.8**
DVP	**Devils Point**	**7.78**	**277**	P		**Pn**	**09 33 40.7**	**+0.7**
MARNC	**Mare, Loyalty**	**8.20**	**250**			**Pn**	**09 33 44.3**	**-1.4**
MARNC	**Mare, Loyalty**	**8.20**	**250**	P		**Pn**	**09 33 45.2**	**-0.5**
LIFNC	**LIFOU**	**8.74**	**256**	Pn		**Pn**	**09 33 51.0**	**-2.2**
PINNC	**Pines Island,**	**9.10**	**244**			**Pn**	**09 33 57.6**	**-0.4**
PINNC	**Pines Island,**	**9.10**	**244**	P		**Pn**	**09 33 58.7**	**+0.7**
OUENC	**Ouen Island, N**	**9.55**	**246**	Pn		**Pn**	**09 34 03.3**	**-0.9**
OUENC	**Ouen Island, N**	**9.55**	**246**	P		**Pn**	**09 34 03.8**	**-0.4**
DZM	**Mont Dzumac**	**9.78**	**249**	*e*Pn		**Pn**	**09 34 06.6**	**-1.0**
	150nm,1.4s							
DZM				*e*LR		LR	09 36 19.5	
	comp=Z,3μm,25.6s							
DZM	**Mont Dzumac**	**9.78**	**249**	Pn		**Pn**	**09 34 06.8**	**-0.8**
	0.2nm,0.3s,baz=77,slow=15,SNR=16							
DZM				LR		LR	09 37 22.4	
	comp=Z,2μm,21.5s,baz=40,slow=35							
	32nm,1.1s							
DZM	**Mont Dzumac**	**9.78**	**249**	Pn		**Pn**	**09 34 06.5**	**-1.0**
DZM	**Mont Dzumac**	**9.78**	**249**	P		**Pn**	**09 34 07.1**	**-0.4**
ONTNC	**Ouen Toro**	**9.85**	**248**	Pn		**Pn**	**09 34 07.6**	**-0.8**
ONTNC	**Ouen Toro**	**9.85**	**248**	P		**Pn**	**09 34 08.4**	**+0.1**
KOUNC	**Koumac, New Ca**	**11.44**	**259**	Pn		**Pn**	**09 34 29.6**	**-0.6**
KOUNC	**Koumac, New Ca**	**11.44**	**259**	P		**Pn**	**09 34 30.8**	**+0.6**
AFI	**Afiamalu**	**12.45**	**69**	LR		LR	09 38 56.3	
	comp=Z,440nm,19.2s,baz=246,slow=35							
HNR	**Honiara**	**18.39**	**298**	P		**Pn**	**09 36 02.0**	**+0.5**
	175nm,0.3s,baz=178,slow=9.0,SNR=4.2							
HNR				LR		LR	09 41 56.6	
	comp=Z,7μm,19.7s,baz=119,slow=33							
MXZ	**Matakaoa Point**	**18.75**	**175**	P		**Pn**	**09 36 05.9**	**+0.2**
MXZ				IAmb		IAmb	09 36 10.2	
	comp=Z,68nm,1.3s							
HAZ	**Te Kaha**	**18.91**	**176**	P		**Pn**	**09 36 08.7**	**+1.1**
OPRZ	**Ohinepanea**	**18.95**	**179**	P		**Pn**	**09 36 09.7**	**+1.6**
PKGZ	**Pakihiroa**	**19.05**	**176**	P		**P**	**09 36 08.0**	**-0.4**
PUZ	**Puketiti**	**19.25**	**175**	P		**Pn**	**09 36 13.1**	**+1.3**
TWGZ	**Tauwhareparae**	**19.34**	**176**	P		**Pn**	**09 36 14.5**	**+1.7**
URZ	**Urewera**	**19.38**	**178**	P		**P**	**09 36 12.3**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=107,slow=5.6,SNR=28							
URZ				LR		LR	09 42 01.0	
	comp=Z,173nm,18.1s,baz=88,slow=32							
	comp=Z,111nm,1.1s							
URZ	**Urewera**	**19.38**	**178**	P		**Pn**	**09 36 14.0**	**+0.8**
MWZ	**Matawai**	**19.47**	**177**	P		**Pn**	**09 36 14.7**	**+0.3**
TMVZ	**Te Maari**	**20.22**	**181**	P		Pn	09 36 25.1	+1.7
BKZ	**Black Stump Fm**	**20.27**	**180**	P		Pn	09 36 22.7	-1.1
BKZ	**Black Stump Fm**	**20.27**	**180**	P		Pn	09 36 23.0	-0.9
BHHZ	**Black Hill Sta**	**20.59**	**181**	P		Pn	09 36 26.6	-1.0
TSZ	**Takapari Road**	**21.16**	**181**	P		**P**	**09 36 35.0**	**+3.7**
NNZ	**Nelson**	**22.46**	**186**	P		**P**	**09 36 47.4**	**+2.2**
RAR	**Rarotonga**	**22.61**	**100**	LR		LR	09 43 44.3	
	comp=Z,233nm,21.8s,baz=250,slow=32							
TUWZ	**Tuamarina**	**22.62**	**185**	P		**P**	**09 36 47.8**	**+0.9**
THZ	**Tophouse**	**23.04**	**186**	P		**P**	**09 36 52.5**	**+1.1**
THZ				IAmb		IAmb	09 36 53.2	
	comp=Z,51nm,0.8s							
KHZ	**Kahutara**	**23.63**	**185**	P		**P**	**09 36 56.6**	**-0.5**
KHZ				IAmb		IAmb	09 37 00.1	
	comp=Z,46nm,0.9s							
LTZ	**Lake Taylor**	**24.12**	**187**	IAmb		IAmb	09 37 04.9	
	comp=Z,46nm,0.7s							
INZ	**Inchbonnie**	**24.18**	**189**	IAmb		IAmb	09 37 04.2	
	comp=Z,48nm,0.8s							
EIDS	**Eidsvold**	**24.23**	**250**	P		**P**	**09 37 02.0**	**-0.8**
OXZ	**Oxford**	**24.69**	**187**	P		**P**	**09 37 06.3**	**-0.5**
MQZ	**McQueen's Vall**	**24.99**	**186**	P		**P**	**09 37 09.3**	**-0.3**
ARMA	**Armidale**	**25.16**	**238**	P		**P**	**09 37 11.2**	**-0.1**
	baz=25,SNR=7.2							
ARMA	**Armidale**	**25.16**	**238**	P		**P**	**09 37 11.3**	**-0.1**
ARMA				IAmb		IAmb	09 37 14.8	
	comp=Z,21nm,0.9s							
ARMA	**Armidale**	**25.16**	**238**	P		**P**	**09 37 13.6**	**+2.2**
	comp=Z,26nm,1.0s							
RPZ	**Rata Peaks**	**25.20**	**189**	P		**P**	**09 37 11.8**	**+0.3**
	comp=Z,6.2nm,0.3s,baz=30,slow=14,SNR=1.9							
	comp=Z,6.2nm,0.3s							
AUPHS	**Peel High Scho**	**26.00**	**237**	P		**P**	**09 37 21.0**	**+2.0**
RMQ	**Roma**	**26.49**	**248**	P		**P**	**09 37 21.3**	**-2.2**
	baz=27,SNR=4.6							
RMQ	**Roma**	**26.49**	**248**	P		**P**	**09 37 25.5**	**+2.1**
KRVT	**Keravat (AS076**	**27.75**	**298**	LR		LR	09 47 38.1	
	comp=Z,320nm,21.9s,baz=259,slow=34							
CTA	**Charters Tower**	**28.34**	**262**	P		**P**	**09 37 40.5**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=130,slow=11,SNR=3.6							
CTA				LR		LR	09 47 43.3	
	comp=Z,408nm,18.3s,baz=101,slow=34							
	comp=Z,2.7nm,0.7s							
CTAO	**Charters Tower**	**28.34**	**262**	P		**P**	**09 37 38.3**	**-1.7**
PMG	**Port Moresby**	**29.73**	**284**	LR		LR	09 48 19.0	
	comp=Z,461nm,18.6s,baz=142,slow=34							
MTSU	**Mount Surprise**	**30.32**	**266**	P		**P**	**09 37 56.7**	**-0.9**
	baz=30,SNR=4.2							
MTSU	**Mount Surprise**	**30.32**	**266**	P		**P**	**09 37 59.0**	**+1.4**
	comp=Z,6.0nm,0.8s							
CMSA	**Cobar Meteorol**	**30.34**	**239**	P		**P**	**09 37 57.1**	**-0.5**
	baz=31,SNR=10							
CMSA	**Cobar Meteorol**	**30.34**	**239**	P		**P**	**09 37 57.5**	**-0.2**
TBI	**Tubuai**	**32.22**	**104**	*e*S		**S**	**09 43 27.3**	**+2.0**
	comp=Z,637nm,25.8s							
TBI				*e*LQ		LQ	09 45 18.7	
	comp=Z,2μm,27.0s							
TBI				*e*LR		LR	09 46 39.9	
	comp=Z,4μm,29.8s							
TBI				*e*LR		LR	09 46 40.0	
	comp=Z,10μm,26.8s							
PPT2	**Papeete2**	**32.41**	**93**	*e*S		**S**	**09 43 30.4**	**+1.8**
	comp=Z,119nm,24.8s							
PPT2				*e*LR		LR	09 46 44.9	
	comp=Z,668nm,28.0s							
PPT2				*e*LR		LR	09 46 45.3	
	comp=Z,1μm,28.2s							
PPT	**Papeete**	**32.42**	**93**	LR		LR	09 48 05.7	
	comp=Z,230nm,21.4s,baz=262,slow=30							
MANU	**Manus Island**	**32.88**	**297**	P		**P**	**09 38 17.9**	**-2.3**
STKA	**Stephens Creek**	**33.79**	**241**	P		**P**	**09 38 27.4**	**-0.6**
	comp=Z,11nm,0.8s,baz=95,slow=11,SNR=15							
STKA				LR		LR	09 50 51.4	
	comp=Z,261nm,19.5s,baz=49,slow=34							
	comp=Z,11nm,0.8s							
STKA	**Stephens Creek**	**33.79**	**241**	P		**P**	**09 38 27.8**	**-0.1**
	baz=34,SNR=9.1							
STKA	**Stephens Creek**	**33.79**	**241**	P		**P**	**09 38 27.7**	**-0.2**
STKA	**Stephens Creek**	**33.79**	**241**	P		**P**	**09 38 27.7**	**-0.2**
HTT	**Hallett**	**36.36**	**239**	P		**P**	**09 38 49.8**	**-0.3**
	baz=37,SNR=4.3							
OOD	**Oodnadatta**	**38.20**	**249**	P		**P**	**09 39 07.3**	**+1.5**
H11S2	**WAKE ISLAND Hy**	**38.26**	**345**	T		T	10 19 49.6	
	baz=166,slow=76,SNR=26							
H11S3	**WAKE ISLAND Hy**	**38.27**	**345**	T		T	10 19 50.2	
	baz=166,slow=76,SNR=22							
H11S1	**WAKE ISLAND Hy**	**38.28**	**345**	T		T	10 19 49.6	
	baz=166,slow=76,SNR=20							
BBOO	**Buckleboo**	**38.57**	**241**	P		**P**	**09 39 08.3**	**-0.5**
	baz=39,SNR=7.8							
BBOO	**Buckleboo**	**38.57**	**241**	P		**P**	**09 39 08.5**	**-0.3**
BBOO				IAmb		IAmb	09 39 10.5	
	comp=Z,17nm,0.8s							
WR0	**Warramunga Arr**	**39.33**	**261**	P		**P**	**09 39 13.9**	**-1.5**
H11N1	**WAKE ISLAND Hy**	**39.40**	**346**	T		T	10 21 05.2	
	baz=165							
H11N3	**WAKE ISLAND Hy**	**39.40**	**346**	T		T	10 21 15.8	
	baz=165							
H11N2	**WAKE ISLAND Hy**	**39.41**	**346**	T		T	10 21 15.1	
	baz=165							
WB0	**Warramunga Arr**	**39.49**	**262**	P		**P**	**09 39 14.4**	**-2.3**
WB2	**Warramunga Arr**	**39.51**	**261**	P		**P**	**09 39 15.2**	**-1.6**
WRA	**Warramunga Arr**	**39.52**	**261**	P		**P**	**09

	comp=Z,1.9nm,1.0s							
KVN	**Kaiserville**	**84.07**	**45**	P		**P**	**09 44 17.0**	**+0.4**
MOD	**Modoc Plateau**	**84.08**	**42**	P		**P**	**09 44 16.8**	**+0.3**
MOD				IAmb		IAmb	09 44 26.0	
	comp=Z,8.8nm,1.4s							
TPNV	**Topopah Spring**	**84.32**	**48**	IAmb		IAmb	09 44 28.6	
	comp=Z,5.8nm,1.0s							
HHC	**Hu-ho-hao-te**	**84.39**	**316**	*e*P		**P**	**09 44 19.3**	**+1.2**
HHC				pmax		pmax		
	comp=Z,26nm,0.8s							
HHC				pmax		pmax		
	comp=Z,170nm,5.3s							
CMAR	**Chiang Mai Arr**	**84.50**	**291**	P		**P**	**09 44 19.3**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=109,slow=3.5,SNR=9.1							
CMAR				LR		LR	10 18 09.0	
	comp=Z,14nm,21.0s,baz=120,slow=33							
	comp=Z,1.4nm,0.3s							
PZH	**PanZhiHua**	**85.20**	**300**	P		**P**	**09 44 23.1**	**+0.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,70nm,4.9s							
SPR3	**Spring Creek 3**	**86.62**	**47**	P		**P**	**09 44 30.6**	**+1.0**
SPR3				IAmb		IAmb	09 44 38.8	
	comp=Z,10nm,1.5s							
G08A	**Pilot Rock**	**86.67**	**40**	P		**P**	**09 44 30.4**	**+1.0**
G08A				IAmb		IAmb	09 44 38.1	
	comp=Z,6.4nm,1.2s							
ELK	**Elko**	**86.81**	**45**	LR		LR	10 17 24.5	
	comp=Z,45nm,18.1s,baz=290,slow=32							
LZH	**Lanzhou**	**87.52**	**309**	*e*P		**P**	**09 44 35.1**	**+1.3**
LZH				sP		pP	09 44 42.3	-1.4
LZH				pmax		pmax		
	comp=Z,17nm,1.5s							
ELIB	**Princess Elisa**	**87.61**	**188**	*d*P		**P**	**09 44 32.0**	**-1.6**
	comp=Z,12nm,1.0s							
E09A	**Wood Farm, Sta**	**87.78**	**39**	P		**P**	**09 44 36.4**	**+1.8**
E09A				IAmb		IAmb	09 44 43.7	
	comp=Z,12nm,1.5s							
ILAR	**Eielson Array**	**87.99**	**15**	P		**P**	**09 44 33.7**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=233,slow=5.5,SNR=3.4							
	comp=Z,0.7nm,0.9s							
F10A	**Beach Ranch, E**	**88.07**	**40**	P		**P**	**09 44 37.2**	**+1.2**
F10A				IAmb		IAmb	09 44 44.9	
	comp=Z,7.0nm,1.1s							
YAK	**Yakutsk**	**88.63**	**340**	LR		LR	10 20 05.0	
	comp=Z,25nm,20.9s,baz=293,slow=33							
TMUT	**Trail Mountain**	**88.93**	**48**	IAmb		IAmb	09 44 51.7	
	comp=Z,8.5nm,1.3s							
HVU	**Hansel Valley**	**88.94**	**45**	IAmb		IAmb	09 44 50.6	
	comp=Z,6.2nm,1.1s							
TROLL	**Troll, Antarti**	**89.30**	**182**	P		**P**	**09 44 40.4**	**-1.2**
SRU	**San Rafael Swe**	**89.33**	**48**	IAmb		IAmb	09 44 51.8	
	comp=Z,9.4nm,1.3s							
SNAA	**Sanae**	**89.73**	**180**	P		**P**	**09 44 42.5**	**-1.0**
ANMO	**Albuquerque**	**90.64**	**53**	LR		LR	10 18 37.0	
	comp=Z,82nm,18.9s,baz=354,slow=31							
TX31	**Lajitas Ar. Si**	**90.76**	**59**	P		**P**	**09 44 48.2**	**-0.9**
SONM	**Songino Array**	**91.02**	**321**	P		**P**	**09 44 51.3**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=4.2							
	comp=Z,0.4nm,0.6s							
IMW	**Indian Meadow**	**91.08**	**44**	IAmb		IAmb	09 45 00.6	
	comp=Z,6.2nm,1.2s							
S22A	**4UR Ranch, Cre**	**91.44**	**51**	IAmb		IAmb	09 45 02.2	
	comp=Z,12nm,1.3s							
PDAR	**Pinedale Array**	**91.52**	**45**	P		**P**	**09 44 52.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=243,slow=0.6,SNR=4.2							
PDAR				LR		LR	10 22 06.7	
	comp=Z,48nm,18.1s,baz=292,slow=33							
	comp=Z,0.4nm,0.7s							
GTA	**Gaotai**	**91.79**	**311**	*e*P		**P**	**09 44 56.4**	**+2.7**
GTA				pP		pP	09 45 00.8	-2.8
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
PLCA	**Paso Flores**	**94.27**	**136**	LR		LR	10 18 04.2	
	comp=Z,38nm,21.6s,baz=227,slow=30							
YKA	**Yellowknife Ar**	**97.31**	**26**	P		Pdif	09 45 17.9	-0.4
	comp=Z,0.3nm,0.9s,baz=245,slow=4.2,SNR=3.2							
	comp=Z,0.3nm,0.9s							
WMQ	**Urumqi**	**101.81**	**312**	*e*P		**Pdif**	**09 45 37.9**	**-1.0**
OSTC	**Ostas**	**144.59**	**338**	*e*PKP		**PKPdf**	**09 51 23.3**	**+1.3**
DPC	**Dobruska-Polom**	**144.73**	**338**	*e*PKP		**PKPdf**	**09 51 21.6**	**-0.6**
KRLC	**Kraliky**	**144.78**	**337**	*e*PKP		**PKPdf**	**09 51 21.6**	**-0.8**
CLL	**Collm**	**145.00**	**342**	*e*PKPdf		**PKPdf**	**09 51 22.0**	**-0.6**
	comp=Z,19nm,1.3s							
CLL				*i* PKiKP		**PKiKP**	**09 51 27.6**	**+1.2**
	comp=Z,10.0nm,0.8s							
BRG	**Berggiesshubel**	**145.09**	**340**	*e*PKP		**PKPdf**	**09 51 22.8**	**0.0**
BRG				Amp			09 51 25.8	
	comp=Z,8.0nm,1.0s							
VYHS	**Vyhne**	**145.23**	**333**	*e*PKP		**PKPdf**	**09 51 23.3**	**+0.2**
JAVC	**Velka Javorina**	**145.42**	**335**	*e*PKP		**PKPab**	**09 51 25.0**	**+1.3**
VRAC	**Vranov**	**145.48**	**336**	*e*PKP		**PKPab**	**09 51 24.6**	**+0.8**
PRU	**Pruhonice**	**145.65**	**339**	*e*PKP		**PKPab**	**09 51 24.1**	**-0.3**
KRUC	**Moravsky**	**145.76**	**336**	*e*PKP		**PKPab**	**09 51 24.6**	**-0.2**
MODS	**Modra-Piesok**	**145.97**	**335**	*e*PKP		**PKPab**	**09 51 26.1**	**+0.4**
KHC	**Kasperske Hory**	**146.71**	**339**	*e*PKP		**PKPbc**	**09 51 27.1**	**-0.2**
CONA	**Conrad Observa**	**146.89**	**336**	*e*PKP		**PKPbc**	**09 51 27.1**	**-0.8**
	comp=Z,11nm,1.6s							
GERES	**GERESS Array B**	**146.91**	**339**	PKPbc		**PKPbc**	**09 51 27.8**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=47,slow=1.7,SNR=5.1							
WTTA	**Wattenberg**	**148.98**	**340**	*i* PKP		**PKPdf**	**09 51 29.5**	**-0.1**
	comp=Z,2.8nm,0.7s							
MOTA	**Moosalm**	**149.08**	**340**	*e*PKP		**PKPdf**	**09 51 29.6**	**-0.2**
	comp=Z,3.3nm,1.0s							
FETA	**Feichten**	**149.49**	**340**	*e*PKP		**PKPdf**	**09 51 29.9**	**-0.6**
	comp=Z,8.2nm,1.4s							

DJA 14 10:04:01.9±1.6, 6°S±4°×12°2E±°, h29km±18km, M3.9/9, mb4.2/4, mbBS.4/1, MLv3.8/9, Mw(mB)4.8/1, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.02**	**263**	P	Pn	10 04 19.7	-0.6
BSSI				S	Sb	10 04 34.7	+0.6
BBSI	**Bau Bau**	**1.18**	**64**	P	Pn	10 04 20.7	-1.7
BBSI				S	Sb	10 04 39.3	+0.8
BKSI	**Bulukumba**	**1.54**	**296**	P	Pn	10 04 27.6	+0.2
BKSI				S	Sn	10 04 46.7	+0.2
PLAI	**Plampang**	**4.64**	**233**	P	Pn	10 05 10.2	+0.1
APSI	**Ampana**	**5.07**	**2**	P	Pn	10 05 16.1	+0.1
	39nm,1.1s,0.1nm						
TWSI	**Taliwang, Sumb**	**5.33**	**239**	P	Pn	10 05 21.2	+1.6
	19nm,1.0s,0.1nm						
SANI	**Sanana**	**5.95**	**49**	P	Pn	10 05 28.4	+0.3

*IDC **14** 10:16:01.7±1.1, 0.°48N×80.°63W, h0km, mb3.6/6, mbtmp3.7/7, ML3.7/1, MS3.4/5, Error ellipse: s-maj=75.5km s-min=18.5km az=63.0*

ISC 14 10:16:02.8±0.9, 0.°26N±0.°06×80.°76W±0.°08, h10km, n29, σ1§62/26, mb3.7/5, MS3.4/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLF1	**Flavio Alfaro-**	**1.10**	**124**	*e*P	**Pb**	**10 16 24.1**	**+0.1**
FLF1				*e*P	**Pn**	10 16 25.5	+1.1
PPLP	**Puerto Lpez**	**1.79**	**181**	*e*P	**Pn**	**10 16 32.9**	**-1.0**
PAC1	**Pacto, Paraso**	**1.96**	**90**	*e*P	**Pn**	**10 16 35.1**	**-1.3**
OTAV	**Otavalo**	**2.30**	**91**	*e*P	**Pn**	**10 16 40.3**	**-1.0**
CUSE	**Cuicocha Este**	**2.36**	**89**	*e*P	**Pn**	**10 16 41.9**	**-0.1**
PIAT	**Ana Tenorio**	**2.79**	**117**	*e*P	**Pn**	**10 16 48.9**	**+1.0**
TULM	**Tulcn-Chalpat**	**3.00**	**81**	*e*P	**Pn**	**10 16 51.5**	**+0.6**
BONI	**La Bonita**	**3.23**	**87**	*e*P	**Pn**	**10 16 56.0**	**+2.1**
GCUF	**Volcan Galeras**	**3.54**	**74**	*e*P	**Pn**	**10 16 58.8**	**+0.4**
CRUC	**La Cruz**	**4.02**	**71**	*e*P	**Pn**	**10 17 05.1**	**+0.3**
CRUC				*e*P	**Pn**	**10 17 06.2**	**+1.3**
FLOC	**Florencia**	**5.27**	**76**	*e*P	**Pb**	**10 17 31.8**	**-3.3**
GARC	**Garzon, Huila**	**5.60**	**70**	*e*P	**Pn**	**10 17 25.9**	**-0.5**
YOTC	**Yotoco, Valle**	**5.75**	**50**	*e*P	**Pb**	**10 17 44.4**	**+1.0**
PLMC	**San Jos del P**	**6.42**	**44**	*e*P	**Pn**	**10 17 39.9**	**+2.3**
ORTC	**Ortega, Tolima**	**6.59**	**57**	*e*P	**Pn**	**10 17 41.6**	**+1.7**
MACC	**Macarena, Meta**	**7.15**	**75**	*e*P	**Pn**	**10 17 47.8**	**+0.2**
GUY2C	**Guyana, Caldas**	**7.30**	**47**	*e*P	**Pn**	**10 17 53.3**	**+3.2**
CBOC	**Ciudad Bolivar**	**7.31**	**40**	*e*P	**Pn**	**10 17 49.0**	**-0.9**
ATAH	**Atahualpa**	**7.71**	**162**	Pn	**Pn**	**10 17 59.4**	**+3.7**
	1.0nm,0.3s,baz=347,slow=8.2,SNR=6.6						
ATAH				LR	LR	10 21 18.2	
	comp=Z,196nm,20.3s,baz=308,slow=40						
	4.7nm,0.5s						
CHIC	**Chingaza**	**8.25**	**58**	*e*P	Pb	10 18 14.2	-12
LPAZ	**La Paz**	**20.63**	**143**	P	Pn	10 20 45.9	+0.3
	0.7nm,0.6s,baz=324,slow=17,SNR=2.1						
	0.7nm,0.6s						

CMIG	**Matias Romero**	**21.76**	**321**	LR		LR	10 27 42.8	
	comp=Z,48nm,18.6s,baz=196,slow=32							
SIV	**San Ignacio**	**25.26**	**131**	P		**P**	**10 21 30.1**	**+0.6**
	1.1nm,0.9s,baz=312,slow=6.2,SNR=3.9							
SIV				LR		LR	10 32 20.0	
	comp=Z,116nm,18.4s,baz=291,slow=39							
	1.1nm,0.9s							
CPUP	**Villa Florida**	**34.77**	**141**	LR		LR	10 39 35.1	
	comp=Z,56nm,19.3s,baz=343,slow=40							
PLCA	**Paso Flores**	**41.84**	**168**	P		**P**	**10 23 53.7**	**+0.6**
	1.0nm,0.7s,baz=342,slow=13,SNR=1.7							
	1.0nm,0.7s							
RCBR	**Riachuelo**	**45.18**	**98**	LR		LR	10 44 19.8	
	comp=Z,54nm,18.3s,baz=5.0,slow=38							
NVAR	**Mina Array Bea**	**51.28**	**322**	P		**P**	**10 25 07.7**	**+0.2**
	0.8nm,0.8s,baz=139,slow=7.6,SNR=6.8							
	0.8nm,0.8s							
ULM	**Lac du Bonnet**	**51.45**	**348**	P		**P**	**10 25 07.6**	**-0.6**
	1.1nm,0.5s,baz=124,slow=3.6,SNR=2.0							
	1.1nm,0.5s							
YKA	**Yellowknife Ar**	**67.07**	**344**	P		**P**	**10 26 55.0**	**-1.2**
	0.3nm,0.6s,baz=139,slow=5.9,SNR=7.8							
	0.3nm,0.6s							

*IDC **14** 10:20:20.3±2.9, 22.°70S×175.°68W, h0km, mb3.7/5, mbtmp3.8/6, ML4.4/1, Error ellipse: s-maj=111.8km s-min=27.6km az=147.0*

ISC 14 10:20:23.5±2.1, 22.°2S±0.°3×175.°9W±0.°3, h10km, n7, σ1§82/7, mb3.8/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.17**	**26**	Pn	**Pn**	**10 22 37.2**	**+1.1**
	3.8nm,0.3s,baz=182,slow=7.8,SNR=8.5						
AFI				Sn	**Sn**	**10 24 18.0**	**-1.5**
	0.7nm,0.3s,baz=165,slow=18,SNR=1.4						
	7.7nm,0.3s						
RAR	**Rarotonga**	**15.05**	**89**	Pn	Pn	10 23 40.2	-16
	1.6nm,0.3s,baz=270,slow=11,SNR=1.4						
CTA	**Charters Tower**	**35.27**	**266**	P	**P**	**10 27 19.2**	**+0.4**
	1.0nm,0.5s,baz=96,slow=11,SNR=1.7						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**46.02**	**258**	P	**P**	**10 28 45.6**	**-2.0**
	0.2nm,0.7s,baz=98,slow=6.9,SNR=2.9						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**46.29**	**263**	P	**P**	**10 28 48.7**	**-1.1**
	0.5nm,0.5s,baz=102,slow=8.1,SNR=7.9						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**80.98**	**42**	P	**P**	**10 32 38.1**	**-0.6**
	0.3nm,0.7s,baz=219,slow=11,SNR=3.1						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.50**	**289**	P	**P**	**10 33 37.4**	**+1.9**
	0.4nm,0.3s,baz=119,slow=2.5,SNR=4.9						
	0.4nm,0.3s						

*WEL **14** 10:25:00, 42.°19S×173.°51E, h10km, ML4.3, Mw4.1, Moment Tensor Solution. s5 Moment tensor: Scale 10^15 Nm; Mrr0.57; Mθθ0.44; Mϕϕ-1.01; Mrθ0.11; Mθϕ-1.37; Mϕr-0.10; Fault plane solution: M0 1.57000×10^15 NP1: ϕs76.00000°, δ81.00000°, λ172.00000°. NP2: ϕs167.00000°, δ82.00000°, λ9.00000°. Principal axes: T -183.3600, Plg12.0000°, Azm32.0000°; N 129.6900, Plg78.0000°, Azm208.0000°; P 53.6700, Plg1.0000°, Azm301.0000°;*

*NOU **14** 10:25:19.1, 42.°36S×173.°81E, h14km, MLv4.6/16, South Island, New Zealand*

*WEL **14** 10:25:20.0±0.6, 42.°3S±3.°×17.°4E±.°, h6km±7km, M4.3/40, mB4.7/5, ML4.7/39, MLv4.5/40, Mw(mB)4.0/5, Error ellipse: s-maj=0.0km s-min=0.0km az=108.9, confirmed*

ISC 14 10:25:18.7±1.3, 42.°30S±0.°03×173.°71E±0.°03, h14km±11km, n139, σ1§41/145, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**228**	P	**Pb**	**10 25 24.7**	**+1.0**
KHZ	**Kahutara**	**0.17**	**228**	P	**Pb**	**10 25 24.8**	**+1.2**
KHZ				S	**Sb**	**10 25 28.3**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.60**	**12**	P	**Pg**	**10 25 30.8**	**+0.4**
BSWZ				S	**Sg**	**10 25 39.1**	**+0.7**
CMWZ	**Cape Campbell**	**0.67**	**34**	P	**Pn**	**10 25 34.0**	**+0.3**
THZ	**Tophouse**	**0.81**	**312**	P	**Pn**	**10 25 32.6**	**-1.9**
GVZ	**Greta Valley S**	**0.83**	**217**	P	**Pn**	**10 25 36.9**	**+0.8**
GVZ				S	**Sn**	**10 25 49.5**	**+1.4**
TUWZ	**Tuamarina**	**0.89**	**11**	P	**Pb**	**10 25 36.0**	**+0.1**
TUWZ				S	**Sb**	**10 25 48.0**	**+0.5**
NNZ	**Nelson**	**1.11**	**347**	P	**Pn**	**10 25 38.6**	**-1.2**
NNZ				S	**Sb**	**10 25 51.8**	**-2.1**
MRNZ	**Matariki Terra**	**1.15**	**321**	P	**Pn**	**10 25 39.0**	**-1.3**
LTZ	**Lake Taylor**	**1.17**	**245**	P	**Pn**	**10 25 40.3**	**-0.3**
TCW	**Tory Channel**	**1.17**	**21**	P	**Pn**	**10 25 41.0**	**+0.4**
AMCZ	**Amberley**	**1.17**	**221**	P	**Pb**	**10 25 41.3**	**+0.5**
SNZO	**South Karori**	**1.24**	**37**	P	**Pg**	**10 25 42.7**	**+0.2**
WEL	**Wellington**	**1.29**	**38**	P	**Pb**	**10 25 43.4**	**+0.7**
PLWZ	**Palliser**	**1.36**	**58**	P	**Pb**	**10 25 44.3**	**+0.3**
TKNZ	**Takaka Hill**	**1.39**	**336**	P	**Pn**	**10 25 43.2**	**-0.4**
TKNZ				S	**Sn**	**10 25 59.5**	**-2.3**
OKLZ	**Okains Bay**	**1.50**	**198**	P	**Pn**	**10 25 46.1**	**-0.3**
DUWZ	**D'Urville Isla**	**1.51**	**6**	P	**Pn**	**10 25 45.5**	**+0.2**
DSZ	**Denniston Nort**	**1.53**	**291**	P	**Pn**	**10 25 45.6**	**0.0**
CAW	**Cannon Point**	**1.57**	**41**	P	**Pn**	**10 25 47.0**	**+0.9**
PAWZ	**Paruwai Farm**	**1.58**	**55**	P	**Pb**	**10 25 47.1**	**-0.6**
OXZ	**Oxford**	**1.60**	**230**	P	**Pn**	**10 25 46.0**	**-0.6**
MQZ	**McQueen's Vall**	**1.60**	**209**	P	**Pn**	**10 25 46.1**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.68**	**200**	P	**Pn**	**10 25 47.9**	**+0.3**
KIW	**Kapiti Island**	**1.70**	**32**	P	**Pn**	**10 25 49.1**	**+1.2**
QRZ	**Quartz Range**	**1.72**	**329**	P	**Pn**	**10 25 48.6**	**+0.4**
QRZ	**Quartz Range**	**1.72**	**329**	P	**Pn**	**10 25 48.6**	**+0.4**
INZ	**Inchbonnie**	**1.73**	**255**	P	**Pn**	**10 25 48.5**	**+0.1**
TRWZ	**Traveller**	**1.73**	**59**	P	**Pn**	**10 25 48.9**	**+0.6**
MTW	**Mount Morrison**	**1.76**	**50**	P	**Pn**	**10 25 49.2**	**+0.4**
RACZ	**Rakaia**	**1.83**	**218**	P	**Pn**	**10 25 49.4**	**-0.4**
OGWZ	**Otaki Gorge**	**1.84**	**37**	P	**Pn**	**10 25 50.8**	**+0.9**
HOWZ	**Holdsworth Sta**	**1.95**	**45**	P	**Pn**	**10 25 51.8**	**+0.4**
MHCZ	**Mount Hutt**	**2.00**	**231**	P	**Pn**	**10 25 51.5**	**-0.6**
TMWZ	**Te Maipa**	**2.02**	**55**	P	**Pn**	**10 25 52.6**	**+0.2**
WACZ	**Wakanui South**	**2.14**	**219**	P	**Pn**	**10 25 53.5**	**-0.5**
MRZ	**Mangatainoka R**	**2.16**	**41**	P	**Pn**	**10 25 54.7**	**+0.5**
TIWZ	**Tintock**	**2.23**	**48**	P	**Pg**	**10 26 02.5**	**+1.0**
WVZ	**Waitaha Valley**	**2.33**	**250**	P	**Pn**	**10 25 56.7**	**+0.2**
RPZ	**Rata Peaks**	**2.41**	**233**	P	**Pn**	**10 25 57.4**	**-0.3**
RPZ	**Rata Peaks**	**2.41**	**233**	P	**Pn**	**10 25 57.3**	**-0.3**
PRWZ	**Pori Road**	**2.44**	**45**	P	**Pn**	**10 25 58.2**	**+0.2**
POWZ	**Post Office Ro**	**2.46**	**40**	P	**Pn**	**10 25 58.6**	**+0.3**
ARCZ	**Arundel**	**2.48**	**228**	P	**Pn**	**10 25 58.3**	**-0.4**
BFZ	**Birch Farm**	**2.50**	**50**	P	**Pn**	**10 25 58.8**	**-0.1**
BFZ	**Birch Farm**	**2.50**	**50**	P	**Pn**	**10 25 58.6**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.69**	**247**	P	**Pn**	**10 26 02.1**	**+0.6**
WAZ	**Wanganui**	**2.72**	**21**	P	**Pn**	**10 26 04.6**	**+2.7**
DVHZ	**Dannevirke**	**2.72**	**44**	P	**Pn**	**10 26 01.6**	**-0.5**
ANWZ	**Angora Road**	**2.78**	**49**	P	**Pn**	**10 26 01.8**	**-0.9**
TSZ	**Takapari Road**	**2.81**	**38**	P	**Pn**	**10 26 03.2**	**0.0**
TMZ	**Timaru**	**2.87**	**223**	P	**Pn**	**10 26 03.6**	**-0.4**
LREZ	**Lake Rotokare**	**2.89**	**11**	P	**Pn**	**10 26 07.2**	**+3.0**
NMEZ	**Namu Road**	**2.89**	**3**	P	**Pn**	**10 26 08.0**	**+3.8**
PRHZ	**Porangahau**	**3.00**	**48**	P	**Pn**	**10 26 06.0**	**+0.3**
KHEZ	**Kahui Hut**	**3.01**	**4**	P	**Pn**	**10 26 08.3**	**+2.3**
KHEZ	**Kahui Hut**	**3.01**	**4**	P	**Pn**	**10 26 09.7**	**+3.6**
NBEZ	**Newall Road No**	**3.03**	**2**	P	**Pn**	**10 26 09.2**	**+2.9**
PNHZ	**Pukenui**	**3.04**	**39**	P	**Pn**	**10 26 06.1**	**-0.2**
WPHZ	**Waipukurau**	**3.04**	**44**	P	**Pn**	**10 26 05.9**	**-0.4**
NEZ	**North Egmont**	**3.04**	**6**	P	**Pn**	**10 26 10.3**	**+3.9**
PKE	**Pukeiti**	**3.11**	**4**	P	**Pn**	**10 26 10.3**	**+3.0**
FOZ	**Fox Glacier**	**3.12**	**245**	P	**Pn**	**10 26 07.9**	**+0.6**
MHEZ	**Mangahewa**	**3.25**	**8**	P	**Pn**	**10 26 13.6**	**+4.3**
VRZ	**Vera Road**	**3.27**	**14**	P	**Pn**	**10 26 11.7**	**+2.2**
MOVZ	**Moawhango**	**3.28**	**29**	P	**Pn**	**10 26 10.5**	**+0.8**
PXZ	**Pawanui**	**3.29**	**47**	P	**Pn**	**10 26 08.6**	**-1.1**
PXZ				P	**Pn**	**10 26 08.6**	**-1.1**
WNVZ	**Wahianoa**	**3.30**	**26**	P	**Pn**	**10 26 11.6**	**+1.5**
LBZ	**Lake Benmore**	**3.31**	**230**	P	**Pn**	**10 26 09.9**	**-0.2**
BHHZ	**Black Hill Sta**	**3.33**	**33**	P	**Pn**	**10 26 10.8**	**+0.5**
KRHZ	**Kereru**	**3.33**	**38**	P	**Pn**	**10 26 09.9**	**-0.5**
WHVZ	**Whangaehu Hut**	**3.33**	**26**	P	**Pn**	**10 26 12.3**	**+1.7**
FWVZ	**Far West T-bar**	**3.35**	**25**	P	**Pn**	**10 26 12.4**	**+1.6**
NGZ	**Ngauruhoe**	**3.44**	**25**	P	**Pn**	**10 26 13.3**	**+1.3**
SNVZ	**South Ngauruho**	**3.44**	**26**	P	**Pn**	**10 26 13.8**	**+1.8**
KAHZ	**Kahuranaki**	**3.46**	**45**	P	**Pn**	**10 26 11.2**	**-1.1**
OTVZ	**Oturere**	**3.47**	**26**	P	**Pn**	**10 26 13.7**	**+1.3**
NNVZ	**North Ngauruho**	**3.48**	**25**	P	**Pn**	**10 26 14.0**	**+1.4**
TWVZ	**Taurewa**	**3.48**	**23**	P	**Pn**	**10 26 13.8**	**+1.2**
WTVZ	**West Tongariro**	**3.49**	**25**	P	**Pn**	**10 26 13.9**	**+1.2**
ETVZ	**East Tongariro**	**3.51**	**26**	P	**Pn**	**10 26 14.1**	**+1.2**
KRVZ	**Karewarewa**	**3.52**	**25**	P	**Pn**	**10 26 14.3**	**+1.2**
TMVZ	**Te Maari**	**3.52**	**26**	P	**Pn**	**10 26 14.3**	**+1.2**
NTVZ	**North Tongarir**	**3.53**	**26**	P	**Pn**	**10 26 14.7**	**+1.5**
ODZ	**Otahua Downs**	**3.53**	**218**	P	**Pn**	**10 26 12.7**	**-0.4**
ODZ	**Otahua Downs**	**3.53**	**218**	P	**Pn**	**10 26 12.3**	**-0.8**
MCHZ	**McNeill Hill**	**3.64**	**39**	P	**Pn**	**10 26 14.0**	**-0.6**
RITZ	**Rihia Road**	**3.70**	**27**	P	**Pn**	**10 26 18.4**	**+3.0**
RATZ	**Rangitukua**	**3.77**	**25**	P	**Pn**	**10 26 18.4**	**+1.9**
BKZ	**Black Stump Fm**	**3.78**	**35**	P	**Pn**	**10 26 15.2**	**-1.3**
BKZ	**Black Stump Fm**	**3.78**	**35**	P	**Pn**	**10 26 15.8**	**-0.8**
HIZ	**Hauiti**	**3.88**	**13**	P	**Pn**	**10 26 20.2**	**+2.3**
HIZ	**Hauiti**	**3.88**	**13**	P	**Pn**	**10 26 20.1**	**+2.2**
WATZ	**Wairara**	**3.91**	**24**	P	**Pn**	**10 26 19.4**	**+1.1**
NMHZ	**Naumai**	**3.97**	**37**	P	**Pn**	**10 26 19.3**	**+0.1**
JCZ	**Jackson Bay**	**4.01**	**242**	P	**Pn**	**10 26 22.0**	**+2.2**
JCZ	**Jackson Bay**	**4.01**	**242**	P	**Pn**	**10 26 20.4**	**+0.6**
MRHZ	**Matea Rd**	**4.03**	**32**	P	**Pn**	**10 26 19.2**	**-0.8**
MTHZ	**Maungataniwha**	**4.19**	**36**	P	**Pn**	**10 26 21.8**	**-0.4**
WHHZ	**Waihua**	**4.19**	**41**	P	**Pn**	**10 26 22.4**	**+0.3**
TLZ	**Tolley Road**	**4.21**	**20**	P	**Pn**	**10 26 23.2**	**+0.8**
HHSZ	**Highcliff Hill**	**4.23**	**211**	P	**Pn**	**10 26 22.3**	**-0.3**
WKZ	**Wanaka**	**4.24**	**232**	P	**Pn**	**10 26 22.1**	**-0.8**
PRRZ	**Plateau Road**	**4.31**	**29**	P	**Pn**	**10 26 23.5**	**-0.4**
EAZ	**Earnscleugh**	**4.33**	**226**	P	**Pn**	**10 26 23.3**	**-0.7**
KNZ	**Kokohu**	**4.45**	**44**	P	**Pn**	**10 26 24.8**	**-0.9**
SNGZ	**Shannon Statio**	**4.47**	**39**	P	**Pn**	**10 26 24.5**	**-1.6**
MHGZ	**Mahia Peninsul**	**4.48**	**47**	P	**Pn**	**10 26 25.6**	**-0.6**
TOZ	**Tahuroa Road**	**4.77**	**17**	P	**Pn**	**10 26 30.3**	**+0.2**
URZ	**Urewera**	**4.80**	**34**	P	**Pn**	**10 26 30.2**	**-0.3**
URZ	**Urewera**	**4.80**	**34**	P	**Pn**	**10 26 29.0**	**-1.6**
OPRZ	**Ohinepanea**	**4.96**	**27**	P	**Pn**	**10 26 32.6**	**0.0**
TGRZ	**Tauranga**	**4.97**	**24**	P	**Pn**	**10 26 33.2**	**+0.4**
MLZ	**Mavora Lakes**	**5.08**	**231**	P	**Pn**	**10 26 33.3**	**-1.0**
TWGZ	**Tauwhareparae**	**5.26**	**40**	P	**Pn**	**10 26 38.3**	**+1.4**
AWAZ	**Awhitu Peninsu**	**5.28**	**8**	P	**Pn**	**10 26 38.9**	**+1.8**
RUGZ	**Raukumara Rang**	**5.29**	**36**	P	**Pn**	**10 26 36.2**	**-1.2**
MKAZ	**Moumakai**	**5.31**	**13**	P	**Pn**	**10 26 38.6**	**+1.0**
SYZ	**Scrubby Hill**	**5.35**	**216**	P	**Pn**	**10 26 38.7**	**+0.6**
SYZ	**Scrubby Hill**	**5.35**	**

comp=Z,282nm,1.2s
KOUNC **Koumac, New Ca** 21.96 253 P P 10 39 45.0 -0.1
KOUNC **Koumac, New Ca** 21.96 253 P P 10 39 46.0 +0.8
NFK **Norfolk Island** 22.11 228 P P 10 39 46.5 -0.3
baz=22,SNR=8.8
NFK **Norfolk Island** 22.11 228 P P 10 39 47.5 +0.7
PPT **Papeete** 22.89 99 LR LR 10 45 36.7
comp=Z,257nm,21.6s,baz=268,slow=28
PPT2 **Papeete2** 22.89 99 eLR LR 10 45 26.4
comp=Z,729nm,25.8s
PPT2 eLR LR 10 45 26.5
comp=Z,641nm,29.2s
PPT2 **Papeete2** 22.89 99 eT T 11 03 19.1
comp=Z,11nm,0.3s
TIAR **Tiarei** 23.11 99 eT T 11 03 39.5
comp=Z,3.1nm,0.2s
OUZ **Omahuta** 23.13 208 IAMs_20 IAMs_20 10 47 03.0
comp=Z,5µm,20.0s
TVO **Taravao** 23.21 100 eT T 11 03 44.9
comp=Z,4.0nm,0.3s
XMAS **Kiritimati** 23.25 44 P P 10 39 56.4 -2.5
XMAS IAmb IAmb 10 40 03.6
comp=Z,186nm,1.1s
XMAS **Kiritimati** 23.25 44 P P 10 39 54.4 -4.5
MXZ **Matakaoa Point** 23.47 197 P P 10 40 02.6 +1.8
MXZ IAmb IAmb 10 40 04.3
comp=Z,133nm,1.6s
KUZ **Kuaotunu** 23.56 202 P P 10 40 03.3 +1.5
TBI **Tubuai** 23.90 113 eP P 10 40 05.7 +0.5
comp=Z,359nm,29.8s
TBI eLR LR 10 45 54.8
comp=Z,19µm,23.5s
TBI eLR LR 10 45 54.9
comp=Z,5µm,25.2s
TBI **Tubuai** 23.90 113 eT T 11 04 29.7
comp=Z,23nm,0.3s
MEH **Mehetia** 24.34 100 eT T 11 05 20.1
comp=Z,14nm,0.3s
URZ **Urewera** 24.46 198 P P 10 40 08.6 -1.6
comp=Z,33nm,0.6s,baz=14,slow=8.3,SNR=44
URZ S S 10 44 23.0 -7.3
comp=Z,6.3nm,0.9s,baz=108,slow=13,SNR=1.9
URZ LR LR 10 48 30.0
comp=Z,3µm,19.5s,baz=114,slow=34
comp=Z,33nm,0.6s
URZ **Urewera** 24.46 198 P P 10 40 10.0 -0.2
VAH **Vaihoa** 24.78 93 eT T 11 05 51.7
comp=Z,11nm,0.2s
RTZ **Ruatahuna** 24.83 198 P P 10 40 13.8 +0.2
HIZ **Hauiti** 25.45 202 P P 10 40 22.4 +3.3
HIZ IAmb IAmb 10 40 26.9
comp=Z,74nm,0.8s
HIZ IAMs_20 IAMs_20 10 48 41.2
comp=Z,4µm,21.0s
BKZ **Black Stump Fm** 25.48 199 P P 10 40 20.3 +0.8
BKZ **Black Stump Fm** 25.48 199 P P 10 40 20.6 +1.0
HNR **Honiara** 26.73 279 P P 10 40 31.1 0.0
comp=Z,228nm,0.4s,baz=101,slow=10,SNR=1.3
HNR LR LR 10 48 09.0
comp=Z,4µm,20.4s,baz=128,slow=30
BFZ **Birch Farm** 26.95 198 P P 10 40 33.0 +0.2
BFZ IAmb IAmb 10 40 36.4
comp=Z,78nm,0.9s
BFZ **Birch Farm** 26.95 198 P P 10 40 32.5 -0.3
MRZ **Mangatainoka R** 27.13 199 P P 10 40 34.1 -0.3
MRZ IAmb IAmb 10 40 37.0
comp=Z,47nm,0.7s
QRZ **Quartz Range** 28.33 203 IAmb IAmb 10 40 46.6
comp=Z,68nm,0.8s
QRZ IAMs_20 IAMs_20 10 50 20.7
comp=Z,4µm,22.0s
QRZ **Quartz Range** 28.33 203 P P 10 40 45.5 +0.4
THZ **Tophouse** 29.01 202 IAmb IAmb 10 40 54.5
comp=Z,42nm,0.6s
THZ IAMs_20 IAMs_20 10 51 05.7
comp=Z,4µm,21.0s
DSZ **Denniston Nort** 29.40 203 IAmb IAmb 10 40 57.4
comp=Z,56nm,0.7s
LTZ **Lake Taylor** 30.13 201 IAMs_20 IAMs_20 10 51 52.3
comp=Z,4µm,21.0s
INZ **Inchbonnie** 30.38 203 IAMs_20 IAMs_20 10 51 44.9
comp=Z,4µm,22.0s
OXZ **Oxford** 30.69 201 P P 10 41 05.6 -0.4
OXZ IAMs_20 IAMs_20 10 52 09.1
comp=Z,3µm,22.0s
RPZ **Rata Peaks** 31.38 202 P P 10 41 12.7 +0.6
comp=Z,29nm,0.7s,baz=13,slow=2.7,SNR=6.0
RPZ LR LR 10 53 33.2
comp=Z,4µm,19.6s,baz=44,slow=36
comp=Z,29nm,0.7s
RPZ **Rata Peaks** 31.38 202 P P 10 41 12.4 +0.3
RPZ IAMs_20 IAMs_20 10 52 16.3
comp=Z,4µm,22.0s
LBZ **Lake Benmore** 32.28 202 IAMs_20 IAMs_20 10 53 49.1
comp=Z,4µm,21.0s
ODZ **Otahua Downs** 32.68 201 IAMs_20 IAMs_20 10 53 28.7
comp=Z,3µm,20.0s
TAOE **Nuku Hiva Isla** 33.02 83 eP P 10 41 28.2 +1.3
comp=Z,70nm,26.3s
TAOE eLR LR 10 50 07.0
comp=Z,2µm,25.3s
TAOE **Nuku Hiva Isla** 33.02 83 eT T 11 15 58.9
comp=Z,106nm,0.2s
MLZ **Mavora Lakes** 33.89 204 P P 10 41 33.5 -0.6
MLZ IAmb IAmb 10 41 37.2
comp=Z,42nm,0.7s
DCZ **Deep Cove** 34.35 205 IAmb IAmb 10 41 39.7
comp=Z,83nm,1.1s
EIDS **Eidsvold** 34.79 247 P P 10 41 41.2 -1.0
baz=35,SNR=4.3
EIDS **Eidsvold** 34.79 247 P P 10 41 40.9 -1.3
EIDS **Eidsvold** 34.79 247 P P 10 41 41.0 -1.2
ARMA **Armidale** 35.51 239 P P 10 41 47.7 -0.7
baz=36,SNR=24
ARMA **Armidale** 35.51 239 P P 10 41 47.7 -0.7
ARMA **Armidale** 35.51 239 P P 10 41 47.7 -0.7
KRVT **Keravat (AS076** 35.77 284 LR LR 10 53 33.4
comp=Z,339nm,21.5s,baz=261,slow=32
AUPHS **Peel High Scho** 36.32 238 P P 10 41 54.5 -0.7
RMQ **Roma** 37.05 246 P P 10 41 59.9 -1.6
baz=37,SNR=8.5
RMQ **Roma** 37.05 246 P P 10 42 01.1 -0.4
TV1H **Townsville Har** 38.25 258 P P 10 42 12.1 +0.4
AULRC **Lightning Ridg** 38.31 242 P P 10 42 11.0 -1.1
AUDCS **Dubbo College** 38.49 237 P P 10 42 13.3 -0.4
CTA **Charters Tower** 38.77 257 LR LR 10 56 31.7
comp=Z,600nm,18.6s,baz=86,slow=34
CTA **Charters Tower** 38.77 257 P P 10 42 14.9 -1.2
CTAO **Charters Tower** 38.77 257 P P 10 42 14.9 -1.2
CTAO **Charters Tower** 38.77 257 P P 10 42 14.9 -1.2
CTAO **Charters Tower** 38.77 257 P P 10 42 14.9 -1.2
CTAO pmax pmax
comp=Z,12nm,1.0s
H11S2 **WAKE ISLAND Hy** 38.85 329 T T 11 23 38.8
baz=149,SNR=59
H11S3 **WAKE ISLAND Hy** 38.86 329 T T 11 23 42.2
baz=149
H11S1 **WAKE ISLAND Hy** 38.87 329 T T 11 23 39.8
baz=149,SNR=14
CNB **Canberra Magne** 38.93 232 P P 10 42 16.5 -0.8
PMG **Port Moresby** 39.00 274 LR LR 10 54 49.3
comp=Z,569nm,21.4s,baz=70,slow=31
PMG **Port Moresby** 39.00 274 P P 10 42 17.4 -0.7
PMG **Port Moresby** 39.00 274 P P 10 42 19.1 +1.0
PMG **Port Moresby** 39.00 274 ceP P 10 42 19.3 +1.2
PMG pmax pmax
comp=Z,40nm,1.0s
KIP **Kipapa** 39.38 23 P P 10 42 18.0 -3.1
KIP **Kipapa** 39.38 23 ⇑eP P 10 42 23.7 +2.6
KIP pmax pmax
comp=Z,127nm,1.3s
H11N3 **WAKE ISLAND Hy** 39.79 330 T T 11 25 00.4
baz=149,slow=76,SNR=12
H11N1 **WAKE ISLAND Hy** 39.80 330 T T 11 24 49.9
baz=149,slow=76,SNR=13
H11N2 **WAKE ISLAND Hy** 39.81 330 T T 11 25 03.9
baz=149,slow=76,SNR=10.0
MTSU **Mount Surprise** 40.63 260 P P 10 42 30.8 -0.9
baz=41,SNR=39
MTSU **Mount Surprise** 40.63 260 P P 10 42 30.8 -0.9
CMSA **Cobar Meteorol** 40.72 239 P P 10 42 31.2 -1.0
baz=41,SNR=44
CMSA **Cobar Meteorol** 40.72 239 P P 10 42 30.7 -1.5
QLP **Quilpie** 41.07 247 P P 10 42 34.6 -0.5
baz=41,SNR=7.4
QLP **Quilpie** 41.07 247 P P 10 42 34.0 -1.1

COEN **Coen** 42.08 266 P P 10 42 42.2 -1.4
baz=42,SNR=21
COEN **Coen** 42.08 266 P P 10 42 43.7 +0.1
COEN **Coen** 42.08 266 P P 10 42 43.9 +0.3
AUMAG **Moama Anglican** 42.73 233 P P 10 42 48.3 -0.3
AULHS **Lilydale High** 42.84 225 P P 10 42 49.2 -0.2
CORO **Coronation Par** 42.98 225 P P 10 42 50.2 -0.3
MLBS **Spotswood, Mel** 43.18 230 P P 10 42 52.9 +0.7
comp=Z,81nm,0.9s
MOO **Moorlands** 43.38 223 P P 10 42 52.7 -1.1
baz=44,SNR=3.6
TAU **Tasmania Unive** 43.51 223 P P 10 42 54.1 -0.7
TAU **Tasmania Unive** 43.51 223 P P 10 42 54.1 -0.7
TAU pmax pmax
comp=Z,301nm,1.9s
GEXS **Deakin Univers** 43.75 230 P P 10 42 56.7 -0.1
BRAT **Ballarat** 43.81 231 P P 10 42 57.1 -0.2
STKA **Stephens Creek** 44.20 240 P P 10 42 59.8 -0.8
comp=Z,38nm,0.7s,baz=90,slow=9.8,SNR=68
STKA LR LR 10 58 50.5
comp=Z,921nm,21.8s,baz=74,slow=33
comp=Z,38nm,0.7s
STKA **Stephens Creek** 44.20 240 P P 10 43 00.0 -0.5
baz=44,SNR=74
STKA **Stephens Creek** 44.20 240 P P 10 43 00.2 -0.4
STKA **Stephens Creek** 44.20 240 P P 10 42 59.8 -0.8
STKA **Stephens Creek** 44.20 240 *d* iP P 10 43 00.1 -0.5
INKA **Innaminka** 44.29 246 P P 10 43 01.0 -0.3
QIS **Mount Isa** 45.00 256 P P 10 43 05.8 -1.3
baz=45,SNR=9.0
QIS **Mount Isa** 45.00 256 P P 10 43 05.9 -1.2
ARPS **Mount Arapiles** 45.17 233 P P 10 43 07.1 -1.1
baz=45,SNR=5.9
ARPS **Mount Arapiles** 45.17 233 P P 10 43 07.1 -1.1
HTT **Hallett** 46.71 238 P P 10 43 19.8 -0.7
baz=47,SNR=16
HTT **Hallett** 46.71 238 P P 10 43 19.8 -0.7
LCRK **Leigh Creek** 46.82 242 P P 10 43 20.9 -0.5
WHYH **Whyalla** 47.75 239 P P 10 43 28.0 -0.5
OOD **Oodnadatta** 48.76 246 P P 10 43 36.5 +0.1
BBOO **Buckleboo** 48.98 240 P P 10 43 37.0 -1.0
baz=49,SNR=22
BBOO **Buckleboo** 48.98 240 P P 10 43 37.1 -1.0
BBOO IAmb IAmb 10 43 38.6
comp=Z,39nm,0.9s
BBOO **Buckleboo** 48.98 240 P P 10 43 37.1 -0.9
WR0 **Warramunga Arr** 49.78 257 P P 10 43 43.5 -0.8
WR0 IAmb IAmb 10 43 46.0
comp=Z,60nm,1.6s
WB0 **Warramunga Arr** 49.93 257 P P 10 43 44.0 -1.5
WB0 IAmb IAmb 10 43 45.8
comp=Z,29nm,0.8s
WB2 **Warramunga Arr** 49.95 257 P P 10 43 44.8 -0.9
WB2 IAmb IAmb 10 43 46.5
comp=Z,25nm,0.7s
WRAB **Tennant Creek** 49.96 257 P P 10 43 44.6 -1.1
WRAB IAmb IAmb 10 43 46.4
comp=Z,92nm,1.6s
WRAB **Tennant Creek** 49.96 257 P P 10 43 44.1 -1.6
WRAB **Tennant Creek** 49.96 257 *de* P P 10 43 44.3 -1.4
WRAB pmax pmax
comp=Z,41nm,1.3s
WB1 **Warramunga Ar.** 49.96 257 P P 10 43 44.8 -0.9
WRA **Warramunga Arr** 49.97 257 P P 10 43 44.4 -1.5
comp=Z,17nm,0.7s,baz=91,slow=7.1,SNR=112
WRA PcP **PcP** 10 45 05.9 -0.1
comp=Z,3.4nm,0.7s,baz=89,slow=3.3,SNR=3.0
WRA S S 10 50 50.6 -6.2
comp=Z,0.3nm,0.8s,baz=142,slow=45,SNR=2.9
WRA LR LR 11 02 55.8
comp=Z,628nm,21.8s,baz=92,slow=34
comp=Z,17nm,0.7s
WRA **Warramunga Arr** 49.97 257 P P 10 43 44.3 -1.5
AS01 **Alice Springs** 50.20 252 P P 10 43 46.6 -1.0
AS31 **Alice Springs** 50.24 252 P P 10 43 47.0 -0.9
ASAR **Alice Springs** 50.25 252 P P 10 43 46.5 -1.4
comp=Z,42nm,0.6s,baz=84,slow=8.4,SNR=417
ASAR ScP **ScP** 10 49 04.7 +1.5
comp=Z,0.5nm,0.8s,baz=99,slow=2.9,SNR=2.4
ASAR S S 10 50 54.0 -6.6
comp=Z,0.5nm,0.8s,baz=81,slow=16,SNR=4.2
ASAR LR LR 11 03 17.7
comp=Z,2µm,22.0s,baz=96,slow=34
comp=Z,42nm,0.6s
ASAR **Alice Springs** 50.25 252 P P 10 43 47.1 -0.8
GUMO **Guam** 50.30 303 LR LR 11 01 53.4
comp=Z,145nm,20.5s,baz=121,slow=32
MULG **Mulgathing** 50.38 243 P P 10 43 47.6 -1.1
KDU **Kakadu** 52.57 266 P P 10 44 04.5 -0.9
baz=53,SNR=4.9
KDU **Kakadu** 52.57 266 P P 10 44 04.7 -0.6
MTN **Manton Dam** 53.83 265 P P 10 44 13.5 -1.2
baz=54,SNR=6.4
MTN **Manton Dam** 53.83 265 P P 10 44 13.7 -1.0
MTN IAmb IAmb 10 44 15.7
comp=Z,28nm,0.9s
MTN **Manton Dam** 53.83 265 P P 10 44 13.7 -1.0
WRKA **Warakurna** 55.34 250 P P 10 44 24.1 -1.4
baz=55,SNR=67
WRKA **Warakurna** 55.34 250 P P 10 44 24.1 -1.4
FORT **Forrest** 55.57 243 P P 10 44 25.7 -1.4
baz=56,SNR=9.8
FORT **Forrest** 55.57 243 P P 10 44 25.5 -1.6
FORT **Forrest** 55.57 243 P P 10 44 25.4 -1.7
KNRA **Kununurra** 55.67 261 P P 10 44 27.9 -0.1
baz=56,SNR=11
KNRA **Kununurra** 55.67 261 P P 10 44 27.8 -0.2
KNRA IAmb IAmb 10 46 07.4
comp=Z,64nm,1.6s
SIJI **Sorong** 56.51 279 LR LR 11 07 01.0
comp=Z,184nm,21.8s,baz=104,slow=34
FITZ **Fitzroy Crossi** 58.33 258 P P 10 44 46.2 -0.6
RPN **Rapa Nui** 60.28 113 LR LR 11 04 18.2
comp=Z,145nm,21.5s,baz=328,slow=29
JCJ **Chichijima** 60.29 314 LR LR 11 06 12.5
comp=Z,455nm,21.8s,baz=77,slow=31
KMBL **Kambalda** 60.88 242 P P 10 45 03.6 -0.7
baz=61,SNR=7.0
KMBL **Kambalda** 60.88 242 P P 10 45 03.1 -1.2
SOEI **Soe** 61.02 267 P P 10 45 04.9 -0.7
SOEI **Soe** 61.02 267 P P 10 45 06.2 +0.6
PSA00 **Pilbara Seismi** 63.34 253 P P 10 45 20.2 -0.7
PSA00 IAmb IAmb 10 45 21.4
comp=Z,24nm,0.6s
PSA00 **Pilbara Seismi** 63.34 253 P P 10 45 19.7 -1.2
SBA **Scott Base** 63.44 185 P P 10 45 23.8 +3.2
SBA **Scott Base** 63.44 185 P P 10 45 23.8 +3.2
SBA pmax pmax
comp=Z,467nm,1.9s
MBWA **Marble Bar** 63.49 254 P P 10 45 21.2 -0.7
MBWA IAmb IAmb 10 45 22.6
comp=Z,13nm,0.7s
VNDA **Vanda** 63.57 186 P P 10 45 23.3 +1.8
comp=Z,43nm,0.9s,baz=2.8,slow=7.0,SNR=53
VNDA LR LR 11 07 45.2
comp=Z,191nm,21.4s,baz=22,slow=31
comp=Z,43nm,0.9s
VNDA **Vanda** 63.57 186 P P 10 45 23.7 +2.2
MEEK **Meekatharra** 63.96 248 P P 10 45 24.5 -0.5
baz=64,SNR=9.2
MEEK **Meekatharra** 63.96 248 P P 10 45 25.0 0.0
KLBR **Kellerberrin** 64.40 242 P P 10 45 27.4 -0.3
baz=64,SNR=20
KLBR **Kellerberrin** 64.40 242 P P 10 45 27.6 -0.2
DAV **Davao City (W)** 64.47 286 LR LR 11 11 52.2
comp=Z,155nm,18.8s,baz=135,slow=34
NWAO **Narrogin (SRO)** 64.78 241 LR LR 11 11 19.8
comp=Z,820nm,21.3s,slow=34
NWAO **Narrogin (SRO)** 64.78 241 P P 10 45 30.3 0.0
baz=65,SNR=6.7
NWAO P P 10 45 30.3 0.0
baz=65,SNR=6.7
NWAO **Narrogin (SRO)** 64.78 241 P P 10 45 30.3 0.0
NWAO IAmb IAmb 10 47 49.0
comp=Z,79nm,1.9s
NWAO **Narrogin (SRO)** 64.78 241 P P 10 45 30.2 0.0
NWAO **Narrogin (SRO)** 64.78 241 P P 10 45 30.3 0.0
NWAO pmax pmax
comp=Z,79nm,1.9s
RKGY **Rocky Gully** 64.94 239 P P 10 45 30.9 -0.3
baz=65,SNR=8.2
RKGY **Rocky Gully** 64.94 239 P P 10 45 31.5 +0.3
BLDU **Ballidu** 65.35 243 P P 10 45 33.8 -0.2
baz=65,SNR=9.1
MUN **Mundaring** 65.69 242 P P 10 45 36.2 0.0
baz=66,SNR=10
MUN **Mundaring** 65.69 242 P P 10 45 36.4 +0.2
MORW **Morawa** 66.04 245 P P 10 45 38.6 +0.1
baz=66,SNR=3.9
MORW **Morawa** 66.04 245 P P 10 45 38.4 -0.1
MORW IAmb IAmb 10 45 40.1
comp=Z,59nm,1.7s
KAPI **Kappang** 66.46 271 LR LR 11 12 41.4
comp=Z,90nm,21.2s,baz=114,slow=34
NIKH **Nikolski High** 68.02 3 P P 10 45 52.4 +2.1
baz=185
SHEM **Shemya Is, Ala** 68.53 352 LR LR 11 09 18.5
comp=Z,1µm,21.3s,baz=134,slow=30
MJAR **Matsushiro Arr** 68.85 320 P P 10 45 56.2 +0.2
comp=Z,9.0nm,1.0s,baz=159,slow=5.8,SNR=9.0
MJAR LR LR 11 10 31.6
comp=Z,598nm,21.9s,baz=115,slow=31
comp=Z,9.0nm,1.0s
MAJO **Matsushiro** 68.85 320 ‖ eP P 10 45 57.1 +1.1
MAJO pmax pmax
comp=Z,11nm,1.1s
ERM **Erimo** 69.66 327 ⇑eP P 10 45 59.9 -0.9
ERM pmax pmax
comp=Z,31nm,1.3s
SNCC **San Nicolas Is** 70.39 46 P P 10 46 07.4 +1.8
baz=236
JOW **Kunigami** 70.44 306 LR LR 11 11 16.9
comp=Z,315nm,21.6s,baz=148,slow=31
CASY **Casey** 70.61 205 P P 10 46 06.5 +0.2
CASY IAmb IAmb 10 46 07.9
comp=Z,49nm,1.1s
SCZ2 **Santa Cruz Isl** 70.74 45 P P 10 46 09.6 +2.0
baz=235
SBC **Santa Barbara** 70.94 45 P P 10 46 10.4 +1.6
baz=235
MCCM **Marconi Confer** 71.07 40 IAMs_20 IAMs_20 11 10 22.0
comp=Z,1µm,20.0s
PKM **Mcpherson Peak** 71.12 44 P P 10 46 12.1 +1.9
baz=235
SDPT **Sand Point** 71.12 8 P P 10 46 11.9 +2.4
baz=193
SAO **San Andreas Ge** 71.14 42 IAMs_20 IAMs_20 11 08 49.9
comp=Z,1µm,20.0s
SMMC **Simmler** 71.24 44 P P 10 46 12.2 +1.4
baz=235
CIS **Catalina Islan** 71.25 46 P P 10 46 12.4 +1.6
baz=236
S12K **Black Hills** 71.28 7 P P 10 46 13.4 +2.9
baz=191
HOPS **Hopland Field** 71.48 39 IAMs_20 IAMs_20 11 08 58.7
comp=Z,1µm,20.0s
FMP **Fort Macarthur** 71.50 46 P P 10 46 13.9 +1.6
baz=236
OSI **Osito Audit: C** 71.71 45 P P 10 46 15.4 +1.8
baz=236
JNU **Nakatsue** 71.73 313 LR LR 11 09 37.6
comp=Z,345nm,21.6s,baz=106,slow=29
DECC **Green Verdugo** 71.78 46 P P 10 46 15.7 +1.7
baz=236
PASC **Pasadena Art C** 71.83 46 IAMs_20 IAMs_20 11 09 32.4
comp=Z,1µm,20.0s
109C **Camp Elliot, M** 71.89 47 IAMs_20 IAMs_20 11 10 15.0
comp=Z,1µm,21.0s
109C **Camp Elliot, M** 71.89 47 P P 10 46 16.1 +1.5
baz=238
ARVC **Arvin** 71.92 45 P P 10 46 16.8 +2.0
baz=236,SNR=5.4
ELS **Elsinore Mount** 72.07 47 IAmb IAmb 10 46 19.0
comp=Z,34nm,1.2s
PET **Petropavlovsk** 72.13 343 eP P 10 46 20.0 +4.4
PET eS **SKiKP** 10 55 45.2 -7.5
PET MLR MLR
comp=Z,300nm,18.0s
VES **Vestal, Richgr** 72.15 44 P P 10 46 17.9 +1.8
baz=235,SNR=15
MURC **Murrieta** 72.21 47 P P 10 46 17.9 +1.3
baz=237,SNR=6.9
VOG **Valley Oaks Go** 72.23 43 P P 10 46 17.9 +1.3
baz=235
BFSC **Mount Baldy Ra** 72.23 46 P P 10 46 18.0 +1.1
baz=237
CHGN **Chignik** 72.33 9 P P 10 46 18.1 +1.4
baz=195
EDW2 **Edwards Air Fo** 72.36 45 P P 10 46 18.9 +1.5
baz=236,SNR=12
ISA **Isabella, Lake** 72.46 44 P P 10 46 19.9 +1.8
baz=236,SNR=14
IKP **In-Ko-Pah, Jac** 72.48 48 P P 10 46 20.1 +1.8
baz=238,SNR=7.9
PETK **Petropavlovsk-** 72.48 342 P P 10 46 18.5 +0.8
comp=Z,11nm,0.7s,baz=86,slow=10,SNR=14
PETK LR LR 11 13 42.1
comp=Z,200nm,21.3s,baz=156,slow=32
comp=Z,11nm,0.7s
CMB **Columbia Colle** 72.57 41 IAmb IAmb 10 46 21.7
comp=Z,26nm,0.9s
CMB IAMs_20 IAMs_20 11 10 17.8
comp=Z,845nm,20.0s
YUH **Yuha Desert** 72.61 48 IAmb IAmb 10 46 22.1
comp=Z,27nm,1.1s
PFO **Pinyon Flats O** 72.74 47 P P 10 46 21.2 +1.4
comp=Z,11nm,1.1s,baz=258,slow=4.5,SNR=9.3
PFO LR LR 11 11 51.4
comp=Z,1µm,19.5s,baz=262,slow=30
comp=Z,11nm,1.1s
PFO **Pinyon Flats O** 72.74 47 P P 10 46 18.7 -1.2
PFO **Pinyon Flats O** 72.74 47 P P 10 46 21.6 +1.7
baz=238,SNR=12
PFO **Pinyon Flats O** 72.74 47 *de* P P 10 46 21.2 +1.4
PFO pmax pmax
comp=Z,23nm,1.2s
TPFO **Pinon Flats** 72.74 47 P P 10 46 21.6 +1.8
baz=238,SNR=12
BBRC **Big Bear Solar** 72.76 46 P P 10 46 21.7 +1.5
baz=237
ORV **Oroville** 72.78 40 IAMs_20 IAMs_20 11 10 57.3
comp=Z,716nm,19.0s
PMD **Palm Desert** 72.81 47 IAmb IAmb 10 46 23.2
comp=Z,29nm,1.4s
SWSC **Sam W. Stewart** 72.85 48 P P 10 46 22.2 +1.8
baz=238
LPIG **La Paz** 72.87 58 LR LR 11 09 49.3
comp=Z,661nm,21.6s,baz=231,slow=29
LRMC **Laurel Mtn Rad** 72.90 45 P P 10 46 22.7 +1.9
baz=236
RRX **Edison Barstow** 73.04 46 P P 10 46 23.6 +2.1
baz=237
CWC **Cottonwood Cre** 73.16 44 P P 10 46 24.1 +1.7
baz=236
BELC **Belle Mtn. Jos** 73.27 47 P P 10 46 24.8 +1.7
baz=238
MLAC **Mammoth, Mammo** 73.34 42 P P 10 46 25.4 +1.9
baz=235
MPMC **Manual Prospec** 73.35 44 P P 10 46 25.5 +1.9
baz=236,SNR=29
YSS **Yuzh-Sakhalins** 73.37 330 ⇑eP P 10 46 24.7 +1.6
YSS pmax pmax
comp=Z,21nm,0.7s
GSC **Goldstone, Dat** 73.40 45 P P 10 46 25.1 +1.4
baz=237
YBH **Yreka Blue Hor** 73.40 37 LR LR 11 10 56.8
comp=Z,955nm,21.9s,baz=261,slow=30
YBH **Yreka Blue Hor** 73.40 37 IAMs_20 IAMs_20 11 10 56.6
comp=Z,964nm,20.0s
TIN **Tinemaha, Big** 73.41 43 P P 10 46 25.8 +2.0
baz=236
BC3 **Big Chuckawall** 73.47 47 P P 10 46 25.7 +1.5
baz=238,SNR=11
HEC **Hector Ludlow** 73.47 46 P P 10 46 25.5 +1.4
baz=238,SNR=10
GLA **Glamis** 73.61 48 P P 10 46 27.1 +2.2
baz=239,SNR=5.8
R16K **Pilot Point** 73.68 9 P P 10 46 28.1 +3.4
baz=196
DSP **Deep Springs** 73.76 43 IAmb IAmb 10 46 29.3
comp=Z,96nm,1.9s
VCNR **Virginia City** 73.78 41 IAmb IAmb 10 46 29.2
comp=Z,27nm,0.9s
HUMO **Hull Mountain** 73.81 36 IAMs_20 IAMs_20 11 10 46.4
comp=Z,874nm,21.0s
YERR **Yerington** 73.86 41 IAmb IAmb 10 46 29.5
comp=Z,85nm,1.5s
LHV **Little Huntoon** 73.91 42 IAmb IAmb 10 46 30.1
comp=Z,38nm,1.1s
GMRC **Granite Mounta** 73.92 46 P P 10 46 28.6 +1.8
baz=238,SNR=18
R17K **Ugashik Creek** 73.93 9 P P 10 46 30.1 +3.9
baz=197

GRAC	Grapevine Rang	73.95	44	P	P	10 46 29.3	+2.5
	baz=236,SNR=9.0						
IRM	Iron Mountain	73.95	47	P	P	10 46 28.6	+1.6
	baz=238,SNR=29						
FURC	Furnace Creek,	74.00	44	P	P	10 46 28.9	+1.9
	baz=237,SNR=10						
TUQ	Turquoise Moun	74.08	46	P	P	10 46 29.3	+1.6
	baz=238						
SHOC	Shoshone, Teco	74.09	45	P	P	10 46 29.4	+1.7
	baz=237						
NVAR	Mina Array Bea	74.14	42	P	P	10 46 29.7	+1.6
	comp=Z,21nm,0.7s,baz=228,slow=10.0,SNR=175						
NVAR				LR	LR	11 12 07.1	
	comp=Z,1µm,21.3s,baz=232,slow=30						
	comp=Z,21nm,0.7s						
BLYC	Blythe	74.18	48	IAmb	IAmb	10 46 31.5	
	comp=Z,33nm,1.1s						
113A	Mohawk Valley,	74.23	49	IAmb	IAmb	10 46 31.6	
	comp=Z,36nm,1.2s						
WCT	Wildcat Mounta	74.33	44	IAmb	IAmb	10 46 32.4	
	comp=Z,65nm,1.8s						
214A	Organ Pipe Nat	74.53	50	P	P	10 46 32.5	+2.2
	baz=241,SNR=14						
KVN	Kaiserville	74.62	42	IAmb	IAmb	10 46 33.9	
	comp=Z,55nm,1.2s						
NEE2	Needles Airpor	74.64	47	P	P	10 46 32.9	+2.0
	baz=239						
TPNV	Topopah Spring	74.67	44	P	P	10 46 33.1	+1.9
	baz=237,SNR=16						
KDAK	Kodiak Island	74.73	11	LR	LR	11 12 16.3	
	comp=Z,988nm,21.4s,baz=233,slow=30						
KDAK	Kodiak Island	74.73	11	P	P	10 46 33.7	+2.9
	baz=201						
KDAK	Kodiak Island	74.73	11⇑	*e*P	P	10 46 32.8	+2.0
KDAK				pmax	pmax		
	comp=Z,44nm,0.9s						
QSPA	South Pole Qui	74.83	180	LR	LR	11 14 40.0	
	comp=Z,272nm,21.9s,baz=40,slow=32						
QSPA	South Pole Qui	74.83	180	P	P	10 46 33.4	+1.8
COR	Corvallis	74.88	35	IAMs_20	IAMs_20	11 11 28.6	
	comp=Z,1µm,22.0s						
Q16K	King Salmon	74.89	9	P	P	10 46 34.2	+2.5
	baz=197						
MOD	Modoc Plateau	74.93	38	IAMs_20	IAMs_20	11 12 09.0	
	comp=Z,1µm,21.0s						
P16K	Nushagak River	75.03	8	P	P	10 46 34.2	+1.7
	baz=195,SNR=7.3						
WTNK	Soaring Height	75.11	45	IAmb	IAmb	10 46 36.8	
	comp=Z,26nm,1.4s						
Q18K	Katmai Hardscr	75.12	10	P	P	10 46 34.8	+1.6
	baz=198						
P17K	Kvichak River	75.42	9	P	P	10 46 35.8	+1.1
	baz=197,SNR=5.1						
Q19K	Cape Douglas,	75.61	10	P	P	10 46 37.9	+1.9
	baz=200						
P18K	Big Mountain,	75.79	9	P	P	10 46 38.8	+1.8
	baz=198,SNR=7.4						
R11A	Troy Canyon, C	75.87	43	P	P	10 46 39.9	+1.7
	baz=237,SNR=33						
O17K	Koliganek Bris	75.88	8	P	P	10 46 38.8	+1.4
	baz=196,SNR=6.0						
BMN	Battle Mountai	75.96	41	IAmb	IAmb	10 46 41.6	
	comp=Z,48nm,0.9s						
KSRS	Korea Array	76.09	315	P	P	10 46 41.0	+1.9
	comp=Z,4.2nm,0.8s,baz=126,slow=6.4,SNR=6.2						
KSRS				LR	LR	11 14 36.3	
	comp=Z,216nm,21.8s,baz=115,slow=31						
	comp=Z,4.2nm,0.8s						
TUC	Tucson	76.21	51	P	P	10 46 40.3	+0.2
TUC				IAmb	IAmb	10 46 43.6	
	comp=Z,42nm,1.0s						
TUC	Tucson	76.21	51	IAMs_20	IAMs_20	11 12 37.5	
	comp=Z,838nm,20.0s						
TUC	Tucson	76.21	51	P	P	10 46 42.0	+1.9
	baz=242						
TUC	Tucson	76.21	51	P	P	10 46 40.3	+0.2
TUC				pmax	pmax		
	comp=Z,42nm,1.0s						
TYV	Tymovskoe	76.22	333	*e*P	P	10 46 41.4	+1.8
TYV				*e*S	S	10 56 28.5	+4.7
TYV				pmax	pmax		
	comp=Z,100nm,3.3s						
TYV				pmax	pmax		
	comp=Z,13nm,0.9s						
TYV				smax	smax		
	comp=N,100nm,3.8s						
O18K	Koktuh Hills	76.23	9	IAmb	IAmb	10 46 41.9	
	comp=Z,66nm,1.2s						
O18K	Koktuh Hills	76.23	9	P	P	10 46 40.9	+1.5
	baz=198,SNR=5.2						
N16K	Nishlik Lake	76.33	7	P	P	10 46 42.1	+2.1
	baz=194						
P19K	Oil Pt	76.37	10	P	P	10 46 41.9	+1.7
	baz=200						
NLWA	Neilton Lookou	76.40	32	IAMs_20	IAMs_20	11 11 31.8	
	comp=Z,729nm,20.0s						
HOM	Homer	76.66	11	P	P	10 46 43.4	+1.6
	baz=201						
ILSW	Iliamna Southw	76.69	10	IAmb	IAmb	10 46 44.2	
	comp=Z,90nm,1.2s						
O19K	Port Alsworth	76.70	10	P	P	10 46 43.4	+1.3
	baz=199,SNR=7.1						
O20K	Slope Mountain	76.88	10	P	P	10 46 44.4	+1.3
	baz=200						
BRLK	Bradley Lake	76.90	11	P	P	10 46 42.5	-0.7
BRSE	Bradley Lake S	76.91	12	P	P	10 46 45.3	+2.0
	baz=202,SNR=5.5						
SPR3	Spring Creek 3	77.05	43	P	P	10 46 43.2	-1.7
SPR3				IAmb	IAmb	10 46 47.6	
	comp=Z,114nm,2.0s						
LON	Longmire	77.07	34	IAmb	IAmb	10 46 47.4	
	comp=Z,57nm,1.7s						
CLRS	Cowichan Lake	77.21	31	IAmb	IAmb	10 46 48.3	
	comp=Z,33nm,1.1s						
N19K	Bonanza Creek	77.26	9	P	P	10 46 45.9	+0.6
	baz=199						
USA0B	Ussuriysk Arra	77.29	323⇑	*e*P	P	10 46 47.2	+1.5
USRK	Ussuriysk Ar.	77.29	323	P	P	10 46 47.6	+1.9
	comp=Z,8.0nm,1.0s,baz=106,slow=6.8,SNR=7.8						
USRK				LR	LR	11 14 30.4	
	comp=Z,575nm,21.7s,baz=116,slow=31						
	comp=Z,8.0nm,1.0s						
WUAZ	Wupatki	77.31	48	IAMs_20	IAMs_20	11 13 44.6	
	comp=Z,772nm,20.0s						
WUAZ	Wupatki	77.31	48	P	P	10 46 47.9	+1.6
	baz=241,SNR=20						
SVW2	Sparrevohn	77.36	9	IAmb	IAmb	10 48 24.6	
	comp=Z,101nm,2.0s						
ELK	Elko	77.39	41	LR	LR	11 13 23.8	
	comp=Z,740nm,21.7s,baz=230,slow=30						
ELK	Elko	77.39	41	IAmb	IAmb	10 46 49.7	
	comp=Z,42nm,1.1s						
ELK				IAMs_20	IAMs_20	11 12 40.3	
	comp=Z,912nm,22.0s						
SEW	Seward	77.50	12	P	P	10 46 47.6	+1.1
	baz=204						
Q23K	Middleton Isla	77.55	14	P	P	10 46 48.8	+2.0
	baz=207						
F07A	Phinny Hill Vi	77.56	35	IAmb	IAmb	10 46 50.3	
	comp=Z,48nm,1.3s						
BBB	Bella Bella	77.69	27	LR	LR	11 13 25.3	
	comp=Z,621nm,19.1s,baz=246,slow=30						
LEM	Lembang	77.73	266	LR	LR	11 21 29.1	
	comp=Z,276nm,21.0s,baz=208,slow=36						
N20K	Mount Spurr	78.00	10	P	P	10 46 51.0	+1.6
	baz=201						
SPCR	Spurr Chakacha	78.00	10	P	P	10 46 50.8	+1.4
	baz=201						
SPU	Mount Spurr	78.01	10	P	P	10 46 48.6	-0.9
CRAG	Craig	78.14	22	P	P	10 46 52.7	+2.5
	baz=220						
W18A	Petrified Fore	78.30	49	P	P	10 46 52.3	+0.5
	baz=242,SNR=10						
RC01	Rabbit Creek A	78.35	11	P	P	10 46 53.1	+1.9
	baz=203						
E08A	Dider Farm, El	78.40	35	IAmb	IAmb	10 46 55.0	
	comp=Z,69nm,1.3s						
PWL	Port Wells	78.41	12	P	P	10 46 53.3	+1.6
	baz=204						
BMO	Blue Mountains	78.43	37	P	P	10 46 51.7	-0.5
BMO				IAmb	IAmb	10 46 55.0	
	comp=Z,41nm,1.1s						
BMO				IAMs_20	IAMs_20	11 14 10.6	
	comp=Z,776nm,21.0s						
BMO	Blue Mountains	78.43	37	P	P	10 46 51.7	-0.5
BMO				pmax	pmax		
	comp=Z,41nm,1.1s						
M20K	Styx River	78.49	10	P	P	10 46 53.1	+1.0
	baz=200						
MFID	Camas Ranch	78.49	39	P	P	10 46 51.9	-0.7
MFID				IAmb	IAmb	10 46 55.5	
	comp=Z,50nm,1.0s						
MFID				IAMs_20	IAMs_20	11 14 51.4	
	comp=Z,685nm,19.0s						
SUA	Susitna One	78.50	11	IAmb	IAmb	10 46 56.0	
	comp=Z,26nm,0.9s						
SUA	Susitna One	78.50	11	P	P	10 46 53.5	+1.2
	baz=202,SNR=5.5						
121A	Cookes Peak, D	78.57	52	P	P	10 46 55.4	+2.0
	baz=244						
121A	Cookes Peak, D	78.57	52	P	P	10 46 55.4	+2.0
	baz=244,SNR=36						
V35K	Ketchikan	78.59	23	P	P	10 46 54.3	+1.7
	baz=221						
U33K	Whale Pass	78.64	22	P	P	10 46 54.4	+1.5
	baz=219						
DUG	Dugway, Tooele	78.67	43	IAmb	IAmb	10 46 56.7	
	comp=Z,40nm,1.1s						
DUG				IAMs_20	IAMs_20	11 13 45.2	
	comp=Z,1µm,22.0s						
DUG	Dugway, Tooele	78.67	43	P	P	10 46 55.2	+1.4
	baz=239,SNR=12						
D08A	Wollman Farm,	78.82	35	IAmb	IAmb	10 46 57.2	
	comp=Z,45nm,1.1s						
SKT	Skwentna	78.85	10	IAmb	IAmb	10 46 56.2	
	comp=Z,45nm,1.6s						
SKT				IAMs_20	IAMs_20	11 15 02.1	
	comp=Z,1µm,20.0s						
SKT	Skwentna	78.85	10	P	P	10 46 55.0	+1.0
	baz=201						
M22K	Willow	78.89	11	P	P	10 46 55.1	+0.9
	baz=203						
KNK	Knik Glacier	78.89	12	P	P	10 46 55.5	+1.1
	baz=204						
E09A	Wood Farm, Sta	78.92	35	IAmb	IAmb	10 46 57.5	
	comp=Z,89nm,1.6s						
PMR	Palmer	78.92	12	P	P	10 46 55.4	+1.0
	baz=204,SNR=8.0						
MDJ	Mudanjiang	78.93	322	IAMs_20	IAMs_20	11 14 46.9	
	comp=Z,751nm,22.0s						
MDJ	Mudanjiang	78.93	322	P	P	10 46 57.4	+2.5
MDJ				pP	pwP	10 47 00.9	+0.5
MDJ				sP	PcP	10 47 02.4	-1.1
MDJ				S	S	10 56 55.6	+2.2
MDJ				sS	sS	10 57 00.3	+2.4
MDJ				ScS	ScS	10 57 18.1	+1.2
MDJ				pmax	pmax		
	comp=Z,22nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,340nm,3.6s						
MDJ				LR	LR		
	comp=Z,300nm,4.4s						
MDJ				LR	LR		
	comp=Z,300nm,5.2s						
MDJ				LR	LR		
	comp=Z,290nm,4.9s						
L20K	Farewell, AK	78.94	9	P	P	10 46 55.3	+0.7
	baz=199						
S31K	Pelican	79.06	19	P	P	10 46 56.1	+1.0
	baz=216						
TTA	Tatalina	79.06	8	IAmb	IAmb	10 47 00.4	
	comp=Z,38nm,1.3s						
TTA	Tatalina	79.06	8	P	P	10 46 56.6	+1.4
	baz=197,SNR=10.0						
F10A	Beach Ranch, E	79.12	36	IAmb	IAmb	10 46 58.5	
	comp=Z,42nm,1.0s						
GHO	Glory Hole Cre	79.13	12	IAmb	IAmb	10 46 58.0	
	comp=Z,31nm,0.8s						
WRAK	Wrangell Islan	79.15	22	P	P	10 46 57.3	+1.6
	baz=220						
DIV	Divide	79.20	13	IAmb	IAmb	10 46 58.4	
	comp=Z,53nm,0.8s						
T33K	Petersburg	79.24	21	P	P	10 46 57.4	+1.1
	baz=219						
MESA	MESA	79.27	15	P	P	10 46 58.2	+1.5
	baz=211						
SML	Sawmill	79.28	12	P	P	10 46 57.5	+1.1
	baz=204						
BMRM	Bremner River	79.32	14	P	P	10 46 58.3	+1.6
	baz=208,SNR=8.3						
PLID	Pearl Lake	79.33	37	IAMs_20	IAMs_20	11 14 51.3	
	comp=Z,95nm,20.0s						
B08A	Colville Reser	79.38	33	P	P	10 46 58.3	+1.0
M23K	Glacier View	79.39	12	P	P	10 46 58.1	+1.1
	baz=205						
HLID	Hailey	79.43	39	P	P	10 46 57.0	-0.9
HLID				IAMs_20	IAMs_20	11 15 01.3	
	comp=Z,638nm,20.0s						
HLID	Hailey	79.43	39	P	P	10 46 59.0	+1.2
	baz=237,SNR=136						
CUT	Chulitna	79.46	11	P	P	10 46 58.6	+1.2
	baz=202,SNR=6.3						
SPUT	South Promonto	79.48	42	IAmb	IAmb	10 47 01.3	
	comp=Z,69nm,1.3s						
KLU	Klutina	79.49	13	P	P	10 46 58.8	+1.2
	baz=207						
SCM	Sheep Creek Mo	79.50	12	IAmb	IAmb	10 47 00.1	
	comp=Z,43nm,0.7s						
SCM	Sheep Creek Mo	79.50	12	P	P	10 46 58.5	+0.8
	baz=205,SNR=8.0						
HVU	Hansel Valley	79.51	41	IAmb	IAmb	10 47 01.3	
	comp=Z,48nm,0.9s						
PNL	Peninsula	79.52	17	P	P	10 46 58.9	+1.1
	baz=213						
C09A	Chrisman Ranch	79.61	34	IAmb	IAmb	10 47 01.2	
	comp=Z,128nm,1.9s						
CTU	Camp Tracy	79.62	43	IAmb	IAmb	10 47 01.9	
	comp=Z,36nm,1.1s						
PINM	Pinnacle	79.65	16	P	P	10 46 59.6	+1.1
	baz=212						
SRU	San Rafael Swe	79.66	45	IAmb	IAmb	10 47 02.5	
	comp=Z,68nm,1.2s						
P17A	Butcher Ranch,	79.69	44	IAmb	IAmb	10 47 03.0	
	comp=Z,66nm,1.2s						
K20K	Telida	79.74	9	IAmb	IAmb	10 47 02.5	
	comp=Z,54nm,1.4s						
K20K	Telida	79.74	9	P	P	10 47 00.5	+1.6
	baz=199						
ANM	Nome	79.77	3	P	P	10 47 01.3	+2.3
	baz=188						
Y22A	Socorro	79.80	51	P	P	10 47 02.4	+2.2
	baz=244,SNR=15						
VRDI	Verde Repeater	79.82	14	IAmb	IAmb	10 47 02.0	
	comp=Z,64nm,1.2s						
N25K	Chitina, Valde	79.89	13	IAmb	IAmb	10 47 02.3	
	comp=Z,37nm,0.8s						
N25K	Chitina, Valde	79.89	13	P	P	10 47 01.4	+1.6
	baz=208,SNR=8.6						
Y22D	IRIS PASSCAL I	79.90	51	IAMs_20	IAMs_20	11 14 04.1	
	comp=Z,707nm,20.0s						
Y22D	IRIS PASSCAL I	79.90	51	P	P	10 47 03.2	+2.7
	baz=244						
Y22D	IRIS PASSCAL I	79.90	51	P	P	10 47 02.3	+1.7
	baz=244						
Y22F	Passcal Instru	79.90	51	P	P	10 47 02.4	+1.8
	baz=244						
GLB	Gilahina Butte	79.92	14	IAmb	IAmb	10 47 02.4	
	comp=Z,58nm,1.2s						
M24K	Tolsona, Glenn	79.99	13	P	P	10 47 02.9	+2.5
	baz=206,SNR=5.6						
MA2	Magadan	80.02	342	LR	LR	11 17 24.2	
	comp=Z,256nm,21.1s,baz=138,slow=32						
MA2	Magadan	80.02	342⇓	*e*P	P	10 47 00.8	+0.4
MA2				pmax	pmax		
	comp=Z,34nm,1.7s						
MNTX	Cornudas Mount	80.05	53	P	P	10 47 03.6	+2.3
	baz=245,SNR=24						
MNTX	Cornudas Mount	80.05	53	P	P	10 47 03.4	+2.1
	baz=245,SNR=24						
MCARA	McCarthy VSAT	80.06	14	P	P	10 47 03.1	+2.5
	baz=210						
WAT6	Susitna Watana	80.10	12	P	P	10 47 02.5	+1.5
	baz=205,SNR=10						
CAST	Castle Rocks	80.10	10	IAMs_20	IAMs_20	11 17 02.3	
	comp=Z,897nm,19.0s						
CAST	Castle Rocks	80.10	10	P	P	10 47 01.7	+0.8
	baz=201						
BARN	Barnard Glacie	80.11	15	IAmb	IAmb	10 47 03.8	
	comp=Z,64nm,1.0s						
NJ2	Nanjing	80.12	307	*e*P	P	10 47 02.3	+0.7
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MVCO	Mesa Verde	80.16	47	IAMs_20	IAMs_20	11 14 01.8	
	comp=Z,1µm,22.0s						
MVCO	Mesa Verde	80.16	47	P	P	10 47 03.9	+1.8
	baz=242,SNR=11						
WAT1	Susitna Watana	80.17	11	P	P	10 47 02.1	+0.9
	baz=204						
PLBC	Pleasant Camp	80.22	18	P	P	10 47 03.1	+1.6
	baz=216						
O28M	Mount Upton	80.24	16	P	P	10 47 03.2	+1.3
	baz=212						
O29M	Mount Kennedy	80.28	17	P	P	10 47 04.3	+2.2
	baz=214,SNR=5.1						
KLR	Kul'dur	80.41	327	LR	LR	11 17 07.6	
	comp=Z,327nm,21.8s,baz=123,slow=32						
KLR	Kul'dur	80.41	327⇑	*e*P	P	10 47 04.7	+1.9
KLR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KTH	Kantishna Hill	80.42	10	IAMs_20	IAMs_20	11 15 18.6	
	comp=Z,988nm,21.0s						
TRF	Thorofare Moun	80.43	10	P	P	10 47 02.8	0.0
	baz=202,SNR=6.2						
TX31	Lajitas Ar. Si	80.44	56	P	P	10 47 05.8	+2.2
	baz=247						
HARP	HAARP	80.47	13	P	P	10 47 04.4	+1.6
	baz=207						
CHUM	Lake Minchumin	80.50	9	P	P	10 47 03.8	+0.9
	baz=200,SNR=7.7						
J20K	Nowinta River	80.51	8	IAmb	IAmb	10 47 06.7	
	comp=Z,69nm,1.4s						
J20K	Nowinta River	80.51	8	P	P	10 47 05.2	+2.2
	baz=199,SNR=16						
NEW	Newport	80.51	34	LR	LR	11 14 53.9	
	comp=Z,501nm,21.9s,baz=224,slow=30						
NEW	Newport	80.51	34	IAMs_20	IAMs_20	11 14 41.6	
	comp=Z,625nm,20.0s						
NEW	Newport	80.51	34	P	P	10 47 04.8	+1.4
	baz=234,SNR=11						
P30M	Million Dollar	80.59	18	P	P	10 47 05.5	+1.9
	baz=215						
UNM	Universidad Na	80.60	67	IAMs_20	IAMs_20	11 14 11.5	
	comp=Z,704nm,21.0s						
DHY	Denali Highway	80.62	12	P	P	10 47 05.4	+1.6
	baz=205						
ANMO	Albuquerque	80.62	50	P	P	10 47 06.2	+1.7
	comp=Z,27nm,1.0s,baz=283,slow=2.3,SNR=65						
ANMO				LR	LR	11 15 10.8	
	comp=Z,734nm,21.1s,baz=322,slow=30						
	comp=Z,27nm,1.0s						
ANMO	Albuquerque	80.62	50	IAMs_20	IAMs_20	11 15 11.2	
	comp=Z,877nm,21.0s						
ANMO	Albuquerque	80.62	50	P	P	10 47 06.5	+2.0
	baz=244,SNR=49						
ANMO	Albuquerque	80.62	50	P	P	10 47 06.5	+2.0
	baz=244						
ANMO	Albuquerque	80.62	50⇑	*i*P	P	10 47 06.7	+2.2
ANMO				pmax	pmax		
	comp=Z,57nm,1.7s						
TNA	Tin City	80.64	2	P	P	10 47 06.0	+2.3
	baz=185						
RND	Reindeer	80.64	11	IAMs_20	IAMs_20	11 15 47.6	
	comp=Z,1µm,20.0s						
GCSA	Galena City Sc	80.70	7	P	P	10 47 06.1	+2.2
	baz=196						
S34M	Telegraph Cree	80.72	21	P	P	10 47 06.4	+2.2
	baz=221						
YUK8	Steele Glacier	80.78	16	P	P	10 47 06.3	+1.4
	baz=213						
BNX	BinXian	80.84	322	⇓P	P	10 47 06.4	+1.2
BNX				pmax	pmax		
	comp=Z,23nm,0.9s						
BNX				pmax	pmax		
	comp=Z,120nm,5.4s						
YUK6	Outpost Mounta	80.87	16	P	P	10 47 06.2	+0.9
	baz=214						
PAX	Paxson	80.91	12	P	P	10 47 06.5	+1.2
	baz=207,SNR=6.2						
BPAW	Bear Paw Mtn.	80.92	10	IAMs_20	IAMs_20	11 15 23.8	
	comp=Z,671nm,20.0s						
BPAW	Bear Paw Mtn.	80.92	10	P	P	10 47 05.7	+0.5
	baz=202						
MCK	McKinley	80.93	11	IAmb	IAmb	10 47 08.2	
	comp=Z,50nm,1.0s						
MCK	McKinley	80.93	11	P	P	10 47 06.2	+0.9
	baz=204,SNR=18						
M26K	Nabesna, AK	80.95	14	IAmb	IAmb	10 47 08.8	
	comp=Z,66nm,1.2s						
M26K				IAMs_20	IAMs_20	11 14 25.7	
	comp=Z,1µm,20.0s						
M26K	Nabesna, AK	80.95	14	P	P	10 47 06.8	+1.4
	baz=210						
CN2	Changchun	81.00	320⇓	*i*P	P	10 47 07.6	+1.5
CN2				S	S	10 57 15.9	+0.6
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,200nm,22.0s						
CN2				LR	LR		
	comp=Z,400nm,22.0s						
CN2				LR	LR		
	comp=Z,500nm,22.0s						
HYT	Haines Junctio	81.01	17	IAmb	IAmb	10 47 09.0	
	comp=Z,44nm,1.2s						
HYT	Haines Junctio	81.01	17	P	P	10 47 07.4	+1.4
	baz=215,SNR=6.4						
YUK3	Moose Creek	81.02	15	P	P	10 47 08.1	+2.0
	baz=212,SNR=7.2						
AHID	Auburn Hatcher	81.09	41	IAmb	IAmb	10 47 09.8	
	comp=Z,58nm,1.1s						
Q32M	Nakina River	81.13	20	P	P	10 47 07.6	+0.9
	baz=220						
YUK4	Talbot Arm	81.13	16	P	P	10 47 08.4	+1.8
	baz=214						
M27K	Edge Creek, AK	81.17	14	IAmb	IAmb	10 47 10.6	
	comp=Z,74nm,1.2s						
M27K	Edge Creek, AK	81.17	14	P	P	10 47 08.5	+1.7
	baz=211						
O30N	Mendenhall	81.37	17	P	P	10 47 09.1	+1.4
	baz=216,SNR=7.0						
L26K	Log Cabin Wild	81.42	13	P	P	10 47 09.2	+1.3
	baz=209,SNR=7.3						
BVCY	Beaver Creek	81.47	15	P	P	10 47 09.6	+1.4
	baz=212,SNR=7.1						
MSO	Missoula	81.48	37	IAmb	IAmb	10 47 11.0	
	comp=Z,54nm,1.1s						
MSO	Missoula	81.48	37	P	P	10 47 09.9	+1.2
	baz=237,SNR=17						
DLBC	Dease Lake	81.50	21	LR	LR	11 17 49.0	
	comp=Z,498nm,18.2s,baz=246,slow=32						
DLBC	Dease Lake	81.50	21	P	P	10 47 09.9	+1.4
	baz=222						
S22A	4UR Ranch, Cre	81.58	47	P	P	10 47 11.6	+1.8
	baz=243,SNR=64						
K24K	Donnelly Dome	81.59	12	P	P	10 47 10.9	+2.1
	baz=207						
WHY	Whitehorse	81.64	18	P	P	10 47 10.8	+1.5
	baz=217						
O20A	White River Ci	81.69	45	P	P	10 47 11.8	+1.6
	baz=242,SNR=14						
NEA2	Nenana	81.69	10	P	P	10 47 11.5	+2.2
	baz=204,SNR=8.3						
RIDG	Independent Ri	81.72	12	IAmb	IAmb	10 47 12.1	
	comp=Z,70nm,1.4s						
RIDG	Independent Ri	81.72	12	P	P	10 47 11.8	+2.3
	baz=208,SNR=5.9						
I21K	Tanana	81.77	9	IAMs_20	IAMs_20	11 16 41.4	
	comp=Z,767nm,18.0s						
I21K	Tanana	81.77	9	P	P	10 47 11.5	+1.9
	baz=201						
L27K	Beaver Creek,	81.79	14	IAMs_20	IAMs_20	11 15 02.0	
	comp=Z,982nm,21.0s						
L27K	Beaver Creek,	81.79	14	P	P	10 47 11.8	+1.9
	baz=211						
MOOW	Moose Ponds	81.80	41	IAmb	IAmb	10 47 13.8	
	comp=Z,40nm,1.2s						
DOT	Dot Lake	81.81	13	IAmb	IAmb	10 47 12.5	
	comp=Z,33nm,1.0s						
LOHW	Long Hollow	81.82	41	IAmb	IAmb	10 47 13.8	
	comp=Z,45nm,1.1s						
MLY	Manley	81.82	9	P	P	10 47 10.8	+0.

comp=Z,40nm,0.8s
N31M Braeburn, Yuko 82.04 17 P P 10 47 13.1 +1.9
baz=216
BW06 Boulder Array 82.07 42 IAmb IAmb 10 47 14.7
comp=Z,35nm,1.0s
BW06 Boulder Array 82.07 42 P P 10 47 13.1 +1.0
baz=241,SNR=35
PD31 Pinedale Array 82.07 42 IAmb IAmb 10 47 14.7
comp=Z,32nm,1.0s
PDAR Pinedale Array 82.07 42 P P 10 47 13.3 +1.2
comp=Z,16nm,0.8s,baz=216,slow=3.3,SNR=134
PDAR LR LR 11 18 16.3
comp=Z,719nm,19.3s,baz=243,slow=32
comp=Z,16nm,0.8s
M29M Somme Creek 82.09 16 P P 10 47 13.2 +1.6
baz=214
H21K Melozitna Rive 82.10 8 IAMs_20 IAMs_20 11 16 07.2
comp=Z,728nm,20.0s
H21K Melozitna Rive 82.10 8 P P 10 47 13.3 +1.8
baz=200
SCRK Sand Creek 82.11 13 IAMs_20 IAMs_20 11 15 59.5
comp=Z,1µm,22.0s
SCRK Sand Creek 82.11 13 P P 10 47 13.0 +1.4
baz=208,SNR=11
SMCO Snowmass 82.12 46 IAMs_20 IAMs_20 11 17 32.8
comp=Z,883nm,20.0s
I23K Minto, Yukon-K 82.16 10 IAmb IAmb 10 47 14.7
comp=Z,49nm,1.4s
I23K Minto, Yukon-K 82.16 10 P P 10 47 12.8 +1.1
baz=203,SNR=10
TCOL CIGO, UAF Yank 82.17 11 P P 10 47 12.7 +1.0
baz=205,SNR=14
COLA College 82.17 11 P P 10 47 11.3 -0.4
COLA College 82.17 11 P P 10 47 13.0 +1.3
baz=205
COLA College 82.17 11⇑ *e*P P 10 47 12.9 +1.2
COLA pmax pmax
comp=Z,51nm,0.9s
MDM Murphy Dome 82.18 10 P P 10 47 11.5 -0.4
MDM IAmb IAmb 10 47 14.9
comp=Z,57nm,1.3s
BOZ Bozeman (W) 82.20 39 IAMs_20 IAMs_20 11 17 23.4
comp=Z,911nm,20.0s
BOZ Bozeman (W) 82.20 39 P P 10 47 14.4 +1.8
baz=239,SNR=47
H17A Grant Village 82.23 40 P P 10 47 15.8 +2.8
baz=240,SNR=34
IL31 82.25 11 IAmb IAmb 10 47 14.5
comp=Z,26nm,1.1s
ILAR Eielson Array 82.25 11 P P 10 47 12.8 +0.5
comp=Z,9.7nm,1.0s,baz=229,slow=6.5,SNR=88
ILAR LR LR 11 16 35.2
comp=Z,511nm,21.6s,baz=200,slow=30
comp=Z,9.7nm,1.0s
SEY Seymchan 82.36 345 LR LR 11 19 05.8
comp=Z,477nm,20.6s,baz=159,slow=32
SEY Seymchan 82.36 345⇓ *e*P P 10 47 13.9 +1.1
SEY pmax pmax
comp=Z,21nm,1.7s
LKWY Lake 82.43 40 IAMs_20 IAMs_20 11 14 46.5
comp=Z,672nm,21.0s
POKR Poker Plat Res 82.46 11 P P 10 47 13.8 +0.4
baz=205,SNR=14
SDCO Great Sand Dun 82.53 48 IAmb IAmb 10 47 17.9
comp=Z,43nm,1.4s
SDCO IAMs_20 IAMs_20 11 17 12.7
comp=Z,696nm,20.0s
SDCO Great Sand Dun 82.53 48 P P 10 47 16.6 +2.0
baz=244,SNR=26
SDCO Great Sand Dun 82.53 48 P P 10 47 15.8 +1.1
baz=244,SNR=26
H22K Ishtalitna Cre 82.53 9 P P 10 47 14.6 +0.9
baz=201
K27K Chicken 82.57 13 IAmb IAmb 10 47 17.3
comp=Z,35nm,1.4s
K27K Chicken 82.57 13 P P 10 47 14.5 +0.6
baz=210
M30M Minto, Yukon 82.64 16 IAmb IAmb 10 47 17.0
comp=Z,27nm,1.1s
M30M Minto, Yukon 82.64 16 P P 10 47 15.2 +0.8
baz=215,SNR=7.7
J26L Joseph Creek 82.67 13 P P 10 47 15.4 +0.8
baz=209
WALA Waterton Lakes 82.72 35 IAmb IAmb 10 47 17.7
comp=Z,28nm,1.1s
L29M L29M 82.73 15 P P 10 47 15.8 +1.0
baz=214,SNR=21
G21K Allakaket 82.82 8 P P 10 47 16.4 +1.3
baz=199
QIZ Qiongzhong 82.91 292 P P 10 47 14.0 -2.7
QIZ S S 10 57 34.4 -1.6
QIZ LR LR
comp=Z,400nm,15.9s
QIZ LR LR
comp=Z,460nm,26.3s
MSTX Muleshoe 82.98 52 P P 10 47 18.8 +1.9
baz=246
MSTX Muleshoe 82.98 52 P P 10 47 18.4 +1.5
baz=246,SNR=15
M31M Drury Creek, Y 83.01 17 IAmb IAmb 10 47 19.4
comp=Z,46nm,1.7s
M31M Drury Creek, Y 83.01 17 P P 10 47 17.7 +1.4
baz=218
H24K Noodor Dome 83.04 10 P P 10 47 17.4 +1.0
baz=205
T25A Trinidad 83.06 49 IAmb IAmb 10 47 20.3
comp=Z,34nm,1.1s
T25A Trinidad 83.06 49 P P 10 47 18.9 +1.5
baz=245,SNR=14
WTLY Watson Lake, Y 83.17 21 P P 10 47 18.3 +1.2
baz=223
PRP Porcupine Dome 83.18 11 P P 10 47 19.0 +1.8
baz=207,SNR=6.1
DAWY Dawson 83.22 14 IAmb IAmb 10 47 20.4
comp=Z,28nm,0.9s
DAWY Dawson 83.22 14 P P 10 47 19.1 +1.7
baz=213,SNR=20
HEH HeiHe 83.30 326 *e*P P 10 47 18.9 +0.9
HEH pmax pmax
comp=Z,6.0nm,1.1s
HEH pmax pmax
comp=Z,470nm,5.6s
Q24A Divide 83.31 47 P P 10 47 20.7 +2.0
baz=244,SNR=26
FARO Faro, Yukon 83.33 18 P P 10 47 18.9 +0.9
baz=219
ISCO Idaho Springs 83.34 46 IAmb IAmb 10 47 22.1
comp=Z,22nm,1.2s
ISCO IAMs_20 IAMs_20 11 18 32.1
comp=Z,779nm,20.0s
ISCO Idaho Springs 83.34 46 P P 10 47 20.3 +1.4
baz=244
ISCO Idaho Springs 83.34 46 P P 10 47 20.8 +1.9
baz=244,SNR=15
RLMT Red Lodge 83.40 40 IAmb IAmb 10 47 22.3
comp=Z,43nm,1.1s
RLMT Red Lodge 83.40 40 P P 10 47 21.0 +2.0
baz=241,SNR=29
EGAK Eagle 83.42 13 IAmb IAmb 10 47 21.2
comp=Z,24nm,1.1s
EGAK Eagle 83.42 13 P P 10 47 20.0 +1.7
baz=211,SNR=8.5
I26K Coal Creek Min 83.46 12 IAmb IAmb 10 47 21.6
comp=Z,36nm,1.1s
I26K Coal Creek Min 83.46 12 P P 10 47 20.2 +1.8
baz=209
G22K Bettles 83.47 8 P P 10 47 20.5 +2.0
baz=201
F21K Alatna River 83.49 8 P P 10 47 19.9 +1.2
baz=199
G23K Bananza Creek 83.50 9 P P 10 47 20.0 +1.3
baz=202
K29M Barlow Dome 83.50 15 P P 10 47 20.6 +1.8
baz=215
833A Chaparral WMA, 83.53 58 P P 10 47 21.3 +1.6
baz=249
833A Chaparral WMA, 83.53 58 P P 10 47 20.2 +0.4
baz=249
N23A Red Feather La 83.60 45 P P 10 47 21.8 +1.7
baz=244,SNR=23
WAPA Wapiti River 83.61 28 IAmb IAmb 10 47 21.8
comp=Z,24nm,1.1s
MAYO Mayo, Yukon 83.71 16 P P 10 47 21.4 +1.5
baz=216
CMIG Matias Romero 83.74 70 P P 10 47 22.3 +1.3
comp=Z,2.2nm,0.7s,baz=226,slow=9.6,SNR=2.2
comp=Z,2.2nm,0.7s
J29M Klondike Camp 83.83 15 IAmb IAmb 10 47 24.7
comp=Z,38nm,1.1s
J29M Klondike Camp 83.83 15 P P 10 47 22.9 +2.4
baz=214,SNR=5.7
COLD Coldfoot 83.95 9 IAmb IAmb 10 47 25.4
comp=Z,32nm,1.2s
COLD Coldfoot 83.95 9 P P 10 47 23.0 +2.0
baz=202,SNR=10
JCT Junction City 83.98 56 IAMs_20 IAMs_20 11 18 59.5
comp=Z,536nm,19.0s
JCT Junction City 83.98 56 P P 10 47 23.6 +1.6
baz=248,SNR=8.9
JCT Junction City 83.98 56 P P 10 47 23.1 +1.1
baz=248
K22A Casper 84.00 43 P P 10 47 23.4 +1.4
baz=243
K22A Casper 84.00 43 P P 10 47 23.4 +1.4
baz=243,SNR=20
I27K Kandik River 84.04 13 P P 10 47 23.3 +1.8
baz=211
PHWY Pilot Hill 84.11 45 IAmb IAmb 10 47 25.4
comp=Z,25nm,1.1s
PHWY IAMs_20 IAMs_20 11 16 51.2
comp=Z,1µm,22.0s
AMTX Amarillo 84.17 52 IAMs_20 IAMs_20 11 17 31.3
comp=Z,786nm,21.0s
AMTX Amarillo 84.17 52 P P 10 47 24.4 +1.5
baz=247
AMTX Amarillo 84.17 52 P P 10 47 24.3 +1.3
baz=247
FYU Fort Yukon 84.17 11 IAMs_20 IAMs_20 11 18 38.8
comp=Z,785nm,20.0s
PMSA Palmer Station 84.31 156 LR LR 11 16 16.1
comp=Z,363nm,21.7s,baz=268,slow=30
BILL Bilibino 84.34 352 P P 10 47 22.9 0.0
BILL IAMs_20 IAMs_20 11 20 47.8
comp=Z,655nm,20.0s
BILL Bilibino 84.34 352 *i* P P 10 47 23.7 +0.8
BILL *i* 10 50 42.0
BILL *i* S S 10 57 38.8 -10
BILL pmax pmax
comp=Z,8.0nm,1.0s
EGMT Eagleton 84.53 37 IAmb IAmb 10 47 27.2
comp=Z,37nm,1.0s
EGMT IAMs_20 IAMs_20 11 16 58.2
comp=Z,938nm,20.0s
EGMT Eagleton 84.53 37 P P 10 47 25.9 +1.4
baz=240,SNR=15
I29M Ogilvie Camp, 84.57 14 IAmb IAmb 10 47 26.7
comp=Z,22nm,1.0s
I29M IAMs_20 IAMs_20 11 18 26.3
comp=Z,1µm,21.0s
I29M Ogilvie Camp, 84.57 14 P P 10 47 25.1 +1.0
baz=214,SNR=14
F24K Squaw Lake 84.58 10 P P 10 47 25.9 +1.7
baz=204
H27K Steamboat Moun 84.60 12 P P 10 47 26.2 +1.9
baz=211,SNR=8.7
KOTAN Kotaneelee Air 84.86 22 P P 10 47 27.2 +1.5
baz=227
ABTX Abilene, Hawle 84.89 54 P P 10 47 28.4 +1.8
baz=248
ABTX Abilene, Hawle 84.89 54 P P 10 47 28.2 +1.6
baz=248,SNR=63
F25K Christian Rive 85.02 10 P P 10 47 28.6 +2.1
baz=207
735A Kenedy 85.03 58 P P 10 47 29.6 +2.4
baz=250
G27K Doyon Strip 85.07 12 P P 10 47 28.8 +2.1
baz=210,SNR=6.6
KSCO Kaye Shedlock' 85.11 48 P P 10 47 30.2 +2.6
baz=246,SNR=7.2
KSCO Kaye Shedlock' 85.11 48 P P 10 47 29.0 +1.3
baz=246,SNR=7.2
H03S2 Juan Fernandez 85.23 124 T T 12 22 07.7
baz=252,slow=75,SNR=6.4
H03S1 Juan Fernandez 85.25 124 T T 12 22 03.3
baz=252,slow=75,SNR=6.9
H03S3 Juan Fernandez 85.25 124 T T 12 22 09.9
baz=252,slow=75,SNR=5.7
ZEA Zeya 85.31 329 *e*P P 10 47 29.1 +1.0
ZEA pmax pmax
comp=Z,10.0nm,1.1s
F26K Sheenjek River 85.37 11 P P 10 47 30.9 +2.7
baz=208
HNS HongShan 85.41 311 ⇑P P 10 47 29.8 +0.8
HNS pmax pmax
comp=Z,9.0nm,1.0s
D23K Nanushuk River 85.50 8 P P 10 47 31.2 +2.4
baz=202
E25K Arctic Village 85.50 10 P P 10 47 30.7 +1.9
baz=207,SNR=13
EPYK Eagle Plains 85.77 14 IAmb IAmb 10 47 33.0
comp=Z,25nm,1.0s
EPYK Eagle Plains 85.77 14 P P 10 47 31.6 +1.4
baz=215,SNR=7.6
435B Jarrell 85.87 57 IAMs_20 IAMs_20 11 18 51.7
comp=Z,601nm,20.0s
435B Jarrell 85.87 57 P P 10 47 33.6 +2.1
baz=250,SNR=5.4
435B Jarrell 85.87 57 P P 10 47 33.1 +1.6
baz=250
LAO LASA Array 86.01 39 P P 10 47 34.1 +2.1
baz=243
LAO LASA Array 86.01 39 P P 10 47 34.0 +2.1
baz=243,SNR=19
RSSD Black Hills 86.27 42 P P 10 47 32.7 -0.7
RSSD IAmb IAmb 10 47 36.4
comp=Z,42nm,1.3s
RSSD Black Hills 86.27 42 P P 10 47 35.0 +1.6
baz=245
RSSD Black Hills 86.27 42 P P 10 47 34.1 +0.7
baz=245
RSSD Black Hills 86.27 42 P P 10 47 32.7 -0.7
RSSD pmax pmax
comp=Z,42nm,1.3s
E27K Coleen River 86.27 11 P P 10 47 34.1 +1.4
baz=210
OGNE Ogallala 86.31 46 P P 10 47 35.2 +1.7
baz=246
OGNE Ogallala 86.31 46 P P 10 47 33.8 +0.2
baz=246
WMOK Wita Mounta 86.33 53 IAMs_20 IAMs_20 11 17 25.5
comp=Z,582nm,20.0s
WMOK Wichita Mounta 86.33 53 P P 10 47 35.0 +1.3
baz=249
WMOK Wichita Mounta 86.33 53 P P 10 47 33.9 +0.2
baz=249
G30M tAoh Zraii Nji 86.39 14 P P 10 47 34.9 +1.7
baz=216
WHTX Lake Whitney, 86.39 56 P P 10 47 35.7 +1.6
baz=250
WHTX Lake Whitney, 86.39 56 P P 10 47 34.8 +0.7
baz=250
D25K Kavik River 86.45 9 P P 10 47 34.8 +1.3
baz=206
C24K Franklin Bluff 86.47 8 P P 10 47 36.0 +2.5
baz=204
U32A Winter Ranch, 86.75 51 P P 10 47 37.6 +1.8
baz=248
HKT Hockley 87.02 58 P P 10 47 39.4 +2.3
baz=251
Z35A Perchaven, San 87.02 54 P P 10 47 39.3 +2.2
baz=250
XLT XiLinHaoTe 87.05 317 *e*P P 10 47 37.1 0.0
XLT pP pwP 10 47 42.6 0.0
XLT sP sP 10 47 44.1 +3.5
XLT SKS **SKSac** **10 58 00.8 -3.7**
XLT S **ScS** **10 58 20.6 -3.2**
XLT sS sS 10 58 22.8 +2.5
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,82nm,4.2s
A21K Barrow 87.08 5 IAMs_20 IAMs_20 11 20 07.7
comp=Z,568nm,21.0s
A21K Barrow 87.08 5 P P 10 47 37.2 +0.8
baz=196
HIA Hailar 87.10 323 IAMs_20 IAMs_20 11 20 24.0
comp=Z,613nm,21.0s
CBKS Cedar Bluff 87.11 49 P P 10 47 39.0 +1.6
baz=248
CBKS Cedar Bluff 87.11 49 P P 10 47 38.1 +0.7
baz=248
C27K Jago River 87.15 10 P P 10 47 37.7 +0.8
baz=208
WRGLY Wrigley 87.17 20 P P 10 47 38.5 +1.4
baz=228
C26K Camden Bay 87.22 9 P P 10 47 38.3 +1.2
baz=207
F31M Tsiigehtchic 87.33 14 P P 10 47 38.9 +1.1
baz=218,SNR=22
OK032 Salt Plains WL 87.50 51 IAmb IAmb 10 47 42.2
comp=Z,18nm,0.9s
CROK Carrier 87.56 51 IAmb IAmb 10 49 29.7
comp=Z,45nm,1.7s
R32A Long Quarter, 87.71 49 IAmb IAmb 10 47 43.4
comp=Z,31nm,0.9s
R32A Long Quarter, 87.71 49 P P 10 47 41.9 +1.6
baz=249,SNR=11
237A Washetta, Mont 87.71 56 P P 10 47 42.6 +2.2
baz=251,SNR=9.1
MAW Mawson 87.99 199 P P 10 47 42.0 +0.9
comp=Z,36nm,0.9s,baz=115,slow=6.7,SNR=18
MAW ScS ScS 10 58 30.5 -0.3
comp=Z,3.6nm,0.5s,baz=159,slow=8.8,SNR=6.1
MAW LR LR 11 24 31.2
comp=Z,944nm,20.2s,baz=121,slow=34
comp=Z,36nm,0.9s
MAW Mawson 87.99 199 P P 10 47 39.9 -1.2
baz=88,SNR=9.2
MAW Mawson 87.99 199 P P 10 47 41.4 +0.3
MAW Mawson 87.99 199 P P 10 47 41.4 +0.3
MAW pmax pmax
comp=Z,9.0nm,1.0s
DGMT Dagmar 88.03 38 P P 10 47 43.3 +1.6
baz=244
DGMT Dagmar 88.03 38 P P 10 47 43.2 +1.6
baz=244,SNR=8.0
INK Inuvik 88.07 14 LR LR 11 19 56.6
comp=Z,605nm,21.4s,baz=187,slow=31
INK Inuvik 88.07 14 P P 10 47 40.9 -0.3
INK Inuvik 88.07 14 P P 10 47 42.6 +1.3
baz=218,SNR=7.0
INK Inuvik 88.07 14 P P 10 47 40.9 -0.3
INK pmax pmax
comp=Z,17nm,1.4s
OK053 SW of W Deep R 88.30 52 IAMs_20 IAMs_20 11 20 01.3
comp=Z,660nm,21.0s
OK048 Pawnee Station 88.32 52 IAMs_20 IAMs_20 11 19 10.1
comp=Z,788nm,22.0s
NATX Nacogdoches 88.56 57 IAMs_20 IAMs_20 11 21 14.8
comp=Z,582nm,20.0s
NATX Nacogdoches 88.56 57 P P 10 47 46.7 +2.3
baz=251
NATX Nacogdoches 88.56 57 P P 10 47 45.1 +0.7
baz=251
XAN Xi'an 88.59 306 ⇑*i*P P 10 47 47.5 +2.9
XAN pP pwP 10 47 54.3 +4.1
XAN pmax pmax
comp=Z,9.0nm,1.4s
T35A Sooner Cattle 88.82 51 IAmb IAmb 10 47 48.8
comp=Z,16nm,0.9s
T35B Sooner Cattle 88.82 51 P P 10 47 47.1 +1.5
baz=250,SNR=6.6
HHC Hu-ho-hao-te 88.96 313 *e*P P 10 47 46.3 0.0
HHC S S **10 58 32.3 -2.4**
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,220nm,5.0s
HHC LR LR
comp=Z,320nm,16.5s
HHC LR LR
comp=Z,300nm,15.9s
HHC LR LR
comp=Z,410nm,17.1s
YAK Yakutsk 88.98 337 LR LR 11 20 58.6
comp=Z,219nm,21.7s,baz=91,slow=31
YAK Yakutsk 88.98 337 *e*P P 10 47 45.7 0.0
YAK pmax pmax
comp=Z,11nm,1.1s
TUL1 Leonard 89.02 52 P P 10 47 48.3 +1.7
baz=250
TUL1 Leonard 89.02 52 P P 10 47 47.2 +0.7
baz=250
BGNE Belgrade 89.19 47 P P 10 47 48.5 +1.3
baz=249
K31A O'Neill 89.21 45 IAmb IAmb 10 48 00.1
comp=Z,46nm,1.2s
K31A O'Neill 89.21 45 P P 10 47 48.9 +1.6
baz=248
GO06 Curarrehue 89.29 131 P P 10 47 47.4 -0.6
E28A Huff 89.42 41 P P 10 47 49.2 +1.0
baz=247
GSI Gunungsitoli 89.48 271 IAmb IAmb 10 47 51.7
comp=Z,19nm,0.8s
KSU1 Kansas State U 89.49 49 P P 10 47 49.7 +1.0
baz=250
KSU1 Kansas State U 89.49 49 P P 10 47 49.1 +0.4
baz=250
PLCA Paso Flores 89.57 132 P P 10 47 50.6 +1.3
comp=Z,2.8nm,1.0s,baz=241,slow=9.1,SNR=3.9
PLCA LR LR 11 20 31.1
comp=Z,206nm,20.4s,baz=244,slow=31
comp=Z,2.8nm,1.0s
YKA Yellowknife Ar 89.90 23 P P 10 47 50.8 +0.8
comp=Z,8.8nm,1.0s,baz=240,slow=4.6,SNR=53
comp=Z,8.8nm,1.0s
U38A Gravette 90.27 52 P P 10 47 54.2 +1.8
baz=251
MIAR Mount Ida 90.30 54 P P 10 47 54.7 +2.1
baz=252
MIAR Mount Ida 90.30 54 P P 10 47 53.5 +0.9
baz=252
ML02 Panimavida 90.58 127 P P 10 47 53.2 -0.8
MDND Maddock 90.60 40 P P 10 47 54.5 +0.8
baz=248
MDND Maddock 90.60 40 P P 10 47 54.8 +1.1
baz=248
ECSD EROS Data Cent 91.07 45 P P 10 47 56.8 +0.8
baz=250
ECSD EROS Data Cent 91.07 45 P P 10 47 56.1 +0.2
baz=250
JTS Las Juntas de 91.10 80 LR LR 11 18 50.0
comp=Z,385nm,21.3s,baz=226,slow=29
C36M Paulatuk 91.16 16 P P 10 47 57.0 +1.3
baz=227
CD2 Chengdu 91.79 301 *e*P P 10 47 59.4 -0.2
FFC Flin Flon 91.91 33 P P 10 47 58.5 -1.1
FFC IAmb IAmb 10 48 12.3
comp=Z,31nm,1.9s
FFC Flin Flon 91.91 33 P P 10 47 58.5 -1.1
FFC pmax pmax
comp=Z,31nm,1.9s
P38A Dawn 91.92 50 P P 10 48 00.1 +0.2
baz=252
MGMO Mountain Grove 92.11 52 IAmb IAmb 10 48 03.2
comp=Z,18nm,1.1s
PZH PanZhiHua 92.27 297 P P 10 48 02.8 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.9s
ELIB Princess Elisa 92.32 185 *d*P P 10 48 02.4 +0.9
comp=Z,71nm,1.0s
R40A Maddies Statio 92.45 51 IAmb IAmb 10 48 04.4
comp=Z,28nm,1.4s
R40A Maddies Statio 92.45 51 P P 10 48 03.3 +0.8
baz=253
N38A Joes South For 92.49 48 IAmb IAmb 10 48 04.5
comp=Z,18nm,1.1s
N38A Joes South For 92.49 48 P P 10 48 03.3 +0.7
baz=252
CMAR Chiang Mai Arr 92.64 288 P P 10 48 04.6 +0.8
comp=Z,0.6nm,0.3s,baz=97,slow=1.8,SNR=7.4
comp=Z,0.6nm,0.3s
A36M Sachs Harbour 92.70 13 IAmb IAmb 10 48 06.1
comp=Z,20nm,1.1s
A36M IAMs_20 IAMs_20 11 24 56.4
comp=Z,764nm,19.0s
A36M Sachs Harbour 92.70 13 P P 10 48 03.8 +0.9
baz=226,SNR=16
SCIA State Center 92.85 47 P P 10 48 04.6 +0.4
baz=252
ATAH Atahualpa 92.86 98 LR LR 11 22 10.5
comp=Z,190nm,18.8s,baz=257,slow=30
TROLL Troll, Antarti 92.94 179 P P 10 48 05.7 +1.3
P40A Paris 92.98 50 IAmb IAmb 10 48 17.4
comp=Z,16nm,1.3s
P40A Paris 92.98 50 P P 10 48 05.6 +0.7
baz=253
NNA Nana 93.02 103 LR LR 11 20 57.5
comp=Z,92nm,21.0s,baz=256,slow=30
VNA3 Neumayer Olymp 93.03 175 P P 10 48 06.1 +1.5
SNAA Sanae 93.08 177 P P 10 48 06.1 +1.2
SNAA Sanae 93.08 177 LR LR 11 24 33.3

comp=Z,243nm,21.3s,baz=190,slow=32
SNAA Sanae 93.08 177 P **P** 10 48 05.3 +0.4
SNAA Sanae 93.08 177 *de*P **P** 10 48 06.4 +1.5
SNAA pmax pmax
comp=Z,30nm,1.0s
RGM0 Gandoca 93.15 81 P **P** 10 48 04.2 -2.0
CCM Cathedral Cave 93.15 52 P **P** 10 48 04.2 -1.5
CCM Cathedral Cave 93.15 52 IAMs_20 IAMs_20 11 21 50.0
comp=Z,762nm,22.0s
CCM Cathedral Cave 93.15 52 P **P** 10 48 06.5 +0.8
baz=253
CCM Cathedral Cave 93.15 52 P **P** 10 48 06.5 +0.8
baz=253
CCM Cathedral Cave 93.15 52 P **P** 10 48 04.2 -1.5
CCM pmax pmax
comp=Z,14nm,1.3s
LZH Lanzhou 93.18 306 *e*P **P** 10 48 08.9 +2.8
LZH sP pwP 10 48 20.6 +8.9
LZH pmax pmax
comp=Z,8.0nm,1.5s
LZH LR LR
comp=Z,160nm,13.1s
LZH LR LR
comp=Z,230nm,12.7s
LZH LR LR
comp=Z,180nm,15.1s
VNA2 Neumayer--Watz 93.53 175 P **P** 10 48 08.7 +1.8
baz=170,slow=3.0
OXF Oxford 93.58 55 IAMs_20 IAMs_20 11 24 33.4
comp=Z,632nm,20.0s
OXF Oxford 93.58 55 P **P** 10 48 08.5 +0.8
baz=254
VNA1 Neumayer--Stat 93.73 175 P **P** 10 48 09.7 +2.0
ULM Lac du Bonnet 93.74 39 P **P** 10 48 10.2 +2.1
comp=Z,1.8nm,0.7s,baz=270,slow=2.0,SNR=2.0
ULM LR LR 11 25 33.3
comp=Z,946nm,19.1s,baz=248,slow=32
comp=Z,1.8nm,0.7s
F36A Milaca 93.84 44 P **P** 10 48 09.5 +0.8
baz=252
SPMN Marine on St. 94.13 44 P **P** 10 48 11.6 +1.5
baz=253
CGM3 Cape Girardeau 94.15 53 IAmb IAmb 10 48 13.1
comp=Z,32nm,1.6s
L40A Anamosa 94.31 48 IAmb IAmb 10 48 12.8
comp=Z,34nm,1.4s
L40A Anamosa 94.31 48 P **P** 10 48 11.7 +0.8
baz=254
ULN Ulaanbaatar 94.35 318⇑ *e*P **P** 10 48 10.9 -0.3
ULN pmax pmax
comp=Z,3.0nm,1.1s
CFA Coronel Fontan 94.49 124 P **P** 10 48 13.9 +1.8
comp=Z,9.9nm,0.8s,baz=248,slow=4.4,SNR=20
CFA LR LR 11 21 12.2
comp=Z,193nm,21.0s,baz=268,slow=29
comp=Z,9.9nm,0.8s
TNCH TengChong 94.69 295 P **P** 10 48 10.3 -3.0
TNCH pmax pmax
comp=Z,300nm,4.2s
SONM Songino Array 94.76 318 P **P** 10 48 13.1 +0.1
comp=Z,1.2nm,0.8s,baz=122,slow=6.0,SNR=4.9
SONM LR LR 11 25 46.6
comp=Z,208nm,21.6s,baz=90,slow=32
comp=Z,1.2nm,0.8s
TIXI Tiksi 94.85 344 P **P** 10 48 13.1 +0.4
comp=Z,0.7nm,0.3s,baz=90,slow=23,SNR=4.3
TIXI LR LR 11 27 03.8
comp=Z,323nm,21.0s,baz=5.0,slow=33
comp=Z,0.7nm,0.3s
TIXI Tiksi 94.85 344⇑ *e*P **P** 10 48 13.4 +0.7
TIXI pmax pmax
comp=Z,9.0nm,2.5s
LRAL Lakeview Retre 95.13 57 P **P** 10 48 14.3 -0.6
baz=255
JFWS Jewell Farm 95.24 47 P **P** 10 48 15.6 +0.4
baz=254
JFWS Jewell Farm 95.24 47 P **P** 10 48 15.4 +0.2
baz=254
I40A Norwalk 95.25 46 IAmb IAmb 10 48 26.9
comp=Z,14nm,1.0s
I40A Norwalk 95.25 46 P **P** 10 48 15.7 +0.5
baz=254
WVT Waverly 95.25 54 P **P** 10 48 16.4 +0.9
baz=255
WVT Waverly 95.25 54 P **P** 10 48 15.9 +0.5
baz=255
HDIL Hopedale 95.30 50 P **P** 10 48 16.5 +1.0
baz=255
HDIL Hopedale 95.30 50 P **P** 10 48 15.9 +0.4
baz=255
E38A The Farm, Brul 95.37 43 P **P** 10 48 16.9 +1.3
baz=254
L42A Oliver, Polo 95.41 48 P **P** 10 48 17.0 +1.0
baz=254
G40A Rib Lake 95.91 45 P **P** 10 48 19.7 +1.5
baz=254
LVC Limon Verde 97.02 116 LR LR 11 23 16.5
comp=Z,115nm,21.4s,baz=253,slow=30
GTA Gaotai 97.13 309 *e*P Pdif 10 48 26.3 +2.2
GTA sP pwP 10 48 38.3 +8.7
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,7.0s
GTA LR LR
comp=Z,130nm,22.2s
GTA LR LR
comp=Z,240nm,21.4s
GTA LR LR
comp=Z,320nm,21.8s
TKL Tuckaleechee C 98.34 55 LR LR 11 28 29.5
comp=Z,386nm,18.8s,baz=275,slow=33
LPAZ La Paz 99.80 110 LR LR 11 26 18.0
comp=Z,48nm,19.9s,baz=184,slow=31
ZALV Zalesovo Beam 109.13 322 PKiKP **PKiKP** 10 53 20.9 -0.2
comp=Z,0.9nm,0.5s,baz=90,slow=2.9,SNR=5.0
MKAR Makanchi Array 110.76 315 PKiKP **PKiKP** 10 53 24.1 -0.3
comp=Z,0.9nm,0.6s,baz=104,slow=0.5,SNR=13
PCHI Peechi 112.17 275 *e*P **PKiKP** 10 53 20.7 -7.3
PCHI *ex* x 11 05 10.1
SUMG Summit 116.99 14 *i* P **Pdif** 10 50 05.0 +13
BVAR Borovoye Array 117.79 322 PKP **PKiKP** 10 53 37.5 -0.1
comp=Z,1.3nm,0.5s,baz=38,slow=1.0,SNR=9.5
BRVK Borovoye 117.84 322 IAMs_20 IAMs_20 11 40 34.1
comp=Z,324nm,20.0s
BRVK Borovoye 117.84 322⇓ *i* PKiKP **PKiKP** 10 53 37.8 +0.1
ARU Arti 123.23 329 PKP **PKiKP** 10 53 48.1 -0.1
comp=Z,5.2nm,0.7s,baz=90,slow=1.0,SNR=11
ARU Arti 123.23 329 PKPdf **PKPdf** 10 53 46.8 -1.1
ARU Arti 123.23 329 *i* PKiKP **PKiKP** 10 53 48.0 -0.2
ARU 10 55 28.8
ARU 11 00 59.6
ARU SS SS 11 12 15.7 +2.5
ARCES ARCESS Array B 124.44 352 PKP **PKiKP** 10 53 50.8 +0.5
comp=Z,7.0nm,0.7s,baz=357,slow=0.9,SNR=18
ARCES ARCESS Array B 124.44 352 **PKiKP** 10 53 49.6 -0.7
ARCES ARCESS Array B 124.44 352 PKiKP **PKiKP** 10 53 49.6 -0.7
APA Apatity 124.87 348⇓ *i* PKiKP **PKPdf** 10 53 45.4 -5.4
APA pmax pmax
comp=Z,9.0nm,0.8s
AKTO Aktyubinsk 125.89 322 PKP **PKiKP** 10 53 53.6 -0.1
comp=Z,1.2nm,0.6s,baz=56,slow=1.6,SNR=4.1
KIRV Kirov 126.41 334 PKP **PKiKP** 10 53 54.9 +0.4
comp=Z,7.3nm,0.5s,baz=60,slow=4.7,SNR=4.1
KLMR Klimovskoe 128.65 340 *e*PKPdf **PKiKP** 10 53 58.4 -0.4
KLMR AMP 10 54 15.6
comp=Z,30nm,1.6s
KLMR 11 00 05.1
KLMR 11 00 05.1
KLMR LR LR 11 41 36.3
KLMR Klimovskoe 128.65 340 *e*PKiKP **PKiKP** 10 53 58.3 -0.5
KLMR pmax pmax
comp=Z,30nm,1.6s
GEYT Alibeck 129.46 307 PKP **PKiKP** 10 54 01.4 +0.1
comp=Z,1.8nm,0.6s,baz=68,slow=35,SNR=2.3
FINES FINESS Array B 131.78 348 PKP **PKiKP** 10 54 04.8 -0.4
comp=Z,3.1nm,0.7s,baz=38,slow=2.8,SNR=10
OBN Obninsk 133.98 337 *i* PKiKP **PKiKP** 10 54 09.1 -0.6
OBN *i* 10 56 44.3
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,257nm,21.0s
NOA NORSAR Array B 134.12 357 PKP **PKiKP** 10 54 09.7 -0.2
comp=Z,0.9nm,0.7s,baz=352,slow=2.2,SNR=3.3
NACGM Naroch 137.44 343 *e*PKP **PKPdf** 10 54 07.1 -7.8
comp=Z,11nm,0.9s,baz=30

MNK Minsk 137.46 342 *i* PKP **PKPdf** 10 54 14.4 -0.6
comp=E,3.0nm,0.9s
MNK *i* PKP **PKPdf** 10 54 14.4 -0.6
comp=N,16nm,0.9s
MNK *i* PKP **PKPdf** 10 54 14.4 -0.6
comp=Z,13nm,0.9s,baz=31
MNK *i* PP PP 10 56 43.9 -16
MNK *i* SKP 10 57 43.5
MNK *i* PKS **PKSdf** 10 57 50.5 -0.4
MNK *i* PPP PPP 10 59 41.6
MNK *i* SKS SKSdf 11 01 11.2 -15
MNK *i* SKKS **SKKSac** 11 03 56.5 +1.3
MNK *i* SP SP 11 07 47.6 +23
MNK *i* PS PS 11 08 02.1 +34
MNK *i* SS **SS** 11 15 09.1 +2.0
MNK *i* SSS SSS 11 20 15.3
MNK *i* LQ LQ 11 46 35.1
MNK *i* LR LR 11 52 37.1
MNK *i* LRM MLR 11 56 47.2
comp=Z,246nm,20.0s
MNK *i* LRM MLR 11 58 12.7
comp=E,35nm,19.7s
MNK *i* LRM MLR 11 59 09.2
comp=N,1μm,20.4s
MNK Minsk 137.46 342 *i* PKiKP **PKPdf** 10 54 14.3 -0.6
MNK *i* SS SS 11 15 09.0 +1.9
MNK *i* SSS SSS 11 20 15.3
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=Z,246nm,20.0s
KIV Kislovodsk 138.11 321 IAMs_20 IAMs_20 11 42 38.6
comp=Z,373nm,22.0s
KIV Kislovodsk 138.11 321 *i* PKiKP **PKiKP** 10 54 20.2 +1.5
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,194nm,24.0s
GNI Garni 138.60 314 IAMs_20 IAMs_20 11 55 36.7
comp=Z,264nm,21.0s
AKASG Malin Array Be 140.20 338 PKhKP PKPpre 10 54 13.8
comp=Z,0.5nm,0.4s,baz=34,slow=3.7,SNR=10
AKASG PKP **PKiKP** 10 54 20.7 -1.9
comp=Z,0.4nm,0.2s,baz=35,slow=2.5,SNR=8.0
ANN Anapa 140.70 325 *i* PKiKP **PKiKP** 10 54 27.9 +4.1
ANN pmax pmax
comp=Z,115nm,1.0s
BSEG Bad Segeberg 141.26 357 *e*L L 11 50 54.1
comp=Z,291nm,19.7s
LVV L'vov 142.71 341 *e*PKiKP **PKiKP** 10 54 28.7 +0.9
LSZ Lusaka 142.99 216 10 54 23.7
LSZ Lusaka 142.99 216 PKiKP 10 54 23.7
CLL Collm 143.64 353 PKPdf **PKPdf** 10 54 24.6 -1.7
CLL Collm 143.64 353 *e*PKPpre PKPpre 10 54 24.0
CLL *i* PKPdf **PKPdf** 10 54 26.7 +0.5
comp=Z,9.0nm,0.7s
CLL Lm MLR 11 58 00.0
comp=Z,300nm,19.4s
CLL Collm 143.64 353 *e*PKiKP **PKPdf** 10 54 24.0 -2.2
CLL *i* 10 54 26.7
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL MLR MLR
comp=Z,300nm,19.4s
CLL MLR MLR
comp=Z,300nm,19.5s
CLL Collm 143.64 353 *e*L L 11 56 20.0
comp=Z,252nm,19.9s
STHS Stebnicka Huta 143.88 344 *e*PKiKP **PKPdf** 10 54 26.2 -0.6
STHS Stebnicka Huta 143.88 344 *e*PKP **PKPdf** 10 54 26.2 -0.6
OSTC Ostas 143.92 350 *e*PKP **PKPdf** 10 54 26.6 -0.2
BRG Berggiesshubel 143.95 352 *e*PKP **PKPdf** 10 54 25.7 -1.1
BRG Amp 10 54 28.6
comp=Z,3.1nm,0.7s
BRG Berggiesshubel 143.95 352 P **PKiKP** 10 54 37.1 +6.9
BRG Amp 10 54 40.5
comp=Z,2.4nm,0.7s
BRG Berggiesshubel 143.95 352 *e*PKiKP **PKPdf** 10 54 25.7 -1.1
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,0.9s
UPC Upice 144.00 350 *e*PKP **PKPdf** 10 54 27.0 +0.1
UPC Upice 144.00 350 *e*PKiKP **PKPdf** 10 54 27.0 +0.1
DPC Dobruska-Polom 144.10 349 *e*PKP **PKPdf** 10 54 27.5 +0.4
DPC AMS AMS 11 57 00.0
comp=Z,500nm,20.5s
DPC Dobruska-Polom 144.10 349 *e*PKiKP **PKPdf** 10 54 27.5 +0.4
DPC MLR MLR
comp=Z,500nm,20.5s
TSUM Tsumeb 144.16 198 PKPdf PKPbc 10 54 26.7 +0.5
PVCC Panska Ves 144.21 351 *e*PKP **PKPdf** 10 54 26.8 -0.5
PVCC Panska Ves 144.21 351 *e*PKiKP **PKPdf** 10 54 26.8 -0.5
BUR08 Bucovina Ar. S 144.21 338 PKPdf **PKPdf** 10 54 25.9 -1.6
BURAR Bucovina Array 144.23 338⇑P **PKPdf** 10 54 27.0 -0.5
BURAR Bucovina Array 144.23 338⇑PKiKP **PKPdf** 10 54 27.0 -0.5
KRLC Kraliky 144.28 349 *e*PKP **PKPdf** 10 54 27.9 +0.4
KRLC *ex* x 10 54 49.1
KRLC Kraliky 144.28 349 *e*PKiKP **PKPdf** 10 54 27.9 +0.4
UZH Uzhgorod 144.29 342⇑ *i* PKiKP **PKPdf** 10 54 27.5 +0.1
KIBK Kibwezi 144.40 243 PKPbc 10 54 27.4 +0.1
MORC Moravsky Berou 144.41 348⇓P **PKPdf** 10 54 28.5 +0.8
MORC Moravsky Berou 144.41 348 *e*PKP **PKPdf** 10 54 27.9 +0.2
MORC Moravsky Berou 144.41 348⇓PKiKP **PKPdf** 10 54 28.5 +0.8
MOX Moxa 144.44 355 *e*PKPdf **PKPdf** 10 54 27.6 -0.1
baz=7.8,slow=2.8
MOX *e*L L 12 01 46.2
comp=Z,338nm,19.6s
WERD Werda 144.57 354 *e*PKPdf **PKPdf** 10 54 28.2 +0.3
baz=7.8,slow=2.8
LANS Liptovska Anna 144.57 345 *e*PKiKP **PKiKP** 10 54 29.7 -2.0
LANS Liptovska Anna 144.57 345 *e*PKP **PKiKP** 10 54 29.7 -2.0
GUNZ Gunzen 144.65 354 *e*PKPdf **PKPdf** 10 54 28.7 +0.6
baz=7.8,slow=2.8
ATD Arta Tunnel 144.66 269 IAMs_20 IAMs_20 11 54 54.5
comp=Z,224nm,20.0s
TRPA Tarpa 144.66 342⇑P **PKPdf** 10 54 28.4 +0.3
GHRR 144.68 335⇓P **PKiKP** 10 54 29.7 -2.2
BSTI Sart Tilman 144.71 1 dPKP **PKPdf** 10 54 28.4 +0.2
WERN Wernitzgruen 144.72 354 *e*PKPdf **PKPdf** 10 54 28.7 +0.5
baz=7.8,slow=2.8
PRU Pruhonice 144.74 351 *e*PKP **PKiKP** 10 54 29.2 -2.7
PRU Pruhonice 144.74 351 *e*PKiKP **PKiKP** 10 54 29.2 -2.7
MAUC Maruska 144.75 347 *e*PKP **PKiKP** 10 54 29.4 -2.6
TLCR 144.77 332⇓P **PKiKP** 10 54 29.6 -2.5
TLCR 144.77 332⇓PKiKP **PKiKP** 10 54 29.6 -2.5
BCLA Clavier 144.87 2 *d*PKP **PKPdf** 10 54 28.5 +0.1
KECS Kecovo 144.93 344 *e*PKiKP **PKPdf** 10 54 28.8 +0.2
KECS Kecovo 144.93 344 *e*PKP **PKPdf** 10 54 28.8 +0.2
BMRD Maredsous 144.97 2 *d*PKP **PKPdf** 10 54 28.1 -0.5
ARCR ARCALIA 144.99 339⇓P **PKPdf** 10 54 29.6 +0.9
MANZ Manzenberg 145.04 354 *e*PKPdf **PKPdf** 10 54 29.7 +0.9
baz=7.8,slow=2.8
VRAC Vranov 145.05 349⇑P **PKPdf** 10 54 29.2 +0.5
VRAC Vranov 145.05 349 *e*PKP **PKPdf** 10 54 29.3 +0.5
VRAC Vranov 145.05 349⇑PKiKP **PKPdf** 10 54 29.2 +0.5
TNS Taunus Mts 145.06 358 *e*PKPdf **PKPdf** 10 54 29.7 +0.9
baz=7.8,slow=2.8
TNS *e*L L 11 56 17.0
comp=Z,390nm,20.1s
ODBI Odobesti 145.06 335⇓P **PKiKP** 10 54 30.5 -2.2
CFR Carcaliu 145.07 333⇑P **PKiKP** 10 54 30.2 -2.6
CFR Carcaliu 145.07 333⇑PKiKP **PKiKP** 10 54 30.2 -2.6
VRI Vrincioaia 145.11 335⇑P **PKPdf** 10 54 29.6 +0.6
VRI Vrincioaia 145.11 335⇑PKiKP **PKPdf** 10 54 29.6 +0.6
PLOR Plostina 145.16 335⇑P **PKPdf** 10 54 29.6 +0.5
PLOR Plostina 145.16 335⇑PKiKP **PKPdf** 10 54 29.6 +0.5
DOU Dourbes 145.17 2 *d*PKP **PKPdf** 10 54 29.7 +0.7
TPGR Topolog 145.20 333⇑P **PKiKP** 10 54 30.8 -2.3
ROTZ Rotzenmuhle 145.25 354 *e*PKPdf **PKPdf** 10 54 30.0 +0.9
baz=7.8,slow=2.8
JAVC Velka Javorina 145.26 347 *e*PKP **PKiKP** 10 54 31.6 -1.5
TREC Trest 145.26 350 *e*PKP **PKiKP** 10 54 30.9 -2.2
TREC Trest 145.26 350 *e*PKiKP **PKiKP** 10 54 30.9 -2.2
KRUC Moravsky 145.32 349 *e*PKP **PKPdf** 10 54 30.3 +1.1
VYHS Vyhne 145.34 346 *e*PKiKP **PKiKP** 10 54 30.8 -2.4
VYHS Vyhne 145.34 346 *e*PKP **PKiKP** 10 54 30.8 -2.4
COVR Voineasa-Covas 145.34 336⇓P **PKPdf** 10 54 30.4 +0.9

GRF Grafenberg Arr 145.42 355 *e*PKPdf **PKiKP** 10 54 31.1 -2.3
baz=7.8,slow=2.8
GRF *e*L L 11 53 12.6
comp=Z,281nm,20.3s
TIRR Tirgusor 145.51 332⇓P **PKiKP** 10 54 31.1 -2.6
TIRR Tirgusor 145.51 332⇓PKiKP **PKiKP** 10 54 31.1 -2.6
HARR Harsova 145.55 333⇓P **PKiKP** 10 54 31.3 -2.4
HARR Harsova 145.55 333⇓PKiKP **PKiKP** 10 54 31.3 -2.4
DOPR Dopca 145.56 337⇑P **PKiKP** 10 54 31.3 -2.5
TLBR Topalu 145.61 333⇑P **PKiKP** 10 54 31.7 -2.2
WLF Walferdange 145.64 1 *d*PKP **PKiKP** 10 54 31.8 -2.0
WLF Walferdange 145.64 1 *e*PKPdf **PKiKP** 10 54 31.9 -2.0
baz=7.8,slow=2.8
NEHR Nehoiu 145.65 335⇑P **PKiKP** 10 54 32.0 -2.0
KMBO Kilima Mbogo 145.69 244 PKPbc **PKPbc** 10 54 31.1 -0.4
comp=Z,0.1nm,0.5s,baz=53,slow=24,SNR=6.0
KHC Kasperske Hory 145.71 352 *e*PKP **PKiKP** 10 54 31.6 -2.4
KHC *ex* x 10 54 40.1
KHC AMS AMS 11 57 00.0
comp=Z,600nm,19.4s
KHC Kasperske Hory 145.71 352 *e*PKP2 **PKiKP** 10 54 31.6 -2.4
KHC MLR MLR
comp=Z,600nm,19.4s
MFTR Murfatlar 145.73 332⇓P **PKiKP** 10 54 31.9 -2.2
MLR Muntele Rosu 145.74 336⇓P **PKiKP** 10 54 32.3 -2.0
MLR Muntele Rosu 145.74 336⇓PKP2 **PKiKP** 10 54 32.3 -2.0
MARR Marisel-Cluj 145.76 340⇑P **PKPab** 10 54 31.7 +0.7
DRGR 145.80 340⇓P **PKPab** 10 54 31.6 +0.5
DRGR 145.80 340⇓PKP2 **PKPab** 10 54 31.6 +0.5
ISR Istrita 145.80 335⇓P **PKiKP** 10 54 32.5 -1.8
ISR Istrita 145.80 335⇓PKP2 **PKiKP** 10 54 32.5 -1.8
MODS Modra-Piesok 145.80 347 *e*PKP2 **PKiKP** 10 54 32.8 -1.4
MODS Modra-Piesok 145.80 347 *e*PKP **PKiKP** 10 54 32.8 -1.4
AMRR Amara 145.87 333⇓P **PKiKP** 10 54 32.3 -2.1
CKRC Cesky Krumlov 145.91 351 *e*PKP **PKiKP** 10 54 33.3 -1.1
CKRC AMS AMS 11 58 30.0
comp=Z,500nm,18.4s
GEC2 GERESS Array S 145.97 352 *e*PKPdf **PKiKP** 10 54 32.4 -2.2
baz=7.8,slow=2.8
GEC2 *e*L L 11 57 24.1
comp=Z,399nm,21.1s
GERES GERESS Array B 145.97 352 PKPbc **PKPab** 10 54 32.0 +0.3
comp=Z,4.0nm,0.6s,baz=33,slow=4.6,SNR=27
ZST Bratislava 146.01 348 *e*PKP2 **PKiKP** 10 54 33.7 -0.9
ZST Bratislava 146.01 348 *e*PKP **PKiKP** 10 54 33.7 -0.9
SECR 146.06 335⇑P **PKiKP** 10 54 33.2 -1.7
BRTR Keskin Array B 146.07 321 PKPbc **PKPab** 10 54 32.5 +0.1
comp=Z,21nm,0.9s,baz=71,slow=2.5,SNR=32
LEHL Lehliu 146.20 334⇑P **PKPab** 10 54 32.7 +0.2
ARR Arges 146.35 337⇑P **PKiKP** 10 54 34.0 -1.5
ANTO Ankara 146.48 322⇓P **PKiKP** 10 54 34.8 -1.2
ANTO Ankara 146.48 322⇓PKP2 **PKiKP** 10 54 34.8 -1.2
CONA Conrad Observa 146.51 349 *e*pPKP **PKiKP** 10 54 34.9 -0.9
comp=Z,22nm,0.8s,SNR=10
SIRR Siria 146.60 341⇓P **PKPab** 10 54 33.6 -0.4
RONA Rosalia, Austr 146.64 348 *i* PKiKP **PKiKP** 10 54 35.4 -0.6
comp=Z,32nm,1.0s,SNR=10
MOA Molln 146.86 351 *i* pPKP **PKiKP** 10 54 35.4 -1.0
comp=Z,18nm,0.8s
SURR Surduc 146.90 340⇓P **PKPab** 10 54 34.3 -0.9
FUR Furstenfeldbru 146.93 354 *e*PKPdf **PKPab** 10 54 34.7 -0.6
baz=7.8,slow=2.8
FUR *e*L L 11 52 35.6
comp=Z,288nm,20.6s
BFO Black Forest 146.95 358 *e*PKPdf **PKiKP** 10 54 35.1 -1.5
baz=7.8,slow=2.8
BFO *e*L L 11 55 52.1
comp=Z,364nm,21.9s
GZR Gura Zlata 147.00 339⇑P **PKPab** 10 54 34.2 -1.5
GZR Gura Zlata 147.00 339⇑PKiKP **PKPab** 10 54 34.2 -1.5
RAZG Razgrad 147.06 333⇑P **PKPab** 10 54 35.0 -1.0
BIOA Bad Ischl, Aus 147.11 351 *i* PKiKP **PKiKP** 10 54 35.8 -1.2
comp=Z,13nm,1.0s
BZS Buzias 147.19 341⇓P **PKPbc** 10 54 33.9 -0.8
BZS Buzias 147.19 341⇓PKP2 **PKPbc** 10 54 33.9 -0.8
ARSA Arzberg 147.22 349 *i* PKiKP **PKiKP** 10 54 36.2 -1.0
comp=Z,13nm,1.1s
MORH Mrgy, Hungar 147.51 344⇑P **PKPbc** 10 54 34.7 -0.9
HERR Herculane 147.57 339⇓P **PKPab** 10 54 36.2 -1.6
VLAD Vladila 147.59 336⇓P **PKiKP** 10 54 37.5 -0.5
RETA Reutte 147.65 355 *i* PKiKP **PKiKP** 10 54 37.5 -0.6
comp=Z,18nm,1.1s
WATA Walderalm 147.72 354 *i* PKiKP **PKPab** 10 54 37.6 -1.0
comp=Z,12nm,1.1s
KBA Koelnbreinsper 147.75 351 *i* PKP **PKiKP** 10 54 36.6 -1.8
comp=Z,5.1nm,0.5s
MOTA Moosalm 147.76 354 *i* PKiKP **PKPab** 10 54 37.7 -1.0
comp=Z,17nm,1.0s
WTTA Wattenberg 147.78 354 *i* PKP **PKiKP** 10 54 36.7 -1.9
comp=Z,9.9nm,0.5s
SOKA Soboth 147.87 349 *i* pPKP **PKiKP** 10 54 36.8 -1.8
comp=Z,23nm,1.0s,SNR=6.1
SQTA Sankt Quirin 147.87 354 *i* PKiKP **PKPab** 10 54 38.2 -0.9
comp=Z,9.0nm,0.8s
MDVR Moldovita 147.90 340 P **PKPbc** 10 54 35.6 -1.2
DAVA Damuels 147.91 356 *i* pPKP **PKPab** 10 54 38.5 -0.9
comp=Z,20nm,0.9s
PLVB Pleven 148.01 335⇓P **PKPab** 10 54 38.4 -1.2
FETA Feichten 148.11 355 *i* pPKP **PKPab** 10 54 39.0 -1.2
comp=Z,15nm,1.1s
MYKA Terra Mystica 148.15 351 *i* PKiKP **PKiKP** 10 54 38.0 -1.1
comp=Z,14nm,1.1s
FRGS Fruska Gora 148.16 342⇑P **PKPab** 10 54 39.5 -0.7
ABTA Abfaltersbach 148.19 352 *i* pPKP **PKPbc** 10 54 37.3 -0.2
comp=Z,29nm,1.2s
BOVS Bovan 148.91 339⇑P **PKiKP** 10 54 39.4 -1.3
VTS Vitosha 149.21 336 PKPab **PKiKP** 10 54 42.1 +0.5
VTS Vitosha 149.21 336 PKP2 **PKiKP** 10 54 42.1 +0.5
LODK Lodwar 149.42 250 **PKPab** 10 54 44.9 -1.5
POLO Lamas de Olo 151.07 23 *e*PKP **PKPbc** 10 54 43.7 -1.1
MVO Moncorvo 151.54 22 *e*PKP **PKPdf** 10 54 41.8 +2.1
MTE Manteigas 152.01 24 *e*PKP **PKPbc** 10 54 43.3 -3.7
ESDC Sonseca Array 153.91 19 PKPbc **PKiKP** 10 54 51.5 +0.3
comp=Z,3.4nm,1.2s,baz=344,slow=2.7,SNR=4.4
ESDC PKPab **pPKPab** 10 55 04.9 -1.9
comp=Z,1.6nm,0.7s,baz=331,slow=2.9,SNR=7.0
LIC Lamto 165.44 127⇓ *i* P **PKPab** 10 55 56.1 +1.1
comp=Z,8.0nm,0.4s
TIC Toumodi 165.70 125⇑ *i* P **PKPab** 10 55 57.9 +1.7
comp=Z,3.4nm,0.2s
KIC Kosan Boka 165.75 127⇓ *i* P **PKPab** 10 55 57.5 +1.2
comp=Z,7.0nm,0.9s
DBIC Dimbokro 165.85 126 PKPab **PKPab** 10 55 57.4 +0.7
comp=Z,5.0nm,0.7s,baz=233,slow=6.6,SNR=4.2

IDC ***14*** *10:53:00.9±1.2, 18°.15S×178°.33W, h586km±14km, mb3.1/8, mbtmp4.0/11, Error ellipse: s-maj=27.7km s-min=12.5km az=146.0*

ISC 14 10:53:00.1±0.8, 18°.2S±0°.2×178°.3W±0°.1, h579km, n14, σ0s92/17, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.48**	**277**	P	**P**	**10 54 22.7**	**+2.1**
	5.2nm,0.4s,baz=112,slow=8.7,SNR=4.8						
AFI	**Afiamalu**	**7.58**	**57**	P	**P**	**10 54 54.1**	**-0.7**
	17nm,0.7s,baz=257,slow=9.4,SNR=5.8						
AFI				S	**S**	**10 56 29.4**	**+0.6**
	8.2nm,0.2s,baz=332,slow=23,SNR=2.1						
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**10 56 07.2**	**-0.2**
	2.8nm,0.8s,baz=77,slow=18,SNR=1.6						
URZ	**Urewera**	**20.41**	**190**	P	**P**	**10 56 58.1**	**-0.2**
	6.5nm,1.0s,baz=45,slow=2.9,SNR=2.4						
	6.5nm,1.0s						
WRA	**Warramunga Arr**	**44.67**	**260**	P	**P**	**11 00 22.7**	**+0.1**
	0.5nm,0.4s,baz=97,slow=8.1,SNR=4.5						
WRA				PcP	**PcP**	**11 01 52.9**	**+0.4**
	0.3nm,0.3s,baz=94,slow=3.5,SNR=5.0						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**11 00 24.2**	**+0.6**
	2.7nm,0.6s,baz=87,slow=8.5,SNR=34						
ASAR				PcP	**PcP**	**11 01 53.2**	**+0.3**
	0.5nm,0.4s,baz=102,slow=3.8,SNR=7.9						
ASAR				S	**S**	**11 06 17.8**	**-1.8**
	0.4nm,0.7s,baz=81,slow=14,SNR=2.9						
	2.7nm,0.6s						
MJAR	**Matsushiro Arr**	**68.16**	**323**	P	**P**	**11 03 02.9**	**-0.5**
	1.1nm,0.5s,baz=132,slow=6.3,SNR=4.9						
	1.1nm,0.5s						
PETK	**Petropavlovsk-**	**73.95**	**345**	P	**P**	**11 03 36.7**	**-0.1**
	3.0nm,0.8s,baz=126,slow=9.3,SNR=5.1						
	3.0nm,0.8s						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**11 04 08.7**	**+0.7**
	0.3nm,0.6s,baz=228,slow=6.8,SNR=3.6						
	0.3nm,0.6s						

ILAR	**Eielson Array**	**86.12**	**13**	P	**P**	**11 04 39.1**	**-0.9**
	0.4nm,0.4s,baz=222,slow=4.9,SNR=15						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**11 04 47.8**	**+0.6**
	0.3nm,0.5s,baz=235,slow=1.9,SNR=4.8						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**126.58**	**350**	PKP	**PKPdf**	**11 10 56.5**	**-0.9**
	3.0nm,1.0s,baz=44,slow=5.4,SNR=3.8						
BRTR	**Keskin Array B**	**145.02**	**315**	PKPbc	PKPbc	11 11 33.0	-0.3
	1.0nm,0.7s,baz=83,slow=2.3,SNR=4.0						
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc	**PKPbc**	**11 11 40.8**	**0.0**
	0.8nm,0.5s,baz=35,slow=4.9,SNR=6.6						

IDC 14 10:54:45.7±9.8, 16°.93S×173°.71W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=435.7km s-min=36.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**40.13**	**330**	T	T	11 46 21.2	
	baz=140,slow=76						
H11S3	**WAKE ISLAND Hy**	**40.14**	**330**	T	T	11 46 09.7	
	baz=140,slow=76						
H11S1	**WAKE ISLAND Hy**	**40.15**	**330**	T	T	11 46 22.3	
	baz=140,slow=76						
WRA	**Warramunga Arr**	**49.22**	**258**	P	P	11 03 35.4	-0.9
	0.2nm,0.3s,baz=96,slow=6.6,SNR=3.1						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**49.36**	**253**	P	P	11 03 37.7	+0.3
	2.5nm,0.5s,baz=88,slow=7.7,SNR=37						
	2.5nm,0.5s						
ILAR	**Eielson Array**	**84.00**	**11**	P	P	11 07 17.6	0.0
	0.2nm,0.5s,baz=218,slow=5.6,SNR=7.7						
	0.2nm,0.5s						

*IDC **14** 11:23:53.7±2.0, 54°.62N×161°.74E, h0km, mb3.7/5, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=54.4km s-min=21.4km az=134.0*
*KRSC **14** 11:23:55.0±0.7, 54°.34N×162°.15E, h40km±21km, Ml4.1*
ISC 14 11:23:54.2±2.0, 54°.44N±0°.05×162°.02E±0°.05, h10km±13km, n41, σ1°35/42, mb3.8/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMD	**Tumrok D**	**1.21**	**310**	*eP*	**Pn**	**11 24 17.7**	**+0.5**
TUMR	**Tumrok**	**1.38**	**309**	*eP*	**Pg**	**11 24 20.5**	**-0.1**
KMNR	**Kamenistaya**	**1.67**	**323**	*eP*	**Pb**	**11 24 25.5**	**+0.4**
BZP	**Bezymyannyi-Pe**	**1.70**	**331**	*eP*	**Pg**	**11 24 26.3**	**-0.6**
BZMR	**Bezymyannaya**	**1.74**	**330**	*eP*	**Pb**	**11 24 26.7**	**+0.4**
BZWR	**Bezymyannyi-We**	**1.76**	**331**	*eP*	**Pb**	**11 24 26.6**	**-0.1**
SPN	**Mys Shipunski**	**1.79**	**222**	*eP*	**Pn**	**11 24 24.6**	**-0.5**
SPN				*eS*	**Sn**	**11 24 44.5**	**-3.4**
KIRR	**Kirishev**	**1.80**	**328**	*eP*	**Pb**	**11 24 27.4**	**+0.1**
KBTR	**Krutoberegovo**	**1.83**	**14**	*eP*	**Pb**	**11 24 28.1**	**+0.4**
KPT	**Kopyto**	**1.85**	**327**	*eP*	**Pb**	**11 24 28.3**	**+0.2**
KBG	**Krutoberegovo**	**1.86**	**12**	*eP*	**Pb**	**11 24 28.4**	**+0.2**
NLC	**Nalytchevo**	**2.03**	**232**	*eP*	**Pn**	**11 24 29.3**	**+0.9**
KLY	**Klyuchi**	**2.04**	**338**	*eP*	**Pn**	**11 24 30.0**	**+1.6**
KLY				*eS*	**Sb**	**11 24 54.8**	**-1.7**
KOZ	**Kozyrevsk**	**2.04**	**324**	*eP*	**Pb**	**11 24 31.1**	**-0.2**
SMKR	**Semkarok**	**2.17**	**352**	*eP*	**Pb**	**11 24 33.8**	**+0.2**
SMAR	**Somma**	**2.24**	**240**	*eP*	**Pn**	**11 24 32.7**	**+1.1**
UGLR	**Uglovaya**	**2.26**	**238**	*eP*	**Pn**	**11 24 33.0**	**+1.3**
KRX	**Arik**	**2.27**	**243**	*eP*	**Pn**	**11 24 33.2**	**+1.4**
AVH	**Avacha**	**2.27**	**240**	*eP*	**Pn**	**11 24 33.5**	**+1.7**
SRDR	**Sredinnyy**	**2.30**	**326**	*eP*	**Pn**	**11 24 33.9**	**+1.7**
KOK	**Koryaka**	**2.31**	**242**	*eP*	**Pn**	**11 24 34.0**	**+1.7**
DALK	**Dalny**	**2.40**	**235**	*eP*	**Pn**	**11 24 34.5**	**+1.0**
DALK				*eS*	**Sn**	**11 25 02.3**	**-0.5**
BKI	**Bering**	**2.41**	**70**	*eP*	**Pn**	**11 24 34.8**	**+1.2**
BKI				*eS*	**Sn**	**11 25 02.0**	**-1.1**
ESO	**Esso**	**2.42**	**309**	*eP*	**Pb**	**11 24 36.3**	**-1.4**
PET	**Petropavlovsk**	**2.45**	**236**	*eP*	**Pn**	**11 24 35.3**	**+1.1**
PET				*eS*	**Sn**	**11 25 04.1**	**-0.1**
KRMR	**Karymshinskiy**	**2.82**	**237**	*eP*	**Pn**	**11 24 41.1**	**+1.8**
KRMR				*eS*	**Sn**	**11 25 14.6**	**+1.3**
PETK	**Petropavlovsk-**	**2.89**	**244**	Pn	**Pn**	**11 24 41.1**	**+0.8**
	5.1nm,0.3s,baz=77,slow=15,SNR=9.3						
PETK				Sn	**Sn**	**11 25 17.7**	**+2.6**
	4.6nm,0.3s,baz=93,slow=19,SNR=4.8						
	7.4nm,0.4s						
MTVR	**Mutnovka**	**3.02**	**231**	*eP*	**Pn**	**11 24 44.1**	**+2.0**
GRL	**Gorelyy**	**3.02**	**233**	*eP*	**Pn**	**11 24 43.9**	**+1.7**
APC	**Apacha**	**3.27**	**244**	*eP*	**Pn**	**11 24 47.8**	**+2.4**
MJAR	**Matsushiro Arr**	**24.28**	**232**	P	**P**	**11 29 11.8**	**+0.4**
	1.5nm,0.6s,baz=24,slow=9.9,SNR=6.2						
	1.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**34.85**	**172**	T	T	12 07 53.1	
	baz=355,slow=76,SNR=288						
H11N3	**WAKE ISLAND Hy**	**34.86**	**172**	T	T	12 07 54.3	
	baz=355,slow=76,SNR=226						
H11N1	**WAKE ISLAND Hy**	**34.86**	**172**	T	T	12 07 54.5	
	baz=355,slow=76,SNR=343						
H11S1	**WAKE ISLAND Hy**	**36.04**	**172**	T	T	12 09 22.2	
	baz=352,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**36.06**	**172**	T	T	12 09 22.0	
	baz=352,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**36.06**	**172**	T	T	12 09 22.5	
	baz=352,slow=76,SNR=6.6						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**11 31 41.1**	**+1.0**
	0.4nm,0.7s,baz=298,slow=8.3,SNR=3.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**48.60**	**296**	P	**P**	**11 32 36.1**	**-1.5**
	0.2nm,0.4s,baz=63,slow=7.0,SNR=2.4						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**52.36**	**342**	P	**P**	**11 33 06.1**	**+0.4**
	2.1nm,0.8s,baz=36,slow=7.8,SNR=1.5						
	2.1nm,0.8s						
FINES	**FINESS Array B**	**59.33**	**337**	P	**P**	**11 33 54.8**	**-0.9**
	1.0nm,0.5s,baz=27,slow=9.6,SNR=15						
	1.0nm,0.5s						

*IDC **14** 11:30:05.5±2.6, 9°.04S×122°.88E, h0km, mb3.3/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=308.6km s-min=34.9km az=54.0*
*DJA **14** 11:30:18.2±0.5, 9°.S±3°×12°.3E±°, h71km±8km, M3.5/7, MLv3.5/7*
ISC 14 11:30:16.0±1.0, 9°.03S±0°.07×123°.08E±0°.07, h92km, n17, σ2°10/18, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.92**	**295**	P	**Pn**	**11 30 37.2**	**+2.2**
MMRI	**Maumere**	**0.92**	**295**	P	**Pn**	**11 30 36.4**	**+1.4**
MMRI				S	**Sn**	**11 30 49.5**	**+0.3**
BATI	**Baumata**	**1.30**	**154**	P	**Pn**	**11 30 41.0**	**+1.5**
BATI				S	**Sn**	**11 30 59.8**	**+2.6**
SOEI	**Soe**	**1.38**	**122**	P	**Pn**	**11 30 42.2**	**+1.7**
SOEI	**Soe**	**1.38**	**122**	P	**Pn**	**11 30 42.4**	**+1.9**
BASI	**Baing, Sumba**	**2.73**	**244**	P	**Pn**	**11 31 00.2**	**+2.1**
BBSI	**Bau Bau**	**3.56**	**352**	P	**Pn**	**11 31 10.8**	**+1.6**
WBSI	**Waikabubak, Su**	**3.69**	**260**	P	**Pn**	**11 31 13.2**	**+2.2**
PLAI	**Plampang**	**5.24**	**272**	P	**Pn**	**11 31 32.7**	**+0.7**
KNRA	**Kununurra**	**8.63**	**141**	P	**Pn**	**11 32 15.4**	**-2.8**
MTN	**Manton Dam**	**8.77**	**116**	P	**Pn**	**11 32 18.5**	**-1.6**
JAGI	**Jajag, Banyuwa**	**8.84**	**273**	P	**Pn**	**11 32 20.4**	**-0.7**
	58nm,1.8s						
FITZ	**Fitzroy Crossi**	**9.35**	**165**	P	Pn	11 32 22.5	-5.5
KDU	**Kakadu**	**9.92**	**112**	P	**Pn**	**11 32 35.0**	**-0.7**
WRA	**Warramunga Arr**	**15.37**	**136**	Pn	**Pn**	**11 33 43.6**	**-4.4**
	0.2nm,0.3s,baz=308,slow=11,SNR=1.8						
WRA				Sn	Sn	11 36 23.6	-14
	0.4nm,0.3s,baz=303,slow=22,SNR=6.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.86**	**146**	Pn	**P**	**11 34 18.4**	**+0.2**
	0.2nm,0.3s,baz=322,slow=12,SNR=16						
ASAR				Sn	Sn	11 37 22.6	-15
	0.1nm,0.3s,baz=318,slow=22,SNR=11						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**66.39**	**331**	P	**P**	**11 40 55.8**	**+0.5**
	0.2nm,0.6s,baz=149,slow=6.7,SNR=2.3						
	0.2nm,0.6s						

*MOS **14** 11:41:15.9±1.1, 1°.26N×126°.28E, h20km, mb5.9/67, MS4.6/15, Error ellipse: s-maj=7.0km s-min=3.9km az=116.0*
*BJI **14** 11:41:15.7±0.0, 1°.17N×126°.38E, h22km, mb5.4/82, mB5.3/49, Ms4.8/77, Ms7 4.6/73*
*IDC **14** 11:41:17.1±1.6, 1°.17N×126°.27E, h19km±9km, mb5.3/57, mbtmp5.4/59, ML4.7/2, MS4.4/50, Error ellipse: s-maj=10.5km s-min=7.1km az=59.0*
*NEIC **14** 11:41:19.2±2.0, 1°.27N±0°.06×126°.41E±0°.06, h23km±3km, mb5.7/171, Mww5.4/10, Error ellipse: s-maj=9.4km s-min=8.5km az=45.0*
*DJA **14** 11:41:21.0±0.2, 1°.N±1°×12°.6E±°, h45km±2km, M5.3/100, mB5.8/72, mb5.5/100, MLv5.5/20, Mw(mB)5.3/72, MwMwp5.1/28, Mwp5.4/28*
*KLM **14** 11:41:21, 1.28N×126°.65E, h59km, mb5.6*
*GCMT **14** 11:41:22.2±0.1, 1°.42N±0°.01×126°.30E±0°.01, h25km, MW5.5/135, Moment Tensor Solution. s125,c203; s135,c227; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr0.80±.02; Mθθ0.73±.02; Mϕϕ-1.53±.02; Mrθ1.03±.05; Mθϕ-0.04±.02; Mϕr-1.16±.05; Best double couple: Mo2.04000×10^17 NP1:ϕs147.00000°, δ76.00000°, λ58.00000°. NP2:ϕs36.00000°, δ34.00000°, λ155.00000°. Principal axes: T 2.0210, Plg49.0000°, Azm23.0000°; N 0.0350, Plg31.0000°, Azm155.0000°; P -2.0590, Plg25.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 11:41:23.1, 1°.13N×126°.49E, h30km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17Nm; Mrr1.54; Mθθ0.24; Mϕϕ-1.77; Mrθ0.15; Mθϕ0.15; Mϕr-0.31; Fault plane solution: Mo1.70000×10^17 NP1: ϕs170.39000°, δ50.79000°, λ83.01000°. NP2:ϕs1.37000°, δ39.73000°, λ98.48000°. Principal axes: T 1.5796, Plg82.0000°, Azm41.0000°; N 0.2346, Plg5.0000°, Azm175.0000°; P -1.8142, Plg6.0000°, Azm265.0000°;*
ISC 14 11:41:19.5±0.4, 1°.20N±0°.03×126°.36E±0°.03, h33km±1km, h34km:pP-P, n1407, σ1°32/1609, mb5.6/233, MS4.5/94, 76C-40D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.09**	**113**		**Pn**	**11 41 36.9**	**-1.6**
TNTI	**Ternate**	**1.09**	**113**	P	**Pn**	**11 41 37.3**	**-1.1**
TNTI	**Ternate**	**1.09**	**113**	P	**Pn**	**11 41 36.6**	**-1.8**
SGSI	**Sangihe**	**2.61**	**341**	P	**Pn**	**11 41 59.6**	**+0.3**
SGSI				S	**Sn**	**11 42 31.4**	**+1.5**
SANI	**Sanana**	**3.25**	**187**	P	**Pn**	**11 42 09.1**	**+1.0**
SANI	**Sanana**	**3.25**	**187**	P	**Pn**	**11 42 08.8**	**+0.7**
SANI				S	**Sn**	**11 42 42.1**	**-3.5**
GTOI	**Gorontalo**	**3.40**	**261**	P	**Pn**	**11 42 13.0**	**+2.9**
LUWI	**Luwuk**	**4.22**	**238**		**Pn**	**11 42 24.6**	**+3.1**
LUWI	**Luwuk**	**4.22**	**238**	P	**Pn**	**11 42 24.6**	**+3.1**
MRSI	**Marisa**	**4.48**	**261**	P	**Pn**	**11 42 26.9**	**+1.9**
DDMP	**Don Marcelino,**	**4.92**	**352**	*eP*	**Pn**	**11 42 31.2**	**+0.1**
DDMP				*eS*	**Sn**	**11 43 32.4**	**+5.5**
GSPH	**General Santos**	**5.06**	**344**	*eP*	**Pn**	**11 42 33.0**	**-0.1**
APSI	**Ampana**	**5.15**	**246**	P	**Pn**	**11 42 38.0**	**+3.7**
	4µm,0.6s,55µm18µm10nm						
AAI	**Ambon**	**5.18**	**159**	P	**Pn**	**11 42 38.3**	**+3.5**
	476nm,0.7s,5µm6µm2.3nm						
MSAI	**Masohi**	**5.19**	**150**	P	**Pn**	**11 42 38.4**	**+3.5**
	104nm,0.6s,1µm0.4nm						
SIJI	**Sorong**	**5.32**	**113**	Pn	**Pn**	**11 42 36.8**	**+0.1**
	13nm,0.3s,baz=318,slow=15,SNR=43						
SIJI				Sn	**Sn**	**11 43 32.0**	**-4.8**
	6.6nm,0.3s,baz=288,slow=20,SNR=4.5						
	43nm,0.3s						
TOLI2	**Tolitoli**	**5.58**	**269**	Pn	**Pn**	**11 42 40.5**	**+0.3**
TOLI2	**Tolitoli**	**5.58**	**269**	P	**Pn**	**11 42 41.3**	**+1.1**
SKMP	**Bagumbayan, Su**	**5.59**	**341**	*eP*	**Pn**	**11 42 40.9**	**+0.5**
SKMP				*eS*	**Sn**	**11 43 42.4**	**-1.1**
MATI	**Mati**	**5.71**	**359**	*eP*	**Pn**	**11 42 42.8**	**+0.8**
MATI				*eS*	**Sb**	**11 43 57.9**	**-8.7**
DAV	**Davao City (W)**	**5.89**	**352**	Pn	**Pn**	**11 42 45.5**	**+1.1**
	44nm,0.3s,baz=214,slow=11,SNR=2.5						
DAV				Sn	Sb	11 44 01.3	-10
	36nm,0.3s,baz=232,slow=19,SNR=1.9						
	229nm,0.5s						
DAV	**Davao City (W)**	**5.89**	**352**		**Pn**	**11 42 46.0**	**+1.5**
KCP	**Kidapawan**	**5.91**	**348**	*iP*	**Pn**	**11 42 46.0**	**+1.2**
KCP				*iS*	**Sn**	**11 43 53.2**	**+1.7**
CTBH	**Cotabato--PC H**	**6.35**	**341**	*eP*	**Pn**	**11 42 52.3**	**+1.6**
MPSI	**Mapaga**	**6.52**	**263**	P	**Pn**	**11 42 55.9**	**+2.8**
	882nm,0.7s,13µm21µm3.4nm						
CDOP	**Cateel, Davao**	**6.54**	**1**	*eP*	**Pn**	**11 42 54.5**	**+1.0**
BNDI	**Bandanaira**	**6.69**	**148**	P	**Pn**	**11 42 55.9**	**+0.4**
BNDI	**Bandanaira**	**6.69**	**148**	P	**Pn**	**11 42 58.9**	**+3.4**
	702nm,0.7s,16µm2.8nm						
BUKP	**Musuan**	**6.76**	**349**	*eP*	**Pn**	**11 43 00.1**	**+3.5**
BIPH	**Bislig**	**6.94**	**0**	*eP*	**Pn**	**11 43 01.2**	**+2.3**
BIPH				*eS*	**Sn**	**11 44 25.4**	**+8.6**
ZCP	**Zamboanga City**	**7.12**	**323**	*eP*	**Pn**	**11 43 02.0**	**+0.6**
ZCP				*eS*	**Sn**	**11 44 20.2**	**-1.0**
FAKI	**Fak Fak**	**7.17**	**125**	Pn	**Pn**	**11 43 02.4**	**+0.4**
FAKI	**Fak Fak**	**7.17**	**125**	P	**Pn**	**11 43 03.6**	**+1.6**
FAKI	**Fak Fak**	**7.17**	**125**	P	**Pn**	**11 43 04.4**	**+2.4**
	472nm,1.0s,5µm9µm1.5nm						
TASP	**Talacogon, Agu**	**7.23**	**356**	*eP*	**Pn**	**11 43 05.2**	**+2.4**
PAGZ	**Pagadian**	**7.24**	**336**	*eP*	**Pn**	**11 43 03.0**	**-0.1**
CGP	**Cagayan de Oro**	**7.40**	**347**	*eP*	**Pn**	**11 43 07.7**	**+2.5**
BBSI	**Bau Bau**	**7.64**	**210**	P	**Pn**	**11 43 11.5**	**+3.0**
	696nm,1.0s,8µm4µm2.6nm						
RKPI	**Ransiki, Papua**	**8.27**	**109**	P	Pn	11 43 28.9	+12
LSIP	**Lazi, Siquijor**	**8.34**	**341**	*eP*	**Pn**	**11 43 20.2**	**+2.1**
SPSI	**Sidrap Palu**	**8.35**	**232**	P	**Pn**	**11 43 20.7**	**+2.5**
	838nm,0.9s,7µm10µm						
GLSP	**General Luna,**	**8.54**	**358**	*eP*	**Pn**	**11 43 22.4**	**+1.6**
GLSP				*eS*	**Sn**	**11 45 00.5**	**+4.5**
GHBP	**Garcia Hernand**	**8.62**	**346**	*eP*	**Pn**	**11 43 23.0**	**+1.0**
SNPH	**Sibulan**	**8.67**	**339**	*eP*	**Pn**	**11 43 26.9**	**+4.2**
MYLDM	**Lahad Datu**	**8.79**	**297**	Pn	**Pn**	**11 43 27.6**	**+3.3**
TBP	**Tagbilaran**	**8.80**	**344**	*eP*	**Pn**	**11 43 26.9**	**+2.5**
BKSI	**Bulukumba**	**8.98**	**224**	P	**Pn**	**11 43 29.8**	**+2.8**
	298nm,0.9s,5µm6µm						
MSLP	**Maasin**	**9.00**	**351**	*eP*	**Pn**	**11 43 27.8**	**+0.5**
KAPI	**Kappang**	**9.04**	**227**	Pn	**Pn**	**11 43 30.3**	**+2.7**
	21nm,0.3s,baz=39,slow=14,SNR=52						
KAPI				Sn	**Sn**	**11 45 08.6**	**+0.3**
	baz=24,slow=16						
KAPI	**Kappang**	**9.04**	**227**		**Pn**	**11 43 29.6**	**+1.9**
KAPI	**Kappang**	**9.04**	**227**	P	**Pn**	**11 43 29.6**	**+1.9**
TABP	**Talibon, Bohol**	**9.06**	**347**	*eP*	**Pn**	**11 43 29.5**	**+1.4**
CNOP	**Candoni, Negro**	**9.34**	**337**	*eP*	**Pn**	**11 43 35.9**	**+4.1**
BSSI	**Bau Bau, Buton**	**9.35**	**219**	P	**Pn**	**11 43 33.9**	**+1.9**
	358nm,1.7s,6µm5µm						
LLP	**Lapu-Lapu**	**9.37**	**345**	*eP*	**Pn**	**11 43 34.4**	**+2.1**
LLP				*eS*	Sn	11 45 31.9	+15
BKB	**Balikpapan**	**9.77**	**256**		**Pn**	**11 43 40.7**	**+2.9**
BKB	**Balikpapan**	**9.77**	**256**	P	**Pn**	**11 43 40.3**	**+2.5**
	591nm,0.8s,4µm12µm						
SRPI	**Serui, Papua**	**10.34**	**107**	P	Pn	11 43 54.8	+9.3
SPMM	**Sapulut**	**10.48**	**290**	P	**Pn**	**11 43 50.0**	**+2.5**
MMRI	**Maumere**	**10.60**	**203**	Pn	**Pn**	**11 43 52.4**	**+3.3**
MMRI	**Maumere**	**10.60**	**203**	P	**Pn**	**11 43 53.4**	**+4.3**
	224nm,1.2s,4µm3µm						
RCP	**Roxas**	**10.90**	**341**	*eP*	**Pn**	**11 43 55.9**	**+2.6**
SOEI	**Soe**	**11.08**	**191**		Pn	11 44 00.6	+4.8
SOEI	**Soe**	**11.08**	**191**	P	Pn	11 44 02.7	+6.9
KKM	**Kota Kinabalu**	**11.21**	**296**	Pn	**Pn**	**11 44 00.6**	**+3.1**
BATI	**Baumata**	**11.64**	**193**	Pn	Pn	11 44 09.3	+5.9
	10nm,0.3s,baz=119,slow=2.2,SNR=15						
BATI				LR	LR	11 50 01.2	
	comp=Z,2µm,20.0s,baz=16,slow=45						
BATI	**Baumata**	**11.64**	**193**	P	Pn	11 44 11.8	+8.4
MTKI	**Muara Teweh, K**	**11.66**	**260**	P	Pn	11 44 12.2	+8.6
BBKI	**Banjar Baru**	**12.41**	**248**	P	**Pn**	**11 44 18.1**	**+4.2**
	223nm,1.7s,7µm5µm						
BASI	**Baing, Sumba**	**12.72**	**207**	P	**Pn**	**11 44 19.7**	**+1.6**
	516nm,1.6s,7µm4µm						
SMPI	**Sarmi**	**12.75**	**104**	P	**Pn**	**11 44 19.0**	**+0.5**
	129nm,1.7s,5µm9µm						
WBSI	**Waikabubak, Su**	**12.81**	**213**	P	**Pn**	**11 44 22.6**	**+3.2**
	203nm,0.9s,3µm						
PLAI	**Plampang**	**13.13**	**221**	P	**Pn**	**11 44 27.7**	**+4.0**
	369nm,1.0s,4µm4µm						
JCNP	**Jose Panganiba**	**13.50**	**345**	*eP*	**Pn**	**11 44 29.8**	**+1.0**
TWSI	**Taliwang, Sumb**	**13.66**	**224**	P	**Pn**	**11 44 33.5**	**+2.5**
	414nm,1.0s,4µm4µm						
LQP	**Lukban**	**13.69**	**340**	*eP*	**Pn**	**11 44 32.4**	**+0.9**
LUBP	**Lubang**	**13.85**	**334**	*eP*	**Pn**	**11 44 35.3**	**+1.7**
SBUM	**Sibu**	**14.19**	**275**	Pn	**Pn**	**11 44 40.4**	**+2.2**
SBUM	**Sibu**	**14.19**	**275**	P	**P**	**11 44 44.0**	**-1.2**
GENI	**Genyem**	**14.31**	**105**	P	**P**	**11 44 45.8**	**-0.8**
QVP	**Quezon City--P**	**14.35**	**339**	*eP*	**P**	**11 44 48.3**	**+1.3**
SRBI	**Singaraja**	**14.44**	**230**	P	**Pn**	**11 44 44.3**	**+2.7**
	288nm,1.2s,6µm4µm						

MTN	**Manton Dam**	**14.73**	**161**	P	**Pn**	**11 44 43.9**	**-1.7**
	baz=15,SNR=23						
MTN	**Manton Dam**	**14.73**	**161**	Pn	**Pn**	**11 44 44.9**	**-0.7**
MTN	**Manton Dam**	**14.73**	**161**	P	**Pn**	**11 44 45.5**	**-0.1**
DNP	**Denpasar**	**14.82**	**228**	P	**P**	**11 44 56.5**	**+4.2**
ABJI	**Asem Bagus**	**15.03**	**233**	P	**Pn**	**11 44 51.0**	**+1.4**
	313nm,1.3s,6µm						
KDU	**Kakadu**	**15.07**	**156**	P	**Pn**	**11 44 47.6**	**-2.5**
	baz=15,SNR=12						
PBKI	**Pangkalan Bun**	**15.19**	**255**	P	**Pn**	**11 44 53.6**	**+1.9**
	102nm,1.2s,4µm157µm						
JAGI	**Jajag, Banyuwa**	**15.50**	**232**	P	**P**	**11 44 59.6**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.50**	**232**	P	**Pn**	**11 44 55.5**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.50**	**232**	P	**P**	**11 44 57.9**	**-1.9**
	402nm,1.6s,7µm3µm						
BLJI	**Banyuglugur**	**15.52**	**235**	P	**P**	**11 44 58.4**	**-1.7**
	368nm,0.7s,6µm						
GMJI	**Gumukmas**	**15.95**	**234**	P	**Pn**	**11 45 01.8**	**+0.3**
	277nm,1.1s,5µm						
GRJI	**Gresik**	**16.02**	**240**	P	**P**	**11 45 04.8**	**-0.8**
	196nm,1.2s,2µm						
KNRA	**Kununurra**	**16.93**	**172**	P	**Pn**	**11 45 13.7**	**-0.2**
	baz=17,SNR=74						
KNRA	**Kununurra**	**16.93**	**172**		**Pn**	**11 45 13.8**	**-0.2**
KNRA				IAmb	IAmb	11 45 21.0	
	comp=Z,458nm,1.2s						
KNRA	**Kununurra**	**16.93**	**172**	P	**Pn**	**11 45 13.9**	**-0.1**
CVP	**Callao Caves**	**17.00**	**345**	*eP*	**Pn**	**11 45 15.2**	**+0.4**
NGJI	**Ngawi**	**17.12**	**240**	P	**P**	**11 45 20.3**	**+2.5**
	comp=Z,224nm,0.8s						
PWJI	**Pagerwojo**	**17.16**	**238**	P	**P**	**11 45 19.4**	**+1.2**
	comp=Z,339nm,0.9s,comp=Z,4µm						
SMRI	**Semarang**	**17.87**	**243**	P	**P**	**11 45 26.9**	**+0.7**
SMRI	**Semarang**	**17.87**	**243**	P	**P**	**11 45 27.0**	**+0.9**
	comp=Z,142nm,0.9s,comp=Z,4µm						
UGM	**Wanagama**	**18.20**	**240**	P	**Pn**	**11 45 29.0**	**-0.8**
UGM	**Wanagama**	**18.20**	**240**	P	**P**	**11 45 30.9**	**+1.1**
	comp=Z,360nm,1.5s						
YOGI	**Yogyakarta**	**18.35**	**241**	P	**Pn**	**11 45 33.4**	**+1.8**
	comp=Z,270nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.19**	**182**	P	**P**	**11 45 39.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.19**	**182**	P	**P**	**11 45 40.8**	**+0.3**
KPJI	**Karang Pucung**	**19.34**	**244**	P	**Pn**	**11 45 43.1**	**-0.4**
	comp=Z,384nm,0.8s,comp=Z,4µm						
LEM	**Lembang**	**20.33**	**247**	P	**P**	**11 45 52.0**	**-1.2**
	comp=Z,102nm,0.8s,baz=90,slow=13,SNR=17						
LEM				LR	LR	11 54 47.3	
	comp=Z,2µm,20.5s,baz=46,slow=40						
	comp=Z,102nm,0.8s						
PPBI	**Pangkal Pinang**	**20.49**	**261**	P	**P**	**11 45 54.2**	**-0.6**
	comp=Z,131nm,0.9s,comp=Z,14µm						
BBJI	**Bungbulang**	**20.55**	**245**	P	**P**	**11 45 54.0**	**-1.5**
DLV	**T Lat**	**20.70**	**302**	P	Pn	11 45 59.0	-0.7
CNJI	**Cibinong**	**20.96**	**246**	P	Pn	11 46 02.7	+0.1
	comp=Z,78nm,0.8s,comp=Z,829nm						
TPRI	**Tanjung Pinang**	**21.83**	**269**	P	**P**	**11 46 11.2**	**+1.9**
	comp=Z,120nm,0.8s,comp=Z,4µm						
DSRI	**Dabo**	**21.84**	**266**	P	**P**	**11 46 09.9**	**+0.5**
	comp=Z,148nm,0.7s,comp=Z,5µmcomp=Z,1µm						
CGJI	**Cibinong**	**22.04**	**249**	P	**P**	**11 46 11.0**	**-0.5**
	comp=Z,162nm,0.6s,comp=Z,3µm						
GUMO	**Guam**	**22.07**	**55**	P	**P**	**11 46 11.0**	**-0.8**

TATO **Taipei** 24.11 349 P **P** **11 46 30.3 -1.9**
KNMB **Chin-men Tao** 24.38 342 P **P** **11 46 34.2 -0.6**
MASI **Maura Aman, Be** 24.49 260 P **P** **11 46 36.7 +0.7**
comp=Z,291nm,0.7s,comp=Z,3µm
SDSI **Sungai Dareh** 25.02 265 P **P** **11 46 39.6 -1.1**
comp=Z,229nm,0.8s,comp=Z,3µm
QIS **Mount Isa** 25.21 150 P **P** **11 46 41.9 -0.5**
baz=25,SNR=80
QIS **Mount Isa** 25.21 150 P **P** **11 46 42.4 0.0**
BKNI **Bangkinang** 25.33 268 P **P** **11 46 45.6 +2.1**
comp=Z,272nm,1.1s
IPM **Ipoh** 25.51 278 P **P** **11 46 45.8 +0.6**
IPM IAmb IAmb 11 46 46.8
comp=Z,79nm,0.7s
IPM **Ipoh** 25.51 278 P **P** **11 46 45.8 +0.6**
IPM **Ipoh** 25.51 278 P **P** **11 46 45.0 -0.2**
JOW **Kunigami** 25.56 4 P **P** **11 46 46.5 +1.1**
comp=Z,210nm,0.7s,baz=178,slow=10.0,SNR=28
JOW LR LR 11 56 21.5
comp=Z,259nm,21.1s,baz=146,slow=35
comp=Z,210nm,0.7s
JOW **Kunigami** 25.56 4 P **P** **11 46 46.5 +1.1**
JOW IAmb IAmb 11 46 48.2
comp=Z,229nm,0.8s
JOW **Kunigami** 25.56 4 P **P** **11 46 46.8 +1.4**
AS31 **Alice Springs** 25.78 164 P **P** **11 46 47.5 0.0**
ASAR **Alice Springs** 25.78 164 P **P** **11 46 46.6 -0.9**
comp=Z,44nm,0.5s,baz=348,slow=13,SNR=215
ASAR PcP **PcP** **11 50 17.1 +0.2**
comp=Z,6.1nm,0.6s,baz=353,slow=2.4,SNR=5.2
ASAR S **S** **11 51 13.6 -1.2**
comp=Z,12nm,0.9s,baz=351,slow=20,SNR=6.7
ASAR ScP **ScP** **11 53 55.0 +0.8**
comp=Z,2.2nm,0.7s,baz=359,slow=2.9,SNR=4.1
ASAR PKiKP **PKiKP** **11 57 56.0 -1.2**
comp=Z,0.8nm,0.8s,baz=1.2,slow=0.9,SNR=3.2
comp=Z,44nm,0.5s
ASAR **Alice Springs** 25.78 164 P **P** **11 46 47.5 0.0**
AS01 **Alice Springs** 25.79 164 P **P** **11 46 47.3 -0.3**
PDSI **Padang** 25.98 265 P **P** **11 46 47.9 -1.6**
comp=Z,132nm,0.9s,comp=Z,1µm
MTSU **Mount Surprise** 26.10 138 P **P** **11 46 50.2 -0.3**
baz=26,SNR=16
WRKA **Warakurna** 26.14 176 P **P** **11 46 51.5 +0.6**
baz=26,SNR=200
WRKA **Warakurna** 26.14 176 P **P** **11 46 51.4 +0.6**
KRVT **Keravat (AS076** 26.22 102 P **P** **11 46 52.5 +0.9**
comp=Z,104nm,0.8s,baz=312,slow=14,SNR=6.1
comp=Z,104nm,0.8s
RABL **Rabaul** 26.34 102 P **P** **11 46 53.8 +1.1**
RABL IAmb IAmb 11 46 59.7
comp=Z,131nm,0.6s
RABL **Rabaul** 26.34 102 P **P** **11 46 54.1 +1.4**
GIRL **Giralia** 26.48 206 P **P** **11 46 56.5 +2.7**
baz=27,SNR=5.7
GIRL **Giralia** 26.48 206 P **P** **11 46 55.5 +1.7**
PPSI **Pulau Pagai** 26.63 261 P **P** **11 46 58.1 +2.8**
comp=Z,168nm,0.8s,comp=Z,2µm
MNSI **Mandailing Nat** 26.78 269 P **P** **11 46 58.6 +2.0**
SISI **Saibi** 27.38 265 P **P** **11 47 00.9 -1.2**
comp=Z,225nm,0.8s,comp=Z,1µm
RPSI **Rantau Prapat** 27.46 274 P **P** **11 47 01.9 -0.9**
RPSI IAmb IAmb 11 47 04.7
comp=Z,89nm,0.8s
PSI **Prapat** 27.46 274 P **P** **11 47 00.6 -2.4**
comp=Z,72nm,0.7s,baz=92,slow=5.1,SNR=68
PSI PcP **PcP** **11 50 19.8 -1.4**
comp=Z,5.9nm,0.5s,baz=251,slow=1.6,SNR=2.5
PSI S **S** **11 51 47.2 +5.4**
comp=Z,1.3nm,0.5s,baz=313,slow=22,SNR=1.1
comp=Z,72nm,0.7s
PBSI **Pulau Batu** 28.11 268 P **P** **11 47 11.3 +2.8**
comp=Z,68nm,0.6s
TV1H **Townsville Har** 28.57 136 P **P** **11 47 12.5 0.0**
comp=Z,72nm,0.8s
KCSI **Kotacane, Aceh** 28.66 275 P **P** **11 47 12.1 -1.4**
comp=Z,68nm,1.0s,comp=Z,886nm
MEEK **Meekatharra** 28.66 195 P **P** **11 47 13.9 +0.6**
baz=29,SNR=28
MEEK **Meekatharra** 28.66 195 P **P** **11 47 13.8 +0.4**
CTA **Charters Tower** 28.77 138 P **P** **11 47 14.1 -0.4**
comp=Z,17nm,0.7s,baz=321,slow=9.2,SNR=20
CTA PcP **PcP** **11 50 24.9 +0.8**
CTA ScP **ScP** **11 54 06.8 +3.6**
comp=Z,12nm,0.6s,baz=335,slow=1.9,SNR=5.3
comp=Z,8.6nm,0.9s,baz=304,slow=4.9,SNR=3.9
comp=Z,17nm,0.7s
CTA **Charters Tower** 28.77 138 P **P** **11 47 14.4 0.0**
CTAO **Charters Tower** 28.77 138 P **P** **11 47 14.8 +0.4**
CTAO **Charters Tower** 28.77 138 P **P** **11 47 14.5 0.0**
CTAO **Charters Tower** 28.77 138 P **P** **11 47 14.8 +0.4**
CTAO pmax pmax
comp=Z,33nm,1.1s
GSI **Gunungsitoli** 28.78 271 P **P** **11 47 13.6 -0.9**
GSI **Gunungsitoli** 28.78 271 P **P** **11 47 13.0 -1.5**
comp=Z,117nm,0.9s,comp=Z,3µm
CNSH **ChangSha** 29.75 336 ⇑P **P** **11 47 25.9 +2.9**
CNSH S **S** **11 52 24.5 +7.3**
CNSH pmax pmax
comp=Z,17nm,0.8s
CNSH LR LR
comp=Z,920nm,20.7s
CNSH LR LR
comp=Z,1µm,19.0s
JCJ **Chichijima** 29.90 29 P **P** **11 47 25.1 +0.8**
comp=Z,182nm,0.7s,baz=270,slow=20,SNR=3.6
JCJ LR LR 11 59 46.4
comp=Z,182nm,18.8s,baz=216,slow=37
comp=Z,182nm,0.7s
SNSI **Sinabang, Aceh** 30.04 273 P **P** **11 47 26.2 +0.5**
comp=Z,57nm,1.0s
SSE **Sheshan** 30.14 351 P **P** **11 47 26.4 +0.1**
SSE S **S** **11 52 25.5 +2.3**
SSE pmax pmax
comp=Z,140nm,5.5s
SSE LR LR
comp=Z,320nm,20.9s
SSE LR LR
comp=Z,380nm,23.8s
OOD **Oodnadatta** 30.19 163 P **P** **11 47 26.4 -0.4**
JSU **Suzuyama** 30.39 7 P **P** **11 47 28.4 -0.2**
JSU **Suzuyama** 30.39 7 P **P** **11 47 28.6 -0.1**
PHRA **Phrae** 30.87 305 P **P** **11 47 32.8 -0.2**
WHN **Wuhan** 31.33 340 ⇓P **P** **11 47 37.3 +0.4**
WHN sP **pP** **11 47 44.9 -1.1**
WHN S **S** **11 52 39.9 -2.0**
WHN pmax pmax
comp=Z,94nm,0.9s
WHN LR LR
comp=Z,1µm,12.0s
WHN LR LR
comp=Z,3µm,17.3s
WHN LR LR
comp=Z,5µm,23.8s
GYA **Guiyang** 31.46 325 ⇓*i*P **P** **11 47 38.5 +0.2**
GYA pP pP 11 47 47.9 +0.5
GYA PcP **PcP** **11 50 32.3 +1.2**
GYA S **S** **11 52 42.3 -2.0**
GYA pmax pmax
comp=Z,100nm,1.0s
GYA pmax pmax
comp=Z,200nm,4.1s
GYA LR LR
comp=Z,880nm,24.2s
GYA LR LR
comp=Z,740nm,19.7s
GYA LR LR
comp=Z,1µm,21.3s
NJ2 **Nanjing** 31.50 348 *e*P **P** **11 47 38.8 +0.5**
NJ2 pP **pP** **11 47 44.8 -2.6**
NJ2 pmax pmax
comp=Z,40nm,0.6s
NJ2 LR LR
comp=Z,360nm,23.7s
NJ2 LR LR
comp=Z,900nm,24.0s
NJ2 LR LR
comp=Z,940nm,23.9s
MORW **Morawa** 31.67 197 P **P** **11 47 40.2 +0.2**
baz=32,SNR=29
MORW **Morawa** 31.67 197 P **P** **11 47 40.2 +0.2**
MORW **Morawa** 31.67 197 P **P** **11 47 40.4 +0.5**
comp=Z,62nm,1.0s
FORT **Forrest** 31.84 177 P **P** **11 47 41.4 +0.1**
baz=32,SNR=31
FORT **Forrest** 31.84 177 P **P** **11 47 41.7 +0.3**
FORT **Forrest** 31.84 177 P **P** **11 47 41.6 +0.3**
CM31 **Chiang Mai Arr** 31.91 304 P **P** **11 47 42.4 +0.2**
CMAR **Chiang Mai Arr** 31.91 304 P **P** **11 47 40.4 -1.7**
comp=Z,7.5nm,0.9s,baz=126,slow=7.6,SNR=52
CMAR PcP **PcP** **11 50 33.6 +1.3**
comp=Z,7.6nm,1.0s,baz=166,slow=1.1,SNR=10
CMAR S **S** **11 52 45.3 -5.9**
comp=Z,0.5nm,0.3s,baz=122,slow=8.6,SNR=1.7
CMAR ScP **ScP** **11 54 15.4 +1.9**
comp=Z,2.3nm,0.7s,baz=151,slow=2.0,SNR=8.1
CMAR PKiKP **PKiKP** **11 58 00.2 -0.8**
comp=Z,1.0nm,0.7s,baz=254,slow=1.6,SNR=5.6
comp=Z,7.5nm,0.9s
INKA **Innaminka** 31.92 155 P **P** **11 47 41.9 -0.2**
JNU **Nakatsue** 32.04 7 P **P** **11 47 42.5 -0.7**
comp=Z,96nm,0.9s,baz=204,slow=4.3,SNR=20
JNU LR LR 12 04 19.7
comp=Z,402nm,18.5s,baz=168,slow=43
comp=Z,96nm,0.9s
JNU **Nakatsue** 32.04 7 P **P** **11 47 42.2 -0.9**
JNU IAmb IAmb 11 47 44.7
comp=Z,157nm,1.0s
JNU **Nakatsue** 32.04 7 P **P** **11 47 43.3 +0.1**
CHTO **Chiang Mai** 32.08 305 P **P** **11 47 44.0 +0.3**
CHTO IAmb IAmb 11 47 44.8
comp=Z,41nm,0.7s
CHTO **Chiang Mai** 32.08 305 P **P** **11 47 44.0 +0.3**
CHTO pmax pmax
comp=Z,41nm,0.7s
MULG **Mulgathing** 32.15 167 P **P** **11 47 43.8 -0.3**
QLP **Quilpie** 32.56 149 P **P** **11 47 47.3 -0.4**
baz=33,SNR=8.2
QLP **Quilpie** 32.56 149 P **P** **11 47 47.2 -0.5**
KMBL **Kambalda** 32.66 187 P **P** **11 47 49.0 +0.4**
baz=33,SNR=19
KMBL **Kambalda** 32.66 187 P **P** **11 47 49.2 +0.6**
BLDU **Ballidu** 32.94 195 P **P** **11 47 51.2 +0.1**
baz=33,SNR=40
BLDU **Ballidu** 32.94 195 P **P** **11 47 51.5 +0.4**
KMI **Kunming** 32.95 318 ⇑P **P** **11 47 51.8 +0.3**
KMI sP pP 11 48 01.3 +0.6
KMI PcP **PcP** **11 50 37.3 +1.9**
KMI S **S** **11 53 04.0 -3.8**
KMI pmax pmax
comp=Z,74nm,1.2s
KMI LR LR
comp=Z,630nm,19.4s
KMI LR LR
comp=Z,880nm,21.6s
KMI LR LR
comp=Z,1µm,18.2s
ENH **Enshi** 33.06 333 P **P** **11 47 50.9 -1.3**
ENH IAmb IAmb 11 47 52.5
comp=Z,83nm,0.7s
ENH **Enshi** 33.06 333 P **P** **11 47 52.1 0.0**
JMN **Monobe** 33.12 12 P **P** **11 47 52.8 +0.2**
JMN IAmb IAmb 11 47 54.4
comp=Z,213nm,1.2s
JMN **Monobe** 33.12 12 P **P** **11 47 53.5 +0.9**
JTU **Tsushima** 33.28 5 P **P** **11 47 55.7 +1.8**
LCRK **Leigh Creek** 33.43 161 P **P** **11 47 55.0 -0.3**
KLBR **Kellerberrin** 33.62 193 P **P** **11 47 57.4 +0.5**
baz=34,SNR=42
KLBR **Kellerberrin** 33.62 193 P **P** **11 47 58.0 +1.1**
JHJ **Hachijo jima 2** 34.17 20 LR LR 12 00 12.7
comp=Z,912nm,21.7s,baz=39,slow=33
JHJ2 **Mitsune** 34.17 20 P **P** **11 48 03.4 +1.7**
JHS **Saijyo** 34.22 10 P **P** **11 48 03.4 +1.3**
MUN **Mundaring** 34.37 195 P **P** **11 48 04.9 +1.5**
baz=34,SNR=17
MUN **Mundaring** 34.37 195 P **P** **11 48 04.7 +1.3**
PZH **PanZhiHua** 34.55 319 P **P** **11 48 04.3 -0.9**
PZH sP **sP** **11 48 17.6 -0.3**
PZH S **S** **11 53 27.3 -5.0**
PZH sS **pS** **11 53 44.5 +2.0**
PZH pmax pmax
comp=Z,90nm,0.8s
PZH pmax pmax
comp=Z,220nm,3.7s
PZH LR LR
comp=Z,2µm,22.0s
PZH LR LR
comp=Z,2µm,22.1s
PZH LR LR
comp=Z,4µm,23.3s
NWAO **Narrogin (SRO)** 35.02 193 LR LR 12 04 24.7
comp=Z,541nm,21.8s,slow=40
NWAO **Narrogin (SRO)** 35.02 193 P **P** **11 48 10.0 +0.9**
baz=35,SNR=12
NWAO P **P** **11 48 10.0 +0.9**
baz=35,SNR=12
NWAO **Narrogin (SRO)** 35.02 193 P **P** **11 48 09.9 +0.9**
NWAO IAmb IAmb 11 48 13.4
comp=Z,105nm,1.3s
NWAO **Narrogin (SRO)** 35.02 193 P **P** **11 48 09.9 +0.9**
NWAO IAmb IAmb 11 48 13.3
comp=Z,83nm,1.3s
NWAO **Narrogin (SRO)** 35.02 193 P **P** **11 48 09.5 +0.5**
comp=Z,76nm,1.6s
NWAO **Narrogin (SRO)** 35.02 193 P **P** **11 48 09.9 +0.9**
NWAO pmax pmax
comp=Z,83nm,1.3s
NWAO **Narrogin (SRO)** 35.02 193 P **P** **11 48 09.9 +0.9**
TJN **Taejon** 35.02 1 P **P** **11 48 08.9 -0.1**
TJN **Taejon** 35.02 1 P **P** **11 48 10.2 +1.2**
TJN **Taejon** 35.02 1 ⇑*e*P **P** **11 48 08.5 -0.5**
BBOO **Buckleboo** 35.04 166 P **P** **11 48 08.9 -0.4**
baz=35,SNR=41
BBOO **Buckleboo** 35.04 166 P **P** **11 48 08.9 -0.4**
BBOO IAmb IAmb 11 48 12.7
comp=Z,69nm,0.9s
BBOO **Buckleboo** 35.04 166 P **P** **11 48 08.8 -0.5**
HNR **Honiara** 35.08 108 P **P** **11 48 09.1 -0.7**
comp=Z,3µm,0.9s,baz=270,slow=1.0,SNR=7.0
HNR LR LR 12 01 57.7
comp=Z,19µm,20.6s,baz=281,slow=35
JSG **Sagara** 35.09 17 P **P** **11 48 09.4 -0.2**
INU **Inuyama** 35.40 15 P **P** **11 48 11.9 -0.4**
INU IAmb IAmb 11 48 13.5
comp=Z,116nm,0.7s
INU **Inuyama** 35.40 15 P **P** **11 48 12.3 0.0**
LYN **LuoYang** 35.63 340 ⇓*i*P **P** **11 48 14.3 0.0**
LYN S **S** **11 53 47.8 -0.7**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN pmax pmax
comp=Z,130nm,6.3s
LYN LR LR
comp=Z,640nm,20.3s
LYN LR LR
comp=Z,540nm,21.9s
LYN LR LR
comp=Z,1µm,25.5s
EIDS **Eidsvold** 35.63 140 P **P** **11 48 13.9 -0.6**
baz=36,SNR=12
EIDS **Eidsvold** 35.63 140 **P** **11 48 14.0 -0.5**
EIDS **Eidsvold** 35.63 140 P **P** **11 48 14.8 +0.3**
comp=Z,26nm,0.8s
WHYH **Whyalla** 35.65 164 P **P** **11 48 14.5 0.0**
JGF **Kuroka** 35.73 15 P **P** **11 48 15.0 -0.2**
JGF IAmb IAmb 11 48 15.9
comp=Z,67nm,0.8s
JGF **Kuroka** 35.73 15 P **P** **11 48 15.1 -0.1**
TNCH **TengChong** 35.83 314 ⇑P **P** **11 48 15.8 -0.6**
TNCH pP pwP 11 48 27.1 -0.6
TNCH sP sP 11 48 32.8 +3.7
TNCH S **S** **11 53 50.6 -1.6**
TNCH pmax pmax
comp=Z,130nm,1.4s
TNCH LR LR
comp=Z,460nm,18.9s
TNCH LR LR
comp=Z,460nm,20.2s
TNCH LR LR
comp=Z,860nm,21.5s
TIA **Tai'an** 35.88 347 ⇑P **P** **11 48 15.6 -0.8**
TIA S **S** **11 53 53.3 +1.1**
TIA pmax pmax
comp=Z,23nm,0.6s
TIA pmax pmax
comp=Z,300nm,4.9s
TIA LR LR
comp=Z,290nm,20.0s
TIA LR LR
comp=Z,510nm,18.1s
TIA LR LR
comp=Z,440nm,29.4s
STKA **Stephens Creek** 35.92 158 P **P** **11 48 16.3 -0.6**
comp=Z,59nm,0.6s,baz=333,slow=8.7,SNR=114
STKA PcP **PcP** **11 50 43.5 0.0**
comp=Z,15nm,0.7s,baz=313,slow=5.6,SNR=2.9
comp=Z,59nm,0.6s
STKA **Stephens Creek** 35.92 158 P **P** **11 48 16.3 -0.6**
baz=36,SNR=86
STKA **Stephens Creek** 35.92 158 P **P** **11 48 16.3 -0.6**
STKA **Stephens Creek** 35.92 158 P **P** **11 48 16.6 -0.3**
STKA **Stephens Creek** 35.92 158 *ce*P **P** **11 48 16.2 -0.7**
MND **Mandalay** 35.98 307 P **P** **11 48 17.2 -0.3**
KSAR **Wonju Array Be** 36.10 2 **P** **11 48 18.1 -0.1**
KSAR **Wonju Array Be** 36.10 2 P **P** **11 48 18.1 -0.1**
KSRS **Korea Array** 36.11 2 P **P** **11 48 18.6 +0.3**
comp=Z,19nm,0.7s,baz=180,slow=9.0,SNR=45
KSRS PcP **PcP** **11 50 44.4 +0.5**
comp=Z,16nm,0.8s,baz=193,slow=2.3,SNR=14
KSRS S **S** **11 53 51.9 -3.8**
comp=Z,1.4nm,1.0s,baz=152,slow=34,SNR=1.6
KSRS ScP **ScP** **11 54 27.8 -0.1**
comp=Z,1.3nm,0.7s,baz=204,slow=18,SNR=3.5
KSRS LR LR 12 01 26.6
comp=Z,442nm,21.9s,baz=175,slow=34
comp=Z,19nm,0.7s
KS19 **Wonju Array Si** 36.16 2 P **P** **11 48 19.7 +1.0**
HTT **Hallett** 36.42 162 P **P** **11 48 21.5 +0.4**
baz=36,SNR=25
HTT **Hallett** 36.42 162 P **P** **11 48 21.5 +0.4**
CD2 **Chengdu** 36.49 326 P **P** **11 48 20.6 -1.2**
CD2 pP pP 11 48 28.9 -2.1
CD2 sP pwP 11 48 33.3 -0.1
CD2 S **S** **11 53 55.9 -6.0**
CD2 pmax pmax
comp=Z,110nm,1.3s
CD2 LR LR
comp=Z,1µm,22.0s
CD2 LR LR
comp=Z,970nm,19.0s
CD2 LR LR
comp=Z,1µm,22.4s
XAN **Xi'an** 36.52 335 P **P** **11 48 20.8 -1.2**
XAN sP pP 11 48 30.0 -1.2
XAN S S 11 53 52.8 -9.5
XAN pmax pmax
comp=Z,45nm,0.8s
XAN pmax pmax
comp=Z,310nm,4.4s
XAN LR LR
comp=Z,640nm,15.1s
XAN LR LR
comp=Z,820nm,16.5s
XAN LR LR
comp=Z,1µm,23.5s
RKGY **Rocky Gully** 36.69 193 P **P** **11 48 25.7 +2.4**
baz=37,SNR=5.4
MJAR **Matsushiro Arr** 36.84 16 P **P** **11 48 22.9 -1.7**
comp=Z,23nm,0.6s,baz=185,slow=9.2,SNR=106
MJAR PcP **PcP** **11 50 47.0 +0.8**
comp=Z,16nm,0.8s,baz=178,slow=2.7,SNR=10
MJAR ScP **ScP** **11 54 30.8 +0.1**
comp=Z,10nm,1.1s,baz=197,slow=3.2,SNR=6.3
comp=Z,23nm,0.6s
MAJO **Matsushiro** 36.84 16 P **P** **11 48 23.4 -1.3**
MAJO IAmb IAmb 11 48 24.7
comp=Z,73nm,0.8s
MAJO **Matsushiro** 36.84 16 P **P** **11 48 23.9 -0.8**
MAJO **Matsushiro** 36.84 16 *ce*P **P** **11 48 23.2 -1.5**
MAJO pmax pmax
comp=Z,60nm,1.0s
MAJO MLR MLR
comp=Z,1µm,21.0s
MJB9 **Matsu-Tunnel** 36.84 16 P **P** **11 48 24.5 -0.2**
MJB9 IAmb IAmb 11 48 26.1
comp=Z,72nm,0.8s
CMSA **Cobar Meteorol** 37.37 152 P **P** **11 48 29.0 -0.2**
baz=37,SNR=10
CMSA **Cobar Meteorol** 37.37 152 P **P** **11 48 29.2 0.0**
HNS **HongShan** 37.59 345 ⇑P **P** **11 48 30.6 -0.4**
HNS S **S** **11 54 23.0 +4.7**
HNS pmax pmax
comp=Z,43nm,0.9s
HNS LR LR
comp=Z,920nm,20.8s
HNS LR LR
comp=Z,890nm,22.2s
H01W3 **Cape Leeuwin H** 37.67 197 P **P** **11 48 35.2 +3.7**
baz=33,slow=6.5,SNR=9.5
H01W1 **Cape Leeuwin H** 37.68 197 P **P** **11 48 34.9 +3.5**
baz=33,slow=6.5,SNR=9.1
H01W2 **Cape Leeuwin H** 37.69 197 P **P** **11 48 34.5 +3.0**
baz=33,slow=6.5,SNR=5.2
DL2 **Dalian** 37.78 354 P **P** **11 48 32.5 0.0**
DL2 S **S** **11 54 23.1 +2.0**
DL2 pmax pmax
comp=Z,320nm,0.7s
DL2 pmax pmax
comp=Z,260nm,5.6s
DL2 LR LR
comp=Z,860nm,19.0s
DL2 LR LR
comp=Z,770nm,18.2s
DL2 LR LR
comp=Z,880nm,19.1s
TIY **Taiyuan** 38.54 342 *e*P **P** **11 48 38.8 -0.2**
TIY S **S** **11 54 31.5 -1.3**
TIY pmax pmax
comp=Z,28nm,0.7s
TIY pmax pmax
comp=Z,180nm,5.1s
TIY LR LR
comp=Z,690nm,21.1s
TIY LR LR
comp=Z,390nm,13.2s
TIY LR LR
comp=Z,1µm,25.5s
JMM **Marumori** 38.83 18 P **P** **11 48 40.9 -0.5**
JMM IAmb IAmb 11 48 43.8
comp=Z,165nm,0.7s
JMM **Marumori** 38.83 18 P **P** **11 48 41.3 -0.1**
GC1S **Gold Coast 1 S** 39.13 140 P **P** **11 48 44.5 +0.5**
ARMA **Armidale** 39.60 145 P **P** **11 48 49.0 +0.9**
baz=40,SNR=27
ARMA **Armidale** 39.60 145 P **P** **11 48 48.8 +0.7**
ARMA **Armidale** 39.60 145 P **P** **11 48 48.8 +0.7**
BJT **Baijiatuau** 39.74 348 P **P** **11 48 48.8 -0.2**
BJT **Baijiatuau** 39.74 348 P **P** **11 48 49.1 +0.1**
BJT **Baijiatuau** 39.74 348 P **P** **11 48 48.8 -0.2**
BJT pmax pmax
comp=Z,47nm,0.7s
BJI **Beijing** 39.76 348 P **P** **11 48 48.8 -0.3**
BJI pP **pP** **11 48 54.8 -3.5**
BJI PcP **PcP** **11 50 56.3 +1.2**
BJI S **S** **11 54 49.8 -1.1**
BJI pmax pmax
comp=Z,32nm,0.7s
ARPS **Mount Arapiles** 40.42 161 P **P** **11 48 54.9 +0.2**
baz=40,SNR=37
ARPS **Mount Arapiles** 40.42 161 P **P** **11 48 54.9 +0.2**
LZH **Lanzhou** 40.51 331 ⇑P **P** **11 48 55.6 -0.1**
LZH sP pwP 11 49 06.8 -0.6
LZH PcP **PcP** **11 50 59.6 +1.7**
LZH ScP **ScP** **11 54 46.6 +1.6**
LZH PcS **PcS** **11 54 49.3 +0.6**
LZH S **S** **11 54 58.8 -3.9**
LZH pmax pmax
comp=Z,96nm,1.7s
LZH pmax pmax
comp=Z,180nm,4.5s
LZH LR LR
comp=Z,940nm,19.2s
LZH LR LR
comp=Z,1µm,17.9s
LZH LR LR
comp=Z,2µm,16.8s
SNY **Shenyang** 40.53 357 ⇑P **P** **11 48 55.8 +0.4**
SNY S **S** **11 55 05.4 +3.1**
SNY pmax pmax
comp=Z,250nm,0.7s
SHL **Shillong** 41.12 309 P **P** **11 49 00.2 -0.7**
SHL IAmb IAmb 11 49 01.1
comp=Z,108nm,0.7s
SHL **Shillong** 41.12 309 P **P** **11 49 00.2 -0.7**
SHL pmax pmax
comp=Z,108nm,0.7s

SHL	**Shillong**	**41.12**	**309**	P	**P**	**11 49 00.1**	**-0.8**			
	SNR=30									
JTM	**Tenmabayashi**	**41.60**	**17**	P	**P**	**11 49 04.5**	**+0.2**			
JTM				IAmb	IAmb	11 49 06.0				
	comp=Z,196nm,0.7s									
JTM	**Tenmabayashi**	**41.60**	**17**	P	**P**	**11 49 04.6**	**+0.3**			
HHC	**Hu-ho-hao-te**	**41.69**	**343**	*e*P	**P**	**11 49 05.1**	**-0.1**			
HHC				S	**S**	**11 55 17.3**	**-2.6**			
HHC				SS	**SS**	**11 58 24.4**	**-1.8**			
HHC				pmax	pmax					
	comp=Z,45nm,0.8s									
HHC				pmax	pmax					
	comp=Z,520nm,5.2s									
HHC				LR	LR					
	comp=Z,1μm,21.6s									
HHC				LR	LR					
	comp=Z,840nm,20.3s									
HHC				LR	LR					
	comp=Z,3μm,22.2s									
BRAT	**Ballarat**	**41.84**	**159**	P	**P**	**11 49 06.4**	**+0.1**			
CAN	**Canberra**	**42.04**	**152**	P	**P**	**11 49 07.8**	**-0.3**			
CAN	**Canberra**	**42.04**	**152**	P	**P**	**11 49 07.8**	**-0.3**			
CAN				pmax	pmax					
	comp=Z,27nm,0.8s									
CNB	**Canberra Magne**	**42.21**	**152**	P	**P**	**11 49 10.0**	**+0.5**			
CN2	**Changchun**	**42.43**	**359**	P	**P**	**11 49 11.0**	**0.0**			
CN2				PcP	**PcP**	**11 51 04.8**	**+1.1**			
CN2				S	**S**	**11 55 28.6**	**-1.9**			
CN2				pmax	pmax					
	comp=Z,30nm,1.0s									
CN2				LR	LR					
	comp=Z,500nm,19.0s									
CN2				LR	LR					
	comp=Z,600nm,19.0s									
CN2				LR	LR					
	comp=Z,300nm,18.0s									
KOUNC	**Koumac, New Ca**	**42.96**	**122**	P	**P**	**11 49 15.8**	**+0.1**			
KOUNC	**Koumac, New Ca**	**42.96**	**122**	P	**P**	**11 49 16.4**	**+0.7**			
USA0B	**Ussuriysk Arra**	**43.11**	**6**	P	**P**	**11 49 17.0**	**+0.4**			
USA0B				IAmb	IAmb	11 49 18.3				
	comp=Z,232nm,1.3s									
USA0B	**Ussuriysk Arra**	**43.11**	**6**	*de*P	**P**	**11 49 17.7**	**+1.2**			
USRK	**Ussuriysk Ar.**	**43.11**	**6**	P	**P**	**11 49 16.6**	**0.0**			
	comp=Z,62nm,0.6s,baz=180,slow=7.8,SNR=122									
USRK				PcP	**PcP**	**11 51 06.4**	**+0.4**			
	comp=Z,5.4nm,0.7s,baz=182,slow=4.3,SNR=1.9									
USRK				ScP	**ScP**	**11 54 55.2**	**+0.3**			
	comp=Z,4.5nm,0.8s,baz=219,slow=6.7,SNR=3.2									
USRK				S	**S**	**11 55 37.5**	**-3.1**			
	comp=Z,1.8nm,0.9s,baz=152,slow=19,SNR=1.4									
USRK				LR	LR	12 06 51.8				
	comp=Z,184nm,21.9s,baz=183,slow=36									
	comp=Z,62nm,0.6s									
MDJ	**Mudanjiang**	**43.33**	**3**	P	**P**	**11 49 18.2**	**-0.2**			
MDJ				IAmb	IAmb	11 49 20.2				
	comp=Z,120nm,1.0s									
MDJ	**Mudanjiang**	**43.33**	**3**	P	**P**	**11 49 19.3**	**+1.0**			
MDJ				pP	pP	11 49 26.8	-0.8			
MDJ				sP	pwP	11 49 28.8	-1.4			
MDJ				PcS	**PcS**	**11 54 57.9**	**-1.3**			
MDJ				S	**S**	**11 55 49.6**	**+5.8**			
MDJ				sS	sS	11 56 01.5	+2.3			
MDJ				ScS	**ScS**	**11 59 16.3**	**+0.4**			
MDJ				pmax	pmax					
	comp=Z,140nm,1.0s									
MDJ				pmax	pmax					
	comp=Z,510nm,3.9s									
MDJ				LR	LR					
	comp=Z,340nm,13.8s									
MDJ				LR	LR					
	comp=Z,390nm,14.8s									
MDJ				LR	LR					
	comp=Z,1μm,22.0s									
MDJ	**Mudanjiang**	**43.33**	**3**	P	**P**	**11 49 19.7**	**+1.4**			
ERM	**Erimo**	**43.36**	**18**	P	**P**	**11 49 18.3**	**-0.3**			
ERM	**Erimo**	**43.36**	**18**	P	**P**	**11 49 19.8**	**+1.2**			
ERM	**Erimo**	**43.36**	**18⇑**	*e*P	**P**	**11 49 20.5**	**+1.9**			
ERM				pmax	pmax					
	comp=Z,115nm,1.7s									
ERM				MLR	MLR					
	comp=Z,569nm,20.0s									
JEM	**Erimo**	**43.36**	**18**	P	**P**	**11 49 20.0**	**+1.4**			
XLT	**XiLinHaoTe**	**43.49**	**349**	*e*P	**P**	**11 49 19.8**	**0.0**			
XLT				pP	pP	11 49 24.1	-5.0			
XLT				sP	pwP	11 49 25.8	-5.7			
XLT				PcP	**PcP**	**11 51 08.3**	**+0.9**			
XLT				S	**S**	**11 55 45.9**	**-0.5**			
XLT				ScS	**ScS**	**11 59 18.3**	**+1.2**			
XLT				pmax	pmax					
	comp=Z,56nm,0.8s									
XLT				pmax	pmax					
	comp=Z,410nm,4.8s									
XLT				LR	LR					
	comp=Z,430nm,16.5s									
XLT				LR	LR					
	comp=Z,540nm,21.7s									
LSA	**Lhasa**	**43.87**	**314**	P	**P**	**11 49 23.7**	**+0.2**			
LSA				IAmb	IAmb	11 49 26.2				
	comp=Z,75nm,0.7s									
LSA	**Lhasa**	**43.87**	**314**	P	**P**	**11 49 23.8**	**+0.3**			
LSA				S	**S**	**11 55 45.8**	**-7.2**			
LSA				pmax	pmax					
	comp=Z,79nm,0.9s									
LSA				LR	LR					
	comp=Z,280nm,21.4s									
LSA				LR	LR					
	comp=Z,220nm,21.4s									
LSA				LR	LR					
	comp=Z,290nm,21.4s									
LSA	**Lhasa**	**43.87**	**314**	P	**P**	**11 49 23.7**	**+0.2**			
LSA				pmax	pmax					
	comp=Z,75nm,0.7s									
LSA	**Lhasa**	**43.87**	**314**	P	**P**	**11 49 24.7**	**+1.2**			
BNX	**BinXian**	**44.37**	**1**	⇓P	**P**	**11 49 26.6**	**0.0**			
BNX				pmax	pmax					
	comp=Z,72nm,1.1s									
BNX				pmax	pmax					
	comp=Z,300nm,4.9s									
TEY	**Ternei**	**44.59**	**10⇑**	*e*P	**P**	**11 49 28.4**	**0.0**			
TEY				pmax	pmax					
	comp=N,140nm,0.7s									
TEY				pmax	pmax					
	comp=E,20nm,0.7s									
TEY				pmax	pmax					
	comp=Z,270nm,0.7s									
GTA	**Gaotai**	**45.09**	**331**	*e*P	**P**	**11 49 32.3**	**-0.4**			
GTA				sP	pP	11 49 42.6	+0.6			
GTA				PcP	**PcP**	**11 51 14.5**	**+1.4**			
GTA				ScP	**ScP**	**11 55 04.5**	**+1.2**			
GTA				S	S	11 56 00.1	-10			
GTA				ScS	**ScS**	**11 59 27.0**	**-0.6**			
GTA				pmax	pmax					
	comp=Z,17nm,1.2s									
GTA				pmax	pmax					
	comp=Z,150nm,4.3s									
GTA				LR	LR					
	comp=Z,580nm,21.8s									
GTA				LR	LR					
	comp=Z,760nm,20.7s									
GTA				LR	LR					
	comp=Z,1μm,23.6s									
ASAJ	**Asahikawa**	**45.11**	**17**	P	**P**	**11 49 32.9**	**+0.3**			
	comp=Z,82nm,0.8s,baz=225,slow=12,SNR=46									
ASAJ				S	**S**	**11 56 11.8**	**+2.2**			
	comp=Z,9.3nm,1.1s,baz=224,slow=17,SNR=1.8									
ASAJ				LR	LR	12 06 59.5				
	comp=Z,598nm,22.0s,baz=208,slow=34									
	comp=Z,82nm,0.8s									
JKA	**Kamikawa-asahi**	**45.11**	**17**	P	**P**	**11 49 33.0**	**+0.4**			
JKA				IAmb	IAmb	11 49 34.5				
	comp=Z,113nm,0.9s									
DVP	**Devils Point**	**45.27**	**117**	P	**P**	**11 49 34.6**	**+0.4**			
DZM	**Mont Dzumac**	**45.43**	**123**	*e*P	**P**	**11 49 34.2**	**-1.4**			
	comp=Z,88nm,0.8s									
DZM				*e*S	**S**	**11 56 16.4**	**+1.3**			
	comp=Z,515nm,34.7s									
DZM				*e*LR	LR	12 02 20.3				
	comp=Z,2μm,24.6s									
DZM	**Mont Dzumac**	**45.43**	**123**	P	**P**	**11 49 35.3**	**-0.3**			
DZM				IAmb	IAmb	11 49 39.3				
	comp=Z,42nm,0.8s									
DZM	**Mont Dzumac**	**45.43**	**123**	P	**P**	**11 49 35.9**	**+0.3**			
GOMU	**GeErMu**	**45.46**	**324**	P	**P**	**11 49 36.0**	**0.0**			
GOMU				pP	pP	11 49 39.8	-5.6			
GOMU				SS	SS	11 59 26.1	-14			
GOMU				pmax	pmax					
	comp=Z,28nm,1.5s									
GOMU				pmax	pmax					
	comp=Z,190nm,5.9s									
GOMU				LR	LR					
	comp=Z,610nm,19.8s									
GOMU				LR	LR					
	comp=Z,380nm,19.8s									
GOMU				LR	LR					
	comp=Z,350nm,20.6s									
RTV	**Rentapao**	**45.50**	**117**	P	**P**	**11 49 36.9**	**+0.8**			
ONTNC	**Ouen Toro**	**45.54**	**123**	P	**P**	**11 49 35.8**	**-0.5**			
LIFNC	**LIFOU**	**45.57**	**121**	P	**P**	**11 49 36.3**	**-0.3**			
LIFNC	**LIFOU**	**45.57**	**121**	P	**P**	**11 49 36.3**	**-0.3**			
PALK	**Pallekele**	**45.91**	**279**	P	**P**	**11 49 39.9**	**+0.5**			
PALK				IAmb	IAmb	11 50 24.3				
	comp=Z,102nm,1.9s									
PALK	**Pallekele**	**45.91**	**279**	P	**P**	**11 49 39.9**	**+0.5**			
PALK				pmax	pmax					
	comp=Z,102nm,1.9s									
PALK	**Pallekele**	**45.91**	**279**	P	**P**	**11 49 38.9**	**-0.5**			
OUENC	**Ouen Island, N**	**45.91**	**123**	P	**P**	**11 49 39.3**	**0.0**			
OUENC	**Ouen Island, N**	**45.91**	**123**	P	**P**	**11 49 40.0**	**+0.7**			
PINNC	**Pines Island,**	**46.50**	**123**	P	**P**	**11 49 44.3**	**+0.4**			
PINNC				IAmb	IAmb	11 49 47.0				
	comp=Z,51nm,0.9s									
MARNC	**Mare, Loyalty**	**46.53**	**121**	P	**P**	**11 49 43.7**	**-0.4**			
MOO	**Moorlands**	**47.33**	**159**	P	**P**	**11 49 50.9**	**+0.8**			
YSS	**Yuzh-Sakhalins**	**47.77**	**15**	P	**P**	**11 49 53.6**	**+0.2**			
YSS	**Yuzh-Sakhalins**	**47.77**	**15**	*e*P	**P**	**11 49 53.9**	**+0.5**			
YSS				pmax	pmax					
	comp=Z,90nm,0.7s									
YSS				MLR	MLR					
	comp=Z,500nm,13.0s									
KLR	**Kul'dur**	**48.08**	**5**	P	**P**	**11 49 56.0**	**+0.3**			
	comp=Z,26nm,0.4s,baz=201,slow=4.9,SNR=102									
KLR				PcP	**PcP**	**11 51 23.6**	**+0.4**			
	comp=Z,19nm,0.6s,baz=219,slow=2.7,SNR=5.1									
	comp=Z,26nm,0.4s									
KLR	**Kul'dur**	**48.08**	**5**	*ce*P	**P**	**11 49 55.3**	**-0.4**			
KLR				pmax	pmax					
	comp=Z,203nm,1.7s									
KLR				MLR	MLR					
	comp=Z,431nm,21.0s									
HIA	**Hailar**	**48.23**	**354**	P	**P**	**11 49 57.1**	**+0.1**			
HIA	**Hailar**	**48.23**	**354**	P	**P**	**11 49 57.1**	**+0.1**			
HIA				pmax	pmax					
	comp=Z,295nm,1.8s									
HEH	**HeiHe**	**48.88**	**1**	*e*P	**P**	**11 50 01.3**	**-0.6**			
HEH				pP	**pwP**	**11 50 13.8**	**-0.1**			
HEH				sP	**sP**	**11 50 19.1**	**+4.1**			
HEH				PcP	**PcP**	**11 51 26.4**	**+0.4**			
HEH				S	**S**	**11 57 02.1**	**-1.2**			
HEH				pmax	pmax					
	comp=Z,170nm,1.1s									
HEH				pmax	pmax					
	comp=Z,790nm,4.6s									
ULN	**Ulaanbaatar**	**49.41**	**343**	P	**P**	**11 50 06.3**	**+0.1**			
ULN				IAmb	IAmb	11 50 27.3				
	comp=Z,86nm,1.3s									
ULN	**Ulaanbaatar**	**49.41**	**343**	*c i*P	**P**	**11 50 06.1**	**-0.1**			
ULN				pmax	pmax					
	comp=Z,45nm,1.3s									
ULN				MLR	MLR					
	comp=Z,1μm,23.0s									
ULN	**Ulaanbaatar**	**49.41**	**343**	P	**P**	**11 50 06.5**	**+0.3**			
ULN				P	**P**	**11 50 06.5**	**+0.3**			
UGL	**Uglegorsk**	**49.57**	**14**	*e*P	**P**	**11 50 07.7**	**+0.5**			
UGL				pmax	pmax					
	comp=Z,300nm,1.0s									
SONM	**Songino Array**	**49.58**	**342**	P	**P**	**11 50 06.8**	**-0.7**			
	comp=Z,17nm,0.8s,baz=155,slow=9.1,SNR=41									
SONM				PcP	**PcP**	**11 51 29.3**	**+0.5**			
	comp=Z,10nm,0.8s,baz=156,slow=3.3,SNR=4.0									
SONM				ScP	**ScP**	**11 55 21.1**	**-0.9**			
	comp=Z,0.3nm,0.3s,baz=150,slow=6.7,SNR=2.9									
SONM				LR	LR	12 13 51.5				
	comp=Z,546nm,21.4s,baz=159,slow=39									
	comp=Z,17nm,0.8s									
SONM	**Songino Array**	**49.58**	**342**	P	**P**	**11 50 07.8**	**+0.3**			
HYB	**Hyderabad**	**49.66**	**292**	*e*P	**P**	**11 50 07.3**	**-1.3**			
HYB				IVmB_BB		11 50 08.2				
	comp=Z,430nm,1.9s									
GRNR	**Gornyy**	**50.13**	**8⇑**	*i*P	**P**	**11 50 11.7**	**+0.3**			
GRNR				pmax	pmax					
	comp=N,40nm,1.0s									
GRNR				pmax	pmax					
	comp=Z,80nm,0.8s									
GRNR				MLR	MLR					
	comp=E,270nm,18.0s									
GRNR				MLR	MLR					
	comp=N,220nm,12.0s									
GRNR				MLR	MLR					
	comp=Z,300nm,13.0s									
PCHI	**Peechi**	**50.54**	**283⇑**	*e*P	**P**	**11 50 14.4**	**-0.7**			
PCHI				*e*S	**S**	**11 57 25.3**	**-2.3**			
TYV	**Tymovskoe**	**51.38**	**13**	*e*P	**P**	**11 50 21.4**	**+0.6**			
TYV				*e*S	**S**	**11 57 42.9**	**+4.8**			
TYV				pmax	pmax					
	comp=Z,55nm,0.8s									
TYV				pmax	pmax					
	comp=Z,200nm,2.0s									
TYV				smax	smax					
	comp=N,500nm,6.3s									
TYV				smax	smax					
	comp=E,1μm,6.3s									
CIT	**Chita**	**51.78**	**350**	*e*P	**P**	**11 50 24.8**	**+0.9**			
CIT				*e*		11 51 38.1				
CIT				pmax	pmax					
	comp=Z,652nm,1.6s									
ZEA	**Zeya**	**52.37**	**1**	*e*P	**P**	**11 50 28.4**	**+0.2**			
ZEA				pmax	pmax					
	comp=Z,40nm,1.0s									
ZEA				MLR	MLR					
	comp=Z,300nm,15.0s									
ZAK	**Zakamensk**	**52.79**	**342**	*e*P	**P**	**11 50 31.3**	**-0.2**			
ZAK				pmax	pmax					
	comp=Z,19nm,1.4s									
NKL	**Nikolayevsk**	**53.13**	**11**	*e*P	**P**	**11 50 29.9**	**-3.9**			
NKL				pmax	pmax					
	comp=E,123nm,0.6s									
NKL				pmax	pmax					
	comp=N,347nm,0.8s									
NKL				pmax	pmax					
	comp=Z,1μm,0.8s									
NKL				MLR	MLR					
	comp=N,20μm,16.0s									
NKL				MLR	MLR					
	comp=E,25μm,27.0s									
NKL				MLR	MLR					
	comp=Z,22μm,27.0s									
KAAM	**Kaadhehdhoo**	**53.36**	**270**	P	**P**	**11 50 36.7**	**+0.4**			
KAAM				IAmb	IAmb	11 50 38.0				
	comp=Z,113nm,0.9s									
FUNA	**Funafuti**	**53.54**	**101**	P	**P**	**11 50 37.2**	**-0.3**			
FUNA				IAmb	IAmb	11 50 40.5				
	comp=Z,92nm,0.9s									
IRK	**Irkutsk**	**54.13**	**343**	*e*P	**P**	**11 50 41.0**	**-0.2**			
IRK				pmax	pmax					
	comp=Z,183nm,2.1s									
MSVF	**Nonsavu**	**54.24**	**113**	P	**P**	**11 50 43.1**	**+0.4**			
	comp=Z,62nm,0.8s,baz=271,slow=6.5,SNR=30									
MSVF				LR	LR	12 11 45.5				
	comp=Z,760nm,20.8s,baz=290,slow=34									
	comp=Z,62nm,0.8s									
MSVF	**Nonsavu**	**54.24**	**113**	P	**P**	**11 50 43.9**	**+1.2**			
MSVF				IAmb	IAmb	11 50 47.2				
	comp=Z,66nm,0.8s									
MSVF	**Nonsavu**	**54.24**	**113**	P	**P**	**11 50 42.9**	**+0.2**			
MSVF	**Nonsavu**	**54.24**	**113**	*d i*P	**P**	**11 50 43.1**	**+0.4**			
MSVF				pmax	pmax					
	comp=Z,64nm,0.8s									
H08S2	**Diego Garcia H**	**54.43**	**260**	P	**P**	**11 50 45.2**	**+1.4**			
	baz=55,slow=9.5,SNR=4.9									
H08S3	**Diego Garcia H**	**54.44**	**260**	P	**P**	**11 50 45.6**	**+1.7**			
	baz=55,slow=9.5,SNR=5.0									
H08S1	**Diego Garcia H**	**54.45**	**260**	P	**P**	**11 50 45.0**	**+1.1**			
	baz=55,slow=9.5,SNR=5.7									
WMQ	**Urumqi**	**54.59**	**326⇑**	*i*P	**P**	**11 50 44.5**	**-0.3**			
WMQ				pP	pP	11 50 54.4	0.0			
WMQ				PcP	**PcP**	**11 51 48.5**	**+0.8**			
WMQ				S	**S**	**11 58 27.5**	**+5.2**			
WMQ				pmax	pmax					
	comp=Z,42nm,1.3s									
WMQ				pmax	pmax					
	comp=Z,150nm,3.7s									
WMQ				LR	LR					
	comp=Z,1μm,17.1s									
WMQ				LR	LR					
	comp=Z,370nm,16.1s									
WMQ				LR	LR					
	comp=Z,570nm,22.9s									
MOY	**Mondy**	**54.63**	**341**	*e*P	**P**	**11 50 45.0**	**0.0**			
MOY				pmax	pmax					
	comp=Z,107nm,3.1s									
DGTI	**Dogotuki**	**55.46**	**111**	P	**P**	**11 50 51.3**	**-0.2**			
OUZ	**Omahuta**	**57.05**	**134**	P	**P**	**11 51 03.0**	**+0.5**			
BOD	**Bodaibo**	**57.30**	**352**	*e*P	**P**	**11 51 03.9**	**+0.1**			
BOD				pmax	pmax					
	comp=Z,146nm,1.0s									
PEA0B	**Petropavlovsk-**	**57.90**	**22**	P	**P**	**11 51 08.8**	**+0.6**			
PEA0B				IAmb	IAmb	11 51 09.9				
	comp=Z,70nm,1.1s									
PEA0B	**Petropavlovsk-**	**57.90**	**22**	P	**P**	**11 51 08.8**	**+0.6**			
PEA0B				pmax	pmax					
	comp=Z,70nm,1.2s									
PETK	**Petropavlovsk-**	**57.90**	**22**	P	**P**	**11 51 07.6**	**-0.5**			
	comp=Z,35nm,0.8s,baz=188,slow=5.5,SNR=77									
PETK				PcP	**PcP**	**11 52 00.6**	**+0.3**			
	comp=Z,31nm,0.9s,baz=233,slow=3.6,SNR=4.3									
PETK				LR	LR	12 17 16.4				
	comp=Z,104nm,19.9s,baz=214,slow=37									
	comp=Z,35nm,0.8s									
PET	**Petropavlovsk**	**58.20**	**22**	P	**P**	**11 51 10.4**	**+0.2**			
PET	**Petropavlovsk**	**58.20**	**22**	P	**P**	**11 51 11.0**	**+0.8**			
PET	**Petropavlovsk**	**58.20**	**22**	*e*P	**P**	**11 51 11.2**	**+1.0**			
PET				*e*S	**S**	**11 59 15.2**	**+5.7**			
PET				pmax	pmax					
	comp=Z,142nm,1.4s									
ZSN	**Zaisan**	**58.43**	**328**	*e*P	**P**	**11 51 11.1**	**-1.0**			
	baz=328									
ZSN	**Zaisan**	**58.43**	**328**	*e*P	**P**	**11 51 11.0**	**-1.0**			
DGZ	**Jazzator, Alta**	**58.62**	**331**	*d i*P	**P**	**11 51 13.6**	**+0.2**			
DGZ				pmax	pmax					
	comp=Z,24nm,0.9s									
DGZ				MLR	MLR					
	comp=Z,1μm,21.0s									
SHLS	**Shalkode**	**59.07**	**321**	*e*P	**P**	**11 51 13.8**	**-2.9**			
	baz=322									
SHLS	**Shalkode**	**59.07**	**321**	*e*P	**P**	**11 51 13.7**	**-2.9**			
QRZ	**Quartz Range**	**59.21**	**140**	P	**P**	**11 51 17.5**	**0.0**			
QRZ				IAmb	IAmb	11 51 53.8				
	comp=Z,164nm,1.6s									
QRZ	**Quartz Range**	**59.21**	**140**	P	**P**	**11 51 18.7**	**+1.2**			
KUZ	**Kuaotunu**	**59.29**	**135**	P	**P**	**11 51 18.6**	**+0.5**			
UZB	**Uzynbulak**	**59.34**	**321**	*e*P	**P**	**11 51 17.1**	**-1.5**			
	comp=Z,20nm,0.8s,baz=321									
UZB	**Uzynbulak**	**59.34**	**321**	*e*P	**P**	**11 51 17.0**	**-1.5**			
UZB				pmax	pmax					
	comp=Z,20nm,0.8s									
TARG	**Taragay, Kyrgy**	**59.40**	**319**	P	**P**	**11 51 19.3**	**0.0**			
TARG				IAmb	IAmb	11 51 30.6				
	comp=Z,40nm,1.0s									
TARG	**Taragay, Kyrgy**	**59.40**	**319**	P	**P**	**11 51 19.3**	**0.0**			
TARG				pmax	pmax					
	comp=Z,40nm,1.0s									
MK31	**Makanchi Array**	**59.43**	**326**	P	**P**	**11 51 19.1**	**+0.1**			
MK31				IAmb	IAmb	11 51 22.7				
	comp=Z,40nm,0.8s									
MK31	**Makanchi Array**	**59.43**	**326**	*e*P	**P**	**11 51 17.4**	**-1.6**			
MKAR	**Makanchi Array**	**59.43**	**326**	P	**P**	**11 51 18.4**	**-0.5**			
	comp=Z,41nm,0.5s,baz=122,slow=8.4,SNR=310									
MKAR				PcP	**PcP**	**11 52 06.5**	**0.0**			
	comp=Z,32nm,0.9s,baz=132,slow=5.2,SNR=4.8									
MKAR				ScP	**ScP**	**11 56 05.5**	**+0.5**			
	comp=Z,3.5nm,1.0s,baz=108,slow=4.0,SNR=4.4									
MKAR				LR	LR	12 18 51.7				
	comp=Z,831nm,21.2s,baz=120,slow=38									
MKAR				PKP2bc	**P'P'bc**	**12 20 57.1**	**-3.0**			
	comp=Z,2.0nm,1.0s,baz=293,slow=3.2,SNR=6.9									
MKAR				P4KPbc		12 28 26.3				
	comp=Z,0.7nm,0.8s,baz=132,slow=6.0,SNR=7.6									
	comp=Z,41nm,0.5s									
MKAR	**Makanchi Array**	**59.43**	**326**	P	**P**	**11 51 18.7**	**-0.3**			
MKAR	**Makanchi Array**	**59.43**	**326**	*i* P	**P**	**11 51 18.1**	**-0.9**			
MKAR				pmax	pmax					
	comp=Z,42nm,0.5s									
KSH	**Kashi**	**59.59**	**316**	P	**P**	**11 51 20.8**	**+0.5**			
KSH				pP	pP	11 51 28.5	-1.5			
KSH				PcP	**PcP**	**11 52 09.3**	**+1.9**			
KSH				S	**S**	**11 59 28.0**	**-0.4**			
KSH				ScS	**ScS**	**12 01 09.8**	**+1.4**			
KSH				pmax	pmax					
	comp=Z,43nm,1.2s									
KSH				LR	LR					
	comp=Z,810nm,18.6s									
KSH				LR	LR					
	comp=Z,340nm,20.3s									
KSH				LR	LR					
	comp=Z,1μm,21.0s									
MAKZ	**Makanchi**	**59.61**	**326**	P	**P**	**11 51 19.7**	**-0.5**			
MAKZ				IAmb	IAmb	11 51 23.9				
	comp=Z,56nm,0.7s									
MAKZ	**Makanchi**	**59.61**	**326**	P	**P**	**11 51 19.7**	**-0.5**			
MAKZ				pmax	pmax					
	comp=Z,56nm,0.7s									
SATY	**Saty**	**59.68**	**321**	*e*P	**P**	**11 51 20.0**	**-0.9**			
	comp=Z,30nm,0.7s,baz=321									
SATY	**Saty**	**59.68**	**321**	*e*P	**P**	**11 51 19.9**	**-0.9**			
SATY				pmax	pmax					
	comp=Z,30nm,0.7s									
KPKS	**Kokpek**	**59.71**	**321**	*e*P	**P**	**11 51 19.9**	**-1.2**			
	comp=Z,37nm,0.7s,baz=321									
KPKS	**Kokpek**	**59.71**	**321**	*e*P	**P**	**11 51 19.8**	**-1.2**			
KPKS				pmax	pmax					
	comp=Z,37nm,0.7s									
ZHN	**Zhinishke**	**59.72**	**321**	*e*P	**P**	**11 51 20.1**	**-1.1**			
	baz=321									
ZHN	**Zhinishke**	**59.72**	**321**	*e*P	**P**	**11 51 20.0**	**-1.1**			
LBZ	**Lake Benmore**	**59.82**	**145**	P	**P**	**11 51 21.7**	**

CHKK Chushkaly 60.97 321 *e*P **P 11 51 28.1 -1.4**
URZ Urewera 60.98 136 P **P 11 51 28.4 -1.3**
comp=N,35nm,0.8s,baz=330,slow=9.9,SNR=12
comp=N,35nm,0.8s
URZ Urewera 60.98 136 P **P 11 51 28.2 -1.4**
BKZ Black Stump Fm 60.98 137 P **P 11 51 29.1 -0.6**
BKZ IAmb IAmb 11 51 32.0
comp=Z,36nm,0.7s
BKZ Black Stump Fm 60.98 137 P **P 11 51 28.7 -1.0**
RTZ Ruatahuna 61.05 136 P **P 11 51 29.4 -0.9**
RTZ IAmb IAmb 11 51 32.4
comp=Z,66nm,0.8s
MA2 Magadan 61.24 14 P **P 11 51 31.1 +0.1**
comp=Z,136nm,0.7s,baz=197,slow=6.8,SNR=83
MA2 PcP **PcP 11 52 14.7 +1.3**
comp=Z,42nm,0.7s,baz=173,slow=4.3,SNR=4.7
MA2 LR LR 12 19 19.4
comp=Z,99nm,20.0s,baz=206,slow=37
comp=Z,136nm,0.7s
MA2 Magadan 61.24 14 P **P 11 51 32.0 +1.0**
MA2 Magadan 61.24 14*c i*P **P 11 51 31.4 +0.4**
MA2 pmax pmax
comp=Z,200nm,0.7s
KUU Kurty 61.40 321 *e*P **P 11 51 31.4 -1.1**
baz=321
KUU Kurty 61.40 321 *e*P **P 11 51 31.4 -1.1**
TKM2 Tokmak 2 61.41 320 P **P 11 51 32.1 -0.7**
SNR=88
TKM2 Tokmak 2 61.41 320 P **P 11 51 30.8 -2.0**
MXZ Matakaoa Point 61.50 135 P **P 11 51 34.2 +1.0**
KBK Karagaybulak 61.70 319 P **P 11 51 35.4 +0.6**
SNR=14
UCH Uchtor 61.80 318 P **P 11 51 35.7 0.0**
SNR=85
CHMS Chumysh 61.99 319 P **P 11 51 36.3 -0.2**
SNR=18
CHMS Chumysh 61.99 319 P **P 11 51 34.8 -1.7**
AAK Ala-Archa 61.99 319 P **P 11 51 37.1 +0.4**
SNR=18
AAK Ala-Archa 61.99 319 P **P 11 51 36.2 -0.4**
comp=Z,14nm,0.7s,baz=124,slow=5.3,SNR=28
AAK LR LR 12 22 20.2
comp=Z,248nm,19.9s,baz=110,slow=40
comp=Z,14nm,0.7s
AAK Ala-Archa 61.99 319 P **P 11 51 36.9 +0.2**
AAK Ala-Archa 61.99 319*ce*P **P 11 51 36.4 -0.3**
AAK pmax pmax
comp=Z,52nm,1.7s
AAK MLR MLR
comp=Z,444nm,23.0s
AAK Ala-Archa 61.99 319 P **P 11 51 37.2 +0.5**
AAK P **P 11 51 37.2 +0.5**
USP Ospenovka 62.28 320 P **P 11 51 37.9 -0.6**
SNR=78
SGDS Sogindy 62.28 320 *e*P **P 11 51 37.1 -1.4**
baz=320
SGDS Sogindy 62.28 320 *e*P **P 11 51 37.1 -1.4**
AML Almayashu 62.30 318 P **P 11 51 38.5 -0.5**
SNR=102
EKS2 Erkin-Say 62.48 319 P **P 11 51 39.8 -0.1**
SNR=54
ZAA0 Zalesovo Array 62.67 334 P **P 11 51 39.9 -0.8**
ZAA0 IAmb IAmb 11 52 00.2
comp=Z,71nm,1.2s
ZALV Zalesovo Beam 62.67 334 P **P 11 51 39.7 -1.1**
comp=Z,14nm,0.4s,baz=131,slow=6.7,SNR=75
ZALV S **S 12 00 09.2 +2.4**
comp=Z,1.4nm,0.8s,baz=125,slow=13,SNR=5.0
ZALV PKP2bc **P'P'bc 12 20 48.2 -3.3**
comp=Z,2.6nm,1.0s,baz=276,slow=4.2,SNR=5.4
ZALV LR LR 12 21 45.9
comp=Z,275nm,19.0s,baz=134,slow=39
comp=Z,14nm,0.4s
ZALV Zalesovo Beam 62.67 334 P **P 11 51 40.4 -0.4**
KBL Kabul 62.78 309 P **P 11 51 41.5 -0.7**
KBL IAmb IAmb 11 51 44.1
comp=Z,52nm,0.7s
KBL Kabul 62.78 309 P **P 11 51 41.5 -0.7**
KBL pmax pmax
comp=Z,52nm,0.7s
KBL Kabul 62.78 309 P **P 11 51 41.2 -1.0**
SNR=42
KBL P **P 11 51 41.2 -1.0**
SNR=42
AFI Afiamalu 63.07 106 P **P 11 51 43.3 -0.9**
comp=Z,30nm,0.7s,baz=275,slow=19,SNR=11
AFI LR LR 12 18 24.1
comp=Z,376nm,20.0s,baz=274,slow=35
comp=Z,30nm,0.7s
AFI Afiamalu 63.07 106 P **P 11 51 43.8 -0.4**
AFI IAmb IAmb 11 51 54.6
comp=Z,35nm,0.9s
AFI Afiamalu 63.07 106 P **P 11 51 43.8 -0.4**
AFI pmax pmax
comp=Z,35nm,0.9s
GAR Garm 63.38 314 P **P 11 51 45.1 -0.8**
BTLS Baital 63.39 321 *e*P **P 11 51 44.4 -1.4**
baz=321
BTLS Baital 63.39 321 *e*P **P 11 51 44.3 -1.4**
KURBB Kurchatov Arra 63.67 328 P **P 11 51 46.7 -0.7**
comp=Z,119nm,0.7s,baz=128,slow=6.2,SNR=384
comp=Z,119nm,0.7s
KURBB Kurchatov Arra 63.67 328 P **P 11 51 45.6 -1.9**
KURK Kurchatov 63.68 328 P **P 11 51 46.6 -0.8**
KURK Kurchatov 63.68 328 P **P 11 51 46.7 -0.8**
CHGR Chuyangaron 64.09 313 P **P 11 51 50.5 -0.1**
CHGR Chuyangaron 64.09 313 P **P 11 51 50.5 -0.1**
CHGR pmax pmax
comp=Z,104nm,0.8s
DZA Taraz 64.20 318 *e*P **P 11 51 49.8 -1.4**
comp=Z,29nm,0.7s,baz=318
DZA Taraz 64.20 318 *e*P **P 11 51 49.8 -1.4**
DZA pmax pmax
comp=Z,29nm,0.7s
SEY Seymchan 64.57 13 P **P 11 51 54.0 +0.9**
comp=Z,74nm,0.9s,baz=220,slow=6.1,SNR=108
SEY LR LR 12 20 16.5
comp=Z,126nm,20.9s,baz=172,slow=36
comp=Z,74nm,0.9s
SEY Seymchan 64.57 13⇓*e*P **P 11 51 54.6 +1.5**
SEY pmax pmax
comp=Z,240nm,1.7s
IUG Iuzhnay 64.78 317 *e*P **P 11 51 54.0 -1.1**
baz=317
IUG Iuzhnay 64.78 317 *e*P **P 11 51 54.0 -1.1**
SHEM Shemya Is, Ala 64.83 30 LR LR 12 16 24.5
comp=Z,351nm,20.5s,baz=279,slow=32
KK31 Karatay Array 64.84 318 P **P 11 51 55.5 +0.2**
KK31 IAmb IAmb 11 51 57.8
comp=Z,38nm,0.8s
KK31 Karatay Array 64.84 318 *i*P **P 11 51 53.8 -1.5**
KKAR Karatay Array 64.84 318 P **P 11 51 55.5 +0.2**
KKAR IAmb IAmb 11 51 57.8
comp=Z,38nm,0.8s
KKAR Karatay Array 64.84 318 P **P 11 51 55.8 +0.4**
KKAR Karatay Array 64.84 318 P **P 11 51 55.5 +0.2**
KKAR pmax pmax
comp=Z,38nm,0.8s
JLN Jalan Bani Buh 68.24 293 P **P 11 52 17.6 +0.2**
CASY Casey 68.27 187 P **P 11 52 18.8 +2.1**
WBK Wadi Bani Khal 68.71 294 P **P 11 52 19.7 -0.7**
WSAR Wadi Sarin 69.11 294 P **P 11 52 23.0 +0.2**
comp=Z,11nm,0.7s,baz=90,slow=1.0,SNR=7.3
WSAR LR LR 12 22 49.4
comp=Z,283nm,21.9s,baz=111,slow=36
comp=Z,11nm,0.7s
BVA0 Borovoye Array 69.24 328 *i*P **P 11 52 22.4 -0.6**
BVAR Borovoye Array 69.24 328 P **P 11 52 22.6 -0.5**
comp=Z,19nm,0.5s,baz=126,slow=7.5,SNR=71
BVAR LR LR 12 24 45.6
comp=Z,328nm,21.8s,baz=126,slow=38
comp=Z,19nm,0.5s
ADK Adak 69.26 34 P **P 11 52 24.7 +1.6**
BRVK Borovoye 69.31 328 P **P 11 52 23.1 -0.4**
BRVK IAmb IAmb 11 52 43.7
comp=Z,90nm,0.9s
BRVK Borovoye 69.31 328*c i*P **P 11 52 22.9 -0.6**
BRVK pmax pmax
comp=Z,118nm,1.7s
BRVK Borovoye 69.31 328 P **P 11 52 23.4 -0.1**
BRVK P **P 11 52 23.4 -0.1**
MHTO MHTO 69.42 292 P **P 11 52 23.2 -1.7**
SNR=6.4
MHTO P **P 11 52 23.2 -1.7**
SNR=6.4
JMDO Jabal Madar 69.47 293 P **P 11 52 24.7 -0.4**
JMDO P **P 11 52 24.7 -0.4**
SQUM Sultan Qaboos 69.57 295 P **P 11 52 25.3 -0.3**
SQUM P **P 11 52 25.3 -0.3**
SMDO Samad 69.61 294 P **P 11 52 26.1 0.0**
DQM DQM 69.70 291 P **P 11 52 26.1 -0.5**
SNR=5.3
DQM P **P 11 52 26.1 -0.5**
SNR=5.3
BSY Bisya 70.35 294 P **P 11 52 30.0 -0.5**
BSY P **P 11 52 30.0 -0.5**
TIXI Tiksi 70.36 1 P **P 11 52 28.9 -0.7**
comp=Z,36nm,0.5s,baz=90,slow=22,SNR=100
TIXI LR LR 12 23 31.9
comp=Z,248nm,21.9s,baz=179,slow=36
comp=Z,36nm,0.5s
TIXI Tiksi 70.36 1 P **P 11 52 28.4 -1.2**
TIXI IAmb IAmb 11 52 30.7
comp=Z,110nm,1.2s
TIXI Tiksi 70.36 1*ce*P **P 11 52 28.3 -1.3**
TIXI pmax pmax
comp=Z,109nm,1.3s
ARQ Araqi 71.04 294 P **P 11 52 33.8 -1.0**
ARQ P **P 11 52 33.8 -1.0**
SOHO SOHO 71.13 295 P **P 11 52 36.6 +1.4**
SOHO P **P 11 52 36.6 +1.4**
BANOM Banah 71.58 297 P **P 11 52 40.0 +2.1**
ASHO Ashiyiah 71.63 296 P **P 11 52 38.8 +0.5**
SHME Shamm 71.73 297 P **P 11 52 39.4 +0.6**
ALNE Al Ain 71.83 295 P **P 11 52 40.7 +1.3**
DMTO DMTO 71.94 288 P **P 11 52 39.7 -0.4**
DMTO P **P 11 52 39.7 -0.4**
FAQ Al Faqa, Dubai 72.06 296 P **P 11 52 40.4 -0.4**
BILL Bilibino 72.08 15 P **P 11 52 39.9 -0.2**
BILL IAmb IAmb 11 52 43.3
comp=Z,137nm,1.8s
BILL Bilibino 72.08 15 *i*P **P 11 52 39.8 -0.2**
BILL *i* 11 52 55.0
BILL *i* 11 55 19.7
BILL *i*S **S 12 02 04.4 +4.9**
BILL pmax pmax
comp=Z,20nm,0.9s
GEYT Alibeck 72.20 310 P **P 11 52 40.3 -1.2**
comp=Z,23nm,0.7s,baz=132,slow=4.3,SNR=29
comp=Z,23nm,0.7s
GEYT Alibeck 72.20 310 P **P 11 52 41.3 -0.2**
GEYT IAmb IAmb 11 52 44.4
comp=Z,32nm,0.8s
GYA0 ALIBECK ARRAY 72.20 310 P **P 11 52 38.1 -3.3**
GYA0B ALIBECK ARRAY 72.20 310 P **P 11 52 41.6 +0.1**
ASUD Al Ashush, Dub 72.28 295 P **P 11 52 42.8 +0.7**
ASUD P **P 11 52 42.8 +0.7**
DOK Doka 72.79 289 P **P 11 52 43.8 -1.5**
SNR=12
DOK P **P 11 52 43.8 -1.5**
SNR=12
NRIK Noril'sk 72.79 347 P **P 11 52 44.1 -0.1**
comp=Z,78nm,0.7s,baz=132,slow=6.0,SNR=74
NRIK S **S 12 02 06.0 -1.6**
comp=Z,0.8nm,0.3s,baz=198,slow=16,SNR=10
NRIK LR LR 12 28 18.8
comp=Z,329nm,20.2s,baz=149,slow=39
comp=Z,78nm,0.7s
NRIK Noril'sk 72.79 347 P **P 11 52 44.2 -0.1**
NRIK Noril'sk 72.79 347*c i*P **P 11 52 44.0 -0.2**
NRIK pmax pmax
comp=Z,91nm,0.9s
WHFO Wadi Hawf 73.07 288 P **P 11 52 46.4 -0.6**
SNR=5.3
WHFO P **P 11 52 46.4 -0.6**
SNR=5.3
ABTO Aybut 73.48 288 P **P 11 52 49.1 -0.3**
ABTO P **P 11 52 49.1 -0.3**
MZR Muzera 73.78 293 P **P 11 52 52.3 +1.2**
MZR P **P 11 52 52.3 +1.2**
AB31 Akbulak array 73.88 321 *i*P **P 11 52 49.6 -1.4**
ABKAR Akbulak array 73.88 321 P **P 11 52 50.4 -0.6**
ABKAR IAmb IAmb 11 52 57.2
comp=Z,32nm,0.7s
NIKH Nikolski High 74.09 35 P **P 11 52 52.7 +0.5**
baz=250
NIKH Nikolski High 74.09 35 P **P 11 52 52.7 +0.5**
JRN Qarnain Island 74.56 295 P **P 11 52 56.1 +0.6**
SPIA Saint Paul Isl 74.86 30 P **P 11 52 57.0 +0.5**
baz=248
AKTO Aktyubinsk 75.41 322 P **P 11 52 59.7 -0.2**
comp=Z,50nm,0.7s,baz=102,slow=7.0,SNR=114
AKTO LR LR 12 29 04.6
comp=Z,582nm,21.3s,baz=84,slow=38
comp=Z,50nm,0.7s
AKTO Aktyubinsk 75.41 322 P **P 11 52 58.6 -1.3**
RAR Rarotonga 75.42 112 P **P 11 52 59.8 -0.8**
comp=Z,6.1nm,0.7s,baz=304,slow=7.3,SNR=3.2
RAR LR LR 12 24 05.7
comp=Z,132nm,21.2s,baz=276,slow=34
comp=Z,6.1nm,0.7s
SLWR Sila 75.52 294 P **P 11 53 02.6 +1.5**
SLWR P **P 11 53 02.6 +1.5**
UNV Unalaska Valle 75.71 34 P **P 11 53 02.5 +1.0**
baz=252
SVE Sverdlovsk 75.92 329*de*P **P 11 53 02.7 0.0**
SVE pmax pmax
comp=Z,342nm,1.0s
SHMA Al-Shehemyia 76.34 296 P **P 11 53 06.6 +0.8**
SMRA Abu-Samra 76.37 295 P **P 11 53 06.4 +0.5**
SAKB Bahrain 76.74 296 P **P 11 53 09.4 +1.4**
GAMB Gambell 76.85 24 P **P 11 53 08.6 +0.8**
baz=245
ARU Arti 76.87 328 P **P 11 53 07.5 -0.6**
comp=Z,131nm,0.8s,baz=115,slow=2.2,SNR=161
comp=Z,131nm,0.8s
ARU Arti 76.87 328 P **P 11 53 07.5 -0.6**
ARU Arti 76.87 328*c i*P **P 11 53 07.4 -0.6**
ARU 11 55 54.6
ARU S **S 12 02 54.9 +1.4**
ARU SS **SS 12 07 44.5 -5.8**
ARU pmax pmax
comp=Z,251nm,1.1s
SBV Sambava 77.10 256 P **P 11 53 11.7 +1.5**
POHA Pohakuloa 78.40 70 P **P 11 53 18.9 +1.2**
MLH Mauna Loa 78.53 70 P **P 11 53 20.1 +1.7**
TNA Tin City 79.05 23 P **P 11 53 20.4 +0.4**
baz=248
SDPT Sand Point 79.49 34 P **P 11 53 23.4 +0.8**
SDPT Sand Point 79.49 34 P **P 11 53 23.0 +0.4**
baz=257,SNR=6.3
LKRN Lenkeran, Azer 79.56 309 P **P 11 53 24.4 +1.0**
ANM Nome 79.71 24 P **P 11 53 24.8 +1.1**
ANM IAmb IAmb 11 53 25.9
comp=Z,63nm,1.4s
ANM Nome 79.71 24 P **P 11 53 24.7 +1.1**
baz=251
ANM Nome 79.71 24 P **P 11 53 24.8 +1.1**
ANM pmax pmax
comp=Z,63nm,1.4s
ABPO Ambohimpanom 80.12 251 P **P 11 53 28.1 +1.1**
ABPO Ambohimpanom 80.12 251 P **P 11 53 28.1 +1.1**
ABPO pmax pmax
comp=Z,22nm,0.9s
OPO Ambohidratompo 80.12 251 LR LR 12 26 20.1
comp=Z,142nm,19.9s,baz=192,slow=34
AKT Akhty 80.69 312 *e*P **P 11 53 30.1 +0.5**
AKT *e* 11 53 36.8
AKT pmax pmax
comp=Z,57nm,0.6s
VOI Vohitsoka 80.77 248 P **P 11 53 30.3 -0.1**
VOI Vohitsoka 80.77 248 P **P 11 53 32.3 +1.9**
VOI Vohitsoka 80.77 248 P **P 11 53 30.7 +0.3**
VNDA Vanda 80.98 173 P **P 11 53 29.8 -0.4**
comp=Z,16nm,0.7s,baz=312,slow=7.4,SNR=23
comp=Z,16nm,0.7s
VNDA Vanda 80.98 173 P **P 11 53 30.2 0.0**
MAK Makhachkala 81.03 313 *e*P **P 11 53 30.0 -1.2**
MAK *e* 11 56 34.7
MAK *e*S **S 12 03 36.4 -1.9**
MAK *e*SSS SSS 12 12 17.9
MAK pmax pmax
comp=Z,196nm,1.3s
SEKA Sheki 81.06 311 P **P 11 53 32.5 +1.0**
MNGR Mingechevir, A 81.09 311 P **P 11 53 31.9 +0.3**
RAYN Ar Rayn 81.14 293 P **P 11 53 31.8 -0.4**
RAYN Ar Rayn 81.14 293⇑P **P 11 53 31.6 -0.7**
RAYN Ar Rayn 81.14 293 P **P 11 53 32.1 -0.2**
MAW Mawson 81.27 200 P **P 11 53 32.2 +0.3**
comp=Z,11nm,0.6s,baz=63,slow=5.2,SNR=12
MAW LR LR 12 26 03.1
comp=Z,230nm,21.1s,baz=55,slow=33
comp=Z,11nm,0.6s
MAW Mawson 81.27 200 P **P 11 53 32.5 +0.6**
N16K Nishlik Lake 81.53 29 P **P 11 53 34.5 +0.9**
baz=257
P16K Nushagak River 81.61 30 P **P 11 53 34.3 +0.4**
baz=258,SNR=11
GANJ Ganja 81.66 311 P **P 11 53 34.1 -0.6**
O16K Kokwok River B 81.68 30 P **P 11 53 34.9 +0.6**
baz=258,SNR=14
NAX Nakhchivan 82.16 309 P **P 11 53 37.6 +0.2**
R17K Ugashik Creek 82.18 32 P **P 11 53 37.8 +0.9**
baz=260
BELG Belogornoye 82.18 323 P **P 11 53 36.6 -0.5**
comp=Z,219nm,0.9s,baz=135,slow=20,SNR=73
BELG LR LR 12 32 48.9
comp=Z,212nm,20.8s,baz=129,slow=38
comp=Z,219nm,0.9s
BELG Belogornoye 82.18 323*c i*P **P 11 53 36.4 -0.6**
BELG pmax pmax
comp=Z,50nm,1.0s
KIRV Kirov 82.19 329 P **P 11 53 36.7 -0.2**
comp=Z,80nm,0.6s,baz=114,slow=4.8,SNR=30
comp=Z,80nm,0.6s
KIRV Kirov 82.19 329*ce*P **P 11 53 37.0 +0.1**
O17K Koliganek Bris 82.21 30 P **P 11 53 37.7 +0.6**
baz=259,SNR=9.6
Q16K King Salmon 82.22 31 P **P 11 53 37.6 +0.5**
baz=259
CHIR Chirikof Islan 82.28 34 P **P 11 53 38.2 +0.6**
baz=261
GROC Groznyy 82.30 313 *e*P **P 11 53 37.8 -0.1**
GROC *e* 11 53 42.4
GROC *e*S **S 12 03 50.0 -1.5**
GROC pmax pmax
comp=Z,306nm,1.2s
P17K Kvichak River 82.43 30 P **P 11 53 38.7 +0.5**
baz=260
Q17K Contact Creek 82.55 31 P **P 11 53 39.3 +0.3**
baz=260,SNR=8.7
GNI Garni 82.82 310 P **P 11 53 39.9 -1.0**
comp=Z,18nm,0.9s,baz=79,slow=5.2,SNR=9.6
comp=Z,18nm,0.9s
GNI Garni 82.82 310 P **P 11 53 42.8 +1.9**
Q18K Katmai Hardscr 83.07 31 P **P 11 53 41.8 +0.1**
baz=261
P18K Big Mountain, 83.07 30 P **P 11 53 41.2 -0.5**
P18K IAmb IAmb 11 53 42.8
comp=Z,73nm,1.4s
P18K Big Mountain, 83.07 30 P **P 11 53 41.7 +0.1**
baz=261,SNR=5.3
O18K Koktuh Hills 83.16 30 P **P 11 53 42.5 +0.4**
O18K IAmb IAmb 11 53 44.3
comp=Z,77nm,1.0s
O18K Koktuh Hills 83.16 30 P **P 11 53 42.8 +0.8**
baz=261,SNR=7.8
SVW2 Sparrevohn 83.19 29 P **P 11 53 43.2 +1.0**
SVW2 IAmb IAmb 11 53 44.8
comp=Z,84nm,1.0s
SII Sitkinak Islan 83.19 33 P **P 11 53 42.9 +0.6**
baz=262
GCSA Galena City Sc 83.28 25 P **P 11 53 43.5 +1.0**
baz=258
TTA Tatalina 83.31 27 P **P 11 53 43.6 +0.8**
TTA Tatalina 83.31 27 P **P 11 53 43.8 +0.9**
baz=260,SNR=46
TTA Tatalina 83.31 27 P **P 11 53 43.6 +0.8**
TTA pmax pmax
comp=Z,102nm,0.9s
ATD Arta Tunnel 83.41 281 LR LR 12 31 22.8
comp=Z,90nm,19.5s,baz=62,slow=36
ATD Arta Tunnel 83.41 281 P **P 11 53 45.2 +0.9**
ATD IAmb IAmb 11 53 50.1
comp=Z,73nm,1.0s
ZEI Tsey 83.65 313 *e*P **P 11 53 43.1 -2.1**
ZEI pmax pmax
comp=Z,102nm,0.9s
O19K Port Alsworth 83.66 30 P **P 11 53 45.0 +0.5**
O19K IAmb IAmb 11 53 46.4
comp=Z,101nm,1.1s
O19K Port Alsworth 83.66 30 P **P 11 53 44.8 +0.3**
baz=261,SNR=13
N19K Bonanza Creek 83.67 29 P **P 11 53 45.6 +0.9**
N19K Bonanza Creek 83.67 29 P **P 11 53 45.4 +0.7**
baz=261
L19K White Mountain 83.71 28 P **P 11 53 45.5 +0.7**
L19K White Mountain 83.71 28 P **P 11 53 45.4 +0.6**
baz=261,SNR=52
OHAK Old Harbor 83.77 33 P **P 11 53 46.4 +1.2**
OHAK Old Harbor 83.77 33 P **P 11 53 45.5 +0.3**
baz=262
Q19K Cape Douglas, 83.81 31 P **P 11 53 45.4 0.0**
Q19K Cape Douglas, 83.81 31 P **P 11 53 44.9 -0.5**
baz=262
AKH Akhalkalaki 83.86 311 P **P 11 53 46.8 +0.5**
AKH Akhalkalaki 83.86 311 P **P 11 53 46.8 +0.5**
AKH pmax pmax
comp=Z,324nm,0.9s
ONI Oni 83.97 313 P **P 11 53 47.5 +0.9**
ONI Oni 83.97 313 P **P 11 53 47.5 +0.9**
ONI pmax pmax
comp=Z,220nm,1.8s
KARS Kars 84.12 311 P **P 11 53 48.1 +0.5**
KARS Kars 84.12 311 P **P 11 53 48.1 +0.5**
KARS pmax pmax
comp=Z,337nm,0.9s
P19K Oil Pt 84.12 30 P **P 11 53 47.1 +0.1**
baz=262
L20K Farewell, AK 84.21 27 P **P 11 53 47.9 +0.5**
baz=261
ILSW Iliamna Southw 84.21 30 P **P 11 53 47.6 0.0**
ILSW IAmb IAmb 11 53 48.0
comp=Z,47nm,0.8s
KDAK Kodiak Island 84.22 32 P **P 11 53 47.6 +0.2**
comp=Z,86nm,0.8s,baz=280,slow=4.1,SNR=37
KDAK LR LR 12 27 00.5
comp=Z,233nm,19.9s,baz=271,slow=32
comp=Z,86nm,0.8s
KDAK Kodiak Island 84.22 32 P **P 11 53 48.4 +0.9**
KDAK Kodiak Island 84.22 32 P **P 11 53 47.6 +0.2**
baz=263
KDAK Kodiak Island 84.22 32*de*P **P 11 53 48.6 +1.1**
KDAK pmax pmax
comp=Z,136nm,0.9s
K20K Telida 84.25 26 P **P 11 53 48.5 +0.9**
K20K Telida 84.25 26 P **P 11 53 48.4 +0.8**
baz=261,SNR=18
J20K Nowinta River 84.35 26 P **P 11 53 48.6 +0.6**
J20K Nowinta River 84.35 26 P **P 11 53 48.9 +0.9**
baz=261,SNR=28
Q20K Shuyak Island 84.42 31 P **P 11 53 49.1 +0.6**
baz=263
KBZ Khabaz 84.44 314 P **P 11 53 47.5 -1.4**
comp=Z,48nm,1.1s,baz=99,slow=3.2,SNR=36
KBZ LR LR 12 35 40.7
comp=Z,225nm,21.1s,baz=78,slow=39
comp=Z,48nm,1.1s
KBZ Khabaz 84.44 314*c i*P **P 11 53 49.0 +0.1**
KBZ pmax pmax
comp=Z,63nm,1.1s
RSO Redoubt South 84.46 29 P **P 11 53 48.8 -0.1**
M20K Styx River 84.47 28 P **P 11 53 49.4 +0.6**
M20K Styx River 84.47 28 P **P 11 53 49.9 +1.1**
baz=262
O20K Slope Mountain 84.48 30 P **P 11 53 50.0 +1.1**
baz=263
NEY Neytrino 84.54 313*d i*P **P 11 53 51.0 +1.3**
NEY pmax pmax
comp=Z,16nm,1.0s
PRGR Permogore 84.54 332 *e*P **P 11 53 45.4 -3.6**
KIV Kislovodsk 84.61 314 ⇑P **P 11 53 51.6 +1.7**
KIV Kislovodsk 84.61 314 P **P 11 53 50.6 +0.6**
KIV Kislovodsk 84.61 314 *e*P **P 11 53 49.9 0.0**
KIV *e* 12 04 11.6
KIV pmax pmax
comp=Z,38nm,3.5s
KIV pmax pmax
comp=Z,59nm,1.0s
KIV MLR MLR
comp=Z,126nm,19.0s
KIV Kislovodsk 84.61 314 P **P 11 53 51.0 +1.1**
PPT Papeete 84.70 108 LR LR 12 28 53.6
comp=Z,256nm,19.6s,baz=282,slow=34
PPT2 Papeete2 84.70 108 *e*SS SS 12 09 49.6 +0.6
comp=Z,290nm,30.5s

PPT2 **Papeete2** 84.70 108 *e*LR LR 12 20 32.3
comp=Z,480nm,27.8s
PPT2 *e*LR LR 12 20 32.5
comp=Z,613nm,25.5s
A21K **Barrow** 84.72 18 P **P** **11 53 51.0 +1.2**
A21K **Barrow** 84.72 18 P **P** **11 53 50.6 +0.8**
baz=258
IMAR **Indian Mountai** 84.79 24 P **P** **11 53 50.5 +0.2**
GURO **Guroymak-BITLI** 84.82 308 P **P** **11 53 51.5 +0.3**
N20K **Mount Spurr** 84.82 29 P **P** **11 53 49.9 -0.7**
baz=263,SNR=22
SPCR **Spurr Chakacha** 84.82 29 P **P** **11 53 50.2 -0.4**
baz=263,SNR=18
SPU **Mount Spurr** 84.89 29 P **P** **11 53 50.8 -0.1**
HOM **Homer** 84.92 30 P **P** **11 53 51.1 +0.2**
baz=264
G21K **Allakaket** 84.97 23 P **P** **11 53 51.6 +0.4**
baz=261
PPLA **Purkeypile** 85.04 27 P **P** **11 53 52.1 +0.4**
baz=263
F21K **Alatna River** 85.09 23 P **P** **11 53 52.2 +0.5**
baz=261
CHUM **Lake Minchumin** 85.11 26 P **P** **11 53 52.3 +0.5**
baz=263,SNR=11
TBI **Tubuai** 85.12 113 *e*SS SS 12 09 55.5 +0.6
comp=Z,1μm,36.5s
TBI **Tubuai** 85.12 113 *e*LR LR 12 20 43.6
comp=Z,2μm,31.8s
H21K **Melozitna Rive** 85.13 24 P **P** **11 53 52.5 +0.5**
baz=262
CAST **Castle Rocks** 85.15 27 P **P** **11 53 52.6 +0.5**
CAST **Castle Rocks** 85.15 27 P **P** **11 53 52.0 -0.1**
baz=263,SNR=16
SKT **Skwentna** 85.23 28 P **P** **11 53 52.4 -0.1**
baz=264,SNR=18
CAPN **Captain Cook N** 85.28 29 P **P** **11 53 53.1 +0.3**
baz=264,SNR=6.8
BRLK **Bradley Lake** 85.31 30 P **P** **11 53 53.4 +0.4**
BRSE **Bradley Lake S** 85.39 30 P **P** **11 53 53.6 +0.2**
baz=264,SNR=13
I21K **Tanana** 85.41 25 P **P** **11 53 54.1 +0.8**
I21K IAmb IAmb 11 53 56.5
comp=Z,40nm,1.1s
I21K **Tanana** 85.41 25 P **P** **11 53 54.0 +0.6**
baz=263,SNR=12
SUA **Susitna One** 85.55 29 P **P** **11 53 54.3 0.0**
SUA **Susitna One** 85.55 29 P **P** **11 53 53.8 -0.4**
baz=264,SNR=31
VRH **Novokhopyorsk** 85.70 321 *e*P **P** **11 53 54.1 -1.0**
VRH pmax pmax
comp=Z,280nm,0.9s
BPAW **Bear Paw Mtn.** 85.71 26 P **P** **11 53 55.9 +1.0**
BPAW **Bear Paw Mtn.** 85.71 26 P **P** **11 53 54.4 -0.5**
baz=264
H22K **Ishtalitna Cre** 85.75 24 P **P** **11 53 55.6 +0.6**
baz=263
MARD **Mardin** 85.76 307 P **P** **11 53 56.6 +0.7**
G22K **Bettles** 85.81 23 P **P** **11 53 55.7 +0.4**
baz=263
CUT **Chulitna** 85.87 28 P **P** **11 53 54.8 -0.8**
baz=265
M22K **Willow** 85.88 28 P **P** **11 53 55.6 -0.1**
M22K **Willow** 85.88 28 P **P** **11 53 54.7 -1.0**
baz=265
MLY **Manley** 85.92 25 P **P** **11 53 56.1 +0.2**
MLY IAmb IAmb 11 53 58.6
comp=Z,25nm,0.7s
MLY **Manley** 85.92 25 P **P** **11 53 55.6 -0.3**
baz=264,SNR=27
TRF **Thorofare Moun** 85.95 27 P **P** **11 53 55.8 -0.5**
baz=265
RC01 **Rabbit Creek A** 86.00 29 P **P** **11 53 55.9 -0.4**
baz=265,SNR=15
SEW **Seward** 86.06 30 P **P** **11 53 56.1 -0.5**
baz=266
PMR **Palmer** 86.33 28 P **P** **11 53 58.0 +0.1**
baz=266,SNR=13
D23K **Nanushuk River** 86.36 21 P **P** **11 53 58.8 +0.9**
baz=264
COLD **Coldfoot** 86.36 23 P **P** **11 53 59.1 +1.1**
COLD IAmb IAmb 11 54 01.4
comp=Z,59nm,1.0s
COLD **Coldfoot** 86.36 23 P **P** **11 53 58.6 +0.6**
baz=264,SNR=42
G23K **Bananza Creek** 86.38 23 P **P** **11 53 58.8 +0.7**
baz=265
BWN **Browne** 86.38 26 P **P** **11 53 58.4 +0.3**
BWN IAmb IAmb 11 53 59.8
comp=Z,36nm,0.8s
GHO **Glory Hole Cre** 86.44 28 P **P** **11 53 58.8 +0.2**
GHO IAmb IAmb 11 54 00.4
comp=Z,172nm,2.0s
I23K **Minto, Yukon-K** 86.51 25 P **P** **11 53 59.1 +0.4**
I23K IAmb IAmb 11 54 00.2
comp=Z,43nm,0.8s
I23K **Minto, Yukon-K** 86.51 25 P **P** **11 53 58.3 -0.4**
baz=265,SNR=23
MCK **McKinley** 86.58 26 P **P** **11 53 59.1 -0.1**
MCK IAmb IAmb 11 53 59.7
comp=Z,21nm,0.8s
MCK **McKinley** 86.58 26 P **P** **11 53 58.6 -0.6**
baz=266,SNR=12
MCK **McKinley** 86.58 26 P **P** **11 53 59.1 -0.1**
MCK pmax pmax
comp=Z,21nm,0.8s
NEA2 **Nenana** 86.59 25 P **P** **11 53 58.0 -1.2**
baz=266,SNR=9.1
KNK **Knik Glacier** 86.64 29 P **P** **11 53 59.2 -0.3**
baz=266,SNR=8.8
KTUT **Trabzon** 86.64 311 ⇓P **P** **11 54 01.0 +1.1**
PWL **Port Wells** 86.67 29 P **P** **11 53 59.7 0.0**
baz=266,SNR=6.0
WAT1 **Susitna Watana** 86.69 27 P **P** **11 54 00.5 +0.7**
baz=266
SML **Sawmill** 86.73 28 P **P** **11 54 00.2 +0.2**
SML IAmb IAmb 11 54 02.1
comp=Z,55nm,0.8s
SML **Sawmill** 86.73 28 P **P** **11 53 60.0 0.0**
baz=266,SNR=12
SOC **Sochi** 86.75 313 *e*P **P** **11 53 58.4 -2.0**
SOC *e* 11 57 25.0
SOC *i* S **SKSac** **12 04 23.7 -1.3**
SOC *e*SS **SS** **12 10 14.4 -3.4**
SOC pmax pmax
comp=Z,128nm,1.2s
SOC MLR MLR
comp=Z,194nm,18.0s
M23K **Glacier View** 87.01 28 P **P** **11 54 01.3 0.0**
baz=267,SNR=8.8
WAT6 **Susitna Watana** 87.05 28 P **P** **11 54 01.2 -0.5**
baz=267,SNR=15
C24K **Franklin Bluff** 87.12 20 P **P** **11 54 02.0 +0.3**
baz=266
COLA **College** 87.13 25 P **P** **11 54 01.5 -0.2**
baz=267
COLA **College** 87.13 25 P **P** **11 54 01.3 -0.5**
COLA **College** 87.13 25⇑ *e*P **P** **11 54 01.5 -0.2**
COLA pmax pmax
comp=Z,6.0nm,0.8s
CCB **Clear Creek Bu** 87.14 25 P **P** **11 54 01.1 -0.7**
CCB IAmb IAmb 11 54 02.4
comp=Z,22nm,0.8s
H24K **Noodor Dome** 87.17 24 P **P** **11 54 01.9 -0.1**
H24K **Noodor Dome** 87.17 24 P **P** **11 54 02.1 0.0**
baz=267
SCM **Sheep Creek Mo** 87.20 28 P **P** **11 54 02.3 -0.1**
baz=267,SNR=5.5
DHY **Denali Highway** 87.24 27 P **P** **11 54 02.5 -0.1**
DHY **Denali Highway** 87.24 27 P **P** **11 54 03.1 +0.5**
baz=267,SNR=8.6
F24K **Squaw Lake** 87.27 23 P **P** **11 54 03.2 +0.6**
baz=266
VORR **Voronezh** 87.30 321 *e*P **P** **11 54 03.1 +0.2**
VORR *e*S **S** **12 04 36.7 -4.1**
VORR pmax pmax
comp=Z,144nm,1.2s
VSR **Storozhevoye** 87.31 321 *e*P **P** **11 54 02.2 -0.8**
VSR pmax pmax
comp=Z,160nm,1.8s
POKR **Poker Plat Res** 87.32 25 P **P** **11 54 04.1 +1.3**
baz=267
G24K **Hadweenzic Riv** 87.39 23 P **P** **11 54 03.1 +0.1**
baz=267
KLMR **Klimovskoe** 87.42 331 *e*P **P** **11 54 02.5 -0.8**
KLMR *e*P **P** **11 54 02.5 -0.8**
KLMR *e*P **P** **11 54 02.5 -0.8**
KLMR AMP 11 54 08.7
comp=Z,55nm,0.7s
KLMR S **SKSac** **12 04 31.1 +2.8**
KLMR S **SKSac** **12 04 31.1 +2.8**
KLMR LR LR 12 31 41.6
KLMR AMP 12 36 09.8
comp=Z,814nm,22.2s
KLMR **Klimovskoe** 87.42 331 *e*P **P** **11 54 02.4 -0.8**
KLMR S **SKSac** **12 04 31.1 +2.8**
KLMR pmax pmax
comp=Z,55nm,0.7s
KLMR MLR MLR
comp=Z,814nm,22.0s
LPSR **Galich'ya Gora** 87.49 322 *e*P **P** **11 54 03.5 -0.3**
LPSR pmax pmax
comp=Z,210nm,1.9s
HDA **Harding Lake** 87.49 26 P **P** **11 54 02.5 -1.1**
baz=268,SNR=16
IL31 87.54 25 P **P** **11 54 02.2 -1.5**
ILAR **Eielson Array** 87.54 25 P **P** **11 54 02.1 -1.7**
comp=Z,8.0nm,0.6s,baz=253,slow=4.5,SNR=131
ILAR PP **PP** **11 57 26.0 -2.8**
comp=Z,0.4nm,0.7s,baz=260,slow=8.2,SNR=1.4
ILAR PKKP **PKKPdf** **12 11 51.1 +2.1**
comp=Z,0.6nm,1.0s,baz=52,slow=1.5,SNR=4.5
ILAR LR LR 12 28 10.1
comp=Z,153nm,21.7s,baz=252,slow=32
comp=Z,8.0nm,0.6s
ILAR **Eielson Array** 87.54 25 P **P** **11 54 02.2 -1.6**
M24K **Tolsona, Glenn** 87.76 28 P **P** **11 54 05.1 +0.1**
baz=268,SNR=8.0
KLU **Klutina** 87.86 29 P **P** **11 54 05.7 +0.2**
baz=269
D25K **Kavik River** 87.92 21 P **P** **11 54 05.8 +0.2**
baz=268
EYAK **Cordova Ski Ar** 87.92 30 P **P** **11 54 06.1 +0.5**
baz=269
G25K **Bearman Lake** 87.93 23 P **P** **11 54 06.4 +0.8**
baz=268
K24K **Donnelly Dome** 87.99 26 P **P** **11 54 06.2 +0.2**
baz=269,SNR=12
ADZR **Andozero** 88.08 334 *e*P **P** **11 54 04.1 -2.3**
ADZR S **S** **12 04 43.1 -4.7**
ADZR pmax pmax
comp=Z,30nm,0.9s
PAX **Paxson** 88.11 27 P **P** **11 54 06.6 -0.1**
PAX IAmb IAmb 11 54 07.7
comp=Z,56nm,1.3s
PAX **Paxson** 88.11 27 P **P** **11 54 06.4 -0.2**
baz=269,SNR=14
PAX **Paxson** 88.11 27 P **P** **11 54 06.6 -0.1**
PAX pmax pmax
comp=Z,56nm,1.3s
F25K **Christian Rive** 88.14 23 P **P** **11 54 07.0 +0.4**
baz=269
PRP **Porcupine Dome** 88.14 25 P **P** **11 54 06.9 +0.1**
baz=269
E25K **Arctic Village** 88.18 22 P **P** **11 54 07.2 +0.4**
baz=269,SNR=38
HARP **HAARP** 88.24 28 P **P** **11 54 08.2 +1.0**
baz=269,SNR=5.4
MOS **Moscow** 88.31 326 *e*P **P** **11 54 05.2 -2.4**
MOS *e* 11 57 34.9
MOS *e* 12 04 32.6
MOS *e* 12 04 44.9
MOS pmax pmax
comp=Z,106nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.6s
KIBK **Kibwezi** 88.36 268 P **P** **11 54 08.6 -0.4**
KIBK IAmb IAmb 11 54 12.7
comp=Z,36nm,1.1s
KIBK **Kibwezi** 88.36 268 P **P** **11 54 10.9 +2.0**
SNR=12
RIDG **Independent Ri** 88.40 26 P **P** **11 54 07.7 -0.3**
baz=269,SNR=14
ANN **Anapa** 88.40 315 *e*P **P** **11 54 08.7 +0.4**
ANN *e**PP **pP** **11 54 14.9 -3.5**
ANN *e* 12 04 37.8
ANN pmax pmax
comp=Z,130nm,0.7s
C26K **Camden Bay** 88.45 20 P **P** **11 54 08.6 +0.6**
baz=269
BMRM **Bremner River** 88.49 29 P **P** **11 54 08.4 -0.1**
baz=270
N25K **Chitina, Valde** 88.50 29 P **P** **11 54 08.5 0.0**
baz=270
BMAR **Burnt Mountain** 88.54 23 P **P** **11 54 08.9 +0.3**
F26K **Sheenjek River** 88.71 22 P **P** **11 54 10.3 +0.9**
baz=270
SCRK **Sand Creek** 88.78 26 P **P** **11 54 10.5 +0.7**
baz=270,SNR=11
C27K **Jago River** 88.86 21 P **P** **11 54 10.8 +0.8**
baz=270
OBN **Obninsk** 88.91 325 P **P** **11 54 09.3 -1.2**
comp=Z,10nm,0.6s,baz=93,slow=5.0,SNR=16
OBN LR LR 12 37 24.3
comp=Z,46nm,20.9s,baz=79,slow=38
comp=Z,10nm,0.6s
OBN **Obninsk** 88.91 325*c* *i*P **P** **11 54 09.6 -0.8**
OBN *i* 11 54 14.8
OBN pmax pmax
comp=Z,70nm,1.1s
OBN MLR MLR
comp=Z,520nm,20.0s
ASF **Jabal al Asfar** 88.92 302 P **P** **11 54 10.3 -0.9**
comp=Z,28nm,0.9s,baz=83,slow=0.4,SNR=35
comp=Z,28nm,0.9s
J26L **Joseph Creek** 88.96 26 P **P** **11 54 09.5 -1.2**
J26L IAmb IAmb 11 54 11.5
comp=Z,31nm,0.7s
J26L **Joseph Creek** 88.96 26 P **P** **11 54 11.0 +0.3**
baz=271
L26K **Log Cabin Wild** 89.08 27 P **P** **11 54 11.2 +0.1**
baz=271,SNR=10.0
I26K **Coal Creek Min** 89.13 25 P **P** **11 54 10.8 -0.4**
I26K IAmb IAmb 11 54 14.8
comp=Z,22nm,0.8s
I26K **Coal Creek Min** 89.13 25 P **P** **11 54 11.3 0.0**
baz=271
KMBO **Kilima Mbogo** 89.13 269 P **P** **11 54 11.8 -0.9**
comp=Z,0.3nm,0.8s,baz=90,slow=20,SNR=9.2
KMBO **Kilima Mbogo** 89.13 269 P **P** **11 54 13.4 +0.7**
KMBO IAmb IAmb 11 54 20.5
comp=Z,21nm,0.9s
M26K **Nabesna, AK** 89.25 28 P **P** **11 54 11.8 -0.2**
baz=271
MCARA **McCarthy VSAT** 89.26 29 P **P** **11 54 12.9 +1.0**
baz=271
K27K **Chicken** 89.62 26 P **P** **11 54 14.3 +0.7**
K27K IAmb IAmb 11 54 16.4
comp=Z,66nm,1.0s
K27K **Chicken** 89.62 26 P **P** **11 54 14.3 +0.7**
baz=272
E27K **Coleen River** 89.66 22 P **P** **11 54 14.6 +0.8**
baz=272
G27K **Doyon Strip** 89.70 23 P **P** **11 54 14.7 +0.7**
baz=272
I27K **Kandik River** 89.76 25 P **P** **11 54 14.8 +0.5**
baz=272
L27K **Beaver Creek,** 89.77 27 P **P** **11 54 15.2 +0.8**
baz=272,SNR=18
H27K **Steamboat Moun** 89.77 24 P **P** **11 54 14.7 +0.3**
baz=272,SNR=16
M27K **Edge Creek, AK** 89.77 28 P **P** **11 54 15.1 +0.6**
baz=272
BCAR **Beaver Creek A** 89.79 27 P **P** **11 54 14.7 +0.2**
MESA **MESA** 89.82 30 P **P** **11 54 14.8 -0.1**
baz=272
EGAK **Eagle** 89.99 25 P **P** **11 54 15.3 -0.1**
EGAK **Eagle** 89.99 25 P **P** **11 54 15.7 +0.3**
baz=273,SNR=10
APA **Apatity** 90.04 337 ⇓*i*P **P** **11 54 13.6 -1.9**
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,2μm,18.0s
MMAI **Mount Meron Ar** 90.16 303 P **P** **11 54 17.3 +0.4**
comp=Z,7.7nm,0.6s,baz=82,slow=7.9,SNR=21
MMAI LR LR 12 41 26.4
comp=Z,199nm,19.9s,baz=47,slow=40
comp=Z,7.7nm,0.6s
BVCY **Beaver Creek** 90.24 28 P **P** **11 54 17.5 +0.9**
baz=273,SNR=7.7
YUK3 **Moose Creek** 90.47 28 P **P** **11 54 18.3 +0.4**
baz=273
EIL **Elat** 90.64 300 P **P** **11 54 19.7 +0.5**
comp=Z,14nm,1.1s,baz=152,slow=2.6,SNR=6.5
EIL LR LR 12 39 23.1
comp=Z,280nm,20.6s,baz=62,slow=38
comp=Z,14nm,1.1s
O28M **Mount Upton** 90.66 29 P **P** **11 54 19.1 +0.2**
baz=274,SNR=5.5
PINM **Pinnacle** 90.67 30 P **P** **11 54 19.8 +1.1**
baz=274
SIM **Simferopol'** 90.76 315 *e*P **P** **11 54 23.4 +4.0**
SIM pmax pmax
comp=Z,68nm,0.7s
DAWY **Dawson** 90.80 26 P **P** **11 54 19.4 +0.2**
DAWY IAmb IAmb 11 54 20.6
comp=Z,30nm,0.9s
DAWY **Dawson** 90.80 26 P **P** **11 54 19.6 +0.4**
baz=274,SNR=14
YUK8 **Steele Glacier** 90.83 29 P **P** **11 54 19.7 0.0**
baz=274
LODK **Lodwar** 90.93 273 P **P** **11 54 22.6 +1.6**
SNR=5.1
BZK **Bozkurt** 90.97 312 ⇑P **P** **11 54 19.9 -0.5**
QSPA **South Pole Qui** 91.12 180 P **P** **11 54 21.3 +0.6**
I29M **Ogilvie Camp,** 91.15 25 P **P** **11 54 20.6 -0.2**
baz=275,SNR=18
J29M **Klondike Camp** 91.28 26 P **P** **11 54 21.3 -0.2**
baz=275,SNR=5.4
BR131 **Keskin Array S** 91.34 310*c* *e*P **P** **11 54 22.4 0.0**
BRTR **Keskin Array B** 91.34 310 P **P** **11 54 21.4 -1.0**
comp=Z,7.7nm,0.9s,baz=106,slow=4.7,SNR=29
BRTR LR LR 12 40 22.7
comp=Z,76nm,19.7s,baz=110,slow=39
comp=Z,7.7nm,0.9s
BRTR **Keskin Array B** 91.34 310 P **P** **11 54 21.0 -1.4**
BRTR **Keskin Array B** 91.34 310 *i* P **P** **11 54 21.7 -0.7**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
M29M **Somme Creek** 91.35 28 P **P** **11 54 22.3 +0.4**
baz=275
YUK4 **Talbot Arm** 91.36 29 P **P** **11 54 22.6 +0.5**
baz=275
L29M **L29M** 91.44 27 P **P** **11 54 23.4 +1.2**
baz=275,SNR=27
O29M **Mount Kennedy** 91.49 30 P **P** **11 54 22.9 +0.4**
baz=275
K29M **Barlow Dome** 91.64 26 P **P** **11 54 23.2 0.0**
baz=276
EPYK **Eagle Plains** 91.70 24 P **P** **11 54 22.9 -0.4**
baz=277,SNR=20
G30M **tAoh Zraii Nji** 91.82 23 P **P** **11 54 23.8 -0.1**
baz=277
HYT **Haines Junctio** 91.97 29 P **P** **11 54 25.0 +0.2**
baz=276,SNR=6.9
M30M **Minto, Yukon** 92.11 27 P **P** **11 54 26.1 +0.8**
M30M IAmb IAmb 11 54 27.3
comp=Z,47nm,1.1s
M30M **Minto, Yukon** 92.11 27 P **P** **11 54 25.6 +0.3**
baz=277
P30M **Million Dollar** 92.31 30 P **P** **11 54 26.7 +0.4**
baz=276
MAYO **Mayo, Yukon** 92.39 26 P **P** **11 54 26.9 +0.3**
baz=278,SNR=7.7
INK **Inuvik** 92.64 21 P **P** **11 54 26.8 -0.8**
comp=Z,26nm,1.0s,baz=280,slow=4.9,SNR=3.2
comp=Z,26nm,1.0s
INK **Inuvik** 92.64 21 P **P** **11 54 27.1 -0.4**
INK IAmb IAmb 11 54 28.9
comp=Z,56nm,1.2s
INK **Inuvik** 92.64 21 P **P** **11 54 27.2 -0.3**
baz=280,SNR=26
O30N **Mendenhall** 92.66 29 P **P** **11 54 28.0 +0.1**
baz=277,SNR=5.4
ARA0 **ARCESS Array S** 92.68 340 *e*P **P** **11 54 26.5 -1.3**
ARA0 IAmb IAmb 11 54 28.1
comp=Z,25nm,0.8s
ARCES **ARCESS Array B** 92.68 340 P **P** **11 54 26.7 -1.1**
comp=Z,20nm,0.8s,baz=70,slow=4.8,SNR=32
ARCES PKiKP **PKiKP** **11 59 15.0 -0.8**
comp=Z,2.6nm,0.8s,baz=86,slow=1.2,SNR=5.9
ARCES PKKP **PKKPdf** **12 11 39.5 -0.6**
comp=Z,1.5nm,0.6s,baz=306,slow=1.0,SNR=5.0
ARCES LR LR 12 41 08.7
comp=Z,214nm,20.3s,baz=86,slow=39
comp=Z,20nm,0.8s
ARCES **ARCESS Array B** 92.68 340 P **P** **11 54 26.6 -1.1**
ARCES IAmb IAmb 11 54 28.4
comp=Z,35nm,1.0s
F31M **Tsiigehtchic** 92.70 22 P **P** **11 54 27.1 -0.8**
baz=280,SNR=28
N31M **Braeburn, Yuko** 92.72 28 P **P** **11 54 29.0 +0.8**
N31M **Braeburn, Yuko** 92.72 28 P **P** **11 54 28.2 +0.1**
baz=278,SNR=11
SPA0 **Spitsbergen Ar** 92.88 349 *e*P **P** **11 54 28.2 -0.3**
SPA0 IAmb IAmb 11 54 29.2
comp=Z,41nm,1.0s
S31K **Pelican** 92.93 32 P **P** **11 54 29.8 +0.7**
baz=277
HAMF **Hammerfest** 93.07 341 *e*P **P** **11 54 28.4 -1.0**
HAMF IAmb IAmb 11 54 29.4
comp=Z,46nm,0.8s
SKAG **Skagway** 93.21 30 P **P** **11 54 29.9 -0.4**
baz=278
WHY **Whitehorse** 93.27 29 P **P** **11 54 31.5 +0.7**
WHY IAmb IAmb 11 54 32.7
comp=Z,53nm,0.9s
WHY **Whitehorse** 93.27 29 P **P** **11 54 30.9 +0.1**
baz=278,SNR=14
M31M **Drury Creek, Y** 93.27 28 P **P** **11 54 30.5 -0.1**
baz=279,SNR=10.0
KBS **Kingsbay** 93.42 350 *e*P **P** **11 54 30.3 -0.6**
SIT **Sitka** 93.53 33 P **P** **11 54 32.1 +0.2**
baz=278
KTK1 **Kautokeino** 93.58 339 *e*P **P** **11 54 30.8 -1.1**
KTK1 IAmb IAmb 11 54 31.8
comp=Z,13nm,0.8s
AKASG **Malin Array Be** 93.61 321 P **P** **11 54 30.7 -1.7**
comp=Z,4.6nm,0.8s,baz=65,slow=4.2,SNR=26
AKASG PKiKP **PKiKP** **11 59 17.9 -0.1**
comp=Z,0.8nm,0.5s,baz=81,slow=2.0,SNR=7.2
comp=Z,4.6nm,0.8s
AKASG **Malin Array Be** 93.61 321 *i* P **P** **11 54 31.5 -0.9**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKBB **Malin Array Si** 93.61 321⇑ *e*P **P** **11 54 30.4 -2.0**
TAOE **Nuku Hiva Isla** 93.63 99 eLR LR 12 24 38.7
comp=Z,841nm,21.9s
FARO **Faro, Yukon** 93.75 28 P **P** **11 54 33.2 +0.4**
baz=280,SNR=42
FINES **FINESS Array B** 93.88 332 P **P** **11 54 32.1 -1.3**
comp=Z,7.3nm,0.8s,baz=96,slow=4.2,SNR=24
FINES PKiKP **PKiKP** **11 59 17.6 -0.4**
comp=Z,1.2nm,0.6s,baz=94,slow=5.6,SNR=4.8
FINES LR LR 12 41 43.8
comp=Z,175nm,18.1s,baz=74,slow=39
comp=Z,7.3nm,0.8s
FINES **FINESS Array B** 93.88 332 *i* P **P** **11 54 32.5 -0.9**
FINES pmax pmax
comp=Z,7.0nm,0.8s
MNK **Minsk** 93.96 325 *i* P **P** **11 54 32.9 -1.0**
comp=E,2.0nm,0.8s
MNK *i* P **P** **11 54 32.9 -1.0**
comp=N,17nm,0.8s
MNK *i* P **P** **11 54 32.9 -1.0**
comp=Z,25nm,0.8s,baz=82
MNK *i* pP **sP** **11 54 54.6 +7.1**
MNK *i* PP **PP** **11 58 19.6 -0.3**
MNK *i* PPP PPP 12 00 20.7
MNK *i* SKS SKiKP 12 03 24.5 +34
MNK *i* S **SKSac** **12 05 00.0 -6.3**
MNK *i* sS **S** **12 05 39.2 -2.7**
MNK *i* PS **PS** **12 07 02.1 +1.9**
MNK *i* SS SS 12 11 15.9 -45
MNK *i* SSS SSS 12 15 40.8
MNK *i* LQ LQ 12 28 50.0
MNK *i* LR LR 12 31 35.0
MNK *i* LRM MLR 12 39 20.6
comp=Z,360nm,18.8s
MNK *i* LRM MLR 12 39 27.0
comp=E,43nm,18.8s
MNK *i* LRM MLR 12 39 45.5
comp=N,276nm,18.3s
MNK **Minsk** 93.96 325 *i* P **P** **11 54 32.9 -1.0**
MNK *i* 11 58 19.6
MNK *i* PPP PPP 12 00 20.7
MNK *i* S **SKSac** **12 05 00.0 -6.3**
MNK *i* *SS **S** **12 05 39.1 -2.7**
MNK *i* PS **PS** **12 07 02.1 +1.9**
MNK *i* SSS SSS 12 15 40.8

MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,25nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=Z,360nm,19.0s
MNK MLR MLR
comp=E,43nm,19.0s
MNK MLR MLR
comp=N,276nm,18.0s
P32M Atlin 94.00 30 P **P** 11 54 34.2 +0.1
baz=279
VSU Vasula 94.03 329 *e*P **P** 11 54 34.5 +0.4
P33M Teslin, Yukon 94.35 29 P **P** 11 54 36.1 +0.4
baz=280,SNR=5.5
JETT Jettan, Norway 94.42 340 *e*P **P** 11 54 35.1 -0.7
JETT IAmb IAmb 11 54 35.6
comp=E,56nm,0.8s
SORM Soroca 94.47 318 ⇑P **P** 11 54 36.2 -0.2
SORM Soroca 94.47 318 ⇑P **P** 11 54 36.2 -0.2
TLCR 94.48 315 P **P** 11 54 37.3 +0.8
TLCR 94.48 315 P **P** 11 54 37.3 +0.8
A36M Sachs Harbour 94.50 17 P **P** 11 54 36.3 +0.3
baz=288,SNR=20
IDID Didziasalis 94.50 326 *e*P **P** 11 54 34.8 -1.6
NACGM Naroch 94.54 325 *e*P **P** 11 54 36.8 +0.3
comp=Z,30nm,1.0s,baz=81
IIGN Ignalina 94.79 326 *i* Pn P 11 54 32.1 -5.6
Q32M Nakina River 94.84 31 P **P** 11 54 39.4 +1.2
baz=280
T33K Petersburg 94.86 33 P **P** 11 54 39.2 +1.3
baz=280
U33K Whale Pass 94.88 34 P **P** 11 54 39.4 +1.3
baz=279
MEF Metsahovi 94.91 331 *e*P **P** 11 54 38.0 -0.1
CFR Carcaliu 94.96 315 ⇑P **P** 11 54 38.2 -0.5
CFR Carcaliu 94.96 315 ⇑P **P** 11 54 38.2 -0.5
ELIB Princess Elisa 95.16 198 *d*P **P** 11 54 40.3 +1.0
R33M Jennings River 95.42 30 P **P** 11 54 41.8 +1.1
baz=282,SNR=7.9
NOR Nord 95.56 355 *e*P **P** 11 54 39.5 -1.3
NOR IAmb IAmb 11 54 41.0
comp=Z,34nm,1.2s
S34M Telegraph Cree 95.63 32 P **P** 11 54 41.8 +0.3
baz=281
MBAR Mbarara 95.63 270 LR LR 12 35 37.4
comp=Z,260nm,21.0s,baz=52,slow=34
C36M Paulatuk 95.71 20 P **P** 11 54 41.0 -0.6
baz=289,SNR=38
TESR Tescani 95.82 317 ⇑P **P** 11 54 42.0 -0.7
VRI Vrincioaia 95.86 316 ⇑P **P** 11 54 43.3 +0.4
VRI Vrincioaia 95.86 316 ⇑P **P** 11 54 43.3 +0.4
PLOR Plostina 95.91 316 ⇑P **P** 11 54 43.8 +0.7
PLOR Plostina 95.91 316 ⇑P **P** 11 54 43.8 +0.7
VSVD Vaisvydziai 95.96 327 *e*P **P** 11 54 43.3 +0.3
RAF Rauma 96.00 332 *e*P **P** 11 54 42.6 -0.5
PABE Paberze 96.03 326 *e*P **P** 11 54 43.8 +0.5
DLBC Dease Lake 96.09 31 P **P** 11 54 43.8 +0.1
comp=Z,13nm,1.0s,baz=306,slow=5.8,SNR=6.1
DLBC LR LR 12 34 07.5
comp=Z,198nm,20.0s,baz=274,slow=33
comp=Z,13nm,1.0s
DLBC Dease Lake 96.09 31 P **P** 11 54 44.8 +1.1
baz=282
BIZ Bicaz 96.14 317 ⇑P **P** 11 54 43.3 -0.8
NEHR Nehoiu 96.22 316 ⇓P **P** 11 54 45.2 +0.7
WTLY Watson Lake, Y 96.33 29 P **P** 11 54 45.2 +0.5
baz=284
MLR Muntele Rosu 96.45 316 P **P** 11 54 44.8 -0.9
comp=Z,9.4nm,0.8s,baz=346,slow=8.3,SNR=9.5
MLR LR LR 12 44 35.1
comp=Z,408nm,21.9s,baz=68,slow=39
comp=Z,9.4nm,0.8s
MLR Muntele Rosu 96.45 316 ⇑P **P** 11 54 46.3 +0.6
MLR Muntele Rosu 96.45 316 ⇑P **P** 11 54 46.3 +0.6
BURAR Bucovina Array 96.63 318 ⇑P **P** 11 54 46.4 -0.1
BURAR Bucovina Array 96.63 318 ⇑P **P** 11 54 46.4 -0.1
STEI Steigen 96.72 339 *e*P **P** 11 54 45.0 -1.2
STEI IAmb IAmb 11 54 46.0
comp=Z,30nm,0.9s
DOPR Dopca 96.77 316 ⇑P **P** 11 54 46.2 -0.8
FAUS Fauske 96.89 339 *e*P **P** 11 54 46.1 -0.9
LVV L'vov 97.03 320 *e*P **P** 11 54 47.7 -0.4
ARCR ARCALIA 97.30 318 ⇑P Pdif 11 54 49.6 +0.2
ARR Arges 97.39 316 ⇑P Pdif 11 54 50.0 +0.1
BMR Baia Mare 97.77 318 ⇓P **P** 11 54 50.7 -0.7
BMR Baia Mare 97.77 318 ⇓P **P** 11 54 50.7 -0.7
CJR Cluj-Napoca 97.87 317 ⇓P **P** 11 54 51.6 -0.4
CJR Cluj-Napoca 97.87 317 ⇓P **P** 11 54 51.6 -0.4
WRGLY Wrigley 97.92 25 P Pdif 11 54 52.3 +0.5
baz=289
LSZ Lusaka 98.20 255 LR LR 12 35 40.0
comp=Z,328nm,21.5s,baz=82,slow=33
MARR Marisel-Cluj 98.20 317 ⇓P **P** 11 54 53.4 -0.2
TRPA Tarpa 98.31 319 ⇑P Pdif 11 54 54.3 +0.4
UZH Uzhgorod 98.38 319 ⇓*i* P **P** 11 54 53.4 -0.7
UZH *i* 11 54 58.2
DRGR 98.45 318 ⇓P **P** 11 54 54.3 -0.4
DRGR 98.45 318 ⇓P **P** 11 54 54.3 -0.4
BBB Bella Bella 98.54 37 LR LR 12 32 01.0
comp=Z,318nm,21.4s,baz=276,slow=31
KOTAN Kotaneelee Air 98.62 28 P Pdif 11 54 55.5 +0.5
baz=288
IDI Anoyia 98.67 306 LR LR 12 49 39.9
comp=Z,59nm,18.9s,baz=63,slow=42
GZR Gura Zlata 98.67 316 ⇓P Pdif 11 54 56.0 +0.3
GZR Gura Zlata 98.67 316 ⇓P Pdif 11 54 56.0 +0.3
SURR Surduc 99.05 317 ⇑P **Pdif** 11 54 57.0 -0.3
SIRR Siria 99.27 317 ⇓P **Pdif** 11 54 58.3 +0.1
MDVR Moldovita 99.53 316 ⇑P **Pdif** 11 54 58.7 -0.7
DAG Danmarks Havn 99.70 352 *i* P **Pdif** 11 54 58.0 -1.5
DAG IAmb IAmb 11 54 59.1
comp=Z,17nm,0.8s
BOSA Boshof 100.32 241 P **Pdif** 11 55 03.1 -0.3
comp=Z,5.0nm,1.0s,baz=104,slow=7.5,SNR=4.7
BOSA PKKPbc **PKKPbc** 12 11 20.4 -0.1
comp=Z,0.9nm,0.4s,baz=284,slow=2.0,SNR=5.3
VYHS Vyhne 100.65 320 *e*P **Pdif** 11 55 04.8 +0.5
VYHS Vyhne 100.65 320 *e*PDIFF **Pdif** 11 55 04.8 +0.5
NB2 NORSAR Subarra 100.87 333 P **Pdif** 11 55 03.7 -1.4
comp=Z,23nm,1.4s,baz=72,slow=4.6
NB2 NORSAR Subarra 100.87 333 P **Pdif** 11 55 03.7 -1.4
slow=4.6
NOA NORSAR Array B 100.87 333 P **Pdif** 11 55 03.5 -1.5
comp=Z,3.5nm,0.8s,baz=68,slow=4.6,SNR=9.5
NOA PKKPbc **PKKPbc** 12 11 16.1 -3.8
comp=Z,1.1nm,0.7s,baz=248,slow=4.2,SNR=3.6
MORC Moravsky Berou 101.14 321 ⇓P **Pdif** 11 55 07.1 +0.6
MORC Moravsky Berou 101.14 321 *e*PDIFF **Pdif** 11 55 06.9 +0.4
MORC Moravsky Berou 101.14 321 ⇓P **Pdif** 11 55 07.1 +0.6
JAVC Velka Javorina 101.30 320 *e*PDIFF **Pdif** 11 55 08.7 +1.4
MORH Mrgy, Hungar 101.32 318 ⇑P **Pdif** 11 55 07.5 +0.2
KRLC Kraliky 101.54 322 *e*PDIF **Pdif** 11 55 11.6 +3.3
KRLC Kraliky 101.54 322 *e*P **Pdif** 11 55 11.6 +3.3
DPC Dobruska-Polom 101.74 322 *e*PDIFF **Pdif** 11 55 10.0 +0.8
DPC Dobruska-Polom 101.74 322 *e*P **Pdif** 11 55 10.0 +0.8
VRAC Vranov 101.87 321 *e*PDIFF **Pdif** 11 55 09.0 -0.7
YKA Yellowknife Ar 101.94 25 P **Pdif** 11 55 09.5 -0.2
comp=Z,2.7nm,0.6s,baz=295,slow=4.5,SNR=52
YKA PKiKP **PKiKP** 11 59 32.1 -0.3
comp=Z,1.5nm,0.7s,baz=304,slow=2.1,SNR=13
YKA PKKPbc **PKKPbc** 12 11 13.6 -3.3
comp=Z,0.5nm,0.7s,baz=118,slow=2.5,SNR=8.0
DBG Daneborg 101.96 351 *e*P **Pdif** 11 55 08.7 -0.8
DBG IAmb IAmb 11 55 10.4
comp=Z,17nm,1.2s
KRUC Moravsky 102.06 321 *e*PDIFF **Pdif** 11 55 09.2 -1.4
KONO Kongsberg 102.17 332 *e*Pdif **Pdif** 11 55 09.6 -1.2
SKAR Skarslia 102.32 334 *e*Pdif **Pdif** 11 55 10.8 -0.8
GOPC GO Pecny, Ondr 102.82 322 *e*PDIFF **Pdif** 11 55 17.4 +3.5
GOPC GO Pecny, Ondr 102.82 322 *e*P **Pdif** 11 55 17.4 +3.5
BRG Berggiesshubel 103.03 323 ⇓*i* Pif **Pdif** 11 55 15.8 +1.0
BRG Amp 11 55 16.2
comp=Z,7.1nm,0.9s
BRG Berggiesshubel 103.03 323 P **Pdif** 11 55 20.9 +6.0
BRG Amp 11 55 21.2
comp=Z,11nm,0.8s
BRG Berggiesshubel 103.03 323 *i* P **Pdif** 11 55 15.8 +1.0
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,11nm,0.8s
CKRC Cesky Krumlov 103.44 321 *e*PDIFF **Pdif** 11 55 21.3 +4.5
CLL Collm 103.45 324 *e*PP **PKiKP** 11 59 33.0 -2.4
CLL *e*SS SS 12 14 12.0 -2.5
CLL *e*SSS SSS 12 18 12.0
CLL LmV 12 48 00.0
comp=Z,300nm,19.5s
KHC Kasperske Hory 103.81 321 *e*PDIFF **Pdif** 11 55 21.3 +2.9
KHC Kasperske Hory 103.81 321 *e*P **Pdif** 11 55 21.3 +2.9
GERES GERESS Array B 103.82 321 Pdiff **Pdif** 11 55 18.6 +0.1
comp=Z,1.1nm,0.7s,baz=106,slow=7.3,SNR=5.2
GERES PKiKP **PP** 11 59 35.3 -0.1
comp=Z,0.4nm,0.5s,baz=43,slow=2.5,SNR=4.5
GERES PKKPbc **PKKPbc** 12 11 06.8 -4.2
comp=Z,0.5nm,0.9s,baz=270,slow=8.0,SNR=3.6
NEW Newport 106.43 39 Pdiff **Pdif** 11 55 30.4 +0.3
comp=Z,2.6nm,0.9s,baz=225,slow=4.3,SNR=4.1
SMMC Simmler 108.42 52 P **PKiKP** 11 59 45.2 0.0
baz=285
NVAR Mina Array Bea 108.86 49 Pdiff **Pdif** 11 55 42.6 +1.2
comp=Z,0.9nm,0.7s,baz=270,slow=5.4,SNR=5.9
NVAR PKiKP **PKiKP** 11 59 46.6 +0.5
comp=Z,0.7nm,0.6s,baz=250,slow=2.7,SNR=5.1
NVAR PP **PP** 12 00 10.3 -2.7
comp=Z,1.4nm,0.9s,baz=276,slow=8.0,SNR=4.6
NVAR PKKPbc **PKKPbc** 12 10 53.8 -1.5
comp=Z,0.3nm,0.7s,baz=170,slow=6.4,SNR=1.8
MSO Missoula 108.97 39 P **PKiKP** 11 59 46.2 +0.2
baz=293
CWC Cottonwood Cre 109.61 51 P **PKiKP** 11 59 47.6 +0.1
baz=287
HLID Hailey 109.92 42 P **PKiKP** 11 59 48.6 +0.7
baz=292
GRAC Grapevine Rang 109.99 50 P **PKiKP** 11 59 48.9 +0.8
baz=288
EDW2 Edwards Air Fo 110.12 52 P **PKiKP** 11 59 49.3 +0.9
baz=286
MPMC Manual Prospec 110.18 51 P **PKiKP** 11 59 49.4 +0.7
baz=287
CIS Catalina Islan 110.19 54 P **PKiKP** 11 59 48.4 -0.1
baz=286
ELK Elko 110.36 45 PKiKP **PKiKP** 11 59 49.8 +0.9
comp=Z,0.9nm,0.6s,baz=284,slow=3.4,SNR=6.2
ELK PP **PP** 12 00 28.1 +4.3
comp=Z,2.3nm,0.9s,baz=317,slow=9.0,SNR=4.3
FURC Furnace Creek, 110.54 50 P **PKiKP** 11 59 50.2 +1.2
baz=288
TPNV Topopah Spring 110.86 50 P **PKiKP** 11 59 50.2 +0.3
baz=288
R11A Troy Canyon, C 110.91 48 P **PKiKP** 11 59 50.6 +0.7
baz=289
BOZ Bozeman (W) 110.94 40 P **PKiKP** 11 59 50.8 +1.0
baz=295
EGMT Eagleton 111.03 37 P **PKiKP** 11 59 50.8 +1.0
baz=297
MURC Murrieta 111.11 53 P **PKiKP** 11 59 51.2 +0.9
baz=286
PFO Pinyon Flats O 111.70 53 PKiKP **PKiKP** 11 59 52.4 +0.9
comp=Z,6.2nm,1.2s,baz=243,slow=2.3,SNR=6.0
PFO Pinyon Flats O 111.70 53 P **PKiKP** 11 59 52.0 +0.5
baz=287
TPFO Pinon Flats 111.70 53 P **PKiKP** 11 59 52.2 +0.6
baz=287
GMRC Granite Mounta 111.98 52 P **PKiKP** 11 59 52.9 +0.9
baz=288
H17A Grant Village 112.12 40 P **PKiKP** 11 59 52.8 +0.6
baz=295
IKP In-Ko-Pah, Jac 112.25 54 P **PKiKP** 11 59 53.4 +0.9
baz=287
DUG Dugway, Tooele 112.28 45 P **PKiKP** 11 59 53.3 +0.9
baz=292
SWSC Sam W. Stewart 112.42 54 P **PKiKP** 11 59 54.1 +1.4
baz=287
BC3 Big Chuckawall 112.49 53 P **PKiKP** 11 59 54.3 +1.3
baz=288
IRM Iron Mountain 112.58 52 P **PKiKP** 11 59 54.1 +1.0
baz=288
BW06 Boulder Array 113.49 42 P **PKiKP** 11 59 55.0 +0.2
baz=296
PDAR Pinedale Array 113.49 42 PKiKP **PKiKP** 11 59 55.0 +0.2
comp=Z,0.6nm,0.5s,baz=338,slow=1.0,SNR=7.4
PDAR PP **PP** 12 00 48.9 +2.8
comp=Z,1.6nm,1.0s,baz=318,slow=2.0,SNR=4.0
PDAR PKKPbc **PKKPbc** 12 10 37.5 -2.7
comp=Z,0.7nm,0.7s,baz=117,slow=9.2,SNR=6.4
LAO LASA Array 113.78 37 P **PKiKP** 11 59 55.3 +0.3
baz=300
LAO LASA Array 113.78 37 P **PKiKP** 11 59 55.9 +0.9
baz=300
DGMT Dagmar 114.03 34 P **PKiKP** 11 59 55.7 +0.2
baz=302
DGMT Dagmar 114.03 34 P **PKiKP** 11 59 56.3 +0.9
baz=302
WUAZ Wupatki 115.05 50 P **PKPdf** 11 59 58.5 +0.6
baz=291
214A Organ Pipe Nat 115.13 54 P **PKPdf** 11 59 58.9 +0.9
baz=289
O20A White River Ci 115.51 44 **PKPdf** 11 59 59.2 +0.5
O20A White River Ci 115.51 44 P **PKPdf** 11 59 59.3 +0.5
baz=296
K22A Casper 115.54 41 P **PKiKP** 11 59 57.7 -0.9
baz=298
K22A Casper 115.54 41 P **PKiKP** 11 59 57.9 -0.7
baz=298
PV13 Radium Mtn., P 115.93 46 **PKPdf** 11 59 59.7 0.0
RSSD Black Hills 116.40 38 PKPdf **PKPdf** 12 00 00.2 -0.2
RSSD Black Hills 116.40 38 P **PKPdf** 11 59 59.8 -0.6
baz=301
RSSD Black Hills 116.40 38 P **PKPdf** 11 59 59.9 -0.4
baz=301
RSSD Black Hills 116.40 38 PKIKP **PKPdf** 12 00 00.2 -0.2
W18A Petrified Fore 116.44 49 P **PKiKP** 12 00 01.0 +0.3
baz=292
MVCO Mesa Verde 116.55 47 PKPdf **PKiKP** 12 00 01.5 +0.6
MVCO Mesa Verde 116.55 47 P **PKiKP** 12 00 01.2 +0.3
baz=294,SNR=7.6
TUC Tucson 116.63 53 P **PKiKP** 12 00 01.9 +1.0
baz=290
N23A Red Feather La 116.74 42 P **PKiKP** 12 00 01.6 +0.4
baz=298
MDND Maddock 116.92 33 P **PKPdf** 12 00 00.4 -0.6
baz=306
MDND Maddock 116.92 33 P **PKiKP** 12 00 01.1 +0.1
baz=306
ULM Lac du Bonnet 117.34 29 PKP **PKPdf** 12 00 00.7 -1.0
comp=Z,8.3nm,0.7s,baz=296,slow=3.4,SNR=12
ULM PKKPbc **PKKPab** 12 10 28.4 -1.1
comp=Z,1.8nm,0.5s,baz=153,slow=4.5,SNR=2.9
ISCO Idaho Springs 117.47 43 **PKPdf** 12 00 01.8 -0.9
ISCO Idaho Springs 117.47 43 P **PKiKP** 12 00 02.9 +0.2
baz=298
ISCO Idaho Springs 117.47 43 P **PKiKP** 12 00 03.0 +0.3
baz=298
ISCO Idaho Springs 117.47 43 PKIKP **PKPdf** 12 00 01.8 -0.9
S22A 4UR Ranch, Cre 117.53 46 P **PKiKP** 12 00 03.1 +0.3
baz=296
SDCO Great Sand Dun 118.48 45 P **PKiKP** 12 00 05.2 +0.6
baz=297
SDCO Great Sand Dun 118.48 45 P **PKiKP** 12 00 04.7 0.0
baz=297
121A Cookes Peak, D 118.92 51 P **PKiKP** 12 00 05.7 +0.2
baz=292
121A Cookes Peak, D 118.92 51 P **PKPdf** 12 00 05.1 -0.3
baz=292
ANMO Albuquerque 118.98 48 PKP **PKiKP** 12 00 06.2 +0.6
comp=Z,4.6nm,0.8s,baz=295,slow=2.3,SNR=16
ANMO Albuquerque 118.98 48 P **PKiKP** 12 00 06.0 +0.4
baz=294
ANMO Albuquerque 118.98 48 P **PKPdf** 12 00 05.6 0.0
baz=294
Y22D IRIS PASSCAL I 118.99 50 P **PKPdf** 12 00 05.0 -0.5
baz=294
Y22F Passcal Instru 118.99 50 P **PKPdf** 12 00 05.0 -0.5
baz=294
Y22A Socorro 119.01 50 P **PKPdf** 12 00 05.7 0.0
baz=294
ESDC Sonseca Array 119.09 318 PKP **PKPdf** 12 00 05.1 -0.3
comp=Z,1.1nm,0.6s,baz=30,slow=2.1,SNR=8.9
ESDC PP **PP** 12 01 26.4 +1.4
comp=Z,2.1nm,0.9s,baz=63,slow=6.7,SNR=5.4
ESDC PKKPbc **PKKPbc** 12 10 19.8 -0.6
comp=Z,1.3nm,0.9s,baz=244,slow=3.2,SNR=4.5
T25A Trinidad 119.53 45 PKPdf **PKiKP** 12 00 07.5 +0.9
T25A Trinidad 119.53 45 P **PKiKP** 12 00 06.8 +0.2
baz=297,SNR=6.4
F33A 5 Mile Ranch, 119.95 33 P **PKPdf** 12 00 06.2 -0.6
baz=309
MVO Moncorvo 120.33 321 *e*PKPdf **PKiKP** 12 00 09.2 +1.3
K31A O'Neill 120.45 37 P **PKPdf** 12 00 07.6 -0.3
baz=305
PGAV Gavieira, Arco 120.66 322 *e*PKPdf **PKiKP** 12 00 09.4 +0.8
POLO Lamas de Olo 120.70 321 *e*PKPdf **PKiKP** 12 00 09.4 +0.8
PVRL Vila Real 120.70 321 *e*PKPdf **PKiKP** 12 00 09.5 +0.9
ECSD EROS Data Cent 121.06 35 PKPdf **PKPdf** 12 00 08.6 -0.5
ECSD EROS Data Cent 121.06 35 P **PKPdf** 12 00 08.6 -0.5
baz=307
ECSD EROS Data Cent 121.06 35 P **PKPdf** 12 00 09.0 0.0
baz=307
MTE Mantsigas 121.07 320 *e*PKPdf **PKiKP** 12 00 10.2 +0.8
MNTX Cornudas Mount 121.12 51 P **PKiKP** 12 00 09.8 +0.1
baz=294
MNTX Cornudas Mount 121.12 51 P **PKPdf** 12 00 09.0 -0.5
baz=294,SNR=14
PCBR Castelo Branco 121.33 319 *e*PKPdf **PKiKP** 12 00 10.7 +0.9
F36A Milaca 121.42 32 **PKPdf** 12 00 09.4 -0.3
F36A Milaca 121.42 32 P **PKPdf** 12 00 09.2 -0.4
baz=311
PMRV Marv??o 121.49 319 *e*PKPdf **PKiKP** 12 00 10.7 +0.6
BGNE Belgrade 121.51 38 P **PKPdf** 12 00 09.7 -0.2
baz=305
BGNE Belgrade 121.51 38 P **PKPdf** 12 00 09.8 -0.2
baz=305,SNR=7.6
PCAS Casmilo, Conde 121.87 320 *e*PKPdf **PKiKP** 12 00 11.7 +0.8
PBAR Barrancos 121.91 318 *e*PKPdf **PKiKP** 12 00 12.0 +1.0
CBKS Cedar Bluff 121.92 42 P **PKPdf** 12 00 10.4 -0.5
baz=302
CBKS Cedar Bluff 121.92 42 P **PKPdf** 12 00 10.8 -0.1
baz=302
E38A The Farm, Brul 121.92 30 P **PKPdf** 12 00 10.6 0.0
baz=314
MSTX Muleshoe 122.15 48 P **PKiKP** 12 00 12.0 +0.3
baz=297
MSTX Muleshoe 122.15 48 P **PKPdf** 12 00 11.1 -0.5
baz=297,SNR=10
SPMN Marine on St. 122.22 32 P **PKPdf** 12 00 11.0 -0.2
baz=312
SPMN Marine on St. 122.22 32 P **PKiKP** 12 00 11.4 +0.1
baz=312
L34A Svendsen Farm, 122.27 37 P **PKPdf** 12 00 11.2 -0.2
baz=307
N33B J Bar K, Exete 122.33 39 P **PKPdf** 12 00 11.1 -0.5
baz=305
PSBE So Bento 122.36 320 *e*PKPdf **PKPdf** 12 00 10.8 -0.9
AMTX Amarillo 122.53 46 P **PKPdf** 12 00 11.7 -0.5
baz=298
AMTX Amarillo 122.53 46 P **PKiKP** 12 00 12.6 +0.1
baz=298
I37A Lemond, Waseca 122.69 33 **PKiKP** 12 00 12.5 +0.1
I37B Waseca 122.69 33 P **PKiKP** 12 00 12.3 -0.1
baz=311
R32A Long Quarter, 122.81 41 P **PKPdf** 12 00 12.5 -0.1
baz=303
PCVE Castro Verde 122.87 318 *e*PKPdf **PKiKP** 12 00 13.8 +0.9
MESJ Messejana 122.88 318 *e*PKPdf **PKiKP** 12 00 13.2 +0.3
MESJ Messejana 122.88 318 *e*PKPdf **PKiKP** 12 00 13.9 +1.0
PNCL Nicolau / Gran 122.94 318 *e*PKPdf **PKiKP** 12 00 13.4 +0.4
D41A Chassel 123.05 28 P **PKPdf** 12 00 12.5 -0.2
baz=317
SCHQ Schefferville 123.11 9 PKP **PKPdf** 12 00 12.6 0.0
comp=Z,14nm,0.5s,baz=327,slow=1.7,SNR=36
SCHQ Schefferville 123.11 9 PKPdf **PKiKP** 12 00 13.2 +0.3
TORD Torodi Ar. Bea 123.32 287 PKP **PKPdf** 12 00 13.9 -0.2
comp=Z,10nm,0.6s,baz=48,slow=2.1,SNR=3.0
N35A Tabor 123.37 37 P **PKPdf** 12 00 12.9 -0.7
baz=307
TX31 Lajitas Ar. Si 123.42 53 **PKiKP** 12 00 14.5 +0.1
TX31 Lajitas Ar. Si 123.42 53 P **PKPdf** 12 00 13.9 -0.2
baz=294
TX32 Lajitas Array 123.42 53 PKPdf **PKPdf** 12 00 13.9 -0.2
TXAR Lajitas Array 123.42 53 PKPdf **PKiKP** 12 00 14.3 0.0
TXAR Lajitas Array 123.42 53 PKiKP **PKiKP** 12 00 14.3 0.0
MORF Marmelete 123.46 317 *e*PKPdf **PKiKP** 12 00 14.3 +0.2
MORF Marmelete 123.46 317 *e*PKPdf **PKiKP** 12 00 14.8 +0.7
G40A Rib Lake 123.53 30 P **PKPdf** 12 00 13.6 -0.2
baz=314
U32A Winter Ranch, 123.69 44 P **PKPdf** 12 00 14.2 -0.1
baz=301
KSU1 Kansas State U 123.79 40 P **PKPdf** 12 00 14.2 -0.2
baz=305
KSU1 Kansas State U 123.79 40 P **PKPdf** 12 00 13.9 -0.5
baz=305,SNR=12
K38A Parkersburg 123.93 34 P **PKPdf** 12 00 14.1 -0.4
baz=311
SCIA State Center 124.16 35 P **PKPdf** 12 00 14.7 -0.4
baz=310
SCIA State Center 124.16 35 P **PKPdf** 12 00 14.8 -0.2
baz=310
F42A Maple Grove Fa 124.20 29 P **PKPdf** 12 00 15.1 +0.1
baz=317
I40A Norwalk 124.27 32 P **PKPdf** 12 00 14.9 -0.3
baz=313
E43A Lone Tree Farm 124.28 27 P **PKPdf** 12 00 15.1 -0.1
baz=318
WMOK Wichita Mounta 124.68 45 P **PKPdf** 12 00 16.3 +0.1
baz=301
WMOK Wichita Mounta 124.68 45 P **PKPdf** 12 00 16.0 -0.3
baz=301,SNR=6.9
T35B Sooner Cattle 125.09 42 P **PKiKP** 12 00 17.2 -0.1
baz=304
ABTX Abilene, Hawle 125.09 48 P **PKPdf** 12 00 17.1 0.0
baz=299
ABTX Abilene, Hawle 125.09 48 P **PKPdf** 12 00 17.0 -0.1
baz=299
JFWS Jewell Farm 125.14 32 P **PKPdf** 12 00 16.3 -0.6
baz=313
JFWS Jewell Farm 125.14 32 P **PKPdf** 12 00 16.5 -0.4
baz=313,SNR=14
I42A Draeger Farm, 125.16 31 PKPdf **PKPdf** 12 00 16.4 -0.5
I42A Draeger Farm, 125.16 31 P **PKPdf** 12 00 16.6 -0.2
baz=315
L40A Anamosa 125.18 34 P **PKPdf** 12 00 16.6 -0.4
baz=312
P38A Dawn 125.40 37 P **PKPdf** 12 00 17.2 -0.2
baz=308
E46A Sault Ste Mari 125.49 26 PKPdf **PKiKP** 12 00 17.8 0.0
E46A Sault Ste Mari 125.49 26 P **PKiKP** 12 00 17.8 0.0
baz=321
G45A Suttons Bay 125.90 28 P **PKPdf** 12 00 18.3 0.0
baz=319
G45A P **PKPdf** 12 00 18.3 0.0
baz=319
JCT Junction City 125.97 50 P **PKPdf** 12 00 19.8 +0.5
baz=297
JCT Junction City 125.97 50 P **PKPdf** 12 00 18.6 -0.3
baz=297
L42A Oliver, Polo 126.07 33 P **PKPdf** 12 00 18.2 -0.5
baz=313
TUL1 Leonard 126.13 42 P **PKiKP** 12 00 19.5 +0.1
baz=304
TUL1 Leonard 126.13 42 P **PKPdf** 12 00 18.4 -0.6
baz=304
N41A Harden Midland 126.29 35 P **PKPdf** 12 00 18.7 -0.4
baz=312
K43A Burlington 126.30 31 P **PKPdf** 12 00 18.8 -0.3
baz=315
P40A Paris 126.35 37 **PKPdf** 12 00 19.0 -0.3
P40A Paris 126.35 37 P **PKPdf** 12 00 19.5 +0.2
baz=310
Z35A Perchaven, San 126.49 46 P **PKiKP** 12 00 20.2 0.0
baz=301
GLMI Grayling 126.54 27 P **PKPdf** 12 00 19.3 -0.3
baz=320
GLMI Grayling 126.54 27 P **PKPdf** 12 00 19.5 0.0
baz=320
U38A Gravette 126.77 41 P **PKPdf** 12 00 20.4 +0.2
baz=306
L44A Lake County Fo 126.89 32 P **PKPdf** 12 00 19.7 -0.5
baz=315
R40A Maddies Statio 127.00 38 **PKPdf** 12 00 20.7 +0.1
R40A Maddies Statio 127.00 38 P **PKPdf** 12 00 20.7 +0.1
baz=309
WHTX Lake Whitney, 127.02 47 P **PKPdf** 12 00 20.9 +0.1
baz=300
WHTX Lake Whitney, 127.02 47 P **PKPdf** 12 00 20.3 -0.5
baz=300
X37A Clayton 127.15 44 P **PKPdf** 12 00 20.8 -0.2
baz=304
HHAR Hobbs 127.15 41 **PKPdf** 12 00 21.1 +0.1
833A Chaparral WMA, 127.25 52 P **PKiKP** 12 00 21.9 0.0
baz=296
833A Chaparral WMA, 127.25 52 P **PKiKP** 12 00 21.7 -0.2
baz=296
HDIL Hopedale 127.27 34 P **PKPdf** 12 00 21.0 0.0
baz=313
HDIL Hopedale 127.27 34 P **PKPdf** 12 00 20.7 -0.3
baz=313,SNR=8.1

M44A	**Midewin, Midew**	**127.38**	**32**	P		**PKiKP**	12 00 21.5	-0.2
	baz=315							
435B	**Jarrell**	**127.52**	**49**	P		**PKiKP**	12 00 22.5	+0.1
	baz=299							
435B	**Jarrell**	**127.52**	**49**	P		**PKPdf**	12 00 21.9	+0.2
	baz=299							
J47A	**Sunmer**	**127.66**	**29**	P		**PKPdf**	12 00 21.8	+0.1
	baz=319							
J47A				P		**PKPdf**	12 00 21.8	+0.1
	baz=319							
P43A	**Skaggs, Pawnee**	**127.76**	**35**	P		**PKPdf**	12 00 21.9	-0.1
	baz=312							
CCM	**Cathedral Cave**	**127.77**	**38**			**PKPdf**	12 00 21.8	-0.3
CCM	**Cathedral Cave**	**127.77**	**38**	P		**PKPdf**	12 00 22.1	0.0
	baz=310							
CCM	**Cathedral Cave**	**127.77**	**38**	P		**PKiKP**	12 00 22.5	-0.1
	baz=310							
CCM	**Cathedral Cave**	**127.77**	**38**	PKIKP		**PKPdf**	12 00 21.8	-0.3
U40A	**Yellville**	**127.81**	**40**	P		**PKPdf**	12 00 21.6	-0.6
	baz=307							
U40A				P		**PKPdf**	12 00 21.6	-0.6
	baz=307							
L46A	**Eue Claire**	**127.84**	**31**	P		**PKPdf**	12 00 22.0	0.0
	baz=317							
L46A				P		**PKPdf**	12 00 22.0	0.0
	baz=317							
O44A	**Mansfield**	**128.00**	**34**	P		**PKPdf**	12 00 22.6	+0.1
	baz=314							
I49A	**Point Hope**	**128.04**	**27**	P		**PKPdf**	12 00 22.5	+0.1
	baz=322							
I49A				P		**PKPdf**	12 00 22.5	+0.1
	baz=322							
Z38A	**Mt. Pleasant**	**128.14**	**45**	P		**PKiKP**	12 00 23.6	+0.1
	baz=303							
237A	**Washetta, Mont**	**128.22**	**47**	P		**PKiKP**	12 00 24.0	+0.3
	baz=301							
735A	**Kenedy**	**128.25**	**51**	P		**PKiKP**	12 00 24.3	+0.4
	baz=298							
MIAR	**Mount Ida**	**128.40**	**43**	PKPdf		**PKiKP**	12 00 24.3	+0.3
MIAR	**Mount Ida**	**128.40**	**43**	P		**PKiKP**	12 00 24.0	0.0
	baz=305							
MIAR	**Mount Ida**	**128.40**	**43**	P		**PKPdf**	12 00 23.6	+0.2
	baz=305							
MIAR	**Mount Ida**	**128.40**	**43**	PKIKP		**PKiKP**	12 00 24.3	+0.3
Q44A	**Meyer Farm, Va**	**128.54**	**35**	P		**PKPdf**	12 00 23.3	-0.2
	baz=312							
FCAR	**Ozark Folk Cen**	**128.56**	**40**	PKPdf		**PKPdf**	12 00 23.3	-0.4
SFIN	**Lafayette**	**128.60**	**33**	P		**PKPdf**	12 00 23.5	-0.1
	baz=315							
SFIN	**Lafayette**	**128.60**	**33**	P		**PKPdf**	12 00 23.8	+0.2
	baz=315							
L48A	**N Adams**	**128.82**	**29**			**PKPdf**	12 00 24.0	+0.1
L48A	**N Adams**	**128.82**	**29**	P		**PKPdf**	12 00 24.1	+0.1
	baz=319							
L48A				P		**PKPdf**	12 00 24.1	+0.1
	baz=319							
AAM	**Ann Arbor**	**128.93**	**28**	P		**PKPdf**	12 00 24.2	+0.1
	baz=320							
AAM	**Ann Arbor**	**128.93**	**28**	P		**PKPdf**	12 00 24.2	+0.1
	baz=320							
X40A	**Basin Creek Fa**	**128.93**	**42**	P		**PKPdf**	12 00 24.5	+0.1
	baz=306							
X40A				P		**PKPdf**	12 00 24.5	+0.1
	baz=306							
N47A	**Urbana**	**128.98**	**31**	P		**PKPdf**	12 00 24.0	-0.3
	baz=317							
N47A				P		**PKPdf**	12 00 24.0	-0.3
	baz=317							
K50A	**Casco**	**129.04**	**27**	P		**PKPdf**	12 00 24.2	-0.1
	baz=322							
K50A				P		**PKPdf**	12 00 24.2	-0.1
	baz=322							
P46A	**Rosedale**	**129.07**	**33**	P		**PKPdf**	12 00 24.6	+0.1
	baz=315							
LCAR	**Lake Charles**	**129.08**	**39**	PKPdf		**PKiKP**	12 00 25.2	-0.1
NATX	**Nacogdoches**	**129.18**	**46**	P		**PKPdf**	12 00 24.4	-0.5
	baz=302							
OLIL	**Olney**	**129.18**	**35**	P		**PKPdf**	12 00 24.7	0.0
	baz=313							
S44A	**Carbondale**	**129.21**	**37**	P		**PKiKP**	12 00 25.2	-0.3
	baz=311							
HKT	**Hockley**	**129.24**	**49**	P		**PKiKP**	12 00 25.7	0.0
	baz=300							
O48B	**Farmland**	**129.71**	**31**	P		**PKPdf**	12 00 25.5	-0.2
	baz=317							
O48B	**Farmland**	**129.71**	**31**	P		**PKPdf**	12 00 25.6	0.0
	baz=317							
N49A	**Columbus Grove**	**129.72**	**30**	P		**PKPdf**	12 00 25.3	-0.4
	baz=319							
N49A				P		**PKPdf**	12 00 25.3	-0.4
	baz=319							
M50A	**Fremont**	**129.91**	**29**	P		**PKPdf**	12 00 26.0	0.0
	baz=320							
M50A				P		**PKPdf**	12 00 26.0	0.0
	baz=320							
T45B	**Paducah**	**130.02**	**37**	P		**PKiKP**	12 00 27.2	+0.1
	baz=312							
D62A	**Allapoint, All**	**130.06**	**14**	P		**PKPdf**	12 00 26.2	0.0
	baz=340							
D62A				P		**PKPdf**	12 00 26.2	0.0
	baz=340							
P48A	**Milroy**	**130.15**	**32**	P		**PKPdf**	12 00 26.1	-0.5
	baz=317							
P48A				P		**PKPdf**	12 00 26.1	-0.5
	baz=317							
O49A	**Covington**	**130.19**	**31**	P		**PKPdf**	12 00 26.2	-0.4
	baz=318							
O49A				P		**PKPdf**	12 00 26.2	-0.4
	baz=318							
E62A	**Clayton Lake**	**130.38**	**14**	P		**PKiKP**	12 00 27.4	-0.2
	baz=339							
E62A				P		**PKiKP**	12 00 27.4	-0.2
	baz=339							
P49A	**Miami Univ. Ec**	**130.47**	**32**	P		**PKPdf**	12 00 27.1	0.0
	baz=317							
P49A	**Miami Univ. Ec**	**130.47**	**32**	P		**PKPdf**	12 00 27.2	0.0
	baz=317							
BMNY	**Brushton-Moira**	**130.55**	**19**	P		**PKPdf**	12 00 27.0	-0.1
	baz=332							
WCI	**Wyandotte Cave**	**130.55**	**34**	P		**PKPdf**	12 00 27.1	-0.3
	baz=315							
WCI	**Wyandotte Cave**	**130.55**	**34**	P		**PKPdf**	12 00 27.2	-0.1
	baz=315							
M52A	**Chesterland**	**130.60**	**27**	P		**PKPdf**	12 00 27.4	+0.1
	baz=322							
M52A				P		**PKPdf**	12 00 27.4	+0.1
	baz=322							
N51A	**Ashland**	**130.60**	**29**	P		**PKPdf**	12 00 27.0	-0.3
	baz=321							
N51A				P		**PKPdf**	12 00 27.0	-0.3
	baz=321							
KIC	**Kosan Boka**	**130.62**	**279**	⇑*i*	PKP1	**PKiKP**	12 00 29.5	+0.5
	comp=Z,10nm,0.5s							
DBIC	**Dimbokro**	**130.69**	**280**		PKP	**PKiKP**	12 00 29.3	+0.2
	comp=Z,8.0nm,0.5s,baz=96,slow=3.1,SNR=9.6							
DBIC					SKPab	**SKPbc**	12 03 48.4	-1.5
	comp=Z,5.8nm,0.8s,baz=168,slow=6.1,SNR=3.9							
J55A	**Hilton**	**130.70**	**23**	P		**PKiKP**	12 00 28.0	-0.3
	baz=327							
J55A				P		**PKiKP**	12 00 28.0	-0.3
	baz=327							
LONY	**Lake Ozonia**	**130.72**	**20**	P		**PKiKP**	12 00 28.3	-0.1
	baz=332							
ERPA	**Erie**	**130.75**	**26**	P		**PKPdf**	12 00 27.7	+0.1
	baz=324							
ERPA	**Erie**	**130.75**	**26**	P		**PKPdf**	12 00 27.6	0.0
	baz=324							
E63A	**Oxbow**	**130.83**	**13**	P		**PKiKP**	12 00 28.1	-0.4
	baz=340							
E63A				P		**PKiKP**	12 00 28.1	-0.4
	baz=340							
ACSO	**Alum Creek Sta**	**130.84**	**30**	P		**PKPdf**	12 00 27.3	-0.6
	baz=320							
ACSO	**Alum Creek Sta**	**130.84**	**30**	P		**PKPdf**	12 00 28.2	+0.4
	baz=320							
FRNY	**Flat Rock**	**130.85**	**19**	P		**PKPdf**	12 00 28.0	+0.3
	baz=333							
TIC	**Toumodi**	**130.85**	**280**	⇓*i*	PKP1	**PKPdf**	12 00 28.6	0.0
	comp=Z,12nm,0.3s							
W45A	**Hickory Valley**	**130.90**	**39**	P		**PKPdf**	12 00 28.5	+0.4
	baz=310							
WCNY	**West Carthage**	**130.90**	**21**	P		**PKiKP**	12 00 28.6	-0.1
	baz=330							
LIC	**Lamto**	**130.91**	**279**	⇓*i*	PKP1	**PKiKP**	12 00 29.7	+0.1
	comp=Z,39nm,0.6s							
143A	**Socs Landing,**	**130.94**	**43**	P		**PKiKP**	12 00 29.0	-0.1
	baz=306							
T47A	**Sharon Grove**	**130.95**	**36**	P		**PKiKP**	12 00 29.0	-0.1
	baz=313							
M53A	**WI Miller and**	**130.99**	**27**			**PKPdf**	12 00 28.1	0.0
M53A	**WI Miller and**	**130.99**	**27**	P		**PKPdf**	12 00 28.4	+0.3
	baz=323							
WVT	**Waverly**	**131.10**	**37**	P		**PKPdf**	12 00 28.6	+0.2
	baz=312							
WVT	**Waverly**	**131.10**	**37**	P		**PKiKP**	12 00 29.0	-0.4
	baz=312							
WVNY	**West Valley, N**	**131.10**	**25**	P		**PKPdf**	12 00 27.7	-0.5
	baz=326							
R49A	**Shelbyville**	**131.13**	**33**	P		**PKPdf**	12 00 28.5	0.0
	baz=316							
R49A				P		**PKPdf**	12 00 28.5	0.0
	baz=316							
OXF	**Oxford**	**131.16**	**40**	P		**PKiKP**	12 00 29.3	-0.3
	baz=309							
OXF	**Oxford**	**131.16**	**40**	P		**PKiKP**	12 00 29.2	-0.3
	baz=309							
J57A	**Williamstown**	**131.27**	**22**	P		**PKPdf**	12 00 28.7	+0.1
	baz=330							
J57A				P		**PKPdf**	12 00 28.7	+0.1
	baz=330							
P51A	**Williamsport**	**131.36**	**30**	P		**PKPdf**	12 00 28.8	0.0
	baz=319							
P51A				P		**PKPdf**	12 00 28.8	0.0
	baz=319							
F64A	**Sherman**	**131.37**	**14**	P		**PKiKP**	12 00 29.4	-0.2
	baz=340							
F64A				P		**PKiKP**	12 00 29.4	-0.2
	baz=340							
NCB	**Newcomb**	**131.41**	**20**	P		**PKiKP**	12 00 29.4	-0.4
	baz=332							
G62A	**West of Eustis**	**131.41**	**16**	P		**PKiKP**	12 00 29.4	-0.3
	baz=337							
G62A				P		**PKiKP**	12 00 29.4	-0.3
	baz=337							
N53A	**Lisbon**	**131.42**	**28**	P		**PKPdf**	12 00 29.4	+0.4
	baz=323							
N53A				P		**PKPdf**	12 00 29.4	+0.4
	baz=323							
Y45A	**Yeager Farm, C**	**131.48**	**41**	P		**PKiKP**	12 00 29.9	-0.3
	baz=309							
O52A	**Adamsville**	**131.49**	**29**	P		**PKPdf**	12 00 29.6	+0.5
	baz=321							
O52A				P		**PKPdf**	12 00 29.6	+0.5
	baz=321							
Q51A	**Peebles**	**131.56**	**31**	P		**PKPdf**	12 00 29.1	-0.2
	baz=319							
Q51A				P		**PKPdf**	12 00 29.1	-0.2
	baz=319							
J58A	**Remsen**	**131.57**	**21**	P		**PKPdf**	12 00 29.5	+0.3
	baz=330							
J58A				P		**PKPdf**	12 00 29.5	+0.3
	baz=330							
R50A	**Paris**	**131.59**	**32**	P		**PKPdf**	12 00 29.4	0.0
	baz=317							
R50A				P		**PKPdf**	12 00 29.4	0.0
	baz=317							
PAMR	**Moraine State**	**131.65**	**27**	P		**PKPdf**	12 00 29.4	+0.1
	baz=324							
K57A	**Scipio Center**	**131.66**	**23**	P		**PKPdf**	12 00 29.5	+0.2
	baz=329							
O53A	**New Philadelph**	**131.68**	**28**	P		**PKPdf**	12 00 29.7	+0.2
	baz=322							
PKME	**Peaks-Kenny Pk**	**131.70**	**15**	P		**PKiKP**	12 00 30.2	-0.1
	baz=339							
PLAL	**Pickwick Lake**	**131.70**	**38**			**PKPdf**	12 00 29.3	-0.3
P52A	**Corning**	**131.71**	**30**			**PKiKP**	12 00 30.1	-0.4
P52A	**Corning**	**131.71**	**30**	P		**PKPdf**	12 00 30.0	+0.5
	baz=320							
L56A	**Greenwood**	**131.75**	**24**	P		**PKPdf**	12 00 29.5	0.0
	baz=327							
L56A				P		**PKPdf**	12 00 29.5	0.0
	baz=327							
J59A	**Piesco**	**131.76**	**20**	P		**PKPdf**	12 00 29.8	+0.2
	baz=332							
J59A				P		**PKPdf**	12 00 29.8	+0.2
	baz=332							
M55A	**Ridgway**	**131.81**	**25**	P		**PKPdf**	12 00 29.6	0.0
	baz=325							
M55A				P		**PKPdf**	12 00 29.6	0.0
	baz=325							
VBMS	**Vicksburg**	**131.83**	**43**	P		**PKiKP**	12 00 31.0	+0.1
	baz=306							
VBMS	**Vicksburg**	**131.83**	**43**	P		**PKiKP**	12 00 30.7	-0.2
	baz=306							
H62A	**Milan**	**131.83**	**17**	P		**PKPdf**	12 00 29.7	+0.1
	baz=336							
H62A				P		**PKPdf**	12 00 29.7	+0.1
	baz=336							
MCVT	**Middlebury Col**	**131.83**	**19**	P		**PKiKP**	12 00 30.8	+0.2
	baz=334							
V48A	**Smith Brothers**	**131.97**	**37**	P		**PKPdf**	12 00 30.6	+0.5
	baz=313							
CLTN	**Cedars of Leba**	**132.02**	**36**			**PKPdf**	12 00 30.6	+0.5
U49A	**Red Boiling Sp**	**132.05**	**35**	P		**PKiKP**	12 00 30.9	-0.4
	baz=314							
UPAO	**U. Pittsburgh**	**132.05**	**27**	P		**PKPdf**	12 00 30.4	+0.3
	baz=323							
PSDB	**Penn State Uni**	**132.09**	**26**	P		**PKiKP**	12 00 31.3	+0.1
	baz=325							
ACCN	**Adirondack Com**	**132.12**	**20**	P		**PKiKP**	12 00 31.3	+0.1
	baz=333							
O54A	**Avella**	**132.12**	**28**	P		**PKPdf**	12 00 30.6	+0.3
	baz=323							
O54A				P		**PKPdf**	12 00 30.6	+0.3
	baz=323							
Q52A	**Bidwell**	**132.16**	**30**			**PKPdf**	12 00 30.5	+0.2
Q52A	**Bidwell**	**132.16**	**30**	P		**PKPdf**	12 00 30.9	+0.5
	baz=320							
Q52A				P		**PKPdf**	12 00 30.9	+0.5
	baz=320							
G65A	**Princeton**	**132.18**	**13**	P		**PKiKP**	12 00 30.8	-0.4
	baz=341							
G65A				P		**PKiKP**	12 00 30.8	-0.4
	baz=341							
P53A	**Whipple**	**132.19**	**29**	P		**PKPdf**	12 00 31.0	+0.5
	baz=321							
P53A				P		**PKPdf**	12 00 31.0	+0.5
	baz=321							
T50A	**Nancy**	**132.22**	**34**	P		**PKPdf**	12 00 30.8	+0.3
	baz=316							
T50A				P		**PKPdf**	12 00 30.8	+0.3
	baz=316							
BINY	**Binghamton**	**132.32**	**22**	P		**PKPdf**	12 00 30.9	+0.3
	baz=329							
BINY	**Binghamton**	**132.32**	**22**	P		**PKiKP**	12 00 31.4	-0.3
	baz=329							
S51A	**Beattyville**	**132.46**	**32**	P		**PKPdf**	12 00 31.0	0.0
	baz=318							
S51A				P		**PKPdf**	12 00 31.0	0.0
	baz=318							
I63A	**Otisfield**	**132.47**	**17**	P		**PKPdf**	12 00 32.1	+0.2
	baz=337							
I63A				P		**PKiKP**	12 00 32.1	+0.2
	baz=337							
M57A	**Sunshine Farm,**	**132.60**	**24**	P		**PKPdf**	12 00 31.3	+0.2
	baz=327							
M57A				P		**PKPdf**	12 00 31.3	+0.2
	baz=327							
X48A	**Hartselle**	**132.69**	**38**	P		**PKPdf**	12 00 31.3	-0.2
	baz=312							
MCWV	**Mont Chateau**	**132.79**	**28**	P		**PKPdf**	12 00 32.1	+0.5
	baz=323							
MCWV	**Mont Chateau**	**132.79**	**28**	P		**PKPdf**	12 00 32.1	+0.5
	baz=323							
R53A	**Hurricane**	**132.80**	**31**	P		**PKPdf**	12 00 32.2	+0.6
	baz=320							
R53A				P		**PKPdf**	12 00 32.2	+0.6
	baz=320							
Q54A	**Coxs Mills**	**132.85**	**29**			**PKPdf**	12 00 32.1	+0.5
Q54A	**Coxs Mills**	**132.85**	**29**	P		**PKPdf**	12 00 32.2	+0.5
	baz=322							
Q54A				P		**PKPdf**	12 00 32.2	+0.5
	baz=322							
Z47A	**Carrollton**	**132.85**	**40**	P		**PKPdf**	12 00 32.0	+0.2
	baz=310							
SSPA	**Standing Stone**	**132.87**	**25**	P		**PKPdf**	12 00 32.1	+0.4
	baz=326							
SSPA	**Standing Stone**	**132.87**	**25**	P		**PKPdf**	12 00 32.2	+0.6
	baz=326							
KSPA	**Keystone Colle**	**132.95**	**23**	P		**PKPdf**	12 00 32.3	+0.5
	baz=329							
N58A	**Sunbury**	**133.19**	**24**	P		**PKiKP**	12 00 32.9	-0.6
	baz=328							
N58A				P		**PKiKP**	12 00 32.9	-0.6
	baz=328							
W50A	**Signal Mountai**	**133.23**	**36**	P		**PKiKP**	12 00 33.5	-0.2
	baz=314							
L61B	**Northampton**	**133.28**	**19**	P		**PKiKP**	12 00 33.7	+0.1
	baz=333							
L61B	**Northampton**	**133.28**	**19**	P		**PKiKP**	12 00 33.3	-0.3
	baz=333							
TZTN	**Tazewell**	**133.28**	**33**	P		**PKiKP**	12 00 33.7	-0.1
	baz=317							
TZTN	**Tazewell**	**133.28**	**33**	P		**PKiKP**	12 00 33.4	-0.4
	baz=317							
V51A	**Loudon**	**133.37**	**35**	P		**PKiKP**	12 00 33.6	-0.3
	baz=316							
NPNY	**Mohonk Preserv**	**133.39**	**21**	P		**PKPdf**	12 00 33.2	+0.6
	baz=331							
Q56A	**Snyder Ridge,**	**133.59**	**28**	P		**PKiKP**	12 00 33.9	-0.4
	baz=324							
Q56A				P		**PKiKP**	12 00 33.9	-0.4
	baz=324							
HRV	**Adam Dziewonsk**	**133.59**	**18**	P		**PKiKP**	12 00 34.3	+0.1
	baz=335							
LRAL	**Lakeview Retre**	**133.65**	**40**	P		**PKPdf**	12 00 33.9	+0.6
	baz=311							
LRAL	**Lakeview Retre**	**133.65**	**40**	P		**PKiKP**	12 00 34.2	-0.4
	baz=311							
BRNY	**Black Rk. Fore**	**133.73**	**21**	P		**PKPdf**	12 00 33.8	+0.5
	baz=331							
R55A	**Marlinton**	**133.75**	**29**	P		**PKiKP**	12 00 34.3	-0.5
	baz=322							
R55A				P		**PKiKP**	12 00 34.3	-0.5
	baz=322							
P57A	**Homestead Farm**	**133.76**	**26**	P		**PKPdf**	12 00 33.3	-0.1
	baz=325							
P57A				P		**PKPdf**	12 00 33.3	-0.1
	baz=325							
V52A	**Sevierville**	**133.77**	**34**	PKPdf		**PKPdf**	12 00 33.5	0.0
V52A	**Sevierville**	**133.77**	**34**	P		**PKiKP**	12 00 34.4	-0.4
	baz=316							
TKL	**Tuckaleechee C**	**133.80**	**34**	PKPdf		**PKiKP**	12 00 34.9	0.0
TKL	**Tuckaleechee C**	**133.80**	**34**	P		**PKiKP**	12 00 34.6	-0.3
	baz=316							
TKL	**Tuckaleechee C**	**133.80**	**34**	PKIKP		**PKiKP**	12 00 34.9	0.0
ODNJ	**Ogdensburg**	**133.80**	**22**	P		**PKiKP**	12 00 34.4	-0.2
	baz=330							
X51A	**Calhoun**	**133.94**	**36**	P		**PKPdf**	12 00 34.5	+0.6
	baz=314							
X51A				P		**PKPdf**	12 00 34.5	+0.6
	baz=314							
W52A	**Murphy**	**134.11**	**35**	P		**PKPdf**	12 00 34.7	+0.5
	baz=316							
PAL	**Palisades**	**134.13**	**21**	P		**PKiKP**	12 00 34.9	-0.4
	baz=331							
PAL	**Palisades**	**134.13**	**21**	P		**PKiKP**	12 00 34.9	-0.4
	baz=331							
V53A	**Saluda**	**134.33**	**34**	P		**PKiKP**	12 00 35.5	-0.4
	baz=317							
V53A				P		**PKiKP**	12 00 35.5	-0.4
	baz=317							
SDMD	**Soldier's Deli**	**134.33**	**25**	P		**PKiKP**	12 00 35.7	-0.1
	baz=327							
BLA	**Blacksburg**	**134.44**	**30**	P		**PKPdf**	12 00 35.2	+0.5
	baz=321							
BLA	**Blacksburg**	**134.44**	**30**	P		**PKPdf**	12 00 35.4	+0.6
	baz=321							
BRAL	**Brewton**	**134.81**	**42**	P		**PKiKP**	12 00 36.7	-0.3
	baz=309							
BRAL	**Brewton**	**134.81**	**42**	P		**PKiKP**	12 00 36.4	-0.6
	baz=309							
Y52A	**Lilburn**	**134.90**	**37**	P		**PKiKP**	12 00 36.9	-0.2
	baz=314							
Y52A				P		**PKiKP**	12 00 36.9	-0.2
	baz=314							
R58B	**Mineral**	**135.06**	**27**			**PKPdf**	12 00 36.2	+0.3
R58B	**Mineral**	**135.06**	**27**	P		**PKiKP**	12 00 36.9	-0.4
	baz=325							
R58B				P		**PKiKP**	12 00 36.9	-0.4
	baz=325							
V55A	**Taylorsville**	**135.06**	**32**	P		**PKiKP**	12 00 36.9	-0.5
	baz=319							
V55A				P		**PKiKP**	12 00 36.9	-0.5
	baz=319							
CBN	**Corbin Frederi**	**135.09**	**27**	P		**PKiKP**	12 00 36.8	-0.6
	baz=325							
CBN	**Corbin Frederi**	**135.09**	**27**	P		**PKiKP**	12 00 36.8	-0.6
	baz=325							
U56A	**King**	**135.12**	**31**	P		**PKPdf**	12 00 36.6	+0.5
	baz=320							
U56A				P		**PKPdf**	12 00 36.6	+0.5
	baz=320							
T57A	**Hurt**	**135.18**	**29**	P		**PKiKP**	12 00 36.9	-0.7
	baz=322							
T57A				P		**PKiKP**	12 00 36.9	-0.7
	baz=322							
152A	**Waverly Hall**	**135.32**	**38**	P		**PKiKP**	12 00 37.3	-0.7
	baz=313							
CMIG	**Matias Romero**	**135.47**	**64**	PKP		**PKPdf**	12 00 37.3	+0.2
	comp=Z,4.0nm,0.6s,baz=265,slow=4.1,SNR=6.3							
PAULI	**Pauline**	**135.50**	**34**	P		**PKiKP**	12 00 37.9	-0.4
	baz=318							
KMSC	**Kings Mountain**	**135.53**	**33**	P		**PKPdf**	12 00 37.6	+0.7
	baz=319							
HODGE	**Hodges**	**135.69**	**35**			**PKiKP**	12 00 38.0	-0.7
HODGE	**Hodges**	**135.69**	**35**	P		**PKPdf**	12 00 37.9	+0.7
	baz=317							
T59A	**Double "B" Far**	**136.02**	**28**	P		**PKiKP**	12 00 38.8	-0.5
	baz=324							
T59A				P		**PKiKP**	12 00 38.8	-0.5
	baz=324							
BIRD	**Birdtown, Kers**	**136.38**	**33**	P		**PKiKP**	12 00 40.1	0.0
	baz=319							
U59A	**Littleton**	**136.40**	**29**	P		**PKiKP**	12 00 40.2	+0.1
	baz=324							
U59A				P		**PKiKP**	12 00 40.2	+0.1
	baz=324							
HAW	**Hawthorne Fire**	**136.69**	**35**	P		**PKiKP**	12 00 40.2	-0.6
	baz=317							
TIGA	**Tifton**	**136.86**	**39**	P		**PKiKP**	12 00 41.2	0.0
	baz=313							
TIGA	**Tifton**	**136.86**	**39**	P		**PKiKP**	12 00 40.4	-0.8
	baz=313							
V61A	**Roper**	**137.43**	**28**	P		**PKiKP**	12 00 41.5	-0.7
	baz=325							
V61A				P		**PKiKP**	12 00 41.5	-0.7
	baz=325							
PLCA	**Paso Flores**	**137.76**	**161**	PKhKP		PKPpre	12 00 31.0	
	comp=Z,1.5nm,0.7s,baz=279,slow=2.0,SNR=6.2							
PLCA				PKP		**PKPdf**	12 00 41.8	+0.9
	comp=Z,6.1nm,0.8s,baz=243,slow=3.7,SNR=8.2							
RFA	**San Rafael**	**143.84**	**159**	*i* P		PKPbc	12 00 49.8	+0.1
RFA	**San Rafael**	**143.84**	**159**	*i* P		PKPbc	12 00 49.8	+0.1
CRIN	**San Cristobal**	**144.09**	**66**	*e*P		**PKPab**	12 00 50.3	-0

ACCO	Cerro Coronel	147.31	155	*i* P		PKPbc	12 00 59.7	-1.1	
ACCO	Cerro Coronel	147.31	155	*i* P		PKPbc	12 00 59.7	-1.1	
CO01	Juntas del Tor	147.38	153			PKPbc	12 01 01.2	+0.4	
AROD	Rodeo	147.50	154	*i* P		PKPbc	12 01 00.5	-0.8	
AROD	Rodeo	147.50	154	*i* P		PKPbc	12 01 00.5	-0.8	
ACDV	Cuesta del Vie	147.65	154	*i* P		PKPbc	12 01 02.2	+0.7	
ACDV	Cuesta del Vie	147.65	154	*i* P		PKPbc	12 01 02.2	+0.7	
ACHE	Chepes	147.75	159	*i* P		PKPdf	12 00 59.7	+0.8	
ACHE	Chepes	147.75	159	*i* P		PKPdf	12 00 59.7	+0.8	
AVFE	Valle Fertil	147.90	157	*i* P		PKPdf	12 01 00.0	+1.0	
AVFE	Valle Fertil	147.90	157	*i* P		PKPdf	12 01 00.0	+1.0	
LCO	Las Campanas	147.91	151			PKPdf	12 00 59.3	-0.1	
LCO					PKPbc	PKPbc	12 01 03.0	+0.6	
LCO	Las Campanas	147.91	151	*i* P		PKPdf	12 01 00.3	+0.9	
LCO	Las Campanas	147.91	151	*i* P		PKPdf	12 01 00.3	+0.9	
LCO	Las Campanas	147.91	151		PKIKP	PKPdf	12 00 59.3	-0.1	
LCO							12 01 03.0		
RIMA	Rio Macho	148.00	69			PKiKP	12 01 04.1	-0.6	
AC05	El Transito	148.26	151			PKPbc	12 01 03.5	+0.4	
AC05						PKPab	12 01 07.6	+1.5	
TCA	Tanti	148.28	162	*i* P		PKPbc	12 01 03.5	+0.4	
TCA	Tanti	148.28	162	*i* P		PKPbc	12 01 03.5	+0.4	
AC04	Llanos de Chal	148.39	150			PKPbc	12 01 04.0	+0.7	
VCA	Vinchina	149.28	154	*i* P		PKPbc	12 01 05.8	+0.1	
VCA	Vinchina	149.28	154	*i* P		PKPbc	12 01 05.8	+0.1	
GTBY	Guantanamo Bay	150.27	44	*e*P		PKPbc	12 01 07.2	-1.0	
CYA	Choya	150.52	158	*i* P		PKPbc	12 01 08.8	+0.2	
CYA				*i* P		PKiKP	12 01 09.2	-0.2	
CYA	Choya	150.52	158	*i* P		PKPbc	12 01 08.8	+0.2	
CYA				*i* P		PKiKP	12 01 09.2	-0.2	
ITQB	Itaqui	151.54	175			PKiKP	12 01 11.7	+0.3	
PB14	IPOC Station P	151.62	146			PKPbc	12 01 11.7	+0.1	
BCIP	Isla Barro Col	151.95	68	*e*P		PKPbc	12 01 10.8	-1.4	
SDDR	Presa de Saban	153.49	40	*e*P		PKPbc	12 01 14.9	-0.7	
MCRA	Macar, Loja	153.53	97	*e*P		PKPbc	12 01 14.5	-1.4	
LVC	Limon Verde	154.05	146		PKPbc	PKiKP	12 01 18.3	+1.1	
	comp=Z,12nm,0.7s,baz=248,slow=3.5,SNR=9.5								
NNA	Nana	154.61	116		PKPbc	PKPbc	12 01 17.3	-0.8	
	comp=Z,13nm,0.6s,baz=254,slow=4.4,SNR=3.7								
ATAH	Atahualpa	154.63	104		PKP	PKPdf	12 01 08.8	-1.4	
	comp=Z,6.6nm,0.9s,baz=259,slow=2.4,SNR=9.1								
ATAH					PKPbc	pPKPdf	12 01 20.2	-0.2	
	comp=Z,14nm,0.7s,baz=196,slow=6.2,SNR=9.3								
CPUP	Villa Florida	154.76	172		PKP	PKPdf	12 01 10.4	+1.0	
	comp=Z,4.0nm,0.9s,baz=194,slow=4.4,SNR=6.7								
CPUP					PKPab	sPKPbc	12 01 31.7	0.0	
	comp=Z,10nm,0.8s,baz=184,slow=2.4,SNR=8.4								
CPUP	Villa Florida	154.76	172			PKPdf	12 01 08.9	-0.6	
CPUP					PKPab	PKPab	12 01 34.2	+1.4	
CPUP	Villa Florida	154.76	172		PKIKP	PKPdf	12 01 08.9	-0.6	
PAC1	Pacto, Paraso	154.81	87	*e*P		PKiKP	12 01 19.4	+0.7	
PIAT	Ana Tenorio	155.38	90	*e*P		PKPdf	12 01 11.5	+0.3	
SJCC	San Jacinto, C	155.89	62	*e*P		PKPdf	12 01 11.0	-0.4	
PLMC	San Jos del P	156.58	75	*e*P		PKPdf	12 01 12.0	-0.3	
CBOC	Ciudad Bolivar	156.59	72	*e*P		PKPdf	12 01 12.2	-0.3	
YOTC	Yotoco, Valle	156.73	77	*e*P		PKPdf	12 01 11.6	-1.1	
ZARC	Zaragoza, Cauc	157.14	67	*e*P		PKPdf	12 01 12.5	-0.5	
ORTC	Ortega, Tolima	157.82	77	*e*P		PKPdf	12 01 11.5	-2.4	
PTBC	PUERTO BERRIO	157.85	69	*e*P		PKPdf	12 01 13.3	-0.6	
ROSC	El Rosal	158.49	74	PKP		PKPdf	12 01 15.1	0.0	
	comp=Z,16nm,0.7s,baz=306,slow=19,SNR=6.7								
ROSC					PKPab	PKPab	12 01 51.4	+1.4	
	comp=Z,18nm,0.7s,baz=311,slow=20,SNR=7.0								
BARC	Barichara	159.02	68	*e*P		PKPdf	12 01 14.8	-0.8	
CHIC	Chingaza	159.11	74	*e*P		PKPdf	12 01 11.6	-4.3	
PAMC	Pamplona, Colo	159.18	66	*e*P		PKPdf	12 01 13.9	-2.2	
RUSC	La Rusia	159.35	70	*e*P		PKPdf	12 01 16.1	-0.2	
SDV	Santo Domingo	160.33	59	PKP		PKPdf	12 01 16.2	-0.8	
	comp=Z,16nm,0.8s,baz=3.3,slow=2.0,SNR=14								
SDV					PKPab	PKPab	12 01 58.0	+0.4	
	comp=Z,11nm,0.6s,baz=344,slow=6.1,SNR=6.2								
BIM	Bigot	162.74	25	PKPdf		PKPdf	12 01 17.8	-1.5	
BIM						PKPab	12 02 08.2	+0.5	
SIV	San Ignacio	163.57	154	PKP		PKPdf	12 01 20.0	0.0	
	comp=Z,3.9nm,0.8s,baz=224,slow=1.5,SNR=19								
SIV					PKPab	PKPab	12 02 10.7	-0.7	
	comp=Z,13nm,0.6s,baz=211,slow=4.9,SNR=24								
BDFB	Brasilia	164.61	201	PKP		PKPdf	12 01 20.4	-0.7	
	comp=Z,6.2nm,1.0s,baz=162,slow=2.7,SNR=5.9								
TOSP	Speyside	165.82	29		PKPdf	PKPdf	12 01 21.4	-0.6	
TOSP					PKPab	PKPab	12 02 21.1	-0.1	
BOAV	Boa Vista	172.25	63	*e*P		PKPdf	12 01 24.3	-1.8	

IDC 14 12:07:19.1±4.7, 26°43S×71°40E, h0km, mb3.9/5, mbtmp3.9/5, MS4.1/3, Error ellipse: s-maj=138.9km s-min=34.1km az=51.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	18.71	3	T	T	12 30 45.9	
	baz=183,slow=76,SNR=7.1						
H08S2	Diego Garcia H	18.71	3	T	T	12 30 45.9	
	baz=183,slow=76,SNR=6.8						
H08S3	Diego Garcia H	18.73	3	T	T	12 30 43.8	
	baz=183,slow=76,SNR=9.7						
H01W2	Cape Leeuwin H	37.48	114	T	T	12 54 19.8	
	baz=272						
H01W3	Cape Leeuwin H	37.49	114	T	T	12 54 19.5	
	baz=272						
H01W1	Cape Leeuwin H	37.50	114	T	T	12 54 27.4	
	baz=272						
KAPI	Kappang	50.80	74	LR	LR	12 33 21.9	
	comp=Z,47nm,21.8s,baz=64,slow=31						
CMAR	Chiang Mai Arr	52.02	34	P	P	12 16 30.6	0.0
	0.7nm,0.3s,baz=224,slow=5.0,SNR=4.3 0.7nm,0.3s						
ASAR	Alice Springs	56.20	102	P	P	12 17 01.5	+0.2
	0.8nm,0.9s,baz=249,slow=7.7,SNR=5.8 0.8nm,0.9s						
WRA	Warramunga Arr	57.73	98	P	P	12 17 11.7	-0.4
	1.2nm,0.9s,baz=255,slow=7.2,SNR=6.1 1.2nm,0.9s						
MKAR	Makanchi Array	73.54	8	P	P	12 18 53.6	0.0
	1.2nm,0.9s,baz=194,slow=6.7,SNR=8.6 1.2nm,0.9s						
ZALV	Zalesovo Beam	80.88	8	P	P	12 19 34.6	0.0
	0.9nm,0.8s,baz=196,slow=4.2,SNR=4.1 0.9nm,0.8s						
PMSA	Palmer Station	82.75	198	LR	LR	12 51 01.3	
	comp=Z,200nm,21.8s,baz=164,slow=32						
MDT	Midelt	93.22	305	LR	LR	13 01 12.8	
	comp=Z,216nm,20.6s,baz=66,slow=35						

TAP 14 12:31:17.9, 23°27N×120°38E, h10km, ML2.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	Hsinying	0.10	89	*i* P	Pg	12 31 21.6	+1.0
	baz=90						
TWK				*i* S	Sg	12 31 24.4	+1.9
	baz=90						
SNST	Tainan City	0.12	112	*e*P	Pg	12 31 23.8	+3.0
	baz=112						
SNST				*e*S	Sg	12 31 26.5	+3.8
	baz=112						
ICHU	Yijhu	0.13	316	*i* P	Pg	12 31 21.8	+0.9
	baz=317						
ICHU				S	Sg	12 31 25.5	+2.5
	baz=317						
SSHA	Shanhua	0.15	213	*i* P	Pg	12 31 22.1	+0.8
	baz=206						
SSHA				S	Sg	12 31 25.9	+2.3
	baz=206						
CHN1	Nanshi	0.16	120	*i* P	Pg	12 31 22.2	+0.8
	baz=112						
CHN1				S	Sg	12 31 25.8	+2.0
	baz=112						
CHN8	Yiju	0.17	298	*i* P	Pg	12 31 22.3	+0.7
	baz=301						
CHN8				S	Sg	12 31 26.6	+2.4
	baz=301						
CHN3	Shinhua	0.19	184	P	Pg	12 31 23.1	+1.3
	baz=190						
CHN3				S	Sg	12 31 27.4	+2.9
	baz=190						
SCLT	Jiali	0.19	242	*i* P	Pg	12 31 22.8	+0.9
	baz=241						
SCLT				S	Sg	12 31 27.4	+2.8
	baz=241						
CHN4	Tsaushan	0.21	67	P	Pg	12 31 23.5	+1.2
	baz=66						
CHN4				S	Sg	12 31 27.7	+2.3
	baz=66						
TPUB	Ta-pu	0.23	81	P	Pg	12 31 23.6	+1.0
	baz=80						
TPUB				S	Sg	12 31 27.9	+1.9
	baz=80						
CHY	Chiayi	0.23	10	P	Pg	12 31 23.9	+1.2
	baz=12						
CHY				*e*S	Sg	12 31 28.5	+2.5
	baz=12						
SHHT	Tainan City	0.24	187	*e*P	Pg	12 31 24.5	+1.6
	baz=187						
SGST	Jiashian	0.26	134	*e*P	Pg	12 31 23.4	+0.2
	baz=132						
SGST				*e*S	Sb	12 31 28.8	-0.5
	baz=132						
WCKO	Fanlu	0.27	50	P	Pb	12 31 24.4	-0.4
	baz=49						
WCKO				*e*S	Sb	12 31 29.6	+0.1
	baz=49						
WSL	Shuilin Townsh	0.29	332	*e*S	Sb	12 31 30.6	+0.5
	baz=332						
TSCK	Chigu Township	0.29	246	*e*P	Pg	12 31 24.3	+0.6
	baz=247						
TSCK				*e*S	Sb	12 31 29.6	-0.5
	baz=247						
STYT	Tauyuan	0.36	106	*e*P	Pb	12 31 26.1	-0.4
	baz=106						
STYT				*e*S	Sb	12 31 32.7	+0.4
	baz=106						
SLGT	Liugui	0.37	138	*e*P	Pb	12 31 26.4	-0.1
	baz=123						
SLGT				*e*S	Sb	12 31 34.5	+2.3
	baz=123						
STYH	Taoyuan	0.38	104	*e*P	Pb	12 31 26.3	-0.4
	baz=93						
STYH				*e*S	Sb	12 31 32.6	+0.1
	baz=93						
SCST	Cishan	0.39	164	*e*P	Pb	12 31 27.9	+1.0
	baz=151						
SCST				*e*S	Sb	12 31 35.3	+2.3
	baz=151						
CHN5	Tsauling	0.43	40	*e*P	Pb	12 31 27.3	-0.4
	baz=39						
CHN5				*e*S	Sb	12 31 34.5	+0.3
	baz=39						
TWM1	Shoushan	0.44	175	*e*P	Pn	12 31 29.5	-0.8
	baz=174						
ALS	Alishan	0.46	58	*e*P	Pb	12 31 28.2	-0.1
	baz=58						
ALS				*e*S	Sb	12 31 35.9	+0.5
	baz=58						
SSD	Sandimen	0.57	156	*e*P	Pb	12 31 30.6	+0.7
	baz=142						
SSD				*e*S	Sn	12 31 39.8	-1.6
	baz=142						
ELDTW	Lidau	0.59	97	*e*P	Pb	12 31 30.1	-0.3
	baz=97						
ELDTW				*e*S	Sb	12 31 39.8	+0.9
	baz=97						
TSMG	Majia	0.61	156	*e*P	Pb	12 31 30.6	0.0
	baz=144						
TSMG				*e*S	Sn	12 31 41.1	-1.4
	baz=144						
WRL	Guolierlin Hig	0.63	360	*e*S	Sb	12 31 40.2	+0.2
	baz=349						
MASBT	Mashibuluo	0.69	160	*e*P	Pb	12 31 32.0	0.0
	baz=143						
MASBT				*e*S	Sn	12 31 43.6	-0.9
	baz=143						
SSLB	Suanglung	0.74	45	*e*S	Sb	12 31 43.9	+0.7
	baz=45						
EHD	Haiduan	0.77	98	*e*P	Pb	12 31 33.6	+0.2
	baz=88						
EHD				*e*S	Sb	12 31 44.2	+0.3
	baz=88						
TYC	Yuchr	0.77	35	*e*S	Sn	12 31 45.4	-1.2
	baz=35						
TWG	Pinlang	0.78	125	*e*P	Pn	12 31 34.2	-0.7
	baz=111						
LONT	Longtian	0.78	117	*e*P	Pb	12 31 33.9	+0.4
	baz=105						
LONT				*e*S	Sb	12 31 45.3	+1.2
	baz=105						
SMLT	Sun Moon Lake	0.78	38	*e*S	Sn	12 31 46.0	-0.9
	baz=38						
TWGBT	Beinan	0.79	124	*e*P	Pn	12 31 34.4	-0.7
	baz=110						
TWGBT				*e*S	Sb	12 31 45.6	+1.2
	baz=110						
FULB	Fuli	0.84	94	*e*P	Pn	12 31 35.4	-0.5
	baz=85						
ECL	Taimali	0.85	141	*e*P	Pn	12 31 35.5	-0.4
	baz=140						
ECL				*e*S	Sn	12 31 47.9	-0.5
	baz=140						
VWDT	VWDT	0.85	55	S	Sn	12 31 47.6	-0.9
	baz=54						
EYUL	Yuli	0.87	84	*e*P	Pb	12 31 35.1	+0.1
	baz=84						
VCHM	Qimei	0.87	267	*e*S	Sg	12 31 46.3	+0.2
	baz=267						
EHY	Hungye	0.90	74	*e*P	Pb	12 31 35.7	+0.1
	baz=74						
EHY				*e*S	Sb	12 31 48.4	+0.7
	baz=74						
SCZT	Fangliau	0.92	166	*e*P	Pn	12 31 37.9	+1.1
	baz=150						
SCZT				*e*S	Sn	12 31 50.4	+0.3
	baz=150						
WCS	Beigang Elemen	0.93	32	*e*S	Sn	12 31 49.7	-0.7
	baz=32						
EAST	Anshuo	0.98	154	*e*P	Pn	12 31 37.4	-0.3
	baz=143						
EAST				*e*S	Sn	12 31 51.7	0.0
	baz=143						
HGSD	Ruisui	0.99	77	*e*P	Pn	12 31 37.7	-0.1
	baz=83						
HGSD				*e*S	Sn	12 31 53.1	+1.3
	baz=83						
OWD	Renai	1.00	47	*e*P	Pb	12 31 37.4	-0.1
	baz=46						
OWD				*e*S	Sb	12 31 51.0	+0.2
	baz=46						
CHGB	Renai	1.08	43	*e*P	Pg	12 31 38.2	-0.4
	baz=42						
SLIU	Shizi	1.11	159	*e*P	Pn	12 31 39.9	+0.3
	baz=159						
FUSS	Fushou	1.26	39	*e*P	Pb	12 31 41.9	0.0
	baz=38						

IDC 14 12:43:29.0±2.0, 58°01S×139°98W, h0km, mb4.2/3, mbtmp4.2/3, MS3.7/7, Error ellipse: s-maj=59.4km s-min=46.6km az=59.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	27.46	204	LR	LR	12 57 11.9	
	comp=Z,132nm,20.3s,baz=72,slow=30						
QSPA	South Pole Qui	32.14	180	P	P	12 49 58.0	+0.1
	4.2nm,1.2s,baz=72,slow=3.2,SNR=3.0						
QSPA				LR	LR	13 01 35.7	
	comp=Z,194nm,18.1s,baz=69,slow=34 4.2nm,1.2s						
URZ	Urewera	34.01	287	LR	LR	13 01 35.7	
	comp=Z,93nm,18.7s,baz=246,slow=32						
TBI	Tubuai	35.30	345	*e*LR	LR	12 59 46.3	
	comp=Z,3μm,25.0s						
TBI				*e*LR	LR	12 59 46.7	
	comp=Z,979nm,27.0s						
RAR	Rarotonga	39.48	330	LR	LR	13 03 06.7	
	comp=Z,64nm,18.4s,baz=214,slow=30						
PPT2	Papeete2	40.99	346	*e*LR	LR	13 02 24.8	
	comp=Z,172nm,31.2s						
PPT2				*e*LR	LR	13 02 25.0	
	comp=Z,217nm,25.2s						
PPT	Papeete	41.01	346	LR	LR	13 03 22.5	
	comp=Z,110nm,19.6s,baz=204,slow=29						
H03S2	Juan Fernandez	46.87	86	T	T	13 42 11.0	
	baz=217,slow=74,SNR=35						
H03S1	Juan Fernandez	46.88	86	T	T	13 42 12.3	
	baz=217,slow=74,SNR=35						
H03S3	Juan Fernandez	46.89	86	T	T	13 42 11.5	
	baz=217,slow=74,SNR=40						
H03N3	Juan Fernandez	47.16	86	T	T	13 42 33.0	
	baz=220,slow=72,SNR=22						
H03N2	Juan Fernandez	47.17	86	T	T	13 42 29.0	
	baz=220,slow=72,SNR=30						
H03N1	Juan Fernandez	47.18	86	T	T	13 42 36.4	
	baz=220,slow=72,SNR=30						
TAOE	Nuku Hiva Isla	49.04	360	*e*LR	LR	13 06 14.4	
	comp=Z,136nm,27.3s						
MSVF	Nonsavu	50.70	305	LR	LR	13 09 18.0	
	comp=Z,61nm,20.3s,baz=134,slow=31						
DZM	Mont Dzumac	52.45	290	*e*LR	LR	13 07 53.0	
	comp=Z,120nm,22.9s						
MAW	Mawson	53.56	191	LR	LR	13 13 14.9	
	comp=Z,69nm,20.6s,baz=169,slow=33						
ASAR	Alice Springs	68.23	260	P	P	12 54 31.1	-0.1
	3.5nm,1.2s,baz=145,slow=6.8,SNR=14 3.5nm,1.2s						
H01W1	Cape Leeuwin H	68.75	238	T	T	14 10 32.7	
	baz=146						
H01W2	Cape Leeuwin H	68.75	238	T	T	14 10 32.1	
	baz=146						
H01W3	Cape Leeuwin H	68.77	238	T	T	14 10 27.9	
	baz=146						
WRA	Warramunga Arr	71.05	263	P	P	12 54 49.0	+0.3
	2.0nm,1.1s,baz=152,slow=5.2,SNR=6.1 2.0nm,1.1s						
H10N3	ASCENSION HYDR	101.03	125	T	T	14 50 12.7	
	baz=208						
H10N1	ASCENSION HYDR	101.03	125	T	T	14 50 12.7	
	baz=208						
H10N2	ASCENSION HYDR	101.05	125	T	T	14 50 25.7	
	baz=208						
ILAR	Eielson Array	122.58	356	PKP	PKPdf	13 02 24.4	-0.3
	1.2nm,1.0s,baz=197,slow=2.8,SNR=7.6						

BEO **14** *12:50:00.8±0.7, 40°85N×19°96E, h0km±2km, ML2.8/8*
TIR **14** *12:50:01.6, 41°12N×20°13E, h2km±1km, Md3.4, Ml2.8*
SKO **14** *12:50:01.9, 41°06N×19°94E, h0km, ML2.6*
THE **14** *12:50:02.8, 41°13N×20°14E, h3km±3km, ML2.5/7, Error ellipse: s-maj=4.2km s-min=1.2km az=46.0*
PDG **14** *12:50:03.9±0.2, 41°14N×20°03E, h2km, ML2.6/12, Error ellipse: s-maj=1.0km s-min=1.5km az=0.0*

ISC 14 12:50:02.8±1.1, 41°11N±0°02×20°07E±0°02, h3km±10km, n50, σ1°28/89, 5C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.29	327	P	Pg	12 50 07.7	-0.6
TIR				S	Sg	12 50 13.9	+1.8
	2μm,0.6s						
TIR	Tirane	0.29	327	P	Pg	12 50 08.0	-0.3
	baz=320						
TIR				S	Sg	12 50 13.7	+1.6
	baz=320						
TIR				AMP			
	comp=E,6.7nm,0.9s,baz=320						
TIR	Tirane	0.29	327	*e*Pg	Pg	12 50 07.7	-0.6
TIR				*e*Sg	Sb	12 50 17.5	+1.6
TIR	Tirane	0.29	327	*i* Pg	Pg	12 50 07.5	-0.8
TIR				*i* Sg	Sb	12 50 15.4	-0.5
OHR	Ohrid	0.55	89	*e*Pg	Pg	12 50 13.2	-0.1
OHR				*e*Sg	Sb	12 50 22.2	-1.2
OHR	Ohrid	0.55	89	*i* Pg	Pg	12 50 13.0	-0.3
OHR				*i* Sg	Sb	12 50 22.0	-1.4
OHR				*e*Lg	Lg	12 50 25.1	
	comp=N,225nm,0.6s						
NEST	Nestorio	1.01	133	P	Pg	12 50 20.7	-1.5
NEST				S	Sb	12 50 36.9	+0.1
	comp=N,220nm,0.9s						
LSK	Leskovik	1.04	157	P	Pg	12 50 22.2	-0.4
LSK				S	Sb	12 50 37.4	-0.1
	comp=N,582nm,0.8s						
LSK	Leskovik	1.04	157	P	Pg	12 50 21.9	-0.7
	baz=159						
LSK				S	Sb	12 50 38.0	+0.6
	baz=159						
FNA	Florina	1.04	108	P	Pg	12 50 21.0	-1.7
FNA				S	Sb	12 50 36.7	-0.8
	comp=N,290nm,0.5s						
FNA	Florina	1.04	108	P	Pb	12 50 22.4	-1.1
	baz=108						
FNA				S	Sn	12 50 37.8	-1.7
	baz=108						
FNA	Florina	1.04	108	*i* Pg	Pg	12 50 21.3	-1.4
FNA				*i* Sg	Sn	12 50 39.0	-0.5
ULC	Ulcinj	1.06	324	⇓*i* Pg	Pg	12 50 21.5	-1.6
ULC				*i* Sg	Sg	12 50 36.9	+0.1
SRN	Sarande	1.23	183	P	Pg	12 50 25.3	-1.0
SRN				S	Sn	12 50 45.1	+1.2
	comp=N,170nm,0.8s						
SRN	Sarande	1.23	183	P	Pg	12 50 25.6	-0.7
	baz=185						
SRN				S	Sn	12 50 44.3	+0.4
	baz=185						
SRN				AMP			
	comp=E,0.7nm,0.9s,baz=185						
BCI	Bajram Curri	1.26	360	P	Pg	12 50 26.4	-0.6
	baz=358						
BCI				S	Sn	12 50 44.6	-0.2
	baz=358						
DRME	Dracevica, Mon	1.27	329	⇓*i* Pg	Pg	12 50 25.4	-1.7
DRME				*i* Sg	Sg	12 50 43.9	+0.3
SKO	Skopje	1.34	49	*e*Pn	Pn	12 50 30.0	+1.5
SKO	Skopje	1.34	49	*i* Pg	Pn	12 50 28.5	0.0
SKO				*i* Sg	Sn	12 50 48.4	+1.5
SKO				*e*Lg	Lg	12 50 53.9	
	comp=E,19nm,0.9s						
KEK	Kerkira	1.41	189	P	Pn	12 50 29.8	+0.4
KEK				S	Sb	12 50 48.8	+0.7
	comp=E,198nm,1.1s						
PDG	Podgorica	1.46	335	*e*Pn	Pb	12 50 30.5	-0.1
PDG				*e*Sn	Sg	12 50 52.8	+3.2
PDG	Podgorica	1.46	335	*i* Pg	Pb	12 50 30.2	-0.3
PDG				*i* Sg	Sg	12 50 53.5	+3.9
PDG	Podgorica	1.46	335	⇓*i* Pg	Pn	12 50 28.8	-1.3
PDG				*i* Sg	Sg	12 50 50.2	+0.6
PVY	Plav	1.49	357	⇑*i* Pg	Pn	12 50 29.9	-0.7
PVY				*i* Sg	Sn	12 50 51.8	+1.1
CEME	Cevo	1.68	329	⇑*i* Pn	Pn	12 50 33.0	-0.2
CEME				*i* Sn	Sg	12 50 57.6	+0.9
STIP	Stip	1.69	69	*i* Pg	Pg	12 50 38.2	+3.0
STIP				*i* Sg	Sg	12 51 07.2	+10
STIP				*e*Lg	Lg	12 51 09.7	
GRG	Griva	1.77	94	P	Pb	12 50 34.4	-1.5
GRG	Griva	1.77	94	*i* Sg	Sg	12 51 03.6	+4.0
BEY	Berane	1.77	356	*i* Pg	Pb	12 50 35.0	-1.0
IVA	Berane	1.77	356	⇑*i* Pn	Pn	12 50 34.3	-0.2
IVA				*i* Sn	Sg	12 51 00.8	+1.2
HCY	Herceg Novi	1.79	319	⇑*i* Pn	Pn	12 50 34.9	+0.3
HCY				*i* Sn	Sg	12 51 00.9	+0.7
KOME	Kolasin	1.79	347	⇓*i* Pn	Pn	12 50 35.2	+0.4
KOME				*i* Sn	Sg	12 51 01.1	+0.7
NKME	Niksic	1.86	334	⇓*i* Pn	Pn	12 50 36.4	+0.8
NKME				*i* Sn	Sg	12 51 02.3	-0.2
PRVS	Prvonek	2.05	46	*e*Pn	Pn	12 50 39.2	-1.5
PRVS				*e*Sn	Sg	12 51 08.5	-0.1
TREB	Trebinje	2.06	322	*e*Pn	Pn	12 50 39.1	+0.7
TREB				*e*Sn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**27.46**	**170**	P	P	12 59 11.8	0.0
	0.1nm,0.6s,baz=359,slow=8.3,SNR=5.7						
	0.1nm,0.6s						
JHJ	**Hachijo jima 2**	**31.13**	**18**	LR	LR	13 11 31.2	
	comp=E,212nm,19.7s,baz=96,slow=35						
MKAR	**Makanchi Array**	**59.00**	**324**	P	P	13 03 25.0	-0.5
	1.8nm,1.1s,baz=115,slow=5.1,SNR=5.8						
	1.8nm,1.1s						
ZALV	**Zalesovo Beam**	**61.79**	**332**	P	P	13 03 44.8	+0.4
	0.8nm,0.7s,baz=115,slow=6.7,SNR=4.4						
	0.8nm,0.7s						

IDC ***14*** *12:55:25.4±4.2,64.01N×148.99W,h113km±6km,mb2.9/1, mbtmp3.2/2,Error ellipse: s-maj=68.2km s-min=20.8km az=48.0*

NEIC ***14*** *12:55:26.3±0.8,63.89N±0.03×148.82W±0.09, h110km±6km,Error ellipse: s-maj=6.2km s-min=4.6km az=105.0*

AEIC ***14*** *12:55:26.4±0.8,63.87N±0.03×148.82W±0.08, h110km±5km,ML2.8/104,ML3.0/136(NEIC),Error ellipse: s-maj=5.4km s-min=4.6km az=79.0*

ISC 14 12:55:25.6±1.0,63.90N±0.03×148.82W±0.03, h113km±6km,n148,σ0.78/123,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.17**	**197**		**Pn**	**12 55 41.8**	**+0.4**
MCK					**Sn**	**12 55 53.5**	**+0.3**
MCK	**McKinley**	**0.17**	**197**	IAML		12 55 54.1	
	comp=N,234nm,0.5s						
BWN	**Browne**	**0.40**	**315**		**Pn**	**12 55 42.7**	**+0.5**
RND	**Reindeer**	**0.49**	**182**		**Pn**	**12 55 43.0**	**+0.2**
RND					**Sn**	**12 55 55.4**	**-0.3**
RND	**Reindeer**	**0.49**	**182**	IAML		12 55 56.4	
	comp=E,370nm,0.6s						
RND				IAML		12 55 56.4	
	comp=N,290nm,0.6s						
WRH	**Wood River Hil**	**0.66**	**29**		**Pn**	**12 55 44.5**	**+0.7**
WRH					**Sn**	**12 55 57.9**	**+0.1**
NEA2	**Nenana**	**0.71**	**351**		**Pn**	**12 55 44.8**	**+0.5**
NEA2					**Sn**	**12 55 58.5**	**0.0**
NEA2	**Nenana**	**0.71**	**351**	IAML		12 55 58.9	
	comp=E,263nm,0.6s						
TRF	**Thorofare Moun**	**0.79**	**236**		**Pn**	**12 55 45.8**	**+0.6**
TRF					**Sn**	**12 55 60.0**	**0.0**
TRF	**Thorofare Moun**	**0.79**	**236**	IAML		12 56 01.2	
	comp=E,211nm,0.5s						
TRF				IAML		12 56 01.9	
	comp=N,392nm,0.5s						
CCB	**Clear Creek Bu**	**0.88**	**30**		**Pn**	**12 55 46.4**	**+0.6**
HDA	**Harding Lake**	**0.97**	**57**		**Pn**	**12 55 47.3**	**+0.6**
BPAW	**Bear Paw Mtn.**	**0.97**	**283**		**Pn**	**12 55 47.1**	**+0.4**
KTH	**Kantishna Hill**	**0.99**	**251**		**Pn**	**12 55 47.6**	**+0.5**
KTH	**Kantishna Hill**	**0.99**	**251**	IAML		12 56 03.7	
	comp=N,193nm,0.4s						
DHY	**Denali Highway**	**1.05**	**141**		**Pn**	**12 55 48.0**	**+0.3**
DHY	**Denali Highway**	**1.05**	**141**	IAML		12 56 08.0	
	comp=N,502nm,0.7s						
DHY				IAML		12 56 08.9	
	comp=E,338nm,0.3s						
TCOL	**CIGO, UAF Yank**	**1.07**	**23**		**Pn**	**12 55 48.4**	**+0.8**
TCOL	**CIGO, UAF Yank**	**1.07**	**23**	IAML		12 56 05.5	
	comp=N,267nm,0.7s						
TCOL				IAML		12 56 05.6	
	comp=E,296nm,0.6s						
WAT7	**Susitna Watana**	**1.07**	**181**		**Pn**	**12 55 47.8**	**0.0**
COLA	**College**	**1.07**	**23**		**Pn**	**12 55 48.4**	**+0.8**
COLA	**College**	**1.07**	**23**	IAML		12 56 05.5	
	comp=E,311nm,0.7s						
COLA				IAML		12 56 05.6	
	comp=E,326nm,0.6s						
WAT1	**Susitna Watana**	**1.08**	**173**		**Pn**	**12 55 47.8**	**0.0**
PS08	**TAPS Pump Stn8**	**1.09**	**53**		**Pn**	**12 55 48.3**	**+0.4**
MDM	**Murphy Dome**	**1.10**	**13**		**Pn**	**12 55 48.9**	**+0.9**
MDM	**Murphy Dome**	**1.10**	**13**	IAML		12 56 06.0	
	comp=N,161nm,1.0s						
IL31		**1.22**	**43**		**Pn**	**12 55 49.6**	**+0.4**
ILAR	**Eielson Array**	**1.22**	**43**	P	**Pn**	**12 55 49.4**	**+0.1**
	comp=N,10nm,0.5s,baz=228,slow=11,SNR=180						
ILAR				S	**Sn**	**12 56 06.5**	**-0.8**
	comp=N,20nm,0.6s,baz=232,slow=19,SNR=16						
ILAR	**Eielson Array**	**1.22**	**43**	Pn	**Pn**	**12 55 49.6**	**+0.3**
I23K	**Minto, Yukon-K**	**1.28**	**350**		**Pn**	**12 55 50.9**	**+1.0**
K24K	**Donnelly Dome**	**1.35**	**93**		**Pn**	**12 55 51.5**	**+0.6**
POKR	**Poker Plat Res**	**1.37**	**26**		**Pn**	**12 55 51.7**	**+0.7**
WAT6	**Susitna Watana**	**1.41**	**159**		**Pn**	**12 55 51.9**	**+0.2**
MLY	**Manley**	**1.41**	**325**		**Pn**	**12 55 52.3**	**+0.8**
MLY	**Manley**	**1.41**	**325**	IAML		12 56 12.1	
	comp=N,99nm,1.1s						
CAST	**Castle Rocks**	**1.53**	**253**		**Pn**	**12 55 53.0**	**+0.1**
CHUM	**Lake Minchumin**	**1.54**	**271**		**Pn**	**12 55 53.6**	**+0.6**
CUT	**Chulitna**	**1.63**	**204**		**Pn**	**12 55 54.4**	**+0.3**
PAX	**Paxson**	**1.77**	**120**		**Pn**	**12 55 56.9**	**+1.0**
RIDG	**Independent Ri**	**1.77**	**93**		**Pn**	**12 55 56.2**	**+0.4**
RIDG	**Independent Ri**	**1.77**	**93**	IAML		12 56 20.5	
	comp=N,225nm,0.3s						
PPLA	**Purkeypile**	**1.82**	**238**		**Pn**	**12 55 57.0**	**+0.4**
I21K	**Tanana**	**1.88**	**315**		**Pn**	**12 55 57.9**	**+0.8**
I21K	**Tanana**	**1.88**	**315**	IAML		12 56 22.5	
	comp=N,102nm,0.9s						
I21K				IAML		12 56 22.6	
	comp=E,68nm,0.8s						
H24K	**Noodor Dome**	**1.99**	**11**		**Pn**	**12 55 59.5**	**+0.9**
SML	**Sawmill**	**2.11**	**174**		**Pn**	**12 56 01.0**	**+0.9**
SML	**Sawmill**	**2.11**	**174**	IAML		12 56 34.2	
	comp=N,153nm,0.5s						
SML				IAML		12 56 34.6	
	comp=E,125nm,0.5s						
DOT	**Dot Lake**	**2.13**	**95**		**Pn**	**12 56 00.6**	**+0.3**
GHO	**Glory Hole Cre**	**2.13**	**181**		**Pn**	**12 56 01.2**	**+0.8**
SCRK	**Sand Creek**	**2.14**	**86**		**Pn**	**12 56 00.8**	**+0.3**
SCRK	**Sand Creek**	**2.14**	**86**	IAML		12 56 28.4	
	comp=N,61nm,0.5s						
PRP	**Porcupine Dome**	**2.16**	**40**		**Pn**	**12 56 01.3**	**+0.6**
PRP	**Porcupine Dome**	**2.16**	**40**	IAML		12 56 28.0	
	comp=E,47nm,0.6s						
M24K	**Tolsona, Glenn**	**2.17**	**145**		**Pn**	**12 56 01.6**	**+0.8**
M24K	**Tolsona, Glenn**	**2.17**	**145**	IAML		12 56 38.6	
	comp=N,139nm,0.5s						
M24K				IAML		12 56 42.3	
	comp=E,160nm,0.5s						
M23K	**Glacier View**	**2.17**	**166**		**Pn**	**12 56 01.2**	**+0.4**
SCM	**Sheep Creek Mo**	**2.18**	**161**		**Pn**	**12 56 01.6**	**+0.6**
M22K	**Willow**	**2.23**	**196**		**Pn**	**12 56 02.6**	**+1.1**
HARP	**HAARP**	**2.24**	**130**		**Pn**	**12 56 02.3**	**+0.6**
H22K	**Ishtalitna Cre**	**2.28**	**333**		**Pn**	**12 56 03.2**	**+0.9**
SKT	**Skwentna**	**2.29**	**214**		**Pn**	**12 56 02.8**	**+0.5**
SKT	**Skwentna**	**2.29**	**214**	IAML		12 56 35.1	
	comp=N,136nm,0.3s						
SKT				IAML		12 56 39.1	
	comp=E,109nm,0.3s						
PMR	**Palmer**	**2.32**	**184**		**Pn**	**12 56 04.1**	**+1.4**
PMR	**Palmer**	**2.32**	**184**	IAML		12 56 38.8	
	comp=E,142nm,0.4s						
PMR				IAML		12 56 41.5	
	comp=N,110nm,0.4s						
J20K	**Nowinta River**	**2.36**	**279**		**Pn**	**12 56 03.5**	**+0.3**
J26L	**Joseph Creek**	**2.38**	**73**		**Pn**	**12 56 04.2**	**+0.6**
J26L	**Joseph Creek**	**2.38**	**73**	IAML		12 56 34.2	
	comp=E,73nm,0.6s						
J26L				IAML		12 56 34.2	
	comp=N,41nm,0.7s						
PS11	**TAPS Pump St11**	**2.38**	**138**		**Pn**	**12 56 04.7**	**+1.2**
K20K	**Telida**	**2.40**	**259**		**Pn**	**12 56 04.0**	**+0.2**
H21K	**Melozitna Rive**	**2.46**	**318**		**Pn**	**12 56 05.2**	**+0.7**
MENT	**Mentasta**	**2.49**	**110**		**Pn**	**12 56 05.8**	**+0.8**
MENT	**Mentasta**	**2.49**	**110**	IAML		12 56 42.0	
	comp=E,56nm,0.5s						
MENT				IAML		12 56 54.8	
	comp=N,67nm,0.7s						
KNK	**Knik Glacier**	**2.50**	**176**		**Pn**	**12 56 05.7**	**+0.7**
SUA	**Susitna One**	**2.60**	**201**		**Pn**	**12 56 07.8**	**+1.3**
L26K	**Log Cabin Wild**	**2.61**	**107**		**Pn**	**12 56 07.1**	**+0.6**
L26K	**Log Cabin Wild**	**2.61**	**107**	IAML		12 56 42.3	
	comp=E,61nm,0.5s						
L26K				IAML		12 56 55.4	
	comp=N,70nm,0.4s						
L20K	**Farewell, AK**	**2.70**	**240**		**Pn**	**12 56 07.8**	**+0.2**
KLU	**Klutina**	**2.76**	**150**		**Pn**	**12 56 08.7**	**+0.2**
KLU	**Klutina**	**2.76**	**150**	IAML		12 56 50.8	
	comp=E,70nm,0.4s						
KLU				IAML		12 56 51.3	
	comp=N,79nm,0.4s						
STLK	**Strandline Lak**	**2.78**	**211**		**Pn**	**12 56 08.8**	**+0.1**
M20K	**Styx River**	**2.82**	**226**		**Pn**	**12 56 08.9**	**-0.5**
M20K	**Styx River**	**2.82**	**226**	IAML		12 56 48.9	
	comp=E,46nm,0.8s						
M20K				IAML		12 56 49.6	
	comp=N,41nm,0.6s						
I26K	**Coal Creek Min**	**2.83**	**57**		**Pn**	**12 56 09.8**	**+0.6**
I26K	**Coal Creek Min**	**2.83**	**57**	IAML		12 56 46.0	
	comp=N,31nm,0.9s						
FIS	**Fire Island**	**2.84**	**194**		**Pn**	**12 56 12.4**	**+3.0**
RC01	**Rabbit Creek A**	**2.85**	**189**		**Pn**	**12 56 10.3**	**+0.7**
G23K	**Bananza Creek**	**2.87**	**350**		**Pn**	**12 56 10.8**	**+0.9**
G24K	**Hadweenzic Riv**	**2.87**	**11**		**Pn**	**12 56 10.7**	**+0.8**
IM03		**2.96**	**317**		**Pn**	**12 56 11.8**	**+0.7**
IMAR	**Indian Mountai**	**2.96**	**317**	Pn	**Pn**	**12 56 11.2**	**+0.1**
K27K	**Chicken**	**2.98**	**84**		**Pn**	**12 56 11.7**	**+0.4**
K27K	**Chicken**	**2.98**	**84**	IAML		12 56 47.9	
	comp=N,27nm,0.7s						
K27K				IAML		12 56 49.0	
	comp=E,25nm,0.7s						
N25K	**Chitina, Valde**	**3.01**	**138**		**Pn**	**12 56 12.3**	**+0.5**
N25K	**Chitina, Valde**	**3.01**	**138**	IAML		12 56 57.9	
	comp=E,28nm,3.7s						
N25K				IAML		12 57 42.7	
	comp=N,30nm,4.0s						
M26K	**Nabesna, AK**	**3.04**	**117**		**Pn**	**12 56 12.4**	**+0.3**
M26K				IAML		12 57 05.3	
	comp=N,32nm,0.6s						
M26K				IAML		12 57 08.2	
	comp=E,32nm,0.4s						
SPCP	**Crater Peak Br**	**3.06**	**212**		**Pn**	**12 56 13.4**	**+0.9**
PWL	**Port Wells**	**3.06**	**176**		**Pn**	**12 56 12.7**	**+0.3**
FYU	**Fort Yukon**	**3.08**	**28**	Pn	**Pn**	**12 56 12.5**	**0.0**
FYU				IAML		12 57 22.6	
	comp=N,68nm,4.5s						
FYU				IAML		12 57 43.9	
	comp=E,47nm,4.7s						
SPU	**Mount Spurr**	**3.11**	**210**		**Pn**	**12 56 14.6**	**+1.5**
DIV	**Divide**	**3.12**	**152**		**Pn**	**12 56 12.9**	**-0.3**
L19K	**White Mountain**	**3.24**	**241**		**Pn**	**12 56 14.9**	**+0.1**
L19K	**White Mountain**	**3.24**	**241**	IAML		12 56 55.0	
	comp=N,34nm,3.7s						
L19K				IAML		12 57 15.7	
	comp=E,26nm,3.7s						
L27K	**Beaver Creek,**	**3.25**	**102**		**Pn**	**12 56 15.0**	**+0.1**
L27K	**Beaver Creek,**	**3.25**	**102**	IAML		12 57 15.2	
	comp=N,24nm,4.5s						
BC03		**3.27**	**102**		**Pn**	**12 56 15.3**	**+0.3**
BCAR	**Beaver Creek A**	**3.27**	**102**		**Pn**	**12 56 15.0**	**-0.1**
G21K	**Allakaket**	**3.29**	**325**		**Pn**	**12 56 16.1**	**+0.7**
CAPN	**Captain Cook N**	**3.32**	**200**	Pn	**Pn**	**12 56 17.8**	**+2.0**
TTA	**Tatalina**	**3.37**	**257**		**Pn**	**12 56 16.2**	**-0.3**
TTA	**Tatalina**	**3.37**	**257**	IAML		12 58 10.5	
	comp=E,19nm,4.7s						
GLB	**Gilahina Butte**	**3.38**	**135**		**Pn**	**12 56 16.6**	**0.0**
GLB				IAML		12 56 58.2	
	comp=N,29nm,1.3s						
GLB				IAML		12 58 38.8	
	comp=E,25nm,4.7s						
TT01	**Tatalina**	**3.39**	**256**		**Pn**	**12 56 16.7**	**0.0**
COLD	**Coldfoot**	**3.40**	**351**	Pn	**Pn**	**12 56 17.2**	**+0.5**
EGAK	**Eagle**	**3.45**	**72**		**Pn**	**12 56 17.9**	**+0.4**
EGAK	**Eagle**	**3.45**	**72**	IAML		12 56 58.8	
	comp=E,46nm,0.8s						
EGAK				IAML		12 58 02.1	
	comp=E,22nm,4.8s						
SLKM	**Skilak Lake**	**3.46**	**192**		**Pn**	**12 56 18.6**	**+0.8**
M27K	**Edge Creek, AK**	**3.51**	**113**	Pn	**Pn**	**12 56 19.6**	**+1.1**
M27K				IAML		12 57 04.5	
	comp=E,23nm,4.4s						
M27K				IAML		12 57 33.6	
	comp=N,34nm,4.5s						
BMRM	**Bremner River**	**3.53**	**144**		**Pn**	**12 56 18.4**	**-0.3**
GCSA	**Galena City Sc**	**3.61**	**287**		**Pn**	**12 56 20.4**	**+0.8**
VRDI	**Verde Repeater**	**3.65**	**135**	Pn	**Pn**	**12 56 21.4**	**+0.9**
VRDI				IAML		12 57 03.5	
	comp=E,28nm,3.7s						
VRDI				IAML		12 57 38.1	
	comp=N,28nm,3.3s						
EYAK	**Cordova Ski Ar**	**3.65**	**155**		**Pn**	**12 56 20.4**	**+0.2**
F24K	**Squaw Lake**	**3.66**	**6**		**Pn**	**12 56 21.2**	**+0.8**
MCARA	**McCarthy VSAT**	**3.68**	**131**	Pn	**Pn**	**12 56 22.4**	**+1.8**
MCARA				IAML		12 57 40.3	
	comp=E,39nm,2.1s						
MCARA				IAML		12 57 43.1	
	comp=N,42nm,3.2s						
SEW	**Seward**	**3.82**	**185**	Pn	**Pn**	**12 56 22.4**	**0.0**
H27K	**Steamboat Moun**	**3.88**	**50**		**Pn**	**12 56 24.1**	**+0.9**
BVCY	**Beaver Creek**	**3.91**	**109**		**Pn**	**12 56 24.0**	**+0.4**
BM03	**Burnt Mountain**	**3.94**	**24**		**Pn**	**12 56 24.7**	**+0.6**
BMAR	**Burnt Mountain**	**3.96**	**24**	Pn	**Pn**	**12 56 24.9**	**+0.6**
N19K	**Bonanza Creek**	**4.06**	**223**	Pn	**Pn**	**12 56 26.9**	**+1.1**
N19K				IAML		12 57 30.9	
	comp=E,30nm,3.6s						
N19K				IAML		12 58 09.8	
	comp=N,33nm,4.0s						
DAWY	**Dawson**	**4.16**	**83**		**Pn**	**12 56 27.4**	**+0.3**
DAWY	**Dawson**	**4.16**	**83**	IAML		12 57 07.8	
	comp=N,16nm,2.8s						
DAWY				IAML		12 57 31.2	
	comp=E,16nm,4.8s						
G27K	**Doyon Strip**	**4.19**	**43**		**Pn**	**12 56 28.9**	**+1.5**
SVW2	**Sparrevohn**	**4.21**	**231**	Pn	**Pn**	**12 56 28.8**	**+1.1**
SVW2				IAML		12 57 17.9	
	comp=N,26nm,3.5s						
SVW2				IAML		12 57 42.6	
	comp=E,23nm,4.3s						
BRLK	**Bradley Lake**	**4.26**	**194**		**Pn**	**12 56 29.0**	**+0.6**
ILSW	**Iliamna Southw**	**4.42**	**209**	Pn	**Pn**	**12 56 31.9**	**+1.3**
ILSW				IAML		12 57 20.7	
	comp=N,49nm,3.2s						
ILSW				IAML		12 58 56.0	
	comp=E,43nm,3.4s						
WAX	**Waxell Ridge**	**4.45**	**138**	Pn	**Pn**	**12 56 32.5**	**+1.5**
ISLE	**Juniper Island**	**4.48**	**135**	Pn	**Pn**	**12 56 33.0**	**+1.5**
CNPM	**China Poot**	**4.53**	**196**		**Pn**	**12 56 32.6**	**+0.5**
J29M	**Klondike Camp**	**4.67**	**78**		**Pn**	**12 56 34.7**	**+0.8**
J29M				IAML		12 57 34.2	
	comp=E,23nm,0.6s						
O18K	**Koktuh Hills**	**5.05**	**220**	Pn	**Pn**	**12 56 40.1**	**+1.0**
P18K	**Big Mountain,**	**5.45**	**217**	Pn	**Pn**	**12 56 45.6**	**+1.2**
Q19K	**Cape Douglas,**	**5.49**	**207**	Pn	**Pn**	**12 56 45.5**	**+0.5**
M30M	**Minto, Yukon**	**5.60**	**98**	Pn	**Pn**	**12 56 47.1**	**+0.7**
EPYK	**Eagle Plains**	**5.68**	**59**	Pn	**Pn**	**12 56 47.8**	**+0.3**
KDAK	**Kodiak Island**	**6.40**	**198**	Pn	**Pn**	**12 56 58.0**	**+0.8**
M31M	**Drury Creek, Y**	**6.78**	**98**	Pn	**Pn**	**12 57 03.3**	**+1.0**
YKA	**Yellowknife Ar**	**15.39**	**80**	P	**Pn**	**12 58 56.0**	**-0.1**
	comp=E,0.4nm,0.7s,baz=288,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**62.56**	**323**	P	**P**	**13 05 35.9**	**-1.1**
	comp=E,0.2nm,0.7s,baz=36,slow=8.4,SNR=1.7						
	comp=E,0.2nm,0.7s						

IDC ***14*** *13:04:17.1±1.0,38.32N×73.06E,h0km,mb3.6/10, mbtmp3.6/13,ML3.2/3,Error ellipse: s-maj=22.1km s-min=18.0km az=11.0*

SOME ***14*** *13:04:18.0,38.32N×73.08E,h10km*

NNC ***14*** *13:04:22.7±2.1,38.56N×72.90E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=16.4km s-min=10.1km az=174.0*

ISC 14 13:04:18.6±0.7,38.36N±0.06×73.06E±0.06,h10km,n54, σ2.72/51,mb3.6/10,7C-7D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.80**	**7**	P	**Pn**	**13 05 20.6**	**+3.1**
	SNR=20						
UCH	**Uchtor**	**4.02**	**16**	P	**Pn**	**13 05 23.9**	**+3.2**
	SNR=17						
MRKS	**Merke**	**4.38**	**2**	*e*Pg	**Pb**	**13 05 36.7**	**+1.0**
	20nm,0.6s						
MRKS				*e*Lg	Lg	13 06 32.0	
	35nm,0.8s						
AAK	**Ala-Archa**	**4.41**	**14**	P	**Pn**	**13 05 29.2**	**+3.5**
	SNR=20						
IUG	**Iuzhnay**	**4.43**	**329**	*e*Pg	**Pg**	**13 05 40.7**	**-2.8**
	107nm,0.8s						
IUG				*e*Lg	Lg	13 06 38.9	
	255nm,1.0s						
KBK	**Karagaybulak**	**4.53**	**18**	P	**Pb**	**13 05 36.6**	**-1.6**
	SNR=8.6						
ULHL	**Ulahol**	**4.58**	**31**	P	**Pg**	**13 05 44.1**	**-2.2**
	SNR=5.5						
CEP	**Cherat**	**4.62**	**192**	P	**Pn**	**13 05 30.6**	**+2.0**
CHMS	**Chumysh**	**4.81**	**15**	P	Pb	13 05 37.7	-5.2
	SNR=6.4						
CHMS	**Chumysh**	**4.81**	**15**	⇑Pn	Pn	13 05 36.6	+5.5
	20nm,0.8s						
CHMS				⇑Lg	Lg	13 06 52.9	
	32nm,0.8s						
TKM2	**Tokmak 2**	**4.95**	**22**	P	**Pb**	**13 05 42.6**	**-2.8**
	SNR=7.0						
TKM2	**Tokmak 2**	**4.95**	**22**	⇑Pn	Pn	13 05 38.4	+5.2
	5.1nm,0.6s						
TKM2				⇓Pg	**Pg**	**13 05 52.1**	**-1.3**
	24nm,0.9s						
TKM2				⇓Lg	Lg	13 07 00.9	
	31nm,0.7s						
USP	**Osepenovka**	**5.02**	**12**	P	**Pb**	**13 05 41.9**	**-4.7**
	SNR=9.5						
KK31	**Karatay Array**	**5.12**	**339**	⇑Pn	**Pn**	**13 05 36.0**	**+0.7**
	4.3nm,0.3s,baz=154,slow=13,SNR=68						
KK31				⇑Sn	**Sn**	**13 06 36.3**	**+1.9**
	26nm,0.8s,baz=144,slow=23,SNR=3.8						
KK31				⇓Lg	Lg	13 07 00.1	
	40nm,0.7s						
KST	**Kastek**	**5.17**	**24**	Pg	**Pg**	**13 05 55.3**	**-2.3**
	13nm,0.7s						
KST				Lg	Lg	13 07 03.1	
	48nm,1.4s						
KST	**Kastek**	**5.17**	**24**	*e*Pg	**Pg**	**13 05 55.3**	**-2.3**
	13nm,0.7s						
KST				*e*Lg	Lg	13 07 03.1	
	48nm,1.4s						
MTBS	**Maitube**	**5.41**	**27**	Pg	**Pg**	**13 05 59.9**	**-2.2**
	11nm,0.7s						
MTBS				Lg	Lg	13 07 11.2	
	28nm,1.2s						
MTBS	**Maitube**	**5.41**	**27**	*e*Pg	**Pg**	**13 05 59.9**	**-2.2**
	11nm,0.7s						
MTBS				*e*Lg	Lg	13 07 11.2	
	28nm,1.2s						
TNSS	**Tian-Shan**	**5.53**	**31**	Pg	**Pg**	**13 06 01.1**	**-3.3**
	3.8nm,0.5s						
TNSS				Lg	Lg	13 07 13.3	
	9.9nm,0.9s						
TNSS	**Tian-Shan**	**5.53**	**31**	*e*Pg	**Pg**	**13 06 01.1**	**-3.3**
	3.8nm,0.5s						
TNSS				*e*Lg	Lg	13 07 13.3	
	9.9nm,0.9s						
THW	**Thamme Wali**	**5.66**	**191**	P	**Pn**	**13 05 42.9**	**+0.2**
MDOK	**Medeo**	**5.67**	**31**	Pg	**Pg**	**13 06 04.6**	**-2.6**
	8.8nm,0.6s						
MDOK				⇓Pg	Pb	13 06 05.0	+7.2
	9.1nm,0.6s						
MDOK				Lg	Lg	13 07 19.0	
	40nm,1.1s						
MDOK				⇓Lg	Lg	13 07 23.8	
	58nm,1.0s						
MDOK	**Medeo**	**5.67**	**31**	*e*Pg	**Pg**	**13 06 04.6**	**-2.6**
	8.8nm,0.6s						
MDOK				*e*Lg	Lg	13 07 19.0	
	40nm,1.1s						
KRBS	**Karabastau**	**5.69**	**20**	Pg	**Pb**	**13 06 02.0**	**+4.1**
	8.5nm,0.8s						
KRBS				Lg	Lg	13 07 15.3	
	22nm,0.8s						
KRBS	**Karabastau**	**5.69**	**20**	*e*Pg	**Pb**	**13 06 02.0**	**+4.1**
	8.5nm,0.8s						
KRBS				*e*Lg	Lg	13 07 15.3	
	22nm,0.8s						
KOTS	**Kotyrbulak**	**5.76**	**31**	Pg	**Pg**	**13 06 04.6**	**-4.3**
	7.1nm,0.7s						
KOTS				Lg	Lg	13 07 19.8	
	54nm,0.7s						
KOTS	**Kotyrbulak**	**5.76**	**31**	*e*Pg	**Pg**	**13 06 04.6**	**-4.3**
	7.1nm,0.7s						
KOTS				*e*Lg	Lg	13 07 19.8	
	54nm,0.7s						
KTBS	**Karatobe**	**6.01**	**26**	Pg	Pb	13 06 08.4	+5.1
	3.6nm,0.5s						
KTBS				Lg	Lg	13 07 26.2	
	48nm,0.9s						
KTBS	**Karatobe**	**6.01**	**26**	*e*Pg	Pb	13 06 08.4	+5.1
	3.6nm,0.5s						
KTBS				*e*Lg	Lg	13 07 26.2	
	48nm,0.9s						
KUU	**Kurty**	**6.06**	**23**	Pg	**Pg**	**13 06 10.8**	**-3.8**
	4.1nm,0.3s						
KUU				Lg	Lg	13 07 30.1	
	20nm,1.1s						
KUU	**Kurty**	**6.06**	**23**	*e*Pg	**Pg**	**13 06 10.8**	**-3.8**
	4.1nm,0.3s						
KUU				*e*Lg	Lg	13 07 30.1	
	20nm,1.1s						
SATY	**Saty**	**6.21**	**39**	Pg	**Pg**	**13 06 13.2**	**-4.3**
	11nm,0.7s						
SATY				Lg	Lg	13 07 34.4	
	33nm,1.3s						
SATY	**Saty**	**6.21**	**39**	*e*Pg	**Pg**	**13 06 13.2**	**-4.3**
	11nm,0.7s						
SATY				*e*Lg	Lg	13 07 34.4	
	33nm,1.3s						
CHKK	**Chushkaly**	**6.24**	**27**	Pg	**Pg**	**13 06 13.8**	**-4.2**
	1.9nm,0.1s						
CHKK				Lg	Lg	13 07 35.6	
	12nm,0.8s						
CHKK	**Chushkaly**	**6.24**	**27**	*e*Pg	**Pg**	**13 06 13.8**	**-4.2**
	1.9nm,0.1s						
CHKK				*e*Lg	Lg	13 07 35.6	
	12nm,0.8s						
UZB	**Uzynbulak**	**6.58**	**42**	Pg	Pg	13 06 19.4	-5.2
	3.6nm,0.2s						
UZB				Lg	Lg	13 07 45.2	
	13nm,1.8s						
UZB	**Uzynbulak**	**6.58**	**42**	*e*Pg	Pg	13 06 19.4	-5.2
	3.6nm,0.2s						
UZB				*e*Lg	Lg	13 07 45.2	

0.2nm,0.8s

WEL ***14*** *13:42:00,41.66S×174.30E,h21km,ML4.1,Mw4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr1.01; Mθθ0.03; Mϕϕ-1.04; Mrθ-0.30; Mϕθ-0.37; Mϕr0.19; Fault plane solution: M₀1.14000×10¹⁵ NP1: ϕs216.00000°,δ46.00000°,λ117.00000°. NP2: ϕs359.00000°,δ50.00000°,λ65.00000°. Principal axes: T -115.6100, Plg71.0000°, Azm203.0000°; N 2.4800, Plg19.0000°, Azm16.0000°; P 113.1200, Plg2.0000°, Azm107.0000°;*

IDC ***14*** *13:42:31.4±1.3,41.48S×174.23E,h0km,mb3.9/4, mbtmp3.8/6,ML3.4/2 Error ellipse: s-maj=33.8km s-min=24.4km az=128.0*

WEL ***14*** *13:42:35.1±0.6,42.2S±4.4×17.4E±.,h15km±5km,M4.1/24, ML4.3/25,MLv4.1/24,Error ellipse: s-maj=0.0km s-min=0.0km az=141.3,confirmed*

ISC 14 13:42:34.6±0.9,**41.77S**±0.03×**174.38E**±0.03,**h25**km±6km, **n127,**σ1°**31**/135,**mb3.9**/4,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**277**	P	**Pb**	**13 42 39.4**	**-0.1**
CMWZ				S	**Sb**	**13 42 42.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.38**	**277**	P	**Pb**	**13 42 42.7**	**-0.1**
BSWZ				S	**Sb**	**13 42 48.3**	**-0.2**
TUWZ	**Tuamarina**	**0.47**	**316**	P	**Pb**	**13 42 43.6**	**-0.7**
TUWZ				S	**Sb**	**13 42 49.9**	**-0.9**
TCW	**Tory Channel**	**0.56**	**352**	P	**Pb**	**13 42 45.0**	**-0.8**
TCW				S	**Sb**	**13 42 51.4**	**-1.2**
WEL	**Wellington**	**0.56**	**31**	P	**Pb**	**13 42 46.0**	**+0.2**
WEL				S	**Sb**	**13 42 54.1**	**+0.7**
PLWZ	**Palliser**	**0.69**	**74**	P	**Pn**	**13 42 49.4**	**+0.8**
MSWZ	**Moikau Station**	**0.74**	**62**	P	**Pn**	**13 42 50.4**	**+1.0**
MSWZ				S	**Sn**	**13 43 01.6**	**+1.8**
CAW	**Cannon Point**	**0.84**	**38**	P	**Pb**	**13 42 50.7**	**+0.3**
PAWZ	**Paruwai Farm**	**0.87**	**64**	P	**Pn**	**13 42 51.9**	**+0.7**
KHZ	**Kahutara**	**0.90**	**224**	P	**Pb**	**13 42 52.9**	**+1.3**
NNZ	**Nelson**	**0.93**	**306**	P	**Pn**	**13 42 51.7**	**-0.3**
KIW	**Kapiti Island**	**0.99**	**24**	P	**Pn**	**13 42 52.9**	**+0.1**
DUWZ	**D'Urville Isla**	**1.02**	**340**	P	**Pb**	**13 42 53.1**	**-0.5**
MTW	**Mount Morrison**	**1.04**	**55**	P	**Pn**	**13 42 54.0**	**+0.5**
TRWZ	**Traveller**	**1.05**	**70**	P	**Pn**	**13 42 54.1**	**+0.5**
THZ	**Tophouse**	**1.10**	**270**	P	**Pb**	**13 42 55.1**	**+0.1**
OGWZ	**Otaki Gorge**	**1.12**	**32**	P	**Pb**	**13 42 55.3**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.22**	**45**	P	**Pn**	**13 42 56.5**	**+0.5**
MRNZ	**Matariki Terra**	**1.27**	**286**	P	**Pb**	**13 42 57.8**	**0.0**
TKNZ	**Takaka Hill**	**1.29**	**304**	P	**Pb**	**13 42 57.8**	**-0.4**
TMWZ	**Te Maipa**	**1.31**	**60**	P	**Pn**	**13 42 57.6**	**+0.3**
MRZ	**Mangatainoka R**	**1.43**	**40**	P	**Pn**	**13 42 59.4**	**+0.6**
TIWZ	**Tintock**	**1.50**	**49**	P	**Pn**	**13 43 00.3**	**+0.4**
GVZ	**Greta Valley S**	**1.56**	**219**	P	**Pn**	**13 43 01.7**	**+1.0**
CPWZ	**Castlepoint**	**1.62**	**59**	P	**Pn**	**13 43 01.8**	**+0.4**
QRZ	**Quartz Range**	**1.68**	**303**	P	**Pb**	**13 43 04.2**	**-0.6**
PRWZ	**Pori Road**	**1.71**	**45**	P	**Pn**	**13 43 03.0**	**+0.3**
POWZ	**Post Office Ro**	**1.73**	**38**	P	**Pn**	**13 43 03.4**	**+0.4**
BFZ	**Birch Farm**	**1.78**	**53**	P	**Pn**	**13 43 03.3**	**-0.3**
LTZ	**Lake Taylor**	**1.87**	**236**	P	**Pn**	**13 43 05.9**	**+1.0**
AMCZ	**Amberley**	**1.90**	**222**	P	**Pn**	**13 43 05.9**	**+0.6**
DSZ	**Denniston Nort**	**1.93**	**270**	P	**Pb**	**13 43 07.3**	**-1.7**
DVHZ	**Dannevirke**	**1.99**	**43**	P	**Pn**	**13 43 06.3**	**-0.4**
ANWZ	**Angora Road**	**2.05**	**51**	P	**Pn**	**13 43 06.9**	**-0.5**
WAZ	**Wanganui**	**2.06**	**13**	P	**Pb**	**13 43 10.4**	**-0.8**
TSZ	**Takapari Road**	**2.08**	**36**	P	**Pn**	**13 43 08.0**	**+0.1**
OKCZ	**Okains Bay**	**2.19**	**206**	P	**Pn**	**13 43 09.5**	**+0.2**
PRHZ	**Porangahau**	**2.27**	**49**	P	**Pn**	**13 43 09.8**	**-0.7**
LREZ	**Lake Rotokare**	**2.30**	**0**	P	**Pb**	**13 43 15.9**	**+0.5**
PNHZ	**Pukenui**	**2.31**	**37**	P	**Pn**	**13 43 10.9**	**-0.1**
WPHZ	**Waipukurau**	**2.31**	**43**	P	**Pn**	**13 43 10.7**	**-0.3**
MQZ	**McQueen's Vall**	**2.32**	**213**	P	**Pn**	**13 43 10.5**	**-0.6**
OXZ	**Oxford**	**2.33**	**227**	P	**Pn**	**13 43 11.0**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.37**	**207**	P	**Pn**	**13 43 11.7**	**-0.1**
NMEZ	**Namu Road**	**2.38**	**351**	P	**Pb**	**13 43 17.1**	**+0.4**
INZ	**Inchbonnie**	**2.38**	**245**	P	**Pn**	**13 43 12.9**	**+1.0**
KHEZ	**Kahui Hut**	**2.48**	**353**	P	**Pb**	**13 43 17.2**	**-1.3**
NEZ	**North Egmont**	**2.50**	**355**	P	**Pb**	**13 43 17.4**	**-1.5**
MTVZ	**Mangateitei**	**2.52**	**20**	P	**Pb**	**13 43 20.9**	**+1.8**
NBEZ	**Newall Road No**	**2.52**	**351**	P	**Pb**	**13 43 17.0**	**-2.2**
PXZ	**Pawanui**	**2.56**	**48**	P	**Pn**	**13 43 13.3**	**-1.1**
RACZ	**Rakaia**	**2.56**	**219**	P	**Pn**	**13 43 14.0**	**-0.4**
DREZ	**Durham Road**	**2.58**	**357**	P	**Pb**	**13 43 18.6**	**-1.5**
MOVZ	**Moawhango**	**2.58**	**24**	P	**Pn**	**13 43 16.7**	**+2.0**
PKVZ	**Pokaka**	**2.58**	**17**	P	**Pn**	**13 43 17.9**	**-2.3**
PKE	**Pukeiti**	**2.58**	**353**	P	**Pb**	**13 43 17.7**	**-2.5**
KRHZ	**Kereru**	**2.60**	**36**	P	**Pn**	**13 43 14.7**	**-0.4**
WNVZ	**Wahianoa**	**2.61**	**21**	P	**Pn**	**13 43 16.8**	**+1.6**
BHHZ	**Black Hill Sta**	**2.61**	**30**	P	**Pn**	**13 43 15.7**	**+0.5**
WHVZ	**Whangaehu Hut**	**2.65**	**21**	P	**Pb**	**13 43 20.9**	**-0.5**
DRZ	**Dome Shelter**	**2.65**	**20**	P	**Pb**	**13 43 22.4**	**+1.0**
VRZ	**Vera Road**	**2.65**	**6**	P	**Pn**	**13 43 18.2**	**+2.5**
FWVZ	**Far West T-bar**	**2.66**	**20**	P	**Pn**	**13 43 17.9**	**+1.9**
TUVZ	**Tukino**	**2.68**	**22**	P	**Pb**	**13 43 22.5**	**+0.6**
MHCZ	**Mount Hutt**	**2.72**	**229**	P	**Pn**	**13 43 16.3**	**-0.4**
KAHZ	**Kahuranaki**	**2.73**	**45**	P	**Pn**	**13 43 15.9**	**-1.0**
NGZ	**Ngauruhoe**	**2.75**	**20**	P	**Pn**	**13 43 18.9**	**+1.8**
SNVZ	**South Ngauruho**	**2.75**	**21**	P	**Pb**	**13 43 22.7**	**-0.4**
OTVZ	**Oturere**	**2.78**	**21**	P	**Pb**	**13 43 23.3**	**-0.3**
NNVZ	**North Ngauruho**	**2.79**	**20**	P	**Pn**	**13 43 19.6**	**+1.8**
WTVZ	**West Tongariro**	**2.80**	**20**	P	**Pn**	**13 43 19.4**	**+1.5**
KWHZ	**Kaweka Forest**	**2.81**	**34**	P	**Pn**	**13 43 17.6**	**-0.3**
TWVZ	**Taurewa**	**2.81**	**17**	P	**Pn**	**13 43 20.8**	**+2.3**
ETVZ	**East Tongariro**	**2.82**	**22**	P	**Pn**	**13 43 19.5**	**+1.5**
TMVZ	**Te Maari**	**2.83**	**21**	P	**Pn**	**13 43 19.6**	**+1.4**
KRVZ	**Karewarewa**	**2.84**	**20**	P	**Pn**	**13 43 20.9**	**+2.6**
NTVZ	**North Tongarir**	**2.84**	**21**	P	**Pb**	**13 43 23.8**	**-0.9**
WACZ	**Wakanui South**	**2.87**	**220**	P	**Pn**	**13 43 18.2**	**-0.4**
MCHZ	**McNeill Hill**	**2.91**	**38**	P	**Pn**	**13 43 18.8**	**-0.4**
KATZ	**Kakaramea**	**2.96**	**20**	P	**Pb**	**13 43 27.7**	**+1.0**
WVZ	**Waitaha Valley**	**3.00**	**243**	P	**Pn**	**13 43 21.2**	**+0.8**
RITZ	**Rihia Road**	**3.00**	**23**	P	**Pb**	**13 43 27.4**	**0.0**
BKZ	**Black Stump Fm**	**3.06**	**33**	P	**Pn**	**13 43 20.6**	**-0.7**
RATZ	**Rangitukua**	**3.08**	**21**	P	**Pb**	**13 43 26.3**	**-2.4**
RPZ	**Rata Peaks**	**3.13**	**230**	Pn	**Pn**	**13 43 22.1**	**-0.2**
	16nm,0.3s,baz=30,slow=15,SNR=18						
RPZ				Sn	**Sn**	**13 43 56.8**	**-2.0**
	2.2nm,0.3s,baz=3.4,slow=19,SNR=1.3 36nm,0.3s						
RPZ	**Rata Peaks**	**3.13**	**230**	P	**Pn**	**13 43 22.4**	**+0.1**
ARHZ	**Aropaoanui**	**3.20**	**39**	P	**Pn**	**13 43 22.4**	**-0.8**
ARCZ	**Arundel**	**3.21**	**226**	P	**Pn**	**13 43 23.1**	**-0.3**
WATZ	**Wairara**	**3.22**	**19**	P	**Pb**	**13 43 30.8**	**-0.3**
HIZ	**Hauiti**	**3.27**	**7**	P	**Pn**	**13 43 26.3**	**+2.2**
MRHZ	**Matea Rd**	**3.32**	**29**	P	**Pn**	**13 43 24.3**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**3.37**	**241**	P	**Pn**	**13 43 26.9**	**+1.3**
ALRZ	**Allen Road**	**3.54**	**26**	P	**Pb**	**13 43 34.6**	**-1.8**
TLZ	**Tolley Road**	**3.54**	**15**	P	**Pn**	**13 43 29.8**	**+1.8**
TMZ	**Timaru**	**3.60**	**222**	P	**Pn**	**13 43 28.6**	**-0.1**
PRRZ	**Plateau Road**	**3.61**	**26**	P	**Pb**	**13 43 34.4**	**-3.2**
KNZ	**Kokohu**	**3.72**	**44**	P	**Pn**	**13 43 28.7**	**-1.6**
SNGZ	**Shannon Statio**	**3.73**	**38**	P	**Pn**	**13 43 29.3**	**+1.5**
MUGZ	**Murupara**	**3.76**	**30**	P	**Pn**	**13 43 31.7**	**+0.7**
FOZ	**Fox Glacier**	**3.80**	**241**	P	**Pn**	**13 43 32.1**	**+0.7**
LBZ	**Lake Benmore**	**4.04**	**228**	P	**Pn**	**13 43 35.0**	**+0.3**
URZ	**Urewera**	**4.08**	**32**	Pn	**Pn**	**13 43 33.0**	**-2.3**
	0.8nm,0.3s,baz=311,slow=6.0,SNR=11						
URZ				Sn	**Sn**	**13 44 20.1**	**-2.1**
	2.1nm,0.3s,baz=185,slow=21,SNR=1.6 5.9nm,0.8s						
URZ	**Urewera**	**4.08**	**32**	P	**Pn**	**13 43 35.0**	**-0.3**
TOZ	**Tahuroa Road**	**4.12**	**12**	P	**Pn**	**13 43 38.7**	**+2.9**
ODZ	**Otahua Downs**	**4.26**	**218**	P	**Pn**	**13 43 37.2**	**-0.6**
RUGZ	**Raukumara Rang**	**4.56**	**35**	P	**Pn**	**13 43 40.3**	**-1.8**
MKAZ	**Moumakai**	**4.69**	**8**	P	**Pn**	**13 43 45.1**	**+1.4**
AWAZ	**Awhitu Peninsu**	**4.70**	**3**	P	**Pn**	**13 43 46.6**	**+2.8**
JCZ	**Jackson Bay**	**4.71**	**239**	P	**Pn**	**13 43 44.7**	**+0.6**
HAZ	**Te Kaha**	**4.79**	**34**	P	**Pn**	**13 43 44.0**	**-1.0**
ETAZ	**East Tamaki Re**	**4.82**	**5**	P	**Pn**	**13 43 47.6**	**+2.1**
HHSZ	**Highcliff Hill**	**4.94**	**212**	P	**Pn**	**13 43 46.9**	**-0.2**
WKZ	**Wanaka**	**4.97**	**230**	P	**Pn**	**13 43 47.2**	**-0.3**
RVAZ	**Riverhead Bore**	**4.99**	**2**	P	**Pn**	**13 43 50.5**	**+2.7**
MBAZ	**Motutapu North**	**5.00**	**5**	P	**Pn**	**13 43 51.0**	**+3.0**
EAZ	**Earnscleugh**	**5.06**	**225**	P	**Pn**	**13 43 48.6**	**-0.2**
MLZ	**Mavora Lakes**	**5.80**	**230**	P	**Pn**	**13 43 58.7**	**-0.3**
WCZ	**Waipu Caves**	**5.82**	**360**	P	**Pn**	**13 44 02.5**	**+3.4**
SYZ	**Scrubby Hill**	**6.08**	**217**	P	**Pn**	**13 44 02.8**	**0.0**
OUZ	**Omahuta**	**6.56**	**354**	P	**Pn**	**13 44 12.6**	**+3.1**
CTZ	**Chatham Island**	**6.91**	**110**	P	**Pn**	**13 44 14.3**	**+0.1**
ASAR	**Alice Springs**	**38.13**	**285**	P	**P**	**13 49 50.8**	**-0.9**
	0.5nm,0.4s,baz=120,slow=6.6,SNR=38 0.5nm,0.4s						
WRA	**Warramunga Arr**	**40.20**	**290**	P	**P**	**13 50 08.1**	**-0.8**
	1.1nm,0.6s,baz=127,slow=8.0,SNR=15 1.1nm,0.6s						
QSPA	**South Pole Qui**	**48.36**	**180**	P	**P**	**13 51 17.2**	**+3.2**
	1.1nm,0.8s,baz=17,slow=2.1,SNR=3.1 1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.73**	**293**	P	**P**	**13 55 39.8**	**-0.2**
	0.5nm,0.5s,baz=158,slow=7.3,SNR=2.3 0.5nm,0.5s						
BRTR	**Keskin Array B**	**150.36**	**279**	PKPbc	**PKiKP**	**14 02 24.4**	**+0.2**
	0.5nm,0.7s,baz=94,slow=1.9,SNR=2.1						
FINES	**FINESS Array B**	**152.60**	**327**	PKPbc	**PKPbc**	**14 02 26.8**	**-0.9**
	1.7nm,0.9s,baz=63,slow=0.3,SNR=1.8						

NEIC ***14*** *13:58:57.2±1.7,21.8S±0.1×179.1W±0.1,h583km±9km, mb4.4/41,Error ellipse: s-maj=18.8km s-min=16.8km az=146.0*

IDC ***14*** *13:58:59.0±1.5,21.62S×179.25W,h596km±15km, mb3.4/10,mbtmp4.4/12,Error ellipse: s-maj=25.7km s-min=14.7km az=151.0*

ISC 14 13:58:57.6±0.4,**21.83S**±0.06×**179.04W**±0.07,**h600**km, **n100,**σ2°**07**/111,**mb4.3**/29,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.91**	**326**	P	**P**	**14 00 29.9**	**-0.1**
	58nm,0.6s,baz=160,slow=7.0,SNR=38						
MSVF				S	**S**	**14 01 45.2**	**0.0**
	43nm,0.9s,baz=180,slow=20,SNR=14						
GLKZ	**Green Lake**	**7.47**	**172**	P	**P**	**14 00 50.8**	**-1.0**
GLKZ				S	**S**	**14 02 18.0**	**-7.4**
NIUE	**Niue**	**8.97**	**74**	P	**P**	**14 01 06.8**	**+0.5**
AFI	**Afiamalu**	**10.47**	**42**	P	**P**	**14 01 18.6**	**-2.7**
	25nm,0.5s,baz=236,slow=3.6,SNR=12						
AFI				S	**S**	**14 03 10.7**	**-8.5**
	16nm,0.6s,baz=227,slow=18,SNR=2.6						
AFI	**Afiamalu**	**10.47**	**42**	P	**P**	**14 01 18.7**	**-2.6**
MARNC	**Mare, Loyalty**	**12.03**	**269**	P	**P**	**14 01 34.4**	**-2.3**
PINNC	**Pines Island,**	**12.55**	**264**	P	**P**	**14 01 41.4**	**-0.4**
DZM	**Mont Dzumac**	**13.48**	**266**	P	**P**	**14 01 50.1**	**-1.3**
	8.4nm,0.6s,baz=132,slow=15,SNR=7.1						
WCZ	**Waipu Caves**	**15.20**	**201**	P	**P**	**14 02 11.2**	**+3.8**
KOUNC	**Koumac, New Ca**	**15.61**	**272**	P	**P**	**14 02 10.7**	**-0.7**
MBAZ	**Motutapu North**	**15.79**	**198**	P	**P**	**14 02 16.0**	**+3.2**
MXZ	**Matakaoa Point**	**15.85**	**188**	P	**P**	**14 02 14.3**	**+1.0**
ETAZ	**East Tamaki Re**	**15.96**	**198**	P	**P**	**14 02 17.5**	**+3.2**
MKAZ	**Moumakai**	**16.03**	**197**	P	**P**	**14 02 17.9**	**+2.9**
AWAZ	**Awhitu Peninsu**	**16.14**	**198**	P	**P**	**14 02 18.9**	**+2.9**
PUZ	**Puketiti**	**16.36**	**188**	P	**P**	**14 02 17.3**	**-0.8**
PUZ				S	**S**	**14 04 59.0**	**-2.3**
TWGZ	**Tauwhareparae**	**16.50**	**188**	P	**P**	**14 02 21.2**	**+1.9**
TWGZ				S	**S**	**14 05 04.5**	**+0.9**
URZ	**Urewera**	**16.71**	**191**	P	**P**	**14 02 19.4**	**-1.8**
	6.2nm,0.3s,baz=357,slow=2.9,SNR=18						
URZ				S	**S**	**14 05 00.8**	**-6.2**
	9.4nm,0.5s,baz=26,slow=14,SNR=9.5						
URZ	**Urewera**	**16.71**	**191**	P	P	14 02 12.9	-8.3
URZ				S	**S**	**14 04 59.6**	**-7.3**
MWZ	**Matawai**	**16.72**	**189**	P	**P**	**14 02 20.9**	**-0.5**
MWZ				S	**S**	**14 05 03.1**	**-4.1**
TKGZ	**Te Karaka**	**16.77**	**189**	P	**P**	**14 02 23.0**	**+1.2**
TKGZ				S	**S**	**14 05 07.8**	**-0.2**
RTZ	**Ruatahuna**	**17.08**	**191**	P	**P**	**14 02 23.9**	**-0.9**
RTZ				IAmb	IAmb	14 02 32.8	
	comp=Z,9.4nm,1.2s						
BKZ	**Black Stump Fm**	**17.70**	**191**	P	**P**	**14 02 29.1**	**-1.2**
BKZ				IAmb	IAmb	14 02 43.3	
	comp=Z,12nm,1.1s						
TCW	**Tory Channel**	**20.13**	**195**	P	**P**	**14 02 53.1**	**+0.7**
QRZ	**Quartz Range**	**20.24**	**199**	P	**P**	**14 02 54.4**	**+1.1**
NNZ	**Nelson**	**20.37**	**197**	P	**P**	**14 02 55.1**	**+0.7**
TUWZ	**Tuamarina**	**20.42**	**195**	P	**P**	**14 02 53.8**	**-1.1**
BSWZ	**Blackbirch Sta**	**20.71**	**195**	P	**P**	**14 02 58.3**	**+0.8**
THZ	**Tophouse**	**21.00**	**197**	P	**P**	**14 03 00.3**	**+0.1**
THZ				IAmb	IAmb	14 03 16.0	
	comp=Z,14nm,0.9s						
KHZ	**Kahutara**	**21.45**	**195**	P	**P**	**14 03 03.8**	**-0.3**
KHZ				IAmb	IAmb	14 03 21.6	
	comp=Z,9.1nm,1.1s						
GVZ	**Greta Valley S**	**22.10**	**196**	P	**P**	**14 03 09.4**	**-0.5**
LTZ	**Lake Taylor**	**22.12**	**197**	P	**P**	**14 03 09.6**	**-0.6**
LTZ				IAmb	IAmb	14 03 12.7	
	comp=Z,27nm,1.1s						
INZ	**Inchbonnie**	**22.31**	**199**	P	**P**	**14 03 11.7**	**0.0**
AMCZ	**Amberley**	**22.39**	**196**	P	**P**	**14 03 12.6**	**+0.2**
MQZ	**McQueen's Vall**	**22.89**	**196**	P	**P**	**14 03 17.0**	**+0.1**
FOZ	**Fox Glacier**	**23.55**	**201**	P	**P**	**14 03 22.9**	**+0.2**
WHZ	**Wether Hill Ro**	**26.25**	**201**	P	**P**	**14 03 47.0**	**+0.4**
EIDS	**Eidsvold**	**27.58**	**257**	P	**P**	**14 03 59.0**	**+0.4**
EIDS				IAmb	IAmb	14 03 59.7	
	comp=Z,8.8nm,0.4s						
ARMA	**Armidale**	**27.63**	**246**	P	**P**	**14 04 00.6**	**+1.6**
ARMA				IAmb	IAmb	14 04 01.6	
	comp=Z,16nm,0.8s						
CAN	**Canberra**	**30.98**	**237**	P	**P**	**14 04 26.6**	**-1.1**
CAN				IAmb	IAmb	14 04 36.9	
	comp=Z,6.9nm,0.9s						
CTA	**Charters Tower**	**32.42**	**267**	P	**P**	**14 04 40.2**	**+0.1**
	comp=Z,7.5nm,0.6s,baz=94,slow=9.6,SNR=9.1 comp=Z,7.5nm,0.6s						
CTAO	**Charters Tower**	**32.42**	**267**	P	**P**	**14 04 38.6**	**-1.5**
STKA	**Stephens Creek**	**36.35**	**246**	P	**P**	**14 05 13.8**	**+1.1**
	comp=Z,9.0nm,0.5s,baz=88,slow=10,SNR=9.8 comp=Z,9.0nm,0.5s						
STKA	**Stephens Creek**	**36.35**	**246**	P	**P**	**14 05 12.2**	**-0.4**
COEN	**Coen**	**36.73**	**276**	P	**P**	**14 05 14.8**	**-1.2**
COEN				IAmb	IAmb	14 05 26.7	
	comp=Z,5.1nm,1.1s						
BBOO	**Buckleboo**	**41.10**	**245**	P	**P**	**14 05 50.6**	**-0.2**
BBOO				IAmb	IAmb	14 05 51.9	
	comp=Z,9.2nm,0.7s						
AS31	**Alice Springs**	**43.29**	**258**	P	**P**	**14 06 08.0**	**0.0**
WR0	**Warramunga Arr**	**43.29**	**264**	P	**P**	**14 06 07.5**	**-0.6**
WR0				IAmb	IAmb	14 06 09.3	
	comp=Z,4.5nm,0.6s						
ASAR	**Alice Springs**	**43.29**	**258**	P	**P**	**14 06 08.3**	**+0.2**
	comp=Z,10nm,0.5s,baz=95,slow=8.1,SNR=294						
ASAR				PcP	**PcP**	**14 07 44.4**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=108,slow=4.1,SNR=6.9						
ASAR				ScP	**ScP**	**14 10 41.0**	**+2.9**
	comp=Z,0.4nm,0.6s,baz=115,slow=4.3,SNR=4.2						
ASAR				S	**S**	**14 11 50.5**	**-2.8**
	comp=Z,1.9nm,0.8s,baz=94,slow=16,SNR=17 comp=Z,10nm,0.5s						
ASAR	**Alice Springs**	**43.29**	**258**	P	**P**	**14 06 08.0**	**-0.1**
WB0	**Warramunga Arr**	**43.46**	**264**	P	**P**	**14 06 08.8**	**-0.7**
WB0				IAmb	IAmb	14 06 09.8	
	comp=Z,13nm,0.6s						
WB2	**Warramunga Arr**	**43.47**	**264**	P	**P**	**14 06 08.3**	**-1.2**
WB2				IAmb	IAmb	14 06 09.5	
	comp=Z,9.3nm,0.7s						
WRAB	**Tennant Creek**	**43.47**	**264**	P	**P**	**14 06 08.6**	**-0.9**
WRAB				IAmb	IAmb	14 06 09.9	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**43.48**	**264**	P	**P**	**14 06 09.1**	**-0.5**
	comp=Z,3.3nm,0.3s,baz=96,slow=7.8,SNR=193						
WRA				PcP	**PcP**	**14 07 45.7**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=90,slow=3.2,SNR=1.1						
WRA				S	**S**	**14 11 51.3**	**-4.7**
	comp=Z,0.8nm,0.7s,baz=95,slow=14,SNR=8.3 comp=Z,3.3nm,0.3s						
WRA	**Warramunga Arr**	**43.48**	**264**	P	**P**	**14 06 07.9**	**-1.7**
FORT	**Forrest**	**47.89**	**248**	P	**P**	**14 06 42.1**	**-0.7**
FORT				IAmb	IAmb	14 06 43.4	
	comp=Z,16nm,0.7s						
MTN	**Manton Dam**	**48.23**	**272**	P	**P**	**14 06 44.7**	**-0.8**
MTN				IAmb	IAmb	14 06 45.9	
	comp=Z,7.5nm,0.8s						
KNRA	**Kununurra**	**49.62**	**268**	P	**P**	**14 06 55.1**	**-0.7**
KNRA				IAmb	IAmb	14 06 56.3	
	comp=Z,9.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.91**	**264**	P	**P**	**14 07 12.6**	**+0.3**
SOEI	**Soe**	**55.59**	**273**	P	**P**	**14 07 39.4**	**+1.0**
SOEI				IAmb	IAmb	14 07 45.4	
	comp=Z,12nm,0.7s						
VNDA	**Vanda**	**56.51**	**185**	P	**P**	**14 07 46.8**	**+3.2**
	comp=Z,4.8nm,1.1s,baz=54,slow=9.8,SNR=2.3 comp=Z,4.8nm,1.1s						
VNDA	**Vanda**	**56.51**	**185**	P	**P**	**14 07 45.5**	**+2.0**
MBWA	**Marble Bar**	**56.63**	**258**	P	**P**	**14 07 44.5**	**-0.8**
MBWA				IAmb	IAmb	14 07 46.1	
	comp=Z,12nm,0.8s						
MORW	**Morawa**	**58.44**	**249**	P	**P**	**14 07 56.0**	**-1.5**
GIRL	**Giralia**	**61.27**	**255**	P	**P**	**14 08 17.8**	**+1.5**
CASY	**Casey**	**62.35**	**205**	P	**P**	**14 08 24.4**	**+1.9**
CASY				IAmb	IAmb	14 08 24.5	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**68.25**	**180**	P	**P**	**14 09 02.0**	**+2.6**
QSPA				IAmb	IAmb	14 09 02.7	
	comp=Z,4.6nm,0.7s						
HUMO	**Hull Mountain**	**82.33**	**38**	P	**P**	**14 10 18.6**	**+1.0**
YERR	**Yerington**	**82.37**	**43**	P	**P**	**14 10 19.2**	**+1.0**
NVAR	**Mina Array Bea**	**82.65**	**44**	P	**P**	**14 10 21.9**	**+2.3**
	comp=Z,1.4nm,0.7s,baz=226,slow=8.3,SNR=12 comp=Z,1.4nm,0.7s						
TROLL	**Troll, Antarti**	**86.40**	**180**	P	**P**	**14 10 38.5**	**+1.4**
VNA3	**Neumayer Olymp**	**86.88**	**177**	P	**P**	**14 10 40.4**	**+1.1**
PLCA	**Paso Flores**	**89.06**	**134**	P	**P**	**14 10 53.1**	**+3.0**
	comp=Z,0.5nm,0.4s,baz=238,slow=9.5,SNR=5.4 comp=Z,0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**14 10 55.3**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=129,slow=3.4,SNR=6.3 comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**89.82**	**13**	P	**P**	**14 10 53.3**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=234,slow=4.3,SNR=4.6 comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**90.59**	**44**	P	**P**	**14 10 58.8**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=199,slow=3.4,SNR=7.6 comp=Z,0.7nm,0.8s						
BRIGG	**Briggsdale**	**93.04**	**47**		pP	14 13 12.2	-5.3
MKAR	**Makanchi Array**	**111.40**	**313**	PKiKP	**PKiKP**	**14 16 24.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=186,slow=2.9,SNR=6.2						
KURBB	**Kurchatov Arra**	**114.36**	**317**	PKiKP	**PKiKP**	**14 16 29.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=116,slow=1.7,SNR=5.5						
BVAR	**Borovoye Array**	**119.46**	**319**	PKP	**PKiKP**	**14 16 40.0**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=110,slow=1.9,SNR=16						
ARU	**Arti**	**125.73**	**325**	PKP	**PKiKP**	**14 16 51.7**	**-0.3**
	comp=Z,0.8nm,0.2s,baz=40,slow=5.7,SNR=3.6						
ARCES	**ARCESS Array B**	**130.04**	**349**	PKP	**PKiKP**	**14 17 00.7**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=56,slow=2.1,SNR=9.2						
BELG	**Belogornoye**	**133.07**	**322**	PKP	**PKiKP**	**14 17 07.4**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=63,slow=4.5,SNR=2.3						
FINES	**FINESS Array B**	**136.76**	**343**	PKP	**PKiKP**	**14 17 14.4**	**+0.3**
	comp=Z,0.9nm,

BUHA	**Balikesir, Bur**	**0.74**	**94**	P	**Pg**	**14 26 19.9**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.88**	**18**	Pg	**Pb**	**14 26 23.7**	**-0.1**
SMTH	**Samothraki Isl**	**1.02**	**334**	P	**Pb**	**14 26 26.1**	**-0.1**
SMTH				S	**Sb**	**14 26 40.4**	**+0.7**
ERIK	**Erikli-Kesan**	**1.15**	**15**	Pn	**Pg**	**14 26 28.2**	**-0.1**
CHOS	**Chios island**	**1.17**	**183**	P	**Pg**	**14 26 28.2**	**-0.5**
CHOS				S	**Sb**	**14 26 44.1**	**-0.1**
ENEZ	**Enez**	**1.18**	**1**	P	**Pn**	**14 26 29.2**	**+0.2**
ENEZ				S	**Sn**	**14 26 45.8**	**+0.6**
ALN	**Alexandroupoli**	**1.34**	**357**	P	**Pn**	**14 26 31.5**	**+0.3**
ALN				S	**Sn**	**14 26 50.3**	**+1.1**
	82nm,0.4s						
BALB	**Balikesir**	**1.36**	**86**	Pn	**Pb**	**14 26 32.1**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.61**	**14**	Pn	**Pb**	**14 26 35.9**	**-0.4**

*IDC **14** 14:27:01.7±0.9,29.°73N×141.°97E, h0km, mb3.6/12, mbtmp3.6/13, ML2.8/1, MS3.1/2, Error ellipse: s-maj=29.7km s-min=17.9km az=77.0*

ISC 14 14:27:06.3±0.9,29.°8N±0.°1×141.°9E±0.°2, h30km, n15, σ0s69/14, mb3.8/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.45**	**336**	Pn	**Pn**	**14 28 52.6**	**-0.3**
	0.2nm,0.3s,baz=162,slow=11,SNR=8.6						
MJAR				Sn	**Sn**	**14 30 16.4**	**0.0**
	0.1nm,0.3s,baz=134,slow=22,SNR=4.2 1.0nm,0.3s						
KLR	**Kul'dur**	**20.94**	**341**	P	**P**	**14 31 45.6**	**-0.9**
	1.3nm,0.7s,baz=154,slow=13,SNR=4.6 1.3nm,0.7s						
SONM	**Songino Array**	**32.67**	**314**	P	**P**	**14 33 36.3**	**+0.4**
	0.4nm,0.4s,baz=108,slow=9.9,SNR=4.1 0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.58**	**264**	LR	LR	14 51 51.7	
	comp=Z,9.8nm,19.4s,baz=40,slow=37						
ZALV	**Zalesovo Beam**	**47.34**	**318**	P	**P**	**14 35 37.7**	**+0.5**
	0.5nm,0.5s,baz=96,slow=6.2,SNR=1.9 0.5nm,0.5s						
MKAR	**Makanchi Array**	**48.62**	**308**	P	**P**	**14 35 48.1**	**+0.8**
	0.6nm,0.6s,baz=93,slow=10.0,SNR=10 0.6nm,0.6s						
WRA	**Warramunga Arr**	**49.94**	**189**	P	**P**	**14 35 57.0**	**-0.5**
	0.5nm,0.5s,baz=8.2,slow=8.2,SNR=8.6 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**51.03**	**313**	P	**P**	**14 36 05.8**	**+0.3**
	0.9nm,0.7s,baz=91,slow=7.8,SNR=8.4 0.9nm,0.7s						
ASAR	**Alice Springs**	**53.66**	**189**	P	**P**	**14 36 24.8**	**-0.4**
	0.2nm,0.5s,baz=5.5,slow=5.5,SNR=7.2 0.2nm,0.5s						
ILAR	**Eielson Array**	**55.53**	**29**	P	**P**	**14 36 38.2**	**-0.2**
	0.5nm,0.9s,baz=224,slow=6.3,SNR=2.7 0.5nm,0.9s						
BVAR	**Borovoye Array**	**55.94**	**316**	P	**P**	**14 36 41.9**	**+0.3**
	0.3nm,0.3s,baz=77,slow=6.7,SNR=4.7 0.3nm,0.3s						
YKA	**Yellowknife Ar**	**69.94**	**29**	P	**P**	**14 38 13.6**	**-0.8**
	0.3nm,0.9s,baz=294,slow=6.6,SNR=3.7 0.3nm,0.9s						
FINES	**FINESS Array B**	**75.47**	**333**	P	**P**	**14 38 47.1**	**-0.2**
	1.4nm,0.9s,baz=80,slow=8.8,SNR=1.4 1.4nm,0.9s						
RPZ	**Rata Peaks**	**77.84**	**159**	LR	LR	15 09 57.3	
	comp=Z,3.9nm,19.6s,baz=258,slow=33						
PDAR	**Pinedale Array**	**82.51**	**45**	P	**P**	**14 39 28.0**	**+1.4**
	0.2nm,0.7s,baz=248,slow=3.8,SNR=2.0 0.2nm,0.7s						

*IDC **14** 14:33:45.1±1.3,17.°30S×173.°04W, h0km, mb3.9/5, mbtmp3.9/6, ML3.6/1, MS3.1/2, Error ellipse: s-maj=51.6km s-min=21.6km az=127.0*
*NEIC **14** 14:33:47.7±1.6,17.°5S±0.°1×172.°4W±0.°2, h46km±12km, mb4.4/10, Error ellipse: s-maj=27.1km s-min=11.9km az=58.0*

ISC 14 14:33:45.5±0.6,17.°53S±0.°07×172.°63W±0.°09, h21km, n25, σ1s85/24, mb4.3/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.99**	**121**	Pn	**Pn**	**14 34 29.7**	**-2.0**
AFI	**Afiamalu**	**3.69**	**13**	Pn	**Pn**	**14 34 40.5**	**-0.9**
	5.1nm,0.3s,baz=227,slow=18,SNR=12						
AFI				Sn	**Sn**	**14 35 21.2**	**-3.1**
	11nm,0.3s,baz=136,slow=23,SNR=6.7 10nm,0.4s						
AFI	**Afiamalu**	**3.69**	**13**	Pn	**Pn**	**14 34 40.8**	**-0.6**
MSVF	**Nonsavu**	**8.89**	**267**	Pn	Pn	14 36 00.1	+7.2
	0.8nm,0.3s,baz=117,slow=14,SNR=6.3						
RAR	**Rarotonga**	**12.67**	**109**	Pn	**Pn**	**14 36 45.1**	**+0.6**
	2.1nm,0.3s,baz=215,slow=1.8,SNR=6.8						
RAR	**Rarotonga**	**12.67**	**109**	Pn	**Pn**	**14 36 42.9**	**-1.6**
PINNC	**Pines Island,**	**19.38**	**252**	P	**Pn**	**14 38 09.6**	**-1.7**
PINNC				IAmb	IAmb	14 38 34.7	
	comp=Z,25nm,1.2s						
DZM	**Mont Dzumac**	**20.20**	**254**	LR	LR	14 45 33.9	
	comp=Z,53nm,19.5s,baz=21,slow=36						
PPT	**Papeete**	**21.98**	**94**	LR	LR	14 45 48.6	
	comp=Z,54nm,18.1s,baz=295,slow=32						
URZ	**Urewera**	**22.52**	**201**	P	**P**	**14 38 47.1**	**+3.2**
	comp=Z,3.5nm,0.3s,baz=335,slow=3.9,SNR=16 comp=Z,3.5nm,0.3s						
BKZ	**Black Stump Fm**	**23.55**	**202**	P	**P**	**14 38 55.7**	**+1.2**
BKZ				IAmb	IAmb	14 39 07.8	
	comp=Z,26nm,1.4s						
CTAO	**Charters Tower**	**38.94**	**260**	P	**P**	**14 41 07.1**	**-3.2**
CTAO				IAmb	IAmb	14 41 24.9	
	comp=Z,9.6nm,1.4s						
COEN	**Coen**	**42.62**	**268**	P	**P**	**14 41 39.0**	**-1.7**
COEN				IAmb	IAmb	14 41 45.0	
	comp=Z,6.5nm,1.1s						
WR0	**Warramunga Arr**	**49.92**	**258**	P	**P**	**14 42 38.6**	**+0.5**
WB0	**Warramunga Arr**	**50.08**	**259**	P	**P**	**14 42 39.3**	**-0.1**
WB0				IAmb	IAmb	14 42 52.3	
	comp=Z,7.6nm,1.4s						
WB2	**Warramunga Arr**	**50.10**	**258**	P	**P**	**14 42 38.6**	**-0.9**
WB2				IAmb	IAmb	14 42 53.4	
	comp=Z,5.3nm,1.4s						
WRA	**Warramunga Arr**	**50.11**	**258**	P	**P**	**14 42 39.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=98,slow=6.8,SNR=25 comp=Z,0.9nm,0.4s						
WRA	**Warramunga Arr**	**50.11**	**258**	P	**P**	**14 42 39.2**	**-0.3**
AS31	**Alice Springs**	**50.19**	**254**	P	**P**	**14 42 39.9**	**-0.2**
ASAR	**Alice Springs**	**50.19**	**254**	P	**P**	**14 42 40.3**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=89,slow=8.8,SNR=92						
ASAR				PcP	**PcP**	**14 44 02.3**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=98,slow=4.8,SNR=1.3 comp=Z,4.4nm,0.7s						
ASAR	**Alice Springs**	**50.19**	**254**	P	**P**	**14 42 39.9**	**-0.2**
VNDA	**Vanda**	**61.34**	**186**	P	**P**	**14 43 58.3**	**-1.0**
NVAR	**Mina Array Bea**	**75.42**	**41**	P	**P**	**14 45 31.2**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=218,slow=5.7,SNR=2.4 comp=Z,0.1nm,0.3s						
ILAR	**Eielson Array**	**84.39**	**11**	P	**P**	**14 46 18.2**	**+2.5**
	comp=Z,0.6nm,1.0s,baz=212,slow=6.4,SNR=2.7 comp=Z,0.6nm,1.0s						
BRTR	**Keskin Array B**	**148.26**	**320**	PKPbc	**PKPab**	**14 53 33.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=67,slow=4.8,SNR=1.9						

IDC 14 14:41:12.7±2.3,2.°82N×127.°35E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=163.5km s-min=27.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.64**	**163**	P	P	14 46 25.8	-0.1
	0.2nm,0.4s,baz=343,slow=11,SNR=2.1 0.2nm,0.4s						
ASAR	**Alice Springs**	**27.09**	**167**	P	P	14 46 57.5	0.0
	0.4nm,1.0s,baz=345,slow=9.8,SNR=4.1 0.4nm,1.0s						
MKAR	**Makanchi Array**	**58.65**	**325**	P	P	14 51 11.9	0.0
	0.1nm,0.4s,baz=126,slow=7.7,SNR=4.4 0.1nm,0.4s						

*ISK **14** 14:44:06.8, 39.°54N×26.°14E, h9km, ML2.5/15*
*DDA **14** 14:44:07.1±0.0, 39.°55N×26.°16E, h7km±1km, ML1.9*
*THE **14** 14:44:07.6, 39.°56N×26.°09E, h8km±2km, ML2.3/6, Error ellipse: s-maj=2.4km s-min=0.5km az=110.0*
*ATH **14** 14:44:08.4, 39.°52N×26.°06E, h12km±1km, ML2.3/3, Error ellipse: s-maj=2.4km s-min=0.8km az=255.0*

ISC 14 14:44:07.3±0.8, 39.°54N±0.°02×26.°15E±0.°03, h9km±6km, n39, σ0s40/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**197**	P	**Pg**	**14 44 08.9**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.08**	**191**	Pg	**Pg**	**14 44 09.5**	**-0.1**
GPNR				Sg	**Sg**	**14 44 11.2**	**0.0**
PRK	**Paraskevi**	**0.31**	**163**	P	**Pb**	**14 44 14.8**	**-0.2**
PRK				S	**Sb**	**14 44 19.6**	**-0.5**
	1µm,0.4s						
PRK	**Paraskevi**	**0.31**	**163**	P	**Pb**	**14 44 14.8**	**-0.2**
PRK				S	**Sg**	**14 44 19.4**	**+1.9**
PRK				AML	AML	14 44 21.1	
	comp=E,2431µm,0.3s						
PRK				AML	AML	14 44 21.4	
	comp=N,2118µm,0.5s						
BOZC	**Bozcaada**	**0.31**	**346**	Pg	**Pg**	**14 44 13.6**	**0.0**
BOZC				Sg	**Sg**	**14 44 18.3**	**+0.5**
BOZC	**Bozcaada**	**0.31**	**346**	P	**Pg**	**14 44 13.3**	**-0.3**
BOZC				P	**Pg**	**14 44 13.3**	**-0.3**
EZN	**Ezine**	**0.32**	**25**	P	**Pg**	**14 44 13.8**	**+0.1**
EZN				S	**Sg**	**14 44 18.4**	**+0.6**
	comp=N,455nm,0.1s						
EZN	**Ezine**	**0.32**	**25**	Pg	**Pg**	**14 44 13.7**	**+0.1**
EZN				Sg	**Sg**	**14 44 18.7**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**0.36**	**56**	P	**Pg**	**14 44 14.0**	**-0.5**
BAYC				*i* AML	AML	14 44 19.0	
	comp=N,118nm,0.4s						
BAYC				S	**Sg**	**14 44 19.3**	**-0.1**
BAYC				*i* AML	AML	14 44 20.0	
	comp=N,112nm,0.2s						
SIGR	**SIGRI**	**0.40**	**215**	P	**Pg**	**14 44 15.1**	**-0.1**
SIGR				S	**Sg**	**14 44 20.9**	**+0.5**
	comp=N,340nm,0.5s						
SIGR	**SIGRI**	**0.40**	**215**	Pg	**Pg**	**14 44 15.1**	**-0.1**
SIGR				Sg	**Sg**	**14 44 21.0**	**+0.5**
SIGR	**SIGRI**	**0.40**	**215**	P	**Pg**	**14 44 15.1**	**-0.1**
SIGR				S	**Sg**	**14 44 20.6**	**+0.1**
SIGR				AML	AML	14 44 22.7	
	comp=E,532µm,0.3s						
SIGR				AML	AML	14 44 25.8	
	comp=N,830µm,0.4s						
AYVA	**Ayvalik**	**0.48**	**119**	P	**Pb**	**14 44 18.4**	**+0.5**
GADA	**Gvkgeada**	**0.68**	**343**	Pg	**Pg**	**14 44 20.5**	**0.0**
BUHA	**Balikesir, Bur**	**0.71**	**93**	P	**Pg**	**14 44 21.2**	**+0.1**
BUHA				S	**Sg**	**14 44 30.1**	**-0.4**
BUHA				*i* AML	AML	14 44 35.0	
	comp=N,67nm,0.4s						
BUHA				*i* AML	AML	14 44 35.0	
	comp=N,65nm,0.3s						
GELI	**Tayfur-Gelibol**	**0.89**	**16**	Pg	**Pg**	**14 44 24.5**	**0.0**
GELI				Sg	**Sb**	**14 44 37.3**	**+0.3**
ZEDA	**zmir-Bergama**	**0.92**	**128**	P	**Pg**	**14 44 25.0**	**+0.1**
ZEDA				S	**Sb**	**14 44 38.1**	**+0.5**
ZEDA				*i* AML	AML	14 44 43.0	
	comp=N,45nm,0.3s						
ZEDA				*i* AML	AML	14 44 43.0	
	comp=N,45nm,0.3s						
SMTH	**Samothraki Isl**	**1.05**	**333**	P	**Pg**	**14 44 27.2**	**-0.3**
SMTH				S	**Sg**	**14 44 41.1**	**0.0**
SMTH	**Samothraki Isl**	**1.05**	**333**	P	**Pg**	**14 44 27.6**	**+0.1**
SMTH				S	**Sb**	**14 44 41.9**	**+0.5**
BALY	**Balya**	**1.15**	**79**	P	**Pb**	**14 44 28.8**	**-0.6**
CHOS	**Chios island**	**1.15**	**184**	P	**Pb**	**14 44 28.8**	**-0.7**
CHOS				S	**Sg**	**14 44 44.8**	**+0.3**
	comp=N,208nm,0.3s						
CHOS	**Chios island**	**1.15**	**184**	Pn	**Pb**	**14 44 29.4**	**-0.1**
CHOS	**Chios island**	**1.15**	**184**	P	**Pb**	**14 44 29.1**	**-0.4**
CHOS				S	**Sg**	**14 44 44.5**	**0.0**
ERIK	**Erikli-Kesan**	**1.16**	**14**	Pn	**Pb**	**14 44 29.1**	**-0.5**
ENEZ	**Enez**	**1.20**	**360**	P	**Pb**	**14 44 30.1**	**-0.1**
ENEZ				S	**Sb**	**14 44 45.6**	**-0.1**
	comp=N,238nm,0.8s						
ENEZ	**Enez**	**1.20**	**360**	Pn	**Pb**	**14 44 30.0**	**-0.1**
KRBG	**Karabiga-Canak**	**1.23**	**46**	Pn	**Pn**	**14 44 30.5**	**-0.1**
URLA	**Izmir**	**1.23**	**164**	Pn	**Pn**	**14 44 30.4**	**-0.3**
GONE	**Gonen-Balikesi**	**1.28**	**66**	Pn	**Pn**	**14 44 31.4**	**0.0**
BALB	**Balikesir**	**1.34**	**85**	Pn	**Pn**	**14 44 31.9**	**-0.3**
ALN	**Alexandroupoli**	**1.36**	**357**	P	**Pn**	**14 44 32.6**	**+0.1**
ALN				S	**Sb**	**14 44 50.3**	**-0.1**
	comp=N,102nm,0.6s						
ALN	**Alexandroupoli**	**1.36**	**357**	Pn	**Pn**	**14 44 32.2**	**-0.3**
ALN	**Alexandroupoli**	**1.36**	**357**	P	**Pn**	**14 44 32.6**	**+0.1**
ALN				S	**Sb**	**14 44 50.2**	**-0.2**
ALN				AML	AML	14 44 51.5	
	comp=E,239µm,0.4s						
ALN				AML	AML	14 44 53.7	
	comp=N,168µm,0.5s						
RKY	**Sarkoy-Tekirda**	**1.39**	**34**	Pn	**Pn**	**14 44 32.8**	**-0.2**
EDC	**Edincik**	**1.54**	**58**	Pn	**Pn**	**14 44 35.1**	**+0.1**
UKOP	**Uzunkopru-Edir**	**1.63**	**13**	Pn	**Pn**	**14 44 36.3**	**+0.1**
RDO	**Rodhopi**	**1.67**	**344**	Pn	**Pn**	**14 44 36.8**	**0.0**
RDO	**Rodhopi**	**1.67**	**344**	P	**Pn**	**14 44 37.0**	**+0.2**
KCTX	**Karacabey (Bur**	**1.84**	**66**	Pn	**Pn**	**14 44 39.1**	**-0.1**

*IDC **14** 14:46:09.5±2.1,8.°45S×128.°02E, h0km, mb3.3/1, mbtmp3.8/3, ML4.1/2, MS3.4/1, Error ellipse: s-maj=120.6km s-min=27.1km az=64.0*

ISC 14 14:46:15.8±1.4,8.°2S±0.°1×128.°53E±0.°09, h35km, n11, σ2s73/11, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.75**	**86**	P	**Pn**	**14 46 58.7**	**+1.2**
SOEI	**Soe**	**4.48**	**250**	P	**Pn**	**14 47 22.7**	**+1.3**
MTN	**Manton Dam**	**5.28**	**151**	P	**Pn**	**14 47 36.5**	**+4.3**
KDU	**Kakadu**	**5.91**	**139**	P	**Pn**	**14 47 43.7**	**+2.8**
KNRA	**Kununurra**	**7.43**	**178**	P	**Pn**	**14 48 05.4**	**+3.5**
FITZ	**Fitzroy Crossi**	**10.23**	**196**	P	**Pn**	**14 48 41.7**	**+1.5**
PLAI	**Plampang**	**10.65**	**266**	P	Pn	14 48 39.8	-6.2
WRA	**Warramunga Arr**	**12.96**	**155**	Pn	**Pn**	**14 49 14.8**	**-2.8**
	1.3nm,0.3s,baz=332,slow=14,SNR=39						
WRA				Sn	**Sn**	**14 51 40.3**	**-0.4**
	1.2nm,0.3s,baz=331,slow=22,SNR=7.1 1.6nm,0.3s						
ASAR	**Alice Springs**	**16.22**	**162**	Pn	**Pn**	**14 49 58.9**	**-2.3**
	0.5nm,0.3s,baz=333,slow=10,SNR=65						
ASAR				Sn	**Sn**	**14 52 58.9**	**-1.2**
	0.3nm,0.3s,baz=343,slow=25,SNR=3.0 1.9nm,0.5s						
URZ	**Urewera**	**52.92**	**132**	LR	LR	15 16 45.9	
	comp=Z,39nm,21.0s,baz=124,slow=35						
MKAR	**Makanchi Array**	**68.44**	**328**	P	**P**	**14 57 12.9**	**-1.3**
	0.1nm,0.4s,baz=125,slow=8.2,SNR=2.2 0.1nm,0.4s						

*MDD **14** 14:52:34.7±0.9, 36.°51N×7.°29W, h25km±8km, mb_Lg2.4/8, Error ellipse: s-maj=7.8km s-min=2.9km az=16.0*
*INMG **14** 14:52:34.0±1.7, 36.°49N×7.°35W, h13km±5km, ML1.8, Error ellipse: s-maj=5.5km s-min=3.4km az=24.0*
*SFS **14** 14:52:35.5, 36.°54N×7.°25W, h27km, ML2.5/8, MLv2.5/8*

ISC 14 14:52:33.3±1.6, 36.°51N±0.°06×7.°27W±0.°03, h28km±13km, n44, σ0s92/77, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.97**	**338**	⇓*i*P	**Pb**	**14 52 51.6**	**+0.1**
PVAQ				*e*S	**Sn**	**14 53 04.0**	**+0.2**
PVAQ				A	A	14 53 05.1	
	12nm,0.1s						
PVAQ	**Vaqueiros**	**0.97**	**338**	S	**Sb**	**14 53 03.7**	**-0.1**
PVAQ				P	**Pb**	**14 52 51.6**	**+0.1**
EGRO	**El Granado**	**1.04**	**350**	S	**Sb**	**14 53 05.9**	**0.0**
EGRO				P	**Pb**	**14 52 52.9**	**+0.2**
EGRO	**El Granado**	**1.04**	**350**	⇓P	**Pb**	**14 52 52.9**	**+0.2**
EGRO				S	**Sb**	**14 53 06.0**	**0.0**
EGRO				*i* Vmb_Lg		14 53 07.2	
ESPR	**Espera**	**1.19**	**72**	S	**Sn**	**14 53 10.0**	**+0.7**
ESPR	**Espera**	**1.19**	**72**	P	**Pb**	**14 52 55.0**	**-0.3**
ESPR				S	**Sn**	**14 53 10.1**	**+0.7**
ESPR				*i* Vmb_Lg		14 53 11.2	
PCVE	**Castro Verde**	**1.28**	**331**	*e*P	**Pb**	**14 52 56.1**	**-0.7**
PCVE				*e*S	**Sn**	**14 53 11.7**	**+0.1**
PCVE				A	A	14 53 12.9	
	8.4nm,0.1s						
EMIN	**Mina Concepcio**	**1.34**	**20**	S	**Sn**	**14 53 12.7**	**-0.4**
EMIN				P	**Pb**	**14 52 57.5**	**-0.4**
EMIN	**Mina Concepcio**	**1.34**	**20**	P	**Pn**	**14 52 56.8**	**+0.6**
EMIN				S	**Sn**	**14 53 12.7**	**-0.4**
EMIN				*i* Vmb_Lg		14 53 18.3	

MORF	**Marmelete**	**1.37**	**306**	*e*P	**Pn**	**14 52 56.5**	**-0.1**
MORF				*e*S	**Sn**	**14 53 12.9**	**-0.9**
MORF				IAML		14 53 14.6	
	comp=N,8.3nm,0.1s						
MORF	**Marmelete**	**1.37**	**306**	*e*P	**Pn**	**14 52 56.5**	**-0.1**
MORF				*e*S	**Sn**	**14 53 12.9**	**-0.9**
MORF				A	A	14 53 25.9	
	comp=N,12nm,0.1s						
PFVI	**Vila Bisbo**	**1.40**	**297**	*e*P	**Pn**	**14 52 57.2**	**+0.2**
PFVI				*e*S	**Sn**	**14 53 13.5**	**-1.0**
PFVI				A	A	14 53 20.2	
	comp=N,12nm,0.3s						
MESJ	**Messejana**	**1.53**	**330**	*e*P	**Pn**	**14 52 59.5**	**+0.7**
MESJ				*e*S	**Sn**	**14 53 17.6**	**-0.2**
MESJ				IAML		14 53 19.9	
	comp=N,7.8nm,0.1s						
MESJ	**Messejana**	**1.53**	**330**	*e*P	**Pn**	**14 52 59.5**	**+0.7**
MESJ				*e*S	**Sn**	**14 53 18.4**	**+0.6**
MESJ				A	A	14 53 29.1	
	comp=N,6.4nm,0.1s						
PTEO	**Sao Teotonio**	**1.56**	**312**	⇑*e*P	**Pn**	**14 52 59.8**	**+0.6**
PTEO				*e*S	**Sn**	**14 53 18.6**	**+0.1**
PTEO				A	A	14 53 27.1	
	comp=N,8.1nm,0.8s						
PBAR	**Barrancos**	**1.68**	**6**	*e*Pn	**Pn**	**14 53 01.6**	**+0.8**
PBAR				*e*Sn	**Sb**	**14 53 23.4**	**-0.8**
PBAR				A	A	14 53 28.7	
	comp=N,6.7nm,0.2s						
PBAR	**Barrancos**	**1.68**	**6**	S	**Sn**	**14 53 21.6**	**+0.2**
PBAR				P	**Pn**	**14 53 01.6**	**+0.8**
PNCL	**Nicolau / Gran**	**1.89**	**328**	*e*Pn	**Pn**	**14 53 04.3**	**+0.6**
PNCL				*e*Sn	**Sn**	**14 53 26.3**	**-0.3**
PNCL				A	A	14 53 37.4	
	comp=N,5.3nm,0.3s						
PNCL	**Nicolau / Gran**	**1.89**	**328**	S	**Sn**	**14 53 26.9**	**+0.3**
PNCL				P	**Pn**	**14 53 04.4**	**+0.6**
EMIJ	**Mijas**	**2.01**	**88**	S	**Sn**	**14 53 29.5**	**0.0**
EVO	**Evora**	**2.11**	**344**	*e*Pn	**Pn**	**14 53 07.7**	**+1.0**
EVO				*e*Sn	**Sn**	**14 53 32.5**	**+0.5**
EVO				A	A	14 53 33.9	
	comp=N,8.2nm,0.1s						
EVO	**Evora**	**2.11**	**344**	P	**Pn**	**14 53 07.6**	**+1.0**
EVO				S	**Sn**	**14 53 32.1**	**+0.1**
ECAB	**El Cabril**	**2.15**	**43**	P	**Pn**	**14 53 08.2**	**+0.8**
ECAB				S	**Sn**	**14 53 31.8**	**-1.2**
ECAB				*i* Vmb_Lg		14 53 42.1	
EBAD	**Badajoz**	**2.25**	**5**	P	**Pn**	**14 53 09.3**	**+0.6**
EBAD	**Badajoz**	**2.25**	**5**	P	**Pn**	**14 53 09.3**	**+0.6**
EBAD				S	**Sn**	**14 53 34.9**	**-0.7**
EBAD				*i* Vmb_Lg		14 53 43.8	
PESTR	**Estremoz**	**2.37**	**354**	*e*Pn	**Pn**	**14 53 10.9**	**+0.6**
PESTR				*e*Sn	**Sn**	**14 53 39.0**	**+0.5**
PESTR				A	A	14 54 14.8	
	comp=N,2.2nm,0.7s						
PESTR	**Estremoz**	**2.37**	**354**	P	**Pn**	**14 53 10.9**	**+0.6**
EGOR	**Sierra Gorda,**	**2.60**	**76**	S	**Sn**	**14 53 45.0**	**+0.6**
EGOR				*i* Vmb_Lg		14 53 48.5	
PMTG	**Montargil**	**2.67**	**344**	*e*Pn	**Pn**	**14 53 15.2**	**+0.8**
PMTG				*e*Sn	**Sn**	**14 53 46.1**	**+0.3**
PMTG				A	A	14 53 47.8	
	comp=N,3.8nm,0.1s						
EADA	**Adamuz**	**2.71**	**51**	P	**Pn**	**14 53 15.7**	**+0.7**
EADA				S	**Sn**	**14 53 46.3**	**-0.6**
EADA				*i* Vmb_Lg		14 53 50.3	
PMRV	**Marv??o**	**2.92**	**358**	*e*Pn	**Pn**	**14 53 19.7**	**+1.8**
PMRV				*e*Sn	**Sn**	**14 53 52.4**	**+0.4**
PMRV				A	A	14 53 53.4	
	comp=N,1.4nm,0.1s						
PMAFR	**Mafra**	**2.92**	**327**	*e*Pn	**Pn**	**14 53 19.4**	**+1.5**
PMAFR				*e*Sn	**Sn**	**14 53 50.7**	**-1.4**
ELGU	**Los Guajares,**	**2.95**	**82**	S	**Sn**	**14 53 53.7**	**+0.9**
PSBE	**So Bento**	**3.24**	**339**	*e*Pn	**Pn**	**14 53 23.5**	**+1.2**
PSBE				*e*Sn	**Sn**	**14 54 01.1**	**+1.2**
PCBR	**Castelo Branco**	**3.33**	**357**	*e*Pn	**Pn**	**14 53 24.4**	**+0.9**
PCBR				*e*Sn	**Sn**	**14 54 01.8**	**-0.4**
PCBR				A	A	14 54 02.9	
	comp=N,1.2nm,0.1s						
PCAS	**Casmilo, Conde**	**3.67**	**345**	*e*Pn	**Pn**	**14 53 27.9**	**-0.3**
EPLA	**Plasencia**	**3.67**	**14**	P	**Pn**	**14 53 29.3**	**+1.0**
EPLA				S	**Sn**	**14 54 09.8**	**-0.9**
EPLA				*i* Vmb_Lg		14 54 30.5	
PAB	**San Pablo**	**3.81**	**36**	P	**Pn**	**14 53 31.5**	**+1.3**
PAB				S	**Sn**	**14 54 10.7**	**-3.4**
PVIS	**Viseu**	**4.23**	**354**	*e*Sn	**Sn**	**14 54 24.2**	**-0.2**
MVO	**Moncorvo**	**4.66**	**2**	*e*Pn	**Pn**	**14 53 42.7**	**+0.9**
MVO				*e*Sn	**Sn**	**14 54 32.6**	**-2.3**
MVO				A	A	14 54 34.8	
	comp=N,1.9nm,0.5s						
GUD	**Guadarrama**	**4.80**	**30**	P	**Pn**	**14 53 45.1**	**+1.3**
ETOB	**Tobarra**	**5.02**	**63**	P	**Pn**	**14 53 46.9**	**+0.1**
ETOB				S	**Sn**	**14 54 41.1**	**-2.8**
ELOB	**Lobios**	**5.39**	**354**	P	**Pn**	**14 53 52.5**	**+0.6**
ECAL	**Calabor**	**5.44**	**4**	P	**Pn**	**14 53 53.2**	**+0.6**

IDC 14 14:56:25.3±498.0, 5.°78S×147.°46E, h0km, Error ellipse: s-maj=190.6km s-min=31.6km az=72.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
**I39P

387nm,0.4s,baz=67,slow=23,SNR=8.3
JHJ S **S** **15 20 53.0 +0.7**
206nm,0.3s,baz=132,slow=22,SNR=1.7
JHJ2 Mitsune 1.33 105 Pn **15 20 18.9 -1.6**
JHJ2 Mitsune 1.33 105 P **Pn** **15 20 21.1 +0.5**
JHJ2 Mitsune 1.33 105 *eP* **Pn** **15 20 21.0 +0.5**
JHTM Izuhatsuma 1.60 22 A A 15 20 22.3
comp=E,7.0nm,1.5s,comp=E,10.0nm,1.4s
JIE Ise 1.60 305 P **Pn** **15 20 22.8 +0.5**
JIE *eS* **S** **15 20 55.8 +0.1**
JFNN Fujinakano 1.75 11 *eP* **Pn** **15 20 24.0 +0.7**
JFNN *eS* **S** **15 20 57.9 +0.2**
JOD2 Odawara 2 1.90 20 ⇓P **Pn** **15 20 24.8 +0.3**
JYN Shimob 2.03 6 *eP* **Pn** **15 20 26.0 +0.4**
JYN *eS* **S** **15 21 02.2 +0.3**
INU Inuyama 2.14 331 Pn **Pn** **15 20 25.9 -0.6**
INU Inuyama 2.14 331 P **Pn** **15 20 26.9 +0.4**
JGF Kuroka 2.25 340 Pn **Pn** **15 20 27.3 -0.3**
JTNC Tanabenakahech 2.26 279 P **Pn** **15 20 27.9 +0.3**
JTNC *eS* **S** **15 21 05.0 -0.4**
JWY Kouya 2.36 289 P **Pn** **15 20 29.3 +0.7**
JWY *eS* **S** **15 21 06.6 -0.5**
JYTA Yamagatataniai 2.47 329 P **Pn** **15 20 29.9 +0.5**
JYTA *eS* **S** **15 21 08.8 0.0**
BSO1 Boso 1 2.52 62 P **Pn** **15 20 28.0 -1.3**
BSO1 *eS* **S** **15 21 05.7 -3.0**
JRY Ryogami san 2.59 11 ⇓*eP* **Pn** **15 20 31.1 +0.5**
JWT Wachi 2.99 308 P **Pn** **15 20 35.0 +0.5**
JWT *eS* **S** **15 21 17.1 -0.8**
MJAR Matsushiro Arr 3.06 359 P **Pn** **15 20 35.2 -0.1**
49nm,0.7s,baz=177,slow=12,SNR=159
MJAR S **S** **15 21 19.2 -0.1**
98nm,1.0s,baz=170,slow=16,SNR=14
MAJO Matsushiro 3.06 359 Pn **Pn** **15 20 32.8 -2.5**
MAJO Matsushiro 3.06 359 P **Pn** **15 20 35.7 +0.5**
MAJO Matsushiro 3.06 359*c iP* **Pn** **15 20 35.2 0.0**
MAT Matsushiro 3.06 359 P **Pn** **15 20 35.2 0.0**
MAT *eS* **S** **15 21 18.5 -0.8**
MJB9 Matsu-Tunnel 3.06 359 Pn **15 20 34.5 -0.8**
JAG Ashikaga 3.10 18 *eP* **Pn** **15 20 34.5 -1.1**
JYT Yasato 3.16 29 A A 15 20 35.7
comp=E,4.0nm,0.4s,comp=E,5.0nm,2.6s
JAI Aioi 3.21 277 P **Pn** **15 20 37.1 +0.3**
JAI *eS* **S** **15 21 21.6 -0.6**
JKG Kaga 3.22 331 P **Pn** **15 20 37.4 +0.5**
JMN Monobe 3.69 275 Pn **Pn** **15 20 40.8 -1.2**
JMN Monobe 3.69 275 P **Pn** **15 20 42.7 +0.7**
JMN Monobe 3.69 275 *eP* **Pn** **15 20 42.6 +0.6**
ONAJ Iwakimizuishiy 4.16 29 A A 15 20 46.3
comp=E,4.0nm,0.9s,comp=E,3.0nm,0.3s
JHS Saijyo 4.54 291 Pn **Pn** **15 20 52.3 +0.7**
JHS Saijyo 4.54 291 P **Pn** **15 20 52.6 +1.0**
JMM Marumori 4.83 24 Pn **15 20 51.7 -3.2**
JMM Marumori 4.83 24 P **Pn** **15 20 53.6 -1.3**
JNU Nakatsue 6.21 269 P **Pn** **15 21 11.8 +0.2**
43nm,0.6s,baz=117,slow=1.9,SNR=42
JNU Nakatsue 6.21 269 Pn **Pn** **15 21 08.7 -2.9**
JNU Nakatsue 6.21 269 P **Pn** **15 21 12.8 +1.3**
JCJ Chichijima 7.20 151 S **S** **15 22 39.9 -7.4**
250nm,0.3s,baz=292,slow=22,SNR=4.6
JTU Tsushima 7.46 281 P **Pn** **15 21 28.3 +1.6**
JTM Tenmabayashi 7.63 16 P **Pn** **15 21 28.6 -0.1**
KSRS Korea Array 9.34 298 P **Pn** **15 21 50.9 +0.9**
77nm,0.8s,baz=110,slow=13,SNR=202
ERM Erimo 9.36 23 P **Pn** **15 21 49.7 -0.4**
JEM Erimo 9.36 23 P **Pn** **15 21 50.7 +0.6**
KSAR Wonju Array Be 9.36 298 Pn **Pn** **15 21 46.2 -4.1**
KSAR Wonju Array Be 9.36 298 P **Pn** **15 21 46.2 -4.1**
KS19 Wonju Array Si 9.40 298 Pn **15 21 48.8 -2.0**
TJN Taejon 9.42 291 Pn **Pn** **15 21 50.1 -1.0**
TJN Taejon 9.42 291 P **Pn** **15 21 52.5 +1.4**
TJN Taejon 9.42 291 ⇓*eP* **Pn** **15 21 51.9 +0.8**
INCN Inchon 10.31 296 Pn **15 22 01.2 -0.8**
INCN Inchon 10.31 296 P **Pn** **15 22 03.2 +1.2**
INCN Inchon 10.31 296 P **Pn** **15 22 01.2 -0.8**
JOW Kunigami 10.90 235 P **Pn** **15 22 08.7 -0.8**
29nm,0.8s,baz=164,slow=16,SNR=2.3
JOW Kunigami 10.90 235 Pn **Pn** **15 22 09.0 -0.4**
JOW Kunigami 10.90 235 P **P** **15 22 11.1 -1.5**
ASAJ Asahikawa 11.14 16 P **Pn** **15 22 10.9 -1.3**
9.0nm,0.4s,baz=234,slow=11,SNR=39
ASAJ S **S** **15 24 08.9 -7.8**
7.5nm,0.7s,baz=179,slow=33,SNR=1.9
ASAJ Asahikawa 11.14 16 P **Pn** **15 22 11.3 -0.9**
JKA Kamikawa-asahi 11.14 16 Pn **Pn** **15 22 11.3 -0.9**
NMR Nemuro--Hokkai 11.47 28 ⇓*iP* **Pn** **15 22 16.3 +0.1**
NMR *i* S S 15 24 14.9 -9.2
USRK Ussuriysk Ar. 11.78 337 P **Pn** **15 22 19.7 -0.2**
6.7nm,0.6s,baz=143,slow=12,SNR=11
YUK Yuzh-Kuril'sk 12.08 27 P **P** **15 22 28.1 +2.6**
YUK *eS* **S** **15 24 32.4 -5.6**
MDJ Mudanjiang 13.01 331 Pn **15 22 33.1 -1.8**
MDJ Mudanjiang 13.01 331 P **Pn** **15 22 35.1 +0.2**
MDJ S **S** **15 24 57.5 -1.6**
MDJ pmax pmax
comp=Z,70nm,0.9s
MDJ pmax pmax
comp=Z,340nm,4.7s
MDJ Mudanjiang 13.01 331 P **Pn** **15 22 35.1 +0.2**
YSS Yuzh-Sakhalins 13.89 13 P **15 22 41.6 -3.8**
YSS Yuzh-Sakhalins 13.89 13 P **P** **15 22 45.3 -0.1**
YSS Yuzh-Sakhalins 13.89 13 *eP* **Pn** **15 22 46.2 +0.7**
YSS pmax pmax
comp=Z,120nm,0.5s
CN2 Changchun 14.37 320 P **P** **15 22 50.8 0.0**
CN2 pmax pmax
comp=Z,40nm,0.8s
BNX BinXian 14.82 329 ⇓P **P** **15 22 55.9 +0.1**
BNX pmax pmax
comp=Z,170nm,0.6s
BNX pmax pmax
comp=Z,310nm,4.6s
NJ2 Nanjing 16.41 270 *eP* **P** **15 23 10.5 -2.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 16.48 345 P **P** **15 23 13.8 0.0**
comp=Z,8.8nm,0.6s,baz=161,slow=8.5,SNR=46
KLR Kul'dur 16.48 345*c iP* **P** **15 23 13.6 -0.3**
KLR pmax pmax
comp=Z,10.0nm,0.8s
YHNB Yeheng 17.17 244 P **P** **15 23 19.4 -2.4**
YHNB Yeheng 17.17 244 P **P** **15 23 22.5 +0.7**
comp=Z,35nm,1.3s
NACB Ninganchiao 17.30 242 P **P** **15 23 20.2 -2.9**
NACB Ninganchiao 17.30 242 P **P** **15 23 24.2 +1.1**
YULB Yu-li 17.98 240 P **P** **15 23 29.4 -1.1**
YULB Yu-li 17.98 240 P **P** **15 23 31.3 +0.8**
SSLB Suanglung 18.00 242 P **P** **15 23 29.6 -0.8**
SSLB Suanglung 18.00 242 P **P** **15 23 31.7 +1.0**
TPUB Ta-pu 18.52 241 P **P** **15 23 35.7 -0.6**
TPUB Ta-pu 18.52 241 P **P** **15 23 36.9 +0.6**
comp=Z,48nm,1.6s
HEH HeiHe 18.58 338 *eP* **P** **15 23 35.8 -0.8**
HEH pmax pmax
comp=Z,16nm,0.8s
HEH pmax pmax
comp=Z,160nm,4.1s
BJI Beijing 18.87 297 P **P** **15 23 38.3 -1.5**
BJI pmax pmax
comp=Z,6.0nm,0.7s
XLT XiLinHaoTe 20.16 308 *eP* **P** **15 23 54.0 +0.4**
XLT sP sP 15 25 16.3 +2.3
XLT S **S** **15 27 22.3 -0.9**
XLT ScP **ScP** **15 31 03.0 -1.0**
XLT pmax pmax
comp=Z,22nm,0.8s
XLT pmax pmax
comp=Z,150nm,5.2s
WHN Wuhan 20.50 268 ⇑*iP* **P** **15 23 56.9 -0.2**
HIA Hailar 20.95 324 P **P** **15 23 58.5 -2.9**
HIA Hailar 20.95 324 P **P** **15 24 00.2 -1.2**
HIA Hailar 20.95 324 P **P** **15 23 58.5 -2.9**
HIA pmax pmax
comp=Z,61nm,0.6s
ZEA Zeya 21.73 342 *eP* **P** **15 24 09.9 +1.4**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,50nm,0.7s
HHC Hu-ho-hao-te 22.48 297 *eP* **P** **15 24 13.8 -1.8**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,290nm,5.4s
BTO Baotou 23.59 296 *eP* **P** **15 24 26.1 +0.3**
PETK Petropavlovsk- 24.04 29 P **P** **15 24 30.0 +0.4**
comp=Z,3.2nm,0.9s,baz=219,slow=8.4,SNR=1.5
comp=Z,3.2nm,0.9s
PETK Petropavlovsk- 24.04 29 P **P** **15 24 30.0 +0.4**
ENH Enshi 24.63 270 P **P** **15 24 32.7 -2.6**
ENH Enshi 24.63 270 P **P** **15 24 34.9 -0.3**
MA2 Magadan 27.39 14 P **P** **15 25 01.0 +1.6**
comp=Z,6.9nm,0.9s,baz=189,slow=6.6,SNR=3.9
comp=Z,6.9nm,0.9s
ULN Ulaanbaatar 27.49 311 P **P** **15 24 58.1 -2.6**
ULN IAmb IAmb 15 25 03.5
comp=Z,33nm,1.5s
ULN Ulaanbaatar 27.49 311*d iP* **P** **15 25 01.6 +1.0**
ULN pmax pmax
comp=Z,17nm,1.3s
SONM Songino Array 27.89 310 P **P** **15 25 05.2 +1.0**
comp=Z,7.4nm,0.7s,baz=115,slow=8.3,SNR=30
SONM pP **pP** **15 26 00.2 +1.3**
comp=Z,4.4nm,0.9s,baz=121,slow=10.0,SNR=4.6
SONM ScP **ScP** **15 31 26.0 +0.8**
comp=Z,0.4nm,0.5s,baz=128,slow=2.4,SNR=2.4
comp=Z,7.4nm,0.7s
SONM Songino Array 27.89 310 P **P** **15 25 02.2 -2.0**
SONM IAmb IAmb 15 25 07.5
comp=Z,10nm,0.9s
GYA Guiyang 28.20 264 ⇑*iP* **P** **15 25 06.6 -0.5**
GYA pmax pmax
comp=Z,51nm,0.5s
LZH Lanzhou 28.32 285 *eP* **P** **15 25 07.6 -0.6**
LZH pP pP 15 25 57.4 -5.7
LZH pmax pmax
comp=Z,9.0nm,1.5s
H11N2 WAKE ISLAND Hy 28.90 111 T T 15 55 36.1
baz=306,slow=75,SNR=4.0
H11N1 WAKE ISLAND Hy 28.91 111 T T 15 55 11.8
baz=306,slow=75,SNR=3.8
H11N3 WAKE ISLAND Hy 28.92 111 T T 15 55 06.7
baz=306,slow=75,SNR=3.2
YAK Yakutsk 29.10 352 *eP* **P** **15 25 13.3 -1.2**
YAK *eS* **S** **15 29 45.4 +0.8**
YAK *e* 15 35 17.8
YAK pmax pmax
comp=Z,4.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,1.0nm,0.6s
YAK smax smax
comp=N,217nm,5.8s
YAK smax smax
comp=E,138nm,4.8s
BOD Bodaibo 29.37 333 *eP* **P** **15 25 16.8 -0.1**
BOD pmax pmax
comp=Z,10.0nm,1.4s
H11S3 WAKE ISLAND Hy 29.45 113 T T 15 56 26.4
baz=311
H11S1 WAKE ISLAND Hy 29.45 113 T T 15 56 16.0
baz=311
H11S2 WAKE ISLAND Hy 29.46 113 T T 15 56 30.9
baz=311
ZAK Zakamensk 30.68 314 *eP* **P** **15 25 28.3 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
GTA Gaotai 31.34 292 ⇓P **P** **15 25 33.8 -0.8**
GTA pP pP 15 26 29.6 -0.4
GTA pmax pmax
comp=Z,14nm,1.2s
KMI Kunming 31.98 264 ⇑*iP* **P** **15 25 40.0 -0.4**
KMI pmax pmax
comp=Z,34nm,0.7s
PZH PanZhiHua 32.28 267 P **P** **15 25 42.1 -0.9**
PZH pmax pmax
comp=Z,40nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.7s
UBPT Khong Chiam 34.74 247 P **P** **15 26 03.9 -0.1**
SIJI Sorong 34.80 192 P **P** **15 26 04.0 -0.4**
comp=Z,3.4nm,0.6s,baz=335,slow=23,SNR=2.6
comp=Z,3.4nm,0.6s
TNCH TengChong 35.53 267 ⇓P **P** **15 26 10.4 -0.4**
TNCH pP pP 15 27 06.8 +0.3
TNCH S **S** **15 31 20.8 -4.3**
TNCH sS sS 15 33 06.6 +2.1
TNCH pmax pmax
comp=Z,53nm,1.0s
TNCH pmax pmax
comp=Z,120nm,5.1s
GOMU GeErMu 35.57 287 P **P** **15 26 11.3 0.0**
GOMU pmax pmax
comp=Z,21nm,0.8s
GOMU pmax pmax
comp=Z,93nm,4.6s
GTOI Gorontalo 35.68 207 P **P** **15 26 10.9 -1.0**
comp=Z,13nm,0.8s
CRAI Chiangrai 36.10 258 P **P** **15 26 13.6 -1.9**
CRAI IAmb IAmb 15 26 16.9
comp=Z,18nm,1.0s
TOLI2 Tolitoli 36.14 211 P **P** **15 26 16.6 +0.8**
comp=Z,8.8nm,0.9s
MRSI Marisa 36.24 208 P **P** **15 26 17.0 +0.4**
comp=Z,13nm,0.5s
FAKI Fak Fak 36.64 190 P **P** **15 26 21.2 +1.1**
comp=Z,7.3nm,0.9s
PHRA Phrae 37.09 256 P **P** **15 26 22.3 -1.5**
SANI Sanana 37.19 201 P **P** **15 26 23.9 -0.7**
SANI Sanana 37.19 201 P **P** **15 26 23.0 -1.6**
comp=Z,24nm,0.7s
MPSI Magaga 37.22 211 P **P** **15 26 24.8 -0.1**
comp=Z,7.5nm,1.0s
APSI Ampana 37.62 208 P **P** **15 26 26.3 -1.9**
comp=Z,34nm,0.7s
CHTO Chiang Mai 37.98 257 P **P** **15 26 29.3 -1.9**
CHTO IAmb IAmb 15 26 32.0
comp=Z,22nm,1.3s
CHTO Chiang Mai 37.98 257 P **P** **15 26 29.3 -1.9**
CHTO pmax pmax
comp=Z,22nm,1.3s
CMAR Chiang Mai Arr 38.16 257 P **P** **15 26 32.7 0.0**
comp=Z,3.5nm,0.6s,baz=52,slow=7.2,SNR=27
CMAR ScP **S** **15 32 03.5 -1.0**
comp=Z,1.7nm,0.3s,baz=35,slow=3.3,SNR=4.5
comp=Z,3.5nm,0.6s
CMAR Chiang Mai Arr 38.16 257*ceP* **P** **15 26 32.7 0.0**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
BILL Bilibino 38.16 17 *i* P **P** **15 26 32.6 +0.5**
BILL *i* *PP **pP** **15 27 31.6 +2.5**
BILL *i* 15 28 07.6
BILL pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 38.56 355 P **P** **15 26 35.4 +0.1**
comp=Z,1.5nm,0.4s,baz=271,slow=24,SNR=11
comp=Z,1.5nm,0.4s
TIXI Tiksi 38.56 355 P **P** **15 26 34.5 -0.9**
TIXI Tiksi 38.56 355 ⇑*eP* **P** **15 26 35.9 +0.5**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
LSA Lhasa 40.06 278 P **P** **15 26 46.2 -2.7**
LSA Lhasa 40.06 278 P **P** **15 26 46.2 -2.7**
LSA pmax pmax
comp=Z,6.0nm,0.6s
WMQ Urumqi 40.28 300 ⇑*iP* **P** **15 26 50.9 +0.9**
WMQ PP **PnPn** **15 28 32.6 -3.4**
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ LR LR
comp=Z,340nm,29.0s
WMQ LR LR
comp=Z,1μm,29.2s
WMQ LR LR
comp=Z,210nm,28.9s
DGZ Jazzator, Alta 40.52 309*d iP* **P** **15 26 52.9 +0.9**
DGZ pmax pmax
comp=Z,27nm,1.1s
KAPI Kappang 42.11 208 P **P** **15 27 04.4 -0.6**
comp=Z,16nm,0.3s,baz=6.6,slow=5.0,SNR=8.1
comp=Z,16nm,0.3s
BKSI Bulukumba 42.25 207 P **P** **15 27 05.5 -0.6**
comp=Z,10nm,0.7s
ZAA0 Zalesovo Array 42.53 315 P **P** **15 27 05.2 -2.7**
ZALV Zalesovo Beam 42.53 315 P **P** **15 27 08.0 +0.1**
comp=Z,2.5nm,0.4s,baz=100,slow=7.7,SNR=18
ZALV PcP **PcP** **15 28 54.8 +0.2**
comp=Z,3.4nm,0.6s,baz=115,slow=2.6,SNR=9.6
ZALV ScP **ScP** **15 32 17.6 -0.2**
comp=Z,1.3nm,0.8s,baz=107,slow=5.0,SNR=4.5
comp=Z,2.5nm,0.4s
ZALV Zalesovo Beam 42.53 315 P **P** **15 27 07.7 -0.2**
ZALV Zalesovo Beam 42.53 315 *i* P **P** **15 27 08.0 +0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
PMG Port Moresby 43.47 167 P **P** **15 27 15.7 -0.1**
comp=Z,11nm,0.5s,baz=51,slow=6.6,SNR=9.2
comp=Z,11nm,0.5s
PMG Port Moresby 43.47 167 P **P** **15 27 13.8 -2.0**
PMG IAmb IAmb 15 27 16.8
comp=Z,16nm,0.7s
PMG Port Moresby 43.47 167 P **P** **15 27 16.4 +0.6**
PMG Port Moresby 43.47 167 P **P** **15 27 16.6 +0.8**
TAPN Taplejung 43.70 276 *eP* **P** **15 27 17.7 -0.2**
comp=Z,12nm,0.4s
MK31 Makanchi Array 43.94 305 P **P** **15 27 18.1 -1.1**
MK31 IAmb IAmb 15 27 20.6
comp=Z,22nm,0.9s
MK31 Makanchi Array 43.94 305*d iP* **P** **15 27 19.5 +0.2**
MK31 pmax pmax
comp=Z,23nm,0.6s
MKAR Makanchi Array 43.94 305 P **P** **15 27 19.7 +0.4**
comp=Z,26nm,0.8s,baz=86,slow=10,SNR=220
MKAR ScP **ScP** **15 32 22.7 -1.2**
comp=Z,0.9nm,0.6s,baz=79,slow=5.3,SNR=8.3
comp=Z,26nm,0.8s
MKAR Makanchi Array 43.94 305 P **P** **15 27 18.1 -1.2**
MKAR Makanchi Array 43.94 305*ceP* **P** **15 27 19.7 +0.4**
MKAR pmax pmax
comp=Z,27nm,0.8s
ODAN Odare 44.14 275 *eP* **P** **15 27 20.9 -0.5**
comp=Z,2.8nm,0.5s
MAKZ Makanchi 44.16 305 P **P** **15 27 19.3 -1.7**
MAKZ IAmb IAmb 15 27 22.0
comp=Z,17nm,0.6s
MAKZ Makanchi 44.16 305 ⇓P **P** **15 27 21.3 +0.3**
RAMN Ramite 44.76 276 *eP* **P** **15 27 25.7 -0.6**
comp=Z,27nm,0.4s
JIRN Jiri 44.85 277 *eP* **P** **15 27 27.1 0.0**
comp=Z,38nm,0.5s
IPM Ipoh 45.10 238 P **P** **15 27 28.8 0.0**
NRIK Noril'sk 45.49 337 P **P** **15 27 31.9 +0.8**
comp=Z,7.7nm,0.5s,baz=111,slow=9.4,SNR=16
comp=Z,7.7nm,0.5s
NRIK Noril'sk 45.49 337 P **P** **15 27 29.3 -1.8**
NRIK IAmb IAmb 15 27 32.6
comp=Z,19nm,1.2s
NRIK Noril'sk 45.49 337*d iP* **P** **15 27 31.6 +0.6**
NRIK pmax pmax
comp=Z,18nm,1.3s
PKI Pulchoki 45.53 277 *eP* **P** **15 27 31.6 -0.8**
comp=Z,20nm,0.7s
PKIN Phulchoki 45.54 277 *eP* **P** **15 27 31.7 -0.7**
comp=Z,18nm,0.5s
KKN Kakani 45.56 278 *eP* **P** **15 27 32.0 -0.5**
comp=Z,4.0nm,0.8s
BATI Baumata 45.62 200 P **P** **15 27 33.0 +0.3**
comp=Z,20nm,0.8s,comp=Z,2μm
GKN Gorkha 46.02 278 *eP* **P** **15 27 35.5 -0.4**
comp=Z,17nm,0.4s
KURK Kurchatov 46.20 311 P **P** **15 27 35.6 -1.2**
KURK Kurchatov 46.20 311 P **P** **15 27 37.1 +0.3**
KDU Kakadu 46.24 188 P **P** **15 27 38.3 +0.9**
comp=Z,7.1nm,0.5s
KURBB Kurchatov Arra 46.26 310 P **P** **15 27 37.1 -0.2**
comp=Z,18nm,0.6s,baz=91,slow=6.4,SNR=67
KURBB ScP **ScP** **15 32 32.1 -1.2**
comp=Z,0.3nm,0.4s,baz=92,slow=4.3,SNR=0.9
comp=Z,18nm,0.6s
KURBB Kurchatov Arra 46.26 310 P **P** **15 27 36.8 -0.5**
WBSI Waikabubak, Su 46.49 206 P **P** **15 27 37.2 -2.3**
comp=Z,52nm,1.2s
MTN Manton Dam 46.56 190 P **P** **15 27 37.7 -2.2**
MTN IAmb IAmb 15 28 10.6
comp=Z,35nm,1.4s
MTN Manton Dam 46.56 190 P **P** **15 27 40.2 +0.2**
DANN Dangsing 46.62 279 *eP* **P** **15 27 40.8 0.0**
comp=Z,56nm,0.4s
PPBI Pangkal Pinang 46.64 227 P **P** **15 27 40.9 +0.2**
comp=Z,8.0nm,1.0s,comp=Z,6μm
KOLN Koldanda 46.95 278 *eP* **P** **15 27 42.2 -1.1**
COEN Coen 47.40 174 P **P** **15 27 46.4 0.0**
COEN IAmb IAmb 15 27 48.2
comp=Z,14nm,0.8s
COEN Coen 47.40 174 P **P** **15 27 47.7 +1.3**
PSI Prapat 47.77 239 P **P** **15 27 48.9 -0.6**
comp=Z,6.3nm,0.5s,baz=7.5,slow=2.3,SNR=4.3
comp=Z,6.3nm,0.5s
RPSI Rantau Prapat 47.84 239 P **P** **15 27 47.3 -2.6**
MDOK Medeo 48.05 300 P **P** **15 27 50.3 -1.1**
PWJI Pagerwojo 48.33 216 P **P** **15 27 51.7 -1.9**
comp=Z,38nm,1.5s
TKM2 Tokmak 2 49.14 300 P **P** **15 27 58.8 -0.9**
KSH Kashi 49.58 296 P **P** **15 28 06.8 +3.8**
KSH pmax pmax
comp=Z,16nm,0.8s
MDSI Maura Dua 49.66 227 P **P** **15 28 03.3 -0.3**
comp=Z,31nm,0.9s
KNRA Kununurra 49.71 192 P **P** **15 28 02.9 -1.0**
KNRA IAmb IAmb 15 28 17.8
comp=Z,17nm,0.9s
KNRA Kununurra 49.71 192 P **P** **15 28 05.1 +1.2**
GSI Gunungsitoli 49.77 239 P **P** **15 28 04.0 -0.5**
GSI Gunungsitoli 49.77 239 P **P** **15 28 04.2 -0.3**
comp=Z,87nm,1.0s
AAK Ala-Archa 49.99 300 P **P** **15 28 05.5 -0.5**
comp=Z,3.8nm,0.8s,baz=53,slow=21,SNR=3.3
comp=Z,3.8nm,0.8s
AAK Ala-Archa 49.99 300*deP* **P** **15 28 06.2 +0.2**
AAK pmax pmax
comp=Z,5.0nm,0.8s
P18K Big Mountain, 50.03 38 P **P** **15 28 05.9 0.0**
P18K IAmb IAmb 15 28 08.9
comp=Z,12nm,0.8s
PBSI Pulau Batu 50.23 237 P **P** **15 28 07.1 -0.8**
K20K Telida 50.70 33 P **P** **15 28 11.4 +0.6**
PPSI Pulau Pagai 51.02 233 P **P** **15 28 12.3 -1.4**
comp=Z,63nm,1.0s
BVA0 Borovoye Array 51.13 314 *i* P **P** **15 28 13.5 -0.7**
BVAR Borovoye Array 51.13 314 P **P** **15 28 14.6 +0.5**
comp=Z,20nm,0.6s,baz=95,slow=7.5,SNR=159
BVAR pP **pP** **15 29 14.4 -0.1**
comp=Z,5.6nm,0.8s,baz=96,slow=9.1,SNR=4.3
BVAR PcP **PcP** **15 29 25.8 +0.5**
comp=Z,2.7nm,0.5s,baz=86,slow=4.2,SNR=4.1
comp=Z,20nm,0.6s
BRVK Borovoye 51.20 314 P **P** **15 28 13.7 -0.9**
BRVK IAmb IAmb 15 28 15.8
comp=Z,13nm,0.7s
BRVK Borovoye 51.20 314*deP* **P** **15 28 14.5 -0.1**
BRVK pmax pmax
comp=Z,11nm,0.6s
KDAK Kodiak Island 51.46 40 P **P** **15 28 17.7 +1.2**
comp=Z,17nm,0.7s,baz=277,slow=7.4,SNR=12
comp=Z,17nm,0.7s
KDAK Kodiak Island 51.46 40 P **P** **15 28 15.3 -1.1**
KDAK IAmb IAmb 15 28 18.9
comp=Z,29nm,0.8s
PPLA Purkeypile 51.54 33 P **P** **15 28 15.9 -1.3**
PPLA IAmb IAmb 15 28 18.9
comp=Z,16nm,1.1s
BPAW Bear Paw Mtn. 52.09 32 P **P** **15 28 21.4 +0.3**
MLY Manley 52.21 31 P **P** **15 28 21.5 -0.5**
FITZ Fitzroy Crossi 52.69 195 P **P** **15 28 25.5 -0.3**
KK31 Karatay Array 52.75 302 P **P** **15 28 25.5 -0.7**
KK31 IAmb IAmb 15 28 27.2
comp=Z,20nm,0.7s
KK31 Karatay Array 52.75 302 P **P** **15 28 25.5 -0.7**
KK31 pmax pmax
comp=Z,20nm,0.7s
KKAR Karatay Array 52.75 302 P **P** **15 28 25.6 -0.5**
KKAR Karatay Array 52.75 302 P **P** **15 28 26.7 +0.5**
KKAR IAmb IAmb 15 28 27.2
comp=Z,20nm,0.7s
KKAR Karatay Array 52.75 302 P **P** **15 28 26.7 +0.5**
KKAR pmax pmax
comp=Z,20nm,0.7s
BWN Browne 52.76 32 P **P** **15 28 23.2 -2.7**
BWN IAmb IAmb 15 28 44.5
comp=Z,51nm,1.4s
WB0 Warramunga Arr 53.07 185 P **P** **15 28 27.1 -1.6**
WB0 IAmb IAmb 15 28 29.3

comp=Z,13nm,0.7s
GHO Glory Hole Cre 53.09 35 P P 15 28 27.2 -1.2
GHO IAmb IAmb 15 28 30.9
comp=Z,12nm,0.9s
WRAB Tennant Creek 53.24 185 P P 15 28 28.5 -1.4
WRAB IAmb IAmb 15 28 30.2
comp=Z,9.7nm,0.6s
WRAB Tennant Creek 53.24 185 P P 15 28 29.9 0.0
WRAB Tennant Creek 53.24 185 *ce*P P 15 28 29.6 -0.3
WRAB pmax pmax
comp=Z,15nm,1.7s
WB2 Warramunga Arr 53.25 185 P P 15 28 28.9 -1.1
WB2 IAmb IAmb 15 28 30.3
comp=Z,10nm,0.6s
WRA Warramunga Arr 53.25 185 P P 15 28 29.8 -0.1
comp=Z,9.5nm,0.6s,baz=358,slow=7.6,SNR=113
WRA ScP ScP 15 33 03.5 0.0
comp=Z,1.4nm,0.9s,baz=0.8,slow=4.3,SNR=6.1
comp=Z,9.5nm,0.6s
WRA Warramunga Arr 53.25 185 P P 15 28 28.6 -1.3
WRA Warramunga Arr 53.25 185 *i* P P 15 28 29.7 -0.3
WRA pmax pmax
comp=Z,9.0nm,0.4s
WR0 Warramunga Arr 53.26 184 P P 15 28 29.2 -0.8
WR0 IAmb IAmb 15 28 30.6
comp=Z,17nm,0.5s
MDM Murphy Dome 53.28 31 P P 15 28 28.6 -1.1
MDM IAmb IAmb 15 28 32.8
comp=Z,13nm,0.8s
SML Sawmill 53.37 35 P P 15 28 28.7 -1.7
SML IAmb IAmb 15 28 33.4
comp=Z,16nm,1.0s
H24K Noodor Dome 53.41 29 P P 15 28 30.0 -0.7
COLA College 53.44 31 ⇑*e*P P 15 28 33.2 +2.4
COLA pmax pmax
comp=Z,35nm,3.5s
POKR Poker Plat Res 53.61 30 P P 15 28 29.6 -2.5
POKR IAmb IAmb 15 28 35.4
comp=Z,10nm,0.8s
QIS Mount Isa 53.74 178 P P 15 28 34.4 +0.9
CTA Charters Tower 53.80 171 P P 15 28 33.7 -0.2
comp=Z,3.8nm,0.7s,baz=7.9,slow=7.9,SNR=5.9
comp=Z,3.8nm,0.7s
CTAO Charters Tower 53.80 171 P P 15 28 31.6 -2.3
CTAO Charters Tower 53.80 171 P P 15 28 31.6 -2.3
CTAO pmax pmax
comp=Z,6.0nm,1.0s
SCM Sheep Creek Mo 53.84 34 P P 15 28 34.1 +0.2
SCM IAmb IAmb 15 29 17.2
comp=Z,39nm,1.4s
SCM Sheep Creek Mo 53.84 34 P P 15 28 34.1 +0.2
SCM pmax pmax
comp=Z,39nm,1.4s
ILAR Eielson Array 53.86 31 P P 15 28 34.7 +0.9
comp=Z,2.5nm,0.8s,baz=275,slow=5.8,SNR=21
ILAR PcP PcP 15 29 36.3 +0.9
comp=Z,0.6nm,0.6s,baz=277,slow=4.1,SNR=2.3
comp=Z,2.5nm,0.8s
GAR Garm 53.96 297 P P 15 28 33.5 -1.7
M24K Tolsona, Glenn 54.36 34 P P 15 28 36.5 -1.1
KLU Klutina 54.54 35 P P 15 28 38.2 -0.6
KLU IAmb IAmb 15 28 53.2
comp=Z,13nm,1.2s
CHGR Chuyangaron 54.92 297 P P 15 28 41.0 -1.0
CHGR Chuyangaron 54.92 297 P P 15 28 41.0 -1.0
CHGR pmax pmax
comp=Z,80nm,0.8s
K27K Chicken 56.01 31 P P 15 28 49.0 -0.1
SVE Sverdlovsk 56.16 320 *e*P P 15 28 51.5 +1.2
SVE pmax pmax
comp=Z,26nm,1.0s
L27K Beaver Creek, 56.25 33 P P 15 28 51.7 +0.8
BCAR Beaver Creek A 56.27 33 P P 15 28 50.2 -0.9
KBL Kabul 56.33 292 P P 15 28 50.2 -2.0
KBL IAmb IAmb 15 28 52.7
comp=Z,15nm,1.0s
KBL Kabul 56.33 292 P P 15 28 50.2 -2.0
KBL pmax pmax
comp=Z,15nm,1.0s
AS01 Alice Springs 56.97 185 P P 15 28 56.1 -0.3
comp=Z,6.3nm,0.7s
AS31 Alice Springs 56.98 185 P P 15 28 55.0 -1.4
ASAR Alice Springs 56.98 185 P P 15 28 56.5 +0.1
comp=Z,2.9nm,0.5s,baz=16,slow=11,SNR=100
ASAR ScP ScP 15 33 20.4 +0.5
comp=Z,1.0nm,0.8s,baz=7.3,slow=5.8,SNR=7.6
comp=Z,2.9nm,0.5s
ASAR Alice Springs 56.98 185 P P 15 28 55.7 -0.8
MBWA Marble Bar 57.14 201 P P 15 28 58.0 +0.4
ARU Arti 57.36 320 P P 15 28 59.0 +0.3
comp=Z,12nm,0.5s,baz=84,slow=3.0,SNR=34
ARU pP pP 15 30 00.6 0.0
comp=Z,4.6nm,0.8s,baz=54,slow=4.0,SNR=2.4
comp=Z,12nm,0.5s
ARU Arti 57.36 320 P P 15 28 57.2 -1.6
ARU IAmb IAmb 15 28 59.9
comp=Z,19nm,0.8s
ARU Arti 57.36 320 *d i*P P 15 28 58.8 +0.1
ARU 15 29 45.9
ARU *PP pP 15 29 59.7 -0.9
ARU 15 31 06.6
ARU S S 15 36 34.6 +2.3
ARU SS SS 15 40 24.7 -1.4
ARU pmax pmax
comp=Z,23nm,0.9s
EPYK Eagle Plains 57.87 28 P P 15 29 03.8 +1.6
EPYK IAmb IAmb 15 29 05.5
comp=Z,21nm,0.8s
AB31 Akbulak array 58.30 311 *i* P P 15 29 05.1 -0.3
ABKAR Akbulak array 58.30 311 P P 15 29 03.8 -1.6
WRKA Warakurna 58.96 191 P P 15 29 10.3 +0.2
AKTO Aktyubinsk 59.18 313 P P 15 29 11.7 +0.4
comp=Z,6.4nm,0.5s,baz=94,slow=5.1,SNR=22
AKTO pP pP 15 30 13.2 -0.4
comp=Z,2.3nm,0.7s,baz=71,slow=12,SNR=2.5
comp=Z,6.4nm,0.5s
COCO West Island 60.18 228 *i* P P 15 29 10.8 -7.7
RMQ Roma 60.45 169 P P 15 29 22.0 +1.8
comp=Z,10nm,0.9s
INKA Innaminka 60.92 178 P P 15 29 25.1 +1.8
OOD Oodnadatta 60.98 183 P P 15 29 24.6 +0.9
DZM Mont Dzumac 61.42 150 P P 15 29 28.8 +2.0
comp=Z,6.9nm,1.0s,baz=52,slow=8.2,SNR=4.0
comp=Z,6.9nm,1.0s
KIRV Kirov 61.56 323 P P 15 29 26.3 -0.8
comp=Z,14nm,0.7s,baz=236,slow=3.4,SNR=5.0
comp=Z,14nm,0.7s
KIRV Kirov 61.56 323 ⇑*e*P P 15 29 27.9 +0.7
C36M Paulatuk 61.72 24 P P 15 29 28.0 0.0
DLBC Dease Lake 63.00 36 P P 15 29 38.3 +1.4
comp=Z,3.5nm,0.8s,baz=268,slow=8.5,SNR=4.4
comp=Z,3.5nm,0.8s
GEYT Alibeck 63.33 299 P P 15 29 39.7 +0.4
comp=Z,4.8nm,0.9s,baz=46,slow=6.4,SNR=8.2
GEYT PP PP 15 32 03.3 +1.1
comp=Z,1.9nm,0.6s,baz=342,slow=7.8,SNR=3.7
comp=Z,4.8nm,0.9s
LCRK Leigh Creek 63.58 180 P P 15 29 41.8 +1.1
comp=Z,21nm,1.0s
FORT Forrest 64.64 190 P P 15 29 48.0 +0.4
comp=Z,26nm,1.9s
BELG Belogornoye 64.67 317 P P 15 29 48.0 +0.3
comp=Z,50nm,0.7s,baz=302,slow=1.8,SNR=11
comp=Z,50nm,0.7s
BELG Belogornoye 64.67 317 *d i*P P 15 29 47.6 0.0
BELG pmax pmax
comp=Z,8.0nm,0.9s
CMSA Cobar Meteorol 65.04 173 P P 15 29 51.9 +1.7
STKA Stephens Creek 65.08 177 P P 15 29 50.6 +0.2
comp=Z,3.7nm,0.4s,baz=339,slow=8.3,SNR=5.8
comp=Z,3.7nm,0.4s
STKA Stephens Creek 65.08 177 ⇑*e*P P 15 29 50.7 +0.3
BBOO Buckleboo 65.97 182 P P 15 29 56.6 +0.5
comp=Z,21nm,1.9s
ARCES ARCESS Array B 66.42 339 P P 15 29 59.4 +0.8
comp=Z,2.0nm,0.6s,baz=64,slow=8.7,SNR=14
comp=Z,2.0nm,0.6s
RES Resolute Bay 66.66 13 P P 15 30 01.3 +1.3
comp=Z,5.4nm,0.7s,baz=308,slow=6.6,SNR=17
comp=Z,5.4nm,0.7s
RES Resolute Bay 66.66 13 P P 15 30 00.0 0.0
RES IAmb IAmb 15 30 02.2
comp=Z,5.2nm,0.8s
BLDU Ballidu 66.93 200 P P 15 30 02.3 +0.1
comp=Z,18nm,2.5s
LHI Lord Howe Isla 67.56 161 P P 15 30 07.7 +1.6

YKA Yellowknife Ar 68.16 29 P P 15 30 10.5 +1.0
comp=Z,2.8nm,0.8s,baz=296,slow=6.4,SNR=32
YKA PcP PcP 15 30 35.2 +2.0
comp=Z,0.8nm,0.9s,baz=296,slow=4.2,SNR=5.9
comp=Z,2.8nm,0.8s
VRH Novokhopyorsk 68.49 318 *e*P P 15 30 11.9 +0.2
VRH pmax pmax
comp=Z,20nm,0.5s
NWAO Narrogin (SRO) 68.96 199 P P 15 30 14.7 0.0
comp=Z,5.4nm,0.8s
comp=Z,5.4nm,0.8s
NWAO Narrogin (SRO) 68.96 199 P P 15 30 15.4 +0.7
comp=Z,27nm,2.3s
WSAR Wadi Sarin 69.30 285 P P 15 30 17.1 -0.2
comp=Z,5.0nm,0.7s,baz=86,slow=7.2,SNR=4.6
comp=Z,5.0nm,0.7s
LPSR Galich'ya Gora 69.38 320 *e*P P 15 30 16.4 -0.8
LPSR pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 69.40 323 *i* P P 15 30 16.1 -1.1
OBN pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 69.67 319 *e*P P 15 30 17.9 -1.0
VORR pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 69.91 319 *e*P P 15 30 20.2 -0.2
VSR pmax pmax
comp=Z,30nm,1.0s
FIA1 FINESS Array S 70.75 332 P P 15 30 24.4 -0.8
FIA1 IAmb IAmb 15 30 52.8
comp=Z,9.7nm,1.1s
FINES FINESS Array B 70.75 332 P P 15 30 25.8 +0.5
comp=Z,8.1nm,0.4s,baz=63,slow=5.7,SNR=201
comp=Z,8.1nm,0.4s
KBZ Khabaz 71.26 310 P P 15 30 28.9 +0.2
comp=Z,12nm,0.8s,baz=65,slow=4.2,SNR=14
comp=Z,12nm,0.8s
KBZ Khabaz 71.26 310 ⇑*e*P P 15 30 29.7 +1.1
KBZ pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 71.29 311 ⇑P P 15 30 27.8 -1.1
KIV Kislovodsk 71.29 311 *e*P P 15 30 30.0 +1.0
KIV pmax pmax
comp=Z,16nm,0.9s
MEF Metsahovi 72.14 331 *e*P P 15 30 34.6 +1.0
VSU Vasula 72.20 329 *de*P P 15 30 34.4 +0.5
VSU pmax pmax
comp=Z,44nm,0.9s
VSU Vasula 72.20 329 *e*P P 15 30 35.1 +1.2
RAF Rauma 72.68 333 *e*P P 15 30 37.4 +0.7
MTSE Matsula 73.28 330 *e*P P 15 30 41.1 +0.8
MNK Minsk 73.98 325 *i* P P 15 30 45.3 +0.9
comp=E,2.0nm,0.8s
MNK *i* P P 15 30 45.3 +0.9
comp=N,4.0nm,0.8s
MNK *i* P P 15 30 45.3 +0.9
comp=Z,20nm,0.8s,baz=55
MNK *i* pP pP 15 31 49.7 +0.1
MNK *i* sP sP 15 32 19.9 -0.1
MNK *i* PP PP 15 33 34.4 +1.2
MNK *i* PPP PPP 15 35 21.1
MNK *i* S S 15 39 54.7 +2.1
MNK *i* sS sS 15 41 49.0 +2.3
MNK *i* SS SS 15 44 46.7 +4.0
MNK *i* SSS SSS 15 48 10.3
MNK Minsk 73.98 325 *i* P P 15 30 45.2 +0.9
MNK *i* 15 30 58.7
MNK *i* *PP pP 15 31 49.7 +0.1
MNK *i* *SP sP 15 32 19.8 -0.1
MNK *i* 15 33 34.3
MNK *i* PPP PPP 15 35 21.1
MNK *i* S S 15 39 54.7 +2.1
MNK *i* SS SS 15 44 46.7 +4.0
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK pmax pmax
comp=N,4.0nm,0.8s
IDID Didziasalis 74.04 326 *e*P P 15 30 39.1 -5.6
ISAL Salakas 74.17 327 *e*P P 15 30 45.7 +0.2
IIGN Ignalina 74.26 327 *e*P P 15 30 36.6 -9.4
NACGM Naroch 74.26 326 *e*P P 15 30 47.3 +1.3
comp=Z,33nm,0.9s,baz=54
NEW Newport 74.47 42 P P 15 30 48.5 +1.1
comp=Z,4.3nm,0.9s,baz=312,slow=4.4,SNR=8.4
comp=Z,4.3nm,0.9s
YBH Yreka Blue Hor 74.56 50 P P 15 30 50.4 +2.3
comp=Z,4.2nm,0.8s,baz=342,slow=2.0,SNR=12
comp=Z,4.2nm,0.8s
YBH Yreka Blue Hor 74.56 50 P P 15 30 48.1 0.0
YBH IAmb IAmb 15 30 51.7
comp=Z,5.5nm,0.9s
SLIT Slitere, Latvi 74.59 330 *e*P P 15 30 47.7 -0.1
PINE Pine Mountain 74.61 48 P P 15 30 48.4 -0.1
PINE IAmb IAmb 15 30 52.2
comp=Z,14nm,0.8s
VSVD Vaisvydziai 74.91 328 *e*P P 15 30 50.9 +1.2
CORO Coronation Par 75.00 173 P P 15 30 50.7 +0.5
comp=Z,30nm,1.1s
PABE Paberze 75.19 328 P P 15 30 49.3 -1.9
PABE Paberze 75.19 328 *e*P P 15 30 52.1 +0.9
AKASG Malin Array Be 75.52 322 P P 15 30 53.5 +0.3
comp=Z,9.9nm,0.5s,baz=50,slow=6.2,SNR=90
comp=Z,9.9nm,0.5s
AKASG Malin Array Be 75.52 322 P P 15 30 51.2 -2.0
AKASG Malin Array Be 75.52 322 *i* P P 15 30 53.5 +0.3
AKASG pmax pmax
comp=Z,14nm,0.6s
AKBB Malin Array Si 75.52 322 P P 15 30 52.5 -0.7
AKBB Malin Array Si 75.52 322 *d i*P P 15 30 53.3 +0.1
PBUR Paburge 75.76 329 *e*P P 15 30 54.9 +0.4
WALA Waterton Lakes 75.79 40 P P 15 30 54.1 -1.0
WALA IAmb IAmb 15 30 57.8
comp=Z,5.7nm,0.7s
HFS Hagfors 76.24 335 P P 15 30 57.1 0.0
comp=Z,2.4nm,0.5s,baz=88,slow=4.7,SNR=21
comp=Z,2.4nm,0.5s
NB2 NORSAR Subarra 76.45 336 P P 15 30 59.0 +0.7
comp=Z,1.4nm,0.6s,baz=43,slow=5.6
NOA NORSAR Array B 76.45 336 P P 15 30 57.8 -0.5
comp=Z,1.6nm,0.6s,baz=44,slow=5.6,SNR=7.4
comp=Z,1.6nm,0.6s
SORM Soroca 77.48 320 ⇑P P 15 31 04.2 -0.1
SORM Soroca 77.48 320 ⇑P P 15 31 04.2 -0.1
VLDR Vladesti 79.00 318 ⇑P P 15 31 13.3 +0.7
BOZ Bozeman (W) 79.08 42 P P 15 31 12.0 -1.3
BOZ Bozeman (W) 79.08 42 P P 15 31 12.0 -1.3
BOZ pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 79.19 51 P P 15 31 15.8 +1.7
comp=Z,4.3nm,0.7s,baz=300,slow=5.3,SNR=38
comp=Z,4.3nm,0.7s
BR131 Keskin Array S 79.25 311 P P 15 31 13.3 -1.0
BR131 IAmb IAmb 15 31 15.8
comp=Z,8.8nm,0.8s
BR131 Keskin Array S 79.25 311 *c i*P P 15 31 15.1 +0.8
BRTR Keskin Array B 79.25 311 P P 15 31 14.8 +0.5
comp=Z,5.7nm,0.8s,baz=123,slow=4.7,SNR=31
comp=Z,5.7nm,0.8s
BRTR Keskin Array B 79.25 311 P P 15 31 14.5 +0.2
BRTR Keskin Array B 79.25 311 *ce*P P 15 31 14.8 +0.5
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BSD Bornholm Skovb 79.33 331 *e*P P 15 31 14.6 +0.4
TESR Tescani 79.39 319 ⇓P P 15 31 15.2 +0.5
BUR08 Bucovina Ar. S 79.47 321 P P 15 31 14.6 -0.6
BUR08 IAmb IAmb 15 31 17.1
comp=Z,8.9nm,0.8s
BURAR Bucovina Array 79.47 321 ⇓P P 15 31 16.1 +0.8
BURAR Bucovina Array 79.47 321 P P 15 31 15.2 0.0
BURAR IAmb IAmb 15 31 17.4
comp=Z,12nm,0.9s
BURAR Bucovina Array 79.47 321 ⇓P P 15 31 16.1 +0.8
RAYN Ar Rayn 79.59 291 P P 15 31 15.2 -1.0
RAYN Ar Rayn 79.59 291 ⇓P P 15 31 16.3 0.0
VRI Vrincioaia 79.74 319 ⇑P P 15 31 17.6 +1.0
VRI Vrincioaia 79.74 319 ⇑P P 15 31 17.6 +1.0
MANR Mangalia 79.93 316 ⇑P P 15 31 17.8 +0.1
URZ Urewera 79.97 150 P P 15 31 18.3 +0.6
DOPR Dopca 80.41 319 ⇓P P 15 31 21.1 +0.9
OJC Ojcow 80.52 325 *e*P P 15 31 21.7 +1.0
TRPA Tarpa 80.54 322 ⇑P P 15 31 21.7 +0.9
CRVS Cervenica-Dubn 80.58 323 *e*P P 15 31 21.6 +0.5
CRVS pmax pmax

comp=Z,8.0nm,0.9s
CRVS Cervenica-Dubn 80.58 323 *e*P P 15 31 21.5 +0.5
MARR Marisel-Cluj 81.18 321 ⇑P P 15 31 25.2 +0.9
LANS Liptovska Anna 81.40 324 *e*P P 15 31 27.1 +1.7
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 81.40 324 *e*P P 15 31 27.1 +1.7
KSP Ksiaz 81.73 327 *e*P P 15 31 28.2 +1.2
MMAI Mount Meron Ar 81.89 304 P P 15 31 29.1 +0.9
comp=Z,1.2nm,0.4s,baz=43,slow=5.0,SNR=6.6
comp=Z,1.2nm,0.4s
MORC Moravsky Berou 81.89 326 ⇑P P 15 31 28.9 +1.0
MORC Moravsky Berou 81.89 326 *e*P P 15 31 29.1 +1.2
MORC Moravsky Berou 81.89 326 ⇑P P 15 31 28.9 +1.0
OSTC Ostas 81.97 327 *e*P P 15 31 29.6 +1.3
PDAR Pinedale Array 81.99 44 P P 15 31 30.1 +1.2
comp=Z,1.3nm,0.8s,baz=294,slow=2.5,SNR=14
comp=Z,1.3nm,0.8s
KRLC Kraliky 82.04 326 *e*P P 15 31 29.9 +1.2
KRLC Kraliky 82.04 326 *e*P P 15 31 29.9 +1.2
DPC Dobruska-Polom 82.06 327 *e*P P 15 31 30.1 +1.3
DPC Dobruska-Polom 82.06 327 *e*P P 15 31 30.1 +1.3
VYHS Vyhne 82.15 324 *e*P P 15 31 30.4 +1.2
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS Vyhne 82.15 324 *e*P P 15 31 30.4 +1.2
GZR Gura Zlata 82.19 320 ⇑P P 15 31 30.0 +0.4
GZR Gura Zlata 82.19 320 ⇑P P 15 31 30.0 +0.4
SIRR Siria 82.21 321 ⇑P P 15 31 30.0 +0.4
SURR Surduc 82.30 321 ⇑P P 15 31 30.7 +0.7
RPZ Rata Peaks 82.44 157 P P 15 31 30.7 +0.2
comp=Z,17nm,0.9s,baz=342,slow=19,SNR=2.6
comp=Z,17nm,0.9s
JAVC Velka Javorina 82.47 325 *e*P P 15 31 33.2 +2.3
BZS Buzias 82.66 321 ⇑P P 15 31 32.2 +0.3
BZS Buzias 82.66 321 ⇑P P 15 31 32.2 +0.3
VRAC Vranov 82.67 326 P P 15 31 33.1 +1.3
comp=Z,6.5nm,0.5s,baz=24,slow=5.3,SNR=12
comp=Z,6.5nm,0.5s
VRAC Vranov 82.67 326 ⇑P P 15 31 33.2 +1.3
VRAC Vranov 82.67 326 *e*P P 15 31 33.3 +1.4
HERR Herculane 82.72 320 ⇑P P 15 31 32.4 +0.2
BRG Berggiesshubel 82.76 328 *e*P P 15 31 33.4 +1.1
BRG Amp 15 31 34.1
comp=Z,3.5nm,0.7s
BRG Berggiesshubel 82.76 328 *e*P P 15 31 33.4 +1.1
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 82.76 328 *e*P P 15 31 32.9 +0.6
comp=Z,3.5nm,0.7s,baz=42,slow=5.4
FLTG Flechtingen 82.85 330 *e*P P 15 31 32.2 -0.5
comp=Z,8.1nm,0.8s,baz=42,slow=5.4
CLL Collm 82.86 329 P P 15 31 31.7 -1.1
CLL IAmb IAmb 15 31 34.2
comp=Z,12nm,0.8s
CLL Collm 82.86 329 ⇓*i*P P 15 31 33.3 +0.5
comp=Z,13nm,0.8s
CLL *e*sP sP 15 33 09.0 0.0
CLL *e*PP PP 15 34 46.0 -0.7
CLL Collm 82.86 329 ⇓*i*P P 15 31 33.3 +0.5
CLL *e**SP sP 15 33 09.0 0.0
CLL pmax pmax
comp=Z,13nm,0.8s
CLL Collm 82.86 329 *e*P P 15 31 33.3 +0.5
comp=Z,13nm,0.8s,baz=42,slow=5.4
KRUC Moravsky 82.93 326 *e*P P 15 31 34.4 +1.2
FBE Freiberg 82.99 328 *e*P P 15 31 34.2 +0.8
comp=Z,11nm,0.7s,baz=42,slow=5.4
MODS Modra-Piesok 82.99 325 *e*P P 15 31 35.3 +1.7
MODS pmax pmax
comp=Z,23nm,1.3s
MODS Modra-Piesok 82.99 325 *e*P P 15 31 35.3 +1.7
GOPC GO Pecny, Ondr 83.07 327 *e*P P 15 31 34.7 +0.8
GOPC GO Pecny, Ondr 83.07 327 *e*P P 15 31 34.7 +0.8
PRU Pruhonice 83.13 327 *e*P P 15 31 35.4 +1.2
PRU Pruhonice 83.13 327 *e*P P 15 31 35.4 +1.2
MDVR Moldovita 83.16 320 ⇑P P 15 31 34.6 +0.1
PFO Pinyon Flats O 83.17 54 P P 15 31 36.1 +1.3
comp=Z,6.4nm,0.9s,baz=299,slow=5.6,SNR=8.7
comp=Z,6.4nm,0.9s
PFO Pinyon Flats O 83.17 54 *de*P P 15 31 36.5 +1.6
PFO pmax pmax
comp=Z,19nm,1.0s
RETH Rethem/Aller, 83.31 332 *e*P P 15 31 35.2 +0.2
comp=Z,10nm,0.8s,baz=42,slow=5.4
ELL Elmali 83.37 310 P P 15 31 34.6 -1.3
ELL Elmali 83.37 310 P P 15 31 34.6 -1.3
ELL pmax pmax
comp=Z,31nm,0.8s
NEUB Neuenburg 83.46 329 *e*P P 15 31 36.8 +1.0
comp=Z,20nm,0.7s,baz=42,slow=5.4
CLZ Clausthal 83.57 330 *e*P P 15 31 37.5 +1.0
comp=Z,16nm,1.0s,baz=42,slow=5.4
TANN Tannenbergstha 83.75 329 *e*P P 15 31 38.1 +0.7
comp=Z,4.7nm,1.0s,baz=42,slow=5.4
GUNZ Gunzen 83.84 329 *e*P P 15 31 38.6 +0.8
comp=Z,5.7nm,0.8s,baz=42,slow=5.4
ULM Lac du Bonnet 83.87 32 P P 15 31 39.2 +1.3
comp=Z,1.6nm,0.7s,baz=313,slow=7.0,SNR=3.4
comp=Z,1.6nm,0.7s
WERN Wernitzgruen 83.88 328 *e*P P 15 31 39.0 +1.0
comp=Z,7.8nm,0.9s,baz=42,slow=5.4
GTTG Gottingen 83.96 330 *e*P P 15 31 38.9 +0.6
comp=Z,9.3nm,0.6s,baz=42,slow=5.4
CKRC Cesky Krumlov 84.07 327 *e*P P 15 31 41.0 +2.0
EIL Elat 84.11 302 P P 15 31 39.2 -0.4
comp=Z,4.7nm,0.9s,baz=4.5,slow=10,SNR=3.7
comp=Z,4.7nm,0.9s
KHC Kasperske Hory 84.18 327 *e*P P 15 31 40.6 +1.0
KHC Kasperske Hory 84.18 327 *e*P P 15 31 40.6 +1.0
MANZ Manzenberg 84.21 328 *e*P P 15 31 40.4 +0.7
comp=Z,1.0nm,0.6s,baz=42,slow=5.4
GEC2 GERESS Array S 84.33 327 *e*P P 15 31 40.8 +0.4
comp=Z,4.0nm,0.8s,baz=42,slow=5.4
GERES GERESS Array B 84.33 327 P P 15 31 40.3 -0.1
comp=Z,2.4nm,0.6s,baz=42,slow=5.4,SNR=18
comp=Z,2.4nm,0.6s
GRF Grafenberg Arr 84.82 329 *e*P P 15 31 44.0 +1.3
comp=Z,11nm,1.0s,baz=42,slow=5.4
DAVOX Davos/Dischmat 87.59 327 P P 15 31 55.7 -0.7
comp=Z,3.1nm,0.6s,baz=40,slow=6.1,SNR=7.5
comp=Z,3.1nm,0.6s
ANMO Albuquerque 88.85 48 ⇓*e*P P 15 32 04.6 +2.0
ANMO pmax pmax
comp=Z,5.0nm,1.2s
LPAZ La Paz 150.68 61 PKPbc PKiKP 15 39 02.4 +1.9
comp=Z,1.8nm,0.6s,baz=219,slow=17,SNR=4.6

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*IDC **14** 15:28:18.2±1.1, 41°.21N×47°.72E, h0km, mb3.5/4, mbtmp3.6/9, ML3.1/4, Error ellipse: s-maj=20.7km s-min=9.3km az=151.0*
*AZER **14** 15:28:19.6±0.0, 41°.12N×47°.94E, h13km, Error ellipse: s-maj=0.1km s-min=0.1km az=3.0*
*MOS **14** 15:28:20.3±0.0, 41°.23N×47°.94E, h3km, MPVA3.8*
*TEH **14** 15:28:21.0, 41°.10N×47°.92E, h24km±30km, ML3.3*
*DRS **14** 15:28:21.4±0.0, 41°.12N×48°.04E, h17km*
*NSSP **14** 15:28:23.3, 41°.22N×47°.80E, h20km, Ms3.4*
ISC 14 15:28:20.8±0.8, **41°.11N**±0°.01×**47°.87E**±0°.01, **h17**km±5km, **n145**, σ1s.**89**/226, **mb3.5**/4, **9C-8D, Eastern Caucasus**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
QBL Gabala 0.16 190 P Pg 15 28 25.4 +0.4
SNR=439
QBL S Sg 15 28 29.5 +1.6
QBL Gabala 0.16 190 Pg Pg 15 28 25.4 +0.4
XNQ Khinaliq 0.21 72 P Pg 15 28 25.3 -0.6
SNR=5742
XNQ S Sg 15 28 28.6 -0.8
XNQ Khinaliq 0.21 72 Pg Pg 15 28 25.2 -0.7
AKT Akhty 0.39 344 *i* Pg Pb 15 28 28.8 -0.6
998nm,0.2s
AKT *e*Sg Sb 15 28 34.4 -0.7
6μm,0.3s
AKT Akhty 0.39 344 ⇓*i*PG Pb 15 28 28.7 -0.6
AKT pmax pmax
comp=Z,998nm,0.2s
IML Ismayilli 0.39 143 P Pb 15 28 28.8 -0.5
SNR=148
IML S Sb 15 28 35.8 +0.7
IML Ismayilli 0.39 143 Pg Pb 15 28 28.9 -0.4
QUB Quba 0.46 53 Pg Pb 15 28 31.1 +0.6
QSAR Qusar 0.50 36 P Pb 15 28 30.7 -0.5

	SNR=348							
QSAR				S	Sb	15 28 38.2	-0.1	
QSAR	**Qusar**	**0.50**	**36**	Pg	Pb	15 28 30.7	-0.5	
SEKA	**Sheki**	**0.52**	**282**	P	Pb	15 28 31.3	-0.2	
	SNR=74							
SEKA				S	Sb	15 28 40.8	+2.0	
SEKA	**Sheki**	**0.52**	**282**	PG	Pb	15 28 31.3	-0.2	
SEKA	**Sheki**	**0.52**	**282**	Pg	Pb	15 28 31.3	-0.2	
QUBA	**Quba, Azerbaij**	**0.53**	**62**	P	Pb	15 28 31.3	-0.4	
	SNR=50							
QUBA				S	Sb	15 28 38.7	-0.3	
KSMR	**Kasumkent**	**0.53**	**21**	*e*Pg	Pb	15 28 31.2	-0.5	
	comp=Z,8.0nm,0.2s							
KSMR				*e*Sg	Sb	15 28 38.6	-0.6	
	comp=Z,108nm,0.4s							
KSMR	**Kasumkent**	**0.53**	**21**	*e*PG	Pb	15 28 31.2	-0.5	
KSMR				*e*S	Sb	15 28 38.6	-0.6	
PQL	**Pirkuli**	**0.63**	**120**	P	Pb	15 28 33.1	-0.4	
	SNR=29							
PQL				S	Sb	15 28 43.8	+1.8	
PQL	**Pirkuli**	**0.63**	**120**	Pg	Pb	15 28 33.0	-0.4	
MNGR	**Mingechevir, A**	**0.68**	**241**	P	Pn	15 28 35.5	-0.2	
	SNR=9.4							
MNGR				S	Sn	15 28 47.6	+1.7	
MNGR	**Mingechevir, A**	**0.68**	**241**	PG	Pn	15 28 35.4	-0.2	
MNGR	**Mingechevir, A**	**0.68**	**241**	Pg	Pn	15 28 35.4	-0.2	
KDMR	**Kurdemir**	**0.77**	**162**	P	Pb	15 28 35.8	+0.1	
KDMR				S	Sn	15 28 48.4	+0.4	
KDMR	**Kurdemir**	**0.77**	**162**	Pg	Pb	15 28 35.7	+0.1	
SIZA	**Siyzn**	**0.78**	**92**	P	Pb	15 28 35.7	-0.2	
	SNR=34							
SIZA				S	Sb	15 28 47.8	+1.6	
SIZA	**Siyzn**	**0.78**	**92**	Pg	Pb	15 28 35.7	-0.2	
ZRD	**Zardab**	**0.84**	**190**	P	Pn	15 28 37.8	+0.1	
	SNR=98							
ZRD				S	Sn	15 28 52.3	+2.6	
ZRD	**Zardab**	**0.84**	**190**	Pg	Pn	15 28 37.9	+0.1	
ATGJ	**Altiaghaj**	**0.84**	**106**	P	Pb	15 28 36.6	-0.4	
	SNR=16							
ATGJ				S	Sb	15 28 48.7	+0.6	
ATGJ	**Altiaghaj**	**0.84**	**106**	Pg	Pb	15 28 36.6	-0.4	
GBS	**Qobustan**	**0.99**	**125**	P	Pn	15 28 40.5	+0.5	
	SNR=15							
GBS				S	Sn	15 28 56.2	+2.5	
GBS	**Qobustan**	**0.99**	**125**	Pg	Pn	15 28 40.3	+0.3	
BRDA	**Brd**	**0.99**	**212**	P	Pn	15 28 40.7	+0.8	
	SNR=7.9							
BRDA				S	Sn	15 28 57.4	+3.8	
BRDA	**Brd**	**0.99**	**212**	Pg	Pn	15 28 40.8	+0.9	
ZKT	**Zaqatala**	**1.06**	**302**	Pg	Pn	15 28 41.5	+0.6	
URKR	**Urkarakh**	**1.07**	**350**	*e*Pg	Pb	15 28 40.9	-0.1	
	comp=Z,108nm,0.4s							
URKR				*e*Sg	Sn	15 28 56.5	+0.6	
	comp=Z,61nm,0.4s							
URKR	**Urkarakh**	**1.07**	**350**	*e*PG	Pb	15 28 40.9	-0.1	
URKR				*e*S	Sn	15 28 56.5	+0.6	
ZKTA	**Zakatala**	**1.08**	**300**	P	Pn	15 28 41.4	+0.2	
	SNR=32							
ZKTA				S	Sn	15 28 59.1	+3.2	
AGDM	**Agdam**	**1.15**	**211**	P	Pn	15 28 42.6	+0.4	
	SNR=29							
AGDM				S	Sn	15 29 00.1	+2.5	
KMKR	**Kumukh**	**1.18**	**331**	*e*Pg	Pn	15 28 43.4	+0.7	
	comp=Z,3.0nm,0.1s							
KMKR				*e*Sg	Sn	15 29 00.9	+2.4	
	comp=Z,81nm,0.3s							
KMKR	**Kumukh**	**1.18**	**331**	*e*PG	Pn	15 28 43.4	+0.7	
GANJ	**Ganja**	**1.26**	**249**	Pn	Pg	15 28 43.6	-1.6	
	SNR=22							
GANJ				S	Sb	15 29 01.3	+1.2	
GANJ	**Ganja**	**1.26**	**249**	PG	Pg	15 28 43.5	-1.6	
GANJ	**Ganja**	**1.26**	**249**	Pg	Pg	15 28 43.5	-1.6	
SAAT	**Saatly**	**1.31**	**161**	P	Pg	15 28 42.8	-3.3	
SAAT				S	Sg	15 29 00.6	-2.6	
BLQ	**Beylaqan**	**1.40**	**190**	Pn	Pn	15 28 45.4	-0.2	
	SNR=8.9							
BLQ				S	Sb	15 29 05.2	+1.1	
BLQ	**Beylaqan**	**1.40**	**190**	Pg	Pn	15 28 45.7	+0.1	
ALIB	**Äli-Bayra**	**1.44**	**143**	Pg	Pg	15 28 49.0	+0.7	
ALIB				Sg	Sn	15 29 10.9	+6.4	
ALIB	**Äli-Bayra**	**1.44**	**143**	Pg	Pg	15 28 48.7	+0.3	
GNBR	**Gunib**	**1.45**	**332**	*e*Pg	Pb	15 28 48.0	+0.6	
	comp=Z,92nm,0.6s							
GNBR				*e*Sg	Sn	15 29 09.2	+4.2	
	comp=Z,248nm,0.5s							
GNBR	**Gunib**	**1.45**	**332**	*e*PN	Pb	15 28 48.0	+0.6	
ARKR	**Arakani**	**1.63**	**337**	*e*Pg	Pg	15 28 50.6	-1.6	
	comp=Z,1.0nm,0.2s							
ARKR				*e*Sg	Sg	15 29 14.3	+0.9	
	comp=Z,800nm,0.6s							
ARKR	**Arakani**	**1.63**	**337**	*e*PN	Pg	15 28 50.6	-1.6	
ARKR				pmax	pmax			
	comp=Z,1.0nm,0.2s							
GDB	**GEDABAY**	**1.65**	**257**	Pn	Pn	15 28 49.6	+0.4	
	SNR=51							
GDB				S	Sb	15 29 12.3	+0.9	
GDB	**GEDABAY**	**1.65**	**257**	Pg	Pn	15 28 49.6	+0.4	
QRD	**Qoradiz**	**1.69**	**195**	Pn	Pn	15 28 49.5	-0.1	
	SNR=17							
QRD				S	Sb	15 29 13.3	+0.8	
QRD	**Qoradiz**	**1.69**	**195**	Pg	Pn	15 28 49.8	+0.2	
UNCR	**Uncukul**	**1.80**	**334**	*e*Pg	Pg	15 28 54.5	-0.8	
	comp=Z,75nm,0.6s							
UNCR				*e*Sg	Sg	15 29 21.0	+2.3	
	comp=Z,92nm,0.4s							
UNCR	**Uncukul**	**1.80**	**334**	*e*PN	Pg	15 28 54.5	-0.8	
UNCR				*e*S	Sg	15 29 21.0	+2.3	
BUJR	**Buynaksk**	**1.81**	**342**	*e*Pg	Pg	15 28 54.5	-1.1	
	comp=Z,90nm,0.6s							
BUJR				*e*Sg	Sg	15 29 20.1	+1.0	
	comp=Z,218nm,0.6s							
BUJR	**Buynaksk**	**1.81**	**342**	*e*PN	Pg	15 28 54.4	-1.1	
BUJR				pmax	pmax			
	comp=Z,90nm,0.6s							
KRNR	**Karanay**	**1.86**	**338**	*e*Pg	Pg	15 28 55.1	-1.5	
	comp=Z,7.0nm,0.1s							
KRNR				*e*Sg	Sg	15 29 21.9	+1.0	
	comp=Z,179nm,0.5s							
KRNR	**Karanay**	**1.86**	**338**	*e*PN	Pg	15 28 55.1	-1.5	
KRNR				*e*S	Sg	15 29 21.9	+1.0	
MAK	**Makhachkala**	**1.88**	**352**	*e*Pg	Pg	15 28 55.8	-1.0	
MAK				*e*Sg	Sg	15 29 19.4	-1.7	
MAK	**Makhachkala**	**1.88**	**352**	*e*PN	Pg	15 28 55.8	-1.0	
QZX	**Qazax, Azerbai**	**1.89**	**269**	Pn	Pb	15 28 54.0	-0.9	
	SNR=23							
QZX				Sn	Sg	15 29 19.7	-2.0	
QZX	**Qazax, Azerbai**	**1.89**	**269**	Pn	Pb	15 28 54.0	-0.9	
GLBA	**Clilabad**	**1.90**	**168**	Pn	Pn	15 28 53.4	+0.9	
	SNR=8.6							
GLBA				Sn	Sn	15 29 17.8	+1.7	
GLBA	**Clilabad**	**1.90**	**168**	Pn	Pn	15 28 53.6	+1.1	
BTLR	**Botlikh**	**1.99**	**322**	*e*Pg	Pg	15 28 59.1	+0.2	
	comp=Z,37nm,0.5s							
BTLR				*e*Sg	Sg	15 29 28.4	+3.7	
	comp=Z,509nm,0.6s							
BTLR	**Botlikh**	**1.99**	**322**	*e*PN	Pg	15 28 59.1	+0.2	
BTLR				*e*S	Sg	15 29 28.4	+3.7	
DBC	**Dubki**	**2.06**	**338**	*e*Pg	Pg	15 28 58.6	-1.9	
DBC	comp=Z,61nm,0.4s							
				*e*Sg	Sg	15 29 27.7	+0.5	
	comp=Z,137nm,0.4s							
DBC	**Dubki**	**2.06**	**338**	*e*PN	Pg	15 28 58.5	-1.9	
DBC				*e*S	Sg	15 29 27.7	+0.5	
DLMR	**Dylym**	**2.17**	**335**	*e*Pg	Pg	15 29 00.9	-1.5	
	comp=Z,81nm,0.3s							
DLMR				*e*Sg	Sg	15 29 31.7	+1.1	
	comp=Z,114nm,0.6s							
DLMR	**Dylym**	**2.17**	**335**	*e*PN	Pg	15 29 00.9	-1.5	
DLMR				*e*S	Sg	15 29 31.7	+1.1	
YRD	**Yardimli**	**2.21**	**173**	Pn	Pn	15 28 56.4	-0.4	
	SNR=30							
YRD				Sn	Sn	15 29 26.6	+2.8	
YRD	**Yardimli**	**2.21**	**173**	Pn	Pn	15 28 56.5	-0.3	
DVE	**Vedeno**	**2.26**	**325**	*e*Pg	Pb	15 29 00.7	-0.5	
DVE				*e*Sg	Sg	15 29 31.4	-2.1	
DVE	**Vedeno**	**2.26**	**325**	*e*PN	Pb	15 29 00.7	-0.5	
DVE				*e*S	Sg	15 29 31.4	-2.1	
SBZ	**Shahbuz**	**2.46**	**227**	Pn	Pn	15 29 02.2	+1.9	
	SNR=16							
SBZ				Sn	Sb	15 29 35.4	+0.7	
SBZ	**Shahbuz**	**2.46**	**227**	Pn	Pn	15 29 02.1	+1.9	
LRK	**Lerik**	**2.48**	**172**	Pn	Pn	15 29 00.6	0.0	
	SNR=33							
LRK				Sn	Sn	15 29 32.9	+2.3	
LRK	**Lerik**	**2.48**	**172**	Pn	Pn	15 29 00.5	-0.1	
LKRN	**Lenkeran, Azer**	**2.49**	**163**	Pn	Pn	15 29 01.7	+1.2	
LKRN				Sn	Sb	15 29 34.3	-1.1	
GNI	**Garni**	**2.57**	**249**	Pn	Pn	15 29 03.9	+2.2	
	comp=Z,3.8nm,0.3s,baz=337,slow=2.6,SNR=18							
GNI				Sn	Sn	15 29 33.6	+1.0	
	comp=Z,3.9nm,0.3s,baz=249,slow=11,SNR=5.2							
GNI				Lg	Lg	15 29 40.0		
	comp=Z,11nm,0.3s,baz=328,slow=20,SNR=6.7							
	comp=Z,19nm,0.5s							
GNI	**Garni**	**2.57**	**249**	⇓*i*P	Pb	15 29 05.1	-1.4	
GNI				⇓*i*S	Sg	15 29 41.0	-2.3	
GNI	**Garni**	**2.57**	**249**	*e*Pn	Pb	15 29 04.6	-1.9	
GNI				*e*Sn	Sb	15 29 40.3	+2.5	
GROC	**Groznyy**	**2.60**	**324**	*e*Pn	Pb	15 29 06.7	-0.3	
	comp=Z,43nm,0.5s							
GROC				*e*Sn	Sg	15 29 42.5	-1.9	
GROC	**Groznyy**	**2.60**	**324**	*e*PN	Pb	15 29 06.9	-0.1	
GROC				*e*		15 29 46.0		
GROC				pmax	pmax			
	comp=Z,44nm,0.5s							
GROC				smax	smax			
	comp=N,114nm,0.6s							
GROC				smax	smax			
	comp=E,84nm,0.7s							
GROC				smax	smax			
	comp=N,129nm,0.8s							
GROC				MLR	MLR			
	comp=Z,40nm,1.0s							
ORD	**Ordubad**	**2.61**	**214**	Pn	Pn	15 29 03.9	+1.6	
	SNR=34							
ORD				Sn	Sb	15 29 39.3	+0.4	
ORD	**Ordubad**	**2.61**	**214**	Pn	Pn	15 29 03.8	+1.6	
ASTR	**Astara**	**2.64**	**164**	Pn	Pn	15 29 02.9	+0.3	
ASTR				Sn	Sn	15 29 37.1	+3.0	
ASTR	**Astara**	**2.64**	**164**	Pn	Pn	15 29 03.8	+1.2	
STE	**Stepanavan**	**2.65**	**269**	⇑*i*P	Pb	15 29 05.8	-2.0	
STE				⇑*i*S	Sb	15 29 40.2	0.0	
NAX	**Nakhchivan**	**2.65**	**224**	Pn	Pn	15 29 04.8	+1.9	
	SNR=12							
NAX				Sg	Sg	15 29 44.8	-1.3	
NAX	**Nakhchivan**	**2.65**	**224**	PN	Pn	15 29 04.8	+1.9	
NAX	**Nakhchivan**	**2.65**	**224**	Pn	Pn	15 29 04.8	+1.9	
NRKZ	**NAREK**	**2.69**	**247**	⇑*i*P	Pb	15 29 07.3	-1.1	
NRKZ				⇑*i*S	Sg	15 29 44.4	-2.6	
HYR	**Heyderabad**	**2.69**	**240**	Pg	Pb	15 29 09.1	+0.6	
	SNR=6.9							
HYR				Sg	Sg	15 29 44.9	-2.3	
GAS1	**Astara - Iran**	**2.82**	**164**	Pn	Pn	15 29 05.4	+0.4	
IHRS	**Heris**	**2.86**	**193**	Pn	Pn	15 29 06.5	+0.7	
IMRD	**Marand**	**2.91**	**216**	Pn	Pn	15 29 07.7	+1.1	
ARUZ	**Aruch**	**2.99**	**255**	⇑*i*P	Pb	15 29 14.6	+0.9	
ARUZ				⇓*i*S	Sg	15 29 56.5	-0.4	
MAKU	**Maku**	**3.00**	**235**	Pn	Pn	15 29 09.0	+1.2	
METS	**Metsamor**	**3.04**	**253**	⇓*i*P	Pb	15 29 13.3	-1.1	
METS				⇓*i*S	Sb	15 29 52.7	+1.4	
ITBZ	**Tabriz**	**3.16**	**205**	Pn	Pn	15 29 10.9	+1.0	
LACR	**Lac**	**3.17**	**304**	*e*Pn	Pb	15 29 14.2	-2.5	
LACR				*e*Sn	Sn	15 29 51.6	+4.1	
LACR	**Lac**	**3.17**	**304**	*e*PN	Pb	15 29 14.2	-2.5	
LACR				*e*S	Sn	15 29 51.7	+4.1	
VNNZ	**Vanand**	**3.24**	**253**	⇑*i*P	Pg	15 29 20.7	-2.2	
VNNZ				⇓*i*S	Sg	15 30 07.0	+2.1	
ISRB	**Sarab**	**3.28**	**183**	Pn	Pn	15 29 12.5	+0.9	
ISHB	**Shabestar**	**3.31**	**212**	Pn	Pn	15 29 12.2	+0.1	
AKH	**Akhalkalaki**	**3.32**	**277**	*e*Pn	Pg	15 29 22.8	-1.5	
AKH				*e*Sn	Sn	15 29 55.9	+4.7	
AKH	**Akhalkalaki**	**3.32**	**277**	*e*PN	Pg	15 29 22.8	-1.5	
AKH				*e*S	Sn	15 29 55.9	+4.7	
ZEI	**Tsey**	**3.41**	**301**	*e*Pn	Pb	15 29 17.3	-3.5	
ZEI				*e*Sn	Sb	15 29 59.3	-2.7	
ZEI	**Tsey**	**3.41**	**301**	*e*PN	Pb	15 29 17.3	-3.5	
ZEI				*e*S	Sb	15 29 59.3	-2.7	
KORR	**Kora**	**3.46**	**306**	*e*Pn	Pb	15 29 23.1	+1.6	
KORR				*e*Sn	Sb	15 30 02.0	-1.2	
KORR	**Kora**	**3.46**	**306**	*e*PN	Pb	15 29 23.1	+1.6	
KORR				*e*S	Sb	15 30 02.0	-1.2	
STDR	**Stavd-Durt**	**3.62**	**310**	*e*Pn	Pn	15 29 19.4	+3.3	
STDR				*e*Sn	Sb	15 30 05.8	-2.2	
STDR	**Stavd-Durt**	**3.62**	**310**	*e*PN	Pn	15 29 19.4	+3.3	
STDR				*e*S	Sb	15 30 05.8	-2.2	
DIGR	**Digorskoe uzhe**	**3.67**	**301**	*e*Pn	Pn	15 29 20.1	+3.2	
DIGR				*e*Sn	Sn	15 30 02.4	+2.5	
DIGR	**Digorskoe uzhe**	**3.67**	**301**	*e*PN	Pn	15 29 20.1	+3.2	
IAZR	**Azarshahr**	**3.72**	**204**	Pn	Pn	15 29 19.1	+1.4	
IHSH	**Hashtrud**	**3.82**	**187**	Pn	Pn	15 29 18.7	-0.5	
KBZ	**Khabaz**	**4.52**	**307**	Pn	Pn	15 29 27.7	-0.7	
	comp=Z,0.6nm,0.6s,baz=65,slow=15,SNR=1.4							
KBZ				Pg	Pb	15 29 39.6	0.0	
	comp=Z,0.3nm,0.3s,baz=124,slow=10,SNR=6.8							
KBZ	**Khabaz**	**4.52**	**307**	*e*Pn	Pn	15 29 33.4	+5.0	
KBZ				*e*Sn	Sn	15 30 25.7	+5.1	
KBZ	**Khabaz**	**4.52**	**307**	*e*PN	Pn	15 29 33.4	+5.0	
KBZ				*e*S	Sn	15 30 25.7	+5.1	
JIR1	**Jirandeh**	**4.64**	**160**	Pn	Pn	15 29 29.5	-0.8	
SHA1	**Shidzhatmaz**	**4.67**	**306**	*e*Pn	Pn	15 29 35.1	+4.4	
SHA1				*e*Sn	Sn	15 30 28.9	+4.2	
SHA1	**Shidzhatmaz**	**4.67**	**306**	*e*PN	Pn	15 29 35.2	+4.4	
SHA1				*e*S	Sn	15 30 28.9	+4.2	
BEYR	**Belyy Ugol+**	**4.73**	**310**	*e*Pn	Pn	15 29 31.5	+0.1	
BEYR				*e*Sn	Sn	15 30 27.0	+1.2	
BEYR	**Belyy Ugol+**	**4.73**	**310**	*e*PN	Pn	15 29 31.5	+0.1	
QALM	**Alamut, Qazvin**	**5.14**	**154**	Pn	Pn	15 29 37.5	+0.3	
KLST	**Kelardasht - M**	**5.21**	**150**	Pn	Pn	15 29 37.4	-0.9	
MRVT	**Maraveh tapeh**	**7.23**	**116**	Pn	Pn	15 30 05.6	-0.2	
AKTO	**Aktyubinsk**	**11.70**	**34**	Pn	Pn	15 31 05.4	-1.5	
	comp=Z,0.3nm,0.3s,baz=228,slow=10,SNR=3.7							
	comp=Z,1.8nm,0.5s							
AKTO	**Aktyubinsk**	**11.70**	**34**	⇓P	Pn	15 31 04.7	-2.2	
	comp=Z,3.7nm,1.1s							
AKTO				⇑S	Sn	15 33 11.2	-5.9	
	comp=Z,2.4nm,1.0s							
AB31	**Akbulak array**	**11.78**	**42**	⇑P	Pn	15 31 05.8	-2.1	
	comp=Z,0.8nm,0.6s,baz=242,slow=12,SNR=8.3							
AB31				⇑S	Sn	15 33 19.4	+0.5	
	comp=Z,2.7nm,1.1s,baz=240,slow=25							
AB31	**Akbulak array**	**11.78**	**42**	P	Pn	15 31 05.8	-2.1	
AB31				S	Sn	15 33 19.4	+0.5	
ARU	**Arti**	**16.84**	**21**	Pn	Pn	15 32 10.2	-5.4	
	baz=248,slow=11,SNR=2.2							
	comp=Z,0.9nm,0.3s							
BVAR	**Borovoye Array**	**19.33**	**44**	P	P	15 32 44.9	-0.1	
	comp=Z,0.1nm,0.3s,baz=251,slow=9.7,SNR=13							
	comp=Z,1.9nm,0.5s							
KURBB	**Kurchatov Arra**	**23.23**	**55**	P	P	15 33 26.9	+0.1	
	comp=Z,0.6nm,0.3s,baz=262,slow=11,SNR=6.7							
	comp=Z,0.6nm,0.3s							
KURK	**Kurchatov**	**23.30**	**55**	P	P	15 33 26.9	-0.7	
FINES	**FINESS Array B**	**24.28**	**334**	P	P	15 33 35.9	-1.0	
	comp=Z,1.3nm,0.5s,baz=141,slow=11,SNR=12							
	comp=Z,1.3nm,0.5s							
GERES	**GERESS Array B**	**25.22**	**299**	P	P	15 33 44.0	-1.6	
	comp=Z,0.2nm,0.4s,baz=90,slow=12,SNR=2.3							
	comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**25.29**	**65**	P	P	15 33 45.9	-0.3	
	comp=Z,0.6nm,0.6s,baz=265,slow=8.3,SNR=8.0							
	comp=Z,0.6nm,0.6s							

*TIF **14** 16:02:50.9, 40˚.05N×44˚.74E, h21km±1km*
*DDA **14** 16:02:52.0±0.0, 40˚.13N×44˚.80E, h5km±12km, ML1.8*
*ISK **14** 16:02:52.9, 40˚.07N×44˚.78E, h5km, ML2.0/5*
*TEH **14** 16:02:57.5, 39˚.59N×45˚.02E, h10km±135km, ML2.5*

ISC 14 16:02:51.1±1.1, 40˚.10N±0˚.03×44˚.89E±0˚.03, h11km±8km, n29, σ1°24/40, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**0.12**	**296**	Pg	Pg	**16 02 54.5**	**+0.2**
TASB	**TASBURUN-IGDIR**	**0.51**	**258**	Pg	Pb	**16 03 01.8**	**-0.3**
TASB				Sg	Sb	**16 03 09.6**	**+0.1**
IGDI	**IGDIR**	**0.66**	**250**	P	Pb	**16 03 03.6**	**-1.1**
IGDI				S	Sb	**16 03 12.7**	**-1.1**
IGDI				*i* AML	AML	16 03 14.0	
	comp=E,75nm,0.4s						
IGDI				*i* AML	AML	16 03 15.0	
	comp=N,64nm,0.2s						
MAKU	**Maku**	**0.76**	**192**	Pg	Pg	**16 03 04.8**	**-0.9**
DYDN	**Diyadin**	**1.07**	**240**	P	Pn	**16 03 13.4**	**+1.2**
DYDN				*i* AML	AML	16 03 34.0	
	comp=N,25nm,0.4s						
DIGO	**Kars**	**1.20**	**286**	P	Pb	**16 03 13.5**	**-0.4**
DIGO				S	Sn	**16 03 29.7**	**-0.7**
KOTA	**Agri, Merkez-K**	**1.32**	**258**	P	Pn	**16 03 17.4**	**+1.7**
DMNI	**Dmanisi**	**1.34**	**337**	P	Pn	**16 03 16.3**	**+0.5**
DMNI				S	Sn	**16 03 34.3**	**+0.6**
KZRT	**Kazreti**	**1.34**	**344**	P	Pg	**16 03 15.9**	**-0.9**
KZRT				S	Sn	**16 03 34.2**	**+0.6**
KARS	**Kars**	**1.48**	**292**	Pn	Pb	**16 03 20.9**	**+2.2**
VMUR	**Van-Muradiye**	**1.50**	**223**	P	Pb	**16 03 19.4**	**+0.4**
VMUR				*i* AML	AML	16 03 44.0	
	comp=N,11nm,0.8s						
VMUR				*i* AML	AML	16 03 47.0	
	comp=E,11nm,0.4s						
IMRD	**Marand**	**1.52**	**155**	Pg	Pn	**16 03 17.8**	**-0.5**
AGRB	**Hanur-Agry**	**1.55**	**251**	Pn	Pg	**16 03 21.5**	**+0.7**
TRLG	**Trialeti**	**1.56**	**338**	P	Pg	**16 03 20.0**	**-1.1**
TRLG				S	Sg	**16 03 41.1**	**-0.2**
BTNK	**Botanikuri**	**1.59**	**358**	P	Pn	16 03 14.2	-4.9
BTNK				S	Sn	**16 03 35.7**	**-4.0**
OZAP	**Van, Ozalp-Mer**	**1.59**	**206**	P	Pg	**16 03 21.3**	**-0.3**
OZAP				*i* AML	AML	16 03 50.0	
	comp=E,11nm,1.6s						
OZAP				*i* AML	AML	16 03 51.0	
	comp=N,12nm,0.7s						
DDFL	**Dedoflistskaro**	**1.64**	**34**	P	Pg	**16 03 23.0**	**+0.4**
AKH	**Akhalkalaki**	**1.69**	**322**	Pn	Pg	**16 03 24.6**	**+1.1**
BRNG	**Burnasheti**	**1.73**	**333**	P	Pg	**16 03 23.9**	**-0.3**
ISHB	**Shabestar**	**1.90**	**162**	Pg	Pn	**16 03 24.0**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.99**	**284**	Pn	Pg	**16 03 28.5**	**-0.8**
LGD	**Lagodekhi**	**2.02**	**30**	P	Pb	**16 03 27.7**	**-0.1**
LGD				S	Sb	**16 03 54.7**	**+1.8**
ITBZ	**Tabriz**	**2.10**	**152**	Pg	Pn	**16 03 26.8**	**+0.5**
ALIG	**Mtskhetisjvari**	**2.21**	**335**	P	Pb	**16 03 31.6**	**+0.5**
ALIG				S	Sg	**16 04 01.3**	**-1.0**
ABS	**Abastumani**	**2.28**	**317**	P	Pg	**16 03 33.8**	**-1.1**
ABS				S	Sg	**16 04 05.3**	**+0.8**
IHRS	**Heris**	**2.44**	**136**	Pn	Pn	**16 03 33.9**	**+2.8**
PNSH	**Pansheti**	**2.55**	**356**	P	Pb	**16 03 36.4**	**-0.5**
PNSH				S	Sg	**16 04 11.2**	**-1.7**
ONI	**Oni**	**2.72**	**337**	P	Pb	**16 03 40.1**	**+0.4**
ONI				S	Sg	**16 04 17.3**	**-1.1**
ONI	**Oni**	**2.72**	**337**	Pn	Pb	**16 03 39.7**	**0.0**

*IDC **14** 16:05:36.3±5.9, 37˚.92N×73˚.58E, h71km±32km, mb3.3/3, mbtmp3.6/10, ML3.2/7, MS3.2/1, Error ellipse: s-maj=72.0km s-min=29.7km az=157.0*
*SOME **14** 16:05:45.1, 39˚.35N×73˚.02E, h15km*
*NNC **14** 16:05:47.6±1.8, 38˚.97N×73˚.19E, h0km, mb4.1, mpv3.4, Error ellipse: s-maj=14.1km s-min=9.8km az=159.0*

ISC 14 16:05:35.0±0.7, 38˚.10N±0˚.05×73˚.32E±0˚.07, h10km, n43, σ2s87/37, 3C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.04**	**4**	P	Pn	**16 06 40.7**	**+3.5**
	SNR=178						
UCH	**Uchtor**	**4.22**	**12**	P	Pn	**16 06 43.5**	**+3.7**
	SNR=30						
CEP	**Cherat**	**4.42**	**195**	P	Pg	**16 06 56.9**	**-2.7**
CHCP	**Chirah Chowk**	**4.43**	**181**	P	Pb	**16 06 55.6**	**+2.7**
EKS2	**Erkin-Say**	**4.57**	**4**	P	Pn	**16 06 48.0**	**+3.7**
	SNR=64						
AAK	**Ala-Archa**	**4.62**	**11**	P	Pn	**16 06 49.5**	**+4.5**
	SNR=6.4						
AAK	**Ala-Archa**	**4.62**	**11**	P	Pn	**16 06 46.9**	**+1.9**
	2.9nm,0.3s,baz=168,slow=7.7,SNR=28						
AAK				S	Sn	**16 07 36.4**	**-2.4**
	38nm,0.5s,baz=143,slow=4.0,SNR=22						
	6.6nm,0.3s						
MRKS	**Merke**	**4.64**	**359**	*e*Pg	Pn	**16 06 48.7**	**+3.5**
	76nm,0.3s						
MRKS				*e*Lg	Lg	16 07 34.1	
	103nm,0.5s						
KBK	**Karagaybulak**	**4.72**	**15**	P	Pn	16 06 52.9	+6.5
	SNR=9

1.0nm,0.3s,baz=114,slow=20,SNR=4.3
1.0nm,0.3s

BELG	**Belogornoye**	**22.89**	**317**	LR	LR	16 21 06.9		
	comp=Z,62nm,19.6s,baz=357,slow=40							
FINES	**FINESS Array B**	**37.23**	**324**	P	P	16 12 42.8	-3.5	
	2.2nm,1.0s,baz=115,slow=8.6,SNR=4.2							
	2.2nm,1.0s							
YKA	**Yellowknife Ar**	**79.55**	**4**	P	P	16 17 36.3	-5.3	
	0.1nm,0.5s,baz=350,slow=5.9,SNR=2.2							
	0.1nm,0.5s							

JMA ***14*** *16:14:11.8±0.8,46°N±5°×15°2E±°, h30km, MV4.5/12, KURILE ISLANDS REGION*
SKHL ***14*** *16:14:15.6±0.7,45.80N×152.20E, h92km±8km, mb5.0/3, msha5.6/3*
MOS ***14*** *16:14:15.9±2.0,46.46N×151.98E, h63km, mb4.4/1, Error ellipse: s-maj=22.9km s-min=11.3km az=137.4*
IDC ***14*** *16:14:20.4±3.3, 46.68N×151.79E, h74km±27km, mb3.3/6, mbtmp3.6/10, MS3.2/1, Error ellipse: s-maj=64.4km s-min=20.6km az=141.0*

ISC 14 16:14:12.4±1.2, 45.6N±0.1×152.7E±0.1, h55km, n43, σ2°25/46, mb3.6/6, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUR	**Kuril'sk**	**3.45**	**265**	*e*	PN	**Pn**	**Pn**	**16 13 03.9**	**+0.3**
KUR				*e*	S	**Sn**	**Sn**	**16 15 43.0**	**-0.2**
KUR					pmax		pmax		
	comp=N,62nm,0.2s								
KUR					pmax		pmax		
	comp=Z,118nm,0.2s								
KUR					pmax		pmax		
	comp=E,57nm,0.4s								
KUR					smax		smax		
	comp=N,320nm,0.3s								
KUR					smax		smax		
	comp=E,105nm,0.3s								
KUR	**Kuril'sk**	**3.45**	**265**	*e*	P	**Pn**	**Pn**	**16 15 03.4**	**-0.2**
KUR					AMB		AMB	16 15 04.0	
	comp=E,100nm,0.4s								
KUR				*e*	S	**Sn**	**Sn**	**16 15 40.4**	**-2.8**
KUR					A		A	16 15 46.0	
	comp=E,270nm,0.3s								
KUR					A		A	16 15 46.0	
	comp=E,240nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**5.14**	**255**	*e*	PN	**Pn**	**Pn**	**16 15 28.3**	**+1.6**
YUK				*e*	S	**Sn**	**Sn**	**16 16 28.0**	**+3.3**
YUK					pmax		pmax		
	comp=Z,106nm,0.3s								
YUK					pmax		pmax		
	comp=N,66nm,0.2s								
YUK					smax		smax		
	comp=E,185nm,0.4s								
YUK					smax		smax		
	comp=N,76nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**5.14**	**255**	*e*	P	**Pn**	**Pn**	**16 15 27.7**	**+1.0**
YUK					AMB		AMB	16 15 31.0	
	comp=N,90nm,0.6s								
YUK				*e*	S	**Sn**	**Sn**	**16 16 22.7**	**-2.0**
YUK					A		A	16 16 32.5	
	comp=N,190nm,0.5s								
YUK					A		A	16 16 32.5	
	comp=N,220nm,0.5s								
NEM2	**Nemuro 2**	**5.48**	**248**	*e*	P	**Pn**	**Pn**	**16 15 32.0**	**+0.5**
NEM2				*e*	S	**Sn**	**Sn**	**16 16 31.4**	**-1.8**
NMR	**Nemuro--Hokkai**	**5.49**	**248**	*i*	PN	**Pn**	**Pn**	**16 15 31.9**	**+0.3**
NMR	**Nemuro--Hokkai**	**5.49**	**248**	*i*	P	**Pn**	**Pn**	**16 15 31.9**	**+0.3**
NMR				*e*	S	**Sn**	**Sn**	**16 16 32.0**	**-1.4**
RUSJ	**Misakicho**	**5.53**	**257**	*e*	PN	**Pn**	**Pn**	**16 15 35.2**	**+3.1**
RUSJ				*e*	S	**Sn**	**Sn**	**16 16 38.6**	**+4.2**
SKR	**Severo-Kuril's**	**5.56**	**23**	*e*	P	Pn	Pn	16 15 36.9	+4.5
SKR					AMB		AMB	16 15 45.7	
	comp=N,40nm,0.4s								
SKR				*e*	S	**Sn**	**Sn**	**16 16 40.4**	**+5.5**
SKR					A		A	16 16 47.0	
	comp=N,30nm,0.6s								
SKR					A		A	16 16 47.0	
	comp=N,80nm,0.6s								
JRA	**Rausu**	**5.67**	**256**	*e*	P	**Pn**	**Pn**	**16 15 36.6**	**+2.6**
JNK	**Nakash**	**6.07**	**253**	*e*	P	**Pn**	**Pn**	**16 15 41.0**	**+1.4**
AKK	**Akkeshi**	**6.23**	**248**	*e*	P	**Pn**	**Pn**	**16 15 41.9**	**+0.2**
JAK	**Akkeshi**	**6.33**	**248**	*e*	P	**Pn**	**Pn**	**16 15 43.5**	**+0.4**
JAK				*e*	S	**Sn**	**Sn**	**16 16 52.2**	**-1.8**
JTKR	**Abashiri--Toko**	**6.49**	**259**	*e*	P	**Pn**	**Pn**	**16 15 47.3**	**+2.0**
JAR	**Ashorobuto**	**6.82**	**253**	*e*	P	**Pn**	**Pn**	**16 15 51.7**	**+1.9**
JAR				*e*	S	**Sn**	**Sn**	**16 17 07.0**	**+1.0**
JOB	**Onbets**	**6.94**	**250**	*e*	P	**Pn**	**Pn**	**16 15 52.5**	**+1.0**
JOB				*e*	S	**Sn**	**Sn**	**16 17 06.5**	**-2.5**
JKK2	**Kamakawa 2**	**7.32**	**260**	*e*	P	**Pn**	**Pn**	**16 15 59.1**	**+2.4**
JKA	**Kamikawa-asahi**	**7.36**	**262**	*e*	P	**Pn**	**Pn**	**16 15 59.0**	**+1.9**
ASAJ	**Asahikawa**	**7.36**	**262**	P	P	**Pn**	**Pn**	**16 15 59.0**	**+1.8**
	comp=N,8.2nm,0.6s,baz=98,slow=14,SNR=18								
JCH	**Churui**	**7.38**	**249**	*e*	P	**Pn**	**Pn**	**16 15 58.2**	**+0.8**
JCH				*e*	S	**Sn**	**Sn**	**16 17 16.9**	**-2.8**
MYR	**Moyori**	**7.58**	**247**	*e*	P	**Pn**	**Pn**	**16 16 02.0**	**+1.8**
MYR				*e*	S	**Sn**	**Sn**	**16 17 23.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**7.94**	**249**	*e*	P	**Pn**	**Pn**	**16 16 05.4**	**+0.4**
JNBK				*e*	S	**Sn**	**Sn**	**16 17 30.0**	**-3.3**
PETK	**Petropavlovsk-**	**8.17**	**22**	P	P	**Pn**	**Pn**	**16 16 07.2**	**-1.1**
	comp=N,2.7nm,0.9s,baz=205,slow=13,SNR=1.4								
MJAR	**Matsushiro Arr**	**14.20**	**235**	P	P	**P**	**P**	**16 17 38.9**	**+2.5**
	comp=N,0.8nm,0.6s,baz=69,slow=20,SNR=5.8								
USRK	**Ussuriysk Ar.**	**14.77**	**272**	P	P	**Pn**	**Pn**	**16 17 38.5**	**+0.6**
	comp=N,1.0nm,0.6s,baz=59,slow=11,SNR=1.7								
H11N2	**WAKE ISLAND Hy**	**28.34**	**151**	T		T	T	16 50 25.2	
	baz=339,slow=75,SNR=112								
H11N1	**WAKE ISLAND Hy**	**28.35**	**151**	T		T	T	16 50 29.0	
	baz=339,slow=75,SNR=36								
H11N3	**WAKE ISLAND Hy**	**28.35**	**151**	T		T	T	16 50 29.9	
	baz=339,slow=75,SNR=40								
H11S1	**WAKE ISLAND Hy**	**29.41**	**152**	T		T	T	16 51 46.2	
	baz=339,slow=76,SNR=54								
H11S3	**WAKE ISLAND Hy**	**29.42**	**152**	T		T	T	16 51 49.6	
	baz=339,slow=76,SNR=56								
H11S2	**WAKE ISLAND Hy**	**29.43**	**152**	T		T	T	16 51 47.5	
	baz=339,slow=76,SNR=58								
SONM	**Songino Array**	**31.48**	**291**	LR		LR	LR	16 33 37.8	
	comp=N,47nm,19.8s,baz=321,slow=38								
ILAR	**Eielson Array**	**37.61**	**38**	P		**P**	**P**	**16 21 23.3**	**+2.0**
	comp=N,0.1nm,0.6s,baz=264,slow=8.0,SNR=1.2								
	comp=N,0.1nm,0.6s								
MKAR	**Makanchi Array**	**47.24**	**298**	P		**P**	**P**	**16 22 36.3**	**-3.5**
	comp=N,0.2nm,0.6s,baz=75,slow=6.8,SNR=2.1								
	comp=N,0.2nm,0.6s								
MKAR	**Makanchi Array**	**47.24**	**298**	*e*	P	**P**	**P**	**16 22 36.3**	**-3.5**
CMAR	**Chiang Mai Arr**	**51.85**	**257**	P		**P**	**P**	**16 23 18.8**	**+3.6**
	comp=N,0.5nm,0.7s,baz=46,slow=7.7,SNR=4.8								
	comp=N,0.5nm,0.7s								
FINES	**FINESS Array B**	**64.96**	**335**	P		**P**	**P**	**16 24 43.7**	**-2.2**
	comp=N,3.6nm,1.2s,baz=23,slow=10,SNR=5.8								
	comp=N,3.6nm,1.2s								
NOA	**NORSAR Array B**	**69.22**	**341**	P		**P**	**P**	**16 25 11.9**	**-1.1**
	comp=N,0.5nm,0.5s,baz=26,slow=6.3,SNR=1.9								
	comp=N,0.5nm,0.5s								
AKASG	**Malin Array Be**	**72.35**	**326**	P		**P**	**P**	**16 25 29.9**	**-2.1**
	comp=N,0.3nm,0.4s,baz=36,slow=6.2,SNR=4.6								
	comp=N,0.3nm,0.4s								
AKASG	**Malin Array Be**	**72.35**	**326**	P		**P**	**P**	**16 25 30.0**	**-2.1**
H03N2	**Juan Fernandez**	**139.00**	**91**	T		T	T	19 09 59.8	
	baz=306								
H03N1	**Juan Fernandez**	**139.01**	**91**	T		T	T	19 09 40.6	
	baz=306,slow=74								
H03N3	**Juan Fernandez**	**139.01**	**91**	T		T	T	19 09 22.4	
	baz=306,slow=74								

IDC 14 16:35:51.8±2.1, 3.18N×125.93E, h0km, mb3.2/3, mbtmp3.2/3, MS2.7/1, 1D, Error ellipse: s-maj=180.4km s-min=27.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BIPH	**Bislig**	**4.99**	**5**	*i*	P	Pg	Pg	16 37 27.5	+0.1
SIJI	**Sorong**	**6.68**	**127**	LR		LR	LR	16 39 29.7	
	comp=Z,67nm,21.1s,baz=30,slow=33								
WRA	**Warramunga Arr**	**24.42**	**161**	P		P	P	16 41 11.9	-0.4
	0.3nm,0.6s,baz=338,slow=11,SNR=3.9								
	0.3nm,0.6s								
ASAR	**Alice Springs**	**27.79**	**164**	P		P	P	16 41 43.2	+0.5
	0.2nm,0.5s,baz=354,slow=7.7,SNR=15								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**57.55**	**326**	P		P	P	16 45 42.9	-0.4
	0.2nm,0.5s,baz=112,slow=7.0,SNR=4.2								
	0.2nm,0.5s								

IDC ***14*** *16:58:27.2±1.6, 8.07S×118.70E, h206km±13km, mb3.3/7, mbtmp4.0/11, Error ellipse: s-maj=27.1km s-min=8.2km az=55.0*
DJA ***14*** *16:58:27.2±0.3, 8.3S±3.1×11.9E±°, h173km±5km, M4.5/20, mB5.0/3, mb4.7/6, MLv4.4/20, Mw(mB)4.3/3*

ISC 14 16:58:26.5±0.5, 8.17S±0.05×118.66E±0.05, h200km, n55, σ1°33/65, mb3.6/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PLAI	**Plampang**	**1.10**	**233**	P		**Pn**	**Pn**	**16 58 55.8**	**-1.2**
PLAI	**Plampang**	**1.10**	**233**	P		**Pn**	**Pn**	**16 58 55.4**	**-1.6**
PLAI				S		Sn	**Sn**	**16 59 17.5**	**-3.1**
WBSI	**Waikabubak, Su**	**1.63**	**154**	P		**Pn**	**Pn**	**16 58 59.8**	**-1.7**
WBSI				S		Sn	**Sn**	**16 59 25.3**	**-3.5**
TWSI	**Taliwang, Sumb**	**1.85**	**252**	P		**Pn**	**Pn**	**16 59 02.1**	**-1.4**
TWSI				S		Sn	**Sn**	**16 59 29.7**	**-2.6**
BSSI	**Bau Bau, Buton**	**2.71**	**42**	P		**Pn**	**Pn**	**16 59 12.1**	**-0.7**
BASI	**Baing, Sumba**	**2.78**	**137**	P		**Pn**	**Pn**	**16 59 13.0**	**-0.6**
BASI				S		Sn	**Sn**	**16 59 47.8**	**-2.6**
BKSI	**Bulukumba**	**3.17**	**27**	P		**Pn**	**Pn**	**16 59 18.0**	**-0.3**
KAPI	**Kappang**	**3.31**	**19**	P		**Pn**	**Pn**	**16 59 19.2**	**-0.7**
	98nm,0.6s,baz=196,slow=6.9,SNR=73								
KAPI				S		Sn	**Sn**	**17 00 02.0**	**+0.2**
	23nm,0.8s,baz=243,slow=22,SNR=0.9								
SRBI	**Singaraja**	**3.42**	**271**	P		**Pn**	**Pn**	**16 59 20.6**	**-0.5**
DNP	**Denpasar**	**3.45**	**261**	P		**Pn**	**Pn**	**16 59 21.8**	**+0.2**
MMRI	**Maumere**	**3.57**	**98**	P		**Pn**	**Pn**	**16 59 22.6**	**-0.4**
MMRI	**Maumere**	**3.57**	**98**	P		**Pn**	**Pn**	**16 59 22.1**	**-0.9**
SPSI	**Sidrap Palu**	**4.32**	**15**	P		**Pn**	**Pn**	**16 59 32.2**	**-0.1**
ABJI	**Asem Bagus**	**4.40**	**274**	P		**Pn**	**Pn**	**16 59 34.0**	**+0.7**
JAGI	**Jajag, Banyuwa**	**4.47**	**266**	P		**Pn**	**Pn**	**16 59 35.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**4.47**	**266**	P		**Pn**	**Pn**	**16 59 35.2**	**+0.9**
BLJI	**Banyuglugur**	**5.04**	**274**	P		**Pn**	**Pn**	**16 59 42.2**	**+0.8**
	119nm,0.5s,0.5nm								
GMJI	**Gumukmas**	**5.17**	**268**	P		**Pn**	**Pn**	**16 59 42.2**	**-0.9**
	35nm,1.7s,0.3nm								
BATI	**Baumata**	**5.34**	**113**	P		**Pn**	**Pn**	**16 59 44.6**	**-0.7**
	85nm,0.3s,baz=323,slow=0.3,SNR=45								
BATI				S		Sn	**Sn**	**17 00 44.8**	**-2.6**
	228nm,0.3s,baz=157,slow=23,SNR=15								
BATI	**Baumata**	**5.34**	**113**	P		**Pn**	**Pn**	**16 59 45.2**	**-0.1**
	92nm,0.5s,2µm1.0nm								
SOEI	**Soe**	**5.76**	**106**	P		**Pn**	**Pn**	**16 59 50.5**	**-0.3**
SOEI	**Soe**	**5.76**	**106**	P		**Pn**	**Pn**	**16 59 50.3**	**-0.5**
	176nm,0.4s,6µm1.3nm								
GRJI	**Gresik**	**6.26**	**281**	P		**Pn**	**Pn**	**16 59 58.3**	**+1.2**
	121nm,1.1s,0.5nm								
PWJI	**Pagerwojo**	**6.79**	**271**	P		**Pn**	**Pn**	**17 00 05.7**	**+1.6**
UGM	**Wunagama**	**8.06**	**271**	P		**Pn**	**Pn**	**17 00 21.1**	**+0.4**
	309nm,2.0s								
BBJI	**Bungbulang**	**10.94**	**273**	P		**Pn**	**Pn**	**17 00 58.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.98**	**146**	P		**Pn**	**Pn**	**17 01 11.8**	**+0.6**
KNRA	**Kununurra**	**12.38**	**128**	P		**Pn**	**Pn**	**17 01 15.9**	**-0.4**
MBWA	**Marble Bar**	**12.96**	**176**	P		**Pn**	**Pn**	**17 01 24.0**	**+0.5**
MTN	**Manton Dam**	**13.11**	**112**	P		**Pn**	**Pn**	**17 01 25.4**	**-0.1**
KDU	**Kakadu**	**14.30**	**109**	P		**Pn**	**Pn**	**17 01 39.6**	**-0.7**
KKM	**Kota Kinabalu**	**14.32**	**350**	P		**P**	**P**	**17 01 41.0**	**-1.1**
FAKI	**Fak Fak**	**14.49**	**70**	P		**Pn**	**Pn**	**17 01 41.7**	**-0.9**
SIJI	**Sorong**	**14.50**	**61**	P		**Pn**	**Pn**	**17 01 42.5**	**-0.3**
	3.1nm,0.5s,baz=317,slow=1.0,SNR=3.8								
GIRL	**Giralia**	**15.01**	**196**	P		**P**	**P**	**17 01 50.6**	**+1.0**
MNAI	**Manna**	**16.06**	**283**	P		**Pn**	**Pn**	**17 02 02.1**	**+0.3**
MEEK	**Meekatharra**	**18.37**	**180**	P		**Pn**	**Pn**	**17 02 28.3**	**-0.7**
WRKA	**Warakurna**	**19.13**	**152**	P		**Pn**	**Pn**	**17 02 36.8**	**-1.2**
WRA	**Warramunga Arr**	**19.17**	**129**	P		**P**	**P**	**17 02 35.5**	**+0.4**
	1.4nm,0.3s,baz=302,slow=12,SNR=52								
WRA				S		**S**	**S**	**17 06 05.5**	**+3.8**
	3.4nm,0.8s,baz=307,slow=25,SNR=6.2								
WRA				ScP		**ScP**	**ScP**	**17 10 06.9**	**-0.2**
	0.5nm,0.6s,baz=323,slow=2.1,SNR=3.2								
WRAB	**Tennant Creek**	**19.17**	**129**	P		**P**	**P**	**17 02 36.1**	**+0.9**
ASAR	**Alice Springs**	**21.23**	**138**	P		**P**	**P**	**17 02 58.0**	**+0.9**
	2.1nm,0.4s,baz=315,slow=8.9,SNR=94								
ASAR				S		**S**	**S**	**17 06 40.0**	**-0.9**
	2.8nm,0.8s,baz=322,slow=23,SNR=17								
ASAR				ScP		**ScP**	**ScP**	**17 10 11.3**	**-0.8**
	0.4nm,0.5s,baz=320,slow=1.9,SNR=4.1								
	2.1nm,0.4s								
AS01	**Alice Springs**	**21.26**	**138**	P		**P**	**P**	**17 02 58.4**	**+1.0**
BLDU	**Ballidu**	**22.41**	**184**	P		**P**	**P**	**17 03 09.6**	**+1.0**
KLBR	**Kellerberrin**	**23.32**	**182**	P		**P**	**P**	**17 03 18.4**	**+1.6**
QIS	**Mount Isa**	**23.70**	**124**	P		**P**	**P**	**17 03 22.2**	**+1.8**
COEN	**Coen**	**24.72**	**106**	P		**P**	**P**	**17 03 30.6**	**+0.9**
OOD	**Oodnadatta**	**25.30**	**143**	P		**P**	**P**	**17 03 36.4**	**+1.6**
MULG	**Mulgathing**	**26.31**	**149**	P		**P**	**P**	**17 03 46.1**	**+2.3**
HTT	**Hallett**	**31.35**	**146**	P		**P**	**P**	**17 04 29.8**	**+1.4**
STKA	**Stephens Creek**	**31.80**	**141**	P		**P**	**P**	**17 04 32.6**	**+0.2**
	0.5nm,0.3s,baz=331,slow=13,SNR=3.9								
	0.5nm,0.3s								
CMAR	**Chiang Mai Arr**	**32.84**	**324**	P		**P**	**P**	**17 04 40.9**	**-0.6**
	0.5nm,0.6s,baz=156,slow=7.5,SNR=6.2								
	0.5nm,0.6s								
SONM	**Songino Array**	**56.80**	**350**	P		**P**	**P**	**17 07 49.4**	**-0.7**
	0.7nm,0.8s,baz=162,slow=9.3,SNR=5.5								
	0.7nm,0.8s								
MKAR	**Makanchi Array**	**63.57**	**333**	P		**P**	**P**	**17 08 35.5**	**-0.3**
	0.7nm,0.6s,baz=144,slow=7.8,SNR=12								
	0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**68.15**	**339**	P		**P**	**P**	**17 09 03.5**	**-1.3**
	1.2nm,0.6s,baz=149,slow=6.0,SNR=6.0								
	1.2nm,0.6s								
VNDA	**Vanda**	**72.86**	**171**	P		**P**	**P**	**17 09 34.6**	**+1.6**
	0.9nm,0.5s,baz=307,slow=9.5,SNR=8.3								
	0.9nm,0.5s								

IDC ***14*** *17:08:24.5±1.5, 19.54S×70.76W, h0km, mb3.8/3, mbtmp3.9/3, MS2.8/3, Error ellipse: s-maj=70.8km s-min=38.2km az=89.0*
GUC ***14*** *17:08:27.1±0.8, 19.67S×71.10W, h33km±3km, ML3.7*

ISC 14 17:08:24.8±1.7, 19.71S±0.03×71.03W±0.06, h7km±10km, n33, σ1°19/42, 9C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PSGC	**Pisagua**	**0.86**	**83**	*i*	P	**Pb**	**Pb**	**17 08 42.0**	**-0.1**
PSGC				*e*	S	**Sn**	**Sn**	**17 08 54.9**	**-1.5**
TA02	**Huaiquique**	**1.01**	**124**	*e*	P	**Pn**	**Pn**	**17 08 45.7**	**+0.3**
TA02				*e*	S	**Sn**	**Sn**	**17 08 59.7**	**-0.2**
TA02					IAML			17 09 00.7	
	comp=N,3µm,0.2s								
TA01	**Diego Aracena**	**1.17**	**137**	*i*	P	**Pb**	**Pb**	**17 08 48.0**	**+0.7**
TA01				*e*	S	**Sn**	**Sn**	**17 09 04.2**	**+0.5**
TA01					IAML			17 09 08.4	
	comp=E,3µm,0.6s								
HMBC	**Humberstone**	**1.21**	**118**	*i*	P	**Pn**	**Pn**	**17 08 48.7**	**+0.4**
HMBC				*e*	S	**Sn**	**Sn**	**17 09 05.4**	**+0.3**
HMBC					IAML			17 09 07.4	
	comp=N,2µm,0.6s								
PB12	**IPOC Station P**	**1.27**	**31**	*i*	P	**Pb**	**Pb**	**17 08 48.9**	**-0.3**
PB12				*e*	S	**Sg**	**Sg**	**17 09 05.2**	**-0.7**
PB12					IAML			17 09 10.4	
	comp=N,1µm,0.3s								
PB11	**IPOC Station P**	**1.29**	**92**	*i*	P	**Pg**	**Pg**	**17 08 49.7**	**+0.1**
PB11				*e*	S	**Sn**	**Sn**	**17 09 06.9**	**-0.2**
MNMC	**Minye Minye**	**1.47**	**67**	*e*	P	**Pg**	**Pg**	**17 08 52.5**	**-0.5**
MNMC				*e*	S	**Sg**	**Sg**	**17 09 12.4**	**+0.3**
MNMC					IAML			17 09 19.9	
AP01	**Chacalluta**	**1.48**	**26**	*i*	P	**Pn**	**Pn**	**17 08 51.8**	**0.0**
AP01				*e*	S	**Sb**	**Sb**	**17 09 10.8**	**-0.9**
AP01					IAML			17 09 12.8	
	comp=E,2µm,0.4s								
GO01	**Chusmiza**	**1.73**	**89**	*i*	P	**Pb**	**Pb**	**17 08 56.6**	**-0.6**
GO01				*e*	S	**Sg**	**Sg**	**17 09 20.1**	**-0.4**
PB08	**IPOC Station P**	**1.82**	**104**	*i*	P	**Pb**	**Pb**	**17 08 57.8**	**-0.8**
PB08				*e*	S	**Sg**	**Sg**	**17 09 21.9**	**-1.3**
PB08					IAML			17 09 25.6	
	comp=N,921nm,0.6s								
PB02	**IPOC Station P**	**1.92**	**147**	*i*	P	**Pn**	**Pn**	**17 08 58.9**	**+0.9**
PB02				*e*	S	**Sg**	**Sg**	**17 09 27.3**	**+0.7**
PB01	**IPOC Station P**	**1.96**	**133**	*i*	P	**Pn**	**Pn**	**17 08 59.7**	**+1.1**
PB01				*e*	S	**Sn**	**Sn**	**17 09 23.5**	**0.0**
PB01					IAML			17 09 36.4	
	comp=E,484nm,0.7s								
PB16	**IPOC Station P**	**1.98**	**47**	*e*	P	**Pn**	**Pn**	**17 09 00.1**	**+0.8**
PB16				*e*	S	**Sb**	**Sb**	**17 09 26.2**	**-0.6**
PB16					IAML			17 09 28.2	
	comp=N,765nm,0.2s								
PB07	**IPOC Station P**	**2.27**	**152**	*e*	P	**Pn**	**Pn**	**17 09 03.7**	**+0.7**
PB03	**IPOC Station P**	**2.62**	**153**	*e*	P	**Pn**	**Pn**	**17 09 08.2**	**+0.5**
PB09	**IPOC Station P**	**2.67**	**141**	*e*	P	**Pn**	**Pn**	**17 09 10.2**	**+1.9**
PB09				*e*	S	**Sg**	**Sg**	**17 09 50.2**	**-0.3**
PB09					IAML			17 10 00.8	
	comp=N,378nm,0.6s								
PB04	**IPOC Station P**	**2.74**	**163**	*i*	P	**Pn**	**Pn**	**17 09 09.6**	**+0.2**
PB06	**IPOC Station P**	**3.28**	**156**	*i*	P	**Pn**	**Pn**	**17 09 17.0**	**+0.2**
PB06				*e*	S	**Sg**	**Sg**	**17 10 10.0**	**-0.1**
PB15	**IPOC Station P**	**3.77**	**158**	*e*	P	**Pn**	**Pn**	**17 09 23.7**	**+0.1**
PB15				*e*	S	**Sg**	**Sg**	**17 10 26.7**	**+0.7**
PB10	**IPOC Station P**	**3.81**	**173**	*e*	P	**Pn**	**Pn**	**17 09 23.6**	**-0.3**
PB10				*e*	S	**Sn**	**Sn**	**17 10 05.6**	**-3.5**
PB10					IAML			17 10 08.4	
	comp=E,54nm,0.4s								
LPAZ	**La Paz**	**4.38**	**39**	Pn		**Pn**	**Pn**	**17 09 36.3**	**+4.0**
	comp=E,0.2nm,0.3s,baz=239,slow=15,SNR=3.6								
LPAZ					LR		LR	17 11 11.4	
	comp=E,96nm,18.5s,baz=10,slow=41								
CFA	**Coronel Fontan**	**12.11**	**169**	LR		LR	LR	17 16 08.3	
	comp=E,45nm,18.7s,baz=104,slow=38								
CPUP	**Villa Florida**	**14.22**	**120**	LR		LR	LR	17 18 24.6	
	comp=E,36nm,20.8s,baz=218,slow=43								
H03N1	**Juan Fernandez**	**15.38**	**206**	T		T	T	17 28 05.7	
	baz=31,slow=72								
H03N2	**Juan Fernandez**	**15.38**	**206**	T		T	T	17 28 06.8	
	baz=31,slow=72								
H03N3	**Juan Fernandez**	**15.39**	**206**	T		T	T	17 28 13.4	
	baz=31,slow=72								
PLCA	**Paso Flores**	**20.96**	**179**	P		**P**	**P**	**17 13 11.2**	**+2.7**
	comp=E,0.6nm,0.6s,baz=0.0,slow=13,SNR=3.3								
	comp=E,0.6nm,0.6s								
TORD	**Torodi Ar. Bea**	**78.65**	**72**	P		**P**	**P**	**17 20 26.6**	**-1.5**
	comp=E,1.3nm,0.3s,baz=250,slow=5.0,SNR=1.9								
	comp=E,1.3nm,0.3s								
YKA	**Yellowknife Ar**	**88.86**	**341**	P		**P**	**P**	**17 21 19.4**	**+0.2**
	comp=E,0.5nm,0.7s,baz=137,slow=4.8,SNR=9.4								
	comp=E,0.5nm,0.7s								
H11S2	**WAKE ISLAND Hy**	**25.66**	**279**	T		T	T	19 46 46.6	
	baz=101,slow=74								
H11S1	**WAKE ISLAND Hy**	**25.67**	**279**	T		T	T	19 46 45.1	
	baz=101								
H11S3	**WAKE ISLAND Hy**	**25.68**	**279**	T		T	T	19 46 46.0	
	baz=101,slow=74								
MKAR	**Makanchi Array**	**145.28**	**33**	PKPbc		**PKPbc**	**PKPbc**	**17 28 03.5**	**+0.4**
	comp=E,0.5nm,0.7s,baz=337,slow=4.0,SNR=6.4								

MAN ***14*** *17:11:16.6, 13.51N×120.49E, h40km, mb4.4, ML3.2, MS3.0*
IDC ***14*** *17:11:17.6±1.4, 14.30N×120.08E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=178.8km s-min=23.2km az=67.0*

ISC 14 17:11:17.4±1.0, 13.47N±0.04×120.45E±0.06, h52km±10km, n14, σ1°53/20, mb3.4/4, 7C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LUBP	**Lubang**	**0.33**	**323**	*e*	P	**Pn**	**Pn**	**17 11 27.3**	**+0.2**
LUBP				*e*	S	**Sn**	**Sn**	**17 11 34.2**	**+0.3**
TGY	**Tagaytay City**	**0.79**	**37**	*i*	P

COVE	Coope Vega, Sa	1.54 327	*e*P		Pn	17 54 30.4	+0.7
JTS	Las Juntas de	1.62 302	*e*P		Pn	17 54 31.4	+0.3
JTS			*e*S		Sn	17 54 52.0	+1.2
JTS	Las Juntas de	1.62 302	*e*P		Pn	17 54 31.4	+0.3
SAJU	San Juanillo,	2.22 287	*e*P		Pn	17 54 39.1	-0.1
HZTE	Horizontes, Gu	2.38 303	*e*P		Pn	17 54 42.1	+0.6

NEIC ***14*** *18:13:39.8±1.6,20.2S±0.1×178.3W±0.09,h590km±12km, mb4.4/22,Error ellipse: s-maj=18.2km s-min=9.1km az=211.0*

IDC ***14*** *18:13:40.1±1.9,20.0S×178.3W,h594km±15km,mb3.2/7, mbtmp4.2/10,Error ellipse: s-maj=46.4km s-min=15.6km az=142.0*

ISC 14 18:13:40.0±0.6,20.09S±0.09×178.30W±0.09,h602km, n43,σ1♀46/45,mb4.0/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.17**	**304**	P		**P**	**18 15 07.9**	**+0.9**
	45nm,0.4s,baz=148,slow=6.5,SNR=47							
MSVF	**Nonsavu**	**4.17**	**304**	P		**P**	**18 15 07.5**	**+0.5**
NIUE	**Niue**	**7.96**	**84**	P		**P**	**18 15 39.1**	**+0.1**
AFI	**Afiamalu**	**8.76**	**46**	P		**P**	**18 15 45.7**	**-1.1**
	24nm,0.5s,baz=4.8,slow=2.4,SNR=11							
AFI				S		**S**	**18 17 26.9**	**-3.8**
	26nm,0.9s,baz=8.4,slow=19,SNR=3.0							
AFI	**Afiamalu**	**8.76**	**46**	P		**P**	**18 15 45.1**	**-1.7**
FUNA	**Funafuti**	**11.75**	**348**	P		**P**	**18 16 16.4**	**+0.1**
LIFNC	**LIFOU**	**13.57**	**265**	P		**P**	**18 16 31.2**	**-3.4**
DZM	**Mont Dzumac**	**14.37**	**259**	P		**P**	**18 16 43.7**	**+1.2**
	4.3nm,0.6s,baz=96,slow=18,SNR=12							
DZM	**Mont Dzumac**	**14.37**	**259**	P		**P**	**18 16 42.9**	**+0.4**
MRZ	**Mangatainoka R**	**21.16**	**193**	P		**P**	**18 17 42.1**	**-1.7**
MRZ				IAmb		IAmb	18 18 04.3	
	comp=Z,40nm,1.2s							
TCW	**Tory Channel**	**21.98**	**195**	P		**P**	**18 17 49.7**	**-1.5**
TUWZ	**Tuamarina**	**22.27**	**196**	P		**P**	**18 17 52.2**	**-1.5**
THZ	**Tophouse**	**22.86**	**197**	P		**P**	**18 17 57.9**	**-1.1**
GVZ	**Greta Valley S**	**23.95**	**196**	P		**P**	**18 18 06.6**	**-2.0**
MLZ	**Mavora Lakes**	**27.60**	**201**	P		**P**	**18 18 41.1**	**+0.4**
WHZ	**Wether Hill Ro**	**28.12**	**201**	P		**P**	**18 18 45.2**	**+0.1**
CTAO	**Charters Tower**	**33.25**	**264**	P		**P**	**18 19 28.9**	**-0.5**
CTAO				IAmb		IAmb	18 19 45.7	
	comp=Z,8.0nm,1.1s							
COEN	**Coen**	**37.27**	**273**	P		**P**	**18 20 02.4**	**-0.3**
COEN				IAmb		IAmb	18 20 12.6	
	comp=Z,7.9nm,1.2s							
STKA	**Stephens Creek**	**37.71**	**244**	P		**P**	**18 20 06.2**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=100,slow=15,SNR=3.1							
	comp=Z,1.8nm,0.7s							
BBOO	**Buckleboo**	**42.48**	**243**	P		**P**	**18 20 43.3**	**-0.6**
BBOO				IAmb		IAmb	18 21 26.6	
	comp=Z,33nm,1.4s							
WR0	**Warramunga Arr**	**44.19**	**262**	P		**P**	**18 20 56.8**	**-0.5**
WR0				IAmb		IAmb	18 21 27.0	
	comp=Z,11nm,1.4s							
AS31	**Alice Springs**	**44.34**	**256**	P		**P**	**18 20 58.1**	**-0.4**
ASAR	**Alice Springs**	**44.34**	**256**	P		**P**	**18 20 58.1**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=89,slow=7.7,SNR=72							
ASAR				PcP		**PcP**	**18 22 29.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=97,slow=4.3,SNR=4.1							
ASAR				ScP		**ScP**	**18 25 27.6**	**+3.1**
	comp=Z,0.2nm,0.7s,baz=112,slow=4.5,SNR=4.4							
	comp=Z,2.2nm,0.5s							
ASAR	**Alice Springs**	**44.34**	**256**	P		**P**	**18 20 57.5**	**-0.9**
WB0	**Warramunga Arr**	**44.35**	**262**	P		**P**	**18 20 57.4**	**-1.2**
WB0				IAmb		IAmb	18 20 58.1	
	comp=Z,6.7nm,1.2s							
WB2	**Warramunga Arr**	**44.37**	**262**	P		**P**	**18 20 56.9**	**-1.8**
WB2				IAmb		IAmb	18 21 25.7	
	comp=Z,7.4nm,1.3s							
WRA	**Warramunga Arr**	**44.38**	**262**	P		**P**	**18 20 58.1**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=97,slow=7.5,SNR=40							
	comp=Z,1.5nm,0.4s							
WRA	**Warramunga Arr**	**44.38**	**262**	P		**P**	**18 20 57.1**	**-1.6**
KNRA	**Kununurra**	**50.40**	**266**	P		**P**	**18 21 42.7**	**-1.0**
KNRA				IAmb		IAmb	18 22 15.0	
	comp=Z,28nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.80**	**262**	P		**P**	**18 22 00.1**	**-0.8**
MBWA	**Marble Bar**	**57.67**	**257**	P		**P**	**18 22 33.0**	**-1.6**
MBWA				IAmb		IAmb	18 22 44.0	
	comp=Z,11nm,1.0s							
VNDA	**Vanda**	**58.29**	**185**	P		**P**	**18 22 37.9**	**+0.1**
MJAR	**Matsushiro Arr**	**69.71**	**324**	P		**P**	**18 23 50.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=159,slow=5.7,SNR=6.6							
	comp=Z,1.8nm,0.6s							
QSPA	**South Pole Qui**	**69.98**	**180**	P		**P**	**18 23 53.1**	**+1.1**
ERM	**Erimo**	**71.33**	**331**	P		**P**	**18 24 02.7**	**+2.7**
JHS	**Saijyo**	**71.61**	**320**	P		**P**	**18 24 02.7**	**+0.8**
JKA	**Kamikawa-asahi**	**73.23**	**332**	P		**P**	**18 24 13.2**	**+2.3**
JKA				IAmb		IAmb	18 24 25.1	
	comp=Z,47nm,1.3s							
PEA0B	**Petropavlovsk-**	**75.80**	**345**	P		**P**	**18 24 26.4**	**+1.3**
PEA0B				IAmb		IAmb	18 25 00.4	
	comp=Z,31nm,1.2s							
PETK	**Petropavlovsk-**	**75.80**	**345**	P		**P**	**18 24 25.6**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=136,slow=6.8,SNR=11							
	comp=Z,3.5nm,0.9s							
ILAR	**Eielson Array**	**87.98**	**13**	P		**P**	**18 25 26.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=216,slow=5.3,SNR=18							
	comp=Z,0.3nm,0.3s							
PDAR	**Pinedale Array**	**88.86**	**43**	P		**P**	**18 25 33.4**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=222,slow=2.0,SNR=4.4							
	comp=Z,0.5nm,0.7s							
AKASG	**Malin Array Be**	**142.52**	**331**	PKhKP		PKPpre	18 32 02.0	
	comp=Z,1.1nm,0.5s,baz=43,slow=4.2,SNR=9.0							
BRTR	**Keskin Array B**	**146.35**	**313**	PKPbc		**PKPbc**	**18 32 15.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=120,slow=2.2,SNR=4.9							

IDC ***14*** *18:19:27.1±1.0,30.0S×177.4W,h0km,mb4.5/5, mbtmp4.5/7,ML4.0/2,Error ellipse: s-maj=42.6km s-min=21.2km az=138.0*

NEIC ***14*** *18:19:29.0±2.4,29.99S±0.05×177.47W±0.10,h10km±1km, mb4.8/32,Error ellipse: s-maj=15.3km s-min=6.8km az=67.0*

NOU ***14*** *18:19:41.5,30.43S×177.09W,h132km,mb4.5/18, Kermadec Islands, New Zealand*

ISC 14 18:19:32.6±0.6,30.04S±0.05×177.60W±0.09,h35km, n119,σ2♀34/112,mb4.7/16,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**0.82**	**340**	P		**Pn**	**18 19 46.1**	**-1.5**
GLKZ				S		**Sn**	**18 19 55.4**	**-3.1**
RAO	**Raoul Island**	**0.83**	**341**			**Pn**	**18 19 46.1**	**-1.7**
RAO				Sg		**Sn**	**18 19 53.4**	**-5.4**
RAO	**Raoul Island**	**0.83**	**341**	P		**Pn**	**18 19 46.5**	**-1.3**
RIZ	**Raoul Island**	**0.84**	**340**	P		**Pn**	**18 19 46.5**	**-1.4**
MXZ	**Matakaoa Point**	**8.24**	**203**	Pn		**Pn**	**18 21 29.0**	**-0.5**
MXZ	**Matakaoa Point**	**8.24**	**203**	S		**Sn**	**18 23 01.0**	**-0.4**
WMGZ	**Waiomatatini S**	**8.44**	**202**	S		**Sn**	**18 23 05.2**	**-1.0**
PKGZ	**Pakihiroa**	**8.61**	**203**	P		**Pn**	**18 21 34.3**	**-0.4**
PKGZ				S		**Sn**	**18 23 06.8**	**-3.9**
OUZ	**Omahuta**	**9.04**	**233**	P		Pn	18 21 50.2	+10
URZ	**Urewera**	**9.30**	**207**	Pn		**Pn**	**18 21 42.7**	**-1.3**
	0.6nm,0.3s,baz=349,slow=3.9,SNR=12							
URZ				Sn		**Sn**	**18 23 30.3**	**+2.9**
	5.0nm,0.3s,baz=55,slow=21,SNR=13							
	2.6nm,0.3s							
RTZ	**Ruatahuna**	**9.66**	**206**	Pn		**Pn**	**18 21 49.2**	**+0.2**
BKZ	**Black Stump Fm**	**10.32**	**207**	Pn		**Pn**	**18 21 58.2**	**+0.1**
HIZ	**Hauiti**	**10.50**	**214**	Pn		**Pn**	**18 21 59.3**	**-1.3**
TMVZ	**Te Maari**	**10.60**	**210**	P		**Pn**	**18 21 59.7**	**-2.4**
TMVZ	**Te Maari**	**10.60**	**210**	P		**Sn**	**18 24 01.9**	**+2.4**
ETVZ	**East Tongariro**	**10.61**	**209**	P		**Sn**	**18 24 03.0**	**+3.1**
KAHZ	**Kahuranaki**	**10.73**	**203**	P		**Pn**	**18 22 03.9**	**+0.1**
KAHZ	**Kahuranaki**	**10.73**	**203**	P		**Sn**	**18 24 03.4**	**+0.8**
KRHZ	**Kereru**	**10.78**	**206**	P		**Pn**	**18 22 00.5**	**-3.9**
KRHZ	**Kereru**	**10.78**	**206**	P		**Sn**	**18 24 02.2**	**-1.6**
MTVZ	**Mangateitei**	**10.92**	**210**	P		**Sn**	**18 24 02.9**	**-4.5**
PXZ	**Pawanui**	**10.95**	**203**	P		**Sn**	**18 24 06.0**	**-1.9**
PNHZ	**Pukenui**	**11.08**	**206**	P		**Sn**	**18 24 08.5**	**-2.7**
TSZ	**Takapari Road**	**11.30**	**206**	P		**Pn**	**18 22 11.6**	**+0.1**
TSZ	**Takapari Road**	**11.30**	**206**	P		**Sn**	**18 24 14.3**	**-2.2**
DVHZ	**Dannevirke**	**11.43**	**205**	P		**Sn**	**18 24 15.7**	**-4.0**
ANWZ	**Angora Road**	**11.47**	**203**	P		**Sn**	**18 24 18.4**	**-2.1**
PRWZ	**Pori Road**	**11.73**	**205**	P		**Sn**	**18 24 22.8**	**-4.2**
BFZ	**Birch Farm**	**11.74**	**204**	Pn		**Pn**	**18 22 17.5**	**0.0**
BFZ	**Birch Farm**	**11.74**	**204**	P		**Pn**	**18 22 15.0**	**-2.5**
BFZ	**Birch Farm**	**11.74**	**204**	P		**Sn**	**18 24 21.3**	**-6.0**
MRZ	**Mangatainoka R**	**11.97**	**206**	P		Sn	18 24 20.6	-12
MSWZ	**Moikau Station**	**12.75**	**205**			**Sn**	**18 24 51.3**	**-0.5**
NIUE	**Niue**	**12.95**	**34**	Pn		Pn	18 22 26.9	-7.2
TCW	**Tory Channel**	**12.95**	**208**	P		Sn	18 24 29.1	-28
TUWZ	**Tuamarina**	**13.27**	**209**	Pn		**Pn**	**18 22 36.2**	**-2.2**
QRZ	**Quartz Range**	**13.43**	**214**	P		**P**	**18 22 46.4**	**-3.0**
BSWZ	**Blackbirch Sta**	**13.54**	**208**	Pn		**Pn**	**18 22 40.8**	**-1.3**
CTZ	**Chatham Island**	**13.70**	**177**	P		**Pn**	**18 22 44.7**	**+0.6**
MRNZ	**Matariki Terra**	**13.77**	**212**	Pn		**Pn**	**18 22 43.4**	**-1.8**
THZ	**Tophouse**	**13.99**	**211**	Pn		**Pn**	**18 22 46.9**	**-1.4**
KHZ	**Kahutara**	**14.26**	**208**	Pn		**Pn**	**18 22 50.1**	**-1.8**
GVZ	**Greta Valley S**	**14.93**	**208**	Pn		**Pn**	**18 22 59.1**	**-1.8**
LTZ	**Lake Taylor**	**15.09**	**210**	Pn		**Pn**	**18 23 01.8**	**-1.3**
AMCZ	**Amberley**	**15.26**	**208**	Pn		**Pn**	**18 23 02.4**	**-2.8**
OXZ	**Oxford**	**15.63**	**209**	P		**Pn**	**18 23 08.9**	**-1.2**
OXZ				IAmb		IAmb	18 23 16.9	
	comp=Z,29nm,0.6s							
RPZ	**Rata Peaks**	**16.37**	**210**	Pn		**P**	**18 23 21.1**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=129,slow=2.1,SNR=10							
RPZ				Sn		**Sn**	**18 26 09.5**	**-11**
	comp=Z,0.9nm,0.3s,baz=43,slow=12,SNR=2.2							
	comp=Z,15nm,0.7s							
RPZ	**Rata Peaks**	**16.37**	**210**	Pn		**Pn**	**18 23 19.3**	**-0.3**
RPZ				IAmb		IAmb	18 23 26.1	
	comp=Z,154nm,1.9s							
RPZ	**Rata Peaks**	**16.37**	**210**	P		**P**	**18 23 21.7**	**-0.4**
DZM	**Mont Dzumac**	**16.37**	**295**	Pn		**P**	**18 23 27.0**	**+4.6**
	comp=Z,0.3nm,0.3s,baz=119,slow=13,SNR=2.8							
DZM	**Mont Dzumac**	**16.37**	**295**	P		P	18 23 30.7	+8.3
LIFNC	**LIFOU**	**16.50**	**300**	P		**P**	**18 23 24.0**	**+0.4**
ODZ	**Otahua Downs**	**17.61**	**209**	P		**P**	**18 23 37.1**	**+1.2**
ODZ				IAmb		IAmb	18 23 38.1	
	comp=Z,113nm,1.9s							
ODZ	**Otahua Downs**	**17.61**	**209**	P		**P**	**18 23 37.0**	**+1.2**
JCZ	**Jackson Bay**	**17.69**	**214**	P		**P**	**18 23 36.8**	**-0.1**
WKZ	**Wanaka**	**18.15**	**212**			**P**	**18 23 41.4**	**-0.4**
KOUNC	**Koumac, New Ca**	**18.89**	**296**	P		**Pn**	**18 23 52.5**	**+1.7**
KOUNC	**Koumac, New Ca**	**18.89**	**296**	P		Pn	18 23 59.1	+8.3
MLZ	**Mavora Lakes**	**18.98**	**212**	P		**P**	**18 23 48.7**	**-2.2**
MLZ				IAmb		IAmb	18 23 51.4	
	comp=Z,54nm,1.5s							
SYZ	**Scrubby Hill**	**19.44**	**208**	P		**Pn**	**18 23 57.1**	**-0.1**
WHZ	**Wether Hill Ro**	**19.45**	**212**	P		**Pn**	**18 23 56.6**	**-0.8**
WHZ				IAmb		IAmb	18 24 09.2	
	comp=Z,129nm,1.8s							
ARMA	**Armidale**	**26.55**	**261**	P		**P**	**18 25 11.2**	**+3.9**
ARMA				IAmb		IAmb	18 25 30.3	
	comp=Z,23nm,1.2s							
ARMA	**Armidale**	**26.55**	**261**	P		**P**	**18 25 11.8**	**+4.5**
EIDS	**Eidsvold**	**28.07**	**272**	P		**P**	**18 25 23.1**	**+2.2**
EIDS				IAmb		IAmb	18 25 24.3	
	comp=Z,10nm,0.7s							
EIDS	**Eidsvold**	**28.07**	**272**	P		**P**	**18 25 23.6**	**+2.8**
CAN	**Canberra**	**28.52**	**251**	P		**P**	**18 25 28.7**	**+3.9**
RMQ	**Roma**	**29.78**	**268**	P		**P**	**18 25 39.6**	**+3.5**
CMSA	**Cobar Meteorol**	**31.48**	**258**	P		**P**	**18 25 54.5**	**+3.5**
QLP	**Quilpie**	**33.67**	**266**	P		**P**	**18 26 12.8**	**+2.5**
CTAO	**Charters Tower**	**34.08**	**278**	P		**P**	**18 26 15.1**	**+1.1**
CTAO	**Charters Tower**	**34.08**	**278**	P		**P**	**18 26 16.7**	**+2.8**
STKA	**Stephens Creek**	**34.90**	**256**	P		**P**	**18 26 23.4**	**+2.5**
	comp=Z,7.1nm,0.7s,baz=95,slow=10,SNR=14							
	comp=Z,7.1nm,0.7s							
STKA	**Stephens Creek**	**34.90**	**256**	P		**P**	**18 26 22.2**	**+1.4**
STKA	**Stephens Creek**	**34.90**	**256**	P		**P**	**18 26 23.6**	**+2.8**
MTSU	**Mount Surprise**	**36.57**	**280**	P		**P**	**18 26 37.9**	**+2.6**
HTT	**Hallett**	**36.94**	**253**	P		**P**	**18 26 40.7**	**+2.4**
BBOO	**Buckleboo**	**39.40**	**254**	P		**P**	**18 26 59.8**	**+0.7**
BBOO				IAmb		IAmb	18 27 22.6	
	comp=Z,56nm,1.6s							
COEN	**Coen**	**39.51**	**285**	P		**P**	**18 26 59.0**	**-1.0**
COEN				IAmb		IAmb	18 27 53.8	
	comp=Z,28nm,1.9s							
AS31	**Alice Springs**	**43.47**	**266**	P		**P**	**18 27 32.6**	**0.0**
ASAR	**Alice Springs**	**43.47**	**266**	P		**P**	**18 27 33.0**	**+0.4**
	comp=Z,6.4nm,0.6s,baz=100,slow=7.3,SNR=130							
ASAR				PcP		**PcP**	**18 29 22.0**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=118,slow=3.7,SNR=3.3							
	comp=Z,6.4nm,0.6s							
ASAR	**Alice Springs**	**43.47**	**266**	P		**P**	**18 27 31.6**	**-1.0**
WR0	**Warramunga Arr**	**44.25**	**272**	P		**P**	**18 27 38.5**	**-0.3**
WR0				IAmb		IAmb	18 27 40.7	
	comp=Z,11nm,1.1s							
WB2	**Warramunga Arr**	**44.42**	**272**	P		**P**	**18 27 40.2**	**0.0**
WB2				IAmb		IAmb	18 27 42.0	
	comp=Z,9.0nm,0.7s							
WRAB	**Tennant Creek**	**44.42**	**272**	P		**P**	**18 27 40.9**	**+0.7**
WRAB				IAmb		IAmb	18 27 42.0	
	comp=Z,8.8nm,0.8s							
WRA	**Warramunga Arr**	**44.43**	**272**	P		**P**	**18 27 40.6**	**+0.3**
	comp=Z,8.5nm,0.8s,baz=111,slow=7.4,SNR=66							
	comp=Z,8.5nm,0.8s							
WRA	**Warramunga Arr**	**44.43**	**272**	P		**P**	**18 27 40.1**	**-0.2**
WB0	**Warramunga Arr**	**44.45**	**272**	P		**P**	**18 27 40.4**	**-0.1**
WB0				IAmb		IAmb	18 27 42.2	
	comp=Z,8.6nm,0.6s							
FORT	**Forrest**	**46.47**	**255**	P		**P**	**18 27 55.9**	**-0.4**
VNDA	**Vanda**	**48.49**	**186**	P		**P**	**18 28 11.2**	**-0.2**
MTN	**Manton Dam**	**50.27**	**278**	P		**P**	**18 28 26.2**	**+0.5**
MTN				IAmb		IAmb	18 29 35.1	
	comp=Z,23nm,1.2s							
KNRA	**Kununurra**	**51.02**	**274**	P		**P**	**18 28 31.7**	**+0.3**
KNRA				IAmb		IAmb	18 29 20.9	
	comp=Z,23nm,1.2s							
FITZ	**Fitzroy Crossi**	**52.71**	**269**	P		**P**	**18 28 43.2**	**-0.7**
KHU	**Kahuku**	**53.38**	**26**	P		**P**	**18 28 47.5**	**-1.6**
MBWA	**Marble Bar**	**56.61**	**263**	P		**P**	**18 29 12.2**	**-0.1**
MBWA				IAmb		IAmb	18 31 09.7	
	comp=Z,18nm,1.2s							
QSPA	**South Pole Qui**	**60.07**	**180**	P		**P**	**18 29 38.3**	**+2.4**
BELA	**Belgrano 2**	**70.10**	**172**	P		**P**	**18 30 42.4**	**+1.7**
H03S2	**Juan Fernandez**	**80.38**	**123**	T		T	20 01 03.4	
	baz=239,slow=74,SNR=17							
H03S1	**Juan Fernandez**	**80.39**	**123**	T		T	20 01 03.4	
	baz=239,slow=74,SNR=15							
H03S3	**Juan Fernandez**	**80.39**	**123**	T		T	20 01 03.4	
	baz=239,slow=74,SNR=16							
NVAR	**Mina Array Bea**	**87.74**	**43**	P		**P**	**18 32 19.0**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=219,slow=7.4,SNR=7.6							
	comp=Z,1.1nm,0.7s							
KLR	**Kul'dur**	**90.90**	**330**	P		**P**	**18 32 34.5**	**+2.2**
	comp=Z,1.9nm,0.8s,baz=192,slow=2.9,SNR=7.1							
	comp=Z,1.9nm,0.8s							
MKAR	**Makanchi Array**	**117.80**	**310**	PKP		**PKiKP**	**18 38 14.3**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=77,slow=2.1,SNR=4.9							
KURBB	**Kurchatov Arra**	**121.09**	**314**	PKP		**PKPdf**	**18 38 20.2**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=110,slow=2.0,SNR=13							
BVAR	**Borovoye Array**	**126.39**	**316**	PKP		**PKiKP**	**18 38 31.0**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=85,slow=3.1,SNR=11							
GEYT	**Alibeck**	**133.72**	**295**	PKP		**PKiKP**	**18 38 46.6**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=126,slow=2.0,SNR=3.9							
ARCES	**ARCESS Array B**	**138.31**	**348**	PKP		**PKiKP**	**18 38 53.8**	**-1.4**
	comp=Z,5.7nm,1.1s,baz=42,slow=1.5,SNR=5.2							
H10N3	**ASCENSION HYDR**	**138.99**	**154**	T		T	21 14 49.1	
	baz=203,SNR=14							
H10N1	**ASCENSION HYDR**	**138.99**	**154**	T		T	21 15 00.8	
	baz=203,slow=74,SNR=26							
H10N2	**ASCENSION HYDR**	**139.00**	**154**	T		T	21 15 00.8	
	baz=203,slow=74,SNR=28							
FINES	**FINESS Array B**	**144.92**	**340**	PKP		PKPbc	18 39 03.9	-0.6
	comp=Z,29nm,0.8s,baz=60,slow=3.3,SNR=166							
KBZ	**Khabaz**	**145.19**	**304**	PKPbc		**PKPdf**	**18 39 06.2**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=120,slow=2.1,SNR=4.4							
NB2	**NORSAR Subarra**	**148.44**	**352**	PKP		**PKiKP**	**18 39 15.2**	**-1.2**
	comp=Z,7.6nm,1.0s,baz=22,slow=3.0							
NOA	**NORSAR Array B**	**148.44**	**352**	PKPbc		**PKPbc**	**18 39 14.6**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=14,slow=4.3,SNR=9.3							
AKASG	**Malin Array Be**	**151.22**	**323**	PKPbc		**PKiKP**	**18 39 21.4**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=46,slow=2.5,SNR=27							
BRTR	**Keskin Array B**	**152.73**	**299**	PKPbc		**PKiKP**	**18 39 25.7**	**-0.3**
	comp=Z,2.7nm,1.0s,baz=135,slow=3.5,SNR=8.8							
OSTC	**Ostas**	**157.03**	**337**	*e*PKPAB		**PKPab**	**18 39 50.7**	**-3.8**
DPC	**Dobruska-Polom**	**157.16**	**337**	*e*PKPAB		**PKPab**	**18 39 54.3**	**-0.8**
KHC	**Kasperske Hory**	**159.12**	**339**	*e*PKPAB		**PKPab**	**18 40 03.9**	**+0.3**
KHC				*ex*		x	18 40 06.6	
GERES	**GERESS Array B**	**159.33**	**338**	PKPab		**PKPab**	**18 40 04.5**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=58,slow=5.5,SNR=5.3							

VAO ***14*** *18:20:24.7±1.1,20.95S×68.52W,h10km,mb4.3*

GUC ***14*** *18:20:33.3±0.7,21.78S×68.56W,h126km±5km,ML3.8*

ISC 14 18:20:32.2±0.9,21.78S±0.04×68.67W±0.08, h139km±10km,n29,σ1♀09/46,13C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.53**	**268**	⇑*i*P		**Pn**	**18 20 52.6**	**0.0**
PB09				*i* S		**Sn**	**18 21 07.6**	**-0.5**
LVC	**Limon Verde**	**0.85**	**195**	*e*P		**Pn**	**18 20 54.0**	**-1.1**
LVC				*e*S		**Sn**	**18 21 10.6**	**-1.9**
LVC	**Limon Verde**	**0.85**	**195**	*e*P		**Pn**	**18 20 54.4**	**-0.7**
PB03	**IPOC Station P**	**1.04**	**255**	⇑*i*P		**Pn**	**18 20 56.9**	**+0.4**
PB03				*i* S		**Sn**	**18 21 14.7**	**-0.2**
PB03				IAML			18 21 15.7	
	comp=E,2μm,0.2s							
PB01	**IPOC Station P**	**1.06**	**314**	⇑*i*P		**Pn**	**18 20 56.5**	**-0.1**
PB01				*e*S		**Sn**	**18 21 14.8**	**-0.3**
PB01				IAML			18 21 16.5	
	comp=N,1μm,0.2s							
PB07	**IPOC Station P**	**1.13**	**272**	⇑*i*P		**Pn**	**18 20 57.8**	**+0.4**
PB07				*i* S		**Sn**	**18 21 16.7**	**+0.3**
PB07				IAML			18 21 17.5	
	comp=N,3μm,0.2s							
PB02	**IPOC Station P**	**1.23**	**292**	⇑*i*P		**Pn**	**18 20 58.6**	**+0.4**
PB02				*e*S		**Sn**	**18 21 18.3**	**+0.3**
PB02				IAML			18 21 19.1	
	comp=E,2μm,0.2s							
PB06	**IPOC Station P**	**1.24**	**222**	⇑*i*P		**Pn**	**18 20 58.9**	**+0.5**
PB06				*i* S		**Sn**	**18 21 18.3**	**0.0**
PB06				IAML			18 21 19.6	
	comp=E,1μm,0.2s							
PB04	**IPOC Station P**	**1.48**	**248**	⇑*i*P		**Pn**	**18 21 01.5**	**+0.7**
PB04				*i* S		**Sn**	**18 21 23.1**	**+0.4**
PB04				IAML			18 21 24.2	
	comp=N,985nm,0.2s							
PB15	**IPOC Station P**	**1.60**	**207**	*e*P		**Pn**	**18 21 03.0**	**+0.7**
PB15				*i* S		**Sn**	**18 21 25.3**	**0.0**
PATCX	**Punta Patache**	**1.68**	**304**	⇑*i*P		**Pn**	**18 21 03.5**	**+0.5**
PATCX				*e*S		**Sn**	**18 21 27.0**	**+0.4**
PATCX				IAML			18 21 29.8	
	comp=E,1μm,0.4s							
PB08	**IPOC Station P**	**1.69**	**344**	⇑*i*P		**Pn**	**18 21 04.3**	**+0.8**
PB08				*i* S		**Sn**	**18 21 27.4**	**0.0**
PB08				IAML			18 21 28.5	
	comp=E,398nm,0.3s							
TA01	**Diego Aracena**	**1.86**	**310**	⇑*i*P		**Pn**	**18 21 05.1**	**+0.1**
TA01				*i* S		**Sn**	**18 21 29.9**	**-0.2**
TA01				IAML			18 21 31.9	
	comp=N,605nm,0.4s							
GO01	**Chusmiza**	**2.16**	**347**	*e*P		**Pn**	**18 21 09.7**	**+0.6**
GO01				*i* S		**Sn**	**18 21 38.7**	**+1.4**
PB11	**IPOC Station P**	**2.21**	**335**	⇑*i*P		**Pn**	**18 21 09.5**	**+0.1**
PB11				*e*S		**Sn**	**18 21 37.5**	**-0.4**
PB11				IAML			18 21 39.4	
	comp=E,613nm,0.6s							
PB10	**IPOC Station P**	**2.45**	**225**	*e*P		**Pn**	**18 21 12.7**	**+0.5**
PB10				*i* S		**Sn**	**18 21 40.5**	**-2.5**
PSGC	**Pisagua**	**2.56**	**328**	*e*P		**Pn**	**18 21 12.9**	**-0.8**
PSGC				*e*S		**Sn**	**18 21 43.1**	**-2.6**
PSGC				IAML			18 21 46.1	
	comp=N,264nm,0.4s							

mbtmp5.1/33,ML5.8/2,MS5.3/4,Error ellipse: s-maj=16.7km s-min=11.7km az=154.0

MOS ***14*** *18:25:42.7±1.1, 18°.62S×176°.08E,h10km,mb5.5/39, MS5.3/25,Error ellipse: s-maj=8.3km s-min=7.7km az=30.9*

BJI ***14*** *18:25:43.8±0.0, 18°.24S×176°.08E,h9km,mb5.2/63, mB5.7/55,Ms5.5/66,Ms7 5.3/64*

NEIC ***14*** *18:25:43.0±1.8, 18°.65S±0°.08×176°.09E±0°.06,h4km±2km, mb5.5/322,Ms_20 5.3/236,Mwb5.6/59,Mww5.7/40,Error ellipse: s-maj=11.8km s-min=7.4km az=155.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=2.39; Mθθ0.05; Mϕϕ2.08; Mrθ0.93; Mθϕ0.56; Mϕr1.27; Fault plane solution: Mo2.69000×10¹⁷ NP1:φs2.38000°, δ29.16000°,λ-111.73000°. NP2:φs206.90000°, δ63.09000°,λ-78.33000°. Principal axes: T 2.6829, Plg17.0000°, Azm288.0000°; N 0.0133, Plg10.0000°, Azm22.0000°; P -2.6961, Plg70.0000°, Azm141.0000°;*

GCMT ***14*** *18:25:48.0±0.1, 18°.67S±0.01×176°.20E,h12km, MW5.7/167,Moment Tensor Solution. s155,c299; s167,c367; Duration: 1ꜛ7 Moment tensor: Scale 10¹⁷ Nm; Mrr-4.39±.03; Mθθ0.56±.03; Mϕϕ3.83±.03; Mrθ-0.80±.09; Mθϕ1.48±.03; Mϕr0.15±.09; Best double couple: Mo4.46900×10¹⁷ NP1:φs31.00000°,δ47.00000°, λ-76.00000°. NP2:φs191.00000°,δ45.00000°, λ-104.00000°. Principal axes: T 4.4030, Plg1.0000°, Azm111.0000°; N 0.1340, Plg10.0000°, Azm201.0000°; P -4.5340, Plg80.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *18:25:51.6, 18°.58S×176°.28E,h12km,Moment Tensor Solution. Duration: 4ꜛ2 Moment tensor: Scale 10¹⁷Nm; Mrr-4.39; Mθθ0.79; Mϕϕ3.60; Mrθ-0.65; Mθϕ1.22; Mϕr1.18; Fault plane solution: Mo4.41000×10¹⁷ NP1: φs188.85000°,δ52.02000°,λ-104.28000°. NP2: φs31.32000°,δ40.19000°,λ-72.46000°. Principal axes: T 4.1469, Plg6.0000°, Azm289.0000°; N 0.5334, Plg11.0000°, Azm198.0000°; P -4.6803, Plg77.0000°, Azm47.0000°;*

ISC 14 18:25:44.9±0.4,**18°.67S**±0°.04×**176°.17E**±0°.03,**h18**km±1km, **h18**km:**pP-P,n1109,**σ1ꜛ**70**/964,**mb5.4**/246,**MS5.3**/166, **45C-49D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.02**	**63**	Pn	**Pn**	**18 26 16.6**	**-1.6**
	512nm,0.3s,baz=244,slow=20,SNR=30						
MSVF				Sn	**Sn**	**18 26 41.1**	**-1.9**
	961nm,0.3s,baz=133,slow=20,SNR=13						
MSVF				LR	LR	18 27 16.5	
	comp=Z,101μm,18.6s,baz=210,slow=47						
	802nm,0.4s						
MSVF	**Nonsavu**	**2.02**	**63**	Pn	**Pn**	**18 26 14.0**	**-4.2**
MSVF				Sn	**Sn**	**18 26 38.8**	**-4.2**
RTV	**Rentapao**	**7.41**	**276**	P	**Pn**	**18 27 36.8**	**+4.6**
DVP	**Devils Point**	**7.64**	**276**	P	**Pn**	**18 27 39.1**	**+3.7**
MARNC	**Mare, Loyalty**	**8.14**	**249**		**Pn**	**18 27 38.1**	**-4.1**
MARNC	**Mare, Loyalty**	**8.14**	**249**	P	**Pn**	**18 27 45.6**	**+3.3**
LIFNC	**LIFOU**	**8.66**	**255**	Pn	**Pn**	**18 27 45.9**	**-3.6**
PINNC	**Pines Island,**	**9.06**	**243**		**Pn**	**18 27 53.4**	**-1.4**
PINNC	**Pines Island,**	**9.06**	**243**	P	**Pn**	**18 27 58.8**	**+4.0**
OUENC	**Ouen Island, N**	**9.50**	**245**	Pn	**Pn**	**18 27 58.7**	**-2.2**
OUENC	**Ouen Island, N**	**9.50**	**245**	P	**Pn**	**18 28 05.1**	**+4.2**
DZM	**Mont Dzumac**	**9.73**	**248**	*e*Pn	**Pn**	**18 28 02.5**	**-1.6**
	199nm,1.2s						
DZM				*e*LR	LR	18 30 12.0	
	comp=Z,47μm,25.8s						
DZM	**Mont Dzumac**	**9.73**	**248**	Pn	**Pn**	**18 28 07.3**	**+3.1**
	0.4nm,0.3s,baz=70,slow=12,SNR=30						
DZM				LR	LR	18 30 36.0	
	comp=Z,3μm,19.7s,baz=62,slow=30						
DZM	**Mont Dzumac**	**9.73**	**248**	Pn	**Pn**	**18 28 02.6**	**-1.5**
DZM	**Mont Dzumac**	**9.73**	**248**	P	**Pn**	**18 28 08.0**	**+3.9**
ONTNC	**Ouen Toro**	**9.79**	**247**	Pn	**Pn**	**18 28 03.8**	**-1.2**
ONTNC	**Ouen Toro**	**9.79**	**247**	P	**Pn**	**18 28 09.3**	**+4.3**
FUNA	**Funafuti**	**10.51**	**17**	Pn	**Pn**	**18 28 12.7**	**-2.0**
KOUNC	**Koumac, New Ca**	**11.35**	**259**	Pn	**Pn**	**18 28 22.1**	**-4.2**
KOUNC	**Koumac, New Ca**	**11.35**	**259**	P	**Pn**	**18 28 30.6**	**+4.3**
AFI	**Afiamalu**	**12.50**	**70**	Pn	**Pn**	**18 28 41.1**	**-1.0**
AFI	**Afiamalu**	**12.50**	**70**	P	**Pn**	**18 28 41.1**	**-1.0**
NFK	**Norfolk Island**	**12.77**	**215**	P	**Pn**	**18 28 49.3**	**+3.6**
	baz=13,SNR=4.6						
NIUE	**Niue**	**13.17**	**94**	Pn	**Pn**	**18 28 53.5**	**+2.3**
KUZ	**Kuaotunu**	**18.01**	**181**	P	**Pn**	**18 29 50.7**	**-3.6**
HNR	**Honiara**	**18.20**	**298**	LR	LR	18 35 53.4	
	comp=Z,146μm,19.6s,baz=134,slow=34						
HNR	**Honiara**	**18.20**	**298**	P	**Pn**	**18 29 53.6**	**-3.3**
HNR	**Honiara**	**18.20**	**298**	P	**P**	**18 29 58.6**	**+1.5**
HNR	**Honiara**	**18.20**	**298**	P	**Pn**	**18 29 53.6**	**-3.3**
HNR				pmax	pmax		
	comp=Z,273nm,1.3s						
MXZ	**Matakaoa Point**	**18.91**	**175**	P	**P**	**18 30 02.9**	**-1.8**
TOZ	**Tahuroa Road**	**19.00**	**182**	P	**Pn**	**18 30 11.0**	**+4.6**
HAZ	**Te Kaha**	**19.07**	**176**	P	**Pn**	**18 30 09.7**	**+2.5**
WMGZ	**Waiomatatini S**	**19.18**	**175**	P	**Pn**	**18 30 10.3**	**+1.7**
PUZ	**Puketiti**	**19.42**	**175**	P	**Pn**	**18 30 11.2**	**-0.2**
URZ	**Urewera**	**19.54**	**178**	P	**P**	**18 30 11.4**	**0.0**
	comp=Z,3.6nm,0.3s,baz=101,slow=7.6,SNR=26						
	comp=Z,142nm,1.1s						
URZ	**Urewera**	**19.54**	**178**	P	**P**	**18 30 09.0**	**-2.5**
TLZ	**Tolley Road**	**19.60**	**181**	P	**Pn**	**18 30 18.5**	**+4.9**
MWZ	**Matawai**	**19.63**	**177**	P	**Pn**	**18 30 15.7**	**+1.7**
HIZ	**Hauiti**	**19.80**	**183**	P	**P**	**18 30 13.0**	**-1.4**
HIZ				IAmb	IAmb	18 30 22.1	
	comp=Z,195nm,1.3s						
HIZ	**Hauiti**	**19.80**	**183**	P	**Pn**	**18 30 18.0**	**+2.0**
RTZ	**Ruatahuna**	**19.89**	**178**	P	**P**	**18 30 14.2**	**-1.2**
LHI	**Lord Howe Isla**	**20.05**	**227**	P	**P**	**18 30 15.4**	**-1.8**
LHI				IAmb	IAmb	18 30 26.7	
	comp=Z,232nm,1.4s						
TARA	**Tarawa**	**20.15**	**351**	P	**P**	**18 30 18.3**	**-0.1**
TARA				IAmb	IAmb	18 30 24.1	
	comp=Z,187nm,1.1s						
TMVZ	**Te Maari**	**20.38**	**181**	P	Pn	18 30 25.3	+2.4
WTVZ	**West Tongariro**	**20.38**	**181**	P	Pn	18 30 26.0	+3.0
BKZ	**Black Stump Fm**	**20.43**	**179**	P	**P**	**18 30 21.7**	**+0.5**
BKZ	**Black Stump Fm**	**20.43**	**179**	P	**P**	**18 30 19.5**	**-1.8**
BKZ	**Black Stump Fm**	**20.43**	**179**	P	Pn	18 30 24.1	+0.7
MRZ	**Mangatainoka R**	**21.92**	**181**	P	**P**	**18 30 37.5**	**+0.2**
BFZ	**Birch Farm**	**21.94**	**180**	P	**P**	**18 30 36.8**	**-0.7**
BFZ				IAmb	IAmb	18 30 50.0	
	comp=Z,458nm,1.8s						
BFZ	**Birch Farm**	**21.94**	**180**	P	**P**	**18 30 32.0**	**-5.5**
QRZ	**Quartz Range**	**22.30**	**187**	P	**P**	**18 30 42.5**	**+1.2**
QRZ				IAmb	IAmb	18 30 57.2	
	comp=Z,299nm,1.4s						
QRZ	**Quartz Range**	**22.30**	**187**	P	**P**	**18 30 39.3**	**-2.1**
TKNZ	**Takaka Hill**	**22.46**	**186**	P	**P**	**18 30 44.0**	**+0.9**
TCW	**Tory Channel**	**22.52**	**184**	P	**P**	**18 30 43.7**	**-0.1**
NNZ	**Nelson**	**22.60**	**185**	P	**P**	**18 30 43.8**	**-0.8**
SNZO	**South Karori**	**22.60**	**183**	P	**P**	**18 30 46.0**	**+1.4**
SNZO				IAmb	IAmb	18 31 01.8	
	comp=Z,147nm,1.1s						
BHW	**Baring Head**	**22.69**	**183**	P	**P**	**18 30 45.1**	**-0.4**
BHW				IAmb	IAmb	18 30 57.2	
	comp=Z,88nm,0.9s						
RAR	**Rarotonga**	**22.75**	**100**	P	**P**	**18 30 46.8**	**+0.4**
RAR				IAmb	IAmb	18 31 05.9	
	comp=Z,219nm,1.6s						
RAR	**Rarotonga**	**22.75**	**100**	IAMs_20	IAMs_20	18 37 10.9	
	comp=Z,8μm,21.0s						
RAR	**Rarotonga**	**22.75**	**100**	P	**P**	**18 30 46.8**	**+0.4**
RAR				pmax	pmax		
	comp=Z,219nm,1.6s						
RAR				MLR	MLR		
	comp=Z,8μm,21.0s						
TUWZ	**Tuamarina**	**22.76**	**184**	P	**P**	**18 30 45.0**	**-1.3**
GC1S	**Gold Coast 1 S**	**22.80**	**241**	P	**P**	**18 30 51.0**	**+4.2**
	comp=Z,99nm,0.9s						
PLWZ	**Palliser**	**22.84**	**182**	P	**P**	**18 30 46.6**	**-0.6**
MRNZ	**Matariki Terra**	**22.84**	**187**	P	**P**	**18 30 46.4**	**-0.7**
AUBSH	**Beerwah State**	**22.88**	**245**	P	**P**	**18 30 50.0**	**+2.3**
AUWSH	**Wavell State H**	**22.96**	**244**	P	**P**	**18 30 51.4**	**+2.9**
BSWZ	**Blackbirch Sta**	**23.05**	**184**	P	**P**	**18 30 49.5**	**+0.1**
CMWZ	**Cape Campbell**	**23.06**	**184**	P	**P**	**18 30 48.4**	**-1.0**
THZ	**Tophouse**	**23.18**	**186**	P	**P**	**18 30 48.8**	**-2.0**
THZ				IAmb	IAmb	18 30 54.4	
	comp=Z,135nm,0.9s						
DSZ	**Denniston Nort**	**23.30**	**188**	P	**P**	**18 30 51.5**	**-0.3**
KHZ	**Kahutara**	**23.77**	**185**	P	**P**	**18 30 56.0**	**-0.4**
KHZ				IAmb	IAmb	18 31 08.6	
	comp=Z,144nm,1.2s						
KHZ				IAMs_20	IAMs_20	18 39 27.0	
	comp=Z,7μm,19.0s						
EIDS	**Eidsvold**	**24.17**	**250**	P	**P**	**18 31 01.1**	**+0.7**
	baz=24,SNR=13						
EIDS	**Eidsvold**	**24.17**	**250**	P	**P**	**18 30 58.4**	**-2.0**
EIDS	**Eidsvold**	**24.17**	**250**	P	**P**	**18 31 01.0**	**+0.7**
LTZ	**Lake Taylor**	**24.26**	**187**	P	**P**	**18 31 02.0**	**+0.9**
LTZ				IAmb	IAmb	18 31 17.7	
	comp=Z,77nm,0.9s						
INZ	**Inchbonnie**	**24.31**	**188**	P	**P**	**18 31 01.1**	**-0.3**
INZ				IAmb	IAmb	18 31 11.8	
	comp=Z,137nm,0.9s						
GVZ	**Greta Valley S**	**24.37**	**186**	P	**P**	**18 31 01.6**	**-0.4**
GVZ				IAmb	IAmb	18 31 20.6	
	comp=Z,114nm,0.9s						
OXZ	**Oxford**	**24.83**	**187**	P	**P**	**18 31 05.5**	**-0.6**
OXZ				IAmb	IAmb	18 31 11.0	
	comp=Z,128nm,1.0s						
ARMA	**Armidale**	**25.14**	**238**	P	**P**	**18 31 10.4**	**+1.1**
	baz=25,SNR=17						
ARMA	**Armidale**	**25.14**	**238**	P	**P**	**18 31 08.4**	**-0.9**
ARMA				IAmb	IAmb	18 31 13.5	
	comp=Z,125nm,0.9s						
ARMA	**Armidale**	**25.14**	**238**	P	**P**	**18 31 10.5**	**+1.2**
RPZ	**Rata Peaks**	**25.34**	**189**	P	**P**	**18 31 12.8**	**+2.1**
	comp=Z,34nm,0.9s,baz=29,slow=2.9,SNR=5.3						
RPZ	**Rata Peaks**	**25.34**	**189**	P	**P**	**18 31 10.9**	**+0.1**
FOZ	**Fox Glacier**	**25.36**	**191**	P	**P**	**18 31 11.6**	**+0.7**
FOZ				IAmb	IAmb	18 31 41.3	
	comp=Z,145nm,1.3s						
AUPHS	**Peel High Scho**	**25.99**	**237**	P	**P**	**18 31 18.9**	**+2.1**
NTLH	**Newcastle Hard**	**26.11**	**232**	P	**P**	**18 31 19.9**	**+2.0**
LBZ	**Lake Benmore**	**26.12**	**190**	P	**P**	**18 31 16.5**	**-1.4**
LBZ				IAmb	IAmb	18 31 28.8	
	comp=Z,80nm,1.3s						
RMQ	**Roma**	**26.44**	**248**	P	**P**	**18 31 22.0**	**+1.0**
	baz=26,SNR=5.7						
RMQ	**Roma**	**26.44**	**248**	P	**P**	**18 31 23.3**	**+2.3**
ODZ	**Otahua Downs**	**26.70**	**189**	P	**P**	**18 31 24.3**	**+1.2**
ODZ				IAmb	IAmb	18 31 42.3	
	comp=Z,217nm,1.6s						
WKZ	**Wanaka**	**26.76**	**191**	P	**P**	**18 31 24.2**	**+0.6**
MLZ	**Mavora Lakes**	**27.45**	**192**	P	**P**	**18 31 28.8**	**-1.1**
MLZ				IAmb	IAmb	18 31 39.8	
	comp=Z,184nm,1.5s						
RABL	**Rabaul**	**27.52**	**299**	P	**P**	**18 31 30.1**	**-0.7**
RABL				IAmb	IAmb	18 31 40.5	
	comp=Z,106nm,1.4s						
RABL	**Rabaul**	**27.52**	**299**	P	**P**	**18 31 30.0**	**-0.7**
TV1H	**Townsville Har**	**27.77**	**264**	P	**P**	**18 31 36.3**	**+3.3**
AULRC	**Lightning Ridg**	**27.81**	**242**	P	**P**	**18 31 35.4**	**+2.2**
WHZ	**Wether Hill Ro**	**27.99**	**192**	P	**P**	**18 31 39.9**	**-1.7**
AUDCS	**Dubbo College**	**28.20**	**236**	P	**P**	**18 31 38.6**	**+1.9**
CTA	**Charters Tower**	**28.24**	**262**	P	**P**	**18 31 37.9**	**+0.7**
	comp=Z,9.8nm,0.8s,baz=90,slow=11,SNR=11						
	comp=Z,9.8nm,0.8s						
CTA	**Charters Tower**	**28.24**	**262**	P	**P**	**18 31 39.5**	**+2.3**
CTAO	**Charters Tower**	**28.24**	**262**	P	**P**	**18 31 36.1**	**-1.1**
CTAO	**Charters Tower**	**28.24**	**262**	IAMs_20	IAMs_20	18 40 58.9	
	comp=Z,9μm,21.0s						
CTAO	**Charters Tower**	**28.24**	**262**	P	**P**	**18 31 40.7**	**+3.5**
CTAO	**Charters Tower**	**28.24**	**262**	P	**P**	**18 31 36.1**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,61nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,9μm,21.0s						
KWAJ	**Kwajalein Atol**	**28.57**	**342**	IAMs_20	IAMs_20	18 39 57.1	
	comp=Z,6μm,20.0s						
PMG	**Port Moresby**	**29.57**	**284**	P	**P**	**18 31 49.7**	**+0.6**
	comp=Z,33nm,1.0s,baz=144,slow=3.5,SNR=6.5						
PMG				S	**S**	**18 36 42.0**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=191,slow=17,SNR=1.3						
	comp=Z,33nm,1.0s						
PMG	**Port Moresby**	**29.57**	**284**	P	**P**	**18 31 49.4**	**+0.4**
PMG	**Port Moresby**	**29.57**	**284**	IAMs_20	IAMs_20	18 41 57.2	
	comp=Z,8μm,19.0s						
PMG	**Port Moresby**	**29.57**	**284**	P	**P**	**18 31 50.3**	**+1.3**
PMG	**Port Moresby**	**29.57**	**284**	*e*P	**P**	**18 31 48.9**	**-0.1**
PMG				pmax	pmax		
	comp=Z,41nm,1.1s						
AUSMG	**Snowy Mountain**	**30.00**	**228**	P	**P**	**18 31 54.1**	**+1.3**
MTSU	**Mount Surprise**	**30.21**	**266**	P	**P**	**18 31 54.9**	**+0.2**
	baz=30,SNR=7.6						
MTSU	**Mount Surprise**	**30.21**	**266**	P	**P**	**18 31 56.6**	**+1.9**
CMSA	**Cobar Meteorol**	**30.31**	**239**	P	**P**	**18 31 56.4**	**+1.0**
	baz=30,SNR=18						
CMSA	**Cobar Meteorol**	**30.31**	**239**	P	**P**	**18 31 55.2**	**-0.3**
QLP	**Quilpie**	**30.45**	**249**	P	**P**	**18 31 56.9**	**+0.2**
	baz=30,SNR=7.7						
QLP	**Quilpie**	**30.45**	**249**	P	**P**	**18 31 58.8**	**+2.1**
PATS	**Pohnpei**	**30.86**	**324**	P	**P**	**18 32 01.1**	**+0.7**
COEN	**Coen**	**31.98**	**273**	P	**P**	**18 32 08.7**	**-1.7**
COEN	**Coen**	**31.98**	**273**	P	**P**	**18 32 11.8**	**+1.5**
TBI	**Tubuai**	**32.38**	**104**	*e*P	**P**	**18 32 16.9**	**+3.2**
	comp=Z,1μm,26.8s						
TBI				*e*S	**S**	**18 37 30.4**	**+3.1**
	comp=Z,10μm,26.2s						
TBI				*e*LR	LR	18 40 46.0	
	comp=Z,97μm,30.0s						
TBI				*e*LR	LR	18 40 46.5	
	comp=Z,262μm,26.5s						
PPT2	**Papeete2**	**32.55**	**94**	*e*P	**P**	**18 32 15.6**	**+0.2**
PPT2				*e*S	**S**	**18 37 33.5**	**+3.3**
	comp=Z,3μm,25.8s						
PPT2				*e*LR	LR	18 40 51.6	
	comp=Z,21μm,25.8s						
PPT2				*e*LR	LR	18 40 51.8	
	comp=Z,17μm,28.0s						
PPT	**Papeete**	**32.55**	**94**	P	**P**	**18 32 16.2**	**+0.9**
	comp=Z,43nm,1.0s,baz=37,slow=4.3,SNR=3.5						
	comp=Z,43nm,1.0s						
PPTF	**Pamatai, Papee**	**32.56**	**94**	IAMs_20	IAMs_20	18 42 03.8	
	comp=Z,5μm,20.0s						
MANU	**Manus Island**	**32.70**	**297**	P	**P**	**18 32 14.7**	**-1.9**
MANU				IAmb	IAmb	18 32 19.9	
	comp=Z,44nm,1.1s						
MANU	**Manus Island**	**32.70**	**297**	P	**P**	**18 32 16.6**	**-0.1**
XMAS	**Kiritimati**	**33.13**	**54**	P	**P**	**18 32 20.2**	**-0.1**
XMAS				IAmb	IAmb	18 32 59.3	
	comp=Z,110nm,1.3s						
CORO	**Coronation Par**	**33.59**	**221**	P	**P**	**18 32 24.7**	**+0.6**
INKA	**Innaminka**	**33.69**	**248**	P	**P**	**18 32 26.2**	**+1.1**
	comp=Z,61nm,1.1s						
STKA	**Stephens Creek**	**33.76**	**240**	P	**P**	**18 32 26.4**	**+0.7**
	comp=Z,67nm,1.0s,baz=71,slow=8.4,SNR=32						
STKA				PcP	**PcP**	**18 35 05.0**	**0.0**
	comp=Z,11nm,1.0s,baz=9.7,slow=0.8,SNR=3.8						
	comp=Z,67nm,1.0s						
STKA	**Stephens Creek**	**33.76**	**240**	P	**P**	**18 32 27.0**	**+1.2**
	baz=34,SNR=19						
STKA	**Stephens Creek**	**33.76**	**240**	P	**P**	**18 32 25.1**	**-0.7**
STKA	**Stephens Creek**	**33.76**	**240**	P	**P**	**18 32 26.5**	**+0.7**
STKA	**Stephens Creek**	**33.76**	**240**	*ce*P	**P**	**18 32 27.0**	**+1.2**
BRAT	**Ballarat**	**33.85**	**230**	P	**P**	**18 32 27.4**	**+0.9**
TAU	**Tasmania Unive**	**34.31**	**219**	P	**P**	**18 32 31.2**	**+0.8**
TAU	**Tasmania Unive**	**34.31**	**219**	P	**P**	**18 32 31.2**	**+0.8**
TAU				pmax	pmax		
	comp=Z,141nm,1.4s						
QIS	**Mount Isa**	**34.45**	**261**	P	**P**	**18 32 32.6**	**+0.7**
	baz=34,SNR=4.0						
QIS	**Mount Isa**	**34.45**	**261**	P	**P**	**18 32 32.2**	**+0.3**
ARPS	**Mount Arapiles**	**35.09**	**232**	P	**P**	**18 32 38.9**	**+1.7**
	baz=35,SNR=5.5						
ARPS	**Mount Arapiles**	**35.09**	**232**	P	**P**	**18 32 38.6**	**+1.4**
MMPI	**Merauke**	**36.16**	**281**	P	**P**	**18 32 46.4**	**-0.2**
	comp=Z,12nm,1.1s						
LCRK	**Leigh Creek**	**36.29**	**244**	P	**P**	**18 32 49.1**	**+1.5**
HTT	**Hallett**	**36.33**	**239**	P	**P**	**18 32 48.6**	**+0.6**
	baz=36,SNR=12						
HTT	**Hallett**	**36.33**	**239**	P	**P**	**18 32 49.5**	**+1.5**
GHSS	**Government Hou**	**36.98**	**236**	P	**P**	**18 32 55.4**	**+2.0**
PTPS	**Port Pirie**	**37.03**	**239**	P	**P**	**18 32 57.3**	**+3.5**
WHYH	**Whyalla**	**37.34**	**240**	P	**P**	**18 32 57.7**	**+1.2**
JOHN	**Johnston Islan**	**37.89**	**23**	P	**P**	**18 33 04.5**	**+3.3**
H11S2	**WAKE ISLAND Hy**	**38.08**	**345**	T	T	19 13 23.0	
	baz=166,slow=76,SNR=237						
H11S3	**WAKE ISLAND Hy**	**38.09**	**345**	T	T	19 13 23.1	
	baz=166,slow=76,SNR=228						
H11S1	**WAKE ISLAND Hy**	**38.10**	**345**	T	T	19 13 23.7	
	baz=166,slow=76,SNR=191						
MCQ	**Macquarie Isla**	**38.12**	**196**	P	**P**	**18 33 03.9**	**+1.2**
MCQ	**Macquarie Isla**	**38.12**	**196**	P	**P**	**18 33 03.9**	**+1.2**
MCQ				pmax	pmax		
	comp=Z,625nm,1.9s						
OOD	**Oodnadatta**	**38.15**	**249**	P	**P**	**18 33 05.1**	**+1.7**
BBOO	**Buckleboo**	**38.54**	**241**	P	**P**	**18 33 06.9**	**+0.3**
	baz=38,SNR=9.3						
BBOO	**Buckleboo**	**38.54**	**241**	P	**P**	**18 33 06.2**	**-0.4**
BBOO				IAmb	IAmb	18 33 08.9	
	comp=Z,82nm,1.1s						
BBOO	**Buckleboo**	**38.54**	**241**	P	**P**	**18 33 07.4**	**+0.8**
GENI	**Genyem**	**38.69**	**290**	P	**P**	**18 33 10.0**	**+1.9**
GENI	**Genyem**	**38.69**	**290**	P	**P**	**18 33 08.1**	**0.0**
	comp=Z,114nm,1.6s,comp=Z,3μm						
WAKE	**Wake Island**	**38.86**	**346**	P	**P**	**18 33 09.0**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**39.22**	**346**	T	T	19 14 48.3	
	baz=165,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**39.22**	**346**	T	T	19 14 48.5	
	baz=165,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.23**	**346**	T	T	19 14 52.1	
	baz=165,slow=76,SNR=10						
WR0	**Warramunga Arr**	**39.23**	**261**	P	**P**	**18 33 10.4**	**-2.3**
WB0	**Warramunga Arr**	**39.39**	**261**	P	**P**	**18 33 11.9**	**-2.0**
WB2	**Warramunga Arr**	**39.41**	**261**	P	**P**	**18 33 12.0**	**-2.1**
WRAB	**Tennant Creek**	**39.41**	**261**	P	**P**	**18 33 12.4**	**-1.7**
WRAB	**Tennant Creek**	**39.41**	**261**	IAMs_20	IAMs_20	18 47 27.4	
	comp=Z,6μm,22.0s						
WRAB	**Tennant Creek**	**39.41**	**261**	P	**P**	**18 33 13.5**	**-0.6**
WRAB	**Tennant Creek**	**39.41**	**261**	*e*P	**P**	**18 33 13.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,47nm,1.3s						
WRA	**Warramunga Arr**	**39.42**	**261**	P	**P**	**18 33 12.8**	**-1.4**
	comp=Z,26nm,1.0s,baz=90,slow=8.8,SNR=48						
	comp=Z,26nm,1.0s						
WRA	**Warramunga Arr**	**39.42**	**261**	P	**P**	**18 33 11.8**	**-2.4**
AS01	**Alice Springs**	**39.58**	**255**	P	**P**	**18 33 14.5**	**-1.0**
AS31	**Alice Springs**	**39.62**	**255**	P	**P**	**18 33 14.3**	**-1.5**
AS31				PcP	**PcP**	**18 35 21.9**	**-1.0**
ASAR	**Alice Springs**	**39.62**	**255**	P	**P**	**18 33 14.8**	**-1.1**
	comp=Z,34nm,0.9s,baz=83,slow=8.9,SNR=48						
ASAR				PcP	**PcP**	**18 35 21.8**	**-1.1**
	comp=Z,11nm,1.1s,baz=105,slow=2.8,SNR=8.1						
	comp=Z,34nm,0.9s						
ASAR	**Alice Springs**	**39.62**	**255**	P	**P**	**18 33 14.5**	**-1.4**
ASAR				PcP	**PcP**	**18 35 22.3**	**-0.6**
MULG	**Mulgathing**	**39.82**	**245**	P	**P**	**18 33 17.2**	**-0.2**
SMPI	**Sarmi**	**40.26**	**290**	P	**P**	**18 33 20.8**	**-0.4**
	comp=Z,54nm,1.2s,comp=Z,2μm						
KDU	**Kakadu**	**42.41**	**272**	P	**P**	**18 33 38.5**	**-0.3**
	baz=42,SNR=5.1						
KDU	**Kakadu**	**42.41**	**272**	P	**P**	**18 33 38.5**	**-0.3**
SRPI	**Serui, Papua**	**42.53**	**288**	P	**P**	**18 33 40.3**	**+0.5**
TAOE	**Nuku Hiva Isla**	**43.43**	**83**	*e*P	**P**	**18 33 49.7**	**+2.4**
	comp=Z,269nm,23.8s						
TAOE				*e*S	**S**	**18 40 18.3**	**+3.1**
	comp=Z,2μm,26.1s						
TAOE				*e*LR	LR	18 45 53.8	
	comp=Z,7μm,29.5s						
MTN	**Manton Dam**	**43.64**	**271**	P	**P**	**18 33 48.3**	**-0.5**
	baz=44,SNR=9.0						
MTN	**Manton Dam**	**43.64**	**271**	P	**P**	**18 33 47.5**	**-1.3**
MTN				IAmb	IAmb	18 33 50.0	
	comp=Z,64nm,1.1s						
MTN	**Manton Dam**	**43.64**	**271**	P	**P**	**18 33 48.6**	**-0.2**
GUMO	**Guam**	**44.49**	**314**	P	**P**	**18 33 55.9**	**+0.3**
GUMO	**Guam**	**44.49**	**314**	IAMs_20	IAMs_20	18 50 01.2	
	comp=Z,5μm,22.0s						
GUMO	**Guam**	**44.49**	**314**	P	**P**	**18 33 55.9**	**+0.3**
GUMO				pmax	pmax		
	comp=Z,169nm,1.3s						
GUMO				MLR	MLR		
	comp=Z,5μm,22.0s						
RKPI	**Ransiki, Papua**	**44.54**	**288**	P	**P**	**18 33 55.7**	**-0.4**
	comp=Z,51nm,1.1s,comp=Z,2μm						
WRKA	**Warakurna**	**44.70**	**253**	P	**P**	**18 33 57.6**	**+0.3**
	baz=45,SNR=17						
WRKA	**Warakurna**	**44.70**	**253**	P	**P**	**18 33 58.6**	**+1.3**
SAUI	**Saumlaki**	**44.82**	**278**	P	**P**	**18 33 58.4**	**+0.1**
	comp=Z,86nm,0

SGSI	**Sangihe**	**54.57**	**289**	P	**P**	**18 35 12.9**	**+0.3**	
	comp=Z,195nm,0.4s							
BLDU	**Ballidu**	**54.79**	**245**	P	**P**	**18 35 13.3**	**-0.7**	
	baz=55,SNR=6.6							
BLDU	**Ballidu**	**54.79**	**245**	P	**P**	**18 35 13.0**	**-1.0**	
MUN	**Mundaring**	**55.18**	**244**	P	**P**	**18 35 17.6**	**+0.8**	
	baz=55,SNR=8.4							
MUN	**Mundaring**	**55.18**	**244**	P	**P**	**18 35 17.2**	**+0.4**	
LUWI	**Luwuk**	**55.18**	**282**	P	**P**	**18 35 16.1**	**-1.0**	
LUWI				IAmb	IAmb	18 36 22.2		
	comp=Z,52nm,1.0s							
LUWI	**Luwuk**	**55.18**	**282**	P	**P**	**18 35 17.5**	**+0.4**	
	comp=Z,50nm,1.6s,comp=Z,998nm							
MORW	**Morawa**	**55.45**	**247**	P	**P**	**18 35 18.2**	**-0.6**	
	baz=55,SNR=8.4							
MORW	**Morawa**	**55.45**	**247**	P	**P**	**18 35 17.5**	**-1.3**	
MORW	**Morawa**	**55.45**	**247**	P	**P**	**18 35 19.2**	**+0.4**	
GTOI	**Gorontalo**	**55.60**	**284**	P	**P**	**18 35 21.2**	**+1.1**	
	comp=Z,14nm,2.1s,comp=Z,264nm							
DAV	**Davao City (W)**	**56.05**	**292**	IAms_20	IAms_20	18 58 49.0		
	comp=Z,2µm,20.0s							
BKSI	**Bulukumba**	**56.18**	**276**	P	**P**	**18 35 23.1**	**-1.1**	
	comp=Z,12nm,0.9s,comp=Z,548nm							
APSI	**Ampana**	**56.27**	**282**	P	**P**	**18 35 24.2**	**-0.7**	
	comp=Z,80nm,1.0s							
MRSI	**Marisa**	**56.53**	**283**	P	**P**	**18 35 25.2**	**-1.5**	
	comp=Z,21nm,1.4s,comp=Z,513nmcomp=Z,1µm							
KAPI	**Kappang**	**56.63**	**276**	P	**P**	**18 35 26.1**	**-1.3**	
KAPI				IAmb	IAmb	18 35 29.2		
	comp=Z,37nm,1.2s							
KAPI	**Kappang**	**56.63**	**276**	P	**P**	**18 35 26.1**	**-1.3**	
KAPI				pmax	pmax			
	comp=Z,37nm,1.2s							
KAPI				MLR	MLR			
	comp=Z,900nm,20.0s							
PLAI	**Plampang**	**57.34**	**271**	P	**P**	**18 35 32.5**	**0.0**	
PLAI	**Plampang**	**57.34**	**271**	P	**P**	**18 35 30.7**	**-1.8**	
	comp=Z,78nm,1.1s,comp=Z,1µm							
GIRL	**Giralia**	**57.73**	**255**	P	**P**	**18 35 34.6**	**-0.5**	
TOLI2	**Tolitoli**	**57.84**	**284**	P	**P**	**18 35 34.0**	**-2.0**	
TOLI2	**Tolitoli**	**57.84**	**284**	P	**P**	**18 35 35.2**	**-0.8**	
TWSI	**Taliwang, Sumb**	**58.22**	**271**	P	**P**	**18 35 37.8**	**-0.8**	
	comp=Z,126nm,1.1s							
MPSI	**Mapaga**	**58.36**	**282**	P	**P**	**18 35 39.3**	**-0.3**	
	comp=Z,23nm,1.1s,comp=Z,552nm							
VNDA	**Vanda**	**59.31**	**184**	P	**P**	**18 35 45.9**	**+0.7**	
VNDA	**Vanda**	**59.31**	**184**	P	**P**	**18 35 45.9**	**+0.7**	
VNDA				pmax	pmax			
	comp=Z,32nm,1.5s							
DNP	**Denpasar**	**59.82**	**271**	P	**P**	**18 35 49.7**	**-0.1**	
	comp=Z,325nm,0.9s							
JAGI	**Jajag, Banyuwa**	**60.88**	**271**	P	**P**	**18 35 55.8**	**-1.2**	
JAGI				IAMs_20	IAMs_20	19 00 11.7		
	comp=Z,2µm,22.0s							
JAGI	**Jajag, Banyuwa**	**60.88**	**271**	P	**P**	**18 35 57.1**	**+0.1**	
MYLDM	**Lahad Datu**	**61.55**	**287**	P	**P**	**18 36 01.8**	**+0.3**	
JHJ2	**Mitsune**	**62.11**	**326**	P	**P**	**18 36 04.7**	**-0.2**	
CASY	**Casey**	**63.30**	**204**	P	**P**	**18 36 11.7**	**-0.7**	
KKM	**Kota Kinabalu**	**63.97**	**287**	P	**P**	**18 36 16.2**	**-1.6**	
KKM				IAMs_20	IAMs_20	19 03 35.9		
	comp=Z,2µm,22.0s							
KKM	**Kota Kinabalu**	**63.97**	**287**	P	**P**	**18 36 16.6**	**-1.2**	
JOW	**Kunigami**	**64.84**	**313**	P	**P**	**18 36 21.9**	**-1.2**	
JGF	**Kuroka**	**65.32**	**326**	P	**P**	**18 36 26.3**	**+0.3**	
MJAR	**Matsushiro Arr**	**65.59**	**327**	P	**P**	**18 36 27.8**	**0.0**	
	comp=Z,30nm,1.0s,baz=158,slow=6.1,SNR=10.0							
	comp=Z,30nm,1.0s							
MAJO	**Matsushiro**	**65.59**	**327**	P	**P**	**18 36 27.7**	**-0.1**	
MAJO				IAmb	IAmb	18 36 30.1		
	comp=Z,46nm,1.0s							
MAJO	**Matsushiro**	**65.59**	**327**	P	**P**	**18 36 23.0**	**-4.8**	
MAJO	**Matsushiro**	**65.59**	**327**	*ce*P	**P**	**18 36 29.0**	**+1.2**	
MAJO				pmax	pmax			
	comp=Z,39nm,1.0s							
MJB9	**Matsu-Tunnel**	**65.59**	**327**	P	**P**	**18 36 28.1**	**+0.3**	
KPJI	**Karang Pucung**	**66.16**	**270**	P	**P**	**18 36 31.3**	**-0.6**	
	comp=Z,79nm,1.1s							
SBUM	**Sibu**	**66.27**	**281**	P	**P**	**18 36 30.7**	**-1.9**	
SBUM				IAmb	IAmb	18 36 53.1		
	comp=Z,87nm,2.0s							
JSU	**Suzuyama**	**66.43**	**318**	P	**P**	**18 36 32.9**	**-0.4**	
JSU	**Suzuyama**	**66.43**	**318**	P	**P**	**18 36 29.8**	**-3.5**	
JSD	**Sado**	**66.71**	**328**	P	**P**	**18 36 34.4**	**-0.5**	
YOJ	**Yonaguni jima**	**67.23**	**308**	P	**P**	**18 36 37.9**	**-0.6**	
YOJ	**Yonaguni jima**	**67.23**	**308**	P	**P**	**18 36 37.9**	**-0.6**	
YOJ				pmax	pmax			
	comp=Z,519nm,1.7s							
JNU	**Nakatsue**	**67.25**	**320**	P	**P**	**18 36 38.6**	**+0.1**	
	comp=Z,45nm,1.1s,baz=130,slow=3.2,SNR=4.1							
	comp=Z,45nm,1.1s							
JNU	**Nakatsue**	**67.25**	**320**	P	**P**	**18 36 38.7**	**+0.1**	
JNU	**Nakatsue**	**67.25**	**320**	P	**P**	**18 36 35.3**	**-3.3**	
BBJI	**Bungbulang**	**67.33**	**270**	P	**P**	**18 36 39.0**	**-0.6**	
LEM	**Lembang**	**67.55**	**270**	P	**P**	**18 36 40.2**	**-0.8**	
	comp=Z,122nm,0.9s,comp=Z,2µm							
TWG	**Pinlang**	**67.80**	**305**	P	**P**	**18 36 41.1**	**-1.1**	
TWG				IAmb	IAmb	18 36 50.0		
	comp=Z,47nm,1.1s							
CNJI	**Cibinong**	**67.87**	**270**	P	**P**	**18 36 40.2**	**-2.7**	
	comp=Z,65nm,1.2s,comp=Z,662nm							
YULB	**Yu-li**	**67.94**	**306**	P	**P**	**18 36 41.9**	**-1.1**	
NACB	**Ninganchiao**	**68.14**	**307**	P	**P**	**18 36 43.3**	**-1.0**	
NACB				IAMs_20	IAMs_20	19 00 51.6		
	comp=Z,2µm,22.0s							
NACB	**Ninganchiao**	**68.14**	**307**	P	**P**	**18 36 41.6**	**-2.7**	
TPUB	**Ta-pu**	**68.40**	**305**	P	**P**	**18 36 44.8**	**-1.2**	
TPUB	**Ta-pu**	**68.40**	**305**	P	**P**	**18 36 44.2**	**-1.8**	
YHNB	**Yeheng**	**68.58**	**307**	P	**P**	**18 36 46.5**	**-0.6**	
YHNB	**Yeheng**	**68.58**	**307**	P	**P**	**18 36 43.9**	**-3.2**	
CGJI	**Cibinong**	**69.44**	**270**	P	**P**	**18 36 49.6**	**-3.0**	
	comp=Z,97nm,1.1s,comp=Z,2µm							
BLSI	**Bandar Lampung**	**70.24**	**271**	P	**P**	**18 36 56.5**	**-1.1**	
	comp=Z,83nm,0.7s							
PPBI	**Pangkal Pinang**	**70.40**	**274**	P	**P**	**18 36 58.3**	**-0.3**	
	comp=Z,40nm,1.1s,comp=Z,830nm							
KNMB	**Chin-men Tao**	**70.76**	**305**	IAMs_20	IAMs_20	19 02 30.9		
	comp=Z,2µm,21.0s							
KASI	**Kota Agung**	**70.90**	**271**	P	**P**	**18 36 58.6**	**-3.0**	
	comp=Z,109nm,1.1s							
SKR	**Severo-Kuril's**	**71.28**	**347**	⇑*e*P	**P**	**18 37 03.7**	**+0.7**	
QSPA	**South Pole Qui**	**71.38**	**180**	P	**P**	**18 37 02.9**	**-0.9**	
QSPA				IAmb	IAmb	18 37 11.7		
	comp=Z,48nm,1.0s							
PMBI	**Palembang**	**71.44**	**273**	IAMs_20	IAMs_20	19 10 58.7		
	comp=Z,1µm,18.0s							
PMBI	**Palembang**	**71.44**	**273**	P	**P**	**18 37 05.5**	**+0.6**	
LWLI	**Liwa**	**71.47**	**271**	P	**P**	**18 37 03.4**	**-1.8**	
	comp=Z,110nm,0.8s							
MDSI	**Maura Dua**	**71.52**	**271**	P	**P**	**18 37 02.1**	**-3.3**	
	comp=Z,27nm,1.0s							
TJN	**Taejon**	**71.58**	**320**	⇓*e*P	**P**	**18 37 05.4**	**+0.2**	
YSS	**Yuzh-Sakhalins**	**71.92**	**337**	P	**P**	**18 37 07.3**	**+0.3**	
YSS				IAmb	IAmb	18 37 11.0		
	comp=Z,54nm,1.1s							
YSS	**Yuzh-Sakhalins**	**71.92**	**337**	P	**P**	**18 37 02.4**	**-4.6**	
YSS	**Yuzh-Sakhalins**	**71.92**	**337**	*e*P	**P**	**18 37 08.4**	**+1.4**	
YSS				*e*S	**S**	**18 46 31.0**	**+3.8**	
YSS				pmax	pmax			
	comp=Z,40nm,1.1s							
YSS				MLR	MLR			
	comp=Z,800nm,16.0s							
KSRS	**Korea Array**	**71.96**	**321**	P	**P**	**18 37 08.7**	**+1.2**	
	comp=Z,14nm,1.0s,baz=144,slow=6.4,SNR=17							
	comp=Z,14nm,1.0s							
KSAR	**Wonju Array Be**	**71.97**	**321**	P	**P**	**18 37 07.3**	**-0.2**	
KSAR	**Wonju Array Be**	**71.97**	**321**	P	**P**	**18 37 07.3**	**-0.2**	
SSE	**Sheshan**	**72.35**	**313**	P	**P**	**18 37 10.3**	**+0.4**	
SSE				S	**S**	**18 46 37.6**	**+4.8**	
SSE				pmax	pmax			
	comp=Z,9.0nm,0.7s							
SSE				pmax	pmax			
	comp=Z,220nm,6.5s							
SSE				LR	LR			
	comp=Z,410nm,23.6s							
SSE				LR	LR			
	comp=Z,430nm,23.6s							
DSRI	**Dabo**	**72.42**	**276**	P	**P**	**18 37 09.3**	**-1.5**	
	comp=Z,46nm,1.1s,comp=Z,670nmcomp=Z,1µm							
NIKH	**Nikolski High**	**72.52**	**9**	P	**P**	**18 37 11.8**	**+1.4**	
	baz=195							
INCN	**Inchon**	**72.75**	**321**	IAMs_20	IAMs_20	19 04 51.8		
	comp=Z,1µm,22.0s							
TPRI	**Tanjung Pinang**	**72.93**	**277**	P	**P**	**18 37 12.6**	**-1.2**	
PET	**Petropavlovsk**	**72.99**	**349**	*e*P	P	18 37 19.0	+5.8	
PET				*e*S	**SKiKP**	**18 46 49.1**	**+3.7**	
PET				MLR	MLR			
	comp=Z,1µm,18.0s							
HKPS	**Hong Kong Po S**	**73.03**	**301**	IAMs_20	IAMs_20	19 04 41.0		
	comp=Z,1µm,20.0s							
PEA0B	**Petropavlovsk-**	**73.25**	**348**	⇓*e*P	**P**	**18 37 16.7**	**+1.9**	
PETK	**Petropavlovsk-**	**73.25**	**348**	P	**P**	**18 37 15.1**	**+0.3**	
	comp=Z,27nm,0.9s,baz=152,slow=6.7,SNR=15							
	comp=Z,27nm,0.9s							
DLV	**T Lat**	**73.33**	**289**	P	**P**	**18 37 14.7**	**-1.6**	
MASI	**Maura Aman, Be**	**73.78**	**272**	P	**P**	**18 37 18.5**	**-0.4**	
	comp=Z,35nm,1.1s							
USA0B	**Ussuriysk Arra**	**74.46**	**329**	⇓*e*P	**P**	**18 37 23.3**	**+1.2**	
USRK	**Ussuriysk Ar.**	**74.46**	**329**	P	**P**	**18 37 24.2**	**+2.2**	
	comp=Z,13nm,0.9s,baz=147,slow=4.5,SNR=8.8							
	comp=Z,13nm,0.9s							
NJ2	**Nanjing**	**74.53**	**312**	⇑P	**P**	**18 37 23.5**	**+0.7**	
NJ2				pP	**sP**	**18 37 29.4**	**-0.1**	
NJ2				sP	**pwP**	**18 37 33.0**	**+1.5**	
NJ2				S	**S**	**18 47 02.5**	**+5.1**	
NJ2				sS	**sS**	**18 47 09.3**	**+3.8**	
NJ2				SS	**SS**	**18 51 46.4**	**+1.5**	
NJ2				pmax	pmax			
	comp=Z,22nm,1.1s							
NJ2				pmax	pmax			
	comp=Z,450nm,5.1s							
NJ2				LR	LR			
	comp=Z,1µm,22.6s							
NJ2				LR	LR			
	comp=Z,1µm,19.6s							
NJ2				LR	LR			
	comp=Z,1µm,20.6s							
QIZ	**Qiongzhong**	**75.11**	**296**	IAMs_20	IAMs_20	19 04 48.1		
	comp=Z,2µm,22.0s							
QIZ	**Qiongzhong**	**75.11**	**296**	P	**P**	**18 37 28.8**	**+2.4**	
QIZ				S	**S**	**18 47 08.1**	**+3.7**	
QIZ				sS	**sS**	**18 47 14.4**	**+2.0**	
QIZ				pmax	pmax			
	comp=Z,790nm,9.6s							
QIZ				LR	LR			
	comp=Z,980nm,25.5s							
QIZ				LR	LR			
	comp=Z,1µm,27.1s							
QIZ				LR	LR			
	comp=Z,2µm,24.7s							
TYV	**Tymovskoe**	**75.24**	**339**	*e*P	**P**	**18 37 27.4**	**+1.0**	
TYV				*e*S	**S**	**18 47 08.3**	**+3.8**	
TYV				pmax	pmax			
	comp=Z,54nm,1.1s							
TYV				pmax	pmax			
	comp=Z,200nm,2.7s							
TYV				smax	smax			
	comp=N,400nm,5.4s							
TYV				smax	smax			
	comp=E,400nm,5.4s							
MDJ	**Mudanjiang**	**75.95**	**328**	IAmb	IAmb	18 37 33.3		
	comp=Z,28nm,1.1s							
MDJ				IAMs_20	IAMs_20	19 10 26.8		
	comp=Z,1µm,20.0s							
MDJ	**Mudanjiang**	**75.95**	**328**	P	**P**	**18 37 31.8**	**+1.1**	
MDJ				pP	pP	18 37 34.8	-0.8	
MDJ				sP	sP	18 37 36.8	-0.6	
MDJ				S	**S**	**18 47 19.8**	**+7.0**	
MDJ				sS	sS	18 47 25.6	+4.7	
MDJ				pmax	pmax			
	comp=Z,29nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,610nm,3.5s							
MDJ				LR	LR			
	comp=Z,910nm,18.4s							
MDJ				LR	LR			
	comp=Z,610nm,15.0s							
MDJ				LR	LR			
	comp=Z,2µm,21.3s							
DL2	**Dalian**	**76.70**	**319**	P	P	18 37 41.9	+6.9	
DL2				S	**S**	**18 47 28.0**	**+6.9**	
DL2				pmax	pmax			
	comp=Z,38nm,1.0s							
DL2				pmax	pmax			
	comp=Z,510nm,3.5s							
DL2				LR	LR			
	comp=N,920nm,24.5s							
DL2				LR	LR			
	comp=E,940nm,23.9s							
DL2				LR	LR			
	comp=Z,1µm,24.3s							
WHN	**Wuhan**	**76.97**	**309**	⇑P	**P**	**18 37 37.4**	**+0.6**	
WHN				S	**S**	**18 47 31.3**	**+6.8**	
WHN				pmax	pmax			
	comp=Z,130nm,1.3s							
WHN				LR	LR			
	comp=Z,5µm,19.9s							
WHN				LR	LR			
	comp=Z,5µm,17.6s							
WHN				LR	LR			
	comp=Z,14µm,24.9s							
SNY	**Shenyang**	**77.35**	**323**	⇓P	**P**	**18 37 39.8**	**+1.2**	
SNY				pmax	pmax			
	comp=Z,30nm,1.2s							
SNY				pmax	pmax			
	comp=Z,460nm,5.0s							
SNY				LR	LR			
	comp=Z,650nm,17.2s							
SNY				LR	LR			
	comp=Z,1µm,25.0s							
SNY				LR	LR			
	comp=Z,2µm,21.6s							
IPM	**Ipoh**	**77.43**	**279**	P	**P**	**18 37 38.2**	**-1.5**	
IPM				IAmb	IAmb	18 37 41.4		
	comp=Z,52nm,1.1s							
IPM	**Ipoh**	**77.43**	**279**	P	**P**	**18 37 38.6**	**-1.1**	
GRNR	**Gornyy**	**77.46**	**335**	⇑*i*P	**P**	**18 37 40.3**	**+1.2**	
GRNR				pmax	pmax			
	comp=N,3.0nm,1.0s							
GRNR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GRNR				MLR	MLR			
	comp=E,2µm,20.0s							
CN2	**Changchun**	**77.58**	**325**	P	**P**	**18 37 40.5**	**+0.6**	
CN2				pmax	pmax			
	comp=E,60nm,1.1s							
CN2				pmax	pmax			
	comp=E,200nm,4.0s							
BNX	**BinXian**	**77.85**	**327**	⇑P	**P**	**18 37 42.3**	**+1.0**	
BNX				pP	**pP**	**18 37 45.3**	**-0.9**	
BNX				sP	**sP**	**18 37 46.9**	**-1.2**	
BNX				PP	**PP**	**18 40 35.9**	**-1.5**	
BNX				S	**S**	**18 47 39.6**	**+6.2**	
BNX				sS	**sS**	**18 47 45.0**	**+3.5**	
BNX				pmax	pmax			
	comp=E,28nm,1.0s							
BNX				pmax	pmax			
	comp=E,660nm,4.9s							
BNX				LR	LR			
	comp=E,370nm,16.3s							
BNX				LR	LR			
	comp=E,680nm,16.3s							
BNX				LR	LR			
	comp=E,820nm,24.9s							
TIA	**Tai'an**	**78.04**	**315**	⇑P	**P**	**18 37 43.0**	**+0.4**	
TIA				pmax	pmax			
	comp=E,28nm,1.3s							
TIA				pmax	pmax			
	comp=E,360nm,3.5s							
TIA				LR	LR			
	comp=E,340nm,18.8s							
TIA				LR	LR			
	comp=E,700nm,27.7s							
TIA				LR	LR			
	comp=E,960nm,24.9s							
KLR	**Kul'dur**	**78.25**	**332**	P	**P**	**18 37 44.7**	**+1.2**	
	comp=E,11nm,0.9s,baz=114,slow=4.6,SNR=20							
	comp=E,11nm,0.9s							
KLR	**Kul'dur**	**78.25**	**332**	⇑*e*P	**P**	**18 37 44.7**	**+1.2**	
KLR				pmax	pmax			
	comp=Z,39nm,1.7s							
PSI	**Prapat**	**78.83**	**277**	P	**P**	**18 37 46.0**	**-1.7**	
R16K	**Pilot Point**	**79.04**	**14**	P	**P**	**18 37 49.5**	**+1.9**	
	baz=205							
R17K	**Ugashik Creek**	**79.39**	**15**	P	**P**	**18 37 51.5**	**+2.0**	
	baz=206							
GSI	**Gunungsitoli**	**79.61**	**275**	IAmb	IAmb	18 37 53.7		
	comp=Z,57nm,1.2s							
GSI	**Gunungsitoli**	**79.61**	**275**	P	**P**	**18 37 50.2**	**-1.6**	
OHAK	**Old Harbor**	**79.80**	**16**	P	**P**	**18 37 54.0**	**+2.3**	
	baz=209							
Q17K	**Contact Creek**	**80.06**	**15**	P	**P**	**18 37 55.7**	**+2.4**	
	baz=207							
HNS	**HongShan**	**80.31**	**315**	⇑P	**P**	**18 37 56.0**	**+1.0**	
HNS				PP	**PP**	**18 40 59.8**	**+1.6**	
HNS				pmax	pmax			
	comp=Z,21nm,1.1s							
HNS				LR	LR			
	comp=Z,1µm,17.5s							
HNS				LR	LR			
	comp=Z,1µm,19.6s							
LYN	**LuoYang**	**80.38**	**311**	⇓P	**P**	**18 37 55.3**	**-0.2**	
LYN				S	**S**	**18 48 07.3**	**+6.4**	
LYN				pmax	pmax			
	comp=Z,30nm,2.2s							
LYN				pmax	pmax			
	comp=Z,480nm,8.6s							
LYN				LR	LR			
	comp=Z,990nm,18.6s							
LYN				LR	LR			
	comp=Z,750nm,21.2s							
LYN				LR	LR			
	comp=Z,2µm,20.8s							
SCZ2	**Santa Cruz Isl**	**80.46**	**49**	P	**P**	**18 37 56.4**	**+0.4**	
	baz=240							
ENH	**Enshi**	**80.50**	**306**	IAMs_20	IAMs_20	19 07 30.9		
	comp=Z,1µm,21.0s							
SAO	**San Andreas Ge**	**80.61**	**46**	IAMs_20	IAMs_20	19 04 54.6		
	comp=Z,934nm,20.0s							
Q18K	**Katmai Hardscr**	**80.62**	**15**	P	**P**	**18 37 58.1**	**+1.8**	
	baz=208							
SBC	**Santa Barbara**	**80.63**	**49**	P	**P**	**18 37 57.0**	**+0.3**	
	baz=240							
MA2	**Magadan**	**80.68**	**347**	P	**P**	**18 37 55.6**	**-0.9**	
	comp=Z,14nm,0.9s,baz=106,slow=1.6,SNR=7.6							
	comp=Z,14nm,0.9s							
MA2	**Magadan**	**80.68**	**347**	P	**P**	**18 37 54.9**	**-1.6**	
MA2				IAmb	IAmb	18 37 58.1		
	comp=Z,48nm,1.4s							
MA2				IAMs_20	IAMs_20	19 12 41.1		
	comp=Z,1µm,19.0s							
MA2	**Magadan**	**80.68**	**347**	⇑*e*P	**P**	**18 37 55.6**	**-0.9**	
MA2				pmax	pmax			
	comp=Z,38nm,1.3s							
HOPS	**Hopland Field**	**80.71**	**44**	IAMs_20	IAMs_20	19 04 27.2		
	comp=Z,1µm,21.0s							
KCPM	**Cahto Peak**	**80.76**	**43**	P	**P**	**18 37 58.6**	**+1.1**	
KCPM				IAmb	IAmb	18 38 01.2		
	comp=Z,59nm,1.3s							
O16K	**Kokwok River B**	**80.77**	**13**	P	**P**	**18 37 57.5**	**+0.6**	
	baz=205							
P17K	**Kvichak River**	**80.77**	**14**	P	**P**	**18 37 58.0**	**+1.0**	
	baz=206							
BJT	**Baijiatuan**	**80.78**	**318**	IAmb	IAmb	18 38 00.4		
	comp=Z,79nm,1.9s							
BJT	**Baijiatuan**	**80.78**	**318**	IAMs_20	IAMs_20	19 12 30.4		
	comp=Z,1µm,21.0s							
PKM	**Mcpherson Peak**	**80.78**	**48**	P	**P**	**18 37 58.3**	**+0.5**	
	baz=240,SNR=5.7							
BJI	**Beijing**	**80.79**	**318**	P	**P**	**18 37 57.9**	**+0.4**	
BJI				S	**S**	**18 48 09.3**	**+4.5**	
BJI				pmax	pmax			
	comp=Z,8.0nm,1.7s							
BJI				pmax	pmax			
	comp=Z,160nm,4.4s							
BJI				LR	LR			
	comp=Z,350nm,22.7s							
BJI				LR	LR			
	comp=Z,210nm,21.2s							
BJI				LR	LR			
	comp=Z,570nm,20.4s							
KMPM	**Mount Pierce**	**80.82**	**42**	IAmb	IAmb	18 38 01.7		
	comp=Z,44nm,1.2s							
SMMC	**Simmler**	**80.87**	**48**	P	P	**18 37 58.8**	**+0.7**	
	baz=240							
HEH	**HeiHe**	**80.95**	**331**	*e*P	**P**	**18 37 58.8**	**+0.7**	
HEH				pP	**pwP**	**18 38 09.1**	**+2.3**	
HEH				S	**S**	**18 48 10.0**	**+3.9**	
HEH				pmax	pmax			
	comp=Z,23nm,1.4s							
HEH				pmax	pmax			
	comp=Z,880nm,6.0s							
HEH				LR	LR			
	comp=Z,1µm,20.5s							
HEH				LR	LR			
	comp=Z,850nm,20.1s							
HEH				LR	LR			
	comp=Z,2µm,21.6s							
KMRM	**Mail Ridge**	**80.97**	**42**	IAmb	IAmb	18 38 02.5		
	comp=Z,74nm,1.3s							
GYA	**Guiyang**	**80.99**	**302**	⇓*i*P	**P**	**18 38 00.8**	**+1.7**	
GYA				S	**S**	**18 48 10.3**	**+2.5**	
GYA				pmax	pmax			
	comp=Z,19nm,1.2s							
GYA				pmax	pmax			
	comp=Z,430nm,5.1s							
GYA				LR	LR			
	comp=Z,790nm,25.8s							
GYA				LR	LR			
	comp=Z,830nm,22.2s							
GYA				LR	LR			
	comp=Z,2µm,24.8s							
CIS	**Catalina Islan**	**81.05**	**50**	P	**P**	**18 37 59.3**	**+0.2**	
	baz=241							
BCW	**Bitter Crk WRg**	**81.09**	**49**	P	**P**	**18 37 59.5**	**+0.1**	
BCW				IAmb	IAmb	18 38 03.0		
	comp=Z,46nm,1.2s							
Q19K	**Cape Douglas,**	**81.20**	**15**	P	**P**	**18 37 59.1**	**-0.2**	
	baz=209							
P18K	**Big Mountain,**	**81.23**	**14**	P	**P**	**18 37 59.0**	**-0.4**	
	baz=207							
MAW	**Mawson**	**81.36**	**201**	P	**P**	**18 38 01.1**	**+1.0**	
	comp=Z,28nm,1.0s,baz=147,slow=4.5,SNR=4.8							
	comp=Z,28nm,1.0s							
N16K	**Nishlik Lake**	**81.44**	**12**	P	**P**	**18 38 00.3**	**-0.2**	
	baz=204							
ARVC	**Arvin**	**81.60**	**49**	P	**P**	**18 38 01.3**	**-0.7**	
	baz=240							
O18K	**Koktuh Hills**	**81.64**	**14**	P	**P**	**18 38 02.0**	**+0.4**	
	baz=207							
VES	**Vestal, Richgr**	**81.77**	**48**	P	**P**	**18 38 02.9**	**+0.1**	
	baz=240							
TIY	**Taiyuan**	**82.02**	**314**	*e*P	**P**	**18 38 06.6**	**+2.4**	
TIY				S	**S**	**18 48 24.3**	**+6.4**	
TIY				SS	**SS**	**18 53 33.8**	**-3.8**	
TIY				pmax	pmax			
	comp=Z,510nm,5.5s							
TIY				LR	LR			
	comp=Z,510nm,13.7s							
TIY				LR	LR			
	comp=Z,740nm,21.1s							
TIY				LR	LR			
	comp=Z,1µm,21.6s							
BELA	**Belgrano 2**	**82.02**	**174**	P	**P**	**18 38 02.2**	**-1.3**	
MURC	**Murrieta**	**82.04**	**51**	P	**P**	**18 38 04.9**	**+0.6**	
	baz=241							
EDW2	**Edwards Air Fo**	**82.08**	**49**	P	**P**	**18 38 04.6**	**0.0**	
	baz=241,SNR=17							
ISA	**Isabella, Lake**	**82.12**	**48**	IAmb	IAmb	18 38 08.1		
	comp=Z,34nm,1.1s							
ISA	**Isabella, Lake**	**82.12**	**48**	P	**P**	**18 38 05.0**	**+0.3**	
	baz=240,SNR=18							
O19K	**Port Alsworth**	**82.16**	**14**	P	**P**	**18 38 03.9**	**-0.4**	
O19K	**Port Alsworth**	**82.16**	**14**	P	**P**	**18 38 03.5**	**-0.7**	
	baz=208,SNR=9.2							
ESJX	**Sierra Juarez**	**

PFO pmax pmax
comp=Z,54nm,2.7s
TPFO Pinon Flats 82.59 51 P **P** **18 38 08.0 +0.6**
baz=242
LRMC Laurel Mtn Rad 82.59 49 P **P** **18 38 07.3 -0.1**
baz=241,SNR=5.9
BRSE Bradley Lake S 82.66 16 P **P** **18 38 07.6 +0.7**
baz=212
PMD Palm Desert 82.66 51 P **P** **18 38 07.6 0.0**
PMD IAmb IAmb 18 38 19.6
comp=Z,28nm,1.6s
N19K Bonanza Creek 82.66 14 P **P** **18 38 06.8 -0.3**
baz=208
GAMB Gambell 82.72 5 IAMs_20 IAMs_20 19 15 34.8
comp=Z,984nm,18.0s
HUMO Hull Mountain 82.76 41 P **P** **18 38 08.9 +1.0**
HUMO IAmb IAmb 18 38 11.7
comp=Z,25nm,1.1s
SWSC Sam W. Stewart 82.76 52 P **P** **18 38 08.0 -0.1**
baz=242
CWC Cottonwood Cre 82.78 48 P **P** **18 38 08.6 +0.3**
baz=241
DBO Dodson Butte 82.87 40 P **P** **18 38 09.3 +0.8**
DBO IAmb IAmb 18 38 18.0
comp=Z,64nm,1.9s
TIN Tinemaha, Big 82.97 47 P **P** **18 38 08.7 -0.6**
baz=240
XLT XiLinHaoTe 83.00 321 ⇑*i*P **P** **18 38 07.8 -1.4**
XLT sP sP 18 38 15.9 -0.1
XLT S **S** **18 48 28.3 +0.6**
XLT sS pS 18 48 33.3 -0.4
XLT pmax pmax
comp=Z,12nm,2.1s
XLT pmax pmax
comp=Z,350nm,3.8s
XLT LR LR
comp=Z,940nm,23.3s
XLT LR LR
comp=Z,1µm,22.5s
MPMC Manual Prospec 83.01 48 P **P** **18 38 08.7 -0.8**
baz=241,SNR=17
BELC Belle Mtn. Jos 83.11 51 P **P** **18 38 09.3 -0.7**
baz=242
GSC Goldstone, Bar 83.13 49 IAmb IAmb 18 38 13.4
comp=Z,47nm,1.4s
GSC Goldstone, Bar 83.13 49 P **P** **18 38 09.6 -0.5**
baz=242
YERR Yerington 83.24 45 IAmb IAmb 18 38 14.0
comp=Z,51nm,1.2s
HEC Hector,Ludlow 83.25 50 P **P** **18 38 10.5 -0.2**
baz=242
DSP Deep Springs 83.31 47 IAmb IAmb 18 38 14.6
comp=Z,52nm,1.3s
SEW Seward 83.31 17 P **P** **18 38 11.0 +0.7**
baz=213
BC3 Big Chuckawall 83.35 51 P **P** **18 38 11.9 +0.6**
baz=242
ZEA Zeya 83.45 333 *e*P **P** **18 38 11.9 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA pmax pmax
comp=Z,300nm,8.2s
SLBS Sierra La Lagu 83.45 62 P **P** **18 38 12.4 +0.5**
SLBS Sierra La Lagu 83.45 62 IAMs_20 IAMs_20 19 06 39.9
comp=Z,1µm,20.0s
SEY Seymchan 83.46 349 P **P** **18 38 10.6 -0.4**
comp=Z,22nm,0.9s,baz=145,slow=5.2,SNR=40
comp=Z,22nm,0.9s
SEY Seymchan 83.46 349 ⇑*e*P **P** **18 38 10.9 -0.1**
SEY pmax pmax
comp=Z,67nm,1.7s
LCH Last Change Ra 83.47 47 IAmb IAmb 18 38 15.0
comp=Z,38nm,1.5s
GLA Glamis 83.54 52 IAmb IAmb 18 38 16.0
comp=Z,48nm,1.4s
GLA Glamis 83.54 52 P **P** **18 38 13.1 +0.9**
baz=243
N20K Mount Spurr 83.54 15 P **P** **18 38 12.4 +0.8**
baz=210
GRAC Grapevine Rang 83.55 48 P **P** **18 38 13.6 +1.5**
baz=241
RYN Ryan 83.55 46 P **P** **18 38 12.5 +0.3**
RYN IAmb IAmb 18 38 15.6
comp=Z,59nm,1.4s
NVAR Mina Array Bea 83.60 46 P **P** **18 38 13.4 +0.8**
comp=Z,25nm,1.1s,baz=228,slow=7.8,SNR=30
comp=Z,25nm,1.1s
NVAR Mina Array Bea 83.60 46 P **P** **18 38 12.6 0.0**
KMI Kunming 83.64 299 ⇑*e*P **P** **18 38 13.9 +0.8**
KMI PP **PP** **18 41 24.6 -1.5**
KMI S **S** **18 48 39.1 +3.8**
KMI pmax pmax
comp=Z,28nm,1.2s
KMI pmax pmax
comp=Z,370nm,9.0s
KMI LR LR
comp=Z,890nm,18.8s
KMI LR LR
comp=Z,800nm,19.1s
KMI LR LR
comp=Z,1µm,20.9s
FURC Furnace Creek, 83.65 48 P **P** **18 38 12.6 +0.1**
baz=241
GWY Greenwater Val 83.65 49 IAmb IAmb 18 38 15.8
comp=Z,31nm,1.4s
NV11 Mina Array Sit 83.70 46 IAmb IAmb 18 38 17.4
comp=Z,62nm,1.4s
GMRC Granite Mounta 83.72 50 P **P** **18 38 13.1 0.0**
baz=242
CRAI Chiangrai 83.74 294 P **P** **18 38 12.4 -1.1**
SHOC Shoshone, Teco 83.80 49 P **P** **18 38 13.6 +0.1**
baz=242
L19K White Mountain 83.80 13 IAMs_20 IAMs_20 19 20 48.0
comp=Z,971nm,20.0s
L19K White Mountain 83.80 13 P **P** **18 38 13.0 +0.2**
baz=208
IRM Iron Mountain 83.81 51 P **P** **18 38 13.8 +0.3**
baz=243
TUQ Turquoise Moun 83.83 50 P **P** **18 38 13.7 0.0**
baz=242
M20K Styx River 83.92 14 P **P** **18 38 14.7 +1.1**
baz=209
WCT Wildcat Mounta 83.97 48 IAmb IAmb 18 38 17.8
comp=Z,37nm,1.3s
KVN Kaiserville 84.05 46 P **P** **18 38 15.2 +0.3**
KVN IAmb IAmb 18 38 18.0
comp=Z,42nm,1.3s
KVN Kaiserville 84.05 46 P **P** **18 38 15.2 +0.3**
KVN pmax pmax
comp=Z,42nm,1.3s
MOD Modoc Plateau 84.05 42 IAmb IAmb 18 38 18.0
comp=Z,43nm,1.3s
RC01 Rabbit Creek A 84.07 16 IAmb IAmb 18 38 15.6
comp=Z,36nm,1.0s
RC01 Rabbit Creek A 84.07 16 P **P** **18 38 14.3 +0.2**
baz=212
BLYC Blythe 84.08 52 IAmb IAmb 18 38 18.5
comp=Z,54nm,1.6s
HIA Hailar 84.09 327 IAMs_20 IAMs_20 19 11 20.0
comp=Z,1µm,22.0s
SUA Susitna One 84.13 15 IAmb IAmb 18 38 15.8
comp=Z,35nm,1.0s
SUA IAMs_20 IAMs_20 19 05 11.9
comp=Z,1µm,20.0s
SUA Susitna One 84.13 15 P **P** **18 38 14.3 -0.3**
baz=211,SNR=6.9
ANM Nome 84.18 8 IAmb IAmb 18 38 17.2
comp=Z,26nm,1.2s
ANM Nome 84.18 8 P **P** **18 38 14.4 -0.3**
baz=198
HHC Hu-ho-hao-te 84.20 316 *e*P **P** **18 38 16.3 +0.8**
HHC S **S** **18 48 43.1 +3.1**
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,790nm,5.0s
HHC LR LR
comp=Z,1µm,19.0s
HHC LR LR
comp=Z,2µm,19.0s
HHC LR LR
comp=Z,3µm,22.8s
113A Mohawk Valley, 84.21 53 P **P** **18 38 16.2 +0.7**
113A IAmb IAmb 18 38 19.1
comp=Z,38nm,1.4s
TTA Tatalina 84.22 12 P **P** **18 38 15.1 +0.1**
baz=206

PWL Port Wells 84.24 17 P **P** **18 38 15.0 -0.1**
baz=214
L20K Farewell, AK 84.27 13 P **P** **18 38 14.1 -1.1**
baz=208
TPNV Topopah Spring 84.31 48 IAmb IAmb 18 38 19.6
comp=Z,46nm,1.1s
TPNV IAMs_20 IAMs_20 19 09 15.8
comp=Z,924nm,21.0s
TPNV Topopah Spring 84.31 48 P **P** **18 38 16.1 -0.1**
baz=242,SNR=17
CM31 Chiang Mai Arr 84.33 292 IAmb IAmb 18 38 19.6
comp=Z,39nm,1.1s
CMAR Chiang Mai Arr 84.33 292 P **P** **18 38 17.2 +0.7**
comp=Z,21nm,1.0s,baz=123,slow=3.4,SNR=52
comp=Z,21nm,1.0s
CMAR Chiang Mai Arr 84.33 292 P **P** **18 38 16.2 -0.2**
H04A Detroit Lake 84.37 39 IAmb IAmb 18 38 19.0
comp=Z,58nm,1.5s
CHTO Chiang Mai 84.46 292 P **P** **18 38 15.8 -1.3**
CHTO IAmb IAmb 18 38 19.8
comp=Z,36nm,1.2s
CHTO Chiang Mai 84.46 292 P **P** **18 38 15.8 -1.3**
CHTO pmax pmax
comp=Z,36nm,1.2s
CHTO MLR MLR
comp=Z,600nm,21.0s
NEE2 Needles Airpor 84.47 51 P **P** **18 38 17.3 +0.4**
baz=243
M22K Willow 84.53 15 P **P** **18 38 15.2 -1.3**
M22K Willow 84.53 15 P **P** **18 38 15.6 -0.9**
baz=212,SNR=6.2
214A Organ Pipe Nat 84.58 54 IAmb IAmb 18 38 21.2
comp=Z,39nm,1.4s
214A Organ Pipe Nat 84.58 54 P **P** **18 38 17.8 +0.3**
baz=244
PINE Pine Mountain 84.64 40 IAmb IAmb 18 38 21.2
comp=Z,40nm,1.1s
PMR Palmer 84.65 16 P **P** **18 38 16.4 -0.7**
baz=213
KNK Knik Glacier 84.67 16 P **P** **18 38 16.4 -0.9**
baz=214
V12A Nelson 84.74 50 P **P** **18 38 18.4 +0.1**
V12A IAmb IAmb 18 38 21.7
comp=Z,29nm,1.3s
WTNK Soaring Height 84.84 49 P **P** **18 38 19.4 +0.6**
WTNK IAmb IAmb 18 38 22.0
comp=Z,20nm,1.7s
TNA Tin City 84.84 7 P **P** **18 38 17.7 -0.2**
TNA Tin City 84.84 7 P **P** **18 38 17.7 -0.2**
baz=195
SHPR Sheep Range 84.88 49 P **P** **18 38 19.2 +0.1**
NLWA Neilton Lookou 84.90 36 IAmb IAmb 18 38 21.4
comp=Z,27nm,1.2s
NLWA IAMs_20 IAMs_20 19 07 10.6
comp=Z,1µm,21.0s
S11A Rachel 84.99 48 P **P** **18 38 20.1 +0.5**
K20K Telida 85.01 13 IAmb IAmb 18 38 25.8
comp=Z,30nm,1.4s
K20K Telida 85.01 13 P **P** **18 38 18.3 -0.6**
baz=208
PZH PanZhiHua 85.02 300 P **P** **18 38 19.8 -0.1**
PZH sP **pwP** **18 38 28.6 -0.1**
PZH PP **PP** **18 41 39.1 +1.9**
PZH S **S** **18 48 48.5 -0.3**
PZH SS **SS** **18 54 18.5 -4.0**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,450nm,6.4s
PZH LR LR
comp=Z,1µm,19.8s
PZH LR LR
comp=Z,2µm,20.4s
PZH LR LR
comp=Z,2µm,20.1s
HOOD Mount Hood Mea 85.03 39 IAmb IAmb 18 38 22.5
comp=Z,60nm,1.4s
CUT Chulitna 85.05 15 P **P** **18 38 18.5 -0.6**
baz=212
PMSA Palmer Station 85.08 158 IAMs_20 IAMs_20 19 06 53.5
comp=Z,943nm,21.0s
W13A Hualapai Mount 85.16 51 P **P** **18 38 20.3 -0.3**
W13A IAmb IAmb 18 38 24.1
comp=Z,31nm,1.4s
DIV Divide 85.18 17 IAmb IAmb 18 38 21.7
comp=Z,40nm,1.1s
M23K Glacier View 85.19 16 P **P** **18 38 18.9 -0.9**
baz=214
CD2 Chengdu 85.20 305 P **P** **18 38 21.3 +0.6**
CD2 pP pP 18 38 25.0 -0.6
CD2 SKS **SKSac** **18 48 45.0 -0.1**
CD2 S **SKKSac** **18 48 51.8 +0.3**
CD2 SS **SS** **18 54 27.0 +2.0**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,630nm,9.0s
CD2 LR LR
comp=Z,880nm,20.8s
CD2 LR LR
comp=Z,1µm,22.0s
CD2 LR LR
comp=Z,1µm,21.4s
Y14A Wickenburg 85.30 52 P **P** **18 38 21.2 +0.1**
BMN Battle Mountai 85.31 45 P **P** **18 38 21.4 +0.3**
BMN IAmb IAmb 18 38 24.5
comp=Z,51nm,1.2s
BMN Battle Mountai 85.31 45 P **P** **18 38 21.4 +0.3**
BMN pmax pmax
comp=Z,51nm,1.2s
SCM Sheep Creek Mo 85.33 16 IAmb IAmb 18 38 22.5
comp=Z,42nm,1.0s
SCM Sheep Creek Mo 85.33 16 P **P** **18 38 19.7 -0.9**
baz=214
PRN Pahroc Range 85.37 48 IAmb IAmb 18 38 25.1
comp=Z,54nm,1.2s
WVOR Wild Horse Val 85.38 42 IAmb IAmb 18 38 24.8
comp=Z,40nm,1.2s
BMRM Bremner River 85.39 18 P **P** **18 38 19.7 -1.2**
baz=217
KLU Klutina 85.43 17 IAMs_20 IAMs_20 19 05 28.4
comp=Z,1µm,20.0s
KLU Klutina 85.43 17 P **P** **18 38 20.7 -0.4**
baz=216
R11A Troy Canyon, C 85.43 47 P **P** **18 38 20.8 -1.1**
R11A Troy Canyon, C 85.43 47 P **P** **18 38 21.1 -0.7**
baz=242,SNR=9.0
CAST Castle Rocks 85.50 14 IAmb IAmb 18 38 22.1
comp=Z,20nm,1.0s
CAST IAMs_20 IAMs_20 19 10 20.0
comp=Z,1µm,18.0s
CAST Castle Rocks 85.50 14 P **P** **18 38 20.8 -0.6**
baz=210,SNR=10
G06A Carlson Farm, 85.59 39 IAmb IAmb 18 38 25.4
comp=Z,37nm,1.5s
SIT Sitka 85.60 24 P **P** **18 38 21.8 -0.2**
baz=225
GCSA Galena City Sc 85.69 11 P **P** **18 38 22.1 -0.1**
baz=206
LON Longmire 85.71 38 P **P** **18 38 23.0 +0.1**
LON Longmire 85.71 38 P **P** **18 38 23.0 +0.1**
LON pmax pmax
comp=Z,31nm,1.7s
J20K Nowinta River 85.72 13 IAMs_20 IAMs_20 19 14 42.5
comp=Z,1µm,21.0s
J20K Nowinta River 85.72 13 P **P** **18 38 22.0 -0.4**
baz=208
ISLE Juniper Island 85.78 19 IAMs_20 IAMs_20 19 08 44.8
comp=Z,1µm,19.0s
U33K Whale Pass 85.83 26 P **P** **18 38 21.9 -1.2**
baz=227
WAT1 Susitna Watana 85.84 15 P **P** **18 38 21.5 -1.6**
baz=213
WAT6 Susitna Watana 85.84 16 P **P** **18 38 22.0 -1.2**
baz=214
CHUM Lake Minchumin 85.85 13 P **P** **18 38 22.1 -1.0**
baz=210
M24K Tolsona, Glenn 85.86 17 P **P** **18 38 22.7 -0.5**
baz=216
KTH Kantishna Hill 85.88 14 IAMs_20 IAMs_20 19 18 11.1
comp=Z,897nm,19.0s
S31K Pelican 85.90 23 P **P** **18 38 25.2 +1.8**
baz=225
N25K Chitina, Valde 85.90 18 P **P** **18 38 23.0 -0.5**
baz=217
TRF Thorofare Moun 85.94 14 IAMs_20 IAMs_20 19 18 12.7
comp=Z,1µm,19.0s

TRF Thorofare Moun 85.94 14 P **P** **18 38 24.2 +0.5**
baz=212
V35K Ketchikan 85.94 27 P **P** **18 38 24.1 +0.5**
baz=229
J08A Circle Bar Ran 85.95 42 IAmb IAmb 18 38 27.4
comp=Z,33nm,1.3s
PINM Pinnacle 86.06 20 P **P** **18 38 25.2 +0.9**
baz=221
MCARA McCarthy VSAT 86.18 18 P **P** **18 38 25.2 +0.4**
baz=218
RND Reindeer 86.25 15 IAMs_20 IAMs_20 19 10 21.8
comp=Z,1µm,20.0s
TUC Tucson 86.28 54 P **P** **18 38 26.1 0.0**
TUC IAmb IAmb 18 38 30.0
comp=Z,35nm,1.4s
TUC Tucson 86.28 54 IAMs_20 IAMs_20 19 09 39.5
comp=Z,1µm,21.0s
TUC Tucson 86.28 54 P **P** **18 38 26.5 +0.4**
baz=245
TUC Tucson 86.28 54 P **P** **18 38 26.1 0.0**
TUC pmax pmax
comp=Z,35nm,1.4s
TUC MLR MLR
comp=Z,1µm,21.0s
BPAW Bear Paw Mtn. 86.33 14 IAMs_20 IAMs_20 19 10 12.1
comp=Z,909nm,20.0s
DHY Denali Highway 86.34 16 IAMs_20 IAMs_20 19 18 41.4
comp=Z,1µm,21.0s
BARN Barnard Glacie 86.35 19 IAmb IAmb 18 38 28.0
comp=Z,53nm,1.1s
WRAK Wrangell Islan 86.36 26 P **P** **18 38 25.5 -0.2**
baz=228
HARP HAARP 86.38 17 P **P** **18 38 26.9 +1.1**
baz=216
MCK McKinley 86.50 15 IAmb IAmb 18 41 09.5
comp=Z,49nm,1.8s
MCK McKinley 86.50 15 P **P** **18 38 25.3 -1.0**
baz=213
O28M Mount Upton 86.59 20 P **P** **18 38 26.6 -0.5**
baz=221
SPR3 Spring Creek 3 86.60 47 P **P** **18 38 27.6 -0.2**
SPR3 IAmb IAmb 18 38 31.9
comp=Z,29nm,1.2s
G08A Pilot Rock 86.63 40 IAmb IAmb 18 38 30.6
comp=Z,46nm,1.3s
LTY Liberty 86.64 38 P **P** **18 38 26.5 -1.0**
LTY IAmb IAmb 18 38 30.3
comp=Z,28nm,1.4s
BWN Browne 86.75 14 IAMs_20 IAMs_20 19 09 47.1
comp=Z,1µm,20.0s
PAX Paxson 86.76 16 P **P** **18 38 28.0 +0.3**
baz=216
BILL Bilibino 86.76 356 P **P** **18 38 25.8 -1.6**
BILL IAmb IAmb 18 38 29.6
comp=Z,66nm,1.8s
BILL Bilibino 86.76 356*c* *i*P **P** **18 38 26.9 -0.6**
BILL *i* 18 38 33.0
BILL *i* 18 41 50.0
BILL *i* S **SKSac** **18 48 53.1 +0.1**
BILL *i* SS **SS** **18 54 54.0 +7.7**
BILL pmax pmax
comp=Z,9.0nm,1.1s
BILL MLR MLR
comp=Z,233nm,19.0s
O29M Mount Kennedy 86.77 21 P **P** **18 38 27.8 0.0**
baz=222
KNB Kanab 86.78 49 IAmb IAmb 18 38 32.3
comp=Z,83nm,1.9s
ELK Elko 86.79 45 P **P** **18 38 28.4 -0.2**
comp=Z,16nm,1.2s,baz=228,slow=5.2,SNR=18
comp=Z,16nm,1.2s
ELK Elko 86.79 45 IAmb IAmb 18 38 31.7
comp=Z,31nm,1.4s
HAWA Hanford 86.85 39 P **P** **18 38 28.5 +0.1**
HAWA IAmb IAmb 18 38 31.7
comp=Z,68nm,1.6s
U15A North Rim 86.91 50 P **P** **18 38 29.1 -0.2**
U15A IAmb IAmb 18 38 35.6
comp=Z,29nm,1.2s
PLBC Pleasant Camp 86.92 22 P **P** **18 38 28.6 +0.2**
baz=224
M26K Nabesna, AK 86.99 18 IAmb IAmb 18 38 31.0
comp=Z,24nm,1.1s
M26K Nabesna, AK 86.99 18 P **P** **18 38 27.9 -0.9**
baz=218
I21K Tanana 87.05 13 P **P** **18 38 28.0 -1.0**
baz=210
319A Douglas 87.07 56 IAmb IAmb 18 38 33.9
comp=Z,44nm,1.4s
YUK8 Steele Glacier 87.11 20 P **P** **18 38 29.7 0.0**
baz=221
TNCH TengChong 87.13 297 ⇑P **P** **18 38 30.8 +0.3**
TNCH sP pwP 18 38 39.8 +0.6
TNCH S **SKSac** **18 49 00.4 +2.8**
TNCH pmax pmax
comp=Z,25nm,2.2s
TNCH pmax pmax
comp=Z,310nm,7.2s
TNCH LR LR
comp=Z,270nm,28.7s
TNCH LR LR
comp=Z,350nm,28.0s
TNCH LR LR
comp=Z,1µm,37.4s
WUAZ Wupatki 87.19 51 P **P** **18 38 29.6 -0.9**
WUAZ IAmb IAmb 18 38 34.2
comp=Z,50nm,1.6s
WUAZ Wupatki 87.19 51 P **P** **18 38 27.5 -3.0**
baz=245
P30M Million Dollar 87.19 21 P **P** **18 38 28.3 -1.5**
baz=224
MLY Manley 87.19 13 P **P** **18 38 28.7 -1.0**
baz=211
NEA2 Nenana 87.20 14 IAMs_20 IAMs_20 19 11 12.9
comp=Z,1µm,22.0s
NEA2 Nenana 87.20 14 P **P** **18 38 27.9 -1.7**
baz=213
YUK3 Moose Creek 87.27 19 P **P** **18 38 29.0 -1.4**
baz=221
M27K Edge Creek, AK 87.29 18 IAmb IAmb 18 38 32.9
comp=Z,25nm,1.1s
M27K Edge Creek, AK 87.29 18 P **P** **18 38 29.4 -0.9**
baz=219
SKAG Skagway 87.30 23 P **P** **18 38 29.1 -1.1**
baz=225
H21K Melozitna Rive 87.30 12 IAMs_20 IAMs_20 19 18 58.0
comp=Z,875nm,20.0s
H21K Melozitna Rive 87.30 12 P **P** **18 38 29.1 -1.0**
baz=209
LZH Lanzhou 87.33 309 ⇓P **P** **18 38 32.0 +0.8**
LZH pP sP 18 38 38.5 +0.5
LZH S **S** **18 49 08.3 -2.8**
LZH pmax pmax
comp=Z,94nm,1.7s
LZH pmax pmax
comp=Z,570nm,6.2s
LZH LR LR
comp=Z,1µm,18.6s
LZH LR LR
comp=Z,2µm,19.2s
LZH LR LR
comp=Z,4µm,19.2s
L26K Log Cabin Wild 87.39 17 P **P** **18 38 30.9 +0.3**
L26K IAmb IAmb 18 41 55.5
comp=Z,15nm,0.6s
L26K IAMs_20 IAMs_20 19 08 27.1
comp=Z,1µm,22.0s
L26K Log Cabin Wild 87.39 17 P **P** **18 38 28.1 -2.5**
baz=218
BMO Blue Mountains 87.42 41 IAmb IAmb 18 38 34.4
comp=Z,31nm,1.4s
CCB Clear Creek Bu 87.54 15 IAMs_20 IAMs_20 19 09 45.0
comp=Z,1µm,22.0s
RIDG Independent Ri 87.55 16 P **P** **18 38 29.4 -2.0**
baz=217
HDA Harding Lake 87.55 15 IAMs_20 IAMs_20 19 09 46.4
comp=Z,1µm,22.0s
HDA Harding Lake 87.55 15 P **P** **18 38 29.8 -1.6**
baz=215
I23K Minto, Yukon-K 87.60 14 IAMs_20 IAMs_20 19 18 49.5
comp=Z,994nm,20.0s
I23K Minto, Yukon-K 87.60 14 P **P** **18 38 29.9 -1.7**
baz=212
BVCY Beaver Creek 87.63 19 P **P** **18 38 30.7 -1.1**
baz=220
MFID Camas Ranch 87.66 43 IAmb IAmb 18 38 35.7
comp=Z,30nm,1.1s

MTPU	**Mount Pierson**	**87.69**	**49**	IAmb	IAmb	18 38 37.4		
	comp=Z,30nm,1.4s							
DUN6	**Lazy B Ranch**	**87.69**	**55**	IAmb	IAmb	18 38 37.0		
	comp=Z,235nm,1.9s							
MDM	**Murphy Dome**	**87.70**	**14**	IAMs_20	IAMs_20	19 10 57.3		
	comp=Z,1µm,20.0s							
TCOL	**CIGO, UAF Yank**	**87.72**	**15**	IAmb	IAmb	18 38 48.3		
	comp=Z,53nm,1.6s							
TCOL				IAMs_20	IAMs_20	19 10 13.7		
	comp=Z,1µm,21.0s							
TCOL	**CIGO, UAF Yank**	**87.72**	**15**	P	**P**	**18 38 30.6**	**-1.5**	
	baz=214							
COLA	**College**	**87.72**	**15**	P	**P**	**18 38 30.7**	**-1.4**	
COLA				IAmb	IAmb	18 38 48.4		
	comp=Z,49nm,1.6s							
COLA	**College**	**87.72**	**15**	IAMs_20	IAMs_20	19 10 13.7		
	comp=Z,1µm,21.0s							
COLA	**College**	**87.72**	**15**	P	**P**	**18 38 30.6**	**-1.5**	
	baz=214							
COLA	**College**	**87.72**	**15**	*ce*P	**P**	**18 38 31.6**	**-0.5**	
COLA				pmax	pmax			
	comp=Z,12nm,0.9s							
E09A	**Wood Farm, Sta**	**87.74**	**39**	IAmb	IAmb	18 38 35.5		
	comp=Z,38nm,1.3s							
ELIB	**Princess Elisa**	**87.74**	**188**	*d*P	**P**	**18 38 31.1**	**-1.5**	
	comp=Z,22nm,1.0s							
H22K	**Ishtalitna Cre**	**87.80**	**13**	P	**P**	**18 38 30.8**	**-1.8**	
	baz=211							
L27K	**Beaver Creek,**	**87.85**	**18**	IAMs_20	IAMs_20	19 17 17.3		
	comp=Z,973nm,19.0s							
L27K	**Beaver Creek,**	**87.85**	**18**	P	**P**	**18 38 31.9**	**-1.0**	
	baz=219							
S34M	**Telegraph Cree**	**87.85**	**25**	P	**P**	**18 38 31.2**	**-1.7**	
	baz=229							
MVU	**Marysvale**	**87.87**	**48**	P	**P**	**18 38 33.7**	**-0.1**	
ILAR	**Eielson Array**	**87.87**	**15**	P	**P**	**18 38 31.2**	**-1.7**	
	comp=Z,6.5nm,0.9s,baz=234,slow=5.4,SNR=36							
	comp=Z,6.5nm,0.9s							
G21K	**Allakaket**	**87.91**	**12**	P	**P**	**18 38 32.7**	**-0.4**	
	baz=209							
SCRK	**Sand Creek**	**87.97**	**16**	P	**P**	**18 38 31.2**	**-2.3**	
	baz=218							
P32M	**Atlin**	**87.98**	**23**	P	**P**	**18 38 32.5**	**-1.1**	
	baz=227							
B08A	**Colville Reser**	**87.99**	**37**	IAmb	IAmb	18 38 36.3		
	comp=Z,31nm,1.2s							
POKR	**Poker Plat Res**	**88.02**	**15**	IAMs_20	IAMs_20	19 11 26.7		
	comp=Z,1µm,20.0s							
POKR	**Poker Plat Res**	**88.02**	**15**	P	**P**	**18 38 31.8**	**-1.8**	
	baz=214							
Q32M	**Nakina River**	**88.10**	**24**	P	**P**	**18 38 33.9**	**-0.5**	
	baz=228							
DUG	**Dugway, Tooele**	**88.19**	**46**	IAmb	IAmb	18 38 38.4		
	comp=Z,41nm,1.8s							
DUG	**Dugway, Tooele**	**88.19**	**46**	P	**P**	**18 38 35.0**	**-0.2**	
	baz=244,SNR=6.7							
W18A	**Petrified Fore**	**88.24**	**52**	IAmb	IAmb	18 38 39.0		
	comp=Z,27nm,1.2s							
W18A	**Petrified Fore**	**88.24**	**52**	P	**P**	**18 38 32.7**	**-2.9**	
	baz=246							
C09A	**Chrisman Ranch**	**88.31**	**38**	IAmb	IAmb	18 38 38.2		
	comp=Z,52nm,1.5s							
YAK	**Yakutsk**	**88.45**	**340**	P	**P**	**18 38 35.2**	**-0.4**	
	comp=Z,15nm,0.8s,baz=87,slow=0.6,SNR=24							
	comp=Z,15nm,0.8s							
YAK	**Yakutsk**	**88.45**	**340**	P	**P**	**18 38 34.6**	**-1.0**	
YAK				IAMs_20	IAMs_20	19 11 37.3		
	comp=Z,1µm,21.0s							
YAK	**Yakutsk**	**88.45**	**340**	*d i*P	**P**	**18 38 34.1**	**-1.5**	
YAK				*e**PP	**pP**	**18 38 39.6**	**-1.0**	
YAK				*e*		18 42 05.1		
YAK				*e*S	**SKSac**	**18 49 02.5**	**-0.9**	
YAK				*e**SS	**sS**	**18 49 27.8**	**-0.6**	
YAK				*e*SS	**SS**	**18 55 07.2**	**-3.8**	
YAK				*e*SSS	SSS	18 58 45.8		
YAK				pmax	pmax			
	comp=Z,29nm,0.8s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,5.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,151nm,3.0s							
YAK				pmax	pmax			
	comp=N,99nm,3.7s							
YAK				pmax	pmax			
	comp=E,86nm,2.8s							
YAK				smax	smax			
	comp=N,210nm,5.8s							
YAK				smax	smax			
	comp=E,100nm,4.8s							
J26L	**Joseph Creek**	**88.50**	**16**	IAMs_20	IAMs_20	19 17 31.4		
	comp=Z,818nm,19.0s							
J26L	**Joseph Creek**	**88.50**	**16**	P	**P**	**18 38 33.7**	**-2.3**	
	baz=218,SNR=7.8							
H24K	**Noodor Dome**	**88.52**	**14**	IAMs_20	IAMs_20	19 12 04.3		
	comp=Z,1µm,20.0s							
K27K	**Chicken**	**88.53**	**17**	P	**P**	**18 38 35.5**	**-0.5**	
	baz=219							
F21K	**Alatna River**	**88.54**	**11**	P	**P**	**18 38 35.2**	**-0.9**	
	baz=209							
NLU	**North Lily Min**	**88.59**	**47**	IAmb	IAmb	18 38 40.6		
	comp=Z,37nm,1.7s							
DLBC	**Dease Lake**	**88.63**	**25**	P	**P**	**18 38 38.0**	**+1.2**	
	comp=Z,13nm,1.1s,baz=238,slow=6.4,SNR=4.9							
	comp=Z,13nm,1.1s							
DLBC	**Dease Lake**	**88.63**	**25**	IAmb	IAmb	18 38 39.8		
	comp=Z,46nm,1.4s							
DLBC	**Dease Lake**	**88.63**	**25**	P	**P**	**18 38 37.7**	**+0.9**	
	baz=230							
HLID	**Hailey**	**88.64**	**43**	IAmb	IAmb	18 38 40.8		
	comp=Z,56nm,1.8s							
HLID	**Hailey**	**88.64**	**43**	P	**P**	**18 38 37.2**	**-0.1**	
	baz=243							
G22K	**Bettles**	**88.66**	**12**	P	**P**	**18 38 34.9**	**-1.7**	
	baz=210							
121A	**Cookes Peak, D**	**88.69**	**55**	P	**P**	**18 38 37.7**	**-0.1**	
121A	**Cookes Peak, D**	**88.69**	**55**	P	**P**	**18 38 38.6**	**+0.8**	
	baz=247							
121A	**Cookes Peak, D**	**88.69**	**55**	P	**P**	**18 38 36.9**	**-0.9**	
	baz=247							
PRP	**Porcupine Dome**	**88.81**	**15**	IAMs_20	IAMs_20	19 10 34.6		
	comp=Z,1µm,21.0s							
PRP	**Porcupine Dome**	**88.81**	**15**	P	**P**	**18 38 36.0**	**-1.5**	
	baz=216							
R33M	**Jennings River**	**88.89**	**24**	P	**P**	**18 38 37.2**	**-0.8**	
	baz=229							
CIT	**Chita**	**88.90**	**327**	*e*P	**P**	**18 38 38.6**	**+0.5**	
CIT				*e*		18 38 45.2		
CIT				pmax	pmax			
	comp=Z,93nm,2.2s							
TMUT	**Trail Mountain**	**88.91**	**48**	P	**P**	**18 38 38.7**	**-0.2**	
TMUT				IAmb	IAmb	18 38 42.6		
	comp=Z,50nm,1.3s							
MPU	**Maple Canyon**	**88.92**	**47**	IAmb	IAmb	18 38 42.0		
	comp=Z,31nm,1.4s							
SPUT	**South Promonto**	**88.93**	**46**	IAmb	IAmb	18 38 42.0		
	comp=Z,57nm,1.5s							
L29M	**L29M**	**88.99**	**19**	P	**P**	**18 38 37.7**	**-0.6**	
	baz=223							
M30M	**Minto, Yukon**	**89.02**	**20**	IAMs_20	IAMs_20	19 09 13.5		
	comp=Z,1µm,22.0s							
M30M	**Minto, Yukon**	**89.02**	**20**	P	**P**	**18 38 36.6**	**-1.9**	
	baz=224							
F22K	**John River**	**89.04**	**12**	P	**P**	**18 38 36.6**	**-1.7**	
	baz=210							
CTU	**Camp Tracy**	**89.14**	**46**	IAmb	IAmb	18 38 42.8		
	comp=Z,47nm,1.3s							
COLD	**Coldfoot**	**89.19**	**12**	P	**P**	**18 38 38.8**	**-0.3**	
COLD	**Coldfoot**	**89.19**	**12**	P	**P**	**18 38 37.3**	**-1.7**	
	baz=212							
NEW	**Newport**	**89.21**	**38**	P	**P**	**18 38 39.5**	**-0.2**	
	comp=Z,14nm,1.1s,baz=246,slow=4.5,SNR=12							
	comp=Z,14nm,1.1s							
NEW	**Newport**	**89.21**	**38**	IAmb	IAmb	18 38 42.2		
	comp=Z,23nm,1.1s							
NEW	**Newport**	**89.21**	**38**	P	**P**	**18 38 36.6**	**-3.1**	
	baz=241							
I26K	**Coal Creek Min**	**89.24**	**16**	P	**P**	**18 38 38.4**	**-1.0**	
I26K	**Coal Creek Min**	**89.24**	**16**	P	**P**	**18 38 37.2**	**-2.2**	
	baz=218,SNR=7.9							
P17A	**Butcher Ranch,**	**89.32**	**48**	IAmb	IAmb	18 38 44.1		
	comp=Z,46nm,1.6s							
SRU	**San Rafael Swe**	**89.32**	**48**	IAmb	IAmb	18 38 43.8		
	comp=Z,47nm,1.3s							
DAWY	**Dawson**	**89.32**	**18**	P	**P**	**18 38 37.6**	**-2.3**	
	baz=222,SNR=8.5							
EGAK	**Eagle**	**89.36**	**17**	P	**P**	**18 38 39.3**	**-0.6**	
EGAK				IAMs_20	IAMs_20	19 10 14.3		
	comp=Z,1µm,21.0s							
EGAK	**Eagle**	**89.36**	**17**	P	**P**	**18 38 40.6**	**+0.7**	
	baz=220,SNR=8.2							
EPT	**El Paso**	**89.40**	**56**	IAMs_20	IAMs_20	19 10 40.2		
	comp=Z,1µm,22.0s							
TROLL	**Troll, Antarti**	**89.45**	**182**	P	**P**	**18 38 40.0**	**-0.7**	
M31M	**Drury Creek, Y**	**89.55**	**21**	P	**P**	**18 38 39.0**	**-1.9**	
	baz=226							
TCUT	**Toone Canyon**	**89.55**	**46**	IAmb	IAmb	18 38 44.9		
	comp=Z,43nm,1.1s							
K29M	**Barlow Dome**	**89.72**	**19**	P	**P**	**18 38 39.0**	**-2.8**	
	baz=223							
FYU	**Fort Yukon**	**89.73**	**14**	IAMs_20	IAMs_20	19 12 28.9		
	comp=Z,1µm,21.0s							
Y22A	**Socorro**	**89.87**	**54**	P	**P**	**18 38 44.1**	**+0.8**	
	baz=247							
I27K	**Kandik River**	**89.88**	**16**	P	**P**	**18 38 39.8**	**-2.6**	
	baz=220							
SNAA	**Sanae**	**89.89**	**180**	P	**P**	**18 38 42.5**	**-0.1**	
SNAA	**Sanae**	**89.89**	**180**	P	**P**	**18 38 42.0**	**-0.7**	
SNAA	**Sanae**	**89.89**	**180⇑**	*e*P	**P**	**18 38 42.6**	**0.0**	
SNAA				pmax	pmax			
	comp=Z,18nm,1.3s							
F24K	**Squaw Lake**	**89.92**	**13**	P	**P**	**18 38 40.8**	**-1.7**	
	baz=214							
Y22D	**IRIS PASSCAL I**	**89.96**	**54**	IAMs_20	IAMs_20	19 12 06.7		
	comp=Z,994nm,20.0s							
MVCO	**Mesa Verde**	**90.00**	**51**	IAmb	IAmb	18 38 57.8		
	comp=Z,25nm,1.4s							
MVCO	**Mesa Verde**	**90.00**	**51**	P	**P**	**18 38 41.0**	**-2.9**	
	baz=246							
CRNM	**Carthage**	**90.06**	**54**	P	**P**	**18 38 43.7**	**-0.5**	
NVL	**N'lazarevskaya**	**90.13**	**185**	*e*P	**P**	**18 38 42.7**	**-0.9**	
NVL				*e*S	**SKSac**	**18 49 15.6**	**+2.0**	
NVL				pmax	pmax			
	comp=Z,31nm,1.0s							
NVL				MLR	MLR			
	comp=Z,371nm,17.0s							
PV13	**Radium Mtn., P**	**90.14**	**50**	IAmb	IAmb	18 38 47.7		
	comp=Z,33nm,1.3s							
VNA3	**Neumayer Olymp**	**90.23**	**178**	P	**P**	**18 38 43.8**	**-0.3**	
MNTX	**Cornudas Mount**	**90.26**	**57**	IAmb	IAmb	18 38 48.5		
	comp=Z,41nm,1.5s							
MNTX				IAMs_20	IAMs_20	19 12 53.0		
	comp=Z,1µm,19.0s							
MNTX	**Cornudas Mount**	**90.26**	**57**	P	**P**	**18 38 45.8**	**+0.8**	
	baz=248							
MNTX	**Cornudas Mount**	**90.26**	**57**	P	**P**	**18 38 43.0**	**-2.0**	
	baz=248							
H27K	**Steamboat Moun**	**90.39**	**16**	P	**P**	**18 38 42.5**	**-2.3**	
	baz=220							
MSO	**Missoula**	**90.43**	**40**	IAMs_20	IAMs_20	19 25 15.3		
	comp=Z,799nm,18.0s							
MSO	**Missoula**	**90.43**	**40**	P	**P**	**18 38 43.1**	**-2.4**	
	baz=243							
ULN	**Ulaanbaatar**	**90.44**	**321**	P	**P**	**18 38 43.9**	**-1.7**	
ULN	**Ulaanbaatar**	**90.44**	**321**	IAMs_20	IAMs_20	19 16 42.0		
	comp=Z,986nm,22.0s							
ULN	**Ulaanbaatar**	**90.44**	**321⇓**	*e*P	**P**	**18 38 46.1**	**+0.5**	
ULN				pmax	pmax			
	comp=Z,11nm,1.1s							
AHID	**Auburn Hatcher**	**90.46**	**45**	P	**P**	**18 38 45.6**	**-0.3**	
F25K	**Christian Rive**	**90.47**	**14**	P	**P**	**18 38 43.3**	**-1.8**	
	baz=216							
D23K	**Nanushuk River**	**90.58**	**11**	P	**P**	**18 38 43.4**	**-2.2**	
	baz=211							
I29M	**Ogilvie Camp,**	**90.60**	**17**	IAmb	IAmb	18 38 47.3		
	comp=Z,27nm,1.4s							
I29M	**Ogilvie Camp,**	**90.60**	**17**	P	**P**	**18 38 42.3**	**-3.5**	
	baz=223,SNR=7.2							
VNA2	**Neumayer--Watz**	**90.61**	**179**	P	**P**	**18 38 45.9**	**0.0**	
	baz=224,slow=2.0							
ANMO	**Albuquerque**	**90.64**	**53**	P	**P**	**18 38 47.0**	**+0.1**	
	comp=Z,16nm,1.1s,baz=304,slow=3.5,SNR=20							
	comp=Z,16nm,1.1s							
ANMO	**Albuquerque**	**90.64**	**53**	P	**P**	**18 38 46.4**	**-0.5**	
ANMO				IAmb	IAmb	18 38 50.0		
	comp=Z,35nm,1.3s							
ANMO	**Albuquerque**	**90.64**	**53**	IAMs_20	IAMs_20	19 11 41.9		
	comp=Z,1µm,22.0s							
ANMO	**Albuquerque**	**90.64**	**53**	P	**P**	**18 38 47.9**	**+1.0**	
	baz=248							
ANMO	**Albuquerque**	**90.64**	**53**	P	**P**	**18 38 43.5**	**-3.4**	
	baz=248							
ANMO	**Albuquerque**	**90.64**	**53**	*ce*P	**P**	**18 38 47.6**	**+0.7**	
ANMO				pmax	pmax			
	comp=Z,19nm,1.2s							
TX31	**Lajitas Ar. Si**	**90.78**	**59**	P	**P**	**18 38 48.5**	**+1.0**	
	baz=249							
SONM	**Songino Array**	**90.82**	**321**	P	**P**	**18 38 47.1**	**-0.3**	
	comp=Z,7.0nm,1.1s,baz=131,slow=3.4,SNR=22							
	comp=Z,7.0nm,1.1s							
SONM	**Songino Array**	**90.82**	**321**	P	**P**	**18 38 46.7**	**-0.6**	
VNA1	**Neumayer--Stat**	**90.86**	**179**	P	**P**	**18 38 47.5**	**+0.5**	
REDW	**Red Top Meadow**	**90.88**	**44**	IAmb	IAmb	18 38 51.7		
	comp=Z,36nm,1.3s							
REDW				IAMs_20	IAMs_20	19 10 31.4		
	comp=Z,764nm,20.0s							
FXWY	**Fox Creek**	**90.88**	**44**	P	**P**	**18 38 47.3**	**-0.6**	
FXWY				IAmb	IAmb	18 38 51.1		
	comp=Z,27nm,1.6s							
E25K	**Arctic Village**	**90.92**	**13**	P	**P**	**18 38 47.1**	**-0.1**	
	baz=216							
IMW	**Indian Meadow**	**91.05**	**44**	IAmb	IAmb	18 38 53.2		
	comp=Z,31nm,1.3s							
LOHW	**Long Hollow**	**91.15**	**44**	P	**P**	**18 38 48.3**	**-0.8**	
LOHW				IAmb	IAmb	18 38 52.1		
	comp=Z,26nm,1.4s							
GDL2	**Guadalupe Moun**	**91.25**	**56**	P	**P**	**18 38 49.5**	**-0.2**	
FLWY	**Flagg Ranch**	**91.28**	**44**	IAmb	IAmb	18 38 53.1		
	comp=Z,25nm,1.3s							
BOZ	**Bozeman (W)**	**91.33**	**42**	P	**P**	**18 38 46.8**	**-3.0**	
	baz=244,SNR=10							
O20A	**White River Ci**	**91.34**	**48**	IAmb	IAmb	18 38 53.1		
	comp=Z,30nm,1.1s							
O20A	**White River Ci**	**91.34**	**48**	P	**P**	**18 38 47.2**	**-2.8**	
	baz=247							
YMR	**Madison River**	**91.36**	**43**	P	**P**	**18 38 49.5**	**-0.5**	
YMR				IAmb	IAmb	18 38 53.7		
	comp=Z,40nm,1.6s							
S22A	**4UR Ranch, Cre**	**91.43**	**51**	P	**P**	**18 38 48.0**	**-2.6**	
	baz=248							
WALA	**Waterton Lakes**	**91.47**	**38**	P	**P**	**18 38 50.3**	**0.0**	
WALA				IAmb	IAmb	18 39 20.9		
	comp=Z,33nm,1.7s							
BW06	**Boulder Array**	**91.49**	**45**	IAmb	IAmb	18 38 53.3		
	comp=Z,22nm,1.4s							
BW06	**Boulder Array**	**91.49**	**45**	P	**P**	**18 38 48.8**	**-1.9**	
	baz=246,SNR=7.6							
H17A	**Grant Village**	**91.49**	**43**	P	**P**	**18 38 48.8**	**-1.9**	
	baz=245,SNR=8.8							
PD31	**Pinedale Array**	**91.49**	**45**	P	**P**	**18 38 49.9**	**-0.8**	
PDAR	**Pinedale Array**	**91.49**	**45**	P	**P**	**18 38 50.6**	**-0.1**	
	comp=Z,3.8nm,1.0s,baz=209,slow=2.7,SNR=17							
	comp=Z,3.8nm,1.0s							
C24K	**Franklin Bluff**	**91.60**	**12**	P	**P**	**18 38 50.5**	**+0.2**	
	baz=213							
GTA	**Gaotai**	**91.60**	**311**	*e*P	**P**	**18 38 51.0**	**-0.1**	
GTA				sP	sP	18 38 57.8	-0.1	
GTA				SKS	**SKSac**	**18 49 26.5**	**+3.3**	
GTA				S	**S**	**18 49 49.0**	**-1.8**	
GTA				SS	**SS**	**18 55 50.0**	**-8.1**	
GTA				pmax	pmax			
	comp=Z,19nm,1.2s							
GTA				pmax	pmax			
	comp=Z,210nm,4.6s							
GTA				LR	LR			
	comp=Z,670nm,23.6s							
GTA				LR	LR			
	comp=Z,540nm,24.7s							
GTA				LR	LR			
	comp=Z,1µm,24.7s							
HRY	**Holter Researc**	**91.68**	**41**	P	**P**	**18 38 51.4**	**+0.1**	
A21K	**Barrow**	**91.70**	**8**	IAMs_20	IAMs_20	19 13 05.2		
	comp=Z,1µm,22.0s							
D25K	**Kavik River**	**91.73**	**12**	P	**P**	**18 38 49.8**	**-1.1**	
	baz=215							
EPYK	**Eagle Plains**	**91.78**	**17**	IAmb	IAmb	18 38 52.9		
	comp=Z,33nm,1.4s							
EPYK	**Eagle Plains**	**91.78**	**17**	P	**P**	**18 38 49.4**	**-1.9**	
	baz=224,SNR=7.1							
SMCO	**Snowmass**	**91.87**	**49**	IAmb	IAmb	18 38 55.9		
	comp=Z,36nm,1.4s							
E27K	**Coleen River**	**91.88**	**15**	P	**P**	**18 38 50.6**	**-1.0**	
	baz=220							
KOTAN	**Kotaneelee Air**	**92.10**	**26**	P	**P**	**18 38 51.6**	**-1.1**	
	baz=235							
G30M	**tAoh Zraii Nji**	**92.36**	**17**	P	**P**	**18 38 52.0**	**-1.9**	
	baz=224							
SDCO	**Great Sand Dun**	**92.41**	**51**	P	**P**	**18 38 54.1**	**-1.0**	
SDCO				IAmb	IAmb	18 38 58.8		
	comp=Z,25nm,1.4s							
SDCO				IAMs_20	IAMs_20	19 19 39.4		
	comp=Z,844nm,19.0s							
SDCO	**Great Sand Dun**	**92.41**	**51**	P	**P**	**18 38 55.8**	**+0.7**	
	baz=248							
SDCO	**Great Sand Dun**	**92.41**	**51**	P	**P**	**18 38 54.2**	**-1.0**	
	baz=248							
C26K	**Camden Bay**	**92.51**	**13**	P	**P**	**18 38 55.1**	**+0.6**	
	baz=217							
C27K	**Jago River**	**92.53**	**13**	P	**P**	**18 38 54.5**	**-0.1**	
	baz=218							
RLMT	**Red Lodge**	**92.64**	**43**	IAMs_20	IAMs_20	19 11 31.0		
	comp=Z,985nm,22.0s							
RLMT	**Red Lodge**	**92.64**	**43**	P	**P**	**18 38 54.5**	**-1.5**	
	baz=246,SNR=8.4							
RWWY	**Rawlins**	**92.67**	**47**	IAmb	IAmb	18 38 58.8		
	comp=Z,37nm,1.6s							
SHL	**Shillong**	**92.94**	**296**	IAmb	IAmb	18 38 59.0		
	comp=Z,18nm,1.2s							
T25A	**Trinidad**	**92.99**	**52**	P	**P**	**18 38 56.7**	**-1.1**	
T25A				IAmb	IAmb	18 39 00.5		
	comp=Z,15nm,1.1s							
T25A	**Trinidad**	**92.99**	**52**	P	**P**	**18 38 57.4**	**-0.4**	
	baz=249							
ISCO	**Idaho Springs**	**93.08**	**49**	P	**P**	**18 38 58.2**	**0.0**	
ISCO				IAmb	IAmb	18 39 06.1		
	comp=Z,30nm,1.8s							
ISCO	**Idaho Springs**	**93.08**	**49**	P	**P**	**18 38 58.9**	**+0.6**	
	baz=248							
ISCO	**Idaho Springs**	**93.08**	**49**	P	**P**	**18 38 56.0**	**-2.2**	
	baz=248							
ISCO	**Idaho Springs**	**93.08**	**49**	P	**P**	**18 38 58.2**	**0.0**	
ISCO				pmax	pmax			
	comp=Z,30nm,1.8s							
Q24A	**Divide**	**93.11**	**50**	IAmb	IAmb	18 39 01.5		
	comp=Z,29nm,1.2s							
Q24A	**Divide**	**93.11**	**50**	P	**P**	**18 38 56.2**	**-2.2**	
	baz=249							
MSTX	**Muleshoe**	**93.13**	**55**	P	**P**	**18 38 58.8**	**+0.4**	
	baz=250							
MSTX	**Muleshoe**	**93.13**	**55**	P	**P**	**18 38 55.8**	**-2.5**	
	baz=250							
PAYG	**Puerto Ayora**	**93.15**	**92**	IAMs_20	IAMs_20	19 10 23.3		
	comp=Z,1µm,22.0s							
N23A	**Red Feather La**	**93.25**	**48**	IAmb	IAmb	18 39 02.3		
	comp=Z,17nm,1.2s							
N23A	**Red Feather La**	**93.25**	**48**	P	**P**	**18 38 56.8**	**-2.1**	
	baz=248							
F31M	**Tsiigehtchic**	**93.38**	**17**	P	**P**	**18 38 59.2**	**+0.8**	
	baz=227							
K22A	**Casper**	**93.51**	**46**	P	**P**	**18 38 59.7**	**-0.2**	
	baz=248							
K22A	**Casper**	**93.51**	**46**	P	**P**	**18 38 57.6**	**-2.3**	
	baz=248							
EGMT	**Eagleton**	**93.51**	**40**	P	**P**	**18 38 58.1**	**-1.6**	
	baz=246							
ZAK	**Zakamensk**	**93.78**	**322**	*e*P	**P**	**18 38 59.7**	**-1.2**	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.1s							
INK	**Inuvik**	**94.03**	**17**	P	**P**	**18 39 01.2**	**-0.2**	
	comp=Z,11nm,1.3s,baz=199,slow=3.9,SNR=5.8							
	comp=Z,11nm,1.3s							
INK	**Inuvik**	**94.03**	**17**	IAmb	IAmb	18 39 03.0		
	comp=Z,21nm,1.4s							
INK	**Inuvik**	**94.03**	**17**	P	**P**	**18 38 58.8**	**-2.7**	
	baz=227							
WRGLY	**Wrigley**	**94.10**	**23**	P	**P**	**18 38 59.5**	**-2.4**	
	baz=236							
GOMU	**GeErMu**	**94.12**	**307**	P	**P**	**18 39 03.8**	**+0.6**	
GOMU				pP	pP	18 39 08.5	+0.4	
GOMU				sP	sP	18 39 10.9	+1.0	
GOMU				S	**S**	**18 50 10.8**	**-3.0**	
GOMU				sS	pS	18 50 18.0	-2.0	
GOMU				pmax	pmax			
	comp=Z,4.0nm,1.2s							
GOMU				pmax	pmax			
	comp=Z,230nm,7.7s							
GOMU				LR	LR			
	comp=Z,540nm,20.0s							
GOMU				LR	LR			
	comp=Z,680nm,19.9s							
GOMU				LR	LR			
	comp=Z,800nm,21.6s							
AMTX	**Amarillo**	**94.29**	**55**	IAMs_20	IAMs_20	19 15 26.4		
	comp=Z,820nm,20.0s							
AMTX	**Amarillo**	**94.29**	**55**	P	**P**	**18 39 04.0**	**+0.4**	
	baz=250							
AMTX	**Amarillo**	**94.29**	**55**	P	**P**	**18 39 01.5**	**-2.1**	
	baz=250							
JCT	**Junction City**	**94.33**	**59**	IAMs_20	IAMs_20	19 16 05.8		
	comp=Z,1µm,19.0s							
JCT	**Junction City**	**94.33**	**59**	P	**P**	**18 39 03.3**	**-0.5**	
	baz=251							
GO06	**Curarrehue**	**94.40**	**134**	P	**P**	**18 39 04.0**	**-0.2**	
GO06				IAmb	IAmb	18 39 26.9		
	comp=Z,17nm,1.3s							
LSA	**Lhasa**	**94.89**	**300**	IAmb	IAmb	18 39 10.1		
	comp=Z,35nm,2.0s							
LSA				IAMs_20	IAMs_20	19 19 12.4		
	comp=Z,946nm,20.0s							
KSCO	**Kaye Shedlock'**	**94.97**	**51**	IAmb	IAmb	18 39 11.6		
	comp=Z,24nm,1.2s							
KSCO	**Kaye Shedlock'**	**94.97**	**51**	P	**P**	**18 39 07.1**	**+0.4**	
	baz=250							
KSCO	**Kaye Shedlock'**	**94.97**	**51**	P	**P**	**18 39 04.2**	**-2.5**	
	baz=250							
ABTX	**Abilene, Hawle**	**95.15**	**57**	IAmb	IAmb	18 39 10.9		
	comp=Z,25nm,1.1s							
ABTX	**Abilene, Hawle**	**95.15**	**57**	P	**P**	**18 39 07.8**	**+0.2**	
	baz=251							
ABTX	**Abilene, Hawle**	**95.15**	**57**	P	**P**	**18 39 05.8**	**-1.7**	
	baz=251							
LAO	**LASA Array**	**95.21**	**42**	P	**P**	**18 39 08.5**	**+1.0**	
	baz=248							
LAO	**LASA Array**	**95.21**	**42**	P	**P**	**18 39 06.2**	**-1.3**	
	baz=248							
TIXI	**Tiksi**	**95.64**	**346**	P	**P**	**18 39 08.2**	**-0.6**	
	comp=Z,7.1nm,1.0s,baz=270,slow

PALK Pallekele 97.45 275 IAMs_20 IAMs_20 19 22 34.9
comp=Z,1μm,22.0s
OK032 Salt Plains WL 97.57 54 IAMs_20 IAMs_20 19 16 24.3
comp=Z,888nm,18.0s
R32A Long Quarter, 97.68 52 P Pdif 18 39 19.8 +0.9
baz=252
FNO Franklin 97.73 56 P **P** **18 39 19.1 0.0**
OK025 Westminster Rd 97.88 55 IAMs_20 IAMs_20 19 15 52.6
comp=Z,1μm,20.0s
PEL Peldehue 98.02 129 IAMs_20 IAMs_20 19 12 14.2
comp=Z,1μm,22.0s
BLOK Blackwell 98.32 54 IAmb IAmb 18 39 25.4
comp=Z,89nm,1.7s
OK033 Mehan 98.33 55 IAMs_20 IAMs_20 19 17 37.3
comp=Z,1μm,20.0s
OK031 S. Brethren Rd 98.38 55 IAMs_20 IAMs_20 19 19 28.7
comp=Z,1μm,20.0s
OK030 Cody Creek RV 98.41 55 IAMs_20 IAMs_20 19 17 56.6
comp=Z,1μm,19.0s
OK052 Battle Ridge R 98.42 55 IAMs_20 IAMs_20 19 17 46.7
comp=Z,1μm,19.0s
OK048 Pawnee Station 98.43 55 IAmb IAmb 18 39 25.8
comp=Z,16nm,1.1s
OK053 SW of W Deep R 98.43 55 IAMs_20 IAMs_20 19 17 46.2
comp=Z,1μm,19.0s
OK046 Pawnee Station 98.45 55 IAMs_20 IAMs_20 19 18 54.7
comp=Z,1μm,19.0s
OK034 N. Norfolk Rd. 98.49 55 IAMs_20 IAMs_20 19 17 41.7
comp=Z,1μm,20.0s
A36M Sachs Harbour 98.55 16 IAMs_20 IAMs_20 19 16 01.1
comp=Z,776nm,20.0s
A36M Sachs Harbour 98.55 16 P **P** **18 39 19.8 -2.1**
baz=235
T35A Sooner Cattle 98.91 54 P **P** **18 39 24.0 -0.4**
T35B Sooner Cattle 98.91 54 P Pdif 18 39 25.2 +0.8
baz=253
BGNE Belgrade 98.97 49 P Pdif 18 39 26.4 +1.8
baz=253
BGNE Belgrade 98.97 49 P **P** **18 39 23.8 -0.8**
baz=253
TUL1 Leonard 99.18 55 P **Pdif** **18 39 24.2 -1.4**
baz=254
LCO Las Campanas 99.94 125 IAMs_20 IAMs_20 19 14 46.4
comp=Z,837nm,20.0s
FFC Flin Flon 100.44 36 IAMs_20 IAMs_20 19 18 24.8
comp=Z,1μm,20.0s
TGUH Tegucigalpa,Un 100.48 79 IAMs_20 IAMs_20 19 14 01.6
comp=Z,1μm,21.0s
JTS Las Juntas de 101.57 83 IAMs_20 IAMs_20 19 16 16.5
comp=Z,958nm,20.0s
WMQ Urumqi 101.61 312 *e*P **Pdif** **18 39 37.5 +1.1**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ LR LR
comp=Z,560nm,17.5s
WMQ LR LR
comp=Z,860nm,22.5s
WMQ LR LR
comp=Z,2μm,29.7s
AGMN Agassiz Nation 102.38 43 IAMs_20 IAMs_20 19 17 36.9
comp=Z,1μm,20.0s
CCM Cathedral Cave 103.25 54 IAMs_20 IAMs_20 19 19 21.1
comp=Z,1μm,20.0s
LVC Limon Verde 104.33 120 IAMs_20 IAMs_20 19 18 05.1
comp=Z,910nm,22.0s
HDIL Hopedale 105.26 52 IAMs_20 IAMs_20 19 27 41.7
comp=Z,942nm,18.0s
MKAR Makanchi Array 105.98 315 Pdiff **Pdif** **18 39 55.9 +0.3**
comp=Z,1.3nm,0.9s,baz=92,slow=6.1,SNR=7.3
MKAR PKiKP **PKiKP** **18 44 08.0 +0.1**
comp=Z,1.5nm,1.1s,baz=81,slow=4.5,SNR=5.7
MAKZ Makanchi 106.19 314 IAMs_20 IAMs_20 19 24 25.9
comp=Z,878nm,22.0s
KURK Kurchatov 108.95 318 IAMs_20 IAMs_20 19 33 09.1
comp=Z,564nm,18.0s
KURBB Kurchatov Arra 109.00 318 PKiKP **PKiKP** **18 44 12.4 -0.9**
comp=Z,1.6nm,1.0s,baz=98,slow=1.9,SNR=8.8
AAM Ann Arbor 109.73 51 IAMs_20 IAMs_20 19 30 56.9
comp=Z,915nm,18.0s
AAK Ala-Archa 110.87 309 IAMs_20 IAMs_20 19 27 29.9
comp=Z,669nm,21.0s
BLA Blacksburg 111.54 57 IAMs_20 IAMs_20 19 24 48.4
comp=Z,1μm,21.0s
BVAR Borovoye Array 114.16 320 PKP PKPdf 18 44 22.1 -0.9
comp=Z,2.4nm,0.9s,baz=96,slow=3.0,SNR=9.7
BRVK Borovoye 114.22 320 ⇑ IAMs_20 IAMs_20 19 28 32.1
comp=Z,887nm,22.0s
BRVK Borovoye 114.22 320 ⇑ *i*PKIKP PKPdf 18 44 22.7 -0.5
SDV Santo Domingo 114.70 89 IAMs_20 IAMs_20 19 25 17.5
comp=Z,575nm,21.0s
ABPO Ambohimpanom 117.43 236 IAMs_20 IAMs_20 19 27 04.4
comp=Z,878nm,22.0s
ARU Arti 120.57 325 PKPdf **PKPdf** **18 44 33.9 -1.4**
ARU Arti 120.57 325 *i* PKIKP **PKPdf** **18 44 34.7 -0.6**
ARU 18 46 03.4
ARU 18 51 46.5
ARU SS SS 19 02 35.7 +4.3
ARU MLR MLR
comp=Z,824nm,22.0s
ABKAR Akbulak array 120.99 317 **PKPdf** **18 44 34.8 -1.5**
GEYT Alibeck 123.18 304 PKP **PKPdf** **18 44 40.6 -0.4**
comp=Z,7.6nm,1.0s,baz=250,slow=3.0,SNR=13
GEYT Alibeck 123.18 304 PKPdf **PKPdf** **18 44 38.5 -2.5**
KIRV Kirov 124.62 329 ⇑ *i*PKIKP **PKPdf** **18 44 43.0 +0.1**
BDFB Brasilia 124.73 125 PKP **PKPdf** **18 44 44.3 -0.4**
comp=Z,6.4nm,1.0s,baz=70,slow=3.1,SNR=6.0
BOSA Boshof 125.22 212 PKP **PKPdf** **18 44 45.3 -0.1**
comp=Z,7.8nm,1.0s,baz=149,slow=12,SNR=7.2
APA Apatity 125.70 343 ⇓ *i*PKIKP **PKPdf** **18 44 44.1 -0.7**
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,2μm,24.0s
BELG Belogornoye 127.84 323 ⇑ *i*PKIKP **PKPdf** **18 44 49.4 +0.1**
KLMR Klimovskoe 127.95 335 *e*PKPdf **PKPdf** **18 44 47.7 -1.6**
KLMR AMP 18 44 51.5
comp=Z,25nm,1.5s
KLMR LR LR 19 28 02.3
KLMR AMP 19 37 15.4
comp=Z,2μm,18.1s
KLMR Klimovskoe 127.95 335 *e*PKIKP **PKPdf** **18 44 47.6 -1.7**
KLMR pmax pmax
comp=Z,25nm,1.5s
MAK Makhachkala 130.61 311 *i* PKIKP **PKPdf** **18 44 51.9 -3.0**
MAK *e* 18 47 08.9
MAK *e*SS SS 19 04 34.0 -4.0
MAK *e*SSS SSS 19 09 22.6
MAK pmax pmax
comp=Z,326nm,1.3s
AKT Akhty 130.75 309 *e*PKIKP **PKiKP** **18 44 56.3 0.0**
AKT *e* 18 47 14.0
AKT pmax pmax
comp=Z,17nm,1.3s
OBN Obninsk 132.47 330 *i* PKIKP **PKiKP** **18 44 59.9 +0.8**
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,1μm,22.0s
VORR Voronezh 132.88 325 PKIKP PKPpre 18 44 50.8
VORR pmax pmax
comp=Z,40nm,2.4s
ZEI Tsey 133.22 312 *i* PKIKP **PKiKP** **18 45 00.8 -0.5**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
GNI Garni 133.25 308 IAMs_20 IAMs_20 19 49 34.2
comp=Z,425nm,21.0s
KIV Kislovodsk 133.73 314 *i* PKIKP **PKPdf** **18 45 01.1 +0.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
LSZ Lusaka 133.82 225 **PKPdf** **18 45 00.1 -1.9**
LSZ Lusaka 133.82 225 PKIKP **PKPdf** **18 45 00.1 -1.9**
RAYN Ar Rayn 133.89 285 IAMs_20 IAMs_20 19 45 56.4
comp=Z,503nm,21.0s
RAYN Ar Rayn 133.89 285 ⇑ PKIKP **PKPdf** **18 45 02.0 +0.2**
SOC Sochi 135.88 314 *i* PKIKP **PKPdf** **18 45 05.5 +0.7**
SOC *e* 18 47 42.1
SOC *e*PS **PS** **18 58 02.3 -5.5**
SOC *e*SSS SSS 19 10 42.8
SOC MLR MLR
comp=Z,426nm,18.0s
MNK Minsk 136.79 333 *i* PKP **PKPdf** **18 45 04.2 -1.9**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKPdf** **18 45 04.2 -1.9**
comp=N,28nm,1.0s
MNK *i* PKP **PKPdf** **18 45 04.2 -1.9**
comp=Z,8.0nm,1.0s,baz=47
MNK *i* PP **PP** **18 47 45.4 -3.1**
MNK *i* SKP 18 48 34.9
MNK *i* PKS **PKSdf** **18 48 35.9 -6.2**
MNK *i* PPP PPP 18 50 45.6
MNK *i* SKS **SKSac** **18 52 25.1 +5.8**
MNK *i* SKKS SKKSac 18 55 24.5 +42
MNK *i* SP **SP** **18 58 03.5 -7.6**
MNK *i* PS **PS** **18 58 07.0 -7.8**
MNK *i* SSS SSS 19 10 57.5
MNK *i* LQ LQ 19 38 29.6
MNK *i* LR LR 19 39 20.8
MNK *i* LRM MLR 19 42 45.5
comp=E,159nm,20.4s
MNK *i* LRM MLR 19 43 09.8
comp=N,470nm,20.1s
MNK *i* LRM MLR 19 43 11.1
comp=Z,1μm,20.1s
MNK Minsk 136.79 333 *i* PKIKP **PKPdf** **18 45 04.2 -1.9**
MNK *i* 18 47 45.4
MNK *i* PPP PPP 18 50 45.6
MNK *i* PS **PS** **18 58 07.0 -7.8**
MNK *i* SSS SSS 19 10 57.4
MNK pmax pmax
comp=N,28nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,8.0nm,1.0s
MNK MLR MLR
comp=E,159nm,20.0s
MNK MLR MLR
comp=N,470nm,20.0s
MNK MLR MLR
comp=Z,1μm,20.0s
ANN Anapa 136.95 317 *i* PKIKP **PKiKP** **18 45 08.1 -0.4**
ANN pmax pmax
comp=Z,98nm,1.2s
ANN MLR MLR
comp=N,2μm,25.0s
ANN MLR MLR
comp=Z,739nm,23.0s
NACGM Naroch 136.97 334 *e*PKP **PKiKP** **18 45 07.9 -0.4**
comp=Z,21nm,1.2s
AKASG Malin Array B 138.66 328 PKP **PKPdf** **18 45 10.1 +0.4**
comp=Z,3.1nm,1.0s,baz=40,slow=2.4,SNR=9.3
KIS Kishinev 141.11 324 *i* PKP **PKPdf** **18 45 15.0 +0.7**
comp=Z,17nm,0.2s
KIS *e*L L 19 44 47.0
KIS LRM MLR 19 50 32.0
comp=Z,300nm,20.0s
KIS Kishinev 141.11 324 *d* *i*PKIKP **PKPdf** **18 45 15.0 +0.7**
KIS pmax pmax
comp=Z,17nm,0.2s
KIS MLR MLR
comp=Z,300nm,20.0s
BRTR Keskin Array B 141.52 311 PKP **PKPdf** **18 45 15.8 +0.3**
comp=Z,4.1nm,1.0s,baz=122,slow=1.9,SNR=13
BRTR PP **PP** **18 48 21.4 +2.7**
comp=Z,3.0nm,1.1s,baz=84,slow=5.1,SNR=5.8
BRTR Keskin Array B 141.52 311 PKPdf **PKPdf** **18 45 11.8 -3.6**
LVV L'vov 141.75 331 *e*PKIKP **PKiKP** **18 45 18.7 +0.5**
ANTO Ankara 142.07 312 IAMs_20 IAMs_20 19 45 11.1
comp=Z,415nm,22.0s
HARR Harsova 142.94 321 ⇓ P **PKiKP** **18 45 28.6 +7.8**
HARR Harsova 142.94 321 ⇓ PKIKP PKiKP 18 45 28.6 +7.8
BSEG Bad Segeberg 143.15 346 *e*L L 19 50 25.4
comp=Z,586nm,21.4s
CSS Mathiatis 143.32 304 IAMs_20 IAMs_20 19 53 13.0
comp=Z,456nm,20.0s
ARCR ARCALIA 143.45 327 ⇓ P **PKPdf** **18 45 17.2 -1.3**
CRVS Cervenica-Dubn 143.58 332 *e*PKIKP **PKPdf** **18 45 17.8 -0.9**
CRVS Cervenica-Dubn 143.58 332 *e*PKP **PKPdf** **18 45 17.8 -0.9**
MLR Muntele Rosu 143.61 324 ⇑ P PKPbc 18 45 17.1 +0.7
MLR Muntele Rosu 143.61 324 ⇑ PKIKP PKPbc 18 45 17.1 +0.7
DOPR Dopca 143.62 325 ⇓ P PKPbc 18 45 17.2 +1.0
TRPA Tarpa 143.63 330 ⇓ P **PKPdf** **18 45 18.4 -0.3**
LEHL Lehliu 143.71 322 ⇑ P PKPbc 18 45 17.7 +1.2
SECR 143.81 323 ⇓ P PKPbc 18 45 17.7 +0.9
PRD Provadia 144.08 320 P PKPbc 18 45 18.4 +0.8
CJR Cluj-Napoca 144.08 327 ⇑ P **PKPdf** **18 45 19.0 -0.7**
CJR Cluj-Napoca 144.08 327 ⇑ PKIKP **PKPdf** **18 45 19.0 -0.7**
KSP Ksiaz 144.14 338 *e*PKP **PKPab** **18 45 16.9 -0.3**
LANS Liptovska Anna 144.26 334 *e*PKIKP **PKPdf** **18 45 20.3 +0.4**
LANS Liptovska Anna 144.26 334 *e*PKP **PKPdf** **18 45 20.3 +0.4**
OKC Ostrava-Krasne 144.26 335 *e*PKP PKPbc 18 45 18.2 +0.2
OKC AMS AMS 19 49 20.0
comp=Z,1μm,19.9s
OKC Ostrava-Krasne 144.26 335 *e*PKIKP PKPbc 18 45 18.2 +0.2
OKC MLR MLR
comp=Z,1μm,19.0s
MARR Marisel-Cluj 144.35 328 ⇓ P PKPbc 18 45 19.1 +0.5
FLTG Flechtingen 144.39 344 *e*PKPbc **PKPab** **18 45 17.3 -0.7**
baz=27,slow=2.9
OSTC Ostas 144.40 338 *e*PKP PKPbc 18 45 19.1 +0.6
OSTC AMS AMS 19 46 40.0
comp=Z,1μm,26.3s
ARR Arges 144.41 325 ⇑ P PKPbc 18 45 19.3 +0.5
RAZG Razgrad 144.41 321 ⇓ P PKPbc 18 45 19.1 +0.3
DRGR 144.48 328 ⇑ P **PKPdf** **18 45 20.0 -0.4**
DRGR 144.48 328 ⇑ PKIKP **PKPdf** **18 45 20.0 -0.4**
ISP Isparta 144.50 310 IAMs_20 IAMs_20 19 56 40.6
comp=Z,498nm,20.0s
UPC Upice 144.52 338 *e*PKP PKPbc 18 45 19.5 +0.7
UPC AMS AMS 19 46 50.0
comp=Z,1μm,21.7s
UPC Upice 144.52 338 *e*PKIKP PKPbc 18 45 19.5 +0.7
UPC MLR MLR
comp=Z,1μm,21.7s
DPC Dobruska-Polom 144.54 338 *e*PKP PKPbc 18 45 19.2 +0.3
DPC AMS AMS 19 47 10.0
comp=Z,900nm,19.5s
DPC Dobruska-Polom 144.54 338 *e*PKIKP PKPbc 18 45 19.2 +0.3
DPC MLR MLR
comp=Z,900nm,19.5s
MORC Moravsky Berou 144.55 336 ⇑ P PKPbc 18 45 19.2 +0.2
MORC Moravsky Berou 144.55 336 *e*PKP PKPbc 18 45 19.0 0.0
MORC Moravsky Berou 144.55 336 ⇑ PKIKP PKPbc 18 45 19.2 +0.2
KRLC Kraliky 144.59 337 *e*PKP PKPbc 18 45 19.5 +0.4
KRLC AMS AMS 19 46 50.0
comp=Z,1μm,27.1s
KRLC Kraliky 144.59 337 *e*PKIKP PKPbc 18 45 19.5 +0.4
KRLC MLR MLR
comp=Z,1μm,27.1s
HUMR Humele 144.74 323 ⇓ P PKPbc 18 45 19.8 +0.1
MAUC Maruska 144.76 335 *e*PKP **PKPdf** **18 45 20.5 -0.2**
CLL Collm 144.81 342 PKPdf **PKPab** **18 45 18.9 -0.7**
CLL Collm 144.81 342 *i* PKPdf **PKPab** **18 45 19.6 0.0**
comp=Z,93nm,1.2s
CLL *i* PKiKP **pPKPdf** **18 45 25.4 -0.5**
comp=Z,32nm,0.9s
CLL *e*PP **PP** **18 48 39.0 +1.6**
CLL *e*SKPdf **SKPdf** **18 48 55.0 +0.7**
CLL *e*PKSdf **PKSdf** **18 48 57.0 +1.0**
CLL *e*(PSKS) 18 58 42.0
CLL *ex* x 19 02 42.0
CLL *e*SS SS 19 07 36.0 +11
CLL *e*(SSS) 19 12 30.0
CLL *e*SSSS 19 16 36.0
CLL Collm 144.81 342 *i* PKIKP **PKPab** **18 45 19.6 0.0**
CLL *i* 18 45 25.4
CLL pmax pmax
comp=Z,93nm,1.2s
CLL Collm 144.81 342 *e*PKPbc **PKPab** **18 45 19.0 -0.7**
baz=27,slow=2.9
CLL *e*L L 19 42 44.1
comp=Z,464nm,20.3s
COPA Copaceanca 144.84 323 ⇓ P **PKPdf** **18 45 20.5 -0.5**
BRG Berggiesshubel 144.90 340 ⇑ *i*PKP PKPbc 18 45 20.1 +0.1
BRG Amp 18 45 22.6
comp=Z,75nm,1.1s
BRG Berggiesshubel 144.90 340 P **PKiKP** **18 45 28.6 +3.9**
BRG Amp 18 45 32.4
comp=Z,42nm,1.2s
BRG Berggiesshubel 144.90 340 ⇑ *i*PKIKP PKPbc 18 45 20.0 0.0
BRG 18 45 28.5
BRG pmax pmax
comp=Z,75nm,1.2s
BRG pmax pmax
comp=Z,43nm,1.2s
BRG Berggiesshubel 144.90 340 *e*PKPbc **PKPab** **18 45 19.6 -0.3**
baz=27,slow=2.9
SZH Strazhica 144.93 321 P **PKPdf** **18 45 20.8 -0.4**
JMB Yambol 144.98 319 P **PKPdf** **18 45 21.3 0.0**
PVCC Panska Ves 144.99 339 *e*PKP **PKPdf** **18 45 21.0 0.0**
PVCC AMS AMS 19 46 50.0
comp=Z,1μm,19.1s
PVCC Panska Ves 144.99 339 *e*PKIKP **PKPdf** **18 45 21.0 0.0**
PVCC MLR MLR
comp=Z,1μm,19.1s
PSZ Piszkesteto 145.01 332 ⇓ P **PKPdf** **18 45 21.1 -0.2**
PSZ Piszkesteto 145.01 332 ⇓ PKIKP **PKPdf** **18 45 21.1 -0.2**
VYHS Vyhne 145.03 333 *e*PKIKP **PKPdf** **18 45 20.9 -0.3**
VYHS Vyhne 145.03 333 *e*PKP **PKPdf** **18 45 20.9 -0.3**
VYHS *e* 19 16 25.0
VYHS *e* 19 21 59.5
FBE Freiberg 145.04 341 *e*PKPbc **PKPbc** **18 45 20.3 -0.2**
baz=27,slow=2.9
CLZ Clausthal 145.06 345 *e*PKPbc **PKPbc** **18 45 20.1 -0.5**
baz=27,slow=2.9
EDRB Edirne 145.22 318 P **PKPbc** **18 45 20.3 -1.0**
IBBN Ibbenburen 145.22 348 *e*PKPbc **PKPbc** **18 45 20.6 -0.4**
baz=27,slow=2.9
JAVC Velka Javorina 145.23 335 *e*PKP **PKPdf** **18 45 22.5 +0.9**
NEUB Neuenburg 145.26 343 *e*PKPbc **PKPab** **18 45 21.2 -0.1**
baz=27,slow=2.9
VRAC Vranov 145.29 336 ⇓ P **PKPdf** **18 45 22.2 +0.6**
VRAC Vranov 145.29 336 *e*PKP **PKPbc** **18 45 21.1 -0.3**
VRAC Vranov 145.29 336 ⇓ PKIKP **PKPdf** **18 45 22.2 +0.6**
ELL Elmali 145.36 308 **PKPbc** **18 45 19.3 -2.8**
ELL Elmali 145.36 308 PKP2 **PKPbc** **18 45 19.3 -2.8**
SIRR Siria 145.37 328 ⇓ P **PKPab** **18 45 22.4 +0.5**
GZR Gura Zlata 145.39 326 ⇑ P **PKPbc** **18 45 21.7 -0.2**
GZR Gura Zlata 145.39 326 ⇑ PKIKP **PKPbc** **18 45 21.7 -0.2**
GTTG Gottingen 145.43 345 *e*PKPbc **PKPbc** **18 45 21.4 -0.3**
baz=27,slow=2.9
GOPC GO Pecny, Ondr 145.44 339 *e*PKP **PKPab** **18 45 22.3 +0.3**
GOPC AMS AMS 19 49 30.0
comp=Z,1μm,17.0s
GOPC GO Pecny, Ondr 145.44 339 *e*PKIKP **PKPab** **18 45 22.3 +0.3**
GOPC MLR MLR
comp=Z,1μm,17.0s
PRU Pruhonice 145.46 339 *e*PKP **PKPbc** **18 45 21.6 -0.3**
PRU AMS AMS 19 47 00.0
comp=Z,1μm,19.4s
PRU Pruhonice 145.46 339 *e*PKIKP **PKPbc** **18 45 21.6 -0.3**
PRU MLR MLR
comp=Z,1μm,19.4s
SURR Surduc 145.49 327 ⇓ P **PKPab** **18 45 22.4 +0.1**
KRUC Moravsky 145.57 336 *e*PKP **PKPdf** **18 45 22.0 -0.1**
PLVB Pleven 145.63 322 ⇑ P **PKPab** **18 45 22.8 -0.1**
TREC Trest 145.71 337 AMS AMS 19 47 40.0
comp=Z,1μm,20.2s
TANN Tannenbergstha 145.76 341 *e*PKPbc **PKPdf** **18 45 22.6 +0.1**
baz=27,slow=2.9
MODS Modra-Piesok 145.78 335 *e*PKP2 **PKPab** **18 45 23.5 +0.2**
MODS Modra-Piesok 145.78 335 *e*PKP **PKPab** **18 45 23.5 +0.2**
MODS *e* 19 16 27.7
AKAS Kas 145.78 308 PKPdf **PKPdf** **18 45 20.9 -2.2**
WERD Werda 145.78 342 *e*PKPbc **PKPdf** **18 45 22.5 +0.1**
baz=27,slow=2.9
SRO Srobarova 145.78 333 *e*PKP2 **PKPab** **18 45 24.4 +1.1**
SRO Srobarova 145.78 333 *e*PKP **PKPab** **18 45 24.4 +1.1**
MOX Moxa 145.81 342 *e*PKPbc **PKPdf** **18 45 22.5 +0.1**
baz=27,slow=2.9
MOX *e*L L 19 51 18.9
comp=Z,351nm,19.1s
KSL Kastellorizon 145.83 307 P **PKPdf** **18 45 21.4 -1.5**
BZS Buzias 145.84 328 ⇑ P **PKPbc** **18 45 23.1 -0.1**
BZS Buzias 145.84 328 ⇑ PKP2 **PKPbc** **18 45 23.1 -0.1**
GUNZ Gunzen 145.85 341 *e*PKPbc **PKPbc** **18 45 23.0 -0.1**
baz=27,slow=2.9
WERN Wernitzgruen 145.90 341 *e*PKPbc **PKPbc** **18 45 23.1 -0.2**
baz=27,slow=2.9
HERR Herculane 145.92 326 ⇑ P **PKPbc** **18 45 23.5 0.0**
NKC Novy Kostel 145.93 341 *e*PKP **PKPab** **18 45 25.0 +1.2**
NKC Novy Kostel 145.93 341 *e*PKP2 **PKPab** **18 45 25.0 +1.2**
ZST Bratislava 145.99 335 *e*PKP2 **PKPab** **18 45 24.6 +0.5**
ZST Bratislava 145.99 335 *e*PKP **PKPab** **18 45 24.5 +0.5**
UBBA Unterbreizbach 146.09 344 *e*PKPbc **PKPbc** **18 45 23.4 -0.2**
baz=27,slow=2.9
KASTN Kahler Asten 146.12 346 *e*PKPbc **PKPdf** **18 45 21.7 -1.3**
baz=27,slow=2.9
BUG Bochum--Univer 146.14 348 *e*PKPbc **PKPdf** **18 45 21.6 -1.3**
baz=27,slow=2.9
KDZ Kurdzhali 146.16 319 P **PKPbc** **18 45 24.2 -0.1**
MPEP Malo Peshtene 146.16 323 P **PKPab** **18 45 24.6 -0.3**
BANR Banloc 146.25 328 ⇓ P **PKPdf** **18 45 22.8 -0.5**
MANZ Manzenberg 146.25 341 *e*PKPbc **PKPbc** **18 45 24.3 -0.1**
baz=27,slow=2.9
MDVR Moldovita 146.36 326 ⇓ P **PKPdf** **18 45 24.2 +0.6**
YER Yerkesik 146.41 310 P **PKPbc** **18 45 25.2 -0.1**
ROTZ Rotzenmuhle 146.41 341 *e*PKPbc **PKPdf** **18 45 24.0 +0.5**
baz=27,slow=2.9
KHC Kasperske Hory 146.52 339 **PKPdf** **18 45 21.2 -2.5**
KHC Kasperske Hory 146.52 339 *e*PKP **PKPbc** **18 45 24.9 -0.3**
KHC AMS AMS 19 47 50.0
comp=Z,2μm,18.0s
KHC Kasperske Hory 146.52 339 *e*PKP2 **PKPbc** **18 45 24.9 -0.3**
KHC MLR MLR
comp=Z,2μm,18.0s
CKRC Cesky Krumlov 146.53 338 AMS AMS 19 49 40.0
comp=Z,1μm,21.1s
RZN Rozhen 146.57 319 P **PKPbc** **18 45 25.5 -0.3**
CONA Conrad Observa 146.70 336 *i* PKP **PKPbc** **18 45 25.9 +0.1**
comp=Z,65nm,1.1s,SNR=20
RONA Rosalia, Austr 146.71 335 *i* PKP **PKPbc** **18 45 25.7 -0.1**
comp=Z,47nm,1.1s,SNR=12
GEC2 GERESS Array S 146.73 339 *e*PKPbc **PKPdf** **18 45 24.7 +0.5**
baz=27,slow=2.9
GEC2 *e*L L 19 51 45.4
comp=Z,1μm,21.6s
GERES GERESS Array B 146.73 339 PKPbc **PKPbc** **18 45 25.2 -0.7**
comp=Z,17nm,1.1s,baz=22,slow=1.4,SNR=38
GRF Grafenberg Arr 146.77 342 *e*PKPbc **PKPbc** **18 45 25.2 -0.6**
baz=27,slow=2.9
GRF *e*L L 19 47 51.9
comp=Z,390nm,21.2s
MORH Mrgy, Hungar 146.85 331 ⇓ P **PKPbc** **18 45 26.2 0.0**
VTS Vitosha 146.91 322 ⇑ P **PKPdf** **18 45 23.2 -1.6**
VTS Vitosha 146.91 322 ⇑ PKIKP **PKPdf** **18 45 23.2 -1.6**
TNS Taunus Mts 147.02 345 *e*PKPbc **PKPdf** **18 45 24.5 -0.1**
baz=27,slow=2.9
TNS *e*L L 19 50 40.6
comp=Z,1μm,21.9s
AHRW Bad Neuenahr-A 147.03 347 *e*PKPbc **PKPdf** **18 45 25.5 +1.0**
baz=27,slow=2.9
BEBN Eben Emael 147.06 349 *d*PKP **PKPbc** **18 45 26.4 -0.2**
FRGS Fruska Gora 147.07 329 ⇑ P **PKPbc** **18 45 24.2 -0.6**
FRGS Fruska Gora 147.07 329 *e*P **PKPbc** **18 45 26.9 0.0**
KAVA Kavala 147.09 319 P **PKPbc** **18 45 26.4 -0.6**
DAT Datca 147.09 310 P **PKPdf** **18 45 26.1 +0.9**
BTNL Ternell 147.18 348 *d*PKPdf **PKPdf** **18 45 24.9 +0.1**
BTNL *d*PKP **PKPbc** **18 45 26.6 -0.4**
MEM Membach 147.18 348 *d*PKP **PKPbc** **18 45 27.1 +0.1**
MMB Musomiste 147.23 320 P **PKPbc** **18 45 26.8 -0.7**
BSTI Sart Tilman 147.29 349 *d*PKP **PKPbc** **18 45 27.2 0.0**
NVR Nevrokopi 147.29 320 P **PKPbc** **18 45 28.0 +0.4**
MOA Molln 147.37 337 *i* PKP **PKPbc** **18 45 26.9 -0.7**
comp=Z,29nm,1.3s,SNR=8.0
ARSA Arzberg 147.38 335 *i* PKP **PKPbc** **18 45 26.5 -1.2**
comp=Z,23nm,1.4s
BHOU Houvegnez 147.43 348 *d*PKP **PKPab** **18 45 28.7 -0.9**
KKB Krupnik 147.46 321 P **PKPbc** **18 45 27.5 -0.5**
BCLA Clavier 147.49 349 *d*PKP **PKPab** **18 45 29.5 -0.3**
KOKK Kokkinochori, 147.51 319 P **PKPbc** **18 45 27.6 -0.6**
SNF Seneffe 147.58 350 *d*PKP **PKPbc** **18 45 29.0 +0.9**
TEKS Tekeris 147.64 328 *e*P **PKPbc** **18 45 27.4 -1.1**
BMRD Maredsous 147.70 350 *d*PKP **PKPbc** **18 45 27.9 -0.5**
DIVS Divibare 147.72 327 ⇓ *i*P **PKPdf** **18 45 27.3 +1.3**
BIOA Bad Ischl, Aus 147.73 338 *i* PKP **PKPbc** **18 45 27.7 -0.9**
comp=Z,15nm,1.3s
RCHB Rochefort 147.76 349 *d*PKP **PKPbc** **18 45 27.6 -1.0**
KARP Karpathos 147.87 308 **PKPdf** **18 45 27.8 +1.4**
KARP IAMs_20 IAMs_20 20 05 12.2
comp=Z,552nm,22.0s
DOU Dourbes 147.93 350 *d*PKP **PKPbc** **18 45 28.7 -0.3**
SOKA Soboth 148.04 335 *e*PKP **PKPdf** **18 45 27.1 +0.6**
comp=Z,22nm,1.4s
WLF Walferdange 148.06 348 *d*PKP **PKPbc** **18 45 29.5 +0.2**
WLF Walferdange 148.06 348 *e*PKPbc **PKPbc** **18 45 29.3 0.0**
baz=27,slow=2.9
VAY Valandovo 148.09 321 *i* P **PKPbc** **18 45 29.5 -0.2**
STIP Stip 148.09 322 *i* P **PKPbc** **18 45 28.9 -0.9**
FUR Furstenfeldbru 148.11 341 *e*PKPbc **PKPbc** **18 45 29.1 -0.5**
baz=27,slow=2.9
FUR *e*L L 19 50 28.6
comp=Z,697nm,22.0s
STU Stuttgart 148.17 344 *e*PKPbc **PKPbc** **18 45 29.3 -0.4**

	baz=27,slow=2.9							
HORT	**Hortiatis**	**148.19 319**		P	**PKPdf**	**18 45 26.2**	**-0.7**
PAIG	**Paliouri**	**148.21 318**		P	**PKPdf**	**18 45 27.2**	**+0.4**
HAPS	**Han Pijesak,BI**	**148.26 328**		*e*P	**PKPbc**	**18 45 29.7**	**-0.6**
SKO	**Skopje**	**148.35 323**		*i* P	**PKPdf**	**18 45 28.6**	**+1.6**
KBA	**Koelnbreinsper**	**148.35 337**		*e*PKP	**PKPbc**	**18 45 29.4**	**-1.1**
	comp=Z,26nm,1.3s							
OBKA	**Obir**	**148.37 335**		*i* PKP	**PKPbc**	**18 45 29.5**	**-0.9**
	comp=Z,18nm,1.2s							
OBKA	**Obir**	**148.37 335**		*e*P	**PKPdf**	**18 45 28.3**	**+1.3**
RUDO	**Rudo**	**148.38 327**		*e*P	**PKPbc**	**18 45 29.5**	**-1.0**
GRG	**Griva**	**148.41 320**		P	**PKPbc**	**18 45 29.2**	**-1.5**
CRES	**Cresnjev**	**148.56 334**		*e*P	**PKPbc**	**18 45 29.7**	**-1.1**
MYKA	**Terra Mystica**	**148.62 337**		*i* pPKP	**PKPdf**	**18 45 29.0**	**+1.6**
	comp=Z,27nm,1.1s							
BLY	**Banja Luka**	**148.63 331**	ǁ	*i*P	**PKPbc**	**18 45 29.6**	**-1.4**
WATA	**Walderalm**	**148.75 340**		*i* PKP	**PKPbc**	**18 45 30.8**	**-0.6**
	comp=Z,36nm,1.5s,SNR=7.0							
ZKR	**Zakros**	**148.75 308**		P	**PKPdf**	**18 45 29.1**	**+1.2**
LJU	**Ljubljana**	**148.76 335**		*i* PKPbc	**PKPbc**	**18 45 30.4**	**-1.0**
WTTA	**Wattenberg**	**148.79 339**		*i* pPKP	**PKPbc**	**18 45 30.5**	**-1.1**
	comp=Z,49nm,1.5s,SNR=11							
BFO	**Black Forest**	**148.81 344**			**PKPbc**	**18 45 30.2**	**-1.2**
BFO	**Black Forest**	**148.81 344**		PKP2	**PKPbc**	**18 45 30.2**	**-1.2**
BFO	**Black Forest**	**148.81 344**		*e*PKPbc	**PKPbc**	**18 45 30.2**	**-1.2**
	baz=27,slow=2.9							
BFO				*e*L	L	19 49 30.4		
	comp=Z,748nm,21.6s							
STIA	**Sitia Lasithi**	**148.81 308**		P	**PKiKP**	**18 45 32.6**	**-0.6**
NEO	**Neokhori**	**148.85 317**		P	**PKPdf**	**18 45 29.3**	**+1.4**
LIT	**Litokhoron**	**148.86 319**		P	**PKPbc**	**18 45 30.2**	**-1.6**
RETA	**Reutte**	**148.88 341**		*i* pPKP	**PKPbc**	**18 45 30.2**	**-1.5**
	comp=Z,31nm,1.4s,SNR=6.6							
GBAS	**Gorenja Brezov**	**148.89 335**		*e*PKPbc	**PKPbc**	**18 45 30.4**	**-1.3**
MOTA	**Moosalm**	**148.89 340**		*i* PKP	**PKPbc**	**18 45 31.0**	**-0.9**
	comp=Z,32nm,1.3s							
BOJS	**Bojanci**	**148.90 334**	ǁ	*i*P	**PKPbc**	**18 45 29.8**	**-1.9**
UBR	**Ueberruh**	**148.90 342**		*e*PKPbc	**PKPbc**	**18 45 30.9**	**-0.9**
	baz=27,slow=2.9							
ABTA	**Abfaltersbach**	**148.94 338**		*i* pPKP	**PKPbc**	**18 45 30.7**	**-1.1**
	comp=Z,32nm,1.4s							
SQTA	**Sankt Quirin**	**148.97 340**		*e*pPKP	**PKPbc**	**18 45 31.0**	**-1.0**
	comp=Z,35nm,1.3s,SNR=9.8							
CEY	**Cerknica**	**149.05 335**		*e*P	**PKPbc**	**18 45 30.9**	**-1.2**
FNA	**Florina**	**149.13 321**		P	**PKPbc**	**18 45 31.2**	**-1.3**
A050A	**Klekovaca**	**149.14 331**		*e*P	**PKPbc**	**18 45 31.1**	**-1.4**
ATHU	**Athens Univers**	**149.19 314**		P	**PKPdf**	**18 45 30.4**	**+1.9**
ECH	**Echery**	**149.20 346**			**PKPbc**	**18 45 31.4**	**-1.0**
ECH	**Echery**	**149.20 346**		PKP2	**PKPbc**	**18 45 31.4**	**-1.0**
ECH				MLR	MLR			
	comp=Z,1µm,21.0s							
ATH	**Athens Observa**	**149.23 314**		P	**PKPbc**	**18 45 30.8**	**-2.0**
OHR	**Ohrid**	**149.27 322**		*i* P	**PKPbc**	**18 45 32.7**	**-0.2**
FETA	**Feichten**	**149.30 340**		*e*PKP	**PKPdf**	**18 45 27.8**	**-0.8**
	comp=Z,36nm,1.1s,SNR=9.4							
BRY	**Bratogost**	**149.32 327**		*e*P	**PKPbc**	**18 45 32.0**	**-1.0**
DAVA	**Damuels**	**149.33 342**		*i* pPKP	**PKPbc**	**18 45 31.6**	**-1.4**
	comp=Z,40nm,1.2s							
SKDS	**Skadanscina**	**149.38 335**		*e*P	**PKPdf**	**18 45 30.2**	**+1.6**
DRME	**Dracevica, Mon**	**149.47 325**		*e*P	**PKPbc**	**18 45 32.3**	**-1.0**
AXAR	**Agios Charalam**	**149.51 317**		P	**PKPdf**	**18 45 31.0**	**+2.0**
TREB	**Trebinje**	**149.55 327**		*e*P	**PKPab**	**18 45 38.8**	**+0.4**
KPRO	**Kipourio**	**149.65 320**		P	**PKPbc**	**18 45 34.1**	**+0.2**
STON	**Ston**	**149.77 328**		*e*P	**PKPbc**	**18 45 31.9**	**-2.0**
FUORN	**Ofenpass-Fuorn**	**149.80 341**			**PKPdf**	**18 45 26.4**	**-3.1**
FUORN				PKPbc	**PKPbc**	**18 45 33.6**	**-0.7**
THAL	**Thalero**	**149.91 315**		P	**PKPbc**	**18 45 33.1**	**-1.3**
EVR	**Evrytania**	**149.98 318**		P	**PKiKP**	**18 45 35.2**	**-0.4**
ANX	**Ano Chora**	**150.09 317**		P	**PKPbc**	**18 45 35.4**	**+0.4**
SERG	**Sergoula**	**150.10 317**		P	**PKPbc**	**18 45 34.7**	**-0.3**
JAN	**Janina**	**150.14 320**		P	**PKPbc**	**18 45 35.0**	**0.0**
EFP	**Efpalio**	**150.19 317**		P	**PKPbc**	**18 45 35.0**	**-0.1**
KLV	**Kalavryta, Ach**	**150.24 316**		P	**PKPbc**	**18 45 34.5**	**-0.9**
CLF	**Chambon-Foret**	**150.30 352**			**PKPbc**	**18 45 33.6**	**-1.5**
KNDR	**Palaiochora Ch**	**150.58 310**		P	**PKPbc**	**18 45 35.2**	**-0.9**
SALO	**Salr**	**150.60 339**			**PKPbc**	**18 45 34.5**	**-1.4**
NYDR	**Nydri-Lefkada**	**150.80 318**		P	**PKPbc**	**18 45 33.9**	**-2.6**
EVGl	**Lefkada island**	**150.88 318**		P	**PKPbc**	**18 45 36.1**	**-0.7**
ZCCA	**Zocca**	**151.55 337**			**PKPbc**	**18 45 37.6**	**-0.6**
BNI	**Bardonecchia**	**152.27 344**			**PKPbc**	**18 45 39.3**	**-0.6**
BNI	**Bardonecchia**	**152.27 344**		PKIKP	**PKPbc**	**18 45 39.3**	**-0.6**
SSB	**Saint Sauveur**	**152.57 347**			**PKPbc**	**18 45 39.0**	**-1.5**
SSB	**Saint Sauveur**	**152.57 347**		PKIKP	**PKPbc**	**18 45 39.0**	**-1.5**
ESDC	**Sonseca Array**	**159.07 0**		PKPab	**PKPab**	**18 46 19.3**	**+0.5**
	comp=Z,3.2nm,1.0s,baz=351,slow=5.0,SNR=9.9							
ESDC	**Sonseca Array**	**159.07 0**		PKPdf	**PKPdf**	**18 45 40.7**	**-1.6**
ESDC				PKPab	**PKPab**	**18 46 17.9**	**-0.8**
DBIC	**Dimbokro**	**168.03 175**		PKP	**PKPdf**	**18 45 51.2**	**-0.2**
	comp=Z,9.1nm,1.1s,baz=234,slow=2.1,SNR=4.8							
DBIC				PKPab	**PKPab**	**18 46 58.5**	**-0.1**
	comp=Z,8.6nm,1.2s,baz=204,slow=9.5,SNR=3.1							
TORD	**Torodi Ar. Bea**	**172.36 225**		PKP	**PKPdf**	**18 45 52.5**	**-1.3**
	comp=Z,10nm,1.2s,baz=81,slow=1.9,SNR=9.5							
TORD				PKPab	**PKPab**	**18 47 17.4**	**-0.6**
	comp=Z,5.3nm,0.9s,baz=114,slow=5.0,SNR=5.9							

IDC ***14*** *18:36:42.8±1.9, 18°.70S×176°.30E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=100.8km s-min=18.3km az=152.0*

NEIC ***14*** *18:36:47.0±2.2, 18°.5S±0°.2×176°.3E±0°.1, h26km±4km, mb4.4/6, Error ellipse: s-maj=33.6km s-min=8.2km az=157.0*

ISC 14 18:36:46.3±0.7, 18°.6S±0°.2×176°.28E±0°.10, h23km, n16, σ0s91/18, mb3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.87**	**64**	Pn	**Pn**	**18 37 16.2**	**-0.8**
	42nm,0.3s,baz=237,slow=15,SNR=28						
MSVF				Sn	**Sb**	**18 37 42.6**	**-0.2**
	114nm,0.3s,baz=173,slow=23,SNR=17						
MSVF	**Nonsavu**	**1.87**	**64**		**Pn**	**18 37 16.0**	**-0.9**
MSVF				Sn	**Sn**	**18 37 40.3**	**+0.4**
LIFNC	**LIFOU**	**8.80**	**254**	Pn	**Pn**	**18 38 51.3**	**-0.9**
THZ	**Tophouse**	**23.31**	**186**	P	**P**	**18 41 53.4**	**+0.7**
THZ				IAmb	IAmb	18 41 58.3	
	comp=Z,30nm,1.0s						
STKA	**Stephens Creek**	**33.91**	**240**	P	**P**	**18 43 28.1**	**+0.4**
	comp=Z,3.8nm,0.9s,baz=90,slow=8.1,SNR=4.9						
	comp=Z,3.8nm,0.9s						
STKA	**Stephens Creek**	**33.91**	**240**	P	**P**	**18 43 26.4**	**-1.4**
STKA				IAmb	IAmb	18 43 31.0	
	comp=Z,3.3nm,1.5s						
BBOO	**Buckleboo**	**38.69**	**240**	P	**P**	**18 44 08.2**	**-0.3**
WRA	**Warramunga Arr**	**39.55**	**261**	P	**P**	**18 44 14.5**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=91,slow=8.0,SNR=5.4						
	comp=Z,0.7nm,0.9s						
AS31	**Alice Springs**	**39.75**	**255**	P	**P**	**18 44 17.5**	**-0.1**
ASAR	**Alice Springs**	**39.76**	**255**	P	**P**	**18 44 16.6**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=85,slow=8.7,SNR=26						
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**39.76**	**255**	P	**P**	**18 44 17.1**	**-0.6**
GIRL	**Giralia**	**57.87**	**255**	P	**P**	**18 46 37.8**	**+1.1**
QSPA	**South Pole Qui**	**71.50**	**180**	P	**P**	**18 48 05.0**	**0.0**
QSPA				IAmb	IAmb	18 48 43.5	
	comp=Z,6.2nm,1.4s						
CMAR	**Chiang Mai Arr**	**84.39**	**291**	P	**P**	**18 49 19.0**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=109,slow=3.0,SNR=5.3						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**87.73**	**15**	P	**P**	**18 49 33.2**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=227,slow=6.5,SNR=4.1						
	comp=Z,0.5nm,0.9s						
GERES	**GERESS Array B**	**146.66**	**339**	PKPbc	**PKPab**	**18 56 27.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=338,slow=1.1,SNR=2.7						

IDC ***14*** *18:43:28.2±0.9, 11°.02S×161°.40E, h0km, mb4.3/11, mbtmp4.3/14, ML4.0/3, MS4.2/2, Error ellipse: s-maj=22.5km s-min=18.1km az=111.0*

NEIC ***14*** *18:43:32.7±1.8, 10°.95S±0°.07×161°.45E±0°.09, h37km±7km, mb5.2/74, Error ellipse: s-maj=13.5km s-min=9.0km az=54.0*

BJI ***14*** *18:43:34.0±0.0, 10°.58S×161°.18E, h37km, mb4.5/27, mB5.3/14, Ms5.1/11, Ms7 5.0/11*

ISC 14 18:43:32.7±0.4, 11°.00S±0°.05×161°.41E±0°.06, h35km, n166, σ1s30/171, mb5.0/57, MS4.9/6, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.12**	**317**	Pn	**Pn**	**18 44 05.3**	**-0.4**
	354nm,0.3s,baz=216,slow=0.6,SNR=24						
HNR				Sn	**Sn**	**18 44 31.3**	**+0.5**
	3µm,0.3s,baz=50,slow=17,SNR=7.6						
	11µm,0.9s						
HNR	**Honiara**	**2.12**	**317**	Pn	**Pn**	**18 44 05.2**	**-0.4**
HNR				Sn	**Sn**	**18 44 29.3**	**-1.5**
KOUNC	**Koumac, New Ca**	**9.89**	**164**	Pn	**Pn**	**18 45 52.3**	**-0.1**
LIFNC	**LIFOU**	**11.22**	**151**	Pn	**Pn**	**18 46 07.7**	**-2.9**
DZM	**Mont Dzumac**	**12.02**	**157**	Pn	**Pn**	**18 46 22.4**	**+0.8**
	0.3nm,0.3s,baz=132,slow=16,SNR=7.0						
DZM				Sn	**Sn**	**18 48 33.4**	**-1.1**
	0.3nm,0.3s,baz=203,slow=22,SNR=1.7						
	9.6nm,1.0s						
DZM	**Mont Dzumac**	**12.02**	**157**	Pn	**Pn**	**18 46 22.5**	**+0.9**
MARNC	**Mare, Loyalty**	**12.20**	**149**	Pn	**Pn**	**18 46 22.0**	**-2.1**
ONTNC	**Ouen Toro**	**12.23**	**157**	Pn	**Pn**	**18 46 25.7**	**+1.2**
OUENC	**Ouen Island, N**	**12.49**	**156**	Pn	**Pn**	**18 46 28.4**	**+0.5**
PINNC	**Pines Island,**	**12.91**	**154**	Pn	**Pn**	**18 46 35.0**	**+1.3**
PMG	**Port Moresby**	**14.12**	**275**	LR	LR	18 51 54.1	
	comp=Z,1µm,19.2s,baz=74,slow=36						
PMG	**Port Moresby**	**14.12**	**275**		**Pn**	**18 46 50.6**	**+0.4**
MANU	**Manus Island**	**16.54**	**302**	Pn	**Pn**	**18 47 21.8**	**-0.2**
TARA	**Tarawa**	**16.79**	**44**		**Pn**	**18 47 24.5**	**-0.7**
TARA				IAmb	IAmb	18 47 25.5	
	comp=Z,315nm,1.8s						
CTA	**Charters Tower**	**17.16**	**236**	P	**Pn**	**18 47 30.8**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=54,slow=14,SNR=9.8						
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**17.16**	**236**		**Pn**	**18 47 30.3**	**+0.5**
EIDS	**Eidsvold**	**17.32**	**213**		**Pn**	**18 47 32.6**	**+0.8**
MSVF	**Nonsavu**	**17.45**	**114**	P	**Pn**	**18 47 33.5**	**0.0**
COEN	**Coen**	**18.04**	**259**		**Pn**	**18 47 40.4**	**-0.4**
LHI	**Lord Howe Isla**	**20.53**	**186**	P	**P**	**18 48 06.5**	**-1.6**
LHI				IAmb	IAmb	18 48 21.8	
	comp=Z,212nm,1.7s						
KWAJ	**Kwajalein Atol**	**20.62**	**18**	P	**P**	**18 48 07.2**	**-1.9**
ARMA	**Armidale**	**21.35**	**204**	P	**P**	**18 48 16.8**	**-0.2**
SMPI	**Sarmi**	**24.24**	**290**	P	**P**	**18 48 46.7**	**+0.1**
	comp=Z,72nm,1.0s						
CAN	**Canberra**	**26.71**	**203**	P	**P**	**18 49 10.2**	**+1.4**
CAN				IAmb	IAmb	18 49 32.1	
	comp=Z,47nm,1.5s						
WR0	**Warramunga Arr**	**27.35**	**248**	P	**P**	**18 49 14.2**	**-0.5**
WB0	**Warramunga Arr**	**27.43**	**248**	P	**P**	**18 49 15.7**	**+0.2**
WB0				IAmb	IAmb	18 49 31.1	
	comp=Z,37nm,1.2s						
WRAB	**Tennant Creek**	**27.51**	**248**	P	**P**	**18 49 16.1**	**-0.1**
WB2	**Warramunga Arr**	**27.52**	**248**	P	**P**	**18 49 16.3**	**+0.1**
WB2				IAmb	IAmb	18 49 33.0	
	comp=Z,32nm,1.2s						
WRA	**Warramunga Arr**	**27.53**	**248**	P	**P**	**18 49 16.6**	**+0.3**
	comp=Z,7.6nm,0.9s,baz=76,slow=9.8,SNR=31						
	comp=Z,7.6nm,0.9s						
WRA	**Warramunga Arr**	**27.53**	**248**	P	**P**	**18 49 16.4**	**+0.1**
STKA	**Stephens Creek**	**27.68**	**218**	P	**P**	**18 49 17.1**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=29,slow=8.1,SNR=4.9						
	comp=Z,3.0nm,0.9s						
STKA	**Stephens Creek**	**27.68**	**218**	P	**P**	**18 49 17.5**	**0.0**
NIUE	**Niue**	**28.79**	**110**	P	**P**	**18 49 27.4**	**-0.1**
AS31	**Alice Springs**	**29.05**	**241**	P	**P**	**18 49 29.1**	**-0.8**
ASAR	**Alice Springs**	**29.05**	**241**	P	**P**	**18 49 29.6**	**-0.3**
	comp=Z,5.3nm,1.1s,baz=70,slow=9.4,SNR=20						
	comp=Z,5.3nm,1.1s						
ASAR	**Alice Springs**	**29.05**	**241**	P	**P**	**18 49 28.9**	**-1.0**
BKZ	**Black Stump Fm**	**31.10**	**157**	P	**P**	**18 49 45.7**	**-2.1**
BKZ				IAmb	IAmb	18 50 43.5	
	comp=Z,45nm,1.6s						
BBOO	**Buckleboo**	**31.84**	**223**	P	**P**	**18 49 53.0**	**-1.4**
BBOO				IAmb	IAmb	18 49 57.8	
	comp=Z,107nm,1.9s						
KNRA	**Kununurra**	**32.08**	**258**	P	**P**	**18 49 56.0**	**-0.7**
KNRA				IAmb	IAmb	18 50 25.7	
	comp=Z,34nm,1.2s						
MRZ	**Mangatainoka R**	**32.08**	**159**	P	**P**	**18 49 56.8**	**+0.4**
MRZ				IAmb	IAmb	18 50 07.9	
	comp=Z,72nm,1.4s						
TCW	**Tory Channel**	**32.15**	**162**	P	**P**	**18 49 57.3**	**+0.3**
TUWZ	**Tuamarina**	**32.25**	**162**	P	**P**	**18 49 58.8**	**+0.9**
BFZ	**Birch Farm**	**32.34**	**159**	P	**P**	**18 49 59.8**	**+1.2**
ODZ	**Otahua Downs**	**34.84**	**169**	P	**P**	**18 50 19.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**35.29**	**254**	P	**P**	**18 50 24.2**	**-0.4**
BATI	**Baumata**	**37.09**	**268**	P	**P**	**18 50 41.6**	**+1.5**
	comp=Z,29nm,0.9s,comp=Z,41µm						
GTOI	**Gorontalo**	**39.88**	**284**	P	**P**	**18 51 04.4**	**+0.9**
MBWA	**Marble Bar**	**41.19**	**250**	P	**P**	**18 51 14.9**	**+0.7**
MBWA				IAmb	IAmb	18 51 27.1	
	comp=Z,89nm,2.0s						
MBWA	**Marble Bar**	**41.19**	**250**	P	**P**	**18 51 14.7**	**+0.5**
MBWA				pP	**sP**	**18 51 26.2**	**-0.1**
MBWA				sP	**pwP**	**18 51 30.6**	**+0.4**
KAPI	**Kappang**	**41.65**	**275**	P	**P**	**18 51 17.4**	**-0.5**
KAPI	**Kappang**	**41.65**	**275**	P	**P**	**18 51 17.6**	**-0.5**
KAPI				sP	**pwP**	**18 51 33.3**	**-0.6**
TOLI2	**Tolitoli**	**42.15**	**284**	P	**P**	**18 51 21.2**	**-1.0**
TOLI2				IAmb	IAmb	18 51 30.1	
	comp=Z,51nm,1.9s						
MPSI	**Mapaga**	**42.77**	**283**	P	**P**	**18 51 26.3**	**-0.9**
BKB	**Balikpapan**	**45.24**	**279**	P	**P**	**18 51 46.0**	**-1.0**
BKB				IAmb	IAmb	18 51 55.3	
	comp=Z,33nm,0.9s						
MYLDM	**Lahad Datu**	**45.63**	**288**	P	**P**	**18 51 48.0**	**-2.2**
MYLDM				IAmb	IAmb	18 52 25.4	
	comp=Z,31nm,1.1s						
MORW	**Morawa**	**45.93**	**240**	P	**P**	**18 51 51.3**	**-1.0**
MORW				IAmb	IAmb	18 53 00.2	
	comp=Z,71nm,1.9s						
NWAO	**Narrogin (SRO)**	**45.99**	**235**	P	**P**	**18 51 52.4**	**-0.3**
NWAO				IAmb	IAmb	18 52 45.9	
	comp=Z,125nm,1.9s						
NWAO	**Narrogin (SRO)**	**45.99**	**235**	P	**P**	**18 51 52.2**	**-0.5**
NWAO				IAmb	IAmb	18 52 45.9	
	comp=Z,94nm,1.9s						
JAGI	**Jajag, Banyuwa**	**46.61**	**269**	P	**P**	**18 51 56.5**	**-1.3**
KKM	**Kota Kinabalu**	**48.06**	**288**	P	**P**	**18 52 08.3**	**-1.0**
KKM				IAmb	IAmb	18 52 26.1	
	comp=Z,21nm,1.0s						
SBUM	**Sibu**	**50.72**	**282**	P	**P**	**18 52 29.0**	**-0.5**
SBUM				IAmb	IAmb	18 53 07.8	
	comp=Z,21nm,1.7s						
INU	**Inuyama**	**51.55**	**334**	P	**P**	**18 52 35.3**	**0.0**
KHLU	**Kahalu`u**	**51.89**	**54**	P	**P**	**18 52 35.6**	**-2.7**
YULB	**Yu-li**	**52.04**	**311**	P	**P**	**18 52 33.5**	**-5.7**
MJAR	**Matsushiro Arr**	**52.09**	**336**	P	**P**	**18 52 38.7**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=167,slow=8.1,SNR=5.1						
	comp=Z,2.0nm,0.8s						
JTM	**Tenmabayashi**	**54.85**	**341**	P	**P**	**18 52 59.1**	**-0.4**
JKA	**Kamikawa-asahi**	**57.46**	**344**	P	**P**	**18 53 17.7**	**-0.3**
KSRS	**Korea Array**	**57.53**	**329**	P	**P**	**18 53 21.4**	**+2.8**
	comp=Z,1.6nm,0.8s,baz=140,slow=6.4,SNR=3.0						
	comp=Z,1.6nm,0.8s						
NJ2	**Nanjing**	**59.07**	**318**	*e*P	**P**	**18 53 30.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**61.09**	**336**	P	**P**	**18 53 43.5**	**+0.3**
USA0B				IAmb	IAmb	18 54 36.3	
	comp=Z,39nm,1.4s						
USRK	**Ussuriysk Ar.**	**61.09**	**336**	P	**P**	**18 53 44.2**	**+1.0**
	comp=Z,5.9nm,0.8s,baz=123,slow=7.0,SNR=6.0						
	comp=Z,5.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**61.09**	**336**	P	**P**	**18 53 42.6**	**-0.5**
MDJ	**Mudanjiang**	**62.41**	**335**	P	**P**	**18 53 53.6**	**+1.6**
MDJ				sP	pwP	18 54 07.8	+0.3
MDJ				PcS	**PcS**	**18 58 36.4**	**+2.0**
MDJ				S	**S**	**19 02 19.1**	**+2.6**
MDJ				sS	sS	19 02 35.8	+3.8
MDJ				pmax	pmax		
	comp=Z,12nm,2.5s						
MDJ				pmax	pmax		
	comp=Z,94nm,3.7s						
MDJ				LR	LR		
	comp=Z,1µm,14.2s						
MDJ				LR	LR		
	comp=Z,540nm,11.2s						
MDJ				LR	LR		
	comp=Z,2µm,17.9s						
CN2	**Changchun**	**63.60**	**332**	P	P	18 54 09.0	+9.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GSI	**Gunungsitoli**	**64.62**	**277**	P	**P**	**18 54 07.0**	**-0.3**
GSI				IAmb	IAmb	18 54 21.5	
	comp=Z,13nm,0.8s						
VNDA	**Vanda**	**66.51**	**180**	P	**P**	**18 54 18.0**	**-0.4**
VNDA				IAmb	IAmb	18 55 20.6	
	comp=Z,43nm,1.8s						
VNDA	**Vanda**	**66.51**	**180**	P	P	18 54 13.4	-5.0
VNDA				pP	pP	18 54 24.3	-2.8
VNDA				sP	sP	18 54 28.8	-1.5
PHRA	**Phrae**	**67.08**	**295**	P	**P**	**18 54 21.7**	**-1.4**
CCD	**Concordia, Ant**	**67.48**	**190**	P	**P**	**18 54 28.0**	**+2.9**
KMI	**Kunming**	**67.50**	**303**	*e*P	**P**	**18 54 28.3**	**+2.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,470nm,11.0s						
KMI				LR	LR		
	comp=Z,360nm,21.7s						
KMI				LR	LR		
	comp=Z,530nm,19.8s						
KMI				LR	LR		
	comp=Z,620nm,20.8s						
CRAI	**Chiangrai**	**67.58**	**297**	P	**P**	**18 54 26.2**	**0.0**
HEH	**HeiHe**	**67.84**	**337**	*e*P	P	18 54 34.5	+7.3
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,410nm,4.8s						
CLES	**Cleveland East**	**68.16**	**18**	P	**P**	**18 54 29.9**	**+0.7**
CLES				IAmb	IAmb	18 55 56.0	
	comp=Z,1µm,1.4s						
CMAR	**Chiang Mai Arr**	**68.21**	**295**	P	**P**	**18 54 32.5**	**+2.3**
	comp=Z,1.3nm,0.9s,baz=117,slow=4.3,SNR=9.7						
	comp=Z,1.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**68.21**	**295**	P	**P**	**18 54 28.6**	**-1.6**
CHTO	**Chiang Mai**	**68.33**	**295**	P	**P**	**18 54 29.0**	**-2.0**
CHTO				IAmb	IAmb	18 55 00.1	
	comp=Z,18nm,1.7s						
XLT	**XiLinHaoTe**	**68.41**	**326**	*e*P	**P**	**18 54 31.4**	**+0.4**
XLT				pP	pP	18 54 41.5	+1.1
XLT				sP	sP	18 54 43.9	0.0
XLT				S	**S**	**19 03 29.3**	**-0.9**
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
XLT				pmax	pmax		
	comp=Z,200nm,5.8s						
XLT				LR	LR		
	comp=Z,48nm,16.8s						
XLT				LR	LR		
	comp=Z,400nm,16.6s						
XLT				LR	LR		
	comp=Z,490nm,18.3s						
PZH	**PanZhiHua**	**68.89**	**304**	P	**P**	**18 54 35.1**	**+0.7**
HHC	**Hu-ho-hao-te**	**69.10**	**322**	*e*P	**P**	**18 54 37.3**	**+1.9**
HHC				pmax	pmax		
	comp=Z,32nm,0.8s						
HHC				pmax	pmax		
	comp=Z,370nm,5.5s						
HHC				LR	LR		
	comp=Z,1µm,17.8s						
HHC				LR	LR		
	comp=Z,2µm,17.8s						
HHC				LR	LR		
	comp=Z,2µm,20.3s						
TNCH	**TengChong**	**70.97**	**301**	P	**P**	**18 54 47.8**	**+0.5**
TNCH				pP	pP	18 54 55.0	-1.4
TNCH				PP	**PP**	**18 57 23.4**	**-1.6**
TNCH				S	**S**	**19 03 58.8**	**-2.4**
TNCH				sS	pS	19 04 14.3	+1.7
TNCH				SS	**SS**	**19 08 33.1**	**-1.8**
TNCH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,150nm,12.9s						
TNCH				LR	LR		
	comp=Z,290nm,16.9s						
TNCH				LR	LR		
	comp=Z,310nm,19.4s						
TNCH				LR	LR		
	comp=Z,980nm,19.0s						
LZH	**Lanzhou**	**71.62**	**314**	*e*P	P	18 54 57.3	+6.3
LZH				pP	pwP	18 55 07.0	-0.4
LZH				sP	PcP	18 55 11.3	+1.2
LZH				pmax	pmax		
	comp=Z,7.0nm,1.5s						
ULN	**Ulaanbaatar**	**75.81**	**326**	P	**P**	**18 55 15.7**	**+0.3**
GTA	**Gaotai**

	comp=Z,16nm,1.5s							
ILAR	**Eielson Array**	**84.87**	**20**	P		**P**	**18 56 03.5**	**0.0**
	comp=Z,1.2nm,0.8s,baz=264,slow=4.6,SNR=12							
	comp=Z,1.2nm,0.8s							
ILAR	**Eielson Array**	**84.87**	**20**	P		**P**	**18 56 02.5**	**-0.9**
RIDG	**Independent Ri**	**84.92**	**21**	P		**P**	**18 56 06.1**	**+2.3**
	baz=233							
L26K	**Log Cabin Wild**	**85.04**	**22**	P		**P**	**18 56 06.5**	**+2.1**
	baz=234							
F22K	**John River**	**85.10**	**16**	P		**P**	**18 56 06.2**	**+1.6**
	baz=226							
M27K	**Edge Creek, AK**	**85.20**	**23**	P		**P**	**18 56 07.3**	**+2.0**
	baz=235							
SCRK	**Sand Creek**	**85.37**	**21**	P		**P**	**18 56 07.3**	**+1.2**
	baz=233							
L27K	**Beaver Creek,**	**85.62**	**22**	P		**P**	**18 56 09.2**	**+1.9**
	baz=235							
J26L	**Joseph Creek**	**85.83**	**21**	P		**P**	**18 56 10.7**	**+2.3**
	baz=234							
YUK4	**Talbot Arm**	**85.93**	**25**	P		**P**	**18 56 11.4**	**+2.3**
	baz=238							
D23K	**Nanushuk River**	**86.51**	**16**	P		**P**	**18 56 13.2**	**+1.7**
	baz=227							
C24K	**Franklin Bluff**	**87.54**	**15**	P		**P**	**18 56 17.9**	**+1.4**
	baz=229							
D25K	**Kavik River**	**87.91**	**16**	P		**P**	**18 56 20.0**	**+1.6**
	baz=231							
E27K	**Coleen River**	**88.62**	**18**	P		**P**	**18 56 23.7**	**+2.0**
	baz=235							
C26K	**Camden Bay**	**88.69**	**16**	P		**P**	**18 56 24.8**	**+2.8**
	baz=232							
C27K	**Jago River**	**88.84**	**17**	P		**P**	**18 56 24.7**	**+2.0**
	baz=233							
CWC	**Cottonwood Cre**	**88.95**	**53**	P		**P**	**18 56 26.0**	**+1.9**
	baz=256							
DSP	**Deep Springs**	**89.26**	**52**	P		**P**	**18 56 23.7**	**-1.7**
DSP				IAmb		IAmb	18 56 28.2	
	comp=Z,11nm,1.2s							
NVAR	**Mina Array Bea**	**89.27**	**51**	P		**P**	**18 56 27.0**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=237,slow=7.3,SNR=11							
	comp=Z,1.7nm,0.8s							
MPMC	**Manual Prospec**	**89.31**	**53**	P		**P**	**18 56 27.7**	**+1.8**
	baz=256							
MONP2	**Monument Peak**	**89.42**	**56**	P		**P**	**18 56 27.8**	**+1.3**
	baz=257							
PFO	**Pinyon Flats O**	**89.56**	**56**	LR		LR	19 27 35.7	
	comp=Z,124nm,20.3s,baz=244,slow=30							
FURC	**Furnace Creek,**	**89.90**	**53**	P		**P**	**18 56 30.6**	**+2.2**
	baz=256							
BC3	**Big Chuckawall**	**90.39**	**56**	P		**P**	**18 56 33.2**	**+2.3**
	baz=257							
GMRC	**Granite Mounta**	**90.47**	**55**	P		**P**	**18 56 32.8**	**+1.6**
	baz=257							
TPNV	**Topopah Spring**	**90.50**	**53**	P		**P**	**18 56 32.7**	**+1.3**
	baz=257							
R11A	**Troy Canyon, C**	**91.33**	**51**	P		**P**	**18 56 36.8**	**+1.6**
	baz=257							
ELK	**Elko**	**92.11**	**49**	P		**P**	**18 56 36.9**	**-2.0**
ELK				IAmb		IAmb	18 56 41.4	
	comp=Z,6.1nm,1.1s							
NEW	**Newport**	**92.51**	**41**	P		**P**	**18 56 41.4**	**+1.1**
	baz=256							
BOZ	**Bozeman (W)**	**95.65**	**45**	P		**P**	**18 56 56.3**	**+1.3**
	baz=260							
PDAR	**Pinedale Array**	**96.67**	**48**	P		**P**	**18 57 01.9**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=342,slow=2.3,SNR=4.2							
	comp=Z,0.4nm,0.7s							
AKASG	**Malin Array Be**	**124.44**	**325**	PKP		**PKPdf**	**19 02 28.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=60,slow=1.9,SNR=2.4							

SJA ***14*** *18:53:23.4±0.8, 19°.69S×71°.12W, h20km±2km, ML4.2, MW4.3*
IDC ***14*** *18:53:25.0±1.1, 19°.48S×70°.90W, h0km, mb3.9/4, mbtmp3.9/7, ML3.8/3, Error ellipse: s-maj=33.9km s-min=18.3km az=64.0*
VAO ***14*** *18:53:26.7±0.9, 19°.28S×71°.10W, h0km, mb4.1*
GUC ***14*** *18:53:26.8±0.8, 19°.69S×71°.09W, h31km±3km, ML4.1*
NEIC ***14*** *18:53:27.1±1.6, 19°.69S±0°.03×71°.00W±0°.07, h27km±9km, mb4.2/6, ML4.1(GUC), Error ellipse: s-maj=9.0km s-min=4.0km az=92.0*

ISC 14 18:53:25.5±2.5, 19°.67S±0°.02×71°.07W±0°.04, h12km±17km, n142, σ1°.79/204, mb4.2/6, 6C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.89**	**86**	*i* P		**Pb**	**18 53 41.8**	**-1.3**
PSGC				*e*S		**Sb**	**18 53 54.5**	**-0.4**
PSGCX	**Pisagua**	**0.89**	**86**	Pn		**Pb**	**18 53 41.7**	**-1.4**
PSGCX				Sn		**Sb**	**18 53 52.8**	**-2.2**
PSGCX	**Pisagua**	**0.89**	**86**	*e*P		**Pb**	**18 53 41.8**	**-1.2**
PSGCX				*e*S		**Sb**	**18 53 55.0**	**0.0**
PSGCX				IAML			18 53 55.6	
	comp=Z,4μm,0.3s							
PSGCX	**Pisagua**	**0.89**	**86**	*e*P		**Pb**	**18 53 41.8**	**-1.2**
PSGCX				*e*S		**Sb**	**18 53 55.0**	**0.0**
PSGCX				IAML			18 53 55.6	
	comp=Z,4μm,0.3s							
TA02	**Huaiquique**	**1.07**	**125**			**Pb**	**18 53 45.0**	**-0.9**
TA02				Sn		**Sb**	**18 53 58.8**	**-1.1**
TA02	**Huaiquique**	**1.07**	**125**	*e*P		**Pb**	**18 53 45.7**	**-0.2**
TA02				*e*S		**Sb**	**18 54 00.1**	**+0.2**
TA02				IAML			18 54 02.8	
	comp=E,5μm,0.4s							
TA02	**Huaiquique**	**1.07**	**125**	*e*P		**Pb**	**18 53 45.8**	**-0.2**
TA02	**Huaiquique**	**1.07**	**125**	*e*P		**Pb**	**18 53 45.8**	**-0.2**
TA01	**Diego Aracena**	**1.22**	**137**	Pn		**Pn**	**18 53 47.7**	**-0.8**
TA01				Sn		**Sb**	**18 54 02.2**	**-2.2**
TA01	**Diego Aracena**	**1.22**	**137**	⇑*i* P		**Pn**	**18 53 47.8**	**-0.6**
TA01				*e*S		**Sb**	**18 54 02.5**	**-1.8**
TA01				IAML			18 54 08.5	
	comp=E,8μm,0.3s							
TA01	**Diego Aracena**	**1.22**	**137**	*e*P		**Pn**	**18 53 47.8**	**-0.6**
TA01				*e*P		**Pb**	**18 53 48.0**	**-0.6**
TA01				*e*S		**Sb**	**18 54 03.8**	**-0.6**
TA01				IAML			18 54 07.6	
	comp=Z,8μm,0.6s							
TA01	**Diego Aracena**	**1.22**	**137**	*e*P		**Pn**	**18 53 47.8**	**-0.6**
TA01				*e*P		**Pb**	**18 53 48.0**	**-0.6**
TA01				*e*S		**Sb**	**18 54 03.8**	**-0.6**
TA01				IAML			18 54 07.6	
	comp=Z,8μm,0.6s							
PB12	**IPOC Station P**	**1.26**	**34**			**Pn**	**18 53 48.4**	**-0.6**
PB12				Sn		**Sb**	**18 54 04.3**	**-1.1**
PB12	**IPOC Station P**	**1.26**	**34**	*i* P		**Pn**	**18 53 48.6**	**-0.4**
PB12				*e*S		**Sb**	**18 54 05.1**	**-0.4**
PB12				IAML			18 54 06.9	
	comp=N,5μm,0.6s							
PB12	**IPOC Station P**	**1.26**	**34**	*e*P		Pn	18 53 42.8	-6.2
PB12				*e*P		**Pb**	**18 53 48.0**	**-1.2**
PB12				*e*P		**Pn**	**18 53 48.6**	**-0.4**
PB12				*e*S		**Sn**	**18 54 06.2**	**+0.3**
PB12				IAML			18 54 06.4	
	comp=Z,3μm,0.6s							
PB12	**IPOC Station P**	**1.26**	**34**	*e*P		Pn	18 53 42.8	-6.2
PB12				*e*P		**Pb**	**18 53 48.0**	**-1.2**
PB12				*e*P		**Pn**	**18 53 48.6**	**-0.4**
PB12				*e*S		**Sn**	**18 54 06.2**	**+0.3**
PB12				IAML			18 54 06.4	
	comp=Z,3μm,0.6s							
HMBC	**Humberstone**	**1.27**	**119**	⇑*i* P		**Pn**	**18 53 48.4**	**-0.8**
HMBC				*e*S		**Sb**	**18 54 05.2**	**-0.5**
HMBC				IAML			18 54 06.8	
	comp=E,8μm,0.4s							
PB11	**IPOC Station P**	**1.33**	**94**			**Pn**	**18 53 48.9**	**-1.2**
PB11				Sn		**Sn**	**18 54 05.6**	**-2.3**
PB11	**IPOC Station P**	**1.33**	**94**	⇓*i* P		**Pn**	**18 53 49.2**	**-0.9**
PB11				*e*S		**Sn**	**18 54 06.6**	**-1.3**
PB11				IAML			18 54 08.6	
	comp=E,7μm,0.3s							
PB11	**IPOC Station P**	**1.33**	**94**	*e*P		**Pn**	**18 53 49.4**	**-0.7**
PB11				*e*S		**Sn**	**18 54 07.6**	**-0.3**
PB11				IAML			18 54 10.1	
	comp=Z,4μm,0.4s							
PB11	**IPOC Station P**	**1.33**	**94**	*e*P		**Pn**	**18 53 49.4**	**-0.7**
PB11				*e*S		**Sn**	**18 54 07.6**	**-0.3**
PB11				IAML			18 54 10.1	
	comp=Z,4μm,0.4s							
PATCX	**Punta Patache**	**1.44**	**143**			**Pn**	**18 53 50.6**	**-0.8**
PATCX				Sn		**Sn**	**18 54 08.3**	**-2.0**
PATCX	**Punta Patache**	**1.44**	**143**	*e*P		**Pn**	**18 53 51.0**	**-0.5**
PATCX				*e*S		**Sb**	**18 54 12.3**	**+1.7**
PATCX				IAML			18 54 17.5	
	comp=Z,2μm,0.4s							
PATCX	**Punta Patache**	**1.44**	**143**	*e*P		**Pn**	**18 53 51.0**	**-0.5**
PATCX				*e*S		**Sb**	**18 54 12.3**	**+1.7**
PATCX				IAML			18 54 17.5	
	comp=Z,2μm,0.4s							
AP01	**Chacalluta**	**1.46**	**28**			**Pn**	**18 53 51.4**	**-0.3**
AP01				Sn		**Sn**	**18 54 09.0**	**-1.8**
AP01	**Chacalluta**	**1.46**	**28**	*e*P		**Pn**	**18 53 52.0**	**+0.3**
AP01				*e*S		**Sb**	**18 54 11.6**	**+0.5**
AP01				IAML			18 54 20.1	
	comp=Z,4μm,1.2s							
AP01	**Chacalluta**	**1.46**	**28**	*e*P		**Pn**	**18 53 52.0**	**+0.3**
AP01				*e*S		**Sb**	**18 54 11.6**	**+0.5**
AP01				IAML			18 54 20.1	
	comp=Z,4μm,1.2s							
MNMC	**Minye Minye**	**1.49**	**69**			**Pn**	**18 53 51.2**	**-1.2**
MNMC				Sn		**Sn**	**18 54 10.3**	**-1.6**
MNMC	**Minye Minye**	**1.49**	**69**	⇓*i* P		**Pn**	**18 53 52.2**	**-0.2**
MNMC				*e*S		**Sn**	**18 54 11.0**	**-0.9**
MNMCX	**Minye Minye**	**1.49**	**69**	*e*P		Pn	18 53 46.3	-6.1
MNMCX				*e*P		**Pb**	**18 53 52.0**	**-1.3**
MNMCX				*e*P		**Pn**	**18 53 52.1**	**-0.2**
MNMCX				*e*S		**Sb**	**18 54 12.8**	**+0.6**
MNMCX				IAML			18 54 15.6	
	comp=Z,8μm,0.4s							
MNMCX	**Minye Minye**	**1.49**	**69**	*e*P		Pn	18 53 46.3	-6.1
MNMCX				*e*P		**Pb**	**18 53 52.0**	**-1.3**
MNMCX				*e*P		**Pn**	**18 53 52.1**	**-0.2**
MNMCX				*e*S		**Sb**	**18 54 12.8**	**+0.6**
MNMCX				IAML			18 54 15.6	
	comp=Z,8μm,0.4s							
GO01	**Chusmiza**	**1.77**	**90**			**Pn**	**18 53 56.1**	**-0.2**
GO01	**Chusmiza**	**1.77**	**90**	⇑*i* P		**Pn**	**18 53 56.4**	**0.0**
GO01				*e*S		**Sb**	**18 54 19.9**	**-0.5**
GO01	**Chusmiza**	**1.77**	**90**	*e*P		**Pn**	**18 53 56.4**	**0.0**
GO01				*e*S		**Sb**	**18 54 20.7**	**+0.2**
GO01	**Chusmiza**	**1.77**	**90**	*e*P		**Pn**	**18 53 56.4**	**0.0**
GO01				*e*S		**Sb**	**18 54 20.7**	**+0.2**
PB08	**IPOC Station P**	**1.86**	**105**			**Pn**	**18 53 57.2**	**-0.4**
PB08				Sn		**Sn**	**18 54 19.9**	**-1.4**
PB08	**IPOC Station P**	**1.86**	**105**	⇑*i* P		**Pn**	**18 53 57.5**	**-0.1**
PB08				*e*S		**Sn**	**18 54 21.6**	**+0.3**
PB08				IAML			18 54 25.4	
	comp=N,2μm,0.3s							
PB08	**IPOC Station P**	**1.86**	**105**	*e*P		**Pn**	**18 53 57.5**	**-0.1**
PB08				*e*S		**Sb**	**18 54 23.7**	**+0.6**
PB08				IAML			18 54 25.7	
	comp=Z,2μm,0.5s							
PB08	**IPOC Station P**	**1.86**	**105**	*e*P		**Pn**	**18 53 57.5**	**-0.1**
PB08				*e*S		**Sb**	**18 54 23.7**	**+0.6**
PB08				IAML			18 54 25.7	
	comp=Z,2μm,0.5s							
PB02	**IPOC Station P**	**1.98**	**146**			**Pn**	**18 53 58.6**	**-0.3**
PB02				Sn		**Sn**	**18 54 21.3**	**-2.5**
PB02	**IPOC Station P**	**1.98**	**146**	*e*P		**Pn**	**18 53 58.7**	**-0.3**
PB02				*e*P		**Pb**	**18 53 59.0**	**-2.6**
PB02				*e*S		**Sn**	**18 54 22.8**	**-1.0**
PB02				IAML			18 54 29.9	
	comp=Z,3μm,0.4s							
PB02	**IPOC Station P**	**1.98**	**146**	*e*P		**Pn**	**18 53 58.7**	**-0.3**
PB02				*e*P		**Pb**	**18 53 59.0**	**-2.6**
PB02				*e*S		**Sn**	**18 54 22.8**	**-1.0**
PB02				IAML			18 54 29.9	
	comp=Z,3μm,0.4s							
PB16	**IPOC Station P**	**1.98**	**48**			**Pn**	**18 53 59.5**	**+0.1**
PB16				Sn		**Sb**	**18 54 25.5**	**-1.2**
PB16	**IPOC Station P**	**1.98**	**48**	⇑*i* P		**Pn**	**18 53 59.8**	**+0.3**
PB16				*e*S		**Sb**	**18 54 26.3**	**-0.5**
PB16				IAML			18 54 35.3	
	comp=N,2μm,0.3s							
PB16	**IPOC Station P**	**1.98**	**48**	*e*P		**Pn**	**18 53 59.9**	**+0.5**
PB16				*e*S		**Sb**	**18 54 26.8**	**0.0**
PB16				IAML			18 54 31.0	
	comp=Z,3μm,0.4s							
PB16	**IPOC Station P**	**1.98**	**48**	*e*P		**Pn**	**18 53 59.9**	**+0.5**
PB16				*e*S		**Sb**	**18 54 26.8**	**0.0**
PB16				IAML			18 54 31.0	
	comp=Z,3μm,0.4s							
PB01	**IPOC Station P**	**2.02**	**133**			**Pn**	**18 53 59.2**	**-0.3**
PB01				Sn		**Sn**	**18 54 22.6**	**-2.1**
PB01	**IPOC Station P**	**2.02**	**133**	⇑*i* P		**Pn**	**18 53 59.5**	**0.0**
PB01				*e*S		**Sn**	**18 54 22.7**	**-2.1**
PB01				IAML			18 54 35.6	
	comp=E,1μm,0.8s							
PB01	**IPOC Station P**	**2.02**	**133**	*e*P		**Pn**	**18 53 59.0**	**-0.5**
PB01				*e*S		**Sb**	**18 54 28.8**	**+1.4**
PB01				IAML			18 54 34.0	
	comp=Z,871nm,0.9s							
PB01	**IPOC Station P**	**2.02**	**133**	*e*P		**Pn**	**18 53 59.0**	**-0.5**
PB01				*e*S		**Sb**	**18 54 28.8**	**+1.4**
PB01				IAML			18 54 34.0	
	comp=Z,871nm,0.9s							
PB07	**IPOC Station P**	**2.33**	**152**			**Pn**	**18 54 03.0**	**-0.9**
PB07	**IPOC Station P**	**2.33**	**152**	*e*P		**Pn**	**18 54 03.0**	**-0.9**
PB07				*e*S		**Sn**	**18 54 31.3**	**-1.3**
PB07				IAML			18 54 46.9	
	comp=Z,1μm,0.5s							
PB07	**IPOC Station P**	**2.33**	**152**	*e*P		**Pn**	**18 54 03.0**	**-0.9**
PB07				*e*S		**Sn**	**18 54 31.3**	**-1.3**
PB07				IAML			18 54 46.9	
	comp=Z,1μm,0.5s							
PB03	**IPOC Station P**	**2.67**	**153**			**Pn**	**18 54 07.9**	**-0.6**
PB03	**IPOC Station P**	**2.67**	**153**	*e*P		**Pn**	**18 54 08.0**	**-0.6**
PB03				*e*S		**Sb**	**18 54 45.8**	**-0.5**
PB03				*e*S		**Sb**	**18 54 51.8**	**+5.5**
PB03				IAML			18 55 04.3	
	comp=Z,643nm,0.5s							
PB03	**IPOC Station P**	**2.67**	**153**	*e*P		**Pn**	**18 54 08.0**	**-0.6**
PB03				*e*S		**Sb**	**18 54 45.8**	**-0.5**
PB03				*e*S		**Sb**	**18 54 51.8**	**+5.5**
PB03				IAML			18 55 04.3	
	comp=Z,643nm,0.5s							
PB09	**IPOC Station P**	**2.72**	**141**			**Pn**	**18 54 09.4**	**+0.1**
PB09	**IPOC Station P**	**2.72**	**141**	*e*P		**Pn**	**18 54 10.4**	**+1.1**
PB09				*e*S		**Sb**	**18 54 51.1**	**+3.4**
PB09	**IPOC Station P**	**2.72**	**141**	*e*P		**Pn**	**18 54 10.0**	**+0.7**
PB09				*e*S		**Sb**	**18 54 46.3**	**-1.5**
PB09				IAML			18 54 55.9	
	comp=Z,876nm,0.7s							
PB09	**IPOC Station P**	**2.72**	**141**	*e*P		**Pn**	**18 54 10.0**	**+0.7**
PB09				*e*S		**Sb**	**18 54 46.3**	**-1.5**
PB09				IAML			18 54 55.9	
	comp=Z,876nm,0.7s							
PB04	**IPOC Station P**	**2.79**	**162**			**Pn**	**18 54 09.1**	**-1.1**
PB04	**IPOC Station P**	**2.79**	**162**	*e*P		**Pn**	**18 54 09.4**	**-0.9**
PB04				*e*S		**Sb**	**18 54 54.8**	**+5.1**
PB04	**IPOC Station P**	**2.79**	**162**	*e*P		**Pn**	**18 54 09.3**	**-0.9**
PB04				*e*S		**Sn**	**18 54 42.8**	**-1.1**
PB04				IAML			18 55 04.6	
	comp=Z,582nm,1.0s							
PB04	**IPOC Station P**	**2.79**	**162**	*e*P		**Pn**	**18 54 09.3**	**-0.9**
PB04				*e*S		**Sn**	**18 54 42.8**	**-1.1**
PB04				IAML			18 55 04.6	
	comp=Z,582nm,1.0s							
PB06	**IPOC Station P**	**3.33**	**155**			**Pn**	**18 54 16.6**	**-1.0**
PB06	**IPOC Station P**	**3.33**	**155**	*e*P		**Pn**	**18 54 17.0**	**-0.6**
PB06				*e*S		**Sb**	**18 55 06.4**	**+1.1**
PB06	**IPOC Station P**	**3.33**	**155**	*e*P		**Pn**	**18 54 17.2**	**-0.4**
PB06				*e*S		**Sn**	**18 54 49.8**	**-7.5**
PB06				IAML			18 55 19.3	
	comp=Z,553nm,0.9s							
PB06	**IPOC Station P**	**3.33**	**155**	*e*P		**Pn**	**18 54 17.2**	**-0.4**
PB06				*e*S		**Sn**	**18 54 49.8**	**-7.5**
PB06				IAML			18 55 19.3	
	comp=Z,553nm,0.9s							
LVC	**Limon Verde**	**3.56**	**146**	Pn		**Pn**	**18 54 22.0**	**+1.1**
	comp=Z,4.9nm,0.3s,baz=352,slow=9.5,SNR=27							
LVC				Sn		**Sn**	**18 55 04.3**	**+1.2**
	comp=Z,24nm,0.3s,baz=107,slow=22,SNR=6.4							
LVC				Lg		Lg	18 55 20.4	
	comp=Z,45nm,0.3s,baz=193,slow=18,SNR=11							
	comp=Z,16nm,0.5s							
LVC	**Limon Verde**	**3.56**	**146**			**Pn**	**18 54 21.6**	**+0.7**
PB15	**IPOC Station P**	**3.83**	**157**			**Pn**	**18 54 23.5**	**-1.0**
PB15	**IPOC Station P**	**3.83**	**157**	*e*P		**Pn**	**18 54 21.5**	**-3.0**
PB15	**IPOC Station P**	**3.83**	**157**	*e*P		**Pn**	**18 54 24.3**	**-0.2**
PB15				IAML			18 55 28.9	
	comp=Z,599nm,1.4s							
PB15	**IPOC Station P**	**3.83**	**157**	*e*P		**Pn**	**18 54 24.3**	**-0.2**
PB15				IAML			18 55 28.9	
	comp=Z,599nm,1.4s							
PB10	**IPOC Station P**	**3.86**	**173**	Pn		**Pn**	**18 54 23.7**	**-1.0**
PB10	**IPOC Station P**	**3.86**	**173**	*e*P		**Pn**	**18 54 23.8**	**-1.0**
PB10	**IPOC Station P**	**3.86**	**173**	*e*P		**Pn**	**18 54 22.2**	**-2.5**
PB10				*e*S		**Sn**	**18 55 07.5**	**-2.5**
PB10	**IPOC Station P**	**3.86**	**173**	*e*P		**Pn**	**18 54 22.2**	**-2.5**
PB10				*e*S		**Sn**	**18 55 07.5**	**-2.5**
AF01	**San Pedro de A**	**4.24**	**141**			**Pn**	**18 54 27.6**	**-2.6**
LPAZ	**La Paz**	**4.37**	**40**	Pn		Pb	18 54 37.9	-4.7
	comp=Z,0.9nm,0.3s,baz=213,slow=18,SNR=14							
LPAZ	**La Paz**	**4.37**	**40**			**Pn**	**18 54 31.6**	**-0.7**
LPAZ	**La Paz**	**4.37**	**40**			**Pn**	**18 54 32.0**	**-0.3**
LPAZ	**La Paz**	**4.37**	**40**	*e*P		**Pn**	**18 54 31.5**	**-0.8**
PB14	**IPOC Station P**	**4.98**	**173**	Pn		**Pn**	**18 54 37.0**	**-3.3**
AC01	**Pan de Azucar**	**6.47**	**176**	Pn		**Pn**	**18 54 58.7**	**-1.7**
AC02	**Maricunga**	**7.36**	**166**	Pn		**Pn**	**18 55 09.7**	**-3.6**
AC06	**Mina Casimiro**	**7.69**	**175**	Pn		**Pn**	**18 55 15.7**	**-1.6**
GO03	**Copiap**	**7.93**	**175**	Pn		**Pn**	**18 55 17.0**	**-3.7**
LCO	**Las Campanas**	**9.31**	**178**	Pn		**Pn**	**18 55 38.4**	**-1.5**
NNA	**Nana**	**9.44**	**323**	Pn		**Pn**	**18 55 45.1**	**+3.7**
SIV	**San Ignacio**	**10.20**	**71**	Pn		**Pn**	**18 55 50.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=274,slow=11,SNR=9.1							
	comp=Z,1.7nm,0.4s							
BBRB	**Robore, Bolivi**	**10.74**	**84**	*e*P		**Pn**	**18 56 00.4**	**+1.2**
ETMB	**Extrema**	**10.86**	**26**	Pn		**Pn**	**18 55 59.5**	**-1.3**
CO03	**El Pedregal**	**11.13**	**178**	Pn		**Pn**	**18 56 01.7**	**-2.9**
CO02	**Combarbal**	**11.49**	**180**			**Pn**	**18 56 06.2**	**-3.4**
BBLB	**La Banda, Boli**	**11.64**	**87**	*e*P		**Pn**	**18 56 13.4**	**+1.8**
VBST	**Vila Bela da S**	**11.73**	**66**	*e*P		**Pn**	**18 56 13.4**	**+0.5**
TICA	**Tres Isletas**	**11.89**	**126**	*e*P		Pn	18 56 22.3	+7.3
PTLB	**Pontes e Lacer**	**12.13**	**72**	Pn		**Pn**	**18 56 16.9**	**-1.3**
PTLB	**Pontes e Lacer**	**12.13**	**72**	*e*P		**Pn**	**18 56 19.8**	**+1.6**
VILB	**Vilhena**	**12.38**	**59**	Pn		**Pn**	**18 56 20.4**	**-1.4**
PTET	**Porto Estrela**	**13.93**	**74**	*e*P		**Pn**	**18 56 42.9**	**0.0**
CPUP	**Villa Florida**	**14.28**	**120**	Pn		**Pn**	**18 56 49.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=306,slow=15,SNR=4.4							
	comp=Z,2.3nm,0.9s							
AMBA	**Amambai (Brazi**	**15.33**	**105**	*e*P		**Pn**	**18 57 04.1**	**+2.2**
H03N1	**Juan Fernandez**	**15.40**	**205**	T		T	19 13 33.2	
	baz=32,slow=72,SNR=18							
H03N2	**Juan Fernandez**	**15.41**	**206**	T		T	19 13 33.8	
	baz=32,slow=72,SNR=20							
H03N3	**Juan Fernandez**	**15.42**	**205**	T		T	19 13 29.8	
	baz=32,slow=72,SNR=17							
NBRS	**Nobres**	**15.56**	**72**	*e*P		**P**	**18 57 08.0**	**-1.1**
PDRB	**Porto dos Gac**	**15.95**	**62**	*e*P		**P**	**18 57 12.1**	**-1.4**
ITQB	**Itaqui**	**16.46**	**130**	*e*P		**P**	**18 57 22.4**	**+3.2**
CRSM	**Crissiumal (Br**	**17.43**	**120**	*e*P		**P**	**18 57 34.7**	**+4.8**
TRCB	**Terra Rica**	**17.47**	**104**	*e*P		**P**	**18 57 32.1**	**+1.8**
FRBT	**Francisco Belt**	**17.74**	**114**	*e*P		**P**	**18 57 38.3**	**+5.0**
PCMB	**Pacaembu**	**18.64**	**99**	*e*P		**Pn**	**18 57 46.4**	**+2.9**
ARAG	**Araguaiana, MT**	**18.76**	**81**	*e*P		**Pn**	**18 57 48.9**	**+3.8**
ITAB	**Concordia**	**18.92**	**117**	P		**P**	**18 57 44.3**	**-2.0**
ITAB						IAmb	18 58 14.1	
	comp=Z,20nm,1.3s							
ITAB	**Concordia**	**18.92**	**117**	*e*P		**Pn**	**18 57 50.6**	**+3.6**
NPGB	**Novo Progresso**	**19.75**	**53**	*e*P		**P**	**18 57 54.2**	**-1.3**
SGCB	**SÃo Gabriel d**	**19.82**	**12**	*e*P		**P**	**18 57 53.9**	**-2.2**
TRQA	**Tornquist**	**19.96**	**159**	P		**P**	**18 57 57.4**	**-0.1**
TRQA						IAmb	18 58 00.5	
	comp=Z,11nm,1.2s							
CNLB	**Canela**	**20.73**	**121**	*e*P		Pn	18 58 11.0	+2.6
PLCA	**Paso Flores**	**21.00**	**179**	P		**P**	**18 58 12.6**	**+3.7**
	comp=Z,1.3nm,0.7s,baz=350,slow=13,SNR=3.3							
	comp=Z,1.3nm,0.7s							
PLCA	**Paso Flores**	**21.00**	**179**	P		**P**	**18 58 07.7**	**-1.3**
BDFB	**Brasilia**	**22.32**	**83**	P		**P**	**18 58 23.2**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=158,slow=9.3,SNR=1.7							
	comp=Z,1.5nm,0.6s							
BOAV	**Boa Vista**	**24.25**	**26**	P		**P**	**18 58 40.5**	**-2.0**
BOAV						IAmb	18 58 50.5	
	comp=Z,7.9nm,1.2s							
BOAV	**Boa Vista**	**24.25**	**26**	*e*P		**P**	**18 58 42.0**	**-0.

2.1nm,0.1s
SHLS Lg Lg 18 55 58.7
425nm,0.5s
SHLS Shalkode 2.64 200 *e*Pg **Pb 18 55 24.9 -1.5**
2.1nm,0.1s
SHLS *e*Lg Lg 18 55 57.6
425nm,0.5s
UZB Uzynbulak 2.77 206 Pg **Pb 18 55 27.9 -0.7**
2.6nm,0.2s
UZB Lg Lg 18 56 03.2
34nm,0.2s
UZB Uzynbulak 2.77 206 *e*Pg **Pb 18 55 27.9 -0.7**
2.6nm,0.2s
UZB *e*Lg Lg 18 56 03.2
34nm,0.2s
KURS Kuram 2.81 221 Pg **Pb 18 55 29.3 0.0**
1.9nm,0.4s
KURS Lg Lg 18 56 05.5
17nm,0.3s
KURS Kuram 2.81 221 *e*Pg **Pb 18 55 28.3 -0.9**
1.9nm,0.4s
KURS *e*Lg Lg 18 56 04.1
17nm,0.3s
ZHN Zhinishke 2.96 214 Pg **Pb 18 55 30.8 -1.0**
2.4nm,0.1s
ZHN Lg Lg 18 56 08.3
157nm,0.3s
ZHN Zhinishke 2.96 214 *e*Pg **Pb 18 55 30.8 -1.0**
2.4nm,0.1s
ZHN *e*Lg Lg 18 56 08.3
157nm,0.3s
SATY Saty 3.06 213 Pg **Pb 18 55 33.1 -0.5**
1.7nm,0.2s
SATY Lg Lg 18 56 12.0
98nm,0.2s
SATY Saty 3.06 213 *e*Pg **Pb 18 55 33.1 -0.5**
1.7nm,0.2s
SATY *e*Lg Lg 18 56 12.0
98nm,0.2s
CHKK Chushkaly 3.18 237 *e*Pg **Pb 18 55 34.3 -1.3**
1.1nm,0.1s
CHKK *e*Lg Lg 18 56 14.3
29nm,0.3s
ZSN Zaisan 3.41 57 *e*Pg **Pb 18 55 39.9 +0.5**
1.7nm,0.2s
ZSN *e*Lg Lg 18 56 23.6
10.0nm,0.3s
KTBS Karatobe 3.45 237 Pg **Pb 18 55 40.0 -0.1**
1.5nm,0.3s
KTBS Lg Lg 18 56 23.8
50nm,0.6s
KTBS Karatobe 3.45 237 *e*Pg **Pb 18 55 40.0 -0.1**
1.5nm,0.3s
KTBS *e*Lg Lg 18 56 23.8
50nm,0.6s
KOTS Kotyrbulak 3.52 228 *e*Pg **Pb 18 55 41.9 +0.6**
1.3nm,0.3s
KOTS *e*Lg Lg 18 56 27.2
42nm,0.4s
MDOK Medeo 3.60 228 ⇑Pg **Pb 18 55 42.3 -0.5**
4.3nm,0.8s
MDOK Pg **Pb 18 55 42.7 -0.1**
2.8nm,0.3s
MDOK Lg Lg 18 56 28.5
16nm,0.5s
MDOK Lg Lg 18 56 30.8
14nm,0.6s
MDOK Medeo 3.60 228 *e*Pg **Pb 18 55 42.7 -0.1**
2.8nm,0.3s
MDOK *e*Lg Lg 18 56 28.5
16nm,0.5s
TNSS Tian-Shan 3.74 227 Pg **Pb 18 55 45.3 0.0**
0.8nm,0.2s
TNSS Lg Lg 18 56 32.7
8.3nm,0.5s
TNSS Tian-Shan 3.74 227 *e*Pg **Pb 18 55 45.3 0.0**
0.8nm,0.2s
TNSS *e*Lg Lg 18 56 32.8
8.3nm,0.5s
MTBS Maitube 3.95 232 Pg **Pb 18 55 49.1 +0.3**
1.1nm,0.1s
MTBS Lg Lg 18 56 39.2
46nm,0.4s
MTBS Maitube 3.95 232 *e*Pg **Pb 18 55 49.1 +0.3**
1.1nm,0.1s
MTBS *e*Lg Lg 18 56 39.2
46nm,0.4s
KRBS Karabastau 4.07 243 Pg **Pb 18 55 50.5 -0.2**
0.8nm,0.3s
KRBS Lg Lg 18 56 41.7
8.1nm,0.4s
KRBS Karabastau 4.07 243 *e*Pg **Pb 18 55 50.5 -0.2**
0.8nm,0.3s
KRBS *e*Lg Lg 18 56 41.7
8.1nm,0.4s
DGS Degeres 4.26 237 Pg **Pb 18 55 54.4 +0.4**
0.9nm,0.2s
DGS Lg Lg 18 56 48.3
18nm,0.4s
DGS Degeres 4.26 237 *e*Pg **Pb 18 55 54.4 +0.4**
0.9nm,0.2s
DGS *e*Lg Lg 18 56 48.3
18nm,0.4s
KST Kastek 4.27 234 Pg **Pb 18 55 54.3 +0.1**
0.5nm,0.1s
KST Lg Lg 18 56 48.1
13nm,0.4s
KST Kastek 4.27 234 *e*Pg **Pb 18 55 54.3 +0.1**
0.5nm,0.1s
KST *e*Lg Lg 18 56 48.1
13nm,0.4s
TKM2 Tokmak 2 4.55 235 ⇑Pg **Pb 18 56 02.0 +2.9**
1.7nm,0.8s
TKM2 ⇓Lg Lg 18 57 01.5
9.1nm,0.6s
CHMS Chumysh 5.01 240 ⇓Pg **Pb 18 56 09.6 +2.8**
1.4nm,0.5s
CHMS ⇓Lg Lg 18 57 14.7
5.2nm,0.6s
KURBB Kurchatov Arra 5.18 345 ⇓Pg **Pb 18 56 10.3 +0.8**
1.1nm,0.4s
KURBB ⇑Lg Lg 18 57 20.1
23nm,0.6s
WMQ Urumqi 5.33 108 ⇑*i*P **Pn 18 56 01.0 +2.4**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ LR LR
comp=N,360nm,28.8s
WMQ LR LR
comp=E,840nm,24.5s
WMQ LR LR
comp=Z,1μm,29.5s
KK31 Karatay Array 7.71 254 ⇑Pn **Pn 18 56 33.7 +2.4**
comp=Z,0.1nm,0.3s,baz=65,slow=13,SNR=7.6
KK31 ⇑Lg Lg 18 58 42.6
comp=Z,1.4nm,0.5s,baz=64,slow=27,SNR=3.5
BVA0 Borovoye Array 9.97 321 ⇑Lg Lg 18 59 52.5
comp=Z,4.0nm,0.8s
BRVK Borovoye 10.04 321 ⇓Lg Lg 18 59 52.2
comp=Z,1.8nm,0.7s

*IDC **14** 18:56:45.0±1.4, 18°.79S×176°.39E, h0km, mb4.2/11, mbtmp4.2/11, MS4.4/5, Error ellipse: s-maj=65.8km s-min=15.4km az=151.0*
*NEIC **14** 18:56:48.3±2.1, 18°.5S±0°.1×176°.48E±0°.04, h26km±5km, mb5.1/42, Error ellipse: s-maj=16.1km s-min=4.6km az=164.0*
ISC 14 18:56:48.1±0.4, **18°.56S**±0°.08×**176°.46E**±0°.06, **h23**km, **n98**, σ1§**44**/93, **mb5.0**/30, **MS4.2**/4, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.72**	**62**	Pn	**Pn**	**18 57 18.1**	**+1.4**
	89nm,0.3s,baz=34,slow=13,SNR=40						
MSVF				Sn	**Sb**	**18 57 43.0**	**+2.6**
	233nm,0.3s,baz=90,slow=22,SNR=10.0						
MSVF	**Nonsavu**	**1.72**	**62**	Pn	**Pn**	**18 57 17.3**	**+0.5**
MSVF				Sn	**Sn**	**18 57 36.2**	**-1.9**
MARNC	**Mare, Loyalty**	**8.44**	**248**	Pn	**Pn**	**18 58 49.8**	**+0.8**
LIFNC	**LIFOU**	**8.96**	**254**	Pn	**Pn**	**18 58 57.0**	**+0.8**
PINNC	**Pines Island,**	**9.35**	**243**		**Pn**	**18 59 02.5**	**+0.9**
OUENC	**Ouen Island, N**	**9.79**	**245**	Pn	**Pn**	**18 59 08.3**	**+0.6**
DZM	**Mont Dzumac**	**10.02**	**248**	Pn	**Pn**	**18 59 10.6**	**-0.3**
KOUNC	**Koumac, New Ca**	**11.64**	**258**	Pn	**Pn**	**18 59 32.2**	**-0.8**
AFI	**Afiamalu**	**12.21**	**69**	Pn	**Pn**	**18 59 38.1**	**-2.6**
NIUE	**Niue**	**12.90**	**94**	Pn	**Pn**	**18 59 48.1**	**-2.2**
HNR	**Honiara**	**18.39**	**297**	LR	LR	19 06 44.4	
	comp=Z,6μm,21.1s,baz=310,slow=32						
URZ	**Urewera**	**19.64**	**178**	P	**Pn**	**19 01 18.9**	**+2.2**
	8.9nm,0.6s,baz=32,slow=9.3,SNR=3.4						
MRZ	**Mangatainoka R**	**22.04**	**182**	P	**P**	**19 01 42.2**	**+1.1**
MRZ				IAmb	IAmb	19 01 57.9	
	comp=Z,69nm,1.4s						
BFZ	**Birch Farm**	**22.05**	**180**	P	**P**	**19 01 40.1**	**-1.1**
BFZ				IAmb	IAmb	19 01 54.0	
	comp=Z,209nm,1.7s						
QRZ	**Quartz Range**	**22.45**	**188**	P	**P**	**19 01 49.1**	**+3.6**
QRZ				IAmb	IAmb	19 01 50.0	
	comp=Z,111nm,1.3s						
RAR	**Rarotonga**	**22.50**	**101**	LR	LR	19 08 35.8	
	comp=Z,176nm,20.4s,baz=314,slow=32						
TCW	**Tory Channel**	**22.66**	**184**	P	**P**	**19 01 47.8**	**+0.1**
SNZO	**South Karori**	**22.73**	**183**	P	**P**	**19 01 49.7**	**+1.3**
NNZ	**Nelson**	**22.74**	**186**	P	**P**	**19 01 48.4**	**-0.2**
BHW	**Baring Head**	**22.82**	**183**	P	**P**	**19 01 50.1**	**+0.7**
TUWZ	**Tuamarina**	**22.90**	**185**	P	**P**	**19 01 51.1**	**+0.9**
PLWZ	**Palliser**	**22.96**	**182**	P	**P**	**19 01 50.6**	**-0.3**
MRNZ	**Matariki Terra**	**22.99**	**187**	P	**P**	**19 01 52.5**	**+1.3**
BSWZ	**Blackbirch Sta**	**23.19**	**185**	P	**P**	**19 01 51.6**	**-1.6**
CMWZ	**Cape Campbell**	**23.20**	**184**	P	**P**	**19 01 54.4**	**+1.1**
THZ	**Tophouse**	**23.33**	**187**	P	**P**	**19 01 56.2**	**+1.6**
THZ				IAmb	IAmb	19 02 19.2	
	comp=Z,230nm,1.9s						
KHZ	**Kahutara**	**23.91**	**185**	P	**P**	**19 01 59.8**	**-0.4**
KHZ				IAmb	IAmb	19 02 14.2	
	comp=Z,94nm,1.6s						
LTZ	**Lake Taylor**	**24.41**	**187**	P	**P**	**19 02 05.3**	**+0.4**
LTZ				IAmb	IAmb	19 02 05.7	
	comp=Z,41nm,1.4s						
INZ	**Inchbonnie**	**24.46**	**189**	P	**P**	**19 02 06.5**	**+1.2**
EIDS	**Eidsvold**	**24.47**	**249**	P	**P**	**19 02 04.3**	**-1.3**
GVZ	**Greta Valley S**	**24.51**	**186**	P	**P**	**19 02 05.4**	**-0.3**
ARMA	**Armidale**	**25.43**	**238**	P	**P**	**19 02 14.7**	**+0.3**
ARMA				IAmb	IAmb	19 02 18.1	
	comp=Z,93nm,1.7s						
ODZ	**Otahua Downs**	**26.85**	**189**	P	**P**	**19 02 28.8**	**+1.9**
ODZ				IAmb	IAmb	19 02 58.4	
	comp=Z,78nm,1.6s						
WKZ	**Wanaka**	**26.92**	**192**	P	**P**	**19 02 30.5**	**+2.9**
MLZ	**Mavora Lakes**	**27.62**	**193**	P	**P**	**19 02 37.6**	**+3.7**
MLZ				IAmb	IAmb	19 03 08.6	
	comp=Z,57nm,1.5s						
CTAO	**Charters Tower**	**28.52**	**262**	P	**P**	**19 02 41.8**	**-0.5**
PMG	**Port Moresby**	**29.81**	**284**	LR	LR	19 12 41.1	
	comp=Z,475nm,18.7s,baz=260,slow=32						
STKA	**Stephens Creek**	**34.06**	**240**	P	**P**	**19 03 30.3**	**-0.5**
	comp=Z,4.5nm,0.8s,baz=96,slow=8.0,SNR=6.0						
STKA				LR	LR	19 16 51.0	
	comp=Z,617nm,19.6s,baz=348,slow=36						
	comp=Z,4.5nm,0.8s						
STKA	**Stephens Creek**	**34.06**	**240**	P	**P**	**19 03 30.3**	**-0.5**
TAU	**Tasmania Uive**	**34.58**	**219**	P	**P**	**19 03 35.7**	**+0.6**
H11S2	**WAKE ISLAND Hy**	**38.04**	**345**	T	T	19 44 23.9	
	baz=166,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.05**	**345**	T	T	19 44 26.0	
	baz=166,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**38.06**	**345**	T	T	19 44 28.0	
	baz=166,slow=76,SNR=9.2						
BBOO	**Buckleboo**	**38.83**	**241**	P	**P**	**19 04 10.7**	**-0.8**
BBOO				IAmb	IAmb	19 04 59.0	
	comp=Z,93nm,1.7s						
WR0	**Warramunga Arr**	**39.52**	**261**	P	**P**	**19 04 15.5**	**-2.0**
WB0	**Warramunga Arr**	**39.68**	**261**	P	**P**	**19 04 16.4**	**-2.5**
WB2	**Warramunga Arr**	**39.70**	**261**	P	**P**	**19 04 16.4**	**-2.6**
WRA	**Warramunga Arr**	**39.71**	**261**	P	**P**	**19 04 17.1**	**-2.0**
	comp=Z,2.1nm,0.8s,baz=93,slow=8.4,SNR=13						
	comp=Z,2.1nm,0.8s						
WRA	**Warramunga Arr**	**39.71**	**261**	P	**P**	**19 04 16.2**	**-2.9**
AS31	**Alice Springs**	**39.91**	**255**	P	**P**	**19 04 18.8**	**-1.9**
ASAR	**Alice Springs**	**39.91**	**255**	P	**P**	**19 04 19.2**	**-1.5**
	comp=Z,3.6nm,0.7s,baz=85,slow=8.9,SNR=66						
ASAR				PcP	**PcP**	**19 06 26.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=104,slow=3.0,SNR=4.2						
	comp=Z,3.6nm,0.7s						
ASAR	**Alice Springs**	**39.91**	**255**	P	**P**	**19 04 18.7**	**-2.1**
MTN	**Manton Dam**	**43.91**	**271**	P	**P**	**19 04 52.0**	**-1.5**
MTN				IAmb	IAmb	19 06 10.1	
	comp=Z,37nm,1.6s						
FORT	**Forrest**	**45.32**	**245**	P	**P**	**19 05 03.6**	**-0.9**
FORT				IAmb	IAmb	19 05 04.8	
	comp=Z,28nm,0.8s						
KNRA	**Kununurra**	**45.57**	**266**	P	**P**	**19 05 05.0**	**-1.7**
KNRA				IAmb	IAmb	19 05 10.7	
	comp=Z,70nm,1.9s						
AIN	**Ainahou**	**46.70**	**38**	P	**P**	**19 05 14.7**	**-0.9**
MLOA	**Mauna Loa Obse**	**46.76**	**37**	P	**P**	**19 05 14.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**48.11**	**262**	P	**P**	**19 05 25.4**	**-1.1**
PTCN	**Pitcairn Islan**	**49.78**	**107**	P	**P**	**19 05 38.2**	**-1.1**
BATI	**Baumata**	**51.66**	**272**	P	**P**	**19 05 54.6**	**+1.0**
	comp=Z,6.6nm,0.3s,baz=339,slow=4.9,SNR=4.6						
	comp=Z,6.6nm,0.3s						
PSA00	**Pilbara Seismi**	**53.02**	**257**	P	**P**	**19 06 02.7**	**-0.9**
PSA00				IAmb	IAmb	19 07 37.5	
	comp=Z,58nm,1.8s						
MBWA	**Marble Bar**	**53.18**	**257**	P	**P**	**19 06 03.6**	**-1.1**
MBWA				IAmb	IAmb	19 06 16.0	
	comp=Z,48nm,1.6s						
NWAO	**Narrogin (SRO)**	**54.59**	**242**	P	**P**	**19 06 13.7**	**-1.3**
NWAO				IAmb	IAmb	19 07 31.3	
	comp=Z,57nm,1.6s						
NWAO	**Narrogin (SRO)**	**54.59**	**242**	P	**P**	**19 06 13.8**	**-1.2**
NWAO				IAmb	IAmb	19 07 31.3	
	comp=Z,42nm,1.5s						
MORW	**Morawa**	**55.74**	**247**	P	**P**	**19 06 22.3**	**-1.1**
MORW				IAmb	IAmb	19 08 25.7	
	comp=Z,34nm,1.5s						
CASY	**Casey**	**63.52**	**204**	P	**P**	**19 07 15.7**	**-0.6**
JSG	**Sagara**	**64.23**	**325**	P	**P**	**19 07 19.6**	**-1.8**
QSPA	**South Pole Qui**	**71.50**	**180**	P	**P**	**19 08 06.7**	**-0.2**
QSPA				IAmb	IAmb	19 08 08.4	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**71.50**	**180**		**P**	**19 08 06.8**	**-0.1**
YSS	**Yuzh-Sakhalins**	**71.93**	**336**	P	**P**	**19 08 09.6**	**+0.1**
CLES	**Cleveland East**	**72.06**	**9**	P	**P**	**19 08 09.1**	**-1.0**
CLES				IAmb	IAmb	19 09 58.0	
	comp=Z,1μm,1.6s						
CN2	**Changchun**	**77.64**	**325**	P	**P**	**19 08 44.6**	**+2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NVAR	**Mina Array Bea**	**83.32**	**46**	P	**P**	**19 09 15.7**	**+2.1**
	comp=Z,0.4nm,0.2s,baz=228,slow=8.6,SNR=7.8						
	comp=Z,0.4nm,0.2s						
SEY	**Seymchan**	**83.40**	**349**	P	**P**	**19 09 14.9**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=156,slow=5.1,SNR=9.3						
	comp=Z,2.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**84.54**	**291**	P	**P**	**19 09 21.3**	**+1.4**
	comp=Z,2.2nm,1.1s,baz=119,slow=4.1,SNR=12						
	comp=Z,2.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**84.54**	**291**	P	**P**	**19 09 20.2**	**+0.3**
ELK	**Elko**	**86.52**	**45**	LR	LR	19 41 14.8	
	comp=Z,296nm,21.8s,baz=297,slow=31						
ILAR	**Eielson Array**	**87.69**	**15**	P	**P**	**19 09 35.9**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=243,slow=4.0,SNR=5.3						
	comp=Z,0.8nm,0.9s						
SONM	**Songino Array**	**90.91**	**321**	P	**P**	**19 09 50.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=132,slow=2.1,SNR=3.7						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**91.22**	**45**	P	**P**	**19 09 52.8**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=258,slow=4.5,SNR=2.2						
	comp=Z,0.2nm,0.5s						
GTA	**Gaotai**	**91.73**	**311**	*e*P	**P**	**19 09 56.0**	**+1.8**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YKA	**Yellowknife Ar**	**97.00**	**26**	P	Pdif	19 10 19.4	+1.7
	comp=Z,0.4nm,0.8s,baz=259,slow=4.7,SNR=4.4						
	comp=Z,0.4nm,0.8s						
OSTC	**Ostas**	**144.40**	**338**	*e*PKP	**PKPdf**	**19 16 23.3**	**+0.9**
DPC	**Dobruska-Polom**	**144.53**	**338**	*e*PKP	**PKPdf**	**19 16 23.3**	**+0.6**
CLL	**Collm**	**144.79**	**342**	*i* PKPdf	**PKPdf**	**19 16 23.7**	**+0.7**
	comp=Z,18nm,1.5s						
PRU	**Pruhonice**	**145.46**	**339**	*e*PKP	**PKPab**	**19 16 25.7**	**+1.3**
KHC	**Kasperske Hory**	**146.51**	**339**	*e*PKP	**PKPab**	**19 16 28.8**	**+0.3**
CKRC	**Cesky Krumlov**	**146.53**	**338**	*e*PKP	**PKiKP**	**19 16 29.9**	**-0.6**
CONA	**Conrad Observa**	**146.71**	**336**	*i* PKP	**PKiKP**	**19 16 30.3**	**-0.7**
	comp=Z,6.1nm,0.9s						
GERES	**GERESS Array B**	**146.72**	**339**	PKPbc	**PKPab**	**19 16 29.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=32,slow=2.8,SNR=9.0						
RONA	**Rosalia, Austr**	**146.72**	**335**	*i* PKP	**PKiKP**	**19 16 30.5**	**-0.5**
	comp=Z,6.8nm,0.8s						
ARSA	**Arzberg**	**147.39**	**336**	*i* PKP	**PKPbc**	**19 16 29.3**	**-0.8**
	comp=Z,3.9nm,1.1s						
BIOA	**Bad Ischl, Aus**	**147.73**	**338**	*e*PKP	**PKPbc**	**19 16 30.0**	**-1.0**
	comp=Z,3.0nm,1.1s						
KBA	**Koelnbreinsper**	**148.35**	**338**	*e*PKP	**PKPdf**	**19 16 29.9**	**+0.5**
	comp=Z,4.9nm,1.3s						
OBKA	**Obir**	**148.38**	**336**	*e*PKP	**PKPdf**	**19 16 29.9**	**+0.5**
	comp=Z,7.4nm,1.8s						
MYKA	**Terra Mystica**	**148.63**	**337**	*i* PKP	**PKPbc**	**19 16 31.4**	**-2.1**
	comp=Z,1.8nm,0.5s						
MOTA	**Moosalm**	**148.88**	**341**	*i* PKP	**PKPbc**	**19 16 32.8**	**-1.4**
	comp=Z,8.3nm,1.6s						
ABTA	**Abfaltersbach**	**148.93**	**338**	*e*PKP	**PKPdf**	**19 16 31.7**	**+1.5**
	comp=Z,8.1nm,1.4s						

*AEIC **14** 19:00:30.8±1.5, 54°.02N±0°.05×163°.60W±0°.08, h20km±7km, Error ellipse: s-maj=8.8km s-min=4.8km az=139.0*
*NEIC **14** 19:00:31.2±1.8, 54°.00N±0°.06×163°.65W±0°.05, h30km±11km, mb3.6/5, ML3.6/6, ML3.4/30(AEIC), Error ellipse: s-maj=9.3km s-min=4.2km az=179.0*
*IDC **14** 19:00:32.6±6.0, 54°.50N×163°.68W, h45km±43km, mb3.2/3, mbtmp3.4/6, ML3.1/3, MS4.2/1, Error ellipse: s-maj=106.0km s-min=25.6km az=166.0*
ISC 14 19:00:29.1±1.7, **53°.93N**±0°.08×**163°.48W**±0°.06, **h30**km±12km, **n79**, σ1§**71**/73, **mb3.5**/4, **Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRPK	**Brown Peak**	**0.74**	**348**		**Pb**	**19 00 43.5**	**0.0**
ISLZ	**Isanotski Laza**	**0.81**	**350**		**Pb**	**19 00 44.5**	**-0.2**
ISLZ					**Sb**	**19 00 54.4**	**-1.0**
SSLS	**Shishaldin Sou**	**0.84**	**339**		**Pb**	**19 00 45.2**	**-0.1**
WESE	**West Dahl East**	**0.85**	**310**		**Pn**	**19 00 45.4**	**+0.3**
WESN	**West Dahl Nort**	**0.91**	**315**		**Pb**	**19 00 46.5**	**0.0**
SSBA	**Shishaldin**	**0.93**	**336**		**Pn**	**19 00 46.2**	**+0.1**
SSBA					**Sn**	**19 00 57.6**	**-0.9**
SSLN	**Shishaldin Nor**	**0.94**	**341**		**Pn**	**19 00 46.8**	**+0.6**
SSLN					**Sn**	**19 00 58.7**	**+0.1**
WEBT	**Westdahl Beart**	**1.00**	**312**		**Pn**	**19 00 47.5**	**+0.4**
AKSA	**Akutan Strait**	**1.32**	**280**		**Pn**	**19 00 52.7**	**+1.2**
AKSA					**Sb**	**19 01 08.6**	**-1.3**
AKUT	**Akutan**	**1.37**	**280**		**Pn**	**19 00 53.3**	**+1.2**
AKUT					**Sb**	**19 01 10.0**	**-1.2**
AKUT	**Akutan**	**1.37**	**280**	IAML		19 01 10.0	
	comp=N,1μm,0.4s						
DT1	**Dutton Round H**	**1.37**	**30**		**Pn**	**19 00 53.3**	**+1.1**
AKLV	**Akutan Long Va**	**1.48**	**280**		**Pn**	**19 00 54.9**	**+1.2**
ZRO	**Akutan Zero**	**1.48**	**277**		**Pn**	**19 00 55.0**	**+1.2**
AKMO	**Akutan Morgan**	**1.50**	**277**		**Pn**	**19 00 55.4**	**+1.4**
HAG	**Hague Volcano**	**1.67**	**33**		**Pn**	**19 00 58.3**	**+2.0**
PS4A	**Pavlof South-4**	**1.71**	**33**		**Pn**	**19 00 59.1**	**+2.3**
PN7A	**Pavlof North-7**	**1.74**	**29**		**Pn**	**19 01 00.3**	**+3.0**
UNV	**Unalaska Valle**	**1.79**	**269**		**Pn**	**19 00 58.5**	**+0.5**
MNAT	**Makushin Natee**	**1.90**	**270**		**Pn**	**19 01 00.5**	**+1.1**
MSW	**Makushin Switc**	**1.95**	**271**		**Pn**	**19 01 01.3**	**+1.1**
S12K	**Black Hills**	**1.96**	**24**		**Pn**	**19 01 01.6**	**+1.4**
MGOD	**Makushin Gods**	**2.02**	**268**		**Pn**	**19 01 02.5**	**+1.4**
MAPS	**Pakushin South**	**2.05**	**268**		**Pn**	**19 01 03.0**	**+1.4**
SDPT	**Sand Point**	**2.25**	**50**		**Pn**	**19 01 06.9**	**+2.7**
SDPT	**Sand Point**	**2.25**	**50**	IAML		19 01 40.6	
	comp=N,282nm,1.0s						
NIKH	**Nikolski High**	**3.35**	**256**	Pn	**Pn**	**19 01 21.7**	**+2.3**
CHGN	**Chignik**	**3.76**	**49**	Pn	**Pn**	**19 01 27.6**	**+2.7**
CHGN				IAML		19 02 19.7	
	comp=E,95nm,3.0s						
CHGN				IAML		19 02 20.1	
	comp=N,81nm,0.4s						
SPIA	**Saint Paul Isl**	**5.04**	**313**	Pn	**Pn**	**19 01 43.2**	**+0.7**
OHAK	**Old Harbor**	**6.65**	**56**	Pn	**Pn**	**19 02 05.4**	**+0.8**
KDAK	**Kodiak Island**	**7.25**	**53**	P	**Pn**	**19 02 13.3**	**+0.5**
	comp=N,0.6nm,0.3s,baz=215,slow=4.8,SNR=18						
KDAK				S	**Sn**	**19 03 30.0**	**-3.9**
	comp=N,29nm,1.3s,baz=19,slow=6.1,SNR=2.0						
	comp=N,8.2nm,0.9s						
KDAK	**Kodiak Island**	**7.25**	**53**	Pn	**Pn**	**19 02 13.6**	**+0.9**
Q19K	**Cape Douglas,**	**7.40**	**43**	Pn	**Pn**	**19 02 17.2**	**+2.2**
O18K	**Koktuh Hills**	**7.47**	**34**	Pn	**Pn**	**19 02 18.4**	**+2.5**
SVW2	**Sparrevohn**	**8.35**	**27**	Pn	**Pn**	**19 02 30.6**	**+2.7**
N19K	**Bonanza Creek**	**8.44**	**31**	Pn	**Pn**	**19 02 32.3**	**+3.1**
CNPM	**China Poot**	**8.75**	**45**	Pn	**Pn**	**19 02 34.8**	**+1.2**
L19K	**White Mountain**	**9.45**	**25**	Pn	**Pn**	**19 02 45.0**	**+2.0**
M20K	**Styx River**	**9.68**	**30**	Pn	**Pn**	**19 02 48.9**	**+2.6**
SKT	**Skwentna**	**10.25**	**33**	Pn	**Pn**	**19 02 57.0**	**+3.0**
K20K	**Telida**	**10.64**	**24**	Pn	**Pn**	**19 03 00.9**	**+1.6**
PPLA	**Purkeypile**	**10.75**	**29**	Pn	**Pn**	**19 03 03.4**	**+2.5**
CAST	**Castle Rocks**	**11.19**	**27**	Pn	**Pn**	**19 03 08.8**	**+1.9**
J20K	**Beaver Creek**	**11.33**	**21**	Pn	**Pn**	**19 03 10.2**	**+1.5**
SCM	**Sheep Creek Mo**	**11.66**	**41**	Pn	**Pn**	**19 03 13.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**12.03**	**27**	Pn	**Pn**	**19 03 20.3**	**+2.0**
KLU	**Klutina**	**12.03**	**44**	Pn	**Pn**	**19 03 18.0**	**-0.3**
M24K	**Tolsona, Glenn**	**12.26**	**41**	Pn	**Pn**	**19 03 22.4**	**+0.8**
I21K	**Tanana**	**12.67**	**23**	Pn	**Pn**	**19 03 28.2**	**+1.3**
MLY	**Manley**	**12.84**	**25**	Pn	**Pn**	**19 03 31.1**	**+1.7**
GLB	**Gilahina Butte**	**12.89**	**46**	Pn	**Pn**	**19 03 31.5**	**+1.4**
H21K	**Melozitna Rive**	**12.91**	**20**	Pn	**Pn**	**19 03 31.6**	**+1.4**
IMAR	**Indian Mountai**	**13.01**	**18**	Pn	**Pn**	**19 03 34.2**	**+2.6**
M26K	**Nabesna, AK**	**13.69**	**44**	Pn	**Pn**	**19 03 41.1**	**+0.2**
TABL	**Table Mountain**	**13.71**	**53**	Pn	**Pn**	**19 03 42.0**	**+0.6**
ILAR	**Eielson Array**	**13.72**	**31**	P	**Pn**	**19 03 40.0**	**-1.2**
	baz=222,slow=12,SNR=1.2						
	comp=N,0.2nm,0.5s						
SCRK	**Sand Creek**	**14.16**	**37**	Pn	**Pn**	**19 03 48.8**	**+1.4**
H24K	**Noodor Dome**	**14.22**	**27**	Pn	**Pn**	**19 03 47.7**	**-0.4**
J26L	**Joseph Creek**	**14.62**	**36**	Pn	**Pn**	**19 03 55.5**	**+1.8**
K27K	**Chicken**	**14.88**	**39**	Pn	**Pn**	**19 03 57.8**	**+0.7**
I26K	**Coal Creek Min**	**15.26**	**34**	Pn	**Pn**	**19 04 03.1**	**+1.0**
I26K				IAmb	IAmb	19 04 14.5	
	comp=Z,6.7nm,1.4s						
DAWY	**Dawson**	**15.92**	**41**	Pn	**Pn**	**19 04 13.1**	**+2.4**
M30M	**Minto, Yukon**	**16.38**	**47**		**Pn**	**19 04 20.1**	**+3.5**
M30M				IAmb	IAmb	19 04 22.6	
	comp=Z,4.1nm,1.2s						
FARO	**Faro, Yukon**	**17.82**	**50**		**P**	**19 04 37.3**	**+2.2**
INK	**Inuvik**	**20.10**	**33**	P	**P**	**19 04 57.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=192,slow=9.3,SNR=1.3						
	comp=Z,0.2nm,0.3s						
PETK	**Petropavlovsk-**	**22.91**	**284**	P	**P**	**19 05 29.0**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=90,slow=

	102nm,0.3s,baz=295,slow=19,SNR=19							
MSVF					LR	LR	19 03 49.6	
	comp=Z,787nm,21.5s,baz=186,slow=42							
FUNA	**Funafuti**	**10.39**	**17**	Pn	**Pn**	**19 04 48.7**	**-1.8**
URZ	**Urewera**	**19.65**	**178**	P	**Pn**	**19 06 52.1**	**+0.5**
	0.4nm,0.3s,baz=110,slow=8.8,SNR=2.4							
	8.6nm,1.0s							
BKZ	**Black Stump Fm**	**20.54**	**179**	P	**P**	**19 07 00.4**	**+0.4**
BKZ				IAmb	IAmb	19 07 25.8		
	comp=Z,24nm,1.4s							
ARMA	**Armidale**	**25.22**	**237**	P	**P**	**19 07 48.0**	**+0.4**
ARMA				IAmb	IAmb	19 07 49.0		
	comp=Z,13nm,0.9s							
STKA	**Stephens Creek**	**33.84**	**240**	P	**P**	**19 09 04.0**	**0.0**
	comp=Z,6.5nm,0.9s,baz=73,slow=8.1,SNR=8.1							
	comp=Z,6.5nm,0.9s							
STKA	**Stephens Creek**	**33.84**	**240**	P	**P**	**19 09 04.2**	**+0.1**
STKA				IAmb	IAmb	19 09 05.2		
	comp=Z,2.0nm,1.0s							
H11S2	**WAKE ISLAND Hy**	**37.98**	**345**	T	T	19 49 59.1		
	baz=166,slow=76,SNR=8.6							
H11S3	**WAKE ISLAND Hy**	**37.99**	**345**	T	T	19 50 01.3		
	baz=166,slow=76,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**38.00**	**345**	T	T	19 50 00.9		
	baz=166,slow=76,SNR=9.1							
BBOO	**Buckleboo**	**38.61**	**240**	P	**P**	**19 09 44.3**	**-0.6**
BBOO				IAmb	IAmb	19 09 51.8		
	comp=Z,24nm,1.4s							
WB0	**Warramunga Arr**	**39.43**	**261**	P	**P**	**19 09 50.5**	**-1.4**
WB0				IAmb	IAmb	19 09 51.5		
	comp=Z,5.3nm,1.1s							
WRA	**Warramunga Arr**	**39.47**	**261**	P	**P**	**19 09 50.7**	**-1.5**
	comp=Z,2.3nm,0.9s,baz=90,slow=8.9,SNR=12							
	comp=Z,2.3nm,0.9s							
WRA	**Warramunga Arr**	**39.47**	**261**	P	**P**	**19 09 50.4**	**-1.8**
AS31	**Alice Springs**	**39.67**	**255**	P	**P**	**19 09 52.7**	**-1.2**
ASAR	**Alice Springs**	**39.67**	**255**	P	**P**	**19 09 53.2**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=85,slow=8.9,SNR=55							
ASAR				PcP	**PcP**	**19 12 00.0**	**-0.7**	
	comp=Z,0.5nm,0.9s,baz=85,slow=2.9,SNR=4.1							
	comp=Z,3.7nm,0.7s							
ASAR	**Alice Springs**	**39.67**	**255**	P	**P**	**19 09 52.6**	**-1.3**
FORT	**Forrest**	**45.09**	**245**	P	**P**	**19 10 37.3**	**-0.6**
KNRA	**Kununurra**	**45.32**	**266**	P	**P**	**19 10 39.6**	**-0.3**
KNRA				IAmb	IAmb	19 11 07.8		
	comp=Z,16nm,1.2s							
FITZ	**Fitzroy Crossi**	**47.86**	**262**	P	**P**	**19 10 59.3**	**-0.5**
PSA00	**Pilbara Seismi**	**52.77**	**257**		**P**	**19 11 38.0**	**+1.0**
MORW	**Morawa**	**55.51**	**247**	P	**P**	**19 11 56.2**	**-0.7**
MJAR	**Matsushiro Arr**	**65.50**	**327**	P	**P**	**19 13 05.4**	**+0.5**
	comp=Z,3.0nm,1.0s,baz=140,slow=7.7,SNR=3.0							
	comp=Z,3.0nm,1.0s							
LEM	**Lembang**	**67.58**	**270**	P	**P**	**19 13 18.6**	**-0.3**
	comp=Z,16nm,0.6s,baz=36,slow=7.3,SNR=5.1							
QSPA	**South Pole Qui**	**71.50**	**180**	P	**P**	**19 13 41.1**	**-1.1**
QSPA				IAmb	IAmb	19 13 44.0		
	comp=Z,7.4nm,1.1s							
YBH	**Yreka Blue Hor**	**82.33**	**41**	LR	LR	19 44 53.0		
	comp=Z,137nm,19.5s,baz=290,slow=31							
SEY	**Seymchan**	**83.35**	**349**	P	**P**	**19 14 49.5**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=183,slow=6.5,SNR=5.5							
	comp=Z,1.7nm,0.6s							
NVAR	**Mina Array Bea**	**83.50**	**46**	P	**P**	**19 14 52.3**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=224,slow=6.2,SNR=5.0							
	comp=Z,0.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**84.31**	**292**	P	**P**	**19 14 55.5**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=121,slow=4.2,SNR=10							
	comp=Z,1.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**84.31**	**292**	P	**P**	**19 14 52.6**	**-1.4**
ILAR	**Eielson Array**	**87.75**	**15**	P	**P**	**19 15 10.2**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=232,slow=6.7,SNR=5.3							
	comp=Z,0.7nm,0.9s							
SONM	**Songino Array**	**90.75**	**321**	P	**P**	**19 15 26.7**	**+2.0**
	comp=Z,1.1nm,1.1s,baz=126,slow=3.7,SNR=2.9							
	comp=Z,1.1nm,1.1s							
PDAR	**Pinedale Array**	**91.40**	**45**	P	**P**	**19 15 29.0**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=188,slow=1.8,SNR=2.8							
	comp=Z,0.5nm,0.9s							
YKA	**Yellowknife Ar**	**97.11**	**26**	P	Pdif	19 15 54.2	+0.7	
	comp=Z,0.2nm,0.7s,baz=257,slow=5.6,SNR=2.9							
	comp=Z,0.2nm,0.7s							
DPC	**Dobruska-Polom**	**144.44**	**338**	*e*PKP	**PKPdf**	**19 21 57.9**	**0.0**
MAUC	**Maruska**	**144.67**	**335**	*e*PKP	**PKPab**	**19 21 56.6**	**-0.4**
CLL	**Collm**	**144.71**	**342**	*i* PKPdf	**PKPdf**	**19 21 58.0**	**-0.3**
	comp=Z,6.0nm,0.7s							
PVCC	**Panska Ves**	**144.90**	**340**	*e*PKP	**PKPdf**	**19 21 59.5**	**+0.9**
PRU	**Pruhonice**	**145.37**	**339**	*e*PKP	**PKPdf**	**19 22 00.5**	**+1.1**
KHC	**Kasperske Hory**	**146.43**	**339**	*e*PKP	**PKiKP**	**19 22 04.8**	**-0.9**
CKRC	**Cesky Krumlov**	**146.44**	**338**	*e*PKP	**PKiKP**	**19 22 04.7**	**-1.0**
GERES	**GERESS Array B**	**146.63**	**339**	PKPbc	**PKPab**	**19 22 04.0**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=44,slow=3.1,SNR=7.2							

IDC 14 19:09:39.6±1.6, 15°.87S×176°.29E, h0km, mb3.5/3, mbtmp3.4/4, ML4.6/1, Error ellipse: s-maj=44.1km s-min=31.4km az=15.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.51**	**138**	Pn	Pn	19 10 21.8	+0.1
	5.7nm,0.3s,baz=230,slow=12,SNR=11						
MSVF				Sn	Sn	19 10 46.3	-6.7
	26nm,0.3s,baz=304,slow=22,SNR=22						
	11nm,0.4s						
WRA	**Warramunga Arr**	**40.05**	**258**	P	P	19 17 16.5	-0.4
	0.1nm,0.4s,baz=87,slow=9.1,SNR=1.7						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**40.52**	**252**	P	P	19 17 20.9	+0.1
	0.8nm,0.9s,baz=87,slow=9.4,SNR=6.7						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**85.14**	**15**	P	P	19 22 17.2	0.0
	0.7nm,1.0s,baz=210,slow=5.2,SNR=3.2						
	0.7nm,1.0s						

*MDD **14** 19:10:45.4±0.4, 35°.63N×3°.80W, h0km, mb_Lg2.5/18, Error ellipse: s-maj=2.9km s-min=2.4km az=174.0*
*SFS **14** 19:10:45.2, 35°.47N×3°.74W, h18km, ML3.1/16, MLv3.1/16*
*INMG **14** 19:10:45.6±1.3, 35°.58N×3°.82W, h3km±3km, ML2.1, Error ellipse: s-maj=2.7km s-min=2.0km az=14.0*
*CNRM **14** 19:10:46.4, 35°.59N×3°.68W, h62km, ml2.3*
ISC 14 19:10:44.7±1.5, 35°.56N±0°.02×3°.77W±0°.02, h16km±11km, n68, σ1°30/118, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.58**	**229**	P	**Pb**	**19 10 56.0**	**-0.5**
PVLZ				S	**Sg**	**19 11 02.5**	**-1.4**
EALB	**Alboran**	**0.71**	**57**	P	**Pb**	**19 10 58.6**	**-0.1**
EALB				S	**Sg**	**19 11 08.0**	**+0.1**
EALB	**Alboran**	**0.71**	**57**	Pg	**Pb**	**19 10 58.5**	**-0.2**
EALB				Sg	**Sg**	**19 11 08.7**	**+0.8**
EALB				*i* Vmb_Lg		19 11 10.7	
EMEL	**Melilla**	**0.71**	**111**	Pg	**Pb**	**19 10 59.2**	**+0.5**
EMEL				Sg	**Sb**	**19 11 08.3**	**+0.1**
CHAS	**Isla Isabel II**	**1.15**	**108**	P	**Pn**	**19 11 04.4**	**-1.8**
CHAS				S	**Sb**	**19 11 18.9**	**-2.1**
EMIJ	**Mijas**	**1.29**	**321**	S	**Sb**	**19 11 24.0**	**-1.1**
EMIJ				P	**Pn**	**19 11 07.8**	**-0.4**
EMIJ	**Mijas**	**1.29**	**321**	Pg	**Pn**	**19 11 07.5**	**-0.8**
EMIJ				Sg	**Sb**	**19 11 24.1**	**-1.1**
EMIJ				*i* Vmb_Lg		19 11 26.0	
ELGU	**Los Guajares,**	**1.31**	**5**	S	**Sn**	**19 11 26.0**	**+0.2**
ELGU				P	**Pn**	**19 11 07.5**	**-0.9**
ELGU	**Los Guajares,**	**1.31**	**5**	Pg	**Pn**	**19 11 07.6**	**-0.9**
ELGU				Sg	**Sb**	**19 11 23.6**	**-2.1**
ELGU				*i* Vmb_Lg		19 11 28.2	
EMAL	**Malaga-Limoner**	**1.32**	**336**	S	**Sn**	**19 11 24.5**	**-1.2**
EMAL				P	**Pn**	**19 11 08.0**	**-0.5**
TAF	**Taforalt**	**1.33**	**123**	P	**Pn**	**19 11 07.8**	**-0.9**
TAF				S	**Sn**	**19 11 25.7**	**-0.6**
CEU	**Ceuta**	**1.35**	**285**	P	**Pn**	**19 11 06.8**	**-2.1**
ECEU	**Ceuta**	**1.35**	**285**	P	**Pn**	**19 11 07.9**	**-1.1**
ECEU	**Ceuta**	**1.35**	**285**	Pg	**Pn**	**19 11 08.0**	**-1.0**
ECEU				Sg	**Sn**	**19 11 24.0**	**-2.7**
ECEU				*i* Vmb_Lg		19 11 27.6	
CHEFC	**Chefchaouen**	**1.36**	**251**	P	**Pb**	**19 11 11.6**	**+1.7**
CHEFC				S	**Sn**	**19 11 28.4**	**+1.4**
JBK	**JBK**	**1.57**	**141**	P	**Pn**	**19 11 11.2**	**-1.0**
JBK				S	**Sn**	**19 11 31.9**	**-0.4**
EGOR	**Sierra Gorda,**	**1.57**	**350**	S	**Sb**	**19 11 33.4**	**+0.1**
EGOR				P	**Pn**	**19 11 12.7**	**+0.5**
EGOR	**Sierra Gorda,**	**1.57**	**350**	Pg	**Pn**	**19 11 12.6**	**+0.5**
EGOR				Sg	**Sn**	**19 11 31.5**	**-0.8**
EGOR				*i* Vmb_Lg		19 11 39.7	
EJIF	**Jimena Fronter**	**1.64**	**303**	Pn	**Pn**	**19 11 13.2**	**+0.2**
EQUE	**Quentar**	**1.67**	**9**	Pn	**Pn**	**19 11 14.3**	**+0.9**
EQUE				Sn	**Sn**	**19 11 34.4**	**-0.1**
EQUE				*i* Vmb_Lg		19 11 39.7	
ENIJ	**Nijar**	**1.89**	**41**	Pn	**Pn**	**19 11 17.3**	**+0.9**
ENIJ				Sn	**Sn**	**19 11 38.7**	**-1.3**
ENIJ				*i* Vmb_Lg		19 11 45.8	
ESPR	**Espera**	**2.14**	**308**	Sn	**Sn**	**19 11 46.3**	**+0.3**
ESPR				*i* Vmb_Lg		19 11 52.1	
EQES	**Quesada**	**2.31**	**14**	Pg	**Pb**	**19 11 24.8**	**-1.3**
EQES				Sn	**Sn**	**19 11 50.9**	**+0.5**
EQES				*i* Vmb_Lg		19 11 54.8	
EADA	**Adamuz**	**2.69**	**346**	P	**Pn**	**19 11 29.5**	**+2.2**
EADA				S	**Sn**	**19 12 00.3**	**+0.7**
EADA	**Adamuz**	**2.69**	**346**	Pn	**Pn**	**19 11 28.7**	**+1.4**
EADA				Pg	**Pb**	**19 11 32.3**	**-0.1**
EADA				Sn	**Sn**	**19 11 59.2**	**-0.4**
EADA				Sg	**Sb**	**19 12 06.2**	**+1.1**
EADA				*i* Vmb_Lg		19 12 08.1	
MD31	**MD31**	**2.81**	**197**	P	**Pn**	**19 11 30.1**	**+1.1**
MD31				S	**Sn**	**19 12 03.8**	**+1.1**
MDT	**Midelt**	**2.82**	**195**	P	**Pn**	**19 11 30.4**	**+1.1**
MDT				S	**Sn**	**19 12 04.4**	**+1.3**
ECAB	**El Cabril**	**2.84**	**333**	S	**Sn**	**19 12 04.5**	**+1.1**
ECAB				P	**Pn**	**19 11 31.3**	**+1.8**
ECAB	**El Cabril**	**2.84**	**333**	Pn	**Pn**	**19 11 30.9**	**+1.4**
ECAB				Sn	**Sn**	**19 12 03.5**	**+0.1**
ECAB				Sg	**Sb**	**19 12 12.6**	**+2.9**
ECAB				*i* Vmb_Lg		19 12 14.0	
EMUR	**La Murta**	**3.05**	**41**	Pn	**Pn**	**19 11 33.2**	**+0.8**
EMUR				Sn	**Sn**	**19 12 07.1**	**-1.6**
EMUR				*i* Vmb_Lg		19 12 15.7	
EMIN	**Mina Concepcio**	**3.21**	**314**	S	**Sn**	**19 12 11.8**	**-0.8**
EMIN				P	**Pn**	**19 11 34.9**	**+0.4**
EMIN	**Mina Concepcio**	**3.21**	**314**	Pn	**Pn**	**19 11 35.1**	**+0.5**
EMIN				Sn	**Sn**	**19 12 11.7**	**-0.8**
EMIN				*i* Vmb_Lg		19 12 15.3	
PSIM	**Granatula de C**	**3.26**	**0**	Pn	**Pn**	**19 11 36.2**	**+1.0**
PSIM				Sn	**Sn**	**19 12 12.2**	**-1.5**
ETOB	**Tobarra**	**3.56**	**29**	P	**Pn**	**19 11 41.3**	**+2.0**
ETOB	**Tobarra**	**3.56**	**29**	Pn	**Pn**	**19 11 41.1**	**+1.7**
ETOB				Sn	**Sn**	**19 12 21.5**	**+0.4**
ETOB				*i* Vmb_Lg		19 12 28.1	
EGRO	**El Granado**	**3.58**	**304**	P	**Pn**	**19 11 40.1**	**+0.5**
EGRO				S	**Sn**	**19 12 19.8**	**-1.9**
EGRO	**El Granado**	**3.58**	**304**	Pn	**Pn**	**19 11 40.2**	**+0.5**
EGRO				Sn	**Sn**	**19 12 20.1**	**-1.6**
EGRO				*i* Vmb_Lg		19 12 24.8	
PVAQ	**Vaqueiros**	**3.68**	**301**	*e*Pn	**Pn**	**19 11 41.5**	**+0.5**
PVAQ				*e*Sn	**Sn**	**19 12 22.4**	**-1.6**
PVAQ				A	A	19 12 24.7	
	3.7nm,0.7s						
PVAQ	**Vaqueiros**	**3.68**	**301**	P	**Pn**	**19 11 42.3**	**+1.3**
PVAQ				S	**Sn**	**19 12 23.3**	**-0.7**
PVAQ	**Vaqueiros**	**3.68**	**301**	P	**Pn**	**19 11 41.3**	**+0.3**
PBAR	**Barrancos**	**3.70**	**316**	*e*Pn	**Pn**	**19 11 41.9**	**+0.6**
PBAR				*e*Sn	**Sn**	**19 12 23.6**	**-1.0**
PBAR				A	A	19 12 36.1	
	2.1nm,0.7s						
PBAR	**Barrancos**	**3.70**	**316**	P	**Pn**	**19 11 41.8**	**+0.5**
PAB	**San Pablo**	**4.01**	**354**	Pn	**Pn**	**19 11 46.9**	**+1.4**
PCVE	**Castro Verde**	**4.01**	**302**	*e*Pn	**Pn**	**19 11 46.2**	**+0.6**
PCVE				*e*Sn	**Sn**	**19 12 30.6**	**-1.7**
PCVE				A	A	19 12 33.0	
	2.8nm,0.6s						
AFON	**Font Roja**	**4.03**	**39**	Sn	**Sn**	**19 12 32.3**	**-0.7**
EBAD	**Badajoz**	**4.11**	**322**	P	**Pn**	**19 11 47.8**	**+0.8**
EBAD	**Badajoz**	**4.11**	**322**	Pn	**Pn**	**19 11 47.0**	**+0.1**
EBAD				Sn	**Sn**	**19 12 33.6**	**-1.1**
EBAD				*i* Vmb_Lg		19 12 35.7	
ESDC	**Sonseca Array**	**4.11**	**358**	Pn	**Pn**	**19 11 48.5**	**+1.5**
ESDC				*i* Vmb_Lg		19 13 00.3	
MESJ	**Messejana**	**4.24**	**304**	*e*P	**Pn**	**19 11 49.3**	**+0.6**
MESJ	**Messejana**	**4.24**	**304**	*e*Pn	**Pn**	**19 11 49.4**	**+0.7**
MESJ				*e*Sn	**Sn**	**19 12 36.7**	**-1.2**
MESJ				A	A	19 12 41.6	
	2.9nm,0.7s						
PFVI	**Vila Bisbo**	**4.38**	**293**	*e*Sn	**Sn**	**19 12 40.2**	**-1.0**
PFVI	**Vila Bisbo**	**4.38**	**293**	P	**Pn**	**19 11 50.7**	**+0.2**
PFVI				S	**Sn**	**19 12 40.3**	**-1.0**
PESTR	**Estremoz**	**4.50**	**318**	*e*Pn	**Pn**	**19 11 53.0**	**+0.8**
PESTR				*e*Sn	**Sn**	**19 12 43.3**	**-1.0**
PESTR				A	A	19 12 47.7	
	1.4nm,0.6s						
PESTR	**Estremoz**	**4.50**	**318**	P	**Pn**	**19 11 54.0**	**+1.8**
PESTR				S	**Sn**	**19 12 44.7**	**+0.4**
PESTR	**Estremoz**	**4.50**	**318**	P	**Pn**	**19 11 53.6**	**+1.3**
EVO	**Evora**	**4.51**	**312**	*e*Pn	**Pn**	**19 11 53.4**	**+1.0**
EVO				*e*Sn	**Sn**	**19 12 42.8**	**-1.8**
PNCL	**Nicolau / Gran**	**4.59**	**305**	*e*Pn	**Pn**	**19 11 54.0**	**+0.5**
PNCL				*e*Sn	**Sn**	**19 12 44.6**	**-1.9**
PNCL				A	A	19 12 49.4	
	2.0nm,0.7s						
PNCL	**Nicolau / Gran**	**4.59**	**305**	P	**Pn**	**19 11 53.8**	**+0.3**
PMRV	**Marv??o**	**4.82**	**324**	*e*Pn	**Pn**	**19 11 57.9**	**+1.2**
PMRV				*e*Sn	**Sn**	**19 12 51.5**	**-0.7**
EPLA	**Plasencia**	**4.86**	**339**	Pn	**Pn**	**19 11 58.6**	**+1.4**
EPLA				Sn	**Sn**	**19 12 52.8**	**-0.4**
EPLA				*i* Vmb_Lg		19 14 39.7	
PMTG	**Montargil**	**4.99**	**316**	*e*Pn	**Pn**	**19 12 00.0**	**+1.0**
PMTG				*e*Sn	**Sn**	**19 12 55.5**	**-0.9**
PCBR	**Castelo Branco**	**5.19**	**327**	*e*Pn	**Pn**	**19 12 03.0**	**+1.3**
OUZM	**OUZ**	**5.27**	**209**	P	**Pn**	**19 12 04.4**	**+1.4**
OUZM				S	**Sn**	**19 13 09.4**	**+5.9**
PSBE	**So Bento**	**5.62**	**316**	*e*Pn	**Pn**	**19 12 08.9**	**+1.3**
PVIS	**Viseu**	**6.09**	**329**	*e*Pn	**Pn**	**19 12 15.8**	**+1.6**
MVO	**Moncorvo**	**6.16**	**336**	*e*Pn	**Pn**	**19 12 17.1**	**+2.0**
PBRG	**Braganca**	**6.66**	**340**	*e*Pn	**Pn**	**19 12 23.8**	**+1.9**
ECAL	**Calabor**	**6.78**	**341**	Pn	**Pn**	**19 12 24.7**	**+1.0**

*IDC **14** 19:20:26.2±1.6, 17°.63S×178°.40W, h546km±27km, mb3.0/5, mbtmp3.9/7, Error ellipse: s-maj=98.9km s-min=16.6km az=147.0*
ISC 14 19:20:26.3±1.2, 17°.5S±0°.5×178°.4W±0°.2, h547km, n9, σ0°86/11, mb3.2/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.35**	**62**	P	**P**	**19 22 18.0**	**+0.4**
	8.6nm,0.4s,baz=190,slow=21,SNR=2.1						
AFI				S	**S**	**19 23 48.5**	**-0.3**
	6.2nm,0.3s,baz=75,slow=20,SNR=1.5						
DZM	**Mont Dzumac**	**14.93**	**250**	P	**P**	**19 23 36.5**	**+1.2**
	3.3nm,0.9s,baz=83,slow=21,SNR=2.7						
STKA	**Stephens Creek**	**38.80**	**241**	P	**P**	**19 27 04.3**	**-0.1**
	2.4nm,0.8s,baz=90,slow=11,SNR=5.9						
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**44.68**	**259**	P	**P**	**19 27 50.4**	**-0.7**
	0.5nm,0.7s,baz=98,slow=7.9,SNR=6.2						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**19 27 52.5**	**0.0**
	3.2nm,0.6s,baz=88,slow=8.5,SNR=75						
ASAR				PcP	**PcP**	**19 29 20.8**	**-1.7**
	0.2nm,0.6s,baz=83,slow=5.3,SNR=1.4						
	3.2nm,0.6s						
ILAR	**Eielson Array**	**85.53**	**13**	P	**P**	**19 32 06.6**	**+0.4**
	0.2nm,0.4s,baz=224,slow=5.0,SNR=9.1						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**88.74**	**290**	P	**P**	**19 32 21.8**	**-0.6**
	0.2nm,0.5s,baz=122,slow=3.3,SNR=2.2						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**144.51**	**315**	PKP	**PKPdf**	**19 39 01.1**	**+0.1**
	0.2nm,0.5s,baz=73,slow=1.5,SNR=1.8						
GERES	**GERESS Array B**	**147.25**	**345**	PKPbc	**PKPbc**	**19 39 09.1**	**+0.6**
	0.4nm,0.5s,baz=35,slow=3.3,SNR=5.2						

*IDC **14** 19:28:41.5±6.5, 6°.69S×128°.26E, h259km±71km, mb2.5/1, mbtmp3.6/4, Error ellipse: s-maj=72.0km s-min=22.6km az=47.0*
ISC 14 19:28:44.3±1.6, 6°.9S±0°.1×128°.1E±0°.1, h300km, n4, σ1°17/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.48**	**233**	P	**Pn**	**19 30 08.1**	**+0.5**
	12nm,0.4s,baz=254,slow=7.4,SNR=9.9						
BATI				S	**S**	**19 31 14.1**	**-0.5**
	7.2nm,0.4s,baz=66,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**14.27**	**156**	P	**P**	**19 31 53.1**	**-0.4**
	0.4nm,0.4s,baz=338,slow=12,SNR=10						
WRA				S	**S**	**19 34 31.9**	**+1.4**
	0.5nm,0.9s,baz=329,slow=23,SNR=1.5						
ASAR	**Alice Springs**	**17.54**	**162**	P	**Pn**	**19 32 31.4**	**-1.2**
	1.7nm,0.6s,baz=343,slow=11,SNR=39						
MKAR	**Makanchi Array**	**67.16**	**328**	P	**P**	**19 39 06.6**	**+0.2**
	0.2nm,0.9s,baz=120,slow=9.1,SNR=1.5						
	0.2nm,0.9s						

IDC 14 19:35:25.9±6.8, 23°.16S×172°.67W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=441.2km s-min=36.0km az=154.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**48.79**	**258**	P	P	19 44 12.9	-0.2
	0.3nm,0.4s,baz=93,slow=7.5,SNR=14						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**49.18**	**263**	P	P	19 44 16.1	0.0
	0.3nm,0.6s,baz=105,slow=7.2,SNR=2.5						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**79.68**	**40**	P	P	19 47 35.9	+0.1
	0.2nm,0.3s,baz=221,slow=5.2,SNR=2.6						
	0.2nm,0.3s						
H03N2	**Juan Fernandez**	**80.54**	**122**	T	T	21 16 56.5	
	baz=246,slow=76						
H03N3	**Juan Fernandez**	**80.54**	**122**	T	T	21 16 54.9	
	baz=246,slow=76						
H03N1	**Juan Fernandez**	**80.56**	**122**	T	T	21 16 55.3	
	baz=246,slow=76						

*IDC **14** 20:00:59.9±1.9, 6°.41S×128°.26E, h0km, mb3.1/1, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=60.6km s-min=29.6km az=81.0*
ISC 14 20:01:10.3±1.2, 6°.34S±0°.06×129°.5E±0°.2, h100km, n11, σ3°32/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.36**	**39**	P	**Pn**	**20 02 15.9**	**+1.5**
SIJI	**Sorong**	**5.71**	**18**	Pn	**Pn**	**20 02 34.7**	**+1.9**
	1.3nm,0.3s,baz=76,slow=3.5,SNR=44						
SIJI				Sn	**Sn**	**20 03 33.5**	**-3.5**
	2.7nm,0.3s,baz=256,slow=23,SNR=13						
	2.7nm,0.2s						
KDU	**Kakadu**	**6.95**	**155**	P	**Pn**	**20 02 53.9**	**+4.4**
KNRA	**Kununurra**	**9.31**	**184**	P	Pn	20 03 28.4	+6.8
WRAB	**Tennant Creek**	**14.30**	**161**	P	**P**	**20 04 33.4**	**+1.0**
WRA	**Warramunga Arr**	**14.31**	**161**	Pn	**Pn**	**20 04 29.2**	**+0.8**
	0.1nm,0.3s,baz=342,slow=12,SNR=2.5						
WRA				Sn	**Sn**	**20 07 00.5**	**-5.6**
	0.2nm,0.3s,baz=329,slow=23,SNR=6.1						
	0.2nm,0.3s						
COEN	**Coen**	**15.42**	**120**	P	**Pn**	**20 04 42.5**	**0.0**
	6.3nm,1.3s						
ASAR	**Alice Springs**	**17.73**	**167**	P	**P**	**20 05 11.5**	**+1.1**
	0.2nm,0.3s,baz=346,slow=10,SNR=23						
ASAR				S	**Sn**	**20 08 23.8**	**-4.9**
	0.2nm,0.9s,baz=345,slow=27,SNR=0.8						
	0.6nm,0.5s						
AS01	**Alice Springs**	**17.75**	**167**	P	**Pn**	**20 05 13.2**	**+2.1**
WRKA	**Warakurna**	**18.63**	**183**	P	**Pn**	**20 05 23.9**	**+2.3**
MKAR	**Makanchi Array**	**67.42**	**327**	P	**P**	**20 11 53.1**	**-2.1**
	0.1nm,0.3s,baz=126,slow=7.3,SNR=1.4						
	0.1nm,0.3s						

*SNET **14** 20:31:56.9±1.0, 13°.77N×90°.51W, h86km±8km, ML3.0*
*GCG **14** 20:31:59.4±0.4, 13°.90N×90°.53W, h91km±14km, MD3.6*
ISC 14 20:31:58.2±2.0, 13°.6N±0°.2×90°.5W±0°.1, h76km±26km, n14, σ0°70/24, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.76**	**69**	*e*P	**Pn**	**20 32 13.5**	**-0.9**
NUBE				*e*S	**Sn**	**20 32 26.1**	**-0.2**
NUBE				IAML		20 32 28.3	
	comp=Z,312nm,0.3s						
PCG	**Pacaya**	**0.76**	**353**	*e*P	**Pn**	**20 32 14.9**	**+0.3**
SLOZ	**Alcaldia de Sa**	**

comp=Z,1.5nm,1.0s,baz=89,slow=8.6,SNR=9.7
comp=Z,1.5nm,1.0s

WRA	**Warramunga Arr**	**39.59**	**261**	P	**P**	**20 42 34.5**	**-1.7**
AS31	**Alice Springs**	**39.78**	**255**	P	**P**	**20 42 35.3**	**-2.6**
AS31				IAmb	IAmb	20 42 45.2	

comp=Z,1.3nm,0.7s

ASAR	**Alice Springs**	**39.79**	**255**	P	**P**	**20 42 37.0**	**-0.8**

comp=Z,2.7nm,0.9s,baz=82,slow=9.3,SNR=19
comp=Z,2.7nm,0.9s

ASAR	**Alice Springs**	**39.79**	**255**	P	**P**	**20 42 36.0**	**-1.8**
SIJI	**Sorong**	**47.58**	**287**	LR	LR	21 03 22.9	

comp=Z,73nm,18.2s,baz=4.5,slow=36

FITZ	**Fitzroy Crossi**	**47.98**	**262**	P	**P**	**20 43 42.8**	**-1.0**
QSPA	**South Pole Qui**	**71.44**	**180**	P	**P**	**20 46 24.7**	**-0.1**
NVAR	**Mina Array Bea**	**83.45**	**46**	P	**P**	**20 47 34.9**	**+2.5**

comp=Z,0.4nm,0.6s,baz=225,slow=7.5,SNR=4.9
comp=Z,0.4nm,0.6s

CMAR	**Chiang Mai Arr**	**84.45**	**291**	P	**P**	**20 47 39.5**	**+1.8**

comp=Z,0.8nm,0.8s,baz=127,slow=4.0,SNR=4.9
comp=Z,0.8nm,0.8s

ILAR	**Eielson Array**	**87.77**	**15**	P	**P**	**20 47 54.4**	**+1.4**

comp=Z,0.3nm,0.9s,baz=232,slow=6.8,SNR=1.5
comp=Z,0.3nm,0.9s

CLL	**Collm**	**144.81**	**342**	*i* PKPdf	**PKPdf**	**20 54 41.0**	**-0.2**

IDC 14 20:44:37.4±1.8,1°.19N×123°.85E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=200.5km s-min=25.5km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.38**	**154**	P	P	20 49 48.0	0.0

0.8nm,0.5s,baz=332,slow=10,SNR=14
0.8nm,0.5s

ASAR	**Alice Springs**	**26.57**	**159**	P	P	20 50 17.4	0.0

0.3nm,1.0s,baz=345,slow=6.8,SNR=1.9
0.3nm,1.0s

MKAR	**Makanchi Array**	**58.06**	**328**	P	P	20 54 32.5	0.0

0.1nm,0.3s,baz=118,slow=8.3,SNR=6.7
0.1nm,0.3s

IDC 14 20:49:32.2±1.0,55°.53S×26°.94W,h0km,mb4.2/5, mbtmp4.2/5,MS3.3/5, Error ellipse: s-maj=43.7km s-min=26.9km az=64.0
NEIC 14 20:49:35.5±0.7,55°.9S±0°.2×27°.6W±0°.2,h10km±2km, mb4.6/18, Error ellipse: s-maj=29.7km s-min=11.2km az=21.0
ISC 14 20:49:35.7±0.8,55°.7S±0°.1×27°.1W±0°.2,h25km,n33, σ0s92/26,mb4.5/13,MS3.3/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.05**	**156**	P	**Pn**	**20 53 56.6**	**+0.1**
PMSA	**Palmer Station**	**20.15**	**228**	LR	LR	21 00 50.2	

comp=Z,84nm,18.8s,baz=68,slow=33

BELA	**Belgrano 2**	**22.42**	**184**	P	**P**	**20 54 30.1**	**-2.0**
MG02	**Cerro Sombrero**	**24.49**	**259**	P	**P**	**20 54 51.5**	**-1.0**
GO08	**Villa O'Higgin**	**28.40**	**265**	P	**P**	**20 55 27.3**	**-0.5**
TRQA	**Tornquist**	**29.22**	**292**	P	**P**	**20 55 35.4**	**+0.3**
TRQA				IAmb	IAmb	20 55 36.7	

comp=Z,19nm,1.4s

QSPA	**South Pole Qui**	**34.55**	**180**	P	**P**	**20 56 22.1**	**+0.2**
QSPA				IAmb	IAmb	20 56 46.5	

comp=Z,9.5nm,1.4s

CPUP	**Villa Florida**	**36.61**	**311**	P	**P**	**20 56 38.8**	**-0.9**

comp=Z,2.1nm,0.7s,baz=164,slow=11,SNR=4.5

CPUP				LR	LR	21 12 41.5	

comp=Z,34nm,19.4s,baz=51,slow=38
comp=Z,2.1nm,0.7s

MT02	**Curacav**	**37.71**	**288**	P	**P**	**20 56 48.9**	**-0.1**
CO01	**Juntas del Tor**	**39.71**	**292**	P	**P**	**20 57 07.4**	**+1.3**
SUR	**Sutherland**	**40.52**	**75**	LR	LR	21 10 48.9	

comp=Z,42nm,20.0s,baz=212,slow=32

AC01	**Pan de Azucar**	**43.06**	**295**	P	**P**	**20 57 33.7**	**+0.3**
AC01				IAmb	IAmb	20 57 35.3	

comp=Z,14nm,1.4s

LVC	**Limon Verde**	**45.16**	**300**	P	**P**	**20 57 51.1**	**+0.5**
LVC				IAmb	IAmb	20 57 54.2	

comp=Z,5.2nm,0.7s

BOSA	**Boshof**	**45.85**	**76**	LR	LR	21 14 41.5	

comp=Z,60nm,18.0s,baz=184,slow=33

PB07	**IPOC Station P**	**46.38**	**299**	P	**P**	**20 58 00.6**	**+0.6**
PB07				IAmb	IAmb	20 58 16.2	

comp=Z,9.0nm,1.2s

PB01	**IPOC Station P**	**46.76**	**300**	P	**P**	**20 58 03.2**	**+0.3**
VNDA	**Vanda**	**46.92**	**183**	P	**P**	**20 58 05.1**	**+1.7**

comp=Z,3.9nm,0.9s,baz=182,slow=5.9,SNR=9.1
comp=Z,3.9nm,0.9s

VNDA	**Vanda**	**46.92**	**183**	P	**P**	**20 58 04.2**	**+0.9**
VNDA				IAmb	IAmb	20 58 23.2	

comp=Z,11nm,1.4s

PTLB	**Pontes e Lacer**	**47.07**	**316**	P	**P**	**20 58 05.9**	**+0.7**
PTLB				IAmb	IAmb	20 58 06.7	

comp=Z,3.4nm,0.8s

GO01	**Chusmiza**	**47.79**	**302**	P	**P**	**20 58 12.7**	**+1.3**
GO01				IAmb	IAmb	20 58 13.8	

comp=Z,4.0nm,0.7s

MNMC	**Minye Minye**	**48.44**	**301**	P	**P**	**20 58 17.4**	**+1.3**
MNMC				IAmb	IAmb	20 58 19.3	

comp=Z,5.3nm,0.7s

H10N1	**ASCENSION HYDR**	**48.78**	**17**	T	T	21 51 46.0	

baz=196

H10N3	**ASCENSION HYDR**	**48.78**	**17**	T	T	21 50 58.1	

baz=196,slow=74

H10N2	**ASCENSION HYDR**	**48.80**	**17**	T	T	21 51 01.1	

baz=196,slow=74

TSUM	**Tsumeb**	**49.49**	**61**	LR	LR	21 14 54.4	

comp=Z,33nm,20.7s,baz=151,slow=31

LPAZ	**La Paz**	**50.20**	**305**	P	**P**	**20 58 31.0**	**+1.0**

comp=Z,1.2nm,0.6s,baz=301,slow=15,SNR=5.8
comp=Z,1.2nm,0.6s

LPAZ	**La Paz**	**50.20**	**305**	P	**P**	**20 58 31.2**	**+1.1**
BOAV	**Boa Vista**	**64.03**	**322**	P	**P**	**21 00 06.8**	**-0.3**
BOAV				IAmb	IAmb	21 00 10.7	

comp=Z,8.4nm,1.4s

TORD	**Torodi Ar. Bea**	**72.74**	**29**	P	**P**	**21 01 01.0**	**-0.5**

comp=Z,0.8nm,0.2s,baz=192,slow=6.2,SNR=1.4
comp=Z,0.8nm,0.2s

ASAR	**Alice Springs**	**99.31**	**162**	P	**Pdif**	**21 03 16.6**	**+1.0**

comp=Z,0.3nm,0.7s,baz=180,slow=3.7,SNR=4.9
comp=Z,0.3nm,0.7s

YKA	**Yellowknife Ar**	**135.94**	**318**	PKP	**PKPdf**	**21 08 52.4**	**-0.4**

comp=Z,0.2nm,0.7s,baz=137,slow=2.0,SNR=3.7

ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**21 09 22.2**	**+0.1**

comp=Z,1.7nm,0.7s,baz=132,slow=2.7,SNR=18

SONM	**Songino Array**	**150.67**	**86**	PKPbc	**PKPbc**	**21 09 24.5**	**-0.2**

comp=Z,0.7nm,0.7s,baz=218,slow=1.8,SNR=5.5

IDC 14 21:04:22.8±1.3,17°.58S×178°.88W,h521km±11km, mb3.9/16,mbtmp4.7/18, Error ellipse: s-maj=28.8km s-min=9.8km az=150.0
NOU 14 21:04:22.4,17°.34S×178°.70W,h543km,mb4.7/34,Fiji Islands Region
NEIC 14 21:04:22.5±1.8,17°.64S±0°.04×178°.8W±0°.1,h518km±7km, mb4.4/79, Error ellipse: s-maj=15.2km s-min=5.0km az=76.0
ISC 14 21:04:23.9±0.4,17°.66S±0°.09×178°.71W±0°.07,h550km, n190,σ1s46/199,mb4.4/64,6C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**1.48**	**309**	P	**P**	**21 05 29.4**	**-2.2**
MSVF	**Nonsavu**	**3.09**	**268**	P	**P**	**21 05 37.2**	**-2.4**

320nm,0.8s,baz=116,slow=4.5,SNR=142

MSVF	**Nonsavu**	**3.09**	**268**	P	**P**	**21 05 37.9**	**-1.7**
MSVF	**Nonsavu**	**3.09**	**268**	P	**P**	**21 05 38.2**	**-1.4**
AFI	**Afiamalu**	**7.64**	**62**	P	**P**	**21 06 14.5**	**-3.8**

39nm,0.7s,baz=218,slow=23,SNR=8.3

AFI				S	**S**	**21 07 44.4**	**-7.5**

8.4nm,0.5s,baz=57,slow=23,SNR=1.6

NIUE	**Niue**	**8.46**	**101**	P	**P**	**21 06 25.4**	**-0.8**
NIUE	**Niue**	**8.46**	**101**	P	**P**	**21 06 25.6**	**-0.6**
PINNC	**Pines Island,**	**13.90**	**247**	P	**P**	**21 07 20.5**	**-1.5**
DZM	**Mont Dzumac**	**14.64**	**250**	P	**P**	**21 07 27.4**	**-2.4**

3.7nm,0.8s,baz=69,slow=21,SNR=2.2

DZM	**Mont Dzumac**	**14.64**	**250**	P	**P**	**21 07 29.7**	**0.0**
ONTNC	**Ouen Toro**	**14.69**	**249**	P	**P**	**21 07 30.0**	**-0.2**
KOUNC	**Koumac, New Ca**	**16.32**	**257**	P	**P**	**21 07 45.0**	**-1.6**
KOUNC	**Koumac, New Ca**	**16.32**	**257**	P	**P**	**21 07 46.6**	**0.0**
LHI	**Lord Howe Isla**	**24.41**	**231**	P	**P**	**21 08 58.4**	**-1.0**
EIDS	**Eidsvold**	**29.08**	**249**	P	**P**	**21 09 39.7**	**-0.9**

baz=34,SNR=6.8

EIDS	**Eidsvold**	**29.08**	**249**	P	**P**	**21 09 39.8**	**-0.7**
EIDS				IAmb	IAmb	21 09 40.3	

comp=Z,20nm,1.1s

EIDS	**Eidsvold**	**29.08**	**249**	P	**P**	**21 09 39.9**	**-0.7**
MLZ	**Mavora Lakes**	**29.74**	**199**	P	**P**	**21 09 45.8**	**-0.1**
ARMA	**Armidale**	**29.82**	**239**	P	**P**	**21 09 46.0**	**-1.0**

baz=35,SNR=14

ARMA	**Armidale**	**29.82**	**239**	P	**P**	**21 09 46.8**	**-0.1**
ARMA				IAmb	IAmb	21 09 48.0	

comp=Z,17nm,0.8s

RMQ	**Roma**	**31.33**	**248**	P	**P**	**21 09 59.9**	**0.0**

baz=36,SNR=31

RMQ	**Roma**	**31.33**	**248**	P	**P**	**21 09 59.9**	**0.0**
CTA	**Charters Tower**	**33.20**	**260**	P	**P**	**21 10 15.1**	**-0.8**
CTAO	**Charters Tower**	**33.20**	**260**	P	**P**	**21 10 14.8**	**-1.0**
CTAO				IAmb	IAmb	21 10 15.7	

comp=Z,15nm,0.8s

CTAO	**Charters Tower**	**33.20**	**260**	P	**P**	**21 10 15.1**	**-0.8**
CAN	**Canberra**	**33.63**	**232**	P	**P**	**21 10 18.5**	**-0.8**
CMSA	**Cobar Meteorol**	**35.02**	**240**	P	**P**	**21 10 29.6**	**-1.3**

baz=40,SNR=42

CMSA	**Cobar Meteorol**	**35.02**	**240**	P	**P**	**21 10 30.8**	**-0.2**
MTSU	**Mount Surprise**	**35.15**	**263**	P	**P**	**21 10 31.4**	**-0.8**
QLP	**Quilpie**	**35.35**	**249**	P	**P**	**21 10 33.1**	**-0.7**

baz=40,SNR=14

QLP	**Quilpie**	**35.35**	**249**	P	**P**	**21 10 33.1**	**-0.7**
MANU	**Manus Island**	**36.74**	**291**	P	**P**	**21 10 45.3**	**-0.1**
MANU	**Manus Island**	**36.74**	**291**	P	**P**	**21 10 43.6**	**-1.8**
COEN	**Coen**	**36.81**	**270**	P	**P**	**21 10 45.7**	**-0.3**

baz=42,SNR=9.0

COEN	**Coen**	**36.81**	**270**	P	**P**	**21 10 45.1**	**-0.9**
COEN				IAmb	IAmb	21 10 46.4	

comp=Z,14nm,0.8s

COEN	**Coen**	**36.81**	**270**	P	**P**	**21 10 44.9**	**-1.1**
BRAT	**Ballarat**	**38.25**	**231**	P	**P**	**21 10 59.0**	**+1.7**
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**21 10 59.7**	**+0.2**

comp=Z,13nm,0.5s,baz=92,slow=10,SNR=32
comp=Z,13nm,0.5s

STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**21 10 59.5**	**+0.1**

baz=43,SNR=7.8

STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**21 10 59.6**	**+0.1**
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**21 10 59.7**	**+0.2**
INKA	**Innaminka**	**38.57**	**248**	P	**P**	**21 11 00.5**	**+0.4**
QIS	**Mount Isa**	**39.42**	**259**	P	**P**	**21 11 05.7**	**-1.4**

baz=44,SNR=4.8

HTT	**Hallett**	**41.02**	**239**	P	**P**	**21 11 17.2**	**-2.5**

baz=46,SNR=10

HTT	**Hallett**	**41.02**	**239**	P	**P**	**21 11 19.9**	**+0.1**
LCRK	**Leigh Creek**	**41.11**	**244**	P	**P**	**21 11 20.4**	**0.0**
WHYH	**Whyalla**	**42.06**	**240**	P	**P**	**21 11 28.2**	**+0.4**
GENI	**Genyem**	**43.02**	**286**	P	**P**	**21 11 36.0**	**+0.3**

comp=Z,74nm,0.6s

OOD	**Oodnadatta**	**43.04**	**248**	P	**P**	**21 11 35.9**	**+0.2**
BBOO	**Buckleboo**	**43.28**	**241**	P	**P**	**21 11 36.5**	**-1.0**

baz=48,SNR=25

BBOO	**Buckleboo**	**43.28**	**241**	P	**P**	**21 11 37.2**	**-0.2**
BBOO	**Buckleboo**	**43.28**	**241**	P	**P**	**21 11 37.3**	**-0.1**
WR0	**Warramunga Arr**	**44.20**	**259**	P	**P**	**21 11 43.0**	**-1.8**
WR0				IAmb	IAmb	21 11 48.6	

comp=Z,13nm,1.4s

WB0	**Warramunga Arr**	**44.36**	**260**	P	**P**	**21 11 44.5**	**-1.5**
WB0				IAmb	IAmb	21 11 45.8	

comp=Z,7.2nm,0.8s

WRAB	**Tennant Creek**	**44.38**	**259**	P	**P**	**21 11 44.6**	**-1.6**
WB1	**Warramunga Ar.**	**44.39**	**259**	P	**P**	**21 11 44.8**	**-1.4**
WRA	**Warramunga Ar**	**44.39**	**259**	P	**P**	**21 11 44.8**	**-1.5**

comp=Z,6.0nm,0.6s,baz=94,slow=7.4,SNR=32

WRA				PcP	**PcP**	**21 13 18.7**	**+0.6**

comp=Z,1.5nm,0.7s,baz=90,slow=3.3,SNR=4.7

WRA				ScP	**ScP**	**21 16 22.9**	**+4.8**

comp=Z,1.1nm,0.8s,baz=88,slow=3.8,SNR=6.2

WRA				S	**S**	**21 17 42.3**	**+0.9**

comp=Z,0.5nm,0.5s,baz=97,slow=7.0,SNR=7.6
comp=Z,6.0nm,0.6s

WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**21 11 44.5**	**-1.7**
AS01	**Alice Springs**	**44.54**	**254**	P	**P**	**21 11 46.9**	**-0.5**
AS31	**Alice Springs**	**44.58**	**254**	P	**P**	**21 11 47.0**	**-0.7**
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**21 11 47.0**	**-0.7**

comp=Z,71nm,0.5s,baz=89,slow=8.1,SNR=1651

ASAR				PcP	**PcP**	**21 13 19.8**	**+1.0**

comp=Z,2.3nm,0.4s,baz=105,slow=4.1,SNR=6.3

ASAR				ScP	**ScP**	**21 16 24.1**	**+5.3**

comp=Z,1.3nm,0.7s,baz=99,slow=4.5,SNR=7.3

ASAR				S	**S**	**21 17 43.5**	**-0.5**

comp=Z,2.4nm,0.7s,baz=85,slow=8.5,SNR=18
comp=Z,71nm,0.5s

ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**21 11 47.1**	**-0.6**
MULG	**Mulgathing**	**44.66**	**245**	P	**P**	**21 11 47.8**	**-0.3**
KDU	**Kakadu**	**47.27**	**269**	P	**P**	**21 12 07.6**	**-0.6**

baz=52,SNR=29

KDU	**Kakadu**	**47.27**	**269**	P	**P**	**21 12 07.5**	**-0.6**
GUMO	**Guam**	**47.49**	**308**	P	**P**	**21 12 09.9**	**+0.1**

comp=Z,30nm,0.5s,baz=166,slow=14,SNR=4.8
comp=Z,30nm,0.5s

MTN	**Manton Dam**	**48.52**	**268**	P	**P**	**21 12 16.3**	**-1.2**

baz=54,SNR=14

MTN	**Manton Dam**	**48.52**	**268**	P	**P**	**21 12 16.3**	**-1.2**
MTN				IAmb	IAmb	21 12 17.1	

comp=Z,19nm,0.8s

WRKA	**Warakurna**	**49.65**	**252**	P	**P**	**21 12 25.4**	**-0.3**

baz=55,SNR=66

WRKA	**Warakurna**	**49.65**	**252**	P	**P**	**21 12 25.5**	**-0.3**
FORT	**Forrest**	**49.85**	**244**	P	**P**	**21 12 26.5**	**-0.7**

baz=55,SNR=31

FORT	**Forrest**	**49.85**	**244**	P	**P**	**21 12 26.3**	**-0.8**
FORT	**Forrest**	**49.85**	**244**	P	**P**	**21 12 26.4**	**-0.7**
KNRA	**Kununurra**	**50.23**	**264**	P	**P**	**21 12 29.3**	**-0.7**

baz=55,SNR=19

KNRA	**Kununurra**	**50.23**	**264**	P	**P**	**21 12 29.4**	**-0.7**
KNRA	**Kununurra**	**50.23**	**264**	P	**P**	**21 12 29.3**	**-0.7**
FAKI	**Fak Fak**	**50.25**	**281**	P	**P**	**21 12 29.1**	**-1.1**
FAKI				IAmb	IAmb	21 12 46.4	

comp=Z,16nm,0.9s

SIJI	**Sorong**	**51.90**	**283**	P	**P**	**21 12 42.2**	**0.0**

comp=Z,46nm,0.6s,baz=101,slow=5.4,SNR=26
comp=Z,46nm,0.6s

FITZ	**Fitzroy Crossi**	**52.78**	**260**	P	**P**	**21 12 48.5**	**0.0**
KMBL	**Kambalda**	**55.16**	**244**	P	**P**	**21 13 02.1**	**-3.0**

baz=60,SNR=5.9

SOEI	**Soe**	**55.78**	**270**	P	**P**	**21 13 10.4**	**+0.6**
SOEI	**Soe**	**55.78**	**270**	P	**P**	**21 13 10.0**	**+0.2**

comp=Z,73nm,1.1s

BATI	**Baumata**	**56.24**	**269**	P	**P**	**21 13 13.7**	**+0.9**

comp=Z,16nm,0.4s,baz=174,slow=3.7,SNR=9.6
comp=Z,16nm,0.4s

BATI	**Baumata**	**56.24**	**269**	P	**P**	**21 13 13.3**	**+0.4**

comp=Z,25nm,0.6s

SANI	**Sanana**	**56.42**	**280**	P	**P**	**21 13 13.2**	**-0.8**

comp=Z,30nm,0.9s

PSA00	**Pilbara Seismi**	**57.69**	**255**	P	**P**	**21 13 22.0**	**-0.7**
PSA00				IAmb	IAmb	21 13 22.9	

comp=Z,16nm,0.7s

MBWA	**Marble Bar**	**57.85**	**256**	P	**P**	**21 13 23.0**	**-0.7**
MBWA				IAmb	IAmb	21 14 04.6	

comp=Z,26nm,1.4s

MEEK	**Meekatharra**	**58.25**	**249**	P	**P**	**21 13 25.7**	**-0.7**

baz=63,SNR=6.7

KLBR	**Kellerberrin**	**58.68**	**243**	P	**P**	**21 13 28.6**	**-0.5**

baz=64,SNR=21

SGSI	**Sangihe**	**58.93**	**286**	P	**P**	**21 13 30.7**	**-0.4**

comp=Z,113nm,0.5s

NWAO	**Narrogin (SRO)**	**59.07**	**242**	P	**P**	**21 13 28.6**	**-3.2**

baz=64,SNR=4.8

NWAO				P	**P**	**21 13 28.6**	**-3.2**

baz=64,SNR=4.8

NWAO	**Narrogin (SRO)**	**59.07**	**242**	P	**P**	**21 13 31.4**	**-0.4**
NWAO				IAmb	IAmb	21 14 07.2	

comp=Z,37nm,1.4s

BLDU	**Ballidu**	**59.63**	**244**	P	**P**	**21 13 34.9**	**-0.6**

baz=64,SNR=12

MORW	**Morawa**	**60.32**	**246**	P	**P**	**21 13 38.7**	**-1.4**

baz=65,SNR=5.2

MORW	**Morawa**	**60.32**	**246**	P	**P**	**21 13 39.7**	**-0.4**
MORW				IAmb	IAmb	21 13 40.4	

comp=Z,10nm,0.6s

KAPI	**Kappang**	**61.39**	**274**	P	**P**	**21 13 46.6**	**-0.8**
KAPI				IAmb	IAmb	21 13 58.4	

comp=Z,9.7nm,1.0s

TOLI2	**Tolitoli**	**62.38**	**281**	P	**P**	**21 13 54.3**	**+0.4**
TOLI2				IAmb	IAmb	21 13 56.8	

comp=Z,5.8nm,0.8s

GIRL	**Giralia**	**62.69**	**253**	P	**P**	**21 13 56.1**	**+0.4**
MPSI	**Mapaga**	**62.95**	**280**	P	**P**	**21 13 57.5**	**0.0**
JAGI	**Jajag, Banyuwa**	**65.76**	**269**	P	**P**	**21 14 14.5**	**-0.8**
MJAR	**Matsushiro Arr**	**67.53**	**323**	P	**P**	**21 14 25.7**	**-0.1**

comp=Z,4.1nm,0.8s,baz=165,slow=6.1,SNR=7.8
comp=Z,4.1nm,0.8s

MAJO	**Matsushiro**	**67.54**	**323**	P	**P**	**21 14 25.5**	**-0.3**
MAJO				IAmb	IAmb	21 14 53.3	

comp=Z,28nm,1.5s

MJB9	**Matsu-Tunnel**	**67.54**	**323**	P	**P**	**21 14 26.4**	**+0.6**
MJB9				IAmb	IAmb	21 14 54.3	

comp=Z,27nm,1.5s

KKM	**Kota Kinabalu**	**68.40**	**284**	P	**P**	**21 14 31.7**	**+0.1**
KKM				IAmb	IAmb	21 14 32.7	

comp=Z,12nm,0.6s

UGM	**Wanagama**	**69.37**	**268**	P	**P**	**21 14 37.3**	**-0.1**
JHS	**Saijyo**	**69.52**	**319**	P	**P**	**21 14 38.9**	**+1.1**
SSLB	**Suanglung**	**71.86**	**303**	P	**P**	**21 14 51.3**	**-0.5**
TPUB	**Ta-pu**	**71.88**	**303**	P	**P**	**21 14 51.3**	**-0.7**
QSPA	**South Pole Qui**	**72.40**	**180**	P	**P**	**21 14 56.1**	**+1.7**
KMRM	**Mail Ridge**	**77.01**	**40**	P	**P**	**21 15 23.2**	**+2.7**
KMRM				IAmb	IAmb	21 15 24.1	

comp=Z,16nm,0.8s

MNAI	**Manna**	**77.58**	**269**	P	**P**	**21 15 23.9**	**-0.3**
ISA	**Isabella, Lake**	**77.85**	**46**	P	**P**	**21 15 26.4**	**+1.2**
YUH	**Yuha Desert**	**78.11**	**50**	P	**P**	**21 15 28.4**	**+1.8**
KDAK	**Kodiak Island**	**78.23**	**14**	P	**P**	**21 15 27.3**	**+0.7**

comp=Z,17nm,1.0s,baz=140,slow=7.9,SNR=2.0
comp=Z,17nm,1.0s

MDPB	**Devils Postpil**	**78.50**	**44**	P	**P**	**21 15 30.3**	**+1.4**
YBH	**Yreka Blue Hor**	**78.51**	**39**	P	**P**	**21 15 30.8**	**+2.2**
HUMO	**Hull Mountain**	**78.89**	**38**	P	**P**	**21 15 32.2**	**+1.7**
DSP	**Deep Springs**	**79.10**	**45**	P	**P**	**21 15 33.8**	**+2.1**
YERR	**Yerington**	**79.13**	**43**	P	**P**	**21 15 34.2**	**+2.0**
YERR				IAmb	IAmb	21 15 35.1	

comp=Z,8.3nm,0.6s

P18K	**Big Mountain,**	**79.14**	**12**	P	**P**	**21 15 31.9**	**+0.5**
P18K				IAmb	IAmb	21 15 32.6	

comp=Z,16nm,0.8s

NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**21 15 36.0**	**+2.2**

comp=Z,4.2nm,0.7s,baz=226,slow=8.8,SNR=30

BRTR	Keskin Array B	144.40	315	PKP		PKPab	21 22 59.0	+0.4	
	comp=Z,1.9nm,0.6s,baz=100,slow=2.6,SNR=22								
CLL	Collm	145.16	347	⇑*i* PKPbc		PKPab	21 23 01.1	+0.2	
	comp=Z,5.0nm,0.6s								
DOPR	Dopca	145.40	330	⇓P		PKiKP	21 23 03.2	-0.6	
MARR	Marisel-Cluj	145.90	333	⇑P		PKPab	21 23 03.7	-0.4	
VYHS	Vyhne	146.08	339	*e*PKP		PKiKP	21 23 04.4	-0.7	
GERES	GERESS Array B	147.29	345	PKPbc		PKiKP	21 23 07.5	-0.2	
	comp=Z,1.0nm,0.6s,baz=28,slow=3.2,SNR=6.8								
CONA	Conrad Observa	147.53	342	*i* PKiKP		PKiKP	21 23 08.8	+0.6	
	comp=Z,3.7nm,0.8s								
HERR	Herculane	147.60	331	⇓P		PKiKP	21 23 08.3	0.0	
WTTA	Wattenberg	149.27	346	*i* PKP		PKiKP	21 23 12.0	+0.1	
	comp=Z,1.6nm,0.4s								
MYKA	Terra Mystica	149.35	343	*i* PKP		PKiKP	21 23 11.9	0.0	
	comp=Z,4.0nm,1.0s								
SQTA	Sankt Quirin	149.41	347	*i* PKP		PKiKP	21 23 12.5	+0.4	
	comp=Z,3.7nm,0.9s								
ABTA	Abfaltersbach	149.54	345	*e*PKP		PKiKP	21 23 12.4	+0.1	
	comp=Z,3.9nm,0.7s								
FNA	Florina	151.18	327			PKiKP	21 23 16.1	+0.2	

IDC 14 21:06:01.3±3.0, 21°47N×145°75E, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/2, Error ellipse: s-maj=145.0km s-min=25.1km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JCJ	Chichijima	6.48	331	LR		LR		21 10 32.9	
	comp=Z,87nm,18.7s,baz=71,slow=42								
KLR	Kul'dur	29.86	341	P		P		21 12 11.6	+1.2
	1.6nm,0.7s,baz=152,slow=8.2,SNR=3.9								
	1.6nm,0.7s								
WRA	Warramunga Arr	42.64	196	P		P		21 14 00.2	+0.5
	0.9nm,0.6s,baz=17,slow=8.5,SNR=4.4								
	0.9nm,0.6s								
ASAR	Alice Springs	46.32	195	P		P		21 14 28.5	-0.6
	0.4nm,0.6s,baz=10.0,slow=7.0,SNR=2.7								
	0.4nm,0.6s								
MKAR	Makanchi Array	56.61	313	P		P		21 15 45.8	-0.2
	0.2nm,0.6s,baz=93,slow=7.8,SNR=2.2								
	0.2nm,0.6s								
AKTO	Aktyubinsk	72.34	318	LR		LR		21 51 08.7	
	comp=Z,27nm,18.6s,baz=176,slow=37								
FINES	FINESS Array B	84.40	335	P		P		21 18 34.6	-0.8
	1.2nm,0.8s,baz=72,slow=4.5,SNR=7.5								
	1.2nm,0.8s								

IDC 14 21:19:28.7±0.8, 18°70S×176°23E, h0km, mb4.2/13, mbtmp4.3/15, ML3.9/2, MS3.5/19, Error ellipse: s-maj=30.1km s-min=15.9km az=146.0
NEIC 14 21:19:29.7±2.2, 18°7S±0°1×176°37E±0°08, h10km±1km, mb4.5/13, Error ellipse: s-maj=24.7km s-min=4.4km az=148.0
NOU 14 21:19:34.7, 18°53S×176°39E, h56km, ML4.1/22, Fiji Islands Region

ISC 14 21:19:29.6±0.5, 18°78S±0°09×176°42E±0°07, h10km, n106, σ1°36/92, mb4.4/25, MS3.6/19, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSVF	Nonsavu	1.87	57	Pn		Pn		21 20 01.7	0.0
	41nm,0.3s,baz=249,slow=12,SNR=69								
MSVF				Sn		Sn		21 20 25.5	+0.1
	60nm,0.3s,baz=310,slow=21,SNR=17								
MSVF	Nonsavu	1.87	57	Pn		Pn		21 20 00.8	-0.9
MSVF				Sn		Sn		21 20 25.3	-0.2
MSVF	Nonsavu	1.87	57	P		Pb		21 20 03.1	-0.8
TAVE	Taveuni	4.06	60	P		Pn		21 20 32.9	+1.0
RTV	Rentapao	7.65	276	P		Pn		21 21 24.1	+2.9
DVP	Devils Point	7.89	276	P		Pn		21 21 26.3	+1.8
LIFNC	LIFOU	8.87	256	Pn		Pn		21 21 36.4	-1.5
LIFNC	LIFOU	8.87	256	P		Pn		21 21 41.6	+3.7
PINNC	Pines Island,	9.22	244			Pn		21 21 42.2	-0.5
PINNC	Pines Island,	9.22	244	P		Pn		21 21 45.6	+2.9
OUENC	Ouen Island, N	9.67	246	Pn		Pn		21 21 48.2	-0.7
OUENC	Ouen Island, N	9.67	246	P		Pn		21 21 52.2	+3.3
DZM	Mont Dzumac	9.91	249	*e*Pn		Pn		21 21 50.3	-2.0
	66nm,1.4s								
DZM				*e*LR		LR		21 24 07.5	
	comp=Z,612nm,27.8s								
DZM	Mont Dzumac	9.91	249	Pn		Pn		21 21 51.1	-1.1
	0.7nm,0.3s,baz=109,slow=23,SNR=9.8								
DZM				LR		LR		21 24 10.8	
	comp=Z,121nm,18.8s,baz=48,slow=29								
	13nm,0.8s								
DZM	Mont Dzumac	9.91	249	P		Pn		21 21 54.8	+2.5
ONTNC	Ouen Toro	9.97	248	Pn		Pn		21 21 51.3	-1.7
ONTNC	Ouen Toro	9.97	248	P		Pn		21 21 56.7	+3.7
KOUNC	Koumac, New Ca	11.56	259	Pn		Pn		21 22 14.1	-0.8
KOUNC	Koumac, New Ca	11.56	259	P		Pn		21 22 17.5	+2.6
HNR	Honiara	18.46	298	LR		LR		21 29 30.7	
	comp=Z,4μm,21.4s,baz=106,slow=33								
URZ	Urewera	19.42	178	P		Pn		21 23 59.3	+2.1
	0.5nm,0.3s,baz=78,slow=3.6,SNR=6.1								
URZ				LR		LR		21 29 47.1	
	comp=Z,45nm,18.7s,baz=191,slow=32								
	25nm,1.1s								
MRZ	Mangatainoka R	21.82	182	P		P		21 24 22.1	0.0
RAR	Rarotonga	22.50	100	LR		LR		21 31 27.7	
	comp=Z,108nm,21.1s,baz=245,slow=32								
EIDS	Eidsvold	24.35	250	P		P		21 24 47.5	-0.5
EIDS				IAmb		IAmb		21 24 50.5	
	comp=Z,14nm,1.1s								
EIDS	Eidsvold	24.35	250	P		P		21 24 49.0	+1.0
ARMA	Armidale	25.28	238	P		P		21 24 56.8	+0.3
ARMA				IAmb		IAmb		21 25 00.9	
	comp=Z,23nm,1.1s								
KRVT	Keravat (AS076	27.83	298	LR		LR		21 35 11.6	
	comp=Z,132nm,21.7s,baz=238,slow=34								
CTA	Charters Tower	28.46	262	LR		LR		21 36 21.8	
	comp=Z,148nm,18.6s,baz=98,slow=36								
PMG	Port Moresby	29.82	284	LR		LR		21 35 46.0	
	comp=Z,174nm,19.0s,baz=124,slow=33								
MTSU	Mount Surprise	30.43	266	P		P		21 25 42.2	-0.4
CMSA	Cobar Meteorol	30.46	239	P		P		21 25 43.0	+0.3
TBI	Tubuai	32.12	104	*e*LR		LR		21 34 28.3	
	comp=Z,3μm,26.2s								
TBI				*e*LR		LR		21 34 28.5	
	comp=Z,1μm,28.2s								
PPT2	Papeete2	32.30	93	*e*LR		LR		21 34 32.2	
	comp=Z,314nm,26.5s								
PPT2				*e*LR		LR		21 34 32.4	
	comp=Z,205nm,27.0s								
STKA	Stephens Creek	33.91	241	P		P		21 26 12.6	-0.4
	comp=Z,8.3nm,0.8s,baz=75,slow=9.8,SNR=9.4								
	comp=Z,8.3nm,0.8s								
STKA	Stephens Creek	33.91	241	P		P		21 26 12.9	-0.1
STKA				IAmb		IAmb		21 26 16.1	
	comp=Z,2.4nm,0.9s								
STKA	Stephens Creek	33.91	241	P		P		21 26 13.7	+0.7
H11S2	WAKE ISLAND Hy	38.24	345	T		T		22 07 08.3	
	baz=166,slow=76,SNR=16								
H11S3	WAKE ISLAND Hy	38.25	345	T		T		22 07 10.2	
	baz=166,slow=76,SNR=12								
H11S1	WAKE ISLAND Hy	38.26	345	T		T		22 07 11.1	
	baz=166,slow=76,SNR=13								
BBOO	Buckleboo	38.69	241	P		P		21 26 52.8	-1.0
BBOO				IAmb		IAmb		21 26 56.3	
	comp=Z,20nm,1.1s								
WB0	Warramunga Arr	39.61	261	P		P		21 26 59.8	-1.9
WB0				IAmb		IAmb		21 27 07.8	
	comp=Z,9.6nm,1.0s								
WRAB	Tennant Creek	39.63	261	P		P		21 27 00.1	-1.8
WB1	Warramunga Ar.	39.63	261	P		P		21 27 00.2	-1.7
WRA	Warramunga Arr	39.64	261	P		P		21 26 59.9	-2.1
	comp=Z,3.0nm,0.9s,baz=90,slow=9.4,SNR=13								
WRA				LR		LR		21 41 39.2	
	comp=Z,90nm,22.0s,baz=114,slow=34								
	comp=Z,3.0nm,0.9s								
WRA	Warramunga Arr	39.64	261	P		P		21 26 59.4	-2.6
AS01	Alice Springs	39.78	255	P		P		21 27 02.1	-1.0
AS31	Alice Springs	39.82	255	P		P		21 27 01.6	-1.8
ASAR	Alice Springs	39.82	255	P		P		21 27 01.9	-1.6
	comp=Z,5.3nm,0.9s,baz=84,slow=8.7,SNR=35								
ASAR				PcP		PcP		21 29 08.1	-1.5
	comp=Z,0.8nm,0.9s,baz=108,slow=3.0,SNR=4.8								
	comp=Z,5.3nm,0.9s								
ASAR	Alice Springs	39.82	255	P		P		21 27 01.5	-1.9
GUMO	Guam	44.73	314	LR		LR		21 44 53.1	
	comp=Z,36nm,21.4s,baz=150,slow=34								
WRKA	Warakurna	44.90	253	P		P		21 27 44.5	-0.3
SIJI	Sorong	47.71	287	LR		LR		21 46 45.6	
	comp=Z,131nm,21.6s,baz=72,slow=34								
FITZ	Fitzroy Crossi	48.04	262	P		P		21 28 07.8	-1.7
FITZ	Fitzroy Crossi	48.04	262	P		P		21 28 09.8	+0.3
PSA00	Pilbara Seismi	52.93	257	P		P		21 28 45.7	-0.8
MJAR	Matsushiro Arr	65.80	327	P		P		21 30 14.7	-0.4
	comp=Z,5.0nm,1.0s,baz=153,slow=6.9,SNR=4.5								
	comp=Z,5.0nm,1.0s								
JNU	Nakatsue	67.49	320	LR		LR		21 54 50.0	
	comp=Z,53nm,20.0s,baz=76,slow=32								
LEM	Lembang	67.79	270	LR		LR		22 01 58.1	
	comp=Z,46nm,18.1s,baz=92,slow=38								
ASAJ	Asahikawa	69.82	335	LR		LR		21 54 08.2	
	comp=Z,50nm,21.7s,baz=176,slow=30								
QSPA	South Pole Qui	71.28	180	P		P		21 30 49.8	+0.6
KSRS	Korea Array	72.19	321	P		P		21 30 55.1	+0.4
	comp=Z,2.3nm,0.9s,baz=124,slow=6.0,SNR=3.6								
KSRS				LR		LR		22 01 34.1	
	comp=Z,18nm,18.1s,baz=85,slow=35								
	comp=Z,2.3nm,0.9s								
PETK	Petropavlovsk-	73.40	348	P		P		21 31 02.5	+0.8
	comp=Z,8.1nm,1.0s,baz=167,slow=14,SNR=4.1								
	comp=Z,8.1nm,1.0s								
USRK	Ussuriysk Ar.	74.67	329	LR		LR		22 02 33.0	
	comp=Z,15nm,18.0s,baz=131,slow=35								
NJ2	Nanjing	74.78	312	*e*P		P		21 31 09.0	-1.2
NJ2				pmax		pmax			
	comp=Z,13nm,0.6s								
KLR	Kul'dur	78.46	332	LR		LR		22 00 03.9	
	comp=Z,30nm,20.7s,baz=114,slow=31								
HEH	HeiHe	81.16	331	*e*P		P		21 31 46.8	+1.6
HEH				pmax		pmax			
	comp=Z,4.0nm,1.6s								
HEH				pmax		pmax			
	comp=Z,260nm,4.9s								
YBH	Yreka Blue Hor	82.36	41	P		P		21 31 53.6	+1.7
	comp=Z,1.2nm,0.8s,baz=245,slow=7.2,SNR=3.1								
	comp=Z,1.2nm,0.8s								
NVAR	Mina Array Bea	83.50	46	P		P		21 31 59.6	+1.5
	comp=Z,2.3nm,1.0s,baz=228,slow=7.2,SNR=10.0								
	comp=Z,2.3nm,1.0s								
NVAR	Mina Array Bea	83.50	46	P		P		21 31 58.4	+0.2
NV11	Mina Array Sit	83.61	46	P		P		21 32 00.3	+1.8
NV11				IAmb		IAmb		21 32 03.4	
	comp=Z,4.0nm,1.1s								
SEY	Seymchan	83.61	349	P		P		21 31 57.8	0.0
	comp=Z,2.5nm,0.9s,baz=162,slow=9.4,SNR=3.9								
	comp=Z,2.5nm,0.9s								
HHC	Hu-ho-hao-te	84.44	316	*e*P		P		21 32 02.4	-0.3
HHC				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CMAR	Chiang Mai Arr	84.58	291	P		P		21 32 04.5	+0.7
	comp=Z,0.8nm,0.4s,baz=118,slow=3.9,SNR=11								
CMAR				LR		LR		22 10 02.5	
	comp=Z,6.9nm,18.8s,baz=75,slow=36								
	comp=Z,0.8nm,0.4s								
CMAR	Chiang Mai Arr	84.58	291	P		P		21 32 03.8	0.0
BMN	Battle Mountai	85.22	45	P		P		21 32 08.4	+1.7
BMN				IAmb		IAmb		21 32 09.9	
	comp=Z,3.8nm,0.9s								
PZH	PanZhiHua	85.27	300	P		P		21 32 05.4	-1.8
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,100nm,5.4s								
LZH	Lanzhou	87.58	309	⇑P		P		21 32 19.8	+1.4
LZH				pP		pwP		21 32 25.8	+1.8
LZH				sP		sP		21 32 30.8	+8.9
LZH				pmax		pmax			
	comp=Z,8.0nm,1.5s								
ILAR	Eielson Array	87.91	15	P		P		21 32 18.4	-0.7
	comp=Z,0.6nm,0.9s,baz=236,slow=6.2,SNR=3.1								
	comp=Z,0.6nm,0.9s								
YAK	Yakutsk	88.62	340	LR		LR		22 10 32.9	
	comp=Z,19nm,18.4s,baz=80,slow=35								
SONM	Songino Array	91.05	321	P		P		21 32 35.8	+1.4
	comp=Z,0.7nm,1.0s,baz=130,slow=4.5,SNR=3.7								
SONM				LR		LR		22 08 29.8	
	comp=Z,26nm,21.2s,baz=47,slow=32								
	comp=Z,0.7nm,1.0s								
PDAR	Pinedale Array	91.40	45	P		P		21 32 37.1	+0.8
	comp=Z,0.6nm,0.8s,baz=208,slow=6.0,SNR=3.9								
	comp=Z,0.6nm,0.8s								
GTA	Gaotai	91.85	311	*e*P		P		21 32 38.8	+0.5
GTA				pP		pwP		21 32 44.0	+0.1
GTA				pmax		pmax			
	comp=Z,2.0nm,1.2s								
PLCA	Paso Flores	94.23	135	LR		LR		22 06 00.5	
	comp=Z,29nm,21.9s,baz=194,slow=30								
GOMU	GeErMu	94.37	307	P		P		21 32 49.8	-0.5
GOMU				pP		sP		21 32 53.8	0.0
GOMU				sP		pwP		21 32 55.1	-0.9
GOMU				pmax		pmax			
	comp=Z,50nm,7.1s								
BRTR	Keskin Array B	141.77	311	PKP		PKiKP		21 39 03.4	-1.4
	comp=Z,0.7nm,0.9s,baz=354,slow=5.1,SNR=3.7								
DPC	Dobruska-Polom	144.72	338	*e*PKP		PKPdf		21 39 06.3	-0.4
DPC				*ex*		x		21 39 12.3	
MORC	Moravsky Berou	144.74	336	*e*PKP		PKPdf		21 39 06.6	-0.2
KRLC	Kraliky	144.78	337	*e*PKP		PKPdf		21 39 06.4	-0.4
CLL	Collm	144.99	342	*i* PKPdf		PKPbc		21 39 06.5	+0.2
	comp=Z,7.0nm,0.9s								
CLL				*e*PKiKP		PKiKP		21 39 11.0	+0.1
CLL				*e*PKSdf		PKSdf		21 42 42.0	-0.4
CLL				*e*SKPbc		SKPbc		21 42 46.0	-0.7
BRG	Berggiesshubel	145.08	341	*e*PKP		PKPdf		21 39 07.1	-0.1
BRG				Amp				21 39 10.1	
	comp=Z,7.9nm,1.1s								
VYHS	Vyhne	145.23	334	*e*PKP		PKPdf		21 39 07.7	+0.1
VYHS				*e*				21 39 14.2	
JAVC	Velka Javorina	145.43	335	*e*PKP		PKPdf		21 39 09.2	+1.2
VRAC	Vranov	145.48	337	*e*PKP		PKPab		21 39 08.0	-0.2
GOPC	GO Pecny, Ondr	145.62	339	*e*PKP		PKiKP		21 39 11.5	-0.8
PRU	Pruhonice	145.65	339	*e*PKP		PKPab		21 39 08.6	-0.2
KRUC	Moravsky	145.76	336	*e*PKP		PKPab		21 39 09.0	-0.2
KHC	Kasperske Hory	146.70	339	*e*PKP		PKPab		21 39 12.5	-0.4
KHC				*ep*PKP		sPKPab		21 39 17.4	+1.0
CKRC	Cesky Krumlov	146.72	338	*e*PKP		PKPab		21 39 13.2	+0.3
CKRC				*ex*		x		21 39 18.4	
CONA	Conrad Observa	146.89	336	*i* PKiKP		PKPab		21 39 13.1	-0.7
	comp=Z,9.2nm,1.2s								
RONA	Rosalia, Austr	146.90	335	*i* PKiKP		PKiKP		21 39 14.5	-0.5
	comp=Z,12nm,1.4s								
GERES	GERESS Array B	146.91	339	PKPbc		PKPbc		21 39 12.2	-0.2
	comp=Z,0.0nm,1.1s,baz=140,slow=8.5,SNR=7.3								
BIOA	Bad Ischl, Aus	147.91	338	*e*PKP		PKPbc		21 39 14.9	-0.3
	comp=Z,7.8nm,1.7s								
WTTA	Wattenberg	148.97	340	*e*PKP		PKiKP		21 39 19.1	-0.4
	comp=Z,7.2nm,1.2s								
MOTA	Moosalm	149.07	340	*e*PKP		PKiKP		21 39 20.3	+0.7
	comp=Z,12nm,1.5s								
ABTA	Abfaltersbach	149.12	338	*e*PKP		PKPbc		21 39 16.8	-1.6
	comp=Z,5.1nm,1.2s								
DAVA	Damuels	149.50	342	*e*PKiKP		PKPbc		21 39 19.5	+0.1
	comp=Z,12nm,1.4s								

IDC 14 21:55:25.2±2.9, 36°24N×70°23E, h200km±27km, mb3.3/8, mbtmp3.8/14, Error ellipse: s-maj=23.9km s-min=17.6km az=178.0
SOME 14 21:55:26.1, 37°72N×71°50E, h10km
NNC 14 21:55:58.9±10.0, 39°26N×70°66E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=98.9km s-min=60.8km az=167.0

ISC 14 21:55:26.5±0.7, 36°44N±0°08×70°24E±0°08, h204km, n33, σ1°32/25, mb3.3/7, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CEP	Cherat	2.95	152	P		Pn		21 56 20.7	+4.8
CHCP	Chirah Chowk	3.72	137	P		Pn		21 56 28.9	+3.9
THW	Thamme Wali	3.84	161	P		Pn		21 56 29.6	+3.1
IUG	Iuchnay	5.70	358	*e*Pg		Pn		21 56 51.5	+1.6
	45nm,0.2s								
IUG				*e*Lg		Lg		21 57 53.2	
	75nm,0.7s								
CHM	Chimkent	5.89	355	*e*Pg		Pn		21 56 54.3	+2.0
	43nm,0.2s								
CHM				*e*Lg		Lg		21 57 58.0	
	163nm,0.6s								
DZA	Taraz	6.50	7	*e*Pg		Pn		21 57 02.9	+2.7
	43nm,0.1s								
DZA				*e*Lg		Lg		21 58 12.9	
	36nm,0.3s								
KK31	Karatay Array	6.66	2	⇓Pn		Pn		21 57 02.3	+0.1
	0.7nm,0.3s,baz=182,slow=13,SNR=11								
KK31				⇑Lg		Lg		21 58 03.5	
	3.0nm,0.6s,baz=188,slow=26,SNR=6.0								
MRKS	Merke	6.71	19	*e*Pg		Pn		21 57 03.9	+1.0
	6.2nm,0.4s								
MRKS				*e*Lg		Lg		21 58 14.8	
	6.6nm,0.5s								
AAK	Ala-Archa	7.01	27	P		Pn		21 57 08.2	+1.3
	3.5nm,0.5s,baz=199,slow=5.0,SNR=26								
AAK				S		S		21 58 24.4	-2.1
	4.6nm,0.6s,baz=7.9,slow=24,SNR=12								
CHMS	Chumysh	7.42	27	⇓Pn		Pn		21 57 13.2	+1.1
	2.7nm,0.7s								
CHMS				⇑Lg		Lg		21 58 32.7	
	4.1nm,0.7s								
TKM2	Tokmak 2	7.68	31	⇑Pn		Pn		21 57 16.4	+0.8
	2.9nm,0.8s								
TKM2				⇓Lg		Lg		21 58 42.6	
	5.1nm,0.9s								
KST	Kastek	7.93	32	*e*Pg		Pn		21 57 23.4	+4.6
	1.1nm,0.3s								
KST				*e*Lg		Lg		21 58 48.1	
	6.8nm,0.9s								
GEYT	Alibeck	9.79	282	P		Pn		21 57 42.4	-0.5
	5.0nm,0.5s,baz=111,slow=10,SNR=12								
MKAR	Makanchi Array	13.70	37	P		P		21 58 33.1	-1.5
	1.9nm,0.6s,baz=222,slow=18,SNR=19								
DANN	Dangsing	13.97	121	*e*P		P		21 58 36.8	-1.3
	28nm,0.4s								
GKN	Gorkha	14.79	121	*e*P		P		21 58 47.0	0.0
	21nm,0.3s								
DMN	Daman	15.36	121	*e*P		P		21 58 54.3	+0.9
	14nm,0.3s								
KURBB	Kurchatov Arra	15.38	20	P		P		21 58 52.8	-0.3
	1.1nm,0.6s,baz=208,slow=11,SNR=11								
PKIN	Phulchoki	15.59	120	*e*P		Pn		21 58 56.8	+0.9
	13nm,0.3s								
PKI	Pulchoki	15.60	120	*e*P		Pn		21 58 57.0	+0.9
	9.9nm,0.3s								
JIRN	Jiri	16.09	118	*e*P		Pn		21 59 03.1	+1.0
AKTO	Aktyubinsk	16.53	332	P		Pn		21 59 07.2	+0.4
	1.5nm,0.3s,baz=168,slow=6.5,SNR=6.3								
BVAR	Borovoye Array	16.58	0	P		Pn		21 59 08.1	+0.8
	0.6nm,0.4s,baz=159,slow=10,SNR=6.1								
RAMN	Ramite	16.81	120	*e*P		Pn		21 59 11.7	+1.1
	13nm,0.4s								
TAPN	Taplejung	17.36	117	*e*P		Pn		21 59 18.4	+1.3
	12nm,0.5s								
ZALV	Zalesovo Beam	20.23	25	P		Pn		21 59 46.3	-4.3
	3.5nm,0.5s,baz=219,slow=11,SNR=9.7								
	3.5nm,0.5s								
SONM	Songino Array	28.87	55	P		P		22 01 07.7	+1.6
	0.3nm,0.5s,baz=264,slow=8.4,SNR=4.5								
	0.3nm,0.5s								
FINES	FINESS Array B	37.19	326	P		P		22 02 17.9	+0.3
	2.3nm,1.1s,baz=98,slow=7.6,SNR=3.6								
	2.3nm,1.1s								
ARCES	ARCESS Array B	40.97	338	P		P		22 02 49.2	+0.4
	1.7nm,0.8s,baz=130,slow=8.4,SNR=1.4								
	1.7nm,0.8s								
TORD	Torodi Ar. Bea	65.10	268	P		P		22 05 45.0	-0.7
	1.1nm,0.3s,baz=48,slow=8.9,SNR=2.7								
	1.1nm,0.3s								
YKA	Yellowknife Ar	81.33	2	P		P		22 07 19.8	+0.2
	0.3nm,0.6s,baz=348,slow=5.5,SNR=5.1								
YKA				pP		pP		22 08 13.3	+3.8
	0.2nm,0.7s,baz=348,slow=5.7,SNR=4.5								
	0.3nm,0.6s								
WRA	Warramunga Arr	82.48	121	P		P		22 07 24.5	-1.8
	0.3nm,0.4s,baz=325,slow=5.0,SNR=6.7								
	0.3nm,0.4s								
ASAR	Alice Springs	84.72	124	P		P		22 07 36.4	-1.3
	0.3nm,0.6s,baz=313,slow=5.0,SNR=5.7								
	0.3nm,0.6s								

NEIC 14 22:00:08.9±1.5, 20°1S±0°1×173°22W±0°10, h10km±1km, mb4.8/37, Error ellipse: s-maj=18.2km s-min=15.6km az=170.0
IDC 14 22:00:09.3±0.7, 20°05S×173°60W, h0km, mb4.4/13, mbtmp4.4/15, ML4.4/2, MS3.8/15, Error ellipse: s-maj=29.1km s-min=16.1km az=140.0

ISC 14 22:00:08.6±0.4, 20°06S±0°07×173°25W±0°06, h10km, n108, σ2°03/104, mb4.7/32, MS3.9/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
NIUE	Niue	3.28	73	Pn		Pn		22 00 57.3	-2.8
AFI	Afiamalu	6.27	13	Pn		Pn		22 01 39.4	-1.9
	16nm,0.3s,baz=64,slow=9.7,SNR=18								
AFI				Sn		Sn		22 02 44.4	-8.7
	11nm,0.3s,baz=60,slow=20,SNR=1.3								
AFI				LR		LR		22 03 39.9	
	comp=Z,135nm,

COEN	**Coen**	**42.02**	**271**	P		**P**	**22 07 58.9**	**-1.7**
BBOO	**Buckleboo**	**46.74**	**243**	P		**P**	**22 08 37.1**	**-1.1**
WR0	**Warramunga Arr**	**48.89**	**261**	P		**P**	**22 08 53.8**	**-1.2**
WR0				IAmb		IAmb	22 09 14.6	
	comp=Z,18nm,1.5s							
AS31	**Alice Springs**	**48.96**	**256**	P		**P**	**22 08 54.7**	**-0.9**
ASAR	**Alice Springs**	**48.96**	**256**	P		**P**	**22 08 54.1**	**-1.4**
	comp=Z,2.9nm,0.6s,baz=96,slow=7.6,SNR=50							
ASAR				PcP		**PcP**	**22 10 21.6**	**+1.8**
	comp=Z,1.8nm,0.6s,baz=110,slow=4.0,SNR=7.1							
ASAR				S		**S**	**22 15 53.4**	**-6.6**
	comp=Z,0.3nm,0.7s,baz=92,slow=18,SNR=2.8							
	comp=Z,2.9nm,0.6s							
ASAR	**Alice Springs**	**48.96**	**256**	P		**P**	**22 08 54.3**	**-1.2**
WB0	**Warramunga Arr**	**49.06**	**261**	P		**P**	**22 08 55.1**	**-1.2**
WB0				IAmb		IAmb	22 09 05.3	
	comp=Z,10nm,1.1s							
WRA	**Warramunga Arr**	**49.08**	**261**	P		**P**	**22 08 54.7**	**-1.7**
	comp=Z,3.0nm,0.5s,baz=96,slow=5.1,SNR=45							
WRA				PcP		**PcP**	**22 10 22.5**	**+2.3**
	comp=Z,1.5nm,0.8s,baz=96,slow=3.4,SNR=2.6							
WRA				S		**S**	**22 15 58.7**	**-3.0**
	comp=Z,0.7nm,0.9s,baz=102,slow=15,SNR=4.4							
WRA				LR		LR	22 29 03.7	
	comp=Z,110nm,18.4s,baz=55,slow=36							
	comp=Z,3.0nm,0.5s							
WRA	**Warramunga Arr**	**49.08**	**261**	P		**P**	**22 08 55.3**	**-1.2**
FORT	**Forrest**	**53.56**	**246**	P		**P**	**22 09 29.5**	**-0.4**
MTN	**Manton Dam**	**53.63**	**269**	P		**P**	**22 09 29.3**	**-1.3**
MTN				IAmb		IAmb	22 09 40.5	
	comp=Z,10nm,0.7s							
KNRA	**Kununurra**	**55.14**	**265**	P		**P**	**22 09 41.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**57.51**	**261**	P		**P**	**22 09 58.1**	**-0.4**
SBA	**Scott Base**	**58.65**	**185**	P		**P**	**22 10 06.2**	**+0.6**
VNDA	**Vanda**	**58.79**	**186**	P		**P**	**22 10 06.5**	**-0.1**
VNDA				IAmb		IAmb	22 10 30.4	
	comp=Z,11nm,1.2s							
SOEI	**Soe**	**60.95**	**270**	P		**P**	**22 10 22.2**	**-0.4**
PSA00	**Pilbara Seismi**	**62.11**	**256**	P		**P**	**22 10 29.6**	**-0.6**
MBWA	**Marble Bar**	**62.30**	**256**	P		**P**	**22 10 30.9**	**-0.5**
NWAO	**Narrogin (SRO)**	**62.54**	**243**	LR		LR	22 36 21.1	
	comp=Z,112nm,18.3s,slow=35							
MORW	**Morawa**	**64.11**	**247**	P		**P**	**22 10 43.1**	**-0.3**
DAV	**Davao City (W)**	**65.91**	**288**	LR		LR	22 38 54.7	
	comp=Z,21nm,18.1s,baz=34,slow=36							
TOLI2	**Tolitoli**	**67.90**	**280**	P		**P**	**22 11 07.9**	**0.0**
TOLI2				IAmb		IAmb	22 11 27.8	
	comp=Z,7.9nm,1.0s							
QSPA	**South Pole Qui**	**70.02**	**180**			**P**	**22 11 21.7**	**+1.3**
QSPA				IAmb		IAmb	22 11 56.0	
	comp=Z,17nm,1.4s							
MJAR	**Matsushiro Arr**	**72.59**	**321**	P		**P**	**22 11 37.5**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=154,slow=5.4,SNR=6.4							
	comp=Z,3.7nm,0.8s							
KKM	**Kota Kinabalu**	**73.99**	**283**	P		**P**	**22 11 44.8**	**-0.2**
KKM				IAmb		IAmb	22 12 07.4	
	comp=Z,11nm,1.1s							
LPIG	**La Paz**	**75.38**	**57**	LR		LR	22 40 48.4	
	comp=Z,83nm,18.0s,baz=224,slow=32							
PETK	**Petropavlovsk-**	**77.09**	**343**	P		**P**	**22 12 04.3**	**+2.4**
	comp=Z,2.7nm,0.7s,baz=134,slow=16,SNR=2.1							
	comp=Z,7nm,0.7s							
YBH	**Yreka Blue Hor**	**77.22**	**36**	LR		LR	22 39 19.0	
	comp=Z,53nm,18.9s,baz=330,slow=30							
LEM	**Lembang**	**77.51**	**267**	LR		LR	22 46 20.9	
	comp=Z,44nm,19.4s,baz=216,slow=36							
TPUB	**Ta-pu**	**77.54**	**301**	P		**P**	**22 12 05.4**	**+0.4**
RYN	**Ryan**	**77.68**	**41**	P		**P**	**22 12 05.8**	**0.0**
NVAR	**Mina Array Bea**	**77.70**	**41**	P		**P**	**22 12 09.3**	**+3.4**
	comp=Z,1.6nm,0.7s,baz=225,slow=9.0,SNR=13							
	comp=Z,1.6nm,0.7s							
NVAR	**Mina Array Bea**	**77.70**	**41**	P		**P**	**22 12 06.1**	**+0.2**
PINE	**Pine Mountain**	**79.56**	**36**	P		**P**	**22 12 16.3**	**+0.3**
PINE				IAmb		IAmb	22 12 42.7	
	comp=Z,9.0nm,1.4s							
KSRS	**Korea Array**	**79.58**	**316**	P		**P**	**22 12 18.6**	**+2.7**
	comp=Z,1.9nm,0.9s,baz=141,slow=6.0,SNR=3.7							
	comp=Z,1.9nm,0.9s							
P18K	**Big Mountain,**	**80.53**	**9**	P		**P**	**22 12 21.4**	**+0.8**
P18K				IAmb		IAmb	22 12 33.9	
	comp=Z,32nm,1.4s							
ELK	**Elko**	**80.98**	**41**	LR		LR	22 46 53.8	
	comp=Z,49nm,18.5s,baz=312,slow=34							
SRU	**San Rafael Swe**	**83.05**	**44**	P		**P**	**22 12 34.3**	**-0.3**
SRU				IAmb		IAmb	22 12 39.4	
	comp=Z,5.5nm,0.8s							
NJ2	**Nanjing**	**83.09**	**308**	*e*P		**P**	**22 12 34.5**	**-0.2**
NJ2				pmax		pmax		
	comp=Z,3.0nm,0.6s							
HLID	**Hailey**	**83.13**	**39**	P		**P**	**22 12 35.4**	**+0.4**
ANMO	**Albuquerque**	**83.69**	**49**	LR		LR	22 46 02.2	
	comp=Z,32nm,18.0s,baz=23,slow=33							
ANMO	**Albuquerque**	**83.69**	**49**	P		**P**	**22 12 39.1**	**+1.1**
ANMO				IAmb		IAmb	22 12 43.2	
	comp=Z,10nm,1.5s							
NEW	**Newport**	**84.46**	**34**	LR		LR	22 44 60.0	
	comp=Z,110nm,18.2s,baz=262,slow=32							
PDAR	**Pinedale Array**	**85.63**	**41**	P		**P**	**22 12 51.0**	**+3.2**
	comp=Z,1.0nm,0.8s,baz=202,slow=3.4,SNR=9.9							
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**85.63**	**41**	P		**P**	**22 12 47.5**	**-0.3**
ILAR	**Eielson Array**	**86.96**	**11**	P		**P**	**22 12 55.5**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=231,slow=5.9,SNR=10.0							
	comp=Z,0.6nm,0.7s							
HHC	**Hu-ho-hao-te**	**92.28**	**313**	*e*P		**P**	**22 13 19.1**	**-0.1**
HHC				pmax		pmax		
	comp=Z,18nm,1.0s							
HHC				pmax		pmax		
	comp=Z,170nm,4.8s							
CMAR	**Chiang Mai Arr**	**94.20**	**288**	P		**P**	**22 13 30.9**	**+2.5**
	comp=Z,7.7nm,0.3s,baz=125,slow=4.5,SNR=7.5							
	comp=Z,2.7nm,0.3s							
YKA	**Yellowknife Ar**	**94.29**	**23**	P		**P**	**22 13 29.4**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=240,slow=4.6,SNR=7.8							
	comp=Z,0.4nm,0.8s							
PZH	**PanZhiHua**	**94.47**	**296**	P		**P**	**22 13 29.0**	**-0.7**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,90nm,5.0s							
LZH	**Lanzhou**	**96.08**	**306**	*e*P		**P**	**22 13 37.9**	**+1.1**
LZH				sP		pwP	22 13 51.4	+4.6
LZH				pmax		pmax		
	comp=Z,6.0nm,1.5s							
ZALV	**Zalesovo Beam**	**112.95**	**321**	PKiKP		**PKiKP**	**22 18 46.8**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=338,slow=3.4,SNR=2.0							
MKAR	**Makanchi Array**	**114.14**	**313**	PKiKP		**PKiKP**	**22 18 49.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=242,slow=0.9,SNR=5.6							
ARCES	**ARCESS Array B**	**129.21**	**352**	PKP		**PKiKP**	**22 19 18.4**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=0.0,slow=2.7,SNR=4.7							
AKASG	**Malin Array Be**	**144.64**	**335**	PKP		**PKPdf**	**22 19 45.7**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=38,slow=4.8,SNR=17							
CLL	**Collm**	**148.43**	**353**	*e*PKPdf		**PKPdf**	**22 19 51.0**	**-0.8**
CLL				*e*PKPbc		**pPKPbc**	**22 19 56.0**	**+0.4**
CLL				*i* PKiKP		**PKPab**	**22 19 58.2**	**-0.3**
	comp=Z,11nm,0.9s							
OSTC	**Ostas**	**148.65**	**348**	*e*PKP		**PKPab**	**22 19 59.6**	**+0.1**
BRG	**Berggiesshubel**	**148.72**	**351**	*e*PKP		**PKPab**	**22 19 59.2**	**-0.5**
BRG				Amp			22 20 00.3	
	comp=Z,4.8nm,1.0s							
DPC	**Dobruska-Polom**	**148.83**	**348**	*e*PKP		**PKiKP**	**22 19 59.3**	**+1.5**
PVCC	**Panska Ves**	**148.97**	**350**	*e*PKP		**PKPab**	**22 20 00.0**	**-0.7**
MORC	**Moravsky Berou**	**149.12**	**346**	*e*PKP		**PKPab**	**22 20 00.9**	**-0.5**
LANS	**Liptovska Anna**	**149.23**	**344**	*e*PKP		**PKPab**	**22 20 01.3**	**-0.6**
MAUC	**Maruska**	**149.44**	**346**	*e*PKP		**PKPab**	**22 20 01.3**	**-1.4**
PRU	**Pruhonice**	**149.49**	**350**	*e*PKP		**PKiKP**	**22 20 00.9**	**+1.8**
BRTR	**Keskin Array B**	**149.73**	**316**	PKPbc		**PKiKP**	**22 20 01.4**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=128,slow=3.8,SNR=6.9							
VRAC	**Vranov**	**149.77**	**347**	*e*PKP		**PKPab**	**22 20 02.6**	**-1.4**
VYHS	**Vyhne**	**150.00**	**344**	*e*PKP		**PKiKP**	**22 20 02.3**	**+2.1**
VYHS				*e*			22 20 13.8	
KRUC	**Moravsky**	**150.04**	**347**	*e*PKP		**PKiKP**	**22 20 01.7**	**+1.4**
KHC	**Kasperske Hory**	**150.48**	**351**	*e*PKP		**PKiKP**	**22 20 03.4**	**+2.2**
MODS	**Modra-Piesok**	**150.50**	**346**	*e*PKP		**PKiKP**	**22 20 02.4**	**+1.1**
CKRC	**Cesky Krumlov**	**150.66**	**350**	*e*PKP		**PKiKP**	**22 20 04.6**	**+3.0**
CKRC				*ex*		x	22 20 15.8	
GERES	**GERESS Array B**	**150.74**	**351**	PKPbc		**PKiKP**	**22 20 03.7**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=331,slow=1.7,SNR=9.3							
CONA	**Conrad Observa**	**151.23**	**347**	*e*PKP		**PKiKP**	**22 20 05.4**	**+2.5**
	comp=Z,4.6nm,0.9s							
WATA	**Walderalm**	**152.50**	**353**	*e*PKP		**PKiKP**	**22 20 07.8**	**+2.2**
	comp=Z,3.2nm,0.7s							
KBA	**Koelnbreinsper**	**152.51**	**350**	*e*PKP		**PKiKP**	**22 20 08.1**	**+2.4**
	comp=Z,2.5nm,0.8s							
WTTA	**Wattenberg**	**152.57**	**353**	*i* pPKP		**PKiKP**	**22 20 08.2**	**+2.4**
	comp=Z,4.8nm,0.6s							
SQTA	**Sankt Quirin**	**152.66**	**353**	*i* pPKP		**PKiKP**	**22 20 08.0**	**+2.1**
	comp=Z,2.3nm,0.8s							
FETA	**Feichten**	**152.91**	**354**	*i* pPKP		**PKiKP**	**22 20 09.1**	**+2.6**
	comp=Z,10.0nm,1.8s							
ABTA	**Abfaltersbach**	**152.96**	**351**	*e*pPKP		**PKiKP**	**22 20 07.5**	**+1.0**
	comp=Z,11nm,2.3s							
TORD	**Torodi Ar. Bea**	**171.59**	**144**	PKPab		**PKPab**	**22 21 42.1**	**+2.7**
	comp=Z,1.3nm,0.4s,baz=227,slow=4.3,SNR=2.7							

ISK ***14*** *22:21:25.8, 37.07N×29.67E, h23km, ML2.6/7*
DDA ***14*** *22:21:26.5±0.0, 37.09N×29.68E, h5km±2km, ML1.5*

ISC 14 22:21:26.5±1.0, 37.08N±0.03×29.68E±0.02, h10km±9km, n18, σ0s76/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.18**	**329**	P		**Pg**	**Pg**	**22 21 30.4**	**0.0**
GOLH				S		S	**Sg**	**22 21 33.4**	**+0.3**
GOLH				*i* AML		AML		22 21 36.0	
	comp=E,224nm,0.2s								
GOLH				*i* AML		AML		22 21 37.0	
	comp=N,192nm,0.2s								
CAEL	**Denizli, Camel**	**0.29**	**278**	P		**Pg**	**Pg**	**22 21 32.4**	**0.0**
CAEL				S		**Sb**	**Sb**	**22 21 37.4**	**-1.4**
CAEL				*i* AML		AML		22 21 40.0	
	comp=N,118nm,0.2s								
CAEL				*i* AML		AML		22 21 42.0	
	comp=E,139nm,0.5s								
CAME	**Cameli-Denizli**	**0.33**	**245**	Pg		**Pg**	**Pg**	**22 21 33.1**	**-0.1**
CAME				Sg		**Sb**	**Sb**	**22 21 39.5**	**-0.5**
ELL	**Elmali**	**0.38**	**151**	Pg		**Pg**	**Pg**	**22 21 33.7**	**-0.4**
ELL				Sg		**Sb**	**Sb**	**22 21 40.3**	**-1.2**
APMY	**Acipayam-Deniz**	**0.49**	**322**	Pg		**Pb**	**Pb**	**22 21 36.3**	**-1.0**
APMY				Sg		**Sb**	**Sb**	**22 21 44.4**	**-0.2**
KORT	**Korkueli**	**0.55**	**98**	Pg		**Pb**	**Pb**	**22 21 37.5**	**-0.7**
KORT				Sg		**Sb**	**Sb**	**22 21 46.1**	**-0.1**
KORT	**Korkueli**	**0.55**	**98**	P		**Pb**	**Pb**	**22 21 37.9**	**-0.3**
KORT				S		**Sb**	**Sb**	**22 21 45.7**	**-0.5**
KORT				*i* AML		AML		22 21 50.0	
	comp=E,44nm,0.3s								
KORT				*i* AML		AML		22 21 50.0	
	comp=N,26nm,0.5s								
FETY	**Fethiye**	**0.65**	**227**	Pg		**Pb**	**Pb**	**22 21 39.4**	**-0.6**
FETY				Sg		**Sb**	**Sb**	**22 21 48.9**	**-0.3**
BRDR	**BURDUR-Merkez**	**0.68**	**26**	P		**Pg**	**Pg**	**22 21 38.7**	**-1.1**
BRDR				S		**Sb**	**Sb**	**22 21 49.9**	**-0.3**
BRDR				*i* AML		AML		22 21 54.0	
	comp=E,27nm,0.4s								
TAVA	**DENIZLI_Tavas**	**0.72**	**302**	P		**Pg**	**Pg**	**22 21 40.4**	**-0.1**
TAVA				S		**Sb**	**Sb**	**22 21 51.1**	**-0.1**
TAVA				*i* AML		AML		22 21 52.0	
	comp=E,27nm,0.7s								
TAVA				*i* AML		AML		22 21 53.0	
	comp=N,25nm,0.4s								
BUCA	**Burdur, Bucak-**	**0.74**	**71**	P		**Pg**	**Pg**	**22 21 40.3**	**-0.6**
BUCA				*i* AML		AML		22 21 54.0	
	comp=N,14nm,0.6s								
BUCA				*i* AML		AML		22 21 56.0	
	comp=E,15nm,0.4s								
AKAS	**Kas**	**0.85**	**184**	Pg		**Pb**	**Pb**	**22 21 42.7**	**-0.8**
AKAS	**Kas**	**0.85**	**184**	P		**Pn**	**Pn**	**22 21 45.2**	**+0.6**
AKAS				*i* AML		AML		22 22 06.0	
	comp=N,40nm,0.4s								
BASM	**Basmaki-Afyon**	**0.89**	**19**	Pg		**Pg**	**Pg**	**22 21 43.2**	**-0.4**
AKUM	**Antalya-Kumluc**	**0.93**	**145**	P		**Pn**	**Pn**	**22 21 47.8**	**+2.2**
AKUM				*i* AML		AML		22 22 07.0	
	comp=N,23nm,1.0s								
KZIL	**AFYON_Kizioren**	**1.23**	**17**	P		**Pg**	**Pg**	**22 21 49.8**	**-0.3**
KZIL				S		**Sg**	**Sg**	**22 22 06.8**	**+0.7**
KZIL				*i* AML		AML		22 22 11.0	
	comp=E,8.7nm,0.4s								
KZIL				*i* AML		AML		22 22 17.0	
	comp=N,8.2nm,0.4s								
BAGO	**Egridir - ISPA**	**1.27**	**44**	P		**Pg**	**Pg**	**22 21 50.8**	**0.0**
BAGO				*i* AML		AML		22 22 12.0	
	comp=N,8.9nm,1.4s								
BAGO				*i* AML		AML		22 22 13.0	
	comp=E,5.3nm,0.6s								
PASA	**Karahalli, USA**	**1.27**	**353**	P		**Pg**	**Pg**	**22 21 50.8**	**-0.1**
PASA				*i* AML		AML		22 22 14.0	
	comp=E,8.2nm,0.5s								
PASA				*i* AML		AML		22 22 19.0	
	comp=N,5.7nm,0.6s								

IDC ***14*** *22:21:44.1±3.2, 5.84S×153.47E, h62km±25km, mb3.3/6, mbtmp3.6/7, ML3.4/1, MS4.2/1, Error ellipse: s-maj=36.4km s-min=18.6km az=72.0*

ISC 14 22:21:40.0±1.8, 5.9S±0.2×153.7E±0.3, h35km, n9, σ0s47/8, mb3.7/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.31**	**312**	P		P	**Pn**	**22 22 15.8**	**+0.2**
	11nm,0.3s,baz=291,slow=1.4,SNR=12								
KRVT				S		**Sn**		**22 22 42.6**	**-0.3**
	126nm,0.7s,baz=71,slow=14,SNR=5.8								
	29nm,0.3s								
DZM	**Mont Dzumac**	**20.25**	**144**	P		Pn		22 26 18.0	+3.3
	2.1nm,0.6s,baz=122,slow=15,SNR=1.7								
	2.1nm,0.6s								
WRA	**Warramunga Arr**	**23.47**	**232**	P		**P**		**22 26 47.0**	**+0.4**
	0.5nm,0.8s,baz=60,slow=8.9,SNR=5.8								
	0.5nm,0.8s								
ASAR	**Alice Springs**	**26.02**	**225**	P		**P**		**22 27 09.4**	**-0.6**
	1.0nm,0.8s,baz=55,slow=9.2,SNR=7.7								
	1.0nm,0.8s								
JHJ	**Hachijo jima 2**	**40.99**	**342**	LR		LR		22 46 27.8	
	comp=Z,281nm,18.1s,baz=85,slow=36								
MKAR	**Makanchi Array**	**81.75**	**319**	P		**P**		**22 33 55.8**	**+0.6**
	0.7nm,0.8s,baz=96,slow=5.8,SNR=5.0								
	0.7nm,0.8s								
ZALV	**Zalesovo Beam**	**82.56**	**326**	P		**P**		**22 33 59.0**	**-0.2**
	0.3nm,0.4s,baz=74,slow=11,SNR=2.2								
	0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**85.22**	**322**	P		**P**		**22 34 12.5**	**-0.3**
	0.5nm,0.8s,baz=108,slow=4.0,SNR=4.8								
	0.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**151.52**	**287**	PKPbc		**PKPbc**		**22 41 31.5**	**0.0**
	2.0nm,0.4s,baz=72,slow=2.2,SNR=2.8								

IDC ***14*** *22:23:53.1±1.8, 34.53N×26.03E, h0km, mb3.8/5, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=52.4km s-min=28.4km az=126.0*

ISC 14 22:23:57.9±1.5, 34.6N±0.2×26.0E±0.3, h32km, n6, σ0s39/6, mb3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**16.30**	**7**	Pn		**Pn**	**Pn**	**22 27 44.6**	**+0.3**
	0.4nm,0.3s,baz=195,slow=12,SNR=2.5								
	0.1nm,0.3s								
FINES	**FINESS Array B**	**26.90**	**0**	P		**P**	**P**	**22 29 35.2**	**-0.6**
	1.0nm,0.8s,baz=178,slow=9.7,SNR=1.2								
	1.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**30.66**	**232**	P		**P**	**P**	**22 30 09.7**	**0.0**
	1.0nm,0.3s,baz=44,slow=7.3,SNR=3.0								
	1.0nm,0.3s								
ARCES	**ARCESS Array B**	**35.03**	**360**	P		**P**	**P**	**22 30 47.1**	**-0.2**
	8.1nm,1.2s,baz=185,slow=8.8,SNR=2.4								
	8.1nm,1.2s								
MKAR	**Makanchi Array**	**43.51**	**56**	P		**P**	**P**	**22 31 58.3**	**0.0**
	0.2nm,0.5s,baz=267,slow=7.9,SNR=5.8								
	0.2nm,0.5s								
YKA	**Yellowknife Ar**	**78.24**	**342**	P		**P**	**P**	**22 35 54.2**	**+0.1**
	0.3nm,0.8s,baz=28,slow=5.8,SNR=2.5								
	0.3nm,0.8s								

IDC ***14*** *22:26:25.8±1.6, 18.62S×176.22E, h0km, mb4.0/5, mbtmp4.0/5, MS3.7/4, Error ellipse: s-maj=105.0km s-min=20.0km az=156.0*

ISC 14 22:26:26.9±1.5, 18.7S±0.6×176.4E±0.3, h10km, n9, σ1s42/7, mb3.8/5, MS3.3/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.88**	**60**	Pn		Pn	**Pn**	**22 26 58.4**	**-0.8**
	50nm,0.3s,baz=93,slow=18,SNR=28								
MSVF				Sn		**Sn**		**22 27 22.7**	**-0.5**
	253nm,0.3s,baz=39,slow=8.9,SNR=12								
MSVF				LR		LR		22 27 42.9	
	comp=Z,296nm,20.3s,baz=247,slow=40								
HNR	**Honiara**	**18.37**	**298**	LR		LR		22 35 58.3	
	comp=Z,2μm,19.6s,baz=138,slow=31								
CTA	**Charters Tower**	**28.40**	**262**	LR		LR		22 42 06.8	
	comp=Z,52nm,18.0s,baz=82,slow=33								
STKA	**Stephens Creek**	**33.90**	**240**	P		**P**		**22 33 10.3**	**+0.2**
	3.2nm,0.8s,baz=62,slow=12,SNR=4.8								
	3.2nm,0.8s								
WRA	**Warramunga Arr**	**39.59**	**261**	P		**P**		**22 33 57.0**	**-1.8**
	1.3nm,0.8s,baz=92,slow=8.5,SNR=9.7								
	1.3nm,0.8s								
ASAR	**Alice Springs**	**39.78**	**255**	P		**P**		**22 33 59.8**	**-0.6**
	1.7nm,0.8s,baz=82,slow=9.2,SNR=20								
ASAR				LR		LR		22 49 11.6	
	comp=Z,75nm,18.6s,baz=74,slow=34								
	1.7nm,0.8s								
SIJI	**Sorong**	**47.62**	**287**	LR		LR		22 53 28.9	
	comp=Z,32nm,20.4s,baz=134,slow=34								
NVAR	**Mina Array Bea**	**83.50**	**46**	P		**P**		**22 38 57.1**	**+1.7**
	0.1nm,0.3s,baz=216,slow=7.5,SNR=8.3								
	0.1nm,0.3s								
CMAR	**Chiang Mai Arr**	**84.50**	**291**	P		**P**		**22 39 01.4**	**+0.8**
	0.8nm,0.3s,baz=118,slow=4.7,SNR=4.9								
	0.8nm,0.3s								

TAP ***14*** *22:30:51.5, 24.65N×122.81E, h88km, ML4.5, B*
NEIC ***14*** *22:30:51.2±1.5, 24.63N±0.07×122.83E±0.06, h91km±5km, mb4.4/10, Error ellipse: s-maj=10.7km s-min=8.0km az=177.0*
JMA ***14*** *22:30:51.3±0.1, 25.1N±2.1×122.8E±0.5, h91km±1km, MV3.7/15, NW OFF ISHIGAKIJIMA IS*
IDC ***14*** *22:30:53.1±7.1, 24.78N×122.92E, h112km±74km, mb3.3/4, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=58.8km s-min=20.3km az=66.0*

ISC 14 22:30:50.9±0.7, 24.61N±0.03×122.80E±0.02, h91km±5km, n181, σ1s41/292, mb4.2/8, 8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.20**	**140**	P		P	**Pn**	**22 31 04.7**	**+0.7**
JYNG				S		S	**Sn**	**22 31 14.5**	**+0.9**
YOJ	**Yonaguni jima**	**0.24**	**127**	Pn		Pn	**Pn**	**22 31 04.7**	**+0.6**
YOJ							**Sn**	**22 31 14.7**	**+0.8**
YOJ	**Yonaguni jima**	**0.24**	**127**	P		P	**Pn**	**22 31 04.8**	**+0.6**
YOJ	**Yonaguni jima**	**0.24**	**127**	P		P	**Pn**	**22 31 04.8**	**+0.6**
YOJ				S		S	**Sn**	**22 31 14.5**	**+0.6**
YOJ	**Yonaguni jima**	**0.24**	**127**	*i* P		P	**Pn**	**22 31 04.7**	**+0.6**
	baz=141								
YOJ				*i* S		S	**Sn**	**22 31 14.5**	**+0.6**
	baz=141								
EGS		**0.82**	**287**	P		P	**Pn**	**22 31 09.5**	**+0.9**
	baz=279								
EGS				S		S	**Sn**	**22 31 21.5**	**-0.5**
	baz=279								
TWB1	**Santiao Chiao**	**0.84**	**299**	*i* P		P	**Pn**	**22 31 09.4**	**+0.5**
	baz=290								
TWC	**Suao**	**0.87**	**270**	P		P	**Pn**	**22 31 09.5**	**+0.4**
	baz=270								
TWC				S		S	**Sn**	**22 31 22.7**	**-0.1**
	baz=270								
IRIF	**Iriomote-Funau**	**0.89**	**108**	P		Pn	**Pn**	**22 31 10.1**	**+0.7**
IRIF				S		S	**Sn**	**22 31 24.2**	**+0.9**
NTC	**Toucheng**	**0.92**	**286**	*e*P		Pn	**Pn**	**22 31 11.0**	**+1.4**
	baz=282								
NTC				*e*S		S	**Sn**	**22 31 24.8**	**+1.0**
	baz=282								
EWUT	**Wuta**	**0.94**	**260**	P		Pn	**Pn**	**22 31 10.8**	**+0.8**
	baz=253								
EWUT				S		S	**Sn**	**22 31 25.0**	**+0.7**
	baz=253								
TIPB	**Shuangxi**	**0.96**	**292**	||P	P	**Pn**	**22 31 10.9**	**+0.7**
	baz=286								
SXI1	**Grass Mountain**	**0.97**	**300**	*e*P		Pn	**Pn**	**22 31 11.1**	**+0.7**
	baz=297								
ILA	**Ilan**	**0.97**	**279**	*e*P		Pn	**Pn**	**22 31 11

NNSB	**Datong** baz=251	**1.30 262**	⇓*eP*	**Pn**	**22 31 15.1 +0.7**
NNSB			*eS*	**Sn**	**22 31 32.3 +0.3**
NNSH	**Datong** baz=252	**1.30 262**	*eP*	**Pn**	**22 31 15.2 +0.9**
NNSH			*eS*	**Sn**	**22 31 32.2 +0.2**
NNS	**Nan Shan** baz=251	**1.31 263**	*eP*	**Pn**	**22 31 15.2 +0.8**
NNS			*eS*	**Sn**	**22 31 32.6 +0.4**
NSK	**Sanguang** baz=262	**1.31 273**	*eP*	**Pn**	**22 31 15.6 +1.2**
NSK			*eS*	**Sn**	**22 31 32.8 +0.6**
TEYL	**Yanliau Villag** baz=235	**1.32 236**	*eP*	**Pn**	**22 31 14.8 +0.4**
TEYL			*eS*	**Sn**	**22 31 32.4 +0.2**
NTST	**Danshui** baz=292	**1.35 295**	*eP*	**Pn**	**22 31 16.0 +1.3**
TWS1	**Kuangyinshan** baz=289	**1.35 292**	⇓*eP*	**Pn**	**22 31 15.9 +1.1**
TWS1			*eS*	**Sn**	**22 31 34.3 +1.5**
ETM	**Tongmen** baz=235	**1.35 242**	*eP*	**Pn**	**22 31 15.2 +0.3**
ETM			*eS*	**Sn**	**22 31 32.6 -0.3**
JISG	**Ishigakijimahi**	**1.38 91**	P	**Pn**	**22 31 15.5 +0.4**
JISG			S	**Sn**	**22 31 34.0 +0.7**
NTY	**Taoyuan** baz=277	**1.42 286**	*eP*	**Pn**	**22 31 16.9 +1.3**
TEGC	**Jichi Village** baz=225	**1.46 232**	*eP*	**Pn**	**22 31 16.8 +0.6**
FUSS	**Fushou** baz=247	**1.46 256**	*eP*	**Pn**	**22 31 17.4 +1.0**
FUSS			*eS*	**Sn**	**22 31 37.0 +1.2**
ESL	**Shilin** baz=236	**1.48 238**	*eP*	**Pn**	**22 31 16.7 +0.3**
ESL			*eS*	**Sn**	**22 31 35.4 -0.3**
NCU	**National Centr** baz=271	**1.51 284**	*eP*	**Pn**	**22 31 17.9 +1.2**
NCU			*eS*	**Sn**	**22 31 38.1 +1.7**
NCUH	**Zhongli** baz=271	**1.51 284**	*eP*	**Pn**	**22 31 18.1 +1.3**
NCUH			*eS*	**Sn**	**22 31 38.1 +1.6**
TWT	**Tachien** baz=249	**1.52 257**	*eP*	**Pn**	**22 31 18.6 +1.5**
TWT			*eS*	**Sn**	**22 31 38.1 +1.1**
NFF	**Wufeng Townshi** baz=268	**1.53 271**	*eP*	**Pn**	**22 31 18.3 +1.2**
NFF			*eS*	**Sn**	**22 31 38.1 +1.2**
TDCB	**Techi** baz=250	**1.54 257**	*eP*	**Pn**	**22 31 18.6 +1.3**
TDCB			*eS*	**Sn**	**22 31 37.4 +0.2**
NJD	**Zhudong** baz=272	**1.56 275**	*eP*	**Pn**	**22 31 20.1 +2.6**
EGFH	**Guangfu** baz=232	**1.56 234**	*eP*	**Pn**	**22 31 17.8 +0.3**
EGFH			*eS*	**Sn**	**22 31 37.6 0.0**
CHGB	**Renai** baz=240	**1.58 250**	*eP*	**Pn**	**22 31 18.9 +1.0**
CHGB			*eS*	**Sn**	**22 31 38.5 +0.1**
OWD	**Renai** baz=238	**1.62 247**	*eP*	**Pn**	**22 31 19.1 +0.7**
OWD			*eS*	**Sn**	**22 31 38.5 -0.6**
LIOB	**Emei** baz=269	**1.62 272**	*eP*	**Pn**	**22 31 19.4 +1.2**
LIOB			*eS*	**Sn**	**22 31 40.8 +1.8**
HSN1	**Hsinchu** baz=274	**1.63 276**	*eP*	**Pn**	**22 31 19.7 +1.4**
NSTT	**Nanjuang** baz=268	**1.64 271**	*eP*	**Pn**	**22 31 19.5 +1.1**
NSTT			*eS*	**Sn**	**22 31 40.2 +0.9**
NHW	**Xinwu Township** baz=289	**1.64 284**	*eP*	**Pn**	**22 31 19.9 +1.4**
SBCB	**Hsinchu** baz=274	**1.66 277**	*eP*	**Pn**	**22 31 20.0 +1.3**
SBCB			*eS*	**Sn**	**22 31 41.2 +1.4**
HSN	**Hsinchu** baz=275	**1.68 277**	*eP*	**Pn**	**22 31 19.7 +0.8**
HGSD	**Ruisui** baz=224	**1.68 229**	*eP*	**Pn**	**22 31 19.3 +0.4**
HGSD			*eS*	**Sn**	**22 31 40.9 +0.7**
JTJ	**Tarama**	**1.73 89**	P	**Pn**	**22 31 20.7 +1.1**
JTJ			*eS*	**Sn**	**22 31 43.2 +1.8**
VWDT	**VWDT** baz=233	**1.74 241**	*eP*	**Pn**	**22 31 20.9 +1.2**
VWDT			*eS*	**Sn**	**22 31 41.9 +0.3**
EHY	**Hungye** baz=229	**1.74 231**	*eP*	**Pn**	**22 31 19.9 +0.2**
EHY			*eS*	**Sn**	**22 31 40.7 -1.0**
NJN	**Zhunan** baz=270	**1.76 273**	*eP*	**Pn**	**22 31 21.3 +1.4**
ECBN	**Changbin** baz=216	**1.78 224**	*eP*	**Pn**	**22 31 21.0 +0.7**
ECBN			*eS*	**Sn**	**22 31 42.2 -0.4**
DPDB	**Guoxing** baz=245	**1.80 252**	*eP*	**Pn**	**22 31 22.2 +1.6**
WCS	**Beigang Elemen** baz=246	**1.81 253**	*eP*	**Pn**	**22 31 22.5 +1.9**
WCS			*eS*	**Sn**	**22 31 45.3 +2.1**
NMLH	**Miaoli** baz=266	**1.83 268**	*eP*	**Pn**	**22 31 22.6 +1.6**
YULB	**Yu-li**	**1.83 229**	Pn	**Pn**	**22 31 21.2 +0.2**
YULB	**Yu-li**	**1.83 229**	P	**Pn**	**22 31 21.4 +0.4**
EYUL	**Yuli** baz=235	**1.85 227**	*eP*	**Pn**	**22 31 22.0 +0.8**
EYUL			*eS*	**Sn**	**22 31 45.9 +1.8**
TWF1	**Yuli** baz=235	**1.86 228**	⇓*eP*	**Pn**	**22 31 21.7 +0.4**
TWF1			*eS*	**Sn**	**22 31 43.8 -0.6**
TWQ1	**Liyutan** baz=260	**1.86 262**	*eP*	**Pn**	**22 31 22.7 +1.3**
TWQ1			*eS*	**Sn**	**22 31 45.6 +1.1**
NSY	**Sanyi** baz=262	**1.87 265**	*eP*	**Pn**	**22 31 23.0 +1.6**
NSY			*eS*	**Sn**	**22 31 46.0 +1.3**
SSLB	**Suanglung**	**1.87 245**	Pn	**Pn**	**22 31 22.2 +0.7**
SSLB	**Suanglung**	**1.87 245**	P	**Pn**	**22 31 23.2 +1.7**
SSLB	**Suanglung** baz=238	**1.87 245**	*eP*	**Pn**	**22 31 22.5 +1.0**
SSLB			*eS*	**Sn**	**22 31 45.3 +0.5**
SMLT	**Sun Moon Lake** baz=241	**1.88 248**	*eP*	**Pn**	**22 31 23.0 +1.4**
SMLT			*eS*	**Sn**	**22 31 47.8 +2.8**
TYC	**Yuchr** baz=241	**1.91 249**	*eP*	**Pn**	**22 31 23.4 +1.5**
TYC			*eS*	**Sn**	**22 31 47.4 +1.9**
FULB	**Fuli** baz=217	**1.97 225**	*eP*	**Pn**	**22 31 23.3 +0.5**
FULB			*eS*	**Sn**	**22 31 46.6 -0.4**
WDJ	**Dajia District** baz=260	**1.98 263**	*eP*	**Pn**	**22 31 24.4 +1.5**
WDJ			*eS*	**Sn**	**22 31 48.7 +1.4**
TCU	**Taichung** baz=254	**1.99 257**	*eP*	**Pn**	**22 31 24.6 +1.7**
TCU			*eS*	**Sn**	**22 31 49.0 +1.6**
CHKT	**Chengkung** baz=216	**2.00 221**	*eP*	**Pn**	**22 31 23.2 +0.1**
CHKT			*eS*	**Sn**	**22 31 46.1 -1.5**
EHD	**Haiduan** baz=233	**2.06 225**	*eP*	**Pn**	**22 31 24.6 +0.6**
EHD			*eS*	**Sn**	**22 31 49.0 -0.1**
ECS	**Chishang** baz=232	**2.09 224**	*eP*	**Pn**	**22 31 25.3 +1.0**
ECS			*eS*	**Sn**	**22 31 50.9 +1.0**
WCHH	**Zhanghua** baz=253	**2.11 256**	*eP*	**Pn**	**22 31 26.2 +1.6**
WCHH			*eS*	**Sn**	**22 31 51.9 +1.6**
ALS	**Alishan** baz=231	**2.13 239**	*eP*	**Pn**	**22 31 27.1 +2.1**
ALS			*eS*	**Sn**	**22 31 52.6 +1.5**
EDH	**Donghe** baz=215	**2.13 220**	*eP*	**Pn**	**22 31 25.2 +0.4**
EDH			*eS*	**Sn**	**22 31 49.7 -1.0**
ELDTW	**Lidau** baz=230	**2.16 229**	*eP*	**Pn**	**22 31 26.1 +0.7**
ELDTW			*eS*	**Sn**	**22 31 51.5 -0.1**
JIRB	**Irabujima**	**2.17 84**	P	**Pn**	**22 31 26.5 +1.2**
JIRB			*eS*	**Sn**	**22 31 52.8 +1.2**
CHN5	**Tsauling** baz=234	**2.19 243**	*eP*	**Pn**	**22 31 27.6 +2.0**
CHN5			*eS*	**Sn**	**22 31 55.0 +2.8**
JIKM	**Ikemajima**	**2.25 81**	P	**Pn**	**22 31 27.4 +1.1**
JIKM			*eS*	**Sn**	**22 31 55.4 +1.9**
JMJ	**Miyako jima 2** baz=88	**2.28 84**	*eP*	**Pn**	**22 31 28.5 +1.8**
JMJ			*eS*	**Sn**	**22 31 56.4 +2.2**
LDUT	**Ludao** baz=215	**2.28 213**	*eP*	**Pn**	**22 31 27.1 +0.3**
LDUT			*eS*	**Sn**	**22 31 53.1 -1.2**
LONT	**Longtian** baz=228	**2.28 222**	*eP*	**Pn**	**22 31 27.6 +0.7**
LONT			*eS*	**Sn**	**22 31 55.1 +0.7**
JMJ2	**Miyako jima3**	**2.30 86**	P	**Pn**	**22 31 28.4 +1.4**
JMJ2			*eS*	**Sn**	**22 31 56.6 +1.8**
WCKO	**Fanlu** baz=238	**2.32 240**	*eP*	**Pn**	**22 31 30.0 +2.6**
WCKO			*eS*	**Sn**	**22 31 58.6 +3.3**
STYH	**Taoyuan** baz=227	**2.34 233**	*eP*	**Pn**	**22 31 29.6 +1.9**
STYH			*eS*	**Sn**	**22 31 57.3 +1.6**
STYT	**Tauyuan** baz=226	**2.36 233**	*eP*	**Pn**	**22 31 29.9 +2.0**
STYT			*eS*	**Sn**	**22 31 58.0 +1.7**
TPUB	**Ta-pu**	**2.37 237**	Pn	**Pn**	**22 31 30.0 +1.9**
TPUB	**Ta-pu**	**2.37 237**	P	**Pn**	**22 31 30.5 +2.4**
TPUB	**Ta-pu** baz=231	**2.37 237**	*eP*	**Pn**	**22 31 30.2 +2.1**
TPUB			*eS*	**Sn**	**22 31 59.4 +2.8**
CHN4	**Tsaushan** baz=236	**2.38 239**	*eP*	**Pn**	**22 31 30.6 +2.5**
CHN4			*eS*	**Sn**	**22 32 00.1 +3.5**
JOGS	**Gusukube**	**2.38 86**	P	**Pn**	**22 31 29.3 +1.3**
JOGS			*eS*	**Sn**	**22 31 58.0 +1.4**
CHN2	**Minshiung** baz=253	**2.38 244**	*eP*	**Pn**	**22 31 30.9 +2.8**
CHN2			*eS*	**Sn**	**22 32 00.4 +3.8**
TWGBT	**Beinan**	**2.38 222**	P	**Pn**	**22 31 28.7 +0.5**
TWGBT	**Beinan** baz=227	**2.38 222**	*eP*	**Pn**	**22 31 28.6 +0.5**
TWGBT			*eS*	**Sn**	**22 31 56.3 -0.4**
TWG	**Pinlang**	**2.38 222**	Pn	**Pn**	**22 31 28.5 +0.3**
TWG	**Pinlang** baz=227	**2.38 222**	*eP*	**Pn**	**22 31 28.3 +0.1**
TWG			*eS*	**Sn**	**22 31 57.0 +0.3**
CHY	**Chiayi** baz=253	**2.44 244**	*eP*	**Pn**	**22 31 31.3 +2.4**
CHY			*eS*	**Sn**	**22 32 00.7 +2.7**
TWK	**Hsinying** baz=236	**2.50 238**	*eP*	**Pn**	**22 31 32.0 +2.2**
TWK			*eS*	**Sn**	**22 32 02.0 +2.3**
CHN1	**Nanshi** baz=244	**2.52 236**	*eP*	**Pn**	**22 31 32.3 +2.3**
CHN1			*eS*	**Sn**	**22 32 02.1 +2.1**
SGST	**Jiashian** baz=241	**2.54 234**	*eP*	**Pn**	**22 31 32.0 +1.8**
SGST			*eS*	**Sn**	**22 32 03.1 +2.7**
SLGT	**Liugui** baz=236	**2.54 231**	*eP*	**Pn**	**22 31 33.8 +3.5**
SLGT			*eS*	**Sn**	**22 32 04.2 +3.5**
ECL	**Taimali** baz=219	**2.62 221**	*eP*	**Pn**	**22 31 31.7 +0.3**
ECL			*eS*	**Sn**	**22 32 01.2 -1.3**
CHN8	**Yiju** baz=240	**2.68 243**	*eS*	**Sn**	**22 32 06.6 +2.7**
SSD	**Sandimen** baz=225	**2.72 227**	*eP*	**Pn**	**22 31 35.7 +3.1**
SSD			*eS*	**Sn**	**22 32 08.1 +3.3**
SCST	**Cishan** baz=238	**2.72 231**	*eP*	**Pn**	**22 31 35.6 +2.9**
SCST			*eS*	**Sn**	**22 32 09.4 +4.5**
SSHA	**Shanhua** baz=236	**2.73 238**	*eS*	**Sn**	**22 32 08.1 +3.1**
TSMG	**Majia** baz=225	**2.74 227**	*eP*	**Pn**	**22 31 35.7 +2.8**
TSMG			*eS*	**Sn**	**22 32 08.8 +3.6**
SHHT	**Tainan City** baz=244	**2.75 235**	*eP*	**Pn**	**22 31 36.1 +3.1**
SCLT	**Jiali** baz=237	**2.78 240**	*eS*	**Sn**	**22 32 08.8 +2.6**
LAY	**Lan-yu** baz=198	**2.80 204**	*eP*	**Pn**	**22 31 33.6 -0.2**
LAY			*eS*	**Sn**	**22 32 04.6 -2.3**
MASBT	**Mashibuluo** baz=224	**2.81 225**	*eP*	**Pn**	**22 31 35.7 +1.8**
MASBT			*eS*	**Sn**	**22 32 09.8 +2.8**
LYUB	**Lan-yu** baz=207	**2.83 204**	*eP*	**Pn**	**22 31 33.5 -0.6**
EAST	**Anshuo** baz=217	**2.85 219**	*eP*	**Pn**	**22 31 35.3 +0.8**
TAWH	**Dawu Township** baz=221	**2.86 218**	*eP*	**Pn**	**22 31 35.5 +1.0**
TAWH			*eS*	**Sn**	**22 32 07.9 -0.3**
TSCK	**Chigu Township** baz=238	**2.88 240**	*eP*	**Pn**	**22 31 36.4 +1.6**
TSCK			*eS*	**Sn**	**22 32 09.9 +1.3**
SCZT	**Fangliau** baz=215	**2.99 222**	*eP*	**Pn**	**22 31 38.4 +2.0**
SCZT			*eS*	**Sn**	**22 32 13.8 +2.4**
MATB	**Ma-tsu** baz=299	**3.00 301**	*eP*	**Pn**	**22 31 36.7 +0.2**
SLIU	**Shizi** baz=220	**3.01 218**	*eP*	**Pn**	**22 31 38.0 +1.4**
MSUT	**Lienchiang** baz=299	**3.03 301**	*eP*	**Pn**	**22 31 37.1 +0.3**
PNG	**Penghu** baz=248	**3.14 251**	*eP*	**Pn**	**22 31 38.5 +0.2**
PNG			*eS*	**Sn**	**22 32 13.8 -1.1**
SMST	**Manzhou Townsh** baz=214	**3.15 215**	*eP*	**Pn**	**22 31 39.4 +1.0**
PHUB	**P'eng-hu** baz=248	**3.15 250**	*eP*	**Pn**	**22 31 38.5 +0.1**
PHUB			*eS*	**Sn**	**22 32 13.5 -1.5**
WDGT	**Dungji** baz=243	**3.17 246**	*eP*	**Pn**	**22 31 39.7 +1.0**
WDGT			*eS*	**Sn**	**22 32 15.9 +0.3**
TWKBT	**Hengchun** baz=213	**3.22 215**	*eP*	**Pn**	**22 31 40.6 +1.2**
TWKBT			*eS*	**Sn**	**22 32 17.9 +0.9**
TWK1	**Hengchun** baz=213	**3.23 215**	*eP*	**Pn**	**22 31 40.9 +1.4**
TWK1			*eS*	**Sn**	**22 32 18.5 +1.5**
LYJJ	**Jianjiangzhen** baz=303	**3.36 306**	*eP*	**Pn**	**22 31 41.3 0.0**
PTMZ	**Houxiangcun** baz=276	**3.37 278**	*eP*	**Pn**	**22 31 41.6 +0.2**
PTMZ			*eS*	**Sn**	**22 32 18.2 -2.3**
VCHM	**Qimei** baz=235	**3.38 246**	*eP*	**Pn**	**22 31 42.4 +0.8**
MHZQ	**Yeshan** baz=292	**3.72 294**	*eP*	**Pn**	**22 31 46.4 +0.3**
KNM	**Kinmen** baz=265	**3.98 268**	*eP*	**Pn**	**22 31 51.6 +1.9**
KNMB	**Chin-men Tao**	**4.02 269**	Pn	**Pn**	**22 31 49.8 -0.4**
KNMB	**Chin-men Tao** baz=266	**4.02 269**	*eP*	**Pn**	**22 31 50.1 -0.1**
AXDP	**Jialang** baz=272	**4.40 275**	*eP*	**Pn**	**22 31 55.6 +0.3**
DSXP	**Dongshan** baz=258	**4.99 261**	*eP*	**Pn**	**22 32 03.9 +0.5**
JOW	**Kunigami** 30nm,0.3s,baz=128,slow=26,SNR=49	**5.41 65**	P	**Pn**	**22 32 08.4 -0.7**
JOW	12nm,0.3s,baz=42,slow=25,SNR=1.4 56nm,0.3s		S	**Sn**	**22 33 09.7 -0.4**
JOW	**Kunigami**	**5.41 65**	Pn	**Pn**	**22 32 08.0 -1.1**
KSRS	**Korea Array** 1.8nm,0.8s,baz=213,slow=12,SNR=4.9	**13.53 18**	P	**P**	**22 34 04.0 -1.0**
INU	**Inuyama**	**16.30 46**	Pn	**Pn**	**22 34 33.7 -0.6**
INU	comp=Z,17nm,1.2s		IAmb	IAmb	22 34 37.9
KKM	**Kota Kinabalu**	**19.51 200**	P	**P**	**22 35 10.1 -1.1**
KKM	comp=Z,21nm,1.4s		IAmb	IAmb	22 35 14.8
IPM	**Ipoh**	**28.97 230**	P	**P**	**22 36 40.8 -1.3**
IPM	comp=Z,18nm,1.5s		IAmb	IAmb	22 37 03.1
GSI	**Gunungsitoli**	**33.63 230**	P	**P**	**22 37 23.1 0.0**
GSI	comp=Z,15nm,1.3s		IAmb	IAmb	22 37 51.4
MTN	**Manton Dam**	**38.10 167**	P	**P**	**22 38 00.2 -0.9**
MK31	**Makanchi Array**	**39.07 315**	P	**P**	**22 38 08.9 -0.1**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.8s,baz=97,slow=8.7,SNR=3.3 comp=Z,0.4nm,0.8s	**39.07 315**	P	**P**	**22 38 09.5 +0.5**
MKAR	**Makanchi Array**	**39.07 315**	P	**P**	**22 38 08.4 -0.7**
COEN	**Coen**	**43.18 150**	P	**P**	**22 38 43.7 +0.7**
COEN	comp=Z,3.8nm,0.7s		IAmb	IAmb	22 38 45.1
WRA	**Warramunga Arr** comp=Z,1.4nm,0.6s,baz=347,slow=8.8,SNR=20 comp=Z,1.4nm,0.6s	**45.69 165**	P	**P**	**22 39 03.7 +0.8**
WRA	**Warramunga Arr**	**45.69 165**	P	**P**	**22 39 01.8 -1.0**
WR0	**Warramunga Arr**	**45.75 165**	P	**P**	**22 39 03.8 +0.5**
WR0	comp=Z,7.4nm,1.2s		IAmb	IAmb	22 39 08.7
PSA00	**Pilbara Seismi**	**45.99 184**	P	**P**	**22 39 05.3 0.0**
ASAR	**Alice Springs** comp=Z,0.4nm,0.3s,baz=349,slow=7.1,SNR=13 comp=Z,0.4nm,0.3s	**49.18 167**	P	**P**	**22 39 31.4 +1.5**
ASAR	**Alice Springs**	**49.18 167**	P	**P**	**22 39 31.3 +1.3**
BMAR	**Burnt Mountain**	**68.53 24**	P	**P**	**22 41 43.7 +0.2**
FINES	**FINESS Array B** comp=Z,0.4nm,0.5s,baz=57,slow=5.1,SNR=4.0 comp=Z,0.4nm,0.5s	**71.82 330**	P	**P**	**22 42 02.1 -1.4**

IDC 14 22:30:57.4±1.6, 18.49S×176.24E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=158.1km s-min=20.0km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu** 13nm,0.3s,baz=180,slow=20,SNR=5.1	**1.88**	**67**	Pn	Pn	22 31 31.6	+0.8
MSVF	74nm,0.3s,baz=287,slow=19,SNR=10.0			Sn	Sn	22 31 54.3	-1.0
STKA	**Stephens Creek** 2.8nm,1.0s,baz=75,slow=12,SNR=3.5 2.8nm,1.0s	**33.91**	**240**	P	P	22 37 41.8	-0.4
WRA	**Warramunga Arr** 0.9nm,0.9s,baz=91,slow=9.3,SNR=7.4 0.9nm,0.9s	**39.52**	**261**	P	P	22 38 29.9	-0.4
ASAR	**Alice Springs** 1.3nm,0.8s,baz=88,slow=8.5,SNR=15 1.3nm,0.8s	**39.73**	**255**	P	P	22 38 32.2	+0.2

IDC 14 22:31:31.9±516.0, 9.77N×62.41E, h0km, Error ellipse: s-maj=375.0km s-min=144.4km az=136.0, Arabian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I19DJ	**I19DJ** baz=93,slow=319,SNR=0.8	**18.98**	**277**	*i*		00 26 30.0	
I32KE	**NAIROBI INFRAS** baz=66,slow=317,SNR=1.5	**27.72**	**248**	*i*		01 21 20.0	
I46RU	**ZALESOVO INFRA** baz=208,slow=338	**47.58**	**18**	*i*		03 26 20.0	
I34MN	**SONGINO INFRAS** baz=239,slow=337,SNR=1.2	**52.95**	**36**	*i*		03 51 50.0	

HLW **14** *22:38:56.6, 39.73N×26.22E, h20km±52km, Md4.5, Ml4.4*
MOS **14** *22:38:58.0±0.9, 39.56N×26.15E, h7km, mb4.7/26, Error ellipse: s-maj=4.7km s-min=2.7km az=90.7*
BEO **14** *22:38:58.4±0.4, 39.51N×26.39E, h0km, ML4.7/12*
IDC **14** *22:38:58.6±0.4, 39.55N×26.12E, h0km, mb4.4/36, mbtmp4.3/53, ML3.8/15, MS3.6/52, Error ellipse: s-maj=8.1km s-min=7.9km az=124.0*
MCSM **14** *22:38:59.2±0.4, 40.3°N±3.2°, 6E±°, h7km±2km, mb4.8*
NEIC **14** *22:38:59.4±1.2, 39.57N±0.04×26.11E±0.06, h3km±4km, mb4.8/74, Mwr4.4/20, Error ellipse: s-maj=6.5km s-min=6.3km az=77.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=5.74; Mθθ=4.39; Mϕϕ 1.36; Mrθ=0.76; Mrϕ=-2.17; Mθϕ=0.00; Fault plane solution: M0 5.68000×10^15 NP1, ϕs=114.21000°, δ=48.51000°, λ=-94.35000°. NP2, ϕs=300.76000°, δ=41.68000°, λ=-85.10000°. Principal axes: T 5.5561, Plg3.0000°, Azm207.0000°; N 0.2482, Plg3.0000°, Azm117.0000°; P -5.8043, Plg85.0000°, Azm344.0000°;*
DDA **14** *22:38:59.9±0.0, 39.54N×26.15E, h9km, MW4.6*
PDG **14** *22:38:59.4±5.5, 39.51N×26.05E, h23km±7km, ML4.6/12, Error ellipse: s-maj=4.1km s-min=5.2km az=0.0*
MED_RC **14** *22:38:59.0±0.3, 39.59N×26.29E, h10km, MW4.6/26, Moment Tensor Solution. Mantle waves: s26, c38; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr=0.82±.02; Mθθ 0.68±.02; Mϕϕ 0.14±.02; Mrθ=0.27±.08; Mθϕ=0.32±.02; Mrϕ=0.22±.12; Best double couple: M0 0.90000×10^16 NP1, ϕs=300.00000°, δ=56.00000°, λ=-84.00000°. NP2, ϕs=110.00000°, δ=34.00000°, λ=-99.00000°. Principal axes: T 0.9000, Plg11.0000°, Azm26.0000°; N -0.0100, Plg5.0000°, Azm117.0000°; P -0.8900, Plg78.0000°, Azm231.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ISK **14** *22:38:59.4, 39.55N×26.12E, h1km, ML4.8/28*
THE **14** *22:39:00.2, 39.56N×26.08E, h4km±1km, ML4.4/9, Error ellipse: s-maj=1.2km s-min=0.3km az=104.0*
ATH **14** *22:39:01.4, 39.50N×26.10E, h18km±1km, ML4.4/36, Error ellipse: s-maj=2.2km s-min=0.8km az=110.0*
GII **14** *22:39:04.5±0.0, 39.22N×26.33E, h20km*
CFUSG **14** *22:39:05.8, 39.80N×26.80E, h22km, mb3.8/2, Western Turkey Magtype MSH 3.5 from 5 stations*
ISC 14 22:38:60.0±0.6, 39.53N±0.01×26.15E±0.02, h12km±3km, n831, σ1§48/917, mb4.6/92, MS3.7/43, 78C-43D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.03**	**203**	**P**	**Pg**	**22 39 01.7**	**-0.5**
KOCA				S	Sg	22 39 03.2	-0.5
GPNR	**Gulpinar-Canak**	**0.08**	**192**	**Pg**	**Pg**	**22 39 02.3**	**-0.2**
GPNR				Sg	Sg	22 39 03.9	-0.4
PRK	**Paraskevi**	**0.30**	**162**	**P**	**Pb**	**22 39 07.5**	**+0.2**
PRK				S	Sb	22 39 12.3	+0.2
PRK	**Paraskevi**	**0.30**	**162**	**P**	**Pb**	**22 39 07.6**	**+0.2**
PRK				S	Sb	22 39 12.3	+0.2
PRK				AML	AML	22 39 13.3	
PRK				AML	AML	22 39 14.4	
BOZC	**Bozcaada**	**0.32**	**346**	**Pg**	**Pg**	**22 39 06.3**	**-0.2**
BOZC				Sg	Sg	22 39 10.6	-0.3
BOZC	**Bozcaada**	**0.32**	**346**	**P**	**Pg**	**22 39 06.3**	**-0.2**
BOZC				P	Pg	22 39 06.3	-0.2
BOZC				S	Sg	22 39 10.9	0.0
EZN	**Ezine**	**0.32**	**24**	**P**	**Pg**	**22 39 06.6**	**0.0**
EZN				S	Sg	22 39 10.9	0.0
EZN	**Ezine**	**0.32**	**24**	**Pg**	**Pg**	**22 39 06.5**	**0.0**
EZN				Sg	Sg	22 39 11.5	+0.6
BAYC	**CANAKKALE_Bayr**	**0.37**	**55**	**P**	**Pg**	**22 39 07.3**	**-0.1**
BAYC				S	Sg	22 39 12.5	+0.1
SIGR	**SIGRI**	**0.39**	**216**	**P**	**Pg**	**22 39 07.8**	**0.0**
SIGR				S	Sg	22 39 13.6	+0.5
	101µm,0.5s						
SIGR	**SIGRI**	**0.39**	**216**	**Pg**	**Pg**	**22 39 07.8**	**0.0**
SIGR				Sg	Sg	22 39 14.0	+0.9
SIGR	**SIGRI**	**0.39**	**216**	**Pg**	**Pg**	**22 39 07.7**	**0.0**
SIGR	**SIGRI**	**0.39**	**216**	**P**	**Pg**	**22 39 07.8**	**0.0**
SIGR				S	Sg	22 39 13.7	+0.7
SIGR				AML	AML	22 39 17.5	
SIGR				AML	AML	22 39 18.7	
AYVA	**Ayvalik**	**0.47**	**118**	**P**	**Pg**	**22 39 09.6**	**+0.4**
AYVA				S	Sb	22 39 16.7	-0.5
ECEA	**Canakkale, Ece**	**0.51**	**2**	**P**	**Pg**	**22 39 10.1**	**0.0**
ECEA				S	Sb	22 39 17.7	-0.7
GOKA	**anakkale-Gk**	**0.69**	**344**	**P**	**Pg**	**22 39 12.9**	**-0.4**
GOKA				S	Sg	22 39 22.5	+0.2
GADA	**Gvkgeada**	**0.69**	**343**	**Pg**	**Pg**	**22 39 12.7**	**-0.7**
GADA				Sg	Sg	22 39 22.3	-0.1
BUHA	**Balikesir, Bur**	**0.71**	**92**	**P**	**Pg**	**22 39 13.9**	**+0.1**
BUHA				S	Sb	22 39 23.9	-0.3
GELI	**Tayfur-Gelibol**	**0.90**	**16**	**Pg**	**Pg**	**22 39 16.9**	**-0.5**
GELI				Sg	Sb	22 39 29.6	0.0
ZEDA	**zmir-Bergama**	**0.91**	**128**	**P**	**Pg**	**22 39 17.7**	**+0.1**
ZEDA				S	Sn	22 39 32.5	+0.7
LPK	**Lapseki**	**0.96**	**29**	**Pg**	**Pg**	**22 39 18.1**	**-0.5**
SMTH	**Samothraki Isl**	**1.05**	**333**	**P**	**Pb**	**22 39 19.5**	**-0.8**
SMTH				S	Sb	22 39 32.9	-1.1
	20µm,0.6s						
SMTH	**Samothraki Isl**	**1.05**	**333**	**Pg**	**Pb**	**22 39 19.4**	**-0.8**
SMTH	**Samothraki Isl**	**1.05**	**333**	**P**	**Pb**	**22 39 19.8**	**-0.4**
SMTH				S	Sg	22 39 34.3	+0.2
SMTH				AML	AML	22 39 36.9	
	comp=N,39399µm,0.5s						
SMTH				AML	AML	22 39 37.0	
	comp=E,32537µm,0.4s						
PSRA	**Psara**	**1.09**	**205**	**P**	**Pn**	**22 39 21.2**	**+0.2**
PSRA				AML	AML	22 39 39.7	
	comp=N,71961µm,0.3s						
PSRA				AML	AML	22 39 40.9	
BALY	**Balya**	**1.15**	**79**	**P**	**Pb**	**22 39 21.7**	**-0.2**
BALY				S	Sn	22 39 37.6	-0.1
CAVK	**Edirne/Enez-Ca**	**1.16**	**1**	**P**	**Pb**	**22 39 21.5**	**-0.5**
CAVK				S	Sg	22 39 37.2	-0.2
ERIK	**Erikli-Kesan**	**1.17**	**13**	**Pn**	**Pb**	**22 39 21.5**	**-0.7**
ENEZ	**Enez**	**1.21**	**360**	**P**	**Pn**	**22 39 22.4**	**-0.3**
ENEZ				S	Sn	22 39 39.2	+0.2
ENEZ	**Enez**	**1.21**	**360**	**Pn**	**Pn**	**22 39 22.3**	**-0.4**
ENEZ				Sn	Sn	22 39 39.2	+0.2
URLA	**Izmir**	**1.22**	**163**	**Pn**	**Pn**	**22 39 22.6**	**-0.3**
URLA	**Izmir**	**1.22**	**163**	**P**	**Pn**	**22 39 22.6**	**-0.3**
URLA				S	Sn	22 39 40.0	+0.7
STEP	**BALIKESIR_Sava**	**1.22**	**97**	**P**	**Pb**	**22 39 23.2**	**+0.1**
STEP				S	Sn	22 39 41.5	+2.1
KRBG	**Karabiga-Canak**	**1.23**	**45**	**Pn**	**Pn**	**22 39 22.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.29**	**66**	**Pn**	**Pn**	**22 39 23.9**	**+0.1**
KNL	**Balıkesir**	**1.29**	**55**	**P**	**Pn**	**22 39 23.6**	**-0.3**
KNL				S	Sg	22 39 42.6	+1.1
ZEYE	**Izmir, Urla-Ze**	**1.32**	**168**	**P**	**Pn**	**22 39 23.8**	**-0.4**
ZEYE				S	Sb	22 39 41.3	-0.2
BALB	**Balikesir**	**1.34**	**85**		**Pb**	**22 39 24.7**	**-0.3**
BALB				Sg	Sg	22 39 42.7	-0.4
BALB	**Balikesir**	**1.34**	**85**	**Pn**	**Pn**	**22 39 24.5**	**0.0**
KESN	**Edirne-Kesan**	**1.35**	**17**	**P**	**Pn**	**22 39 24.4**	**-0.7**
KESN				S	Sb	22 39 42.8	-0.2
ALN	**Alexandroupoli**	**1.37**	**357**		**Pn**	**22 39 24.7**	**-0.3**
ALN				Sg	Sn	22 39 43.2	+0.2
ALN	**Alexandroupoli**	**1.37**	**357**	**P**	**Pn**	**22 39 24.8**	**-0.1**
ALN				S	Sn	22 39 43.3	+0.3
	comp=N,44µm,0.5s						
ALN	**Alexandroupoli**	**1.37**	**357**	**Pn**	**Pn**	**22 39 24.6**	**-0.3**
ALN	**Alexandroupoli**	**1.37**	**357**	**P**	**Pn**	**22 39 24.9**	**0.0**
ALN				AML	AML	22 39 44.9	
ALN				AML	AML	22 39 46.6	
	comp=N,64928µm,0.5s						
RKY	**Sarkoy-Tekirda**	**1.40**	**34**	**Pn**	**Pn**	**22 39 25.4**	**0.0**
AKHS	**Akhisar**	**1.44**	**116**	**P**	**Pn**	**22 39 26.3**	**+0.3**
AKHS				S	Sb	22 39 45.3	+0.1
AKS	**Akhisar**	**1.44**	**116**	**Pn**	**Pn**	**22 39 25.5**	**-0.5**
THAS	**Thassos island**	**1.54**	**315**	**P**	**Pn**	**22 39 27.6**	**+0.3**
THAS				S	Sn	22 39 46.7	-0.5
	comp=N,7µm,0.6s						
THAS	**Thassos island**	**1.54**	**315**	**P**	**Pb**	**22 39 28.0**	**-0.5**
THAS				AML	AML	22 39 52.0	
	comp=N,14240µm,0.4s						
THAS				AML	AML	22 39 53.9	
	comp=E,9656µm,0.4s						
EDC	**Edincik**	**1.55**	**58**	**Pn**	**Pn**	**22 39 27.4**	**0.0**
DGB	**zmir**	**1.58**	**159**	**P**	**Pn**	**22 39 27.6**	**-0.2**
DGB				S	Sn	22 39 45.8	-2.4
GOMA	**Golmarmara-Man**	**1.60**	**120**	**Pn**	**Pn**	**22 39 28.4**	**+0.3**
UKOP	**Uzunkopru-Edir**	**1.64**	**13**	**Pn**	**Pn**	**22 39 29.1**	**+0.5**
RDO	**Rodhopi**	**1.68**	**344**	**Pn**	**Pn**	**22 39 29.2**	**0.0**
RDO				Sn	Sn	22 39 50.5	-0.2
RDO	**Rodhopi**	**1.68**	**344**	**P**	**Pn**	**22 39 29.1**	**-0.1**
RDO	**Rodhopi**	**1.68**	**344**	**Pn**	**Pn**	**22 39 28.9**	**-0.3**
RDO	**Rodhopi**	**1.68**	**344**	**Pn**	**Pn**	**22 39 28.8**	**-0.4**
RDO	**Rodhopi**	**1.68**	**344**	**P**	**Pn**	**22 39 29.6**	**+0.4**
RDO				AML	AML	22 39 54.1	
	comp=N,22284µm,0.5s						
RDO				AML	AML	22 39 58.5	
	comp=E,12537µm,0.7s						
TKR	**Tekirdag**	**1.80**	**36**	**Pn**	**Pn**	**22 39 31.2**	**+0.3**
ALNA	**Alonissos**	**1.81**	**259**	**P**	**Pn**	**22 39 29.9**	**-1.2**
ALNA				AML	AML	22 40 03.4	
	comp=N,46158µm,1.1s						
ALNA				AML	AML	22 40 05.6	
	comp=E,37686µm,1.0s						
KYMI	**Kymi, Euboea I**	**1.83**	**241**	**P**	**Pn**	**22 39 30.2**	**-1.1**
KYMI	**Kymi, Euboea I**	**1.83**	**241**	**P**	**Pn**	**22 39 30.3**	**-1.1**
KYMI				AML	AML	22 40 01.7	
	comp=E,19621µm,0.6s						
KYMI				AML	AML	22 40 01.7	
	comp=N,20765µm,0.7s						
KCTX	**Karacabey (Bur**	**1.85**	**66**	**Pn**	**Pn**	**22 39 32.5**	**+1.0**
OUR	**Ouranopolis**	**1.85**	**296**	**P**	**Pn**	**22 39 31.1**	**-0.5**
OUR				S	Sn	22 39 54.2	-0.7
	comp=N,10µm,0.6s						
OUR	**Ouranopolis**	**1.85**	**296**	**Pn**	**Pn**	**22 39 31.1**	**-0.5**
OUR	**Ouranopolis**	**1.85**	**296**	**P**	**Pn**	**22 39 31.3**	**-0.3**
OUR				AML	AML	22 40 01.2	
	comp=N,20155µm,0.7s						
OUR				AML	AML	22 40 03.5	
	comp=E,18891µm,0.5s						
KAVA	**Kavala**	**1.93**	**320**	**P**	**Pn**	**22 39 32.0**	**-0.6**
KAVA				S	Sn	22 39 56.4	-0.4
	comp=E,2µm,0.6s						
KAVA	**Kavala**	**1.93**	**320**	**P**	**Pn**	**22 39 32.3**	**-0.4**
PAIG	**Paliouri**	**1.95**	**283**	**P**	**Pn**	**22 39 32.3**	**-0.6**
PAIG				S	Sn	22 39 57.2	-0.1
	comp=E,5µm,1.0s						
PAIG	**Paliouri**	**1.95**	**283**	**P**	**Pn**	**22 39 32.4**	**-0.6**
PAIG				AML	AML	22 40 05.5	
	comp=N,10932µm,1.0s						
PAIG				AML	AML	22 40 07.3	
	comp=E,9430µm,1.0s						
KVLA	**Kavala**	**1.95**	**317**	**P**	**Pn**	**22 39 33.5**	**+0.6**
KVLA				AML	AML	22 40 03.6	
	comp=N,7484µm,0.4s						
KVLA				AML	AML	22 40 05.1	
	comp=E,6428µm,0.4s						
CRLT	**Corlu**	**2.00**	**37**	**Pn**	**Pn**	**22 39 34.3**	**+0.6**
GCAM	**G?zelcaml?**	**2.01**	**155**	**Pn**	**Pn**	**22 39 34.2**	**+0.4**
GCAM	**G?zelcaml?**	**2.01**	**155**	**P**	**Pn**	**22 39 33.8**	**+0.1**
GCAM				S	Sg	22 40 05.0	+0.3
BOTS	**Marmara Eregli**	**2.02**	**43**	**Pn**	**Pn**	**22 39 34.9**	**+1.0**
DEMI	**Demirci**	**2.05**	**103**	**P**	**Pn**	**22 39 35.1**	**+0.7**
DEMI				S	Sg	22 40 05.5	-0.3
EREA	**Eretria**	**2.06**	**238**	**P**	**Pn**	**22 39 33.4**	**-1.0**
EREA				S	Sb	22 40 01.6	-1.2
	comp=E,7µm,0.7s						
EREA	**Eretria**	**2.06**	**238**	**P**	**Pn**	**22 39 33.5**	**-0.9**
EREA				AML	AML	22 40 11.5	
	comp=E,10582µm,0.9s						
EREA				AML	AML	22 40 11.8	
	comp=N,13503µm,0.6s						
KOKK	**Kokkinochori,**	**2.09**	**309**	**P**	**Pn**	**22 39 34.2**	**-0.7**
KOKK				S	Sn	22 40 01.4	+0.5
	comp=N,6µm,0.7s						
KOKK	**Kokkinochori,**	**2.09**	**309**	**P**	**Pn**	**22 39 34.4**	**-0.5**
KOKK				AML	AML	22 40 07.1	
	comp=E,7966µm,1.3s						
KOKK				AML	AML	22 40 10.4	
	comp=N,14204µm,0.7s						
TNSA	**Tinos**	**2.13**	**202**	**P**	**Pn**	**22 39 35.3**	**-0.1**
TNSA				AML	AML	22 40 16.9	
	comp=N,10130µm,1.3s						
TNSA				AML	AML	22 40 18.0	
	comp=E,7296µm,0.8s						
MANT	**Manisa**	**2.14**	**118**		**Pn**	**22 39 36.5**	**+0.7**
MANT	**Manisa**	**2.14**	**118**	**P**	**Pn**	**22 39 36.3**	**+0.5**
ORLT	**Orhaneli**	**2.17**	**75**	**Pn**	**Pn**	**22 39 37.3**	**+1.2**
KULA	**Kula-Manisa**	**2.20**	**117**	**P**	**Pn**	**22 39 37.2**	**+0.8**
KULA	**Kula-Manisa**	**2.20**	**117**	**Pn**	**Pn**	**22 39 37.3**	**+0.8**
DDIM	**Aydin, Didim**	**2.24**	**157**	**P**	**Pn**	**22 39 37.6**	**+0.8**
SIMA	**Simav-Kutahya**	**2.24**	**101**	**Pn**	**Pn**	**22 39 37.7**	**+0.7**
DION	**Dionisos Attik**	**2.26**	**231**	**P**	**Pn**	**22 39 37.0**	**-0.2**
DION	**Dionisos Attik**	**2.26**	**231**	**P**	**Pn**	**22 39 37.3**	**0.0**
DION				AML	AML	22 40 21.7	
	comp=E,11304µm,0.6s						
DION				AML	AML	22 40 22.7	
	comp=N,12720µm,0.8s						
NEO	**Neokhori**	**2.28**	**265**	**P**	**Pn**	**22 39 36.6**	**-0.9**
NEO	**Neokhori**	**2.28**	**265**	**P**	**Pn**	**22 39 36.8**	**-0.7**
NEO				AML	AML	22 40 14.8	
	comp=N,7757µm,0.7s						
NEO				AML	AML	22 40 15.8	
	comp=E,5766µm,0.5s						
AYDN	**Tasoluk**	**2.31**	**144**	**P**	**Pn**	**22 39 38.2**	**+0.3**
AYDN				S	Sg	22 40 13.5	-0.6
PTL	**Penteli**	**2.32**	**231**	**P**	**Pn**	**22 39 38.0**	**0.0**
PTL	**Penteli**	**2.32**	**231**	**P**	**Pn**	**22 39 38.1**	**0.0**
PTL				AML	AML	22 40 23.1	
	comp=N,5964µm,0.6s						
PTL				AML	AML	22 40 27.7	
	comp=E,7588µm,0.9s						
EDRB	**Edirne**	**2.36**	**11**	**P**	**Pn**	**22 39 39.1**	**+0.6**
KIRK	**Kirklareli**	**2.36**	**17**	**P**	**Pn**	**22 39 39.1**	**+0.6**
USAK	**Uak-Merkez**	**2.37**	**109**	**P**	**Pn**	**22 39 39.9**	**+1.1**
ELBA	**Catalca**	**2.37**	**46**	**P**	**Pn**	**22 39 39.4**	**+0.6**
ULDT	**Uludag**	**2.38**	**74**	**P**	**Pn**	**22 39 39.9**	**+0.9**
VIZE	**Kirklareli, Vi**	**2.42**	**32**	**P**	**Pn**	**22 39 39.3**	**-0.1**
ATHU	**Athens Univers**	**2.42**	**231**	**P**	**Pn**	**22 39 38.4**	**-1.0**
ATHU	**Athens Univers**	**2.42**	**231**	**P**	**Pn**	**22 39 38.4**	**-1.0**
ESNK	**Esenk¶y**	**2.43**	**62**	**P**	**Pb**	**22 39 43.0**	**-0.6**
ATH	**Athens Observa**	**2.46**	**232**	**P**	**Pn**	**22 39 39.2**	**-0.7**
ATH	**Athens Observa**	**2.46**	**232**	**P**	**Pn**	**22 39 38.8**	**-1.2**
ATH				AML	AML	22 40 22.9	
	comp=N,5275µm,0.7s						
ATH				AML	AML	22 40 28.7	
	comp=E,7031µm,1.5s						
VLY	**Voula,Athens**	**2.49**	**229**	**P**	**Pn**	**22 39 39.4**	**-1.0**
VLY	**Voula,Athens**	**2.49**	**229**	**P**	**Pn**	**22 39 39.5**	**-0.9**
VLY				AML	AML	22 40 26.6	
	comp=N,7021µm,0.6s						
VLY				AML	AML	22 40 27.3	
	comp=E,8049µm,0.7s						
SOH	**Sokhos**	**2.50**	**302**	**P**	**Pn**	**22 39 40.6**	**0.0**
SOH	**Sokhos**	**2.50**	**302**	**Pn**	**Pn**	**22 39 40.6**	**0.0**
SOH	**Sokhos**	**2.50**	**302**	**P**	**Pn**	**22 39 40.7**	**0.0**
SOH				AML	AML	22 40 22.0	
	comp=N,7371µm,0.5s						
SOH				AML	AML	22 40 22.1	
	comp=E,12748µm,0.6s						
APE	**Apeiranthos**	**2.51**	**191**	⇑P	**Pn**	**22 39 39.9**	**-0.7**
APE				⇓S	Sn	22 40 11.1	-0.1
APE	**Apeiranthos**	**2.51**	**191**	P	**Pn**	**22 39 39.6**	**-1.1**
APE	**Apeiranthos**	**2.51**	**191**	*c iP*	**Pn**	**22 39 39.5**	**-1.1**
APE	**Apeiranthos**	**2.51**	**191**	P	**Pn**	**22 39 39.6**	**-1.1**
APE				AML	AML	22 40 23.5	
	comp=N,5069µm,0.7s						
APE				AML	AML	22 40 26.2	
	comp=E,7889µm,0.7s						
NVR	**Nevrokopi**	**2.52**	**317**	**P**	**Pn**	**22 39 41.8**	**+0.9**
NVR	**Nevrokopi**	**2.52**	**317**	**P**	**Pn**	**22 39 41.7**	**+0.8**
NVR				AML	AML	22 40 21.3	
	comp=E,3421µm,0.6s						
NVR				AML	AML	22 40 21.4	
	comp=N,2855µm,0.6s						
ARMN	**Kirklareli, Me**	**2.52**	**22**	**P**	**Pn**	**22 39 40.8**	**0.0**
KURT	**Yalova, Merkez**	**2.57**	**65**	**P**	**Pn**	**22 39 41.4**	**-0.1**
HORT	**Hortiatis**	**2.58**	**295**	**P**	**Pn**	**22 39 41.6**	**0.0**
HORT	**Hortiatis**	**2.58**	**295**	**P**	**Pn**	**22 39 41.7**	**0.0**
HORT				AML	AML	22 40 24.5	
	comp=N,2580µm,0.8s						
HORT				AML	AML	22 40 25.6	
	comp=E,4495µm,0.8s						
VILL	**Villia**	**2.60**	**239**	**P**	**Pn**	**22 39 41.2**	**-0.8**
LKR	**Lokris**	**2.61**	**251**	**P**	**Pn**	**22 39 41.3**	**-0.7**
LKR				AML	AML	22 40 34.1	
	comp=E,2094µm,0.8s						
LKR				AML	AML	22 40 37.5	
	comp=N,3353µm,0.9s						
VIL2	**Platees**	**2.61**	**241**	**P**	**Pn**	**22 39 41.1**	**-0.9**
VIL2				AML	AML	22 40 29.3	
	comp=E,9930µm,0.7s						
VIL2				AML	AML	22 40 34.6	
	comp=N,5895µm,0.9s						
GDZ	**Gediz**	**2.62**	**99**	**P**	**Pn**	**22 39 43.1**	**+0.8**
BODT	**Bodrum**	**2.63**	**159**	**P**	**Pn**	**22 39 42.7**	**+0.4**
BDRM	**Kayabasi**	**2.66**	**157**	**P**	**Pn**	**22 39 42.6**	**-0.1**
THE	**Thessaloniki**	**2.68**	**295**	**P**	**Pn**	**22 39 42.9**	**-0.1**
THE	**Thessaloniki**	**2.68**	**295**	**P**	**Pn**	**22 39 43.2**	**+0.2**
THE				AML	AML	22 40 33.6	
	comp=N,2729µm,1.0s						
THE				AML	AML	22 40 39.8	
	comp=E,1665µm,1.1s						
ISK	**Istanbul-Kandi**	**2.70**	**54**	**P**	**Pn**	**22 39 43.1**	**-0.1**
PLD	**Plovdiv**	**2.80**	**337**	*eP*	**Pn**	**22 39 45.4**	**+0.8**
PLD				*eLg*	Lg	22 40 29.7	
AXAR	**Agios Charalam**	**2.82**	**255**	**P**	**Pn**	**22 39 44.8**	**-0.1**
AXAR	**Agios Charalam**	**2.82**	**255**	**P**	**Pn**	**22 39 44.8**	**-0.1**
PASA	**Karahalli, USA**	**2.85**	**113**	**P**	**Pn**	**22 39 46.6**	**+1.2**
LIT	**Litokhoron**	**2.88**	**283**	**Pn**	**Pn**	**22 39 45.6**	**-0.1**
LIT	**Litokhoron**	**2.88**	**283**	**P**	**Pn**	**22 39 45.3**	**-0.4**
LIT	**Litokhoron**	**2.88**	**283**	**P**	**Pn**	**22 39 45.7**	**-0.1**
LIT	**Litokhoron**	**2.88**	**283**	**P**	**Pn**	**22 39 45.8**	**+0.1**
ANDZ	**Kutahya, Merke**	**2.90**	**89**	**P**	**Pn**	**22 39 46.9**	**+0.9**
LRSO	**Larissa Observ**	**2.91**	**274**	**P**	**Pn**	**22 39 46.7**	**+0.6**
LRSO	**Larissa Observ**	**2.91**	**274**	**P**	**Pn**	**22 39 45.8**	**-0.3**
YER	**Yerkesik**	**2.92**	**144**	**P**	**Pn**	**22 39 47.0**	**+0.7**
LOUT	**Loutraki**	**2.92**	**239**	**P**	**Pn**	**22 39 45.7**	**-0.6**
LOUT	**Loutraki**	**2.92**	**239**	**P**	**Pn**	**22 39 45.7**	**-0.6**
BILE	**Bilecik/Merkez**	**2.93**	**76**	**P**	**Pn**	**22 39 47.5**	**+1.0**
TAVA	**DENIZLI_Tavas**	**2.99**	**133**	**P**	**Pn**	**22 39 48.0**	**+0.7**
DAT	**Datca**	**3.01**	**158**	**P**	**Pn**	**22 39 48.0**	**+0.3**
AUBOZ	**BOZOYUK**	**3.02**	**82**	**P**	**Pn**	**22 39 48.8**	**+1.2**
EPID	**Epidavros**	**3.05**	**232**	**P**	**Pn**	**22 39 47.3**	**-0.8**
EPID	**Epidavros**	**3.05**	**232**	**P**	**Pn**	**22 39 47.5**	**-0.6**
THAL	**Thalero**	**3.11**	**242**	**P**	**Pn**	**22 39 48.9**	**0.0**
THAL	**Thalero**	**3.11**	**242**	**P**	**Pn**	**22 39 48.7**	**-0.2**
THAL				AML	AML	22 40 49.7	
	comp=E,7531µm,0.7s						
THAL				AML	AML	22 40 52.1	
	comp=N,6457µm,0.9s						
MHLO	**Agia Marina, M**	**3.15**	**207**	**P**	**Pn**	**22 39 48.7**	**-0.8**
MHLO	**Agia Marina, M**	**3.15**	**207**	**P**	**Pn**	**22 39 48.5**	**-1.0**
MHLO				AML	AML	22 40 46.4	
	comp=E,28049µm,0.8s						
MHLO				AML	AML	22 40 50.6	
	comp=N,14001µm,0.9s						
MAKR	**Makrakomi, Fth**	**3.16**	**262**	**P**	**Pn**	**22 39 50.0**	**+0.3**
MAKR	**Makrakomi, Fth**	**3.16**	**262**	**P**	**Pn**	**22 39 50.2**	**+0.5**
MAKR				AML	AML	22 40 47.5	
	comp=N,4450µm,0.7s						
MAKR				AML	AML	22 40 49.3	
	comp=E,3218µm,0.8s						
KRND	**KRANIDI**	**3.19**	**229**	**P**	**Pn**	**22 39 48.9**	**-1.0**
KRND	**KRANIDI**	**3.19**	**229**	**P**	**Pn**	**22 39 49.0**	**-0.9**
THL	**Klokotos Trika**	**3.20**	**272**	**P**	**Pn**	**22 39 50.4**	**+0.3**
THL	**Klokotos Trika**	**3.20**	**272**	**Pn**	**Pn**	**22 39 50.3**	**+0.2**
THL	**Klokotos Trika**	**3.20**	**272**	**P**	**Pn**	**22 39 50.4**	**+0.2**
GRG	**Griva**	**3.21**	**298**	**P**	**Pn**	**22 39 50.6**	**+0.4**
GRG	**Griva**	**3.21**	**298**	**P**	**Pn**	**22 39 50.9**	**+0.6**
GRG				AML	AML	22 40 47.6	
	comp=N,4086µm,0.7s						
GRG				AML	AML	22 40 54.9	
	comp=E,2425µm,0.7s						
KTI	**Kastanea**	**3.22**	**287**	**P**	**Pn**	**22 39 50.5**	**0.0**
VAY	**Valandovo**	**3.27**	**304**	*ePn*	**Pn**	**22 39 51.6**	**+0.5**
VAY				*eLg*	Lg	22 40 43.9	
VAY	**Valandovo**	**3.27**	**304**	*i Pn*	**Pn**	**22 39 52.0**	**+1.0**
VAY				*i Sn*	**Sg**	**22 40 42.2**	**-2.7**
AFYO	**Afyonkarahisar**	**3.31**	**102**	**P**	**Pn**	**22 39 53.0**	**+1.4**
GEYV	**SAKARYA_Geyve**	**3.32**	**72**	**P**	**Pn**	**22 39 53.5**	**+1.7**
BORA	**Eskisehir**	**3.33**	**83**		**Pn**	**22 39 53.1**	**+1.0**
BORA	**Eskisehir**	**3.33**	**83**	**P**	**Pn**	**22 39 53.5**	**+1.4**
KZIL	**AFYON_Kizioren**	**3.36**	**111**	**P**	**Pn**	**22 39 53.9**	**+1.5**
SERG	**Sergoula**	**3.38**	**252**	**P**	**Pn**	**22 39 53.5**	**+0.9**
SERG	**Sergoula**	**3.38**	**252**	**P**	**Pn**	**22 39 53.5**	**+0.9**
ALIK	**Aliki, Aigiali**	**3.40**	**249**	**P**	**Pn**	**22 39 53.2**	**+0.4**
ANX	**Ano Chora**	**3.42**	**255**	**P**	**Pn**	**22 39 53.5**	**+0.2**
ANX	**Ano Chora**	**3.42**	**255**	**P**	**Pn**	**22 39 53.7**	**+0.3**
EVR	**Evrytania**	**3.43**	**261**	**P**	**Pn**	**22 39 54.8**	**+1.4**
EVR	**Evrytania**	**3.43**	**261**	**P**	**Pn**	**22 39 54.1**	**+0.7**
EVR				AML	AML	22 41 02.3	
	comp=E,1215µm,1.2s						
EVR				AML	AML	22 41 10.1	
	comp=N,1672µm,1.1s						
KZN	**Kozani**	**3.46**	**284**	**P**	**Pn**	**22 39 55.4**	**+1.6**
KZN	**Kozani**	**3.46**	**284**	**P**	**Pn**	**22 39 54.5**	**+0.7**
CAEL	**Denizli, Camel**	**3.46**	**133**	**P**	**Pn**	**22 39 55.0**	**+1.1**
KAND	**Ocaeli-Kandir**	**3.46**	**62**	**P**	**Pn**	**22 39 55.4**	**+1.7**
KLV	**Kalavryta, Ach**	**3.46**	**246**	**P**	**Pn**	**22 39 53.6**	**-0.2**
KLV	**Kalavryta, Ach**	**3.46**	**246**	**P**	**Pn**	**22 39 53.3**	**-0.5**
EFP	**Efpalio**	**3.49**	**253**	**P**	**Pn**	**22 39 54.1**	**0.0**
EFP	**Efpalio**	**3.49**	**253**	**P**	**Pn**	**22 39 54.2**	**+0.1**
EFP				AML	AML	22 40 59.2	
	comp=E,3166µm,1.1s						
EFP				AML	AML	22 41 03.1	
	comp=N,2147µm,1.1s						
LAKA	**Lakka**	**3.50**	**250**	**P**	**Pn**	**22 39 54.5**	**+0.1**
KAYN	**Sakarya, Kayna**	**3.51**	**65**	**P**	**Pn**	**22 39 54.9**	**+0.5**
SGAZ	**Eskisehir, Sey**	**3.62**	**89**	**P**	**Pn**	**22 39 57.1**	**+1.1**
ARG	**Arkhangelos**	**3.66**	**154**		**Pn**	**22 39 57.0**	**+0.6**
ARG	**Arkhangelos**	**3.66**	**154**		**Pn**	**22 39 57.5**	**+1.1**
ARG	**Arkhangelos**	**3.66**	**154**	**P**	**Pn**	**22 39 57.0**	**+0.6**
ARG	**Arkhangelos**	**3.66**	**154**	**P**	**Pn**	**22 39 57.0**	**+0.6**
ARG				AML	AML	22 41 03.9	
	comp=E,3242µm,1.5s						
ARG				AML	AML	22 41 08.6	
	comp=N,3496µm,1.2s						
STIP	**Stip**	**3.71**	**307**	*i Pn*	**Pn**	**22 39 56.1**	**-1.0**
STIP				*i Sn*	**Sb**	**22 40 54.1**	**+3.6**
PVO	**Paravola**	**3.72**	**257**	**P**	**Pn**	**22 39 57.1**	**-0.1**
PVO	**

ANTO Ankara 5.13 84 ⇓P Pn 22 40 17.8 +1.1
ANTO Ankara 5.13 84 Pn 22 40 18.0 +1.2
ANTO Ankara 5.13 84 P Pn 22 40 18.0 +1.2
SULR 5.14 1 ⇑P Pn 22 40 18.7 +1.9
AMRR Amara 5.15 9 ⇑P Pn 22 40 18.1 +1.1
AMRR Amara 5.15 9 P Pn 22 40 18.0 +1.1
ZAGS Zajecar 5.19 327 *e*Pn Pn 22 40 17.4 0.0
ZAGS *e*Lg Lg 22 41 44.8
TIRR Tirgusor 5.20 18 ⇓P Pn 22 40 18.6 +0.9
TIRR Tirgusor 5.20 18 Pn Pn 22 40 18.0 +0.4
TIRR Tirgusor 5.20 18 P Pn 22 40 18.5 +0.9
TLBR Topalu 5.21 15 ⇑P Pn 22 40 18.5 +0.8
BOVS Bovan 5.29 322 ⇑P Pn 22 40 19.3 +0.5
BOVS Bovan 5.29 322 *e*Pn Pn 22 40 18.8 0.0
BOVS *e*Lg Lg 22 41 46.4
HARR Harsova 5.32 14 ⇑P Pn 22 40 20.0 +0.7
HARR Harsova 5.32 14 P Pn 22 40 20.0 +0.7
PGOR Pogoanele 5.41 6 ⇓P Pn 22 40 22.4 +2.0
SECR 5.50 359 ⇑P Pn 22 40 23.6 +1.9
SRE Strehaia 5.58 338 ⇑P Pn 22 40 24.2 +1.4
SRE Strehaia 5.58 338 P Pn 22 40 24.2 +1.4
ISR Istrita 5.59 3 ⇑P Pn 22 40 25.2 +2.2
ISR Istrita 5.59 3 P Pn 22 40 25.2 +2.2
PVY Plav 5.59 305 ⇑*i*Pn Pn 22 40 22.2 -0.9
PVY *i* Sn Sn 22 41 24.3 -3.1
JURR Jurilovca 5.61 20 ⇑P Pn 22 40 24.1 +0.9
RMGR Halanga-Turnu 5.74 334 ⇓P Pn 22 40 26.4 +1.4
MTUR Matau 5.75 352 ⇓P Pn 22 40 27.0 +1.7
MTUR Matau 5.75 352 P Pn 22 40 26.9 +1.7
BR131 Keskin Array S 5.78 86 Pn Pn 22 40 26.3 +0.6
BR131 Keskin Array S 5.78 86*c* *i*P Pn 22 40 27.2 +1.5
BRTR Keskin Array B 5.78 86 Pn Pn 22 40 27.3 +1.5
comp=N,14nm,0.3s,baz=256,slow=13,SNR=152
BRTR Sn Sn 22 41 31.0 -1.1
comp=N,1.8nm,0.3s,baz=257,slow=19,SNR=1.5
BRTR Lg Lg 22 42 04.8
baz=289,slow=14
BRTR LR LR 22 43 13.1
comp=N,383nm,19.0s,baz=283,slow=44
comp=N,39nm,0.4s
BRTR Keskin Array B 5.78 86 Pn Pn 22 40 26.9 +1.2
IVA Berane 5.78 307 ⇓*i*Pn Pn 22 40 25.1 -0.6
IVA *i* Sn Sn 22 41 29.0 -3.0
ULC Ulcinj 5.78 297 ⇓*i*Pn Pn 22 40 24.6 -1.0
ULC *i* Sn Sn 22 41 28.5 -3.4
DJES Djerdap 5.80 333 ⇓P Pn 22 40 25.9 +0.1
DJES Djerdap 5.80 333 Pn 22 40 24.6 -1.3
DJES Djerdap 5.80 333 *e*Pn Pn 22 40 25.7 -0.1
DJES *e*Lg Lg 22 42 04.5
CFR Carcaliu 5.83 14 ⇑P Pn 22 40 26.7 +0.4
CFR Carcaliu 5.83 14 P Pn 22 40 26.6 +0.4
GRER 5.88 6 ⇑P Pn 22 40 29.4 +2.5
NEHR Nehoiu 5.89 1 ⇓P Pn 22 40 29.3 +2.1
KUBS Kucevo 5.91 327 *e*Pn Pn 22 40 27.6 +0.2
DRME Dracevica, Mon 5.91 299 *e*Pn Pn 22 40 30.4 +3.0
DRME Dracevica, Mon 5.91 299 ⇓*i*Pn Pn 22 40 26.7 -0.7
DRME *i* Sn Sn 22 41 31.9 -3.2
ARR Arges 5.94 350 ⇓P Pn 22 40 28.7 +0.8
SCTE Santa Cesarea 5.94 278 Pn 22 40 29.1 +1.3
SJES Sjenica 5.96 311 *e*Pn Pn 22 40 29.4 +1.3
SJES *e*Lg Lg 22 42 08.5
GRUS Gruza 5.96 319 *e*Pn Pn 22 40 28.2 +0.2
GRUS *e*Lg Lg 22 42 09.4
MLR Muntele Rosu 5.96 359 Pn Pn 22 40 29.9 +1.8
comp=N,3.9nm,0.3s,baz=285,slow=2.9,SNR=73
MLR Sn Sn 22 41 36.5 +0.1
comp=N,2.2nm,0.3s,baz=158,slow=10.0,SNR=3.2
MLR Lg Lg 22 42 10.9
comp=N,8.8nm,0.3s,baz=217,slow=23,SNR=2.0
MLR LR LR 22 43 16.5
comp=N,729nm,19.4s,baz=132,slow=43
comp=N,42nm,0.5s
MLR Muntele Rosu 5.96 359 ⇑P Pn 22 40 30.0 +1.8
MLR Muntele Rosu 5.96 359 Pn Pn 22 40 29.0 +0.9
PDG Podgorica 5.97 301 Pn Pn 22 40 29.9 +1.8
PDG Podgorica 5.97 301 *e*Pn Pn 22 40 30.8 +2.6
PDG Podgorica 5.97 301 ⇓*i*Pn Pn 22 40 27.4 -0.8
PDG *i* Sn Sn 22 41 33.4 -3.0
ILGA Ilgaz 5.98 73 Pn 22 40 30.4 +1.8
SVIS Svilajnac 6.00 324 *e*Pn Pn 22 40 30.6 +2.1
SVIS *e*Lg Lg 22 42 11.0
KOME Kolasin 6.01 306 ⇑*i*Pn Pn 22 40 28.0 -0.8
KOME *i* Sn Sn 22 41 34.2 -3.3
HERR Herculane 6.02 334 ⇑P Pn 22 40 28.2 -0.1
IVAS Ivanjica 6.05 314 *e*Pn Pn 22 40 29.5 +0.2
IZVR Izvoarele 6.13 11 ⇓P Pn 22 40 30.3 0.0
GIUM Giurgiulesti 6.14 14 ⇑P Pn 22 40 30.6 +0.1
TUDR 6.16 10 ⇑P Pn 22 40 30.9 +0.2
SLCR Slobozia Conac 6.17 11 ⇑P Pn 22 40 30.6 -0.3
MDVR Moldovita 6.20 329 ⇑P Pn 22 40 31.6 +0.2
TATR Tatarca 6.22 12 ⇑P Pn 22 40 32.8 +1.2
CEME Cevo 6.25 301 ⇑*i*Pn Pn 22 40 31.3 -0.7
CEME *i* Sn Sn 22 41 40.0 -3.4
ODBI Odobesti 6.26 6 ⇑P Pn 22 40 34.6 +2.4
SCTR Scanteiesti 6.29 12 ⇑P Pn 22 40 33.8 +1.3
COVR Voineasa-Covas 6.31 0 ⇑P Pn 22 40 34.2 +1.3
NKME Niksic 6.32 303 ⇓*i*Pn Pn 22 40 32.3 -0.8
NKME *i* Sn Sn 22 41 41.8 -3.5
PLOR Plostina 6.33 3 ⇑P Pn 22 40 35.2 +2.1
PLOR Plostina 6.33 3 P Pn 22 40 35.2 +2.1
PLE Pljevlja 6.34 309 ⇓*i*Pn Pn 22 40 32.7 -0.7
PLE *i* Sn Sn 22 41 42.5 -3.4
VRI Vrincioaia 6.35 4 ⇑P Pn 22 40 34.8 +1.4
VRI Vrincioaia 6.35 4 P Pn 22 40 34.8 +1.4
TRUS Trudelj 6.35 319 *e*Pn Pn 22 40 34.8 +1.3
TRUS *e*Lg Lg 22 42 21.9
GZR Gura Zlata 6.37 338 ⇑P Pn 22 40 33.7 0.0
GZR Gura Zlata 6.37 338 P Pn 22 40 33.7 0.0
BZK Bozkurt 6.44 65 ⇑P Pn 22 40 34.1 -0.4
BZK Bozkurt 6.44 65 Pn Pn 22 40 33.9 -0.7
DOPR Dopca 6.46 355 ⇑P Pn 22 40 36.4 +1.5
VLDR Vladesti 6.47 12 ⇑P Pn 22 40 36.3 +1.3
DIVS Divibare 6.48 317 Pn 22 40 35.2 -0.1
DIVS Divibare 6.48 317 *e*Pn Pn 22 40 35.4 +0.1
DIVS *e*Lg Lg 22 42 26.6
DIVS Divibare 6.48 317 *e*Pn Pn 22 40 34.9 -0.4
HCY Herceg Novi 6.49 299 *e*Pn Pn 22 40 40.9 +5.6
HCY Herceg Novi 6.49 299 ⇓*i*Pn Pn 22 40 34.5 -0.8
HCY *i* Sn Sn 22 41 45.8 -3.4
RUDO Rudo 6.52 311 *e*Pn Pn 22 40 36.1 +0.3
OZUR 6.57 358 ⇓P Pn 22 40 38.0 +1.6
UPM Unac-Piva 6.57 306 *e*Pn Pn 22 40 38.7 +2.1
UPM Unac-Piva 6.57 306 ⇑*i*Pn Pn 22 40 35.8 -0.8
UPM *i* Sn Sn 22 41 47.8 -3.8
GHRR 6.59 8 ⇑P Pn 22 40 37.5 +0.8
BBLS Lazići 6.65 313 *e*Pn Pn 22 40 39.1 +1.5
BBLS *e*Lg Lg 22 42 32.6
BRY Bratogost 6.66 303 *e*Pn Pn 22 40 40.5 +2.8
BRY Bratogost 6.66 303 ⇑*i*Pn Pn 22 40 37.0 -0.7
BRY *i* Sn Sn 22 41 50.0 -3.6
TREB Trebinje 6.70 301 *e*Pn Pn 22 40 41.0 +2.8
TREB Trebinje 6.70 301 *e*Pn Pn 22 40 40.7 +2.5
MDB Medias 6.74 349 ⇑P Pn 22 40 40.7 +2.0
MDB Medias 6.74 349 P Pn 22 40 40.7 +2.0
DEV Deva 6.79 340 ⇑P Pn 22 40 39.8 +0.4
DEV Deva 6.79 340 P Pn 22 40 39.7 +0.4
BIR Birlad 6.82 9 ⇑P Pn 22 40 40.4 +0.5
BIR Birlad 6.82 9 P Pn 22 40 40.3 +0.5
SURR Surduc 6.89 336 ⇓P Pn 22 40 41.0 +0.2
BANR Banloc 6.92 329 ⇓P Pn 22 40 41.9 +0.6
BZS Buzias 6.94 333 ⇑P Pn 22 40 41.5 -0.1
BZS Buzias 6.94 333 P Pn 22 40 41.4 -0.1
BZS Buzias 6.94 333 *e*Pn Pn 22 40 40.7 -0.8
BZS *e*Lg Lg 22 42 38.7
TESR Tescani 6.99 3 ⇑P Pn 22 40 43.8 +1.6
TEKS Tekeris 7.03 318 *e*Pn Pn 22 40 42.8 0.0
TEKS Tekeris 7.03 318 *e*Pn Pn 22 40 42.0 -0.8
HAPS Han Pijesak,BI 7.05 313 *e*Pn Pn 22 40 44.1 +1.0
LEOM Leova 7.11 12 ⇑P Pn 22 40 45.3 +1.5
LEOM Leova 7.11 12 P Pn 22 40 45.2 +1.5
STON Ston 7.20 300 *e*Pn Pn 22 40 46.6 +1.6
STON Ston 7.20 300 *e*Pn Pn 22 40 48.1 +3.1
VASR Vaslui 7.21 9 ⇑P Pn 22 40 45.9 +0.7
TIP Timpagrande 7.29 270 ⇓P Pn 22 40 47.5 +1.1
TIP Timpagrande 7.29 270 Pn Pn 22 40 46.6 +0.2
CSS Mathiatis 7.32 126 Pn Pn 22 40 46.6 -0.1
FRGS Fruska Gora 7.33 322 ⇑P Pn 22 40 47.9 +1.1
FRGS Fruska Gora 7.33 322 *e*Pn Pn 22 40 47.4 +0.6
FRGS *e*Lg Lg 22 42 52.6
FRGS Fruska Gora 7.33 322 *e*Pn Pn 22 40 50.0 +3.2

MATE Matera 7.33 282 ⇑P Pn 22 40 47.8 +1.0
CJR Cluj-Napoca 7.42 346 ⇑P Pn 22 40 50.4 +2.2
CJR Cluj-Napoca 7.42 346 P Pn 22 40 50.3 +2.2
MARR Marisel-Cluj 7.48 344 ⇑P Pn 22 40 49.6 +0.6
CBBR Cluj-Babes-Bol 7.48 346 ⇓P Pn 22 40 50.2 +1.3
SIRR Siria 7.50 335 ⇓P Pn 22 40 49.4 +0.3
SIRR Siria 7.50 335 Pn Pn 22 40 48.5 -0.6
PURM Purcari 7.51 20 ⇓P Pn 22 40 49.4 +0.2
SEV Sevastopol' 7.51 46 *e*P Pn 22 40 48.7 -0.5
SEV Pm 22 40 51.8
comp=Z,21nm,0.4s
SEV *e*S Sn 22 42 08.3 -6.0
SEV Sm 22 42 10.1
comp=E,10.0nm,0.3s
SEV Sm 22 42 10.2
comp=N,60nm,0.5s
SEV Sevastopol' 7.51 46 *e*P Pn 22 40 48.7 -0.5
SEV *e*S Sn 22 42 08.3 -6.0
BNN Bunyan 7.56 92 Pn Pn 22 40 51.5 +1.3
MILM Milestii Mici 7.63 14 *e*P Pn 22 40 51.0 0.0
comp=N,110nm,0.7s
MILM *e*S Sn 22 42 15.0 -2.4
MILM *e*L L 22 43 05.0
MILM LRM MLR 22 43 11.0
comp=N,1μm,5.0s
MILM Milestii Mici 7.63 14 ⇑P Pn 22 40 52.2 +1.2
MILM Milestii Mici 7.63 14 *e*P Pn 22 40 51.0 0.0
MILM *e*S Sn 22 42 15.0 -2.4
MILM pmax pmax
comp=Z,110nm,0.7s
MILM MLR MLR
comp=Z,104μm,5.0s
ARCR ARCALIA 7.67 351 ⇑P Pn 22 40 52.2 +0.8
DRGR 7.68 342 ⇑P Pn 22 40 51.9 +0.2
DRGR 7.68 342 P Pn 22 40 51.9 +0.2
DRGR 7.68 342 *e*Pn Pn 22 40 51.3 -0.4
KIS Kishinev 7.71 14 *e*P Pn 22 40 52.0 -0.1
comp=Z,60nm,0.7s
KIS *e*S Sn 22 42 17.0 -2.3
KIS LRM MLR 22 43 12.0
comp=Z,400nm,5.5s
KIS Kishinev 7.71 14 ⇑P Pn 22 40 51.3 -0.7
KIS Kishinev 7.71 14 *e*P Pn 22 40 52.0 -0.1
KIS *e*S Sn 22 42 17.0 -2.3
KIS pmax pmax
comp=Z,70nm,0.7s
KIS MLR MLR
comp=Z,400nm,5.5s
IAS Iasi 7.73 7 ⇑P Pn 22 40 53.0 +0.8
IAS Iasi 7.73 7 P Pn 22 40 53.0 +0.8
YAL Yalta 7.75 48 *e*P Pn 22 40 52.3 -0.2
YAL Pm 22 40 56.4
comp=Z,40nm,0.4s
YAL *e*S Sn 22 42 14.6 -5.5
YAL Sm 22 42 17.4
comp=N,41nm,0.3s
YAL Sm 22 42 17.5
comp=E,105nm,0.5s
YAL Yalta 7.75 48 *e*P Pn 22 40 52.3 -0.2
YAL *e*S Sn 22 42 14.6 -5.5
TOKA Tokat 7.97 81 Pn Pn 22 40 56.6 +0.9
CUC Castrocucco 7.98 277 Pn 22 40 57.2 +1.4
ALU Alushta 8.00 47 *e*P Pn 22 40 55.8 -0.3
ALU Pm 22 41 04.1
comp=Z,16nm,0.4s
ALU *e*S Sn 22 42 20.2 -6.3
ALU Sm 22 42 26.2
comp=N,103nm,0.4s
ALU Sm 22 42 26.2
comp=E,65nm,0.4s
ALU Alushta 8.00 47 *e*P Pn 22 40 55.8 -0.3
ALU *e*S Sn 22 42 20.2 -6.3
SIM Simferopol' 8.01 45 *e*P Pn 22 40 56.7 +0.6
SIM Pm 22 41 04.3
comp=Z,58nm,0.3s
SIM *e*S Sn 22 42 21.6 -5.1
SIM Sm 22 42 30.3
comp=N,13nm,0.3s
SIM Sm 22 42 30.3
comp=E,44nm,0.5s
SIM Simferopol' 8.01 45 *ce*P Pn 22 40 56.8 +0.6
SIM *e*S Sn 22 42 21.7 -5.0
SIM pmax pmax
comp=Z,22nm,0.8s
SIM smax smax
comp=E,110μm,0.8s
SIM smax smax
comp=N,702nm,1.0s
SLUM Salum 8.06 186 P Pn 22 40 56.4 -0.5
baz=186
SLUM S Sn 22 42 23.4 -4.5
baz=186
CEL Celeste 8.10 264 Pn 22 40 57.3 -0.2
BURAR Bucovina Array 8.11 356 ⇓P Pn 22 41 00.3 +2.7
BURAR Bucovina Array 8.11 356 *e*P Pn 22 40 58.4 +0.8
BURAR Bucovina Array 8.11 356 P Pn 22 41 00.3 +2.7
BUR08 Bucovina Ar. S 8.14 355 Pn Pn 22 40 59.0 +0.9
SGRT San Giovanni R 8.22 289 Pn 22 40 58.5 -0.6
MGRS Mrkonjic Grad 8.33 309 *e*Pn Pn 22 41 02.8 +2.2
BMR Baia Mare 8.37 348 ⇑P Pn 22 41 02.4 +1.4
BMR Baia Mare 8.37 348 P Pn 22 41 02.4 +1.4
BLY Banja Luka 8.46 311 *e*Pn Pn 22 41 03.8 +1.5
BLY Banja Luka 8.46 311 *e*Pn Pn 22 41 03.5 +1.2
SUDU Sudak 8.47 48 *e*P Pn 22 41 02.4 0.0
SUDU Pm 22 41 10.0
comp=Z,32nm,0.6s
SUDU *e*S Sn 22 42 32.6 -5.3
SUDU Sm 22 42 40.9
comp=E,11nm,0.3s
SUDU Sm 22 42 41.1
comp=N,98nm,0.6s
SUDU Sudak 8.47 48 *e*P Pn 22 41 02.4 0.0
SUDU *e*S Sn 22 42 32.6 -5.3
A052A Srbac 8.48 314 *e*Pn Pn 22 41 03.3 +0.7
MORH Mrgy, Hungar 8.66 323 ⇑P Pn 22 41 04.7 -0.3
MORH Mrgy, Hungar 8.66 323 *e*Pn Pn 22 41 04.8 -0.3
A050A Klekovaca 8.70 308 *e*Pn Pn 22 41 07.7 +1.9
SORM Soroca 8.75 10 ⇑P Pn 22 41 06.1 -0.1
SORM Soroca 8.75 10 P Pn 22 41 06.1 -0.1
PAOL Paolisi 8.98 283 Pn Pn 22 41 10.6 +1.0
TRPA Tarpa 8.98 344 ⇑P Pn 22 41 09.5 0.0
KMPD K-Podol'skiy 9.03 1 Pn Pn 22 41 09.5 -0.7
comp=N,43nm,1.0s
KMPD pP 22 41 11.5
comp=N,43nm,1.0s
VAE Valguarnera 9.43 261 Pn Pn 22 41 17.2 +1.5
comp=N,8.3nm,0.6s,baz=137,slow=18,SNR=2.4
VAE Sn Sn 22 43 05.3 +3.6
comp=N,0.4nm,0.3s,baz=320,slow=21,SNR=1.7
UZH Uzhgorod 9.51 344 *e*P Pn 22 41 19.7 +3.0
UZH *e*S Sn 22 43 09.0 +5.5
PSZ Piszkesteto 9.53 334 Pn 22 41 16.8 -0.2
PSZ Piszkesteto 9.53 334 P Pn 22 41 16.8 -0.2
RAFF Raffo Rosso 9.54 260 Pn 22 41 17.2 0.0
INTR Introdacqua 9.62 289 Pn 22 41 18.6 +0.2
HNTI Hanita 9.71 129 Pn Pn 22 41 18.3 -1.2
HNTI Sn Sn 22 43 05.1 -3.4
ANN Anapa 9.89 54 *e*P Pn 22 41 19.0 -2.9
ANN *e*S Sn 22 43 07.9 -4.9
ANN pmax pmax
comp=Z,64nm,1.7s
MMA0B Mount Meron ar 9.90 128 Pn Pn 22 41 21.3 -0.8
MMAI Mount Meron Ar 9.90 128 Pn Pn 22 41 21.5 -0.6
comp=Z,4.9nm,0.3s,baz=321,slow=12,SNR=62
MMAI Sn Sn 22 43 09.7 -3.5
comp=Z,5.0nm,0.3s,baz=309,slow=25,SNR=9.6
MMAI LR LR 22 47 00.2
comp=Z,180nm,19.5s,baz=140,slow=48
comp=Z,4.4nm,0.4s
GEM Giv'at Ha'Em 9.92 127 Pn Pn 22 41 21.7 -0.7
CRVS Cervenica-Dubn 9.95 342 *e*P Pn 22 41 25.8 +3.0
CRVS Cervenica-Dubn 9.95 342 *e*PN Pn 22 41 25.8 +3.0
BLGI Bet Lehem HaGe 9.97 130 Pn Pn 22 41 23.0 0.0
BOJS Bojanci 10.02 310 *e*Pn Pn 22 41 23.1 -0.6
SRO Srobarova 10.04 328 *e*P Pn 22 41 28.7 +4.8
SRO Srobarova 10.04 328 *e*PN Pn 22 41 28.7 +4.8
AQU L'Aquila 10.05 290 Pn 22 41 24.2 0.0
AQU L'Aquila 10.05 290 P Pn 22 41 24.2 0.0
CRES Cresnjev 10.07 312 *e*Pn Pn 22 41 26.5 +2.0
CAMP Campotosto 10.09 291 Pn 22 41 24.5 -0.2
GUMA Gualdo di Mace 10.27 294 Pn 22 41 26.9 -0.3
SWA2 10.28 183 P Pn 22 41 25.9 -1.4
baz=184
SWA2 S Sn 22 43 15.7 -6.7
baz=184
MMLI Mount Malkishu 10.31 130 Pn Pn 22 41 27.8 0.0
MMLI Sn Sn 22 43 19.7 -3.7
CLTB Caltabellotta 10.32 263 Pn Pn 22 41 27.6 -0.4
NRCA Norcia 10.37 293 Pn 22 41 28.0 -0.5
VYHS Vyhne 10.39 332 *e*P Pn 22 41 28.6 -0.2
VYHS Vyhne 10.39 332 *e*PN Pn 22 41 28.6 -0.2
LVV L'vov 10.40 352 *e*P Pn 22 41 29.8 +0.9
LVV *e*S Sn 22 43 27.0 +1.7
LVV MLR MLR
comp=Z,700nm,8.0s
VISS Visnje 10.42 311 *e*Pn Pn 22 41 31.0 +1.8
LUBAR Lubar, Ukraine 10.45 6 Pn Pn 22 41 28.0 -1.6
comp=Z,21nm,0.8s
LUBAR pP 22 41 30.6
comp=Z,21nm,0.8s
NE55 Skvira 10.48 13 Pn Pn 22 41 29.4 -0.6
NE55 pP 22 41 31.3
STHS Stebnicka Huta 10.49 342 *e*P Pn 22 41 32.1 +2.0
STHS Stebnicka Huta 10.49 342 *e*PN Pn 22 41 32.1 +2.0
HMDT Nahal Hemdat 10.51 131 Pn Pn 22 41 30.9 +0.5
HMDT Sn Sn 22 43 25.2 -2.9
CEY Cerknica 10.63 310 *e*Pn Pn 22 41 33.3 +1.2
CESX Cesi 10.70 291 Pn 22 41 32.4 -0.7
LANS Liptovska Anna 10.74 336 *e*P Pn 22 41 36.9 +3.3
LANS Liptovska Anna 10.74 336 *e*PN Pn 22 41 36.9 +3.3
SKDS Skadanscina 10.78 308 *e*Pn Pn 22 41 34.5 +0.3
SOKA Soboth 10.82 315 *e*Pn Pn 22 41 35.0 +0.3
comp=Z,4.6nm,0.4s
RONA Rosalia, Austr 10.84 322 *i* Pn Pn 22 41 35.9 +0.8
comp=Z,4.2nm,0.6s
ZST Bratislava 10.84 326 *e*P Pn 22 41 37.5 +2.5
ZST Bratislava 10.84 326 *e*PN Pn 22 41 37.5 +2.5
MURB Monte Urbino 10.90 294 Pn 22 41 35.7 -0.1
MODS Modra-Piesok 10.90 327 *e*P Pn 22 41 38.1 +2.3
MODS Modra-Piesok 10.90 327 *e*PN Pn 22 41 38.1 +2.3
CRNS Crni Vrh 10.91 311 *e*Pn Pn 22 41 37.4 +1.4
ARSA Arzberg 10.92 318 *i* Pn Pn 22 41 36.0 0.0
comp=Z,4.0nm,0.7s
KZIT Kziot 10.93 139 Pn Pn 22 41 35.6 -0.6
KZIT Sn Sn 22 43 34.2 -4.1
GLL Jalalah 10.93 154 P Pn 22 41 36.5 +0.2
baz=154
SOC Sochi 10.94 64 *e*P Pn 22 41 35.5 -0.8
SOC *e* 22 43 39.9
SOC MLR MLR
comp=Z,105nm,15.0s
OBKA Obir 10.98 313 *e*Pn Pn 22 41 37.8 +0.8
comp=Z,8.3nm,0.7s
OBKA Obir 10.98 313 *e*Pn Pn 22 41 37.8 +0.8
JAVC Velka Javorina 11.13 330 *e*PN Pn 22 41 42.9 +3.9
WALJ Wala 11.18 132 P Pn 22 41 40.8 +1.2
CONA Conrad Observa 11.21 322 *e*Pn Pn 22 41 41.0 +0.9
comp=Z,3.5nm,0.6s
AK07 Malin Array Si 11.23 10 Pn Pn 22 41 39.7 -0.5
SABO M.te Sabotino 11.25 309 Pn Pn 22 41 40.4 -0.2
AK06 Malin Array Si 11.26 10 Pn Pn 22 41 40.3 -0.4
AK13 Malin Array Si 11.27 10 Pn Pn 22 41 40.2 -0.6
AK14 Malin Array Si 11.29 10 Pn Pn 22 41 40.3 -0.8
AK02 Malin Array Si 11.33 10 Pn Pn 22 41 41.3 -0.3
AK16 Malin Array Si 11.33 10 Pn Pn 22 41 41.1 -0.5
AK17 Malin Array Si 11.34 9 Pn Pn 22 41 41.2 -0.5
AK11 Malin Array Si 11.35 10 Pn Pn 22 41 41.3 -0.5
AK15 Malin Array Si 11.36 10 Pn Pn 22 41 41.5 -0.5
AKASG Malin Array Be 11.38 10 Pn Pn 22 41 41.4 -0.9
comp=Z,1.2nm,0.3s,baz=198,slow=13,SNR=20
AKASG Sn Sn 22 43 41.4 -7.8
comp=Z,1.6nm,0.3s,baz=199,slow=22,SNR=2.9
AKASG LR LR 22 45 43.4
comp=Z,287nm,21.2s,baz=206,slow=36
comp=Z,3.4nm,0.7s
AKASG Malin Array Be 11.38 10 Pn 22 41 40.5 -1.8
AKASG Malin Array Be 11.38 10 *i* P Pn 22 41 41.9 -0.4
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 11.38 10 Pn Pn 22 41 41.0 -1.2
AKBB Malin Array Si 11.38 10 Pn Pn 22 41 42.0 -0.3
comp=Z,12nm,0.9s
AKBB Malin Array Si 11.38 10 ⇓*e*P Pn 22 41 42.2 -0.1
ASF Jabal al Asfar 11.39 127 Pn Pn 22 41 43.7 +1.0
comp=Z,0.4nm,0.3s,baz=345,slow=4.1,SNR=5.9
ASF Sn Sn 22 43 40.5 -9.4
comp=Z,0.2nm,0.3s,baz=18,slow=16,SNR=1.0
comp=Z,2.5nm,0.6s
AK04 Malin Array Si 11.39 10 Pn Pn 22 41 42.0 -0.4
AK03 Malin Array Si 11.40 10 Pn Pn 22 41 42.0 -0.6
MI28 Mi28,Pidlybu 11.45 5 Pn Pn 22 41 42.6 -0.6
PRED Cave del Predi 11.51 311 Pn 22 41 43.6 -0.6
ZFRI Zfri 11.61 138 Pn Pn 22 41 46.0 +0.5
PRNI Paran 11.68 139 Pn Pn 22 41 46.5 0.0
MARD Mardin 11.69 96 Pn Pn 22 41 46.8 +0.2
OKC Ostrava-Krasne 11.77 334 *e*P Pn 22 41 51.8 +4.2
OKC Ostrava-Krasne 11.77 334 *e*P Pn 22 41 51.8 +4.2
KRUC Moravsky 11.81 327 *e*PN Pn 22 41 50.3 +2.1
VRAC Vranov 11.92 328 Pn Pn 22 41 50.0 +0.3
comp=Z,0.1nm,0.3s,baz=154,slow=10,SNR=4.2
VRAC LR LR 22 46 27.9
comp=Z,256nm,18.0s,baz=140,slow=38
comp=Z,7.8nm,1.1s
VRAC Vranov 11.92 328 *e*PN Pn 22 41 51.9 +2.2
VRAC Vranov 11.92 328 P Pn 22 41 50.0 +0.3
CLUD Cludinico 11.92 310 Pn Pn 22 41 49.3 -0.5
STAL STALIGIAL 11.93 309 Pn 22 41 48.4 -1.5
MORC Moravsky Berou 11.93 332 Pn Pn 22 41 49.0 -0.9
MORC Moravsky Berou 11.93 332 *e*PN Pn 22 41 51.4 +1.5
MORC Moravsky Berou 11.93 332 P Pn 22 41 49.0 -0.9
HRFI Mount Harif 11.95 140 Pn Pn 22 41 49.6 -0.6
HRFI Sn Sn 22 43 57.9 -5.6
MOA Molln 11.96 318 *i* Pn Pn 22 41 50.3 0.0
comp=Z,5.2nm,0.9s
MOA Molln 11.96 318 *e*Pn Pn 22 41 50.6 +0.4
MOA *e*Sn Sn 22 44 00.5 -3.0
KBA Koelnbreinsper 11.99 313 *e*Pn Pn 22 41 52.4 +1.6
comp=Z,9.7nm,0.8s
CIMO Cimolais 12.11 308 Pn Pn 22 41 50.6 -1.8
TEOL Teolo 12.18 303 Pn 22 41 51.5 -1.7
BIOA Bad Ischl, Aus 12.19 316 *e*Pn Pn 22 41 55.5 +2.1
comp=Z,14nm,1.0s,SNR=6.9
EIL Elat 12.21 141 Pn Pn 22 41 53.0 -0.8
comp=Z,1.0nm,0.3s,baz=20,slow=4.0,SNR=8.2
EIL Sn Sn 22 44 04.7 -5.1
comp=Z,1.1nm,0.3s,baz=86,slow=12,SNR=4.2
comp=Z,5.5nm,0.6s
EIL Elat 12.21 141 Pn Pn 22 41 53.7 0.0
EIL Sn Sn 22 44 04.5 -5.3
ABTA Abfaltersbach 12.29 310 *i* Pn Pn 22 41 55.7 +0.9
comp=Z,16nm,0.7s
GURO Guroymak-BITLI 12.39 89 Pn 22 41 56.2 -0.1
CKRC Cesky Krumlov 12.58 321 *e*P Pn 22 42 00.7 +2.0
CKRC AMS AMS 22 47 20.0
comp=Z,700nm,10.1s
HKAT Jabal Katrina 12.75 147 P Pn 22 41 59.8 -1.6
baz=147
DPC Dobruska-Polom 12.85 331 *e*P Pn 22 42 05.9 +3.4
DPC Dobruska-Polom 12.85 331 *e*P Pn 22 42 05.9 +3.4
PRMA PARMA 12.86 299 Pn 22 42 02.1 -0.5
GEC2 GERESS Array S 12.89 320 Pn Pn 22 42 02.2 -0.8
GERES GERESS Array B 12.89 320 Pn Pn 22 42 04.0 +0.9
comp=Z,0.1nm,0.3s,baz=115,slow=16,SNR=8.0
GERES LR LR 22 46 36.9
comp=Z,45nm,18.5s,baz=130,slow=36
comp=Z,0.3nm,0.5s
GERES GERESS Array B 12.89 320 Pn Pn 22 42 02.2 -0.8
GERES GERESS Array B 12.89 320 P Pn 22 42 04.0 +0.9
SALO Salr 13.02 303 Pn 22 42 03.7 -1.1
WTTA Wattenberg 13.07 311 *i* Pn Pn 22 42 07.4 +1.9
comp=Z,12nm,0.9s
KIV Kislovodsk 13.11 65 *e*P Pn 22 42 06.1 0.0
KIV *e*S Sn 22 44 34.0 +2.2
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,45nm,13.0s
KVAR Kislovodsk Arr 13.12 65 Pn Pn 22 42 09.8 +3.6
comp=Z,1.4nm,0.8s,baz=50,slow=20,SNR=1.0
KVAR Sn Sn 22 44 30.3 -1.7
baz=200,slow=13
KHC Kasperske Hory 13.14 321 *e*P Pn 22 42 08.5 +2.1
KHC AMS AMS 22 47 40.0
comp=Z,1μm,9.3s
KHC Kasperske Hory 13.14 321 *e*P Pn 22 42 08.5 +2.1
KHC MLR MLR
comp=Z,1μm,9.3s

WATA Walderalm 13.14 311 *i* Pn **Pn** 22 42 07.9 +1.4
comp=Z,17nm,0.9s
KBZ Khabaz 13.21 66 Pn **Pn** 22 42 09.6 +2.4
baz=205,slow=5.7,SNR=2.7
KBZ LR LR 22 47 52.0
comp=Z,160nm,18.8s,baz=254,slow=40
comp=Z,2.8nm,1.1s
KBZ Khabaz 13.21 66⇑ *e*P **Pn** 22 42 10.0 +2.7
SQTA Sankt Quirin 13.30 310 *e*Pn **Pn** 22 42 10.2 +1.6
comp=Z,9.4nm,0.9s
AKH Akhalkalaki 13.34 76 Pn **Pn** 22 42 12.2 +2.9
AKH Akhalkalaki 13.34 76 P **Pn** 22 42 12.2 +2.9
MOTA Moosalm 13.42 310 *i* Pn **Pn** 22 42 11.4 +1.1
comp=Z,14nm,0.7s
FETA Feichten 13.49 309 *i* Pn **Pn** 22 42 12.0 +0.7
comp=Z,6.3nm,0.8s
FUORN Ofenpass-Fuorn 13.59 307 **Pn** 22 42 12.0 -0.8
RETA Reutte 13.70 311 *i* Pn **Pn** 22 42 14.6 +0.6
comp=Z,9.7nm,1.0s
ZEI Tsey 13.76 71 *e*P **P** 22 42 23.1 -0.6
ZEI pmax pmax
comp=Z,10.0nm,1.0s
KEST Kesra 13.85 259 Pn **Pn** 22 42 16.1 -0.1
comp=Z,0.1nm,0.3s,baz=47,slow=18,SNR=1.8
comp=Z,3.0nm,0.8s
KEST Kesra 13.85 259 **Pn** 22 42 15.8 -0.4
DAVOX Davos/Dischmat 13.90 307 Pn **Pn** 22 42 16.8 -0.2
comp=Z,0.5nm,0.3s,baz=142,slow=15,SNR=23
comp=Z,12nm,0.7s
DAVA Damuels 14.13 309 *i* Pn **Pn** 22 42 20.5 +0.5
comp=Z,7.4nm,0.8s
BRG Berggiesshubel 14.21 327 *e*P **P** 22 42 29.9 +1.4
BRG Amp 22 42 32.5
comp=Z,8.2nm,1.2s
BRG Berggiesshubel 14.21 327 *e*P **P** 22 42 29.8 +1.4
BRG pmax pmax
comp=Z,8.0nm,1.2s
GNI Garni 14.30 82 Pn **P** 22 42 26.0 -3.6
comp=Z,0.2nm,0.3s,baz=40,slow=22,SNR=3.5
GNI LR LR 22 48 01.1
comp=Z,353nm,19.8s,baz=282,slow=38
comp=Z,14nm,1.1s
GNI Garni 14.30 82 **Pn** 22 42 23.6 +1.2
GNI Garni 14.30 82 P **Pn** 22 42 23.6 +1.2
VSR Storozhevoye 14.81 34 *e*P **Pn** 22 42 27.2 -1.9
VSR pmax pmax
comp=Z,9.0nm,0.6s
CLL Collm 14.94 326 **Pn** 22 42 30.3 -0.5
CLL Collm 14.94 326 *e*P **Pn** 22 42 32.0 +1.2
CLL *e*PP **P** 22 42 37.0 +0.6
comp=Z,75nm,2.5s
CLL *ex* x 22 43 12.0
CLL *ex* x 22 43 39.0
CLL LmH 22 47 00.0
comp=N,300nm,21.0s
CLL LmH 22 47 00.0
comp=E,500nm,20.2s
CLL Collm 14.94 326 P **Pn** 22 42 30.3 -0.5
MNK Minsk 15.02 4 *i* P **P** 22 42 34.9 -2.5
comp=E,2.0nm,0.8s
MNK *i* P **P** 22 42 34.9 -2.5
comp=N,24nm,0.8s
MNK *i* P **P** 22 42 34.9 -2.5
comp=Z,29nm,0.8s,baz=185
MNK *i* PP **sP** 22 42 42.9 +0.6
MNK *i* S **Sn** 22 45 22.7 +4.5
MNK *i* SS **S** 22 45 36.6 +0.8
MNK *i* LR LR 22 47 01.4
MNK *i* LRM MLR 22 47 47.6
comp=E,49nm,14.4s
MNK *i* LRM MLR 22 48 04.7
comp=N,696nm,14.8s
MNK *i* LRM MLR 22 48 25.5
comp=Z,110nm,14.4s
MNK Minsk 15.02 4 *i* P **P** 22 42 34.8 -2.5
MNK *i* S **Sn** 22 45 22.7 +4.5
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK pmax pmax
comp=N,24nm,0.8s
MNK MLR MLR
comp=E,49nm,14.0s
MNK MLR MLR
comp=N,696nm,15.0s
MNK MLR MLR
comp=Z,110nm,14.0s
VORR Voronezh 15.16 33 P **Pn** 22 42 32.9 -1.0
VORR pmax pmax
comp=Z,40nm,0.4s
STU Stuttgart 15.25 313 **Pn** 22 42 33.9 -1.2
STU Stuttgart 15.25 313 P **Pn** 22 42 33.9 -1.2
STU pmax pmax
comp=Z,12nm,0.7s
SENIN Lac Senin/Sane 15.38 302 Pn **Pn** 22 42 36.5 -0.5
NACGM Naroch 15.39 1 *e*P **Pn** 22 42 33.6 -3.2
comp=N,1μm,1.3s
BNI Bardonecchia 15.42 297 **Pn** 22 42 38.1 +0.7
BNI lAmb lAmb 22 42 51.5
comp=Z,81nm,1.4s
BNI Bardonecchia 15.42 297 P **Pn** 22 42 38.2 +0.7
BNI pmax pmax
comp=Z,81nm,1.5s
BFO Black Forest 15.54 310 Pn **Pn** 22 42 38.8 0.0
BFO Black Forest 15.54 310 P **Pn** 22 42 38.8 0.0
BFO pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 15.76 30 *e*P **Pn** 22 42 42.1 +0.4
LPSR pmax pmax
comp=Z,30nm,0.7s
IDID Didziasalis 15.80 1 *e*P Pn 22 42 31.6 -11
VRH Novokhopyorsk 15.96 38 *e*P **Pn** 22 42 42.9 -1.3
VRH pmax pmax
comp=Z,30nm,0.8s
ISAL Salakas 16.05 360 *e*P **P** 22 42 48.7 0.0
PABE Paberze 16.05 355 Pn **Pn** 22 42 42.8 -2.6
PABE lAmb lAmb 22 42 52.4
comp=Z,89nm,1.5s
PABE Paberze 16.05 355 *e*P **Pn** 22 42 44.1 -1.3
MAK Makhachkala 16.41 71 *e*P **Pn** 22 42 50.5 +0.4
MAK *e*S **Sn** 22 45 53.5 +1.4
MAK pmax pmax
comp=Z,266nm,1.5s
MAK MLR MLR
comp=Z,148nm,16.0s
PBUR Paburge 16.74 352 *e*P **Pn** 22 42 52.5 -1.6
SSB Saint Sauveur 16.94 297 **Pn** 22 42 56.5 -0.4
SSB Saint Sauveur 16.94 297 P **Pn** 22 42 56.5 -0.4
SSB pmax pmax
comp=Z,17nm,1.1s
OBN Obninsk 17.08 21 P **Pn** 22 42 59.1 +0.6
comp=Z,0.6nm,0.3s,baz=37,slow=21,SNR=3.8
OBN LR LR 22 49 58.0
comp=Z,68nm,18.2s,baz=207,slow=39
comp=Z,2.9nm,0.5s
OBN Obninsk 17.08 21 Pn **Pn** 22 42 57.8 -0.7
OBN lAmb lAmb 22 43 01.7
comp=Z,57nm,1.5s
OBN Obninsk 17.08 21 *i* P **P** 22 43 00.6 +0.4
OBN pmax pmax
comp=Z,14nm,0.9s
OBN MLR MLR
comp=Z,291nm,19.0s
MOS Moscow 17.92 21 *e*P **Pn** 22 43 08.3 -0.6
MOS *e*S **S** 22 46 33.0 -1.9
MOS pmax pmax
comp=Z,44nm,1.1s
VSU Vasula 18.95 1⇑ *e*P **P** 22 43 19.5 -1.3
VSU pmax pmax
comp=Z,70nm,1.1s
VSU Vasula 18.95 1 *e*P **P** 22 43 19.3 -1.4
CLF Chambon-Foret 19.17 304 **P** 22 43 23.3 +0.1
CLF lAmb lAmb 22 43 29.5
comp=Z,49nm,1.0s
MTSE Matsula 19.26 356 *e*P **P** 22 43 23.4 -0.7
BELG Belogornoye 19.61 42 P **Pn** 22 43 28.6 -0.7
comp=Z,0.4nm,0.3s,baz=212,slow=2.1,SNR=7.9
BELG LR LR 22 51 13.3
comp=Z,123nm,20.4s,baz=298,slow=38
comp=Z,21nm,0.9s
BELG Belogornoye 19.61 42 *de*P **Pn** 22 43 28.9 -0.4
BELG pmax pmax
comp=Z,8.0nm,1.1s
MEF Metsahovi 20.74 358 *e*P **P** 22 43 39.7 -0.5
RAF Rauma 21.69 354 *e*P **P** 22 43 48.9 -1.5

FINES FINESS Array B 21.94 360 P **P** 22 43 52.5 -0.6
comp=Z,10nm,0.8s,baz=179,slow=10,SNR=28
FINES PcP **PcP** 22 47 51.0 -0.5
comp=Z,2.2nm,0.9s,baz=144,slow=2.6,SNR=2.3
FINES LR LR 22 52 11.6
comp=Z,268nm,19.7s,baz=180,slow=36
comp=Z,10nm,0.8s
FINES FINESS Array B 21.94 360 P **P** 22 43 51.9 -1.2
FIA1 FINESS Array S 21.94 360 P **P** 22 43 51.9 -1.2
FIA1 lAmb lAmb 22 43 55.5
comp=Z,21nm,1.0s
HFS Hagfors 22.06 343 P **P** 22 43 53.3 -1.1
comp=Z,1.9nm,0.4s,baz=139,slow=9.8,SNR=11
HFS LR LR 22 53 26.4
comp=Z,228nm,18.9s,baz=161,slow=39
comp=Z,1.9nm,0.4s
SWN1 Swindon 22.81 311 *e*P **P** 22 44 02.9 +0.4
SWN1 lAmb lAmb 22 44 03.8
comp=Z,112nm,0.9s
RAYN Ar Rayn 22.87 129 P **P** 22 44 03.5 +0.1
RAYN Ar Rayn 22.87 129 P **P** 22 44 03.6 +0.1
RAYN pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 22.91 17 *e*P **P** 22 43 59.6 -3.9
KLMR AMP 22 44 05.0
comp=Z,34nm,1.0s
KLMR Klimovskoe 22.91 17 *e*P **P** 22 43 59.5 -3.9
KLMR pmax pmax
comp=Z,34nm,1.0s
NC602 NORSAR Array S 23.10 342 P **P** 22 44 04.1 -1.3
NC602 lAmb lAmb 22 44 37.9
comp=Z,22nm,1.1s
STRD Stroud 23.11 311 *e*P **P** 22 44 05.5 -0.1
STRD lAmb lAmb 22 44 07.2
comp=Z,46nm,0.8s
ESBB Sonseca Array 23.16 280 P **P** 22 44 04.7 -1.6
ESBB lAmb lAmb 22 44 11.8
comp=Z,18nm,1.1s
ESDC Sonseca Array 23.16 280 P **P** 22 44 05.1 -1.2
comp=Z,6.9nm,0.9s,baz=73,slow=11,SNR=23
comp=Z,6.9nm,0.9s
ESDC Sonseca Array 23.16 280 P **P** 22 44 05.1 -1.2
NB2 NORSAR Subarra 23.44 342 P **P** 22 44 07.6 -1.3
comp=Z,11nm,0.7s,baz=146,slow=9.3
NOA NORSAR Array B 23.44 342 P **P** 22 44 07.9 -1.0
comp=Z,3.8nm,0.7s,baz=146,slow=9.3,SNR=28
NOA LR LR 22 54 21.3
comp=Z,75nm,21.7s,baz=155,slow=39
comp=Z,3.8nm,0.7s
PAB San Pablo 23.47 280 P **P** 22 44 09.3 -0.2
PAB lAmb lAmb 22 44 14.9
comp=Z,14nm,0.9s
PAB San Pablo 23.47 280 P **P** 22 44 09.3 -0.2
PAB pmax pmax
comp=Z,14nm,1.0s
LBWR Ladybower, Pea 23.50 315 *e*P **P** 22 44 10.0 +0.5
MONM Monmouth 23.51 311 *e*P **P** 22 44 09.4 -0.2
MONM lAmb lAmb 22 44 13.0
comp=Z,89nm,1.1s
MCH1 Michaelchurch 23.67 311 *e*P **P** 22 44 11.0 -0.2
HPK Haverah Park 23.68 317 *e*P **P** 22 44 10.8 -0.5
HPK lAmb lAmb 22 44 11.8
comp=Z,45nm,0.8s
HLM1 Long Mynd 23.79 313 *e*P **P** 22 44 11.9 -0.5
KIRV Kirov 24.19 30 P **P** 22 44 15.0 -1.0
comp=Z,14nm,0.9s,baz=96,slow=1.6,SNR=8.2
KIRV LR LR 22 54 04.5
comp=Z,175nm,20.2s,baz=244,slow=38
comp=Z,14nm,0.9s
KIRV Kirov 24.19 30 *de*P **P** 22 44 15.5 -0.5
AKTO Aktyubinsk 24.85 53 P **P** 22 44 22.5 +0.4
comp=Z,3.2nm,0.8s,baz=262,slow=8.1,SNR=7.9
comp=Z,3.2nm,0.8s
GEYT Alibeck 24.92 83 P **P** 22 44 24.3 +1.3
comp=Z,35nm,0.9s,baz=278,slow=6.3,SNR=50
comp=Z,35nm,0.9s
GYA0B ALIBECK ARRAY 24.92 83 P **P** 22 44 23.0 0.0
PBRG Braganca 24.97 286 *e*P **P** 22 44 24.0 +0.6
EKA Eskdalemuir Ar 25.10 319 P **P** 22 44 25.0 +0.7
comp=Z,24nm,0.7s,baz=112,slow=9.6,SNR=54
comp=Z,24nm,0.7s
ESK Eskdalemuir 25.11 319 P **P** 22 44 24.6 +0.2
ESK lAmb lAmb 22 44 26.0
comp=Z,29nm,0.8s
ESK Eskdalemuir 25.11 319 *e*P **P** 22 44 25.1 +0.6
ESK lAmb lAmb 22 44 28.8
comp=Z,28nm,1.0s
ESK Eskdalemuir 25.11 319 P **P** 22 44 24.7 +0.2
ESK pmax pmax
comp=Z,29nm,0.8s
MVO Moncorvo 25.26 284 *e*P **P** 22 44 26.8 +0.7
comp=Z,43nm,1.4s
EDI Edinburgh 25.38 320 *e*P **P** 22 44 27.6 +0.7
EDI lAmb lAmb 22 44 28.5
comp=Z,47nm,0.9s
ADZR Andozero 25.47 12 *e*P **P** 22 44 26.6 -1.0
ADZR *e* 22 44 59.9
ADZR pmax pmax
comp=Z,14nm,0.8s
NEWG New Galloway 25.56 318 *e*P **P** 22 44 29.5 +1.0
NEWG lAmb lAmb 22 44 30.4
comp=Z,25nm,0.8s
MDT Midelt 25.64 264 P **P** 22 44 31.2 +1.6
comp=Z,8.0nm,1.0s,baz=78,slow=9.5,SNR=7.5
MDT LR LR 22 54 31.8
comp=Z,99nm,18.7s,baz=93,slow=36
comp=Z,8.0nm,1.0s
MTE Manteigas 25.76 283 *e*P **P** 22 44 30.8 +0.2
comp=Z,44nm,1.8s
MTE Manteigas 25.76 283 P **P** 22 44 29.9 -0.7
MTE lAmb lAmb 22 44 33.8
comp=Z,22nm,0.8s
PCBR Castelo Branco 25.80 282 *e*P **P** 22 44 31.5 +0.6
comp=Z,29nm,1.5s
PBAR Barrancos 25.81 278 *e*P **P** 22 44 31.2 +0.2
ABKAR Akbulak array 25.84 57 P **P** 22 44 31.3 +0.2
ABKAR Akbulak array 25.84 57 P **P** 22 44 31.3 +0.2
PVIS Viseu 25.97 284 *e*P **P** 22 44 32.9 +0.4
PESTR Estremoz 26.07 279 *e*P **P** 22 44 34.3 +0.9
PGAV Gavieira, Arco 26.09 287 *e*P **P** 22 44 34.8 +1.2
PBEJ Beja 26.48 278 *e*P **P** 22 44 37.5 +0.5
PVAQ Vaqueiros 26.52 276 *e*P **P** 22 44 39.3 +1.9
PVAQ Vaqueiros 26.52 276 P **P** 22 44 37.1 -0.2
PVAQ lAmb lAmb 22 44 50.6
comp=Z,34nm,1.5s
PCAS Casmilo, Conde 26.54 282 *e*P **P** 22 44 41.2 +3.7
PCVE Castro Verde 26.71 277 *e*P **P** 22 44 39.3 +0.2
PNCL Nicolau / Gran 26.96 278 *e*P **P** 22 44 45.1 +3.7
ARU Arti 27.15 41 P **P** 22 44 43.4 +0.5
comp=Z,4.8nm,0.9s,baz=244,slow=5.7,SNR=8.3
ARU LR LR 22 56 40.9
comp=Z,145nm,18.8s,baz=240,slow=39
comp=Z,4.8nm,0.9s
ARU Arti 27.15 41 P **P** 22 44 42.3 -0.5
ARU lAmb lAmb 22 45 22.5
comp=Z,11nm,1.0s
ARU Arti 27.15 41 *c i*P **P** 22 44 43.3 +0.5
ARU S **S** 22 49 24.4 +3.5
ARU pmax pmax
comp=Z,9.0nm,1.0s
HRA Herat 29.16 89 P **P** 22 45 01.2 -0.1
ARCES ARCESS Array B 30.07 360 P **P** 22 45 08.7 -0.1
comp=Z,2.3nm,0.8s,baz=159,slow=3.6,SNR=8.3
ARCES LR LR 22 58 27.2
comp=Z,166nm,18.0s,baz=174,slow=39
comp=Z,2.3nm,0.8s
BRVK Borovoye 32.81 51 P **P** 22 45 32.5 -0.5
BRVK Borovoye 32.81 51⇑ *e*P **P** 22 45 34.4 +1.4
BRVK pmax pmax
comp=Z,23nm,4.2s
BVAR Borovoye Array 32.87 51 LR LR 23 00 21.4
comp=Z,72nm,18.7s,baz=274,slow=39
CHGR Chuyangaron 33.16 78 P **P** 22 45 36.6 +0.3
CHGR Chuyangaron 33.16 78 P **P** 22 45 36.6 +0.3
CHGR pmax pmax
comp=Z,29nm,0.9s
KK31 Karatay Array 33.22 69 P **P** 22 45 37.3 +0.6
KK31 lAmb lAmb 22 45 39.5
comp=Z,8.6nm,0.9s
KK31 Karatay Array 33.22 69 P **P** 22 45 37.3 +0.6
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 33.22 69 P **P** 22 45 37.1 +0.4
KKAR Karatay Array 33.22 69 P **P** 22 45 37.1 +0.4
GAR Garm 33.94 76 P **P** 22 45 44.0 +0.8
TORD Torodi Ar. Bea 34.00 226 P **P** 22 45 44.3 +0.5

comp=Z,5.4nm,0.6s,baz=35,slow=9.3,SNR=4.5
comp=Z,5.4nm,0.6s
KBL Kabul 34.35 85 P **P** 22 45 46.9 0.0
KBL Kabul 34.35 85 P **P** 22 45 46.9 0.0
KBL pmax pmax
comp=Z,5.0nm,0.9s
JMIC Jan Mayen 36.16 342 LR LR 23 02 12.0
comp=Z,66nm,19.3s,baz=46,slow=39
AAK Ala-Archa 36.18 69 P **P** 22 46 04.0 +1.4
comp=Z,6.1nm,0.8s,baz=244,slow=5.1,SNR=20
AAK LR LR 23 05 50.7
comp=Z,63nm,18.2s,baz=261,slow=44
comp=Z,6.1nm,0.8s
AAK Ala-Archa 36.18 69 P **P** 22 46 02.7 +0.2
AAK lAmb lAmb 22 46 07.7
comp=Z,8.0nm,0.9s
AAK Ala-Archa 36.18 69 *de*P **P** 22 46 03.8 +1.3
AAK pmax pmax
comp=Z,9.0nm,0.8s
LODK Lodwar 36.90 165 P **P** 22 46 09.5 +0.7
BORG Borgarnes 37.17 328 LR LR 23 04 54.7
comp=Z,99nm,18.5s,baz=106,slow=42
KURBB Kurchatov Arra 37.87 55 P **P** 22 46 17.7 +1.1
comp=Z,3.5nm,0.9s,baz=279,slow=8.8,SNR=17
KURBB PcP **PcP** 22 48 33.2 +0.6
comp=Z,3.2nm,0.8s,baz=270,slow=3.9,SNR=14
KURBB LR LR 23 04 39.9
comp=Z,93nm,18.7s,baz=153,slow=41
comp=Z,3.5nm,0.9s
KURK Kurchatov 37.92 55 P **P** 22 46 17.3 +0.4
KURK Kurchatov 37.92 55 P **P** 22 46 17.7 +0.7
KURK 22 48 33.2
KSH Kashi 38.02 74 P **P** 22 46 18.8 +0.6
KSH pmax pmax
comp=Z,6.0nm,0.9s
SPITS Spitsbergen Ar 38.97 357 LR LR 23 02 41.6
comp=Z,115nm,21.9s,baz=146,slow=36
SCO Scoresbysund 39.59 337 P **P** 22 46 32.0 +1.3
SCO lAmb lAmb 22 47 06.7
comp=Z,19nm,1.4s
SCO Scoresbysund 39.59 337 P **P** 22 46 32.0 +1.3
SCO pmax pmax
comp=Z,19nm,1.4s
MBAR Mbarara 40.16 173 P **P** 22 46 37.4 +1.2
comp=Z,1.6nm,0.3s,baz=353,slow=9.9,SNR=8.4
MBAR LR LR 23 04 59.4
comp=Z,50nm,18.0s,baz=330,slow=39
comp=Z,1.6nm,0.3s
MBAR Mbarara 40.16 173 P **P** 22 46 37.2 +0.9
MBAR Mbarara 40.16 173 *ce*P **P** 22 46 38.1 +1.9
MBAR pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 40.61 61 P **P** 22 46 40.1 +0.5
MAKZ Makanchi 40.61 61 P **P** 22 46 40.1 +0.5
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 40.83 61 P **P** 22 46 41.8 +0.4
MK31 Makanchi Array 40.83 61 *d i*P **P** 22 46 42.0 +0.6
MKAR Makanchi Array 40.83 61 P **P** 22 46 42.1 +0.8
comp=Z,1.8nm,0.7s,baz=277,slow=7.2,SNR=22
MKAR PcP **PcP** 22 48 42.2 +0.1
comp=Z,2.3nm,0.8s,baz=289,slow=3.7,SNR=5.4
MKAR LR LR 23 06 01.8
comp=Z,74nm,19.2s,baz=299,slow=40
comp=Z,1.8nm,0.7s
MKAR Makanchi Array 40.83 61 P **P** 22 46 41.7 +0.3
MKAR Makanchi Array 40.83 61 *ce*P **P** 22 46 42.0 +0.6
MKAR pmax pmax
comp=Z,2.0nm,0.7s
ZAA0 Zalesovo Array 41.49 50 P **P** 22 46 46.7 0.0
ZALV Zalesovo Beam 41.49 50 P **P** 22 46 47.3 +0.6
comp=Z,4.1nm,0.7s,baz=277,slow=8.6,SNR=20
ZALV LR LR 23 04 59.2
comp=Z,61nm,21.7s,baz=271,slow=38
comp=Z,4.1nm,0.7s
ZALV Zalesovo Beam 41.49 50 P **P** 22 46 46.5 -0.2
DBIC Dimbokro 42.98 229 P **P** 22 46 59.9 +0.7
comp=Z,10nm,0.8s,baz=38,slow=9.4,SNR=16
DBIC LR LR 23 07 29.0
comp=Z,53nm,19.5s,baz=6.5,slow=40
comp=Z,10nm,0.8s
DBIC Dimbokro 42.98 229 P **P** 22 46 59.1 -0.1
DBIC lAmb lAmb 22 47 00.5
comp=Z,13nm,0.8s
TIC Toumodi 43.10 229⇑ *i*P **P** 22 47 00.8 +0.6
comp=Z,3.7nm,0.3s
KIC Kosan Boka 43.16 228⇑ *i*P **P** 22 47 01.4 +0.7
comp=Z,5.0nm,0.7s
LIC Lamto 43.44 228⇓ *i*P **P** 22 47 03.3 +0.4
comp=Z,32nm,0.6s
NRIK Noril'sk 43.61 27 P **P** 22 47 05.5 +1.8
comp=Z,7.7nm,0.8s,baz=230,slow=4.8,SNR=13
NRIK LR LR 23 06 29.2
comp=Z,148nm,20.6s,baz=281,slow=38
comp=Z,7.7nm,0.8s
NRIK Noril'sk 43.61 27 P **P** 22 47 04.3 +0.6
NRIK lAmb lAmb 22 47 06.5
comp=Z,11nm,0.9s
NRIK Noril'sk 43.61 27 *de*P **P** 22 47 05.0 +1.3
NRIK pmax pmax
comp=Z,12nm,0.9s
DGZ Jazzator, Alta 43.66 56⇑ *e*P **P** 22 47 05.9 +1.3
DGZ pmax pmax
comp=Z,4.0nm,1.1s
BBTS Babate 44.79 249 LR LR 23 07 57.7
comp=Z,87nm,20.0s,baz=49,slow=39
SUMG Summit 45.22 337 *i* P **P** 22 47 17.0 0.0
WMQ Urumqi 45.24 64 *e*P **P** 22 47 18.3 +1.1
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ LR LR
comp=E,750nm,29.2s
WMQ LR LR
comp=Z,52nm,28.9s
DANN Dangsing 48.34 85 *e*P **P** 22 47 42.3 +0.4
comp=Z,33nm,0.7s
GKN Gorkha 49.19 85 *e*P **P** 22 47 47.8 -0.5
SFJD Kangerlussuaq 49.27 330 LR LR 23 08 24.6
comp=Z,59nm,19.2s,baz=72,slow=36
DMN Daman 49.74 85 *e*P **P** 22 47 52.4 -0.2
JIRN Jiri 50.55 84 *e*P **P** 22 47 59.0 +0.1
RAMN Ramite 51.22 85 *e*P **P** 22 48 03.1 -0.7
comp=Z,21nm,0.9s
TAPN Taplejung 51.88 84 *e*P **P** 22 48 10.1 +1.3
TULEG Thule 53.09 343 P **P** 22 48 16.6 -0.1
TULEG lAmb lAmb 22 48 20.8
comp=Z,9.8nm,0.9s
GOMU GeErMu 53.10 70 P P 22 48 28.1 +10
GOMU pP sP 22 48 32.1 +8.9
GOMU sP pP 22 48 33.8 +12
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU pmax pmax
comp=Z,91nm,4.8s
ZAK Zakamensk 53.32 51 *e*P **P** 22 48 19.7 +0.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s
LSZ Lusaka 54.55 178 P **P** 22 48 29.2 +1.0
comp=Z,3.7nm,0.8s,baz=17,slow=8.7,SNR=10
LSZ LR LR 23 13 09.1
comp=Z,44nm,18.1s,baz=300,slow=38
comp=Z,3.7nm,0.8s
LSZ Lusaka 54.55 178 P **P** 22 48 28.9 +0.7
LSZ lAmb lAmb 22 48 30.2
comp=Z,3.4nm,0.7s
EUNU Eureka 55.06 349 P **P** 22 48 31.3 +0.2
EUNU lAmb lAmb 22 48 33.0
comp=Z,9.3nm,0.8s
GTA Gaotai 55.29 65 *e*P **P** 22 48 34.4 +0.9
GTA pP sP 22 48 39.3 +0.5
GTA sP pP 22 48 42.4 +5.1
GTA PcP **PcP** 22 49 34.9 +0.8
GTA pmax pmax
comp=Z,3.0nm,1.3s
SHL Shillong 56.00 83 P **P** 22 48 38.5 -0.3
SHL lAmb lAmb 22 48 44.4
comp=Z,6.7nm,1.1s
SHL Shillong 56.00 83 P **P** 22 48 38.5 -0.3
SHL pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 56.17 53 P **P** 22 48 40.7 +1.0
comp=Z,1.1nm,0.7s,baz=276,slow=6.3,SNR=12
SONM PcP **PcP** 22 49 38.3 +0.9
comp=Z,1.0nm,1.0s,baz=276,slow=5.2,SNR=4.2
comp=Z,1.1nm,0.7s
SONM Songino Array 56.17 53 P **P** 22 48 39.6 -0.1

ULN	**Ulaanbaatar**	**56.56**	**53**	⇓*e*P	**P**	**22 48 42.8**	**+0.3**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.3s							
TIXI	**Tiksi**	**56.81**	**22**	LR	LR	23 16 40.3		
	comp=Z,119nm,18.0s,baz=276,slow=40							
TIXI	**Tiksi**	**56.81**	**22**	P	**P**	**22 48 43.7**	**+0.1**
TIXI	**Tiksi**	**56.81**	**22**	⇓*e*P	**P**	**22 48 44.0**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.7s							
FRB	**Frobisher Bay**	**57.34**	**328**	LR	LR	23 14 06.8		
	comp=Z,55nm,18.4s,baz=246,slow=37							
DRLN	**Deer Lake**	**57.66**	**310**	P	**P**	**22 48 49.5**	**-0.6**
TSUM	**Tsumeb**	**58.97**	**189**	LR	LR	23 15 30.3		
	comp=Z,67nm,20.4s,baz=358,slow=37							
LZH	**Lanzhou**	**59.65**	**67**	⇑P	**P**	**22 49 03.8**	**-0.5**
LZH				sP	sP	22 49 11.6	+2.0
LZH				pmax	pmax			
	comp=Z,7.0nm,1.6s							
RES	**Resolute Bay**	**59.66**	**345**	LR	LR	23 14 06.1		
	comp=Z,59nm,18.1s,baz=28,slow=35							
SCHQ	**Schefferville**	**60.41**	**318**	P	**P**	**22 49 09.3**	**+0.3**
	comp=Z,8.3nm,0.8s,baz=76,slow=4.9,SNR=5.4							
	comp=Z,8.3nm,0.8s							
SCHQ	**Schefferville**	**60.41**	**318**	P	**P**	**22 49 08.4**	**-0.6**
SCHQ				IAmb	IAmb	22 49 22.8		
	comp=Z,12nm,1.1s							
YAK	**Yakutsk**	**61.72**	**31**	LR	LR	23 21 01.8		
	comp=Z,77nm,19.3s,baz=264,slow=41							
YAK	**Yakutsk**	**61.72**	**31**	*e*P	**P**	**22 49 17.1**	**-0.6**
YAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**62.61**	**58**	*e*P	**P**	**22 49 23.8**	**-0.4**
HHC				pmax	pmax			
	comp=Z,18nm,1.1s							
HHC				pmax	pmax			
	comp=Z,180nm,7.0s							
PZH	**PanZhiHua**	**63.01**	**77**	P	**P**	**22 49 27.0**	**-0.1**
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,120nm,5.0s							
HIA	**Hailar**	**63.43**	**47**	P	**P**	**22 49 29.3**	**-0.1**
HIA				IAmb	IAmb	22 49 32.7		
	comp=Z,7.5nm,1.0s							
HIA	**Hailar**	**63.43**	**47**	P	**P**	**22 49 29.3**	**-0.1**
HIA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
LMN	**Caledonia Moun**	**63.62**	**309**	P	**P**	**22 49 30.5**	**-0.2**
BATG	**Bathurst New B**	**63.65**	**311**	P	**P**	**22 49 31.2**	**+0.4**
VOI	**Vohitsoka**	**64.09**	**159**	P	**P**	**22 49 35.0**	**+0.9**
LBTB	**Lobatse**	**64.21**	**181**	LR	LR	23 18 33.0		
	comp=Z,28nm,18.6s,baz=68,slow=37							
LBTB	**Lobatse**	**64.21**	**181**	P	**P**	**22 49 35.5**	**+0.7**
LBTB	**Lobatse**	**64.21**	**181**	P	**P**	**22 49 35.5**	**+0.7**
LBTB				pmax	pmax			
	comp=Z,16nm,0.8s							
XAN	**Xi'an**	**64.27**	**66**	P	**P**	**22 49 36.9**	**+1.7**
XAN	**Xi'an**	**64.27**	**66**	⇑*i*P	**P**	**22 49 37.0**	**+1.7**
XAN				pP	sP	22 49 42.3	+1.7
XAN				pP	pP	22 49 42.4	+3.2
XAN				pmax	pmax			
	comp=Z,10.0nm,1.0s							
XAN				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PQI	**Presque Isle**	**65.11**	**311**	P	**P**	**22 49 40.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**65.37**	**86**	P	**P**	**22 49 42.6**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=304,slow=7.5,SNR=11							
	comp=Z,1.1nm,0.3s							
PHRA	**Phrae**	**66.34**	**85**	P	**P**	**22 49 49.0**	**+0.2**
A36M	**Sachs Harbour**	**66.97**	**351**	P	**P**	**22 49 51.5**	**-0.4**
HEH	**HeiHe**	**67.10**	**43**	*e*P	**P**	**22 49 53.9**	**+0.8**
HEH				pmax	pmax			
	comp=Z,13nm,0.9s							
HEH				pmax	pmax			
	comp=Z,250nm,4.7s							
BOSA	**Boshof**	**67.80**	**181**	P	**P**	**22 49 58.9**	**+1.0**
	comp=Z,8.1nm,0.8s,baz=4.2,slow=6.9,SNR=19							
BOSA				LR	LR	23 19 13.5		
	comp=Z,40nm,20.4s,baz=16,slow=36							
	comp=Z,8.1nm,0.8s							
BOSA	**Boshof**	**67.80**	**181**	P	**P**	**22 49 58.4**	**+0.6**
BOSA				IAmb	IAmb	22 50 01.9		
	comp=Z,8.4nm,0.8s							
BILL	**Bilibino**	**68.64**	**15**	*i* P	**P**	**22 50 03.1**	**+0.5**
BILL				*i*		22 50 27.0		
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,52nm,15.0s							
SEY	**Seymchan**	**69.23**	**23**	P	**P**	**22 50 07.1**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=12,slow=22,SNR=3.7							
	comp=Z,1.4nm,0.7s							
SEY	**Seymchan**	**69.23**	**23**	⇓*e*P	**P**	**22 50 06.9**	**+0.6**
SEY				pmax	pmax			
	comp=Z,15nm,2.5s							
C36M	**Paulatuk**	**69.23**	**349**	P	**P**	**22 50 06.1**	**-0.1**
C36M				IAmb	IAmb	22 50 06.7		
	comp=Z,4.6nm,0.7s							
FRNY	**Flat Rock**	**69.37**	**311**	P	**P**	**22 50 07.7**	**+0.2**
FRNY				IAmb	IAmb	22 50 31.6		
	comp=Z,16nm,1.4s							
KLR	**Kul'dur**	**69.97**	**42**	⇓*e*P	**P**	**22 50 11.2**	**+0.1**
KLR				pmax	pmax			
	comp=Z,11nm,1.7s							
LONY	**Lake Ozonia**	**70.07**	**312**	P	**P**	**22 50 11.0**	**-0.9**
LONY				IAmb	IAmb	22 50 16.8		
	comp=Z,8.9nm,1.0s							
MA2	**Magadan**	**71.21**	**26**	LR	LR	23 23 30.4		
	comp=Z,62nm,19.3s,baz=306,slow=38							
INK	**Inuvik**	**71.41**	**352**	P	**P**	**22 50 19.4**	**0.0**
	comp=Z,3.5nm,1.1s,baz=34,slow=8.6,SNR=6.4							
	comp=Z,3.5nm,1.1s							
INK	**Inuvik**	**71.41**	**352**	P	**P**	**22 50 19.3**	**-0.2**
INK				IAmb	IAmb	22 50 20.2		
	comp=Z,9.0nm,1.4s							
SUR	**Sutherland**	**71.72**	**185**	LR	LR	23 23 37.6		
	comp=Z,41nm,18.3s,baz=357,slow=37							
SUR	**Sutherland**	**71.72**	**185**	P	**P**	**22 50 23.2**	**+1.2**
SUR				IAmb	IAmb	22 50 24.5		
	comp=Z,11nm,0.8s							
SADO	**Sadowa**	**72.56**	**314**	P	**P**	**22 50 27.0**	**+0.1**
RCBR	**Riachuelo**	**72.75**	**247**	LR	LR	23 24 25.2		
	comp=Z,36nm,18.2s,baz=146,slow=38							
BMAR	**Burnt Mountain**	**73.13**	**356**	P	**P**	**22 50 30.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**73.22**	**46**	P	**P**	**22 50 30.9**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=312,slow=4.2,SNR=6.3							
USRK				LR	LR	23 25 06.6		
	comp=Z,36nm,18.6s,baz=299,slow=38							
	comp=Z,4.8nm,0.8s							
YKA	**Yellowknife Ar**	**73.54**	**342**	P	**P**	**22 50 32.3**	**0.0**
	comp=Z,2.9nm,0.8s,baz=26,slow=5.7,SNR=28							
	comp=Z,2.9nm,0.8s							
M57A	**Sunshine Farm,**	**73.54**	**310**	P	**P**	**22 50 33.4**	**+0.6**
M57A				IAmb	IAmb	22 50 38.1		
	comp=Z,17nm,1.1s							
I29M	**Ogilvie Camp,**	**74.74**	**353**	P	**P**	**22 50 39.5**	**+0.1**
I29M				IAmb	IAmb	22 50 41.0		
	comp=Z,16nm,1.2s							
IMAR	**Indian Mountai**	**74.82**	**360**	P	**P**	**22 50 40.6**	**+0.9**
KSAR	**Wonju Array Be**	**75.01**	**54**	P	**P**	**22 50 41.2**	**-0.1**
KSAR	**Wonju Array Be**	**75.01**	**54**	P	**P**	**22 50 41.2**	**-0.1**
KSRS	**Korea Array**	**75.03**	**54**	P	**P**	**22 50 41.8**	**+0.4**
	comp=Z,6.4nm,0.9s,baz=313,slow=4.7,SNR=11							
KSRS				LR	LR	23 27 52.5		
	comp=Z,57nm,18.9s,baz=335,slow=39							
	comp=Z,6.4nm,0.9s							
I21K	**Tanana**	**75.61**	**359**	P	**P**	**22 50 44.9**	**+0.6**
I21K				IAmb	IAmb	22 50 47.6		
	comp=Z,6.6nm,0.9s							
MDM	**Murphy Dome**	**75.75**	**358**	P	**P**	**22 50 45.6**	**+0.4**
MDM				IAmb	IAmb	22 50 46.9		
	comp=Z,8.6nm,0.9s							
ILAR	**Eielson Array**	**75.89**	**357**	P	**P**	**22 50 46.6**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=354,slow=4.9,SNR=14							
	comp=Z,1.6nm,0.9s							
ILAR	**Eielson Array**	**75.89**	**357**	P	**P**	**22 50 46.3**	**+0.4**
ULM	**Lac du Bonnet**	**77.13**	**326**	P	**P**	**22 50 52.8**	**-0.4**
	comp=Z,4.4nm,0.5s,baz=39,slow=6.2,SNR=7.9							
ULM				LR	LR	23 25 21.6		
	comp=Z,29nm,18.0s,baz=22,slow=36							
	comp=Z,4.4nm,0.5s							
ULM	**Lac du Bonnet**	**77.13**	**326**	P	**P**	**22 50 52.7**	**-0.5**
MDP	**Montagnes des**	**78.13**	**267**	LR	LR	23 24 53.7		
	comp=Z,19nm,18.7s,baz=68,slow=35							
PETK	**Petropavlovsk-**	**78.67**	**27**	LR	LR	23 27 59.2		
	comp=Z,90nm,20.7s,baz=296,slow=37							

ASAJ	**Asahikawa**	**78.95**	**41**	LR	LR	23 29 48.3		
	comp=Z,87nm,18.1s,baz=336,slow=39							
JNU	**Nakatsue**	**79.64**	**56**	LR	LR	23 30 05.9		
	comp=Z,92nm,18.3s,baz=44,slow=38							
MJAR	**Matsushiro Arr**	**81.84**	**49**	P	**P**	**22 51 18.8**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=316,slow=5.3,SNR=3.0							
	comp=Z,2.1nm,0.8s							
ECSD	**EROS Data Cent**	**82.34**	**322**	P	**P**	**22 51 21.6**	**0.0**
ECSD				IAmb	IAmb	22 51 25.2		
	comp=Z,12nm,1.2s							
EGMT	**Eagleton**	**84.43**	**332**	P	**P**	**22 51 32.9**	**+0.5**
BGNE	**Belgrade**	**84.84**	**321**	P	**P**	**22 51 34.6**	**0.0**
LRAL	**Lakeview Retre**	**84.92**	**309**	P	**P**	**22 51 35.1**	**0.0**
HRY	**Holter Researc**	**86.30**	**333**	P	**P**	**22 51 41.5**	**-0.3**
NEW	**Newport**	**86.71**	**336**	P	**P**	**22 51 44.1**	**+0.4**
	comp=Z,4.5nm,0.9s,baz=11,slow=6.7,SNR=6.6							
	comp=Z,4.5nm,0.9s							
BDFB	**Brasilia**	**88.08**	**248**	P	**P**	**22 51 52.0**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=37,slow=5.6,SNR=9.0							
BDFB				LR	LR	23 31 03.5		
	comp=Z,70nm,20.1s,baz=114,slow=36							
	comp=Z,3.5nm,0.7s							
BDFB	**Brasilia**	**88.08**	**248**	P	**P**	**22 51 52.0**	**+1.2**
PDAR	**Pinedale Array**	**88.78**	**329**	P	**P**	**22 51 53.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=64,slow=5.6,SNR=9.4							
PDAR				LR	LR	23 38 12.3		
	comp=Z,30nm,18.5s,baz=325,slow=40							
	comp=Z,0.7nm,0.7s							
ANMO	**Albuquerque**	**93.94**	**323**	LR	LR	23 34 15.3		
	comp=Z,28nm,18.7s,baz=72,slow=35							
ANMO	**Albuquerque**	**93.94**	**323**	⇑*e*P	**P**	**22 52 17.6**	**-0.4**
NVAR	**Mina Array Bea**	**95.84**	**333**	P	**P**	**22 52 26.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=32,slow=4.7,SNR=3.5							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**116.23**	**95**	PKP	**PKPdf**	**22 57 42.9**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=288,slow=2.4,SNR=2.5							
ASAR	**Alice Springs**	**117.98**	**99**	PKP	**PKPdf**	**22 57 46.2**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=325,slow=1.9,SNR=12							

*IDC **14** 22:43:02.0±8.7,21°.41S×178°.23W,h578km±83km, mb3.2/4, mbtmp4.2/6, Error ellipse: s-maj=80.3km s-min=38.7km az=48.0*

ISC 14 22:43:01.3±2.8, 21°.6S±0°.3×178°.3W±0°.3, h550km, n7, σ1.9 32/7, mb4.0/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.22**	**265**	P		P	**P**	**22 46 04.7**	**+1.8**
	3.2nm,0.6s,baz=93,slow=18,SNR=5.9								
URZ	**Urewera**	**17.13**	**192**	P		P	**P**	**22 46 31.5**	**+0.5**
	3.3nm,0.7s,baz=67,slow=10,SNR=1.2								
URZ				S		S	S	22 49 12.0	-10
	6.6nm,1.0s,baz=57,slow=4.7,SNR=2.1								
CTA	**Charters Tower**	**33.17**	**266**	P		P	**P**	**22 48 52.4**	**-0.5**
	2.5nm,0.4s,baz=94,slow=9.4,SNR=11								
	2.5nm,0.4s								
STKA	**Stephens Creek**	**37.13**	**245**	P		P	**P**	**22 49 24.9**	**-0.8**
	2.6nm,0.5s,baz=99,slow=9.8,SNR=6.0								
	2.6nm,0.5s								
ASAR	**Alice Springs**	**44.06**	**258**	P		P	**P**	**22 50 20.1**	**-0.9**
	3.7nm,0.8s,baz=97,slow=8.1,SNR=45								
	3.7nm,0.8s								
WRA	**Warramunga Arr**	**44.23**	**263**	P		P	**P**	**22 50 21.3**	**-1.1**
	1.1nm,0.4s,baz=95,slow=8.0,SNR=62								
	1.1nm,0.4s								
BRTR	**Keskin Array B**	**147.35**	**311**	PKPbc		**PKPdf**	**23 01 41.1**	**+0.6**	
	0.5nm,0.8s,baz=48,slow=5.7,SNR=2.4								

IDC 14 22:52:49.8±8.6, 54°.65S×152°.02W, h0km, mb3.5/1, mbtmp3.5/1, Error ellipse: s-maj=763.5km s-min=70.4km az=163.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**53.72**	**99**	T		T	T	23 58 57.9	
	baz=219,slow=74,SNR=8.4								
H03S1	**Juan Fernandez**	**53.73**	**99**	T		T	T	23 59 00.2	
	baz=219,slow=74,SNR=7.9								
H03S3	**Juan Fernandez**	**53.74**	**99**	T		T	T	23 58 59.4	
	baz=219,slow=74,SNR=8.2								
H03N3	**Juan Fernandez**	**53.99**	**99**	T		T	T	23 59 10.2	
	baz=222,slow=72,SNR=12								
H03N2	**Juan Fernandez**	**54.00**	**99**	T		T	T	23 59 08.9	
	baz=222,slow=72,SNR=8.3								
H03N1	**Juan Fernandez**	**54.01**	**99**	T		T	T	23 59 06.4	
	baz=222,slow=72,SNR=14								
ASAR	**Alice Springs**	**61.90**	**268**	P		P	P	23 03 11.1	-0.1
	0.3nm,0.5s,baz=136,slow=5.8,SNR=5.4								
	0.3nm,0.5s								
H01W1	**Cape Leeuwin H**	**64.44**	**245**	T		T	T	00 13 40.4	
	baz=143								
H01W2	**Cape Leeuwin H**	**64.44**	**245**	T		T	T	00 13 54.0	
	baz=143								
H01W3	**Cape Leeuwin H**	**64.45**	**245**	T		T	T	00 13 43.9	
	baz=143								
H10N3	**ASCENSION HYDR**	**108.32**	**135**	T		T	T	01 06 25.9	
	baz=204,slow=75,SNR=8.4								
H10N1	**ASCENSION HYDR**	**108.32**	**135**	T		T	T	01 06 22.2	
	baz=204,slow=75,SNR=11								
H10N2	**ASCENSION HYDR**	**108.34**	**135**	T		T	T	01 06 33.1	
	baz=204,slow=75,SNR=10								
ILAR	**Eielson Array**	**119.16**	**3**	PKP		PKPdf	PKPdf	23 11 39.0	-0.2
	0.5nm,0.9s,baz=174,slow=0.9,SNR=3.4								
MKAR	**Makanchi Array**	**145.51**	**280**	PKPbc		PKPdf	PKPdf	23 12 28.5	-0.5
	0.9nm,0.8s,baz=119,slow=4.4,SNR=10								
ZALV	**Zalesovo Beam**	**147.60**	**293**	PKPbc		PKPbc	PKPbc	23 12 34.2	-0.7
	0.3nm,0.3s,baz=100,slow=6.0,SNR=2.3								
KURBB	**Kurchatov Arra**	**149.61**	**284**	PKPbc		PKPbc	PKPbc	23 12 39.2	-0.9
	0.4nm,0.4s,baz=126,slow=2.1,SNR=2.3								

*BJI **14** 23:10:05.0±0.0,5°.91S×147°.20E,h152km,mb4.7/29, mB5.1/15*
*DJA **14** 23:10:09.2±0.3,6°.S±3°×14°.7E±°,h158km±4km, M5.0/43, mB5.5/22, mb5.0/43, MLv5.2/4, Mw(mB)4.9/22*
*NEIC **14** 23:10:09.3±1.5,5°.61S±0°.06×146°.82E±0°.08,h147km±7km, mb5.0/39, Error ellipse: s-maj=10.9km s-min=9.3km az=89.0*
*IDC **14** 23:10:09.2±1.2,5°.60S×146°.88E,h156km±12km, mb4.0/19, mbtmp4.5/23, MS3.7/2, Error ellipse: s-maj=10.8km s-min=8.1km az=112.0*

ISC 14 23:10:09.3±0.3, 5°.66S±0°.04×146°.81E±0°.05, h150km, n207, σ1.9 26/216, mb4.9/64, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.63**	**9**				**Pn**	**23 11 03.9**	**-0.9**
PMG	**Port Moresby**	**3.74**	**175**	P		P	**Pn**	**23 11 05.1**	**-1.1**
	66nm,0.3s,baz=33,slow=4.7,SNR=20								
PMG				S			**Sn**	**23 11 47.1**	**-3.3**
	183nm,0.3s,baz=358,slow=12,SNR=6.7								
PMG	**Port Moresby**	**3.74**	**175**	Pn		Pn	**Pn**	**23 11 05.2**	**-1.0**
PMG	**Port Moresby**	**3.74**	**175**	P		Pn	**Pn**	**23 11 05.1**	**-1.1**
KRVT	**Keravat (AS076**	**5.37**	**76**	P		Pn	**Pn**	**23 11 26.7**	**-0.9**
	192nm,0.6s,baz=114,slow=1.1,SNR=31								
KRVT				S			**Sn**	**23 12 28.4**	**-0.5**
	36nm,0.4s,baz=319,slow=22,SNR=1.1								
RABL	**Rabaul**	**5.53**	**75**				**Pn**	**23 11 29.9**	**+0.1**
RABL	**Rabaul**	**5.53**	**75**	P		Pn	**Pn**	**23 11 30.8**	**+1.0**
GENI	**Genyem**	**7.29**	**294**	P		Pn	**Pn**	**23 11 52.7**	**-0.5**
	79nm,0.7s,1.0nm								
SMPI	**Sarmi**	**8.86**	**294**	P		Pn	**Pn**	**23 12 13.9**	**-0.3**
	34nm,0.7s,3μm								
COEN	**Coen**	**8.99**	**203**	P		Pn	**Pn**	**23 12 17.6**	**+1.6**
	baz=9.1,SNR=20								
COEN	**Coen**	**8.99**	**203**	Pn		Pn	**Pn**	**23 12 16.7**	**+0.8**
COEN	**Coen**	**8.99**	**203**	P		Pn	**Pn**	**23 12 17.4**	**+1.4**
SRPI	**Serui, Papua**	**11.19**	**289**	P		Pn	**Pn**	**23 12 47.2**	**+2.1**
	62nm,0.5s								
MTSU	**Mount Surprise**	**12.64**	**191**	P		Pn	**Pn**	**23 13 06.0**	**+2.0**
	baz=13,SNR=7.7								
RKPI	**Ransiki, Papua**	**13.26**	**288**	P		Pn	**Pn**	**23 13 13.5**	**+1.6**
	86nm,0.6s,4μm								
HNR	**Honiara**	**13.55**	**107**	P		Pn	**Pn**	**23 13 17.7**	**+2.0**
	4μm,0.6s,baz=194,slow=2.5,SNR=6.9								
HNR				LR		LR	LR	23 17 03.1	
	comp=Z,733nm,18.7s,baz=334,slow=31								
HNR	**Honiara**	**13.55**	**107**	Pn		Pn	**Pn**	**23 13 16.4**	**+0.8**
HNR	**Honiara**	**13.55**	**107**	P		Pn	**Pn**	**23 13 15.8**	**+0.1**
CTA	**Charters Tower**	**14.36**	**182**	P		P	**P**	**23 13 29.5**	**+1.0**
	2.7nm,0.4s,baz=2.3,slow=14,SNR=12								
CTAO	**Charters Tower**	**14.36**	**182**	P		P	**P**	**23 13 28.3**	**-0.1**
CTAO	**Charters Tower**	**14.36**	**182**	P		Pn	**Pn**	**23 13 26.4**	**+0.6**
FAKI	**Fak Fak**	**14.77**	**280**	Pn		Pn	**Pn**	**23 13 31.1**	**+0.1**

FAKI	**Fak Fak**	**14.77**	**280**	P		Pn	**Pn**	**23 13 31.0**	**+0.1**
SAUI	**Saumlaki**	**15.57**	**261**	P		P	**P**	**23 13 42.0**	**0.0**
SAUI	**Saumlaki**	**15.57**	**261**	P		P	**P**	**23 13 42.5**	**+0.6**
	449nm,0.9s,7μm								
KDU	**Kakadu**	**15.77**	**243**	P		Pn	**Pn**	**23 13 43.3**	**-0.1**
	baz=16,SNR=64								
KDU	**Kakadu**	**15.77**	**243**	P		Pn	**Pn**	**23 13 43.7**	**+0.3**
SIJI	**Sorong**	**16.22**	**286**	P		Pn	**Pn**	**23 13 48.6**	**-0.3**
	19nm,0.5s,baz=140,slow=3.0,SNR=14								
SWI	**Sorong**	**16.23**	**287**	P		Pn	**Pn**	**23 13 47.7**	**-1.3**
	43nm,0.8s								
QIS	**Mount Isa**	**16.38**	**205**	P		P	**P**	**23 13 52.6**	**+1.7**
	baz=16,SNR=11								
QIS	**Mount Isa**	**16.38**	**205**	P		Pn	**Pn**	**23 13 51.0**	**+0.2**
MTN	**Manton Dam**	**17.03**	**244**	P		P	**P**	**23 13 58.5**	**+0.5**
	baz=17,SNR=132								
MTN	**Manton Dam**	**17.03**	**244**	P		P	**P**	**23 13 58.3**	**+0.3**
MTN	**Manton Dam**	**17.03**	**244**	P		Pn	**Pn**	**23 13 59.0**	**+0.3**
MSAI	**Masohi**	**17.97**	**277**	P		P	**P**	**23 14 08.2**	**-0.2**
WB0	**Warramunga Arr**	**18.51**	**220**	P		P	**P**	**23 14 15.1**	**+0.9**
AAI	**Ambon**	**18.65**	**275**	P		P	**P**	**23 14 16.0**	**+0.1**
	101nm,0.6s,1μm								
WRAB	**Tennant Creek**	**18.66**	**219**	P		P	**P**	**23 14 16.9**	**+1.0**
WB2	**Warramunga Arr**	**18.66**	**219**	P		P	**P**	**23 14 17.0**	**+1.0**
WRA	**Warramunga Arr**	**18.67**	**219**	P		P	**P**	**23 14 17.1**	**+1.1**
	117nm,0.8s,baz=42,slow=11,SNR=266								
WRA				S		S	**S**	**23 17 41.1**	**+0.2**
	18nm,1.2s,baz=41,slow=21,SNR=11								
WRA				LR		LR	LR	23 21 33.2	
	comp=Z,111nm,19.6s,baz=3.0,slow=36								
WRA				ScP			**ScP**	**23 21 59.2**	**-0.7**
	0.9nm,0.8s,baz=45,slow=2.8,SNR=4.8								
GUMO	**Guam**	**19.22**	**354**	P		P	**P**	**23 14 20.2**	**-1.7**
	61nm,0.8s,baz=167,slow=10.0,SNR=5.7								
GUMO	**Guam**	**19.22**	**354**	P		P	**P**	**23 14 21.0**	**-0.9**
NLAI	**Namlea**	**19.79**	**276**	P		P	**P**	**23 14 28.1**	**-0.1**
	20nm,0.5s,7μm								
EIDS	**Eidsvold**	**20.02**	**169**	P		P	**P**	**23 14 32.0**	**+1.4**
	baz=20,SNR=4.6								
EIDS	**Eidsvold**	**20.02**	**169**	P		P	**P**	**23 14 31.1**	**+0.5**
KNRA	**Kununurra**	**20.32**	**239**	P		P	**P**	**23 14 34.0**	**+0.2**
	baz=20,SNR=25								
KNRA	**Kununurra**	**20.32**	**239**	P		P	**P**	**23 14 33.9**	**+0.2**
KNRA	**Kununurra**	**20.32**	**239**	P		P	**P**	**23 14 34.1**	**+0.2**
RMQ	**Roma**	**20.80**	**175**	P		P	**P**	**23 14 41.1**	**+2.2**
	baz=21,SNR=4.5								
SANI	**Sanana**	**21.07**	**279**	P		P	**P**	**23 14 42.6**	**+0.7**
SANI	**Sanana**	**21.07**	**279**	P		P	**P**	**23 14 42.8**	**+0.9**
	39nm,0.6s								
AS01	**Alice Springs**	**21.77**	**213**	P		P	**P**	**23 14 50.4**	**+1.1**
AS31	**Alice Springs**	**21.79**	**213**	P		P	**P**	**23 14 50.5**	**+0.9**
AS31				IAmb		IAmb	IAmb	23 14 51.5	
	comp=Z,18nm,0.3s								
ASAR	**Alice Springs**	**21.80**	**213**	P		P	**P**	**23 14 50.6**	**+1.0**
	comp=Z,15nm,0.6s,baz=47,slow=8.4,SNR=499								
ASAR				S		S	**S**	**23 18 42.7**	**+2.0**
	comp=Z,12nm,0.9s,baz=31,slow=23,SNR=20								
ASAR				ScP			**ScP**	**23 22 05.1**	**-2.1**
	comp=Z,1.0nm,0.8s,baz=38,slow=3.3,SNR=4.8								
	comp=Z,15nm,0.6s								
ASAR	**Alice Springs**	**21.80**	**213**	P		P	**P**	**23 14 50.4**	**+0.8**
KOUNC	**Koumac, New Ca**	**22.52**	**133**	P		P	**P**	**23 14 56.2**	**-0.5**
SOEI	**Soe**	**22.70**	**258**	P		P	**P**	**23 14 58.6**	**0.0**
SOEI				IAmb		IAmb	IAmb	23 15 12.1	
	comp=Z,114nm,0.7s								
SOEI	**Soe**	**22.70**	**258**	P		P	**P**	**23 14 59.7**	**+1.1**
SOEI	**Soe**	**22.70**	**258**	P		P	**P**	**23 14 58.8**	**+0.2**
	comp=Z,181nm,0.8s,comp=Z,1μm								
INKA	**Innaminka**	**22.71**	**194**	P		P	**P**	**23 14 59.8**	**+1.4**
BATI	**Baumata**	**23.36**	**257**	P		P	**P**	**23 15 06.2**	**+1.6**
	comp=Z,173nm,0.5s,baz=141,slow=2.1,SNR=45								
BATI	**Baumata**	**23.36**	**257**	P		P	**P**	**23 15 06.0**	**+1.4**
	comp=Z,256nm,0.7s,comp=Z,3μm								
FITZ	**Fitzroy Crossi**	**24.09**	**237**	P		P	**P**	**23 15 11.7**	**+0.5**
DVP	**Devils Point**	**24.09**	**122**	P		P	**P**	**23 15 10.9**	**-0.2**
BBSI	**Bau Bau**	**24.12**	**269**	P		P	**P**	**23 15 12.2**	**

UGM	**Wanagama**	**36.09 264**	P	**P**	**23 16 56.6**	**-0.5**
MORW	**Morawa**	**37.26 228**	P	**P**	**23 17 07.5**	**+0.7**
	baz=37,SNR=6.9					
MORW	**Morawa**	**37.26 228**	P	**P**	**23 17 07.3**	**+0.6**
MORW			IAmb	IAmb	23 17 07.9	
	comp=Z,15nm,0.6s					
MORW	**Morawa**	**37.26 228**	P	**P**	**23 17 07.4**	**+0.7**
KLBR	**Kellerberrin**	**37.49 223**	P	**P**	**23 17 09.0**	**+0.3**
	baz=38,SNR=34					
KLBR	**Kellerberrin**	**37.49 223**	P	**P**	**23 17 08.8**	**+0.2**
BLDU	**Ballidu**	**37.64 225**	P	**P**	**23 17 10.4**	**+0.5**
	baz=38,SNR=27					
BLDU	**Ballidu**	**37.64 225**	P	**P**	**23 17 10.3**	**+0.5**
YULB	**Yu-li**	**38.13 320**	P	**P**	**23 17 13.2**	**-0.9**
YULB	**Yu-li**	**38.13 320**	P	**P**	**23 17 13.1**	**-1.0**
TPUB	**Ta-pu**	**38.50 319**	P	**P**	**23 17 15.5**	**-1.7**
NACB	**Ninganchiao**	**38.51 321**	P	**P**	**23 17 16.9**	**-0.3**
NACB			IAmb	IAmb	23 17 20.5	
	comp=Z,49nm,1.2s					
SSLB	**Suanglung**	**38.64 320**	P	**P**	**23 17 17.8**	**-0.5**
SSLB			IAmb	IAmb	23 18 35.7	
	comp=Z,98nm,1.6s					
SSLB	**Suanglung**	**38.64 320**	P	**P**	**23 17 17.9**	**-0.5**
NWAO	**Narrogin (SRO)**	**38.66 222**	P	**P**	**23 17 18.9**	**+0.5**
	baz=39,SNR=4.5					
NWAO			P	**P**	**23 17 18.9**	**+0.5**
	baz=39,SNR=4.5					
NWAO	**Narrogin (SRO)**	**38.66 222**	P	**P**	**23 17 18.3**	**-0.1**
NWAO			IAmb	IAmb	23 18 14.3	
	comp=Z,40nm,1.4s					
NWAO	**Narrogin (SRO)**	**38.66 222**	P	**P**	**23 17 18.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**38.66 222**	P	**P**	**23 17 16.0**	**-2.4**
MUN	**Mundaring**	**38.78 224**	P	**P**	**23 17 20.2**	**+0.8**
	baz=39,SNR=9.4					
MUN	**Mundaring**	**38.78 224**	P	**P**	**23 17 20.0**	**+0.6**
BBJI	**Bungbulang**	**38.93 265**	P	**P**	**23 17 19.9**	**-1.1**
YHNB	**Yeheng**	**39.01 322**	P	**P**	**23 17 21.3**	**-0.1**
YHNB	**Yeheng**	**39.01 322**	P	**P**	**23 17 21.4**	**-0.1**
TATO	**Taipei**	**39.16 322**	P	**P**	**23 17 22.5**	**-0.1**
TATO	**Taipei**	**39.16 322**	P	**P**	**23 17 22.9**	**+0.3**
TATO	**Taipei**	**39.16 322**	P	**P**	**23 17 22.6**	**-0.1**
CNJI	**Cibinong**	**39.45 265**	P	**P**	**23 17 25.2**	**0.0**
	comp=Z,60nm,0.9s					
RKGY	**Rocky Gully**	**39.87 220**	P	**P**	**23 17 29.8**	**+1.4**
JNU	**Nakatsue**	**41.42 340**	P	**P**	**23 17 40.3**	**-0.8**
	comp=Z,19nm,0.9s,baz=34,slow=5.3,SNR=5.0					
	comp=Z,19nm,0.9s					
AFI	**Afiamalu**	**41.57 105**	P	**P**	**23 17 41.2**	**-1.5**
	comp=Z,41nm,1.1s,baz=304,slow=2.4,SNR=4.5					
	comp=Z,41nm,1.1s					
TKNZ	**Takaka Hill**	**42.28 150**	P	**P**	**23 17 48.5**	**+0.5**
JHS	**Saijyo**	**42.45 343**	P	**P**	**23 17 50.2**	**+0.8**
MDSI	**Maura Dua**	**42.47 270**	P	**P**	**23 17 49.6**	**-0.4**
	comp=Z,15nm,1.5s					
URZ	**Urewera**	**42.54 144**	P	**P**	**23 17 50.2**	**0.0**
	comp=Z,4.6nm,0.4s,baz=338,slow=4.3,SNR=6.5					
	comp=Z,4.6nm,0.4s					
URZ	**Urewera**	**42.54 144**	P	**P**	**23 17 49.8**	**-0.4**
	comp=Z,8.7nm,0.8s					
RTZ	**Ruatahuna**	**42.71 145**	P	**P**	**23 17 51.4**	**-0.1**
MJAR	**Matsushiro Arr**	**42.74 350**	P	**P**	**23 17 49.7**	**-2.1**
	comp=Z,3.1nm,1.0s,baz=179,slow=7.0,SNR=2.8					
	comp=Z,3.1nm,1.0s					
MNAI	**Manna**	**43.70 270**	P	**P**	**23 17 58.1**	**-1.8**
MNAI	**Manna**	**43.70 270**	P	**P**	**23 17 58.0**	**-1.8**
SDSI	**Sungai Dareh**	**45.53 274**	P	**P**	**23 18 13.6**	**-0.8**
	comp=Z,14nm,0.6s					
NJ2	**Nanjing**	**45.99 326**	*e*P	**P**	**23 18 21.4**	**+3.8**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
KSRS	**Korea Array**	**46.36 339**	P	**P**	**23 18 20.0**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=157,slow=8.9,SNR=12					
	comp=Z,2.2nm,0.4s					
KSRS	**Korea Array**	**46.36 339**	P	**P**	**23 18 20.0**	**-0.4**
KS19	**Wonju Array Si**	**46.43 339**	P	**P**	**23 18 19.9**	**-1.1**
KS19			IAmb	IAmb	23 19 31.3	
	comp=Z,117nm,1.8s					
PDSI	**Padang**	**46.49 274**	P	**P**	**23 18 20.5**	**-1.4**
	comp=Z,15nm,0.6s					
JTM	**Tenmabayashi**	**46.52 354**	P	**P**	**23 18 20.8**	**-0.8**
GSI	**Gunungsitoli**	**49.65 277**	P	**P**	**23 18 44.6**	**-1.5**
GSI			IAmb	IAmb	23 18 45.9	
	comp=Z,12nm,0.8s					
GSI	**Gunungsitoli**	**49.65 277**	P	**P**	**23 18 45.5**	**-0.7**
ASAJ	**Asahikawa**	**49.69 356**	P	**P**	**23 18 45.4**	**-0.5**
	comp=Z,7.9nm,1.0s,baz=290,slow=29,SNR=1.2					
	comp=Z,7.9nm,1.0s					
USRK	**Ussuriysk Ar.**	**51.39 346**	P	**P**	**23 18 58.1**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=189,slow=8.0,SNR=5.3					
	comp=Z,1.4nm,0.5s					
USRK	**Ussuriysk Ar.**	**51.39 346**	P	**P**	**23 18 57.8**	**-0.9**
PHRA	**Phrae**	**51.81 299**	P	**P**	**23 19 02.3**	**+0.1**
HNS	**HongShan**	**52.25 328**	⇓P	**P**	**23 19 04.5**	**-0.7**
HNS			pmax	pmax		
	comp=Z,27nm,0.8s					
MDJ	**Mudanjiang**	**52.38 345**	P	**P**	**23 19 08.8**	**+2.8**
MDJ			sP	sP	23 19 57.9	+1.3
MDJ			PcS	**PcS**	**23 24 13.8**	**+0.5**
MDJ			S	**S**	**23 26 27.9**	**+7.7**
MDJ			sS	sS	23 27 27.5	+8.3
MDJ			pmax	pmax		
	comp=Z,10.0nm,3.2s					
MDJ			pmax	pmax		
	comp=Z,540nm,4.1s					
CMAR	**Chiang Mai Arr**	**52.92 298**	P	**P**	**23 19 10.2**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=120,slow=5.7,SNR=8.1					
	comp=Z,0.6nm,0.3s					
CMAR	**Chiang Mai Arr**	**52.92 298**	P	**P**	**23 19 09.5**	**-0.9**
XAN	**Xi'an**	**53.30 321**	⇑*i*P	**P**	**23 19 12.3**	**-0.7**
XAN			pmax	pmax		
	comp=Z,19nm,0.8s					
XAN	**Xi'an**	**53.30 321**	P	**P**	**23 19 11.9**	**-1.1**
BJT	**Baijiatuan**	**53.50 331**	P	**P**	**23 19 13.1**	**-1.1**
PZH	**PanZhiHua**	**54.10 308**	P	P	23 19 23.9	+4.9
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,170nm,5.1s					
TNCH	**TengChong**	**55.98 305**	P	**P**	**23 19 32.8**	**+0.2**
TNCH			pmax	pmax		
	comp=Z,84nm,6.6s					
HHC	**Hu-ho-hao-te**	**56.44 328**	*e*P	**P**	**23 19 39.8**	**+4.3**
HHC			pmax	pmax		
	comp=Z,20nm,0.7s					
HHC			pmax	pmax		
	comp=Z,270nm,5.0s					
XLT	**XiLinHaoTe**	**56.58 334**	*e*P	**P**	**23 19 35.9**	**-0.5**
XLT			PcP	**PcP**	**23 20 33.8**	**+2.6**
XLT			S	**S**	**23 27 17.3**	**+0.6**
XLT			pmax	pmax		
	comp=Z,49nm,1.5s					
XLT			pmax	pmax		
	comp=Z,240nm,3.6s					
LZH	**Lanzhou**	**57.83 319**	*e*P	P	23 19 52.8	+7.4
LZH			pP	pwP	23 20 22.8	+0.6
LZH			pmax	pmax		
	comp=Z,9.0nm,1.5s					
GTA	**Gaotai**	**62.36 320**	*e*P	**P**	**23 20 15.8**	**-0.4**
GTA			pP	PcP	23 20 54.1	-0.3
GTA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
LSA	**Lhasa**	**63.88 307**	P	**P**	**23 20 26.6**	**-0.3**
GOMU	**GeErMu**	**64.02 315**	P	**P**	**23 20 28.6**	**+1.1**
GOMU			pmax	pmax		
	comp=Z,90nm,4.8s					
SEY	**Seymchan**	**68.53 3**	P	**P**	**23 20 54.6**	**-0.6**
	comp=Z,1.3nm,0.2s,baz=231,slow=7.4,SNR=4.0					
	comp=Z,1.3nm,0.2s					
CCD	**Concordia, Ant**	**70.69 186**	P	**P**	**23 21 11.8**	**+2.9**
VNDA	**Vanda**	**72.26 177**	P	**P**	**23 21 18.0**	**+0.3**
VNDA			IAmb	IAmb	23 23 49.1	
	comp=Z,39nm,1.8s					
WMQ	**Urumqi**	**72.41 319**	*e*P	**P**	**23 21 21.8**	**+2.5**
MK31	**Makanchi Array**	**77.11 320**	P	**P**	**23 21 44.8**	**-1.5**
MKAR	**Makanchi Array**	**77.11 320**	P	**P**	**23 21 44.8**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=98,slow=7.8,SNR=6.5					
	comp=Z,0.8nm,0.5s					
MKAR	**Makanchi Array**	**77.11 320**	P	**P**	**23 21 44.3**	**-1.9**
MAKZ	**Makanchi**	**77.32 320**	P	**P**	**23 21 45.8**	**-1.6**
L19K	**White Mountain**	**80.88 24**	P	**P**	**23 22 06.2**	**-0.2**
L19K			IAmb	IAmb	23 22 17.5	
	comp=Z,29nm,1.6s					
AAK	**Ala-Archa**	**80.97 315**	P	**P**	**23 22 06.6**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=172,slow=3.6,SNR=3.8					
	comp=Z,1.6nm,0.8s					

M20K	**Styx River**	**81.43**	**25**	P	**P**	**23 22 09.2**	**-0.2**
M20K				IAmb	IAmb	23 24 29.7	
	comp=Z,51nm,1.9s						
PPLA	**Purkeypile**	**82.30**	**24**	P	**P**	**23 22 14.2**	**+0.1**
PPLA				IAmb	IAmb	23 25 08.7	
	comp=Z,64nm,1.8s						
CAST	**Castle Rocks**	**82.60**	**23**	P	**P**	**23 22 15.1**	**-0.3**
CAST				IAmb	IAmb	23 22 56.1	
	comp=Z,30nm,1.9s						
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**23 22 23.3**	**-0.9**
ILAR	**Eielson Array**	**85.24**	**23**	P	**P**	**23 22 26.6**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=251,slow=4.5,SNR=11						
	comp=Z,1.2nm,0.8s						
BVAR	**Borovoye Array**	**86.38**	**324**	P	**P**	**23 22 32.5**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=115,slow=6.5,SNR=1.9						
	comp=Z,0.7nm,0.4s						
YBH	**Yreka Blue Hor**	**94.08**	**49**	P	**P**	**23 23 11.0**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=40,slow=2.6,SNR=4.4						
	comp=Z,1.6nm,0.9s						
NVAR	**Mina Array Bea**	**97.31**	**52**	P	**P**	**23 23 25.8**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=256,slow=7.3,SNR=4.4						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**103.83**	**47**	Pdiff	**Pdif**	**23 23 53.1**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=194,slow=1.5,SNR=3.9						
CLL	**Colim**	**120.57**	**328**	*e*PKPdf	**PKiKP**	**23 28 44.0**	**+0.7**
LPAZ	**La Paz**	**139.13**	**123**	PKP	**PKPdf**	**23 29 20.9**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=246,slow=14,SNR=2.1						
TORD	**Torodi Ar. Bea**	**144.82**	**285**	PKP	**PKPab**	**23 29 27.5**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=79,slow=3.7,SNR=2.7						
PTLB	**Pontes e Lacer**	**146.83**	**130**		**PKPdf**	**23 29 33.6**	**+0.7**
DBIC	**Dimbokro**	**151.81**	**274**	PKPbc	**PKPbc**	**23 29 45.7**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=313,slow=2.1,SNR=3.9						
BDFB	**Brasilia**	**154.25**	**145**	PKPbc	**PKPbc**	**23 29 51.3**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=193,slow=3.7,SNR=4.9						

BJI ***14*** *23:13:31.6±0.0,54.°94N×111.°65E,h13km,mb3.9/6, mB4.5/2,Ms4.2/1*
IDC ***14*** *23:13:31.7±0.7,54.°85N×111.°23E,h0km,mb3.7/18, mbtmp3.8/22,ML3.8/4,MS3.4/11,Error ellipse: s-maj=17.0km s-min=13.5km az=150.0*
MOS ***14*** *23:13:32.0±1.1,54.°80N×111.°29E,h11km,mb4.0/4,Error ellipse: s-maj=8.6km s-min=5.4km az=75.3*
MOS Felt (IV) at Ulyunkhan.
BYKL ***14*** *23:13:34.5±0.1,54.°87N×111.°24E,h20km±2km,FELT I=IV MSK at Ulyunkhan*
NEIC ***14*** *23:13:34.0±2.0,54.°90N±0.°10×111.°2E±0.°2,h15km±5km, mb4.1/13,Error ellipse: s-maj=14.0km s-min=13.3km az=137.0*

ISC 14 23:13:34.2±0.7,54.°89N±0.°02×111.°26E±0.°02,h16km±4km, n127,σ2ϕ40/209,mb3.8/21,MS3.6/7,16C-11D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.06**	**253**	⇓*i*Pg		**Pg**	**23 13 38.0**	**+0.7**
YLYR				*e*Sg		**Sg**	**23 13 40.4**	**+1.0**
YLYR	**Ulyunkhan**	**0.06**	**253**	⇓*i*PG		**Pg**	**23 13 38.0**	**+0.7**
YLYR				*e*			23 13 40.6	
YLYR				pmax	pmax			
	comp=Z,44μm,0.1s							
YLYR				smax	smax			
	comp=N,232μm,0.2s							
KMO	**Kumora**	**1.00**	**358**	⇑*i*Pg		**Pb**	**23 13 52.8**	**-0.3**
KMO				Pmax			23 13 53.2	
	comp=N,6μm,0.3s							
KMO				*e*Pb		**Pn**	**23 13 55.4**	**+1.9**
KMO				*e*Sg		**Sg**	**23 14 06.3**	**-0.2**
KMO				Smax			23 14 07.3	
	comp=N,24μm,0.7s							
KMO	**Kumora**	**1.00**	**358**	*e*PG		**Pb**	**23 13 52.8**	**-0.3**
KMO				*e*			23 14 04.4	
KMO				pmax	pmax			
	comp=Z,6μm,0.3s							
KMO				smax	smax			
	comp=N,24μm,0.7s							
YOA	**Uoyan**	**1.27**	**12**	⇑*i*Pg		**Pb**	**23 13 57.9**	**+0.2**
YOA				*e*Pb		**Pg**	**23 13 59.0**	**+0.4**
YOA				max			23 13 59.5	
	comp=N,7μm,0.3s							
YOA				*e*Sg		**Sg**	**23 14 16.0**	**+0.8**
YOA				*e*Sb		**Sn**	**23 14 17.9**	**+3.9**
YOA				max			23 14 19.5	
	comp=N,35μm,0.4s							
YOA	**Uoyan**	**1.27**	**12**	⇑*i*PG		**Pb**	**23 13 58.0**	**+0.2**
YOA				*e*			23 14 16.0	
YOA				pmax	pmax			
	comp=Z,2μm,0.2s							
YOA				smax	smax			
	comp=N,35μm,0.4s							
NIZ	**Nizh Angarsk**	**1.32**	**313**	⇑*i*Pg		**Pb**	**23 13 58.4**	**-0.2**
	comp=N,456nm,0.6s							
NIZ				⇓*i*Pg		**Pb**	**23 13 58.4**	**-0.2**
	comp=N,313nm,0.6s							
NIZ				⇑*i*Pg		**Pb**	**23 13 58.4**	**-0.2**
	comp=N,2μm,0.6s							
NIZ				Pmax			23 13 59.0	
	comp=N,2μm,0.3s							
NIZ				*e*Pb		**Pg**	**23 13 59.8**	**+0.1**
NIZ				*e*			23 14 02.5	
NIZ				*e*Sg		**Sg**	**23 14 16.1**	**-0.8**
NIZ				Smax			23 14 17.2	
	comp=N,4μm,0.2s							
NIZ				*e*Sb		**Sn**	**23 14 19.3**	**+4.0**
NIZ	**Nizh Angarsk**	**1.32**	**313**	⇑*i*PG		**Pb**	**23 13 58.4**	**-0.2**
NIZ				*e*			23 14 14.4	
NIZ				pmax	pmax			
	comp=Z,2μm,0.4s							
NIZ				smax	smax			
	comp=E,5μm,0.2s							
SYVR	**Suvo**	**1.44**	**211**	⇓*i*Pg		**Pn**	**23 14 00.1**	**+0.5**
SYVR				*e*			23 14 07.3	
SYVR				max			23 14 08.5	
	comp=E,777nm,0.4s							
SYVR				*e*Sg		**Sb**	**23 14 19.7**	**+0.9**
SYVR				Smax			23 14 21.8	
	comp=E,8μm,0.5s							
SYVR	**Suvo**	**1.44**	**211**	⇓*i*PG		**Pn**	**23 14 00.1**	**+0.5**
SYVR				*e*			23 14 20.4	
SYVR				pmax	pmax			
	comp=Z,777nm,0.3s							
SYVR				smax	smax			
	comp=E,9μm,0.6s							
UKT	**Uakit**	**1.48**	**65**	⇑*i*Pg		**Pb**	**23 14 01.2**	**-0.1**
	comp=E,389nm,0.5s							
UKT				⇑*i*Pg		**Pb**	**23 14 01.2**	**-0.1**
	comp=E,1μm,0.5s							
UKT				⇑*i*Pg		**Pb**	**23 14 01.2**	**-0.1**
	comp=E,737nm,0.5s							
UKT				*e*			23 14 08.9	
UKT				max			23 14 10.1	
	comp=E,1μm,0.8s							
UKT				*e*Sg		**Sg**	**23 14 21.2**	**-0.7**
UKT				Smax			23 14 23.5	
	comp=E,5μm,0.9s							
UKT	**Uakit**	**1.48**	**65**	⇑*i*PG		**Pb**	**23 14 01.2**	**-0.1**
UKT				*e*			23 14 21.4	
UKT				pmax	pmax			
	comp=Z,898nm,0.4s							
UKT				smax	smax			
	comp=N,4μm,0.3s							
SVKR	**Severomuysk**	**1.79**	**46**	⇑*i*Pn		**Pb**	**23 14 06.6**	**0.0**
SVKR				*e*Pg		**Pg**	**23 14 07.4**	**-1.2**
SVKR				Pmax			23 14 07.6	
	comp=N,2μm,0.3s							
SVKR				*e*			23 14 30.5	
SVKR				*e*Sg		**Sg**	**23 14 32.2**	**+0.4**
SVKR				Smax			23 14 33.2	
	comp=N,16μm,0.4s							
SVKR	**Severomuysk**	**1.79**	**46**	⇑*i*PN		**Pb**	**23 14 06.6**	**0.0**
SVKR				*e*			23 14 07.5	
SVKR				*e*S		**Sg**	**23 14 30.4**	**-1.4**
SVKR				*e*			23 14 31.6	
SVKR				pmax	pmax			
	comp=Z,3μm,0.6s							
SVKR				smax	smax			
	comp=N,16μm,0.5s							
MXMB	**Maximikha**	**2.21**	**223**	⇓*i*Pn		**Pn**	**23 14 10.8**	**+0.7**
MXMB				*e*Pg		**Pb**	**23 14 13.4**	**-0.3**
MXMB				*e*Sn		**Sn**	**23 14 37.8**	**+0.7**
MXMB				*e*Sg		**Sb**	**23 14 42.6**	**+1.8**
OGRR	**Ongureny**	**2.49**	**241**	*e*PN		**Pg**	**23 14 20.8**	**-1.1**
OGRR				*e*			23 14 50.8	
OGRR				pmax	pmax			
	comp=Z,391nm,0.4s							
OGRR				smax	smax			
	comp=E,1μm,0.7s							
KELR	**Kotokel**	**2.85**	**223**	*e*Pn		**Pn**	**23 14 19.1**	**+0.1**
KELR				*e*Pg		**Pb**	**23 14 25.2**	**+0.5**
KELR				*e*PgPg		**PnPn**	**23 14 27.1**	**+1.0**
KELR				*e*Sn		**Sn**	**23 14 52.8**	**-0.2**
KELR				*e*Sg		**Sg**	**23 15 03.6**	**-2.1**
NLYR	**Nelyaty**	**2.98**	**56**	*e*Pn		**Pn**	**23 14 22.0**	**+1.2**
NLYR				*e*Pg		**Pb**	**23 14 28.0**	**+1.2**
NLYR				*e*PgPg		Pg	**23 14 36.8**	**+5.6**
NLYR				max			23 14 40.0	
	comp=E,309nm,0.5s							
NLYR				*e*Sn		**Sn**	**23 14 55.3**	**-0.8**
NLYR				*e*Sg		**Sg**	**23 15 07.2**	**-2.6**
NLYR				*e*SgSg		**SbSb**	**23 15 14.4**	**+6.3**
NLYR				max			23 15 15.7	
	comp=E,3μm,0.9s							
NLYR	**Nelyaty**	**2.98**	**56**	*e*PN		**Pn**	**23 14 21.9**	**+1.2**
NLYR				*e*			23 14 26.9	
NLYR				*e*			23 15 06.1	
NLYR				pmax	pmax			
	comp=Z,291nm,0.7s							
NLYR				smax	smax			
	comp=N,3μm,0.9s							
CIT	**Chita**	**3.19**	**154**	*e*Pn		**Pn**	**23 14 23.8**	**+0.2**
CIT				*e*Pg		**Pb**	**23 14 31.7**	**+1.3**
CIT				Pmax			23 14 32.6	
	comp=N,530nm,0.4s							
CIT				*e*Sn		**Sn**	**23 14 59.9**	**-1.4**
CIT				*e*Sg		**Sb**	**23 15 12.3**	**+3.3**
CIT				*e*SgSg		**Sg**	**23 15 18.5**	**+2.0**
CIT				max			23 15 20.5	
	comp=N,5μm,0.5s							
CIT	**Chita**	**3.19**	**154**	*e*PN		**Pn**	**23 14 23.3**	**-0.3**
CIT				*e*			23 14 31.4	
CIT				*e*			23 15 12.1	
CIT				pmax	pmax			
	comp=Z,317nm,1.3s							
CIT				smax	smax			
	comp=E,2μm,0.7s							
BOD	**Bodaibo**	**3.31**	**26**	*e*Pn		**Pn**	**23 14 25.9**	**+0.7**
BOD				*e*			23 14 31.1	
BOD				*e*Pg		**Pb**	**23 14 34.4**	**+2.0**
BOD				Pmax			23 14 41.3	
	comp=E,228nm,0.8s							
BOD				*e*Sn		**Sn**	**23 15 05.4**	**+1.3**
BOD				*e*Sg		**Sg**	**23 15 16.5**	**-3.7**
BOD				Smax			23 15 21.4	
	comp=E,2μm,0.7s							
BOD	**Bodaibo**	**3.31**	**26**	*e*PN		**Pn**	**23 14 25.7**	**+0.5**
BOD				*e*			23 14 33.7	
BOD				*e*			23 15 17.4	
BOD				pmax	pmax			
	comp=Z,158nm,0.5s							
BOD				smax	smax			
	comp=E,2μm,0.7s							
ZRHB	**Zarechye**	**3.38**	**228**	*e*Pn		**Pn**	**23 14 27.8**	**+1.5**
ZRHB				*e*Pg		**Pb**	**23 14 35.2**	**+1.4**
ZRHB				*e*			23 14 42.1	
ZRHB				*e*			23 14 55.8	
ZRHB				max			23 14 57.3	
	comp=E,494nm,0.7s							
ZRHB				*e*Sn		**Sn**	**23 15 05.9**	**-0.2**
ZRHB				*e*Sg		**Sg**	**23 15 19.7**	**-3.1**
ZRHB				*e*SgSg		**SbSb**	**23 15 26.3**	**+6.6**
ZRHB				max			23 15 36.3	
	comp=E,3μm,1.0s							
TRG	**Tyrgan**	**3.61**	**236**	*e*Pn		**Pn**	**23 14 30.1**	**+0.6**
TRG				*e*			23 14 30.5	
TRG				*e*			23 14 36.5	
TRG				*e*Pg		**Pb**	**23 14 39.1**	**+1.5**
TRG				Pmax			23 14 51.8	
	comp=E,82nm,0.4s							
TRG				*e*Sn		**Sn**	**23 15 11.6**	**-0.2**
TRG				*e*Sg		**Sb**	**23 15 25.7**	**+4.5**
TRG				*e*SgSg		**Sg**	**23 15 29.4**	**-0.7**
TRG				max			23 15 29.9	
	comp=E,872nm,0.5s							
TRG	**Tyrgan**	**3.61**	**236**	*e*PN		**Pn**	**23 14 30.1**	**+0.6**
TRG				*e*			23 14 37.6	
TRG				*e*S		**Sn**	**23 15 10.2**	**-1.6**
TRG				*e*			23 15 24.6	
TRG				pmax	pmax			
	comp=Z,84nm,0.4s							
TRG				smax	smax			
	comp=N,872nm,0.3s							
FFNB	**Fofonovo**	**3.92**	**225**	*e*Pn		**Pn**	**23 14 35.1**	**+1.4**
FFNB				*e*Pg		**Pb**	**23 14 45.2**	**+2.3**
FFNB				*e*			23 14 49.3	
FFNB				*e*			23 15 21.4	
FFNB				*e*Sg		**Sg**	**23 15 36.2**	**-3.7**
KAB	**Kabansk**	**3.96**	**226**	*e*Pg		**Pb**	**23 14 45.4**	**+1.8**
KAB				*e*			23 14 54.3	
KAB				max			23 14 55.0	
	comp=N,220nm,0.4s							
KAB				*e*Sn		**Sn**	**23 15 19.0**	**-1.3**
KAB				*e*Sg		**Sb**	**23 15 36.6**	**+5.4**
KAB				*e*			23 15 51.1	
KAB				max			23 16 07.3	
	comp=N,3μm,1.2s							
STDB	**Stepnoy Dvoret**	**4.00**	**229**	*e*Pn		**Pn**	**23 14 36.6**	**+1.9**
STDB				*e*Pg		**Pb**	**23 14 46.3**	**+2.1**
STDB				*e*Sn		**Sn**	**23 15 21.3**	**+0.1**
STDB				*e*Sg		**Sb**	**23 15 37.5**	**+5.2**
CRS	**Chara**	**4.43**	**60**	*e*Pn		**Pn**	**23 14 42.0**	**+1.4**
CRS				*e*Pg		**Pb**	**23 14 54.5**	**+3.0**
CRS				Pmax			23 14 56.7	
	comp=N,228nm,0.8s							
CRS				*e*Sn		**Sn**	**23 15 31.6**	**-0.2**
CRS				*e*Sg		**Sg**	**23 15 52.2**	**-3.9**
CRS				*e*			23 16 05.5	
CRS				max			23 16 06.1	
	comp=N,760nm,1.1s							
CRS	**Chara**	**4.43**	**60**	*e*PN		**Pn**	**23 14 41.8**	**+1.2**
CRS				*e*			23 14 55.0	
CRS				*e*			23 15 51.3	
CRS				pmax	pmax			
	comp=Z,226nm,0.8s							
CRS				smax	smax			
	comp=E,757nm,1.1s							
BGT	**Bolshoye Golou**	**4.51**	**233**	*e*Pn		**Pn**	**23 14 42.1**	**+0.3**
BGT				*e*Pg		**Pb**	**23 14 55.1**

TUP					*e*Sg	**Sg**	**23 16 11.4**	**-5.3**	
TUP					Smax		23 16 22.5		
	comp=N,1μm,0.8s								
TUP	**Tupik**	**5.07**	**92**	*e*PN	**Pn**		**23 14 49.7**	**+0.3**	
TUP				*e*			23 15 03.6		
TUP				*e*			23 16 12.7		
TUP				pmax	pmax				
	comp=Z,66nm,0.5s								
TUP				smax	smax				
	comp=N,1μm,0.6s								
IVK	**Ivanovka**	**5.14**	**236**	*e*Pn	**Pn**		**23 14 50.7**	**+0.3**	
IVK				*e*Pg	**Pb**		**23 15 05.7**	**+2.0**	
IVK				*e*			23 15 14.8		
IVK				max			23 15 16.9		
	comp=N,35nm,0.7s								
IVK				*e*Sn	**Sn**		**23 15 48.2**	**-1.2**	
IVK				*e*Sg	**Sg**		**23 16 12.5**	**-6.6**	
IVK				Smax			23 16 17.5		
	comp=N,387nm,0.8s								
IVK				*e*			23 16 24.5		
KPC	**Khapcheranga**	**5.24**	**172**	⇓*i*Pn	**Pn**		**23 14 51.2**	**-0.7**	
KPC				*e*			23 14 58.8		
KPC				*e*Pg	**Pb**		**23 15 08.9**	**+3.5**	
KPC				Pmax			23 15 36.3		
	comp=N,71nm,0.7s								
KPC				*e*			23 16 00.6		
KPC				*e*Sg	**Sg**		**23 16 16.3**	**-6.1**	
KPC				Smax			23 16 20.4		
	comp=N,1μm,0.9s								
KPC				*e*			23 16 26.0		
KPC	**Khapcheranga**	**5.24**	**172**	*e*PN	**Pn**		**23 14 51.1**	**-0.8**	
KPC				*e*			23 15 06.6		
KPC				*e*			23 16 15.0		
KPC				pmax	pmax				
	comp=Z,51nm,0.4s								
KPC				smax	smax				
	comp=E,1μm,0.9s								
KHNR	**Khani**	**5.31**	**64**	*e*Pn	**Pn**		**23 14 54.5**	**+1.8**	
KHNR				*e*			23 15 02.6		
KHNR				*e*Pg	**Pb**		**23 15 10.3**	**+3.8**	
KHNR				*e*Sn	**Sn**		**23 15 52.3**	**-1.2**	
KHNR				*e*Sg	**Sg**		**23 16 19.4**	**-5.0**	
TLY	**Talaya**	**5.59**	**238**	*e*Pn	**Pn**		**23 14 56.5**	**-0.1**	
TLY				*e*Pg	**Pb**		**23 15 13.8**	**+2.5**	
TLY				*e*			23 15 26.4		
TLY				max			23 15 27.7		
	comp=E,42nm,0.6s								
TLY				*e*Sn	**Sn**		**23 15 58.1**	**-2.3**	
TLY				*e*Sg	**Sb**		**23 16 25.6**	**+7.6**	
TLY				Smax			23 16 32.6		
	comp=E,359nm,0.6s								
ARS	**Arshan**	**6.07**	**244**	*e*PN	**Pn**		**23 15 03.4**	**+0.2**	
ARS				*e*			23 16 39.9		
ARS				pmax	pmax				
	comp=Z,118nm,0.5s								
ARS				smax	smax				
	comp=E,2μm,0.7s								
YKLR	**Yuktali**	**6.11**	**70**	*e*Pn	**Pn**		**23 15 04.5**	**+0.8**	
YKLR				*e*Pg	**Pb**		**23 15 24.1**	**+4.0**	
YKLR				*e*Sn	**Sn**		**23 16 11.7**	**-1.5**	
YKLR				*e*Sg	**Sg**		**23 16 44.5**	**-5.6**	
YKLR				*e*			23 17 01.6		
ZAK	**Zakamensk**	**6.63**	**230**	*e*Pn	**Pn**		**23 15 12.0**	**+1.0**	
ZAK				*e*Pg	Pb		23 15 34.1	+5.0	
ZAK				Pmax			23 16 15.9		
	comp=E,33nm,0.8s								
ZAK				*e*Sg	**Sg**		**23 17 00.3**	**-6.6**	
ZAK				*e*			23 17 05.3		
ZAK				max			23 17 08.5		
	comp=E,219nm,0.7s								
ZAK	**Zakamensk**	**6.63**	**230**	*e*PN	**Pn**		**23 15 13.3**	**+2.3**	
ZAK				*e*			23 15 35.0		
ZAK				*e*			23 17 00.9		
ZAK				pmax	pmax				
	comp=Z,21nm,0.6s								
ZAK				smax	smax				
	comp=N,220nm,0.6s								
MOY	**Mondy**	**6.95**	**247**	*e*Pn	**Pn**		**23 15 17.3**	**+1.9**	
MOY				*e*			23 15 26.4		
MOY				max			23 15 48.0		
	comp=N,48nm,0.8s								
MOY				*e*Sn	**Sn**		**23 16 31.2**	**-3.0**	
MOY				*e*Sg	**Sg**		**23 17 08.5**	**-8.7**	
MOY				Smax			23 17 27.6		
	comp=N,583nm,1.4s								
MOY	**Mondy**	**6.95**	**247**	*e*PN	**Pn**		**23 15 17.3**	**+1.9**	
MOY				*e*S	**Sg**		**23 17 08.4**	**-8.7**	
MOY				smax	smax				
	comp=E,580nm,1.5s								
ORL	**Orlik**	**7.20**	**256**	*e*Pn	**Pn**		**23 15 19.8**	**+1.1**	
ORL				max			23 15 32.2		
	comp=E,82nm,1.4s								
ORL				*e*Sn	**Sn**		**23 16 37.2**	**-2.9**	
ORL				*e*Sg	Sg		23 17 15.9	-9.0	
ORL				Smax			23 17 25.1		
	comp=E,358nm,1.4s								
ORL	**Orlik**	**7.20**	**256**	*e*PN	**Pn**		**23 15 20.3**	**+1.6**	
ORL				*e*			23 15 43.8		
ORL				*e*S	**Sn**		**23 16 38.9**	**-1.2**	
ORL				*e*			23 17 16.0		
ORL				pmax	pmax				
	comp=E,84nm,1.0s								
ORL				smax	smax				
	comp=N,333nm,1.5s								
ULN	**Ulaanbaatar**	**7.51**	**202**			**Pn**	**23 15 23.0**	**-0.1**	
ULN	**Ulaanbaatar**	**7.51**	**202**	*de*PN	**Pn**		**23 15 23.4**	**+0.3**	
ULN				pmax	pmax				
	comp=Z,2.0nm,0.5s								
HIA	**Hailar**	**7.68**	**134**	Pn	**Pn**		**23 15 22.9**	**-2.3**	
HIA	**Hailar**	**7.68**	**134**	PN	**Pn**		**23 15 23.0**	**-2.3**	
SONM	**Songino Array**	**7.70**	**205**	Pn	**Pn**		**23 15 25.7**	**+0.1**	
	comp=Z,6.2nm,0.3s,baz=20,slow=14,SNR=148								
SONM				Sn	**Sn**		**23 16 51.2**	**-1.2**	
	comp=Z,9.7nm,0.3s,baz=26,slow=15,SNR=4.5								
SONM				Lg	Lg		23 17 34.6		
	comp=Z,20nm,0.3s,baz=16,slow=29,SNR=24								
	comp=Z,8.8nm,0.3s								
SONM	**Songino Array**	**7.70**	**205**			**Pn**	**23 15 25.6**	**0.0**	
IENR	**Iengra**	**7.82**	**75**	*e*Pn	**Pn**		**23 15 27.2**	**-0.1**	
IENR				*e*			23 15 35.2		
IENR				*e*Pg	Pb		23 15 55.1	+5.8	
IENR				*e*Sn	**Sn**		**23 16 52.9**	**-2.5**	
IENR				*e*Sg	Sb		23 17 36.7	+14	
CLNS	**Chul'man**	**7.91**	**70**	*e*Pn	**Pn**		**23 15 29.1**	**+0.7**	
CLNS				*e*Sn	**Sn**		**23 16 54.7**	**-2.8**	
CLNS				*e*Sg	Sb		23 17 40.5	+16	
CLNS				*e*			23 18 10.2		
KNGR	**Kungurtug, Tuv**	**9.38**	**248**	*e*	Pn		23 16 03.2	+15	
KNGR				*e*Sg	Sn		23 18 22.9	+49	
KNGR				*e*			23 18 30.5		
ZEA	**Zeya**	**9.42**	**91**	*e*P	**Pn**		**23 15 51.5**	**+2.5**	
ZEA				*e*			23 17 45.3		
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.7s								
ZEA				MLR	MLR				
	comp=E,200nm,4.0s								
ZEA				MLR	MLR				
	comp=Z,300nm,6.0s								
KZLR	**Kyzyl**	**10.55**	**259**	*e*Sg	Sn		23 19 00.5	+58	
HEH	**HeiHe**	**10.86**	**109**	*e*P	**Pn**		**23 16 09.8**	**+1.0**	
HEH				S	**Sn**		**23 18 12.3**	**+2.4**	
YAK	**Yakutsk**	**11.97**	**46**	Lg	Lg		23 19 42.6		
	comp=Z,0.1nm,0.3s,baz=287,slow=22,SNR=4.6								
YAK	**Yakutsk**	**11.97**	**46**	*e*P	Pn		23 16 39.7	+16	
YAK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,2.0nm,1.0s								
YAK				pmax	pmax				
	comp=N,135nm,1.3s								
YAK				pmax	pmax				
	comp=E,25nm,0.6s								
YAK				pmax	pmax				
	comp=Z,54nm,1.0s								
KLR	**Kul'dur**	**13.80**	**106**	Pn	**Pn**		**23 16 48.9**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=304,slow=14,SNR=7.0								
KLR				Lg	Lg		23 20 44.7		
	comp=Z,0.5nm,0.3s,baz=56,slow=21,SNR=3.8								
	comp=Z,1.8nm,0.6s								
KLR	**Kul'dur**	**13.80**	**106**	⇓*e*P	**Pn**		**23 16 47.6**	**-1.3**	
KLR				pmax	pmax				
	comp=Z,2.0nm,1.3s								
BJT	**Baijiatuau**	**15.24**	**166**	P	**P**		**23 17 13.9**	**+0.5**	
BJT	**Baijiatuau**	**15.24**	**166**	P	**P**		**23 17 13.9**	**+0.5**	
BJT				pmax	pmax				
	comp=Z,18nm,1.2s								
ZAA0	**Zalesovo Array**	**15.39**	**277**			**Pn**	**23 17 09.0**	**-1.4**	
ZALV	**Zalesovo Beam**	**15.39**	**277**	Pn	**Pn**		**23 17 09.8**	**-0.6**	
	comp=Z,0.6nm,0.3s,baz=80,slow=10,SNR=39								
ZALV				Lg	Lg		23 21 33.8		
	baz=75,slow=24,SNR=1.9								
ZALV				LR	LR		23 23 47.7		
	comp=Z,22nm,21.0s,baz=68,slow=40								
	comp=Z,8.4nm,0.7s								
ZALV	**Zalesovo Beam**	**15.39**	**277**			**Pn**	**23 17 09.0**	**-1.4**	
ZALV	**Zalesovo Beam**	**15.39**	**277**	*i* P	**Pn**		**23 17 09.8**	**-0.6**	
ZALV				pmax	pmax				
	comp=Z,9.0nm,0.7s								
DGZ	**Jazzator, Alta**	**15.44**	**260**	⇑*e*P	**Pn**		**23 17 10.3**	**-1.0**	
USRK	**Ussuriysk Ar.**	**17.12**	**120**	Lg	Lg		23 22 34.0		
	comp=Z,0.2nm,0.3s,baz=335,slow=30,SNR=6.0								
GTA	**Gaotai**	**17.30**	**211**	*e*P	**P**		**23 17 37.1**	**+0.8**	
GTA				sP	sP		23 17 47.1	+3.8	
GTA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
NRIK	**Noril'sk**	**18.04**	**333**	P	**Pn**		**23 17 40.8**	**-3.0**	
	comp=Z,6.1nm,0.6s,baz=134,slow=13,SNR=12								
NRIK				S	Sn		23 20 46.8	-18	
	comp=Z,2.1nm,0.6s,baz=118,slow=15,SNR=1.4								
NRIK				Lg	Lg		23 22 55.2		
	comp=Z,0.4nm,0.3s,baz=214,slow=9.1,SNR=2.2								
NRIK				LR	LR		23 25 16.6		
	comp=Z,148nm,21.0s,baz=138,slow=39								
NRIK	**Noril'sk**	**18.04**	**333**			**Pn**	**23 17 40.8**	**-3.0**	
NRIK	**Noril'sk**	**18.04**	**333**	⇑*e*P	**Pn**		**23 17 41.0**	**-2.8**	
NRIK				pmax	pmax				
	comp=Z,6.0nm,0.7s								
TIXI	**Tiksi**	**18.44**	**18**	P	**P**		**23 17 45.6**	**-3.0**	
	comp=Z,2.0nm,0.3s,baz=271,slow=13,SNR=10								
TIXI				S	**Sn**		**23 21 08.7**	**-5.4**	
	comp=Z,1.6nm,0.3s,baz=90,slow=24,SNR=1.6								
TIXI				Lg	Lg		23 23 07.7		
	comp=Z,25nm,0.3s,baz=270,slow=24,SNR=4.3								
TIXI				LR	LR		23 25 12.6		
	comp=Z,76nm,21.3s,baz=278,slow=38								
TIXI	**Tiksi**	**18.44**	**18**	P	**P**		**23 17 47.6**	**-0.9**	
TIXI				IAmb	IAmb		23 18 01.1		
	comp=Z,8.3nm,0.6s								
TIXI	**Tiksi**	**18.44**	**18**	⇑*e*P	**Pn**		**23 17 49.2**	**+0.5**	
TIXI				pmax	pmax				
	comp=Z,8.0nm,1.3s								
MK31	**Makanchi Array**	**19.89**	**258**	P	**P**		**23 18 04.2**	**-0.5**	
MK31	**Makanchi Array**	**19.89**	**258**	*de*P	**P**		**23 18 05.2**	**+0.5**	
MKAR	**Makanchi Array**	**19.89**	**258**	P	**Pn**		**23 18 05.8**	**-0.6**	
	comp=Z,0.2nm,0.3s,baz=69,slow=11,SNR=15								
MKAR				Lg	Lg		23 24 03.4		
	baz=22,slow=41,SNR=1.9								
MKAR				LR	LR		23 26 11.7		
	comp=Z,67nm,19.4s,baz=58,slow=38								
	comp=Z,0.7nm,0.5s								
MKAR	**Makanchi Array**	**19.89**	**258**	P	**P**		**23 18 05.2**	**+0.6**	
KURK	**Kurchatov**	**20.06**	**271**	P	**P**		**23 18 05.3**	**-1.1**	
KURK				IAmb	IAmb		23 18 14.2		
	comp=Z,5.9nm,0.8s								
KURK	**Kurchatov**	**20.06**	**271**	P	Pn		23 18 07.8	-0.4	
MAKZ	**Makanchi**	**20.06**	**258**	P	**P**		**23 18 05.6**	**-0.9**	
MAKZ	**Makanchi**	**20.06**	**258**	P	**P**		**23 18 05.6**	**-0.9**	
MAKZ				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KURBB	**Kurchatov Arra**	**20.15**	**271**	P	**P**		**23 18 07.8**	**+0.3**	
	comp=Z,1.4nm,0.4s,baz=65,slow=11,SNR=16								
KURBB				Lg	Lg		23 24 07.0		
	baz=63,slow=32,SNR=1.6								
KURBB				LR	LR		23 26 20.5		
	comp=Z,102nm,21.3s,baz=177,slow=38								
	comp=Z,1.4nm,0.4s								
SEY	**Seymchan**	**22.34**	**52**	P	**P**		**23 18 33.0**	**+2.1**	
	comp=Z,1.9nm,0.2s,baz=187,slow=24,SNR=2.2								
SEY				Lg	Lg		23 25 19.1		
	comp=Z,0.3nm,0.3s,baz=7.2,slow=23,SNR=2.6								
	comp=Z,1.9nm,0.2s								
BVAR	**Borovoye Array**	**23.88**	**282**	P	**P**		**23 18 47.6**	**+0.9**	
	comp=Z,4.0nm,0.6s,baz=64,slow=8.2,SNR=3.6								
	comp=Z,4.0nm,0.6s								
BRVK	**Borovoye**	**23.93**	**283**	P	**P**		**23 18 46.5**	**-0.7**	
BRVK	**Borovoye**	**23.93**	**283**	⇑*e*P	**P**		**23 18 47.1**	**0.0**	
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AAK	**Ala-Archa**	**26.83**	**258**	P	**P**		**23 19 14.7**	**+1.0**	
	comp=Z,0.2nm,0.4s,baz=163,slow=16,SNR=2.2								
	comp=Z,0.2nm,0.4s								
ARU	**Arti**	**29.17**	**295**	P	**P**		**23 19 34.2**	**0.0**	
	comp=Z,1.2nm,0.4s,baz=284,slow=22,SNR=5.0								
	comp=Z,1.2nm,0.4s								
ARU	**Arti**	**29.17**	**295**	P	**P**		**23 19 34.1**	**-0.2**	
ARU				IAmb	IAmb		23 19 40.5		
	comp=Z,7.1nm,1.4s								
ABKAR	**Akbulak array**	**31.44**	**281**	P	**P**		**23 19 54.6**	**+0.2**	
ABKAR	**Akbulak array**	**31.44**	**281**	P	**P**		**23 19 54.3**	**-0.1**	
ABKAR				IAmb	IAmb		23 20 01.6		
	comp=Z,2.4nm,1.3s								
KIRV	**Kirov**	**33.06**	**302**	LR	LR		23 35 41.6		
	comp=Z,145nm,18.4s,baz=69,slow=40								
BELG	**Belogornoye**	**36.66**	**293**	LR	LR		23 37 45.0		
	comp=Z,104nm,18.7s,baz=93,slow=40								
ARCES	**ARCESS Array B**	**38.82**	**326**	P	**P**		**23 20 57.7**	**0.0**	
	comp=Z,1.5nm,0.8s,baz=59,slow=9.7,SNR=3.7								
	comp=Z,1.5nm,0.8s								
FIA1	**FINESS Array S**	**42.34**	**315**	P	**P**		**23 21 26.5**	**-0.3**	
FIA1				IAmb	IAmb		23 21 37.6		
	comp=Z,5.7nm,1.0s								
FINES	**FINESS Array B**	**42.34**	**315**	P	**P**		**23 21 26.1**	**-0.7**	
	comp=Z,0.4nm,0.3s,baz=73,slow=8.3,SNR=8.2								
	comp=Z,0.4nm,0.3s								
FINES	**FINESS Array B**	**42.34**	**315**	P	**P**		**23 21 26.5**	**-0.3**	
IMAR	**Indian Mountai**	**43.60**	**36**	P	**P**		**23 21 37.1**	**+0.1**	
H21K	**Melozitna Rive**	**44.10**	**36**	P	**P**		**23 21 41.9**	**+0.8**	
H21K				IAmb	IAmb		23 21 58.3		
	comp=Z,5.1nm,1.3s								
BMAR	**Burnt Mountain**	**45.70**	**32**	P	**P**		**23 21 55.2**	**+1.4**	
ILAR	**Eielson Array**	**46.63**	**35**	P	**P**		**23 22 01.9**	**+0.9**	
	comp=Z,0.7nm,0.9s,baz=288,slow=5.1,SNR=5.7								
	comp=Z,0.7nm,0.9s								
ILAR	**Eielson Array**	**46.63**	**35**	P	**P**		**23 22 01.6**	**+0.5**	
ILAR	**Eielson Array**	**46.63**	**35**	P	**P**		**23 22 02.0**	**+0.9**	
AKASG	**Malin Array Be**	**47.09**	**301**	P	**P**		**23 22 05.2**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=44,slow=8.8,SNR=3.3								
	comp=Z,0.2nm,0.3s								
INK	**Inuvik**	**48.22**	**27**	P	**P**		**23 22 12.5**	**-0.8**	
	comp=Z,1.2nm,1.1s,baz=159,slow=17,SNR=1.4								
	comp=Z,1.2nm,1.1s								
NB2	**NORSAR Subarra**	**48.39**	**320**	P	**P**		**23 22 14.3**	**-0.6**	
	comp=Z,1.2nm,0.8s,baz=52,slow=7.9								
NOA	**NORSAR Array B**	**48.39**	**320**	P	**P**		**23 22 13.7**	**-1.1**	
	comp=Z,0.5nm,0.6s,baz=109,slow=7.9,SNR=2.2								
NOA				LR	LR		23 43 02.5		
	comp=Z,28nm,18.9s,baz=345,slow=37								
	comp=Z,0.5nm,0.6s								
BRTR	**Keskin Array B**	**52.04**	**287**	P	**P**		**23 22 42.6**	**-0.3**	
	comp=Z,0.3nm,0.7s,baz=57,slow=5.3,SNR=1.1								
	comp=Z,0.3nm,0.7s								
BORG	**Borgarnes**	**55.27**	**337**	LR	LR		23 47 53.8		
	comp=Z,54nm,19.0s,baz=357,slow=37								
GERES	**GERESS Array B**	**55.77**	**308**	LR	LR		23 51 54.6		
	comp=Z,61nm,18.0s,baz=12,slow=41								
YKA	**Yellowknife Ar**	**57.58**	**23**	P	**P**		**23 23 24.6**	**+2.2**	
	comp=Z,0.4nm,0.6s,baz=328,slow=6.9,SNR=6.9								
	comp=Z,0.4nm,0.6s								
DAVOX	**Davos/Dischmat**	**59.03**	**308**	LR	LR		23 53 04.5		
	comp=Z,60nm,18.8s,baz=53,slow=40								
ESDC	**Sonseca Array**	**70.79**	**312**	P	**P**		**23 24 48.1**	**-1.5**	
	comp=Z,0.7nm,1.1s,baz=37,slow=5.1,SNR=2.9								
	comp=Z,0.7nm,1.1s								
PDAR	**Pinedale Array**	**76.68**	**30**	P	**P**		**23 25 23.9**	**-0.4**	
	comp=Z,0.3nm,0.6s,baz=336,slow=2.0,SNR=3.9								
	comp=Z,0.3nm,0.6s								
WRA	**Warramunga Arr**	**77.10**	**158**	P	**P**		**23 25 25.7**	**-0.8**	
	comp=Z,0.4nm,0.5s,baz=352,slow=6.3,SNR=5.0								
	comp=Z,0.4nm,0.5s								
WRA	**Warramunga Arr**	**77.10**	**158**	*i* P	**P**		**23 25 25.2**	**-1.3**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NVAR	**Mina Array Bea**	**77.82**	**38**	P	**P**		**23 25 31.7**	**+0.9**	
	comp=Z,0.2nm,0.4s,baz=306,slow=3.2,SNR=2.1								
	comp=Z,0.2nm,0.4s								
ASAR	**Alice Springs**	**80.62**	**159**	P	**P**		**23 25 45.2**	**-0.5**	
	comp=Z,0.6nm,0.7s,baz=347,slow=4.8,SNR=5.8								
	comp=Z,0.6nm,0.7s								

JMA ***14*** *23:27:54.5±0.1, 26.8N±0.4×130.0E±0.4, h56km, MV3.0/16,*

NEAR AMAMI-OSHIMA ISLAND
IDC ***14*** *23:27:56.0±2.6, 26.28N×129.46E, h0km, mb3.4/3, mbtmp3.4/3, MS3.1/1, Error ellipse: s-maj=79.7km s-min=18.1km az=48.0*

ISC 14 23:27:52.0±1.7, 26.84N±0.06×129.94E±0.04, h7km±12km, n18, σ0=92/26, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.29**	**317**	P	**Pg**	**23 28 17.1**	**+0.4**
JTK				S	**Sg**	**23 28 32.8**	**-0.7**
JOKE	**Okinoerabujima**	**1.33**	**293**	P	**Pn**	**23 28 17.6**	**+0.6**
JYRO	**Yoronjima**	**1.34**	**278**	P	**Pn**	**23 28 17.5**	**+0.3**
JYRO				*e*S	**Sg**	**23 28 34.0**	**-1.3**
JOW	**Kunigami**	**1.49**	**270**	Pn	**Pn**	**23 28 19.7**	**+0.5**
	26nm,0.3s,baz=111,slow=17,SNR=84						
JOW				Sn	**Sn**	**23 28 38.4**	**-0.5**
	39nm,0.3s,baz=261,slow=29,SNR=20						
JOW	**Kunigami**	**1.49**	**270**	*i* P	**Pn**	**23 28 19.7**	**+0.5**
JOW				*e*S	**Sn**	**23 28 38.5**	**-0.5**
JKDJ	**Kitadaitoujima**	**1.50**	**126**	P	**Pn**	**23 28 19.6**	**+0.2**
JKDJ				S	**Sn**	**23 28 37.9**	**-1.4**
JMZ	**Minamidaito 2**	**1.54**	**131**	P	**Pn**	**23 28 19.6**	**-0.2**
JAMN	**Amaminishikomi**	**1.55**	**334**	P	**Pn**	**23 28 20.4**	**+0.4**
JAMN				*e*S	**Sn**	**23 28 38.7**	**-1.7**
JAM	**Amami Oshima**	**1.59**	**349**	P	**Pn**	**23 28 21.1**	**+0.5**
JNTH	**Nagotoyohara**	**1.75**	**260**	P	**Pn**	**23 28 22.9**	**+0.1**
JNTH				S	**Sn**	**23 28 43.2**	**-2.1**
JIH	**Iheya**	**1.77**	**277**	*e*P	**Pn**	**23 28 23.8**	**+0.7**
JIH				S	**Sn**	**23 28 45.5**	**-0.5**
JJT3	**Tamagusuku3**	**2.06**	**251**	P	**Pn**	**23 28 27.8**	**+0.8**
JJT3				S	**Sn**	**23 28 52.3**	**-0.6**
JAGN	**Aguni-jima**	**2.43**	**265**	P	**Pn**	**23 28 32.8**	**+0.7**
JAGN				S	**Sn**	**23 29 00.9**	**-1.2**
JKE	**Kume jima 2**	**2.88**	**260**	P	**Pn**	**23 28 38.2**	**0.0**
KLR	**Kul'dur**	**22.39**	**3**	LR	LR	23 40 56.3	
	comp=Z,41nm,18.5s,baz=169,slow=34						
MKAR	**Makanchi Array**	**42.28**	**311**	P	P	23 35 51.7	+5.5
	0.3nm,0.8s,baz=116,slow=6.6,SNR=1.9						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**46.70**	**174**	P	**P**	**23 36 22.4**	**+0.8**
	0.8nm,0.7s,baz=354,slow=8.4,SNR=7.1						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**50.36**	**175**	P	**P**	**23 36 51.0**	**+1.2**
	0.4nm,0.7s,baz=5.1,slow=15,SNR=12						
	0.4nm,0.7s						

NEIC ***14*** *23:51:00.8±2.0, 54.12N±0.04×164.21W±0.08, h15km±7km, mb3.8/3, ML3.8/6, ML3.3/31(AEIC), Error ellipse: s-maj=7.6km s-min=5.1km az=132.0*
AEIC ***14*** *23:51:00.6±2.3, 54.11N±0.04×164.16W±0.07, h13km±6km, Error ellipse: s-maj=6.7km s-min=5.1km az=128.0*
IDC ***14*** *23:51:08.0±4.9, 54.00N×162.70W, h0km, mb3.4/2, mbtmp3.4/5, ML3.0/3, MS3.0/1, Error ellipse: s-maj=79.7km s-min=39.0km az=90.0*

ISC 14 23:51:00.3±1.8, 54.09N±0.07×164.13W±0.05, h10km±11km, n64, σ1=45/58, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.47**	**325**		**Pb**	**23 51 10.6**	**0.0**
WESN	**West Dahl Nort**	**0.55**	**331**		**Pb**	**23 51 12.0**	**0.0**
BRPK	**Brown Peak**	**0.60**	**22**		**Pg**	**23 51 11.9**	**-0.1**
SSLS	**Shishaldin Sou**	**0.62**	**7**		**Pg**	**23 51 12.7**	**+0.2**
ISLZ	**Isanotski Laza**	**0.68**	**21**		**Pg**	**23 51 13.1**	**-0.4**
ISLZ					**Sg**	**23 51 22.2**	**-0.2**
SSBA	**Shishaldin**	**0.68**	**0**		**Pg**	**23 51 13.4**	**-0.1**
SSBA					**Sg**	**23 51 22.6**	**+0.1**
SSLN	**Shishaldin Nor**	**0.72**	**6**		**Pg**	**23 51 14.5**	**+0.1**
SSLN					**Sb**	**23 51 24.4**	**-0.7**
AKUT	**Akutan**	**0.97**	**273**		**Pb**	**23 51 18.5**	**-0.6**
AKUT					**Sb**	**23 51 31.9**	**0.0**
AKUT	**Akutan**	**0.97**	**273**	IAML		23 51 33.2	
	comp=E,2μm,0.4s						
AKLV	**Akutan Long Va**	**1.08**	**274**		**Pb**	**23 51 20.1**	**-1.0**
ZRO	**Akutan Zero**	**1.09**	**271**		**Pb**	**23 51 20.2**	**-1.0**
AKMO	**Akutan Morgan**	**1.11**	**271**		**Pb**	**23 51 20.7**	**-0.9**
AKMO					**Sn**	**23 51 36.4**	**-0.8**
AKRB	**Akutan Reef Bi**	**1.14**	**273**		**Pb**	**23 51 21.2**	**-0.9**
UNV	**Unalaska Valle**	**1.42**	**261**		**Pn**	**23 51 24.8**	**-1.3**
DT1	**Dutton Round H**	**1.48**	**46**		**Pn**	**23 51 25.7**	**-1.2**
MNAT	**Makushin Natee**	**1.52**	**263**		**Pn**	**23 51 26.3**	**-1.3**
MSW	**Makushin Switc**	**1.57**	**265**		**Pn**	**23 51 27.4**	**-0.9**

H03N3 Juan Fernandez 113.72 115 T T 02 13 05.1
baz=323,slow=77,SNR=7.3

AUST 14 23:58:25.9±1.7, 30.70S×118.30E, h10km, Error ellipse: s-maj=19.2km s-min=14.8km az=119.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.00**	**208**	P			Pg	23 58 44.7	-0.5
	baz=1.0								
KLBR				S			Sb	23 58 59.1	+0.4
	baz=1.0								
KLBR	**Kellerberrin**	**1.00**	**208**	P			Pg	23 58 44.8	-0.4
KLBR	baz=1.0			S			Sb	23 58 59.1	+0.4
	baz=1.0								
BLDU	**Ballidu**	**1.37**	**273**	P			Pb	23 58 51.8	+0.1
	baz=1.5								
BLDU				S			Sg	23 59 10.5	+0.4
	baz=1.5								
BLDU	**Ballidu**	**1.37**	**273**	P			Pb	23 58 52.0	+0.3
	baz=1.4								
BLDU				S			Sg	23 59 10.6	+0.5
	baz=1.4								
MUN	**Mundaring**	**2.20**	**234**	P			Pn	23 59 03.3	+0.8
	baz=2.3								
MUN				S			Sn	23 59 30.1	+0.4
	baz=2.3								
NWAO	**Narrogin (SRO)**	**2.40**	**202**	P			Pn	23 59 05.0	-0.3
	baz=2.4								
NWAO				P			Pn	23 59 05.0	-0.3
	baz=2.4								
NWAO	**Narrogin (SRO)**	**2.40**	**202**	P			Pn	23 59 05.4	+0.1
	baz=2.4								
NWAO				P			Pn	23 59 05.4	+0.1
	baz=2.4								
KMBL	**Kambalda**	**3.15**	**103**	P			Pn	23 59 13.9	-1.7
	baz=3.1								
KMBL				S			Sn	23 59 49.8	-3.4
	baz=3.1								
KMBL	**Kambalda**	**3.15**	**103**	P			Pn	23 59 16.6	+1.0
	baz=3.1								
KMBL				S			Sn	23 59 48.6	-4.6
	baz=3.1								
MEEK	**Meekatharra**	**4.06**	**4**	P			Pn	23 59 26.2	-1.9
	baz=4.1								
MEEK	**Meekatharra**	**4.06**	**4**	P			Pn	23 59 26.9	-1.2
	baz=4.1								
MEEK				S			Sn	00 00 10.4	-5.3
	baz=4.1								

IDC 15 00:00:11.4±330.0, 5.53S×147.78E, h0km, Error ellipse: s-maj=130.9km s-min=28.0km az=75.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.51**	**314**	I			I	01 55 10.0	
	baz=136,slow=312,SNR=1.6								
I07AU	**WARRAMUNGA INF**	**9.39**	**221**	I			I	02 02 50.0	
	baz=42,slow=310,SNR=2.2								

*VAO **15** 00:26:07.2±1.6, 20.34S×68.87W, h121km±10km, mb4.0*
*NEIC **15** 00:26:08.7±1.4, 20.47S±0.04×68.80W±0.07, h112km±7km, mb4.0/8, ML3.7(GUC), Error ellipse: s-maj=9.8km s-min=5.5km az=102.0*
*IDC **15** 00:26:09.4±2.8, 20.52S×68.57W, h125km±24km, mb3.6/4, mbtmp4.0/6, Error ellipse: s-maj=34.1km s-min=23.5km az=78.0*
*GUC **15** 00:26:09.0±0.7, 20.46S×68.76W, h112km±3km, ML3.7*

ISC 15 00:26:07.9±0.6, 20.47S±0.03×68.78W±0.05, h117km±6km, n97, σ0s90/117, mb4.1/3, 13C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.48**	**312**				**Pn**	**00 26 25.5**	**-0.4**
PB08	**IPOC Station P**	**0.48**	**312**	⇓ *i*	*P*		**Pn**	**00 26 26.1**	**+0.2**
PB08				*i*	S		**Sn**	**00 26 39.5**	**+0.1**
PB01	**IPOC Station P**	**0.88**	**229**				**Pn**	**00 26 28.8**	**+0.1**
PB01					Sn		**Sn**	**00 26 44.4**	**+0.1**
PB01	**IPOC Station P**	**0.88**	**229**	⇑ *i*	*P*		**Pn**	**00 26 28.9**	**+0.3**
PB01				*i*	S		**Sn**	**00 26 44.5**	**+0.2**
PB01					IAML			00 26 45.3	
	comp=E,7μm,0.2s								
GO01	**Chusmiza**	**0.88**	**334**				**Pn**	**00 26 29.4**	**+0.3**
GO01					Sn		**Sn**	**00 26 44.8**	**-0.3**
GO01	**Chusmiza**	**0.88**	**334**	⇑ *i*	*P*		**Pn**	**00 26 29.5**	**+0.3**
GO01					*eS*		**Sn**	**00 26 44.9**	**-0.3**
PB11	**IPOC Station P**	**1.08**	**310**		Pn		**Pn**	**00 26 30.8**	**+0.1**
PB11					Sn		**Sn**	**00 26 47.6**	**-0.4**
PB11	**IPOC Station P**	**1.08**	**310**	⇑ *i*	*P*		**Pn**	**00 26 30.8**	**+0.1**
PB11				*i*	S		**Sn**	**00 26 48.1**	**+0.1**
PB11					IAML			00 26 49.5	
	comp=E,4μm,0.5s								
TA02	**Huaiquique**	**1.28**	**278**				**Pn**	**00 26 32.8**	**+0.1**
TA01	**Diego Aracena**	**1.32**	**265**		Pn		**Pn**	**00 26 32.9**	**-0.2**
TA01	**Diego Aracena**	**1.32**	**265**	⇑ *i*	*P*		**Pn**	**00 26 32.9**	**-0.2**
TA01				*i*	S		**Sn**	**00 26 51.6**	**-0.6**
TA01					IAML			00 26 52.4	
	comp=E,748nm,0.4s								
PATCX	**Punta Patache**	**1.34**	**254**				**Pn**	**00 26 33.3**	**-0.1**
PATCX	**Punta Patache**	**1.34**	**254**	⇑ *i*	*P*		**Pn**	**00 26 33.4**	**-0.1**
PATCX				*i*	S		**Sn**	**00 26 52.5**	**-0.1**
PATCX					IAML			00 26 58.5	
	comp=E,1μm,0.2s								
PB02	**IPOC Station P**	**1.35**	**231**				**Pn**	**00 26 33.7**	**+0.1**
PB02	**IPOC Station P**	**1.35**	**231**	⇑ *i*	*P*		**Pn**	**00 26 33.8**	**+0.2**
PB02				*i*	S		**Sn**	**00 26 53.2**	**+0.2**
PB02					IAML			00 26 55.4	
	comp=E,3μm,0.3s								
PB09	**IPOC Station P**	**1.39**	**198**				**Pn**	**00 26 35.0**	**+0.9**
PB09	**IPOC Station P**	**1.39**	**198**	⇑ *i*	*P*		**Pn**	**00 26 35.1**	**+0.9**
PB09				*i*	S		**Sn**	**00 26 54.8**	**+0.7**
PSGC	**Pisagua**	**1.53**	**304**	⇑ *i*	*P*		**Pn**	**00 26 35.5**	**-0.2**
PSGC				*i*	S		**Sn**	**00 26 56.4**	**-0.3**
PSGC					IAML			00 27 02.7	
	comp=E,884nm,0.4s								
PSGCX	**Pisagua**	**1.53**	**304**		Pn		**Pn**	**00 26 35.4**	**-0.2**
MNMC	**Minye Minye**	**1.53**	**330**				**Pn**	**00 26 36.5**	**+0.6**
MNMC	**Minye Minye**	**1.53**	**330**	⇑ *i*	*P*		**Pn**	**00 26 36.8**	**+0.9**
MNMC				*i*	S		**Sn**	**00 26 57.7**	**+0.6**
PB07	**IPOC Station P**	**1.63**	**219**		Pn		**Pn**	**00 26 37.0**	**+0.1**
PB07	**IPOC Station P**	**1.63**	**219**	⇑ *i*	*P*		**Pn**	**00 26 37.0**	**+0.1**
PB07				*i*	S		**Sn**	**00 26 58.6**	**-0.3**
PB07					IAML			00 27 00.5	
	comp=N,922nm,0.5s								
PB03	**IPOC Station P**	**1.82**	**210**				**Pn**	**00 26 39.5**	**+0.3**
PB03	**IPOC Station P**	**1.82**	**210**	⇑ *i*	*P*		**Pn**	**00 26 39.5**	**+0.3**
PB03				*i*	S		**Sn**	**00 27 02.7**	**-0.3**
PB03					IAML			00 27 04.7	
	comp=N,502nm,0.3s								
LVC	**Limon Verde**	**2.14**	**183**		Pn		**Pn**	**00 26 44.6**	**+1.3**
LVC	**Limon Verde**	**2.14**	**183**	*i*	*P*		**Pn**	**00 26 44.7**	**+1.3**
PB16	**IPOC Station P**	**2.23**	**342**		Pn		**Pn**	**00 26 46.0**	**+1.3**
PB16	**IPOC Station P**	**2.23**	**342**	⇑ *i*	*P*		**Pn**	**00 26 46.0**	**+1.3**
PB16				*i*	S		**Sn**	**00 27 14.0**	**+1.3**
PB16					IAML			00 27 18.4	
	comp=E,254nm,0.5s								
PB04	**IPOC Station P**	**2.26**	**214**		Pn		**Pn**	**00 26 45.0**	**+0.4**
PB04	**IPOC Station P**	**2.26**	**214**	*i*	*P*		**Pn**	**00 26 45.1**	**+0.4**
PB04				*i*	S		**Sn**	**00 27 10.8**	**-2.0**
PB04					IAML			00 27 22.6	
	comp=N,406nm,0.2s								
PB06	**IPOC Station P**	**2.35**	**198**				**Pn**	**00 26 46.7**	**+0.8**
PB06	**IPOC Station P**	**2.35**	**198**	*i*	*P*		**Pn**	**00 26 46.5**	**+0.6**
PB06				*i*	S		**Sn**	**00 27 14.5**	**-0.4**
PB06					IAML			00 27 17.4	
	comp=E,342nm,0.2s								
PB12	**IPOC Station P**	**2.35**	**321**		Pn		**Pn**	**00 26 45.1**	**-0.8**
PB12	**IPOC Station P**	**2.35**	**321**	⇑ *i*	*P*		**Pn**	**00 26 45.3**	**-0.5**
PB12				*i*	S		**Sn**	**00 27 13.9**	**-1.0**
PB12					IAML			00 27 18.7	
	comp=E,685nm,0.4s								
AF01	**San Pedro de A**	**2.54**	**167**				**Pn**	**00 26 49.9**	**+1.5**
AP01	**Chacalluta**	**2.55**	**324**				**Pn**	**00 26 47.7**	**-0.6**
PB15	**IPOC Station P**	**2.81**	**193**				**Pn**	**00 26 52.5**	**+0.7**
PB15	**IPOC Station P**	**2.81**	**193**	*eP*			**Pn**	**00 26 52.2**	**+0.4**
PB10	**IPOC Station P**	**3.45**	**208**		Pn		**Pn**	**00 26 59.5**	**-0.7**
PB10	**IPOC Station P**	**3.45**	**208**	*eP*			**Pn**	**00 26 59.3**	**-0.8**
LPAZ	**La Paz**	**4.20**	**9**	P			**Pn**	**00 27 12.8**	**+2.1**
	comp=E,7.7nm,0.3s,baz=196,slow=2.6,SNR=45								
LPAZ				S			**Sn**	**00 27 57.5**	**-1.8**
	comp=E,7.1nm,0.7s,baz=119,slow=18,SNR=1.6								
PB14	**IPOC Station P**	**4.41**	**200**				**Pn**	**00 27 12.0**	**-1.2**
AC02	**Maricunga**	**6.35**	**183**	Pn			**Pn**	**00 27 38.2**	**-1.3**
VBST	**Vila Bela da S**	**10.23**	**56**	*eP*			**Pn**	**00 28 29.6**	**-2.0**
CO03	**El Pedregal**	**10.47**	**189**	Pn			**Pn**	**00 28 32.3**	**-2.6**
VILB	**Vilhena**	**11.10**	**49**	Pn			**Pn**	**00 28 40.6**	**-2.8**
VILB	**Vilhena**	**11.10**	**49**	*eP*			**Pn**	**00 28 42.4**	**-1.0**
ANTJ	**Antonio Joao (**	**12.01**	**100**	*eP*			**Pn**	**00 28 54.5**	**-0.9**
CPUP	**Vila Florida**	**12.02**	**121**	P			**Pn**	**00 28 53.9**	**-1.6**
	comp=E,3.6nm,0.8s,baz=305,slow=12,SNR=9.7								
AQDB	**Aquidauana**	**12.26**	**92**	Pn			**Pn**	**00 28 57.6**	**-1.0**
PP1B	**Ponte de Pedra**	**13.45**	**80**	*eP*			**Pn**	**00 29 14.0**	**-0.2**
BO01	**Tunca**	**14.02**	**188**	Pn			**Pn**	**00 29 22.4**	**+0.9**
MCR1	**Marechal Candi**	**14.19**	**109**	*eP*			**Pn**	**00 29 24.5**	**+0.8**
ITQB	**Itaqui**	**14.32**	**132**	*eP*			**Pn**	**00 29 25.7**	**+0.5**
PDRB	**Porto dos Gac**	**14.54**	**55**	*eP*			**Pn**	**00 29 27.6**	**-0.5**
RODS	**Rosario do Sul**	**15.71**	**131**	*eP*			**P**	**00 29 44.3**	**0.0**
PTGB	**Pitanga**	**16.00**	**108**	*eP*			**P**	**00 29 48.0**	**+0.3**
DVLD	**Doverlandia**	**16.20**	**79**	*eP*			**P**	**00 29 50.3**	**+0.4**
PCMB	**Pacaembu**	**16.39**	**97**	*eP*			**P**	**00 29 51.7**	**-0.3**
ITAB	**Concordia**	**16.64**	**117**				**Pn**	**00 29 53.8**	**-0.5**
ITAB	**Concordia**	**16.64**	**117**	*eP*			**P**	**00 29 55.1**	**+0.4**
ARAG	**Araguaiana, MT**	**16.81**	**76**	*eP*			**P**	**00 29 56.5**	**-0.1**
CPSB	**Cacapava Do Su**	**17.01**	**129**	*eP*			**P**	**00 29 58.9**	**+0.2**
ITRB	**Ituirama**	**17.32**	**91**	*eP*			**Pn**	**00 30 02.8**	**+0.2**
PLTB	**Pedras Altas**	**17.65**	**133**	P			**P**	**00 30 05.2**	**-0.5**
PLTB					IAmb		IAmb	00 30 20.0	
	comp=Z,12nm,1.4s								
PLTB	**Pedras Altas**	**17.65**	**133**	*eP*			**P**	**00 30 05.3**	**-0.5**
FRTB	**Fartura**	**18.06**	**103**	*eP*			**Pn**	**00 30 10.9**	**-0.5**
CNLB	**Canela**	**18.48**	**122**	*eP*			**P**	**00 30 14.6**	**-0.2**
TRQA	**Tornquist**	**18.50**	**163**	P			**Pn**	**00 30 15.9**	**-0.6**
TRQA					IAmb		IAmb	00 30 25.3	
	comp=Z,12nm,1.5s								
NPGB	**Novo Progresso**	**18.63**	**46**	*eP*			**P**	**00 30 15.1**	**-1.5**
SNDB	**Serra Nova Dou**	**18.78**	**66**	*eP*			**P**	**00 30 17.4**	**-0.7**
BB19B	**Bebedouro**	**18.95**	**76**	*eP*			**P**	**00 30 19.2**	**-0.8**
MCRA	**Macae, Loja**	**19.35**	**324**	P			**P**	**00 30 24.9**	**+0.5**
IPMB	**Ipameri, GO**	**19.58**	**86**	*eP*			**P**	**00 30 26.5**	**-0.4**
LR04	**Corral**	**19.76**	**191**	P			**P**	**00 30 28.8**	**+0.2**
RCLB	**Rio Claro- Sao**	**19.87**	**99**	*eP*			**P**	**00 30 28.9**	**-1.2**
SPB	**Sao Paulo**	**20.03**	**103**	*eP*			**P**	**00 30 31.9**	**+0.2**
PLCA	**Paso Flores**	**20.26**	**184**	P			**P**	**00 30 34.5**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=33,slow=12,SNR=4.2								
	comp=Z,3.4nm,0.9s								
PLCA	**Paso Flores**	**20.26**	**184**	P			**P**	**00 30 34.8**	**+0.7**
PLCA					IAmb		IAmb	00 30 39.1	
	comp=Z,7.0nm,1.1s								
BDFB	**Brasilia**	**20.31**	**80**	P			**P**	**00 30 34.5**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=246,slow=11,SNR=2.0								
	comp=Z,0.9nm,0.4s								
BDFB	**Brasilia**	**20.31**	**80**	P			**P**	**00 30 34.2**	**-0.7**
ITTB	**Itaituba**	**20.42**	**40**	*eP*			**P**	**00 30 34.0**	**-2.0**
SMTB	**Santa Maria do**	**23.49**	**64**	*eP*			**P**	**00 31 06.5**	**-0.8**
DIAM	**Diamantina, MG**	**23.78**	**89**	*eP*			**P**	**00 31 09.8**	**-0.3**
MC01	**Montes Claros**	**23.83**	**85**	*eP*			**P**	**00 31 09.5**	**-1.0**
JANB	**Januaria**	**23.90**	**81**	*eP*			**P**	**00 31 09.5**	**-1.7**
BOAV	**Boa Vista**	**24.12**	**21**	*eP*			**P**	**00 31 11.6**	**-1.4**
SDBA	**SAO DESIDERIO**	**24.24**	**74**	*eP*			**P**	**00 31 13.7**	**-0.5**
RUSC	**La Rusia**	**26.53**	**350**	P			**P**	**00 31 37.0**	**+1.6**
RUSC					IAmb		IAmb	00 31 42.4	
	comp=Z,7.4nm,1.2s								
QSPA	**South Pole Qui**	**69.72**	**180**	P			**P**	**00 37 07.1**	**+2.1**
TORD	**Torodi Ar. Bea**	**76.89**	**71**	P			**P**	**00 37 47.0**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=252,slow=5.9,SNR=1.7								
	comp=Z,1.9nm,0.4s								
YKA	**Yellowknife Ar**	**90.26**	**341**	P			**P**	**00 38 55.6**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=133,slow=4.4								
	comp=Z,1.1nm,0.8s								
ASAR	**Alice Springs**	**130.88**	**208**	PKP			**PKPdf**	**00 45 06.8**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=151,slow=2.1,SNR=1.3								
WRA	**Warramunga Arr**	**133.90**	**211**	PKP			**PKPdf**	**00 45 12.8**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=158,slow=2.0,SNR=1.4								
MKAR	**Makanchi Array**	**144.72**	**35**	PKP			**PKPab**	**00 45 29.9**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=319,slow=3.4,SNR=4.3								
SONM	**Songino Array**	**152.42**	**7**	PKPbc			**PKiKP**	**00 45 51.3**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=326,slow=0.6,SNR=6.0								

*UPP **15** 00:29:53.1±0.1, 67.83N×20.20E, h0km, ML2.6, Suspected explosion*
*HEL **15** 00:29:53.2±0.4, 67.80N×20.13E, h0km, ML1.5, Explosion*

ISC 15 00:29:52.7±0.8, 67.78N±0.03×20.20E±0.03, h0km, n26, σ0s83/38, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.24**	**282**		P		**Pg**	**00 29 57.5**	**+0.4**
NIKU	**Nikkaluokta**	**0.45**	**282**		P		**Pg**	**00 30 01.8**	**+0.4**
NIKU					S		**Sg**	**00 30 07.7**	**+0.5**
DUNU	**Dundret**	**0.67**	**168**		P		**Pb**	**00 30 06.8**	**-0.5**
LANU	**Lannavaara**	**0.73**	**67**		P		**Pg**	**00 30 06.6**	**0.0**
LANU					S		**Sg**	**00 30 16.1**	**+0.1**
LANU	**Lannavaara**	**0.73**	**67**		PG		**Pg**	**00 30 06.4**	**-0.2**
LANU					SB		**Sb**	**00 30 17.7**	**-1.1**
MASU	**Masugnsbyn**	**0.76**	**114**		P		**Pg**	**00 30 07.8**	**+0.6**
SALU	**Saltoluokta**	**0.76**	**239**		P		**Pg**	**00 30 08.0**	**-0.8**
KIF	**Kilpisjarvi**	**1.25**	**10**	*eP*			**Pg**	**00 30 16.6**	**0.0**
KIF	**Kilpisjarvi**	**1.25**	**10**		PG		**Pg**	**00 30 16.6**	**0.0**
	baz=188								
KIF					MSG			00 30 31.6	
	comp=Z,6.5nm,0.2s								
KIF					SB		**Sg**	**00 30 32.6**	**-0.3**
PAJU	**Pajala**	**1.36**	**123**		P		**Pg**	**00 30 18.3**	**-0.3**
PAJU	**Pajala**	**1.36**	**123**		PG		**Pg**	**00 30 18.3**	**-0.3**
PAJU					SB		**Sn**	**00 30 37.7**	**+0.1**
HEF	**Hetta**	**1.44**	**62**	*eP*			**Pn**	**00 30 19.4**	**-0.7**
HEF	**Hetta**	**1.44**	**62**		PG		**Pn**	**00 30 19.2**	**-0.8**
HEF					MSG			00 30 37.0	
	comp=Z,3.1nm,0.2s								
HEF					SN		**Sn**	**00 30 39.7**	**0.0**
ERTU	**Ertsjaerv**	**1.45**	**147**		P		**Pb**	**00 30 20.3**	**-0.2**
ERTU	**Ertsjaerv**	**1.45**	**147**		PG		**Pg**	**00 30 20.2**	**-0.2**
ERTU					SN		**Sn**	**00 30 40.9**	**+1.1**
HARU	**Harads**	**1.65**	**169**		P		**Pg**	**00 30 23.9**	**-0.3**
KTK1	**Kautokeino**	**1.67**	**41**		PG		**Pn**	**00 30 23.1**	**-0.1**
KTK1					SN		**Sg**	**00 30 46.5**	**+0.2**
TRO	**Tromso**	**1.92**	**347**		SG		**Sb**	**00 30 52.1**	**-0.9**
TOF	**Tornio**	**2.35**	**134**		PB		**Pb**	**00 30 34.8**	**-1.0**
TOF					MSG			00 31 03.9	
	comp=Z,1.6nm,0.2s								
TOF					SG		**Sb**	**00 31 06.7**	**+1.3**
SGF	**Sodankyl**	**2.44**	**95**		PG		**Pb**	**00 30 36.2**	**-1.2**
SGF					SG		**Sb**	**00 31 08.4**	**+0.4**
RNF	**Rovaniemi**	**2.55**	**115**		PB		**Pb**	**00 30 37.7**	**-1.5**
RNF					SG		**Sb**	**00 31 11.3**	**+0.2**
ARA0	**ARCESS Array S**	**2.62**	**45**		PN		**Pn**	**00 30 37.3**	**+1.1**
	baz=230								
ARA0					SB		**Sn**	**00 31 10.1**	**+1.4**
KEV	**Kevo**	**3.17**	**48**		SN		**Sn**	**00 31 23.0**	**+0.8**
BURU	**Burvik**	**3.24**	**171**		PB		**Pb**	**00 30 49.1**	**-1.9**
OLKF	**Oulanka, Finla**	**3.89**	**108**		PG		**Pb**	**00 31 03.9**	**+1.9**
MSF	**Maaselka**	**3.96**	**114**		PN		**Pn**	**00 30 55.0**	**+0.4**

*CNRM **15** 00:31:19.4, 35.99N×6.61W, h26km*
*MDD **15** 00:31:20.2±0.9, 35.94N×7.30W, h14km±14km, mb_Lg2.1/10, Error ellipse: s-maj=16.8km s-min=3.4km az=25.0*
*SFS **15** 00:31:20.7, 35.82N×7.30W, h35km, ML2.9/5, MLv2.9/5*
*INMG **15** 00:31:21.0±1.4, 35.83N×7.32W, h25km±15km, ML1.6, Error ellipse: s-maj=9.9km s-min=4.2km az=23.0*

ISC 15 00:31:17.9±1.7, 35.80N±0.04×7.30W±0.04, h28km±15km, n41, σ1s39/74, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESPR	**Espera**	**1.58**	**47**		Pn		**Pb**	**00 31 45.3**	**-1.2**
ESPR					Sn		**Sn**	**00 32 03.9**	**+0.4**
ESPR				*i*	Vmb_Lg			00 32 05.6	
EJIF	**Jimena Fronter**	**1.62**	**66**		Pn		**Pb**	**00 31 46.9**	**-0.2**
EJIF					Sn		**Sn**	**00 32 05.4**	**+0.9**
PVAQ	**Vaqueiros**	**1.64**	**348**	⇑ *eP*			**Pn**	**00 31 45.8**	**+0.9**
PVAQ				*eS*			**Sn**	**00 32 04.6**	**-0.4**
PVAQ					A		A	00 32 05.7	
	9.7nm,0.2s								
PVAQ	**Vaqueiros**	**1.64**	**348**	P			**Pn**	**00 31 45.5**	**+0.7**
PVAQ				S			**Sb**	**00 32 08.3**	**+0.5**
EGRO	**El Granado**	**1.74**	**355**	P			**Pn**	**00 31 47.4**	**+1.2**
EGRO					S		**Sn**	**00 32 06.4**	**+0.1**
EGRO	**El Granado**	**1.74**	**355**		Pn		**Pn**	**00 31 46.7**	**+0.5**
EGRO					Sn		**Sn**	**00 32 07.3**	**-0.2**
EGRO				*i*	Vmb_Lg			00 32 08.6	
PFVI	**Vila Bisbo**	**1.82**	**318**	*eS*			**Sn**	**00 32 09.1**	**-0.3**
PCVE	**Castro Verde**	**1.93**	**342**	*ePn*			**Pn**	**00 31 49.9**	**+1.1**
PCVE				*eS*			**Sn**	**00 32 11.7**	**-0.4**
PCVE					A		A	00 32 13.2	
	3.5nm,1.0s								
PCVE	**Castro Verde**	**1.93**	**342**		S		**Sn**	**00 32 12.0**	**-0.1**
EMIN	**Mina Concepcio**	**2.03**	**14**		Pn		**Pn**	**00 31 49.7**	**-0.5**
EMIN					Sn		**Sn**	**00 32 13.1**	**-1.6**
EMIN				*i*	Vmb_Lg			00 32 16.0	
PTEO	**Sao Teotonio**	**2.09**	**327**	*eSn*			**Sn**	**00 32 15.8**	**-0.3**
MESJ	**Messejana**	**2.17**	**340**	*eP*			**Pn**	**00 31 53.2**	**+1.0**
MESJ				*eS*			**Sn**	**00 32 17.1**	**-1.0**
MESJ					IAML			00 32 17.9	
	comp=E,1.2nm,0.1s								
MESJ	**Messejana**	**2.17**	**340**	*ePn*			**Pn**	**00 31 53.1**	**+1.0**
MESJ				*eSn*			**Sn**	**00 32 17.8**	**-0.3**
MESJ					A		A	00 32 29.7	
	comp=E,2.7nm,0.6s								
EMIJ	**Mijas**	**2.18**	**69**		Pn		**Pn**	**00 31 54.5**	**+2.2**
EMIJ					Sn		**Sn**	**00 32 18.8**	**+0.3**
EMIJ				*i*	Vmb_Lg			00 32 22.0	
PBEJ	**Beja**	**2.27**	**349**	*eSn*			**Sn**	**00 32 20.0**	**-0.6**
PBEJ					A		A	00 32 24.3	
	comp=E,1.8nm,0.2s								
PBAR	**Barrancos**	**2.38**	**5**	*ePn*			**Pn**	**00 31 56.4**	**+1.3**
PBAR				*eSn*			**Sn**	**00 32 23.3**	**-0.1**
PBAR					A		A	00 32 37.0	
	comp=E,2.7nm,0.8s								
PBAR	**Barrancos**	**2.38**	**5**	P			**Pn**	**00 31 56.4**	**+1.3**
PBAR				S			**Sn**	**00 32 23.1**	**-0.2**
PNCL	**Nicolau / Gran**	**2.51**	**337**	*ePn*			**Pn**	**00 31 57.7**	**+0.8**
PNCL				*eSn*			**Sn**	**00 32 25.8**	**-0.7**
PNCL					A		A	00 32 29.1	
	comp=E,1.9nm,0.5s								
ECAB	**El Cabril**	**2.73**	**33**	P			**Pn**	**00 32 01.5**	**+1.7**
ECAB	**El Cabril**	**2.73**	**33**	P			**Pn**	**00 32 00.3**	**+0.4**
ECAB					Sn		**Sn**	**00 32 31.2**	**-0.7**
ECAB				*i*	Vmb_Lg			00 32 33.8	
EVO	**Evora**	**2.79**	**348**	*ePn*			**Pn**	**00 32 01.8**	**+1.1**
EVO				*eSn*			**Sn**	**00 32 33.0**	**-0.4**
EVO					A		A	00 32 33.5	
	comp=E,2.2nm,0.6s								
EGOR	**Sierra Gorda,**	**2.88**	**62**		Pn		**Pn**	**00 32 04.2**	**+2.1**
EGOR					Sn		**Sn**	**00 32 36.7**	**+0.7**
EGOR				*i*	Vmb_Lg			00 32 39.7	
EBAD	**Badajoz**	**2.96**	**4**	S			**Sn**	**00 32 35.8**	**-1.8**
EBAD				P			**Pn**	**00 32 04.1**	**+1.0**
EBAD	**Badajoz**	**2.96**	**4**	Pn			**Pn**	**00 32 04.1**	**+1.0**
EBAD				Sn			**Sn**	**00 32 36.8**	**-0.9**
EBAD				*i*	Vmb_Lg			00 32 39.5	
PESTR	**Estremoz**	**3.07**	**356**	*ePn*			**Pn**	**00 32 07.5**	**+2.9**
PESTR				*eSn*			**Sn**	**00 32 39.2**	**-1.2**
PESTR	**Estremoz**	**3.07**	**356**	P			**Pn**	**00 32 05.4**	**+0.8**
PESTR				S			**Sn**	**00 32 41.6**	**+1.2**
ELGU	**Los Guajares,**	**3.15**	**69**	Pn			**Pn**	**00 32 08.3**	**+2.6**
ELGU				Sn			**Sn**	**00 32 43.7**	**+1.3**
ELGU				*i*	Vmb_Lg			00 32 47.7	
EADA	**Adamuz**	**3.22**	**42**	S			**Sn**	**00 32 42.6**	**-1.3**
EADA				P			**Pn**	**00 32 08.

KNL	Balıkesir	0.98	292	P		Pg	00	38	38.1 -0.8
KNL				S		Sb	00	38	52.4 -0.2
LAFA	Gebze-Kocaeli	0.98	30	Pg		Pb	00	38	39.2 -0.3
ANDZ	Kutahya, Merke	1.00	113	P		Pg	00	38	38.8 -0.5
ANDZ				S		Sb	00	38	52.9 -0.3
TUZL	Tuzla-Istanbul	1.00	25	Pg		Pg	00	38	39.3 0.0
TUZL	Tuzla-Istanbul	1.00	25	P		Pg	00	38	38.7 -0.6
GDZ	Gediz	1.01	144	P		Pb	00	38	39.8 -0.2
GDZ				S		Sg	00	38	51.4 -1.3
BUYA	Buyukada-Istan	1.01	18	Pg		Pb	00	38	39.7 -0.3
BRGA	Burgazada-Ista	1.01	15	Pg		Pb	00	38	39.8 -0.2
AUBOZ	BOZOYUK	1.02	89	P		Pg	00	38	38.0 -1.6
AUBOZ				S		Sb	00	38	53.1 -0.5
GEDZ	Gediz	1.02	148	Pg		Pg	00	38	39.4 -0.2
YKBL	Yakuplu-Istanb	1.08	358	Pn		Pb	00	38	41.1 -0.1
AVCI	Avcilar-stanb	1.09	0	Pn		Pb	00	38	41.2 -0.1
SINB	Sinanoba-Istan	1.10	353	Pn		Pb	00	38	41.3 -0.2
HRT	Hereke	1.17	38	Pn		Pg	00	38	42.5 -0.1
KAVV	Kandilli-Istan	1.19	13	Pn		Pb	00	38	42.7 -0.2
ISK	Istanbul-Kandi	1.19	13	P		Pb	00	38	42.6 -0.4
ISK	1μm,0.6s			S		Sn	00	38	58.8 -0.8
ISK	Istanbul-Kandi	1.19	13	Pn		Pb	00	38	42.6 -0.4
KRBG	Karabiga-Canak	1.19	295	Pn		Pg	00	38	43.2 +0.3
USAK	Uak-Merkez	1.21	169	P		Pb	00	38	43.0 -0.5
USAK				S		Sb	00	38	58.7 -0.6
AKS	Akhisar	1.24	214	Pn		Pn	00	38	43.6 -0.3
ELBA	Catalca	1.26	350	P		Pn	00	38	43.8 -0.3
ELBA				S		Sb	00	39	00.2 -0.4
BGKT	Bogazkoy	1.27	2	Pn		Pn	00	38	43.9 -0.2
GPA	Golpazari	1.28	72	Pn		Pb	00	38	44.9 +0.2
BUHA	Balikesir, Bur	1.32	253	P		Pb	00	38	45.1 -0.2
BUHA				S		Sb	00	39	02.5 0.0
BORA	Eskisehir	1.34	91	P		Pn	00	38	44.4 -1.0
BORA				S		Sb	00	39	02.7 -0.4
GOMA	Golmarmara-Man	1.35	207	Pn		Pb	00	38	45.5 -0.2
KLYT	Kilyos	1.37	10	Pn		Pg	00	38	46.1 -0.3
SLVT	Silivri	1.38	344	Pn		Pg	00	38	46.3 -0.2
KULA	Kula-Manisa	1.39	182	Pn		Pb	00	38	46.2 -0.3
RKY	Sarkoy-Tekirda	1.41	304	Pn		Pb	00	38	46.6 -0.2
MANT	Manisa	1.42	185	P		Pn	00	38	46.0 -0.6
MANT				S		Sb	00	39	03.9 -1.5
CRLT	Corlu	1.43	329	Pn		Pb	00	38	47.1 0.0
SILT	Sile	1.43	29	Pn		Pb	00	38	47.0 -0.1
SAUV	Serdivan-Sakar	1.49	56	Pn		Pb	00	38	47.7 -0.4
LPK	Lapseki	1.57	288	Pn		Pb	00	38	48.9 -0.5
ZEDA	zmir-Bergama	1.58	234	P		Pn	00	38	48.2 -0.3
ZEDA				S		Sn	00	39	09.0 -0.1
CTYL	Yalikoy Yolu	1.60	349	Pn		Pb	00	38	49.4 -0.6
PASA	Karahalli, USA	1.67	159	P		Pb	00	38	50.3 -0.9
PASA				S		Sb	00	39	12.7 +0.2
AYVA	Ayvalik	1.67	250	P		Pb	00	38	51.2 0.0
AYVA				S		Sb	00	39	12.9 +0.4
BAYC	CANAKKALE_Bayr	1.68	265	P		Pn	00	38	50.2 +0.4
BAYC				S		Sn	00	39	12.0 +0.3
ESKT	Eskisehir	1.69	103	Pn		Pb	00	38	50.9 -0.8
EZN	Ezine	1.84	268	P		Pb	00	38	53.5 -0.6
PRK	Paraskevi	2.00	251	P		Pb	00	38	55.6 -1.2
PRK	1μm,0.8s			S		Sb	00	39	22.3 +0.4
ENEZ	Enez	2.12	294	P		Pn	00	38	56.1 +0.1
ENEZ	1μm,0.4s			S		Sb	00	39	25.0 -0.5
ALN	Alexandroupoli	2.26	297	P		Pn	00	38	59.2 +1.3
ALN	425nm,0.5s			S		Sb	00	39	28.3 -1.2
SIGR	SIGRI	2.31	253	P		Pb	00	39	03.0 +0.8
EDRB	Edirne	2.45	323	P		Pn	00	39	00.8 +0.3
EDRB				S		Sn	00	39	31.9 +1.3
SMTH	Samothraki Isl	2.50	284	P		Pb	00	39	03.4 -2.0
KDZE	Karadeniz Ereo	2.51	55	⇑P		Pb	00	39	05.6 +0.1
RDO	Rodhopi	2.72	298	P		Pn	00	39	06.0 +1.8
YER	Yerkesik	2.79	187	P		Pb	00	39	11.5 +1.2
BODT	Bodrum	3.05	202	P		Pb	00	39	14.5 -0.2
THAS	Thassos island	3.13	284	P		Pn	00	39	12.0 +2.1
ANTO	Ankara	3.14	89	⇑P		Pg	00	39	18.8 -1.5
PLD	Plovdiv	3.75	307	*e*Pn		Pn	00	39	19.4 +1.1
PLD				*e*Sn		Sn	00	40	03.0 +0.4
PLD				eLg		Lg	00	40	18.2
BRTR	Keskin Array B	3.80	91	Pn		Pn	00	39	19.3 +0.1
BRTR	0.6nm,0.3s,baz=281,slow=7.6,SNR=29			Pg		Pb	00	39	28.7 +1.2
BRTR	2.2nm,0.3s,baz=273,slow=12,SNR=38			Sn		Sn	00	40	02.8 -1.4
BRTR	1.0nm,0.3s,baz=282,slow=21,SNR=4.4			Lg		Lg	00	40	19.2
BRTR	0.5nm,0.3s,baz=260,slow=23,SNR=1.4			LR		LR	00	41	10.6
NVR	comp=Z,68nm,21.7s,baz=322,slow=47 1.5nm,0.4s Nevrokopi	3.96	293	P		Pn	00	39	22.7 +1.4
RAZG	Razgrad	4.01	336	⇑P		Pn	00	39	23.8 +1.8
TIRR	Tirgusor	4.55	357	⇓P		Pn	00	39	30.0 +0.6
PLVB	Pleven	4.63	320	⇑P		Pn	00	39	32.4 +1.9
TLBR	Topalu	4.66	354	⇑P		Pn	00	39	32.1 +1.2
HARR	Harsova	4.81	353	⇑P		Pn	00	39	34.8 +1.8
VTS	Vitosha	4.94	305	⇑P		Pg	00	39	52.2 -2.5
VTS	Vitosha	4.94	305	*e*Pn		Pn	00	39	35.7 +0.9
VTS				*e*Sn		Sn	00	40	32.6 +0.3
VTS				eLg		Lg	00	40	56.4
STIP	Stip	5.26	292	*i* Pn		Pn	00	39	37.8 -1.4
STIP				*i* Sn		Sg	00	41	35.5 -5.6
TLCR		5.28	1	⇑P		Pn	00	39	40.6 +1.3
PRVS	Prvonek	5.64	300	*e*Pn		Pn	00	39	46.4 +2.0
PRVS				*e*Sn		Sn	00	40	49.5 +0.1
PRVS				eLg		Lg	00	41	19.1
SEV	Sevastopol'	5.92	37	*e*P		Pn	00	39	48.3 +0.2
SEV	comp=Z,5.0nm,0.3s			Pm			00	39	55.8
SEV				*e*S		Sn	00	40	50.8 -5.3
SEV	comp=E,4.0nm,0.3s			Sm			00	40	54.3
SEV	comp=N,8.0nm,0.4s			Sm			00	40	54.4
MLR	Muntele Rosu	5.94	341	Pn		Pn	00	39	49.9 +1.3
MLR	comp=N,0.1nm,0.3s,baz=157,slow=13,SNR=1.8			Sn		Sn	00	40	54.1 -2.9
MLR	comp=N,0.1nm,0.3s,baz=7.3,slow=22,SNR=1.3			Lg		Lg	00	41	27.7
MLR	comp=N,0.3nm,0.3s,baz=97,slow=16,SNR=2.3			Sm			00	41	10.7
MLR	comp=N,2.2nm,0.5s Muntele Rosu	5.94	341	⇑P		Pn	00	39	50.3 +1.7
BARS	Barje	5.95	301	*e*Pn		Pn	00	39	50.7 +2.1
BARS				*e*Sn		Sn	00	40	55.9 -1.1
BARS				eLg		Lg	00	41	28.1
PLOR	Plostina	6.13	346	⇑P		Pn	00	39	52.8 +1.7
VRI	Vrincioaia	6.13	347	⇑P		Pn	00	39	52.9 +1.8
COVR	Voineasa-Covas	6.21	344	⇑P		Pn	00	39	54.2 +1.9
ZAGS	Zajecar	6.21	311	*e*Pn		Pn	00	39	52.0 -0.2
SIM	Simferopol'	6.43	37	*e*P		Pn	00	39	56.7 +1.5
SIM	comp=Z,17nm,0.3s			Pm			00	39	57.0
SIM				*e*S		Sn	00	41	04.6 -4.2
SIM	comp=E,4.0nm,0.4s			Sm			00	41	10.6
SIM	comp=N,19nm,0.5s			Sm			00	41	10.7
DOPR	Dopca	6.53	339	⇑P		Pn	00	39	57.9 +1.3
OZUR		6.55	342	⇑P		Pn	00	39	58.0 +1.2
SELS	Selova	6.59	303	*e*Pn		Pn	00	39	58.0 +0.6
SUDU	Sudak	6.81	41	*e*P		Pn	00	40	04.6 +4.1
SUDU	comp=Z,5.0nm,0.2s			Pm			00	40	13.6
SUDU				*e*S		Sn	00	41	16.5 -1.7
SUDU	comp=N,17nm,0.4s			Sm			00	41	22.2
SUDU	comp=E,2.0nm,0.2s			Sm			00	41	22.2
MILM	Milestii Mici	7.01	1	⇑P		Pn	00	40	04.7 +1.6
GZR	Gura Zlata	7.01	323	⇓P		Pn	00	40	03.2 -0.1
IVAS	Ivanjica	7.38	303	*e*Pn		Pn	00	40	09.1 +0.9
BZS	Buzias	7.73	320	*e*Pn		Pn	00	40	13.8 +0.8
BURAR	Bucovina Array	8.11	343	⇑P		Pn	00	40	20.0 +1.7
MMAI	Mount Meron Ar	8.73	140	Pn		Pn	00	40	28.4 +1.5
MORH	comp=E,0.5nm,0.3s,baz=331,slow=12,SNR=5.4 comp=E,0.7nm,0.4s Mrgy, Hungar	9.69	314	*e*Pn		Pn	00	40	40.9 +1.0
FINES	FINESS Array B	21.62	357	P		P	00	43	13.8 +3.2
MKAR	comp=E,1.7nm,0.9s,baz=160,slow=13,SNR=8.1 comp=E,1.7nm,0.9s Makanchi Array	38.91	62	P		P	00	45	46.9 +0.5
	comp=E,0.1nm,0.5s,baz=272,slow=7.9,SNR=6.2								

IDC 15 00:48:45.8±13.0, 60.64°S×161.62°E, h0km, mb3.5/2, mbtmp3.6/3, ML2.9/1, MS3.2/2, Error ellipse: s-maj=567.2km s-min=41.1km az=75.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	16.96	180	Pn	Pn	00 52 44.0	0.0
	baz=353,slow=8.1,SNR=2.0						
VNDA				LR	LR	00 57 57.5	
	comp=Z,60nm,18.6s,baz=324,slow=32 2.4nm,1.0s						
URZ	Urewera	24.43	31	LR	LR	01 04 05.4	
	comp=Z,56nm,18.1s,baz=194,slow=38						
H01W1	Cape Leeuwin H	39.70	289	T	T	01 38 24.0	
	baz=145,slow=76,SNR=9.4						
H01W2	Cape Leeuwin H	39.71	288	T	T	01 38 24.0	
	baz=145,slow=76,SNR=9.6						
H01W3	Cape Leeuwin H	39.72	289	T	T	01 38 25.1	
	baz=145,slow=76,SNR=8.4						
ASAR	Alice Springs	41.64	320	P	P	00 56 35.8	+0.2
	0.6nm,0.7s,baz=165,slow=8.5,SNR=7.3 0.6nm,0.7s						
WRA	Warramunga Arr	45.00	322	P	P	00 57 02.1	-0.6
	0.5nm,1.0s,baz=158,slow=7.8,SNR=2.2 0.5nm,1.0s						
H08S2	Diego Garcia H	82.97	267	T	T	02 32 29.9	
	baz=150						
H08S1	Diego Garcia H	82.98	267	T	T	02 32 20.7	
	baz=150						
H08S3	Diego Garcia H	82.99	267	T	T	02 32 30.5	
	baz=150						

SOME 15 01:04:05.5, 42.17N×81.12E, h10km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	Shalkode	1.57	310	*e*P	Pn	01 04 30.6	-3.0
	1.5nm,0.1s						
SHLS				*e*S	Sn	01 04 48.7	-5.4
	52nm,0.1s						
SHLS	Shalkode	1.57	310	*e*P	Pn	01 04 33.1	-0.4
	1.6nm,0.1s						
SHLS				*e*S	Sn	01 04 48.6	-5.5
	52nm,0.1s						
UZB	Uzynbulak	1.83	303	*e*P	Pb	01 04 39.6	+0.4
	2.3nm,0.1s						
UZB				*e*S	Sg	01 05 04.2	-0.1
	4.1nm,0.2s						
UZB	Uzynbulak	1.83	303	*e*P	Pg	01 04 42.8	+2.2
	1.2nm,0.1s						
UZB				*e*S	Sg	01 05 05.2	+0.8
	2.3nm,0.2s						
SATY	Saty	2.19	295	*e*Pg	Pb	01 04 45.9	+0.6
	3.3nm,0.3s						
SATY				*e*Lg	Lg	01 05 15.1	
	5.3nm,0.4s						
SATY	Saty	2.19	295	*e*P	Pg	01 04 49.1	+1.6
	4.4nm,0.5s						
SATY				*e*S	Sg	01 05 16.1	+0.1
	4.6nm,0.1s						
KPKS	Kokpek	2.21	307	*e*Pg	Pb	01 04 46.0	+0.4
	2.9nm,0.4s						
KPKS				*e*Lg	Lg	01 05 15.2	
	7.3nm,0.1s						
KPKS	Kokpek	2.21	307	*e*P	Pg	01 04 47.7	-0.2
	2.9nm,0.3s						
KPKS				*e*S	Sb	01 05 13.9	+0.8
	4.8nm,0.2s						
KOTS	Kotyrbulak	3.14	291	*e*Pg	Pb	01 05 02.6	+1.1
	1.1nm,0.2s						
KOTS				*e*Lg	Lg	01 05 43.5	
	8.1nm,0.4s						
KOTS	Kotyrbulak	3.14	291	*e*Pg	Pg	01 05 05.1	-0.5
	1.0nm,0.3s						
KOTS				*e*Lg	Lg	01 05 43.5	
	5.7nm,0.4s						

IDC 15 01:07:29.3±1.6, 3.34°S×126.75E, h0km, mb3.7/2, mbtmp3.8/4, ML3.7/2, MS3.0/1, Error ellipse: s-maj=35.2km s-min=26.5km az=77.0
DJA 15 01:07:31.7±0.3, 3.3°S×12.7°E±°, h10km, M4.0/12, mb4.6/5, mB4.8/4, MLv3.7/12, Mw(mB)4.1/4
ISC 15 01:07:31.0±1.0, 3.44S±0.08×126.85E±0.06, h10km, n14, σ1.9s59/16, Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	Namlea	0.32	52	P	Pg	01 07 36.6	-0.8
NLAI				S	Sg	01 07 40.6	-1.1
AAI	Ambon	1.37	100	P	Pn	01 07 55.1	-1.1
SANI	Sanana	1.62	328	P	Pn	01 07 57.7	-2.0
MSAI	Masohi	2.08	88	P	Pn	01 08 05.1	-0.9
BNDI	Bandanaira	3.24	110	P	Pn	01 08 22.1	+0.2
LUWI	Luwuk	4.71	300	P	Pn	01 08 42.6	+0.4
SIJI	Sorong	5.10	60	Pn	Pn	01 08 49.3	+1.7
	5.0nm,0.3s,baz=238,slow=14,SNR=7.7						
SIJI				Sn	Sn	01 09 49.2	+2.6
	1.7nm,0.3s,baz=110,slow=21,SNR=3.8 14nm,0.4s						
FAKI	Fak Fak	5.42	85	P	Pn	01 08 51.6	-0.3
	25nm,1.3s,0.1nm						
GTOI	Gorontalo	5.57	316	P	Pn	01 08 57.2	+3.2
	30nm,0.6s,358nm0.1nm						
APSI	Ampana	5.77	296	P	Pn	01 08 57.8	+1.1
	45nm,0.5s,660nm0.2nm						
MRSI	Marisa	6.26	308	P	Pn	01 09 05.0	+1.6
	72nm,0.5s,1μm0.3nm						
WRA	Warramunga Arr	17.96	157	P	Pn	01 11 41.3	+0.3
	0.2nm,0.3s,baz=339,slow=11,SNR=7.4						
WRA				LR	LR	01 18 43.8	
	comp=Z,49nm,18.8s,baz=336,slow=37 1.5nm,0.8s						
ASAR	Alice Springs	21.24	162	P	P	01 12 18.0	+0.6
	6.8nm,0.8s,baz=343,slow=11,SNR=64 6.8nm,0.8s						
MKAR	Makanchi Array	63.55	327	P	P	01 18 00.9	-0.9
	0.2nm,0.5s,baz=115,slow=8.4,SNR=4.2 0.2nm,0.5s						

IDC 15 01:13:19.3±4.8, 4.87S×133.48E, h0km, mb3.6/1, mbtmp3.4/4, ML3.2/3, MS3.4/1, Error ellipse: s-maj=258.1km s-min=27.5km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	4.54	331	Pn	Pn	01 14 30.0	+0.6
	0.9nm,0.3s,baz=207,slow=24,SNR=1.4						
SIJI				Sn	Sn	01 15 18.4	-4.5
	1.0nm,0.3s,baz=105,slow=22,SNR=1.6 4.0nm,0.3s						
WRA	Warramunga Arr	15.01	177	Pn	Pn	01 16 52.2	-0.7
	0.1nm,0.3s,baz=355,slow=13,SNR=3.8						
WRA				Sn	Sn	01 19 30.3	-10
	0.1nm,0.3s,baz=349,slow=24,SNR=3.1 0.4nm,0.6s						
ASAR	Alice Springs	18.70	179	P	P	01 17 39.2	-0.1
	0.1nm,0.3s,baz=4.0,slow=10.0,SNR=14 0.9nm,0.8s						
STKA	Stephens Creek	27.93	165	LR	LR	01 31 47.4	
	comp=Z,83nm,19.8s,baz=27,slow=40						
MKAR	Makanchi Array	68.42	325	P	P	01 24 23.0	0.0
	0.5nm,0.8s,baz=110,slow=8.7,SNR=4.7 0.5nm,0.8s						

UPP 15 01:23:49.4±0.0, 67.85N×20.20E, h0km, ML2.6, Suspected explosion
HEL 15 01:23:50.1±0.1, 67.85N×20.21E, h0km, ML1.4, Explosion
ISC 15 01:23:48.4±0.8, 67.85N±0.03×20.29E±0.03, h0km, n24, σ0.71/32, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	Laukkuluspa	0.27	265	P	Pg	01 23 54.0	+0.5
RATU				S	Sg	01 23 57.2	+0.3
KOVU	Salmi	0.38	352	P	Pg	01 23 56.5	+0.9
NIKU	Nikkaluokta	0.48	273	P	Pg	01 23 57.9	+0.4
LANU	Lannavaara	0.67	72	P	Pb	01 24 02.9	-0.1
LANU	Lannavaara	0.67	72	PG	Pb	01 24 02.6	-0.4
LANU				SG	Sb	01 24 11.6	-1.2
DUNU	Dundret	0.74	172	P	Pg	01 24 03.1	+0.6
MASU	Masugnsbyn	0.76	120	P	Pb	01 24 04.3	-0.2
SALU	Saltoluokta	0.83	236	P	Pg	01 24 04.3	+0.1
KIF	Kilpisjarvi	1.18	9	*e*P	Pn	01 24 12.0	-0.1
KIF	Kilpisjarvi	1.18	9	PG	Pn	01 24 12.0	-0.1
KIF	baz=189			MSG		01 24 26.9	
KIF	comp=Z,4.6nm,0.2s			SG	Sb	01 24 27.7	+0.4
PAJU	Pajala	1.37	126	P	Pb	01 24 14.9	+0.1
HEF	Hetta	1.38	64	*e*P	Pb	01 24 15.8	+0.7
HEF	Hetta	1.38	64	PG	Pb	01 24 15.6	+0.6
HEF				MSG		01 24 32.4	
HEF	comp=Z,3.0nm,0.2s			SB	Sn	01 24 33.8	0.0
ERTU	Ertsjaerv	1.50	150	P	Pg	01 24 17.3	+0.3
ERTU	Ertsjaerv	1.50	150	P	Sn	01 24 36.9	+0.2
ERTU	Ertsjaerv	1.50	150	PG	Pg	01 24 17.3	+0.3
ERTU	baz=327 Ertsjaerv	1.50	150	SG	Sn	01 24 37.0	+0.3
KTK1	Kautokeino	1.60	42	PG	Pg	01 24 19.0	+0.1
KTK1				SG	Sb	01 24 39.5	+0.1
HARU	Harads	1.71	171	P	Pb	01 24 20.6	-0.1
TRO	Tromso	1.86	345	SB	Sn	01 24 43.4	-2.2
TOF	Tornio	2.38	136	PB	Pb	01 24 31.4	-0.7
TOF	comp=Z,1.1nm,0.2s			MSG		01 25 01.1	
TOF				SG	Sg	01 25 04.0	-0.8
SGF	Sodankyl	2.42	97	PG	Pb	01 24 32.7	0.0
SGF				SG	Sg	01 25 05.4	-0.5
ARA0	ARCESS Array S	2.55	46	SN	Sn	01 25 03.4	+0.8
RNF	Rovaniemi	2.55	117	PB	Pb	01 24 34.3	-0.7
RNF				SG	Sb	01 25 08.4	+1.6

UPP 15 01:24:09.2±0.1, 67.84N×20.19E, h0km, ML2.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	Laukkuluspa	0.23	266	P	Pg	01 24 13.7	+0.2
RATU				S	Sg	01 24 16.2	-0.3
KOVU	Salmi	0.38	358	P	Pg	01 24 16.5	0.0
KOVU				S	Sg	01 24 21.5	+0.1
NIKU	Nikkaluokta	0.44	274	P	Pg	01 24 17.6	0.0
SALU	Saltoluokta	0.80	235	P	Pg	01 24 24.0	-0.4

IDC 15 01:52:50.3±72.0, 2.54N×94.60E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=1364.0km s-min=164.9km az=179.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	Diego Garcia H	24.27	245	T	T	02 23 34.5	
	baz=65,slow=75,SNR=16						
H08S3	Diego Garcia H	24.27	245	T	T	02 23 33.2	
	baz=65,slow=75,SNR=18						
H08S1	Diego Carcia H	24.29	245	T	T	02 23 34.6	
	baz=65,slow=75,SNR=14						
MKAR	Makanchi Array	45.37	348	P	P	02 01 10.3	-0.1
	0.2nm,0.4s,baz=173,slow=8.2,SNR=6.2 0.2nm,0.4s						
SONM	Songino Array	46.26	11	P	P	02 01 17.4	-0.2
	0.1nm,0.4s,baz=191,slow=9.7,SNR=1.6 0.1nm,0.4s						
ZALV	Zalesovo Beam	51.87	353	P	P	02 02 00.3	0.0
	0.5nm,0.4s,baz=164,slow=5.9,SNR=2.8 0.5nm,0.4s						

IDC 15 02:02:13.6±0.7, 6.82N×72.98W, h161km±11km, mb3.2/2, mbtmp3.8/4, Error ellipse: s-maj=41.6km s-min=7.7km az=131.0
RSNC 15 02:02:15.1±0.7, 6.79N×73.15W, h145km±3km, ML3.5, Mw3.9
ISC 15 02:02:13.0±0.9, 6.83N±0.03×73.10W±0.04, h156km±6km, n38, σ1.966/70, 3C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.25	198	⇓*i*P	Pn	02 02 34.6	+0.1
BARC				*e*S	Sn	02 02 49.8	-1.0
BARC				*i*		02 02 50.9	
	comp=Z,1μm,0.4s						
PAMC	Pamplona, Colo	0.65	38	⇑*i*P	Pn	02 02 37.4	+1.0
PAMC				*e*S	Sn	02 02 54.2	-0.1
PAMC				*i*		02 02 56.9	
	comp=Z,849nm,0.5s						
BRRC	Barranca, Sant	0.66	294	⇑*i*P	Pn	02 02 36.4	+0.5
BRRC				*e*S	Sn	02 02 53.3	-0.1
BRRC				*i*		02 02 57.4	
	comp=Z,637nm,0.2s						
RUSC	La Rusia	0.93	179	⇓*i*P	Pn	02 02 38.5	+0.1
RUSC				*e*S	Sn	02 02 57.1	-0.7
RUSC				*i*		02 02 58.3	
	comp=Z,346nm,0.4s						
TAMC	Tame, Arauca	1.36	107	⇑*i*P	Pn	02 02 43.0	+1.4
TAMC				*i*		02 03 04.2	
	comp=Z,197nm,0.4s						
TAMC				*e*S	Sn	02 03 04.3	+0.7
PTBC	PUERTO BERRIO,	1.37	258	*e*P	Pn	02 02 41.0	-0.7
PTBC				*e*S	Sn	02 03 01.9	-1.9
PTBC				*i*		02 03 04.5	
	comp=Z,321nm,0.2s						
ZARC	Zaragoza, Cauc	1.86	291	*e*P	Pn	02 02 47.1	+0.2
ZARC				*e*S	Sn	02 03 12.5	-0.5
ZARC				*i*		02 03 19.3	
	comp=Z,393nm,0.4s						
NORC	Norcasia	2.16	234	*e*P	Pn	02 02 50.4	0.0
NORC				*e*S	Sn	02 03 18.5	-0.7
NORC				*i*		02 03 26.8	
	comp=Z,162nm,0.1s						
CHIC	Chingaza	2.27	196	*e*P	Pn	02 02 52.4	+0.2
CHIC				*e*S	Sn	02 03 21.3	-1.0
CHIC				*i*		02 03 25.7	
	comp=Z,298nm,0.5s						
ROSC	El Rosal	2.32	212	P	Pn	02 02 54.4	+1.8
	comp=Z,127nm,0.4s,baz=74,slow=15,SNR=107						
ROSC				S	Sn	02 03 25.8	+2.6
	comp=Z,622nm,0.4s,baz=330,slow=22,SNR=14						
ROSC	El Rosal	2.32	212	*e*P	Pn	02 02 54.3	+1.6
ROSC				*e*S	Sn	02 03 23.6	+0.4
ROSC		

SJCC	**San Jacinto, C**	**3.67**	**326**	*eP*	**Pn**	**02 03 08.2**	**-1.0**
SJCC				*eS*	**Sn**	**02 03 49.4**	**-3.6**
SJCC				*i*		02 04 04.5	
	comp=Z,100nm,0.7s						
PLMC	**San Jos del P**	**3.70**	**239**	*eP*	**Pn**	**02 03 09.9**	**+0.4**
PLMC				*eS*	**Sn**	**02 03 51.4**	**-2.1**
PLMC				*i*		02 03 58.2	
	comp=Z,48nm,0.2s						
LCBC	**Los crdobas,**	**3.81**	**302**	*eP*	**Pn**	**02 03 12.2**	**+1.2**
LCBC				*eS*	**Sn**	**02 03 57.1**	**+1.1**
LCBC				*i*		02 03 59.5	
	comp=Z,88nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*eP*	**Pn**	**02 03 14.9**	**-0.8**
CRJC				*eS*	**Sn**	**02 04 02.2**	**-2.4**
CRJC				*i*		02 04 06.0	
	comp=Z,72nm,0.2s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	*eP*	**Pn**	**02 03 16.9**	**-0.5**
YOTC				*eS*	**Sn**	**02 04 03.6**	**-3.8**
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	**Pn**	**02 03 19.7**	**+0.5**
SMRC				*eS*	**Sn**	**02 04 07.7**	**-3.2**
SMRC				*i*		02 04 10.4	
	comp=Z,40nm,0.4s						
PIZC	**Pizarro, Choco**	**4.62**	**247**	*eP*	**Pn**	**02 03 23.6**	**+2.1**
PIZC				*eS*	**Sn**	**02 04 16.8**	**+1.8**
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*	**Pn**	**02 03 21.6**	**-1.2**
MACC				*eS*	**Sn**	**02 04 12.4**	**-4.9**
MACC				*i*		02 04 25.0	
	comp=Z,50nm,0.5s						
URIC	**Uribia, Colomb**	**4.96**	**13**	*eP*	**Pn**	**02 03 24.8**	**-1.2**
URIC				*eS*	**Sn**	**02 04 20.2**	**-2.9**
URIC				*i*		02 04 27.6	
	comp=Z,20nm,0.5s						
GARC	**Garzon, Huila**	**5.19**	**207**	*eP*	**Pn**	**02 03 28.6**	**-0.7**
GARC				*eS*	**Sn**	**02 04 26.0**	**-2.9**
GARC				*i*		02 04 32.9	
	comp=Z,45nm,0.2s						
FLOC	**Florencia**	**5.80**	**206**	*eP*	**Pn**	**02 03 37.5**	**+0.4**
FLOC				*eS*	**Sn**	**02 04 42.2**	**-0.9**
FLOC				*i*		02 04 48.5	
	comp=Z,8.4nm,0.4s						
GCUF	**Volcan Galeras**	**6.99**	**217**	*eP*	**Pn**	**02 03 55.1**	**+1.6**
GCUF				*eS*	**Sn**	**02 05 10.7**	**-1.5**
TULM	**Tulcn-Chalpat**	**7.66**	**218**	*eP*	**Pn**	**02 04 03.7**	**+1.3**
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**02 10 37.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=124,slow=8.1,SNR=4.3						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**02 12 25.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=133,slow=6.3,SNR=19						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**02 21 43.8**	**0.0**
	comp=Z,0.6nm,0.7s,baz=123,slow=3.5,SNR=6.5						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**02 21 46.3**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=107,slow=2.5,SNR=6.1						

IDC 15 02:23:50.8±2.2, 2°.13S×128°.18E, h0km, mb3.5/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=153.8km s-min=26.7km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.70**	**162**	P	P	02 28 10.8	-0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=6.8						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**22.12**	**166**	P	P	02 28 48.1	0.0
	1.3nm,0.4s,baz=344,slow=11,SNR=37						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**63.18**	**326**	P	P	02 34 20.8	0.0
	0.3nm,0.6s,baz=120,slow=8.4,SNR=4.5						
	0.3nm,0.6s						

IDC 15 02:38:39.4±3.4, 33°.11S×177°.90W, h0km, mb3.5/2, mbtmp3.6/3, ML2.7/1, MS3.1/1, Error ellipse: s-maj=80.2km s-min=38.2km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.55**	**217**	Pn	Pn	02 40 17.1	+0.1
	0.2nm,0.3s,baz=214,slow=16,SNR=1.4						
URZ				Sn	Sn	02 41 32.9	+0.5
	1.9nm,0.3s,baz=333,slow=8.0,SNR=10						
	4.5nm,0.7s						
ASAR	**Alice Springs**	**43.12**	**270**	P	P	02 46 41.7	-0.1
	0.6nm,0.8s,baz=114,slow=7.7,SNR=6.2						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**44.35**	**275**	P	P	02 46 51.5	-0.2
	0.4nm,0.4s,baz=116,slow=7.5,SNR=8.2						
	0.4nm,0.4s						
GUMO	**Guam**	**58.47**	**316**	LR	LR	03 11 16.5	
	comp=Z,17nm,19.9s,baz=210,slow=34						
FINES	**FINESS Array B**	**147.70**	**339**	PKPbc	PKPbc	02 58 24.5	-0.7
	2.2nm,0.9s,baz=56,slow=2.5,SNR=3.9						

IDC 15 02:38:51.7±3.0, 13°.13N×120°.06E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=391.8km s-min=25.1km az=61.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.75**	**157**	P	P	02 45 52.0	-0.5
	0.3nm,0.3s,baz=334,slow=9.8,SNR=8.1						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**39.00**	**160**	P	P	02 46 20.5	+0.3
	0.3nm,0.4s,baz=338,slow=8.0,SNR=9.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**46.12**	**324**	P	P	02 47 17.7	-0.2
	0.2nm,0.3s,baz=119,slow=7.3,SNR=8.9						
	0.2nm,0.3s						

IDC 15 02:42:24.5±4.8, 25°.62N×142°.79E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=330.8km s-min=30.9km az=86.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.56**	**340**	Sn	Sg	02 43 22.3	+7.6
	84nm,0.3s,baz=271,slow=24,SNR=5.8						
WRA	**Warramunga Arr**	**46.03**	**191**	P	P	02 50 49.8	-0.2
	0.6nm,0.4s,baz=12,slow=8.8,SNR=12						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**49.75**	**191**	P	P	02 51 19.0	+0.1
	0.1nm,0.4s,baz=16,slow=14,SNR=1.8						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**79.50**	**334**	P	P	02 54 32.7	0.0
	1.7nm,0.9s,baz=55,slow=5.3,SNR=7.8						
	1.7nm,0.9s						

SOME 15 03:10:29.0, 42°.33N×81°.08E, h5km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.45**	**305**	*eP*	Pn	03 10 52.7	-3.3
	2.2nm,0.1s						
SHLS				*eS*	Sb	03 11 09.9	-5.5
	29nm,0.1s						
UZB	**Uzynbulak**	**1.72**	**299**	*eP*	Pg	03 11 01.9	-0.1
	3.8nm,0.2s						
UZB				*eS*	Sg	03 11 25.4	+1.0
	1.8nm,0.3s						
KPKS	**Kokpek**	**2.10**	**304**	*ePg*	Pg	03 11 08.6	-0.6
	1.5nm,0.1s						
KPKS				*eLg*	Lg	03 11 37.2	
	5.5nm,0.2s						
SATY	**Saty**	**2.10**	**291**	*ePg*	Pg	03 11 08.9	-0.4
	1.3nm,0.2s						
SATY				*eLg*	Lg	03 11 37.7	
	4.7nm,0.6s						
TNSS	**Tian-Shan**	**3.13**	**284**	*ePg*	Pn	03 11 16.4	-2.9
	3.5nm,0.5s						
TNSS				*eLg*	Lg	03 12 00.0	
	4.2nm,0.1s						
MTBS	**Maitube**	**3.52**	**285**	*ePg*	Pn	03 11 19.7	-4.7
	0.6nm,0.1s						
MTBS				*eLg*	Lg	03 12 05.5	
	6.8nm,0.1s						

WEL ***15*** *03:24:00.0, 41°.71S×174°.23E, h19km, ML4.0, Mw3.9, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}3.70; $M_{\theta\theta}$5.99; $M_{\phi\phi}$-9.68; $M_{r\theta}$-1.90; $M_{\theta\phi}$0.25; $M_{\phi r}$1.92; Fault plane solution: $M_0$8.53000×10^{14} NP1: ϕ_s221.00000°, δ63.00000°, λ163.00000°. NP2: ϕ_s319.00000°, δ75.00000°, λ28.00000°. Principal axes: T 70.8800, Plg30.0000°, Azm183.0000°; N 28.8100, Plg58.0000°, Azm344.0000°; P -99.6900, Plg8.0000°, Azm88.0000°;*

NOU ***15*** *03:24:10.6, 41°.92S×174°.50E, h15km, MLv4.4/11, Cook Strait, New Zealand*

WEL ***15*** *03:24:11.7±0.4, 42°.2S×17°.4E±°, h6km±3km, M4.0/14, ML4.3/14, MLv4.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=121.6, confirmed*

ISC 15 03:24:10.7±1.0, 41°.81S±0°.03×174°.28E±0°.03, h11km±6km, n113, σ19°05/123, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**323**	P	**Pg**	**03 24 13.3**	**+0.2**
CMWZ				S	**Sg**	**03 24 15.5**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.32**	**288**	P	**Pg**	**03 24 16.9**	**-0.1**
BSWZ				S	**Sg**	**03 24 21.6**	**+0.3**
TUWZ	**Tuamarina**	**0.46**	**327**	P	**Pg**	**03 24 19.0**	**-0.7**
TUWZ				S	**Sg**	**03 24 25.0**	**-0.8**
SNZO	**South Karori**	**0.59**	**33**	P	**Pb**	**03 24 22.8**	**-0.3**
TCW	**Tory Channel**	**0.60**	**360**	P	**Pg**	**03 24 21.6**	**-0.8**
TCW				S	**Sg**	**03 24 29.6**	**-0.7**
PLWZ	**Palliser**	**0.77**	**72**	P	**Pn**	**03 24 27.4**	**-0.1**
KHZ	**Kahutara**	**0.82**	**222**	P	**Pn**	**03 24 28.6**	**+0.5**
KHZ	**Kahutara**	**0.82**	**222**	P	**Pn**	**03 24 28.5**	**+0.4**
KHZ				S	**Sn**	**03 24 42.1**	**+1.9**
NNZ	**Nelson**	**0.90**	**311**	P	**Pg**	**03 24 26.8**	**-1.2**
CAW	**Cannon Point**	**0.92**	**40**	P	**Pb**	**03 24 28.6**	**-0.1**
PAWZ	**Paruwai Farm**	**0.96**	**64**	P	**Pn**	**03 24 29.9**	**-0.3**
THZ	**Tophouse**	**1.03**	**272**	P	**Pg**	**03 24 30.1**	**-0.4**
DUWZ	**D'Urville Isla**	**1.04**	**345**	P	**Pg**	**03 24 29.3**	**-1.5**
DUWZ				S	**Sg**	**03 24 43.3**	**-1.1**
KIW	**Kapiti Island**	**1.06**	**27**	P	**Pg**	**03 24 30.4**	**-0.7**
KIW				S	**Sg**	**03 24 44.7**	**-0.2**
MTW	**Mount Morrison**	**1.13**	**55**	P	**Pb**	**03 24 32.1**	**-0.1**
MTW				S	**Sn**	**03 24 48.8**	**+0.9**
TRWZ	**Traveller**	**1.14**	**69**	P	**Pb**	**03 24 32.2**	**-0.1**
OGWZ	**Otaki Gorge**	**1.20**	**34**	P	**Pb**	**03 24 33.0**	**-0.4**
MRNZ	**Matariki Terra**	**1.21**	**289**	P	**Pn**	**03 24 33.3**	**-0.3**
MRNZ				S	**Sn**	**03 24 50.4**	**+0.4**
TKNZ	**Takaka Hill**	**1.26**	**308**	P	**Pn**	**03 24 33.3**	**-1.0**
HOWZ	**Holdsworth Sta**	**1.30**	**46**	P	**Pn**	**03 24 34.4**	**-0.4**
TMWZ	**Te Maipa**	**1.40**	**60**	P	**Pn**	**03 24 35.6**	**-0.6**
GVZ	**Greta Valley S**	**1.48**	**218**	P	**Pn**	**03 24 37.6**	**+0.3**
MRZ	**Mangatainoka R**	**1.51**	**41**	P	**Pn**	**03 24 37.4**	**-0.3**
TIWZ	**Tintock**	**1.59**	**50**	P	**Pn**	**03 24 39.0**	**+0.2**
QRZ	**Quartz Range**	**1.65**	**306**	P	**Pn**	**03 24 40.1**	**+0.6**
QRZ	**Quartz Range**	**1.65**	**306**	P	**Pn**	**03 24 39.9**	**+0.3**
CPWZ	**Castlepoint**	**1.71**	**59**	P	**Pg**	**03 24 46.2**	**+2.8**
LTZ	**Lake Taylor**	**1.78**	**236**	P	**Pn**	**03 24 41.8**	**+0.4**
PRWZ	**Pori Road**	**1.79**	**46**	P	**Pn**	**03 24 41.2**	**-0.4**
POWZ	**Post Office Ro**	**1.81**	**39**	P	**Pn**	**03 24 41.6**	**-0.3**
AMCZ	**Amberley**	**1.82**	**221**	P	**Pn**	**03 24 41.8**	**-0.1**
DSZ	**Denniston Nort**	**1.85**	**271**	P	**Pn**	**03 24 43.7**	**+1.2**
BFZ	**Birch Farm**	**1.86**	**53**	P	**Pn**	**03 24 41.6**	**-1.0**
OKCZ	**Okains Bay**	**2.11**	**205**	P	**Pn**	**03 24 45.4**	**-0.5**
WAZ	**Wanganui**	**2.12**	**15**	P	**Pb**	**03 24 48.2**	**-1.0**
ANWZ	**Angora Road**	**2.14**	**52**	P	**Pn**	**03 24 45.5**	**-0.8**
TSZ	**Takapari Road**	**2.17**	**37**	P	**Pn**	**03 24 46.2**	**-0.5**
MQZ	**McQueen's Vall**	**2.24**	**212**	P	**Pn**	**03 24 46.4**	**-1.3**
OXZ	**Oxford**	**2.24**	**227**	P	**Pn**	**03 24 46.9**	**-0.8**
AKCZ	**Akaroa Harbour**	**2.29**	**206**	P	**Pn**	**03 24 47.7**	**-0.8**
INZ	**Inchbonnie**	**2.29**	**246**	P	**Pn**	**03 24 48.9**	**+0.5**
LREZ	**Lake Rotokare**	**2.35**	**2**	P	**Pb**	**03 24 52.8**	**-0.3**
PRHZ	**Porangahau**	**2.36**	**50**	P	**Pn**	**03 24 48.0**	**-1.4**
PNHZ	**Pukenui**	**2.39**	**38**	P	**Pn**	**03 24 49.1**	**-0.8**
WPHZ	**Waipukurau**	**2.39**	**44**	P	**Pn**	**03 24 49.0**	**-0.8**
NMEZ	**Namu Road**	**2.42**	**353**	P	**Pb**	**03 24 54.7**	**+0.5**
RACZ	**Rakaia**	**2.48**	**219**	P	**Pn**	**03 24 49.8**	**-1.1**
KHEZ	**Kahui Hut**	**2.52**	**355**	P	**Pn**	**03 24 54.8**	**-1.2**
NEZ	**North Egmont**	**2.54**	**357**	P	**Pb**	**03 24 55.1**	**-1.3**
NBEZ	**Newall Road No**	**2.56**	**353**	P	**Pb**	**03 24 56.6**	**0.0**
MTVZ	**Mangateitei**	**2.59**	**21**	P	**Pb**	**03 24 57.9**	**+0.7**
DREZ	**Durham Road**	**2.62**	**359**	P	**Pb**	**03 24 56.2**	**-1.4**
PKE	**Pukeiti**	**2.63**	**355**	P	**Pb**	**03 24 57.4**	**-0.3**
MHCZ	**Mount Hutt**	**2.64**	**228**	P	**Pn**	**03 24 52.2**	**-1.0**
PXZ	**Pawanui**	**2.65**	**49**	P	**Pn**	**03 24 51.4**	**-1.9**
PKVZ	**Pokaka**	**2.65**	**18**	P	**Pn**	**03 24 54.8**	**+1.4**
MOVZ	**Moawhango**	**2.65**	**26**	P	**Pn**	**03 24 53.4**	**0.0**
WNVZ	**Wahianoa**	**2.68**	**22**	P	**Pn**	**03 24 54.8**	**+0.9**
KRHZ	**Kereru**	**2.69**	**37**	P	**Pn**	**03 24 53.0**	**-0.9**
BHHZ	**Black Hill Sta**	**2.69**	**31**	P	**Pn**	**03 24 54.3**	**+0.3**
TRVZ	**Turoa**	**2.69**	**21**	P	**Pb**	**03 24 59.0**	**0.0**
VRZ	**Vera Road**	**2.71**	**8**	P	**Pn**	**03 24 55.9**	**+1.8**
WHVZ	**Whangaehu Hut**	**2.72**	**22**	P	**Pb**	**03 24 59.2**	**-0.2**
MHEZ	**Mangahewa**	**2.73**	**1**	P	**Pb**	**03 24 57.7**	**-1.8**
WACZ	**Wakanui South**	**2.78**	**219**	P	**Pn**	**03 24 54.5**	**-0.6**
KAHZ	**Kahuranaki**	**2.82**	**45**	P	**Pn**	**03 24 54.4**	**-1.3**
NGZ	**Ngauruhoe**	**2.82**	**21**	P	**Pb**	**03 25 01.4**	**+0.3**
SNVZ	**South Ngauruho**	**2.82**	**22**	P	**Pb**	**03 25 01.4**	**+0.2**
OTVZ	**Oturere**	**2.85**	**22**	P	**Pn**	**03 24 57.1**	**+0.8**
NNVZ	**North Ngauruho**	**2.87**	**21**	P	**Pn**	**03 24 57.6**	**+1.1**
WTVZ	**West Tongariro**	**2.87**	**21**	P	**Pn**	**03 24 57.8**	**+1.2**
TWVZ	**Taurewa**	**2.88**	**18**	P	**Pb**	**03 25 02.5**	**+0.4**
ETVZ	**East Tongariro**	**2.89**	**23**	P	**Pn**	**03 24 57.6**	**+0.9**
KWHZ	**Kaweka Forest**	**2.89**	**35**	P	**Pn**	**03 24 56.2**	**-0.5**
TMVZ	**Te Maari**	**2.91**	**22**	P	**Pn**	**03 24 57.5**	**+0.6**
KRVZ	**Karewarewa**	**2.91**	**21**	P	**Pb**	**03 25 02.4**	**-0.2**
WVZ	**Waitaha Valley**	**2.91**	**243**	P	**Pn**	**03 24 57.7**	**+0.8**
NTVZ	**North Tongarir**	**2.91**	**22**	P	**Pn**	**03 24 58.3**	**+1.2**
MCHZ	**McNeill Hill**	**3.00**	**39**	P	**Pn**	**03 24 57.0**	**-1.2**
MCHZ				P	**Pn**	**03 24 57.1**	**-1.0**
KATZ	**Kakaramea**	**3.03**	**21**	P	**Pb**	**03 25 05.2**	**+0.4**
RPZ	**Rata Peaks**	**3.04**	**230**	P	**Pn**	**03 24 58.5**	**-0.3**
RPZ	**Rata Peaks**	**3.04**	**230**	P	**Pn**	**03 24 58.3**	**-0.5**
RITZ	**Rihia Road**	**3.08**	**24**	P	**Pb**	**03 25 05.5**	**0.0**
ARCZ	**Arundel**	**3.12**	**226**	P	**Pn**	**03 24 59.4**	**-0.5**
BKZ	**Black Stump Fm**	**3.14**	**33**	P	**Pn**	**03 24 59.2**	**-0.9**
BKZ	**Black Stump Fm**	**3.14**	**33**	P	**Pn**	**03 24 58.8**	**-1.3**
HATZ	**Hinemaiaia**	**3.23**	**26**	P	**Pb**	**03 25 08.0**	**-0.1**
ARHZ	**Aropaoanui**	**3.28**	**40**	P	**Pn**	**03 25 01.3**	**-0.8**
GCSZ	**Gaunt Creek Bo**	**3.28**	**241**	P	**Pn**	**03 25 03.0**	**+1.0**
HIZ	**Hauiti**	**3.33**	**8**	P	**Pn**	**03 25 04.6**	**+2.0**
HIZ	**Hauiti**	**3.33**	**8**	P	**Pn**	**03 25 04.4**	**+1.7**
TMZ	**Timaru**	**3.51**	**222**	P	**Pn**	**03 25 04.6**	**-0.6**
MTHZ	**Maungataniwha**	**3.55**	**34**	P	**Pn**	**03 25 04.1**	**-1.6**
TLZ	**Tolley Road**	**3.61**	**16**	P	**Pn**	**03 25 09.2**	**+2.6**
FOZ	**Fox Glacier**	**3.71**	**241**	P	**Pn**	**03 25 08.4**	**+0.5**
LBZ	**Lake Benmore**	**3.95**	**228**	P	**Pn**	**03 25 11.1**	**-0.1**
URZ	**Urewera**	**4.16**	**32**	P	**Pn**	**03 25 13.6**	**-0.5**
URZ	**Urewera**	**4.16**	**32**	P	**Pn**	**03 25 12.2**	**-1.9**
ODZ	**Otahua Downs**	**4.18**	**218**	P	**Pn**	**03 25 13.3**	**-1.0**
ODZ	**Otahua Downs**	**4.18**	**218**	P	**Pn**	**03 25 13.1**	**-1.2**
TOZ	**Tahuroa Road**	**4.18**	**13**	P	**Pn**	**03 25 17.4**	**+3.0**
JCZ	**Jackson Bay**	**4.62**	**239**	P	**Pn**	**03 25 22.1**	**+1.6**
JCZ	**Jackson Bay**	**4.62**	**239**	P	**Pn**	**03 25 21.7**	**+1.2**
RUGZ	**Raukumara Rang**	**4.65**	**35**	P	**Pn**	**03 25 18.8**	**-2.2**
AWAZ	**Awhitu Peninsu**	**4.75**	**4**	P	**Pn**	**03 25 24.5**	**+2.3**
MKAZ	**Moumakai**	**4.75**	**9**	P	**Pn**	**03 25 23.0**	**+0.8**
HHSZ	**Highcliff Hill**	**4.86**	**212**	P	**Pn**	**03 25 23.1**	**-0.6**
HAZ	**Te Kaha**	**4.87**	**35**	P	**Pn**	**03 25 21.8**	**-2.1**
WKZ	**Wanaka**	**4.88**	**230**	P	**Pn**	**03 25 23.2**	**-0.8**
EAZ	**Earnscleugh**	**4.97**	**225**	P	**Pn**	**03 25 24.8**	**-0.5**
SYZ	**Scrubby Hill**	**6.00**	**216**	P	**Pn**	**03 25 38.6**	**-0.7**
OUZ	**Omahuta**	**6.61**	**355**	P	**Pn**	**03 25 49.8**	**+2.1**
CTZ	**Chatham Island**	**6.97**	**109**	P	**Pn**	**03 25 53.0**	**+0.3**

BGR ***15*** *03:37:14.6, 35°.17N×25°.09E, h33km, mb4.2, Ms3.8*

MOS ***15*** *03:37:16.9±1.2, 35°.07N×23°.15E, h9km, mb4.7/29, Error ellipse: s-maj=6.7km s-min=3.3km az=75.7*

IDC ***15*** *03:37:17.6±0.5, 35°.22N×23°.29E, h0km, mb4.4/32, mbtmp4.3/39, ML4.0/7, MS3.8/61, Error ellipse: s-maj=12.4km s-min=11.9km az=140.0*

MED_RC ***15*** *03:37:18.0±0.5, 34°.92N×23°.05E, h10km, MW4.8/7, Moment Tensor Solution. Mantle waves: s7,c8; Duration: 1^{20} Moment tensor: Scale 10^{16}Nm; M_{rr}-0.01±.06; $M_{\theta\theta}$0.20±.03; $M_{\phi\phi}$-0.19±.06; $M_{r\theta}$0.17±.11; $M_{\theta\phi}$0.04±.06; $M_{\phi r}$-2.33±.13; Best double couple: $M_0$2.34000×10^{16} NP1: ϕ_s176.00000°, δ89.00000°, λ90.00000°. NP2: ϕ_s342.00000°, δ1.00000°, λ76.00000°. Principal axes: T 2.2400, Plg46.0000°, Azm86.0000°; N 0.2000, Plg0.0000°, Azm356.0000°; P -2.4400, Plg44.0000°, Azm266.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

HLW ***15*** *03:37:18.8, 35°.27N×23°.49E, h11km±43km, Md4.7, Ml4.7*

NEIC ***15*** *03:37:19.7±2.5, 35°.12N±0°.08×23°.17E±0°.08, h10km±1km, mb4.4/41, Error ellipse: s-maj=15.1km s-min=10.4km az=208.0*

THE ***15*** *03:37:21.7, 35°.02N×23°.02E, h9km, ML4.5/7, Error ellipse: s-maj=1.2km s-min=0.6km az=48.0*

BEO ***15*** *03:37:21.5±0.5, 35°.18N×22°.58E, h0km, ML4.4/12*

ATH ***15*** *03:37:23.0, 35°.06N×23°.06E, h21km±2km, ML4.6/11, Error ellipse: s-maj=3.0km s-min=0.8km az=45.0*

ISK ***15*** *03:37:23.0, 35°.28N×23°.19E, h27km, ML4.5/45*

PDG ***15*** *03:37:26.0±0.1, 35°.26N×22°.72E, h10km±12km, ML4.4/12, Error ellipse: s-maj=17.8km s-min=5.3km az=90.0*

GII ***15*** *03:37:27.9±0.0, 34°.88N×24°.13E, h1km, mb4.7/3, MD4.6/3, Mm4.6/3*

ISC 15 03:37:21.0±1.0, 35°.13N±0°.03×23°.10E±0°.03, h27km±6km, n714, σ29°40/749, mb4.5/68, MS3.9/55, 39C-51D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.50**	**77**	P	**Pn**	**03 37 32.1**	**-0.2**
KNDR				S	**Sn**	**03 37 39.9**	**-0.2**
	32μm,0.6s						
KNDR	**Palaiochora Ch**	**0.50**	**77**	Pg	**Pn**	**03 37 32.1**	**-0.2**
KNDR				Sg	**Sb**	**03 37 37.5**	**-0.7**
KNDR	**Palaiochora Ch**	**0.50**	**77**	P	**Pn**	**03 37 32.2**	**-0.2**
KNDR				S	**Sn**	**03 37 39.8**	**-0.2**
KNDR				AML	AML	03 37 48.0	
KNDR				AML	AML	03 37 48.5	
ANKY	**Antikythira Is**	**0.76**	**13**	P	**Pn**	**03 37 38.8**	**+2.8**
ANKY				S	**Sn**	**03 37 51.0**	**+4.4**
	40μm,0.4s						
ANKY	**Antikythira Is**	**0.76**	**13**	P	**Pn**	**03 37 39.0**	**+3.0**
ANKY				AML	AML	03 37 54.7	
ANKY				AML	AML	03 37 56.0	
	comp=N,57167μm,0.3s						
IMMV	**Iera Moni Meta**	**0.80**	**65**	P	**Pn**	**03 37 38.3**	**+1.8**
IMMV				S	**Sn**	**03 37 51.8**	**+4.2**
	comp=N,52μm,0.9s						
IMMV	**Iera Moni Meta**	**0.80**	**65**	Pg	**Pn**	**03 37 38.1**	**+1.6**
IMMV				Sg	**Sn**	**03 37 47.3**	**-0.3**
IMMV	**Iera Moni Meta**	**0.80**	**65**	P	**Pn**	**03 37 38.6**	**+2.1**
IMMV				S	**Sn**	**03 37 50.5**	**+3.0**
IMMV				AML	AML	03 37 52.6	
	comp=N,98236μm,1.0s						
IMMV				AML	AML	03 37 54.9	
GVD	**Gavdhos**	**0.86**	**109**	P	**Pn**	**03 37 39.0**	**+1.6**
GVD				S	**Sn**	**03 37 51.0**	**+1.8**
	comp=N,40μm,0.4s						
GVD	**Gavdhos**	**0.86**	**109**	Pg	**Pn**	**03 37 39.2**	**+1.7**
GVD				Sg	**Sn**	**03 37 51.9**	**+2.7**
GVD	**Gavdhos**	**0.86**	**109**	P	**Pn**	**03 37 39.1**	**+1.7**
GVD				S	**Sn**	**03 37 50.9**	**+1.8**
GVD				AML	AML	03 37 55.4	
	comp=E,78382μm,0.4s						
GVD				AML	AML	03 37 56.8	
	comp=N,85033μm,0.5s						
CHAN	**Chania**	**0.87**	**63**	P	**Pn**	**03 37 39.9**	**+2.4**
CHAN				S	**Sn**	**03 37 52.9**	**+3.6**
CHAN				AML	AML	03 37 55.5	
CHAN				AML	AML	03 37 56.3	
PRNS	**Prines Rethymn**	**1.18**	**78**	P	**Pb**	**03 37 43.0**	**+0.3**
TMBK	**Timbaki Herakl**	**1.37**	**92**	P	**Pb**	**03 37 46.9**	**+0.9**
TMBK				S	**Sb**	**03 38 07.0**	**+3.9**
	comp=N,6μm,0.8s						
TMBK	**Timbaki Herakl**	**1.37**	**92**	P	**Pb**	**03 37 46.9**	**+0.9**
TMBK				AML	AML	03 38 25.9	
	comp=E,37925μm,0.7s						
TMBK				AML	AML	03 38 31.6	
	comp=N,30386μm,0.8s						
IDI	**Anoyia**	**1.48**	**83**	Pn	**Pb**	**03 37 48.0**	**+0.1**
	comp=N,71nm,0.3s,baz=244,slow=9.1,SNR=593						
IDI				LR	LR	03 38 28.9	
	comp=N,5μm,19.4s,baz=358,slow=54						
MNVA	**Monemvasia**	**1.56**	**358**	P	**Pb**	**03 37 51.4**	**+2.1**
VLI	**Veliai**	**1.59**	**355**	P	**Pb**	**03 37 51.2**	**+1.3**
VLI				S	**Sb**	**03 38 11.7**	**+2.1**
	comp=N,9μm,0.6s

KARP	Karpathos	3.35	82	Pn	Pn	03 38 12.3	+0.6
KARP	Karpathos	3.35	82	P	Pn	03 38 12.7	+1.0
KARP	Karpathos	3.35	82	Pn	Pn	03 38 14.6	+2.9
KARP	Karpathos	3.35	82	P	Pn	03 38 14.9	+3.2
KARP	Karpathos	3.35	82	P	Pn	03 38 13.2	+1.5
EREA	Eretria	3.36	11	P	Pn	03 38 13.6	+1.9
EREA	Eretria	3.36	11	P	Pn	03 38 14.3	+2.6
DLFA	Delphi	3.38	352	P	Pn	03 38 14.8	+2.7
SERG	Sergoula	3.39	346	P	Pn	03 38 16.3	+4.2
SERG	Sergoula	3.39	346	P	Pn	03 38 16.3	+4.2
EFP	Efpalio	3.43	344	P	Pn	03 38 16.3	+3.5
EFP	Efpalio	3.43	344	P	Pn	03 38 16.2	+3.5
LKR	Lokris	3.52	359	P	Pn	03 38 16.5	+2.6
KOSK	Kos Island	3.56	62	Pn	Pn	03 38 14.7	+2.3
ANX	Ano Chora	3.59	345	P	Pn	03 38 18.6	+3.6
ANX	Ano Chora	3.59	345	P	Pn	03 38 18.3	+3.3
KYMI	Kymi, Euboea I	3.59	13	P	Pn	03 38 17.0	+2.1
KYMI	Kymi, Euboea I	3.59	13	P	Pn	03 38 17.1	+2.1
PSDA	Pessada-Kefalo	3.60	327	P	Pn	03 38 17.2	+2.1
PSDA	Pessada-Kefalo	3.60	327	P	Pn	03 38 17.4	+2.3
AXAR	Agios Charalam	3.65	355	P	Pn	03 38 18.7	+2.9
AXAR	Agios Charalam	3.65	355	P	Pn	03 38 18.7	+2.9
VLS	Valsamata	3.65	327	P	Pn	03 38 18.0	+2.2
VLS	Valsamata	3.65	327	P	Pn	03 38 17.9	+2.2
PVO	Paravola	3.71	341	P	Pn	03 38 19.8	+3.3
PVO	Paravola	3.71	341	P	Pn	03 38 19.8	+3.3
KEF3	Kipouria, Keph	3.78	325	P	Pn	03 38 19.5	+1.9
KEF3	Kipouria, Keph	3.78	325	P	Pn	03 38 20.2	+2.6
KEF4	Livadi, Kephal	3.79	326	P	Pn	03 38 19.8	+2.1
KEF4	Livadi, Kephal	3.79	326	P	Pn	03 38 19.7	+2.1
DMLN	Damoulianata-K	3.80	326	P	Pn	03 38 19.8	+2.0
FSK	Fiskardo	3.90	329	P	Pn	03 38 21.7	+2.6
EVR	Evrytania	3.92	345	P	Pn	03 38 22.9	+3.3
EVR	Evrytania	3.92	345	P	Pn	03 38 24.4	+4.8
BODT	Bodrum	3.92	59	P	Pn	03 38 21.3	+1.8
BODT	Bodrum	3.92	59	Pn	Pn	03 38 21.3	+1.8
PSRA	Psara	3.94	29	P	Pn	03 38 22.5	+2.8
MAKR	Makrakomi, Fth	3.96	349	P	Pn	03 38 23.8	+3.8
MAKR	Makrakomi, Fth	3.96	349	P	Pn	03 38 23.5	+3.5
DAT	Datca	3.97	65	P	Pn	03 38 21.6	+1.3
DAT	Datca	3.97	65	Pn	Pn	03 38 22.3	+2.0
EVGI	Lefkada island	4.00	331	P	Pn	03 38 23.4	+2.8
EVGI	Lefkada island	4.00	331	P	Pn	03 38 23.6	+3.1
SLUM	Salum	4.03	153	P	Pn	03 38 21.9	+0.9
	baz=158						
SLUM				S	Sn	03 39 05.5	-1.9
	baz=158						
ALNA	Alonissos	4.06	9	P	Pn	03 38 23.4	+2.0
NYDR	Nydri-Lefkada	4.06	333	P	Pn	03 38 24.2	+2.8
DRAG	Dragano-Lefkad	4.09	331	P	Pn	03 38 24.7	+2.9
LKD2	Lefkada island	4.14	333	P	Pn	03 38 24.6	+2.0
LKD2	Lefkada island	4.14	333	P	Pn	03 38 24.6	+2.0
NEO	Neokhori	4.17	1	P	Pn	03 38 25.3	+2.3
NEO	Neokhori	4.17	1	P	Pn	03 38 25.5	+2.5
TSLK	Tsoukalades, L	4.18	333	P	Pn	03 38 26.4	+3.4
TSLK	Tsoukalades, L	4.18	333	P	Pn	03 38 26.5	+3.5
GCAM	G?zelcaml?	4.21	51	Pn	Pn	03 38 24.6	+1.1
ARG	Arkhangelos	4.24	74		Pn	03 38 24.3	+0.5
ARG	Arkhangelos	4.24	74	P	Pn	03 38 24.7	+0.9
ARG	Arkhangelos	4.24	74	Pn	Pn	03 38 25.4	+1.6
ARG	Arkhangelos	4.24	74	P	Pn	03 38 24.3	+0.5
ARG	Arkhangelos	4.24	74	P	Pn	03 38 25.6	+1.7
URLA	Izmir	4.28	40	Pn	Pn	03 38 26.9	+2.4
MLSB	Milas	4.30	59	Pn	Pn	03 38 28.4	+2.8
THL	Klokotos Trika	4.51	349	P	Pn	03 38 30.3	+2.7
THL	Klokotos Trika	4.51	349	P	Pn	03 38 30.4	+2.7
LRSO	Larissa Observ	4.57	353	P	Pn	03 38 31.1	+2.7
LRSO	Larissa Observ	4.57	353	P	Pn	03 38 30.7	+2.3
SIGR	SIGRI	4.64	28	Pn	Pn	03 38 31.1	+1.8
SIGR	SIGRI	4.64	28	P	Pn	03 38 30.8	+1.5
YER	Yerkesik	4.65	63	P	Pn	03 38 32.6	+3.0
YER	Yerkesik	4.65	63	Pn	Pn	03 38 32.2	+2.6
DALY	Dalyan (Mula)	4.81	68	Pn	Pn	03 38 34.9	+3.2
PAIG	Paliouri	4.82	5	P	Pn	03 38 33.7	+1.9
PAIG	Paliouri	4.82	5	P	Pn	03 38 34.0	+2.2
PRK	Paraskevi	4.83	31	P	Pn	03 38 34.4	+2.4
PRK	Paraskevi	4.83	31	P	Pn	03 38 34.4	+2.4
JAN	Janina	4.86	339	P	Pn	03 38 35.0	+2.5
JAN	Janina	4.86	339	P	Pn	03 38 35.4	+2.9
LIT	Litokhoron	4.99	355	Pn	Pn	03 38 36.0	+1.9
LIT	Litokhoron	4.99	355	P	Pn	03 38 36.2	+2.0
LIT	Litokhoron	4.99	355	P	Pn	03 38 36.1	+1.9
LIT	Litokhoron	4.99	355	P	Pn	03 38 36.5	+2.3
KPRO	Kipourio	5.01	345	P	Pn	03 38 37.6	+3.0
KPRO	Kipourio	5.01	345	P	Pn	03 38 37.3	+2.7
FETY	Fethiye	5.09	71	Pn	Pn	03 38 37.6	+2.0
OUR	Ouranopolis	5.25	7	P	Pn	03 38 39.8	+2.1
OUR	Ouranopolis	5.25	7	Pn	Pn	03 38 40.6	+2.9
OUR	Ouranopolis	5.25	7	P	Pn	03 38 40.1	+2.4
BOZC	Bozcaada	5.26	26	Pn	Pn	03 38 40.3	+2.4
KEK	Kerkira	5.28	331		Pn	03 38 38.9	+0.8
KEK	Kerkira	5.28	331	P	Pn	03 38 40.3	+2.2
KEK	Kerkira	5.28	331	P	Pn	03 38 41.0	+2.9
KZN	Kozani	5.28	349	P	Pn	03 38 41.5	+3.3
KZN	Kozani	5.28	349	P	Pn	03 38 41.7	+3.5
PENT	Pentalofos	5.29	344	P	Pn	03 38 41.5	+3.1
PENT	Pentalofos	5.29	344	P	Pn	03 38 41.6	+3.1
KTI	Kastanea	5.32	352	P	Pn	03 38 40.6	+1.8
SRN	Sarande	5.34	334	P	Pn	03 38 41.4	+0.4
CAME	Cameli-Denizli	5.35	68	Pn	Pn	03 38 41.4	+2.2
EZN	Ezine	5.35	28	Pn	Pn	03 38 40.6	+1.5
KSL	Kastellorizon	5.38	77	P	Pn	03 38 40.3	+0.7
LSK	Leskovik	5.39	339	P	Pn	03 38 42.4	+2.6
AKAS	Kas	5.41	76	Pn	Pn	03 38 40.5	+0.4
AKAS	Kas	5.41	76	Pn	Pn	03 38 42.2	+2.1
HORT	Hortiatis	5.46	0	P	Pn	03 38 42.3	+1.6
HORT	Hortiatis	5.46	0	Pn	Pn	03 38 42.9	+2.2
HORT	Hortiatis	5.46	0	P	Pn	03 38 42.6	+1.9
THE	Thessaloniki	5.50	359	P	Pn	03 38 42.8	+1.7
MANT	Manisa	5.52	51		Pn	03 38 42.3	+0.6
NEST	Nestorio	5.52	344	P	Pn	03 38 44.9	+3.3
NEST	Nestorio	5.52	344	P	Pn	03 38 44.8	+3.2
GADA	Gvkgeada	5.52	23	Pn	Pn	03 38 43.7	+2.2
APMY	Acipayam-Deniz	5.53	63	Pn	Pn	03 38 44.0	+2.3
KULA	Kula-Manisa	5.60	51	P	Pn	03 38 45.1	+2.5
KULA	Kula-Manisa	5.60	51	Pn	Pn	03 38 44.2	+2.6
SOH	Sokhos	5.69	2	P	Pn	03 38 46.3	+2.5
ELL	Elmali	5.76	72		Pn	03 38 45.3	+0.4
ELL	Elmali	5.76	72	Pn	Pn	03 38 47.1	+2.2
ELL	Elmali	5.76	72	P	Pn	03 38 45.3	+0.4
FNA	Florina	5.81	347		Pn	03 38 46.3	+0.8
FNA	Florina	5.81	347	P	Pn	03 38 47.0	+1.5
FNA	Florina	5.81	347	Pn	Pn	03 38 47.9	+2.4
FNA	Florina	5.81	347	P	Pn	03 38 46.3	+0.8
FNA	Florina	5.81	347	P	Pn	03 38 47.6	+2.2
GRG	Griva	5.85	355	P	Pn	03 38 47.1	+1.1
GRG	Griva	5.85	355	Pn	Pn	03 38 47.5	+1.5
BALB	Balikesir	5.90	39		Pn	03 38 49.0	+2.4
GELI	Tayfur-Gelibol	5.91	26	Pn	Pn	03 38 48.9	+2.2
LPK	Lapseki	5.99	28	Pn	Pn	03 38 50.5	+2.6
ENEZ	Enez	6.10	22	Pn	Pn	03 38 51.3	+1.9
SIMA	Simav-Kutahya	6.14	48	Pn	Pn	03 38 53.5	+3.4
SCTE	Santa Cesarea	6.15	325	Pn	Pn	03 38 51.5	+1.4
ERIK	Erikli-Kesan	6.16	25	Pn	Pn	03 38 52.4	+2.2
KORT	Korkueli	6.17	70	Pn	Pn	03 38 54.2	+3.7
SWA2		6.20	161	P	Pn	03 38 51.2	+0.4
	baz=163						
SWA2				S	Sn	03 39 56.6	-4.2
	baz=163						
VAY	Valandovo	6.20	356	*e*Pn	Pn	03 38 52.5	+1.7
VAY				*e*Sn	Sn	03 40 00.3	-0.4
VAY	Valandovo	6.20	356	*i* Pn	Pn	03 38 52.5	+1.7
VAY				*i* Sn	Sn	03 40 00.4	-0.3
ALN	Alexandroupoli	6.21	21		Pn	03 38 53.3	+2.3
ALN	Alexandroupoli	6.21	21	Pn	Pn	03 38 53.9	+2.9
ALN	Alexandroupoli	6.21	21	P	Pn	03 38 53.3	+2.3
OHR	Ohrid	6.24	344	*e*Pn	Pn	03 38 53.7	+2.2
OHR				*e*Sn	Sn	03 39 59.9	-2.0
OHR	Ohrid	6.24	344	*i* Sn	Sn	03 40 01.8	-0.1
OHR	Ohrid	6.24	344	*i* Pn	Pn	03 38 53.6	+2.2
BASM	Basmaki-Afyon	6.26	62	Pn	Pn	03 38 53.4	+1.8
RDO	Rodhopi	6.31	17	Pn	Pn	03 38 53.1	+0.8
RDO	Rodhopi	6.31	17	Pn	Pn	03 38 54.3	+2.0
ANTB	Antalya	6.38	72	Pn	Pn	03 38 55.4	+2.2
GEDZ	Gediz	6.38	50	Pn	Pn	03 38 55.8	+2.4
RKY	Sarkoy-Tekirda	6.42	29	Pn	Pn	03 38 55.1	+1.2
EDC	Edincik	6.44	35	Pn	Pn	03 38 56.2	+2.2
MMB	Musomiste	6.47	4	P	Pn	03 38 56.1	+1.5
TIP	Timpagrande	6.48	311	⇑P	Pn	03 38 56.2	+1.5
TIP	Timpagrande	6.48	311	Pn	Pn	03 38 56.7	+2.0
BCK	Bucak	6.49	67	Pn	Pn	03 38 57.2	+2.4
ISP	Isparta	6.56	64	⇑*e*P	Pn	03 38 56.5	+0.6
STIP	Stip	6.60	354	*i* Pn	Pn	03 38 57.5	+1.2
STIP				*i* Sn	Sn	03 40 10.9	+0.4
UKOP	Uzunkopru-Edir	6.61	24	Pn	Pn	03 38 58.7	+2.3
KCTX	Karacabey (Bur	6.61	38	Pn	Pn	03 38 58.5	+2.0
TVSB	Tavsanli	6.66	48	Pn	Pn	03 38 59.6	+2.4
RZN	Rozhen	6.67	11	P	Pn	03 38 59.8	+2.3
TIR	Tirane	6.71	339	⇓P	Pn	03 38 59.6	+1.8
TIR	Tirane	6.71	339		Pn	03 38 59.8	+2.0
TIR	Tirane	6.71	339	P	Pn	03 38 59.3	+1.5
TIR	Tirane	6.71	339	⇓P	Pn	03 38 59.6	+1.8
TIR	Tirane	6.71	339	*e*Pn	Pn	03 38 59.4	+1.6
TIR				*e*Sn	Sn	03 40 11.7	-1.7
KKB	Krupnik	6.73	360	P	Pn	03 38 59.8	+1.7
KDZ	Kurdzhali	6.76	15	Pn	Pn	03 39 00.6	+2.1
KDZ	Kurdzhali	6.76	15	P	Pn	03 39 00.0	+1.5
SUTC	Sutluce-Ispart	6.80	68	Pn	Pn	03 39 02.1	+2.9
SHUT	Suhut-Afyon	6.89	58	Pn	Pn	03 39 02.9	+2.5
SKO	Skopje	6.96	350	*e*Pn	Pn	03 39 02.7	+1.5
SKO				*e*Sn	Sn	03 40 17.5	-1.9
SKO	Skopje	6.96	350	*i* Pn	Pn	03 39 02.4	+1.2
PLD	Plovdiv	7.08	10	*e*Pn	Pn	03 39 05.8	+2.9
PLD	Plovdiv	7.08	10	P	Pn	03 39 05.5	+2.6
VAE	Valguarnera	7.39	291	Pn	Pn	03 39 11.4	+4.2
	comp=N,2.2nm,0.3s,baz=177,slow=4.6,SNR=12						
VAE				Sn	Sn	03 40 28.9	-1.4
	comp=N,6.1nm,0.3s,baz=55,slow=1.7,SNR=3.3						
VAE				LR	LR	03 42 33.9	
	comp=N,343nm,20.1s,baz=112,slow=42						
PRVS	Prvonek	7.41	354	*e*Pn	Pn	03 39 09.0	+1.5
PRVS				*e*Sn	Sn	03 40 30.7	0.0
ULC	Ulcinj	7.46	337	⇓*i*Pn	Pn	03 39 07.7	-0.5
ULC				*i* Sn	Sn	03 40 24.3	-7.6
MATE	Matera	7.48	319	⇑P	Pn	03 39 09.6	+1.3
VTS	Vitosha	7.48	1	⇓P	Pn	03 39 10.7	+2.2
VTS	Vitosha	7.48	1	Pn	Pn	03 39 09.0	+0.4
VTS	Vitosha	7.48	1	⇓P	Pn	03 39 10.7	+2.2
VTS	Vitosha	7.48	1	*e*Pn	Pn	03 39 11.9	+3.4
VTS				*e*Sn	Sn	03 40 32.2	-0.3
VTS	Vitosha	7.48	1	P	Pn	03 39 11.4	+2.9
BORA	Eskisehir	7.53	49	Pn	Pn	03 39 07.4	-1.7
CUC	Castrocucco	7.55	312		Pn	03 39 09.8	+0.4
DRME	Dracevica, Mon	7.68	338	⇑*i*Pn	Pn	03 39 10.6	-0.6
DRME	Dracevica, Mon	7.68	338	⇓*i*Pn	Pn	03 39 10.9	-0.3
DRME				*i* Sn	Sn	03 40 30.2	-7.1
BARS	Barje	7.74	353	*e*Pn	Pn	03 39 12.8	+0.8
BARS				*e*Sn	Sn	03 40 37.7	-1.1
PVY	Plav	7.85	343	⇓*i*Pn	Pn	03 39 13.5	0.0
PVY				*i* Sn	Sn	03 40 34.5	-7.0
PDG	Podgorica	7.88	339	⇑P	Pn	03 39 15.1	+1.2
PDG	Podgorica	7.88	339	Pn	Pn	03 39 14.8	+1.0
PDG	Podgorica	7.88	339	*e*Pn	Pn	03 39 14.1	+0.2
PDG				*e*Sn	Sn	03 40 38.6	-3.6
PDG	Podgorica	7.88	339	⇑*i*Pn	Pn	03 39 13.6	-0.3
PDG				*i* Sn	Sn	03 40 34.9	-7.3
CEME	Cevo	8.09	338	⇑*i*Pn	Pn	03 39 16.4	-0.4
CEME				*i* Sn	Sn	03 40 39.9	-7.6
IVA	Berane	8.13	343	⇑*i*Pn	Pn	03 39 17.3	0.0
IVA				*i* Sn	Sn	03 40 41.3	-7.0
HCY	Herceg Novi	8.14	335	*e*Pn	Pn	03 39 15.6	-1.9
HCY	Herceg Novi	8.14	335	⇓*i*Pn	Pn	03 39 17.0	-0.5
HCY				*i* Sn	Sn	03 40 40.7	-7.9
KOME	Kolasin	8.20	341	⇑*i*Pn	Pn	03 39 18.2	-0.1
KOME				*i* Sn	Sn	03 40 42.9	-7.2
SELS	Selova	8.23	350	*e*Pn	Pn	03 39 18.3	-0.3
SELS				*e*Sn	Sn	03 40 48.1	-2.6
PVL	Pavlikeni	8.26	11	P	Pn	03 39 19.9	+0.8
NKME	Niksic	8.28	338	⇓*i*Pn	Pn	03 39 19.1	-0.3
NKME				*i* Sn	Sn	03 40 44.5	-7.6
PLVB	Pleven	8.34	8	⇑P	Pn	03 39 21.5	+1.4
CSS	Mathiatis	8.40	88		Pn	03 39 19.8	-1.1
SZH	Strazhica	8.42	14	P	Pn	03 39 23.4	+2.1
TREB	Trebinje	8.43	335	*e*Pn	Pn	03 39 20.6	-0.8
TREB				*e*Sn	Sn	03 40 49.6	-6.1
SJES	Sjenica	8.48	344	*e*Pn	Pn	03 39 22.2	+0.1
SJES				*e*Sn	Sn	03 40 52.9	-4.0
BRY	Bratogost	8.53	337	*e*Pn	Pn	03 39 22.3	-0.6
BRY	Bratogost	8.53	337	⇓*i*Pn	Pn	03 39 22.5	-0.4
BRY				*i* Sn	Sn	03 40 50.3	-8.1
RYAN	Fayoum	8.57	133	P	Pn	03 39 22.4	-0.9
	baz=135						
PLE	Pljevlja	8.68	342	⇑*i*Pn	Pn	03 39 25.0	+0.1
PLE				*i* Sn	Sn	03 40 54.6	-7.4
UPM	Unac-Piva	8.70	339	*e*Pn	Pn	03 39 25.5	+0.3
UPM	Unac-Piva	8.70	339	⇓*i*Pn	Pn	03 39 25.0	-0.2
UPM				*i* Sn	Sn	03 40 54.7	-7.7
ZAGS	Zajecar	8.70	356	*e*Pn	Pn	03 39 25.9	+0.8
IVAS	Ivanjica	8.74	346	*e*Pn	Pn	03 39 24.7	-1.0
IVAS				*e*Sn	Sn	03 40 58.3	-5.1
STON	Ston	8.80	333	*e*Pn	Pn	03 39 25.1	-1.3
STON				*e*Sn	Sn	03 40 57.6	-7.0
STON	Ston	8.80	333	*e*Pn	Pn	03 39 25.1	-1.3
PAOL	Paolisi	8.94	314		Pn	03 39 30.8	+2.4
GRUS	Gruza	8.94	349	*e*Pn	Pn	03 39 27.9	-0.5
GRUS				*e*Sn	Sn	03 41 05.4	-2.8
RUDO	Rudo	8.96	342	*e*Pn	Pn	03 39 27.2	-1.4
KOT	Kottamia	9.01	123	P	Pn	03 39 27.9	-1.5
	baz=124						
HSAF	As Saff	9.02	125	P	Pn	03 39 28.7	-0.8
	baz=127						
ANTO	Ankara	9.04	56	⇓P	Pn	03 39 32.7	+2.8
ANTO	Ankara	9.04	56	Pn	Pn	03 39 31.4	+1.5
ANTO	Ankara	9.04	56	⇓P	Pn	03 39 32.7	+2.8
HFRF	Wahat Farafira	9.12	149	P	Pn	03 39 30.3	-0.6
	baz=151						
HFRF				S	Sn	03 41 06.0	-6.7
	baz=151						
GLL	Jalalah	9.14	125	P	Pn	03 39 30.0	-1.3
	baz=127						
BBLS	Lazići	9.18	343	*e*Pn	Pn	03 39 31.1	-0.6
BBLS				*e*Sn	Sn	03 41 09.9	-4.3
BBLS	Lazići	9.18	343	*e*Pn	Pn	03 39 30.6	-1.1
DIVS	Divibare	9.27	346	*e*Pn	Pn	03 39 31.9	-1.1
DIVS				*e*Sn	Sn	03 41 10.5	-6.0
DIVS	Divibare	9.27	346	*e*Pn	Pn	03 39 31.7	-1.3
TRUS	Trudelj	9.32	348	*e*Pn	Pn	03 39 32.4	-1.2
TRUS				*e*Sn	Sn	03 41 12.5	-5.0
KUBS	Kucevo	9.34	354	*e*Pn	Pn	03 39 35.1	+1.3
HAPS	Han Pijesak,BI	9.50	342	*e*Pn	Pn	03 39 34.4	-1.8
NBNS	Bani Suef	9.52	131	P	Pn	03 39 35.6	-0.8
	baz=132						
DJES	Djerdap	9.54	358	Pn	Pn	03 39 37.8	+1.2
BR131	Keskin Array S	9.56	58		Pn	03 39 38.4	+1.4
BR131	Keskin Array S	9.56	58	*de*P	Pn	03 39 38.5	+1.5
BRTR	Keskin Array B	9.56	58	Pn	Pn	03 39 38.7	+1.7
	comp=N,0.3nm,0.3s,baz=235,slow=12,SNR=66						
BRTR				LR	LR	03 44 04.1	
	comp=N,2µm,20.8s,baz=240,slow=43						
BRTR				ScP	ScP	03 49 22.5	-0.5
	comp=N,0.9nm,0.8s,baz=185,slow=2.5,SNR=5.8						
BRTR	Keskin Array B	9.56	58		Pn	03 39 37.6	+0.6
BRTR	Keskin Array B	9.56	58	*i* P	Pn	03 39 39.0	+2.0
BRTR				pmax	pmax		
	comp=Z,12nm,0.8s						
MDVR	Moldovita	9.70	354	⇑P	Pn	03 39 40.1	+1.3
HERR	Herculane	9.76	357	⇑P	Pn	03 39 41.3	+1.7
TEKS	Tekeris	9.80	345	*e*Pn	Pn	03 39 38.7	-1.5
TEKS	Tekeris	9.80	345	*e*Pn	Pn	03 39 38.1	-2.1
TAMRE	El Minia	9.98	136	P	Pn	03 39 42.1	-0.7
	baz=138						
SRKY	Kupres RS	10.03	335	*e*Pn	Pn	03 39 43.7	+0.3
BLJ	Bijeljina	10.08	344	*e*Pn	Pn	03 39 43.1	-0.9
TIRR	Tirgusor	10.18	22	⇓P	Pn	03 39 47.0	+1.8
TIRR	Tirgusor	10.18	22	⇓P	Pn	03 39 47.0	+1.8
TIRR	Tirgusor	10.18	22	⇓P	Pn	03 39 47.0	+1.8
HNTI	Hanita	10.22	98	Pn	Pn	03 39 44.3	-1.7
HARR	Harsova	10.25	20	⇓P	Pn	03 39 48.0	+1.8
HARR	Harsova	10.25	20	⇓P	Pn	03 39 48.0	+1.8
GZR	Gura Zlata	10.26	359	⇓P	Pn	03 39 48.4	+1.9
GZR	Gura Zlata	10.26	359	⇓P	Pn	03 39 48.4	+1.9
ARR	Arges	10.30	6	⇓P	Pn	03 39 48.8	+1.8
ISR	Istrita	10.32	14	⇓P	Pn	03 39 50.1	+2.7
ISR	Istrita	10.32	14	⇓P	Pn	03 39 50.1	+2.7
FRGS	Fruska Gora	10.33	347	⇑P	Pn	03 39 47.7	+0.3
FRGS	Fruska Gora	10.33	347	*e*Pn	Pn	03 39 47.5	+0.1
FRGS				*e*Sn	Sn	03 41 37.3	-5.0
FRGS	Fruska Gora	10.33	347	*e*Pn	Pn	03 39 47.1	-0.3
MGRS	Mrkonjic Grad	10.37	335	*e*Pn	Pn	03 39 47.0	-0.9
KZIT	Kziot	10.38	111	Pn	Pn	03 39 45.7	-2.4
KZIT				Sn	Sn	03 41 33.2	-10
MMA0B	Mount Meron ar	10.42	98	Pn	Pn	03 39 47.3	-1.5
MMAI	Mount Meron Ar	10.42	98	Pn	Pn	03 39 45.9	-2.9
	comp=Z,4.4nm,0.3s,baz=281,slow=9.9,SNR=26						
MMAI				Sn	Sn	03 41 38.1	-6.7
	comp=Z,9.1nm,0.3s,baz=270,slow=18,SNR=7.5						
	comp=Z,2.1nm,0.3s						
AMAZ	Amatzia	10.52	107	Pn	Pn	03 39 48.5	-1.5
AMAZ				Sn	Sn	03 41 37.0	-10
BZS	Buzias	10.54	354	⇑P	Pn	03 39 49.8	-0.5
BZS	Buzias	10.54	354	⇑P	Pn	03 39 49.8	-0.5
BZS	Buzias	10.54	354	*e*Pn	Pn	03 39 49.7	-0.6
BZS				*e*Sn	Sn	03 41 44.0	-3.4
ASUT		10.57	134	P	Pn	03 39 50.3	-0.5
	baz=136						
MLR	Muntele Rosu	10.58	11	Pn	Pn	03 39 49.0	-1.9
	comp=Z,1.0nm,0.3s,baz=180,slow=11,SNR=3.0						
MLR				LR	LR	03 44 30.8	
	comp=Z,560nm,20.4s,baz=188,slow=41						
	comp=Z,2.4nm,0.7s						
MLR	Muntele Rosu	10.58	11	⇑P	Pn	03 39 53.0	+2.1
MLR	Muntele Rosu	10.58	11		Pn	03 39 52.2	+1.3
MLR	Muntele Rosu	10.58	11	⇑P	Pn	03 39 53.0	+2.1
MMLI	Mount Malkishu	10.60	101	Pn	Pn	03 39 49.5	-1.7
MMLI				Sn	Sn	03 41 39.4	-10
A050A	Klekovaca	10.62	334	*e*Pn	Pn	03 39 51.0	-0.4
BLY	Banja Luka	10.62	337	*e*Pn	Pn	03 39 51.6	+0.2
BLY				*e*Sn	Sn	03 41 44.5	-5.0
BLY	Banja Luka	10.62	337	*e*Pn	Pn	03 39 50.2	-1.2
SURR	Surduc	10.64	356	⇓P	Pn	03 39 53.9	+2.2
GRB	Gharib	10.71	127	P	Pn	03 39 50.9	-1.8
	baz=129						
YTIR	Yattir	10.74	107	Pn	Pn	03 39 50.4	-2.8
YTIR	Yattir	10.74	107	P	Pn	03 39 50.8	-2.4
HMDT	Nahal Hemdat	10.74	102	Pn	Pn	03 39 51.6	-1.5
HMDT				Sn	Sn	03 41 43.4	-9.1
HMDT	Nahal Hemdat	10.74	102	P	Pn	03 39 47.1	-6.0
CFR	Carcaliu	10.75	19	⇑P	Pn	03 39 56.1	+2.9
CFR	Carcaliu	10.75	19	⇑P	Pn	03 39 56.1	+2.9
SHMJ	Saham	10.79	99	P	Pn	03 39 53.2	-0.6
UJAP	Al Uja	10.80	104	P	Pn	03 39 50.8	-3.0
A052A	Srbac	10.84	339	*e*Pn	Pn	03 39 52.6	-1.7
BNN	Bunyan	10.86	66

comp=Z,3.4nm,0.5s
MOA Molln 14.32 335 *e*Pn **Pn** **03 40 41.4 -0.5**
MOA *e*Sn Sn 03 43 11.0 -8.7
STHS Stebnicka Huta 14.35 355 *e*P **P** **03 40 50.0 +0.9**
STHS Stebnicka Huta 14.35 355 *e* **P** **03 40 50.0 +0.9**
BIOA Bad Ischl, Aus 14.40 334 *i* Pn **Pn** **03 40 42.3 -0.8**
comp=Z,2.2nm,0.4s
BIOA *e*Sn **Sn** **03 43 15.4 -6.5**
comp=Z,5.2nm,0.5s
HKFR Khafra 14.40 148 P **Pn** **03 40 43.3 +0.1**
baz=149
MARD Mardin 14.44 76 **Pn** **03 40 43.4 -0.5**
KRUC Moravsky 14.78 342 *e*P **P** **03 40 54.8 +1.0**
WTTA Wattenberg 14.86 328 *i* Pn **Pn** **03 40 50.0 +0.6**
comp=Z,1.5nm,0.3s
WTTA *e*Sn **Sn** **03 43 26.8 -6.4**
comp=Z,9.1nm,0.6s
WATA Walderalm 14.94 328 *e*Pn **Pn** **03 40 51.3 +0.8**
comp=Z,0.6nm,0.2s
WATA *e*Sn **Sn** **03 43 30.7 -4.5**
comp=Z,6.5nm,0.5s
VRAC Vranov 14.96 343 LR LR 03 48 23.2
comp=Z,439nm,19.1s,baz=168,slow=45
VRAC Vranov 14.96 343 ⇓P **Pn** **03 40 53.2 +2.6**
VRAC Vranov 14.96 343 *e*P **P** **03 40 57.3 +1.4**
VRAC Vranov 14.96 343 ⇓P **Pn** **03 40 53.2 +2.6**
FUORN Ofenpass-Fuorn 15.01 324 IAmb IAmb 03 41 16.5
comp=Z,9.5nm,0.9s
SQTA Sankt Quirin 15.01 327 *i* Pn **Pn** **03 40 51.8 +0.3**
comp=Z,1.1nm,0.4s
SQTA *e*Sn **Sn** **03 43 30.5 -6.4**
comp=Z,5.8nm,0.4s
FETA Feichten 15.08 326 *i* Pn **P** **03 40 57.2 -0.3**
comp=Z,3.8nm,0.8s
FETA *e*Sn **Sn** **03 43 30.0 -8.6**
comp=Z,1.3nm,0.5s
OKC Ostrava-Krasne 15.14 348 *e*P **P** **03 40 58.2 +0.3**
OKC Ostrava-Krasne 15.14 348 *e*P **P** **03 40 58.2 +0.3**
CKRC Cesky Krumlov 15.15 337 *e*P **P** **03 41 00.2 +2.2**
MOTA Moosalm 15.15 327 *e*Pn **Pn** **03 40 53.8 +0.5**
comp=Z,0.8nm,0.4s
MOTA *e*Sn **Sn** **03 43 36.1 -4.2**
comp=Z,3.2nm,0.5s
MORC Moravsky Berou 15.20 346 ⇑P **Pn** **03 40 56.4 +2.7**
MORC Moravsky Berou 15.20 346 IAmb IAmb 03 41 01.9
comp=Z,7.2nm,0.6s
MORC Moravsky Berou 15.20 346 *e*P **P** **03 40 59.6 +1.1**
MORC Moravsky Berou 15.20 346 ⇑P **Pn** **03 40 56.4 +2.7**
TREC Trest 15.23 341 *e*P **P** **03 41 00.5 +1.7**
TREC Trest 15.23 341 *e*P **P** **03 41 00.5 +1.7**
DAVOX Davos/Dischmat 15.31 323 LR LR 03 48 41.8
comp=Z,216nm,21.8s,baz=124,slow=45
SOC Sochi 15.36 52 *e*P **Pn** **03 40 54.9 -1.0**
SOC *e* 03 43 47.2
SOC MLR MLR
comp=Z,259nm,19.0s
GEC2 GERESS Array S 15.37 336 *e*L L 03 48 16.5
comp=Z,734nm,20.9s
GERES GERESS Array B 15.37 336 Pn **Pn** **03 40 56.0 -0.1**
comp=Z,0.3nm,0.3s,baz=161,slow=14,SNR=7.2
GERES LR LR 03 48 27.2
comp=Z,713nm,20.8s,baz=144,slow=44
comp=Z,0.7nm,0.4s
GERES GERESS Array B 15.37 336 P **Pn** **03 40 56.0 -0.1**
RETA Reutte 15.41 327 *e*Pn **Pn** **03 40 58.9 +2.2**
comp=Z,1.0nm,0.4s
RETA *e*Sn **Sn** **03 43 41.4 -5.1**
comp=Z,2.4nm,0.3s
KHC Kasperske Hory 15.65 336 Pn **Pn** **03 40 59.9 +0.1**
KHC Kasperske Hory 15.65 336 *e*P **P** **03 41 05.1 +1.5**
KHC *ex* x 03 43 43.5
KHC Kasperske Hory 15.65 336 *e*P **P** **03 41 05.1 +1.5**
DAVA Damuels 15.67 325 *e*Pn **P** **03 41 04.4 +0.5**
comp=Z,5.9nm,0.6s
DAVA *i* Sn **Sn** **03 43 45.6 -7.3**
comp=Z,4.2nm,0.5s
FUR Furstenfeldbru 15.71 330 *e*L L 03 48 36.3
comp=Z,583nm,21.2s
GOPC GO Pecny, Ondr 15.98 340 *e*P **P** **03 41 08.4 +1.2**
GOPC GO Pecny, Ondr 15.98 340 *e*P **P** **03 41 08.4 +1.2**
DPC Dobruska-Polom 16.00 344 *e*P **P** **03 41 07.1 -0.3**
DPC Dobruska-Polom 16.00 344 *e*P **P** **03 41 07.1 -0.3**
PRU Pruhonice 16.12 340 *e*P **P** **03 41 09.1 +0.4**
PRU Pruhonice 16.12 340 *e*P **P** **03 41 09.1 +0.4**
AKASG Malin Array Be 16.19 14 Pn **Pn** **03 41 04.5 -2.0**
comp=Z,3.6nm,0.3s,baz=206,slow=10,SNR=16
comp=Z,2.6nm,0.6s
AKASG Malin Array Be 16.19 14 **Pn** **03 41 04.5 -2.0**
AKASG Malin Array Be 16.19 14*ce*P **Pn** **03 41 05.5 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 16.19 14 **Pn** **03 41 05.0 -1.5**
AKBB IAmb IAmb 03 41 22.2
comp=Z,18nm,0.8s
AKBB Malin Array Si 16.19 14⇑*e*P **Pn** **03 41 05.6 -0.9**
OSTC Ostas 16.21 344 *e*P **P** **03 41 11.4 +1.6**
UPC Upice 16.21 344 *e*P **P** **03 41 10.9 +1.1**
UPC Upice 16.21 344 *e*P **P** **03 41 10.9 +1.1**
PVCC Panska Ves 16.60 341 *e*P **P** **03 41 15.9 +1.9**
PVCC Panska Ves 16.60 341 *e*P **P** **03 41 15.9 +1.9**
KARS Kars 16.70 65 IAmb IAmb 03 41 37.4
comp=Z,50nm,1.0s
GRA1 Grafenberg Arr 16.96 333 Pn **Pn** **03 41 16.3 0.0**
GRA1 IAmb IAmb 03 41 29.8
comp=Z,26nm,1.0s
GRF Grafenberg Arr 16.96 333 P **Pn** **03 41 16.3 0.0**
GRF pmax pmax
comp=Z,26nm,1.0s
GRF Grafenberg Arr 16.96 333 *e*P **P** **03 41 19.7 +1.6**
comp=Z,29nm,1.4s,baz=140,slow=11
GRF *e*L L 03 49 05.8
comp=Z,487nm,21.9s
GRFO Grafenberg 16.96 333 Pn **Pn** **03 41 15.7 -0.6**
GRFO IAmb IAmb 03 41 29.8
comp=Z,23nm,0.9s
GRFO Grafenberg 16.96 333 P **Pn** **03 41 15.7 -0.6**
GRFO pmax pmax
comp=Z,23nm,0.9s
NKC Novy Kostel 16.98 336 *e*P **P** **03 41 19.3 +1.0**
NKC Novy Kostel 16.98 336 *e*P **P** **03 41 19.3 +1.0**
BRG Berggiesshubel 17.08 340 *e*P **P** **03 41 22.5 +3.1**
BRG Amp 03 41 23.7
comp=Z,5.5nm,0.8s
BRG Berggiesshubel 17.08 340 P P 03 41 32.6 +13
BRG Amp 03 41 37.4
comp=Z,12nm,1.0s
BRG Berggiesshubel 17.08 340 *e*P **P** **03 41 22.4 +3.1**
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,12nm,1.0s
BFO Black Forest 17.15 325 *e*L L 03 50 32.0
comp=Z,347nm,20.7s
AKH Akhalkalaki 17.19 63 Pn **Pn** **03 41 17.1 -2.3**
AKH IAmb IAmb 03 41 34.1
comp=Z,26nm,1.0s
AKH Akhalkalaki 17.19 63 P **Pn** **03 41 17.1 -2.3**
AKH pmax pmax
comp=Z,26nm,1.0s
KIV Kislovodsk 17.46 54 Pn **Pn** **03 41 19.3 -3.4**
KIV Kislovodsk 17.46 54 *e*P **P** **03 41 23.9 +0.2**
KIV *e*S **Sn** **03 44 39.0 +2.7**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,100nm,14.0s
ONI Oni 17.50 59 Pn **Pn** **03 41 19.3 -3.8**
ONI Oni 17.50 59 P **Pn** **03 41 19.3 -3.8**
ONI pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 17.52 55 Pn **P** **03 41 24.5 +0.3**
comp=Z,0.2nm,0.3s,baz=224,slow=10,SNR=8.6
KBZ LR LR 03 49 42.7
comp=Z,447nm,20.9s,baz=264,slow=43
comp=Z,5.4nm,0.8s
KBZ Khabaz 17.52 55⇓*e*P **P** **03 41 23.9 -0.3**
MOX Moxa 17.61 335 *e*L L 03 49 24.7
comp=Z,549nm,22.0s
CLL Collm 17.74 339 Pn **Pn** **03 41 23.7 -2.2**
CLL Collm 17.74 339 *i* P **P** **03 41 29.2 +2.6**
comp=Z,10.0nm,0.8s
CLL *e*PP **PnPn** **03 41 37.0 +0.3**
CLL *ex* x 03 41 45.0
CLL *ex* x 03 41 48.0
CLL *e*S **S** **03 44 49.0 -0.3**
CLL *ex* x 03 45 12.0
CLL Lm MLR 03 49 00.0
comp=Z,600nm,19.6s
CLL Collm 17.74 339 *i* P **P** **03 41 29.2 +2.6**
CLL *e*S **S** **03 44 49.0 -0.3**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL MLR MLR
comp=Z,600nm,19.6s
CLL Collm 17.74 339 *e*L L 03 49 38.5
comp=Z,559nm,19.6s
GNI Garni 17.85 67 LR LR 03 49 41.6
comp=Z,866nm,19.8s,baz=273,slow=42
ZEI Tsey 17.87 58 *e*P **Pn** **03 41 28.0 +0.1**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
TNS Taunus Mts 18.48 329 *e*L L 03 50 20.3
comp=Z,417nm,21.1s
GROC Groznyy 19.32 59 *e*P **Pn** **03 41 46.2 +0.9**
GROC *e*S **S** **03 45 24.8 +3.7**
GROC pmax pmax
comp=Z,19nm,0.7s
MNK Minsk 19.66 8 *i* P **P** **03 41 46.2 -1.5**
MNK *i* P **P** **03 41 46.2 -1.5**
MNK *i* P **P** **03 41 46.2 -1.5**
comp=Z,18nm,0.8s,baz=192
MNK *i* PP **PnPn** **03 42 00.8 -2.2**
MNK *i* S **S** **03 45 26.8 -1.0**
MNK *i* SS **SnSn** **03 45 43.5 0.0**
MNK *i* LQ LQ 03 47 39.4
MNK *i* LR LR 03 49 08.7
MNK *i* LRM MLR 03 49 21.6
comp=E,84nm,24.6s
MNK *i* LRM MLR 03 50 27.4
comp=Z,224nm,21.3s
MNK *i* LRM MLR 03 50 60.0
comp=N,1μm,34.8s
MNK Minsk 19.66 8 *i* P **P** **03 41 46.1 -1.5**
MNK *i* S **S** **03 45 26.8 -1.0**
MNK pmax pmax
comp=Z,18nm,0.8s
MNK MLR MLR
comp=E,84nm,25.0s
MNK MLR MLR
comp=Z,224nm,21.0s
MNK MLR MLR
comp=N,1μm,35.0s
BTNL Ternell 19.76 327 *d*P **P** **03 41 49.9 +1.1**
VSR Storozhevoye 19.83 31 *e*P **P** **03 41 49.1 -0.4**
VSR pmax pmax
comp=Z,7.0nm,0.5s
MEM Membach 19.83 327 *d*P **Pn** **03 41 52.9 +1.7**
RCHB Rochefort 19.88 325 *d*P **Pn** **03 41 55.0 +3.2**
NACGM Naroch 19.94 6 *e*P **P** **03 41 50.1 -0.6**
comp=N,2μm,0.9s
BSTI Sart Tilman 20.02 326 *d*P Pn 03 41 53.5 +0.1
BGES Gesves 20.10 325 *d*P Pn 03 41 56.0 +1.5
DOU Dourbes 20.15 324 *d*P Pn 03 41 54.9 -0.1
VORR Voronezh 20.19 30 P Pn 03 41 55.4 0.0
VORR pmax pmax
comp=Z,30nm,0.5s
IIGN Ignalina 20.34 5 *e*P P 03 41 43.1 -12
IDID Didziasalis 20.35 6 *e*P P 03 41 47.1 -8.0
PABE Paberze 20.39 1 **P** **03 41 54.7 -0.9**
PABE Paberze 20.39 1 *e*P **P** **03 41 54.7 -0.9**
MAK Makhachkala 20.46 60 *e*P **P** **03 41 53.2 -3.3**
MAK *e*S **S** **03 45 42.2 -2.0**
MAK pmax pmax
comp=Z,177nm,1.0s
MAK MLR MLR
comp=Z,150nm,16.0s
ISAL Salakas 20.55 5 *e*P **P** **03 41 57.5 +0.2**
SNF Seneffe 20.57 324 *d*P **P** **03 41 58.9 +1.4**
BSD Bornholm Skovb 20.78 347 *i* P **P** **03 41 59.0 -0.8**
BSD IAmb IAmb 03 42 01.0
comp=Z,21nm,0.8s
BSD Bornholm Skovb 20.78 347 *e*P **P** **03 41 59.1 -0.6**
LPSR Galich'ya Gora 20.79 28 *e*P Pn 03 42 01.6 -0.8
LPSR pmax pmax
comp=Z,30nm,0.7s
BSEG Bad Segeberg 20.84 338 *e*L L 03 51 23.7
comp=Z,418nm,19.6s
VSVD Vaisvydziai 20.87 1 *e*P **P** **03 42 00.1 -0.6**
PBUR Paburge 20.92 358 *e*P **P** **03 42 00.4 -0.8**
VRH Novokhopyorsk 20.95 34 *e*P **P** **03 42 00.1 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
LUNU Lund 21.56 345 *i* P **P** **03 42 08.4 +0.3**
BLEU Blekinge 21.76 349 *i* P **P** **03 42 08.8 -1.5**
ESDC Sonseca Array 21.93 290 P **P** **03 42 15.6 +3.2**
comp=Z,1.9nm,0.7s,baz=82,slow=11,SNR=13
ESDC LR LR 03 51 55.9
comp=Z,130nm,19.4s,baz=70,slow=40
comp=Z,1.9nm,0.7s
BJUU Bjuv 22.06 345 *i* P **P** **03 42 15.0 +1.4**
OBN Obninsk 22.06 21 P **P** **03 42 13.6 +0.1**
comp=Z,6.7nm,0.6s,baz=240,slow=23,SNR=8.2
OBN LR LR 03 51 24.3
comp=Z,82nm,20.6s,baz=214,slow=39
comp=Z,6.7nm,0.6s
OBN Obninsk 22.06 21 P **P** **03 42 13.4 -0.1**
OBN Obninsk 22.06 21*de*P **P** **03 42 12.8 -0.7**
OBN pmax pmax
comp=Z,52nm,1.7s
DEL Delary 22.26 346 *i* P **P** **03 42 15.0 -0.6**
SLIT Slitere, Latvi 22.52 359 *e*P **P** **03 42 16.7 -1.7**
RAYN Ar Rayn 22.65 115 P **P** **03 42 19.7 -0.5**
RAYN Ar Rayn 22.65 115 P **P** **03 42 19.7 -0.5**
RAYN pmax pmax
comp=Z,8.0nm,1.3s
MOS Moscow 22.91 21 *e*P **P** **03 42 21.5 -1.0**
MOS pmax pmax
comp=Z,52nm,0.8s
MDT Midelt 23.06 272 LR LR 03 54 11.9
comp=Z,208nm,18.1s,baz=90,slow=44
VSU Vasula 23.47 5⇑*e*P **P** **03 42 27.5 -0.7**
VSU pmax pmax
comp=Z,25nm,0.9s
VSU Vasula 23.47 5 *e*P **P** **03 42 26.4 -1.8**
MTSE Matsula 23.60 1 *e*P **P** **03 42 27.5 -2.0**
TJOU Tjoern 24.16 345 *i* P **P** **03 42 36.4 +1.6**
BELG Belogornoye 24.55 38 P **P** **03 42 37.2 -1.1**
comp=Z,38nm,0.8s,baz=212,slow=2.1,SNR=14
BELG LR LR 03 53 46.1
comp=Z,173nm,20.0s,baz=182,slow=41
comp=Z,38nm,0.8s
BELG Belogornoye 24.55 38*de*P **P** **03 42 37.9 -0.4**
BELG pmax pmax
comp=Z,5.0nm,0.9s
PUL Pulkovo 25.11 9*ce*P **P** **03 42 44.4 +1.1**
PUL pmax pmax
comp=Z,128nm,0.7s
MEF Metsahovi 25.12 2 *e*P **P** **03 42 42.5 -0.9**
STRU Stroemstad 25.18 345 *i* P **P** **03 42 44.1 +0.2**
SNART Snartemo 25.52 340 *i* P **P** **03 42 49.9 +2.9**
SNART Snartemo 25.52 340 *e*P **P** **03 42 49.7 +2.7**
HFS Hagfors 25.76 349 P **P** **03 42 48.6 -0.6**
comp=Z,8.9nm,0.5s,baz=151,slow=9.7,SNR=31
HFS LR LR 03 53 08.9
comp=Z,168nm,19.2s,baz=186,slow=37
comp=Z,8.9nm,0.5s
RAF Rauma 25.93 359 *e*P **P** **03 42 50.0 -0.7**
KONO Kongsberg 26.08 344 *e*P **P** **03 42 53.1 +1.0**
OSL Oslo 26.10 346 *e*P **P** **03 42 53.4 +1.1**
OSL IAmb IAmb 03 42 54.5
comp=Z,17nm,0.7s
FINES FINESS Array B 26.41 3 P **P** **03 42 53.6 -1.5**
comp=Z,4.4nm,0.6s,baz=167,slow=9.6,SNR=38
FINES PcP **PcP** **03 46 20.8 +0.9**
comp=Z,1.4nm,0.7s,baz=158,slow=1.3,SNR=3.5
FINES LR LR 03 54 17.3
comp=Z,420nm,21.2s,baz=186,slow=39
comp=Z,4.4nm,0.6s
FINES FINESS Array B 26.41 3 P **P** **03 42 55.4 +0.4**
FINES FINESS Array B 26.41 3 *i* P **P** **03 42 53.7 -1.3**
FINES pmax pmax
comp=Z,5.0nm,0.6s
NC602 NORSAR Array S 26.69 347 *e*P **P** **03 42 58.5 +0.9**
NAO01 NORSAR Array S 26.91 347 P **P** **03 43 00.2 +0.6**
NB2 NORSAR Subarra 27.03 347 P **P** **03 43 00.5 -0.2**
comp=Z,1.9nm,0.5s,baz=154,slow=11
NB2 NORSAR Subarra 27.03 347 P **P** **03 43 00.5 -0.2**
slow=11
NOA NORSAR Array B 27.03 347 P **P** **03 42 59.9 -0.9**
comp=Z,1.3nm,0.6s,baz=155,slow=10,SNR=24
comp=Z,1.3nm,0.6s
EKA Eskdalemuir Ar 27.11 326 P **P** **03 43 02.4 +0.9**
comp=Z,2.1nm,0.5s,baz=122,slow=8.4,SNR=13
comp=Z,2.1nm,0.5s
KLMR Klimovskoe 27.83 17 *e*P **P** **03 43 04.6 -3.3**
KLMR AMP 03 43 21.4
comp=Z,14nm,1.0s
KLMR Klimovskoe 27.83 17 *e*P **P** **03 43 04.5 -3.3**
KLMR pmax pmax
comp=Z,14nm,1.0s
GEYT Alibeck 28.18 74 P **P** **03 43 11.4 +0.1**
comp=Z,3.4nm,0.5s,baz=251,slow=9.2,SNR=7.6
comp=Z,3.4nm,0.5s
GEYT Alibeck 28.18 74 P **P** **03 43 11.7 +0.3**
GEYT IAmb IAmb 03 43 30.7
comp=Z,6.7nm,0.8s
GYA0 ALIBECK ARRAY 28.18 74 P **P** **03 43 11.9 +0.6**
GYA0B ALIBECK ARRAY 28.18 74 P **P** **03 43 11.9 +0.6**
GYA0B IAmb IAmb 03 43 30.7
comp=Z,8.6nm,0.7s
TORD Torodi Ar. Bea 29.20 227 P **P** **03 43 22.1 +1.6**
comp=Z,3.1nm,0.3s,baz=34,slow=8.9,SNR=1.4
comp=Z,3.1nm,0.3s
KIRV Kirov 29.22 28 LR LR 03 55 59.1
comp=Z,229nm,18.4s,baz=237,slow=39
KIRV Kirov 29.22 28⇑*e*P **P** **03 43 18.5 -1.7**
AKTO Aktyubinsk 29.52 48 P **P** **03 43 21.9 -1.2**
comp=Z,0.6nm,0.3s,baz=253,slow=12,SNR=5.1
AKTO LR LR 03 58 03.1
comp=Z,190nm,19.4s,baz=266,slow=42
comp=Z,0.6nm,0.3s
NSS Namsos 30.20 350 *e*P **P** **03 43 29.1 +0.3**
ABKAR Akbulak array 30.40 51 P **P** **03 43 29.9 -0.9**
MOR8 Moi Rana 31.50 353 *e*P **P** **03 43 41.0 +0.6**
MOR8 IAmb IAmb 03 43 42.4
comp=Z,19nm,0.6s
ARU Arti 32.10 37 P **P** **03 43 44.3 -1.4**
comp=Z,8.2nm,0.7s,baz=246,slow=7.0,SNR=16
ARU LR LR 03 58 26.1
comp=Z,174nm,18.7s,baz=248,slow=40
comp=Z,8.2nm,0.7s
ARU Arti 32.10 37 P **P** **03 43 43.9 -1.8**
ARU Arti 32.10 37*c i*P **P** **03 43 45.6 -0.1**
ARU 03 44 50.0
ARU S **S** **03 48 59.6 +3.5**
ARU SS **SnSn** **03 50 50.1 +3.1**
ARU pmax pmax
comp=Z,11nm,0.8s
FAUS Fauske 32.61 354 *e*P **P** **03 43 49.9 -0.1**
WSAR Wadi Sarin 33.04 101 LR LR 04 01 54.6
comp=Z,146nm,20.6s,baz=330,slow=45
STEI Steigen 33.16 355 *e*P **P** **03 43 54.8 0.0**
STEI IAmb IAmb 03 43 56.8
comp=Z,34nm,0.7s
SVE Sverdlovsk 33.30 38 *e*P **P** **03 43 55.2 -1.0**
SVE pmax pmax
comp=Z,18nm,0.8s
KTK1 Kautokeino 33.94 0 *e*P **P** **03 44 02.3 +0.7**
ARA0 ARCESS Array S 34.49 1 *e*P **P** **03 44 05.1 -1.3**
ARCES ARCESS Array B 34.49 1 P **P** **03 44 05.1 -1.3**
comp=Z,4.2nm,0.6s,baz=183,slow=7.4,SNR=28
ARCES LR LR 04 00 50.4
comp=Z,364nm,18.1s,baz=184,slow=41
comp=Z,4.2nm,0.6s
JETT Jettan, Norway 34.52 358 *e*P **P** **03 44 06.1 -0.6**
TRO Tromso 34.64 357 *e*P **P** **03 44 09.3 +1.7**
VADS Vadso 35.22 4 *e* **P** **03 44 11.1 -1.5**
MBAR Mbarara 36.25 167 LR LR 04 01 17.8
comp=Z,107nm,19.4s,baz=337,slow=40
KK31 Karatay Array 37.23 63 P **P** **03 44 30.5 +0.3**
KK31 IAmb IAmb 03 44 49.3
comp=Z,4.4nm,0.8s
KK31 Karatay Array 37.23 63 P **P** **03 44 30.5 +0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 37.23 63 P **P** **03 44 30.5 +0.3**
KKAR IAmb IAmb 03 44 49.3
comp=Z,4.4nm,0.8s
KKAR Karatay Array 37.23 63 P **P** **03 44 30.5 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 37.54 47 P **P** **03 44 32.6 0.0**
BRVK IAmb IAmb 03 44 34.0
comp=Z,4.2nm,0.8s
BRVK Borovoye 37.54 47⇑*e*P **P** **03 44 33.3 +0.6**
BRVK pmax pmax
comp=Z,11nm,2.5s
GAR Garm 37.55 70 IAmb IAmb 03 44 51.3
comp=Z,13nm,1.0s
BVAR Borovoye Array 37.60 47 P **P** **03 44 32.5 -0.7**
comp=Z,2.2nm,0.6s,baz=265,slow=5.7,SNR=17
BVAR LR LR 04 01 51.4
comp=Z,133nm,19.0s,baz=258,slow=39
comp=Z,2.2nm,0.6s
DBIC Dimbokro 38.25 229 P **P** **03 44 40.5 +1.5**
comp=Z,5.2nm,0.5s,baz=46,slow=8.9,SNR=21
DBIC LR LR 04 01 34.9
comp=Z,106nm,18.4s,baz=28,slow=38
comp=Z,5.2nm,0.5s
DBIC Dimbokro 38.25 229 P **P** **03 44 40.0 +0.9**
DBIC IAmb IAmb 03 44 50.6
comp=Z,8.8nm,0.9s
TIC Toumodi 38.37 229⇓*i*P **P** **03 44 42.1 +2.0**
comp=Z,12nm,0.6s
KIC Kosan Boka 38.42 228⇓*i*P **P** **03 44 42.5 +2.0**
comp=Z,9.0nm,0.5s
LIC Lamto 38.70 229⇓*i*P **P** **03 44 45.0 +2.2**
comp=Z,30nm,0.6s
BORG Borgarnes 39.78 332 LR LR 04 03 34.3
comp=Z,177nm,19.4s,baz=141,slow=40
AAK Ala-Archa 40.19 63 P **P** **03 44 55.3 +0.1**
comp=Z,4.9nm,0.8s,baz=227,slow=7.4,SNR=8.6
AAK LR LR 04 04 17.9
comp=Z,120nm,18.9s,baz=306,slow=40
comp=Z,4.9nm,0.8s
AAK Ala-Archa 40.19 63 P **P** **03 44 55.2 +0.1**
AAK IAmb IAmb 03 44 59.5
comp=Z,4.9nm,0.8s
AAK Ala-Archa 40.19 63⇓*e*P **P** **03 44 55.7 +0.5**
AAK pmax pmax
comp=Z,5.0nm,0.8s
BBTS Babate 40.97 250 LR LR 04 04 51.8
comp=Z,176nm,18.1s,baz=58,slow=40
KSH Kashi 41.78 68 P **P** **03 45 07.9 -0.4**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KURBB Kurchatov Arra 42.46 51 P **P** **03 45 12.5 -1.0**
comp=Z,5.0nm,0.8s,baz=278,slow=8.6,SNR=37
KURBB LR LR 04 07 44.5
comp=Z,97nm,18.2s,baz=33,slow=43
comp=Z,5.0nm,0.8s
KURK Kurchatov 42.51 51 P **P** **03 45 13.5 -0.4**
KURK IAmb IAmb 03 45 15.0
comp=Z,4.1nm,0.8s
KURK Kurchatov 42.51 51 P **P** **03 45 13.5 -0.4**
KURK pmax pmax
comp=Z,4.0nm,0.8s
SPA0 Spitsbergen Ar 43.25 358 *e*P **P** **03 45 20.0 +0.3**
SPITS Spitsbergen Ar 43.25 358 P **P** **03 45 19.7 +0.1**
comp=Z,2.1nm,0.3s,baz=154,slow=12,SNR=38
SPITS LR LR 04 05 53.1
comp=Z,208nm,21.0s,baz=140,slow=40
comp=Z,2.1nm,0.3s
KBS Kingsbay 44.16 357 *e*P **P** **03 45 27.6 +0.8**
MAKZ Makanchi 44.99 56 P **P** **03 45 33.3 -0.7**
MAKZ IAmb IAmb 03 45 57.5
comp=Z,2.5nm,0.7s
MAKZ Makanchi 44.99 56 P **P** **03 45 33.3 -0.7**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 45.20 56 P **P** **03 45 35.0 -0.7**
MK31 IAmb IAmb 03 45 49.4
comp=Z,3.8nm,0.7s
MK31 Makanchi Array 45.20 56*c i*P **P** **03 45 34.6 -1.1**
MKAR Makanchi Array 45.20 56 P **P** **03 45 34.8 -0.9**
comp=Z,2.1nm,0.5s,baz=269,slow=7.9,SNR=43
MKAR LR LR 04 07 34.9
comp=Z,77nm,18.0s,baz=312,slow=40
comp=Z,2.1nm,0.5s
ZAA0 Zalesovo Array 46.25 46 IAmb IAmb 03 46 00.1
comp=Z,7.2nm,0.8s
ZALV Zalesovo Beam 46.25 46 P **P** **03 45 41.9 -1.8**
comp=Z,5.0nm,0.5s,baz=268,slow=9.1,SNR=24
ZALV LR LR 04 09 24.8
comp=Z,94nm,18.3s,baz=268,slow=42
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 46.25 46 P **P** **03 45 42.1 -1.7**

ZALV	**Zalesovo Beam**	**46.25**	**46**	*i* P	**P**	**03 45 42.0**	**-1.8**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
DGZ	**Jazzator, Alta**	**48.23**	**52**	⇓*e*P	**P**	**03 45 59.4**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NRIK	**Noril'sk**	**48.63**	**25**	LR	LR	04 08 27.4	
	comp=Z,145nm,21.5s,baz=238,slow=39						
WMQ	**Urumqi**	**49.48**	**59**	*e*P	**P**	**03 46 12.8**	**+3.7**
WMQ				LR	LR		
	comp=Z,170nm,20.9s						
LSZ	**Lusaka**	**50.36**	**174**	P	**P**	**03 46 17.7**	**+1.8**
	comp=Z,0.9nm,0.5s,baz=24,slow=9.7,SNR=4.3						
	comp=Z,0.9nm,0.5s						
TSUM	**Tsumeb**	**54.28**	**186**	LR	LR	04 13 31.6	
	comp=Z,120nm,19.0s,baz=6.0,slow=40						
GOMU	**GeErMu**	**56.99**	**66**	P	**P**	**03 47 06.1**	**+1.3**
GOMU				pP	pP	03 47 10.8	-1.3
GOMU				sP	sP	03 47 12.0	-2.8
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,85nm,7.0s						
ZAK	**Zakamensk**	**58.03**	**48**	*e*P	**P**	**03 47 11.3**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SHL	**Shillong**	**59.09**	**79**	P	**P**	**03 47 18.8**	**-0.6**
SHL	**Shillong**	**59.09**	**79**	P	**P**	**03 47 18.8**	**-0.6**
SHL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA	**Gaotai**	**59.47**	**61**	*e*P	**P**	**03 47 22.3**	**+0.5**
GTA				pP	PcP	03 48 02.4	-6.8
GTA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
FRB	**Frobisher Bay**	**59.83**	**329**	LR	LR	04 13 58.5	
	comp=Z,154nm,21.0s,baz=60,slow=37						
LBTB	**Lobatse**	**59.86**	**177**	LR	LR	04 14 38.0	
	comp=Z,55nm,20.4s,baz=5.0,slow=37						
SONM	**Songino Array**	**60.81**	**50**	P	**P**	**03 47 30.3**	**-0.6**
	comp=Z,2.8nm,0.6s,baz=281,slow=7.2,SNR=39						
SONM				LR	LR	04 16 56.9	
	comp=Z,91nm,21.1s,baz=127,slow=39						
	comp=Z,2.8nm,0.6s						
SONM	**Songino Array**	**60.81**	**50**	P	**P**	**03 47 30.9**	**+0.1**
SONM				IAmb	IAmb	03 47 32.7	
	comp=Z,2.9nm,1.0s						
SONM	**Songino Array**	**60.81**	**50**	P	**P**	**03 47 31.0**	**+0.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**61.21**	**50**	P	**P**	**03 47 33.4**	**-0.2**
ULN	**Ulaanbaatar**	**61.21**	**50**	*ce*P	**P**	**03 47 33.0**	**-0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BOD	**Bodaibo**	**61.52**	**38**	*e*P	**P**	**03 47 33.0**	**-2.3**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TIXI	**Tiksi**	**61.79**	**20**	LR	LR	04 17 49.6	
	comp=Z,160nm,18.4s,baz=354,slow=39						
TIXI	**Tiksi**	**61.79**	**20**	P	**P**	**03 47 37.3**	**+0.4**
TIXI				IAmb	IAmb	03 47 38.0	
	comp=Z,4.6nm,0.8s						
TIXI	**Tiksi**	**61.79**	**20**	*de*P	**P**	**03 47 37.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SCHQ	**Schefferville**	**62.11**	**319**	P	**P**	**03 47 40.6**	**+1.3**
	comp=Z,6.0nm,0.9s,baz=57,slow=5.6,SNR=4.2						
	comp=Z,6.0nm,0.9s						
BOSA	**Boshof**	**63.43**	**178**	P	**P**	**03 47 50.1**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=310,slow=5.0,SNR=4.3						
BOSA				LR	LR	04 19 15.3	
	comp=Z,76nm,18.7s,baz=3.5,slow=40						
	comp=Z,2.0nm,0.6s						
PZH	**PanZhiHua**	**66.50**	**73**	P	**P**	**03 48 08.3**	**-0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,5.7s						
YAK	**Yakutsk**	**66.75**	**29**	LR	LR	04 19 49.5	
	comp=Z,87nm,19.4s,baz=274,slow=38						
YAK	**Yakutsk**	**66.75**	**29**	*e*P	**P**	**03 48 08.8**	**-0.7**
YAK				*e*		03 48 36.5	
YAK				*e*S	**S**	**03 56 59.0**	**-0.5**
YAK				*e**SS	sS	03 57 21.0	+9.4
YAK				*e*		03 58 02.9	
YAK				*e*SS	**SS**	**04 01 18.1**	**+1.5**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,148nm,3.8s						
YAK				pmax	pmax		
	comp=E,145nm,4.2s						
YAK				pmax	pmax		
	comp=N,55nm,3.5s						
YAK				smax	smax		
	comp=E,167nm,4.5s						
YAK				smax	smax		
	comp=N,91nm,3.9s						
HHC	**Hu-ho-hao-te**	**67.06**	**55**	*e*P	**P**	**03 48 12.6**	**+0.6**
HHC				pmax	pmax		
	comp=Z,25nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,6.2s						
SUR	**Sutherland**	**67.19**	**182**	LR	LR	04 20 39.6	
	comp=Z,168nm,18.5s,baz=360,slow=39						
HIA	**Hailar**	**68.25**	**44**	P	**P**	**03 48 19.1**	**-0.2**
HIA	**Hailar**	**68.25**	**44**	P	**P**	**03 48 19.1**	**-0.2**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**68.25**	**82**	P	**P**	**03 48 19.5**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=301,slow=8.8,SNR=10						
	comp=Z,1.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**68.25**	**82**	P	**P**	**03 48 19.7**	**-0.1**
CRAI	**Chiangrai**	**68.51**	**80**	P	**P**	**03 48 21.6**	**+0.2**
RCBR	**Riachuelo**	**68.76**	**246**	LR	LR	04 18 57.2	
	comp=Z,146nm,19.8s,baz=150,slow=36						
BJT	**Baijiatuau**	**70.54**	**54**	P	**P**	**03 48 33.2**	**-0.4**
BJT	**Baijiatuau**	**70.54**	**54**	P	**P**	**03 48 33.2**	**-0.4**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
A36M	**Sachs Harbour**	**70.90**	**350**	P	**P**	**03 48 37.0**	**+1.9**
HEH	**HeiHe**	**72.00**	**41**	*e*P	**P**	**03 48 42.3**	**+0.1**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,220nm,5.0s						
BILL	**Bilibino**	**73.51**	**14**	*i* P	**P**	**03 48 55.5**	**+4.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,74nm,18.0s						
SEY	**Seymchan**	**74.22**	**22**	P	**P**	**03 48 55.3**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=238,slow=3.1,SNR=4.6						
SEY				LR	LR	04 25 50.6	
	comp=Z,88nm,18.5s,baz=308,slow=39						
	comp=Z,2.3nm,0.9s						
KLR	**Kul'dur**	**74.89**	**40**	LR	LR	04 24 55.6	
	comp=Z,49nm,19.4s,baz=312,slow=38						
KLR	**Kul'dur**	**74.89**	**40**	⇓*e*P	**P**	**03 48 59.1**	**-0.1**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
INK	**Inuvik**	**75.41**	**351**	P	**P**	**03 49 02.5**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=333,slow=6.7,SNR=6.4						
	comp=Z,1.0nm,0.6s						
MDP	**Montagnes des**	**75.42**	**266**	LR	LR	04 21 52.0	
	comp=Z,34nm,19.6s,baz=40,slow=35						
MA2	**Magadan**	**76.23**	**25**	P	**P**	**03 49 07.4**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=339,slow=12,SNR=3.5						
MA2				LR	LR	04 26 10.1	
	comp=Z,20nm,19.2s,baz=312,slow=38						
	comp=Z,2.1nm,0.3s						
YKA	**Yellowknife Ar**	**76.95**	**341**	P	**P**	**03 49 11.3**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=30,slow=5.2,SNR=16						
	comp=Z,1.2nm,0.6s						
USA0B	**Ussuriysk Arra**	**78.05**	**44**	⇑*e*P	**P**	**03 49 17.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**78.05**	**44**	P	**P**	**03 49 16.9**	**-0.3**
	comp=Z,5.8nm,0.7s,baz=292,slow=3.6,SNR=11						
USRK				LR	LR	04 26 55.3	
	comp=Z,82nm,18.9s,baz=3.4,slow=38						
	comp=Z,5.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**78.05**	**44**	P	**P**	**03 49 17.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**78.05**	**44**	P	**P**	**03 49 17.3**	**+0.1**
IMAR	**Indian Mountai**	**79.19**	**359**	P	**P**	**03 49 24.8**	**+1.7**
SJG	**San Juan**	**79.21**	**285**	LR	LR	04 19 58.1	
	comp=Z,27nm,22.0s,baz=189,slow=32						
ULM	**Lac du Bonnet**	**79.38**	**325**	LR	LR	04 24 29.4	
	comp=Z,70nm,21.4s,baz=18,slow=36						
KSRS	**Korea Array**	**79.64**	**51**	P	**P**	**03 49 25.4**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=311,slow=4.3,SNR=7.8						
KSRS				LR	LR	04 29 15.2	
	comp=Z,97nm,19.0s,baz=310,slow=39						
	comp=Z,3.7nm,0.9s						
ILAR	**Eielson Array**	**80.12**	**356**	P	**P**	**03 49 30.4**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=349,slow=7.5,SNR=4.4						
ILAR				LR	LR	04 29 09.0	
	comp=Z,48nm,18.2s,baz=55,slow=39						
	comp=Z,0.4nm,0.8s						
PETK	**Petropavlovsk-**	**83.69**	**26**	LR	LR	04 29 56.2	
	comp=Z,67nm,21.4s,baz=311,slow=38						
ASAJ	**Asahikawa**	**83.88**	**39**	LR	LR	04 30 28.9	
	comp=Z,56nm,18.6s,baz=317,slow=38						
JNU	**Nakatsue**	**84.18**	**53**	LR	LR	04 32 13.9	
	comp=Z,56nm,20.9s,baz=242,slow=39						
MJAR	**Matsushiro Arr**	**86.60**	**47**	P	**P**	**03 50 02.5**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=320,slow=3.5,SNR=4.0						
	comp=Z,1.8nm,0.7s						
SDV	**Santo Domingo**	**87.98**	**279**	LR	LR	04 25 42.7	
	comp=Z,36nm,19.0s,baz=80,slow=33						
PDAR	**Pinedale Array**	**91.23**	**327**	LR	LR	04 33 27.2	
	comp=Z,98nm,21.7s,baz=356,slow=37						
ROSC	**El Rosal**	**93.29**	**278**	LR	LR	04 31 53.0	
	comp=Z,24nm,18.1s,baz=200,slow=35						
SIV	**San Ignacio**	**94.40**	**254**	LR	LR	04 34 12.1	
	comp=Z,73nm,19.4s,baz=106,slow=36						
ELK	**Elko**	**95.33**	**330**	LR	LR	04 35 24.0	
	comp=Z,47nm,20.4s,baz=5.0,slow=37						
ANMO	**Albuquerque**	**95.86**	**320**	LR	LR	04 34 31.0	
	comp=Z,41nm,18.9s,baz=101,slow=36						
CPUP	**Villa Florida**	**97.49**	**243**	LR	LR	04 36 28.5	
	comp=Z,105nm,19.7s,baz=52,slow=36						
KAPI	**Kappang**	**98.30**	**90**	LR	LR	04 42 47.6	
	comp=Z,24nm,18.2s,baz=52,slow=40						
JTS	**Las Juntas de**	**98.53**	**289**	LR	LR	04 32 27.0	
	comp=Z,18nm,20.4s,baz=37,slow=34						
WRA	**Warramunga Arr**	**118.27**	**95**	PKP	**PKPdf**	**03 56 05.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=331,slow=1.8,SNR=2.8						
ASAR	**Alice Springs**	**119.71**	**99**	PKP	**PKiKP**	**03 56 09.2**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=301,slow=1.6,SNR=10						

ROM 15 03:37:25.3±0.1, 42°.581N±0°.004×13°.235E±0°.004, h10km, ML2.2/37, 10C-24D, Error ellipse: s-maj=0.4km s-min=0.3km az=198.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
RM33	**Pellescritta (**	**0.07**	**192**	P	Pg	03 37 28.0	+0.3
RM33				S	Sg	03 37 29.6	+0.1
RM33				AML	AML		
	comp=E,8210μm,0.7s						
RM33				AML	AML		
	comp=N,5840μm,1.2s						
RM33				AML	AML		
	comp=E,8125μm,0.7s						
RM33				AML	AML		
	comp=E,8215μm,0.7s						
RM33				AML	AML		
	comp=N,5760μm,1.2s						
SMA1	**SAN MARTINO**	**0.09**	**56**	⇑P	Pg	03 37 28.4	+0.5
SMA1				AML	AML		
	comp=N,5065μm,0.6s						
SMA1				AML	AML		
	comp=E,7340μm,1.0s						
SMA1				AML	AML		
	comp=E,7340μm,1.0s						
T1218	**Civita (PG)**	**0.12**	**315**	⇓P	Pg	03 37 28.8	+0.4
T1218				S	Sg	03 37 31.2	+0.6
T1218				AML	AML		
	comp=E,2725μm,0.7s						
T1218				AML	AML		
	comp=N,4715μm,0.2s						
T1218				AML	AML		
	comp=E,2655μm,0.7s						
T1218				AML	AML		
	comp=N,4580μm,0.2s						
T1218				AML	AML		
	comp=E,2655μm,1.3s						
T1218				AML	AML		
	comp=E,2725μm,1.3s						
CAMP	**Campotosto**	**0.14**	**109**	⇓P	Pg	03 37 29.1	+0.5
CAMP				S	Sg	03 37 31.4	+0.5
CAMP				AML	AML		
	comp=E,2500μm,0.5s						
CAMP				AML	AML		
	comp=N,3065μm,0.6s						
CAMP				AML	AML		
	comp=E,2500μm,1.5s						
LNSS	**Leonessa**	**0.15**	**279**	⇓P	Pg	03 37 29.3	+0.6
LNSS				S	Sg	03 37 32.1	+0.9
LNSS				AML	AML		
	comp=E,6960μm,0.6s						
LNSS				AML	AML		
	comp=N,6550μm,1.5s						
LNSS				AML	AML		
	comp=N,6550μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.15**	**162**	⇓P	Pg	03 37 29.3	+0.6
T1247				AML	AML		
	comp=N,2655μm,0.4s						
T1247				AML	AML		
	comp=E,3600μm,0.3s						
T1247				AML	AML		
	comp=E,3600μm,1.7s						
T1214	**Arquata del Tr**	**0.18**	**354**	P	Pg	03 37 29.8	+0.5
T1214				S	Sg	03 37 33.1	+1.0
T1214				AML	AML		
	comp=E,882μm,1.6s						
T1214				AML	AML		
	comp=N,996μm,0.4s						
T1214				AML	AML		
	comp=E,826μm,0.6s						
T1214				AML	AML		
	comp=E,826μm,0.5s						
T1214				AML	AML		
	comp=N,984μm,0.4s						
T1214				AML	AML		
	comp=E,882μm,1.6s						
T1214				AML	AML		
	comp=N,995μm,0.4s						
T1214				AML	AML		
	comp=N,984μm,0.4s						
T1214				AML	AML		
	comp=E,882μm,0.4s						
T1214				AML	AML		
	comp=E,825μm,0.5s						
T1212	**Cascia, Frazio**	**0.22**	**320**	⇓P	Pg	03 37 30.5	+0.5
T1212				AML	AML		
	comp=E,814μm,0.3s						
T1212				AML	AML		
	comp=N,891μm,1.3s						
T1212				AML	AML		
	comp=E,836μm,0.3s						
T1212				AML	AML		
	comp=N,924μm,1.3s						
T1212				AML	AML		
	comp=N,891μm,1.2s						
T1212				AML	AML		
	comp=N,924μm,1.2s						
T1212				AML	AML		
	comp=E,814μm,0.3s						
T1212				AML	AML		
	comp=E,837μm,0.3s						
T1212				AML	AML		
	comp=N,891μm,0.8s						
T1212				AML	AML		
	comp=N,924μm,0.8s						
AQU	**L'Aquila**	**0.26**	**151**	⇓P	Pg	03 37 31.1	+0.5
AQU				AML	AML		
	comp=N,588μm,0.3s						
AQU				AML	AML		
	comp=N,584μm,0.3s						
AQU				AML	AML		
	comp=E,432μm,0.4s						
AQU				AML	AML		
	comp=E,461μm,0.4s						
TERO	**Teramo**	**0.28**	**81**	⇑P	Pg	03 37 31.3	+0.3
T1245	**Castelsantange**	**0.28**	**353**	⇓P	Pg	03 37 31.6	+0.5
T1245				AML	AML		
	comp=E,932μm,0.3s						
T1245				AML	AML		
	comp=N,1745μm,0.3s						
T1245				AML	AML		
	comp=E,904μm,0.3s						
T1245				AML	AML		
	comp=N,1745μm,0.3s						
T1245				AML	AML		
	comp=E,904μm,1.7s						
T1245				AML	AML		
	comp=E,932μm,1.7s						
T1245				AML	AML		
	comp=N,1685μm,0.3s						
GIGS	**Gran Sasso**	**0.28**	**118**	⇓P	Pg	03 37 31.3	+0.3
GIGS				AML	AML		
	comp=N,159μm,0.2s						
GIGS				AML	AML		
	comp=N,160μm,0.2s						
GIGS				AML	AML		
	comp=E,215μm,0.2s						
T1211	**Morro Reatino**	**0.28**	**260**	⇑P	Pg	03 37 31.6	+0.5
T1211				AML	AML		
	comp=E,708μm,0.3s						
T1211				AML	AML		
	comp=N,1110μm,0.9s						
T1211				AML	AML		
	comp=E,708μm,0.3s						
T1211				AML	AML		
	comp=N,1065μm,1.0s						
T1211				AML	AML		
	comp=N,1110μm,1.0s						
T1211				AML	AML		
	comp=E,708μm,0.3s						
T1211				AML	AML		
	comp=N,1066μm,1.0s						
T1211				AML	AML		
	comp=N,1066μm,1.0s						
T1211				AML	AML		
	comp=N,1110μm,1.0s						
T1211				AML	AML		
	comp=E,708μm,0.3s						
T1241	**Roccafluviove,**	**0.31**	**28**	⇑P	Pg	03 37 32.0	+0.4
T1241				AML	AML		
	comp=E,374μm,0.4s						
T1241				AML	AML		
	comp=N,260μm,0.5s						
T1241				AML	AML		
	comp=E,373μm,0.4s						
FIAM	**Fiamignano**	**0.33**	**196**	⇓P	Pg	03 37 32.5	+0.7
FIAM				AML	AML		
	comp=N,246μm,0.4s						
FIAM				AML	AML		
	comp=E,388μm,0.7s						
MC2	**Monte Cornacci**	**0.33**	**354**	P	Pg	03 37 32.6	+0.6
ARRO	**Arrone**	**0.35**	**270**	⇓P	Pb	03 37 32.9	-0.6
ARRO				AML	AML		
	comp=N,294μm,1.1s						
ARRO				AML	AML		
	comp=N,294μm,0.9s						
ARRO				AML	AML		
	comp=E,268μm,0.2s						
T1216	**Preci, Frazion**	**0.35**	**333**	⇓P	Pg	03 37 32.6	+0.4
T1216				AML	AML		
	comp=N,828μm,0.4s						
T1216				AML	AML		
	comp=E,495μm,0.3s						
T1216				AML	AML		
	comp=E,495μm,1.7s						
T1215	**Vallo di Nera,**	**0.35**	**309**	⇓P	Pg	03 37 32.6	+0.3
T1215				AML	AML		
	comp=N,258μm,1.4s						
T1215				AML	AML		
	comp=N,272μm,1.6s						
T1215				AML	AML		
	comp=E,242μm,0.3s						
T1215				AML	AML		
	comp=N,272μm,0.4s						
T1215				AML	AML		
	comp=E,280μm,0.3s						
FAGN	**Fagnano**	**0.41**	**141**	⇓P	Pg	03 37 33.6	+0.3
FAGN				AML	AML		
	comp=E,476μm,0.7s						
FAGN				AML	AML		
	comp=N,498μm,1.3s						
FAGN				AML	AML		
	comp=E,476μm,1.3s						
FAGN				AML	AML		
	comp=N,498μm,0.7s						
CESX	**Cesi**	**0.48**	**274**	⇓P	Pg	03 37 35.2	+0.4
CESX				AML	AML		
	comp=E,156μm,0.6s						
CESX				AML	AML		
	comp=N,208μm,1.4s						
CESX				AML	AML		
	comp=E,156μm,1.4s						
VCEL	**Villa Celiera**	**0.48**	**112**	⇑P	Pb	03 37 35.5	-0.5
VCEL				AML	AML		
	comp=E,652μm,1.0s						
VCEL				AML	AML		
	comp=N,536μm,1.3s						
VCEL				AML	AML		
	comp=N,536μm,0.7s						
GUMA	**Gualdo di Mace**	**0.49**	**9**	⇓P	Pb	03 37 35.7	-0.3
GUMA				AML	AML		
	comp=E,1620μm,0.2s						
GUMA				AML	AML		
	comp=N,980μm,0.7s						
GUMA				AML	AML		
	comp=E,1620μm,1.8s						
CESI	**CESI - Serrava**	**0.49**	**330**	P	Pg	03 37 35.1	+0.3
CESI				AML	AML		
	comp=E,195μm,1.3s						
CESI				AML	AML		
	comp=N,250μm,0.4s						
CESI				AML	AML		
	comp=E,195μm,0.7s						
T1219	**Muccia, Frazio**	**0.50**	**341**	⇓P	Pg	03 37 35.3	+0.2
T1219				S	Sb	03 37 43.6	-0.1
T1219				AML	AML		
	comp=N,228μm,1.4s						
T1219				AML	AML		
	comp=E,190μm,1.1s						
T1219				AML	AML		
	comp=N,228μm,1.4s						
T1219				AML	AML		
	comp=N,228μm,0.6s						
CSP1	**Cessapalombo**	**0.51**	**357**	⇓P	Pg	03 37 34.3	-1.0
CSP1				S	Sb	03 37 44.1	+0.2
CSP1				AML	AML		
	comp=E,256μm,1.3s						
CSP1				AML	AML		
	comp=N,330μm,0.3s						
CSP1				AML	AML		
	comp=E,256μm,0.7s						
T0110	**Collepietro**	**0.54**	**131**	⇓P	Pg	03 37 36.1	+0.4
T0110				AML	AML		
	comp=E,326μm,1.2s						
T0110				AML	AML		
	comp=N,253μm,0.3s						
MOMA	**Monte Martano**	**0.54**	**295**	⇓P	Pg	03 37 36.3	+0.5
MOMA				S	Sb	03 37 44.7	0.0
MOMA				AML	AML		
	comp=N,270μm,0.7s						
MOMA				AML	AML		
	comp=E,348μm,0.2s						
T1220	**Camerino, Fraz**	**0.54**	**349**	⇓P	Pg	03 37 36.1	+0.2
T1220				AML	AML		
	comp=E,794μm,0.4s						
T1220				AML	AML		
	comp=E,794μm,0.4s						
T1220				AML	AML		
	comp=N,911μm,0.7s						
T1220				AML	AML		
	comp=E,794μm,1.6s						
ASSB	**Assisi San Ben**	**0.63**	**318**	⇑P	Pg	03 37 37.6	+0.1
ASSB				AML	AML		
	comp=N,153μm,0.2s						
ASSB				AML	AML		
	comp=E,158μm,1.4s						
CERT	**Cerreto**	**0.66**	**197**	⇓P	Pb	03 37 39.7	+0.8
SNTG	**Esanatoglia**	**0.71**	**342**	⇓P	Pg	03 37 39.2	+0.2
SNTG				AML	AML		
	comp=N,84μm,0.2s						
SNTG				AML	AML		
	comp=E,73μm,1.1s						
ATCC	**AVT- Casa Cast**	**0.74**	**324**	⇓P	Pg	03 37 39.8	0.0
ATCC				S	Sb	03 37 51.9	+1.3
ATCC				AML	AML		
	comp=E,130μm,0.3s						
ATCC				AML	AML		
	comp=N,122μm,1.4s						
ATCC				AML	AML		
	comp=E,130μm,0.3s						
EL6	**Elcito**	**0.75**	**353**	⇑P	Pg	03 37 40.1	+0.2

EL6				AML	AML			
	comp=E,210μm,1.4s							
EL6				AML	AML			
	comp=N,197μm,0.3s							
EL6				AML	AML			
	comp=N,197μm,1.7s							
EL6				AML	AML			
	comp=E,210μm,0.6s							
CING	**Cingoli**	**0.79**	**358**	⇑P	Pg	03 37 40.7	+0.1	
CING				AML	AML			
	comp=E,120μm,1.2s							
CING				AML	AML			
	comp=N,105μm,0.4s							
CING				AML	AML			
	comp=E,120μm,0.8s							
FOSV	**Fossato di Vic**	**0.79**	**334**	⇑P	Pg	03 37 40.6	0.0	
FOSV				AML	AML			
	comp=E,75μm,1.4s							
FOSV				AML	AML			
	comp=N,82μm,1.2s							
FOSV				AML	AML			
	comp=E,75μm,0.6s							
PP3	**Marolino**	**0.84**	**19**	⇑P	Pn	03 37 42.8	-0.4	
PP3				AML	AML			
	comp=E,259μm,1.0s							
PP3				AML	AML			
	comp=N,229μm,1.2s							
PP3				AML	AML			
	comp=N,229μm,0.8s							
SSFR	**Montelago di S**	**0.92**	**339**	⇓P	Pg	03 37 43.1	+0.1	
SSFR				AML	AML			
	comp=E,208μm,0.2s							
SSFR				AML	AML			
	comp=N,126μm,0.2s							
ARVD	**Arcevia**	**0.94**	**347**	P	Pg	03 37 43.5	0.0	
ARVD				AML	AML			
	comp=N,44μm,1.2s							
ARVD				AML	AML			
	comp=E,45μm,0.7s							
ARVD				AML	AML			
	comp=N,44μm,0.8s							

*IDC **15** 03:39:12.0±6.8, 10°.51S×161°.54E, h44km±50km, mb3.5/3, mbtmp3.9/4, ML4.1/1, MS3.3/2, Error ellipse: s-maj=57.4km s-min=30.0km az=80.0*

ISC 15 03:39:12.8±1.9, **10°.5S**±0°.2×**161°.5E**±0°.2, **h50**km, **n13**, σ1¶**12**/**6**, **mb3.8**/3, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.85**	**304**	P	**Pn**	**03 39 41.4**	**-0.8**
	3μm,0.4s,baz=205,slow=5.0,SNR=12						
HNR				S	**Sn**	**03 40 05.0**	**+0.6**
	11μm,0.3s,baz=182,slow=21,SNR=11						
HNR				LR	LR	03 40 31.8	
	comp=Z,4μm,20.8s,baz=148,slow=42						
DZM	**Mont Dzumac**	**12.46**	**158**	LR	LR	03 46 08.3	
	comp=Z,77nm,18.9s,baz=320,slow=34						
CTA	**Charters Tower**	**17.52**	**235**	P	**P**	**03 43 15.1**	**+0.9**
	0.4nm,0.3s,baz=64,slow=11,SNR=6.3 4.5nm,0.8s						
WRA	**Warramunga Arr**	**27.81**	**247**	P	**P**	**03 44 56.7**	**-0.9**
	0.4nm,0.7s,baz=76,slow=9.0,SNR=2.4 0.4nm,0.7s						
STKA	**Stephens Creek**	**28.15**	**218**	LR	LR	03 55 44.5	
	comp=Z,79nm,19.3s,baz=25,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.24**	**10**	T	T	04 14 08.3	
	baz=201						
H11S3	**WAKE ISLAND Hy**	**29.24**	**10**	T	T	04 14 37.3	
	baz=201,slow=74,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**29.26**	**10**	T	T	04 14 12.2	
	baz=201,slow=74,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**30.47**	**10**	T	T	04 16 12.9	
	baz=192,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**30.48**	**10**	T	T	04 15 55.1	
	baz=192,slow=75,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**30.49**	**10**	T	T	04 16 06.1	
	baz=192,slow=75,SNR=9.0						
SONM	**Songino Array**	**75.78**	**325**	P	**P**	**03 50 54.6**	**+1.0**
	0.9nm,0.8s,baz=137,slow=6.4,SNR=5.6 0.9nm,0.8s						
MKAR	**Makanchi Array**	**90.27**	**318**	P	**P**	**03 52 07.9**	**-0.5**
	0.3nm,0.4s,baz=88,slow=6.1,SNR=7.2 0.3nm,0.4s						

*DJA **15** 03:44:13.3±0.4, 9°.5S×11°.6E±°, h100km±4km, M4.7/13, mB4.6/1, mb4.5/6, mBc5.5/1, MLv4.3/13, Mw(mB)3.8/1, MwmBc4.7/1*

*IDC **15** 03:44:16.6±6.0, 9°.06S×115°.77E, h165km±54km, mb3.6/8, mbtmp4.1/10, Error ellipse: s-maj=54.4km s-min=15.7km az=60.0*

ISC 15 03:44:12.1±0.9, **9°.24S**±0°.09×**115°.58E**±0°.04, **h123**km±7km, **n25**, σ1¶**15**/**35**, **mb4.0**/8, **South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**0.66**	**327**	P	**Pn**	**03 44 30.7**	**-0.7**
DNP				S	**Sn**	**03 44 46.3**	**+0.3**
SRBI	**Singaraja**	**1.20**	**342**	P	**Pn**	**03 44 36.6**	**+0.3**
SRBI				S	**Sn**	**03 44 54.3**	**-0.4**
TWSI	**Taliwang, Sumb**	**1.38**	**69**	P	**Pn**	**03 44 37.9**	**-0.4**
TWSI				S	**Sn**	**03 44 56.8**	**-1.4**
JAGI	**Jajag, Banyuwa**	**1.60**	**298**	P	**Pn**	**03 44 41.4**	**+0.6**
JAGI				S	**Sn**	**03 45 02.2**	**-0.6**
ABJI	**Asem Bagus**	**1.95**	**317**	P	**Pn**	**03 44 46.0**	**+0.9**
ABJI				S	**Sn**	**03 45 10.0**	**-0.3**
PLAI	**Plampang**	**2.21**	**80**	P	**Pn**	**03 44 48.7**	**+0.4**
PLAI				S	**Sn**	**03 45 15.3**	**-0.7**
GMJI	**Gumukmas**	**2.32**	**294**	P	**Pn**	**03 44 50.1**	**+0.5**
GMJI				S	**Sn**	**03 45 18.1**	**-0.3**
BLJI	**Banyuglugur**	**2.46**	**307**	P	**Pn**	**03 44 52.2**	**+0.8**
BLJI				S	**Sn**	**03 45 21.5**	**-0.1**
PWJI	**Pagerwojo**	**3.92**	**288**	P	**Pn**	**03 45 11.7**	**+1.1**
PWJI				S	**Sn**	**03 45 52.3**	**-3.7**
BASI	**Baing, Sumba**	**5.02**	**102**	P	**Pn**	**03 45 26.5**	**+1.1**
UGM	**Wanagama**	**5.17**	**284**	P	**Pn**	**03 45 29.6**	**+2.2**
	203nm,2.3s,1.1nm						
BSSI	**Bau Bau, Buton**	**5.76**	**58**	P	**Pn**	**03 45 36.3**	**+1.0**
	56nm,0.5s,0.4nm						
KAPI	**Kappang**	**5.89**	**45**	P	**Pn**	**03 45 38.9**	**+1.8**
	13nm,0.3s,baz=193,slow=7.7,SNR=13						
KAPI				S	**Sn**	**03 46 43.0**	**-0.5**
	25nm,0.5s,baz=39,slow=19,SNR=14						
BKSI	**Bulukumba**	**5.95**	**50**	P	**Pn**	**03 45 39.2**	**+1.3**
	50nm,0.6s,612nm0.2nm						
SOEI	**Soe**	**8.59**	**94**	P	**Pn**	**03 46 14.7**	**+1.1**
	20nm,0.8s						
KASI	**Kota Agung**	**11.59**	**288**	P	**Pn**	**03 46 55.0**	**+1.1**
SIJI	**Sorong**	**17.69**	**63**	P	**Pn**	**03 48 10.1**	**-0.8**
	14nm,0.8s,baz=184,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**21.02**	**122**	P	**P**	**03 48 46.8**	**+0.6**
	1.1nm,0.7s,baz=298,slow=12,SNR=8.9 1.1nm,0.7s						
ASAR	**Alice Springs**	**22.65**	**132**	P	**P**	**03 49 03.8**	**+0.6**
	2.3nm,0.6s,baz=305,slow=9.2,SNR=46 2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.04**	**329**	P	**P**	**03 50 27.7**	**+0.4**
	1.2nm,0.3s,baz=146,slow=6.3,SNR=4.4 1.2nm,0.3s						
SONM	**Songino Array**	**57.40**	**353**	P	**P**	**03 53 47.0**	**-0.8**
	0.7nm,0.8s,baz=180,slow=6.5,SNR=1.1 0.7nm,0.8s						
MKAR	**Makanchi Array**	**63.18**	**335**	P	**P**	**03 54 26.6**	**-0.5**
	0.9nm,0.4s,baz=152,slow=7.0,SNR=17 0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**67.73**	**336**	P	**P**	**03 54 55.8**	**-0.4**
	1.4nm,0.2s,baz=155,slow=5.7,SNR=5.5 1.4nm,0.2s						
ZALV	**Zalesovo Beam**	**68.11**	**341**	P	**P**	**03 54 57.1**	**-1.4**
	1.3nm,0.5s,baz=144,slow=6.0,SNR=6.8 1.3nm,0.5s						
BVAR	**Borovoye Array**	**72.95**	**333**	P	**P**	**03 55 27.3**	**-0.7**
	1.4nm,0.6s,baz=139,slow=9.2,SNR=9.1 1.4nm,0.6s						

*IDC **15** 03:49:56.1±1.4, 35°.29N×23°.04E, h0km, mb4.0/8, mbtmp3.9/10, ML3.5/2, MS2.9/2, Error ellipse: s-maj=26.4km s-min=19.1km az=12.0*

*ATH **15** 03:50:01.6, 35°.01N×23°.12E, h18km±2km, ML3.9/5, Error ellipse: s-maj=3.2km s-min=1.5km az=37.0*

*THE **15** 03:50:02.7, 35°.08N×23°.24E, h0km±4km, ML3.6/5, Error ellipse: s-maj=5.9km s-min=1.6km az=232.0*

*BEO **15** 03:50:02.1±0.5, 35°.29N×22°.47E, h0km±9km, ML4.1/7*

ISC 15 03:50:00.2±1.1, **35°.16N**±0°.08×**22°.97E**±0°.07, **h37**km±2km, **n83**, σ2¶**46**/102, **mb4.0**/8, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.59**	**82**	P	**Pn**	**03 50 10.4**	**-1.8**
KNDR				S	**Sn**	**03 50 15.7**	**-4.9**
	6μm,0.9s						
KNDR	**Palaiochora Ch**	**0.59**	**82**	P	**Pn**	**03 50 10.7**	**-1.5**
KNDR				S	**Sn**	**03 50 17.9**	**-2.7**
KNDR				AML	AML	03 50 24.3	
	comp=N,35444μm,0.7s						
KNDR				AML	AML	03 50 24.7	
	comp=E,37965μm,0.6s						
ANKY	**Antikythira Is**	**0.76**	**21**	P	**Pn**	**03 50 17.2**	**+2.8**
ANKY				S	**Sn**	**03 50 30.3**	**+5.6**
	comp=E,6μm,0.4s						
ANKY	**Antikythira Is**	**0.76**	**21**	P	**Pn**	**03 50 17.1**	**+2.7**
ANKY				S	**Sn**	**03 50 29.6**	**+4.9**
ANKY				AML	AML	03 50 32.3	
	comp=E,14771μm,0.5s						
ANKY				AML	AML	03 50 33.6	
	comp=N,9060μm,0.4s						
IMMV	**Iera Moni Meta**	**0.88**	**69**	P	**Pn**	**03 50 16.6**	**+0.5**
IMMV				S	**Sn**	**03 50 27.2**	**-0.5**
	comp=N,12μm,0.7s						
IMMV	**Iera Moni Meta**	**0.88**	**69**	P	**Pn**	**03 50 17.0**	**+0.9**
IMMV				S	**Sn**	**03 50 28.3**	**+0.6**
IMMV				AML	AML	03 50 32.3	
	comp=N,23231μm,0.7s						
IMMV				AML	AML	03 50 33.8	
	comp=E,23694μm,0.7s						
CHAN	**Chania**	**0.95**	**67**	P	**Pn**	**03 50 17.8**	**+0.8**
CHAN				S	**Sn**	**03 50 30.8**	**+1.6**
CHAN				AML	AML	03 50 33.9	
	comp=E,22197μm,0.6s						
CHAN				AML	AML	03 50 34.6	
	comp=N,13390μm,0.6s						
GVD	**Gavdhos**	**0.97**	**109**	P	**Pn**	**03 50 17.2**	**0.0**
GVD				S	**Sn**	**03 50 29.2**	**-0.6**
	comp=N,5μm,0.6s						
GVD	**Gavdhos**	**0.97**	**109**	P	**Pn**	**03 50 17.2**	**0.0**
GVD				S	**Sn**	**03 50 27.6**	**-2.2**
GVD				AML	AML	03 50 33.7	
	comp=E,8719μm,0.6s						
GVD				AML	AML	03 50 38.7	
	comp=N,9942μm,0.4s						
PRNS	**Prines Rethymn**	**1.27**	**80**	P	**Pn**	**03 50 21.4**	**0.0**
PRNS				S	**Sn**	**03 50 36.3**	**-0.9**
	comp=N,2μm,0.6s						
TMBK	**Timbaki Herakl**	**1.47**	**93**	P	**Pn**	**03 50 25.1**	**+0.9**
TMBK	**Timbaki Herakl**	**1.47**	**93**	P	**Pn**	**03 50 24.7**	**+0.5**
TMBK				S	**Sn**	**03 50 42.0**	**-0.1**
VLI	**Veliai**	**1.56**	**359**	P	Pn	03 50 32.9	+7.5
VLI	**Veliai**	**1.56**	**359**	P	Pn	03 50 30.9	+5.5
VLI				S	**Sn**	**03 50 52.1**	**+7.7**
IDI	**Anoyia**	**1.57**	**85**	Pn	**Pn**	**03 50 26.7**	**+1.0**
	comp=N,16nm,0.3s,baz=267,slow=11,SNR=83						
IDI				Sn	**Sn**	**03 50 47.4**	**+2.5**
	comp=N,41nm,0.3s,baz=354,slow=20,SNR=14						
IDI				LR	LR	03 51 06.1	
	comp=N,398nm,18.8s,baz=298,slow=46						
HRKL	**Herakleio**	**1.75**	**84**	P	**Pn**	**03 50 29.5**	**+1.5**
HRKL	**Herakleio**	**1.75**	**84**	P	**Pn**	**03 50 29.0**	**+1.0**
PYL	**PYLOS**	**2.00**	**330**	P	Pn	03 50 36.2	+4.7
FRMA	**Ierapetra Chan**	**2.27**	**93**	P	**Pn**	**03 50 37.6**	**+2.4**
STIA	**Sitia Lasithi**	**2.56**	**88**	P	**Pn**	**03 50 40.6**	**+1.5**
STIA	**Sitia Lasithi**	**2.56**	**88**	P	**Pn**	**03 50 40.3**	**+1.2**
ZKR	**Zakros**	**2.66**	**90**	P	**Pn**	**03 50 41.5**	**+1.0**
OHR	**Ohrid**	**6.19**	**345**	*e*Pn	**Pn**	**03 51 32.3**	**+3.2**
OHR				*e*Sn	**Sn**	**03 52 38.8**	**+0.2**
OHR	**Ohrid**	**6.19**	**345**	*i* Pn	**Pn**	**03 51 32.6**	**+3.6**
OHR				*i* Sn	**Sn**	**03 52 39.8**	**+1.2**
STIP	**Stip**	**6.56**	**355**	*i* Pn	**Pn**	**03 51 38.2**	**+4.1**
TIR	**Tirane**	**6.65**	**339**	*e*Pn	**Pn**	**03 51 38.3**	**+3.0**
TIR				*e*Sn	**Sn**	**03 52 48.7**	**-1.1**
PRVS	**Prvonek**	**7.38**	**355**	*e*Sn	**Sn**	**03 53 06.5**	**-1.2**
VTS	**Vitosha**	**7.46**	**1**	*e*Pn	**Pn**	**03 51 49.9**	**+3.4**
DRME	**Dracevica, Mon**	**7.62**	**338**	*e*Pn	**Pn**	**03 51 49.9**	**+1.3**
BARS	**Barje**	**7.70**	**354**	*e*Pn	**Pn**	**03 51 51.7**	**+1.9**
BARS				*e*Sn	**Sn**	**03 53 16.6**	**+0.8**
PDG	**Podgorica**	**7.82**	**339**	*e*Pn	**Pn**	**03 51 53.5**	**+2.1**
PDG				*e*Sn	**Sn**	**03 53 15.3**	**-3.3**
SELS	**Selova**	**8.18**	**350**	*e*Pn	**Pn**	**03 51 56.8**	**+0.4**
TREB	**Trebinje**	**8.36**	**336**	*e*Pn	**Pn**	**03 51 59.2**	**+0.3**
TREB				*e*Sn	**Sn**	**03 53 27.1**	**-4.9**
SJES	**Sjenica**	**8.42**	**345**	*e*Pn	**Pn**	**03 52 01.2**	**+1.4**
SJES				*e*Sn	**Sn**	**03 53 30.1**	**-3.5**
IVAS	**Ivanjica**	**8.69**	**346**	*e*Pn	**Pn**	**03 52 03.9**	**+0.5**
IVAS				*e*Sn	**Sn**	**03 53 35.7**	**-4.3**
STON	**Ston**	**8.73**	**334**	*e*Pn	**Pn**	**03 52 04.2**	**+0.4**
STON				*e*Sn	**Sn**	**03 53 34.6**	**-6.3**
STON	**Ston**	**8.73**	**334**	*e*Pn	**Pn**	**03 52 03.9**	**+0.1**
GRUS	**Gruza**	**8.89**	**349**	*e*Pn	**Pn**	**03 52 06.5**	**+0.4**
GRUS				*e*Sn	**Sn**	**03 53 43.9**	**-1.1**
RUDO	**Rudo**	**8.90**	**343**	*e*Pn	**Pn**	**03 52 05.2**	**-1.0**
BBLS	**Lazići**	**9.12**	**344**	*e*Pn	**Pn**	**03 52 10.1**	**+0.8**
BBLS				*e*Sn	**Sn**	**03 53 46.6**	**-4.2**
BBLS	**Lazići**	**9.12**	**344**	*e*Pn	**Pn**	**03 52 08.9**	**-0.4**
DIVS	**Divibare**	**9.22**	**346**	*e*Pn	**Pn**	**03 52 10.9**	**+0.2**
DIVS				*e*Sn	**Sn**	**03 53 49.3**	**-3.9**
DIVS	**Divibare**	**9.22**	**346**	*e*Pn	**Pn**	**03 52 10.8**	**+0.1**
HAPS	**Han Pijesak,Bl**	**9.44**	**342**	*e*Pn	**Pn**	**03 52 14.1**	**+0.4**
BRTR	**Keskin Array B**	**9.63**	**59**	Pn	**Pn**	**03 52 17.3**	**+0.9**
	comp=N,0.1nm,0.3s,baz=235,slow=15,SNR=19 comp=N,3.0nm,0.8s						
SRKY	**Kupres RS**	**9.96**	**335**	*e*Pn	**Pn**	**03 52 22.0**	**+1.2**
FRGS	**Fruska Gora**	**10.28**	**347**	*e*Pn	Pn	03 52 16.5	-8.6
MGRS	**Mrkonjic Grad**	**10.30**	**336**	*e*Pn	**Pn**	**03 52 26.0**	**+0.6**
BZS	**Buzias**	**10.50**	**355**	*e*Pn	**Pn**	**03 52 29.3**	**+1.2**
MMAI	**Mount Meron Ar**	**10.53**	**98**	Pn	**Pn**	**03 52 24.3**	**-4.3**
	comp=N,1.1nm,0.3s,baz=270,slow=10.0,SNR=7.3						
A050A	**Klekovaca**	**10.55**	**334**	*e*Pn	**Pn**	**03 52 30.2**	**+1.4**
BLY	**Banja Luka**	**10.56**	**337**	*e*Pn	**Pn**	**03 52 30.5**	**+1.6**
BLY				*e*Sn	**Sn**	**03 54 22.5**	**-3.3**
BLY	**Banja Luka**	**10.56**	**337**	*e*Pn	**Pn**	**03 52 29.6**	**+0.7**
KEST	**Kesra**	**11.13**	**277**	LR	LR	03 56 03.3	
	comp=N,44nm,21.6s,baz=311,slow=33						
MORH	**Mrgy, Hungar**	**11.52**	**345**	*e*Pn	**Pn**	**03 52 42.2**	**+0.1**
MORH				*e*Sn	**Sn**	**03 54 44.4**	**-5.0**
BOJS	**Bojanci**	**11.89**	**333**	*e*Pn	**Pn**	**03 52 47.7**	**+0.6**
CRES	**Cresnjev**	**12.09**	**334**	*e*Pn	**Pn**	**03 52 50.0**	**+0.1**
CEY	**Cerknica**	**12.41**	**331**	*e*Pn	**Pn**	**03 52 55.3**	**+1.1**
OBKA	**Obir**	**13.00**	**333**	*e*Pn	Pn	03 53 07.6	+5.2
	comp=N,0.3nm,0.2s						
OBKA	**Obir**	**13.00**	**333**	*e*Pn	**Pn**	**03 53 03.7**	**+1.3**
ARSA	**Arzberg**	**13.31**	**337**	*e*Pn	Pn	03 53 11.6	+5.1
	comp=N,1.0nm,0.4s						
ABTA	**Abfaltersbach**	**14.01**	**329**	*e*Pn	**P**	**03 53 21.0**	**-2.5**
	comp=N,0.9nm,0.5s						
MOA	**Molln**	**14.25**	**336**	*e*Pn	**Pn**	**03 53 19.3**	**0.0**
WTTA	**Wattenberg**	**14.78**	**328**	*e*Pn	**P**	**03 53 30.8**	**-1.4**
	comp=N,0.8nm,0.5s						
VRAC	**Vranov**	**14.90**	**344**	LR	LR	04 00 49.0	
	comp=N,62nm,21.3s,baz=178,slow=44						
SQTA	**Sankt Quirin**	**14.94**	**327**	*e*Pn	**P**	**03 53 34.0**	**+0.2**
	comp=N,0.3nm,0.2s						
FETA	**Feichten**	**15.00**	**326**	*i* Pn	**P**	**03 53 39.7**	**+5.1**
	comp=N,0.5nm,0.5s						
MOTA	**Moosalm**	**15.08**	**327**	*i* Pn	**P**	**03 53 34.9**	**-0.5**
	comp=N,0.3nm,0.2s						
CKRC	**Cesky Krumlov**	**15.08**	**338**	*e*P	**P**	**03 53 39.9**	**+4.6**
KHC	**Kasperske Hory**	**15.59**	**336**	*e*P	**P**	**03 53 43.6**	**+2.7**
DPC	**Dobruska-Polom**	**15.94**	**344**	*e*P	**P**	**03 53 47.2**	**+2.3**
PRU	**Pruhonice**	**16.05**	**340**	*e*P	P	03 54 01.4	+15
AKASG	**Malin Array Be**	**16.19**	**14**	Pn	**Pn**	**03 53 43.5**	**-1.3**
	comp=N,1.0nm,0.3s,baz=210,slow=9.5,SNR=6.8 comp=N,0.2nm,0.2s						
CLL	**Collm**	**17.68**	**339**	*e*P	**P**	**03 54 09.0**	**+5.0**
CLL				*e*PP	**sP**	**03 54 18.0**	**+0.2**
CLL				*es*PP		03 54 24.0	
CLL				*ex*	x	03 54 37.0	
NACGM	**Naroch**	**19.93**	**6**	*e*P	**P**	**03 54 28.8**	**+0.2**
	comp=Z,13nm,0.9s,baz=189						
HFS	**Hagfors**	**25.71**	**349**	P	**P**	**03 55 27.4**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=143,slow=10,SNR=13 comp=Z,2.1nm,0.5s						
FINES	**FINESS Array B**	**26.38**	**3**	P	**P**	**03 55 32.2**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=162,slow=9.3,SNR=11 comp=Z,1.7nm,0.8s						
NOA	**NORSAR Array B**	**26.98**	**347**	P	**P**	**03 55 39.5**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=152,slow=10,SNR=5.5 comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.15**	**227**	P	**P**	**03 56 00.6**	**+2.7**
	comp=Z,3.9nm,0.5s,baz=33,slow=8.1,SNR=1.3 comp=Z,3.9nm,0.5s						
ARCES	**ARCESS Array B**	**34.46**	**2**	P	**P**	**03 56 43.8**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=181,slow=11,SNR=4.9 comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**45.27**	**56**	P	**P**	**03 58 13.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=270,slow=8.0,SNR=21 comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**46.30**	**46**	P	**P**	**03 58 20.6**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=270,slow=9.5,SNR=7.8 comp=Z,1.2nm,0.4s						
SONM	**Songino Array**	**60.87**	**50**	P	**P**	**04 00 08.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=280,slow=7.8,SNR=8.1 comp=Z,1.1nm,0.6s						

*IDC **15** 03:53:17.1±4.5, 6°.52N×127°.37E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=382.8km s-min=28.0km az=67.0*

*MAN **15** 03:53:21.6, 6°.87N×127°.48E, h21km, mb4.3, ML3.1, MS2.9*

ISC 15 03:53:18.2±2.4, **6.72N**±0°.08×**127°.49E**±0°.09, **h10**km±14km, **n10**, σ1¶**31**/**14**, **mb3.1**/3, **4C-2D**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.24**	**280**⇑	*e*P	**Pg**	**03 53 42.9**	**+0.8**
MATI				*e*S	**Sn**	**03 53 59.9**	**+1.4**
BIPH	**Bislig**	**1.83**	**323**⇓	*i*P	**Pn**	**03 53 50.5**	**+0.7**
BIPH				*i* S	**Sn**	**03 54 12.0**	**-1.1**
DDMP	**Don Marcelino,**	**1.87**	**251**⇑	*e*P	**Pb**	**03 53 52.8**	**+0.3**
DDMP				*e*S	**Sg**	**03 54 17.7**	**-0.7**
DAV	**Davao City (W)**	**1.93**	**280**	LR	LR	03 54 56.3	
	comp=Z,87nm,18.0s,baz=157,slow=53						
KCP	**Kidapawan**	**2.40**	**277**⇓	*i*P	**Pb**	**03 54 00.2**	**-1.4**
KCP				*i* S	**Sb**	**03 54 30.1**	**-1.2**
BUKP	**Musuan**	**2.67**	**296**⇑	*e*P	**Pb**	**03 54 04.4**	**-1.7**
BUKP				*e*S	**Sb**	**03 54 39.6**	**+0.6**
GLSP	**General Luna,**	**3.33**	**336**⇑	*e*P	**Pn**	**03 54 11.6**	**+1.2**
WRA	**Warramunga Arr**	**27.34**	**166**	P	**P**	**03 59 02.0**	**-1.6**
	0.3nm,0.7s,baz=349,slow=10,SNR=2.9 0.3nm,0.7s						
ASAR	**Alice Springs**	**30.85**	**168**	P	**P**	**03 59 34.1**	**-0.7**
	0.2nm,0.7s,baz=342,slow=7.1,SNR=5.1 0.2nm,0.7s						
MKAR	**Makanchi Array**	**55.57**	**324**	P	**P**	**04 02 55.1**	**+1.0**
	0.4nm,0.7s,baz=121,slow=8.2,SNR=5.7 0.4nm,0.7s						

*IDC **15** 04:03:18.6±0.7, 39°.49N×26°.08E, h0km, mb4.0/14, mbtmp4.0/19, ML3.8/5, MS3.1/8, Error ellipse: s-maj=13.9km s-min=10.5km az=87.0*

*MOS **15** 04:03:18.9±0.9, 39°.58N×26°.14E, h10km, mb4.3/11, Error ellipse: s-maj=6.7km s-min=4.0km az=87.7*

*BEO **15** 04:03:19.5±0.7, 39°.56N×26°.36E, h4km±3km, ML4.1/12*

*ISK **15** 04:03:19.5, 39°.55N×26°.13E, h12km, ML4.3/84*

*MCSM **15** 04:03:20.4±0.7, 40°.N±5°.×2°.6E±°, h7km±3km, mb4.3*

*DDA **15** 04:03:20.0±0.0, 39°.54N×26°.15E, h9km, MW4.3*

*THE **15** 04:03:20.5, 39°.57N×26°.06E, h8km±1km, ML4.0/8, Error ellipse: s-maj=1.9km s-min=0.7km az=114.0*

*PDG **15** 04:03:20.2±0.5, 39°.55N×26°.16E, h16km, ML4.2/10, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

*ATH **15** 04:03:21.3, 39°.52N×26°.08E, h15km±1km, ML3.9/29, Error ellipse: s-maj=2.4km s-min=0.8km az=110.0*

*NEIC **15** 04:03:21.3±1.8, 39°.56N±0°.04×26°.10E±0°.07, h11km±8km, mb4.3/7, Error ellipse: s-maj=8.6km s-min=3.4km az=57.0*

*CFUSG **15** 04:03:25.7, 39°.92N×26°.89E, h2km, Kinemetrics Magtype MSH 3.4 from 3 stations*

ISC 15 04:03:20.1±0.7, **39°.55N**±0°.01×**26°.13E**±0°.02, **h10**km±4km, **n489**, σ1¶**44**/559, **mb4.3**/23, **MS3.2**/4, **52C-31D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.05**	**174**	P	**Pg**	**04 03 22.1**	**+0.1**
KOCA				S	**Sg**	**04 03 23.5**	**0.0**
GPNR	**Gulpinar-Canak**	**0.09**	**180**	Pg	**Pg**	**04 03 22.6**	**+0.1**
GPNR				Sg	**Sg**	**04 03 24.1**	**0.0**
BOZC	**Bozcaada**	**0.30**	**348**	Pg	**Pg**	**04 03 26.5**	**+0.4**
BOZC				Sg	**Sg**	**04 03 30.8**	**+0.7**
BOZC	**Bozcaada**	**0.30**	**348**	P	**Pg**	**04 03 26.4**	**+0.4**
BOZC				P	**Pg**	**04 03 26.5**	**+0.4**
BOZC				S	**Sg**	**04 03 30.6**	**+0.5**
EZN	**Ezine**	**0.31**	**28**	P	**Pg**	**04 03 26.4**	**+0.1**
EZN				S	**Sg**	**04 03 31.5**	**+0.9**
EZN	**Ezine**	**0.31**	**28**	Pg	**Pg**	**04 03 26.7**	**+0.4**
EZN				Sg	**Sg**	**04 03 30.8**	**+0.2**
PRK	**Paraskevi**	**0.32**	**160**	P	**Pb**	**04 03 27.8**	**-0.1**
PRK				S	**Sb**	**04 03 32.5**	**-0.6**
PRK	**Paraskevi**	**0.32**	**160**	P	**Pb**	**04 03 27.7**	**-0.1**
PRK				S	**Sb**	**04 03 32.5**	**-0.6**
PRK				AML	AML	04 03 33.1	
PRK				AML	AML

ALN	Alexandroupoli	1.35	357	Pn	Pn	04 03 44.9	-0.1	
ALN	Alexandroupoli	1.35	357	P	Pn	04 03 44.9	-0.1	
ALN	Alexandroupoli	1.35	357	P	Pn	04 03 45.1	+0.1	
ALN				AML	AML	04 04 04.3		
	comp=E,33265µm,0.4s							
ALN				AML	AML	04 04 06.5		
	comp=N,19647µm,0.6s							
BALB	Balikesir	1.35	86		Pn	04 03 44.9	-0.1	
BALB	Balikesir	1.35	86	Pn	Pn	04 03 45.1	+0.1	
RKY	Sarkoy-Tekirda	1.39	35	Pn	Pn	04 03 45.5	-0.1	
AKS	Akhisar	1.47	117	Pn	Pn	04 03 46.7	+0.1	
AKHS	Akhisar	1.47	117	P	Pn	04 03 46.4	-0.2	
AKHS				S	Sg	04 04 08.7	+1.5	
THAS	Thassos island	1.51	315	P	Pb	04 03 47.9	-0.3	
THAS				S	Sn	04 04 05.8	-1.2	
	comp=N,3µm,0.3s							
THAS	Thassos island	1.51	315	P	Pb	04 03 48.0	-0.3	
THAS				AML	AML	04 04 11.4		
	comp=E,4957µm,0.2s							
THAS				AML	AML	04 04 13.0		
	comp=N,6193µm,0.3s							
EDC	Edincik	1.55	59	Pn	Pn	04 03 47.6	-0.2	
DGB	zmir	1.60	158	P	Pn	04 03 48.1	-0.3	
DGB				S	Sg	04 04 11.2	-0.4	
GOMA	Golmarmara-Man	1.62	121	Pn	Pn	04 03 48.9	+0.2	
UKOP	Uzunkopru-Edir	1.62	13	Pn	Pn	04 03 48.6	-0.1	
RDO	Rodhopi	1.66	344	Pn	Pn	04 03 49.2	0.0	
RDO	Rodhopi	1.66	344	P	Pn	04 03 48.9	-0.3	
RDO				S	Sn	04 04 10.4	-0.2	
	comp=N,3µm,0.3s							
RDO	Rodhopi	1.66	344	Pn	Pn	04 03 48.9	-0.3	
RDO	Rodhopi	1.66	344	Pn	Pn	04 03 48.9	-0.3	
RDO	Rodhopi	1.66	344	P	Pn	04 03 49.7	+0.5	
RDO				AML	AML	04 04 16.2		
	comp=N,7970µm,0.3s							
RDO				AML	AML	04 04 17.8		
	comp=E,5453µm,0.4s							
TKR	Tekirdag	1.80	36	Pn	Pn	04 03 51.5	+0.4	
ALNA	Alonissos	1.80	258	P	Pn	04 03 50.9	-0.3	
ALNA				AML	AML	04 04 23.6		
	comp=N,13134µm,0.9s							
ALNA				AML	AML	04 04 24.8		
	comp=E,9991µm,0.8s							
KYMI	Kymi, Euboea I	1.83	241	P	Pn	04 03 50.3	-1.2	
KYMI	Kymi, Euboea I	1.83	241	P	Pn	04 03 50.4	-1.1	
KYMI				AML	AML	04 04 21.9		
	comp=N,12575µm,0.7s							
KYMI				AML	AML	04 04 21.9		
	comp=E,8666µm,0.5s							
OUR	Ouranopolis	1.83	296	P	Pn	04 03 51.0	-0.6	
OUR				S	Sn	04 04 13.8	-1.0	
	comp=E,4µm,0.8s							
OUR	Ouranopolis	1.83	296	Pn	Pn	04 03 51.3	-0.3	
OUR	Ouranopolis	1.83	296	P	Pn	04 03 51.3	-0.3	
OUR				AML	AML	04 04 21.2		
	comp=N,9247µm,0.8s							
OUR				AML	AML	04 04 22.3		
	comp=E,6690µm,0.7s							
KCTX	Karacabey (Bur	1.85	67	Pn	Pn	04 03 52.8	+0.9	
KAVA	Kavala	1.90	320	P	Pn	04 03 52.1	-0.5	
KAVA				S	Sn	04 04 14.6	-2.0	
	comp=E,2µm,0.5s							
KAVA	Kavala	1.90	320	P	Pn	04 03 52.3	-0.3	
DST	Dursunbey	1.92	88	Pn	Pn	04 03 52.7	-0.2	
KVLA	Kavala	1.93	317	P	Pn	04 03 53.0	+0.1	
PAIG	Paliouri	1.93	282	P	Pn	04 03 52.5	-0.4	
PAIG	Paliouri	1.93	282	P	Pn	04 03 52.5	-0.4	
PAIG				AML	AML	04 04 25.6		
	comp=N,3605µm,0.7s							
PAIG				AML	AML	04 04 28.2		
	comp=E,2024µm,1.1s							
CRLT	Corlu	2.00	37	Pn	Pn	04 03 53.9	0.0	
BOTS	Marmara Eregli	2.02	44	Pn	Pn	04 03 53.9	-0.2	
GCAM	G?zelcaml?	2.04	155	Pn	Pn	04 03 53.9	-0.5	
GCAM	G?zelcaml?	2.04	155	P	Pb	04 03 56.2	-1.0	
GCAM				S	Sg	04 04 25.2	-0.3	
EREA	Eretria	2.05	237	P	Pn	04 03 53.6	-1.0	
EREA				S	Sn	04 04 18.5	-1.8	
	comp=E,2µm,0.8s							
EREA	Eretria	2.05	237	P	Pn	04 03 53.7	-1.0	
EREA				AML	AML	04 04 30.3		
	comp=E,4339µm,0.4s							
EREA				AML	AML	04 04 32.4		
	comp=N,4756µm,0.6s							
DEMI	Demirci	2.07	103	P	Pn	04 03 55.0	+0.1	
DEMI				S	Sn	04 04 22.0	+1.2	
TNSA	Tinos	2.15	201	P	Pn	04 03 55.3	-0.6	
MANT	Manisa	2.17	118		Pn	04 03 56.6	+0.2	
MANT	Manisa	2.17	118	P	Pn	04 03 56.6	+0.2	
KDZ	Kurdzhali	2.17	346	Pn	Pn	04 03 56.3	0.0	
ORLT	Orhaneli	2.19	76	Pn	Pn	04 03 57.0	+0.5	
KULA	Kula-Manisa	2.22	117	P	Pn	04 03 57.3	+0.2	
KULA				S	Sb	04 04 27.8	-0.2	
KULA	Kula-Manisa	2.22	117	Pn	Pn	04 03 57.4	+0.3	
SIMA	Simav-Kutahya	2.26	101	Pn	Pn	04 03 57.6	0.0	
DION	Dionisos Attik	2.26	230	P	Pn	04 03 57.3	-0.2	
DION				S	Sn	04 04 24.1	-1.4	
DION	Dionisos Attik	2.26	230	P	Pn	04 03 57.4	-0.1	
DION				AML	AML	04 04 41.4		
	comp=E,3643µm,0.5s							
DION				AML	AML	04 04 42.9		
	comp=N,4694µm,0.8s							
DDIM	Aydin, Didim	2.26	157	P	Pb	04 04 00.2	-0.8	
NEO	Neokhori	2.27	265	P	Pn	04 03 56.8	-0.8	
NEO				AML	AML	04 04 35.8		
	comp=E,2119µm,0.5s							
NEO				AML	AML	04 04 36.0		
	comp=N,2829µm,0.4s							
MDNY	Mudanya-Bursa	2.27	68	Pn	Pn	04 03 57.5	-0.1	
SLVT	Silivri	2.31	43	Pn	Pn	04 03 58.6	+0.4	
PTL	Penteli	2.32	231	P	Pn	04 03 58.1	-0.2	
PTL				AML	AML	04 04 40.6		
	comp=N,1974µm,0.6s							
PTL				AML	AML	04 04 47.9		
	comp=E,2089µm,0.8s							
AYDN	Tasoluk	2.33	143	P	Pn	04 03 58.3	-0.2	
PHSR	Pinarhisar	2.33	27	Pn	Pn	04 03 58.5	0.0	
EDRB	Edirne	2.34	11	P	Pn	04 03 58.7	+0.1	
EDRB				S	Sn	04 04 27.7	+0.2	
EDRB	Edirne	2.34	11	Pn	Pn	04 03 58.6	0.0	
SINB	Sinanoba-Istan	2.34	51	Pn	Pn	04 03 58.7	+0.1	
KIRK	Kirklareli	2.35	18	P	Pn	04 03 59.3	+0.6	
ELIA	Catalca	2.37	47	P	Pn	04 03 58.6	-0.5	
ULDT	Uludag	2.39	75	P	Pn	04 04 00.3	+0.9	
USAK	Uak-Merkez	2.39	109	P	Pn	04 03 59.8	+0.4	
VIZE	Kirklareli, Vi	2.41	32	P	Pn	04 03 59.3	-0.2	
YKBL	Yakuplu-Istanb	2.42	53	Pn	Pn	04 03 59.8	+0.2	
ATHU	Athens Univers	2.42	230	P	Pn	04 04 58.5	-1.2	
ESNK	Esenk¶y	2.43	63	P	Pb	04 04 02.5	-1.4	
AVCI	Avcilar-stanb	2.45	53	Pn	Pn	04 04 00.2	+0.1	
ATH	Athens Observa	2.46	231	P	Pn	04 04 00.2	0.0	
ATH				AML	AML	04 04 43.0		
	comp=N,2121µm,0.4s							
ATH				AML	AML	04 04 50.3		
	comp=E,1908µm,1.3s							
SOH	Sokhos	2.48	302	P	Pn	04 04 00.7	+0.1	
SOH				S	Sn	04 04 29.9	-1.0	
SOH	Sokhos	2.48	302	P	Pn	04 04 00.7	+0.1	
SOH				AML	AML	04 04 42.0		
	comp=N,2199µm,0.5s							
SOH				AML	AML	04 04 42.0		
	comp=E,3655µm,1.0s							
VLY	Voula,Athens	2.49	228	P	Pn	04 04 00.3	-0.4	
VLY				AML	AML	04 04 47.4		
	comp=E,2545µm,0.8s							
VLY				AML	AML	04 04 49.5		
	comp=N,2967µm,0.7s							
NVR	Nevrokopi	2.50	317	P	Pn	04 04 01.7	+0.8	
NVR	Nevrokopi	2.50	317	P	Pn	04 04 01.6	+0.8	
NVR				AML	AML	04 04 41.2		
	comp=E,1141µm,0.7s							
NVR				AML	AML	04 04 41.4		
	comp=N,1032µm,0.5s							
GEMT	Gemlik	2.51	68	Pn	Pn	04 04 01.1	+0.2	
ARMN	Kirklareli, Me	2.51	23	P	Pn	04 04 00.9	-0.1	
APE	Apeiranthos	2.52	191	Pn	Pn	04 04 00.6	-0.6	
APE	Apeiranthos	2.52	191⇑	eP	Pn	04 04 00.5	-0.6	
APE	Apeiranthos	2.52	191	P	Pn	04 04 00.4	-0.7	
APE				AML	AML	04 04 46.5		
	comp=E,2554µm,0.6s							
APE				AML	AML	04 04 48.5		
	comp=N,1519µm,0.6s							
CTYL	Yalikoy Yolu	2.53	40	Pn	Pn	04 04 01.7	+0.5	
HORT	Hortiatis	2.55	295	P	Pn	04 04 01.6	-0.1	
HORT				S	Sn	04 04 31.5	-1.3	
HORT	Hortiatis	2.55	295	Pn	Pn	04 04 01.5	-0.1	
HORT	Hortiatis	2.55	295	P	Pn	04 04 01.5	-0.1	
HORT				AML	AML	04 04 43.8		
	comp=N,829µm,0.4s							
HORT				AML	AML	04 04 46.3		
	comp=E,1708µm,1.4s							
TVSB	Tavsanli	2.58	91	Pn	Pn	04 04 02.6	+0.6	
KURT	Yalova, Merkez	2.58	65	P	Pn	04 04 01.6	-0.3	
GEDZ	Gediz	2.59	100	Pn	Pn	04 04 02.1	0.0	
BGKT	Bogazkoy	2.59	50	Pn	Pn	04 04 02.1	0.0	
MLSB	Milas	2.59	150	Pn	Pn	04 04 02.1	0.0	
VIL2	Platees	2.60	240	P	Pn	04 04 01.4	-0.9	
VIL2				AML	AML	04 04 49.1		
	comp=N,2491µm,0.6s							
VIL2				AML	AML	04 04 51.1		
	comp=E,4334µm,0.6s							
BRGA	Burgazada-Ista	2.61	58	Pn	Pn	04 04 00.7	-1.6	
GDZ	Gediz	2.64	99	P	Pn	04 04 03.3	+0.5	
BUYA	Buyukada-Istan	2.65	59	Pn	Pn	04 04 03.1	+0.3	
BODT	Bodrum	2.65	159	Pn	Pn	04 04 03.0	+0.1	
THE	Thessaloniki	2.66	295	P	Pn	04 04 03.3	+0.4	
THE				AML	AML	04 04 54.1		
	comp=N,817µm,1.1s							
THE				AML	AML	04 04 57.9		
	comp=E,566µm,1.0s							
BDRM	Kayabasi	2.69	157	P	Pn	04 04 03.7	+0.3	
KAVV	Kandilli-Istan	2.70	55	Pn	Pn	04 04 04.2	+0.6	
ISK	Istanbul-Kandi	2.70	55	Pn	Pn	04 04 03.5	-0.1	
TUZL	Tuzla-Istanbul	2.71	61	Pn	Pn	04 04 04.2	+0.5	
YLVH	Yalova	2.73	64	Pn	Pn	04 04 04.2	+0.2	
LAFA	Gebze-Kocaeli	2.75	63	Pn	Pn	04 04 04.5	+0.3	
PLD	Plovdiv	2.77	337	Pn	Pn	04 04 05.1	+0.5	
PLD	Plovdiv	2.77	337	eP	Pn	04 04 05.9	+1.3	
PLD				eLg	Lg	04 04 48.1		
KLYT	Kilyos	2.80	52	Pn	Pn	04 04 04.7	-0.2	
AXAR	Agios Charalam	2.81	255	P	Pn	04 04 04.6	-0.5	
AXAR				AML	AML	04 04 57.0		
	comp=N,2087µm,1.5s							
AXAR				AML	AML	04 04 57.1		
	comp=E,2123µm,1.1s							
LIT	Litokhoron	2.86	282	Pn	Pn	04 04 05.7	0.0	
LIT	Litokhoron	2.86	282	P	Pn	04 04 05.7	0.0	
LIT	Litokhoron	2.86	282	P	Pn	04 04 05.8	0.0	
KOSK	Kos Island	2.87	166	Pn	Pn	04 04 06.4	+0.5	
PASA	Karahalli, USA	2.88	114	P	Pn	04 04 06.8	+0.7	
ADVT	Abdulvahap	2.91	71	Pn	Pn	04 04 07.1	+0.7	
ANDZ	Kutahya, Merke	2.91	90	P	Pn	04 04 07.2	+0.6	
LOUT	Loutraki	2.92	239	P	Pn	04 04 06.1	-0.4	
CAVI	Cavuskoy	2.93	76	Pn	Pn	04 04 07.6	+0.9	
YER	Yerkesik	2.94	144	Pn	Pn	04 04 07.5	+0.5	
BILL	Bilecik/Merkez	2.94	77	P	Pn	04 04 07.9	+0.9	
HRT	Hereke	2.99	64	Pn	Pn	04 04 07.9	+0.3	
TAVA	DENIZLI_Tavas	3.01	133	P	Pn	04 04 08.1	+0.2	
AUBOZ	BOZOYÜK	3.03	82	Pn	Pn	04 04 08.5	+0.4	
AUBOZ	BOZOYUK	3.03	82	P	Pn	04 04 09.5	+1.3	
DAT	Datca	3.04	158	Pn	Pn	04 04 08.6	+0.3	
EPID	Epidavros	3.05	232	P	Pn	04 04 08.0	-0.3	
SILT	Sile	3.12	58	Pn	Pn	04 04 09.6	+0.2	
MAKR	Makrakomi, Fth	3.15	261	P	Pn	04 04 09.7	-0.1	
MAKR				AML	AML	04 05 04.0		
	comp=N,1513µm,0.8s							
MAKR				AML	AML	04 05 09.5		
	comp=E,956µm,1.2s							
GRG	Griva	3.18	297	Pn	Pn	04 04 11.0	+0.8	
GRG	Griva	3.18	297	P	Pn	04 04 11.1	+0.9	
GRG				AML	AML	04 05 06.7		
	comp=N,1247µm,1.0s							
GRG				AML	AML	04 05 13.7		
	comp=E,971µm,0.7s							
THL	Klokotos Trika	3.18	272	Pn	Pn	04 04 10.4	+0.2	
THL	Klokotos Trika	3.18	272	P	Pn	04 04 10.3	+0.1	
KRND	KRANIDI	3.19	228	P	Pn	04 04 10.5	+0.2	
APMY	Acipayam-Deniz	3.24	129	Pn	Pn	04 04 11.6	+0.6	
VAY	Valandovo	3.24	304	eP	Pn	04 04 12.2	+1.2	
VAY				eLg	Lg	04 05 03.8		
VAY	Valandovo	3.24	304	i Pn	Pn	04 04 12.4	+1.4	
VAY				i Sn	Sg	04 05 05.2	+0.9	
AFYO	Afyonkarahisar	3.33	102	P	Pn	04 04 13.2	+1.0	
GEYV	SAKARYA_Geyve	3.33	72	P	Pn	04 04 13.7	+1.4	
BORA	Eskisehir	3.35	83	Pn	Pn	04 04 13.6	+1.0	
BORA	Eskisehir	3.35	83	Pn	Pn	04 04 13.5	+1.0	
BORA	Eskisehir	3.35	83	P	Pn	04 04 13.3	+0.8	
SERG	Sergoula	3.37	252	P	Pn	04 04 13.4	+0.6	
DALY	Dalyan (Mula)	3.37	143	Pn	Pn	04 04 13.2	+0.4	
KZIL	AFYON_Kizioren	3.38	111	P	Pn	04 04 13.8	+0.7	
ANX	Ano Chora	3.41	255	P	Pn	04 04 13.6	+0.1	
EVR	Evrytania	3.42	261	P	Pn	04 04 14.2	+0.7	
SAUV	Serdivan-Sakar	3.43	68	Pn	Pn	04 04 14.5	+1.0	
KZN	Kozani	3.44	284	P	Pn	04 04 14.8	+1.1	
KLV	Kalavryta, Ach	3.46	245	P	Pn	04 04 13.5	-0.5	
KLV				AML	AML	04 05 19.6		
	comp=E,396µm,0.8s							
KLV				AML	AML	04 05 22.0		
	comp=N,401µm,0.9s							
KAND	Kocaeli-Kandir	3.47	62	P	Pn	04 04 14.8	+0.7	
BASM	Basmaki-Afyon	3.47	117	Pn	Pn	04 04 14.8	+0.6	
EFP	Efpalio	3.48	253	P	Pn	04 04 14.2	-0.1	
EFP				AML	AML	04 05 19.4		
	comp=E,904µm,1.3s							
EFP				AML	AML	04 05 23.3		
	comp=N,865µm,1.1s							
CAEL	Denizli, Camel	3.48	133	P	Pn	04 04 15.1	+0.6	
LAKA	Lakka	3.49	249	P	Pn	04 04 14.6	+0.1	
GOLH	Golhisar	3.55	130	P	Pn	04 04 16.5	+1.3	
SHUT	Suhut-Afyon	3.58	105	Pn	Pn	04 04 16.4	+0.6	
CAME	Cameli-Denizli	3.60	135	Pn	Pn	04 04 16.9	+0.7	
ARG	Arkhangelos	3.68	154	Pn	Pn	04 04 17.8	+0.8	
ARG	Arkhangelos	3.68	154	P	Pn	04 04 16.7	-0.3	
ARG				AML	AML	04 05 24.2		
	comp=E,964µm,1.5s							
ARG				AML	AML	04 05 28.7		
	comp=N,1252µm,1.1s							
STIP	Stip	3.69	307	i Pn	Pn	04 04 16.2	-1.0	
FETY	Fethiye	3.73	140	Pn	Pn	04 04 18.2	+0.5	
VTS	Vitosha	3.77	325	Pn	Pn	04 04 19.2	+0.8	
VTS	Vitosha	3.77	325	P	Pn	04 04 19.2	+0.8	
VTS	Vitosha	3.77	325	ePn	Pn	04 04 19.4	+1.0	
VTS				eLg	Lg	04 05 21.0		
VLI	Veliai	3.79	223	P	Pn	04 04 17.8	-0.7	
DRO	Drosia	3.81	247	P	Pn	04 04 19.3	+0.5	
CIFT	Cifteler, Eski	3.82	91	Pn	Pn	04 04 19.6	+0.6	
ISP	Isparta	3.84	115	Pn	Pn	04 04 20.1	+0.7	
ISP	Isparta	3.84	115⇑	eP	Pn	04 04 19.9	+0.5	
FNA	Florina	3.85	290		Pn	04 04 20.4	+1.0	
FNA	Florina	3.85	290	Pn	Pn	04 04 20.4	+1.0	
FNA	Florina	3.85	290	P	Pn	04 04 20.4	+1.0	
FNA	Florina	3.85	290	P	Pn	04 04 20.2	+0.8	
PENT	Pentalofos	3.90	281	P	Pn	04 04 21.1	+1.0	
RLS	Riolos of Patr	3.94	249	P	Pn	04 04 20.8	+0.3	
MDUB	Mudurnu	4.00	75		Pn	04 04 23.4	+1.9	
NEST	Nestorio	4.00	284	P	Pn	04 04 22.8	+1.2	
PLVB	Pleven	4.00	344	⇑P	Pn	04 04 22.9	+1.5	
RAZG	Razgrad	4.02	4	⇑P	Pn	04 04 22.8	+1.1	
ITM	Ithomi	4.06	236		Pn	04 04 24.5	+2.2	
ITM	Ithomi	4.06	236	Pn	Pn	04 04 23.9	+1.6	
KARP	Karpathos	4.08	168	Pn	Pn	04 04 22.3	-0.2	
ELL	Elmali	4.08	132		Pn	04 04 25.0	+2.3	
ELL	Elmali	4.08	132	Pn	Pn	04 04 22.7	+1.0	
ELL	Elmali	4.08	132	P	Pn	04 04 25.0	+2.3	
SVRH	Sivrihisar-ESK	4.17	90	Pn	Pn	04 04 24.9	+1.0	
KORT	Korkueli	4.18	126	Pn	Pn	04 04 25.0	+1.0	
PRVS	Prvonek	4.26	315	ePn	Pn	04 04 26.0	+1.0	
PRVS				eSn	Sn	04 05 16.7	+1.9	
AKAS	Kas	4.30	139	Pn	Pn	04 04 27.9	+2.2	
AKAS	Kas	4.30	139	Pn	Pn	04 04 26.7	+1.0	
SKO	Skopje	4.31	306	ePn	Pn	04 04 27.1	+1.4	
SKO	Skopje	4.31	306	i Pn	Pn	04 04 27.0	+1.4	
LKD2	Lefkada island	4.32	262	P	Pn	04 04 26.9	+1.1	
SUTC	Sutluce-Ispart	4.34	117	Pn	Pn	04 04 27.3	+1.1	
OHR	Ohrid	4.37	293	ePn	Pn	04 04 28.5	+2.0	
OHR	Ohrid	4.37	293	i Pn	Pn	04 04 28.2	+1.7	
OHR				i Sn	Sn	04 05 16.4	-1.0	
IDI	Anoyia	4.37	193	Pn	Pn	04 04 25.6	-0.9	
	comp=N,1.5nm,0.3s,baz=6.6,slow=14,SNR=1.3							
IDI				Sn	Sn	04 05 15.5	-2.0	
	comp=N,3.8nm,0.3s,baz=261,slow=23,SNR=2.0							
IDI				LR	LR	04 05 38.9		
	comp=N,73nm,20.7s,baz=23,slow=33							
	comp=N,11nm,0.6s							
KDZE	Karadeniz Ereo	4.42	65	Pn	Pn	04 04 27.9	+0.7	
IMMV	Iera Moni Meta	4.42	203	Pn	Pn	04 04 28.3	+1.0	
ZKR	Zakros	4.43	179	P	Pn	04 04 27.0	-0.2	
ANTB	Antalya	4.43	125	Pn	Pn	04 04 28.7	+1.3	
KIZT	Kizilcal	4.51	97	Pn	Pn	04 04 29.7	+1.1	
ZAPS	Zavoj	4.56	326	ePn	Pn	04 04 30.5	+1.4	
ZAPS				eSn	Sn	04 05 24.8	+2.7	
ZAPS				eLg	Lg	04 05 45.3		
BARS	Barje	4.61	316	ePn	Pn	04 04 30.7	+0.9	
BARS				eLg	Lg	04 05 46.0		
VLAD	Vladila	4.63	344	⇑P	Pn	04 04 31.3	+1.3	
COPA	Copaceanca	4.63	352	⇑P	Pn	04 04 31.5	+1.4	
MANR	Mangalia	4.64	23	⇓P	Pn	04 04 30.8	+0.6	
RASA	Rasa	4.72	9	⇓P	Pn	04 04 32.7	+1.4	
ICOR	Ion Corvin	4.73	15	⇓P	Pn	04 04 32.8	+1.4	
MFR	Murfatlar	4.93	20	⇑P	Pn	04 04 35.0	+0.8	
LEHL	Lehliu	4.95	6	⇑P	Pn	04 04 35.5	+1.1	
CVDA	Cernavoda	4.99	16	⇑P	Pn	04 04 36.9	+1.9	
HUMR	Humele	5.05	351	⇓P	Pn	04 04 36.6	+0.8	
TIR	Tirane	5.11	293	⇑P	Pn	04 04 38.7	+2.1	
TIR	Tirane	5.11	293		Pn	04 04 39.4	+2.8	
TIR	Tirane	5.11	293	P	Pn	04 04 38.7	+2.1	
TIR	Tirane	5.11	293	ePn	Pn	04 04 40.2	+3.6	
TIR				eSn	Sn	04 05 38.2	+2.5	
BR231	Keskin MP Arra	5.13	85		Pn	04 04 38.5	+1.4	
ANTO	Ankara	5.15	84	Pn	Pn	04 04 38.5	+1.2	
ANTO	Ankara	5.15	84	P	Pn	04 04 38.5	+1.2	
ZAGS	Zajecar	5.16	327	ePn	Pn	04 04 37.7	+0.3	
ZAGS				eLg	Lg	04 06 03.1		
TIRR	Tirgusor	5.19	18	⇑P	Pn	04 04 38.6	+0.9	
TIRR	Tirgusor	5.19	18	⇑P	Pn	04 04 38.6	+0.9	
TIRR	Tirgusor	5.19	18	Pn	Pn	04 04 37.7	-0.1	
TIRR	Tirgusor	5.19	18	P	Pn	04 04 38.6	+0.9	
TLBR	Topalu	5.19	15	⇓P	Pn	04 04 38.6	+0.9	
SELS	Selova	5.26	316	ePn	Pn	04 04 39.2	+0.5	
SELS				eLg	Lg	04 06 06.4		
BOVS	Bovan	5.26	322	⇑P	Pn	04 04 39.3	+0.6	
BOVS	Bovan	5.26	322	ePn	Pn	04 04 38.6	-0.1	
PUNG	Punghina	5.29	334	⇓P	Pn	04 04 40.5	+1.4	
HARR	Harsova	5.31	14	⇓P	Pn	04 04 40.4	+1.0	
HARR	Harsova	5.31	14	P	Pn	04 04 40.3	+1.0	
PVY	Plav	5.57	305	⇑i Pn	Pn	04 04 44.6	+1.5	
PVY				i Sn	Sn	04 05 47.3	+0.1	
MTUR	Matau	5.73	352	⇓P	Pn	04 04 46.9	+1.6	
MTUR	Matau	5.73	352	P	Pn	04 04 46.8	+1.6	
IVA	Berane	5.76	307	⇑i Pn	Pn	04 04 47.2	+1.6	
IVA				i Sn	Sn	04 05 52.0	+0.2	
ULC	Ulcinj	5.76	297	⇑i Pn	Pn	04 04 47.3	+1.7	
ULC				i Sn	Sn	04 05 52.6	+0.8	
DJES	Djerdap	5.78	333	⇑P	Pn	04 04 46.1	+0.3	
DJES	Djerdap	5.78	333		Pn	04 04 45.2	-0.6	
DJES	Djerdap	5.78	333	ePn	Pn	04 04 45.7	-0.1	
DJES				eLg	Lg	04 06 24.2		
BR105	Keskin Array S	5.78	86	Pn	Pn	04 04 46.8	+0.8	
BR106	Keskin Array S	5.78	86	Pn	Pn	04 04 47.1	+1.1	
BR131	Keskin Array S	5.80	86	Pn	Pn	04 04 47.6	+1.3	
BR131	Keskin Array S	5.80	86	c iP	Pn	04 04 47.2	+1.0	
BRTR	Keskin Array B	5.80	86	Pn	Pn	04 04 47.3	+1.0	
	comp=N,3.0nm,0.3s,baz=263,slow=12,SNR=110							
BRTR				Lg	Lg	04 06 24.5		
	comp=N,0.1nm,0.3s,baz=282,slow=28,SNR=1.9							
	comp=N,6.5nm,0.4s							
BRTR	Keskin Array B	5.80	86	i P	Pn	04 04 47.4	+1.1	
BRTR				pmax	pmax			
	comp=Z,8.0nm,0.4s							
BR104	Keskin Array S	5.80	86	Pn	Pn	04 04 47.1	+0.8	
CFR	Carcaliu	5.82	14	⇑P	Pn	04 04 47.2	+0.8	
CFR	Carcaliu	5.82	14	P	Pn	04 04 47.1	+0.8	
GRER		5.86	6	⇑P	Pn	04 04 48.3	+1.4	
KUBS	Kucevo	5.89	327	ePn	Pn	04 04 48.2	+0.9	
DRME	Dracev

MATE	**Matera**	**7.31**	**282**	⇓P		**Pn**	**04 05 08.4**	**+1.6**
	comp=Z,9.0nm,0.3s								
CJR	**Cluj-Napoca**	**7.40**	**346**	⇑P		**Pn**	**04 05 10.7**	**+2.6**
CJR	**Cluj-Napoca**	**7.40**	**346**	P		**Pn**	**04 05 10.7**	**+2.6**
MARR	**Marisel-Cluj**	**7.46**	**344**	⇑P		**Pn**	**04 05 09.8**	**+0.8**
SIRR	**Siria**	**7.47**	**335**	⇑P		**Pn**	**04 05 08.9**	**-0.2**
SIRR	**Siria**	**7.47**	**335**	Pn		**Pn**	**04 05 09.1**	**0.0**
PURM	**Purcari**	**7.49**	**20**	⇑P		**Pn**	**04 05 09.8**	**+0.4**
SEV	**Sevastopol'**	**7.51**	**46**	*e*P		**Pn**	**04 05 08.4**	**-1.1**
SEV				Pm			04 05 14.8	
	comp=Z,9.0nm,0.3s								
SEV				*e*S		**Sn**	**04 06 27.8**	**-6.9**
SEV				Sm			04 06 30.2	
	comp=N,17nm,0.4s								
SEV				Sm			04 06 30.3		
	comp=E,2.0nm,0.2s								
SEV	**Sevastopol'**	**7.51**	**46**	*e*P		**Pn**	**04 05 08.4**	**-1.1**
SEV				*e*S		**Sn**	**04 06 27.8**	**-6.9**
BNN	**Bunyan**	**7.58**	**92**	Pn		**Pn**	**04 05 11.9**	**+1.3**
MILM	**Milestii Mici**	**7.62**	**14**	⇓*i*P		**Pn**	**04 05 12.8**	**+1.7**
	comp=E,20nm,0.7s								
MILM				*e*S		**Sn**	**04 06 38.0**	**+0.5**
MILM				*e*Li			04 07 26.0		
	comp=E,800nm,5.5s								
MILM	**Milestii Mici**	**7.62**	**14**	⇑P		**Pn**	**04 05 12.9**	**+1.7**
MILM	**Milestii Mici**	**7.62**	**14**	*d*iP		**Pn**	**04 05 12.8**	**+1.7**
MILM				*e*S		**Sn**	**04 06 38.0**	**+0.5**
MILM				pmax	pmax			
	comp=Z,20nm,0.7s								
ARCR	**ARCALIA**	**7.64**	**351**	⇓P		**Pn**	**04 05 12.5**	**+1.0**
DRGR		**7.66**	**342**	*e*Pn		**Pn**	**04 05 12.4**	**+0.7**
DRGR				*e*Sn		**Sn**	**04 06 34.5**	**-4.0**
YAL	**Yalta**	**7.75**	**48**	*e*S		**Sn**	**04 06 33.6**	**-6.9**
YAL				Sm			04 06 37.3	
	comp=N,6.0nm,0.3s								
YAL				Sm			04 06 37.4		
	comp=E,35nm,0.4s								
CUC	**Castrocucco**	**7.96**	**276**			**Pn**	**04 05 16.6**	**+0.7**
ALU	**Alushta**	**8.00**	**47**	*e*S		Sn	04 06 37.2	-10
ALU				Sm			04 06 45.7	
	comp=N,43nm,0.3s								
ALU				Sm			04 06 45.7	
	comp=E,59nm,0.4s								
SIM	**Simferopol'**	**8.01**	**45**	P		**Pn**	**04 05 14.0**	**-2.5**
SIM				*i* S		**Sn**	**04 06 42.0**	**-5.1**
SIM				pmax	pmax			
	comp=Z,20nm,1.1s								
SIM				smax	smax			
	comp=N,172µm,1.0s								
SRKY	**Kupres RS**	**8.08**	**307**	*e*Pn		**Pn**	**04 05 19.2**	**+1.7**
BURAR	**Bucovina Array**	**8.09**	**356**	⇑P		**Pn**	**04 05 20.6**	**+2.9**
BURAR	**Bucovina Array**	**8.09**	**356**	P		**Pn**	**04 05 20.5**	**+2.9**
MGRS	**Mrkonjic Grad**	**8.31**	**309**	*e*Pn		**Pn**	**04 05 23.2**	**+2.6**
BMR	**Baia Mare**	**8.34**	**348**	⇑P		**Pn**	**04 05 23.3**	**+2.2**
BMR	**Baia Mare**	**8.34**	**348**	P		**Pn**	**04 05 23.2**	**+2.2**
BLY	**Banja Luka**	**8.43**	**311**	*e*Pn		**Pn**	**04 05 24.6**	**+2.3**
BLY	**Banja Luka**	**8.43**	**311**	*e*Pn		**Pn**	**04 05 24.8**	**+2.5**
A052A	**Srbac**	**8.46**	**314**	*e*Pn		Pn	04 05 32.6	+10
SUDU	**Sudak**	**8.47**	**48**	*e*P		**Pn**	**04 05 24.6**	**+1.9**
SUDU				Pm			04 05 29.5	
	comp=Z,9.0nm,0.4s								
SUDU				*e*S		**Sn**	**04 06 52.7**	**-5.7**
SUDU				Sm			04 07 01.9	
	comp=N,25nm,0.4s								
SUDU				Sm			04 07 01.9		
	comp=E,2.0nm,0.2s								
SUDU	**Sudak**	**8.47**	**48**	*e*P		**Pn**	**04 05 24.6**	**+1.9**
SUDU				*e*S		**Sn**	**04 06 52.7**	**-5.7**
MORH	**Mrgy, Hungar**	**8.63**	**323**	⇑P		**Pn**	**04 05 24.9**	**-0.1**
MORH	**Mrgy, Hungar**	**8.63**	**323**	*e*Pn		**Pn**	**04 05 24.5**	**-0.5**
A050A	**Klekovaca**	**8.68**	**308**	*e*Pn		**Pn**	**04 05 26.7**	**+1.0**
KMPD	**K-Podol'skiy**	**9.02**	**1**	Pn		**Pn**	**04 05 30.7**	**+0.5**
KMPD				pP			04 05 31.8	
ANN	**Anapa**	**9.89**	**54**	*e*P		**Pn**	**04 05 42.0**	**-0.2**
ANN				*e*S		**Sn**	**04 07 30.8**	**-2.4**
ANN				pmax	pmax			
	comp=Z,62nm,1.5s								
MMAI	**Mount Meron Ar**	**9.92**	**128**	Pn		**Pn**	**04 05 41.6**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=318,slow=11,SNR=5.8								
	comp=Z,1.8nm,0.4s								
BOJS	**Bojanci**	**9.99**	**310**	*e*Pn		**Pn**	**04 05 46.0**	**+2.4**
CRES	**Cresnjev**	**10.05**	**312**	*e*Pn		**Pn**	**04 05 47.4**	**+3.0**
VYHS	**Vyhne**	**10.37**	**332**	*e*P		**Pn**	**04 05 49.2**	**+0.4**
VYHS	**Vyhne**	**10.37**	**332**	*e*PN		**Pn**	**04 05 49.2**	**+0.4**
LUBAR	**Lubar, Ukraine**	**10.44**	**6**	Pn		**Pn**	**04 05 48.1**	**-1.6**
	comp=Z,7.4nm,0.8s								
LUBAR				pP			04 05 50.9		
	comp=Z,7.4nm,0.8s								
CEY	**Cerknica**	**10.61**	**309**	*e*Pn		**Pn**	**04 05 53.7**	**+1.6**
SKDS	**Skadanscina**	**10.76**	**308**	*e*Pn		**Pn**	**04 05 54.3**	**+0.2**
ARSA	**Arzberg**	**10.89**	**318**	*i* Pn		Pn	04 06 01.3	+5.3
	comp=Z,0.6nm,0.3s								
SOC	**Sochi**	**10.95**	**64**	*e*P		**Pn**	**04 05 55.0**	**-1.7**
SOC				*e*			04 07 58.0		
SOC				MLR	MLR				
	comp=Z,36nm,10.0s								
OBKA	**Obir**	**10.96**	**313**	*e*Pn		Pn	04 06 01.8	+4.8
	comp=Z,1.7nm,0.5s								
OBKA	**Obir**	**10.96**	**313**	*e*Pn		Pn	04 06 03.8	+6.8
CONA	**Conrad Observa**	**11.19**	**322**	*i* Pn		**Pn**	**04 06 04.1**	**+4.1**
	comp=Z,0.8nm,0.4s								
AK07	**Malin Array Si**	**11.21**	**10**	Pn		**Pn**	**04 06 00.7**	**+0.4**
AK13	**Malin Array Si**	**11.25**	**10**	Pn		**Pn**	**04 06 00.4**	**-0.5**
AK05	**Malin Array Si**	**11.28**	**10**	Pn		**Pn**	**04 06 00.7**	**-0.5**
AK16	**Malin Array Si**	**11.32**	**10**	Pn		**Pn**	**04 06 01.5**	**-0.2**
AK17	**Malin Array Si**	**11.32**	**10**	Pn		**Pn**	**04 06 01.4**	**-0.4**
AK11	**Malin Array Si**	**11.33**	**10**	Pn		**Pn**	**04 06 02.4**	**+0.5**
AK15	**Malin Array Si**	**11.34**	**10**	Pn		**Pn**	**04 06 01.8**	**-0.3**
AKASG	**Malin Array Be**	**11.36**	**10**	Pn		**Pn**	**04 06 01.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=198,slow=13,SNR=5.7								
	comp=Z,0.5nm,0.4s								
AKBB	**Malin Array Si**	**11.36**	**10**	Pn		**Pn**	**04 06 01.9**	**-0.4**
AK04	**Malin Array Si**	**11.38**	**10**	Pn		**Pn**	**04 06 02.4**	**-0.1**
MYKA	**Terra Mystica**	**11.54**	**312**	*e*Pn		**Pn**	**04 06 08.5**	**+3.5**
	comp=Z,1.0nm,0.3s								
RNPP5	**Staryi Chortor**	**11.68**	**359**	Pn		**Pn**	**04 06 06.4**	**-0.3**
RNPP5				pP			04 06 08.1		
CLUD	**Cludinico**	**11.90**	**310**			**Pn**	**04 06 09.9**	**+0.2**
MOA	**Molln**	**11.93**	**318**	*e*Pn		**Pn**	**04 06 14.8**	**+4.6**
	comp=Z,0.3nm,0.4s								
KBA	**Koelnbreinsper**	**11.96**	**313**	*e*Pn		**Pn**	**04 06 14.9**	**+4.1**
	comp=Z,1.4nm,0.5s								
EIL	**Elat**	**12.23**	**141**	LR		LR	04 12 35.5		
	comp=Z,41nm,18.9s,baz=60,slow=46								
ABTA	**Abfaltersbach**	**12.27**	**310**	*i* Pn		**Pn**	**04 06 16.6**	**+1.8**
	comp=Z,1.1nm,0.5s								
CTI	**Castel Tesino**	**12.45**	**306**			**Pn**	**04 06 17.9**	**+0.5**
CTI	**Castel Tesino**	**12.45**	**306**	P		**Pn**	**04 06 17.9**	**+0.5**
DPC	**Dobruska-Polom**	**12.83**	**331**	*e*P		**Pn**	**04 06 26.2**	**+3.8**
DPC	**Dobruska-Polom**	**12.83**	**331**	*e*P		**Pn**	**04 06 26.2**	**+3.8**
WTTA	**Wattenberg**	**13.05**	**311**	*e*Pn		Pn	04 06 30.5	+4.9
	comp=Z,1.1nm,0.4s								
KHC	**Kasperske Hory**	**13.12**	**321**	*e*P		**P**	**04 06 33.2**	**-3.5**
KHC	**Kasperske Hory**	**13.12**	**321**	*e*P		**P**	**04 06 33.2**	**-3.5**
WATA	**Walderalm**	**13.12**	**311**	*e*Pn		**Pn**	**04 06 27.1**	**+0.6**
	comp=Z,0.1nm,0.1s								
SQTA	**Sankt Quirin**	**13.28**	**310**	*i* Pn		**Pn**	**04 06 33.1**	**+4.5**
	comp=Z,3.4nm,0.6s								
MOTA	**Moosalm**	**13.40**	**310**	*e*Pn		**Pn**	**04 06 33.3**	**+3.0**
	comp=Z,2.3nm,0.7s								
FETA	**Feichten**	**13.46**	**309**	*i* Pn		**P**	**04 06 36.2**	**-4.5**
	comp=Z,0.8nm,0.5s								
RETA	**Reutte**	**13.67**	**310**	*e*Pn		**P**	**04 06 38.9**	**-4.0**
	comp=Z,0.4nm,0.4s								
DAVA	**Damuels**	**14.10**	**309**	*e*Pn		**Pn**	**04 06 43.9**	**+3.9**
	comp=Z,0.5nm,0.2s								
GNI	**Garni**	**14.31**	**82**	LR		LR	04 12 11.5		
	comp=Z,80nm,20.2s,baz=307,slow=37								
GNI	**Garni**	**14.31**	**82**	Pn		**Pn**	**04 06 42.5**	**-0.4**
GNI	**Garni**	**14.31**	**82**	P		**Pn**	**04 06 42.5**	**-0.4**
CLL	**Collm**	**14.91**	**326**	*e*PP		**P**	**04 07 00.0**	**+3.5**
MNK	**Minsk**	**15.01**	**4**	*i* P		**Pn**	**04 06 49.6**	**-2.5**
	comp=E,3.0nm,1.3s								
MNK				*i* P		**Pn**	**04 06 49.6**	**-2.5**
	comp=N,33nm,1.1s								
MNK				*i* P		**Pn**	**04 06 49.6**	**-2.5**
	comp=Z,6.0nm,0.7s,baz=186								
MNK				*i* PP		**P**	**04 06 57.5**	**0.0**
MNK				*i* S		**Sn**	**04 09 35.7**	**-2.6**
MNK				*i* SS		**SnSn**	**04 09 49.5**	**-1.3**
MNK				*i* LQ		LQ	04 11 12.1		
MNK				*i* LR		LR	04 12 20.2		
MNK	**Minsk**	**15.01**	**4**	*i* P		**Pn**	**04 06 49.5**	**-2.5**
MNK				*i* S		**Sn**	**04 09 35.6**	**-2.6**
MNK				pmax	pmax			
	comp=N,33nm,1.1s								
MNK				pmax	pmax			
	comp=E,3.0nm,1.3s								
MNK				pmax	pmax			
	comp=Z,6.0nm,0.7s								
NACGM	**Naroch**	**15.37**	**1**	*i* P		**Pn**	**04 06 54.3**	**-2.6**
	comp=Z,9.0nm,0.7s,baz=182								
BNI	**Bardonecchia**	**15.40**	**297**	Pn		**Pn**	**04 06 58.1**	**+0.7**
BNI				IAmb	IAmb		04 07 11.6		
	comp=Z,35nm,1.4s								
BNI	**Bardonecchia**	**15.40**	**297**	P		**Pn**	**04 06 58.1**	**+0.7**
BNI				pmax	pmax			
	comp=Z,35nm,1.5s								
LPSR	**Galich'ya Gora**	**15.75**	**30**	*e*P		**P**	**04 07 04.8**	**-1.0**
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.7s								
VRH	**Novokhopyorsk**	**15.95**	**38**	*e*P		**Pn**	**04 07 05.9**	**+1.5**
VRH				pmax	pmax			
	comp=Z,20nm,1.6s								
OBN	**Obninsk**	**17.07**	**21**	*i* P		**Pn**	**04 07 18.1**	**-0.5**
OBN				pmax	pmax			
	comp=Z,6.0nm,1.0s								
VSU	**Vasula**	**18.93**	**1**	⇓*e*P		**P**	**04 07 39.6**	**-1.3**
VSU				pmax	pmax			
	comp=Z,29nm,1.0s								
FINES	**FINESS Array B**	**21.92**	**360**	P		**P**	**04 08 12.5**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=172,slow=12,SNR=8.9								
	comp=Z,1.8nm,0.7s								
FINES	**FINESS Array B**	**21.92**	**360**	*i* P		**P**	**04 08 12.3**	**-1.0**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s								
HFS	**Hagfors**	**22.04**	**343**	P		**P**	**04 08 14.9**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=128,slow=9.7,SNR=5.3								
	comp=Z,2.9nm,0.9s								
KLMR	**Klimovskoe**	**22.89**	**17**	*e*P		**P**	**04 08 21.6**	**-2.1**
KLMR				AMP			04 08 24.9		
	comp=Z,14nm,1.1s								
KLMR	**Klimovskoe**	**22.89**	**17**	*e*P		**P**	**04 08 21.5**	**-2.1**
KLMR				pmax	pmax			
	comp=Z,14nm,1.1s								
ESDC	**Sonseca Array**	**23.14**	**280**	P		**P**	**04 08 25.5**	**-1.0**
	comp=Z,3.4nm,1.1s,baz=76,slow=9.4,SNR=9.2								
	comp=Z,3.4nm,1.1s								
NB2	**NORSAR Subarra**	**23.42**	**342**	P		**P**	**04 08 27.4**	**-1.7**
	comp=Z,3.0nm,0.7s,baz=145,slow=9.3								
NOA	**NORSAR Array B**	**23.42**	**342**	P		**P**	**04 08 28.0**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=146,slow=9.3,SNR=11								
NOA				LR	LR		04 18 53.9		
	comp=Z,66nm,18.5s,baz=335,slow=40								
	comp=Z,1.5nm,0.7s								
NOA	**NORSAR Array B**	**23.42**	**342**	P		**P**	**04 08 28.0**	**-1.1**
KIRV	**Kirov**	**24.18**	**30**	LR		LR	04 17 33.9		
	comp=Z,73nm,18.5s,baz=285,slow=35								
GEYT	**Alibeck**	**24.93**	**83**	P		**P**	**04 08 44.9**	**+1.4**
	comp=Z,11nm,1.0s,baz=262,slow=10,SNR=12								
	comp=Z,11nm,1.0s								
GEYT	**Alibeck**	**24.93**	**83**	P		**P**	**04 08 44.2**	**+0.7**
GEYT				IAmb	IAmb		04 08 46.5		
	comp=Z,9.4nm,0.9s								
GEYT	**Alibeck**	**24.93**	**83**	P		**P**	**04 08 44.2**	**+0.7**
GEYT				pmax	pmax			
	comp=Z,9.0nm,0.9s								
GYA0	**ALIBECK ARRAY**	**24.93**	**83**	P		**P**	**04 08 44.5**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**24.93**	**83**	P		**P**	**04 08 44.5**	**+1.0**
GYA0B				IAmb	IAmb		04 08 46.6		
	comp=Z,10nm,0.9s								
EKA	**Eskdalemuir Ar**	**25.07**	**319**	P		**P**	**04 08 44.0**	**-0.4**
	comp=Z,8.3nm,0.7s,baz=113,slow=9.8,SNR=19								
	comp=Z,8.3nm,0.7s								
ABKAR	**Akbulak array**	**25.84**	**57**	P		**P**	**04 08 51.2**	**-0.3**
ARU	**Arti**	**27.14**	**41**	*d*iP		**P**	**04 09 03.4**	**+0.2**
ARU				S		**S**	**04 13 44.1**	**+2.7**
ARU				SS		**SnSn**	**04 14 51.9**	**+3.7**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.4s								
CHGR	**Chuyangaron**	**33.17**	**78**	P		**P**	**04 09 57.8**	**+1.0**
CHGR	**Chuyangaron**	**33.17**	**78**	P		**P**	**04 09 57.8**	**+1.0**
CHGR				pmax	pmax			
	comp=Z,9.0nm,0.9s								
KK31	**Karatay Array**	**33.22**	**69**	P		**P**	**04 09 58.2**	**+1.0**
KK31				IAmb	IAmb		04 10 02.0		
	comp=Z,2.1nm,1.1s								
KK31	**Karatay Array**	**33.22**	**69**	P		**P**	**04 09 58.2**	**+1.0**
KK31				pmax	pmax			
	comp=Z,2.0nm,1.1s								
KKAR	**Karatay Array**	**33.22**	**69**	P		**P**	**04 09 58.2**	**+1.0**
KKAR				IAmb	IAmb		04 10 02.0		
	comp=Z,2.1nm,1.1s								
KKAR	**Karatay Array**	**33.22**	**69**	P		**P**	**04 09 58.2**	**+1.0**
KKAR				pmax	pmax			
	comp=Z,2.0nm,1.1s								
TORD	**Torodi Ar. Bea**	**34.00**	**226**	P		**P**	**04 10 04.5**	**+0.4**
	comp=Z,3.7nm,0.4s,baz=33,slow=9.1,SNR=1.2								
	comp=Z,3.7nm,0.4s								
AAK	**Ala-Archa**	**36.19**	**69**	⇓*e*P		**P**	**04 10 24.9**	**+1.9**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.9s								
MBAR	**Mbarara**	**40.18**	**173**	LR		LR	04 27 38.8		
	comp=Z,32nm,18.0s,baz=334,slow=36								
MK31	**Makanchi Array**	**40.83**	**61**	⇑*e*P		**P**	**04 11 01.3**	**-0.5**
MKAR	**Makanchi Array**	**40.83**	**61**	P		**P**	**04 11 02.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=273,slow=6.9,SNR=9.1								
MKAR				PcP		**PcP**	**04 13 02.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=286,slow=5.4,SNR=3.6								
	comp=Z,0.8nm,0.7s								
ZALV	**Zalesovo Beam**	**41.49**	**50**	P		**P**	**04 11 07.4**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=277,slow=9.4,SNR=6.0								
	comp=Z,1.4nm,0.7s								
ZALV	**Zalesovo Beam**	**41.49**	**50**	*i* P		**P**	**04 11 07.5**	**+0.5**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.7s								
NRIK	**Noril'sk**	**43.60**	**27**	⇑*e*P		**P**	**04 11 25.5**	**+1.5**
NRIK				pmax	pmax			
	comp=Z,18nm,4.6s								
WMQ	**Urumqi**	**45.24**	**64**	*e*P		**P**	**04 11 41.0**	**+3.4**
SONM	**Songino Array**	**56.17**	**53**	P		**P**	**04 13 00.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=270,slow=5.9,SNR=3.6								
	comp=Z,0.3nm,0.6s								
TIXI	**Tiksi**	**56.80**	**22**	⇑*e*P		**P**	**04 13 02.8**	**-1.1**
HHC	**Hu-ho-hao-te**	**62.62**	**58**	*e*P		**P**	**04 13 44.9**	**+0.2**
HHC				pmax	pmax			
	comp=Z,11nm,0.8s								
HHC				pmax	pmax			
	comp=Z,350nm,5.1s								
HEH	**HeiHe**	**67.10**	**43**	*e*P		**P**	**04 14 14.1**	**+0.6**
HEH				pmax	pmax			
	comp=Z,4.0nm,0.8s								
HEH				pmax	pmax			
	comp=Z,180nm,4.7s								
BOSA	**Boshof**	**67.82**	**181**	P		**P**	**04 14 19.3**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=9.6,slow=8.3,SNR=6.4								
	comp=Z,2.5nm,0.6s								
WHN	**Wuhan**	**70.04**	**67**	⇑P		P	04 14 38.5	+6.3
SUR	**Sutherland**	**71.74**	**185**	LR		LR	04 50 04.3		
	comp=Z,48nm,18.2s,baz=94,slow=39								
YKA	**Yellowknife Ar**	**73.52**	**342**	P		**P**	**04 14 52.5**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=32,slow=5.4,SNR=4.4								
	comp=Z,0.9nm,0.8s								
ILAR	**Eielson Array**	**75.87**	**357**	P		**P**	**04 15 06.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=352,slow=3.7,SNR=5.6								
	comp=Z,0.4nm,0.8s								
BDFB	**Brasilia**	**88.08**	**248**	P		**P**	**04 16 11.7**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=45,slow=10.0,SNR=3.5								
	comp=Z,1.2nm,0.5s								
ASAR	**Alice Springs**	**118.00**	**99**	PKP		**PKPdf**	**04 22 06.3**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=345,slow=3.0,SNR=3.3								

*MOS **15** 04:36:33.8±1.0, 40.°24N×140.°10E, h178km, mb4.2/15, Error ellipse: s-maj=8.6km s-min=6.3km az=84.2*
*BJI **15** 04:36:33.1±0.0, 40.°25N×140.°00E, h175km, mb4.5/27, mB4.7/11*
*IDC **15** 04:36:35.3±1.5, 40.°21N×140.°04E, h175km±14km, mb3.7/16, mbtmp4.2/21, Error ellipse: s-maj=13.7km s-min=10.5km az=127.0*
*JMA **15** 04:36:35.6±0.1, 40.°2N±0.°4×140.°2E±0.°7, h174km, MV3.9/37, NORTHERN AKITA PREF*
*NIED **15** 04:36:35.6, 40.°20N×140.°16E, h174km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.45; Mθθ=0.39; Mϕϕ0.83; Mrθ=0.66; Mϕϕ0.69; Mϕr1.03; Fault plane solution: M₀1.57000×10¹⁵ NP1: ϕs163.00000°, δ79.00000°, λ-128.00000°. NP2: ϕs60.00000°, δ39.00000°, λ-17.00000°.*
*NEIC **15** 04:36:35.1±1.3, 40.°26N±0.°07×140.°0E±0.°1, h173km±6km, mb4.3/38 Error ellipse: s-maj=14.5km s-min=6.2km az=131.0*
ISC 15 04:36:34.6±0.5, 40.°20N±0.°04×140.°13E±0.°05, h175km±4km, h175km:pP-P, n144, σ1s42/162, mb4.2/43, 5C-19D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNTW	**Noshirotokiwa**	**0.08**	**19**	⇓P		**Pn**	**04 36 59.0**	**+1.3**
JNTW				⇓S		**Sn**	**04 37 17.3**	**+1.7**
JAH	**Hinai**	**0.39**	**92**	*i* P		**Pn**	**04 36 59.3**	**+1.0**
JAH				S		**Sn**	**04 37 17.0**	**+0.4**
JIW	**Iwasaki**	**0.40**	**347**	⇓P		**Pn**	**04 36 59.6**	**+1.1**
JOG3	**Oga3**	**0.85**	**251**	⇓P		**Pn**	**04 36 59.5**	**-1.3**
JOG3				⇓S		**Sn**	**04 37 17.8**	**-3.0**
JRG	**Rokugo**	**0.89**	**154**	⇓*i*P		**Pn**	**04 37 02.2**	**+1.1**
JRG				⇓S		**Sn**	**04 37 22.4**	**+1.1**
JTM	**Tenmabayashi**	**0.93**	**50**	Pn		**Pn**	**04 37 02.0**	**+0.8**
JTM	**Tenmabayashi**	**0.93**	**50**	P		**Pn**	**04 37 02.2**	**+1.0**
JTM	**Tenmabayashi**	**0.93**	**50**	*i* P		**Pn**	**04 37 02.2**	**+1.0**
JTM				S		**Sn**	**04 37 22.2**	**+0.4**
JANG	**Nango**	**1.07**	**80**	*i* P		**Pn**	**04 37 03.1**	**+0.8**
JANG				S		**Sn**	**04 37 23.6**	**-0.1**
JOM	**Ohasama**	**1.15**	**129**	*i* P		**Pn**	**04 37 03.5**	**+0.5**
JOM				S		**Sn**	**04 37 25.1**	**+0.3**
JYK	**Kaneyama**	**1.29**	**172**	⇓*i*P		**Pn**	**04 37 05.2**	**+0.9**
JYK				⇓S		**Sn**	**04 37 27.5**	**+0.4**
JOT	**Ohata**	**1.37**	**30**	*i* P		**Pn**	**04 37 05.9**	**+1.1**
JOT				*e*S		**Sn**	**04 37 28.9**	**+0.5**
JMK	**Ichinoseki**	**1.50**	**146**	*i* P		**Pn**	**04 37 06.7**	**+0.5**
JAW	**Awa shima**	**1.87**	**202**	⇓P		**Pn**	**04 37 10.9**	**+1.0**
JMM	**Marumori**	**2.39**	**167**	Pn		**Pn**	**04 37 16.0**	**+0.3**
JMM	**Marumori**	**2.39**	**167**	P		**Pn**	**04 37 16.4**	**+0.7**
JNS	**Sasagawa**	**2.46**	**195**	⇓P		**Pn**	**04 37 17.5**	**+0.9**
JNS				⇓S		**Sn**	**04 37 50.0**	**+0.9**
JSD	**Sado**	**2.60**	**215**	Pn		**Pn**	**04 37 19.1**	**+0.9**
JSD	**Sado**	**2.60**	**215**	P		**Pn**	**04 37 19.5**	**+1.3**
ERM	**Erimo**	**2.92**	**51**	Pn		**Pn**	**04 37 22.0**	**+0.1**
ERM	**Erimo**	**2.92**	**51**	P		**Pn**	**04 37 22.4**	**+0.5**
ERM	**Erimo**	**2.92**	**51**	*c* iP		**Pn**	**04 37 22.1**	**+0.1**
ERM				pmax	pmax			
	comp=Z,69nm,0.7s							
JEM	**Erimo**	**2.92**	**51**	P		**Pn**	**04 37 22.5**	**+0.5**
MJB9	**Matsu-Tunnel**	**3.95**	**203**			**Pn**	**04 37 36.6**	**+1.7**
MAJO	**Matsushiro**	**3.95**	**203**	Pn		**Pn**	**04 37 36.1**	**+1.1**
MAJO	**Matsushiro**	**3.95**	**203**	P		**Pn**	**04 37 36.1**	**+1.1**
MAJO	**Matsushiro**	**3.95**	**203**	*de*P		**Pn**	**04 37 35.8**	**+0.8**
MJAR	**Matsushiro Arr**	**3.95**	**203**	P		**Pn**	**04 37 36.2**	**+1.2**
	comp=Z,43nm,0.6s,baz=13,slow=13,SNR=174							
ASAJ	**Asahikawa**	**4.32**	**24**	P		**Pn**	**04 37 39.2**	**-0.4**
	comp=Z,15nm,0.4s,baz=209,slow=12,SNR=23							
ASAJ				S		**Sn**	**04 38 27.7**	**-2.9**
	comp=Z,24nm,0.4s,baz=15,slow=29,SNR=12							
JKA	**Kamikawa-asahi**	**4.32**	**24**			**Pn**	**04 37 39.2**	**-0.4**
JGF	**Kuroka**	**5.09**	**206**	Pn		**Pn**	**04 37 51.0**	**+1.4**
JGF	**Kuroka**	**5.09**	**206**	P		**Pn**	**04 37 50.9**	**+1.2**
NMR	**Nemuro--Hokkai**	**5.25**	**51**	⇓*i*P		**Pn**	**04 37 49.6**	**-2.0**
NMR				*i* S

SONM	**Songino Array**	**25.28**	**299**	P		**P**	**04 41 44.4**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=98,slow=8.7,SNR=13							
	comp=Z,1.9nm,0.4s							
SONM	**Songino Array**	**25.28**	**299**	P		**P**	**04 41 44.4**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**30.69**	**124**	T		T	05 13 45.0	
	baz=317,slow=75,SNR=52							
H11N1	**WAKE ISLAND Hy**	**30.70**	**124**	T		T	05 13 38.5	
	baz=317,slow=75,SNR=57							
H11N3	**WAKE ISLAND Hy**	**30.71**	**124**	T		T	05 13 38.4	
	baz=317,slow=75,SNR=58							
H11S1	**WAKE ISLAND Hy**	**31.47**	**126**	T		T	05 14 33.2	
	baz=318,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**31.47**	**126**	T		T	05 14 33.4	
	baz=318,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**31.49**	**126**	T		T	05 14 34.5	
	baz=318,slow=76,SNR=18							
PZH	**PanZhiHua**	**34.58**	**259**	P		**P**	**04 43 07.1**	**+0.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,140nm,5.3s							
GOMU	**GeErMu**	**35.54**	**278**	P		**P**	**04 43 13.8**	**-1.5**
GOMU				pmax		pmax		
	comp=Z,4.0nm,0.6s							
GOMU				pmax		pmax		
	comp=Z,84nm,4.8s							
DGZ	**Jazzator, Alta**	**37.78**	**303**	*c iP*		**P**	**04 43 34.4**	**+0.6**
DGZ				pmax		pmax		
	comp=Z,15nm,0.8s							
WMQ	**Urumqi**	**38.59**	**293**	*e*P		**P**	**04 43 41.8**	**+1.3**
ZAA0	**Zalesovo Array**	**39.08**	**310**	P		**P**	**04 43 44.0**	**-0.3**
ZALV	**Zalesovo Beam**	**39.08**	**310**	P		**P**	**04 43 44.6**	**+0.2**
	comp=Z,9.3nm,0.4s,baz=86,slow=8.3,SNR=52							
	comp=Z,9.3nm,0.4s							
CRAI	**Chiangrai**	**39.29**	**252**	P		**P**	**04 43 46.5**	**0.0**
CRAI				IAmb		IAmb	04 43 49.0	
	comp=Z,6.6nm,0.8s							
CHTO	**Chiang Mai**	**41.23**	**251**	P		**P**	**04 44 01.3**	**-1.1**
CHTO				IAmb		IAmb	04 44 06.9	
	comp=Z,4.7nm,0.6s							
CHTO	**Chiang Mai**	**41.23**	**251**	P		**P**	**04 44 01.3**	**-1.1**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**41.46**	**251**	P		**P**	**04 44 05.1**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=36,slow=7.3,SNR=1.9							
	comp=Z,1.3nm,0.6s							
MK31	**Makanchi Array**	**41.65**	**299**	P		**P**	**04 44 05.4**	**-0.2**
MK31				IAmb		IAmb	04 44 07.1	
	comp=Z,7.0nm,0.8s							
MK31	**Makanchi Array**	**41.65**	**299**	*i* P		**P**	**04 44 05.3**	**-0.3**
MKAR	**Makanchi Array**	**41.65**	**299**	P		**P**	**04 44 05.7**	**+0.2**
	comp=Z,6.0nm,0.7s,baz=85,slow=9.8,SNR=69							
	comp=Z,6.0nm,0.7s							
MKAR	**Makanchi Array**	**41.65**	**299**	*i* P		**P**	**04 44 05.6**	**0.0**
MKAR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MAKZ	**Makanchi**	**41.85**	**299**	P		**P**	**04 44 07.5**	**+0.3**
MAKZ				IAmb		IAmb	04 44 08.5	
	comp=Z,7.7nm,0.7s							
MAKZ	**Makanchi**	**41.85**	**299**	P		**P**	**04 44 07.5**	**+0.3**
MAKZ				pmax		pmax		
	comp=Z,8.0nm,0.7s							
SHL	**Shillong**	**42.55**	**265**	P		**P**	**04 44 12.1**	**-1.2**
SHL	**Shillong**	**42.55**	**265**	P		**P**	**04 44 12.1**	**-1.2**
SHL				pmax		pmax		
	comp=Z,9.0nm,0.5s							
KURBB	**Kurchatov Arra**	**43.31**	**305**	P		**P**	**04 44 18.4**	**-0.4**
IMAR	**Indian Mountai**	**44.48**	**32**	P		**P**	**04 44 29.3**	**+1.3**
H21K	**Melozitna Rive**	**44.86**	**33**	IAmb		IAmb	04 44 33.8	
	comp=Z,7.1nm,0.9s							
COLD	**Coldfoot**	**45.91**	**31**	P		**P**	**04 44 38.9**	**-0.3**
MDM	**Murphy Dome**	**46.81**	**34**	IAmb		IAmb	04 44 48.6	
	comp=Z,6.1nm,0.6s							
H24K	**Noodor Dome**	**46.89**	**32**	IAmb		IAmb	04 44 49.8	
	comp=Z,6.0nm,0.8s							
COLA	**College**	**46.97**	**34**[1]	*eP*		**P**	**04 44 49.2**	**+1.7**
COLA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
TKM2	**Tokmak 2**	**47.30**	**296**	P		**P**	**04 44 51.2**	**+0.6**
IL31		**47.40**	**34**	IAmb		IAmb	04 44 52.7	
	comp=Z,5.8nm,0.7s							
ILAR	**Eielson Array**	**47.40**	**34**	P		**P**	**04 44 51.9**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=270,slow=5.6,SNR=42							
	comp=Z,3.8nm,0.7s							
ILAR	**Eielson Array**	**47.40**	**34**	P		**P**	**04 44 50.5**	**-0.3**
HDA	**Harding Lake**	**47.41**	**34**	IAmb		IAmb	04 44 52.5	
	comp=Z,8.5nm,0.8s							
BVA0	**Borovoye Array**	**47.73**	**310**	*i* P		**P**	**04 44 53.4**	**-0.1**
BRVK	**Borovoye**	**47.79**	**310**	P		**P**	**04 44 53.6**	**-0.3**
BRVK	**Borovoye**	**47.79**	**310**	P		**P**	**04 44 53.6**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
PRP	**Porcupine Dome**	**47.89**	**33**	P		**P**	**04 44 56.2**	**+1.4**
PRP				IAmb		IAmb	04 44 57.6	
	comp=Z,7.5nm,0.8s							
AAK	**Ala-Archa**	**48.16**	**296**	P		**P**	**04 44 56.8**	**-0.4**
AAK	**Ala-Archa**	**48.16**	**296**	*ce*P		**P**	**04 44 57.2**	**0.0**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
SCRK	**Sand Creek**	**48.75**	**35**	P		**P**	**04 45 01.4**	**+0.1**
L27K	**Beaver Creek,**	**49.86**	**36**	IAmb		IAmb	04 45 12.7	
	comp=Z,5.8nm,0.7s							
KK31	**Karatay Array**	**50.72**	**298**	*i* P		**P**	**04 45 16.2**	**-0.2**
ARU	**Arti**	**53.34**	**317**	*d iP*		**P**	**04 45 35.3**	**-0.2**
ARU							04 46 33.4	
ARU				S		**S**	**04 52 54.2**	**+0.9**
ARU				SS		**SKiKP**	**04 56 27.6**	**-4.8**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.9s							
A36M	**Sachs Harbour**	**53.71**	**23**	P		**P**	**04 45 38.4**	**+0.5**
AB31	**Akbulak array**	**55.16**	**308**	*i* P		**P**	**04 45 48.7**	**0.0**
ABKAR	**Akbulak array**	**55.16**	**308**	P		**P**	**04 45 48.1**	**-0.6**
WRA	**Warramunga Arr**	**60.07**	**186**	P		**P**	**04 46 23.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=4.3,slow=6.9,SNR=8.8							
	comp=Z,0.5nm,0.5s							
WRA	**Warramunga Arr**	**60.07**	**186**	*i* P		**P**	**04 46 21.3**	**-1.9**
YKA	**Yellowknife Ar**	**61.59**	**31**	P		**P**	**04 46 33.8**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=301,slow=6.6,SNR=17							
YKA				pP		**pP**	**04 47 13.8**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=302,slow=4.2,SNR=6.6							
	comp=Z,1.4nm,0.7s							
ASAR	**Alice Springs**	**63.80**	**186**	P		**P**	**04 46 48.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=2.3,slow=6.2,SNR=9.9							
	comp=Z,0.1nm,0.3s							
FINES	**FINESS Array B**	**65.55**	**331**	P		**P**	**04 46 59.2**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=32,slow=11,SNR=5.1							
	comp=Z,1.1nm,0.8s							
FINES	**FINESS Array B**	**65.55**	**331**	*i* P		**P**	**04 47 01.7**	**+2.8**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
LTY	**Liberty**	**67.21**	**47**	P		**P**	**04 47 10.2**	**+0.4**
LTY				IAmb		IAmb	04 47 11.5	
	comp=Z,2.8nm,0.6s							
H04A	**Detroit Lake**	**67.82**	**50**	P		**P**	**04 47 13.7**	**+0.1**
PINE	**Pine Mountain**	**69.07**	**50**	P		**P**	**04 47 21.7**	**+0.1**
PINE				IAmb		IAmb	04 47 24.6	
	comp=Z,4.8nm,0.8s							
MNK	**Minsk**	**69.32**	**325**	*i* P		**P**	**04 47 23.9**	**+1.2**
MNK				*i* P		**P**	**04 47 23.9**	**+1.2**
MNK				*i* P		**P**	**04 47 23.9**	**+1.2**
	comp=Z,6.0nm,0.7s,baz=49							
MNK				*i* pP		**pP**	**04 48 04.4**	**+0.7**
MNK				*i* PP		**PP**	**04 49 59.0**	**+1.4**
MNK				*i* PPP		PPP	04 51 41.6	
MNK				*i* S		**S**	**04 56 17.1**	**+2.3**
MNK				*i* sS		**sS**	**04 57 28.1**	**+3.0**
MNK				*i* SS		SS	05 01 34.8	+51
MNK				*i* SSS		SSS	05 04 14.5	
MNK	**Minsk**	**69.32**	**325**	*i* P		**P**	**04 47 23.8**	**+1.2**
MNK				*i* *PP		**pP**	**04 48 04.4**	**+0.7**
MNK				*i*			04 49 59.0	
MNK				*i* PPP		PPP	04 51 41.5	
MNK				*i* S		**S**	**04 56 17.0**	**+2.3**
MNK				pmax		pmax		
	comp=Z,6.0nm,0.7s							
BMO	**Blue Mountains**	**70.53**	**47**	P		**P**	**04 47 30.8**	**+0.5**
BMO				IAmb		IAmb	04 47 32.3	
	comp=Z,2.9nm,0.6s							
BMO	**Blue Mountains**	**70.53**	**47**	P		**P**	**04 47 30.8**	**+0.5**
BMO				pmax		pmax		
	comp=Z,3.0nm,0.6s							
NB2	**NORSAR Subarra**	**70.88**	**336**	P		**P**	**04 47 32.2**	**0.0**
	comp=Z,0.4nm,0.5s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**70.88**	**336**	P		**P**	**04 47 32.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=40,slow=6.2,SNR=2.6							
	comp=Z,0.9nm,0.7s							
NOA	**NORSAR Array B**	**70.88**	**336**	P		**P**	**04 47 32.0**	**-0.2**
AKASG	**Malin Array Be**	**71.19**	**321**	P		**P**	**04 47 34.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=48,slow=5.9,SNR=3.2							
	comp=Z,0.2nm,0.3s							
HRY	**Holter Researc**	**72.34**	**43**	P		**P**	**04 47 41.4**	**+0.2**
BOZ	**Bozeman (W)**	**73.17**	**44**	P		**P**	**04 47 47.4**	**+1.2**
BOZ	**Bozeman (W)**	**73.17**	**44**	P		**P**	**04 47 47.4**	**+1.2**
BOZ				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NVAR	**Mina Array Bea**	**73.90**	**53**	P		**P**	**04 47 52.6**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=289,slow=5.4,SNR=15							
	comp=Z,2.0nm,0.8s							
NVAR	**Mina Array Bea**	**73.90**	**53**	P		**P**	**04 47 51.4**	**+0.8**
MOOW	**Moose Ponds**	**74.86**	**45**	P		**P**	**04 47 57.2**	**+1.1**
MOOW				IAmb		IAmb	04 47 59.1	
	comp=Z,7.3nm,1.4s							
PD31	**Pinedale Array**	**76.16**	**45**	P		**P**	**04 48 03.8**	**+0.2**
PD31				IAmb		IAmb	04 48 05.0	
	comp=Z,2.8nm,0.6s							
PDAR	**Pinedale Array**	**76.16**	**45**	P		**P**	**04 48 04.5**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=30,slow=0.4,SNR=50							
	comp=Z,2.1nm,0.5s							
ULM	**Lac du Bonnet**	**77.41**	**33**	P		**P**	**04 48 10.3**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=326,slow=5.2,SNR=3.3							
	comp=Z,1.8nm,0.6s							
PV13	**Radium Mtn., P**	**79.71**	**48**	P		**P**	**04 48 24.1**	**+1.0**
ANMO	**Albuquerque**	**83.31**	**49**[1]	*eP*		**P**	**04 48 43.3**	**+1.2**
ANMO				pmax		pmax		
	comp=Z,10.0nm,3.4s							
PB12	**IPOC Station P**	**146.11**	**60**	PKPbc		**PKPdf**	**04 55 53.1**	**-0.2**
PB16	**IPOC Station P**	**146.45**	**58**	PKPbc		**PKPdf**	**04 55 54.2**	**-0.2**
MNMC	**Minye Minye**	**146.96**	**59**	PKPbc		**PKPdf**	**04 55 56.4**	**+1.5**

KRSC 15 05:10:07.0±2.0, 54°43N×167°84E, h24km±26km, Ml4.0,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**1.33**	**306**	*e*P		Pn	05 10 30.2	+0.2
BKI				*e*S		Sb	05 10 48.9	+1.0
KBTR	**Krutoberegovo**	**3.38**	**304**	*e*P		Pn	05 10 59.7	+1.5
KBTR				*e*S		Sn	05 11 40.4	+3.0
KBG	**Krutoberegovo**	**3.46**	**304**	*e*P		Pn	05 11 01.7	+2.4
KBG				*e*S		Sn	05 11 43.6	+4.3
SMKR	**Semkarok**	**4.22**	**303**	*e*P		Pn	05 11 13.2	+3.5
TUMD	**Tumrok D**	**4.38**	**283**	*e*P		Pn	05 11 15.7	+3.9
TUMD				*e*S		Sb	05 12 09.2	-6.2
BZP	**Bezymyannyi-Pe**	**4.44**	**292**	*e*P		Pn	05 11 18.5	+5.6
BZWR	**Bezymyannyi-We**	**4.48**	**293**	*e*P		Pn	05 11 18.4	+4.9
TUMR	**Tumrok**	**4.53**	**284**	*e*P		Pn	05 11 19.1	+5.0
KIRR	**Kirishev**	**4.56**	**293**	*e*P		Pn	05 11 19.6	+5.0
KMNR	**Kamenistaya**	**4.57**	**290**	*e*P		Pn	05 11 18.7	+4.2
KPT	**Kopyto**	**4.63**	**293**	*e*P		Pn	05 11 20.6	+5.1
SPN	**Mys Shipunski**	**4.83**	**257**	*e*P		Pn	05 11 21.8	+3.8
SPN				*e*S		Sn	05 12 17.4	+4.2
SRDR	**Sredinnyy**	**5.00**	**295**	*e*P		Pn	05 11 25.5	+4.9
ESO	**Esso**	**5.45**	**290**	*e*P		Pn	05 11 33.4	+6.8
SMAR	**Somma**	**5.48**	**261**	*e*P		Pn	05 11 31.8	+4.5
UGLR	**Uglovaya**	**5.48**	**261**	*e*P		Pn	05 11 31.8	+4.6
AVH	**Avacha**	**5.51**	**261**	*e*P		Pn	05 11 32.2	+4.6
KRX	**Arik**	**5.54**	**263**	*e*P		Pn	05 11 32.4	+4.4
KOK	**Koryaka**	**5.57**	**262**	*e*P		Pn	05 11 33.0	+4.7
DALK	**Dalny**	**5.58**	**259**	*e*P		Pn	05 11 33.5	+5.2
GNL	**Ganaly**	**5.88**	**267**	*e*P		Pn	05 11 37.9	+5.3
KRMR	**Karymshinskiy**	**6.00**	**258**	*e*P		Pn	05 11 38.5	+4.4
KRMR				*e*S		Sn	05 12 47.2	+5.3
GRL	**Gorelyy**	**6.13**	**256**	*e*P		Pn	05 11 40.9	+4.9

*NEIC **15** 05:19:46.8±0.7, 36°46N±0°.03×98°76W±0°.06, h5km±2km, Error ellipse: s-maj=8.0km s-min=3.7km az=292.0*
*TUL **15** 05:19:46.9±0.7, 36°45N±0°.04×98°78W±0°.06, h8km±7km, ML3.4, mb_Lg3.2/87(NEIC), ML3.3/10(NEIC), Error ellipse: s-maj=7.0km s-min=5.8km az=116.0*
*ANF **15** 05:19:46.5±1.2, 36°45N×98°71W, h5km±10km, ML3.9/11, Error ellipse: s-maj=7.3km s-min=5.1km az=78.0*

ISC 15 05:19:47.0±1.1, 36°45N±0°.03×98°75W±0°.03, h9km±9km, n112, σ0s71/85, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.22**	**251**	Pg		**Pg**	**05 19 51.2**	**-0.2**
U32A	**Winter Ranch,**	**0.22**	**251**	P		**Pg**	**05 19 50.9**	**-0.5**
	baz=66,SNR=332							
U32A				S		**Sg**	**05 19 54.3**	**-0.1**
	baz=66							
NOKA	**Waynoka**	**0.23**	**321**	Pg		**Pg**	**05 19 51.9**	**+0.1**
CROK	**Carrier**	**0.62**	**85**	Pg		**Pg**	**05 19 59.3**	**+0.3**
CROK				IAML			05 20 13.0	
	comp=E,2μm,0.3s							
CROK				IAML			05 20 17.4	
	comp=N,2μm,0.2s							
ELIS	**Ellis County**	**0.67**	**235**	Pg		**Pg**	**05 19 59.5**	**-0.3**
ELIS				IAML			05 20 16.1	
	comp=N,2μm,0.5s							
ELIS				IAML			05 20 21.3	
	comp=E,1μm,0.5s							
CSTR	**Hydro, Custer**	**0.81**	**177**			**Pg**	**05 20 02.3**	**-0.2**
KAN14	**Manchester OK**	**0.81**	**51**			**Pg**	**05 20 02.6**	**+0.1**
KAN17	**Caldwell West**	**0.99**	**53**			**Pg**	**05 20 05.8**	**-0.2**
KAN08	**Anthony NE Sta**	**0.99**	**39**			**Pg**	**05 20 05.9**	**-0.2**
KAN12	**Harper NE Stat**	**1.04**	**35**			**Pg**	**05 20 06.7**	**-0.2**
KAN01	**Argonia South**	**1.06**	**48**			**Pg**	**05 20 07.1**	**-0.2**
KAN06	**Argonia West S**	**1.07**	**42**			**Pg**	**05 20 07.3**	**-0.2**
KAN09	**Caldwell North**	**1.13**	**53**	Pg		**Pg**	**05 20 08.4**	**-0.4**
KAN13	**South Haven SW**	**1.16**	**61**			**Pg**	**05 20 08.9**	**-0.4**
KS21	**Milan North St**	**1.20**	**46**			**Pg**	**05 20 09.7**	**-0.4**
BCOK	**Bluff Creek, N**	**1.22**	**130**			**Pg**	**05 20 09.9**	**-0.4**
KS20	**Mayfield South**	**1.23**	**51**			**Pg**	**05 20 10.1**	**-0.6**
BLOK	**Blackwell**	**1.27**	**76**			**Pg**	**05 20 10.7**	**-0.7**
OK050	**Pawnee Station**	**1.43**	**92**			**Pn**	**05 20 13.4**	**+0.3**
OK025	**Westminster Rd**	**1.44**	**127**			**Pn**	**05 20 13.4**	**+0.2**
OK048	**Pawnee Station**	**1.46**	**91**			**Pn**	**05 20 13.8**	**+0.3**
OK046	**Pawnee Station**	**1.48**	**92**			**Pn**	**05 20 14.4**	**+0.4**
FNO	**Franklin**	**1.62**	**137**			**Pn**	**05 20 15.9**	**+0.1**
OK031	**S. Brethren Rd**	**1.62**	**107**			**Pn**	**05 20 16.1**	**+0.2**
OK053	**SW of W Deep R**	**1.64**	**105**			**Pn**	**05 20 16.6**	**+0.5**
QUOK	**Quay**	**1.67**	**99**			**Pn**	**05 20 17.1**	**+0.6**
WMOK	**Wichita Mounta**	**1.71**	**181**			**Pn**	**05 20 16.6**	**-0.4**
WMOK	**Wichita Mounta**	**1.71**	**181**	P		**Pn**	**05 20 16.5**	**-0.6**
	baz=0.7,SNR=208							
WMOK	**Wichita Mounta**	**1.71**	**181**	P		**Pn**	**05 20 16.7**	**-0.4**
	baz=0.7							
T35B	**Sooner Cattle**	**1.86**	**75**	P		**Pn**	**05 20 19.8**	**+0.7**
	baz=257,SNR=75							
T35B				Sb		**Sb**	**05 20 45.7**	**+1.2**
	baz=257							
DEOK	**Depew**	**1.92**	**108**			**Pn**	**05 20 20.3**	**+0.4**
R32A	**Long Quarter,**	**1.97**	**1**	P		**Pn**	**05 20 21.4**	**+0.8**
	baz=181,SNR=90							
R32A				Sb		**Sb**	**05 20 48.8**	**+1.1**
	baz=181							
TUL1	**Leonard**	**2.45**	**102**	Pn		**Pn**	**05 20 27.5**	**+0.3**
TUL1	**Leonard**	**2.45**	**102**	P		**Pn**	**05 20 27.7**	**+0.5**
	baz=284,SNR=53							
TUL1	**Leonard**	**2.45**	**102**	P		**Pn**	**05 20 27.8**	**+0.6**
	baz=284							
TUL1				S		**Sn**	**05 20 58.9**	**+1.6**
	baz=284							
CBKS	**Cedar Bluff**	**2.48**	**342**	IAmb_Lg			05 21 08.3	
	comp=Z,58nm,0.8s							
CBKS	**Cedar Bluff**	**2.48**	**342**	S		**Sb**	**05 21 02.9**	**+0.3**
	baz=161							
CBKS	**Cedar Bluff**	**2.48**	**342**	Pb		**Pb**	**05 20 31.9**	**0.0**
	baz=161							
CBKS				Sb		**Sb**	**05 21 03.2**	**+0.6**
	baz=161							
LOOK	**Love County**	**2.77**	**152**	Pn		**Pn**	**05 20 31.8**	**+0.2**
LOOK				IAmb_Lg			05 21 20.0	
	comp=Z,63nm,0.7s							
AMTX	**Amarillo**	**2.86**	**238**	Pb		**Pb**	**05 20 38.0**	**-0.2**
	baz=56							
AMTX				Sb		**Sb**	**05 21 14.3**	**+0.9**
	baz=56							
KSU1	**Kansas State U**	**3.14**	**32**	Pn		**Pn**	**05 20 36.4**	**-0.3**
KSU1				IAmb_Lg			05 21 32.5	
	comp=Z,47nm,0.7s							
X37A	**Clayton**	**3.32**	**123**	Pn		**Pn**	**05 20 39.9**	**+0.6**
X37A	**Clayton**	**3.32**	**123**	P		**Pn**	**05 20 39.8**	**+0.6**
	baz=305,SNR=27							
Z35A	**Perchaven, San**	**3.35**	**158**			**Pn**	**05 20 39.5**	**0.0**
Z35A	**Perchaven, San**	**3.35**	**158**	P		**Pn**	**05 20 40.8**	**+1.2**
	baz=339,SNR=36							
U38A	**Gravette**	**3.52**	**89**	IAmb_Lg			05 21 41.6	
	comp=Z,47nm,0.7s							
FW06	**Azle**	**3.61**	**164**			**Pn**	**05 20 42.8**	**-0.3**
FW06				IAmb_Lg			05 21 46.3	
	comp=Z,26nm,0.8s							
FW07	**Weatherford**	**3.82**	**168**	IAmb_Lg			05 21 55.2	
	comp=Z,24nm,0.7s							
HHAR	**Hobbs**	**3.88**	**91**			**Pn**	**05 20 47.2**	**+0.3**
ABTX	**Abilene, Hawle**	**3.89**	**191**			**Pn**	**05 20 47.2**	**+0.2**
ABTX	**Abilene, Hawle**	**3.89**	**191**	P		**Pn**	**05 20 47.1**	**0.0**
	baz=10,SNR=6.3							
ABTX	**Abilene, Hawle**	**3.89**	**191**	P		**Pn**	**05 20 47.1**	**0.0**
	baz=10							
KSCO	**Kaye Shedlock'**	**4.00**	**311**			**Pn**	**05 20 48.0**	**-0.6**
KSCO				IAmb_Lg			05 22 03.5	
	comp=Z,69nm,0.8s							
MSTX	**Muleshoe**	**4.12**	**234**	IAmb_Lg			05 22 01.8	
	comp=Z,53nm,0.9s							
MSTX	**Muleshoe**	**4.12**	**234**	Sb		**Sb**	**05 21 52.7**	**+2.9**
	baz=52							
N33B	**J Bar K, Exete**	**4.40**	**13**	P		**Pn**	**05 20 54.0**	**0.0**
	baz=194,SNR=8.2							
N33A	**J Bar K, Exete**	**4.40**	**13**			**Pn**	**05 20 54.1**	**+0.1**
N33A				IAmb_Lg			05 22 16.3	
	comp=Z,58nm,0.9s							
WHTX	**Lake Whitney,**	**4.58**	**166**	Pn		**Pn**	**05 20 56.4**	**-0.1**
T25A	**Trinidad**	**4.60**	**280**	IAmb_Lg			05 22 17.0	
	comp=Z,71nm,0.8s							
T25A	**Trinidad**	**4.60**	**280**	P		**Pn**	**05 20 57.4**	**+0.5**
	baz=97							
MIAR	**Mount Ida**	**4.63**	**113**	Pn		**Pn**	**05 20 57.2**	**0.0**
MIAR				IAmb_Lg			05 22 26.0	
	comp=Z,45nm,0.8s							
U40A	**Yellville**	**4.75**	**89**	P		**Pn**	**05 20 58.2**	**-0.7**
	baz=273,SNR=15							
U40A				P		**Pn**	**05 20 58.2**	**-0.7**
	baz=273,SNR=15							
BGNE	**Belgrade**	**4.97**	**5**			**Pn**	**05 21 01.8**	**-0.1**
BGNE				IAmb_Lg			05 22 33.5	
	comp=Z,54nm,0.9s							
237A	**Washetta, Mont**	**5.06**	**150**	Pn		**Pn**	**05 21 02.7**	**-0.4**
237A				IAmb_Lg			05 22 37.4	
	comp=Z,38nm,1.0s							
237A	**Washetta, Mont**	**5.06**	**150**	S		**Sn**	**05 22 00.6**	**-1.1**
	baz=332							
P38A	**Dawn**	**5.19**	**51**	Pn		**Pn**	**05 21 05.4**	**+0.5**
P38A				IAmb_Lg			05 22 43.0	
	comp=Z,40nm,0.8s							
MGMO	**Mountain Grove**	**5.25**	**80**			**Pn**	**05 21 05.7**	**0.0**
MGMO				IAmb_Lg			05 22 34.8	
	comp=Z,24nm,0.8s							
WHAR	**Wooly Hollow**	**5.37**	**101**	Pn		**Pn**	**05 21 07.3**	**-0.1**
WHAR				IAmb_Lg			05 22 41.6	
	comp=Z,48nm,1.1s							
WLAR	**White Oak Lake**	**5.38**	**119**	IAmb_Lg			05 22 43.8	
	comp=Z,40nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.39**	**94**	Pn		**Pn**	**05 21 08.1**	**+0.5**
R40A	**Maddies Statio**	**5.48**	**68**			**Pn**	**05 21 09.0**	**+0.2**
R40A				IAmb_Lg			05 22 49.3	
	comp=Z,44nm,1.0s							
UALR	**University of**	**5.48**	**106**	IAmb_Lg			05 22 54.3	
	comp=Z,28nm,1.0s							
SDCO	**Great Sand Dun**	**5.55**	**285**	P		**Pn**	**05 21 11.8**	**+1.7**
	baz=101							
HTMS	**Hat Mesa**	**5.66**	**227**	Pn		**Pn**	**05 21 09.7**	**-1.8**
Q24A	**Divide**	**5.66**	**298**	IAmb_Lg			05 22 58.1	
	comp=Z,30nm,0.9s							
435B	**Jarrell**	**5.74**	**170**	IAmb_Lg			05 23 02.6	
	comp=Z,50nm,1.1s							
NATX	**Nacogdoches**	**5.78**	**143**	IAmb_Lg			05 23 03.8	
	comp=Z,28nm,0.9s							
BRIGG	**Briggsdale**	**6.01**	**315**	IAmb_Lg			05 22 58.2	
	comp=Z,44nm,0.9s							
JCT	**Junction City**	**6.02**	**189**	I

0.4nm,0.8s,baz=78,slow=7.5,SNR=3.8
0.2nm,0.6s
WRA **Warramunga Arr 49.34 189** P **P** 05 59 36.6 -1.5
1.3nm,0.6s,baz=8.3,slow=8.2,SNR=17
WRA pP **sP** 05 59 56.3 +0.6
0.6nm,0.4s,baz=7.3,slow=7.7,SNR=3.8
WRA PcP **PcP** 06 01 00.1 -0.1
0.3nm,0.5s,baz=360,slow=3.9,SNR=5.9
1.3nm,0.6s
ASAR **Alice Springs 53.06 188** P **P** 06 00 06.7 +0.6
0.2nm,0.4s,baz=21,slow=11,SNR=2.4
0.2nm,0.4s
ILAR **Eielson Array 56.27 29** P **P** 06 00 28.2 -0.6
0.3nm,0.7s,baz=279,slow=7.2,SNR=5.2
0.3nm,0.7s
INK **Inuvik 61.46 25** P **P** 06 01 04.5 -0.2
1.0nm,0.5s,baz=302,slow=5.2,SNR=11
1.0nm,0.5s
ARCES **ARCESS Array B 71.24 340** P **P** 06 02 07.4 +0.2
10nm,1.2s,baz=58,slow=7.5,SNR=5.0
10nm,1.2s
FINES **FINESS Array B 75.65 333** P **P** 06 02 33.1 -0.1
0.5nm,0.4s,baz=57,slow=4.1,SNR=6.8
0.5nm,0.4s
KBZ **Khabaz 75.92 312** P **P** 06 02 35.5 +0.3
1.8nm,0.7s,baz=80,slow=6.9,SNR=6.6
1.8nm,0.7s
NVAR **Mina Array Bea 79.88 52** P **P** 06 02 57.7 +0.1
0.5nm,0.6s,baz=278,slow=5.7,SNR=5.0
0.5nm,0.6s
AKASG **Malin Array Be 80.38 323** P **P** 06 02 58.9 -0.8
0.4nm,0.5s,baz=50,slow=5.4,SNR=6.2
0.4nm,0.5s
BRTR **Keskin Array B 83.92 312** P **P** 06 03 18.6 -0.1
1.3nm,0.7s,baz=58,slow=2.9,SNR=8.5
1.3nm,0.7s
LPAZ **La Paz 150.14 71** PKPbc **PKPbc** 06 10 40.2 -0.2
1.0nm,0.8s,baz=263,slow=6.5,SNR=4.5
PLCA **Paso Flores 151.72 122** PKPbc **PKPbc** 06 10 43.2 +0.4
1.6nm,1.0s,baz=345,slow=2.8,SNR=3.5

IDC ***15*** *06:17:22.7±1.0,2.°05S×128.°33E,h0km,mb3.9/4, mbtmp3.8/6,ML3.7/2,MS2.9/1,Error ellipse: s-maj=39.3km s-min=20.6km az=65.0*
DJA ***15*** *06:17:28.0±1.1,2.°5±2.°×12.°8E±.°,h36km±25km,M4.6/13, mB5.2/1,mb4.5/6,mBc6.7/1,Mjma3.8/13,ML4.2/12, MLv3.9/12,Ms(BB)3.8/9,Mw(mB)4.6/1,MwmBc6.0/1*
ISC 15 06:17:27.0±0.8,**1.°97S**±0.°05×**128.°39E**±0.°04,**h34**km,**n16,** σ1ˢ**76**/**22**,**mb4.0**/**4**,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.47**	**159**	P	**Pb**	**06 17 52.8**	**-1.0**
MSAI				S	**Sb**	**06 18 12.9**	**+0.7**
AAI	**Ambon**	**1.72**	**187**	P	**Pb**	**06 17 57.0**	**-1.0**
NLAI	**Namlea**	**1.81**	**226**	P	**Pb**	**06 17 57.8**	**-1.7**
NLAI				S	**Sn**	**06 18 18.8**	**+1.3**
SANI	**Sanana**	**2.41**	**268**	P	**Pn**	**06 18 03.2**	**-0.8**
SANI				S	**Sn**	**06 18 29.5**	**-2.8**
TNTI	**Ternate**	**2.91**	**339**	P	**Pn**	**06 18 10.6**	**-0.3**
BNDI	**Bandanaira**	**2.95**	**149**	P	**Pn**	**06 18 13.3**	**+1.8**
SIJI	**Sorong**	**3.07**	**69**	Pn	**Pn**	**06 18 13.1**	**-0.1**
	7.3nm,0.3s,baz=60,slow=15,SNR=35						
SIJI				Sn	**Sn**	**06 18 49.2**	**+0.4**
	14nm,0.3s,baz=202,slow=23,SNR=4.0						
SIJI				LR	LR	06 19 48.4	
	comp=Z,187nm,20.4s,baz=348,slow=46						
	27nm,0.4s						
FAKI	**Fak Fak**	**3.97**	**104**	P	**Pn**	**06 18 25.6**	**+0.1**
FAKI				S	**Sn**	**06 19 08.3**	**-2.6**
LUWI	**Luwuk**	**5.69**	**279**	P	**Pn**	**06 18 51.1**	**+1.9**
	51nm,0.9s,2µm0.3nm0.4nm						
APSI	**Ampana**	**6.82**	**279**	P	**Pn**	**06 19 07.7**	**+3.0**
WRA	**Warramunga Arr**	**18.79**	**162**	P	**P**	**06 21 42.3**	**-1.3**
	0.3nm,0.3s,baz=342,slow=13,SNR=9.2						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**22.22**	**167**	P	**P**	**06 22 20.4**	**-0.5**
	2.5nm,0.6s,baz=348,slow=12,SNR=36						
ASAR				S	**S**	**06 26 20.1**	**-3.5**
	0.8nm,0.7s,baz=346,slow=21,SNR=5.4						
	2.5nm,0.6s						
MKAR	**Makanchi Array**	**63.17**	**326**	P	**P**	**06 27 52.9**	**+1.1**
	1.4nm,0.7s,baz=120,slow=8.1,SNR=14						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**67.41**	**328**	P	**P**	**06 28 19.8**	**+0.7**
	1.2nm,0.8s,baz=126,slow=6.0,SNR=13						
	1.2nm,0.8s						
BVAR	**Borovoye Array**	**72.98**	**328**	P	**P**	**06 28 54.0**	**+0.9**
	0.3nm,0.4s,baz=111,slow=8.1,SNR=4.3						
	0.3nm,0.4s						
CPUP	**Villa Florida**	**151.33**	**169**	PKPbc	**PKiKP**	**06 37 20.4**	**+2.0**
	0.9nm,0.6s,baz=124,slow=3.6,SNR=4.1						

IDC ***15*** *06:21:52.4±2.9,18.°37S×175.°35E,h0km,mb3.8/5, mbtmp3.8/5,MS3.5/4,Error ellipse: s-maj=142.0km s-min=27.6km az=151.0*
ISC 15 06:21:51.5±2.0,**18.°8S**±0.°7×**176.°3E**±0.°3,**h10**km,**n10,** σ3ˢ**21**/**7**,**mb3.9**/**5**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.91**	**58**	Pn	**Pn**	**06 22 22.6**	**-1.6**
	5.3nm,0.3s,baz=234,slow=13,SNR=8.1						
MSVF				Sn	**Sn**	**06 22 45.7**	**-2.7**
	19nm,0.3s,baz=94,slow=22,SNR=7.4						
MSVF				LR	LR	06 23 27.5	
	comp=Z,330nm,19.7s,baz=182,slow=36						
DZM	**Mont Dzumac**	**9.85**	**249**	Pn	**Pn**	**06 24 11.5**	**-2.0**
	0.1nm,0.3s,baz=88,slow=16,SNR=5.0						
HNR	**Honiara**	**18.39**	**298**	LR	LR	06 31 08.6	
	comp=Z,1µm,18.9s,baz=142,slow=32						
CTA	**Charters Tower**	**28.39**	**262**	LR	LR	06 37 10.9	
	comp=Z,46nm,18.2s,baz=74,slow=33						
WRA	**Warramunga Arr**	**39.58**	**261**	P	P	06 29 18.2	-5.2
	0.4nm,0.8s,baz=91,slow=8.7,SNR=3.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**39.76**	**255**	P	P	06 29 20.2	-4.6
	2.5nm,0.9s,baz=83,slow=8.9,SNR=24						
ASAR				LR	LR	06 44 23.6	
	comp=Z,47nm,18.6s,baz=118,slow=35						
	2.5nm,0.9s						
NVAR	**Mina Array Bea**	**83.53**	**46**	P	**P**	**06 34 24.8**	**+4.6**
	1.3nm,1.0s,baz=228,slow=8.1,SNR=5.4						
	1.3nm,1.0s						
ILAR	**Eielson Array**	**87.90**	**15**	P	**P**	**06 34 42.4**	**+1.5**
	0.6nm,0.9s,baz=210,slow=6.6,SNR=6.5						
	0.6nm,0.9s						
SONM	**Songino Array**	**90.98**	**321**	P	**P**	**06 34 54.2**	**-1.8**
	0.3nm,0.7s,baz=134,slow=6.2,SNR=2.5						
	0.3nm,0.7s						
GERES	**GERESS Array B**	**146.86**	**339**	PKPbc	**PKPbc**	**06 41 35.2**	**+1.0**
	0.5nm,0.7s,baz=67,slow=3.5,SNR=3.7						

IDC ***15*** *06:24:22.2±1.5,6.°47N×127.°05E,h0km,mb3.5/3, mbtmp3.5/3,MS2.8/1,Error ellipse: s-maj=53.9km s-min=19.5km az=49.0*
MAN ***15*** *06:24:27.6,5.°99N×126.°43E,h17km,mb4.0,ML2.7,MS2.3*
ISC 15 06:24:25.3±1.9,**6.°01N**±0.°06×**126.°52E**±0.°06,**h15**km±10km,**n21,** σ2ˢ**11**/**28**,**mb3.3**/**3**,**6C-7D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.80**	**277**	eP	**Pg**	**06 24 41.4**	**+0.5**
DDMP				eS	**Sb**	**06 24 53.8**	**+2.1**
MATI	**Mati**	**0.96**	**345**	eP	**Pn**	**06 24 45.0**	**+0.7**
MATI				eS	**Sn**	**06 25 00.2**	**+2.5**
DAV	**Davao City (W)**	**1.40**	**319**	Pn	**Pg**	**06 24 52.0**	**-0.3**
	99nm,0.3s,baz=76,slow=1.7,SNR=7.4						
DAV				Sn	**Sg**	**06 25 12.9**	**+2.3**
	84nm,0.3s,baz=35,slow=23,SNR=13						
DAV				LR	LR	06 25 31.3	
	comp=Z,171nm,19.9s,baz=156,slow=44						
GSPH	**General Santos**	**1.56**	**273**	eP	**Pn**	**06 24 50.1**	**-2.6**
GSPH				eS	**Sn**	**06 25 12.0**	**-0.7**
KCP	**Kidapawan**	**1.73**	**305**	iP	**Pn**	**06 24 54.8**	**0.0**
KCP				iS	**Sn**	**06 25 16.2**	**-0.5**
CDOP	**Cateel, Davao**	**1.76**	**358**	eP	**Pb**	**06 24 56.3**	**-1.0**
SKMP	**Bagumbayan, Su**	**2.02**	**285**	eP	**Pn**	**06 25 00.1**	**+1.2**
SKMP				eS	**Sn**	**06 25 24.7**	**+0.7**
BIPH	**Bislig**	**2.16**	**356**	iP	**Pb**	**06 25 01.5**	**-2.7**
BIPH				iS	**Sb**	**06 25 30.8**	**-0.1**
BUKP	**Musuan**	**2.35**	**322**	eP	**Pb**	**06 25 05.5**	**-1.9**
BUKP				eS	**Sb**	**06 25 36.5**	**+0.2**
CGP	**Cagayan de Oro**	**3.03**	**323**	eP	**Pb**	**06 25 15.8**	**-3.1**
CGP				eS	**Sn**	**06 25 49.5**	**+0.8**
PAGZ	**Pagadian**	**3.61**	**301**	eP	**Pn**	**06 25 22.4**	**+1.8**
GLSP	**General Luna,**	**3.77**	**354**	eP	**Pb**	**06 25 27.9**	**-3.6**
GLSP				eS	**Sb**	**06 26 13.7**	**-3.3**
MSLP	**Maasin**	**4.41**	**338**	eP	**Pn**	**06 25 35.2**	**+3.5**
TABP	**Talibon, Bohol**	**4.59**	**332**	eP	**Pn**	**06 25 37.1**	**+2.8**
JOW	**Kunigami**	**20.77**	**4**	LR	LR	06 36 15.1	
	comp=Z,31nm,21.5s,baz=330,slow=35						
WRA	**Warramunga Arr**	**26.91**	**164**	P	**P**	**06 30 08.5**	**+2.4**
	0.5nm,0.7s,baz=344,slow=10,SNR=4.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**30.37**	**167**	P	**P**	**06 30 38.5**	**+1.7**
	0.3nm,0.8s,baz=349,slow=7.7,SNR=6.8						
	0.3nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**41.06**	**69**	T	T	07 15 55.1	
	baz=258,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**41.08**	**69**	T	T	07 15 57.8	
	baz=258,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**41.08**	**69**	T	T	07 15 55.7	
	baz=258,slow=75,SNR=46						
MKAR	**Makanchi Array**	**55.58**	**324**	P	**P**	**06 33 59.2**	**-1.1**
	0.5nm,0.7s,baz=116,slow=8.3,SNR=6.1						
MKAR				PcP	**PcP**	**06 34 58.7**	**-1.4**
	0.4nm,0.6s,baz=124,slow=3.4,SNR=4.2						
	0.5nm,0.7s						

IDC 15 06:32:52.9±1.7,**1.°99S**×**128.°27E**,**h0**km,**mb3.1**/2, **mbtmp3.1**/4,**ML3.0**/2,**Error ellipse: s-maj=44.1km s-min=27.8km az=72.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.20**	**70**	Pn	Pn	06 33 45.0	+0.4
	1.4nm,0.3s,baz=252,slow=15,SNR=3.7						
SIJI				Sn	Sn	06 34 20.5	-2.9
	4.0nm,0.3s,baz=203,slow=23,SNR=13						
	5.0nm,0.3s						
WRA	**Warramunga Arr**	**18.81**	**162**	P	Pn	06 37 14.8	+0.1
	0.1nm,0.3s,baz=348,slow=12,SNR=1.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**22.23**	**166**	P	P	06 37 51.2	-0.3
	0.2nm,0.5s,baz=346,slow=12,SNR=7.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**63.12**	**326**	P	P	06 43 22.3	-0.2
	0.4nm,0.8s,baz=134,slow=5.2,SNR=3.6						
	0.4nm,0.8s						

INET ***15*** *06:37:46.1±0.4,12.°27N×87.°49W,h26km±2km,ML3.3*
SNET ***15*** *06:37:46.9±1.1,12.°36N×87.°57W,h28km±4km,ML3.4*
ISC 15 06:37:45.0±2.1,**12.°3N**±0.°1×**87.°48W**±0.°06,**h29**km±14km, **n16,** σ1ˢ**02**/**24**,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.60**	**44**	eP	**Pb**	**06 37 58.8**	**+1.6**
CRIN				IAML		06 38 10.8	
	comp=N,4µm,0.2s						
TELN	**Telica**	**0.72**	**62**	eP	**Pb**	**06 38 00.0**	**+0.9**
CNGN	**Cerro Negro**	**0.80**	**73**	eP	**Pn**	**06 38 00.9**	**+0.5**
CNGN				IAML		06 38 16.5	
	comp=E,474nm,0.2s						
MOMN	**Momotombo**	**0.93**	**81**	eP	**Pn**	**06 38 02.4**	**+0.2**
CNCH	**Conchagua**	**1.06**	**341**	eP	**Pn**	**06 38 04.2**	**+0.1**
CNCH				eS	**Sn**	**06 38 18.8**	**+0.8**
CNCH				IAML		06 38 25.1	
	comp=Z,1µm,0.4s						
LCND	**La Caada**	**1.11**	**339**	eP	**Pn**	**06 38 04.8**	**+0.1**
LCND				eS	**Sb**	**06 38 18.5**	**-1.2**
LCND				IAML		06 38 22.1	
	comp=Z,306nm,0.3s						
TISN	**Laguna Tiscapa**	**1.19**	**96**	eP	**Pn**	**06 38 06.0**	**+0.2**
BRAN	**Las Pilas**	**1.19**	**68**	eP	**Pn**	**06 38 05.0**	**-0.8**
BRAN				eS	**Sn**	**06 38 20.0**	**-1.1**
MGAN	**Managua**	**1.21**	**96**	eP	**Pn**	**06 38 05.9**	**-0.1**
WILN	**Americas 2**	**1.27**	**95**	eP	**Pn**	**06 38 07.1**	**+0.3**
PACA	**Pacayal**	**1.45**	**326**	eP	**Pn**	**06 38 10.0**	**+0.5**
PACA				eS	**Sb**	**06 38 27.7**	**-1.8**
PACA				IAML		06 38 33.3	
	comp=Z,2µm,0.3s						
PQSS	**Presa 15 de Se**	**1.71**	**322**	eP	**Pn**	**06 38 13.5**	**+0.6**
PQSS				eS	**Sb**	**06 38 34.4**	**-2.5**
BOAB	**BOACO BROADBAN**	**1.78**	**84**	eP	**Pn**	**06 38 13.6**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.79**	**6**	eP	**Pn**	**06 38 14.7**	**+0.5**
TGUH				eS	**Sn**	**06 38 36.6**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.87**	**320**	eP	**Pn**	**06 38 16.0**	**+0.8**
SCLA				eS	**Sn**	**06 38 38.3**	**+0.4**
P5NO	**Presa 5 de nov**	**2.11**	**324**	eP	**Pn**	**06 38 18.6**	**+0.1**
P5NO				eS	**Sn**	**06 38 42.8**	**-1.0**

ISK ***15*** *06:38:48.9,39.°56N×26.°10E,h3km,ML3.8/45*
THE ***15*** *06:38:49.7,39.°57N×26.°09E,h5km±1km,ML3.3/11,Error ellipse: s-maj=2.0km s-min=0.6km az=106.0*
DDA ***15*** *06:38:49.5±0.0,39.°55N×26.°15E,h5km±1km,MW3.7*
ATH ***15*** *06:38:50.0,39.°54N×26.°05E,h9km±2km,ML3.3/5,Error ellipse: s-maj=3.0km s-min=1.0km az=104.0*
BEO ***15*** *06:38:51.8±1.1,39.°62N×26.°28E,h15km±4km,ML3.2/4*
ISC 15 06:38:49.6±0.8,**39.°55N**±0.°01×**26.°10E**±0.°02,**h10**km±5km, **n169,** σ1ˢ**13**/**227**,**23C-1D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.06**	**146**	P	**Pg**	**06 38 51.1**	**-0.5**
KOCA				S	**Sg**	**06 38 52.4**	**-0.8**
GPNR	**Gulpinar-Canak**	**0.10**	**164**	Pg	**Pg**	**06 38 51.8**	**-0.3**
GPNR				Sg	**Sg**	**06 38 53.4**	**-0.5**
BOZC	**Bozcaada**	**0.30**	**353**	Pg	**Pg**	**06 38 55.7**	**+0.1**
BOZC				Sg	**Sg**	**06 38 59.8**	**+0.2**
BOZC	**Bozcaada**	**0.30**	**353**	P	**Pg**	**06 38 55.5**	**-0.1**
BOZC				S	**Sg**	**06 38 60.0**	**+0.4**
BOZC				*i* AML	AML	06 39 00.0	
	comp=N,5µm,0.3s						
EZN	**Ezine**	**0.33**	**32**	P	**Pg**	**06 38 55.9**	**-0.3**
EZN				S	**Sg**	**06 39 00.2**	**-0.4**
EZN	**Ezine**	**0.33**	**32**	Pg	**Pg**	**06 38 55.9**	**-0.3**
EZN				Sg	**Sg**	**06 39 00.8**	**+0.2**
PRK	**Paraskevi**	**0.33**	**156**	P	**Pg**	**06 38 57.0**	**+0.8**
PRK				S	**Sg**	**06 39 01.7**	**+1.1**
	15µm,0.6s						
PRK	**Paraskevi**	**0.33**	**156**	P	**Pg**	**06 38 57.0**	**+0.8**
PRK				S	**Sg**	**06 39 00.9**	**+0.4**
PRK				AML	AML	06 39 02.2	
	comp=E,24066µm,0.4s						
PRK				AML	AML	06 39 03.0	
	comp=N,36949µm,0.9s						
SIGR	**SIGRI**	**0.39**	**209**	P	**Pg**	**06 38 57.1**	**-0.1**
SIGR				S	**Sg**	**06 39 02.8**	**+0.5**
	comp=N,5µm,0.5s						
SIGR	**SIGRI**	**0.39**	**209**	Pg	**Pg**	**06 38 57.2**	**-0.1**
SIGR	**SIGRI**	**0.39**	**209**	P	**Pg**	**06 38 57.1**	**-0.1**
SIGR				S	**Sg**	**06 39 01.2**	**-1.0**
SIGR				AML	AML	06 39 05.4	
	comp=E,9368µm,0.3s						
SIGR				AML	AML	06 39 06.5	
	comp=N,8139µm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.40**	**61**	P	**Pg**	**06 38 57.0**	**-0.4**
BAYC				*i* AML	AML	06 39 02.0	
	comp=N,3µm,0.5s						
BAYC				S	**Sg**	**06 39 02.0**	**-0.7**
ECEA	**Canakkale, Ece**	**0.50**	**7**	P	**Pg**	**06 38 59.4**	**+0.1**
ECEA				S	**Sb**	**06 39 06.9**	**-1.0**
ECEA				*i* AML	AML	06 39 07.0	
	comp=N,5µm,0.4s						
AYVA	**Ayvalik**	**0.52**	**117**	P	**Pg**	**06 38 59.2**	**-0.5**
AYVA				S	**Sg**	**06 39 06.5**	**0.0**
AYVA				*i* AML	AML	06 39 10.0	
	comp=N,2µm,0.9s						
GADA	**Gvkgeada**	**0.66**	**347**	Pg	**Pg**	**06 39 02.1**	**-0.3**
GADA				Sg	**Sg**	**06 39 11.5**	**+0.4**
BUHA	**Balikesir, Bur**	**0.76**	**93**	P	**Pg**	**06 39 03.8**	**-0.5**
BUHA				S	**Sg**	**06 39 13.9**	**-0.2**
BUHA				*i* AML	AML	06 39 14.0	
	comp=N,1µm,0.3s						
GELI	**Tayfur-Gelibol**	**0.90**	**19**	Pg	**Pg**	**06 39 06.4**	**-0.5**
ZEDA	**zmir-Bergama**	**0.96**	**127**	P	**Pg**	**06 39 08.2**	**+0.2**
ZEDA				S	**Sb**	**06 39 21.5**	**+0.5**
ZEDA				*i* AML	AML	06 39 22.0	
	comp=N,506nm,0.6s						
LPK	**Lapseki**	**0.97**	**31**	Pg	**Pg**	**06 39 07.8**	**-0.5**
SMTH	**Samothraki Isl**	**1.02**	**335**	P	**Pg**	**06 39 09.2**	**-0.1**
SMTH				S	**Sb**	**06 39 22.9**	**0.0**
	comp=N,1µm,0.3s						
SMTH	**Samothraki Isl**	**1.02**	**335**	P	**Pg**	**06 39 08.8**	**-0.5**
SMTH				S	**Sg**	**06 39 22.6**	**0.0**
SMTH				AML	AML	06 39 25.9	
	comp=N,2372µm,0.2s						
SMTH				AML	AML	06 39 26.1	
	comp=E,1666µm,0.5s						
PSRA	**Psara**	**1.09**	**203**	P	**Pg**	**06 39 10.5**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.14**	**3**	P	**Pg**	**06 39 10.7**	**-0.9**
CAVK				S	**Sb**	**06 39 26.7**	**+0.3**
CAVK				*i* AML	AML	06 39 29.0	
	comp=E,949nm,0.4s						
ERIK	**Erikli-Kesan**	**1.17**	**16**	Pn	**Pg**	**06 39 10.9**	**-1.1**
ERIK				Sn	**Sb**	**06 39 27.3**	**+0.2**
ENEZ	**Enez**	**1.19**	**2**	P	**Pg**	**06 39 11.7**	**-0.7**
ENEZ				S	**Sb**	**06 39 28.0**	**+0.3**
	comp=E,4µm,0.5s						
ENEZ	**Enez**	**1.19**	**2**	Pn	**Pb**	**06 39 12.5**	**+0.2**
ENEZ				Sn	**Sn**	**06 39 29.5**	**+1.0**
BALY	**Balya**	**1.19**	**80**	P	**Pg**	**06 39 12.5**	**0.0**
BALY				S	**Sg**	**06 39 26.9**	**-1.0**
BALY				*i* AML	AML	06 39 30.0	
	comp=E,1µm,0.7s						
URLA	**Izmir**	**1.25**	**162**	Pn	**Pg**	**06 39 12.3**	**-1.3**
URLA	**Izmir**	**1.25**	**162**	P	**Pg**	**06 39 12.2**	**-1.4**
URLA				S	**Sg**	**06 39 28.6**	**-1.2**
URLA				*i* AML	AML	06 39 35.0	
	comp=E,1µm,0.5s						
KRBG	**Karabiga-Canak**	**1.25**	**47**	Pn	**Pg**	**06 39 12.8**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.27**	**97**	P	**Pg**	**06 39 12.8**	**-1.1**
STEP				S	**Sg**	**06 39 29.4**	**-1.0**
KNL	**Balıkesir**	**1.31**	**56**	P	**Pn**	**06 39 13.8**	**-0.3**
KNL				S	**Sg**	**06 39 31.4**	**-0.6**
KNL				*i* AML	AML	06 39 34.0	
	comp=E,2µm,0.4s						
GONE	**Gonen-Balikesi**	**1.32**	**67**	Pn	**Pn**	**06 39 14.7**	**+0.6**
ZEYE	**Izmir, Urla-Ze**	**1.34**	**166**	P	**Pn**	**06 39 13.2**	**-1.2**
ZEYE				S	**Sb**	**06 39 31.6**	**-0.5**
ZEYE				*i* AML	AML	06 39 37.0	
	comp=E,989nm,0.6s						
ALN	**Alexandroupoli**	**1.35**	**358**	P	**Pn**	**06 39 14.2**	**-0.3**
ALN				S	**Sb**	**06 39 32.6**	**+0.3**
	comp=E,2µm,0.4s						
ALN	**Alexandroupoli**	**1.35**	**358**	Pn	**Pn**	**06 39 14.3**	**-0.3**
ALN	**Alexandroupoli**	**1.35**	**358**	P	**Pn**	**06 39 14.2**	**-0.3**
ALN				S	**Sb**	**06 39 31.2**	**-1.1**
ALN				AML	AML	06 39 34.0	
	comp=E,5511µm,0.6s						
ALN				AML	AML	06 39 34.2	
	comp=N,3224µm,0.3s						
KESN	**Edirne-Kesan**	**1.35**	**19**	P	**Pn**	**06 39 14.5**	**-0.4**
KESN				S	**Sg**	**06 39 32.4**	**-0.8**
KESN				*i* AML	AML	06 39 36.0	
	comp=N,2µm,0.3s						
BALB	**Balikesir**	**1.38**	**86**	Pn	**Pn**	**06 39 14.3**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.41**	**36**	Pn	**Pn**	**06 39 15.5**	**+0.1**
AKS	**Akhisar**	**1.49**	**116**	Pn	**Pn**	**06 39 16.0**	**-0.5**
AKHS	**Akhisar**	**1.49**	**116**	P	**Pn**	**06 39 15.5**	**-1.0**
AKHS				S	**Sn**	**06 39 34.8**	**-1.2**
AKHS				*i* AML	AML	06 39 40.0	
	comp=N,287nm,0.4s						
THAS	**Thassos island**	**1.50**	**315**	P	**Pn**	**06 39 17.1**	**+0.6**
THAS				S	**Sn**	**06 39 36.2**	**+0.1**
	comp=N,538nm,0.3s						
THAS	**Thassos island**	**1.50**	**315**	P	**Pn**	**06 39 15.7**	**-0.9**
THAS				S	**Sn**	**06 39 35.8**	**-0.3**
EDC	**Edincik**	**1.57**	**59**	Pn	**Pn**	**06 39 18.6**	**+1.0**
DGB	**zmir**	**1.61**	**157**	P	**Pn**	**06 39 17.3**	**-0.8**
DGB				S	**Sn**	**06 39 36.6**	**-2.5**
DGB				*i* AML	AML	06 39 43.0	
	comp=N,204nm,0.5s						
UKOP	**Uzunkopru-Edir**	**1.63**	**14**	Pn	**Pb**	**06 39 19.5**	**-0.3**
GOMA	**Golmarmara-Man**	**1.65**	**120**	Pn	**Pn**	**06 39 19.6**	**+1.0**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pn**	**06 39 18.8**	**+0.1**
RDO				S	**Sn**	**06 39 39.3**	**-0.7**
	comp=N,440nm,0.6s						
RDO	**Rodhopi**	**1.65**	**345**	Pn	**Pn**	**06 39 19.7**	**+1.0**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pn**	**06 39 18.9**	**+0.1**
RDO				S	**Sn**	**06 39 38.6**	**-1.4**
RDO				AML	AML	06 39 43.3	
	comp=N,1010µm,0.6s						
RDO				AML	AML	06 39 47.5	
	comp=E,607µm,0.6s						
KYMI	**Kymi, Euboea I**	**1.80**	**240**	P	**Pn**	**06 39 19.7**	**-1.1**
KYMI				S	**Sb**	**06 39 46.1**	**+0.7**
	comp=E,402nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.80**	**240**	P	**Pn**	**06 39 19.8**	**-1.1**
OUR	**Ouranopolis**	**1.81**	**296**	P	**Pn**	**06 39 20.8**	**0.0**
OUR				S	**Sn**	**06 39 44.8**	**+1.0**
	comp=E,430nm,0.3s						
OUR	**Ouranopolis**	**1.81**	**296**	Pn	**Pn**	**06 39 22.2**	**+1.4**
OUR	**Ouranopolis**	**1.81**	**296**	P	**Pn**	**06 39 20.6**	**-0.2**
TKR	**Tekirdag**	**1.81**	**37**	Pn	**Pn**	**06 39 22.0**	**+1.1**
TKR				Sn	**Sb**	**06 39 46.2**	**+0.5**
KCTX	**Karacabey (Bur**	**1.88**	**67**	Pn	**Pn**	**06 39 22.9**	**+1.0**
KAVA	**Kavala**	**1.89**	**321**	P	**Pn**	**06 39 21.4**	**-0.5**
KAVA				S	**Sn**	**06 39 44.3**	**-1.5**
	comp=E,272nm,0.5s						
KAVA	**Kavala**	**1.89**	**321**	P	**Pn**	**06 39 21.6**	**-0.3**
PAIG	**Paliouri**	**1.90**	**282**	P	**Pn**	**06 39 21.4**	**-0.7**
PAIG	**Paliouri**	**1.90**	**282**	P	**Pn**	**06 39

APE	**Apeiranthos**	**2.52**	**190**	P		**Pn**	**06 39 29.3**	**-1.3**
ARMN	**Kirklareli, Me**	**2.52**	**23**	P		**Pn**	**06 39 30.4**	**-0.3**
ARMN				S		**Sn**	**06 40 00.8**	**-0.8**
ARMN				*i* AML		AML	06 40 17.0	
	comp=E,72nm,0.5s							
HORT	**Hortiatis**	**2.53**	**295**	P		**Pn**	**06 39 30.8**	**0.0**
HORT	**Hortiatis**	**2.53**	**295**	Pn		**Pn**	**06 39 32.2**	**+1.4**
GEMT	**Gemlik**	**2.53**	**69**	Pn		**Pn**	**06 39 32.9**	**+2.1**
CTYL	**Yalikoy Yolu**	**2.55**	**40**	Pn		**Pn**	**06 39 32.7**	**+1.7**
VILL	**Villia**	**2.58**	**238**	P		**Pn**	**06 39 30.9**	**-0.6**
KURT	**Yalova, Merkez**	**2.60**	**65**	P		**Pb**	**06 39 36.7**	**+0.3**
KURT				S		**Sg**	**06 40 13.2**	**-0.1**
TVSB	**Tavsanli**	**2.60**	**91**	Pn		**Pn**	**06 39 33.5**	**+1.6**
BGKT	**Bogazkoy**	**2.62**	**51**	Pn		**Pn**	**06 39 33.7**	**+1.8**
BRGA	**Burgazada-Ista**	**2.63**	**59**	Pn		**Pn**	**06 39 33.7**	**+1.5**
BODT	**Bodrum**	**2.66**	**159**	P		**Pn**	**06 39 31.9**	**-0.7**
GDZ	**Gediz**	**2.66**	**99**	P		**Pb**	**06 39 38.6**	**+1.1**
GDZ				S		**Sb**	**06 40 12.9**	**+2.6**
GDZ				*i* AML		AML	06 40 18.0	
	comp=E,83nm,0.4s							
BUYA	**Buyukada-Istan**	**2.67**	**59**	Pn		**Pn**	**06 39 34.1**	**+1.4**
KAVV	**Kandilli-Istan**	**2.72**	**55**	Pn		**Pn**	**06 39 35.2**	**+1.8**
ISK	**Istanbul-Kandi**	**2.73**	**55**	Pn		**Pn**	**06 39 34.9**	**+1.5**
YLVH	**Yalova**	**2.76**	**64**	Pn		**Pn**	**06 39 35.5**	**+1.6**
PLD	**Plovdiv**	**2.77**	**338**	Pn		**Pn**	**06 39 35.9**	**+1.9**
PLD	**Plovdiv**	**2.77**	**338**	*e*Pn		**Pn**	**06 39 36.2**	**+2.2**
PLD				*e*Sn		**Sn**	**06 40 09.2**	**+1.7**
PLD				eLg		Lg	06 40 18.5	
LAFA	**Gebze-Kocaeli**	**2.77**	**63**	Pn		**Pn**	**06 39 35.8**	**+1.7**
KLYT	**Kilyos**	**2.82**	**52**	Pn		**Pn**	**06 39 36.7**	**+2.0**
PASA	**Karahalli, USA**	**2.90**	**113**	P		**Pn**	**06 39 36.6**	**+0.6**
ANDZ	**Kutahya, Merke**	**2.94**	**90**	P		**Pn**	**06 39 36.9**	**+0.4**
ANDZ				S		**Sg**	**06 40 22.6**	**-1.4**
ANDZ				*i* AML		AML	06 40 31.0	
	comp=E,58nm,0.5s							
YER	**Yerkesik**	**2.96**	**144**	P		**Pn**	**06 39 36.0**	**-0.7**
BILE	**Bilecik/Merkez**	**2.97**	**77**	P		**Pn**	**06 39 38.1**	**+1.2**
BILE				S		**Sg**	**06 40 23.0**	**-2.1**
BILE				*i* AML		AML	06 40 29.0	
	comp=E,157nm,0.5s							
VAY	**Valandovo**	**3.22**	**304**	*e*Pn		**Pn**	**06 39 43.7**	**+3.4**
GEYV	**SAKARYA_Geyve**	**3.36**	**72**	P		**Pn**	**06 39 43.7**	**+1.5**
BORA	**Eskisehir**	**3.38**	**83**	P		**Pn**	**06 39 42.9**	**+0.5**
BORA				S		**Sg**	**06 40 36.0**	**-2.0**
BORA				*i* AML		AML	06 40 37.0	
	comp=E,36nm,0.3s							
KAYN	**Sakarya, Kayna**	**3.54**	**65**	P		**Pn**	**06 39 44.1**	**-0.6**
VTS	**Vitosha**	**3.75**	**326**	⇑P		**Pn**	**06 39 50.5**	**+2.7**
VTS	**Vitosha**	**3.75**	**326**	*e*Pn		**Pn**	**06 39 49.9**	**+2.2**
VTS				*e*Sn		**Sn**	**06 40 31.3**	**-0.8**
VTS				eLg		Lg	06 40 50.3	
SAHE	**Sakarya_HENDEK**	**3.87**	**69**	P		**Pn**	**06 39 49.2**	**0.0**
SAHE				S		**Sn**	**06 40 35.2**	**+0.5**
SAHE				*i* AML		AML	06 41 00.0	
	comp=E,47nm,1.0s							
PLVB	**Pleven**	**3.99**	**344**	⇑P		**Pn**	**06 39 51.9**	**+1.0**
RAZG	**Razgrad**	**4.03**	**4**	⇑P		**Pn**	**06 39 52.5**	**+1.2**
PRVS	**Prvonek**	**4.24**	**315**	*e*Pn		**Pn**	**06 39 55.4**	**+1.0**
PRVS				eLg		Lg	06 41 05.8	
PRVS				eLg		Lg	06 41 07.4	
ZAPS	**Zavoj**	**4.54**	**326**	*e*Pn		**Pn**	**06 40 00.1**	**+1.6**
ZAPS				eLg		Lg	06 41 14.8	
BARS	**Barje**	**4.59**	**317**	*e*Pn		**Pn**	**06 40 00.0**	**+0.8**
BARS				eLg		Lg	06 41 16.3	
ICOR	**Ion Corvin**	**4.74**	**15**	⇑P		**Pn**	**06 40 01.2**	**+0.1**
BCAM	**Yenicaga**	**4.74**	**73**	P		**Pn**	**06 40 00.3**	**-1.0**
KDHN	**Kadinhani**	**4.80**	**100**	P		**Pn**	**06 40 01.9**	**-0.1**
ZAGS	**Zajecar**	**5.15**	**327**	*e*Pn		**Pn**	**06 40 07.1**	**+0.3**
TIRR	**Tirgusor**	**5.20**	**19**	⇑P		**Pn**	**06 40 08.2**	**+0.8**
SELS	**Selova**	**5.24**	**316**	*e*Pn		**Pn**	**06 40 08.8**	**+0.7**
BOVS	**Bovan**	**5.25**	**323**	⇑P		**Pn**	**06 40 09.8**	**+1.7**
DJES	**Djerdap**	**5.76**	**334**	⇑P		**Pn**	**06 40 16.5**	**+1.3**
PELI	**Kastamonı-Ara**	**5.78**	**70**	P		**Pn**	**06 40 14.7**	**-0.8**
CFR	**Carcaliu**	**5.83**	**14**	⇑P		**Pn**	**06 40 15.7**	**-0.3**
ARR	**Arges**	**5.92**	**350**	⇑P		**Pn**	**06 40 18.5**	**+1.2**
GRUS	**Gruza**	**5.92**	**319**	*e*Pn		**Pn**	**06 40 18.7**	**+1.4**
MLR	**Muntele Rosu**	**5.94**	**359**	⇑P		**Pn**	**06 40 19.5**	**+1.8**
HERR	**Herculane**	**5.99**	**334**	⇑P		**Pn**	**06 40 19.8**	**+1.5**
IVAS	**Ivanjica**	**6.01**	**314**	*e*Pn		**Pn**	**06 40 21.4**	**+2.8**
DELI	**KIRIKKALE**	**6.04**	**83**	P		**Pn**	**06 40 18.6**	**-0.5**
MDVR	**Moldovita**	**6.16**	**330**	⇑P		**Pn**	**06 40 23.2**	**+2.5**
COVR	**Voineasa-Covas**	**6.29**	**1**	⇑P		**Pn**	**06 40 23.7**	**+1.2**
PLOR	**Plostina**	**6.31**	**4**	⇓P		**Pn**	**06 40 23.6**	**+0.8**
TRUS	**Trudelj**	**6.31**	**320**	*e*Pn		**Pn**	**06 40 26.0**	**+3.2**
VRI	**Vrincioaia**	**6.33**	**4**	⇑P		**Pn**	**06 40 24.5**	**+1.5**
GZR	**Gura Zlata**	**6.34**	**338**	⇑P		**Pn**	**06 40 24.7**	**+1.6**
DOPR	**Dopca**	**6.44**	**356**	⇑P		**Pn**	**06 40 24.8**	**+0.3**
DIVS	**Divibare**	**6.44**	**317**	*e*Pn		**Pn**	**06 40 26.8**	**+2.2**
SURR	**Surduc**	**6.86**	**336**	⇑P		**Pn**	**06 40 32.5**	**+2.3**
BZS	**Buzias**	**6.91**	**333**	⇑P		**Pn**	**06 40 32.2**	**+1.3**
BZS	**Buzias**	**6.91**	**333**	*e*Pn		**Pn**	**06 40 31.6**	**+0.7**
BZS				*e*Sn		**Sn**	**06 41 47.9**	**-1.6**
BZS				eLg		Lg	06 42 27.6	
TESR	**Tescani**	**6.97**	**3**	⇑P		**Pn**	**06 40 32.6**	**+0.8**
MARR	**Marisel-Cluj**	**7.45**	**344**	⇑P		**Pn**	**06 40 40.8**	**+2.3**
SIRR	**Siria**	**7.46**	**336**	⇑P		**Pn**	**06 40 40.2**	**+1.6**
DRGR		**7.65**	**342**	*e*Pn		**Pn**	**06 40 40.8**	**-0.4**
BUR01	**Bucovina Ar. S**	**8.09**	**356**	⇑P		**Pn**	**06 40 48.8**	**+1.5**
VYHS	**Vyhne**	**10.35**	**332**	*e*PN		Pn	06 41 23.8	+5.6

IDC 15 06:40:14.9±815.0, 39°03N×112°58E, h0km, Error ellipse: s-maj=290.5km s-min=183.7km az=166.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**9.85**	**335**	I	I	07 41 32.7	
	0.2nm,0.8s,baz=151,slow=336,SNR=7.3						
I45RU	**USSURIYSK INFR**	**15.39**	**64**	I	I	08 17 50.0	
	0.1nm,1.9s,baz=256,slow=322,SNR=2.3						
I46RU	**ZALESOVO INFRA**	**24.04**	**317**	I	I	09 22 10.0	
	baz=115,slow=338,SNR=1.1						

NNC 15 07:09:06.3±3.7, 50.04N×78.29E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=52.4km s-min=8.4km az=83.0, Suspected Mining explosion.

IDC 15 07:09:07.0±1.0, 50.06N×78.83E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=14.0km s-min=7.3km az=59.0

ISC 15 07:09:02.2±1.0, 50.04N±0.05×77.71E±0.06, h0km, n8, σ1§31/11, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.79**	**42**	Pg	**Pg**	**07 09 17.9**	**+0.5**
	3.0nm,0.3s,baz=165,slow=17,SNR=188						
KURBB				Lg	Lg	07 09 27.3	
	3.9nm,0.3s,baz=172,slow=34,SNR=15						
KURBB	**Kurchatov Arra**	**0.79**	**42**	⇓P	**Pb**	**07 09 18.1**	**-0.7**
	30nm,0.3s						
KURBB				⇑S	**Sg**	**07 09 27.1**	**-0.5**
	141nm,0.7s						
MAKZ	**Makanchi**	**4.30**	**137**	⇑Pn	**Pn**	**07 10 08.7**	**-0.3**
	0.6nm,0.5s						
MAKZ				⇓Sn	**Sn**	**07 11 00.5**	**+0.7**
	4.0nm,0.5s						
MK31	**Makanchi Array**	**4.46**	**135**	⇑Pn	**Pn**	**07 10 10.3**	**-0.8**
	0.1nm,0.1s,baz=329,slow=11,SNR=112						
MK31				Pg	**Pb**	**07 10 22.0**	**+0.7**
	0.4nm,0.2s,baz=326,slow=14,SNR=23						
MK31				⇑Lg	Lg	07 11 20.6	
	6.5nm,0.5s,baz=322,slow=34,SNR=17						
MKAR	**Makanchi Array**	**4.46**	**135**	Pn	**Pn**	**07 10 10.2**	**-0.8**
	0.8nm,0.3s,baz=326,slow=10,SNR=122						
MKAR				Lg	Lg	07 11 11.1	
	3.0nm,0.3s,baz=327,slow=29,SNR=13						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**5.46**	**306**	Pn	**Pb**	**07 10 36.5**	**-1.9**
	baz=103,slow=15,SNR=2.4						
BVAR				Sn	**Sb**	**07 11 47.0**	**+2.6**
	0.1nm,0.3s,baz=112,slow=22,SNR=7.9						
BVAR				Lg	Lg	07 12 15.0	
	0.1nm,0.3s,baz=114,slow=27,SNR=3.6						
	0.4nm,0.2s						
ZALV	**Zalesovo Beam**	**5.88**	**46**	Pn	**Pn**	**07 10 30.5**	**-0.1**
	1.2nm,0.3s,baz=231,slow=14,SNR=23						
ZALV				Lg	Lg	07 11 57.7	
	0.5nm,0.3s,baz=228,slow=23,SNR=3.7						
	2.1nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.88**	**46**	I	I	07 43 50.0	
	0.1nm,0.8s,baz=224,slow=340,SNR=6.6						

NOU 15 07:16:51.4, 23.77S×115.18E, h0km, mb4.2/15, Western Australia

AUST 15 07:16:51.0±0.9, 23.67S×115.15E, h10km, Error ellipse: s-maj=10.8km s-min=8.7km az=86.0

ISC 15 07:16:50.2±0.8, 23.73S±0.06×115.20E±0.07, h10km, n31, σ2§51/40, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GIRL	**Giralia**	**1.40**	**321**	P	**Pg**	**07 17 16.6**	**-0.5**
	baz=1.3,SNR=147						
GIRL				S	**Sg**	**07 17 33.8**	**-1.4**
	baz=1.3,SNR=12						
GIRL	**Giralia**	**1.40**	**321**	P	**Pg**	**07 17 17.3**	**+0.2**
MEEK	**Meekatharra**	**4.24**	**134**	P	**Pn**	**07 17 58.7**	**+3.8**
	baz=4.3,SNR=38						
MEEK				S	**Sn**	**07 18 48.8**	**+4.4**
	baz=4.3						
MEEK	**Meekatharra**	**4.24**	**134**	P	**Pn**	**07 17 58.7**	**+3.8**
PSA00	**Pilbara Seismi**	**4.80**	**64**	P	**Pn**	**07 18 06.1**	**+3.5**
MBWA	**Marble Bar**	**4.91**	**59**	P	**Pn**	**07 18 06.4**	**+2.3**
MORW	**Morawa**	**5.37**	**172**	P	**Pn**	**07 18 12.8**	**+2.5**
	baz=5.5,SNR=9.4						
MORW				S	**Sn**	**07 19 12.4**	**+0.1**
	baz=5.5						
MORW	**Morawa**	**5.37**	**172**	P	**Pn**	**07 18 12.9**	**+2.5**
BLDU	**Ballidu**	**6.99**	**169**	P	**Pn**	**07 18 35.0**	**+2.4**
	baz=7.1,SNR=13						
BLDU				S	**Sn**	**07 19 52.0**	**-0.1**
	baz=7.1						
BLDU	**Ballidu**	**6.99**	**169**	P	**Pn**	**07 18 35.3**	**+2.7**
KLBR	**Kellerberrin**	**8.15**	**164**	P	**Pn**	**07 18 50.5**	**+1.9**
	baz=8.3,SNR=5.5						
KLBR				S	**Sn**	**07 20 17.1**	**-3.7**
	baz=8.3						
KLBR	**Kellerberrin**	**8.15**	**164**	P	**Pn**	**07 18 50.4**	**+1.9**
MUN	**Mundaring**	**8.26**	**174**	P	**Pn**	**07 18 52.2**	**+2.1**
	baz=8.4,SNR=4.3						
MUN				S	**Sn**	**07 20 22.1**	**-1.5**
	baz=8.4						
MUN	**Mundaring**	**8.26**	**174**	P	**Pn**	**07 18 52.2**	**+2.1**
AUKAL	**John Paul Coll**	**8.96**	**143**	P	**Pn**	**07 19 02.9**	**+3.3**
	baz=9.1						
AUKAL				S	**Sn**	**07 20 36.0**	**-4.6**
	baz=9.1						
NWAO	**Narrogin (SRO)**	**9.33**	**169**	P	**Pn**	**07 19 05.2**	**+0.4**
	baz=9.4,SNR=8.9						
NWAO				P	**Pn**	**07 19 05.2**	**+0.4**
	baz=9.4,SNR=8.9						
NWAO	**Narrogin (SRO)**	**9.33**	**169**	P	**Pn**	**07 19 05.8**	**+1.0**
NWAO	**Narrogin (SRO)**	**9.33**	**169**	P	**Pn**	**07 19 05.9**	**+1.1**
KMBL	**Kambalda**	**9.64**	**144**	P	**Pn**	**07 19 10.1**	**+1.1**
	baz=9.7						
KMBL				S	Sn	07 20 50.7	-6.8
	baz=9.7						
KMBL	**Kambalda**	**9.64**	**144**	P	**Pn**	**07 19 10.2**	**+1.1**
RKGY	**Rocky Gully**	**10.95**	**172**	P	**Pn**	**07 19 27.5**	**+0.6**
	baz=11,SNR=7.6						
RKGY	**Rocky Gully**	**10.95**	**172**	P	**Pn**	**07 19 28.7**	**+1.8**
FITZ	**Fitzroy Crossi**	**11.25**	**62**	P	**Pn**	**07 19 31.5**	**+0.4**
	baz=11						
FITZ				S	Sn	07 21 26.7	-10
	baz=11						
AUALB	**St Joseph's Co**	**11.47**	**169**	P	**Pn**	**07 19 35.3**	**+1.2**
	baz=12						
WRKA	**Warakurna**	**12.01**	**99**	P	**Pn**	**07 19 40.5**	**-1.1**
	baz=12,SNR=9.2						
WRKA				S	**Sn**	**07 21 49.0**	**-6.7**
	baz=12						
FORT	**Forrest**	**13.41**	**124**	P	**Pn**	**07 19 59.9**	**-0.8**
	baz=14						
KNRA	**Kununurra**	**15.07**	**60**	P	**Pn**	**07 20 21.0**	**-2.3**
	baz=15						
KNRA	**Kununurra**	**15.07**	**60**	P	**Pn**	**07 20 26.5**	**+3.2**
MULG	**Mulgathing**	**18.02**	**115**	P	**Pn**	**07 20 59.8**	**-1.0**
	baz=18						
MULG	**Mulgathing**	**18.02**	**115**	P	**Pn**	**07 21 01.6**	**+0.8**
WRAB	**Tennant Creek**	**18.18**	**82**	P	**P**	**07 21 04.9**	**+1.8**

IDC 15 07:21:20.1±3.1, 18.76S×175.45E, h0km, mb4.0/4, mbtmp4.0/4, MS3.5/9, Error ellipse: s-maj=174.1km s-min=27.2km az=152.0

ISC 15 07:21:21.0±2.0, 18.99S±0.9×175.9E±0.5, h10km, n16, σ1§61/8, mb4.1/4, MS3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.40**	**60**	Pn	**Pn**	**07 21 59.3**	**-1.1**
	6.3nm,0.3s,baz=255,slow=16,SNR=6.4						
MSVF				Sn	**Sn**	**07 22 29.7**	**-0.2**
	18nm,0.3s,baz=95,slow=23,SNR=9.1						
MSVF				LR	LR	07 22 52.4	
	comp=Z,418nm,19.1s,baz=219,slow=34						
DZM	**Mont Dzumac**	**9.36**	**249**	*e*Pn	**Pn**	**07 23 36.6**	**+0.4**
	57nm,1.5s						
DZM				*e*LR	LR	07 25 51.4	
	comp=Z,387nm,25.4s						
DZM	**Mont Dzumac**	**9.36**	**249**	Pn	**Pn**	**07 23 36.7**	**+0.5**
	0.2nm,0.3s,baz=52,slow=16,SNR=8.2						
DZM				LR	LR	07 25 34.2	
	comp=Z,60nm,19.0s,baz=36,slow=28						
HNR	**Honiara**	**18.08**	**299**	LR	LR	07 30 40.5	
	comp=Z,757nm,21.0s,baz=150,slow=32						
CTA	**Charters Tower**	**27.92**	**263**	LR	LR	07 36 48.1	
	comp=Z,95nm,20.1s,baz=84,slow=34						
PMG	**Port Moresby**	**29.36**	**285**	LR	LR	07 37 27.4	
	comp=Z,64nm,19.4s,baz=108,slow=33						
TBI	**Tubuai**	**32.59**	**104**	*e*LR	LR	07 36 22.6	
	comp=Z,670nm,29.2s						
TBI				*e*LR	LR	07 36 23.0	
	comp=Z,2μm,26.2s						
PPT2	**Papeete2**	**32.81**	**93**	*e*LR	LR	07 36 25.6	
	comp=Z,174nm,27.0s						
PPT	**Papeete**	**32.82**	**93**	LR	LR	07 39 32.3	
	comp=Z,60nm,18.8s,baz=202,slow=33						
STKA	**Stephens Creek**	**33.38**	**241**	LR	LR	07 39 36.7	
	comp=Z,71nm,20.1s,baz=25,slow=33						
WRA	**Warramunga Arr**	**39.10**	**261**	P	P	07 28 45.9	-2.9
	0.5nm,0.8s,baz=97,slow=7.6,SNR=2.3						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**39.28**	**256**	P	**P**	**07 28 48.1**	**-2.1**
	3.1nm,0.7s,baz=87,slow=8.9,SNR=17						
	3.1nm,0.7s						
BATI	**Baumata**	**51.11**	**272**	LR	LR	07 50 24.0	
	comp=Z,260nm,20.3s,baz=23,slow=34						
NVAR	**Mina Array Bea**	**83.99**	**46**	P	**P**	**07 33 53.8**	**+1.7**
	1.1nm,0.8s,baz=228,slow=8.0,SNR=7.8						
	1.1nm,0.8s						
ILAR	**Eielson Array**	**88.20**	**15**	P	P	**07 34 11.7**	**-0.2**
	1.0nm,0.9s,baz=230,slow=4.8,SNR=8.9						
ILAR				LR	LR	08 12 26.4	
	comp=Z,33nm,18.8s,baz=170,slow=35						
	1.0nm,0.9s						
GERES	**GERESS Array B**	**146.87**	**338**	PKPbc	**PKPdf**	**07 41 03.8**	**+1.9**
	0.8nm,0.8s,baz=29,slow=3.0,SNR=4.5						

IDC 15 07:26:58.4±1.1, 51.69N×75.36E, h0km, mbtmp2.5/4, ML2.0/4, Error ellipse: s-maj=34.7km s-min=9.3km az=30.0

NNC 15 07:27:01.2±0.6, 51.40N×75.52E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=16.4km s-min=4.2km az=25.0, Suspected Mining explosion.

ISC 15 07:27:01.3±1.2, 51.7N±0.1×75.9E±0.1, h0km, n10, σ1§48/12, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.00**	**123**	Pn	**Pn**	**07 27 37.4**	**+1.1**
	0.4nm,0.3s,baz=302,slow=18,SNR=36						
KURBB				Lg	Lg	07 28 07.6	
	0.4nm,0.3s,baz=312,slow=31,SNR=10						
	1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**2.00**	**123**	⇑P	**Pn**	**07 27 37.2**	**+0.9**
	4.5nm,0.8s						
KURBB				⇑S	**Sb**	**07 28 04.2**	**+0.2**
	17nm,0.5s						
BVA0	**Borovoye Array**	**3.60**	**293**	⇓Pn	**Pn**	**07 27 57.8**	**-0.6**
	1.6nm,0.5s,baz=116,slow=16,SNR=8.8						
BVA0				⇑Sn	**Sn**	**07 28 42.0**	**+0.4**
	4.2nm,0.7s,baz=116,slow=26,SNR=8.3						
BVAR	**Borovoye Array**	**3.60**	**293**	Pn	Pn	07 27 51.6	-6.7
	baz=111,slow=12,SNR=6.1						
BVAR				Lg	Lg	07 28 42.4	
	0.2nm,0.3s,baz=112,slow=31,SNR=14						
	0.5nm,0.4s						
BRVK	**Borovoye**	**3.68**	**293**	⇓Pn	**Pn**	**07 27 58.0**	**-1.3**
	3.8nm,1.1s						
BRVK				⇑Sn	**Sn**	**07 28 43.0**	**-0.3**
	5.2nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.86**	**64**	I	I	08 05 40.0	
	baz=250,slow=323,SNR=2.0						
ZALV	**Zalesovo Beam**	**5.86**	**64**	Pn	**Pn**	**07 28 30.4**	**+1.1**
	0.3nm,0.3s,baz=251,slow=15,SNR=4.9						
	0.8nm,0.4s						
MAKZ	**Makanchi**	**6.34**	**139**	⇓Pg	**Sn**	**07 29 50.0**	**+1.1**
	2.5nm,1.1s						
MAKZ				⇑Lg	Lg	07 30 24.5	
	2.6nm,0.7s						
MK31	**Makanchi Array**	**6.48**	**137**	⇑Pg	**Sn**	**07 29 49.4**	**-3.1**
	0.2nm,0.3s,baz=322,slow=17						
MK31				⇑Lg	Lg	07 30 24.1	
	0.9nm,0.4s,baz=322,slow=26,SNR=6.2						
MKAR	**Makanchi Array**	**6.48**	**137**	Pn	**Pn**	**07 28 36.3**	**-1.6**
	baz=317,slow=10,SNR=3.3						
MKAR				Sn	**Sn**	**07 29 53.5**	**+1.0**
	0.1nm,0.3s,baz=319,slow=19,SNR=5.1						
MKAR				Lg	Lg	07 30 24.4	
	0.3nm,0.3s,baz=324,slow=30,SNR=7.3						
	0.2nm,0.6s						

IDC 15 07:28:47.5±1.4, 24.51S×66.92W, h148km±22km, mbtmp3.7/5, Error ellipse: s-maj=29.6km s-min=14.0km az=84.0

GUC 15 07:28:50.9±0.6, 24.21S×67.62W, h214km±9km, ML4.5

ISC 15 07:28:48.5±0.9, 24.48S±0.05×67.3W±0.1, h185km±13km, n21, σ1§46/34, 8C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.74**	**331**	*e*P	**Pn**	**07 29 25.2**	**+1.7**
AF01				*e*S	**Sn**	**07 29 52.2**	**+1.5**
PB15	**IPOC Station P**	**2.38**	**302**	⇑*e*P	**Sn**	**07 29 32.0**	**+1.6**
PB15				*e*S	**Sn**	**07 30 02.6**	**-0.2**
LVC	**Limon Verde**	**2.39**	**321**	P	**Pn**	**07 29 32.0**	**+1.3**
	16nm,0.2s,baz=144,slow=6.8,SNR=109						
LVC				S	**Sn**	**07 30 03.5**	**+0.1**
	109nm,0.3s,baz=62,slow=22,SNR=18						
LVC	**Limon Verde**	**2.39**	**321**	*e*P	**Pn**	**07 29 31.9**	**+1.2**
LVC				*e*S	**Sn**	**07 30 03.7**	**+0.3**
PB06	**IPOC Station P**	**2.75**	**310**	⇑*e*P	**Pn**	**07 29 35.9**	**+1.3**
PB06				*e*S	**Sn**	**07 30 09.8**	**-0.6**
PB06				IAML		07 30 11.9	
	comp=E,893nm,0.1s						
AC02	**Maricunga**	**2.88**	**215**	⇑*i*P	**Pn**	**07 29 38.7**	**+2.4**
PB10	**IPOC Station P**	**3.15**	**287**	*e*P	**Pn**	**07 29 40.4**	**+1.2**
PB10				*e*S	**Sn**	**07 30 18.4**	**-0.4**
PB09	**IPOC Station P**	**3.23**	**326**	⇑*e*P	**Pn**	**07 29 41.9**	**+1.5**
PB09				*e*S	**Sn**	**07 30 20.0**	**-0.9**
PB03	**IPOC Station P**	**3.33**	**316**	⇑*e*P	**Pn**	**07 29 42.2**	**+0.7**
PB03				*e*S	**Sn**	**07 30 21.3**	**-1.6**
PB03				IAML		07 30 22.2	
	comp=E,687nm,0.3s						
PB04	**IPOC Station P**	**3.40**	**308**	⇑*e*P	**Pn**	**07 29 43.3**	**+0.9**
PB04				*e*S	**Sn**	**07 30 22.6**	**-1.9**
PB04				IAML		07 30 26.6	
	comp=N,573nm,0.2s						
AC01	**Pan de Azucar**	**3.44**	**240**	⇑*e*P	**Pn**	**07 29 43.6**	**+0.9**
AC01				*e*S	**Sn**	**07 30 24.7**	**-0.3**
PB07	**IPOC Station P**	**3.65**	**318**	⇑*e*P	**Pn**	**07 29 46.2**	**+0.7**
PB07				*e*S	**Sn**	**07 30 27.9**	**-2.3**
PB02	**IPOC Station P**	**3.97**	**322**	*e*P	**Pn**	**07 29 50.0**	**+0.5**
AC06	**Mina Casimiro**	**3.98**	**223**	*e*P	**Pn**	**07 29 50.5**	**+0.9**
GO03	**Copiap**	**4.08**	**220**	*i* P	**Pn**	**07 29 51.7**	**+0.9**
GO03				*e*S	**Sn**	**07 30 39.8**	**0.0**
GO03				IAML		07 30 41.2	
	comp=E,151nm,0.2s						
CFA	**Coronel Fontan**	**7.14**	**187**	P	**Pn**	**07 30 30.9**	**+0.4**
	comp=E,1.2nm,0.3s,baz=23,slow=16,SNR=8.7						
CFA				S	**Sn**	**07 31 48.6**	**-2.7**
	comp=E,1.9nm,0.3s,baz=259,slow=21,SNR=7.7						
LPAZ	**La Paz**	**8.19**	**354**	P	**Pn**	**07 30 45.4**	**+0.4**
	comp=E,3.8nm,0.4s,baz=150,slow=6.4,SNR=33						
SIV	**San Ignacio**	**10.26**	**36**	P	**Pn**	**07 31 08.4**	**-3.0**
	comp=E,1.1nm,0.4s,baz=238,slow=9.5,SNR=16						
BDFB	**Brasilia**	**20.10**	**68**	P	**P**	**07 33

125nm,0.7s,2µm1.6nm2.3nm
GTOI Gorontalo 5.99 296 P **Pn** **07 45 31.0 +2.6**
33nm,0.5s,628nm0.4nm0.6nm
SAUI Saumlaki 6.59 154 Pn **Pn** **07 45 35.9 -0.7**
SAUI Saumlaki 6.59 154 P **Pn** **07 45 38.5 +1.8**
73nm,0.8s,4µm0.4nm0.6nm
BBSI Bau Bau 6.75 239 P **Pn** **07 45 37.3 -1.6**
127nm,0.9s,0.4nm0.2nm
MRSI Marisa 6.91 291 P **Pn** **07 45 40.1 -1.0**
79nm,0.5s,2µm0.7nm1.2nm
TOLI2 Tolitoli 8.22 292 Pn **Pn** **07 46 00.2 +1.1**
SOEI Soe 8.71 208 P **Pn** **07 46 07.2 +1.3**
MPSI Mapaga 8.81 285 P **Pn** **07 46 07.5 +0.4**
43nm,0.8s,759nm
SPSI Sidrap Palu 8.82 257 P **Pn** **07 46 08.2 +0.9**
60nm,0.8s,1µm
BKSI Bulukumba 8.88 248 P **Pn** **07 46 10.0 +1.9**
146nm,0.6s,1µm
MMRI Maumere 8.98 223 Pn **Pn** **07 46 10.5 +1.0**
KAPI Kappang 9.12 251 P Pn 07 46 16.4 +5.0
9.0nm,0.3s,baz=70,slow=9.1,SNR=16
KAPI LR LR 07 49 59.0
comp=Z,124nm,21.2s,baz=79,slow=38
26nm,0.4s
KAPI Kappang 9.12 251 **Pn** **07 46 12.7 +1.2**
MTN Manton Dam 11.09 166 Pn **Pn** **07 46 38.2 -0.2**
MYLDM Lahad Datu 12.20 306 Pn **Pn** **07 46 54.3 +0.7**
KNRA Kununurra 13.57 178 Pn **Pn** **07 47 12.7 +0.4**
KNRA Kununurra 13.57 178 P **Pn** **07 47 12.7 +0.4**
ABJI Asem Bagus 15.22 247 P **Pn** **07 47 34.0 -0.7**
65nm,1.0s
FITZ Fitzroy Crossi 16.20 189 Pn **Pn** **07 47 47.5 +0.1**
PWJI Pagerwojo 17.56 250 P **Pn** **07 48 03.1 -1.3**
44nm,2.2s
WB0 Warramunga Arr 18.59 162 P **P** **07 48 14.6 -1.9**
WB0 IAmb IAmb 07 48 36.7
comp=Z,13nm,0.8s
WRAB Tennant Creek 18.73 162 P **Pn** **07 48 17.7 -1.0**
WRAB IAmb IAmb 07 48 39.0
comp=Z,12nm,0.8s
WRAB Tennant Creek 18.73 162 P **Pn** **07 48 17.5 -1.2**
WRA Warramunga Arr 18.74 162 P **Pn** **07 48 17.5 -1.3**
comp=Z,0.8nm,0.3s,baz=342,slow=13,SNR=30
WRA LR LR 07 56 12.5
comp=Z,151nm,18.9s,baz=326,slow=39
comp=Z,3.1nm,0.8s
WRA Warramunga Arr 18.74 162 P **Pn** **07 48 17.6 -1.2**
WB2 Warramunga Arr 18.74 162 P **Pn** **07 48 17.2 -1.6**
WR0 Warramunga Arr 18.81 162 P **P** **07 48 17.6 -1.4**
COEN Coen 18.82 130 **Pn** **07 48 19.6 -0.1**
COEN IAmb IAmb 07 48 31.1
comp=Z,14nm,1.0s
PMG Port Moresby 20.05 112 LR LR 07 57 41.2
comp=Z,143nm,20.1s,baz=326,slow=41
MBWA Marble Bar 20.81 203 P **P** **07 48 39.9 -0.8**
MBWA IAmb IAmb 07 49 05.0
comp=Z,22nm,1.4s
PSA00 Pilbara Seismi 21.14 203 P **P** **07 48 44.6 +0.3**
PSA00 IAmb IAmb 07 48 53.0
comp=Z,13nm,1.1s
QIS Mount Isa 21.43 150 P **P** **07 48 47.5 +0.1**
AS31 Alice Springs 22.17 167 P **P** **07 48 55.0 -0.4**
ASAR Alice Springs 22.17 167 P **P** **07 48 54.6 -0.8**
comp=Z,9.4nm,0.6s,baz=345,slow=12,SNR=57
comp=Z,9.4nm,0.6s
AS01 Alice Springs 22.18 166 P **P** **07 48 55.1 -0.4**
GUMO Guam 22.53 46 LR LR 07 57 18.9
comp=Z,54nm,20.2s,baz=234,slow=35
WRKA Warakurna 22.88 180 P **P** **07 49 03.2 +0.3**
KRVT Keravat (AS076 23.70 96 LR LR 07 58 38.5
comp=Z,138nm,20.4s,baz=52,slow=37
CTAO Charters Tower 25.04 137 P **P** **07 49 23.4 +0.1**
CTAO IAmb IAmb 07 49 50.8
comp=Z,18nm,1.4s
MEEK Meekatharra 26.22 200 P **P** **07 49 35.4 +1.4**
TPUB Ta-pu 26.28 344 P **P** **07 49 35.3 +0.7**
INKA Innaminka 28.18 156 P **P** **07 49 52.0 +0.5**
comp=Z,18nm,0.4s
FORT Forrest 28.60 181 P **P** **07 49 56.3 +1.0**
MULG Mulgathing 28.62 170 P **P** **07 49 54.7 -0.7**
PSI Prapat 29.85 279 LR LR 08 02 43.9
comp=Z,66nm,19.3s,baz=89,slow=37
BBOO Buckleboo 31.46 168 P **P** **07 50 20.5 -0.1**
BBOO IAmb IAmb 07 50 28.1
comp=Z,18nm,1.4s
BBOO Buckleboo 31.46 168 P **P** **07 50 20.2 -0.4**
STKA Stephens Creek 32.20 159 P **P** **07 50 27.5 +0.4**
comp=Z,2.2nm,0.7s,baz=334,slow=10,SNR=4.8
STKA LR LR 08 05 50.3
comp=Z,106nm,20.2s,baz=21,slow=41
comp=Z,2.2nm,0.7s
STKA Stephens Creek 32.20 159 P **P** **07 50 28.6 +1.5**
NWAO Narrogin (SRO) 32.48 198 P **P** **07 50 29.6 +0.1**
HTT Hallett 32.77 164 P **P** **07 50 33.5 +1.4**
CMAR Chiang Mai Arr 35.41 306 P **P** **07 50 56.9 +1.8**
comp=Z,0.8nm,0.3s,baz=130,slow=8.4,SNR=1.5
comp=Z,0.8nm,0.3s
ARPS Mount Arapiles 36.74 162 P **P** **07 51 07.5 +1.2**
PZH PanZhiHua 38.29 320 P **P** **07 51 22.1 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,4.9s
KSRS Korea Array 39.28 359 P **P** **07 51 28.6 +1.0**
comp=Z,1.3nm,0.7s,baz=179,slow=9.9,SNR=4.1
KSRS LR LR 08 09 17.8
comp=Z,23nm,18.9s,baz=105,slow=39
comp=Z,1.3nm,0.7s
SHL Shillong 44.73 310 P **P** **07 52 12.8 +0.2**
HHC Hu-ho-hao-te 45.34 342 *eP* P 07 52 22.1 +4.9
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,290nm,5.0s
USRK Ussuriysk Ar. 46.13 4 P **P** **07 52 24.8 +1.7**
comp=Z,1.5nm,0.6s,baz=177,slow=8.7,SNR=2.9
comp=Z,1.5nm,0.6s
USRK Ussuriysk Ar. 46.13 4 P **P** **07 52 23.5 +0.4**
PALK Pallekele 48.47 281 P **P** **07 52 43.7 +1.7**
HEH HeiHe 52.08 359 *eP* **P** **07 53 09.4 +0.8**
HEH pmax pmax
comp=Z,6.0nm,0.9s
HEH pmax pmax
comp=Z,180nm,5.6s
SONM Songino Array 53.24 342 P **P** **07 53 17.6 +0.1**
comp=Z,0.9nm,0.8s,baz=156,slow=9.0,SNR=5.8
comp=Z,0.9nm,0.8s
WMQ Urumqi 58.38 326 *eP* **P** **07 53 54.5 +0.2**
WMQ sP sP 07 54 12.6 +5.5
WMQ pmax pmax
comp=Z,11nm,1.1s
PETK Petropavlovsk- 60.17 20 P **P** **07 54 06.8 +0.4**
comp=Z,2.7nm,0.7s,baz=144,slow=3.2,SNR=3.7
comp=Z,2.7nm,0.7s
MK31 Makanchi Array 63.22 326 P **P** **07 54 26.6 -0.5**
MK31 IAmb IAmb 07 54 31.0
comp=Z,2.1nm,0.8s
MKAR Makanchi Array 63.22 326 P **P** **07 54 26.8 -0.3**
comp=Z,1.7nm,0.5s,baz=118,slow=7.7,SNR=26
comp=Z,1.7nm,0.5s
MKAR Makanchi Array 63.22 326 P **P** **07 54 26.5 -0.6**
MAKZ Makanchi 63.40 326 P **P** **07 54 27.6 -0.7**
MAKZ IAmb IAmb 07 54 31.2
comp=Z,5.0nm,1.2s
MA2 Magadan 63.88 12 P **P** **07 54 31.1 0.0**
MA2 IAmb IAmb 07 54 35.0
comp=Z,5.5nm,0.9s
YAK Yakutsk 63.89 1 P **P** **07 54 30.4 -0.7**
ZALV Zalesovo Beam 66.44 334 P **P** **07 54 47.9 +0.1**
comp=Z,0.5nm,0.4s,baz=112,slow=1.6,SNR=3.7
comp=Z,0.5nm,0.4s
KK31 Karatay Array 68.57 318 P **P** **07 55 00.9 -0.8**
KK31 IAmb IAmb 07 55 04.0
comp=Z,1.9nm,0.9s
KKAR Karatay Array 68.57 318 P **P** **07 55 01.0 -0.7**
KKAR IAmb IAmb 07 55 04.0
comp=Z,1.9nm,0.9s
KKAR Karatay Array 68.57 318 P **P** **07 55 01.3 -0.4**
BRVK Borovoye 73.10 328 P **P** **07 55 28.7 -0.2**
BRVK IAmb IAmb 07 55 31.2
comp=Z,5.6nm,1.2s
TIXI Tiksi 73.54 0 P **P** **07 55 31.3 +0.2**
TIXI IAmb IAmb 07 55 45.9
comp=Z,3.9nm,0.8s
GEYT Alibeck 75.80 310 LR LR 08 34 13.5
comp=Z,20nm,18.4s,baz=94,slow=40

VNDA Vanda 77.55 173 P **P** **07 55 54.6 +0.5**
VNDA IAmb IAmb 07 56 17.4
comp=Z,5.3nm,1.1s
ABKAR Akbulak array 77.64 321 P **P** **07 55 53.7 -1.4**
KDAK Kodiak Island 85.85 32 LR LR 08 30 28.2
comp=Z,51nm,19.8s,baz=162,slow=32
KNK Knik Glacier 88.47 29 P **P** **07 56 50.4 -0.4**
ILAR Eielson Array 89.56 25 P **P** **07 56 56.0 +0.2**
comp=Z,0.3nm,0.7s,baz=233,slow=5.8,SNR=4.8
comp=Z,0.3nm,0.7s
PLCA Paso Flores 134.07 160 PKP **PKiKP** **08 03 16.1 -1.8**
comp=Z,2.5nm,1.1s,baz=270,slow=5.7,SNR=3.4
CPUP Villa Florida 151.28 169 PKPbc **PKiKP** **08 03 54.2 +0.8**
comp=Z,1.5nm,0.6s,baz=210,slow=2.1,SNR=5.9

WEL 15 07:45:51.2±0.7, 42°S±4′×17°4E±°, h5km, M2.7/1, ML2.6/7, MLv2.7/1, Error ellipse: s-maj=0.0km s-min=0.0km az=103.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**277**	P	Pg	07 45 56.3	+0.3
KHZ				S	Sg	07 45 59.8	+0.6
GVZ	**Greta Valley S**	**0.81**	**229**	P	Pn	07 46 09.2	-0.1
GVZ				S	Sn	07 46 22.7	+1.1
THZ	**Tophouse**	**0.99**	**313**	P	Pg	07 46 09.4	-0.8
TUWZ	**Tuamarina**	**1.02**	**3**	P	Pg	07 46 10.7	0.0
LTZ	**Lake Taylor**	**1.23**	**254**	P	Pg	07 46 14.7	0.0
TCW	**Tory Channel**	**1.27**	**14**	P	Pg	07 46 14.2	-1.4
OKCZ	**Okains Bay**	**1.41**	**205**	P	Pn	07 46 17.5	0.0
MQZ	**McQueen's Vall**	**1.54**	**215**	P	Pn	07 46 18.4	-1.0
MQZ				S	Sn	07 46 38.9	-0.9
AKCZ	**Akaroa Harbour**	**1.59**	**206**	P	Pn	07 46 19.8	-0.3
AKCZ				S	Sn	07 46 41.1	+0.1
DSZ	**Denniston Hort**	**1.69**	**294**	P	Pn	07 46 21.7	+0.3
DSZ				S	Sb	07 46 44.5	+0.2
QRZ	**Quartz Range**	**1.90**	**328**	P	Pn	07 46 24.9	+0.6
PRWZ	**Pori Road**	**2.46**	**41**	P	Pn	07 46 30.6	-1.4
DREZ	**Durham Road**	**3.26**	**5**	P	Pn	07 46 45.7	+2.7

IDC 15 07:53:21.2±1.8, 44°.35N×129°.30W, h0km, mb3.6/6, mbtmp3.4/11, ML3.2/5, MS3.4/10, Error ellipse: s-maj=37.3km s-min=15.9km az=38.0
NEIC 15 07:53:22.2±1.0, 44°.33N±0°.08×129°.4W±0°.2, h10km±2km, ML3.3/30, Error ellipse: s-maj=20.2km s-min=14.1km az=277.0
ISC 15 07:53:22.7±1.2, 44°30N±0°.10×129°37W±0°.10, h13km, n54, σ0s96/45, mb3.6/5, MS3.5/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEBO	**Mount Hebo**	**4.11**	**75**	Pn	**Pn**	**07 54 25.0**	**-0.1**
HEBO				IAML		07 55 37.4	
	comp=E,54nm,2.1s						
HEBO				IAML		07 57 10.4	
	comp=N,44nm,1.4s						
COR	**Corvallis**	**4.36**	**84**	Pn	**Pn**	**07 54 28.5**	**0.0**
COR				Sn	**Sn**	**07 55 19.9**	**+0.7**
COR				IAML		07 55 55.9	
	comp=N,26nm,3.9s						
F03A	**Seaside**	**4.43**	**66**		**Pn**	**07 54 28.9**	**-0.5**
F03A				Sn	**Sn**	**07 55 21.9**	**+1.0**
RADR	**Rader Ridge**	**4.46**	**60**	Pn	**Pn**	**07 54 30.3**	**+0.2**
RADR				IAML		07 55 26.1	
	comp=N,32nm,1.1s						
RADR				IAML		07 55 31.1	
	comp=E,50nm,2.8s						
BUCK	**Buck Mountain**	**4.59**	**89**	Pn	**Pn**	**07 54 32.2**	**+0.3**
BUCK				IAML		07 56 42.2	
	comp=N,22nm,4.6s						
BUCK				IAML		07 57 21.2	
	comp=E,24nm,4.6s						
DBO	**Dodson Butte**	**4.60**	**103**		**Pn**	**07 54 31.2**	**-0.7**
E03A	**Lebam**	**4.67**	**59**	Pn	**Pn**	**07 54 32.3**	**-0.4**
E03A				IAML		07 55 20.1	
	comp=E,29nm,4.2s						
E03A				IAML		07 56 08.6	
	comp=N,21nm,4.4s						
WISH	**Wishkah**	**4.83**	**52**		**Pn**	**07 54 35.6**	**+0.6**
WISH				IAML		07 55 12.9	
	comp=E,42nm,3.6s						
NLWA	**Neilton Lookou**	**4.93**	**49**		**Pn**	**07 54 36.2**	**-0.3**
NLWA				IAML		07 55 36.2	
	comp=E,27nm,0.7s						
NLWA				IAML		07 55 42.1	
	comp=E,25nm,4.3s						
C03A	**Quillayute Air**	**4.95**	**41**	Pn	**Pn**	**07 54 37.1**	**+0.5**
HUMO	**Hull Mountain**	**4.97**	**108**	Pn	**Pn**	**07 54 37.4**	**+0.4**
H04A	**Detroit Lake**	**5.16**	**83**		**Pn**	**07 54 39.7**	**+0.1**
H04A				IAML		07 56 19.5	
	comp=E,13nm,5.0s						
OZB	**Mount Ozzard**	**5.37**	**28**	Pn	**Pn**	**07 54 41.7**	**-0.8**
YBH	**Yreka Blue Hor**	**5.52**	**115**	Pn	**Pn**	**07 54 44.2**	**-0.4**
	comp=E,0.1nm,0.3s,baz=296,slow=12,SNR=4.7						
	comp=E,1.4nm,0.8s						
YBH	**Yreka Blue Hor**	**5.52**	**115**	Pn	**Pn**	**07 54 45.3**	**+0.7**
B04A	**Port Angeles**	**5.54**	**45**	Pn	**Pn**	**07 54 45.0**	**+0.2**
HOOD	**Mount Hood Mea**	**5.59**	**77**		**Pn**	**07 54 45.1**	**-0.5**
CLRS	**Cowichan Lake**	**5.79**	**37**		**Pn**	**07 54 48.2**	**0.0**
LON	**Longmire**	**5.85**	**63**		**Pn**	**07 54 48.4**	**-0.7**
D05A	**Enumclaw**	**5.92**	**58**		**Pn**	**07 54 50.3**	**+0.4**
PGC	**Sidney**	**5.97**	**41**		**Pn**	**07 54 50.4**	**-0.3**
PINE	**Pine Mountain**	**6.10**	**92**		**Pn**	**07 54 52.9**	**+0.3**
G06A	**Carlson Farm,**	**6.29**	**78**		**Pn**	**07 54 55.2**	**0.0**
K05A	**Summer Lake**	**6.36**	**101**	Pn	**Pn**	**07 54 57.1**	**+0.8**
LTY	**Liberty**	**6.76**	**61**		**Pn**	**07 55 01.2**	**-0.5**
B06A	**Marblemount**	**6.89**	**50**	Pn	**Pn**	**07 55 04.2**	**+0.9**
HAWA	**Hanford**	**7.24**	**70**		**Pn**	**07 55 08.8**	**+0.6**
G08A	**Pilot Rock**	**7.47**	**79**		**Pn**	**07 55 11.7**	**+0.2**
D08A	**Wollman Farm,**	**7.82**	**66**	Pn	**Pn**	**07 55 16.5**	**+0.4**
BBB	**Bella Bella**	**7.93**	**6**	Pn	**Pn**	**07 55 19.5**	**+2.0**
	comp=E,0.5nm,0.3s,baz=190,slow=12,SNR=3.2						
BBB				LR	LR	07 57 48.9	
	comp=E,149nm,21.1s,baz=185,slow=34						
B08A	**Colville Reser**	**8.04**	**56**	Pn	**Pn**	**07 55 19.2**	**0.0**
NEW	**Newport**	**9.36**	**61**	Pn	**Pn**	**07 55 35.9**	**-1.4**
	comp=E,0.3nm,0.3s,baz=232,slow=11,SNR=7.6						
NEW				LR	LR	07 59 07.6	
	comp=E,226nm,19.8s,baz=256,slow=37						
	comp=E,1.4nm,0.5s						
NEW	**Newport**	**9.36**	**61**	Pn	**Pn**	**07 55 36.2**	**-1.0**
NVAR	**Mina Array Bea**	**10.18**	**121**	Pn	**Pn**	**07 55 50.5**	**+1.9**
	comp=E,0.1nm,0.3s,baz=288,slow=13,SNR=3.0						
	comp=E,0.1nm,0.3s						
ELK	**Elko**	**11.02**	**104**	Pn	**Pn**	**07 56 03.6**	**+3.5**
	comp=E,0.1nm,0.3s,baz=296,slow=12,SNR=4.0						
ELK				LR	LR	08 00 05.8	
	comp=E,153nm,19.1s,baz=292,slow=37						
	comp=E,0.5nm,0.7s						
MSO	**Missoula**	**11.11**	**71**	Pn	**Pn**	**07 56 01.1**	**-0.2**
PDAR	**Pinedale Array**	**14.46**	**89**	Pn	**P**	**07 56 51.9**	**-2.0**
	baz=292,slow=12,SNR=4.7						
PDAR				LR	LR	08 02 05.3	
	comp=E,143nm,21.0s,baz=265,slow=36						
	comp=E,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**20.15**	**20**	P	**P**	**07 57 56.5**	**+0.2**
	comp=E,2.0nm,0.8s,baz=214,slow=11,SNR=18						
	comp=E,2.0nm,0.8s						
ILAR	**Eielson Array**	**22.73**	**341**	P	**P**	**07 58 25.3**	**+1.3**
	comp=E,1.5nm,1.0s,baz=150,slow=8.3,SNR=11						
	comp=E,1.5nm,1.0s						
ULM	**Lac du Bonnet**	**23.36**	**63**	P	**P**	**07 58 30.9**	**+0.2**
	comp=E,1.9nm,0.6s,baz=295,slow=6.7,SNR=3.3						
ULM				LR	LR	08 07 22.7	
	comp=E,105nm,18.7s,baz=152,slow=36						
	comp=E,1.9nm,0.6s						
INK	**Inuvik**	**24.16**	**356**	P	**P**	**07 58 39.1**	**+1.0**
	comp=E,1.1nm,0.9s,baz=160,slow=16,SNR=3.4						
	comp=E,1.1nm,0.9s						
SADO	**Sadowa**	**35.34**	**71**	LR	LR	08 14 56.9	
	comp=E,114nm,18.9s,baz=302,slow=37						
TKL	**Tuckaleechee C**	**35.60**	**88**	LR	LR	08 15 34.6	
	comp=E,131nm,18.9s,baz=324,slow=38						
SHEM	**Shemya Is, Ala**	**37.50**	**304**	LR	LR	08 12 28.7	
	comp=E,79nm,18.5s,baz=332,slow=31						
JTS	**Las Juntas de**	**51.08**	**118**	LR	LR	08 25 10.7	
	comp=E,21nm,19.0s,baz=310,slow=37						
H11N3	**WAKE ISLAND Hy**	**57.79**	**267**	T	T	09 05 27.1	
	baz=49,slow=75,SNR=634						
H11N2	**WAKE ISLAND Hy**	**57.80**	**267**	T	T	09 05 27.1	
	baz=49,slow=75,SNR=471						
H11N1	**WAKE ISLAND Hy**	**57.81**	**267**	T	T	09 05 28.3	
	baz=49,slow=75,SNR=362						
H11S1	**WAKE ISLAND Hy**	**58.73**	**266**	T	T	09 06 45.7	
	baz=49,slow=75,SNR=75						
H11S2	**WAKE ISLAND Hy**	**58.74**	**266**	T	T	09 06 46.2	
	baz=49,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**58.75**	**266**	T	T	09 06 43.7	
	baz=49,slow=75,SNR=53						
SONM	**Songino Array**	**75.98**	**325**	P	**P**	**08 05 09.7**	**+0.3**
	comp=E,0.3nm,0.6s,baz=60,slow=4.9,SNR=2.4						
	comp=E,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**77.86**	**340**	LR	LR	08 41 46.6	
	comp=E,15nm,18.2s,baz=22,slow=37						
AKASG	**Malin Array Be**	**83.57**	**14**	P	**P**	**08 05 49.1**	**-1.1**
	comp=E,0.5nm,0.7s,baz=349,slow=4.1,SNR=4.5						
	comp=E,0.5nm,0.7s						

IDC 15 08:03:14.7±2.3, 2°.02S×128°.44E, h0km, mb3.5/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=181.8km s-min=26.3km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.72**	**162**	P	P	08 07 34.9	-0.1
	0.2nm,0.3s,baz=346,slow=13,SNR=5.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**22.16**	**167**	P	P	08 08 12.8	+0.4
	0.8nm,0.3s,baz=347,slow=12,SNR=24						
ASAR				S	S	08 12 10.4	-7.2
	0.5nm,0.8s,baz=346,slow=21,SNR=4.1						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**63.24**	**326**	P	P	08 13 44.9	-0.2
	0.4nm,0.7s,baz=126,slow=8.4,SNR=5.8						
	0.4nm,0.7s						

IDC 15 08:14:38.1±0.6, 56°.71S×150°.80W, h0km, mb4.3/7, mbtmp4.3/7, MS3.6/3, Error ellipse: s-maj=41.8km s-min=17.5km az=8.0
NEIC 15 08:14:40.8±1.0, 56°.5S±0°.2×150°.5W±0°.1, h10km±1km, mb4.9/20, Error ellipse: s-maj=35.8km s-min=9.4km az=7.0
ISC 15 08:14:39.8±0.6, 56°.5S±0°.2×150°.6W±0°.1, h10km, n50, σ0s76/33, mb4.7/16, MS3.5/3, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**		**26.66**	**201**	LR	LR	08 27 50.1
	comp=Z,129nm,20.6s,baz=28,slow=30						
URZ	**Urewera**		**28.07**	**297**	LR	LR	08 30 37.3
	comp=Z,116nm,18.1s,baz=285,slow=34						
QSPA	**South Pole Qui**		**33.65**	**180**	P	**P**	**08 21 18.8**	**-1.6**
	3.8nm,1.1s,baz=139,slow=4.5,SNR=3.0						
	3.8nm,1.1s						
QSPA	**South Pole Qui**		**33.65**	**180**	P	**P**	**08 21 21.4**	**+0.9**
PMSA	**Palmer Station**		**40.01**	**138**	P	**P**	**08 22 15.0**	**+0.8**
PMSA					IAmb	IAmb	08 22 39.5
	comp=Z,43nm,1.4s						
EIDS	**Eidsvold**		**51.81**	**282**	P	**P**	**08 23 48.5**	**+0.8**
EIDS					IAmb	IAmb	08 23 54.6
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**		**51.99**	**268**	P	**P**	**08 23 48.3**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=120,slow=11,SNR=7.3						
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**		**51.99**	**268**	P	**P**	**08 23 50.7**	**+1.7**
PLCA	**Paso Flores**		**52.16**	**109**	P	**P**	**08 23 50.4**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=203,slow=6.9,SNR=9.0						
	comp=Z,3.4nm,0.8s						
PLCA	**Paso Flores**		**52.16**	**109**	P	**P**	**08 23 50.7**	**+0.4**
H03S2	**Juan Fernandez**		**52.69**	**96**	T	T	09 20 48.3
	baz=219,slow=74,SNR=11						
H03S1	**Juan Fernandez**		**52.70**	**97**	T	T	09 20 49.8
	baz=219,slow=74,SNR=10						
H03S3	**Juan Fernandez**		**52.71**	**97**	T	T	09 20 48.0
	baz=219,slow=74,SNR=11						
H03N3	**Juan Fernandez**		**52.98**	**96**	T	T	09 21 12.5
	baz=222,slow=72,SNR=22						
H03N2	**Juan Fernandez**		**52.99**	**96**	T	T	09 21 06.9
	baz=222,slow=72,SNR=29						
H03N1	**Juan Fernandez**		**53.00**	**96**	T	T	09 21 10.1
	baz=222,slow=72,SNR=34						
CFA	**Coronel Fontan**		**60.23**	**103**	LR	LR	08 46 05.9
	comp=Z,43nm,18.9s,baz=168,slow=31						
ASAR	**Alice Springs**		**62.63**	**268**	P	**P**	**08 25 03.1**	**-1.2**
	comp=Z,2.4nm,0.5s,baz=139,slow=6.5,SNR=17						
	comp=Z,2.4nm,0.5s						
AC02	**Maricunga**		**63.46**	**99**	P	**P**	**08 25 10.6**	**+0.3**
AC02					IAmb	IAmb	08 25 14.2
	comp=Z,7.6nm,1.0s						
H01W1	**Cape Leeuwin H**		**64.38**	**245**	T	T	09 35 44.6
	baz=142,slow=76,SNR=7.4						
H01W2	**Cape Leeuwin H**		**64.38**	**245**	T	T	09 35 44.2
	baz=142,slow=76,SNR=8.9						
H01W3	**Cape Leeuwin H**		**64.39**	**245**	T	T	09 35 45.6
	baz=142,slow=76,SNR=10						
WRA	**Warramunga Arr**		**65.36**	**271**	P	**P**	**08 25 21.5**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=140,slow=5.8,SNR=6.8						
	comp=Z,1.0nm,0.6s						
PB03	**IPOC Station P**		**66.91**	**95**	P	**P**	**08 25 32.3**	**-0.1**
PB03					IAmb	IAmb	08 25 35.6
	comp=Z,6.6nm,1.1s						
LVC	**Limon Verde**		**66.93**	**96**	P	**P**	**08 25 33.4**	**+0.6**
LVC					IAmb	IAmb	08 25 34.0
	comp=Z,7.9nm,0.8s						
AF01	**San Pedro de A**		**67.06**	**97**	P	**P**	**08 25 33.8**	**+0.3**
PB07	**IPOC Station P**		**67.10**	**95**	P	**P**	**08 25 32.9**	**-0.6**
PB07					IAmb	IAmb	08 25 34.6
	comp=Z,9.1nm,1.0s						
TA02	**Huaiquique**		**68.13**	**94**	P	**P**	**08 25 40.5**	**+0.7**
PSGCX	**Pisagua**		**68.68**	**93**	P	**P**	**08 25 43.7**	**+0.3**
PSGCX					IAmb	IAmb	08 25 50.1
	comp=Z,9.8nm,1.1s						
PB11	**IPOC Station P**		**68.80**	**94**	P	**P**	**08 25 44.5**	**+0.2**
PB11					IAmb	IAmb	08 25 45.7
	comp=Z,7.4nm,0.9s						
MNMC	**Minye Minye**		**69.34**	**94**	P	**P**	**08 25 48.4**	**+0.6**
PB16	**IPOC Station P**		**70.03**	**93**	P	**P**	**08 25 53.3**	**+0.9**
PB16					IAmb	IAmb	08 25 57.0
	comp=Z,14nm,1.5s						
CPUP	**Villa Florida**		**70.22**	**108**	P	**P**	**08 25 52.0**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=202,slow=5.7,SNR=13						
	comp=Z,4.6nm,0.8s						
CPUP	**Villa Florida**		**70.22**	**108**	IAmb	IAmb	08 25 52.2
	comp=Z,7.9nm,1.1s						
CPUP					P	**P**	**08 25 52.3**	**-0.5**
LPAZ	**La Paz**		**72.46**	**93**	P	**P**	**08 26 08.0**	**+0.9**
	comp=Z,4.2nm,0.9s,baz=190,slow=2.6,SNR=17						
	comp=Z,4.2nm,0.9s						
LPAZ	**La Paz**		**72.46**	**93**	P	**P**	**08 26 07.3**	**+0.2**
PAYG	**Puerto Ayora**		**73.50**	**65**	P	**P**	**08 26 12.2**	**-0.3**
ETMB	**Extrema**		**78.81**	**91**	P	**P**	**08 26 42.0**	**-0.8**
ETMB					IAmb	IAmb	08 26 44.1
	comp=Z,6.2nm,1.2s						
MACA	**Manacapuru-AM**		**87.36**	**92**	P	**P**	**08 27 27.1**	**0.0**
MACA					IAmb	IAmb	08 27 27.6
	comp=Z,10nm,0.8s						
H10S3	**ASCENSION HYDR**		**105.39**	**135**	T	T	10 27 01.3
	baz=16,slow=74,SNR=10						
H10S2	**ASCENSION HYDR**		**105.39**	**135**	T	T	10 26 55.8
	baz=204,slow=74,SNR=4.9						
H10N3	**ASCENSION HYDR**		**106.46**	**134**	T	T	10 28 20.3
	baz=203,slow=75,SNR=22						
H10N1	**ASCENSION HYDR**		**106.47**	**134**	T	T	10 28

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.50**	**159**	P	**Pb**	**08 20 18.6**	**-0.5**
MSAI				S	**Sb**	**08 20 38.9**	**+1.1**
AAI	**Ambon**	**1.76**	**187**	P	**Pb**	**08 20 23.7**	**+0.4**
NLAI	**Namlea**	**1.83**	**225**	P	**Pn**	**08 20 22.7**	**+1.9**
NLAI				S	**Sn**	**08 20 43.9**	**+1.0**
SANI	**Sanana**	**2.41**	**267**	P	**Pn**	**08 20 27.6**	**-1.1**
SANI				S	**Sn**	**08 20 56.1**	**-1.0**
TNTI	**Ternate**	**2.88**	**339**	P	Pn	08 20 30.3	-4.9
SWI	**Sorong**	**3.05**	**70**	P	**Pn**	**08 20 37.5**	**-0.1**
SWI				S	**Sn**	**08 21 13.2**	**+0.2**
SIJI	**Sorong**	**3.06**	**70**	S	**Sn**	**08 21 14.3**	**+1.2**
	19nm,0.3s,baz=179,slow=23,SNR=3.8						
FAKI	**Fak Fak**	**3.97**	**104**	P	**Pn**	**08 20 50.2**	**-0.1**
KAPI	**Kappang**	**9.16**	**250**	P	Pn	08 22 08.2	+6.7
	5.0nm,0.3s,baz=90,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**18.82**	**162**	P	**P**	**08 24 07.7**	**-1.0**
	0.4nm,0.5s,baz=344,slow=13,SNR=7.5						
ASAR	**Alice Springs**	**22.26**	**167**	P	**P**	**08 24 45.6**	**-0.3**
	1.2nm,0.5s,baz=347,slow=12,SNR=22						
ASAR				S	**S**	**08 28 44.0**	**-5.0**
	0.4nm,0.7s,baz=347,slow=21,SNR=4.6						
	1.2nm,0.5s						
KSRS	**Korea Array**	**39.19**	**359**	LR	LR	08 41 15.7	
	comp=Z,9.5nm,21.9s,baz=90,slow=32						
MKAR	**Makanchi Array**	**63.14**	**326**	P	**P**	**08 30 17.9**	**+1.7**
	0.2nm,0.4s,baz=124,slow=8.2,SNR=5.6						
	0.2nm,0.4s						

NEIC ***15*** *08:42:09.7±1.0,20.˚16S±0.˚05×69.˚3W±0.˚1, h107km±9km, mb3.9/5, ML4.0(GUC), Error ellipse: s-maj=15.5km s-min=6.7km az=90.0*

GUC ***15*** *08:42:10.7±0.8,20.˚14S×69.˚22W, h100km±3km, ML3.6*

IDC ***15*** *08:42:11.1±2.1,20.˚21S×69.˚38W, h113km±20km, mb3.1/2, mbtmp3.6/4, MS2.7/1, Error ellipse: s-maj=59.2km s-min=18.5km az=89.0*

VAO ***15*** *08:42:11.3±0.8,20.˚21S×69.˚27W, h136km±9km, mb3.9*

ISC 15 08:42:09.8±0.7,**20.˚16S**±0.˚03×**69.˚33W**±0.˚06,**h107**km±6km, **n64**,σ1°**08**/**77**,**mb3.5**/3,**9C-3D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.50**	**322**		**Pn**	**08 42 26.5**	**0.0**
PB11				Sn	**Sn**	**08 42 38.8**	**-0.2**
PB11	**IPOC Station P**	**0.50**	**322**	*eP*	**Pn**	**08 42 26.6**	**0.0**
PB11				*eS*	**Sn**	**08 42 38.8**	**-0.2**
PB11				IAML		08 42 40.0	
	comp=N,8μm,0.3s						
GO01	**Chusmiza**	**0.51**	**14**		**Pn**	**08 42 26.6**	**-0.4**
GO01	**Chusmiza**	**0.51**	**14**	*eP*	**Pn**	**08 42 26.4**	**-0.6**
GO01				*eS*	**Sn**	**08 42 38.9**	**-0.8**
GO01				IAML		08 42 40.8	
	comp=N,14μm,0.2s						
HMBC	**Humberstone**	**0.54**	**258**	*eP*	**Pn**	**08 42 27.0**	**+0.3**
HMBC				*eS*	**Sn**	**08 42 39.7**	**+0.3**
HMBC				IAML		08 42 40.2	
	comp=E,4μm,0.2s						
TA02	**Huaiquique**	**0.76**	**262**		**Pn**	**08 42 29.0**	**+0.7**
TA02	**Huaiquique**	**0.76**	**262**	*eP*	**Pn**	**08 42 29.1**	**+0.7**
TA02				*eS*	**Sn**	**08 42 43.1**	**+0.8**
TA02				IAML		08 42 43.9	
	comp=N,8μm,0.2s						
PB01	**IPOC Station P**	**0.89**	**190**		**Pn**	**08 42 29.5**	**-0.2**
PB01	**IPOC Station P**	**0.89**	**190**	*eP*	**Pn**	**08 42 30.0**	**+0.3**
PB01				*eS*	**Sn**	**08 42 45.1**	**+0.4**
PB01				IAML		08 42 46.3	
	comp=N,3μm,0.2s						
TA01	**Diego Aracena**	**0.90**	**243**		**Pn**	**08 42 30.1**	**+0.5**
TA01	**Diego Aracena**	**0.90**	**243**	*iP*	**Pn**	**08 42 30.1**	**+0.5**
TA01				*eS*	**Sn**	**08 42 45.5**	**+0.9**
TA01				IAML		08 42 48.7	
	comp=E,552nm,0.2s						
PSGC	**Pisagua**	**0.94**	**307**	*eP*	**Pn**	**08 42 30.5**	**+0.3**
PSGC				*eS*	**Sn**	**08 42 46.1**	**+0.6**
PSGCX	**Pisagua**	**0.94**	**307**	Pn	**Pn**	**08 42 30.2**	**0.0**
PATCX	**Punta Patache**	**1.01**	**230**		**Pn**	**08 42 31.0**	**+0.1**
PATCX	**Punta Patache**	**1.01**	**230**	*iP*	**Pn**	**08 42 31.6**	**+0.6**
PATCX				*eS*	**Sn**	**08 42 47.9**	**+1.0**
PATCX				IAML		08 42 56.0	
	comp=N,446nm,0.2s						
MNMC	**Minye Minye**	**1.06**	**346**		**Pn**	**08 42 31.7**	**+0.1**
MNMC	**Minye Minye**	**1.06**	**346**	*eP*	**Pn**	**08 42 32.1**	**+0.4**
MNMC				*eS*	**Sn**	**08 42 48.8**	**+0.7**
MNMC				IAML		08 42 50.7	
	comp=N,7μm,0.2s						
PB02	**IPOC Station P**	**1.27**	**205**		**Pn**	**08 42 34.0**	**+0.2**
PB02	**IPOC Station P**	**1.27**	**205**	*iP*	**Pn**	**08 42 34.5**	**+0.7**
PB09	**IPOC Station P**	**1.63**	**177**		**Pn**	**08 42 39.0**	**+0.8**
PB09	**IPOC Station P**	**1.63**	**177**	*eP*	**Pn**	**08 42 39.4**	**+1.2**
PB09				*eS*	**Sn**	**08 43 01.9**	**+2.2**
PB07	**IPOC Station P**	**1.64**	**198**		**Pn**	**08 42 38.5**	**+0.1**
PB07	**IPOC Station P**	**1.64**	**198**	*iP*	**Pn**	**08 42 39.4**	**+1.1**
PB12	**IPOC Station P**	**1.81**	**328**	Pn	**Pn**	**08 42 40.2**	**-0.1**
PB12	**IPOC Station P**	**1.81**	**328**	*iP*	**Pn**	**08 42 40.5**	**+0.2**
PB12				*eS*	**Sn**	**08 43 03.8**	**+0.3**
PB12				IAML		08 43 08.1	
	comp=N,332nm,0.1s						
PB16	**IPOC Station P**	**1.83**	**355**		**Pn**	**08 42 41.6**	**+0.6**
PB16	**IPOC Station P**	**1.83**	**355**	*iP*	**Pn**	**08 42 42.1**	**+1.1**
PB16				*eS*	**Sn**	**08 43 05.5**	**+0.8**
PB16				IAML		08 43 08.0	
	comp=N,180nm,0.6s						
PB03	**IPOC Station P**	**1.92**	**192**		**Pn**	**08 42 42.1**	**+0.3**
PB03	**IPOC Station P**	**1.92**	**192**	*eP*	**Pn**	**08 42 42.5**	**+0.7**
PB03				*eS*	**Sn**	**08 43 06.6**	**+0.5**
PB03				IAML		08 43 08.0	
	comp=E,254nm,0.1s						
PB04	**IPOC Station P**	**2.29**	**199**	Pn	**Pn**	**08 42 46.7**	**+0.2**
LVC	**Limon Verde**	**2.47**	**171**	P	**Pn**	**08 42 50.5**	**+1.5**
	comp=E,36nm,0.3s,baz=346,slow=11,SNR=59						
LVC				S	**Sn**	**08 43 20.4**	**+1.3**
	comp=E,63nm,0.3s,baz=127,slow=21,SNR=8.9						
LVC	**Limon Verde**	**2.47**	**171**		**Pn**	**08 42 50.2**	**+1.2**
LVC	**Limon Verde**	**2.47**	**171**	*eP*	**Pn**	**08 42 50.6**	**+1.5**
LVC				*eS*	**Sn**	**08 43 20.6**	**+1.5**
LVC	**Limon Verde**	**2.47**	**171**	*eP*	**Pn**	**08 42 50.5**	**+1.5**
PB06	**IPOC Station P**	**2.54**	**185**		**Pn**	**08 42 50.0**	**+0.2**
PB06	**IPOC Station P**	**2.54**	**185**	*eP*	**Pn**	**08 42 50.3**	**+0.5**
PB06				*eS*	**Sn**	**08 43 19.9**	**-0.6**
AF01	**San Pedro de A**	**2.98**	**159**		**Pn**	**08 42 54.1**	**-1.6**
PB15	**IPOC Station P**	**3.03**	**182**		**Pn**	**08 42 56.7**	**+0.4**
PB15	**IPOC Station P**	**3.03**	**182**	*eP*	**Pn**	**08 42 57.2**	**+0.8**
PB15				*eS*	**Sn**	**08 43 32.8**	**+0.6**
PB10	**IPOC Station P**	**3.52**	**199**	Pn	**Pn**	**08 43 02.1**	**-0.6**
LPAZ	**La Paz**	**4.02**	**17**	P	**Pn**	**08 43 11.9**	**+2.0**
	comp=E,6.5nm,0.3s,baz=187,slow=7.4,SNR=33						
LPAZ	**La Paz**	**4.02**	**17**	Pn	**Pn**	**08 43 10.2**	**+0.3**
LPAZ	**La Paz**	**4.02**	**17**	*eP*	**Pn**	**08 43 11.9**	**+2.0**
AC01	**Pan de Azucar**	**6.07**	**191**	Pn	**Pn**	**08 43 34.1**	**-3.0**
AC02	**Maricunga**	**6.64**	**178**		**Pn**	**08 43 45.1**	**-0.2**
GO03	**Copiap**	**7.44**	**186**	Pn	**Pn**	**08 43 53.6**	**-2.1**
AC04	**Llanos de Chal**	**8.16**	**191**	Pn	Pn	08 44 01.1	-4.4
AC05	**El Transito**	**8.68**	**186**	Pn	**Pn**	**08 44 09.1**	**-3.5**
NNA	**Nana**	**10.87**	**317**	LR	LR	08 49 22.9	
	comp=E,32nm,18.1s,baz=230,slow=40						
PDRB	**Porto dos Gac**	**14.79**	**57**	*eP*	**Pn**	**08 45 34.5**	**+0.8**
MACA	**Manacapuru-AM**	**18.89**	**28**	P	**P**	**08 46 20.2**	**-1.8**
MACA				IAmb	IAmb	08 46 23.2	
	comp=Z,6.0nm,0.7s						
SNDB	**Serra Nova Dou**	**19.13**	**68**	*eP*	**P**	**08 46 23.3**	**-1.4**
GO06	**Curarrehue**	**19.44**	**185**	P	**P**	**08 46 27.2**	**-0.7**
GO06				IAmb	IAmb	08 46 30.9	
	comp=Z,6.1nm,1.1s						
PLCA	**Paso Flores**	**20.53**	**183**	P	**P**	**08 46 39.1**	**-0.6**
ITTB	**Itaituba**	**20.54**	**42**	*eP*	**P**	**08 46 37.7**	**-2.2**
BOAV	**Boa Vista**	**24.02**	**22**	P	**P**	**08 47 13.9**	**-1.0**
BOAV				IAmb	IAmb	08 47 15.9	
	comp=Z,4.9nm,1.2s						
BOAV	**Boa Vista**	**24.02**	**22**	*eP*	**P**	**08 47 14.8**	**-0.2**
JANB	**Januaria**	**24.37**	**82**	*eP*	**P**	**08 47 16.9**	**-1.3**
RUSC	**La Rusia**	**26.15**	**352**	P	**P**	**08 47 35.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.28**	**71**	P	**P**	**08 53 54.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=253,slow=5.9,SNR=4.6						
	comp=Z,0.3nm,0.3s						
YKA	**Yellowknife Ar**	**89.80**	**341**	P	**P**	**08 54 56.3**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=123,slow=4.5						
	comp=Z,0.1nm,0.6s						
H11S2	**WAKE ISLAND Hyd**	**27.31**	**278**	T	T	11 20 55.0	
	baz=102,slow=75,SNR=7.0						
H11S1	**WAKE ISLAND Hyd**	**27.32**	**278**	T	T	11 20 52.1	
	baz=102,slow=75,SNR=5.9						
H11S3	**WAKE ISLAND Hyd**	**27.33**	**278**	T	T	11 20 48.8	
	baz=102,slow=75,SNR=6.1						

SJA ***15*** *08:48:23.3±0.7,22.˚51S×68.˚81W, h139km±6km, ML4.6, MW4.4*

IDC ***15*** *08:48:24.9±0.4,22.˚48S×68.˚54W, h98km±5km, mb4.2/10, mbtmp4.4/14, MS3.8/3, Error ellipse: s-maj=18.7km s-min=14.7km az=172.0*

NEIC ***15*** *08:48:25.3±2.0,22.˚53S±0.˚05×68.˚62W±0.˚05, h108km±4km, mb4.6/102, ML4.9(GUC), Error ellipse: s-maj=7.7km s-min=4.8km az=140.0*

VAO ***15*** *08:48:26.0±0.4,22.˚24S×68.˚36W, h92km±3km, mb4.9*

GUC ***15*** *08:48:26.1±0.8,22.˚50S×68.˚75W, h115km±4km, ML4.9*

ISC 15 08:48:25.2±0.4,**22.˚50S**±0.˚03×**68.˚66W**±0.˚04,**h114**km±4km, **n306**,σ1°**82**/**320**,**mb4.6**/**53**,**11C-10D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.26**	**244**	P	**Pn**	**08 48 41.7**	**0.0**
	4μm,0.4s,baz=40,slow=2.6,SNR=2039						
LVC				S	**Sn**	**08 48 52.9**	**-1.1**
	16μm,0.4s,baz=295,slow=20,SNR=37						
LVC	**Limon Verde**	**0.26**	**244**	*eP*	**Pn**	**08 48 41.3**	**-0.3**
LVC				*eS*	**Sn**	**08 48 53.3**	**-0.7**
LVC	**Limon Verde**	**0.26**	**244**	*eP*	**Pn**	**08 48 41.8**	**+0.1**
AF01	**San Pedro de A**	**0.63**	**136**		**Pn**	**08 48 44.6**	**+0.9**
AF01	**San Pedro de A**	**0.63**	**136**	*eP*	**Pn**	**08 48 44.6**	**+0.9**
AF01				*eS*	**Sn**	**08 48 59.4**	**+1.7**
AF01				IAML		08 49 14.4	
	comp=N,71μm,0.8s						
PB06	**IPOC Station P**	**0.87**	**256**		**Pn**	**08 48 45.5**	**-0.1**
PB06				Sn	**Sn**	**08 49 00.6**	**-0.3**
PB06	**IPOC Station P**	**0.87**	**256**	*eP*	**Pn**	**08 48 45.6**	**0.0**
PB06				*eS*	**Sn**	**08 49 00.8**	**-0.2**
PB06	**IPOC Station P**	**0.87**	**256**	*eP*	**Pn**	**08 48 45.0**	**-0.6**
PB06				IAML		08 49 03.4	
	comp=Z,8μm,0.3s						
PB06	**IPOC Station P**	**0.87**	**256**	*eP*	**Pn**	**08 48 45.0**	**-0.6**
PB06				IAML		08 49 03.4	
	comp=Z,8μm,0.3s						
PB09	**IPOC Station P**	**0.88**	**322**	Pn	**Pn**	**08 48 46.4**	**+0.7**
PB09				Sn	**Sn**	**08 49 01.2**	**0.0**
PB09	**IPOC Station P**	**0.88**	**322**	*eP*	**Pn**	**08 48 46.4**	**+0.7**
PB09				*eS*	**Sn**	**08 49 01.5**	**+0.3**
PB15	**IPOC Station P**	**1.03**	**226**		**Pn**	**08 48 47.6**	**+0.4**
PB15	**IPOC Station P**	**1.03**	**226**	*eP*	**Pn**	**08 48 47.7**	**+0.5**
PB15				*eS*	**Sn**	**08 49 04.1**	**+0.2**
PB15	**IPOC Station P**	**1.03**	**226**	*eP*	**Pn**	**08 48 47.0**	**-0.2**
PB15	**IPOC Station P**	**1.03**	**226**	*eP*	**Pn**	**08 48 47.0**	**-0.2**
PB03	**IPOC Station P**	**1.11**	**294**	Pn	**Pn**	**08 48 47.8**	**-0.1**
PB03	**IPOC Station P**	**1.11**	**294**	*eP*	**Pn**	**08 48 48.1**	**+0.1**
PB03				*eS*	**Sn**	**08 49 04.2**	**-1.0**
PB03				IAML		08 49 05.6	
	comp=N,44μm,0.4s						
PB07	**IPOC Station P**	**1.37**	**304**		**Pn**	**08 48 50.9**	**0.0**
PB07	**IPOC Station P**	**1.37**	**304**	*eP*	**Pn**	**08 48 51.1**	**+0.2**
PB07				*eS*	**Sn**	**08 49 09.6**	**-0.8**
PB07				IAML		08 49 11.8	
	comp=E,21μm,0.5s						
PB04	**IPOC Station P**	**1.39**	**276**	Pn	**Pn**	**08 48 50.9**	**-0.2**
PB04	**IPOC Station P**	**1.39**	**276**	*eP*	**Pn**	**08 48 50.6**	**-0.4**
PB04				*eS*	**Sn**	**08 49 09.6**	**-1.1**
PB04				IAML		08 49 12.0	
	comp=N,17μm,0.2s						
PB01	**IPOC Station P**	**1.64**	**332**		**Pn**	**08 48 54.1**	**+0.1**
PB01	**IPOC Station P**	**1.64**	**332**	*eP*	**Pn**	**08 48 54.3**	**+0.3**
PB01				*eS*	**Sn**	**08 49 15.8**	**-0.1**
PB01	**IPOC Station P**	**1.64**	**332**	*eP*	**Pn**	**08 48 54.0**	**0.0**
PB01				*eS*	**Sn**	**08 49 17.1**	**+1.2**
PB01				IAML		08 49 18.2	
	comp=Z,4μm,0.2s						
PB01	**IPOC Station P**	**1.64**	**332**	*eP*	**Pn**	**08 48 54.0**	**0.0**
PB01				*eS*	**Sn**	**08 49 17.1**	**+1.2**
PB01				IAML		08 49 18.2	
	comp=Z,4μm,0.2s						
PB02	**IPOC Station P**	**1.64**	**315**		**Pn**	**08 48 54.2**	**+0.2**
PB02	**IPOC Station P**	**1.64**	**315**	*eP*	**Pn**	**08 48 53.7**	**-0.3**
PB02				*eS*	**Sn**	**08 49 15.1**	**-0.9**
PB02				IAML		08 49 17.9	
	comp=E,14μm,0.5s						
PB02	**IPOC Station P**	**1.64**	**315**	*eP*	**Pn**	**08 48 53.4**	**-0.7**
PB02				*eP*	**Pn**	**08 48 54.0**	**0.0**
PB02				*eS*	**Sn**	**08 49 15.9**	**-0.1**
PB02				IAML		08 49 16.2	
	comp=Z,13μm,0.4s						
PB02	**IPOC Station P**	**1.64**	**315**	*eP*	**Pn**	**08 48 53.4**	**-0.7**
PB02				*eP*	**Pn**	**08 48 54.0**	**0.0**
PB02				*eS*	**Sn**	**08 49 15.9**	**-0.1**
PB02				IAML		08 49 16.2	
	comp=Z,13μm,0.4s						
PB10	**IPOC Station P**	**2.02**	**240**		**Pn**	**08 48 58.1**	**-0.4**
PB10	**IPOC Station P**	**2.02**	**240**	*eP*	**Pn**	**08 48 58.0**	**-0.6**
PB10				*eS*	**Sn**	**08 49 22.3**	**-1.8**
PB10	**IPOC Station P**	**2.02**	**240**	*eP*	Pn	08 48 53.4	-5.2
PB10				*eP*	**Pn**	**08 48 58.0**	**-0.6**
PB10				*eS*	**Sn**	**08 49 22.9**	**-1.2**
PB10				IAML		08 49 29.8	
	comp=Z,2μm,0.5s						
PB10	**IPOC Station P**	**2.02**	**240**	*eP*	Pn	08 48 53.4	-5.2
PB10				*eP*	**Pn**	**08 48 58.0**	**-0.6**
PB10				*eS*	**Sn**	**08 49 22.9**	**-1.2**
PB10				IAML		08 49 29.8	
	comp=Z,2μm,0.5s						
PATCX	**Punta Patache**	**2.17**	**320**		**Pn**	**08 48 59.9**	**-0.7**
PATCX	**Punta Patache**	**2.17**	**320**	*eP*	**Pn**	**08 49 00.1**	**-0.5**
PATCX				*eS*	**Sn**	**08 49 26.4**	**-1.3**
PATCX				IAML		08 49 33.5	
	comp=E,7μm,0.5s						
PATCX	**Punta Patache**	**2.17**	**320**	*eP*	**Pn**	**08 48 59.9**	**-0.7**
PATCX				*eS*	**Sn**	**08 49 26.9**	**-0.8**
PATCX				IAML		08 49 30.6	
	comp=Z,3μm,0.5s						
PATCX	**Punta Patache**	**2.17**	**320**	*eP*	**Pn**	**08 48 59.9**	**-0.7**
PATCX				*eS*	**Sn**	**08 49 26.9**	**-0.8**
PATCX				IAML		08 49 30.6	
	comp=Z,3μm,0.5s						
TA01	**Diego Aracena**	**2.39**	**323**		**Pn**	**08 49 02.4**	**-0.9**
TA01	**Diego Aracena**	**2.39**	**323**	*eP*	**Pn**	**08 49 02.4**	**-0.9**
TA01				*eS*	**Sn**	**08 49 30.8**	**-1.7**
TA01	**Diego Aracena**	**2.39**	**323**	*eP*	**Pn**	**08 49 02.4**	**-0.9**
TA01				*eS*	**Sn**	**08 49 24.9**	**-7.7**
TA01				IAML		08 49 58.0	
	comp=Z,2μm,0.5s						
TA01	**Diego Aracena**	**2.39**	**323**	*eP*	**Pn**	**08 49 02.4**	**-0.9**
TA01				*eS*	**Sn**	**08 49 24.9**	**-7.7**
TA01				IAML		08 49 58.0	
	comp=Z,2μm,0.5s						
HMBC	**Humberstone**	**2.49**	**332**	*eP*	**Pn**	**08 49 04.0**	**-0.8**
HMBC				*eS*	**Sn**	**08 49 31.4**	**-3.6**
HMBC				IAML		08 50 01.9	
	comp=N,4μm,0.7s						
TA02	**Huaiquique**	**2.60**	**328**		**Pn**	**08 49 05.1**	**-1.0**
TA02	**Huaiquique**	**2.60**	**328**	*eP*	**Pn**	**08 49 05.2**	**-1.0**
TA02				*eS*	**Sn**	**08 49 35.7**	**-1.9**
TA02				IAML		08 49 42.2	
	comp=N,3μm,0.1s						
TA02	**Huaiquique**	**2.60**	**328**	*eP*	**Pn**	**08 49 05.2**	**-1.0**
TA02				*eS*	**Sn**	**08 49 38.4**	**+0.8**
TA02				IAML		08 50 02.8	
	comp=Z,1μm,0.6s						
TA02	**Huaiquique**	**2.60**	**328**	*eP*	**Pn**	**08 49 05.2**	**-1.0**
TA02				*eS*	**Sn**	**08 49 38.4**	**+0.8**
TA02				IAML		08 50 02.8	
	comp=Z,1μm,0.6s						
PB14	**IPOC Station P**	**2.66**	**217**		**Pn**	**08 49 06.8**	**-0.3**
PB14	**IPOC Station P**	**2.66**	**217**	*eP*	**Pn**	**08 49 06.8**	**-0.3**
PB14				*eS*	**Sn**	**08 49 35.4**	**-3.8**
PB14	**IPOC Station P**	**2.66**	**217**	*eP*	**Pn**	**08 49 06.0**	**-1.1**
PB14				*eS*	**Sn**	**08 49 37.9**	**-1.4**
PB14				IAML		08 49 46.5	
	comp=Z,3μm,0.5s						
PB14	**IPOC Station P**	**2.66**	**217**	*eP*	**Pn**	**08 49 06.0**	**-1.1**
PB14				*eS*	**Sn**	**08 49 37.9**	**-1.4**
PB14				IAML		08 49 46.5	
	comp=Z,3μm,0.5s						
GO01	**Chusmiza**	**2.86**	**350**		**Pn**	**08 49 10.4**	**+0.5**
GO01	**Chusmiza**	**2.86**	**350**	*eP*	**Pn**	**08 49 10.5**	**+0.5**
GO01				*eS*	**Sn**	**08 49 44.2**	**0.0**
GO01				IAML		08 49 48.5	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**2.86**	**350**	*eP*	**Pn**	**08 49 10.0**	**+0.1**
GO01				*eS*	Sn	08 49 34.4	-10
GO01	**Chusmiza**	**2.86**	**350**	*eP*	**Pn**	**08 49 10.0**	**+0.1**
GO01				*eS*	Sn	08 49 34.4	-10
PB11	**IPOC Station P**	**2.88**	**341**		**Pn**	**08 49 09.2**	**-0.7**
PB11	**IPOC Station P**	**2.88**	**341**	*eP*	**Pn**	**08 49 09.1**	**-0.7**
PB11				*eS*	**Sn**	**08 49 42.9**	**-1.3**
PB11	**IPOC Station P**	**2.88**	**341**	*eP*	**Pn**	**08 49 09.2**	**-0.7**
PB11				*eS*	Sn	08 49 33.4	-11
PB11				IAML		08 49 48.2	
	comp=Z,1μm,1.2s						
PB11	**IPOC Station P**	**2.88**	**341**	*eP*	**Pn**	**08 49 09.2**	**-0.7**
PB11				*eS*	Sn	08 49 33.4	-11
PB11				IAML		08 49 48.2	
	comp=Z,1μm,1.2s						
YJA	**Yavi**	**2.93**	**84**	*eP*	**Pn**	**08 49 14.0**	**+3.2**
YJA	**Yavi**	**2.93**	**84**	*eP*	**Pn**	**08 49 14.0**	**+3.2**
HJA	**Humahuaca**	**3.08**	**104**	*eP*	**Pn**	**08 49 15.7**	**+3.0**
HJA	**Humahuaca**	**3.08**	**104**	*eP*	**Pn**	**08 49 15.7**	**+3.0**
PSGCX	**Pisagua**	**3.19**	**334**		**Pn**	**08 49 12.2**	**-1.8**
PSGCX	**Pisagua**	**3.19**	**334**	*eP*	**Pn**	**08 49 12.2**	**-1.8**
PSGCX				*eS*	Sn	08 49 38.4	-13
PSGCX				IAML		08 49 45.1	
	comp=Z,1μm,0.4s						
PSGCX	**Pisagua**	**3.19**	**334**	*eP*	**Pn**	**08 49 12.2**	**-1.8**
PSGCX				*eS*	Sn	08 49 38.4	-13
PSGCX				IAML		08 49 45.1	
	comp=Z,1μm,0.4s						
MNMC	**Minye Minye**	**3.46**	**345**		**Pn**	**08 49 17.2**	**-0.5**
MNMC	**Minye Minye**	**3.46**	**345**	*eP*	**Pn**	**08 49 17.2**	**-0.5**
MNMC				*eS*	**Sn**	**08 49 55.8**	**-2.5**
MNMC				IAML		08 50 01.3	
	comp=N,3μm,0.3s						
MNMCX	**Minye Minye**	**3.46**	**345**	*eP*	**Pn**	**08 49 17.1**	**-0.6**
MNMCX				*eS*	Sn	08 49 43.9	-14
MNMCX				IAML		08 50 26.2	
	comp=Z,1μm,0.4s						
MNMCX	**Minye Minye**	**3.46**	**345**	*eP*	**Pn**	**08 49 17.1**	**-0.6**
MNMCX				*eS*	Sn	08 49 43.9	-14
MNMCX				IAML		08 50 26.2	
	comp=Z,1μm,0.4s						
SLA	**San Lorenzo**	**3.64**	**128**	*eP*	**Pn**	**08 49 24.0**	**+4.0**
SLA	**San Lorenzo**	**3.64**	**128**	*eP*	**Pn**	**08 49 24.0**	**+4.0**
AZAP	**Zapla**	**3.72**	**118**	*eP*	**Pn**	**08 49 23.2**	**+2.1**
AZAP				*eP*	**Pn**	**08 49 23.7**	**+2.6**
AZAP	**Zapla**	**3.72**	**118**	*eP*	**Pn**	**08 49 23.2**	**+2.1**
AZAP				*eP*	**Pn**	**08 49 23.7**	**+2.6**
AC01	**Pan de Azucar**	**4.04**	**206**		**Pn**	**08 49 23.7**	**-1.5**
AC01	**Pan de Azucar**	**4.04**	**206**	*eP*	**Pn**	**08 49 23.7**	**-1.5**
AC01				*eS*	**Sn**	**08 50 08.7**	**-3.1**
AC01				IAML		08 50 25.4	
	comp=Z,797nm,0.4s						
AC01	**Pan de Azucar**	**4.04**	**206**	*eP*	**Pn**	**08 49 23.7**	**-1.5**
AC01				*eS*	**Sn**	**08 50 08.7**	**-3.1**
AC01				IAML		08 50 25.4	
	comp=Z,797nm,0.4s						
ASTB	**Santa Barbara**	**4.13**	**111**	*eP*	**Pn**	**08 49 22.9**	**-3.7**
ASTB				*eP*	**Pn**	**08 49 28.0**	**+1.5**
ASTB	**Santa Barbara**	**4.13**	**111**	*eP*	**Pn**	**08 49 22.9**	**-3.7**
ASTB				*eP*	**Pn**	**08 49 28.0**	**+1.5**
PB12	**IPOC Station P**	**4.17**	**338**		**Pn**	**08 49 24.9**	**-2.1**
PB12	**IPOC Station P**	**4.17**	**338**	*eP*	**Pn**	**08 49 25.0**	**-2.0**
PB12				*eS*	Sn	08 50 29.4	+14
PB12				IAML		08 50 39.5	
	comp=Z,498nm,0.6s						
PB12	**IPOC Station P**	**4.17**	**338**	*eP*	**Pn**	**08 49 25.0**	**-2.0**
PB12				*eS*	Sn	08 50 29.4	+14
PB12				IAML		08 50 39.5	
	comp=Z,498nm,0.6s						
PB16	**IPOC Station P**	**4.22**	**349**		**Pn**	**08 49 28.6**	**+0.5**
PB16	**IPOC Station P**	**4.22**	**349**	*eP*	Pn	08 49 22.9	-5.2
PB16				*eP*	**Pn**	**08 49 28.4**	**+0.3**
PB16				IAML		08 51 04.9	
	comp=Z,333nm,0.6s				

CPSB Cacapava Do Su 15.73 123 eP Pn 08 51 59.1 -1.4
PCMB Pacaembu 16.16 90 eP Pn 08 52 05.0 -0.8
PLTB Pedras Altas 16.26 128 eP Pn 08 52 07.5 +0.5
TRQA Tornquist 16.54 161 P Pn 08 52 09.3 -1.1
TRQA IAmb IAmb 08 52 36.7
comp=Z,32nm,1.4s
CLDB Colider 16.88 49 eP Pn 08 52 12.3 -2.4
GO06 Curarrehue 17.20 187 P 08 52 17.5 -0.8
ARAG Araguaiana, MT 17.29 70 eP P 08 52 18.2 -1.2
CNLB Canela 17.39 117 eP P 08 52 19.6 -0.8
FRTB Fartura 17.61 96 eP Pn 08 52 23.5 -0.1
LR04 Corral 17.80 192 P Pn 08 52 25.8 +0.2
LR04 IAmb IAmb 08 52 55.1
comp=Z,44nm,1.2s
ATAH Atahualpa 17.92 327 P Pn 08 52 28.6 +0.8
comp=Z,6.0nm,0.8s,baz=121,slow=5.9,SNR=3.6
TIJ01 Guaruva-PR 18.19 103 eP P 08 52 29.7 +0.3
TBTG Tabatinga, AM 18.24 356 P P 08 52 30.4 +0.6
TBTG IAmb IAmb 08 52 33.2
comp=Z,98nm,0.7s
TBTG Tabatinga, AM 18.24 356 eP P 08 52 29.6 -0.3
PLCA Paso Flores 18.25 185 P Pn 08 52 31.0 -0.1
comp=Z,2.9nm,0.7s,baz=356,slow=12,SNR=11
PLCA Paso Flores 18.25 185 P P 08 52 30.2 +0.3
TER01 Tubaro-SC 18.61 113 eP P 08 52 33.1 -0.8
LL04 Puerto Octay 18.63 189 P P 08 52 34.1 +0.3
BB19B Bebedouro 18.75 89 eP P 08 52 35.3 -0.2
TEFE Tefe 19.27 12 eP P 08 52 41.2 +0.1
RCLB Rio Claro- Sao 19.53 94 eP P 08 52 43.5 -0.4
SPB Sao Paulo 19.57 97 P P 08 52 44.0 -0.3
SNDB Serra Nova Dou 19.59 61 eP P 08 52 43.6 -0.9
IPMB Ipameri, GO 19.70 81 eP P 08 52 45.0 -0.8
PET01 Itanhaem-SP 19.71 99 eP P 08 52 45.7 -0.1
NPGB Novo Progresso 20.01 42 eP P 08 52 47.2 -1.8
VAO Valinhos 20.01 96 eP P 08 52 48.2 -1.0
BDFB Brasilia 20.66 74 P P 08 52 55.2 -1.0
comp=Z,28nm,0.6s,baz=252,slow=13,SNR=62
comp=Z,28nm,0.6s
BDFB Brasilia 20.66 74 P P 08 52 55.7 -0.5
BDFB IAmb IAmb 08 52 58.1
comp=Z,35nm,0.8s
BDFB Brasilia 20.66 74 eP P 08 52 55.2 -1.0
MACA Manacapuru-AM 20.72 23 P 08 52 55.8 -0.9
MACA IAmb IAmb 08 52 60.0
comp=Z,93nm,0.6s
MACA Manacapuru-AM 20.72 23 eP P 08 52 55.4 -1.3
GO07 Milladeo Hill, 20.98 190 P P 08 52 59.1 -0.1
GO07 IAmb IAmb 08 53 05.4
comp=Z,72nm,1.3s
MCRA Macar, Loja 21.08 327 P P 08 53 02.2 +1.5
MCRA IAmb IAmb 08 53 02.9
comp=Z,14nm,0.7s
PMNB Patos De Minas 21.18 83 eP P 08 53 01.0 -0.7
PARB Paraibuna 21.23 97 eP P 08 53 01.1 -1.2
ARNL Arenillas 21.84 328 IAmb IAmb 08 53 39.6
comp=Z,15nm,0.7s
ITTB Itaituba 21.94 37 eP P 08 53 07.8 -1.9
BSCB Bom Sucesso 22.23 91 eP P 08 53 12.1 -0.8
SGCB SÈo Gabriel d 22.30 4 eP P 08 53 13.4 0.0
CHSH Refugio Sur-Vo 23.12 333 IAmb IAmb 08 53 41.9
comp=Z,37nm,0.6s
VAS01 Vassouras-RJ 23.31 94 eP P 08 53 21.8 -1.5
PIAT Ana Tenorio 23.32 335 eP P 08 53 26.6 +2.8
DIAM Diamantina, MG 23.78 84 eP P 08 53 26.6 -1.2
MC01 Montes Claros 23.97 81 eP P 08 53 28.1 -1.2
JANB Januaria 24.19 76 eP P 08 53 30.6 -0.7
DUB01 Friburgo-RJ 24.32 94 eP P 08 53 33.2 +0.8
SMTB Santa Maria do 24.35 59 eP P 08 53 32.3 -0.5
PRPB Parauapebas 24.38 51 eP P 08 53 32.0 -1.0
BONI La Bonita 24.39 338 eP P 08 53 36.7 +3.4
OTAV Otavalo 24.53 336 P P 08 53 35.5 +0.7
OTAV Otavalo 24.53 336 eP P 08 53 37.3 +2.5
OTAV Otavalo 24.53 336 eP P 08 53 37.5 +2.7
FLF1 Flavio Alfaro- 24.55 332 eP P 08 53 36.8 +2.2
CUSE Cuicocha Este 24.57 336 eP P 08 53 38.0 +2.8
TULM Tulcn-Chalpat 24.73 338 eP P 08 53 40.7 +4.0
SDBA SAO DESIDERIO 24.75 70 eP P 08 53 34.9 -1.6
MALB Monte Alegre 24.83 36 eP P 08 53 36.6 -0.5
FLC Florencia 24.89 343 eP P 08 53 39.6 +2.0
CAM01 Campos-RJ 25.01 94 eP P 08 53 39.4 +0.7
GCUF Volcan Galeras 25.05 339 eP P 08 53 43.6 +3.9
SJMB Sao Joao De Ma 25.98 87 eP P 08 53 47.7 +0.2
BOAV Boa Vista 25.98 19 P P 08 53 47.6 +0.1
BOAV IAmb IAmb 08 53 50.0
comp=Z,12nm,0.7s
BOAV Boa Vista 25.98 19 eP P 08 53 49.4 +1.9
BOAV Boa Vista 25.98 19 eP P 08 53 49.0 +1.5
BSFB Barra de Sao F 26.26 87 eP P 08 53 50.0 -0.1
RIB01 Linhares ES 26.58 88 eP P 08 53 52.8 -0.1
PTGC Puerto Gaitan, 26.75 352 eP P 08 53 57.4 +3.0
ORTC Ortega, Tolima 27.02 345 eP P 08 53 58.7 +1.8
NAN01 Guarapari, ES 27.16 85 eP P 08 53 58.1 0.0
MCPB Macapa, AP 27.30 39 eP P 08 53 59.0 -0.4
YOTC Yotoco, Valle 27.37 343 eP P 08 54 03.8 +3.7
CHIC Chingaza 27.41 349 eP P 08 54 02.0 +1.2
GUA01 Guaratinga, BA 27.79 83 eP P 08 54 03.5 -0.2
PLMC San Jos del P 28.24 344 eP P 08 54 09.7 +2.0
TMAB Tom-Au,PA,Br 28.26 48 eP P 08 54 08.4 +0.4
GUY2C Guyana, Caldas 28.32 346 eP P 08 54 09.0 +0.1
CMC01 Camacan, BA 28.43 81 eP P 08 54 10.1 +0.7
ABR01 Abrolhos, BA 28.45 86 eP P 08 54 09.8 +0.2
RUSC La Rusia 28.55 351 P P 08 54 11.7 +0.7
RUSC IAmb IAmb 08 54 17.6
comp=Z,9.7nm,0.9s
RUSC La Rusia 28.55 351 eP P 08 54 11.3 +0.4
GDU01 Guandu, BA 28.94 77 eP P 08 54 13.1 -0.9
CBOC Ciudad Bolivar 29.09 345 eP P 08 54 16.7 +1.3
PTBC PUERTO BERRIO, 29.41 348 eP P 08 54 16.1 -2.0
ZARC Zaragoza, Cauc 30.42 348 eP P 08 54 35.6 +8.6
ROSB Rosrio 30.76 54 eP P 08 54 29.1 -0.9
MDP Montagnes des 31.59 32 P P 08 54 37.7 +0.4
comp=Z,10nm,0.8s,baz=203,slow=9.6,SNR=5.5
comp=Z,10nm,0.8s
NBCL Cascavel-CE 34.55 63 eP P 08 55 03.2 +0.1
RCBR Riachuelo 35.70 67 P P 08 55 13.6 +0.6
comp=Z,26nm,0.8s,baz=35,slow=10,SNR=14
RCBR LR LR 09 09 11.2
comp=Z,87nm,18.0s,baz=352,slow=35
comp=Z,26nm,0.8s
RCBR Riachuelo 35.70 67 P P 08 55 13.1 +0.1
RCBR Riachuelo 35.70 67 eP P 08 55 13.4 +0.4
X58A Rowland 57.64 350 P P 08 58 04.6 +1.1
BELA Belgrano 2 57.73 172 P P 08 58 04.8 +1.1
BELA IAmb IAmb 08 58 13.8
comp=Z,9.9nm,1.3s
833A Chaparral WMA, 58.59 328 P P 08 58 11.9 +1.7
V58A Windy Hill, Pi 58.81 350 P P 08 58 12.8 +1.1
V58A IAmb IAmb 08 58 13.6
comp=Z,5.9nm,0.8s
X48A Hartselle 59.27 342 P P 08 58 15.7 +0.9
X48A IAmb IAmb 08 58 16.3
comp=Z,7.9nm,0.8s
TKL Tuckaleechee C 59.58 346 LR LR 09 27 45.4
comp=Z,50nm,18.6s,baz=269,slow=40
SWET Sewanee 59.69 344 P P 08 58 17.5 -0.3
SWET IAmb IAmb 08 58 19.6
comp=Z,7.5nm,0.9s
V52A Sevierville 59.72 346 P P 08 58 17.7 -0.2
V52A IAmb IAmb 08 58 19.1
comp=Z,10.0nm,1.1s
435B Jarrell 59.81 331 P P 08 58 19.1 +0.5
435B IAmb IAmb 08 58 20.8
comp=Z,6.7nm,0.8s
PLAL Pickwick Lake 60.06 342 P P 08 58 20.1 -0.2
PLAL IAmb IAmb 08 58 21.2
comp=Z,11nm,1.2s
V48A Smith Brothers 60.42 343 IAmb IAmb 08 58 23.7
comp=Z,4.7nm,0.7s
JCT Junction City 60.57 329 P P 08 58 24.6 +0.7
JCT IAmb IAmb 08 58 26.1
comp=Z,7.9nm,0.8s
CLTN Cedars of Leba 60.62 344 P P 08 58 24.3 +0.2
CLTN IAmb IAmb 08 58 25.6
comp=Z,4.2nm,0.8s
WHTX Lake Whitney, 60.79 332 IAmb IAmb 08 58 28.5
comp=Z,5.8nm,0.6s
WVT Waverly 61.06 342 P P 08 58 27.4 +0.4
WVT IAmb IAmb 08 58 28.1
comp=Z,8.4nm,0.8s
T50A Nancy 61.13 345 P P 08 58 28.0 +0.5
MIAR Mount Ida 61.47 337 IAmb IAmb 08 58 31.4
comp=Z,6.6nm,0.6s
T47A Sharon Grove 61.67 343 IAmb IAmb 08 58 32.5
comp=Z,7.7nm,0.8s
FW06 Azle 61.67 333 IAmb IAmb 08 58 34.8
comp=Z,5.9nm,0.8s
X37A Clayton 62.19 335 P P 08 58 35.4 +0.8
X37A IAmb IAmb 08 58 37.1
comp=Z,8.5nm,0.8s
ABTX Abilene, Hawle 62.29 331 IAmb IAmb 08 58 38.1
comp=Z,5.8nm,1.0s
HHAR Hobbs 63.16 337 IAmb IAmb 08 58 42.9
comp=Z,8.9nm,1.2s
TUL1 Leonard 63.51 336 IAmb IAmb 08 58 45.3
comp=Z,5.4nm,1.1s
CCM Cathedral Cave 63.86 340 P P 08 58 46.2 +0.6
CCM IAmb IAmb 08 58 46.6
comp=Z,6.6nm,0.8s
T35A Sooner Cattle 64.67 336 IAmb IAmb 08 58 53.7
comp=Z,14nm,1.2s
BLOK Blackwell 64.81 335 IAmb IAmb 08 58 53.9
comp=Z,9.9nm,0.8s
MSTX Muleshoe 64.87 329 IAmb IAmb 08 58 55.0
comp=Z,7.1nm,0.8s
P38A Dawn 66.02 339 IAmb IAmb 08 59 00.8
comp=Z,6.8nm,0.5s
KSU1 Kansas State U 66.63 337 IAmb IAmb 08 59 04.9
comp=Z,11nm,1.1s
R32A Long Quarter, 66.84 335 IAmb IAmb 08 59 07.1
comp=Z,15nm,1.1s
ANMO Albuquerque 67.46 327 P P 08 59 10.2 +1.2
ANMO IAmb IAmb 08 59 12.3
comp=Z,4.4nm,0.8s
QSPA South Pole Qui 67.70 180 P P 08 59 12.7 +2.5
QSPA IAmb IAmb 08 59 40.9
comp=Z,10nm,1.4s
N35A Tabor 67.84 338 IAmb IAmb 08 59 12.2
comp=Z,9.1nm,0.7s
DBIC Dimbokro 68.80 73 P P 08 59 18.4 +0.8
comp=Z,5.9nm,0.6s,baz=259,slow=6.1,SNR=8.0
comp=Z,5.9nm,0.6s
DBIC Dimbokro 68.80 73 P P 08 59 17.8 +0.2
DBIC IAmb IAmb 08 59 19.1
comp=Z,9.4nm,0.8s
KSCO Kaye Shedlock' 68.96 332 IAmb IAmb 08 59 21.1
comp=Z,11nm,0.7s
SDCO Great Sand Dun 69.22 329 IAmb IAmb 08 59 23.4
comp=Z,8.6nm,1.1s
Q24A Divide 70.04 330 IAmb IAmb 08 59 28.4
comp=Z,9.2nm,1.1s
SMCO Snowmass 71.06 329 IAmb IAmb 08 59 34.5
comp=Z,4.2nm,0.7s
O20A White River Ci 72.41 329 IAmb IAmb 08 59 43.1
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 72.73 327 IAmb IAmb 08 59 44.3
comp=Z,4.4nm,0.7s
RSSD Black Hills 73.79 334 P P 08 59 48.7 +1.4
RSSD IAmb IAmb 08 59 50.2
comp=Z,4.9nm,0.8s
PDAR Pinedale Array 75.09 330 P P 08 59 56.1 +1.2
comp=Z,0.5nm,0.5s,baz=136,slow=7.3,SNR=9.6
PDAR pP pP 09 00 27.4 +2.8
comp=Z,0.3nm,0.4s,baz=113,slow=10,SNR=3.1
comp=Z,0.5nm,0.5s
AHID Auburn Hatcher 75.81 329 IAmb IAmb 09 00 01.9
comp=Z,7.6nm,1.1s
ULM Lac du Bonnet 76.33 342 P P 09 00 02.4 +0.9
comp=Z,2.0nm,0.5s,baz=169,slow=6.1,SNR=4.8
comp=Z,2.0nm,0.5s
NVAR Mina Array Bea 76.42 322 P P 09 00 05.0 +2.4
comp=Z,0.7nm,0.7s,baz=155,slow=7.2,SNR=6.5
comp=Z,0.7nm,0.7s
SCHQ Schefferville 77.03 1 P P 09 00 06.7 +1.4
SCHQ IAmb IAmb 09 00 22.2
comp=Z,8.2nm,1.1s
TORD Torodi Ar. Bea 77.47 70 P P 09 00 09.2 +0.5
comp=Z,8.7nm,0.6s,baz=255,slow=5.3,SNR=55
TORD pP pP 09 00 38.0 -0.7
comp=Z,2.7nm,0.8s,baz=250,slow=4.3,SNR=1.8
comp=Z,8.7nm,0.6s
TORD Torodi Ar. Bea 77.47 70 P P 09 00 09.0 +0.3
TORD IAmb IAmb 09 00 13.5
comp=Z,4.9nm,0.8s
PLID Pearl Lake 79.90 328 IAmb IAmb 09 00 24.7
comp=Z,5.5nm,0.8s
PINE Pine Mountain 81.53 325 IAmb IAmb 09 00 34.4
comp=Z,9.3nm,1.2s
BOSA Boshof 82.78 118 P P 09 00 38.5 +1.3
comp=Z,4.9nm,0.8s,baz=274,slow=3.6,SNR=7.3
comp=Z,4.9nm,0.8s
ESDC Sonseca Array 86.38 44 P P 09 00 56.6 +1.7
comp=Z,1.0nm,1.0s,baz=244,slow=5.6,SNR=3.0
comp=Z,1.0nm,1.0s
URZ Urrvera 93.68 226 LR LR 09 36 19.0
comp=Z,140nm,20.9s,baz=124,slow=31
H11S2 WAKE ISLAND Hyl 28.22 276 T T 11 27 34.5
baz=104,slow=74,SNR=38
H11S1 WAKE ISLAND Hyl 28.23 276 T T 11 27 39.2
baz=104,slow=74,SNR=31
H11S3 WAKE ISLAND Hyl 28.24 276 T T 11 27 41.2
baz=104,slow=74,SNR=31
H11N3 WAKE ISLAND Hyl 28.33 278 T T 11 27 47.5
baz=104,slow=75,SNR=27
H11N2 WAKE ISLAND Hyl 28.35 278 T T 11 27 45.6
baz=104,slow=75,SNR=21
H11N1 WAKE ISLAND Hyl 28.35 278 T T 11 27 51.0
baz=104,slow=75,SNR=15
ASAR Alice Springs 129.14 207 PKP PKiKP 09 07 22.1 +0.7
comp=Z,0.7nm,0.7s,baz=117,slow=1.8,SNR=7.2
ASAR pPKP pPKPdf 09 07 53.0 +0.5
comp=Z,0.7nm,0.6s,baz=133,slow=1.9,SNR=5.9
WRA Warramunga Arr 132.21 210 PKP PKiKP 09 07 28.4 +0.7
comp=Z,0.8nm,0.5s,baz=157,slow=1.7,SNR=14
WRA pPKP pPKPdf 09 07 59.3 +0.9
comp=Z,0.6nm,0.6s,baz=157,slow=1.7,SNR=3.9
KSH Kashi 145.53 52 PKPbc PKiKP 09 07 52.9 -1.5
MKAR Makanchi Array 146.29 37 PKPbc PKPab 09 07 53.4 -0.2
comp=Z,1.6nm,0.8s,baz=326,slow=2.1,SNR=8.6
MKAR pPKPbc pPKPdf 09 08 23.1 +0.1
comp=Z,1.1nm,0.7s,baz=318,slow=3.3,SNR=3.7
KLR Kul'dur 148.81 334 PKPbc PKiKP 09 08 00.6 -0.1
comp=Z,1.2nm,0.8s,baz=74,slow=5.0,SNR=4.6
WMQ Urumqi 151.13 37 eP PKPdf 09 07 59.3 +0.1
HHC Hu-ho-hao-te 161.70 359 eP PKPdf 09 08 12.1 -0.9
PZH PanZhiHua 170.39 64 PKP PKPdf 09 08 19.0 -1.4

IDC 15 08:59:25.2±2.5,5°.78S×153°.44E, h0km, mb3.4/3, mbtmp3.5/4, ML3.7/1, MS3.5/2, Error ellipse: s-maj=54.1km s-min=26.7km az=83.0

ISC 15 08:59:26.9±2.1,5°.8S×153°.4E±0°.3, h10km, n7, σ1§34/6, mb3.5/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	2.00	316	Pn	Pn	09 00 00.8	0.0
	26nm,0.3s,baz=203,slow=5.7,SNR=14						
KRVT				Sn	Sb	09 00 28.3	-0.2
	25nm,0.3s,baz=140,slow=5.3,SNR=4.4						
	65nm,0.3s						
CTA	Charters Tower	15.85	205	LR	LR	09 08 35.5	
	comp=Z,52nm,19.8s,baz=90,slow=35						
WRA	Warramunga Arr	23.30	231	P	P	09 04 35.4	+0.2
	1.0nm,0.9s,baz=53,slow=10,SNR=4.9						
	1.0nm,0.9s						
ASAR	Alice Springs	25.88	225	P	P	09 04 59.3	+0.1
	0.8nm,0.8s,baz=65,slow=7.9,SNR=9.5						
	0.8nm,0.8s						
DAV	Davao City (W)	30.57	294	LR	LR	09 15 55.6	
	comp=Z,296nm,20.3s,baz=348,slow=32						
MKAR	Makanchi Array	81.45	319	P	P	09 11 45.6	+1.2
	0.3nm,0.6s,baz=118,slow=5.1,SNR=2.5						
	0.3nm,0.6s						
TORD	Torodi Ar. Bea	151.18	287	PKPbc	PKPbc	09 19 19.7	-1.9
	0.2nm,0.4s,baz=68,slow=2.7,SNR=2.6						

IDC 15 09:02:51.9±2.5,5°.69S×153°.66E, h0km, mb3.4/2, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=62.3km s-min=33.0km az=69.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	2.13	310	Pn	Pn	09 03 29.3	+0.5
	9.4nm,0.3s,baz=16,slow=1.8,SNR=2.0						
KRVT				Sn	Sn	09 03 55.8	-0.2
	20nm,0.3s,baz=74,slow=23,SNR=2.2						
	70nm,0.7s						
ASAR	Alice Springs	26.10	225	P	P	09 08 27.7	+0.1
	0.5nm,0.7s,baz=58,slow=8.5,SNR=5.1						
	0.5nm,0.7s						

MKAR Makanchi Array 81.56 319 P P 09 15 12.0 +0.4
0.2nm,0.6s,baz=95,slow=4.9,SNR=2.2
0.2nm,0.6s
TORD Torodi Ar. Bea 151.39 287 PKPbc PKPbc 09 22 48.1 -0.7
0.4nm,0.8s,baz=34,slow=4.9,SNR=1.9

MAN 15 09:03:59.6, 13°.48N×119°.94E, h9km, mb4.5, ML3.3, MS3.2
IDC 15 09:04:00.6±2.0, 13°.52N×121°.15E, h0km, mb3.8/4, mbtmp3.9/4, Error ellipse: s-maj=86.9km s-min=23.4km az=52.0

ISC 15 09:03:59.8±1.7, 13°.42N±0°.06×120°.05E±0°.08, h4km±12km, n14, σ1§68/19, mb3.7/3, 7C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.37	32	eP	Pg	09 04 07.4	+0.4
MACP	Maragondon, Ca	1.07	38	iP	Pg	09 04 18.7	-1.6
MACP				i S	Sg	09 04 32.3	-1.8
TGY	Tagaytay City	1.10	52	eP	Pn	09 04 22.1	0.0
TGY				eS	Sn	09 04 39.1	+1.3
BUSP	Coron	1.41	174	eP	Pn	09 04 26.4	+0.1
BUSP				eS	Sn	09 04 45.8	+0.4
SJMP	San Jose	1.41	132	iP	Pn	09 04 27.2	+0.9
SJMP				eS	Sn	09 04 41.2	-4.2
LQP	Lukban	1.61	64	eP	Pn	09 04 28.5	-0.7
LQP				eS	Sg	09 04 52.8	+1.3
OTRP	Odiongan	2.19	118	iP	Pb	09 04 41.4	+1.3
ENPP	El Nido	2.28	195	eP	Pn	09 04 39.5	+1.3
ENPP				eS	Sn	09 05 07.0	+0.3
GQP	Guinayangan	2.38	78	eP	Pn	09 04 40.7	+1.0
GQP				eS	Sn	09 05 11.9	+2.5
NJ2	Nanjing	18.58	357	eP	Pn	09 08 18.5	+0.4
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
CMAR	Chiang Mai Arr	20.89	287	P	Pn	09 08 55.8	+10
	comp=Z,1.4nm,0.3s,baz=102,slow=8.4,SNR=4.0						
	comp=Z,1.4nm,0.3s						
WRA	Warramunga Arr	36.01	157	P	P	09 11 01.0	-1.3
	comp=Z,2.4nm,0.6s,baz=335,slow=9.6,SNR=25						
	comp=Z,2.4nm,0.6s						
ASAR	Alice Springs	39.27	160	P	P	09 11 28.8	-1.0
	comp=Z,1.3nm,0.6s,baz=340,slow=7.0,SNR=28						
	comp=Z,1.3nm,0.6s						
KURBB	Kurchatov Arra	50.07	327	P	P	09 13 00.6	+4.9
	comp=Z,0.4nm,0.7s,baz=118,slow=7.5,SNR=2.0						
	comp=Z,0.4nm,0.7s						

IDC 15 09:08:55.1±0.7, 1°.97S×128°.52E, h0km, mb4.2/11, mbtmp4.2/13, ML4.3/2, MS3.5/16, Error ellipse: s-maj=24.5km s-min=14.7km az=75.0
DJA 15 09:08:59.9±0.5, 2°.2S×12°.8E±°, h37km±8km, M5.0/19, mb5.0/18, mB5.3/12, mBc6.5/7, Mjma4.5/17, ML4.9/13, MLv4.8/19, Ms(BB)4.4/14, Mw(mB)4.7/12, MwmBc5.8/7
NEIC 15 09:09:00.7±1.5, 2°.04S±0°.07×128°.52E±0°.09, h44km±5km, mb4.5/24, Error ellipse: s-maj=13.7km s-min=8.3km az=59.0

ISC 15 09:09:00.1±0.4, 2°.02S±0°.04×128°.45E±0°.04, h34km, n106, σ1§57/102, mb4.5/27, MS3.4/13, 6C-2D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	Masohi	1.40	160	P	Pn	09 09 24.3	+1.0
MSAI				S	Sb	09 09 43.4	+0.1
AAI	Ambon	1.68	189	P	Pn	09 09 28.0	+1.0
AAI				S	Sn	09 09 47.1	-0.2
NLAI	Namlea	1.81	228	P	Pn	09 09 28.6	-0.3
NLAI				S	Sn	09 09 50.4	-0.3
SANI	Sanana	2.46	269	P	Pn	09 09 34.7	-3.1
SANI				S	Sn	09 10 02.1	-4.6
BNDI	Bandanaira	2.88	150	P	Pn	09 09 43.4	-0.2
TNTI	Ternate	2.98	339	Pn	Pn	09 09 43.8	-1.2
TNTI	Ternate	2.98	339	P	Pn	09 09 43.9	-1.1
SWI	Sorong	3.04	68	P	Pn	09 09 44.6	-1.2
SWI				S	Sn	09 10 19.9	-1.1
SIJI	Sorong	3.04	68	Pn	Pn	09 09 44.7	-1.1
	29nm,0.3s,baz=258,slow=7.8,SNR=101						
SIJI				Sn	Sn	09 10 20.7	-0.4
	79nm,0.3s,baz=234,slow=23,SNR=15						
	124nm,0.3s						
FAKI	Fak Fak	3.90	103	Pn	Pn	09 09 56.1	-1.6
FAKI	Fak Fak	3.90	103	P	Pn	09 09 56.6	-1.1
FAKI				S	Sn	09 10 41.9	-0.4
RKPI	Ransiki, Papua	5.75	85	P	Pn	09 10 21.6	-1.5
	165nm,0.8s,8µm1.5nm						
LUWI	Luwuk	5.76	280	Pn	Pn	09 10 22.2	-1.0
LUWI	Luwuk	5.76	280	P	Pn	09 10 21.4	-1.8
	178nm,0.6s,2µm1.9nm2.5nm						
LUWI				S	Sn	09 11 27.1	-1.0
	178nm,0.6s,2µm1.9nm2.5nm						
SAUI	Saumlaki	6.57	154	P	Pn	09 10 36.7	+2.3
	144nm,0.6s,8µm1.4nm						
APSI	Ampana	6.89	279	P	Pn	09 10 38.0	-0.7
	641nm,0.5s,4µm2.3nm2.1nm						
MRSI	Marisa	6.96	291	P	Pn	09 10 39.7	-0.1
	154nm,0.5s,2µm0.8nm1.3nm						
TOLI2	Tolitoli	8.27	292	Pn	Pn	09 11 01.3	+3.5
DDMP	Don Marcelino,	8.52	341	iP	Pn	09 11 00.4	-0.8
SOEI	Soe	8.74	208	P	Pn	09 11 05.4	+1.2
	52nm,0.7s,1µm						
MPSI	Mapaga	8.86	285	P	Pn	09 11 05.9	0.0
	48nm,0.8s,2µm						
SPSI	Sidrap Palu	8.88	257	P	Pn	09 11 07.8	+1.7
	94nm,0.9s,1µm						
BKSI	Bulukumba	8.93	248	P	Pn	09 11 08.6	+1.8
	230nm,0.6s,2µm						
KAPI	Kappang	9.18	251	Pn	Pn	09 11 13.4	+3.3
	15nm,0.3s,baz=106,slow=6.8,SNR=17						
KAPI	Kappang	9.18	251	Pn	Pn	09 11 14.6	+4.4
SKMP	Bagumbayan, Su	9.34	335	iP	Pn	09 11 11.9	-0.5
BATI	Baumata	9.42	210	LR	LR	09 15 23.2	
	comp=Z,398nm,20.5s,baz=10,slow=41						
KCP	Kidapawan	9.57	340	eP	Pn	09 11 13.8	-1.9
BIPH	Bislig	10.35	348	iP	Pn	09 11 24.8	-1.5
PAGZ	Pagadian	11.03	333	iP	Pn	09 11 34.9	-0.6
MTN	Manton Dam	11.08	166	Pn	Pn	09 11 38.2	+1.9
MYLDM	Lahad Datu	12.24	306	Pn	Pn	09 11 56.3	+4.1
KNRA	Kununurra	13.57	179	Pn	Pn	09 12 09.4	-0.9
JAGI	Jajag, Banyuwa	15.61	245	P	P	09 12 41.1	-0.4
FITZ	Fitzroy Crossi	16.21	190	P	Pn	09 12 44.8	-0.6
LQP	Lukban	17.43	337	eP	P	09 13 05.6	+3.6
WB0	Warramunga Arr	18.57	162	P	P	09 13 12.6	-1.7
WB0				IAmb	IAmb	09 13 32.5	
	comp=Z,21nm,0.8s						
WRAB	Tennant Creek	18.71	162	P	P	09 13 14.6	-1.3
WRA	Warramunga Arr	18.72	162	P	P	09 13 14.1	-1.9
	comp=Z,1.2nm,0.3s,baz=342,slow=13,SNR=34						
WRA				LR	LR	09 21 29.5	
	comp=Z,236nm,19.0s,baz=342,slow=40						
	comp=Z,1.9nm,0.3s						
WRA	Warramunga Arr	18.72	162	P	P	09 13 14.4	-1.6
WB2	Warramunga Arr	18.72	162	P	P	09 13 15.3	-0.7
WB2				IAmb	IAmb	09 13 28.3	
	comp=Z,16nm,0.8s						
COEN	Coen	18.78	130		Pn	09 13 17.5	+0.2
COEN				IAmb	IAmb	09 13 30.8	
	comp=Z,27nm,0.9s						
WR0	Warramunga Arr	18.80	162	P	P	09 13 15.6	-1.2
PMG	Port Moresby	20.00	112	LR	LR	09 23 39.8	
	comp=Z,190nm,18.6s,baz=334,slow=44						
KPJI	Karang Pucung	20.15	254	P	Pn	09 13 33.6	-0.1
	comp=Z,46nm,1.6s						
MBWA	Marble Bar	20.83	203	P	P	09 13 37.0	-2.0
MBWA				IAmb	IAmb	09 13 57.5	
	comp=Z,15nm,0.9s						
LEM	Lembang	21.30	256	LR	LR	09 23 42.9	
	comp=Z,139nm,18.4s,baz=90,slow=42						
CNJI	Cibinong	21.88	255	P	P	09 13 49.8	-0.5
AS31	Alice Springs	22.16	167	P	P	09 13 52.2	-1.0
AS31				IAmb	IAmb	09 13 57.6	
	comp=Z,8.1nm,0.5s						
ASAR	Alice Springs	22.16	167	P	P	09 13 51.6	-1.6
	comp=Z,16nm,0.7s,baz=346,slow=12,SNR=93						
ASAR				S	S	09 17 54.6	-1.0
	comp=Z,3.5nm,0.8s,baz=350,slow=22,SNR=5.5						
	comp=Z,16nm,0.7s						
ASAR	Alice Springs	22.16	167	P	P	09 13 51.5	-1.8
GUMO	Guam	22.49	46	LR	LR	09 22 08.0	
	comp=Z,47nm,20.4s,baz=226,slow=35						
GIRL	Giralia	24.71	213	P	P	09 14 16.8	-1.5
CTAO	Charters Tower	25.00	137	P	P	09 14 22.7	+1.7
CTAO				IAmb	IAmb	09 14 39.0	
	comp=Z,12nm,1.1s						

FORT	**Forrest**	**28.61**	**181**	P	**P**	**09 14 52.2**	**-1.1**
MORW	**Morawa**	**29.38**	**203**	P	**P**	**09 14 58.7**	**-1.5**
PSI	**Prapat**	**29.90**	**279**	LR	LR	09 28 27.0	
	comp=Z,58nm,19.0s,baz=90,slow=39						
BBOO	**Buckleboo**	**31.45**	**168**	P	**P**	**09 15 17.8**	**-0.7**
BBOO				IAmb	IAmb	09 15 38.0	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**32.18**	**159**	P	**P**	**09 15 25.4**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=336,slow=11,SNR=5.4						
STKA				LR	LR	09 29 26.5	
	comp=Z,155nm,18.9s,baz=12,slow=38						
	comp=Z,1.9nm,0.7s						
STKA	**Stephens Creek**	**32.18**	**159**	P	**P**	**09 15 23.9**	**-1.0**
JNU	**Nakatsue**	**35.03**	**4**	LR	LR	09 28 21.0	
	comp=Z,65nm,21.0s,baz=168,slow=33						
WHN	**Wuhan**	**35.06**	**339**	⇑P	**P**	**09 15 52.9**	**+2.9**
CMAR	**Chiang Mai Arr**	**35.46**	**306**	P	**P**	**09 15 55.3**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=133,slow=7.8,SNR=6.8						
	comp=Z,0.7nm,0.3s						
KMI	**Kunming**	**36.73**	**319**	⇑P	**P**	**09 16 01.8**	**-2.8**
KMI				pP	pP	09 16 10.8	-2.6
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
PZH	**PanZhiHua**	**38.33**	**320**	P	**P**	**09 16 19.4**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,4.8s						
KSRS	**Korea Array**	**39.28**	**359**	P	**P**	**09 16 25.0**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=170,slow=8.3,SNR=6.2						
KSRS				LR	LR	09 31 14.8	
	comp=Z,46nm,22.0s,baz=165,slow=34						
	comp=Z,1.8nm,0.7s						
MJAR	**Matsushiro Arr**	**39.43**	**12**	P	**P**	**09 16 25.5**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=177,slow=8.8,SNR=4.1						
MJAR				LR	LR	09 30 19.5	
	comp=Z,62nm,21.0s,baz=182,slow=33						
	comp=Z,2.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**45.36**	**342**	*e*P	**P**	**09 17 18.5**	**+3.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,300nm,4.8s						
CN2	**Changchun**	**45.70**	**357**	*e*P	**P**	**09 17 20.0**	**+2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ASAJ	**Asahikawa**	**47.65**	**14**	LR	LR	09 38 40.0	
	comp=Z,17nm,19.5s,baz=104,slow=38						
ODAN	**Odare**	**48.89**	**309**	*e*P	**P**	**09 17 42.8**	**-0.5**
GTA	**Gaotai**	**48.90**	**330**	*e*P	**P**	**09 17 43.4**	**+0.4**
GTA				pP	sP	09 17 56.4	+0.4
GTA				sP	pwP	09 18 02.3	+7.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GOMU	**GeErMu**	**49.27**	**324**	P	P	09 17 52.0	+5.8
GOMU				pP	pP	09 17 56.1	+0.9
GOMU				sP	sP	09 17 57.0	-2.2
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,100nm,5.2s						
RAMN	**Ramite**	**49.55**	**309**	*e*P	**P**	**09 17 48.6**	**+0.3**
	comp=Z,21nm,0.6s						
JIRN	**Jiri**	**50.22**	**309**	*e*P	**P**	**09 17 53.9**	**+0.4**
PKI	**Pulchoki**	**50.78**	**309**	*e*P	**P**	**09 17 57.8**	**+0.1**
	comp=Z,2.9nm,0.3s						
PKIN	**Phulchoki**	**50.79**	**309**	*e*P	**P**	**09 17 57.7**	**-0.1**
	comp=Z,1.6nm,0.2s						
DMN	**Daman**	**51.04**	**308**	*e*P	**P**	**09 17 59.3**	**-0.3**
	comp=Z,14nm,0.3s						
HEH	**HeiHe**	**52.08**	**359**	*e*P	**P**	**09 18 06.4**	**-0.2**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,200nm,4.3s						
KOLN	**Koldanda**	**52.29**	**308**	*e*P	**P**	**09 18 09.1**	**+0.2**
DANN	**Dangsing**	**52.43**	**309**	*e*P	**P**	**09 18 09.8**	**-0.2**
PYUN	**Piuthan**	**52.92**	**308**	*e*P	**P**	**09 18 13.6**	**0.0**
	comp=Z,38nm,1.0s						
ULN	**Ulaanbaatar**	**53.08**	**342**	P	**P**	**09 18 14.3**	**0.0**
ULN				IAmb	IAmb	09 18 27.9	
	comp=Z,7.3nm,1.2s						
SONM	**Songino Array**	**53.26**	**342**	P	**P**	**09 18 14.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=155,slow=8.5,SNR=7.7						
SONM				LR	LR	09 43 15.8	
	comp=Z,28nm,18.2s,baz=90,slow=39						
	comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**53.26**	**342**	P	**P**	**09 18 15.7**	**+0.1**
RPZ	**Rata Peaks**	**56.12**	**144**	LR	LR	09 45 35.7	
	comp=Z,149nm,19.2s,baz=52,slow=39						
WMQ	**Urumqi**	**58.41**	**326**	*e*P	**P**	**09 18 52.8**	**+0.3**
WMQ				pP	pP	09 19 03.6	+1.9
WMQ				pmax	pmax		
	comp=Z,14nm,1.1s						
PETK	**Petropavlovsk-**	**60.15**	**20**	P	**P**	**09 19 04.0**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=215,slow=4.9,SNR=6.5						
	comp=Z,3.8nm,0.8s						
MK31	**Makanchi Array**	**63.24**	**326**	P	**P**	**09 19 24.6**	**-0.6**
MK31				IAmb	IAmb	09 19 26.3	
	comp=Z,3.4nm,0.8s						
MKAR	**Makanchi Array**	**63.24**	**326**	P	**P**	**09 19 24.3**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=120,slow=8.1,SNR=41						
MKAR				LR	LR	09 49 12.1	
	comp=Z,25nm,18.4s,baz=321,slow=38						
	comp=Z,4.7nm,0.8s						
MKAR	**Makanchi Array**	**63.24**	**326**	P	**P**	**09 19 24.6**	**-0.7**
MAKZ	**Makanchi**	**63.43**	**326**	P	**P**	**09 19 25.4**	**-1.1**
MAKZ				IAmb	IAmb	09 19 27.0	
	comp=Z,4.2nm,0.8s						
YAK	**Yakutsk**	**63.88**	**1**	LR	LR	09 49 18.2	
	comp=Z,28nm,18.0s,baz=92,slow=38						
ZALV	**Zalesovo Beam**	**66.46**	**334**	P	**P**	**09 19 45.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=92,slow=4.6,SNR=6.6						
ZALV				LR	LR	09 49 34.3	
	comp=Z,13nm,19.2s,baz=82,slow=37						
	comp=Z,1.4nm,0.7s						
KURK	**Kurchatov**	**67.49**	**328**	P	**P**	**09 19 51.6**	**-1.1**
BRVK	**Borovoye**	**73.13**	**328**	P	**P**	**09 20 26.1**	**-1.0**
BRVK				IAmb	IAmb	09 20 28.6	
	comp=Z,7.3nm,1.2s						
NRIK	**Noril'sk**	**76.39**	**346**	P	**P**	**09 20 46.5**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=113,slow=6.2,SNR=4.2						
	comp=Z,1.6nm,0.5s						
VNDA	**Vanda**	**77.55**	**173**	P	**P**	**09 20 51.4**	**-0.7**
ABKAR	**Akbulak array**	**77.67**	**321**	P	**P**	**09 20 53.7**	**+0.4**
QSPA	**South Pole Qui**	**87.92**	**180**	P	**P**	**09 21 47.5**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=251,slow=1.4,SNR=7.7						
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**87.92**	**180**	P	**P**	**09 21 45.7**	**-0.6**
QSPA				IAmb	IAmb	09 22 06.8	
	comp=Z,4.4nm,0.9s						
ILAR	**Eielson Array**	**89.53**	**25**	P	**P**	**09 21 50.9**	**-2.8**
	comp=Z,0.4nm,0.8s,baz=239,slow=7.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**126.19**	**285**	PKP	**PKiKP**	**09 28 02.1**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=67,slow=3.7,SNR=3.3						
CPUP	**Villa Florida**	**151.27**	**169**	PKPbc	**PKiKP**	**09 28 52.2**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=81,slow=2.1,SNR=7.9						

IDC ***15*** *09:11:11.3±1.2,2°.08S×128°.43E, h0km, mb4.0/4, mbtmp4.0/6, ML4.0/2, Error ellipse: s-maj=43.3km s-min=23.9km az=74.0*

NEIC ***15*** *09:11:16.4±1.1, 1°.89S±0°.09×128°.67E±0°.06, h36km±9km, mb4.0/8, Error ellipse: s-maj=14.3km s-min=6.9km az=206.0*

ISC 15 09:11:16.3±0.7,1°.98S±0°.08×128°.58E±0°.08,h35km,n23, σ1ᵍ21/23,mb4.1/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.90**	**68**	Pn	**Pn**	**09 12 01.0**	**+0.9**
	17nm,0.3s,baz=246,slow=12,SNR=2.3						
SIJI				Sn	**Sn**	**09 12 35.9**	**+2.1**
	43nm,0.3s,baz=147,slow=23,SNR=7.5						
	43nm,0.3s						
TNTI	**Ternate**	**2.99**	**336**	Pn	**Pn**	**09 11 59.7**	**-1.6**
FAKI	**Fak Fak**	**3.78**	**104**	Pn	**Pn**	**09 12 11.2**	**-0.9**
TOLI2	**Tolitoli**	**8.38**	**291**	Pn	**Pn**	**09 13 16.6**	**+1.1**
KAPI	**Kappang**	**9.31**	**251**	Pn	**Pn**	**09 13 30.8**	**+2.5**
	3.7nm,0.3s,baz=90,slow=15,SNR=4.3						
KAPI	**Kappang**	**9.31**	**251**	Pn	**Pn**	**09 13 29.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**16.28**	**190**	P	Pn	09 14 53.0	-9.4
WB0	**Warramunga Arr**	**18.57**	**163**	P	**P**	**09 15 30.6**	**+0.2**
WB0				IAmb	IAmb	09 15 48.6	
	comp=Z,11nm,1.0s						
COEN	**Coen**	**18.70**	**130**	P	**Pn**	**09 15 32.3**	**-0.2**
COEN				IAmb	IAmb	09 15 45.1	
	comp=Z,10nm,0.9s						
WRAB	**Tennant Creek**	**18.71**	**163**	P	**P**	**09 15 31.6**	**-0.4**
WRAB				IAmb	IAmb	09 15 58.8	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**18.72**	**163**	P	**P**	**09 15 31.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=344,slow=12,SNR=2.7						
	comp=Z,1.3nm,0.6s						
WR0	**Warramunga Arr**	**18.80**	**162**	P	**P**	**09 15 32.5**	**-0.5**
AS31	**Alice Springs**	**22.17**	**167**	P	**P**	**09 16 08.3**	**-1.2**
AS31				IAmb	IAmb	09 16 20.8	
	comp=Z,3.4nm,0.8s						
ASAR	**Alice Springs**	**22.17**	**167**	P	**P**	**09 16 08.2**	**-1.3**
	comp=Z,7.8nm,0.7s,baz=349,slow=12,SNR=4.6						
	comp=Z,7.8nm,0.7s						
ASAR	**Alice Springs**	**22.17**	**167**	P	**P**	**09 16 08.1**	**-1.4**
BBOO	**Buckleboo**	**31.46**	**168**	P	**P**	**09 17 34.6**	**-0.1**
KSAR	**Wonju Array Be**	**39.23**	**359**	P	**P**	**09 18 39.6**	**-1.7**
SONM	**Songino Array**	**53.26**	**341**	P	**P**	**09 20 32.8**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=154,slow=8.6,SNR=3.1						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**63.28**	**326**	P	**P**	**09 21 41.3**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=116,slow=8.2,SNR=3.6						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**63.28**	**326**	P	**P**	**09 21 41.2**	**-0.5**
ABKAR	**Akbulak array**	**77.72**	**321**	P	**P**	**09 23 08.9**	**-0.7**
QSPA	**South Pole Qui**	**87.97**	**180**	P	**P**	**09 24 02.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=300,slow=2.8,SNR=2.1						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**87.97**	**180**	P	**P**	**09 24 03.1**	**+0.5**

SOME ***15*** *09:17:39.0, 39°.55N×73°.97E, h10km*
KRNET ***15*** *09:17:39.8±0.1, 39°.15N×74°.30E, mb3.7*
NNC ***15*** *09:17:42.0±1.3, 39°.51N×74°.30E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=12.1km s-min=7.0km az=153.0*

ISC 15 09:17:39.3±1.2,39°.23N±0°.07×74°.25E±0°.05,h10km,n53, σ1ᵍ30/64,25C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.72**	**320**	⇑*i*P	**Pn**	**09 18 10.2**	**+0.9**
OHH				⇑*i*S	**Sn**	**09 18 32.3**	**+1.0**
	baz=20						
DRK	**Karamyk**	**1.91**	**278**	⇑*e*P	**Pn**	**09 18 12.4**	**+0.2**
DRK				⇑*i*S	**Sn**	**09 18 36.3**	**-0.2**
	baz=81						
NRN	**Naryn**	**2.58**	**31**	⇑*i*P	**Pn**	**09 18 21.3**	**-0.1**
NRN				⇑*e*S	**Sn**	**09 18 51.5**	**-1.5**
	baz=29						
ARLS	**Aral**	**2.63**	**1**	⇑*i*P	**Pn**	**09 18 22.8**	**+0.8**
ARLS				⇑*i*S	**Sn**	**09 18 54.0**	**-0.1**
	baz=0.0						
BTK	**Batken**	**2.77**	**289**	⇑*i*P	**Pn**	**09 18 24.6**	**+0.8**
BTK				⇑*i*S	**Sn**	**09 18 56.9**	**-0.5**
	baz=90						
AML	**Almayashu**	**2.93**	**352**	P	**Pn**	**09 18 27.1**	**+0.8**
	SNR=23						
AML	**Almayashu**	**2.93**	**352**	⇑*e*P	**Pn**	**09 18 27.4**	**+1.1**
AML				⇑*i*S	**Sn**	**09 19 01.8**	**0.0**
	baz=51						
UCH	**Uchtor**	**3.00**	**4**	P	**Pn**	**09 18 28.3**	**+0.9**
	SNR=21						
UCH	**Uchtor**	**3.00**	**4**	⇑*e*P	**Pn**	**09 18 28.2**	**+0.9**
UCH				⇑*e*S	**Sn**	**09 19 03.4**	**-0.3**
	baz=3.0						
GAR	**Garm**	**3.06**	**267**	⇑*i*P	**Pn**	**09 18 28.3**	**+0.4**
GAR				⇑*i*S	**Sn**	**09 19 03.6**	**-1.1**
	baz=68						
ARK	**Arkit**	**3.10**	**327**	⇓*i*P	**Pn**	**09 18 29.5**	**+1.1**
ARK				⇓*i*S	**Sn**	**09 19 06.1**	**+0.5**
	baz=27						
TRKS	**Terek-Say**	**3.31**	**315**	⇑*e*P	**Pn**	**09 18 31.6**	**+0.4**
TRKS				⇑*i*S	**Sn**	**09 19 09.1**	**-1.5**
	baz=15						
AAK	**Ala-Archa**	**3.41**	**3**	P	**Pn**	**09 18 34.2**	**+1.5**
	SNR=15						
EKS2	**Erkin-Say**	**3.45**	**354**	P	**Pn**	**09 18 35.4**	**+2.2**
	SNR=11						
KBK	**Karagaybulak**	**3.47**	**9**	P	**Pn**	**09 18 35.1**	**+1.6**
	SNR=11						
MRKS	**Merke**	**3.60**	**348**	Pg	**Pn**	**09 18 37.4**	**+2.2**
	7.6nm,0.5s						
MRKS	**Merke**	**3.60**	**348**	*e*Pg	**Pn**	**09 18 37.4**	**+2.2**
	7.6nm,0.5s						
MRKS				*e*Lg	Lg	09 19 19.9	
	15nm,0.3s						
CHMS	**Chumysh**	**3.79**	**6**	⇓Pn	**Pn**	**09 18 38.5**	**+0.7**
	2.8nm,0.5s						
CHMS				⇓Pg	**Pb**	**09 18 47.0**	**+0.8**
	5.7nm,0.6s						
CHMS				⇑Lg	Lg	09 19 35.0	
	36nm,1.3s						
TKM2	**Tokmak 2**	**3.83**	**15**	P	**Pn**	**09 18 39.4**	**+1.0**
	SNR=13						
TKM2	**Tokmak 2**	**3.83**	**15**	⇑Pn	**Pn**	**09 18 39.2**	**+0.8**
	3.4nm,0.4s						
TKM2				⇓Pg	**Pb**	**09 18 47.8**	**+0.7**
	12nm,0.8s						
TKM2				⇓Lg	Lg	09 19 34.5	
	38nm,1.6s						
KST	**Kastek**	**4.03**	**18**	Pg	**Pb**	**09 18 49.1**	**-1.2**
	9.8nm,0.5s						
KST				Lg	Lg	09 19 40.7	
	30nm,0.8s						
KST	**Kastek**	**4.03**	**18**	*e*Pg	**Pb**	**09 18 49.1**	**-1.2**
	9.8nm,0.3s						
KST				*e*Lg	Lg	09 19 39.9	
	32nm,0.5s						
MTBS	**Maitube**	**4.23**	**22**	Pg	**Pb**	**09 18 54.9**	**+1.0**
	9.0nm,0.5s						
MTBS				Lg	Lg	09 19 49.8	
	15nm,0.5s						
MTBS	**Maitube**	**4.23**	**22**	*e*Pg	**Pb**	**09 18 54.6**	**+0.7**
	9.4nm,0.3s						
MTBS				*e*Lg	Lg	09 19 49.5	
	16nm,0.3s						
TNSS	**Tian-Shan**	**4.32**	**27**	Pg	**Pb**	**09 18 54.8**	**-0.7**
	17nm,0.4s						
TNSS				Lg	Lg	09 19 51.6	
	10nm,1.7s						
TNSS	**Tian-Shan**	**4.32**	**27**	*e*Pg	**Pb**	**09 18 54.8**	**-0.7**
	17nm,0.2s						
TNSS				*e*Lg	Lg	09 19 49.6	
	11nm,0.5s						
IUG	**Iuzhnay**	**4.33**	**314**	Pg	Pn	09 18 51.0	+5.7
	21nm,0.4s						
IUG				Lg	Lg	09 19 43.2	
	33nm,0.7s						
IUG	**Iuzhnay**	**4.33**	**314**	*e*Pg	Pn	09 18 51.0	+5.7
	21nm,0.2s						
IUG				*e*Lg	Lg	09 19 43.2	
	44nm,0.5s						
MDOK	**Medeo**	**4.47**	**27**	Pg	**Pb**	**09 18 57.6**	**-0.3**
	13nm,0.5s						
MDOK				⇑Pg	Pg	09 18 58.9	-5.8
	13nm,0.4s						
MDOK				Lg	Lg	09 19 54.8	
	23nm,1.2s						
MDOK				⇑Lg	Lg	09 19 55.9	
	43nm,1.2s						
MDOK	**Medeo**	**4.47**	**27**	*e*Pg	**Pb**	**09 18 57.4**	**-0.5**
	13nm,0.2s						
MDOK				*e*Lg	Lg	09 19 54.0	
	23nm,1.2s						
KOTS	**Kotyrbulak**	**4.55**	**27**	Pg	**Pb**	**09 18 59.1**	**-0.2**
	12nm,0.5s						
KOTS				Lg	Lg	09 19 57.4	
	25nm,1.1s						
KOTS	**Kotyrbulak**	**4.55**	**27**	*e*Pg	**Pb**	**09 18 59.1**	**-0.2**
	12nm,0.5s						
KOTS				*e*Lg	Lg	09 19 56.9	
	34nm,0.4s						
KRBS	**Karabastau**	**4.59**	**13**	Pg	**Pb**	**09 18 57.4**	**-2.5**
	10nm,0.4s						
KRBS	**Karabastau**	**4.59**	**13**	*e*Pg	**Pb**	**09 18 58.7**	**-1.2**
	10nm,0.3s						
KRBS				*e*Lg	Lg	09 19 56.1	
	13nm,1.1s						
KK31	**Karatay Array**	**4.79**	**325**	⇑Pn	**Pn**	**09 18 53.0**	**+1.5**
	0.6nm,0.2s,baz=131,slow=12,SNR=36						
KK31				⇑Pg	**Pb**	**09 19 04.2**	**+0.9**
	2.7nm,0.7s,baz=135,slow=14,SNR=6.5						
KK31				⇑Lg	Lg	09 20 06.8	
	4.1nm,0.5s						
KTBS	**Karatobe**	**4.84**	**21**	Pg	**Pb**	**09 19 03.9**	**-0.3**
	6.4nm,0.4s						
KTBS				Lg	Lg	09 20 06.1	
	18nm,0.5s						
KTBS	**Karatobe**	**4.84**	**21**	*e*Pg	**Pb**	**09 19 03.5**	**-0.7**
	6.8nm,0.3s						
KTBS				*e*Lg	Lg	09 20 04.6	
	18nm,0.3s						
KUU	**Kurty**	**4.92**	**18**	Pg	**Pb**	**09 19 06.5**	**+1.0**
	4.1nm,0.5s						
KUU				Lg	Lg	09 20 09.7	
	17nm,0.8s						
KUU	**Kurty**	**4.92**	**18**	*e*Pg	**Pb**	**09 19 06.5**	**+1.0**
	4.1nm,0.2s						
KUU				*e*Lg	Lg	09 20 09.7	
	20nm,0.6s						
SATY	**Saty**	**4.95**	**38**	Pg	**Pb**	**09 19 07.9**	**+1.7**
	14nm,0.9s						
SATY				Lg	Lg	09 20 12.0	
	20nm,0.9s						
SATY	**Saty**	**4.95**	**38**	*e*Pg	**Pb**	**09 19 07.8**	**+1.7**
	14nm,0.9s						
SATY				*e*Lg	Lg	09 20 12.0	
	19nm,0.7s						
CHKK	**Chushkaly**	**5.06**	**23**	Pg	**Pb**	**09 19 10.3**	**+2.4**
	5.3nm,0.4s						
CHKK				Lg	Lg	09 20 16.1	
	12nm,0.2s						
CHKK	**Chushkaly**	**5.06**	**23**	*e*Pg	**Pb**	**09 19 10.3**	**+2.4**
	5.3nm,0.4s						
CHKK				*e*Lg	Lg	09 20 16.1	
	13nm,0.1s						
KURS	**Kuram**	**5.18**	**33**	Pg	**Pb**	**09 19 11.5**	**+1.5**
	4.3nm,0.8s						
KURS				Lg	Lg	09 20 18.5	
	9.8nm,0.8s						
KURS	**Kuram**	**5.18**	**33**	*e*Pg	**Pb**	**09 19 11.5**	**+1.5**
	4.3nm,0.3s						
KURS				*e*Lg	Lg	09 20 18.5	
	9.8nm,0.5s						
UZB	**Uzynbulak**	**5.32**	**41**	Pg	**Pb**	**09 19 14.3**	**+1.8**
	6.5nm,0.3s						
UZB				Lg	Lg	09 20 23.0	
	14nm,1.4s						
UZB	**Uzynbulak**	**5.32**	**41**	*e*Pg	**Pb**	**09 19 14.3**	**+1.8**
	6.5nm,0.2s						
UZB				*e*Lg	Lg	09 20 23.0	
	8.9nm,0.4s						
SHLS	**Shalkode**	**5.56**	**43**	Pg	**Pg**	**09 19 23.6**	**-2.1**
	7.9nm,0.4s						
SHLS				Lg	Lg	09 20 38.9	
	8.9nm,1.3s						
SHLS	**Shalkode**	**5.56**	**43**	*e*Pg	**Pg**	**09 19 23.6**	**-2.1**
	7.9nm,0.2s						
SHLS				*e*Lg	Lg	09 20 38.9	
	79nm,0.4s						
CHCP	**Chirah Chowk**	**5.61**	**188**	P	**Pn**	**09 19 05.9**	**+3.1**
CEP	**Cherat**	**5.71**	**200**	P	**Pn**	**09 19 04.9**	**+0.6**
BTLS	**Baital**	**5.81**	**359**	Pg	**Pb**	**09 19 20.8**	**+0.1**
	2.0nm,1.0s						
BTLS				Lg	Lg	09 20 34.2	
	4.2nm,0.6s						
BTLS	**Baital**	**5.81**	**359**	*e*Pg	**Pb**	**09 19 20.8**	**+0.1**
	2.0nm,0.8s						
BTLS				*e*Lg	Lg	09 20 34.1	
	2.1nm,0.3s						

NEIC ***15*** *09:29:33.0±2.6, 30°.01S±0°.06×177°.7W±0°.2, h12km±6km, mb4.7/17, Error ellipse: s-maj=22.1km s-min=9.3km az=87.0*

IDC ***15*** *09:29:39.2±0.8, 29°.59S×177°.97W, h72km±5km, mb4.0/5, mbtmp4.4/6, MS3.5/11, Error ellipse: s-maj=37.6km s-min=15.6km az=174.0*

WEL ***15*** *09:31:28.4, 38°.S±18°×17°.8E±1°.3, h47km±15km, M2.3/16, ML2.6/22, MLv2.3/16, Error ellipse: s-maj=0.0km s-min=0.0km az=170.4*

ISC 15 09:29:37.2±0.5,30°.06S±0°.05×177°.84W±0°.08,h50km, n119,σ2ᵍ44/92,mb4.6/13,MS3.6/12,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.81**	**355**		**Pn**	**09 29 51.6**	**-0.8**
RAO				Sn	**Sn**	**09 30 01.3**	**-2.2**
WMGZ	**Waiomatatini S**	**8.34**	**201**	P	**Pn**	**09 31 33.9**	**-1.5**
HAZ	**Te Kaha**	**8.49**	**204**	P	**Pn**	**09 31 36.4**	**-1.1**
PKGZ	**Pakihiroa**	**8.51**	**202**	P	**Pn**	**09 31 36.0**	**-1.8**
PUZ	**Puketiti**	**8.62**	**201**	P	**Pn**	**09 31 36.8**	**-2.5**
RUGZ	**Raukumara Rang**	**8.71**	**204**	P	**Pn**	**09 31 38.6**	**-2.1**
TWGZ	**Tauwhareparae**	**8.80**	**202**	P	**Pn**	**09 31 39.9**	**-1.9**
CNGZ	**Carnagh Statio**	**9.01**	**200**	P	**Pn**	**09 31 42.6**	**-2.1**
OPRZ	**Ohinepanea**	**9.05**	**209**	P	**Pn**	**09 31 45.6**	**+0.5**
TKGZ	**Te Karaka**	**9.08**	**202**	P	**Pn**	**09 31 43.1**	**-2.6**
MWZ	**Matawai**	**9.10**	**204**	P	**Pn**	**09 31 43.0**	**-2.8**
URZ	**Urewera**	**9.18**	**206**	P	**Pn**	**09 31 44.6**	**-2.4**
URZ	4.1nm,0.3s,baz=354,slow=2.9,SNR=69			S	**Sn**	**09 33 26.9**	**-1.9**
	43nm,0.4s,baz=216,slow=3.6,SNR=3.8						
URZ	**Urewera**	**9.18**	**206**	P	**Pn**	**09 31 44.6**	**-2.4**
RIGZ	**Rimuhau**	**9.35**	**202**	P	**Pn**	**09 31 47.3**	**-2.1**
MUGZ	**Murupara**	**9.50**	**207**	P	**Pn**	**09 31 48.6**	**-2.8**
SNGZ	**Shannon Statio**	**9.56**	**203**	P	**Pn**	**09 31 49.6**	**-2.6**
SNGZ	**Shannon Statio**	**9.56**	**203**	P	**Sn**	**09 33 39.6**	**+1.3**
KNZ	**Kokohu**	**9.67**	**201**	P	**Pn**	**09 31 49.6**	**-4.1**
MHGZ	**Mahia Peninsul**	**9.72**	**200**	P	**Pn**	**09 31 51.8**	**-2.6**
ALRZ	**Allen Road**	**9.74**	**208**	P	**Pn**	**09 31 53.8**	**-0.9**
RAHZ	**Arahi**	**9.77**	**204**	P	**Sn**	**09 33 43.7**	**+0.3**
MTHZ	**Maungataniwha**	**9.80**	**205**	P	**Pn**	**09 31 53.2**	**-2.4**
MTHZ	**Maungataniwha**	**9.80**	**205**	P	**Sn**	**09 33 46.0**	**+1.8**
WHHZ	**Waihua**	**9.86**	**203**	P	**Sn**	**09 33 45.3**	**-0.3**
MRHZ	**Matea Rd**	**9.95**	**207**	P	**Pn**	**09 31 54

RAR	**Rarotonga**	**18.50**	**66**		**P**		**P**	09 33 45.7 -3.7
RAR				IAmb	IAmb			09 33 57.3
	comp=Z,46nm,1.0s							
TBI	**Tubuai**	**26.17**	**82**	*e*LR	LR			09 41 24.2
	comp=Z,686nm,27.0s							
TBI				*e*LR	LR			09 41 24.7
	comp=Z,2μm,24.8s							
TBI	**Tubuai**	**26.17**	**82**	*e*T	T			10 02 15.5
	comp=Z,32nm,0.2s							
ARMA	**Armidale**	**26.35**	**261**	P	**P**			**09 35 11.1 +2.3**
EIDS	**Eidsvold**	**27.86**	**272**	P	**P**			**09 35 24.5 +2.2**
EIDS				IAmb	IAmb			09 35 40.9
	comp=Z,20nm,1.4s							
PPT2	**Papeete2**	**28.59**	**71**	*e*LR	LR			09 42 29.2
	comp=Z,171nm,31.0s							
PPT2				*e*LR	LR			09 42 29.5
	comp=Z,209nm,26.8s							
PPT2	**Papeete2**	**28.59**	**71**	*e*T	T			10 04 59.9
	comp=Z,6.5nm,0.2s							
PPT	**Papeete**	**28.60**	**71**	LR	LR			09 46 33.3
	comp=Z,42nm,18.4s,baz=238,slow=36							
TVO	**Taravao**	**28.76**	**71**	*e*T	T			10 05 18.8
	comp=Z,4.1nm,0.3s							
MEH	**Mehetia**	**29.69**	**73**	*e*T	T			10 06 33.9
	comp=Z,8.3nm,0.2s							
CTA	**Charters Tower**	**33.89**	**279**	LR	LR			09 48 19.1
	comp=Z,84nm,18.4s,baz=100,slow=33							
CTAO	**Charters Tower**	**33.89**	**279**	P	**P**			**09 36 17.3 +1.9**
CTAO				IAmb	IAmb			09 36 34.7
	comp=Z,11nm,1.2s							
STKA	**Stephens Creek**	**34.69**	**256**	P	**P**			**09 36 23.2 +0.9**
	comp=Z,1.6nm,0.4s,baz=102,slow=13,SNR=6.2							
STKA				LR	LR			09 48 26.1
	comp=Z,100nm,18.9s,baz=45,slow=32							
	comp=Z,1.6nm,0.4s							
STKA	**Stephens Creek**	**34.69**	**256**	P	**P**			**09 36 24.3 +2.0**
PMG	**Port Moresby**	**38.59**	**295**	LR	LR			09 50 55.0
	comp=Z,83nm,19.9s,baz=154,slow=33							
BBOO	**Buckleboo**	**39.20**	**254**	P	**P**			**09 37 01.2 +0.6**
BBOO				IAmb	IAmb			09 37 20.6
	comp=Z,16nm,1.1s							
TAOE	**Nuku Hiva Isla**	**41.05**	**67**	*e*LR	LR			09 48 14.8
	comp=Z,101nm,24.6s							
AS31	**Alice Springs**	**43.27**	**267**	P	**P**			**09 37 35.2 +1.1**
ASAR	**Alice Springs**	**43.27**	**267**	P	**P**			**09 37 32.7 -1.4**
	comp=Z,1.1nm,0.3s,baz=104,slow=7.1,SNR=30							
ASAR				pP	**sP**			**09 37 52.9 +0.3**
	comp=Z,3.1nm,0.7s,baz=121,slow=8.2,SNR=12							
	comp=Z,1.1nm,0.3s							
ASAR	**Alice Springs**	**43.27**	**267**	P	**P**			**09 37 34.5 +0.4**
WR0	**Warramunga Arr**	**44.05**	**272**	P	**P**			**09 37 40.7 +0.3**
WR0				IAmb	IAmb			09 38 00.3
	comp=Z,11nm,1.1s							
WB2	**Warramunga Arr**	**44.22**	**272**	P	**P**			**09 37 41.6 -0.1**
WB2				IAmb	IAmb			09 38 01.2
	comp=Z,12nm,0.7s							
WRA	**Warramunga Arr**	**44.23**	**272**	P	**P**			**09 37 41.2 -0.6**
	comp=Z,3.0nm,0.4s,baz=112,slow=7.4,SNR=10							
WRA				pP	**sP**			**09 37 59.2 -1.1**
	comp=Z,11nm,0.7s,baz=111,slow=7.8,SNR=15							
WRA				S	**S**			**09 44 07.0 -5.0**
	comp=Z,0.6nm,0.9s,baz=110,slow=14,SNR=4.6							
	comp=Z,3.0nm,0.4s							
WRA	**Warramunga Arr**	**44.23**	**272**	P	**P**			**09 37 42.3 +0.5**
WB0	**Warramunga Arr**	**44.25**	**272**	P	**P**			**09 37 41.9 -0.1**
FORT	**Forrest**	**46.27**	**255**	P	**P**			**09 37 59.6 +1.8**
VNDA	**Vanda**	**48.44**	**186**	P	**P**			**09 38 15.8 +1.7**
KNRA	**Kununurra**	**50.82**	**274**	P	**P**			**09 38 32.4 -0.7**
KNRA				IAmb	IAmb			09 38 54.9
	comp=Z,17nm,1.3s							
GUMO	**Guam**	**56.34**	**315**	LR	LR			10 02 40.4
	comp=Z,29nm,18.3s,baz=152,slow=35							
BATI	**Baumata**	**57.75**	**277**	LR	LR			10 03 12.2
	comp=Z,133nm,20.0s,baz=98,slow=35							
QSPA	**South Pole Qui**	**60.04**	**180**		**P**			**09 39 42.1 +3.3**
BELA	**Belgrano 2**	**70.10**	**172**	P	**P**			**09 40 44.8 +1.2**
BELA				IAmb	IAmb			09 41 06.6
	comp=Z,5.5nm,0.7s							
MAW	**Mawson**	**72.67**	**200**	LR	LR			10 11 50.0
	comp=Z,42nm,18.4s,baz=126,slow=35							
TROLL	**Troll, Antarti**	**78.21**	**180**	P	**P**			**09 41 32.5 +1.4**
VNA3	**Neumayer Olymp**	**78.63**	**176**	P	**P**			**09 41 34.3 +0.9**
VNA2	**Neumayer--Watz**	**79.06**	**177**	P	**P**			**09 41 36.9 +1.2**
	baz=174,slow=5.0							
H03S2	**Juan Fernandez**	**80.53**	**124**	T	T			11 11 12.2
	baz=238,slow=74,SNR=54							
H03S1	**Juan Fernandez**	**80.54**	**124**	T	T			11 11 13.4
	baz=238,slow=74,SNR=57							
H03S3	**Juan Fernandez**	**80.55**	**124**	T	T			11 11 13.1
	baz=238,slow=74,SNR=59							
H06E1	**SOCORRO T-PHAS**	**80.64**	**62**	T	T			11 10 14.1
	SNR=3.9							
H03N3	**Juan Fernandez**	**80.72**	**123**	T	T			11 11 55.5
	baz=246,slow=72,SNR=28							
H03N2	**Juan Fernandez**	**80.72**	**123**	T	T			11 11 54.1
	baz=246,slow=72,SNR=26							
H03N1	**Juan Fernandez**	**80.74**	**123**	T	T			11 11 24.3
	baz=246,slow=72,SNR=30							
ASAJ	**Asahikawa**	**82.21**	**332**	LR	LR			10 13 59.0
	comp=Z,24nm,18.8s,baz=148,slow=32							
PLCA	**Paso Flores**	**82.63**	**133**	P	**P**			**09 41 57.3 +1.9**
	comp=Z,3.8nm,1.0s,baz=226,slow=4.0,SNR=6.1							
	comp=Z,3.8nm,1.0s							
SHEM	**Shemya Is, Ala**	**82.74**	**355**	LR	LR			10 12 20.4
	comp=Z,45nm,19.2s,baz=332,slow=31							
PETK	**Petropavlovsk-**	**85.52**	**345**	P	**P**			**09 42 09.4 0.0**
	comp=Z,5.1nm,1.1s,baz=110,slow=8.7,SNR=6.3							
NVAR	**Mina Array Bea**	**87.90**	**43**	P	**P**			**09 42 21.0 -0.7**
	comp=Z,1.5nm,0.9s,baz=230,slow=7.8,SNR=6.7							
	comp=Z,1.5nm,0.9s							
BVAR	**Borovoye Array**	**126.26**	**316**	PKP	**PKPdf**			**09 48 31.8 -2.0**
	comp=Z,1.0nm,0.7s,baz=208,slow=2.9,SNR=4.0							
H10S3	**ASCENSION HYDR**	**137.97**	**155**	T	T			12 24 10.0
	baz=204,slow=74,SNR=71							
H10S2	**ASCENSION HYDR**	**137.97**	**155**	T	T			12 24 13.3
	baz=16,slow=74,SNR=30							
H10N3	**ASCENSION HYDR**	**139.05**	**154**	T	T			12 25 43.6
	baz=204,slow=75,SNR=136							
H10N1	**ASCENSION HYDR**	**139.05**	**154**	T	T			12 25 43.9
	baz=204,slow=75,SNR=200							
H10N2	**ASCENSION HYDR**	**139.07**	**154**	T	T			12 25 44.9
	baz=204,slow=75,SNR=130							
FINES	**FINESS Array B**	**144.88**	**340**	PKP	**PKPab**			**09 49 04.7 -2.5**
	comp=Z,2.5nm,0.4s,baz=51,slow=3.7,SNR=35							
NB2	**NORSAR Subarra**	**148.44**	**352**	PKP	**PKPdf**			**09 49 15.7 +1.7**
	comp=Z,2.5nm,0.8s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**148.44**	**352**	PKPbc	**PKPdf**			**09 49 15.4 +1.4**
	comp=Z,0.9nm,0.8s,baz=19,slow=3.8,SNR=4.9							
AKASG	**Malin Array Be**	**151.12**	**323**	PKPbc	**PKPbc**			**09 49 22.4 -2.0**
	comp=Z,1.9nm,0.6s,baz=44,slow=2.7,SNR=10							
AKASG				pPKPbc	**pPKPbc**			**09 49 41.0 +2.5**
	comp=Z,1.2nm,0.5s,baz=38,slow=2.9,SNR=3.0							
BRTR	**Keskin Array B**	**152.56**	**299**	PKPbc	**PKPbc**			**09 49 26.5 -1.8**
	comp=Z,0.7nm,0.9s,baz=36,slow=3.7,SNR=3.7							
BRTR				pPKPbc	**sPKPbc**			**09 49 45.9 -1.6**
	comp=Z,0.6nm,0.7s,baz=102,slow=3.7,SNR=3.0							
TORD	**Torodi Ar. Bea**	**163.16**	**178**	PKP	**PKPdf**			**09 49 33.9 -0.9**
	comp=Z,1.0nm,0.9s,baz=238,slow=1.7,SNR=3.8							
TORD				PKPab	**PKPab**			**09 50 24.9 +0.1**
	comp=Z,4.1nm,1.1s,baz=188,slow=3.5,SNR=10							
TORD				pPKPab	**sPKPab**			**09 50 46.7 +3.2**
	comp=Z,3.8nm,0.8s,baz=186,slow=3.6,SNR=9.0							

*KRNET **15** 09:37:35.8±0.1, 40.2°N×72.8°E, h13km, mb3.2*
*SOME **15** 09:37:39.3, 40.52°N×72.92°E, h10km*
*KNET **15** 09:37:40.7±0.4, 40.53°N×73.21°E, h3km±2km, ml2.5, Error ellipse: s-maj=4.8km s-min=2.7km az=100.0*
*NNC **15** 09:37:45.9±2.0, 40.55°N×72.94°E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=19.9km s-min=10.3km az=160.0*

ISC 15 09:37:33.8±1.4, 40.26N±0.04×73.01E±0.03, h9km±13km, n41, σ1s30/59, 25C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.31**	**327**	⇓*iP*		**Pg**		**09 37 40.9**	**+0.9**
OHH	baz=43			⇓*iS*		**Sg**		**09 37 44.4**	**+0.2**
	baz=43								
DRK	**Karamyk**	**1.21**	**230**	⇑*iP*		**Pn**		**09 37 57.5**	**+0.3**
DRK	baz=27			⇑*iS*		**Sb**		**09 38 13.5**	**+0.5**
	baz=27								
BTK	**Batken**	**1.69**	**264**	⇑*iP*		**Pb**		**09 38 05.6**	**+0.5**
BTK	baz=63			⇑*iS*		**Sb**		**09 38 27.3**	**+0.8**
	baz=63								
ARK	**Arkit**	**1.73**	**333**	⇑*iP*		**Pg**		**09 38 07.0**	**+0.1**
	baz=36								
ARK	baz=36			⇑*iS*		**Sg**		**09 38 29.4**	**+0.1**
ARLS	**Aral**	**1.88**	**32**	⇑*iP*		**Pg**		**09 38 11.0**	**+1.1**
	baz=34								
ARLS	baz=34			⇑*iS*		**Sg**		**09 38 36.7**	**+2.4**
TRKS	**Terek-Say**	**1.90**	**312**	⇑*iP*		**Pb**		**09 38 08.3**	**-0.4**
	baz=13								
TRKS	baz=13			⇑*iS*		**Sb**		**09 38 32.0**	**-0.6**
AML	**Almayashu**	**1.94**	**15**	⇓P		**Pg**		**09 38 11.7**	**+0.8**
	46nm,0.2s,SNR=113								
AML	82nm,0.2s			⇑S		**Sg**		**09 38 36.6**	**+0.5**
AML	**Almayashu**	**1.94**	**15**	⇑*iP*		**Pg**		**09 38 11.8**	**+0.8**
	baz=18								
AML	baz=18			⇑*iS*		**Sg**		**09 38 38.0**	**+1.9**
UCH	**Uchtor**	**2.27**	**30**	⇓P		**Pg**		**09 38 17.7**	**+0.4**
	6.2nm,0.2s,SNR=8.8								
UCH	34nm,0.4s			⇓S		**Sg**		**09 38 46.0**	**-0.7**
UCH	**Uchtor**	**2.27**	**30**	⇑*iP*		**Pg**		**09 38 16.7**	**-0.6**
	baz=32								
UCH	baz=32			⇑*iS*		**Sg**		**09 38 46.5**	**-0.3**
GAR	**Garm**	**2.43**	**240**	⇑*iP*		**Pb**		**09 38 17.4**	**-0.3**
	baz=38								
GAR	baz=38			⇑*iS*		**Sb**		**09 38 47.8**	**0.0**
EKS2	**Erkin-Say**	**2.47**	**13**	⇓P		**Pg**		**09 38 20.6**	**-0.5**
	9.1nm,0.3s,SNR=19								
EKS2	11nm,0.2s			⇑S		**Sg**		**09 38 51.9**	**-1.2**
EKS2	**Erkin-Say**	**2.47**	**13**	⇓*iP*		**Pb**		**09 38 18.9**	**+0.5**
	baz=15								
EKS2	baz=15			⇓*iS*		**Sg**		**09 38 50.2**	**-2.9**
MRKS	**Merke**	**2.49**	**4**	Pg		Pg		**09 38 21.0**	**-0.4**
	55nm,0.4s								
MRKS	49nm,0.3s			Lg		Lg		09 38 51.8	
MRKS	**Merke**	**2.49**	**4**	*e*Pg		**Pg**		**09 38 21.0**	**-0.4**
	55nm,0.2s								
MRKS	120nm,0.2s			*e*Lg		Lg		09 38 51.8	
AAK	**Ala-Archa**	**2.62**	**25**	⇓P		**Pg**		**09 38 23.0**	**-1.1**
	10nm,0.2s,SNR=18								
AAK	14nm,0.2s			⇓S		**Sg**		**09 38 55.5**	**-2.6**
AAK	**Ala-Archa**	**2.62**	**25**	⇑*iP*		**Pb**		**09 38 21.4**	**+0.3**
	baz=27								
AAK	baz=27			⇑*iS*		**Sb**		**09 38 54.7**	**+1.2**
KBK	**Karagaybulak**	**2.80**	**31**	⇓P		**Pg**		**09 38 26.0**	**-1.5**
	10nm,0.4s,SNR=7.8								
IUG	**luzhnay**	**2.93**	**311**	Pg		**Pg**		**09 38 29.0**	**-1.0**
	8.7nm,0.2s								
IUG	37nm,0.3s			Lg		Lg		09 39 05.0	
IUG	**luzhnay**	**2.93**	**311**	*e*Pg		**Pg**		**09 38 28.9**	**-1.0**
	8.8nm,0.2s								
IUG	36nm,0.2s			*e*Lg		Lg		09 39 05.0	
CHMS	**Chumysh**	**3.03**	**25**	⇑Pn		**Pg**		**09 38 32.0**	**+0.1**
	3.9nm,0.5s								
CHMS	7.8nm,0.5s			⇑Sn		**Sb**		**09 39 07.1**	**+2.0**
TKM2	**Tokmak 2**	**3.29**	**35**	P		**Pb**		**09 38 31.9**	**-0.6**
	SNR=7.7								
TKM2	**Tokmak 2**	**3.29**	**35**	⇑Pn		**Pg**		**09 38 36.0**	**-0.9**
	2.2nm,0.3s								
TKM2	5.7nm,0.7s			⇑Sn		**Sg**		**09 39 15.8**	**-3.7**
KK31	**Karatay Array**	**3.40**	**327**	Pn		**Pb**		**09 38 36.3**	**+2.1**
	0.6nm,0.3s,baz=141,slow=12,SNR=25								
KK31	3.3nm,0.3s,baz=135,slow=27,SNR=8.2			⇑Sn		**Sb**		**09 39 16.4**	**+0.8**
KST	**Kastek**	**3.56**	**38**	Pg		**Pg**		**09 38 42.0**	**+0.1**
	3.0nm,0.4s								
KST	5.9nm,0.4s			Lg		Lg		09 39 27.6	
KST	**Kastek**	**3.56**	**38**	*e*Pg		**Pg**		**09 38 42.0**	**+0.1**
	3.0nm,0.4s								
KST	7.9nm,0.3s			*e*Lg		Lg		09 39 27.6	
MTBS	**Maitube**	**3.84**	**41**	Pg		**Pg**		**09 38 47.9**	**+0.4**
	3.3nm,0.4s								
MTBS	7.1nm,0.5s			Lg		Lg		09 39 37.2	
MTBS	**Maitube**	**3.84**	**41**	*e*Pg		**Pg**		**09 38 47.9**	**+0.4**
	3.3nm,0.2s								
MTBS	6.1nm,0.3s			*e*Lg		Lg		09 39 37.2	
KRBS	**Karabastau**	**3.97**	**29**	Pg		**Pg**		**09 38 48.4**	**-1.4**
	2.3nm,0.5s								
KRBS	3.6nm,0.4s			Lg		Lg		09 39 38.7	
KRBS	**Karabastau**	**3.97**	**29**	*e*Pg		**Pg**		**09 38 48.1**	**-1.7**
	2.4nm,0.2s								
KRBS	4.1nm,0.2s			*e*Lg		Lg		09 39 38.0	
TNSS	**Tian-Shan**	**4.05**	**46**	Pg		**Pg**		**09 38 50.4**	**-1.0**
	1.6nm,0.4s								
TNSS	2.6nm,0.5s			Lg		Lg		09 39 41.6	
TNSS	**Tian-Shan**	**4.05**	**46**	*e*Pg		**Pg**		**09 38 50.4**	**-1.0**
	2.0nm,0.2s								
TNSS	3.1nm,0.2s			*e*Lg		Lg		09 39 41.6	
MDOK	**Medeo**	**4.19**	**45**	Pg		**Pg**		**09 38 54.5**	**+0.4**
	1.6nm,0.4s								
MDOK	7.7nm,0.6s			Lg		Lg		09 39 48.5	
MDOK	**Medeo**	**4.19**	**45**	*e*Pg		**Pg**		**09 38 54.5**	**+0.4**
	1.7nm,0.2s								
MDOK	7.7nm,0.6s			*e*Lg		Lg		09 39 48.5	
KOTS	**Kotyrbulak**	**4.27**	**45**	Pg		**Pg**		**09 38 56.6**	**+0.9**
	3.8nm,0.5s								
KOTS	**Kotyrbulak**	**4.27**	**45**	*e*Pg		**Pg**		**09 38 56.5**	**+0.9**
	3.8nm,0.5s								
KOTS	10nm,0.7s			*e*Lg		Lg		09 39 52.1	
KUU	**Kurty**	**4.40**	**33**	Pg		**Pg**		**09 38 57.7**	**-0.3**
	2.1nm,0.4s								
KUU	7.9nm,0.4s			Lg		Lg		09 39 54.1	
KUU	**Kurty**	**4.40**	**33**	*e*Pg		**Pg**		**09 38 57.7**	**-0.3**
	2.1nm,0.2s								
KUU	7.9nm,0.2s			*e*Lg		Lg		09 39 54.1	
KTBS	**Karatobe**	**4.40**	**37**	*e*Pg		**Pg**		**09 38 56.2**	**-1.9**
	1.2nm,0.2s								
KTBS	7.7nm,0.4s			*e*Lg		Lg		09 39 51.8	
BTLS	**Baital**	**4.84**	**9**	*e*Pg		**Pg**		**09 39 02.4**	**-4.0**
	1.9nm,0.3s								
BTLS	1.5nm,0.2s			*e*Lg		Lg		09 40 02.4	
SATY	**Saty**	**4.92**	**54**	*e*Pg		**Pg**		**09 39 07.8**	**-0.2**
	2.7nm,0.3s								
SATY	8.9nm,0.5s			*e*Lg		Lg		09 40 11.0	

*IGQ **15** 09:44:44±0.4, 0.7°S×2.1°×8.1°W×, h7km*
*VAO **15** 09:44:48.4±0.4, 0.37S×80.43W, h10km, mb4.7*
*NEIC **15** 09:44:51.0±1.9, 0.17S±0.06×80.66W±0.07, h37km±8km, mb4.6/69, Error ellipse: s-maj=10.0km s-min=8.3km az=83.0*
*IDC **15** 09:44:53.0±2.6, 0.12S×80.47W, h61km±24km, mb3.9/13, mbtmp4.2/17, ML3.4/4, MS3.8/27, Error ellipse: s-maj=23.3km s-min=14.2km az=68.0*

ISC 15 09:44:45.8±0.4, 0.19S±0.03×80.70W±0.05, h9km, n266, σ1s40/253, mb4.6/40, MS3.8/24, 1D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.50**	**98**	P		**Pb**		**09 44 57.0**	**+0.2**
JAMA				S		**Sb**		**09 45 06.0**	**+1.8**
FLF1	**Flavio Alfaro-**	**0.87**	**101**	P		**Pn**		**09 45 04.0**	**-0.3**
FLF1				S		**Sn**		**09 45 20.0**	**+2.9**
FLF1	**Flavio Alfaro-**	**0.87**	**101**	*e*P		**Pn**		**09 45 04.9**	**+0.6**

MAG1	**Magdalena**	**0.93**	**83**	P		**Pb**		**09 45 05.0 +0.9**
AV18	**Acelerografo,**	**1.32**	**68**	P		**Pn**		**09 45 11.0 +0.6**
PPLP	**Puerto Lpez**	**1.35**	**183**	P		**Pn**		**09 45 09.0 -1.9**
PPLP				S		**Sb**		**09 45 26.0 -2.8**
PPLP	**Puerto Lpez**	**1.35**	**183**	*e*P		**Pn**		**09 45 09.0 -1.9**
AV21	**Acelerografo,**	**1.43**	**54**	P		**Pn**		**09 45 11.0 -0.9**
AV21				S		**Sn**		**09 45 30.0 -0.8**
AMA1	**Acelerografo,**	**1.48**	**41**	P		**Pn**		**09 45 12.0 -0.6**
BV15	**Puerto Quito-O**	**1.51**	**77**	P		**Pn**		**09 45 12.0 -1.1**
AES2	**Ecuador-Puerto**	**1.57**	**42**	P		**Pn**		**09 45 13.0 -0.9**
AES2				S		**Sn**		**09 45 33.0 -1.4**
APR2	**Miler**	**1.75**	**81**	P		**Pn**		**09 45 16.0 -0.4**
RVRD	**Rio Verde**	**1.81**	**46**	P		**Pn**		**09 45 16.0 -1.2**
PAC1	**Pacto, Paraso**	**1.96**	**77**	P		**Pn**		**09 45 18.0 -1.4**
PAC1	**Pacto, Paraso**	**1.96**	**77**	*e*P		**Pn**		**09 45 18.6 -0.7**
ILLI	**Illinizas Sur**	**2.04**	**105**	P		**Pn**		**09 45 20.0 -0.8**
APR1	**Acelerografo,**	**2.09**	**86**	P		**Pn**		**09 45 21.0 -0.4**
PINO	**Pino**	**2.09**	**89**	P		**Pn**		**09 45 21.0 -0.6**
TERV	**Terraza Guagua**	**2.09**	**90**	P		**Pn**		**09 45 21.0 -0.6**
GGPC	**Guagua Pichinc**	**2.10**	**90**	P		**Pn**		**09 45 21.0 -0.7**
PAST	**Pastocalle**	**2.12**	**104**	P		**Pn**		**09 45 22.0 +0.2**
YANA	**Yana**	**2.13**	**88**	P		**Pn**		**09 45 21.0 -1.0**
SRAM	**San Ramn-Vol**	**2.20**	**105**	P		**Pn**		**09 45 23.0 +0.1**
PULU	**Pululahua**	**2.21**	**85**	Pn		**Pn**		**09 45 23.4 +0.4**
PULU	**Pululahua**	**2.21**	**85**	P		**Pn**		**09 45 23.0 0.0**
AMIL	**Milagro (Trans**	**2.23**	**150**	P		**Pn**		**09 45 24.0 +1.1**
CHSH	**Refugio Sur-Vo**	**2.24**	**125**	Pn		**Pb**		**09 45 25.5 -1.4**
CHSH	**Refugio Sur-Vo**	**2.24**	**125**	P		**Pn**		**09 45 24.0 +0.3**
CAMI	**Rancho Maria**	**2.25**	**103**	P		**Pn**		**09 45 24.0 +0.4**
SLOR	**San Lorenzo -**	**2.27**	**104**	Pn		**Pn**		**09 45 25.4 +1.5**
SLOR	**San Lorenzo -**	**2.27**	**104**	P		**Pn**		**09 45 25.0 +1.1**
BNAS	**Cotopaxi Volca**	**2.27**	**102**	P		**Pn**		**09 45 26.0 -1.3**
NAS2	**Nasa**	**2.27**	**102**	P		**Pn**		**09 45 25.0 +0.9**
TOMA	**Boca Toma-Volc**	**2.28**	**98**	P		**Pn**		**09 45 25.0 +0.9**
OTAV	**Otavalo**	**2.29**	**79**	Pn		**Pn**		**09 45 24.1 0.0**
OTAV	**Otavalo**	**2.29**	**79**	P		**Pn**		**09 45 23.0 -1.1**
OTAV	**Otavalo**	**2.29**	**79**	*e*P		**Pn**		**09 45 23.9 -0.3**
OTAV	**Otavalo**	**2.29**	**79**	*e*P		**Pn**		**09 45 23.8 -0.3**
BMOR	**Cotopaxi Volca**	**2.30**	**104**	P		**Pn**		**09 45 25.0 +0.5**
PORT	**Chimborazo Vol**	**2.30**	**123**	P		**Pn**		**09 45 25.0 +0.5**
BREF	**Cotopaxi Volca**	**2.31**	**102**	P		**Pn**		**09 45 26.0 +1.4**
AV11	**Acelerografo,**	**2.33**	**87**	P		**Pn**		**09 45 26.0 +1.4**
BVC2	**Cotopaxi Volca**	**2.33**	**102**	P		**Pn**		**09 45 26.0 +1.1**
VC1	**Cotopaxi 1**	**2.34**	**101**	P		**Pn**		**09 45 26.0 +1.1**
TAMH	**Tambohuasha Ch**	**2.34**	**125**	P		**Pn**		**09 45 25.0 +0.1**
CUSE	**Cuicocha Este**	**2.35**	**78**	P		**Pn**		**09 45 25.0 0.0**
CUSE	**Cuicocha Este**	**2.35**	**78**	*e*P		**Pn**		**09 45 25.1 0.0**
BTAM	**Cotopaxi Volca**	**2.35**	**102**	P		**Pn**		**09 45 26.0 +0.9**
SNLR	**San Lorenzo-Es**	**2.36**	**52**	P		**Pn**		**09 45 24.0 -0.8**
MILO	**Milagro-Astudi**	**2.37**	**151**	P		**Pn**		**09 45 28.0 +1.3**
VCES	**Cotopaxi**	**2.38**	**105**	P		**Pn**		**09 45 27.0 +1.5**
TAMB	**Tambo**	**2.38**	**102**	P		**Pn**		**09 45 27.0 +1.4**
CUIC	**Cuicocha-Domo**	**2.39**	**78**	P		**Pn**		**09 45 25.0 -0.5**
CUSW	**Cuicocha Oeste**	**2.39**	**79**	P		**Pn**		**09 45 25.0 -0.6**
COTA	**Cotacachi**	**2.42**	**78**	P		**Pn**		**09 45 26.0 0.0**
MORR	**Playas El Morr**	**2.46**	**172**	P		**Pn**		**09 45 26.0 -0.2**
AOTA	**Otavalo**	**2.48**	**80**	P		**Pn**		**09 45 28.0 +1.3**
ANTM	**Antisana-La Mi**	**2.50**	**98**	P		**Pn**		**09 45 28.0 +0.9**
URCU	**Urcuqui**	**2.52**	**76**	P		**Pn**		**09 45 28.0 +0.7**
BIL2	**Estacion Bilba**	**2.53**	**120**	P		**Pb**		**09 45 30.0 -1.6**
ALIT	**Ecuador-Imbabu**	**2.53**	**67**	P		**Pn**		**09 45 26.0 -1.3**
BBIL	**Ulba Tungurahu**	**2.54**	**120**	P		**Pn**		**09 45 28.0 +0.4**
IMBA	**Imbabura, San**	**2.54**	**80**	Pn		**Pn**		**09 45 30.1 +2.5**
IMBA	**Imbabura, San**	**2.54**	**80**	P		**Pn**		**09 45 29.0 +1.4**
ANTS	**Antisana-Sarah**	**2.54**	**97**	P		**Pn**		**09 45 29.0 +1.2**
ANTI	**Antisana**	**2.55**	**96**	P		**Pn**		**09 45 29.0 +1.1**
PIAT	**Ana Tenorio**	**2.56**	**108**	P		**Pn**		**09 45 29.0 +1.1**
PIAT	**Ana Tenorio**	**2.56**	**108**	*e*P		**Pn**		**09 45 29.5 +1.5**
BMAS	**Trigal station**	**2.57**	**121**	P		**Pn**		**09 45 29.0 +1.0**
RETU	**Refugio**	**2.58**	**119**	P		**Pn**		**09 45 30.0 +1.8**
BRUN	**Tungurahua Vol**	**2.58**	**118**	P		**Pn**		**09 45 29.0 +0.9**
BPAT	**Tungurahua Vol**	**2.61**	**120**	P		**Pn**		**09 45 30.0 +1.3**
YAHU	**Yahuarcocha**	**2.68**	**78**	P		**Pn**		**09 45 31.0 +1.4**
CAYR	**Refugio Cayamb**	**2.70**	**86**	P		**Pn**		**09 45 32.0 +2.0**
ANGU	**Angureal**

ETMB Extrema 17.30 124 Pn 09 48 45.9 -1.8
ETMB IAmb IAmb 09 48 49.3
comp=Z,28nm,1.0s
ETMB Extrema 17.30 124 eP Pn 09 48 45.7 -2.1
MACA Manacapuru-AM 20.22 99 P P 09 49 20.1 -1.3
MACA IAmb IAmb 09 49 53.3
comp=Z,20nm,0.7s
MACA Manacapuru-AM 20.22 99 eP P 09 49 19.9 -1.4
LPAZ La Paz 20.24 143 P P 09 49 23.0 +0.8
comp=Z,16nm,1.1s,baz=335,slow=8.8,SNR=26
LPAZ LR LR 09 59 07.9
comp=Z,694nm,18.3s,baz=312,slow=42
comp=Z,16nm,1.1s
LPAZ La Paz 20.24 143 P P 09 49 22.9 +0.8
BOAV Boa Vista 20.33 83 P P 09 49 23.2 +0.6
BOAV IAmb IAmb 09 49 26.0
comp=Z,37nm,1.4s
BOAV Boa Vista 20.33 83 eP P 09 49 23.2 +0.6
PB12 IPOC Station P 20.95 151 P P 09 49 29.0 -0.4
PB16 IPOC Station P 21.12 149 P P 09 49 32.6 +0.9
PB16 IAmb IAmb 09 49 33.9
comp=Z,27nm,1.0s
MNMC Minye Minye 21.75 151 P P 09 49 38.8 +0.7
PSGCX Pisagua 21.90 152 P P 09 49 39.0 -0.5
PSGCX IAmb IAmb 09 49 52.5
comp=Z,29nm,1.3s
CMIG Matias Romero 22.14 322 LR LR 09 55 19.5
comp=Z,162nm,19.0s,baz=158,slow=28
PB11 IPOC Station P 22.26 152 P P 09 49 43.0 -0.4
GO01 Chusmiza 22.40 150 P P 09 49 46.2 +0.9
TA02 Huaiquique 22.48 153 P P 09 49 46.9 +1.3
TA02 IAmb IAmb 09 49 48.8
comp=Z,36nm,1.1s
TA01 Diego Aracena 22.72 154 P P 09 49 49.1 +1.0
PATCX Punta Patache 22.95 154 P P 09 49 50.3 -0.5
SJG San Juan 23.14 37 LR LR 10 00 29.9
comp=Z,189nm,19.2s,baz=212,slow=41
PB01 IPOC Station P 23.44 153 P P 09 49 55.7 0.0
PB02 IPOC Station P 23.50 154 P P 09 49 56.3 -0.1
PB02 IAmb IAmb 09 50 26.6
comp=Z,16nm,0.8s
PB07 IPOC Station P 23.86 154 P P 09 50 00.6 +0.6
PB07 IAmb IAmb 09 50 33.2
comp=Z,21nm,0.9s
VILB Vilhena 23.95 123 P P 09 50 00.3 -0.4
VILB IAmb IAmb 09 50 34.4
comp=Z,39nm,0.9s
VILB Vilhena 23.95 123 eP P 09 50 00.7 0.0
PB03 IPOC Station P 24.21 155 P P 09 50 03.4 +0.2
PB03 IAmb IAmb 09 50 43.6
comp=Z,23nm,1.1s
PB09 IPOC Station P 24.21 153 P P 09 50 03.7 +0.6
PB09 IAmb IAmb 09 50 38.0
comp=Z,30nm,1.2s
PB04 IPOC Station P 24.29 156 P P 09 50 04.4 +0.4
PB04 IAmb IAmb 09 50 07.2
comp=Z,21nm,1.1s
SIV San Ignacio 24.93 130 P P 09 50 08.9 -0.7
comp=Z,2.8nm,0.5s,baz=306,slow=8.3,SNR=27
SIV LR LR 10 00 15.3
comp=Z,416nm,20.8s,baz=308,slow=37
comp=Z,2.8nm,0.5s
LVC Limon Verde 25.07 154 P P 09 50 12.8 +1.6
comp=Z,9.8nm,0.9s,baz=313,slow=8.0,SNR=10
LVC LR LR 09 59 21.5
comp=Z,153nm,20.5s,baz=318,slow=35
comp=Z,9.8nm,0.9s
LVC Limon Verde 25.07 154 P P 09 50 10.8 -0.3
LVC IAmb IAmb 09 50 15.1
comp=Z,24nm,1.1s
ITTB Itaituba 25.28 100 eP P 09 50 12.1 -0.8
PTLB Pontes e Lacer 26.14 126 P P 09 50 20.9 +0.3
PTLB IAmb IAmb 09 50 23.1
comp=Z,30nm,1.1s
PTLB Pontes e Lacer 26.14 126 eP P 09 50 20.9 +0.3
NPGB Novo Progresso 26.18 106 eP P 09 50 20.1 -0.9
PDRB Porto dos Gac 26.37 116 eP P 09 50 22.2 -0.4
MALB Monte Alegre 26.48 94 eP P 09 50 24.5 +0.8
CLDB Colider 26.93 114 eP P 09 50 26.4 -1.4
MDP Montagnes des 28.51 79 P P 09 50 40.7 -1.2
comp=Z,7.9nm,0.9s,baz=253,slow=8.2,SNR=5.6
MDP LR LR 10 01 32.1
comp=Z,174nm,21.0s,baz=268,slow=35
comp=Z,7.9nm,0.9s
MCPB Macapa, AP 28.64 90 eP P 09 50 42.7 -0.4
SALV Santo Antonio 29.20 124 eP P 09 50 46.5 -1.5
PP1B Ponte de Pedra 30.73 126 eP P 09 51 02.2 +0.6
PRPB Parauapebas 31.39 102 eP P 09 51 06.9 -0.5
SNDB Serra Nova Dou 31.45 113 eP P 09 51 07.2 -0.7
AQDB Aquidauana 31.69 131 P P 09 51 09.6 -0.3
AQDB Aquidauana 31.69 131 eP P 09 51 09.7 -0.3
ARAG Araguaiana, MT 32.42 120 eP P 09 51 16.3 -0.1
SMTB Santa Maria do 34.08 106 eP P 09 51 30.9 -0.1
CPUP Villa Florida 34.39 141 LR LR 10 07 48.1
comp=Z,116nm,19.8s,baz=326,slow=40
Y45A Yeager Farm, C 34.88 347 P P 09 51 37.9 +0.3
H06E1 SOCORRO T-PHAS 35.16 304 T T 10 28 43.9
SNR=14
JCT Junction City 35.50 331 P P 09 51 44.5 +1.4
CPCT Cooper Cave 35.63 355 P P 09 51 44.0 -0.1
CPCT IAmb IAmb 09 51 48.4
comp=Z,10nm,1.1s
BDFB Brasilia 35.73 117 P P 09 51 44.4 -1.0
comp=Z,2.4nm,0.8s,baz=307,slow=13,SNR=4.0
BDFB LR LR 10 08 54.9
comp=Z,292nm,18.8s,baz=315,slow=40
comp=Z,2.4nm,0.8s
BDFB Brasilia 35.73 117 eP P 09 51 45.8 +0.4
TKL Tuckaleechee C 35.78 356 LR LR 10 05 32.3
comp=Z,106nm,20.9s,baz=174,slow=35
V48A Smith Brothers 36.20 352 P P 09 51 49.0 0.0
V48A IAmb IAmb 09 51 58.5
comp=Z,7.6nm,0.9s
IPMB Ipameri, GO 36.50 121 eP P 09 51 50.8 -1.1
FW03 Perrin-Whitt E 36.88 335 P P 09 51 55.2 +0.4
FW03 IAmb IAmb 09 52 01.2
comp=Z,16nm,1.4s
PTGB Pitanga 36.91 133 eP P 09 51 54.9 -0.4
WHAR Wooly Hollow 36.92 344 P P 09 51 55.8 +0.7
WHAR IAmb IAmb 09 52 01.0
comp=Z,9.6nm,1.0s
ABTX Abilene, Hawk 37.21 333 P P 09 51 58.8 +1.1
LCAR Lake Charles 37.36 346 P P 09 51 58.3 -0.5
LCAR IAmb IAmb 09 52 08.7
comp=Z,7.6nm,1.0s
SDBA SAO DESIDERIO 37.52 110 eP P 09 52 00.1 -0.5
FRTB Fartura 38.00 129 eP P 09 52 03.2 -1.3
RPN Rapa Nui 38.40 223 LR LR 10 03 58.3
comp=Z,156nm,18.5s,baz=49,slow=30
ITAB Concordia 38.42 137 P P 09 52 07.0 -0.9
ITAB Concordia 38.42 137 eP P 09 52 08.7 +0.7
RCLB Rio Claro- Sao 39.12 127 eP P 09 52 13.9 -0.1
CCM Cathedral Cave 39.28 347 P P 09 52 15.5 +0.5
MNTX Cornudas Mount 39.30 326 P P 09 52 16.2 -0.9
CSTR Hydro, Custer 39.40 337 P P 09 52 16.9 +0.8
MSTX Muleshoe 39.80 331 P P 09 52 20.5 +1.0
MSTX IAmb IAmb 09 52 33.1
comp=Z,16nm,1.1s
VAO Valinhos 39.86 127 eP P 09 52 18.9 -1.3
AMTX Amarillo 40.03 333 P P 09 52 22.7 +1.3
ELIS Ellis County 40.05 336 P P 09 52 22.5 +1.0
NOKA Waynoka 40.35 337 P P 09 52 24.4 +0.3
DIAM Diamantina, MG 40.58 118 eP P 09 52 25.2 -1.0
PLCA Paso Flores 41.40 168 P P 09 52 33.2 +0.6
comp=Z,5.8nm,1.1s,baz=9.8,slow=11,SNR=5.7
comp=Z,5.8nm,1.1s
PLCA Paso Flores 41.40 168 P P 09 52 33.7 +1.2
PLCA Paso Flores 41.40 168 eP P 09 52 33.8 +1.2
KSU1 Kansas State U 41.73 341 P P 09 52 35.8 +0.5
KSU1 IAmb IAmb 09 52 41.3
comp=Z,11nm,0.7s
R32A Long Quarter, 41.84 339 P P 09 52 38.0 +1.7
R32A IAmb IAmb 09 52 42.5
comp=Z,14nm,0.9s
ANMO Albuquerque 42.44 328 P P 09 52 42.7 +1.3
T25A Trinidad 43.14 332 P P 09 52 48.9 +1.8
T25A IAmb IAmb 09 52 53.5
comp=Z,13nm,1.2s
SDCO Great Sand Dun 44.14 331 P P 09 52 56.4 +1.1
S22A 4UR Ranch, Cre 44.79 330 P P 09 53 00.2 -0.2
RCBR Riachuelo 45.06 98 LR LR 10 12 41.6
comp=Z,339nm,18.6s,baz=69,slow=37
WUAZ Wupatki 45.59 324 P P 09 53 07.5 +0.8
WUAZ IAmb IAmb 09 53 13.5
comp=Z,15nm,1.3s
K31A O'Neill 45.61 341 P P 09 53 07.5 +1.0
PV13 Radium Mtn., P 46.11 329 P P 09 53 11.3 +0.5
PV13 IAmb IAmb 09 53 16.5
comp=Z,8.8nm,1.0s
U15A North Rim 46.76 325 P P 09 53 17.0 +1.0
U15A IAmb IAmb 09 53 30.7
comp=Z,13nm,1.5s
P17A Butcher Ranch, 48.09 329 P P 09 53 27.6 +1.4
P17A IAmb IAmb 09 53 31.5
comp=Z,9.7nm,1.2s
SPR3 Spring Creek 3 49.70 326 P P 09 53 40.2 +1.5
PDAR Pinedale Array 50.00 332 P P 09 53 41.6 +0.7
comp=Z,0.3nm,0.5s,baz=125,slow=5.6,SNR=2.4
PDAR LR LR 10 16 09.3
comp=Z,89nm,18.9s,baz=196,slow=38
comp=Z,0.3nm,0.5s
SPUT South Promonto 50.32 329 P P 09 53 44.0 +0.7
SPUT IAmb IAmb 09 53 48.7
comp=Z,7.8nm,1.1s
BGU Big Grassy Mou 50.35 328 P P 09 53 44.4 +1.0
BGU IAmb IAmb 09 53 48.9
comp=Z,11nm,1.4s
REDW Red Top Meadow 51.07 332 P P 09 53 49.1 +0.2
ELK Elko 51.41 327 P P 09 53 52.4 +0.9
NV11 Mina Array Sit 51.58 322 P P 09 53 54.4 +1.7
NV11 IAmb IAmb 09 53 58.0
comp=Z,11nm,1.5s
NVAR Mina Array Bea 51.67 322 P P 09 53 54.9 +1.4
comp=Z,1.8nm,0.8s,baz=135,slow=6.6,SNR=9.9
comp=Z,1.8nm,0.8s
NVAR Mina Array Bea 51.67 322 P P 09 53 54.6 +1.1
ULM Lac du Bonnet 51.90 348 P P 09 53 54.0 -0.6
comp=Z,1.8nm,0.5s,baz=180,slow=7.7,SNR=3.5
comp=Z,1.8nm,0.5s
BMN Battle Mountai 52.32 325 P P 09 53 58.5 +0.3
WVOR Wild Horse Val 54.43 326 P P 09 54 14.4 +0.8
YBH Yreka Blue Hor 56.36 323 LR LR 10 17 48.4
comp=Z,75nm,18.0s,baz=327,slow=35
G08A Pilot Rock 56.50 328 P P 09 54 30.3 +1.8
G08A IAmb IAmb 09 54 34.4
comp=Z,7.4nm,1.1s
PINE Pine Mountain 56.60 326 P P 09 54 31.1 +1.7
PINE IAmb IAmb 09 54 35.0
comp=Z,12nm,1.3s
NEW Newport 57.64 332 LR LR 10 23 34.9
comp=Z,93nm,18.0s,baz=200,slow=40
PPT Papeete 69.84 251 LR LR 10 17 59.4
comp=Z,108nm,20.1s,baz=205,slow=28
RES Resolute Bay 75.26 356 LR LR 10 28 55.2
comp=Z,69nm,21.2s,baz=40,slow=35
DBIC Dimbokro 75.96 83 P P 09 56 33.1 -0.8
comp=Z,5.5nm,1.0s,baz=278,slow=4.9,SNR=4.5
DBIC LR LR 10 30 45.1
comp=Z,83nm,18.6s,baz=266,slow=36
comp=Z,5.5nm,1.0s
INK Inuvik 77.20 342 P P 09 56 40.1 +0.4
INK IAmb IAmb 09 57 04.7
comp=Z,9.5nm,1.4s
A36M Sachs Harbour 77.37 347 P P 09 56 39.9 -0.8
A36M IAmb IAmb 09 56 42.3
comp=Z,7.4nm,0.9s
MDT Midelt 78.42 57 LR LR 10 31 11.3
comp=Z,33nm,18.2s,baz=184,slow=36
ESDC Sonseca Array 79.92 50 P P 09 56 55.4 -0.1
comp=Z,1.6nm,0.9s,baz=279,slow=5.9,SNR=7.2
ESDC LR LR 10 30 25.0
comp=Z,32nm,18.1s,baz=346,slow=34
comp=Z,1.6nm,0.9s
ILAR Eielson Array 80.21 337 P P 09 56 57.0 +0.6
comp=Z,0.8nm,1.0s,baz=151,slow=3.8,SNR=5.6
ILAR LR LR 10 34 21.6
comp=Z,41nm,19.7s,baz=106,slow=37
comp=Z,0.8nm,1.0s
TORD Torodi Ar. Bea 82.63 77 P P 09 57 09.3 -1.1
comp=Z,0.9nm,0.6s,baz=289,slow=4.5,SNR=8.6
comp=Z,0.9nm,0.6s
TORD Torodi Ar. Bea 82.63 77 P P 09 57 09.0 -1.3
SPITS Spitsbergen Ar 91.64 12 LR LR 10 40 40.6
comp=Z,15nm,19.0s,baz=256,slow=37
ELIB Princess Elisa 94.16 162 dP P 09 58 05.4 +0.6
TSUM Tsumeb 97.76 109 LR LR 10 41 40.9
comp=Z,106nm,19.1s,baz=333,slow=35
FINES FINESS Array B 98.14 28 LR LR 10 38 01.7
comp=Z,37nm,21.5s,baz=346,slow=32
SUR Sutherland 99.62 123 LR LR 10 41 28.8
comp=Z,63nm,19.6s,baz=228,slow=34
ASAR Alice Springs 138.89 232 PKhKP PKPpre 10 04 05.5
comp=Z,0.1nm,0.5s,baz=121,slow=4.0,SNR=5.7
ASAR PKP **PKPdf 10 04 12.6 -1.1**
comp=Z,0.5nm,0.8s,baz=115,slow=2.3,SNR=6.0
WRA Warramunga Arr 140.28 238 PKP PKPdf 10 04 14.9 -1.3
comp=Z,0.9nm,0.6s,baz=112,slow=1.6,SNR=6.7
PZH PanZhiHua 153.73 355 PKPbc PKPdf 10 04 35.0 -3.5

IDC 15 09:45:34.0±5.8, 24.°59N×94.°77E, h26km±43km, mb3.4/4, mbtmp3.5/4, MS2.8/2, Error ellipse: s-maj=81.9km s-min=23.0km az=58.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.23**	**147**	Pn	Pn	09 47 22.6	+4.6
	1.0nm,0.3s,baz=340,slow=13,SNR=4.6			Pg	Pb	09 47 46.0	+7.1
CMAR	0.8nm,0.3s,baz=331,slow=16,SNR=2.9			Lg	Lg	09 49 23.8	
CMAR	0.4nm,0.3s,baz=324,slow=30,SNR=1.3			LR	LR	09 50 13.1	
MKAR	comp=Z,39nm,20.9s,baz=300,slow=39 **Makanchi Array**	**24.30**	**339**	P	P	09 50 49.4	+0.1
	1.6nm,0.8s,baz=147,slow=7.1,SNR=8.8 1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**28.87**	**338**	P	P	09 51 30.0	-0.2
	0.4nm,0.6s,baz=149,slow=8.8,SNR=3.2 0.4nm,0.6s						
EIL	**Elat**	**52.98**	**290**	LR	LR	10 20 47.9	
AKASG	comp=Z,23nm,21.7s,baz=237,slow=40 **Malin Array Be**	**56.01**	**316**	P	P	09 55 10.1	-0.1
	0.2nm,0.3s,baz=73,slow=6.7,SNR=4.2 0.2nm,0.3s						
ASAR	**Alice Springs**	**61.16**	**139**	P	P	09 55 46.4	-0.1
	0.2nm,0.5s,baz=319,slow=7.0,SNR=5.4 0.2nm,0.5s						

*MOS **15** 10:05:34.2±1.1, 28.°11N×104.°87E, h14km, mb4.7/19, Error ellipse: s-maj=12.8km s-min=6.8km az=113.3*
*IDC **15** 10:05:37.1±4.4, 28.°11N×104.°80E, h20km±27km, mb4.1/19, mbtmp4.2/20, ML4.1/1, MS3.4/14, Error ellipse: s-maj=19.7km s-min=13.1km az=44.0*
*BJI **15** 10:05:37.2±0.0, 28.°16N×104.°73E, h10km, mb4.2/28, mB4.6/14, ML4.2/20, Ms4.1/21, Ms7.3/8/19*
*NEIC **15** 10:05:39.6±1.7, 28.°10N±0.°09×104.°8E±0.°1, h32km±5km, mb4.5/24, Error ellipse: s-maj=13.8km s-min=11.6km az=132.0*

ISC 15 10:05:36.0±0.3, 28.°12N±0.°03×104.°77E±0.°04, h10km, n123, s29/104/131, mb4.4/49, MS3.4/13, 10C-3D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.36**	**134**	⇑Pn	**Pn**	**10 06 17.0**	**+2.1**
GYA				Sn	**Sn**	**10 06 47.4**	**+3.4**
GYA	comp=N,3μm,0.6s			smax	smax		
GYA	comp=E,3μm,0.6s			smax	smax		
CD2	**Chengdu**	**2.92**	**343**	Pn	**Pn**	**10 06 23.8**	**+1.3**
CD2				Pg	**Pg**	**10 06 30.4**	**-1.5**
CD2				Sn	**Sn**	**10 06 57.3**	**-0.3**
CD2				Sg	**Sg**	**10 07 10.9**	**+1.2**
CD2	comp=N,2μm,1.0s			smax	smax		
CD2	comp=E,3μm,0.9s			smax	smax		
PZH	**PanZhiHua**	**3.14**	**240**	Pn	**Pn**	**10 06 27.9**	**+2.2**
PZH				Pg	**Pb**	**10 06 35.0**	**+3.0**
PZH				Sn	**Sb**	**10 07 07.9**	**-2.5**
PZH				Sg	**Sg**	**10 07 15.4**	**-1.5**
PZH	comp=N,560nm,0.9s			smax	smax		
PZH	comp=E,470nm,1.0s			smax	smax		
PZH	comp=N,950nm,3.8s			LR	LR		
PZH	comp=E,1μm,3.8s			LR	LR		
PZH	comp=Z,620nm,3.8s			LR	LR		
ENH	**Enshi**	**4.64**	**61**		**Pn**	**10 06 48.0**	**+1.8**
GULI	**GuiLin**	**5.74**	**118**	eP n	**Pn**	**10 07 04.3**	**+3.0**
GULI				Sn	**Sn**	**10 08 09.9**	**+2.7**
TNCH	**TengChong**	**6.39**	**243**	P	**Pb**	**10 07 24.9**	**-2.5**
TNCH				sP	Pg	10 07 49.8	+11
TNCH				S	**Sb**	**10 08 42.0**	**-2.0**
TNCH	comp=Z,100nm,0.5s			pmax	pmax		
TNCH	comp=Z,240nm,3.4s			pmax	pmax		
TNCH	comp=N,990nm,2.3s			LR	LR		
TNCH	comp=E,450nm,2.4s			LR	LR		
TNCH	comp=Z,270nm,10.3s			LR	LR		
XAN	**Xi'an**	**6.89**	**30**	⇑iPn	**Pn**	**10 07 18.1**	**+1.0**
XAN				Sn	**Sn**	**10 08 40.5**	**+5.0**
XAN				Sg	**Sg**	**10 09 13.6**	**-3.5**
XAN	comp=Z,430nm,1.0s			smax	smax		
XAN	comp=Z,430nm,0.9s			smax	smax		
XAN	comp=Z,580nm,6.1s			LR	LR		
CNSH	**ChangSha**	**7.20**	**88**	⇓P	**Pn**	**10 07 18.6**	**-2.7**
CNSH				S	**Sn**	**10 08 39.4**	**-3.8**
CNSH	comp=N,250nm,1.0s			smax	smax		
CNSH	comp=E,210nm,1.1s			smax	smax		
LZH	**Lanzhou**	**7.98**	**355**	eP	**Pn**	**10 07 35.3**	**+3.1**
LZH	comp=E,100nm,1.7s			smax	smax		
LZH	comp=E,97nm,1.7s			smax	smax		
LZH	comp=E,430nm,6.9s			LR	LR		
LZH	comp=E,1μm,7.6s			LR	LR		
LZH	comp=E,330nm,7.9s			LR	LR		
WHN	**Wuhan**	**8.70**	**72**	⇓P	**Pn**	**10 07 42.3**	**+0.4**
WHN				S	**Sn**	**10 09 16.5**	**-3.5**
WHN	comp=N,2μm,3.9s			LR	LR		
WHN	comp=E,2μm,5.6s			LR	LR		
WHN	comp=Z,2μm,7.5s			LR	LR		
CRAI	**Chiangrai**	**8.82**	**208**	Pn	**Pn**	**10 07 44.2**	**+0.6**
LYN	**LuoYang**	**9.18**	**44**	eP	**Pn**	**10 07 47.8**	**-0.7**
LYN				S	Sn	10 09 41.9	+10
LYN	comp=N,240nm,3.8s			LR	LR		
LYN	comp=E,580nm,6.9s			LR	LR		
LYN	comp=Z,400nm,12.2s			LR	LR		
QIZ	**Qiongzhong**	**10.17**	**152**	P	**Pn**	**10 08 06.8**	**+4.7**
QIZ				S	**Sn**	**10 09 54.8**	**-1.5**
QIZ	comp=Z,710nm,10.4s			LR	LR		
QIZ	comp=Z,860nm,12.0s			LR	LR		
QIZ	comp=Z,590nm,12.7s			LR	LR		
HKPS	**Hong Kong Po S**	**10.28**	**122**	Pn	**Pn**	**10 08 06.7**	**+3.1**
CM31	**Chiang Mai Arr**	**11.01**	**210**	Pn	**Pn**	**10 08 14.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**11.01**	**210**	LR	LR	10 13 04.8	
	comp=Z,72nm,18.9s,baz=40,slow=41						
GOMU	**GeErMu**	**11.66**	**316**	P	Pn	10 08 17.8	-5.0
GOMU				S	**Sn**	**10 10 26.0**	**-7.2**
GOMU	comp=Z,2.0nm,0.4s			pmax	pmax		
GOMU	comp=Z,44nm,4.3s			pmax	pmax		
GOMU	comp=N,370nm,10.6s			LR	LR		
GOMU	comp=E,340nm,9.5s			LR	LR		
GOMU	comp=Z,540nm,10.7s			LR	LR		
GTA	**Gaotai**	**11.99**	**341**	eP	**Pn**	**10 08 28.5**	**+1.5**
GTA				pP		10 08 32.8	
GTA				sP		10 08 35.6	
GTA	comp=Z,2.0nm,1.0s			pmax	pmax		
GTA	comp=Z,68nm,5.1s			pmax	pmax		
GTA	comp=Z,370nm,7.6s			LR	LR		
GTA	comp=Z,130nm,8.4s			LR	LR		
GTA	comp=Z,300nm,10.9s			LR	LR		
LSA	**Lhasa**	**12.04**	**281**	P	**Pn**	**10 08 31.9**	**+3.8**
LSA				S	Sn	10 10 52.8	+10
LSA	comp=Z,5.0nm,0.6s			pmax	pmax		
LSA	comp=Z,130nm,14.2s			LR	LR		
LSA	comp=Z,290nm,15.7s			LR	LR		
LSA	comp=Z,520nm,14.2s			LR	LR		
HNS	**HongShan**	**12.46**	**40**	eP	**Pn**	**10 08 37.3**	**+4.0**
HNS				S	**Sn**	**10 11 00.8**	**+8.6**
HNS	comp=Z,230nm,7.0s			LR	LR		
HNS	comp=Z,340nm,8.7s			LR	LR		
HNS	comp=Z,220nm,7.3s			LR	LR		
BTO	**Baotou**	**13.18**	**18**	eP	**Pn**	**10 08 43.8**	**+0.5**
BTO				S	**Sn**	**10 11 12.3**	**+2.3**
BTO	comp=Z,740nm,5.7s			LR	LR		
BTO	comp=Z,650nm,5.3s			LR	LR		
TAPN	**Taplejung**	**15.13**	**271**	eP	**Pn**	**10 09 10.0**	**-0.1**
RAMN	comp=Z,2.9nm,0.3s **Ramite**	**16.17**	**270**	eP	**Pn**	**10 09 23.9**	**+0.3**
	comp=Z,52nm,0.6s						
JIRN	**Jiri**	**16.44**	**273**	eP	**Pn**	**10 09 27.0**	**-0.2**
	comp=Z,21nm,0.4s						
PKI	**Pulchoki**	**17.14**	**273**	eP	**Pn**	**10 09 35.8**	**-0.2**
	comp=Z,28nm,0.6s						
PKIN	**Phulchoki**	**17.15**	**273**	eP	**Pn**	**10 09 35.9**	**-0.2**
	comp=Z,15nm,0.4s						
DMN	**Daman**	**17.40**	**273**	eP	**Pn**	**10 09 38.3**	**-0.9**
	comp=Z,7.4nm,0.2s						
GKN	**Gorkha**	**17.78**	**274**	eP	**Pn**	**10 09 42.9**	**-0.9**
	comp=Z,5.0nm,0.2s						
XLT	**XiLinHaoTe**	**18.18**	**27**	eP	**P**	**10 09 50.3**	**+1.5**
XLT				pP	pP	10 09 53.5	+1.7
XLT				sP	sP	10 09 57.9	+4.7
XLT				S	**Sn**	**10 13 02.8**	**-8.7**
XLT				sS	sS	10 13 20.8	-1.0
XLT	comp=Z,8.0nm,0.7s			pmax	pmax		
XLT	comp=Z,110nm,6.3s			pmax	pmax		
XLT	comp=Z,190nm,5.0s			LR	LR		
XLT	comp=Z,130nm,5.3s			LR	LR		
DANN	**Dangsing**	**18.52**	**276**	eP	**P**	**10 09 51.9**	**-1.0**
	comp=Z,24nm,0.5s						
SONM	**Songino Array**	**19.72**	**3**	P	**P**	**10 10 06.2**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=186,slow=10,SNR=15 comp=Z,2.3nm,0.5s						
SONM	**Songino Array**	**19.72**	**3**	P	**Pn**	**10 10 07.5**	**+0.3**
SONM	**Songino Array**	**19.72**	**3**	P	**Pn**	**10 10 07.5**	**+0.3**
SONM	comp=Z,6.0nm,1.1s			pmax	pmax		
ULN	**Ulaanbaatar**	**19.79**	**5**	ceP	**P**	**10 10 07.4**	**+0.9**
ULN	comp=Z,11nm,1.2s			pmax	pmax		
WMQ	**Urumqi**	**20.83**	**323**	eP	Pn	10 10 20.1	-0.1
WMQ				pP	pP	10 10 22.1	+1.4
WMQ	comp=Z,9.0nm,1.1s			pmax	pmax		

KS19	**Wonju Array Si**	**21.50**	**58**	P	**P**	**10 10 27.1**	**+2.1**
KS19				IAmb	IAmb	10 10 41.8	
	comp=Z,39nm,1.5s						
KSRS	**Korea Array**	**21.53**	**58**	P	**P**	**10 10 24.4**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=255,slow=8.1,SNR=9.3						
KSRS				LR	LR	10 19 40.8	
	comp=Z,76nm,19.3s,baz=255,slow=39						
	comp=Z,1.5nm,0.5s						
ZAK	**Zakamensk**	**22.26**	**357**	*e*P	**P**	**10 10 32.8**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
JNU	**Nakatsue**	**22.98**	**71**	P	**P**	**10 10 41.3**	**+0.4**
	comp=Z,6.5nm,0.7s,baz=182,slow=2.4,SNR=6.9						
	comp=Z,6.5nm,0.7s						
BNX	**BinXian**	**25.09**	**39**	⇓P	**P**	**10 11 00.9**	**+0.2**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BNX				pmax	pmax		
	comp=Z,240nm,4.6s						
DGZ	**Jazzator, Alta**	**25.31**	**333**	*i* P	**P**	**10 11 03.6**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,28nm,1.4s						
MK31	**Makanchi Array**	**25.66**	**323**	P	**P**	**10 11 06.0**	**+0.1**
MK31				IAmb	IAmb	10 11 09.3	
	comp=Z,13nm,1.3s						
MK31	**Makanchi Array**	**25.66**	**323**	*i* P	**P**	**10 11 05.7**	**-0.2**
MKAR	**Makanchi Array**	**25.66**	**323**	P	**P**	**10 11 05.8**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=122,slow=12,SNR=31						
MKAR				PcP	**PcP**	**10 14 35.5**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=77,slow=3.3,SNR=3.5						
MKAR				ScP	**ScP**	**10 18 14.2**	**-1.6**
	comp=Z,1.4nm,1.0s,baz=128,slow=2.5,SNR=6.5						
	comp=Z,3.4nm,0.5s						
MAKZ	**Makanchi**	**25.83**	**322**	P	**P**	**10 11 07.0**	**-0.5**
MAKZ	**Makanchi**	**25.83**	**322**	P	**P**	**10 11 07.0**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,11nm,1.3s						
USRK	**Ussuriysk Ar.**	**27.04**	**46**	P	**P**	**10 11 18.1**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=255,slow=7.7,SNR=6.0						
USRK				LR	LR	10 21 47.0	
	comp=Z,69nm,19.3s,baz=147,slow=36						
	comp=Z,2.4nm,0.6s						
HEH	**HeiHe**	**28.02**	**32**	*e*P	P	10 11 38.3	+11
HEH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
HEH				pmax	pmax		
	comp=Z,120nm,5.0s						
AAK	**Ala-Archa**	**28.44**	**309**	LR	LR	10 25 01.0	
	comp=Z,100nm,19.6s,baz=69,slow=41						
DAV	**Davao City (W)**	**28.74**	**133**	LR	LR	10 24 52.5	
	comp=Z,142nm,18.1s,baz=330,slow=40						
MJAR	**Matsushiro Arr**	**29.36**	**65**	LR	LR	10 24 46.8	
	comp=Z,49nm,18.0s,baz=257,slow=39						
KLR	**Kul'dur**	**29.53**	**37**	P	**P**	**10 11 40.0**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=162,slow=6.4,SNR=3.0						
KLR				LR	LR	10 25 18.4	
	comp=Z,50nm,19.8s,baz=194,slow=40						
	comp=Z,1.5nm,0.8s						
KLR	**Kul'dur**	**29.53**	**37**	*i* P	**P**	**10 11 39.8**	**-0.7**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAA0	**Zalesovo Array**	**29.66**	**336**	P	**P**	**10 11 41.8**	**+0.2**
ZALV	**Zalesovo Beam**	**29.66**	**336**	P	**P**	**10 11 41.3**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=137,slow=8.7,SNR=9.4						
ZALV				LR	LR	10 24 16.0	
	comp=Z,75nm,19.4s,baz=74,slow=38						
	comp=Z,2.4nm,0.7s						
KURK	**Kurchatov**	**30.01**	**326**	P	**P**	**10 11 44.2**	**-0.5**
KURK				IAmb	IAmb	10 11 46.2	
	comp=Z,6.7nm,0.8s						
KURK	**Kurchatov**	**30.01**	**326**	P	**P**	**10 11 44.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZEA	**Zeya**	**30.45**	**27**	*e*P	P	10 11 36.6	-12
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KKAR	**Karatay Array**	**31.36**	**308**	P	**P**	**10 11 59.2**	**+2.4**
KKAR	**Karatay Array**	**31.36**	**308**	P	**P**	**10 11 59.2**	**+2.4**
BVAR	**Borovoye Array**	**35.52**	**324**	LR	LR	10 28 27.5	
	comp=Z,77nm,18.9s,baz=95,slow=39						
BRVK	**Borovoye**	**35.59**	**324**	*ce*P	**P**	**10 12 34.4**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
YAK	**Yakutsk**	**37.70**	**19**	*ce*P	**P**	**10 12 50.7**	**-0.6**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GUMO	**Guam**	**39.96**	**103**	LR	LR	10 30 03.8	
	comp=Z,40nm,19.7s,baz=260,slow=37						
GEYT	**Alibeck**	**39.97**	**296**	P	**P**	**10 13 12.3**	**+1.6**
	comp=Z,3.8nm,0.6s,baz=92,slow=7.4,SNR=9.1						
	comp=Z,3.8nm,0.6s						
GEYT	**Alibeck**	**39.97**	**296**	P	**P**	**10 13 13.2**	**+2.4**
GEYT				IAmb	IAmb	10 13 13.8	
	comp=Z,6.5nm,0.8s						
ABKAR	**Akbulak array**	**40.13**	**314**	P	**P**	**10 13 13.2**	**+1.3**
ABKAR	**Akbulak array**	**40.13**	**314**	P	**P**	**10 13 12.8**	**+0.9**
NRIK	**Noril'sk**	**42.46**	**351**	P	**P**	**10 13 31.2**	**+0.4**
	comp=Z,4.3nm,0.5s,baz=140,slow=6.2,SNR=8.8						
	comp=Z,4.3nm,0.5s						
NRIK	**Noril'sk**	**42.46**	**351**	*ce*P	**P**	**10 13 30.7**	**0.0**
NRIK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**43.16**	**324**	*c i*P	**P**	**10 13 36.3**	**-0.3**
ARU						10 15 24.2	
ARU				S	S	10 19 54.2	-8.7
ARU				SS	**SS**	**10 23 12.7**	**-2.7**
ARU				pmax	pmax		
	comp=Z,22nm,2.1s						
TIXI	**Tiksi**	**45.56**	**10**	*ce*P	**P**	**10 13 54.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BELG	**Belogornoye**	**48.38**	**316**	*i* P	**P**	**10 14 19.3**	**+1.4**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KIRV	**Kirov**	**48.52**	**325**	LR	LR	10 37 13.2	
	comp=Z,71nm,18.0s,baz=344,slow=39						
KNRA	**Kununurra**	**49.35**	**149**	P	**P**	**10 14 24.3**	**-1.4**
ZEI	**Tsey**	**50.67**	**304**	*e*P	**P**	**10 14 33.3**	**-2.5**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ONI	**Oni**	**51.01**	**304**	P	**P**	**10 14 39.9**	**+1.7**
ONI				IAmb	IAmb	10 14 41.3	
	comp=Z,11nm,1.0s						
ONI	**Oni**	**51.01**	**304**	P	**P**	**10 14 39.9**	**+1.7**
ONI				pmax	pmax		
	comp=Z,11nm,1.0s						
MBWA	**Marble Bar**	**51.08**	**162**	P	**P**	**10 14 37.9**	**-0.8**
KBZ	**Khabaz**	**51.33**	**305**	LR	LR	10 41 49.5	
	comp=Z,42nm,19.3s,baz=56,slow=42						
KIV	**Kislovodsk**	**51.47**	**305**	*e*P	**P**	**10 14 42.8**	**+1.1**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
VORR	**Voronezh**	**53.53**	**315**	P	**P**	**10 14 58.1**	**+1.4**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BILL	**Bilibino**	**53.63**	**24**	*i* P	**P**	**10 14 56.6**	**-0.6**
BILL				*i*		10 15 04.6	
BILL				*i*		10 15 58.0	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KLMR	**Klimovskoe**	**53.85**	**327**	*e*P	**P**	**10 14 57.4**	**-1.5**
KLMR				AMP		10 15 00.8	
	comp=Z,21nm,1.2s						
KLMR	**Klimovskoe**	**53.85**	**327**	*e*P	**P**	**10 14 57.3**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,21nm,1.2s						
OBN	**Obninsk**	**55.10**	**319**	LR	LR	10 40 09.9	
	comp=Z,33nm,21.4s,baz=106,slow=38						
OBN	**Obninsk**	**55.10**	**319**	*i* P	**P**	**10 15 08.1**	**+0.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WB0	**Warramunga Arr**	**55.56**	**146**	P	**P**	**10 15 11.1**	**-0.6**
WB0				IAmb	IAmb	10 15 11.8	
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**55.68**	**146**	P	**P**	**10 15 11.8**	**-0.8**
	comp=Z,6.8nm,0.8s,baz=331,slow=7.9,SNR=42						
	comp=Z,6.8nm,0.8s						
WRA	**Warramunga Arr**	**55.68**	**146**	P	**P**	**10 15 12.3**	**-0.3**
WRA	**Warramunga Arr**	**55.68**	**146**	P	**P**	**10 15 12.3**	**-0.3**
WB2	**Warramunga Arr**	**55.69**	**146**	P	**P**	**10 15 12.0**	**-0.7**
WR0	**Warramunga Arr**	**55.80**	**146**	P	**P**	**10 15 13.0**	**-0.5**
WR0				IAmb	IAmb	10 15 13.1	
	comp=Z,5.5nm,0.7s						
COEN	**Coen**	**55.97**	**133**	P	**P**	**10 15 13.5**	**-1.3**
AS31	**Alice Springs**	**58.65**	**148**	P	**P**	**10 15 33.3**	**-0.3**
AS31				IAmb	IAmb	10 15 34.0	
	comp=Z,19nm,0.7s						
ASAR	**Alice Springs**	**58.65**	**148**	P	**P**	**10 15 33.3**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=329,slow=6.5,SNR=100						
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**58.65**	**148**	P	**P**	**10 15 33.5**	**-0.1**
ASAR	**Alice Springs**	**58.65**	**148**	P	**P**	**10 15 33.5**	**-0.1**
BR131	**Keskin Array S**	**58.75**	**301**	P	**P**	**10 15 35.7**	**+1.3**
BR131				IAmb	IAmb	10 15 36.8	
	comp=Z,3.9nm,0.8s						
BR131	**Keskin Array S**	**58.75**	**301**	*i* P	**P**	**10 15 35.5**	**+1.1**
BRTR	**Keskin Array B**	**58.75**	**301**	P	**P**	**10 15 33.6**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=121,slow=8.9,SNR=12						
	comp=Z,2.5nm,0.8s						
BRTR	**Keskin Array B**	**58.75**	**301**	P	**P**	**10 15 33.0**	**-1.4**
AKASG	**Malin Array Be**	**59.87**	**315**	P	**P**	**10 15 40.9**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=65,slow=6.5,SNR=14						
	comp=Z,1.1nm,0.5s						
AKASG	**Malin Array Be**	**59.87**	**315**	P	**P**	**10 15 40.1**	**-1.6**
AKBB	**Malin Array Si**	**59.87**	**315**	P	**P**	**10 15 41.4**	**-0.3**
AKBB	**Malin Array Si**	**59.87**	**315**	*ce*P	**P**	**10 15 40.5**	**-1.2**
AKBB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARCES	**ARCESS Array B**	**60.21**	**337**	P	**P**	**10 15 43.7**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=78,slow=5.3,SNR=6.5						
	comp=Z,2.7nm,0.8s						
FINES	**FINESS Array B**	**60.37**	**327**	P	**P**	**10 15 44.7**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=102,slow=4.7,SNR=7.5						
	comp=Z,2.6nm,0.9s						
NB2	**NORSAR Subarra**	**67.49**	**328**	P	**P**	**10 16 30.7**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=72,slow=6.5						
NOA	**NORSAR Array B**	**67.49**	**328**	P	**P**	**10 16 30.8**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=77,slow=6.1,SNR=5.7						
NOA				LR	LR	10 48 20.9	
	comp=Z,40nm,19.2s,baz=305,slow=38						
	comp=Z,2.1nm,0.9s						
STKA	**Stephens Creek**	**69.20**	**147**	P	**P**	**10 16 42.1**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=329,slow=2.1,SNR=4.1						
	comp=Z,1.4nm,0.5s						
CLL	**Collm**	**69.64**	**318**	*i* P	**P**	**10 16 46.1**	**+0.6**
	comp=Z,9.0nm,1.3s						
CLL				*es*P	PcP	10 17 01.0	-7.4
CLL				*ex*	x	10 17 21.0	
CLL				*e*PPP	PPP	10 21 08.0	
CLL	**Collm**	**69.64**	**318**	*i* P	**P**	**10 16 46.1**	**+0.6**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GERES	**GERESS Array B**	**70.06**	**315**	P	**P**	**10 16 48.0**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=63,slow=6.1,SNR=7.9						
	comp=Z,1.0nm,0.7s						
KMBO	**Kilima Mbogo**	**70.82**	**258**	P	**P**	**10 16 53.2**	**-0.4**
KMBO				IAmb	IAmb	10 16 55.3	
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**70.82**	**258**	P	**P**	**10 16 53.2**	**-0.4**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PPLA	**Purkeypile**	**71.00**	**28**	P	**P**	**10 16 53.8**	**0.0**
PPLA				IAmb	IAmb	10 17 08.0	
	comp=Z,7.4nm,1.2s						
MDM	**Murphy Dome**	**71.67**	**25**	P	**P**	**10 16 57.2**	**-0.5**
ILAR	**Eielson Array**	**72.27**	**25**	P	**P**	**10 17 00.1**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=301,slow=7.4,SNR=6.1						
	comp=Z,0.5nm,0.9s						
J26L	**Joseph Creek**	**73.65**	**25**	P	**P**	**10 17 08.9**	**-0.6**
J26L				IAmb	IAmb	10 17 10.4	
	comp=Z,4.7nm,0.9s						
MBAR	**Mbarara**	**76.23**	**262**	*ce*P	**P**	**10 17 26.9**	**+1.5**
MBAR				pmax	pmax		
	comp=Z,6.0nm,1.7s						
YKA	**Yellowknife Ar**	**84.36**	**17**	P	**P**	**10 18 07.5**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=324,slow=5.3,SNR=30						
	comp=Z,1.4nm,0.7s						
ROSC	**El Rosal**	**147.22**	**358**	PKPbc	**PKPdf**	**10 25 20.7**	**+2.1**
	comp=Z,8.1nm,0.4s,baz=67,slow=18,SNR=3.5						

*IDC **15** 10:20:35.8±16.0, 19.°61N×145.°48E, h140km±164km, mb3.0/6, mbtmp3.5/7, ML3.0/1, Error ellipse: s-maj=80.9km s-min=18.6km az=99.0*

ISC 15 10:20:36.7±1.0, 19.°6N±0.°2×145.°4E±0.°3, h147km, n7, σ0§54/7, mb3.2/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**18.02**	**341**	P	**P**	**10 24 36.5**	**+0.2**
	baz=164,slow=10,SNR=4.6						
	0.9nm,0.5s						
KSRS	**Korea Array**	**23.44**	**323**	P	**P**	**10 25 32.8**	**+0.2**
	1.1nm,0.7s,baz=145,slow=12,SNR=1.7						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**40.78**	**196**	P	**P**	**10 28 03.5**	**-0.1**
	0.2nm,0.3s,baz=4.0,slow=10,SNR=1.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.45**	**195**	P	**P**	**10 28 33.2**	**-0.1**
	0.2nm,0.6s,baz=12,slow=6.3,SNR=5.8						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**62.95**	**26**	P	**P**	**10 30 46.5**	**-0.8**
	0.3nm,0.4s,baz=247,slow=6.1,SNR=11						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**77.31**	**28**	P	**P**	**10 32 14.7**	**0.0**
	0.3nm,0.7s,baz=291,slow=5.9,SNR=7.2						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**82.79**	**52**	P	**P**	**10 32 45.6**	**+0.7**
	0.3nm,0.7s,baz=250,slow=7.6,SNR=2.2						
	0.3nm,0.7s						

*IDC **15** 11:03:45.4±2.9, 7.°59S×147.°52E, h44km±37km, mb3.2/2, mbtmp3.7/4, ML3.9/2, Error ellipse: s-maj=54.1km s-min=10.4km az=122.0*

ISC 15 11:03:46.0±1.7, 7.°6S±0.°2×147.°6E±0.°3, h50km, n5, σ0§55/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.80**	**193**	P	**Pn**	**11 04 14.1**	**-0.5**
	88nm,0.3s,baz=31,slow=12,SNR=80						
PMG				S	**Sn**	**11 04 37.0**	**+0.7**
	548nm,0.7s,baz=176,slow=18,SNR=50						
KRVT	**Keravat (AS076**	**5.53**	**53**	P	**Pn**	**11 05 05.5**	**-0.2**
	5.8nm,0.3s,baz=226,slow=1.5,SNR=7.0						
KRVT				S	**Sn**	**11 06 08.5**	**+0.4**
	13nm,0.7s,baz=339,slow=20,SNR=1.2						
	14nm,0.3s						
WRA	**Warramunga Arr**	**17.72**	**225**	P	**P**	**11 07 50.0**	**+0.3**
	0.3nm,0.3s,baz=49,slow=12,SNR=11						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**20.64**	**218**	P	**P**	**11 08 21.8**	**+0.3**
	0.3nm,0.3s,baz=52,slow=8.7,SNR=15						
	0.3nm,0.3s						
STKA	**Stephens Creek**	**24.75**	**192**	P	**P**	**11 09 02.6**	**-0.3**
	0.9nm,0.4s,baz=356,slow=6.4,SNR=3.0						
	0.9nm,0.4s						

*JMA **15** 11:17:52.6±0.2, 45.°N±2.°×14.°3E±.°, h313km, MV2.9/22, NE OFF HOKKAIDO*

*IDC **15** 11:17:52.9±1.2, 45.°42N×142.°81E, h318km±14km, mb2.6/3, mbtmp3.6, Error ellipse: s-maj=29.9km s-min=21.4km az=137.0*

*SKHL **15** 11:17:53.3±0.7, 45.°50N×143.°20E, h313km±4km, mb4.0/3, msha4.5/7*

ISC 15 11:17:52.3±0.9, 45.°43N±0.°06×142.°95E±0.°08, h311km±7km, n24, σ1§33/34, mb2.8/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.75**	**262**	*e*P	**Pn**	**11 18 33.4**	**+0.6**
JWK2				*e*S	**S**	**11 19 04.7**	**-0.3**
JSS	**Shosan**	**1.29**	**218**	*e*P	**Pn**	**11 18 35.9**	**+0.7**
ASAJ	**Asahikawa**	**1.33**	**191**	P	**Pn**	**11 18 36.7**	**+1.1**
	10nm,0.6s,baz=290,slow=4.2,SNR=26						
ASAJ	**Asahikawa**	**1.33**	**191**	*e*P	**Pn**	**11 18 36.8**	**+1.3**
JMP	**Maruseppu**	**1.45**	**168**	*e*P	**Pn**	**11 18 37.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**1.53**	**355**	*e*P	**Pn**	**11 18 36.4**	**-0.2**
YSS				AMB	AMB	11 18 36.5	
	70nm,0.4s						
YSS				*e*S	**S**	**11 19 10.2**	**-1.7**
YSS				A	A	11 19 10.8	
	60nm,0.6s						
JKK2	**Kamakawa 2**	**1.56**	**185**	P	**Pn**	**11 18 38.5**	**+1.5**
JTKR	**Abashiri--Toko**	**1.61**	**155**	P	**Pn**	**11 18 38.8**	**+1.6**
JAR	**Ashorobuto**	**2.21**	**164**	*e*P	**Pn**	**11 18 43.2**	**+1.5**
JAR				*e*S	**S**	**11 19 23.2**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**2.50**	**123**	*e*S	**S**	**11 19 22.7**	**-2.8**
YUK				A	A	11 19 23.1	
	160nm,0.9s						
YUK				A	A	11 19 23.1	
	260nm,0.9s						
JAK	**Akkeshi**	**2.73**	**152**	*e*P	**Pn**	**11 18 46.9**	**+0.7**
JAK				*e*S	**S**	**11 19 29.0**	**-0.4**
AKK	**Akkeshi**	**2.77**	**150**	*e*P	**Pn**	**11 18 47.8**	**+1.2**
AKK				*e*S	**S**	**11 19 29.4**	**-0.6**
AKK				A	A	11 19 30.4	
	30nm,0.3s						
AKK				A	A	11 19 30.4	
	30nm,0.3s						
JEW	**Eniwo**	**2.80**	**203**	*e*P	**Pn**	**11 18 48.4**	**+1.5**
JCH	**Churui**	**2.83**	**174**	*e*P	**Pn**	**11 18 46.9**	**-0.3**
JCH				*e*S	**S**	**11 19 28.4**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.86**	**135**	*e*P	**Pn**	**11 18 49.5**	**+2.1**
NMR				*e*S	**S**	**11 19 30.4**	**-1.1**
NMR				A	A	11 19 30.9	
	10.0nm,0.3s						
NMR				A	A	11 19 30.9	
	10.0nm,0.3s						
NEM2	**Nemuro 2**	**2.87**	**135**	*e*P	**Pn**	**11 18 47.4**	**-0.1**
NEM2				*e*S	**S**	**11 19 30.3**	**-1.4**
MYR	**Moyori**	**3.14**	**176**	*e*P	**Pn**	**11 18 50.3**	**+0.1**
MYR				*e*S	**S**	**11 19 34.9**	**-1.7**
MYR				A	A	11 19 35.3	
	10.0nm,0.3s						
JNBK	**Urakawa-nobuka**	**3.15**	**183**	*e*P	**Pn**	**11 18 51.0**	**+0.8**
JNBK				*e*S	**S**	**11 19 35.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**7.89**	**265**	P	**Pn**	**11 19 43.6**	**-0.9**
	3.4nm,0.6s,baz=74,slow=12,SNR=4.3						
MJAR	**Matsushiro Arr**	**9.57**	**204**	P	**Pn**	**11 20 06.0**	**+0.8**
	1.1nm,0.7s,baz=16,slow=14,SNR=4.0						
PETK	**Petropavlovsk-**	**12.30**	**46**	P	**P**	**11 20 39.6**	**+0.8**
	1.0nm,0.7s,baz=234,slow=9.2,SNR=1.2						
SONM	**Songino Array**	**25.07**	**289**	P	**P**	**11 22 48.6**	**-0.6**
	0.3nm,0.7s,baz=81,slow=4.8,SNR=2.2						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**56.06**	**33**	P	**P**	**11 26 59.4**	**+0.3**
	0.3nm,0.7s,baz=306,slow=7.5,SNR=6.0						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**65.53**	**189**	P	**P**	**11 28 02.5**	**-0.5**
	0.1nm,0.4s,baz=8.1,slow=6.6,SNR=1.0						
	0.1nm,0.4s						

*IDC **15** 11:20:55.9±4.5, 28.°14N×104.°75E, h19km±28km, mb4.1/18, mbtmp4.2/19, ML4.0/1, MS3.3/5, Error ellipse: s-maj=21.2km s-min=14.0km az=42.0*

*BJI **15** 11:20:56.0±0.0, 28.°14N×104.°72E, h10km, mb4.1/17, mB4.6/6, ML4.0/21, Ms3.8/10, Ms7 3.6/11*

*NEIC **15** 11:20:59.1±1.2, 28.°1N±0.°1×104.°7E±0.°1, h36km±6km, mb4.4/23, Error ellipse: s-maj=18.1km s-min=15.2km az=213.0*

ISC 15 11:20:54.8±0.4, 28.°11N±0.°04×104.°75E±0.°04, h10km, n80, σ1§68/90, mb4.3/30, MS3.9/5, 2C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**2.37**	**134**	Pn	**Pn**	**11 21 35.6**	**+1.7**
GYA				Sn	**Sn**	**11 22 05.6**	**+2.4**
GYA				smax	smax		
	comp=N,1μm,1.0s						
GYA				smax	smax		
	comp=E,840nm,1.0s						
CD2	**Chengdu**	**2.92**	**343**	Pn	**Pn**	**11 21 42.0**	**+0.7**
CD2				Pg	**Pb**	**11 21 48.9**	**+2.0**
CD2				Sn	**Sn**	**11 22 14.4**	**-2.0**
CD2				Sg	**Sb**	**11 22 25.6**	**+2.9**
CD2				smax	smax		
	comp=N,1μm,1.0s						
CD2				smax	smax		
	comp=E,2μm,1.1s						
PZH	**PanZhiHua**	**3.12**	**240**	Pn	**Pn**	**11 21 46.4**	**+2.3**
PZH				Pg	**Pg**	**11 21 54.0**	**-0.5**
PZH				Sn	**Sn**	**11 22 26.0**	**+4.5**
PZH				Sg	**Sg**	**11 22 34.8**	**-0.1**
PZH				smax	smax		
	comp=N,230nm,0.8s						
PZH				smax	smax		
	comp=E,240nm,0.8s						
PZH				LR	LR		
	comp=N,750nm,4.2s						
PZH				LR	LR		
	comp=E,830nm,4.2s						
PZH				LR	LR		
	comp=Z,680nm,6.4s						
ENH	**Enshi**	**4.67**	**61**		**Pn**	**11 22 07.5**	**+2.1**
TNCH	**TengChong**	**6.36**	**243**	Pn	**Pn**	**11 22 25.9**	**-2.9**
TNCH				Sn	**Sn**	**11 23 41.3**	**-0.4**
TNCH				Sg	**Sg**	**11 24 12.8**	**-6.4**
TNCH				smax	smax		
	comp=N,70nm,1.3s						
TNCH				smax	smax		
	comp=E,63nm,1.3s						
XAN	**Xi'an**	**6.91**	**30**	⇑*i*Pn	**Pn**	**11 22 37.0**	**+0.8**
XAN				Sn	**Sn**	**11 23 54.0**	**-0.8**
XAN				Sg	**Sg**	**11 24 32.8**	**-3.7**
XAN				smax	smax		
	comp=N,280nm,1.0s						
XAN				smax	smax		
	comp=E,240nm,0.8s						
XAN				LR	LR		
	comp=Z,490nm,5.7s						
CNSH	**ChangSha**	**7.23**	**88**	⇑P	Pn	11 22 37.1	-3.4
CNSH				S	**Sn**	**11 23 59.1**	**-3.6**
CNSH				smax	smax		
	comp=N,130nm,1.0s						
CNSH				smax	smax		
	comp=E,98nm,1.0s						
LZH	**Lanzhou**	**7.99**	**355**	P	**Pn**	**11 22 53.8**	**+2.7**
LZH				smax	smax		
	comp=E,45nm,1.7s						
LZH				smax	smax		
	comp=E,65nm,1.7s						
LZH				LR	LR		
	comp=E,250nm,10.7s						
LZH				LR	LR		
	comp=E,410nm,10.7s						
LZH				LR	LR		
	comp=E,250nm,11.0s						
CMAR	**Chiang Mai Arr**	**10.99**	**210**	Pn	**Pn**	**11 23 36.2**	**+4.1**
	comp=E,0.1nm,0.3s,baz=14,slow=12,SNR=10.0						
CMAR				LR	LR	11 28 12

	comp=E,13nm,0.9s,baz=8.7,slow=3.0,SNR=4.1							
	comp=E,13nm,0.9s							
MK31	**Makanchi Array**	**25.64**	**323**	P	**P**	**11 26 24.4**	**-0.2**
MK31				IAmb	IAmb	11 26 28.3		
	comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**25.64**	**323**	P	**P**	**11 26 24.3**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=120,slow=11,SNR=39							
MKAR				PcP	**PcP**	**11 29 54.8**	**-0.3**	
	comp=Z,0.2nm,0.5s,baz=72,slow=4.7,SNR=3.7							
MKAR				ScP	**ScP**	**11 33 32.7**	**-1.9**	
	comp=Z,0.6nm,0.8s,baz=98,slow=4.9,SNR=5.0							
	comp=Z,3.6nm,0.6s							
MKAR	**Makanchi Array**	**25.64**	**323**	P	**P**	**11 26 24.0**	**-0.6**
TARG	**Taragay, Kyrgy**	**25.81**	**309**	P	**P**	**11 26 27.8**	**+1.2**
MAKZ	**Makanchi**	**25.82**	**322**	P	**P**	**11 26 25.9**	**-0.3**
MAKZ				IAmb	IAmb	11 26 30.1		
	comp=Z,18nm,1.4s							
USA0B	**Ussuriysk Arra**	**27.06**	**46**	P	**P**	**11 26 38.2**	**+0.8**
USA0B				IAmb	IAmb	11 26 52.8		
	comp=Z,9.7nm,1.1s							
USRK	**Ussuriysk Ar.**	**27.06**	**46**	P	**P**	**11 26 37.4**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=243,slow=11,SNR=4.3							
	comp=Z,3.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**27.06**	**46**	P	**P**	**11 26 38.0**	**+0.6**
ZAA0	**Zalesovo Array**	**29.66**	**336**	P	**P**	**11 26 59.4**	**-1.0**
ZALV	**Zalesovo Beam**	**29.66**	**336**	P	**P**	**11 26 59.7**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=136,slow=8.4,SNR=11							
	comp=Z,1.8nm,0.5s							
KURBB	**Kurchatov Arra**	**29.99**	**326**	P	**P**	**11 27 02.9**	**-0.5**
	comp=Z,5.8nm,0.6s,baz=133,slow=9.7,SNR=44							
	comp=Z,5.8nm,0.6s							
KURK	**Kurchatov**	**30.00**	**326**	P	**P**	**11 27 03.2**	**-0.2**
KURK				IAmb	IAmb	11 27 05.3		
	comp=Z,5.8nm,0.7s							
KKAR	**Karatay Array**	**31.35**	**308**	P	**P**	**11 27 16.4**	**+0.9**
GEYT	**Alibeck**	**39.95**	**296**	P	**P**	**11 28 30.5**	**+1.1**
	comp=Z,4.2nm,0.6s,baz=120,slow=5.8,SNR=9.1							
	comp=Z,4.2nm,0.6s							
GEYT	**Alibeck**	**39.95**	**296**	P	**P**	**11 28 30.9**	**+1.5**
GEYT				IAmb	IAmb	11 28 32.9		
	comp=Z,15nm,1.4s							
ABKAR	**Akbulak array**	**40.11**	**314**	P	**P**	**11 28 30.9**	**+0.4**
ABKAR	**Akbulak array**	**40.11**	**314**	P	**P**	**11 28 30.6**	**0.0**
WSAR	**Wadi Sarin**	**41.66**	**274**	LR	LR	11 46 49.5		
	comp=Z,21nm,19.7s,baz=106,slow=37							
NRIK	**Noril'sk**	**42.46**	**351**	P	**P**	**11 28 49.6**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=133,slow=7.6,SNR=4.8							
	comp=Z,3.0nm,0.5s							
TIXI	**Tiksi**	**45.57**	**10**	P	**P**	**11 29 13.1**	**-1.4**
	comp=Z,1.9nm,0.4s,baz=90,slow=15,SNR=9.5							
	comp=Z,1.9nm,0.4s							
TIXI	**Tiksi**	**45.57**	**10**	P	**P**	**11 29 13.1**	**-1.4**
TIXI				IAmb	IAmb	11 29 15.6		
	comp=Z,4.1nm,1.1s							
ONI	**Oni**	**50.99**	**304**	P	**P**	**11 29 58.4**	**+1.5**
ONI				IAmb	IAmb	11 30 00.8		
	comp=Z,8.3nm,1.2s							
WB0	**Warramunga Arr**	**55.57**	**146**	P	**P**	**11 30 30.2**	**-0.4**
WB0				IAmb	IAmb	11 31 06.6		
	comp=Z,4.3nm,1.1s							
WRAB	**Tennant Creek**	**55.69**	**146**	P	**P**	**11 30 30.8**	**-0.7**
WRAB				IAmb	IAmb	11 30 40.8		
	comp=Z,8.4nm,1.2s							
WRA	**Warramunga Arr**	**55.69**	**146**	P	**P**	**11 30 31.0**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=334,slow=8.5,SNR=18							
	comp=Z,2.1nm,0.7s							
WRA	**Warramunga Arr**	**55.69**	**146**	P	**P**	**11 30 31.4**	**-0.1**
WB2	**Warramunga Arr**	**55.70**	**146**	P	**P**	**11 30 31.7**	**+0.1**
WB2				IAmb	IAmb	11 30 32.3		
	comp=Z,5.3nm,1.0s							
WR0	**Warramunga Arr**	**55.81**	**146**	P	**P**	**11 30 31.8**	**-0.6**
WR0				IAmb	IAmb	11 30 51.2		
	comp=Z,9.3nm,1.4s							
ASF	**Jabal al Asfar**	**57.94**	**292**	LR	LR	12 00 38.4		
	comp=Z,958nm,21.4s,baz=108,slow=41							
AS31	**Alice Springs**	**58.66**	**148**	P	**P**	**11 30 52.8**	**+0.3**
AS31				IAmb	IAmb	11 30 55.0		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**58.66**	**148**	P	**P**	**11 30 52.1**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=328,slow=6.8,SNR=20							
	comp=Z,1.9nm,0.6s							
ASAR	**Alice Springs**	**58.66**	**148**	P	**P**	**11 30 53.4**	**+1.0**
BRTR	**Keskin Array B**	**58.73**	**301**	P	**P**	**11 30 51.8**	**-1.4**
	comp=Z,2.0nm,0.9s,baz=125,slow=5.4,SNR=8.2							
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**58.73**	**301**	P	**P**	**11 30 54.0**	**+0.9**
KEV	**Kevo**	**59.69**	**337**	P	**P**	**11 30 59.6**	**+0.6**
AKASG	**Malin Array Be**	**59.85**	**315**	P	**P**	**11 30 59.5**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=64,slow=6.6,SNR=9.0							
	comp=Z,0.7nm,0.5s							
ARCES	**ARCESS Array B**	**60.21**	**337**	P	**P**	**11 31 01.8**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=86,slow=3.8,SNR=3.8							
	comp=Z,3.1nm,0.9s							
FINES	**FINESS Array B**	**60.36**	**327**	P	**P**	**11 31 03.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=82,slow=6.6,SNR=8.4							
	comp=Z,1.1nm,0.6s							
FINES	**FINESS Array B**	**60.36**	**327**	P	**P**	**11 31 03.6**	**-0.1**
ELL	**Elmali**	**62.30**	**299**	P	**P**	**11 31 17.5**	**0.0**
BURAR	**Bucovina Array**	**63.01**	**312**	P	**P**	**11 31 22.0**	**-0.1**
BURAR				IAmb	IAmb	11 31 54.5		
	comp=Z,2.3nm,1.4s							
KARP	**Karpathos**	**64.77**	**298**	P	**P**	**11 31 33.6**	**-0.2**
NB2	**NORSAR Subarra**	**67.48**	**328**	P	**P**	**11 31 48.7**	**-2.0**
	comp=Z,2.1nm,0.8s,baz=73,slow=6.5							
NOA	**NORSAR Array B**	**67.48**	**328**	P	**P**	**11 31 48.6**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=74,slow=6.3,SNR=4.4							
	comp=Z,0.9nm,0.7s							
ITM	**Ithomi**	**68.27**	**301**	P	**P**	**11 31 54.8**	**-1.2**
IMAR	**Indian Mountai**	**69.17**	**25**	P	**P**	**11 32 00.9**	**-0.3**
STKA	**Stephens Creek**	**69.21**	**147**	LR	LR	12 05 30.0		
	comp=Z,86nm,18.1s,baz=201,slow=39							
GERES	**GERESS Array B**	**70.04**	**315**	P	**P**	**11 32 06.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=63,slow=6.1,SNR=5.6							
	comp=Z,0.5nm,0.4s							
GERES	**GERESS Array B**	**70.04**	**315**	P	**P**	**11 32 06.7**	**-0.3**
PPLA	**Purkeypile**	**71.02**	**28**	P	**P**	**11 32 12.8**	**+0.1**
BMAR	**Burnt Mountain**	**71.82**	**22**	P	**P**	**11 32 17.2**	**-0.1**
YKA	**Yellowknife Ar**	**84.37**	**17**	P	**P**	**11 33 26.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=324,slow=5.2,SNR=19							
	comp=Z,0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**95.07**	**288**	P	**P**	**11 34 18.9**	**+0.4**
	comp=Z,5.1nm,0.4s,baz=36,slow=2.7,SNR=2.6							
SUR	**Sutherland**	**99.84**	**239**	LR	LR	12 21 08.8		
	comp=Z,31nm,18.1s,baz=189,slow=36							

*IDC **15** 11:29:16.1±0.8,28.°09N×104.°77E, h0km, mb4.0/17, mbtmp4.0/18, ML3.9/1, MS3.2/5, Error ellipse: s-maj=29.2km s-min=15.0km az=52.0*
*NEIC **15** 11:29:21.6±0.6,28.°12N±0.°04×104.°7E±0.°2, h32km±6km, mb4.1/9, Error ellipse: s-maj=21.6km s-min=5.3km az=89.0*
ISC 15 11:29:18.7±0.5,28.°18N±0.°03×104.°90E±0.°04, h10km, n46, σ1ş76/54, mb4.1/22, MS3.3/4, 2C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**2.32**	**137**	Pn	**Pn**	**11 29 59.0**	**+1.8**
GYA				Sn	**Sn**	**11 30 27.8**	**+1.9**
GYA				*s*max	*s*max		
	comp=N,520nm,1.0s						
GYA				*s*max	*s*max		
	comp=E,450nm,1.0s						
GYA				LR	LR		
	comp=N,760nm,3.8s						
GYA				LR	LR		
	comp=E,740nm,3.8s						
GYA				LR	LR		
	comp=Z,300nm,2.4s						
CD2	**Chengdu**	**2.90**	**340**	Pn	**Pn**	**11 30 05.8**	**+0.8**
CD2				Pg	**Pb**	**11 30 11.9**	**+1.3**
CD2				Sn	**Sn**	**11 30 38.1**	**-1.9**
CD2				Sg	**Sb**	**11 30 49.6**	**+3.4**
CD2				*s*max	*s*max		
	comp=N,940nm,0.8s						
CD2				*s*max	*s*max		
	comp=E,2μm,1.0s						
PZH	**PanZhiHua**	**3.26**	**240**	Pn	**Pn**	**11 30 10.1**	**0.0**
PZH				Pg	**Pb**	**11 30 17.6**	**+0.8**
PZH				Sn	**Sn**	**11 30 49.8**	**+0.8**
PZH				Sg	**Sb**	**11 30 58.1**	**+1.4**
PZH				*s*max	*s*max		
	comp=N,150nm,1.0s						
PZH				*s*max	*s*max		
	comp=E,120nm,0.8s						
PZH				LR	LR		
	comp=N,510nm,4.4s						
PZH				LR	LR		
	comp=E,740nm,4.4s						
PZH				LR	LR		
	comp=Z,620nm,6.2s						
ENH	**Enshi**	**4.52**	**61**		**Pn**	**11 30 30.7**	**+3.3**
XAN	**Xi'an**	**6.79**	**30**	⇑*i*Pn	Pn	11 31 03.4	+4.9
XAN				Pg	**Pg**	**11 31 28.8**	**+0.1**
XAN				Sn	**Sn**	**11 32 14.5**	**-1.3**
XAN				Sg	**Sg**	**11 32 56.1**	**-0.5**
XAN				*s*max	*s*max		
	comp=N,240nm,1.1s						
XAN				*s*max	*s*max		
	comp=E,250nm,0.9s						
XAN				LR	LR		
	comp=N,830nm,2.9s						
XAN				LR	LR		
	comp=E,920nm,3.1s						
XAN				LR	LR		
	comp=Z,490nm,4.9s						
CNSH	**ChangSha**	**7.09**	**88**	⇑P	Pn	11 30 56.8	-5.8
CNSH				S	**Sn**	**11 32 15.8**	**-7.5**
CNSH				*s*max	*s*max		
	comp=N,100nm,1.0s						
CNSH				*s*max	*s*max		
	comp=E,68nm,0.8s						
LZH	**Lanzhou**	**7.94**	**354**	Pn	**Pn**	**11 31 18.8**	**+4.4**
LZH				Pg	Pb	11 31 31.5	-5.0
LZH				Sn	**Sb**	**11 33 11.0**	**-0.2**
LZH				Sg	**Sg**	**11 33 34.1**	**+0.6**
LZH				*s*max	*s*max		
	comp=N,45nm,1.5s						
LZH				*s*max	*s*max		
	comp=E,74nm,1.5s						
LZH				LR	LR		
	comp=N,380nm,8.6s						
LZH				LR	LR		
	comp=E,520nm,8.6s						
LZH				LR	LR		
	comp=Z,230nm,8.2s						
CMAR	**Chiang Mai Arr**	**11.11**	**211**	Pn	**Pn**	**11 31 58.3**	**+0.6**
	baz=18,slow=12						
CMAR				LR	LR	11 36 35.8		
	comp=Z,45nm,19.0s,baz=305,slow=40						
GOMU	**GeErMu**	**11.69**	**316**	P	Pn	11 32 14.5	+8.5
GOMU				S	**Sn**	**11 34 16.6**	**-0.2**
GOMU				*p*max	*p*max		
	comp=Z,100nm,5.6s						
GOMU				LR	LR		
	comp=N,150nm,8.4s						
GOMU				LR	LR		
	comp=E,180nm,9.8s						
GOMU				LR	LR		
	comp=Z,250nm,10.4s						
GTA	**Gaotai**	**11.97**	**341**	*e*P	**Pn**	**11 32 11.6**	**+2.0**
GTA				pP		11 32 14.6	
GTA				sP		11 32 17.8	
GTA				*p*max	*p*max		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**19.66**	**3**	P	**P**	**11 33 48.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=186,slow=12,SNR=11						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**19.66**	**3**	P	**P**	**11 33 49.0**	**+1.2**
WMQ	**Urumqi**	**20.85**	**323**	*e*P	**P**	**11 34 01.6**	**+0.9**
KSRS	**Korea Array**	**21.41**	**59**	P	**P**	**11 34 06.9**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=243,slow=11,SNR=6.7						
	comp=Z,1.5nm,0.7s						
MK31	**Makanchi Array**	**25.68**	**322**	P	**P**	**11 34 47.6**	**-1.2**
MK31				IAmb	IAmb	11 34 50.0		
	comp=Z,3.6nm,0.9s							
MKAR	**Makanchi Array**	**25.68**	**322**	P	**P**	**11 34 47.5**	**-1.3**
	comp=Z,3.3nm,0.6s,baz=118,slow=8.8,SNR=31							
MKAR				LR	LR	11 45 54.6		
	comp=Z,56nm,19.2s,baz=73,slow=39							
	comp=Z,3.3nm,0.6s							
MKAR	**Makanchi Array**	**25.68**	**322**	P	**P**	**11 34 47.6**	**-1.2**
MAKZ	**Makanchi**	**25.86**	**322**	P	**P**	**11 34 49.2**	**-1.3**
MAKZ				IAmb	IAmb	11 34 52.9		
	comp=Z,3.5nm,0.8s							
ZALV	**Zalesovo Beam**	**29.66**	**336**	P	**P**	**11 35 23.0**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=129,slow=8.8,SNR=6.1							
ZALV				LR	LR	11 47 38.8		
	comp=Z,20nm,19.2s,baz=343,slow=37							
	comp=Z,1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**29.66**	**336**	P	**P**	**11 35 23.3**	**-1.0**
KURBB	**Kurchatov Arra**	**30.01**	**326**	P	**P**	**11 35 26.2**	**-1.3**
	comp=Z,3.8nm,0.7s,baz=131,slow=9.5,SNR=34							
	comp=Z,3.8nm,0.7s							
KURK	**Kurchatov**	**30.02**	**326**	P	**P**	**11 35 26.1**	**-1.5**
KURK				IAmb	IAmb	11 35 28.5		
	comp=Z,3.8nm,0.7s							
BVAR	**Borovoye Array**	**35.53**	**324**	P	**P**	**11 36 14.1**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=128,slow=9.6,SNR=4.3							
	comp=Z,0.9nm,0.6s							
GEYT	**Alibeck**	**40.04**	**296**	P	**P**	**11 36 54.1**	**0.0**
	comp=Z,3.8nm,0.7s,baz=101,slow=7.7,SNR=5.9							
	comp=Z,3.8nm,0.7s							
NRIK	**Noril'sk**	**42.42**	**351**	P	**P**	**11 37 12.7**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=140,slow=6.3,SNR=4.0							
	comp=Z,1.8nm,0.5s							
ARU	**Arti**	**43.18**	**324**	P	**P**	**11 37 18.1**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=91,slow=3.6,SNR=4.6							
	comp=Z,1.5nm,0.3s							
OBN	**Obninsk**	**55.13**	**319**	LR	LR	12 03 35.8		
	comp=Z,35nm,18.1s,baz=150,slow=37							
WB0	**Warramunga Arr**	**55.55**	**146**	P	**P**	**11 38 53.3**	**-1.1**
WRA	**Warramunga Arr**	**55.67**	**146**	P	**P**	**11 38 54.0**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=333,slow=8.6,SNR=14							
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**55.67**	**146**	P	**P**	**11 38 54.8**	**-0.5**
WB2	**Warramunga Arr**	**55.67**	**146**	P	**P**	**11 38 54.5**	**-0.9**
WR0	**Warramunga Arr**	**55.78**	**146**	P	**P**	**11 38 54.8**	**-1.3**
WR0				IAmb	IAmb	11 39 09.0		
	comp=Z,6.2nm,1.4s							
AS31	**Alice Springs**	**58.64**	**149**	P	**P**	**11 39 15.8**	**-0.5**
AS31				IAmb	IAmb	11 39 17.7		
	comp=Z,0.7nm,0.7s							
ASAR	**Alice Springs**	**58.64**	**149**	P	**P**	**11 39 15.3**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=329,slow=7.0,SNR=28							
	comp=Z,1.8nm,0.7s							
ASAR	**Alice Springs**	**58.64**	**149**	P	**P**	**11 39 16.9**	**+0.6**
BRTR	**Keskin Array B**	**58.82**	**301**	P	P	11 39 15.8	-1.8
	comp=Z,1.5nm,0.9s,baz=123,slow=6.2,SNR=6.2							
	comp=Z,1.5nm,0.9s							
AKASG	**Malin Array Be**	**59.91**	**315**	P	P	11 39 22.4	-2.4
	comp=Z,1.2nm,0.8s,baz=65,slow=6.7,SNR=7.6							
	comp=Z,1.2nm,0.8s							
FINES	**FINESS Array B**	**60.38**	**327**	P	**P**	**11 39 27.4**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=73,slow=6.6,SNR=5.4							
	comp=Z,0.9nm,0.7s							
FINES	**FINESS Array B**	**60.38**	**327**	P	**P**	**11 39 26.7**	**-1.1**
HFS	**Hagfors**	**66.58**	**327**	P	**P**	**11 40 08.5**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=82,slow=10,SNR=5.0							
	comp=Z,1.3nm,0.5s							
NOA	**NORSAR Array B**	**67.50**	**328**	P	**P**	**11 40 13.9**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=74,slow=6.0,SNR=4.1							
NOA				LR	LR	12 13 10.4		
	comp=Z,44nm,18.1s,baz=325,slow=39							
	comp=Z,0.8nm,0.7s							
IMAR	**Indian Mountai**	**69.06**	**25**	P	**P**	**11 40 24.5**	**+0.1**
GERES	**GERESS Array B**	**70.09**	**315**	P	**P**	**11 40 29.6**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=83,slow=8.1,SNR=3.8							
	comp=Z,0.7nm,0.7s							
GERES	**GERESS Array B**	**70.09**	**315**	P	**P**	**11 40 29.7**	**-1.5**
BMAR	**Burnt Mountain**	**71.71**	**22**	P	**P**	**11 40 41.3**	**+0.6**
YKA	**Yellowknife Ar**	**84.28**	**17**	P	**P**	**11 41 49.6**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=325,slow=4.9,SNR=5.5							
	comp=Z,0.3nm,0.5s							

IDC 15 11:32:32.5±330.0, 5.°59S×147.°87E, h0km, Error ellipse: s-maj=130.1km s-min=15.3km az=73.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**18.62**	**314**	I	I	13 24 20.0	
	baz=136,slow=315,SNR=2.9						
I07AU	**WARRAMUNGA INF**	**79.41**	**222**	I	I	13 36 00.0	
	baz=41,slow=314,SNR=2.1						

*ISK **15** 11:55:06.2, 39.°55N×26.°08E, h5km, ML2.5/19*
*DDA **15** 11:55:06.3±0.0, 39.°56N×26.°16E, h3km±2km, ML2.2*
ISC 15 11:55:06.6±0.9, 39.°54N±0.°02×26.°12E±0.°03, h8km±6km, n32, σ0ş58/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.04**	**155**	P	**Pg**	**11 55 08.1**	**-0.1**
KOCA				*i* AML	AML	11 55 09.0	
	comp=N,2μm,0.3s						
KOCA				*i* AML	AML	11 55 09.0	
	comp=E,2μm,0.2s						
KOCA				S	**Sg**	**11 55 09.1**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.08**	**171**	Pg	**Pg**	**11 55 08.7**	**0.0**
BOZC	**Bozcaada**	**0.31**	**351**	Pg	**Pg**	**11 55 12.6**	**-0.1**
BOZC	**Bozcaada**	**0.31**	**351**	P	**Pg**	**11 55 12.5**	**-0.1**
BOZC				P	**Pg**	**11 55 12.6**	**-0.1**
BOZC				S	**Sg**	**11 55 16.6**	**-0.2**
BOZC				S	**Sg**	**11 55 16.6**	**-0.2**
EZN	**Ezine**	**0.33**	**29**	Pg	**Pg**	**11 55 12.9**	**-0.2**
EZN				Sg	**Sg**	**11 55 17.6**	**+0.1**
SIGR	**SIGRI**	**0.38**	**212**	Pg	**Pg**	**11 55 14.0**	**-0.1**
SIGR				Sg	**Sg**	**11 55 19.7**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.39**	**58**	P	**Pg**	**11 55 13.7**	**-0.5**
BAYC				S	**Sg**	**11 55 18.9**	**-0.5**
BAYC				*i* AML	AML	11 55 19.0	
	comp=N,259nm,0.6s						
BAYC				*i* AML	AML	11 55 19.0	
	comp=E,235nm,0.2s						
AYVA	**Ayvalik**	**0.50**	**117**	P	**Pb**	**11 55 17.8**	**+0.2**
AYVA				S	**Sg**	**11 55 22.8**	**0.0**
ECEA	**Canakkale, Ece**	**0.51**	**5**	P	**Pg**	**11 55 16.4**	**0.0**
ECEA				S	**Sb**	**11 55 23.9**	**-1.4**
ECEA				*i* AML	AML	11 55 24.0	
	comp=E,162nm,0.3s						
ECEA				*i* AML	AML	11 55 26.0	
	comp=Z,141nm,0.9s						
ECEA				*i* AML	AML	11 55 30.0	
	comp=N,152nm,0.4s						
GADA	**Gvkgeada**	**0.67**	**346**	Pg	**Pg**	**11 55 19.6**	**0.0**
BUHA	**Balikesir, Bur**	**0.74**	**92**	P	**Pg**	**11 55 20.5**	**-0.4**
BUHA				S	**Sg**	**11 55 30.4**	**-0.2**
BUHA				*i* AML	AML	11 55 32.0	
	comp=N,78nm,0.3s						
GELI	**Tayfur-Gelibol**	**0.90**	**18**	Pg	**Pb**	**11 55 24.3**	**-0.2**
ZEDA	**zmir-Bergama**	**0.94**	**127**	P	**Pb**	**11 55 24.9**	**-0.2**
ZEDA				S	**Sb**	**11 55 38.3**	**+0.6**
LPK	**Lapseki**	**0.97**	**30**	Pg	**Pb**	**11 55 25.5**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.15**	**2**	P	**Pn**	**11 55 28.9**	**-0.1**
CAVK				S	**Sb**	**11 55 43.9**	**0.0**
CAVK				*i* AML	AML	11 55 50.0	
	comp=N,83nm,1.3s						
CAVK				*i* AML	AML	11 55 59.0	
	comp=Z,43nm,1.0s						
CAVK				*i* AML	AML	11 56 06.0	
	comp=E,79nm,1.6s						
ERIK	**Erikli-Kesan**	**1.17**	**15**	Pn	**Pn**	**11 55 29.4**	**+0.1**
BALY	**Balya**	**1.18**	**80**	P	**Pb**	**11 55 29.0**	**-0.2**
BALY				S	**Sg**	**11 55 43.7**	**-0.8**
BALY				*i* AML	AML	11 55 47.0	
	comp=N,56nm,0.7s						
BALY				*i* AML	AML	11 55 47.0	
	comp=E,45nm,0.4s						
ENEZ	**Enez**	**1.20**	**1**	Pn	**Pn**	**11 55 29.7**	**+0.1**
URLA	**Izmir**	**1.23**	**162**	Pn	**Pb**	**11 55 30.3**	**+0.2**
URLA	**Izmir**	**1.23**	**162**	P	**Pg**	**11 55 28.5**	**-1.7**
URLA				S	**Sg**	**11 55 45.6**	**-0.6**
KRBG	**Karabiga-Canak**	**1.25**	**46**	Pn	**Pn**	**11 55 31.6**	**+1.3**
STEP	**BALIKESIR_Sava**	**1.25**	**97**	P	**Pg**	**11 55 30.3**	**-0.3**
STEP				S	**Sn**	**11 55 47.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.31**	**67**	Pn	**Pb**	**11 55 32.3**	**+0.9**
ALN	**Alexandroupoli**	**1.36**	**358**	Pn	**Pn**	**11 55 31.8**	**0.0**
ALN				Sn	**Sn**	**11 55 50.5**	**+0.4**
BALB	**Balikesir**	**1.37**	**85**	Pn	**Pg**	**11 55 32.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.41**	**35**	Pn	**Pn**	**11 55 32.7**	**+0.1**
EDC	**Edincik**	**1.57**	**58**	Pn	**Pg**	**11 55 36.0**	**-0.6**
UKOP	**Uzunkopru-Edir**	**1.64**	**14**	Pn	**Pb**	**11 55 36.9**	**-0.1**
RDO	**Rodhopi**	**1.67**	**345**	Pn	**Pn**	**11 55 36.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.87**	**66**	Pn	**Pn**	**11 55 39.7**	**+0.8**
ARMT	**Armutlu**	**2.34**	**63**	Pn	**Pn**	**11 55 46.8**	**+1.4**
EDRB	**Edirne**	**2.36**	**11**	Pn	**Pn**	**11 55 46.4**	**+0.8**

KRSC 15 12:00:19.5±2.6, 53.°49N×155.°48E, h423km±22km, MI4.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**1.16**	**119**	*e*P	P	12 01 13.9	+0.4
APC				*e*S	S	12 01 57.7	+0.6
DALK	**Dalny**	**2.02**	**102**	*e*S	S	12 02 05.7	+1.1
KDTR	**Khodutka, Kamc**	**2.31**	**136**	*e*S	S	12 02 05.2	-2.8
NLC	**Nalytchevo**	**2.34**	**96**	*e*S	S	12 02 09.2	+0.9
SPN	**Mys Shipunski**	**2.75**	**96**	*e*P	P	12 01 22.8	+0.5
SPN				*e*S	S	12 02 10.6	-3.0
TUMR	**Tumrok**	**3.26**	**55**	*e*P	P	12 01 28.8	+2.4
TUMD	**Tumrok D**	**3.35**	**57**	*e*P	P	12 01 28.4	+1.4
KBG	**Krutoberegovo**	**5.00**	**54**	*e*P	P	12 01 44.2	+2.0
KBG				*e*S	S	12 02 47.7	-2.3
KBTR	**Krutoberegovo**	**5.04**	**54**	*e*P	P	12 01 42.4	-0.2
KBTR				*e*S	S	12 02 48.4	-2.2
**

H11S1	WAKE ISLAND Hy	29.60	10	T	T	12 50 10.7				
	baz=189,slow=76,SNR=6.2									
MTN	Manton Dam	29.90	263	P	P	12 19 11.1	+0.6			
MTN				IAmb	IAmb	12 19 22.9				
	comp=Z,13nm,1.2s									
BKZ	Black Stump Fm	31.15	157	P	P	12 19 24.1	+2.8			
BKZ				IAmb	IAmb	12 19 48.5				
	comp=Z,20nm,1.2s									
KNRA	Kununurra	32.32	258	P	P	12 19 31.1	-0.6			
FITZ	Fitzroy Crossi	35.53	254	P	P	12 19 58.9	-0.7			
PEA0B	Petropavlovsk-	63.80	357	P	P	12 23 32.7	-1.2			
CMAR	Chiang Mai Arr	68.34	295	P	P	12 24 04.0	+0.1			
	comp=Z,0.9nm,0.4s,baz=106,slow=4.9,SNR=5.9									
	comp=Z,0.9nm,0.4s									
SONM	Songino Array	76.16	325	P	P	12 24 49.9	-0.1			
	comp=Z,1.9nm,0.8s,baz=142,slow=7.0,SNR=13									
	comp=Z,1.9nm,0.8s									
SONM	Songino Array	76.16	325	P	P	12 24 50.1	+0.1			
SVW2	Sparrevohn	79.24	20	P	P	12 25 08.2	+1.5			
SVW2				IAmb	IAmb	12 25 24.9				
	comp=Z,9.1nm,1.2s									
CAST	Castle Rocks	82.05	19	P	P	12 25 22.5	+0.7			
CAST				IAmb	IAmb	12 26 03.8				
	comp=Z,5.0nm,1.4s									
IMAR	Indian Mountai	83.37	17	P	P	12 25 28.9	+0.3			
ILAR	Eielson Array	84.66	20	P	P	12 25 35.2	+0.2			
	comp=Z,0.9nm,1.0s,baz=226,slow=4.8,SNR=8.0									
	comp=Z,0.9nm,1.0s									
MKAR	Makanchi Array	90.63	318	P	P	12 26 02.1	-2.2			
	comp=Z,0.5nm,0.5s,baz=86,slow=6.1,SNR=5.5									
	comp=Z,0.5nm,0.5s									
YKA	Yellowknife Ar	96.67	28	P	P	12 26 31.1	-0.5			
	comp=Z,0.1nm,0.5s,baz=259,slow=5.0,SNR=2.2									
	comp=Z,0.1nm,0.5s									

BJI ***15*** *12:13:20.6±0.0, 44.˚44N×141.˚18E, h230km, mb4.4/20, mB5.0/9*

MOS ***15*** *12:13:21.6±0.9, 44.˚42N×141.˚18E, h246km, mb4.1/23, Error ellipse: s-maj=8.1km s-min=5.7km az=88.3*

JMA ***15*** *12:13:21.5±0.2, 44.˚4N±0.˚8×14.˚1E±.˚, h251km±1km, MV4.1/38, NW OFF HOKKAIDO*

NIED ***15*** *12:13:21.5, 44.˚40N×141.˚19E, h251km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.76; Mθθ-0.49; Mφφ-0.27; Mrθ0.88; Mθφ-1.82; Mφr-0.90; Fault plane solution: M₀2.31000×10¹⁵ NP1:φs85.00000°, δ65.00000°, λ151.00000°. NP2:φs188.00000°, δ64.00000°, λ28.00000°.*

SKHL ***15*** *12:13:21.8±0.3, 44.˚40N×141.˚20E, h230km±9km, mb4.8/9, msh5.0/5, msha5.3/7*

IDC ***15*** *12:13:21.8±0.5, 44.˚45N×141.˚18E, h234km±5km, mb3.8/19, mbtmp4.4/28, Error ellipse: s-maj=10.2km s-min=9.0km az=152.0*

NEIC ***15*** *12:13:22.1±1.6, 44.˚42N±0.˚07×141.˚1E±0.˚1, h236km±4km, mb4.3/79, Error ellipse: s-maj=13.2km s-min=8.8km az=123.0*

ISC 15 12:13:22.4±0.5, 44.˚41N±0.˚04×141.˚18E±0.˚05, h240km±5km, n378, σ0s95/409, mb4.2/74, 8C-15D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
JYG	Yagishiri	0.18	83		eP	Pn	12 13 53.8			+0.5
JSS	Shosan	0.48	91		P	Pn	12 13 54.9			+0.9
JSS					eS	S	12 14 20.4			+1.6
JRR	Rishiri	0.74	7		P	Pn	12 13 55.6			+0.8
JHR	Hokuryu	0.77	149		P	Pn	12 13 56.0			+0.8
JHR					eS	S	12 14 22.4			+1.6
JRBN	Rebuntou	1.02	355	⇓	P	Pn	12 13 56.5			+0.2
JWK2	Keihoku	1.04	29	⇓	P	Pn	12 13 56.8			+0.3
JWK2				⇓	eS	S	12 14 23.5			+0.2
ASAJ	Asahikawa	1.06	105		P	Pn	12 13 56.4			-0.3
	44nm,0.3s,baz=260,slow=10.0,SNR=373									
ASAJ					S	S	12 14 21.9			-1.5
	46nm,0.4s,baz=262,slow=4.9,SNR=4.8									
ASAJ	Asahikawa	1.06	105		P	Pn	12 13 56.7			+0.1
ASAJ					eS	S	12 14 23.6			+0.2
JKA	Kamikawa-asahi	1.06	105		Pn	Pn	12 13 56.0			-0.6
JISS	Ishikarishitsu	1.14	171		P	Pn	12 13 58.2			+1.0
JISS					eS	S	12 14 26.2			+1.7
JSE	Soyaes	1.14	61		eP	Pn	12 13 57.2			+0.1
JSE					eS	S	12 14 24.1			-0.3
JAB	Ashibetsu	1.18	140		P	Pn	12 13 58.0			+0.6
JAB					eS	S	12 14 26.4			+1.6
JKK2	Kamakawa 2	1.25	115		P	Pn	12 13 58.1			+0.3
JKK2					eS	S	12 14 26.3			+0.6
JEW	Eniwo	1.58	173		P	Pn	12 14 00.9			+0.6
JEW					eS	S	12 14 31.0			+0.8
JTKR	Abashiri--Toko	2.01	102	⇓	P	Pn	12 14 04.9			+0.8
JTKR				⇓	eS	S	12 14 37.6			+0.9
JAR	Ashorobuto	2.18	120	⇓	P	Pn	12 14 06.3			+0.7
JAR				⇓	eS	S	12 14 40.5			+0.8
JCH	Churui	2.39	138		P	Pn	12 14 06.6			-1.2
JCH					eS	S	12 14 40.6			-2.9
JNBK	Urakawa-nobuka	2.42	151		eP	Pn	12 14 08.0			0.0
JNBK					eS	S	12 14 43.2			-0.7
MYR	Moyori	2.61	143		eP	Pn	12 14 09.7			-0.4
JOSM	Okushiri--Mats	2.64	209		P	Pn	12 14 10.0			-0.3
YSS	Yuzh-Sakhalins	2.78	23		Pn	Pn	12 14 11.7			0.0
YSS	Yuzh-Sakhalins	2.78	23		P	Pn	12 14 11.7			0.0
YSS	Yuzh-Sakhalins	2.78	23		kePN	Pn	12 14 11.6			0.0
YSS					eS	S	12 14 49.3			-1.3
YSS					pmax	pmax				
	comp=Z,160nm,1.0s									
YSS					smax	smax				
	comp=N,410nm,0.8s									
YSS					smax	smax				
	comp=E,210nm,0.6s									
YSS					smax	smax				
	comp=E,400nm,2.7s									
YSS	Yuzh-Sakhalins	2.78	23		eP	Pn	12 14 11.6			0.0
YSS					AMB	AMB	12 14 12.4			
	comp=E,160nm,0.5s									
YSS					eS	S	12 14 49.5			-1.1
YSS					A	A	12 14 50.3			
	comp=E,410nm,0.6s									
YSS					A	A	12 14 50.3			
	comp=E,210nm,0.6s									
YSS					A	A	12 14 52.6			
	comp=E,400nm,2.7s									
ERM	Erimo	2.79	148		Pn	Pn	12 14 12.2			+0.2
ERM	Erimo	2.79	148		P	Pn	12 14 12.7			+0.7
ERM	Erimo	2.79	148		ePN	Pn	12 14 12.5			+0.5
ERM	Erimo	2.79	148		eP	Pn	12 14 12.5			+0.5
JEM	Erimo	2.79	148		P	Pn	12 14 12.7			+0.7
JRA	Rausu	2.88	98	⇓	eP	Pn	12 14 13.8			+1.0
JAK	Akkeshi	2.91	118	⇓	P	Pn	12 14 11.9			-1.4
JAK				⇓	eS	S	12 14 51.3			-2.0
RUSJ	Misakicho	2.94	94		ePN	Pn	12 14 14.9			+1.4
JOMM	Oshimamatsumae	3.01	197		eP	Pn	12 14 14.0			-0.3
JOMM					eS	S	12 14 53.8			-1.4
JOT	Ohata	3.02	182		eP	Pn	12 14 13.9			-0.6
JOT					eS	S	12 14 53.5			-2.1
YUK	Yuzh-Kuril'sk	3.39	95	*d*	iPN	Pn	12 14 19.5			+1.0
YUK					pmax	pmax				
	comp=Z,191nm,0.2s									
YUK	Yuzh-Kuril'sk	3.39	95	*i*	P	Pn	12 14 18.8			+0.3
YUK					AMB	AMB	12 14 19.9			
	comp=Z,190nm,0.3s									
YUK					eS	S	12 15 04.0			+1.2
YUK					A	A	12 15 10.8			
	comp=E,310nm,0.5s									
YUK					A	A	12 15 10.8			
	comp=E,450nm,0.5s									
YUK					A	A	12 15 11.0			
	comp=Z,1μm,2.5s									
YUK					A	A	12 15 11.0			
	comp=Z,2μm,2.5s									
NMR	Nemuro--Hokkai	3.45	106	⇓	iPN	Pn	12 14 17.7			-1.5
NMR					iS	S	12 15 00.5			-3.6
NMR	Nemuro--Hokkai	3.45	106	*i*	P	Pn	12 14 18.1			-1.1
NMR					iS	S	12 15 00.5			-3.6
JTM	Tenmabayashi	3.62	181		Pn	Pn	12 14 20.1			-1.1
JTM	Tenmabayashi	3.62	181		P	Pn	12 14 20.3			-1.0
UGL	Uglegorsk	4.71	7		ePN	Pn	12 14 34.4			+0.3
UGL					e		12 15 31.8			
UGL					pmax	pmax				
	comp=Z,130nm,0.9s									
UGL	Uglegorsk	4.71	7		eP	Pn	12 14 34.4			+0.3
UGL					AMB	AMB	12 14 35.0			
	comp=Z,130nm,0.9s									
KUR	Kuril'sk	4.83	78		PN	Pn	12 14 38.1			+2.5
KUR	Kuril'sk	4.83	78		eP	Pn	12 14 36.0			+0.4
KUR					AMB	AMB	12 14 37.8			
	comp=Z,130nm,0.6s									
KUR					eS	S	12 15 35.6			+1.8
KUR					A	A	12 15 37.0			
	comp=Z,80nm,0.8s									
KUR					A	A	12 15 37.0			
	comp=Z,110nm,0.8s									
TYV	Tymovskoe	6.54	8		ePN	Pn	12 14 57.7			+0.8
TYV					eS	S	12 16 13.7			+1.2
TYV					pmax	pmax				
	comp=Z,39nm,0.7s									
TYV					pmax	pmax				
	comp=Z,200nm,3.9s									
TYV					smax	smax				
	comp=N,17nm,0.8s									
TYV					smax	smax				
	comp=E,16nm,0.8s									
TYV					smax	smax				
	comp=E,500nm,4.9s									
TYV	Tymovskoe	6.54	8		eP	Pn	12 14 57.7			+0.8
TYV					AMB	AMB	12 14 58.4			
	comp=E,40nm,0.7s									
TYV					eS	S	12 16 13.7			+1.2
TYV					A	A	12 16 16.3			
	comp=E,20nm,0.8s									
TYV					A	A	12 16 16.3			
	comp=E,20nm,0.8s									
TYV					A	A	12 16 17.2			
	comp=E,500nm,4.9s									
JMM	Marumori	6.54	183			Pn	12 14 55.2			-1.9
JMM	Marumori	6.54	183		P	Pn	12 14 55.1			-2.0
USA0B	Ussuriysk Arra	6.60	271		Pn	Pn	12 14 58.2			+0.5
USA0B	Ussuriysk Arra	6.60	271		PN	Pn	12 14 58.2			+0.5
USRK	Ussuriysk Ar.	6.60	271		P	Pn	12 14 57.9			+0.1
	comp=E,8.7nm,0.6s,baz=80,slow=13,SNR=9.8									
USRK	Ussuriysk Ar.	6.60	271		Pn	Pn	12 14 57.4			-0.4
JSD	Sado	6.73	200		Pn	Pn	12 14 58.1			-1.4
JSD	Sado	6.73	200		P	Pn	12 14 58.8			-0.7
GRNR	Gornyy	7.13	335	⇓	iPN	Pn	12 15 03.7			-0.7
GRNR					eS	S	12 16 24.5			-1.7
GRNR					pmax	pmax				
	comp=E,10.0nm,0.6s									
GRNR					pmax	pmax				
	comp=N,20nm,0.8s									
GRNR					pmax	pmax				
	comp=Z,20nm,0.6s									
GRNR					smax	smax				
	comp=N,4.0nm,0.6s									
GRNR					MLR	MLR				
	comp=N,150nm,18.0s									
GRNR					MLR	MLR				
	comp=E,180nm,18.0s									
GRNR					MLR	MLR				
	comp=Z,140nm,16.0s									
GRNR	Gornyy	7.13	335		eP	Pn	12 15 03.7			-0.7
GRNR					AMB	AMB	12 15 04.4			
	comp=Z,20nm,0.7s									
KLR	Kul'dur	8.07	310		P	Pn	12 15 15.9			-0.4
	comp=Z,39nm,0.7s,baz=118,slow=12,SNR=121									
KLR	Kul'dur	8.07	310		cePN	Pn	12 15 15.7			-0.6
KLR					pmax	pmax				
	comp=Z,72nm,1.3s									
KLR	Kul'dur	8.07	310		eP	Pn	12 15 15.7			-0.6
MJB9	Matsu-Tunnel	8.17	197		Pn	Pn	12 15 17.6			-0.3
MAJO	Matsushiro	8.18	197			Pn	12 15 16.9			-1.0
MAJO	Matsushiro	8.18	197		P	Pn	12 15 16.0			-1.9
MAJO	Matsushiro	8.18	197		PN	Pn	12 15 16.9			-1.0
MJAR	Matsushiro Arr	8.18	197		P	Pn	12 15 16.9			-1.0
	comp=Z,2.6nm,0.3s,baz=14,slow=13,SNR=15									
OKH	Okha	9.22	7		eP	Pn	12 15 31.5			+0.6
JGF	Kuroka	9.27	200		Pn	Pn	12 15 30.7			-1.1
JGF	Kuroka	9.27	200		P	Pn	12 15 30.4			-1.4
INU	Inuyama	9.59	201		Pn	Pn	12 15 33.1			-2.8
INU	Inuyama	9.59	201		P	Pn	12 15 34.5			-1.4
BNX	BinXian	9.84	283	⇑	P	Pn	12 15 38.3			-0.6
BNX					pmax	pmax				
	comp=Z,26nm,1.0s									
BNX					pmax	pmax				
	comp=Z,200nm,4.9s									
HEH	HeiHe	11.02	307		eP	Pn	12 15 51.8			-1.9
HEH					pmax	pmax				
	comp=Z,22nm,0.8s									
HEH					pmax	pmax				
	comp=Z,310nm,5.2s									
JHS	Saijyo	11.26	216		P	Pn	12 15 55.4			-1.5
KSRS	Korea Array	12.19	240		P	Pn	12 16 08.2			-0.2
	comp=Z,3.5nm,0.9s,baz=58,slow=11,SNR=5.9									
KSRS	Korea Array	12.19	240		eP	Pn	12 16 08.2			-0.2
ZEA	Zeya	13.04	321		ePN	Pn	12 16 17.7			-1.1
ZEA					pmax	pmax				
	comp=E,10.0nm,0.5s									
ZEA					pmax	pmax				
	comp=N,20nm,0.8s									
ZEA					pmax	pmax				
	comp=Z,20nm,0.6s									
ZEA	Zeya	13.04	321		eP	Pn	12 16 17.7			-1.1
TJN	Taejon	13.22	237		cePN	P	12 16 23.2			+0.2
JNU	Nakatsue	13.83	219		P	Pn	12 16 29.1			+0.4
	comp=Z,10nm,1.0s,baz=118,slow=1.7,SNR=6.7									
PEA0B	Petropavlovsk-	13.92	45			P	12 16 30.4			-0.2
PEA0B	Petropavlovsk-	13.92	45		ceP	P	12 16 30.9			+0.3
PETK	Petropavlovsk-	13.92	45		P	Pn	12 16 29.1			-0.5
	comp=Z,18nm,0.9s,baz=225,slow=11,SNR=59									
PET	Petropavlovsk	14.37	47		P	P	12 16 36.6			+1.1
PET	Petropavlovsk	14.37	47		eP	Pn	12 16 35.2			+0.1
PET					pmax	pmax				
	comp=Z,37nm,0.8s									
PET	Petropavlovsk	14.37	47		eP	Pn	12 16 35.2			+0.1
PET					AMB	AMB	12 16 35.8			
	comp=Z,40nm,0.8s									
MA2	Magadan	16.27	18		P	P	12 16 56.2			-0.2
	comp=Z,19nm,0.3s,baz=211,slow=10.0,SNR=41									
MA2	Magadan	16.27	18		P	P	12 16 56.0			-0.4
MA2	Magadan	16.27	18		eP	P	12 16 56.2			-0.2
YAK	Yakutsk	18.90	343		P	P	12 17 23.1			-1.8
	comp=Z,6.2nm,0.3s,baz=144,slow=5.4,SNR=6.1									
YAK	Yakutsk	18.90	343		eP	P	12 17 24.6			-0.2
YAK					eS	S	12 20 43.7			-2.6
YAK					pmax	pmax				
	comp=Z,8.0nm,0.9s									
YAK					smax	smax				
	comp=N,86nm,2.7s									
YAK					smax	smax				
	comp=E,57nm,2.3s									
YAK	Yakutsk	18.90	343		eP	P	12 17 24.6			-0.2
SEY	Seymchan	19.66	15		P	P	12 17 31.8			-1.2
	comp=E,13nm,0.4s,baz=192,slow=9.6,SNR=48									
SEY	Seymchan	19.66	15		ceP	P	12 17 31.7			-1.2
SEY					pmax	pmax				
	comp=Z,17nm,0.7s									
HHC	Hu-ho-hao-te	22.02	271		eP	P	12 17 58.3			+0.9
HHC					pmax	pmax				
	comp=Z,27nm,0.7s									
HHC					pmax	pmax				
	comp=Z,210nm,4.4s									
ULN	Ulaanbaatar	23.78	290		ceP	P	12 18 14.1			+0.7
ULN					pmax	pmax				
	comp=Z,3.0nm,0.8s									
ULN	Ulaanbaatar	23.78	290		eP	P	12 18 14.1			+0.7
SONM	Songino Array	24.23	291		P	P	12 18 17.6			+0.3
	comp=Z,7.1nm,0.7s,baz=85,slow=8.7,SNR=63									
	comp=Z,7.1nm,0.7s									
SONM	Songino Array	24.23	291		P	P	12 18 17.7			+0.3
SONM					IAmb	IAmb	12 18 18.5			
	comp=Z,5.8nm,0.6s									
SONM	Songino Array	24.23	291		P	P	12 18 17.7			+0.3
SONM					pmax	pmax				
	comp=Z,6.0nm,0.6s									
ZAK	Zakamensk	26.13	297		eP	P	12 18 31.9			-2.5
ZAK					pmax	pmax				
	comp=Z,5.0nm,1.0s									
BILL	Bilibino	27.09	21	*i*	P	P	12 18 45.6			+3.0
BILL				*i*	*PP	pP	12 19 30.7			+0.9
BILL				*i*			12 22 01.4			
BILL					pmax	pmax				
	comp=Z,3.0nm,1.3s									
ANM	Nome	35.58	37		P	P	12 19 55.6			-1.0
	baz=262									
DGZ	Jazzator, Alta	36.34	298	*i*	P	P	12 20 04.9			+1.5
DGZ					pmax	pmax				
	comp=Z,5.0nm,0.8s									
NRIK	Noril'sk	36.60	331	*i*	P	P	12 20 05.5			+0.3
ZAA0	Zalesovo Array	37.14	305		P	P	12 20 09.4			-0.5
ZALV	Zalesovo Beam	37.14	305		P	P	12 20 09.4			-0.5
	comp=Z,2.8nm,0.3s,baz=86,slow=8.2,SNR=15									
ZALV					PcP	PcP	12 22 23.6			-0.8
	comp=Z,0.7nm,0.7s,baz=64,slow=3.4,SNR=3.7									
	comp=Z,2.8nm,0.3s									
ZALV	Zalesovo Beam	37.14	305		P	P	12 20 09.0			-0.8
ZALV	Zalesovo Beam	37.14	305	*i*	P	P	12 20 09.6			-0.3
ZALV					pmax	pmax				
	comp=Z,3.0nm,0.3s									
WMQ	Urumqi	37.83	288		eP	P	12 20 18.6			+2.7
WMQ					pmax	pmax				
	comp=Z,11nm,0.7s									
N16K	Nishlik Lake	38.46	44		P	P	12 20 21.7			+0.8
	baz=273									
O16K	Kokwok River B	38.86	45		P	P	12 20 24.1			0.0
	baz=275									
P16K	Nushagak River	38.97	46		P	P	12 20 25.3			+0.3
	baz=276									
GCSA	Galena City Sc	39.24	37		P	P	12 20 25.6			-1.6
	baz=270									
O17K	Koliganek Bris	39.35	45		P	P	12 20 28.1			-0.1
	baz=276									
TTA	Tatalina	39.65	40		P	P	12 20 30.6			-0.2
TTA	Tatalina	39.65	40		P	P	12 20 30.1			-0.6
	baz=273									
TTA	Tatalina	39.65	40		P	P	12 20 30.6			-0.2
TTA					pmax	pmax				
	comp=Z,4.0nm,1.2s									
A21K	Barrow	39.84	26		P	P	12 20 31.5			-0.5
A21K	Barrow	39.84	26		P	P	12 20 31.1			-0.9
	baz=262									
Q17K	Contact Creek	40.15	47		P	P	12 20 35.1			+0.2
	baz=278,SNR=5.2									
O18K	Koktuh Hills	40.29	44		P	P	12 20 36.4			+0.5
	baz=277									
P18K	Big Mountain,	40.34	45		P	P	12 20 37.0			+0.7
P18K	Big Mountain,	40.34	45		P	P	12 20 36.4			+0.1
	baz=277									
J20K	Nowinta River	40.43	38		P	P	12 20 36.8			-0.2
J20K					IAmb	IAmb	12 20 46.0			
	comp=Z,13nm,1.4s									
J20K	Nowinta River	40.43	38		P	P	12 20 36.6			-0.4
	baz=273									
MK31	Makanchi Array	40.44	295		P	P	12 20 37.4			+0.1
MK31					IAmb	IAmb	12 20 40.1			
	comp=Z,4.4nm,0.7s									
MK31	Makanchi Array	40.44	295	*i*	P	P	12 20 37.2			-0.1
MKAR	Makanchi Array	40.44	295		P	P	12 20 37.6			+0.3
	comp=Z,3.9nm,0.6s,baz=84,slow=9.4,SNR=36									
MKAR					PcP	PcP	12 22 35.1			+0.1
	comp=Z,0.2nm,0.3s,baz=67,slow=5.5,SNR=2.8									
	comp=Z,3.9nm,0.6s									
MKAR	Makanchi Array	40.44	295		P	P	12 20 37.8			+0.4
MKAR	Makanchi Array	40.44	295	*i*	P	P	12 20 37.7			+0.4
MKAR					pmax	pmax				
	comp=Z,4.0nm,0.6s									
MKAR	Makanchi Array	40.44	295	*e*	P	P	12 20 37.7			+0.4
K20K	Telida	40.51	39		P	P	12 20 37.5			-0.2
	baz=274									
IMAR	Indian Mountai	40.54	35		P	P	12 20 36.4			-1.5
Q18K	Katmai Hardscr	40.55	46		P	P	12 20 38.2			0.0
	baz=278,SNR=5.8									
MAKZ	Makanchi	40.63	295		P	P	12 20 38.7			-0.2
MAKZ	Makanchi	40.63	295		P	P	12 20 38.7			-0.2
MAKZ					pmax	pmax				
	comp=Z,6.0nm,1.0s									
G21K	Allakaket	40.64	34		P	P	12 20 38.0			-0.6
	baz=270,SNR=7.8									
F21K	Alatna River	40.65	33		P	P	12 20 37.7			-1.1
	baz=270									
H21K	Melozitna Rive	40.94	35		P	P	12 20 39.8			-1.4
H21K	Melozitna Rive	40.94	35		P	P	12 20 40.4			-0.8
	baz=272									
M20K	Styx River	41.07	41		P	P	12 20 42.4			+0.1
	baz=276									
I21K	Tanana	41.31	36		P	P	12 20 43.4			-0.7
	baz=273									
CAST	Castle Rocks	41.40	39		P	P	12 20 45.1			+0.2
CAST					IAmb	IAmb	12 20 46.6			
	comp=Z,4.6nm,0.6s									
CAST	Castle Rocks	41.40	39		P	P	12 20 44.7			-0.2
	baz=275									
H22K	Ishtalitna Cre	41.52	35		P	P	12 20 45.4			-0.5
	baz=273									
KURK	Kurchatov	41.56	302		P	P	12 20 45.8			-0.6
KURK					IAmb	IAmb	12 20 48.0			
	comp=Z,5.6nm,0.5s									
KURK	Kurchatov	41.56	302		P	P	12 20 47.1			+0.8
KURK	Kurchatov	41.56	302	*e*	P	P	12 20 47.1			+0.8
SPCR	Spurr Chakacha	41.59	42		P	P	12 20 45.7			-0.9
	baz=278									
KURBB	Kurchatov Arra	41.64	302		P	P	12 20 47.1			+0.1
	comp=Z,4.5nm,0.5s,baz=71,slow=8.9,SNR=26									
	comp=Z,4.5nm,0.5s									
D23K	Nanushuk River	41.70	30		P	P	12 20 46.2			-1.0
	baz=270									
OHAK	Old Harbor	41.70	48		P	P	12 20 47.0			-0.4
OHAK	Old Harbor	41.70	48		P	P	12 20 46.9			-0.4
	baz=281									
BPAW	Bear Paw Mtn.	41.82	38		P	P	12 20 47.7			-0.6
	baz=276									
MLY	Manley	41.84	36		P	P	12 20 48.6			+0.1
MLY	Manley	41.84	36		P	P	12 20 48.3			-0.2
	baz=275									
COLD	Coldfoot	41.92	33		P	P	12 20 48.5			-0.6
COLD	Coldfoot	41.92	33		P	P	12 20 48.4			-0.7
	baz=273									
K

POKR Poker Plat Res 43.23 36 P P 12 20 60.0 +0.4
baz=277,SNR=9.6
SML Sawmill 43.33 41 P P 12 20 59.9 -0.6
baz=280
KNK Knik Glacier 43.34 41 P P 12 21 00.6 +0.1
KNK IAmb IAmb 12 21 12.9
comp=Z,26nm,1.4s
KNK Knik Glacier 43.34 41 P P 12 21 00.1 -0.4
baz=280
WAT6 Susitna Watana 43.47 40 P P 12 21 00.7 -1.0
baz=280
IL31 43.51 36 P P 12 21 00.8 -1.0
ILAR Eielson Array 43.51 36 P P 12 21 00.7 -1.1
comp=Z,3.0nm,0.7s,baz=280,slow=9.8,SNR=113
comp=Z,3.0nm,0.7s
ILAR Eielson Array 43.51 36 P P 12 21 01.3 -0.5
ILAR Eielson Array 43.51 36 P P 12 21 01.3 -0.5
HDA Harding Lake 43.53 37 P P 12 21 00.9 -1.0
HDA IAmb IAmb 12 21 03.4
comp=Z,9.9nm,1.1s
HDA Harding Lake 43.53 37 P P 12 21 01.0 -1.0
baz=279,SNR=6.2
DHY Denali Highway 43.55 39 P P 12 21 01.8 -0.5
DHY IAmb IAmb 12 21 02.7
comp=Z,7.2nm,0.8s
DHY Denali Highway 43.55 39 P P 12 21 01.4 -1.0
baz=280
G25K Bearman Lake 43.57 33 P P 12 21 01.4 -0.8
baz=277
M23K Glacier View 43.62 41 P P 12 21 03.4 +0.7
baz=281
E25K Arctic Village 43.62 31 P P 12 21 01.8 -0.9
baz=276
F25K Christian Rive 43.65 32 P P 12 21 03.0 +0.1
baz=276
C26K Camden Bay 43.69 29 P P 12 21 02.7 -0.4
baz=275
SCM Sheep Creek Mo 43.80 41 P P 12 21 03.9 -0.3
baz=281
FYU Fort Yukon 43.94 34 P P 12 21 05.3 +0.1
FYU IAmb IAmb 12 21 05.7
comp=Z,11nm,0.6s
PRP Porcupine Dome 43.97 35 P P 12 21 05.6 0.0
PRP IAmb IAmb 12 21 06.0
comp=Z,9.4nm,0.5s
PRP Porcupine Dome 43.97 35 P P 12 21 05.5 -0.1
baz=279,SNR=6.7
BMAR Burnt Mountain 44.07 32 P P 12 21 06.1 -0.2
C27K Jago River 44.14 29 P P 12 21 05.9 -0.8
baz=276
K24K Donnelly Dome 44.14 38 P P 12 21 05.5 -1.4
baz=280
F26K Sheenjek River 44.20 32 P P 12 21 07.2 -0.2
baz=278,SNR=8.4
KLU Klutina 44.52 41 P P 12 21 10.0 0.0
baz=282
RIDG Independent Ri 44.56 38 P P 12 21 08.9 -1.2
baz=281
HARP HAARP 44.69 39 P P 12 21 11.5 +0.4
baz=282
EYAK Cordova Ski Ar 44.81 42 P P 12 21 11.6 -0.5
baz=284
SCRK Sand Creek 44.88 37 P P 12 21 11.6 -1.1
SCRK IAmb IAmb 12 21 12.3
comp=Z,12nm,1.0s
SCRK Sand Creek 44.88 37 P P 12 21 11.7 -1.1
baz=281,SNR=14
DOT Dot Lake 44.92 38 P P 12 21 13.2 +0.2
J26L Joseph Creek 44.96 36 P P 12 21 12.7 -0.6
baz=281
I26K Coal Creek Min 44.98 35 P P 12 21 12.9 -0.5
baz=281
E27K Coleen River 45.09 31 P P 12 21 14.6 +0.4
baz=279
G27K Doyon Strip 45.30 33 P P 12 21 15.9 0.0
baz=281
L26K Log Cabin Wild 45.36 38 P P 12 21 16.6 +0.1
baz=283
H27K Steamboat Moun 45.46 34 P P 12 21 17.1 -0.1
baz=281
I27K Kandik River 45.55 35 P P 12 21 17.7 -0.3
baz=282
M26K Nabesna, AK 45.66 39 P P 12 21 18.9 0.0
baz=284
K27K Chicken 45.70 37 P P 12 21 18.3 -0.7
K27K Chicken 45.70 37 P P 12 21 19.1 +0.1
baz=283
BRVK Borovoye 45.77 307 P P 12 21 19.9 +0.2
BRVK IAmb IAmb 12 21 21.3
comp=Z,4.4nm,0.5s
BRVK Borovoye 45.77 307 *i* P P 12 21 20.1 +0.4
BRVK pmax pmax
comp=Z,3.0nm,0.3s
BRVK Borovoye 45.77 307 *e*P P 12 21 20.1 +0.4
MCARA McCarthy VSAT 45.90 41 P P 12 21 20.8 +0.1
baz=285
EGAK Eagle 45.92 36 P P 12 21 19.8 -0.9
EGAK Eagle 45.92 36 P P 12 21 20.5 -0.2
baz=283
L27K Beaver Creek, 46.03 38 P P 12 21 22.1 +0.5
L27K Beaver Creek, 46.03 38 P P 12 21 21.7 0.0
baz=284
BARN Barnard Glacie 46.62 41 P P 12 21 27.2 +0.7
BARN IAmb IAmb 12 21 28.0
comp=Z,13nm,0.6s
YUK3 Moose Creek 46.98 40 P P 12 21 29.1 -0.2
baz=286
EPYK Eagle Plains 47.32 33 P P 12 21 31.4 -0.2
EPYK IAmb IAmb 12 21 34.0
comp=Z,8.8nm,0.6s
EPYK Eagle Plains 47.32 33 P P 12 21 31.3 -0.3
baz=285,SNR=6.8
G30M tAoh Zraii Nji 47.35 32 P P 12 21 31.9 0.0
baz=285
L29M L29M 47.64 37 P P 12 21 34.7 +0.6
baz=287
M29M Somme Creek 47.69 38 P P 12 21 35.1 +0.5
baz=287
K29M Barlow Dome 47.69 36 P P 12 21 34.4 -0.1
baz=287
FAKI Fak Fak 47.79 192 P P 12 21 35.8 0.0
INK Inuvik 47.99 30 P P 12 21 36.1 -0.5
INK Inuvik 47.99 30 P P 12 21 36.2 -0.5
baz=286,SNR=9.2
INK Inuvik 47.99 30 P P 12 21 36.1 -0.5
INK pmax pmax
comp=Z,11nm,0.3s
F31M Tsiigehtchic 48.16 31 P P 12 21 37.9 0.0
baz=287,SNR=7.0
YUK6 Outpost Mounta 48.19 40 P P 12 21 39.0 +0.4
baz=289
M30M Minto, Yukon 48.38 38 P P 12 21 41.0 +1.2
M30M IAmb IAmb 12 21 41.8
comp=Z,7.1nm,0.7s
M30M Minto, Yukon 48.38 38 P P 12 21 41.0 +1.2
baz=288,SNR=5.1
MAYO Mayo, Yukon 48.45 36 P P 12 21 40.9 +0.6
baz=288
HYT Haines Junctio 48.63 40 P P 12 21 43.7 +1.9
HYT Haines Junctio 48.63 40 P P 12 21 43.6 +1.8
baz=289,SNR=12
P30M Million Dollar 49.12 41 P P 12 21 46.9 +1.5
baz=290,SNR=5.2
N31M Braeburn, Yuko 49.20 39 P P 12 21 47.8 +1.8
N31M Braeburn, Yuko 49.20 39 P P 12 21 47.1 +1.2
baz=290,SNR=5.8
O30N Mendenhall 49.30 40 P P 12 21 47.5 +0.7
baz=290
A36M Sachs Harbour 49.55 24 P P 12 21 48.1 -0.2
A36M Sachs Harbour 49.55 24 P P 12 21 48.5 +0.2
baz=290,SNR=14
M31M Drury Creek, Y 49.56 38 P P 12 21 49.3 +0.6
baz=290
KK31 Karatay Array 49.57 295 P P 12 21 49.6 +0.6
KK31 Karatay Array 49.57 295 P P 12 21 49.6 +0.6
KK31 pmax pmax
comp=Z,2.0nm,1.0s
KKAR Karatay Array 49.57 295 P P 12 21 49.6 +0.6
KKAR Karatay Array 49.57 295 P P 12 21 48.5 -0.5
KKAR Karatay Array 49.57 295 P P 12 21 49.6 +0.6
KKAR pmax pmax
comp=Z,2.0nm,1.0s
PLBC Pleasant Camp 49.64 42 P P 12 21 50.2 +0.9
baz=291
WHY Whitehorse 49.90 40 P P 12 21 52.8 +1.5
WHY IAmb IAmb 12 21 53.1
comp=Z,9.3nm,0.9s

WHY Whitehorse 49.90 40 P P 12 21 52.3 +0.9
baz=291
FARO Faro, Yukon 50.01 38 P P 12 21 52.8 +0.7
FARO IAmb IAmb 12 21 54.2
comp=Z,7.3nm,0.9s
FARO Faro, Yukon 50.01 38 P P 12 21 52.6 +0.6
baz=291
C36M Paulatuk 50.88 27 P P 12 21 58.0 -0.3
C36M IAmb IAmb 12 21 58.4
comp=Z,6.2nm,0.6s
C36M Paulatuk 50.88 27 P P 12 21 58.1 -0.3
baz=293,SNR=9.8
P33M Teslin, Yukon 51.01 40 P P 12 22 01.3 +1.7
P33M Teslin, Yukon 51.01 40 P P 12 22 00.4 +0.8
baz=293
S34M Telegraph Cree 52.76 42 P P 12 22 13.6 +1.2
baz=296
WTLY Watson Lake, Y 52.88 39 P P 12 22 14.5 +1.1
baz=296
DLBC Dease Lake 53.06 41 P P 12 22 16.0 +1.3
DLBC IAmb IAmb 12 22 41.6
comp=Z,16nm,1.4s
DLBC Dease Lake 53.06 41 P P 12 22 15.5 +0.8
baz=296
ABKAR Akbulak array 53.25 306 P P 12 22 16.2 +0.1
ABKAR IAmb IAmb 12 22 18.8
comp=Z,4.4nm,0.7s
ABKAR Akbulak array 53.25 306 P P 12 22 16.2 +0.1
V35K Ketchikan 53.69 45 P P 12 22 19.4 +0.3
baz=297
WRGLY Wrigley 53.74 34 P P 12 22 19.7 +0.3
baz=298
RES Resolute Bay 55.53 16 P P 12 22 30.8 -1.3
RES IAmb IAmb 12 22 32.1
comp=Z,5.7nm,0.7s
RES Resolute Bay 55.53 16 P P 12 22 30.8 -1.3
RES pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 57.07 338 P P 12 22 42.7 -0.4
comp=Z,1.8nm,0.8s,baz=32,slow=7.1,SNR=4.8
comp=Z,1.8nm,0.8s
YKA Yellowknife Ar 57.59 32 P P 12 22 46.6 -0.2
comp=Z,2.7nm,0.5s,baz=305,slow=7.0,SNR=121
YKA PcP PcP 12 23 37.8 +0.7
comp=Z,0.2nm,0.6s,baz=308,slow=4.1,SNR=5.5
comp=Z,2.7nm,0.5s
MTN Manton Dam 57.70 192 P P 12 22 47.7 -0.4
MTN IAmb IAmb 12 23 15.4
comp=Z,12nm,1.2s
COEN Coen 58.11 178 P P 12 22 51.3 +0.4
COEN IAmb IAmb 12 22 52.0
comp=Z,7.2nm,1.1s
BELG Belogornoye 58.41 314 *i* P P 12 22 53.7 +1.2
BELG pmax pmax
comp=Z,1.0nm,0.9s
WAPA Wapiti River 59.81 41 P P 12 23 02.6 +0.4
KNRA Kununurra 60.86 194 P P 12 23 09.6 +0.1
OBN Obninsk 62.17 321 *i* P P 12 23 21.3 +3.4
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN Obninsk 62.17 321 *e*P P 12 23 21.3 +3.4
FIA1 FINESS Array S 62.26 331 P P 12 23 17.7 -0.7
FINES FINESS Array B 62.26 331 P P 12 23 17.4 -0.9
comp=Z,2.5nm,0.3s,baz=46,slow=8.4,SNR=46
comp=Z,2.5nm,0.3s
SUMG Summit 63.32 360 *i* P P 12 23 25.0 -0.7
WB0 Warramunga Arr 64.16 187 P P 12 23 31.1 -0.2
WB0 IAmb IAmb 12 23 44.3
comp=Z,7.9nm,1.4s
WB2 Warramunga Arr 64.34 187 P P 12 23 32.1 -0.4
WB2 IAmb IAmb 12 23 54.5
comp=Z,7.1nm,1.3s
WR0 Warramunga Arr 64.34 187 P P 12 23 32.1 -0.4
WR0 IAmb IAmb 12 23 32.7
comp=Z,6.5nm,1.1s
WRA Warramunga Arr 64.34 187 P P 12 23 32.0 -0.5
comp=Z,1.0nm,0.4s,baz=1.6,slow=6.8,SNR=29
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 64.34 187 P P 12 23 31.9 -0.6
WRA Warramunga Arr 64.34 187 *i* P P 12 23 32.0 -0.5
WRA pmax pmax
comp=Z,1.0nm,0.4s
NEW Newport 65.06 46 P P 12 23 37.1 +0.1
baz=309
PINE Pine Mountain 65.81 52 P P 12 23 43.6 +1.5
KIV Kislovodsk 66.05 309 *e*P P 12 23 44.1 +0.7
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 66.05 309 *e*P P 12 23 44.1 +0.7
KBZ Khabaz 66.08 308 P P 12 23 44.0 +0.6
comp=Z,2.4nm,0.8s,baz=42,slow=6.6,SNR=4.9
comp=Z,2.4nm,0.8s
KBZ Khabaz 66.08 308 *e*P P 12 23 44.0 +0.6
K05A Summer Lake 66.51 53 P P 12 23 47.8 +1.3
K05A IAmb IAmb 12 23 48.9
comp=Z,7.7nm,0.9s
NB2 NORSAR Subarra 67.35 336 P P 12 23 50.4 -0.8
comp=Z,1.0nm,0.5s,baz=36,slow=6.5
NOA NORSAR Array B 67.35 336 P P 12 23 50.2 -1.0
comp=Z,1.7nm,0.6s,baz=36,slow=6.2,SNR=13
comp=Z,1.7nm,0.6s
FCC Fort Churchill 67.52 28 P P 12 23 52.0 -0.3
FCC IAmb IAmb 12 23 53.2
comp=Z,4.2nm,0.6s
FCC Fort Churchill 67.52 28 P P 12 23 52.0 -0.3
FCC pmax pmax
comp=Z,4.0nm,0.6s
MSO Missoula 67.63 46 P P 12 23 53.7 +0.4
baz=312
FFC Flin Flon 67.65 34 P P 12 23 53.3 +0.2
FFC Flin Flon 67.65 34 P P 12 23 53.3 +0.2
FFC pmax pmax
comp=Z,7.0nm,0.8s
PLID Pearl Lake 67.69 48 P P 12 23 54.5 +0.6
ASAR Alice Springs 68.07 187 P P 12 23 56.6 +0.5
comp=Z,2.0nm,0.7s,baz=8.2,slow=6.6,SNR=42
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 68.42 321 P P 12 23 57.1 -0.8
comp=Z,0.8nm,0.4s,baz=42,slow=6.2,SNR=13
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 68.42 321 *ce*P P 12 23 58.0 0.0
HRY Holter Researc 68.78 45 P P 12 24 01.5 +1.0
MFID Camas Ranch 68.89 50 P P 12 24 02.3 +1.1
MFID IAmb IAmb 12 24 03.1
comp=Z,2.6nm,0.7s
EGMT Eagleton 68.92 43 P P 12 24 02.0 +0.8
EGMT IAmb IAmb 12 24 02.5
comp=Z,7.1nm,0.8s
EGMT Eagleton 68.92 43 P P 12 24 01.2 -0.1
baz=314
HLID Hailey 69.56 49 P P 12 24 05.7 +0.3
baz=312
BOZ Bozeman (W) 69.64 46 P P 12 24 06.7 +0.9
BOZ IAmb IAmb 12 24 07.4
comp=Z,3.5nm,0.8s
BOZ Bozeman (W) 69.64 46 P P 12 24 06.1 +0.3
baz=313
BOZ Bozeman (W) 69.64 46 P P 12 24 06.7 +0.9
BOZ pmax pmax
comp=Z,3.0nm,0.8s
YERR Yerington 69.88 55 P P 12 24 07.5 +0.1
YERR IAmb IAmb 12 24 09.2
comp=Z,4.7nm,0.9s
KVN Kaiserville 70.50 54 P P 12 24 11.9 +0.7
KVN IAmb IAmb 12 24 13.0
comp=Z,4.5nm,0.7s
KVN Kaiserville 70.50 54 P P 12 24 11.9 +0.7
KVN pmax pmax
comp=Z,5.0nm,0.7s
NVAR Mina Array Bea 70.80 55 P P 12 24 14.0 +1.0
comp=Z,1.7nm,0.7s,baz=299,slow=5.7,SNR=17
comp=Z,1.7nm,0.7s
H17A Grant Village 71.02 46 P P 12 24 16.0 +1.7
baz=314
IMW Indian Meadow 71.17 47 P P 12 24 16.9 +1.7
RLMT Red Lodge 71.18 45 P P 12 24 15.4 +0.2
baz=315
DGMT Dagmar 71.23 40 P P 12 24 14.7 -0.5
baz=317
LAO LASA Array 71.57 42 P P 12 24 17.3 +0.1
baz=316
R11A Troy Canyon, C 72.43 53 P P 12 24 22.8 +0.2
baz=313
BW06 Boulder Array 72.68 47 P P 12 24 24.6 +0.4
BW06 IAmb IAmb 12 24 25.3
comp=Z,5.0nm,0.8s

BW06 Boulder Array 72.68 47 P P 12 24 24.7 +0.5
baz=315
PD31 Pinedale Array 72.68 47 P P 12 24 24.6 +0.4
PD31 IAmb IAmb 12 24 25.3
comp=Z,4.6nm,0.8s
PDAR Pinedale Array 72.68 47 P P 12 24 24.4 +0.3
comp=Z,4.5nm,0.6s,baz=286,slow=1.3,SNR=56
comp=Z,4.5nm,0.6s
PDAR Pinedale Array 72.68 47 P P 12 24 24.0 -0.1
DUG Dugway, Tooele 72.73 50 P P 12 24 24.5 +0.2
baz=314
FURC Furnace Creek, 72.96 56 P P 12 24 25.9 +0.4
baz=313
TPNV Topopah Spring 73.00 55 P P 12 24 26.4 +0.4
TPNV IAmb IAmb 12 24 27.3
comp=Z,3.2nm,0.8s
TPNV Topopah Spring 73.00 55 P P 12 24 26.4 +0.4
baz=313
TPNV Topopah Spring 73.00 55 P P 12 24 26.4 +0.4
TPNV pmax pmax
comp=Z,3.0nm,0.8s
ULM Lac du Bonnet 73.47 34 P P 12 24 28.0 -0.3
comp=Z,8.8nm,0.4s,baz=322,slow=6.8,SNR=14
comp=Z,8.8nm,0.4s
DPC Dobruska-Polom 74.16 327 *e*P P 12 24 34.3 +2.0
DPC Dobruska-Polom 74.16 327 *e*P P 12 24 34.3 +2.0
RSSD Black Hills 74.49 43 P P 12 24 34.5 -0.1
baz=318
CLL Collm 74.65 329 *e*P P 12 24 34.0 -1.1
comp=Z,3.0nm,0.7s
CLL Collm 74.65 329 *e*P P 12 24 34.0 -1.1
CLL pmax pmax
comp=Z,3.0nm,0.7s
CKRC Cesky Krumlov 76.17 327 *e*P P 12 24 46.2 +2.4
KHC Kasperske Hory 76.20 328 *e*P P 12 24 43.8 -0.2
KHC Kasperske Hory 76.20 328 *e*P P 12 24 43.8 -0.2
GERES GERESS Array B 76.38 327 P P 12 24 45.8 +0.7
comp=Z,0.5nm,0.5s,baz=49,slow=6.6,SNR=5.4
comp=Z,0.5nm,0.5s
S22A 4UR Ranch, Cre 77.74 49 P P 12 24 53.9 +0.8
baz=317
ECSD EROS Data Cent 78.26 39 P P 12 24 55.2 -0.2
ECSD IAmb IAmb 12 24 55.9
comp=Z,3.6nm,0.6s
ECSD EROS Data Cent 78.26 39 P P 12 24 54.8 -0.7
baz=322
SCHQ Schefferville 78.31 16 P P 12 24 55.4 -0.2
comp=Z,3.5nm,0.6s,baz=10,slow=9.9,SNR=7.9
comp=Z,3.5nm,0.6s
T25A Trinidad 79.48 48 P P 12 25 02.8 +0.3
baz=319
ANMO Albuquerque 80.00 50 P P 12 25 06.3 +1.0
baz=318
ANMO Albuquerque 80.00 50 *ce*P P 12 25 07.5 +2.2
ANMO pmax pmax
comp=Z,5.0nm,2.5s
WMOK Wichita Mounta 84.26 46 P P 12 25 26.7 -0.4
baz=322
TUL1 Leonard 84.83 43 P P 12 25 29.6 -0.3
baz=323
CCM Cathedral Cave 85.24 39 P P 12 25 31.7 -0.2
baz=325
MIAR Mount Ida 87.01 42 P P 12 25 40.4 -0.1
baz=324
WCI Wyandotte Cave 87.24 36 P P 12 25 41.4 -0.2
baz=328
O53A New Philadelph 87.50 31 P P 12 25 42.5 -0.3
baz=331
WVT Waverly 88.35 38 P P 12 25 46.4 -0.5
baz=327
ESDC Sonseca Array 90.60 334 P P 12 25 57.1 -0.3
comp=Z,0.7nm,0.9s,baz=357,slow=9.1,SNR=4.1
comp=Z,0.7nm,0.9s

JMA 15 12:15:05.8±0.1, 35°.1N±0°.1×135°.9E±0°.1, h12km, MV0.5/25,
NW SHIGA PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHE	**Heguri**	**0.46**	**204**	*e*S	Sg	12 15 20.9	0.0
JWT	**Wachi**	**0.46**	**297**	P	Pg	12 15 14.9	0.0
JWT				*e*S	Sg	12 15 20.3	-0.8
JYTA	**Yamagatataniai**	**0.85**	**52**	S	Sg	12 15 33.0	-0.4
JKY	**Yasaka**	**0.86**	**310**	*e*S	Sn	12 15 35.1	-1.0
JWY	**Kouya**	**0.89**	**197**	*e*S	Sg	12 15 32.0	-2.6

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*IDC **15** 12:24:08.6±1.2, 15°.74S×175°.08W, h271km±14km, mb3.7/9, mbtmp4.2/11, Error ellipse: s-maj=26.5km s-min=11.8km az=139.0*
*NEIC **15** 12:24:09.8±1.2, 15°.8S±0°.2×174°.9W±0°.1, h297km±16km, mb4.3/22, Error ellipse: s-maj=24.7km s-min=18.3km az=198.0*
*NOU **15** 12:24:11.6, 15°.72S×174°.92W, h261km, MLv4.6/10, Tonga Islands*

ISC 15 12:24:10.2±0.6, 15°.8S±0°.1×174°.92W±0°.08, h300km, n45,
σ1s05/48, mb4.2/22, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**3.41**	**295**	P	Pn	12 25 09.0	-1.2
AFI	**Afiamalu**	**3.55**	**59**	P	Pn	12 25 09.6	-2.1
	96nm,0.4s,baz=143,slow=1.6,SNR=38						
AFI				S	S	12 25 59.1	-1.9
	74nm,0.5s,baz=224,slow=23,SNR=4.2						
AFI	**Afiamalu**	**3.55**	**59**		Pn	12 25 09.1	-2.6
TAVE	**Taveuni**	**4.88**	**258**	P	Pn	12 25 26.7	+0.4
DGTI	**Dogotuki**	**5.17**	**263**	P	Pn	12 25 29.4	-0.3
NIUE	**Niue**	**5.80**	**125**		Pn	12 25 36.8	-0.2
NIUE	**Niue**	**5.80**	**125**	P	Pn	12 25 37.7	+0.6
MSVF	**Nonsavu**	**7.01**	**253**	P	Pn	12 25 51.9	+0.1
	41nm,0.9s,baz=102,slow=13,SNR=13						
MSVF				S	S	12 27 05.5	-8.5
	13nm,0.4s,baz=158,slow=23,SNR=3.8						
MSVF	**Nonsavu**	**7.01**	**253**		Pn	12 25 52.0	+0.2
MSVF	**Nonsavu**	**7.01**	**253**	P	Pn	12 25 52.9	+1.1
	52nm,1.0s						
MARNC	**Mare, Loyalty**	**17.12**	**248**	P	P	12 27 48.4	-2.1
DZM	**Mont Dzumac**	**18.70**	**248**	P	P	12 28 06.6	-0.9
	2.8nm,0.8s,baz=48,slow=17,SNR=2.4						
URZ	**Urewera**	**23.49**	**196**	P	P	12 28 54.0	+0.4
	16nm,1.0s,baz=352,slow=2.9,SNR=11						
	16nm,1.0s						
BKZ	**Black Stump Fm**	**24.50**	**196**	P	P	12 29 03.0	+0.1
EIDS	**Eidsvold**	**33.15**	**248**	P	P	12 30 18.5	-0.7
EIDS					IAmb	IAmb	12 31 00.2
	comp=Z,12nm,1.4s						
ARMA	**Armidale**	**33.90**	**239**	P	P	12 30 24.3	-1.4
CTAO	**Charters Tower**	**37.13**	**257**	P	P	12 30 52.6	-0.5
CTAO					IAmb	IAmb	12 31 31.9
	comp=Z,13nm,1.4s						
CAN	**Canberra**	**37.65**	**232**	P	P	12 30 56.3	-1.0
CAN					IAmb	IAmb	12 31 36.1
	comp=Z,20nm,1.3s						
COEN	**Coen**	**40.50**	**267**	P	P	12 31 21.5	+0.6
COEN					IAmb	IAmb	12 31 22.4
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**42.59**	**240**	P	P	12 31 37.1	-0.4
	comp=Z,1.1nm,0.4s,baz=83,slow=12,SNR=4.4						
	comp=Z,1.1nm,0.4s						
STKA	**Stephens Creek**	**42.59**	**240**	P	P	12 31 37.5	0.0
BBOO	**Buckleboo**	**47.37**	**240**	P	P	12 32 14.1	-0.8
BBOO					IAmb	IAmb	12 32 41.2
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**48.14**	**257**	P	P	12 32 20.7	-0.3
WB0	**Warramunga Arr**	**48.30**	**257**	P	P	12 32 21.9	-0.3
WB2	**Warramunga Arr**	**48.32**	**257**	P	P	12 32 22.0	-0.4
WB2					IAmb	IAmb	12 32 22.7
	comp=Z,9.4nm,0.7s						
WRAB	**Tennant Creek**	**48.33**	**257**	P	P	12 32 21.9	-0.5
WRAB					IAmb	IAmb	12 32 22.6
	comp=Z,8.2nm,0.7s						
WRA	**Warramunga Arr**	**48.34**	**257**	P	P	12 32 22.0	-0.5
	comp=Z,6.6nm,0.5s,baz=95,slow=7.6,SNR=212						
WRA				PcP	PcP	12 33 45.4	+1.2
	comp=Z,0.9nm,0.7s,baz=95,slow=3.8,SNR=2.9						
	comp=Z,6.6nm,0.5s						
WRA	**Warramunga Arr**	**48.34**	**257**	P	P	12 32 21.4	-1.1
AS31	**Alice Springs**	**48.60**	**252**	P	P	12 32 23.8	-0.7
AS31					IAmb	IAmb	12 32 25.3
	comp=Z,15nm,0.6s						
ASAR	**Alice Springs**	**48.60**	**252**	P	P	12 32 24.3	-0.2
	comp=Z,53nm,0.6s,baz=88,slow=7.7,SNR=1313						
ASAR				PcP	PcP	12 33 46.2	+1.0
	comp=Z,1.0nm,0.7s,baz=98,slow=3.7,SNR=2.4						

ASAR	**Alice Springs**	**48.60**	**252**	P		**P**		**12 32 24.5**	**-0.1**
MTN	**Manton Dam**	**52.24**	**266**	P		**P**		**12 32 51.2**	**-0.5**
MTN				IAmb		IAmb		12 32 51.8	
	comp=Z,6.0nm,0.8s								
FORT	**Forrest**	**53.95**	**243**	P		**P**		**12 33 02.9**	**-0.9**
KNRA	**Kununurra**	**54.06**	**262**	P		**P**		**12 33 04.4**	**-0.4**
KNRA				IAmb		IAmb		12 33 44.7	
	comp=Z,30nm,1.5s								
SIJI	**Sorong**	**55.07**	**280**	P		**P**		**12 33 12.6**	**+0.4**
	comp=Z,16nm,0.8s,baz=54,slow=7.1,SNR=9.3								
	comp=Z,16nm,0.8s								
FITZ	**Fitzroy Crossi**	**56.70**	**258**	P		**P**		**12 33 23.8**	**+0.3**
PSA00	**Pilbara Seismi**	**61.70**	**254**	P		**P**		**12 33 57.1**	**-0.5**
MBWA	**Marble Bar**	**61.85**	**254**	P		**P**		**12 33 57.9**	**-0.7**
MBWA				IAmb		IAmb		12 33 59.0	
	comp=Z,7.8nm,0.8s								
VNDA	**Vanda**	**62.87**	**186**	P		**P**		**12 34 03.1**	**-1.2**
VNDA				IAmb		IAmb		12 34 34.8	
	comp=Z,5.7nm,1.4s								
PETK	**Petropavlovsk-**	**72.53**	**343**	P		**P**		**12 35 04.7**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=106,slow=8.9,SNR=6.3								
	comp=Z,1.3nm,0.7s								
NVAR	**Mina Array Bea**	**75.58**	**43**	P		**P**		**12 35 25.0**	**+2.3**
	comp=Z,1.1nm,0.8s,baz=226,slow=10,SNR=8.1								
	comp=Z,1.1nm,0.8s								
ILAR	**Eielson Array**	**83.09**	**12**	P		**P**		**12 36 02.9**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=214,slow=5.3,SNR=8.6								
	comp=Z,0.3nm,0.6s								
PDAR	**Pinedale Array**	**83.51**	**42**	P		**P**		**12 36 06.7**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=209,slow=3.6,SNR=7.7								
	comp=Z,0.6nm,0.5s								
CMAR	**Chiang Mai Arr**	**91.34**	**289**	P		**P**		**12 36 44.7**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=104,slow=3.8,SNR=5.2								
	comp=Z,0.9nm,0.8s								
BRTR	**Keskin Array B**	**145.49**	**319**	PKPbc		**PKPab**		**12 43 14.9**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=88,slow=3.1,SNR=14								

*IDC **15** 12:32:03.8±3.3,31°.92S×179°.83W,h368km±31km,mb3.5/3, mbtmp4.3/6,Error ellipse: s-maj=32.9km s-min=24.7km az=26.0*

*WEL **15** 12:32:12.6±1.0,33°S±13°×18°0W±2°.7,h419km±15km, M4.6/7,mB4.5/7,ML5.4/6,MLv5.4/5,Mw(mB)3.7/7,Error ellipse: s-maj=0.0km s-min=0.0km az=113.5,confirmed*

ISC 15 12:32:09.4±0.9,32°.19S±0°.07×179°.7E±0°.2,h400km,n38, σ2s02/55,mb3.8/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAZ	**Moumakai**	**6.17**	**216**	P	**Pn**	**12 33 46.4**	**+2.8**
URZ	**Urewera**	**6.42**	**199**	P	**Pn**	**12 33 43.9**	**-2.4**
	15nm,0.3s,baz=3.6,slow=3.6,SNR=41						
URZ				S	**S**	**12 35 06.3**	**+0.7**
	50nm,0.3s,baz=324,slow=20,SNR=17						
MUGZ	**Murupara**	**6.71**	**200**	P	**P**	**12 33 50.5**	**+0.2**
MUGZ				S	**S**	**12 35 10.7**	**-1.0**
MTHZ	**Maungataniwha**	**7.04**	**199**	P	**P**	**12 33 54.2**	**+0.2**
MTHZ				S	**S**	**12 35 17.5**	**-1.1**
WHHZ	**Waihua**	**7.16**	**196**	P	**P**	**12 33 56.2**	**+0.9**
WHHZ				S	**S**	**12 35 20.5**	**-0.3**
CKHZ	**Cape Kidnapper**	**7.75**	**195**	P	**P**	**12 34 01.8**	**0.0**
CKHZ				S	**S**	**12 35 29.5**	**-3.5**
KAHZ	**Kahuranaki**	**7.92**	**196**	P	**P**	**12 34 04.0**	**+0.2**
KAHZ				S	**S**	**12 35 32.4**	**-4.4**
MRZ	**Mangatainoka R**	**9.08**	**200**	P	**Pn**	**12 34 15.7**	**-0.9**
MRZ				S	**S**	**12 35 56.0**	**-5.1**
HOWZ	**Holdsworth Sta**	**9.32**	**200**	P	**P**	**12 34 19.0**	**-0.2**
HOWZ				S	**S**	**12 36 03.5**	**-2.6**
OGWZ	**Otaki Gorge**	**9.35**	**202**	P	**P**	**12 34 19.2**	**-0.3**
OGWZ				S	**S**	**12 36 05.9**	**-0.8**
TMWZ	**Te Maipa**	**9.41**	**198**	P	**Pn**	**12 34 20.8**	**+0.4**
TMWZ				S	**S**	**12 36 07.4**	**-0.6**
CAW	**Cannon Point**	**9.64**	**201**	P	**P**	**12 34 22.5**	**-0.4**
CAW				S	**S**	**12 36 10.1**	**-2.7**
TCW	**Tory Channel**	**10.00**	**204**	P	**P**	**12 34 27.0**	**+0.3**
TCW				S	**S**	**12 36 18.6**	**-1.4**
PLWZ	**Palliser**	**10.01**	**200**	P	**Pn**	**12 34 27.9**	**+0.4**
PLWZ				S	**S**	**12 36 18.4**	**-2.0**
TUWZ	**Tuamarina**	**10.31**	**205**	P	**P**	**12 34 29.9**	**-0.3**
TUWZ				S	**S**	**12 36 24.5**	**-1.8**
NNZ	**Nelson**	**10.34**	**208**	P	**P**	**12 34 30.1**	**-0.4**
NNZ				S	**S**	**12 36 27.2**	**+0.2**
THZ	**Tophouse**	**10.99**	**208**	P	**Pn**	**12 34 38.7**	**-0.1**
THZ				S	**S**	**12 36 40.8**	**+0.5**
KHZ	**Kahutara**	**11.32**	**204**	P	**P**	**12 34 41.6**	**+0.2**
KHZ				S	**S**	**12 36 45.8**	**-1.1**
GVZ	**Greta Valley S**	**11.98**	**204**	P	**Pn**	**12 34 53.9**	**+3.8**
LTZ	**Lake Taylor**	**12.10**	**207**	P	**Pn**	**12 34 55.0**	**+3.4**
RPZ	**Rata Peaks**	**13.37**	**208**	P	**Pn**	**12 35 06.1**	**-0.1**
	15nm,1.0s,baz=329,slow=16,SNR=1.8						
RPZ				S	**S**	**12 37 30.8**	**+2.5**
	10nm,0.7s,baz=299,slow=22,SNR=6.7						
DZM	**Mont Dzumac**	**15.51**	**307**	P	**P**	**12 35 24.5**	**-3.0**
	3.8nm,0.9s,baz=132,slow=13,SNR=2.4						
STKA	**Stephens Creek**	**32.20**	**260**	P	**P**	**12 38 04.0**	**+1.7**
	3.8nm,0.7s,baz=96,slow=11,SNR=10						
	3.8nm,0.7s						
CTA	**Charters Tower**	**32.23**	**284**	P	**P**	**12 38 01.9**	**-0.6**
	5.0nm,0.7s,baz=99,slow=11,SNR=12						
	5.0nm,0.7s						
ASAR	**Alice Springs**	**41.10**	**270**	P	**P**	**12 39 15.9**	**-0.5**
	1.4nm,0.7s,baz=104,slow=7.4,SNR=21						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**42.26**	**275**	P	P	12 39 20.3	-5.4
	2.6nm,0.6s,baz=114,slow=7.4,SNR=5.4						
TROLL	**Troll, Antarti**	**76.07**	**181**	P	**P**	**12 43 16.2**	**+2.4**
VNA3	**Neumayer Olymp**	**76.64**	**177**	P	**P**	**12 43 19.1**	**+2.3**
VNA2	**Neumayer--Watz**	**77.05**	**178**	P	**P**	**12 43 21.7**	**+2.6**
	baz=183,slow=4.0						
VNA1	**Neumayer--Stat**	**77.29**	**177**	P	**P**	**12 43 23.1**	**+2.7**
MKAR	**Makanchi Array**	**117.42**	**310**	PKP	**PKPdf**	**12 50 05.5**	**-2.4**
	0.2nm,0.6s,baz=64,slow=2.8,SNR=3.7						
ARCES	**ARCESS Array B**	**139.89**	**346**	PKP	**PKPdf**	**12 50 49.1**	**-0.6**
	1.9nm,0.8s,baz=29,slow=2.8,SNR=5.6						
FINES	**FINESS Array B**	**146.10**	**338**	PKPbc	**PKPdf**	**12 50 59.6**	**-1.2**
	9.5nm,0.7s,baz=47,slow=3.8,SNR=45						
NB2	**NORSAR Subarra**	**150.17**	**349**	PKP	**PKPdf**	**12 51 10.4**	**+2.9**
	comp=Z,1.1nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.17**	**349**	PKPbc	**PKPdf**	**12 51 10.2**	**+2.7**
	comp=Z,1.8nm,0.6s,baz=16,slow=4.1,SNR=9.0						
HFS	**Hagfors**	**150.55**	**346**	PKPbc	**PKPdf**	**12 51 10.9**	**+2.8**
	comp=Z,2.7nm,0.7s,baz=104,slow=4.7,SNR=9.3						
AKASG	**Malin Array Be**	**151.45**	**319**	PKPbc	**PKPbc**	**12 51 14.1**	**-2.1**
	comp=Z,1.7nm,0.6s,baz=60,slow=2.3,SNR=13						
BRTR	**Keskin Array B**	**151.65**	**295**	PKPbc	**PKPbc**	**12 51 15.4**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=126,slow=2.1,SNR=4.4						

*MDD **15** 12:33:39.7±0.9,37°.78N×15°.22W,h0km,Mb4.5/13, M_mb3.9/11,Error ellipse: s-maj=7.7km s-min=6.1km az=47.0*

*INMG **15** 12:33:40.8±2.3,37°.46N×15°.64W,h10km,ML2.7,Error ellipse: s-maj=9.6km s-min=8.7km az=99.0*

*CNRM **15** 12:33:44.2,37°.38N×14°.49W,h0km*

ISC 15 12:33:37.6±3.7,37°.62N±0°.08×15°.2W±0°.2,h10km,n55, σ2s44/97,13C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.83**	**72**	*e*P	**Pn**	**12 34 53.3**	**+3.0**
PMAFR				*e*Sn	**Sn**	**12 35 48.5**	**+2.3**
PMAFR				A	A	12 35 53.4	
	16nm,0.2s						
PMAFR	**Mafra**	**4.83**	**72**	S	**Sn**	**12 35 48.0**	**+1.8**
PMAFR				P	**Pn**	**12 34 53.1**	**+2.8**
PFVI	**Vila Bisbo**	**5.08**	**94**	*e*Sn	**Sn**	**12 35 51.8**	**-0.7**
PFVI				A	A	12 36 05.3	
	9.2nm,1.0s						
PFVI	**Vila Bisbo**	**5.08**	**94**	P	**Pn**	**12 34 50.9**	**-2.8**
PFVI				S	**Sn**	**12 35 46.2**	**-6.3**
PTEO	**Sao Teotonio**	**5.12**	**89**	*e*Sn	**Sn**	**12 35 53.1**	**-0.5**
PTEO				A	A	12 35 54.0	
	7.1nm,0.6s						
MORF	**Marmelete**	**5.20**	**91**	*e*P	**Pn**	**12 34 57.4**	**+2.0**
MORF	**Marmelete**	**5.20**	**91**	*e*Pn	**Pn**	**12 34 57.4**	**+2.0**
MORF				*e*Sn	**Sn**	**12 35 53.9**	**-1.6**
MORF				A	A	12 36 08.4	
	7.0nm,0.8s						
PNCL	**Nicolau / Gran**	**5.28**	**83**	*e*Pn	**Pn**	**12 34 58.3**	**+1.8**
PNCL				*e*Sn	**Sn**	**12 35 56.5**	**-0.9**
PNCL				A	A	12 36 06.8	
	4.7nm,0.5s						
PNCL	**Nicolau / Gran**	**5.28**	**83**	S	**Sn**	**12 35 57.3**	**-0.1**
PNCL				P	**Pn**	**12 34 58.4**	**+1.8**
PSBE	**So Bento**	**5.35**	**67**	*e*Pn	**Pn**	**12 35 00.9**	**+3.5**
PSBE				*e*Sn	**Sn**	**12 36 01.8**	**+2.7**
PSBE				A	A	12 36 09.7	
	7.2nm,0.5s						
MESJ	**Messejana**	**5.52**	**86**	*e*P	**Pn**	**12 35 01.8**	**+2.0**
MESJ				*e*S	**Sn**	**12 36 03.7**	**+0.5**
MESJ				IAML		12 36 06.3	
	comp=N,8.1nm,0.3s						
MESJ	**Messejana**	**5.52**	**86**	*e*Pn	**Pn**	**12 35 02.8**	**+3.0**
MESJ				*e*Sn	**Sn**	**12 36 04.2**	**+0.9**
MESJ				A	A	12 36 07.3	
	comp=N,2.6nm,0.4s						
PMTG	**Montargil**	**5.65**	**73**	*e*Pn	**Pn**	**12 35 03.5**	**+1.9**
PMTG				*e*Sn	**Sn**	**12 36 07.3**	**+0.7**
PMTG				A	A	12 36 11.1	
	comp=N,3.2nm,0.5s						
PCVE	**Castro Verde**	**5.67**	**88**	*e*Pn	**Pn**	**12 35 01.0**	**-0.8**
PCVE				*e*Sn	**Sn**	**12 36 04.0**	**-2.9**
PCVE				A	A	12 36 12.6	
	comp=N,3.6nm,0.8s						
PCVE	**Castro Verde**	**5.67**	**88**	S	**Sn**	**12 36 07.8**	**+0.9**
EVO	**Evora**	**5.72**	**79**	*e*Pn	**Pn**	**12 35 04.5**	**+1.9**
EVO				*e*Sn	**Sn**	**12 36 08.1**	**-0.2**
EVO				A	A	12 36 13.7	
	comp=N,5.2nm,0.2s						
EVO	**Evora**	**5.72**	**79**	S	**Sn**	**12 36 08.5**	**+0.1**
EVO				P	**Pn**	**12 35 04.9**	**+2.3**
PCAS	**Casmilo, Conde**	**5.75**	**63**	*e*Pn	**Pn**	**12 35 05.6**	**+2.6**
PCAS				*e*Sn	**Sn**	**12 36 09.4**	**+0.4**
PCAS				A	A	12 36 14.4	
	comp=N,3.3nm,0.8s						
PBEJ	**Beja**	**5.80**	**84**	*e*Sn	**Sn**	**12 36 11.2**	**+1.0**
PBEJ				A	A	12 36 22.7	
	comp=N,2.1nm,0.2s						
PVAQ	**Vaqueiros**	**5.93**	**90**	*e*Pn	**Pn**	**12 35 08.3**	**+2.8**
PVAQ				*e*Sn	**Sn**	**12 36 13.9**	**+0.4**
PVAQ				A	A	12 36 19.4	
	comp=N,4.5nm,0.1s						
PVAQ	**Vaqueiros**	**5.93**	**90**	P	**Pn**	**12 35 05.6**	**+0.2**
PVAQ				S	**Sn**	**12 36 10.4**	**-3.1**
PVAQ	**Vaqueiros**	**5.93**	**90**	S	**Sn**	**12 36 14.1**	**+0.6**
PVAQ				P	**Pn**	**12 35 07.9**	**+2.4**
PESTR	**Estremoz**	**6.10**	**76**	*e*Pn	**Pn**	**12 35 10.3**	**+2.6**
PESTR				*e*Sn	**Sn**	**12 36 18.3**	**+0.7**
PESTR				A	A	12 36 20.5	
	comp=N,2.6nm,0.6s						
PESTR	**Estremoz**	**6.10**	**76**	P	**Pn**	**12 35 10.4**	**+2.6**
PESTR				S	**Sn**	**12 36 16.7**	**-0.9**
PESTR	**Estremoz**	**6.10**	**76**	S	**Sn**	**12 36 16.1**	**-1.6**
PESTR				P	**Pn**	**12 35 08.8**	**+1.0**
EGRO	**El Granado**	**6.11**	**88**	P	**Pn**	**12 35 10.5**	**+2.6**
EGRO				⇑*i*Vmb_V		12 35 15.2	
	comp=N,183nm,SNR=1.2						
EGRO				S	**Sn**	**12 36 16.3**	**-1.6**
PMRV	**Marv??o**	**6.37**	**71**	*e*Pn	**Pn**	**12 35 13.6**	**+2.2**
PMRV				*e*Sn	**Sn**	**12 36 24.5**	**+0.3**
PMRV				A	A	12 36 29.7	
	comp=N,4.4nm,0.7s						
PCBR	**Castelo Branco**	**6.41**	**67**	*e*Pn	**Pn**	**12 35 14.6**	**+2.5**
PCBR				*e*Sn	**Sn**	**12 36 26.0**	**+0.7**
PCBR				A	A	12 36 29.1	
	comp=N,2.5nm,0.2s						
PVIS	**Viseu**	**6.45**	**59**	*e*Pn	**Pn**	**12 35 14.9**	**+2.3**
PVIS				*e*Sn	**Sn**	**12 36 25.5**	**-0.7**
PBAR	**Barrancos**	**6.46**	**83**	*e*Pn	**Pn**	**12 35 15.8**	**+3.1**
PBAR				*e*Sn	**Sn**	**12 36 25.2**	**-1.2**
PBAR				A	A	12 36 33.2	
	comp=N,2.4nm,0.2s						
EBAD	**Badajoz**	**6.53**	**77**	P	**Pn**	**12 35 16.6**	**+2.9**
EBAD				S	**Sn**	**12 36 26.7**	**-1.5**
EBAD	**Badajoz**	**6.53**	**77**	P	**Pn**	**12 35 15.8**	**+2.1**
EBAD				⇑*i*Vmb_V		12 35 22.4	
	comp=N,98nm,SNR=1.0						
EBAD				S	**Sn**	**12 36 26.3**	**-1.9**
MTE	**Manteigas**	**6.56**	**63**	*e*Sn	**Sn**	**12 36 25.4**	**-3.6**
EMIN	**Mina Concepcio**	**6.75**	**86**	P	**Pn**	**12 35 18.1**	**+2.5**
EMIN				⇑*i*Vmb_V		12 35 26.8	
	comp=N,188nm,SNR=1.7						
EMIN				S	**Sn**	**12 36 31.5**	**-2.0**
POLO	**Lamas de Olo**	**6.83**	**54**	*e*Pn	**Pn**	**12 35 20.2**	**+2.3**
POLO				*e*Sn	**Sn**	**12 36 34.7**	**-1.0**
POLO				A	A	12 36 46.7	
	comp=N,1.1nm,0.8s						
PVRL	**Vila Real**	**6.83**	**55**	*e*Sn	**Sn**	**12 36 34.4**	**-1.2**
PVRL				A	A	12 36 38.6	
	comp=N,3.9nm,0.1s						
PCAB	**Cabril**	**6.86**	**51**	*e*Pn	**Pn**	**12 35 19.6**	**+1.3**
PCAB				*e*Sn	**Sn**	**12 36 36.0**	**-0.4**
PCAB				A	A	12 36 38.6	
	comp=N,4.5nm,0.3s						
PGAV	**Gavieira, Arco**	**6.86**	**49**	*e*Pn	**Pn**	**12 35 20.0**	**+1.7**
PGAV				*e*Sn	**Sn**	**12 36 34.9**	**-1.6**
PGAV				A	A	12 36 37.5	
	comp=N,3.3nm,0.2s						
ELOB	**Lobios**	**6.93**	**50**	P	**Pn**	**12 35 20.3**	**+1.0**
ELOB				⇑*i*Vmb_V		12 35 29.6	
	comp=N,201nm,SNR=1.9						
ELOB				S	**Sn**	**12 36 33.4**	**-4.8**
EMAZ	**Mazaricos**	**7.13**	**40**	P	**Pn**	**12 35 22.1**	**+0.3**
EMAZ				⇑*i*Vmb_V		12 35 24.4	
	comp=N,232nm,SNR=1.2						
EMAZ				S	**Sn**	**12 36 36.5**	**-6.3**
MVO	**Moncorvo**	**7.23**	**58**	*e*Pn	**Pn**	**12 35 25.1**	**+1.7**
MVO				*e*Sn	**Sn**	**12 36 43.2**	**-2.4**
MVO				A	A	12 36 47.2	
	comp=N,2.5nm,0.5s						
ESPR	**Espera**	**7.47**	**93**	S	**Sn**	**12 36 48.3**	**-3.0**
ESPR	**Espera**	**7.47**	**93**	S	**Sn**	**12 36 51.2**	**-0.1**
EAGO	**Agolada(Pontev**	**7.50**	**44**	P	**Pn**	**12 35 27.1**	**+0.2**
EAGO				⇑*i*Vmb_V		12 35 28.5	
	comp=N,330nm,SNR=2.4						
EAGO				S	**Sn**	**12 36 46.0**	**-5.9**
EPLA	**Plasencia**	**7.51**	**68**	P	**Pn**	**12 35 29.4**	**+2.2**
EPLA				⇑*i*Vmb_V		12 35 34.3	
	comp=N,123nm,SNR=1.2						
EPLA				S	**Sn**	**12 36 49.9**	**-2.4**
PBRG	**Braganca**	**7.73**	**55**	*e*Sn	**Sn**	**12 36 56.1**	**-1.6**
PBRG				A	A	12 37 01.2	
	comp=N,1.9nm,0.4s						
ECAB	**El Cabril**	**7.73**	**84**	P	**Pn**	**12 35 32.2**	**+2.0**
ECAB				⇑*i*Vmb_V		12 35 38.2	
	comp=N,120nm,SNR=1.5						
ECAB				S	**Sn**	**12 36 55.2**	**-2.7**
ECAL	**Calabor**	**7.80**	**54**	P	**Pn**	**12 35 32.8**	**+1.6**
ECAL				⇑*i*Vmb_V		12 35 40.0	
	comp=N,149nm,SNR=1.1						
ECAL				S	**Sn**	**12 36 56.4**	**-3.2**
EPON	**Pontenova**	**8.36**	**44**	P	**Pn**	**12 35 38.5**	**-0.2**
EPON				⇑*i*Vmb_V		12 35 44.0	
	comp=N,277nm,SNR=1.3						
EPON				S	**Sn**	**12 37 07.8**	**-5.4**
EADA	**Adamuz**	**8.40**	**83**	P	**Pn**	**12 35 41.6**	**+2.2**
EADA				⇑*i*Vmb_V		12 35 45.9	
	comp=N,99nm,SNR=1.2						
EADA				S	**Sn**	**12 37 11.4**	**-2.8**
PAB	**San Pablo**	**8.70**	**74**	S	**Sn**	**12 37 18.0**	**-3.6**
ESDC	**Sonseca Array**	**9.01**	**73**	⇑*i*Vmb_V		12 35 49.0	
	comp=N,103nm,SNR=1.2						
ESDC				P	**Pn**	**12 35 49.9**	**+2.2**
EARI	**Arriondas**	**9.48**	**50**	P	**Pn**	**12 35 56.3**	**+2.2**
EARI				⇑*i*Vmb_V		12 35 57.6	
	comp=N,448nm,SNR=1.1						
MD31	**MD31**	**9.75**	**116**	P	**Pn**	**12 35 57.2**	**-0.7**
MD31				S	**Sn**	**12 37 42.5**	**-5.0**
MDT	**Midelt**	**9.88**	**116**	P	**Pn**	**12 36 00.9**	**+1.1**
MDT				S	**Sn**	**12 37 46.7**	**-4.2**

IDC 15 12:34:16.7±1.7,2°.00N×128°.54E,h0km,mb3.7/3, mbtmp3.6/4,ML3.1/1,MS2.4/1,Error ellipse: s-maj=84.7km s-min=23.8km az=58.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.94**	**136**	Pn	Pn	**12 35 18.7**	**+0.2**
	1.2nm,0.3s,baz=311,slow=16,SNR=4.7						
SIJI				Sn	Sn	12 36 04.7	-0.8
	1.5nm,0.3s,baz=199,slow=23,SNR=2.1						
SIJI				LR	LR	12 36 38.5	
	comp=Z,47nm,18.0s,baz=103,slow=36						
	3.1nm,0.4s						
ASAR	**Alice Springs**	**26.04**	**169**	P	P	12 39 52.2	+0.4
	0.7nm,0.9s,baz=353,slow=7.9,SNR=11						
	0.7nm,0.9s						
STKA	**Stephens Creek**	**35.90**	**161**	P	P	12 41 18.3	-0.3
	0.8nm,0.4s,baz=328,slow=9.5,SNR=3.2						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**60.00**	**325**	P	P	12 44 25.0	-0.2
	0.5nm,0.5s,baz=130,slow=6.5,SNR=4.6						
	0.5nm,0.5s						

*IDC **15** 13:00:19.7±1.9,55°.16N×158°.71E,h168km±21km,mb3.1/7, mbtmp3.7/10,Error ellipse: s-maj=29.2km s-min=14.5km az=156.0*

*KRSC **15** 13:00:19.1±1.7,54°.62N×159°.50E,h206km±15km,Ml4.0*

ISC 15 13:00:21.1±0.7,54°.65N±0°.04×159°.33E±0°.06,h200km±6km, n42,σ1s73/67,mb3.4/7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.79**	**36**	*e*P	**Pn**	**13 00 50.1**	**+0.4**
TUMR				*e*S	**Sn**	**13 01 12.3**	**+0.4**
TUMD	**Tumrok D**	**0.83**	**47**	*e*P	**Pn**	**13 00 49.8**	**0.0**
KMNR	**Kamenistaya**	**1.23**	**25**	*e*P	**Pn**	**13 00 52.6**	**+0.1**
KMNR				*e*S	**Sn**	**13 01 16.9**	**-0.2**
GNL	**Ganaly**	**1.25**	**221**	*e*P	**Pn**	**13 00 52.7**	**-0.1**
GNL				*e*S	**Sn**	**13 01 16.3**	**-1.1**
ESO	**Esso**	**1.33**	**345**	*e*P	**Pn**	**13 00 53.5**	**+0.3**
ESO				*e*S	**Sn**	**13 01 17.7**	**-0.7**
KRX	**Arik**	**1.35**	**198**	*e*P	**Pn**	**13 00 54.0**	**+0.4**
KOK	**Koryaka**	**1.42**	**197**	*e*P	**Pn**	**13 00 54.7**	**+0.6**
KOK				*e*S	**Sn**	**13 01 21.3**	**+1.5**
KPT	**Kopyto**	**1.42**	**21**	*e*P	**Pn**	**13 00 54.0**	**-0.1**
SMAR	**Somma**	**1.42**	**193**	*e*P	**Pn**	**13 00 54.7**	**+0.4**
SMAR				*e*S	**Sn**	**13 01 20.6**	**+0.6**
AVH	**Avacha**	**1.43**	**194**	*e*P	**Pn**	**13 00 54.2**	**0.0**
AVH				*e*S	**Sn**	**13 01 20.9**	**+1.0**
KIRR	**Kirishev**	**1.43**	**23**	*e*P	**Pn**	**13 00 54.1**	**-0.2**
KIRR				*e*S	**Sn**	**13 01 20.1**	**0.0**
BZP	**Bezymyannyi-Pe**	**1.45**	**28**	*e*P	**Pn**	**13 00 54.4**	**0.0**
KOZ	**Kozyrevsk**	**1.45**	**12**	*e*P	**Pn**	**13 00 53.9**	**-0.3**
KOZ				*e*S	**Sn**	**13 01 17.7**	**-2.5**
BZMR	**Bezymyannaya**	**1.45**	**27**	*e*P	**Pn**	**13 00 54.4**	**0.0**
BZMR				*e*S	**Sn**	**13 01 20.6**	**+0.1**
UGLR	**Uglovaya**	**1.47**	**192**	*e*P	**Pn**	**13 00 54.9**	**+0.2**
UGLR				*e*S	**Sn**	**13 01 21.1**	**+0.5**
NLC	**Nalytchevo**	**1.48**	**180**	*e*P	**Pn**	**13 00 55.2**	**+0.6**
NLC				*e*S	**Sn**	**13 01 20.8**	**+0.3**
SPN	**Mys Shipunski**	**1.60**	**165**	*e*P	**Pn**	**13 00 54.6**	**-1.1**
SPN				*e*S	**Sn**	**13 01 19.6**	**-2.9**
INSR	**Institute**	**1.64**	**195**	*e*S	**Sn**	**13 01 23.5**	**+0.4**
DALK	**Dalny**	**1.65**	**192**	*e*P	**Pn**	**13 00 56.0**	**-0.1**
DALK				*e*S	**Sn**	**13 01 22.5**	**-0.8**
PET	**Petropavlovsk**	**1.67**	**194**	*e*P	**Pn**	**13 00 56.4**	**0.0**
PET				*e*S	**Sn**	**13 01 23.1**	**-0.5**
CIRR	**Tsirk**	**1.68**	**28**	*e*P	**Pn**	**13 00 57.1**	**+0.6**
SRDR	**Sredinnyy**	**1.69**	**7**	*e*P	**Pn**	**13 00 56.2**	**-0.3**
SRDR				*e*S	**Sn**	**13 01 23.6**	**-0.6**
PETK	**Petropavlovsk-**	**1.82**	**213**	P	**Pn**	**13 00 57.3**	**-0.4**
	3.3nm,0.3s,baz=61,slow=12,SNR=78						
PETK				S	**Sn**	**13 01 20.2**	**-5.9**
	5.9nm,0.3s,baz=77,slow=17,SNR=3.5						
KLY	**Klyuchi**	**1.83**	**24**	*e*P	**Pn**	**13 00 58.2**	**+0.4**
KLY				*e*S	**Sn**	**13 01 28.0**	**+1.5**
KRMR	**Karymshinskiy**	**1.95**	**202**	*e*P	**Pn**	**13 00 59.3**	**+0.2**
KRMR				*e*S	**Sn**	**13 01 29.3**	**+0.7**
APC	**Apacha**	**2.15**	**218**	*e*P	**Pn**	**13 01 01.6**	**+0.4**
GRL	**Gorelyy**	**2.23**	**200**	*e*P	**Pn**	**13 01 02.6**	**+0.5**
GRL				*e*S	**Sn**	**13 01 34.7**	**+0.7**
SMKR	**Semkarok**	**2.29**	**31**	*e*P	**Pn**	**13 01 02.8**	**+0.2**
SMKR				*e*S	**Sn**	**13 01 35.8**	**+0.7**
KBG	**Krutoberegovo**	**2.51**	**49**	*e*P	**Pn**	**13 01 04.5**	**-0.5**
KBG				*e*S	**Sn**	**13 01 35.5**	**-3.7**
KBTR	**Krutoberegovo**	**2.53**	**50**	*e*P	**Pn**	**13 01 04.5**	**-0.7**
KBTR				*e*S	**Sn**	**13 01 36.1**	**-3.6**
KDTR	**Khodutka, Kamc**	**2.94**	**195**	*e*P	**Pn**	**13 01 08.4**	**-1.5**
KDTR			

IUG Lg Lg 13 19 47.0
582nm,0.6s
IUG **luzhnay** **3.14 350** *e*Pg **Pb** **13 19 05.5 -1.0**
145nm,0.2s
IUG *e*Lg Lg 13 19 47.0
582nm,0.1s
CHM **Chimkent** **3.38 346** *e*Pg **Pb** **13 19 09.7 -0.9**
126nm,0.1s
CHM *e*Lg Lg 13 19 54.1
857nm,0.3s
AML **Almayashu** **3.82 35** P **Pn** **13 19 14.0 +4.0**
SNR=89
AML **Almayashu** **3.82 35** ⇓*i*P **Pn** **13 19 10.7 +0.6**
baz=35
AML ⇓*i*S **Sn** **13 19 55.6 -0.1**
baz=35
DZA **Taraz** **3.87 7** *e*Pg **Pb** **13 19 15.8 -3.0**
149nm,0.1s
DZA *e*Lg Lg 13 20 04.5
422nm,0.4s
ARLS **Aral** **3.92 43** ⇑*e*P **Pn** **13 19 11.8 +0.5**
baz=43
ARLS ⇑*e*S **Sn** **13 19 58.1 +0.1**
baz=43
KK31 **Karatay Array** **4.05 358** Pn **Pn** **13 19 16.0 +3.0**
KK31 **Karatay Array** **4.05 358** ⇓Pn **Pn** **13 19 16.5 +3.5**
12nm,0.3s,baz=187,slow=13,SNR=41
KK31 ⇓Pg **Pg** **13 19 27.7 +0.1**
12nm,0.3s,baz=179,slow=14,SNR=4.7
KK31 ⇓Lg Lg 13 20 18.6
74nm,0.5s
KK31 **Karatay Array** **4.05 358** PN **Pn** **13 19 16.0 +3.0**
KKAR **Karatay Array** **4.05 358** Pn **Pn** **13 19 16.0 +3.0**
KKAR **Karatay Array** **4.05 358** **Pn** **13 19 16.0 +3.0**
KKAR **Karatay Array** **4.05 358** ⇓*i*P **Pn** **13 19 14.5 +1.5**
baz=57
KKAR ⇓*e*S **Sn** **13 20 02.0 +1.0**
baz=57
KKAR **Karatay Array** **4.05 358** PN **Pn** **13 19 16.0 +3.0**
KSH **Kashi** **4.09 82** Pn **Pn** **13 19 13.6 0.0**
KSH Sn **Sn** **13 20 07.3 +5.1**
comp=N,340nm,0.9s
KSH smax smax
comp=E,290nm,1.0s
MRKS **Merke** **4.15 26** Pg **Pn** **13 19 18.2 +3.8**
63nm,0.5s
MRKS Lg Lg 13 20 09.0
64nm,0.7s
MRKS **Merke** **4.15 26** *e*Pg **Pb** **13 19 20.5 -3.2**
63nm,0.5s
MRKS *e*Lg Lg 13 20 11.8
84nm,0.3s
EKS2 **Erkin-Say** **4.29 32** P **Pn** **13 19 20.5 +4.3**
SNR=111
EKS2 **Erkin-Say** **4.29 32** ⇑*e*P **Pn** **13 19 17.2 +0.9**
baz=31
EKS2 ⇑*i*S **Sn** **13 20 07.0 +0.1**
baz=31
UCH **Uchtor** **4.29 41** P **Pn** **13 19 20.8 +4.2**
SNR=94
UCH **Uchtor** **4.29 41** ⇑*i*P **Pn** **13 19 17.1 +0.5**
baz=41
UCH ⇑*i*S **Sn** **13 20 06.9 -0.4**
baz=41
AAK **Ala-Archa** **4.58 37** P **Pn** **13 19 24.7 +4.3**
SNR=85
AAK **Ala-Archa** **4.58 37** Pn **Pn** **13 19 24.9 +4.5**
47nm,0.3s,baz=193,slow=5.8,SNR=232
AAK Sn **Sb** **13 20 23.1 -3.7**
1.6nm,0.3s,baz=272,slow=16,SNR=1.3
AAK LR LR 13 21 30.3
comp=Z,94nm,20.6s,baz=244,slow=42
AAK **Ala-Archa** **4.58 37** Pn **Pn** **13 19 23.6 +3.3**
AAK **Ala-Archa** **4.58 37** *i*PN **Pn** **13 19 24.5 +4.1**
KBK **Karagaybulak** **4.82 40** P **Pn** **13 19 28.4 +4.7**
SNR=83
CHMS **Chumysh** **4.98 36** P **Pn** **13 19 30.4 +4.7**
SNR=77
CHMS **Chumysh** **4.98 36** ⇓Pn **Pn** **13 19 29.7 +4.0**
48nm,0.5s
CHMS ⇓Lg Lg 13 20 32.1
40nm,0.8s
USP **Ospenovka** **5.08 33** P **Pn** **13 19 31.2 +4.0**
SNR=183
ULHL **Ulahol** **5.27 51** P **Pn** **13 19 33.1 +3.2**
SNR=11
SGDS **Sogindy** **5.29 32** Pg Pn 13 19 36.3 +6.3
31nm,0.2s
SGDS Lg Lg 13 20 39.8
31nm,0.1s
CEP **Cherat** **5.30 169** P Pn 13 19 35.7 +5.5
CEP S **Sb** **13 20 44.0 -3.5**
TKM2 **Tokmak 2** **5.34 42** P **Pn** **13 19 34.7 +3.9**
SNR=96
TKM2 **Tokmak 2** **5.34 42** ⇑Pn **Pn** **13 19 34.6 +3.8**
24nm,0.3s
TKM2 ⇑Sn **Sn** **13 20 37.5 +4.5**
28nm,0.7s
TKM2 ⇑Lg Lg 13 21 09.5
24nm,0.6s
KST **Kastek** **5.62 43** Pg Pb 13 19 42.8 -5.9
9.7nm,0.6s
KST Lg Lg 13 20 50.8
31nm,1.0s
KST **Kastek** **5.62 43** *e*Pg **Pb** **13 19 51.6 +2.8**
11nm,0.3s
KST *e*Lg Lg 13 21 06.2
45nm,0.9s
CHCP **Chirah Chowk** **5.75 158** P **Pn** **13 19 40.7 +4.3**
MTBS **Maitube** **5.93 45** *e*Pg **Pg** **13 20 00.1 -3.5**
14nm,0.5s
MTBS *e*Lg Lg 13 21 21.1
18nm,0.6s
KRBS **Karabastau** **5.95 37** Pg **Pb** **13 19 50.7 -3.7**
10.0nm,0.5s
KRBS Lg Lg 13 21 05.2
14nm,0.7s
KRBS **Karabastau** **5.95 37** *e*Pg **Pb** **13 19 55.0 +0.7**
13nm,0.6s
KRBS *e*Lg Lg 13 21 12.2
9.8nm,1.0s
TNSS **Tian-Shan** **6.16 48** Pg Pb 13 19 53.4 -4.7
4.1nm,0.5s
TNSS Lg Lg 13 21 09.1
6.0nm,0.8s
TNSS **Tian-Shan** **6.16 48** *e*Pg Pb 13 20 03.9 +5.8
11nm,0.4s
TNSS *e*Lg Lg 13 21 28.3
8.0nm,0.9s
THW **Thamme Wali** **6.29 172** P **Pn** **13 19 47.1 +3.3**
MDOK **Medeo** **6.30 47** Pg Pb 13 19 56.3 -4.0
8.3nm,0.8s
MDOK **Medeo** **6.30 47** *e*Pg **Pg** **13 20 07.7 -2.9**
9.7nm,0.6s
MDOK *e*Lg Lg 13 21 33.5
22nm,1.1s
KUU **Kurty** **6.42 39** Pg Pb 13 19 57.1 -5.2
4.2nm,0.6s
KUU Lg Lg 13 21 15.6
29nm,0.6s
KUU **Kurty** **6.42 39** *e*Pg **Pb** **13 20 05.3 +3.1**
5.3nm,0.8s
KUU *e*Lg Lg 13 21 29.0
29nm,0.9s
KTBS **Karatobe** **6.46 42** Pg Pb 13 19 58.7 -4.3
3.1nm,0.6s
KTBS Lg Lg 13 21 18.7
10nm,0.5s
BTLS **Baital** **6.48 21** Pg **Pb** **13 19 59.7 -3.6**
3.9nm,0.4s
BTLS Lg Lg 13 21 19.5
7.0nm,0.6s
BTLS **Baital** **6.48 21** *e*Pg **Pb** **13 20 07.8 +4.6**
5.4nm,0.4s
BTLS *e*Lg Lg 13 21 34.4
13nm,0.5s
CHKK **Chushkaly** **6.72 42** Pg Pb 13 20 01.5 -5.9
3.2nm,0.4s
CHKK Lg Lg 13 21 22.7
8.1nm,0.5s
UZB **Uzynbulak** **7.48 54** Pg **Pb** **13 20 17.4 -3.0**
3.6nm,0.3s
THN **Thein Dam** **7.75 147** *e*P **Pn** **13 20 06.5 +2.9**
THN *e*S **Sn** **13 21 30.3 -1.6**
THN IAML 13 21 38.7
comp=E,36nm,0.4s
THN IAML 13 21 42.6
comp=N,25nm,0.4s
THN IAML 13 21 45.9
comp=N,21nm,0.9s
THN IAML 13 21 57.0
comp=N,16nm,0.9s
SMLA **Simla** **9.50 144** *e*P **Pn** **13 20 29.2 +1.6**
SMLA *e*S **Sn** **13 22 11.2 -3.8**
SMLA IAML 13 22 17.9
comp=N,33nm,0.5s
SMLA IAML 13 22 18.4
comp=E,40nm,0.4s
GEYT **Alibeck** **9.95 268** Pn **Pn** **13 20 32.8 -1.1**
comp=E,0.3nm,0.3s,baz=98,slow=9.3,SNR=2.4
GEYT Sn **Sn** **13 22 22.2 -4.0**
comp=E,0.4nm,0.3s,baz=35,slow=29,SNR=1.2
comp=E,1.6nm,0.6s
GEYT **Alibeck** **9.95 268** Pn **Pn** **13 20 33.6 -0.3**
GEYT **Alibeck** **9.95 268** P **Pn** **13 20 33.7 -0.3**
MAKZ **Makanchi** **11.31 43** Pn **Pn** **13 20 53.9 +1.4**
MAKZ **Makanchi** **11.31 43** P **Pn** **13 20 53.9 +1.4**
MK31 **Makanchi Array** **11.47 44** *i*P **Pn** **13 20 57.2 +2.5**
MKAR **Makanchi Array** **11.47 44** Pn **Pn** **13 20 57.2 +2.6**
comp=E,0.3nm,0.3s,baz=228,slow=13,SNR=45
comp=E,3.5nm,0.7s
MKAR **Makanchi Array** **11.47 44** Pn **Pn** **13 20 55.7 +1.0**
KUDL **Kundal** **11.88 155** *e*P **Pn** **13 21 03.5 +3.1**
KUDL *e*S Sn 13 23 06.1 -7.4
ABKAR **Akbulak array** **12.79 326** Pn **Pn** **13 21 12.1 -0.7**
KURBB **Kurchatov Arra** **12.82 23** Pn **Pn** **13 21 12.5 -0.5**
comp=E,0.1nm,0.3s,baz=216,slow=13,SNR=20
comp=E,1.4nm,0.7s
KURK **Kurchatov** **12.93 23** P **Pn** **13 21 12.5 -2.0**
WMQ **Urumqi** **13.59 64** *e*P **Pn** **13 21 27.3 +3.6**
BVAR **Borovoye Array** **13.98 359** Pn **Pn** **13 21 29.2 +0.3**
comp=E,0.1nm,0.3s,baz=155,slow=15,SNR=11
BVAR Sn **Sn** **13 24 06.5 +2.0**
baz=167,slow=20,SNR=6.3
comp=E,1.7nm,0.5s
BRVK **Borovoye** **14.02 359** Pn **Pn** **13 21 29.6 +0.3**
BRVK **Borovoye** **14.02 359** *i*P **Pn** **13 21 31.1 +1.7**
AKTO **Aktyubinsk** **14.51 326** Pn **Pn** **13 21 36.5 +0.4**
comp=E,0.8nm,0.3s,baz=119,slow=13,SNR=7.8
AKTO Sn **Sn** **13 24 15.1 -2.3**
comp=E,0.7nm,0.3s,baz=158,slow=15,SNR=6.7
comp=E,2.5nm,0.3s
DGZ **Jazzator, Alta** **15.96 43** *i*P **Pn** **13 21 55.7 +0.1**
ZAA0 **Zalesovo Array** **17.73 28** Pn **Pn** **13 22 17.6 -0.1**
ZALV **Zalesovo Beam** **17.73 28** P **Pn** **13 22 17.7 0.0**
comp=E,0.4nm,0.3s,baz=228,slow=11,SNR=19
comp=E,4.3nm,0.5s
ZALV **Zalesovo Beam** **17.73 28** **Pn** **13 22 17.5 -0.2**
ARU **Arti** **19.17 339** P **Pn** **13 22 36.2 +0.9**
baz=163,slow=11,SNR=4.9
comp=E,2.3nm,0.4s
ARU **Arti** **19.17 339** P **Pn** **13 22 35.8 +0.5**
ARU **Arti** **19.17 339** *d*iP **Pn** **13 22 36.1 +0.9**
ARU pmax pmax
comp=E,4.0nm,1.0s
BELG **Belogornoye** **20.82 317** P Pn 13 22 53.0 -1.8
comp=Z,7.2nm,0.6s,baz=132,slow=14,SNR=2.3
comp=Z,7.2nm,0.6s
BELG **Belogornoye** **20.82 317** *i*P **P** **13 22 52.5 +0.1**
BELG pmax pmax
comp=Z,2.0nm,0.9s
KBZ **Khabaz** **21.35 292** *i*P **P** **13 22 58.0 -0.3**
KBZ pmax pmax
comp=Z,13nm,3.3s
KIV **Kislovodsk** **21.52 292** *e*P **P** **13 22 58.5 -1.7**
KIV pmax pmax
comp=Z,5.0nm,1.1s
GTA **Gaotai** **22.50 80** *e*P **P** **13 23 13.1 +2.3**
GTA pP sP 13 23 16.1 +3.3
GTA sP pP 13 23 19.1 +6.9
GTA pmax pmax
comp=Z,3.0nm,1.0s
ZAK **Zakamensk** **25.55 53** *e*P **P** **13 23 40.5 +0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
SONM **Songino Array** **27.14 59** P **P** **13 23 55.1 +0.6**
comp=Z,0.6nm,0.6s,baz=16,slow=42,SNR=3.6
comp=Z,0.6nm,0.6s
TNCH **TengChong** **27.26 113** P **P** **13 23 56.1 +0.3**
TNCH sP sP 13 23 59.8 +1.9
TNCH S **S** **13 28 33.0 -3.0**
TNCH pmax pmax
comp=Z,34nm,0.5s
TNCH pmax pmax
comp=Z,100nm,3.3s
TNCH LR LR
comp=Z,160nm,8.3s
TNCH LR LR
comp=Z,96nm,5.0s
PZH **PanZhiHua** **28.78 106** P **P** **13 24 09.8 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.0s
HHC **Hu-ho-hao-te** **31.16 73** *e*P **P** **13 24 30.3 +0.1**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,290nm,5.4s
PHRA **Phrae** **32.75 120** P **P** **13 24 44.3 +0.1**
APA **Apatity** **35.21 336** ⇓*i*P **P** **13 25 01.6 -3.5**
APA pmax pmax
comp=Z,5.0nm,0.8s
APA MLR MLR
comp=Z,700nm,14.0s
FIA1 **FINESS Array S** **35.27 324** P **P** **13 25 06.2 +0.5**
FIA1 IAmb IAmb 13 25 12.6
comp=Z,9.8nm,1.2s
FINES **FINESS Array B** **35.27 324** P **P** **13 25 06.1 +0.4**
comp=Z,0.9nm,0.4s,baz=118,slow=8.9,SNR=12
comp=Z,0.9nm,0.4s
FINES **FINESS Array B** **35.27 324** P **P** **13 25 06.4 +0.7**
FINES **FINESS Array B** **35.27 324** *i*P **P** **13 25 06.3 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.4s
VYHS **Vyhne** **37.99 302** *e*P **P** **13 25 30.5 +1.4**
VYHS **Vyhne** **37.99 302** *e*P **P** **13 25 30.5 +1.4**
ARCES **ARCESS Array B** **38.72 336** P **P** **13 25 35.6 +0.7**
comp=Z,2.7nm,0.8s,baz=106,slow=4.0,SNR=7.9
comp=Z,2.7nm,0.8s
ARCES **ARCESS Array B** **38.72 336** P **P** **13 25 35.4 +0.5**
ARCES IAmb IAmb 13 25 37.6
comp=Z,29nm,1.5s
NJ2 **Nanjing** **39.40 85** *e*P **P** **13 25 41.4 +0.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
CN2 **Changchun** **40.67 65** *e*P **P** **13 25 52.3 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HEH **HeiHe** **40.92 55** *e*P **P** **13 25 53.6 +0.2**
HEH pmax pmax
comp=Z,7.0nm,0.7s
HEH pmax pmax
comp=Z,310nm,4.1s
CLL **Collm** **41.46 307** *e*P **P** **13 25 57.0 -0.9**
CLL *e*pP **sP** **13 26 00.0 0.0**
CLL **Collm** **41.46 307** *e*P **P** **13 25 57.0 -0.9**
CLL *e**PP **sP** **13 26 00.0 0.0**
NC405 **NORSAR Array S** **42.00 322** P **P** **13 26 01.5 -0.7**
NC405 IAmb IAmb 13 26 37.6
comp=Z,16nm,1.4s
YAK **Yakutsk** **42.04 37** *i*P **P** **13 26 02.2 -0.3**
YAK pmax pmax
comp=Z,4.0nm,0.6s
NC602 **NORSAR Array S** **42.06 321** P **P** **13 26 02.1 -0.6**
NC602 IAmb IAmb 13 26 10.5
comp=Z,22nm,1.4s
NC303 **NORSAR Array S** **42.17 322** P **P** **13 26 04.0 +0.3**
NC303 IAmb IAmb 13 26 35.6
comp=Z,11nm,1.1s
NB201 **NORSAR Array S** **42.20 321** P **P** **13 26 04.0 +0.1**
NB201 IAmb IAmb 13 26 16.3
comp=Z,22nm,1.4s
NB2 **NORSAR Subarra** **42.24 321** P **P** **13 26 03.9 -0.3**
comp=Z,0.5nm,0.5s,baz=90,slow=7.9
NOA **NORSAR Array B** **42.24 321** P **P** **13 26 03.8 -0.4**
comp=Z,0.5nm,0.5s,baz=102,slow=7.8,SNR=5.1
comp=Z,0.5nm,0.5s
NC204 **NORSAR Array S** **42.47 322** P **P** **13 26 06.0 -0.1**
NC204 IAmb IAmb 13 26 12.2
comp=Z,23nm,1.4s
TIXI **Tiksi** **43.50 23** P **P** **13 26 14.2 0.0**
TIXI **Tiksi** **43.50 23** *i*P **P** **13 26 14.1 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
SPB2 **Spitsbergen Ar** **44.96 346** P **P** **13 26 27.0 +1.1**
SPITS **Spitsbergen Ar** **44.97 346** P **P** **13 26 27.0 +1.1**
SPITS pmax pmax
comp=Z,46nm,1.4s
DAG **Danmarks Havn** **52.23 343** *i*P **P** **13 27 21.0 -0.8**
ESDC **Sonseca Array** **56.11 296** P **P** **13 27 50.4 -0.3**
A36M **Sachs Harbour** **68.69 5** P **P** **13 29 15.0 +0.7**
A36M IAmb IAmb 13 29 20.9
comp=Z,2.4nm,0.8s
IMAR **Indian Mountai** **69.81 18** P **P** **13 29 20.7 -0.6**
BMAR **Burnt Mountain** **70.52 14** P **P** **13 29 26.4 +0.6**
H24K **Noodor Dome** **71.26 16** P **P** **13 29 31.8 +1.5**
C36M **Paulatuk** **71.37 5** P **P** **13 29 30.5 -0.3**
C36M IAmb IAmb 13 29 31.3
comp=Z,2.7nm,0.6s
INK **Inuvik** **71.43 9** P **P** **13 29 31.5 +0.4**
comp=Z,1.1nm,0.6s,baz=345,slow=6.6,SNR=14
comp=Z,1.1nm,0.6s
INK **Inuvik** **71.43 9** P **P** **13 29 31.3 +0.1**
INK IAmb IAmb 13 29 35.1
comp=Z,7.6nm,1.4s
K20K **Telida** **71.88 20** P **P** **13 29 34.4 +0.4**
K20K IAmb IAmb 13 30 04.6
comp=Z,5.6nm,1.3s
CAST **Castle Rocks** **72.34 19** P **P** **13 29 37.5 +0.7**
CAST IAmb IAmb 13 30 09.3
comp=Z,6.4nm,1.4s
ILAR **Eielson Array** **72.39 16** P **P** **13 29 36.5 -0.5**
comp=Z,0.4nm,0.8s,baz=340,slow=6.5,SNR=4.3
comp=Z,0.4nm,0.8s
PPLA **Purkeypile** **72.75 19** P **P** **13 29 39.1 -0.3**
SKT **Skwentna** **73.69 19** P **P** **13 29 44.0 -0.7**
SKT IAmb IAmb 13 30 06.3
comp=Z,7.7nm,1.3s
SML **Sawmill** **74.63 18** P **P** **13 29 50.2 -0.2**
P18K **Big Mountain,** **74.81 22** P **P** **13 29 51.6 +0.2**
P18K IAmb IAmb 13 30 15.7
comp=Z,11nm,1.4s
RC01 **Rabbit Creek A** **74.90 19** P **P** **13 29 51.2 -0.6**
BCAR **Beaver Creek A** **74.95 15** P **P** **13 29 52.7 +0.5**
YKA **Yellowknife Ar** **78.71 3** P **P** **13 30 13.4 +0.1**
comp=Z,0.5nm,0.7s,baz=348,slow=5.9,SNR=14
comp=Z,0.5nm,0.7s
YKA **Yellowknife Ar** **78.71 3** P **P** **13 30 13.1 -0.2**
YKA **Yellowknife Ar** **78.71 3** *i*P **P** **13 30 13.3 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
COEN **Coen** **85.55 112** P **P** **13 30 51.2 +1.3**
AS31 **Alice Springs** **85.89 125** P **P** **13 30 50.0 -1.4**
ASAR **Alice Springs** **85.89 125** P **P** **13 30 49.8 -1.6**
comp=Z,0.5nm,0.8s,baz=312,slow=5.4,SNR=6.4
comp=Z,0.5nm,0.8s
ASAR **Alice Springs** **85.89 125** P **P** **13 30 49.5 -1.8**
ASAR **Alice Springs** **85.89 125** P **P** **13 30 49.6 -1.8**

*JMA **15** 13:39:39.5±0.3,38°N±2°×13°6E±°,h379km,MV3.3/20,*
SEA OF JAPAN
*IDC **15** 13:39:40.1±1.1,38°.19N×135°.31E,h363km±12km,mb2.7/6,*
mbtmp3.5/11,Error ellipse: s-maj=17.9km s-min=14.0km
az=76.0
ISC 15 13:39:39.4±0.8,**38°.30N**±0°.07×**135°.44E**±0°.07,**h350**km,**n23,**
σ1s73/28,mb3.0/6,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKG	**Kaga**	**2.14**	**160**	*e*P		**Pn**	**13 40 33.7**	**+1.9**
JSD	**Sado**	**2.24**	**96**	*e*P		**Pn**	**13 40 34.8**	**+2.4**
MAT	**Matsushiro**	**2.81**	**128**	P		**Pn**	**13 40 38.9**	**+1.7**
MJAR	**Matsushiro Arr**	**2.82**	**128**	P		**Pn**	**13 40 39.1**	**+1.9**
	10nm,0.8s,baz=315,slow=3.8,SNR=27							
JYTA	**Yamagatataniai**	**2.89**	**159**	*e*P		**Pn**	**13 40 39.4**	**+1.5**
JWT	**Wachi**	**3.01**	**181**	P		**Pn**	**13 40 40.4**	**+1.4**
JRY	**Ryogami san**	**3.58**	**128**	P		**Pn**	**13 40 45.5**	**+1.1**
JRY				*e*S		**S**	**13 41 37.4**	**+0.8**
JHS	**Saijyo**	**3.79**	**210**	*e*P		**Pn**	**13 40 47.7**	**+1.3**
JYK	**Kaneyama**	**3.90**	**79**	*e*P		**Pn**	**13 40 49.5**	**+2.1**
JIE	**Ise**	**4.03**	**165**	P		**Pn**	**13 40 50.2**	**+1.4**
JOD2	**Odawara 2**	**4.21**	**135**	P		**Pn**	**13 40 51.9**	**+1.2**
JOD2				*e*S		**S**	**13 41 49.0**	**+0.8**
JMK	**Ichinoseki**	**4.57**	**80**	*e*P		**Pn**	**13 40 56.4**	**+2.0**
JMK				*e*S		**S**	**13 41 56.6**	**+1.7**
BSO1	**Boso 1**	**5.76**	**128**	*e*P		**Pn**	**13 41 06.4**	**-0.5**
BSO1				*e*S		**S**	**13 42 15.8**	**-2.1**
KSRS	**Korea Array**	**6.01**	**264**	P		**Pn**	**13 41 11.7**	**+1.4**
	2.6nm,0.8s,baz=86,slow=11,SNR=6.5							
USRK	**Ussuriysk Ar.**	**6.44**	**337**	P		**Pn**	**13 41 17.8**	**+2.6**
	2.4nm,0.4s,baz=146,slow=9.9,SNR=8.0							
ASAJ	**Asahikawa**	**7.93**	**41**	P		**Pn**	**13 41 33.9**	**+1.3**
	5.8nm,0.7s,baz=221,slow=14,SNR=9.6							
ASAJ				S		**S**	**13 43 01.4**	**-3.5**
	14nm,0.9s,baz=112,slow=24,SNR=2.5							
KLR	**Kurgan**	**11.25**	**348**	P		**Pn**	**13 42 12.6**	**+0.6**
	3.9nm,0.4s,baz=176,slow=8.2,SNR=13							
SONM	**Songino Array**	**23.14**	**304**	P		**P**	**13 44 15.1**	**-0.9**
	0.4nm,0.5s,baz=121,slow=9.3,SNR=3.7							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**39.41**	**300**	P		**P**	**13 46 35.1**	**-1.3**
	0.3nm,0.5s,baz=84,slow=11,SNR=9.9							
	0.3nm,0.5s							
ILAR	**Eielson Array**	**50.98**	**33**	P		**P**	**13 48 07.0**	**+0.8**
	0.3nm,0.7s,baz=262,slow=6.8,SNR=6.4							
	0.3nm,0.7s							
WRA	**Warramunga Arr**	**57.94**	**181**	P		**P**	**13 48 54.8**	**-1.4**
	0.5nm,0.5s,baz=355,slow=7.6,SNR=15							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**61.65**	**182**	P		**P**	**13 49 19.9**	**-1.4**
	0.3nm,0.8s,baz=347,slow=5.1,SNR=5.3							
	0.3nm,0.8s							
PDAR	**Pinedale Array**	**80.06**	**43**	P		**P**	**13 51 11.7**	**+0.5**
	0.2nm,0.6s,baz=347,slow=4.6,SNR=3.5							
	0.2nm,0.6s							

*IDC **15** 13:43:11.6±1.5,13°.13N×50°.97E,h0km,mb3.6/6,*
mbtmp3.7/7,ML4.2/1,MS3.2/6,Error ellipse: s-maj=38.3km
s-min=33.8km az=131.0
ISC 15 13:43:13.9±1.1,**13°.1N**±0°.2×**50°.9E**±0°.1,**h16**km,**n11,**
σ0s72/7,mb3.6/6,MS3.0/4,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.05**	**259**	Pn		**Pn**	**13 45 10.2**	**-0.1**
	3.5nm,0.3s,baz=200,slow=16,SNR=3.1							
ATD				LR		LR	13 47 33.0	
	comp=Z,90nm,21.0s,baz=352,slow=32							
	8.6nm,0.3s							
WSAR	**Wadi Sarin**	**12.43**	**35**	LR		LR	13 50 43.3	
	comp=Z,101nm,18.3s,baz=236,slow=36							
GEYT	**Alibeck**	**25.51**	**13**	P		**P**	**13 48 42.8**	**+1.1**
	2.2nm,0.7s,baz=205,slow=13,SNR=3.8							
GEYT				LR		LR	14 00 30.1	
	comp=Z,54nm,20.0s,baz=162,slow=41							
	2.2nm,0.7s							
GNI	**Garni**	**27.46**	**350**	LR		LR	14 02 26.8	
	comp=Z,34nm,18.4s,baz=162,slow=42							
BRTR	**Keskin Array B**	**30.56**	**333**	LR		LR	14 02 04.2	
	comp=Z,32nm,20.8s,baz=32,slow=37							
MKAR	**Makanchi Array**	**42.65**	**32**	P		**P**	**13 51 09.0**	**-0.7**
	0.3nm,0.5s,baz=217,slow=7.7,SNR=7.6							
	0.3nm,0.5s							
KEST	**Kesra**	**43.60**	**308**	LR		LR	14 09 27.5	
	comp=Z,58nm,21.9s,baz=294,slow=36							
CMAR	**Chiang Mai Arr**	**46.41**	**77**	P		**P**	**13 51 40.0**	**-0.2**
	0.3nm,0.4s,baz=277,slow=7.2,SNR=4.8							
	0.3nm,0.4s							
SONM	**Songino Array**	**57.39**	**41**	P		**P**	**13 53 01.6**	**-0.2**
	0.4nm,0.8s,baz=224,slow=4.0,SNR=3.9							
	0.4nm,0.8s							
WRA	**Warramunga Arr**	**88.37**	**111**	P		**P**	**13 56 06.2**	**+0.5**
	0.2nm,0.5s,baz=296,slow=4.2,SNR=2.6							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**88.91**	**114**	P		**P**	**13 56 08.4**	**+0.2**
	0.3nm,0.9s,baz=290,slow=5.3,SNR=5.3							
	0.3nm,0.9s							

*IDC **15** 14:02:03.0±1.2,35°.68N×27°.06E,h0km,mb3.4/4,*
mbtmp3.4/8,ML3.3/4,Error ellipse: s-maj=27.5km
s-min=15.5km az=175.0
*ISK **15** 14:02:04.3,35°.84N×27°.08E,h5km,ML3.2/16*
*THE **15** 14:02:05.0,35°.87N×27°.08E,h4km±2km,ML3.2/6,Error*
ellipse: s-maj=2.6km s-min=0.7km az=122.0

*ATH **15** 14:02:05.6,35°.86N×27°.06E,h12km±4km,ML3.4/3,Error ellipse: s-maj=4.5km s-min=1.8km az=133.0*
*DDA **15** 14:02:08.8±0.0,36°.05N×27°.37E,h12km±3km,MW3.4*
ISC 15 14:02:04.4±1.1,**35°.83N**±0°.02×**27°.11E**±0°.02,**h6**km±9km,
n71,σ1§**47**/109,**mb3.5/4**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.28**	**171**	P	**Pb**	**14 02 11.4**	**-0.5**
KARP				S	**Sb**	**14 02 16.9**	**-0.1**
	13μm,0.2s						
KARP	**Karpathos**	**0.28**	**171**	Pg	**Pb**	**14 02 11.5**	**-0.5**
KARP				Sg	**Sb**	**14 02 16.9**	**-0.1**
KARP	**Karpathos**	**0.28**	**171**	P	**Pb**	**14 02 11.4**	**-0.5**
KARP				S	**Sb**	**14 02 16.9**	**-0.1**
KARP				AML	AML	14 02 17.1	
	comp=E,25791μm,0.1s						
KARP				AML	AML	14 02 17.6	
	comp=N,22096μm,0.1s						
NISR	**Nisiros**	**0.78**	**1**	P	**Pg**	**14 02 19.2**	**-0.2**
NISR				S	**Sb**	**14 02 31.4**	**+0.2**
	comp=N,2μm,0.6s						
NISR	**Nisiros**	**0.78**	**1**	P	**Pb**	**14 02 20.5**	**+0.1**
ARG	**Arkhangelos**	**0.91**	**65**	P	**Pb**	**14 02 22.5**	**-0.1**
ARG				S	**Sb**	**14 02 35.2**	**+0.2**
	comp=N,4μm,0.7s						
ARG	**Arkhangelos**	**0.91**	**65**	Pg	**Pn**	**14 02 23.3**	**-0.4**
ARG				Sg	**Sn**	**14 02 37.0**	**-0.2**
ARG	**Arkhangelos**	**0.91**	**65**	P	**Pb**	**14 02 22.5**	**-0.1**
ARG				S	**Sn**	**14 02 36.7**	**-0.5**
ARG				AML	AML	14 02 38.0	
	comp=N,7039μm,0.5s						
ARG				AML	AML	14 02 42.8	
	comp=E,7343μm,0.9s						
KOSK	**Kos Island**	**0.93**	**354**	P	**Pg**	**14 02 22.3**	**+0.1**
KOSK				S	**Sb**	**14 02 35.0**	**-0.4**
	comp=E,968nm,0.6s						
KOSK	**Kos Island**	**0.93**	**354**	Pg	**Pn**	**14 02 23.5**	**-0.4**
DAT	**Datca**	**0.97**	**23**	P	**Pb**	**14 02 23.7**	**-0.1**
DAT				S	**Sb**	**14 02 36.5**	**-0.4**
DAT	**Datca**	**0.97**	**23**	Pg	**Pb**	**14 02 23.7**	**-0.1**
ZKR	**Zakros**	**1.02**	**226**	P	**Pg**	**14 02 24.2**	**+0.2**
ZKR				S	**Sb**	**14 02 38.9**	**+0.8**
	comp=E,782nm,0.5s						
ZKR	**Zakros**	**1.02**	**226**	Pg	**Pg**	**14 02 24.2**	**+0.2**
ZKR	**Zakros**	**1.02**	**226**	P	**Pg**	**14 02 24.3**	**+0.2**
ZKR				S	**Sb**	**14 02 39.0**	**+1.0**
ZKR				AML	AML	14 02 44.5	
	comp=N,1032μm,0.4s						
ZKR				AML	AML	14 02 46.0	
	comp=E,1614μm,0.6s						
STIA	**Sitia Lasithi**	**1.04**	**233**	P	**Pg**	**14 02 24.6**	**+0.2**
STIA				S	**Sb**	**14 02 38.7**	**+0.1**
BODT	**Bodrum**	**1.24**	**8**	P	**Pg**	**14 02 27.0**	**-1.2**
BODT				S	**Sg**	**14 02 43.5**	**-0.9**
BODT	**Bodrum**	**1.24**	**8**	Pn	**Pn**	**14 02 28.8**	**+0.5**
BDRM	**Kayabasi**	**1.26**	**12**	P	**Pn**	**14 02 28.0**	**-0.6**
BDRM				S	**Sg**	**14 02 41.3**	**-3.7**
FRMA	**Ierapetra Chan**	**1.39**	**234**	P	**Pn**	**14 02 29.2**	**-1.0**
FRMA				S	**Sb**	**14 02 47.3**	**-1.3**
	comp=E,322nm,0.5s						
MLSB	**Milas**	**1.56**	**20**	Pn	**Pg**	**14 02 34.3**	**0.0**
MLSB				Sn	**Sg**	**14 02 56.5**	**+1.9**
DALY	**Dalyan (Mula)**	**1.59**	**51**	Pn	**Pg**	**14 02 34.4**	**-0.5**
DALY				Sn	**Sg**	**14 02 57.2**	**+1.6**
YER	**Yerkesik**	**1.61**	**36**	P	**Pn**	**14 02 33.6**	**+0.2**
YER				S	**Sb**	**14 02 55.1**	**-0.1**
YER	**Yerkesik**	**1.61**	**36**	Pn	**Pg**	**14 02 34.9**	**-0.4**
YER				Sn	**Sg**	**14 02 57.9**	**+1.7**
DDIM	**Aydin, Didim**	**1.63**	**4**	P	Pn	14 02 26.7	-6.9
DDIM				S	**Sg**	**14 02 59.8**	**+3.1**
DDIM				*i* AML	AML	14 03 10.0	
	comp=E,134nm,0.7s						
HRKL	**Herakleio**	**1.71**	**253**	P	**Pn**	**14 02 34.3**	**-0.5**
HRKL	**Herakleio**	**1.71**	**253**	Pn	**Pb**	**14 02 36.0**	**-0.3**
MULA	**Mugla, Merkez-**	**1.73**	**34**	P	**Pb**	**14 02 36.6**	**+0.1**
MULA				S	**Sg**	**14 02 59.9**	**0.0**
APE	**Apeiranthos**	**1.77**	**315**	P	**Pn**	**14 02 34.0**	**-1.6**
APE	**Apeiranthos**	**1.77**	**315**	Pn	**Pb**	**14 02 37.2**	**-0.2**
APE	**Apeiranthos**	**1.77**	**315**	P	**Pn**	**14 02 34.1**	**-1.6**
FETY	**Fethiye**	**1.79**	**63**	Pn	**Pb**	**14 02 37.9**	**+0.3**
GCAM	**G?zelcaml?**	**1.87**	**3**	Pn	**Pb**	**14 02 39.0**	**0.0**
IDI	**Anoyia**	**1.89**	**254**	Pn	**Pn**	**14 02 35.9**	**-1.3**
	comp=E,5.9nm,0.3s,baz=74,slow=15,SNR=36						
IDI				Sn	**Sn**	**14 03 01.0**	**-0.3**
	comp=E,9.3nm,0.3s,baz=186,slow=13,SNR=6.2						
IDI				LR	LR	14 03 26.9	
	comp=E,43nm,20.9s,baz=92,slow=46						
AYDN	**Tasoluk**	**1.93**	**19**	P	**Pg**	**14 02 41.2**	**-0.2**
AYDN				S	**Sn**	**14 03 02.0**	**-0.4**
AKAS	**Kas**	**2.06**	**78**	Pn	**Pb**	**14 02 41.6**	**-0.8**
AKAS	**Kas**	**2.06**	**78**	P	**Pb**	**14 02 41.2**	**-1.1**
AKAS				S	**Sb**	**14 03 07.7**	**-0.6**
AKAS				*i* AML	AML	14 03 22.0	
	comp=E,156nm,0.6s						
CAME	**Cameli-Denizli**	**2.09**	**57**	Pn	**Pb**	**14 02 41.7**	**-1.1**
PRNS	**Prines Rethymn**	**2.17**	**258**	P	**Pn**	**14 02 40.6**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.19**	**41**	P	**Pb**	**14 02 43.5**	**-0.9**
TAVA				S	**Sb**	**14 03 10.9**	**-0.3**
CAEL	**Denizli, Camel**	**2.20**	**53**	P	**Pb**	**14 02 45.0**	**+0.3**
CAEL				S	**Sg**	**14 03 17.2**	**+2.0**
APMY	**Acipayam-Deniz**	**2.41**	**46**	Pn	**Pb**	**14 02 46.7**	**-1.5**
GOLH	**Golhisar**	**2.42**	**54**	P	**Pb**	**14 02 47.0**	**-1.5**
GOLH				S	**Sg**	**14 03 20.8**	**-1.6**
GOLH				*i* AML	AML	14 03 26.0	
	comp=E,154nm,0.4s						
ELL	**Elmali**	**2.44**	**67**	Pn	**Pb**	**14 02 46.9**	**-1.9**
ZEYE	**Izmir, Urla-Ze**	**2.45**	**349**	P	**Pn**	**14 02 43.0**	**-2.0**
ZEYE				S	**Sg**	**14 03 27.1**	**+3.8**
ZEYE				*i* AML	AML	14 03 43.0	
	comp=E,44nm,0.7s						
URLA	**Izmir**	**2.56**	**351**	Pn	**Pb**	**14 02 48.5**	**-2.2**
URLA	**Izmir**	**2.56**	**351**	P	**Pb**	**14 02 50.2**	**-0.5**
URLA				S	**Sg**	**14 03 29.0**	**+2.3**
IMMV	**Iera Moni Meta**	**2.57**	**263**	P	**Pn**	**14 02 46.2**	**-0.4**
AKUM	**Antalya-Kumluc**	**2.67**	**78**	P	**Pb**	**14 02 50.3**	**-2.2**
AKUM				S	**Sb**	**14 03 23.0**	**-2.6**
KORT	**Korkueli**	**2.87**	**65**	P	**Pn**	**14 02 52.4**	**+1.7**
KORT				S	**Sn**	**14 03 24.3**	**-1.3**
KULA	**Kula-Manisa**	**2.95**	**24**	Pn	**Pn**	**14 02 54.1**	**+2.2**
BRDR	**BURDUR-Merkez**	**3.02**	**51**	P	**Pg**	**14 03 00.6**	**-1.6**
BRDR				S	**Sn**	**14 03 30.0**	**+0.7**
ANTB	**Antalya**	**3.06**	**69**	Pn	**Pn**	**14 02 55.4**	**+2.2**
BASM	**Basmaki-Afyon**	**3.15**	**48**	Pn	**Pn**	**14 02 57.1**	**+2.5**
KHL	**Karahalli**	**3.15**	**37**	Pn	**Pn**	**14 02 57.1**	**+2.5**
PASA	**Karahalli, USA**	**3.15**	**36**	P	**Pn**	**14 02 56.8**	**+2.1**
PASA				S	**Sn**	**14 03 32.5**	**-0.1**
USAK	**Uak-Merkez**	**3.26**	**27**	P	**Pn**	**14 02 57.4**	**+1.3**
KZIL	**AFYON_Kizioren**	**3.43**	**44**	P	**Pg**	**14 03 07.9**	**-2.2**
KZIL				S	**Sn**	**14 03 38.2**	**-1.3**
KZIL				*i* AML	AML	14 03 52.0	
	comp=E,7.4nm,0.5s						
BAGO	**Egridir - ISPA**	**3.65**	**53**	P	**Pn**	**14 03 01.3**	**-0.2**
BAGO				S	**Sn**	**14 03 45.9**	**+0.9**
KEPZ	**Antalya-Kepez**	**3.78**	**72**	P	**Pn**	**14 03 06.1**	**+2.8**
KEPZ				S	**Sn**	**14 03 47.9**	**-0.2**
YVAC	**Isparta, Yalva**	**4.11**	**52**	P	**Pn**	**14 03 11.5**	**+3.7**
KDHN	**Kadinhani**	**4.82**	**55**	P	**Pn**	**14 03 18.8**	**+1.2**
KKBE	**Karaman, Kazim**	**4.90**	**72**	P	**Pn**	**14 03 21.7**	**+3.1**
KKBE				S	**Sn**	**14 04 16.1**	**+0.4**
BRTR	**Keskin Array B**	**6.47**	**51**	Pn	**Pn**	**14 03 42.5**	**+2.2**
	comp=E,0.2nm,0.3s,baz=226,slow=16,SNR=5.3						
BRTR				Sn	**Sn**	**14 04 59.4**	**+4.9**
	comp=E,0.1nm,0.3s,baz=217,slow=25,SNR=1.3						
	comp=E,0.4nm,0.5s						
MMAI	**Mount Meron Ar**	**7.41**	**110**	Pn	**Pn**	**14 03 52.8**	**-0.3**
	comp=E,1.1nm,0.3s,baz=305,slow=11,SNR=2.4						
MMAI				Sn	**Sn**	**14 05 16.1**	**-1.4**
	comp=E,2.0nm,0.3s,baz=302,slow=24,SNR=2.3						
	comp=E,0.5nm,0.3s						
EIL	**Elat**	**9.02**	**131**	Pn	**Pn**	**14 04 15.6**	**+0.4**
	comp=E,0.3nm,0.3s,baz=351,slow=5.7,SNR=6.3						
	comp=E,3.2nm,0.7s						
GERES	**GERESS Array B**	**16.32**	**327**	Pn	**P**	**14 05 57.4**	**+0.3**
	comp=E,0.1nm,0.3s,baz=142,slow=16,SNR=4.4						
	comp=E,0.5nm,0.7s						
ESDC	**Sonseca Array**	**24.80**	**288**	P	**P**	**14 07 25.3**	**-1.8**
	comp=E,0.8nm,0.6s,baz=80,slow=11,SNR=6.3						
	comp=E,0.8nm,0.6s						
FINES	**FINESS Array B**	**25.64**	**359**	P	**P**	**14 07 36.6**	**+2.1**
	comp=E,1.6nm,1.0s,baz=160,slow=10,SNR=3.4						
	comp=E,1.6nm,1.0s						
MKAR	**Makanchi Array**	**42.08**	**57**	P	**P**	**14 09 56.7**	**-0.3**
	comp=E,0.2nm,0.6s,baz=283,slow=8.3,SNR=2.1						
	comp=E,0.2nm,0.6s						
SONM	**Songino Array**	**57.83**	**51**	P	**P**	**14 11 57.0**	**+0.2**
	comp=E,0.2nm,0.5s,baz=302,slow=8.3,SNR=2.6						
	comp=E,0.2nm,0.5s						

*SNET **15** 14:12:59.5±0.7, 14°.36N×90°.15W,h204km±4km, ML4.8*
*GCG **15** 14:12:59.6±0.5, 14°.07N×90°.31W,h210km±6km, MD4.1*
*NEIC **15** 14:13:00.0±1.4, 14°.40N±0°.07×90°.19W±0°.07, h212km±7km, mb4.6/181, Error ellipse: s-maj=12.3km s-min=8.6km az=220.0*
*IDC **15** 14:13:02.4±2.6, 14°.47N×89°.91W, h244km±27km, mb3.5/10, mbtmp4.2/12, Error ellipse: s-maj=26.1km s-min=10.8km az=57.0*
*INET **15** 14:13:02.1±1.7, 13°.40N×90°.64W, h13km±21km, MW3.8*
ISC 15 14:13:00.1±0.5,**14°.31N**±0°.06×**90°.21W**±0°.05,**h234**km,
n321,σ1§**57**/328,**mb4.6**/80,**9C-4D**,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBG	**Las Nubes**	**0.31**	**335**	*e*P	**Pn**	**14 13 29.0**	**-2.0**
NBG				*e*S	**S**	**14 13 52.1**	**-3.1**
PCG	**Pacaya**	**0.39**	**283**	*e*P	**Pn**	**14 13 28.9**	**-2.2**
SLOZ	**Alcaldia de Sa**	**0.50**	**124**	*e*P	**Pn**	**14 13 27.7**	**-3.5**
NUBE	**Las Nubes**	**0.58**	**134**	⇑*i*P	**Pn**	**14 13 28.1**	**-3.6**
FUG	**Fuego 3**	**0.62**	**283**	*e*P	**Pn**	**14 13 29.6**	**-2.2**
RTR	**El Retiro**	**0.69**	**126**	⇑*i*P	**Pn**	**14 13 29.0**	**-3.1**
CEVE	**Cerro Verde**	**0.74**	**130**	⇑*i*P	**Pn**	**14 13 29.3**	**-3.1**
CEVE				IAML		14 13 29.9	
	comp=Z,6μm,0.3s						
MTO3	**Montecristo**	**0.83**	**84**		**Pn**	**14 13 29.1**	**-3.6**
MTO3	**Montecristo**	**0.83**	**84**	⇓*i*P	**Pn**	**14 13 29.2**	**-3.5**
MTO3	**Montecristo**	**0.83**	**84**	*e*P	**Pn**	**14 13 29.3**	**-3.5**
ESQI	**Esquipulas**	**0.88**	**73**		**Pn**	**14 13 29.6**	**-3.3**
ESQI	**Esquipulas**	**0.88**	**73**	⇓*i*P	**Pn**	**14 13 29.7**	**-3.1**
ESQI				*e*S	**S**	**14 13 52.3**	**-6.1**
CEDA	**San Andres**	**0.94**	**122**	⇑*e*P	**Pn**	**14 13 29.8**	**-3.4**
JAYA	**Jayaque - finc**	**0.98**	**131**	*e*P	**Pn**	**14 13 30.0**	**-3.5**
JAYA				IAML		14 14 00.4	
	comp=Z,9μm,0.2s						
BOQS	**Boqueron**	**1.07**	**122**	⇑*i*P	**Pn**	**14 13 31.1**	**-3.0**
UEES	**Universidad Ev**	**1.11**	**122**	*e*P	**Pn**	**14 13 31.1**	**-3.1**
SNET	**Serv Nac Est T**	**1.14**	**123**		**Pn**	**14 13 31.2**	**-3.1**
SNET	**Serv Nac Est T**	**1.14**	**123**	*e*P	**Pn**	**14 13 31.3**	**-3.1**
LFRS	**El Faro**	**1.31**	**121**	⇑*i*P	**Pn**	**14 13 32.5**	**-3.1**
SULM	**Suchitepequez,**	**1.31**	**270**	*e*P	**Pn**	**14 13 32.1**	**-3.3**
SULM				*e*S	**S**	**14 13 58.0**	**-5.0**
SJTE	**Alcalda de S**	**1.36**	**120**	⇑*e*P	**Pn**	**14 13 33.0**	**-2.9**
PAVA	**Las Pavas**	**1.37**	**115**	⇑*i*P	**Pn**	**14 13 33.2**	**-2.8**
STG3	**Santiaguito 3,**	**1.37**	**287**	*e*P	**Pn**	**14 13 34.4**	**-1.8**
STG3				*e*S	**S**	**14 14 01.4**	**-2.9**
P5NO	**Presa 5 de nov**	**1.45**	**103**	⇓*i*P	**Pn**	**14 13 33.1**	**-3.4**
RTAL	**Retalhuleu**	**1.45**	**279**		**Pn**	**14 13 33.7**	**-2.8**
RTAL	**Retalhuleu**	**1.45**	**279**	⇑*e*P	**Pn**	**14 13 33.9**	**-2.6**
SNVI	**San Vicente**	**1.50**	**117**	*e*P	**Pn**	**14 13 34.2**	**-2.9**
SCLA	**Alcaldia de Sa**	**1.56**	**112**	*e*P	**Pn**	**14 13 34.7**	**-2.8**
HUEH	**Huehuetenango**	**1.60**	**309**		**Pn**	**14 13 35.7**	**-2.3**
HUEH	**Huehuetenango**	**1.60**	**309**	*e*P	**Pn**	**14 13 36.0**	**-1.9**
HUEH	**Huehuetenango**	**1.60**	**309**	*e*P	**Pn**	**14 13 36.0**	**-1.9**
PQSS	**Presa 15 de Se**	**1.74**	**113**	⇓*e*P	**Pn**	**14 13 36.1**	**-2.8**
COEB	**Comit de Eme**	**1.82**	**116**	*e*P	**Pn**	**14 13 37.1**	**-2.6**
ALJI	**Alcalda de J**	**1.87**	**121**	*e*P	**Pn**	**14 13 37.5**	**-2.5**
PACA	**Pacayal**	**2.02**	**114**	*e*P	**Pn**	**14 13 40.0**	**-1.5**
PACA	**Pacayal**	**2.02**	**114**	*e*P	**Pn**	**14 13 40.0**	**-1.5**
LCND	**La Caada**	**2.46**	**113**	*e*P	**Pn**	**14 13 43.4**	**-2.5**
CNCH	**Conchagua**	**2.53**	**114**	*e*P	**Pn**	**14 13 44.4**	**-2.3**
PETF	**Flores**	**2.62**	**7**	Pn	**Pn**	**14 13 44.5**	**-2.9**
TGUH	**Tegucigalpa,Un**	**2.86**	**95**	Pn	**Pn**	**14 13 47.7**	**-2.5**
CRIN	**San Cristobal**	**3.47**	**117**		**Pn**	**14 13 55.8**	**-1.2**
CRIN	**San Cristobal**	**3.47**	**117**	*e*P	**Pn**	**14 13 56.4**	**-0.6**
CRIN				*e*S	**S**	**14 14 39.0**	**-2.8**
CNGN	**Cerro Negro**	**3.86**	**117**		**Pn**	**14 14 00.3**	**-1.3**
CNGN	**Cerro Negro**	**3.86**	**117**	*e*P	**Pn**	**14 14 00.3**	**-1.3**
CMIG	**Matias Romero**	**5.28**	**302**	P	**Pn**	**14 14 17.0**	**-1.9**
	comp=Z,8.1nm,0.3s,baz=150,slow=9.7,SNR=47						
CMIG				S	**S**	**14 15 14.2**	**-7.3**
	comp=Z,31nm,0.3s,baz=127,slow=14,SNR=13						
CMIG	**Matias Romero**	**5.28**	**302**		**Pn**	**14 14 16.4**	**-2.5**
ACON	**Acoyapa**	**5.43**	**115**	Pn	**Pn**	**14 14 20.5**	**-0.3**
HZTE	**Horizontes, Gu**	**5.75**	**128**		**Pn**	**14 14 24.8**	**0.0**
ORTG	**Ortega, Santa**	**6.08**	**130**	Pn	**Pn**	**14 14 28.4**	**-0.6**
TEIG	**Tepich**	**6.17**	**17**	Pn	**Pn**	**14 14 27.7**	**-2.3**
DUNO	**Dulce Nombre,**	**6.24**	**132**		**Pn**	**14 14 30.9**	**-0.1**
JTS	**Las Juntas de**	**6.51**	**127**	P	**Pn**	**14 14 34.4**	**0.0**
	comp=Z,22nm,0.4s,baz=306,slow=20,SNR=13						
JTS				S	**S**	**14 15 42.5**	**-7.2**
	comp=Z,23nm,0.3s,baz=302,slow=20,SNR=4.2						
JTS	**Las Juntas de**	**6.51**	**127**	Pn	**Pn**	**14 14 33.5**	**-1.0**
JACO	**JACO, Garabito**	**7.13**	**130**	Pn	**Pn**	**14 14 42.2**	**-0.1**
SRBA	**San Rafael, Bu**	**8.39**	**126**		**Pn**	**14 14 58.4**	**-0.2**
MTDJ	**Mount Diablon**	**12.78**	**71**	P	**P**	**14 15 57.5**	**+1.1**
061Z	**Ochoppi**	**14.44**	**36**	P	**P**	**14 16 14.5**	**-0.1**
DWPF	**Disney Wildern**	**15.98**	**29**	P	**Pn**	**14 16 32.6**	**0.0**
	baz=212						
833A	**Chaparral WMA,**	**16.35**	**330**		**Pn**	**14 16 36.7**	**-0.3**
833A	**Chaparral WMA,**	**16.35**	**330**	P	**Pn**	**14 16 36.7**	**-0.3**
	baz=147						
656A	**Willston**	**16.59**	**24**	Pn	**Pn**	**14 16 40.6**	**+0.8**
344A	**Westbrook Farm**	**17.07**	**358**	P	**Pn**	**14 16 44.7**	**-0.8**
344A				IAmb	IAmb	14 16 53.1	
	comp=Z,26nm,0.8s						
342A	**Flagon Creek P**	**17.10**	**354**		**Pn**	**14 16 45.8**	**0.0**
342A				IAmb	IAmb	14 16 46.9	
	comp=Z,20nm,0.7s						
435B	**Jarrell**	**17.75**	**339**	P	**P**	**14 16 51.8**	**+0.9**
435B	**Jarrell**	**17.75**	**339**	P	**P**	**14 16 52.0**	**+1.1**
	baz=156						
352A	**Blakely**	**17.77**	**15**	P	**P**	**14 16 52.4**	**+1.3**
VBMS	**Vicksburg**	**17.83**	**359**		**Pn**	**14 16 53.9**	**-0.4**
VBMS	**Vicksburg**	**17.83**	**359**	P	**Pn**	**14 16 53.4**	**-1.0**
	baz=179						
NATX	**Nacogdoches**	**17.84**	**348**	P	**P**	**14 16 53.0**	**+1.0**
NATX	**Nacogdoches**	**17.84**	**348**	P	**P**	**14 16 53.0**	**+1.0**
	baz=186,SNR=5.1						
456A	**Hilliard**	**18.00**	**23**	P	**Pn**	**14 16 55.1**	**-1.2**
TIGA	**Tifton**	**18.10**	**18**	P	**P**	**14 16 55.1**	**+0.4**
TIGA	**Tifton**	**18.10**	**18**	P	**P**	**14 16 55.8**	**+1.0**
	baz=201						
146A	**Union**	**18.28**	**3**	P	**P**	**14 16 57.6**	**+1.0**
237A	**Washetta, Mont**	**18.34**	**345**	P	**P**	**14 16 58.7**	**+1.3**
237A				IAmb	IAmb	14 16 59.7	
	comp=Z,17nm,0.7s						
143A	**Socs Landing,**	**18.35**	**357**	P	**P**	**14 16 58.9**	**+1.5**
143A				IAmb	IAmb	14 17 03.0	
	comp=Z,21nm,0.8s						
JCT	**Junction City**	**18.36**	**333**	P	**P**	**14 16 58.5**	**+0.9**
JCT	**Junction City**	**18.36**	**333**	P	**P**	**14 16 58.7**	**+1.1**
	baz=149,SNR=14						
WHTX	**Lake Whitney,**	**18.81**	**341**	P	**P**	**14 17 03.0**	**+0.6**
WHTX	**Lake Whitney,**	**18.81**	**341**	P	**P**	**14 17 03.0**	**+0.6**
	baz=158,SNR=25						
LRAL	**Lakeview Retre**	**18.87**	**8**	P	**P**	**14 17 04.5**	**+1.4**
LRAL				IAmb	IAmb	14 17 09.9	
	comp=Z,20nm,0.9s						
LRAL	**Lakeview Retre**	**18.87**	**8**	P	**P**	**14 17 04.4**	**+1.4**
	baz=190,SNR=13						
Z47A	**Carrollton**	**18.91**	**6**	P	**P**	**14 17 04.7**	**+1.3**
255A	**Hazlehurst**	**18.91**	**21**	P	**P**	**14 17 04.1**	**+0.6**
255A				IAmb	IAmb	14 17 05.0	
	comp=Z,28nm,1.1s						
152A	**Waverly Hall**	**18.95**	**14**	P	**P**	**14 17 04.7**	**+0.7**
152A				IAmb	IAmb	14 17 06.1	
	comp=Z,33nm,1.0s						
154A	**Montrose**	**19.34**	**18**	P	**P**	**14 17 08.6**	**+0.5**
Z38A	**Mt. Pleasant**	**19.36**	**348**	P	**P**	**14 17 08.9**	**+0.6**
Z38A				IAmb	IAmb	14 17 10.0	
	comp=Z,13nm,0.7s						
WLAR	**White Oak Lake**	**19.47**	**353**	P	**P**	**14 17 10.2**	**+0.8**
Y45A	**Yeager Farm, C**	**19.48**	**2**	P	**P**	**14 17 11.1**	**+1.5**
FW07	**Weatherford**	**19.57**	**341**	P	**P**	**14 17 10.6**	**0.0**
FW07				IAmb	IAmb	14 17 24.6	
	comp=Z,18nm,0.8s						
FW06	**Azle**	**19.75**	**341**	P	**P**	**14 17 12.7**	**+0.3**
FW06				IAmb	IAmb	14 17 14.7	
	comp=Z,8.9nm,0.6s						
Y49A	**Blount Mountai**	**19.77**	**9**	P	**P**	**14 17 13.6**	**+1.0**
Y49A				IAmb	IAmb	14 17 19.9	
	comp=Z,20nm,0.7s						
SDV	**Santo Domingo**	**19.92**	**104**	P	**P**	**14 17 14.1**	**-0.5**
	comp=Z,15nm,0.6s,baz=303,slow=7.0,SNR=19						
FW03	**Perrin-Whitt E**	**19.97**	**340**	P	**P**	**14 17 14.9**	**0.0**
FW03				IAmb	IAmb	14 17 16.0	
	comp=Z,22nm,0.6s						
Z35A	**Perchaven, San**	**19.99**	**343**	P	**P**	**14 17 15.0**	**-0.1**
Z35A				IAmb	IAmb	14 17 16.6	
	comp=Z,24nm,0.9s						
OXF	**Oxford**	**20.13**	**2**	P	**P**	**14 17 16.7**	**+0.2**
OXF	**Oxford**	**20.13**	**2**	P	**P**	**14 17 16.7**	**+0.2**
	baz=182,SNR=7.2						
ABTX	**Abilene, Hawle**	**20.16**	**336**	P	**P**	**14 17 16.9**	**0.0**
ABTX				IAmb	IAmb	14 17 20.3	
	comp=Z,33nm,1.4s						
ABTX	**Abilene, Hawle**	**20.16**	**336**	P	**P**	**14 17 17.0**	**+0.1**
	baz=152						
Y52A	**Lilburn**	**20.25**	**15**	P	**P**	**14 17 18.0**	**+0.2**
X48A	**Hartselle**	**20.26**	**8**	P	**P**	**14 17 18.4**	**+0.5**
MIAR	**Mount Ida**	**20.38**	**352**	P	**P**	**14 17 19.4**	**+0.2**
MIAR				IAmb	IAmb	14 17 22.9	
	comp=Z,15nm,0.7s						
MIAR	**Mount Ida**	**20.38**	**352**	P	**P**	**14 17 20.8**	**+1.6**
	baz=170,SNR=9.6						
UALR	**University of**	**20.47**	**355**	P	**P**	**14 17 20.6**	**+0.4**
FPAL	**Fort Paine**	**20.57**	**11**	P	**P**	**14 17 21.4**	**+0.1**
FPAL				IAmb	IAmb	14 17 22.6	
	comp=Z,21nm,0.8s						
LOOK	**Love County**	**20.59**	**343**		**P**	**14 17 21.6**	**+0.1**
PLAL	**Pickwick Lake**	**20.68**	**5**	P	**P**	**14 17 22.3**	**0.0**
PLAL				IAmb	IAmb	14 17 24.7	
	comp=Z,13nm,0.7s						
X37A	**Clayton**	**20.73**	**348**	P	**P**	**14 17 23.7**	**+0.8**
X51A	**Calhoun**	**20.75**	**13**	P	**P**	**14 17 23.4**	**+0.3**
X51A				IAmb	IAmb	14 17 26.1	
	comp=Z,14nm,1.1s						
W45A	**Hickory Valley**	**20.78**	**2**	P	**P**	**14 17 23.4**	**-0.1**
W45A				IAmb	IAmb	14 17 29.1	
	comp=Z,22nm,1.0s						
NHSC	**New Hope**	**20.82**	**24**	P	**P**	**14 17 24.2**	**+0.3**
	baz=208						
WHAR	**Wooly Hollow**	**20.98**	**355**	P	**P**	**14 17 26.6**	**+1.1**
WHAR				IAmb	IAmb	14 17 28.5	
	comp=Z,16nm,0.8s						
HODGE	**Hodges**	**21.11**	**19**	P	**P**	**14 17 26.4**	**-0.4**
MCRA	**Macar, Loja**	**21.16**	**151**	P	**P**	**14 17 30.2**	**+2.6**
SWET	**Sewanee**	**21.18**	**10**	P	**P**	**14 17 27.7**	**+0.2**
SWET				IAmb	IAmb	14 17 28.7	
	comp=Z,21nm,0.7s						
W50A	**Signal Mountai**	**21.27**	**11**	P	**P**	**14 17 28.4**	**-0.1**
W50A				IAmb	IAmb	14 17 29.5	
	comp=Z,12nm,0.7s						
X34A	**Smith Ranch, M**	**21.35**	**343**		**P**	**14 17 29.8**	**+0.6**
X34A				IAmb	IAmb	14 17 31.0	
	comp=Z,19nm,1.0s						
JSC	**Jenkinsville**	**21.48**	**21**	P	**P**	**14 17 30.3**	**-0.1**
JSC				IAmb	IAmb	14 17 31.9	
	comp=Z,26nm,1.5s						
Y57A	**Sumter**	**21.55**	**23**	P	**P**	**14 17 30.9**	**-0.2**
V48A	**Smith Brothers**	**21.56**	**8**	P	**P**	**14 17 31.6**	**+0.4**
FCAR	**Ozark Folk Cen**	**21.56**	**356**	P	**P**

comp=Z,17nm,0.8s
CCM Cathedral Cave 23.67 358 P P 14 17 50.9 +0.3
baz=177
USIN University of 23.67 5 P P 14 17 51.7 +1.1
KAN01 Argonia South 23.73 345 P P 14 17 51.7 +0.6
R40A Maddies Statio 23.96 356 P P 14 17 53.4 +0.3
R40A IAmb IAmb 14 17 55.8
comp=Z,8.9nm,0.7s
S51A Beattyville 23.97 13 P P 14 17 53.5 +0.2
S51A IAmb IAmb 14 18 36.4
comp=Z,17nm,1.0s
WCI Wyandotte Cave 24.08 8 P P 14 17 54.7 +0.5
WCI Wyandotte Cave 24.08 8 P P 14 17 54.7 +0.5
baz=189
R49A Shelbyville 24.30 10 P P 14 17 56.5 +0.2
R49A IAmb IAmb 14 17 57.0
comp=Z,10nm,0.8s
OLIL Olney 24.40 4 P P 14 17 58.3 +1.2
OLIL IAmb IAmb 14 18 02.0
comp=Z,15nm,0.7s
R50A Paris 24.44 11 P P 14 17 57.8 +0.2
Q44A Meyer Farm, Va 24.52 2 P P 14 17 58.8 +0.5
Q44A IAmb IAmb 14 18 02.3
comp=Z,22nm,0.9s
P40A Paris 25.18 357 P P 14 18 04.0 -0.2
P40A IAmb IAmb 14 18 06.0
comp=Z,13nm,0.8s
T59A Double "B" Far 25.24 24 P P 14 18 04.9 +0.2
T59A IAmb IAmb 14 18 05.9
comp=Z,12nm,0.8s
KSU1 Kansas State U 25.33 348 P P 14 18 06.4 +0.8
baz=165
Q51A Peebles 25.36 13 P P 14 18 06.2 +0.4
P38A Dawn 25.39 354 P P 14 18 06.2 +0.1
P38A IAmb IAmb 14 18 07.2
comp=Z,14nm,1.1s
P48A Milroy 25.41 9 P P 14 18 06.1 -0.2
P48A IAmb IAmb 14 18 07.1
comp=Z,14nm,0.8s
Q52A Bidwell 25.54 14 P P 14 18 07.5 0.0
O44A Mansfield 25.79 3 P P 14 18 09.8 +0.1
O44A IAmb IAmb 14 18 10.9
comp=Z,11nm,0.7s
Q54A Coxs Mills 25.94 17 P P 14 18 11.3 +0.4
Q54A IAmb IAmb 14 18 11.8
comp=Z,7.4nm,0.7s
T25A Trinidad 26.02 333 P P 14 18 12.5 +0.5
T25A Trinidad 26.02 333 P P 14 18 13.3 +1.2
baz=147,SNR=5.3
HDIL Hopedale 26.16 2 P P 14 18 13.1 +0.1
HDIL IAmb IAmb 14 18 35.9
comp=Z,9.9nm,0.6s
P52A Corning 26.21 14 P P 14 18 13.3 -0.2
P52A Corning 26.21 14 P P 14 18 13.6 +0.2
baz=198
O48B Farmland 26.23 9 P P 14 18 13.5 -0.1
baz=191
O49A Covington 26.29 10 P P 14 18 13.9 -0.3
O49A IAmb IAmb 14 18 15.1
comp=Z,12nm,1.0s
ACSO Alum Creek Sta 26.59 12 P P 14 18 17.2 +0.4
ACSO IAmb IAmb 14 18 17.7
comp=Z,8.4nm,0.7s
ACSO Alum Creek Sta 26.59 12 P P 14 18 17.4 +0.6
baz=196
O52A Adamsville 26.74 14 P P 14 18 18.3 +0.2
O52A IAmb IAmb 14 18 19.3
comp=Z,12nm,0.8s
N35A Tabor 26.88 351 P P 14 18 19.6 +0.2
SDCO Great Sand Dun 27.01 333 P P 14 18 22.2 +1.3
baz=146
O53A New Philadelph 27.02 15 P P 14 18 21.1 +0.4
baz=199
O54A Avella 27.18 17 P P 14 18 22.4 +0.3
P57A Homestead Farm 27.28 21 P P 14 18 23.7 +0.7
S22A 4UR Ranch, Cre 27.62 331 P P 14 18 27.4 +1.0
baz=143
N53A Lisbon 27.64 15 P P 14 18 26.0 -0.2
N53A IAmb IAmb 14 18 27.1
comp=Z,13nm,0.9s
L40A Anamosa 27.67 358 P P 14 18 26.7 +0.3
L40A IAmb IAmb 14 18 28.5
comp=Z,9.9nm,0.8s
M50A Fremont 27.71 12 P P 14 18 27.1 +0.4
Q24A Divide 27.87 335 P P 14 18 30.6 +2.0
baz=148
M53A WI Miller and 28.28 15 P P 14 18 31.9 +0.1
M53A IAmb IAmb 14 19 07.9
comp=Z,22nm,1.2s
M53A WI Miller and 28.28 15 P P 14 18 32.4 +0.6
baz=200
SSPA Standing Stone 28.36 20 P P 14 18 33.4 +0.9
JFWS Jewell Farm 28.51 360 P P 14 18 34.3 +0.5
baz=180
ISCO Idaho Springs 28.77 335 P P 14 18 37.4 +0.8
baz=148
PV12 Saucer Basin, 29.03 329 P P 14 18 40.9 +2.2
PV16 Nyswonger Mesa 29.08 329 P P 14 18 41.3 +2.1
M57A Sunshine Farm, 29.24 20 P P 14 18 41.2 +0.9
M57A IAmb IAmb 14 19 11.1
comp=Z,22nm,1.4s
I42A Draeger Farm, 29.50 2 P P 14 18 42.7 +0.1
I42A IAmb IAmb 14 18 48.0
comp=Z,17nm,1.4s
I37A Lemond, Waseca 29.73 355 P P 14 18 44.8 +0.2
L56A Greenwood 29.82 19 P P 14 18 45.5 +0.1
ECSD EROS Data Cent 29.84 351 P P 14 18 45.5 0.0
ECSD IAmb IAmb 14 18 47.0
comp=Z,12nm,0.9s
ECSD EROS Data Cent 29.84 351 P P 14 18 45.9 +0.3
baz=167,SNR=12
H43A Windswept, Lux 30.14 3 P P 14 18 48.0 -0.1
H43A IAmb IAmb 14 18 49.6
comp=Z,22nm,1.0s
O20A White River Ci 30.19 332 P P 14 18 51.1 +2.2
baz=143
BINY Binghamton 30.40 21 P P 14 18 50.4 -0.1
BINY IAmb IAmb 14 18 51.1
comp=Z,6.0nm,0.6s
BINY Binghamton 30.40 21 P P 14 18 50.9 +0.4
baz=208
L59A Walton 30.73 22 P P 14 18 53.7 +0.3
L59A IAmb IAmb 14 19 17.0
comp=Z,30nm,1.4s
G45A Suttons Bay 30.88 6 P P 14 18 54.3 -0.3
P17A Butcher Ranch, 30.89 328 P P 14 18 57.4 +2.3
SPMN Marine on St. 30.90 356 P P 14 18 54.6 -0.2
SPMN Marine on St. 30.90 356 P P 14 18 55.0 +0.2
baz=175,SNR=9.2
SUSD Miller 30.95 348 P P 14 18 56.0 +0.7
MSU Marysvale 30.96 325 P P 14 18 57.7 +1.9
RWWY Rawlins 31.02 335 P P 14 18 57.8 +1.6
RWWY IAmb IAmb 14 18 59.2
comp=Z,8.7nm,0.8s
J57A Williamstown 31.47 20 P P 14 18 59.5 -0.3
J57A IAmb IAmb 14 19 14.6
comp=Z,27nm,1.2s
UCCT U. Connecticut 31.52 26 P P 14 19 00.9 +0.6
UCCT IAmb IAmb 14 19 01.8
comp=Z,12nm,0.8s
K22A Casper 31.55 337 P P 14 19 02.5 +1.7
baz=149
J58A Remsen 31.66 21 P P 14 19 01.4 -0.2
J58A IAmb IAmb 14 19 36.7
comp=Z,19nm,1.4s
SADO Sadowa 31.79 15 P P 14 19 02.6 0.0
SADO IAmb IAmb 14 19 43.5
comp=Z,14nm,1.3s
F33A 5 Mile Ranch, 31.85 352 P P 14 19 03.0 -0.1
F33A IAmb IAmb 14 19 03.6
comp=Z,14nm,0.9s
QUA2 Belchertown 31.86 26 P P 14 19 04.3 +1.0
QUA2 IAmb IAmb 14 19 38.1
comp=Z,32nm,1.3s
RSSD Black Hills 31.97 341 P P 14 19 05.8 +1.3
RSSD Black Hills 31.97 341 P P 14 19 06.3 +1.8
baz=154
E43A Lone Tree Farm 32.08 4 P P 14 19 05.0 -0.1
E43A IAmb IAmb 14 19 44.0
comp=Z,36nm,1.4s
E38A The Farm, Brul 32.22 358 P P 14 19 06.2 -0.2
E38A IAmb IAmb 14 19 07.0
comp=Z,15nm,0.7s
E46A Sault Ste Mari 32.34 8 P P 14 19 06.8 -0.6
E46A IAmb IAmb 14 19 07.1
comp=Z,19nm,1.3s
WES Weston 32.39 27 P P 14 19 08.4 +0.5
WES IAmb IAmb 14 19 16.1
comp=Z,28nm,1.4s
NCB Newcomb 32.57 22 P P 14 19 09.7 +0.3
NCB IAmb IAmb 14 19 39.0
comp=Z,26nm,1.5s
R11A Troy Canyon, C 32.82 322 P P 14 19 14.1 +2.2
baz=130
BW06 Boulder Array 32.89 333 P P 14 19 14.0 +1.5
baz=144
PDAR Pinedale Array 32.89 333 P P 14 19 14.0 +1.4
comp=Z,0.6nm,0.6s,baz=133,slow=10,SNR=7.3
comp=Z,0.6nm,0.6s
PDAR Pinedale Array 32.89 333 P P 14 19 13.9 +1.4
LONY Lake Ozonia 33.01 21 P P 14 19 13.1 -0.1
LONY Lake Ozonia 33.01 21 P P 14 19 13.5 +0.2
baz=209
D32A Dogwood Acres, 33.22 352 P P 14 19 14.9 -0.1
EYMN Ely 33.56 358 P P 14 19 17.4 -0.6
EYMN IAmb IAmb 14 19 18.1
comp=Z,7.9nm,0.6s
EYMN Ely 33.56 358 P P 14 19 17.6 -0.3
baz=178
I62A Tamworth 33.60 25 P P 14 19 18.8 +0.5
I62A IAmb IAmb 14 19 53.4
comp=Z,28nm,1.3s
ECR Eagle Creek 33.93 332 P P 14 19 23.9 +2.4
REDW Red Top Meadow 33.94 333 P P 14 19 23.6 +2.1
REDW IAmb IAmb 14 19 24.6
comp=Z,12nm,0.6s
SMMC Simmler 33.97 313 P P 14 19 22.4 +0.7
baz=120
LOHW Long Hollow 34.03 333 P P 14 19 24.4 +2.1
MOOW Moose Ponds 34.20 333 P P 14 19 25.8 +2.1
AGMN Agassiz Nation 34.21 353 P P 14 19 23.4 -0.1
baz=170
MDND Maddock 34.34 349 P P 14 19 25.8 +1.1
MDND Maddock 34.34 349 P P 14 19 25.7 +1.0
baz=164,SNR=7.5
IMW Indian Meadow 34.40 333 P P 14 19 27.3 +1.7
FLWY Flagg Ranch 34.45 334 P P 14 19 27.8 +1.9
NVAR Mina Array Bea 34.55 319 P P 14 19 29.7 +2.8
comp=Z,0.9nm,0.8s,baz=133,slow=7.5,SNR=7.5
comp=Z,0.9nm,0.8s
RLMT Red Lodge 34.70 336 P P 14 19 29.6 +1.6
RLMT Red Lodge 34.70 336 P P 14 19 29.7 +1.6
baz=146,SNR=5.1
LAO LASA Array 34.96 341 P P 14 19 31.3 +1.3
LAO LASA Array 34.96 341 P P 14 19 31.2 +1.1
baz=152
G62A West of Eustis 35.03 24 P P 14 19 30.5 -0.1
G62A IAmb IAmb 14 19 48.4
comp=Z,33nm,1.4s
SAML Samuel 35.40 129 P P 14 19 32.6 -1.4
GCMT Greycliff 35.42 336 P P 14 19 35.5 +1.5
HLID Hailey 35.77 329 P P 14 19 38.2 +1.0
baz=137
DGMT Dagmar 35.97 344 P P 14 19 39.8 +1.2
DGMT IAmb IAmb 14 19 41.4
comp=Z,26nm,0.9s
DGMT Dagmar 35.97 344 P P 14 19 39.7 +1.1
baz=156,SNR=5.4
MCMT McKenzie Canyo 35.98 332 P P 14 19 41.7 +2.7
BOZ Bozeman (W) 36.05 334 P P 14 19 41.6 +2.1
BOZ Bozeman (W) 36.05 334 P P 14 19 40.9 +1.5
baz=143
ULM Lac du Bonnet 36.14 354 P P 14 19 39.4 -0.5
comp=Z,1.9nm,0.6s,baz=171,slow=8.6,SNR=16
comp=Z,9.1nm,0.6s
ULM Lac du Bonnet 36.14 354 P P 14 19 39.1 -0.8
ULM IAmb IAmb 14 19 40.2
comp=Z,10nm,0.7s
LRM Limekiln Ridge 36.58 334 P P 14 19 45.9 +1.8
D62A Allapoint, All 37.15 24 P P 14 19 48.4 0.0
D62A IAmb IAmb 14 19 59.6
comp=Z,42nm,1.5s
EGMT Eagleton 37.32 338 P P 14 19 51.6 +1.6
baz=148
LPAZ La Paz 37.42 144 P P 14 19 52.9 +1.1
comp=Z,1.0nm,0.6s,baz=344,slow=6.9,SNR=5.9
comp=Z,1.0nm,0.6s
LPAZ La Paz 37.42 144 P P 14 19 53.3 +1.5
PLID Pearl Lake 37.66 330 P P 14 19 54.5 +1.4
MSO Missoula 38.02 333 P P 14 19 57.8 +2.0
MSO Missoula 38.02 333 P P 14 19 57.8 +2.0
baz=141
PB16 IPOC Station P 38.32 147 P P 14 20 02.1 +2.8
F10A Beach Ranch, E 38.90 330 P P 14 20 04.4 +1.2
FFC Flin Flon 41.36 350 P P 14 20 24.2 +1.1
LTY Liberty 41.50 329 P P 14 20 27.1 +2.7
SIV San Ignacio 41.66 135 P P 14 20 26.6 +0.5
comp=Z,4.5nm,0.9s,baz=314,slow=8.1,SNR=18
comp=Z,4.5nm,0.9s
EDM Edmonton 42.93 340 P P 14 20 37.6 +1.8
SCHQ Schefferville 44.35 19 P P 14 20 46.2 -0.9
comp=Z,9.1nm,0.7s,baz=223,slow=5.2,SNR=11
comp=Z,9.1nm,0.7s
SCHQ Schefferville 44.35 19 P P 14 20 46.5 -0.5
FCC Fort Churchill 44.47 357 P P 14 20 47.8 -0.1
YKA Yellowknife Ar 51.14 346 P P 14 21 39.2 +0.3
comp=Z,1.4nm,0.7s,baz=140,slow=7.2,SNR=40
comp=Z,1.4nm,0.7s
YKA Yellowknife Ar 51.14 346 P P 14 21 38.9 0.0
DLBC Dease Lake 53.09 335 P P 14 21 55.5 +2.0
M29M Somme Creek 58.83 336 P P 14 22 35.4 +1.4
baz=122
BCAR Beaver Creek A 60.46 336 P P 14 22 46.3 +1.3
INK Inuvik 60.65 343 P P 14 22 46.8 +0.7
INK Inuvik 60.65 343 P P 14 22 47.2 +1.1
baz=130
ILAR Eielson Array 63.25 336 P P 14 23 04.2 +0.8
comp=Z,0.7nm,1.0s,baz=177,slow=4.5,SNR=6.8
comp=Z,0.7nm,1.0s
BMAR Burnt Mountain 63.61 339 P P 14 23 06.9 +1.1
MLY Manley 64.86 336 P P 14 23 14.7 +0.7
D25K Kavik River 65.08 341 P P 14 23 17.0 +1.6
baz=117
O18K Koktuh Hills 65.24 330 P P 14 23 18.4 +1.9
baz=105
COLD Coldfoot 65.48 338 P P 14 23 20.0 +2.1
baz=113
F21K Alatna River 66.67 338 P P 14 23 27.2 +1.7
baz=109
ESDC Sonseca Array 78.17 52 P P 14 24 33.1 -0.8
comp=Z,0.7nm,0.8s,baz=263,slow=5.7,SNR=4.9
comp=Z,0.7nm,0.8s
WRA Warramunga Arr 137.15 256 PKP PKiKP 14 31 58.4 +0.3
comp=Z,0.4nm,0.7s,baz=86,slow=2.2,SNR=6.7
ASAR Alice Springs 137.40 251 PKhKP PKPpre 14 31 48.6
comp=Z,0.5nm,1.0s,baz=104,slow=4.0,SNR=5.8
ASAR PKP **PKiKP 14 31 58.6 +0.1**
comp=Z,0.6nm,1.0s,baz=111,slow=2.1,SNR=4.7
PZH PanZhiHua 137.80 344 PKP PKPdf 14 31 56.8 -0.6
CMAR Chiang Mai Arr 146.22 344 PKPbc PKPbc 14 32 13.9 +0.1
comp=Z,0.5nm,0.6s,baz=347,slow=2.8,SNR=4.6

*NEIC **15** 14:35:07.6±1.1, 17°.1S±0°.3×179°.3W±0°.2, h563km±10km, mb4.1/18, Error ellipse: s-maj=41.3km s-min=11.9km az=153.0*
*IDC **15** 14:35:08.4±3.1, 16°.98S×179°.45W, h563km±18km, mb2.9/3, mbtmp3.8/4, Error ellipse: s-maj=146.7km s-min=26.8km az=144.0*

ISC 15 14:35:06.6±0.9, 17°.1S±0°.3×179°.2W±0°.2, h550km, n28, σ0s 86/29, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.67**	**256**	P	**P**	**14 36 21.9**	**+2.1**
	16nm,0.4s,baz=71,slow=3.6,SNR=12						
MSVF	**Nonsavu**	**2.67**	**256**	P	**P**	**14 36 21.5**	**+1.7**
WB0	**Warramunga Arr**	**43.98**	**259**	P	**P**	**14 42 24.9**	**-0.9**
WB0				IAmb	IAmb	14 42 48.5	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**44.01**	**259**	P	**P**	**14 42 24.7**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=95,slow=7.7,SNR=7.4						
	comp=Z,0.2nm,0.2s						
WRA	**Warramunga Arr**	**44.01**	**259**	P	**P**	**14 42 24.4**	**-1.7**
AS31	**Alice Springs**	**44.26**	**253**	P	**P**	**14 42 27.4**	**-0.6**
AS31				IAmb	IAmb	14 42 28.1	
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**44.26**	**253**	P	**P**	**14 42 27.7**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=89,slow=7.9,SNR=116						
ASAR				PcP	**PcP**	**14 43 60.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=102,slow=4.2,SNR=4.7						
	comp=Z,2.2nm,0.4s						
ASAR	**Alice Springs**	**44.26**	**253**	P	**P**	**14 42 26.9**	**-1.1**
KNRA	**Kununurra**	**49.79**	**264**	P	**P**	**14 43 09.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.39**	**260**	P	**P**	**14 43 28.4**	**0.0**
P18K	**Big Mountain,**	**78.69**	**12**	P	**P**	**14 46 11.7**	**-0.2**
P18K				IAmb	IAmb	14 46 46.0	
	comp=Z,16nm,1.2s						
O18K	**Koktuh Hills**	**79.12**	**12**	P	**P**	**14 46 14.1**	**+0.1**
O18K				IAmb	IAmb	14 46 23.9	
	comp=Z,12nm,1.1s						
PMR	**Palmer**	**82.00**	**14**	P	**P**	**14 46 27.5**	**-1.4**
HMT	**Hamilton**	**82.16**	**17**	P	**P**	**14 46 31.0**	**+1.2**
K20K	**Telida**	**82.56**	**11**	P	**P**	**14 46 32.2**	**+0.4**
K20K				IAmb	IAmb	14 46 41.4	
	comp=Z,7.6nm,1.4s						
CAST	**Castle Rocks**	**83.00**	**12**	P	**P**	**14 46 33.6**	**-0.3**
N25K	**Chitina, Valde**	**83.13**	**16**	P	**P**	**14 46 34.4**	**-0.4**
N25K				IAmb	IAmb	14 46 42.9	
	comp=Z,12nm,1.4s						
GLB	**Gilahina Butte**	**83.20**	**16**	P	**P**	**14 46 35.0**	**-0.1**
GLB				IAmb	IAmb	14 46 50.8	
	comp=Z,15nm,1.3s						
IMAR	**Indian Mountai**	**85.02**	**10**	P	**P**	**14 46 43.9**	**+0.1**
IL31		**85.28**	**13**	P	**P**	**14 46 44.7**	**-0.3**
IL31				IAmb	IAmb	14 47 22.4	
	comp=Z,3.6nm,1.1s						
ILAR	**Eielson Array**	**85.28**	**13**	P	**P**	**14 46 44.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=219,slow=5.8,SNR=7.6						
	comp=Z,0.2nm,0.4s						
J26L	**Joseph Creek**	**85.82**	**15**	P	**P**	**14 46 48.0**	**+0.2**
J26L				IAmb	IAmb	14 47 22.4	
	comp=Z,6.4nm,1.5s						
MG05	**Puerto Natales**	**86.72**	**143**	P	**P**	**14 46 52.2**	**-0.2**
BW06	**Boulder Array**	**87.31**	**44**	P	**P**	**14 46 55.6**	**+0.1**
PD31	**Pinedale Array**	**87.31**	**44**	P	**P**	**14 46 55.6**	**+0.1**
PD31				IAmb	IAmb	14 47 19.4	
	comp=Z,2.7nm,1.5s						
PDAR	**Pinedale Array**	**87.31**	**44**	P	**P**	**14 46 55.2**	**-0.3**
BMAR	**Burnt Mountain**	**88.04**	**13**	P	**P**	**14 46 58.6**	**+0.4**
GERES	**GERESS Array B**	**146.62**	**344**	PKPbc	**PKPbc**	**14 53 46.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=38,slow=3.7,SNR=3.7						

WEL 15 14:38:35.3±0.4, 42°S±3°×17°4E±°, h11km±3km, M3.0/2, ML2.7/10, MLv3.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=117.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.22**	**187**	P	Pb	14 38 41.5	+0.1
KHZ				S	Sg	14 38 45.5	+2.3
BSWZ	**Blackbirch Sta**	**0.53**	**25**	P	Pb	14 38 46.5	0.0
BSWZ				S	Sb	14 38 54.1	-0.1
THZ	**Tophouse**	**0.66**	**311**	P	Pb	14 38 48.8	-0.1
THZ				S	Sb	14 38 57.8	-0.3
TUWZ	**Tuamarina**	**0.81**	**20**	P	Pb	14 38 51.8	+0.4
GVZ	**Greta Valley S**	**0.87**	**207**	P	Pn	14 38 53.5	0.0
MRNZ	**Matariki Terra**	**1.00**	**322**	P	Pn	14 38 55.3	0.0
LTZ	**Lake Taylor**	**1.13**	**238**	P	Pg	14 38 57.1	0.0
LTZ				S	Sb	14 39 11.5	-0.1
DSZ	**Denniston Nort**	**1.40**	**288**	P	Pg	14 39 02.3	+0.1
OKCZ	**Okains Bay**	**1.57**	**194**	P	Pn	14 39 02.8	-0.3
MQZ	**McQueen's Vall**	**1.66**	**204**	P	Pn	14 39 02.8	-1.5
MQZ				S	Sn	14 39 23.9	-1.6
INZ	**Inchbonnie**	**1.67**	**251**	P	Pb	14 39 05.5	-0.5
KRVZ	**Karewarewa**	**3.47**	**28**	P	Pn	14 39 27.9	-1.5

*TEH **15** 14:41:07.3, 40°.68N×50°.11E, h10km, ML2.9*

ISC 15 14:41:09.2±1.0, 40°.85N±0°.06×50°.27E±0°.06, h50km, n18, σ2s 30/24, 2C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**3.19**	**289**	P	**Pn**	**14 41 58.3**	**+1.5**
LGD				S	**Sn**	**14 42 34.1**	**+0.6**
DDFL	**Dedoflistskaro**	**3.19**	**282**	P	**Pn**	**14 41 59.5**	**+2.6**
IHRS	**Heris**	**3.55**	**226**	Pn	**Pn**	**14 42 02.1**	**+0.1**
LHJ2	**Lahijan - Gila**	**3.68**	**183**	Pn	**Pn**	**14 42 03.0**	**-0.6**
DGRG	**David-gareji**	**3.74**	**281**	P	**Pn**	**14 42 05.9**	**+1.4**
DGRG				S	**Sn**	**14 42 44.9**	**-2.4**
SHTL	**Shatili**	**4.23**	**297**	P	**Pn**	**14 42 13.3**	**+2.1**
SHTL				S	**Sn**	**14 42 59.0**	**-0.4**
KLST	**Kelardasht - M**	**4.37**	**172**	Pn	**Pn**	**14 42 14.0**	**+0.7**
QALM	**Alamut, Qazvin**	**4.42**	**176**	Pn	**Pn**	**14 42 14.6**	**+0.6**
IGZV	**Ghazvin**	**4.46**	**181**	Pn	**Pn**	**14 42 15.0**	**+0.6**
MZPU	**Pul - Mazandar**	**4.52**	**167**	Pn	**Pn**	**14 42 16.4**	**+1.1**
TRLG	**Trialeti**	**4.70**	**280**	P	**Pn**	**14 42 18.4**	**+0.6**
TRLG				S	**Sn**	**14 43 06.4**	**-4.6**
IGLO	**Ghaloghah**	**5.16**	**146**	Pn	**Pn**	**14 42 25.8**	**+1.7**
IRAZ	**Razeghan**	**5.45**	**183**	Pn	**Pn**	**14 42 28.7**	**+0.7**
MRVT	**Maraveh tapeh**	**5.53**	**123**	Pn	**Pn**	**14 42 31.7**	**+2.7**
IFIR	**Firoozkooh**	**5.56**	**159**	Pn	**Pn**	**14 42 32.3**	**+2.8**
ISHM	**Shahmirzad**	**5.57**	**154**	Pn	**Pn**	**14 42 32.3**	**+2.5**
AB31	**Akbulak array**	**10.83**	**36**	⇑P	**Pn**	**14 43 43.0**	**+1.6**
	0.1nm,0.4s,baz=223,slow=13,SNR=7.0						
AB31				S	**Sn**	**14 45 36.1**	**-4.9**
	0.2nm,0.3s,baz=217,slow=22,SNR=2.9						
AKTO	**Aktyubinsk**	**11.00**	**27**	⇓P	**Pn**	**14 43 46.0**	**+2.2**
	0.5nm,0.4s						
AKTO				⇑S	**Sn**	**14 45 42.3**	**-3.0**
	5.4nm,1.8s						

*IDC **15** 14:58:45.9±0.9, 20°.17N×144°.35E, h0km, mb3.6/12, mbtmp3.6/12, MS3.5/1, Error ellipse: s-maj=29.5km s-min=22.7km az=82.0*

ISC 15 14:58:47.4±0.9, 20°.3N±0°.1×144°.3E±0°.2, h10km, n21, σ1s 61/15, mb3.6/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.05**	**343**	P	**Pn**	**15 02 43.7**	**-2.3**
	1.0nm,0.6s,baz=158,slow=11,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**21.21**	**91**	T	T	15 25 33.5	
	baz=281,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**21.22**	**91**	T	T	15 25 32.4	
	baz=281,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**21.23**	**91**	T	T	15 25 20.5	
	baz=281,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**21.26**	**88**	T	T	15 25 31.7	
	baz=277,slow=74,SNR=25						
H11N2	**WAKE ISLAND Hy**	**21.27**	**88**	T	T	15 25 34.6	
	baz=277,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**21.27**	**88**	T	T	15 25 31.0	
	baz=277,slow=74,SNR=16						
KSRS	**Korea Array**	**22.25**	**324**	P	**P**	**15 03 46.1**	**+1.7**
	1.2nm,0.8s,baz=141,slow=8.3,SNR=2.9						
	1.2nm,0.8s						
KLR	**Kul'dur**	**30.57**	**344**	P	**P**	**15 04 58.5**	**-2.7**
	2.3nm,0.5s,baz=165,slow=8.6,SNR=7.8						
SONM	**Songino Array**	**41.07**	**321**	P	**P**	**15 06 31.7**	**+0.3**
	0.3nm,0.5s,baz=124,slow=9.7,SNR=2.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**41.15**	**194**	P	**P**	**15 06 30.7**	**-1.3**
	0.2nm,0.5s,baz=13,slow=8.4,SNR=1.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.84**	**194**	P	**P**	**15 07 00.9**	**-1.1**
	0.4nm,0.6s,baz=15,slow=8.6,SNR=3.1						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**55.95**	**322**	P	**P**	**15 08 26.8**	**+1.1**
	0.4nm,0.5s,baz=107,slow=8.0,SNR=2.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**56.41**	**313**	P	**P**	**15 08 30.1**	**+1.0**
	0.6nm,0.8s,baz=91,slow=8.5,SNR=5.6						
MKAR				PcP	**PcP**	**15 09 28.0**	**+1.9**
	0.1nm,0.5s,baz=95,slow=4.6,SNR=0.9						
	0.6nm,0.8s						
KDAK	**Kodiak Island**	**58.78**	**34**	LR	LR	15 37 14.1	
	comp=Z,38nm,18.0s,baz=161,slow=39						
ILAR	**Eielson Array**	**62.83**	**27**	P	**P**	**15 09 13.4**	**+0.3**
	0.6nm,0.9s,baz=265,slow=6.0,SNR=4.5						
	0.6nm,0.9s						
BVAR	**Borovoye Array**	**64.41**	**320**	P	**P**	**15 09 25.0**	**+1.3**
	1.0nm,0.5s,baz=91,slow=5.8,SNR=8.0						
	1.0nm,0.5s						
YKA	**Yellowknife Ar**	**77.22**	**28**	P	**P**	**15 10 40.5**	**-0.9**
	0.3nm,0.7s,baz=293,slow=5.8,SNR=4.7						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**83.21**	**52**	P	**P**	**15 11 15.6**	**+1.0**
	0.1nm,0.3s,baz=290,slow=7.3,SNR=2.1						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**84.89**	**335**	P	**P**	**15 11 22.3**	**0.0**
	3.7nm,1.1s,baz=91,slow=5.8,SNR=6.6						
	3.7nm,1.1s						
PDAR	**Pinedale Array**	**87.66**	**45**	P	**P**	**15 11 38.6**	**+1.8**

0.2nm,0.6s,baz=292,slow=4.8,SNR=2.1
0.2nm,0.6s

*BER **15** 15:05:38.9±2.8, 76°.39N×11°.76E, h15km±10km, ML1.9, ML2.5(NAO), Confirmed Earthquake*
*NAO **15** 15:05:39.4±5.2, 76°.29N×12°.39E, h19km±41km, ML2.5*
*KOLA **15** 15:05:40.8, 76°.71N×11°.51E, h8km, ML1.8, Greenland sea*
*IEPN **15** 15:05:40.0, 76°.33N×12°.04E, h10km*

ISC 15 15:05:36.6±1.6, **76°28N**±0°.04×**11°60E**±0°.08, **h30**km±13km, **n39**, σ1§**08**/72, **1C-1D, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HSPB	**Hornsund (broa**	**1.17**	**50**	Pg		**Pb**	**15 05 58.5**	**+0.4**
HSPB				Lg		Lg	15 06 12.2	
HSPB	**Hornsund (broa**	**1.17**	**50**	*iP*		**Pb**	**15 05 58.2**	**+0.2**
HSPB				*i* S		**Sb**	**15 06 11.9**	**-0.8**
HSPB	**Hornsund (broa**	**1.17**	**50**	*eP*		**Pb**	**15 05 58.5**	**+0.4**
HSPB				*eS*		**Sb**	**15 06 12.0**	**-0.8**
HSPB				IAML			15 06 13.8	
	comp=Z,16nm,0.1s							
HSPB	**Hornsund (broa**	**1.17**	**50**	P		**Pb**	**15 05 57.9**	**-0.1**
HSPB				S		**Sb**	**15 06 11.9**	**-0.8**
BRBA	**Barentsburg A**	**1.88**	**17**	Pn		**Pb**	**15 06 09.4**	**-0.8**
BRBA				Sn		**Sn**	**15 06 28.3**	**-0.9**
BRBA	**Barentsburg A**	**1.88**	**17**	*eP*g		**Pb**	**15 06 09.5**	**-0.7**
BRBA				*eS*		**Sn**	**15 06 28.5**	**-0.7**
BRBA				*eS*g		**Sb**	**15 06 31.6**	**-1.6**
BRBA				IAML			15 06 32.0	
	comp=Z,15nm,0.2s							
BRBB	**Barentsburg B**	**1.91**	**16**	Pn		**Pb**	**15 06 09.8**	**-0.9**
BRBB				Sn		**Sn**	**15 06 29.0**	**-1.0**
BRBB	**Barentsburg B**	**1.91**	**16**	*eP*		**Pn**	**15 06 08.0**	**+0.9**
BRBB				*eP*g		**Pb**	**15 06 09.9**	**-0.9**
BRBB				*eS*		**Sn**	**15 06 29.5**	**-0.4**
BRBB				*eS*g		**Sb**	**15 06 32.7**	**-1.4**
BRBB	**Barentsburg B**	**1.91**	**16**	P		**Pn**	**15 06 07.9**	**+0.9**
BRBB				S		**Sn**	**15 06 27.4**	**-2.6**
SPA0	**Spitsbergen Ar**	**2.18**	**27**	Pn		**Pn**	**15 06 13.1**	**+2.3**
	baz=200,slow=14							
SPA0				Sn		**Sn**	**15 06 38.5**	**+1.8**
	baz=196,slow=28							
SPA0	**Spitsbergen Ar**	**2.18**	**27**	*iP*		**Pn**	**15 06 13.0**	**+2.3**
SPA0				*i* S		**Sn**	**15 06 38.3**	**+1.6**
SPA0	**Spitsbergen Ar**	**2.18**	**27**	*eP*g		**Pn**	**15 06 13.1**	**+2.3**
SPA0				*eS*g		**Sn**	**15 06 38.9**	**+2.3**
SPA0				IAML			15 06 46.2	
	comp=Z,8.9nm,0.3s							
SPITS	**Spitsbergen Ar**	**2.18**	**27**	P		**Pn**	**15 06 13.0**	**+2.3**
SPITS				S		**Sn**	**15 06 35.6**	**-1.0**
BJO1	**Bjornoya**	**2.59**	**130**	P		**Pn**	**15 06 17.5**	**+1.2**
BJO1				*eS*		**Sn**	**15 06 47.3**	**+0.6**
BJO1	**Bjornoya**	**2.59**	**130**	*eP*		**Pn**	**15 06 18.8**	**+2.4**
BJO1				*eS*		**Sn**	**15 06 47.3**	**+0.6**
BJO1				IAML			15 06 52.2	
	comp=Z,16nm,0.1s							
KBS	**Kingsbay**	**2.66**	**1**	Pn		**Pn**	**15 06 19.5**	**+2.2**
KBS				Sn		**Sn**	**15 06 45.7**	**-2.7**
KBS	**Kingsbay**	**2.66**	**1**	*eP*		**Pn**	**15 06 19.5**	**+2.2**
KBS				*eS*		**Sn**	**15 06 46.5**	**-1.9**
KBS				IAML			15 06 50.9	
	comp=Z,4.3nm,0.3s							
KBS	**Kingsbay**	**2.66**	**1**	S		**Sn**	**15 06 45.6**	**-2.8**
HOPEN	**Hopen**	**3.17**	**79**	Pn		**Pn**	**15 06 27.3**	**+2.9**
HOPEN				Sn		**Sn**	**15 07 01.8**	**+0.7**
HOPEN	**Hopen**	**3.17**	**79**	*eP*		**Pn**	**15 06 27.2**	**+2.9**
HOPEN				*eS*		**Sn**	**15 07 01.6**	**+0.5**
HOPEN	**Hopen**	**3.17**	**79**	*eP*		**Pn**	**15 06 27.3**	**+2.9**
HOPEN				*eS*		**Sn**	**15 07 01.6**	**+0.5**
HOPEN				IAML			15 07 16.6	
	comp=Z,17nm,0.7s							
HAMF	**Hammerfest**	**6.62**	**143**	Pn		**Pn**	**15 07 13.2**	**+1.6**
HAMF				Sn		**Sn**	**15 08 23.7**	**-2.1**
HAMF	**Hammerfest**	**6.62**	**143**	*eP*		**Pn**	**15 07 13.0**	**+1.4**
HAMF				*eS*		**Sn**	**15 08 23.4**	**-2.4**
HAMF				IAML			15 08 25.4	
	comp=Z,3.3nm,0.4s							
JETT	**Jettan, Norway**	**7.23**	**155**	Pn		**Pn**	**15 07 22.1**	**+2.1**
JETT				Sn		**Sn**	**15 08 39.2**	**-1.8**
JETT	**Jettan, Norway**	**7.23**	**155**	Pn		**Pn**	**15 07 22.1**	**+2.1**
JETT				Sn		**Sn**	**15 08 39.2**	**-1.8**
KIF	**Kilpisjarvi**	**7.80**	**155**	Pn		**Pn**	**15 07 29.9**	**+2.1**
KIF				Sn		**Sn**	**15 08 52.2**	**-2.7**
KIF	**Kilpisjarvi**	**7.80**	**155**	*eP*		**Pn**	**15 07 30.1**	**+2.3**
KIF				*eS*		**Sn**	**15 08 52.3**	**-2.7**
ARA0	**ARCESS Array S**	**7.89**	**142**	Pn		**Pn**	**15 07 30.4**	**+1.4**
	baz=330,slow=12							
ARA0				Sn		**Sn**	**15 08 53.8**	**-3.4**
	baz=331,slow=22							
ARA0	**ARCESS Array S**	**7.89**	**142**	Pn		**Pn**	**15 07 30.4**	**+1.4**
	slow=12							
ARA0				Sn		**Sn**	**15 08 53.8**	**-3.4**
	slow=22							
ARA0				IAML			15 09 02.8	
	comp=Z,0.7nm,0.1s							
ARCES	**ARCESS Array B**	**7.89**	**142**	P		**Pn**	**15 07 31.3**	**+2.2**
ARCES				S		**Sn**	**15 08 55.9**	**-1.2**
KEV	**Kevo**	**7.92**	**138**	*eP*		**Pn**	**15 07 30.9**	**+1.4**
VADS	**Vadso**	**8.00**	**131**	*e*		**Pn**	**15 07 32.2**	**+1.6**
VADS				*eS*		**Sn**	**15 08 56.3**	**-3.5**
VADS				IAML			15 09 01.2	
	comp=Z,3.8nm,0.4s							
KTK1	**Kautokeino**	**8.07**	**149**	*eP*		**Pn**	**15 07 34.5**	**+3.0**
LOF	**Lofoten**	**8.22**	**175**	*eP*		**Pn**	**15 07 34.8**	**+1.2**
ZFI	**Zemlya Franca-**	**8.31**	**41**	*eP*		**Pn**	**15 07 37.6**	**+2.9**
ZFI				*eS*		**Sn**	**15 09 04.3**	**-3.1**
	comp=Z,6.5nm,1.8s							
STEI	**Steigen**	**8.47**	**171**	*e*		**Pn**	**15 07 39.0**	**+2.1**
HEF	**Hetta**	**8.69**	**149**	*e*		**Pn**	**15 07 42.1**	**+2.1**
TERR	**Teriberka**	**9.87**	**124**	S		**Sn**	**15 09 40.3**	**-5.2**
APA0	**Apatity Array**	**10.85**	**132**	S		**Sn**	**15 10 06.9**	**-2.7**

*IDC **15** 15:09:19.7±0.6, 3°.96S×150°.59E, h470km±7km, mb3.1/12, mbtmp4.0/15, Error ellipse: s-maj=15.4km s-min=9.8km az=114.0*
*NEIC **15** 15:09:20.1±1.4, 3°.95S±0°.1×150°.5E±0°.1, h469km±9km, mb4.2/61, Error ellipse: s-maj=16.5km s-min=14.8km az=101.0*

ISC 15 15:09:18.8±0.4, **3°.89S**±0°.06×**150°.49E**±0°.07, **h450**km, **n107**, σ1§**28**/112, **mb4.0/41, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.58**	**105**	P		**P**	**15 10 20.3**	**+3.0**
	55nm,0.4s,baz=307,slow=0.3,SNR=30							
KRVT				S		**S**	**15 11 07.5**	**+2.9**
	22nm,0.4s,baz=202,slow=15,SNR=3.6							
RABL	**Rabaul**	**1.69**	**100**	P		**P**	**15 10 20.5**	**+2.6**
MANU	**Manus Island**	**3.62**	**300**	P		**P**	**15 10 34.1**	**+3.3**
PMG	**Port Moresby**	**6.40**	**211**	P		**P**	**15 10 59.8**	**+2.5**
	28nm,0.3s,baz=48,slow=5.8,SNR=33							
PMG				S		**S**	**15 12 21.2**	**+3.4**
	14nm,0.7s,baz=33,slow=9.2,SNR=2.3							
PMG	**Port Moresby**	**6.40**	**211**	P		**P**	**15 10 59.5**	**+2.2**
PMG	**Port Moresby**	**6.40**	**211**	P		**P**	**15 11 00.0**	**+2.7**
HNR	**Honiara**	**10.88**	**121**	P		**P**	**15 11 46.2**	**+0.6**
	696nm,0.3s,baz=245,slow=6.9,SNR=9.5							
HNR	**Honiara**	**10.88**	**121**	P		**P**	**15 11 45.6**	**0.0**
COEN	**Coen**	**12.33**	**215**	P		**P**	**15 12 03.4**	**+2.0**
COEN	**Coen**	**12.33**	**215**	P		**P**	**15 12 03.3**	**+1.9**
PATS	**Pohnpei**	**13.21**	**36**	P		**P**	**15 12 12.2**	**+1.3**
TV1H	**Townsville Har**	**15.70**	**193**	P		**P**	**15 12 38.9**	**+1.5**
CTA	**Charters Tower**	**16.62**	**194**	P		**P**	**15 12 48.6**	**+1.4**
	4.4nm,0.7s,baz=12,slow=11,SNR=13							
CTAO	**Charters Tower**	**16.62**	**194**	P		**P**	**15 12 48.4**	**+1.2**
CTAO				IAmb		IAmb	15 12 51.1	
	comp=Z,6.6nm,0.8s							
CTAO	**Charters Tower**	**16.62**	**194**	P		**P**	**15 12 48.5**	**+1.4**
FAKI	**Fak Fak**	**18.24**	**272**	P		**P**	**15 13 04.5**	**+0.4**
FAKI	**Fak Fak**	**18.24**	**272**	P		**P**	**15 13 04.7**	**+0.6**
SIJI	**Sorong**	**19.44**	**278**	P		**P**	**15 13 17.0**	**+1.7**
	comp=Z,8.6nm,0.7s,baz=116,slow=9.5,SNR=8.8							
QIS	**Mount Isa**	**19.66**	**212**	P		**P**	**15 13 17.1**	**-0.2**
KDU	**Kakadu**	**19.84**	**243**	P		**P**	**15 13 18.4**	**-0.5**
MTN	**Manton Dam**	**21.10**	**244**	P		**P**	**15 13 29.0**	**-1.4**
MTN				IAmb		IAmb	15 14 04.6	
	comp=Z,18nm,1.4s							
EIDS	**Eidsvold**	**21.36**	**179**	P		**P**	**15 13 32.1**	**-0.5**
EIDS				IAmb		IAmb	15 13 35.5	
	comp=Z,14nm,1.1s							
WB0	**Warramunga Arr**	**22.26**	**224**	P		**P**	**15 13 40.4**	**-0.5**
WB0				IAmb		IAmb	15 14 03.9	
	comp=Z,12nm,1.5s							
WR0	**Warramunga Ar**	**22.29**	**223**	P		**P**	**15 13 41.0**	**-0.1**
WRAB	**Tennant Creek**	**22.40**	**223**	P		**P**	**15 13 41.9**	**-0.3**
WB2	**Warramunga Ar**	**22.41**	**223**	P		**P**	**15 13 41.9**	**-0.3**
WB2				IAmb		IAmb	15 14 03.3	
	comp=Z,6.1nm,1.2s							
WRA	**Warramunga Ar**	**22.42**	**223**	P		**P**	**15 13 41.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=48,slow=9.9,SNR=6.3							
WRA				S		**S**	**15 17 12.1**	**-3.7**
	comp=Z,0.2nm,0.6s,baz=48,slow=16,SNR=1.6							
WRA				ScP		**ScP**	**15 20 11.6**	**-3.5**
	comp=Z,0.5nm,1.0s,baz=46,slow=2.6,SNR=5.0							
	comp=Z,0.4nm,0.4s							
RMQ	**Roma**	**22.53**	**184**	P		**P**	**15 13 42.3**	**-0.9**
TARA	**Tarawa**	**23.02**	**77**	P		**P**	**15 13 47.3**	**-0.5**
LIFNC	**LIFOU**	**23.39**	**137**	P		**P**	**15 13 50.0**	**-1.0**
DZM	**Mont Dzumac**	**23.79**	**141**	P		**P**	**15 13 54.1**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=335,slow=19,SNR=6.8							
	comp=Z,3.4nm,0.6s							
DZM	**Mont Dzumac**	**23.79**	**141**	P		**P**	**15 13 52.7**	**-2.0**
DZM				IAmb		IAmb	15 14 17.4	
	comp=Z,10nm,1.2s							
DZM	**Mont Dzumac**	**23.79**	**141**	P		**P**	**15 13 54.7**	**0.0**
AS01	**Alice Springs**	**25.33**	**218**	P		**P**	**15 14 07.5**	**-0.8**
AS31	**Alice Springs**	**25.36**	**218**	P		**P**	**15 14 07.6**	**-1.0**
ASAR	**Alice Springs**	**25.36**	**218**	P		**P**	**15 14 08.0**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=46,slow=7.9,SNR=25							
ASAR				ScP		**ScP**	**15 20 20.4**	**-2.8**
	comp=Z,0.7nm,0.9s,baz=45,slow=3.1,SNR=5.0							
	comp=Z,0.3nm,0.4s							
ASAR	**Alice Springs**	**25.36**	**218**	P		**P**	**15 14 07.4**	**-1.2**
ARMA	**Armidale**	**26.40**	**178**	P		**P**	**15 14 16.4**	**-1.5**
CMSA	**Cobar Meteorol**	**27.87**	**189**	P		**P**	**15 14 29.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**28.13**	**238**	P		**P**	**15 14 32.4**	**-0.6**
STKA	**Stephens Creek**	**29.07**	**196**	P		**P**	**15 14 40.3**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=34,slow=16,SNR=3.3							
	comp=Z,0.4nm,0.3s							
STKA	**Stephens Creek**	**29.07**	**196**	P		**P**	**15 14 40.3**	**-0.8**
WRKA	**Warakurna**	**29.96**	**223**	P		**P**	**15 14 48.0**	**-1.1**
PSA00	**Pilbara Seismi**	**34.55**	**237**	P		**P**	**15 15 28.4**	**-0.1**
PSA00				IAmb		IAmb	15 15 43.6	
	comp=Z,23nm,1.4s							
MJAR	**Matsushiro Arr**	**41.83**	**345**	P		**P**	**15 16 27.2**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=166,slow=5.6,SNR=5.8							
	comp=Z,1.7nm,0.9s							
MAJO	**Matsushiro**	**41.83**	**345**	P		**P**	**15 16 27.2**	**-0.7**
TCW	**Tory Channel**	**42.85**	**153**	P		**P**	**15 16 35.7**	**-0.1**
TUWZ	**Tuamarina**	**42.88**	**154**	P		**P**	**15 16 35.6**	**-0.5**
JTM	**Tenmabayashi**	**45.30**	**350**	P		**P**	**15 16 54.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**55.41**	**295**	P		**P**	**15 18 09.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=115,slow=6.1,SNR=2.8							
	comp=Z,0.4nm,0.4s							
PEA0B	**Petropavlovsk-**	**57.12**	**5**	P		**P**	**15 18 21.0**	**+0.1**
PETK	**Petropavlovsk-**	**57.12**	**5**	P		**P**	**15 18 20.5**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=160,slow=6.0,SNR=18							
	comp=Z,2.8nm,0.6s							
SONM	**Songino Array**	**64.35**	**329**	P		**P**	**15 19 10.0**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=140,slow=5.9,SNR=5.8							
	comp=Z,0.6nm,0.5s							
UNV	**Unalaska Valle**	**67.79**	**26**	P		**P**	**15 19 29.8**	**-0.7**
BILL	**Bilibino**	**72.62**	**6**	P		**P**	**15 19 58.9**	**-0.1**
OHAK	**Old Harbor**	**75.81**	**28**	P		**P**	**15 20 17.3**	**0.0**
KDAK	**Kodiak Island**	**76.42**	**28**	P		**P**	**15 20 20.9**	**+0.2**
P19K	**Oil Pt**	**77.11**	**26**	P		**P**	**15 20 24.2**	**-0.4**
L19K	**White Mountain**	**77.81**	**23**	P		**P**	**15 20 28.6**	**+0.3**
L19K				IAmb		IAmb	15 20 47.1	
	comp=Z,9.5nm,1.4s							
CNPM	**China Poot**	**77.91**	**26**	P		**P**	**15 20 29.0**	**+0.1**
MK31	**Makanchi Array**	**78.14**	**319**	P		**P**	**15 20 30.5**	**0.0**
MKAR	**Makanchi Array**	**78.14**	**319**	P		**P**	**15 20 30.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=100,slow=6.8,SNR=7.4							
	comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**78.14**	**319**	P		**P**	**15 20 30.6**	**+0.1**
MAKZ	**Makanchi**	**78.35**	**319**	P		**P**	**15 20 31.7**	**+0.1**
K20K	**Telida**	**78.76**	**22**	P		**P**	**15 20 32.8**	**-0.6**
K20K				IAmb		IAmb	15 20 34.3	
	comp=Z,3.2nm,0.8s							
SKT	**Skwentna**	**79.03**	**24**	P		**P**	**15 20 34.4**	**-0.4**
SKT				IAmb		IAmb	15 21 17.0	
	comp=Z,16nm,1.5s							
SUA	**Susitna One**	**79.09**	**25**	P		**P**	**15 20 34.3**	**-1.0**
SUA				IAmb		IAmb	15 21 11.9	
	comp=Z,22nm,1.5s							
ZALV	**Zalesovo Beam**	**79.13**	**327**	P		**P**	**15 20 34.6**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=110,slow=5.4,SNR=7.1							
	comp=Z,1.4nm,0.5s							
ZALV	**Zalesovo Beam**	**79.13**	**327**	P		**P**	**15 20 34.7**	**-0.8**
J20K	**Nowinta River**	**79.18**	**22**	P		**P**	**15 20 35.6**	**0.0**
J20K				IAmb		IAmb	15 20 47.0	
	comp=Z,5.2nm,1.2s							
RC01	**Rabbit Creek A**	**79.33**	**25**	P		**P**	**15 20 36.4**	**-0.1**
RC01				IAmb		IAmb	15 20 37.2	
	comp=Z,9.4nm,1.0s							
CAST	**Castle Rocks**	**79.55**	**23**	P		**P**	**15 20 37.0**	**-0.6**
CAST				IAmb		IAmb	15 20 37.8	
	comp=Z,5.3nm,1.2s							
PWL	**Port Wells**	**79.83**	**26**	P		**P**	**15 20 38.5**	**-0.6**
KTH	**Kantishna Hill**	**80.06**	**23**	P		**P**	**15 20 39.2**	**-1.2**
KTH				IAmb		IAmb	15 20 44.5	
	comp=Z,13nm,1.5s							
TRF	**Thorofare Moun**	**80.26**	**23**	P		**P**	**15 20 40.4**	**-1.1**
TRF				IAmb		IAmb	15 20 40.9	
	comp=Z,8.7nm,1.1s							
SML	**Sawmill**	**80.27**	**25**	P		**P**	**15 20 41.0**	**-0.5**
IMAR	**Indian Mountai**	**80.31**	**20**	P		**P**	**15 20 41.2**	**-0.3**
H21K	**Melozitna Rive**	**80.47**	**21**	P		**P**	**15 20 42.2**	**-0.2**
I21K	**Tanana**	**80.50**	**21**	P		**P**	**15 20 42.7**	**+0.2**
I21K				IAmb		IAmb	15 20 45.8	
	comp=Z,8.0nm,1.4s							
MLY	**Manley**	**80.88**	**22**	P		**P**	**15 20 43.9**	**-0.7**
MLY				IAmb		IAmb	15 20 44.9	
	comp=Z,4.0nm,0.6s							
MCK	**McKinley**	**80.93**	**23**	P		**P**	**15 20 43.8**	**-1.1**
MCK				IAmb		IAmb	15 20 44.4	
	comp=Z,5.9nm,0.9s							
NEA2	**Nenana**	**81.29**	**22**	P		**P**	**15 20 45.7**	**-1.0**
NEA2				IAmb		IAmb	15 20 45.8	
	comp=Z,2.5nm,0.6s							
I23K	**Minto, Yukon-K**	**81.45**	**22**	P		**P**	**15 20 46.9**	**-0.6**
WRH	**Wood River Hil**	**81.60**	**23**	P		**P**	**15 20 46.9**	**-1.3**
WRH				IAmb		IAmb	15 20 49.2	
	comp=Z,3.9nm,1.0s							
KURK	**Kurchatov**	**81.65**	**322**	P		**P**	**15 20 47.7**	**-1.0**
KURK				IAmb		IAmb	15 20 50.0	
	comp=Z,5.5nm,1.4s							
MDM	**Murphy Dome**	**81.78**	**22**	P		**P**	**15 20 47.7**	**-1.5**
CCB	**Clear Creek Bu**	**81.79**	**23**	P		**P**	**15 20 47.6**	**-1.7**
HDA	**Harding Lake**	**82.01**	**23**	P		**P**	**15 20 49.1**	**-1.3**
WAX	**Waxell Ridge**	**82.10**	**27**	P		**P**	**15 20 51.3**	**+0.2**
POKR	**Poker Plat Res**	**82.15**	**22**	P		**P**	**15 20 49.6**	**-1.5**
POKR				IAmb		IAmb	15 21 02.7	
	comp=Z,3.1nm,0.8s							
IL31		**82.20**	**23**	P		**P**	**15 20 49.7**	**-1.6**
ILAR	**Eielson Array**	**82.20**	**23**	P		**P**	**15 20 49.5**	**-1.8**
	comp=Z,2.9nm,0.7s,baz=251,slow=5.1,SNR=50							
	comp=Z,2.9nm,0.7s							
H24K	**Noodor Dome**	**82.32**	**21**	P		**P**	**15 20 51.8**	**-0.2**
RIDG	**Independent Ri**	**82.56**	**24**	P		**P**	**15 20 52.8**	**-0.5**
RIDG				IAmb		IAmb	15 21 15.9	
	comp=Z,12nm,1.5s							
SCRK	**Sand Creek**	**83.00**	**24**	P		**P**	**15 20 54.9**	**-0.7**
SCRK				IAmb		IAmb	15 21 37.4	
	comp=Z,6.1nm,1.5s							
J26L	**Joseph Creek**	**83.38**	**23**			**P**	**15 20 58.0**	**+0.5**
J26L				IAmb		IAmb	15 21 09.9	
	comp=Z,4.3nm,1.4s							
BCAR	**Beaver Creek A**	**83.56**	**25**			**P**	**15 20 58.5**	**+0.1**
K27K	**Chicken**	**83.80**	**24**			**P**	**15 21 00.2**	**+0.8**
K27K				IAmb		IAmb	15 21 27.3	
	comp=Z,9.0nm,1.4s							
BMAR	**Burnt Mountain**	**84.20**	**21**			**P**	**15 21 01.9**	**+0.5**
EGAK	**Eagle**	**84.45**	**24**			**P**	**15 21 02.4**	**-0.2**
EGAK				IAmb		IAmb	15 21 03.7	
	comp=Z,3.2nm,1.1s							
DAWY	**Dawson**	**84.92**	**25**			**P**	**15 21 05.3**	**+0.3**
DAWY				IAmb		IAmb	15 21 05.8	
	comp=Z,2.2nm,0.7s							
M30M	**Minto, Yukon**	**85.56**	**26**			**P**	**15 21 08.4**	**+0.2**
M30M				IAmb		IAmb	15 21 34.3	
	comp=Z,7.5nm,1.4s							
WHY	**Whitehorse**	**85.90**	**28**			**P**	**15 21 09.8**	**-0.1**
WHY				IAmb		IAmb	15 21 31.3	
	comp=Z,11nm,1.4s							
INK	**Inuvik**	**88.44**	**21**			**P**	**15 21 20.8**	**-0.7**
YKA	**Yellowknife Ar**	**95.70**	**28**	P		**P**	**15 21 53.9**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=277,slow=5.1,SNR=4.8							
	comp=Z,0.3nm,0.7s							
GERES	**GERESS Array B**	**122.08**	**328**	PKP		**PKPdf**	**15 27 20.5**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=56,slow=1.8,SNR=4.6							
TORD	**Torodi Ar. Bea**	**147.84**	**289**	PKPbc		**PKPdf**	**15 28 12.1**	**+2.4**
	comp=Z,3.5nm,0.6s,baz=86,slow=2.5,SNR=2.4							

*DJA **15** 15:26:29.0±0.6, 6°.5S×155°.5E±°, h98km±6km, M4.7/13, mB5.0/1, mb4.3/13, MLv4.9/3, Mw(mB)4.4/1*
*NEIC **15** 15:26:29.5±1.4, 6°.22S±0°.04×154°.53E±0°.06, h35km±1km, mb4.7/50, Error ellipse: s-maj=11.1km s-min=4.7km az=123.0*
*IDC **15** 15:26:32.4±1.3, 6°.14S×154°.45E, h71km±11km, mb3.9/16, mbtmp4.2/20, MS3.5/22, Error ellipse: s-maj=13.4km s-min=9.6km az=45.0*

ISC 15 15:26:31.7±0.4, **6°21S**±0°.05×**154°47E**±0°.05, **h61**km, **n115**, σ1§**32**/112, **mb4.5/47, 2D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**3.04**	**311**			**Pn**	**15 27 17.5**	**+0.1**
KRVT	**Keravat (AS076**	**3.08**	**308**	P		**Pn**	**15 27 18.3**	**+0.4**
	74nm,0.3s,baz=163,slow=3.8,SNR=94							
KRVT				S		**Sn**	**15 27 54.0**	**+0.6**
	279nm,0.4s,baz=73,slow=14,SNR=7.4							
KRVT				LR		LR	15 28 46.1	
	comp=Z,595nm,19.1s,baz=220,slow=44							
HNR	**Honiara**	**6.31**	**121**	P		**Pn**	**15 28 02.2**	**+0.1**
	1μm,0.6s,baz=274,slow=0.8,SNR=10							
HNR				S		**Sn**	**15 29 19.4**	**+6.6**
	4μm,0.9s,baz=294,slow=15,SNR=7.3							
HNR				LR		LR	15 30 41.9	
	comp=Z,4μm,18.1s,baz=354,slow=39							
HNR	**Honiara**	**6.31**	**121**	Pn		**Pn**	**15 28 00.8**	**-1.3**
PMG	**Port Moresby**	**7.91**	**246**	P		**Pn**	**15 28 24.9**	**+0.8**
	98nm,0.7s,baz=54,slow=9.4,SNR=58							
PMG				S		**Sn**	**15 29 54.2**	**+2.1**
	78nm,0.8s,baz=160,slow=23,SNR=11							
PMG				LR		LR	15 31 23.7	
	comp=Z,318nm,20.0s,baz=70,slow=37							
PMG	**Port Moresby**	**7.91**	**246**	Pn		**Pn**	**15 28 24.0**	**0.0**
PATS	**Pohnpei**	**13.51**	**17**	Pn		**Pn**	**15 29 39.2**	**-1.4**
COEN	**Coen**	**13.52**	**234**	Pn		**Pn**	**15 29 41.2**	**+0.5**
GENI	**Genyem**	**14.70**	**284**	P		**Pn**	**15 29 57.7**	**+1.4**
CTA	**Charters Tower**	**15.94**	**209**	P		**Pn**	**15 30 12.3**	**+0.1**
	3.9nm,0.6s,baz=32,slow=19,SNR=2.5							
CTA				LR		LR	15 35 13.8	
	comp=Z,146nm,20.9s,baz=73,slow=33							
CTAO	**Charters Tower**	**15.94**	**209**	Pn		**Pn**	**15 30 10.6**	**-1.6**
LIFNC	**LIFOU**	**19.06**	**141**	P		**P**	**15 30 49.0**	**-0.2**
LIFNC				IAmb		IAmb	15 30 50.7	
	comp=Z,24nm,0.8s							
EIDS	**Eidsvold**	**19.33**	**189**	P		**P**	**15 30 52.1**	**+0.1**
DZM	**Mont Dzumac**	**19.56**	**145**	P		**P**	**15 30 54.9**	**+0.1**
	comp=Z,6.5nm,0.5s,baz=315,slow=14,SNR=18							
DZM				LR		LR	15 37 50.8	
	comp=Z,164nm,18.2s,baz=24,slow=35							
DZM	**Mont Dzumac**	**19.56**	**145**			**P**	**15 30 54.4**	**-0.4**
ONTNC	**Ouen Toro**	**19.76**	**145**	P		**P**	**15 30 57.1**	**+0.3**
ONTNC				IAmb		IAmb	15 31 32.2	
	comp=Z,17nm,0.9s							
OUENC	**Ouen Island,

USRK Ussuriysk Ar. 54.12 340 P **P** **15 35 48.2 -2.1**
comp=Z,1.6nm,0.7s,baz=140,slow=42,SNR=1.9
comp=Z,1.6nm,0.7s
GSI Gunungsitoli 57.28 276 P **P** **15 36 13.4 -0.3**
GSI IAmb IAmb 15 36 34.5
comp=Z,22nm,1.4s
KMI Kunming 59.14 304 ⇓P **P** **15 36 26.0 -0.7**
KMI pmax pmax
comp=Z,15nm,0.9s
PETK Petropavlovsk- 59.15 2 P **P** **15 36 25.9 -0.1**
comp=Z,1.2nm,0.6s,baz=184,slow=8.4,SNR=8.6
PETK LR LR 15 58 54.6
comp=Z,31nm,20.9s,baz=137,slow=33
comp=Z,1.2nm,0.6s
CMAR Chiang Mai Arr 59.97 295 P **P** **15 36 33.2 +0.9**
comp=Z,1.1nm,0.7s,baz=118,slow=5.8,SNR=7.6
CMAR LR LR 16 02 41.1
comp=Z,14nm,18.6s,baz=85,slow=36
comp=Z,1.1nm,0.7s
PZH PanZhiHua 60.53 305 P **P** **15 36 37.0 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,4.3s
XLT XiLinHaoTe 60.72 329 ⇓*i*P **P** **15 36 40.6 +3.6**
XLT pP pwP 15 36 55.3 +0.4
XLT pmax pmax
comp=Z,140nm,5.9s
XLT pmax pmax
comp=Z,19nm,0.6s
HHC Hu-ho-hao-te 61.15 324 *e*P **P** **15 36 44.5 +4.5**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,300nm,4.6s
CASY Casey 67.18 198 P **P** **15 37 18.5 -0.4**
BRDH Bariadhala 67.78 297 LR LR 16 05 06.3
comp=Z,20nm,21.8s,baz=112,slow=34
GTA Gaotai 67.81 317 *e*P **P** **15 37 27.8 +4.2**
GTA sP PcP 15 37 50.6 +0.7
GTA pmax pmax
comp=Z,2.0nm,1.1s
ULN Ulaanbaatar 68.06 328 P **P** **15 37 24.3 -0.7**
ULN IAmb IAmb 15 37 29.8
comp=Z,3.0nm,0.8s
SONM Songino Array 68.39 327 P **P** **15 37 26.9 -0.2**
comp=Z,1.9nm,0.7s,baz=151,slow=3.3,SNR=7.7
comp=Z,1.9nm,0.7s
SONM Songino Array 68.39 327 P **P** **15 37 26.7 -0.3**
SHL Shillong 68.44 300 P **P** **15 37 28.1 +0.2**
LSA Lhasa 70.39 304 P **P** **15 37 40.7 +0.4**
LSA IAmb IAmb 15 37 42.1
comp=Z,7.0nm,0.8s
VNDA Vanda 71.38 178 P **P** **15 37 43.5 -1.2**
TAPN Taplejung 72.55 301 *e*P **P** **15 37 53.4 +0.3**
comp=Z,19nm,0.7s
ODAN Odare 72.68 300 *e*P **P** **15 37 54.2 +0.4**
comp=Z,4.5nm,0.7s
RAMN Ramite 73.38 300 *e*P **P** **15 37 58.0 +0.1**
comp=Z,11nm,0.6s
JIRN Jiri 73.93 301 *e*P **P** **15 38 01.4 +0.1**
comp=Z,13nm,0.6s
PKI Pulchoki 74.57 301 *e*P **P** **15 38 04.8 -0.2**
PKIN Phulchoki 74.58 301 *e*P **P** **15 38 04.9 -0.1**
KKN Kakani 74.74 301 *e*P **P** **15 38 05.8 0.0**
DMN Daman 74.84 301 *e*P **P** **15 38 06.8 +0.3**
SII Sitkinak Islan 75.26 27 P **P** **15 38 07.1 -0.8**
GKN Gorkha 75.34 301 *e*P **P** **15 38 09.0 -0.2**
KOLN Koldanda 76.17 300 *e*P **P** **15 38 14.0 0.0**
comp=Z,2.6nm,0.7s
DANN Dangsing 76.18 301 *e*P **P** **15 38 13.8 -0.4**
comp=Z,20nm,0.8s
P18K Big Mountain, 76.55 24 P **P** **15 38 15.2 0.0**
P18K IAmb IAmb 15 38 25.4
comp=Z,17nm,1.3s
WMQ Urumqi 77.89 317 *e*P **P** **15 38 25.4 +2.2**
CNPM China Poot 78.27 25 P **P** **15 38 25.4 +0.6**
L19K White Mountain 78.42 22 P **P** **15 38 26.2 +0.6**
L19K IAmb IAmb 15 38 29.8
comp=Z,8.2nm,0.8s
J20K Nowinta River 79.91 20 P **P** **15 38 34.0 +0.4**
J20K IAmb IAmb 15 38 38.2
comp=Z,4.8nm,0.8s
CAST Castle Rocks 80.19 22 P **P** **15 38 34.7 -0.5**
CAST IAmb IAmb 15 38 38.4
comp=Z,4.4nm,0.8s
KTH Kantishna Hill 80.69 22 P **P** **15 38 37.9 -0.1**
KTH IAmb IAmb 15 39 16.5
comp=Z,8.4nm,1.2s
IMAR Indian Mountai 81.16 19 P **P** **15 38 39.8 -0.5**
NEA2 Nenana 81.95 21 P **P** **15 38 46.6 +2.1**
I23K Minto, Yukon-K 82.15 21 P **P** **15 38 48.2 +2.7**
I23K IAmb IAmb 15 39 22.9
comp=Z,7.4nm,1.5s
WRH Wood River Hil 82.24 22 P **P** **15 38 46.5 +0.4**
WRH IAmb IAmb 15 39 11.0
comp=Z,8.9nm,1.5s
MKAR Makanchi Array 82.47 319 P **P** **15 38 47.2 -0.5**
comp=Z,0.9nm,0.8s,baz=99,slow=5.7,SNR=6.4
MKAR LR LR 16 17 16.3
comp=Z,14nm,18.3s,baz=72,slow=37
comp=Z,0.9nm,0.8s
MKAR Makanchi Array 82.47 319 P **P** **15 38 48.0 +0.4**
IL31 82.84 22 P **P** **15 38 50.0 +0.9**
IL31 IAmb IAmb 15 38 51.0
comp=Z,8.5nm,1.4s
ILAR Eielson Array 82.84 22 P **P** **15 38 46.9 -2.3**
comp=Z,1.5nm,0.7s,baz=251,slow=5.6,SNR=26
comp=Z,1.5nm,0.7s
ILAR Eielson Array 82.84 22 P **P** **15 38 50.0 +0.8**
RIDG Independent Ri 83.09 23 P **P** **15 38 51.1 +0.5**
RIDG IAmb IAmb 15 38 53.7
comp=Z,8.2nm,1.1s
ZALV Zalesovo Beam 83.24 326 P **P** **15 38 50.1 -1.4**
comp=Z,0.8nm,0.6s,baz=132,slow=8.4,SNR=3.7
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 83.76 180 P **P** **15 38 53.9 -0.3**
QSPA IAmb IAmb 15 38 54.8
comp=Z,7.2nm,0.7s
KURBB Kurchatov Arra 85.92 322 P **P** **15 39 03.9 -1.1**
comp=Z,0.4nm,0.5s,baz=107,slow=5.1,SNR=1.9
comp=Z,0.4nm,0.5s
YBH Yreka Blue Hor 88.75 48 LR LR 16 15 59.3
comp=Z,78nm,18.3s,baz=268,slow=33
BVAR Borovoye Array 91.35 323 P **P** **15 39 28.3 -2.5**
comp=Z,1.6nm,0.8s,baz=91,slow=5.8,SNR=1.8
comp=Z,1.6nm,0.8s
NVAR Mina Array Bea 91.65 52 P **P** **15 39 32.5 -0.4**
comp=Z,2.1nm,0.8s,baz=254,slow=6.5,SNR=12
comp=Z,2.1nm,0.8s
NVAR Mina Array Bea 91.65 52 P **P** **15 39 32.6 -0.2**
PFO Pinyon Flats O 92.62 57 LR LR 16 13 12.2
comp=Z,48nm,20.4s,baz=242,slow=30
NEW Newport 93.53 42 LR LR 16 15 19.1
comp=Z,88nm,19.6s,baz=240,slow=31
PDAR Pinedale Array 98.56 48 P **P** **15 40 02.5 -1.8**
comp=Z,0.4nm,0.6s,baz=251,slow=2.8,SNR=5.4
PDAR LR LR 16 22 26.2
comp=Z,40nm,18.1s,baz=276,slow=34
comp=Z,0.4nm,0.6s
BOSA Boshof 120.09 232 PKP **PKPdf** **15 45 15.9 -0.6**
comp=Z,1.2nm,0.5s,baz=89,slow=5.3,SNR=5.3
BDFB Brasilia 148.91 134 PKPbc **PKPbc** **15 46 12.3 -1.5**
comp=Z,1.2nm,0.4s,baz=206,slow=4.9,SNR=3.4
TORD Torodi Ar. Bea 152.31 286 PKPbc **PKPbc** **15 46 20.3 -1.5**
comp=Z,3.7nm,0.6s,baz=58,slow=2.3,SNR=2.5
DBIC Dimbokro 159.45 272 PKPab **PKPab** **15 47 02.0 -0.5**
comp=Z,3.5nm,0.8s,baz=101,slow=16,SNR=5.0

*IDC **15** 15:30:58.3±1.6, 40.˚58N×77.˚73E, h0km, mb3.5/2, mbtmp3.2/6, ML2.6/4, Error ellipse: s-maj=20.0km s-min=16.8km az=31.0*
*KRNET **15** 15:31:00.1±0.1, 40.˚61N×77.˚63E, h22km, mb3.4*
*SOME **15** 15:31:01.4, 40.˚70N×77.˚53E, h10km*
*KNET **15** 15:31:01.9±0.6, 40.˚69N×77.˚42E, h0km, ml3.4, Error ellipse: s-maj=6.6km s-min=4.4km az=61.0*
*NNC **15** 15:31:04.8±1.7, 40.˚81N×77.˚85E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=12.0km s-min=10.1km az=160.0*
ISC 15 15:30:58.8±2.0, 40.˚59N±0.˚07×77.˚55E±0.˚03, h5km±13km, n72, σ1s62/98, 36C-18D, Kyrgyzstan-Xinjiang border region

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

NRN Naryn 1.44 306 ⇓*i*P **Pg** **15 31 27.9 +1.5**
baz=3.0
NRN ⇓*i*S **Sg** **15 31 48.2 +3.1**
baz=3.0
KDJ Kajisay 1.56 350 ⇑*e*P **Pb** **15 31 28.8 +0.5**
baz=48
KDJ ⇑*i*S **Sg** **15 31 49.8 +0.9**
baz=48
ULHL Ulahol 1.92 330 ⇓P **Pg** **15 31 36.1 +0.4**
22nm,0.2s,SNR=6.9
ULHL ⇑S **Sg** **15 32 02.0 +1.5**
163nm,0.3s
ULHL Ulahol 1.92 330 ⇑*e*P **Pb** **15 31 35.6 +1.1**
baz=28
ULHL ⇑*i*S **Sg** **15 32 01.4 +0.9**
baz=28
PRZ Przheval'sk 1.99 18 ⇑*i*P **Pb** **15 31 36.0 +0.3**
baz=17
PRZ ⇑*i*S **Sg** **15 32 02.5 -0.3**
baz=17
ANVS Anan'yevo 2.19 2 ⇑*i*P **Pb** **15 31 38.7 -0.3**
baz=1.0
ANVS ⇑*i*S **Sb** **15 32 06.9 +0.3**
baz=1.0
BOOM Boomskoye usch 2.25 328 ⇓*i*P **Pb** **15 31 39.9 -0.1**
baz=27
BOOM ⇓*i*S **Sg** **15 32 09.2 -1.8**
baz=27
TNSS Tian-Shan 2.48 350 Pg **Pg** **15 31 45.8 -0.6**
187nm,0.5s
TNSS Lg Lg 15 32 17.6
119nm,0.6s
TNSS Tian-Shan 2.48 350 *e*Pg **Pg** **15 31 45.8 -0.6**
187nm,0.2s
TNSS *e*Lg Lg 15 32 17.6
119nm,0.6s
IZV Izvestkoviy 2.54 344 *e*Pg **Pg** **15 31 47.0 -0.4**
40nm,0.3s
IZV *e*Lg Lg 15 32 19.5
245nm,0.3s
SATY Saty 2.55 14 Pg **Pb** **15 31 46.6 +1.6**
64nm,0.4s
SATY Lg Lg 15 32 18.7
131nm,0.3s
SATY Saty 2.55 14 *e*Pg **Pb** **15 31 46.6 +1.6**
75nm,0.3s
SATY *e*Lg Lg 15 32 18.7
133nm,0.2s
MDOK Medeo 2.60 352 ⇓Pn **Pb** **15 31 46.5 +0.6**
85nm,0.6s
MDOK Pg **Pg** **15 31 47.6 -0.9**
105nm,0.5s
MDOK ⇑Pg **Pg** **15 31 50.0 +1.5**
44nm,0.5s
MDOK ⇑Sn **Sg** **15 32 19.3 -2.9**
23nm,0.5s
MDOK Lg Lg 15 32 20.5
178nm,0.4s
AAA Alma-Ata 2.66 350 Pg **Pg** **15 31 50.1 +0.5**
356nm,0.2s
AAA Lg Lg 15 32 25.3
294nm,0.4s
AAA Alma-Ata 2.66 350 *e*Pg **Pg** **15 31 50.1 +0.5**
356nm,0.2s
AAA *e*Lg Lg 15 32 25.3
294nm,0.4s
ZHN Zhinishke 2.66 14 *e*Pg **Pb** **15 31 46.2 -0.7**
10nm,0.1s
ZHN *e*Lg Lg 15 32 18.3
84nm,0.1s
KNDC Almaty 2.66 351 ⇓Pn **Pb** **15 31 47.2 +0.3**
12nm,0.4s
KNDC ⇑Sn **Sg** **15 32 26.0 +1.8**
373nm,0.6s
KOTS Kotyrbulak 2.66 353 Pg **Pg** **15 31 49.5 -0.3**
64nm,0.3s
KOTS Lg Lg 15 32 23.9
199nm,0.7s
KOTS Kotyrbulak 2.66 353 *e*Pg **Pg** **15 31 49.5 -0.3**
64nm,0.3s
KOTS *e*Lg Lg 15 32 23.9
199nm,0.7s
MTBS Maitube 2.67 342 Pg **Pg** **15 31 49.5 -0.4**
32nm,0.4s
MTBS Lg Lg 15 32 24.1
180nm,0.4s
MTBS Maitube 2.67 342 *e*Pg **Pg** **15 31 49.5 -0.4**
33nm,0.2s
MTBS *e*Lg Lg 15 32 24.1
180nm,0.4s
KST Kastek 2.72 335 Pg **Pg** **15 31 50.7 -0.2**
22nm,0.7s
KST Lg Lg 15 32 26.0
166nm,0.5s
KST Kastek 2.72 335 *e*Pg **Pg** **15 31 50.7 -0.2**
22nm,0.7s
KST *e*Lg Lg 15 32 26.0
166nm,0.5s
ARLS Aral 2.74 299 ⇑*e*P **Pn** **15 31 47.2 +3.6**
baz=98
ARLS ⇑*i*S **Sb** **15 32 21.7 -0.7**
baz=98
TKM2 Tokmak 2 2.75 329 ⇓P **Pb** **15 31 47.8 -0.7**
15nm,0.2s,SNR=28
TKM2 ⇑S **Sg** **15 32 24.9 -2.1**
59nm,0.3s
TKM2 Tokmak 2 2.75 329 ⇑Pn **Pb** **15 31 48.7 +0.2**
13nm,0.5s
TKM2 ⇑Pg **Pg** **15 31 55.4 +4.0**
43nm,0.8s
TKM2 ⇑Sn **Sg** **15 32 28.0 +1.0**
112nm,0.8s
TKM2 Tokmak 2 2.75 329 ⇓*i*P **Pb** **15 31 46.9 -1.6**
baz=27
TKM2 ⇓*i*S **Sb** **15 32 21.2 -1.4**
baz=27
UZB Uzynbulak 2.78 23 Pg **Pb** **15 31 50.7 +1.7**
57nm,0.5s
UZB Lg Lg 15 32 25.7
69nm,0.5s
UZB Uzynbulak 2.78 23 *e*Pg **Pb** **15 31 50.7 +1.7**
57nm,0.5s
UZB *e*Lg Lg 15 32 25.7
69nm,0.5s
UCH Uchtor 2.81 307 ⇑P **Pb** **15 31 48.8 -0.8**
SNR=12
UCH ⇑S **Sb** **15 32 26.8 +2.2**
50nm,0.5s
UCH Uchtor 2.81 307 ⇑*e*P **Pn** **15 31 48.1 +3.3**
baz=6.0
UCH ⇑*i*S **Sb** **15 32 23.2 -1.4**
baz=6.0
KBK Karagaybulak 2.84 317 ⇓P **Pb** **15 31 50.2 +0.2**
6.3nm,0.2s,SNR=39
KBK ⇑S **Sg** **15 32 27.9 -2.0**
336nm,0.7s
KBK Karagaybulak 2.84 317 ⇑*i*P **Pb** **15 31 48.4 -1.6**
baz=16
KBK ⇑*i*S **Sb** **15 32 23.9 -1.3**
baz=16
KURS Kuram 2.93 9 Pg **Pb** **15 31 53.2 +1.7**
52nm,0.8s
KURS Lg Lg 15 32 30.4
49nm,0.3s
KURS Kuram 2.93 9 *e*Pg **Pb** **15 31 53.2 +1.7**
52nm,0.8s
KURS *e*Lg Lg 15 32 30.4
49nm,0.3s
SHLS Shalkode 2.93 29 Pg **Pg** **15 31 56.2 +1.3**
43nm,0.3s
SHLS Lg Lg 15 32 35.6
54nm,0.5s
SHLS Shalkode 2.93 29 *e*Pg **Pg** **15 31 56.2 +1.3**
43nm,0.3s
SHLS *e*Lg Lg 15 32 35.6
54nm,0.5s
KPKS Kokpek 2.99 16 Pg **Pb** **15 31 52.7 +0.1**
48nm,0.2s
KPKS Kokpek 2.99 16 *e*Pg **Pb** **15 31 52.7 +0.1**
48nm,0.2s
KPKS *e*Lg Lg 15 32 29.1
59nm,0.4s
AAK Ala-Archa 3.07 313 ⇑P **Pb** **15 31 53.1 -0.9**
13nm,0.4s,SNR=9.8
AAK Ala-Archa 3.07 313 Pn **Pb** **15 31 53.0 -1.0**
0.7nm,0.3s,baz=131,slow=8.1,SNR=8.8
AAK Pg **Pg** **15 31 57.1 -0.4**
6.6nm,0.3s,baz=145,slow=12,SNR=18
AAK Lg Lg 15 32 37.7
10nm,0.3s,baz=302,slow=18,SNR=28
6.0nm,0.3s
AAK Ala-Archa 3.07 313 ⇑*e*P **Pn** **15 31 51.6 +3.5**
baz=12
AAK ⇑*i*S **Sb** **15 32 29.6 -2.2**
baz=12
KTBS Karatobe 3.18 349 Pg **Pb** **15 31 58.2 +2.3**
16nm,0.2s
KTBS Lg Lg 15 32 39.0
239nm,0.5s
KTBS Karatobe 3.18 349 *e*Pg **Pb** **15 31 58.2 +2.3**
16nm,0.2s
KTBS *e*Lg Lg 15 32 39.0
239nm,0.5s
CHMS Chumysh 3.19 320 ⇑Pn **Pg** **15 31 59.4 -0.4**
26nm,0.9s
CHMS ⇓Sn **Sg** **15 32 41.4 +0.3**
68nm,0.9s
CHMS Chumysh 3.19 320 ⇑*e*P **Pn** **15 31 53.4 +3.8**
baz=19
CHMS ⇑*i*S **Sb** **15 32 32.0 -3.1**
baz=19
AML Almayashu 3.28 299 ⇓P **Pb** **15 31 55.8 -2.0**
5.6nm,0.2s,SNR=27
CHKK Chushkaly 3.29 353 Pg **Pg** **15 32 00.9 -0.8**
28nm,0.5s
CHKK Lg Lg 15 32 43.1
176nm,0.4s
CHKK Chushkaly 3.29 353 *e*Pg **Pg** **15 32 00.9 -0.8**
28nm,0.5s
CHKK *e*Lg Lg 15 32 43.1
176nm,0.4s
KRBS Karabastau 3.40 336 Pg **Pg** **15 32 02.5 -1.4**
14nm,0.2s
KRBS Lg Lg 15 32 46.1
86nm,0.5s
KRBS Karabastau 3.40 336 *e*Pg **Pg** **15 32 02.5 -1.4**
14nm,0.2s
KRBS *e*Lg Lg 15 32 46.1
86nm,0.5s
KUU Kurty 3.42 345 Pg **Pb** **15 32 01.9 +2.0**
11nm,0.3s
KUU Lg Lg 15 32 44.8
37nm,0.3s
KUU Kurty 3.42 345 *e*Pg **Pb** **15 32 01.9 +2.0**
11nm,0.3s
KUU *e*Lg Lg 15 32 44.8
37nm,0.3s
BLB Baldybastay 3.57 11 Pg **Pg** **15 32 05.9 -1.2**
43nm,0.4s
BLB Lg Lg 15 32 51.7
143nm,0.6s
ARXS Arharly 3.62 3 Pg **Pg** **15 32 07.2 -1.0**
37nm,0.6s
ARXS Lg Lg 15 32 53.9
185nm,0.3s
ARXS Arharly 3.62 3 *e*Pg **Pg** **15 32 07.2 -1.0**
37nm,0.6s
ARXS *e*Lg Lg 15 32 53.9
185nm,0.3s
MRKS Merke 3.89 305 *e*Pg **Pg** **15 32 13.2 0.0**
24nm,0.2s
MRKS *e*Lg Lg 15 33 04.0
30nm,0.2s
DJR Jarkent 4.09 23 Pg **Pg** **15 32 15.2 -1.9**
16nm,0.3s
DJR Lg Lg 15 33 07.7
28nm,0.5s
DJR Jarkent 4.09 23 *e*Pg **Pg** **15 32 15.2 -1.9**
16nm,0.3s
DJR *e*Lg Lg 15 33 07.7
28nm,0.5s
BTLS Baital 5.14 331 Pg **Pg** **15 32 34.8 -2.3**
4.2nm,0.5s
BTLS Lg Lg 15 33 41.3
18nm,0.9s
BTLS Baital 5.14 331 *e*Pg **Pg** **15 32 34.5 -2.6**
4.2nm,0.5s
BTLS *e*Lg Lg 15 33 41.3
18nm,0.4s
KK31 Karatay Array 5.82 298 ⇓Pg **Pg** **15 32 50.2 -0.1**
1.4nm,0.5s,baz=114,slow=17,SNR=29
KK31 ⇑Lg Lg 15 34 05.2
3.5nm,0.5s,baz=110,slow=27,SNR=6.3
IUG Iuzhnay 5.87 288 Pg **Pg** **15 32 49.7 -1.4**
12nm,0.8s
IUG Iuzhnay 5.87 288 *e*Pg **Pg** **15 32 49.7 -1.4**
12nm,0.3s
IUG *e*Lg Lg 15 34 07.1
20nm,0.3s
MAKZ Makanchi 6.99 26 ⇓Pn **Pn** **15 32 43.5 +1.7**
2.6nm,1.5s
MAKZ ⇑Pg **Pb** **15 32 59.9 -0.8**
1.0nm,0.7s
MAKZ ⇑Lg Lg 15 34 40.0
5.4nm,1.0s
MK31 Makanchi Array 7.09 27 ⇑Pn **Pn** **15 32 45.3 +2.1**
0.3nm,0.3s,baz=204,slow=13,SNR=16
MK31 ⇑Pg **Pb** **15 33 00.3 -2.0**
1.3nm,0.6s,baz=205,slow=14,SNR=4.7
MK31 ⇓Lg Lg 15 34 40.1
7.2nm,0.9s
MKAR Makanchi Array 7.09 27 Pn **Pn** **15 32 43.5 +0.3**
0.4nm,0.3s,baz=204,slow=15,SNR=19
MKAR Lg Lg 15 34 39.6
0.3nm,0.3s,baz=209,slow=26,SNR=5.3
0.5nm,0.3s
KURBB Kurchatov Arra 10.05 4 Pn **Pn** **15 33 24.4 +0.6**
baz=194,slow=12,SNR=1.4
KURBB Lg Lg 15 36 14.8
0.1nm,0.3s,baz=199,slow=29,SNR=5.4
0.2nm,0.2s
KURBB Kurchatov Arra 10.05 4 ⇓Pn **Pn** **15 33 26.0 +2.2**
9.5nm,2.2s,baz=184,slow=10.0
KURBB ⇓Lg Lg 15 36 15.3
9.6nm,0.8s,baz=190,slow=20
BVAR Borovoye Array 13.36 341 Pn **Pn** **15 34 06.4 -2.6**
baz=160,slow=13,SNR=4.2
BVAR Lg Lg 15 37 54.8
baz=155,slow=21,SNR=2.9
0.2nm,0.6s
BRTR Keskin Array B 33.31 283 P **P** **15 37 38.1 +0.5**
0.4nm,0.6s,baz=88,slow=6.9,SNR=3.9
0.4nm,0.6s
ASAR Alice Springs 82.64 130 P **P** **15 43 22.7 -0.6**
0.3nm,0.8s,baz=327,slow=6.6,SNR=4.4
0.3nm,0.8s

*IDC **15** 15:52:25.1±1.4, 34.˚13N×135.˚72E, h49km±23km, mb2.9/2, mbtmp3.4/6, ML3.2/4, Error ellipse: s-maj=24.7km s-min=10.4km az=152.0*
*JMA **15** 15:52:26.2±0.1, 34.˚2N±0.˚2×135.˚8E±0.˚3, h59km, MV3.5/32, SOUTHERN NARA PREF*
JMA Felt I J1 at SOUTHERN NARA PREF .
*NIED **15** 15:52:26.2, 34.˚20N×135.˚75E, h59km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.32; $M_{θθ}$1.32; $M_{φφ}$-1.00; $M_{rθ}$0.54; $M_{θφ}$-0.97; $M_{φr}$-0.42; Fault plane solution: $M_0$1.63000×10^{14} NP1: $φ_s$155.00000°, δ87.00000°, λ21.00000°. NP2:$φ_s$64.00000°, δ69.00000°, λ177.00000°.*
ISC 15 15:52:25.9±1.0, 34.˚18N±0.˚05×135.˚74E±0.˚04, h60km±6km, n22, σ0s70/27, 12D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.12**	**289**	P		**Pn**		**15 52 35.4**	**+0.3**
JWY				S		**Sn**		**15 52 41.7**	**0.0**
JNTK	**Naratenkawa**	**0.15**	**53**	⇓*i*P		**Pn**		**15 52 35.2**	**0.0**
JNTK				⇓*e*S		**Sn**		**15 52 41.6**	**-0.4**
JTNC	**Tanabenakahech**	**0.37**	**196**	*i* P		**Pn**		**15 52 36.9**	**+0.3**
JTNC				S		**Sn**		**15 52 44.7**	**+0.3**
JKN2	**Miekihoku**	**0.45**	**82**	⇓*i*P		**Pn**		**15 52 37.4**	**+0.1**
JKN2				⇓S		**Sn**		**15 52 45.6**	**0.0**
JWM	**Minabe**	**0.46**	**224**	P		**Pn**		**15 52 37.5**	**+0.1**
JWM				S		**Sn**		**15 52 45.5**	**-0.2**
JHE	**Heguri**	**0.48**	**355**	⇓P		**Pn**		**15 52 37.5**	**-0.1**
JHE				⇓S		**Sn**		**15 52 45.6**	**-0.5**
JAWN	**Awajishima-nag**	**0.76**	**294**	⇓P		**Pn**		**15 52 40.9**	**+0.1**
JAWN				⇓S		**Sn**		**15 52 51.8**	**+0.1**
TSUJ	**Tsu 2**	**0.78**	**47**	P		**Pn**		**15 52 40.9**	**-0.1**
TSUJ				S		**Sn**		**15 52 51.4**	**-0.7**
JIE	**Ise**	**0.83**	**75**	⇓P		**Pn**		**15 52 41.8**	**+0.1**
JIE				⇓S		**Sn**		**15 52 53.2**	**-0.2**
TTO1	**TONANKAI O.B.S**	**1.03**	**122**	⇓P		**Pn**		**15 52 44.5**	**+0.4**

TTO1 ‖X 15 52 59.4
MJAR Matsushiro Arr 3.11 40 P **Pn** **15 53 12.6 +0.2**
0.4nm,0.3s,baz=232,slow=15,SNR=50
MJAR S **Sn** **15 53 48.7 +0.4**
4.3nm,0.3s,baz=275,slow=14,SNR=7.4
2.5nm,0.5s
JHJ Hachijo jima 2 3.54 106 P **Pn** **15 53 18.7 +0.3**
31nm,0.3s,baz=261,slow=19,SNR=5.7
84nm,0.4s
JNU Nakatsue 4.19 257 P **Pn** **15 53 28.0 +0.7**
1.3nm,0.3s,baz=72,slow=3.2,SNR=22
JNU S **Sn** **15 54 12.7 -2.3**
3.5nm,0.6s,baz=30,slow=20,SNR=1.1
5.0nm,0.5s
KSRS Korea Array 7.14 299 P **Pn** **15 54 08.9 +1.3**
1.0nm,0.3s,baz=119,slow=14,SNR=17
3.2nm,0.4s
SONM Songino Array 25.82 311 P **P** **15 57 52.7 +1.1**
0.1nm,0.4s,baz=104,slow=10,SNR=2.3
0.1nm,0.4s
H11N2 WAKE ISLAND Hy 31.14 109 T T 16 31 17.7
baz=302
H11N1 WAKE ISLAND Hy 31.14 110 T T 16 31 18.4
baz=302
H11N3 WAKE ISLAND Hy 31.15 109 T T 16 31 22.4
baz=302
H11S3 WAKE ISLAND Hy 31.68 112 T T 16 32 03.1
baz=304
H11S1 WAKE ISLAND Hy 31.68 112 T T 16 31 59.7
baz=304
H11S2 WAKE ISLAND Hy 31.69 112 T T 16 32 03.2
baz=304
WRA Warramunga Arr 53.84 182 P **P** **16 01 41.9 -0.8**
0.2nm,0.7s,baz=354,slow=7.8,SNR=1.5
0.2nm,0.7s

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*NOU **15** 16:16:23.3,11°.95S×167°.28E,h243km,mb4.1/29,Santa Cruz Islands*
*IDC **15** 16:16:24.7±2.9,12°.22S×167°.01E,h228km±29km, mb3.7/16,mbtmp4.2/18,Error ellipse: s-maj=20.4km s-min=13.1km az=166.0*
*NEIC **15** 16:16:26.2±2.5,12°.3S±0°.2×167°.3E±0°.2,h250km±13km, mb4.3/41,Error ellipse: s-maj=35.2km s-min=18.0km az=114.0*

ISC 15 16:16:26.3±0.5,12°.26S±0°.07×167°.14E±0°.09,h250km, n105,σ1§01/109,mb4.2/34,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**5.53**	**170**	P	**Pn**	**16 17 49.3**	**+0.6**
RTV	**Rentapao**	**5.64**	**167**	P	**Pn**	**16 17 51.1**	**+1.1**
LIFNC	**LIFOU**	**8.47**	**179**		**Pn**	**16 18 24.3**	**-1.3**
KOUNC	**Koumac, New Ca**	**8.69**	**198**		**Pn**	**16 18 29.0**	**+0.7**
KOUNC	**Koumac, New Ca**	**8.69**	**198**	P	**Pn**	**16 18 29.2**	**+0.8**
MARNC	**Mare, Loyalty**	**9.21**	**175**		**Pn**	**16 18 34.3**	**-0.7**
MARNC	**Mare, Loyalty**	**9.21**	**175**	P	**Pn**	**16 18 34.6**	**-0.4**
DZM	**Mont Dzumac**	**9.78**	**184**	P	**Pn**	**16 18 42.6**	**+0.3**
	3.6nm,0.3s,baz=41,slow=16,SNR=5.3						
DZM				S	**S**	**16 20 31.4**	**-1.2**
	2.1nm,1.0s,baz=15,slow=20,SNR=1.1						
DZM	**Mont Dzumac**	**9.78**	**184**		**Pn**	**16 18 42.2**	**-0.1**
DZM	**Mont Dzumac**	**9.78**	**184**	P	**Pn**	**16 18 43.5**	**+1.2**
ONTNC	**Ouen Toro**	**10.02**	**184**		**Pn**	**16 18 45.4**	**+0.2**
ONTNC	**Ouen Toro**	**10.02**	**184**	P	**Pn**	**16 18 46.3**	**+1.2**
OUENC	**Ouen Island, N**	**10.11**	**182**		**Pn**	**16 18 46.5**	**+0.2**
OUENC	**Ouen Island, N**	**10.11**	**182**	P	**Pn**	**16 18 47.4**	**+1.1**
PINNC	**Pines Island,**	**10.30**	**178**		**Pn**	**16 18 49.3**	**+0.6**
PINNC	**Pines Island,**	**10.30**	**178**	P	**Pn**	**16 18 49.6**	**+0.9**
PMG	**Port Moresby**	**19.82**	**276**	P	**P**	**16 20 37.7**	**-1.0**
	2.6nm,0.4s,baz=113,slow=7.7,SNR=2.6						
EIDS	**Eidsvold**	**20.00**	**227**	P	**P**	**16 20 41.0**	**+0.7**
EIDS				IAmb	IAmb	16 20 41.8	
	comp=Z,7.2nm,0.8s						
EIDS	**Eidsvold**	**20.00**	**227**	P	**P**	**16 20 41.1**	**+0.7**
AFI	**Afiamalu**	**20.61**	**97**	P	Pn	16 20 47.9	-4.8
	comp=Z,24nm,0.7s,baz=273,slow=18,SNR=3.9						
	comp=Z,24nm,0.7s						
TV1H	**Townsville Har**	**20.77**	**248**	P	**P**	**16 20 48.7**	**+0.1**
CTA	**Charters Tower**	**21.50**	**246**	P	**P**	**16 20 55.4**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=77,slow=13,SNR=8.3						
	comp=Z,2.0nm,0.4s						
CTAO	**Charters Tower**	**21.50**	**246**	P	**P**	**16 20 55.5**	**-0.3**
CTAO				IAmb	IAmb	16 21 28.3	
	comp=Z,12nm,1.3s						
CTAO	**Charters Tower**	**21.50**	**246**	P	**P**	**16 20 55.6**	**-0.3**
RMQ	**Roma**	**22.34**	**228**	P	**P**	**16 21 04.4**	**+0.9**
MTSU	**Mount Surprise**	**22.77**	**252**	P	**P**	**16 21 07.7**	**+0.1**
COEN	**Coen**	**23.40**	**263**	P	**P**	**16 21 13.5**	**+0.2**
COEN				IAmb	IAmb	16 21 14.4	
	comp=Z,6.7nm,0.7s						
COEN	**Coen**	**23.40**	**263**	P	**P**	**16 21 13.5**	**+0.2**
INKA	**Innaminka**	**29.10**	**234**	P	**P**	**16 22 04.5**	**+0.4**
STKA	**Stephens Creek**	**30.55**	**226**	P	**P**	**16 22 17.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=35,slow=10,SNR=3.2						
	comp=Z,0.6nm,0.3s						
WR0	**Warramunga Arr**	**32.19**	**252**	P	**P**	**16 22 30.1**	**-1.3**
LCRK	**Leigh Creek**	**32.30**	**231**	P	**P**	**16 22 32.0**	**-0.2**
WB0	**Warramunga Arr**	**32.30**	**252**	P	**P**	**16 22 30.9**	**-1.4**
WRAB	**Tennant Creek**	**32.37**	**252**	P	**P**	**16 22 31.4**	**-1.5**
WB2	**Warramunga Arr**	**32.37**	**252**	P	**P**	**16 22 31.2**	**-1.8**
WRA	**Warramunga Arr**	**32.38**	**252**	P	**P**	**16 22 31.4**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=83,slow=8.6,SNR=20						
WRA				PcP	**PcP**	**16 25 14.5**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=81,slow=3.4,SNR=2.0						
	comp=Z,2.0nm,0.7s						
OOD	**Oodnadatta**	**33.22**	**238**	P	**P**	**16 22 40.2**	**+0.1**
HTT	**Hallett**	**33.28**	**226**	P	**P**	**16 22 41.2**	**+0.5**
AS01	**Alice Springs**	**33.46**	**246**	P	**P**	**16 22 41.0**	**-1.3**
AS31	**Alice Springs**	**33.50**	**246**	P	**P**	**16 22 41.3**	**-1.4**
ASAR	**Alice Springs**	**33.50**	**246**	P	**P**	**16 22 41.1**	**-1.6**
	comp=Z,2.7nm,0.7s,baz=71,slow=9.8,SNR=70						
ASAR				PcP	**PcP**	**16 25 17.6**	**0.0**
	comp=Z,0.3nm,0.8s,baz=74,slow=4.1,SNR=2.4						
	comp=Z,2.7nm,0.7s						
ASAR	**Alice Springs**	**33.50**	**246**	P	**P**	**16 22 41.0**	**-1.8**
KDU	**Kakadu**	**33.83**	**265**	P	**P**	**16 22 43.8**	**-1.8**
BBOO	**Buckleboo**	**35.04**	**229**	P	**P**	**16 22 55.8**	**+0.1**
BBOO				IAmb	IAmb	16 23 12.0	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**35.04**	**229**	P	**P**	**16 22 55.8**	**+0.1**
MTN	**Manton Dam**	**35.13**	**265**	P	**P**	**16 22 56.6**	**-0.1**
KNRA	**Kununurra**	**37.36**	**260**	P	**P**	**16 23 14.8**	**-0.7**
KNRA				IAmb	IAmb	16 23 42.7	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**37.36**	**260**	P	**P**	**16 23 14.9**	**-0.6**
WRKA	**Warakurna**	**38.79**	**245**	P	**P**	**16 23 26.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**40.40**	**256**	P	**P**	**16 23 40.4**	**-0.3**
FORT	**Forrest**	**40.49**	**237**	P	**P**	**16 23 41.2**	**-0.1**
FORT				IAmb	IAmb	16 23 44.5	
	comp=Z,12nm,0.8s						
BATI	**Baumata**	**42.66**	**268**	P	**P**	**16 23 59.8**	**+0.8**
	comp=Z,13nm,0.7s,baz=78,slow=19,SNR=4.2						
	comp=Z,13nm,0.7s						
PSA00	**Pilbara Seismi**	**46.03**	**252**	P	**P**	**16 24 25.4**	**-0.2**
PSA00				IAmb	IAmb	16 24 57.3	
	comp=Z,15nm,1.2s						
MBWA	**Marble Bar**	**46.12**	**252**	P	**P**	**16 24 26.2**	**+0.1**
MBWA				IAmb	IAmb	16 24 34.2	
	comp=Z,26nm,1.4s						
NPOC	**North of Pu'u**	**48.71**	**50**	P	**P**	**16 24 43.2**	**-2.9**
JGF	**Kuroka**	**55.31**	**331**	P	**P**	**16 25 34.1**	**-0.3**
JGF				IAmb	IAmb	16 26 05.5	
	comp=Z,16nm,1.2s						
JMN	**Monobe**	**55.62**	**326**	P	**P**	**16 25 37.3**	**+0.6**
MJAR	**Matsushiro Arr**	**55.67**	**332**	P	**P**	**16 25 35.2**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=168,slow=9.4,SNR=6.2						
	comp=Z,1.5nm,0.8s						
MAJO	**Matsushiro**	**55.67**	**332**	P	**P**	**16 25 36.4**	**-0.5**
MJB9	**Matsu-Tunnel**	**55.67**	**332**	P	**P**	**16 25 37.4**	**+0.5**
KSRS	**Korea Array**	**61.64**	**325**	P	**P**	**16 26 17.9**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=124,slow=8.1,SNR=1.8						
	comp=Z,0.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**64.64**	**333**	P	**P**	**16 26 38.5**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=146,slow=7.5,SNR=4.7						
	comp=Z,2.0nm,0.8s						
CASY	**Casey**	**65.76**	**202**	P	**P**	**16 26 44.3**	**0.0**
GSI	**Gunungsitoli**	**70.34**	**276**	P	**P**	**16 27 12.9**	**-0.8**
CRAI	**Chiangrai**	**73.16**	**296**	P	**P**	**16 27 30.1**	**-0.2**
CRAI				IAmb	IAmb	16 27 31.7	
	comp=Z,3.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.84**	**293**	P	**P**	**16 27 34.4**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=123,slow=5.0,SNR=15						
	comp=Z,1.5nm,0.3s						
P18K	**Big Mountain,**	**77.59**	**19**	P	**P**	**16 27 54.8**	**+0.2**
BILL	**Bilibino**	**80.08**	**360**	P	**P**	**16 28 08.4**	**+0.5**
BILL				IAmb	IAmb	16 28 09.9	
	comp=Z,4.5nm,0.9s						
TTA	**Tatalina**	**80.19**	**16**	P	**P**	**16 28 08.8**	**+0.1**
TTA				IAmb	IAmb	16 28 36.0	
	comp=Z,7.5nm,1.4s						
SONM	**Songino Array**	**80.44**	**323**	P	**P**	**16 28 10.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=135,slow=5.8,SNR=7.7						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**80.44**	**323**	P	**P**	**16 28 11.3**	**+0.9**
SUA	**Susitna One**	**80.61**	**19**	P	**P**	**16 28 12.1**	**+1.1**
KTH	**Kantishna Hill**	**82.13**	**18**	P	**P**	**16 28 19.5**	**+0.6**
KTH				IAmb	IAmb	16 28 28.3	
	comp=Z,7.3nm,1.2s						
TRF	**Thorofare Moun**	**82.24**	**18**	P	**P**	**16 28 20.0**	**+0.5**
TRF				IAmb	IAmb	16 28 21.7	
	comp=Z,4.6nm,1.0s						
I21K	**Tanana**	**83.06**	**16**	PcP	**PcP**	**16 28 25.6**	**-1.9**
H21K	**Melozitna Rive**	**83.21**	**16**	PcP	**PcP**	**16 28 26.2**	**-2.0**
IMAR	**Indian Mountai**	**83.22**	**15**	PcP	**PcP**	**16 28 26.0**	**-2.2**
MLY	**Manley**	**83.29**	**17**		**P**	**16 28 25.8**	**+1.0**
WRH	**Wood River Hil**	**83.65**	**18**	P	**P**	**16 28 27.2**	**+0.7**
WRH				IAmb	IAmb	16 28 29.8	
	comp=Z,5.6nm,1.1s						
I23K	**Minto, Yukon-K**	**83.77**	**17**		**P**	**16 28 28.3**	**+1.2**
I23K				IAmb	IAmb	16 28 36.6	
	comp=Z,8.5nm,1.5s						
CCB	**Clear Creek Bu**	**83.86**	**18**		**P**	**16 28 28.2**	**+0.6**
CCB				IAmb	IAmb	16 28 28.8	
	comp=Z,2.6nm,0.6s						
M26K	**Nabesna, AK**	**83.87**	**21**	PcP	**P**	**16 28 29.0**	**+1.2**
HDA	**Harding Lake**	**83.95**	**18**		**P**	**16 28 29.2**	**+1.1**
MDM	**Murphy Dome**	**83.96**	**17**		**P**	**16 28 28.9**	**+0.7**
RIDG	**Independent Ri**	**84.15**	**19**	PcP	**P**	**16 28 30.4**	**+1.3**
IL31		**84.23**	**18**		**P**	**16 28 30.2**	**+0.8**
IL31				IAmb	IAmb	16 28 30.5	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**84.23**	**18**	P	**P**	**16 28 30.1**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=246,slow=5.1,SNR=87						
	comp=Z,3.5nm,0.6s						
SCRK	**Sand Creek**	**84.59**	**19**	PcP	**PcP**	**16 28 32.7**	**-1.7**
L27K	**Beaver Creek,**	**84.71**	**21**	PcP	**PcP**	**16 28 33.7**	**-1.2**
BCAR	**Beaver Creek A**	**84.73**	**21**	PcP	**PcP**	**16 28 33.8**	**-1.2**
J26L	**Joseph Creek**	**85.08**	**19**		**P**	**16 28 35.8**	**+2.0**
K27K	**Chicken**	**85.25**	**20**		**P**	**16 28 36.5**	**+1.9**
K27K				IAmb	IAmb	16 29 11.3	
	comp=Z,7.1nm,1.4s						
I26K	**Coal Creek Min**	**85.75**	**19**		**P**	**16 28 38.2**	**+1.3**
NVAR	**Mina Array Bea**	**85.77**	**49**	P	**P**	**16 28 39.5**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=236,slow=6.4,SNR=4.9						
	comp=Z,0.7nm,0.7s						
EGAK	**Eagle**	**86.04**	**20**	P	**P**	**16 28 37.2**	**-1.2**
EGAK				PcP	**PcP**	**16 28 39.7**	**-1.0**
EGAK				IAmb	IAmb	16 28 40.6	
	comp=Z,5.7nm,1.0s						
BMAR	**Burnt Mountain**	**86.76**	**17**		**P**	**16 28 43.9**	**+2.0**
ZALV	**Zalesovo Beam**	**95.33**	**324**	P	**P**	**16 29 21.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=96,slow=8.9,SNR=2.2						
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**95.33**	**317**	P	**P**	**16 29 22.5**	**+0.3**
MK31				IAmb	IAmb	16 29 23.5	
	comp=Z,1.9nm,0.9s						
MKAR	**Makanchi Array**	**95.33**	**317**	P	**P**	**16 29 22.5**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=88,slow=6.5,SNR=21						
	comp=Z,1.7nm,0.7s						
YKA	**Yellowknife Ar**	**95.42**	**27**	P	**P**	**16 29 22.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=261,slow=4.9,SNR=7.8						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**117.84**	**346**	PKP	**PKiKP**	**16 34 43.3**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=22,slow=1.0,SNR=14						
FINES	**FINESS Array B**	**123.39**	**339**	PKP	**PKPdf**	**16 34 53.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=48,slow=2.3,SNR=5.4						
NOA	**NORSAR Array B**	**128.21**	**345**	PKP	**PKiKP**	**16 35 04.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=30,slow=4.1,SNR=2.1						
ESDC	**Sonseca Array**	**151.58**	**345**	PKPbc	**PKiKP**	**16 35 52.6**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=3.9,slow=3.0,SNR=5.9						
ESDC				PKPab	**PKPab**	**16 36 01.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=13,slow=3.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**165.77**	**275**	PKPab	**PKPab**	**16 37 03.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=102,slow=3.7,SNR=1.2						

DJA 15 16:21:20.0±1.3,2°N±4°×12°1E±°,h36km±28km,M3.7/8, mb3.8/1,MLv3.6/8,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.85**	**161**	P	Pn	16 21 50.1	+0.9
MRSI				S	Sn	16 22 13.4	+2.0
MPSI	**Mapaga**	**2.38**	**217**	P	Pn	16 21 55.6	-0.8
MPSI				S	Sn	16 22 25.2	+0.8
APSI	**Ampana**	**3.15**	**174**	P	Pn	16 22 06.9	-0.1
LUWI	**Luwuk**	**3.56**	**156**	P	Pn	16 22 13.5	+0.8

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*NEIC **15** 16:34:50.4±1.7,51°.9N±0°.3×178°.33E±0°.09,h123km±20km, ML3.0(AEIC),Error ellipse: s-maj=46.0km s-min=3.7km az=189.0*
*AEIC **15** 16:34:51.9±1.5,51°.8N±0°.1×178°.4E±0°.1,h119km±7km, Error ellipse: s-maj=17.0km s-min=7.1km az=210.0*
*IDC **15** 16:34:53.8±6.4,52°.41N×178°.46E,h143km±62km,mb2.8/5, mbtmp3.3/6,Error ellipse: s-maj=65.7km s-min=23.5km az=175.0*

ISC 15 16:34:51.7±1.4,52°.0N±0°.3×178°.40E±0°.06,h150km,n10, σ2§40/12,mb3.1/5,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.72**	**286**	Pn	**Pn**	**16 35 33.9**	**-1.5**
SMY				Sn	**Sn**	**16 36 05.2**	**-4.1**
KIWB	**Kanaga Island**	**2.76**	**92**	Pn	**Pn**	**16 35 34.5**	**-1.5**
ADK	**Adak**	**3.05**	**91**	Pn	**Pn**	**16 35 37.5**	**-2.0**
ADK				Sn	**Sn**	**16 36 13.2**	**-3.4**
GSTR	**Great Sitkin T**	**3.42**	**87**	Pn	**Pn**	**16 35 44.0**	**-0.4**
PETK	**Petropavlovsk-**	**12.63**	**283**	P	**Pn**	**16 37 47.2**	**+1.2**
	1.6nm,0.8s,baz=75,slow=22,SNR=13						
ILAR	**Eielson Array**	**21.86**	**41**	P	**P**	**16 39 32.6**	**+0.7**
	0.2nm,0.5s,baz=243,slow=8.2,SNR=6.1						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**36.04**	**47**	P	**P**	**16 41 37.1**	**-1.0**
	0.4nm,0.6s,baz=272,slow=9.9,SNR=7.2						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**45.19**	**82**	P	**P**	**16 42 56.2**	**+2.5**
	0.2nm,0.4s,baz=310,slow=5.8,SNR=2.3						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**47.76**	**71**	P	**P**	**16 43 14.9**	**+1.3**
	0.2nm,0.5s,baz=335,slow=4.0,SNR=2.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.25**	**307**	P	**P**	**16 44 32.0**	**+1.9**
	0.1nm,0.3s,baz=32,slow=7.0,SNR=1.8						
	0.1nm,0.3s						

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*AEIC **15** 17:19:08.8±2.2,52°.2N±0°.2×173°.4W±0°.1,h67km±8km, Error ellipse: s-maj=22.5km s-min=8.4km az=164.0*
*IDC **15** 17:19:08.4±1.0,52°.09N×173°.46W,h59km±8km,mb3.4/8, mbtmp3.7/9,MS2.9/1,Error ellipse: s-maj=35.7km s-min=16.1km az=150.0*
*NEIC **15** 17:19:09.2±1.9,52°.1N±0°.2×173°.3W±0°.1,h72km±25km, mb3.8/28,ML3.4(AEIC),Error ellipse: s-maj=25.1km s-min=8.5km az=166.0*

ISC 15 17:19:08.0±0.8,51°.9N±0°.1×173°.31W±0°.06,h50km,n62, σ1§65/58,mb3.8/9,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.71**	**277**		**Pn**	**17 19 36.6**	**+1.2**
ADK	**Adak**	**2.09**	**270**		**Pn**	**17 19 42.0**	**+1.5**
CLES	**Cleveland East**	**2.28**	**65**	Pn	**Pn**	**17 19 42.2**	**-0.8**
KIWB	**Kanaga Island**	**2.38**	**270**		**Pn**	**17 19 45.2**	**+0.7**
NIKH	**Nikolski High**	**2.92**	**67**		**Pn**	**17 19 53.9**	**+2.1**
NIKH	**Nikolski High**	**2.92**	**67**		**Sn**	**17 20 27.4**	**+1.7**
UNV	**Unalaska Valle**	**4.55**	**62**		**Pn**	**17 20 16.6**	**+2.5**
AMKA	**Amchitka**	**4.63**	**266**	Pn	**Pn**	**17 20 17.4**	**+2.0**
AKUT	**Akutan**	**5.06**	**61**	Pn	**Pn**	**17 20 21.4**	**+0.2**
SPIA	**Saint Paul Isl**	**5.56**	**17**	Pn	**Pn**	**17 20 27.0**	**-1.0**
SVW2	**Sparrevohn**	**13.38**	**40**	Pn	**Pn**	**17 22 17.5**	**+2.6**
P19K	**Oil Pt**	**13.65**	**48**	Pn	**Pn**	**17 22 15.5**	**-3.1**
N19K	**Bonanza Creek**	**13.67**	**42**	Pn	**Pn**	**17 22 18.9**	**0.0**
L19K	**White Mountain**	**14.31**	**37**		**Pn**	**17 22 29.4**	**+2.0**
K20K	**Telida**	**15.32**	**34**		**P**	**17 22 42.8**	**-1.8**
K20K				IAmb	IAmb	17 23 01.2	
	comp=Z,7.4nm,1.4s						
SEW	**Seward**	**15.58**	**49**	Pn	**Pn**	**17 22 42.9**	**-1.1**
J20K	**Nowinta River**	**15.83**	**32**		**Pn**	**17 22 47.4**	**+0.1**
CAST	**Castle Rocks**	**16.07**	**36**		**Pn**	**17 22 50.5**	**+0.2**
CAST				IAmb	IAmb	17 23 00.5	
	comp=Z,8.2nm,1.4s						
GHO	**Glory Hole Cre**	**16.48**	**44**		**Pn**	**17 22 56.1**	**+0.6**
KTH	**Kantishna Hill**	**16.57**	**37**	P	**Pn**	**17 22 57.0**	**+0.4**
TRF	**Thorofare Moun**	**16.75**	**38**		**Pn**	**17 22 58.3**	**-0.6**
TRF				IAmb	IAmb	17 23 03.0	
	comp=Z,11nm,1.5s						
BPAW	**Bear Paw Mtn.**	**16.86**	**35**	P	**P**	**17 23 01.5**	**-0.2**
IMAR	**Indian Mountai**	**17.21**	**28**	P	**P**	**17 23 05.3**	**-0.1**
H21K	**Melozitna Rive**	**17.26**	**29**	P	**P**	**17 23 05.3**	**-0.8**
MLY	**Manley**	**17.51**	**33**		**P**	**17 23 09.3**	**+0.5**
MLY				IAmb	IAmb	17 23 11.9	
	comp=Z,6.5nm,1.3s						
DHY	**Denali Highway**	**17.71**	**41**		**Pn**	**17 23 10.7**	**-0.1**
DHY				IAmb	IAmb	17 23 50.8	
	comp=Z,8.7nm,1.2s						
NEA2	**Nenana**	**17.83**	**35**	P	**Pn**	**17 23 10.5**	**-1.6**
I23K	**Minto, Yukon-K**	**18.05**	**34**	P	**Pn**	**17 23 15.0**	**+0.2**
I23K				IAmb	IAmb	17 23 16.4	
	comp=Z,4.6nm,0.8s						
WRH	**Wood River Hil**	**18.12**	**36**	P	**P**	**17 23 13.5**	**-2.0**
CCB	**Clear Creek Bu**	**18.32**	**36**	P	**P**	**17 23 15.2**	**-2.5**
CCB				IAmb	IAmb	17 23 19.4	
	comp=Z,3.3nm,0.6s						
MDM	**Murphy Dome**	**18.34**	**35**	P	**P**	**17 23 15.8**	**-2.1**
HDA	**Harding Lake**	**18.52**	**37**	P	**P**	**17 23 18.4**	**-1.4**
IL31		**18.72**	**36**	P	**P**	**17 23 19.4**	**-2.6**
IL31				IAmb	IAmb	17 23 22.6	
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**18.72**	**36**	P	**P**	**17 23 19.8**	**-2.3**
	comp=Z,2.1nm,0.5s,baz=236,slow=9.9,SNR=62						
ILAR	**Eielson Array**	**18.72**	**36**	P	**P**	**17 23 19.3**	**-2.8**
H24K	**Noodor Dome**	**18.95**	**33**	P	**P**	**17 23 22.0**	**-2.7**
H24K				IAmb	IAmb	17 23 26.0	
	comp=Z,7.5nm,1.1s						
RIDG	**Independent Ri**	**19.02**	**41**	P	**P**	**17 23 22.5**	**-2.9**
RIDG				IAmb	IAmb	17 23 27.4	
	comp=Z,16nm,1.4s						
DOT	**Dot Lake**	**19.30**	**41**	P	**P**	**17 23 27.6**	**-0.8**
DOT				IAmb	IAmb	17 23 46.7	
	comp=Z,7.8nm,1.0s						
SCRK	**Sand Creek**	**19.47**	**40**	P	**P**	**17 23 28.2**	**-2.2**
J26L	**Joseph Creek**	**19.86**	**39**	P	**P**	**17 23 32.5**	**-2.0**
BCAR	**Beaver Creek A**	**20.05**	**44**	P	**P**	**17 23 34.9**	**-1.7**
K27K	**Chicken**	**20.26**	**41**	P	**P**	**17 23 37.8**	**-1.0**
K27K				IAmb	IAmb	17 23 56.2	
	comp=Z,11nm,1.5s						
I26K	**Coal Creek Min**	**20.37**	**37**	P	**P**	**17 23 38.0**	**-2.0**
EGAK	**Eagle**	**20.92**	**40**	P	**P**	**17 23 45.5**	**-0.4**
BMAR	**Burnt Mountain**	**20.94**	**31**	P	**P**	**17 23 45.9**	**-0.3**
DAWY	**Dawson**	**21.38**	**42**	IAmb	IAmb	17 23 48.5	
	comp=Z,5.6nm,1.4s						
DAWY				P	**P**	**17 23 49.6**	**-1.3**
INK	**Inuvik**	**25.07**	**34**	P	**P**	**17 24 25.3**	**-1.9**
	comp=Z,1.4nm,0.6s,baz=227,slow=8.3,SNR=13						
INK				pP	**pP**	**17 24 41.8**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=248,slow=9.4,SNR=2.5						
	comp=Z,1.4nm,0.6s						
INK	**Inuvik**	**25.07**	**34**	P	**P**	**17 24 25.5**	**-1.6**
INK				IAmb	IAmb	17 25 08.6	
	comp=Z,6.3nm,1.4s						
DLBC	**Dease Lake**	**25.19**	**58**	P	**P**	**17 24 28.6**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=272,slow=8.4,SNR=6.1						
	comp=Z,1.5nm,0.5s						
YKA	**Yellowknife Ar**	**32.35**	**48**	P	**P**	**17 25 30.6**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=269,slow=8.0,SNR=6.3						
	comp=Z,0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**35.67**	**213**	T	T	18 03 55.2	
	baz=21,slow=76,SNR=99						
H11N3	**WAKE ISLAND Hy**	**35.68**	**213**	T	T	18 04 03.2	
	baz=21,slow=76,SNR=113						
H11N1	**WAKE ISLAND Hy**	**35.69**	**213**	T	T	18 04 00.2	
	baz=21,slow=76,SNR=97						
H11S1	**WAKE ISLAND Hy**	**36.87**	**213**	T	T	18 05 26.3	
	baz=20,slow=76,SNR=98						
H11S2	**WAKE ISLAND Hy**	**36.89**	**213**	T	T	18 05 27.4	
	baz=20,slow=76,SNR=106						
H11S3	**WAKE ISLAND Hy**	**36.89**	**213**	T	T	18 05 27.5	
	baz=20,slow=76,SNR=47						

KRVT	**Keravat (AS076**	**1.66**	**333**	Pn	**Pn**	**17 38 57.0**	**-0.9**
	50nm,0.3s,baz=254,slow=1.4,SNR=199							
KRVT				Sn	**Sn**	**17 39 18.1**	**+0.1**
	128nm,0.3s,baz=184,slow=20,SNR=27							
PMG	**Port Moresby**	**6.62**	**237**	Pn	**Pn**	**17 40 05.5**	**-0.6**
	0.8nm,0.3s,baz=172,slow=1.0,SNR=2.6							
PMG				Sn	**Sn**	**17 41 20.2**	**-0.2**
	1.2nm,0.3s,baz=94,slow=20,SNR=8.9							
	2.9nm,0.4s							
WRA	**Warramunga Arr**	**22.77**	**230**	P	**P**	**17 43 31.0**	**0.0**
	0.6nm,0.5s,baz=56,slow=10,SNR=7.8							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**25.40**	**224**	P	**P**	**17 43 55.2**	**-0.5**
	0.4nm,0.6s,baz=56,slow=8.9,SNR=15							
	0.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**58.28**	**296**	P	**P**	**17 48 25.1**	**+2.0**
	0.3nm,0.7s,baz=108,slow=5.8,SNR=1.9							
	0.3nm,0.7s							
SONM	**Songino Array**	**67.15**	**328**	P	**P**	**17 49 22.2**	**+0.3**
	0.2nm,0.6s,baz=121,slow=4.1,SNR=1.8							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**81.06**	**319**	P	**P**	**17 50 42.0**	**-0.9**
	0.1nm,0.5s,baz=104,slow=6.1,SNR=2.0							
	0.1nm,0.5s							
ZALV	**Zalesovo Beam**	**81.97**	**326**	P	**P**	**17 50 46.7**	**-0.7**
	0.5nm,0.5s,baz=108,slow=4.7,SNR=2.8							
	0.5nm,0.5s							
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**	**17 50 53.2**	**0.0**
	0.6nm,0.7s,baz=235,slow=4.9,SNR=8.5							
	0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**84.56**	**322**	P	**P**	**17 51 00.5**	**-0.4**
	0.6nm,0.2s,baz=113,slow=4.3,SNR=4.2							
	0.6nm,0.2s							

*IDC **15** 18:06:17.6±2.9,5°.91S×153°.06E, h58km±26km, mb3.1/5, mbtmp3.4/5, Error ellipse: s-maj=32.7km s-min=18.7km az=76.0*

ISC 15 18:06:15.1±1.4,**5°.9S**±0°.2×**153°.3E**±0°.2,**h35**km,**n6**,σ1§**25**/7, **mb3.2**/4,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.01**	**322**	P	**Pn**	**18 06 47.5**	**+0.9**
	16nm,0.3s,baz=196,slow=7.4,SNR=7.3						
KRVT				S	**Sn**	**18 07 10.9**	**+0.4**
	70nm,0.4s,baz=165,slow=20,SNR=9.7						
KRVT				LR	LR	18 07 36.0	
	comp=Z,73nm,18.4s,baz=254,slow=42						
DZM	**Mont Dzumac**	**20.51**	**143**	P	**P**	**18 10 51.6**	**+1.1**
	2.9nm,0.8s,baz=247,slow=22,SNR=3.1						
	2.9nm,0.8s						
WRA	**Warramunga Arr**	**23.10**	**231**	P	**P**	**18 11 17.9**	**-0.2**
	0.3nm,0.8s,baz=54,slow=10,SNR=3.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**25.68**	**225**	P	**P**	**18 11 42.2**	**+0.1**
	0.2nm,1.0s,baz=57,slow=9.5,SNR=1.9						
	0.2nm,1.0s						
MKAR	**Makanchi Array**	**81.45**	**319**	P	**P**	**18 18 27.8**	**-1.0**
	0.6nm,0.8s,baz=104,slow=5.0,SNR=5.8						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**82.32**	**326**	P	**P**	**18 18 31.4**	**-1.7**
	0.3nm,0.5s,baz=116,slow=3.4,SNR=1.9						
	0.3nm,0.5s						

*IDC **15** 18:24:59.9±2.0,26°.40N×141°.63E, h42km±21km, mb3.5/9, mbtmp3.7/9, Error ellipse: s-maj=30.6km s-min=16.3km az=102.0*

*JMA **15** 18:25:00.9±0.1,26°.5N±0°.4×142°.6E±0°.5, h28km, MV3.7/10, NEAR CHICHIJIMA ISLAND*

ISC 15 18:24:58.9±0.9,**26°.3N**±0°.1×**141°.7E**±0°.1,**h35**km,**n19**, σ1§**41**/16,**mb3.5**/9,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**0.53**	**49**	P	**Pn**	**18 25 10.0**	**0.0**
JHH2				*e*S	**Sn**	**18 25 16.3**	**-1.5**
CBIJ	**Chichi jima**	**0.91**	**27**	*e*P	**Pn**	**18 25 14.7**	**-0.5**
CBIJ				S	**Sn**	**18 25 24.8**	**-2.2**
JCJ	**Chichijima**	**0.91**	**27**	P	**Pn**	**18 25 17.6**	**+2.5**
	120nm,0.3s,baz=17,slow=20,SNR=7.1						
JCJ				S	**Sn**	**18 25 27.6**	**+0.6**
	415nm,0.3s,baz=252,slow=22,SNR=14						
JAG	**Ashikaga**	**10.29**	**350**	*e*P	**Pn**	**18 27 25.2**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**24.05**	**100**	T	T	18 54 42.1	
	baz=291						
H11N1	**WAKE ISLAND Hy**	**24.05**	**101**	T	T	18 54 48.7	
	baz=291						
H11N3	**WAKE ISLAND Hy**	**24.06**	**101**	T	T	18 54 49.9	
	baz=291						
KLR	**Kul'dur**	**24.18**	**344**	P	**P**	**18 30 11.7**	**-0.1**
	1.1nm,0.7s,baz=174,slow=10,SNR=2.6						
	1.1nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**24.32**	**103**	T	T	18 55 05.9	
	baz=294						
H11S1	**WAKE ISLAND Hy**	**24.32**	**103**	T	T	18 55 08.6	
	baz=294						
H11S2	**WAKE ISLAND Hy**	**24.34**	**103**	T	T	18 55 08.5	
	baz=294						
CMAR	**Chiang Mai Arr**	**40.18**	**268**	P	**P**	**18 32 31.7**	**-0.3**
	0.3nm,0.3s,baz=85,slow=15,SNR=4.4						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**46.51**	**190**	P	**P**	**18 33 23.9**	**+0.9**
	1.0nm,0.4s,baz=12,slow=8.8,SNR=16						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**50.23**	**189**	P	**P**	**18 33 52.0**	**+0.3**
	0.1nm,0.3s,baz=18,slow=9.0,SNR=15						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**50.68**	**310**	P	**P**	**18 33 52.6**	**-2.2**
	0.1nm,0.3s,baz=86,slow=8.8,SNR=4.1						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**58.62**	**28**	P	**P**	**18 34 53.8**	**+1.7**
	0.8nm,1.1s,baz=236,slow=6.4,SNR=3.1						
	0.8nm,1.1s						
YKA	**Yellowknife Ar**	**73.05**	**28**	P	**P**	**18 36 24.1**	**-0.8**
	0.3nm,0.6s,baz=293,slow=6.6,SNR=6.0						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**74.17**	**341**	P	**P**	**18 36 32.1**	**+0.6**
	3.5nm,1.0s,baz=73,slow=7.6,SNR=4.3						
	3.5nm,1.0s						
FINES	**FINESS Array B**	**78.49**	**334**	P	**P**	**18 36 55.2**	**-0.8**
	0.8nm,0.4s,baz=71,slow=5.2,SNR=20						
	0.8nm,0.4s						

WEL 15 18:29:36.4±0.5,**43°S**±2°×**17°3E**±°,**h12**km±4km,**M2.8**/2, **ML2.7**/10,**MLv2.8**/2,**Error ellipse: s-maj=0.0km s-min=0.0km az=101.3,confirmed,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.20**	**60**	P	Pb	18 29 41.9	0.0
KHZ				S	Sg	18 29 45.3	+1.8
GVZ	**Greta Valley S**	**0.49**	**204**	P	Pb	18 29 47.4	+0.3
GVZ				S	Sb	18 29 55.1	+0.7
THZ	**Tophouse**	**0.81**	**338**	P	Pn	18 29 53.3	-0.5
THZ				S	Sb	18 30 03.5	+0.1
LTZ	**Lake Taylor**	**0.81**	**251**	P	Pb	18 29 52.7	+0.2
LTZ				S	Sb	18 30 03.5	0.0
AMCZ	**Amberley**	**0.82**	**216**	P	Pb	18 29 53.1	+0.5
BSWZ	**Blackbirch Sta**	**0.90**	**28**	P	Pn	18 29 55.3	+0.4
OKCZ	**Okains Bay**	**1.22**	**189**	P	Pn	18 29 58.8	-0.6
OKCZ				S	Sb	18 30 14.7	-0.5
OXZ	**Oxford**	**1.24**	**229**	P	Pn	18 29 58.5	-1.0
MQZ	**McQueen's Vall**	**1.28**	**202**	P	Pn	18 29 58.7	-1.5
DSZ	**Denniston Nort**	**1.36**	**304**	P	Pg	18 30 02.5	0.0
MHCZ	**Mount Hutt**	**1.63**	**231**	P	Pn	18 30 04.0	-1.0
RPZ	**Rata Peaks**	**2.04**	**233**	P	Pn	18 30 10.0	-0.7
DREZ	**Durham Road**	**3.39**	**12**	P	Pb	18 30 33.6	-2.8

*IDC **15** 18:35:48.2±16.0, 3°.30N×96°.00E, h132km±138km, mb2.9/5, mbtmp3.3/6, ML3.7/1, Error ellipse: s-maj=155.6km s-min=21.5km az=59.0*

ISC 15 18:35:39.4±2.8,**3°.2N**±0°.3×**95°.9E**±0°.6,**h50**km,**n12**,σ0§**38**/6, **mb3.2**/5,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.42**	**11**	P	**P**	**18 39 17.8**	**+0.3**
	0.1nm,0.3s,baz=198,slow=11,SNR=5.0						
	0.4nm,0.4s						
H08S2	**Diego Garcia H**	**25.73**	**245**	T	T	19 07 03.3	
	baz=66,slow=76,SNR=79						
H08S3	**Diego Garcia H**	**25.73**	**245**	T	T	19 07 03.4	
	baz=66,slow=76,SNR=78						
H08S1	**Diego Garcia H**	**25.75**	**245**	T	T	19 07 04.6	
	baz=66,slow=76,SNR=52						
H01W3	**Cape Leeuwin H**	**41.61**	**157**	T	T	19 26 52.1	
	baz=332,slow=76,SNR=31						
H01W2	**Cape Leeuwin H**	**41.63**	**157**	T	T	19 26 53.1	
	baz=332,slow=76,SNR=23						
H01W1	**Cape Leeuwin H**	**41.63**	**157**	T	T	19 26 53.3	
	baz=332,slow=76,SNR=22						
WRA	**Warramunga Arr**	**44.22**	**123**	P	**P**	**18 43 43.8**	**-0.4**
	0.2nm,0.6s,baz=300,slow=9.7,SNR=1.3						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**44.97**	**347**	P	**P**	**18 43 49.7**	**+0.1**
	0.4nm,0.5s,baz=162,slow=7.7,SNR=7.3						
	0.4nm,0.5s						
SONM	**Songino Array**	**45.34**	**10**	P	**P**	**18 43 52.6**	**-0.2**
	0.2nm,0.6s,baz=182,slow=8.7,SNR=2.8						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**45.66**	**128**	P	**P**	**18 43 55.9**	**+0.4**
	0.2nm,0.8s,baz=300,slow=8.0,SNR=1.7						
	0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**51.36**	**352**	P	**P**	**18 44 38.6**	**-0.2**
	0.3nm,0.4s,baz=168,slow=7.4,SNR=2.7						
	0.3nm,0.4s						

KRSC 15 19:13:02.5±1.1,**49°.53N**×**156°.87E**,**h44**km±19km,**MI3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.26**	**338**	*e*P	Pn	19 13 23.9	+0.4
SKR				*e*S	Sn	19 13 40.4	+1.1
KDTR	**Khodutka, Kamc**	**2.41**	**18**	*e*P	Pn	19 13 42.1	+2.7
KDTR				*e*S	Sn	19 14 11.8	+4.1
GRL	**Gorelyy**	**3.12**	**14**	*e*P	Pn	19 13 53.0	+3.7
GRL				*e*S	Sn	19 14 30.5	+5.1
KRMR	**Karymshinskiy**	**3.40**	**13**	*e*P	Pn	19 13 56.9	+3.9
APC	**Apacha**	**3.41**	**3**	*e*P	Pn	19 13 57.3	+4.2
PET	**Petropavlovsk**	**3.68**	**17**	*e*P	Pn	19 14 00.5	+3.7
PET				*e*S	Sn	19 14 43.5	+4.6
DALK	**Dalny**	**3.70**	**18**	*e*P	Pn	19 14 00.8	+3.6
DALK				*e*S	Sn	19 14 43.8	+4.3
UGLR	**Uglovaya**	**3.89**	**18**	*e*P	Pn	19 14 03.9	+4.2
AVH	**Avacha**	**3.92**	**17**	*e*P	Pn	19 14 04.7	+4.4
KOK	**Koryaka**	**3.93**	**16**	*e*P	Pn	19 14 05.2	+4.8
SMAR	**Somma**	**3.93**	**17**	*e*P	Pn	19 14 04.4	+3.9
KRX	**Arik**	**4.00**	**15**	*e*P	Pn	19 14 05.8	+4.5
SPN	**Mys Shipunski**	**4.09**	**28**	*e*P	Pn	19 14 06.1	+3.7
SPN				*e*S	Sn	19 14 53.3	+4.4
GNL	**Ganaly**	**4.23**	**9**	*e*P	Pn	19 14 08.7	+4.3
TUMR	**Tumrok**	**6.11**	**18**	*e*P	Pn	19 14 35.0	+4.8

*SOF **15** 19:16:33.8, 39°.32N×26°.22E, h18km, MD3.5*
*BEO **15** 19:16:35.9±0.9, 39°.51N×26°.39E, h1km±3km, ML3.2/5*
*THE **15** 19:16:36.8, 39°.54N×26°.11E, h7km±1km, ML3.0/11, Error ellipse: s-maj=2.1km s-min=0.7km az=115.0*
*ISK **15** 19:16:36.2, 39°.54N×26°.11E, h10km, ML3.5/52*
*DDA **15** 19:16:36.8±0.0, 39°.55N×26°.15E, h6km, ML3.3*
*ATH **15** 19:16:37.7, 39°.57N×25°.86E, h13km±5km, ML3.1/5, Error ellipse: s-maj=6.8km s-min=1.2km az=110.0*

ISC 15 19:16:36.8±0.8,**39°.53N**±0°.02×**26°.12E**±0°.02,**h10**km±5km, **n142**,σ1§**01**/174,**12C-4D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.03**	**157**	P	**Pg**	**19 16 38.5**	**-0.1**
KOCA				*i* AML	AML	19 16 39.0	
	comp=E,4μm,0.4s						
KOCA				S	**Sg**	**19 16 39.7**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.07**	**174**	Pg	**Pg**	**19 16 39.1**	**+0.1**
GPNR				Sg	**Sg**	**19 16 40.8**	**+0.2**
BOZC	**Bozcaada**	**0.32**	**350**	Pg	**Pg**	**19 16 43.1**	**-0.1**
BOZC	**Bozcaada**	**0.32**	**350**	P	**Pg**	**19 16 43.1**	**-0.1**
BOZC				*i* AML	AML	19 16 47.0	
	comp=N,3μm,0.4s						
BOZC				S	**Sg**	**19 16 47.7**	**+0.3**
EZN	**Ezine**	**0.34**	**28**	P	**Pg**	**19 16 43.3**	**-0.2**
EZN				S	**Sg**	**19 16 48.0**	**+0.1**
EZN	**Ezine**	**0.34**	**28**	Pg	**Pg**	**19 16 43.4**	**-0.1**
SIGR	**SIGRI**	**0.38**	**213**	P	**Pg**	**19 16 44.5**	**+0.2**
SIGR				S	**Sg**	**19 16 49.8**	**+0.5**
	4μm,0.4s						
SIGR	**SIGRI**	**0.38**	**213**	Pg	**Pg**	**19 16 44.5**	**+0.2**
SIGR				Sg	**Sg**	**19 16 50.6**	**+1.3**
SIGR	**SIGRI**	**0.38**	**213**	P	**Pg**	**19 16 44.5**	**+0.2**
SIGR				S	**Sg**	**19 16 50.0**	**+0.7**
SIGR				AML	AML	19 16 50.9	
	comp=N,9779μm,0.6s						
SIGR				AML	AML	19 16 53.8	
	comp=E,6582μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.39**	**57**	P	**Pg**	**19 16 44.2**	**-0.3**
BAYC				*i* AML	AML	19 16 49.0	
	comp=E,2μm,0.3s						
BAYC				*i* AML	AML	19 16 49.0	
	comp=E,2μm,0.1s						
BAYC				S	**Sg**	**19 16 49.4**	**-0.2**
AYVA	**Ayvalik**	**0.49**	**116**	P	**Pg**	**19 16 46.5**	**+0.1**
AYVA				S	**Sb**	**19 16 53.7**	**-1.1**
AYVA				*i* AML	AML	19 17 01.0	
	comp=E,2μm,0.4s						
ECEA	**Canakkale, Ece**	**0.52**	**4**	P	**Pg**	**19 16 46.8**	**0.0**
ECEA				*i* AML	AML	19 16 54.0	
	comp=E,2μm,0.4s						
ECEA				S	**Sb**	**19 16 54.5**	**-1.0**
ECEA				*i* AML	AML	19 16 56.0	
	comp=E,2μm,0.3s						
GOKA	**anakkale-Gk**	**0.68**	**346**	P	**Pg**	**19 16 49.6**	**-0.3**
GOKA				*i* AML	AML	19 16 59.0	
	comp=E,2μm,0.3s						
GOKA				S	**Sb**	**19 16 59.4**	**-0.9**
GADA	**Gvkgeada**	**0.68**	**345**	Pg	**Pg**	**19 16 49.5**	**-0.5**
GADA				Sg	**Sg**	**19 16 58.8**	**-0.2**
BUHA	**Balikesir, Bur**	**0.74**	**92**	P	**Pg**	**19 16 50.8**	**-0.3**
BUHA				*i* AML	AML	19 17 01.0	
	comp=E,968nm,0.3s						
BUHA				S	**Sb**	**19 17 01.1**	**-0.8**
BUHA				*i* AML	AML	19 17 05.0	
	comp=E,956nm,0.2s						
GELI	**Tayfur-Gelibol**	**0.91**	**17**	Pg	**Pg**	**19 16 53.7**	**-0.6**
GELI				Sg	**Sb**	**19 17 07.2**	**+0.3**
ZEDA	**zmir-Bergama**	**0.93**	**127**	P	**Pb**	**19 16 54.9**	**-0.1**
ZEDA				*i* AML	AML	19 17 09.0	
	comp=E,684nm,0.3s						
ZEDA				S	**Sn**	**19 17 09.5**	**+0.2**
ZEDA				*i* AML	AML	19 17 11.0	
	comp=E,623nm,0.2s						
LPK	**Lapseki**	**0.97**	**30**	Pg	**Pg**	**19 16 54.9**	**-0.7**
SMTH	**Samothraki Isl**	**1.05**	**334**	P	**Pg**	**19 16 56.0**	**-0.9**
SMTH				S	**Sg**	**19 17 10.2**	**-0.3**
	comp=E,745nm,0.4s						
SMTH	**Samothraki Isl**	**1.05**	**334**	P	**Pg**	**19 16 56.1**	**-0.8**
SMTH				S	**Sg**	**19 17 07.8**	**-2.7**
SMTH				AML	AML	19 17 12.6	
	comp=N,1760μm,0.3s						
SMTH				AML	AML	19 17 13.1	
	comp=E,955μm,0.2s						
PSRA	**Psara**	**1.08**	**204**	P	**Pb**	**19 16 57.9**	**+0.3**
PSRA				AML	AML	19 17 15.6	
	comp=N,6478μm,0.2s						
PSRA				AML	AML	19 17 17.0	
	comp=E,8186μm,0.2s						
CAVK	**Edirne/Enez-Ca**	**1.16**	**2**	P	**Pb**	**19 16 58.3**	**-0.7**
CAVK				S	**Sn**	**19 17 14.7**	**-0.4**
CAVK				*i* AML	AML	19 17 17.0	
	comp=E,648nm,0.4s						
CAVK				*i* AML	AML	19 17 21.0	
	comp=E,576nm,0.7s						
BALY	**Balya**	**1.17**	**79**	P	**Pn**	**19 16 59.2**	**-0.2**
BALY				S	**Sn**	**19 17 14.9**	**-0.5**
BALY				*i* AML	AML	19 17 16.0	
	comp=E,2μm,0.3s						
BALY				*i* AML	AML	19 17 17.0	
	comp=E,764nm,0.5s						
ERIK	**Erikli-Kesan**	**1.18**	**15**	Pn	**Pb**	**19 16 58.2**	**-1.1**
ERIK				S	**Sn**	**19 17 15.9**	**+0.4**
ENEZ	**Enez**	**1.21**	**1**	P	**Pb**	**19 16 59.1**	**-0.7**
ENEZ				S	**Sb**	**19 17 14.6**	**-0.8**
ENEZ	**Enez**	**1.21**	**1**	Pn	**Pb**	**19 16 59.0**	**-0.7**
URLA	**Izmir**	**1.22**	**162**	Pn	**Pn**	**19 16 59.4**	**-0.6**
URLA	**Izmir**	**1.22**	**162**	P	**Pn**	**19 16 59.4**	**-0.6**
URLA				S	**Sn**	**19 17 16.7**	**0.0**
STEP	**BALIKESIR_Sava**	**1.24**	**97**	P	**Pg**	**19 17 00.3**	**-0.3**
STEP				S	**Sn**	**19 17 18.2**	**+1.0**
STEP				*i* AML	AML	19 17 22.0	
	comp=E,769nm,0.5s						
STEP				*i* AML	AML	19 17 22.0	
	comp=E,832nm,0.5s						
KRBG	**Karabiga-Canak**	**1.25**	**46**	Pn	**Pn**	**19 16 59.6**	**-0.7**
KNL	**Balıkesir**	**1.31**	**55**	P	**Pn**	**19 17 00.9**	**-0.3**
KNL				*i* AML	AML	19 17 19.0	
	comp=E,1μm,0.8s						
KNL				S	**Sg**	**19 17 19.7**	**+0.7**
KNL				*i* AML	AML	19 17 21.0	
	comp=E,862nm,0.5s						
GONE	**Gonen-Balikesi**	**1.31**	**66**	Pn	**Pb**	**19 17 01.2**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**1.32**	**167**	P	**Pn**	**19 17 00.7**	**-0.6**
BALB	**Balikesir**	**1.36**	**85**	Pn	**Pn**	**19 17 01.8**	**-0.1**
KESN	**Edirne-Kesan**	**1.36**	**18**	P	**Pn**	**19 17 01.8**	**-0.5**
KESN				S	**Sg**	**19 17 20.8**	**0.0**
KESN				*i* AML	AML	19 17 23.0	
	comp=E,1μm,0.5s						
KESN				*i* AML	AML	19 17 24.0	
	comp=E,893nm,0.2s						
ALN	**Alexandroupoli**	**1.37**	**358**	P	**Pn**	**19 17 01.5**	**-0.4**
ALN				S	**Sn**	**19 17 19.8**	**-0.4**
	comp=E,1μm,0.6s						
ALN	**Alexandroupoli**	**1.37**	**358**	Pn	**Pn**	**19 17 01.6**	**-0.4**
ALN	**Alexandroupoli**	**1.37**	**358**	P	**Pn**	**19 17 01.6**	**-0.4**
ALN				AML	AML	19 17 21.2	
	comp=N,1330μm,0.6s						
ALN				AML	AML	19 17 21.4	
	comp=E,2733μm,0.6s						
RKY	**Sarkoy-Tekirda**	**1.41**	**35**	Pn	**Pn**	**19 17 02.4**	**-0.2**
AKS	**Akhisar**	**1.46**	**116**	Pn	**Pn**	**19 17 03.1**	**-0.2**
THAS	**Thassos island**	**1.52**	**315**	P	**Pb**	**19 17 04.8**	**-0.3**
THAS				S	**Sn**	**19 17 23.4**	**-0.6**
	comp=E,332nm,0.4s						
EDC	**Edincik**	**1.57**	**58**	Pn	**Pn**	**19 17 04.5**	**-0.2**
GOMA	**Golmarmara-Man**	**1.62**	**120**	Pn	**Pn**	**19 17 05.4**	**0.0**
UKOP	**Uzunkopru-Edir**	**1.65**	**14**	Pn	**Pn**	**19 17 05.4**	**-0.4**
RDO	**Rodhopi**	**1.68**	**345**	P	**Pn**	**19 17 06.2**	**0.0**
RDO				S	**Sn**	**19 17 27.7**	**-0.1**
	comp=E,220nm,0.4s						
RDO	**Rodhopi**	**1.68**	**345**	Pn	**Pn**	**19 17 06.3**	**0.0**
RDO	**Rodhopi**	**1.68**	**345**	P	**Pn**	**19 17 06.0**	**-0.2**
RDO				AML	AML	19 17 30.4	
	comp=N,507μm,0.6s						
RDO				AML	AML	19 17 32.1	
	comp=E,370μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.81**	**241**	P	**Pn**	**19 17 06.9**	**-1.1**
KYMI				S	**Sn**	**19 17 31.1**	**0.0**
	comp=E,372nm,0.6s						
KYMI	**Kymi, Euboea I**	**1.81**	**241**	P	**Pn**	**19 17 06.9**	**-1.1**
TKR	**Tekirdag**	**1.82**	**36**	Pn	**Pn**	**19 17 08.3**	**+0.2**
OUR	**Ouranopolis**	**1.83**	**297**	P	**Pn**	**19 17 08.1**	**-0.2**
OUR	**Ouranopolis**	**1.83**	**297**	Pn	**Pn**	**19 17 08.2**	**-0.1**
OUR	**Ouranopolis**	**1.83**	**297**	P	**Pn**	**19 17 07.6**	**-0.7**
KCTX	**Karacabey (Bur**	**1.87**	**66**	Pn	**Pn**	**19 17 09.1**	**+0.2**
KAVA	**Kavala**	**1.92**	**320**	P	**Pn**	**19 17 09.1**	**-0.4**
KAVA				S	**Sn**	**19 17 31.4**	**-2.3**
	comp=E,188nm,0.3s						
KAVA	**Kavala**	**1.92**	**320**	P	**Pn**	**19 17 08.6**	**-0.9**
PAIG	**Paliouri**	**1.93**	**283**	P	**Pn**	**19 17 09.2**	**-0.5**
PAIG				S	**Sn**	**19 17 34.4**	**+0.5**
	comp=E,122nm,0.6s						
PAIG	**Paliouri**	**1.93**	**283**	P	**Pn**	**19 17 09.1**	**-0.5**
DST	**Dursunbey**	**1.93**	**87**	Pn	**Pn**	**19 17 09.8**	**0.0**
CRLT	**Corlu**	**2.02**	**37**	Pn	**Pn**	**19 17 11.2**	**+0.3**
GCAM	**G?zelcaml?**	**2.02**	**154**	Pn	**Pn**	**19 17 11.1**	**+0.2**
EREA	**Eretria**	**2.04**	**238**	P	**Pn**	**19 17 09.6**	**-1.6**
BOTS	**Marmara Eregli**	**2.04**	**44**	Pn	**Pn**	**19 17 11.6**	**+0.4**
KDZ	**Kurdzhali**	**2.19**	**346**	Pn	**Pn**	**19 17 13.2**	**-0.1**
KDZ	**Kurdzhali**	**2.19**	**346**	P	**Pn**	**19 17 13.9**	**+0.6**
ORLT	**Orhaneli**	**2.20**	**76**	Pn	**Pn**	**19 17 14.2**	**+0.8**
KULA	**Kula-Manisa**	**2.22**	**116**	Pn	**Pn**	**19 17 13.9**	**+0.1**
DION	**Dionisos Attik**	**2.24**	**230**	P	**Pn**	**19 17 14.4**	**+0.4**
DION				S	**Sn**	**19 17 41.6**	**-0.2**
	comp=E,250nm,0.7s						
SIMA	**Simav-Kutahya**	**2.26**	**100**	Pn	**Pn**	**19 17 15.0**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.28**	**68**	Pn	**Pn**	**19 17 15.2**	**+0.7**
SLVT	**Silivri**	**2.33**	**42**	Pn	**Pn**	**19 17 15.1**	**-0.1**
PHSR	**Pinarhisar**	**2.35**	**26**	Pn	**Pn**	**19 17 15.9**	**+0.3**
EDRB	**Edirne**	**2.36**	**11**	P	**Pn**	**19 17 15.3**	**-0.4**
EDRB				S	**Sn**	**19 17 44.1**	**-0.6**
	comp=E,210nm,0.6s						
EDRB	**Edirne**	**2.36**	**11**	Pn	**Pn**	**19 17 15.8**	**+0.1**
RZN	**Rozhen**	**2.41**	**334**	P	**Pn**	**19 17 16.8**	**+0.3**
AVCI	**Avcilar-stanb**	**2.47**	**53**	Pn	**Pn**	**19 17 17.6**	**+0.5**
VLY	**Voula,Athens**	**2.48**	**228**	P	**Pn**	**19 17 16.2**	**-1.0**
APE	**Apeiranthos**	**2.50**	**191**	↑P	**Pn**	**19 17 20.0**	**-1.8**
APE	**Apeiranthos**	**2.50**	**191**	P	**Pn**	**19 17 16.3**	**-1.3**
APE				S	**Sn**	**19 17 47.8**	**-0.4**
	comp=E,122nm,0.3s						
APE	**Apeiranthos**	**2.50**	**191**	Pn	**Pn**	**19 17 16.3**	**-1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GZR	**Gura Zlata**	**6.36**	**338**	⇑P	**Pn**	**19 18 11.6**	**+1.0**
BZS	**Buzias**	**6.93**	**333**	⇓P	**Pn**	**19 18 18.1**	**-0.3**
BZS	**Buzias**	**6.93**	**333**	*e*Pn	**Pn**	**19 18 19.4**	**+1.0**
BZS				*e*Sn	**Sn**	**19 19 37.1**	**-0.2**

IDC ***15*** *19:36:10.6±1.1, 36°.88N×141°.42E, h0km, mb3.5/7, mbtmp3.4/9, ML2.6/2, Error ellipse: s-maj=24.0km s-min=22.7km az=39.0*

JMA ***15*** *19:36:12.8±0.1, 36°.9N±0°.3×141°.4E±0°.6, h27km, MV3.6/40, E OFF FUKUSHIMA PREF*

NIED ***15*** *19:36:12.8, 36°.94N×141°.35E, h27km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.26; $M_{\theta\theta}$0.38; $M_{\phi\phi}$1.89; $M_{r\theta}$0.15; $M_{\theta\phi}$0.80; $M_{\phi r}$0.84; Fault plane solution: $M_0$2.40000×10^{14} NP1: ϕ_s199.00000°, δ55.00000°, λ-95.00000°. NP2:ϕ_s28.00000°, δ35.00000°, λ-83.00000°.*

ISC 15 19:36:12.0±1.8**, 36°.92N**±0°.05×**141°.38E**±0°.07**, h10**km±10km**, n26,** σ**0s.87**/25**, mb3.4**/7**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**292**	*i* P	**Pg**	**19 36 22.2**	**+0.4**
ONAJ				S	**Sg**	**19 36 29.1**	**+0.7**
JFK	**Kawauchi**	**0.60**	**318**	*i* P	**Pg**	**19 36 24.0**	**+0.2**
JFK				S	**Sg**	**19 36 31.8**	**0.0**
JFFD	**Fukushimafurud**	**0.68**	**285**	*i* P	**Pg**	**19 36 25.1**	**-0.1**
JFFD				S	**Sg**	**19 36 33.7**	**-0.3**
JHO	**Hitachi**	**0.72**	**245**	*i* P	**Pg**	**19 36 26.2**	**+0.3**
JHO				S	**Sg**	**19 36 36.1**	**+0.8**
JMM	**Marumori**	**1.06**	**334**	*i* P	**Pb**	**19 36 31.3**	**-1.1**
JMM				S	**Sb**	**19 36 44.8**	**-1.5**
JSB	**Shiboa**	**1.17**	**273**	P	**Pn**	**19 36 34.2**	**-0.3**
JSB				*e*S	**Sb**	**19 36 49.3**	**-0.3**
JYT	**Yasato**	**1.18**	**235**	P	**Pn**	**19 36 33.0**	**-1.6**
JYT				*e*S	**Sb**	**19 36 48.0**	**-1.8**
JFY	**Yanaizu**	**1.43**	**291**	S	**Sn**	**19 36 56.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.58**	**263**	Pn	**Pn**	**19 36 54.4**	**+0.6**
	0.4nm,0.3s,baz=88,slow=15,SNR=16						
MJAR				Sn	**Sn**	**19 37 26.8**	**+1.6**
	0.8nm,0.3s,baz=74,slow=14,SNR=6.0						
	3.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.19**	**318**	Pn	**Pn**	**19 38 39.2**	**+0.9**
	0.1nm,0.3s,baz=108,slow=14,SNR=2.0						
	2.1nm,0.7s						
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**19 42 02.3**	**+0.7**
	0.3nm,0.6s,baz=107,slow=9.6,SNR=2.8						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	20 11 31.6	
	baz=313,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	20 11 37.0	
	baz=313,slow=75,SNR=72						
H11N3	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	20 11 37.7	
	baz=313,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**28.82**	**123**	T	T	20 12 22.5	
	baz=315,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.82**	**123**	T	T	20 12 28.8	
	baz=315,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	20 12 29.4	
	baz=315,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**41.97**	**312**	P	**P**	**19 44 02.8**	**-0.2**
	0.7nm,0.6s,baz=101,slow=7.5,SNR=2.4						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**19 44 21.0**	**+0.1**
	0.7nm,0.8s,baz=79,slow=7.5,SNR=5.3						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**49.61**	**32**	P	**P**	**19 45 03.5**	**+0.4**
	0.4nm,0.9s,baz=275,slow=5.5,SNR=2.3						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**56.94**	**188**	P	**P**	**19 45 57.4**	**-0.2**
	0.5nm,0.8s,baz=3.2,slow=7.6,SNR=7.4						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**60.67**	**188**	P	**P**	**19 46 23.1**	**-0.3**
	0.2nm,0.7s,baz=8.5,slow=7.5,SNR=2.5						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**77.77**	**45**	P	**P**	**19 48 10.2**	**+0.6**
	0.2nm,0.6s,baz=340,slow=2.4,SNR=2.9						
	0.2nm,0.6s						
H03N2	**Juan Fernandez**	**147.04**	**96**	T	T	22 40 15.7	
	baz=291,slow=76,SNR=9.2						
H03N3	**Juan Fernandez**	**147.05**	**96**	T	T	22 40 16.8	
	baz=291,slow=76,SNR=8.8						
H03N1	**Juan Fernandez**	**147.05**	**96**	T	T	22 40 16.9	
	baz=291,slow=76,SNR=8.0						

KRSC ***15*** *19:49:10.1±1.9, 52°.33N×160°.97E, h16km±26km, Mc3.5, Ml4.3*

IDC ***15*** *19:49:10.8±1.0, 52°.60N×160°.72E, h0km, mb3.8/19, mbtmp3.8/21, ML4.1/2, MS3.2/5, Error ellipse: s-maj=24.3km s-min=16.3km az=119.0*

NEIC ***15*** *19:49:14.3±0.9, 52°.3N±0°.1×160°.73E±0°.07, h48km±12km, mb4.4/9, Error ellipse: s-maj=19.3km s-min=6.4km az=184.0*

MOS ***15*** *19:49:14.2±1.0, 52°.38N×160°.78E, h49km, mb4.3/9, Error ellipse: s-maj=8.7km s-min=4.6km az=105.2*

ISC 15 19:49:13.7±1.8**, 52°.38N**±0°.04×**160°.77E**±0°.05**, h28**km±11km**, n124,** σ**1s.68**/143**, mb3.9**/24**, 4C-1D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.85**	**328**	PN	**Pn**	**19 49 28.1**	**-1.7**
SPN				S	**Sb**	**19 49 39.5**	**-1.4**
SPN	**Mys Shipunski**	**0.85**	**328**	*e*P	**Pn**	**19 49 28.1**	**-1.7**
SPN				*e*S	**Sb**	**19 49 39.5**	**-1.4**
NLC	**Nalytchevo**	**1.17**	**313**	PN	**Pn**	**19 49 34.5**	**+0.3**
NLC				S	**Sn**	**19 49 50.1**	**+0.9**
NLC	**Nalytchevo**	**1.17**	**313**	*e*P	**Pn**	**19 49 34.5**	**+0.3**
NLC				*e*S	**Sn**	**19 49 50.1**	**+0.9**
DALK	**Dalny**	**1.39**	**299**	PN	**Pn**	**19 49 37.7**	**+0.6**
DALK				S	**Sn**	**19 49 55.3**	**+0.8**
DALK	**Dalny**	**1.39**	**299**	*e*P	**Pn**	**19 49 37.7**	**+0.6**
DALK				*e*S	**Sn**	**19 49 55.3**	**+0.8**
PET	**Petropavlovsk**	**1.44**	**298**		**Pn**	**19 49 38.0**	**+0.1**
PET				Sn	**Sn**	**19 49 57.0**	**+1.2**
PET	**Petropavlovsk**	**1.44**	**298**	PN	**Pn**	**19 49 38.5**	**+0.7**
PET				S	**Sn**	**19 49 57.5**	**+1.7**
PET	**Petropavlovsk**	**1.44**	**298**	*e*P	**Pn**	**19 49 38.5**	**+0.7**
PET				*e*S	**Sn**	**19 49 57.5**	**+1.7**
UGLR	**Uglovaya**	**1.44**	**306**	PN	**Pn**	**19 49 38.4**	**+0.4**
UGLR	**Uglovaya**	**1.44**	**306**	*e*P	**Pn**	**19 49 38.4**	**+0.4**
INSR	**Institute**	**1.48**	**299**	*e*P	**Pn**	**19 49 39.1**	**+0.7**
INSR				*e*S	**Sn**	**19 49 57.6**	**+0.7**
SMAR	**Somma**	**1.48**	**307**	PN	**Pn**	**19 49 38.7**	**0.0**
SMAR	**Somma**	**1.48**	**307**	*e*P	**Pn**	**19 49 38.7**	**0.0**
AVH	**Avacha**	**1.52**	**307**	PN	**Pn**	**19 49 39.6**	**+0.6**
AVH	**Avacha**	**1.52**	**307**	*e*P	**Pn**	**19 49 39.6**	**+0.6**
KOK	**Koryaka**	**1.58**	**306**	PN	**Pn**	**19 49 40.5**	**+0.6**
KOK	**Koryaka**	**1.58**	**306**	*e*P	**Pn**	**19 49 40.5**	**+0.6**
MTVR	**Mutnovka**	**1.58**	**275**	PN	**Pn**	**19 49 41.4**	**+1.4**
MTVR				S	**Sb**	**19 50 03.1**	**+1.1**
MTVR	**Mutnovka**	**1.58**	**275**	*e*P	**Pn**	**19 49 41.4**	**+1.4**
MTVR				*e*S	**Sb**	**19 50 03.1**	**+1.1**
KRX	**Arik**	**1.61**	**308**	PN	**Pn**	**19 49 40.6**	**+0.2**
KRX				S	**Sn**	**19 50 01.3**	**+0.9**
KRX	**Arik**	**1.61**	**308**	*e*P	**Pn**	**19 49 40.6**	**+0.2**
KRX				*e*S	**Sn**	**19 50 01.3**	**+0.9**
GRL	**Gorelyy**	**1.66**	**277**	PN	**Pn**	**19 49 42.9**	**+1.9**
GRL	**Gorelyy**	**1.66**	**277**	*e*P	**Pn**	**19 49 42.9**	**+1.9**
KRMR	**Karymshinskiy**	**1.67**	**287**	PN	**Pn**	**19 49 41.8**	**+0.8**
KRMR				S	**Sb**	**19 50 04.8**	**+0.5**
KRMR	**Karymshinskiy**	**1.67**	**287**	*e*P	**Pn**	**19 49 41.8**	**+0.8**
KRMR				*e*S	**Sb**	**19 50 04.8**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.75**	**252**	PN	**Pn**	**19 49 43.0**	**+0.8**
KDTR				S	**Sn**	**19 50 04.6**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.75**	**252**	*e*P	**Pn**	**19 49 43.0**	**+0.8**
KDTR				*e*S	**Sn**	**19 50 04.6**	**+1.1**
PEA0B	**Petropavlovsk-**	**2.00**	**293**		**Pn**	**19 49 46.8**	**+1.2**
PEA0B	**Petropavlovsk-**	**2.00**	**293**	*ce*PN	**Pn**	**19 49 47.2**	**+1.6**
PETK	**Petropavlovsk-**	**2.00**	**293**	Pn	**Pn**	**19 49 46.0**	**+0.4**
	30nm,0.3s,baz=96,slow=19,SNR=340						
PETK				Sn	**Sb**	**19 50 15.0**	**+1.1**
	33nm,0.3s,baz=106,slow=19,SNR=6.7						
PETK	**Petropavlovsk-**	**2.00**	**293**	Pn	**Pn**	**19 49 46.3**	**+0.7**
PETK	**Petropavlovsk-**	**2.00**	**293**	PN	**Pn**	**19 49 46.3**	**+0.7**
GNL	**Ganaly**	**2.15**	**309**	PN	**Pn**	**19 49 49.4**	**+1.6**
GNL				S	**Sb**	**19 50 17.8**	**-0.6**
GNL	**Ganaly**	**2.15**	**309**	*e*P	**Pn**	**19 49 49.4**	**+1.6**
GNL				*e*S	**Sb**	**19 50 17.8**	**-0.6**
APC	**Apacha**	**2.26**	**285**	PN	**Pn**	**19 49 51.4**	**+2.2**
APC				S	**Sb**	**19 50 22.6**	**+1.2**
APC	**Apacha**	**2.26**	**285**	*e*P	**Pn**	**19 49 51.4**	**+2.2**
APC				*e*S	**Sb**	**19 50 22.6**	**+1.2**
TUMD	**Tumrok D**	**2.84**	**356**	*e*P	**Pn**	**19 49 58.2**	**+1.1**
TUMD				*e*S	**Sn**	**19 50 34.2**	**+3.8**
TUMR	**Tumrok**	**2.93**	**353**	PN	**Pn**	**19 49 59.8**	**+1.3**
TUMR	**Tumrok**	**2.93**	**353**	*e*P	**Pn**	**19 49 59.8**	**+1.3**
SKR	**Severo-Kuril's**	**3.36**	**242**	PN	**Pn**	**19 50 05.6**	**+1.3**
SKR	**Severo-Kuril's**	**3.36**	**242**	*e*P	**Pn**	**19 50 05.6**	**+1.3**
KMNR	**Kamenistaya**	**3.40**	**355**	PN	**Pn**	**19 50 07.1**	**+2.2**
KMNR	**Kamenistaya**	**3.40**	**355**	*e*P	**Pn**	**19 50 07.1**	**+2.2**
BZP	**Bezymyannyi-Pe**	**3.54**	**358**	*e*P	**Pn**	**19 50 10.2**	**+3.3**
BZMR	**Bezymyannaya**	**3.57**	**358**	PN	**Pn**	**19 50 10.2**	**+2.9**
BZMR	**Bezymyannaya**	**3.57**	**358**	*e*P	**Pn**	**19 50 10.2**	**+2.9**
BZGR	**Bezymyannyi-Gr**	**3.57**	**359**	PN	**Pn**	**19 50 09.1**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**3.57**	**359**	*e*P	**Pn**	**19 50 09.1**	**+1.9**
KIRR	**Kirishev**	**3.59**	**356**	PN	**Pn**	**19 50 10.6**	**+3.0**
KIRR	**Kirishev**	**3.59**	**356**	*e*P	**Pn**	**19 50 10.6**	**+3.0**
BZWR	**Bezymyannyi-We**	**3.60**	**358**	PN	**Pn**	**19 50 10.1**	**+2.4**
BZWR	**Bezymyannyi-We**	**3.60**	**358**	*e*P	**Pn**	**19 50 10.1**	**+2.4**
KOZ	**Kozyrevsk**	**3.72**	**352**	PN	**Pn**	**19 50 10.2**	**+0.9**
KOZ	**Kozyrevsk**	**3.72**	**352**	*e*P	**Pn**	**19 50 10.2**	**+0.9**
ESO	**Esso**	**3.75**	**342**	PN	**Pn**	**19 50 11.7**	**+2.0**
ESO	**Esso**	**3.75**	**342**	*e*P	**Pn**	**19 50 11.7**	**+2.0**
KLY	**Klyuchi**	**3.94**	**359**	PN	**Pn**	**19 50 14.9**	**+2.6**
KLY				S	**Sn**	**19 51 01.9**	**+4.4**
KLY	**Klyuchi**	**3.94**	**359**	*e*P	**Pn**	**19 50 14.9**	**+2.6**
KLY				*e*S	**Sn**	**19 51 01.9**	**+4.4**
SRDR	**Sredinnyy**	**3.99**	**352**	PN	**Pn**	**19 50 14.7**	**+1.7**
SRDR	**Sredinnyy**	**3.99**	**352**	*e*P	**Pn**	**19 50 14.7**	**+1.7**
KBTR	**Krutoberegovo**	**4.02**	**17**	PN	**Pn**	**19 50 14.3**	**+1.0**
KBTR	**Krutoberegovo**	**4.02**	**17**	*e*P	**Pn**	**19 50 14.3**	**+1.0**
BKI	**Bering**	**4.19**	**45**	PN	**Pn**	**19 50 14.8**	**-0.8**
BKI	**Bering**	**4.19**	**45**	*e*P	**Pn**	**19 50 14.8**	**-0.8**
SMKR	**Semkarok**	**4.23**	**5**	PN	**Pn**	**19 50 19.2**	**+2.9**
SMKR	**Semkarok**	**4.23**	**5**	*e*P	**Pn**	**19 50 19.2**	**+2.9**
MA2	**Magadan**	**9.12**	**326**	LR	LR	19 55 20.8	
	comp=Z,79nm,20.8s,baz=248,slow=42						
ERM	**Erimo**	**15.79**	**236**	Pn	**Pn**	**19 52 51.2**	**-2.7**
ERM				IAmb	IAmb	19 53 00.3	
	comp=Z,56nm,1.2s						
ERM	**Erimo**	**15.79**	**236**	P	**Pn**	**19 52 51.2**	**-2.7**
ERM				pmax	pmax		
	comp=Z,56nm,1.3s						
BILL	**Bilibino**	**15.94**	**8**	*i* P	**Pn**	**19 52 52.8**	**-2.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KLR	**Kul'dur**	**18.55**	**272**	P	**Pn**	**19 53 29.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=88,slow=9.4,SNR=4.5						
KLR				LR	LR	20 01 21.1	
	comp=Z,95nm,18.6s,baz=96,slow=39						
	comp=Z,2.1nm,0.7s						
KLR	**Kul'dur**	**18.55**	**272**	*i* P	**Pn**	**19 53 29.9**	**+1.6**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YAK	**Yakutsk**	**19.22**	**312**	P	**P**	**19 53 34.0**	**-1.1**
	baz=115,slow=0.2,SNR=11						
YAK				LR	LR	20 01 04.0	
	comp=Z,38nm,18.1s,baz=346,slow=37						
	comp=Z,6.8nm,0.7s						
YAK	**Yakutsk**	**19.22**	**312**	*e*P	**P**	**19 53 33.6**	**-1.6**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
ZEA	**Zeya**	**20.09**	**287**	*e*P	**P**	**19 53 43.9**	**-0.8**
USA0B	**Ussuriysk Arra**	**20.71**	**258**	P	**P**	**19 53 49.5**	**-2.1**
USA0B				IAmb	IAmb	19 53 53.5	
	comp=Z,24nm,1.4s						
USA0B	**Ussuriysk Arra**	**20.71**	**258**	P	**P**	**19 53 49.5**	**-2.1**
USA0B				pmax	pmax		
	comp=Z,24nm,1.4s						
USRK	**Ussuriysk Ar.**	**20.71**	**258**	P	**P**	**19 53 52.8**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=70,slow=14,SNR=2.0						
	comp=Z,2.7nm,0.7s						
HEH	**HeiHe**	**20.85**	**277**	*e*P	**P**	**19 53 52.4**	**-0.6**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAJO	**Matsushiro**	**22.44**	**234**	P	**P**	**19 54 08.2**	**-2.0**
MAJO				IAmb	IAmb	19 54 34.0	
	comp=Z,39nm,1.4s						
MAJO	**Matsushiro**	**22.44**	**234**	P	**P**	**19 54 08.2**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,39nm,1.5s						
MJAR	**Matsushiro Arr**	**22.44**	**234**	P	**P**	**19 54 13.3**	**+3.1**
	comp=Z,4.3nm,1.0s,baz=19,slow=12,SNR=6.2						
	comp=Z,4.3nm,1.0s						
TIXI	**Tiksi**	**23.90**	**336**	P	**P**	**19 54 22.2**	**-2.4**
	comp=Z,1.9nm,0.6s,baz=90,slow=23,SNR=3.3						
TIXI				LR	LR	20 05 30.4	
	comp=Z,44nm,18.2s,baz=168,slow=41						
	comp=Z,1.9nm,0.6s						
TIXI	**Tiksi**	**23.90**	**336**	P	**P**	**19 54 22.8**	**-1.7**
TIXI	**Tiksi**	**23.90**	**336**	*ce*P	**P**	**19 54 23.0**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS	**Korea Array**	**27.34**	**250**	P	**P**	**19 54 59.3**	**+3.3**
	comp=Z,1.8nm,0.9s,baz=36,slow=9.2,SNR=5.3						
	comp=Z,1.8nm,0.9s						
ILAR	**Eielson Array**	**29.04**	**44**	P	**P**	**19 55 10.1**	**-0.8**
ILAR	**Eielson Array**	**29.04**	**44**	P	**P**	**19 55 10.1**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**32.93**	**169**	T	T	20 32 20.5	
	baz=351,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**32.95**	**169**	T	T	20 31 50.3	
	baz=351,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**32.95**	**169**	T	T	20 32 18.2	
	baz=351,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**34.12**	**170**	T	T	20 33 38.7	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**34.13**	**170**	T	T	20 33 43.5	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**34.14**	**170**	T	T	20 33 43.3	
	baz=352						
INK	**Inuvik**	**34.19**	**37**	P	**P**	**19 55 56.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=289,slow=1.4,SNR=4.7						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**34.47**	**285**	P	**P**	**19 55 58.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=74,slow=7.4,SNR=4.3						
	comp=Z,0.4nm,0.7s						
EUNU	**Eureka**	**42.55**	**14**	P	**P**	**19 57 06.9**	**+0.6**
EUNU				IAmb	IAmb	19 57 11.1	
	comp=Z,5.9nm,0.9s						
ZALV	**Zalesovo Beam**	**43.51**	**304**	P	**P**	**19 57 12.5**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=47,slow=22,SNR=3.5						
	comp=Z,0.7nm,0.7s						
DGZ	**Jazzator, Alta**	**44.35**	**297**	*i* P	**P**	**19 57 20.4**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SPITS	**Spitsbergen Ar**	**47.91**	**351**	P	**P**	**19 57 49.1**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=68,slow=9.1,SNR=10						
	comp=Z,1.2nm,0.4s						
SPB2	**Spitsbergen Ar**	**47.91**	**351**	P	**P**	**19 57 48.9**	**+0.2**
KURK	**Kurchatov**	**48.46**	**303**	P	**P**	**19 57 51.5**	**-1.8**
KURK	**Kurchatov**	**48.46**	**303**	P	**P**	**19 57 51.5**	**-1.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	**Makanchi Array**	**48.84**	**297**	*i* P	**P**	**19 57 56.1**	**-0.2**
MKAR	**Makanchi Array**	**48.84**	**297**	P	**P**	**19 57 54.7**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=50,slow=6.2,SNR=18						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**48.84**	**297**	P	**P**	**19 57 54.5**	**-1.7**
BRVK	**Borovoye**	**51.19**	**309**	P	**P**	**19 58 12.4**	**-1.6**
BRVK	**Borovoye**	**51.19**	**309**	*i* P	**P**	**19 58 13.4**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ARU	**Arti**	**54.20**	**318**	LR	LR	20 24 34.5	
	comp=Z,44nm,18.3s,baz=14,slow=39						
ARU	**Arti**	**54.20**	**318**	P	**P**	**19 58 34.8**	**-1.4**
ARU				IAmb	IAmb	19 58 48.9	
	comp=Z,3.5nm,1.1s						
ARU	**Arti**	**54.20**	**318**	*d i*P	**P**	**19 58 35.0**	**-1.2**
ARU						19 59 40.6	
ARU				S	**S**	**20 06 06.9**	**-4.2**
ARU				pmax	pmax		
	comp=Z,15nm,3.4s						
CMAR	**Chiang Mai Arr**	**58.44**	**259**	P	**P**	**19 59 09.2**	**+2.3**
	comp=Z,1.0nm,0.5s,baz=28,slow=6.7,SNR=9.2						
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**60.94**	**337**	P	**P**	**19 59 24.2**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=34,slow=8.3,SNR=23						
	comp=Z,2.2nm,0.5s						
NOA	**NORSAR Array B**	**64.34**	**344**	P	**P**	**19 59 46.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=19,slow=6.8,SNR=3.9						
	comp=Z,0.7nm,0.7s						
GEYT	**Alibeck**	**67.82**	**304**	P	**P**	**20 00 09.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=45,slow=57,SNR=2.1						
	comp=Z,0.4nm,0.3s						
AKASG	**Malin Array Be**	**69.44**	**329**	P	**P**	**20 00 18.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=31,slow=6.7,SNR=5.7						
	comp=Z,0.5nm,0.3s						
AKASG	**Malin Array Be**	**69.44**	**329**	*ce*P	**P**	**20 00 19.0**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**75.33**	**338**	P	**P**	**20 00 54.3**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=32,slow=8.1,SNR=1.7						
	comp=Z,0.2nm,0.4s						
WRA	**Warramunga Arr**	**75.61**	**206**	P	**P**	**20 00 57.1**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=359,slow=17,SNR=1.1						
	comp=Z,0.2nm,0.7s						
BRTR	**Keskin Array B**	**77.43**	**321**	P	**P**	**20 01 07.1**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=14,slow=2.5,SNR=5.8						
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**77.43**	**321**	*ce*P	**P**	**20 01 07.4**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**79.28**	**205**	P	**P**	**20 01 18.3**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=16,slow=5.2,SNR=10						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**87.36**	**348**	P	**P**	**20 01 59.0**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=4.3,slow=5.1,SNR=2.6						
	comp=Z,0.5nm,0.7s						

IDC ***15*** *19:59:05.9±0.8, 4°.01S×102°.84W, h0km, mb4.0/11, mbtmp4.0/11, MS3.8/32, Error ellipse: s-maj=39.1km s-min=17.3km az=63.0*

NEIC ***15*** *19:59:08.3±1.3, 3°.9S±0°.1×102°.7W±0°.2, h10km±2km, mb4.5/25, Error ellipse: s-maj=34.5km s-min=3.1km az=240.0*

ISC 15 19:59:07.5±0.8**, 4°.0S**±0°.1×**102°.7W**±0°.2**, h10**km**, n77,** σ**1s.01**/44**, mb4.4**/23**, MS3.9**/32**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNO	**Dulce Nombre,**	**22.12**	**51**	P	**P**	**20 04 03.6**	**+0.3**
DUNO				IAmb	IAmb	20 04 12.5	
	comp=Z,37nm,1.4s						
CMIG	**Matias Romero**	**22.32**	**20**	P	**P**	**20 04 07.0**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=203,slow=17,SNR=2.4						
CMIG				LR	LR	20 10 41.5	
	comp=Z,140nm,20.2s,baz=208,slow=31						
	comp=Z,1.5nm,0.3s						
JTS	**Las Juntas de**	**22.67**	**51**	P	**P**	**20 04 11.6**	**+2.3**
	comp=Z,10nm,1.1s,baz=331,slow=9.8,SNR=2.7						
JTS				LR	LR	20 10 29.6	
	comp=Z,420nm,20.5s,baz=197,slow=30						
	comp=Z,10nm,1.1s						
MCRA	**Macar, Loja**	**22.69**	**92**	P	**P**	**20 04 08.7**	**-0.9**
RPN	**Rapa Nui**	**23.86**	**195**	LR	LR	20 10 30.1	
	comp=Z,49nm,20.1s,baz=262,slow=29						
ATAH	**Atahualpa**	**24.39**	**98**	LR	LR	20 11 31.3	
	comp=Z,276nm,20.2s,baz=269,slow=30						
OTAV	**Otavalo**	**24.59**	**81**	P	**P**	**20 04 28.8**	**+0.1**
OTAV				IAmb	IAmb	20 04 41.1	
	comp=Z,13nm,1.4s						
NNA	**Nana**	**26.79**	**109**	LR	LR	20 12 33.3	
	comp=Z,251nm,21.7s,baz=282,slow=30						
LPIG	**La Paz**	**28.89**	**346**	LR	LR	20 13 37.9	
	comp=Z,154nm,21.1s,baz=202,slow=30						
ROSC	**El Rosal**	**29.68**	**73**	LR	LR	20 14 42.0	
	comp=Z,145nm,20.1s,baz=235,slow=31						
SDV	**Santo Domingo**	**34.44**	**68**	LR	LR	20 19 07.4	
	comp=Z,99nm,18.7s,baz=258,slow=35						
PB16	**IPOC Station P**	**35.46**	**116**	P	**P**	**20 06 05.8**	**+0.7**
PB16				IAmb	IAmb	20 06 09.4	
	comp=Z,7.2nm,0.7s						
MNMC	**Minye Minye**	**35.65**	**118**	P	**P**	**20 06 06.9**	**+0.5**
MNMC				IAmb	IAmb	20 06 15.8	
	comp=Z,14nm,1.3s						
PB11	**IPOC Station P**	**35.83**	**119**	P	**P**	**20 06 08.3**	**+0.5**
LPAZ	**La Paz**	**36.09**	**112**	LR	LR	20 18 26.4	
	comp=Z,119nm,18.5s,baz=290,slow=32						
PB04	**IPOC Station P**	**36.42**	**123**	P	**P**	**20 06 10.2**	**-2.6**
PB04				IAmb	IAmb	20 06 15.2	
	comp=Z,10nm,0.9s						
PB01	**IPOC Station P**	**36.46**	**121**	P	**P**	**20 06 13.2**	**+0.2**
PB01				IAmb	IAmb	20 06 15.4	
	comp=Z,8.5nm,1.0s						
H03N2	**Juan Fernandez**	**36.75**	**146**	T	T	20 45 35.0	
	baz=322,slow=78,SNR=8.9						
H03N1	**Juan Fernandez**	**36.76**	**146**	T	T	20 45 31.3	
	baz=322,slow=78,SNR=18						
H03N3	**Juan Fernandez**	**36.76**	**146**	T	T	20 45 35.0	
	baz=322,slow=78,SNR=9.8						
LVC	**Limon Verde**	**37.58**	**123**	LR	LR	20 17 39.1	
	comp=Z,246nm,21.4s,baz=294,slow=30						
ANMO	**Albuquerque**	**38.89**	**355**	LR	LR	20 20 39.2	
	comp=Z,34nm,19.1s,baz=275,slow=33						
MIAR	**Mount Ida**	**39.28**	**12**	P	**P**	**20 06 36.1**	**-0.5**
PFO	**Pinyon Flats O**	**39.59**	**342**	LR	LR	20 19 48.5	
	comp=Z,119nm,18.4s,baz=189,slow=31						
PLAL	**Pickwick Lake**	**41.13**	**18**	P	**P**	**20 06 50.4**	**-1.6**
PLAL				IAmb	IAmb	20 06 57.9	
	comp=Z,7.0nm,0.9s						
LCAR	**Lake Charles**	**41.29**	**14**	P	**P**	**20 06 52.3**	**-0.9**
WVT	**Waverly**	**42.27**	**18**	P	**P**	**20 06 58.7**	**-2.5**
WVT				IAmb	IAmb	20 07 06.9	
	comp=Z,7.5nm,1.1s						
CFA	**Coronel Fontan**	**42.45**	**134**	P	**P**	**20 07 03.1**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=302,slow=5.4,SNR=5.3						
CFA				LR	LR	20 20 21.7	
	comp=Z,213nm,21.5s,baz=272,slow=30						
	comp=Z,3.8nm,0.9s						
SIV	**San Ignacio**	**42.60**	**109**	LR	LR	20 22 59.0	
	comp=Z,240nm,18.6s,baz=292,slow=34						
CGM3	**Cape Girardeau**	**42.83**	**15**	P	**P**	**20 07 05.8**	**+0.1**
CGM3				IAmb	IAmb	20 07 11.1	
	comp=Z,10nm,1.1s						
CCM	**Cathedral Cave**	**43.16**	**13**	P	**P**	**20 07 08.1**	**-0.3**
PTLB	**Pontes e Lacer**	**44.33**	**108**	P	**P**	**20 07 17.8**	**-0.4**
PTLB				IAmb	IAmb	20 07 18.6	
	comp=Z,5.1nm,1.0s						
NVAR	**Mina Array Bea**	**44.61**	**342**	P	**P**	**20 07 21.8**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=168,slow=7.2,SNR=4.7						
	comp=Z,0.6nm,0.7s						
KVN	**Kaiserville**	**45.13**	**343**	P	**P**	**20 07 24.1**	**-0.4**
KVN				IAmb	IAmb	20 07 26.2	
	comp=Z,5.7nm,1.3s						
ELK	**Elko**	**45.98**	**347**	LR	LR	20 22 06.5	
	comp=Z,62nm,18.8s,baz=194,slow=30						
HVU	**Hansel Valley**	**46.47**	**350**	P	**P**	**20 07 34.4**	**-0.5**
PLCA	**Paso Flores**	**46.63**	**146**	P	**P**	**20 07 37.1**	**+0.9**
	comp=Z,3.6nm,1.0s,baz=324,slow=8.3,SNR=5.6						
PLCA				LR	LR	20 22 09.7	
	comp=Z,199nm,21.8s,baz=346,slow=30						
	comp=Z,3.6nm,1.0s						
PLCA	**Paso Flores**	**46.63**	**146**	P	**P**	**20 07 37.7**	**+1.5**
PDAR	**Pinedale Array**	**46.95**	**353**	P	**P**	**20 07 38.5**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=155,slow=7.4,SNR=5.3						
PDAR				LR	LR	20 23 43.6	
	comp=Z,57nm,19.3s,baz=240,slow=32						
	comp=Z,0.7nm,0.9s						
CPUP	**Villa Florida**	**48.75**	**122**	P	**P**	**20 07 51.7**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=279,slow=16,SNR=2.5						
CPUP				LR	LR	20 25 20.1	
	comp=Z,61nm,20.1s,baz=295,slow=32						
	comp=Z,0.9nm,0.6s						
YBH	**Yreka Blue Hor**	**49.02**	**340**	P	**P**	**20 07 53.7**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=139,slow=2.2,SNR=7.0						
YBH				LR	LR	20 23 54.8	
	comp=Z,120nm,21.2s,baz=190,slow=30						
	comp=Z,1.9nm,0.7s						
K05A	**Summer Lake**	**49.33**	**342**	P	**P**	**20 07 58.5**	**+1.3**
PINE	**Pine Mountain**	**50.32**	**343**	P	**P**	**20 08 04.5**	**-0.2**
PINE				IAmb	IAmb	20 08 06.5	
	comp=Z,8.5nm,1.2s						
NEW	**Newport**	**53.55**	**348**	LR	LR	20 27 29.6	
	comp=Z,69nm,18.7s,baz=186,slow=32						
SCHQ	**Schefferville**	**65.71**	**22**	LR	LR	20 37 10.1	
	comp=Z,88nm,21.6s,baz=233,slow=35						
RCBR	**Riachuelo**	**66.55**	**95**	LR	LR	20 37 58.4	
	comp=Z,92nm,18.5s,baz=94,slow=35						
PMSA	**Palmer Station**	**66.65**	**163**	LR	LR	20 31 30.7	
	comp=Z,90nm,20.3s,baz=286,slow=29						
YKA	**Yellowknife Ar**	**66.92**	**354**	P	**P**	**20 09 58.8**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=161,slow=5.7,SNR=20						
	comp=Z,2.0nm,0.9s						
KDAK	**Kodiak Island**	**73.38**	**335**	LR	LR	20 35 01.8	
	comp=Z,122nm,18.0s,baz=169,slow=29						
DHY	**Denali Highway**	**74.84**	**341**	P	**P**	**20 10 48.8**	**+0.6**
INK	**Inuvik**	**75.26**	**349**	P	**P**	**20 10 49.8**	**-0.4**

comp=Z,3.7nm,0.8s,baz=156,slow=3.5,SNR=12
INK LR LR 20 41 37.6
comp=Z,50nm,18.5s,baz=266,slow=34
comp=Z,3.7nm,0.8s
INK Inuvik 75.26 349 P **P** **20 10 50.6 +0.3**
INK IAmb IAmb 20 10 55.9
comp=Z,8.7nm,1.2s
RND Reindeer 75.56 340 P **P** **20 10 51.3 -0.9**
IL31 75.87 342 P **P** **20 10 53.2 -0.6**
IL31 IAmb IAmb 20 10 55.4
comp=Z,5.4nm,1.1s
ILAR Eielson Array 75.87 342 P **P** **20 10 53.2 -0.6**
comp=Z,2.5nm,0.9s,baz=146,slow=4.5,SNR=23
comp=Z,2.5nm,0.9s
WRH Wood River Hil 76.03 341 P **P** **20 10 54.4 -0.3**
RES Resolute Bay 78.69 2 LR LR 20 44 28.5
comp=Z,67nm,19.7s,baz=14,slow=35
SFJD Kangerlussuaq 79.78 18 LR LR 20 46 54.3
comp=Z,50nm,18.1s,baz=178,slow=36
SHEM Shemya Is, Ala 89.03 323 LR LR 20 43 43.9
comp=Z,86nm,19.9s,baz=96,slow=30
H11N3 WAKE ISLAND Hy 91.69 290 T T 21 53 43.4
baz=94,slow=74,SNR=6.9
H11N2 WAKE ISLAND Hy 91.70 290 T T 21 53 48.0
baz=94,slow=74,SNR=7.8
H11N1 WAKE ISLAND Hy 91.71 290 T T 21 53 47.5
baz=94,slow=74,SNR=6.5
H11S2 WAKE ISLAND Hy 91.81 288 T T 21 53 49.9
baz=94,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 91.81 288 T T 21 53 55.5
baz=94,slow=75,SNR=13
H11S3 WAKE ISLAND Hy 91.83 288 T T 21 53 45.0
baz=94,slow=75,SNR=18
PETK Petropavlovsk- 98.94 323 LR LR 20 48 56.6
comp=Z,49nm,19.3s,baz=103,slow=30
MDT Midelt 98.95 58 LR LR 20 49 09.8
comp=Z,27nm,21.8s,baz=302,slow=30
ESDC Sonseca Array 99.26 51 LR LR 20 50 20.3
comp=Z,33nm,19.4s,baz=269,slow=31
SPITS Spitsbergen Ar 99.65 11 LR LR 20 57 02.4
comp=Z,61nm,21.6s,baz=268,slow=35
BRTR Keskin Array B 126.91 42 PKP **PKPdf** **20 18 12.3 0.0**
comp=Z,0.2nm,0.6s,baz=336,slow=3.2,SNR=2.6
SONM Songino Array 129.67 335 PKP **PKPdf** **20 18 17.2 -0.1**
comp=Z,0.4nm,1.0s,baz=15,slow=1.6,SNR=2.5
ZALV Zalesovo Beam 129.82 354 PKP **PKPdf** **20 18 17.0 -0.2**
comp=Z,0.4nm,0.5s,baz=24,slow=3.9,SNR=2.4
BVAR Borovoye Array 130.79 6 PKP **PKiKP** **20 18 19.7 -0.3**
comp=Z,1.1nm,0.6s,baz=11,slow=1.5,SNR=4.3
KURBB Kurchatov Array 133.52 359 PKP **PKPdf** **20 18 24.4 +0.1**
comp=Z,0.6nm,0.8s,baz=0.9,slow=2.4,SNR=6.5
MKAR Makanchi Array 137.14 355 PKP **PKPdf** **20 18 31.3 0.0**
comp=Z,0.7nm,0.8s,baz=8.8,slow=1.6,SNR=5.7
GEYT Alibeck 141.94 25 PKP **PKPdf** **20 18 41.1 +0.9**
comp=Z,0.7nm,0.5s,baz=322,slow=6.1,SNR=2.5
CMAR Chiang Mai Arr 154.41 306 PKPbc **PKiKP** **20 19 10.7 +1.3**
comp=Z,0.4nm,0.3s,baz=32,slow=2.1,SNR=6.9

ISK ***15*** *20:07:15.4,39.˚56N×26.˚07E,h3km,ML2.6/20*
THE ***15*** *20:07:16.2,39.˚54N×26.˚10E,h4km±1km,ML2.3/5,Error ellipse: s-maj=3.0km s-min=0.9km az=112.0*
ATH ***15*** *20:07:16.9,39.˚57N×25.˚95E,h11km±5km,ML2.1/1,Error ellipse: s-maj=9.5km s-min=1.5km az=267.0*
DDA ***15*** *20:07:16.1±0.0,39.˚54N×26.˚15E,h7km,ML2.2*
ISC 15 20:07:16.2±0.8,**39.˚55N**±0.˚02×**26.˚09E**±0.˚02,**h8**km±6km, **n49,σ0.˚57/75,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.06**	**139**	P	**Pg**	**20 07 17.8**	**-0.2**
KOCA				S	**Sg**	**20 07 18.9**	**-0.3**
KOCA				*i* AML	AML	20 07 19.0	
	comp=N,1μm,0.1s						
KOCA				*i* AML	AML	20 07 19.0	
	comp=E,3μm,0.3s						
GPNR	**Gulpinar-Canak**	**0.10**	**158**	Pg	**Pg**	**20 07 18.4**	**-0.1**
GPNR				Sg	**Sg**	**20 07 20.4**	**+0.3**
BOZC	**Bozcaada**	**0.29**	**355**	Pg	**Pg**	**20 07 22.3**	**+0.3**
BOZC				Sg	**Sg**	**20 07 26.4**	**+0.5**
BOZC	**Bozcaada**	**0.29**	**355**	P	**Pg**	**20 07 22.3**	**+0.3**
BOZC				S	**Sg**	**20 07 26.8**	**+0.8**
BOZC				*i* AML	AML	20 07 27.0	
	comp=E,143nm,0.2s						
BOZC				*i* AML	AML	20 07 28.0	
	comp=N,200nm,0.3s						
EZN	**Ezine**	**0.33**	**33**	P	**Pg**	**20 07 22.6**	**-0.1**
EZN				S	**Sg**	**20 07 27.2**	**+0.1**
EZN	**Ezine**	**0.33**	**33**	Pg	**Pg**	**20 07 22.6**	**-0.1**
EZN				Sg	**Sg**	**20 07 27.6**	**+0.5**
SIGR	**SIGRI**	**0.38**	**208**	P	**Pg**	**20 07 23.7**	**+0.2**
SIGR				S	**Sg**	**20 07 29.2**	**+0.6**
	532nm,0.4s						
SIGR	**SIGRI**	**0.38**	**208**	Pg	**Pg**	**20 07 23.8**	**+0.2**
SIGR				Sg	**Sg**	**20 07 29.6**	**+1.0**
SIGR	**SIGRI**	**0.38**	**208**	P	**Pg**	**20 07 23.8**	**+0.2**
SIGR				S	**Sg**	**20 07 29.3**	**+0.6**
SIGR				AML	AML	20 07 29.6	
	comp=E,598μm,0.3s						
SIGR				AML	AML	20 07 29.9	
	comp=N,1425μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.41**	**61**	P	**Pg**	**20 07 23.5**	**-0.5**
BAYC				S	**Sg**	**20 07 28.8**	**-0.6**
BAYC				*i* AML	AML	20 07 29.0	
	comp=N,264nm,0.3s						
BAYC				*i* AML	AML	20 07 29.0	
	comp=N,393nm,0.2s						
ECEA	**Canakkale, Ece**	**0.50**	**8**	P	**Pg**	**20 07 26.0**	**+0.2**
ECEA				S	**Sb**	**20 07 33.9**	**-0.8**
ECEA				*i* AML	AML	20 07 39.0	
	comp=N,171nm,0.6s						
ECEA				*i* AML	AML	20 07 40.0	
	comp=N,264nm,0.3s						
AYVA	**Ayvalik**	**0.53**	**117**	P	**Pg**	**20 07 25.7**	**-0.6**
AYVA				S	**Sg**	**20 07 33.0**	**-0.2**
AYVA				*i* AML	AML	20 07 37.0	
	comp=N,90nm,0.2s						
AYVA				*i* AML	AML	20 07 40.0	
	comp=N,210nm,0.4s						
GADA	**Gvkgeada**	**0.66**	**347**	Pg	**Pg**	**20 07 28.4**	**-0.5**
GADA				Sg	**Sg**	**20 07 38.1**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.90**	**19**	Pg	**Pg**	**20 07 33.1**	**-0.4**
GELI				Sg	**Sb**	**20 07 46.2**	**0.0**
ZEDA	**zmir-Bergama**	**0.96**	**127**	P	**Pg**	**20 07 34.9**	**+0.2**
ZEDA				S	**Sg**	**20 07 47.4**	**+0.2**
LPK	**Lapseki**	**0.97**	**32**	Pg	**Pg**	**20 07 34.6**	**-0.3**
LPK				Sg	**Sb**	**20 07 48.6**	**+0.3**
SMTH	**Samothraki Isl**	**1.02**	**335**	P	**Pg**	**20 07 35.6**	**-0.1**
SMTH				S	**Sb**	**20 07 49.8**	**+0.2**
	comp=N,108nm,0.2s						
SMTH	**Samothraki Isl**	**1.02**	**335**	P	**Pg**	**20 07 35.6**	**-0.1**
PSRA	**Psara**	**1.08**	**202**	P	**Pn**	**20 07 37.6**	**-0.1**
ERIK	**Erikli-Kesan**	**1.17**	**16**	Pn	**Pg**	**20 07 37.7**	**-0.9**
ENEZ	**Enez**	**1.19**	**2**	P	**Pb**	**20 07 38.2**	**-0.8**
ENEZ				S	**Sn**	**20 07 55.7**	**+0.2**
	comp=N,275nm,0.4s						
ENEZ	**Enez**	**1.19**	**2**	Pn	**Pb**	**20 07 38.5**	**-0.5**
ENEZ				Sn	**Sn**	**20 07 55.6**	**+0.1**
KRBG	**Karabiga-Canak**	**1.26**	**47**	Pn	**Pn**	**20 07 39.3**	**-0.7**
GONE	**Gonen-Balikesi**	**1.33**	**67**	Pn	**Pb**	**20 07 41.5**	**+0.1**
ALN	**Alexandroupoli**	**1.35**	**359**	P	**Pn**	**20 07 40.9**	**-0.4**
ALN				S	**Sg**	**20 07 59.6**	**+0.1**
	comp=N,145nm,0.4s						
ALN	**Alexandroupoli**	**1.35**	**359**	Pn	**Pn**	**20 07 41.3**	**0.0**
ALN				Sn	**Sg**	**20 08 00.3**	**+0.8**
ALN	**Alexandroupoli**	**1.35**	**359**	P	**Pn**	**20 07 41.0**	**-0.4**
BALB	**Balikesir**	**1.39**	**86**	Pn	**Pb**	**20 07 42.2**	**-0.2**
BALB				Sn	**Sg**	**20 08 01.7**	**+0.9**
RKY	**Sarkoy-Tekirda**	**1.41**	**36**	Pn	**Pn**	**20 07 41.4**	**-0.9**
THAS	**Thassos island**	**1.49**	**316**	P	**Pb**	**20 07 44.1**	**0.0**
THAS				S	**Sb**	**20 08 03.2**	**0.0**
AKS	**Akhisar**	**1.50**	**116**	Pn	**Pb**	**20 07 44.0**	**-0.3**
EDC	**Edincik**	**1.58**	**59**	Pn	**Pn**	**20 07 44.9**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.63**	**15**	Pn	**Pn**	**20 07 45.4**	**+0.2**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pn**	**20 07 45.7**	**+0.2**
RDO				S	**Sn**	**20 08 07.0**	**+0.1**
	comp=N,32nm,0.6s						
RDO	**Rodhopi**	**1.65**	**345**	Pn	**Pn**	**20 07 45.4**	**-0.1**
RDO				Sn	**Sb**	**20 08 07.9**	**+0.1**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pn**	**20 07 45.8**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.79**	**240**	P	**Pn**	**20 07 47.7**	**+0.2**
KYMI				S	**Sn**	**20 08 09.4**	**-1.1**
TKR	**Tekirdag**	**1.82**	**37**	Pn	**Pn**	**20 07 48.2**	**+0.4**
KAVA	**Kavala**	**1.88**	**321**	P	**Pn**	**20 07 48.9**	**+0.2**
KAVA	**Kavala**	**1.88**	**321**	P	**Pn**	**20 07 48.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.89**	**67**	Pn	**Pn**	**20 07 49.1**	**+0.3**
DST	**Dursunbey**	**1.96**	**88**	Pn	**Pn**	**20 07 50.5**	**+0.7**
CRLT	**Corlu**	**2.02**	**38**	Pn	**Pn**	**20 07 51.2**	**+0.6**
ORLT	**Orhaneli**	**2.22**	**76**	Pn	**Pn**	**20 07 54.2**	**+0.8**
KULA	**Kula-Manisa**	**2.25**	**116**	Pn	**Pn**	**20 07 54.8**	**+0.9**
SIMA	**Simav-Kutahya**	**2.29**	**101**	Pn	**Pn**	**20 07 55.9**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.30**	**68**	Pn	**Pn**	**20 07 55.2**	**+0.8**
APE	**Apeiranthos**	**2.51**	**190**	P	**Pn**	**20 07 55.4**	**-2.0**
BGKT	**Bogazkoy**	**2.62**	**51**	Pn	**Pn**	**20 07 59.7**	**+0.9**

INET ***15*** *20:11:39.6±0.8, 11.˚22N×87.˚51W,h15km±8km,MW3.7*
UCR ***15*** *20:11:42.9±1.9, 11.˚02N×87.˚43W,h34km±999km,MW3.6*
ISC 15 20:11:37.6±2.3,**11.˚27N**±0.˚06×**87.˚47W**±0.˚09,**h6**km±13km, **n30,σ1.˚91/41,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**1.44**	**32**	*e*P	**Pn**	**20 12 04.4**	**+0.1**
CNGN				*e*S	**Sg**	**20 12 24.5**	**+0.6**
MOMN	**Momotombo**	**1.45**	**39**	*e*P	**Pn**	**20 12 04.6**	**+0.1**
MOMN				*e*S	**Sg**	**20 12 24.5**	**+0.1**
TELN	**Telica**	**1.46**	**25**	*e*P	**Pb**	**20 12 05.6**	**+0.2**
CRIN	**San Cristobal**	**1.48**	**16**	*e*P	**Pn**	**20 12 05.4**	**+0.4**
CONN	**Concepcion**	**1.83**	**81**	*e*P	**Pn**	**20 12 09.1**	**-0.6**
GBS3	**Finca Las Img**	**2.04**	**104**	*e*P	**Pn**	**20 12 12.7**	**+0.1**
GBS3				*e*S	**Sn**	**20 12 37.3**	**-1.0**
LAPC	**Finca la Perla**	**2.06**	**104**	*e*P	**Pn**	**20 12 12.4**	**-0.5**
LAPC				*e*S	**Sn**	**20 12 37.2**	**-1.8**
BOAB	**BOACO BROADBAN**	**2.12**	**56**	*e*P	**Pn**	**20 12 13.0**	**-0.6**
BOAB				*e*S	**Sn**	**20 12 40.1**	**-0.2**
VORI	**VORI**	**2.13**	**102**	*e*S	**Sn**	**20 12 40.6**	**-0.4**
GP14	**Hacienda Santa**	**2.15**	**104**	*e*P	**Pg**	**20 12 18.1**	**-0.7**
MESS	**Mesas**	**2.29**	**103**	*e*P	**Pn**	**20 12 17.0**	**+0.9**
MESS				*e*S	**Sn**	**20 12 45.1**	**+0.3**
CLARA	**Aguas Claras**	**2.30**	**102**	*e*S	**Sn**	**20 12 46.0**	**+1.0**
COLC	**Colonia**	**2.31**	**105**	*e*S	**Sn**	**20 12 44.5**	**-0.5**
HORNC	**Hornillas**	**2.32**	**104**	*e*P	**Pn**	**20 12 17.1**	**+0.6**
PACA	**Pacayal**	**2.34**	**339**	*e*P	**Pn**	**20 12 17.0**	**+0.2**
CUI	**Cuipilapa**	**2.34**	**105**	*e*P	**Pn**	**20 12 16.3**	**-0.5**
CUI				*e*S	**Sn**	**20 12 45.3**	**-0.7**
VMAR	**Armenia, Volca**	**2.36**	**101**	*e*P	**Pn**	**20 12 17.8**	**+0.8**
VMAR				*e*P	**Pn**	**20 12 17.9**	**+0.8**
VMAR				*e*S	**Sn**	**20 12 47.0**	**+0.7**
CANAL	**Canalete**	**2.41**	**100**	*e*P	**Pn**	**20 12 18.3**	**+0.6**
CANAL				*e*S	**Sn**	**20 12 47.8**	**+0.2**
ACAL	**Aguas Claras**	**2.47**	**105**	*e*S	**Sn**	**20 12 49.0**	**-0.3**
POPE	**POPE, Guanacas**	**2.48**	**119**	*e*P	**Pn**	**20 12 17.3**	**-1.3**
JTS	**Las Juntas de**	**2.66**	**111**	*e*P	**Pn**	**20 12 23.2**	**+2.1**
LAFE	**Finca La Fe, P**	**2.91**	**120**	*e*P	**Pn**	**20 12 23.0**	**-1.5**
JACO	**JACO, Garabito**	**3.19**	**120**	*e*P	**Pn**	**20 12 29.2**	**+0.8**
ABE2	**San Pablo**	**3.70**	**115**	*e*P	**Pn**	**20 12 37.1**	**+1.4**
OCM	**Ochomogo**	**3.71**	**111**	*e*P	**Pn**	**20 12 37.6**	**+1.9**
VICA	**Volcano Irazu**	**3.79**	**109**	*e*P	**Pn**	**20 12 39.7**	**+2.7**
CDM	**Cerro de Muert**	**4.03**	**115**	*e*P	**Pn**	**20 12 41.3**	**+1.0**
BUS1	**Rivas**	**4.04**	**115**	*e*P	**Pn**	**20 12 41.4**	**+0.9**
BUS1				*e*S	**Sn**	**20 13 26.4**	**-2.0**
MRVA	**Moravia de Chi**	**4.21**	**110**	*e*P	**Pn**	**20 12 44.8**	**+2.2**
SRBA	**San Rafael, Bu**	**4.52**	**116**	*e*P	**Pn**	**20 12 48.0**	**+1.1**

ISK ***15*** *20:16:04.3,36.˚48N×27.˚34E,h99km±1km,ML2.9/11*
DDA ***15*** *20:16:05.0±0.0,36.˚28N×27.˚31E,h36km±7km,ML2.4*
ATH ***15*** *20:16:05.2,36.˚46N×27.˚38E,h94km±6km,ML3.0/5,Error ellipse: s-maj=7.4km s-min=2.2km az=128.0*
THE ***15*** *20:16:06.0,36.˚47N×27.˚34E,h104km±2km,ML3.1/6,Error ellipse: s-maj=2.3km s-min=0.9km az=27.0*
GII ***15*** *20:16:09.6±0.8,35.˚96N×27.˚69E,h40km*
HLW ***15*** *20:16:10.1,35.˚94N×27.˚99E,h17km±25km,Md4.1,MI3.9*
ISC 15 20:16:03.7±1.0,**36.˚38N**±0.˚04×**27.˚44E**±0.˚04,**h103**km±8km, **n63,σ1.˚58/91,2D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.36**	**18**	P	**Pn**	**20 16 19.4**	**+0.3**
DAT				S	**Sn**	**20 16 30.1**	**-0.5**
DAT	**Datca**	**0.36**	**18**	Pg	**Pn**	**20 16 19.4**	**+0.3**
DAT				Sg	**Sn**	**20 16 30.1**	**-0.5**
ARG	**Arkhangelos**	**0.58**	**106**	P	**Pn**	**20 16 22.1**	**+1.7**
ARG				S	**Sn**	**20 16 34.8**	**+2.0**
	785nm,0.3s						
ARG	**Arkhangelos**	**0.58**	**106**	Pg	**Pn**	**20 16 22.2**	**+1.9**
ARG				Sg	**Sn**	**20 16 34.9**	**+2.1**
ARG	**Arkhangelos**	**0.58**	**106**	P	**Pn**	**20 16 22.0**	**+1.7**
ARG				S	**Sn**	**20 16 32.9**	**+0.1**
ARG				AML	AML	20 16 35.1	
	comp=E,1936μm,0.2s						
ARG				AML	AML	20 16 37.1	
	comp=N,1022μm,0.1s						
BDRM	**Kayabasi**	**0.68**	**0**	P	**Pn**	**20 16 21.1**	**-0.1**
BDRM				*i* AML	AML	20 16 33.0	
	comp=N,431nm,0.3s						
BDRM				S	**Sn**	**20 16 33.2**	**-1.2**
BODT	**Bodrum**	**0.69**	**351**	P	**Pn**	**20 16 21.0**	**-0.3**
BODT				S	**Sn**	**20 16 32.9**	**-1.6**
BODT	**Bodrum**	**0.69**	**351**	Pg	**Pn**	**20 16 21.4**	**+0.1**
BODT				Sg	**Sn**	**20 16 33.3**	**-1.2**
KARP	**Karpathos**	**0.86**	**195**	P	**Pn**	**20 16 24.3**	**+1.3**
KARP				S	**Sn**	**20 16 38.5**	**+1.1**
	comp=N,960nm,0.1s						
KARP	**Karpathos**	**0.86**	**195**	Pg	**Pn**	**20 16 24.3**	**+1.3**
KARP	**Karpathos**	**0.86**	**195**	P	**Pn**	**20 16 24.1**	**+1.1**
KARP				AML	AML	20 16 39.2	
	comp=N,1668μm,0.1s						
KARP				AML	AML	20 16 39.5	
	comp=E,1657μm,0.1s						
MLSB	**Milas**	**0.95**	**16**	Pg	**Pn**	**20 16 24.1**	**+0.2**
MLSB				Sg	**Sn**	**20 16 38.3**	**-0.7**
YER	**Yerkesik**	**1.01**	**42**	P	**Pn**	**20 16 25.5**	**+1.0**
YER	**Yerkesik**	**1.01**	**42**	Pg	**Pn**	**20 16 25.5**	**+1.0**
DALY	**Dalyan (Mula)**	**1.07**	**66**	Pn	**Pn**	**20 16 27.1**	**+2.1**
DDIM	**Aydin, Didim**	**1.08**	**352**	P	**Pn**	**20 16 25.3**	**+0.1**
DDIM				*i* AML	AML	20 16 40.0	
	comp=E,81nm,0.7s						
DDIM				*i* AML	AML	20 16 40.0	
	comp=E,101nm,0.4s						
DDIM				S	**Sn**	**20 16 40.7**	**-0.8**
MULA	**Mugla, Merkez-**	**1.12**	**39**	P	**Pn**	**20 16 26.7**	**+0.9**
MULA				S	**Sn**	**20 16 42.6**	**+0.1**
MULA				*i* AML	AML	20 16 43.0	
	comp=E,116nm,0.2s						
MULA				*i* AML	AML	20 16 43.0	
	comp=E,162nm,0.6s						
AYDN	**Tasoluk**	**1.32**	**15**	P	**Pn**	**20 16 28.3**	**+0.3**
AYDN				S	**Sn**	**20 16 45.4**	**-1.1**
AYDN				*i* AML	AML	20 16 46.0	
	comp=E,104nm,0.6s						
AYDN				*i* AML	AML	20 16 46.0	
	comp=E,42nm,0.5s						
GCAM	**G?zelcaml?**	**1.33**	**353**	Pn	**Pn**	**20 16 27.9**	**-0.1**
GCAM	**G?zelcaml?**	**1.33**	**353**	P	**Pn**	**20 16 27.8**	**-0.2**
FETY	**Fethiye**	**1.35**	**79**	Pn	**Pn**	**20 16 29.8**	**+1.5**
CAME	**Cameli-Denizli**	**1.60**	**69**	Pn	**Pn**	**20 16 33.1**	**+1.6**
TAVA	**DENIZLI_Tavas**	**1.60**	**47**	P	**Pn**	**20 16 32.1**	**+0.6**
TAVA				S	**Sn**	**20 16 52.4**	**-0.1**
TAVA				*i* AML	AML	20 16 54.0	
	comp=E,35nm,0.2s						
TAVA				*i* AML	AML	20 16 54.0	
	comp=E,40nm,0.3s						
STIA	**Sitia Lasithi**	**1.61**	**223**	P	**Pn**	**20 16 32.5**	**+1.1**
STIA				S	**Sn**	**20 16 53.6**	**+1.1**
STIA	**Sitia Lasithi**	**1.61**	**223**	P	**Pn**	**20 16 32.8**	**+1.4**
STIA				AML	AML	20 16 57.2	
	comp=N,570μm,0.4s						
STIA				AML	AML	20 16 57.4	
	comp=E,476μm,0.4s						
ZKR	**Zakros**	**1.61**	**219**	P	**Pn**	**20 16 33.0**	**+1.5**
ZKR				S	**Sn**	**20 16 53.7**	**+1.2**
	comp=E,232nm,0.5s						
ZKR	**Zakros**	**1.61**	**219**	Pn	**Pn**	**20 16 33.0**	**+1.5**
ZKR	**Zakros**	**1.61**	**219**	P	**Pn**	**20 16 33.0**	**+1.5**
ZKR				AML	AML	20 16 54.8	
	comp=E,688μm,0.3s						
ZKR				AML	AML	20 16 55.5	
	comp=N,181μm,0.2s						
APE	**Apeiranthos**	**1.68**	**295**	P	**Pn**	**20 16 32.4**	**+0.1**
APE	**Apeiranthos**	**1.68**	**295**	Pn	**Pn**	**20 16 32.3**	**-0.1**
APE	**Apeiranthos**	**1.68**	**295**	P	**Pn**	**20 16 32.5**	**+0.1**
CAEL	**Denizli, Camel**	**1.68**	**63**	P	**Pn**	**20 16 34.1**	**+1.6**
CAEL				S	**Sn**	**20 16 56.6**	**+2.2**
CAEL				*i* AML	AML	20 16 59.0	
	comp=N,92nm,0.6s						
CAEL				*i* AML	AML	20 17 00.0	
	comp=N,124nm,0.7s						
DGB	**zmir**	**1.73**	**345**	P	**Pn**	**20 16 32.4**	**-0.4**
KSL	**Kastellorizon**	**1.75**	**97**	P	**Pn**	**20 16 35.3**	**+2.2**
KSL				S	**Sn**	**20 16 56.9**	**+1.3**
	comp=N,172nm,0.5s						
KSL	**Kastellorizon**	**1.75**	**97**	P	**Pn**	**20 16 35.0**	**+1.8**
AKAS	**Kas**	**1.75**	**94**	Pn	**Pn**	**20 16 35.5**	**+2.1**
APMY	**Acipayam-Deniz**	**1.85**	**53**	Pn	**Pn**	**20 16 35.7**	**+1.2**
FRMA	**Ierapetra Chan**	**1.95**	**226**	P	**Pn**	**20 16 36.7**	**+1.0**
FRMA				AML	AML	20 17 02.7	
	comp=E,564μm,0.5s						
FRMA				AML	AML	20 17 06.1	
	comp=N,450μm,0.5s						
URLA	**Izmir**	**2.09**	**341**	P	**Pn**	**20 16 37.0**	**-0.5**
MANT	**Manisa**	**2.29**	**23**	P	**Pn**	**20 16 40.4**	**+0.1**
MANT				S	**Sn**	**20 17 05.8**	**-2.5**
MANT				*i* AML	AML	20 17 07.0	
	comp=N,16nm,0.7s						
PRNS	**Prines Rethymn**	**2.59**	**248**	P	**Pn**	**20 16 45.7**	**+1.6**
PRNS				S	**Sn**	**20 17 14.3**	**-0.8**
IMMV	**Iera Moni Meta**	**2.95**	**253**	P	**Pn**	**20 16 49.4**	**+0.5**
IMMV				S	**Sn**	**20 17 22.5**	**-1.2**
	comp=N,195nm,1.5s						
SIGR	**SIGRI**	**3.09**	**337**	P	**Pn**	**20 16 50.7**	**0.0**
GVD	**Gavdhos**	**3.13**	**242**	P	**Pn**	**20 16 53.0**	**+1.7**
GVD				S	**Sn**	**20 17 28.8**	**+0.8**
	comp=N,132nm,0.4s						
VLI	**Veliai**	**3.64**	**277**	P	**Pn**	**20 16 59.0**	**+0.9**
VLI				S	**Sn**	**20 17 38.9**	**-1.3**
ITM	**Ithomi**	**4.50**	**282**	P	**Pn**	**20 17 07.5**	**-2.1**
ITM				S	**Sn**	**20 17 59.4**	**-1.4**
SLUM	**Salum**	**5.22**	**201**	S	Sn	20 18 09.9	-8.4
	baz=209						
SWA2		**7.31**	**194**	⇓P	**Pn**	**20 17 47.9**	**+0.1**
	baz=199						
SWA2				S	Sn	20 18 59.2	-10
	baz=199						
MMA0B	**Mount Meron ar**	**7.37**	**115**	Pn	**Pn**	**20 17 52.1**	**+3.5**
MMA0B				Sn	**Sn**	**20 19 10.7**	**0.0**
GEM	**Giv'at Ha'Em**	**7.47**	**113**	Pn	**Pn**	**20 17 51.0**	**+1.1**
RYAN	**Fayoum**	**7.66**	**161**	S	Sn	20 19 09.2	-8.6
	baz=163						
GLL	**Jalalah**	**7.67**	**151**	⇑P	**Pn**	**20 17 53.3**	**+0.5**
	baz=152						
KZIT	**Kziot**	**7.96**	**131**	Pn	**Pn**	**20 17 57.4**	**+0.7**
KZIT				Sn	**Sn**	**20 19 20.9**	**-4.3**
DSI	**Dead Sea**	**8.15**	**124**	Pn	**Pn**	**20 18 01.4**	**+2.1**
NBNS	**Bani Suef**	**8.39**	**156**	P	**Pn**	**20 18 02.9**	**+0.4**
	baz=158						
PRNI	**Paran**	**8.73**	**131**	Pn	**Pn**	**20 18 09.1**	**+2.0**
PRNI				Sn	**Sn**	**20 19 39.7**	**-4.0**
KRMI	**Paran Flat**	**8.73**	**134**	Pn	**Pn**	**20 18 07.1**	**0.0**
HRFI	**Mount Harif**	**8.97**	**133**	Pn	**Pn**	**20 18 08.9**	**-1.5**
HRFI				Sn	**Sn**	**20 19 46.7**	**-3.0**
EIL	**Elat**	**9.19**	**135**	Pn	**Pn**	**20 18 14.1**	**+0.7**
EIL				Sn	**Sn**	**20 19 50.2**	**-4.8**
HFRF	**Wahat Farafira**	**9.23**	**175**	⇓P	**Pn**	**20 18 13.9**	**-0.1**
	baz=178						
HFRF				S	Sn	20 19 48.7	-7.4
	baz=178						
TR2	**Tor 2**	**9.58**	**145**	P	**Pn**	**20 18 19.1**	**+0.4**
	baz=145						
HKAT	**Jabal Katrina**	**9.59**	**143**	P	**Pn**	**20 18 19.3**	**+0.3**
	baz=143						
HHRG	**Al Ghardaqah**	**10.51**	**149**	P	**Pn**	**20 18 35.4**	**+4.0**
	baz=150						
HHRG				S	**Sn**	**20 20 25.4**	**-1.8**
	baz=150						

JMA ***15*** *20:20:34.3±0.1,42.˚9N×0.˚5×143.˚9E±0.˚6,h111km±1km, MV3.4/37,KUSHIRO REGION*
SKHL ***15*** *20:20:34.7±0.1,42.˚90N×144.˚00E,h108km±8km,mb4.6/3, msha5.5/4*
ISC 15 20:20:34.1±1.7,**42.˚86N**±0.˚05×**143.˚95E**±0.˚04, **h110**km±10km,**n22,σ0.˚53/42,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.10**	**299**	P	**Pn**	**20 20 50.0**	**+0.7**
JOB				*e*S	**Sn**	**20 21 01.5**	**+0.8**
JAR	**Ashorobuto**	**0.46**	**343**	P	**Pn**	**20 20 50.8**	**0.0**
JAR				*e*S	**Sn**	**20 21 03.0**	**-0.2**
JCH	**Churui**	**0.50**	**241**	P	**Pn**	**20 20 51.0**	**+0.1**
JCH				*e*S	**Sn**	**20 21 03.0**	**-0.6**
JAK	**Akkeshi**	**0.56**	**75**	P	**Pn**	**20 20 51.6**	**+0.2**
JAK				*e*S	**Sn**	**20 21 04.8**	**+0.4**
AKK	**Akkeshi**	**0.67**	**76**	*e*P	**Pn**	**20 20 52.5**	**+0.3**
AKK

0.1nm,0.4s
ZALV Zalesovo Beam 51.54 351 P P 20 29 54.7 -0.1
0.4nm,0.3s,baz=157,slow=6.1,SNR=3.6
0.4nm,0.3s

IDC 15 20:27:26.8±1.8, 6°70S×128°47E, h0km, mb3.5/1, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=56.7km s-min=28.9km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.43**	**26**	Pn	Pn	20 29 04.9	+2.1
	2.0nm,0.3s,baz=264,slow=23,SNR=21						
SIJI				Sn	Sn	20 30 06.6	-10
	2.2nm,0.3s,baz=245,slow=23,SNR=12						
	4.1nm,0.3s						
WRA	**Warramunga Arr**	**14.34**	**157**	Pn	Pn	20 30 50.1	-1.3
	0.3nm,0.3s,baz=339,slow=13,SNR=11						
WRA				Sn	Sn	20 33 18.1	-13
	0.5nm,0.3s,baz=331,slow=24,SNR=8.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.66**	**163**	P	P	20 31 35.6	+0.1
	0.2nm,0.3s,baz=340,slow=9.0,SNR=19						
ASAR				S	Sn	20 34 39.5	-12
	0.3nm,0.6s,baz=359,slow=28,SNR=2.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**67.15**	**327**	P	P	20 38 22.0	-0.6
	0.3nm,0.5s,baz=116,slow=8.0,SNR=5.7						
	0.3nm,0.5s						

IDC 15 21:00:06.8±331.0, 5°65S×147°85E, h0km, Error ellipse: s-maj=129.4km s-min=16.5km az=73.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.64**	**314**	I	I	22 46 00.0	
	baz=136,slow=312,SNR=2.5						
I07AU	**WARRAMUNGA INF**	**9.36**	**222**	I	I	23 03 50.0	
	baz=41,slow=312,SNR=1.1						

NEIC 15 21:08:58.7±0.7, 19°.14N×0°.03×66°.71W±0°.01, h33km±10km, ML2.4/24, Md3.4/31(RSPR), Error ellipse: s-maj=5.0km s-min=1.9km az=172.0
RSPR 15 21:08:59.8, 19°.18N×66°.68W, h24km±21km, MD3.4/12
OSPL 15 21:09:01.2±3.2, 18°.98N×66°.63W, h5km±21km, ML2.4
ISC 15 21:08:58.4±1.6, 19°.13N±0°.08×66°.67W±0°.03, h28km, n60, σ0°.41/65, 12C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.66**	**168**	↑*eP*	**Pn**	**21 09 12.0**	**+0.1**
EMPR	**Esperanza - Ma**	**0.66**	**168**	*eS*	**Sn**	**21 09 21.7**	**+0.4**
EMPR	**Esperanza - Ma**	**0.66**	**168**		**Pn**	**21 09 12.0**	**+0.1**
EMPR					**Sn**	**21 09 21.7**	**+0.4**
EMPR	**Esperanza - Ma**	**0.66**	**168**	IAML		21 09 26.8	
	comp=E,308nm,0.8s						
AGPR	**Aguadilla, PR**	**0.78**	**213**	↑*eP*	**Pb**	**21 09 12.9**	**-0.4**
AGPR	**Aguadilla, PR**	**0.78**	**213**	*eS*	**Sb**	**21 09 23.1**	**-0.5**
AGPR	**Aguadilla, PR**	**0.78**	**213**		**Pb**	**21 09 12.9**	**-0.4**
AGPR					**Sb**	**21 09 23.1**	**-0.5**
AGPR	**Aguadilla, PR**	**0.78**	**213**	IAML		21 09 28.1	
	comp=E,150nm,1.3s						
AGPR				IAML		21 09 33.4	
	comp=N,221nm,2.0s						
AGPR	**Aguadilla, PR**	**0.78**	**213**	*i* P	**Pb**	**21 09 12.9**	**-0.4**
AGPR				*eS*	**Sb**	**21 09 23.2**	**-0.3**
AGPR				IAML		21 09 27.8	
	comp=Z,170nm,1.6s						
AOPR	**Arecibo Observ**	**0.78**	**186**	↑*iP*	**Pb**	**21 09 13.5**	**+0.1**
AOPR	**Arecibo Observ**	**0.78**	**186**	*eS*	**Sb**	**21 09 23.9**	**+0.3**
AOPR	**Arecibo Observ**	**0.78**	**186**		**Pb**	**21 09 13.5**	**+0.1**
AOPR					**Sb**	**21 09 23.9**	**+0.3**
AOPR	**Arecibo Observ**	**0.78**	**186**	IAML		21 09 36.0	
	comp=N,257nm,0.3s						
UUPR	**Utuado, UPR, P**	**0.87**	**183**	↑*eP*	**Pn**	**21 09 14.7**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.87**	**183**		**Pn**	**21 09 14.7**	**-0.1**
GCPR	**Guaynabo City**	**0.98**	**146**	↑*eP*	**Pn**	**21 09 16.4**	**+0.1**
GCPR	**Guaynabo City**	**0.98**	**146**	*eS*	**Sn**	**21 09 29.1**	**-0.3**
GCPR	**Guaynabo City**	**0.98**	**146**		**Pn**	**21 09 16.4**	**+0.1**
PRSN	**Puerto Rico Se**	**1.01**	**207**		**Pn**	**21 09 16.3**	**-0.4**
LSP	**Las Mesas**	**1.02**	**203**	↑*eP*	**Pn**	**21 09 16.9**	**0.0**
LSP	**Las Mesas**	**1.02**	**203**	*eS*	**Sb**	**21 09 31.0**	**+0.4**
LSP	**Las Mesas**	**1.02**	**203**		**Pn**	**21 09 16.9**	**0.0**
LSP					**Sb**	**21 09 31.0**	**+0.4**
CELP	**Cerrillos**	**1.05**	**175**	||*eP*	**Pn**	**21 09 17.7**	**+0.4**
CELP	**Cerrillos**	**1.05**	**175**	*eS*	**Sn**	**21 09 31.2**	**+0.2**
CELP	**Cerrillos**	**1.05**	**175**		**Pn**	**21 09 17.7**	**+0.4**
CELP					**Sn**	**21 09 31.2**	**+0.2**
CELP	**Cerrillos**	**1.05**	**175**	IAML		21 09 37.4	
	comp=N,72nm,0.4s						
CELP				IAML		21 09 39.2	
	comp=E,69nm,0.5s						
OBIP	**Obispado Ponce**	**1.08**	**177**	||*eP*	**Pn**	**21 09 18.1**	**+0.4**
OBIP	**Obispado Ponce**	**1.08**	**177**	*eS*	**Sn**	**21 09 31.7**	**0.0**
OBIP	**Obispado Ponce**	**1.08**	**177**		**Pn**	**21 09 18.1**	**+0.4**
OBIP					**Sn**	**21 09 31.7**	**0.0**
OBIP	**Obispado Ponce**	**1.08**	**177**	IAML		21 09 37.3	
	comp=N,70nm,0.5s						
CBYP	**Canovanas**	**1.15**	**138**	||*eP*	**Pn**	**21 09 18.4**	**-0.2**
CBYP	**Canovanas**	**1.15**	**138**	*eS*	**Sn**	**21 09 33.2**	**-0.3**
CBYP	**Canovanas**	**1.15**	**138**		**Pn**	**21 09 18.4**	**-0.2**
CBYP					**Sn**	**21 09 33.2**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.16**	**190**	↑*eP*	**Pb**	**21 09 19.5**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.16**	**190**	*eS*	**Sb**	**21 09 35.0**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.16**	**190**		**Pb**	**21 09 19.5**	**-0.3**
GBPR					**Sb**	**21 09 35.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.19**	**201**	↑*eP*	**Pn**	**21 09 19.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.19**	**201**	*eS*	**Sn**	**21 09 34.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.19**	**201**		**Pn**	**21 09 19.3**	**+0.1**
CRPR				IAML		21 09 41.5	
	comp=E,74nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.19**	**201**	IAML		21 09 26.5	
	comp=N,68nm,2.1s						
CRPR	**Cabo Rojo, PR**	**1.19**	**201**	*i* P	**Pn**	**21 09 19.3**	**+0.1**
CRPR				*eS*	**Sn**	**21 09 35.0**	**+0.6**
CRPR				IAML		21 09 38.1	
	comp=Z,74nm,0.8s						
MLPR	**Magueyes Islan**	**1.21**	**197**	↑*eP*	**Pn**	**21 09 18.7**	**-0.7**
MLPR	**Magueyes Islan**	**1.21**	**197**	*eS*	**Sn**	**21 09 34.1**	**-0.7**
MLPR	**Magueyes Islan**	**1.21**	**197**		**Pn**	**21 09 18.7**	**-0.7**
MLPR					**Sn**	**21 09 34.1**	**-0.7**
HUMP	**Col San Antoni**	**1.25**	**141**	↑*eP*	**Pb**	**21 09 20.8**	**-0.5**
HUMP	**Col San Antoni**	**1.25**	**141**	*eS*	**Sb**	**21 09 36.5**	**+0.6**
HUMP	**Col San Antoni**	**1.25**	**141**		**Pb**	**21 09 20.8**	**-0.5**
HUMP					**Sb**	**21 09 36.5**	**+0.6**
HUMP	**Col San Antoni**	**1.25**	**141**	IAML		21 09 38.1	
	comp=N,70nm,0.3s						
IGPR	**InterUniversit**	**1.27**	**155**	↑*eP*	**Pb**	**21 09 21.4**	**-0.3**
IGPR	**InterUniversit**	**1.27**	**155**	*eS*	**Sb**	**21 09 37.4**	**-0.3**
MTP	**Monte Pirata**	**1.47**	**134**	↑*eP*	**Pn**	**21 09 23.5**	**+0.4**
MTP	**Monte Pirata**	**1.47**	**134**	*eS*	**Sn**	**21 09 41.6**	**+0.2**
MTP	**Monte Pirata**	**1.47**	**134**		**Pn**	**21 09 23.5**	**+0.4**
MTP	**Monte Pirata**	**1.47**	**134**		**Sn**	**21 09 41.6**	**+0.2**
MTP	**Monte Pirata**	**1.47**	**134**	IAML		21 09 37.2	
	comp=N,41nm,2.9s						
MTP	**Monte Pirata**	**1.47**	**134**	IAML		21 09 45.0	
	comp=E,42nm,0.8s						
CUPR	**Culebra, Puert**	**1.55**	**122**	||*eP*	**Pn**	**21 09 24.2**	**+0.1**
CUPR	**Culebra, Puert**	**1.55**	**122**	*eS*	**Sn**	**21 09 43.0**	**-0.2**
CUPR	**Culebra, Puert**	**1.55**	**122**		**Pn**	**21 09 24.2**	**+0.1**
CUPR					**Sn**	**21 09 43.0**	**-0.2**
PCDR	**Punta Cana, DR**	**1.73**	**250**	*i* P	**Pb**	**21 09 29.2**	**-0.3**
PCDR				*eS*	**Sb**	**21 09 52.4**	**+1.6**
PCDR				IAML		21 09 56.1	
	comp=Z,163nm,1.4s						

IDC 15 21:16:58.6±6.0, 6°.60S×129°.56E, h118km±76km, mb2.9/1, mbtmp3.2/4, Error ellipse: s-maj=117.0km s-min=21.9km az=84.0
ISC 15 21:17:00.4±1.3, 6°.68S±0°.08×130°.3E±0°.3, h150km, n4, σ3°.9/16/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.86**	**10**	P	**Pn**	**21 18 26.2**	**+0.9**
	2.3nm,0.6s,baz=190,slow=22,SNR=1.7						
SIJI				S	**Sn**	**21 19 30.4**	**-1.3**
	2.6nm,0.2s,baz=233,slow=23,SNR=2.1						
WRA	**Warramunga Arr**	**13.77**	**164**	P	**Pn**	**21 20 12.2**	**+2.7**
	0.2nm,0.5s,baz=341,slow=13,SNR=3.2						
WRA				S	**Sn**	**21 22 38.3**	**-3.8**
	0.3nm,0.8s,baz=326,slow=28,SNR=1.8						
ASAR	**Alice Springs**	**17.25**	**169**	P	**Pn**	**21 20 54.4**	**+2.0**
	0.3nm,0.4s,baz=347,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**21 27 42.8**	**-1.2**
	0.2nm,0.7s,baz=123,slow=7.2,SNR=2.1						
	0.2nm,0.7s						

WEL 15 21:19:44.1±0.7, 32°S×67°W±1°2, h33km, M4.2/15, mB4.8/13, ML4.6/21, MLv4.3/15, Mw(mB)4.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=112.7, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.93**	**47**	S	Sn	21 21 28.8	+1.6
MXZ	**Matakaoa Point**	**5.59**	**184**	P	Pn	21 21 06.7	+1.8
MXZ				S	Sn	21 22 09.7	+1.8
HAZ	**Te Kaha**	**5.82**	**188**	P	Pn	21 21 09.6	+1.5
HAZ				S	Sn	21 22 16.1	+2.3
WMGZ	**Waiomatatini S**	**5.84**	**183**	P	Pn	21 21 09.3	+1.0
WMGZ				S	Sn	21 22 16.9	+2.8
PKGZ	**Pakihiroa**	**5.92**	**185**	P	Pn	21 21 09.4	-0.2
PKGZ				S	Sn	21 22 17.6	+1.3
RUGZ	**Raukumara Rang**	**6.04**	**188**	P	Pn	21 21 11.2	0.0
RUGZ				S	Sn	21 22 19.5	+0.2
PUZ	**Puketiti**	**6.10**	**184**	P	Pn	21 21 14.1	+2.2
PUZ				S	Sn	21 22 18.4	-2.1
URZ	**Urewera**	**6.41**	**192**	P	Pn	21 21 18.5	+2.2
URZ				S	Sn	21 22 29.8	+1.5
MWZ	**Matawai**	**6.42**	**189**	P	Pn	21 21 13.6	-2.9
MWZ				S	Sn	21 22 29.3	+0.7
CNGZ	**Carnagh Statio**	**6.51**	**184**	P	Pn	21 21 15.5	-2.1
RAGZ	**Rawiri**	**6.60**	**189**	P	Pn	21 21 20.4	+1.6
RAGZ				S	Sn	21 22 34.1	+1.2
RTZ	**Ruatahuna**	**6.78**	**192**	P	Pn	21 21 22.9	+1.5
TLZ	**Tolley Road**	**6.87**	**202**	P	Pn	21 21 28.6	+6.1
TLZ				S	Sn	21 22 41.6	+2.0
SNGZ	**Shannon Statio**	**6.89**	**189**	P	Pn	21 21 22.0	-0.8
MTHZ	**Maungataniwha**	**7.04**	**192**	P	Pn	21 21 23.7	-1.1
RAHZ	**Arahi**	**7.06**	**191**	P	Pn	21 21 25.7	+0.6
RAHZ				S	Sn	21 22 43.7	-0.5
KNZ	**Kokohu**	**7.09**	**187**	P	Pn	21 21 22.9	-2.6
MRHZ	**Matea Rd**	**7.11**	**195**	P	Pn	21 21 25.5	-0.3
NMHZ	**Naumai**	**7.28**	**192**	P	Pn	21 21 29.3	+1.1
BKZ	**Black Stump Fm**	**7.41**	**194**	P	Pn	21 21 28.9	-1.1
ARHZ	**Aropaoanui**	**7.41**	**191**	P	Pn	21 21 29.6	-0.3
MCHZ	**McNeill Hill**	**7.64**	**192**	P	Pn	21 21 31.9	-1.2
WNVZ	**Wahianoa**	**7.78**	**198**	P	Pn	21 21 35.3	+0.2
CKHZ	**Cape Kidnapper**	**7.79**	**190**	P	Pn	21 21 33.5	-1.6
MOVZ	**Moawhango**	**7.81**	**197**	P	Pn	21 21 35.3	-0.1
BHHZ	**Black Hill Sta**	**7.81**	**196**	P	Pn	21 21 35.3	-0.2
KRHZ	**Kereru**	**7.89**	**194**	P	Pn	21 21 35.7	-0.9
KAHZ	**Kahuranaki**	**7.95**	**191**	P	Pn	21 21 34.3	-3.1
PXZ	**Pawanui**	**8.18**	**190**	P	Pn	21 21 38.1	-2.4
PNHZ	**Pukenui**	**8.19**	**194**	P	Pn	21 21 38.4	-2.3

KRSC 15 21:31:19.7±2.3, 52°.37N×161°.04E, h18km±33km, Mc3.5, Ml4.2
IDC 15 21:31:19.6±2.4, 52°.44N×160°.90E, h0km, mb3.8/8, mbtmp3.7/10, ML3.0/2, MS3.0/6, Error ellipse: s-maj=51.5km s-min=29.0km az=155.0
ISC 15 21:31:20.4±3.8, 52°.34N±0°.07×160°.92E±0°.05, h9km±23km, n40, σ1°.75/40, mb3.8/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.93**	**325**	*eP*	**Pb**	**21 31 38.0**	**-0.7**
SPN				*eS*	**Sb**	**21 31 46.6**	**-4.5**
NLC	**Nalytchevo**	**1.27**	**312**	*eP*	**Pn**	**21 31 44.6**	**+0.5**
NLC				*eS*	**Sb**	**21 31 59.6**	**-1.1**
DALK	**Dalny**	**1.49**	**298**	*eP*	**Pn**	**21 31 47.5**	**+0.3**
DALK				*eS*	**Sn**	**21 32 05.8**	**-0.8**
PET	**Petropavlovsk**	**1.54**	**297**	*eP*	**Pn**	**21 31 48.5**	**+0.7**
PET				*eS*	**Sn**	**21 32 07.7**	**-0.3**
UGLR	**Uglovaya**	**1.54**	**305**	*eP*	**Pn**	**21 31 48.6**	**+0.6**
UGLR				*eS*	**Sn**	**21 32 09.1**	**+1.0**
SMAR	**Somma**	**1.58**	**306**	*eP*	**Pn**	**21 31 48.8**	**+0.1**
AVH	**Avacha**	**1.61**	**306**	*eP*	**Pn**	**21 31 49.5**	**+0.5**
KOK	**Koryaka**	**1.68**	**305**	*eP*	**Pn**	**21 31 50.6**	**+0.6**
MTVR	**Mutnovka**	**1.68**	**276**	*eP*	**Pn**	**21 31 51.2**	**+1.2**
KRX	**Arik**	**1.71**	**307**	*eP*	**Pn**	**21 31 50.8**	**+0.4**
GRL	**Gorelyy**	**1.75**	**278**	*eP*	**Pn**	**21 31 53.0**	**+2.1**
KRMR	**Karymshinskiy**	**1.77**	**287**	*eP*	**Pn**	**21 31 51.7**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.83**	**254**	*eP*	**Pn**	**21 31 53.0**	**+1.1**
KDTR				*eS*	**Sn**	**21 32 14.6**	**-0.6**
PETK	**Petropavlovsk-**	**2.10**	**293**	Pn	**Pn**	**21 31 56.5**	**+0.8**
	14nm,0.3s,baz=268,slow=14,SNR=221						
PETK				Sn	**Sn**	**21 32 23.2**	**+1.3**
	25nm,0.3s,baz=52,slow=12,SNR=12						
PETK				LR	LR	21 32 28.7	
	comp=Z,113nm,18.9s,baz=84,slow=34						
	53nm,0.4s						
GNL	**Ganaly**	**2.25**	**308**	*eP*	**Pn**	**21 31 59.5**	**+1.7**
APC	**Apacha**	**2.36**	**286**	*eP*	**Pn**	**21 32 01.4**	**+2.2**
TUMD	**Tumrok D**	**2.88**	**354**	*eP*	**Pn**	**21 32 08.7**	**+2.3**
TUMR	**Tumrok**	**2.98**	**351**	*eP*	**Pn**	**21 32 10.0**	**+2.1**
TUMR				*eS*	**Sn**	**21 32 45.8**	**+2.1**
ESO	**Esso**	**3.82**	**341**	*eP*	**Pn**	**21 32 22.7**	**+3.4**
SRDR	**Sredinnyy**	**4.04**	**350**	*eP*	**Pn**	**21 32 25.1**	**+2.8**
BKI	**Bering**	**4.15**	**44**	*eP*	**Pn**	**21 32 24.9**	**+1.2**
BKI				*eS*	**Sn**	**21 33 08.1**	**-4.1**
SMKR	**Semkarok**	**4.26**	**4**	*eP*	**Pn**	**21 32 28.1**	**+2.8**
SHEM	**Shemya Is, Ala**	**8.05**	**82**	LR	LR	21 36 33.3	
	comp=Z,54nm,19.1s,baz=91,slow=39						
MA2	**Magadan**	**9.21**	**326**	LR	LR	21 37 47.3	
	comp=Z,93nm,18.9s,baz=165,slow=42						
KLR	**Kul'dur**	**18.64**	**272**	P	**P**	**21 35 38.7**	**+0.6**
	0.1nm,0.3s,baz=59,slow=12,SNR=2.4						
KLR				LR	LR	21 42 27.9	
	comp=Z,65nm,18.6s,baz=72,slow=36						
	0.7nm,0.5s						
YAK	**Yakutsk**	**19.31**	**312**	LR	LR	21 42 59.3	
	comp=Z,41nm,19.8s,baz=90,slow=36						
H11N2	**WAKE ISLAND Hy**	**32.88**	**170**	T	T	22 13 30.0	
	baz=352,slow=74						
H11N3	**WAKE ISLAND Hy**	**32.90**	**170**	T	T	22 13 33.2	
	baz=352,slow=74						
H11N1	**WAKE ISLAND Hy**	**32.90**	**170**	T	T	22 13 32.6	
	baz=352						
H11S1	**WAKE ISLAND Hy**	**34.07**	**170**	T	T	22 14 56.5	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**34.08**	**170**	T	T	22 14 56.5	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**34.09**	**170**	T	T	22 14 56.5	
	baz=352						
SONM	**Songino Array**	**34.57**	**285**	P	**P**	**21 38 08.4**	**-0.8**
	0.2nm,0.7s,baz=81,slow=8.9,SNR=2.3						
SONM				LR	LR	21 53 27.9	
	comp=Z,55nm,18.7s,baz=178,slow=38						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**48.94**	**297**	P	**P**	**21 40 04.7**	**-1.8**
	0.2nm,0.4s,baz=54,slow=6.3,SNR=7.4						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**54.16**	**342**	P	**P**	**21 40 45.4**	**+0.3**
	5.0nm,1.0s,baz=34,slow=10.0,SNR=1.9						
	5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**58.52**	**259**	P	**P**	**21 41 18.6**	**+1.6**
	0.5nm,0.6s,baz=24,slow=7.3,SNR=5.6						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**61.01**	**337**	P	**P**	**21 41 34.3**	**+0.8**
	1.2nm,0.6s,baz=29,slow=8.4,SNR=16						
	1.2nm,0.6s						
NOA	**NORSAR Array B**	**64.40**	**344**	P	**P**	**21 41 55.7**	**-0.5**
	0.4nm,0.7s,baz=20,slow=7.1,SNR=1.9						
	0.4nm,0.7s						
AKASG	**Malin Array Be**	**69.52**	**330**	P	**P**	**21 42 28.8**	**0.0**
	0.2nm,0.3s,baz=31,slow=6.7,SNR=6.2						
	0.2nm,0.3s						
KBZ	**Khabaz**	**70.43**	**317**	P	**P**	**21 42 35.1**	**+0.6**
	2.8nm,0.9s,baz=51,slow=6.5,SNR=4.7						
	2.8nm,0.9s						

FUNV 15 21:39:24.7, 8°.91N×70°.87W, h3km, MW2.6
ISC 15 21:39:24.3±1.6, 8°.92N±0°.06×70°.82W±0°.06, h4km±12km, n10, σ0°.92/18, 1C, Venezuela

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

SOCV	**Socops**	**0.64**	**183**	↑*iP*	**Pg**	**21 39 35.9**	**-0.6**
SOCV				*eS*	**Sg**	**21 39 45.0**	**+0.2**
CURV	**Curarigua**	**1.38**	**38**	*eP*	**Pn**	**21 39 49.8**	**-0.6**
CURV				*eS*	**Sg**	**21 40 09.7**	**+1.1**
CAPV	**Capacho**	**1.81**	**235**	*eP*	**Pn**	**21 39 57.0**	**+0.6**
CAPV				*eS*	**Sn**	**21 40 19.3**	**-0.7**
SIQV	**Siquisique**	**1.99**	**30**	*eP*	**Pn**	**21 39 59.0**	**+0.3**
SIQV				*eS*	**Sn**	**21 40 24.6**	**+0.5**
PAMC	**Pamplona, Colo**	**2.43**	**230**	*eP*	**Pn**	**21 40 06.3**	**+1.1**
PAMC				*eS*	**Sn**	**21 40 36.0**	**+0.2**
PAMC				*i*		21 40 42.4	
	comp=Z,11nm,0.3s						
TAMC	**Tame, Arauca**	**2.65**	**201**	*eP*	**Pb**	**21 40 12.4**	**+0.1**
TAMC				*eS*	**Sb**	**21 40 43.7**	**-1.6**
BAUV	**El Baul**	**2.75**	**89**	*eP*	**Pn**	**21 40 09.9**	**+0.7**
BAUV				*eS*	**Sn**	**21 40 42.4**	**-0.5**
BENV	**Beln**	**3.35**	**72**	*eP*	**Pn**	**21 40 17.6**	**+0.2**
RUSC	**La Rusia**	**3.75**	**217**	*eP*	**Pn**	**21 40 25.4**	**+2.0**
RUSC				*eS*	**Sn**	**21 41 08.6**	**+0.2**
RUSC				*i*		21 41 11.7	
	comp=Z,1.1nm,0.3s						
ZARC	**Zaragoza, Cauc**	**4.24**	**251**	*eP*	**Pn**	**21 40 29.1**	**-0.6**
ZARC				*i*		21 41 29.4	
	comp=Z,1.7nm,0.3s						

TIR 15 21:55:33.2, 40°.13N×19°.38E, h7km±7km, Md3.5, Ml3.0
THE 15 21:55:34.6, 40°.34N×19°.34E, h0km±2km, ML2.2/7, Error ellipse: s-maj=2.8km s-min=0.9km az=273.0
BEO 15 21:55:34.2±1.3, 40°.15N×19°.36E, h10km±7km, ML2.3/3
ATH 15 21:55:36.3, 40°.24N×19°.31E, h16km±3km, ML2.3/7, Error ellipse: s-maj=3.7km s-min=1.4km az=181.0
ISC 15 21:55:34.5±1.1, 40°.27N±0°.02×19°.36E±0°.03, h10km±9km, n51, σ1°.19/70, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.23**	**27**	P	**Pg**	**21 55 37.6**	**-1.7**
SRN	**Sarande**	**0.62**	**128**	P	**Pg**	**21 55 45.1**	**-1.5**
SRN				S	**Sb**	**21 55 57.1**	**+0.8**
	138nm,0.2s						
SRN	**Sarande**	**0.62**	**128**	P	**Pg**	**21 55 46.1**	**-0.5**
	baz=117						
SRN				S	**Sb**	**21 55 56.0**	**-0.3**
	baz=117						
KEK	**Kerkira**	**0.65**	**148**	P	**Pb**	**21 55 47.9**	**0.0**
KEK				S	**Sn**	**21 55 59.2**	**-0.9**
	245nm,0.2s						
KEK	**Kerkira**	**0.65**	**148**	P	**Pb**	**21 55 48.0**	**+0.1**
KEK				S	**Sb**	**21 55 57.4**	**+0.4**
KEK				AML	AML	21 56 04.5	
	comp=N,419μm,0.3s						
KEK				AML	AML	21 56 04.7	
	comp=E,549μm,0.2s						
KASA	**Kassiopi**	**0.68**	**139**	P	**Pn**	**21 55 50.4**	**+0.1**
KASA				S	**Sn**	**21 55 59.5**	**-1.4**
KASA				AML	AML	21 56 03.2	
	comp=E,589μm,0.4s						
KASA				AML	AML	21 56 04.2	
	comp=N,526μm,0.2s						
SCTE	**Santa Cesarea**	**0.71**	**255**	P	**Pb**	**21 55 48.9**	**-0.1**
SCTE				S	**Sb**	**21 55 59.0**	**+0.2**
SCTE				AML	AML	21 56 01.0	
	comp=N,528μm,0.4s						
SCTE				AML	AML	21 56 03.3	
	comp=E,332μm,0.3s						
LSK	**Leskovik**	**0.96**	**97**	P	**Pg**	**21 55 52.7**	**-0.3**
LSK				S	**Sb**	**21 56 06.5**	**+0.5**
	comp=E,282nm,0.7s						
LSK	**Leskovik**	**0.96**	**97**	P	**Pg**	**21 55 52.5**	**-0.4**
	baz=88						
LSK				S	**Sg**	**21 56 05.1**	**-0.3**
	baz=88						
LSK				AMP			
	comp=N,1.1nm,0.5s,baz=88						
TIR	**Tirane**	**1.15**	**19**	P	**Pb**	**21 55 54.3**	**-2.2**
TIR				S	**Sb**	**21 56 11.5**	**+0.1**
	comp=N,70nm,0.6s						
TIR	**Tirane**	**1.15**	**19**	P	**Pb**	**21 55 55.1**	**-1.4**
	baz=16						
TIR				S	**Sb**	**21 56 11.3**	**-0.1**
	baz=16						
TIR	**Tirane**	**1.15**	**19**	*e*Pg	**Pb**	**21 55 55.8**	**-0.7**
TIR				*e*Sg	**Sn**	**21 56 13.9**	**+1.5**
JAN	**Janina**	**1.30**	**117**	P	**Pg**	**21 55 59.8**	**+0.4**
JAN				S	**Sg**	**21 56 19.4**	**+3.1**
	comp=N,238nm,0.4s						
JAN	**Janina**	**1.30**	**117**	P	**Pg**	**21 55 59.9**	**+0.4**
JAN				AML	AML	21 56 21.6	
	comp=N,382μm,0.5s						
JAN				AML	AML	21 56 22.3	
	comp=E,571μm,0.3s						
NEST	**Nestorio**	**1.30**	**83**	P	**Pb**	**21 55 59.1**	**0.0**
NEST				S	**Sg**	**21 56 18.3**	**+1.9**
	comp=E,90nm,0.6s						
NEST	**Nestorio**	**1.30**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**17.53**	**132**		**Pn**	**22 17 32.9**	**+1.0**
JGF	**Kuroka**	**17.95**	**339**		**Pn**	**22 17 38.0**	**+1.2**
JGF				IAmb	IAmb	22 18 09.6	
	comp=Z,5.9nm,1.0s						
MJAR	**Matsushiro Arr**	**18.54**	**342**	P	**P**	**22 17 39.4**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=155,slow=9.8,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**20.28**	**88**	T	T	22 38 55.7	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**20.29**	**88**	T	T	22 38 57.2	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**20.30**	**88**	T	T	22 38 56.9	
	baz=276						
KNRA	**Kununurra**	**38.11**	**206**	P	**P**	**22 20 40.1**	**+1.6**
WB0	**Warramunga Arr**	**39.98**	**196**	P	**P**	**22 20 54.2**	**+0.1**
WB2	**Warramunga Arr**	**40.16**	**196**	P	**P**	**22 20 55.7**	**+0.1**
WRA	**Warramunga Arr**	**40.17**	**196**	P	**P**	**22 20 55.6**	**0.0**
	comp=Z,1.0nm,0.6s,baz=20,slow=8.7,SNR=18						
WRA				PcP	**PcP**	**22 22 55.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=13,slow=3.3,SNR=2.2						
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**40.17**	**196**	P	**P**	**22 20 55.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.62**	**209**	P	**P**	**22 21 07.3**	**-0.1**
ASAR	**Alice Springs**	**43.84**	**195**	P	**P**	**22 21 24.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=13,slow=7.4,SNR=5.4						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**43.84**	**195**	P	**P**	**22 21 25.1**	**-0.2**
MSVF	**Nonsavu**	**48.68**	**137**	LR	LR	22 38 14.2	
	comp=Z,86nm,20.3s,baz=3.4,slow=30						
AFI	**Afiamalu**	**53.47**	**125**	P	**P**	**22 22 38.5**	**-0.2**
MORW	**Morawa**	**55.51**	**211**	P	**P**	**22 22 53.1**	**0.0**
RIM	**Rim**	**55.89**	**79**	P	**P**	**22 22 54.8**	**-1.4**
MKAR	**Makanchi Array**	**57.96**	**314**	P	**P**	**22 23 11.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=98,slow=8.9,SNR=1.8						
	comp=Z,0.2nm,0.6s						
O18K	**Koktuh Hills**	**58.55**	**31**	P	**P**	**22 23 15.4**	**+1.4**
KDAK	**Kodiak Island**	**59.32**	**33**	P	**P**	**22 23 20.1**	**+0.8**
	comp=Z,14nm,1.0s,baz=259,slow=5.2,SNR=5.4						
	comp=Z,14nm,1.0s						
K20K	**Telida**	**60.13**	**27**	P	**P**	**22 23 23.3**	**-1.5**
J20K	**Nowinta River**	**60.36**	**26**	P	**P**	**22 23 28.1**	**+1.8**
CNPM	**China Poot**	**60.41**	**32**	P	**P**	**22 23 26.3**	**-0.5**
BRLK	**Bradley Lake**	**60.64**	**31**	P	**P**	**22 23 28.5**	**+0.2**
PPLA	**Purkeypile**	**60.81**	**28**	P	**P**	**22 23 29.9**	**+0.3**
SKT	**Skwentna**	**60.87**	**29**	P	**P**	**22 23 29.8**	**0.0**
SKT				IAmb	IAmb	22 24 03.9	
	comp=Z,13nm,1.4s						
CAST	**Castle Rocks**	**61.00**	**27**	P	**P**	**22 23 30.6**	**-0.1**
SUA	**Susitna One**	**61.10**	**30**	P	**P**	**22 23 31.4**	**0.0**
SUA				IAmb	IAmb	22 23 50.0	
	comp=Z,12nm,1.4s						
IMAR	**Indian Mountai**	**61.10**	**24**	P	**P**	**22 23 31.7**	**+0.4**
H21K	**Melozitna Rive**	**61.37**	**25**	P	**P**	**22 23 33.0**	**-0.1**
RC01	**Rabbit Creek A**	**61.49**	**30**	P	**P**	**22 23 33.9**	**-0.1**
KTH	**Kantishna Hill**	**61.54**	**27**	P	**P**	**22 23 35.0**	**+0.7**
KTH				IAmb	IAmb	22 23 52.3	
	comp=Z,9.4nm,1.4s						
I21K	**Tanana**	**61.55**	**25**	P	**P**	**22 23 35.0**	**+0.7**
I21K				IAmb	IAmb	22 23 37.7	
	comp=Z,5.4nm,1.3s						
BPAW	**Bear Paw Mtn.**	**61.66**	**27**	P	**P**	**22 23 35.5**	**+0.5**
BPAW				IAmb	IAmb	22 23 36.5	
	comp=Z,6.0nm,1.4s						
TRF	**Thorofare Moun**	**61.79**	**27**	P	**P**	**22 23 36.1**	**0.0**
TRF				IAmb	IAmb	22 23 46.4	
	comp=Z,7.1nm,1.4s						
MLY	**Manley**	**62.01**	**26**	P	**P**	**22 23 38.3**	**+0.9**
MLY				IAmb	IAmb	22 24 12.5	
	comp=Z,5.3nm,1.4s						
GHO	**Glory Hole Cre**	**62.02**	**29**	P	**P**	**22 23 37.0**	**-0.6**
KNK	**Knik Glacier**	**62.16**	**30**	P	**P**	**22 23 38.5**	**+0.1**
SML	**Sawmill**	**62.30**	**29**	P	**P**	**22 23 39.5**	**+0.1**
I23K	**Minto, Yukon-K**	**62.61**	**26**	P	**P**	**22 23 41.8**	**+0.5**
I23K				IAmb	IAmb	22 23 58.6	
	comp=Z,5.9nm,1.4s						
SCM	**Sheep Creek Mo**	**62.77**	**30**	P	**P**	**22 23 43.0**	**+0.5**
SCM				IAmb	IAmb	22 23 46.5	
	comp=Z,10nm,1.2s						
WRH	**Wood River Hil**	**62.98**	**27**	P	**P**	**22 23 43.4**	**-0.3**
WRH				IAmb	IAmb	22 24 17.7	
	comp=Z,5.7nm,1.4s						
MDM	**Murphy Dome**	**63.03**	**26**	P	**P**	**22 23 44.9**	**+0.7**
MDM				IAmb	IAmb	22 23 56.0	
	comp=Z,6.3nm,1.3s						
H24K	**Noodor Dome**	**63.37**	**25**	P	**P**	**22 23 47.1**	**+0.7**
H24K				IAmb	IAmb	22 24 12.6	
	comp=Z,9.5nm,1.5s						
IL31		**63.55**	**26**	P	**P**	**22 23 47.0**	**-0.4**
ILAR	**Eielson Array**	**63.55**	**26**	P	**P**	**22 23 46.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=255,slow=6.0,SNR=14						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**63.55**	**26**	P	**P**	**22 23 46.4**	**-1.1**
IL03	**Eielson Array**	**63.56**	**26**	P	**P**	**22 23 47.1**	**-0.5**
PAX	**Paxson**	**63.83**	**28**	P	**P**	**22 23 50.1**	**+0.6**
PAX				IAmb	IAmb	22 24 00.9	
	comp=Z,4.3nm,1.2s						
RIDG	**Independent Ri**	**64.23**	**28**	P	**P**	**22 23 52.4**	**+0.4**
RIDG				IAmb	IAmb	22 23 58.8	
	comp=Z,11nm,1.4s						
DOT	**Dot Lake**	**64.56**	**28**	P	**P**	**22 23 54.6**	**+0.5**
DOT				IAmb	IAmb	22 24 20.0	
	comp=Z,3.7nm,1.2s						
SCRK	**Sand Creek**	**64.65**	**27**	P	**P**	**22 23 55.0**	**+0.2**
J26L	**Joseph Creek**	**64.91**	**27**	P	**P**	**22 23 56.0**	**-0.5**
J26L				IAmb	IAmb	22 23 56.1	
	comp=Z,3.9nm,1.3s						
BMAR	**Burnt Mountain**	**65.00**	**24**	P	**P**	**22 23 58.1**	**+1.2**
BMAR				PcP	**PcP**	**22 24 29.6**	**+1.6**
I26K	**Coal Creek Min**	**65.20**	**26**	P	**P**	**22 23 57.2**	**-1.0**
I26K				IAmb	IAmb	22 24 41.5	
	comp=Z,3.9nm,1.3s						
M27K	**Edge Creek, AK**	**65.39**	**29**	P	**P**	**22 24 00.3**	**+0.8**
M27K				IAmb	IAmb	22 24 06.1	
	comp=Z,5.8nm,1.3s						
L27K	**Beaver Creek,**	**65.48**	**29**	P	**P**	**22 24 00.6**	**+0.5**
K27K	**Chicken**	**65.49**	**28**	P	**P**	**22 24 01.0**	**+1.0**
K27K				IAmb	IAmb	22 24 23.5	
	comp=Z,7.4nm,1.5s						
BCAR	**Beaver Creek A**	**65.50**	**29**	P	**P**	**22 24 00.8**	**+0.5**
BCAR				PcP	**PcP**	**22 24 31.7**	**+1.5**
M30M	**Minto, Yukon**	**67.76**	**29**	P	**P**	**22 24 15.6**	**+1.1**
M30M				IAmb	IAmb	22 24 48.5	
	comp=Z,6.3nm,1.4s						
INK	**Inuvik**	**69.25**	**23**	P	**P**	**22 24 23.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=272,slow=5.0,SNR=4.4						
	comp=Z,0.6nm,0.7s						
INK	**Inuvik**	**69.25**	**23**	P	**P**	**22 24 23.8**	**+0.3**
INK				IAmb	IAmb	22 24 37.2	
	comp=Z,6.6nm,1.5s						
C36M	**Paulatuk**	**72.61**	**22**	P	**P**	**22 24 43.7**	**0.0**
C36M				IAmb	IAmb	22 24 44.8	
	comp=Z,1.4nm,0.5s						
ABKAR	**Akbulak array**	**72.84**	**317**	P	**P**	**22 24 43.7**	**-1.7**
YKA	**Yellowknife Ar**	**77.90**	**28**	P	**P**	**22 25 14.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=288,slow=5.5,SNR=11						
	comp=Z,0.7nm,0.6s						
PINE	**Pine Mountain**	**79.74**	**47**	P	**P**	**22 25 25.5**	**+0.9**
K05A	**Summer Lake**	**80.08**	**48**	P	**P**	**22 25 24.1**	**-2.4**
K05A				IAmb	IAmb	22 26 07.4	
	comp=Z,9.0nm,1.5s						
ARCES	**ARCESS Array B**	**82.08**	**342**	P	**P**	**22 25 37.0**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=81,slow=5.8,SNR=0.8						
	comp=Z,1.2nm,0.9s						
NVAR	**Mina Array Bea**	**83.26**	**52**	P	**P**	**22 25 43.7**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=270,slow=5.6,SNR=13						
	comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**86.44**	**335**	P	**P**	**22 25 57.5**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=80,slow=3.3,SNR=13						
	comp=Z,0.5nm,0.4s						
LPAZ	**La Paz**	**148.08**	**90**	PKPbc	**PKPbc**	**22 33 01.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=19,slow=2.1,SNR=4.7						

IDC 15 22:32:14.3±11.0, 19°23'S×178°10'W, h565km±59km, mb2.6/2, mbtmp3.6/3, Error ellipse: s-maj=312.0km s-min=103.6km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.95**	**292**	P	P	22 33 37.0	0.0
	4.9nm,0.3s,baz=249,slow=22,SNR=4.5						
WRA	**Warramunga Arr**	**44.70**	**261**	P	P	22 39 37.7	-0.3
	0.3nm,0.5s,baz=98,slow=7.8,SNR=7.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**44.73**	**255**	P	P	22 39 38.2	0.0
	1.0nm,0.8s,baz=92,slow=7.9,SNR=9.3						
	1.0nm,0.8s						
AKASG	**Malin Array Be**	**141.86**	**332**	PKP	PKPdf	22 50 40.9	-1.1
	0.7nm,0.5s,baz=34,slow=4.1,SNR=10.0						

*CRAAG **15** 23:01:41.5, 36°.78N×3°.51E, MI3.0, Algerie 01km NW El-Karma*
*MDD **15** 23:01:43.8±0.9, 36°.81N×3°.53E, h13km±13km, Mb4.3/14, M_mb3.7/14, Error ellipse: s-maj=16.1km s-min=3.9km az=133.0*
*LDG **15** 23:01:44.6±0.2, 36°.80N×3°.56E, h15km, Ml2.9/22, Error ellipse: s-maj=4.6km s-min=2.6km az=153.0*
*CNRM **15** 23:01:50.1, 36°.86N×2°.80E, h29km*
ISC 15 23:01:42.3±0.9, 36°.98N±0°.06×3°.47E±0°.05, h12km, n47, σ1§97/77, 10C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.23**	**178**	P	Pg	23 01 43.6	-3.6
ABA	**Alger-Bouzarea**	**0.39**	**243**	P	**Pg**	**23 01 49.9**	**-0.2**
SET	**Setif**	**1.74**	**116**	P	**Pb**	**23 02 15.0**	**+0.8**
EIBI	**Ibiza**	**2.64**	**321**	P	**Pn**	**23 02 27.3**	**+2.6**
EIBI				S	**Sn**	**23 02 54.6**	**-2.2**
EIBI	**Ibiza**	**2.64**	**321**	Pn	**Pn**	**23 02 26.7**	**+1.9**
EIBI				⇑*iVmb_V*		23 02 27.8	
	1µm,SNR=1.6						
EIBI				Sn	**Sn**	**23 02 54.7**	**-2.1**
ETOS	**Mallorca**	**2.83**	**350**	S	**Sn**	**23 03 01.3**	**0.0**
ETOS				P	**Pn**	**23 02 29.2**	**+1.9**
ETOS	**Mallorca**	**2.83**	**350**	Pn	**Pn**	**23 02 29.2**	**+1.9**
ETOS				⇑*iVmb_V*		23 02 29.3	
	1µm,SNR=0.9						
ETOS				Sn	**Sn**	**23 03 01.5**	**+0.1**
CART	**Cartagena**	**3.62**	**281**	S	**Sn**	**23 03 16.6**	**-4.2**
CART				P	**Pn**	**23 02 37.9**	**-0.2**
EMUR	**La Murta**	**3.85**	**284**	Pn	**Pn**	**23 02 42.1**	**+0.7**
EMUR				Sn	**Sn**	**23 03 24.7**	**-1.8**
ETOB	**Tobarra**	**4.31**	**294**	P	**Pn**	**23 02 50.1**	**+2.4**
ETOB	**Tobarra**	**4.31**	**294**	Pn	**Pn**	**23 02 49.7**	**+2.0**
ETOB				⇑*iVmb_V*		23 02 50.3	
	238nm,SNR=1.1						
ETOB				Sn	**Sn**	**23 03 37.4**	**-0.5**
ECHE	**Chera**	**4.36**	**308**	P	**Pn**	**23 02 51.1**	**+2.8**
ECHE	**Chera**	**4.36**	**308**	Pn	**Pn**	**23 02 51.2**	**+2.8**
ECHE				⇑*iVmb_V*		23 02 51.4	
	329nm,SNR=1.4						
EMOS	**Mosqueruela**	**4.57**	**319**	Pn	**Pn**	**23 02 53.2**	**+1.8**
EMOS				⇑*iVmb_V*		23 02 56.2	
	142nm,SNR=0.4						
EMOS				Sn	**Sn**	**23 03 44.2**	**-0.5**
EPOB	**Poblet**	**4.74**	**338**	Pn	**Pn**	**23 02 55.2**	**+1.5**
EPOB				⇑*iVmb_V*		23 02 57.1	
	180nm,SNR=0.5						
EPOB				Sn	**Sn**	**23 03 47.4**	**-1.3**
EMIR	**Miracle**	**5.15**	**344**	Pn	**Pn**	**23 03 02.1**	**+2.8**
EMIR				⇑*iVmb_V*		23 03 04.9	
	355nm,SNR=0.6						
EMIR				Sn	**Sn**	**23 03 59.3**	**+0.6**
TAF	**Taforalt**	**5.24**	**247**	P	**Pn**	**23 02 59.2**	**-1.4**
EQES	**Quesada**	**5.27**	**281**	Pn	**Pn**	**23 03 02.6**	**+1.6**
EQES				⇑*iVmb_V*		23 03 05.3	
	117nm,SNR=1.0						
EQES				Sn	**Sn**	**23 04 02.0**	**+0.2**
EJON	**La Jonquera**	**5.48**	**355**	Pn	**Pn**	**23 03 06.5**	**+2.7**
EJON				⇑*iVmb_V*		23 03 06.8	
	487nm,SNR=1.2						
EJON				Sn	**Sn**	**23 04 05.4**	**-1.3**
JBK	**JBK**	**5.58**	**244**	P	**Pn**	**23 03 05.3**	**0.0**
ETOR	**Torete**	**5.77**	**313**	Pn	**Pn**	**23 03 12.1**	**+4.4**
ETOR				⇑*iVmb_V*		23 03 14.3	
	69nm,SNR=0.4						
FIGM	**Figuig**	**6.21**	**220**	P	**Pn**	**23 03 14.2**	**+0.2**
MTLF	**Montolieu**	**6.42**	**352**	*e*Pn	**Pn**	**23 03 19.4**	**+2.7**
MTLF				*e*Sn	**Sn**	**23 04 29.9**	**-0.1**
	0.6nm,0.2s						
EPF	**Esparros**	**6.50**	**339**	*e*Pn	**Pn**	**23 03 19.8**	**+2.0**
EPF				*e*Sn	**Sn**	**23 04 31.7**	**-0.2**
	0.6nm,0.2s						
ETSF	**Etsaut**	**6.67**	**334**	*e*Pn	**Pn**	**23 03 22.1**	**+1.9**
ETSF				*e*Sn	**Sn**	**23 04 35.6**	**-0.5**
	0.7nm,0.3s						
LMR	**La Mourre**	**6.76**	**19**	*e*Pn	**Pn**	**23 03 22.4**	**+1.1**
LMR				*e*Sn	**Sn**	**23 04 36.3**	**-1.9**
	1.7nm,0.2s						
PGF	**Pioggiola**	**7.00**	**36**	*e*Pn	**Pn**	**23 03 25.8**	**+1.0**
PGF				*e*Sn	**Sn**	**23 04 42.6**	**-1.7**
	1.0nm,0.2s						
LASF	**Ste Croix**	**7.09**	**2**	*e*Pn	**Pn**	**23 03 27.8**	**+1.9**
LASF				*e*Sn	**Sn**	**23 04 43.3**	**-3.2**
	1.4nm,0.3s						
SJPF	**Ste Jean**	**7.10**	**331**	*e*Pn	**Pn**	**23 03 27.9**	**+1.9**
SJPF				*e*Sn	**Sn**	**23 04 45.9**	**-0.8**
	1.5nm,0.4s						
SMRF	**Simiane la Rot**	**7.17**	**12**	*e*Pn	**Pn**	**23 03 29.5**	**+2.5**
SMRF				*e*Sn	**Sn**	**23 04 47.4**	**-0.9**
	0.6nm,0.3s						
SBF	**Sospel**	**7.51**	**23**	*e*Pn	**Pn**	**23 03 33.2**	**+1.5**
SBF				*e*Sn	**Sn**	**23 04 54.8**	**-2.0**
	2.7nm,0.3s						
MDT	**Midelt**	**7.83**	**240**	P	**Pn**	**23 03 34.3**	**-1.8**
MD31	**MD31**	**7.91**	**241**	P	**Pn**	**23 03 36.4**	**-0.8**
VIVF	**Saint-Julien-l**	**7.92**	**6**	*e*Pn	**Pn**	**23 03 39.9**	**+2.6**
VIVF				*e*Sn	**Sn**	**23 05 05.2**	**-1.6**
	0.6nm,0.3s						
CAF	**Calviac**	**8.01**	**353**	*e*Pn	**Pn**	**23 03 41.6**	**+3.1**
CAF				*e*Sn	**Sn**	**23 05 07.7**	**-1.3**
	0.4nm,0.2s						
MBDF	**Montbardon**	**8.13**	**17**	*e*Pn	**Pn**	**23 03 42.0**	**+1.7**
MBDF				*e*Sn	**Sn**	**23 05 10.4**	**-1.8**
	0.4nm,0.3s						
LFF	**La Frestale**	**8.21**	**346**	*e*Pn	**Pn**	**23 03 44.1**	**+2.9**
RJF	**Les Rejaudoux**	**8.45**	**351**	*e*Pn	**Pn**	**23 03 46.2**	**+1.8**
RJF				*e*Sn	**Sn**	**23 05 18.0**	**-1.7**
	0.8nm,0.4s						
LPL	**La Plagne**	**8.87**	**15**	*e*Pn	**Pn**	**23 03 52.5**	**+2.0**
LPL				*e*Sn	**Sn**	**23 05 28.3**	**-2.2**
	0.4nm,0.2s						
TCF	**Toulx Ste Croi**	**9.35**	**355**	*e*Pn	**Pn**	**23 03 58.8**	**+2.0**
TCF				*e*Sn	**Sn**	**23 05 39.6**	**-2.2**
	0.3nm,0.2s						
BGF	**Bois d'Agland**	**9.58**	**357**	*e*Pn	**Pn**	**23 04 02.6**	**+2.6**
BGF				*e*Sn	**Sn**	**23 05 45.3**	**-2.2**
	1.0nm,0.2s						
SMF	**Signal de Mont**	**9.66**	**2**	*e*Pn	**Pn**	**23 04 02.7**	**+1.6**
SMF				*e*Sn	**Sn**	**23 05 47.3**	**-2.2**
	0.5nm,0.2s						
AVF	**Avril sur Loir**	**9.80**	**360**	*e*Pn	**Pn**	**23 04 04.7**	**+1.7**
AVF				*e*Sn	**Sn**	**23 05 50.6**	**-2.4**
	0.3nm,0.3s						
MFF	**Saint Martin d**	**9.98**	**345**	*e*Pn	**Pn**	**23 04 07.2**	**+1.7**
MFF				*e*Sn	**Sn**	**23 05 54.9**	**-2.5**
	0.3nm,0.3s						
SSF	**Saint Saulge**	**10.07**	**0**	*e*Pn	**Pn**	**23 04 08.5**	**+1.8**
SSF				*e*Sn	**Sn**	**23 05 57.0**	**-2.6**
	0.3nm,0.4s						
LOR	**Lormes**	**10.28**	**1**	*e*P	Pn	23 04 17.5	+7.9
	baz=178						
HAU	**Haudompre**	**11.22**	**10**	*e*Pn	**Pn**	**23 04 24.0**	**+1.6**

*IDC **15** 23:27:58.7±1.3, 19°.34N×64°.95W, h0km, mb3.8/8, mbtmp4.0/11, ML3.1/3, MS3.2/10, Error ellipse: s-maj=33.7km s-min=17.0km az=88.0*
*RSPR **15** 23:28:04.2, 19°.35N×65°.05W, h30km, 27km, MD3.9/14*
*NEIC **15** 23:28:05.8±1.1, 19°.19N±0°.04×65°.21W±0°.05, h34km±7km, mb4.2/12, ML4.0/50, Md3.9/31(RSPR), Error ellipse: s-maj=6.5km s-min=4.8km az=116.0*
ISC 15 23:28:03.5±1.3, 19°.27N±0°.04×65°.14W±0°.02, h30km±10km, n141, σ1§42/154, mb4.0/13, MS3.1/7, 5C-15D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**0.96**	**188**	⇓*eP*	**Pb**	**23 28 21.3**	**-0.4**
CUPR	**Culebra, Puert**	**0.96**	**188**	*eS*	**Sb**	**23 28 34.5**	**+0.5**
CUPR	**Culebra, Puert**	**0.96**	**188**		**Pn**	**23 28 21.2**	**+0.2**
CUPR					**Sn**	**23 28 33.4**	**-0.3**
CUPR				Sg	**Sb**	**23 28 34.4**	**+0.3**
CUPR				IAML		23 28 38.6	
	comp=N,3µm,0.6s						
CUPR				IAML		23 28 39.2	
	comp=E,3µm,0.5s						
CBYP	**Canovanas**	**1.20**	**214**	⇓*eP*	**Pn**	**23 28 24.3**	**0.0**
CBYP	**Canovanas**	**1.20**	**214**	*eS*	**Sb**	**23 28 41.2**	**+0.3**
CBYP	**Canovanas**	**1.20**	**214**		**Pn**	**23 28 23.7**	**-0.6**
CBYP				Sg	**Sn**	**23 28 40.0**	**+0.4**
CBYP				IAML		23 28 44.9	
	comp=N,6µm,0.2s						
CBYP				IAML		23 28 45.1	
	comp=E,7µm,0.2s						
MTP	**Monte Pirata**	**1.23**	**198**	⇓*iP*	**Pb**	**23 28 25.4**	**-0.7**
MTP	**Monte Pirata**	**1.23**	**198**	*eS*	**Sb**	**23 28 41.2**	**-0.4**
MTP	**Monte Pirata**	**1.23**	**198**		**Pb**	**23 28 25.4**	**-0.7**
MTP					**Sb**	**23 28 41.2**	**-0.4**
MTP	**Monte Pirata**	**1.23**	**198**	IAML		23 28 42.6	
	comp=E,5µm,0.6s						
MTP				IAML		23 28 44.3	
	comp=N,2µm,0.5s						
HUMP	**Col San Antoni**	**1.30**	**211**	⇓*eP*	**Pn**	**23 28 25.9**	**+0.2**
HUMP	**Col San Antoni**	**1.30**	**211**	*eS*	**Sb**	**23 28 44.0**	**+0.2**
HUMP	**Col San Antoni**	**1.30**	**211**		**Pn**	**23 28 25.4**	**-0.2**
HUMP					**Sn**	**23 28 42.7**	**+0.6**
HUMP				IAML		23 28 52.1	
	comp=E,2µm,0.2s						
GCPR	**Guaynabo City**	**1.31**	**223**	⇓*iP*	**Pn**	**23 28 25.6**	**-0.1**
GCPR	**Guaynabo City**	**1.31**	**223**	*eS*	**Sb**	**23 28 43.2**	**-0.6**
GCPR	**Guaynabo City**	**1.31**	**223**		**Pn**	**23 28 25.6**	**-0.1**
GCPR					**Sb**	**23 28 43.2**	**-0.6**
SJG	**San Juan**	**1.50**	**220**	Pn	**Pn**	**23 28 28.5**	**+0.2**
	comp=E,45nm,0.3s,baz=47,slow=13,SNR=66						
SJG				Sn	**Sn**	**23 28 46.5**	**-0.3**
	comp=E,140nm,0.3s,baz=276,slow=14,SNR=14						
SJG				LR	LR	23 28 58.0	
	comp=E,320nm,20.0s,baz=360,slow=36						
SJG	**San Juan**	**1.50**	**220**		**Pn**	**23 28 28.5**	**+0.2**
SJG				IAML		23 28 52.0	
	comp=E,1µm,0.4s						
SJG	**San Juan**	**1.50**	**220**	*eP*	**Pn**	**23 28 27.7**	**-0.5**
SJG				*eS*	**Sn**	**23 28 47.9**	**+1.1**
EMPR	**Esperanza - Ma**	**1.53**	**239**	⇑*eP*	**Pn**	**23 28 29.9**	**+1.1**
EMPR	**Esperanza - Ma**	**1.53**	**239**	*eS*	**Sb**	**23 28 49.7**	**-0.5**
EMPR	**Esperanza - Ma**	**1.53**	**239**		**Pn**	**23 28 29.7**	**+1.0**
EMPR				IAML		23 28 55.3	
	comp=N,2µm,0.5s						
EMPR				IAML		23 28 55.9	
	comp=E,2µm,0.9s						
EMPR	**Esperanza - Ma**	**1.53**	**239**		**Sb**	**23 28 49.7**	**-0.5**
CDVI	**St. Croix**	**1.55**	**167**		**Pb**	**23 28 31.0**	**-0.6**
CDVI	**St. Croix**	**1.55**	**167**	*eP*	**Pb**	**23 28 31.6**	**0.0**
CDVI				*eS*	**Sb**	**23 28 53.8**	**+3.0**
IGPR	**InterUniversit**	**1.59**	**215**	⇓*eP*	**Pn**	**23 28 29.9**	**+0.4**
IGPR	**InterUniversit**	**1.59**	**215**		**Pn**	**23 28 29.9**	**+0.4**
AOPR	**Arecibo Observ**	**1.78**	**239**	⇓*iP*	**Pn**	**23 28 32.9**	**+0.6**
AOPR	**Arecibo Observ**	**1.78**	**239**		**Pn**	**23 28 32.8**	**+0.5**
AOPR				IAML		23 29 08.2	
	comp=N,2µm,0.5s						
AOPR	**Arecibo Observ**	**1.78**	**239**		**Sn**	**23 28 55.3**	**+1.4**
AOPR	**Arecibo Observ**	**1.78**	**239**	*eP*	**Pn**	**23 28 32.8**	**+0.5**
AOPR				*eS*	**Sn**	**23 28 55.0**	**+1.2**
UUPR	**Utuado, UPR, P**	**1.80**	**236**	⇑*eP*	**Pn**	**23 28 33.2**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.80**	**236**		**Pn**	**23 28 33.2**	**+0.7**
CELP	**Cerrillos**	**1.81**	**229**	⇓*iP*	**Pn**	**23 28 33.5**	**+0.7**
CELP	**Cerrillos**	**1.81**	**229**	*eS*	**Sn**	**23 28 55.6**	**+1.1**
CELP	**Cerrillos**	**1.81**	**229**		**Pn**	**23 28 33.3**	**+0.7**
CELP					**Sn**	**23 28 55.6**	**+1.1**
OBIP	**Obispado Ponce**	**1.85**	**229**	⇓*iP*	**Pn**	**23 28 34.0**	**+0.8**
OBIP	**Obispado Ponce**	**1.85**	**229**	*eS*	**Sn**	**23 28 56.6**	**+1.2**
OBIP	**Obispado Ponce**	**1.85**	**229**		**Pn**	**23 28 34.0**	**+0.8**
OBIP	**Obispado Ponce**	**1.85**	**229**		**Sn**	**23 28 55.6**	**+0.1**
OBIP				IAML		23 29 01.6	
	comp=E,796nm,0.6s						
AGPR	**Aguadilla, PR**	**2.03**	**247**	⇓*eP*	**Pn**	**23 28 36.4**	**+0.8**
AGPR	**Aguadilla, PR**	**2.03**	**247**		**Pn**	**23 28 36.4**	**+0.8**
AGPR	**Aguadilla, PR**	**2.03**	**247**	IAML		23 29 12.1	
	comp=E,595nm,0.8s						
GBPR	**Guanica, Bosqu**	**2.09**	**232**	⇑*eP*	**Pn**	**23 28 37.9**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.09**	**232**		**Pn**	**23 28 37.9**	**+1.4**
LSP	**Las Mesas**	**2.14**	**240**	⇑*eP*	**Pn**	**23 28 38

SDV	**Santo Domingo**	**11.61**	**208**	Pn		**Pn**	**23 30 49.8**	**+2.3**
	comp=N,0.6nm,0.3s,baz=30,slow=12,SNR=2.1							
SDV				Sn		**Sn**	**23 32 50.3**	**-5.9**
	comp=N,0.2nm,0.3s,baz=9.4,slow=20,SNR=1.4							
SDV				LR		LR	23 35 23.0	
	comp=N,110nm,20.4s,baz=76,slow=38							
	comp=N,4.6nm,0.8s							
SDV	**Santo Domingo**	**11.61**	**208**	Pn		**Pn**	**23 30 48.9**	**+1.4**
BBSR	**BB Station**	**13.05**	**2**	Pn		**Pn**	**23 31 06.3**	**-0.6**
PAMC	**Pamplona, Colo**	**13.95**	**213**	*eP*		**Pn**	**23 31 20.9**	**+1.3**
BARC	**Barichara**	**14.83**	**213**	*eP*		**Pn**	**23 31 33.6**	**+2.2**
RUSC	**La Rusia**	**15.38**	**211**	Pn		**Pn**	**23 31 39.2**	**+0.2**
RUSC				IAmb		IAmb	23 31 49.4	
	comp=Z,16nm,0.8s							
RUSC	**La Rusia**	**15.38**	**211**	*eP*		**Pn**	**23 31 39.3**	**+0.3**
APAC	**Apartado, Choc**	**15.84**	**226**	*eP*		**P**	**23 31 50.6**	**+2.7**
061Z	**Ochoppi**	**15.96**	**297**	Pn		**Pn**	**23 31 44.1**	**-1.9**
DBBC	**Dabeiba**	**16.25**	**223**	*eP*		**P**	**23 31 52.0**	**-0.5**
PTGC	**Puerto Gaitan,**	**16.46**	**205**	*eP*		**P**	**23 31 57.7**	**+2.9**
ROSC	**El Rosal**	**16.91**	**213**	P		**P**	**23 32 00.7**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=38,slow=19,SNR=1.9							
ROSC				LR		LR	23 38 49.0	
	comp=Z,112nm,21.0s,baz=72,slow=38							
	comp=Z,4.0nm,0.4s							
ROSC	**El Rosal**	**16.91**	**213**			**Pn**	**23 31 58.0**	**-0.4**
CBOC	**Ciudad Bolivar**	**17.02**	**220**	*eP*		**Pn**	**23 31 59.1**	**-0.4**
GUY2C	**Guyana, Caldas**	**17.15**	**217**	*eP*		**P**	**23 32 03.4**	**+0.4**
BOAV	**Boa Vista**	**17.37**	**164**			**P**	**23 32 04.5**	**-0.4**
BOAV				IAmb		IAmb	23 32 05.6	
	comp=Z,7.1nm,1.2s							
BOAV	**Boa Vista**	**17.37**	**164**	*eP*		**P**	**23 32 04.8**	**-0.1**
MDP	**Montagnes des**	**18.62**	**138**	P		**P**	**23 32 17.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=29,slow=13,SNR=1.5							
MDP				S		Sn	23 35 32.8	-14
	comp=Z,5.7nm,1.0s,baz=210,slow=14,SNR=1.3							
MDP				LR		LR	23 40 15.9	
	comp=Z,38nm,18.0s,baz=6.0,slow=40							
	comp=Z,5.9nm,0.9s							
Y60A	**Bolivia**	**18.73**	**324**	Pn		**Pn**	**23 32 22.9**	**+2.6**
CRUC	**La Cruz**	**21.05**	**215**	*eP*		**P**	**23 32 45.9**	**+0.3**
JTS	**Las Juntas de**	**21.11**	**248**	P		**P**	**23 32 46.3**	**+0.4**
	comp=Z,4.5nm,0.6s,baz=123,slow=17,SNR=2.5							
	comp=Z,4.5nm,0.6s							
JTS	**Las Juntas de**	**21.11**	**248**	*eP*		**P**	**23 32 44.4**	**-1.5**
TULM	**Tulcn-Chalpat**	**22.22**	**215**	*eP*		**P**	**23 32 54.4**	**-3.9**
TKL	**Tuckaleechee C**	**23.17**	**319**	P		**P**	**23 33 09.0**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=122,slow=13,SNR=3.7							
TKL				S		**S**	**23 37 16.0**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=229,slow=22,SNR=1.8							
TKL				LR		LR	23 44 19.9	
	comp=Z,48nm,18.1s,baz=150,slow=42							
	comp=Z,2.0nm,0.7s							
PIAT	**Ana Tenorio**	**23.91**	**214**	*eP*		**P**	**23 33 15.6**	**+0.3**
T50A	**Nancy**	**24.70**	**320**	P		**P**	**23 33 23.4**	**+1.4**
T50A				IAmb		IAmb	23 33 25.0	
	comp=Z,5.0nm,0.8s							
SADO	**Sadowa**	**27.98**	**338**	LR		LR	23 45 07.7	
	comp=Z,56nm,20.4s,baz=94,slow=37							
X40A	**Basin Creek Fa**	**28.86**	**307**	P		**P**	**23 34 00.1**	**+0.7**
X40A				IAmb		IAmb	23 34 01.4	
	comp=Z,3.7nm,0.7s							
ATAH	**Atahualpa**	**29.31**	**208**	LR		LR	23 47 48.3	
	comp=Z,73nm,18.9s,baz=23,slow=40							
NNA	**Nana**	**33.13**	**201**	LR		LR	23 50 22.2	
	comp=Z,41nm,19.6s,baz=341,slow=40							
LPAZ	**La Paz**	**35.46**	**185**	P		**P**	**23 34 58.1**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=1.8,slow=2.3,SNR=3.9							
	comp=Z,0.8nm,0.7s							
ULM	**Lac du Bonnet**	**39.39**	**329**	P		**P**	**23 35 29.9**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=148,slow=7.9,SNR=3.7							
	comp=Z,1.9nm,0.6s							
PDAR	**Pinedale Array**	**44.04**	**312**	P		**P**	**23 36 10.1**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=117,slow=9.3,SNR=19							
	comp=Z,1.9nm,0.7s							
SPUT	**South Promonto**	**45.71**	**309**	P		**P**	**23 36 23.3**	**+1.2**
SPUT				IAmb		IAmb	23 36 23.9	
	comp=Z,2.1nm,0.7s							
QLMT	**Earthquake Lak**	**45.97**	**314**	P		**P**	**23 36 26.0**	**+1.8**
BGU	**Big Grassy Mou**	**46.05**	**309**	P		**P**	**23 36 25.5**	**+0.8**
BGU				IAmb		IAmb	23 36 26.8	
	comp=Z,3.4nm,0.9s							
HVU	**Hansel Valley**	**46.06**	**310**	P		**P**	**23 36 25.3**	**+0.4**
HVU				IAmb		IAmb	23 36 26.7	
	comp=Z,3.3nm,0.8s							
NVAR	**Mina Array Bea**	**49.62**	**304**	P		**P**	**23 36 52.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=90,slow=8.1,SNR=5.8							
	comp=Z,0.7nm,0.6s							
YKA	**Yellowknife Ar**	**54.86**	**334**	P		**P**	**23 37 30.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=112,slow=7.3,SNR=7.4							
	comp=Z,0.5nm,0.6s							
ESDC	**Sonseca Array**	**55.94**	**55**	LR		LR	23 55 55.0	
	comp=Z,16nm,20.9s,baz=254,slow=30							
PLCA	**Paso Flores**	**59.90**	**185**	LR		LR	00 06 24.8	
	comp=Z,31nm,18.5s,baz=186,slow=38							
NOA	**NORSAR Array B**	**66.73**	**31**	LR		LR	00 04 30.6	
	comp=Z,16nm,20.0s,baz=345,slow=33							
ILAR	**Eielson Array**	**69.24**	**333**	P		**P**	**23 39 07.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=106,slow=4.4,SNR=15							
	comp=Z,0.6nm,0.6s							
ASAR	**Alice Springs**	**161.74**	**253**	PKPab		**PKPab**	**23 48 48.3**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=107,slow=4.6,SNR=7.6							

*IDC **15** 23:30:23.6±2.1,6.59S×154.51E, h0km, mb3.7/5, mbtmp3.8/7, ML3.1/2, MS3.7/13, Error ellipse: s-maj=45.9km s-min=23.8km az=92.0*

ISC 15 23:30:29.3±1.6, 6.68S±0.09×154.4E±0.2, h35km, n17, σ1s32/9, mb3.7/5, MS3.7/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.35**	**315**	Pn	**Pn**	**23 31 18.2**	**-1.0**
	16nm,0.3s,baz=128,slow=3.6,SNR=7.5						
KRVT				Sn	**Sn**	**23 31 59.9**	**+2.1**
	18nm,0.3s,baz=327,slow=13,SNR=7.2						
	55nm,0.5s						
PMG	**Port Moresby**	**7.68**	**249**	Pn	**Pn**	**23 32 19.3**	**+0.6**
	3.6nm,0.3s,baz=31,slow=5.9,SNR=8.4						
PMG				Sn	**Sn**	**23 33 43.2**	**-1.3**
	2.9nm,0.3s,baz=355,slow=21,SNR=1.3						
PMG				LR	LR	23 34 56.0	
	comp=Z,328nm,19.8s,baz=30,slow=35						
	11nm,0.3s						
CTA	**Charters Tower**	**15.50**	**210**	LR	LR	23 39 19.1	
	comp=Z,100nm,18.4s,baz=78,slow=34						
WRA	**Warramunga Arr**	**23.53**	**234**	P	**P**	**23 35 35.9**	**-0.7**
	2.5nm,0.9s,baz=57,slow=9.7,SNR=11						
WRA				LR	LR	23 44 21.1	
	comp=Z,112nm,18.6s,baz=134,slow=35						
	2.5nm,0.9s						
ASAR	**Alice Springs**	**25.95**	**227**	P	**P**	**23 35 59.2**	**+0.4**
	0.7nm,0.8s,baz=45,slow=10,SNR=6.9						
	0.7nm,0.8s						
STKA	**Stephens Creek**	**27.78**	**204**	P	**P**	**23 36 16.4**	**+1.3**
	0.5nm,0.3s,baz=0.0,slow=12,SNR=1.9						
STKA				LR	LR	23 46 43.1	
	comp=Z,54nm,18.3s,baz=26,slow=35						
	0.5nm,0.3s						
AFI	**Afiamalu**	**34.00**	**105**	LR	LR	23 49 46.1	
	comp=Z,125nm,18.0s,baz=6.5,slow=34						
KAPI	**Kappang**	**34.52**	**271**	LR	LR	23 54 34.5	
	comp=Z,34nm,18.9s,baz=187,slow=42						
NWAO	**Narrogin (SRO)**	**43.27**	**228**	LR	LR	23 56 16.8	
	comp=Z,83nm,18.7s,slow=36						
PETK	**Petropavlovsk-**	**59.63**	**2**	LR	LR	00 07 14.1	
	comp=Z,25nm,18.7s,baz=181,slow=37						
SONM	**Songino Array**	**68.76**	**327**	P	**P**	**23 41 29.2**	**-0.8**
	0.3nm,0.8s,baz=145,slow=5.8,SNR=2.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**82.79**	**319**	P	**P**	**23 42 50.0**	**0.0**
	0.9nm,0.9s,baz=102,slow=4.3,SNR=8.7						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**83.30**	**22**	LR	LR	00 17 56.1	
	comp=Z,74nm,18.3s,baz=231,slow=34						
YBH	**Yreka Blue Hor**	**89.11**	**48**	LR	LR	00 19 19.3	
	comp=Z,108nm,18.5s,baz=271,slow=33						
NEW	**Newport**	**93.91**	**42**	LR	LR	00 21 50.8	
	comp=Z,90nm,18.3s,baz=252,slow=33						
ELK	**Elko**	**94.57**	**50**	LR	LR	00 25 27.7	
	comp=Z,45nm,18.4s,baz=259,slow=35						
PDAR	**Pinedale Array**	**98.92**	**48**	LR	LR	00 27 26.4	
	comp=Z,37nm,18.4s,baz=246,slow=35						

RSNC 15 23:31:18.1±1.1, 6.80N×73.16W, h143km±9km, ML1.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRRC	**Barranca, Sant**	**0.62**	**299**	*eP*	Pn	23 31 39.1	-0.2
BRRC				*eS*	Sn	23 31 55.7	+0.3
BRRC				*i*		23 31 58.8	
	comp=Z,6.3nm,0.4s						
PAMC	**Pamplona, Colo**	**0.70**	**41**	*eP*	Pn	23 31 40.2	-0.3
PAMC				*eS*	Sn	23 31 56.6	-0.8
RUSC	**La Rusia**	**0.91**	**175**	*eP*	Pn	23 31 42.0	0.0
RUSC				*eS*	Sn	23 31 60.0	-0.1
RUSC				*i*		23 32 01.0	
	comp=Z,6.6nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.31**	**259**	*eP*	Pn	23 31 42.1	-3.0
PTBC	**PUERTO BERRIO,**	**1.31**	**259**	*eP*	Pn	23 31 44.3	-0.9
PTBC				*eS*	Sn	23 32 04.8	-1.0
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*eS*	Sn	23 32 15.4	-0.3
NORC	**Norcasia**	**2.10**	**234**	*eP*	Pn	23 31 54.9	+0.9
CHIC	**Chingaza**	**2.23**	**195**	*eP*	Pn	23 31 56.3	+0.3
ROSC	**El Rosal**	**2.26**	**211**	*eP*	Pn	23 31 56.3	-0.1
ORTC	**Ortega, Tolima**	**3.54**	**216**	*eP*	Pn	23 32 13.3	+1.0
FLOC	**Florencia**	**5.75**	**206**	*eP*	Pn	23 32 41.6	+0.1

*ISK **15** 23:44:06.9, 39.14N×27.89E, h7km, ML2.6/9*
*DDA **15** 23:44:07.4±0.0, 39.14N×27.90E, h7km±2km, ML2.2*

ISC 15 23:44:07.5±1.1, 39.14N±0.03×27.90E±0.03, h10km±9km, n18, σ0s57/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.27**	**194**	P	**Pg**	**23 44 13.1**	**+0.2**
AKHS				S	**Sb**	**23 44 18.2**	**-0.8**
AKHS				*i* AML	AML	23 44 19.0	
	comp=E,329nm,0.6s						
AKS	**Akhisar**	**0.27**	**194**	Pg	**Pg**	**23 44 12.8**	**-0.1**
STEP	**BALIKESIR_Sava**	**0.28**	**330**	P	**Pg**	**23 44 13.0**	**-0.1**
STEP				*i* AML	AML	23 44 17.0	
	comp=E,881nm,0.4s						
STEP				S	**Sg**	**23 44 17.4**	**+0.6**
STEP				*i* AML	AML	23 44 18.0	
	comp=N,1μm,0.8s						
GOMA	**Golmarmara-Man**	**0.43**	**178**	Pg	**Pg**	**23 44 15.8**	**-0.1**
GOMA				Sg	**Sb**	**23 44 22.7**	**-1.0**
BALB	**Balikesir**	**0.50**	**359**	Pg	**Pg**	**23 44 17.3**	**0.0**
BALB				Sg	**Sb**	**23 44 24.7**	**-1.1**
BALY	**Balya**	**0.64**	**341**	P	**Pb**	**23 44 20.2**	**-0.6**
BALY				S	**Sb**	**23 44 29.2**	**-0.6**
BALY				*i* AML	AML	23 44 33.0	
	comp=N,99nm,0.6s						
BALY				*i* AML	AML	23 44 34.0	
	comp=E,93nm,0.4s						
ZEDA	**zmir-Bergama**	**0.66**	**255**	P	**Pb**	**23 44 20.6**	**-0.5**
ZEDA				S	**Sb**	**23 44 30.4**	**0.0**
ZEDA				*i* AML	AML	23 44 31.0	
	comp=N,75nm,0.5s						
ZEDA				*i* AML	AML	23 44 34.0	
	comp=E,70nm,0.8s						
BUHA	**Balikesir, Bur**	**0.73**	**300**	P	**Pb**	**23 44 21.7**	**-0.7**
BUHA				S	**Sb**	**23 44 32.4**	**-0.1**
BUHA				*i* AML	AML	23 44 36.0	
	comp=E,42nm,0.4s						
BUHA				*i* AML	AML	23 44 36.0	
	comp=N,48nm,0.6s						
SIMA	**Simav-Kutahya**	**0.85**	**93**	Pg	**Pg**	**23 44 23.8**	**0.0**
KULA	**Kula-Manisa**	**0.86**	**136**	Pg	**Pg**	**23 44 23.9**	**-0.2**
KULA				Sg	**Sb**	**23 44 36.2**	**-0.1**
GONE	**Gonen-Balikesi**	**0.92**	**350**	Pg	**Pg**	**23 44 24.8**	**-0.4**
AYVA	**Ayvalik**	**0.95**	**281**	P	**Pb**	**23 44 26.1**	**0.0**
AYVA				S	**Sb**	**23 44 39.6**	**+0.9**
AYVA				*i* AML	AML	23 44 41.0	
	comp=N,90nm,0.5s						
AYVA				*i* AML	AML	23 44 42.0	
	comp=E,41nm,0.4s						
GEDZ	**Gediz**	**1.18**	**94**	Pn	**Pn**	**23 44 30.2**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.21**	**300**	P	**Pb**	**23 44 30.3**	**-0.2**
BAYC				S	**Sn**	**23 44 47.4**	**+0.5**
BAYC				*i* AML	AML	23 44 48.0	
	comp=N,78nm,0.3s						
BAYC				*i* AML	AML	23 44 49.0	
	comp=E,34nm,0.2s						
TVSB	**Tavsanli**	**1.25**	**75**	Pn	**Pg**	**23 44 31.5**	**-0.1**
TVSB				Sn	**Sn**	**23 44 49.3**	**+1.1**
URLA	**Izmir**	**1.28**	**233**	Pn	**Pn**	**23 44 31.3**	**-0.2**
BASM	**Basmaki-Afyon**	**2.08**	**125**	Pn	**Pn**	**23 44 42.7**	**+0.1**
SHUT	**Suhut-Afyon**	**2.15**	**105**	Pn	**Pn**	**23 44 44.5**	**+0.9**

NNC 16 00:03:34.5±4.6, 36.83N×70.11E, h0km, mb3.6, mpv3.5, 2C-1D, Error ellipse: s-maj=64.5km s-min=29.9km az=116.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.28**	**3**	P	Pn	00 05 08.5	+0.2
	1.2nm,0.3s,baz=176,slow=12,SNR=18						
KK31				⇑S	Sn	00 06 21.9	+1.2
	1.7nm,0.4s,baz=183,slow=23,SNR=9.3						
AB31	**Akbulak array**	**14.46**	**332**	⇑P	Pn	00 06 59.8	-0.5
	0.3nm,0.3s,baz=162,slow=11,SNR=22						
AKTO	**Aktyubinsk**	**16.14**	**331**	⇓P	Pn	00 07 22.8	+0.2
	0.5nm,0.5s						

*NEIC **16** 00:11:01.6±1.3, 6.70S±0.1×148.70E±0.1, h35km±2km, mb4.1/15, Error ellipse: s-maj=24.8km s-min=18.8km az=92.0*
*IDC **16** 00:11:07.1±7.3, 6.43S×147.96E, h71km±51km, mb3.9/2, mbtmp4.1/4, ML4.2/1, MS2.4/2, Error ellipse: s-maj=69.4km s-min=59.9km az=87.0*

ISC 16 00:11:02.3±1.7, 6.31S±0.1×147.9E±0.2, h35km, n24, σ0s79/25, mb4.1/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.34**	**193**	P	**Pn**	**00 11 53.3**	**+1.2**
	24nm,0.3s,baz=58,slow=6.4,SNR=12						
PMG				S	**Sn**	**00 12 30.0**	**-0.6**
	18nm,0.3s,baz=15,slow=19,SNR=6.7						
PMG				LR	LR	00 12 40.9	
	comp=Z,30nm,21.6s,baz=40,slow=31						
PMG	**Port Moresby**	**3.34**	**193**		**Pn**	**00 11 53.1**	**+1.0**
KRVT	**Keravat (AS076**	**4.46**	**66**	LR	LR	00 14 02.7	
	comp=Z,88nm,22.0s,baz=288,slow=38						
COEN	**Coen**	**9.08**	**211**	Pn	**Pn**	**00 13 11.8**	**+0.8**
MTN	**Manton Dam**	**17.86**	**247**		**Pn**	**00 15 08.8**	**+0.6**
MTN				IAmb	IAmb	00 15 50.3	
	comp=Z,17nm,1.2s						
WB0	**Warramunga Arr**	**18.90**	**223**	P	**P**	**00 15 19.9**	**-0.1**
WB0				IAmb	IAmb	00 15 22.0	
	comp=Z,3.8nm,0.8s						
WR0	**Warramunga Arr**	**18.93**	**222**	P	**P**	**00 15 20.3**	**-0.1**
WR0				IAmb	IAmb	00 15 23.0	
	comp=Z,8.9nm,1.2s						
WRAB	**Tennant Creek**	**19.04**	**223**	P	**P**	**00 15 20.2**	**-1.3**
WRAB				IAmb	IAmb	00 15 20.8	
	comp=Z,11nm,1.0s						
WB2	**Warramunga Arr**	**19.05**	**223**	P	**P**	**00 15 21.2**	**-0.4**
WB2				IAmb	IAmb	00 15 23.5	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**19.06**	**223**	P	**P**	**00 15 21.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=50,slow=10,SNR=26						
WRA				PcP	**PcP**	**00 19 46.3**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=44,slow=2.0,SNR=2.1						
	comp=Z,1.4nm,0.3s						
WRA	**Warramunga Arr**	**19.06**	**223**	P	**P**	**00 15 20.8**	**-1.0**
EIDS	**Eidsvold**	**19.36**	**171**	P	**P**	**00 15 25.4**	**+0.4**
EIDS				IAmb	IAmb	00 15 30.1	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**21.07**	**242**	P	**P**	**00 15 43.9**	**+0.3**
KNRA				IAmb	IAmb	00 16 27.2	
	comp=Z,27nm,1.4s						
AS31	**Alice Springs**	**22.05**	**216**	P	**P**	**00 15 54.1**	**-0.1**
AS31				IAmb	IAmb	00 15 54.6	
	comp=Z,2.9nm,0.5s						
ASAR	**Alice Springs**	**22.05**	**216**	P	**P**	**00 15 54.0**	**-0.1**
	comp=Z,3.3nm,0.4s,baz=49,slow=9.4,SNR=116						
	comp=Z,3.3nm,0.4s						
ASAR	**Alice Springs**	**22.05**	**216**	P	**P**	**00 15 53.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**24.80**	**239**	P	**P**	**00 16 21.8**	**+0.6**
STKA	**Stephens Creek**	**26.29**	**192**	P	**P**	**00 16 33.6**	**-1.0**
	comp=Z,3.1nm,0.7s,baz=6.8,slow=11,SNR=8.2						
	comp=Z,3.1nm,0.7s						
STKA	**Stephens Creek**	**26.29**	**192**	P	**P**	**00 16 34.8**	**+0.1**
BBOO	**Buckleboo**	**28.76**	**201**	P	**P**	**00 16 54.8**	**-1.9**
BBOO				IAmb	IAmb	00 17 06.8	
	comp=Z,11nm,1.2s						
MBWA	**Marble Bar**	**31.13**	**239**	P	**P**	**00 17 17.2**	**-0.6**
PSA00	**Pilbara Seismi**	**31.21**	**238**	P	**P**	**00 17 18.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**39.06**	**223**	P	**P**	**00 18 26.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**146.03**	**284**	PKPbc	**PKPdf**	**00 30 38.6**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=72,slow=2.4,SNR=1.6						

*DJA **16** 00:17:51.8±1.0, 1.3S×10.0E±*, h24km±8km, M3.6/12, MLv3.6/12*
*IDC **16** 00:17:53.5±5.6, 1.08S×99.94E, h67km±40km, mb3.5/7, mbtmp3.7/9, ML3.9/2, MS3.0/2, Error ellipse: s-maj=113.1km s-min=17.0km az=55.0*

ISC 16 00:17:52.4±0.8, 1.12S±0.05×99.79E±0.05, h57km, n22, σ0s91/21, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.70**	**73**	P	**Pn**	**00 18 06.7**	**+0.1**
PDSI				S	**Sn**	**00 18 16.6**	**-0.3**
PPSI	**Pulau Pagai**	**1.65**	**172**	P	**Pn**	**00 18 18.9**	**-0.2**
PPSI				S	**Sn**	**00 18 39.8**	**+0.6**
SDSI	**Sungai Dareh**	**1.65**	**84**	P	**Pn**	**00 18 20.0**	**+0.9**
PBSI	**Pulau Batu**	**1.84**	**305**	P	**Pn**	**00 18 22.6**	**+0.9**
PBSI				S	**Sn**	**00 18 45.0**	**+1.1**
BKNI	**Bangkinang**	**1.90**	**41**	P	**Pn**	**00 18 24.2**	**+1.7**
MNSI	**Mandailing Nat**	**1.91**	**354**	P	**Pn**	**00 18 22.6**	**0.0**
MASI	**Maura Aman, Be**	**3.17**	**129**	P	**Pn**	**00 18 40.1**	**+0.2**
GSI	**Gunungsitoli**	**3.27**	**317**	P	**Pn**	**00 18 41.8**	**+0.6**
PSI	**Prapat**	**3.99**	**347**	P	**Pn**	**00 18 50.6**	**-0.6**
	2.0nm,0.3s,baz=156,slow=1.2,SNR=6.4						
PSI				S	Sn	00 19 17.9	-19
	7.8nm,0.6s,baz=188,slow=14,SNR=4.4						
PSI				LR	LR	00 20 32.7	
	comp=Z,73nm,18.2s,baz=185,slow=41						
	4.6nm,0.3s						
MNAI	**Manna**	**4.52**	**136**	P	**Pn**	**00 19 00.2**	**+1.9**
CMAR	**Chiang Mai Arr**	**19.47**	**358**	P	**P**	**00 22 15.6**	**+0.9**
	0.4nm,0.3s,baz=176,slow=13,SNR=1.7						
	0.7nm,0.3s						
H08S2	**Diego Garcia H**	**27.96**	**256**	T	T	00 51 50.9	
	baz=77,slow=75,SNR=6.4						
H08S3	**Diego Garcia H**	**27.97**	**256**	T	T	00 51 41.5	
	baz=77,slow=75,SNR=9.0						
H08S1	**Diego Carcia H**	**27.98**	**256**	T	T	00 51 43.0	
	baz=77,slow=75,SNR=6.2						
WRA	**Warramunga Arr**	**38.62**	**121**	P	**P**	**00 25 09.3**	**-1.2**
	0.5nm,0.5s,baz=302,slow=9.1,SNR=9.4						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**39.94**	**127**	P	**P**	**00 25 21.0**	**-0.5**
	0.4nm,0.5s,baz=299,slow=7.3,SNR=5.9						
	0.4nm,0.5s						
SONM	**Songino Array**	**49.09**	**6**	P	**P**	**00 26 33.1**	**-1.1**
	0.6nm,0.7s,baz=190,slow=9.4,SNR=4.7						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**50.13**	**344**	P	**P**	**00 26 42.4**	**+0.5**
	0.5nm,0.3s,baz=155,slow=8.7,SNR=25						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**54.65**	**344**	P	**P**	**00 27 15.3**	**0.0**
	0.2nm,0.3s,baz=151,slow=5.6,SNR=1.8						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**56.27**	**349**	P	**P**	**00 27 27.1**	**+0.2**
	1.8nm,0.5s,baz=171,slow=5.4,SNR=15						
	1.8nm,0.5s						
BVAR	**Borovoye Array**	**59.29**	**340**	P	**P**	**00 27 47.6**	**-0.5**
	0.5nm,0.6s,baz=140,slow=7.7,SNR=4.4						
	0.5nm,0.6s						
KIRV	**Kirov**	**71.49**	**335**	LR	LR	01 07 31.8	
	comp=Z,19nm,18.8s,baz=4.9,slow=42						

IDC 16 00:20:29.6±447.0, 0.94N×148.76E, h0km, Error ellipse: s-maj=219.7km s-min=30.7km az=148.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**15.61**	**295**	I	I	01 52 30.0	
	baz=117,slow=307,SNR=1.4						
I07AU	**WARRAMUNGA IN**	**85.11**	**214**	I	I	02 58 00.0	
	baz=35,slow=316,SNR=1.0						

*NEIC **16** 00:30:46.5±1.9, 17.5S±0.2×179.6W±0.1, h597km±13km, mb4.2/18, Error ellipse: s-maj=26.0km s-min=16.7km az=146.0*
*IDC **16** 00:30:46.6±41.0, 17.16S×179.82W, h582km±142km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=857.7km s-min=120.4km az=79.0*

ISC 16 00:30:46.0±0.7, 17.4S±0.2×179.6W±0.1, h600km, n26, σ1s21/25, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.24**	**260**	P	**P**	**00 31 59.9**	**-1.6**
	13nm,0.6s,baz=111,sl

BOZC	**Bozcaada**	**0.32**	**349**	P	**Pg**	**00 32 12.8**	**0.0**		
BOZC				*i* AML	AML	00 32 17.0			
	comp=E,162nm,0.4s								
BOZC				*i* AML	AML	00 32 17.0			
	comp=N,141nm,0.4s								
BOZC				S	**Sg**	**00 32 17.4**	**+0.4**		
EZN	**Ezine**	**0.33**	**27**	Pg	**Pg**	**00 32 12.9**	**-0.1**		
EZN				Sg	**Sg**	**00 32 17.9**	**+0.4**		
SIGR	**SIGRI**	**0.38**	**214**	Pg	**Pg**	**00 32 14.0**	**+0.2**		
SIGR				Sg	**Sg**	**00 32 19.8**	**+0.9**		
BAYC	**CANAKKALE_Bayr**	**0.39**	**56**	P	**Pg**	**00 32 13.8**	**-0.1**		
BAYC				*i* AML	AML	00 32 19.0			
	comp=N,128nm,0.4s								
BAYC				*i* AML	AML	00 32 19.0			
	comp=E,115nm,0.2s								
BAYC				S	**Sg**	**00 32 19.2**	**+0.1**		
AYVA	**Ayvalik**	**0.48**	**117**	P	**Pg**	**00 32 16.1**	**+0.4**		
AYVA				S	**Sb**	**00 32 23.2**	**-0.8**		
AYVA				*i* AML	AML	00 32 29.0			
	comp=E,31nm,0.1s								
AYVA				*i* AML	AML	00 32 29.0			
	comp=N,78nm,0.3s								
ECEA	**Canakkale, Ece**	**0.52**	**4**	P	**Pg**	**00 32 16.5**	**+0.1**		
ECEA				S	**Sg**	**00 32 23.8**	**+0.5**		
ECEA				*i* AML	AML	00 32 24.0			
	comp=N,107nm,0.3s								
ECEA				*i* AML	AML	00 32 24.0			
	comp=E,98nm,0.4s								
GOKA	**anakkale-Gk**	**0.69**	**346**	P	**Pg**	**00 32 18.9**	**-0.7**		
GOKA				S	**Sg**	**00 32 28.9**	**+0.4**		
GOKA				*i* AML	AML	00 32 29.0			
	comp=N,84nm,0.6s								
GADA	**Gvkgeada**	**0.69**	**345**	Pg	**Pg**	**00 32 19.2**	**-0.4**		
BUHA	**Balikesir, Bur**	**0.73**	**92**	P	**Pb**	**00 32 20.7**	**-0.4**		
BUHA				S	**Sb**	**00 32 30.9**	**-0.2**		
BUHA				*i* AML	AML	00 32 31.0			
	comp=N,23nm,0.3s								
BUHA				*i* AML	AML	00 32 31.0			
	comp=E,29nm,0.2s								
GELI	**Tayfur-Gelibol**	**0.91**	**17**	Pg	**Pg**	**00 32 23.6**	**-0.2**		
GELI				Sg	**Sb**	**00 32 36.6**	**+0.3**		
ZEDA	**zmir-Bergama**	**0.92**	**127**	P	**Pn**	**00 32 25.2**	**-0.1**		
ZEDA				S	**Sn**	**00 32 38.2**	**-0.4**		
ZEDA				*i* AML	AML	00 32 39.0			
	comp=E,15nm,0.3s								
ZEDA				*i* AML	AML	00 32 39.0			
	comp=N,16nm,0.3s								
LPK	**Lapseki**	**0.97**	**30**	Pg	**Pg**	**00 32 24.8**	**-0.2**		
LPK				Sg	**Sb**	**00 32 38.6**	**+0.5**		
BALY	**Balya**	**1.17**	**79**	P	**Pg**	**00 32 29.2**	**+0.5**		
BALY				*i* AML	AML	00 32 44.0			
	comp=N,28nm,0.4s								
BALY				S	**Sn**	**00 32 44.3**	**-0.4**		
BALY				*i* AML	AML	00 32 47.0			
	comp=E,22nm,0.2s								
ERIK	**Erikli-Kesan**	**1.18**	**14**	Pn	**Pb**	**00 32 28.6**	**-0.1**		
ENEZ	**Enez**	**1.21**	**1**	Pn	**Pn**	**00 32 29.1**	**-0.1**		
URLA	**Izmir**	**1.22**	**163**	Pn	**Pn**	**00 32 29.1**	**-0.3**		
KRBG	**Karabiga-Canak**	**1.25**	**46**	Pn	**Pb**	**00 32 29.7**	**-0.2**		
GONE	**Gonen-Balikesi**	**1.31**	**66**	Pn	**Pb**	**00 32 30.9**	**0.0**		
BALB	**Balikesir**	**1.36**	**85**	Pn	**Pb**	**00 32 31.7**	**0.0**		
ALN	**Alexandroupoli**	**1.37**	**357**	Pn	**Pn**	**00 32 31.5**	**+0.1**		
RKY	**Sarkoy-Tekirda**	**1.41**	**34**	Pn	**Pb**	**00 32 32.4**	**-0.3**		
EDC	**Edincik**	**1.56**	**58**	Pn	**Pb**	**00 32 34.8**	**-0.5**		
UKOP	**Uzunkopru-Edir**	**1.65**	**13**	Pn	**Pn**	**00 32 35.5**	**+0.3**		
RDO	**Rodhopi**	**1.68**	**345**	Pn	**Pn**	**00 32 35.9**	**+0.2**		
KCTX	**Karacabey (Bur**	**1.86**	**66**	Pn	**Pn**	**00 32 38.7**	**+0.5**		
KDZ	**Kurdzhali**	**2.19**	**346**	Pn	**Pn**	**00 32 43.2**	**+0.5**		
EDRB	**Edirne**	**2.36**	**11**	Pn	**Pn**	**00 32 45.9**	**+0.8**		

DDA ***16*** *00:33:16.9±0.0,39.°55N×26.°14E,h7km±1km,ML1.3*
ISK ***16*** *00:33:16.5,39.°54N×26.°11E,h6km,ML2.1/9*

ISC 16 00:33:17.0±0.9,39.°55N±0.°03×26.°12E±0.°05,h8km±7km, n13,σ0°34/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**166**	P	**Pg**	**00 33 18.7**	**0.0**
KOCA				S	**Sg**	**00 33 19.9**	**+0.1**
KOCA				*i* AML	AML	00 33 20.0	
	comp=N,270nm,0.1s						
KOCA				*i* AML	AML	00 33 20.0	
	comp=E,179nm,0.2s						
GPNR	**Gulpinar-Canak**	**0.09**	**176**	Pg	**Pg**	**00 33 18.9**	**-0.3**
GPNR				Sg	**Sg**	**00 33 20.9**	**+0.1**
BOZC	**Bozcaada**	**0.30**	**349**	P	**Pg**	**00 33 23.1**	**+0.1**
BOZC				*i* AML	AML	00 33 27.0	
	comp=N,55nm,0.3s						
BOZC				*i* AML	AML	00 33 27.0	
	comp=E,54nm,0.4s						
BOZC				S	**Sg**	**00 33 27.6**	**+0.6**
EZN	**Ezine**	**0.32**	**29**	Pg	**Pg**	**00 33 23.3**	**0.0**
EZN				Sg	**Sg**	**00 33 28.1**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.38**	**59**	P	**Pg**	**00 33 24.2**	**-0.3**
BAYC				*i* AML	AML	00 33 29.0	
	comp=N,52nm,0.1s						
BAYC				S	**Sg**	**00 33 29.5**	**0.0**
BAYC				*i* AML	AML	00 33 30.0	
	comp=E,30nm,0.1s						
SIGR	**SIGRI**	**0.39**	**212**	Pg	**Pg**	**00 33 24.6**	**-0.1**
SIGR				Sg	**Sg**	**00 33 30.2**	**+0.3**
AYVA	**Ayvalik**	**0.50**	**118**	P	**Pb**	**00 33 28.4**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.89**	**17**	Pg	**Pb**	**00 33 34.7**	**-0.1**
GELI				Sg	**Sb**	**00 33 46.9**	**+0.1**
ERIK	**Erikli-Kesan**	**1.16**	**15**	Pn	**Pg**	**00 33 39.3**	**-0.1**
ENEZ	**Enez**	**1.19**	**1**	Pn	**Pn**	**00 33 40.4**	**+0.4**
ALN	**Alexandroupoli**	**1.35**	**357**	Pn	**Pn**	**00 33 41.6**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.40**	**35**	Pn	**Pb**	**00 33 43.3**	**-0.1**
UKOP	**Uzunkopru-Edir**	**1.63**	**14**	Pn	**Pb**	**00 33 46.8**	**-0.5**

BUC 16 00:34:25.2±0.2,44.°61N×26.°67E,h14km±1km,ml1.6/13, 66C-18D,Error ellipse: s-maj=1.6km s-min=1.3km az=34.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEHL	**Lehliu**	**0.17**	**142**	⇓P	Pg	00 34 29.5	+0.3
LEHL				⇑S	Sb	00 34 33.1	-0.2
LEHL	**Lehliu**	**0.17**	**142**	⇓P	Pg	00 34 29.5	+0.3
LEHL				⇓S	Sb	00 34 33.1	-0.2
AMRR	**Amara**	**0.47**	**89**	⇓S	Sb	00 34 42.0	0.0
AMRR	**Amara**	**0.47**	**89**	⇓S	Sb	00 34 42.0	0.0
ISR	**Istrita**	**0.52**	**350**	⇓P	Pg	00 34 34.8	-0.7
ISR				⇑S	Sg	00 34 42.8	+0.4
ISR	**Istrita**	**0.52**	**350**	⇓P	Pg	00 34 34.8	-0.7
ISR				⇑S	Sg	00 34 42.8	+0.4
NEHR	**Nehoiu**	**0.86**	**342**	⇑S	Sn	00 34 55.1	-0.2
NEHR	**Nehoiu**	**0.86**	**342**	⇑S	Sn	00 34 55.1	-0.2
HARR	**Harsova**	**0.90**	**84**	⇑P	Pb	00 34 42.2	-0.3
HARR	**Harsova**	**0.90**	**84**	⇑P	Pb	00 34 42.2	-0.3
BISRR	**Bisoca**	**0.94**	**2**	⇑P	Pn	00 34 43.9	-0.1
BISRR				⇑S	Sn	00 34 56.7	-0.6
BISRR	**Bisoca**	**0.94**	**2**	⇑P	Pn	00 34 43.9	-0.1
BISRR				⇑S	Sn	00 34 56.7	-0.6
ICOR	**Ion Corvin**	**0.95**	**121**	⇑P	Pb	00 34 43.2	-0.1
ICOR				⇑S	Sg	00 34 56.2	+0.4
ICOR	**Ion Corvin**	**0.95**	**121**	⇑P	Pb	00 34 43.2	-0.1
ICOR				⇑S	Sg	00 34 56.2	+0.4
TLBR	**Topalu**	**0.98**	**93**	⇑P	Pb	00 34 43.3	-0.6
TLBR				⇑S	Sn	00 34 58.0	-0.1
TLBR	**Topalu**	**0.98**	**93**	⇑P	Pb	00 34 43.3	-0.6
TLBR				⇑S	Sn	00 34 58.0	-0.1
MLR	**Muntele Rosu**	**1.02**	**330**	⇑P	Pb	00 34 44.3	-0.4
MLR				⇑S	Sg	00 34 58.6	+0.2
MLR	**Muntele Rosu**	**1.02**	**330**	⇑P	Pb	00 34 44.3	-0.4
MLR				⇑S	Sg	00 34 58.6	+0.2
RAZG	**Razgrad**	**1.05**	**187**	⇓S	Sn	00 35 00.5	+0.7
RAZG	**Razgrad**	**1.05**	**187**	⇓S	Sn	00 35 00.5	+0.7
COPA	**Copaceanca**	**1.15**	**246**	⇑S	Sg	00 35 02.3	+0.1
COPA	**Copaceanca**	**1.15**	**246**	⇑S	Sg	00 35 02.3	+0.1
CFR	**Carcaliu**	**1.19**	**61**	⇑P	Pn	00 34 46.9	-0.4
CFR	**Carcaliu**	**1.19**	**61**	⇑P	Pn	00 34 46.9	-0.4
HUMR	**Humele**	**1.21**	**267**	⇑P	Pn	00 34 47.0	-0.6
HUMR				⇑S	Sn	00 35 03.6	-0.2
HUMR	**Humele**	**1.21**	**267**	⇑P	Pn	00 34 47.0	-0.6
HUMR				⇑S	Sn	00 35 03.6	-0.2
TUDR		**1.21**	**35**	⇑P	Pn	00 34 47.1	-0.5
TUDR				⇑S	Sg	00 35 04.3	0.0
TUDR		**1.21**	**35**	⇑P	Pn	00 34 47.1	-0.5
TUDR				⇑S	Sg	00 35 04.3	0.0
IZVR	**Izvoarele**	**1.22**	**39**	⇑P	Pn	00 34 46.6	-1.0
IZVR				⇑S	Sg	00 35 04.2	-0.2
IZVR	**Izvoarele**	**1.22**	**39**	⇑S	Sg	00 35 04.2	-0.2
IZVR	**Izvoarele**	**1.22**	**39**	⇑P	Pn	00 34 46.6	-1.0
PLOR	**Plostina**	**1.24**	**359**	⇑P	Pn	00 34 47.3	-0.8
PLOR	**Plostina**	**1.24**	**359**	⇑P	Pn	00 34 47.3	-0.8
SLCR	**Slobozia Conac**	**1.25**	**38**	⇑S	Sg	00 35 05.5	-0.1
SLCR	**Slobozia Conac**	**1.25**	**38**	⇑S	Sg	00 35 05.5	-0.1
TIRR	**Tirgusor**	**1.25**	**96**	⇓P	Pn	00 34 47.9	-0.3
TIRR				⇓S	Sb	00 35 04.6	+0.1
TIRR	**Tirgusor**	**1.25**	**96**	⇓S	Sb	00 35 04.6	+0.1
TIRR	**Tirgusor**	**1.25**	**96**	⇓P	Pn	00 34 47.9	-0.3
VRI	**Vrincioaia**	**1.26**	**2**	⇑P	Pn	00 34 48.3	0.0
VRI				⇑S	Sg	00 35 06.8	+1.0
VRI	**Vrincioaia**	**1.26**	**2**	⇑P	Pn	00 34 48.3	0.0
VRI				⇓S	Sg	00 35 06.8	+1.0
TPGR	**Topolog**	**1.27**	**78**	⇑P	Pn	00 34 48.5	+0.1
TPGR				⇑S	Sg	00 35 06.1	0.0
TPGR	**Topolog**	**1.27**	**78**	⇑P	Pn	00 34 48.5	+0.1
TPGR				⇑S	Sg	00 35 06.1	0.0
COVR	**Voineasa-Covas**	**1.28**	**345**	⇑S	Sg	00 35 07.3	+0.7
COVR	**Voineasa-Covas**	**1.28**	**345**	⇑S	Sg	00 35 07.3	+0.7
MFTR	**Murfatlar**	**1.33**	**108**	⇑S	Sg	00 35 08.4	+0.5
MFTR	**Murfatlar**	**1.33**	**108**	⇑S	Sg	00 35 08.4	+0.5
SCTR	**Scanteiesti**	**1.42**	**41**	⇑P	Pn	00 34 50.2	-0.3
SCTR				⇑S	Sb	00 35 09.7	+0.4
SCTR	**Scanteiesti**	**1.42**	**41**	⇑P	Pn	00 34 50.2	-0.3
SCTR				⇑S	Sb	00 35 09.7	+0.4
VLDR	**Vladesti**	**1.59**	**38**	⇑P	Pn	00 34 52.4	-0.4
VLDR				⇑S	Sb	00 35 13.6	-0.5
VLDR	**Vladesti**	**1.59**	**38**	⇑S	Sb	00 35 13.6	-0.5
VLDR	**Vladesti**	**1.59**	**38**	⇑P	Pn	00 34 52.4	-0.4
TLCR		**1.63**	**68**	⇑S	Sb	00 35 15.4	+0.1
TLCR		**1.63**	**68**	⇑S	Sb	00 35 15.4	+0.1
ARR	**Arges**	**1.63**	**298**	⇑S	Sb	00 35 16.0	+0.4
ARR	**Arges**	**1.63**	**298**	⇑S	Sb	00 35 16.0	+0.4
DOPR	**Dopca**	**1.63**	**327**	⇓P	Pn	00 34 53.3	-0.1
DOPR				⇓S	Sb	00 35 16.2	+0.7
DOPR	**Dopca**	**1.63**	**327**	⇓P	Pn	00 34 53.3	-0.1
DOPR				⇓S	Sb	00 35 16.2	+0.7

IDC ***16*** *00:41:45.8±0.5,29.°65S×177.°92W,h0km,mb4.6/12, mbtmp4.6/15,ML5.3/3,MS3.7/8,Error ellipse: s-maj=20.5km s-min=16.0km az=100.0*
NEIC ***16*** *00:41:50.7±2.8,30.°17S±0.°05×177.°8W±0.°1,h24km±5km, mb4.8/91,Error ellipse: s-maj=15.7km s-min=7.0km az=96.0*
GCMT ***16*** *00:41:57.7±0.3,29.°81S±0.°03×177.°86W±0.°02,h53km±3km, MW5.0/75,Moment Tensor Solution. s24,c26; s75,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.87±.21; Mθθ-3.11±.18; Mϕϕ2.24±.17; Mrθ1.05±.13; Mθϕ-0.42±.15; Mϕr-1.98±.12; Best double couple: Mo3.57700×10^16 NP1:ϕs126.00000°,δ76.00000°,λ142.00000°. NP2: ϕs227.00000°,δ54.00000°,λ18.00000°. Principal axes: T 3.7830, Plg36.0000°, Azm80.0000°; N -0.4110, Plg50.0000°, Azm289.0000°; P -3.3710, Plg14.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 00:41:53.8±0.3,30.°06S±0.°04×178.°01W±0.°07,h50km, n275,σ1°92/259,mb4.8/60,MS3.9/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.80**	**5**	P	**Pn**	**00 42 09.6**	**+0.8**
GLKZ				S	**Sn**	**00 42 19.8**	**+0.1**
RAO	**Raoul Island**	**0.81**	**5**	Pn	**Pn**	**00 42 09.7**	**+0.8**
RAO				Sn	**Sn**	**00 42 22.0**	**+2.0**
RIZ	**Raoul Island**	**0.81**	**5**	P	**Pn**	**00 42 10.2**	**+1.2**
RIZ				S	**Sn**	**00 42 22.1**	**+2.0**
MXZ	**Matakaoa Point**	**8.09**	**201**	Pn	**Pn**	**00 43 47.6**	**-1.0**
MXZ	**Matakaoa Point**	**8.09**	**201**	P	**Pn**	**00 43 48.7**	**+0.1**
MXZ				S	**Sn**	**00 45 24.0**	**+5.4**
WMGZ	**Waiomatatini S**	**8.29**	**200**	P	**Pn**	**00 43 51.5**	**+0.2**
HAZ	**Te Kaha**	**8.44**	**203**	P	**Pn**	**00 43 54.3**	**+0.9**
HAZ				S	**Sn**	**00 45 34.2**	**+7.0**
PKGZ	**Pakihiroa**	**8.46**	**202**	P	**Pn**	**00 43 53.2**	**-0.5**
PKGZ				S	**Sn**	**00 45 32.0**	**+4.2**
PUZ	**Puketiti**	**8.57**	**200**	P	**Pn**	**00 43 54.5**	**-0.8**
PUZ				S	**Sn**	**00 45 33.6**	**+3.0**
RUGZ	**Raukumara Rang**	**8.66**	**203**	P	**Pn**	**00 43 56.3**	**-0.3**
RUGZ				S	**Sn**	**00 45 36.4**	**+3.6**
TWGZ	**Tauwhareparae**	**8.75**	**201**	P	**Pn**	**00 43 57.3**	**-0.4**
TWGZ				S	**Sn**	**00 45 39.9**	**+4.8**
WHRZ	**Whale Island**	**8.82**	**207**	P	**Pn**	**00 44 01.1**	**+2.4**
CNGZ	**Carnagh Statio**	**8.97**	**199**	P	**Pn**	**00 44 00.2**	**-0.5**
OPRZ	**Ohinepanea**	**8.98**	**209**	P	**Pn**	**00 44 02.7**	**+1.8**
TKGZ	**Te Karaka**	**9.04**	**201**	P	**Pn**	**00 44 00.3**	**-1.2**
TKGZ				S	**Sn**	**00 45 45.7**	**+3.8**
MWZ	**Matawai**	**9.04**	**203**	P	**Pn**	**00 44 00.3**	**-1.4**
MWZ				S	**Sn**	**00 45 45.5**	**+3.4**
MARZ	**Manawahe**	**9.05**	**208**	P	**Pn**	**00 44 04.0**	**+2.1**
URZ	**Urewera**	**9.12**	**205**	Pn	**Pn**	**00 44 02.3**	**-0.4**
	9.6nm,0.3s,baz=353,slow=4.6,SNR=111						
URZ				Sn	**Sn**	**00 45 47.0**	**+3.0**
	20nm,0.3s,baz=36,slow=19,SNR=7.9 24nm,0.2s						
URZ	**Urewera**	**9.12**	**205**	P	**Pn**	**00 44 01.8**	**-1.0**
URZ				S	**Sn**	**00 45 47.1**	**+3.1**
RAGZ	**Rawiri**	**9.23**	**203**	P	**Pn**	**00 44 03.0**	**-1.3**
RAGZ				S	**Sn**	**00 45 49.9**	**+3.2**
RIGZ	**Rimuhau**	**9.31**	**201**	P	**Pn**	**00 44 04.3**	**-1.0**
RIGZ				S	**Sn**	**00 45 49.9**	**+1.3**
TARZ	**Mount Tarawera**	**9.34**	**208**	P	**Pn**	**00 44 08.3**	**+2.5**
TOZ	**Tahuroa Road**	**9.36**	**213**	P	Pn	00 44 11.9	+5.9
MUGZ	**Murupara**	**9.44**	**206**	P	**Pn**	**00 44 06.1**	**-1.0**
RTZ	**Ruatahuna**	**9.49**	**205**	Pn	**Pn**	**00 44 07.0**	**-0.9**
RTZ	**Ruatahuna**	**9.49**	**205**	P	**Pn**	**00 44 06.3**	**-1.5**
SNGZ	**Shannon Statio**	**9.51**	**203**	P	**Pn**	**00 44 07.0**	**-1.1**
SNGZ				S	**Sn**	**00 45 55.2**	**+1.6**
KNZ	**Kokohu**	**9.62**	**201**	P	**Pn**	**00 44 07.4**	**-2.2**
KNZ				S	**Sn**	**00 45 55.2**	**-1.0**
MHGZ	**Mahia Peninsul**	**9.68**	**199**	P	**Pn**	**00 44 08.3**	**-2.0**
MHGZ				S	**Sn**	**00 45 56.4**	**-1.2**
RAHZ	**Arahi**	**9.72**	**203**	P	**Pn**	**00 44 09.6**	**-1.4**
MTHZ	**Maungataniwha**	**9.75**	**204**	P	**Pn**	**00 44 10.1**	**-1.2**
WHHZ	**Waihua**	**9.81**	**202**	P	**Pn**	**00 44 10.4**	**-1.8**
MRHZ	**Matea Rd**	**9.89**	**206**	P	**Pn**	**00 44 12.9**	**-0.3**
NMHZ	**Naumai**	**9.98**	**204**	P	**Pn**	**00 44 13.2**	**-1.3**
ARHZ	**Aropaoanui**	**10.06**	**203**	P	**Pn**	**00 44 14.4**	**-2.2**
BKZ	**Black Stump Fm**	**10.15**	**205**	Pn	**Pn**	**00 44 15.0**	**-1.9**
BKZ	**Black Stump Fm**	**10.15**	**205**	P	**Pn**	**00 44 14.8**	**-2.0**
HIZ	**Hauiti**	**10.29**	**213**	Pn	**Pn**	**00 44 18.9**	**+0.1**
MCHZ	**McNeill Hill**	**10.32**	**204**	P	**Pn**	**00 44 17.4**	**-1.8**
CKHZ	**Cape Kidnapper**	**10.39**	**202**	P	**Pn**	**00 44 17.4**	**-2.7**
KWHZ	**Kaweka Forest**	**10.40**	**205**	P	**Pn**	**00 44 18.5**	**-1.8**
NTVZ	**North Tongarir**	**10.41**	**208**	P	**Pn**	**00 44 20.9**	**+0.4**
TMVZ	**Te Maari**	**10.41**	**208**	P	**Pn**	**00 44 20.4**	**-0.1**
KRVZ	**Karewarewa**	**10.42**	**208**	P	Pn	00 44 25.5	+4.9
ETVZ	**East Tongariro**	**10.43**	**208**	P	**Pn**	**00 44 21.4**	**+0.6**
WTVZ	**West Tongariro**	**10.46**	**209**	P	**Pn**	**00 44 21.2**	**0.0**
NNVZ	**North Ngauruho**	**10.46**	**208**	P	**Pn**	**00 44 21.4**	**+0.1**
OTVZ	**Oturere**	**10.47**	**208**	P	**Pn**	**00 44 23.2**	**+1.9**
TWVZ	**Taurewa**	**10.49**	**209**	P	**Pn**	**00 44 22.4**	**+0.8**
SNVZ	**South Ngauruho**	**10.50**	**208**	P	**Pn**	**00 44 21.3**	**-0.5**
NGZ	**Ngauruhoe**	**10.51**	**208**	P	**Pn**	**00 44 21.8**	**0.0**
TUVZ	**Tukino**	**10.56**	**208**	P	**Pn**	**00 44 22.1**	**-0.5**
KAHZ	**Kahuranaki**	**10.58**	**202**	P	**Pn**	**00 44 19.6**	**-3.1**
BHHZ	**Black Hill Sta**	**10.59**	**206**	P	**Pn**	**00 44 20.7**	**-2.3**
KRHZ	**Kereru**	**10.62**	**204**	P	**Pn**	**00 44 20.3**	**-3.0**
WNVZ	**Wahianoa**	**10.64**	**208**	P	**Pn**	**00 44 23.4**	**-0.2**
MOVZ	**Moawhango**	**10.64**	**207**	P	**Pn**	**00 44 22.3**	**-1.3**
PKVZ	**Pokaka**	**10.71**	**209**	P	**Pn**	**00 44 24.9**	**+0.4**
PXZ	**Pawanui**	**10.80**	**202**	P	**Pn**	**00 44 22.9**	**-2.7**
PNHZ	**Pukenui**	**10.92**	**204**	P	**Pn**	**00 44 23.8**	**-3.5**
WPHZ	**Waipukurau**	**10.97**	**203**	P	**Pn**	**00 44 26.2**	**-1.8**
PRHZ	**Porangahau**	**11.09**	**202**	P	**Pn**	**00 44 25.4**	**-4.2**
TSZ	**Takapari Road**	**11.13**	**205**	P	**Pn**	**00 44 27.8**	**-2.4**
POWZ	**Post Office Ro**	**11.49**	**205**	P	**Pn**	**00 44 33.6**	**-1.6**
BFZ	**Birch Farm**	**11.59**	**202**	Pn	**Pn**	**00 44 34.5**	**-2.0**
BFZ	**Birch Farm**	**11.59**	**202**	P	Pn	00 44 32.2	-4.2
MRZ	**Mangatainoka R**	**11.80**	**205**		**Pn**	**00 44 35.5**	**-3.8**
MRZ	**Mangatainoka R**	**11.80**	**205**	P	Pn	00 44 34.9	-4.4
CPWZ	**Castlepoint**	**11.81**	**202**	P	**Pn**	**00 44 39.3**	**-0.2**
PAWZ	**Paruwai Farm**	**12.49**	**203**	P	Pn	00 44 44.4	-4.4
SNZO	**South Karori**	**12.69**	**206**	Pn	**Pn**	**00 44 48.9**	**-2.5**
BHW	**Baring Head**	**12.71**	**205**	Pn	**Pn**	**00 44 49.0**	**-2.7**
PLWZ	**Palliser**	**12.72**	**204**		**Pn**	**00 44 49.5**	**-2.4**
TCW	**Tory Channel**	**12.77**	**207**	Pn	Pn	00 44 47.6	-5.0
MSVF	**Nonsavu**	**12.79**	**343**	Pn	Pn	00 44 43.7	-9.3
	1.4nm,0.3s,baz=189,slow=21,SNR=2.8						
MSVF				LR	LR	00 49 04.2	
	comp=Z,443nm,18.3s,baz=182,slow=35 1.5nm,0.2s						
TUWZ	**Tuamarina**	**13.09**	**208**	Pn	Pn	00 44 51.7	-5.2
NNZ	**Nelson**	**13.15**	**210**	Pn	**Pn**	**00 44 55.5**	**-2.2**
NNZ	**Nelson**	**13.15**	**210**	P	**Pn**	**00 44 55.7**	**-2.0**
TKNZ	**Takaka Hill**	**13.18**	**211**	Pn	**Pn**	**00 44 55.9**	**-2.3**
QRZ	**Quartz Range**	**13.22**	**213**	P	P	00 45 02.9	-4.3
BSWZ	**Blackbirch Sta**	**13.36**	**207**	Pn	**Pn**	**00 44 57.6**	**-3.0**
MRNZ	**Matariki Terra**	**13.57**	**211**	Pn	**Pn**	**00 45 00.1**	**-3.4**
THZ	**Tophouse**	**13.80**	**210**	Pn	**Pn**	**00 45 03.3**	**-3.4**
KHZ	**Kahutara**	**14.08**	**207**		Pn	00 45 06.2	-4.2
KHZ					**Sn**	**00 47 40.0**	**-5.1**
DSZ	**Denniston Nort**	**14.28**	**212**		**Pn**	**00 45 11.4**	**-1.6**
DSZ	**Denniston Nort**	**14.28**	**212**	P	**Pn**	**00 45 13.6**	**+0.6**
GVZ	**Greta Valley S**	**14.75**	**207**	Pn	**Pn**	**00 45 15.3**	**-4.0**
LTZ	**Lake Taylor**	**14.90**	**209**	P	**P**	**00 45 25.3**	**-0.7**
AMCZ	**Amberley**	**15.07**	**207**	P	**P**	**00 45 26.9**	**-0.9**
AMCZ	**Amberley**	**15.07**	**207**	P	**P**	**00 45 27.9**	**0.0**
INZ	**Inchbonnie**	**15.21**	**211**	Pn	**Pn**	**00 45 24.4**	**-0.9**
INZ	**Inchbonnie**	**15.21**	**211**	P	**Pn**	**00 45 24.4**	**-0.9**
OXZ	**Oxford**	**15.45**	**208**		**Pn**	**00 45 24.4**	**-3.9**
MQZ	**McQueen's Vall**	**15.52**	**206**	Pn	**Pn**	**00 45 24.4**	**-4.9**
MQZ				IAmb	IAmb	00 45 42.6	
	comp=Z,102nm,1.4s						
OUENC	**Ouen Island, N**	**15.57**	**296**	Pn	**Pn**	**00 45 31.2**	**+1.2**
WVZ	**Waitaha Valley**	**15.81**	**212**	P	**P**	**00 45 35.5**	**-0.5**
DZM	**Mont Dzumac**	**16.07**	**296**	*e*LR	LR	00 49 21.0	
	comp=Z,646nm,26.6s						
DZM	**Mont Dzumac**	**16.07**	**296**	LR	LR	00 50 32.7	
	comp=Z,248nm,20.0s,baz=22,slow=33						
RPZ	**Rata Peaks**	**16.18**	**210**	Pn	**P**	**00 45 40.1**	**0.0**
	comp=Z,7.8nm,0.3s,baz=5.8,slow=2.3,SNR=12						
RPZ				S	Sn	00 48 23.8	-12
	comp=Z,1.4nm,0.3s,baz=350,slow=18,SNR=1.8						
RPZ				LR	LR	00 52 35.4	
	comp=Z,292nm,18.8s,baz=26,slow=39 comp=Z,21nm,0.4s						
RPZ	**Rata Peaks**	**16.18**	**210**	P	**P**	**00 45 40.8**	**+0.6**
RPZ				IAmb	IAmb	00 45 46.9	
	comp=Z,83nm,1.4s						
GCSZ	**Gaunt Creek Bo**	**16.18**	**212**	P	**P**	**00 45 40.0**	**-0.2**
FOZ	**Fox Glacier**	**16.59**	**213**	Pn	**Pn**	**00 45 40.8**	**-2.0**
FOZ

baz=238,slow=74,SNR=22
PLCA Paso Flores 82.74 133 P **P** 00 54 12.9 +0.3
comp=Z,1.2nm,0.7s,baz=246,slow=10.0,SNR=3.4
comp=Z,1.2nm,0.7s
PETK Petropavlovsk- 85.48 346 P **P** 00 54 23.3 -2.5
comp=Z,4.4nm,0.8s,baz=133,slow=6.3,SNR=4.3
comp=Z,4.4nm,0.8s
GSI Gunungsitoli 85.81 274 P **P** 00 54 28.2 -0.2
NJ2 Nanjing 86.02 311 *e*P **P** 00 54 31.8 +2.9
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KMPM Mount Pierce 86.08 38 P **P** 00 54 29.7 +0.5
MT09 Talagante 86.31 127 P **P** 00 54 32.1 +1.4
MT09 IAmb IAmb 00 54 50.0
comp=Z,14nm,1.3s
CMB Columbia Colle 86.51 42 P **P** 00 54 30.9 -0.5
CMB IAmb IAmb 00 54 32.0
comp=Z,5.5nm,1.1s
GLA Glamis 86.67 49 P **P** 00 54 32.5 +0.3
GLA IAmb IAmb 00 54 34.1
comp=Z,12nm,1.2s
GSC Goldstone, Bar 86.85 46 IAmb IAmb 00 54 34.4
comp=Z,10nm,1.1s
113A Mohawk Valley, 87.19 49 P **P** 00 54 35.0 +0.4
113A IAmb IAmb 00 54 36.4
comp=Z,9.3nm,1.3s
QSM Queen of Sheba 87.24 45 P **P** 00 54 35.2 +0.3
QSM IAmb IAmb 00 54 35.9
comp=Z,9.1nm,1.1s
BLYC Blythe 87.31 48 P **P** 00 54 35.7 +0.5
BLYC IAmb IAmb 00 54 36.9
comp=Z,4.8nm,0.9s
LHV Little Huntoon 87.75 43 IAmb IAmb 00 54 38.4
comp=Z,8.7nm,1.1s
NVAR Mina Array Bea 87.99 43 P **P** 00 54 37.7 -0.9
comp=Z,3.2nm,0.7s,baz=221,slow=7.8,SNR=21
comp=Z,3.2nm,0.7s
RYN Ryan 87.99 42 P **P** 00 54 38.2 -0.4
RYN IAmb IAmb 00 54 41.4
comp=Z,4.1nm,1.1s
HUMO Hull Mountain 88.25 37 P **P** 00 54 39.9 +0.4
HUMO IAmb IAmb 00 54 41.3
comp=Z,7.1nm,1.4s
TPNV Topopah Spring 88.26 45 P **P** 00 54 40.3 +0.4
TPNV IAmb IAmb 00 54 40.7
comp=Z,4.1nm,0.9s
KVN Kaiserville 88.52 42 P **P** 00 54 40.8 -0.3
KVN IAmb IAmb 00 54 41.6
comp=Z,3.9nm,0.7s
SII Sitkinak Islan 88.62 13 P **P** 00 54 39.5 -1.3
TUC Tucson 88.90 51 P **P** 00 54 44.0 +1.1
TUC IAmb IAmb 00 54 44.5
comp=Z,4.3nm,0.8s
K05A Summer Lake 89.43 38 P **P** 00 54 45.4 +0.1
TRQA Tornquist 89.68 135 P **P** 00 54 46.5 -0.2
TRQA IAmb IAmb 00 54 49.3
comp=Z,5.3nm,1.2s
H04A Detroit Lake 90.10 36 P **P** 00 54 48.1 0.0
H04A IAmb IAmb 00 54 48.2
comp=Z,4.4nm,0.8s
PINE Pine Mountain 90.13 37 P **P** 00 54 49.1 +0.5
U15A North Rim 90.40 47 IAmb IAmb 00 54 51.8
comp=Z,5.6nm,0.8s
CCUT Cedar City 90.42 46 P **P** 00 54 50.7 +0.6
KNB Kanab 90.43 47 P **P** 00 54 50.6 +0.5
KNB IAmb IAmb 00 54 51.7
comp=Z,5.8nm,1.0s
WUAZ Wupatki 90.44 48 P **P** 00 54 50.6 +0.5
WUAZ IAmb IAmb 00 54 51.8
comp=Z,6.7nm,1.1s
P18K Big Mountain, 91.10 11 **P** 00 54 50.5 -1.9
G06A Carlson Farm, 91.28 37 P **P** 00 54 53.4 -0.3
G06A IAmb IAmb 00 54 54.3
comp=Z,5.6nm,0.9s
MTPU Mount Pierson 91.46 46 P **P** 00 54 55.5 +0.5
MTPU IAmb IAmb 00 54 57.1
comp=Z,4.4nm,1.1s
O18K Koktuh Hills 91.54 11 P **P** 00 54 53.1 -1.3
O18K IAmb IAmb 00 54 57.5
comp=Z,4.2nm,0.8s
LON Longmire 91.73 35 P **P** 00 54 55.4 -0.4
CNPM China Poot 91.96 13 P **P** 00 54 55.8 -0.7
ILSW Iliamna Southw 92.02 12 P **P** 00 54 56.1 -0.7
G08A Pilot Rock 92.19 37 P **P** 00 54 57.7 -0.3
G08A IAmb IAmb 00 54 59.2
comp=Z,4.6nm,0.9s
N19K Bonanza Creek 92.56 11 P **P** 00 54 58.0 -1.3
LTY Liberty 92.64 35 P **P** 00 54 59.4 -0.5
LTY IAmb IAmb 00 55 12.3
comp=Z,4.0nm,1.3s
BGU Big Grassy Mou 92.71 43 P **P** 00 55 00.6 +0.1
TMUT Trail Mountain 92.83 46 IAmb IAmb 00 55 02.5
comp=Z,3.2nm,0.7s
SPUT South Promonto 93.29 43 IAmb IAmb 00 55 04.0
comp=Z,3.5nm,0.9s
D08A Wollman Farm, 93.39 36 P **P** 00 55 03.3 0.0
D08A IAmb IAmb 00 55 03.8
comp=Z,3.7nm,0.7s
HVU Hansel Valley 93.39 43 P **P** 00 55 03.9 +0.2
HLID Hailey 93.55 41 P **P** 00 55 04.7 +0.3
F10A Beach Ranch, E 93.55 38 P **P** 00 55 03.2 -1.0
F10A IAmb IAmb 00 55 04.0
comp=Z,3.0nm,0.7s
PLID Pearl Lake 93.64 39 P **P** 00 55 04.3 -0.5
PLID IAmb IAmb 00 55 05.1
comp=Z,4.0nm,1.1s
L19K White Mountain 93.79 11 P **P** 00 55 04.7 -0.2
L19K IAmb IAmb 00 55 23.3
comp=Z,9.7nm,1.5s
SUA Susitna One 93.84 13 P **P** 00 55 03.9 -1.3
SUA IAmb IAmb 00 55 04.6
comp=Z,3.4nm,0.6s
B08A Colville Reser 94.05 35 P **P** 00 55 05.0 -1.3
B08A IAmb IAmb 00 55 05.9
comp=Z,2.1nm,0.7s
GHO Glory Hole Cre 94.48 13 P **P** 00 55 07.9 -0.2
SCM Sheep Creek Mo 94.87 14 P **P** 00 55 08.6 -1.3
PZH PanZhiHua 95.14 298 P **P** 00 55 15.3 +3.3
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,5.3s
N25K Chitina, Valde 95.27 15 P **P** 00 55 09.7 -2.0
GLB Gillaina Butte 95.31 16 P **P** 00 55 11.0 -0.8
FXWY Fox Creek 95.54 42 P **P** 00 55 13.4 -0.1
PDAR Pinedale Array 95.89 44 P **P** 00 55 13.2 -2.1
comp=Z,0.4nm,0.5s,baz=215,slow=4.2,SNR=7.2
comp=Z,0.4nm,0.5s
HHC Hu-ho-hao-te 95.99 314 *e*P **P** 00 55 18.9 +3.3
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,200nm,4.6s
M27K Edge Creek, AK 96.56 16 P **P** 00 55 17.2 -0.4
I21K Tanana 97.06 11 P **P** 00 55 17.9 -1.7
WRH Wood River Hil 97.09 13 P **P** 00 55 18.5 -1.3
WRH IAmb IAmb 00 55 31.0
comp=Z,5.6nm,1.3s
MLY Manley 97.13 11 P **P** 00 55 17.9 -2.1
DOT Dot Lake 97.18 15 P **P** 00 55 19.1 -1.2
DOT IAmb IAmb 00 55 20.1
comp=Z,4.1nm,1.1s
ILAR Eielson Array 97.59 13 P **P** 00 55 20.0 -2.1
comp=Z,0.5nm,0.6s,baz=211,slow=5.2,SNR=5.7
comp=Z,0.5nm,0.6s
M30M Minto, Yukon 98.03 18 P Pdif 00 55 25.9 +1.7
M30M IAmb IAmb 00 55 41.0
comp=Z,3.9nm,1.4s
J26L Joseph Creek 98.03 14 P **P** 00 55 23.4 -0.8
J26L IAmb IAmb 00 55 24.4
comp=Z,3.1nm,0.7s
DAWY Dawson 98.61 16 P **P** 00 55 26.1 -0.6
WMQ Urumqi 113.01 308 *e*P **PKiKP** 01 00 26.9 +1.6
WMQ LR LR
comp=Z,160nm,19.5s
MKAR Makanchi Array 117.55 310 PKP **PKPdf** 01 00 31.5 -2.4
comp=Z,0.6nm,0.5s,baz=211,slow=1.0,SNR=7.4
ZALV Zalesovo Beam 117.78 318 PKP **PKPdf** 01 00 31.2 -2.8
comp=Z,0.3nm,0.5s,baz=184,slow=3.8,SNR=2.7
NRIK Noril'sk 119.32 336 PKP **PKPdf** 01 00 34.1 -2.4
comp=Z,1.0nm,0.3s,baz=52,slow=1.6,SNR=1.7
H10S3 ASCENSION HYDR 138.03 155 T T 03 35 50.7
baz=16,slow=74,SNR=57
H10S2 ASCENSION HYDR 138.04 155 T T 03 35 45.0
baz=204,slow=74,SNR=28

ARCES ARCESS Array B 138.26 348 PKhKP PKPpre 01 01 02.8
comp=Z,2.3nm,0.8s,baz=34,slow=1.6,SNR=6.5
ARCES PKP **PKPdf** **01 01 10.9 -1.6**
comp=Z,0.7nm,0.4s,baz=53,slow=0.5,SNR=8.1
H10N3 ASCENSION HYDR 139.12 155 T T 03 37 11.2
baz=208
H10N1 ASCENSION HYDR 139.12 155 T T 03 37 09.0
baz=208
H10N2 ASCENSION HYDR 139.14 155 T T 03 36 58.2
baz=208
FINES FINESS Array B 144.82 340 PKP **PKPab** **01 01 21.5 -2.0**
comp=Z,12nm,0.4s,baz=61,slow=3.5,SNR=251
KBZ Khabaz 144.92 304 PKP **PKPbc** **01 01 23.6 -0.8**
comp=Z,1.2nm,0.6s,baz=163,slow=6.6,SNR=9.6
NSS Namsos 144.94 353 *e*PKPbc **PKPbc** **01 01 21.9 -2.0**
MEF Metsahovi 146.30 340 *e*P **PKPdf** **01 01 26.8 -0.2**
RAF Rauma 146.36 343 *e*P **PKPdf** **01 01 26.0 -1.0**
VSU Vasula 146.91 336 *e*P **PKPdf** **01 01 28.2 +0.2**
DOMB Dombas 147.67 354 *e*PKPdf **PKPdf** **01 01 29.8 +0.5**
MTSE Matsula 147.69 339 *e*P **PKPdf** **01 01 30.3 +1.0**
AKN Aaknes 147.71 356 *e*PKPdf **PKPdf** **01 01 30.5 +1.2**
FOO Floro 148.39 357 *e*PKPdf **PKPbc** **01 01 32.3 -1.6**
NB2 NORSAR Subarra 148.41 351 PKP **PKPbc** **01 01 32.4 -1.7**
comp=Z,1.1nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 148.41 351 PKPbc **PKPdf** **01 01 31.8 +1.2**
comp=Z,2.7nm,0.5s,baz=17,slow=4.5,SNR=21
NC602 NORSAR Array S 148.66 351 *e*PKPdf **PKPdf** **01 01 32.4 +1.5**
SUE Sulen 148.94 357 *e*PKPdf **PKPdf** **01 01 32.4 +1.1**
SLIT Slitere, Latvi 149.04 339 *e*P **PKPbc** **01 01 33.6 -2.0**
SKAR Skarslia 149.09 354 *e*pPKPdf **PKPbc** **01 01 34.9 -0.9**
IDID Didziasalis 149.21 332 *e*P **PKPdf** **01 01 26.5 -5.4**
ISAL Salakas 149.27 333 *e*P **PKPbc** **01 01 34.4 -1.9**
IIGN Ignalina 149.39 333 *e*P PKPdf 01 01 22.8 -9.4
ASK Askoy 149.50 357 *e*PKPdf **PKPdf** **01 01 33.2 +0.9**
VSVD Vaisvydziai 149.79 335 *e*P **PKPbc** **01 01 36.6 -1.0**
KONO Kongsberg 149.96 352 *e*pPKPdf **PKPbc** **01 01 36.5 -1.4**
ODD1 Odda 149.98 355 *e*pPKPdf **PKPbc** **01 01 36.6 -1.4**
PABE Paberze 150.14 335 *e*P **PKPbc** **01 01 37.5 -0.9**
PBUR Paburge 150.46 337 *e*P **PKPbc** **01 01 37.6 -1.6**
BLS5 Blasjo 150.48 355 *e*pPKPdf **PKPbc** **01 01 38.2 -1.1**
AKASG Malin Array Be 151.03 323 PKPbc **PKPbc** **01 01 38.8 -2.0**
comp=Z,4.1nm,0.5s,baz=42,slow=3.0,SNR=35
HOMB Homborsund 151.44 353 *e*pPKPdf **PKPbc** **01 01 39.6 -1.8**
BRTR Keskin Array B 152.43 299 PKP **PKPdf** **01 01 35.4 -2.3**
comp=Z,0.2nm,0.7s,baz=35,slow=14,SNR=1.5
BRTR PKPbc **PKPbc** **01 01 42.2 -2.4**
comp=Z,0.7nm,0.5s,baz=141,slow=5.2,SNR=7.9
CLL Collm 157.24 342 *i* PKPab **PKPab** **01 02 14.4 -0.3**
comp=Z,6.0nm,0.8s
GERES GERESS Array B 159.22 338 PKPab **PKPab** **01 02 21.2 -2.3**
comp=Z,0.3nm,0.6s,baz=20,slow=4.3,SNR=4.6
BIOA Bad Ischl, Aus 160.24 336 *i* pPKP **PKPab** **01 02 33.0 +5.1**
comp=Z,1.1nm,0.3s
KBA Koelnbreinsper 160.86 336 *e*PKP **PKPab** **01 02 30.5 -0.3**
comp=Z,0.6nm,0.5s
OBKA Obir 160.89 333 *e*PKP **PKPab** **01 02 29.1 -1.8**
comp=Z,1.9nm,0.7s
WATA Walderalm 161.22 339 *i* PKP **PKPab** **01 02 30.1 -2.3**
comp=Z,0.2nm,0.2s
WTTA Wattenberg 161.27 339 *i* PKP **PKPab** **01 02 30.1 -2.5**
comp=Z,1.3nm,0.5s
RETA Reutte 161.32 341 *i* PKP **PKPab** **01 02 31.3 -1.4**
comp=Z,1.6nm,0.5s
MOTA Moosalm 161.36 340 *i* PKP **PKPab** **01 02 34.5 +1.5**
comp=Z,1.9nm,0.6s
SQTA Sankt Quirin 161.44 340 *i* PKP **PKPab** **01 02 34.0 +0.7**
comp=Z,0.5nm,0.3s
ABTA Abfaltersbach 161.44 337 *i* PKP **PKPab** **01 02 34.1 +0.8**
comp=Z,2.0nm,0.8s
DAVA Damuels 161.75 343 *i* PKP **PKPab** **01 02 34.6 -0.1**
comp=Z,2.3nm,0.6s
FETA Feichten 161.76 341 *i* PKP **PKPab** **01 02 36.5 +1.8**
comp=Z,0.8nm,0.5s
TORD Torodi Ar. Bea 163.17 179 PKPab **PKPab** **01 02 42.0 +0.6**
comp=Z,2.7nm,0.3s,baz=182,slow=3.3,SNR=2.1
ESDC Sonseca Array 169.23 25 PKPab **PKPab** **01 03 05.8 -2.0**
comp=Z,0.5nm,0.6s,baz=334,slow=5.6,SNR=5.8

*IDC **16** 00:59:01.8±1.4,25°.57N×110°.19W,h0km,mb3.1/2, mbtmp3.2/5,ML3.4/3,MS3.5/8,Error ellipse: s-maj=62.8km s-min=11.8km az=92.0*
*ECX **16** 00:59:03.2±0.5,25°.50N×109°.98W,h20km±29km,MD3.6, ML3.8*
*MEX **16** 00:59:06.2±0.7,25°.62N×109°.92W,h14km±28km,MD4.1*
ISC 16 00:59:01.2±1.6,25°.52N±0°.05×110°.03W±0°.04,h6km±12km, n28,σ2s12/26,MS3.3/3,2C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.90**	**85**	*e*P		**Pg**	**00 59 18.3**	**-0.1**
TSIG				*e*S		**Sg**	**00 59 29.6**	**-0.5**
TSIG				IAML			00 59 30.3	
	comp=E,7μm,0.5s							
TSIG				⇓*e*			00 59 30.3	
TSIG	**Topolobambo**	**0.90**	**85**	*e*P		**Pb**	**00 59 18.6**	**-0.6**
TSIG				*e*S		**Sg**	**00 59 28.8**	**-1.2**
LPIG	**La Paz**	**1.44**	**190**	Pg		**Pb**	**00 59 28.6**	**+0.2**
	comp=E,4.4nm,0.3s,baz=352,slow=7.8,SNR=4.6							
LPIG				Lg		Lg	00 59 47.9	
	comp=E,29nm,0.3s,baz=3.8,slow=15,SNR=7.5							
LPIG	**La Paz**	**1.44**	**190**	*e*P		**Pn**	**00 59 27.1**	**-0.7**
NE80	**Navojoa**	**1.56**	**27**	*e*P		**Pn**	**00 59 28.8**	**-0.8**
NE80				*e*S		**Sn**	**00 59 49.4**	**-0.8**
NE80				⇑*e*			00 59 50.8	
NE80				IAML			00 59 50.8	
	comp=E,3μm,0.2s							
SNIRB	**San Nicol¡s**	**1.70**	**307**	*e*P		**Pn**	**00 59 32.8**	**+1.3**
SLBS	**Sierra La Lagu**	**1.83**	**178**	*e*P		**Pn**	**00 59 32.5**	**-0.8**
CSIG	**Choix**	**1.98**	**49**	*e*P		**Pn**	**00 59 34.3**	**-1.0**
CSIG				*e*S		**Sn**	**00 59 56.7**	**-3.7**
GUYB	**Guaymas**	**2.48**	**342**	*e*P		**Pn**	**00 59 43.5**	**+1.2**
SSIG	**Sanalona**	**2.71**	**104**	*e*P		**Pn**	**00 59 46.6**	**+1.2**
SSIG				*e*S		**Sn**	**01 00 20.0**	**+1.5**
HSIG		**3.58**	**347**	*e*P		**Pn**	**00 59 58.4**	**+1.1**
HSIG				IAML			01 01 22.3	
	comp=E,118nm,1.5s							
HSIG				⇑*e*			01 01 22.3	
HSIG				IAML			01 01 22.7	
	comp=N,89nm,0.9s							
HSIG				*e*			01 01 22.7	
HSIG		**3.58**	**347**	*e*P		**Pn**	**00 59 57.5**	**+0.2**
HSIG				*e*S		**Sn**	**01 00 33.6**	**-6.3**
HPIG		**4.16**	**69**	*e*P		**Pn**	**01 00 04.6**	**-1.0**
HPIG				*e*S		**Sn**	**01 00 51.9**	**-2.8**
PDIG	**Papasquiaro**	**4.22**	**96**	*e*P		**Pn**	**01 00 10.2**	**+3.8**
ANMO	**Albuquerque**	**9.88**	**17**	Pn		**Pn**	**01 01 25.9**	**+1.8**
	baz=230,slow=5.4,SNR=3.1							
ANMO				Lg		Lg	01 04 12.2	
	comp=N,0.2nm,0.3s,baz=180,slow=16,SNR=5.2							
ANMO				LR		LR	01 05 37.7	
	comp=N,251nm,18.4s,baz=278,slow=40							
	comp=N,0.6nm,0.9s							
NVAR	**Mina Array Bea**	**14.65**	**333**	Pn		**Pn**	**01 02 29.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=148,slow=19,SNR=1.4							
	comp=N,0.2nm,0.3s							
ELK	**Elko**	**15.79**	**345**	LR		LR	01 09 06.4	
	comp=N,228nm,18.4s,baz=170,slow=38							
CMIG	**Matias Romero**	**16.41**	**118**	LR		LR	01 09 10.3	
	comp=N,144nm,19.9s,baz=282,slow=37							
PDAR	**Pinedale Array**	**17.20**	**1**	P		**P**	**01 03 04.1**	**0.0**
	comp=N,0.1nm,0.3s,baz=183,slow=13,SNR=7.0							
PDAR				Lg		Lg	01 08 03.0	
	baz=182,slow=23,SNR=1.3							
PDAR				LR		LR	01 10 01.2	
	comp=N,256nm,18.5s,baz=192,slow=38							
	comp=N,1.0nm,1.0s							
YBH	**Yreka Blue Hor**	**19.27**	**330**	LR		LR	01 11 03.4	
	comp=N,65nm,21.4s,baz=9.5,slow=38							
NEW	**Newport**	**23.38**	**348**	LR		LR	01 12 26.9	
	comp=N,92nm,20.1s,baz=212,slow=35							
TKL	**Tuckaleechee C**	**24.69**	**60**	LR		LR	01 14 52.3	
	comp=N,86nm,18.9s,baz=226,slow=38							
SADO	**Sadowa**	**31.45**	**44**	LR		LR	01 18 23.5	
	comp=N,83nm,21.3s,baz=180,slow=37							
YKA	**Yellowknife Ar**	**37.09**	**356**	P		**P**	**01 06 13.0**	**+0.9**
	comp=N,0.2nm,0.8s,baz=173,slow=7.6,SNR=5.0							
	comp=N,0.2nm,0.8s							
ILAR	**Eielson Array**	**45.81**	**339**	P		**P**	**01 07 25.5**	**+1.8**
	comp=N,0.3nm,0.8s,baz=141,slow=7.7,SNR=2.5							
	comp=N,0.3nm,0.8s							
H03N2	**Juan Fernandez**	**65.68**	**152**	T		T	02 21 14.8	
	baz=331,slow=77,SNR=74							
H03N1	**Juan Fernandez**	**65.69**	**152**	T		T	02 21 17.4	
	baz=331,slow=77,SNR=31							
H03N3	**Juan Fernandez**	**65.69**	**152**	T		T	02 21 15.9	
	baz=331,slow=77,SNR=128							

*DDA **16** 01:11:31.8±0.0,39°.55N×26°.14E,h6km±1km,ML1.6*
*ISK **16** 01:11:31.4,39°.54N×26°.10E,h5km,ML2.5/20*
ISC 16 01:11:31.9±0.9,39°.54N±0°.02×26°.12E±0°.03,h8km±6km, n27,σ0s43/37,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**153**	P		**Pg**	**01 11 33.4**	**-0.2**
KOCA				*i* AML		AML	01 11 34.0	
	comp=E,1μm,0.4s							
KOCA				*i* AML		AML	01 11 34.0	
	comp=N,821nm,0.3s							
KOCA				S		**Sg**	**01 11 34.7**	**0.0**
GPNR	**Gulpinar-Canak**	**0.08**	**170**	Pg		**Pg**	**01 11 33.9**	**-0.2**
BOZC	**Bozcaada**	**0.31**	**351**	Pg		**Pg**	**01 11 37.9**	**-0.2**
BOZC				Sg		**Sg**	**01 11 42.7**	**+0.5**
BOZC	**Bozcaada**	**0.31**	**351**	P		**Pg**	**01 11 37.8**	**-0.2**
BOZC				S		**Sg**	**01 11 42.6**	**+0.4**
BOZC				*i* AML		AML	01 11 43.0	
	comp=N,72nm,0.4s							
EZN	**Ezine**	**0.33**	**29**	Pg		**Pg**	**01 11 38.3**	**-0.2**
EZN				Sg		**Sg**	**01 11 42.9**	**0.0**
SIGR	**SIGRI**	**0.38**	**212**	Pg		**Pg**	**01 11 39.2**	**-0.2**
SIGR				Sg		**Sg**	**01 11 45.1**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.39**	**58**	P		**Pg**	**01 11 39.3**	**-0.3**
BAYC				*i* AML		AML	01 11 44.0	
	comp=N,95nm,0.4s							
BAYC				S		**Sg**	**01 11 44.5**	**-0.3**
BAYC				*i* AML		AML	01 11 45.0	
	comp=E,82nm,0.1s							
AYVA	**Ayvalik**	**0.50**	**117**	P		**Pg**	**01 11 41.5**	**-0.1**
AYVA				S		**Sg**	**01 11 49.0**	**+0.8**
AYVA				*i* AML		AML	01 11 54.0	
	comp=N,41nm,0.1s							
BUHA	**Balikesir, Bur**	**0.74**	**92**	P		**Pg**	**01 11 46.2**	**-0.1**
BUHA				*i* AML		AML	01 11 56.0	
	comp=N,29nm,0.3s							
BUHA				S		**Sg**	**01 11 56.1**	**+0.2**
BUHA				*i* AML		AML	01 11 57.0	
	comp=E,26nm,0.3s							
GELI	**Tayfur-Gelibol**	**0.90**	**18**	Pg		**Pb**	**01 11 49.2**	**-0.6**
ZEDA	**zmir-Bergama**	**0.94**	**127**	P		**Pb**	**01 11 50.2**	**-0.2**
ZEDA				S		**Sb**	**01 12 03.5**	**+0.5**
ZEDA				*i* AML		AML	01 12 05.0	
	comp=N,15nm,0.4s							
ZEDA				*i* AML		AML	01 12 05.0	
	comp=E,17nm,0.6s							
LPK	**Lapseki**	**0.97**	**31**	Pg		**Pb**	**01 11 50.7**	**-0.3**
ERIK	**Erikli-Kesan**	**1.17**	**15**	Pn		**Pg**	**01 11 54.0**	**-0.5**
BALY	**Balya**	**1.18**	**80**	P		**Pn**	**01 11 54.7**	**-0.1**
BALY				S		**Sb**	**01 12 09.7**	**-0.3**
BALY				*i* AML		AML	01 12 10.0	
	comp=N,28nm,0.5s							
BALY				*i* AML		AML	01 12 12.0	
	comp=E,20nm,0.7s							
ENEZ	**Enez**	**1.20**	**1**	Pn		**Pn**	**01 11 54.8**	**-0.2**
URLA	**Izmir**	**1.23**	**162**	Pn		**Pg**	**01 11 54.6**	**-1.0**
GONE	**Gonen-Balikesi**	**1.31**	**67**	Pn		**Pg**	**01 11 56.9**	**-0.2**
ALN	**Alexandroupoli**	**1.36**	**358**	Pn		**Pb**	**01 11 57.3**	**-0.3**
BALB	**Balikesir**	**1.37**	**85**	Pn		**Pb**	**01 11 57.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.41**	**35**	Pn		**Pb**	**01 11 58.3**	**-0.2**
EDC	**Edincik**	**1.57**	**58**	Pn		**Pn**	**01 12 00.3**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.64**	**14**	Pn		**Pn**	**01 12 01.4**	**+0.4**
RDO	**Rodhopi**	**1.67**	**345**	Pn		**Pn**	**01 12 01.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.87**	**66**	Pn		**Pn**	**01 12 04.7**	**+0.4**
KDZ	**Kurdzhali**	**2.18**	**346**	Pn		**Pn**	**01 12 08.9**	**+0.4**
SLVT	**Silivri**	**2.33**	**43**	Pn		**Pn**	**01 12 11.3**	**+0.8**
EDRB	**Edirne**	**2.36**	**12**	Pn		**Pn**	**01 12 11.6**	**+0.7**

*BJI **16** 01:16:36.5±0.0,13°.28S×166°.68E,h11km,mb5.4/84, mB5.8/78,Ms5.5/89,Ms7 5.2/84*
*NEIC **16** 01:16:38.0±1.4,13°.64S±0°.06×166°.52E±0°.07,h14km±2km, mb5.7/189,Ms_20 5.5/307,Mwb5.6/53,Mww5.8,Error ellipse: s-maj=10.8km s-min=8.9km az=59.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.57; Mθθ0.87; Mϕϕ-3.44; Mrθ-0.44; Mθϕ0.06; Mϕr-1.59; Fault plane solution: M₀3.51000×10¹⁷ NP1: ϕs189.84000°,δ59.85000°,λ102.66000°. NP2: ϕs345.74000°,δ32.47000°,λ69.32000°. Principal axes: T 3.0560, Plg72.0000°, Azm130.0000°; N 0.7785, Plg11.0000°, Azm23.0000°; P -3.8344, Plg14.0000°, Azm271.0000°;*
*MOS **16** 01:16:39.8±1.1,13°.62S×166°.39E,h34km,mb6.0/51, MS5.4/30 Error ellipse: s-maj=7.4km s-min=6.0km az=130.5*
*NEIC **16** 01:16:43,13°.56S×166°.17E,h16km,Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10¹⁷Nm; Mrr5.83; Mθθ0.36; Mϕϕ-6.19; Mrθ-0.38; Mθϕ0.58; Mϕr0.18; Fault plane solution: M₀6.06000×10¹⁷ NP1: ϕs179.00000°,δ44.00000°,λ95.00000°. NP2: ϕs351.00000°,δ46.00000°,λ85.00000°. Principal axes: T 5.8568, Plg86.0000°, Azm190.0000°; N 0.3860, Plg4.0000°, Azm355.0000°; P -6.2428, Plg1.0000°, Azm85.0000°;*
*NOU **16** 01:16:43.5,13°.69S×166°.37E,h44km,ML5.7/164, Vanuatu Islands*
*GCMT **16** 01:16:43.0±0.1,13°.62S±0°.01×166°.40E,h19km, MW5.8/161,Moment Tensor Solution. s158,c332; s161,c488; Duration: 1s9 Moment tensor: Scale 10¹⁷ Nm; Mrr5.35±.04; Mθθ0.32±.03; Mϕϕ-5.66±.03; Mrθ0.41±.08; Mθϕ0.48±.03; Mϕr-1.99±.07; Best double couple: M₀5.88700×10¹⁷ NP1:ϕs173.00000°,δ55.00000°, λ87.00000°. NP2:ϕs358.00000°,δ35.00000°,λ94.00000°. Principal axes: T 5.7180, Plg80.0000°, Azm70.0000°; N 0.3450, Plg3.0000°, Azm175.0000°; P -6.0560, Plg10.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*IDC **16** 01:16:44.1±1.3,13°.70S×166°.42E,h65km±10km,mb5.2/26, mbtmp5.4/30,MS5.3/52 Error ellipse: s-maj=11.6km s-min=10.0km az=39.0*
ISC 16 01:16:39.2±0.3,13°.71S±0°.03×166°.44E±0°.03,h22km±2km, h23km:pP-P,n1372,σ1s46/1265,mb5.7/233,MS5.5/258, 113C-31D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**4.33**	**157**	P		**Pn**	**01 17 47.7**	**+4.0**
RTV	**Rentapao**	**4.48**	**155**	P		**Pn**	**01 17 49.9**	**+4.1**
LIFNC	**LIFOU**	**7.07**	**174**	Pn		**Pn**	**01 18 20.6**	**-0.7**
LIFNC	**LIFOU**	**7.07**	**174**	P		**Pn**	**01 18 23.8**	**+2.5**
KOUNC	**Koumac, New Ca**	**7.10**	**197**	Pn		**Pn**	**01 18 22.7**	**+0.9**
KOUNC	**Koumac, New Ca**	**7.10**	**197**	P		**Pn**	**01 18 23.8**	**+2.0**
HNR	**Honiara**	**7.65**	**303**	P		**Pn**	**01 18 30.8**	**+1.4**
	9μm,0.8s,baz=214,slow=5.9,SNR=74							
HNR				S		**Sn**	**01 19 56.4**	**+1.0**
	14μm,0.9s,baz=131,slow=20,SNR=1.4							
HNR				LR		LR	01 21 21.8	
	comp=Z,308μm,20.6s,baz=141,slow=36							
HNR	**Honiara**	**7.65**	**303**	Pn		**Pn**	**01 18 29.8**	**+0.4**
HNR	**Honiara**	**7.65**	**303**	P		**Pn**	**01 18 31.2**	**+1.8**
MARNC	**Mare, Loyalty**	**7.87**	**169**	Pn		**Pn**	**01 18 32.9**	**+0.5**
MARNC	**Mare, Loyalty**	**7.87**	**169**	P		**Pn**	**01 18 34.6**	**+2.2**
DZM	**Mont Dzumac**	**8.31**	**180**	*e*Pn		**Pn**	**01 18 40.2**	**+1.7**
DZM				*e*Sn		**Sn**	**01 20 10.9**	**-0.9**
DZM	**Mont Dzumac**	**8.31**	**180**	P		**Pn**	**01 18 40.3**	**+1.9**
	73nm,0.7s,baz=55,slow=6.5,SNR=56							
DZM				S		**Sn**	**01 20 12.7**	**+0.9**
	141nm,0.7s,baz=133,slow=24,SNR=1.4							
DZM

MSVF LR LR 01 23 02.2
comp=Z,32µm,19.0s,baz=297,slow=32
MSVF Nonsavu 11.87 111 Pn Pn 01 19 30.4 +3.1
MSVF Nonsavu 11.87 111 P Pn 01 19 32.5 +5.2
MSVF Nonsavu 11.87 111 P Pn 01 19 30.4 +3.1
DGTI Dogotuki 13.10 103 P Pn 01 19 48.3 +4.2
TAVE Taveuni 13.51 104 P Pn 01 19 53.6 +3.9
FUNA Funafuti 13.54 69 Pn Pn 01 19 46.6 -3.4
FUTU Fugatoga 15.00 94 P P 01 20 13.4 -1.8
NFK Norfolk Island 15.32 175 P **P 01 20 19.9 +1.2**
baz=16,SNR=13
NFK Norfolk Island 15.32 175 P P 01 20 18.6 -0.1
TARA Tarawa 16.29 24 P Pn 01 20 27.6 +0.8
TARA IAmb IAmb 01 20 32.8
comp=Z,340nm,0.8s
TARA Tarawa 16.29 24 P P 01 20 29.1 -0.5
RABL Rabaul 16.97 303 Pn Pn 01 20 34.0 -1.3
RABL Rabaul 16.97 303 P P 01 20 38.7 +1.6
KRVT Keravat (AS076 17.01 302 P P 01 20 37.2 -0.4
comp=Z,130nm,1.1s,baz=191,slow=6.8,SNR=12
KRVT LR LR 01 27 47.0
comp=Z,17µm,18.7s,baz=262,slow=39
GD1S Gladstone Soft 17.60 233 P P 01 20 47.0 +3.0
AUWSH Wavell State H 18.49 221 P Pn 01 20 57.0 +3.0
EIDS Eidsvold 18.52 229 P Pn 01 20 57.3 +2.8
baz=19,SNR=33
EIDS Eidsvold 18.52 229 P Pn 01 20 55.8 +1.3
EIDS Eidsvold 18.52 229 P Pn 01 20 56.9 +2.5
GC1S Gold Coast 1 S 18.75 218 P Pn 01 20 59.6 +2.5
LHI Lord Howe Isla 18.97 200 P P 01 20 59.0 -0.1
PMG Port Moresby 19.36 281 P Pn 01 21 05.1 +0.5
comp=Z,242nm,0.9s,baz=88,slow=6.8,SNR=123
PMG S **S 01 24 40.9 -0.6**
comp=Z,7.9nm,0.3s,baz=124,slow=22,SNR=1.0
PMG LR LR 01 27 31.3
comp=Z,5µm,20.3s,baz=108,slow=34
PMG Port Moresby 19.36 281 P P 01 21 03.6 +0.1
PMG IAmb IAmb 01 21 07.9
comp=Z,403nm,1.1s
PMG Port Moresby 19.36 281 P Pn 01 21 06.2 +1.5
PMG Port Moresby 19.36 281 *ce*P **Pn 01 21 06.1 +1.4**
PMG pmax pmax
comp=Z,449nm,1.1s
PMG MLR MLR
comp=Z,20µm,15.0s
TV1H Townsville Har 19.62 251 P Pn 01 21 09.7 +2.0
CTA Charters Tower 20.31 249 P Pn 01 21 16.0 0.0
comp=Z,126nm,0.9s,baz=75,slow=12,SNR=99
CTA S **S 01 24 59.7 -1.2**
comp=Z,16nm,1.1s,baz=247,slow=10,SNR=1.7
CTA LR LR 01 27 47.6
comp=Z,10µm,20.4s,baz=72,slow=33
comp=Z,126nm,0.9s
CTA Charters Tower 20.31 249 P Pn 01 21 16.4 +0.4
CTA Charters Tower 20.31 249 P Pn 01 21 16.0 0.0
CTAO Charters Tower 20.31 249 P P 01 21 13.8 -0.1
CTAO IAmb IAmb 01 21 18.5
comp=Z,302nm,1.1s
CTAO Charters Tower 20.31 249 P Pn 01 21 16.3 +0.3
CTAO Charters Tower 20.31 249 P P 01 21 13.8 -0.1
CTAO pmax pmax
comp=Z,303nm,1.1s
RMQ Roma 20.87 230 P Pn 01 21 23.0 +0.5
baz=21,SNR=245
RMQ Roma 20.87 230 P Pn 01 21 23.0 +0.6
AFI Afiamalu 21.16 93 P P 01 21 24.3 +1.2
comp=Z,48nm,0.5s,baz=78,slow=3.6,SNR=26
AFI S **S 01 25 19.8 +2.1**
comp=Z,23nm,0.2s,baz=91,slow=11,SNR=1.6
comp=Z,48nm,0.5s
AFI Afiamalu 21.16 93 P P 01 21 20.8 -2.3
AFI IAmb IAmb 01 21 31.4
comp=Z,453nm,1.0s
RAO Raoul Island 21.20 139 P P 01 21 22.2 -1.1
RAO Raoul Island 21.20 139 P P 01 21 27.1 +3.8
RAO Raoul Island 21.20 139 P P 01 21 22.3 -1.1
RAO pmax pmax
comp=Z,751nm,1.2s
RAO MLR MLR
comp=Z,10nm,19.0s
ARMA Armidale 21.52 217 P **P 01 21 29.7 +2.8**
baz=22,SNR=25
ARMA Armidale 21.52 217 P P 01 21 26.3 -0.5
ARMA IAmb IAmb 01 21 36.3
comp=Z,206nm,1.1s
ARMA Armidale 21.52 217 P P 01 21 29.7 +2.8
MTSU Mount Surprise 21.71 255 P P 01 21 31.2 +2.2
baz=22,SNR=169
MTSU Mount Surprise 21.71 255 P P 01 21 31.6 +2.6
PATS Pohnpei 21.95 338 P P 01 21 31.1 -0.4
baz=22,SNR=37
PATS Pohnpei 21.95 338 P P 01 21 29.1 -2.4
PATS Pohnpei 21.95 338 P P 01 21 31.9 +0.4
MANU Manus Island 22.14 300 P P 01 21 33.0 -0.6
MANU IAmb IAmb 01 21 42.8
comp=Z,461nm,1.2s
MANU Manus Island 22.14 300 P P 01 21 35.1 +1.5
OUZ Omahuta 22.37 164 IAMs_20 IAMs_20 01 29 56.5
comp=Z,18µm,18.0s
AUPHS Peel High Scho 22.45 217 P P 01 21 39.4 +2.6
COEN Coen 22.59 267 P P 01 21 39.9 +1.5
baz=23,SNR=39
COEN Coen 22.59 267 P P 01 21 38.9 +0.5
COEN IAmb IAmb 01 21 43.3
comp=Z,263nm,1.1s
COEN Coen 22.59 267 P P 01 21 39.7 +1.3
AULRC Lightning Ridg 23.17 225 P P 01 21 44.9 +0.6
NIUE Niue 23.28 106 P P 01 21 45.3 -0.2
baz=23,SNR=20
NIUE Niue 23.28 106 P P 01 21 45.6 0.0
NIUE Niue 23.28 106 P P 01 21 47.9 +2.4
NTLH Newcastle Hard 23.35 213 P P 01 21 48.8 +2.7
MGCD Mangrove Creek 23.91 213 P P 01 21 54.3 +2.8
baz=24,SNR=19
MGCD Mangrove Creek 23.91 213 P P 01 21 54.0 +2.5
KUZ Kuaotunu 24.39 162 P P 01 21 59.4 +3.5
QLP Quilpie 24.41 235 P P 01 21 57.4 +1.2
baz=24,SNR=54
QLP Quilpie 24.41 235 P P 01 21 57.1 +0.9
AUDCS Dubbo College 24.60 219 P P 01 21 59.4 +1.5
WOLH Wollongong Har 24.96 212 P P 01 22 03.1 +2.0
HIZ Hauiti 25.80 165 P P 01 22 08.0 -0.7
HIZ IAMs_20 IAMs_20 01 31 44.5
comp=Z,19µm,19.0s
AUUHS Ulladulla High 25.92 211 P P 01 22 10.9 +1.2
MXZ Matakaoa Point 26.00 158 IAMs_20 IAMs_20 01 30 58.6
comp=Z,12µm,20.0s
CMSA Cobar Meteorol 26.02 224 P P 01 22 11.7 +1.0
baz=26,SNR=126
CMSA Cobar Meteorol 26.02 224 P P 01 22 11.6 +0.9
URZ Urewera 26.22 161 P P 01 22 13.3 +0.9
comp=Z,18nm,0.9s,baz=150,slow=7.6,SNR=6.7
URZ PcP **PcP 01 25 37.0 -1.9**
comp=Z,20nm,0.8s,baz=17,slow=5.3,SNR=4.1
URZ S **S 01 26 38.6 -4.8**
comp=Z,15nm,1.1s,baz=309,slow=7.6,SNR=1.7
comp=Z,18nm,0.9s
CNB Canberra Magne 26.45 213 P P 01 22 16.5 +1.8
QIS Mount Isa 26.50 251 P P 01 22 15.7 +0.4
baz=27,SNR=46
QIS Mount Isa 26.50 251 P P 01 22 15.5 +0.2
RTZ Ruatahuna 26.50 161 P P 01 22 14.2 -1.0
CAN Canberra 26.64 213 P P 01 22 16.9 +0.5
CAN Canberra 26.64 213 P P 01 22 16.9 +0.5
CAN pmax pmax
comp=Z,85nm,1.3s
CAN MLR MLR
comp=Z,6µm,19.0s
BKZ Black Stump Fm 26.86 163 P P 01 22 18.1 -0.2
BKZ Black Stump Fm 26.86 163 P P 01 22 20.0 +1.7
QRZ Quartz Range 27.53 170 IAMs_20 IAMs_20 01 32 51.9
comp=Z,11µm,18.0s
INKA Innaminka 27.71 236 P P 01 22 27.1 +1.1
MILA Mila 27.90 211 P P 01 22 29.0 +1.3
baz=28,SNR=6.7
MILA Mila 27.90 211 P P 01 22 29.4 +1.7
MRZ Mangatainoka R 28.01 165 P P 01 22 28.4 -0.2
NNZ Nelson 28.06 169 IAMs_20 IAMs_20 01 33 01.0
comp=Z,10µm,20.0s
MRNZ Matariki Terra 28.13 170 P P 01 22 29.6 0.0
BFZ Birch Farm 28.20 164 P P 01 22 30.1 -0.2
BFZ IAmb IAmb 01 23 31.4
comp=Z,120nm,1.3s
BFZ Birch Farm 28.20 164 P P 01 22 32.7 +2.4
GENI Genyem 28.21 291 P P 01 22 31.7 +1.1
comp=Z,54nm,0.7s,comp=Z,3µmcomp=Z,4µm
TUWZ Tuamarina 28.38 168 P P 01 22 31.1 -0.6
THZ Tophouse 28.51 170 IAmb IAmb 01 23 21.1
comp=Z,108nm,1.0s
STKA Stephens Creek 29.06 227 P P 01 22 39.4 +1.4
comp=Z,155nm,0.9s,baz=34,slow=7.9,SNR=178
STKA S **S 01 27 27.2 -1.2**
comp=Z,6.2nm,1.0s,baz=24,slow=16,SNR=1.7
STKA PKiKP **PKiKP 01 33 17.8 -2.4**
comp=Z,1.0nm,0.3s,baz=96,slow=4.5,SNR=3.6
STKA LR LR 01 33 59.5
comp=Z,13µm,18.4s,baz=54,slow=36
comp=Z,155nm,0.9s
STKA Stephens Creek 29.06 227 P P 01 22 39.2 +1.2
baz=29,SNR=206
STKA Stephens Creek 29.06 227 P P 01 22 38.3 +0.3
STKA Stephens Creek 29.06 227 P P 01 22 39.4 +1.4
INZ Inchbonnie 29.23 172 IAmb IAmb 01 22 46.2
comp=Z,176nm,0.9s
INZ IAMs_20 IAMs_20 01 34 34.8
comp=Z,10µm,18.0s
KHZ Kahutara 29.25 169 IAmb IAmb 01 23 30.4
comp=Z,136nm,1.3s
KHZ IAMs_20 IAMs_20 01 34 07.5
comp=Z,15µm,18.0s
LTZ Lake Taylor 29.40 171 IAMs_20 IAMs_20 01 34 28.3
comp=Z,9µm,18.0s
GVZ Greta Valley S 29.70 170 IAMs_20 IAMs_20 01 34 21.3
comp=Z,8µm,19.0s
SMPI Sarmi 29.79 291 P P 01 22 45.8 +1.2
comp=Z,217nm,1.4s,comp=Z,3µm
FOZ Fox Glacier 29.86 175 IAMs_20 IAMs_20 01 34 08.3
comp=Z,9µm,20.0s
OXZ Oxford 29.90 172 IAMs_20 IAMs_20 01 35 24.5
comp=Z,12µm,18.0s
RPZ Rata Peaks 30.16 173 P P 01 22 47.9 +0.3
comp=Z,63nm,0.8s,baz=167,slow=5.6,SNR=8.4
RPZ LR LR 01 34 48.8
comp=Z,8µm,18.2s,baz=348,slow=36
comp=Z,63nm,0.8s
RPZ Rata Peaks 30.16 173 P P 01 22 47.7 +0.1
RPZ IAmb IAmb 01 22 57.1
comp=Z,73nm,0.8s
RPZ IAMs_20 IAMs_20 01 35 05.3
comp=Z,14µm,18.0s
JCZ Jackson Bay 30.32 177 P P 01 22 51.6 +2.5
LBZ Lake Benmore 30.73 175 IAMs_20 IAMs_20 01 34 46.6
comp=Z,9µm,19.0s
LCRK Leigh Creek 30.87 233 P P 01 22 54.7 +0.6
BRAT Ballarat 31.07 216 P P 01 22 58.1 +2.5
WKZ Wanaka 31.09 176 IAmb IAmb 01 23 18.7
comp=Z,137nm,0.9s
WKZ IAMs_20 IAMs_20 01 35 07.8
comp=Z,11µm,18.0s
WR0 Warramunga Arr 31.12 254 IAmb IAmb 01 22 57.4
comp=Z,118nm,1.1s
WB2 Warramunga Arr 31.29 254 IAmb IAmb 01 22 59.0
comp=Z,189nm,1.2s
WRAB Tennant Creek 31.29 254 P P 01 22 56.2 -1.7
WRAB IAmb IAmb 01 22 58.9
comp=Z,171nm,1.2s
WRAB Tennant Creek 31.29 254 P P 01 22 57.2 -0.7
WRAB Tennant Creek 31.29 254 *ce*P **P 01 22 56.7 -1.2**
WRAB pmax pmax
comp=Z,153nm,1.3s
WRAB MLR MLR
comp=Z,23µm,15.0s
WB1 Warramunga Ar. 31.30 254 P P 01 22 57.0 -1.0
WRA Warramunga Arr 31.30 254 P P 01 22 57.1 -0.9
comp=Z,73nm,0.9s,baz=85,slow=8.8,SNR=204
WRA PcP **PcP 01 25 50.3 -1.8**
comp=Z,14nm,0.9s,baz=88,slow=3.5,SNR=6.5
WRA S **S 01 28 00.1 -3.9**
comp=Z,1.4nm,0.9s,baz=90,slow=12,SNR=1.2
WRA ScP **ScP 01 29 28.1 -5.9**
comp=Z,1.4nm,0.9s,baz=77,slow=1.8,SNR=3.1
WRA PKiKP **PKiKP 01 33 19.9 -2.2**
comp=Z,3.1nm,0.9s,baz=20,slow=0.7,SNR=19
WRA LR LR 01 35 25.3
comp=Z,15µm,18.4s,baz=76,slow=36
comp=Z,73nm,0.9s
WRA Warramunga Arr 31.30 254 *ce*P **P 01 22 57.0 -1.0**
WRA pmax pmax
comp=Z,74nm,0.9s
ODZ Otahua Downs 31.43 174 IAMs_20 IAMs_20 01 36 02.0
comp=Z,11µm,18.0s
HTT Hallett 31.79 227 P P 01 23 03.3 +1.1
baz=32,SNR=98
HTT Hallett 31.79 227 P P 01 23 03.2 +1.0
ARPS Mount Arapiles 31.79 219 P P 01 23 03.7 +1.6
baz=32,SNR=78
ARPS Mount Arapiles 31.79 219 P P 01 23 03.5 +1.4
OOD Oodnadatta 31.87 239 P P 01 23 03.1 +0.2
WHZ Wether Hill Ro 32.10 178 IAMs_20 IAMs_20 01 34 49.3
comp=Z,11µm,21.0s
AULHS Lilydale High 32.14 208 P P 01 23 06.1 +1.0
AS01 Alice Springs 32.25 247 P P 01 23 05.6 -0.8
ASAR Alice Springs 32.30 247 P P 01 23 06.1 -0.7
comp=Z,32nm,0.6s,baz=74,slow=9.5,SNR=184
ASAR PcP **PcP 01 25 53.9 -0.8**
comp=Z,7.7nm,0.9s,baz=80,slow=5.2,SNR=3.0
ASAR PKiKP **PKiKP 01 33 20.4 -2.2**
comp=Z,1.8nm,0.7s,baz=97,slow=1.4,SNR=12
ASAR LR LR 01 34 54.6
comp=Z,8µm,21.0s,baz=83,slow=34
comp=Z,32nm,0.6s
ASAR Alice Springs 32.30 247 P P 01 23 05.9 -0.9
PTPS Port Pirie 32.33 228 P P 01 23 09.4 +2.6
comp=Z,335nm,0.9s
CORO Coronation Par 32.34 208 P P 01 23 09.4 +2.6
comp=Z,82nm,0.8s
AUHPC Hawkesdale P12 32.38 217 P P 01 23 10.3 +3.1
WHYH Whyalla 32.56 229 P P 01 23 10.0 +1.1
GHSS Government Hou 32.81 225 P P 01 23 13.5 +2.5
RAR Rarotonga 33.03 108 P P 01 23 14.6 +1.4
comp=Z,52nm,1.0s,baz=223,slow=4.0,SNR=9.8
RAR LR LR 01 33 50.1
comp=Z,5µm,21.2s,baz=276,slow=31
comp=Z,52nm,1.0s
RAR Rarotonga 33.03 108 P P 01 23 11.8 -1.4
RAR IAmb IAmb 01 23 21.8
comp=Z,111nm,1.3s
RAR Rarotonga 33.03 108 P P 01 23 15.5 +2.4
KDU Kakadu 33.07 268 P P 01 23 14.5 +1.0
baz=33,SNR=18
KDU Kakadu 33.07 268 P P 01 23 13.9 +0.4
MOO Moorlands 33.12 207 P P 01 23 15.4 +1.8
baz=33,SNR=14
MOO Moorlands 33.12 207 P P 01 23 15.2 +1.6
TAU Tasmania Unive 33.44 206 P P 01 23 16.0 -0.4
TAU IAmb IAmb 01 23 29.5
comp=Z,122nm,1.1s
TAU Tasmania Unive 33.44 206 P P 01 23 17.8 +1.4
TAU Tasmania Unive 33.44 206 P P 01 23 16.0 -0.4
TAU pmax pmax
comp=Z,122nm,1.1s
BBOO Buckleboo 33.58 230 P P 01 23 18.6 +0.7
baz=34,SNR=155
BBOO Buckleboo 33.58 230 P P 01 23 17.7 -0.1
BBOO Buckleboo 33.58 230 P P 01 23 18.9 +1.1
MULG Mulgathing 34.09 236 P P 01 23 22.5 +0.2
RKPI Ransiki, Papua 34.13 288 P P 01 23 27.8 +5.0
comp=Z,156nm,1.0s,comp=Z,34µmcomp=Z,4µm
MTN Manton Dam 34.35 267 P P 01 23 25.6 +0.9
baz=34,SNR=16
MTN Manton Dam 34.35 267 P P 01 23 24.5 -0.2
MTN IAmb IAmb 01 23 32.5
comp=Z,211nm,1.2s
MTN Manton Dam 34.35 267 P P 01 23 25.7 +0.9
GUMO Guam 34.53 321 LR LR 01 38 02.9
comp=Z,3µm,18.8s,baz=139,slow=37
SAUI Saumlaki 34.95 276 P P 01 23 29.4 -0.4
SAUI Saumlaki 34.95 276 P P 01 23 31.3 +1.4
comp=Z,215nm,1.9s,comp=Z,11µm
FAKI Fak Fak 35.43 285 P P 01 23 33.7 -0.4
FAKI IAmb IAmb 01 23 49.9
comp=Z,92nm,1.2s
FAKI Fak Fak 35.43 285 P P 01 23 34.9 +0.9
FAKI Fak Fak 35.43 285 P P 01 23 35.0 +0.9
comp=Z,27nm,1.1s,comp=Z,782nmcomp=Z,3µm
KNRA Kununurra 36.46 262 P P 01 23 42.8 0.0
baz=36,SNR=33
KNRA Kununurra 36.46 262 P P 01 23 43.1 +0.2
SIJI Sorong 37.07 287 P P 01 23 48.3 +0.2
comp=Z,32nm,0.8s,baz=86,slow=6.9,SNR=27
SIJI LR LR 01 39 29.8
comp=Z,8µm,20.6s,baz=118,slow=37
comp=Z,32nm,0.8s
BNDI Bandanaira 37.16 281 P P 01 23 50.1 +1.3
BNDI Bandanaira 37.16 281 P P 01 23 49.3 +0.5
comp=Z,651nm,1.4s,comp=Z,11µm
WRKA Warakurna 37.58 247 P P 01 23 51.7 -0.6
baz=38,SNR=143
WRKA Warakurna 37.58 247 P P 01 23 51.8 -0.6
XMAS Kiritimati 39.09 69 P P 01 24 03.8 -1.2
XMAS IAmb IAmb 01 24 07.4
comp=Z,118nm,0.8s
XMAS Kiritimati 39.09 69 P P 01 24 06.0 +1.0
FORT Forrest 39.13 238 P P 01 24 05.4 +0.1
baz=39,SNR=128
FORT Forrest 39.13 238 IAmb IAmb 01 24 08.1
comp=Z,183nm,0.8s
FORT Forrest 39.13 238 P P 01 24 05.5 +0.2
FITZ Fitzroy Crossi 39.42 258 P P 01 24 08.1 +0.3
comp=Z,9.5nm,1.1s
NLAI Namlea 40.21 281 P P 01 24 16.2 +1.8
comp=Z,79nm,1.5s,comp=Z,7µm
TNTI Ternate 41.30 287 P P 01 24 25.7 +2.3
TNTI Ternate 41.30 287 P P 01 24 37.8 +14
SOEI Soe 41.44 271 P P 01 24 25.1 +0.4
SOEI IAmb IAmb 01 25 56.8
comp=Z,179nm,1.2s
SOEI IAMs_20 IAMs_20 01 40 57.3
comp=Z,6µm,20.0s
SOEI Soe 41.44 271 P P 01 24 26.2 +1.5
SOEI Soe 41.44 271 P P 01 24 26.1 +1.4
comp=Z,84nm,0.9s,comp=Z,2µmcomp=Z,4µm
SANI Sanana 41.63 283 P P 01 24 26.8 +0.7
SANI Sanana 41.63 283 P P 01 24 27.4 +1.3
comp=Z,106nm,0.9s,comp=Z,2µmcomp=Z,3µm
BATI Baumata 41.95 270 LR LR 01 42 33.5
comp=Z,9µm,19.1s,baz=136,slow=37
BATI Baumata 41.95 270 P P 01 24 31.0 +2.2
comp=Z,189nm,1.7s,comp=Z,2µmcomp=Z,3µm
PPT2 Papeete2 42.46 101 *e*P **P 01 24 33.6 +0.6**
comp=Z,81nm,1.1s
PPT2 Papeete2 42.46 101 *e*PP **PP 01 26 12.5 +0.9**
comp=Z,546nm,29.0s
PPT2 *e*S **S 01 30 57.4 +3.3**
comp=Z,3µm,26.0s
PPT2 *e*SS **SS 01 34 08.1 +4.3**
comp=Z,3µm,27.2s
PPT2 *e*LR LR 01 36 20.4
comp=Z,6µm,31.0s
PPT2 *e*LR LR 01 36 20.7
comp=Z,9µm,28.2s
PPT Papeete 42.46 101 P P 01 24 33.4 +0.5
comp=Z,66nm,0.9s,baz=306,slow=9.1,SNR=7.6
PPT LR LR 01 38 38.6
comp=Z,1µm,19.0s,baz=267,slow=31
comp=Z,66nm,0.9s
PPTF Pamatai, Papee 42.47 101 P P 01 24 35.8 +2.7
TIAR Tiarei 42.68 101 *e*P **P 01 24 36.5 +1.8**
comp=Z,12nm,1.0s
TBI Tubuai 42.76 110 *e*PP **PP 01 26 15.3 +0.7**
comp=Z,2µm,27.0s
TBI *e*S **S 01 31 02.0 +3.9**
comp=Z,11µm,26.5s
TBI *e*SS **SS 01 34 13.5 +4.2**
comp=Z,12µm,28.5s
TBI *e*LR LR 01 36 28.2
comp=Z,18µm,23.2s
TBI *e*LR LR 01 36 28.5
comp=Z,96µm,22.2s
TVO Taravao 42.77 101 *e*P **P 01 24 34.9 -0.6**
comp=Z,45nm,1.0s
MMRI Maumere 43.61 272 IAmb IAmb 01 25 12.6
comp=Z,134nm,1.0s
MMRI Maumere 43.61 272 P P 01 24 42.8 +0.6
MMRI Maumere 43.61 272 P P 01 24 43.5 +1.3
comp=Z,147nm,1.2s,comp=Z,3µm
MEH Mehetia 43.90 102 *e*P **P 01 24 45.4 +0.9**
comp=Z,34nm,0.9s
KMBL Kambalda 44.40 239 P P 01 24 48.6 +0.2
baz=44,SNR=31
KMBL Kambalda 44.40 239 P P 01 24 48.4 -0.1
VAH Vaihoa 44.44 98 *e*P **P 01 24 49.4 +0.5**
comp=Z,94nm,1.0s
PSA00 Pilbara Seismi 44.95 253 IAmb IAmb 01 25 00.9
comp=Z,194nm,1.4s
PSA00 Pilbara Seismi 44.95 253 P P 01 24 53.2 +0.3
BASI Baing, Sumba 44.95 269 P P 01 24 54.1 +1.1
comp=Z,288nm,2.0s,comp=Z,4µmcomp=Z,3µm
LUWI Luwuk 44.99 282 P P 01 24 53.1 -0.2
LUWI Luwuk 44.99 282 P P 01 24 55.3 +2.0
MBWA Marble Bar 45.04 254 P P 01 24 52.6 -1.0
MBWA IAmb IAmb 01 25 01.6
comp=Z,206nm,1.3s
MBWA Marble Bar 45.04 254 P P 01 24 54.4 +0.8
GTOI Gorontalo 45.32 285 P P 01 24 58.0 +2.1
comp=Z,48nm,1.2s,comp=Z,837nm
DAV Davao City (W) 45.51 294 LR LR 01 44 41.8
comp=Z,2µm,18.6s,baz=103,slow=37
BSSI Bau Bau, Buton 45.81 275 P P 01 25 00.6 +0.7
comp=Z,117nm,1.1s,comp=Z,3µm
BKSI Bulukumba 46.36 276 P P 01 25 04.8 +0.7
comp=Z,55nm,1.0s,comp=Z,1µmcomp=Z,3µm
MEEK Meekatharra 46.44 246 P P 01 25 05.0 +0.3
baz=46,SNR=63
MEEK Meekatharra 46.44 246 P P 01 25 05.0 +0.3
KAPI Kappang 46.79 276 LR LR 01 45 37.7
comp=Z,2µm,18.4s,baz=68,slow=37
KAPI Kappang 46.79 276 P P 01 25 07.4 -0.2
KAPI Kappang 46.79 276 P P 01 25 07.4 -0.2
KAPI pmax pmax
comp=Z,346nm,1.6s
JCJ Chichijima 46.91 330 P P 01 25 07.0 -1.2
comp=Z,190nm,0.9s,baz=290,slow=21,SNR=2.6
JCJ LR LR 01 42 15.4
comp=Z,2µm,22.0s,baz=151,slow=33
comp=Z,190nm,0.9s
SPSI Sidrap Palu 47.04 277 P P 01 25 10.1 +0.7
comp=Z,60nm,1.1s,comp=Z,1µm
TOLI2 Tolitoli 47.57 284 P P 01 25 13.1 -0.5
TOLI2 IAmb IAmb 01 25 15.0
comp=Z,68nm,1.0s
TOLI2 Tolitoli 47.57 284 P P 01 25 14.0 +0.4
PCI Palu 47.83 281 P P 01 25 17.2 +1.6
comp=Z,27nm,0.9s,comp=Z,2µm
KLBR Kellerberrin 47.90 240 P P 01 25 15.6 -0.3
baz=48,SNR=30
KLBR Kellerberrin 47.90 240 P P 01 25 15.7 -0.3
PLAI Plampang 47.91 270 P P 01 25 16.4 +0.2
PLAI Plampang 47.91 270 P P 01 25 16.3 +0.1
comp=Z,123nm,1.0s,comp=Z,2µmcomp=Z,3µm
MPSI Mapaga 48.15 283 P P 01 25 19.1 +1.0
comp=Z,161nm,1.1s,comp=Z,5µmcomp=Z,2µm
AUALB St Joseph's Co 48.48 235 P P 01 25 22.3 +1.9
comp=Z,81nm,1.2s
NWAO Narrogin (SRO) 48.59 238 LR LR 01 44 58.9
comp=Z,3µm,21.9s,slow=35
NWAO Narrogin (SRO) 48.59 238 P P 01 25 21.2 0.0
baz=49,SNR=26
NWAO P **P 01 25 21.2 0.0**
baz=49,SNR=26
NWAO Narrogin (SRO) 48.59 238 P P 01 25 20.2 -1.0
NWAO Narrogin (SRO) 48.59 238 IAMs_20 IAMs_20 01 47 28.3
comp=Z,5µm,18.0s
NWAO Narrogin (SRO) 48.59 238 P P 01 25 21.1 -0.1
NWAO Narrogin (SRO) 48.59 238 P P 01 25 20.9 -0.3
NWAO Narrogin (SRO) 48.59 238 P P 01 25 20.2 -1.0
NWAO pmax pmax
comp=Z,203nm,1.4s
NWAO MLR MLR
comp=Z,5µm,18.0s
BLDU Ballidu 48.62 241 P P 01 25 21.7 +0.1
baz=49,SNR=7.6
BLDU Ballidu 48.62 241 P P 01 25 21.2 -0.4
TWSI Taliwang, Sumb 48.79 270 P P 01 25 23.8 +0.7
comp=Z,145nm,0.9s,comp=Z,3µmcomp=Z,3µm
MORW Morawa 48.99 243 P P 01 25 24.6 +0.2
baz=49,SNR=30
MORW Morawa 48.99 243 P P 01 25 23.8 -0.6
MORW Morawa 48.99 243 P P 01 25 24.6 +0.2
RKGY Rocky Gully 49.14 236 P P 01 25 26.4 +1.0
baz=49,SNR=7.3
RKGY Rocky Gully 49.14 236 P P 01 25 26.2 +0.8
MUN Mundaring 49.27 240 P P 01 25 26.9 +0.5
baz=49,SNR=20
MUN Mundaring 49.27 240 P P 01 25 26.6 +0.1
KIP Kipapa 49.37 46 *i* P **P 01 25 25.5 -1.8**
KIP pmax pmax
comp=Z,14nm,0.5s
KIP MLR MLR

comp=Z,2µm,17.0s
OPA Opana 49.55 45 P **P** **01 25 27.3 -1.4**
OPA IAmb IAmb 01 26 02.4
comp=Z,137nm,1.1s
OPA Opana 49.55 45 P **P** **01 25 27.3 -1.4**
OPA pmax pmax
comp=Z,137nm,1.1s
HMH Humu'ula Sheep 50.01 49 P **P** **01 25 31.2 -1.4**
POHA Pohakuloa 50.07 49 IAMs_20 IAMs_20 01 44 10.1
comp=Z,7µm,18.0s
GIRL Giralia 50.17 252 P **P** **01 25 34.5 +1.0**
baz=50,SNR=7.4
GIRL Giralia 50.17 252 P **P** **01 25 33.1 -0.5**
GIRL Giralia 50.17 252 P **P** **01 25 35.4 +1.9**
BKB Balikpapan 50.53 280 P **P** **01 25 35.3 -1.0**
BKB IAmb IAmb 01 25 40.8
comp=Z,140nm,0.9s
BKB Balikpapan 50.53 280 P **P** **01 25 39.0 +2.7**
SRBI Singaraja 50.53 271 P **P** **01 25 37.5 +1.2**
comp=Z,146nm,1.7s,comp=Z,3µmcomp=Z,3µm
JAGI Jajag, Banyuwa 51.49 270 P **P** **01 25 44.5 +0.9**
JAGI Jajag, Banyuwa 51.49 270 P **P** **01 25 44.3 +0.7**
comp=Z,181nm,1.1s,comp=Z,3µmcomp=Z,3µm
ABJI Asem Bagus 51.54 271 P **P** **01 25 44.8 +0.9**
comp=Z,228nm,1.1s,comp=Z,3µm
BLJI Banyuglugur 52.17 271 P **P** **01 25 49.4 +0.8**
comp=Z,194nm,1.0s,comp=Z,3µm
GMJI Gumukmas 52.22 270 P **P** **01 25 49.5 +0.5**
comp=Z,85nm,1.3s,comp=Z,2µm
TAOE Nuku Hiva Isla 52.52 91 *e*P **P** **01 25 51.6 +0.2**
comp=Z,461nm,24.6s
TAOE Nuku Hiva Isla 52.52 91 *e*PP **PP** **01 27 50.9 +0.4**
comp=Z,157nm,26.6s
TAOE *e*S **S** **01 33 19.9 +2.6**
comp=Z,3µm,26.0s
TAOE *e*SS **SS** **01 36 59.3 +3.5**
comp=Z,2µm,26.1s
TAOE *e*LR LR 01 40 59.5
comp=Z,6µm,27.7s
TAOE Nuku Hiva Isla 52.52 91 P **P** **01 25 49.7 -1.7**
TAOE IAmb IAmb 01 25 54.5
comp=Z,111nm,0.8s
TAOE Nuku Hiva Isla 52.52 91 P **P** **01 25 52.9 +1.5**
JHJ Hachijo jima 2 53.07 332 LR LR 01 45 37.5
comp=Z,993nm,21.6s,baz=32,slow=33
KKM Kota Kinabalu 53.58 288 P **P** **01 25 59.2 +0.1**
KKM Kota Kinabalu 53.58 288 P **P** **01 26 00.2 +1.1**
comp=Z,399nm,1.1s
PWJI Pagerwojo 53.86 270 P **P** **01 26 01.8 +0.7**
comp=Z,107nm,1.7s,comp=Z,2µm
JOW Kunigami 54.76 317 P **P** **01 26 09.1 +1.7**
UWJI Ujung Watu 55.01 272 P **P** **01 26 10.6 +1.1**
comp=Z,144nm,1.1s
UGM Wanagama 55.12 270 P **P** **01 26 11.5 +1.2**
UGM Wanagama 55.12 270 P **P** **01 26 11.0 +0.7**
comp=Z,317nm,1.1s
SMRI Semarang 55.38 271 P **P** **01 26 13.9 +1.8**
SBUM Sibu 56.10 282 IAmb IAmb 01 26 20.2
comp=Z,126nm,1.1s
INU Inuyama 56.20 331 P **P** **01 26 15.9 -1.7**
INU IAmb IAmb 01 26 19.1
comp=Z,108nm,1.3s
INU Inuyama 56.20 331 P **P** **01 26 18.2 +0.7**
JGF Kuroka 56.24 332 IAmb IAmb 01 26 26.2
comp=Z,186nm,1.7s
JGF Kuroka 56.24 332 P **P** **01 26 17.9 0.0**
JMN Monobe 56.46 327 P **P** **01 26 19.1 -0.5**
JMN Monobe 56.46 327 P **P** **01 26 20.6 +1.1**
MJAR Matsushiro Arr 56.64 333 P **P** **01 26 19.8 -0.9**
comp=Z,40nm,0.9s,baz=165,slow=7.7,SNR=40
MJAR LR LR 01 47 21.0
comp=Z,764nm,21.2s,baz=147,slow=32
comp=Z,40nm,0.9s
MAJO Matsushiro 56.64 333 P **P** **01 26 20.1 -0.7**
MAJO IAmb IAmb 01 26 38.9
comp=Z,155nm,1.4s
MAJO Matsushiro 56.64 333 P **P** **01 26 20.4 -0.3**
MAJO Matsushiro 56.64 333 *i*P **P** **01 26 20.0 -0.7**
MAJO pmax pmax
comp=Z,116nm,1.5s
MJB9 Matsu-Tunnel 56.64 333 IAmb IAmb 01 26 39.8
comp=Z,153nm,1.4s
JMM Marumori 56.67 336 P **P** **01 26 21.6 +0.7**
JSU Suzuyama 56.69 323 IAmb IAmb 01 26 35.1
comp=Z,74nm,1.1s
JSU Suzuyama 56.69 323 P **P** **01 26 22.1 +1.0**
KPJI Karang Pucung 56.79 270 P **P** **01 26 22.9 +0.7**
comp=Z,174nm,0.9s
CMJI Cimerak 57.17 270 P **P** **01 26 24.7 -0.2**
comp=Z,116nm,1.1s
YULB Yu-li 57.53 309 IAmb IAmb 01 26 41.1
comp=Z,58nm,0.9s
YULB Yu-li 57.53 309 P **P** **01 26 28.7 +1.4**
JNU Nakatsue 57.63 325 LR LR 01 48 12.4
comp=Z,1µm,21.9s,baz=124,slow=33
JNU Nakatsue 57.63 325 IAmb IAmb 01 26 41.9
comp=Z,148nm,1.4s
JNU Nakatsue 57.63 325 P **P** **01 26 28.1 +0.3**
NACB Ninganchiao 57.76 310 P **P** **01 26 28.4 -0.5**
NACB IAmb IAmb 01 26 40.0
comp=Z,142nm,1.2s
NACB Ninganchiao 57.76 310 P **P** **01 26 30.0 +1.2**
JHS Saijyo 57.85 328 IAmb IAmb 01 26 55.4
comp=Z,134nm,1.2s
JHS Saijyo 57.85 328 P **P** **01 26 30.2 +0.9**
JSD Sado 57.87 334 P **P** **01 26 30.5 +1.2**
TPUB Ta-pu 57.98 309 IAmb IAmb 01 26 31.3
comp=Z,103nm,1.0s
TPUB Ta-pu 57.98 309 P **P** **01 26 30.1 -0.3**
BBJI Bungbulang 58.01 270 P **P** **01 26 30.8 -0.1**
SSLB Suanglung 58.01 310 IAmb IAmb 01 26 38.1
comp=Z,54nm,1.0s
SSLB IAMs_20 IAMs_20 01 49 40.9
comp=Z,3µm,19.0s
SSLB Suanglung 58.01 310 P **P** **01 26 30.9 +0.2**
LEM Lembang 58.16 270 LR LR 01 51 57.6
comp=Z,1µm,21.6s,baz=77,slow=36
LEM Lembang 58.16 270 P **P** **01 26 33.1 +1.0**
comp=Z,212nm,1.2s,comp=Z,3µmcomp=Z,3µm
YHNB Yeheng 58.21 311 P **P** **01 26 31.5 -0.6**
YHNB Yeheng 58.21 311 P **P** **01 26 32.6 +0.5**
CNJI Cibinong 58.54 270 P **P** **01 26 34.7 +0.2**
comp=Z,92nm,1.0s,comp=Z,910nm
CBJI Citeko 58.99 271 P **P** **01 26 38.0 +0.3**
comp=Z,189nm,1.0s
JTM Tenmabayashi 59.10 338 P **P** **01 26 38.2 +0.3**
XMI Christmas Isla 59.36 266 P **P** **01 26 42.4 +2.1**
ERM Erimo 59.46 340 *i*P **P** **01 26 40.5 +0.2**
ERM pmax pmax
comp=Z,28nm,0.6s
ERM MLR MLR
comp=Z,2µm,19.0s
CGJI Cibinong 60.08 270 P **P** **01 26 45.4 +0.2**
comp=Z,306nm,1.1s,comp=Z,4µm
KASI Kota Agung 61.47 271 P **P** **01 26 54.8 +0.1**
comp=Z,242nm,1.1s,comp=Z,2µm
ASAJ Asahikawa 61.52 341 LR LR 01 50 23.4
comp=Z,3µm,20.6s,baz=164,slow=33
TJN Taejon 61.98 325 P **P** **01 26 58.2 +0.6**
TJN Taejon 61.98 325 *i*P **P** **01 26 57.3 -0.3**
MDSI Maura Dua 62.01 272 P **P** **01 26 58.2 -0.1**
comp=Z,85nm,1.6s,comp=Z,1µmcomp=Z,2µm
SSE Sheshan 62.23 316 P **P** **01 26 59.8 +0.4**
SSE S **S** **01 35 26.8 +2.6**
SSE SS **SS** **01 39 32.3 +4.3**
SSE pmax pmax
comp=Z,21nm,1.0s
SSE pmax pmax
comp=Z,230nm,5.5s
SSE LR LR
comp=Z,390nm,18.7s
KSRS Korea Array 62.45 326 P **P** **01 27 00.7 -0.1**
comp=Z,25nm,1.0s,baz=141,slow=6.9,SNR=28
comp=Z,25nm,1.0s
HKPS Hong Kong Po S 62.50 304 P **P** **01 27 00.2 -1.2**
HKPS Hong Kong Po S 62.50 304 P **P** **01 27 03.4 +2.0**
KS19 Wonju Array Si 62.52 326 IAmb IAmb 01 27 13.7
comp=Z,138nm,1.6s
DSRI Dabo 62.59 277 P **P** **01 27 03.8 +1.6**
comp=Z,110nm,1.4s,comp=Z,2µmcomp=Z,2µm
DLV T Lat 62.85 291 P **P** **01 27 05.5 +1.4**
INCN Inchon 63.18 325 P **P** **01 27 06.7 +1.0**
VNDA Vanda 63.85 181 P **P** **01 27 10.1 +0.6**
comp=Z,15nm,0.7s,baz=3.7,slow=6.7,SNR=52
VNDA LR LR 01 51 25.7
comp=Z,2µm,20.3s,baz=21,slow=33
VNDA PKP2ab 01 56 14.3
comp=Z,2.6nm,1.0s,baz=224,slow=3.2,SNR=4.5
comp=Z,15nm,0.7s
VNDA Vanda 63.85 181 P **P** **01 27 09.5 0.0**
MYKOM Kota Tinggi 63.90 279 P **P** **01 27 10.4 -0.5**
YSS Yuzh-Sakhalins 64.02 342 P **P** **01 27 10.2 -0.7**
YSS Yuzh-Sakhalins 64.02 342 P **P** **01 27 11.6 +0.7**
YSS Yuzh-Sakhalins 64.02 342 *oe*P **P** **01 27 11.8 +0.9**
YSS *e*PP **pwP** **01 27 21.7 -1.6**
YSS *e* 01 27 50.7
YSS *e*S **S** **01 35 45.6 -0.3**
YSS pmax pmax
comp=Z,60nm,0.8s
YSS pmax pmax
comp=Z,900nm,3.9s
YSS pmax pmax
comp=N,400nm,4.3s
YSS pmax pmax
comp=E,300nm,4.0s
YSS smax smax
comp=N,400nm,13.0s
YSS smax smax
comp=E,400nm,12.0s
SBA Scott Base 64.14 180 P **P** **01 27 12.5 +1.1**
SBA Scott Base 64.14 180 IAMs_20 IAMs_20 01 51 35.5
comp=Z,3µm,18.0s
SBA Scott Base 64.14 180 P **P** **01 27 12.5 +1.1**
SBA pmax pmax
comp=Z,85nm,0.9s
CASY Casey 64.16 202 P **P** **01 27 10.9 -0.8**
CASY Casey 64.16 202 IAMs_20 IAMs_20 01 49 51.7
comp=Z,3µm,19.0s
NJ2 Nanjing 64.39 316 ⇑P **P** **01 27 13.9 +0.2**
NJ2 sP **sP** **01 27 20.4 -0.9**
NJ2 PcP **PcP** **01 27 46.0 -2.1**
NJ2 S **S** **01 35 53.8 +2.7**
NJ2 pmax pmax
comp=Z,40nm,0.8s
NJ2 pmax pmax
comp=Z,850nm,5.2s
NJ2 LR LR
comp=Z,1µm,18.0s
NJ2 LR LR
comp=Z,1µm,18.9s
NJ2 LR LR
comp=Z,1µm,20.6s
QIZ Qiongzhong 64.54 299 P **P** **01 27 15.9 +0.9**
QIZ S **S** **01 35 55.5 +2.0**
QIZ LR LR
comp=Z,920nm,16.3s
QIZ LR LR
comp=Z,1µm,16.9s
QIZ LR LR
comp=Z,1µm,16.9s
SDSI Sungai Dareh 65.52 275 P **P** **01 27 22.0 +0.5**
comp=Z,29nm,1.4s,comp=Z,1µmcomp=Z,3µm
USA0B Ussuriysk Arra 65.62 333 P **P** **01 27 21.1 -0.3**
USA0B Ussuriysk Arra 65.62 333 *i*P **P** **01 27 22.4 +0.9**
USRK Ussuriysk Ar. 65.62 333 P **P** **01 27 22.2 +0.8**
comp=Z,135nm,1.0s,baz=141,slow=6.1,SNR=68
USRK LR LR 01 54 07.3
comp=Z,746nm,19.9s,baz=144,slow=34
comp=Z,135nm,1.0s
UGL Uglegorsk 66.13 343 *e*P **P** **01 27 24.1 -0.5**
UGL *e* 01 27 42.1
UGL *e*S **S** **01 36 06.5 -5.3**
UGL pmax pmax
comp=Z,1µm,4.5s
UGL pmax pmax
comp=Z,110nm,1.1s
BKNI Bangkinang 66.22 276 P **P** **01 27 25.5 -0.5**
BKNI Bangkinang 66.22 276 P **P** **01 27 28.0 +2.0**
CNSH ChangSha 66.45 309 ⇑P **P** **01 27 27.4 +0.3**
CNSH S **S** **01 36 19.3 +2.8**
CNSH SS **SS** **01 40 38.4 +4.5**
CNSH pmax pmax
comp=Z,760nm,4.1s
CNSH LR LR
comp=Z,1µm,18.0s
CNSH LR LR
comp=Z,760nm,20.9s
CNSH LR LR
comp=Z,1µm,22.0s
SHEM Shemya Is, Ala 66.50 5 LR LR 01 50 45.0
comp=Z,2µm,21.2s,baz=154,slow=31
WHN Wuhan 66.67 312 ⇑P **P** **01 27 28.9 +0.4**
WHN sP **pP** **01 27 34.3 +0.4**
WHN S **S** **01 36 18.1 -0.9**
WHN pmax pmax
comp=Z,340nm,1.5s
WHN pmax pmax
comp=Z,2µm,3.4s
WHN LR LR
comp=Z,3µm,15.3s
WHN LR LR
comp=Z,2µm,12.8s
WHN LR LR
comp=Z,5µm,19.2s
PET Petropavlovsk 66.80 355 IAMs_20 IAMs_20 01 50 37.5
comp=Z,2µm,20.0s
PET Petropavlovsk 66.80 355 *e*P **P** **01 27 28.4 -0.4**
PET *e*S **S** **01 36 24.0 +4.2**
PET pmax pmax
comp=Z,900nm,6.1s
UBPT Khong Chiam 66.83 293 P **P** **01 27 31.3 +1.5**
ADK Adak 66.95 11 IAMs_20 IAMs_20 01 53 18.2
comp=Z,2µm,20.0s
PEA0B Petropavlovsk- 66.97 354 *i*P **P** **01 27 29.8 -0.1**
PETK Petropavlovsk- 66.97 354 P **P** **01 27 29.4 -0.6**
comp=Z,13nm,0.7s,baz=112,slow=5.5,SNR=11
PETK LR LR 01 51 21.0
comp=Z,2µm,21.7s,baz=171,slow=31
comp=Z,13nm,0.7s
DL2 Dalian 67.01 323 P **P** **01 27 31.1 +0.7**
DL2 S **S** **01 36 24.9 +2.1**
DL2 pmax pmax
comp=Z,95nm,0.8s
DL2 pmax pmax
comp=Z,720nm,6.2s
DL2 LR LR
comp=Z,880nm,13.5s
DL2 LR LR
comp=Z,980nm,17.7s
DL2 LR LR
comp=Z,1µm,19.6s
MDJ Mudanjiang 67.01 332 P **P** **01 27 30.6 +0.2**
MDJ Mudanjiang 67.01 332 P **P** **01 27 31.3 +0.9**
MDJ pP pP 01 27 34.8 -1.1
MDJ S **S** **01 36 27.9 +5.2**
MDJ sS sS 01 36 35.8 +3.5
MDJ pmax pmax
comp=Z,170nm,1.1s
MDJ pmax pmax
comp=Z,1µm,3.7s
MDJ LR LR
comp=Z,1µm,17.8s
MDJ LR LR
comp=Z,930nm,20.2s
MDJ LR LR
comp=Z,2µm,19.1s
MDJ Mudanjiang 67.01 332 P **P** **01 27 31.2 +0.9**
IPM Ipoh 67.36 281 P **P** **01 27 32.9 -0.4**
IPM Ipoh 67.36 281 P **P** **01 27 34.4 +1.1**
comp=Z,102nm,1.1s
TYV Tymovskoe 67.58 344 *e*P **P** **01 27 34.4 +0.6**
TYV *e*S **S** **01 36 32.6 +3.3**
TYV pmax pmax
comp=Z,500nm,5.5s
TYV pmax pmax
comp=Z,25nm,1.4s
TYV smax smax
comp=N,1µm,9.6s
TYV smax smax
comp=E,1µm,9.6s
SNY Shenyang 67.92 327 ⇓P **P** **01 27 36.3 +0.2**
SNY S **S** **01 36 38.5 +4.8**
SNY pmax pmax
comp=E,24nm,1.0s
SNY pmax pmax
comp=E,760nm,7.3s
SNY LR LR
comp=E,1µm,15.9s
SNY LR LR
comp=E,1µm,15.9s
SNY LR LR
comp=E,2µm,17.5s
TIA Tai'an 68.05 319 ⇑P **P** **01 27 37.3 +0.2**
TIA S **S** **01 36 36.8 +1.3**
TIA pmax pmax
comp=E,37nm,1.0s
TIA pmax pmax
comp=E,640nm,7.1s
TIA LR LR
comp=E,530nm,15.8s
TIA LR LR
comp=E,1µm,19.4s
TIA LR LR
comp=E,910nm,17.2s
CN2 Changchun 68.36 329 *e*P **P** **01 27 38.6 -0.3**
CN2 *es*P pP 01 27 45.6 +1.2
CN2 *e*S **S** **01 36 39.3 +0.3**
CN2 *es*S pS 01 36 47.1 +0.9
CN2 *e*SS **SS** **01 41 04.9 +1.8**
CN2 pmax pmax
comp=E,110nm,1.0s
CN2 pmax pmax
comp=E,740nm,5.0s
CN2 LR LR
comp=E,660nm,17.0s
CN2 LR LR
comp=E,900nm,17.0s
CN2 LR LR
comp=E,1µm,18.0s
PBSI Pulau Batu 68.79 275 P **P** **01 27 43.5 +1.3**
comp=E,163nm,1.3s,comp=E,3µm
BNX BinXian 68.87 332 ⇑P **P** **01 27 42.3 +0.3**
BNX pP **pP** **01 27 46.0 -1.5**
BNX sP **sP** **01 27 48.0 -1.6**
BNX S **S** **01 36 47.8 +2.9**
BNX sS **sS** **01 36 54.6 +0.1**
BNX SS **SS** **01 41 05.8 -4.9**
BNX pmax pmax
comp=E,110nm,0.7s
BNX pmax pmax
comp=E,870nm,6.8s
BNX LR LR
comp=E,990nm,15.7s
BNX LR LR
comp=E,730nm,17.9s
BNX LR LR
comp=E,1µm,21.7s
RPSI Rantau Prapat 68.88 278 P **P** **01 27 42.2 -0.6**
RPSI IAmb IAmb 01 27 54.5
comp=Z,108nm,1.2s
PSI Prapat 68.91 278 LR LR 02 00 37.1
comp=Z,1µm,18.6s,baz=60,slow=38
PSI Prapat 68.91 278 P **P** **01 27 42.9 -0.2**
PSI Prapat 68.91 278 P **P** **01 27 42.2 -0.9**
PSI pmax pmax
comp=Z,108nm,1.2s
GRNR Gornyy 69.37 340 ⇑*i*P **P** **01 27 45.9 +0.9**
GRNR pmax pmax
comp=N,50nm,1.0s
GRNR pmax pmax
comp=E,40nm,1.0s
GRNR pmax pmax
comp=Z,150nm,1.0s
NIKH Nikolski High 69.74 16 P **P** **01 27 46.5 -0.7**
baz=206
NIKH Nikolski High 69.74 16 P **P** **01 27 48.7 +1.5**
KLR Kul'dur 69.76 337 *ce*P **P** **01 27 48.2 +0.7**
KLR pmax pmax
comp=Z,76nm,0.8s
KLR MLR MLR
comp=Z,984nm,17.0s
GSI Gunungsitoli 69.81 277 P **P** **01 27 48.2 -0.3**
GSI Gunungsitoli 69.81 277 P **P** **01 27 49.1 +0.5**
GSI Gunungsitoli 69.81 277 P **P** **01 27 49.0 +0.5**
comp=Z,147nm,0.9s
SRIT Nakonsritamara 69.93 285 P **P** **01 27 50.9 +1.6**
NONG Nongkai 69.94 295 P **P** **01 27 50.0 +0.8**
SURA Surathani 70.08 285 P **P** **01 27 52.0 +1.8**
ENH Enshi 70.10 310 P **P** **01 27 49.9 -0.2**
ENH Enshi 70.10 310 P **P** **01 27 50.4 +0.4**
LYN LuoYang 70.19 315 ⇑*i*P **P** **01 27 51.1 +0.6**
LYN PcP **PcP** **01 28 14.5 +2.2**
LYN S **S** **01 36 58.6 -2.3**
LYN pmax pmax
comp=Z,30nm,1.1s
LYN pmax pmax
comp=Z,830nm,6.0s
LYN LR LR
comp=Z,1µm,19.4s
LYN LR LR
comp=Z,1µm,16.9s
LYN LR LR
comp=Z,2µm,18.8s
NAYO Nakonayok 70.21 291 P **P** **01 27 52.8 +1.9**
HNS HongShan 70.31 318 ⇑P **P** **01 27 52.0 +0.9**
HNS S **S** **01 37 03.3 +1.1**
HNS pmax pmax
comp=Z,38nm,1.4s
HNS pmax pmax
comp=Z,990nm,6.4s
HNS LR LR
comp=Z,870nm,18.3s
HNS LR LR
comp=Z,2µm,18.8s
HNS LR LR
comp=Z,2µm,19.1s
GYA Guiyang 70.47 305 ⇑P **P** **01 27 53.5 +1.0**
GYA pP sP 01 27 59.5 -0.5
GYA S **S** **01 37 09.6 +4.8**
GYA SKS **SKSac** **01 37 53.3 -0.3**
GYA pmax pmax
comp=Z,38nm,0.7s
GYA pmax pmax
comp=Z,730nm,6.3s
GYA LR LR
comp=Z,960nm,18.2s
GYA LR LR
comp=Z,1µm,19.0s
GYA LR LR
comp=Z,1µm,19.2s
BJT Baijiatuau 70.96 321 P **P** **01 27 55.5 +0.4**
BJT IAmb IAmb 01 28 09.0
comp=Z,89nm,1.3s
BJT Baijiatuau 70.96 321 P **P** **01 27 55.8 +0.8**
comp=Z,58nm,1.2s
BJT Baijiatuau 70.96 321 P **P** **01 27 55.5 +0.4**
BJT pmax pmax
comp=Z,89nm,1.3s
BJI Beijing 70.97 321 P **P** **01 27 56.0 +0.9**
BJI sP **pwP** **01 28 06.1 -1.1**
BJI PcP **PcP** **01 28 13.4 -2.0**
BJI S **S** **01 37 11.1 +1.3**
BJI pmax pmax
comp=Z,22nm,0.9s
BJI pmax pmax
comp=Z,370nm,4.9s
BJI LR LR
comp=Z,510nm,19.4s
BJI LR LR
comp=Z,680nm,18.7s
BJI LR LR
comp=Z,810nm,20.3s
UNV Unalaska Valle 71.15 17 P **P** **01 27 55.8 -0.1**
baz=208
TIY Taiyuan 71.97 318 ⇑P **P** **01 28 02.6 +1.3**
TIY S **S** **01 37 22.9 +1.3**
TIY SS **SS** **01 41 57.8 -1.2**
TIY pmax pmax
comp=Z,49nm,1.1s
TIY pmax pmax
comp=Z,760nm,3.6s
HEH HeiHe 72.30 335 *e*P **P** **01 28 03.0 +0.1**
HEH pP **pP** **01 28 06.8 -1.6**
HEH S **S** **01 37 27.4 +2.7**
HEH pmax pmax
comp=Z,110nm,0.8s
HEH pmax pmax
comp=Z,1µm,5.0s
HEH LR LR
comp=Z,580nm,15.7s
HEH LR LR
comp=Z,990nm,16.8s
HEH LR LR
comp=Z,1µm,16.4s
XAN Xi'an 72.41 313 ⇑P **P** **01 28 04.8 +0.8**
XAN pP pP 01 28 09.9 +0.5
XAN PcP **PcP** **01 28 23.6 +1.8**

XAN S **S** **01 37 29.3 +2.5**
XAN sS SKiKP 01 37 39.1 +0.6
XAN ScS **SKKSac** **01 38 08.5 +0.7**
XAN pmax pmax
comp=Z,42nm,1.1s
XAN pmax pmax
comp=Z,830nm,4.1s
XAN LR LR
comp=Z,850nm,17.3s
XAN LR LR
comp=Z,1μm,18.0s
XAN LR LR
comp=Z,2μm,16.7s
KMI **Kunming** **73.09 302** ⇑P **P** **01 28 09.5 +1.1**
KMI sP sP 01 28 17.1 +1.2
KMI S **SKiKP** **01 37 39.0 -1.0**
KMI SS **SS** **01 42 17.8 +1.0**
KMI pmax pmax
comp=Z,93nm,1.3s
KMI pmax pmax
comp=Z,850nm,6.5s
KMI LR LR
comp=Z,320nm,16.0s
KMI LR LR
comp=Z,620nm,21.9s
KMI LR LR
comp=Z,560nm,17.2s
CRAI **Chiangrai** **73.18 296** IAmb IAmb 01 28 17.9
comp=Z,164nm,1.3s
XLT **XiLinHaoTe** **73.41 324** ⇑*i*P **P** **01 28 10.1 +0.3**
XLT pP pP 01 28 14.0 -1.3
XLT sP sP 01 28 16.8 -0.6
XLT PcP **PcP** **01 28 26.1 +0.2**
XLT S **SKiKP** **01 37 41.0 +1.3**
XLT ScS **SKSac** **01 38 14.8 -0.1**
XLT pmax pmax
comp=Z,91nm,1.1s
XLT pmax pmax
comp=Z,910nm,5.5s
XLT LR LR
comp=Z,110nm,16.4s
XLT LR LR
comp=Z,760nm,21.4s
XLT LR LR
comp=Z,1μm,20.2s
CM31 **Chiang Mai Arr** **73.80 294** P **P** **01 28 13.0 +0.6**
CM31 IAmb IAmb 01 28 15.4
comp=Z,73nm,0.9s
CMAR **Chiang Mai Arr** **73.80 294** P **P** **01 28 13.1 +0.7**
comp=Z,39nm,0.8s,baz=118,slow=4.4,SNR=144
comp=Z,39nm,0.8s
CHTO **Chiang Mai** **73.92 294** P **P** **01 28 13.4 +0.2**
CHTO **Chiang Mai** **73.92 294** P **P** **01 28 13.4 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.6s
S12K **Black Hills** **74.05 18** P **P** **01 28 12.1 -1.0**
baz=212
MA2 **Magadan** **74.13 352** LR LR 01 56 15.8
comp=Z,2μm,21.6s,baz=180,slow=32
MA2 **Magadan** **74.13 352** P **P** **01 28 12.3 -1.1**
MA2 IAmb IAmb 01 28 31.4
comp=Z,134nm,1.9s
MA2 IAMs_20 IAMs_20 01 55 09.3
comp=Z,3μm,22.0s
MA2 **Magadan** **74.13 352** P **P** **01 28 13.3 -0.2**
MA2 **Magadan** **74.13 352***ce*P **P** **01 28 12.7 -0.8**
MA2 pmax pmax
comp=Z,45nm,1.9s
MA2 MLR MLR
comp=Z,1μm,18.0s
SDPT **Sand Point** **74.23 19** P **P** **01 28 14.0 -0.1**
baz=213
HHC **Hu-ho-hao-te** **74.29 320** *e*P **P** **01 28 16.3 +1.3**
HHC S **S** **01 37 51.1 +3.1**
HHC SS **SS** **01 42 37.3 +2.9**
HHC pmax pmax
comp=Z,82nm,1.1s
HHC pmax pmax
comp=Z,1μm,6.5s
HHC LR LR
comp=Z,2μm,17.8s
HHC LR LR
comp=Z,1μm,17.1s
HHC LR LR
comp=Z,2μm,16.5s
PZH **PanZhiHua** **74.47 303** P **P** **01 28 16.6 +0.2**
PZH sP **pP** **01 28 22.9 +1.0**
PZH PcP **PcP** **01 28 30.8 -0.1**
PZH S **S** **01 37 52.6 +2.0**
PZH SS **SS** **01 42 37.3 -0.4**
PZH pmax pmax
comp=Z,70nm,1.1s
PZH pmax pmax
comp=Z,780nm,9.4s
PZH LR LR
comp=Z,540nm,17.7s
PZH LR LR
comp=Z,730nm,18.1s
PZH LR LR
comp=Z,750nm,19.1s
CD2 **Chengdu** **74.75 308** P **P** **01 28 18.0 +0.2**
CD2 pP pP 01 28 22.0 -1.3
CD2 sP sP 01 28 23.0 -2.3
CD2 S **S** **01 37 53.5 +0.1**
CD2 SKS **SKKSac** **01 38 25.8 +0.1**
CD2 SS **SS** **01 42 46.1 +4.4**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,1μm,5.8s
CD2 LR LR
comp=Z,1μm,26.5s
CD2 LR LR
comp=Z,1μm,20.8s
CD2 LR LR
comp=Z,910nm,19.0s
HIA **Hailar** **75.01 330** P **P** **01 28 19.2 +0.3**
HIA IAmb IAmb 01 28 20.5
comp=Z,98nm,0.9s
HIA **Hailar** **75.01 330** P **P** **01 28 19.1 +0.3**
HIA **Hailar** **75.01 330** P **P** **01 28 19.2 +0.3**
HIA pmax pmax
comp=Z,98nm,0.9s
HIA MLR MLR
comp=Z,1μm,19.0s
ZEA **Zeya** **75.05 337***ce*P **P** **01 28 20.1 +1.2**
ZEA *e* 01 28 37.7
ZEA *e*S **S** **01 38 00.2 +4.6**
ZEA *e*SS **SS** **01 42 41.4 -3.7**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,30nm,0.6s
ZEA pmax pmax
comp=Z,50nm,0.7s
ZEA pmax pmax
comp=E,200nm,6.5s
ZEA pmax pmax
comp=N,200nm,6.8s
ZEA pmax pmax
comp=Z,500nm,5.8s
ZEA smax smax
comp=E,600nm,14.1s
ZEA smax smax
comp=N,800nm,12.1s
ZEA MLR MLR
comp=E,500nm,19.0s
ZEA MLR MLR
comp=N,300nm,16.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
BTO **Baotou** **75.13 319** *e*P **P** **01 28 21.4 +1.5**
BTO S **S** **01 37 50.6 -6.7**
BTO LR LR
comp=Z,4μm,17.6s
BTO LR LR
comp=Z,3μm,18.5s
CHGN **Chignik** **75.68 19** P **P** **01 28 22.1 -0.4**
baz=215
QSPA **South Pole Qui** **76.31 180** LR LR 02 01 11.1
comp=Z,2μm,18.1s,baz=48,slow=35
TNCH **TengChong** **76.56 300** ⇑P **P** **01 28 29.0 +0.5**
TNCH pP pP 01 28 33.5 -0.5
TNCH sP PcP 01 28 38.5 -1.5
TNCH S **S** **01 38 13.1 -0.8**
TNCH sS sS 01 38 26.6 +4.0
TNCH SS **SS** **01 43 09.1 -0.5**
TNCH pmax pmax
comp=Z,660nm,5.0s
TNCH LR LR
comp=Z,430nm,16.3s
TNCH LR LR
comp=Z,560nm,19.1s
TNCH LR LR
comp=Z,990nm,22.1s
LZH **Lanzhou** **77.04 312** ⇑P **P** **01 28 32.8 +1.9**
LZH sP PcP 01 28 40.5 -1.3
LZH PP **PP** **01 31 27.3 +2.6**
LZH S **S** **01 38 20.8 +2.1**
LZH pmax pmax
comp=Z,97nm,1.6s
LZH pmax pmax
comp=Z,780nm,5.8s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,1μm,17.2s
LZH LR LR
comp=Z,1μm,17.2s
SEY **Seymchan** **77.19 353** LR LR 01 57 56.2
comp=Z,3μm,21.6s,baz=172,slow=32
SEY **Seymchan** **77.19 353***ce*P **P** **01 28 30.4 -0.5**
SEY pmax pmax
comp=Z,45nm,0.8s
SII **Sitkinak Islan** **77.31 21** P **P** **01 28 31.3 -0.5**
baz=219
R17K **Ugashik Creek** **77.42 19** P **P** **01 28 31.5 -0.8**
baz=217
MND **Mandalay** **77.53 297** P **P** **01 28 34.3 +0.6**
DGPR **DIGLIPUR** **77.56 287** *e*P **P** **01 28 35.5 +1.5**
P16K **Nushagak River** **78.05 18** P **P** **01 28 34.5 -1.3**
baz=215,SNR=8.0
Q17K **Contact Creek** **78.08 19** P **P** **01 28 34.6 -1.5**
baz=217
OHAK **Old Harbor** **78.13 21** IAmb IAmb 01 28 39.7
comp=Z,73nm,0.8s
OHAK **Old Harbor** **78.13 21** P **P** **01 28 35.3 -1.0**
baz=220
Q16K **King Salmon** **78.17 19** P **P** **01 28 35.2 -1.2**
baz=217,SNR=14
O16K **Kokwok River B** **78.48 18** P **P** **01 28 37.1 -1.1**
baz=215
Q18K **Katmai Hardscr** **78.67 19** P **P** **01 28 37.7 -1.6**
baz=218,SNR=21
KDAK **Kodiak Island** **78.81 21** P **P** **01 28 40.2 +0.2**
comp=Z,57nm,1.1s,baz=270,slow=4.9,SNR=9.8
comp=Z,57nm,1.1s
RPN **Rapa Nui** **78.82 115** LR LR 01 57 13.9
comp=Z,760nm,18.3s,baz=254,slow=31
O17K **Koliganek Bris** **78.92 18** P **P** **01 28 39.0 -1.5**
baz=216
N16K **Nishlik Lake** **79.01 17** P **P** **01 28 39.7 -1.4**
baz=214
GAMB **Gambell** **79.07 10** P **P** **01 28 40.5 -0.8**
GAMB IAmb IAmb 01 28 44.7
comp=Z,126nm,1.4s
GAMB **Gambell** **79.07 10** P **P** **01 28 40.6 -0.6**
baz=202
P18K **Big Mountain,** **79.18 19** IAmb IAmb 01 28 46.4
comp=Z,94nm,0.9s
P18K **Big Mountain,** **79.18 19** P **P** **01 28 40.7 -1.4**
baz=218,SNR=22
Q19K **Cape Douglas,** **79.33 20** IAMs_20 IAMs_20 01 56 57.8
comp=Z,2μm,20.0s
Q20K **Shuyak Island** **79.50 21** P **P** **01 28 43.1 -0.7**
baz=220
O18K **Koktuh Hills** **79.56 19** IAMs_20 IAMs_20 01 59 20.7
comp=Z,2μm,19.0s
O18K **Koktuh Hills** **79.56 19** P **P** **01 28 42.9 -1.2**
baz=218
LKP **Lekhapani** **79.65 301** *e*P **P** **01 28 46.0 +0.7**
LKP IAmb IAmb 01 28 48.3
comp=Z,166nm,1.3s
CIT **Chita** **79.80 330** *e*P **P** **01 28 46.5 +0.9**
CIT *e* 01 28 55.9
CIT *e* 01 29 01.7
CIT pmax pmax
comp=Z,258nm,1.3s
P19K **Oil Pt** **80.02 19** P **P** **01 28 45.7 -1.0**
baz=220
O19K **Port Alsworth** **80.10 19** P **P** **01 28 46.8 -0.2**
baz=219
ILSW **Iliamna Southw** **80.31 19** P **P** **01 28 45.9 -2.4**
ILSW IAmb IAmb 01 28 51.0
comp=Z,62nm,1.0s
IMP **Imphal** **80.37 298** *e*P **P** **01 28 49.5 +0.1**
IMP IAmb IAmb 01 28 56.4
comp=Z,54nm,0.9s
MOKO **MOKOCHONG** **80.40 300** *e*P **P** **01 28 50.0 +0.4**
MOKO IAmb IAmb 01 28 51.3
comp=Z,171nm,0.4s
SAIH **SAIHA** **80.42 296** *e*P **P** **01 28 50.9 +1.2**
SAIH IAmb IAmb 01 28 53.4
comp=Z,62nm,0.9s
N19K **Bonanza Creek** **80.53 18** IAMs_20 IAMs_20 02 00 00.6
comp=Z,2μm,20.0s
N19K **Bonanza Creek** **80.53 18** P **P** **01 28 48.4 -1.1**
baz=218
O20K **Slope Mountain** **80.55 19** P **P** **01 28 48.8 -0.7**
baz=220
HOM **Homer** **80.55 20** P **P** **01 28 49.5 +0.1**
baz=221
CNPM **China Poot** **80.59 20** IAMs_20 IAMs_20 02 03 26.1
comp=Z,3μm,18.0s
JORH **JORHAT** **80.77 300** *e*P **P** **01 28 52.5 +1.1**
RSO **Redoubt South** **80.80 19** P **P** **01 28 48.9 -2.2**
YAK **Yakutsk** **80.83 343** LR LR 02 06 19.6
comp=Z,2μm,18.0s,baz=129,slow=37
YAK **Yakutsk** **80.83 343** P **P** **01 28 49.8 -1.0**
YAK IAMs_20 IAMs_20 02 08 04.5
comp=Z,3μm,18.0s
YAK **Yakutsk** **80.83 343** *e*P **P** **01 28 50.0 -0.9**
YAK *e* 01 31 51.4
YAK *e*S **S** **01 38 56.0 -1.6**
YAK *e**SS **SKKSac** **01 39 09.3 -0.9**
YAK pmax pmax
comp=Z,97nm,0.9s
YAK pmax pmax
comp=E,15nm,1.4s
YAK pmax pmax
comp=N,33nm,1.3s
YAK pmax pmax
comp=Z,35nm,1.3s
YAK smax smax
comp=N,199nm,4.8s
YAK smax smax
comp=E,344nm,5.7s
YAK MLR MLR
comp=Z,3μm,19.0s
YAK MLR MLR
comp=E,1μm,18.0s
YAK MLR MLR
comp=N,2μm,22.0s
ULN **Ulaanbaatar** **80.84 324** P **P** **01 28 51.0 -0.6**
ULN IAmb IAmb 01 28 53.6
comp=Z,105nm,1.2s
ULN **Ulaanbaatar** **80.84 324***ce*P **P** **01 28 52.0 +0.5**
ULN pmax pmax
comp=Z,92nm,1.2s
BRLK **Bradley Lake** **80.89 20** P **P** **01 28 50.3 -1.0**
BRLK IAmb IAmb 01 28 53.6
comp=Z,63nm,0.8s
BRLK IAMs_20 IAMs_20 02 03 35.5
comp=Z,3μm,20.0s
BRSE **Bradley Lake S** **80.92 20** P **P** **01 28 51.3 -0.1**
baz=222
ANM **Nome** **80.94 12** IAMs_20 IAMs_20 02 01 27.2
comp=Z,2μm,20.0s
ANM **Nome** **80.94 12** P **P** **01 28 51.2 -0.2**
baz=208
SONM **Songino Array** **81.20 324** P **P** **01 28 53.5 +0.1**
comp=Z,24nm,1.0s,baz=135,slow=5.1,SNR=100
SONM PKKPbc **PKKPbc** **01 47 31.1 -0.3**
comp=Z,1.2nm,0.9s,baz=288,slow=3.6,SNR=5.7
SONM PKPPKP **P'P'df** **01 55 38.3 +6.8**
comp=Z,0.6nm,0.9s,baz=210,slow=1.2,SNR=4.6
comp=Z,24nm,1.0s
SONM **Songino Array** **81.20 324** IAmb IAmb 01 29 12.0
comp=Z,134nm,1.7s
TNA **Tin City** **81.36 10** IAmb IAmb 01 29 21.1
comp=Z,192nm,2.0s
TNA **Tin City** **81.36 10** P **P** **01 28 53.4 -0.2**
baz=205
ZIRO **ZIRO** **81.37 301** *e*P **P** **01 28 55.5 +0.7**
ZIRO IAmb IAmb 01 28 58.3
comp=Z,64nm,0.9s
GTA **Gaotai** **81.39 314** *e*P **P** **01 28 55.3 +0.7**
GTA sP sP 01 29 02.9 +0.8
GTA S **S** **01 39 06.8 +2.1**
GTA SS **SS** **01 44 26.8 +5.4**
GTA pmax pmax
comp=Z,68nm,1.2s
GTA pmax pmax
comp=Z,700nm,3.8s
GTA LR LR
comp=Z,490nm,17.1s
GTA LR LR
comp=Z,640nm,19.3s
GTA LR LR
comp=Z,980nm,19.6s
L19K **White Mountain** **81.50 17** P **P** **01 28 54.1 -0.4**
L19K IAMs_20 IAMs_20 02 01 33.2
comp=Z,2μm,20.0s
L19K **White Mountain** **81.50 17** P **P** **01 28 54.1 -0.4**
baz=218
BILL **Bilibino** **81.53 360** P **P** **01 28 52.8 -1.7**
BILL IAmb IAmb 01 28 58.7
comp=Z,76nm,0.7s
BILL **Bilibino** **81.53 360***de*P **P** **01 28 53.1 -1.4**
BILL *e* 01 32 00.9
BILL *e*PPP PPP 01 33 51.1
BILL *e*S **S** **01 39 02.7 -2.0**
BILL *e*SS **SS** **01 44 25.2 +3.1**
BILL *e*SSS SSS 01 47 40.9
BILL pmax pmax
comp=Z,110nm,1.0s
BILL MLR MLR
comp=Z,600nm,18.0s
SPCR **Spurr Chakacha** **81.54 19** P **P** **01 28 53.7 -1.1**
baz=220
CAPN **Captain Cook N** **81.55 20** P **P** **01 28 53.1 -1.6**
baz=221
SEW **Seward** **81.62 21** P **P** **01 28 53.6 -1.5**
baz=223
TTA **Tatalina** **81.78 16** P **P** **01 28 55.0 -1.0**
TTA **Tatalina** **81.78 16** P **P** **01 28 55.4 -0.6**
baz=217,SNR=8.6
TTA **Tatalina** **81.78 16** P **P** **01 28 55.0 -1.0**
TTA pmax pmax
comp=Z,27nm,1.0s
M20K **Styx River** **81.78 18** IAMs_20 IAMs_20 02 00 31.5
comp=Z,2μm,20.0s
M20K **Styx River** **81.78 18** P **P** **01 28 55.4 -0.6**
baz=220
TEZP **TEZPUR** **81.94 300** *e*P **P** **01 28 58.1 +0.5**
TEZP IAmb IAmb 01 28 59.5
comp=Z,76nm,0.9s
L20K **Farewell, AK** **82.02 17** P **P** **01 28 56.8 -0.5**
baz=219
SUA **Susitna One** **82.20 19** IAmb IAmb 01 29 01.5
comp=Z,85nm,1.1s
SUA IAMs_20 IAMs_20 01 58 30.7
comp=Z,2μm,20.0s
SUA **Susitna One** **82.20 19** P **P** **01 28 57.4 -0.9**
baz=222,SNR=11
Q23K **Middleton Isla** **82.25 22** P **P** **01 28 56.5 -1.9**
baz=226
RC01 **Rabbit Creek A** **82.25 20** IAmb IAmb 01 29 01.9
comp=Z,60nm,0.9s
RC01 IAMs_20 IAMs_20 02 04 31.0
comp=Z,3μm,18.0s
RC01 **Rabbit Creek A** **82.25 20** P **P** **01 28 58.3 -0.1**
baz=223,SNR=12
P23K **Montague Islan** **82.26 21** P **P** **01 28 58.3 -0.2**
baz=225
SKT **Skwentna** **82.34 19** IAMs_20 IAMs_20 02 01 48.4
comp=Z,2μm,20.0s
SKT **Skwentna** **82.34 19** P **P** **01 28 59.2 +0.2**
baz=221
SHL **Shillong** **82.38 299** P **P** **01 28 59.4 -0.8**
SHL IAmb IAmb 01 29 02.1
comp=Z,107nm,1.0s
SHL **Shillong** **82.38 299** *e*P **P** **01 29 00.3 +0.2**
SHL IAmb IAmb 01 29 02.6
comp=Z,614nm,2.2s
SHL **Shillong** **82.38 299** P **P** **01 28 59.4 -0.8**
SHL pmax pmax
comp=Z,107nm,1.0s
MAW **Mawson** **82.52 202** LR LR 02 00 04.5
comp=Z,μm,22.0s,baz=98,slow=32
PWL **Port Wells** **82.56 21** P **P** **01 28 59.4 -0.7**
PWL **Port Wells** **82.56 21** P **P** **01 29 00.0 -0.1**
baz=224,SNR=15
M22K **Willow** **82.62 19** IAMs_20 IAMs_20 02 01 08.7
comp=Z,2μm,20.0s
M22K **Willow** **82.62 19** P **P** **01 29 00.5 +0.2**
baz=222
K20K **Telida** **82.66 17** P **P** **01 29 00.4 -0.1**
baz=218
GUWA **GUWAHATI** **82.74 299** *e*P **P** **01 29 02.3 +0.5**
GUWA IAmb IAmb 01 29 04.8
comp=Z,43nm,0.9s
PMR **Palmer** **82.82 20** IAmb IAmb 01 29 03.8
comp=Z,44nm,0.9s
PMR **Palmer** **82.82 20** P **P** **01 29 01.6 +0.3**
baz=223,SNR=12
PPLA **Purkeypile** **82.84 18** P **P** **01 29 01.4 -0.3**
baz=220
KNK **Knik Glacier** **82.91 20** IAmb IAmb 01 29 04.1
comp=Z,49nm,0.7s
KNK IAMs_20 IAMs_20 02 04 11.5
comp=Z,2μm,19.0s
KNK **Knik Glacier** **82.91 20** P **P** **01 29 01.5 -0.4**
baz=224,SNR=12
GCSA **Galena City Sc** **83.02 15** P **P** **01 29 02.2 -0.1**
baz=216
GHO **Glory Hole Cre** **83.02 20** P **P** **01 29 01.9 -0.6**
GHO IAmb IAmb 01 29 38.4
comp=Z,99nm,1.3s
GHO IAMs_20 IAMs_20 02 01 07.3
comp=Z,2μm,20.0s
CUT **Chulitna** **83.06 19** P **P** **01 29 02.5 -0.1**
baz=222,SNR=8.7
BOD **Bodaibo** **83.22 335** *e*P **P** **01 29 03.4 -0.1**
BOD pmax pmax
comp=Z,77nm,2.2s
EYAK **Cordova Ski Ar** **83.24 22** P **P** **01 29 03.5 0.0**
baz=226
EYAK **Cordova Ski Ar** **83.24 22** P **P** **01 29 05.3 +1.8**
SML **Sawmill** **83.24 20** IAmb IAmb 01 29 07.0
comp=Z,62nm,0.9s
SML IAMs_20 IAMs_20 02 05 20.1
comp=Z,2μm,19.0s
SML **Sawmill** **83.24 20** P **P** **01 29 02.8 -0.8**
baz=224,SNR=13
CAST **Castle Rocks** **83.27 17** IAMs_20 IAMs_20 02 02 17.9
comp=Z,2μm,19.0s
CAST **Castle Rocks** **83.27 17** P **P** **01 29 02.5 -1.2**
baz=220,SNR=48
J20K **Nowinta River** **83.28 16** P **P** **01 29 03.7 0.0**
baz=218
M23K **Glacier View** **83.43 20** P **P** **01 29 04.6 +0.1**
baz=224,SNR=8.2
CHUM **Lake Minchumin** **83.56 17** P **P** **01 29 04.8 -0.3**
baz=220,SNR=10
SCM **Sheep Creek Mo** **83.59 20** P **P** **01 29 05.1 -0.4**
baz=225,SNR=18
DIV **Divide** **83.63 21** P **P** **01 29 05.2 -0.5**
DIV IAmb IAmb 01 29 08.2
comp=Z,56nm,0.8s
KTH **Kantishna Hill** **83.72 18** IAMs_20 IAMs_20 02 01 53.7
comp=Z,2μm,20.0s
GOMU **GeErMu** **83.72 309** P **P** **01 29 07.8 +0.7**
GOMU pP PcP 01 29 11.3 +0.1
GOMU sP sP 01 29 15.0 +0.3
GOMU S **S** **01 39 28.0 -1.2**
GOMU SS **SS** **01 44 54.6 -2.2**
GOMU pmax pmax
comp=Z,18nm,0.9s
GOMU pmax pmax
comp=Z,610nm,5.8s
GOMU LR LR
comp=Z,420nm,19.4s
GOMU LR LR
comp=Z,630nm,19.0s
GOMU LR LR
comp=Z,860nm,19.4s
TRF **Thorofare Moun** **83.83 18** IAmb IAmb 01 30 03.8
comp=Z,48nm,1.1s
TRF IAMs_20 IAMs_20 02 02 15.6

comp=Z,2µm,20.0s
TRF Thorofare Moun 83.83 18 P **P** **01 29 05.0 -1.7**
baz=222,SNR=17
KLU Klutina 83.83 21 IAmb IAmb 01 29 09.4
comp=Z,58nm,1.0s
KLU IAMs_20 IAMs_20 02 04 34.8
comp=Z,2µm,18.0s
KLU Klutina 83.83 21 P **P** **01 29 06.2 -0.5**
baz=226,SNR=10
WAT1 Susitna Watana 83.91 19 P **P** **01 29 06.3 -0.8**
baz=224
BMRM Bremner River 83.94 22 P **P** **01 29 05.8 -1.4**
BMRM Bremner River 83.94 22 P **P** **01 29 06.8 -0.5**
baz=227,SNR=6.7
KMRM Mail Ridge 83.99 46 P **P** **01 29 06.3 -1.7**
KMRM IAmb IAmb 01 29 10.8
comp=Z,26nm,0.7s
WAT6 Susitna Watana 83.99 20 P **P** **01 29 06.6 -1.0**
baz=224,SNR=38
JCC Jacoby Creek, 84.00 46 IAMs_20 IAMs_20 02 07 03.6
comp=Z,2µm,19.0s
BPAW Bear Paw Mtn. 84.11 17 P **P** **01 29 07.2 -0.8**
baz=221,SNR=7.8
M24K Tolsona, Glenn 84.17 20 P **P** **01 29 07.9 -0.5**
baz=226,SNR=10
KHMM Horse Mountain 84.23 46 P **P** **01 29 09.5 +0.1**
RND Reindeer 84.23 19 IAmb IAmb 01 29 11.6
comp=Z,70nm,1.0s
RND IAMs_20 IAMs_20 02 02 44.3
comp=Z,2µm,20.0s
ZAK Zakamensk 84.26 325 *e*P **P** **01 29 09.2 0.0**
ZAK pmax pmax
comp=Z,79nm,1.2s
LSA Lhasa 84.34 302 *i* P **P** **01 29 11.5 +1.0**
SNR=16
N25K Chitina, Valde 84.37 21 P **P** **01 29 08.8 -0.7**
baz=227,SNR=14
MESA MESA 84.40 23 P **P** **01 29 09.0 -0.8**
baz=230
MCK McKinley 84.45 18 P **P** **01 29 07.8 -1.9**
MCK IAMs_20 IAMs_20 02 06 34.0
comp=Z,2µm,18.0s
MCK McKinley 84.45 18 P **P** **01 29 08.8 -0.9**
baz=223,SNR=41
MCK McKinley 84.45 18 P **P** **01 29 07.8 -1.9**
MCK pmax pmax
comp=Z,102nm,1.0s
MCK MLR MLR
comp=Z,2µm,18.0s
DHY Denali Highway 84.46 19 IAmb IAmb 01 29 19.5
comp=Z,48nm,1.0s
DHY IAMs_20 IAMs_20 02 01 54.4
comp=Z,3µm,20.0s
DHY Denali Highway 84.46 19 P **P** **01 29 08.8 -1.2**
baz=225,SNR=24
ISLE Juniper Island 84.53 23 IAMs_20 IAMs_20 02 03 51.4
comp=Z,2µm,19.0s
SNCC San Nicolas Is 84.53 54 P **P** **01 29 09.0 -1.8**
baz=250
VRDI Verde Repeater 84.53 22 IAmb IAmb 01 29 14.4
comp=Z,25nm,0.7s
GLB Gilahina Butte 84.54 22 IAmb IAmb 01 29 12.7
comp=Z,50nm,1.0s
BWN Browne 84.61 18 IAMs_20 IAMs_20 02 02 30.6
comp=Z,2µm,20.0s
I21K Tanana 84.65 16 P **P** **01 29 11.0 +0.3**
baz=220
IRK Irkutsk 84.65 327 *e*P **P** **01 29 09.8 -1.2**
IRK pmax pmax
comp=Z,134nm,2.5s
HARP HAARP 84.72 20 P **P** **01 29 11.7 +0.6**
baz=227,SNR=9.1
MCARA McCarthy VSAT 84.79 22 P **P** **01 29 11.9 +0.5**
baz=229,SNR=6.7
SBC Santa Barbara 84.79 53 P **P** **01 29 11.7 -0.4**
baz=250
H21K Melozitna Rive 84.79 16 P **P** **01 29 09.9 -1.6**
H21K IAmb IAmb 01 29 15.0
comp=Z,27nm,0.9s
H21K Melozitna Rive 84.79 16 P **P** **01 29 11.6 +0.2**
baz=220
PKM Mcpherson Peak 84.87 52 P **P** **01 29 12.1 -0.7**
baz=250
TABL Table Mountain 84.88 23 IAMs_20 IAMs_20 02 06 39.7
comp=Z,3µm,18.0s
SMMC Simmler 84.88 52 P **P** **01 29 11.5 -1.1**
baz=249
MLY Manley 84.88 17 IAmb IAmb 01 29 14.5
comp=Z,65nm,1.3s
MLY Manley 84.88 17 P **P** **01 29 11.1 -0.9**
baz=222,SNR=33
PINM Pinnacle 85.00 24 P **P** **01 29 12.0 -0.6**
baz=231
PAX Paxson 85.01 20 P **P** **01 29 11.6 -1.1**
PAX IAmb IAmb 01 30 02.2
comp=Z,42nm,1.5s
PAX Paxson 85.01 20 P **P** **01 29 12.5 -0.2**
baz=226
PAX Paxson 85.01 20 P **P** **01 29 11.6 -1.1**
PAX pmax pmax
comp=Z,42nm,1.5s
NEA2 Nenana 85.04 18 P **P** **01 29 11.9 -0.7**
baz=223,SNR=25
BARN Barnard Glacie 85.08 23 IAMs_20 IAMs_20 02 07 10.0
comp=Z,2µm,18.0s
PNL Peninsula 85.08 24 P **P** **01 29 11.4 -1.6**
baz=232
WRH Wood River Hil 85.24 18 IAMs_20 IAMs_20 02 05 53.9
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 85.28 45 LR LR 02 02 11.0
comp=Z,428nm,18.4s,baz=238,slow=32
G21K Allakaket 85.28 15 P **P** **01 29 14.2 +0.4**
baz=219
SIT Sitka 85.28 28 P **P** **01 29 14.4 +0.4**
baz=236
ORV Oroville 85.30 48 IAMs_20 IAMs_20 02 06 01.1
comp=Z,3µm,18.0s
I23K Minto, Yukon-K 85.36 17 IAMs_20 IAMs_20 02 02 06.1
comp=Z,2µm,19.0s
I23K Minto, Yukon-K 85.36 17 P **P** **01 29 13.8 -0.4**
baz=223,SNR=9.8
S31K Pelican 85.39 27 P **P** **01 29 14.7 +0.1**
baz=235
CRAG Craig 85.45 30 P **P** **01 29 14.4 -0.5**
baz=238
HUMO Hull Mountain 85.45 44 IAMs_20 IAMs_20 02 04 43.9
comp=Z,2µm,18.0s
O28M Mount Upton 85.45 23 P **P** **01 29 14.3 -0.9**
baz=231
CCB Clear Creek Bu 85.45 18 IAMs_20 IAMs_20 02 07 05.5
comp=Z,2µm,18.0s
CIS Catalina Islan 85.45 54 P **P** **01 29 13.3 -2.2**
baz=250
M26K Nabesna, AK 85.47 21 P **P** **01 29 15.0 +0.1**
baz=229,SNR=18
K24K Donnelly Dome 85.48 19 P **P** **01 29 15.0 0.0**
baz=226,SNR=15
HDA Harding Lake 85.54 18 IAMs_20 IAMs_20 02 02 43.0
comp=Z,3µm,20.0s
HDA Harding Lake 85.54 18 P **P** **01 29 14.2 -1.0**
baz=225,SNR=123
CMB Columbia Colle 85.55 49 P **P** **01 29 14.7 -1.2**
CMB Columbia Colle 85.55 49 P **P** **01 29 14.7 -1.2**
CMB pmax pmax
comp=Z,11nm,0.8s
TCOL CIGO, UAF Yank 85.60 18 IAMs_20 IAMs_20 02 10 34.4
comp=Z,2µm,18.0s
TCOL CIGO, UAF Yank 85.60 18 P **P** **01 29 14.0 -1.4**
baz=224,SNR=25
COLA College 85.60 18 IAMs_20 IAMs_20 02 12 26.4
comp=Z,1µm,18.0s
COLA College 85.60 18 P **P** **01 29 14.7 -0.7**
baz=224
COLA College 85.60 18 *i* P **P** **01 29 13.7 -1.7**
COLA pmax pmax
comp=Z,95nm,0.9s
ARVC Arvin 85.71 52 P **P** **01 29 15.7 -1.0**
baz=250
RIDG Independent Ri 85.74 20 IAmb IAmb 01 29 19.0
comp=Z,78nm,1.2s
RIDG IAMs_20 IAMs_20 02 09 05.3
comp=Z,2µm,19.0s
RIDG Independent Ri 85.74 20 P **P** **01 29 15.7 -0.6**
baz=227,SNR=19
VES Vestal, Richgr 85.76 52 P **P** **01 29 15.8 -1.1**
baz=250
L26K Log Cabin Wild 85.76 21 IAMs_20 IAMs_20 02 01 59.8
comp=Z,2µm,20.0s

L26K Log Cabin Wild 85.76 21 P **P** **01 29 15.8 -0.6**
baz=228,SNR=18
U33K Whale Pass 85.79 29 P **P** **01 29 15.9 -0.6**
baz=238
O29M Mount Kennedy 85.79 24 P **P** **01 29 16.8 +0.1**
baz=233
DECC Green Verdugo 85.80 53 P **P** **01 29 16.0 -1.2**
baz=250
ILAR Eielson Array 85.82 18 P **P** **01 29 14.1 -2.4**
comp=Z,42nm,0.9s,baz=241,slow=4.8,SNR=125
ILAR PKiKP **PKiKP 01 34 24.8 -0.9**
comp=Z,0.6nm,0.6s,baz=273,slow=3.3,SNR=4.4
ILAR PKKP **PKKPdf 01 47 09.8 -4.4**
comp=Z,0.1nm,0.5s,baz=320,slow=34,SNR=3.2
ILAR PKKPbc **PKKPbc 01 47 16.8 -4.3**
comp=Z,0.8nm,0.7s,baz=352,slow=2.1,SNR=8.3
ILAR PKPPKP **P'P'df 01 55 25.9 +4.3**
comp=Z,0.7nm,0.9s,baz=335,slow=1.3,SNR=5.1
ILAR LR LR 02 06 29.3
comp=Z,2µm,18.2s,baz=226,slow=35
comp=Z,42nm,0.9s
M27K Edge Creek, AK 85.83 22 P **P** **01 29 17.1 +0.2**
baz=230
F21K Alatna River 85.84 15 P **P** **01 29 17.3 +0.6**
baz=219
POKR Poker Plat Res 85.90 18 P **P** **01 29 15.2 -1.8**
baz=225,SNR=28
YUK8 Steele Glacier 85.93 23 P **P** **01 29 17.2 -0.3**
baz=232,SNR=15
YUK3 Moose Creek 85.98 22 P **P** **01 29 17.0 -0.7**
baz=231
MOY Mondy 86.14 325 *e*P **P** **01 29 18.4 -0.2**
MOY pmax pmax
comp=Z,130nm,3.2s
ISA Isabella, Lake 86.17 52 P **P** **01 29 18.3 -0.7**
baz=250,SNR=6.4
SCRK Sand Creek 86.18 20 IAmb IAmb 01 29 21.9
comp=Z,28nm,0.7s
SCRK Sand Creek 86.18 20 P **P** **01 29 18.4 -0.1**
baz=228,SNR=16
PLBC Pleasant Camp 86.20 25 P **P** **01 29 18.2 -0.3**
baz=235
T33K Petersburg 86.24 29 P **P** **01 29 19.7 +0.9**
baz=238
YUK6 Outpost Mounta 86.27 24 P **P** **01 29 19.8 +0.6**
baz=233
EDW2 Edwards Air Fo 86.27 53 P **P** **01 29 20.6 +1.1**
baz=251,SNR=7.7
H24K Noodor Dome 86.29 17 IAMs_20 IAMs_20 02 06 39.6
comp=Z,2µm,19.0s
H24K Noodor Dome 86.29 17 P **P** **01 29 20.2 +1.2**
baz=224
L27K Beaver Creek, 86.31 21 IAMs_20 IAMs_20 02 05 05.3
comp=Z,2µm,19.0s
L27K Beaver Creek, 86.31 21 P **P** **01 29 19.3 +0.2**
baz=230
WRAK Wrangell Islan 86.32 29 P **P** **01 29 18.5 -0.6**
baz=239
109C Camp Elliot, M 86.32 55 P **P** **01 29 19.2 -0.6**
baz=251
BFSC Mount Baldy Ra 86.32 54 P **P** **01 29 19.4 -0.6**
baz=251
R32K Eaglecrest 86.32 27 P **P** **01 29 19.0 -0.2**
baz=237
G23K Bananza Creek 86.33 16 P **P** **01 29 19.0 -0.1**
baz=222
P30M Million Dollar 86.34 25 P **P** **01 29 19.4 +0.1**
baz=234
MDPB Devils Postpil 86.38 50 P **P** **01 29 20.3 0.0**
F22K John River 86.38 15 P **P** **01 29 19.8 +0.5**
baz=220
BBB Bella Bella 86.39 34 LR LR 02 04 59.3
comp=Z,2µm,18.1s,baz=254,slow=34
YUK4 Tatlot Arm 86.40 23 P **P** **01 29 20.0 +0.3**
baz=233
MURC Murrieta 86.48 54 P **P** **01 29 19.7 -0.9**
baz=251
TAPN Taplejung 86.48 299 *e*P **P** **01 29 21.2 +0.1**
comp=Z,154nm,1.1s
HYT Haines Junctio 86.53 24 IAmb IAmb 01 29 22.8
comp=Z,35nm,1.2s
HYT Haines Junctio 86.53 24 P **P** **01 29 21.2 +0.9**
baz=234
ODAN Odare 86.61 299 *e*P **P** **01 29 21.0 -0.6**
comp=Z,37nm,1.0s
SKAG Skagway 86.63 26 P **P** **01 29 21.6 +0.9**
baz=236
COLD Coldfoot 86.67 16 P **P** **01 29 21.5 +0.8**
baz=222,SNR=35
J26L Joseph Creek 86.67 19 P **P** **01 29 21.5 +0.6**
baz=228
LRMC Laurel Mtn Rad 86.71 52 P **P** **01 29 22.7 +0.8**
baz=251,SNR=8.9
CWC Cottonwood Cre 86.73 51 P **P** **01 29 22.9 +1.0**
baz=250
PRP Porcupine Dome 86.75 18 IAMs_20 IAMs_20 02 06 56.0
comp=Z,2µm,19.0s
PRP Porcupine Dome 86.75 18 P **P** **01 29 22.3 +1.0**
baz=226,SNR=8.2
NLWA Neilton Lookou 86.77 40 IAMs_20 IAMs_20 02 03 58.6
comp=Z,2µm,19.0s
K27K Chicken 86.85 20 IAMs_20 IAMs_20 02 08 57.6
comp=Z,2µm,18.0s
K27K Chicken 86.85 20 P **P** **01 29 22.8 +1.1**
baz=230
MONP2 Monument Peak 86.87 55 P **P** **01 29 22.4 -0.3**
baz=252
K05A Summer Lake 86.90 45 P **P** **01 29 22.9 +0.3**
G24K Hadweenzic Riv 87.02 17 P **P** **01 29 23.2 +0.7**
baz=224
BOK Bokaro 87.04 295 *e*P **P** **01 29 23.5 0.0**
BOK IAmb IAmb 01 29 30.9
comp=Z,15nm,0.9s
IKP In-Ko-Pah, Jac 87.04 56 P **P** **01 29 23.3 -0.2**
baz=252
MPMC Manual Prospec 87.05 52 P **P** **01 29 23.8 +0.2**
baz=251,SNR=6.8
O30N Mendenhall 87.06 24 P **P** **01 29 23.2 +0.4**
baz=235,SNR=5.6
PFO Pinyon Flats O 87.07 55 LR LR 02 04 01.7
comp=Z,4µm,18.1s,baz=260,slow=33
PFO Pinyon Flats O 87.07 55 P **P** **01 29 23.6 0.0**
PFO Pinyon Flats O 87.07 55 P **P** **01 29 23.8 +0.2**
baz=252
PFO Pinyon Flats O 87.07 55 *i* P **P** **01 29 24.1 +0.5**
PFO pmax pmax
comp=Z,15nm,0.9s
TPFO Pinon Flats 87.07 55 P **P** **01 29 22.7 -0.9**
baz=252
M29M Somme Creek 87.13 22 P **P** **01 29 23.4 +0.2**
baz=233
NVAR Mina Array Bea 87.23 50 P **P** **01 29 25.5 +1.1**
comp=Z,5.3nm,0.7s,baz=232,slow=8.9,SNR=34
NVAR PKPPKP **P'P'df 01 55 24.1 +2.2**
comp=Z,1.7nm,0.9s,baz=100,slow=2.9,SNR=4.9
NVAR LR LR 02 03 10.0
comp=Z,4µm,18.7s,baz=269,slow=32
comp=Z,5.3nm,0.7s
NVAR Mina Array Bea 87.23 50 P **P** **01 29 23.4 -1.0**
RAMN Ramite 87.31 298 *e*P **P** **01 29 24.9 -0.2**
comp=Z,76nm,0.8s
GSC Goldstone, Bar 87.33 53 P **P** **01 29 24.4 -0.4**
baz=251
I26K Coal Creek Min 87.34 19 IAMs_20 IAMs_20 02 03 55.5
comp=Z,2µm,20.0s
I26K Coal Creek Min 87.34 19 P **P** **01 29 24.7 +0.7**
baz=228
SWSC Sam W. Stewart 87.38 55 P **P** **01 29 24.8 -0.2**
baz=252,SNR=5.6
P32M Atlin 87.39 26 P **P** **01 29 25.2 +0.8**
baz=237
E23K Chandalar 87.44 15 P **P** **01 29 25.3 +0.7**
baz=222,SNR=7.6
WHY Whitehorse 87.49 25 P **P** **01 29 25.7 +0.7**
baz=236
F24K Squaw Lake 87.50 16 P **P** **01 29 25.7 +0.9**
baz=224
PGC Sidney 87.54 39 IAmb IAmb 01 30 06.1
comp=Z,37nm,1.4s
HEC Hector,Ludlow 87.55 53 P **P** **01 29 25.4 -0.4**
baz=252
BELC Belle Mtn. Jos 87.55 54 P **P** **01 29 25.6 -0.4**
baz=252,SNR=8.1
FYU Fort Yukon 87.56 17 IAMs_20 IAMs_20 02 10 45.4
comp=Z,1µm,18.0s
KVN Kaiserville 87.59 49 P **P** **01 29 25.2 -0.9**
KVN Kaiserville 87.59 49 P **P** **01 29 25.2 -0.9**
KVN pmax pmax

comp=Z,18nm,1.3s
N31M Braeburn, Yuko 87.60 24 IAMs_20 IAMs_20 02 10 47.6
comp=Z,2µm,18.0s
N31M Braeburn, Yuko 87.60 24 P **P** **01 29 26.2 +0.8**
baz=235
T35M Bob Quinn 87.60 29 P **P** **01 29 25.4 -0.1**
baz=240
EGAK Eagle 87.64 20 IAmb IAmb 01 29 30.1
comp=Z,52nm,1.0s
EGAK IAMs_20 IAMs_20 02 09 22.5
comp=Z,2µm,19.0s
EGAK Eagle 87.64 20 P **P** **01 29 25.3 -0.1**
baz=230,SNR=11
L29M L29M 87.66 22 P **P** **01 29 25.8 +0.1**
baz=233
S34M Telegraph Cree 87.66 28 P **P** **01 29 25.8 +0.1**
baz=240,SNR=6.2
FURC Furnace Creek, 87.66 52 P **P** **01 29 25.7 -0.5**
baz=251
Q32M Nakina River 87.69 27 P **P** **01 29 25.6 -0.4**
baz=238
VIS Vishakhapatnam 87.71 289 *e*P **P** **01 29 26.8 -0.1**
VIS IAmb IAmb 01 29 35.8
comp=Z,162nm,2.5s
GWY Greenwater Val 87.72 52 P **P** **01 29 25.9 -0.8**
E24K Your Creek 87.74 15 P **P** **01 29 26.9 +0.9**
baz=224
DAWY Dawson 87.79 21 P **P** **01 29 26.2 0.0**
baz=232,SNR=12
BELA Belgrano 2 87.79 176 P **P** **01 29 24.9 -1.3**
BELA IAmb IAmb 01 29 26.7
comp=Z,46nm,0.8s
M30M Minto, Yukon 87.83 23 IAmb IAmb 01 29 56.8
comp=Z,69nm,1.9s
M30M IAMs_20 IAMs_20 02 09 46.9
comp=Z,2µm,18.0s
M30M Minto, Yukon 87.83 23 P **P** **01 29 26.4 -0.1**
baz=234
D23K Nanushuk River 87.86 14 P **P** **01 29 27.0 +0.6**
baz=221
JIRN Jiri 87.86 299 *e*P **P** **01 29 27.6 -0.3**
comp=Z,133nm,0.8s
BC3 Big Chuckawall 87.88 55 P **P** **01 29 27.1 -0.3**
baz=252,SNR=5.2
SHOC Shoshone, Teco 87.93 52 P **P** **01 29 27.4 -0.2**
baz=252
I27K Kandik River 88.02 19 P **P** **01 29 27.4 0.0**
baz=230
TUQ Turquoise Moun 88.06 53 P **P** **01 29 27.7 -0.6**
baz=252,SNR=11
GMRC Granite Mounta 88.06 54 P **P** **01 29 28.1 -0.2**
baz=252,SNR=8.5
P33M Teslin, Yukon 88.11 26 IAMs_20 IAMs_20 02 05 44.2
comp=Z,2µm,20.0s
P33M Teslin, Yukon 88.11 26 P **P** **01 29 28.1 +0.2**
baz=238
F25K Christian Rive 88.16 17 P **P** **01 29 28.4 +0.5**
baz=226
GLA Glamis 88.19 55 P **P** **01 29 28.8 -0.1**
baz=252
G26K Porcupine Rive 88.25 18 P **P** **01 29 28.9 +0.6**
baz=228
IRM Iron Mountain 88.27 54 P **P** **01 29 29.0 -0.2**
baz=252,SNR=9.9
TPNV Topopah Spring 88.28 51 P **P** **01 29 28.8 -0.6**
baz=252,SNR=6.8
K29M Barlow Dome 88.31 22 P **P** **01 29 29.0 +0.2**
baz=234
WVOR Wild Horse Val 88.35 46 IAMs_20 IAMs_20 02 09 16.8
comp=Z,2µm,18.0s
JHSG JHARSUGUGA 88.36 293 *e*P **P** **01 29 29.8 -0.1**
JHSG *i* pP **sP** **01 29 39.8 +2.3**
JHSG IAmb IAmb 01 29 41.4
comp=Z,234nm,0.2s
DLBC Dease Lake 88.43 28 LR LR 02 07 52.6
comp=Z,934nm,18.1s,baz=280,slow=35
DLBC Dease Lake 88.43 28 P **P** **01 29 28.6 -0.8**
baz=240
J29M Klondike Camp 88.43 21 P **P** **01 29 29.7 +0.4**
baz=233
A21K Barrow 88.44 11 P **P** **01 29 28.6 -0.5**
baz=216,SNR=17
H27K Steamboat Moun 88.45 19 P **P** **01 29 29.5 +0.2**
baz=230
R33M Jennings River 88.48 27 P **P** **01 29 29.7 -0.1**
baz=240
PKI Pulchoki 88.50 299 *e*P **P** **01 29 30.4 -0.5**
comp=Z,156nm,0.8s
PKIN Phulchoki 88.52 299 *e*P **P** **01 29 30.4 -0.4**
comp=Z,154nm,0.8s
M31M Drury Creek, Y 88.55 24 IAMs_20 IAMs_20 02 11 55.7
comp=Z,2µm,19.0s
M31M Drury Creek, Y 88.55 24 P **P** **01 29 29.1 -0.7**
baz=237
E25K Arctic Village 88.55 16 P **P** **01 29 29.0 -0.7**
baz=226,SNR=20
F26K Sheenjek River 88.65 17 P **P** **01 29 30.2 -0.1**
baz=228
KKN Kakani 88.67 299 *e*P **P** **01 29 30.4 -1.1**
comp=Z,22nm,0.8s
LTY Liberty 88.73 41 IAmb IAmb 01 30 34.4
comp=Z,44nm,1.7s
MAYO Mayo, Yukon 88.76 22 P **P** **01 29 31.4 +0.6**
baz=235
DMN Daman 88.77 299 *e*P **P** **01 29 32.2 +0.2**
comp=Z,341nm,0.8s
J08A Circle Bar Ran 88.78 45 IAmb IAmb 01 30 07.7
comp=Z,30nm,1.2s
G27K Doyon Strip 88.79 18 P **P** **01 29 31.2 +0.3**
baz=230
TIXI Tiksi 88.82 349 LR LR 02 05 39.9
comp=Z,899nm,21.4s,baz=2.0,slow=33
TIXI Tiksi 88.82 349 P **P** **01 29 29.3 -1.6**
TIXI Tiksi 88.82 349 *ce*P **P** **01 29 29.7 -1.2**
TIXI pmax pmax
comp=Z,25nm,1.1s
NEE2 Needles Airpor 88.87 54 P **P** **01 29 32.0 -0.1**
baz=252
C24K Franklin Bluff 88.89 14 P **P** **01 29 32.4 +1.2**
baz=223
I29M Ogilvie Camp, 88.95 20 IAmb IAmb 01 29 35.2
comp=Z,25nm,1.1s
I29M IAMs_20 IAMs_20 02 08 16.1
comp=Z,2µm,20.0s
I29M Ogilvie Camp, 88.95 20 P **P** **01 29 32.7 +1.0**
baz=233
FARO Faro, Yukon 88.97 24 P **P** **01 29 32.5 +0.6**
baz=238
D25K Kavik River 89.18 15 P **P** **01 29 32.6 -0.1**
baz=225
R11A Troy Canyon, C 89.22 50 P **P** **01 29 33.5 -0.3**
baz=252
GKN Gorkha 89.28 299 *e*P **P** **01 29 33.5 -0.8**
comp=Z,220nm,0.8s
214A Organ Pipe Nat 89.50 57 P **P** **01 29 34.7 -0.3**
baz=254
LPIG La Paz 89.51 65 LR LR 02 03 56.6
comp=Z,719nm,18.3s,baz=251,slow=32
E27K Coleen River 89.70 17 P **P** **01 29 35.2 +0.1**
baz=230
SLBS Sierra La Lagu 89.72 66 IAMs_20 IAMs_20 02 05 32.8
comp=Z,2µm,18.0s
D08A Wollman Farm, 89.77 41 P **P** **01 29 35.0 -0.9**
D08A IAmb IAmb 01 30 12.0
comp=Z,53nm,1.7s
C26K Camden Bay 89.96 15 P **P** **01 29 37.1 +0.8**
baz=227
C27K Jago River 90.07 16 P **P** **01 29 37.3 +0.5**
baz=228
EPYK Eagle Plains 90.08 20 IAMs_20 IAMs_20 02 10 21.9
comp=Z,2µm,19.0s
EPYK Eagle Plains 90.08 20 P **P** **01 29 37.5 +0.6**
baz=234
BMO Blue Mountains 90.08 44 IAMs_20 IAMs_20 02 09 01.3
comp=Z,2µm,18.0s
DANN Dangsing 90.12 299 *e*P **P** **01 29 37.3 -1.1**
comp=Z,138nm,0.6s
ELK Elko 90.22 48 LR LR 02 05 45.2
comp=Z,2µm,18.2s,baz=247,slow=33
ELK Elko 90.22 48 IAMs_20 IAMs_20 02 09 41.2
comp=Z,2µm,18.0s
G30M tAoh Zraii Nji 90.59 19 P **P** **01 29 38.9 -0.4**
baz=235
MFID Camas Ranch 90.62 45 IAMs_20 IAMs_20 02 12 20.9
comp=Z,1µm,19.0s
LIRD Liard River Hi 90.69 28 P **P** **01 29 40.2 +0.3**
baz=244
SZCU Shurtz Canyon 90.88 52 P **P** **01 29 41.0 -0.6**

SALM Salem 91.03 282 eP P 01 29 43.8 +1.3
PLID Pearl Lake 91.03 44 IAMs_20 IAMs_20 02 05 50.6
comp=Z,2µm,19.0s
ELIB Princess Elisa 91.06 191 dP P 01 29 41.1 -0.7
comp=Z,71nm,1.0s
TUC Tucson 91.25 57 P P 01 29 43.2 -0.1
TUC Tucson 91.25 57 IAMs_20 IAMs_20 02 04 05.0
comp=Z,2µm,20.0s
TUC Tucson 91.25 57 P P 01 29 42.7 -0.6
baz=255
TUC Tucson 91.25 57 P P 01 29 43.2 -0.1
TUC pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 91.32 41 LR LR 02 08 40.0
comp=Z,925nm,18.0s,baz=254,slow=34
NEW Newport 91.32 41 P P 01 29 43.4 +0.2
baz=251,SNR=5.4
KOD Kodaikanal 91.40 280 eP P 01 29 43.3 -1.3
WMQ Urumqi 91.44 315 eP P 01 29 44.3 +0.4
WMQ sP pwP 01 29 57.0 +0.4
WMQ SKS SKSac 01 40 15.3 +0.1
WMQ S S 01 40 37.1 -5.2
WMQ SS SS 01 46 48.8 +0.1
WMQ pmax pmax
comp=Z,17nm,1.7s
WMQ pmax pmax
comp=Z,440nm,4.5s
WMQ LR LR
comp=Z,550nm,18.7s
WMQ LR LR
comp=Z,790nm,18.7s
WMQ LR LR
comp=Z,770nm,20.3s
WUAZ Wupatki 91.63 54 P P 01 29 44.6 -0.5
baz=254
HLID Hailey 91.65 46 IAMs_20 IAMs_20 02 09 20.0
comp=Z,2µm,18.0s
HLID Hailey 91.65 46 P P 01 29 44.7 -0.2
baz=253,SNR=9.6
F31M Tsiigehtchic 91.65 19 P P 01 29 44.2 +0.1
baz=237
DUG Dugway, Tooele 91.82 49 P P 01 29 45.5 -0.3
baz=254
MSU Marysvale 91.83 51 P P 01 29 45.1 -0.9
MSU Marysvale 91.83 51 P P 01 29 45.1 -0.9
KOTAN Kotaneelee Air 91.93 28 P P 01 29 45.4 -0.3
baz=246
HYB Hyderabad 92.05 287 eP P 01 29 47.1 -0.1
HYB IVmB_BB 01 29 52.9
comp=Z,192nm,2.4s
HYB eSKSac SKSac 01 40 19.4 -0.3
HYB Hyderabad 92.05 287 eP P 01 29 47.0 -0.2
HYB IAmb IAmb 01 29 49.6
comp=Z,17nm,0.9s
INK Inuvik 92.19 19 P P 01 29 46.4 -0.3
comp=Z,4.2nm,0.9s,baz=307,slow=1.4,SNR=5.3
INK PKiKP PKiKP 01 34 34.7 -1.6
comp=Z,1.1nm,0.8s,baz=227,slow=2.4,SNR=1.7
INK PKKP PKKPdf 01 47 00.7 -2.3
comp=Z,1.5nm,0.9s,baz=9.5,slow=5.3,SNR=7.6
INK LR LR 02 08 18.2
comp=Z,2µm,19.2s,baz=228,slow=34
comp=Z,4.2nm,0.9s
INK Inuvik 92.19 19 P P 01 29 46.9 +0.3
INK Inuvik 92.19 19 P P 01 29 46.7 +0.1
baz=237
WAPA Wapiti River 92.42 34 IAmb IAmb 01 29 50.2
comp=Z,32nm,0.7s
PCHI Peechi 92.54 280⇑ eP P 01 29 50.6 +1.1
PCHI eS SKSac 01 40 21.3 -1.1
W18A Petrified Fore 92.82 55 P P 01 29 50.5 -0.1
baz=255
MSO Missoula 92.93 43 P P 01 29 51.5 +0.7
baz=253
PMSA Palmer Station 92.99 161 LR LR 02 08 24.5
comp=Z,2µm,18.8s,baz=220,slow=33
DGZ Jazzator, Alta 93.37 320 i P P 01 29 52.5 -0.3
DGZ pmax pmax
comp=Z,37nm,1.0s
LGTI Lohaghat 93.38 299 eP P 01 29 53.2 +0.2
PTH Pithoragarh 93.43 299 eP P 01 29 52.0 -1.5
WRGLY Wrigley 93.46 25 P P 01 29 53.3 +0.7
baz=246
LRM Limekiln Ridge 93.64 44 P P 01 29 53.4 -0.8
AHID Auburn Hatcher 93.76 47 IAMs_20 IAMs_20 02 11 56.9
comp=Z,2µm,18.0s
121A Cookes Peak, D 93.77 58 P P 01 29 55.1 +0.1
baz=256
TROLL Troll, Antarti 93.80 185 P P 01 29 53.6 -0.8
JHNI Jhansi 93.93 295 eP P 01 29 52.5 -3.2
NVL N'lazarevskaya 93.94 188 eP P 01 29 54.2 -0.6
NVL eS SKSac 01 40 27.9 -0.2
NVL pmax pmax
comp=Z,49nm,0.8s
BOZ Bozeman (W) 94.13 44 IAMs_20 IAMs_20 02 08 07.6
comp=Z,2µm,18.0s
BOZ Bozeman (W) 94.13 44 P P 01 29 56.1 -0.2
baz=255
IMW Indian Meadow 94.16 46 IAMs_20 IAMs_20 02 12 31.4
comp=Z,2µm,18.0s
SNOW Snow King Moun 94.18 46 IAMs_20 IAMs_20 02 13 45.1
comp=Z,2µm,18.0s
AKL Akola 94.22 290 eP P 01 29 57.1 0.0
AKL IAmb IAmb 01 29 58.1
comp=Z,52nm,0.9s
MOOW Moose Ponds 94.26 46 IAMs_20 IAMs_20 02 11 50.2
comp=Z,2µm,18.0s
MVCO Mesa Verde 94.31 53 IAMs_20 IAMs_20 02 07 57.7
comp=Z,2µm,19.0s
MVCO Mesa Verde 94.31 53 P P 01 29 56.9 -0.6
baz=256
LOHW Long Hollow 94.33 46 IAMs_20 IAMs_20 02 14 32.9
comp=Z,2µm,18.0s
ZSN Zaisan 94.38 318⇑ iP P 01 29 56.8 -0.5
comp=Z,15nm,1.0s,baz=318
ZSN Zaisan 94.38 318c iP P 01 29 56.8 -0.5
ZSN pmax pmax
comp=Z,15nm,1.0s
BHPL Bhopal 94.42 293 eP P 01 29 57.2 -0.9
BHPL IAmb IAmb 01 29 58.8
comp=Z,12nm,0.9s
SNAA Sanae 94.51 183 LR LR 02 11 15.7
comp=Z,2µm,19.0s,baz=172,slow=35
H17A Grant Village 94.54 46 P P 01 29 57.3 -1.1
baz=255
EPT El Paso 94.64 59 IAMs_20 IAMs_20 02 11 43.9
comp=Z,1µm,18.0s
Y22D IRIS PASSCAL I 94.83 56 P P 01 29 57.9 -2.0
baz=257
Y22F Passcal Instru 94.83 56 P P 01 29 57.9 -2.0
baz=257
BW06 Boulder Array 94.86 47 IAMs_20 IAMs_20 02 12 41.0
comp=Z,2µm,18.0s
BW06 Boulder Array 94.86 47 P P 01 30 00.5 +0.6
baz=256
PDAR Pinedale Array 94.86 47 P P 01 29 59.5 -0.3
comp=Z,0.6nm,0.5s,baz=226,slow=2.9,SNR=9.1
PDAR PKiKP PKiKP 01 34 41.9 -0.1
comp=Z,0.1nm,0.3s,baz=182,slow=4.2,SNR=1.6
PDAR PKKPbc PKKPbc 01 46 54.2 -3.3
comp=Z,0.5nm,0.9s,baz=93,slow=6.1,SNR=3.6
PDAR PKPPKP P'P'df 01 55 14.1 +6.6
comp=Z,0.7nm,1.0s,baz=81,slow=4.7,SNR=3.9
PDAR LR LR 02 09 02.8
comp=Z,1µm,18.0s,baz=272,slow=33
BNM Barren Site 95.08 56 P P 01 29 59.2 -1.9
O20A White River Ci 95.19 50 P P 01 30 01.6 +0.2
baz=256
VNA3 Neumayer Olymp 95.21 181 P P 01 29 59.7 -1.0
ANMO Albuquerque 95.40 55 LR LR 02 07 59.3
comp=Z,1µm,18.1s,baz=352,slow=32
ANMO Albuquerque 95.40 55 P P 01 30 00.0 -2.4
ANMO Albuquerque 95.40 55 P P 01 30 02.4 -0.1
baz=257
ANMO Albuquerque 95.40 55 ceP P 01 30 02.7 +0.2
ANMO pmax pmax
comp=Z,4.0nm,0.9s
VNA2 Neumayer--Watz 95.46 182 P P 01 30 01.3 -0.6
baz=170,slow=4.0
MNTX Cornudas Mount 95.56 59 IAMs_20 IAMs_20 02 11 31.2
comp=Z,2µm,18.0s
MNTX Cornudas Mount 95.56 59 P P 01 30 03.5 +0.5
baz=257
C36M Paulatuk 95.71 20 IAMs_20 IAMs_20 02 07 21.7
comp=Z,1µm,21.0s
C36M Paulatuk 95.71 20 P P 01 30 02.0 -0.8
baz=246

S22A 4UR Ranch, Cre 95.72 53 P P 01 30 01.8 -2.2
baz=257
VNA1 Neumayer--Stat 95.77 182 P P 01 30 02.6 -0.6
NDI New Delhi 95.79 298 eP P 01 30 03.1 -1.0
MK31 Makanchi Array 95.92 317 IAmb IAmb 01 30 05.6
comp=Z,66nm,1.4s
MK31 Makanchi Array 95.92 317 iP P 01 30 04.2 -0.1
MKAR Makanchi Array 95.92 317 P P 01 30 03.9 -0.5
comp=Z,21nm,0.6s,baz=93,slow=6.1,SNR=200
MKAR PP PP 01 33 58.8 +1.9
comp=Z,2.6nm,1.0s,baz=92,slow=12,SNR=2.4
MKAR PKiKP PKiKP 01 34 42.5 -0.9
comp=Z,2.2nm,0.6s,baz=189,slow=1.1,SNR=12
MKAR PKKPbc PKKPbc 01 46 51.0 -3.6
comp=Z,1.9nm,0.8s,baz=281,slow=2.9,SNR=11
comp=Z,21nm,0.6s
MKAR Makanchi Array 95.92 317 ceP P 01 30 04.1 -0.2
MKAR pmax pmax
comp=Z,21nm,0.6s
ZAA0 Zalesovo Array 96.10 324 IAmb IAmb 01 30 05.0
comp=Z,35nm,0.9s
ZALV Zalesovo Beam 96.10 324 P P 01 30 03.7 -1.2
comp=Z,43nm,1.0s,baz=108,slow=4.8,SNR=105
ZALV PKiKP PKiKP 01 34 43.4 -0.1
comp=Z,1.2nm,0.6s,baz=126,slow=3.8,SNR=2.5
comp=Z,43nm,1.0s
MAKZ Makanchi 96.13 317 P P 01 30 04.2 -1.1
MAKZ IAmb IAmb 01 30 08.2
comp=Z,42nm,1.1s
MAKZ Makanchi 96.13 317 P P 01 30 04.2 -1.1
MAKZ pmax pmax
comp=Z,42nm,1.2s
MAKZ MLR MLR
comp=Z,900nm,20.0s
RWWY Rawlins 96.30 49 IAMs_20 IAMs_20 02 08 12.2
comp=Z,2µm,19.0s
SMLA Simla 96.35 300 eP P 01 30 06.0 -0.6
SMLA IAmb IAmb 01 30 07.5
comp=Z,36nm,1.3s
A36M Sachs Harbour 96.44 17 IAmb IAmb 01 30 39.9
comp=Z,14nm,0.9s
A36M Sachs Harbour 96.44 17 P P 01 30 04.2 -1.9
baz=245
POO Poona 96.66 287 eP P 01 30 07.7 -0.7
SDCO Great Sand Dun 96.75 53 P P 01 30 06.0 -2.7
baz=258
YKA Yellowknife Ar 97.02 27 P P 01 30 08.0 -0.9
comp=Z,7.6nm,0.6s,baz=259,slow=4.9,SNR=60
YKA PKKPbc PKKPbc 01 46 48.5 -3.6
comp=Z,0.6nm,0.9s,baz=58,slow=2.5,SNR=4.3
comp=Z,7.6nm,0.6s
SHLS Shalkode 97.07 313 eP P 01 30 07.8 -2.1
baz=313
SHLS Shalkode 97.07 313 eP P 01 30 07.7 -2.1
ISCO Idaho Springs 97.09 51 IAMs_20 IAMs_20 02 07 43.2
comp=Z,2µm,20.0s
ISCO Idaho Springs 97.09 51 P P 01 30 08.5 -1.7
baz=258
UZB Uzynbulak 97.38 313 eP P 01 30 10.7 -0.5
baz=312
UZB Uzynbulak 97.38 313 eP P 01 30 10.7 -0.5
USHA Ushuaia 97.55 151 LR LR 02 05 51.5
comp=Z,1µm,21.8s,baz=234,slow=30
AJM Ajmer 97.57 295 eP P 01 30 06.4 -6.0
AJM IAmb IAmb 01 30 12.9
comp=Z,18nm,0.9s
KPKS Kokpek 97.69 313 eP P 01 30 12.2 -0.4
comp=Z,18nm,1.7s,baz=313
KPKS Kokpek 97.69 313 eP P 01 30 12.1 -0.4
KPKS pmax pmax
comp=Z,18nm,1.7s
SATY Saty 97.80 312 eP P 01 30 12.6 -0.5
baz=312
SATY Saty 97.80 312 eP P 01 30 12.6 -0.5
ZHN Zhinishke 97.80 312 eP P 01 30 12.7 -0.4
baz=312
ZHN Zhinishke 97.80 312 eP P 01 30 12.7 -0.4
LAO LASA Array 98.04 44 IAMs_20 IAMs_20 02 13 06.0
comp=Z,2µm,18.0s
UNM Universidad Na 98.49 72 IAMs_20 IAMs_20 02 10 01.5
comp=Z,2µm,18.0s
NRIK Noril'sk 98.84 339 P P 01 30 15.8 -1.2
comp=Z,18nm,0.8s,baz=104,slow=5.2,SNR=26
NRIK PP PP 01 34 25.3 +6.6
comp=Z,2.4nm,0.4s,baz=120,slow=6.3,SNR=5.3
NRIK LR LR 02 18 45.2
comp=Z,1µm,18.0s,baz=102,slow=38
comp=Z,18nm,0.8s
NRIK Noril'sk 98.84 339 P 01 30 15.2 -1.7
NRIK IAmb IAmb 01 30 17.1
comp=Z,22nm,0.9s
KSH Kashi 98.94 308 P Pdif 01 30 20.4 +2.1
KSH sP sP 01 30 26.8 +1.0
KSH PP PP 01 34 25.0 +4.6
KSH SKS SKSac 01 40 59.6 +4.1
KSH S ScS 01 41 51.4 +3.5
KSH pmax pmax
comp=Z,5.0nm,1.3s
RSSD Black Hills 99.07 47 IAMs_20 IAMs_20 02 15 17.5
comp=Z,2µm,18.0s
KURBB Kurchatov Arra 99.15 320 PP PP 01 34 20.9 -0.6
comp=Z,1.0nm,0.9s,baz=92,slow=8.0,SNR=4.3
KURBB PKiKP PKiKP 01 34 47.0 -1.9
comp=Z,1.9nm,0.8s,baz=48,slow=2.2,SNR=5.5
KURBB LR LR 02 15 57.2
comp=Z,832nm,18.9s,baz=99,slow=36
AMTX Amarillo 99.23 56 IAMs_20 IAMs_20 02 13 43.1
comp=Z,2µm,18.0s
KUU Kurty 99.44 313 iP Pdif 01 30 19.2 -1.1
baz=313
KUU Kurty 99.44 313 iP Pdif 01 30 19.2 -1.1
JCT Junction City 100.02 61 IAMs_20 IAMs_20 02 12 53.3
comp=Z,1µm,18.0s
SGDS Sogindy 100.59 312 eP Pdif 01 30 24.6 -0.9
baz=312
SGDS Sogindy 100.59 312 eP Pdif 01 30 24.5 -0.9
BTLS Baital 101.24 314 eP Pdif 01 30 27.8 -0.5
baz=314
BTLS Baital 101.24 314 eP Pdif 01 30 27.7 -0.5
WMOK Wichita Mounta 101.56 57 IAMs_20 IAMs_20 02 13 09.9
comp=Z,2µm,18.0s
435B Jarrell 101.95 61 IAMs_20 IAMs_20 02 09 40.5
comp=Z,1µm,20.0s
FFC Flin Flon 101.98 36 Pdif Pdif 01 30 31.0 -0.2
FFC Flin Flon 101.98 36 iP Pdif 01 30 31.0 -0.2
FFC MLR MLR
comp=Z,3µm,18.0s
OK050 Pawnee Station 103.24 55 IAMs_20 IAMs_20 02 15 47.3
comp=Z,2µm,18.0s
HKT Hockley 103.33 62 IAMs_20 IAMs_20 02 17 16.9
comp=Z,2µm,18.0s
KK31 Karatay Array 103.53 311 Pdif Pdif 01 30 36.8 -1.7
KK31 Karatay Array 103.53 311 iP Pdif 01 30 36.8 -1.7
KKAR Karatay Array 103.53 311 Pdif Pdif 01 30 36.3 -2.1
KKAR Karatay Array 103.53 311 iP Pdif 01 30 36.3 -2.1
IUG luzhnay 103.78 310 ePKiKP PKiKP 01 34 57.1 -0.6
baz=310
TUL1 Leonard 104.14 56 IAMs_20 IAMs_20 02 15 56.1
comp=Z,1µm,18.0s
PLCA Paso Flores 104.43 139 PKKPbc PKKPbc 01 46 27.3 -2.6
comp=Z,3.3nm,1.1s,baz=353,slow=5.5,SNR=3.2
BVAR Borovoye Array 104.45 322 PKiKP PKiKP 01 34 57.6 -0.8
comp=Z,3.1nm,0.7s,baz=119,slow=1.2,SNR=9.2
BRVK Borovoye 104.52 322 Pdif Pdif 01 30 41.2 -1.4
BRVK Borovoye 104.52 322 iP Pdif 01 30 41.2 -1.4
BRVK MLR MLR
comp=Z,1µm,20.0s
NATX Nacogdoches 104.57 60 IAMs_20 IAMs_20 02 12 11.8
comp=Z,1µm,20.0s
AGMN Agassiz Nation 105.21 43 IAMs_20 IAMs_20 02 17 04.6
comp=Z,1µm,19.0s
RES Resolute Bay 105.43 16 PKKPbc PKKPbc 01 46 24.4 -3.4
comp=Z,1.6nm,1.0s,baz=89,slow=6.6,SNR=4.5
MIAR Mount Ida 105.79 58 IAMs_20 IAMs_20 02 16 15.9
comp=Z,1µm,18.0s
FCC Fort Churchill 106.53 32 Pdif Pdif 01 30 49.6 -1.7
FCC Fort Churchill 106.53 32 iP Pdif 01 30 49.6 -1.7
CCM Cathedral Cave 107.96 54 IAMs_20 IAMs_20 02 13 54.0
comp=Z,2µm,19.0s
VBMS Vicksburg 108.12 60 IAMs_20 IAMs_20 02 20 08.7
comp=Z,1µm,18.0s
EYMN Ely 108.12 44 IAMs_20 IAMs_20 02 21 44.7
comp=Z,1µm,18.0s
TEIG Tepich 108.76 73 IAMs_20 IAMs_20 02 15 26.6
comp=Z,1µm,19.0s
JFWS Jewell Farm 108.92 49 IAMs_20 IAMs_20 02 18 02.2
comp=Z,2µm,18.0s

MSEY Mahe Island 109.11 260 IAMs_20 IAMs_20 02 19 15.9
comp=Z,1µm,20.0s
OXF Oxford 109.22 58 IAMs_20 IAMs_20 02 23 42.7
comp=Z,1µm,18.0s
BOAB BOACO BROADBAN 110.01 82 IAMs_20 IAMs_20 02 16 08.1
comp=Z,1µm,18.0s
PLAL Pickwick Lake 110.34 58 IAMs_20 IAMs_20 02 21 55.3
comp=Z,1µm,18.0s
WVT Waverly 110.59 56 IAMs_20 IAMs_20 02 23 46.9
comp=Z,2µm,18.0s
BRAL Brewton 110.98 62 IAMs_20 IAMs_20 02 22 17.8
comp=Z,992nm,19.0s
ABKAR Akbulak array 111.02 318 PKiKP PKiKP 01 35 09.5 -1.3
LRAL Lakeview Retre 111.14 60 IAMs_20 IAMs_20 02 19 06.6
comp=Z,1µm,18.0s
ARU Arti 111.20 325 PKiKP PKiKP 01 35 09.8 -1.2
comp=Z,11nm,0.6s,baz=353,slow=1.5,SNR=11
ARU Arti 111.20 325 PKiKP PKiKP 01 35 08.6 -2.3
ARU Arti 111.20 325 iPKIKP PKiKP 01 35 10.1 -0.8
ARU 01 35 52.4
ARU PPP PPP 01 38 12.0
ARU 01 42 22.2
ARU SP SP 01 45 18.8 +0.1
ARU SS SS 01 51 33.1 +11
NOR Nord 112.07 0 eP PKiKP 01 35 14.2 +2.2
AKTO Aktyubinsk 112.18 319 PKKPbc PKKPbc 01 46 03.2 -2.5
comp=Z,0.4nm,0.5s,baz=180,slow=2.0,SNR=1.3
GEYT Alibeck 112.69 306 PKiKP PKiKP 01 35 14.2 -0.3
comp=Z,5.7nm,0.8s,baz=204,slow=2.5,SNR=10.0
GLMI Grayling 112.96 47 IAMs_20 IAMs_20 02 23 45.0
comp=Z,1µm,18.0s
P49A Miami Univ. Ec 113.09 53 IAMs_20 IAMs_20 02 17 08.8
comp=Z,2µm,20.0s
SOHO SOHO 113.46 291 iP PKiKP 01 35 14.7 -1.5
SNR=6.2
NEEM North Greenlan 113.49 8 eP PKiKP 01 35 12.9 -2.2
UOSS Minazif 113.82 291 P PKiKP 01 35 14.7 -2.2
HATD Hatta, Dubai 113.88 291 iP PKiKP 01 35 15.7 -1.4
SNR=6.2
ASHO Ashiyiah 113.93 291 P PKiKP 01 35 15.7 -1.5
TZTN Tazewell 114.05 56 IAMs_20 IAMs_20 02 21 17.5
comp=Z,2µm,19.0s
ALNE Al Ain 114.16 290 P PKPdf 01 35 16.2 -1.4
NAZ Nazwa, Dubai 114.32 291 P PKPdf 01 35 16.2 -1.6
OTAV Otavalo 114.42 96 IAMs_20 IAMs_20 02 16 28.3
comp=Z,906nm,18.0s
ASUD Al Ashush, Dub 114.59 291 P PKPdf 01 35 16.2 -2.1
KIRV Kirov 115.59 329 ciPKIKP PKiKP 01 35 19.0 -0.2
M53A WI Miller and 116.07 50 IAMs_20 IAMs_20 02 17 53.6
comp=Z,1µm,19.0s
MZR Muzera 116.16 289 iP PKPdf 01 35 20.9 -0.5
SNR=9.4
NHSC New Hope 116.86 60 IAMs_20 IAMs_20 02 23 17.2
comp=Z,1µm,19.0s
DAG Danmarks Havn 116.88 1 iP PKiKP 01 35 21.5 +0.2
YOTC Yotoco, Valle 117.37 93 eP PKPdf 01 35 19.5 -4.7
LVZ Lovozero 117.59 341 ciPKIKP PKPdf 01 35 22.5 -0.4
LVZ pmax pmax
comp=Z,80nm,2.5s
APA Apatity 118.17 341 ||i iPKIKP PKPdf 01 35 22.2 -1.8
APA i 01 42 12.0
APA pmax pmax
comp=Z,24nm,0.7s
APA MLR MLR
comp=Z,2µm,24.0s
BELG Belogornoye 118.24 322 PKKP 01 46 06.0
comp=Z,5.1nm,0.5s,baz=212,slow=4.7,SNR=4.2
BELG Belogornoye 118.24 322 iPKIKP PKiKP 01 35 24.9 +0.3
LPAZ La Paz 118.39 117 PKP PKPdf 01 35 25.2 -1.5
comp=Z,1.9nm,0.6s,baz=33,slow=7.2,SNR=6.6
LPAZ PKKPbc PKKPbc 01 45 43.5 -0.6
comp=Z,0.8nm,0.6s,baz=207,slow=1.9,SNR=6.3
LPAZ La Paz 118.39 117 eP PKPdf 01 35 25.3 -1.5
ADZR Andozero 118.46 337 ePKIKP PKPdf 01 35 22.4 -2.2
ADZR pmax pmax
comp=Z,11nm,0.9s
KEV Kevo 118.54 345 IAMs_20 IAMs_20 02 26 25.0
comp=Z,2µm,22.0s
GUY2C Guyana, Caldas 118.60 91 eP PKPdf 01 35 24.9 -2.1
CNNC Cliffs of the 118.68 57 IAMs_20 IAMs_20 02 20 31.3
comp=Z,1µm,20.0s
HAMF Hammerfest 118.69 347 eP PKPdf 01 35 23.7 -1.2
ARA0 ARCESS Array S 119.07 345 eP PKPdf 01 35 24.6 -1.1
ARA0 IAmb IAmb 01 35 29.2
comp=Z,38nm,0.7s
ARCES ARCESS Array B 119.07 345 PKP PKPdf 01 35 24.3 -1.4
comp=Z,40nm,0.7s,baz=79,slow=2.1,SNR=103
ARCES PKKPbc PKKPab 01 45 39.6 -1.7
comp=Z,2.6nm,0.7s,baz=198,slow=0.4,SNR=4.4
DBG Daneborg 119.30 2 eP PKiKP 01 35 27.6 +1.6
SUMG Summit 119.36 8 iP PKiKP 01 35 28.5 +1.7
KLMR Klimovskoe 119.42 333 ePKPdf PKPdf 01 35 24.8 -1.8
KLMR AMP 01 35 26.8
comp=Z,50nm,1.5s
KLMR ePP PP 01 36 45.4 -2.6
KLMR LQ LQ 02 11 46.8
KLMR LQ LQ 02 11 46.8
KLMR LR LR 02 12 58.7
KLMR AMP 02 32 09.0
comp=Z,1µm,18.1s
KLMR Klimovskoe 119.42 333 ePKIKP PKPdf 01 35 24.8 -1.8
KLMR e 01 36 45.3
KLMR pmax pmax
comp=Z,50nm,1.5s
ROSC El Rosal 119.53 92 PKP PKPdf 01 35 27.3 -1.4
comp=Z,5.1nm,0.4s,baz=342,slow=22,SNR=2.0
KTK1 Kautokeino 120.01 346 eP PKPdf 01 35 25.6 -1.9
KTK1 IAmb IAmb 01 35 29.9
comp=Z,20nm,0.8s
CHIC Chingaza 120.05 93 eP PKPdf 01 35 28.1 -1.7
LONY Lake Ozonia 120.08 46 IAMs_20 IAMs_20 02 30 15.3
comp=Z,863nm,18.0s
JETT Jettan, Norway 120.25 347 eP PKPdf 01 35 26.5 -1.6
MAK Makhachkala 120.34 312 eP Pdif 01 31 48.3 -4.9
MAK e 01 42 20.0
MAK ePS PS 01 46 42.5 -3.5
MAK eSSS SSS 01 57 46.5
MAK pmax pmax
comp=Z,324nm,1.0s
AKT Akhty 120.41 310 ePKIKP PKPdf 01 35 28.9 -0.4
AKT e 01 36 54.2
AKT pmax pmax
comp=Z,25nm,0.9s
TRO Tromso 120.51 347 eP PKPdf 01 35 26.8 -1.6
RUSC La Rusia 120.96 91 eP PKPdf 01 35 29.3 -2.3
CPUP Villa Florida 121.73 133 PKP PKPdf 01 35 30.4 -1.8
comp=Z,6.9nm,0.8s,baz=247,slow=2.1,SNR=12
CPUP PKKPbc PKKPbc 01 45 30.0 -1.2
comp=Z,3.7nm,1.0s,baz=146,slow=1.2,SNR=5.1
CPUP Villa Florida 121.73 133 PKPdf PKPdf 01 35 30.3 -1.9
SCHQ Schefferville 121.90 33 PKP PKPdf 01 35 29.6 -2.0
comp=Z,3.5nm,0.5s,baz=65,slow=3.8,SNR=13
VRH Novokhopyorsk 122.09 322 ePKIKP PKPdf 01 35 30.5 -1.5
VRH pmax pmax
comp=Z,80nm,0.7s
MOS Moscow 122.60 328 iPKIKP PKPdf 01 35 31.2 -1.6
MOS eSS SS 01 53 44.9 -5.2
MOS pmax pmax
comp=Z,59nm,0.8s
MOS MLR MLR
comp=Z,700nm,22.0s
MOS MLR MLR
comp=E,500nm,21.0s
STEI Steigen 122.68 348 eP PKPdf 01 35 31.2 -1.4
ETMB Extrema 122.77 111 PKPdf PKPdf 01 35 31.7 -2.7
LOF Lofoten 122.86 348 eP PKiKP 01 35 33.0 -0.2
GNI Garni 122.87 309 PKPdf PKPdf 01 35 32.8 -1.3
GNI Garni 122.87 309 PKiKP PKPdf 01 35 32.8 -1.3
GNI Garni 122.87 309 P PKiKP 01 35 34.1 -0.2
ZEI Tsey 122.97 312 iPKIKP PKPdf 01 35 33.3 -1.0
ZEI pmax pmax
comp=Z,24nm,0.9s
SCO Scoresbysund 123.03 3 eP PKiKP 01 35 34.2 +0.7
FAUS Fauske 123.13 347 eP PKPdf 01 35 31.8 -1.7
LPSR Galich'ya Gora 123.20 325 ePKIKP PKPdf 01 35 33.3 -0.8
LPSR pmax pmax
comp=Z,80nm,0.8s
VORR Voronezh 123.40 324 ePKIKP PKiKP 01 35 34.5 -0.2
VORR pmax pmax
comp=Z,110nm,0.6s
OBN Obninsk 123.42 328 ⇑P PKPdf 01 35 33.6 -0.8
OBN Obninsk 123.42 328 PKPdf PKPdf 01 35 33.3 -1.1
OBN Obninsk 123.42 328 iPKIKP PKPdf 01 35 33.7 -0.7
OBN e 01 37 14.3
OBN ePPP PPP 01 39 50.0

OBN e 01 42 42.5
OBN eSS SS 01 54 03.5 +3.0
OBN pmax pmax
comp=Z,28nm,0.6s
OBN MLR MLR
comp=Z,842nm,24.0s
KBZ Khabaz 123.47 314 PKP **PKPdf 01 35 33.9 -1.0**
comp=Z,14nm,1.0s,baz=132,slow=2.9,SNR=17
KBZ Khabaz 123.47 314*c* iPKIKP **PKiKP 01 35 35.2 +0.1**
RAYN Ar Rayn 123.51 289 PKPdf **PKPdf 01 35 34.5 -1.1**
RAYN Ar Rayn 123.51 289 ⇑PKIKP **PKPdf 01 35 35.4 -0.2**
RAYN Ar Rayn 123.51 289 *i* P **PKPdf 01 35 34.7 -0.9**
SNR=15
WVL Waterville 123.52 45 IAMs_20 IAMs_20 02 38 43.3
comp=Z,936nm,19.0s
KIV Kislovodsk 123.56 314 ⇑P **PKPdf 01 35 34.6 -0.6**
KIV Kislovodsk 123.56 314 PKPdf **PKPdf 01 35 34.1 -1.1**
KIV Kislovodsk 123.56 314 *i* PKIKP **PKiKP 01 35 35.2 -0.3**
KIV e 01 37 16.1
KIV ePPP PPP 01 39 54.3
KIV e 01 42 36.3
KIV ePS **PS 01 47 12.7 -2.2**
KIV eSS SS 01 54 04.4 +0.8
KIV pmax pmax
comp=Z,24nm,1.1s
KIV Kislovodsk 123.56 314 *i* P **PKPdf 01 35 34.0 -1.2**
SNR=9.6
SUR Sutherland 123.58 215 PKP **PKPdf 01 35 34.5 -1.3**
comp=Z,11nm,0.9s,baz=186,slow=6.1,SNR=2.3
SUR Sutherland 123.58 215 IAMs_20 IAMs_20 02 18 47.2
comp=Z,2μm,22.0s
VSR Storozhevoye 123.59 323 *e*PKIKP **PKPdf 01 35 33.4 -1.5**
VSR pmax pmax
comp=Z,50nm,0.7s
BOSA Boshof 123.61 221 PKP **PKPdf 01 35 35.0 -0.8**
comp=Z,9.2nm,0.9s,baz=264,slow=0.7,SNR=10
BOSA Boshof 123.61 221 PKPdf **PKPdf 01 35 34.3 -1.6**
PUL Pulkovo 123.89 335*c* iPKIKP **PKiKP 01 35 35.5 +0.1**
PUL pmax pmax
comp=Z,85nm,1.0s
SDV Santo Domingo 123.93 88 PKPdf **PKPdf 01 35 33.9 -3.0**
SDV Santo Domingo 123.93 88 IAMs_20 IAMs_20 02 21 13.3
comp=Z,848nm,19.0s
SDV Santo Domingo 123.93 88 *e*P **PKPdf 01 35 34.4 -2.5**
PQI Presque Isle 124.05 43 IAMs_20 IAMs_20 02 27 51.9
comp=Z,1μm,19.0s
MOR8 Moi Rana 124.32 347 *e*P **PKPdf 01 35 35.1 -0.8**
KONS Konsvik 124.33 347 *e*P **PKPdf 01 35 35.1 -0.7**
FINES FINESS Array B 124.49 338 PKP **PKPdf 01 35 34.6 -1.6**
comp=Z,25nm,0.9s,baz=102,slow=4.7,SNR=46
EMMW East Machias 125.00 45 IAMs_20 IAMs_20 02 34 00.3
comp=Z,1μm,18.0s
ATD Arta Tunnel 125.01 275 IAMs_20 IAMs_20 02 33 36.2
comp=Z,1μm,18.0s
ATD Arta Tunnel 125.01 275 *e*P PKPpre 01 35 31.9
SOC Sochi 125.74 314 *i* PKIKP **PKPdf 01 35 37.2 -2.0**
SOC e 01 37 26.7
SOC ePS **PS 01 47 31.6 -2.2**
SOC eSS SS 01 54 25.9 -4.8
SOC eSSS SSS 01 59 02.0
SOC pmax pmax
comp=Z,28nm,0.9s
LBTB Lobatse 125.78 225 PKP **PKPdf 01 35 39.3 -0.8**
comp=Z,10nm,1.0s,baz=149,slow=6.1,SNR=7.5
MEF Metsahovi 125.92 338 *e*P **PKPdf 01 35 38.3 -0.8**
VSU Vasula 126.16 335 *e*P **PKPdf 01 35 39.1 -0.5**
NSS Namsos 126.27 347 *e*P **PKPdf 01 35 37.8 -1.8**
RAF Rauma 126.29 340 *e*P **PKPdf 01 35 38.7 -1.0**
KIBK Kibwezi 126.40 257 IAMs_20 IAMs_20 02 32 29.1
comp=Z,1μm,18.0s
PTLB Pontes e Lacer 126.42 121 PKPdf **PKPdf 01 35 38.6 -2.8**
AQDB Aquidauana 126.43 129 PKPdf **PKPdf 01 35 38.9 -2.4**
ANN Anapa 126.93 316 *i* PKIKP **PKiKP 01 35 41.9 -0.1**
ANN e 01 37 40.2
ANN e 01 42 47.2
ANN pmax pmax
comp=Z,85nm,1.0s
MTSE Matsula 127.16 337 *e*P **PKPdf 01 35 41.0 -0.4**
KMBO Kilima Mbogo 127.54 258 PKPdf **PKPdf 01 35 41.2 -2.7**
KMBO Kilima Mbogo 127.54 258 IAMs_20 IAMs_20 02 31 38.3
comp=Z,1μm,18.0s
KMBO Kilima Mbogo 127.54 258 PKIKP **PKPdf 01 35 41.2 -2.7**
KMBO MLR MLR
comp=Z,1μm,18.0s
KMBO Kilima Mbogo 127.54 258 *i* P **PKPdf 01 35 43.9 0.0**
SNR=6.4
KMBO Kilima Mbogo 127.54 258 *e*P **PKiKP 01 35 52.0 +7.5**
ANKE Ethiopia-Afar 127.72 272 *e*P **PKPdf 01 35 40.1 -4.2**
DESE Dese 128.06 273 *e*P PKPpre 01 35 34.9
IDID Didziasalis 128.10 332 *e*P PKPpre 01 35 35.7
ISAL Salakas 128.22 333 *e*P **PKiKP 01 35 44.8 +0.6**
IIGN Ignalina 128.31 332 *e*P PKPpre 01 35 31.3
NACGM Naroch 128.32 332 *e*PKP **PKiKP 01 35 44.2 -0.3**
comp=Z,78nm,0.8s,baz=54
DILA Dilla 128.52 267 *e*P **PKPdf 01 35 44.1 -1.6**
AAE Adis Abeba 128.56 271 *e*P **PKPdf 01 35 40.8 -5.1**
FURI Furi 128.62 270 *e*P PKPpre 01 35 40.1
VSVD Vaisvydziai 128.92 334 *e*P **PKPdf 01 35 44.4 -0.5**
SIM Simferopol' 129.09 317 *e*PKIKP **PKiKP 01 35 46.6 +0.3**
SIM e 01 37 58.3
SIM pmax pmax
comp=Z,32nm,0.8s
SIM pmax pmax
comp=Z,67nm,11.4s
DOMB Dombas 129.09 346 *e*P **PKiKP 01 35 45.5 -0.3**
PABE Paberze 129.21 333 PKPdf **PKPdf 01 35 43.9 -1.5**
PABE Paberze 129.21 333 *e*P **PKPdf 01 35 45.4 0.0**
AKN Aaknes 129.42 348 *e*P **PKiKP 01 35 46.3 -0.2**
NB2 NORSAR Subarra129.44 345 PKPdf **PKPdf 01 35 44.7 -1.1**
comp=Z,8.9nm,0.7s,baz=31,slow=1.9
NB2 SKPa 01 39 07.9
comp=Z,1.5nm,0.8s,baz=36,slow=4.1
NB2 NORSAR Subarra129.44 345 PKPdf **PKPdf 01 35 44.7 -1.1**
slow=1.9
NOA NORSAR Array B 129.44 345 PKP **PKPdf 01 35 44.9 -1.0**
comp=Z,12nm,0.7s,baz=33,slow=2.0,SNR=40
NOA SKPbc SKPbc 01 39 07.6 +1.2
comp=Z,7.1nm,1.0s,baz=32,slow=3.0,SNR=6.6
AKASG Malin Array Be 129.45 326 PKhKP PKPpre 01 35 39.6
comp=Z,0.4nm,0.5s,baz=38,slow=2.1,SNR=4.1
AKASG PKP **PKPdf 01 35 45.0 -1.1**
comp=Z,11nm,0.7s,baz=53,slow=2.0,SNR=44
AKASG SKP 01 39 08.2
comp=Z,1.9nm,0.7s,baz=42,slow=4.3,SNR=4.9
AKASG Malin Array Be 129.45 326 PKIKP **PKPdf 01 35 45.0 -1.1**
NC602 NORSAR Array S 129.61 344 *e*P **PKPdf 01 35 45.1 -1.0**
LSZ Lusaka 129.65 237 PKP **PKPdf 01 35 47.2 -0.4**
comp=Z,10nm,1.0s,baz=200,slow=2.1,SNR=14
PBUR Paburge 129.73 335 *e*P **PKPdf 01 35 46.5 0.0**
SPB Sao Paulo 130.28 138 IAMs_20 IAMs_20 02 25 28.2
comp=Z,808nm,20.0s
SPB Sao Paulo 130.28 138 *e*P **PKiKP 01 35 50.4 +1.0**
FOO Floro 130.34 348 *e*P **PKiKP 01 35 47.9 -0.3**
SKAR Skarslia 130.46 346 *e*P **PKPdf 01 35 47.2 -0.6**
HYA Hoyanger 130.50 348 *e*P **PKiKP 01 35 48.6 0.0**
LODK Lodwar 130.65 263 *e*P **PKiKP 01 35 50.1 -0.4**
SUE Sulen 130.89 348 *e*P **PKiKP 01 35 49.1 -0.3**
KONO Kongsberg 131.05 345 ⇓PKIKP **PKPdf 01 35 48.9 0.0**
KONO Kongsberg 131.05 345 *e*P **PKiKP 01 35 49.2 -0.6**
PURM Purcari 131.25 311 ⇑P **PKPdf 01 35 48.2 -1.2**
BRTR Keskin Array B 131.24 311 PKhKP PKPpre 01 35 37.1
comp=Z,0.6nm,0.9s,baz=106,slow=4.9,SNR=3.3
BRTR PKP **PKPdf 01 35 48.8 -1.3**
comp=Z,6.1nm,0.8s,baz=64,slow=1.3,SNR=27
BRTR SKP 01 39 17.0
comp=Z,4.8nm,0.9s,baz=67,slow=3.2,SNR=11
BRTR Keskin Array B 131.24 311 PKPdf **PKPdf 01 35 48.6 -1.5**
BRTR SKPbc **SKPbc 01 39 13.6 -0.1**
SORM Soroca 131.25 323 ⇑P **PKPdf 01 35 48.7 -0.9**
SORM Soroca 131.25 323 ⇑PKIKP **PKPdf 01 35 48.7 -0.9**
ASK Askoy 131.33 348 *e*P **PKiKP 01 35 50.2 -0.1**
BER Bergen 131.39 348 *e*P **PKiKP 01 35 50.1 -0.3**
ODD1 Odda 131.53 347 *e*P **PKPdf 01 35 49.6 -0.3**
KIS Kishinev 131.54 322 *e*PKP **PKPdf 01 35 48.7 -1.5**
comp=Z,60nm,0.6s
KIS eSKP 01 39 11.0
KIS eL L 02 32 25.0
comp=Z,350nm,20.5s
KIS Kishinev 131.54 322 *e*PKIKP **PKPdf 01 35 49.0 -1.2**
KIS pmax pmax
comp=Z,60nm,0.6s
MILM Milestii Mici 131.58 322 ⇑ *i* PKP **PKPdf 01 35 49.9 -0.3**
comp=Z,65nm,1.0s
MILM Milestii Mici 131.58 322 *e*PsP 01 36 00.0
MILM Milestii Mici 131.58 322 *e*PP PP 01 38 23.0 +14
MILM eSKP 01 39 19.0
MILM Milestii Mici 131.58 322 ⇑P **PKPdf 01 35 50.0 -0.3**
MILM Milestii Mici 131.58 322*c* iPKIKP **PKPdf 01 35 49.9 -0.3**
MILM e 01 36 00.0
MILM pmax pmax
comp=Z,65nm,1.0s
ANTO Ankara 131.81 312 ⇑P **PKiKP 01 35 51.6 -0.5**
ANTO Ankara 131.81 312 ⇑PKIKP **PKiKP 01 35 51.6 -0.5**
BLS5 Blasjo 132.01 346 *e*P **PKiKP 01 35 51.3 -0.5**
SABA Saba 132.11 79 IAMs_20 IAMs_20 02 29 27.7
comp=Z,770nm,18.0s
LEOM Leova 132.14 322 ⇑P **PKPdf 01 35 51.2 -0.1**
LEOM Leova 132.14 322 ⇑PKIKP **PKPdf 01 35 51.2 -0.1**
BOAV Boa Vista 132.26 99 **PKPdf 01 35 50.5 -2.1**
TLCR 132.40 320 ⇑P **PKPdf 01 35 52.0 +0.2**
TLCR 132.40 320 ⇑PKIKP **PKPdf 01 35 52.0 +0.2**
KMY Karmoy 132.47 347 *e*P **PKPdf 01 35 51.4 -0.2**
HOMB Homborsund 132.53 344 *e*P **PKiKP 01 35 52.3 -0.5**
VLDR Vladesti 132.54 321 ⇑P **PKPdf 01 35 51.9 -0.2**
BIR Birlad 132.61 322 ⇑P **PKiKP 01 35 53.3 0.0**
BIR Birlad 132.61 322 ⇑PKIKP **PKiKP 01 35 53.3 0.0**
SCTR Scanteiesti 132.68 321 ⇑P **PKiKP 01 35 53.1 -0.4**
TATR Tatarca 132.68 321 ⇓P **PKPdf 01 35 51.7 -0.7**
LVV L'vov 132.71 327 *e*PKIKP **PKPdf 01 35 51.1 -1.2**
LVV e 01 38 17.4
LVV MLR MLR
comp=Z,1μm,22.0s
TPGR Topolog 132.80 320 ⇑P **PKiKP 01 35 53.1 -0.7**
SNART Snartemo 132.80 345 *e*P **PKPdf 01 35 52.2 +0.1**
CFR Carcaliu 132.82 320 ⇑P **PKPdf 01 35 52.1 -0.6**
CFR Carcaliu 132.82 320 ⇑PKIKP **PKPdf 01 35 52.1 -0.6**
CSS Mathiatis 132.83 305 IAMs_20 IAMs_20 02 45 10.1
comp=Z,748nm,20.0s
GHRR 132.84 321 ⇑P **PKiKP 01 35 53.6 -0.2**
SLCR Slobozia Conac 132.85 321 ⇑P **PKiKP 01 35 53.1 -0.7**
SCHL Schela 132.86 321 ⇑P **PKPdf 01 35 53.1 +0.4**
IZVR Izvoarele 132.88 321 ⇓P **PKPdf 01 35 53.1 +0.4**
TUDR 132.91 321 ⇑P **PKPdf 01 35 52.5 -0.3**
TIRR Tirgusor 132.99 319 ⇓P **PKPdf 01 35 52.2 -0.8**
TIRR Tirgusor 132.99 319 ⇓PKIKP **PKPdf 01 35 52.2 -0.8**
BEL Belsk 133.05 321 *e*PKP **PKPdf 01 35 53.1 +0.3**
MFTR Murfatlar 133.11 319 ⇑P **PKPdf 01 35 53.6 +0.3**
BSD Bornholm Skovb 133.13 338 *e*P **PKPdf 01 35 51.2 -1.6**
BSD Bornholm Skovb 133.13 338 *e*P **PKPdf 01 35 50.9 -2.0**
MANR Mangalia 133.16 318 ⇑P **PKiKP 01 35 53.8 -0.7**
TLBR Topalu 133.18 319 ⇓P **PKPdf 01 35 53.2 -0.2**
HARR Harsova 133.18 320 ⇑P **PKPdf 01 35 53.6 +0.2**
HARR Harsova 133.18 320 ⇑PKIKP **PKPdf 01 35 53.6 +0.2**
ODBI Odobesti 133.21 321 ⇑P **PKiKP 01 35 54.0 -0.5**
BUR08 Bucovina Ar. S 133.31 324 PKPdf **PKPdf 01 35 53.5 -0.2**
BURAR Bucovina Array 133.32 324 ⇑P **PKiKP 01 35 54.6 -0.3**
BURAR Bucovina Array 133.32 324 ⇑PKIKP **PKiKP 01 35 54.6 -0.3**
VRI Vrincioaia 133.35 322 ⇑P **PKPdf 01 35 53.6 -0.1**
VRI Vrincioaia 133.35 322 ⇑PKIKP **PKPdf 01 35 53.6 -0.1**
PLOR Plostina 133.41 322 ⇑P **PKiKP 01 35 54.4 -0.7**
PLOR Plostina 133.41 322 ⇑PKIKP **PKiKP 01 35 54.4 -0.7**
BISRR Bisoca 133.52 321 ⇑P **PKiKP 01 35 55.0 -0.3**
ICOR Ion Corvin 133.53 319 ⇑P **PKPdf 01 35 54.4 +0.4**
GKP Gorka Klasztor 133.61 335 *e*PKP **PKPdf 01 35 53.8 -0.1**
GKP Gorka Klasztor 133.61 335 *e*P **PKPdf 01 35 53.9 0.0**
PGOR Pogoanele 133.67 320 ⇑P **PKiKP 01 35 54.8 -0.7**
COVR Voineasa-Covas 133.68 322 ⇑P **PKPdf 01 35 53.2 -1.1**
OZUR 133.80 322 ⇓P **PKPdf 01 35 54.1 -0.4**
NEHR Nehoiu 133.84 321 ⇑P **PKPdf 01 35 53.6 -1.0**
MBAR Mbarara 133.87 256 **PKPdf 01 35 53.1 -2.7**
MBAR Mbarara 133.87 256*c* iPKIKP **PKiKP 01 35 57.1 0.0**
MBAR pmax pmax
comp=Z,3.0nm,0.3s
MBAR Mbarara 133.87 256 *e*P **PKiKP 01 35 58.5 +1.4**
MUD Monsted U'grnd 133.91 343 *e*P **PKPdf 01 35 53.8 -0.5**
MLR Muntele Rosu 134.02 322 ⇑P **PKPdf 01 35 53.7 -1.4**
MLR Muntele Rosu 134.02 322 IAMs_20 IAMs_20 02 37 10.0
comp=Z,712nm,19.0s
MLR Muntele Rosu 134.02 322 ⇑PKIKP **PKPdf 01 35 53.7 -1.4**
ARCR ARCALIA 134.10 324 ⇑P **PKPdf 01 35 54.9 -0.1**
DOPR Dopca 134.10 322 ⇑P **PKiKP 01 35 55.7 -0.7**
SECR 134.17 321 ⇑P **PKPdf 01 35 54.8 -0.4**
PRD Provadia 134.21 318 P **PKPdf 01 35 55.0 -0.3**
BMR Baia Mare 134.25 325 ⇑P **PKPdf 01 35 55.6 +0.3**
BMR Baia Mare 134.25 325 ⇑PKIKP **PKPdf 01 35 55.6 +0.3**
UZH Uzhgorod 134.33 327 *e*PKHKP PKPpre 01 35 46.8
UZH *i* 01 35 55.2
UZH *i* 01 36 04.5
UZH *i* 01 36 11.5
STHS Stebnicka Huta 134.39 329 *e*PKIKP **PKPdf 01 35 55.7 +0.2**
STHS Stebnicka Huta 134.39 329 *e*PKP **PKPdf 01 35 55.7 +0.2**
TRPA Tarpa 134.50 326 ⇑P **PKPdf 01 35 55.3 -0.4**
OJC Ojcow 134.59 330 *e*PKP **PKPdf 01 35 55.4 -0.4**
RAZG Razgrad 134.62 319 ⇓P **PKiKP 01 35 56.9 -0.7**
CBBR Cluj-Babes-Bol 134.73 324 ⇑P **PKPdf 01 35 55.8 -0.5**
CJR Cluj-Napoca 134.74 324 ⇑P **PKPdf 01 35 56.2 -0.1**
MESR Meseseni 134.85 325 ⇑P **PKiKP 01 35 57.1 -0.8**
NIE Niedzica 134.86 329 *e*PKP **PKPdf 01 35 56.7 +0.3**
ARR Arges 134.87 322 ⇑P **PKPdf 01 35 56.6 -0.1**
HUMR Humele 135.10 321 ⇑P **PKPdf 01 35 55.9 -1.1**
SZH Strazhica 135.13 319 P **PKPdf 01 35 56.0 -1.1**
COPA Copaceanca 135.15 320 ⇓P **PKPdf 01 35 56.2 -0.9**
BDFB Brasilia 135.15 129 PKhKP PKPpre 01 35 48.1
comp=Z,2.1nm,0.7s,baz=74,slow=1.5,SNR=5.9
BDFB PKP **PKPdf 01 35 57.4 -0.7**
comp=Z,5.9nm,0.8s,baz=220,slow=4.5,SNR=5.1
BDFB SKP 01 39 27.2
comp=Z,2.0nm,0.7s,baz=113,slow=5.2,SNR=4.1
TSUM Tsumeb 135.16 224 PKP **PKPdf 01 35 57.1 -0.9**
comp=Z,8.8nm,0.9s,baz=153,slow=2.5,SNR=6.7
TSUM Tsumeb 135.16 224 PKPdf **PKPdf 01 35 55.7 -2.3**
DRGR 135.19 325 ⇑P **PKPdf 01 35 57.3 +0.1**
DRGR 135.19 325 ⇑PKIKP **PKPdf 01 35 57.3 +0.1**
LANS Liptovska Anna 135.45 329 *e*PKIKP **PKiKP 01 35 58.4 -0.7**
LANS Liptovska Anna 135.45 329 *e*PKP **PKiKP 01 35 58.4 -0.7**
LANS e 01 39 32.2
RUE Ruedersdorf 135.59 336 *e*P **PKiKP 01 35 59.0 -0.2**
RUE Ruedersdorf 135.59 336 *e*PKPdf **PKPdf 01 35 57.7 +0.1**
baz=38,slow=1.9
DEV Deva 135.60 324 ⇑P **PKPdf 01 35 58.2 +0.3**
DEV Deva 135.60 324 ⇑PKIKP **PKPdf 01 35 58.2 +0.3**
OKC Ostrava-Krasne 135.63 331 *e*PKPDF **PKPdf 01 35 57.4 -0.4**
OKC AMS AMS 02 33 10.0
comp=Z,900nm,18.8s
OKC Ostrava-Krasne 135.63 331 *e*PKIKP **PKPdf 01 35 57.4 -0.4**
OKC MLR MLR
comp=Z,900nm,18.8s
BSEG Bad Segeberg 135.68 340 *e*PKPdf **PKPdf 01 35 57.5 -0.2**
baz=38,slow=1.9
VLAD Vladila 135.72 321 ⇑P **PKPdf 01 35 58.4 +0.3**
KSP Ksiaz 135.77 333 *e*PKP **PKPdf 01 35 57.3 -0.7**
PLVB Pleven 135.90 320 ⇑P **PKPdf 01 35 59.0 +0.5**
GZR Gura Zlata 135.95 323 ⇑P **PKPdf 01 35 58.6 0.0**
GZR Gura Zlata 135.95 323 ⇑PKIKP **PKPdf 01 35 58.6 0.0**
MORC Moravsky Berou 135.96 331 ⇑P **PKPdf 01 35 58.3 -0.2**
MORC Moravsky Berou 135.96 331 *e*PKP **PKPdf 01 35 58.1 -0.4**
MORC *e* 01 39 32.5
MORC Moravsky Berou 135.96 331 ⇑PKIKP **PKPdf 01 35 58.3 -0.2**
OSTC Ostas 136.01 333 *e*PKPpre PKPpre 01 35 46.2
OSTC *e*PKPDF **PKPdf 01 35 58.3 -0.2**
OSTC *e*PKPDF **PKiKP 01 35 58.5 -1.7**
OSTC *e*SKP 01 39 31.3
OSTC AMS AMS 02 35 50.0
comp=Z,1μm,21.9s
PSZ Piszkesteto 136.03 328 ⇑P **PKPdf 01 35 59.1 +0.4**
PSZ Piszkesteto 136.03 328 IAMs_20 IAMs_20 02 47 47.6
comp=Z,1μm,18.0s
PSZ Piszkesteto 136.03 328 ⇑PKIKP **PKPdf 01 35 59.1 +0.4**
SIRR Siria 136.09 325 ⇑P **PKPdf 01 35 58.5 -0.3**
KRLC Kraliky 136.10 332 *e*PKPDF **PKPdf 01 35 58.6 -0.1**
KRLC *e*SKP 01 39 30.9
KRLC AMS AMS 02 34 30.0
comp=Z,1μm,26.1s
KRLC Kraliky 136.10 332 *e*PKIKP **PKPdf 01 35 58.6 -0.1**
KRLC MLR MLR
comp=Z,1μm,26.1s
MAUC Maruska 136.10 331 *e*PKPDF **PKPdf 01 35 58.8 0.0**
MAUC *e*SKP 01 39 32.0
DPC Dobruska-Polom 136.11 333 *e*PKPpre PKPpre 01 35 48.7
DPC *e*PKPDF **PKPdf 01 35 58.0 -0.8**
DPC *e*SKP 01 39 31.7
DPC AMS AMS 02 35 50.0
comp=Z,1μm,22.3s
DPC Dobruska-Polom 136.11 333 *e*PKHKP PKPpre 01 35 48.7
DPC *e* 01 35 58.0
DPC MLR MLR
comp=Z,1μm,22.3s
SURR Surduc 136.12 324 ⇑P **PKPdf 01 35 58.1 -0.7**
UPC Upice 136.14 333 *e*PKPDF **PKPdf 01 35 58.6 -0.1**
UPC AMS AMS 02 39 20.0
comp=Z,1μm,19.3s
UPC Upice 136.14 333 *e*PKIKP **PKPdf 01 35 58.6 -0.1**
UPC MLR MLR
comp=Z,1μm,19.3s
VYHS Vyhne 136.20 329 *e*PKIKP **PKPdf 01 35 59.1 +0.2**
VYHS Vyhne 136.20 329 *e*PKP **PKPdf 01 35 59.1 +0.2**
VYHS *e* 01 39 32.0
BAIL Bailesti 136.36 321 ⇑P **PKPdf 01 35 59.2 -0.1**
HERR Herculane 136.45 323 ⇑P **PKPdf 01 35 58.8 -0.7**
BZS Buzias 136.50 324 ⇓P **PKPdf 01 35 59.4 -0.1**
BZS Buzias 136.50 324 ⇓PKIKP **PKPdf 01 35 59.4 -0.1**
JAVC Velka Javorina 136.53 330 *e*PKP **PKPdf 01 36 00.2 +0.6**
AMBH Ambrzfalva 136.56 325 ⇑P **PKiKP 01 36 00.6 -0.8**
FLTG Flechtingen 136.67 338 *e*PKPdf **PKPdf 01 35 59.0 -0.6**
baz=38,slow=1.9
VRAC Vranov 136.73 331 *e*PKP **PKPdf 01 35 59.9 0.0**
VRAC *e* 01 39 33.0
PVCC Panska Ves 136.75 334 *e*PKPDF **PKPdf 01 36 00.1 +0.2**
PVCC eSKP 01 39 33.5
PVCC AMS AMS 02 43 30.0
comp=Z,1μm,20.0s
PVCC Panska Ves 136.75 334 *e*PKIKP **PKPdf 01 36 00.1 +0.2**
PVCC MLR MLR
comp=Z,1μm,20.0s
BRG Berggiesshubel 136.75 335 *e*PKP PKPpre 01 35 48.3
BRG Amp 01 35 50.4
comp=Z,3.6nm,0.7s
BRG Berggiesshubel 136.75 335 P **PKiKP 01 36 01.6 -0.1**
BRG Amp 01 36 02.4
comp=Z,24nm,1.0s
BRG Berggiesshubel 136.75 335 P **PKiKP 01 36 05.6 +4.0**
BRG Amp 01 36 06.3
comp=Z,16nm,1.0s
BRG Berggiesshubel 136.75 335 P PKiKP 01 36 11.6 +10
BRG Amp 01 36 13.0
comp=Z,12nm,1.1s
BRG Berggiesshubel 136.75 335 P PKiKP 01 36 16.7 +15
BRG Amp 01 36 17.7
comp=Z,16nm,1.1s
BRG Berggiesshubel 136.75 335 *e*PKHKP PKPpre 01 35 48.2
BRG 01 38 46.0
BRG S 01 57 09.0
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,24nm,1.0s
BRG pmax pmax
comp=Z,16nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,17nm,1.2s
BRG pmax pmax
comp=Z,19nm,1.4s
BRG pmax pmax
comp=Z,34nm,1.4s
BRG smax smax
comp=Z,1μm,19.8s
BRG MLR MLR
comp=E,375nm,16.1s
BRG MLR MLR
comp=N,828nm,17.5s
BRG Berggiesshubel 136.75 335 *e*PKPdf **PKPdf 01 35 59.5 -0.4**
baz=38,slow=1.9
CLL Collm 136.80 336 PKPpre 01 35 49.2
CLL PKPdf **PKPdf 01 35 58.9 -1.0**
CLL SKPbc **SKPbc 01 39 31.0 -0.5**
CLL IAMs_20 IAMs_20 02 37 39.3
comp=Z,946nm,20.0s
CLL Collm 136.80 336 *e*PKPpre PKPpre 01 35 53.0
CLL *i* PKPdf **PKPdf 01 35 59.1 -0.8**
CLL *i* PKiKP **PKiKP 01 36 01.2 -0.5**
comp=Z,23nm,0.8s
CLL *i* pPKPdf pPKPdf 01 36 05.5 -0.6
CLL *ex* x 01 38 36.0
CLL *e*PP **PP 01 38 43.0 +0.8**
CLL *i* SKPbc **SKPbc 01 39 33.6 +2.1**
comp=Z,32nm,1.3s
CLL *i* PKSdf **PKSdf 01 39 38.2 +2.3**
CLL *i* SKPab **SKPab 01 39 40.5 +2.9**
comp=Z,15nm,1.1s
CLL *e*pSKPab 01 39 45.0
CLL *ex* x 01 40 19.0
CLL *e*PPP PPP 01 41 42.0
CLL *e*SKSac **SKSac 01 43 12.0 -0.7**
CLL *ex* x 01 44 42.0
CLL *e*SKKSac 01 45 48.0
CLL *e*SKSKSac *e*S'ac 01 47 12.0 -0.4
CLL *e*PSKS 01 48 48.0
CLL *e*(PPS) 01 50 42.0
CLL *e*SS **SS 01 56 42.0 -2.5**
CLL *e*SKSSKSac *e*S'ac 01 58 24.0 -16
CLL *e*SSS SSS 02 01 54.0
CLL *e*(SSSS) 02 05 18.0
CLL *ex* x 02 07 00.0
CLL Lm MLR 02 38 00.0
comp=N,700nm,21.8s
CLL Lm MLR 02 38 00.0
comp=E,300nm,21.7s
CLL LmV 02 40 00.0
comp=Z,800nm,20.1s
CLL Collm 136.80 336 PKHKP PKPpre 01 35 49.2
CLL 01 58 09.9
CLL MLR MLR
comp=Z,900nm,20.0s
CLL Collm 136.80 336 *e*PKPdf **PKPdf 01 35 59.6 -0.3**
baz=38,slow=1.9
SRO Srobarova 136.91 329 *e*PKIKP **PKPdf 01 36 00.9 +0.7**
SRO Srobarova 136.91 329 *e*PKP **PKPdf 01 36 00.9 +0.7**
SRO *e* 01 39 34.2
MDVR Moldovita 136.92 323 ⇑P **PKPdf 01 35 59.8 -0.7**
NRDL Niedersach Rie 136.94 339 *e*PKPdf **PKPdf 01 35 59.7 -0.4**
baz=38,slow=1.9
FBE Freiberg 136.96 335 *e*PKPdf **PKPdf 01 36 00.2 0.0**
baz=38,slow=1.9
KRUC Moravsky 136.99 331 *e*PKP **PKPdf 01 35 59.9 -0.5**
KRUC *e* 01 39 34.0
RETH Rethem/Aller, 136.99 340 *e*PKPdf **PKPdf 01 35 59.9 -0.3**
baz=38,slow=1.9
ASSE Asse, Remlinge 137.04 338 *e*PKPdf **PKPdf 01 36 00.5 +0.3**
baz=38,slow=1.9
MODS Modra-Piesok 137.05 330 *e*PKIKP **PKPdf 01 36 00.3 -0.2**
MODS Modra-Piesok 137.05 330 *e*PKP **PKPdf 01 36 00.3 -0.2**
MODS *e* 01 39 35.2
GOPC GO Pecny, Ondr 137.11 333 *e*PKPDF **PKPdf 01 36 01.1 +0.5**
GOPC AMS AMS 02 38 20.0
comp=Z,1μm,20.8s
GOPC GO Pecny, Ondr 137.11 333 *e*PKIKP **PKPdf 01 36 01.1 +0.5**
GOPC MLR MLR
comp=Z,1μm,20.8s
PRU Pruhonice 137.16 333 *e*PKPDF **PKPdf 01 36 00.4 -0.2**
PRU *e*SKP 01 39 34.4
PRU AMS AMS 02 38 50.0
comp=Z,1μm,19.2s
PRU Pruhonice 137.16 333 *e*PKIKP **PKPdf 01 36 00.4 -0.2**
PRU MLR MLR
comp=Z,1μm,19.2s
VTS Vitosha 137.17 319 ⇓P PKPpre 01 35 49.1
VTS Vitosha 137.17 319 ⇓PKHKP PKPpre 01 35 49.1
TREC Trest 137.25 332 AMS AMS 02 36 40.0
comp=Z,1μm,18.0s
ZST Bratislava 137.25 330 *e*PKIKP **PKiKP 01 36 02.8 +0.1**
ZST Bratislava 137.25 330 *e*PKP **PKiKP 01 36 02.8 +0.1**
NEUB Neuenburg 137.36 337 *e*PKPdf **PKPdf 01 36 01.7 +0.7**
baz=38,slow=1.9
MMB Musomiste 137.37 318 P **PKPdf 01 35 59.0 -2.4**
CLZ Clausthal 137.38 338 *e*PKPdf **PKPdf 01 36 00.8 -0.3**
baz=38,slow=1.9
TANN Tannenbergstha 137.71 335 *e*PKPdf **PKPdf 01 36 01.2 -0.5**
baz=38,slow=1.9
GTTG Gottingen 137.77 338 *e*PKPdf **PKPdf 01 36 01.3 -0.4**
baz=38,slow=1.9
MORH Mrgy, Hungar 137.78 327 ⇑P PKPpre 01 35 53.0
FRGS Fruska Gora 137.79 325 ⇑P **PKiKP 01 36 02.9 -1.1**
GUNZ Gunzen 137.80 335 *e*PKPdf **PKPdf 01 36 02.1 +0.2**
baz=38,slow=1.9
WERN Wernitzgruen 137.84 335 *e*PKPdf **PKPdf 01 36 01.9 0.0**
baz=38,slow=1.9
NKC Novy Kostel 137.86 335 *e*PKPpre PKPpre 01 35 52.5

NKC				*e*PKPDF	**PKPdf**	**01 36 02.4**	**+0.4**
NKC				*e*SKP		01 39 36.5	
NKC	**Novy Kostel**	**137.86**	**335**	*e*PKHKP	PKPpre	01 35 52.5	
NKC				*e*		01 36 02.4	
MOX	**Moxa**	**137.87**	**336**	*e*PKPdf	**PKPdf**	**01 36 01.6**	**-0.4**
	baz=38,slow=1.9						
MOX				*e*L	L	02 40 10.2	
	comp=Z,950nm,20.6s						
IBBN	**Ibbenburen**	**137.89**	**341**	*e*PKPdf	**PKPdf**	**01 36 01.8**	**-0.1**
	baz=38,slow=1.9						
RONA	**Rosalia, Austr**	**137.99**	**330**	*i* PKP	**PKPdf**	**01 36 02.8**	**+0.5**
	comp=Z,18nm,0.7s,SNR=8.8						
RONA				*i* SKP		01 39 37.5	
	comp=Z,23nm,1.9s						
CONA	**Conrad Observa**	**138.04**	**330**	*e*PKP	**PKiKP**	**01 36 03.5**	**-1.0**
	comp=Z,21nm,0.8s,SNR=7.2						
CONA				*e*SKP		01 39 37.6	
	comp=Z,20nm,1.2s						
CKRC	**Cesky Krumlov**	**138.12**	**332**	*e*PKPpre	PKPpre	01 35 52.0	
CKRC				*e*PKPDF	**PKPdf**	**01 36 03.1**	**+0.6**
CKRC				*e*SKP		01 39 38.4	
CKRC				AMS	AMS	02 40 40.0	
	comp=Z,900nm,16.5s						
MANZ	**Manzenberg**	**138.19**	**335**	*e*PKPdf	**PKPdf**	**01 36 02.1**	**-0.5**
	baz=38,slow=1.9						
KHC	**Kasperske Hory**	**138.22**	**333**	PKPdf	**PKPdf**	**01 36 01.4**	**-1.3**
KHC				SKPbc	**SKPbc**	**01 39 34.4**	**-1.3**
KHC	**Kasperske Hory**	**138.22**	**333**	*e*PKPpre	PKPpre	01 35 52.6	
KHC				*e*PKPDF	**PKPdf**	**01 36 02.6**	**-0.1**
KHC				*e*SKP		01 39 37.6	
KHC				AMS	AMS	02 41 40.0	
	comp=Z,900nm,17.1s						
KHC	**Kasperske Hory**	**138.22**	**333**	*e*PKHKP	PKPpre	01 35 52.6	
KHC				*e*		01 36 02.6	
KHC				MLR	MLR		
	comp=Z,900nm,17.1s						
VAY	**Valandovo**	**138.26**	**318**	*i* P	PKPpre	01 35 57.6	
STIP	**Stip**	**138.31**	**319**	*i* P	**PKPdf**	**01 36 01.8**	**-1.3**
ROTZ	**Rotzenmuhle**	**138.32**	**335**	*e*PKPdf	**PKPdf**	**01 36 02.3**	**-0.5**
	baz=38,slow=1.9						
GEC2	**GERESS Array S**	**138.38**	**333**	*e*PKPdf	**PKPdf**	**01 36 02.5**	**-0.6**
	baz=38,slow=1.9						
GERES	**GERESS Array B**	**138.38**	**333**	PKhKP	PKPpre	01 35 52.8	
	comp=Z,1.2nm,0.7s,baz=11,slow=2.7,SNR=9.6						
GERES				PKP	**PKPdf**	**01 36 02.8**	**-0.2**
	comp=Z,13nm,0.8s,baz=79,slow=0.7,SNR=27						
GERES				SKPab	**SKPbc**	**01 39 36.7**	**+0.4**
	comp=Z,8.5nm,0.8s,baz=49,slow=4.1,SNR=14						
KASTN	**Kahler Asten**	**138.60**	**339**	*e*PKPdf	**PKPdf**	**01 36 02.9**	**-0.4**
	baz=38,slow=1.9						
SKO	**Skopje**	**138.64**	**320**	*i* P	**PKPdf**	**01 35 58.9**	**-4.7**
ARSA	**Arzberg**	**138.68**	**330**	*i* PKP	**PKPdf**	**01 36 04.4**	**+0.8**
	comp=Z,5.0nm,0.7s						
ARSA				*i* SKP		01 39 39.6	
	comp=Z,9.9nm,1.2s						
GRA1	**Grafenberg Arr**	**138.78**	**336**	IAMs_20	IAMs_20	02 39 27.5	
	comp=Z,934nm,19.0s						
GRF	**Grafenberg Arr**	**138.78**	**336**	*e*PKPdf	**PKPdf**	**01 36 03.1**	**-0.6**
	baz=38,slow=1.9						
GRF				*e*L	L	02 39 27.6	
	comp=Z,914nm,20.6s						
GRFO	**Grafenberg**	**138.78**	**336**	PKPdf	**PKPdf**	**01 36 02.4**	**-1.2**
GRFO				IAMs_20	IAMs_20	02 39 28.5	
	comp=Z,987nm,20.0s						
GRFO	**Grafenberg**	**138.78**	**336**	PKiKP	**PKPdf**	**01 36 02.4**	**-1.2**
GRFO				MLR	MLR		
	comp=Z,1μm,20.0s						
BUG	**Bochum--Univer**	**138.78**	**340**	*e*PKPdf	**PKPdf**	**01 36 02.8**	**-0.8**
	baz=38,slow=1.9						
MOA	**Molln**	**138.85**	**331**	*i* PKP	**PKiKP**	**01 36 04.8**	**-1.2**
	comp=Z,7.8nm,0.6s						
MOA				*e*SKP		01 39 39.9	
	comp=Z,18nm,1.4s						
BIOA	**Bad Ischl, Aus**	**139.26**	**332**	*i* PKP	**PKPdf**	**01 36 05.6**	**+0.9**
	comp=Z,3.5nm,0.5s						
BIOA				*i* SKP		01 39 40.2	
	comp=Z,20nm,2.0s						
SOKA	**Soboth**	**139.32**	**330**	*e*PKP	**PKPdf**	**01 36 04.7**	**-0.1**
	comp=Z,9.5nm,0.8s						
SOKA				*i* SKP		01 39 40.5	
	comp=Z,18nm,1.3s						
TNS	**Taunus Mts**	**139.40**	**338**	*e*PKPdf	**PKPdf**	**01 36 04.7**	**-0.2**
	baz=38,slow=1.9						
OHR	**Ohrid**	**139.51**	**319**	*i* P	**PKPdf**	**01 36 03.2**	**-2.1**
AHRW	**Bad Neuenahr-A**	**139.61**	**340**	*e*PKPdf	**PKPdf**	**01 36 04.6**	**-0.5**
	baz=38,slow=1.9						
OBKA	**Obir**	**139.68**	**330**	*e*PKP	**PKPdf**	**01 36 06.3**	**+0.8**
	comp=Z,3.9nm,0.6s						
OBKA				*i* SKP		01 39 41.1	
	comp=Z,16nm,1.1s						
PDG	**Podgorica**	**139.73**	**322**	⇑P	PKPpre	01 35 55.7	
PDG	**Podgorica**	**139.73**	**322**	IAMs_20	IAMs_20	02 51 59.1	
	comp=Z,724nm,19.0s						
KBA	**Koelnbreinsper**	**139.84**	**331**	*e*PKP	**PKPdf**	**01 36 06.6**	**+0.7**
	comp=Z,14nm,1.1s						
KBA				*e*SKP		01 39 42.4	
	comp=Z,21nm,1.1s						
BTNL	**Ternell**	**139.89**	**341**	*d*PKPdf	**PKPdf**	**01 36 05.2**	**-0.5**
MEM	**Membach**	**139.91**	**341**	*d*PKPdf	**PKPdf**	**01 36 04.9**	**-0.7**
MEM				*d*PKiKP	**PKiKP**	**01 36 07.5**	**-0.6**
TIR	**Tirane**	**139.97**	**320**	IAMs_20	IAMs_20	02 41 02.8	
	comp=Z,1μm,20.0s						
MYKA	**Terra Mystica**	**140.03**	**331**	*e*PKP	**PKPdf**	**01 36 06.3**	**+0.2**
	comp=Z,13nm,0.6s						
MYKA				*i* SKP		01 39 41.8	
	comp=Z,8.4nm,0.9s						
BSTI	**Sart Tilman**	**140.07**	**341**	*d*PKPdf	**PKPdf**	**01 36 06.4**	**+0.5**
BHOU	**Houvegnez**	**140.13**	**340**	*d*PKiKP	**PKiKP**	**01 36 08.2**	**-0.4**
BCLA	**Clavier**	**140.30**	**341**	*d*PKPdf	**PKPdf**	**01 36 05.4**	**-0.9**
STU	**Stuttgart**	**140.31**	**336**	IAMs_20	IAMs_20	02 51 24.0	
	comp=Z,749nm,18.0s						
STU	**Stuttgart**	**140.31**	**336**	*e*PKPdf	**PKPdf**	**01 36 07.0**	**+0.6**
	baz=38,slow=1.9						
BGES	**Gesves**	**140.40**	**341**	*d*PKPdf	**PKPdf**	**01 36 05.4**	**-1.1**
WATA	**Walderalm**	**140.45**	**333**	*e*PKP	**PKPdf**	**01 36 06.1**	**-0.8**
	comp=Z,7.2nm,0.8s						
WATA				*e*SKP		01 39 44.2	
	comp=Z,17nm,1.2s						
ABTA	**Abfaltersbach**	**140.47**	**332**	*e*PKP	**PKPdf**	**01 36 05.1**	**-1.8**
	comp=Z,12nm,0.7s						
ABTA				*i* SKP		01 39 42.8	
	comp=Z,19nm,1.4s						
WTTA	**Wattenberg**	**140.48**	**333**	*e*PKP	**PKPdf**	**01 36 06.4**	**-0.7**
	comp=Z,11nm,0.6s						
WTTA				*i* SKP		01 39 44.5	
	comp=Z,22nm,1.1s						
SNF	**Seneffe**	**140.53**	**342**	*d*PKPdf	**PKPdf**	**01 36 07.0**	**+0.3**
RCHB	**Rochefort**	**140.55**	**341**	*d*PKPdf	**PKPdf**	**01 36 06.3**	**-0.5**
BMRD	**Maredsous**	**140.57**	**341**	*d*PKPdf	**PKPdf**	**01 36 06.4**	**-0.4**
BMRD				*d*PKiKP	**PKiKP**	**01 36 09.0**	**-0.4**
MOTA	**Moosalm**	**140.65**	**333**	*e*PKP	**PKPdf**	**01 36 07.8**	**+0.4**
	comp=Z,6.2nm,0.8s						
MOTA				*e*SKP		01 39 44.0	
	comp=Z,23nm,1.2s						
WLF	**Walferdange**	**140.67**	**340**		PKPpre	01 35 58.6	
WLF	**Walferdange**	**140.67**	**340**	PKHKP	PKPpre	01 35 58.6	
WLF	**Walferdange**	**140.67**	**340**	*d*PKiKP	**PKiKP**	**01 36 09.1**	**-0.6**
RETA	**Reutte**	**140.69**	**334**	*e*PKP	**PKPdf**	**01 36 07.4**	**+0.1**
	comp=Z,3.0nm,0.5s						
RETA				*i* SKP		01 39 44.9	
	comp=Z,19nm,1.4s						
SQTA	**Sankt Quirin**	**140.70**	**333**	*e*PKP	**PKPdf**	**01 36 06.6**	**-0.8**
	comp=Z,10nm,1.3s						
SQTA				*i* SKP		01 39 45.0	
	comp=Z,23nm,1.1s						
DOU	**Dourbes**	**140.80**	**341**	*d*PKPdf	**PKPdf**	**01 36 07.2**	**0.0**
FETA	**Feichten**	**141.06**	**333**	*e*PKP	**PKPdf**	**01 36 08.7**	**+0.6**
	comp=Z,7.5nm,0.7s						
FETA				*i* SKP		01 39 45.8	
	comp=Z,13nm,0.9s						
DAVA	**Damuels**	**141.22**	**334**	*i* PKP	PKPpre	01 36 02.4	
	comp=Z,7.7nm,0.7s						
DAVA				*i* SKP		01 39 46.5	
	comp=Z,21nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**141.58**	**333**	IAMs_20	IAMs_20	02 41 25.8	
	comp=Z,691nm,21.0s						
AQU	**L'Aquila**	**143.15**	**326**	IAMs_20	IAMs_20	02 44 43.0	
	comp=Z,1μm,20.0s						
TIP	**Timpagrande**	**143.16**	**319**	⇓P	PKPab	01 36 07.3	-0.1
SSB	**Saint Sauveur**	**144.99**	**338**		**PKPab**	**01 36 13.5**	**-0.7**
SSB	**Saint Sauveur**	**144.99**	**338**	PKiKP	**PKPab**	**01 36 13.5**	**-0.7**
NBCL	**Cascavel-CE**	**149.67**	**124**	*e*P	**PKPdf**	**01 36 25.3**	**+1.7**
KEST	**Kesra**	**149.92**	**321**	PKPbc	**PKPbc**	**01 36 28.2**	**-0.1**
	comp=Z,158nm,0.7s,baz=315,slow=3.5,SNR=102						
RCBR	**Riachuelo**	**150.53**	**130**	IAMs_20	IAMs_20	02 37 29.4	
	comp=Z,878nm,20.0s						

CKFL	**Kef-Lekhel**	**151.00**	**325**	P	**PKPbc**	**01 36 29.5**	**-1.4**
CASM	**Ain Smara**	**151.23**	**325**	P	**PKPbc**	**01 36 31.4**	**0.0**
DFRA	**Djebel Bou Aff**	**151.36**	**326**	P	**PKiKP**	**01 36 32.0**	**-0.3**
PBRG	**Braganca**	**151.39**	**349**	*e*PKPbc	**PKPbc**	**01 36 30.8**	**-0.8**
PBRG				*i* LQ	LQ	01 36 34.8	
PGAV	**Gavieira, Arco**	**151.48**	**352**	*e*PKPbc	**PKPbc**	**01 36 31.1**	**-0.7**
PGAV				*i* LQ	LQ	01 36 35.0	
PGAV	**Gavieira, Arco**	**151.48**	**352**	*e*LR	LR	02 44 13.3	
	comp=Z,617nm,16.0s						
POLO	**Lamas de Olo**	**151.99**	**351**	*e*PKPbc	**PKPbc**	**01 36 32.5**	**-0.5**
POLO				*i* LQ	LQ	01 36 36.5	
MVO	**Moncorvo**	**152.06**	**349**	*e*PKPbc	**PKPbc**	**01 36 32.8**	**-0.3**
MVO				*i* LQ	LQ	01 36 36.8	
MVO	**Moncorvo**	**152.06**	**349**	*e*LR	LR	02 39 20.4	
	comp=Z,666nm,20.0s						
PVRL	**Vila Real**	**152.07**	**351**	*e*PKPbc	**PKPbc**	**01 36 32.6**	**-0.5**
PVRL				*i* LQ	LQ	01 36 36.5	
PTO	**Porto**	**152.34**	**352**	*e*PKPbc	**PKPbc**	**01 36 33.0**	**-0.6**
PTO				*i* LQ	LQ	01 36 37.2	
PVIS	**Viseu**	**152.65**	**351**	*e*PKPbc	**PKPbc**	**01 36 34.0**	**-0.4**
PVIS				*i* LQ	LQ	01 36 37.7	
ESDC	**Sonseca Array**	**152.79**	**344**	PKP	**PKPdf**	**01 36 27.1**	**-0.6**
	comp=Z,3.3nm,1.0s,baz=354,slow=2.6,SNR=7.8						
ESDC				PKPbc	**pPKPdf**	**01 36 34.2**	**+0.3**
	comp=Z,31nm,0.9s,baz=2.1,slow=1.7,SNR=54						
ESDC				PP	**PP**	**01 40 24.0**	**+6.6**
	comp=Z,2.8nm,1.0s,baz=11,slow=5.9,SNR=4.0						
MTE	**Manteigas**	**152.90**	**350**	*e*PKPbc	**PKPbc**	**01 36 34.7**	**-0.3**
MTE				*i* LQ	LQ	01 36 38.4	
MTE	**Manteigas**	**152.90**	**350**	*e*LR	LR	02 40 59.7	
	comp=Z,674nm,20.0s						
MTE	**Manteigas**	**152.90**	**350**	PKPdf	**PKPdf**	**01 36 24.2**	**-3.6**
MTE				PKPbc	**pPKPdf**	**01 36 33.5**	**-0.5**
MTE				IAMs_20	IAMs_20	02 49 00.3	
	comp=Z,875nm,20.0s						
PAB	**San Pablo**	**153.02**	**344**	⇑PKIKP	**PKPdf**	**01 36 29.2**	**+1.2**
COI	**Coimbra**	**153.22**	**351**	*e*PKPbc	**PKPbc**	**01 36 35.1**	**-0.5**
PCAS	**Casmilo, Conde**	**153.39**	**351**	*e*PKPbc	**PKPbc**	**01 36 35.7**	**-0.3**
PCAS				*i* LQ	LQ	01 36 39.3	
PCBR	**Castelo Branco**	**153.43**	**349**	*e*PKPdf	**PKPdf**	**01 36 30.2**	**+1.7**
PCBR	**Castelo Branco**	**153.43**	**349**	*e*PKPbc	**PKPbc**	**01 36 35.6**	**-0.5**
PCBR				*i* LQ	LQ	01 36 39.3	
PMRV	**Marv??o**	**153.81**	**349**	*e*PKPdf	**PKPdf**	**01 36 29.1**	**0.0**
PMRV	**Marv??o**	**153.81**	**349**	*e*PKPbc	**PKPbc**	**01 36 36.5**	**-0.5**
PMRV				*i* LQ	LQ	01 36 40.4	
PMRV	**Marv??o**	**153.81**	**349**	*e*LR	LR	02 38 27.9	
	comp=Z,945nm,18.0s						
PMTG	**Montargil**	**154.31**	**350**	*e*PKPbc	**PKPbc**	**01 36 37.4**	**-0.6**
PMTG				*i* LQ	LQ	01 36 41.0	
PESTR	**Estremoz**	**154.40**	**349**	*e*PKPbc	**PKPbc**	**01 36 37.9**	**-0.4**
PESTR	**Estremoz**	**154.40**	**349**	PKPbc	**PKPbc**	**01 36 35.5**	**-2.8**
EVO	**Evora**	**154.80**	**350**	*e*PKPbc	**PKPbc**	**01 36 38.6**	**-0.5**
PBAR	**Barrancos**	**154.96**	**348**	*e*PKPbc	**PKiKP**	**01 36 40.1**	**+0.7**
PBAR	**Barrancos**	**154.96**	**348**	*e*PKPab	**PKPab**	**01 36 56.0**	**+1.3**
PBEJ	**Beja**	**155.26**	**349**	*e*PKPbc	PKPdf	01 36 40.4	+9.3
PBEJ	**Beja**	**155.26**	**349**	*e*PKPab	**PKPab**	**01 36 57.2**	**+1.2**
PNCL	**Nicolau / Gran**	**155.29**	**350**	*e*PKPbc	PKPdf	01 36 40.2	+9.0
MESJ	**Messejana**	**155.51**	**350**	*e*PKPdf	**PKPdf**	**01 36 32.2**	**+0.7**
MESJ				*e*PP	**PP**	**01 40 34.9**	**+2.5**
MESJ				IAMs_20	IAMs_20	02 59 18.2	
	comp=Z,1μm,13.4s						
MESJ	**Messejana**	**155.51**	**350**	*e*PKPbc	**PKPdf**	**01 36 38.0**	**+6.5**
MESJ				*i* LQ	LQ	01 36 43.9	
MESJ	**Messejana**	**155.51**	**350**	*e*PKPab	**PKPab**	**01 36 58.9**	**+1.9**
MESJ	**Messejana**	**155.51**	**350**	*e*PKIKP	**PKPdf**	**01 36 32.1**	**+0.7**
MESJ				*e*		01 40 34.9	
PCVE	**Castro Verde**	**155.68**	**349**	*e*PKPdf	**PKPdf**	**01 36 31.6**	**-0.1**
PCVE	**Castro Verde**	**155.68**	**349**	*e*PKPab	**PKPab**	**01 36 59.1**	**+1.3**
PVAQ	**Vaqueiros**	**155.84**	**349**	*e*PKPab	**PKPab**	**01 36 59.5**	**+1.0**
PVAQ	**Vaqueiros**	**155.84**	**349**	*e*LR	LR	02 39 17.7	
	comp=Z,890nm,20.0s						
PTEO	**Sao Teotonio**	**155.88**	**351**	*e*PKPab	**PKPab**	**01 37 00.9**	**+2.3**
MORF	**Marmelete**	**156.10**	**350**	*e*PKPdf	**PKPdf**	**01 36 33.0**	**+0.6**
MORF				*e*PP	**PP**	**01 40 38.3**	**+2.5**
MORF				IAMs_20	IAMs_20	02 56 49.6	
	comp=Z,826nm,10.6s						
MORF	**Marmelete**	**156.10**	**350**	*i* LQ	LQ	01 36 42.9	
MORF	**Marmelete**	**156.10**	**350**	*e*PKIKP	**PKPdf**	**01 36 32.9**	**+0.6**
MORF				*e*		01 40 38.3	
TORD	**Torodi Ar. Bea**	**165.15**	**270**	PKP	**PKPdf**	**01 36 41.9**	**-0.9**
	comp=Z,8.3nm,0.5s,baz=246,slow=1.3,SNR=7.6						
TORD				PKPab	**PKPab**	**01 37 39.6**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=83,slow=4.0,SNR=1.5						
DBIC	**Dimbokro**	**168.94**	**232**	PKP	**PKPdf**	**01 36 44.2**	**-1.4**
	comp=Z,220nm,0.9s,baz=96,slow=0.4,SNR=22						
DBIC				PKPab	**PKPab**	**01 37 55.0**	**-1.5**
	comp=Z,10nm,1.1s,baz=133,slow=2.7,SNR=1.9						

IDC ***16*** *01:34:38.2±1.6,8.35N×138.84E,h0km,mb3.8/6, mbtmp3.8/6,MS4.5/6,Error ellipse: s-maj=62.5km s-min=31.3km az=82.0*

ISC 16 01:34:43.6±1.3,8.3N±0.2×138.8E±0.4,h35km,n15, σ0§40/6,mb3.9/6,MS4.7/6,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.42**	**189**	P	**P**	**01 40 35.0**	**-0.1**
	0.4nm,0.9s,baz=12,slow=9.9,SNR=2.1						
	0.4nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**28.93**	**67**	T	T	02 12 18.5	
	baz=254,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.94**	**67**	T	T	02 12 23.3	
	baz=254,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**28.94**	**67**	T	T	02 12 20.1	
	baz=254,slow=75,SNR=15						
KSRS	**Korea Array**	**30.63**	**343**	LR	LR	01 51 56.0	
	comp=Z,754nm,21.4s,baz=165,slow=34						
SONM	**Songino Array**	**47.99**	**331**	P	**P**	**01 43 18.8**	**-0.4**
	0.3nm,0.7s,baz=134,slow=6.2,SNR=2.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**61.33**	**319**	P	**P**	**01 44 55.9**	**+0.1**
	1.2nm,0.8s,baz=107,slow=8.8,SNR=11						
	1.2nm,0.8s						
AAK	**Ala-Archa**	**65.55**	**313**	LR	LR	02 13 36.7	
	comp=Z,580nm,21.9s,baz=102,slow=36						
BVAR	**Borovoye Array**	**70.45**	**323**	P	**P**	**01 45 54.4**	**0.0**
	1.5nm,0.7s,baz=105,slow=7.9,SNR=11						
	1.5nm,0.7s						
ILAR	**Eielson Array**	**75.85**	**25**	P	**P**	**01 46 26.0**	**-0.1**
	0.7nm,1.0s,baz=256,slow=6.4,SNR=3.0						
	0.7nm,1.0s						
GEYT	**Alibeck**	**77.59**	**307**	LR	LR	02 22 22.3	
	comp=Z,404nm,21.8s,baz=102,slow=37						
WSAR	**Wadi Sarin**	**77.75**	**292**	LR	LR	02 24 02.5	
	comp=Z,474nm,19.5s,baz=122,slow=38						
OBN	**Obninsk**	**90.15**	**326**	LR	LR	02 31 41.6	
	comp=Z,81nm,20.8s,baz=48,slow=38						
FINES	**FINESS Array B**	**93.29**	**334**	P	**P**	**01 47 55.1**	**+0.5**
	1.4nm,1.0s,baz=64,slow=3.2,SNR=1.1						
	1.4nm,1.0s						
AKASG	**Malin Array Be**	**95.72**	**323**	LR	LR	02 36 12.7	
	comp=Z,352nm,18.2s,baz=48,slow=39						

IDC 16 01:46:05.1±59.0,14.26S×163.72E,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=985.1km s-min=109.4km az=63.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**26.77**	**225**	P	P	01 51 46.8	-0.1
	0.7nm,0.4s,baz=52,slow=12,SNR=2.9						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**28.62**	**254**	P	P	01 52 04.2	+0.7
	0.7nm,0.6s,baz=84,slow=9.1,SNR=7.2						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**29.66**	**247**	P	P	01 52 12.1	-0.6
	0.7nm,0.7s,baz=73,slow=9.7,SNR=8.7						
	0.7nm,0.7s						

IDC 16 01:50:40.6±55.0,19.37S×176.66W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=1016.0km s-min=189.6km az=82.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.42**	**243**	P	P	01 58 13.4	+0.9
	0.5nm,0.4s,baz=90,slow=9.1,SNR=1.7						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**46.01**	**255**	P	P	01 59 05.8	-0.4
	0.7nm,0.5s,baz=98,slow=7.4,SNR=7.1						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**46.02**	**261**	P	P	01 59 05.5	-0.8
	0.2nm,0.4s,baz=100,slow=7.9,SNR=1.6						
	0.2nm,0.4s						

IDC 16 01:52:22.3±2.7,7.78S×118.42E,h0km,mb3.3/3, mbtmp3.2/4,ML3.2/1,Error ellipse: s-maj=184.0km s-min=25.0km az=54.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.60**	**130**	P	P	01 56 52.0	-0.4
	0.1nm,0.3s,baz=303,slow=12,SNR=1.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**21.68**	**139**	P	P	01 57 15.3	+0.4
	0.3nm,0.5s,baz=315,slow=8.9,SNR=5.0						
	0.3nm,0.5s						
SONM	**Songino Array**	**56.38**	**350**	P	P	02 02 05.4	-0.1
	0.3nm,0.6s,baz=167,slow=7.2,SNR=2.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**63.11**	**333**	P	P	02 02 51.8	0.0
	0.2nm,0.4s,baz=148,slow=7.4,SNR=6.9						
	0.2nm,0.4s						

IDC ***16*** *01:59:07.7±1.1,13.51S×166.51E,h0km,mb3.8/8, mbtmp3.7/9,ML3.7/1,Error ellipse: s-maj=43.4km s-min=22.0km az=132.0*

ISC 16 01:59:13.2±0.8,13.67S±0.09×166.6E±0.2,h39km,n10, σ1§14/11,mb3.7/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.36**	**181**	Pn	**Pn**	**02 01 12.6**	**+0.6**
	0.9nm,0.3s,baz=202,slow=21,SNR=8.9						
DZM				Sn	**Sn**	**02 02 44.1**	**-1.0**
	0.3nm,0.3s,baz=4.0,slow=19,SNR=1.2						
	2.1nm,0.3s						
STKA	**Stephens Creek**	**29.20**	**227**	P	**P**	**02 05 12.6**	**+1.4**
	0.6nm,0.3s,baz=24,slow=11,SNR=3.5						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**31.46**	**254**	P	**P**	**02 05 30.4**	**-0.9**
	0.6nm,0.6s,baz=84,slow=9.4,SNR=7.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**32.45**	**247**	P	**P**	**02 05 39.4**	**-0.6**
	0.9nm,0.6s,baz=74,slow=9.1,SNR=12						
	0.9nm,0.6s						
SONM	**Songino Array**	**81.25**	**324**	P	**P**	**02 11 26.1**	**+0.8**
	0.2nm,0.5s,baz=115,slow=3.2,SNR=2.3						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**85.73**	**18**	P	**P**	**02 11 47.6**	**-0.2**
	0.5nm,0.7s,baz=228,slow=5.3,SNR=9.2						
	0.5nm,0.7s						
NVAR	**Mina Array Bea**	**87.08**	**49**	P	**P**	**02 11 54.2**	**-1.2**
	0.1nm,0.4s,baz=264,slow=2.5,SNR=2.0						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**95.98**	**317**	P	**P**	**02 12 35.0**	**-1.3**
	0.4nm,0.7s,baz=96,slow=6.2,SNR=4.0						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**96.91**	**27**	P	**P**	**02 12 41.5**	**+1.5**
	0.1nm,0.5s,baz=259,slow=5.0,SNR=2.2						
	0.1nm,0.5s						
ARCES	**ARCESS Array B**	**119.06**	**345**	PKP	**PKiKP**	**02 17 57.4**	**+0.1**
	1.1nm,0.7s,baz=101,slow=2.3,SNR=8.9						

IDC ***16*** *02:07:05.3±6.6,20.35S×178.57W,h584km±65km,mb2.9/5, mbtmp3.8/5,Error ellipse: s-maj=121.4km s-min=27.3km az=150.0*

ISC 16 02:07:06.6±2.4,20.2S±0.9×178.7W±0.5,h600km,n11, σ0§93/12,mb3.5/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.94**	**256**	P	**P**	**02 14 22.6**	**+0.5**
	0.9nm,0.4s,baz=93,slow=7.7,SNR=18						
ASAR				PcP	**PcP**	**02 15 55.2**	**+0.7**
	0.3nm,0.5s,baz=116,slow=4.2,SNR=5.0						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**43.98**	**262**	P	**P**	**02 14 22.6**	**+0.1**
	0.5nm,0.3s,baz=96,slow=7.6,SNR=13						

baz=9.0
ARK ⇑*i*S **Sg** **02 25 18.5 -0.1**
baz=9.0
ARK Arkit 0.97 308 *i* PG **Pg** **02 25 05.6 -0.4**
ARK *i* S **Sg** **02 25 18.5 -0.1**
AML Almayashu 1.07 30 ⇓P **Pb** **02 25 09.0 0.0**
101nm,0.1s,SNR=387
AML ⇓S **Sb** **02 25 24.2 +0.7**
419nm,0.2s
AML Almayashu 1.07 30 ⇓*i*P **Pb** **02 25 08.5 -0.4**
baz=32
AML ⇓*i*S **Sb** **02 25 23.2 -0.3**
baz=32
AML Almayashu 1.07 30 *i* PG **Pb** **02 25 08.5 -0.4**
AML *i* S **Sb** **02 25 23.2 -0.3**
ARLS Aral 1.20 56 ⇑*i*P **Pb** **02 25 11.0 0.0**
baz=59
ARLS ⇑*i*S **Sn** **02 25 28.0 -0.5**
baz=59
ARLS Aral 1.20 56 *i* PG **Pb** **02 25 11.0 0.0**
ARLS *i* S **Sn** **02 25 28.0 -0.5**
TRKS Terek-Say 1.43 284 ⇓*i*P **Pn** **02 25 13.4 -1.2**
baz=81
TRKS ⇓*i*S **Sg** **02 25 32.2 -1.0**
baz=81
TRKS Terek-Say 1.43 284 *i* PG **Pn** **02 25 13.4 -1.2**
TRKS *i* S **Sg** **02 25 32.2 -1.0**
UCH Uchtor 1.53 48 ⇑P **Pg** **02 25 17.3 +0.5**
157nm,0.2s,SNR=483
UCH ⇓S **Sn** **02 25 38.6 +1.5**
391nm,0.4s
UCH Uchtor 1.53 48 ⇑*i*P **Pg** **02 25 17.1 +0.3**
baz=49
UCH ⇑*i*S **Sn** **02 25 38.6 +1.5**
baz=49
UCH Uchtor 1.53 48 *i* PN **Pg** **02 25 17.1 +0.3**
UCH *i* S **Sn** **02 25 38.6 +1.5**
MRKS Merke 1.55 7 P **Pg** **02 25 17.3 +0.2**
134nm,0.4s
MRKS S **Sg** **02 25 37.8 +0.6**
441nm,0.2s
MRKS Merke 1.55 7 *e*P **Pg** **02 25 17.3 +0.2**
134nm,0.4s
MRKS *e*S **Sg** **02 25 37.8 +0.6**
441nm,0.2s
EKS2 Erkin-Say 1.57 22 ⇓P **Pg** **02 25 17.7 +0.2**
40nm,0.2s,SNR=68
EKS2 ⇓S **Sg** **02 25 39.4 +1.5**
102nm,0.2s
EKS2 Erkin-Say 1.57 22 ⇑*i*P **Pg** **02 25 17.3 -0.2**
baz=23
EKS2 ⇑*i*S **Sg** **02 25 38.7 +0.8**
baz=23
EKS2 Erkin-Say 1.57 22 *e*PN **Pg** **02 25 17.3 -0.2**
AAK Ala-Archa 1.82 38 ⇓P **Pg** **02 25 22.7 +0.3**
103nm,0.2s,SNR=90
AAK ⇑S **Sg** **02 25 47.3 +1.3**
526nm,0.4s
AAK Ala-Archa 1.82 38 Pn **Pg** **02 25 22.6 +0.3**
59nm,0.3s,baz=196,slow=4.3,SNR=529
AAK Lg Lg 02 25 47.6
57nm,0.3s,baz=154,slow=21,SNR=7.5
AAK Ala-Archa 1.82 38 ⇑*i*P **Pg** **02 25 21.9 -0.4**
baz=39
AAK ⇑*i*S **Sg** **02 25 46.8 +0.9**
baz=39
AAK Ala-Archa 1.82 38 *i* PN **Pg** **02 25 22.5 +0.2**
DRK Karamyk 1.95 208 ⇑*e*P **Pb** **02 25 23.6 -0.2**
baz=7.0
DRK ⇑*i*S **Sg** **02 25 49.9 0.0**
baz=7.0
BTK Batken 2.01 236 ⇑*i*P **Pb** **02 25 24.6 -0.1**
baz=35
BTK ⇑*i*S **Sg** **02 25 51.7 -0.2**
baz=35
BTK Batken 2.01 236 *i* PN **Pb** **02 25 24.6 -0.1**
BTK *i* S **Sg** **02 25 51.7 -0.2**
FRU1 Bishkek 2.02 37 ⇓*e*P **Pg** **02 25 25.4 -0.7**
baz=38
FRU1 ⇓*e*S **Sg** **02 25 52.9 +0.6**
baz=38
FRU1 Bishkek 2.02 37 *i* PN **Pg** **02 25 25.4 -0.7**
FRU1 *e*S **Sg** **02 25 52.9 +0.6**
KBK Karagaybulak 2.06 45 ⇑P **Pg** **02 25 27.2 +0.3**
42nm,0.2s,SNR=102
KBK ⇑S **Sg** **02 25 55.5 +1.9**
732nm,0.6s
KBK Karagaybulak 2.06 45 ⇑*i*P **Pb** **02 25 26.0 +0.3**
baz=46
KBK ⇑*i*S **Sg** **02 25 53.7 +0.1**
baz=46
KBK Karagaybulak 2.06 45 *i* PN **Pb** **02 25 26.0 +0.3**
KBK *i* S **Sg** **02 25 53.7 +0.1**
DZA Taraz 2.09 324 Pg **Pg** **02 25 28.3 +0.8**
94nm,0.1s
DZA Lg Lg 02 25 56.1
806nm,0.2s
DZA Taraz 2.09 324 *e*Pg **Pg** **02 25 28.0 +0.5**
94nm,0.1s
DZA *e*Lg Lg 02 25 56.1
806nm,0.2s
CHMS Chumysh 2.22 36 ⇓P **Pg** **02 25 29.1 -0.9**
87nm,0.3s,SNR=45
CHMS ⇑S **Sg** **02 25 59.3 +0.5**
168nm,0.5s
CHMS Chumysh 2.22 36 ⇓Pg **Pg** **02 25 29.2 -0.8**
33nm,0.3s
CHMS ⇑Lg Lg 02 25 59.5
122nm,0.6s
CHMS Chumysh 2.22 36 ⇓*i*P **Pb** **02 25 27.9 -0.5**
baz=37
CHMS ⇓*i*S **Sb** **02 25 57.2 +0.8**
baz=37
CHMS Chumysh 2.22 36 *e*PN **Pb** **02 25 27.9 -0.5**
NRN Naryn 2.28 83 ⇑*e*P **Pb** **02 25 28.9 -0.7**
baz=84
NRN ⇑*i*S **Sb** **02 25 59.2 +0.8**
baz=84
NRN Naryn 2.28 83 *i* PN **Pb** **02 25 28.9 -0.7**
NRN *i* S **Sb** **02 25 59.2 +0.8**
USP Ospenovka 2.35 28 ⇓P **Pb** **02 25 30.4 -0.1**
90nm,0.3s,SNR=214
USP ⇓S **Sg** **02 26 02.5 -0.3**
250nm,0.4s
USP Ospenovka 2.35 28 ⇑*e*P **Pb** **02 25 29.6 -0.9**
baz=29
USP ⇑*i*S **Sb** **02 26 00.1 +0.1**
baz=29
USP Ospenovka 2.35 28 *i* PN **Pb** **02 25 29.6 -0.9**
USP *i* S **Sb** **02 26 00.1 +0.1**
IUG Iuzhnay 2.41 294 Pg **Pg** **02 25 32.8 -0.7**
72nm,0.2s
IUG Lg Lg 02 26 03.9
606nm,0.3s
IUG Iuzhnay 2.41 294 *e*Pg **Pb** **02 25 31.3 -0.3**
72nm,0.2s
IUG *e*Lg Lg 02 26 01.6
606nm,0.3s
SGDS Sogindy 2.56 28 Pg **Pb** **02 25 34.8 +0.8**
30nm,0.3s
SGDS Lg Lg 02 26 07.7
132nm,0.4s
TKM2 Tokmak 2 2.59 48 ⇓P **Pb** **02 25 34.8 0.0**
77nm,0.3s,SNR=64
TKM2 Tokmak 2 2.59 48 ⇑Pg **Pg** **02 25 36.2 -0.9**
49nm,0.5s
TKM2 ⇑Lg Lg 02 26 09.4
101nm,0.6s
TKM2 Tokmak 2 2.59 48 ⇓*i*P **Pb** **02 25 33.6 -1.2**
baz=49
TKM2 ⇓*i*S **Sb** **02 26 06.8 -0.4**
baz=49
TKM2 Tokmak 2 2.59 48 *e*PN **Pb** **02 25 33.6 -1.2**
KK31 Karatay Array 2.64 317 ⇑Pg **Pb** **02 25 35.2 -0.3**
10nm,0.4s,baz=135,slow=13,SNR=290
KK31 ⇑Lg Lg 02 26 11.3
60nm,0.4s
KK31 Karatay Array 2.64 317 PN **Pb** **02 25 35.2 -0.3**
KKAR Karatay Array 2.64 317 ⇑*e*P **Pn** **02 25 33.1 +1.9**
baz=17
KKAR ⇑*i*S **Sb** **02 26 06.4 -2.1**
baz=17
KKAR Karatay Array 2.64 317 *i* PN **Pn** **02 25 33.1 +1.9**
KKAR *i* S **Sb** **02 26 06.4 -2.1**
ULHL Ulahol 2.65 66 ⇑P **Pb** **02 25 35.5 -0.3**
15nm,0.2s,SNR=7.5
ULHL Ulahol 2.65 66 ⇑*i*P **Pb** **02 25 34.3 -1.5**
baz=67
ULHL ⇑*i*S **Sb** **02 26 08.3 -0.6**
baz=67
ULHL Ulahol 2.65 66 *i* PN **Pb** **02 25 34.3 -1.5**
ULHL *i* S **Sb** **02 26 08.3 -0.6**
CHM Chimkent 2.76 295 *e*Pg **Pg** **02 25 40.2 -0.2**
107nm,0.1s
CHM *e*Lg Lg 02 26 16.6
888nm,0.3s
KSH Kashi 2.84 125 Pn **Pg** **02 25 42.4 +0.6**
KSH Sn **Sg** **02 26 19.4 +0.8**
KSH smax smax
comp=N,170nm,0.6s
KSH smax smax
comp=E,190nm,0.8s
KST Kastek 2.88 49 Pg **Pb** **02 25 40.9 +1.3**
comp=E,31nm,0.4s
KST Lg Lg 02 26 17.7
comp=E,193nm,0.6s
KST Kastek 2.88 49 *e*Pg **Pg** **02 25 41.2 -1.4**
comp=E,31nm,0.4s
KST *e*Lg Lg 02 26 17.7
comp=E,193nm,0.6s
DGS Degeres 2.90 45 Pg **Pg** **02 25 41.9 -1.1**
comp=E,41nm,0.4s
DGS Lg Lg 02 26 19.5
comp=E,122nm,0.5s
DGS Degeres 2.90 45 *e*Pg **Pg** **02 25 41.9 -1.1**
comp=E,41nm,0.4s
DGS *e*Lg Lg 02 26 19.5
comp=E,122nm,0.5s
KRBS Karabastau 3.19 38 Pg **Pg** **02 25 47.2 -1.3**
comp=E,44nm,0.3s
KRBS Lg Lg 02 26 28.6
comp=E,43nm,0.4s
KRBS Karabastau 3.19 38 *e*Pg **Pg** **02 25 47.2 -1.3**
comp=E,44nm,0.3s
KRBS *e*Lg Lg 02 26 28.6
comp=E,43nm,0.4s
MTBS Maitube 3.20 52 Pg **Pg** **02 25 47.1 -1.6**
comp=E,11nm,0.3s
MTBS Lg Lg 02 26 28.8
comp=E,71nm,0.5s
MTBS Maitube 3.20 52 *e*Pg **Pg** **02 25 47.1 -1.6**
comp=E,11nm,0.3s
MTBS *e*Lg Lg 02 26 28.8
comp=E,71nm,0.5s
IZV Izvestkoviy 3.26 55 Pg **Pg** **02 25 48.8 -1.1**
comp=E,6.8nm,0.3s
IZV Lg Lg 02 26 31.2
comp=E,69nm,0.7s
IZV Izvestkoviy 3.26 55 *e*Pg **Pg** **02 25 48.8 -1.1**
comp=E,6.8nm,0.3s
IZV *e*Lg Lg 02 26 31.2
comp=E,69nm,0.7s
KDJ Kajisay 3.28 72 ⇓*i*P **Pb** **02 25 43.2 -3.2**
baz=73
KDJ ⇓*i*S **Sb** **02 26 23.6 -3.3**
baz=73
KDJ Kajisay 3.28 72 *i* PN **Pb** **02 25 43.2 -3.2**
KDJ *i* S **Sb** **02 26 23.6 -3.3**
TNSS Tian-Shan 3.47 57 Pg **Pg** **02 25 52.7 -1.2**
comp=E,9.4nm,0.3s
TNSS Lg Lg 02 26 38.3
comp=E,27nm,0.5s
TNSS Tian-Shan 3.47 57 *e*Pg **Pg** **02 25 52.7 -1.2**
comp=E,9.4nm,0.3s
TNSS *e*Lg Lg 02 26 38.3
comp=E,27nm,0.5s
AAA Alma-Ata 3.54 54 Pg **Pg** **02 25 54.5 -0.7**
comp=E,45nm,0.4s
AAA Lg Lg 02 26 40.9
comp=E,121nm,0.4s
AAA Alma-Ata 3.54 54 *e*Pg **Pg** **02 25 54.5 -0.7**
comp=E,45nm,0.4s
AAA *e*Lg Lg 02 26 40.9
comp=E,121nm,0.4s
MDOK Medeo 3.60 56 Pg **Pg** **02 25 54.2 -2.2**
comp=E,14nm,0.5s
MDOK ⇑Pg **Pg** **02 25 54.7 -1.7**
comp=E,15nm,0.6s
MDOK Lg Lg 02 26 40.9
comp=E,65nm,0.6s
MDOK ⇓Lg Lg 02 26 42.0
comp=E,69nm,0.7s
MDOK Medeo 3.60 56 *e*Pg **Pg** **02 25 54.2 -2.2**
comp=E,14nm,0.5s
MDOK *e*Lg Lg 02 26 40.9
comp=E,65nm,0.6s
MDOK Medeo 3.60 56 PN **Pg** **02 25 54.7 -1.7**
KUU Kurty 3.66 42 Pg **Pb** **02 25 54.7 +1.9**
comp=E,11nm,0.4s
KUU Lg Lg 02 26 41.7
comp=E,64nm,0.5s
KUU Kurty 3.66 42 *e*Pg **Pb** **02 25 54.7 +1.9**
comp=E,11nm,0.4s
KUU *e*Lg Lg 02 26 41.7
comp=E,64nm,0.5s
KOTS Kotyrbulak 3.67 55 Pg **Pg** **02 25 56.7 -1.1**
comp=E,11nm,0.3s
KOTS Lg Lg 02 26 44.9
comp=E,71nm,0.5s
KOTS Kotyrbulak 3.67 55 *e*Pg **Pg** **02 25 56.7 -1.1**
comp=E,11nm,0.3s
KOTS *e*Lg Lg 02 26 44.9
comp=E,71nm,0.5s
KTBS Karatobe 3.71 46 Pg **Pg** **02 25 56.7 -1.8**
comp=E,14nm,0.4s
KTBS Lg Lg 02 26 44.8
comp=E,135nm,0.5s
KTBS Karatobe 3.71 46 *e*Pg **Pg** **02 25 56.7 -1.8**
comp=E,14nm,0.4s
KTBS *e*Lg Lg 02 26 44.8
comp=E,135nm,0.5s
BTLS Baital 3.91 11 Pg **Pb** **02 25 59.1 +1.9**
comp=E,25nm,0.6s
BTLS Lg Lg 02 26 48.7
comp=E,15nm,0.3s
BTLS Baital 3.91 11 *e*Pg **Pb** **02 25 59.1 +1.9**
comp=E,25nm,0.6s
BTLS *e*Lg Lg 02 26 48.8
comp=E,15nm,0.3s
CHKK Chushkaly 3.97 47 Pg **Pg** **02 26 01.1 -2.4**
comp=E,10nm,0.7s
CHKK Lg Lg 02 26 53.4
comp=E,49nm,0.5s
CHKK Chushkaly 3.97 47 *e*Pg **Pg** **02 26 01.1 -2.4**
comp=E,10nm,0.7s
CHKK *e*Lg Lg 02 26 52.6
comp=E,49nm,0.5s
SATY Saty 4.44 64 Pg **Pg** **02 26 10.8 -1.7**
comp=E,7.4nm,0.3s
SATY Lg Lg 02 27 09.3
comp=E,31nm,0.5s
SATY Saty 4.44 64 *e*Pg **Pg** **02 26 10.8 -1.7**
comp=E,7.4nm,0.3s
SATY *e*Lg Lg 02 27 09.3
comp=E,31nm,0.5s
KURS Kuram 4.47 58 Pg **Pg** **02 26 11.0 -2.0**
comp=E,6.0nm,0.3s
KURS Lg Lg 02 27 09.3
comp=E,13nm,0.8s
KURS Kuram 4.47 58 *e*Pg **Pg** **02 26 11.0 -2.0**
comp=E,6.0nm,0.3s
KURS *e*Lg Lg 02 27 09.3
comp=E,13nm,0.8s
ZHN Zhinishke 4.50 62 Pg **Pg** **02 26 10.8 -2.8**
comp=E,3.9nm,0.1s
ZHN Lg Lg 02 27 09.3
comp=E,32nm,0.2s
ZHN Zhinishke 4.50 62 *e*Pg **Pg** **02 26 10.8 -2.8**
comp=E,3.9nm,0.1s
ZHN *e*Lg Lg 02 27 09.3
comp=E,32nm,0.2s
KPKS Kokpek 4.79 60 Pg **Pg** **02 26 17.2 -2.0**
comp=E,9.8nm,0.5s
KPKS Lg Lg 02 27 20.0
comp=E,39nm,0.6s
KPKS Kokpek 4.79 60 *e*Pg **Pg** **02 26 17.2 -2.0**
comp=E,9.8nm,0.5s
KPKS *e*Lg Lg 02 27 20.0
comp=E,39nm,0.6s
UZB Uzynbulak 4.89 65 Pg **Pg** **02 26 17.9 -3.1**
comp=E,8.2nm,0.6s
UZB Lg Lg 02 27 21.6
comp=E,16nm,0.4s
UZB Uzynbulak 4.89 65 *e*Pg **Pg** **02 26 17.9 -3.1**
comp=E,8.2nm,0.6s
UZB *e*Lg Lg 02 27 21.6
comp=E,16nm,0.4s
BLB Baldybastay 4.98 53 Pg **Pg** **02 26 19.0 -3.7**
comp=E,12nm,0.5s
BLB Lg Lg 02 27 22.9
comp=E,27nm,0.5s
SHLS Shalkode 5.19 66 Pg **Pg** **02 26 29.7 +2.8**
comp=E,5.8nm,0.3s
SHLS Lg Lg 02 27 41.8
comp=E,12nm,0.6s
SHLS Shalkode 5.19 66 *e*Pg **Pg** **02 26 29.7 +2.8**
comp=E,5.8nm,0.3s
SHLS *e*Lg Lg 02 27 41.8
comp=E,12nm,0.6s
DJR Jarkent 5.90 56 Pg **Pg** **02 26 37.3 -3.2**
comp=E,2.4nm,0.4s
DJR Lg Lg 02 27 54.5
comp=E,13nm,1.0s
DJR Jarkent 5.90 56 *e*Pg **Pg** **02 26 37.3 -3.2**
comp=E,2.4nm,0.4s
DJR *e*Lg Lg 02 27 54.5
comp=E,13nm,1.0s
CEP Cherat 7.42 187 P **Pn** **02 26 40.0 +3.1**
CEP S **Sn** **02 28 05.0 +3.3**
THW Thamme Wali 8.45 187 P **Pn** **02 26 52.9 +1.9**
MK31 Makanchi Array 8.73 47 ⇑Pn **Pn** **02 26 57.2 +2.6**
comp=E,0.4nm,0.6s,baz=230,slow=12,SNR=5.3
MK31 ⇑Lg Lg 02 29 26.3
comp=E,2.6nm,0.6s
MK31 Makanchi Array 8.73 47 *i* P **Pn** **02 26 56.5 +1.8**
MKAR Makanchi Array 8.73 47 Pn **Pn** **02 26 57.7 +3.0**
comp=E,0.1nm,0.3s,baz=231,slow=14,SNR=8.1
MKAR Lg Lg 02 29 21.1
comp=E,0.3nm,0.3s,baz=233,slow=29,SNR=5.1
comp=E,0.4nm,0.5s
KURBB Kurchatov Arra 10.18 20 Pn **Pn** **02 27 15.0 +0.5**
comp=E,0.1nm,0.3s,baz=215,slow=13,SNR=11
KURBB Lg Lg 02 30 05.9
comp=E,0.1nm,0.3s,baz=212,slow=29,SNR=5.0
comp=E,0.3nm,0.4s
KURBB Kurchatov Arra 10.18 20 ⇑Lg Lg 02 30 07.0
comp=E,13nm,0.8s
KURK Kurchatov 10.29 20 ⇑Lg Lg 02 30 12.1
comp=E,12nm,0.8s
KURK Kurchatov 10.29 20 P **Pn** **02 27 15.0 -1.0**
BVAR Borovoye Array 11.96 352 Pn **Pn** **02 27 40.5 +1.7**
baz=161,slow=14,SNR=2.5
BVAR Lg Lg 02 31 05.1
baz=166,slow=30,SNR=2.4
comp=E,0.2nm,0.3s
BRVK Borovoye 12.00 352 *i* P **Pn** **02 27 39.8 +0.4**
AB31 Akbulak array 12.21 316 P **Pn** **02 27 42.4 +0.1**
comp=E,1.8nm,0.7s,baz=123,slow=15,SNR=20
AB31 Akbulak array 12.21 316 P **Pn** **02 27 42.4 +0.1**
DGZ Jazzator, Alta 13.21 45 *i* P **Pn** **02 27 59.5 +3.3**
AKTO Aktyubinsk 13.91 317 ⇑P **Pn** **02 28 06.0 +0.5**
comp=E,1.2nm,0.8s
AKTO Aktyubinsk 13.91 317 P **Pn** **02 28 06.0 +0.5**
ZALV Zalesovo Beam 15.02 28 Pn **Pn** **02 28 22.8 +2.3**
comp=E,0.2nm,0.3s,baz=222,slow=15,SNR=2.9
comp=E,0.3nm,0.3s
ARU Arti 17.89 333 *i* P **Pn** **02 28 53.7 -3.6**
ARU pmax pmax
comp=Z,1.0nm,0.1s
KIV Kislovodsk 22.42 287 *e*P **P** **02 29 44.3 -3.2**
KIV pmax pmax
comp=Z,6.0nm,1.1s
BILL Bilibino 53.72 28 *e*P **P** **02 34 10.2 -0.3**
BILL *e* 02 35 18.3
BILL pmax pmax
comp=Z,1.0nm,1.2s
TORD Torodi Ar. Bea 67.41 268 P **P** **02 35 43.2 -1.5**
comp=Z,6.9nm,0.5s,baz=41,slow=5.7,SNR=2.5

IDC 16 02:33:16.7±2.6,10°.88S×161°.36E,h0km,mb3.6/3, mbtmp3.7/4,ML4.6/1,Error ellipse: s-maj=59.1km s-min=38.9km az=71.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.00**	**316**	Pn	Pb	02 33 53.1	-0.9
	224nm,0.3s,baz=193,slow=5.2,SNR=2.2						
HNR				Sn	Sn	02 34 17.1	-0.5
	589nm,0.3s,baz=61,slow=21,SNR=7.5						
	1um,0.5s						
WRA	**Warramunga Arr**	**27.53**	**248**	P	P	02 39 05.4	0.0
	0.2nm,0.6s,baz=76,slow=10.0,SNR=1.7						
	0.2nm,0.6s						
SONM	**Songino Array**	**76.03**	**325**	P	P	02 45 06.2	+0.1
	0.6nm,0.5s,baz=138,slow=5.7,SNR=6.8						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**90.47**	**318**	P	P	02 46 19.9	-0.6
	0.2nm,0.5s,baz=87,slow=5.0,SNR=2.5						
	0.2nm,0.5s						

*IDC **16** 02:37:00.5±4.2,36°.79N×71°.49E,h75km±37km,mb3.4/5, mbtmp3.6/8,ML3.1/3,MS4.3/1,Error ellipse: s-maj=31.1km s-min=26.1km az=2.0*
*NNC **16** 02:37:05.0±6.0,37°.43N×71°.07E,h0km,mb4.1,mpv4.0, Error ellipse: s-maj=57.3km s-min=32.5km az=155.0*
ISC 16 02:37:04.0±1.0,36°.97N±0°.10×71°.26E±0°.08,h106km,n22, σ1s18/25,mb3.6/6,3C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.49**	**19**	P	Pn	02 38 24.0	+0.4
	SNR=19						
UCH	**Uchtor**	**5.82**	**25**	P	Pn	02 38 29.0	+0.8
	SNR=13						
EKS2	**Erkin-Say**	**6.00**	**18**	P	Pn	02 38 31.6	+1.2
	SNR=41						
KK31	**Karatay Array**	**6.15**	**355**	⇓P	Pn	02 38 32.9	+0.6
	7.3nm,0.4s,baz=182,slow=13,SNR=174						
KK31				⇓S	Sn	02 39 40.0	-1.2
	2.7nm,0.3s,baz=180,slow=22,SNR=7.9						
AAK	**Ala-Archa**	**6.18**	**23**	P	Pn	02 38 33.6	+0.8
	SNR=18						
CHMS	**Chumysh**	**6.59**	**23**	P	Pn	02 38 38.8	+0.6
	SNR=11						
CHMS	**Chumysh**	**6.59**	**23**	⇑P	Pn	02 38 38.5	+0.3
	9.8nm,0.5s						
CHMS				⇑S	Sn	02 39 50.4	-1.5
	4.3nm,0.6s						
USP	**Ospenovka**	**6.76**	**21**	P	Pn	02 38 40.8	+0.2
	SNR=7.7						
TKM2	**Tokmak 2**	**6.81**	**28**	P	Pn	02 38 41.9	+0.5
	SNR=6.6						
TKM2	**Tokmak 2**	**6.81**	**28**	⇓P	Pn	02 38 41.5	+0.1
	4.5nm,0.5s						
TKM2				⇑S	Sn	02 39 57.0	-0.6
	3.0nm,0.7s						
GEYT	**Alibeck**	**10.49**	**279**	P	Pn	02 39 30.7	-0.6
	0.3nm,0.3s,baz=117,slow=8.3,SNR=1.9						
GEYT				S	Sn	02 41 24.5	-2.3
	0.7nm,0.3s,baz=96,slow=25,SNR=2.4						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**12.79**	**36**	P	Pn	02 40 00.2	-1.6
	0.1nm,0.3s,baz=226,slow=12,SNR=6.8						
	0.5nm,0.7s						
AB31	**Akbulak array**	**14.78**	**330**	P	Pn	02 40 26.6	-0.8
	0.5nm,0.5s,baz=137,slow=12,SNR=27						
AKTO	**Aktyubinsk**	**16.48**	**329**	⇓P	P	02 40 50.6	+1.1
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**19.40**	**25**	P	P	02 41 20.5	-0.9
	0.3nm,0.3s,baz=207,slow=9.6,SNR=5.4						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**37.21**	**326**	P	P	02 44 06.8	+2.2
	2.0nm,1.0s,baz=112,slow=11,SNR=1.9						
	2.0nm,1.0s						
ARCES	**ARCESS Array B**	**40.79**	**337**	P	P	02 44 36.5	+2.2
	4.8nm,1.1s,baz=123,slow=9.8,SNR=2.2						
	4.8nm,1.1s						
MBAR	**Mbarara**	**52.95**	**234**	LR	LR	03 11 43.8	
	comp=Z,235nm,18.1s,baz=286,slow=39						
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P	P	02 47 39.7	+0.7
	3.7nm,0.3s,baz=61,slow=6.0,SNR=1.8						
YKA	**Yellowknife Ar**	**80.76**	**3**	P	P	02 49 05.7	+0.5
	0.1nm,0.5s,baz=345,slow=6.0,SNR=4.6						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**82.07**	**122**	P	P	02 49 11.8	-1.0
	0.2nm,0.5s,baz=325,slow=4.7,SNR=1.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**84.36**	**125**	P	P	02 49 23.5	-0.9
	0.2nm,0.5s,baz=299,slow=6.3,SNR=2.1						

INET **16** *02:41:11.7±0.5,9.°47N×84.°24W, h6km±4km, MW2.7*
UCR **16** *02:41:11.4±1.2,9.°45N×84.°28W, h40km±5km, MW3.5*
ISC 16 02:41:11.5±1.1,9°41N±0.°05×84°29W±0.°03, h32km±9km, n49, σ095/66**, 3C-2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.20**	**71**	*eP*	**Pn**	**02 41 18.3**	**0.0**
LLNJ				*eS*	**Sn**	**02 41 23.9**	**+1.4**
ABE2	**San Pablo**	**0.37**	**38**	*eP*	**Pb**	**02 41 19.8**	**-0.6**
ABE2				*eS*	**Sn**	**02 41 26.5**	**-0.7**
JACO	**JACO, Garabito**	**0.44**	**305**	*eP*	**Pb**	**02 41 20.7**	**-0.5**
JACO				*eS*	**Sb**	**02 41 28.2**	**+0.4**
JACO	**JACO, Garabito**	**0.44**	**305**	*eP*	**Pb**	**02 41 20.7**	**-0.5**
JACO				*eS*	**Sb**	**02 41 28.2**	**+0.4**
EDDO	**Dominical**	**0.45**	**110**	*eP*	**Pb**	**02 41 21.1**	**-0.1**
EDDO				*eS*	**Sb**	**02 41 29.1**	**+1.2**
AMPA	**Desamparados**	**0.53**	**25**	*eP*	**Pn**	**02 41 21.6**	**-1.4**
AMPA				*eS*	**Sn**	**02 41 29.4**	**-1.6**
CDM	**Cerro de Muert**	**0.54**	**74**	*eP*	**Pn**	**02 41 22.5**	**-0.8**
CDM				*eS*	**Sb**	**02 41 31.1**	**+0.2**
CDM	**Cerro de Muert**	**0.54**	**74**	*eP*	**Pn**	**02 41 22.5**	**-0.8**
CDM				*eS*	**Sb**	**02 41 31.1**	**+0.2**
BUS1	**Rivas**	**0.55**	**75**	*eP*	**Pn**	**02 41 22.6**	**-1.0**
SJS3	**Mercedes San J**	**0.57**	**24**	*eP*	**Pn**	**02 41 22.5**	**-1.1**
REPA	**Paraso**	**0.59**	**45**	*eP*	**Pn**	**02 41 22.5**	**-1.3**
PEZE	**Perez Zeledon,**	**0.60**	**92**	*eP*	**Pn**	**02 41 23.3**	**-0.7**
PEZE	**Perez Zeledon,**	**0.60**	**92**	*eP*	**Pn**	**02 41 23.3**	**-0.7**
HDC	**Heredia**	**0.61**	**16**	*eP*	**Pn**	**02 41 22.7**	**-1.4**
HDC3	**Heredia 3**	**0.61**	**17**	*eP*	**Pn**	**02 41 23.0**	**-1.2**
CORON	**Coronado**	**0.63**	**27**	*eP*	**Pn**	**02 41 23.4**	**-0.9**
SRA1	**San Ramn**	**0.70**	**344**	*eP*	**Pn**	**02 41 24.0**	**-1.3**
VICA	**Volcano Irazu**	**0.72**	**37**	*eP*	**Pn**	**02 41 24.7**	**-1.2**
LAFE	**Finca La Fe, P**	**0.73**	**303**	*eP*	**Pn**	**02 41 24.8**	**-0.8**
VERB	**Verbena**	**0.79**	**48**	*eP*	**Pn**	**02 41 25.8**	**-0.7**
POA5	**Crater Von Fra**	**0.79**	**4**	*eP*	**Pn**	**02 41 25.4**	**-1.4**
CBL1	**Cabuya**	**0.81**	**283**	*eP*	**Pn**	**02 41 25.4**	**-1.3**
EDPN	**Palmar Norte**	**0.93**	**118**	*eP*	**Pn**	**02 41 28.5**	**+0.1**
SOCE	**Pocosol**	**1.02**	**341**	*eP*	**Pn**	**02 41 29.1**	**-0.6**
JTS	**Las Juntas de**	**1.09**	**323**	*eP*	**Pn**	**02 41 29.4**	**-1.2**
CASO	**Castillo**	**1.11**	**337**	*eP*	**Pn**	**02 41 30.7**	**-0.2**
CASO				*eS*	**Sn**	**02 41 45.9**	**+0.8**
FORC	**Fortuna**	**1.12**	**340**	*eP*	**Pn**	**02 41 30.6**	**-0.4**
FORC				*eS*	**Sn**	**02 41 45.9**	**+0.7**
CEDE	**Laguna Cedeo**	**1.15**	**339**	*iP*	**Pn**	**02 41 31.5**	**+0.1**
CEDE				*eS*	**Sn**	**02 41 47.8**	**+1.7**
TABAC	**Tabacon**	**1.18**	**337**	*eP*	**Pn**	**02 41 32.3**	**+0.4**
TABAC				*eS*	**Sb**	**02 41 51.4**	**+2.9**
COVE	**Coope Vega, Sa**	**1.31**	**355**	*eP*	**Pn**	**02 41 33.0**	**-0.5**
COTE	**Lago Cote**	**1.31**	**332**	*iP*	**Pn**	**02 41 33.8**	**+0.1**
SAAN	**San Antonio**	**1.38**	**305**	*eP*	**Pn**	**02 41 33.4**	**-1.2**
SAAN				*eS*	**Sn**	**02 41 51.9**	**+0.1**
ACAL	**Aguas Claras**	**1.42**	**329**	*iP*	**Pn**	**02 41 35.3**	**0.0**
ACAL				*eS*	**Sn**	**02 41 54.3**	**+1.4**
PTEN	**Parque Tenorio**	**1.47**	**332**	*eP*	**Pn**	**02 41 36.0**	**+0.2**
MOTZ	**Rio Naranjo**	**1.48**	**329**	*eP*	**Pn**	**02 41 36.7**	**+0.7**
ORTG	**Ortega, Santa**	**1.49**	**309**	*eP*	**Pn**	**02 41 35.3**	**-0.9**
CUI	**Cuipilapa**	**1.51**	**325**	*eP*	**Pn**	**02 41 36.2**	**-0.2**
CUI				*eS*	**Sn**	**02 41 54.7**	**-0.3**
COLC	**Colonia**	**1.54**	**324**	*eP*	**Pn**	**02 41 36.4**	**-0.3**
SAJU	**San Juanillo,**	**1.55**	**295**	*eP*	**Pn**	**02 41 35.0**	**-1.9**
HORNC	**Hornillas**	**1.56**	**326**	*eP*	**Pn**	**02 41 36.7**	**-0.5**
HORNC				*eS*	**Sn**	**02 41 56.5**	**+0.1**
GUAB	**Guayabo de Bag**	**1.59**	**324**	*eP*	**Pn**	**02 41 37.4**	**-0.1**
MESS	**Mesas**	**1.60**	**326**	*eP*	**Pn**	**02 41 37.2**	**-0.4**
MESS				*eS*	**Sn**	**02 41 57.5**	**+0.3**
CANAL	**Canalete**	**1.60**	**332**	*eP*	**Pn**	**02 41 37.4**	**-0.3**
VMAR	**Armenia, Volca**	**1.61**	**330**	*eP*	**Pn**	**02 41 37.6**	**-0.2**
HATIL	**Hatillo**	**1.65**	**303**	*eP*	**Pn**	**02 41 37.0**	**-1.2**
LAPC	**Finca la Perla**	**1.76**	**320**	*eP*	**Pn**	**02 41 39.3**	**-0.5**
BUEV	**Buena Vista**	**1.77**	**322**	*eP*	**Pn**	**02 41 41.0**	**+1.0**
GBS3	**Finca Las Img**	**1.78**	**320**	*eP*	**Pn**	**02 41 40.7**	**+0.6**
HZTE	**Horizontes, Gu**	**1.83**	**315**	*eP*	**Pn**	**02 41 40.8**	**+0.1**

ISK **16** *02:45:42.7,34.°94N×23.°87E, h12km, ML4.1/14*
BEO **16** *02:45:42.2±0.7,34.°81N×23.°18E, h0km, ML3.9/3*
IDC **16** *02:45:43.0±2.1,34.°96N×23.°94E, h24km±13km, mb4.1/18, mbtmp4.1/28, ML4.0/8, Error ellipse: s-maj=15.5km s-min=11.5km az=165.0*
NEIC **16** *02:45:42.2±1.8,34.°79N±0.°10×23.°81E±0.°08, h23km±7km, mb4.4/41, Error ellipse: s-maj=14.5km s-min=9.2km az=192.0*
DDA **16** *02:45:43.4±0.0,34.°42N×24.°53E, h7km±3km, MW4.3*
THE **16** *02:45:43.0,34.°91N×23.°86E, h11km±2km, ML3.8/4, Error ellipse: s-maj=3.4km s-min=0.9km az=211.0*
ATH **16** *02:45:43.3,34.°93N×23.°85E, h10km±1km, ML3.8/15, Error ellipse: s-maj=1.6km s-min=0.8km az=215.0*
GII **16** *02:45:46.1±0.0,34.°51N×24.°43E, h1km, mb4.1/2, MD3.9/2*
ISC 16 02:45:42.1±0.7,34°86N±0.°04×23°87E±0.°03, h24km±5km, n274, σ196/316**, mb4.3/33, 17C-3D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.18**	**96**	P	**Pb**	**02 45 47.3**	**-0.3**
GVD				S	**Sb**	**02 45 51.2**	**0.0**
	162μm,0.4s						
GVD	**Gavdhos**	**0.18**	**96**	Pg	**Pb**	**02 45 47.2**	**-0.3**
GVD				Sg	**Sb**	**02 45 51.2**	**0.0**
GVD	**Gavdhos**	**0.18**	**96**	P	**Pb**	**02 45 47.5**	**0.0**
GVD				S	**Sb**	**02 45 51.1**	**-0.1**
GVD				AML	AML	02 45 51.5	
GVD				AML	AML	02 45 53.8	
KNDR	**Palaiochora Ch**	**0.40**	**338**	P	**Pb**	**02 45 50.2**	**-0.5**
KNDR				S	**Sb**	**02 45 57.2**	**+0.6**
	10μm,0.4s						
KNDR	**Palaiochora Ch**	**0.40**	**338**	Pg	**Pb**	**02 45 50.6**	**-0.1**
KNDR	**Palaiochora Ch**	**0.40**	**338**	P	**Pb**	**02 45 50.2**	**-0.5**
KNDR				S	**Sb**	**02 45 55.1**	**-1.5**
KNDR				AML	AML	02 46 00.5	
	comp=E,65754μm,0.3s						
KNDR				AML	AML	02 46 07.0	
	comp=N,47515μm,0.6s						
IMMV	**Iera Moni Meta**	**0.61**	**9**	P	**Pb**	**02 45 53.2**	**-1.0**
IMMV				S	**Sb**	**02 46 02.8**	**+0.4**
	comp=N,15μm,0.4s						
IMMV	**Iera Moni Meta**	**0.61**	**9**	Pg	**Pb**	**02 45 53.4**	**-0.8**
IMMV				Sg	**Sb**	**02 46 01.4**	**-1.0**
IMMV	**Iera Moni Meta**	**0.61**	**9**	P	**Pb**	**02 45 53.2**	**-1.0**
IMMV				S	**Sb**	**02 46 01.4**	**-1.0**
IMMV				AML	AML	02 46 07.9	
	comp=N,28754μm,0.5s						
IMMV				AML	AML	02 46 08.8	
	comp=E,31572μm,0.3s						
CHAN	**Chania**	**0.68**	**12**	P	**Pb**	**02 45 54.4**	**-0.9**
CHAN				S	**Sb**	**02 46 03.3**	**-0.9**
CHAN				AML	AML	02 46 07.7	
	comp=N,20358μm,0.6s						
CHAN				AML	AML	02 46 12.4	
	comp=E,17597μm,0.4s						
RODP	**Rodopos**	**0.71**	**353**	P	**Pb**	**02 45 54.9**	**-0.9**
RODP	**Rodopos**	**0.71**	**353**	Pg	**Pb**	**02 45 55.1**	**-0.7**
PRNS	**Prines Rethymn**	**0.73**	**46**	P	**Pb**	**02 45 54.6**	**-1.5**
TMBK	**Timbaki Herakl**	**0.77**	**74**	P	**Pb**	**02 45 57.1**	**+0.3**
TMBK				S	**Sn**	**02 46 09.8**	**+1.6**
	comp=E,6μm,0.6s						
TMBK	**Timbaki Herakl**	**0.77**	**74**	P	**Pn**	**02 45 57.3**	**-0.1**
TMBK				S	**Sn**	**02 46 08.6**	**+0.4**
TMBK				AML	AML	02 46 19.5	
	comp=N,35775μm,0.6s						
TMBK				AML	AML	02 46 20.5	
	comp=E,38652μm,0.6s						
IDI	**Anoyia**	**0.94**	**63**	Pg	**Pb**	**02 45 59.1**	**-0.7**
	comp=E,50nm,0.3s,baz=239,slow=16,SNR=89						
IDI				Lg	Lg	02 46 10.4	
	comp=E,208nm,0.3s,baz=306,slow=18,SNR=16						
IACM	**Heraklion**	**1.08**	**65**	P	**Pb**	**02 46 03.1**	**+0.9**
IACM				S	**Sn**	**02 46 18.0**	**+2.0**
IACM				AML	AML	02 46 30.6	
	comp=E,44401μm,0.7s						
IACM				AML	AML	02 46 32.6	
	comp=N,59311μm,0.7s						
ANKY	**Antikythira Is**	**1.11**	**336**	P	**Pb**	**02 46 03.0**	**+0.4**
ANKY	**Antikythira Is**	**1.11**	**336**	P	**Pb**	**02 46 02.9**	**+0.2**
ANKY				S	**Sn**	**02 46 17.3**	**+0.6**
ANKY				AML	AML	02 46 27.9	
	comp=E,7205μm,0.8s						
ANKY				AML	AML	02 46 30.3	
	comp=N,5388μm,0.6s						
HRKL	**Herakleio**	**1.11**	**66**	P	**Pb**	**02 46 03.4**	**+0.8**
HRKL	**Herakleio**	**1.11**	**66**	Pg	**Pb**	**02 46 03.9**	**+1.3**
HRKL	**Herakleio**	**1.11**	**66**	P	**Pb**	**02 46 03.5**	**+0.9**
HRKL				S	**Sn**	**02 46 18.9**	**+2.2**
HRKL				AML	AML	02 46 34.0	
	comp=E,55248μm,0.6s						
HRKL				AML	AML	02 46 34.2	
	comp=N,67664μm,0.6s						
MHLO	**Agia Marina, M**	**1.88**	**13**	P	**Pn**	**02 46 14.1**	**+1.4**
MHLO	**Agia Marina, M**	**1.88**	**13**	P	**Pn**	**02 46 13.8**	**+1.1**
MHLO				S	**Sn**	**02 46 35.9**	**+0.2**
MHLO				AML	AML	02 46 52.8	
	comp=E,8284μm,0.6s						
MHLO				AML	AML	02 46 53.3	
	comp=N,7876μm,1.0s						
ZKR	**Zakros**	**1.95**	**82**	Pn	**Pb**	**02 46 16.6**	**-0.3**
ZKR	**Zakros**	**1.95**	**82**	P	**Pb**	**02 46 17.0**	**0.0**
ZKR				S	**Sb**	**02 46 39.3**	**-1.5**
ZKR				AML	AML	02 46 57.6	
	comp=N,653μm,0.7s						
ZKR				AML	AML	02 47 01.0	
	comp=E,2428μm,1.0s						
VLI	**Velíai**	**2.00**	**338**	P	**Pn**	**02 46 15.8**	**+1.3**
VLI	**Velíai**	**2.00**	**338**	P	**Pb**	**02 46 16.2**	**-1.7**
VLI				S	**Sn**	**02 46 39.1**	**+0.3**
VLI				AML	AML	02 46 48.4	
	comp=E,880μm,36.4s						
VLI				AML	AML	02 46 58.4	
	comp=N,1909μm,0.7s						
KRND	**KRANIDI**	**2.59**	**347**	P	**Pn**	**02 46 23.8**	**+1.3**
KRND				S	**Sn**	**02 46 53.4**	**+0.3**
KRND				AML	AML	02 47 14.8	
	comp=E,1269μm,0.7s						
KRND				AML	AML	02 47 15.5	
	comp=N,1087μm,0.8s						
APE	**Apeiranthos**	**2.59**	**31**	*iP*	**Pn**	**02 46 24.3**	**+1.8**
APE	**Apeiranthos**	**2.59**	**31**	Pn	**Pn**	**02 46 24.5**	**+2.0**
APE	**Apeiranthos**	**2.59**	**31**	P	**Pn**	**02 46 24.4**	**+2.0**
APE				S	**Sn**	**02 46 53.5**	**+0.3**
APE				AML	AML	02 47 09.1	
	comp=E,777μm,0.5s						
APE				AML	AML	02 47 16.5	
	comp=N,632μm,0.6s						
PYL	**PYLOS**	**2.67**	**320**	P	**Pn**	**02 46 25.0**	**+1.5**
PYL				S	**Sn**	**02 46 55.4**	**+0.3**
PYL				AML	AML	02 47 14.2	
	comp=N,285μm,1.0s						
PYL				AML	AML	02 47 21.7	
	comp=E,414μm,0.7s						
KARP	**Karpathos**	**2.78**	**75**	Pn	**Pn**	**02 46 27.8**	**+2.6**
KARP	**Karpathos**	**2.78**	**75**	Pn	**Pb**	**02 46 28.2**	**-3.0**
ITM	**Ithomi**	**2.80**	**326**	Pn	**Pn**	**02 46 26.9**	**+1.5**
ITM	**Ithomi**	**2.80**	**326**	P	**Pn**	**02 46 27.2**	**+1.8**
ITM				S	**Sn**	**02 46 58.6**	**+0.1**
ITM				AML	AML	02 47 31.7	
	comp=N,458μm,1.1s						
ITM				AML	AML	02 47 32.2	
	comp=E,580μm,1.1s						
DAT	**Datca**	**3.55**	**57**	Pn	**Pn**	**02 46 38.7**	**+2.9**
ARG	**Arkhangelos**	**3.73**	**67**	Pn	**Pn**	**02 46 39.8**	**+1.6**
ARG	**Arkhangelos**	**3.73**	**67**	Pn	**Pn**	**02 46 41.3**	**+3.1**
GCAM	**G?zelcaml?**	**3.93**	**43**	Pn	**Pn**	**02 46 43.8**	**+2.9**
MLSB	**Milas**	**3.99**	**51**	Pn	**Pn**	**02 46 44.6**	**+2.8**
URLA	**Izmir**	**4.13**	**31**	Pn	**Pn**	**02 46 45.7**	**+2.0**
YER	**Yerkesik**	**4.24**	**56**	Pn	**Pn**	**02 46 49.1**	**+3.8**
MULA	**Mugla, Merkez-**	**4.33**	**55**	P	**Pn**	**02 46 50.4**	**+3.9**
MULA				S	**Sn**	**02 47 41.2**	**+4.9**
MULA				*i* AML	AML	02 47 43.0	
	comp=E,34nm,1.1s						
DALY	**Dalyan (Mula)**	**4.35**	**62**	Pn	**Pn**	**02 46 50.6**	**+3.9**
TAVA	**DENIZLI_Tavas**	**4.84**	**56**	P	**Pn**	**02 46 57.4**	**+3.8**
TAVA				S	**Sn**	**02 47 53.0**	**+4.1**
TAVA				*i* AML	AML	02 48 04.0	
	comp=E,26nm,1.2s						
AKAS	**Kas**	**4.88**	**72**	Pn	**Pn**	**02 46 55.9**	**+1.8**
AKAS	**Kas**	**4.88**	**72**	P	**Pn**	**02 46 56.4**	**+2.4**
AKAS				S	**Sn**	**02 47 51.0**	**+1.2**
CAEL	**Denizli, Camel**	**4.96**	**61**	P	**Pn**	**02 46 58.6**	**+3.4**
CAEL				S	**Sn**	**02 47 56.2**	**+4.2**
GOLH	**Golhisar**	**5.19**	**61**	P	**Pn**	**02 47 01.4**	**+3.1**
GOLH				S	**Sn**	**02 48 00.7**	**+3.2**
GOLH				*i* AML	AML	02 48 04.0	
	comp=E,23nm,0.5s						
MANT	**Manisa**	**5.23**	**45**	Pn	**Pn**	**02 47 00.3**	**+1.3**
ELL	**Elmali**	**5.26**	**67**	Pn	**Pn**	**02 47 01.9**	**+2.6**
LIT	**Litokhoron**	**5.35**	**349**	Pn	**Pn**	**02 47 01.7**	**+1.3**
AKUM	**Antalya-Kumluc**	**5.48**	**73**	P	**Pn**	**02 47 04.3**	**+2.2**
AKUM				S	**Sn**	**02 48 05.9**	**+1.5**
AKUM				*i* AML	AML	02 48 20.0	
	comp=E,27nm,0.5s						
KEK	**Kerkira**	**5.83**	**327**	Pn	**Pn**	**02 47 06.4**	**-0.7**
BUCA	**Burdur, Bucak-**	**5.95**	**64**	P	**Pn**	**02 47 11.7**	**+2.9**
BUCA				S	**Sn**	**02 48 20.0**	**+3.8**
ISP	**Isparta**	**6.13**	**59**	Pn	**Pn**	**02 47 11.8**	**+0.5**
FNA	**Florina**	**6.24**	**342**	Pn	**Pn**	**02 47 13.4**	**+0.7**
FNA	**Florina**	**6.24**	**342**	*e*Pn	**Pn**	**02 47 14.2**	**+1.5**
FNA				*e*Sn	**Sn**	**02 48 22.5**	**-0.7**
ALN	**Alexandroupoli**	**6.27**	**15**	Pn	**Pn**	**02 47 14.2**	**+1.1**
RDO	**Rodhopi**	**6.42**	**11**	Pn	**Pn**	**02 47 16.2**	**+1.2**
VAY	**Valandovo**	**6.53**	**351**	*e*Pn	**Pn**	**02 47 19.9**	**+3.2**
VAY	**Valandovo**	**6.53**	**351**	*i* Pn	**Pn**	**02 47 19.9**	**+3.2**
OHR	**Ohrid**	**6.70**	**340**	*e*Pn	**Pn**	**02 47 20.3**	**+1.3**
OHR				*e*Sn	**Sn**	**02 48 32.1**	**-2.4**
OHR	**Ohrid**	**6.70**	**340**	*i* Pn	**Pn**	**02 47 20.8**	**+1.8**
STIP	**Stip**	**6.95**	**350**	*i* Pn	**Pn**	**02 47 25.2**	**+2.8**
TIP	**Timpagrande**	**7.14**	**309**	⇓P	Pn	02 47 34.2	+9.2
TIP	**Timpagrande**	**7.14**	**309**	Pn	**Pn**	**02 47 24.4**	**-0.6**
TIR	**Tirane**	**7.21**	**335**	Pn	**Pn**	**02 47 26.6**	**+0.7**
BORA	**Eskisehir**	**7.25**	**44**	Pn	**Pn**	**02 47 28.5**	**+1.8**
PLD	**Plovdiv**	**7.27**	**5**	*e*Pn	**Pn**	**02 47 29.7**	**+3.0**
VTS	**Vitosha**	**7.76**	**357**	⇑P	**Pn**	**02 47 35.6**	**+1.8**
VTS	**Vitosha**	**7.76**	**357**	Pn	**Pn**	**02 47 33.9**	**+0.2**
VTS	**Vitosha**	**7.76**	**357**	*e*Pn	**Pn**	**02 47 35.2**	**+1.5**
VTS	**Vitosha**	**7.76**	**357**	*e*Pn	**Pn**	**02 47 35.5**	**+1.8**
PRVS	**Prvonek**	**7.77**	**350**	*e*Pn	**Pn**	**02 47 35.6**	**+2.0**
CSS	**Mathiatis**	**7.78**	**87**	Pn	**Pn**	**02 47 33.0**	**-0.7**
RAFF	**Raffo Rosso**	**8.05**	**290**	Pn	**Pn**	**02 47 37.7**	**+0.1**
MDUB	**Mudurnu**	**8.07**	**44**	Pn	**Pn**	**02 47 39.3**	**+1.4**
VAE	**Valguarnera**	**8.08**	**292**	Pn	**Pn**	**02 47 41.9**	**+3.9**
	comp=E,23nm,1.2s,baz=90,slow=20,SNR=1.6						
VAE				Sn	**Sn**	**02 49 07.0**	**-1.7**
	comp=E,1.7nm,0.3s,baz=108,slow=19,SNR=1.9						
BARS	**Barje**	**8.11**	**349**	*e*Pn	**Pn**	**02 47 39.4**	**+1.1**
DRME	**Dracevica, Mon**	**8.19**	**335**	*e*Pn	**Pn**	**02 47 37.9**	**-1.4**
CUC	**Castrocucco**	**8.20**	**311**	Pn	**Pn**	**02 47 40.5**	**+0.9**
PDG	**Podgorica**	**8.38**	**336**	Pn	**Pn**	**02 47 41.9**	**-0.1**
PDG	**Podgorica**	**8.38**	**336**	*e*Pn	**Pn**	**02 47 42.3**	**+0.4**
PDG				*e*Sn	**Sn**	**02 49 09.8**	**-5.9**
PLVB	**Pleven**	**8.54**	**4**	⇑P	**Pn**	**02 47 47.1**	**+2.9**
SELS	**Selova**	**8.62**	**346**	*e*Pn	**Pn**	**02 47 45.1**	**-0.2**
BR231	**Keskin MP Arra**	**8.66**	**52**	Pn	**Pn**	**02 47 47.3**	**+1.3**
ANTO	**Ankara**	**8.69**	**52**	Pn	**Pn**	**02 47 47.3**	**+0.9**
SJES	**Sjenica**	**8.92**	**341**	*e*Pn	**Pn**	**02 47 49.4**	**-0.1**
SJES				*e*Sn	**Sn**	**02 49 25.7**	**-3.6**
TREB	**Trebinje**	**8.95**	**333**	*e*Pn	**Pn**	**02 47 48.4**	**-1.4**
TREB				*e*Sn	**Sn**	**02 49 24.7**	**-5.1**
TREB	**Trebinje**	**8.95**	**333**	*e*Pn	**Pn**	**02 47 47.7**	**-2.1**
ZAGS	**Zajecar**	**9.03**	**352**	*e*Pn	**Pn**	**02 47 52.7**	**+1.8**
IVAS	**Ivanjica**	**9.17**	**343**	*e*Pn	**Pn**	**02 47 51.0**	**-1.9**
IVAS				*e*Sn	**Sn**	**02 49 31.9**	**-3.4**
BR131	**Keskin Array S**	**9.18**	**55**	Pn	**Pn**	**02 47 55.4**	**+2.3**
BRTR	**Keskin Array B**	**9.18**	**55**	Pn	**Pn**	**02 47 55.8**	**+2.7**
	comp=E,0.8nm,0.3s,baz=224,slow=14,SNR=36						
	comp=E,3.9nm,0.5s						
BRTR	**Keskin Array B**	**9.18**	**55**	Pn	**Pn**	**02 47 55.4**	**+2.3**
STON	**Ston**	**9.33**	**331**	*e*Pn	**Pn**	**02 47 53.4**	**-1.6**
STON				*e*Sn	**Sn**	**02 49 31.9**	**-7.3**
STON	**Ston**	**9.33**	**331**	*e*Pn	**Pn**	**02 47 52.9**	**-2.1**
GRUS	**Gruza**	**9.34**	**346**	*e*Pn	**Pn**	**02 47 54.6**	**-0.6**
BBLS	**Lazići**	**9.63**	**340**	*e*Pn	**Pn**	**02 47 57.5**	**-1.8**
BBLS				*e*Sn	**Sn**	**02 49 41.2**	**-5.5**
BBLS	**Lazići**	**9.63**	**340**	*e*Pn	**Pn**	**02 47 55.9**	**-3.4**
KZIT	**Kziot**	**9.69**	**111**	Pn	**Pn**	**02 47 59.1**	**-0.9**
KZIT				Sn	**Sn**	**02 49 43.2**	**-4.9**
DIVS	**Divibare**	**9.70**	**343**	Pn	**Pn**	**02 47 58.4**	**-1.7**
DIVS	**Divibare**	**9.70**	**343**	*e*Pn	**Pn**	**02 47 59.1**	**-1.1**
DIVS				*e*Sn	**Sn**	**02 49 43.7**	**-4.7**
DIVS	**Divibare**	**9.70**	**343**	*e*Pn	**Pn**	**02 47 58.5**	**-1.7**
MMAI	**Mount Meron Ar**	**9.76**	**98**	Pn	**Pn**	**02 47 59.5**	**-1.6**
	comp=E,3.9nm,0.3s,baz=307,slow=12,SNR=14						
MMAI				Sn	**Sn**	**02 49 45.1**	**-4.8**
	comp=E,2.0nm,0.3s,baz=277,slow=24,SNR=3.2						
	comp=E,2.5nm,0.4s						
AMAZ	**Amatzia**	**9.83**	**107**	Pn	**Pn**	**02 48 01.2**	**-0.8**
AMAZ				Sn	**Sn**	**02 49 47.9**	**-3.7**
DJES	**Djerdap**	**9.85**	**354**	Pn	**Pn**	**02 48 03.9**	**+1.7**
GEM	**Giv'at Ha'Em**	**9.93**	**96**	Pn	**Pn**	**02 48 02.8**	**-0.5**
MMLI	**Mount Malkishu**	**9.93**	**101**	Pn	**Pn**	**02 48 02.1**	**-1.2**
MDVR	**Moldovita**	**10.05**	**351**	⇑P	**Pn**	**02 48 04.8**	**-0.1**
YTIR	**Yattir**	**10.06**	**107**	Pn	**Pn**	**02 48 05.3**	**+0.2**
HMDT	**Nahal Hemdat**	**10.07**	**102**	Pn	**Pn**	**02 48 05.5**	**+0.3**
HMDT				Sn	**Sn**	**02 49 53.9**	**-3.5**
HERR	**Herculane**	**10.07**	**354**	⇑P	**Pn**	**02 48 06.5**	**+1.3**
DSI	**Dead Sea**	**10.19**	**106**	Pn	**Pn**	**02 48 06.5**	**-0.3**
DSI				Sn	**Sn**	**02 49 56.4**	**-3.9**
MSBI	**Mazada**	**10.27**	**107**	Pn	**Pn**	**02 48 07.1**	**-0.8**
HARR	**Harsova**	**10.30**	**16**	⇑P	**Pn**	**02 48 10.0**	**+1.6**
KRMI	**Paran Flat**	**10.31**	**114**	Pn	**Pn**	**02 48 08.1**	**-0.5**
PRNI	**Paran**	**10.41**	**112**	Pn	**Pn**	**02 48 09.4**	**-0.5**
PRNI				Sn	**Sn**	**02 50 00.4**	**-5.4**
GHAJ	**Ghor Haditha**	**10.43**	**107**	Pn	**Pn**	**02 48 11.1**	**+0.9**
ZFRI	**Zfri**	**10.45**	**111**	Pn	**Pn**	**02 48 09.3**	**-1.1**
ZFRI				Sn	**Sn**	**02 50 01.9**	**-4.8**
ARR	**Arges**	**10.51**	**3**	⇑P	**Pn**	**02 48 14.1**	**+2.8**
SRKY	**Kupres RS**	**10.55**	**333**	*e*Pn	**Pn**	**02 48 12.1**	**+0.2**
GZR	**Gura Zlata**	**10.56**	**356**	⇑P	**Pn**	**02 48 12.3**	**+0.4**
HRFI	**Mount Harif**	**10.59**	**114**	Pn	**Pn**	**02 48 12.7**	**+0.3**
HRFI				Sn	**Sn**	**02 50 05.3**	**-4.9**
MBRI	**Mt Berech**	**10.62**	**115**	Pn	**Pn**	**02 48 12.5**	**-0.3**
EIL	**Elat**	**10.71**	**116**	Pn	**Pn**	**02 48 13.3**	**-0.8**
	comp=E,1.1nm,0.3s,baz=346,slow=8.8,SNR=11						
EIL				Sn	**Sn**	**02 50 07.2**	**-5.9**
	comp=E,1.2nm,0.3s,baz=282,slow=20,SNR=3.4						
	comp=E,3.1nm,0.4s						
EIL	**Elat**	**10.71**	**116**	Pn	**Pn**	**02 48 13.2**	**-0.8**
MLR	**Muntele Rosu**	**10.74**	**8**	Pn	**Pn**	**02 48 16.2**	**+1.7**
	comp=E,0.2nm,0.3s,baz=200,slow=12,SNR=6.2						
	comp=E,2.4nm,0.9s						
MLR	**Muntele Rosu**	**10.74**	**8**	⇑P	**Pn**	**02 48 16.2**	**+1.7**
MLR	**Muntele Rosu**	**10.74**	**8**	Pn	**Pn**	**02 48 13.5**	**-1.0**
FRGS	**Fruska Gora**	**10.75**	**344**	*e*Pn	**Pn**	**02 48 14.3**	**-0.1**
CFR	**Carcaliu**	**10.81**	**16**	⇓P	**Pn**	**02 48 17.7**	**+2.4**
MGRS	**Mrkonjic Grad**	**10.88**	**333**	*e*Pn	**Pn**	**02 48 16.4**	**+0.1**
GAZ	**Gaziantep**	**11.05**	**74**	Pn	**Pn**	**02 48 18.8**	**0.0**
SCHL	**Schela**	**11.05**	**15**	⇑P	**Pn**	**02 48 18.4**	**-0.2**
AQU	**L'Aquila**	**11.09**	**316**	Pn	**Pn**	**02 48 19.3**	**+0.1**
BLY	**Banja Luka**	**11.13**	**335**	*e*Pn	**Pn**	**02 48 18.4**	**-1.3**
BLY				*e*Sn

	comp=Z,16nm,0.6s							
PABE	**Paberze**	20.65	0	*e*P		P	02 50 18.3	-1.4
VSVD	**Vaisvydziai**	21.12	0	*e*P		P	02 50 24.1	-0.7
PBUR	**Paburge**	21.21	357	*e*P		P	02 50 17.8	-8.0
ESBB	**Sonseca Array**	22.62	290	P		P	02 50 40.3	-0.9
ESDC	**Sonseca Array**	22.62	290	P		P	02 50 43.3	+2.1
	comp=Z,1.5nm,0.8s,baz=84,slow=9.6,SNR=12							
	comp=Z,1.5nm,0.8s							
ESDC	**Sonseca Array**	22.62	290	P		P	02 50 40.7	-0.5
VSU	**Vasula**	23.69	4	*e*P		P	02 50 49.4	-2.3
MDT	**Midelt**	23.71	273	P		P	02 50 54.5	+2.2
	comp=Z,0.9nm,0.6s,baz=74,slow=7.4,SNR=1.6							
	comp=Z,0.9nm,0.6s							
BELG	**Belogornoye**	24.38	37	P		P	02 50 57.8	-0.3
	comp=Z,13nm,0.7s,baz=302,slow=3.8,SNR=6.4							
	comp=Z,13nm,0.7s							
HFS	**Hagfors**	26.14	348	P		P	02 51 13.9	-0.3
	comp=Z,4.6nm,0.6s,baz=156,slow=11,SNR=16							
	comp=Z,4.6nm,0.6s							
FINES	**FINESS Array B**	26.64	2	P		P	02 51 16.9	-1.7
	comp=Z,1.2nm,0.7s,baz=156,slow=11,SNR=2.2							
FINES				PcP		PcP	02 54 43.2	+1.3
	comp=Z,1.1nm,0.7s,baz=197,slow=2.9,SNR=1.9							
	comp=Z,1.2nm,0.7s							
FINES	**FINESS Array B**	26.64	2	P		P	02 51 17.7	-0.9
FIA1	**FINESS Array S**	26.64	2	P		P	02 51 19.0	+0.4
FIA1				IAmb		IAmb	02 51 40.9	
	comp=Z,20nm,1.5s							
NC602	**NORSAR Array S**	27.09	347	P		P	02 51 22.2	-0.4
NC602				IAmb		IAmb	02 51 57.5	
	comp=Z,16nm,1.2s							
NAO01	**NORSAR Array S**	27.32	346	P		P	02 51 22.5	-2.2
NB2	**NORSAR Subarra**	27.43	347	P		P	02 51 25.2	-0.6
	comp=Z,1.2nm,0.6s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	27.43	347	P		P	02 51 24.9	-0.9
	comp=Z,1.3nm,0.8s,baz=155,slow=9.3,SNR=14							
	comp=Z,1.3nm,0.8s							
GEYT	**Alibeck**	27.65	74	P		P	02 51 28.3	+0.3
	comp=Z,1.1nm,0.5s,baz=238,slow=8.1,SNR=3.9							
	comp=Z,1.1nm,0.5s							
EKA	**Eskdalemuir Ar**	27.69	326	P		P	02 51 31.6	+3.5
	comp=Z,2.0nm,0.5s,baz=123,slow=8.4,SNR=12							
NC204	**NORSAR Array S**	27.74	346	P		P	02 51 27.5	-1.1
NC204				IAmb		IAmb	02 52 09.0	
	comp=Z,12nm,1.2s							
KIRV	**Kirov**	29.16	28	P		P	02 51 38.9	-2.2
	comp=Z,8.7nm,0.6s,baz=228,slow=5.6,SNR=4.4							
	comp=Z,8.7nm,0.6s							
AKTO	**Aktyubinsk**	29.23	47	P		P	02 51 41.9	0.0
	comp=Z,1.4nm,0.5s,baz=261,slow=8.1,SNR=8.6							
	comp=Z,1.4nm,0.5s							
TORD	**Torodi Ar. Bea**	29.49	228	P		P	02 51 45.7	+1.2
	comp=Z,3.3nm,0.3s,baz=33,slow=8.1,SNR=1.7							
	comp=Z,3.3nm,0.3s							
ABKAR	**Akbulak array**	30.08	50	P		P	02 51 48.6	-0.8
ARCES	**ARCESS Array B**	34.74	1	P		P	02 52 29.1	-0.9
	comp=Z,2.3nm,0.9s,baz=178,slow=9.9,SNR=6.8							
	comp=Z,2.3nm,0.9s							
CHGR	**Chuyangaron**	36.20	70	P		P	02 52 42.6	-0.5
KK31	**Karatay Array**	36.79	63	P		P	02 52 48.9	+1.0
KK31				IAmb		IAmb	02 52 50.4	
	comp=Z,3.5nm,0.7s							
KKAR	**Karatay Array**	36.79	63	P		P	02 52 48.7	+0.8
GAR	**Garm**	37.05	70	P		P	02 52 52.1	+1.8
BRVK	**Borovoye**	37.27	46	P		P	02 52 50.6	-1.2
BRVK				IAmb		IAmb	02 52 53.5	
	comp=Z,3.1nm,0.7s							
DBIC	**Dimbokro**	38.55	230	P		P	02 53 04.0	+0.9
	comp=Z,1.7nm,0.6s,baz=50,slow=11,SNR=5.0							
	comp=Z,1.7nm,0.6s							
DBIC	**Dimbokro**	38.55	230	P		P	02 53 01.7	-1.3
DBIC				IAmb		IAmb	02 53 02.7	
	comp=Z,7.0nm,1.1s							
AAK	**Ala-Archa**	39.74	63	P		P	02 53 13.2	+0.2
AAK				IAmb		IAmb	02 53 23.3	
	comp=Z,4.4nm,0.9s							
KURK	**Kurchatov**	42.19	51	P		P	02 53 32.7	-0.1
KURK				IAmb		IAmb	02 53 33.9	
	comp=Z,8.1nm,0.7s							
TARG	**Taragay, Kyrgy**	42.30	64	P		P	02 53 33.8	-0.5
KBS	**Kingsbay**	44.46	357	P		P	02 53 51.5	+0.8
MAKZ	**Makanchi**	44.61	56	P		P	02 53 52.8	+0.5
MAKZ				IAmb		IAmb	02 53 53.7	
	comp=Z,2.8nm,0.7s							
MK31	**Makanchi Array**	44.83	56	P		P	02 53 54.5	+0.4
MKAR	**Makanchi Array**	44.83	56	P		P	02 53 55.0	+0.9
	comp=Z,7.2nm,0.6s,baz=281,slow=6.7,SNR=105							
	comp=Z,7.2nm,0.6s							
ZAA0	**Zalesovo Array**	45.98	46	P		P	02 54 02.9	-0.1
ZALV	**Zalesovo Beam**	45.98	46	P		P	02 54 03.0	-0.1
	comp=Z,7.4nm,0.4s,baz=269,slow=8.9,SNR=42							
	comp=Z,7.4nm,0.4s							
ZALV	**Zalesovo Beam**	45.98	46	P		P	02 54 02.5	-0.6
SONM	**Songino Array**	60.50	50	P		P	02 55 51.1	+1.0
	comp=Z,0.6nm,0.5s,baz=286,slow=6.7,SNR=12							
	comp=Z,0.6nm,0.5s							
SONM	**Songino Array**	60.50	50	P		P	02 55 51.0	+0.8
SONM				IAmb		IAmb	02 55 52.3	
	comp=Z,4.7nm,1.5s							
SCHQ	**Schefferville**	62.73	319	P		P	02 56 06.0	+1.1
	comp=Z,1.1nm,0.4s,baz=63,slow=8.2,SNR=5.7							
	comp=Z,1.1nm,0.4s							
SCHQ	**Schefferville**	62.73	319	P		P	02 56 05.1	+0.1
BOSA	**Boshof**	63.14	179	P		P	02 56 09.3	+1.4
	comp=Z,4.2nm,1.1s,baz=0.0,slow=7.1,SNR=1.6							
	comp=Z,4.2nm,1.1s							
COLD	**Coldfoot**	78.13	358	P		P	02 57 38.9	+0.2
COLD				IAmb		IAmb	02 57 49.3	
	comp=Z,8.0nm,1.4s							
KSRS	**Korea Array**	79.31	52	P		P	02 57 46.8	+1.1
	comp=Z,0.7nm,0.4s,baz=320,slow=4.3,SNR=2.3							
	comp=Z,0.7nm,0.4s							
IMAR	**Indian Mountai**	79.47	359	P		P	02 57 47.5	+1.4
H21K	**Melozitna Rive**	79.78	359	P		P	02 57 49.5	+1.7
H21K				IAmb		IAmb	02 58 00.4	
	comp=Z,4.4nm,1.2s							
MDM	**Murphy Dome**	80.32	357	P		P	02 57 52.2	+1.5
MDM				IAmb		IAmb	02 58 05.2	
	comp=Z,6.6nm,1.2s							
MLY	**Manley**	80.35	358	P		P	02 57 52.4	+1.5
MLY				IAmb		IAmb	02 57 58.6	
	comp=Z,6.2nm,1.5s							
J26L	**Joseph Creek**	80.48	355	P		P	02 57 53.0	+1.3
J26L				IAmb		IAmb	02 58 30.7	
	comp=Z,8.1nm,1.3s							
WRH	**Wood River Hil**	80.80	356	P		P	02 57 54.1	+0.8
WRH				IAmb		IAmb	02 57 55.0	
	comp=Z,4.1nm,0.8s							
DHY	**Denali Highway**	82.15	356	P		P	02 58 02.0	+1.3
PPLA	**Purkeypile**	82.53	358	P		P	02 58 02.9	+0.2
SKT	**Skwentna**	83.43	358	P		P	02 58 07.5	+0.3

IDC ***16*** *02:50:00.3±0.6,52.˚53N×168.˚08W,h0km,mb4.7/28, mbtmp4.7/29,ML4.0/1,MS4.3/51,Error ellipse: s-maj=18.5km s-min=11.8km az=171.0*

AEIC ***16*** *02:50:02.9±2.9,52.˚32N±0.˚09×167.˚9W±0.˚1,h24km±4km, Error ellipse: s-maj=12.9km s-min=9.0km az=166.0*

GCMT ***16*** *02:50:04.9±0.3,52.˚28N±0.˚02×167.˚98W±0.˚04,h26km, MW5.1/87,Moment Tensor Solution. s44,c57; s87,c114; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.93±.23; Mθθ-2.29±.16; Mφφ-1.64±.16; Mrθ2.77±.31; Mrφ-2.18±.10; Mθφ-0.31±.30; Best double couple: M♂4.89900×10^16^ NP1:ϕs72.00000°,δ62.00000°,λ113.00000°. NP2: ϕs210.00000°,δ36.00000°,λ54.00000°. Principal axes: T 5.1620, Plg65.0000°, Azm23.0000°; N -0.5250, Plg20.0000°, Azm240.0000°; P -4.6360, Plg14.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***16*** *02:50:04.6±0.0,52.˚79N×168.˚48W,h32km,mb5.0/57, mB5.2/34,Ms5.0/37,Ms7 4.7/35*

NEIC ***16*** *02:50:05.9±1.9,52.˚57N±0.˚08×168.˚03W±0.˚07,h42km±5km, mb4.9/247,ML4.5/8,ML4.3(AEIC),Error ellipse: s-maj=11.5km s-min=6.3km az=179.0*

MOS ***16*** *02:50:05.0±1.2,52.˚63N×168.˚15W,h38km,mb5.1/39, MS4.4/5,Error ellipse: s-maj=13.0km s-min=5.7km az=101.9*

BGR ***16*** *02:50:19.1,54.˚59N×167.˚94W,h33km,mb4.9,Ms4.4*

ISC 16 02:50:05.1±0.4,52.˚46N±0.˚06×168.˚00W±0.˚04,h35km±1km, h35km:pP-P,n847,σ1s30/786,mb4.9/227,MS4.4/72, 34C-30D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.73	315		Pn	02 50 18.0	-1.0
NIKH	**Nikolski High**	0.73	315	P	Pn	02 50 18.5	-0.5
	baz=129,SNR=294						
CLES	**Cleveland East**	1.21	288	Pn	Pn	02 50 24.7	-0.8
CLES				IAML		02 50 52.9	
	comp=E,11μm,0.7s						
CLES				IAML		02 51 01.5	
	comp=N,11μm,1.0s						
UNV	**Unalaska Valle**	1.66	32	Pn	Pn	02 50 30.6	-1.0
UNV	**Unalaska Valle**	1.66	32	P	Pn	02 50 31.6	0.0
	baz=216,SNR=79						
AKUT	**Akutan**	2.15	38	Pn	Pn	02 50 37.8	-0.6
S12K	**Black Hills**	4.77	45	P	Pn	02 51 18.4	+3.9
	baz=231						
SPIA	**Saint Paul Isl**	4.90	346	Pn	Pn	02 51 15.3	-0.9
SPIA	**Saint Paul Isl**	4.90	346	P	Pn	02 51 18.3	+2.1
	baz=164,SNR=5.3						
GSTR	**Great Sitkin T**	4.96	269	Pn	Pn	02 51 17.9	+0.8
SDPT	**Sand Point**	5.31	54	Pn	Pn	02 51 23.1	+1.4
SDPT				IAML		02 53 14.0	
	comp=N,292nm,1.3s						
SDPT				IAML		02 53 20.6	
	comp=E,280nm,1.6s						
SDPT	**Sand Point**	5.31	54	P	Pn	02 51 23.4	+1.6
	baz=241						
ADK	**Adak**	5.38	267	Pn	Pn	02 51 23.1	+0.4
ADK				IAML		02 52 58.5	
	comp=E,268nm,1.3s						
KIWB	**Kanaga Island**	5.67	267	Pn	Pn	02 51 26.4	-0.3
CHGN	**Chignik**	6.79	52	Pn	Pn	02 51 43.0	+0.9
CHGN	**Chignik**	6.79	52	P	Pn	02 51 44.3	+2.2
	baz=240						
AMKA	**Amchitka**	7.93	267	Pn	Pn	02 51 58.2	+0.4
R17K	**Ugashik Creek**	8.44	47	P	Pn	02 52 06.4	+1.6
	baz=238,SNR=6.3						
P16K	**Nushagak River**	8.67	37	P	Pn	02 52 10.3	+2.5
	baz=225,SNR=9.2						
Q16K	**King Salmon**	8.94	41	P	Pn	02 52 12.9	+1.3
	baz=231						
Q17K	**Contact Creek**	9.02	45	P	Pn	02 52 15.3	+2.6
	baz=236,SNR=7.8						
SII	**Sitkinak Islan**	9.02	57	P	Pn	02 52 14.9	+2.2
	baz=249						
O16K	**Kokwok River B**	9.04	34	P	Pn	02 52 14.7	+1.7
	baz=222						
N16K	**Nishlik Lake**	9.51	29	P	Pn	02 52 20.8	+1.4
	baz=217						
O17K	**Koliganek Bris**	9.52	35	P	Pn	02 52 21.7	+2.3
	baz=225						
Q18K	**Katmai Hardscr**	9.61	45	P	Pn	02 52 22.4	+1.5
	baz=236,SNR=13						
OHAK	**Old Harbor**	9.73	55	Pn	Pn	02 52 21.1	-1.3
OHAK	**Old Harbor**	9.73	55	P	Pn	02 52 22.1	-0.3
	baz=247						
P18K	**Big Mountain,**	9.97	41	Pn	Pn	02 52 25.4	-0.3
P18K	**Big Mountain,**	9.97	41	P	Pn	02 52 27.0	+1.3
	baz=232,SNR=5.7						
O18K	**Koktuh Hills**	10.27	39	Pn	Pn	02 52 29.9	+0.1
O18K	**Koktuh Hills**	10.27	39	P	Pn	02 52 31.6	+1.8
	baz=230,SNR=15						
KDAK	**Kodiak Island**	10.30	53	Pn	Pn	02 52 28.2	-2.1
	comp=E,3.4nm,0.3s,baz=261,slow=8.5,SNR=41						
KDAK				Sn	Sn	02 54 17.6	-6.7
	baz=180,slow=20						
Q20K	**Shuyak Island**	10.76	49	P	Pn	02 52 37.4	+0.8
	baz=242						
O19K	**Port Alsworth**	10.83	39	P	Pn	02 52 39.6	+2.1
	baz=231						
SHEM	**Shemya Is, Ala**	10.90	279	LR	LR	02 56 42.3	
	comp=E,2μm,20.8s,baz=118,slow=37						
P19K	**Oil Pt**	10.94	43	P	Pn	02 52 41.5	+2.5
	baz=236						
SVW2	**Sparrevohn**	11.00	33	Pn	Pn	02 52 38.2	-1.5
N19K	**Bonanza Creek**	11.18	36	P	Pn	02 52 44.4	+2.1
	baz=228						
GAMB	**Gambell**	11.52	352	Pn	Pn	02 52 47.6	+0.8
GAMB	**Gambell**	11.52	352	P	Pn	02 52 48.6	+1.8
	baz=169						
RSO	**Retroubt South**	11.61	40	Pn	Pn	02 52 47.8	-0.4
L19K	**White Mountain**	12.03	31	P	Pn	02 52 55.7	+1.8
	baz=222						
BRSE	**Bradley Lake S**	12.06	46	P	Pn	02 52 54.9	+0.7
	baz=241						
ANM	**Nome**	12.22	5	Pn	Pn	02 52 57.0	+0.6
ANM	**Nome**	12.22	5	P	Pn	02 52 58.7	+2.3
	baz=188						
TTA	**Tatalina**	12.27	27	Pn	Pn	02 52 57.2	0.0
TTA	**Tatalina**	12.27	27	P	Pn	02 53 00.4	+3.2
	baz=217,SNR=8.4						
SPCR	**Spurr Chakacha**	12.27	38	P	Pn	02 52 59.3	+2.1
	baz=232						
SPU	**Mount Spurr**	12.32	39	Pn	Pn	02 52 58.4	+0.5
M20K	**Styx River**	12.38	35	P	Pn	02 53 01.9	+3.2
	baz=227						
L20K	**Farewell, AK**	12.56	31	P	Pn	02 53 04.9	+3.8
	baz=224						
SEW	**Seward**	12.80	46	P	Pn	02 53 03.6	-0.7
	baz=242						
SUA	**Susitna One**	12.99	39		Pn	02 53 07.5	+0.4
SUA	**Susitna One**	12.99	39	P	Pn	02 53 07.8	+0.7
	baz=234,SNR=14						
SKT	**Skwentna**	13.02	36		Pn	02 53 08.8	+1.5
SKT	**Skwentna**	13.02	36	P	Pn	02 53 08.6	+1.2
	baz=231,SNR=12						
TNA	**Tin City**	13.14	0	Pn	Pn	02 53 10.0	+1.0
TNA	**Tin City**	13.14	0	P	Pn	02 53 11.8	+2.8
	baz=180,SNR=8.7						
K20K	**Telida**	13.16	28	P	Pn	02 53 11.8	+2.6
	baz=221						
RC01	**Rabbit Creek A**	13.19	42	Pn	Pn	02 53 08.3	-1.3
RC01	**Rabbit Creek A**	13.19	42	P	Pn	02 53 09.4	-0.2
	baz=238						
PPLA	**Purkeypile**	13.40	33	Pn	Pn	02 53 13.7	+0.9
PPLA	**Purkeypile**	13.40	33	P	Pn	02 53 15.4	+2.7
	baz=226,SNR=13						
M22K	**Willow**	13.41	39	P	Pn	02 53 14.4	+1.8
	baz=234						
GCSA	**Galena City Sc**	13.58	21	P	Pn	02 53 17.0	+2.0
	baz=210,SNR=13						
PWL	**Port Wells**	13.65	44	P	Pn	02 53 14.8	-1.2
	baz=241						
P23K	**Montague Islan**	13.67	48	P	Pn	02 53 15.9	-0.4
	baz=246						
PMR	**Palmer**	13.71	41	Pn	Pn	02 53 16.7	+0.1
PMR	**Palmer**	13.71	41	P	Pn	02 53 15.1	-1.5
	baz=237						
CUT	**Chulitna**	13.75	37	P	Pn	02 53 17.1	-0.1
	baz=232						
J20K	**Nowinta River**	13.77	26	P	Pn	02 53 18.8	+1.2
	baz=218						
CAST	**Castle Rocks**	13.81	31		Pn	02 53 19.8	+1.7
CAST	**Castle Rocks**	13.81	31	P	Pn	02 53 21.1	+3.0
	baz=225,SNR=41						
KNK	**Knik Glacier**	13.88	42	P	Pn	02 53 18.6	-0.5
	baz=239,SNR=8.3						
CHUM	**Lake Minchumin**	14.07	29	P	Pn	02 53 23.9	+2.2
	baz=223,SNR=17						
SML	**Sawmill**	14.14	41	Pn	Pn	02 53 21.5	-1.2
SML	**Sawmill**	14.14	41	P	Pn	02 53 21.2	-1.5
	baz=238						
M23K	**Glacier View**	14.38	42	P	Pn	02 53 24.4	-1.5
	baz=239,SNR=15						
TRF	**Thorofare Moun**	14.41	33		Pn	02 53 28.2	+1.7
TRF	**Thorofare Moun**	14.41	33	P	Pn	02 53 26.4	-0.1
	baz=229						
SCM	**Sheep Creek Mo**	14.56	42	P	Pn	02 53 26.3	-2.1
	baz=240,SNR=20						
BPAW	**Bear Paw Mtn.**	14.64	31	P	Pn	02 53 30.7	+1.4
	baz=225,SNR=40						
WAT1	**Susitna Watana**	14.64	37	P	Pn	02 53 29.4	0.0
	baz=234						
EYAK	**Cordova Ski Ar**	14.65	48	P	Pn	02 53 26.9	-2.6
	baz=247						
WAT6	**Susitna Watana**	14.80	39	P	Pn	02 53 29.2	-2.5
	baz=236						
RND	**Reindeer**	14.88	35	Pn	Pn	02 53 32.6	-0.1
KLU	**Klutina**	14.98	44	Pn	Pn	02 53 31.7	-2.4
KLU	**Klutina**	14.98	44	P	Pn	02 53 31.8	-2.3
	baz=243,SNR=37						
MCK	**McKinley**	15.06	34	P	Pn	02 53 34.0	-1.1
	baz=231,SNR=12						
I21K	**Tanana**	15.14	26	IAmb	IAmb	02 53 42.7	
	comp=Z,86nm,0.8s						
I21K	**Tanana**	15.14	26	P	Pn	02 53 37.3	+1.2
	baz=220						
BWN	**Browne**	15.17	32	Pn	Pn	02 53 36.9	+0.4
BWN				IAmb	IAmb	02 53 41.2	
	comp=Z,189nm,1.8s						
M24K	**Tolsona, Glenn**	15.17	42	Pn	Pn	02 53 34.5	-2.0
M24K	**Tolsona, Glenn**	15.17	42	P	Pn	02 53 35.1	-1.4
	baz=241,SNR=25						
DHY	**Denali Highway**	15.22	38	Pn	Pn	02 53 36.8	-0.4
DHY	**Denali Highway**	15.22	38	P	Pn	02 53 35.3	-2.0
	baz=236,SNR=9.8						
H21K	**Melozitna Rive**	15.30	24	P	Pn	02 53 40.2	+2.0
	baz=218						
BMRM	**Bremner River**	15.33	47	IAmb	IAmb	02 53 46.2	
	comp=Z,51nm,1.0s						
BMRM	**Bremner River**	15.33	47	P	Pn	02 53 36.7	-2.0
	baz=247						
MLY	**Manley**	15.38	28	P	Pn	02 53 40.1	+0.8
	baz=223,SNR=119						
NEA2	**Nenana**	15.58	31	Pn	Pn	02 53 40.4	-1.4
NEA2	**Nenana**	15.58	31	P	Pn	02 53 40.5	-1.3
	baz=228,SNR=17						
N25K	**Chitina, Valde**	15.60	45	Pn	Pn	02 53 40.1	-2.1
N25K	**Chitina, Valde**	15.60	45	P	Pn	02 53 40.6	-1.6
	baz=245,SNR=12						
HARP	**HAARP**	15.73	42	P	Pn	02 53 42.8	-1.0
	baz=242,SNR=17						
G21K	**Allakaket**	15.83	22	P	Pn	02 53 46.6	+1.6
	baz=214						
I23K	**Minto, Yukon-K**	15.87	30	IAmb	IAmb	02 53 48.7	
	comp=Z,70nm,0.8s						
I23K	**Minto, Yukon-K**	15.87	30	P	Pn	02 53 46.0	+0.5
	baz=226,SNR=44						
PAX	**Paxson**	15.89	40	Pn	Pn	02 53 44.3	-1.6
PAX	**Paxson**	15.89	40	P	Pn	02 53 45.5	-0.4
	baz=239,SNR=7.7						
WAX	**Waxell Ridge**	15.95	50	IAmb	IAmb	02 53 53.5	
	comp=Z,105nm,0.8s						
CCB	**Clear Creek Bu**	16.03	33	Pn	Pn	02 53 45.5	-2.0
MDM	**Murphy Dome**	16.09	31	Pn	Pn	02 53 46.8	-1.6
TCOL	**CIGO, UAF Yank**	16.16	32	IAmb	IAmb	02 53 50.6	
	comp=Z,70nm,0.8s						
TCOL	**CIGO, UAF Yank**	16.16	32	P	Pn	02 53 48.1	-1.1
	baz=229,SNR=15						
COLA	**College**	16.16	32	Pn	Pn	02 53 47.1	-2.1
COLA				IAmb	IAmb	02 53 50.6	
	comp=Z,67nm,0.8s						
COLA	**College**	16.16	32	P	Pn	02 53 47.9	-1.3
	baz=229						
COLA	**College**	16.16	32	*i* P	Pn	02 53 47.4	-1.8
COLA				pmax	pmax		
	comp=Z,65nm,0.9s						
HDA	**Harding Lake**	16.16	34	Pn	Pn	02 53 47.5	-1.8
HDA	**Harding Lake**	16.16	34	P	Pn	02 53 47.9	-1.4
	baz=232,SNR=10						
MCARA	**McCarthy VSAT**	16.20	47	Pn	Pn	02 53 48.1	-1.7
MCARA	**McCarthy VSAT**	16.20	47	P	Pn	02 53 49.7	-0.1
	baz=248,SNR=5.3						
K24K	**Donnelly Dome**	16.22	37	P	Pn	02 53 49.9	-0.2
	baz=236,SNR=6.1						
ISLE	**Juniper Island**	16.24	50	IAmb	IAmb	02 53 57.1	
	comp=Z,180nm,1.2s						
MESA	**MESA**	16.30	51		Pn	02 53 51.0	-0.1
MESA				IAmb	IAmb	02 53 59.4	
	comp=Z,104nm,0.8s						
MESA	**MESA**	16.30	51	P	Pn	02 53 52.2	+1.0
	baz=254						
IL31		16.41	33		Pn	02 53 49.8	-2.6
ILAR	**Eielson Array**	16.41	33	Pn	Pn	02 53 50.1	-2.3
	comp=Z,0.6nm,0.3s,baz=230,slow=9.3,SNR=77						
ILAR				PcP	PcP	02 58 43.6	+0.6
	comp=Z,0.8nm,0.6s,baz=257,slow=3.3,SNR=5.7						
	comp=Z,12nm,0.8s						
F21K	**Alatna River**	16.43	20	P	P	02 53 54.7	-0.4
	baz=213						
POKR	**Poker Plat Res**	16.45	32	P	Pn	02 53 51.1	-1.8
	baz=230,SNR=13						
RIDG	**Independent Ri**	16.54	38	Pn	Pn	02 53 52.0	-2.1
RIDG	**Independent Ri**	16.54	38	P	Pn	02 53 52.8	-1.2
	baz=238,SNR=8.4						
MENT	**Mentasta**	16.57	41	Pn	Pn	02 53 52.5	-1.9
M26K	**Nabesna, AK**	16.63	43	P	Pn	02 53 53.9	-1.3
	baz=245						
BARN	**Barnard Glacie**	16.70	49	Pn	Pn	02 53 54.6	-1.7
BARN				IAmb	IAmb	02 54 01.3	
	comp=Z,63nm,0.9s						
TABL	**Table Mountain**	16.76	51		Pn	02 53 57.1	+0.1
TABL				IAmb	IAmb	02 54 03.6	
	comp=Z,82nm,1.0s						
L26K	**Log Cabin Wild**	16.76	41	IAmb	IAmb	02 53 59.2	
	comp=Z,75nm,0.7s						
L26K	**Log Cabin Wild**	16.76	41	P	P	02 53 58.5	-0.3
	baz=242,SNR=52						
H24K	**Noodor Dome**	16.80	29	IAmb	IAmb	02 54 00.8	
	comp=Z,85nm,1.0s						
H24K	**Noodor Dome**	16.80	29	P	Pn	02 53 57.1	-0.2
	baz=227						
G23K	**Bananza Creek**	16.83	25	P	P	02 53 59.2	-0.4
	baz=221						
F22K	**John River**	16.95	21	P	Pn	02 53 59.7	+0.5
	baz=215						
SCRK	**Sand Creek**	16.98	38	P	Pn	02 53 59.2	-0.6
	baz=239,SNR=30						
M27K	**Edge Creek, AK**	17.08	44	IAmb	IAmb	02 54 05.2	
	comp=Z,89nm,0.9s						
M27K	**Edge Creek, AK**	17.08	44	P	Pn	02 54 01.1	+0.1
	baz=247						
PCA	**Pinnacle**	17.09	53	Pn	Pn	02 54 00.

baz=260,SNR=11
G26K Porcupine Rive 18.78 30 P P 02 54 19.3 -1.6
baz=231
DAWY Dawson 18.81 41 P P 02 54 20.8 -0.6
DAWY IAmb IAmb 02 54 24.0
comp=Z,47nm,0.9s
DAWY Dawson 18.81 41 P P 02 54 21.2 -0.2
baz=246,SNR=41
S31K Pelican 18.82 60 P Pn 02 54 22.7 +0.5
baz=267
PLBC Pleasant Camp 18.90 56 P Pn 02 54 22.9 -0.2
baz=262
L29M L29M 18.97 44 P Pn 02 54 23.8 -0.1
baz=250
E25K Arctic Village 19.04 26 P Pn 02 54 25.0 +0.2
baz=226,SNR=53
H27K Steamboat Moun 19.08 34 P P 02 54 23.3 -1.0
baz=237,SNR=64
F26K Sheenjek River 19.15 28 P P 02 54 24.9 -0.2
baz=229
O30N Mendenhall 19.25 52 P Pn 02 54 29.5 +2.1
baz=259,SNR=19
G27K Doyon Strip 19.36 32 P P 02 54 26.4 -1.0
baz=235
M30M Minto, Yukon 19.37 46 P P 02 54 27.9 +0.3
M30M Minto, Yukon 19.37 46 P Pn 02 54 28.9 0.0
baz=253,SNR=15
SKAG Skagway 19.43 56 P Pn 02 54 29.1 -0.4
SKAG IAmb IAmb 02 54 33.3
comp=Z,61nm,0.9s
SKAG Skagway 19.43 56 P Pn 02 54 30.7 +1.3
baz=264,SNR=11
J29M Klondike Camp 19.44 40 IAmb IAmb 02 54 33.0
comp=Z,44nm,0.7s
J29M Klondike Camp 19.44 40 P Pn 02 54 29.4 -0.2
baz=246,SNR=18
K29M Barlow Dome 19.48 42 P P 02 54 29.1 +0.3
baz=249
N31M Braeburn, Yuko 19.55 50 P Pn 02 54 30.4 -0.6
N31M Braeburn, Yuko 19.55 50 P Pn 02 54 31.9 +0.9
baz=257,SNR=34
BESE Bessie Mountai 19.59 59 P Pn 02 54 30.7 -0.7
BESE IAmb IAmb 02 54 39.0
comp=Z,72nm,1.1s
A21K Barrow 19.61 11 IAmb IAmb 02 54 31.3
comp=Z,54nm,0.9s
A21K Barrow 19.61 11 P P 02 54 29.6 -0.4
baz=201,SNR=28
D25K Kavik River 19.71 23 P P 02 54 30.9 -0.3
baz=222
I29M Ogilvie Camp, 19.79 38 IAmb IAmb 02 54 36.5
comp=Z,51nm,0.9s
I29M Ogilvie Camp, 19.79 38 P P 02 54 31.3 -0.8
baz=244,SNR=26
WHY Whitehorse 19.82 53 IAmb IAmb 02 54 47.3
comp=Z,55nm,0.8s
WHY Whitehorse 19.82 53 P Pn 02 54 34.2 -0.1
baz=261,SNR=16
JIS Juneau Island 19.82 60 P P 02 54 32.4 +0.1
JIS IAmb IAmb 02 54 37.5
comp=Z,59nm,1.0s
BILL Bilibino 19.92 331 P P 02 54 33.0 -0.3
BILL Bilibino 19.92 331 *e*P P 02 54 34.2 +0.8
BILL pmax pmax
comp=Z,24nm,1.0s
BILL MLR MLR
comp=Z,1µm,15.0s
MAYO Mayo, Yukon 20.08 44 IAmb IAmb 02 54 40.2
comp=Z,48nm,0.9s
MAYO Mayo, Yukon 20.08 44 P P 02 54 35.9 +0.7
baz=252,SNR=7.4
PET Petropavlovsk 20.10 285⇑ *i*P P 02 54 36.0 +0.5
PET *e*S S 02 58 09.1 -10
PET pmax pmax
comp=Z,139nm,0.7s
PET pmax pmax
comp=Z,400nm,16.6s
PET MLR MLR
comp=Z,800nm,17.0s
PET MLR MLR
comp=Z,1µm,19.0s
E27K Coleen River 20.21 29 P P 02 54 36.2 -0.4
baz=232
P32M Atlin 20.26 56 P Pn 02 54 39.5 +0.2
baz=265,SNR=6.2
M31M Drury Creek, Y 20.36 48 P Pn 02 54 39.4 -1.0
M31M Drury Creek, Y 20.36 48 P Pn 02 54 40.5 +0.1
baz=257,SNR=56
C26K Camden Bay 20.50 23 P P 02 54 40.3 +0.6
baz=223
U33K Whale Pass 20.55 66 P Pn 02 54 43.1 +0.5
baz=275
C27K Jago River 20.58 24 P P 02 54 40.9 +0.3
baz=226,SNR=135
PEA0B Petropavlovsk- 20.65 286 P P 02 54 40.1 -1.3
PEA0B IAmb IAmb 02 54 42.3
comp=Z,42nm,0.6s
PETK Petropavlovsk- 20.65 286 P P 02 54 40.8 -0.6
comp=Z,33nm,0.5s,baz=93,slow=12,SNR=80
PETK LR LR 03 03 21.0
comp=Z,390nm,20.2s,baz=92,slow=39
comp=Z,33nm,0.5s
P33M Teslin, Yukon 20.77 54 IAmb IAmb 02 54 50.7
comp=Z,53nm,0.8s
P33M Teslin, Yukon 20.77 54 P Pn 02 54 45.5 +0.2
baz=264,SNR=30
EPYK Eagle Plains 20.83 36 P P 02 54 42.4 -0.9
baz=244,SNR=88
FARO Faro, Yukon 20.84 48 P P 02 54 43.6 +0.2
FARO Faro, Yukon 20.84 48 P Pn 02 54 45.2 -0.8
baz=258,SNR=46
Q32M Nakina River 20.95 58 P Pn 02 54 47.8 +0.1
baz=268
G30M tAoh Zraii Nji 21.29 35 P P 02 54 46.4 -1.8
baz=243,SNR=36
S34M Telegraph Cree 21.54 61 P P 02 54 54.3 +3.3
baz=272
R33M Jennings River 21.64 57 P P 02 54 55.8 +3.6
baz=268,SNR=14
T35M Bob Quinn 22.07 63 P P 02 54 58.1 +1.4
baz=275
DLBC Dease Lake 22.12 59 P P 02 54 59.9 +2.6
comp=Z,14nm,0.8s,baz=281,slow=10,SNR=13
DLBC Dease Lake 22.12 59 P P 02 54 57.6 +0.4
DLBC Dease Lake 22.12 59 P P 02 54 59.7 +2.5
baz=271,SNR=5.6
F31M Tsiigehtchic 22.36 35 P P 02 54 58.5 -1.1
baz=245,SNR=14
INK Inuvik 22.81 33 P P 02 55 02.4 -2.0
comp=Z,53nm,0.7s,baz=204,slow=10,SNR=87
INK PcP PcP 02 58 55.4 +1.0
comp=Z,2.1nm,0.7s,baz=274,slow=1.5,SNR=2.1
INK LR LR 03 04 52.9
comp=Z,1µm,19.2s,baz=229,slow=39
comp=Z,53nm,0.7s
INK Inuvik 22.81 33 P P 02 55 02.0 -2.4
INK IAmb IAmb 02 55 06.9
comp=Z,54nm,0.8s
INK Inuvik 22.81 33 P P 02 55 02.7 -1.7
baz=244,SNR=78
SEY Seymchan 23.23 312 P P 02 55 08.2 -0.5
comp=Z,12nm,0.6s,baz=96,slow=9.3,SNR=32
comp=Z,12nm,0.6s
SEY Seymchan 23.23 312 *ce*P P 02 55 06.9 -1.8
SEY pmax pmax
comp=Z,11nm,0.6s
MA2 Magadan 23.79 304 P P 02 55 14.1 -0.1
comp=Z,7.5nm,0.5s,baz=79,slow=11,SNR=7.0
MA2 LR LR 03 04 51.3
comp=Z,706nm,18.1s,baz=108,slow=38
comp=Z,7.5nm,0.5s
MA2 Magadan 23.79 304 P P 02 55 13.2 -1.0
MA2 Magadan 23.79 304 *i* P P 02 55 14.4 +0.2
MA2 pmax pmax
comp=Z,9.0nm,0.8s
LIRD Liard River Hi 24.13 57 P P 02 55 18.9 +1.5
baz=272,SNR=6.1
KOTAN Kotaneelee Air 25.14 55 P P 02 55 27.5 +1.0
baz=272
WRGLY Wrigley 25.49 48 P P 02 55 31.6 +2.1
baz=266,SNR=12
C36M Paulatuk 26.38 34 IAmb IAmb 02 55 39.9
comp=Z,21nm,0.7s
C36M Paulatuk 26.38 34 P P 02 55 37.8 +0.1
baz=253,SNR=27
A36M Sachs Harbour 26.94 28 P P 02 55 42.5 -0.1
A36M IAmb IAmb 02 55 51.2
comp=Z,30nm,0.8s
A36M Sachs Harbour 26.94 28 P P 02 55 43.0 +0.4
baz=247,SNR=30
E03A Lebam 29.09 84 P P 02 56 00.9 -1.1
E03A IAmb IAmb 02 56 24.9
comp=Z,22nm,1.0s
YKA Yellowknife Ar 29.55 49 PcP PcP 02 59 11.0 +0.9
baz=283,slow=2.7
YKA ScP ScP 03 02 51.9 +2.9
comp=Z,0.8nm,0.8s,baz=284,slow=3.7,SNR=7.7
LON Longmire 30.05 82 P P 02 56 10.6 -0.1
COR Corvallis 30.22 87 P P 02 56 11.5 -0.5
COR IAmb IAmb 02 56 28.5
comp=Z,31nm,1.0s
COR Corvallis 30.22 87 P P 02 56 14.9 +2.8
COR pP pwP 02 56 25.4 -0.5
BUCK Buck Mountain 30.61 87 P P 02 56 16.4 +0.7
BUCK IAmb IAmb 02 56 29.8
comp=Z,25nm,1.1s
B08A Colville Reser 30.81 78 P P 02 56 18.4 +1.1
H04A Detroit Lake 30.85 86 P P 02 56 17.2 -0.5
H04A IAmb IAmb 02 56 37.7
comp=Z,31nm,1.0s
HOOD Mount Hood Mea 30.85 85 P P 02 56 17.6 -0.2
HOOD IAmb IAmb 02 56 35.2
comp=Z,14nm,0.8s
DBO Dodson Butte 31.04 89 P P 02 56 20.0 +0.6
DBO IAmb IAmb 02 56 30.0
comp=Z,21nm,1.1s
HAWA Hanford 31.60 81 P P 02 56 23.5 -0.8
HAWA IAmb IAmb 02 56 43.8
comp=Z,47nm,1.9s
D08A Wollman Farm, 31.65 80 P P 02 56 25.3 +0.6
C09A Chrisman Ranch 31.70 78 P P 02 56 25.7 +0.6
YBH Yreka Blue Hor 32.14 91 LR LR 03 06 26.8
comp=Z,317nm,21.6s,baz=306,slow=31
YBH Yreka Blue Hor 32.14 91 P P 02 56 29.1 -0.1
YBH IAmb IAmb 02 56 39.8
comp=Z,14nm,1.1s
NEW Newport 32.17 77 LR LR 03 08 32.2
comp=Z,344nm,19.8s,baz=302,slow=34
NEW Newport 32.17 77 P P 02 56 29.4 0.0
baz=297,SNR=6.5
EDM Edmonton 32.34 66 P P 02 56 30.2 -0.6
TIXI Tiksi 33.09 329 P P 02 56 36.6 -0.4
comp=Z,4.1nm,0.7s,baz=90,slow=20,SNR=11
TIXI LR LR 03 12 28.1
comp=Z,669nm,18.1s,baz=39,slow=41
comp=Z,4.1nm,0.7s
TIXI Tiksi 33.09 329 P P 02 56 36.2 -0.8
TIXI Tiksi 33.09 329 *ce*P P 02 56 36.7 -0.4
TIXI pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 33.09 329 P P 02 56 36.9 -0.2
TIXI pP pP 02 56 47.4 +1.3
ASAJ Asahikawa 33.34 276 LR LR 03 09 35.0
comp=Z,587nm,20.8s,baz=24,slow=35
YAK Yakutsk 33.74 311 LR LR 03 11 11.8
comp=Z,777nm,18.1s,baz=95,slow=38
YAK Yakutsk 33.74 311 *e*P P 02 56 40.7 -2.1
YAK *e* 02 57 52.3
YAK *e* 02 59 22.5
YAK *e*S S 03 02 06.2 +2.6
YAK *e*S S 03 02 07.0 +3.4
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=Z,7.0nm,0.4s
YAK smax smax
comp=N,92nm,14.1s
YAK smax smax
comp=E,170nm,19.9s
YAK MLR MLR
comp=Z,823nm,19.0s
YAK MLR MLR
comp=N,385nm,21.0s
YAK MLR MLR
comp=E,586nm,16.0s
WVOR Wild Horse Val 34.23 87 P P 02 56 47.8 +0.4
WVOR IAmb IAmb 02 57 07.9
comp=Z,15nm,0.8s
PLID Pearl Lake 34.40 81 P P 02 56 50.1 +1.2
MSO Missoula 34.75 77 P P 02 56 51.4 -0.5
MSO IAmb IAmb 02 57 11.0
comp=Z,28nm,1.8s
MSO Missoula 34.75 77 P P 02 56 50.9 -1.0
baz=300
MFID Camas Ranch 35.40 84 P P 02 56 56.9 -0.6
RES Resolute Bay 35.93 26 LR LR 03 14 39.8
comp=Z,565nm,20.2s,baz=283,slow=41
RES Resolute Bay 35.93 26 P P 02 57 00.1 -1.4
HRY Holter Researc 36.07 76 P P 02 57 03.4 +0.2
HLID Hailey 36.18 82 P P 02 57 04.4 +0.1
HLID IAmb IAmb 02 57 24.7
comp=Z,32nm,1.9s
HLID Hailey 36.18 82 P P 02 57 04.7 +0.4
baz=304,SNR=6.9
BMN Battle Mountai 36.26 89 P P 02 57 04.9 -0.1
MCMT McKenzie Canyo 36.44 79 P P 02 57 06.4 -0.1
EGMT Eagleton 36.64 73 P P 02 57 08.0 +0.1
baz=300,SNR=8.0
BOZ Bozeman (W) 36.76 78 IAmb IAmb 02 57 28.8
comp=Z,13nm,1.3s
BOZ Bozeman (W) 36.76 78 P P 02 57 10.1 +1.0
baz=302,SNR=5.3
LHV Little Huntoon 36.82 93 P P 02 57 11.2 +1.7
LHV IAmb IAmb 02 57 28.0
comp=Z,26nm,1.4s
NVAR Mina Array Bea 36.83 92 P P 02 57 11.4 +1.6
comp=Z,6.1nm,0.8s,baz=290,slow=8.8,SNR=21
comp=Z,6.1nm,0.8s
MDPB Devils Postpil 36.86 94 P P 02 57 09.5 -0.7
MDPB IAmb IAmb 02 57 30.2
comp=Z,15nm,0.9s
KLR Kul'dur 37.22 290 LR LR 03 14 16.2
comp=Z,817nm,18.1s,baz=56,slow=39
KLR Kul'dur 37.22 290 *ce*P P 02 57 11.8 -1.0
KLR pmax pmax
comp=Z,15nm,1.4s
ELK Elko 37.29 87 LR LR 03 10 28.9
comp=Z,460nm,18.1s,baz=310,slow=33
ELK Elko 37.29 87 P P 02 57 13.9 +0.1
ZEA Zeya 37.69 299 *e*P P 02 57 16.3 -0.5
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
YNR Norris Junctio 37.80 78 P P 02 57 18.9 +0.8
FFC Flin Flon 37.95 60 P P 02 57 18.5 -0.4
FFC Flin Flon 37.95 60 P P 02 57 19.6 +0.6
FFC pP sP 02 57 31.5 0.0
FFC sP pwP 02 57 36.4 +3.3
VES Vestal, Richgr 38.02 96 P P 02 57 21.4 +1.7
baz=312
H17A Grant Village 38.03 79 P P 02 57 21.4 +1.3
baz=304
H11N2 WAKE ISLAND Hy 38.06 220 T T 03 38 25.8
baz=24,slow=75,SNR=43
H11N3 WAKE ISLAND Hy 38.06 220 T T 03 38 27.6
baz=24,slow=75,SNR=38
H11N1 WAKE ISLAND Hy 38.08 220 T T 03 38 27.2
baz=24,slow=75,SNR=30
FLWY Flagg Ranch 38.13 79 P P 02 57 20.4 -0.5
FLWY IAmb IAmb 02 57 47.5
comp=Z,14nm,1.1s
FXWY Fox Creek 38.18 80 P P 02 57 20.9 -0.4
PKM Mcpherson Peak 38.21 98 P P 02 57 23.3 +1.7
baz=313
CWC Cottonwood Cre 38.24 95 P P 02 57 23.5 +1.7
baz=311
GRAC Grapevine Rang 38.31 93 P P 02 57 25.1 +2.8
baz=311
RLMT Red Lodge 38.42 77 P P 02 57 23.3 0.0
RLMT IAmb IAmb 02 57 43.5
comp=Z,18nm,1.1s
RLMT Red Lodge 38.42 77 P P 02 57 24.3 +1.0
baz=303,SNR=7.1
LOHW Long Hollow 38.45 80 P P 02 57 22.6 -1.0
LOHW IAmb IAmb 02 58 07.3
comp=Z,22nm,1.9s
ISA Isabella, Lake 38.51 96 P P 02 57 24.1 +0.2
ISA IAmb IAmb 02 57 36.9
comp=Z,9.7nm,0.8s
ISA Isabella, Lake 38.51 96 P P 02 57 25.6 +1.7
baz=312
R11A Troy Canyon, C 38.54 90 P P 02 57 25.8 +1.5
baz=309
AHID Auburn Hatcher 38.63 81 P P 02 57 24.3 -0.7
AHID IAmb IAmb 02 57 47.1
comp=Z,12nm,1.1s
MPMC Manual Prospec 38.85 94 P P 02 57 28.6 +1.7
baz=311
FURC Furnace Creek, 38.96 93 P P 02 57 29.2 +1.6
baz=311
TPNV Topopah Spring 39.02 92 P P 02 57 30.0 +1.6
baz=310
DUG Dugway, Tooele 39.10 86 P P 02 57 28.3 -0.6
DUG IAmb IAmb 02 57 48.0
comp=Z,20nm,1.4s
DUG Dugway, Tooele 39.10 86 P P 02 57 29.8 +0.9
baz=308,SNR=9.5
LRMC Laurel Mtn Rad 39.11 95 P P 02 57 30.3 +1.3
baz=312
HEH HeiHe 39.19 293 *e*P P 02 57 28.1 -1.3
HEH pmax pmax
comp=Z,14nm,0.8s
HEH pmax pmax
comp=Z,250nm,4.9s
HEH LR LR
comp=Z,400nm,17.7s
HEH LR LR
comp=Z,860nm,18.6s
HEH LR LR
comp=Z,1µm,17.1s
H11S1 WAKE ISLAND Hy 39.24 220 T T 03 40 02.2
baz=23,slow=74
H11S2 WAKE ISLAND Hy 39.25 220 T T 03 40 11.1
baz=23,slow=74
H11S3 WAKE ISLAND Hy 39.26 220 T T 03 40 01.7
baz=23,slow=74
LAO LASA Array 39.38 73 P P 02 57 31.3 +0.2
baz=302
PRN Pahroc Range 39.46 91 P P 02 57 32.2 +0.2
PRN IAmb IAmb 02 57 41.6
comp=Z,16nm,1.0s
BW06 Boulder Array 39.56 80 P P 02 57 33.7 +0.8
baz=305,SNR=13
PDAR Pinedale Array 39.56 80 P P 02 57 33.1 +0.3
comp=Z,6.7nm,0.8s,baz=307,slow=4.7,SNR=63
comp=Z,6.7nm,0.8s
SHOC Shoshone, Teco 39.69 94 P P 02 57 34.9 +1.2
baz=312
USRK Ussuriysk Ar. 39.69 283 P P 02 57 32.1 -1.5
comp=Z,4.2nm,0.7s,baz=53,slow=10,SNR=8.0
USRK LR LR 03 15 58.5
comp=Z,416nm,19.1s,baz=62,slow=39
comp=Z,4.2nm,0.7s
USRK Ussuriysk Ar. 39.69 283 P P 02 57 32.1 -1.5
NLU North Lily Min 39.70 85 P P 02 57 34.1 +0.1
GSC Goldstone, Bar 39.76 95 P P 02 57 35.4 +1.0
baz=312
BFSC Mount Baldy Ra 39.96 97 P P 02 57 36.6 +0.5
baz=313
SHPR Sheep Range 39.98 92 P P 02 57 37.6 +1.3
TUQ Turquoise Moun 40.21 94 P P 02 57 38.6 +0.4
baz=312
FCC Fort Churchill 40.23 51 P P 02 57 37.8 -0.1
FCC IAmb IAmb 02 57 39.8
comp=Z,15nm,0.8s
HEC Hector,Ludlow 40.37 95 P P 02 57 41.1 +1.7
baz=312
CCUT Cedar City 40.41 89 P P 02 57 40.1 +0.2
CCUT IAmb IAmb 02 58 01.1
comp=Z,33nm,1.9s
MJAR Matsushiro Arr 40.54 269 P P 02 57 40.8 +0.1
comp=Z,4.9nm,0.6s,baz=39,slow=6.7,SNR=12
MJAR LR LR 03 14 05.5
comp=Z,426nm,20.9s,baz=60,slow=36
comp=Z,4.9nm,0.6s
MAJO Matsushiro 40.54 269 P P 02 57 40.2 -0.6
MAJO IAmb IAmb 02 57 58.1
comp=Z,41nm,1.1s
MAJO Matsushiro 40.54 269 *i* P P 02 57 40.9 +0.1
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO Matsushiro 40.54 269 P P 02 57 40.5 -0.2
MAJO sP pwP 02 57 55.9 +1.5
MJB9 Matsu-Tunnel 40.54 269 P P 02 57 41.5 +0.7
P17A Butcher Ranch, 40.80 85 P P 02 57 42.7 -0.4
GMRC Granite Mounta 40.81 94 P P 02 57 44.2 +1.1
baz=312
MDJ Mudanjiang 40.89 285 P P 02 57 42.5 -1.0
MDJ pmax pmax
comp=Z,14nm,0.9s
MDJ pmax pmax
comp=Z,400nm,5.8s
PFO Pinyon Flats O 41.11 96 P P 02 57 45.1 -0.5
baz=314
PFO Pinyon Flats O 41.11 96 *i* P P 02 57 47.4 +1.7
PFO pmax pmax
comp=Z,13nm,1.3s
TPFO Pinon Flats 41.12 96 P P 02 57 46.2 +0.5
baz=314
BELC Belle Mtn. Jos 41.13 96 P P 02 57 44.9 -0.9
baz=313
109C Camp Elliot, M 41.22 98 P P 02 57 46.5 +0.2
baz=314
K22A Casper 41.45 78 IAmb IAmb 02 58 06.9
comp=Z,17nm,1.1s
K22A Casper 41.45 78 P P 02 57 47.7 -0.7
baz=306
IRM Iron Mountain 41.54 95 P P 02 57 49.4 +0.3
baz=313
BNX BinXian 41.55 287 ⇓P P 02 57 47.9 -1.0
BNX pmax pmax
comp=Z,16nm,0.9s
BNX pmax pmax
comp=Z,320nm,4.4s
RWWY Rawlins 41.60 80 P P 02 57 48.9 -0.8
RWWY IAmb IAmb 02 58 09.6
comp=Z,45nm,1.7s
MONP2 Monument Peak 41.63 97 P P 02 57 51.4 +1.4
baz=314
BC3 Big Chuckawall 41.70 95 P P 02 57 51.2 +0.8
baz=313
TULEG Thule 41.75 20 *e*P P 02 57 49.0 -1.2
TULEG IAmb IAmb 02 57 49.5
comp=Z,84nm,2.0s
O20A White River Ci 41.92 82 IAmb IAmb 02 58 01.9
comp=Z,22nm,0.8s
O20A White River Ci 41.92 82 P P 02 57 53.1 +0.9
baz=308,SNR=19
SWSC Sam W. Stewart 41.97 97 P P 02 57 53.2 +0.6
baz=314
IKP In-Ko-Pah, Jac 41.99 97 P P 02 57 53.7 +0.9
baz=314
RSSD Black Hills 42.08 75 P P 02 57 53.3 -0.3
baz=305
RSSD Black Hills 42.08 75 P P 02 57 53.0 -0.6
RSSD sP pwP 02 58 09.5 +1.6
GLA Glamis 42.49 96 P P 02 57 57.5 +0.7
baz=314
MDND Maddock 42.58 68 P P 02 57 55.6 -1.7
baz=303
BOD Bodaibo 42.59 309 *e*P P 02 57 56.2 -1.0
BOD pmax pmax
comp=Z,16nm,0.8s
PV13 Radium Mtn., P 42.79 85 P P 02 57 59.6 +0.2
PV13 IAmb IAmb 02 58 06.6
comp=Z,22nm,0.8s
N23A Red Feather La 42.84 80 P P 02 57 59.5 -0.4
baz=308
PV15 Paradox Valley 42.88 85 IAmb IAmb 02 58 17.2
comp=Z,14nm,0.9s
WUAZ Wupatki 42.94 90 P P 02 58 02.1 +1.5
baz=312
ULM Lac du Bonnet 43.36 63 P P 02 58 03.6 0.0
comp=Z,6.9nm,1.1s,baz=324,slow=9.8,SNR=3.7
comp=Z,6.9nm,1.1s
MVCO Mesa Verde 43.60 86 P P 02 58 06.3 +0.3
baz=310
ISCO Idaho Springs 43.72 81 P P 02 58 07.2 +0.3
baz=309
CN2 Changchun 43.80 286 *e*P P 02 58 06.0 -1.2
CN2 pmax pmax
comp=Z,40nm,0.7s

HIA Hailar 43.97 296 P **P** 02 58 07.3 -1.2
S22A 4UR Ranch, Cre 44.27 84 P **P** 02 58 11.1 -0.3
S22A 4UR Ranch, Cre 44.27 84 P **P** 02 58 12.2 +0.7
baz=310
AGMN Agassiz Nation 44.43 65 IAmb IAmb 02 58 16.5
comp=Z,18nm,1.2s
AGMN Agassiz Nation 44.43 65 P **P** 02 58 12.0 -0.2
baz=304
Q24A Divide 44.52 82 P **P** 02 58 13.4 -0.1
baz=309
NEEM North Greenlan 44.67 16 *e*P **P** 02 58 13.5 -0.6
NEEM IAmb IAmb 02 58 14.2
comp=Z,15nm,0.8s
JCJ Chichijima 44.74 255 LR LR 03 16 00.1
comp=Z,129nm,21.0s,baz=7.5,slow=35
SUSD Miller 44.87 71 P **P** 02 58 14.7 -1.1
SUSD IAmb IAmb 02 58 16.7
comp=Z,23nm,0.8s
SUSD Miller 44.87 71 P **P** 02 58 15.2 -0.6
baz=306
SDCO Great Sand Dun 45.08 83 P **P** 02 58 19.2 +1.4
baz=310
KULLO Kullorsuaq 45.25 21 *e*P **P** 02 58 17.5 -0.8
KULLO IAmb IAmb 02 58 19.7
comp=Z,14nm,0.8s
NOR Nord 45.30 6 *e*P **P** 02 58 18.2 -0.5
NOR IAmb IAmb 02 58 20.0
comp=Z,7.3nm,1.2s
TUC Tucson 45.47 93 P **P** 02 58 21.6 +0.8
TUC IAmb IAmb 02 58 39.4
comp=Z,42nm,1.9s
TUC Tucson 45.47 93 P **P** 02 58 22.0 +1.2
baz=314
KSCO Kaye Shedlock' 46.01 80 P **P** 02 58 25.5 +0.5
KSCO IAmb IAmb 02 58 34.6
comp=Z,15nm,0.8s
KSCO Kaye Shedlock' 46.01 80 P **P** 02 58 25.3 +0.3
baz=310
T25A Trinidad 46.13 83 P **P** 02 58 26.0 -0.1
T25A IAmb IAmb 02 58 36.4
comp=Z,29nm,1.2s
T25A Trinidad 46.13 83 P **P** 02 58 27.7 +1.6
baz=311,SNR=12
KSRS Korea Array 46.23 278 P **P** 02 58 27.3 +0.8
comp=Z,13nm,0.8s,baz=54,slow=7.3,SNR=26
KSRS LR LR 03 16 09.0
comp=Z,223nm,21.0s,baz=65,slow=34
comp=Z,13nm,0.8s
KSAR Wonju Array Be 46.26 278 P **P** 02 58 26.3 -0.5
ANMO Albuquerque 46.33 87 P **P** 02 58 27.2 -0.5
ANMO Albuquerque 46.33 87 P **P** 02 58 27.8 +0.1
baz=312
ANMO Albuquerque 46.33 87 *ce*P **P** 02 58 26.8 -0.8
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO Albuquerque 46.33 87 P **P** 02 58 26.9 -0.8
UPNV Upernavik 46.59 22 *e*P **P** 02 58 28.5 -0.5
UPNV IAmb IAmb 02 58 29.9
comp=Z,15nm,0.9s
ECSD EROS Data Cent 46.65 71 IAmb IAmb 02 58 32.0
comp=Z,11nm,1.3s
ECSD EROS Data Cent 46.65 71 P **P** 02 58 29.2 -0.6
baz=307,SNR=5.7
NRIK Noril'sk 46.74 332 P **P** 02 58 30.1 -0.1
comp=Z,3.9nm,0.6s,baz=66,slow=9.0,SNR=5.4
NRIK LR LR 03 21 00.6
comp=Z,557nm,19.2s,baz=65,slow=40
comp=Z,3.9nm,0.6s
NRIK Noril'sk 46.74 332 P **P** 02 58 29.6 -0.6
NRIK Noril'sk 46.74 332 *ce*P **P** 02 58 30.4 +0.2
NRIK pmax pmax
comp=Z,5.0nm,1.1s
121A Cookes Peak, D 47.15 90 P **P** 02 58 35.2 +1.1
baz=314
BGNE Belgrade 47.18 74 P **P** 02 58 34.2 +0.2
baz=309
TJN Taejon 47.27 277 *ce*P **P** 02 58 36.0 +1.3
CBKS Cedar Bluff 47.87 78 P **P** 02 58 40.6 +1.1
baz=310
SPMN Marine on St. 47.93 67 P **P** 02 58 39.3 -0.4
baz=307
N35A Tabor 48.99 73 P **P** 02 58 46.8 -1.3
XLT XiLinHaoTe 49.15 292 *e*P **P** 02 58 49.6 +0.3
XLT pP sP 02 59 02.3 +0.1
XLT sP pwP 02 59 07.1 +4.0
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,230nm,6.0s
XLT LR LR
comp=Z,530nm,17.2s
XLT LR LR
comp=Z,480nm,17.1s
MNTX Cornudas Mount 49.20 89 P **P** 02 58 49.7 0.0
MNTX IAmb IAmb 02 59 07.0
comp=Z,11nm,1.2s
MNTX Cornudas Mount 49.20 89 P **P** 02 58 51.2 +1.5
baz=314,SNR=12
MSTX Muleshoe 49.23 85 IAmb IAmb 02 59 02.7
comp=Z,17nm,1.1s
MSTX Muleshoe 49.23 85 P **P** 02 58 50.6 +0.6
baz=313,SNR=11
AMTX Amarillo 49.28 83 IAmb IAmb 02 58 59.3
comp=Z,9.6nm,0.9s
AMTX Amarillo 49.28 83 P **P** 02 58 50.5 +0.1
baz=313
KSU1 Kansas State U 49.55 76 P **P** 02 58 52.0 -0.3
baz=311
DAG Danmarks Havn 49.58 9 *i*P **P** 02 58 51.0 -0.9
DAG IAmb IAmb 02 58 52.1
comp=Z,18nm,0.8s
SPITS Spitsbergen Ar 49.60 359 LR LR 03 21 08.8
comp=Z,409nm,18.9s,baz=312,slow=38
SCIA State Center 49.74 71 P **P** 02 58 53.5 -0.3
baz=310
N38A Joes South For 50.44 72 P **P** 02 58 57.4 -1.7
N38A IAmb IAmb 02 58 59.4
comp=Z,16nm,0.9s
SUMG Summit 50.45 18 *i*P **P** 02 58 59.0 -0.1
SUMG IAmb IAmb 02 59 00.3
comp=Z,29nm,0.8s
L40A Anamosa 50.79 69 IAmb IAmb 02 59 03.8
comp=Z,9.8nm,0.9s
JFWS Jewell Farm 50.80 68 P **P** 02 59 00.7 -1.0
baz=310
P38A Dawn 51.02 73 IAmb IAmb 02 59 21.1
comp=Z,10nm,0.9s
WMOK Wichita Mounta 51.14 81 IAmb IAmb 02 59 13.6
comp=Z,11nm,0.8s
WMOK Wichita Mounta 51.14 81 P **P** 02 59 05.0 +0.7
baz=313,SNR=6.8
OK033 Mehan 51.37 79 IAmb IAmb 02 59 14.3
comp=Z,12nm,0.6s
OK053 SW of W Deep R 51.48 79 P **P** 02 59 05.6 -1.3
OK053 IAmb IAmb 02 59 25.6
comp=Z,13nm,1.1s
BJI Beijing 51.55 288 P **P** 02 59 07.8 +0.5
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJT Baijiatuau 51.57 288 P **P** 02 59 06.6 -0.9
BJT IAmb IAmb 02 59 08.3
comp=Z,6.9nm,0.8s
BJT Baijiatuau 51.57 288 P **P** 02 59 07.9 +0.4
ULN Ulaanbaatar 51.61 301 P **P** 02 59 07.2 -0.7
ULN IAmb IAmb 02 59 08.9
comp=Z,12nm,0.8s
ULN Ulaanbaatar 51.61 301 *ce*P **P** 02 59 07.8 -0.1
ULN pmax pmax
comp=Z,11nm,0.7s
ULN Ulaanbaatar 51.61 301 P **P** 02 59 07.7 -0.2
ULN pP **sP** 02 59 19.8 -1.1
DBG Daneborg 51.67 11 *e*P **P** 02 59 06.4 -1.4
DBG IAmb IAmb 02 59 07.8
comp=Z,23nm,0.8s
TX31 Lajitas Ar. Si 51.91 90 P **P** 02 59 10.3 0.0
SFJD Kangerlussuaq 51.92 26 *e*P **P** 02 59 09.9 +0.2
SFJD Kangerlussuaq 51.92 26 P **P** 02 59 09.8 0.0
SFJD pP **sP** 02 59 21.2 -1.4
ZAK Zakamensk 51.95 306 *e*P **P** 02 59 09.3 -1.0
ZAK pmax pmax
comp=Z,6.0nm,1.7s
SONM Songino Array 51.97 301 P **P** 02 59 10.6 0.0
comp=Z,4.4nm,0.5s,baz=64,slow=5.5,SNR=46
SONM PcP **PcP** 03 00 23.2 +0.6
comp=Z,1.6nm,0.6s,baz=63,slow=2.2,SNR=3.9
SONM LR LR 03 23 44.6
comp=Z,356nm,20.3s,baz=27,slow=39
comp=Z,4.4nm,0.5s
SONM Songino Array 51.97 301 P **P** 02 59 09.6 -1.0
SONM IAmb IAmb 02 59 12.0
comp=Z,8.0nm,0.8s
ABTX Abilene, Hawle 52.06 84 P **P** 02 59 11.3 +0.1
baz=314
TUL1 Leonard 52.15 78 P **P** 02 59 11.5 -0.3
baz=313
MOY Mondy 52.26 308 *e*P **P** 02 59 12.4 -0.2
MOY pmax pmax
comp=Z,27nm,2.5s
L44A Lake County Fo 52.60 67 P **P** 02 59 14.1 -1.0
baz=311
U38A Gravette 52.63 77 IAmb IAmb 02 59 29.0
comp=Z,9.3nm,1.1s
R40A Maddies Statio 52.64 74 IAmb IAmb 02 59 30.3
comp=Z,7.4nm,0.6s
HDIL Hopedale 52.87 70 IAmb IAmb 02 59 17.3
comp=Z,16nm,0.8s
HDIL Hopedale 52.87 70 P **P** 02 59 16.2 -1.0
baz=311
ICESG Greenland Ices 52.99 21 *e*P **P** 02 59 16.3 -1.7
ICESG IAmb IAmb 02 59 19.0
comp=Z,30nm,0.9s
X37A Clayton 53.30 79 IAmb IAmb 02 59 29.1
comp=Z,7.7nm,0.7s
P43A Skaggs, Pawnee 53.35 71 IAmb IAmb 02 59 20.7
comp=Z,11nm,0.8s
CCM Cathedral Cave 53.40 73 P **P** 02 59 20.1 -1.0
baz=312
CCM Cathedral Cave 53.40 73 P **P** 02 59 19.3 -1.8
CCM pP **pP** 02 59 31.2 +1.0
CCM sP **pwP** 02 59 36.2 +0.6
MGMO Mountain Grove 53.40 75 IAmb IAmb 03 00 28.5
comp=Z,6.0nm,0.7s
JCT Junction City 53.46 86 P **P** 02 59 20.8 -0.9
JCT IAmb IAmb 02 59 37.6
comp=Z,22nm,1.2s
JCT Junction City 53.46 86 P **P** 02 59 20.6 -1.0
baz=315
DY2G Dye2 53.47 25 *e*P **P** 02 59 22.3 +0.8
TIA Tai'an 53.54 284 *e*P **P** 02 59 22.1 0.0
TIA pmax pmax
comp=Z,17nm,0.7s
HHC Hu-ho-hao-te 53.67 292 *e*P **P** 02 59 24.0 +0.8
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,230nm,4.7s
HHC LR LR
comp=Z,780nm,14.6s
HHC LR LR
comp=Z,780nm,15.9s
HHC LR LR
comp=Z,1μm,17.2s
WHTX Lake Whitney, 53.83 83 P **P** 02 59 24.0 -0.3
baz=315
HNS HongShan 54.16 287 ⇑P **P** 02 59 27.8 +1.2
HNS pP **pwP** 02 59 40.8 +0.2
HNS *e*S **S** 03 06 58.8 -2.1
HNS pmax pmax
comp=Z,60nm,0.8s
HNS LR LR
comp=Z,260nm,17.5s
HNS LR LR
comp=Z,470nm,23.1s
HNS LR LR
comp=Z,480nm,19.1s
SFIN Lafayette 54.24 68 P **P** 02 59 26.7 -0.5
baz=312
FCAR Ozark Folk Cen 54.35 76 IAmb IAmb 02 59 40.4
comp=Z,14nm,1.1s
MIAR Mount Ida 54.40 78 IAmb IAmb 02 59 47.4
comp=Z,12nm,1.1s
MIAR Mount Ida 54.40 78 P **P** 02 59 27.3 -1.1
baz=314
435B Jarrell 54.60 84 IAmb IAmb 02 59 36.4
comp=Z,16nm,0.9s
435B Jarrell 54.60 84 P **P** 02 59 30.4 +0.5
baz=315
BTO Baotou 54.71 293 *e*P **P** 02 59 31.0 +0.3
BTO LR LR
comp=Z,2μm,18.8s
BTO LR LR
comp=Z,3μm,16.1s
OLIL Olney 54.77 70 IAmb IAmb 02 59 31.3
comp=Z,13nm,0.8s
SCHQ Schefferville 54.79 44 P **P** 02 59 32.0 +1.1
comp=Z,6.9nm,1.0s,baz=322,slow=12,SNR=4.3
comp=Z,6.9nm,1.0s
AAM Ann Arbor 54.89 64 P **P** 02 59 30.8 -1.1
baz=312
SCO Scoresbysund 54.95 13 *e*P **P** 02 59 32.3 +0.4
SCO IAmb IAmb 02 59 32.9
comp=Z,15nm,0.8s
833A Chaparral WMA, 55.24 88 IAmb IAmb 02 59 47.2
comp=Z,19nm,0.9s
833A Chaparral WMA, 55.24 88 P **P** 02 59 35.6 +1.0
baz=316
WLAR White Oak Lake 55.27 78 P **P** 02 59 33.7 -1.1
O48B Farmland 55.43 67 P **P** 02 59 34.4 -1.4
baz=313,SNR=6.6
NATX Nacogdoches 55.68 81 P **P** 02 59 36.7 -1.0
baz=315
JMIC Jan Mayen 55.99 8 LR LR 03 22 54.1
comp=Z,205nm,21.9s,baz=226,slow=35
WCI Wyandotte Cave 56.16 70 P **P** 02 59 40.1 -0.9
baz=313
WCI Wyandotte Cave 56.16 70 P **P** 02 59 39.9 -1.2
WCI pP **pP** 02 59 51.8 +1.5
WCI sP **pwP** 02 59 56.3 +0.7
P49A Miami Univ. Ec 56.16 68 P **P** 02 59 40.0 -1.0
baz=313
T47A Sharon Grove 56.54 71 IAmb IAmb 03 00 00.8
comp=Z,17nm,1.1s
ACSO Alum Creek Sta 56.66 66 P **P** 02 59 42.7 -1.9
baz=313
WVT Waverly 56.71 73 P **P** 02 59 43.0 -1.9
WVT IAmb IAmb 02 59 58.5
comp=Z,9.0nm,1.0s
WVT Waverly 56.71 73 P **P** 02 59 44.5 -0.4
baz=314
WVT Waverly 56.71 73 P **P** 02 59 44.6 -0.4
OXF Oxford 56.90 75 P **P** 02 59 45.7 -0.7
baz=314,SNR=6.3
ERPA Erie 57.02 62 P **P** 02 59 46.8 -0.3
baz=313
VADS Vadso 57.08 353 *e*P **P** 02 59 47.6 +0.5
M53A WI Miller and 57.11 63 P **P** 02 59 47.5 -0.3
baz=314
R50A Paris 57.24 68 IAmb IAmb 02 59 49.0
comp=Z,6.3nm,0.8s
Q51A Peebles 57.29 67 IAmb IAmb 03 00 02.1
comp=Z,10nm,0.9s
PLAL Pickwick Lake 57.36 74 IAmb IAmb 03 00 06.8
comp=Z,10nm,1.1s
LYN LuoYang 57.43 286 ⇑*i*P **P** 02 59 50.9 +0.8
LYN pmax pmax
comp=Z,20nm,0.9s
LYN LR LR
comp=Z,250nm,12.4s
LYN LR LR
comp=Z,250nm,12.4s
LYN LR LR
comp=Z,370nm,15.4s
KEV Kevo 57.61 354 P **P** 02 59 50.5 -0.3
CLTN Cedars of Leba 57.61 72 IAmb IAmb 03 00 01.8
comp=Z,8.1nm,1.0s
O53A New Philadelph 57.64 65 P **P** 02 59 49.7 -1.8
baz=314
T50A Nancy 57.83 70 IAmb IAmb 02 59 52.7
comp=Z,6.5nm,0.9s
VBMS Vicksburg 57.85 78 P **P** 02 59 53.2 +0.1
baz=315
ARA0 ARCESS Array S 57.92 354 *e*P **P** 02 59 53.2 +0.2
ARA0 IAmb IAmb 02 59 53.8
comp=Z,14nm,0.8s
ARCES ARCESS Array B 57.92 354 P **P** 02 59 52.8 -0.2
comp=Z,11nm,0.7s,baz=14,slow=6.2,SNR=29
ARCES LR LR 03 26 48.5
comp=Z,231nm,18.6s,baz=276,slow=38
comp=Z,11nm,0.7s
ARCES ARCESS Array B 57.92 354 P **P** 02 59 52.2 -0.8
ZAA0 Zalesovo Array 57.92 318 P **P** 02 59 52.1 -1.2
ZAA0 IAmb IAmb 02 59 54.1
comp=Z,14nm,1.8s
ZALV Zalesovo Beam 57.92 318 P **P** 02 59 52.6 -0.7
comp=Z,2.7nm,0.6s,baz=34,slow=6.5,SNR=9.3
ZALV LR LR 03 26 13.9
comp=Z,382nm,19.2s,baz=50,slow=38
comp=Z,2.7nm,0.6s
ZALV Zalesovo Beam 57.92 318 *i*P **P** 02 59 53.2 -0.1
ZALV pmax pmax
comp=Z,2.0nm,0.6s
TRO Tromso 58.12 357 *e*P **P** 02 59 55.2 +0.8
TRO IAmb IAmb 03 00 01.9
comp=Z,72nm,1.5s
JETT Jettan, Norway 58.14 357 *e*P **P** 02 59 55.3 +0.7
JETT IAmb IAmb 02 59 55.5
comp=Z,25nm,0.8s
LONY Lake Ozonia 58.16 57 IAmb IAmb 02 59 55.6
comp=Z,12nm,0.9s
LONY Lake Ozonia 58.16 57 P **P** 02 59 53.7 -1.4
baz=314
KTK1 Kautokeino 58.56 355 *e*P **P** 02 59 57.7 +0.1
KTK1 IAmb IAmb 02 59 58.4
comp=Z,34nm,1.4s
LVZ Lovozero 58.77 350 P **P** 02 59 57.8 -1.3
LVZ Lovozero 58.77 350 *ce*P **P** 02 59 59.5 +0.4
LVZ pmax pmax
comp=Z,93nm,2.5s
LVZ Lovozero 58.77 350 P **P** 02 59 58.6 -0.5
LVZ pP **sP** 03 00 10.7 -1.4
MCWV Mont Chateau 58.80 64 P **P** 02 59 57.7 -2.0
baz=315
W50A Signal Mountai 58.82 72 IAmb IAmb 03 01 05.7
comp=Z,5.9nm,0.6s
TZTN Tazewell 58.90 69 P **P** 02 59 59.9 -0.4
baz=315
J59A Piesco 59.00 58 IAmb IAmb 03 00 01.8
comp=Z,8.5nm,0.7s
BINY Binghamton 59.11 60 P **P** 03 00 00.5 -1.3
baz=315
FPAL Fort Paine 59.11 72 IAmb IAmb 03 00 14.4
comp=Z,17nm,1.1s
SSPA Standing Stone 59.19 62 P **P** 03 00 01.7 -0.6
SSPA IAmb IAmb 03 00 02.6
comp=Z,12nm,0.9s
SSPA Standing Stone 59.19 62 P **P** 03 00 01.8 -0.5
baz=315
SSPA Standing Stone 59.19 62 P **P** 03 00 02.1 -0.2
SSPA pP **sP** 03 00 13.8 -1.4
LRAL Lakeview Retre 59.37 75 P **P** 03 00 03.2 -0.4
baz=316
XAN Xi'an 59.87 288 P **P** 03 00 07.3 +0.1
XAN pP sP 03 00 20.3 0.0
XAN S **S** 03 08 21.9 +5.5
XAN pmax pmax
comp=Z,26nm,0.8s
XAN pmax pmax
comp=Z,210nm,5.8s
XAN LR LR
comp=Z,340nm,19.9s
XAN LR LR
comp=Z,640nm,15.8s
XAN LR LR
comp=Z,590nm,17.3s
XAN Xi'an 59.87 288 P **P** 03 00 07.6 +0.4
XAN pP **sP** 03 00 20.4 +0.1
DGZ Jazzator, Alta 59.90 313 *i*P **P** 03 00 07.2 -0.1
DGZ pmax pmax
comp=Z,10.0nm,0.7s
STEI Steigen 59.91 359 *e*P **P** 03 00 06.6 -0.2
STEI IAmb IAmb 03 00 07.3
comp=Z,14nm,0.9s
BLA Blacksburg 60.20 67 P **P** 03 00 08.4 -1.0
BLA Blacksburg 60.20 67 P **P** 03 00 09.6 +0.2
baz=316,SNR=5.8
BORG Borgarnes 60.32 16 LR LR 03 30 02.5
comp=Z,315nm,18.4s,baz=271,slow=40
FAUS Fauske 60.46 359 *e*P **P** 03 00 09.8 -0.8
FAUS IAmb IAmb 03 00 11.3
comp=Z,10nm,0.8s
BRAL Brewton 60.67 76 P **P** 03 00 12.8 +0.2
baz=316
KMSC Kings Mountain 61.16 69 P **P** 03 00 15.5 -0.4
baz=316
GTA Gaotai 61.18 298 *e*P **P** 03 00 16.1 0.0
GTA pmax pmax
comp=Z,18nm,0.8s
GTA pmax pmax
comp=Z,110nm,4.0s
GTA LR LR
comp=Z,200nm,17.1s
GTA LR LR
comp=Z,400nm,17.8s
GTA LR LR
comp=Z,470nm,18.9s
CBN Corbin Frederi 61.19 64 P **P** 03 00 15.3 -0.7
baz=316
LZH Lanzhou 61.33 293 ⇑P **P** 03 00 18.1 +0.9
LZH pP sP 03 00 29.4 -0.9
LZH pmax pmax
comp=Z,11nm,1.5s
LZH pmax pmax
comp=Z,160nm,5.8s
LZH LR LR
comp=Z,680nm,16.1s
LZH LR LR
comp=Z,400nm,15.5s
LZH LR LR
comp=Z,650nm,16.2s
MOR8 Moi Rana 61.68 359 *e*P **P** 03 00 17.7 -1.3
352A Blakely 61.70 74 P **P** 03 00 17.7 -1.8
T59A Double "B" Far 61.98 65 P **P** 03 00 20.8 -0.5
T59A IAmb IAmb 03 00 22.5
comp=Z,13nm,1.0s
ADZR Andozero 62.15 347 *e*P **P** 03 00 20.3 -1.8
ADZR *e* 03 00 58.0
ADZR pmax pmax
comp=Z,20nm,0.8s
KURK Kurchatov 62.86 319 P **P** 03 00 26.1 -0.9
KURK IAmb IAmb 03 00 28.2
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 62.97 319 LR LR 03 29 17.7
comp=Z,484nm,19.9s,baz=66,slow=38
NHSC New Hope 63.29 70 P **P** 03 00 29.8 -0.3
baz=317
NSS Namsos 63.35 0 *e*P **P** 03 00 30.3 +0.3
SVE Sverdlovsk 64.00 333 *e*P **P** 03 00 35.3 +0.8
SVE pmax pmax
comp=Z,20nm,0.9s
BVAR Borovoye Array 64.11 325 LR LR 03 31 35.8
comp=Z,595nm,18.1s,baz=25,slow=39
BRVK Borovoye 64.12 325 P **P** 03 00 34.0 -1.4
BRVK IAmb IAmb 03 00 36.7
comp=Z,13nm,0.8s
BRVK Borovoye 64.12 325 *ce*P **P** 03 00 35.5 +0.1
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 64.12 325 P **P** 03 00 35.5 +0.1
BRVK pP **sP** 03 00 47.9 -0.5
WMQ Urumqi 64.13 309 *e*P **P** 03 00 36.3 +0.6
WMQ pP sP 03 00 49.1 +0.3
WMQ sP pwP 03 00 54.5 +4.4
WMQ ScP 03 05 10.5
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,790nm,18.3s
WMQ LR LR
comp=Z,470nm,17.1s
WMQ LR LR
comp=Z,290nm,18.3s
MK31 Makanchi Array 64.35 314 *i*P **P** 03 00 36.5 -0.5
MKAR Makanchi Array 64.35 314 P **P** 03 00 36.2 -0.8
comp=Z,3.9nm,0.7s,baz=49,slow=6.2,SNR=37
MKAR LR LR 03 29 47.6
comp=Z,370nm,18.7s,baz=58,slow=37
comp=Z,3.9nm,0.7s
MKAR Makanchi Array 64.35 314 P **P** 03 00 35.5 -1.4
MKAR Makanchi Array 64.35 314 *ce*P **P** 03 00 36.5 -0.5
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 64.48 314 P **P** 03 00 36.2 -1.6
MAKZ Makanchi 64.48 314 P **P** 03 00 36.9 -0.9
TBLU Trondheim 64.62 1 *e* **P** 03 00 37.9 -0.6
KLMR Klimovskoe 64.91 346 *e*P **P** 03 00 38.8 -1.6
KLMR AMP 03 00 40.9
comp=Z,24nm,1.2s
KLMR LR LR 03 24 15.2
KLMR AMP 03 33 46.2

comp=Z,517nm,17.4s
KLMR Klimovskoe 64.91 346 *e*P **P** **03 00 38.7 -1.6**
KLMR pmax pmax
comp=Z,24nm,1.2s
KLMR MLR MLR
comp=Z,517nm,17.0s
ARU Arti 64.92 334 LR LR 03 33 44.2
comp=Z,199nm,18.5s,baz=56,slow=40
ARU Arti 64.92 334 P **P** **03 00 39.4 -1.1**
ARU Arti 64.92 334*c i*P **P** **03 00 40.6 +0.1**
ARU S **S** **03 09 20.5 +1.4**
ARU SS **SS** **03 13 28.6 -1.4**
ARU pmax pmax
comp=Z,27nm,1.1s
ARU Arti 64.92 334 P **P** **03 00 40.3 -0.1**
KIRV Kirov 65.22 339*ce*P **P** **03 00 42.6 +0.3**
MOL Molde 65.26 2 *e* **P** **03 00 42.9 +0.4**
TAOE Nuku Hiva Isla 65.56 150 *e*LR LR 03 20 33.8
comp=Z,161nm,22.2s
TAOE Nuku Hiva Isla 65.56 150 P **P** **03 00 43.8 -1.4**
AKN Aaknes 65.64 3 *e*P **P** **03 00 45.7 +0.6**
AKN IAmb IAmb 03 00 46.2
comp=Z,32nm,0.8s
DOMB Dombas 65.82 2 *e*P **P** **03 00 46.3 0.0**
DOMB IAmb IAmb 03 00 46.7
comp=Z,24nm,0.7s
FINES FINESS Array B 65.89 353 P **P** **03 00 46.4 -0.2**
comp=Z,27nm,0.7s,baz=22,slow=7.5,SNR=168
FINES LR LR 03 31 48.7
comp=Z,318nm,18.6s,baz=284,slow=38
comp=Z,27nm,0.7s
FINES FINESS Array B 65.89 353 P **P** **03 00 45.4 -1.3**
FINES FINESS Array B 65.89 353 *i*P **P** **03 00 46.5 -0.2**
FINES pmax pmax
comp=Z,28nm,0.7s
AFI Afiamalu 66.17 184 LR LR 03 29 29.8
comp=Z,87nm,18.8s,baz=274,slow=36
GOMU GeErMu 66.22 299 P **P** **03 00 50.0 +0.3**
GOMU S **S** **03 09 32.5 -4.0**
GOMU pmax pmax
comp=Z,27nm,0.9s
GOMU pmax pmax
comp=Z,61nm,4.8s
GOMU LR LR
comp=Z,140nm,11.5s
GOMU LR LR
comp=Z,310nm,10.8s
GOMU LR LR
comp=Z,240nm,10.1s
RAF Rauma 66.60 355 *e*P **P** **03 00 51.4 +0.2**
NC204 NORSAR Array S 66.61 1 P **P** **03 00 51.1 -0.3**
GYA Guiyang 66.73 283 ⇑P **P** **03 00 53.4 +0.6**
GYA pP sP 03 01 06.1 +0.2
GYA pmax pmax
comp=Z,19nm,0.8s
NC405 NORSAR Array S 66.78 0 P **P** **03 00 51.0 -1.4**
NB2 NORSAR Subarra 66.85 0 P **P** **03 00 52.3 -0.6**
comp=Z,9.2nm,0.7s,baz=1.1,slow=6.9
NB2 NORSAR Subarra 66.85 0 P **P** **03 00 52.3 -0.6**
slow=6.9
NOA NORSAR Array B 66.85 0 P **P** **03 00 52.2 -0.6**
comp=Z,8.2nm,0.7s,baz=0.3,slow=6.3,SNR=43
NOA LR LR 03 30 09.5
comp=Z,99nm,19.4s,baz=230,slow=36
comp=Z,8.2nm,0.7s
NC602 NORSAR Array S 67.16 0 *e* **P** **03 00 54.9 +0.2**
SKAR Skarslia 67.17 2 *e*P **P** **03 00 55.4 +0.4**
SKAR IAmb IAmb 03 00 56.2
comp=Z,16nm,0.7s
MEF Metsahovi 67.23 353 *e*P **P** **03 00 55.8 +0.5**
HNR Honiara 67.48 215 LR LR 03 25 22.0
comp=Z,789nm,19.5s,baz=288,slow=31
ODD1 Odda 67.90 3 *e*P **P** **03 00 59.9 +0.4**
KONO Kongsberg 68.23 1 P **P** **03 01 01.0 -0.5**
KONO Kongsberg 68.23 1 *e*P **P** **03 01 02.2 +0.7**
KONO Kongsberg 68.23 1 P **P** **03 01 02.0 +0.5**
BLS5 Blasjo 68.38 3 *e*P **P** **03 01 02.9 +0.4**
KMY Karmoy 68.55 4 *e* **P** **03 01 04.4 +0.9**
MTSE Matsula 68.77 353 *e*P **P** **03 01 05.6 +0.7**
VSU Vasula 68.79 352 *i*P **P** **03 01 05.3 +0.3**
VSU pmax pmax
comp=Z,72nm,0.8s
VSU Vasula 68.79 352 *e*P **P** **03 01 05.8 +0.8**
STRU Stroemstad 68.86 0 *e*P **P** **03 01 05.8 +0.3**
SNART Snartemo 69.49 3 *e*P **P** **03 01 10.2 +0.8**
SNART Snartemo 69.49 3 *e* **P** **03 01 10.2 +0.8**
HOMB Homborsund 69.59 2 *e*P **P** **03 01 10.8 +0.7**
PZH PanZhiHua 69.60 287 P **P** **03 01 11.8 +1.0**
PZH pP **sP** **03 01 22.3 -1.6**
PZH sP **pwP** **03 01 28.8 +3.9**
PZH S **S** **03 10 20.8 +4.3**
PZH sS **sS** **03 10 31.9 -0.5**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,180nm,11.5s
PZH LR LR
comp=Z,200nm,16.1s
PZH LR LR
comp=Z,210nm,15.9s
PZH LR LR
comp=Z,210nm,18.0s
SLIT Slitere, Latvi 69.95 354 *e*P **P** **03 01 12.8 +0.6**
KMI Kunming 70.06 285 ⇓P **P** **03 01 14.9 +1.2**
KMI pP sP 03 01 26.8 -0.1
KMI pmax pmax
comp=Z,14nm,1.3s
KMI LR LR
comp=Z,200nm,11.0s
KMI LR LR
comp=Z,230nm,12.4s
KMI LR LR
comp=Z,250nm,20.7s
MOS Moscow 70.11 345 *e*P **P** **03 01 11.7 -1.5**
MOS *e* 03 01 23.4
MOS pmax pmax
comp=Z,30nm,0.9s
WUS Wushi 70.11 312 P **P** **03 01 14.4 +0.6**
WUS sP **PcP** **03 01 32.2 -3.4**
DAV Davao City (W) 70.15 255 LR LR 03 27 42.0
comp=Z,353nm,21.7s,baz=20,slow=32
BORU Boraas 70.27 360 *e*P **P** **03 01 14.3 +0.2**
USP Ospenovka 70.50 317 P **P** **03 01 16.7 +0.8**
SNR=9.5
ONAU Onsala 70.51 0 *i*P **P** **03 01 15.8 +0.1**
ABKAR Akbulak array 70.80 329 P **P** **03 01 17.7 +0.1**
KBK Karagaybulak 70.81 316 P **P** **03 01 18.8 +0.8**
SNR=5.7
OBN Obninsk 70.88 345 LR LR 03 37 02.5
comp=Z,44nm,18.1s,baz=266,slow=40
OBN Obninsk 70.88 345 *e*P **P** **03 01 17.6 -0.3**
OBN *e* 03 01 37.4
OBN *e* 03 03 50.4
OBN *e*PPP PPP 03 05 35.5
OBN pmax pmax
comp=Z,24nm,0.8s
FABU Falkenberg 70.90 360 *i*P **P** **03 01 18.2 +0.2**
MSVF Nonsavu 70.94 194 LR LR 03 34 20.8
comp=Z,94nm,18.1s,baz=49,slow=38
AAK Ala-Archa 71.02 316 P **P** **03 01 20.1 +0.8**
SNR=5.3
AAK Ala-Archa 71.02 316 LR LR 03 35 37.2
comp=Z,266nm,18.6s,baz=26,slow=39
AAK Ala-Archa 71.02 316 P **P** **03 01 18.6 -0.7**
AAK IAmb IAmb 03 01 24.6
comp=Z,8.7nm,0.7s
AAK Ala-Archa 71.02 316*ce*P **P** **03 01 19.8 +0.5**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 71.02 316 P **P** **03 01 20.0 +0.8**
EKS2 Erkin-Say 71.30 317 P **P** **03 01 21.8 +0.8**
SNR=6.2
BELG Belogornoye 71.33 338 LR LR 03 38 05.2
comp=Z,247nm,18.1s,baz=344,slow=40
BELG Belogornoye 71.33 338⇓ *e*P **P** **03 01 21.4 +0.7**
BELG pmax pmax
comp=Z,5.0nm,0.9s
DEL Delary 71.42 359 *i*P **P** **03 01 21.6 +0.4**
MUD Monsted U'grnd 71.42 2 *i*P **P** **03 01 22.2 +1.0**
MUD IAmb IAmb 03 01 22.8
comp=Z,13nm,0.8s
VSVD Vaisvydziai 71.48 353 *e*P **P** **03 01 22.4 +0.9**
PPT Papeete 71.55 161 LR LR 03 25 11.7
comp=Z,102nm,21.0s,baz=222,slow=30
BLEU Blekinge 71.56 358 *e*P **P** **03 01 22.2 +0.2**

PPT2 Papeete2 71.57 161 *e*LR LR 03 23 02.6
comp=Z,153nm,51.2s
PPT2 *e*LR LR 03 23 20.6
comp=Z,160nm,22.8s
ISAL Salakas 71.70 352 *e*P **P** **03 01 24.4 +1.5**
AML Almayashu 71.77 316 P **P** **03 01 25.2 +1.1**
SNR=6.2
BJUU Bjuv 71.83 359 *i*P **P** **03 01 24.2 +0.6**
ESK Eskdalemuir 71.85 9 P **P** **03 01 24.6 +0.7**
IDID Didziasalis 71.90 351 *e*P P 03 01 15.7 -8.4
IIGN Ignalina 71.91 352 *e*P P 03 01 11.6 -13
PABE Paberze 71.95 353 *e*P **P** **03 01 25.3 +0.9**
KK31 Karatay Array 72.28 319 IAmb IAmb 03 01 27.8
comp=Z,12nm,0.8s
KKAR Karatay Array 72.28 319 P **P** **03 01 26.2 -0.4**
NACGM Naroch 72.30 351 *e*P **P** **03 01 26.7 +0.2**
comp=Z,19nm,0.9s,baz=10
PMG Port Moresby 72.56 227 LR LR 03 28 54.6
comp=Z,86nm,21.4s,baz=350,slow=32
MNK Minsk 72.59 350 *i*P **P** **03 01 28.2 -0.1**
comp=E,1.0nm,0.9s
MNK *i*P **P** **03 01 28.2 -0.1**
comp=N,35nm,0.9s
MNK *i*P **P** **03 01 28.2 -0.1**
comp=Z,25nm,0.9s,baz=10
MNK *i*PP **PP** **03 04 05.2 -3.9**
MNK *i*PPP PPP 03 05 50.9
MNK *i*S **S** **03 10 52.4 +2.3**
MNK *i*SS **SS** **03 15 32.8 +4.7**
MNK *i*SSS SSS 03 18 48.8
MNK *i*LQ LQ 03 28 35.7
MNK *i*LR LR 03 33 58.4
MNK *i*LRM MLR 03 35 51.4
MNK *i*LRM MLR 03 37 21.4
comp=E,20nm,11.8s
MNK *i*LRM MLR 03 37 21.4
comp=N,306nm,14.4s
MNK Minsk 72.59 350 *i*P **P** **03 01 28.1 -0.1**
MNK *i* 03 04 05.2
MNK *i*PPP PPP 03 05 50.9
MNK *i*S **S** **03 10 52.4 +2.3**
MNK *i*SS **SS** **03 15 32.8 +4.7**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,25nm,0.9s
MNK pmax pmax
comp=N,35nm,0.9s
MNK MLR MLR
comp=E,20nm,12.0s
MNK MLR MLR
comp=N,306nm,14.0s
TNCH TengChong 72.60 288 P **P** **03 01 27.0 -2.0**
TNCH pP sP 03 01 41.4 -0.8
TNCH sP PcP 03 01 45.3 -1.2
TNCH pmax pmax
comp=N,36nm,1.1s
TNCH pmax pmax
comp=N,110nm,6.0s
BSD Bornholm Skovb 72.77 358 *i*P **P** **03 01 30.0 +0.7**
LPSR Galich'ya Gora 72.90 343 *e*P **P** **03 01 29.0 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KSH Kashi 72.93 313 P **P** **03 01 34.8 +4.1**
KSH pP PcP 03 01 47.9 +0.3
KSH sP pwP 03 01 52.3 +7.1
KSH pmax pmax
comp=Z,24nm,0.8s
KSH LR LR
comp=Z,590nm,19.9s
KSH LR LR
comp=Z,740nm,20.6s
KSH LR LR
comp=Z,610nm,18.6s
LSA Lhasa 73.16 297 P **P** **03 01 33.2 +0.6**
TGUH Tegucigalpa,Un 73.34 89 P **P** **03 01 32.4 -1.0**
RAR Rarotonga 73.71 172 LR LR 03 27 22.0
comp=Z,79nm,20.1s,baz=220,slow=30
VRH Novokhopyorsk 73.71 341 *e*P **P** **03 01 33.9 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.6s
BSEG Bad Segeberg 73.97 1 *e*P **P** **03 01 37.4 +1.1**
comp=Z,16nm,1.1s,baz=360,slow=5.7
VSR Storozhevoye 74.19 343 *e*P **P** **03 01 36.2 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s
RETH Rethem/Aller, 75.15 2 *e*P **P** **03 01 44.2 +1.0**
comp=Z,17nm,1.1s,baz=360,slow=5.7
NRDL Niedersach Rie 75.41 1 *e*P **P** **03 01 45.5 +0.8**
comp=Z,14nm,1.1s,baz=360,slow=5.7
IBBN Ibbenburen 75.55 3 *e*P **P** **03 01 46.5 +1.0**
comp=Z,23nm,1.1s,baz=360,slow=5.7
FLTG Flechtingen 75.58 0 *e*P **P** **03 01 45.9 +0.2**
comp=Z,8.6nm,0.8s,baz=360,slow=5.7
CLZ Clausthal 76.06 1 *e*P **P** **03 01 49.7 +1.2**
comp=Z,16nm,0.9s,baz=360,slow=5.7
AKASG Malin Array Be 76.19 349 P **P** **03 01 48.7 -0.5**
comp=Z,6.8nm,0.6s,baz=16,slow=5.8,SNR=50
comp=Z,6.8nm,0.6s
AKBB Malin Array Si 76.19 349 IAmb IAmb 03 01 49.3
comp=Z,13nm,0.7s
AKBB Malin Array Si 76.19 349*ce*P **P** **03 01 48.9 -0.3**
AKBB pmax pmax
comp=Z,12nm,0.9s
GTTG Gottingen 76.36 1 *e*P **P** **03 01 51.2 +1.0**
comp=Z,17nm,0.8s,baz=360,slow=5.7
KKM Kota Kinabalu 76.58 262 P **P** **03 01 51.9 -0.2**
KKM IAmb IAmb 03 02 03.7
comp=Z,11nm,1.0s
CLL Collm 76.60 359 IAmb IAmb 03 01 52.7
comp=Z,6.7nm,0.8s
CLL Collm 76.60 359 *i*P **P** **03 01 51.8 +0.2**
comp=Z,9.0nm,0.9s
CLL *i*pP **sP** **03 02 04.2 -0.5**
comp=Z,23nm,1.6s
CLL *e*PP **PP** **03 04 43.0 -0.2**
CLL Lm MLR 09 23 00.0
comp=Z,100nm,19.3s
CLL Collm 76.60 359 *i*P **P** **03 01 51.8 +0.2**
CLL *i**PP **sP** **03 02 04.2 -0.5**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 76.60 359 *e*P **P** **03 01 52.0 +0.5**
comp=Z,8.7nm,0.9s,baz=360,slow=5.7
PHRA Phrae 76.62 283 P **P** **03 01 51.6 -0.6**
NEUB Neuenburg 76.71 0 *e*P **P** **03 01 53.2 +1.0**
comp=Z,16nm,1.0s,baz=360,slow=5.7
TAPN Taplejung 76.87 298 *e*P **P** **03 01 54.2 +0.3**
comp=Z,18nm,0.5s
FBE Freiberg 76.99 359 *e*P **P** **03 01 54.9 +1.2**
comp=Z,15nm,1.0s,baz=360,slow=5.7
KSP Ksiaz 77.01 357 *e*P **P** **03 01 54.7 +0.8**
BRG Berggiesshubel 77.03 359 *e*P **P** **03 01 55.1 +1.1**
BRG Amp 03 01 56.0
comp=Z,8.9nm,1.0s
BRG Berggiesshubel 77.03 359 P P 03 02 06.2 +12
BRG Amp 03 02 09.6
comp=Z,8.2nm,1.1s
BRG Berggiesshubel 77.03 359 *e*P **P** **03 01 55.1 +1.1**
BRG 03 02 06.2
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 77.03 359 *e*P **P** **03 01 54.7 +0.7**
comp=Z,8.9nm,1.0s,baz=360,slow=5.7
MEM Membach 77.18 4 *d*P **P** **03 01 55.8 +0.9**
MEM *dx* x 03 02 07.9
BSTI Sart Tilman 77.19 4 *d*P **P** **03 01 56.1 +1.3**
comp=Z,2.7nm,0.8s
SNF Seneffe 77.20 5 *d*P **P** **03 01 55.9 +1.0**
comp=Z,5.6nm,1.0s
TBI Tubuai 77.20 163 *e*LR LR 03 25 57.9
comp=Z,514nm,24.2s
BTNL Ternell 77.21 4 *d*P **P** **03 01 56.1 +1.1**
comp=Z,7.0nm,1.1s
MOX Moxa 77.27 0 *e*P **P** **03 01 56.3 +0.9**
comp=Z,9.4nm,0.9s,baz=360,slow=5.7
MOX *e*L L 03 32 45.9
comp=Z,190nm,18.2s
OSTC Ostas 77.30 357 *e*P **P** **03 01 56.0 +0.5**
OSTC *ep*P **sP** **03 02 09.0 +0.2**
BCLA Clavier 77.34 4 *d*P **P** **03 01 56.1 +0.4**
comp=Z,5.5nm,1.1s
BGES Gesves 77.36 5 *d*P **P** **03 01 56.6 +0.7**
comp=Z,4.8nm,1.2s

BGES *dx* x 03 02 10.1
PVCC Panska Ves 77.36 358 *e*P **P** **03 01 57.0 +1.1**
PVCC Panska Ves 77.36 358 *e*P **P** **03 01 57.0 +1.1**
CMAR Chiang Mai Arr 77.41 284 P **P** **03 01 57.5 +0.8**
comp=Z,6.3nm,0.8s,baz=25,slow=6.3,SNR=30
CMAR LR LR 03 39 14.6
comp=Z,138nm,19.3s,baz=30,slow=38
comp=Z,6.3nm,0.8s
BMRD Maredsous 77.43 5 *d*P **P** **03 01 56.9 +0.7**
BMRD *dx* x 03 02 07.7
JIRN Jiri 77.45 299 *e*P **P** **03 01 57.6 +0.4**
OJC Ojcow 77.48 355 *e*P **P** **03 01 57.4 +0.9**
OJC Ojcow 77.48 355 IAmb IAmb 03 01 58.7
comp=Z,22nm,1.4s
DZM Mont Dzumac 77.49 204 *e*LR LR 03 26 04.7
comp=Z,249nm,22.1s
DZM Mont Dzumac 77.49 204 LR LR 03 28 59.4
comp=Z,170nm,20.2s,baz=24,slow=30
DPC Dobruska-Polom 77.50 357 *e*P **P** **03 01 57.8 +1.1**
DPC *ep*P **sP** **03 02 09.2 -0.8**
DPC Dobruska-Polom 77.50 357 *e*P **P** **03 01 57.8 +1.1**
DPC *e**PP **sP** **03 02 09.2 -0.8**
LVV L'vov 77.59 352 *e*P **P** **03 01 59.5 +2.4**
RCHB Rochefort 77.60 4 *d*P **P** **03 01 57.9 +0.7**
RCHB *d*PcP **PcP** **03 02 08.6 +1.3**
WERN Wernitzgruen 77.63 360 *e*P **P** **03 01 58.7 +1.3**
comp=Z,11nm,1.0s,baz=360,slow=5.7
NKC Novy Kostel 77.68 360 *e*P **P** **03 01 58.8 +1.1**
NKC Novy Kostel 77.68 360 *e*P **P** **03 01 58.8 +1.1**
KRLC Kraliky 77.76 357 *e*P **P** **03 01 59.0 +0.8**
KRLC *ep*P **sP** **03 02 11.4 0.0**
KRLC Kraliky 77.76 357 *e*P **P** **03 01 59.0 +0.8**
KRLC *e**PP **sP** **03 02 11.4 0.0**
RAMN Ramite 77.79 298 *e*P **P** **03 01 59.2 +0.2**
PRU Pruhonice 77.91 358 *e*P **P** **03 01 59.8 +0.9**
PRU Pruhonice 77.91 358 *e*P **P** **03 01 59.8 +0.9**
PKI Pulchoki 77.94 300 *e*P **P** **03 01 59.7 -0.2**
PKIN Phulchoki 77.94 300 *e*P **P** **03 02 00.0 +0.2**
GKN Gorkha 78.00 300 *e*P **P** **03 02 00.0 0.0**
MORC Moravsky Berou 78.03 356 ⇑P **P** **03 02 00.4 +0.7**
MORC Moravsky Berou 78.03 356 IAmb IAmb 03 02 01.2
comp=Z,7.8nm,0.9s
MORC Moravsky Berou 78.03 356 *e*P **P** **03 02 00.6 +0.9**
MORC Moravsky Berou 78.03 356 P **P** **03 02 00.4 +0.7**
DMN Daman 78.06 300 *e*P **P** **03 02 00.9 +0.4**
WLF Walferdange 78.13 4 *d*P **P** **03 02 01.5 +1.3**
WLF *d*PcP **pP** **03 02 10.4 +0.7**
ROTZ Rotzenmuhle 78.15 360 *e*P **P** **03 02 01.6 +1.3**
comp=Z,5.7nm,1.6s,baz=360,slow=5.7
DANN Dangsing 78.18 301 *e*P **P** **03 02 01.5 +0.3**
comp=Z,35nm,0.4s
STHS Stebnicka Huta 78.20 354 *e*P **P** **03 02 01.2 +0.6**
STHS pmax pmax
comp=Z,10.0nm,1.0s
STHS Stebnicka Huta 78.20 354 *e*P **P** **03 02 01.2 +0.6**
GRF Grafenberg Arr 78.22 1 *e*L L 03 37 41.0
comp=Z,182nm,18.7s
NIE Niedzica 78.25 354 *e*P **P** **03 02 02.4 +1.4**
BRDH Bariadhala 78.37 292 LR LR 03 40 41.2
comp=Z,297nm,18.2s,baz=12,slow=39
VRAC Vranov 78.53 357 LR LR 03 39 17.7
comp=Z,67nm,18.4s,baz=354,slow=38
VRAC Vranov 78.53 357 ⇑P **P** **03 02 03.4 +1.0**
VRAC Vranov 78.53 357 *e*P **P** **03 02 03.6 +1.2**
VRAC Vranov 78.53 357 P **P** **03 02 04.5 +2.1**
LANS Liptovska Anna 78.57 355 *e*P **P** **03 02 04.7 +2.0**
LANS pmax pmax
comp=Z,10.0nm,1.1s
LANS Liptovska Anna 78.57 355 *e*P **P** **03 02 04.7 +2.0**
TREC Trest 78.58 358 *e*P **P** **03 02 03.6 +0.9**
TREC Trest 78.58 358 *e*P **P** **03 02 03.6 +0.9**
KHC Kasperske Hory 78.78 359 IAmb IAmb 03 02 06.6
comp=Z,29nm,1.5s
KHC Kasperske Hory 78.78 359 *e*P **P** **03 02 04.8 +1.0**
KHC *ep*P **pP** **03 02 14.7 +1.2**
KHC Kasperske Hory 78.78 359 *e*P **P** **03 02 04.8 +1.0**
KHC *e**PP **pP** **03 02 14.7 +1.2**
KRUC Moravsky 78.79 357 *e*P **P** **03 02 04.5 +0.7**
SORM Soroca 78.82 349 ⇑P **P** **03 02 03.3 -0.7**
SORM Soroca 78.82 349 P **P** **03 02 03.2 -0.7**
UZH Uzhgorod 78.91 353 *e*P **P** **03 02 04.0 -0.4**
UZH *e* 03 02 13.8
JAVC Velka Javorina 78.94 356 *e*P **P** **03 02 06.8 +2.1**
GERES GERESS Array B 79.06 359 P **P** **03 02 05.9 +0.4**
comp=Z,2.5nm,0.8s,baz=20,slow=4.3,SNR=18
comp=Z,2.5nm,0.8s
CKRC Cesky Krumlov 79.08 358 *e*P **P** **03 02 07.4 +2.0**
VYHS Vyhne 79.26 355 *e*P **P** **03 02 07.6 +1.2**
VYHS pmax pmax
comp=Z,21nm,1.2s
VYHS Vyhne 79.26 355 *e*P **P** **03 02 07.6 +1.2**
SMOL Smolenice 79.30 356 *e*P **P** **03 02 08.0 +1.4**
SMOL pmax pmax
comp=Z,8.0nm,1.2s
TRPA Tarpa 79.39 353 ⇑P **P** **03 02 08.2 +1.1**
MODS Modra-Piesok 79.44 356 *e*P **P** **03 02 08.9 +1.5**
MODS pmax pmax
comp=Z,70nm,1.4s
MODS Modra-Piesok 79.44 356 *e*P **P** **03 02 08.9 +1.5**
BFO Black Forest 79.54 2 *e*P **P** **03 02 08.9 +0.9**
comp=Z,17nm,1.4s,baz=360,slow=5.7
CLF Chambon-Foret 79.55 7 P **P** **03 02 06.9 -1.0**
ECH Echery 79.62 3 IAmb IAmb 03 02 10.5
comp=Z,16nm,1.2s
ZST Bratislava 79.63 357 *e*P **P** **03 02 10.3 +1.9**
ZST pmax pmax
comp=Z,66nm,1.3s
ZST Bratislava 79.63 357 *e*P **P** **03 02 10.3 +1.9**
BURAR Bucovina Array 79.67 351 ⇑P **P** **03 02 09.0 +0.3**
BURAR Bucovina Array 79.67 351 P **P** **03 02 08.1 -0.7**
BURAR Bucovina Array 79.67 351 P **P** **03 02 09.0 +0.3**
PSZ Piszkesteto 79.77 355 ⇑P **P** **03 02 10.7 +1.3**
PSZ Piszkesteto 79.77 355 IAmb IAmb 03 02 12.1
comp=Z,30nm,1.4s
PSZ Piszkesteto 79.77 355 P **P** **03 02 10.6 +1.3**
CONA Conrad Observa 79.94 357 *i*P **P** **03 02 11.7 +1.5**
comp=Z,15nm,1.1s
SRO Srobarova 79.96 356 *e*P **P** **03 02 12.2 +2.0**
SRO pmax pmax
comp=Z,18nm,1.3s
SRO Srobarova 79.96 356 *e*P **P** **03 02 12.2 +2.0**
MOA Molln 80.05 358 *e*P **P** **03 02 11.9 +1.2**
comp=Z,12nm,1.4s
RONA Rosalia, Austr 80.15 357 *e*P **P** **03 02 13.1 +1.8**
comp=Z,15nm,1.7s,SNR=5.4
BIOA Bad Ischl, Aus 80.22 359 *e*P **P** **03 02 13.0 +1.3**
comp=Z,5.9nm,0.8s
ARCR ARCALIA 80.27 351 ⇓P **P** **03 02 13.3 +1.4**
VASR Vaslui 80.36 349 ⇑P **P** **03 02 13.2 +0.9**
KIV Kislovodsk 80.39 338 ⇑P **P** **03 02 13.7 +1.0**
KIV Kislovodsk 80.39 338 P **P** **03 02 12.3 -0.4**
KIV IAmb IAmb 03 02 15.1
comp=Z,9.6nm,0.8s
KIV Kislovodsk 80.39 338 *e*P **P** **03 02 14.1 +1.4**
KIV pmax pmax
comp=Z,12nm,1.0s
RETA Reutte 80.43 1 *e*P **P** **03 02 14.3 +1.4**
comp=Z,16nm,1.4s
KBZ Khabaz 80.55 338 P **P** **03 02 14.6 +1.2**
comp=Z,7.8nm,0.9s,baz=345,slow=0.9,SNR=15
KBZ LR LR 03 43 27.6
comp=Z,173nm,18.4s,baz=23,slow=40
comp=Z,7.8nm,0.9s
KBZ Khabaz 80.55 338*ce*P **P** **03 02 14.8 +1.4**
KBZ pmax pmax
comp=Z,12nm,0.9s
MOTA Moosalm 80.57 1 *e*P **P** **03 02 14.9 +1.2**
comp=Z,19nm,1.1s
WATA Walderalm 80.58 0 *e*P **P** **03 02 15.0 +1.2**
comp=Z,23nm,1.6s,SNR=5.1
DAVA Damuels 80.62 1 *e*P **P** **03 02 15.3 +1.4**
comp=Z,19nm,1.9s
ARSA Arzberg 80.62 358 *i*P **P** **03 02 15.6 +1.7**
comp=Z,11nm,1.1s
WTTA Wattenberg 80.66 0 *e*P **P** **03 02 15.3 +1.1**
comp=Z,13nm,1.0s
SQTA Sankt Quirin 80.70 1 *e*P **P** **03 02 15.9 +1.5**
comp=Z,26nm,1.1s,SNR=9.1
MARR Marisel-Cluj 80.78 352 ⇑P **P** **03 02 14.9 +0.1**
KBA Koelnbreinsper 80.83 359 *i*P **P** **03 02 16.8 +1.7**
comp=Z,32nm,1.0s,SNR=7.2
FETA Feichten 80.89 1 *e*P **P** **03 02 17.3 +1.9**
comp=Z,15nm,1.0s,SNR=6.2
VLDR Vladesti 81.11 349 ⇑P **P** **03 02 16.9 +0.6**

OZUR		**81.11 350**	⇓P		**P**	**03 02 17.6**	**+1.1**
ABTA	**Abfaltersbach**	**81.17 360**	*e*P		**P**	**03 02 18.2**	**+1.4**
	comp=Z,21nm,1.2s						
ZEI	**Tsey**	**81.20 337**	*e*P		**P**	**03 02 17.3**	**+0.1**
ZEI			pmax	pmax			
	comp=Z,11nm,1.0s						
SOKA	**Soboth**	**81.21 358**	*e*P		**P**	**03 02 18.6**	**+1.6**
	comp=Z,33nm,1.4s,SNR=5.9						
VRI	**Vrincioaia**	**81.24 350**	⇑P		**P**	**03 02 17.8**	**+0.7**
VRI	**Vrincioaia**	**81.24 350**	P		**P**	**03 02 17.8**	**+0.7**
MYKA	**Terra Mystica**	**81.28 359**	*e*PcP		**P**	**03 02 19.6**	**+2.2**
	comp=Z,3.1nm,0.7s						
DOPR	**Dopca**	**81.28 351**	⇓P		**P**	**03 02 18.8**	**+1.5**
FUORN	**Ofenpass-Fuorn**	**81.29 1**	P		**P**	**03 02 16.9**	**-0.7**
FUORN			IAmb	IAmb		03 02 20.7	
	comp=Z,17nm,1.2s						
SIRR	**Siria**	**81.30 353**	⇓P		**P**	**03 02 18.4**	**+0.9**
OBKA	**Obir**	**81.39 358**	*e*P		**P**	**03 02 19.3**	**+1.3**
	comp=Z,15nm,0.8s						
GEYT	**Alibeck**	**81.45 325**	P		**P**	**03 02 19.2**	**+0.8**
	comp=Z,18nm,0.8s,baz=324,slow=4.2,SNR=45						
	comp=Z,18nm,0.8s						
GEYT	**Alibeck**	**81.45 325**	P		**P**	**03 02 18.7**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**81.45 325**	P		**P**	**03 02 18.7**	**+0.3**
AKT	**Akhty**	**81.45 334**	*e*P		**P**	**03 02 19.2**	**+0.7**
AKT			pmax	pmax			
	comp=Z,35nm,1.1s						
SENIN	**Lac Senin/Sane**	**81.47 3**	P		**P**	**03 02 18.4**	**-0.2**
ONI	**Oni**	**81.50 337**	P		**P**	**03 02 18.7**	**0.0**
STAL	**STALIGIAL**	**81.66 360**	P		**P**	**03 02 18.2**	**-1.1**
SURR	**Surduc**	**81.78 353**	⇓P		**P**	**03 02 20.7**	**+0.7**
ARR	**Arges**	**81.95 351**	⇑P		**P**	**03 02 21.5**	**+0.5**
TPGR	**Topolog**	**82.04 348**	⇑P		**P**	**03 02 22.7**	**+1.3**
GZR	**Gura Zlata**	**82.09 352**	⇓P		**P**	**03 02 21.8**	**+0.1**
GZR	**Gura Zlata**	**82.09 352**	P		**P**	**03 02 21.8**	**+0.1**
TIRR	**Tirgusor**	**82.43 348**	⇓P		**P**	**03 02 24.6**	**+1.2**
TIRR	**Tirgusor**	**82.43 348**	P		**P**	**03 02 24.6**	**+1.2**
FRGS	**Fruska Gora**	**82.53 354**	⇓P		**P**	**03 02 25.6**	**+1.7**
AKH	**Akhalkalaki**	**82.61 337**	P		**P**	**03 02 24.1**	**-0.5**
HERR	**Herculane**	**82.62 353**	⇓P		**P**	**03 02 24.9**	**+0.5**
MDVR	**Moldovita**	**82.78 353**	⇓P		**P**	**03 02 25.6**	**+0.3**
HRA	**Herat**	**83.05 320**	IAmb	IAmb		03 02 28.5	
	comp=Z,11nm,0.8s						
GNI	**Garni**	**83.48 335**	LR	LR		03 47 44.6	
	comp=Z,205nm,18.3s,baz=37,slow=42						
GNI	**Garni**	**83.48 335**	P		**P**	**03 02 29.4**	**+0.3**
GNI			IAmb	IAmb		03 03 13.5	
	comp=Z,11nm,0.8s						
KTUT	**Trabzon**	**83.86 339**	⇓P		**P**	**03 02 32.4**	**+1.6**
DIKM	**Dikmen**	**84.13 343**	⇓P		**P**	**03 02 32.9**	**+0.8**
VTS	**Vitosha**	**84.80 352**	⇓P		**P**	**03 02 35.6**	**-0.2**
VTS	**Vitosha**	**84.80 352**	P		**P**	**03 02 35.6**	**-0.2**
BR131	**Keskin Array S**	**86.28 343**	P		**P**	**03 02 42.7**	**-0.5**
BR131	**Keskin Array S**	**86.28 343**	*i* P		**P**	**03 02 43.9**	**+0.7**
BRTR	**Keskin Array B**	**86.28 343**	P		**P**	**03 02 44.4**	**+1.2**
	comp=Z,9.1nm,0.9s,baz=28,slow=2.5,SNR=56						
BRTR			LR	LR		03 45 19.1	
	comp=Z,152nm,21.2s,baz=352,slow=38						
	comp=Z,9.1nm,0.9s						
BRTR	**Keskin Array B**	**86.28 343**	P		**P**	**03 02 42.6**	**-0.6**
ANTO	**Ankara**	**86.29 344**	⇑P		**P**	**03 02 44.7**	**+1.6**
ANTO	**Ankara**	**86.29 344**	P		**P**	**03 02 44.1**	**+0.9**
ANTO	**Ankara**	**86.29 344**	P		**P**	**03 02 44.7**	**+1.6**
FNA	**Florina**	**86.78 353**	IAmb	IAmb		03 02 47.1	
	comp=Z,5.7nm,0.7s						
ESBB	**Sonseca Array**	**87.20 12**	P		**P**	**03 02 47.1**	**-0.4**
ESBB			IAmb	IAmb		03 02 49.5	
	comp=Z,7.7nm,0.8s						
ESDC	**Sonseca Array**	**87.20 12**	P		**P**	**03 02 48.1**	**+0.5**
	comp=Z,6.3nm,0.7s,baz=346,slow=4.8,SNR=51						
ESDC			LR	LR		03 44 59.6	
	comp=Z,174nm,18.0s,baz=326,slow=38						
	comp=Z,6.3nm,0.7s						
ESDC	**Sonseca Array**	**87.20 12**	IAmb	IAmb		03 02 49.4	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**87.72 233**	P		**P**	**03 02 49.3**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=33,slow=6.0,SNR=16						
	comp=Z,1.3nm,0.6s						
WRA	**Warramunga Arr**	**87.72 233**	*i* P		**P**	**03 02 49.9**	**-0.2**
WRA			pmax	pmax			
	comp=Z,1.0nm,0.5s						
RUSC	**La Rusia**	**88.37 83**	P		**P**	**03 02 53.1**	**-0.9**
BAUV	**El Baul**	**88.99 77**	P		**P**	**03 02 55.5**	**-0.9**
ASAR	**Alice Springs**	**91.10 231**	P		**P**	**03 03 06.0**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=29,slow=4.7,SNR=26						
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**91.10 231**	P		**P**	**03 03 05.2**	**-0.7**
MMAI	**Mount Meron Ar**	**92.46 340**	LR	LR		03 52 46.5	
	comp=Z,96nm,18.2s,baz=310,slow=41						
MDT	**Midelt**	**93.85 14**	LR	LR		03 49 21.3	
	comp=Z,50nm,18.9s,baz=341,slow=38						
RPN	**Rapa Nui**	**94.31 130**	LR	LR		03 37 43.5	
	comp=Z,54nm,19.8s,baz=27,slow=30						
EIL	**Elat**	**95.79 340**	LR	LR		03 52 25.7	
	comp=Z,92nm,18.2s,baz=46,slow=39						
RAYN	**Ar Rayn**	**98.89 329**	P		**P**	**03 03 41.2**	**-0.5**
PLCA	**Paso Flores**	**125.06 113**	PKP		**PKiKP**	**03 09 01.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=333,slow=4.5,SNR=1.8						
BOSA	**Boshof**	**154.22 332**	PKPbc		**PKiKP**	**03 10 01.5**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=61,slow=2.3,SNR=5.6						

*IDC **16** 02:53:33.2±1.0, 13°.51S×166°.25E, h0km, mb3.9/7, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=38.8km s-min=22.9km az=123.0*

ISC 16 02:53:38.4±0.9, 13°.62S±0°.09×166°.3E±0°.2, h35km, n10, σ1s29/11, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.41 179**		Pn	**Pn**	**02 55 36.0**	**-1.9**
	0.7nm,0.3s,baz=347,slow=18,SNR=7.9						
DZM				Sn	**Sn**	**02 57 12.5**	**+0.7**
	baz=131,slow=22						
	1.3nm,0.3s						
STKA	**Stephens Creek**	**29.03 227**		P	**P**	**02 59 36.5**	**+1.2**
	0.5nm,0.2s,baz=84,slow=11,SNR=3.5						
	0.5nm,0.2s						
WRA	**Warramunga Arr**	**31.21 254**		P	**P**	**02 59 54.1**	**-0.7**
	1.0nm,0.9s,baz=87,slow=8.6,SNR=6.7						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**32.22 247**		P	**P**	**03 00 03.2**	**-0.5**
	0.8nm,0.7s,baz=73,slow=9.4,SNR=9.2						
	0.8nm,0.7s						
VNDA	**Vanda**	**63.95 181**		P	**P**	**03 04 09.3**	**+1.8**
	0.9nm,0.9s,baz=350,slow=7.7,SNR=2.5						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**85.76 18**		P	**P**	**03 06 14.1**	**+0.5**
	0.4nm,0.5s,baz=236,slow=4.9,SNR=12						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**95.76 317**		P	**P**	**03 07 00.9**	**0.0**
	0.3nm,0.5s,baz=97,slow=6.0,SNR=2.4						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**96.99 27**		P	**P**	**03 07 06.2**	**+0.1**
	0.1nm,0.5s,baz=258,slow=4.8,SNR=5.6						
	0.1nm,0.5s						
ARCES	**ARCESS Array B**	**118.94 345**		PKP	**PKPdf**	**03 12 20.8**	**-1.9**
	3.5nm,1.2s,baz=66,slow=3.1,SNR=5.7						
KEST	**Kesra**	**149.76 321**		PKPbc	**PKPbc**	**03 13 25.2**	**0.0**
	2.9nm,0.6s,baz=136,slow=2.9,SNR=1.6						

*NEIC **16** 03:01:49.6±1.0, 19°.2N±0°.1×63°.54W±0°.08, h47km±55km, ML3.0/30, Md3.6/4(RSPR), Error ellipse: s-maj=20.0km s-min=3.4km az=209.0*

*RSPR **16** 03:01:51.6, 19°.45N×63°.74W, h63km±13km, MD3.6/4*

ISC 16 03:01:46.8±3.2, 19°.4N±0°.2×63°.49W±0°.09, h31km, n30, σ1s36/33, 9C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.37 163**		Pn	**Pn**	**03 02 09.0**	**-0.8**
SMRT				IAML		03 02 23.9	
	comp=E,289nm,0.2s						
SMRT				IAML		03 02 32.1	
	comp=N,222nm,0.2s						
SABA	**Saba**	**1.75 172**			**Pn**	**03 02 15.4**	**+0.3**
SABA				IAML		03 02 51.1	
	comp=E,296nm,0.8s						
SABA				IAML		03 02 54.2	
	comp=N,197nm,0.6s						
CUPR	**Culebra, Puert**	**2.00 238**	⇑*e*P		**Pn**	**03 02 20.1**	**+1.7**
CUPR	**Culebra, Puert**	**2.00 238**	*e*S		**Sn**	**03 02 43.2**	**+0.7**
CUPR	**Culebra, Puert**	**2.00 238**	Pn		**Pn**	**03 02 19.2**	**+0.8**
CUPR					**Sn**	**03 02 41.7**	**-0.7**
CDVI	**St. Croix**	**2.01 217**	⇑*e*P		**Pb**	**03 02 21.9**	**-0.8**
CDVI	**St. Croix**	**2.01 217**	Pn		**Pn**	**03 02 19.4**	**+0.8**
CDVI			IAML			03 02 48.2	
	comp=N,187nm,0.6s						
CDVI			IAML			03 02 55.5	
	comp=E,225nm,0.6s						
MTP	**Monte Pirata**	**2.33 237**	⇑*e*P		**Pn**	**03 02 24.8**	**+1.8**
MTP	**Monte Pirata**	**2.33 237**	*e*S		**Sn**	**03 02 50.7**	**+0.1**
MTP	**Monte Pirata**	**2.33 237**	Pn		**Pn**	**03 02 24.0**	**+1.0**
CBYP	**Canovanas**	**2.49 244**	⇑*e*P		**Pn**	**03 02 27.0**	**+1.6**
CBYP	**Canovanas**	**2.49 244**	*e*S		**Sn**	**03 02 54.4**	**-0.3**
CBYP	**Canovanas**	**2.49 244**	Pn		**Pn**	**03 02 25.6**	**+0.2**
CBYP			Sn		**Sn**	**03 02 54.9**	**+0.1**
CBYP			IAML			03 03 00.3	
	comp=E,60nm,0.2s						
CBYP			IAML			03 03 07.4	
	comp=N,53nm,0.2s						
HUMP	**Col San Antoni**	**2.55 242**	⇑*e*P		**Pn**	**03 02 27.7**	**+1.6**
HUMP	**Col San Antoni**	**2.55 242**	Pn		**Pn**	**03 02 27.3**	**+1.2**
GCPR	**Guaynabo City**	**2.67 247**	Pn		**Pn**	**03 02 25.2**	**-2.6**
GCPR			IAML			03 03 45.3	
	comp=N,36nm,3.2s						
SJG	**San Juan**	**2.81 244**	Pn		**Pn**	**03 02 30.7**	**+1.0**
SJG			IAML			03 03 58.2	
	comp=N,28nm,3.3s						
IGPR	**InterUniversit**	**2.85 241**	⇑*e*P		**Pn**	**03 02 32.3**	**+2.2**
IGPR	**InterUniversit**	**2.85 241**	*e*S		**Sn**	**03 03 03.1**	**-0.3**
CELP	**Cerrillos**	**3.20 247**	⇑*e*P		**Pn**	**03 02 36.5**	**+1.5**
CELP	**Cerrillos**	**3.20 247**	*e*S		**Sn**	**03 03 12.1**	**0.0**
CELP	**Cerrillos**	**3.20 247**	Pn		**Pn**	**03 02 36.2**	**+1.2**
CELP			Sn		**Sn**	**03 03 09.3**	**-2.8**
CELP			IAML			03 03 26.9	
	comp=N,33nm,2.9s						
CELP			IAML			03 03 42.5	
	comp=E,27nm,3.6s						
OBIP	**Obispado Ponce**	**3.23 246**	⇑*e*P		**Pn**	**03 02 37.1**	**+1.7**
OBIP	**Obispado Ponce**	**3.23 246**	Pn		**Pn**	**03 02 36.8**	**+1.3**
OBIP			IAML			03 03 14.5	
	comp=N,36nm,2.6s						
AOPR	**Arecibo Observ**	**3.25 252**	⇑*e*P		**Pn**	**03 02 37.1**	**+1.3**
AOPR	**Arecibo Observ**	**3.25 252**	Pn		**Pn**	**03 02 35.9**	**+0.1**
AOPR			IAML			03 03 27.1	
	comp=N,48nm,1.6s						
AOPR			IAML			03 03 50.4	
	comp=E,64nm,1.1s						
AGPR	**Aguadilla, PR**	**3.54 256**	Pn		**Pn**	**03 02 40.4**	**+0.7**
PRSN	**Puerto Rico Se**	**3.65 252**	Pn		**Pn**	**03 02 39.6**	**-1.5**
CRPR	**Cabo Rojo, PR**	**3.69 249**	Pn		**Pn**	**03 02 42.9**	**+1.2**
CRPR			IAML			03 03 27.4	
	comp=E,61nm,3.3s						
CBE	**Ff, Capester**	**3.74 151**	Pn		**Pn**	**03 02 44.3**	**+1.8**

*IDC **16** 03:16:40.8±0.8, 42°.47N×20°.09E, h0km, mb3.6/6, mbtmp3.6/14, ML3.5/7, Error ellipse: s-maj=14.4km s-min=11.9km az=139.0*

*RHSSO **16** 03:16:40.7±0.5, 42°.45N×20°.11E, h2km±2km, ML3.6/16*

*PDG **16** 03:16:40.6±0.6, 42°.46N×20°.07E, h2km±1km, MD3.5/11, ML3.4/12, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

*TIR **16** 03:16:41.9, 42°.34N×20°.05E, h2km±2km, Md3.5, Ml4.0*

*SKO **16** 03:16:41.3, 42°.50N×19°.95E, h23km, ML3.5*

*LDG **16** 03:16:41.5±0.1, 42°.47N×20°.20E, h5km, Ml3.5/21, Error ellipse: s-maj=4.2km s-min=2.9km az=41.0*

*BEO **16** 03:16:41.4±0.2, 42°.46N×20°.06E, h6km±1km, ML3.3/17*

*PRU **16** 03:16:43.5±0.0, 42°.50N×20°.04E, h1km*

ISC 16 03:16:41.0±0.8, 42°.47N±0°.01×20°.03E±0°.01, h6km±5km, n225, σ2s58/348, mb3.5/7, 44C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.10 166**		P	**Pg**	**03 16 42.1**	**-1.2**
	baz=31						
BCI				S	**Sg**	**03 16 43.2**	**-1.5**
	baz=31						
BCI				AMP			
	comp=E,551nm,0.1s,baz=31						
PVY	**Plav**	**0.14 337**		*e*Sg	**Sg**	**03 16 44.1**	**-1.9**
PVY	**Plav**	**0.14 337**		*e*Pg	**Pg**	**03 16 46.9**	**+2.9**
PVY	**Plav**	**0.14 337**		⇑*i*Pg	**Sg**	**03 16 44.1**	**-1.9**
PVY				*i* Sg	**Sg**	**03 16 46.4**	**+0.4**
BEY	**Berane**	**0.42 346**		*e*Sg	**Sg**	**03 16 49.1**	**-5.6**
BEY	**Berane**	**0.42 346**		*e*Pg	**Pn**	**03 16 56.5**	**+2.9**
BEY	**Berane**	**0.42 346**		*i* Pg	**Pg**	**03 16 49.0**	**-0.2**
IVA	**Berane**	**0.42 346**		⇑*i*Pg	**Pg**	**03 16 48.9**	**-0.2**
IVA				*i* Sg	**Sg**	**03 16 55.6**	**+0.9**
KOME	**Kolasin**	**0.54 315**		*e*Pg	**Pg**	**03 16 51.9**	**+0.4**
KOME				*e*Sg	**Sg**	**03 17 00.2**	**+1.6**
KOME	**Kolasin**	**0.54 315**		⇑*i*Pg	**Pg**	**03 16 51.6**	**+0.1**
KOME				*i* Sg	**Sg**	**03 17 00.2**	**+1.6**
PDG	**Podgorica**	**0.58 267**		⇓P	**Pg**	**03 16 51.2**	**-0.8**
PDG	**Podgorica**	**0.58 267**		*e*Pg	**Pg**	**03 16 51.2**	**-0.8**
PDG				*e*Sg	**Sg**	**03 17 00.9**	**+1.3**
PDG	**Podgorica**	**0.58 267**		*i* Pg	**Pg**	**03 16 51.3**	**-0.8**
PDG				*i* Sg	**Sg**	**03 17 00.9**	**+1.3**
PDG	**Podgorica**	**0.58 267**		⇑*i*Pg	**Pg**	**03 16 51.3**	**-0.8**
PDG				*i* Sg	**Sg**	**03 17 00.9**	**+1.3**
DRME	**Dracevica, Mon**	**0.69 246**		*e*Pg	**Pg**	**03 16 53.5**	**-0.7**
DRME				*e*Sg	**Sg**	**03 17 04.6**	**+1.4**
DRME	**Dracevica, Mon**	**0.69 246**		⇑*i*Pg	**Pg**	**03 16 52.8**	**-1.4**
DRME				*e*Sg	**Sg**	**03 17 04.0**	**+0.8**
DRME	**Dracevica, Mon**	**0.69 246**		⇓*i*Pg	**Pg**	**03 16 52.9**	**-1.3**
DRME				*i* Sg	**Sb**	**03 17 05.1**	**0.0**
ULC	**Ulcinj**	**0.77 230**		*i* Pg	**Pg**	**03 16 55.6**	**-0.2**
ULC	**Ulcinj**	**0.77 230**		⇓*i*Pg	**Pg**	**03 16 55.4**	**-0.4**
ULC				*e*Sg	**Sb**	**03 17 07.9**	**+0.4**
SJES	**Sjenica**	**0.80 357**		*e*Pg	**Pg**	**03 16 55.9**	**-0.4**
SJES				*e*Sg	**Sg**	**03 17 01.3**	**+0.6**
SJES	**Sjenica**	**0.80 357**		⇑*i*Pg	**Pg**	**03 16 55.6**	**-0.7**
SJES				*e*Sg	**Sg**	**03 17 07.0**	**+0.3**
CEME	**Cevo**	**0.83 276**		⇓*i*Pg	**Pg**	**03 16 55.9**	**-1.0**
CEME				*i* Sg	**Sb**	**03 17 09.6**	**+0.4**
NKME	**Niksic**	**0.85 291**		⇑*i*Pg	**Pg**	**03 16 56.4**	**-1.0**
NKME				*i* Sg	**Sb**	**03 17 10.4**	**+0.5**
PLE	**Pljevlja**	**0.98 331**		*e*Sg	Sg	03 16 59.3	-13
PLE	**Pljevlja**	**0.98 331**		*e*Pg	Pn	03 17 14.0	+13
PLE	**Pljevlja**	**0.98 331**		⇑*i*Pg	**Pg**	**03 16 59.3**	**-0.6**
PLE				*i* Sg	**Sb**	**03 17 14.8**	**+1.0**
SELS	**Selova**	**1.10 46**		*e*Pg	**Pg**	**03 17 00.9**	**-1.1**
SELS				*e*Sg	**Sg**	**03 17 16.6**	**+0.3**
UPM	**Unac-Piva**	**1.11 312**		*e*Pg	**Pg**	**03 17 02.1**	**-0.2**
UPM				*e*Sg	**Sg**	**03 17 16.9**	**+0.2**
UPM	**Unac-Piva**	**1.11 312**		⇓*i*Pg	**Pg**	**03 17 02.3**	**0.0**
UPM				*i* Sg	**Sn**	**03 17 20.0**	**+1.1**
IVAS	**Ivanjica**	**1.11 4**		*e*Pg	**Pg**	**03 17 00.9**	**-1.5**
IVAS				*e*Sg	**Sg**	**03 17 16.8**	**0.0**
TIR	**Tirane**	**1.12 187**		⇑P	**Pg**	**03 17 02.1**	**-0.5**
TIR	**Tirane**	**1.12 187**		P	**Pg**	**03 17 01.5**	**-1.0**
	baz=188						
TIR				S	**Sg**	**03 17 17.6**	**+0.5**
	baz=188						
TIR	**Tirane**	**1.12 187**		*e*Pg	**Pg**	**03 17 01.4**	**-1.1**
TIR				*e*Sg	**Sg**	**03 17 17.6**	**+0.5**
TIR	**Tirane**	**1.12 187**		*i* Pg	**Pg**	**03 17 01.5**	**-1.0**
TIR				*i* Sg	**Sn**	**03 17 19.6**	**+0.7**
HCY	**Herceg Novi**	**1.14 270**		*e*Pg	**Pg**	**03 17 02.4**	**-0.4**
HCY				*e*Sg	**Sg**	**03 17 18.4**	**+0.8**
HCY	**Herceg Novi**	**1.14 270**		⇑*i*Pg	**Pg**	**03 17 02.4**	**-0.4**
HCY				*i* Sg	**Sn**	**03 17 21.4**	**+2.0**
SKO	**Skopje**	**1.16 115**		*i* Pg	**Pg**	**03 17 03.0**	**-0.1**
SKO				*i* Sg	**Sn**	**03 17 20.7**	**+1.0**
SKO				eLg	Lg	03 17 23.8	
	comp=N,176nm,1.1s						
BRY	**Bratogost**	**1.19 292**		*e*Pg	**Pg**	**03 17 02.9**	**-0.8**
BRY				*e*Sg	**Sn**	**03 17 20.8**	**+0.1**
BRY	**Bratogost**	**1.19 292**		⇑*i*Pg	**Pg**	**03 17 03.1**	**-0.6**
BRY				*i* Sg	**Sn**	**03 17 22.6**	**+1.9**
RUDO	**Rudo**	**1.25 337**		⇑*i*Pg	**Pn**	**03 17 03.1**	**-1.9**
RUDO				*e*Sg	**Sb**	**03 17 21.7**	**+0.4**
TREB	**Trebinje**	**1.27 282**		*e*Pg	**Pn**	**03 17 03.9**	**-1.3**
TREB				*e*Sg	**Sn**	**03 17 23.0**	**+0.5**
BARS	**Barje**	**1.36 74**		*e*Pg	**Pn**	**03 17 04.9**	**-1.6**
BARS				*e*Sg	**Sb**	**03 17 23.6**	**-0.9**
BARS	**Barje**	**1.36 74**		*i* Pg	**Pn**	**03 17 04.8**	**-1.6**
DBRK	**Dubrovnik**	**1.41 279**		ePn	**Pn**	**03 17 07.8**	**+0.6**
DBRK				Sg	**Sg**	**03 17 30.5**	**+4.2**
OHR	**Ohrid**	**1.47 157**		*e*Pg	**Pn**	**03 17 07.4**	**-0.6**
OHR				*e*Sg	**Sg**	**03 17 28.9**	**+0.7**
OHR	**Ohrid**	**1.47 157**		*i* Pn	**Pn**	**03 17 07.6**	**-0.4**
OHR				*i* Sn	**Sg**	**03 17 29.8**	**+1.6**
OHR				eLg	Lg	03 17 33.2	
	comp=E,821nm,0.6s						
BBLS	**Lazići**	**1.47 342**		*e*Pg	**Pn**	**03 17 08.2**	**+0.1**
BBLS				*e*Sg	**Sg**	**03 17 28.5**	**+0.2**
BBLS	**Lazići**	**1.47 342**		*e*Pn	**Pn**	**03 17 08.1**	**0.0**
BBLS				*e*Sn	**Sg**	**03 17 29.2**	**+0.9**
GRUS	**Gruza**	**1.51 19**		*e*Pn	**Pn**	**03 17 08.6**	**+0.1**
GRUS				*e*Sg	**Sg**	**03 17 30.0**	**+0.6**
PRVS	**Prvonek**	**1.51 88**		*e*Pg	**Pn**	**03 17 08.1**	**-0.5**
PRVS				*e*Sg	**Sb**	**03 17 28.7**	**-0.1**
DIVS	**Divibare**	**1.63 359**		*e*Pg	**Pn**	**03 17 10.5**	**+0.2**
DIVS				*e*Sg	**Sg**	**03 17 33.4**	**0.0**
DIVS	**Divibare**	**1.63 359**		⇓*i*Pn	**Pn**	**03 17 10.0**	**-0.3**
DIVS				*e*Sn	**Sn**	**03 17 32.1**	**+0.5**
BOVS	**Bovan**	**1.69 46**		*e*Pg	**Pn**	**03 17 10.5**	**-0.5**
BOVS				*e*Sg	**Sg**	**03 17 36.1**	**+0.7**
STON	**Ston**	**1.77 284**		*e*Pn	**Pb**	**03 17 13.5**	**-0.2**
STON				Sn	**Sg**	**03 17 40.4**	**+2.6**
STON	**Ston**	**1.77 284**		*e*Pn	**Pn**	**03 17 12.6**	**+0.6**
STON				*e*Sn	**Sb**	**03 17 36.6**	**+0.4**
STIP	**Stip**	**1.78 115**		*i* Pn	**Pb**	**03 17 13.5**	**-0.4**
STIP				*i* Sn	**Sg**	**03 17 42.9**	**+4.8**
STIP				eLg	Lg	03 17 45.1	
	comp=E,69nm,0.8s						
TRUS	**Trudelj**	**1.78 9**		*e*Pn	**Pn**	**03 17 12.4**	**+0.2**
TRUS				*e*Sn	**Sb**	**03 17 36.4**	**-0.1**
FNA	**Florina**	**1.96 149**		P	**Pn**	**03 17 15.6**	**+0.9**
FNA				S	**Sb**	**03 17 42.4**	**+0.7**
FNA	**Florina**	**1.96 149**		P	**Pn**	**03 17 15.7**	**+0.9**
	baz=146						
FNA				S	**Sn**	**03 17 40.3**	**+0.7**
	baz=146						
FNA	**Florina**	**1.96 149**		*i* Pn	**Pn**	**03 17 15.6**	**+0.9**
SVIS	**Svilajnac**	**1.99 25**		*e*Pn	**Pn**	**03 17 16.4**	**+1.2**
VLO	**Vlora**	**2.04 192**		P	**Pb**	**03 17 18.3**	**0.0**
VLO				S	**Sg**	**03 17 46.1**	**-0.3**
ZAPS	**Zavoj**	**2.07 66**		*e*Pn	**Pn**	**03 17 16.8**	**+0.5**
ZAPS				*e*Sn	**Sn**	**03 17 42.6**	**+0.1**
ZAGS	**Zajecar**	**2.10 49**		*e*Pn	**Pn**	**03 17 15.9**	**-0.7**
ZAGS				*e*Sn	**Sn**	**03 17 42.4**	**-0.6**
TEKS	**Tekeris**	**2.12 350**		*e*Pn	**Pn**	**03 17 16.4**	**-0.4**
TEKS				*e*Sn	**Sn**	**03 17 44.7**	**+1.3**
TEKS	**Tekeris**	**2.12 350**		*e*Pn	**Pn**	**03 17 16.5**	**-0.4**
TEKS				*e*Sn	**Sn**	**03 17 44.8**	**+1.3**
NEST	**Nestorio**	**2.19 159**		P	**Pn**	**03 17 18.4**	**+0.5**
VAY	**Valandovo**	**2.21 120**		*i* Pn	**Pn**	**03 17 18.1**	**-0.1**
VAY				*i* Sn	**Sg**	**03 17 52.3**	**+0.3**
VAY				eLg	Lg	03 17 53.4	
	comp=N,168nm,0.8s						
GRG	**Griva**	**2.33 130**		P	**Pn**	**03 17 20.0**	**+0.2**
GRG	**Griva**	**2.33 130**		*i* Pn	**Pn**	**03 17 20.1**	**+0.4**
LSTV	**Lastovo**	**2.34 278**		*e*Pn	**Pn**	**03 17 21.8**	**+1.9**
KKB	**Krupnik**	**2.34 104**		P	**Pb**	**03 17 23.7**	**+0.1**
LSK	**Leskovik**	**2.35 169**		P	**Pb**	**03 17 22.8**	**-1.0**
LSK				S	**Sb**	**03 17 54.5**	**+1.4**
LSK	**Leskovik**	**2.35 169**		P	**Pb**	**03 17 22.3**	**-1.5**
	baz=169						
LSK				S	**Sn**	**03 17 49.8**	**+0.4**
	baz=169						
LSK				AMP			
	comp=N,2.4nm,0.9s,baz=169						
MAKA	**Makarska**	**2.36 291**		*e*Pn	**Pb**	**03 17 23.2**	**-0.7**
MAKA				Sn	**Sb**	**03 17 55.0**	**+1.7**
RICI	**Ricice**	**2.36 297**		*e*Pn	**Pb**	**03 17 23.6**	**-0.3**
RICI				Sn

CEY eSn **Sn** 03 18 59.0 -0.4
comp=N,2.6nm,0.4s,baz=228,slow=13
DOPR Dopca 5.20 46 ⇑P **Pn** 03 18 01.5 +2.2
MLR Muntele Rosu 5.23 53 Pn **Pn** 03 18 01.7 +1.9
MLR Sn **Sn** 03 19 01.5 +1.2
comp=N,0.5nm,0.3s,baz=80,slow=23,SNR=6.0
MLR Muntele Rosu 5.23 53 ⇑P **Pn** 03 18 00.7 +0.9
SKDS Skadanscina 5.32 307 ePn **Pn** 03 18 01.4 +0.5
SKDS eSn **Sn** 03 19 01.2 -1.3
NEHR Nehoiu 5.40 55 ⇑P **Pn** 03 18 03.3 +1.2
PSZ Piszkesteto 5.45 359 ⇑P **Pn** 03 18 03.7 +0.9
SRO Srobarova 5.48 348 eSN **Sn** 03 19 08.4 +2.0
OZUR 5.50 47 ⇑P **Pn** 03 18 05.5 +2.2
SOKA Soboth 5.52 321 ePn **Pn** 03 18 04.7 +1.0
comp=N,4.9nm,0.4s,SNR=14
SOKA eSn **Sn** 03 19 07.1 -0.4
comp=N,4.1nm,0.4s
MOZS Mozjanca 5.54 316 *i* Pn **Pn** 03 18 06.3 +2.3
COVR Voineasa-Covas 5.58 51 ⇑P **Pn** 03 18 06.7 +2.3
OBKA Obir 5.63 318 ePn **Pn** 03 18 07.2 +1.9
comp=N,4.3nm,0.4s,SNR=6.1
OBKA eSn **Sb** 03 19 19.8 -7.7
comp=N,20nm,0.7s
OBKA Obir 5.63 318 ePn **Pn** 03 18 05.5 +0.2
OBKA eSn **Sn** 03 19 09.3 -1.0
ARSA Arzberg 5.76 328 ePn **Pn** 03 18 08.1 +1.2
comp=N,10nm,0.7s,SNR=6.3
ARSA eSn **Sn** 03 19 12.4 -0.9
comp=N,13nm,0.7s
PLOR Plostina 5.84 52 ⇑P **Pn** 03 18 09.6 +1.5
RONA Rosalia, Austr 5.86 334 ePn **Pn** 03 18 09.3 +0.9
comp=N,3.8nm,0.4s,SNR=5.5
RONA eSn **Sn** 03 19 15.0 -0.9
comp=N,7.9nm,0.5s
VRI Vrincioaia 5.89 52 ⇑P **Pn** 03 18 10.3 +1.6
TRPA Tarpa 5.93 16 ⇑P **Pn** 03 18 10.3 +1.0
KECS Kecovo 6.03 3 ePN **Pn** 03 18 12.6 +2.0
VYHS Vyhne 6.09 352 ePN **Pn** 03 18 12.6 +1.2
VYHS eSN **Sn** 03 19 20.9 -0.4
ZST Bratislava 6.09 341 eSN **Sn** 03 19 19.1 -2.3
MYKA Terra Mystica 6.18 315 ePn **Pn** 03 18 16.9 +4.2
comp=N,2.2nm,0.4s,SNR=8.5
MYKA eSn **Sn** 03 19 29.8 +6.1
comp=N,7.1nm,0.6s
CONA Conrad Observa 6.21 333 ePn **Pn** 03 18 13.9 +0.8
comp=N,0.3nm,0.3s
CONA *i* Sn **Sn** 03 19 23.9 -0.5
comp=N,5.7nm,0.4s
MODS Modra-Piesok 6.22 343 ePN **Pn** 03 18 15.2 +2.0
MODS eSN **Sn** 03 19 24.1 -0.5
BURAR Bucovina Array 6.32 34 ⇑P **Pn** 03 18 16.5 +1.8
CFR Carcaliu 6.46 62 ⇑P **Pn** 03 18 18.8 +2.4
VAE Valguarnera 6.59 223 Pn Pn 03 18 24.1 +5.7
comp=N,0.3nm,0.3s,baz=42,slow=17,SNR=1.2
JAVC Velka Javorina 6.61 346 ePN **Pn** 03 18 20.2 +1.6
KBA Koelnbreinsper 6.63 316 ePn **Pn** 03 18 19.8 +0.8
comp=N,3.2nm,0.4s,SNR=7.1
KBA *i* Sn **Sn** 03 19 41.8 +6.9
comp=N,2.9nm,0.5s
LANS Liptovska Anna 6.70 357 ePN **Pn** 03 18 22.1 +2.3
MOA Molln 6.75 325 ePn **Pn** 03 18 22.4 +1.8
comp=N,1.8nm,0.6s,SNR=8.6
MOA eSn **Sn** 03 19 38.4 +0.7
comp=N,4.9nm,0.5s
ABTA Abfaltersbach 6.87 311 ePn **Pn** 03 18 25.2 +3.0
comp=N,7.1nm,0.5s,SNR=26
ABTA eSn **Sn** 03 19 47.6 +7.0
comp=N,8.9nm,0.5s
BIOA Bad Ischl, Aus 6.91 321 *i* Pn **Pn** 03 18 27.2 +4.4
comp=N,3.9nm,0.6s
BIOA eSn **Sn** 03 19 42.1 +0.4
comp=N,7.6nm,0.4s
STHS Stebnicka Huta 7.00 6 ePN **Pn** 03 18 25.2 +1.2
KRUC Moravsky 7.07 340 ePN **Pn** 03 18 26.5 +1.6
VRAC Vranov 7.25 342 Pn Pn 03 18 32.6 +5.2
comp=N,0.2nm,0.3s,baz=145,slow=12,SNR=2.2
VRAC Sn **Sn** 03 19 48.1 -1.8
comp=N,0.5nm,0.3s,baz=238,slow=19,SNR=3.2
WTTA Wattenberg 7.65 312 ePn **Pn** 03 18 36.4 +3.3
comp=N,6.2nm,0.5s,SNR=16
WTTA eSn **Sn** 03 20 04.8 +4.7
comp=N,15nm,0.7s
WATA Walderalm 7.73 312 *i* Pn **Pn** 03 18 37.4 +3.3
comp=N,9.4nm,0.9s,SNR=13
WATA *i* Sn **Sn** 03 20 08.7 +6.8
comp=N,3.0nm,0.3s
GERES GERESS Array B 7.77 327 Pn **Pn** 03 18 36.7 +2.1
comp=N,0.3nm,0.3s,baz=154,slow=14,SNR=10
GERES Sn **Sn** 03 20 00.8 -2.0
comp=N,0.4nm,0.3s,baz=142,slow=21,SNR=2.0
comp=N,0.9nm,0.6s
SQTA Sankt Quirin 7.87 310 ePn **Pn** 03 18 40.0 +4.1
comp=N,6.6nm,0.5s,SNR=12
SQTA *i* Sn **Sn** 03 20 08.5 +3.2
comp=N,4.9nm,0.6s
MOTA Moosalm 8.00 311 ePn **Pn** 03 18 41.2 +3.5
comp=N,5.1nm,0.4s,SNR=16
MOTA *i* Sn **Sn** 03 20 15.2 +6.7
comp=N,4.9nm,0.6s
FETA Feichten 8.04 308 ePn **Pn** 03 18 41.7 +3.4
comp=N,2.8nm,0.4s,SNR=9.8
FETA eSn **Sn** 03 20 15.8 +6.2
comp=N,3.2nm,0.5s
KHC Kasperske Hory 8.05 328 ePN **Pn** 03 18 40.2 +1.9
KHC eSN **Sn** 03 20 07.8 -1.8
IDI Anoyia 8.10 151 Pn **Pn** 03 18 39.3 +0.1
comp=N,0.5nm,0.3s,baz=6.4,slow=14,SNR=1.9
IDI Sn **Sn** 03 20 07.5 -3.6
comp=N,0.7nm,0.3s,baz=241,slow=19,SNR=1.7
comp=N,6.1nm,0.6s
PGF Pioggiola 8.15 274 ePn **Pn** 03 18 40.7 +0.8
PGF Pioggiola 8.15 274 eP Pn 03 18 46.4 +6.5
PGF eSn **Sn** 03 20 06.6 -5.8
comp=N,1.7nm,0.4s
RETA Reutte 8.27 311 *i* Pn **Pn** 03 18 44.6 +3.2
comp=N,2.8nm,0.6s,SNR=5.9
RETA *i* Sn **Sn** 03 20 21.2 +6.1
comp=N,3.9nm,0.5s
DAVOX Davos/Dischmat 8.43 304 Pn **Pn** 03 18 46.2 +2.5
comp=N,3.0nm,0.3s,baz=179,slow=19,SNR=17
DAVOX Sn **Sn** 03 20 16.9 -2.3
baz=150,slow=20
comp=N,11nm,0.5s
DAVA Damuels 8.67 307 ePn **Pn** 03 18 49.9 +2.9
comp=N,1.7nm,0.3s
DAVA *i* Sn **Sn** 03 20 31.6 +6.5
comp=N,3.8nm,0.3s
SBF Sospel 9.31 283 ePn **Pn** 03 18 56.8 +1.0
SBF eSn **Sn** 03 20 34.9 -5.9
comp=N,4.3nm,0.4s
MBDF Montbardon 9.88 288 ePn **Pn** 03 19 04.3 +0.6
MBDF eSn **Sn** 03 20 48.7 -6.2
comp=N,1.6nm,0.4s
LMR La Mourre 9.96 280 ePn **Pn** 03 19 06.4 +1.8
LMR eSn **Sn** 03 20 49.9 -6.8
comp=N,0.9nm,0.4s
LPL La Plagne 10.06 292 ePn **Pn** 03 19 07.0 +0.9
LPL eSn **Sn** 03 20 51.2 -8.1
comp=N,4.3nm,0.4s
ORIF Oris-en-Rattie 10.54 288 ePn **Pn** 03 19 13.0 +0.4
ORIF eSn **Sn** 03 21 04.2 -6.7
comp=N,1.8nm,0.5s
SMRF Simiane la Rot 10.66 283 ePn **Pn** 03 19 16.4 +2.2
SMRF eSn **Sn** 03 21 06.8 -7.1
comp=N,0.8nm,0.4s
HINF Hinteralfeld 10.73 304 ePn **Pn** 03 19 15.9 +0.7
HINF eSn **Sn** 03 21 09.2 -6.4
comp=N,0.7nm,0.1s
CABF La Chapelle 10.78 297 ePn **Pn** 03 19 16.1 +0.2
CABF eSn **Sn** 03 21 10.7 -6.1
comp=N,1.3nm,0.4s
HAU Haudompre 11.12 305 ePn **Pn** 03 19 21.6 +1.2
HAU eSn **Sn** 03 21 18.0 -7.0
comp=N,1.7nm,0.3s
VIVF Saint-Julien-l 11.38 287 ePn **Pn** 03 19 23.6 -0.4
VIVF eSn **Sn** 03 21 24.2 -7.3
comp=N,0.8nm,0.4s
PAGF Fort de Pagny 11.73 306 ePn **Pn** 03 19 29.7 +0.9
LASF Ste Croix 11.91 283 eP Pn 03 19 36.4 +5.2
SFTF Sexfontaines 12.01 304 eP Pn 03 19 37.3 +4.8
MEZF Maizieres J'vi 12.12 305 eP **Pn** 03 19 38.1 +4.1
SMF Signal de Mont 12.28 295 ePn **Pn** 03 19 36.6 +0.3
SMF eSn **Sn** 03 21 46.0 -7.4
comp=N,1.7nm,0.3s
LOR Lormes 12.44 298 ePn **Pn** 03 19 38.9 +0.5
baz=106
LOR eSn **Sn** 03 21 50.5 -6.7
comp=N,2.9nm,0.4s
SSF Saint Saulge 12.61 297 ePn **Pn** 03 19 41.1 +0.3
SSF eSn **Sn** 03 21 53.9 -7.5
comp=N,1.2nm,0.5s
AVF Avril sur Loir 12.64 296 ePn **Pn** 03 19 41.6 +0.4
AVF eSn **Sn** 03 21 54.6 -7.6
comp=N,0.4nm,0.3s
BGF Bois d'Agland 12.93 294 ePn **Pn** 03 19 45.5 +0.4
BGF eSn **Sn** 03 22 01.4 -7.8
comp=N,1.2nm,0.3s
HYF Humbligny 13.23 297 ePn **Pn** 03 19 49.4 +0.1
CAF Calviac 13.23 287 ePn **Pn** 03 19 49.4 +0.1
CAF eSn **Sn** 03 22 08.5 -8.3
comp=N,0.4nm,0.3s
TCF Toulx Ste Croi 13.31 293 ePn **Pn** 03 19 50.7 +0.4
TCF eSn **Sn** 03 22 10.3 -8.2
comp=N,1.1nm,0.5s
MMAI Mount Meron Ar 15.37 123 Pn **Pn** 03 20 18.9 +0.5
comp=N,0.4nm,0.3s,baz=323,slow=9.3,SNR=1.6
comp=N,0.6nm,0.5s
FLN La Foliniere 15.65 301 eP **P** 03 20 25.2 -1.0
HFS Hagfors 18.11 350 P **Pn** 03 20 52.6 -0.3
comp=N,0.2nm,0.3s,baz=168,slow=15,SNR=5.3
comp=N,1.8nm,0.6s
FINES FINESS Array B 19.35 9 P **P** 03 21 07.1 +0.2
comp=N,0.1nm,0.3s,baz=190,slow=9.7,SNR=5.5
comp=N,1.5nm,0.9s
EKA Eskdalemuir Ar 19.84 318 P **Pn** 03 21 13.3 -0.4
baz=115,slow=9.3
comp=N,0.5nm,0.5s
TORD Torodi Ar. Bea 33.26 214 P **P** 03 23 20.2 +1.2
comp=N,1.6nm,0.6s,baz=19,slow=9.2,SNR=11
DBIC Dimbokro 41.90 219 P **P** 03 24 32.9 +0.7
comp=N,1.1nm,0.5s,baz=36,slow=10,SNR=6.8
comp=N,1.1nm,0.5s
ZALV Zalesovo Beam 43.20 51 P **P** 03 24 42.4 0.0
comp=N,0.6nm,0.6s,baz=289,slow=8.7,SNR=2.6
comp=N,0.6nm,0.6s
MKAR Makanchi Array 43.50 62 P **P** 03 24 45.2 +0.3
comp=N,0.2nm,0.4s,baz=270,slow=8.4,SNR=7.1
comp=N,0.2nm,0.4s
YKA Yellowknife Ar 69.24 339 P **P** 03 27 49.0 +0.8
comp=N,0.1nm,0.5s,baz=38,slow=5.3,SNR=1.9
comp=N,0.1nm,0.5s
BOSA Boshof 70.89 175 P **P** 03 27 59.9 +1.1
comp=N,3.8nm,1.1s,baz=11,slow=6.0,SNR=5.7
comp=N,3.8nm,1.1s
PDAR Pinedale Array 83.81 325 P **P** 03 29 12.2 +0.8
comp=N,0.2nm,0.6s,baz=63,slow=6.2,SNR=2.8
comp=N,0.2nm,0.6s

NEIC ***16*** *03:17:04.2±1.5,21°.50N±0°.07×143°.2E±0°.1, h278km±5km, mb4.6/192, Error ellipse: s-maj=15.6km s-min=9.9km az=87.0*
BJI ***16*** *03:17:06.1±0.0,21°.67N×143°.31E, h305km, mb4.3/27, mB4.9/12*
IDC ***16*** *03:17:07.1±1.0,21°.54N×143°.26E, h305km±9km, mb4.1/39, mbtmp4.8/43, Error ellipse: s-maj=11.0km s-min=5.8km az=76.0*

ISC 16 03:17:06.3±0.7,21°.51N±0°.04×143°.25E±0°.06, h300km±6km, n486,σ1§06/461,mb4.6/147,1C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.64**	**350**	P	**Pn**	**03 18 35.5**	**+4.1**
	52nm,0.4s,baz=143,slow=20,SNR=1.7						
JCJ				S	**S**	**03 19 40.9**	**+1.0**
	156nm,0.5s,baz=94,slow=22,SNR=8.1						
JCJ	**Chichijima**	**5.64**	**350**	Pn	**Pn**	**03 18 28.9**	**-2.5**
JCJ				Sn	**S**	**03 19 36.7**	**-3.1**
GUMO	**Guam**	**8.03**	**169**	P	**Pn**	**03 19 03.1**	**+2.8**
	247nm,0.5s,baz=15,slow=20,SNR=29						
GUMO	**Guam**	**8.03**	**169**	Pn	**Pn**	**03 18 57.0**	**-3.4**
GUMO	**Guam**	**8.03**	**169**	P	**Pn**	**03 19 03.2**	**+2.8**
JMZ	**Minamidaito 2**	**11.83**	**294**		**Pn**	**03 19 46.5**	**-0.3**
JHJ2	**Mitsune**	**11.95**	**346**	Pn	**Pn**	**03 19 45.7**	**-2.5**
JHJ	**Hachijo jima 2**	**11.96**	**346**	P	**Pn**	**03 19 47.9**	**-0.5**
	67nm,0.3s,baz=264,slow=20,SNR=1.6						
JHJ				S	**S**	**03 22 00.2**	**-1.3**
	136nm,0.9s,baz=268,slow=22,SNR=1.5						
JMN	**Monobe**	**14.72**	**328**	P	**Pn**	**03 20 23.8**	**+2.3**
INU	**Inuyama**	**14.83**	**340**	P	**P**	**03 20 20.2**	**-1.3**
INU	**Inuyama**	**14.83**	**340**	P	**P**	**03 20 21.9**	**+0.5**
JGF	**Kuroka**	**14.96**	**341**	P	**P**	**03 20 21.4**	**-1.5**
JSU	**Suzuyama**	**15.16**	**314**	P	**P**	**03 20 23.5**	**-1.7**
JSU	**Suzuyama**	**15.16**	**314**	P	**Pn**	**03 20 27.3**	**+0.6**
MJAR	**Matsushiro Arr**	**15.61**	**345**	P	**P**	**03 20 30.1**	**+0.1**
	22nm,0.7s,baz=111,slow=11,SNR=45						
MAJO	**Matsushiro**	**15.61**	**345**	P	**P**	**03 20 27.3**	**-2.7**
MAJO	**Matsushiro**	**15.61**	**345**	P	**P**	**03 20 30.7**	**+0.7**
MJB9	**Matsu-Tunnel**	**15.61**	**345**	P	**P**	**03 20 27.4**	**-2.6**
JNU	**Nakatsue**	**15.94**	**319**	P	**Pn**	**03 20 36.0**	**+0.2**
	27nm,0.8s,baz=97,slow=3.1,SNR=9.7						
JNU	**Nakatsue**	**15.94**	**319**	P	**P**	**03 20 32.5**	**-1.2**
JNU				IAmb	IAmb	03 20 44.3	
	comp=Z,36nm,0.9s						
JNU	**Nakatsue**	**15.94**	**319**	P	**Pn**	**03 20 36.7**	**+0.9**
JHS	**Saijyo**	**16.12**	**329**	P	**P**	**03 20 36.4**	**+0.8**
JHS	**Saijyo**	**16.12**	**329**	P	**Pn**	**03 20 37.7**	**-0.1**
JMM	**Marumori**	**16.44**	**353**	P	**P**	**03 20 37.8**	**-1.2**
JMM	**Marumori**	**16.44**	**353**	P	**Pn**	**03 20 41.0**	**-0.4**
JSD	**Sado**	**17.02**	**346**	P	**P**	**03 20 45.1**	**-0.2**
JTU	**Tsushima**	**17.80**	**320**	P	**P**	**03 20 52.7**	**-1.0**
JTM	**Tenmabayashi**	**19.30**	**355**	P	**P**	**03 21 08.6**	**-1.1**
ERM	**Erimo**	**20.44**	**360**	P	**P**	**03 21 22.2**	**+0.6**
KSRS	**Korea Array**	**20.70**	**323**	P	**P**	**03 21 24.4**	**+0.3**
	comp=Z,12nm,0.7s,baz=146,slow=9.0,SNR=34						
KSRS				ScP	**ScP**	**03 28 28.9**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=115,slow=2.1,SNR=6.3						
	comp=Z,12nm,0.7s						
SSLB	**Suanglung**	**20.70**	**281**	P	**P**	**03 21 22.9**	**-1.6**
KSAR	**Wonju Array Be**	**20.71**	**323**	P	**P**	**03 21 23.4**	**-1.0**
KS19	**Wonju Array Si**	**20.77**	**323**	P	**P**	**03 21 23.4**	**-1.4**
KS19				IAmb	IAmb	03 21 29.8	
	comp=Z,38nm,1.1s						
NJ2	**Nanjing**	**24.13**	**301**	eP	**P**	**03 21 56.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**24.48**	**340**	P	**P**	**03 21 59.0**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=138,slow=8.1,SNR=12						
	comp=Z,2.5nm,0.5s						
SIJI	**Sorong**	**25.14**	**209**	P	**P**	**03 22 05.0**	**+0.1**
	comp=Z,9.5nm,0.4s,baz=18,slow=17,SNR=5.3						
	comp=Z,9.5nm,0.4s						
FAKI	**Fak Fak**	**26.56**	**205**	P	**P**	**03 22 15.7**	**-1.9**
FAKI				IAmb	IAmb	03 22 17.9	
	comp=Z,14nm,0.6s						
BNX	**BinXian**	**27.43**	**335**	⇑P	**P**	**03 22 25.8**	**+0.9**
BNX				pmax	pmax		
	comp=Z,16nm,0.7s						
BNX				pmax	pmax		
	comp=Z,260nm,5.0s						
GTOI	**Gorontalo**	**28.64**	**226**	P	**P**	**03 22 36.3**	**+0.3**
	comp=Z,7.9nm,1.1s						
MYLDM	**Lahad Datu**	**28.97**	**239**	P	**P**	**03 22 38.4**	**-0.5**
KLR	**Kul'dur**	**29.14**	**344**	P	**P**	**03 22 40.4**	**+0.4**
	comp=Z,6.9nm,0.6s,baz=161,slow=8.6,SNR=16						
KLR				PcP	**PcP**	**03 25 39.8**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=161,slow=3.1,SNR=4.2						
	comp=Z,6.9nm,0.6s						
MRSI	**Marisa**	**29.48**	**228**	P	**P**	**03 22 44.7**	**+1.3**
	comp=Z,34nm,1.3s						
TOLI2	**Tolitoli**	**29.85**	**230**	P	**P**	**03 22 47.3**	**+0.7**
KKM	**Kota Kinabalu**	**30.35**	**243**	P	**P**	**03 22 52.4**	**+1.3**
MPSI	**Mapaga**	**31.02**	**230**	P	**P**	**03 22 58.4**	**+1.5**
	comp=Z,4.1nm,0.7s,comp=Z,μm						
HEH	**HeiHe**	**31.29**	**340**	eP	**P**	**03 22 59.1**	**+0.3**
HEH				PcP	**PcP**	**03 25 45.3**	**+0.4**
HEH				ScP	**ScP**	**03 28 58.3**	**-0.7**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,380nm,4.9s						
HHC	**Hu-ho-hao-te**	**33.01**	**313**	eP	**P**	**03 23 14.9**	**+0.9**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,340nm,5.1s						
SPSI	**Sidrap Palu**	**34.21**	**225**	P	**P**	**03 23 25.2**	**+0.8**
	comp=Z,81nm,0.6s,comp=Z,894nm						
KAPI	**Kappang**	**35.01**	**224**	P	**P**	**03 23 32.1**	**+0.9**
	comp=Z,14nm,0.6s,baz=352,slow=4.3,SNR=4.7						
	comp=Z,14nm,0.6s						

COEN Coen 35.25 180 P **P** 03 23 33.2 0.0
COEN IAmb IAmb 03 23 35.5
comp=Z,12nm,0.9s
COEN Coen 35.25 180 P **P** 03 23 34.8 +1.6
KDU Kakadu 35.60 198 P **P** 03 23 36.1 0.0
SBUM Sibu 35.64 242 P **P** 03 23 35.1 -1.5
MTN Manton Dam 36.16 200 P **P** 03 23 39.3 -1.6
MTN Manton Dam 36.16 200 P **P** 03 23 41.0 +0.1
SOEI Soe 36.24 213 P **P** 03 23 40.6 -1.1
SOEI IAmb IAmb 03 23 45.4
comp=Z,16nm,0.8s
SOEI Soe 36.24 213 P **P** 03 23 40.6 -1.1
comp=Z,26nm,0.7s
BATI Baumata 36.93 213 P **P** 03 23 47.2 -0.3
comp=Z,35nm,0.4s,baz=131,slow=11,SNR=5.0
comp=Z,35nm,0.4s
PZH PanZhiHua 38.13 286 P **P** 03 23 59.3 +1.8
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,6.3s
PLAI Plampang 39.17 222 P **P** 03 24 05.8 -0.3
PLAI Plampang 39.17 222 P **P** 03 24 05.5 -0.6
comp=Z,57nm,0.9s
SONM Songino Array 39.52 321 P **P** 03 24 10.1 +1.4
comp=Z,1.0nm,0.4s,baz=132,slow=6.8,SNR=17
SONM PcP **PcP** 03 26 10.1 +0.4
comp=Z,1.6nm,0.7s,baz=139,slow=4.7,SNR=5.7
SONM ScP **ScP** 03 29 29.0 -0.3
comp=Z,0.8nm,0.8s,baz=145,slow=3.8,SNR=5.1
comp=Z,1.0nm,0.4s
SONM Songino Array 39.52 321 P **P** 03 24 07.9 -0.8
KNRA Kununurra 39.60 202 P **P** 03 24 09.0 -0.4
KNRA Kununurra 39.60 202 P **P** 03 24 09.9 +0.4
AMKA Amchitka 40.89 34 P **P** 03 24 20.1 +0.4
JAGI Jajag, Banyuwa 41.28 227 P **P** 03 24 20.6 -2.6
JAGI IAmb IAmb 03 24 48.8
comp=Z,44nm,1.2s
CTA Charters Tower 41.45 176 P **P** 03 24 25.1 +0.6
comp=Z,13nm,0.5s,baz=359,slow=8.3,SNR=37
comp=Z,13nm,0.5s
CTA Charters Tower 41.45 176 P **P** 03 24 25.3 +0.8
CTAO Charters Tower 41.45 176 P **P** 03 24 24.1 -0.5
CTAO Charters Tower 41.45 176 P **P** 03 24 25.4 +0.9
CMAR Chiang Mai Arr 41.65 274 P **P** 03 24 27.9 +1.6
comp=Z,1.7nm,0.3s,baz=55,slow=7.2,SNR=10
CMAR PcP **PcP** 03 26 18.6 +1.7
comp=Z,1.0nm,0.3s,baz=134,slow=2.6,SNR=4.3
comp=Z,1.7nm,0.3s
SEY Seymchan 41.86 6 P **P** 03 24 27.8 +0.5
comp=Z,2.6nm,0.7s,baz=199,slow=6.8,SNR=5.1
comp=Z,2.6nm,0.7s
WB0 Warramunga Arr 41.93 193 P **P** 03 24 27.9 -0.5
WB0 IAmb IAmb 03 24 29.8
comp=Z,24nm,0.7s
QIS Mount Isa 41.96 185 P **P** 03 24 29.7 +1.0
WR0 Warramunga Arr 42.09 192 P **P** 03 24 28.9 -0.7
WR0 IAmb IAmb 03 24 31.1
comp=Z,21nm,0.8s
WRAB Tennant Creek 42.10 193 P **P** 03 24 29.3 -0.5
WRAB Tennant Creek 42.10 193 P **P** 03 24 30.2 +0.4
WB2 Warramunga Arr 42.11 193 P **P** 03 24 29.7 -0.2
WRA Warramunga Arr 42.11 193 P **P** 03 24 30.5 +0.6
comp=Z,23nm,0.5s,baz=16,slow=9.2,SNR=356
WRA PcP **PcP** 03 26 18.6 +0.3
comp=Z,3.9nm,0.7s,baz=9.9,slow=3.7,SNR=6.2
WRA ScP **ScP** 03 29 41.1 +1.4
comp=Z,1.1nm,0.7s,baz=2.8,slow=4.8,SNR=5.0
WRA S **S** 03 30 25.9 -0.6
comp=Z,1.0nm,0.5s,baz=7.7,slow=13,SNR=6.3
WRA PKiKP **PKiKP** 03 33 22.1 -1.2
comp=Z,0.2nm,0.4s,baz=322,slow=1.4,SNR=4.5
comp=Z,23nm,0.5s
FITZ Fitzroy Crossi 42.98 205 P **P** 03 24 35.8 -1.0
FITZ Fitzroy Crossi 42.98 205 P **P** 03 24 37.6 +0.8
ADK Adak 43.30 36 P **P** 03 24 39.1 +0.2
ADK IAmb IAmb 03 25 02.2
comp=Z,56nm,1.3s
UGM Wanagama 43.44 231 P **P** 03 24 38.8 -1.8
IPM Ipoh 44.30 254 P **P** 03 24 47.2 -0.2
IPM IAmb IAmb 03 24 49.8
comp=Z,22nm,0.8s
IPM Ipoh 44.30 254 P **P** 03 24 49.4 +2.0
AS01 Alice Springs 45.81 192 P **P** 03 24 59.4 +0.4
AS31 Alice Springs 45.82 192 P **P** 03 24 58.5 -0.6
ASAR Alice Springs 45.82 192 P **P** 03 24 59.3 +0.2
comp=Z,8.7nm,0.4s,baz=11,slow=7.0,SNR=227
ASAR PcP **PcP** 03 26 31.2 +0.2
comp=Z,3.2nm,0.8s,baz=14,slow=3.9,SNR=7.6
ASAR ScP **ScP** 03 29 57.0 +2.1
comp=Z,0.4nm,0.6s,baz=17,slow=3.4,SNR=3.3
ASAR S **S** 03 31 18.2 -1.7
comp=Z,1.3nm,0.7s,baz=20,slow=14,SNR=10
comp=Z,8.7nm,0.4s
ASAR Alice Springs 45.82 192 P **P** 03 24 58.4 -0.7
SDSI Sungai Dareh 46.53 247 P **P** 03 25 05.4 +0.6
comp=Z,16nm,1.0s,comp=Z,3μm
PSI Prapat 46.92 253 P **P** 03 25 09.4 +1.5
RPSI Rantau Prapat 46.97 253 P **P** 03 25 05.7 -2.4
RPSI IAmb IAmb 03 25 09.8
comp=Z,14nm,0.6s
EIDS Eidsvold 47.22 170 P **P** 03 25 10.2 +0.4
PDSI Padang 47.35 247 P **P** 03 25 11.4 +0.3
comp=Z,22nm,0.7s,comp=Z,3μm
QLP Quilpie 47.82 179 P **P** 03 25 15.0 +0.6
NIKH Nikolski High 48.09 37 P **P** 03 25 16.7 +0.6
baz=248
MBWA Marble Bar 48.23 210 P **P** 03 25 16.9 -0.8
WRKA Warakurna 48.50 198 P **P** 03 25 20.0 +0.4
PSA00 Pilbara Seismi 48.54 210 P **P** 03 25 19.7 -0.2
PSA00 IAmb IAmb 03 25 21.4
comp=Z,24nm,1.0s
BILL Bilibino 48.69 11 P **P** 03 25 20.4 -0.1
BILL IAmb IAmb 03 25 22.1
comp=Z,15nm,0.7s
GSI Gunungsitoli 48.80 252 P **P** 03 25 21.1 -1.1
GSI Gunungsitoli 48.80 252 P **P** 03 25 22.8 +0.7
GSI Gunungsitoli 48.80 252 P **P** 03 25 21.9 -0.2
comp=Z,49nm,1.1s,comp=Z,3μm
DZM Mont Dzumac 48.87 151 P **P** 03 25 22.9 +0.3
comp=Z,10nm,1.1s,baz=352,slow=14,SNR=5.7
comp=Z,10nm,1.1s
INKA Innaminka 49.02 183 P **P** 03 25 23.9 +0.4
OOD Oodnadatta 49.56 189 P **P** 03 25 28.1 +0.6
AKUT Akutan 50.22 36 P **P** 03 25 32.7 +0.6
WMQ Urumqi 50.75 310 eP **P** 03 25 39.0 +2.6
LCRK Leigh Creek 51.89 186 P **P** 03 25 45.7 +1.0
GIRL Giralia 52.21 215 P **P** 03 25 47.5 +0.3
MULG Mulgathing 52.25 190 P **P** 03 25 48.1 +0.7
S12K Black Hills 52.76 35 P **P** 03 25 51.5 +0.7
baz=253
CMSA Cobar Meteorol 52.80 177 P **P** 03 25 52.0 +0.6
STKA Stephens Creek 53.11 182 P **P** 03 25 54.0 +0.4
comp=Z,18nm,0.5s,baz=358,slow=7.7,SNR=84
comp=Z,18nm,0.5s
STKA Stephens Creek 53.11 182 P **P** 03 25 52.9 -0.7
STKA Stephens Creek 53.11 182 P **P** 03 25 53.9 +0.3
SDPT Sand Point 53.52 36 P **P** 03 25 57.4 +1.1
baz=254
FORT Forrest 54.00 196 P **P** 03 25 59.7 -0.4
FORT Forrest 54.00 196 P **P** 03 26 00.8 +0.7
TNA Tin City 54.09 23 P **P** 03 26 01.1 +0.9
baz=240
ZAA0 Zalesovo Array 54.40 322 P **P** 03 26 01.6 -1.1
ZALV Zalesovo Beam 54.40 322 P **P** 03 26 02.5 -0.1
comp=Z,8.1nm,0.8s,baz=98,slow=6.7,SNR=28
ZALV PcP **PcP** 03 27 01.9 -0.3
comp=Z,7.2nm,0.5s,baz=114,slow=3.8,SNR=17
ZALV S **S** 03 33 17.1 +0.1
comp=Z,0.8nm,0.7s,baz=78,slow=13,SNR=4.6
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 54.40 322 P **P** 03 26 02.1 -0.5
BBOO Buckleboo 54.45 187 P **P** 03 26 02.3 -1.0
BBOO IAmb IAmb 03 26 04.1
comp=Z,15nm,0.8s
BBOO Buckleboo 54.45 187 P **P** 03 26 03.9 +0.6
ANM Nome 54.56 24 P **P** 03 26 03.4 -0.3
ANM Nome 54.56 24 P **P** 03 26 05.0 +1.3
baz=243
HTT Hallett 54.79 184 P **P** 03 26 06.5 +0.7
MK31 Makanchi Array 54.87 313 P **P** 03 26 05.8 -0.4
MK31 PcP **PcP** 03 27 02.8 -1.5
MKAR Makanchi Array 54.87 313 P **P** 03 26 07.0 +0.7
comp=Z,3.9nm,0.5s,baz=92,slow=8.8,SNR=44
MKAR PcP **PcP** 03 27 04.7 +0.4

comp=Z,3.7nm,0.5s,baz=75,slow=4.6,SNR=17
MKAR ScP **ScP** **03 30 33.3 -0.3**
comp=Z,1.6nm,0.8s,baz=91,slow=5.5,SNR=6.1
MKAR S **S** **03 33 23.4 -0.2**
comp=Z,1.0nm,0.8s,baz=94,slow=15,SNR=9.6
comp=Z,3.9nm,0.5s
MKAR Makanchi Array 54.87 313 P **P** **03 26 05.5 -0.7**
MKAR PcP **PcP** **03 27 03.5 -0.8**
CHGN Chignik 54.89 35 P **P** **03 26 05.2 -0.9**
CHGN Chignik 54.89 35 P **P** **03 26 06.5 +0.4**
baz=256
MAKZ Makanchi 55.09 313 P **P** **03 26 08.1 +0.3**
P16K Nushagak River 55.82 32 P **P** **03 26 14.0 +1.3**
baz=254
N16K Nishlik Lake 55.86 30 P **P** **03 26 14.3 +1.4**
baz=253
O16K Kokwok River B 55.92 32 P **P** **03 26 14.3 +0.8**
baz=254
O17K Koliganek Bris 56.46 32 P **P** **03 26 18.6 +1.4**
baz=255
MORW Morawa 56.72 209 P **P** **03 26 19.4 0.0**
MORW IAmb IAmb 03 26 20.4
comp=Z,14nm,0.8s
Q18K Katmai Hardscr 57.23 33 P **P** **03 26 21.9 -0.9**
baz=257
SII Sitkinak Islan 57.24 36 P **P** **03 26 23.8 +1.0**
P18K Big Mountain, 57.29 32 P **P** **03 26 22.8 -0.2**
P18K IAmb IAmb 03 26 57.0
comp=Z,24nm,1.4s
O18K Koktuh Hills 57.41 32 P **P** **03 26 24.4 +0.5**
O18K Koktuh Hills 57.41 32 P **P** **03 26 24.7 +0.9**
baz=256
SVW2 Sparrevohn 57.53 30 P **P** **03 26 24.3 -0.4**
SVW2 IAmb IAmb 03 26 26.9
comp=Z,10nm,0.7s
KURK Kurchatov 57.66 317 P **P** **03 26 25.6 -0.1**
TTA Tatalina 57.83 28 P **P** **03 26 27.3 +0.5**
TTA Tatalina 57.83 28 P **P** **03 26 27.5 +0.7**
baz=254
O19K Port Alsworth 57.92 32 P **P** **03 26 28.7 +1.4**
baz=257
ARPS Mount Arapiles 57.98 181 P **P** **03 26 28.8 +0.8**
N19K Bonanza Creek 57.98 31 P **P** **03 26 28.9 +1.0**
baz=256
GCSA Galena City Sc 58.01 26 P **P** **03 26 28.6 +0.8**
baz=252
L19K White Mountain 58.15 29 P **P** **03 26 29.7 +0.8**
baz=255
NRIK Noril'sk 58.19 340 P **P** **03 26 29.4 +0.3**
comp=Z,3.6nm,0.4s,baz=104,slow=11,SNR=6.1
NRIK PcP **PcP** **03 27 17.4 +0.5**
comp=Z,9.0nm,0.6s,baz=124,slow=3.6,SNR=8.0
comp=Z,3.6nm,0.4s
NRIK Noril'sk 58.19 340 P **P** **03 26 28.6 -0.5**
P19K Oil Pt 58.34 32 P **P** **03 26 30.5 +0.3**
baz=258
L20K Farewell, AK 58.66 29 P **P** **03 26 33.6 +1.2**
baz=256
K20K Telida 58.80 28 IAmb IAmb 03 26 35.9
comp=Z,14nm,1.1s
K20K Telida 58.80 28 P **P** **03 26 34.7 +1.3**
baz=255
M20K Styx River 58.86 30 P **P** **03 26 35.1 +1.2**
baz=257
J20K Nowinta River 58.98 27 P **P** **03 26 35.9 +1.4**
baz=255,SNR=12
KSH Kashi 59.39 304 P **P** **03 26 42.3 +4.4**
KSH PcP **PcP** **03 27 25.3 +2.9**
KSH pmax pmax
comp=Z,6.0nm,0.6s
PPLA Purkeypile 59.52 29 P **P** **03 26 39.0 +0.6**
PPLA IAmb IAmb 03 27 14.8
comp=Z,24nm,1.4s
PPLA Purkeypile 59.52 29 P **P** **03 26 39.2 +0.8**
baz=257
BRSE Bradley Lake S 59.59 32 P **P** **03 26 38.7 -0.1**
baz=261
SKT Skwentna 59.62 30 IAmb IAmb 03 26 40.0
comp=Z,14nm,1.0s
SKT Skwentna 59.62 30 P **P** **03 26 39.2 +0.2**
baz=259
IMAR Indian Mountai 59.62 25 P **P** **03 26 39.1 +0.2**
CAST Castle Rocks 59.68 28 IAmb IAmb 03 26 41.3
comp=Z,16nm,0.8s
CAST Castle Rocks 59.68 28 P **P** **03 26 40.7 +1.3**
baz=257,SNR=14
CHUM Lake Minchumin 59.68 28 P **P** **03 26 41.0 +1.7**
baz=257,SNR=6.7
G21K Allakaket 59.87 24 P **P** **03 26 42.0 +1.5**
baz=254
SUA Susitna One 59.89 30 P **P** **03 26 41.8 +0.8**
baz=260
H21K Melozitna Rive 59.91 25 P **P** **03 26 41.4 +0.5**
H21K IAmb IAmb 03 26 43.4
comp=Z,15nm,0.9s
H21K Melozitna Rive 59.91 25 P **P** **03 26 42.4 +1.5**
baz=255
F21K Alatna River 60.07 24 P **P** **03 26 43.3 +1.4**
baz=254
I21K Tanana 60.13 26 IAmb IAmb 03 26 44.8
comp=Z,19nm,0.8s
I21K Tanana 60.13 26 P **P** **03 26 43.9 +1.6**
baz=256
M22K Willow 60.24 30 P **P** **03 26 43.4 +0.3**
baz=260
SEW Seward 60.29 32 P **P** **03 26 44.2 +0.8**
baz=262
BPAW Bear Paw Mtn. 60.30 27 IAmb IAmb 03 26 45.4
comp=Z,14nm,0.6s
BPAW Bear Paw Mtn. 60.30 27 P **P** **03 26 44.7 +1.2**
baz=258,SNR=8.7
RC01 Rabbit Creek A 60.31 31 P **P** **03 26 43.9 +0.3**
baz=261
A21K Barrow 60.36 19 P **P** **03 26 43.6 -0.1**
A21K IAmb IAmb 03 26 45.7
comp=Z,16nm,0.8s
A21K Barrow 60.36 19 P **P** **03 26 44.5 +0.7**
baz=248
TRF Thorofare Moun 60.47 28 IAmb IAmb 03 26 46.0
comp=Z,14nm,0.9s
TRF Thorofare Moun 60.47 28 P **P** **03 26 45.3 +0.4**
baz=259,SNR=5.3
MLY Manley 60.61 26 IAmb IAmb 03 26 47.7
comp=Z,12nm,1.0s
MLY Manley 60.61 26 P **P** **03 26 46.9 +1.3**
baz=258,SNR=7.3
F22K John River 60.64 23 P **P** **03 26 47.3 +1.6**
baz=255
PMR Palmer 60.68 30 P **P** **03 26 45.3 -0.7**
baz=261
PWL Port Wells 60.95 31 P **P** **03 26 48.3 +0.3**
baz=262
KNK Knik Glacier 60.97 31 P **P** **03 26 48.0 -0.1**
baz=262
SML Sawmill 61.09 30 P **P** **03 26 48.6 -0.3**
SML IAmb IAmb 03 26 50.6
comp=Z,28nm,1.0s
SML Sawmill 61.09 30 P **P** **03 26 49.4 +0.5**
baz=262
MCK McKinley 61.12 28 P **P** **03 26 49.0 -0.1**
baz=260
WAT1 Susitna Watana 61.14 29 P **P** **03 26 49.1 -0.1**
baz=261
I23K Minto, Yukon-K 61.20 26 IAmb IAmb 03 26 52.3
comp=Z,11nm,0.7s
I23K Minto, Yukon-K 61.20 26 P **P** **03 26 50.5 +1.0**
baz=259,SNR=8.9
NEA2 Nenana 61.22 27 IAmb IAmb 03 26 51.4
comp=Z,16nm,1.3s
NEA2 Nenana 61.22 27 P **P** **03 26 50.6 +1.0**
baz=259,SNR=7.1
G23K Bananza Creek 61.26 25 P **P** **03 26 51.1 +1.2**
baz=257
COLD Coldfoot 61.31 24 P **P** **03 26 49.8 -0.5**
COLD Coldfoot 61.31 24 P **P** **03 26 51.3 +1.1**
baz=257
M23K Glacier View 61.37 30 P **P** **03 26 51.0 +0.2**
baz=262
WAT6 Susitna Watana 61.47 29 P **P** **03 26 51.5 -0.1**
baz=262
D23K Nanushuk River 61.55 22 P **P** **03 26 53.4 +1.6**
baz=256
SCM Sheep Creek Mo 61.56 30 P **P** **03 26 52.9 +0.8**
baz=262
DHY Denali Highway 61.71 29 P **P** **03 26 53.8 +0.6**
baz=262
TCOL CIGO, UAF Yank 61.78 27 IAmb IAmb 03 26 55.6
comp=Z,11nm,0.6s
TCOL CIGO, UAF Yank 61.78 27 P **P** **03 26 54.3 +1.0**
baz=260
COLA College 61.78 27 P **P** **03 26 54.1 +0.8**
baz=260
H24K Noodor Dome 61.94 26 IAmb IAmb 03 26 56.5
comp=Z,8.9nm,0.7s
H24K Noodor Dome 61.94 26 P **P** **03 26 55.2 +0.7**
baz=260
POKR Poker Plat Res 62.00 27 P **P** **03 26 54.9 0.0**
baz=261
HDA Harding Lake 62.09 27 P **P** **03 26 54.3 -1.2**
HDA IAmb IAmb 03 26 55.8
comp=Z,7.4nm,0.7s
HDA Harding Lake 62.09 27 P **P** **03 26 55.2 -0.3**
baz=262
E24K Your Creek 62.13 23 P **P** **03 26 56.9 +1.2**
baz=258
IL31 62.17 27 P **P** **03 26 54.8 -1.1**
IL31 IAmb IAmb 03 26 56.3
comp=Z,9.3nm,0.8s
ILAR Eielson Array 62.17 27 P **P** **03 26 55.2 -0.7**
comp=Z,6.1nm,0.6s,baz=256,slow=5.4,SNR=96
comp=Z,6.1nm,0.6s
KLU Klutina 62.19 31 P **P** **03 26 57.0 +0.8**
baz=264
F24K Squaw Lake 62.25 24 P **P** **03 26 58.1 +1.6**
baz=259
G24K Hadweenzic Riv 62.25 25 P **P** **03 26 57.9 +1.4**
baz=260
K24K Donnelly Dome 62.52 28 P **P** **03 27 00.0 +1.7**
baz=263
PAX Paxson 62.56 29 P **P** **03 26 59.3 +0.6**
baz=264
HARP HAARP 62.64 30 P **P** **03 27 00.2 +1.1**
baz=264
BMRM Bremner River 62.77 31 P **P** **03 27 01.1 +1.1**
baz=265
G25K Bearman Lake 62.80 25 P **P** **03 27 00.9 +0.9**
baz=261
N25K Chitina, Valde 62.83 31 P **P** **03 27 01.0 +0.6**
baz=265
PRP Porcupine Dome 62.85 26 P **P** **03 26 59.6 -1.0**
PRP Porcupine Dome 62.85 26 P **P** **03 27 00.6 0.0**
baz=262
BRVK Borovoye 62.92 320 P **P** **03 27 00.7 -0.4**
RIDG Independent Ri 62.92 28 IAmb IAmb 03 27 02.3
comp=Z,8.7nm,0.6s
RIDG Independent Ri 62.92 28 P **P** **03 27 01.5 +0.5**
baz=264,SNR=5.2
F25K Christian Rive 63.11 24 P **P** **03 27 03.7 +1.6**
baz=261
FYU Fort Yukon 63.11 25 IAmb IAmb 03 27 04.5
comp=Z,19nm,1.0s
D25K Kavik River 63.13 22 P **P** **03 27 03.2 +0.9**
baz=260
E25K Arctic Village 63.22 23 P **P** **03 27 04.0 +1.2**
baz=261
KK31 Karatay Array 63.22 308 P **P** **03 27 03.1 -0.1**
KK31 IAmb IAmb 03 27 05.0
comp=Z,9.4nm,0.8s
KKAR Karatay Array 63.22 308 P **P** **03 27 03.1 -0.2**
SCRK Sand Creek 63.33 28 P **P** **03 27 02.8 -0.9**
SCRK IAmb IAmb 03 27 05.0
comp=Z,11nm,0.8s
SCRK Sand Creek 63.33 28 P **P** **03 27 04.4 +0.7**
baz=264,SNR=9.5
L26K Log Cabin Wild 63.53 29 P **P** **03 27 05.7 +0.8**
baz=266
J26L Joseph Creek 63.56 28 IAmb IAmb 03 27 06.3
comp=Z,13nm,0.8s
J26L Joseph Creek 63.56 28 P **P** **03 27 05.4 +0.2**
baz=265
M26K Nabesna, AK 63.64 30 P **P** **03 27 06.5 +0.8**
baz=266
F26K Sheenjek River 63.69 24 P **P** **03 27 08.0 +2.1**
baz=262
G26K Porcupine Rive 63.73 25 P **P** **03 27 07.7 +1.6**
baz=263
C26K Camden Bay 63.74 21 P **P** **03 27 08.2 +2.1**
baz=261
GAR Garm 63.81 304 IAmb IAmb 03 27 08.7
comp=Z,12nm,0.9s
I26K Coal Creek Min 63.81 27 P **P** **03 27 07.4 +0.7**
baz=265
C27K Jago River 64.11 22 P **P** **03 27 10.0 +1.4**
baz=262
M27K Edge Creek, AK 64.16 30 P **P** **03 27 08.1 -1.1**
M27K IAmb IAmb 03 27 41.8
comp=Z,13nm,1.4s
M27K Edge Creek, AK 64.16 30 P **P** **03 27 10.2 +1.0**
baz=267
K27K Chicken 64.17 28 P **P** **03 27 10.2 +1.1**
baz=266
L27K Beaver Creek, 64.22 29 P **P** **03 27 10.2 +0.7**
baz=267
I27K Kandik River 64.48 26 P **P** **03 27 11.9 +0.8**
baz=266
G27K Doyon Strip 64.56 25 P **P** **03 27 12.4 +0.9**
baz=265
H27K Steamboat Moun 64.56 26 P **P** **03 27 12.9 +1.3**
baz=266
EGAK Eagle 64.61 27 P **P** **03 27 11.9 0.0**
baz=267
E27K Coleen River 64.70 24 P **P** **03 27 13.9 +1.5**
baz=265
YUK3 Moose Creek 64.81 31 P **P** **03 27 14.4 +0.9**
baz=269
O28M Mount Upton 64.92 32 P **P** **03 27 15.7 +1.4**
baz=269
YUK8 Steele Glacier 65.13 31 P **P** **03 27 16.9 +1.3**
baz=270
PNL Peninnsula 65.32 33 P **P** **03 27 18.1 +1.6**
baz=271
DAWY Dawson 65.35 28 P **P** **03 27 17.7 +1.0**
baz=269
YUK4 Talbot Arm 65.67 31 P **P** **03 27 20.4 +1.4**
baz=271
M29M Somme Creek 65.75 30 P **P** **03 27 20.8 +1.5**
baz=270,SNR=5.4
YUK6 Outpost Mounta 65.81 32 P **P** **03 27 21.4 +1.4**
baz=271
I29M Ogilvie Camp, 65.84 27 P **P** **03 27 20.8 +1.1**
baz=269
J29M Klondike Camp 65.87 28 P **P** **03 27 21.4 +1.3**
baz=270
L29M L29M 65.91 29 P **P** **03 27 22.1 +1.9**
baz=270,SNR=5.2
K29M Barlow Dome 66.17 28 P **P** **03 27 23.3 +1.3**
baz=270
HYT Haines Junctio 66.24 32 P **P** **03 27 23.7 +1.2**
baz=272
EPYK Eagle Plains 66.51 26 P **P** **03 27 25.1 +1.2**
baz=270
M30M Minto, Yukon 66.53 30 P **P** **03 27 25.3 +1.1**
baz=272
P30M Million Dollar 66.53 32 P **P** **03 27 25.2 +1.0**
baz=273
G30M tAoh Zraii Nji 66.70 25 P **P** **03 27 26.2 +1.1**
baz=270
PLBC Pleasant Camp 66.87 33 P **P** **03 27 27.4 +1.1**
baz=273
MAYO Mayo, Yukon 66.91 29 P **P** **03 27 27.4 +0.9**
baz=272
O30N Mendenhall 66.93 32 P **P** **03 27 27.6 +0.8**
baz=273
N31M Braeburn, Yuko 67.05 31 P **P** **03 27 28.4 +1.0**
baz=273
SKAG Skagway 67.39 33 P **P** **03 27 30.8 +1.3**
baz=274
URZ Urewera 67.42 152 P **P** **03 27 29.7 -0.3**
comp=Z,3.4nm,0.5s,baz=311,slow=2.8,SNR=5.9
comp=Z,3.4nm,0.5s
RTZ Ruatahuna 67.66 152 P **P** **03 27 30.4 -1.1**
F31M Tsiigehtchic 67.66 24 P **P** **03 27 31.4 +0.4**
baz=272
M31M Drury Creek, Y 67.66 30 P **P** **03 27 31.9 +0.7**
baz=274
INK Inuvik 67.71 24 IAmb IAmb 03 27 32.5
comp=Z,7.6nm,0.9s
INK Inuvik 67.71 24 P **P** **03 27 31.7 +0.4**
baz=272
R32K Eaglecrest 67.91 34 P **P** **03 27 33.1 +0.3**
baz=275
FARO Faro, Yukon 68.15 30 P **P** **03 27 35.3 +1.1**
baz=275
P33M Teslin, Yukon 68.59 32 P **P** **03 27 37.2 +0.1**
baz=276
WRAK Wrangell Islan 69.29 36 P **P** **03 27 43.1 +1.8**
baz=278
ARU Arti 69.45 324 P **P** **03 27 42.2 -0.1**
comp=Z,12nm,0.5s,baz=96,slow=4.3,SNR=24
comp=Z,12nm,0.5s
ARU Arti 69.45 324 P **P** **03 27 41.8 -0.5**
R33M Jennings River 69.62 33 P **P** **03 27 44.7 +1.2**
baz=278
ABKAR Akbulak array 69.73 316 P **P** **03 27 44.1 0.0**
RPZ Rata Peaks 69.74 159 P **P** **03 27 43.9 -0.2**
comp=Z,21nm,0.7s,baz=42,slow=8.3,SNR=5.2
comp=Z,21nm,0.7s
A36M Sachs Harbour 70.19 19 P **P** **03 27 47.4 +0.9**
baz=278
DLBC Dease Lake 70.24 34 P **P** **03 27 48.4 +1.3**
baz=279
WTLY Watson Lake, Y 70.60 32 IAmb IAmb 03 27 51.5
comp=Z,10.0nm,0.8s
WTLY Watson Lake, Y 70.60 32 P **P** **03 27 50.5 +1.4**
baz=280
AKTO Aktyubinsk 70.75 318 P **P** **03 27 49.9 -0.3**
comp=Z,3.8nm,0.7s,baz=90,slow=7.3,SNR=18
comp=Z,3.8nm,0.7s
C36M Paulatuk 71.01 22 IAmb IAmb 03 27 52.0
comp=Z,10nm,0.6s
C36M Paulatuk 71.01 22 P **P** **03 27 51.8 +0.4**
baz=280
LIRD Liard River Hi 72.07 33 P **P** **03 27 58.8 +0.9**
baz=282
WRGLY Wrigley 72.49 28 P **P** **03 28 01.8 +1.6**
baz=283
KOTAN Kotaneelee Air 72.92 32 P **P** **03 28 04.1 +1.2**
baz=283
GEYT Alibeck 73.41 305 P **P** **03 28 07.2 +1.0**
comp=Z,4.7nm,0.7s,baz=124,slow=2.7,SNR=9.5
comp=Z,4.7nm,0.7s
KIRV Kirov 73.86 327 P **P** **03 28 08.4 +0.1**
comp=Z,14nm,0.6s,baz=40,slow=3.6,SNR=3.8
comp=Z,14nm,0.6s
CLRS Cowichan Lake 75.79 43 P **P** **03 28 19.0 -0.5**
CLRS IAmb IAmb 03 28 57.5
comp=Z,24nm,1.5s
SPA0 Spitsbergen Ar 76.03 350 *eP* **P** **03 28 20.8 +0.4**
SPB2 Spitsbergen Ar 76.03 350 P **P** **03 28 20.5 +0.1**
BELG Belogornoye 76.58 321 P **P** **03 28 24.2 +0.3**
comp=Z,35nm,0.7s,baz=25,slow=0.8,SNR=14
comp=Z,35nm,0.7s
YKA Yellowknife Ar 76.59 28 P **P** **03 28 24.1 +0.4**
comp=Z,12nm,0.6s,baz=292,slow=6.1,SNR=88
comp=Z,12nm,0.6s
WAPA Wapiti River 76.76 36 IAmb IAmb 03 28 25.8
comp=Z,12nm,0.6s
RES Resolute Bay 77.24 13 P **P** **03 28 27.1 -0.1**
RES IAmb IAmb 03 28 28.4
comp=Z,9.3nm,0.7s
VADS Vadso 77.67 341 *e* **P** **03 28 30.4 +0.8**
KLMR Klimovskoe 77.90 331 *eP* **P** **03 28 29.4 -1.6**
KLMR AMP 03 28 31.3
comp=Z,12nm,1.3s
H04A Detroit Lake 78.31 47 IAmb IAmb 03 28 35.5
comp=Z,8.7nm,0.8s
LTY Liberty 78.48 44 P **P** **03 28 34.2 -0.4**
YBH Yreka Blue Hor 78.89 50 P **P** **03 28 36.6 -0.4**
YBH IAmb IAmb 03 28 39.2
comp=Z,7.1nm,0.8s
B08A Colville Reser 78.96 42 IAmb IAmb 03 28 38.8
comp=Z,12nm,1.0s
ARA0 ARCESS Array S 79.12 342 *eP* **P** **03 28 38.1 +0.6**
ARA0 IAmb IAmb 03 28 38.8
comp=Z,26nm,0.6s
ARCES ARCESS Array B 79.12 342 P **P** **03 28 37.8 +0.3**
comp=Z,20nm,0.6s,baz=71,slow=8.2,SNR=94
ARCES PKKPbc **PKKPbc** **03 47 25.6 -3.0**
comp=Z,3.5nm,1.0s,baz=238,slow=1.7,SNR=5.1
comp=Z,20nm,0.6s
HAWA Hanford 79.50 44 P **P** **03 28 40.4 +0.3**
HAWA IAmb IAmb 03 28 41.9
comp=Z,6.9nm,0.9s
D08A Wollman Farm, 79.67 44 IAmb IAmb 03 28 42.6
comp=Z,10nm,1.0s
C09A Chrisman Ranch 79.82 43 IAmb IAmb 03 28 43.2
comp=Z,8.9nm,0.8s
K05A Summer Lake 79.83 48 IAmb IAmb 03 28 44.3
comp=Z,12nm,0.9s
KTK1 Kautokeino 80.08 342 *eP* **P** **03 28 42.3 -0.3**
G08A Pilot Rock 80.26 45 P **P** **03 28 43.8 -0.5**
E09A Wood Farm, Sta 80.36 44 IAmb IAmb 03 28 46.0
comp=Z,7.0nm,0.7s
NEW Newport 80.37 42 IAmb IAmb 03 28 46.3
comp=Z,8.1nm,0.8s
NEW Newport 80.37 42 P **P** **03 28 45.5 +0.9**
baz=292,SNR=11
JETT Jettan, Norway 80.57 343 *eP* **P** **03 28 45.5 +0.2**
JETT IAmb IAmb 03 28 46.3
comp=Z,22nm,0.8s
TRO Tromso 80.93 343 *eP* **P** **03 28 46.9 -0.2**
J08A Circle Bar Ran 81.28 47 IAmb IAmb 03 28 51.5
comp=Z,10nm,1.0s
BMO Blue Mountains 81.51 45 IAmb IAmb 03 28 52.5
comp=Z,7.7nm,0.8s
OBN Obninsk 81.67 326 P **P** **03 28 51.5 +0.3**
comp=Z,2.1nm,0.4s,baz=45,slow=20,SNR=3.3
comp=Z,2.1nm,0.4s
CMB Columbia Colle 81.82 52 P **P** **03 28 52.4 -0.1**
CMB IAmb IAmb 03 28 54.2
comp=Z,12nm,0.8s
WALA Waterton Lakes 82.04 40 IAmb IAmb 03 28 55.2
comp=Z,9.8nm,1.1s
YERR Yerington 82.32 51 IAmb IAmb 03 28 57.0
comp=Z,7.5nm,0.8s
KBZ Khabaz 82.54 314 P **P** **03 28 56.8 +0.8**
comp=Z,14nm,0.8s,baz=142,slow=3.3,SNR=32
comp=Z,14nm,0.8s
KIV Kislovodsk 82.60 314 P **P** **03 28 56.7 +0.3**
KIV IAmb IAmb 03 28 59.5
comp=Z,8.9nm,0.7s
GNI Garni 82.62 310 P **P** **03 28 57.8 +1.1**
comp=Z,4.4nm,0.8s,baz=356,slow=11,SNR=3.7
comp=Z,4.4nm,0.8s
RYN Ryan 82.97 51 IAmb IAmb 03 29 00.3
comp=Z,6.7nm,0.8s
MFID Camas Ranch 83.04 46 IAmb IAmb 03 29 00.5
comp=Z,17nm,1.2s
STEI Steigen 83.06 343 *eP* **P** **03 28 58.0 -0.2**
STEI IAmb IAmb 03 28 58.8
comp=Z,21nm,0.7s
SMMC Simmler 83.09 55 P **P** **03 28 59.9 +0.9**
baz=292
MLAC Mammoth, Mammo 83.11 52 P **P** **03 28 59.9 +0.5**
baz=292
KVN Kaiserville 83.12 51 IAmb IAmb 03 29 01.0
comp=Z,15nm,1.3s
LHV Little Huntoon 83.13 52 IAmb IAmb 03 29 01.4
comp=Z,7.3nm,0.8s
VOG Valley Oaks Go 83.19 54 P **P** **03 29 00.5 +1.1**
baz=292
NVAR Mina Array Bea 83.21 51 P **P** **03 29 00.6 +0.8**
comp=Z,8.3nm,0.7s,baz=276,slow=5.5,SNR=60
comp=Z,8.3nm,0.7s
NV11 Mina Array Sit 83.31 51 P **P** **03 28 59.6 -0.7**
NV11 IAmb IAmb 03 29 03.1
comp=Z,6.1nm,0.8s
FINES FINESS Array B 83.38 335 P **P** **03 28 59.1 -0.7**
comp=Z,8.2nm,0.5s,baz=69,slow=4.8,SNR=115
comp=Z,8.2nm,0.5s
FINES FINESS Array B 83.38 335 P **P** **03 28 58.7 -1.1**
PKM Mcpherson Peak 83.39 55 P **P** **03 29 00.8 0.0**
baz=292
FAUS Fauske 83.42 342 *eP* **P** **03 28 59.7 -0.3**
VES Vestal, Richgr 83.59 54 P **P** **03 29 01.8 +0.2**
baz=292
HLID Hailey 83.93 46 P **P** **03 29 04.2 +0.9**
baz=294,SNR=7.5
ISA Isabella, Lake 84.12 54 P **P** **03 29 04.3 0.0**
baz=292
CWC Cottonwood Cre 84.12 53 P **P** **03 29 04.7 +0.3**
baz=292
LCH Last Change Ra 84.14 52 IAmb IAmb 03 29 06.2
comp=Z,10nm,1.4s
MCMT McKenzie Canyo 84.44 44 P **P** **03 29 04.9 -1.0**
MOR8 Moi Rana 84.49 341 *eP* **P** **03 29 04.0 -1.4**
MOR8 IAmb IAmb 03 29 04.7
comp=Z,21nm,0.7s
ELK Elko 84.50 48 IAmb IAmb 03 29 08.1
comp=Z,12nm,1.1s
MPMC Manual Prospec 84.71 53 P **P** **03 29 08.3 +0.9**
baz=293,SNR=10
VSU Vasula 84.74 332 *eP* **P** **03 29 06.3 -0.4**

MEF	Metsahovi	84.75	334	*eP*		P	03 29 05.9	-0.9	
EDW2	Edwards Air Fo	84.78	55	P		P	03 29 08.3	+0.7	
	baz=293								
LRMC	Laurel Mtn Rad	84.78	54	P		P	03 29 08.5	+0.8	
	baz=293,SNR=11								
BOZ	Bozeman (W)	84.89	43	IAmb	IAmb		03 29 09.5		
	comp=Z,6.2nm,0.6s								
BOZ	Bozeman (W)	84.89	43	P		P	03 29 08.8	+0.7	
	baz=296,SNR=11								
EGMT	Eagleton	84.98	40	IAmb	IAmb		03 29 10.3		
	comp=Z,14nm,1.1s								
EGMT	Eagleton	84.98	40	P		P	03 29 08.9	+0.6	
	baz=297								
FMP	Fort Macarthur	84.99	56	P		P	03 29 08.0	-0.6	
	baz=293								
FURC	Furnace Creek,	85.02	53	P		P	03 29 09.6	+1.0	
	baz=293								
QSM	Queen of Sheba	85.21	53	IAmb	IAmb		03 29 11.3		
	comp=Z,9.8nm,0.9s								
R11A	Troy Canyon, C	85.21	51	P		P	03 29 09.8	0.0	
R11A				IAmb	IAmb		03 29 11.6		
	comp=Z,6.6nm,1.0s								
R11A	Troy Canyon, C	85.21	51	P		P	03 29 10.6	+0.8	
	baz=294,SNR=13								
GWY	Greenwater Val	85.27	53	P		P	03 29 10.5	+0.4	
GWY				IAmb	IAmb		03 29 11.6		
	comp=Z,9.8nm,0.9s								
TPNV	Topopah Spring	85.28	52	IAmb	IAmb		03 29 11.7		
	comp=Z,12nm,0.8s								
TPNV	Topopah Spring	85.28	52	P		P	03 29 10.9	+0.8	
	baz=293,SNR=14								
S11A	Rachel	85.37	51	IAmb	IAmb		03 29 12.3		
	comp=Z,6.8nm,0.7s								
GSC	Goldstone, Bar	85.51	54	IAmb	IAmb		03 29 12.4		
	comp=Z,5.2nm,0.8s								
GSC	Goldstone, Bar	85.51	54	P		P	03 29 12.1	+0.9	
	baz=293								
RRX	Edison Barstow	85.53	54	P		P	03 29 12.2	+1.0	
	baz=293								
SHOC	Shoshone, Teco	85.67	53	P		P	03 29 11.9	-0.1	
	baz=294								
HVU	Hansel Valley	85.77	47	P		P	03 29 12.7	+0.3	
HVU				IAmb	IAmb		03 29 14.3		
	comp=Z,8.2nm,1.1s								
SPR3	Spring Creek 3	85.84	50	P		P	03 29 13.4	+0.3	
MTSE	Matsula	85.86	333	*eP*		P	03 29 11.9	-0.3	
MURC	Murrieta	85.88	56	P		P	03 29 13.6	+0.6	
	baz=293								
FFC	Flin Flon	85.95	32	P		P	03 29 12.0	-0.8	
FFC				IAmb	IAmb		03 29 14.2		
	comp=Z,11nm,0.8s								
PRN	Pahroc Range	85.97	51	IAmb	IAmb		03 29 15.3		
	comp=Z,9.0nm,1.0s								
HEC	Hector,Ludlow	86.05	54	P		P	03 29 14.4	+0.5	
	baz=294								
IMW	Indian Meadow	86.07	44	IAmb	IAmb		03 29 16.7		
	comp=Z,6.8nm,1.1s								
H17A	Grant Village	86.09	44	P		P	03 29 17.1	+3.0	
	baz=296,SNR=6.9								
TUQ	Turquoise Moun	86.12	54	P		P	03 29 15.2	+1.0	
	baz=294,SNR=10								
SUMG	Summit	86.15	1	*i* P		P	03 29 14.0	+0.1	
109C	Camp Elliot, M	86.23	56	P		P	03 29 14.8	+0.2	
	baz=293								
NSS	Namsos	86.39	341	*eP*		P	03 29 14.3	-0.4	
DUG	Dugway, Tooele	86.41	48	P		P	03 29 15.2	-0.4	
DUG				IAmb	IAmb		03 29 17.1		
	comp=Z,6.9nm,0.8s								
DUG	Dugway, Tooele	86.41	48	P		P	03 29 16.3	+0.7	
	baz=295,SNR=11								
PFO	Pinyon Flats O	86.44	55	P		P	03 29 15.7	-0.2	
PFO				IAmb	IAmb		03 29 17.2		
	comp=Z,8.3nm,0.8s								
PFO	Pinyon Flats O	86.44	55	P		P	03 29 16.2	+0.4	
	baz=294								
TPFO	Pinon Flats	86.45	55	P		P	03 29 16.3	+0.5	
	baz=294								
AHID	Auburn Hatcher	86.46	45	P		P	03 29 15.2	-0.7	
IDID	Didziasalis	86.47	329	*eP*		P	03 29 08.1	-7.2	
PMD	Palm Desert	86.49	55	IAmb	IAmb		03 29 17.2		
	comp=Z,10nm,0.8s								
MARD	Mardin	86.58	309	IAmb	IAmb		03 29 17.1		
	comp=Z,8.1nm,0.6s								
GMRC	Granite Mounta	86.58	54	P		P	03 29 17.4	+0.9	
	baz=294,SNR=7.8								
RLMT	Red Lodge	86.59	43	P		P	03 29 18.0	+1.6	
	baz=297,SNR=12								
ISAL	Salakas	86.62	330	*eP*		P	03 29 17.1	+1.0	
BELC	Belle Mtn. Jos	86.64	55	P		P	03 29 17.0	+0.2	
	baz=294,SNR=6.0								
NACGM	Naroch	86.68	329	*eP*		P	03 29 16.4	0.0	
	comp=Z,22nm,1.1s,baz=56								
IIGN	Ignalina	86.70	329	*eP*		P	03 29 04.1	-12	
MONP2	Monument Peak	86.75	56	P		P	03 29 17.9	+0.5	
	baz=294								
V12A	Nelson	86.80	53	IAmb	IAmb		03 29 19.3		
	comp=Z,7.2nm,0.8s								
IKP	In-Ko-Pah, Jac	87.09	56	P		P	03 29 19.5	+0.6	
	baz=294								
BC3	Big Chuckawall	87.19	55	P		P	03 29 20.3	+0.9	
	baz=294,SNR=8.8								
SWSC	Sam W. Stewart	87.21	56	P		P	03 29 19.5	+0.2	
	baz=294								
IRM	Iron Mountain	87.22	54	P		P	03 29 20.2	+0.8	
	baz=294								
VSVD	Vaisvydziai	87.41	331	*eP*		P	03 29 20.5	+0.7	
LCMT	Little Creek M	87.45	51	P		P	03 29 20.9	+0.3	
LCMT				IAmb	IAmb		03 29 22.4		
	comp=Z,5.4nm,0.9s								
BW06	Boulder Array	87.48	45	P		P	03 29 20.8	+0.1	
	baz=297								
PDAR	Pinedale Array	87.48	45	P		P	03 29 20.8	0.0	
	comp=Z,0.6nm,0.5s,baz=262,slow=2.6,SNR=20								
	comp=Z,0.6nm,0.5s								
PABE	Paberze	87.67	330	*eP*		P	03 29 20.8	-0.2	
AKASG	Malin Array Be	87.69	324	P		P	03 29 19.7	-1.6	
	comp=Z,1.0nm,0.4s,baz=45,slow=4.9,SNR=14								
	comp=Z,1.0nm,0.4s								
AKBB	Malin Array Si	87.69	324	P		P	03 29 19.3	-1.9	
AKBB				IAmb	IAmb		03 29 21.0		
	comp=Z,6.4nm,1.0s								
LAO	LASA Array	87.72	40	P		P	03 29 22.3	+0.7	
	baz=299								
KNB	Kanab	87.75	51	IAmb	IAmb		03 29 24.3		
	comp=Z,13nm,1.0s								
BLYC	Blythe	87.86	55	IAmb	IAmb		03 29 24.2		
	comp=Z,6.3nm,0.9s								
GLA	Glamis	87.92	55	P		P	03 29 23.1	+0.3	
GLA	Glamis	87.92	55	P		P	03 29 23.5	+0.8	
	baz=294,SNR=5.2								
DGMT	Dagmar	88.03	38	P		P	03 29 22.9	0.0	
	baz=301								
RAYN	Ar Rayn	88.31	295	P		P	03 29 23.8	-1.0	
HFS	Hagfors	88.92	337	P		P	03 29 25.2	-1.6	
	comp=Z,6.5nm,0.5s,baz=72,slow=4.8,SNR=43								
	comp=Z,6.5nm,0.5s								
NB2	NORSAR Subarra	89.14	339	P		P	03 29 26.3	-1.6	
	comp=Z,2.8nm,0.7s,baz=49,slow=4.6								
NB2	NORSAR Subarra	89.14	339	P		P	03 29 26.3	-1.6	
	baz=49,slow=4.6								
NOA	NORSAR Array B	89.14	339	P		P	03 29 26.3	-1.6	
	comp=Z,4.3nm,0.8s,baz=48,slow=4.6,SNR=18								
	comp=Z,4.3nm,0.8s								
WUAZ	Wupatki	89.46	52	P		P	03 29 30.1	0.0	
	baz=296								
K22A	Casper	89.51	44	P		P	03 29 29.8	-0.4	
	baz=299								
O20A	White River Ci	89.57	47	IAmb	IAmb		03 29 31.2		
	comp=Z,4.4nm,0.8s								
O20A	White River Ci	89.57	47	P		P	03 29 30.6	+0.1	
	baz=298								
214A	Organ Pipe Nat	89.92	56	P		P	03 29 32.2	+0.1	
	baz=296								
RSSD	Black Hills	90.34	42	P		P	03 29 32.1	-2.0	
RSSD				IAmb	IAmb		03 29 34.9		
	comp=Z,6.7nm,0.6s								
RSSD	Black Hills	90.34	42	P		P	03 29 34.0	-0.1	
	baz=301								
BR131	Keskin Array S	90.52	313	IAmb	IAmb		03 29 34.8		
	comp=Z,4.6nm,0.8s								
BRTR	Keskin Array B	90.52	313	P		P	03 29 33.8	-1.1	
	comp=Z,2.5nm,0.7s,baz=94,slow=3.4,SNR=22								
	comp=Z,2.5nm,0.7s								
N23A	Red Feather La	90.74	45	P		P	03 29 36.7	+0.6	
	baz=300								
MVCO	Mesa Verde	90.76	49	P		P	03 29 36.2	0.0	
	baz=298								
MDND	Maddock	90.96	37	P		P	03 29 35.3	-1.2	
MDND	Maddock	90.96	37	P		P	03 29 36.8	+0.3	
	baz=304								
TUC	Tucson	91.31	55	P		P	03 29 39.4	+0.8	
	baz=297								
ISCO	Idaho Springs	91.50	46	P		P	03 29 40.1	+0.4	
	baz=300								
BUR08	Bucovina Ar. S	91.58	323	P		P	03 29 37.3	-2.3	
S22A	4UR Ranch, Cre	91.67	48	P		P	03 29 41.5	+1.0	
	baz=299								
GKP	Gorka Klasztor	92.14	331	*eP*		P	03 29 42.1	+0.3	
Q24A	Divide	92.23	47	P		P	03 29 43.1	+0.1	
	baz=300								
MMAI	Mount Meron Ar	92.41	307	P		P	03 29 42.9	-0.8	
	comp=Z,1.0nm,0.5s,baz=104,slow=6.1,SNR=3.5								
	comp=Z,1.0nm,0.5s								
SDCO	Great Sand Dun	92.59	48	P		P	03 29 44.4	-0.3	
	baz=300								
ANMO	Albuquerque	93.29	51	P		P	03 29 48.1	+0.3	
	baz=299								
121A	Cookes Peak, D	93.47	53	P		P	03 29 49.6	+0.9	
	baz=298								
MNTX	Cornudas Mount	95.66	53	P		P	03 29 58.5	0.0	
	baz=300								
GERES	GERESS Array B	96.78	329	P		P	03 30 01.9	-1.3	
	comp=Z,0.5nm,0.5s,baz=53,slow=6.9,SNR=7.0								
	comp=Z,0.5nm,0.5s								
LSZ	Lusaka	118.44	264			PKPdf	03 35 17.2	-2.1	
TROLL	Troll, Antarti	124.79	194	PKPdf		PKiKP	03 35 30.6	+0.3	
VNA2	Neumayer--Watz	127.67	192	PKPdf		PKiKP	03 35 35.9	0.0	
	baz=133,slow=1.0								
VNA3	Neumayer Olymp	127.82	191	PKPdf		PKiKP	03 35 36.4	+0.2	
TORD	Torodi Ar. Bea	128.91	309	PKP		PKPdf	03 35 39.1	-0.1	
	comp=Z,2.5nm,0.6s,baz=23,slow=1.8,SNR=3.7								
TORD				SKPbc		SKiKP	03 38 30.9	-16	
	comp=Z,1.2nm,0.8s,baz=21,slow=2.2,SNR=5.2								
SDV	Santo Domingo	135.06	51	PKPdf		PKPdf	03 35 50.5	-0.7	
DBIC	Dimbokro	138.01	308	PKiKP		PKPpre	03 35 45.5		
	comp=Z,2.1nm,0.9s,baz=50,slow=1.2,SNR=1.8								
DBIC				PKP		PKPdf	03 35 55.5	-0.8	
	comp=Z,3.1nm,0.6s,baz=66,slow=3.6,SNR=7.0								
DBIC				SKP			03 39 01.3		
	comp=Z,2.2nm,0.7s,baz=67,slow=3.8,SNR=2.5								
CZSB	Cruzeiro do Su	142.72	74			PKPpre	03 35 59.2		
TBTG	Tabatinga, AM	143.50	67	PKPpre		PKPpre	03 36 01.3		
LR04	Corral	143.85	129	PKPdf		PKPab	03 36 04.4	+0.4	
LL04	Puerto Octay	144.22	131	PKPdf		PKPab	03 36 05.6	+0.2	
PLCA	Paso Flores	145.59	132	PKPbc		PKPab	03 36 11.0	+0.2	
	comp=Z,20nm,0.6s,baz=244,slow=4.0,SNR=116								
BOAV	Boa Vista	146.75	47			PKPbc	03 36 13.3	-0.8	
MT01	Popeta	147.22	119			PKPbc	03 36 14.7	0.0	
PEL	Peldehue	147.84	118			PKPdf	03 36 14.8	+1.7	
PB11	IPOC Station P	149.18	93	PKPbc		PKPdf	03 36 17.1	+1.3	
ETMB	Extrema	149.40	72			PKPdf	03 36 15.2	-0.9	
ETMB						PKPbc	03 36 19.7	-1.1	
ETMB						PKPab	03 36 24.5	-2.2	
LPAZ	La Paz	149.89	86	PKP		PKPdf	03 36 17.2	-0.4	
	comp=Z,13nm,0.5s,baz=335,slow=4.7,SNR=33								
LPAZ				PKPbc		PKiKP	03 36 23.6	+0.1	
	comp=Z,13nm,0.5s,baz=356,slow=4.6,SNR=45								
LPAZ				PKPab		PKPab	03 36 30.1	+0.7	
	comp=Z,10.0nm,0.6s,baz=217,slow=3.8,SNR=14								
LPAZ	La Paz	149.89	86			PKPdf	03 36 16.1	-1.4	

VAO ***16*** *03:20:34.9±1.2,20.95S×71.51W,h157km±8km, mb4.0*
GUC ***16*** *03:21:03.4±0.8,21.98S×68.56W,h112km±4km,ML3.6*

ISC 16 03:21:02.7±0.9**,21.97S**±0.04×**68.65W**±0.07**,h123**km±9km**,**
n33,σ0.79/47,10C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.58	287	⇑*iP*		Pn		03 21 22.0	+0.3
PB09				*i* S		Sn		03 21 35.9	-0.1
PB09				IAML				03 21 38.6	
	comp=N,874nm,0.1s								
LVC	Limon Verde	0.69	201	*eP*		Pn		03 21 21.9	-0.8
LVC				*eS*		Sn		03 21 36.6	-1.2
LVC	Limon Verde	0.69	201	*eP*		Pn		03 21 22.2	-0.5
PB03	IPOC Station P	1.03	265	⇑*iP*		Pn		03 21 25.6	+0.2
PB03				*i* S		Sn		03 21 42.2	-0.4
PB03				IAML				03 21 43.9	
	comp=N,941nm,0.1s								
AF01	San Pedro de A	1.07	156	⇓*iP*		Pn		03 21 26.6	+0.5
PB06	IPOC Station P	1.13	229	⇑*iP*		Pn		03 21 26.8	+0.4
PB06				*i* S		Sn		03 21 44.3	-0.2
PB06				IAML				03 21 45.6	
	comp=E,787nm,0.2s								
PB07	IPOC Station P	1.18	281	⇑*iP*		Pn		03 21 27.4	+0.4
PB07				*i* S		Sn		03 21 45.6	+0.3
PB07				IAML				03 21 46.9	
	comp=N,2μm,0.1s								
PB01	IPOC Station P	1.21	319	⇑*iP*		Pn		03 21 27.4	+0.3
PB01				*i* S		Sn		03 21 46.0	+0.2
PB01				IAML				03 21 49.1	
	comp=N,873nm,0.1s								
PB04	IPOC Station P	1.44	255	⇑*iP*		Pn		03 21 30.1	+0.3
PB04				*i* S		Sn		03 21 50.2	-0.2
PB04				IAML				03 21 53.9	
	comp=N,752nm,0.1s								
PB15	IPOC Station P	1.45	211	*eP*		Pn		03 21 30.4	+0.4
PB15				*eS*		Sn		03 21 51.0	+0.3
PB15				IAML				03 21 55.1	
	comp=E,2μm,0.3s								
PATCX	Punta Patache	1.81	309	⇑*iP*		Pn		03 21 34.4	+0.3
PATCX				*i* S		Sn		03 21 57.9	-0.1
PATCX				IAML				03 21 59.5	
	comp=N,828nm,0.2s								
TA01	Diego Aracena	2.00	314	*eP*		Pn		03 21 36.4	+0.1
TA01				*i* S		Sn		03 22 02.2	+0.2
TA01				IAML				03 22 04.5	
	comp=N,912nm,0.3s								
HMBC	Humberstone	2.04	325	⇑*iP*		Pn		03 21 37.0	0.0
HMBC				*i* S		Sn		03 22 03.0	-0.1
HMBC				IAML				03 22 05.0	
	comp=E,563nm,0.2s								
TA02	Huaiquique	2.18	320	*eP*		Pn		03 21 38.5	-0.1
PB10	IPOC Station P	2.34	228	*eP*		Pn		03 21 40.7	+0.1
PB10				*i* S		Sn		03 22 07.6	-2.0
GO01	Chusmiza	2.34	347	*eP*		Pn		03 21 42.1	+1.0
PB11	IPOC Station P	2.39	337	⇑*iP*		Pn		03 21 41.5	+0.2
PB11				*i* S		Sn		03 22 10.5	-0.5
PB11				IAML				03 22 13.1	
	comp=E,365nm,0.5s								
PSGC	Pisagua	2.73	329	⇑*iP*		Pn		03 21 44.9	-0.9
PSGC				*eS*		Sn		03 22 17.7	-1.1
PSGC				IAML				03 22 19.2	
	comp=N,134nm,0.2s								
MNMC	Minye Minye	2.96	342	*eP*		Pn		03 21 49.2	+0.4
MNMC				*eS*		Sn		03 22 25.0	+0.7
PB12	IPOC Station P	3.69	334	*eP*		Pn		03 21 57.0	-1.3
BBSD	Serra de San D	8.94	59	*eP*		Pn		03 23 06.3	-2.6
AMBA	Amambai (Brazi	12.67	97	*eP*		P		03 24 05.8	+0.9
CRSM	Crissiumal (Br	14.36	115	*eP*		P		03 24 24.6	+0.9
FRBT	Francisco Belt	14.79	109	*eP*		P		03 24 29.4	+0.7
TRCB	Terra Rica	14.84	96	*eP*		P		03 24 30.5	+1.4
PDRB	Porto dos Gac	15.36	50	*eP*		Pn		03 24 21.7	-11
PTGB	Pitanga	15.47	103	*eP*		P		03 24 37.0	+0.8
ITAB	Concordia	15.91	113	*eP*		P		03 24 40.6	-0.2
CPSB	Cacapava Do Su	16.02	125	*eP*		Pn		03 24 41.2	+0.2
PCMB	Pacaembu	16.15	92	*eP*		P		03 24 44.2	+0.5
FRTB	Fartura	17.67	98	*eP*		Pn		03 25 01.2	0.0
BB19B	Bebedouro	18.74	91	*eP*		P		03 25 12.1	-0.1
VAO	Valinhos	20.06	97	*eP*		P		03 25 25.5	-1.0

JMA ***16*** *03:43:23.0±0.2,24.37N±0.8×122.01E±0.5,h68km±2km,*
MV3.6/15,TAIWAN REGION
TAP ***16*** *03:43:23.4,24.37N×122.01E,h66km,ML4.2,B*

ISC 16 03:43:23.8±1.2**,24.36N**±0.02×**122.05E**±0.02**,h64**km±5km**,**
n157,σ1.12/304,12C-33D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.26	289	⇓*iP*		Pn		03 43 34.0	0.0
	baz=288								
EWUT				*i* S		Sn		03 43 41.4	0.0
	baz=288								
EHP	Heping Village	0.28	260	*i* P		Pn		03 43 34.1	-0.1
	baz=255								
EHP				*eS*		Sn		03 43 42.1	+0.3
	baz=255								
ENA	Nanau	0.29	283	⇓*iP*		Pn		03 43 34.2	0.0
	baz=282								
ENA				S		Sn		03 43 42.0	+0.1
	baz=282								
TWC	Suao	0.31	324	⇑*iP*		Pn		03 43 34.4	+0.1
	baz=329								
TWC				*i* S		Sn		03 43 42.3	+0.3
	baz=329								
NDS	Dongshan	0.41	312	*i* P		Pn		03 43 35.3	+0.2
	baz=314								
NDS				*eS*		Sn		03 43 43.8	+0.4
	baz=314								
ETL	Fush Village	0.44	243	⇓*iP*		Pn		03 43 35.1	-0.4
	baz=239								
ETL				*eS*		Sn		03 43 44.1	+0.1
	baz=239								
NACB	Ninganchiao	0.45	246	P		Pn		03 43 35.2	-0.4
NACB	Ninganchiao	0.45	246	⇓*iP*		Pn		03 43 35.0	-0.6
	baz=242								
NACB				*i* S		Sn		03 43 43.7	-0.5
	baz=242								
ILA	Ilan	0.49	326	⇑*iP*		Pn		03 43 36.5	+0.6
	baz=329								
ILA				*i* S		Sn		03 43 45.8	+1.0
	baz=329								
EGS		0.49	348	⇑*iP*		Pn		03 43 36.1	+0.1
	baz=352								
EGS				*eS*		Sn		03 43 45.7	+0.8
	baz=352								
TWE	Neicheng	0.50	316	⇓*iP*		Pn		03 43 36.4	+0.3
	baz=319								
TWE				S		Sn		03 43 45.3	+0.3
	baz=319								
TWD	Chiawan	0.50	236	P		Pn		03 43 35.6	-0.4
	baz=232								
TWD				*eS*		Sn		03 43 45.0	0.0
	baz=232								
LATG	Datong	0.51	290	⇓*iP*		Pn		03 43 36.0	-0.2
	baz=290								
LATG				*eS*		Sn		03 43 45.4	+0.1
	baz=290								
ENTT	Nioudou	0.52	302	⇓*iP*		Pn		03 43 36.3	+0.1
	baz=303								
ENTT				S		Sn		03 43 46.0	+0.5
	baz=303								
NTC	Toucheng	0.53	338	*eP*		Pn		03 43 36.7	+0.3
	baz=341								
NTC				*eS*		Sn		03 43 46.2	+0.6
	baz=341								
ETLH	Xiulin Townshi	0.54	253	⇓*iP*		Pn		03 43 36.2	-0.3
	baz=251								
ETLH				*eS*		Sn		03 43 45.3	-0.6
	baz=251								
HWA	Hwalien	0.56	227	*eP*		Pn		03 43 36.5	-0.1
	baz=223								
HWA				*eS*		Sn		03 43 47.0	+1.0
	baz=223								
FUSB	Fushanzhiwuyua	0.58	313	⇓*iP*		Pn		03 43 37.2	+0.3
	baz=315								
FUSB				S		Sn		03 43 46.8	+0.2
	baz=315								
NNSB	Datong	0.61	276	⇓*iP*		Pn		03 43 37.1	-0.2
	baz=275								
NNSB				*eS*		Sn		03 43 46.9	-0.4
	baz=275								
NNSH	Datong	0.61	276	⇓*iP*		Pn		03 43 37.1	-0.3
	baz=275								
NNSH				*eS*		Sn		03 43 46.8	-0.5
	baz=275								
NNS	Nan Shan	0.62	277	⇓*iP*		Pn		03 43 37.2	-0.2
	baz=276								
NNS				*eS*		Sn		03 43 47.1	-0.4
	baz=276								
TIPB	Shuangxi	0.64	342	⇑*iP*		Pn		03 43 37.6	0.0
	baz=344								
TIPB				*eS*		Sn		03 43 47.5	-0.3
	baz=344								
TEYL	Yanliau Villag	0.64	220	P		Pn		03 43 37.4	-0.2
	baz=219								
TEYL				*eS*		Sn		03 43 48.1	+0.4
	baz=219								
ETM	Tongmen	0.64	232	⇓P		Pn		03 43 37.3	-0.3
	baz=229								
ETM				*eS*		Sn		03 43 47.3	-0.5
	baz=229								
NWLT	Wulai	0.65	310	⇓*iP*		Pn		03 43 37.9	+0.2
	baz=311								
NWLT				*eS*		Sn		03 43 47.8	-0.1
	baz=311								
TWB1	Santiao Chiao	0.65	355	⇑*iP*		Pn		03 43 37.3	-0.3
	baz=359								
TWB1				S		Sn		03 43 46.8	-1.0
	baz=359								
YHNB	Yeheng	0.69	297	P		Pn		03 43 38.3	+0.1
YHNB	Yeheng	0.69	297	⇓*iP*		Pn		03 43 38.1	0.0
	baz=297								
YHNB				*eS*		Sn		03 43 48.7	0.0
	baz=297								
NSK	Sanguang	0.70	297	⇓*iP*		Pn		03 43 38.3	-0.1
	baz=297								
NSK				S		Sn		03 43 48.9	-0.2
	baz=297								
FUSS	Fushou	0.74	261	⇓*iP*		Pn		03 43 39.1	+0.1
	baz=260								
FUSS				*eS*		Sn		03 43 50.2	0.0
	baz=260								
NWF	Wu-fen Shan	0.75	341	⇑*iP*		Pn		03 43 38.9	0.0
	baz=343								
NWF				*eS*		Sn		03 43 49.6	-0.4
	baz=343								
SXI1	Grass Mountain	0.75	348	⇑*iP*		Pn		03 43 38.6	-0.2
	baz=350								
SXI1				*eS*		Sn		03 43 49.2	-0.8
	baz=350								
WFSB	Wu-fen Shan	0.75	341	⇑*iP*		Pn	

	baz=248							
CHGB				*e*S		**Sn**	**03 43 52.3**	**-0.2**
	baz=248							
YOJ	**Yonaguni jima**	**0.88**	**83**	P		**Pn**	**03 43 41.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.88**	**83**	P		**Pn**	**03 43 40.7**	**+0.3**
YOJ				S		**Sn**	**03 43 53.4**	**+0.5**
YOJ	**Yonaguni jima**	**0.88**	**83**	*i* P		**Pn**	**03 43 40.7**	**+0.3**
	baz=84							
YOJ				S		**Sn**	**03 43 53.6**	**+0.8**
	baz=84							
NFF	**Wufeng Townshi**	**0.89**	**288**	⇓P		**Pn**	**03 43 40.8**	**+0.1**
	baz=288							
NFF				*e*S		**Sn**	**03 43 52.9**	**-0.2**
	baz=288							
EGFH	**Guangfu**	**0.89**	**220**	P		**Pn**	**03 43 39.9**	**-0.7**
	baz=217							
EGFH				*e*S		**Sn**	**03 43 52.2**	**-0.9**
	baz=217							
OWD	**Renai**	**0.89**	**243**	P		**Pn**	**03 43 40.6**	**-0.2**
	baz=241							
OWD				*e*S		**Sn**	**03 43 52.6**	**-0.7**
	baz=241							
YM01	**YM01**	**0.89**	**331**	*e*P		**Pn**	**03 43 40.6**	**-0.1**
	baz=332							
YM01				*e*S		**Sn**	**03 43 52.9**	**-0.3**
	baz=332							
NWRT	**Kuosheng**	**0.91**	**337**	*e*P		**Pn**	**03 43 40.4**	**-0.4**
	baz=339							
NWRT				*e*S		**Sn**	**03 43 52.7**	**-0.7**
	baz=339							
YM08	**YM08**	**0.92**	**333**	⇑P		**Pn**	**03 43 40.6**	**-0.4**
	baz=335							
YM08				*e*S		**Sn**	**03 43 52.5**	**-1.3**
	baz=335							
WUSB	**Renai**	**0.93**	**247**	⇓*e*P		**Pn**	**03 43 41.3**	**+0.1**
	baz=245							
WUSB				*e*S		**Sn**	**03 43 53.6**	**-0.4**
	baz=245							
NTY	**Taoyuan**	**0.93**	**313**	*e*P		**Pn**	**03 43 41.4**	**+0.3**
	baz=314							
NTY				*e*S		**Sn**	**03 43 55.0**	**+1.0**
	baz=314							
TWS1	**Kuangyinshan**	**0.93**	**322**	⇓P		**Pn**	**03 43 41.4**	**+0.3**
	baz=324							
TWS1				*e*S		**Sn**	**03 43 54.7**	**+0.8**
	baz=324							
NJD	**Zhudong**	**0.95**	**293**	*e*P		**Pn**	**03 43 42.9**	**+1.5**
	baz=293							
NJD				*e*S		**Sn**	**03 43 56.7**	**+2.4**
	baz=293							
ANP	**Anpu**	**0.95**	**330**	*e*P		**Pn**	**03 43 41.2**	**-0.3**
	baz=331							
ANP				*e*S		**Sn**	**03 43 53.9**	**-0.6**
	baz=331							
NTST	**Danshui**	**0.97**	**326**	*e*P		**Pn**	**03 43 41.8**	**+0.2**
	baz=327							
NTST				*e*S		**Sn**	**03 43 55.1**	**+0.4**
	baz=327							
LIOB	**Emei**	**0.98**	**287**	⇓P		**Pn**	**03 43 42.1**	**+0.4**
	baz=287							
LIOB				*e*S		**Sn**	**03 43 56.6**	**+1.4**
	baz=287							
NCU	**National Centr**	**0.99**	**308**	*e*P		**Pn**	**03 43 41.9**	**0.0**
	baz=308							
NCU				*e*S		**Sn**	**03 43 55.5**	**+0.3**
	baz=308							
NCUH	**Zhongli**	**0.99**	**308**	*e*P		**Pn**	**03 43 41.7**	**-0.1**
	baz=308							
NCUH				*e*S		**Sn**	**03 43 55.1**	**-0.2**
	baz=308							
NSTT	**Nanjuang**	**0.99**	**286**	⇓P		**Pn**	**03 43 42.0**	**+0.2**
	baz=286							
NSTT				*e*S		**Sn**	**03 43 55.7**	**+0.5**
	baz=286							
TWY	**Chenhua**	**1.00**	**336**	⇑*e*P		**Pn**	**03 43 42.0**	**+0.1**
	baz=338							
TWY				*e*S		**Sn**	**03 43 55.5**	**+0.1**
	baz=338							
WHP	**Taichung City**	**1.01**	**265**	⇓P		**Pn**	**03 43 43.2**	**+1.0**
	baz=264							
WHP				*e*S		**Sn**	**03 43 56.5**	**+0.7**
	baz=264							
VWDT	**VWDT**	**1.03**	**234**	⇓P		**Pn**	**03 43 42.5**	**+0.2**
	baz=232							
VWDT				*e*S		**Sn**	**03 43 55.8**	**-0.3**
	baz=232							
HGSD	**Ruisui**	**1.04**	**214**	*e*P		**Pn**	**03 43 42.3**	**-0.2**
	baz=212							
HGSD				*e*S		**Sn**	**03 43 56.5**	**+0.2**
	baz=212							
WPL	**Puli Township**	**1.06**	**251**	*e*P		**Pn**	**03 43 43.2**	**+0.6**
	baz=250							
WPL				*e*S		**Sn**	**03 43 57.7**	**+0.9**
	baz=250							
DPDB	**Guoxing**	**1.07**	**253**	*e*P		**Pn**	**03 43 43.7**	**+0.7**
	baz=251							
DPDB				*e*S		**Sn**	**03 43 58.1**	**+0.8**
	baz=251							
HSN	**Hsinchu**	**1.07**	**294**	*e*P		**Pn**	**03 43 42.8**	**-0.2**
	baz=296							
HSN				*e*S		**Sn**	**03 43 57.0**	**-0.2**
	baz=296							
EHY	**Hungye**	**1.08**	**218**	*e*P		**Pn**	**03 43 41.9**	**-1.2**
	baz=216							
EHY				*e*S		**Sn**	**03 43 55.7**	**-1.6**
	baz=216							
WCS	**Beigang Elemen**	**1.08**	**254**	*e*P		**Pn**	**03 43 43.7**	**+0.7**
	baz=253							
WCS				*e*S		**Sn**	**03 43 58.4**	**+1.1**
	baz=253							
NHW	**Xinwu Township**	**1.11**	**305**	*e*P		**Pn**	**03 43 43.5**	**+0.1**
	baz=306							
NHW				*e*S		**Sn**	**03 43 58.3**	**+0.2**
	baz=306							
NJN	**Zhunan**	**1.12**	**287**	*e*P		**Pn**	**03 43 44.0**	**+0.5**
	baz=287							
SSLB	**Suanglung**	**1.15**	**240**	P		**Pn**	**03 43 44.3**	**+0.3**
SSLB	**Suanglung**	**1.15**	**240**	*e*P		**Pn**	**03 43 44.0**	**0.0**
	baz=239							
SSLB				*e*S		**Sn**	**03 43 59.7**	**+0.6**
	baz=239							
SMLT	**Sun Moon Lake**	**1.15**	**246**	*e*P		**Pn**	**03 43 44.5**	**+0.5**
	baz=244							
SMLT				*e*S		**Sn**	**03 44 01.9**	**+2.7**
	baz=244							
NMLH	**Miaoli**	**1.16**	**279**	⇓*e*P		**Pn**	**03 43 44.4**	**+0.4**
	baz=278							
NMLH				*e*S		**Sn**	**03 43 59.8**	**+0.6**
	baz=278							
TWQ1	**Liyutan**	**1.16**	**270**	*e*P		**Pn**	**03 43 44.5**	**+0.4**
	baz=269							
TWQ1				*e*S		**Sn**	**03 44 00.6**	**+1.3**
	baz=269							
NSY	**Sanyi**	**1.18**	**273**	*e*P		**Pn**	**03 43 45.0**	**+0.7**
	baz=272							
NSY				*e*S		**Sn**	**03 44 00.7**	**+1.2**
	baz=272							
ECBN	**Changbin**	**1.18**	**208**	*e*P		**Pn**	**03 43 43.9**	**-0.3**
	baz=206							
ECBN				*e*S		**Sn**	**03 43 58.9**	**-0.6**
	baz=206							
TYC	**Yuchr**	**1.18**	**248**	*e*P		**Pn**	**03 43 44.7**	**+0.5**
	baz=246							
TYC				*e*S		**Sn**	**03 44 01.1**	**+1.5**
	baz=246							
YULB	**Yu-li**	**1.19**	**216**	P		**Pn**	**03 43 43.8**	**-0.6**
YULB	**Yu-li**	**1.19**	**216**	*e*P		**Pn**	**03 43 43.3**	**-1.1**
	baz=214							
YULB				*e*S		**Sn**	**03 43 58.2**	**-1.6**
	baz=214							
EYUL	**Yuli**	**1.21**	**214**	*e*P		**Pn**	**03 43 44.4**	**-0.4**
	baz=212							
EYUL				*e*S		**Sn**	**03 44 01.3**	**+0.9**
	baz=212							
TWF1	**Yuli**	**1.22**	**215**	*e*P		**Pn**	**03 43 43.7**	**-1.1**
	baz=212							
TWF1				*e*S		**Sn**	**03 43 59.1**	**-1.5**
	baz=212							
PCYT	**Pengchaiyu**	**1.26**	**1**	⇑P		**Pn**	**03 43 45.2**	**-0.2**
	baz=3.0							
PCYT				*e*S		**Sn**	**03 44 01.9**	**+0.3**
	baz=3.0							
TCU	**Taichung**	**1.27**	**261**	*e*P		**Pn**	**03 43 46.1**	**+0.6**
	baz=259							
TCU				*e*S		**Sn**	**03 44 03.1**	**+1.4**
	baz=259							
WWF	**Wufeng**	**1.27**	**256**	*e*P		**Pn**	**03 43 46.6**	**+1.1**
	baz=255							
WWF				*e*S		**Sn**	**03 44 04.0**	**+2.1**
	baz=255							
WDJ	**Dajia District**	**1.28**	**270**	*e*P		**Pn**	**03 43 46.3**	**+0.7**
	baz=269							
WDJ				*e*S		**Sn**	**03 44 03.5**	**+1.4**
	baz=269							
WJS	**Zhushan**	**1.32**	**246**	*e*P		**Pn**	**03 43 47.6**	**+1.4**
	baz=245							
WJS				*e*S		**Sn**	**03 44 04.9**	**+1.9**
	baz=245							
WNT1	**Nantou City**	**1.33**	**250**	*e*P		**Pn**	**03 43 47.5**	**+1.3**
	baz=249							
WNT1				*e*S		**Sn**	**03 44 05.7**	**+2.6**
	baz=249							
WNT	**Mingjian**	**1.34**	**249**	*e*P		**Pn**	**03 43 47.6**	**+1.2**
	baz=248							
WNT				*e*S		**Sn**	**03 44 05.8**	**+2.5**
	baz=248							
FULB	**Fuli**	**1.35**	**211**	*e*P		**Pn**	**03 43 46.3**	**-0.3**
	baz=209							
FULB				*e*S		**Sn**	**03 44 04.4**	**+0.7**
	baz=209							
WCHH	**Zhanghua**	**1.39**	**259**	*e*P		**Pn**	**03 43 47.6**	**+0.5**
	baz=258							
WCHH				*e*S		**Sn**	**03 44 05.0**	**+0.5**
	baz=258							
WYL	**Yuanlin Townsh**	**1.40**	**254**	*e*P		**Pn**	**03 43 47.7**	**+0.6**
	baz=253							
WYL				*e*S		**Sn**	**03 44 06.6**	**+1.8**
	baz=253							
CHKT	**Chengkung**	**1.40**	**207**	*e*P		**Pn**	**03 43 45.7**	**-1.5**
	baz=205							
CHKT				*e*S		**Sn**	**03 44 02.6**	**-2.3**
	baz=205							
ALS	**Alishan**	**1.42**	**234**	*e*P		**Pn**	**03 43 48.8**	**+1.1**
	baz=232							
ALS				*e*S		**Sn**	**03 44 06.5**	**+0.8**
	baz=232							
EHD	**Haiduan**	**1.43**	**213**	*e*P		**Pn**	**03 43 46.4**	**-1.3**
	baz=211							
EHD				*e*S		**Sn**	**03 44 03.6**	**-2.1**
	baz=211							
CHN5	**Tsauling**	**1.47**	**239**	*e*P		**Pn**	**03 43 49.3**	**+1.1**
	baz=238							
CHN5				*e*S		**Sn**	**03 44 08.9**	**+2.3**
	baz=238							
ECS	**Chishang**	**1.47**	**211**	*e*P		**Pn**	**03 43 48.9**	**+0.7**
	baz=210							
ECS				*e*S		**Sn**	**03 44 06.4**	**-0.1**
	baz=210							
ELDTW	**Lidau**	**1.50**	**219**	*e*P		**Pn**	**03 43 48.0**	**-0.7**
	baz=217							
ELDTW				*e*S		**Sn**	**03 44 05.9**	**-1.5**
	baz=217							
WGK	**Gukeng**	**1.52**	**244**	*e*P		**Pn**	**03 43 50.3**	**+1.6**
	baz=243							
WGK				*e*S		**Sn**	**03 44 10.4**	**+2.8**
	baz=243							
IRIF	**Iriomote-Funau**	**1.53**	**91**	P		**Pn**	**03 43 49.0**	**+0.1**
IRIF				*e*S		**Sn**	**03 44 07.7**	**-0.3**
WDLH	**Douliu**	**1.54**	**244**	*e*P		**Pn**	**03 43 50.3**	**+1.3**
	baz=243							
WDLH				*e*S		**Sn**	**03 44 10.0**	**+1.9**
	baz=243							
EDH	**Donghe**	**1.54**	**206**	*e*P		**Pn**	**03 43 48.3**	**-0.8**
	baz=205							
EDH				*e*S		**Sn**	**03 44 06.5**	**-1.8**
	baz=205							
WRL	**Guolierlin Hig**	**1.59**	**254**	*e*P		**Pn**	**03 43 50.0**	**+0.2**
	baz=253							
WRL				*e*S		**Sn**	**03 44 09.5**	**0.0**
	baz=253							
WCKO	**Fanlu**	**1.61**	**235**	*e*P		**Pn**	**03 43 51.7**	**+1.7**
	baz=234							
WCKO				*e*S		**Sn**	**03 44 12.3**	**+2.4**
	baz=234							
HATJ	**Hateruma jima**	**1.63**	**100**	P		**Pn**	**03 43 51.4**	**+1.1**
HATJ				*e*S		**Sn**	**03 44 11.0**	**+0.6**
WTK	**Tuku**	**1.66**	**246**	*e*P		**Pn**	**03 43 51.4**	**+0.7**
	baz=245							
WTK				*e*S		**Sn**	**03 44 12.1**	**+1.0**
	baz=245							
CHN2	**Minshiung**	**1.66**	**240**	*e*P		**Pn**	**03 43 52.9**	**+2.2**
	baz=239							
CHN2				*e*S		**Sn**	**03 44 14.0**	**+3.0**
	baz=239							
STYH	**Taoyuan**	**1.66**	**225**	*e*P		**Pn**	**03 43 51.7**	**+0.9**
	baz=223							
STYH				*e*S		**Sn**	**03 44 11.5**	**+0.4**
	baz=223							
CHN4	**Tsaushan**	**1.67**	**233**	*e*P		**Pn**	**03 43 52.3**	**+1.5**
	baz=232							
CHN4				*e*S		**Sn**	**03 44 13.9**	**+2.6**
	baz=232							
TPUB	**Ta-pu**	**1.68**	**231**	P		**Pn**	**03 43 52.1**	**+1.2**
TPUB	**Ta-pu**	**1.68**	**231**	*e*P		**Pn**	**03 43 51.9**	**+1.0**
	baz=230							
TPUB				*e*S		**Sn**	**03 44 13.5**	**+2.0**
	baz=230							
LONT	**Longtian**	**1.68**	**210**	*e*P		**Pn**	**03 43 49.9**	**-1.0**
	baz=209							
LONT				*e*S		**Sn**	**03 44 09.8**	**-1.7**
	baz=209							
STYT	**Tauyuan**	**1.68**	**225**	*e*P		**Pn**	**03 43 52.1**	**+1.1**
	baz=223							
STYT				*e*S		**Sn**	**03 44 13.6**	**+1.9**
	baz=223							
CHY	**Chiayi**	**1.72**	**240**	*e*P		**Pn**	**03 43 52.8**	**+1.4**
	baz=239							
CHY				*e*S		**Sn**	**03 44 14.9**	**+2.4**
	baz=239							
LDUT	**Ludao**	**1.76**	**198**	*e*P		**Pn**	**03 43 50.9**	**-1.2**
	baz=196							
LDUT				*e*S		**Sn**	**03 44 11.2**	**-2.4**
	baz=196							
TWGBT	**Beinan**	**1.78**	**210**	P		**Pn**	**03 43 51.7**	**-0.6**
TWGBT	**Beinan**	**1.78**	**210**	*e*P		**Pn**	**03 43 51.5**	**-0.8**
	baz=209							
TWGBT				*e*S		**Sn**	**03 44 11.7**	**-2.1**
	baz=209							
TWG	**Pinlang**	**1.78**	**210**	*e*P		**Pn**	**03 43 51.0**	**-1.3**
	baz=209							
TWG				*e*S		**Sn**	**03 44 11.6**	**-2.3**
	baz=209							
JKRS	**Kuro-shima**	**1.79**	**94**	P		**Pn**	**03 43 53.0**	**+0.6**
JKRS				S		**Sn**	**03 44 15.0**	**+0.8**
TWK	**Hsinying**	**1.80**	**233**	*e*P		**Pn**	**03 43 53.8**	**+1.2**
	baz=231							
TWK				*e*S		**Sn**	**03 44 16.2**	**+1.7**
	baz=231							
WSF	**Szhu**	**1.82**	**247**	*e*P		**Pn**	**03 43 53.5**	**+0.7**
	baz=246							
WSF				*e*S		**Sn**	**03 44 15.9**	**+1.0**
	baz=246							
CHN1	**Nanshi**	**1.82**	**230**	*e*P		**Pn**	**03 43 53.9**	**+1.0**
	baz=229							
CHN1				*e*S		**Sn**	**03 44 16.6**	**+1.6**
	baz=229							
SGST	**Jiashian**	**1.85**	**227**	*e*P		**Pn**	**03 43 53.6**	**+0.3**
	baz=225							
SGST				*e*S		**Sn**	**03 44 17.3**	**+1.5**
	baz=225							
JIJ	**Ishigaki jima**	**1.91**	**90**	P		**Pn**	**03 43 54.1**	**0.0**
JIJ				*e*S		**Sn**	**03 44 16.4**	**-0.7**
ECL	**Taimali**	**2.02**	**210**	*e*P		**Pn**	**03 43 54.9**	**-0.7**
	baz=209							
ECL				*e*S		**Sn**	**03 44 17.8**	**-2.1**
	baz=209							
SCST	**Cishan**	**2.05**	**224**	*e*P		**Pn**	**03 43 57.8**	**+1.8**
	baz=223							
SCST				*e*S		**Sn**	**03 44 23.3**	**+2.9**
	baz=223							
SSD	**Sandimen**	**2.07**	**219**	*e*P		**Pn**	**03 43 57.9**	**+1.6**
	baz=218							
SSD				*e*S		**Sn**	**03 44 23.1**	**+2.1**
	baz=218							
JISG	**Ishigakijimahi**	**2.07**	**83**	P		**Pn**	**03 43 56.2**	**0.0**
JISG				S		**Sn**	**03 44 20.3**	**-0.7**
TSMG	**Majia**	**2.09**	**218**	*e*P		**Pn**	**03 43 58.2**	**+1.7**
	baz=217							
TSMG				*e*S		**Sn**	**03 44 23.6**	**+2.0**
	baz=217							
TSCK	**Chigu Township**	**2.17**	**236**	*e*P		**Pn**	**03 43 58.9**	**+1.3**
	baz=235							
TSCK				*e*S		**Sn**	**03 44 24.1**	**+0.7**
	baz=235							
MASBT	**Mashibuluo**	**2.17**	**217**	*e*P		**Pn**	**03 43 58.4**	**+0.7**
	baz=216							
MASBT				*e*S		**Sn**	**03 44 25.1**	**+1.5**
	baz=216							
EAST	**Anshuo**	**2.26**	**209**	*e*P		**Pn**	**03 43 58.6**	**-0.3**
	baz=208							
EAST				*e*S		**Sn**	**03 44 25.0**	**-0.6**
	baz=208							
TAWH	**Dawu Township**	**2.28**	**208**	*e*P		**Pn**	**03 43 58.6**	**-0.4**
	baz=207							
TAWH				*e*S		**Sn**	**03 44 23.9**	**-2.1**
	baz=207							
LAY	**Lan-yu**	**2.36**	**191**	*e*P		**Pn**	**03 43 59.4**	**-0.8**
	baz=190							
LAY				*e*S		**Sn**	**03 44 23.8**	**-4.3**
	baz=190							
SCZT	**Fangliau**	**2.38**	**214**	*e*P		**Pn**	**03 44 01.9**	**+1.5**
	baz=213							
SCZT				*e*S		**Sn**	**03 44 29.9**	**+1.5**
	baz=213							
PHUB	**P'eng-hu**	**2.42**	**250**	*e*P		**Pn**	**03 44 00.3**	**-0.7**
	baz=249							
PHUB				*e*S		**Sn**	**03 44 27.1**	**-2.4**
	baz=249							
SLIU	**Shizi**	**2.42**	**209**	*e*P		**Pn**	**03 44 01.5**	**+0.4**
	baz=207							
SLIU				*e*S		**Sn**	**03 44 28.1**	**-1.5**
	baz=207							
JTJ	**Tarama**	**2.43**	**83**	P		**Pn**	**03 44 02.0**	**+0.9**
JTJ				S		**Sn**	**03 44 30.0**	**+0.2**
SMST	**Manzhou Townsh**	**2.58**	**206**	*e*P		**Pn**	**03 44 03.2**	**-0.1**
	baz=205							
MATB	**Ma-tsu**	**2.61**	**314**	⇓*e*P		**Pn**	**03 44 02.4**	**-1.1**
	baz=313							
MATB				*e*S		**Sn**	**03 44 31.4**	**-2.7**
	baz=313							
MSUT	**Lienchiang**	**2.63**	**314**	*e*P		**Pn**	**03 44 02.8**	**-1.2**
	baz=313							
MSUT				*e*S		**Sn**	**03 44 31.9**	**-2.9**
	baz=313							
PTMZ	**Houxiangcun**	**2.75**	**285**	⇓*e*P		**Pn**	**03 44 04.5**	**-0.9**
	baz=284							
PTMZ				*e*S		**Sn**	**03 44 34.1**	**-3.4**
	baz=284							
JIRB	**Irabujima**	**2.88**	**80**	P		**Pn**	**03 44 08.2**	**+0.9**
JIRB				*e*S		**Sn**	**03 44 41.3**	**+0.5**
JIKM	**Ikemajima**	**2.96**	**78**	P		**Pn**	**03 44 09.4**	**+1.0**
JIKM				S		**Sn**	**03 44 43.5**	**+0.7**
JMJ	**Miyako jima 2**	**2.99**	**81**	*e*P		**Pn**	**03 44 10.3**	**+1.6**
	baz=82							
JMJ				*e*S		**Sn**	**03 44 45.1**	**+1.7**
	baz=82							
LYJJ	**Jianjiangzhen**	**3.00**	**317**	*e*P		**Pn**	**03 44 07.8**	**-1.1**
	baz=317							
LYJJ				*e*S		**Sn**	**03 44 41.3**	**-2.5**
	baz=317							
JMJ2	**Miyako jima3**	**3.01**	**82**	P		**Pn**	**03 44 10.3**	**+1.3**
JMJ2				S		**Sn**	**03 44 44.8**	**+0.9**
XPSS	**Dashiqiu**	**3.06**	**327**	⇓*e*P		**Pn**	**03 44 08.8**	**-0.8**
	baz=327							
XPSS				*e*S		**Sn**	**03 44 43.0**	**-2.0**
	baz=327							
JOGS	**Gusukube**	**3.08**	**82**	P		**Pn**	**03 44 11.2**	**+1.2**
JOGS				S		**Sn**	**03 44 46.4**	**+0.7**

*ISN **16** 03:45:33.9±0.3,36.01N×45.65E,h7km,ML2.4*
*TEH **16** 03:45:34.9,36.01N×45.82E,h7km±59km,ML2.6*
ISC 16 03:45:38.0±1.5,36.01N±0.05×45.73E±0.07,h10km,n12,
σ0.71/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAHB	**Mahabad**	**0.76**	**358**	Pg	Pg	03 45 50.5	-2.2
IKRK	**Kirkuk**	**1.28**	**242**	*e*Pg	**Pn**	**03 46 01.0**	**-1.1**
	baz=60						
IKRK				*e*Sg	**Sb**	**03 46 20.0**	**+1.1**
IKRK				AML	AML	03 46 25.4	
	comp=N,84nm,0.5s						
IKRK				AML	AML	03 46 25.6	
	comp=E,67nm,0.5s						
IAZR	**Azarshahr**	**1.68**	**7**	Pg	**Pn**	**03 46 07.6**	**-0.1**
IHSH	**Hashtrud**	**1.79**	**43**	Pg	**Pn**	**03 46 08.1**	**-1.1**
IGHG	**Ghaleghazi**	**1.81**	**158**	Pg	**Pn**	**03 46 09.1**	**-0.4**
KCHF	**Cheshme Sefid,**	**2.03**	**148**	Pn	**Pn**	**03 46 12.3**	**-0.2**
ISHB	**Shabestar**	**2.27**	**358**	Pn	**Pn**	**03 46 16.3**	**+0.3**
IBZA	**Bozab**	**2.32**	**131**	Pn	**Pn**	**03 46 16.4**	**-0.1**
IKOM	**Komasi**	**2.34**	**141**	Pn	**Pn**	**03 46 17.0**	**+0.3**
ISRB	**Sarab**	**2.39**	**40**	Pn	**Pn**	**03 46 17.1**	**-0.3**
ILBA	**Ilam Banvizeh**	**2.41**	**171**	Pn	**Pn**	**03 46 17.0**	**-0.6**
IKFM	**Kafar-mosalman**	**3.03**	**144**	Pn	**Pn**	**03 46 25.8**	**-0.2**

*IDC **16** 03:49:54.8±2.2,6.96S×129.77E,h0km,mb3.6/1,*
mbtmp3.3/3,ML3.3/2,Error ellipse: s-maj=142.1km
s-min=32.3km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.65**	**161**	Pn	Pn	03 53 08.7	-1.1
	0.1nm,0.3s,baz=344,slow=12,SNR=6.4						
WRA				Sn	Sn	03 55 26.1	-16
	0.4nm,0.3s,baz=334,slow=22,SNR=7.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.08**	**167**	Pn	P	03 53 56.1	-0.9
	0.1nm,0.3s,baz=339,slow=10,SNR=5.3						
ASAR				Sn	Sn	03 56 50.4	-15
	0.1nm,0.3s,baz=353,slow=24,SNR=5.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.07**	**327**	P	P	04 00 56.4	0.0
	0.3nm,0.5s,baz=122,slow=7.8,SNR=7.2						
	0.3nm,0.5s						

*IDC **16** 03:57:08.2±2.2,18.97S×177.51W,h597km±21km,mb3.0/4,*
mbtmp4.0/6,Error ellipse: s-maj=36.2km s-min=22.6km
az=131.0
ISC 16 03:57:05.5±1.2,18.8S±0.2×177.4W±0.3,h570km,n12,
σ0.65/12,mb3.8/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.43**	**284**	P	P	03 58 36.8	+4.7
	13nm,0.5s,baz=115,slow=11,SNR=11						
URZ	**Urewera**	**19.93**	**193**	P	**P**	**04 00 59.5**	**-0.3**
	7.9nm,0.8s,baz=348,slow=4.0,SNR=1.9						
STKA	**Stephens Creek**	**39.01**	**242**	P	**P**	**04 03 44.8**	**+0.9**
	0.7nm,0.3s,baz=61,slow=13,SNR=3.3						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**45.38**	**260**	P	**P**	**04 04 33.3**	**-0.7**
	1.3nm,0.4s,baz=98,slow=6.9,SNR=28						
WRA				PcP	**PcP**	**04 06 01.3**	**0.0**
	0.4nm,0.7s,baz=101,slow=3.7,SNR=2.2						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**45.44**	**255**	P	**P**	**04 04 34.3**	**-0.2**
	2.7nm,0.7s,baz=90,slow=7.6,SNR=33						
ASAR				PcP	**PcP**	**04 06 01.7**	**+0.2**
	0.2nm,0.6s,baz=97,slow=4.0,SNR=4.2						
	2.7nm,0.7s						
ILAR	**Eielson Array**	**86.58**	**13**	P	**P**	**04 08 48.6**	**+0.3**
	0.2nm,0.5s,baz=227,slow=5.1,SNR=9.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**110.44**	**314**	PKiKP	**PKiKP**	**04 14 32.2**	**-1.3**
	0.1nm,0.5s,baz=138,slow=0.3,SNR=2.1						
ARCES	**ARCESS Array B**	**127.39**	**350**	PKP	**PKPdf**	**04 15 05.5**	**+0.2**
	5.7nm,1.0

0.3nm,0.6s,baz=79,slow=9.5,SNR=4.3
0.3nm,0.6s
ILAR Eielson Array 85.50 18 P P 04 16 08.2 -0.6
0.3nm,0.8s,baz=220,slow=5.7,SNR=7.9
0.3nm,0.8s
ARCES ARCESS Array B 118.35 345 PKP PKiKP 04 22 19.1 +0.8
2.2nm,0.9s,baz=90,slow=2.7,SNR=5.9

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*IDC **16** 04:07:16.1±1.5, 14.05N×123.97E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=148.0km s-min=22.3km az=67.0*
*MAN **16** 04:07:17.3, 14.00N×123.32E, h1km, mb4.1, ML2.9, MS2.6*
ISC 16 04:07:18.3±1.2, 13.85N±0.04×123.23E±0.03, h6km±9km, n18, σ1§53/24, mb3.5/5, 8C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCNP	**Jose Panganiba**	**0.68**	**310**	⇓*iP*		**Pg**		**04 07 29.8**	**-1.6**
JCNP				*i* S		**Sg**		**04 07 39.2**	**-1.0**
AUQP	**San Andres**	**0.76**	**226**	⇑*eP*		**Pn**		**04 07 36.7**	**+1.2**
AUQP				*eS*		**Sn**		**04 07 48.0**	**+0.8**
GQP	**Guinayangan**	**0.77**	**274**	⇑*eP*		**Pg**		**04 07 32.4**	**-0.7**
GQP				*eS*		**Sb**		**04 07 43.3**	**-1.4**
PVCP	**Virac**	**0.93**	**106**	⇑*eP*		**Pg**		**04 07 35.9**	**-0.3**
PVCP				*eS*		**Sg**		**04 07 50.1**	**+1.8**
BOAC	**Boac**	**1.41**	**254**	⇑*eP*		**Pg**		**04 07 45.2**	**-0.1**
BOAC				*eS*		**Sg**		**04 08 04.6**	**+1.0**
LQP	**Lukban**	**1.66**	**279**	⇑*eP*		**Pn**		**04 07 48.3**	**+0.1**
LQP				*eS*		**Sg**		**04 08 15.2**	**+3.4**
OTRP	**Odiongan**	**1.90**	**219**	⇑*eP*		**Pb**		**04 07 53.2**	**-0.1**
OTRP				*eS*		**Sb**		**04 08 16.2**	**-1.0**
RCP	**Roxas**	**2.33**	**192**	⇑*eP*		**Pn**		**04 07 57.6**	**+0.5**
PCPH	**Palayan**	**2.68**	**310**	⇑*eP*		**Pn**		**04 08 03.7**	**+1.8**
CVP	**Callao Caves**	**4.06**	**341**	⇓*eP*		**Pn**		**04 08 20.9**	**-0.1**
CVP				*eS*		**Sn**		**04 09 12.1**	**+3.2**
WRA	**Warramunga Arr**	**35.32**	**162**	P		**P**		**04 14 12.2**	**-2.3**
	0.4nm,0.6s,baz=346,slow=9.1,SNR=4.8 0.4nm,0.6s								
SONM	**Songino Array**	**36.66**	**341**	P		**P**		**04 14 25.8**	**-0.1**
	0.4nm,0.8s,baz=150,slow=9.1,SNR=4.6 0.4nm,0.8s								
ASAR	**Alice Springs**	**38.72**	**164**	P		**P**		**04 14 42.9**	**-0.5**
	0.3nm,0.8s,baz=348,slow=9.2,SNR=2.1								
ASAR				PcP		**PcP**		**04 16 53.8**	**-1.5**
	0.2nm,0.5s,baz=345,slow=2.5,SNR=1.9 0.3nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**41.92**	**78**	T		T		04 59 16.9	
	baz=272								
H11S1	**WAKE ISLAND Hy**	**41.93**	**78**	T		T		04 59 15.8	
	baz=272								
H11S2	**WAKE ISLAND Hy**	**41.93**	**78**	T		T		04 59 18.2	
	baz=272								
KURBB	**Kurchatov Arra**	**51.45**	**325**	P		**P**		**04 16 24.1**	**-0.2**
	0.6nm,0.2s,baz=122,slow=8.4,SNR=1.4 0.6nm,0.2s								
BRTR	**Keskin Array B**	**80.98**	**309**	P		**P**		**04 19 35.1**	**+0.8**
	0.2nm,0.4s,baz=97,slow=4.1,SNR=1.6 0.2nm,0.4s								

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*IDC **16** 04:23:42.1±1.4, 13.60S×166.16E, h0km, mb4.0/5, mbtmp4.0/6, ML3.5/1, MS3.8/5, Error ellipse: s-maj=50.3km s-min=25.8km az=128.0*
ISC 16 04:23:47.0±1.2, 13.8S±0.1×166.3E±0.2, h35km, n9, σ0§82/8, mb3.9/5, MS3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.52**	**304**	LR		LR		04 28 19.6	
	comp=Z,2μm,18.9s,baz=328,slow=38								
DZM	**Mont Dzumac**	**8.28**	**179**	Pn		**Pn**		**04 25 45.0**	**+0.2**
	0.6nm,0.3s,baz=326,slow=11,SNR=2.5								
DZM				Sn		**Sn**		**04 27 16.5**	**-0.6**
	0.6nm,0.3s,baz=89,slow=19,SNR=4.0 1.8nm,0.4s								
PMG	**Port Moresby**	**19.19**	**281**	LR		LR		04 34 31.2	
	comp=Z,140nm,20.3s,baz=44,slow=34								
STKA	**Stephens Creek**	**28.90**	**227**	P		**P**		**04 29 43.5**	**+0.7**
	2.5nm,0.6s,baz=40,slow=8.7,SNR=7.0								
STKA				LR		LR		04 41 08.3	
	comp=Z,137nm,18.5s,baz=28,slow=36 2.5nm,0.6s								
WRA	**Warramunga Arr**	**31.12**	**254**	P		**P**		**04 30 02.1**	**-0.5**
	2.1nm,0.9s,baz=87,slow=9.3,SNR=14 2.1nm,0.9s								
ASAR	**Alice Springs**	**32.12**	**247**	P		**P**		**04 30 11.1**	**-0.3**
	1.3nm,0.7s,baz=75,slow=9.7,SNR=15								
ASAR				LR		LR		04 43 05.4	
	comp=Z,98nm,18.8s,baz=134,slow=36 1.3nm,0.7s								
ILAR	**Eielson Array**	**85.91**	**18**	P		**P**		**04 36 22.6**	**-0.4**
	0.4nm,0.5s,baz=237,slow=5.6,SNR=9.8								
ILAR				LR		LR		05 11 47.4	
	comp=Z,40nm,18.5s,baz=180,slow=34 0.4nm,0.5s								
MKAR	**Makanchi Array**	**95.82**	**317**	P		**P**		**04 37 09.3**	**-0.5**
	0.3nm,0.9s,baz=93,slow=5.8,SNR=2.1 0.3nm,0.9s								
ARCES	**ARCESS Array B**	**119.06**	**345**	PKP		**PKiKP**		**04 42 32.9**	**+1.3**
	2.8nm,1.0s,baz=46,slow=3.1,SNR=5.3								

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*IDC **16** 04:34:57.2±1.0, 28.71N×103.95E, h0km, mb3.7/8, mbtmp3.7/9, ML3.3/1, MS3.2/1, Error ellipse: s-maj=41.2km s-min=18.2km az=58.0*
ISC 16 04:35:02.3±1.2, 28.7N±0.2×104.0E±0.2, h35km, n10, σ1§00/9, mb3.7/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**19.16**	**5**	P		**P**		**04 39 22.6**	**-0.1**
	0.1nm,0.3s,baz=182,slow=12,SNR=2.3 0.5nm,0.7s								
KSRS	**Korea Array**	**21.80**	**60**	P		**P**		**04 39 50.5**	**-0.8**
	1.7nm,0.7s,baz=245,slow=12,SNR=4.6 1.7nm,0.7s								
MKAR	**Makanchi Array**	**24.76**	**323**	P		**P**		**04 40 19.7**	**-0.9**
	0.2nm,0.4s,baz=120,slow=11,SNR=6.8 0.2nm,0.4s								
ZALV	**Zalesovo Beam**	**28.83**	**336**	P		**P**		**04 40 58.0**	**+0.9**
	0.5nm,0.5s,baz=142,slow=7.3,SNR=2.3 0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**29.11**	**326**	P		**P**		**04 40 59.0**	**-0.6**
	0.2nm,0.3s,baz=130,slow=10.0,SNR=1.8 0.2nm,0.3s								
BVAR	**Borovoye Array**	**34.62**	**324**	LR		LR		04 57 32.2	
	comp=Z,38nm,19.6s,baz=64,slow=39								
WRA	**Warramunga Arr**	**56.57**	**145**	P		**P**		**04 44 41.6**	**0.0**
	0.8nm,0.6s,baz=334,slow=7.9,SNR=6.4 0.8nm,0.6s								
ARCES	**ARCESS Array B**	**59.38**	**336**	P		**P**		**04 45 02.3**	**+1.6**
	6.2nm,1.1s,baz=92,slow=7.3,SNR=2.4 6.2nm,1.1s								
FINES	**FINESS Array B**	**59.49**	**327**	P		**P**		**04 45 00.6**	**-0.9**
	0.5nm,0.6s,baz=108,slow=9.1,SNR=4.0 0.5nm,0.6s								
ASAR	**Alice Springs**	**59.53**	**148**	P		**P**		**04 45 02.7**	**+0.4**
	0.6nm,0.4s,baz=329,slow=6.8,SNR=8.6 0.6nm,0.4s								

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*IDC **16** 04:47:20.9±2.8, 24.24S×179.51W, h483km±28km, mb3.3/4, mbtmp4.2/6, Error ellipse: s-maj=31.8km s-min=25.8km az=112.0*
ISC 16 04:47:20.9±1.5, 24.2S±0.1×179.3W±0.2, h512km, n9, σ1§59/10, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.94**	**339**	P		**P**		**04 49 05.9**	**-1.2**
	3.3nm,0.3s,baz=196,slow=11,SNR=3.5								
URZ	**Urewera**	**14.30**	**192**	P		**P**		**04 50 21.8**	**-1.6**
	2.9nm,0.4s,baz=329,slow=2.1,SNR=1.2								
URZ				S		**S**		**04 52 53.4**	**-0.6**
	5.2nm,0.6s,baz=90,slow=23,SNR=9.8								
CTA	**Charters Tower**	**32.12**	**271**	P		**P**		**04 53 06.4**	**+0.4**
	5.4nm,0.3s,baz=98,slow=11,SNR=14 5.4nm,0.3s								
STKA	**Stephens Creek**	**35.20**	**249**	P		**P**		**04 53 32.2**	**+0.5**
	1.2nm,0.4s,baz=73,slow=11,SNR=7.4 1.2nm,0.4s								
ASAR	**Alice Springs**	**42.62**	**261**	P		**P**		**04 54 32.2**	**+0.3**
	0.8nm,0.5s,baz=98,slow=7.5,SNR=11 0.8nm,0.5s								
WRA	**Warramunga Arr**	**43.03**	**266**	P		**P**		**04 54 35.1**	**-0.1**
	2.1nm,0.4s,baz=97,slow=8.2,SNR=44 2.1nm,0.4s								
HFS	**Hagfors**	**143.00**	**349**	PKP		**PKPdf**		**05 05 55.7**	**+0.1**
	0.9nm,0.6s,baz=83,slow=4.5,SNR=6.3								
AKASG	**Malin Array Be**	**145.61**	**327**	PKPbc		**PKiKP**		**05 06 04.3**	**-0.4**
	0.8nm,0.5s,baz=49,slow=3.6,SNR=4.2								
TORD	**Torodi Ar. Bea**	**168.92**	**185**	PKPab		**PKPab**		**05 07 47.5**	**+3.5**
	0.6nm,0.3s,baz=192,slow=3.5,SNR=1.7								

IDC 16 04:47:26.0±3.4, 55.44N×86.06E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.2km s-min=22.3km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**206**	I		I		04 57 40.0	
	0.4nm,1.0s,baz=24,slow=346,SNR=13								
ZALV	**Zalesovo Beam**	**1.66**	**206**	Pg		Pn		04 47 54.8	-1.5
	1.9nm,0.3s,baz=22,slow=16,SNR=28								
ZALV				Lg		Lg		04 48 18.6	
	2.1nm,0.3s,baz=27,slow=28,SNR=8.9								
KURBB	**Kurchatov Arra**	**6.63**	**226**	Pn		Pn		04 49 04.5	0.0
	0.1nm,0.3s,baz=43,slow=14,SNR=5.0								
KURBB				Lg		Lg		04 50 57.2	
	baz=39,slow=30,SNR=1.2 0.3nm,0.3s								
MKAR	**Makanchi Array**	**8.98**	**197**	Pn		Pn		04 49 37.1	+0.3
	baz=14,slow=16,SNR=2.3								
MKAR				Sn		Sn		04 51 18.1	-0.5
	baz=21,slow=26,SNR=1.9								
MKAR				Lg		Lg		04 52 08.2	
	0.1nm,0.3s,baz=19,slow=30,SNR=2.1 0.2nm,0.8s								

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*KRSC **16** 04:52:52.2±2.6, 49.65N×157.20E, h48km±35km, Ml4.1*
*IDC **16** 04:52:57.4±7.1, 50.07N×155.98E, h101km±45km, mb3.4/9, mbtmp3.7/10, MS2.3/1, Error ellipse: s-maj=66.5km s-min=21.7km az=168.0*
ISC 16 04:52:47.2±1.2, 49.3N±0.1×156.68E±0.10, h50km, n33, σ2§75/45, mb3.8/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.45**	**346**	*eP*		**Pn**		**04 53 12.7**	**+1.8**
SKR				*eS*		**Sn**		**04 53 27.6**	**-1.2**
KDTR	**Khodutka, Kamc**	**2.68**	**19**	*eP*		**Pn**		**04 53 30.0**	**+2.1**
KDTR				*eS*		**Sn**		**04 53 57.7**	**-1.4**
MTVR	**Mutnovka**	**3.34**	**16**	*eP*		**Pn**		**04 53 39.5**	**+2.4**
GRL	**Gorelyy**	**3.39**	**15**	*eP*		**Pn**		**04 53 40.5**	**+2.8**
GRL				*eS*		**Sn**		**04 54 15.2**	**-1.5**
APC	**Apacha**	**3.66**	**5**	*eP*		**Pn**		**04 53 43.7**	**+2.5**
KRMR	**Karymshinskiy**	**3.67**	**14**	*eP*		**Pn**		**04 53 44.0**	**+2.6**
KRMR				*eS*		**Sn**		**04 54 22.5**	**-0.8**
PETK	**Petropavlovsk-**	**3.88**	**9**	P		**Pn**		**04 53 46.2**	**+1.9**
	6.4nm,0.4s,baz=188,slow=14,SNR=37								
PETK				S		**Sn**		**04 54 24.3**	**-4.3**
	1.7nm,0.3s,baz=165,slow=25,SNR=2.0								
PETK				LR		LR		04 55 37.0	
	comp=Z,45nm,20.2s,baz=159,slow=49								
PET	**Petropavlovsk**	**3.95**	**18**	*eP*		**Pn**		**04 53 47.7**	**+2.6**
PET				*eS*		**Sn**		**04 54 28.6**	**-1.6**
DALK	**Dalny**	**3.98**	**18**	*eP*		**Pn**		**04 53 47.6**	**+2.1**
DALK				*eS*		**Sn**		**04 54 29.3**	**-1.6**
UGLR	**Uglovaya**	**4.16**	**18**	*eP*		**Pn**		**04 53 51.0**	**+2.8**
UGLR				*eS*		**Sn**		**04 54 33.7**	**-1.8**
AVH	**Avacha**	**4.19**	**17**	*eP*		**Pn**		**04 53 52.1**	**+3.5**
AVH				*eS*		**Sn**		**04 54 36.6**	**+0.3**
KOK	**Koryaka**	**4.20**	**16**	*eP*		**Pn**		**04 53 52.1**	**+3.4**
KOK				*eS*		**Sn**		**04 54 34.3**	**-2.3**
SMAR	**Somma**	**4.20**	**18**	*eP*		**Pn**		**04 53 52.4**	**+3.5**
SMAR				*eS*		**Sn**		**04 54 36.1**	**-0.7**
NLC	**Nalytchevo**	**4.24**	**22**	*eS*		**Sn**		**04 54 33.9**	**-3.4**
KRX	**Arik**	**4.27**	**16**	*eP*		**Pn**		**04 53 52.8**	**+3.1**
KRX				*eS*		**Sn**		**04 54 38.4**	**+0.2**
SPN	**Mys Shipunski**	**4.36**	**28**	*eP*		**Pn**		**04 53 53.3**	**+2.4**
SPN				*eS*		**Sn**		**04 54 37.7**	**-2.6**
GNL	**Ganaly**	**4.49**	**10**	*eP*		**Pn**		**04 53 55.7**	**+2.9**
GNL				*eS*		**Sn**		**04 54 44.5**	**+0.8**
TUMD	**Tumrok D**	**6.36**	**20**	*eP*		**Pn**		**04 54 22.6**	**+4.4**
TUMD				*eS*		**Sn**		**04 55 25.8**	**-3.6**
TUMR	**Tumrok**	**6.38**	**18**	*eP*		**Pn**		**04 54 23.1**	**+4.6**
KBTR	**Krutoberegovo**	**7.87**	**26**	*eP*		**Pn**		**04 54 40.2**	**+1.2**
BKI	**Bering**	**8.22**	**40**	*eS*		**Sn**		**04 56 07.4**	**-7.8**
H11S1	**WAKE ISLAND Hy**	**31.75**	**162**	T		T		05 33 28.1	
	baz=347,slow=76,SNR=41								
H11S3	**WAKE ISLAND Hy**	**31.76**	**162**	T		T		05 33 29.0	
	baz=347,slow=76,SNR=43								
H11S2	**WAKE ISLAND Hy**	**31.77**	**162**	T		T		05 33 30.0	
	baz=347,slow=76,SNR=41								
ILAR	**Eielson Array**	**33.07**	**41**	P		**P**		**04 59 19.4**	**+1.7**
	0.5nm,0.8s,baz=249,slow=7.2,SNR=6.3 0.5nm,0.8s								
INK	**Inuvik**	**38.22**	**34**	P		**P**		**05 00 04.1**	**+2.5**
	0.7nm,0.4s,baz=290,slow=6.3,SNR=8.7 0.7nm,0.4s								
YKA	**Yellowknife Ar**	**47.45**	**39**	P		**P**		**05 01 18.6**	**+2.2**
	0.3nm,0.8s,baz=294,slow=7.9,SNR=2.8 0.3nm,0.8s								
MKAR	**Makanchi Array**	**47.92**	**297**	P		**P**		**05 01 19.1**	**-1.2**
	0.2nm,0.3s,baz=44,slow=6.6,SNR=4.3 0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**48.06**	**303**	P		**P**		**05 01 19.9**	**-1.4**
	0.9nm,0.5s,baz=65,slow=8.3,SNR=7.7 0.9nm,0.5s								
BVAR	**Borovoye Array**	**51.10**	**309**	P		**P**		**05 01 42.6**	**-1.8**
	0.6nm,0.4s,baz=61,slow=10,SNR=4.3 0.6nm,0.4s								
ARCES	**ARCESS Array B**	**56.23**	**341**	P		**P**		**05 02 19.0**	**-2.6**
	6.2nm,1.1s,baz=55,slow=7.8,SNR=1.7 6.2nm,1.1s								
EKA	**Eskdalemuir Ar**	**74.40**	**348**	P		**P**		**05 04 18.9**	**-0.4**
	0.3nm,0.4s,baz=11,slow=4.6,SNR=5.4 0.3nm,0.4s								
BRTR	**Keskin Array B**	**78.13**	**319**	P		**P**		**05 04 40.9**	**-0.1**
	1.0nm,1.0s,baz=43,slow=2.6,SNR=4.7 1.0nm,1.0s								

WEL 16 04:55:53.5±0.4, 43.3S±2.1×17.3E±.1, h5km, M2.7/10, ML2.9/19, MLv2.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=112.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.16**	**23**	P		Pg		04 55 56.8	+0.1
KHZ				S		Sg		04 55 59.0	+0.1
GVZ	**Greta Valley S**	**0.50**	**217**	P		Pb		04 56 05.6	+0.7
GVZ				S		Sb		04 56 14.1	+1.6
AMCZ	**Amberley**	**0.85**	**224**	P		Pn		04 56 11.8	-0.2
LTZ	**Lake Taylor**	**0.90**	**256**	P		Pb		04 56 11.5	-0.1
LTZ				S		Sb		04 56 23.6	-0.2
THZ	**Tophouse**	**0.90**	**333**	P		Pg		04 56 10.2	-0.5
BSWZ	**Blackbirch Sta**	**0.91**	**20**	P		Pg		04 56 11.1	+0.2
CMWZ	**Cape Campbell**	**0.99**	**35**	P		Pn		04 56 14.3	+0.2
OKCZ	**Okains Bay**	**1.19**	**194**	P		Pg		04 56 16.3	0.0
TUWZ	**Tuamarina**	**1.20**	**18**	P		Pg		04 56 15.9	-0.5
MRNZ	**Matariki Terra**	**1.28**	**336**	P		Pg		04 56 17.4	-0.6
MRNZ				S		Sb		04 56 34.8	+0.1
MQZ	**McQueen's Vall**	**1.28**	**207**	P		Pn		04 56 16.6	-1.4
MQZ				S		Sg		04 56 33.0	-1.6
OXZ	**Oxford**	**1.29**	**233**	P		Pn		04 56 17.1	-1.0
OXZ				S		Sg		04 56 34.3	-0.5
NNZ	**Nelson**	**1.35**	**358**	P		Pn		04 56 18.6	-0.3
AKCZ	**Akaroa Harbour**	**1.36**	**197**	P		Pn		04 56 18.3	-0.9
DSZ	**Denniston Nort**	**1.48**	**303**	P		Pn		04 56 20.5	-0.3
DSZ				S		Sg		04 56 40.7	-0.2
TCW	**Tory Channel**	**1.49**	**25**	P		Pn		04 56 19.6	-1.3
INZ	**Inchbonnie**	**1.49**	**263**	P		Pn		04 56 21.0	+0.1
RACZ	**Rakaia**	**1.51**	**219**	P		Pn		04 56 19.8	-1.3
TKNZ	**Takaka Hill**	**1.58**	**346**	P		Pn		04 56 22.3	+0.2
MHCZ	**Mount Hutt**	**1.68**	**234**	P		Pn		04 56 22.5	-1.1
DUWZ	**D'Urville Isla**	**1.80**	**11**	P		Pb		04 56 26.4	-0.5
QRZ	**Quartz Range**	**1.87**	**338**	P		Pn		04 56 26.8	+0.6
RPZ	**Rata Peaks**	**2.10**	**236**	P		Pn		04 56 28.3	-0.9
ARCZ	**Arundel**	**2.16**	**230**	P		Pn		04 56 28.9	-1.2
ODZ	**Otahua Downs**	**3.20**	**218**	P		Pn		04 56 43.1	-1.4
URZ	**Urewera**	**5.13**	**34**	P		Pn		04 57 10.4	-0.6

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*IDC **16** 05:02:41.9±0.8, 34.33N×142.20E, h0km, mb3.8/11, mbtmp3.8/14, ML3.8/3, Error ellipse: s-maj=21.7km s-min=17.7km az=90.0*
*JMA **16** 05:02:45.1±0.3, 34.4N±0.8×14.2E±., h59km±4km, MV4.0/33, FAR E OFF CENTRAL HONSHU*
*NEIC **16** 05:02:46.4±2.1, 34.49N±0.08×142.2E±0.1, h32km±5km, mb4.5/15, Error ellipse: s-maj=16.0km s-min=8.9km az=118.0*
ISC 16 05:02:44.0±3.6, 34.41N±0.05×142.13E±0.07, h15km±22km, n62, σ1§06/69, mb4.1/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.98**	**285**	P		**Pn**		**05 03 03.0**	**+0.4**
BSO3	**Boso 3**	**1.39**	**287**	*eP*		**Pn**		**05 03 09.1**	**+0.5**
BSO4	**Boso 4**	**1.58**	**292**	*eP*		**Pb**		**05 03 12.6**	**-0.3**
BSO4				*eS*		**Sn**		**05 03 31.5**	**0.0**
CHOJ	**Chosi**	**1.66**	**321**	P		**Pn**		**05 03 12.6**	**+0.1**
CHOJ				*eS*		**Sn**		**05 03 32.8**	**-0.7**
JKUC	**kamogawauchiur**	**1.76**	**296**	P		**Pn**		**05 03 14.5**	**+0.7**
JKUC				*eS*		**Sn**		**05 03 35.7**	**-0.1**
JMYK	**Miyake Tsubota**	**2.17**	**262**	P		**Pn**		**05 03 19.1**	**-0.3**
JMYK				S		**Sn**		**05 03 44.5**	**-1.5**
JIM2	**Oshima 3**	**2.25**	**279**	P		**Pn**		**05 03 20.2**	**-0.4**
JIM2				*eS*		**Sn**		**05 03 47.0**	**-1.1**
JHJ2	**Mitsune**	**2.32**	**237**	Pn		**Pn**		**05 03 21.5**	**-0.1**
JHJ2				Sn		**Sn**		**05 03 49.8**	**0.0**
JHJ2	**Mitsune**	**2.32**	**237**	*eP*		**Pn**		**05 03 21.6**	**-0.1**
JHJ2				*eS*		**Sn**		**05 03 48.1**	**-1.7**
JHJ	**Hachijo jima 2**	**2.34**	**237**	Pn		**Pn**		**05 03 21.9**	**0.0**
	106nm,0.3s,baz=78,slow=20,SNR=27								
JHJ				Sn		**Sn**		**05 03 48.1**	**-2.1**
	234nm,0.3s,baz=224,slow=21,SNR=11 247nm,0.3s								
JOD2	**Odawara 2**	**2.64**	**290**	P		**Pn**		**05 03 25.5**	**-0.6**
JOD2				*eS*		**Sn**		**05 03 56.0**	**-1.8**
JIZS	**Izushimoda**	**2.70**	**277**	*eP*		**Pn**		**05 03 26.7**	**-0.1**
JIZS				*eS*		**Sn**		**05 03 57.9**	**-1.3**
JRY	**Ryogami san**	**3.09**	**302**	P		**Pn**		**05 03 32.9**	**+0.7**
JRY				S		**Sn**		**05 04 08.5**	**-0.4**
JYN	**Shimob**	**3.14**	**291**	P		**Pn**		**05 03 33.2**	**+0.3**
JYN				S		**Sn**		**05 04 09.2**	**-1.1**
JMM	**Marumori**	**3.62**	**343**	Pn		**Pn**		**05 03 38.4**	**-1.0**
MJAR	**Matsushiro Arr**	**3.84**	**305**	Pn		**Pn**		**05 03 43.6**	**+1.1**
	1.7nm,0.3s,baz=101,slow=15,SNR=42								
MJAR				Sn		**Sn**		**05 04 27.4**	**0.0**
	1.4nm,0.3s,baz=200,slow=21,SNR=2.5 7.8nm,0.4s								
MAJO	**Matsushiro**	**3.84**	**305**			**Pn**		**05 03 43.5**	**+0.9**
MJB9	**Matsu-Tunnel**	**3.85**	**305**			**Pn**		**05 03 44.7**	**+2.1**
JGF	**Kuroka**	**4.09**	**288**			**Pn**		**05 03 48.3**	**+2.3**
INU	**Inuyama**	**4.30**	**284**			**Pn**		**05 03 51.2**	**+2.3**
JSD	**Sado**	**4.78**	**320**	Pn		**Pn**		**05 03 56.5**	**+1.0**
JTM	**Tenmabayashi**	**6.42**	**353**	Pn		**Pn**		**05 04 17.3**	**-0.7**
JMN	**Monobe**	**6.88**	**267**	Pn		**Pn**		**05 04 24.5**	**+0.2**
JHS	**Saijyo**	**7.45**	**277**	Pn		**Pn**		**05 04 30.8**	**-1.3**
ERM	**Erimo**	**7.64**	**6**	Pn		**Pn**		**05 04 31.7**	**-2.9**
ASAJ	**Asahikawa**	**9.70**	**2**	Pn		**Pn**		**05 05 01.7**	**-1.2**
	1.5nm,0.3s,baz=205,slow=19,SNR=1.3 5.1nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**26.37**	**117**	T		T		05 36 03.1	
	baz=309								
H11N1	**WAKE ISLAND Hy**	**26.37**	**117**	T		T		05 35 52.2	
	baz=309								
H11N3	**WAKE ISLAND Hy**	**26.38**	**117**	T		T		05 35 54.2	
	baz=309								
H11S1	**WAKE ISLAND Hy**	**27.00**	**120**	T		T		05 36 37.2	
	baz=312								
H11S3	**WAKE ISLAND Hy**	**27.00**	**120**	T		T		05 36 48.1	
	baz=312								
H11S2	**WAKE ISLAND Hy**	**27.02**	**120**	T		T		05 36 48.1	
	baz=312								
SONM	**Songino Array**	**29.79**	**308**	P		**P**		**05 08 51.5**	**+1.3**
	0.5nm,0.5s,baz=110,slow=7.5,SNR=4.5 0.5nm,0.5s								
CMAR	**Chiang Mai Arr**	**41.48**	**259**	P		**P**		**05 10 30.3**	**-0.2**
	0.9nm,0.2s,baz=41,slow=8.8,SNR=5.0 0.9nm,0.2s								
ZALV	**Zalesovo Beam**	**44.14**	**314**	P		**P**		**05 10 52.1**	**+0.5**
	0.6nm,0.4s,baz=98,slow=8.9,SNR=1.8 0.6nm,0.4s								
MK31	**Makanchi Array**	**46.04**	**304**	P		**P**		**05 11 05.3**	**-1.6**
MKAR	**Makanchi Array**	**46.04**	**304**	P		**P**		**05 11 09.0**	**+2.1**
	0.4nm,0.6s,baz=85,slow=8.7,SNR=5.1 0.4nm,0.6s								
MKAR	**Makanchi Array**	**46.04**	**304**	P		**P**		**05 11 06.0**	**-0.9**
KURK	**Kurchatov**	**48.04**	**310**	P		**P**		**05 11 22.9**	**+0.6**
KURK				IAmb		IAmb		05 11 43.3	
	comp=Z,1.9nm,0.8s								
KURBB	**Kurchatov Arra

comp=N,4µm,0.2s
CBYP IAML 05 07 12.0
comp=E,4µm,0.2s
MTP Monte Pirata 1.25 203⇓*e*P **Pn 05 06 48.9 +1.0**
MTP Monte Pirata 1.25 203 *e*S **Sn 05 07 05.9 +2.3**
MTP Monte Pirata 1.25 203 Pn 05 06 49.0 +1.0
MTP **Sn 05 07 05.4 +1.8**
MTP IAML 05 07 06.6
comp=E,4µm,0.7s
MTP IAML 05 07 06.7
comp=N,2µm,0.8s
HUMP Col San Antoni 1.35 215⇑*e*P **Pn 05 06 49.6 +0.3**
HUMP Col San Antoni 1.35 215 *e*S **Sn 05 07 08.4 +2.4**
HUMP Col San Antoni 1.35 215 Pn 05 06 49.5 +0.2
HUMP **Sn 05 07 07.3 +1.3**
HUMP IAML 05 07 10.9
comp=N,2µm,0.7s
GCPR Guaynabo City 1.37 226⇑*e*P **Pn 05 06 49.4 -0.2**
GCPR Guaynabo City 1.37 226 *e*S **Sn 05 07 08.6 +2.2**
GCPR Guaynabo City 1.37 226 Pn 05 06 49.2 -0.3
CDVI St. Croix 1.52 170 Pn 05 06 54.7 +3.0
SJG San Juan 1.55 223 Pn **Pn 05 06 52.4 +0.3**
comp=N,16nm,0.3s,baz=55,slow=8.8,SNR=43
SJG Sn **Sn 05 07 11.2 +0.2**
comp=N,64nm,0.3s,baz=284,slow=20,SNR=12
SJG LR LR 05 07 22.2
comp=N,242nm,18.8s,baz=19,slow=37
SJG San Juan 1.55 223 Pn 05 06 52.2 +0.1
EMPR Esperanza - Ma 1.61 241⇑*e*P **Pn 05 06 53.8 +0.9**
EMPR Esperanza - Ma 1.61 241 *e*S **Sn 05 07 15.5 +3.1**
EMPR Esperanza - Ma 1.61 241 Pn 05 06 53.3 +0.5
EMPR **Sn 05 07 17.0 +4.6**
EMPR IAML 05 07 22.4
comp=N,1µm,0.8s
EMPR IAML 05 07 32.6
comp=E,2µm,0.6s
IGPR InterUniversit 1.64 218⇑*e*P **Pn 05 06 53.7 +0.5**
IGPR InterUniversit 1.64 218 *e*S **Sn 05 07 15.5 +2.4**
AOPR Arecibo Observ 1.86 241⇓*e*P **Pn 05 06 56.4 +0.1**
AOPR Arecibo Observ 1.86 241 *e*S **Sn 05 07 20.8 +2.1**
AOPR Arecibo Observ 1.86 241 Pn 05 06 56.6 +0.3
AOPR IAML 05 07 28.9
comp=N,1µm,0.4s
AOPR IAML 05 07 32.2
comp=E,2µm,0.6s
CELP Cerrillos 1.87 231⇑*e*P **Pn 05 06 57.1 +0.6**
CELP Cerrillos 1.87 231 *e*S **Sn 05 07 21.1 +2.1**
CELP Cerrillos 1.87 231 Pn 05 06 57.2 +0.7
CELP Sn **Sn 05 07 19.8 +0.8**
UUPR Utuado, UPR, P 1.88 238⇑*e*P **Pn 05 06 56.9 +0.3**
UUPR Utuado, UPR, P 1.88 238 Pn 05 06 57.0 +0.3
OBIP Obispado Ponce 1.91 231⇓*e*P **Pn 05 06 57.5 +0.4**
OBIP Obispado Ponce 1.91 231 Pn 05 06 57.7 +0.6
AGPR Aguadilla, PR 2.11 248⇑*e*P **Pn 05 06 59.8 0.0**
AGPR Aguadilla, PR 2.11 248 *e*S **Sn 05 07 27.7 +2.9**
AGPR Aguadilla, PR 2.11 248 Pn **Pn 05 06 59.8 0.0**
AGPR **Sn 05 07 24.7 -0.2**
AGPR IAML 05 07 36.1
comp=N,499nm,0.7s
AGPR Aguadilla, PR 2.11 248 *i* P **Pn 05 07 00.1 +0.3**
AGPR IAML 05 07 41.8
comp=Z,136nm,0.7s
GBPR Guanica, Bosqu 2.16 234⇓*e*P **Pn 05 07 01.6 +1.2**
GBPR Guanica, Bosqu 2.16 234 Pn 05 07 01.6 +1.2
LSP Las Mesas 2.22 241⇑*e*P **Pn 05 07 02.0 +0.7**
LSP Las Mesas 2.22 241 *e*S **Sn 05 07 30.3 +2.9**
LSP Las Mesas 2.22 241 Pn 05 07 02.0 +0.7
LSP **Sn 05 07 30.3 +2.9**
SMRT St. Maarten 2.22 122 Pn 05 07 02.6 +1.3
SMRT IAML 05 07 40.4
comp=N,920nm,0.5s
SMRT IAML 05 07 41.3
comp=E,812nm,0.5s
PRSN Puerto Rico Se 2.25 243 Pn 05 07 01.8 +0.2
PRSN IAML 05 07 36.0
comp=E,1µm,0.3s
PRSN IAML 05 07 47.9
comp=N,2µm,0.3s
MLPR Magueyes Islan 2.29 236⇓*e*P **Pn 05 07 02.3 0.0**
MLPR Magueyes Islan 2.29 236 *e*S **Sn 05 07 31.8 +2.6**
MLPR Magueyes Islan 2.29 236 Pn 05 07 02.2 0.0
MLPR **Sn 05 07 28.8 -0.4**
CRPR Cabo Rojo, PR 2.32 238⇑*e*P **Pn 05 07 03.4 +0.7**
CRPR Cabo Rojo, PR 2.32 238 *e*S **Sn 05 07 32.5 +2.5**
CRPR Cabo Rojo, PR 2.32 238 Pn 05 07 03.5 +0.8
CRPR **Sn 05 07 28.7 -1.3**
CRPR IAML 05 07 46.4
comp=E,368nm,0.9s
CRPR Cabo Rojo, PR 2.32 238 *i* P **Pn 05 07 03.4 +0.7**
CRPR *e*S **Sn 05 07 31.6 +1.5**
CRPR IAML 05 07 44.9
comp=Z,341nm,0.7s
SABA Saba 2.36 133 Pn 05 07 04.0 +0.8
SABA IAML 05 08 01.7
comp=N,894nm,0.8s
IDE Isla Desecheo 2.46 250⇑*e*P **Pn 05 07 05.1 +0.4**
IDE Isla Desecheo 2.46 250 Pn 05 07 05.1 +0.4
SEUS St. Eustatius 2.63 132 Pn **Pn 05 07 09.2 +2.3**
SEUS IAML 05 07 54.3
comp=N,527nm,0.7s
SEUS IAML 05 08 47.2
comp=E,552nm,0.2s
PCDR Punta Cana, DR 3.25 257 Pn **Pn 05 07 15.4 0.0**
PCDR IAML 05 08 20.9
comp=N,365nm,1.7s
GDHS Morne Mazeau, 4.31 133 Pn **Pn 05 07 32.6 +2.6**
CBE Ff, Capester 4.56 134 Pn Pn 05 07 37.0 +3.6
MAGL Barre de l'ile 4.87 132 Pn **Pn 05 07 38.8 +1.1**
SC01 Santiago de lo 5.37 273 Pn **Pn 05 07 44.5 -0.1**
SC01 IAML 05 09 29.5
comp=E,114nm,1.3s
SC01 IAML 05 09 45.3
comp=N,98nm,1.8s
FDF Fort de France 5.84 140 Pn Pn 05 07 54.2 +3.1
SDDR Presa de Saban 5.91 268 Pn **Pn 05 07 53.1 +1.0**
SDDR Presa de Saban 5.91 268 *i* P **Pn 05 07 53.1 +1.0**
BIM Bigot 6.05 141 Pn Pn 05 07 57.2 +3.1
GRTK Grand Turk 6.14 292 Pn **Pn 05 07 53.6 -1.5**
MPOM Morne Pois Mar 6.24 139 Pn **Pn 05 07 57.7 +1.1**
URIC Uribia, Colomb 10.06 223 Pn **Pn 05 08 48.4 -0.6**
BAUV El Baul 10.66 196 Pn **Pn 05 08 54.1 -3.0**
SDV Santo Domingo 11.65 208 Pn **Pn 05 09 10.5 -0.4**
comp=N,0.3nm,0.3s,baz=1.1,slow=16,SNR=1.6
SDV Sn **Sn 05 11 19.6 -0.2**
comp=N,0.1nm,0.3s,baz=314,slow=15,SNR=1.2
SDV LR LR 05 13 47.5
comp=N,125nm,20.5s,baz=76,slow=38
comp=N,0.9nm,0.3s
SDV Santo Domingo 11.65 208 Pn 05 09 07.7 -3.2
PAMC Pamplona, Colo 13.99 213 *e*P **Pn 05 09 44.9 +1.8**
ZARC Zaragoza, Cauc 15.09 220 *e*P **Pn 05 09 57.9 +0.4**
RUSC La Rusia 15.42 212 P 05 10 03.8 -2.5
RUSC IAmb IAmb 05 10 21.8
comp=Z,14nm,0.9s
RUSC La Rusia 15.42 212 *e*P **Pn 05 10 02.3 0.0**
NORC Norcasia 16.64 216 *e*P **P 05 10 02.1 +0.7**
ROSC El Rosal 16.95 213 Pn **Pn 05 10 21.1 -0.5**
comp=Z,0.9nm,0.3s,baz=281,slow=23,SNR=1.9
ROSC LR LR 05 16 50.0
comp=Z,104nm,21.9s,baz=206,slow=37
comp=Z,1.9nm,0.3s
ROSC El Rosal 16.95 213 P P 05 10 21.4 -1.8
ROSC IAmb IAmb 05 10 40.7
comp=Z,13nm,0.8s
ROSC El Rosal 16.95 213 *e*P **Pn 05 10 21.1 -0.5**
CBOC Ciudad Bolivar 17.07 220 *e*P **Pn 05 10 22.0 -0.9**
GUY2C Guyana, Caldas 17.20 217 *e*P **P 05 10 27.1 +1.0**
BOAV Boa Vista 17.33 165 P P 05 10 27.4 +0.3
BOAV IAmb IAmb 05 10 58.5
comp=Z,3.6nm,1.0s
MDP Montagnes des 18.55 138 P Pn 05 10 41.0 0.0
comp=Z,0.2nm,0.3s,baz=3.2,slow=16,SNR=1.4
MDP S **Sn 05 13 59.0 -8.5**
comp=Z,14nm,1.1s,baz=5.1,slow=4.8,SNR=2.3
comp=Z,7.0nm,1.0s
Y60A Bolivia 18.80 324 P Pn 05 10 44.6 +0.8
656A Willston 18.83 306 P Pn 05 10 43.9 -0.4
456A Hilliard 19.14 310 P Pn 05 10 47.5 -0.4
255A Hazlehurst 20.12 312 P Pn 05 10 59.1 -0.5
255A IAmb IAmb 05 11 07.1
comp=Z,10nm,0.8s
BIRD Birdtown, Kers 20.55 321 P Pn 05 11 03.8 -0.7
BIRD IAmb IAmb 05 11 31.2
comp=Z,8.6nm,1.1s

V58A Windy Hill, Pi 20.63 326 P Pn 05 11 03.7 -1.8
JSC Jenkinsville 20.78 319 P P 05 11 03.3 -1.4
154A Montrose 20.95 313 P P 05 11 04.3 -2.2
154A IAmb IAmb 05 11 35.0
comp=Z,25nm,1.1s
PAULI Pauline 21.48 320 P P 05 11 11.9 -0.3
PAULI IAmb IAmb 05 11 32.1
comp=Z,8.4nm,1.1s
352A Blakely 21.66 308 P P 05 11 12.0 -2.1
352A IAmb IAmb 05 11 43.4
comp=Z,16nm,1.2s
DUNO Dulce Nombre, 21.77 248 P P 05 11 15.5 +0.1
TULM Tulcn-Chalpat 22.26 216 P P 05 11 18.9 -2.3
TULM IAmb IAmb 05 11 51.4
comp=Z,19nm,1.2s
V53A Saluda 22.65 320 P P 05 11 23.0 -1.9
V53A IAmb IAmb 05 11 42.7
comp=Z,11nm,1.4s
M63A Gales Ferry 22.87 346 P P 05 11 27.6 +0.7
M63A IAmb IAmb 05 11 47.8
comp=Z,26nm,1.2s
PAL Palisades 22.97 343 P P 05 11 26.4 -1.5
PAL IAmb IAmb 05 11 59.7
comp=Z,14nm,1.2s
YLE Yale 23.00 345 P P 05 11 26.9 -1.3
OTAV Otavalo 23.03 216 P P 05 11 26.9 -2.4
Y49A Blount Mountai 23.95 312 P P 05 11 37.2 -0.4
S51A Beattyville 24.44 322 P P 05 11 42.6 +0.6
S51A IAmb IAmb 05 12 09.0
comp=Z,8.6nm,1.1s
ATAH Atahualpa 29.34 208 LR LR 05 26 04.2
comp=Z,87nm,19.4s,baz=357,slow=40
LPAZ La Paz 35.45 185 P P 05 13 23.4 +3.0
comp=Z,0.5nm,0.4s,baz=340,slow=11,SNR=2.5
comp=Z,0.5nm,0.4s
PDAR Pinedale Array 44.12 312 P P 05 14 34.4 +2.5
comp=Z,0.7nm,0.6s,baz=117,slow=9.9,SNR=8.1
comp=Z,0.7nm,0.6s
NVAR Mina Array Bea 49.70 304 P **P 05 15 16.6 +1.1**
comp=Z,0.2nm,0.3s,baz=86,slow=6.8,SNR=1.3
comp=Z,0.2nm,0.3s
YKA Yellowknife Ar 54.91 334 P **P 05 15 54.4 +1.0**
comp=Z,0.3nm,0.7s,baz=114,slow=7.5,SNR=3.4
comp=Z,0.3nm,0.7s
ESDC Sonseca Array 55.87 55 LR LR 05 35 55.1
comp=Z,25nm,20.7s,baz=247,slow=32
DBIC Dimbokro 59.71 94 P **P 05 16 28.3 +0.2**
comp=Z,1.6nm,0.7s,baz=286,slow=9.6,SNR=1.9
comp=Z,1.6nm,0.7s
INK Inuvik 64.33 337 P **P 05 16 59.3 +1.1**
comp=Z,0.9nm,0.8s,baz=134,slow=7.9,SNR=3.3
comp=Z,0.9nm,0.8s
NOA NORSAR Array B 66.69 31 LR LR 05 44 57.1
comp=Z,11nm,18.5s,baz=290,slow=35
ILAR Eielson Array 69.29 333 P **P 05 17 31.4 +1.5**
comp=Z,0.2nm,0.6s,baz=102,slow=4.0,SNR=7.2
ILAR LR LR 05 48 21.4
comp=Z,34nm,19.6s,baz=100,slow=36
comp=Z,0.2nm,0.6s
FINES FINESS Array B 73.82 30 P P 05 17 58.8 +1.6
comp=Z,1.1nm,0.9s,baz=265,slow=8.4,SNR=1.3
comp=Z,1.1nm,0.9s
PETK Petropavlovsk- 99.02 336 LR LR 06 07 17.6
comp=Z,19nm,21.5s,baz=190,slow=37
ASAR Alice Springs 161.83 253 PKPab **PKPab 05 27 11.8 +1.4**
comp=Z,0.3nm,0.5s,baz=101,slow=4.9,SNR=3.1

TIR **16** *05:09:45.0,40.˚16N×19.˚81E,h2km±1km,Md2.9,Ml3.1*
BEO **16** *05:09:45.4±0.7,40.˚02N×19.˚54E,h14km±3km, ML2.7/7*
THE **16** *05:09:47.4,40.˚15N×19.˚84E,h2km±3km, ML2.9/7, Error ellipse: s-maj=3.0km s-min=1.2km az=229.0*
ATH **16** *05:09:47.9,40.˚07N×19.˚80E,h29km±3km, ML2.9/4, Error ellipse: s-maj=3.7km s-min=1.3km az=208.0*
IDC **16** *05:09:48.4±9.2,40.˚61N×20.˚22E,h0km, mb3.2/3, mbtmp3.3/4, ML3.4/1, MS3.1/1, Error ellipse: s-maj=171.7km s-min=29.9km az=32.0*

ISC 16 05:09:47.3±0.8, 40.˚06N±0.˚02×19.˚77E±0.˚03, h22km±4km, n72, σ1s67/96, mb3.5/3, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.26**	**136**	P		**Pn**	**05 09 52.0**	**-3.8**
SRN				S		**Sb**	**05 09 57.0**	**-0.7**
	3µm,0.4s							
SRN	**Sarande**	**0.26**	**136**	P		**Pn**	**05 09 51.8**	**-4.0**
	baz=152							
SRN				S		**Sb**	**05 09 57.2**	**-0.5**
	baz=152							
SRN				AMP				
	comp=N,11nm,0.3s,baz=152							
KASA	**Kassiopi**	**0.34**	**158**	P		**Pn**	**05 09 54.8**	**-2.1**
KASA				S		**Sb**	**05 10 01.4**	**+1.6**
KASA				AML	AML		05 10 01.9	
	comp=E,4253µm,0.4s							
KASA				AML	AML		05 10 04.1	
	comp=N,4059µm,0.3s							
KEK	**Kerkira**	**0.35**	**176**	P		**Pn**	**05 09 56.1**	**-1.0**
KEK				S		**Sb**	**05 10 03.3**	**+3.3**
	comp=N,2µm,0.3s							
KEK	**Kerkira**	**0.35**	**176**	P		**Pn**	**05 09 56.1**	**-1.0**
KEK				S		**Sb**	**05 10 02.2**	**+2.2**
KEK				AML	AML		05 10 04.5	
	comp=E,4569µm,0.2s							
KEK				AML	AML		05 10 04.7	
	comp=N,3261µm,0.5s							
VLO	**Vlora**	**0.46**	**333**	P		**Pb**	**05 09 54.8**	**-1.8**
VLO				S		**Sb**	**05 10 02.0**	**-0.9**
	comp=N,6µm,0.6s							
LSK	**Leskovik**	**0.65**	**82**	P		**Pn**	**05 09 58.2**	**-3.0**
LSK				S		**Sb**	**05 10 07.9**	**-0.7**
	comp=N,1µm,0.6s							
LSK	**Leskovik**	**0.65**	**82**	P		**Pn**	**05 09 57.9**	**-3.3**
	baz=90							
LSK				S		**Sb**	**05 10 07.3**	**-1.3**
	baz=90							
LSK				AMP				
	comp=N,5.7nm,0.5s,baz=90							
JAN	**Janina**	**0.93**	**116**	P		**Pb**	**05 10 05.5**	**+0.8**
JAN				S		**Sb**	**05 10 19.1**	**+2.5**
	comp=N,885nm,0.3s							
JAN	**Janina**	**0.93**	**116**	P		**Pb**	**05 10 05.0**	**+0.3**
JAN				AML	AML		05 10 24.0	
	comp=E,1762µm,0.4s							
JAN				AML	AML		05 10 24.5	
	comp=N,1761µm,0.3s							
SCTE	**Santa Cesarea**	**1.00**	**271**	P		**Pb**	**05 10 07.2**	**+1.4**
	baz=266							
SCTE				S		**Sb**	**05 10 21.5**	**+3.0**
	baz=266							
SCTE	**Santa Cesarea**	**1.00**	**271**	P		**Pn**	**05 10 06.8**	**+0.9**
SCTE				AML	AML		05 10 24.4	
	comp=E,1116µm,0.5s							
SCTE				AML	AML		05 10 24.6	
	comp=N,1071µm,0.4s							
NEST	**Nestorio**	**1.04**	**70**	P		**Pn**	**05 10 05.3**	**-1.4**
NEST	**Nestorio**	**1.04**	**70**	P		**Pb**	**05 10 06.4**	**-0.3**
PENT	**Pentalofos**	**1.06**	**82**	P		**Pb**	**05 10 06.3**	**-0.7**
PENT	**Pentalofos**	**1.06**	**82**	P		**Pn**	**05 10 06.7**	**-0.3**
KPRO	**Kipourio**	**1.23**	**95**	P		**Pb**	**05 10 10.3**	**+0.4**
TIR	**Tirane**	**1.28**	**3**	P		**Pn**	**05 10 09.3**	**-0.6**
	baz=2.0							
TIR				S		**Sn**	**05 10 24.8**	**-1.7**
	baz=2.0							
TIR	**Tirane**	**1.28**	**3**	*e*Pg		**Pn**	**05 10 09.8**	**-0.1**
TIR				*e*Sg		**Sb**	**05 10 28.4**	**+1.6**
OHR	**Ohrid**	**1.31**	**37**	*e*Pg		**Pn**	**05 10 10.7**	**+0.4**
OHR				*e*Sg		**Sb**	**05 10 32.1**	**+4.5**
OHR	**Ohrid**	**1.31**	**37**	*i* Pn		**Pn**	**05 10 10.3**	**0.0**
OHR				*i* Sn		**Sb**	**05 10 32.1**	**+4.5**
TSLK	**Tsoukalades, L**	**1.42**	**151**	P		**Pb**	**05 10 14.3**	**+1.3**
TSLK				S		**Sb**	**05 10 33.9**	**+3.3**
	comp=N,455nm,0.5s							
TSLK	**Tsoukalades, L**	**1.42**	**151**	P		**Pb**	**05 10 12.7**	**-0.3**
FNA	**Florina**	**1.42**	**59**	P		**Pn**	**05 10 12.0**	**+0.1**
FNA				S		**Sb**	**05 10 32.5**	**+1.6**
	comp=N,422nm,0.6s							
FNA	**Florina**	**1.42**	**59**	P		**Pb**	**05 10 12.3**	**-0.9**
	baz=62							
FNA	**Florina**	**1.42**	**59**	*e*Pn		**Pb**	**05 10 12.3**	**-0.9**
FNA				*e*Sn		**Sb**	**05 10 34.3**	**+3.4**
FNA	**Florina**	**1.42**	**59**	P		**Pb**	**05 10 12.7**	**-0.5**
LKD2	**Lefkada island**	**1.45**	**151**	P		**Pb**	**05 10 13.9**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.53**	**152**	P		**Pb**	**05 10 15.5**	**+0.6**
KZN	**Kozani**	**1.55**	**80**	P		**Pb**	**05 10 15.2**	**-0.2**
EVGI	**Lefkada island**	**1.60**	**154**	P		**Pb**	**05 10 16.4**	**+0.3**
FSK	**Fiskardo**	**1.72**	**159**	P		**Pb**	**05 10 18.4**	**+0.3**
THL	**Klokotos Trika**	**1.80**	**105**	P		**Pb**	**05 10 19.6**	**0.0**
KEF4	**Livadi, Kephal**	**1.87**	**164**	P		**Pb**	**05 10 20.9**	**+0.1**
EVR	**Evrytania**	**1.95**	**125**	P		**Pb**	**05 10 21.9**	**-0.3**
PVO	**Paravola**	**1.99**	**136**	P		**Pb**	**05 10 22.2**	**-0.6**
VLS	**Valsamata**	**1.99**	**161**	P		**Pb**	**05 10 22.7**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.11**	**119**	P		**Pb**	**05 10 25.0**	**+0.2**
GRG	**Griva**	**2.20**	**65**	P		**Pb**	**05 10 25.9**	**-0.5**
ANX	**Ano Chora**	**2.22**	**131**	P		**Pb**	**05 10 26.9**	**+0.1**
AGG	**Agios Georgios**	**2.24**	**117**	P		**Pb**	**05 10 26.8**	**-0.2**
EFP	**Efpalio**	**2.33**	**134**	P		**Pb**	**05 10 28.0**	**-0.5**
PDG	**Podgorica**	**2.40**	**351**	*e*Pn		**Pn**	**05 10 25.0**	**-0.2**
PDG				*e*Sn		**Sn**	**05 10 53.8**	**0.0**
SERG	**Sergoula**	**2.42**	**132**	P		**Pb**	**05 10 29.9**	**-0.3**
STIP	**Stip**	**2.45**	**48**	*i* Pn		**Pb**	**05 10 30.0**	**-0.7**
VAY	**Valandovo**	**2.47**	**59**	*e*Pn		**Pn**	**05 10 27.9**	**+1.6**
VAY				*e*Sn		**Sb**	**05 10 59.7**	**-1.3**
VAY	**Valandovo**	**2.47**	**59**	*i* Pn		**Pb**	**05 10 29.8**	**-1.2**
VAY				*i* Sn		**Sb**	**05 11 05.7**	**+4.6**
TREB	**Trebinje**	**2.86**	**339**	*e*Pn		**Pn**	**05 10 30.8**	**-0.7**
TREB				*e*Sn		**Sn**	**05 11 04.7**	**-0.6**
PRVS	**Prvonek**	**3.00**	**35**	*e*Pn		**Pn**	**05 10 34.7**	**+1.2**
PRVS				*e*Sn		**Sn**	**05 11 11.5**	**+2.7**
BARS	**Barje**	**3.15**	**29**	*e*Pn		**Pn**	**05 10 36.8**	**+1.2**
BARS				*e*Sn		**Sn**	**05 11 15.8**	**+3.3**
SJES	**Sjenica**	**3.20**	**3**	*e*Pn		**Pn**	**05 10 35.8**	**-0.5**
SJES				*e*Sn		**Sn**	**05 11 13.7**	**-0.1**
STON	**Ston**	**3.21**	**332**	*e*Pn		**Pn**	**05 10 35.2**	**-1.1**
STON				*e*Sn		**Sn**	**05 11 11.9**	**-1.9**
SELS	**Selova**	**3.31**	**17**	*e*Pn		**Pn**	**05 10 37.7**	**-0.1**
IVAS	**Ivanjica**	**3.52**	**5**	*e*Pn		**Pn**	**05 10 40.5**	**-0.2**
BBLS	**Lazići**	**3.81**	**356**	*e*Pn		**Pn**	**05 10 45.2**	**+0.5**
GRUS	**Gruza**	**3.89**	**10**	*e*Pn		**Pn**	**05 10 46.1**	**+0.4**
DIVS	**Divibare**	**4.04**	**2**	*e*Pn		**Pn**	**05 10 47.1**	**-0.7**
DIVS				*e*Sn		**Sn**	**05 11 32.8**	**-1.6**
ZAGS	**Zajecar**	**4.17**	**25**	*e*Pn		**Pn**	**05 10 50.1**	**+0.5**
TRUS	**Trudelj**	**4.18**	**6**	*e*Pn		**Pn**	**05 10 50.2**	**+0.4**
SOKA	**Soboth**	**7.46**	**334**	*i* Pn		**Pn**	**05 11 34.3**	**-0.4**
	comp=N,0.6nm,0.3s							
OBKA	**Obir**	**7.48**	**331**	*i* Pn		**Pn**	**05 11 35.5**	**+0.4**
	comp=N,2.1nm,0.3s							
ABTA	**Abfaltersbach**	**8.51**	**324**	*e*Pn		**Pn**	**05 11 52.1**	**+2.8**
	comp=N,1.4nm,0.5s							
MOA	**Molln**	**8.73**	**335**	*e*Pn		**Pn**	**05 11 53.4**	**+1.1**
	comp=N,0.6nm,0.2s							
WTTA	**Wattenberg**	**9.30**	**323**	*e*Pn		**Pn**	**05 12 00.8**	**+0.7**
	comp=N,1.4nm,0.4s							
WATA	**Walderalm**	**9.38**	**324**	*i* Pn		**Pn**	**05 12 01.3**	**+0.1**
	comp=N,0.8nm,0.3s							
FETA	**Feichten**	**9.56**	**320**	*e*Pn		Pn	05 12 11.8	+8.2
	comp=N,0.4nm,0.3s							
MOTA	**Moosalm**	**9.60**	**322**	*e*Pn		**Pn**	**05 12 04.8**	**+0.5**
	comp=N,0.3nm,0.2s							
GERES	**GERESS Array B**	**9.79**	**336**	Pn		**Pn**	**05 12 07.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=156,slow=15,SNR=4.6							
	comp=N,0.3nm,0.4s							
NOA	**NORSAR Array B**	**21.66**	**349**	P		**P**	**05 14 34.9**	**-1.2**
	comp=N,0.4nm,0.7s,baz=170,slow=10,SNR=1.5							
	comp=N,0.4nm,0.7s							
FINES	**FINESS Array B**	**21.75**	**8**	P		**P**	**05 14 34.5**	**-2.5**
	comp=N,1.6nm,0.9s,baz=168,slow=12,SNR=4.3							
	comp=N,1.6nm,0.9s							
ARU	**Arti**	**30.07**	**44**	LR		LR	05 28 18.1	
	comp=N,36nm,18.4s,baz=34,slow=38							
MKAR	**Makanchi Array**	**44.84**	**60**	P		**P**	**05 17 59.6**	**0.0**
	comp=N,0.5nm,0.7s,baz=275,slow=6.4,SNR=6.0							
	comp=N,0.5nm,0.7s							

IDC **16** *05:16:47.6±2.6,54.˚35N×86.˚92E,h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=22.2km s-min=14.7km az=60.0*
NNC **16** *05:16:47.2±2.6,54.˚30N×86.˚90E,h0km, mb3.1, mpv2.9, Error ellipse: s-maj=24.8km s-min=14.3km az=2.0, Suspected Mining explosion.*

ISC 16 05:16:48.5±4.3, 54.˚3N±0.˚2×86.˚7E±0.˚2, h0km, n8, σ1s09/13, 4C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**251**	I		I	05 23 57.6	
	0.1nm,1.0s,baz=72,slow=348,SNR=17							
ZAA0	**Zalesovo Array**	**1.17**	**251**	⇓P		**Pg**	**05 17 10.1**	**-0.8**
	0.3nm,0.3s							
ZAA0				⇓S		**Sn**	**05 17 29.1**	**+0.3**
	12nm,1.1s							
ZALV	**Zalesovo Beam**	**1.17**	**251**	Pg		**Pb**	**05 17 10.4**	**-1.2**
	1.7nm,0.3s,baz=69,slow=17,SNR=22							
ZALV				Lg		Lg	05 17 28.4	
	1.9nm,0.3s,baz=75,slow=29,SNR=6.9							
KURK	**Kurchatov**	**6.12**	**237**	⇓Pn		**Pn**	**05 18 21.1**	**+1.0**
	3.8nm,1.1s							
KURK				⇑Sn		**Sn**	**05 19 30.7**	**-0.1**
	1.1nm,0.7s							
KURK				⇑Lg		Lg	05 20 05.9	
	3.9nm,0.9s							
KURBB	**Kurchatov Arra**	**6.22**	**237**	Pn		**Pn**	**05 18 23.3**	**+1.8**
	0.2nm,0.3s,baz=54,slow=14,SNR=17							
KURBB				Sn		**Sn**	**05 19 35.1**	**+1.8**
	0.1nm,0.3s,baz=51,slow=52,SNR=1.8							
KURBB				Lg		Lg	05 20 10.4	
	baz=53,slow=29,SNR=5.4							
	1.4nm,0.4s							
KURBB	**Kurchatov Arra**	**6.22**	**237**	⇓Pn		**Pn**	**05 18 22.3**	**+0.7**
	1.3nm,0.3s							
KURBB				⇓Sn		**Sn**	**05 19 33.8**	**+0.4**
	2.7nm,0.7s							
KURBB				⇑Lg		Lg	05 20 08.9	
	6.5nm,0.8s							
MK31	**Makanchi Array**	**8.06**	**202**	⇑Pn		**Pn**	**05 18 47.4**	**+0.6**
	0.3nm,0.6s,baz=27,slow=11,SNR=14							
MK31				⇓Sn		**Sn**	**05 20 18.7**	**+0.1**
	0.8nm,0.6s,baz=21,slow=27,SNR=6.2							
MK31				⇓Lg		Lg	05 21 02.3	
	1.3nm,0.7s,baz=26,slow=28,SNR=4.9							
MKAR	**Makanchi Array**	**8.06**	**202**	Pn		**Pn**	**05 18 47.6**	**+0.9**
	0.2nm,0.3s,baz=26,slow=13,SNR=17							
MKAR				Sn		**Sn**	**05 20 17.9**	**-0.6**
	0.2nm,0.3s,baz=20,slow=26,SNR=6.7							
MKAR				Lg		Lg	05 21 08.8	
	baz=24,slow=32,SNR=7.3							
	0.4nm,0.4s							

BJI **16** *05:32:02.9±0.0,0.˚46N×120.˚29E,h27km,mb4.7/40, mB5.0/22,Ms4.3/3,Ms7 4.2/2*
NEIC **16** *05:32:04.4±1.5,0.˚79N±0.˚05×120.˚21E±0.˚04,h10km±1km, mb4.6/33, Error ellipse: s-maj=9.6km s-min=5.8km az=150.0*
DJA **16** *05:32:05.1±0.3,1.˚1N±2.˚×12.˚0E±.˚,h10km,M4.8/14,mB5.4/6, mb4.7/10,MLv4.8/14,Mw(mB)4.8/6*
IDC **16** *05:32:13.4±2.3,0.˚64N×120.˚33E,h94km±23km,mb3.9/19, mbtmp4.3/21,MS3.5/29,Error ellipse: s-maj=18.5km s-min=11.8km az=71.0*

ISC 16 05:32:03.8±0.4, 0.˚73N±0.˚04×120.˚17E±0.˚04, h10km, n113, σ1s63/100, mb4.6/45, MS3.5/28, 1C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.48**	**215**	Pg		**Pg**	**05 32 11.9**	**-1.2**
MPSI				S		**Sg**	**05 32 19.1**	**-0.4**
TOLI2	**Tolitoli**	**0.72**	**58**			**Pg**	**

SANI	**Sanana**	**6.44**	**115**	P		**Pn**	**05 33 39.6**	**+0.8**
	35nm,1.0s,0.2nm							
KKM	**Kota Kinabalu**	**6.59**	**323**	Pn		**Pn**	**05 33 39.9**	**-1.0**
BBSI	**Bau Bau**	**6.63**	**159**	P		**Pn**	**05 33 45.0**	**+3.7**
	55nm,0.9s,1μm0.3nm							
BSSI	**Bau Bau, Buton**	**6.84**	**177**	P		**Pb**	**05 33 58.9**	**-3.9**
TNTI	**Ternate**	**7.20**	**90**	Pn		**Pn**	**05 33 48.9**	**-0.2**
NLAI	**Namlea**	**7.97**	**120**	P		**Pn**	**05 34 02.7**	**+2.9**
	37nm,0.7s							
SBUM	**Sibu**	**8.13**	**282**			**Pn**	**05 34 00.4**	**-1.5**
DAV	**Davao City (W)**	**8.29**	**40**	LR		LR	05 36 56.8	
	comp=Z,340nm,21.1s,baz=172,slow=34							
SOEI	**Soe**	**11.19**	**159**	Pn		**Pn**	**05 34 43.9**	**-0.1**
SIJI	**Sorong**	**11.21**	**98**	P		**Pn**	**05 34 48.0**	**+3.7**
	4.0nm,0.3s,baz=291,slow=10,SNR=11							
LEM	**Lembang**	**14.61**	**239**	LR		LR	05 41 50.3	
	comp=Z,204nm,21.1s,baz=152,slow=39							
MTN	**Manton Dam**	**17.33**	**141**			**P**	**05 36 08.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.47**	**164**			**Pn**	**05 36 34.1**	**+2.0**
IPM	**Ipoh**	**19.48**	**281**	P		**P**	**05 36 31.0**	**-0.2**
RPSI	**Rantau Prapat**	**21.33**	**276**	P		**P**	**05 36 50.9**	**-0.3**
RPSI	**Rantau Prapat**	**21.33**	**276**	P		**P**	**05 36 55.0**	**+3.8**
PSI	**Prapat**	**21.34**	**276**	P		**P**	**05 36 55.0**	**+3.6**
	6.3nm,0.8s,baz=106,slow=12,SNR=4.1							
PSI				LR		LR	05 45 48.0	
	comp=Z,208nm,19.4s,baz=109,slow=38							
	6.3nm,0.8s							
PSA00	**Pilbara Seismi**	**22.17**	**181**	P		**P**	**05 37 00.8**	**+0.6**
PSA00				IAmb		IAmb	05 37 34.5	
	comp=Z,21nm,1.2s							
GSI	**Gunungsitoli**	**22.60**	**272**	P		**P**	**05 37 03.9**	**-1.0**
GSI				IAmb		IAmb	05 37 09.3	
	comp=Z,21nm,0.8s							
WB0	**Warramunga Arr**	**24.69**	**146**	P		**P**	**05 37 24.2**	**-1.0**
WB0				IAmb		IAmb	05 37 29.3	
	comp=Z,9.5nm,0.8s							
WRA	**Warramunga Arr**	**24.80**	**147**	P		**P**	**05 37 24.7**	**-1.6**
	comp=Z,6.6nm,0.9s,baz=334,slow=9.4,SNR=21							
WRA				LR		LR	05 48 43.9	
	comp=Z,84nm,19.2s,baz=0.5,slow=40							
	comp=Z,6.6nm,0.9s							
WRA	**Warramunga Arr**	**24.80**	**147**	P		**P**	**05 37 24.5**	**-1.7**
WB2	**Warramunga Arr**	**24.81**	**147**	P		**P**	**05 37 25.0**	**-1.3**
WB2				IAmb		IAmb	05 37 59.1	
	comp=Z,16nm,1.2s							
WR0	**Warramunga Arr**	**24.93**	**146**	P		**P**	**05 37 25.4**	**-2.0**
WR0				IAmb		IAmb	05 37 57.0	
	comp=Z,11nm,0.8s							
PHRA	**Phrae**	**26.36**	**313**	P		**P**	**05 37 39.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**27.29**	**311**	P		**P**	**05 37 50.8**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=140,slow=8.1,SNR=4.3							
CMAR				LR		LR	05 50 40.6	
	comp=Z,91nm,19.2s,baz=135,slow=40							
	comp=Z,0.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**27.29**	**311**	P		**P**	**05 37 48.7**	**-0.1**
CRAI	**Chiangrai**	**27.39**	**316**	P		**P**	**05 37 49.2**	**-0.5**
GUMO	**Guam**	**27.59**	**61**	LR		LR	05 48 02.4	
	comp=Z,74nm,21.1s,baz=232,slow=34							
AS31	**Alice Springs**	**27.68**	**152**	P		**P**	**05 37 51.8**	**-0.5**
ASAR	**Alice Springs**	**27.68**	**152**	P		**P**	**05 37 51.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=329,slow=8.4,SNR=14							
ASAR				LR		LR	05 50 05.9	
	comp=Z,166nm,18.4s,baz=330,slow=39							
	comp=Z,0.9nm,0.6s							
ASAR	**Alice Springs**	**27.68**	**152**	P		**P**	**05 37 52.2**	**-0.1**
PMG	**Port Moresby**	**28.70**	**111**	LR		LR	05 53 55.2	
	comp=Z,72nm,18.3s,baz=251,slow=46							
KMI	**Kunming**	**29.52**	**327**	⇓P		**P**	**05 38 09.5**	**+0.6**
KMI				pmax		pmax		
	comp=Z,11nm,0.9s							
ENH	**Enshi**	**31.08**	**342**	P		**P**	**05 38 20.4**	**-2.0**
PZH	**PanZhiHua**	**31.16**	**327**	P		**P**	**05 38 24.3**	**+1.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,140nm,5.3s							
NJ2	**Nanjing**	**31.18**	**358**	*e*P		**P**	**05 38 23.6**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
TNCH	**TengChong**	**31.96**	**321**	P		**P**	**05 38 32.3**	**+2.0**
TNCH				sP		sP	05 38 39.3	+4.8
TNCH				PP		**PnPn**	**05 39 37.8**	**+2.5**
TNCH				S		**S**	**05 43 44.3**	**+2.3**
TNCH				sS		sS	05 43 56.1	+9.1
TNCH				pmax		pmax		
	comp=Z,77nm,0.8s							
TNCH				pmax		pmax		
	comp=Z,180nm,5.7s							
TNCH				LR		LR		
	comp=Z,410nm,27.5s							
TNCH				LR		LR		
	comp=Z,520nm,29.7s							
NWAO	**Narrogin (SRO)**	**33.59**	**184**	LR		LR	05 51 42.4	
	comp=Z,103nm,20.5s,slow=35							
NWAO	**Narrogin (SRO)**	**33.59**	**184**	P		**P**	**05 38 43.9**	**-0.5**
XAN	**Xi'an**	**34.77**	**343**	P		**P**	**05 38 54.1**	**-0.5**
XAN				pmax		pmax		
	comp=Z,8.0nm,1.1s							
BRDH	**Bariadhala**	**35.29**	**310**	LR		LR	05 57 12.0	
	comp=Z,90nm,18.7s,baz=266,slow=42							
KSAR	**Wonju Array Be**	**37.22**	**10**	P		**P**	**05 39 16.1**	**+0.6**
KSRS	**Korea Array**	**37.23**	**10**	P		**P**	**05 39 17.4**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=212,slow=4.4,SNR=6.2							
KSRS				LR		LR	05 54 46.6	
	comp=Z,55nm,20.6s,baz=170,slow=36							
	comp=Z,1.9nm,0.8s							
STKA	**Stephens Creek**	**38.26**	**150**	P		**P**	**05 39 23.6**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=319,slow=9.5,SNR=9.2							
STKA				LR		LR	05 56 08.2	
	comp=Z,99nm,18.3s,baz=13,slow=38							
	comp=Z,3.6nm,0.6s							
STKA	**Stephens Creek**	**38.26**	**150**	P		**P**	**05 39 23.7**	**-0.7**
LZH	**Lanzhou**	**38.30**	**338**	⇑P		**P**	**05 39 26.4**	**+1.5**
LZH				sP		sP	05 39 33.1	+4.0
LZH				pmax		pmax		
	comp=Z,17nm,1.5s							
MJAR	**Matsushiro Arr**	**39.36**	**23**	P		**P**	**05 39 33.3**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=194,slow=8.7,SNR=5.6							
	comp=Z,1.5nm,0.3s							
PALK	**Pallekele**	**39.88**	**280**	P		**P**	**05 39 37.2**	**-1.1**
PALK				IAmb		IAmb	05 39 56.1	
	comp=Z,35nm,1.4s							
HHC	**Hu-ho-hao-te**	**40.69**	**350**	*e*P		**P**	**05 39 46.3**	**+1.7**
HHC				pmax		pmax		
	comp=Z,17nm,0.8s							
HHC				pmax		pmax		
	comp=Z,260nm,4.9s							
GTA	**Gaotai**	**42.75**	**337**	*e*P		**P**	**05 40 03.3**	**+1.7**
GTA				pmax		pmax		
	comp=Z,14nm,1.0s							
XLT	**XiLinHaoTe**	**43.13**	**356**	*e*P		**P**	**05 40 06.0**	**+1.4**
XLT				pP		sP	05 40 10.0	+1.0
XLT				sP		pP	05 40 13.5	+5.8
XLT				pmax		pmax		
	comp=Z,11nm,0.8s							
XLT				pmax		pmax		
	comp=Z,68nm,6.4s							
MDJ	**Mudanjiang**	**44.49**	**10**	P		**P**	**05 40 16.4**	**+1.1**
MDJ				pmax		pmax		
	comp=Z,22nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,140nm,3.5s							
USRK	**Ussuriysk Ar.**	**44.54**	**12**	P		**P**	**05 40 15.3**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=197,slow=9.9,SNR=4.3							
	comp=Z,1.5nm,0.5s							
ULN	**Ulaanbaatar**	**48.31**	**348**	P		**P**	**05 40 45.0**	**-0.5**
ULN				IAmb		IAmb	05 40 47.5	
	comp=Z,10.0nm,1.1s							
SONM	**Songino Array**	**48.42**	**348**	P		**P**	**05 40 47.4**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=164,slow=9.0,SNR=12							
	comp=Z,1.3nm,0.5s							
SONM	**Songino Array**	**48.42**	**348**	P		**P**	**05 40 46.2**	**-0.1**
SONM				IAmb		IAmb	05 40 48.4	
	comp=Z,4.0nm,1.2s							
KLR	**Kul'dur**	**49.33**	**10**	LR		LR	06 02 38.3	
	comp=Z,29nm,20.4s,baz=216,slow=37							
HEH	**HeiHe**	**49.72**	**6**	*e*P		**P**	**05 40 56.5**	**+0.4**
HEH				pmax		pmax		
	comp=Z,16nm,0.8s							
HEH				pmax		pmax		
	comp=Z,250nm,3.9s							
WMQ	**Urumqi**	**51.73**	**330**	*e*P		**P**	**05 41 12.3**	**+0.8**
WMQ				sP		sP	05 41 20.3	+4.6
WMQ				ScP		**ScP**	**05 46 22.5**	**+0.6**
WMQ				pmax		pmax		
	comp=Z,12nm,1.3s							
MK31	**Makanchi Array**	**56.53**	**330**	P		**P**	**05 41 46.2**	**-0.3**
MK31				IAmb		IAmb	05 41 48.3	
	comp=Z,4.4nm,0.9s							
MKAR	**Makanchi Array**	**56.53**	**330**	P		**P**	**05 41 47.4**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=130,slow=8.6,SNR=22							
MKAR				LR		LR	06 08 46.1	
	comp=Z,35nm,19.1s,baz=131,slow=39							
	comp=Z,2.8nm,0.7s							
MKAR	**Makanchi Array**	**56.53**	**330**	P		**P**	**05 41 47.1**	**+0.7**
MAKZ	**Makanchi**	**56.70**	**329**	P		**P**	**05 41 47.6**	**0.0**
MAKZ				IAmb		IAmb	05 41 53.5	
	comp=Z,7.0nm,1.2s							
KBL	**Kabul**	**58.32**	**311**	P		**P**	**05 41 58.4**	**-1.1**
KBL				IAmb		IAmb	05 42 03.0	
	comp=Z,6.2nm,0.8s							
AAK	**Ala-Archa**	**58.39**	**322**	LR		LR	06 10 42.4	
	comp=Z,37nm,18.5s,baz=128,slow=39							
GAR	**Garm**	**59.32**	**316**	P		**P**	**05 42 05.3**	**-0.9**
CHGR	**Chuyangaron**	**59.97**	**315**	P		**P**	**05 42 11.1**	**+0.3**
ZAA0	**Zalesovo Array**	**60.51**	**337**	P		**P**	**05 42 13.9**	**-0.1**
ZAA0				IAmb		IAmb	05 42 14.6	
	comp=Z,7.0nm,0.9s							
ZALV	**Zalesovo Beam**	**60.51**	**337**	P		**P**	**05 42 13.8**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=121,slow=5.7,SNR=19							
ZALV				LR		LR	06 09 02.5	
	comp=Z,33nm,18.0s,baz=83,slow=36							
	comp=Z,4.5nm,0.8s							
PEA0B	**Petropavlovsk-**	**60.78**	**25**	P		**P**	**05 42 15.6**	**-0.3**
PETK	**Petropavlovsk-**	**60.78**	**25**	P		**P**	**05 42 16.1**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=210,slow=12,SNR=4.7							
	comp=Z,4.4nm,0.8s							
PETK	**Petropavlovsk-**	**60.78**	**25**	P		**P**	**05 42 15.2**	**-0.6**
KURK	**Kurchatov**	**60.95**	**331**	P		**P**	**05 42 17.5**	**+0.5**
KKAR	**Karatay Array**	**61.14**	**320**	P		**P**	**05 42 19.1**	**+0.6**
YAK	**Yakutsk**	**61.57**	**5**	LR		LR	06 10 00.8	
	comp=Z,42nm,20.1s,baz=91,slow=37							
MA2	**Magadan**	**63.32**	**17**	LR		LR	06 12 09.6	
	comp=Z,20nm,18.4s,baz=144,slow=38							
WSAR	**Wadi Sarin**	**63.69**	**296**	LR		LR	06 13 43.3	
	comp=Z,13nm,18.0s,baz=106,slow=39							
BRVK	**Borovoye**	**66.49**	**330**	P		**P**	**05 42 53.5**	**-0.1**
BRVK				IAmb		IAmb	05 42 58.2	
	comp=Z,6.6nm,1.2s							
GEYT	**Alibeck**	**67.77**	**311**	P		**P**	**05 43 03.5**	**+1.4**
	comp=Z,9.1nm,1.2s,baz=165,slow=7.7,SNR=5.8							
GEYT				LR		LR	06 16 52.5	
	comp=Z,38nm,19.9s,baz=145,slow=39							
	comp=Z,9.1nm,1.2s							
GEYT	**Alibeck**	**67.77**	**311**	P		**P**	**05 43 01.4**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**67.77**	**311**	P		**P**	**05 43 01.4**	**-0.7**
GYA0B				IAmb		IAmb	05 43 06.8	
	comp=Z,3.6nm,0.7s							
ABKAR	**Akbulak array**	**70.43**	**323**	P		**P**	**05 43 18.1**	**-0.2**
ABKAR				IAmb		IAmb	05 43 40.9	
	comp=Z,5.9nm,1.4s							
TIXI	**Tiksi**	**71.03**	**3**	LR		LR	06 17 46.2	
	comp=Z,44nm,19.0s,baz=5.0,slow=38							
NRIK	**Noril'sk**	**71.89**	**348**	P		**P**	**05 43 27.1**	**+0.3**
	comp=Z,6.5nm,0.8s,baz=143,slow=6.4,SNR=9.5							
	comp=Z,6.5nm,0.8s							
NRIK	**Noril'sk**	**71.89**	**348**	P		**P**	**05 43 26.7**	**-0.1**
KBZ	**Khabaz**	**80.30**	**314**	P		**P**	**05 44 15.5**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=180,slow=3.0,SNR=3.6							
	comp=Z,2.5nm,1.0s							
VNDA	**Vanda**	**81.37**	**172**	P		**P**	**05 44 19.0**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=321,slow=5.3,SNR=6.3							
VNDA				LR		LR	06 21 00.5	
	comp=Z,34nm,19.2s,baz=328,slow=36							
	comp=Z,1.0nm,0.7s							
KLMR	**Klimovskoe**	**84.80**	**331**	*e*P		**P**	**05 44 34.4**	**-3.9**
KLMR				AMP			05 44 38.3	
	comp=Z,21nm,1.3s							
MMAI	**Mount Meron Ar**	**85.21**	**303**	LR		LR	06 27 12.4	
	comp=Z,24nm,20.6s,baz=138,slow=39							
EIL	**Elat**	**85.48**	**300**	LR		LR	06 28 12.6	
	comp=Z,20nm,18.6s,baz=56,slow=39							
BRTR	**Keskin Array B**	**86.86**	**310**	P		**P**	**05 44 47.9**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=108,slow=4.0,SNR=9.0							
	comp=Z,1.9nm,0.9s							
MBAR	**Mbarara**	**89.44**	**269**	LR		LR	06 25 03.0	
	comp=Z,18nm,18.2s,baz=72,slow=35							
AKASG	**Malin Array Be**	**90.04**	**321**	P		**P**	**05 45 01.6**	**-2.3**
	comp=Z,0.7nm,0.7s,baz=64,slow=3.7,SNR=4.8							
	comp=Z,0.7nm,0.7s							
ARCES	**ARCESS Array B**	**90.96**	**339**	LR		LR	06 30 59.1	
	comp=Z,22nm,18.1s,baz=76,slow=39							
FINES	**FINESS Array B**	**91.33**	**331**	P		**P**	**05 45 10.2**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=35,slow=5.1,SNR=1.9							
	comp=Z,1.3nm,0.9s							
LBTB	**Lobatse**	**94.46**	**245**	LR		LR	06 26 51.5	
	comp=Z,24nm,18.2s,baz=174,slow=35							
SUR	**Sutherland**	**98.30**	**238**	LR		LR	06 30 40.2	
	comp=Z,26nm,18.0s,baz=163,slow=36							
NOA	**NORSAR Array B**	**98.45**	**332**	LR		LR	06 33 22.3	
	comp=Z,11nm,18.1s,baz=275,slow=37							

IDC 16 05:37:48.8±6.7, 6°33S×154°58E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=205.6km s-min=43.1km az=111.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.87**	**234**	P		P	05 43 04.8	+0.7
	0.3nm,0.7s,baz=56,slow=9.6,SNR=1.7							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**26.31**	**227**	P		P	05 43 25.9	-0.6
	0.6nm,0.9s,baz=62,slow=9.6,SNR=5.6							
	0.6nm,0.9s							
MKAR	**Makanchi Array**	**82.64**	**319**	P		P	05 50 14.3	+0.1
	0.4nm,0.8s,baz=101,slow=5.6,SNR=3.6							
	0.4nm,0.8s							

*NEIC **16** 05:39:38.5±1.0, 19°.5N×0°.1×63°.51W±0°.09, h47km±57km, ML3.4/34, Md3.7/12(RSPR), Error ellipse: s-maj=20.1km s-min=10.5km az=198.0*
*RSPR **16** 05:39:39.8, 19°.64N×63°.64W, h53km±17km, MD3.7/12*
ISC 16 05:39:36.4±3.0, 19°.6N±0°.2×63°.48W±0°.09, h31km, n51, σ0.92/60, 8C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMRT	**St. Maarten**	**1.62**	**166**			**Pn**	**05 40 03.3**	**+0.4**
SMRT				IAML			05 40 21.2	
	comp=N,744nm,0.2s							
SMRT				IAML			05 40 22.9	
	comp=E,812nm,0.2s							
SABA	**Saba**	**2.02**	**174**			**Pn**	**05 40 08.5**	**+0.2**
SABA				IAML			05 40 44.9	
	comp=N,476nm,0.6s							
CUPR	**Culebra, Puert**	**2.16**	**233**	⇓*e*P		**Pn**	**05 40 10.9**	**+0.7**
CUPR	**Culebra, Puert**	**2.16**	**233**	*e*S		**Sn**	**05 40 35.0**	**-1.0**
CUPR	**Culebra, Puert**	**2.16**	**233**			**Pn**	**05 40 10.7**	**+0.5**
CUPR						**Sn**	**05 40 35.0**	**-1.0**
CDVI	**St. Croix**	**2.24**	**213**	⇓*e*P		**Pn**	**05 40 12.6**	**+1.3**
CDVI	**St. Croix**	**2.24**	**213**	*e*S		**Sn**	**05 40 38.4**	**+0.5**
CDVI	**St. Croix**	**2.24**	**213**			**Pn**	**05 40 12.1**	**+0.8**
CDVI						**Sn**	**05 40 38.1**	**+0.2**
CDVI				IAML			05 40 40.4	
	comp=E,407nm,0.5s							
MTP	**Monte Pirata**	**2.49**	**232**	⇓*e*P		**Pn**	**05 40 15.5**	**+0.7**
MTP	**Monte Pirata**	**2.49**	**232**	*e*S		**Sn**	**05 40 43.7**	**-0.5**
MTP	**Monte Pirata**	**2.49**	**232**			**Pn**	**05 40 15.5**	**+0.7**
MTP						**Sn**	**05 40 43.0**	**-1.2**
MTP				IAML			05 40 57.5	
	comp=E,92nm,0.3s							
CBYP	**Canovanas**	**2.63**	**239**	⇓*e*P		**Pn**	**05 40 17.4**	**+0.6**
CBYP	**Canovanas**	**2.63**	**239**	*e*S		**Sn**	**05 40 47.6**	**-0.1**
CBYP	**Canovanas**	**2.63**	**239**			**Pn**	**05 40 17.3**	**+0.5**
CBYP				IAML			05 40 50.3	
	comp=N,290nm,0.2s							
CBYP				IAML			05 40 55.6	
	comp=E,185nm,0.2s							
HUMP	**Col San Antoni**	**2.69**	**237**	⇓*e*P		**Pn**	**05 40 18.2**	**+0.6**
HUMP	**Col San Antoni**	**2.69**	**237**	*e*S		**Sn**	**05 40 48.6**	**-0.6**
HUMP	**Col San Antoni**	**2.69**	**237**			**Pn**	**05 40 18.0**	**+0.4**
HUMP						**Sn**	**05 40 48.5**	**-0.6**
GCPR	**Guaynabo City**	**2.80**	**242**	⇓*e*P		**Pn**	**05 40 19.3**	**+0.3**
GCPR	**Guaynabo City**	**2.80**	**242**	*e*S		**Sn**	**05 40 50.4**	**-1.4**
GCPR	**Guaynabo City**	**2.80**	**242**			**Pn**	**05 40 19.4**	**+0.3**
GCPR						**Sn**	**05 40 50.5**	**-1.2**
SJG	**San Juan**	**2.95**	**239**			**Pn**	**05 40 21.6**	**+0.5**
SJG				IAML			05 41 00.7	
	comp=E,52nm,0.5s							
IGPR	**InterUniversit**	**3.00**	**237**	⇓*e*P		**Pn**	**05 40 23.1**	**+1.3**
IGPR	**InterUniversit**	**3.00**	**237**	*e*S		**Sn**	**05 40 56.3**	**-0.3**
CELP	**Cerrillos**	**3.32**	**243**	⇑*e*P		**Pn**	**05 40 27.1**	**+0.8**
CELP	**Cerrillos**	**3.32**	**243**	*e*S		**Sn**	**05 41 03.6**	**-1.1**
CELP	**Cerrillos**	**3.32**	**243**			**Pn**	**05 40 27.2**	**+0.9**
CELP						**Sn**	**05 41 03.5**	**-1.2**
CELP				IAML			05 41 09.2	
	comp=N,43nm,2.3s							
AOPR	**Arecibo Observ**	**3.36**	**248**	⇑*e*P		**Pn**	**05 40 27.4**	**+0.7**
AOPR	**Arecibo Observ**	**3.36**	**248**	*e*S		**Sn**	**05 41 04.9**	**-0.6**
AOPR	**Arecibo Observ**	**3.36**	**248**			**Pn**	**05 40 27.5**	**+0.7**
AOPR						**Sn**	**05 41 04.6**	**-1.0**
AOPR				IAML			05 41 13.8	
	comp=E,137nm,0.3s							
AOPR				IAML			05 41 16.8	
	comp=N,88nm,0.6s							
OBIP	**Obispado Ponce**	**3.36**	**242**	⇑*e*P		**Pn**	**05 40 27.7**	**+0.8**
OBIP	**Obispado Ponce**	**3.36**	**242**	*e*S		**Sn**	**05 41 04.7**	**-1.0**
OBIP	**Obispado Ponce**	**3.36**	**242**			**Pn**	**05 40 27.6**	**+0.8**
OBIP						**Sn**	**05 41 04.6**	**-1.0**
OBIP				IAML			05 41 44.5	
	comp=N,38nm,3.4s							
UUPR	**Utuado, UPR, P**	**3.36**	**246**	⇑*e*P		**Pn**	**05 40 27.6**	**+0.7**
UUPR	**Utuado, UPR, P**	**3.36**	**246**			**Pn**	**05 40 27.4**	**+0.6**
AGPR	**Aguadilla, PR**	**3.63**	**252**	⇓*e*P		**Pn**	**05 40 31.0**	**+0.5**
AGPR	**Aguadilla, PR**	**3.63**	**252**			**Pn**	**05 40 30.9**	**+0.4**
LSP	**Las Mesas**	**3.71**	**248**	⇑*e*P		**Pn**	**05 40 32.8**	**+1.2**
LSP	**Las Mesas**	**3.71**	**248**	*e*S		**Sn**	**05 41 13.2**	**-1.2**
LSP	**Las Mesas**	**3.71**	**248**			**Pn**	**05 40 32.8**	**+1.2**
LSP						**Sn**	**05 41 13.2**	**-1.2**
GDHS	**Morne Mazeau,**	**3.72**	**154**	Pn		**Pn**	**05 40 30.6**	**-1.2**
GDHS				IAML			05 41 18.2	
	comp=E,141nm,0.6s							
PRSN	**Puerto Rico Se**	**3.75**	**248**			**Pn**	**05 40 32.5**	**+0.4**
PRSN				IAML			05 41 27.4	
	comp=E,101nm,0.8s							
MLPR	**Magueyes Islan**	**3.76**	**244**	⇑*e*P		**Pn**	**05 40 32.8**	**+0.4**
MLPR	**Magueyes Islan**	**3.76**	**244**	*e*S		**Sn**	**05 41 15.0**	**-0.6**
MLPR	**Magueyes Islan**	**3.76**	**244**			**Pn**	**05 40 32.3**	**0.0**
MLPR	**Magueyes Islan**	**3.76**	**244**			**Sn**	**05 41 15.0**	**-0.6**
MLPR	**Magueyes Islan**	**3.76**	**244**	IAML			05 41 29.6	
	comp=N,39nm,3.0s							
MLPR				IAML			05 42 09.9	
	comp=E,51nm,2.9s							
CRPR	**Cabo Rojo, PR**	**3.80**	**245**	⇑*e*P		**Pn**	**05 40 34.2**	**+1.4**
CRPR	**Cabo Rojo, PR**	**3.80**	**245**	*e*S		**Sn**	**05 41 16.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	**3.80**	**245**			**Pn**	**05 40 32.2**	**-0.7**
CRPR						**Sn**	**05 41 15.4**	**-1.1**
CRPR				IAML			05 41 19.2	
	comp=N,55nm,2.4s							
CRPR				IAML			05 42 31.6	
	comp=E,50nm,2.5s							
CBE	**Ff, Capester**	**3.97**	**153**	Pn		**Pn**	**05 40 36.7**	**+1.5**
SDDR	**Presa de Saban**	**7.41**	**266**			**Pn**	**05 41 25.1**	**+2.7**

*CNRM **16** 05:45:20.7, 33°.60N×4°.29W, h2km, ml4.1*
*INMG **16** 05:45:22.1±1.9, 33°.56N×4°.46W, h5km, MD3.0, ML2.9, Error ellipse: s-maj=5.1km s-min=2.9km az=86.0*
*SFS **16** 05:45:23.9, 33°.48N×4°.29W, h35km, mb4.3/7, ML4.1/20, MLv3.9/20*
*MDD **16** 05:45:23.2±0.7, 33°.59N×4°.32W, h8km±7km, Mb4.3/22, M_mb3.7/23, Error ellipse: s-maj=8.6km s-min=3.3km az=168.0*
ISC 16 05:45:21.0±1.5, 33°.60N±0°.03×4°.35W±0°.03, h15km±12km, n89, σ1.974/156, 21C, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MDT	**Midelt**	**0.81**	**196**	P		**Pg**	**05 45 35.7**	**-1.2**
PVLZ	**Peæn de**	**1.57**	**1**	P		**Pg**	**05 45 51.7**	**+0.6**
PVLZ				S		**Sg**	**05 46 10.1**	**+0.8**
JBK	**JBK**	**1.65**	**63**	P		**Pn**	**05 45 49.5**	**-0.1**
GOLM	**Goulmima**	**1.96**	**195**	P		**Pb**	**05 45 57.0**	**+0.5**
TAF	**Taforalt**	**2.01**	**52**	P		**Pn**	**05 45 55.0**	**+0.6**
EMEL	**Melilla**	**2.05**	**34**	Pn		**Pb**	**05 45 57.5**	**-0.4**
EMEL				Sn		**Sn**	**05 46 20.7**	**+0.5**
ARF	**Arif**	**2.17**	**177**	P		**Pn**	**05 45 58.0**	**+1.4**
CHAS	**Isla Isabel II**

EMUR	**La Murta**	**4.93**	**30**	Pn		**Pn**	**05 46 37.0**	**+2.5**
EMUR				⇑*i*Vmb_V			05 46 43.2	
	284nm,SNR=1.9							
EMUR				Sn		**Sn**	**05 47 30.5**	**-0.8**
PCVE	**Castro Verde**	**5.02**	**324**	*e*Pn		**Pn**	**05 46 37.1**	**+1.3**
PCVE				*e*Sn		**Sn**	**05 47 33.1**	**-0.4**
PCVE				A		A	05 47 34.8	
	8.8nm,0.6s							
PCVE	**Castro Verde**	**5.02**	**324**	P		**Pn**	**05 46 37.0**	**+1.2**
PCVE				Sg		**Sn**	**05 47 34.3**	**+0.8**
PBAR	**Barrancos**	**5.06**	**335**	*e*Pn		**Pn**	**05 46 37.7**	**+1.3**
PBAR				*e*Sn		**Sn**	**05 47 33.9**	**-0.6**
PBAR				A		A	05 47 36.9	
	13nm,0.5s							
PBAR	**Barrancos**	**5.06**	**335**	P		**Pn**	**05 46 37.6**	**+1.3**
PBAR				S		**Sn**	**05 47 33.3**	**-1.1**
PFVI	**Vila Bisbo**	**5.08**	**315**	*e*Pn		**Pn**	**05 46 37.5**	**+0.9**
PFVI				*e*Sn		**Sn**	**05 47 35.2**	**+0.2**
PFVI				A		A	05 47 38.7	
	10.0nm,0.5s							
PFVI	**Vila Bisbo**	**5.08**	**315**	P		**Pn**	**05 46 37.4**	**+0.9**
PFVI	**Vila Bisbo**	**5.08**	**315**	P		**Pn**	**05 46 37.4**	**+0.8**
MORF	**Marmelete**	**5.10**	**318**	*e*P		**Pn**	**05 46 38.0**	**+1.1**
MORF				*e*S		**Sn**	**05 47 33.8**	**-1.7**
MORF				IAML			05 47 38.3	
	comp=N,14nm,0.2s							
MORF	**Marmelete**	**5.10**	**318**	*e*Pn		**Pn**	**05 46 38.1**	**+1.2**
MORF				*e*Sn		**Sn**	**05 47 34.8**	**-0.7**
MORF				A		A	05 47 39.5	
	comp=N,9.1nm,0.1s							
PSIM	**Granatula de C**	**5.23**	**5**	Pn		**Pn**	**05 46 39.6**	**+0.9**
PSIM				Sn		**Sn**	**05 47 38.7**	**-0.1**
PBEJ	**Beja**	**5.26**	**328**	*e*Pn		**Pn**	**05 46 40.3**	**+1.2**
PBEJ				*e*Sn		**Sn**	**05 47 38.7**	**-0.7**
PBEJ				A		A	05 47 43.6	
	comp=N,3.9nm,0.2s							
MESJ	**Messejana**	**5.27**	**324**	*e*P		**Pn**	**05 46 40.3**	**+1.1**
MESJ				*e*S		**Sn**	**05 47 37.6**	**-2.2**
MESJ				IAML			05 47 42.5	
	comp=N,10nm,0.2s							
MESJ	**Messejana**	**5.27**	**324**	*e*Pn		**Pn**	**05 46 40.4**	**+1.1**
MESJ				*e*Sn		**Sn**	**05 47 39.2**	**-0.5**
MESJ				A		A	05 47 48.1	
	comp=N,6.2nm,0.4s							
PTEO	**Sao Teotonio**	**5.31**	**319**	*e*Pn		**Pn**	**05 46 40.9**	**+1.1**
PTEO				*e*Sn		**Sn**	**05 47 41.5**	**+0.8**
PTEO				A		A	05 47 50.1	
	comp=N,9.2nm,0.6s							
ETOB	**Tobarra**	**5.52**	**23**	P		**Pn**	**05 46 46.2**	**+3.5**
ETOB				Sg		**Sn**	**05 47 47.4**	**+1.5**
ETOB	**Tobarra**	**5.52**	**23**	Pn		**Pn**	**05 46 46.0**	**+3.3**
ETOB				⇑*i*Vmb_V			05 46 50.9	
	comp=N,390nm,SNR=2.0							
ETOB				Sn		**Sn**	**05 47 47.1**	**+1.2**
EBAD	**Badajoz**	**5.58**	**338**	P		**Pn**	**05 46 44.7**	**+1.2**
EBAD				S		**Sn**	**05 47 46.0**	**-1.2**
EBAD	**Badajoz**	**5.58**	**338**	Pn		**Pn**	**05 46 44.8**	**+1.4**
EBAD				⇑*i*Vmb_V			05 46 45.8	
	comp=N,737nm,SNR=8.6							
EBAD				Sn		**Sn**	**05 47 44.4**	**-2.9**
PNCL	**Nicolau / Gran**	**5.64**	**324**	*e*Pn		**Pn**	**05 46 45.5**	**+1.3**
PNCL				*e*Sn		**Sn**	**05 47 48.1**	**-0.6**
PNCL				A		A	05 47 51.7	
	comp=N,7.0nm,0.4s							
PNCL	**Nicolau / Gran**	**5.64**	**324**	P		**Pn**	**05 46 45.4**	**+1.1**
EVO	**Evora**	**5.75**	**330**	*e*Pn		**Pn**	**05 46 47.3**	**+1.5**
EVO				*e*Sn		**Sn**	**05 47 51.0**	**-0.4**
EVO				A		A	05 47 52.9	
	comp=N,17nm,0.4s							
EVO	**Evora**	**5.75**	**330**	P		**Pn**	**05 46 47.3**	**+1.5**
EVO				S		**Sn**	**05 47 50.0**	**-1.4**
PESTR	**Estremoz**	**5.87**	**334**	*e*Pn		**Pn**	**05 46 49.1**	**+1.6**
PESTR				*e*Sn		**Sn**	**05 47 53.3**	**-1.2**
PESTR				A		A	05 47 59.2	
	comp=N,5.8nm,0.4s							
PESTR	**Estremoz**	**5.87**	**334**	P		**Pn**	**05 46 49.2**	**+1.8**
PESTR	**Estremoz**	**5.87**	**334**	P		**Pn**	**05 46 49.1**	**+1.6**
PESTR				S		**Sn**	**05 47 53.0**	**-1.5**
PAB	**San Pablo**	**5.93**	**360**	Pn		**Pn**	**05 46 51.0**	**+2.6**
PAB				⇑*i*Vmb_V			05 46 54.6	
	comp=N,79nm,SNR=1.1							
PAB				Sn		**Sn**	**05 47 55.3**	**-0.8**
ESDC	**Sonseca Array**	**6.07**	**3**	⇑*i*Vmb_V			05 46 56.3	
	comp=N,106nm,SNR=1.2							
ESDC				Sn		**Sn**	**05 48 00.8**	**+1.3**
PMTG	**Montargil**	**6.29**	**331**	*e*Pn		**Pn**	**05 46 54.4**	**+1.2**
PMTG				*e*Sn		**Sn**	**05 48 04.0**	**-0.8**
PMTG				A		A	05 48 06.4	
	comp=N,6.3nm,0.5s							
PMRV	**Marv??o**	**6.31**	**338**	*e*Pn		**Pn**	**05 46 55.1**	**+1.6**
PMRV				*e*Sn		**Sn**	**05 48 03.5**	**-1.8**
PMRV				A		A	05 48 17.6	
	comp=N,5.4nm,0.5s							
EPLA	**Plasencia**	**6.60**	**348**	Pn		**Pn**	**05 46 58.6**	**+1.1**
EPLA				⇑*i*Vmb_V			05 47 00.3	
	comp=N,353nm,SNR=3.9							
EPLA				Sn		**Sn**	**05 48 09.6**	**-2.8**
PMAFR	**Mafra**	**6.67**	**325**	*e*Pn		**Pn**	**05 47 00.1**	**+1.7**
PMAFR	**Mafra**	**6.67**	**325**	P		**Pn**	**05 47 00.0**	**+1.7**
PCBR	**Castelo Branco**	**6.71**	**339**	*e*Pn		**Pn**	**05 47 00.6**	**+1.6**
PCBR				*e*Sn		**Sn**	**05 48 13.1**	**-2.1**
PCBR				A		A	05 48 14.5	
	comp=N,6.9nm,0.4s							
PSBE	**So Bento**	**6.90**	**330**	*e*Pn		**Pn**	**05 47 03.4**	**+1.8**
PSBE				*e*Sn		**Sn**	**05 48 18.3**	**-1.6**
PCAS	**Casmilo, Conde**	**7.25**	**334**	*e*Pn		**Pn**	**05 47 08.2**	**+1.8**
PCAS				*e*Sn		**Sn**	**05 48 26.6**	**-1.8**
PCAS				A		A	05 48 45.7	
	comp=N,5.6nm,0.8s							
MTE	**Manteigas**	**7.25**	**340**	*e*Pn		**Pn**	**05 47 07.8**	**+1.3**
MTE				*e*Sn		**Sn**	**05 48 27.9**	**-0.7**
MTE				A		A	05 48 43.9	
	comp=N,7.0nm,0.9s							
COI	**Coimbra**	**7.35**	**335**	*e*Pn		**Pn**	**05 47 09.7**	**+1.9**
COI				*e*Sn		**Sn**	**05 48 28.9**	**-2.0**
ETOR	**Torete**	**7.43**	**14**	Pn		**Pn**	**05 47 11.8**	**+2.8**
ETOR				⇑*i*Vmb_V			05 47 15.4	
	comp=N,186nm,SNR=0.9							
ETOR				Sn		**Sn**	**05 48 29.5**	**-3.6**
PVIS	**Viseu**	**7.64**	**339**	*e*Pn		**Pn**	**05 47 13.1**	**+1.2**
PVIS				*e*Sn		**Sn**	**05 48 36.9**	**-1.3**
PVIS				A		A	05 48 38.8	
	comp=N,5.3nm,0.3s							
MVO	**Moncorvo**	**7.84**	**345**	*e*Pn		**Pn**	**05 47 16.3**	**+1.7**
MVO				*e*Sn		**Sn**	**05 48 41.5**	**-1.7**
MVO				A		A	05 48 56.0	
	comp=N,4.9nm,0.3s							
PVRL	**Vila Real**	**8.12**	**342**	*e*Pn		**Pn**	**05 47 20.2**	**+1.9**
PVRL				*e*Sn		**Sn**	**05 48 47.3**	**-2.5**
PVRL				A		A	05 48 50.3	
	comp=N,8.8nm,0.3s							
POLO	**Lamas de Olo**	**8.23**	**342**	*e*Pn		**Pn**	**05 47 21.8**	**+1.9**
POLO				*e*Sn		**Sn**	**05 48 50.0**	**-2.6**
POLO				A		A	05 48 53.5	
	comp=N,1.9nm,0.4s							
PTO	**Porto**	**8.25**	**337**	*e*Pn		**Pn**	**05 47 21.9**	**+1.8**
PBRG	**Braganca**	**8.41**	**348**	*e*Pn		**Pn**	**05 47 24.2**	**+1.9**
PBRG				*e*Sn		**Sn**	**05 48 56.2**	**-0.7**
ECAL	**Calabor**	**8.54**	**348**	Pn		**Pn**	**05 47 26.9**	**+2.7**
ECAL				⇑*i*Vmb_V			05 47 27.8	
	comp=N,178nm,SNR=1.4							
ECAL				Sn		**Sn**	**05 48 56.8**	**-3.4**
PCAB	**Cabril**	**8.60**	**341**	*e*Pn		**Pn**	**05 47 26.6**	**+1.6**
PCAB				*e*Sn		**Sn**	**05 48 59.3**	**-2.5**
PCAB				A		A	05 49 00.3	
	comp=N,4.5nm,0.7s							
ELOB	**Lobios**	**8.76**	**341**	Pn		**Pn**	**05 47 28.9**	**+1.7**
ELOB				⇑*i*Vmb_V			05 47 31.1	
	comp=N,278nm,SNR=1.8							
ELOB				Sn		**Sn**	**05 49 01.3**	**-4.3**
PGAV	**Gavieira, Arco**	**8.91**	**341**	*e*Pn		**Pn**	**05 47 31.1**	**+1.9**
PGAV				*e*Sn		**Sn**	**05 49 06.9**	**-2.4**

IDC 16 06:08:19.1±6.6, 9°.04S×156°.30E, h0km, mb3.5/3, mbtmp3.5/3, MS2.9/2, Error ellipse: s-maj=115.0km s-min=86.4km az=7.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.03**	**267**	LR	LR	06 13 19.9	
	comp=Z,77nm,20.1s,baz=38,slow=33						

CTA	**Charters Tower**	**14.66**	**220**	LR		LR	06 16 13.8		
	comp=Z,43nm,20.1s,baz=82,slow=32								
WRA	**Warramunga Arr**	**23.83**	**241**	P		P	06 13 34.0	-0.2	
	0.7nm,0.8s,baz=66,slow=9.8,SNR=3.5								
	0.7nm,0.8s								
ASAR	**Alice Springs**	**25.89**	**233**	P		P	06 13 53.5	+0.5	
	0.6nm,0.8s,baz=64,slow=9.0,SNR=6.9								
	0.6nm,0.8s								
STKA	**Stephens Creek**	**26.51**	**209**	P		P	06 13 57.9	-0.6	
	0.5nm,0.2s,baz=49,slow=11,SNR=1.4								
	0.5nm,0.2s								

IDC ***16*** *06:14:49.4±0.3, 13°.76N×144°.64E, h138km±3km, mb3.7/17, mbtmp4.1/17, Error ellipse: s-maj=17.9km s-min=11.1km az=84.0*

NEIC ***16*** *06:14:50.3±1.4, 13°.7N±0°.1×144°.5E±0°.1, h138km±5km, mb4.4/63, Error ellipse: s-maj=16.4km s-min=16.4km az=159.0*

ISC 16 06:14:48.8±0.5, 13°.74N±0°.09×144°.5E±0°.1, h129km, n92, σ0881/91, mb4.3/50, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.39**	**113**	P		**Pn**	**06 15 09.6**	**+2.5**
	4μm,0.3s,baz=293,slow=1.2,SNR=769							
GUMO				S		**Sn**	**06 15 24.1**	**+3.1**
	2μm,0.3s,baz=188,slow=22,SNR=38							
PATS	**Pohnpei**	**15.22**	**115**	Pn		**P**	**06 18 17.3**	**-1.7**
JMZ	**Minamidaito 2**	**17.31**	**316**	P		**P**	**06 18 40.6**	**-1.4**
H11N1	**WAKE ISLAND Hy**	**22.25**	**71**	T		T	06 42 31.5	
	baz=257,slow=75							
H11N2	**WAKE ISLAND Hy**	**22.25**	**71**	T		T	06 42 32.4	
	baz=257							
H11N3	**WAKE ISLAND Hy**	**22.26**	**71**	T		T	06 42 32.8	
	baz=257,slow=75							
JGF	**Kuroka**	**22.70**	**345**	P		**P**	**06 19 39.9**	**+0.3**
JGF				IAmb		IAmb	06 19 42.2	
	comp=Z,25nm,1.2s							
JNU	**Nakatsue**	**22.94**	**330**	P		**P**	**06 19 42.1**	**+0.2**
MJAR	**Matsushiro Arr**	**23.39**	**347**	P		**P**	**06 19 46.8**	**+0.7**
	comp=Z,4.8nm,0.6s,baz=164,slow=6.2,SNR=9.8								
	comp=Z,4.8nm,0.6s								
MAJO	**Matsushiro**	**23.39**	**347**	P		**P**	**06 19 46.2**	**+0.2**
MAJO				IAmb		IAmb	06 20 13.6		
	comp=Z,32nm,1.4s								
MJB9	**Matsu-Tunnel**	**23.40**	**347**	P		**P**	**06 19 46.7**	**+0.6**
MJB9				IAmb		IAmb	06 20 14.5		
	comp=Z,32nm,1.4s								
YULB	**Yu-li**	**23.96**	**297**	P		**P**	**06 19 51.5**	**+0.2**
SSLB	**Suanglung**	**24.39**	**298**	P		**P**	**06 19 56.2**	**+0.9**
TPUB	**Ta-pu**	**24.51**	**296**	P		**P**	**06 19 56.6**	**+0.3**
KSRS	**Korea Array**	**27.86**	**331**	P		**P**	**06 20 26.9**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=141,slow=9.4,SNR=4.5								
	comp=Z,1.1nm,0.5s								
WB0	**Warramunga Arr**	**34.75**	**197**	P		**P**	**06 21 26.1**	**-0.7**
WB0				IAmb		IAmb	06 21 39.4		
	comp=Z,5.1nm,1.1s								
WR0	**Warramunga Arr**	**34.89**	**197**	P		**P**	**06 21 27.8**	**-0.3**
WR0				IAmb		IAmb	06 21 42.3		
	comp=Z,10nm,1.5s								
WB2	**Warramunga Arr**	**34.93**	**197**	P		**P**	**06 21 28.6**	**+0.2**
WB2				IAmb		IAmb	06 21 39.3		
	comp=Z,6.8nm,1.2s								
WRA	**Warramunga Arr**	**34.93**	**197**	P		**P**	**06 21 28.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=16,slow=9.2,SNR=15								
WRA				PcP		**PcP**	**06 23 57.7**	**-0.6**	
	comp=Z,0.2nm,0.4s,baz=17,slow=3.3,SNR=4.6								
	comp=Z,0.9nm,0.5s								
WRA	**Warramunga Arr**	**34.93**	**197**	P		**P**	**06 21 26.5**	**-1.9**
KLR	**Kul'dur**	**36.91**	**346**	P		**P**	**06 21 45.0**	**0.0**
	comp=Z,1.6nm,0.6s,baz=159,slow=3.3,SNR=6.0								
	comp=Z,1.6nm,0.6s								
AS31	**Alice Springs**	**38.59**	**196**	P		**P**	**06 21 58.7**	**-0.7**
ASAR	**Alice Springs**	**38.59**	**196**	P		**P**	**06 21 59.2**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=17,slow=13,SNR=27								
ASAR				PcP		**PcP**	**06 24 08.8**	**-0.6**	
	comp=Z,0.3nm,0.5s,baz=32,slow=3.7,SNR=2.1								
	comp=Z,0.6nm,0.4s								
ASAR	**Alice Springs**	**38.59**	**196**	P		**P**	**06 21 58.6**	**-0.8**
DZM	**Mont Dzumac**	**41.59**	**149**	P		**P**	**06 22 24.4**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=240,slow=8.1,SNR=1.7								
	comp=Z,1.7nm,0.5s								
CMAR	**Chiang Mai Arr**	**43.93**	**282**	P		**P**	**06 22 44.0**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=81,slow=6.5,SNR=4.4								
	comp=Z,1.5nm,0.3s								
STKA	**Stephens Creek**	**45.44**	**183**	P		**P**	**06 22 54.0**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=353,slow=10,SNR=5.5								
	comp=Z,1.5nm,0.4s								
STKA	**Stephens Creek**	**45.44**	**183**	P		**P**	**06 22 53.8**	**-1.0**
SONM	**Songino Array**	**46.40**	**325**	P		**P**	**06 23 03.3**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=131,slow=6.8,SNR=7.2								
	comp=Z,0.9nm,0.5s								
SONM	**Songino Array**	**46.40**	**325**	P		**P**	**06 23 01.2**	**-1.1**
BBOO	**Buckleboo**	**46.99**	**190**	P		**P**	**06 23 06.8**	**-0.1**
BBOO				IAmb		IAmb	06 23 27.1		
	comp=Z,10nm,1.3s								
FORT	**Forrest**	**47.00**	**199**	P		**P**	**06 23 07.5**	**+0.5**
FORT				IAmb		IAmb	06 23 11.2		
	comp=Z,15nm,1.1s								
MK31	**Makanchi Array**	**61.13**	**316**	P		**P**	**06 24 50.1**	**+0.6**
MKAR	**Makanchi Array**	**61.13**	**316**	P		**P**	**06 24 49.9**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=92,slow=8.7,SNR=24								
	comp=Z,1.2nm,0.4s								
MKAR	**Makanchi Array**	**61.13**	**316**	P		**P**	**06 24 50.2**	**+0.7**
MAKZ	**Makanchi**	**61.34**	**316**	P		**P**	**06 24 51.7**	**+0.8**
MAKZ				IAmb		IAmb	06 24 51.9		
	comp=Z,2.6nm,0.7s								
N19K	**Bonanza Creek**	**64.12**	**28**	P		**P**	**06 25 09.2**	**0.0**
KURK	**Kurchatov**	**64.23**	**320**	P		**P**	**06 25 09.8**	**-0.1**
KURK				IAmb		IAmb	06 25 10.3		
	comp=Z,2.3nm,0.6s								
KURBB	**Kurchatov Arra**	**64.27**	**320**	P		**P**	**06 25 10.1**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=103,slow=6.9,SNR=16								
	comp=Z,2.3nm,0.6s								
M20K	**Styx River**	**65.08**	**28**	P		**P**	**06 25 15.4**	**+0.1**
CNPM	**China Poot**	**65.28**	**30**	P		**P**	**06 25 16.3**	**-0.4**
BRLK	**Bradley Lake**	**65.52**	**30**	P		**P**	**06 25 17.2**	**-0.9**
SKT	**Skwentna**	**65.83**	**28**	P		**P**	**06 25 19.5**	**-0.6**
SUA	**Susitna One**	**66.05**	**28**	P		**P**	**06 25 21.2**	**-0.4**
IMAR	**Indian Mountai**	**66.20**	**23**	P		**P**	**06 25 22.7**	**+0.3**
H21K	**Melozitna Rive**	**66.45**	**24**	P		**P**	**06 25 24.4**	**+0.4**
I21K	**Tanana**	**66.62**	**24**	P		**P**	**06 25 25.4**	**+0.4**
I21K				IAmb		IAmb	06 25 37.8		
	comp=Z,6.0nm,1.4s								
TRF	**Thorofare Moun**	**66.80**	**26**	P		**P**	**06 25 25.5**	**-1.0**
TRF				IAmb		IAmb	06 25 29.1		
	comp=Z,7.7nm,1.2s								
PWL	**Port Wells**	**67.02**	**29**	P		**P**	**06 25 27.7**	**-0.1**
MLY	**Manley**	**67.07**	**25**	P		**P**	**06 25 28.2**	**+0.2**
DHY	**Denali Highway**	**67.98**	**27**	P		**P**	**06 25 33.8**	**0.0**
DHY				IAmb		IAmb	06 25 34.6		
	comp=Z,13nm,1.4s								
WRH	**Wood River Hil**	**68.01**	**26**	P		**P**	**06 25 33.4**	**-0.4**
WRH				IAmb		IAmb	06 25 41.4		
	comp=Z,6.4nm,1.4s								
H24K	**Noodor Dome**	**68.45**	**24**	P		**P**	**06 25 37.3**	**+0.7**
H24K				IAmb		IAmb	06 25 48.3		
	comp=Z,6.8nm,1.5s								
ILAR	**Eielson Array**	**68.59**	**25**	P		**P**	**06 25 34.8**	**-2.7**
	comp=Z,1.1nm,0.4s,baz=252,slow=5.7,SNR=46								
	comp=Z,1.1nm,0.4s								
N25K	**Chitina, Valde**	**68.94**	**29**	P		**P**	**06 25 40.7**	**+0.9**
KKAR	**Karatay Array**	**69.08**	**311**	P		**P**	**06 25 41.4**	**+0.4**
PRP	**Porcupine Dome**	**69.32**	**25**	P		**P**	**06 25 42.7**	**+0.6**
BVAR	**Borovoye Array**	**69.58**	**322**	P		**P**	**06 25 43.3**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=109,slow=7.7,SNR=7.1								
	comp=Z,1.5nm,0.5s								
MCARA	**McCarthy VSAT**	**69.65**	**29**	P		**P**	**06 25 44.2**	**+0.1**
M30M	**Minto, Yukon**	**72.71**	**28**	P		**P**	**06 26 02.7**	**+0.3**
M31M	**Drury Creek, Y**	**73.81**	**29**	P		**P**	**06 26 08.9**	**-0.1**
M31M				IAmb		IAmb	06 26 37.6		
	comp=Z,11nm,1.4s								
INK	**Inuvik**	**74.36**	**22**	P		**P**	**06 26 10.9**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=252,slow=9.7,SNR=3.6								
	comp=Z,1.0nm,0.8s								
A36M	**Sachs Harbour**	**77.12**	**19**	P		**P**	**06 26 26.8**	**-0.8**
A36M				IAmb		IAmb	06 26 27.9		
	comp=Z,3.8nm,0.7s								
C36M	**Paulatuk**	**77.76**	**21**	P		**P**	**06 26 30.3**	**-0.9**
YKA	**Yellowknife Ar**	**82.89**	**27**	P		**P**	**06 26 57.8**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=286,slow=5.1,SNR=16								
	comp=Z,0.9nm,0.6s								
YKA	**Yellowknife Ar**	**82.89**	**27**	P		**P**	**06 26 58.0**	**-0.8**
YBH	**Yreka Blue Hor**	**83.05**	**49**	P		**P**	**06 27 00.6**	**+0.5**
LTY	**Liberty**	**83.28**	**43**	P		**P**	**06 27 00.7**	**-0.5**
LTY				IAmb		IAmb	06 27 03.8		
	comp=Z,5.8nm,1.2s								
PINE	**Pine Mountain**	**83.87**	**47**			**P**	**06 27 04.8**	**+0.3**
PINE				IAmb		IAmb	06 27 05.4		
	comp=Z,5.7nm,0.7s								
B08A	**Colville Reser**	**83.91**	**42**	P		**P**	**06 27 03.4**	**-0.9**
B08A				IAmb		IAmb	06 27 23.5		
	comp=Z,8.3nm,1.4s								
K05A	**Summer Lake**	**84.15**	**48**	P		**P**	**06 27 06.3**	**+0.4**
K05A				IAmb		IAmb	06 27 07.0		
	comp=Z,8.4nm,1.0s								
E09A	**Wood Farm, Sta**	**85.14**	**43**	P		**P**	**06 27 10.8**	**+0.3**
E09A				IAmb		IAmb	06 27 12.6		
	comp=Z,4.2nm,0.9s								
NEW	**Newport**	**85.36**	**42**	P		**P**	**06 27 11.0**	**-0.7**
NEW				IAmb		IAmb	06 27 12.3		
	comp=Z,4.4nm,0.8s								
BMO	**Blue Mountains**	**86.14**	**45**			**P**	**06 27 15.4**	**-0.2**
BMO				IAmb		IAmb	06 27 16.5		
	comp=Z,4.3nm,0.8s								
PLID	**Pearl Lake**	**86.97**	**44**	P		**P**	**06 27 19.0**	**-0.9**
PLID				IAmb		IAmb	06 27 19.5		
	comp=Z,2.7nm,0.7s								
KVN	**Kaiserville**	**87.10**	**51**	P		**P**	**06 27 20.8**	**+0.2**
KVN				IAmb		IAmb	06 27 21.1		
	comp=Z,2.1nm,0.6s								
NVAR	**Mina Array Bea**	**87.11**	**51**	P		**P**	**06 27 20.6**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=258,slow=6.0,SNR=12								
	comp=Z,2.1nm,0.7s								
MFID	**Camas Ranch**	**87.56**	**46**	P		**P**	**06 27 22.1**	**-0.5**
MFID				IAmb		IAmb	06 27 23.7		
	comp=Z,4.8nm,0.8s								
LCH	**Last Change Ra**	**87.93**	**52**	P		**P**	**06 27 24.7**	**+0.2**
TPH	**Tonopah**	**88.03**	**51**	P		**P**	**06 27 24.5**	**-0.5**
HLID	**Hailey**	**88.50**	**46**	P		**P**	**06 27 27.1**	**0.0**
HLID				IAmb		IAmb	06 27 28.2		
	comp=Z,3.2nm,1.0s								
ELK	**Elko**	**88.75**	**48**	P		**P**	**06 27 28.6**	**+0.1**
ELK				IAmb		IAmb	06 27 29.1		
	comp=Z,3.9nm,0.8s								
WCT	**Wildcat Mounta**	**88.83**	**52**	P		**P**	**06 27 28.9**	**+0.2**
WCT				IAmb		IAmb	06 27 29.4		
	comp=Z,3.0nm,0.7s								
QSM	**Queen of Sheba**	**88.88**	**53**	P		**P**	**06 27 28.0**	**-0.8**
QSM				IAmb		IAmb	06 27 29.6		
	comp=Z,2.9nm,0.8s								
TPNV	**Topopah Spring**	**89.08**	**52**	P		**P**	**06 27 29.9**	**0.0**
TPNV				IAmb		IAmb	06 27 30.6		
	comp=Z,4.5nm,0.7s								
SHPR	**Sheep Range**	**90.05**	**52**	P		**P**	**06 27 34.9**	**+0.4**
V12A	**Nelson**	**90.51**	**53**	P		**P**	**06 27 35.9**	**-0.7**
V12A				IAmb		IAmb	06 27 37.7		
	comp=Z,3.2nm,0.8s								
MOOW	**Moose Ponds**	**90.96**	**44**	P		**P**	**06 27 38.9**	**+0.2**
PDAR	**Pinedale Array**	**92.12**	**45**	P		**P**	**06 27 43.1**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=223,slow=2.5,SNR=6.1								
	comp=Z,0.4nm,0.5s								
PDAR	**Pinedale Array**	**92.12**	**45**	P		**P**	**06 27 43.6**	**-0.5**
DBIC	**Dimbokro**	**143.43**	**302**	PKP		PKPab	06 34 05.8	+0.4	
	comp=Z,1.2nm,0.5s,baz=62,slow=3.7,SNR=7.0								
LPAZ	**La Paz**	**148.41**	**99**	PKPbc		**PKPbc**	**06 34 22.2**	**+0.4**	
	comp=Z,4.6nm,0.8s,baz=301,slow=3.5,SNR=12								

IDC 16 06:18:15.9±3.5, 54°.42N×86°.86E, h0km, mbtmp2.7/2, ML1.8/2, Error ellipse: s-maj=31.3km s-min=18.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**249**	I	I	06 25 30.0	
	0.2nm,0.8s,baz=67,slow=347,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.29**	**249**	Pg	Pg	06 18 39.1	-1.5
	0.6nm,0.3s,baz=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.03**	**7**	P	**Pn**	**06 27 09.7**	**+1.0**
	4.5nm,0.2s,baz=189,slow=23,SNR=7.1						
SIJI				S	**Sn**	**06 28 05.2**	**-1.2**
	3.3nm,0.2s,baz=273,slow=23,SNR=1.2						
WRA	**Warramunga Arr**	**14.41**	**166**	P	**P**	**06 29 14.8**	**+0.2**
	0.5nm,0.4s,baz=342,slow=11,SNR=7.9						
WRA				S	**Sn**	**06 31 49.6**	**-2.3**
	0.3nm,0.3s,baz=347,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**17.94**	**170**	P	**Pn**	**06 29 57.4**	**+2.3**
	0.6nm,0.5s,baz=342,slow=9.1,SNR=10.0						
MKAR	**Makanchi Array**	**67.68**	**326**	P	**P**	**06 36 34.8**	**-1.0**
	0.2nm,0.5s,baz=111,slow=7.9,SNR=3.1						
	0.2nm,0.5s						

*MEX **16** 06:30:25.8±0.7, 14°.92N×92°.63W, h97km±10km, MD3.9*
*GCG **16** 06:30:26.2±0.4, 15°.07N×92°.71W, h35km±999km, MD3.7*
ISC 16 06:30:25.0±1.6**, 14°.92N**±0°.07×**92°.76W**±0°.06**, h86**km±14km**, n10**, σ1°.49/20**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.48**	**91**	*e*P	**Pn**	**06 30 38.9**	**-0.3**
THIG				*e*S	**Sn**	**06 30 48.9**	**-0.9**
PCIG		**0.90**	**331**	*e*P	**Pn**	**06 30 44.4**	**+1.1**
PCIG				*e*S	**Sn**	**06 30 59.2**	**+2.3**
STG3	**Santiaguito 3,**	**1.17**	**100**	*e*P	**Pn**	**06 30 46.7**	**-0.1**
STG3				*e*S	**Sn**	**06 31 02.3**	**-0.7**
SULM	**Suchitepequez,**	**1.31**	**118**	*e*P	**Pn**	**06 30 48.5**	**+0.3**
SULM				*e*S	**Sn**	**06 31 05.7**	**0.0**
CCIG	**Comitan**	**1.48**	**24**	*e*P	**Pn**	**06 30 50.6**	**0.0**
CCIG				*i* S	**Sn**	**06 31 08.8**	**-1.1**
TGIG		**1.88**	**349**	*e*P	**Pn**	**06 30 55.1**	**-0.5**
TGIG				*e*S	**Sn**	**06 31 16.8**	**-2.1**
FUG	**Fuego 3**	**1.92**	**104**	*e*P	**Pn**	**06 30 56.8**	**+0.7**
FUG				*e*S	**Sn**	**06 31 21.2**	**+1.3**
UXUV	**UXUV**	**2.73**	**331**	*e*P	**Pn**	**06 31 08.1**	**+1.2**
UXUV				*e*S	**Sn**	**06 31 37.9**	**-1.2**
CMIG	**Matias Romero**	**2.97**	**317**	*e*P	**Pn**	**06 31 11.5**	**+1.4**
CMIG				*e*S	**Sn**	**06 31 46.1**	**+1.3**
HUIG	**Huatulco**	**3.34**	**285**	*e*P	**Pn**	**06 31 15.4**	**+0.3**
HUIG				*e*S	**Sn**	**06 31 50.1**	**-3.6**

*IDC **16** 06:31:16.8±1.5, 13°.52S×166°.42E, h0km, mb3.9/6,*
mbtmp3.9/7, ML3.9/1, MS3.6/2, Error ellipse: s-maj=40.8km
s-min=24.8km az=118.0
ISC 16 06:31:22.6±1.4**, 13°.5S**±0°.1×**166°.4E**±0°.2**, h39**km**, n8,**
σ1°.45/8, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.48**	**180**	Pn	**Pn**	**06 33 21.4**	**-1.6**
	1.5nm,0.3s,baz=318,slow=22,SNR=15						
DZM				Sn	**Sn**	**06 34 59.6**	**+1.9**
	0.7nm,0.3s,baz=332,slow=23,SNR=1.8						
DZM				LR	LR	06 36 19.3	
	comp=Z,198nm,18.5s,baz=359,slow=36						
	3.0nm,0.3s						
CTA	**Charters Tower**	**20.36**	**249**	P	**P**	**06 35 56.4**	**+0.5**
	3.3nm,0.7s,baz=75,slow=8.8,SNR=3.8						
	3.3nm,0.7s						
STKA	**Stephens Creek**	**29.16**	**227**	P	**P**	**06 37 20.6**	**+0.4**
	1.3nm,0.6s,baz=60,slow=8.9,SNR=4.8						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**31.34**	**254**	P	**P**	**06 37 38.5**	**-1.2**
	1.4nm,0.8s,baz=85,slow=9.1,SNR=11						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**32.35**	**247**	P	**P**	**06 37 47.9**	**-0.7**
	1.0nm,0.7s,baz=75,slow=9.6,SNR=14						
	1.0nm,0.7s						
KDAK	**Kodiak Island**	**78.65**	**21**	LR	LR	07 13 51.9	
	comp=Z,63nm,20.3s,baz=55,slow=32						
ILAR	**Eielson Array**	**85.66**	**18**	P	**P**	**06 43 56.6**	**-0.2**
	0.5nm,0.6s,baz=234,slow=5.3,SNR=9.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**95.78**	**317**	P	**P**	**06 44 46.1**	**+1.4**
	0.2nm,0.6s,baz=98,slow=5.4,SNR=2.8						
	0.2nm,0.6s						

WEL 16 06:43:21.8±0.6**, 42°S**±3°×**17°4E**±°**, h12**km±4km**, M3.1**/9,
ML3.3/10**, MLv3.1**/9**, Error ellipse: s-maj=0.0km**
s-min=0.0km az=119.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**234**	P	Pb	06 43 27.7	-0.6
KHZ				S	Sb	06 43 31.8	-0.8
BSWZ	**Blackbirch Sta**	**0.56**	**5**	P	Pb	06 43 33.1	-0.4
BSWZ				S	Sb	06 43 41.9	+0.6
CMWZ	**Cape Campbell**	**0.60**	**30**	P	Pb	06 43 34.9	+0.7
TUWZ	**Tuamarina**	**0.84**	**7**	P	Pg	06 43 38.0	-0.1
TUWZ				S	Sn	06 43 50.7	-1.1
THZ	**Tophouse**	**0.85**	**306**	P	Pb	06 43 38.3	-0.1
THZ				S	Sb	06 43 49.7	-0.1
GVZ	**Greta Valley S**	**0.91**	**219**	P	Pg	06 43 39.3	+0.1
NNZ	**Nelson**	**1.10**	**343**	P	Pb	06 43 42.6	-0.1
TCW	**Tory Channel**	**1.11**	**18**	P	Pb	06 43 42.2	-0.7
MRNZ	**Matariki Terra**	**1.17**	**317**	P	Pn	06 43 44.2	+0.2
AMCZ	**Amberley**	**1.25**	**223**	P	Pn	06 43 44.4	-0.6
LTZ	**Lake Taylor**	**1.25**	**245**	P	Pn	06 43 44.1	-1.0
PLWZ	**Palliser**	**1.28**	**57**	P	Pn	06 43 43.7	-1.9
TKNZ	**Takaka Hill**	**1.39**	**332**	P	Pb	06 43 47.4	-0.3
DUWZ	**D'Urville Isla**	**1.47**	**3**	P	Pn	06 43 47.5	-0.6
CAW	**Cannon Point**	**1.49**	**39**	P	Pn	06 43 47.1	-1.3
PAWZ	**Paruwai Farm**	**1.50**	**54**	P	Pn	06 43 46.5	-2.0
OKCZ	**Okains Bay**	**1.56**	**201**	P	Pn	06 43 47.7	-1.7
DSZ	**Denniston Nort**	**1.59**	**289**	P	Pn	06 43 50.3	+0.5
KIW	**Kapiti Island**	**1.63**	**31**	P	Pn	06 43 49.4	-0.9
TRWZ	**Traveller**	**1.65**	**59**	P	Pn	06 43 48.3	-2.3
MQZ	**McQueen's Vall**	**1.67**	**210**	P	Pn	06 43 48.5	-2.3
MTW	**Mount Morrison**	**1.68**	**49**	P	Pn	06 43 49.0	-2.0
OXZ	**Oxford**	**1.68**	**230**	P	Pn	06 43 49.4	-1.7
AKCZ	**Akaroa Harbour**	**1.73**	**202**	P	Pn	06 43 49.9	-1.9
OGWZ	**Otaki Gorge**	**1.77**	**35**	P	Pn	06 43 50.9	-1.3
INZ	**Inchbonnie**	**1.81**	**255**	P	Pn	06 43 52.3	-0.5
HOWZ	**Holdsworth Sta**	**1.87**	**44**	P	Pn	06 43 51.9	-1.8
RACZ	**Rakaia**	**1.91**	**220**	P	Pn	06 43 52.2	-1.9
TMWZ	**Te Maipa**	**1.94**	**54**	P	Pn	06 43 52.3	-2.3
MHCZ	**Mount Hutt**	**2.08**	**232**	P	Pn	06 43 54.7	-1.8
MRZ	**Mangatainoka R**	**2.08**	**40**	P	Pn	06 43 54.7	-1.8
WACZ	**Wakanui South**	**2.21**	**220**	P	Pn	06 43 56.6	-1.7
WVZ	**Waitaha Valley**	**2.41**	**249**	P	Pn	06 44 00.8	-0.2
RPZ	**Rata Peaks**	**2.49**	**234**	P	Pn	06 44 00.7	-1.4
ARCZ	**Arundel**	**2.56**	**228**	P	Pn	06 44 01.5	-1.6
TSZ	**Takapari Road**	**2.74**	**37**	P	Pn	06 44 03.5	-2.1
TMZ	**Timaru**	**2.94**	**223**	P	Pn	06 44 06.8	-1.6
PKVZ	**Pokaka**	**3.19**	**22**	P	Pn	06 44 12.0	+0.1
VRZ	**Vera Road**	**3.22**	**13**	P	Pn	06 44 13.3	+1.1
WNVZ	**Wahianoa**	**3.23**	**25**	P	Pn	06 44 12.1	-0.4
BHHZ	**Black Hill Sta**	**3.26**	**32**	P	Pn	06 44 12.0	-0.8
NGZ	**Ngauruhoe**	**3.38**	**24**	P	Pn	06 44 15.5	+1.1
OTVZ	**Oturere**	**3.41**	**25**	P	Pn	06 44 14.6	-0.3
NNVZ	**North Ngauruho**	**3.42**	**24**	P	Pn	06 44 15.0	-0.1
WTVZ	**West Tongariro**	**3.43**	**24**	P	Pn	06 44 16.1	+0.9
ETVZ	**East Tongariro**	**3.44**	**25**	P	Pn	06 44 15.0	-0.4
TMVZ	**Te Maari**	**3.46**	**25**	P	Pn	06 44 15.1	-0.5
NTVZ	**North Tongarir**	**3.47**	**25**	P	Pn	06 44 15.3	-0.4
ODZ	**Otahua Downs**	**3.60**	**219**	P	Pn	06 44 15.4	-2.0
HIZ	**Hauiti**	**3.83**	**12**	P	Pn	06 44 21.5	+0.9
TLZ	**Tolley Road**	**4.15**	**19**	P	Pn	06 44 25.2	+0.2
MKAZ	**Moumakai**	**5.26**	**12**	P	Pn	06 44 40.0	-0.2

*IDC **16** 06:48:02.5±1.8, 7°.96S×147°.91E, h62km±16km, mb3.8/15,*
mbtmp4.2/18, MS3.3/14, Error ellipse: s-maj=16.9km
s-min=13.6km az=101.0
*NEIC **16** 06:48:05.6±1.6, 8°.12S±0°.06×147°.26E±0°.09, h70km±8km,*
mb4.4/22, Error ellipse: s-maj=13.0km s-min=7.7km
az=106.0
ISC 16 06:48:03.1±0.4**, 8°.01S**±0°.05×**147°.49E**±0°.06**, h52**km**, n75,**
σ2°.26/69, mb4.3/22, MS3.3/13, Eastern New Guinea
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.43**	**193**	P	**Pn**	**06 48 28.4**	**+1.8**
	784nm,0.3s,baz=12,slow=6.2,SNR=128						
PMG				S	**Sn**	**06 48 49.0**	**+4.7**
	5µm,0.5s,baz=357,slow=20,SNR=79						

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PMG				LR	LR	06 49 25.7	
	comp=Z,746nm,18.8s,baz=215,slow=51						
PMG	**Port Moresby**	**1.43**	**193**	P	**Pn**	**06 48 27.7**	**+1.1**
PMG				Sn	**Sn**	**06 48 48.7**	**+4.5**
PMG	**Port Moresby**	**1.43**	**193**	P	**Pn**	**06 48 28.9**	**+2.3**
KRVT	**Keravat (AS076**	**5.82**	**51**	P	**Pn**	**06 49 22.9**	**-4.1**
	188nm,0.6s,baz=243,slow=4.5,SNR=2.5						
KRVT				S	Sn	06 50 19.5	-13
	106nm,0.5s,baz=294,slow=20,SNR=1.8						
MANU	**Manus Island**	**5.93**	**359**	Pn	**Pn**	**06 49 32.1**	**+3.7**
COEN	**Coen**	**7.27**	**215**	Pn	**Pn**	**06 49 44.9**	**-1.9**
COEN	**Coen**	**7.27**	**215**	P	**Pn**	**06 49 47.6**	**+0.8**
TV1H	**Townsville Har**	**11.21**	**183**	P	**Pn**	**06 50 43.4**	**+2.8**
CTA	**Charters Tower**	**12.07**	**186**	P	**Pn**	**06 50 53.7**	**+1.3**
	2.7nm,0.3s,baz=360,slow=13,SNR=10						
CTA				S	**Sn**	**06 53 04.3**	**-1.3**
	1.1nm,0.4s,baz=232,slow=16,SNR=1.5						
CTAO	**Charters Tower**	**12.07**	**186**		**Pn**	**06 50 52.6**	**+0.2**
CTAO	**Charters Tower**	**12.07**	**186**	P	**Pn**	**06 50 55.3**	**+2.9**
HNR	**Honiara**	**12.40**	**97**	LR	LR	06 54 53.4	
	comp=Z,2µm,20.6s,baz=261,slow=34						
HNR	**Honiara**	**12.40**	**97**	Pn	**Pn**	**06 51 00.4**	**+3.4**
QIS	**Mount Isa**	**14.62**	**211**	P	**Pn**	**06 51 28.9**	**+1.9**
FAKI	**Fak Fak**	**15.98**	**288**	Pn	**Pn**	**06 51 42.9**	**-1.7**
SAUI	**Saumlaki**	**16.03**	**269**	Pn	**Pn**	**06 51 42.3**	**-2.9**
MTN	**Manton Dam**	**16.78**	**252**	Pn	**Pn**	**06 51 51.6**	**-3.1**
MTN				IAmb	IAmb	06 51 59.7	
	comp=Z,20nm,0.9s						
WB0	**Warramunga Arr**	**17.25**	**226**		**Pn**	**06 51 59.9**	**-0.6**
WB0				IAmb	IAmb	06 52 03.3	
	comp=Z,29nm,1.1s						
WR0	**Warramunga Arr**	**17.27**	**225**	Pn	**Pn**	**06 51 56.9**	**-3.9**
WR0				IAmb	IAmb	06 52 03.4	
	comp=Z,19nm,0.9s						
WRAB	**Tennant Creek**	**17.39**	**226**	Pn	**Pn**	**06 51 58.2**	**-4.0**
WRAB				IAmb	IAmb	06 52 18.5	
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**17.39**	**226**	P	**P**	**06 52 03.8**	**+0.9**
WB2	**Warramunga Arr**	**17.39**	**226**		**Pn**	**06 52 00.2**	**-2.0**
WB2				IAmb	IAmb	06 52 04.4	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**17.40**	**226**	P	**P**	**06 52 03.8**	**+0.7**
	comp=Z,12nm,1.0s,baz=46,slow=12,SNR=36						
WRA				S	**Sn**	**06 55 11.1**	**-4.2**
	comp=Z,3.4nm,1.1s,baz=46,slow=23,SNR=6.3						
WRA				LR	LR	06 59 37.4	
	comp=Z,137nm,19.3s,baz=69,slow=39						
WRA	**Warramunga Arr**	**17.40**	**226**		**Pn**	**06 52 00.6**	**-1.8**
EIDS	**Eidsvold**	**17.60**	**169**		**Pn**	**06 52 04.8**	**0.0**
EIDS	**Eidsvold**	**17.60**	**169**	P	**P**	**06 52 10.8**	**+5.6**
SIJI	**Sorong**	**17.65**	**293**	P	**P**	**06 52 07.5**	**+1.7**
	comp=Z,3.7nm,0.3s,baz=137,slow=9.8,SNR=1.3						
KNRA	**Kununurra**	**19.83**	**246**	P	**P**	**06 52 28.0**	**-1.8**
KNRA				IAmb	IAmb	06 52 36.0	
	comp=Z,37nm,0.9s						
KNRA	**Kununurra**	**19.83**	**246**	P	**Pn**	**06 52 33.9**	**+2.2**
AS01	**Alice Springs**	**20.27**	**218**	P	Pn	06 52 36.4	-0.4
AS31	**Alice Springs**	**20.29**	**218**	P	**P**	**06 52 32.6**	**-2.1**
ASAR	**Alice Springs**	**20.30**	**218**	P	Pn	06 52 36.0	-1.1
	comp=Z,1.8nm,0.5s,baz=54,slow=9.7,SNR=45						
ASAR				S	**S**	**06 56 20.3**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=49,slow=21,SNR=3.3						
ASAR				LR	LR	07 00 58.7	
	comp=Z,55nm,19.0s,baz=12,slow=38						
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**20.30**	**218**	P	**P**	**06 52 33.3**	**-1.4**
INKA	**Innaminka**	**20.64**	**197**	P	Pn	06 52 41.4	+0.3
GUMO	**Guam**	**21.61**	**353**	LR	LR	06 59 45.0	
	comp=Z,50nm,20.4s,baz=147,slow=32						
DZM	**Mont Dzumac**	**23.00**	**130**	P	**P**	**06 52 58.7**	**-5.0**
	comp=Z,1.9nm,0.6s,baz=7.1,slow=11,SNR=1.1						
DZM				LR	LR	07 00 03.9	
	comp=Z,134nm,20.9s,baz=210,slow=32						
	comp=Z,1.9nm,0.6s						
BATI	**Baumata**	**23.62**	**263**	P	**P**	**06 53 11.3**	**+1.6**
	comp=Z,64nm,0.9s,baz=106,slow=7.4,SNR=2.3						
STKA	**Stephens Creek**	**24.37**	**192**	P	**P**	**06 53 15.8**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=352,slow=9.8,SNR=7.3						
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**24.37**	**192**	P	**P**	**06 53 15.7**	**-0.7**
DAV	**Davao City (W)**	**26.49**	**304**	LR	LR	07 05 32.1	
	comp=Z,19nm,18.3s,baz=352,slow=39						
BBOO	**Buckleboo**	**26.86**	**202**	P	**P**	**06 53 37.8**	**-1.2**
BBOO				IAmb	IAmb	06 54 01.5	
	comp=Z,21nm,1.4s						
FORT	**Forrest**	**29.04**	**216**	P	**P**	**06 53 56.0**	**-2.3**
FORT				IAmb	IAmb	06 54 36.2	
	comp=Z,22nm,1.3s						
MSVF	**Nonsavu**	**31.28**	**111**	LR	LR	07 03 52.9	
	comp=Z,166nm,19.4s,baz=119,slow=31						
NWAO	**Narrogin (SRO)**	**37.40**	**224**	LR	LR	07 12 40.5	
	comp=Z,56nm,18.6s,slow=39						
YULB	**Yu-li**	**40.37**	**321**	P	**P**	**06 55 36.1**	**+0.1**
AFI	**Afiamalu**	**40.38**	**102**	P	**P**	**06 55 38.2**	**+1.8**
RPZ	**Rata Peaks**	**41.10**	**154**	LR	LR	07 12 28.4	
	comp=Z,142nm,19.7s,baz=267,slow=36						
MAJO	**Matsushiro**	**45.16**	**349**	P	**P**	**06 56 16.8**	**+2.0**
MJB9	**Matsu-Tunnel**	**45.17**	**349**	P	**P**	**06 56 15.4**	**+0.6**
KSRS	**Korea Array**	**48.79**	**339**	P	**P**	**06 56 42.5**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=157,slow=8.7,SNR=6.4						
KSRS				LR	LR	07 15 22.7	
	comp=Z,16nm,22.0s,baz=165,slow=34						
	comp=Z,2.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.63**	**299**	P	**P**	**06 57 27.9**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=123,slow=5.7,SNR=8.0						
	comp=Z,1.5nm,0.4s						
HHC	**Hu-ho-hao-te**	**58.79**	**329**	*e*P	**P**	**06 57 59.8**	**+3.6**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,250nm,5.5s						
PETK	**Petropavlovsk-**	**61.50**	**7**	P	**P**	**06 58 11.7**	**-2.6**
	comp=Z,4.5nm,1.0s,baz=177,slow=8.1,SNR=2.9						
PETK				LR	LR	07 21 33.9	
	comp=Z,25nm,21.9s,baz=162,slow=33						
	comp=Z,4.5nm,1.0s						
PPT	**Papeete**	**61.88**	**106**	P	P	06 58 12.1	-5.5
	comp=Z,18nm,0.8s,baz=202,slow=7.4,SNR=2.5						
	comp=Z,18nm,0.8s						
SONM	**Songino Array**	**66.38**	**331**	P	**P**	**06 58 46.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=150,slow=4.8,SNR=3.1						
	comp=Z,0.3nm,0.4s						
VNDA	**Vanda**	**69.89**	**177**	P	**P**	**06 59 07.5**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=330,slow=7.0,SNR=12						
	comp=Z,2.2nm,0.8s						
VNDA	**Vanda**	**69.89**	**177**	P	**P**	**06 59 07.9**	**-0.2**
VNDA				IAmb	IAmb	06 59 19.0	
	comp=Z,6.9nm,1.4s						
WMQ	**Urumqi**	**74.62**	**320**	*e*P	**P**	**06 59 37.9**	**+0.9**
WMQ				PcP	**pP**	**06 59 53.6**	**+1.5**
WMQ				sP	sP	07 00 03.9	+5.8
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MK31	**Makanchi Array**	**79.34**	**321**	P	**P**	**07 00 03.7**	**+0.3**
MK31				IAmb	IAmb	07 00 04.5	
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**79.34**	**321**	P	**P**	**07 00 03.5**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=105,slow=6.2,SNR=16						
	comp=Z,2.2nm,0.7s						
MAKZ	**Makanchi**	**79.55**	**321**	P	**P**	**07 00 04.8**	**+0.3**
MAKZ				IAmb	IAmb	07 00 05.5	
	comp=Z,5.4nm,1.1s						
TIXI	**Tiksi**	**80.44**	**354**	LR	LR	07 40 00.2	
	comp=Z,11nm,18.2s,baz=179,slow=39						
ZALV	**Zalesovo Beam**	**80.96**	**328**	P	**P**	**07 00 10.8**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=119,slow=5.2,SNR=3.9						
ZALV				LR	LR	07 38 35.4	
	comp=Z,14nm,18.1s,baz=70,slow=37						
	comp=Z,1.1nm,0.6s						
AAK	**Ala-Archa**	**83.09**	**315**	P	**P**	**07 00 23.5**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=124,slow=6.1,SNR=6.5						
AAK				LR	LR	07 40 26.4	
	comp=Z,11nm,19.2s,baz=135,slow=38						
	comp=Z,1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**83.12**	**323**	P	**P**	**07 00 22.6**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=118,slow=4.3,SNR=9.2						
	comp=Z,0.6nm,0.3s						
IMAR	**Indian Mountai**	**85.19**	**21**	P	**P**	**07 00 32.6**	**-0.9**
KK31	**Karatay Array**	**86.03**	**314**	P	**P**	**07 00 37.4**	**-0.8**
KK31				IAmb	IAmb	07 00 39.3	
	comp=Z,3.3nm,1.2s						
KKAR	**Karatay Array**	**86.03**	**314**	P	**P**	**07 00 37.9**	**-0.4**
ILAR	**Eielson Array**	**87.13**	**23**	P	**P**	**07 00 40.1**	**-3.0**
	comp=Z,0.5nm,0.7s,baz=250,slow=5.6,SNR=5.1						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**88.67**	**324**	P	**P**	**07 00 49.1**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=145,slow=5.3,SNR=3.4						
	comp=Z,1.2nm,0.8s						
ABKAR	**Akbulak array**	**94.40**	**319**	P	**P**	**07 01 15.6**	**-1.8**
PFO	**Pinyon Flats O**	**99.41**	**57**	LR	LR	07 43 06.4	
	comp=Z,41nm,18.0s,baz=287,slow=33						
TORD	**Torodi Ar. Bea**	**146.01**	**282**	PKPbc	**PKPbc**	**07 07 37.7**	**-0.5**
	comp=Z,4.6nm,0.9s,baz=79,slow=3.2,SNR=1.9						
BDFB	**Brasilia**	**151.93**	**147**	PKPbc	**PKPbc**	**07 07 51.9**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=229,slow=8.9,SNR=4.3						
DBIC	**Dimbokro**	**152.54**	**269**	PKPbc	**PKPbc**	**07 07 54.3**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=103,slow=7.9,SNR=3.4						

*INET **16** 06:51:53.4±1.6, 10°.48N×86°.35W, h5km±15km, MW3.6*
*UCR **16** 06:51:54.6±1.0, 10°.59N×86°.38W, h15km±6km, MW3.7*
ISC 16 06:51:53.5±1.6**, 10°.57N**±0°.04×**86°.38W**±0°.06**, h9**km±10km**,**
n79, σ0°.61/112, 16C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATIL	**Hatillo**	**0.72**	**112**	⇑*e*P	**Pb**	**06 52 08.8**	**+0.5**
HATIL				*e*S	**Sb**	**06 52 18.6**	**+0.3**
HZTE	**Horizontes, Gu**	**0.79**	**79**	⇓*e*P	**Pb**	**06 52 09.9**	**+0.5**
HZTE				*e*S	**Sn**	**06 52 21.7**	**-1.0**
ALIBA	**Liberia Airpor**	**0.82**	**88**	⇑*i*P	**Pn**	**06 52 10.9**	**-0.3**
ALIBA				*e*S	**Sn**	**06 52 23.8**	**+0.2**
DELF	**Filadelfia**	**0.83**	**98**	⇑*e*P	**Pb**	**06 52 10.6**	**+0.6**
DELF				*e*S	**Sn**	**06 52 22.1**	**-1.5**
SAJU	**San Juanillo,**	**0.83**	**127**	*e*P	**Pb**	**06 52 10.4**	**+0.3**
SAJU				*e*S	**Sb**	**06 52 20.9**	**-0.5**
LCRUZ	**La Cruz**	**0.90**	**56**	*e*P	**Pg**	**06 52 10.6**	**-0.2**
LCRUZ				*e*S	**Sb**	**06 52 24.4**	**+1.1**
JUD3	**Juan Diaz 3**	**0.92**	**116**	*e*P	**Pb**	**06 52 12.0**	**+0.3**
JUD3				*e*S	**Sb**	**06 52 23.8**	**-0.3**
ORTG	**Ortega, Santa**	**0.93**	**103**	*e*P	**Pb**	**06 52 12.2**	**+0.3**
ORTG				*e*S	**Sb**	**06 52 24.6**	**+0.2**
GBS3	**Finca Las Img**	**0.94**	**77**	*e*P	**Pg**	**06 52 11.7**	**+0.2**
GBS3				*e*S	**Sb**	**06 52 25.2**	**+0.7**
GBS2	**Las Lilas**	**0.95**	**74**	⇑*e*P	**Pg**	**06 52 12.3**	**+0.5**
GBS2				*e*S	**Sb**	**06 52 25.3**	**+0.4**
LAPC	**Finca la Perla**	**0.95**	**78**	⇓*e*P	**Pg**	**06 52 11.9**	**0.0**
LAPC				*e*S	**Sb**	**06 52 25.0**	**-0.1**
BUEV	**Buena Vista**	**0.99**	**77**	*e*P	**Pg**	**06 52 12.7**	**+0.2**
BUEV				*e*S	**Sb**	**06 52 26.1**	**+0.1**
SAAN	**San Antonio**	**0.99**	**112**	⇑*e*P	**Pb**	**06 52 13.0**	**+0.1**
GB1A	**Borinquen Arri**	**1.00**	**76**	⇑*i*P	**Pg**	**06 52 13.1**	**+0.3**
DUNO	**Dulce Nombre,**	**1.00**	**119**	*e*P	**Pb**	**06 52 13.0**	**0.0**
GPS3	**Bodega del ICE**	**1.02**	**79**	⇑*e*P	**Pg**	**06 52 13.3**	**+0.2**
GPS3				*e*S	**Sb**	**06 52 27.5**	**+0.6**
NARJA	**Naranjal**	**1.02**	**126**	*e*P	**Pb**	**06 52 13.3**	**0.0**
NARJA				*e*S	**Sg**	**06 52 25.5**	**-0.8**
NICO	**Nicoya**	**1.02**	**115**	*e*P	**Pb**	**06 52 13.2**	**-0.1**
NICO				*e*S	**Sg**	**06 52 25.8**	**-0.5**
GPS2	**Hotel Rincn d**	**1.03**	**80**	⇑*i*P	**Pg**	**06 52 13.5**	**+0.2**
GPS2				*e*S	**Sb**	**06 52 27.6**	**+0.4**
GPS1	**Guardaparques**	**1.04**	**79**	⇑*e*P	**Pg**	**06 52 13.6**	**+0.1**
GPS1				*e*S	**Sb**	**06 52 27.6**	**+0.2**
GP14	**Hacienda Santa**	**1.04**	**80**	*e*P	**Pg**	**06 52 13.5**	**0.0**
GP14				*e*S	**Sb**	**06 52 27.6**	**+0.1**
VORI	**VORI**	**1.05**	**76**	⇑*i*P	**Pg**	**06 52 13.8

0.1nm,0.3s,baz=55,slow=14,SNR=12
KURBB Sn **Sg** 06 57 12.4 **+0.6**
0.1nm,0.3s,baz=31,slow=18,SNR=2.2
KURBB Lg Lg 06 57 40.5
baz=57,slow=35,SNR=4.0
1.5nm,0.6s
KURBB Kurchatov Arra 4.90 223 ⇑Pn **Pb** 06 56 00.3 **-0.8**
1.7nm,0.5s
KURBB ⇑Sn **Sg** 06 57 11.7 **-0.1**
2.1nm,0.5s
KURBB ⇓Lg Lg 06 57 40.7
4.7nm,0.8s
MK31 Makanchi Array 7.60 188 ⇓Pn **Pn** 06 56 26.7 **+0.2**
0.1nm,0.2s,baz=28,slow=14,SNR=23
MK31 ⇓Sn **Sn** 06 57 54.3 **+1.1**
0.3nm,0.5s,baz=24,slow=28,SNR=3.2
MK31 ⇑Lg Lg 06 58 37.0
1.1nm,0.8s
MKAR Makanchi Array 7.60 188 Pn **Pn** 06 56 25.9 **-0.5**
0.3nm,0.3s,baz=26,slow=14,SNR=17
MKAR Sn **Sn** 06 57 52.3 **-0.9**
0.1nm,0.3s,baz=25,slow=28,SNR=5.0
MKAR Lg Lg 06 58 37.5
baz=13,slow=34,SNR=5.2
0.3nm,0.3s

JSN ***16*** *07:17:24.6±0.4, 18°.04N×77°.79W, h10km±7km, MD2.9*
SSNC ***16*** *07:17:27.0±1.4, 18°.32N×77°.69W, h5km±46km, MD2.9, ML1.7, MW2.5*
ISC 16 07:17:22.7±1.5**, 18°.17N**±0°.06×**77°.81W**±0°.09**, h10**km**, n12, σ1$57/17, 6C-2D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**0.27**	**153**	⇑*i*P		**Pg**	**07 17 28.0**	**-0.2**
MCJ				*i*S		**Sg**	**07 17 30.6**	**-1.2**
MTDJ	**Mount Denham**	**0.27**	**77**	*e*P		**Pb**	**07 17 30.3**	**+0.5**
MTDJ				*e*S		**Sb**	**07 17 34.4**	**-0.1**
MTDJ				IAML			07 17 35.6	
	246nm,0.2s							
MTDJ				IAML			07 17 35.9	
	comp=Z,170nm,0.2s							
BBJ	**Bamboo Saint A**	**0.56**	**67**	⇑*i*P		**Pb**	**07 17 35.7**	**+1.0**
PCJ	**Portland Cotta**	**0.75**	**124**	⇑*i*P		**Pg**	**07 17 36.8**	**-0.5**
BNJ	**Bonny Gate**	**0.83**	**79**	⇓*i*P		**Pb**	**07 17 39.6**	**+0.2**
STH	**Stony Hill**	**0.96**	**95**	⇑*i*P		**Pg**	**07 17 41.0**	**-0.2**
HOJ	**Hope**	**1.02**	**99**	⇑*i*P		**Pg**	**07 17 42.1**	**-0.3**
GWJ	**Greenwich**	**1.04**	**95**	⇑*i*P		**Pg**	**07 17 42.5**	**-0.2**
LMGC	**Las Mercedes**	**2.04**	**22**	*e*P		**Pn**	**07 17 56.9**	**-0.2**
LMGC				*e*S		**Sn**	**07 18 19.3**	**-3.3**
LMGC				IAML			07 18 22.0	
	comp=E,16nm,0.1s							
LMGC				IAML			07 18 22.3	
	comp=N,18nm,0.1s							
RCC	**Rio Carpintero**	**2.71**	**47**	⇓*e*P		**Pn**	**07 18 06.4**	**+0.1**
RCC				*e*S		**Sn**	**07 18 36.6**	**-2.6**
RCC				IAML			07 18 38.7	
	comp=E,0.9nm,0.1s							
RCC				IAML			07 18 38.9	
	comp=N,0.9nm,0.1s							
CCCC	**Ccc**	**3.02**	**1**	*e*P		**Pn**	**07 18 12.5**	**+1.9**
GTBY	**Guantanamo Bay**	**3.10**	**55**	*e*P		**Pn**	**07 18 12.9**	**+1.2**
GTBY				*e*S		**Sn**	**07 18 45.8**	**-3.0**

MOS ***16*** *07:39:30.2±1.4, 43°.28N×146°.76E, h64km, mb4.2/2, Error ellipse: s-maj=17.6km s-min=11.8km az=105.2*
JMA ***16*** *07:39:30.8±0.3, 43°.4N±0°.9×147°.7E±°, h38km±3km, MV3.8/37, E OFF HOKKAIDO*
IDC ***16*** *07:39:30.5±7.0, 42°.73N×146°.93E, h78km±36km, mb3.3/8, mbtmp3.6/10, MS3.0/2, Error ellipse: s-maj=91.6km s-min=16.8km az=173.0*
SKHL ***16*** *07:39:31.3±0.0, 43°.40N×146°.90E, h59km±9km, mb4.6/3*
ISC 16 07:39:30.3±1.6**, 43°.36N**±0°.07×**146°.95E**±0°.07**, h42**km±14**km, n44, σ1$37/52, mb3.4/8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.88**	**271**	P		**Pn**	**07 39 45.7**	**-0.4**
NEM2				*e*S		**Sn**	**07 39 56.5**	**-1.3**
NMR	**Nemuro--Hokkai**	**0.89**	**271**	*e*PN		**Pn**	**07 39 46.2**	**-0.1**
NMR				*e*S		**Sn**	**07 39 57.5**	**-0.5**
NMR	**Nemuro--Hokkai**	**0.89**	**271**	*e*P		**Pn**	**07 39 46.2**	**-0.1**
NMR				AMB	AMB		07 39 46.6	
	240nm,0.2s							
NMR				*e*S		**Sn**	**07 39 57.4**	**-0.6**
NMR				A	A		07 39 58.3	
	2μm,0.3s							
NMR				A	A		07 39 58.3	
	950nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.04**	**311**	*e*PN		**Pn**	**07 39 47.8**	**-0.5**
YUK				*e*S		**Sn**	**07 40 00.6**	**-1.1**
YUK				pmax	pmax			
	comp=Z,2μm,0.2s							
YUK				pmax	pmax			
	comp=N,871nm,0.1s							
YUK				pmax	pmax			
	comp=E,542nm,0.1s							
YUK				smax	smax			
	comp=E,3μm,0.3s							
YUK				smax	smax			
	comp=N,3μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.04**	**311**	*e*P		**Pn**	**07 39 48.0**	**-0.3**
YUK				AMB	AMB		07 39 48.7	
	comp=N,670nm,0.3s							
YUK				*e*S		**Sn**	**07 40 00.5**	**-1.2**
YUK				A	A		07 40 01.7	
	comp=N,2μm,0.3s							
YUK				A	A		07 40 01.7	
	comp=N,3μm,0.3s							
JKHN	**Kushirohamanak**	**1.33**	**259**	*e*P		**Pn**	**07 39 53.6**	**+1.2**
JKHN				*e*S		**Sn**	**07 40 10.3**	**+1.4**
RUSJ	**Misakicho**	**1.44**	**302**	*e*PN		**Pn**	**07 39 54.2**	**+0.3**
RUSJ				*e*S		**Sn**	**07 40 11.7**	**+0.2**
JRA	**Rausu**	**1.45**	**294**	*e*P		**Pn**	**07 39 53.9**	**0.0**
JRA				*e*S		**Sn**	**07 40 10.9**	**-0.7**
JNSB	**Nemuroshibetsu**	**1.47**	**287**	P		**Pn**	**07 39 54.4**	**+0.1**
JNSB				*e*S		**Sn**	**07 40 11.4**	**-0.9**
AKK	**Akkeshi**	**1.57**	**258**	*e*P		**Pn**	**07 39 55.8**	**+0.1**
AKK				*e*S		**Sn**	**07 40 13.9**	**-1.0**
JNK	**Nakash**	**1.64**	**279**	*e*P		**Pn**	**07 39 56.4**	**-0.2**
JNK				*e*S		**Sn**	**07 40 15.5**	**-0.9**
JAK	**Akkeshi**	**1.68**	**258**	*e*P		**Pn**	**07 39 57.3**	**+0.1**
JAK				*e*S		**Sn**	**07 40 16.5**	**-1.0**
KUR	**Kuril'sk**	**1.99**	**19**	*e*PN		**Pn**	**07 40 02.7**	**+1.3**
KUR				*e*S		**Sn**	**07 40 24.9**	**-0.1**
KUR				pmax	pmax			
	comp=Z,70nm,0.3s							
KUR				smax	smax			
	comp=N,291nm,0.2s							
KUR				smax	smax			
	comp=E,42nm,0.2s							
KUR	**Kuril'sk**	**1.99**	**19**	*e*P		**Pn**	**07 40 01.9**	**+0.5**
KUR				AMB	AMB		07 40 03.0	
	comp=E,50nm,0.3s							
KUR				*e*S		**Sn**	**07 40 24.4**	**-0.6**
KUR				A	A		07 40 32.0	
	comp=E,160nm,0.3s							
KUR				A	A		07 40 32.0	
	comp=E,240nm,0.3s							
JTKR	**Abashiri--Toko**	**2.29**	**287**	*e*P		**Pn**	**07 40 06.6**	**+1.1**
JAR	**Ashorobuto**	**2.32**	**270**	*e*P		**Pn**	**07 40 06.8**	**+0.9**
JAR				*e*S		**Sn**	**07 40 33.7**	**+0.5**
JOB	**Onbets**	**2.32**	**260**	*e*P		**Pn**	**07 40 06.7**	**+0.8**
JOB				*e*S		**Sn**	**07 40 33.4**	**+0.1**
JCH	**Churui**	**2.73**	**255**	*e*P		**Pn**	**07 40 12.8**	**+1.2**
JCH				*e*S		**Sn**	**07 40 43.6**	**+0.2**
HRK	**Horoka**	**2.78**	**274**	*e*S		**Sn**	**07 40 45.7**	**+1.0**
MYR	**Moyori**	**2.90**	**250**	*e*P		**Pn**	**07 40 14.5**	**+0.6**
MYR				*e*S		**Sn**	**07 40 47.1**	**-0.3**
JKA	**Kamikawa-asahi**	**3.24**	**285**	*e*P		**Pn**	**07 40 21.1**	**+2.5**
ASAJ	**Asahikawa**	**3.24**	**285**	P		**Pn**	**07 40 21.1**	**+2.5**
	comp=E,6.6nm,0.3s,baz=112,slow=13,SNR=7.4							
ASAJ				S		**Sn**	**07 41 02.6**	**+6.7**
	comp=E,6.3nm,0.3s,baz=210,slow=31,SNR=1.6							
YSS	**Yuzh-Sakhalins**	**4.66**	**322**	*e*PN		**Pn**	**07 40 39.3**	**+1.2**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.66**	**322**	*e*P		**Pn**	**07 40 39.3**	**+1.2**
KLR	**Kul'dur**	**12.03**	**304**	LR		LR	07 46 49.3	
	comp=Z,37nm,18.4s,baz=100,slow=35							
PETK	**Petropavlovsk-**	**12.09**	**32**	P		Pn	07 42 26.0	+6.2
	comp=Z,3.5nm,1.1s,baz=216,slow=7.1,SNR=1.6							
PETK	**Petropavlovsk-**	**12.09**	**32**	P		Pn	07 42 26.0	+6.2
SHEM	**Shemya Is, Ala**	**20.32**	**53**	P		Pn	07 44 04.3	-0.5
	comp=Z,48nm,0.9s,baz=270,slow=5.1,SNR=1.5							
SONM	**Songino Array**	**28.49**	**293**	P		**P**	**07 45 21.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=94,slow=9.5,SNR=4.1							
	comp=Z,0.5nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.90**	**138**	T		T	08 16 13.2	
	baz=329,slow=75,SNR=160							
H11N1	**WAKE ISLAND Hy**	**28.92**	**138**	T		T	08 16 14.1	
	baz=329,slow=75,SNR=110							
H11N3	**WAKE ISLAND Hy**	**28.92**	**138**	T		T	08 16 14.5	
	baz=329,slow=75,SNR=130							
H11S1	**WAKE ISLAND Hy**	**29.86**	**140**	T		T	08 17 26.2	
	baz=330,slow=76,SNR=220							
H11S3	**WAKE ISLAND Hy**	**29.86**	**140**	T		T	08 17 18.6	
	baz=330,slow=76,SNR=159							
H11S2	**WAKE ISLAND Hy**	**29.88**	**140**	T		T	08 17 25.2	
	baz=330,slow=76,SNR=180							
ILAR	**Eielson Array**	**41.89**	**36**	P		**P**	**07 47 16.7**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=280,slow=9.2,SNR=5.5							
	comp=Z,0.3nm,0.6s							
MKAR	**Makanchi Array**	**44.64**	**298**	P		**P**	**07 47 37.0**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=81,slow=8.6,SNR=5.2							
	comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	**44.64**	**298**	*e*P		**P**	**07 47 37.0**	**-1.5**
INK	**Inuvik**	**46.81**	**30**	P		**P**	**07 47 56.2**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=299,slow=9.6,SNR=18							
	comp=Z,0.6nm,0.3s							
YKA	**Yellowknife Ar**	**56.21**	**34**	P		**P**	**07 49 06.6**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=297,slow=6.9,SNR=5.2							
	comp=Z,0.2nm,0.7s							
ARCES	**ARCESS Array B**	**59.56**	**340**	LR		LR	08 17 15.2	
	comp=Z,19nm,19.6s,baz=184,slow=38							
NOA	**NORSAR Array B**	**69.92**	**339**	P		**P**	**07 50 35.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=31,slow=6.6,SNR=4.4							
	comp=Z,0.5nm,0.7s							
HFS	**Hagfors**	**69.99**	**337**	P		**P**	**07 50 36.5**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=42,slow=6.8,SNR=9.0							
	comp=Z,0.7nm,0.4s							
AKASG	**Malin Array Be**	**71.81**	**324**	P		**P**	**07 50 46.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=47,slow=8.2,SNR=4.4							
	comp=Z,0.1nm,0.3s							

IDC 16 07:48:45.0±2.7**, 54°.30N**×**85°.95E, h0**km**, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=20.0km s-min=10.7km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.75**	**243**	I		I	07 53 30.0	
	0.1nm,0.8s,baz=62,slow=344,SNR=11							
ZALV	**Zalesovo Beam**	**0.75**	**243**	Pg		Pg	07 48 58.2	-1.2
	0.6nm,0.3s,baz=59,slow=18,SNR=6.9							
ZALV				Lg		Lg	07 49 10.5	
	2.9nm,0.3s,baz=64,slow=32,SNR=6.4							
KURBB	**Kurchatov Arra**	**5.84**	**234**	Pn		Pn	07 50 14.0	+1.2
	0.1nm,0.3s,baz=50,slow=13,SNR=2.2							
	1.5nm,0.2s							
MKAR	**Makanchi Array**	**7.87**	**199**	Pn		Pn	07 50 41.5	+0.8
	0.1nm,0.3s,baz=20,slow=12,SNR=5.8							
MKAR				Sn		Sn	07 52 10.6	+0.2
	baz=30,slow=27,SNR=3.1							
MKAR				Lg		Lg	07 52 52.7	
	baz=33,slow=35,SNR=3.9							
	0.3nm,0.5s							

IDC 16 07:50:45.0±375.0**, 61°.84N**×**43°.31E, h0**km**, Error ellipse: s-maj=168.2km s-min=124.0km az=2.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**6.01**	**214**	I		I	08 26 30.0	
	baz=30,slow=293,SNR=2.1							
I31KZ	**AKTYUBINSK INF**	**14.05**	**138**	I		I	09 20 10.0	
	0.1nm,0.8s,baz=332,slow=323,SNR=3.9							
I46RU	**ZALESOVO INFRA**	**23.07**	**91**	I		I	10 10 00.0	
	baz=310,slow=357,SNR=0.9							
I34MN	**SONGINO INFRAS**	**37.36**	**82**	I		I	11 43 30.0	
	baz=317,slow=340,SNR=0.9							

IDC 16 08:13:42.4±61.0**, 19°.71S**×**175°.24W, h0**km**, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1152.0km s-min=187.0km az=83.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.46**	**244**	P		P	08 21 23.1	+0.2
	1.1nm,0.8s,baz=103,slow=14,SNR=3.3							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**47.22**	**256**	P		P	08 22 17.1	-0.4
	0.4nm,0.6s,baz=100,slow=8.4,SNR=7.9							
	0.4nm,0.6s							
WRA	**Warramunga Arr**	**47.28**	**261**	P		P	08 22 17.8	-0.1
	0.5nm,0.7s,baz=97,slow=8.0,SNR=6.6							
	0.5nm,0.7s							

GUC ***16*** *08:16:16.5±0.7, 20°.06S×69°.13W, h93km±5km, ML3.8*
IDC ***16*** *08:16:17.0±1.7, 20°.20S×68°.64W, h124km±20km, mb3.5/2, mbtmp3.8/6, Error ellipse: s-maj=35.5km s-min=18.4km az=117.0*
ISC 16 08:16:15.2±0.8**, 20°.03S**±0°.04×**69°.12W**±0°.06**, h89**km±8**km, n17, σ2$08/30, 7C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.36**	**349**	⇓*e*P		**Pn**	**08 16 31.0**	**+1.5**
GO01				*i*S		**Sn**	**08 16 42.4**	**+2.3**
GO01				IAML			08 16 45.6	
	comp=E,10μm,0.1s							
PB11	**IPOC Station P**	**0.57**	**297**	⇑*e*P		**Pn**	**08 16 30.7**	**+0.1**
PB11				*e*S		**Sn**	**08 16 43.5**	**+1.4**
PB11				IAML			08 16 46.2	
	comp=N,4μm,0.2s							
TA02	**Huaiquique**	**0.98**	**255**	⇑*e*P		**Pn**	**08 16 35.2**	**+0.5**
TA02				*e*S		**Sn**	**08 16 50.3**	**+1.1**
TA02				IAML			08 16 51.9	
	comp=N,8μm,0.1s							
MNMC	**Minye Minye**	**1.00**	**333**	⇓*e*P		**Pn**	**08 16 36.7**	**+1.5**
MNMC				*e*S		**Sn**	**08 16 52.7**	**+2.7**
MNMC				IAML			08 16 54.3	
	comp=E,4μm,0.2s							
MNMC				IAML			08 16 56.7	
	comp=N,4μm,0.5s							
PSGC	**Pisagua**	**1.04**	**294**	⇑*e*P		**Pn**	**08 16 36.0**	**+0.6**
PSGC				*e*S		**Sn**	**08 16 51.2**	**+0.7**
PSGC				IAML			08 16 52.1	
	comp=N,1μm,0.5s							
TA01	**Diego Aracena**	**1.13**	**241**	⇑*e*P		**Pn**	**08 16 36.5**	**+0.1**
TA01				*e*S		**Sn**	**08 16 52.2**	**-0.1**
TA01				IAML			08 16 56.5	
	comp=E,2μm,0.2s							
PATCX	**Punta Patache**	**1.25**	**231**	⇑*e*P		**Pn**	**08 16 37.9**	**0.0**
PATCX				*e*S		**Sn**	**08 16 55.4**	**+0.3**
PATCX				IAML			08 17 01.2	
	comp=E,2μm,0.6s							
PB02	**IPOC Station P**	**1.48**	**209**	⇑*e*P		**Pn**	**08 16 41.3**	**+0.6**
PB02				*e*S		**Sn**	**08 17 00.1**	**0.0**
PB02				IAML			08 17 08.0	
	comp=E,3μm,0.2s							
PB09	**IPOC Station P**	**1.77**	**184**	*e*P		**Pn**	**08 16 45.8**	**+1.3**
PB09				*e*S		**Sn**	**08 17 08.3**	**+1.6**
PB09				IAML			08 17 13.9	
	comp=E,583nm,0.5s							
PB07	**IPOC Station P**	**1.84**	**203**	⇑*e*P		**Pn**	**08 16 45.8**	**+0.3**
PB07				*e*S		**Sn**	**08 17 08.8**	**+0.3**
PB07				IAML			08 17 15.7	
	comp=N,1μm,0.4s							
PB07				IAML			08 17 17.0	
	comp=E,2μm,0.7s							
LVC	**Limon Verde**	**2.58**	**176**	P		**Pn**	**08 16 56.7**	**+1.3**
	comp=E,34nm,0.3s,baz=6.0,slow=11,SNR=127							
LVC				S		**Sn**	**08 17 29.1**	**+2.9**
	comp=E,36nm,0.3s,baz=339,slow=11,SNR=7.0							
LPAZ	**La Paz**	**3.83**	**14**	P		**Pn**	**08 17 15.7**	**+3.1**
	comp=E,7.6nm,0.3s,baz=195,slow=6.1,SNR=57							
LPAZ				S		**Sn**	**08 18 00.1**	**+3.2**
	comp=E,2.9nm,0.4s,baz=186,slow=10,SNR=1.5							
SIV	**San Ignacio**	**8.64**	**64**	P		**Pn**	**08 18 16.1**	**-1.5**
	comp=E,7.7nm,0.5s,baz=255,slow=12,SNR=77							
SIV				S		**Sn**	**08 19 47.2**	**-6.2**
	comp=E,0.5nm,0.7s,baz=149,slow=22,SNR=1.1							
CFA	**Coronel Fontan**	**11.56**	**176**	P		**Pn**	**08 18 54.0**	**-3.2**
	comp=E,0.5nm,0.4s,baz=332,slow=15,SNR=1.3							
NVAR	**Mina Array Bea**	**74.22**	**322**	P		**P**	**08 27 44.1**	**+1.4**
	comp=E,0.3nm,0.5s,baz=162,slow=9.0,SNR=2.0							
	comp=E,0.3nm,0.5s							
YKA	**Yellowknife Ar**	**89.74**	**341**	P		**P**	**08 29 01.6**	**-1.4**
	comp=E,0.8nm,0.7s,baz=136,slow=4.4,SNR=19							
	comp=E,0.8nm,0.7s							
MKAR	**Makanchi Array**	**144.55**	**35**	PKP		**PKPab**	**08 35 38.8**	**-1.1**
	comp=E,0.2nm,0.5s,baz=327,slow=1.3,SNR=4.3							

IDC ***16*** *08:20:55.9±0.5, 48°.91S×31°.06E, h0km, mb4.5/15, mbtmp4.5/16, ML4.9/1, MS3.8/43, Error ellipse: s-maj=22.7km s-min=14.1km az=62.0*
GCMT ***16*** *08:20:57.8±0.3, 49°.02S±0°.02×30°.75E±0°.05, h19km±1km, MW5.0/60, Moment Tensor Solution. s20,c24; s60,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.04±.27; $M_{\theta\theta}$2.65±.18; $M_{\phi\phi}$-0.60±.16; $M_{r\theta}$2.76±.38; $M_{\theta\phi}$0.98±.10; $M_{\phi r}$-1.62±.43; Best double couple: M_o4.10900×10^{16} NP1:ϕ_s287.00000°, δ74.00000°, λ-63.00000°. NP2: ϕ_s46.00000°, δ31.00000°, λ-147.00000°. Principal axes: T 3.9370, Plg24.0000°, Azm357.0000°; N 0.3510, Plg26.0000°, Azm99.0000°; P -4.2800, Plg53.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *08:20:58.8±2.9, 48°.9S±0°.1×31°.2E±0°.2, h10km±1km, mb4.9/27 Error ellipse: s-maj=19.7km s-min=16.8km az=72.0*
ISC 16 08:20:57.1±0.6**, 48°.88S**±0°.07×**31°.08E**±0°.10**, h8**km±3km, h8km:pP-P, n127, σ0$93/111, mb4.7/22, MS3.8/42, South of Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GRHM	**Grahamstown, E**	**15.98**	**346**			**Pn**	**08 24 39.3**	**-3.0**
GRHM				IAmb		IAmb	08 24 49.6	
	comp=Z,129nm,0.9s							
SOE	**Somerset East**	**16.68**	**344**	Pn		**Pn**	**08 24 49.9**	**-1.3**
SUR	**Sutherland**	**18.20**	**331**	P		**Pn**	**08 25 10.2**	**-0.2**
	comp=Z,4.1nm,0.3s,baz=147,slow=11,SNR=35							
SUR				S		Sn	08 28 22.8	-11
	comp=Z,12nm,0.9s,baz=100,slow=19,SNR=2.4							
SUR				LR		LR	08 30 50.5	
	comp=Z,624nm,20.9s,baz=164,slow=33							
	comp=Z,22nm,0.5s							
SUR	**Sutherland**	**18.20**	**331**	P		**P**	**08 25 11.0**	**+0.3**
SUR				IAmb		IAmb	08 25 11.7	
	comp=Z,58nm,1.1s							
BOSA	**Boshof**	**20.73**	**345**	P		**P**	**08 25 38.2**	**+0.1**
	comp=Z,27nm,0.8s,baz=173,slow=11,SNR=21							
BOSA				LR		LR	08 32 21.1	
	comp=Z,359nm,21.6s,baz=177,slow=33							
	comp=Z,27nm,0.8s							
BOSA	**Boshof**	**20.73**	**345**	P		**P**	**08 25 39.0**	**+0.9**
BOSA				IAmb		IAmb	08 25 42.3	
	comp=Z,56nm,1.2s							
POGA	**Pongola**	**21.51**	**2**	P		**P**	**08 25 46.5**	**+0.1**
LBTB	**Lobatse**	**24.21**	**348**	P		**P**	**08 26 14.1**	**-0.2**
	comp=Z,5.7nm,0.8s,baz=178,slow=9.4,SNR=6.1							
LBTB				S		**S**	**08 30 36.0**	**+3.1**
	comp=Z,6.0nm,1.1s,baz=231,slow=6.5,SNR=2.1							
LBTB				LR		LR	08 34 25.0	
	comp=Z,150nm,21.6s,baz=174,slow=33							
	comp=Z,5.7nm,0.8s							
LBTB	**Lobatse**	**24.21**	**348**	P		**P**	**08 26 14.9**	**+0.6**
LBTB				IAmb		IAmb	08 26 26.1	
	comp=Z,26nm,1.2s							
MAW	**Mawson**	**24.66**	**151**	P		**P**	**08 26 18.0**	**+0.1**
	comp=Z,16nm,0.9s,baz=325,slow=11,SNR=5.5							
MAW				LR		LR	08 33 52.1	
	comp=Z,125nm,21.1s,baz=308,slow=32							
	comp=Z,16nm,0.9s							
MAW	**Mawson**	**24.66**	**151**	P		**P**	**08 26 18.5**	**+0.6**
TROLL	**Troll, Antarti**	**26.60**	**199**	P		**P**	**08 26 35.1**	**-0.5**
SNAA	**Sanae**	**27.64**	**202**	LR		LR	08 35 15.1	
	comp=Z,245nm,20.0s,baz=42,slow=31							
VNA2	**Neumayer--Watz**	**28.44**	**205**	P		**P**	**08 26 51.5**	**-0.5**
	baz=34,slow=8.0							
VNA1	**Neumayer--Stat**	**28.55**	**206**	P		**P**	**08 26 53.8**	**+0.8**
TSUM	**Tsumeb**	**31.55**	**335**	P		**P**	**08 27 19.7**	**-0.4**
	comp=Z,9.4nm,0.8s,baz=147,slow=7.7,SNR=11							
TSUM				LR		LR	08 39 01.9	
	comp=Z,557nm,20.3s,baz=152,slow=34							
	comp=Z,9.4nm,0.8s							
TSUM	**Tsumeb**	**31.55**	**335**	P		**P**	**08 27 20.7**	**+0.7**
TSUM				IAmb		IAmb	08 27 21.9	
	comp=Z,9.8nm,0.8s							
LSZ	**Lusaka**	**33.60**	**355**	P		**P**	**08 27 38.3**	**+0.3**
	comp=Z,7.4nm,0.7s,baz=184,slow=13							
LSZ				LR		LR	08 39 57.0	
	comp=Z,389nm,19.6s,baz=118,slow=34							
	comp=Z,7.4nm,0.7s							
MBAR	**Mbarara**	**48.09**	**360**	LR		LR	08 48 59.8	
	comp=Z,223nm,19.8s,baz=127,slow=35							
SMAI	**San Martin Ant**	**48.60**	**210**	P		**P**	**08 29 41.2**	**+0.6**
PMSA	**Palmer Station**	**49.20**	**214**	LR		LR	08 48 40.0	
	comp=Z,50nm,18.2s,baz=130,slow=34							
VNDA	**Vanda**	**50.25**	**168**	P		**P**	**08 29 51.7**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=244,slow=7.0,SNR=13							
VNDA				LR		LR	08 50 04.3	
	comp=Z,245nm,20.7s,baz=208,slow=35							
	comp=Z,2.1nm,0.7s							
VNDA	**Vanda**	**50.25**	**168**	P		**P**	**08 29 52.9**	**-0.3**
VNDA				IAmb		IAmb	08 30 23.4	
	comp=Z,27nm,2.0s							
H10S2	**ASCENSION HYDR**	**55.14**	**300**	T		T	09 30 06.8	
	baz=143,slow=74,SNR=3.3							
H10S3	**ASCENSION HYDR**	**55.16**	**300**	T		T	09 30 08.0	
	baz=77,slow=74,SNR=6.1							
ATD	**Arta Tunnel**	**61.04**	**13**	LR		LR	08 55 39.8	
	comp=Z,75nm,21.7s,baz=88,slow=34							

UOSS					IAmb	IAmb	08 33 01.6	
	comp=Z,8.5nm,1.1s							
RPSI	**Rantau Prapat**	**77.67**	**71**	P	**P**		**08 32 54.8**	**+0.4**
PSI	**Prapat**	**77.75**	**71**	P	**P**		**08 32 54.8**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=255,slow=4.1,SNR=5.2							
	comp=Z,6.0nm,0.8s							
EIL	**Elat**	**78.27**	**3**	LR	LR		09 07 01.5	
	comp=Z,50nm,19.4s,baz=235,slow=35							
STKA	**Stephens Creek**	**78.58**	**126**	P	**P**		**08 32 59.5**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=232,slow=3.1,SNR=22							
STKA				LR	LR		09 00 15.1	
	comp=Z,66nm,19.5s,baz=193,slow=30							
	comp=Z,4.6nm,0.7s							
STKA	**Stephens Creek**	**78.58**	**126**	P	**P**		**08 32 59.8**	**+0.5**
PTLB	**Pontes e Lacer**	**78.67**	**260**	P	**P**		**08 33 00.1**	**+0.2**
PTLB				IAmb	IAmb		08 33 15.9	
	comp=Z,4.8nm,1.0s							
SIV	**San Ignacio**	**79.52**	**258**	LR	LR		09 02 06.1	
	comp=Z,101nm,20.7s,baz=116,slow=31							
LVC	**Limon Verde**	**79.55**	**248**	LR	LR		09 03 45.4	
	comp=Z,32nm,20.7s,baz=146,slow=32							
ASAR	**Alice Springs**	**80.48**	**115**	P	**P**		**08 33 09.6**	**-0.2**
	comp=Z,6.2nm,0.7s,baz=221,slow=4.4,SNR=59							
	comp=Z,6.2nm,0.7s							
ASAR	**Alice Springs**	**80.48**	**115**	P	**P**		**08 33 08.8**	**-1.0**
AS31	**Alice Springs**	**80.48**	**115**	P	**P**		**08 33 10.0**	**+0.2**
RPZ	**Rata Peaks**	**81.33**	**155**	LR	LR		09 08 10.8	
	comp=Z,152nm,18.7s,baz=185,slow=35							
MMAI	**Mount Meron Ar**	**81.62**	**4**	LR	LR		09 08 17.2	
	comp=Z,40nm,19.8s,baz=15,slow=35							
PB11	**IPOC Station P**	**82.14**	**249**	P	**P**		**08 33 18.6**	**-0.2**
PB11				IAmb	IAmb		08 33 31.5	
	comp=Z,20nm,1.0s							
PB16	**IPOC Station P**	**83.12**	**250**	P	**P**		**08 33 24.8**	**+0.4**
PB16				IAmb	IAmb		08 33 40.8	
	comp=Z,6.0nm,1.0s							
LPAZ	**La Paz**	**83.80**	**252**	P	**P**		**08 33 28.6**	**+0.6**
	comp=Z,1.4nm,1.0s,baz=161,slow=5.6,SNR=2.9							
	comp=Z,1.4nm,1.0s							
IDI	**Anoyia**	**83.98**	**355**	LR	LR		09 11 35.9	
	comp=Z,36nm,20.8s,baz=232,slow=36							
BATI	**Baumata**	**84.09**	**99**	LR	LR		09 09 27.5	
	comp=Z,49nm,18.0s,baz=319,slow=35							
KAPI	**Kappang**	**85.39**	**92**	LR	LR		09 04 15.7	
	comp=Z,38nm,20.8s,baz=194,slow=30							
KEST	**Kesra**	**86.44**	**342**	LR	LR		09 13 32.0	
	comp=Z,163nm,18.6s,baz=156,slow=36							
MDT	**Midelt**	**87.34**	**331**	LR	LR		09 13 37.4	
	comp=Z,62nm,19.7s,baz=164,slow=36							
URZ	**Urewera**	**88.15**	**154**	LR	LR		09 10 34.0	
	comp=Z,140nm,19.4s,baz=324,slow=34							
BRDH	**Bariadhala**	**89.33**	**54**	LR	LR		09 07 01.5	
	comp=Z,68nm,21.6s,baz=352,slow=31							
GNI	**Garni**	**89.47**	**10**	LR	LR		09 14 31.8	
	comp=Z,25nm,18.3s,baz=167,slow=36							
CMAR	**Chiang Mai Arr**	**90.02**	**62**	LR	LR		09 06 22.8	
	comp=Z,32nm,21.2s,baz=220,slow=30							
NNA	**Nana**	**92.50**	**249**	LR	LR		09 11 17.7	
	comp=Z,38nm,19.7s,baz=176,slow=33							
KBZ	**Khabaz**	**92.81**	**9**	LR	LR		09 14 19.2	
	comp=Z,32nm,21.7s,baz=186,slow=34							
ESDC	**Sonseca Array**	**93.47**	**334**	LR	LR		09 17 13.7	
	comp=Z,72nm,19.8s,baz=141,slow=36							
RPN	**Rapa Nui**	**96.47**	**215**	LR	LR		09 11 26.8	
	comp=Z,25nm,18.0s,baz=253,slow=31							
DAVOX	**Davos/Dischmat**	**97.05**	**346**	LR	LR		09 19 42.4	
	comp=Z,96nm,20.8s,baz=196,slow=36							
ATAH	**Atahualpa**	**97.22**	**251**	LR	LR		09 11 52.8	
	comp=Z,35nm,20.7s,baz=152,slow=31							
PZH	**PanZhiHua**	**97.91**	**59**	P	Pdif		08 34 35.1	+1.5
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,100nm,5.0s							
DAV	**Davao City (W)**	**98.24**	**89**	LR	LR		09 11 07.7	
	comp=Z,28nm,20.1s,baz=170,slow=31							
GERES	**GERESS Array B**	**98.50**	**348**	LR	LR		09 21 59.3	
	comp=Z,80nm,20.3s,baz=178,slow=37							
VRAC	**Vranov**	**98.60**	**350**	LR	LR		09 21 52.1	
	comp=Z,60nm,20.4s,baz=183,slow=37							
AAK	**Ala-Archa**	**98.81**	**31**	LR	LR		09 13 53.9	
	comp=Z,31nm,18.2s,baz=208,slow=32							
HHC	**Hu-ho-hao-te**	**114.00**	**55**	*eP*		**PKiKP**	**08 39 34.8**	**-1.5**
MJAR	**Matsushiro Arr**	**127.01**	**75**	PKP		**PKiKP**	**08 40 02.4**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=238,slow=3.9,SNR=2.5							
FNO	**Franklin**	**140.16**	**270**			**PKPdf**	**08 40 24.8**	**-1.2**
MA2	**Magadan**	**144.39**	**49**			PKPbc	08 40 32.0	+0.7
F33A	**5 Mile Ranch,**	**144.81**	**285**			**PKPab**	**08 40 32.9**	**0.0**
K31A	**O'Neill**	**144.97**	**279**	PKPbc		**PKPdf**	**08 40 34.4**	**0.0**
ULM	**Lac du Bonnet**	**146.17**	**293**	PKPbc		**PKPdf**	**08 40 36.6**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=78,slow=8.1,SNR=2.3							
SDCO	**Great Sand Dun**	**146.93**	**267**			**PKPbc**	**08 40 40.9**	**+0.7**
FCC	**Fort Churchill**	**147.06**	**308**	PKPbc		**PKPbc**	**08 40 39.8**	**+0.4**
TUC	**Tucson**	**147.06**	**254**	PKPbc		**PKPab**	**08 40 41.5**	**-0.5**
Q24A	**Divide**	**147.35**	**269**	PKPbc		**PKPbc**	**08 40 41.7**	**+0.3**
S22A	**4UR Ranch, Cre**	**147.80**	**266**	PKPbc		**PKPbc**	**08 40 43.5**	**+0.9**
E28A	**Huff**	**147.90**	**284**	PKPbc		**PKiKP**	**08 40 43.4**	**-0.7**
ISCO	**Idaho Springs**	**148.10**	**270**	PKPbc		**PKPab**	**08 40 45.8**	**-0.4**
MVCO	**Mesa Verde**	**148.60**	**263**	PKPdf		**PKPdf**	**08 40 39.1**	**-1.8**
MVCO				PKPbc		**PKPbc**	**08 40 45.2**	**+0.6**
SMCO	**Snowmass**	**148.67**	**268**	PKPdf		**PKPdf**	**08 40 39.2**	**-2.0**
SFX	**San Felipe**	**148.73**	**248**	PKPbc		**PKiKP**	**08 40 47.0**	**+0.8**
RSSD	**Black Hills**	**149.09**	**278**	PKPbc		**PKPbc**	**08 40 46.2**	**+0.6**
113A	**Mohawk Valley,**	**149.24**	**252**	PKPbc		**PKiKP**	**08 40 47.4**	**+0.2**
PV13	**Radium Mtn., P**	**149.34**	**265**	PKPbc		**PKiKP**	**08 40 47.3**	**-0.3**
PV07	**Paradox Valley**	**149.38**	**265**	PKPbc		**PKiKP**	**08 40 47.5**	**-0.1**
PV07				PKPab		**sPKPab**	**08 40 53.0**	**+0.2**
WUAZ	**Wupatki**	**149.47**	**258**	PKPbc		**PKiKP**	**08 40 47.8**	**-0.1**
O20A	**White River Ci**	**150.00**	**269**	PKPbc		**PKiKP**	**08 40 50.0**	**+1.1**
K22A	**Casper**	**150.08**	**274**	PKPbc		**PKiKP**	**08 40 49.9**	**+1.0**
BILL	**Bilibino**	**150.71**	**33**	PKPdf		**PKPdf**	**08 40 43.6**	**+0.7**
BILL						**PKiKP**	**08 40 49.5**	**+0.4**
BILL				PKPab		**pPKPab**	**08 40 56.9**	**+0.1**
W13A	**Hualapai Mount**	**150.83**	**255**	PKPbc		**PKiKP**	**08 40 51.1**	**+0.4**
SRU	**San Rafael Swe**	**150.97**	**265**	PKPbc		**PKiKP**	**08 40 50.9**	**0.0**
KNB	**Kanab**	**151.31**	**259**	PKPbc		**PKiKP**	**08 40 51.7**	**+0.1**
P17A	**Butcher Ranch,**	**151.31**	**265**	PKPbc		**PKiKP**	**08 40 51.6**	**0.0**
TMUT	**Trail Mountain**	**151.52**	**265**	PKPbc		**PKiKP**	**08 40 52.6**	**+0.4**
LCMT	**Little Creek M**	**151.58**	**259**	PKPbc		**PKiKP**	**08 40 52.4**	**+0.3**
MSU	**Marysvale**	**151.74**	**262**	PKPdf		**PKPdf**	**08 40 42.9**	**-2.9**
MSU				PKPbc		**sPKPbc**	**08 40 53.7**	**0.0**
MSU				PKPab		**pPKPab**	**08 41 01.8**	**-0.4**
SZCU	**Shurtz Canyon**	**151.81**	**260**			**PKPdf**	**08 40 44.0**	**-1.9**
SZCU				PKPbc		**PKPbc**	**08 40 51.9**	**-0.4**
SZCU				PKPab		**pPKPab**	**08 41 02.9**	**+0.3**
PD31	**Pinedale Array**	**152.13**	**272**	PKPdf		**PKPdf**	**08 40 46.4**	**+0.1**
PD31				PKPbc		**PKPbc**	**08 40 52.2**	**-0.7**
PD31				PKPab		**PKPab**	**08 41 02.3**	**-0.3**
PDAR	**Pinedale Array**	**152.13**	**272**	PKPbc		**PKPbc**	**08 40 51.7**	**-1.2**
	comp=Z,7.2nm,0.9s,baz=106,slow=4.8,SNR=9.3							
BW06	**Boulder Array**	**152.13**	**272**	PKPbc		**PKPbc**	**08 40 52.7**	**-0.2**
BW06				PKPab		**PKPab**	**08 41 01.8**	**-0.8**
MPU	**Maple Canyon**	**152.18**	**266**	PKPdf		**PKPdf**	**08 40 43.9**	**-2.5**
MPU						**pPKPbc**	**08 40 54.4**	**+0.2**
MPU				PKPab		**sPKPab**	**08 41 04.9**	**+0.6**
WTNK	**Soaring Height**	**152.22**	**256**	PKPdf		**PKPdf**	**08 40 46.0**	**-0.4**
WTNK				PKPbc		**pPKPbc**	**08 40 54.0**	**-0.2**
WTNK				PKPab		**pPKPab**	**08 41 03.7**	**-0.3**
NLU	**North Lily Min**	**152.44**	**265**	PKPbc		**PKiKP**	**08 40 55.2**	**+1.3**
TCUT	**Toone Canyon**	**152.58**	**268**	PKPdf		**PKPdf**	**08 40 47.8**	**+0.8**
TCUT						**PKiKP**	**08 40 54.6**	**+0.4**
TCUT				PKPab		**PKPab**	**08 41 02.4**	**-2.1**
MDPB	**Devils Postpil**	**155.69**	**254**			**PKPdf**	**08 40 49.0**	**-2.5**
MDPB				PKPab		**PKPab**	**08 41 16.9**	**-0.9**
YKA	**Yellowknife Ar**	**156.70**	**319**	PKP		**PKPdf**	**08 40 51.7**	**+0.1**
	baz=64,slow=4.2,SNR=4.1							
YKA				PKPab		**pPKPab**	**08 41 22.6**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=45,slow=2.4,SNR=1.8							
INK	**Inuvik**	**159.06**	**344**	PKPab		**PKPab**	**08 41 29.4**	**-1.7**
	comp=Z,1.4nm,1.0s,baz=36,slow=2.1,SNR=2.9							
GSTR	**Great Sitkin T**	**162.48**	**69**	PKPdf		**PKPdf**	**08 40 59.8**	**+1.2**

IDC 16 08:27:32.8±2.3, 6.07N×124.23E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=277.2km s-min=22.5km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**27.70**	**159**	P	P		08 33 23.6	+0.7
	2.4nm,0.4s,baz=336,slow=9.8,SNR=35							
	2.4nm,0.4s							
ASAR	**Alice Springs**	**31.03**	**163**	P	P		08 33 52.8	+0.4
	0.7nm,0.4s,baz=340,slow=7.3,SNR=19							
	0.7nm,0.4s							
STKA	**Stephens Creek**	**41.21**	**157**	P	P		08 35 18.1	-1.3
	0.7nm,0.4s,baz=344,slow=7.3,SNR=7.7							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**54.23**	**326**	P	P		08 37 00.3	-0.1
	0.5nm,0.3s,baz=123,slow=7.4,SNR=15							
	0.5nm,0.3s							

*AUST **16** 08:33:53.9±0.7, 19.°81S×134.°05E, h10km, Error ellipse: s-maj=9.6km s-min=6.3km az=48.0*
*NOU **16** 08:33:54.2, 19.°92S×134.°03E, h0km, MLv4.4/15, Northern Territory, Australia*
ISC 16 08:33:53.7±0.7, 19.°94S±0.°05×134.°00E±0.°05, h12km, n32, σ0°48/46, 1D, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRAB	**Tennant Creek**	**0.33**	**88**	P	**Pg**		**08 34 01.3**	**+0.9**
WB2	**Warramunga Arr**	**0.33**	**90**	P	**Pg**		**08 34 00.1**	**-0.3**
WB2	baz=0.3			S	**Sg**		**08 34 04.3**	**-0.6**
	baz=0.3							
ASPA	**Alice Springs**	**3.71**	**181**	⇓P	Pn		08 34 56.0	+5.2
ASPA	baz=3.9			S	**Sn**		**08 35 39.4**	**+4.9**
	baz=3.9							
QIS	**Mount Isa**	**5.30**	**98**	P	**Pn**		**08 35 15.3**	**+2.5**
QIS	baz=5.3,SNR=12			S	**Sn**		**08 36 14.6**	**+0.8**
	baz=5.3							
QIS	**Mount Isa**	**5.30**	**98**	P	**Pn**		**08 35 15.6**	**+2.8**
KNRA	**Kununurra**	**6.55**	**310**	P	**Pn**		**08 35 30.1**	**+0.3**
KNRA	baz=6.5,SNR=4.5			S	**Sn**		**08 36 44.0**	**-0.5**
	baz=6.5							
KNRA	**Kununurra**	**6.55**	**310**	P	**Pn**		**08 35 31.9**	**+2.0**
WRKA	**Warakurna**	**7.31**	**225**	P	**Pn**		**08 35 43.1**	**+2.6**
WRKA	baz=7.5			S	**Sn**		**08 37 04.0**	**+0.5**
	baz=7.5							
WRKA	**Warakurna**	**7.31**	**225**	P	**Pn**		**08 35 43.4**	**+3.0**
KDU	**Kakadu**	**7.36**	**348**	P	**Pn**		**08 35 42.1**	**+1.1**
KDU	baz=7.3,SNR=20			S	**Sn**		**08 37 02.8**	**-1.8**
	baz=7.3							
KDU	**Kakadu**	**7.36**	**348**	P	**Pn**		**08 35 42.2**	**+1.1**
MTN	**Manton Dam**	**7.58**	**338**	P	**Pn**		**08 35 44.8**	**+0.7**
MTN	baz=7.5			S	**Sn**		**08 37 07.5**	**-2.3**
	baz=7.5							
OOD	**Oodnadatta**	**7.97**	**169**	P	**Pn**		**08 35 52.3**	**+2.9**
OOD	baz=8.1,SNR=9.2			S	**Sn**		**08 37 19.9**	**+0.5**
	baz=8.1							
OOD	**Oodnadatta**	**7.97**	**169**	P	**Pn**		**08 35 53.5**	**+4.2**
FITZ	**Fitzroy Crossi**	**8.12**	**282**	P	**Pn**		**08 35 51.4**	**0.0**
FITZ	baz=8.1			S	**Sn**		**08 37 19.4**	**-3.7**
	baz=8.1							
FITZ	**Fitzroy Crossi**	**8.12**	**282**	P	**Pn**		**08 35 54.5**	**+3.1**
INKA	**Innaminka**	**9.92**	**143**	P	**Pn**		**08 36 17.9**	**+1.8**
INKA	baz=10.0,SNR=11			S	**Sn**		**08 38 07.1**	**-0.2**
	baz=10.0							
INKA	**Innaminka**	**9.92**	**143**	P	**Pn**		**08 36 18.0**	**+1.9**
MULG	**Mulgathing**	**10.29**	**180**	P	**Pn**		**08 36 23.6**	**+2.3**
MULG	baz=10,SNR=6.6			S	**Sn**		**08 38 13.5**	**-3.1**
	baz=10							
MULG	**Mulgathing**	**10.29**	**180**	P	**Pn**		**08 36 23.9**	**+2.6**
COEN	**Coen**	**10.61**	**57**	P	**Pn**		**08 36 24.9**	**-0.7**
COEN	baz=10,SNR=7.8			S	Sn		08 38 15.2	-9.2
	baz=10							
COEN	**Coen**	**10.61**	**57**	P	**Pn**		**08 36 25.4**	**-0.2**
LCRK	**Leigh Creek**	**11.13**	**161**	P	**Pn**		**08 36 35.1**	**+2.3**
LCRK	baz=11,SNR=6.6			S	**Sn**		**08 38 36.1**	**-1.1**
	baz=11							
LCRK	**Leigh Creek**	**11.13**	**161**	P	**Pn**		**08 36 35.1**	**+2.3**
QLP	**Quilpie**	**11.49**	**127**	P	**Pn**		**08 36 38.1**	**+0.4**
FORT	baz=12			S	**Sn**		**08 38 55.4**	**-4.2**
FORT	**Forrest**	**12.05**	**205**	P	**Pn**		**08 36 47.0**	**+1.8**
FORT	baz=12,SNR=7.9			S	**Sn**		**08 38 55.4**	**-4.2**
	baz=12							
FORT	**Forrest**	**12.05**	**205**	P	**Pn**		**08 36 47.1**	**+1.8**
BBOO	**Buckleboo**	**12.95**	**172**	P	**Pn**		**08 36 58.2**	**+0.6**
BBOO	baz=13,SNR=7.9			S	**Sn**		**08 39 15.0**	**-6.6**
	baz=13							
BBOO	**Buckleboo**	**12.95**	**172**	P	**Pn**		**08 36 58.1**	**+0.6**
STKA	**Stephens Creek**	**13.70**	**152**	P	**Pn**		**08 37 07.3**	**-0.6**
STKA	baz=14,SNR=32			S	**Sn**		**08 39 34.6**	**-5.5**
	baz=14							
STKA	**Stephens Creek**	**13.70**	**152**	P	**Pn**		**08 37 07.9**	**0.0**
HTT	**Hallett**	**14.13**	**163**	P	**Pn**		**08 37 14.6**	**+0.8**

*IDC **16** 08:43:50.8±6.7, 4.°63S×144.°49E, h136km±72km, mb3.1/4, mbtmp3.6/6, Error ellipse: s-maj=55.9km s-min=27.3km az=143.0*
ISC 16 08:43:47.6±1.0, 4.°5S±0.°1×144.°4E±0.°2, h100km, n7, σ0°58/8, mb3.4/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**5.63**	**151**	P	**Pn**		**08 45 09.8**	**+0.8**
	9.9nm,0.4s,baz=337,slow=5.5,SNR=11							
PMG				S	**Sn**		**08 46 12.0**	**-0.3**
	4.2nm,0.4s,baz=315,slow=20,SNR=1.4							
HNR	**Honiara**	**16.21**	**109**	P	**Pn**		**08 47 28.9**	**-0.7**
	598nm,0.5s,baz=270,slow=7.1,SNR=1.8							
WRA	**Warramunga Arr**	**18.25**	**212**	P	**P**		**08 47 52.7**	**-0.6**
	0.6nm,0.8s,baz=35,slow=10,SNR=5.9							
ASAR	**Alice Springs**	**21.61**	**207**	P	**P**		**08 48 29.6**	**-0.1**
	0.5nm,0.7s,baz=29,slow=12,SNR=9.0							
	0.5nm,0.7s							
MKAR	**Makanchi Array**	**74.66**	**321**	P	**P**		**08 55 16.4**	**+0.1**
	0.2nm,0.5s,baz=106,slow=6.7,SNR=2.0							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**84.00**	**324**	P	**P**		**08 56 06.7**	**-0.1**
	0.7nm,0.5s,baz=112,slow=7.0,SNR=3.8							
	0.7nm,0.5s							
ILAR	**Eielson Array**	**85.10**	**24**	P	**P**		**08 56 12.2**	**+0.2**
	0.4nm,0.6s,baz=247,slow=4.6,SNR=6.9							
	0.4nm,0.6s							

*ISK **16** 08:50:00.8, 39.°55N×26.°10E, h5km, ML3.1/22*
*DDA **16** 08:50:01.4±0.0, 39.°54N×26.°16E, h6km, ML2.5*
ISC 16 08:50:01.4±0.9, 39.°55N±0.°03×26.°13E±0.°04, h9km±7km, n37, σ0°67/53, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KOCA	**Canakkale, Ayv**	**0.04**	**167**	P	**Pg**		**08 50 03.1**	**-0.1**
KOCA	comp=E,1μm,0.4s			*i* AML	AML		08 50 04.0	
KOCA	comp=N,2μm,0.3s			*i* AML	AML		08 50 04.0	
KOCA				S	**Sg**		**08 50 04.3**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.09**	**176**	Pg	**Pg**		**08 50 03.4**	**-0.3**
GPNR				Sg	**Sg**		**08 50 05.4**	**0.0**
BOZC	**Bozcaada**	**0.30**	**349**	Pg	**Pg**		**08 50 07.2**	**-0.2**
BOZC				Sg	**Sg**		**08 50 11.8**	**+0.4**
EZN	**Ezine**	**0.32**	**29**	Pg	**Pg**		**08 50 07.8**	**+0.1**
EZN				Sg	**Sg**		**08 50 12.6**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.38**	**59**	P	**Pg**		**08 50 08.7**	**-0.2**
BAYC				S	**Sg**		**08 50 13.7**	**-0.1**
BAYC	comp=E,360nm,0.2s			*i* AML	AML		08 50 14.0	
BAYC	comp=N,228nm,0.2s			*i* AML	AML		08 50 14.0	
AYVA	**Ayvalik**	**0.50**	**118**	P	**Pg**		**08 50 11.0**	**-0.1**
AYVA				S	**Sg**		**08 50 18.0**	**+0.4**
AYVA	comp=N,401nm,0.4s			*i* AML	AML		08 50 25.0	
AYVA	comp=E,221nm,0.7s			*i* AML	AML		08 50 25.0	
GADA	**Gvkgeada**	**0.67**	**345**	Pg	**Pg**		**08 50 13.8**	**-0.5**
BUHA	**Balikesir, Bur**	**0.74**	**93**	P	**Pg**		**08 50 15.2**	**-0.3**
BUHA				S	**Sg**		**08 50 24.7**	**-0.5**
BUHA	comp=N,207nm,0.4s			*i* AML	AML		08 50 26.0	
BUHA	comp=E,172nm,0.3s			*i* AML	AML		08 50 31.0	
GELI	**Tayfur-Gelibol**	**0.89**	**17**	Pg	**Pb**		**08 50 18.6**	**-0.4**
GELI				Sg	**Sb**		**08 50 31.2**	**+0.2**
ZEDA	**zmir-Bergama**	**0.94**	**128**	P	**Pg**		**08 50 19.1**	**-0.3**
ZEDA				S	**Sb**		**08 50 32.4**	**+0.1**
ZEDA	comp=N,127nm,0.3s			*i* AML	AML		08 50 34.0	
ZEDA	comp=E,118nm,0.3s			*i* AML	AML		08 50 35.0	
LPK	**Lapseki**	**0.96**	**30**	Pg	**Pg**		**08 50 19.7**	**-0.1**
LPK				Sg	**Sb**		**08 50 33.8**	**+0.9**
ERIK	**Erikli-Kesan**	**1.16**	**15**	Pn	**Pg**		**08 50 22.9**	**-0.8**
BALY	**Balya**	**1.17**	**80**	P	**Pg**		**08 50 23.1**	**-0.7**
BALY				S	**Sg**		**08 50 38.7**	**-0.3**
BALY	comp=N,349nm,0.5s			*i* AML	AML		08 50 40.0	
BALY	comp=E,140nm,0.6s			*i* AML	AML		08 50 41.0	
KRBG	**Karabiga-Canak**	**1.24**	**46**	Pn	**Pg**		**08 50 24.3**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.24**	**97**	P	**Pb**		**08 50 25.0**	**0.0**
STEP				S	**Sn**		**08 50 41.8**	**0.0**
STEP	comp=N,172nm,0.5s			*i* AML	AML		08 50 46.0	
STEP	comp=E,153nm,0.5s			*i* AML	AML		08 50 46.0	
KNL	**Balıkesir**	**1.30**	**56**	P	**Pn**		**08 50 25.4**	**-0.2**
KNL				S	**Sn**		**08 50 43.5**	**+0.5**
KNL	comp=N,192nm,0.8s			*i* AML	AML		08 50 44.0	
KNL	comp=E,197nm,0.4s			*i* AML	AML		08 50 45.0	
GONE	**Gonen-Balikesi**	**1.30**	**67**	Pn	**Pn**		**08 50 25.6**	**-0.1**
ALN	**Alexandroupoli**	**1.35**	**357**	Pn	**Pn**		**08 50 26.5**	**+0.2**
BALB	**Balikesir**	**1.36**	**85**	Pn	**Pn**		**08 50 26.7**	**+0.3**
EDC	**Edincik**	**1.56**	**59**	Pn	**Pb**		**08 50 29.9**	**-0.4**
UKOP	**Uzunkopru-Edir**	**1.63**	**14**	Pn	**Pn**		**08 50 30.7**	**+0.6**
RDO	**Rodhopi**	**1.66**	**344**	Pn	**Pn**		**08 50 30.9**	**+0.3**
TKR	**Tekirdag**	**1.80**	**36**	Pn	**Pn**		**08 50 33.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.86**	**67**	Pn	**Pn**		**08 50 34.1**	**+0.7**
DST	**Dursunbey**	**1.93**	**87**	Pn	**Pn**		**08 50 35.4**	**+1.1**
KDZ	**Kurdzhali**	**2.17**	**346**	Pn	**Pn**		**08 50 38.2**	**+0.6**
ORLT	**Orhaneli**	**2.19**	**76**	Pn	**Pn**		**08 50 39.1**	**+1.1**
MDNY	**Mudanya-Bursa**	**2.27**	**68**	Pn	**Pn**		**08 50 40.2**	**+1.2**
SLVT	**Silivri**	**2.32**	**43**	Pn	**Pn**		**08 50 40.7**	**+1.1**
PHSR	**Pinarhisar**	**2.34**	**27**	Pn	**Pn**		**08 50 40.9**	**+1.0**
KIRK	**Kırklareli**	**2.35**	**18**	P	**Pn**		**08 50 40.3**	**+0.2**
KIRK				S	**Sn**		**08 51 08.0**	**-1.1**
KIRK	comp=E,8.4nm,0.5s			*i* AML	AML		08 51 14.0	
KIRK	comp=N,10nm,0.6s			*i* AML	AML		08 51 22.0	
VIZE	**Kirklareli, Vi**	**2.41**	**32**	P	**Pn**		**08 50 41.0**	**0.0**
VIZE				S	**Sn**		**08 51 10.1**	**-0.6**
VIZE	comp=E,22nm,0.5s			*i* AML	AML		08 51 17.0	
VIZE	comp=N,21nm,0.3s			*i* AML	AML		08 51 18.0	
CTYL	**Yalikoy Yolu**	**2.54**	**40**	Pn	**Pn**		**08 50 43.9**	**+1.3**
BGKT	**Bogazkoy**	**2.60**	**50**	Pn	**Pn**		**08 50 44.7**	**+1.2**
GDZ	**Gediz**	**2.64**	**99**	P	**Pg**		**08 50 58.8**	**-1.2**
GDZ				S	**Sb**		**08 51 21.4**	**-0.1**
KAVV	**Kandilli-Istan**	**2.71**	**55**	Pn	**Pn**		**08 50 46.3**	**+1.3**
KLYT	**Kilyos**	**2.80**	**52**	Pn	**Pn**		**08 50 47.7**	**+1.4**

*NEIC **16** 09:07:06.4±2.8, 18.°8N±0.°2×68.°3W±0.°2, h86km±39km, ML3.3/28, Md3.4/11(RSPR), Error ellipse: s-maj=26.9km s-min=16.2km az=142.0*
*RSPR **16** 09:07:10.1, 18.°79N×68.°09W, h87km±14km, MD3.4/11*
*OSPL **16** 09:07:13.4±3.2, 19.°21N×67.°32W, h76km±51km, ML3.1*
ISC 16 09:07:10.4±2.4, 18.°9N±0.°1×68.°04W±0.°08, h50km, n49, σ1°05/50, 11C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PCDR	**Punta Cana, DR**	**0.53**	**218**	Pn	**Pn**		**09 07 21.9**	**-0.2**
PCDR				IAML			09 07 32.5	
	comp=N,592nm,0.3s							
AGPR	**Aguadilla, PR**	**1.00**	**118**	⇑*eP*		**Pn**	**09 07 26.1**	**-2.0**
AGPR	**Aguadilla, PR**	**1.00**	**118**	*e

comp=Z,73nm,0.6s
CUPR Culebra, Puert 2.69 103 Pn **Pn** 09 07 50.8 **-0.4**
SDDR Presa de Saban 3.07 271 *i* P Pn 09 08 07.4 +11
SDDR *e*S Sn 09 08 48.7 +17
SDDR IAML 09 08 54.7
comp=Z,26nm,0.9s
LOPE2 Hotel El Peder 3.63 256 *e*S Sn 09 09 00.3 +15

IDC **16** *09:19:48.9±3.0, 9.°72S×155.°12E, h0km, mb3.8/6, mbtmp3.8/6, MS3.3/9, Error ellipse: s-maj=94.2km s-min=27.2km az=107.0*
ISC 16 09:19:54.0±3.0, 9.°8S±0.°3×155.°2E±0.°6, h35km, n12, σ0s94/6, mb3.8/6, MS3.3/6, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.91**	**272**	LR	LR	09 24 36.1	
	comp=Z,123nm,18.7s,baz=23,slow=37						
CTA	**Charters Tower**	**13.37**	**219**	LR	LR	09 27 19.4	
	comp=Z,111nm,21.7s,baz=80,slow=34						
DZM	**Mont Dzumac**	**16.32**	**140**	LR	LR	09 29 27.4	
	comp=Z,129nm,18.1s,baz=29,slow=35						
WRA	**Warramunga Arr**	**22.50**	**241**	P	**P**	**09 24 50.8**	**+0.1**
	1.3nm,0.9s,baz=65,slow=10,SNR=5.3						
WRA				LR	LR	09 33 11.1	
	comp=Z,57nm,19.5s,baz=84,slow=36 1.3nm,0.9s						
ASAR	**Alice Springs**	**24.55**	**233**	P	**P**	**09 25 09.7**	**-1.1**
	1.4nm,0.9s,baz=64,slow=9.6,SNR=9.3						
ASAR				LR	LR	09 34 05.4	
	comp=Z,82nm,18.1s,baz=68,slow=35 1.4nm,0.9s						
STKA	**Stephens Creek**	**25.33**	**208**	P	**P**	**09 25 18.1**	**+0.6**
	2.7nm,0.6s,baz=38,slow=13,SNR=8.5						
STKA				LR	LR	09 35 08.6	
	comp=Z,103nm,18.7s,baz=26,slow=36 2.7nm,0.6s						
GUMO	**Guam**	**25.38**	**336**	LR	LR	09 36 32.9	
	comp=Z,25nm,18.0s,baz=148,slow=40						
SONM	**Songino Array**	**71.77**	**328**	P	**P**	**09 31 13.5**	**+0.5**
	0.7nm,0.7s,baz=134,slow=6.2,SNR=2.9 0.7nm,0.7s						
MKAR	**Makanchi Array**	**85.61**	**319**	P	**P**	**09 32 29.2**	**+0.3**
	0.5nm,0.7s,baz=90,slow=5.8,SNR=4.2 0.5nm,0.7s						
ILAR	**Eielson Array**	**85.89**	**21**	LR	LR	10 07 06.7	
	comp=Z,26nm,20.8s,baz=172,slow=33						
ZALV	**Zalesovo Beam**	**86.58**	**326**	P	**P**	**09 32 32.6**	**-0.9**
	0.5nm,0.5s,baz=111,slow=6.8,SNR=1.5 0.5nm,0.5s						
PFO	**Pinyon Flats O**	**94.00**	**57**	LR	LR	10 09 12.8	
	comp=Z,42nm,20.2s,baz=232,slow=32						

SNET **16** *09:47:38.7±1.2, 12.°92N×88.°98W, h56km, ML3.5*
INET **16** *09:47:40.0±1.0, 12.°96N×88.°96W, h27km, MW3.4*
ISC 16 09:47:36.6±1.8, 12.°86N±0.°07×88.°99W±0.°05, h11km±14km, n27, σ0s59/39, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.61**	**41**	*e*P	**Pn**	**09 47 51.4**	**+0.1**
ALJI				*e*S	**Sn**	**09 48 00.6**	**-0.6**
TECO	**Alcaldia de Te**	**0.70**	**17**	*e*P	**Pn**	**09 47 52.0**	**-0.5**
TECO				*e*S	**Sb**	**09 48 01.6**	**+1.1**
SJTE	**Alcalda de S**	**0.75**	**359**	*e*P	**Pn**	**09 47 52.8**	**-0.4**
LFRS	**El Faro**	**0.76**	**355**	*e*P	**Pn**	**09 47 53.3**	**-0.1**
COEB	**Comit de Eme**	**0.77**	**35**	*i* P	**Pn**	**09 47 53.4**	**-0.2**
COEB				*e*S	**Sb**	**09 48 03.7**	**+1.0**
PAVA	**Las Pavas**	**0.85**	**3**	*i* P	**Pn**	**09 47 54.5**	**-0.1**
PAVA				*e*S	**Sb**	**09 48 05.7**	**+0.9**
SNET	**Serv Nac Est T**	**0.85**	**344**	*e*P	**Pn**	**09 47 54.4**	**-0.3**
SNET	**Serv Nac Est T**	**0.85**	**344**	*e*P	**Pn**	**09 47 54.4**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.87**	**17**	*e*P	**Pn**	**09 47 54.8**	**-0.1**
SCLA				*e*S	**Sb**	**09 48 06.7**	**+1.1**
UEES	**Universidad Ev**	**0.88**	**344**	*e*P	**Pn**	**09 47 54.9**	**-0.2**
PACA	**Pacayal**	**0.89**	**47**	*e*P	**Pn**	**09 47 55.3**	**+0.1**
PACA				*e*S	**Sb**	**09 48 06.7**	**+0.8**
PACA	**Pacayal**	**0.89**	**47**	*e*P	**Pn**	**09 47 55.1**	**-0.1**
VSM	**San Miguel**	**0.89**	**51**	*e*P	**Pn**	**09 47 55.2**	**-0.2**
JAYA	**Jayaque - finc**	**0.91**	**330**	*e*P	**Pn**	**09 47 55.3**	**-0.1**
JAYA				*e*S	**Sb**	**09 48 07.0**	**+0.3**
BOQS	**Boqueron**	**0.91**	**342**	*e*P	**Pn**	**09 47 55.5**	**-0.1**
P5NO	**Presa 5 de nov**	**1.14**	**11**	*e*P	**Pb**	**09 47 58.1**	**-0.2**
P5NO				*e*S	**Sb**	**09 48 12.3**	**-0.9**
CEVE	**Cerro Verde**	**1.14**	**327**	*e*P	**Pg**	**09 47 59.5**	**+0.9**
CEVE				*e*S	**Sn**	**09 48 14.9**	**+0.3**
LCND	**La Caada**	**1.16**	**67**	*e*P	**Pn**	**09 47 58.7**	**-0.1**
LCND				*e*S	**Sb**	**09 48 13.4**	**-0.3**
CNCH	**Conchagua**	**1.20**	**70**	*e*P	**Pn**	**09 47 59.1**	**-0.3**
CNCH				*e*S	**Sb**	**09 48 15.2**	**+0.2**
NUBE	**Las Nubes**	**1.29**	**323**	*e*P	**Pg**	**09 48 01.2**	**-0.2**
NUBE				*e*S	**Sb**	**09 48 16.9**	**-0.8**
SLOZ	**Alcaldia de Sa**	**1.39**	**326**	*e*P	**Pn**	**09 48 02.0**	**0.0**
MTO3	**Montecristo**	**1.57**	**347**	*e*P	**Pn**	**09 48 04.5**	**-0.2**
MTO3	**Montecristo**	**1.57**	**347**	*e*P	**Pn**	**09 48 04.5**	**-0.2**
CRIN	**San Cristobal**	**1.90**	**95**	*e*P	**Pn**	**09 48 09.6**	**+0.6**
CNGN	**Cerro Negro**	**2.26**	**99**	*e*P	**Pg**	**09 48 19.3**	**-0.7**
MOMN	**Momotombo**	**2.43**	**100**	*e*P	**Pn**	**09 48 18.0**	**+1.6**
BOAB	**BOACO BROADBAN**	**2.27**	**97**	*e*P	**Pn**	**09 48 27.3**	**-0.5**

IDC 16 09:48:26.9±999.0, 50.°51N×49.°14E, h0km, Error ellipse: s-maj=1203.0km s-min=122.0km az=86.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.69**	**88**	I	I	10 23 20.0	
	0.4nm,0.7s,baz=274,slow=332,SNR=2.4						
I46RU	**ZALESOVO INFRA**	**21.98**	**67**	I	I	12 03 00.0	
	baz=275,slow=329,SNR=1.3						
I34MN	**SONGINO INFRAS**	**36.76**	**71**	I	I	13 33 50.0	
	baz=298,slow=341,SNR=1.7						

IDC 16 10:01:06.5±3.4, 54.°23N×86.°85E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=30.0km s-min=17.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**258**	I	I	10 08 58.0	
	baz=77,slow=348,SNR=7.8						
ZALV	**Zalesovo Beam**	**1.23**	**258**	Pg	Pg	10 01 29.3	-0.8
	1.5nm,0.3s,baz=72,slow=16,SNR=15						
ZALV				Lg	Lg	10 01 46.4	
	1.4nm,0.3s,baz=78,slow=28,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.24**	**238**	Pn	Pn	10 02 40.9	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=5.1 0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.99**	**203**	Pn	Pn	10 03 04.6	+0.8
	0.1nm,0.3s,baz=21,slow=12,SNR=2.2 0.1nm,0.2s						

IDC 16 10:01:36.3±3.3, 54.°20N×86.°76E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=28.4km s-min=16.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**259**	I	I	10 09 15.0	
	baz=77,slow=348						
ZALV	**Zalesovo Beam**	**1.17**	**259**	Pg	Pg	10 01 58.1	-0.6
	1.4nm,0.3s,baz=74,slow=16,SNR=7.9						
ZALV				Lg	Lg	10 02 13.9	
	0.6nm,0.3s,baz=84,slow=26,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.17**	**238**	Pn	Pn	10 03 10.0	+1.3
	0.1nm,0.3s,baz=55,slow=14,SNR=8.7 1.3nm,0.5s						
MKAR	**Makanchi Array**	**7.94**	**203**	Pn	Pn	10 03 33.4	+0.5
	0.1nm,0.3s,baz=26,slow=13,SNR=6.0						
MKAR				Sn	Sn	10 05 03.0	-0.4
	0.1nm,0.3s,baz=26,slow=24,SNR=3.1 0.3nm,0.5s						

WEL 16 10:02:19.4±0.3, 42.°5±2.°×17.°3E±.°, h10km±4km, M3.1/12, ML3.2/12, MLv3.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=105.1, confirmed, South Island

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

KHZ	**Kahutara**	**0.13**	**89**	P	Pb	10 02 23.5	-0.4
KHZ				S	Sg	10 02 25.9	+1.5
GVZ	**Greta Valley S**	**0.60**	**204**	P	Pb	10 02 32.9	+0.8
GVZ				S	Sn	10 02 42.4	-1.4
THZ	**Tophouse**	**0.74**	**332**	P	Pg	10 02 33.6	-0.1
THZ				S	Sg	10 02 42.8	-0.6
BSWZ	**Blackbirch Sta**	**0.80**	**28**	P	Pb	10 02 35.3	0.0
LTZ	**Lake Taylor**	**0.89**	**245**	P	Pg	10 02 36.2	-0.4
AMCZ	**Amberley**	**0.92**	**215**	P	Pn	10 02 38.1	-0.4
AMCZ				S	Sn	10 02 51.7	0.0
TUWZ	**Tuamarina**	**1.08**	**24**	P	Pb	10 02 40.2	+0.1
MRNZ	**Matariki Terra**	**1.11**	**336**	P	Pb	10 02 40.5	-0.3
MRNZ				S	Sn	10 02 56.0	-0.4
NNZ	**Nelson**	**1.20**	**0**	P	Pn	10 02 41.8	-0.3
OKCZ	**Okains Bay**	**1.32**	**190**	P	Pn	10 02 43.1	-0.9
OKCZ				S	Sn	10 03 01.6	-0.1
OXZ	**Oxford**	**1.33**	**227**	P	Pn	10 02 42.9	-1.2
DSZ	**Denniston Nort**	**1.34**	**299**	P	Pb	10 02 44.5	-0.2
DSZ				S	Sb	10 03 01.9	-0.1
TCW	**Tory Channel**	**1.38**	**30**	P	Pn	10 02 44.4	-0.4
TCW				S	Sb	10 03 02.7	-0.3
MQZ	**McQueen's Vall**	**1.39**	**202**	P	Pn	10 02 43.1	-1.8
MQZ				S	Sn	10 03 00.6	-2.6
TKNZ	**Takaka Hill**	**1.42**	**347**	P	Pn	10 02 45.5	+0.3
INZ	**Inchbonnie**	**1.45**	**257**	P	Pn	10 02 45.8	0.0
INZ				S	Sb	10 03 05.4	+0.3
AKCZ	**Akaroa Harbour**	**1.49**	**193**	P	Pn	10 02 45.0	-1.2
AKCZ				S	Sn	10 03 04.5	-1.3
RACZ	**Rakaia**	**1.59**	**214**	P	Pn	10 02 46.2	-1.3
RACZ				S	Sn	10 03 05.6	-2.5
PLWZ	**Palliser**	**1.64**	**60**	P	Pn	10 02 47.4	-0.9
DUWZ	**D'Urville Isla**	**1.67**	**15**	P	Pn	10 02 49.3	+0.7
MHCZ	**Mount Hutt**	**1.73**	**229**	P	Pn	10 02 48.3	-1.3
CAW	**Cannon Point**	**1.82**	**45**	P	Pn	10 02 50.1	-0.7
WACZ	**Wakanui South**	**1.89**	**216**	P	Pn	10 02 50.3	-1.4
MTW	**Mount Morrison**	**2.03**	**52**	P	Pn	10 02 52.3	-1.4
WVZ	**Waitaha Valley**	**2.05**	**250**	P	Pn	10 02 53.9	0.0
OGWZ	**Otaki Gorge**	**2.09**	**41**	P	Pn	10 02 53.9	-0.7
RPZ	**Rata Peaks**	**2.13**	**232**	P	Pn	10 02 54.1	-1.0
ARCZ	**Arundel**	**2.21**	**226**	P	Pn	10 02 54.7	-1.5
GCSZ	**Gaunt Creek Bo**	**2.41**	**247**	P	Pn	10 02 59.2	+0.3
MRZ	**Mangatainoka R**	**2.42**	**44**	P	Pn	10 02 57.8	-1.2
TMZ	**Timaru**	**2.61**	**220**	P	Pn	10 03 00.1	-1.5
LBZ	**Lake Benmore**	**3.04**	**229**	P	Pn	10 03 06.6	-1.0
ODZ	**Otahua Downs**	**3.29**	**216**	P	Pn	10 03 09.1	-1.8
WNVZ	**Wahianoa**	**3.52**	**29**	P	Pn	10 03 15.7	+1.5
TLZ	**Tolley Road**	**4.41**	**23**	P	Pn	10 03 27.9	+1.5
MKAZ	**Moumakai**	**5.48**	**15**	P	Pn	10 03 41.9	+0.8
WIZ	**White Island**	**5.70**	**32**	P	Pn	10 03 44.5	+0.4
WIAZ	**Waiheke Island**	**5.78**	**14**	P	Pn	10 03 46.1	+1.0

NNC **16** *10:02:52.7±0.9, 51.°81N×75.°48E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=32.1km s-min=5.6km az=27.0, Suspected Mining explosion.*
IDC **16** *10:02:57.3±1.3, 51.°67N×75.°70E, h0km, mbtmp2.5/3, ML1.6/3, Error ellipse: s-maj=29.5km s-min=10.1km az=32.0*
ISC 16 10:02:53.2±1.0, 51.°6N±0.°1×75.°15E±0.°08, h0km, n10, σ1s58/10, 2C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.33**	**112**	Pg	**Pb**	**10 03 35.0**	**-1.0**
	0.1nm,0.3s,baz=305,slow=19,SNR=28						
KURBB				Lg	Lg	10 04 03.4	
	0.2nm,0.3s,baz=306,slow=30,SNR=13						
KURBB	**Kurchatov Arra**	**2.33**	**112**	⇓Pg	**Pn**	**10 03 34.0**	**+1.3**
	4.9nm,0.6s						
KURBB				⇑Lg	Lg	10 04 05.0	
	34nm,0.8s						
KURK	**Kurchatov**	**2.34**	**110**	⇓Pg	**Pn**	**10 03 33.9**	**+0.9**
	3.5nm,0.9s						
KURK				⇓Lg	Lg	10 04 04.0	
	9.0nm,0.7s						
BVA0	**Borovoye Array**	**3.27**	**299**	Pg	**Pg**	**10 03 54.2**	**-1.7**
	0.6nm,0.6s,baz=113,slow=17,SNR=3.6						
BVA0				Lg	Lg	10 04 38.3	
	3.5nm,0.7s,baz=108,slow=25,SNR=7.1						
BVAR	**Borovoye Array**	**3.27**	**299**	Pn	**Pb**	**10 03 53.1**	**+1.0**
	baz=119,slow=15,SNR=4.9						
BVAR				Sn	**Sb**	**10 04 32.3**	**-0.2**
	baz=106,slow=26,SNR=5.3 0.6nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.34**	**64**	I	I	10 41 10.0	
	baz=249,slow=311,SNR=1.8						
ZALV	**Zalesovo Beam**	**6.34**	**64**	Pn	**Pn**	**10 04 28.6**	**+0.7**
	0.1nm,0.3s,baz=249,slow=16,SNR=1.8 0.6nm,0.6s						
MK31	**Makanchi Array**	**6.68**	**133**	⇑Sn	**Sn**	**10 05 52.2**	**+2.8**
	0.8nm,0.6s,baz=21,slow=35,SNR=3.5						
MK31				Lg	Lg	10 06 23.0	
	3.5nm,0.8s,baz=315,slow=24,SNR=6.5						
MKAR	**Makanchi Array**	**6.68**	**133**	Pn	**Pn**	**10 04 32.9**	**+0.3**
	baz=324,slow=12,SNR=3.7						
MKAR				Sn	**Sn**	**10 05 48.0**	**-1.4**
	0.1nm,0.3s,baz=323,slow=26,SNR=2.7						
MKAR				Lg	Lg	10 06 23.1	
	0.1nm,0.3s,baz=324,slow=32,SNR=6.3 0.3nm,0.7s						
AAK	**Ala-Archa**	**8.93**	**183**	Lg	Lg	10 07 44.2	
	0.1nm,0.3s,baz=216,slow=19,SNR=2.4						

IDC 16 10:19:18.7±423.0, 50.°45N×46.°82E, h0km, Error ellipse: s-maj=154.2km s-min=134.1km az=90.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.17**	**86**	I	I	11 02 50.0	
	0.4nm,0.7s,baz=275,slow=332,SNR=3.5						
I43RU	**DUBNA INFRASON**	**8.49**	**321**	I	I	11 11 50.0	
	baz=133,slow=332,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**23.36**	**67**	I	I	12 43 00.0	
	baz=275,slow=312,SNR=0.8						
I34MN	**SONGINO INFRAS**	**38.18**	**70**	I	I	14 13 20.0	
	baz=298,slow=341,SNR=2.0						

JMA **16** *10:53:18.5±0.2, 37.°3N±0.°4×141.°6E±0.°9, h31km±1km, MV3.5/39, E OFF FUKUSHIMA PREF*
NIED **16** *10:53:18.5, 37.°33N×141.°58E, h31km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^13Nm; Mrr=6.69; Mθθ2.25; Mφφ4.43; Mrθ3.17; Mθφ6.97; Mφr2.26; Fault plane solution: Mo9.45000×10^13 NP1: φs=232.00000°, δ58.00000°, λ=-75.00000°. NP2:φs=25.00000°, δ35.00000°, λ=-112.00000°.*
IDC **16** *10:53:19.3±1.8, 37.°68N×141.°31E, h0km, mb3.4/5, mbtmp3.4/6, ML2.1/1, MS2.8/2 Error ellipse: s-maj=40.2km s-min=25.6km az=68.0*
ISC 16 10:53:18.1±2.0, 37.°32N±0.°06×141.°6E±0.°1, h20km±9km, n24, σ1s02/25, mb3.5/5, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**275**	⇓*i*P	**Pb**	**10 53 29.7**	**+0.2**
JFK				⇓S	**Sb**	**10 53 37.4**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.66**	**251**	⇓*i*P	**Pb**	**10 53 31.1**	**0.0**
ONAJ				⇓S	**Sb**	**10 53 40.3**	**+0.4**
JMST	**Minamisoumatoc**	**0.68**	**306**	⇓*i*P	**Pb**	**10 53 31.3**	**0.0**
JMST				⇓S	**Sb**	**10 53 40.7**	**+0.4**
JMM	**Marumori**	**0.83**	**311**	⇓*i*P	**Pn**	**10 53 33.6**	**-1.0**
JMM				⇓S	**Sn**	**10 53 45.0**	**-1.3**
JFFD	**Fukushimafurud**	**0.85**	**254**	P	**Pn**	**10 53 34.0**	**-1.0**
JFFD				*e*S	**Sn**	**10 53 45.2**	**-1.6**
JHO	**Hitachi**	**1.08**	**229**	P	**Pn**	**10 53 37.2**	**-0.9**
JHO				S	**Sn**	**10 53 51.5**	**-0.9**
JIO	**Ouri**	**1.14**	**351**	⇓*i*P	**Pn**	**10 53 38.2**	**-0.8**
JIO				⇓S	**Sn**	**10 53 52.6**	**-1.5**
JOU	**Okura**	**1.27**	**325**	⇓*i*P	**Pb**	**10 53 41.2**	**-0.1**
JOU				⇓S	**Sb**	**10 53 57.9**	**+0.6**
JFY	**Yanaizu**	**1.50**	**274**	P	**Pb**	**10 53 44.7**	**-0.5**
JFY				S	**Sb**	**10 54 04.7**	**+0.8**
JYS	**Shirataka**	**1.50**	**307**	P	**Pb**	**10 53 45.2**	**-0.1**
JYS				S	**Sb**	**10 54 05.0**	**+1.1**
MJAR	**Matsushiro Arr**	**2.81**	**255**	Pn	**Pn**	**10 54 03.6**	**+1.6**
	0.3nm,0.3s,baz=64,slow=13,SNR=13						
MJAR				Sn	**Sb**	**10 54 40.3**	**-1.4**
	0.3nm,0.3s,baz=82,slow=23,SNR=5.2 2.6nm,0.5s						

KLR	**Kul'dur**	**13.87**	**332**	LR	LR	11 00 58.0	
	comp=Z,16nm,20.3s,baz=32,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	11 28 35.4	
	baz=314,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**28.19**	**122**	T	T	11 28 34.9	
	baz=314,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	11 28 37.5	
	baz=314,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	11 29 30.1	
	baz=316,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	11 29 32.0	
	baz=316,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	11 29 31.2	
	baz=316,slow=76,SNR=20						
ZALV	**Zalesovo Beam**	**41.82**	**312**	P	**P**	**11 01 07.6**	**+1.4**
	0.4nm,0.3s,baz=77,slow=6.5,SNR=1.5 0.4nm,0.3s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**11 01 25.5**	**+0.8**
	0.4nm,0.7s,baz=81,slow=13,SNR=2.8 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**11 01 40.3**	**+1.0**
	0.4nm,0.4s,baz=82,slow=8.0,SNR=4.1 0.4nm,0.4s						
WRA	**Warramunga Arr**	**57.37**	**188**	P	P	11 03 11.5	+6.5
	0.3nm,0.5s,baz=2.8,slow=7.4,SNR=5.4 0.3nm,0.5s						
ASAR	**Alice Springs**	**61.09**	**188**	P	P	11 03 37.4	+6.6
	0.2nm,0.7s,baz=2.7,slow=7.8,SNR=2.4 0.2nm,0.7s						
NEW	**Newport**	**69.83**	**44**	LR	LR	11 37 43.2	
	comp=Z,19nm,18.8s,baz=256,slow=38						

KRNET **16** *10:54:52.7±0.1, 40.°86N×71.°22E, h17km, mb3.1*
ISU **16** *10:54:53.5, 40.°86N×71.°11E, h18km*
SOME **16** *10:54:54.5, 41.°00N×71.°23E, h0km*
ISC 16 10:54:51.6±1.3, 40.°83N±0.°03×71.°28E±0.°03, h0km±11km, n21, σ0s83/38, 7C-12D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMI	**Chimion**	**0.59**	**162**	P	**Pn**	**10 55 06.9**	**-0.4**
CHMI				S	**Sn**	**10 55 16.6**	**-1.0**
FRG	**Fergana**	**0.59**	**140**	P	**Pn**	**10 55 07.3**	**0.0**
FRG				S	**Sn**	**10 55 17.5**	**-0.2**
TRKS	**Terek-Say**	**0.71**	**351**	⇓*i*P	**Pg**	**10 55 04.4**	**-0.9**
	baz=57						
TRKS				⇓*i*S	**Sg**	**10 55 12.8**	**-1.7**
	baz=57						
BTK	**Batken**	**0.85**	**205**	⇓*i*P	**Pb**	**10 55 09.0**	**-0.3**
	baz=1.0						
BTK				⇓*i*S	**Sb**	**10 55 20.8**	**-0.4**
	baz=1.0						
BTK	**Batken**	**0.85**	**205**	P	**Pb**	**10 55 09.5**	**+0.2**
BTK				S	**Sb**	**10 55 21.4**	**+0.2**
ARK	**Arkit**	**1.10**	**28**	⇓*i*P	**Pg**	**10 55 13.2**	**+0.5**
	baz=31						
ARK				⇓*i*S	**Sb**	**10 55 28.1**	**-0.3**
	baz=31						
OHH	**Osh**	**1.18**	**104**	⇑*i*P	**Pb**	**10 55 15.5**	**+0.5**
	baz=5.0						
OHH				⇑*i*S	**Sn**	**10 55 32.2**	**-0.1**
	baz=5.0						
CHMG	**Chimgan**	**1.20**	**307**	P	**Pg**	**10 55 14.3**	**-0.4**
CHMG				S	**Sg**	**10 55 29.6**	**-0.6**
CHRV	**Charvak**	**1.29**	**309**	P	**Pn**	**10 55 17.0**	**0.0**
CHRV				S	**Sg**	**10 55 33.2**	**+0.1**
DRK	**Karamyk**	**1.40**	**163**	⇑*i*P	**Pb**	**10 55 19.4**	**+0.5**
	baz=62						
DRK				⇑*i*S	**Sn**	**10 55 38.5**	**+0.4**
	baz=62						
TGS	**TashGRES**	**1.46**	**295**	P	Pg	10 55 29.9	+10
TAS	**Tashkent**	**1.58**	**289**	⇓*i*P	**Pn**	**10 55 20.6**	**-0.3**
	baz=89						
TAS				⇓*i*S	**Sn**	**10 55 41.5**	**-0.6**
	baz=89						
IUG	**Iuzhnay**	**1.62**	**325**	*e*P	**Pg**	**10 55 23.0**	**+0.4**
	192nm,0.3s						
IUG				*e*S	**Sn**	**10 55 42.8**	**-0.4**
	104nm,0.5s						
CHM	**Chimkent**	**1.95**	**320**	*e*P	**Pg**	**10 55 30.0**	**+1.0**
	167nm,0.2s						
CHM				*e*S	**Sg**	**10 55 55.2**	**+0.9**
	271nm,0.2s						
GAR	**Garm**	**1.97**	**202**	⇓*i*P	**Pb**	**10 55 28.3**	**-0.2**
	baz=1.0						
GAR				⇓*i*S	**Sb**	**10 55 54.1**	**+0.5**
	baz=1.0						
DZA	**Taraz**	**2.06**	**1**	*e*P	**Pg**	**10 55 32.7**	**+1.5**
	63nm,0.1s						
DZA				*e*S	**Sg**	**10 55 59.5**	**+1.6**
	78nm,0.3s						
AML	**Almayashu**	**2.23**	**54**	⇓*i*P	**Pb**	**10 55 32.2**	**-0.8**
	baz=55						
AML				⇓*i*S	**Sb**	**10 56 01.0**	**-0.3**
	baz=55						
KK31	**Karatay Array**	**2.34**	**346**	⇑P	**Pb**	**10 55 33.9**	**-0.9**
	7.6nm,0.5s,baz=161,slow=15,SNR=16						
KK31				S	**Sb**	**10 56 05.3**	**+1.1**
	8.1nm,0.3s,baz=160,slow=27,SNR=15						
KKAR	**Karatay Array**	**2.34**	**346**	⇑*i*P	**Pn**	**10 55 32.7**	**+1.3**
	baz=47						
KKAR				⇑*i*S	**Sn**	**10 56 01.8**	**+0.9**
	baz=47						
MRKS	**Merke**	**2.40**	**37**	*e*Pg	**Pg**	**10 55 38.4**	**+0.7**
	11nm,0.5s						
MRKS				*e*Lg	Lg	10 56 09.8	
	20nm,0.5s						
BTLS	**Baital**	**4.67**	**25**	*e*Pg	**Pg**	**10 56 19.2**	**-2.0**
	0.4nm,0.6s						
BTLS				*e*Lg	Lg	10 57 19.3	
	3.2nm,0.8s						

ISK **16** *10:55:31.4, 38.°49N×29.°23E, h18km, ML2.5/8*
DDA **16** *10:55:32.3±0.0, 38.°48N×29.°12E, h7km±3km, ML1.1*
**ISC 16 10:55:31.6±1.1, 38.°48N±0.°04×29.°18E±0.°04, h8km, n11, σ0s

5.5nm,0.6s
BVA0 Borovoye Array 3.37 295 Pg **Pb** **10 57 26.4 -1.1**
3.5nm,0.9s,baz=272,slow=39,SNR=6.6
BVA0 ⇑Lg Lg 10 58 11.0
5.1nm,0.7s,baz=113,slow=26,SNR=6.4
BVAR Borovoye Array 3.37 295 Pn **Pn** **10 57 21.6 +0.8**
baz=111,slow=13,SNR=2.6
BVAR Pg **Pb** **10 57 27.3 -0.2**
0.1nm,0.3s,baz=110,slow=17,SNR=8.9
BVAR Lg Lg 10 58 13.4
0.1nm,0.3s,baz=115,slow=27,SNR=7.0
0.4nm,0.4s
I46RU ZALESOVO INFRA 6.12 65 I I 11 30 50.0
baz=252,slow=316,SNR=0.8
ZALV Zalesovo Beam 6.12 65 Pn **Pn** **10 57 59.0 +0.5**
0.6nm,0.4s,baz=254,slow=15,SNR=1.1
MK31 Makanchi Array 6.65 135 ⇑Sn **Sn** **10 59 22.9 +0.6**
0.3nm,0.6s,baz=132,slow=60,SNR=4.2
MK31 ⇑Lg Lg 10 59 55.3
1.4nm,0.7s,baz=318,slow=26,SNR=6.7
MKAR Makanchi Array 6.65 135 Pn **Pn** **10 58 06.0 +0.1**
baz=322,slow=9.1,SNR=1.9
MKAR Sn **Sn** **10 59 22.7 +0.4**
0.1nm,0.3s,baz=318,slow=21,SNR=3.9
MKAR Lg Lg 10 59 53.9
0.1nm,0.3s,baz=316,slow=26,SNR=9.2
0.1nm,0.5s

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*NOU **16** 11:06:28.6, 10.62S×162.00E, h4km, mb4.9/11, Solomon Islands*
*IDC **16** 11:06:35.9±3.4, 11.17S×160.64E, h0km, mb3.6/4, mbtmp3.6/4, MS3.4/3, Error ellipse: s-maj=79.8km s-min=25.6km az=98.0*
ISC 16 11:06:31.2±2.0, 10.7S±0.2×161.9E±0.2, h35km, n16, σ1s65/10, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.28**	**303**	Pn	Pn	11 07 07.8	+1.4
	776nm,0.3s,baz=196,slow=9.5,SNR=15						
HNR				LR	LR	11 07 20.6	
	comp=Z,812nm,20.6s,baz=207,slow=24						
HNR				Sn	**Sn**	**11 07 35.0**	**+1.7**
	904nm,0.3s,baz=128,slow=21,SNR=4.2						
HNR	**Honiara**	**2.28**	**303**	P	Pn	11 07 07.9	+1.5
DVP	**Devils Point**	**9.29**	**140**	P	**Pn**	**11 08 43.2**	**+0.5**
RTV	**Rentapao**	**9.49**	**139**	P	**Pn**	**11 08 45.8**	**+0.3**
KOUNC	**Koumac, New Ca**	**10.08**	**167**	P	**Pn**	**11 08 54.8**	**+1.3**
LIFNC	**LIFOU**	**11.28**	**154**	P	**Pn**	**11 09 09.9**	**-0.1**
DZM	**Mont Dzumac**	**12.13**	**159**	P	**Pn**	**11 09 23.1**	**+1.3**
MARNC	**Mare, Loyalty**	**12.25**	**152**	P	**Pn**	**11 09 24.5**	**+1.3**
MSVF	**Nonsavu**	**17.15**	**116**	LR	LR	11 17 39.8	
	comp=Z,131nm,19.2s,baz=305,slow=37						
CTA	**Charters Tower**	**17.73**	**236**	Pn	**P**	**11 10 37.1**	**+1.0**
	0.2nm,0.3s,baz=79,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**28.08**	**248**	P	**P**	**11 12 17.8**	**-2.0**
	0.3nm,0.6s,baz=78,slow=8.8,SNR=2.2						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**28.23**	**219**	LR	LR	11 23 32.9	
	comp=Z,82nm,18.0s,baz=28,slow=38						
ASAR	**Alice Springs**	**29.62**	**241**	P	**P**	**11 12 31.1**	**-2.4**
	0.2nm,0.5s,baz=63,slow=10,SNR=5.7						
	0.2nm,0.5s						
SIJI	**Sorong**	**31.95**	**286**	LR	LR	11 25 18.7	
	comp=Z,36nm,18.3s,baz=47,slow=36						
SONM	**Songino Array**	**76.17**	**325**	P	P	11 18 25.0	+9.0
	0.6nm,0.7s,baz=123,slow=5.3,SNR=4.3						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**90.68**	**317**	P	P	11 19 38.4	+8.0
	0.6nm,0.7s,baz=114,slow=5.5,SNR=4.0						
	0.6nm,0.7s						

IDC 16 11:19:49.8±64.0, 13.31S×166.49E, h0km, mb3.8/3, mbtmp3.8/3, MS3.1/2, Error ellipse: s-maj=1084.0km s-min=114.2km az=63.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.71**	**180**	LR	LR	11 24 53.3	
	comp=Z,108nm,18.5s,baz=208,slow=35						
MSVF	**Nonsavu**	**11.98**	**113**	LR	LR	11 26 27.1	
	comp=Z,98nm,19.1s,baz=342,slow=33						
STKA	**Stephens Creek**	**29.36**	**227**	P	P	11 25 54.9	+0.3
	1.0nm,0.6s,baz=50,slow=8.4,SNR=4.9						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**31.46**	**254**	P	P	11 26 13.3	0.0
	0.8nm,0.8s,baz=85,slow=8.6,SNR=6.1						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**32.50**	**247**	P	P	11 26 22.2	-0.2
	0.7nm,0.6s,baz=75,slow=9.5,SNR=18						
	0.7nm,0.6s						

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*NEIC **16** 11:22:53.9±0.9, 23.8S±0.2×179.7W±0.2, h548km±20km, mb4.3/19, Error ellipse: s-maj=34.7km s-min=20.2km az=223.0*
*IDC **16** 11:22:53.7±1.8, 23.91S×179.85W, h532km±18km, mb3.5/8, mbtmp4.4/10, Error ellipse: s-maj=31.7km s-min=16.4km az=145.0*
ISC 16 11:22:53.6±0.7, 23.78S±0.08×179.64W±0.09, h550km, n42, σ1s20/43, mb4.2/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.66**	**165**	P	**P**	**11 24 29.0**	**0.0**
MSVF	**Nonsavu**	**6.39**	**340**	P	**P**	**11 24 36.1**	**0.0**
	17nm,0.5s,baz=143,slow=17,SNR=14						
MSVF	**Nonsavu**	**6.39**	**340**	P	**P**	**11 24 35.9**	**-0.2**
MARNC	**Mare, Loyalty**	**11.62**	**279**	P	**P**	**11 25 26.9**	**-1.4**
PINNC	**Pines Island,**	**11.94**	**273**	P	**P**	**11 25 31.4**	**-0.1**
AFI	**Afiamalu**	**12.32**	**39**	S	**S**	**11 27 44.8**	**-4.1**
	18nm,0.7s,baz=302,slow=14,SNR=4.1						
OUENC	**Ouen Island, N**	**12.52**	**274**	P	**P**	**11 25 38.0**	**+0.4**
DZM	**Mont Dzumac**	**12.94**	**275**	P	**P**	**11 25 42.6**	**+0.6**
	5.0nm,0.6s,baz=124,slow=8.1,SNR=7.7						
URZ	**Urewera**	**14.70**	**190**	P	**P**	**11 25 58.1**	**-1.7**
	3.9nm,0.3s,baz=351,slow=3.5,SNR=14						
BFZ	**Birch Farm**	**17.20**	**191**	P	**P**	**11 26 22.9**	**-1.1**
WHZ	**Wether Hill Ro**	**24.24**	**201**	P	**P**	**11 27 27.1**	**-0.3**
ARMA	**Armidale**	**26.37**	**249**	P	**P**	**11 27 45.2**	**-1.5**
ARMA				IAmb	IAmb	11 28 08.9	
	comp=Z,24nm,1.4s						
EIDS	**Eidsvold**	**26.65**	**261**	P	**P**	**11 27 48.7**	**-0.3**
EIDS				IAmb	IAmb	11 27 49.6	
	comp=Z,6.4nm,0.7s						
CAN	**Canberra**	**29.49**	**240**	P	**P**	**11 28 13.2**	**-0.5**
CTA	**Charters Tower**	**31.81**	**270**	P	**P**	**11 28 33.4**	**-0.3**
	comp=Z,4.4nm,0.4s,baz=96,slow=9.8,SNR=20						
	comp=Z,4.4nm,0.4s						
CTAO	**Charters Tower**	**31.81**	**270**	P	**P**	**11 28 32.7**	**-1.0**
CTAO				IAmb	IAmb	11 29 06.8	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**35.07**	**248**	P	**P**	**11 29 00.7**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=91,slow=11,SNR=8.9						
	comp=Z,2.9nm,0.6s						
STKA	**Stephens Creek**	**35.07**	**248**	P	**P**	**11 29 00.0**	**-1.1**
BBOO	**Buckleboo**	**39.79**	**247**	P	**P**	**11 29 38.1**	**-1.6**
BBOO				IAmb	IAmb	11 29 39.3	
	comp=Z,9.5nm,1.2s						
AS31	**Alice Springs**	**42.38**	**260**	P	**P**	**11 29 59.5**	**-0.7**
AS31				IAmb	IAmb	11 30 00.9	
	comp=Z,1.6nm,0.3s						
ASAR	**Alice Springs**	**42.38**	**260**	P	**P**	**11 29 59.4**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=97,slow=6.6,SNR=53						
ASAR				S	**S**	**11 35 41.9**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=98,slow=14,SNR=5.3						
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**42.38**	**260**	P	**P**	**11 29 58.7**	**-1.6**
WR0	**Warramunga Arr**	**42.56**	**266**	P	**P**	**11 30 01.1**	**-0.6**
WR0				IAmb	IAmb	11 30 01.4	
	comp=Z,3.7nm,1.0s						
WB2	**Warramunga Arr**	**42.73**	**266**	P	**P**	**11 30 02.0**	**-1.1**
WB2				IAmb	IAmb	11 30 14.2	
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**42.74**	**266**	P	**P**	**11 30 02.0**	**-1.0**
WB0				IAmb	IAmb	11 30 02.6	
	comp=Z,6.5nm,0.2s						
WRA	**Warramunga Arr**	**42.74**	**266**	P	**P**	**11 30 01.9**	**-1.2**
	comp=Z,2.1nm,0.4s,baz=97,slow=8.4,SNR=62						
WRA				S	**S**	**11 35 47.3**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=106,slow=15,SNR=2.5						
	comp=Z,2.1nm,0.4s						
WRA	**Warramunga Arr**	**42.74**	**266**	P	**P**	**11 30 02.1**	**-1.1**
FORT	**Forrest**	**46.66**	**249**	P	**P**	**11 30 32.3**	**-0.8**
KNRA	**Kununurra**	**49.02**	**270**	P	**P**	**11 30 50.5**	**-0.3**
KNRA				IAmb	IAmb	11 31 28.3	
	comp=Z,40nm,1.4s						
SIJI	**Sorong**	**52.71**	**288**	P	**P**	**11 31 18.0**	**+0.3**
	comp=Z,5.4nm,0.5s,baz=85,slow=6.0,SNR=6.2						
	comp=Z,5.4nm,0.5s						
VNDA	**Vanda**	**54.52**	**185**	P	**P**	**11 31 30.6**	**+1.1**
MORW	**Morawa**	**57.23**	**250**	P	**P**	**11 31 48.5**	**-0.6**
MORW				IAmb	IAmb	11 32 06.6	
	comp=Z,23nm,1.3s						
CASY	**Casey**	**60.36**	**206**	P	**P**	**11 32 09.0**	**-0.4**
CASY				IAmb	IAmb	11 32 24.4	
	comp=Z,17nm,1.4s						
QSPA	**South Pole Qui**	**66.30**	**180**	P	**P**	**11 32 49.0**	**+1.4**
KSRS	**Korea Array**	**78.37**	**320**	P	**P**	**11 33 59.6**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=127,slow=5.4,SNR=2.9						
	comp=Z,1.1nm,0.7s						
PETK	**Petropavlovsk-**	**79.06**	**346**	P	**P**	**11 34 02.1**	**+1.4**
	comp=Z,6.3nm,1.0s,baz=96,slow=7.6,SNR=5.9						
	comp=Z,6.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P	**P**	**11 34 56.3**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=152,slow=4.1,SNR=4.7						
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**131.84**	**348**	PKP	**PKiKP**	**11 41 05.4**	**+0.5**
	comp=Z,4.2nm,1.1s,baz=25,slow=3.2,SNR=5.3						
HFS	**Hagfors**	**142.49**	**349**	PKhKP	PKPpre	11 41 21.4	
	comp=Z,2.3nm,0.4s,baz=72,slow=4.8,SNR=18						
AKASG	**Malin Array Be**	**145.05**	**328**	PKPbc	**PKPbc**	**11 41 29.9**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=41,slow=4.3,SNR=7.7						
BRTR	**Keskin Array B**	**147.77**	**307**	PKPbc	**PKPbc**	**11 41 38.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=132,slow=1.4,SNR=2.2						
MMAI	**Mount Meron Ar**	**147.95**	**295**	PKPbc	**PKiKP**	**11 41 39.5**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=115,slow=2.1,SNR=2.3						

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*CNRM **16** 11:30:36.1, 33.52N×4.23W, h2km, ml2.7*
*INMG **16** 11:30:38.8±1.1, 33.42N×4.59W, h45km±11km, ML2.0, Error ellipse: s-maj=13.2km s-min=3.9km az=82.0*
*MDD **16** 11:30:38.1±1.3, 33.59N×4.59W, h0km, Mb4.1/5, M_mb3.4/5, Error ellipse: s-maj=11.4km s-min=10.0km az=101.0*
*SFS **16** 11:30:46.4, 34.09N×4.91W, h0km, ML3.4/9, MLv3.5/9*
ISC 16 11:30:37.3±1.1, 33.57N±0.02×4.41W±0.03, h18km±5km, n39, σ1s84/66, 5C, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MD31	**MD31**	**0.76**	**203**	P	**Pg**	**11 30 50.8**	**-1.4**
MD31				S	**Sg**	**11 31 01.1**	**-1.2**
MDT	**Midelt**	**0.77**	**192**	P	**Pg**	**11 30 50.7**	**-1.8**
MDT				S	**Sg**	**11 31 01.6**	**-1.1**
PVLZ	**Peæn de**	**1.60**	**3**	S	**Sn**	**11 31 24.7**	**-0.2**
PVLZ				P	**Pb**	**11 31 06.5**	**+0.1**
JBK	**JBK**	**1.71**	**63**	P	**Pn**	**11 31 04.3**	**-2.1**
JBK				S	**Sn**	**11 31 26.1**	**-1.9**
CHEFC	**Chefchaouen**	**1.71**	**334**	P	**Pg**	**11 31 09.5**	**-0.8**
CHEFC				S	**Sg**	**11 31 33.2**	**+0.5**
ZHG	**ZHG**	**1.87**	**267**	P	**Pg**	**11 31 12.6**	**-0.6**
ZHG				S	**Sg**	**11 31 39.9**	**+2.4**
GOLM	**Goulmima**	**1.92**	**194**	P	**Pb**	**11 31 11.9**	**+0.1**
GOLM				S	**Sb**	**11 31 37.5**	**+2.1**
TAF	**Taforalt**	**2.07**	**53**	P	**Pn**	**11 31 09.9**	**-1.3**
TAF				S	**Sn**	**11 31 36.3**	**-0.3**
ARF	**Arif**	**2.14**	**176**	P	**Pn**	**11 31 13.9**	**+1.7**
ARF				S	**Sn**	**11 31 39.4**	**+1.1**
CHAS	**Isla Isabel II**	**2.30**	**45**	S	**Sg**	**11 31 54.9**	**+3.6**
CHAS				P	**Pg**	**11 31 24.2**	**+2.8**
AVE	**Averroes**	**2.52**	**265**	P	**Pb**	**11 31 23.2**	**+1.1**
AVE				S	**Sn**	**11 31 51.6**	**+3.9**
TZRR	**Tazzarine**	**2.94**	**200**	S	**Sn**	**11 32 00.6**	**+2.4**
FIGM	**Figuig**	**3.01**	**118**	P	**Pn**	**11 31 23.0**	**-1.3**
FIGM				S	**Sn**	**11 31 58.0**	**-2.0**
OUK	**Oukaimeden**	**3.75**	**232**	P	**Pb**	**11 31 40.8**	**-2.5**
ECAB	**El Cabril**	**4.57**	**350**	S	**Sn**	**11 32 34.0**	**-4.2**
ECAB				P	**Pn**	**11 31 47.0**	**+1.4**
ECAB	**El Cabril**	**4.57**	**350**	P	**Pn**	**11 31 46.5**	**+1.0**
ECAB				⇑*i*Vmb_V		11 31 48.5	
	98nm,SNR=1.5						
ECAB				S	**Sn**	**11 32 36.8**	**-1.4**
EMIN	**Mina Concepcio**	**4.58**	**337**	P	**Pn**	**11 31 47.4**	**+1.8**
EMIN	**Mina Concepcio**	**4.58**	**337**	P	**Pn**	**11 31 46.2**	**+0.6**
EMIN				⇑*i*Vmb_V		11 31 47.6	
	170nm,SNR=2.0						
EMIN				S	**Sn**	**11 32 35.5**	**-2.8**
EADA	**Adamuz**	**4.59**	**358**	P	**Pn**	**11 31 46.6**	**+0.8**
EADA				⇑*i*Vmb_V		11 31 52.2	
	93nm,SNR=1.3						
EADA				S	**Sn**	**11 32 38.5**	**-0.2**
PVAQ	**Vaqueiros**	**4.68**	**326**	*e*P	**Pn**	**11 31 47.3**	**+0.3**
PVAQ				*e*S	**Sn**	**11 32 38.8**	**-2.1**
PVAQ				A	A	11 32 43.8	
	2.9nm,0.6s						
PVAQ	**Vaqueiros**	**4.68**	**326**	P	**Pn**	**11 31 47.3**	**+0.3**
PVAQ	**Vaqueiros**	**4.68**	**326**	P	**Pn**	**11 31 47.3**	**+0.3**
EGRO	**El Granado**	**4.68**	**329**	S	**Sn**	**11 32 35.0**	**-5.9**
EGRO				P	**Pn**	**11 31 47.3**	**+0.2**
EGRO	**El Granado**	**4.68**	**329**	P	**Pn**	**11 31 47.2**	**+0.2**
EGRO				⇑*i*Vmb_V		11 31 53.1	
	241nm,SNR=2.1						
EGRO				S	**Sn**	**11 32 38.2**	**-2.7**
PCVE	**Castro Verde**	**5.02**	**325**	*e*P	**Pn**	**11 31 52.5**	**+0.9**
PCVE				*e*S	**Sn**	**11 32 46.5**	**-2.7**
PCVE				A	A	11 32 51.8	
	2.1nm,0.8s						
PCVE	**Castro Verde**	**5.02**	**325**	P	**Pn**	**11 31 52.5**	**+0.9**
PFVI	**Vila Bisbo**	**5.07**	**316**	*e*P	**Pn**	**11 31 53.0**	**+0.7**
PFVI				*e*S	**Sn**	**11 32 50.5**	**+0.1**
PBAR	**Barrancos**	**5.07**	**336**	*e*P	**Pn**	**11 31 53.2**	**+0.8**
PBAR				*e*S	**Sn**	**11 32 49.0**	**-1.4**
PBAR				A	A	11 32 51.7	
	1.3nm,0.2s						
PBAR	**Barrancos**	**5.07**	**336**	P	**Pn**	**11 31 53.2**	**+0.8**
MORF	**Marmelete**	**5.09**	**318**	*e*P	**Pn**	**11 31 53.9**	**+1.2**
MESJ	**Messejana**	**5.27**	**325**	*e*P	**Pn**	**11 31 55.9**	**+0.8**
MESJ				*e*S	**Sn**	**11 32 54.5**	**-0.9**
EBAD	**Badajoz**	**5.59**	**339**	P	**Pn**	**11 31 59.6**	**+0.1**
EBAD	**Badajoz**	**5.59**	**339**	P	**Pn**	**11 31 59.3**	**-0.2**
EBAD				⇑*i*Vmb_V		11 32 00.2	
	161nm,SNR=1.9						
EBAD				S	**Sn**	**11 33 00.5**	**-2.7**
EVO	**Evora**	**5.75**	**331**	*e*P	**Pn**	**11 32 02.4**	**+0.7**
EVO				*e*S	**Sn**	**11 33 05.5**	**-1.7**
PESTR	**Estremoz**	**5.88**	**335**	*e*P	**Pn**	**11 32 04.5**	**+0.9**
PESTR				*e*S	**Sn**	**11 33 08.4**	**-2.0**
PESTR	**Estremoz**	**5.88**	**335**	P	**Pn**	**11 32 04.4**	**+0.9**
PMTG	**Montargil**	**6.29**	**332**	*e*P	**Pn**	**11 32 09.7**	**+0.5**
PMRV	**Marv??o**	**6.32**	**339**	*e*P	**Pn**	**11 32 10.0**	**+0.4**
PMRV				*e*S	**Sn**	**11 33 18.6**	**-2.7**
PSBE	**So Bento**	**6.90**	**331**	*e*P	**Pn**	**11 32 17.0**	**-0.6**

IDC 16 11:34:57.0±7.1, 6.96S×154.74E, h0km, mb3.5/3, mbtmp3.5/3, MS2.6/1, Error ellipse: s-maj=218.6km s-min=41.6km az=113.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.43**	**211**	LR	LR	11 43 32.5	
	comp=Z,25nm,20.8s,baz=82,slow=33						
WRA	**Warramunga Arr**	**23.63**	**235**	P	P	11 40 09.8	-0.3
	0.9nm,0.9s,baz=57,slow=9.4,SNR=4.8						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**26.01**	**228**	P	P	11 40 32.0	0.0
	0.5nm,0.8s,baz=63,slow=9.9,SNR=5.6						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**83.21**	**319**	P	P	11 47 25.6	+0.2
	0.5nm,0.5s,baz=94,slow=5.6,SNR=4.8						
	0.5nm,0.5s						

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*IDC **16** 11:36:35.5±0.7, 13.34N×125.73E, h0km, mb4.0/12, mbtmp4.0/12, MS3.0/9, Error ellipse: s-maj=36.1km s-min=14.8km az=68.0*
*MAN **16** 11:36:38.4, 13.51N×125.62E, h39km, mb4.6, ML3.5, MS3.4*
ISC 16 11:36:39.4±0.7, 13.43N±0.06×125.60E±0.08, h24km, n28, σ0s99/28, mb4.1/12, MS2.8/7, 6C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**1.29**	**225**	⇓*e*P	**Pn**	**11 37 01.4**	**-0.6**
CNP				*e*S	**Sn**	**11 37 18.5**	**+0.1**
PVCP	**Virac**	**1.41**	**277**	⇑*e*P	**Pn**	**11 37 02.5**	**-1.1**
PVCP				*e*S	**Sn**	**11 37 20.6**	**-0.9**
JCNP	**Jose Panganiba**	**2.94**	**287**	⇑*e*P	**Pn**	**11 37 25.7**	**+1.0**
JCNP				*e*S	**Sn**	**11 37 59.3**	**0.0**
GQP	**Guinayangan**	**3.10**	**279**	⇓*e*P	**Pn**	**11 37 26.1**	**-0.7**
GQP				*e*S	**Sn**	**11 38 02.7**	**-0.4**
RCP	**Roxas**	**3.35**	**237**	⇓*e*P	**Pn**	**11 37 31.0**	**+0.7**
RCP				*e*S	**Sn**	**11 38 10.3**	**+1.0**
MSLP	**Maasin**	**3.36**	**193**	⇑*e*P	Pn	11 37 24.4	-5.9
MSLP				*e*S	**Sn**	**11 38 10.1**	**+0.6**
TABP	**Talibon, Bohol**	**3.54**	**201**	⇑*i*P	**Pn**	**11 37 32.7**	**-0.3**
LQP	**Lukban**	**4.00**	**280**	⇑*e*P	**Pn**	**11 37 38.1**	**-1.3**
LQP				*e*S	**Sn**	**11 38 25.8**	**+0.1**
PCPH	**Palayan**	**4.85**	**296**	⇑*e*P	**Pn**	**11 37 49.0**	**-1.9**
GUMO	**Guam**	**18.74**	**87**	LR	LR	11 47 24.8	
	comp=Z,42nm,19.0s,baz=202,slow=35						
KAPI	**Kappang**	**19.22**	**198**	LR	LR	11 50 01.3	
	comp=Z,26nm,18.2s,baz=16,slow=42						
JNU	**Nakatsue**	**20.18**	**13**	LR	LR	11 49 30.7	
	comp=Z,23nm,19.2s,baz=176,slow=38						
KSRS	**Korea Array**	**24.01**	**5**	P	**P**	**11 41 52.8**	**+0.5**
	1.3nm,0.8s,baz=185,slow=11,SNR=3.3						
KSRS				LR	LR	11 50 11.9	
	comp=Z,24nm,21.0s,baz=145,slow=34						
	1.3nm,0.8s						
MJAR	**Matsushiro Arr**	**25.64**	**24**	LR	LR	11 51 44.1	
	comp=Z,28nm,20.6s,baz=163,slow=35						
CMAR	**Chiang Mai Arr**	**26.10**	**285**	P	**P**	**11 42 12.1**	**+0.6**
	0.8nm,0.3s,baz=98,slow=7.9,SNR=6.6						
CMAR				LR	LR	11 53 37.9	
	comp=Z,20nm,18.4s,baz=110,slow=39						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**34.26**	**165**	P	**P**	**11 43 21.3**	**-2.5**
	0.9nm,0.8s,baz=336,slow=10,SNR=5.8						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**37.76**	**168**	P	**P**	**11 43 52.7**	**-1.0**
	1.8nm,0.6s,baz=344,slow=6.8,SNR=48						
	1.8nm,0.6s						
SONM	**Songino Array**	**37.85**	**339**	P	**P**	**11 43 55.5**	**+1.1**
	0.9nm,0.7s,baz=157,slow=9.6,SNR=7.8						
	0.9nm,0.7s						
PETK	**Petropavlovsk-**	**47.07**	**26**	LR	LR	12 05 13.1	
	comp=Z,28nm,18.8s,baz=125,slow=36						
STKA	**Stephens Creek**	**47.59**	**161**	P	**P**	**11 45 12.8**	**-0.6**
	4.7nm,0.7s,baz=336,slow=8.9,SNR=15						
	4.7nm,0.7s						
YAK	**Yakutsk**	**48.62**	**3**	LR	LR	12 08 22.7	
	comp=Z,19nm,18.0s,baz=318,slow=39						
MKAR	**Makanchi Array**	**49.14**	**321**	P	**P**	**11 45 26.7**	**+1.4**
	1.9nm,0.8s,baz=114,slow=9.2,SNR=17						
MKAR				PcP	**PcP**	**11 46 48.6**	**+0.1**
	0.4nm,0.7s,baz=107,slow=4.8,SNR=2.1						
	1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**53.12**	**324**	P	**P**	**11 45 56.2**	**+1.1**
	2.5nm,0.5s,baz=120,slow=7.6,SNR=20						
	2.5nm,0.5s						
BVAR	**Borovoye Array**	**58.71**	**325**	P	**P**	**11 46 36.2**	**+1.1**
	1.3nm,0.6s,baz=111,slow=8.1,SNR=7.1						
	1.3nm,0.6s						
ARU	**Arti**	**66.25**	**326**	P	**P**	**11 47 25.2**	**-0.1**
	1.7nm,0.3s,baz=201,slow=8.6,SNR=3.2						
	1.7nm,0.3s						
ILAR	**Eielson Array**	**76.90**	**26**	P	**P**	**11 48 29.2**	**-0.2**
	0.4nm,0.7s,baz=242,slow=6.2,SNR=7.1						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**82.81**	**331**	P	**P**	**11 49 01.7**	**+0.2**
	1.3nm,0.9s,baz=86,slow=8.5,SNR=1.3						
	1.3nm,0.9s						
RES	**Resolute Bay**	**88.52**	**10**	LR	LR	12 28 49.4	
	comp=Z,13nm,21.2s,baz=4.0,slow=35						

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*SNET **16** 12:10:03.6±1.4, 12.55N×88.82W, h20km, ML3.5*
*INET **16** 12:10:06.3±0.1, 12.66N×88.77W, h20km±2km, MW3.0*
ISC 16 12:10:06.7±2.1, 12.7N±0.1×88.80W±0.07, h40km, n15, σ0s79/19, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEB	**Comit de Eme**	**0.88**	**17**	*e*P	**Pn**	**12 10 21.9**	**-0.9**
PACA	**Pacayal**	**0.94**	**29**	*e*P	**Pn**	**12 10 23.0**	**-0.6**
PACA	**Pacayal**	**0.94**	**29**	*e*P	**Pn**	**12 10 22.9**	**-0.6**
LFRS	**El Faro**	**1.00**	**345**	*e*P	**Pn**	**12 10 23.4**	**-1.0**
LCND	**La Caada**	**1.10**	**53**	*e*P	**Pn**	**12 10 25.0**	**-0.7**
LCND				*e*S	**Sn**	**12 10 39.7**	**0.0**
CNCH	**Conchagua**	**1.13**	**56**	*e*P	**Pn**	**12 10 25.4**	**-0.8**
CNCH				*e*S	**Sn**	**12 10 41.9**	**+1.4**
BOQS	**Boqueron**	**1.18**	**337**	*e*P	**Pn**	**12 10 26.4**	**-0.5**
JAYA	**Jayaque - finc**	**1.19**	**328**	*e*P	**Pn**	**12 10 26.4**	**-0.6**
P5NO	**Presa 5 de nov**	**1.33**	**2**	*e*P	**Pn**	**12 10 28.9**	**0.0**
P5NO				*e*S	**Sn**	**12 10 45.9**	**+0.6**
CEVE	**Cerro Verde**	**1.42**	**326**	*e*P	**Pn**	**12 10 29.9**	**-0.4**
CRIN	**San Cristobal**	**1.71**	**88**	*e*P	**Pn**	**12 10 32.8**	**-1.3**
CRIN				*e*S	**Sn**	**12 10 55.1**	**+0.4**
MTO3	**Montecristo**	**1.82**

NNZ	Nelson	0.88	343	P		Pb	12 22 33.4	+0.1
NNZ				S		Sg	12 22 44.1	-0.4
TCW	Tory Channel	0.94	26	P		Pb	12 22 34.4	0.0
MRNZ	Matariki Terra	0.98	312	P		Pn	12 22 35.8	+0.1
MRNZ				S		Sn	12 22 49.1	-0.4
DUWZ	D'Urville Isla	1.26	7	P		Pb	12 22 40.0	+0.1
LTZ	Lake Taylor	1.30	235	P		Pn	12 22 37.7	-2.5
OGWZ	Otaki Gorge	1.65	42	P		Pg	12 22 47.7	-0.1
MQZ	McQueen's Vall	1.83	205	P		Pn	12 22 45.8	-1.7

IDC **16** *12:26:14.4±2.9, 1°.51S×77°.23W, h161km±30km, mb3.7/10, mbtmp4.2/13, Error ellipse: s-maj=26.4km s-min=13.8km az=61.0*

VAO **16** *12:26:16.7±0.5, 1°.41S×76°.74W, h148km±11km, mb4.3*

NEIC **16** *12:26:16.8±2.9, 1°.78S±0°.07×77°.41W±0°.10, h188km±9km, mb4.4/22, Error ellipse: s-maj=14.5km s-min=10.1km az=87.0*

ISC 16 12:26:16.0±0.5,**1°.69S**±0°.05×**77°.35W**±0°.08,**h181**km,**n69,** σ1§**09**/68,**mb4.2**/15,**Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PORT	**Chimborazo Vol**	**1.44**	**279**		**Pn**	**12 26 48.3**	**+0.3**
SLOR	**San Lorenzo -**	**1.49**	**310**		**Pn**	**12 26 48.8**	**+0.4**
CHSH	**Refugio Sur-Vo**	**1.53**	**277**		**Pn**	**12 26 48.8**	**-0.2**
PULU	**Pululahua**	**2.05**	**326**		**Pn**	**12 26 54.7**	**+0.6**
IMBA	**Imbabura, San**	**2.12**	**337**		**Pn**	**12 26 56.6**	**+1.6**
OTAV	**Otavalo**	**2.20**	**330**		**Pn**	**12 26 55.9**	**0.0**
OTAV	**Otavalo**	**2.20**	**330**	*eP*	**Pn**	**12 26 56.1**	**+0.2**
CUSE	**Cuicocha Este**	**2.24**	**332**	*eP*	**Pn**	**12 26 57.8**	**+1.6**
PAC1	**Pacto, Paraso**	**2.41**	**323**	*eP*	**Pn**	**12 26 57.8**	**-0.1**
TULM	**Tulcn-Chalpat**	**2.42**	**350**		**Pn**	**12 26 59.6**	**+1.2**
GCUF	**Volcan Galeras**	**2.89**	**0**	*eP*	**Pn**	**12 27 05.8**	**+1.9**
ARNL	**Arenillas**	**3.28**	**236**		Pn	12 27 04.3	-3.8
FLOC	**Florencia**	**3.67**	**28**	*eP*	**Pn**	**12 27 14.1**	**+1.2**
MCRA	**Macar, Loja**	**3.72**	**224**		Pn	12 27 09.6	-4.1
GARC	**Garzon, Huila**	**4.27**	**26**	*eP*	**Pn**	**12 27 21.9**	**+1.0**
ATAH	**Atahualpa**	**5.51**	**191**	P	**Pn**	**12 27 36.5**	**-0.5**
	110nm,0.6s,baz=17,slow=9.2,SNR=79						
ATAH				S	**Sn**	**12 28 37.8**	**-3.0**
	58nm,0.6s,baz=140,slow=22,SNR=16						
YOTC	**Yotoco, Valle**	**5.72**	**10**	*eP*	**Pn**	**12 27 38.5**	**-1.0**
ORTC	**Ortega, Tolima**	**5.94**	**21**	*eP*	**Pn**	**12 27 43.4**	**+1.1**
CZSB	**Cruzeiro do Su**	**7.58**	**143**		**Pn**	**12 28 03.0**	**-0.8**
CZSB	**Cruzeiro do Su**	**7.58**	**143**	*eP*	**Pn**	**12 28 03.1**	**-0.7**
NNA	**Nana**	**10.25**	**177**	P	**Pn**	**12 28 41.3**	**+2.5**
	11nm,0.6s,baz=336,slow=8.6,SNR=5.5						
NNA				S	Sn	12 30 22.2	-11
	6.5nm,0.3s,baz=64,slow=22,SNR=4.3						
SDV	**Santo Domingo**	**12.46**	**32**	P	**Pn**	**12 29 08.7**	**+1.2**
	10nm,0.7s,baz=254,slow=8.5,SNR=15						
SDV	**Santo Domingo**	**12.46**	**32**	Pn	**Pn**	**12 29 08.1**	**+0.6**
ETMB	**Extrema**	**13.71**	**127**	Pn	**Pn**	**12 29 20.2**	**-2.9**
ETMB	**Extrema**	**13.71**	**127**	*eP*	**Pn**	**12 29 20.0**	**-3.1**
BAUV	**El Baul**	**14.06**	**41**	Pn	**Pn**	**12 29 28.0**	**+0.6**
URIC	**Uribia, Colomb**	**14.33**	**22**	Pn	**Pn**	**12 29 29.9**	**-0.9**
LPAZ	**La Paz**	**17.12**	**148**	P	**Pn**	**12 30 05.6**	**+0.2**
	3.6nm,0.6s,baz=323,slow=12,SNR=17						
LPAZ	**La Paz**	**17.12**	**148**	P	**P**	**12 30 04.8**	**+0.6**
LPAZ	**La Paz**	**17.12**	**148**	*eP*	**Pn**	**12 30 06.1**	**+0.8**
PB12	**IPOC Station P**	**18.18**	**158**	P	**P**	**12 30 15.8**	**+0.6**
PB12				IAmb	IAmb	12 30 16.6	
	comp=Z,14nm,0.6s						
MNMC	**Minye Minye**	**18.93**	**157**	P	**P**	**12 30 24.1**	**+0.5**
PSGCX	**Pisagua**	**19.16**	**159**	P	**P**	**12 30 26.1**	**+0.2**
PSGCX				IAmb	IAmb	12 30 43.0	
	comp=Z,6.6nm,0.6s						
GO01	**Chusmiza**	**19.57**	**156**	P	**P**	**12 30 31.4**	**+0.6**
GO01				IAmb	IAmb	12 30 33.1	
	comp=Z,17nm,0.7s						
VILB	**Vilhena**	**20.34**	**124**		**P**	**12 30 39.2**	**+0.6**
VILB				IAmb	IAmb	12 30 39.9	
	comp=Z,22nm,0.7s						
VILB	**Vilhena**	**20.34**	**124**	*eP*	**P**	**12 30 39.2**	**+0.6**
SIV	**San Ignacio**	**21.44**	**132**	P	**P**	**12 30 50.4**	**+0.2**
	comp=Z,4.7nm,0.5s,baz=321,slow=11,SNR=24						
	comp=Z,4.7nm,0.5s						
NPGB	**Novo Progresso**	**22.56**	**104**	*eP*	**P**	**12 30 59.4**	**-1.9**
PTLB	**Pontes e Lacer**	**22.58**	**128**	*eP*	**P**	**12 31 01.8**	**+0.5**
PDRB	**Porto dos Gac**	**22.71**	**117**	*eP*	**P**	**12 31 02.4**	**-0.2**
CLDB	**Colider**	**23.27**	**114**	*eP*	**P**	**12 31 07.5**	**-0.1**
MDP	**Montagnes des**	**25.59**	**75**	P	**P**	**12 31 28.0**	**-0.8**
	comp=Z,8.0nm,0.8s,baz=242,slow=9.7,SNR=4.9						
	comp=Z,8.0nm,0.8s						
SNDB	**Serra Nova Dou**	**27.79**	**113**	*eP*	**P**	**12 31 48.4**	**0.0**
AQDB	**Aquidauana**	**28.21**	**133**	*eP*	**P**	**12 31 52.0**	**0.0**
ITAB	**Concordia**	**35.07**	**139**	P	**P**	**12 32 50.9**	**-0.9**
TZTN	**Tazewell**	**38.47**	**352**	P	**P**	**12 33 20.1**	**-0.3**
TZTN				IAmb	IAmb	12 33 25.6	
	comp=Z,13nm,1.3s						
PLCA	**Paso Flores**	**39.35**	**172**	P	**P**	**12 33 28.5**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=346,slow=7.8,SNR=4.8						
	comp=Z,2.1nm,0.8s						
PLCA	**Paso Flores**	**39.35**	**172**	P	**P**	**12 33 28.2**	**+0.4**
PLCA				IAmb	IAmb	12 33 37.4	
	comp=Z,11nm,1.4s						
ABTX	**Abilene, Hawle**	**40.11**	**330**	P	**P**	**12 33 35.0**	**+0.9**
ABTX				IAmb	IAmb	12 34 15.2	
	comp=Z,13nm,0.7s						
WMOK	**Wichita Mounta**	**41.43**	**333**	P	**P**	**12 33 45.1**	**+0.2**
MNTX	**Cornudas Mount**	**42.54**	**324**	P	**P**	**12 33 54.5**	**+0.6**
MSTX	**Muleshoe**	**42.77**	**328**	P	**P**	**12 33 56.4**	**+0.5**
AMTX	**Amarillo**	**42.93**	**330**	P	**P**	**12 33 57.9**	**+0.8**
ANMO	**Albuquerque**	**45.51**	**326**	P	**P**	**12 34 18.5**	**+0.8**
	comp=Z,4.5nm,0.6s,baz=227,slow=8.8,SNR=22						
	comp=Z,4.5nm,0.6s						
ANMO	**Albuquerque**	**45.51**	**326**	P	**P**	**12 34 18.5**	**+0.8**
SDCO	**Great Sand Dun**	**47.09**	**329**	P	**P**	**12 34 31.3**	**+1.2**
SDCO				IAmb	IAmb	12 34 32.0	
	comp=Z,5.3nm,0.7s						
ISCO	**Idaho Springs**	**48.73**	**331**	P	**P**	**12 34 42.6**	**-0.1**
PV13	**Radium Mtn., P**	**49.15**	**327**	P	**P**	**12 34 46.4**	**+0.6**
PV13				IAmb	IAmb	12 34 47.4	
	comp=Z,7.1nm,0.9s						
PDAR	**Pinedale Array**	**52.91**	**331**	P	**P**	**12 35 13.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=122,slow=8.5,SNR=9.1						
	comp=Z,0.6nm,0.6s						
USHA	**Ushuaia**	**53.48**	**174**	P	**P**	**12 35 19.4**	**+2.0**
	comp=Z,55nm,0.5s,baz=20,slow=1.8,SNR=7.9						
ULM	**Lac du Bonnet**	**54.12**	**345**	P	**P**	**12 35 20.7**	**-1.4**
	comp=Z,6.2nm,0.6s,baz=164,slow=7.7,SNR=9.8						
	comp=Z,6.2nm,0.6s						
ULM	**Lac du Bonnet**	**54.12**	**345**	P	**P**	**12 35 20.6**	**-1.5**
ULM				IAmb	IAmb	12 35 21.1	
	comp=Z,6.1nm,0.6s						
IMW	**Indian Meadow**	**54.42**	**331**	P	**P**	**12 35 24.5**	**-0.3**
NVAR	**Mina Array Bea**	**54.91**	**321**	P	**P**	**12 35 28.9**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=138,slow=6.8,SNR=2.1						
	comp=Z,0.3nm,0.5s						
LRM	**Limekiln Ridge**	**56.56**	**331**	P	**P**	**12 35 39.8**	**-0.2**
YKA	**Yellowknife Ar**	**69.91**	**343**	P	**P**	**12 37 06.1**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=144,slow=5.4,SNR=13						
	comp=Z,0.7nm,0.7s						
INK	**Inuvik**	**79.64**	**342**	P	**P**	**12 38 03.0**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=113,slow=6.3,SNR=13						
	comp=Z,2.4nm,0.7s						
ILAR	**Eielson Array**	**82.91**	**336**	P	**P**	**12 38 20.2**	**0.0**
	comp=Z,1.1nm,0.9s,baz=111,slow=3.3,SNR=6.9						
	comp=Z,1.1nm,0.9s						
QSPA	**South Pole Qui**	**88.38**	**180**		**P**	**12 38 47.9**	**+0.7**

SNET **16** *12:29:15.1±2.3, 12°.55N×88°.78W, h15km, ML4.8*

INET **16** *12:29:17.5±0.9, 12°.63N×88°.72W, h15km±10km, MW4.3*

GCG **16** *12:29:21.0±0.5, 14°.06N×88°.63W, h185km±67km, MD4.2*

IDC **16** *12:29:21.2±2.3, 12°.87N×88°.52W, h67km±21km, mb4.0/14, mbtmp4.3/17, MS3.2/7, Error ellipse: s-maj=26.4km s-min=11.5km az=48.0*

NEIC **16** *12:29:22.2±1.8, 12°.87N±0°.08×88°.59W±0°.09, h60km±6km, mb4.5/60, Error ellipse: s-maj=16.2km s-min=6.0km az=52.0*

ISC 16 12:29:19.6±1.1,**12°.75N**±0°.06×**88°.70W**±0°.04,**h55**km,**n9**km,**n278,** σ1§**14**/291,**mb4.5**/38,**MS3.2**/4,**1D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEB	**Comit de Eme**	**0.76**	**12**	*eP*	**Pn**	**12 29 33.6**	**-0.9**
COEB				*eS*	**Sn**	**12 29 46.0**	**+0.7**
TECO	**Alcaldia de Te**	**0.79**	**354**	*eP*	**Pn**	**12 29 33.6**	**-1.1**
VSM	**San Miguel**	**0.79**	**31**	*eP*	**Pn**	**12 29 34.5**	**-0.5**
PACA	**Pacayal**	**0.80**	**27**	*eP*	**Pn**	**12 29 34.7**	**-0.3**
PACA	**Pacayal**	**0.80**	**27**	*eP*	**Pn**	**12 29 34.5**	**-0.5**
SNVI	**San Vicente**	**0.87**	**351**	*eP*	**Pn**	**12 29 34.9**	**-1.0**
PQSS	**Presa 15 de Se**	**0.88**	**9**	*eP*	**Pn**	**12 29 35.2**	**-0.7**
LFRS	**El Faro**	**0.94**	**338**	*eP*	**Pn**	**12 29 35.4**	**-1.4**
SCLA	**Alcaldia de Sa**	**0.94**	**358**	*eS*	**Sn**	**12 29 50.6**	**+1.1**
LCND	**La Caada**	**0.96**	**55**	*eP*	**Pn**	**12 29 36.1**	**-1.0**
LCND				*eS*	**Sn**	**12 29 51.0**	**+1.1**
PAVA	**Las Pavas**	**0.98**	**346**	*ǁiP*	**Pn**	**12 29 36.7**	**-0.8**
PAVA				*eS*	**Sn**	**12 29 50.6**	**+0.1**
CNCH	**Conchagua**	**0.99**	**58**	*eS*	**Sn**	**12 29 53.1**	**+2.4**
SNET	**Serv Nac Est T**	**1.06**	**331**	Pn	**Pn**	**12 29 37.1**	**-1.4**
SNET	**Serv Nac Est T**	**1.06**	**331**	*eP*	**Pn**	**12 29 37.1**	**-1.4**
SNET				*eS*	**Sn**	**12 29 51.6**	**-0.8**
SNET	**Serv Nac Est T**	**1.06**	**331**	*eP*	**Pn**	**12 29 37.0**	**-1.5**
SNET				*eS*	**Sn**	**12 29 51.1**	**-1.3**
LFU	**La Fuente**	**1.07**	**338**	*eP*	**Pn**	**12 29 37.5**	**-1.0**
BOQS	**Boqueron**	**1.13**	**330**	*eP*	**Pn**	**12 29 38.5**	**-1.0**
JAYA	**Jayaque - finc**	**1.16**	**321**	*eP*	**Pn**	**12 29 38.3**	**-1.4**
JAYA				*eS*	**Sn**	**12 29 53.2**	**-1.5**
P5NO	**Presa 5 de nov**	**1.23**	**357**	*eP*	**Pn**	**12 29 40.8**	**+0.2**
P5NO				*eS*	**Sn**	**12 29 58.3**	**+2.1**
CEDA	**San Andres**	**1.25**	**327**	*eP*	**Pn**	**12 29 39.9**	**-1.0**
CEDA				*eS*	**Sn**	**12 29 56.7**	**0.0**
CEVE	**Cerro Verde**	**1.40**	**320**	*eP*	**Pn**	**12 29 42.3**	**-0.8**
RTR	**El Retiro**	**1.47**	**321**	*eP*	**Pn**	**12 29 43.4**	**-0.5**
NUBE	**Las Nubes**	**1.56**	**317**	*eP*	**Pn**	**12 29 44.1**	**-1.0**
NUBE				*eS*	**Sn**	**12 30 03.7**	**-0.6**
CRIN	**San Cristobal**	**1.61**	**92**	Pn	**Pn**	**12 29 45.6**	**-0.1**
CRIN	**San Cristobal**	**1.61**	**92**	*eP*	**Pn**	**12 29 44.9**	**-0.8**
CRIN				*eS*	**Sn**	**12 30 05.1**	**-0.4**
SLOZ	**Alcaldia de Sa**	**1.65**	**320**	*eP*	**Pn**	**12 29 46.0**	**-0.4**
MTO3	**Montecristo**	**1.76**	**339**	Pn	**Pn**	**12 29 48.1**	**0.0**
MTO3	**Montecristo**	**1.76**	**339**	*eP*	**Pn**	**12 29 48.0**	**0.0**
MTO3	**Montecristo**	**1.76**	**339**	*eP*	**Pn**	**12 29 47.9**	**-0.1**
TELN	**Telica**	**1.83**	**94**	*eP*	**Pn**	**12 29 47.5**	**-1.3**
TGUH	**Tegucigalpa,Un**	**1.90**	**47**	Pn	**Pn**	**12 29 50.2**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.90**	**47**	*eP*	**Pn**	**12 29 50.1**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.90**	**47**	*eP*	**Pn**	**12 29 50.1**	**+0.3**
ESQI	**Esquipulas**	**1.90**	**341**	Pn	**Pn**	**12 29 50.0**	**+0.2**
CNGN	**Cerro Negro**	**1.97**	**97**		**Pn**	**12 29 49.5**	**-1.1**
MOMN	**Momotombo**	**2.13**	**99**	*eP*	**Pn**	**12 29 51.1**	**-1.8**
MOMN				*eS*	**Sn**	**12 30 16.1**	**-2.2**
NBG	**Las Nubes**	**2.43**	**319**	*eP*	**Pn**	**12 29 58.4**	**+1.2**
PCG	**Pacaya**	**2.47**	**311**	*eP*	**Pn**	**12 29 59.3**	**+1.6**
PCG				*eS*	**Sn**	**12 30 29.4**	**+2.5**
FUG	**Fuego 3**	**2.68**	**309**	*eP*	**Pn**	**12 29 59.9**	**-0.7**
FUG				*eS*	**Sn**	**12 30 33.1**	**+1.2**
BOAB	**BOACO BROADBAN**	**2.97**	**95**	Pn	**Pn**	**12 30 04.5**	**+0.2**
STG3	**Santiaguito 3,**	**3.40**	**305**	*eP*	**Pn**	**12 30 10.7**	**+0.3**
STG3				*eS*	**Sn**	**12 30 49.2**	**-0.5**
ACON	**Acoyapa**	**3.53**	**102**		**Pn**	**12 30 11.3**	**-0.7**
HZTE	**Horizontes, Gu**	**3.65**	**123**		**Pn**	**12 30 14.8**	**+1.1**
ORTG	**Ortega, Santa**	**3.96**	**126**	Pn	**Pn**	**12 30 19.0**	**+0.9**
DUNO	**Dulce Nombre,**	**4.11**	**130**	Pn	**Pn**	**12 30 20.3**	**+0.3**
PETF	**Flores**	**4.29**	**345**	Pn	**Pn**	**12 30 24.4**	**+1.9**
JTS	**Las Juntas de**	**4.41**	**123**	P	**Pn**	**12 30 26.0**	**+1.9**
	7.0nm,0.4s,baz=115,slow=24,SNR=2.8						
JTS				S	**Sn**	**12 31 18.4**	**+4.2**
	28nm,0.6s,baz=190,slow=15,SNR=2.0						
JACO	**JACO, Garabito**	**5.01**	**127**	Pn	**Pn**	**12 30 35.9**	**+3.5**
RIMA	**Rio Macho**	**5.59**	**122**		**Pn**	**12 30 42.4**	**+1.9**
SRBA	**San Rafael, Bu**	**6.30**	**123**		**Pn**	**12 30 51.6**	**+1.5**
CMIG	**Matias Romero**	**7.37**	**307**	P	**Pn**	**12 31 06.1**	**+1.4**
	6.0nm,0.5s,baz=115,slow=12,SNR=14						
CMIG				S	**Sn**	**12 32 29.7**	**+2.7**
	11nm,0.4s,baz=44,slow=18,SNR=4.1						
CMIG				LR	LR	12 34 20.5	
	comp=Z,316nm,21.1s,baz=120,slow=40						
TEIG	**Tepich**	**7.44**	**3**	Pn	**Pn**	**12 31 08.5**	**+2.8**
ROSC	**El Rosal**	**16.23**	**118**	LR	LR	12 41 11.2	
	comp=Z,54nm,18.8s,baz=250,slow=44						
SDV	**Santo Domingo**	**18.15**	**100**	P	**P**	**12 33 27.9**	**0.0**
	6.1nm,0.7s,baz=285,slow=9.3,SNR=7.9						
SDV				LR	LR	12 41 02.9	
	comp=Z,49nm,21.1s,baz=248,slow=39						
SDV	**Santo Domingo**	**18.15**	**100**	P	**P**	**12 33 27.6**	**-0.3**
BRAL	**Brewton**	**18.39**	**4**	P	**P**	**12 33 29.7**	**-0.5**
	baz=185						
833A	**Chaparral WMA,**	**18.43**	**329**	P	**Pn**	**12 33 32.0**	**+0.8**
833A	**Chaparral WMA,**	**18.43**	**329**	P	**Pn**	**12 33 32.8**	**+1.6**
	baz=145						
TIGA	**Tifton**	**19.18**	**13**	P	**Pn**	**12 33 40.0**	**-0.2**
	baz=195						
435B	**Jarrell**	**19.73**	**337**	P	**Pn**	**12 33 46.4**	**-0.4**
	baz=153						
237A	**Washetta, Mont**	**20.24**	**342**	P	Pn	12 33 54.8	+2.0
237A				IAmb	IAmb	12 33 57.1	
	comp=Z,24nm,0.6s						
LRAL	**Lakeview Retre**	**20.25**	**4**	P	**P**	**12 33 51.9**	**+1.5**
	baz=184						
JCT	**Junction City**	**20.41**	**332**	P	**P**	**12 33 53.2**	**+0.9**
	baz=147						
BAUV	**El Baul**	**20.63**	**98**	P	**P**	**12 33 53.0**	**-1.8**
BAUV				IAmb	IAmb	12 33 53.7	
	comp=Z,13nm,0.7s						
WHTX	**Lake Whitney,**	**20.77**	**339**	P	**P**	**12 33 56.9**	**+0.8**
WHTX				IAmb	IAmb	12 34 15.2	
	comp=Z,13nm,0.8s						
WHTX	**Lake Whitney,**	**20.77**	**339**	P	**P**	**12 33 57.4**	**+1.3**
	baz=155						
Y49A	**Blount Mountai**	**21.11**	**5**	P	**P**	**12 34 01.5**	**+1.7**
Y52A	**Lilburn**	**21.44**	**11**	P	**P**	**12 34 05.4**	**+2.2**
TX31	**Lajitas Ar. Si**	**21.58**	**322**	P	**P**	**12 34 06.8**	**+1.9**
TX31				IAmb	IAmb	12 34 09.5	
	comp=Z,16nm,0.8s						
TX32	**Lajitas Array**	**21.58**	**322**	P	**P**	**12 34 06.3**	**+1.4**
OXF	**Oxford**	**21.67**	**358**	P	**P**	**12 34 06.7**	**+0.9**
	baz=178						
FPAL	**Fort Paine**	**21.87**	**7**	P	**P**	**12 34 08.3**	**+0.4**
MIAR	**Mount Ida**	**22.14**	**349**	P	**P**	**12 34 12.0**	**+1.2**
MIAR				IAmb	IAmb	12 34 16.1	
	comp=Z,13nm,0.7s						
MIAR	**Mount Ida**	**22.14**	**349**	P	**P**	**12 34 12.1**	**+1.2**
	baz=167,SNR=14						
UALR	**University of**	**22.17**	**352**	P	**P**	**12 34 13.2**	**+2.0**
UALR				IAmb	IAmb	12 34 14.7	
	comp=Z,14nm,0.7s						
ABTX	**Abilene, Hawle**	**22.18**	**335**	P	**P**	**12 34 12.9**	**+1.7**
	baz=150,SNR=9.5						
ATAH	**Atahualpa**	**22.25**	**152**	LR	LR	12 41 51.6	
	comp=Z,100nm,20.4s,baz=354,slow=34						
SWET	**Sewanee**	**22.51**	**6**	P	**P**	**12 34 15.3**	**+0.6**
X37A	**Clayton**	**22.57**	**346**	P	**P**	**12 34 17.5**	**+2.2**
X37A				IAmb	IAmb	12 34 41.0	
	comp=Z,17nm,1.1s						
WHAR	**Wooly Hollow**	**22.67**	**352**	P	**P**	**12 34 17.3**	**+0.9**
CPCT	**Cooper Cave**	**22.91**	**9**	P	**P**	**12 34 18.9**	**-0.1**
TKL	**Tuckaleechee C**	**23.24**	**10**	P	**P**	**12 34 22.7**	**+0.5**
	comp=Z,11nm,0.7s,baz=184,slow=11,SNR=20						
TKL				LR	LR	12 42 33.3	
	comp=Z,87nm,20.7s,baz=165,slow=34						
	comp=Z,11nm,0.7s						
TKL	**Tuckaleechee C**	**23.24**	**10**	P	**P**	**12 34 22.9**	**+0.7**
TKL				IAmb	IAmb	12 34 23.7	
	comp=Z,11nm,0.7s						
FCAR	**Ozark Folk Cen**	**23.25**	**353**	P	**P**	**12 34 22.8**	**+0.6**
FCAR				IAmb	IAmb	12 34 24.2	
	comp=Z,14nm,0.7s						
KMSC	**Kings Mountain**	**23.27**	**15**	P	**P**	**12 34 22.1**	**-0.4**
	baz=198						
X34A	**Smith Ranch, M**	**23.28**	**341**	P	**P**	**12 34 24.5**	**+1.9**
WVT	**Waverly**	**23.29**	**2**	P	**P**	**12 34 23.1**	**+0.4**
WVT	**Waverly**	**23.29**	**2**	P	**P**	**12 34 23.3**	**+0.6**
	baz=182						
LCAR	**Lake Charles**	**23.32**	**355**	P	**P**	**12 34 23.2**	**+0.3**
WMOK	**Wichita Mounta**	**23.72**	**339**	P	**P**	**12 34 27.4**	**+0.7**
WMOK				IAmb	IAmb	12 34 27.9	
	comp=Z,7.5nm,0.7s						
WMOK	**Wichita Mounta**	**23.72**	**339**	P	**P**	**12 34 27.5**	**+0.7**
	baz=155,SNR=15						
FNO	**Franklin**	**23.75**	**342**	P	**P**	**12 34 27.8**	**+0.9**
HHAR	**Hobbs**	**23.90**	**350**	P	**P**	**12 34 29.5**	**+1.2**
HHAR				IAmb	IAmb	12 34 32.2	
	comp=Z,14nm,0.7s						
TUL1	**Leonard**	**23.93**	**346**	P	**P**	**12 34 29.6**	**+1.0**
	baz=162						
TZTN	**Tazewell**	**24.14**	**10**	P	**P**	**12 34 30.5**	**0.0**
	baz=192						
MNTX	**Cornudas Mount**	**24.31**	**324**	P	**P**	**12 34 33.0**	**+0.8**
	baz=137,SNR=12						
V58A	**Windy Hill, Pi**	**24.52**	**19**	P	**P**	**12 34 34.3**	**+0.4**
V58A				IAmb	IAmb	12 34 36.0	
	comp=Z,20nm,0.7s						
MSTX	**Muleshoe**	**24.70**	**331**	P	**P**	**12 34 35.9**	**+0.1**
	baz=145,SNR=27						
AMTX	**Amarillo**	**24.98**	**334**	P	**P**	**12 34 39.6**	**+1.3**
	baz=148						
ELIS	**Ellis County**	**25.14**	**339**	P	**P**	**12 34 40.8**	**+1.1**
ELIS				IAmb	IAmb	12 34 43.7	
	comp=Z,14nm,0.7s						
CCM	**Cathedral Cave**	**25.30**	**355**	P	**P**	**12 34 41.2**	**+0.1**
CCM				IAmb	IAmb	12 34 42.4	
	comp=Z,17nm,0.7s						
CCM	**Cathedral Cave**	**25.30**	**355**	P	**P**	**12 34 41.6**	**+0.6**
	baz=174						
121A	**Cookes Peak, D**	**26.33**	**321**	P	**P**	**12 34 53.3**	**+2.6**
	baz=134						
P40A	**Paris**	**26.84**	**354**	P	**P**	**12 34 54.9**	**0.0**
P40A				IAmb	IAmb	12 34 55.6	
	comp=Z,12nm,0.6s						
Y22D	**IRIS PASSCAL I**	**26.93**	**325**	P	**P**	**12 34 57.9**	**+1.8**
	baz=137						
Y22F	**Passcal Instru**	**26.93**	**325**	P	**P**	**12 34 58.8**	**+2.8**
	baz=137						
Q54A	**Coxs Mills**	**27.04**	**14**	P	**P**	**12 34 57.2**	**+0.4**
Q54A				IAmb	IAmb	12 34 57.6	
	comp=Z,9.4nm,0.5s						
KSU1	**Kansas State U**	**27.16**	**346**	P	**P**	**12 34 58.6**	**+0.8**
	baz=163						
NNA	**Nana**	**27.25**	**154**	LR	LR	12 45 29.6	
	comp=Z,7.3nm,20.0s,baz=314,slow=36						
ANMO	**Albuquerque**	**27.33**	**327**	P	**P**	**12 35 00.8**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=226,slow=7.8,SNR=6.9						
	comp=Z,1.7nm,0.6s						
ANMO	**Albuquerque**	**27.33**	**327**	P	**P**	**12 35 01.2**	**+1.5**
	baz=139						
CBKS	**Cedar Bluff**	**27.75**	**341**	P	**P**	**12 35 03.8**	**+0.7**
CBKS				IAmb	IAmb	12 35 04.3	
	comp=Z,13nm,0.7s						
CBKS	**Cedar Bluff**	**27.75**	**341**	P	**P**	**12 35 03.9**	**+0.7**
	baz=156,SNR=5.3						
ACSO	**Alum Creek Sta**	**27.83**	**9**	P	**P**	**12 35 03.1**	**-0.7**
	baz=192						
T25A	**Trinidad**	**28.07**	**333**	P	**P**	**12 35 08.1**	**+1.8**
	baz=146,SNR=6.9						
TUC	**Tucson**	**28.09**	**317**	P	**P**	**12 35 08.0**	**+1.7**
	baz=129						
O53A	**New Philadelph**	**28.17**	**12**	P	**P**	**12 35 06.9**	**0.0**
	baz=195						
KSCO	**Kaye Shedlock'**	**28.93**	**337**	P	**P**	**12 35 14.9**	**+1.2**
	baz=151,SNR=7.4						
SDCO	**Great Sand Dun**	**29.06**	**332**	P	**P**	**12 35 17.0**	**+1.8**
	baz=144						
214A	**Organ Pipe Nat**	**29.25**	**315**	P	**P**	**12 35 19.0**	**+2.4**
	baz=125						
W18A	**Petrified Fore**	**29.30**	**323**	P	**P**	**12 35 18.8**	**+1.6**
	baz=134						
SCIA	**State Center**	**29.31**	**353**	P	**P**	**12 35 17.2**	**+0.3**
	baz=171						
M53A	**WI Miller and**	**29.43**	**12**	P	**P**	**12 35 17.5**	**-0.5**
	baz=196						
S22A	**4UR Ranch, Cre**	**29.69**	**330**	P	**P**	**12 35 22.6**	**+1.8**
	baz=142,SNR=12						
BGNE	**Belgrade**	**29.72**	**346**	P	**P**	**12 35 20.

ULM	Lac du Bonnet	37.85	352	P	P	12 36 29.8	-1.2
	comp=Z,6.4nm,0.6s,baz=165,slow=8.6,SNR=10						
	comp=Z,6.4nm,0.6s						
ULM	Lac du Bonnet	37.85	352	P	P	12 36 29.6	-1.4
ULM				IAmb	IAmb	12 36 30.4	
	comp=Z,6.8nm,0.6s						
HLID	Hailey	37.85	329	P	P	12 36 31.7	+0.4
	baz=136						
DGMT	Dagmar	37.87	343	P	P	12 36 31.9	+0.7
DGMT	Dagmar	37.87	343	P	P	12 36 31.9	+0.7
	baz=155,SNR=17						
MCMT	McKenzie Canyo	38.04	332	P	P	12 36 34.6	+1.6
BOZ	Bozeman (W)	38.09	334	P	P	12 36 34.4	+1.1
BOZ				IAmb	IAmb	12 36 37.5	
	comp=Z,4.2nm,0.8s						
BOZ	Bozeman (W)	38.09	334	P	P	12 36 34.5	+1.2
	baz=142,SNR=7.5						
LRM	Limekiln Ridge	38.62	333	P	P	12 36 38.9	+1.0
EGMT	Eagleton	39.31	338	P	P	12 36 44.0	+0.7
EGMT	Eagleton	39.31	338	P	P	12 36 44.1	+0.8
	baz=146,SNR=22						
SIV	San Ignacio	39.52	136	P	P	12 36 45.3	-0.1
	comp=Z,4.3nm,0.8s,baz=308,slow=11,SNR=8.7						
	comp=Z,4.3nm,0.8s						
MSO	Missoula	40.06	333	P	P	12 36 49.1	-0.6
	baz=140						
YBH	Yreka Blue Hor	41.34	321	LR	LR	12 54 35.9	
	comp=Z,75nm,19.1s,baz=136,slow=37						
NEW	Newport	42.57	332	P	P	12 37 10.4	+0.3
	baz=136						
FFC	Flin Flon	43.16	349	P	P	12 37 14.5	-0.2
FFC				IAmb	IAmb	12 37 15.4	
	comp=Z,10nm,0.7s						
EDM	Edmonton	44.89	339	P	P	12 37 28.5	-0.2
SCHQ	Schefferville	45.35	18	P	P	12 37 30.6	-1.7
	comp=Z,3.7nm,0.6s,baz=214,slow=7.0,SNR=11						
	comp=Z,3.7nm,0.6s						
FCC	Fort Churchill	46.10	356	P	P	12 37 37.3	-0.8
BDFB	Brasilia	49.15	124	P	P	12 38 01.6	-0.9
	comp=Z,1.6nm,0.4s,baz=285,slow=10.0,SNR=4.1						
	comp=Z,1.6nm,0.4s						
CPUP	Villa Florida	49.39	142	P	P	12 38 03.3	-0.7
	comp=Z,0.9nm,0.5s,baz=357,slow=7.4,SNR=3.4						
	comp=Z,0.9nm,0.5s						
YKA	Yellowknife Ar	53.01	345	P	P	12 38 30.1	-0.5
	comp=Z,8.1nm,0.6s,baz=140,slow=7.6,SNR=173						
YKA				PcP	PcP	12 39 37.9	-0.7
	comp=Z,0.9nm,0.6s,baz=152,slow=3.7,SNR=6.3						
	comp=Z,8.1nm,0.6s						
YKA	Yellowknife Ar	53.01	345	P	P	12 38 30.2	-0.4
DLBC	Dease Lake	55.12	335	P	P	12 38 47.5	+1.4
DLBC	Dease Lake	55.12	335	P	P	12 38 47.4	+1.2
	baz=128						
WTLY	Watson Lake, Y	55.70	337	P	P	12 38 49.3	-1.0
	baz=130						
WRGLY	Wrigley	56.05	342	P	P	12 38 52.3	-0.3
	baz=138						
R33M	Jennings River	56.09	336	P	P	12 38 52.3	-0.9
	baz=128						
Q32M	Nakina River	56.37	335	P	P	12 38 55.5	+0.2
	baz=126						
FARO	Faro, Yukon	58.74	337	P	P	12 39 12.1	+0.4
	baz=126						
P30M	Million Dollar	59.00	334	P	P	12 39 13.5	0.0
	baz=122						
N31M	Braeburn, Yuko	59.26	336	P	P	12 39 15.2	0.0
	baz=124						
MAYO	Mayo, Yukon	60.49	338	P	P	12 39 23.8	+0.1
	baz=124						
C36M	Paulatuk	60.84	346	P	P	12 39 24.6	-1.3
C36M				IAmb	IAmb	12 40 03.1	
	comp=Z,3.2nm,1.4s						
M29M	Somme Creek	60.84	336	P	P	12 39 26.2	0.0
	baz=121						
L29M	L29M	61.06	337	P	P	12 39 27.7	0.0
	baz=122						
K29M	Barlow Dome	61.23	338	P	P	12 39 28.7	-0.2
	baz=123						
YUK3	Moose Creek	61.31	335	P	P	12 39 29.7	+0.1
	baz=119						
BVCY	Beaver Creek	61.79	335	P	P	12 39 32.9	+0.3
	baz=119						
RES	Resolute Bay	62.02	358	P	P	12 39 32.5	-1.3
RES				IAmb	IAmb	12 39 33.1	
	comp=Z,3.9nm,0.7s						
F31M	Tsiigehtchic	62.08	342	P	P	12 39 34.3	0.0
	baz=128						
EPYK	Eagle Plains	62.37	340	P	P	12 39 36.2	-0.2
	baz=125						
BCAR	Beaver Creek A	62.48	336	P	P	12 39 38.2	+1.0
L27K	Beaver Creek,	62.49	336	P	P	12 39 37.3	+0.1
	baz=118						
INK	Inuvik	62.56	343	P	P	12 39 37.0	-0.4
	comp=Z,7.3nm,0.7s,baz=127,slow=6.6,SNR=36						
	comp=Z,7.3nm,0.7s						
INK	Inuvik	62.56	343	P	P	12 39 37.4	-0.1
INK	Inuvik	62.56	343	P	P	12 39 37.5	-0.1
	baz=129,SNR=9.0						
G30M	tAoh Zraii Nji	62.56	341	P	P	12 39 37.6	-0.1
	baz=126						
N25K	Chitina, Valde	62.99	334	P	P	12 39 41.5	+0.8
	baz=115						
K27K	Chicken	63.05	337	P	P	12 39 41.3	+0.4
	baz=118						
A36M	Sachs Harbour	63.11	348	P	P	12 39 40.0	-1.1
A36M	Sachs Harbour	63.11	348	P	P	12 39 40.0	-1.1
	baz=139,SNR=5.0						
KLU	Klutina	63.52	333	P	P	12 39 43.8	-0.4
	baz=114						
I27K	Kandik River	63.65	338	P	P	12 39 45.6	+0.7
	baz=120						
J26L	Joseph Creek	63.85	337	P	P	12 39 47.0	+0.7
	baz=117						
M24K	Tolsona, Glenn	63.88	334	P	P	12 39 46.9	+0.4
	baz=114						
H27K	Steamboat Moun	63.93	339	P	P	12 39 47.2	+0.5
	baz=120						
PAX	Paxson	63.94	335	P	P	12 39 47.5	+0.6
	baz=115						
RIDG	Independent Ri	64.01	336	P	P	12 39 47.8	+0.5
	baz=116						
I26K	Coal Creek Min	64.07	338	P	P	12 39 46.8	-0.8
	baz=118						
G27K	Doyon Strip	64.27	339	P	P	12 39 48.6	-0.3
	baz=120						
PWL	Port Wells	64.36	332	P	P	12 39 49.6	0.0
	baz=111						
K24K	Donnelly Dome	64.41	336	P	P	12 39 50.6	+0.6
	baz=115						
E27K	Coleen River	64.95	341	P	P	12 39 53.8	+0.5
	baz=121						
PRP	Porcupine Dome	65.05	337	P	P	12 39 54.4	+0.3
	baz=116						
HDA	Harding Lake	65.13	336	P	P	12 39 54.5	0.0
	baz=114						
WAT1	Susitna Watana	65.18	334	P	P	12 39 54.4	-0.5
	baz=112						
ILAR	Eielson Array	65.26	336	P	P	12 39 55.0	-0.3
	comp=Z,2.1nm,0.9s,baz=112,slow=4.3,SNR=16						
	comp=Z,2.1nm,0.9s						
M22K	Willow	65.48	333	P	P	12 39 56.7	-0.1
	baz=110						
F26K	Sheenjek River	65.55	340	P	P	12 39 57.5	+0.3
	baz=118						
POKR	Poker Plat Res	65.61	337	P	P	12 39 57.5	-0.1
	baz=114						
MCK	McKinley	65.67	335	P	P	12 39 57.6	-0.5
	baz=112						
G25K	Bearman Lake	65.81	339	P	P	12 39 59.0	+0.2
	baz=116						
F25K	Christian Rive	66.01	339	P	P	12 40 00.4	+0.2
	baz=116						
H24K	Noodor Dome	66.07	337	P	P	12 40 00.2	-0.4
	baz=113						
TRF	Thorofare Moun	66.14	334	P	P	12 40 00.6	-0.7
	baz=110						
E25K	Arctic Village	66.22	340	P	P	12 40 01.8	+0.2
	baz=117						
G24K	Hadweenzic Riv	66.27	338	P	P	12 40 01.9	0.0
	baz=114						
C27K	Jago River	66.34	342	P	P	12 40 02.6	+0.3
	baz=119						
I23K	Minto, Yukon-K	66.37	336	P	P	12 40 02.5	+0.1
	baz=112						
BPAW	Bear Paw Mtn.	66.65	335	P	P	12 40 04.0	-0.3
	baz=110						
F24K	Squaw Lake	66.76	339	P	P	12 40 05.3	+0.3
	baz=114						
C26K	Camden Bay	66.84	342	P	P	12 40 05.7	+0.3
	baz=118						
MLY	Manley	66.88	336	P	P	12 40 05.6	-0.2
	baz=110						
CAST	Castle Rocks	66.89	334	P	P	12 40 05.6	-0.3
	baz=108						
G23K	Bananza Creek	67.21	338	P	P	12 40 07.7	-0.1
	baz=112						
N19K	Bonanza Creek	67.21	331	P	P	12 40 07.7	-0.3
	baz=105						
P18K	Big Mountain,	67.22	329	P	P	12 40 07.7	-0.4
	baz=104						
O18K	Koktuh Hills	67.32	330	P	P	12 40 07.9	-0.7
	baz=104						
L20K	Farewell, AK	67.39	333	P	P	12 40 08.5	-0.5
	baz=106						
COLD	Coldfoot	67.47	338	P	P	12 40 09.2	-0.2
	baz=112						
E23K	Chandalar	67.58	339	P	P	12 40 09.6	-0.6
	baz=113						
K20K	Telida	67.72	334	P	P	12 40 10.2	-1.0
	baz=106						
H21K	Melozitna Rive	67.90	336	P	P	12 40 11.4	-0.8
	baz=108						
C24K	Franklin Bluff	67.94	341	P	P	12 40 11.8	-0.5
	baz=114						
D23K	Nanushuk River	68.28	340	P	P	12 40 14.3	-0.3
	baz=112						
G21K	Allakaket	68.45	337	P	P	12 40 15.5	-0.1
	baz=108						
F21K	Alatna River	68.66	338	P	P	12 40 17.1	+0.1
	baz=108						
SONM	Songino Array	118.20	349	PKP	PKPdf	12 48 00.8	-0.2
	comp=Z,0.8nm,0.7s,baz=3.3,slow=1.6,SNR=5.3						
MKAR	Makanchi Array	120.18	7	PKP	PKPdf	12 48 03.0	-1.7
	comp=Z,0.4nm,0.7s,baz=27,slow=3.0,SNR=4.3						
WRA	Warramunga Ar	138.18	254	PKP	PKPdf	12 48 39.9	+0.4
	comp=Z,0.7nm,0.5s,baz=89,slow=2.4,SNR=14						
ASAR	Alice Springs	138.25	249	PKhKP	PKPpre	12 48 31.9	
	comp=Z,0.3nm,0.6s,baz=105,slow=3.3,SNR=7.4						
CMAR	Chiang Mai Arr	148.09	346	PKPbc	PKPbc	12 48 59.6	-0.6
	comp=Z,3.9nm,0.8s,baz=336,slow=3.5,SNR=2.6						

IDC 16 12:33:39.8±757.0, 50°.57N×51°.21E, h0km, Error ellipse: s-maj=371.2km s-min=99.6km az=88.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	4.36	89	I	I	13 00 10.0	
	0.3nm,0.7s,baz=275,slow=332,SNR=2.3						
I46RU	ZALESOVO INFRA	20.73	68	I	I	14 41 20.0	
	baz=274,slow=321,SNR=1.0						
I34MN	SONGINO INFRAS	35.48	72	I	I	16 11 40.0	
	baz=298,slow=342,SNR=2.1						

WEL 16 12:41:29.9±0.4, 42°.5N±3°×17°.4E±°, h22km±3km, M2.7/8, ML3.0/14, MLv2.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=123.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.24	187	P	Pb	12 41 37.8	+1.8
BSWZ	Blackbirch Sta	0.51	26	P	Pn	12 41 41.2	-0.6
BSWZ				S	Sn	12 41 49.3	-0.6
CMWZ	Cape Campbell	0.64	48	P	Pn	12 41 44.1	+0.4
THZ	Tophouse	0.65	309	P	Pb	12 41 42.8	+0.2
THZ				S	Sb	12 41 51.8	+0.6
TUWZ	Tuamarina	0.79	20	P	Pb	12 41 45.3	+0.4
TUWZ				S	Sn	12 41 56.5	-0.5
GVZ	Greta Valley S	0.89	207	P	Pn	12 41 47.1	0.0
GVZ				S	Sn	12 41 59.5	+0.2
NNZ	Nelson	0.97	351	P	Pb	12 41 47.7	-0.3
NNZ				S	Sn	12 42 01.6	+0.3
MRNZ	Matariki Terra	0.99	321	P	Pn	12 41 48.5	0.0
MRNZ				S	Sn	12 42 02.3	+0.6
TCW	Tory Channel	1.10	29	P	Pn	12 41 49.6	-0.4
TCW				S	Sb	12 42 04.2	+0.2
LTZ	Lake Taylor	1.14	237	P	Pb	12 41 50.8	-0.1
LTZ				S	Sb	12 42 05.2	-0.1
AMCZ	Amberley	1.21	214	P	Pn	12 41 51.2	-0.3
TKNZ	Takaka Hill	1.23	338	P	Pb	12 41 52.2	-0.2
TKNZ				S	Sb	12 42 08.9	+1.0
DSZ	Denniston Nort	1.39	287	P	Pb	12 41 55.0	-0.1
PLWZ	Palliser	1.39	65	P	Pn	12 41 53.2	-0.8
DUWZ	D'Urville Isla	1.40	11	P	Pn	12 41 54.4	+0.3
CAW	Cannon Point	1.54	47	P	Pn	12 41 55.4	-0.7
OKCZ	Okains Bay	1.59	194	P	Pn	12 41 56.5	-0.3
OXZ	Oxford	1.61	224	P	Pn	12 41 56.0	-1.1
KIW	Kapiti Island	1.65	38	P	Pn	12 41 57.2	-0.4
INZ	Inchbonnie	1.67	250	P	Pn	12 41 58.3	+0.4
MQZ	McQueen's Vall	1.67	204	P	Pn	12 41 56.2	-1.6
AKCZ	Akaroa Harbour	1.77	196	P	Pn	12 41 58.3	-0.9
OGWZ	Otaki Gorge	1.81	42	P	Pn	12 41 59.0	-0.7
RACZ	Rakaia	1.88	214	P	Pn	12 41 59.3	-1.4
WACZ	Wakanui South	2.18	215	P	Pn	12 42 03.5	-1.3
ARCZ	Arundel	2.50	224	P	Pn	12 42 08.1	-1.1
TMZ	Timaru	2.90	220	P	Pn	12 42 13.4	-1.3
ODZ	Otahua Downs	3.57	216	P	Pn	12 42 22.2	-1.8
KMRZ	Kaimai	4.69	24	P	Pn	12 42 38.2	-1.2

*MOS **16** 12:42:09.6±1.1, 3°.44N×98°.39E, h13km, mb5.7/81, MS5.4/35, Error ellipse: s-maj=7.4km s-min=3.6km az=117.2*

*IDC **16** 12:42:09.5±0.3, 3°.37N×98°.33E, h0km, mb5.0/35, mbtmp5.0/36, ML4.4/1, MS5.3/78, Error ellipse: s-maj=15.7km s-min=8.3km az=52.0*

*NEIC **16** 12:42:10.7±2.6, 3°.32N±0.05×98°.47E±0°.05, h6km±1km, mb5.7/165, Ms_20 5.7/263, Mwb5.5/37, Mwr5.7/17, Mww5.6/20, Error ellipse: s-maj=8.7km s-min=7.2km az=51.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.85; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$2.62; $M_{r\theta}$-2.19; $M_{\theta\phi}$-1.96; $M_{\phi r}$0.32; Fault plane solution: $M_0$3.76000×10^{17} NP1:ϕ_s121.23000°, δ69.06000°, λ-132.75000°. NP2: ϕ_s10.09000°, δ46.70000°, λ-29.42000°. Principal axes: T 3.8041, Plg13.0000°, Azm241.0000°; N -0.0808, Plg39.0000°, Azm140.0000°; P -3.7233, Plg48.0000°, Azm346.0000°; Moment Tensor Solution. Moment tensor: Scale 10^{17} Nm; M_{rr}-0.77; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$1.50; $M_{r\theta}$-1.36; $M_{\theta\phi}$-1.68; $M_{\phi r}$-0.55; Fault plane solution: $M_0$2.58000×10^{17} NP1:ϕ_s10.29000°, δ62.29000°, λ-25.58000°. NP2:ϕ_s112.84000°, δ67.52000°, λ-149.79000°. Principal axes: T 2.4158, Plg3.0000°, Azm241.0000°; N 0.3081, Plg53.0000°, Azm146.0000°; P -2.7238, Plg37.0000°, Azm333.0000°;*

*KLM **16** 12:42:12.3°.26N×98°.47E, h10km, mb6.0*

*DJA **16** 12:42:13.2±0.4, 3°.N±2°×9°.8E±°, h16km±3km, M5.5/97, mb5.4/97, mB6.0/74, MLv5.9/19, Mw5.6/52, Mw(mB)5.6/74, MwMwp5.3/39, Mwp5.5/39*

*GCMT **16** 12:42:13.7±0.1, 3°.33N±0°.01×98°.43E±0°.01, h13km, MW5.7/137, Moment Tensor Solution. s128,c228; s137,c271; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.73±.04; $M_{\theta\theta}$-0.74±.03; $M_{\phi\phi}$2.48±.04; $M_{r\theta}$-1.20±.10; $M_{\theta\phi}$-2.43±.03; $M_{\phi r}$-1.55±.11; Best double couple: $M_0$3.81700×10^{17} NP1:ϕ_s8.00000°, δ68.00000°, λ-40.00000°. NP2:ϕ_s115.00000°, δ54.00000°, λ-152.00000°. Principal axes: T 3.9090, Plg9.0000°, Azm64.0000°; N -0.1770, Plg46.0000°, Azm164.0000°; P -3.7260, Plg43.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **16** 12:42:14.7, 3°.33N×98°.42E, h10km, mb5.9, mB_BB6.1, Ms5.3*

*NEIC **16** 12:42:25.6, 3°.37N×98°.60E, h12km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.79; $M_{\theta\theta}$-1.04; $M_{\phi\phi}$1.83; $M_{r\theta}$-0.90; $M_{\theta\phi}$-2.02; $M_{\phi r}$-0.47; Fault plane solution: $M_0$2.76000×10^{17} NP1: ϕ_s13.89000°, δ70.18000°, λ-21.21000°. NP2:ϕ_s111.39000°, δ70.10000°, λ-158.86000°. Principal axes: T 2.8721, Plg0.0000°, Azm63.0000°; N -0.2302, Plg61.0000°, Azm153.0000°; P -2.6420, Plg29.0000°, Azm333.0000°;*

ISC 16 12:42:11.9±0.4, 3°.31N±0°.02×98°.36E±0°.03, h15km±2km, h15km:pP-P, n1386, σ1°60/1338, mb5.5/268, MS5.6/291, 61C-66D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	Tuntungan	0.28	47	P	Pg	12 42 17.0	-0.9
KCSI	Kotacane, Aceh	0.62	290	P	Pn	12 42 25.8	-0.4
PSI	Prapat	0.76	131	P	Pg	12 42 24.9	-1.9
	1μm,0.3s,baz=316,slow=14,SNR=3386						
PSI	Prapat	0.76	131	P	Pg	12 42 25.5	-1.2
PSI	Prapat	0.76	131	P	Pg	12 42 25.5	-1.2
RPSI	Rantau Prapat	0.83	137	Pg	Pb	12 42 25.5	-2.6
GSI	Gunungsitoli	2.14	201	Pn	Pn	12 42 48.3	+1.3
GSI	Gunungsitoli	2.14	201	P	Pb	12 42 49.7	-0.6
GSI	Gunungsitoli	2.14	201	P	Pn	12 42 47.9	+0.8
MLSI	Meulaboh, Aceh	2.17	296	P	Pn	12 42 51.3	+0.5
SNSI	Sinabang, Aceh	2.21	246	P	Pb	12 42 52.3	+0.7
LHMI	Lhok Sumawe	2.37	324		Pb	12 42 53.3	-1.0
LHMI	Lhok Sumawe	2.37	324	P	Pb	12 42 53.1	-1.2
LHMI	Lhok Sumawe	2.37	324	P	Pn	12 42 52.3	+2.1
MNSI	Mandailing Nat	2.78	154	P	Pn	12 42 57.0	+1.1
IPM	Ipoh	2.91	66	Pn	Pn	12 42 57.2	-0.5
IPM	Ipoh	2.91	66	P	Pn	12 42 58.6	+0.9
IPM	Ipoh	2.91	66	P	Pn	12 42 57.0	-0.7
PBSI	Pulau Batu	3.34	181	P	Pn	12 43 05.2	+1.6
BKNI	Bangkinang	4.00	138	P	Pn	12 43 16.2	+3.6
BKNI	Bangkinang	4.00	138	P	Pn	12 43 15.5	+2.9
JRMM	Jerantut	4.15	82	P	Pn	12 43 14.0	-0.8
SISI	Saibi	4.66	171	P	Pn	12 43 23.9	+2.1
PDSI	Padang	4.69	153	P	Pn	12 43 24.1	+1.9
SDSI	Sungai Dareh	5.21	144	P	Pn	12 43 31.6	+2.2
	940nm,1.1s,26μm8.3nm						
SRIT	Nakonsritamara	5.40	13		Pn	12 43 33.9	+2.0
SRIT	Nakonsritamara	5.40	13	P	Pn	12 43 34.3	+2.4
MYKOM	Kota Tinggi	5.69	105		Pn	12 43 34.4	-1.6
SURA	Surathani	5.96	12	P	Pn	12 43 40.9	+1.3
PPSI	Pulau Pagai	6.25	165	P	Pn	12 43 45.7	+2.0
	2μm,1.5s,22μm19μm8.1nm						
TPRI	Tanjung Pinang	6.61	111	P	Pn	12 43 47.9	-0.7
	476nm,1.2s,8μm20μm5.7nm						
JMBI	JAMBI	7.21	133	P	Pn	12 44 01.5	+4.6
	647nm,1.1s,7μm2.8nm						
DSRI	Dabo	7.27	121	P	Pn	12 43 58.4	+0.8
	134nm,1.1s,6μm12μm3.7nm						
MASI	Maura Aman, Be	7.49	149	P	Pn	12 44 04.7	+4.0
	540nm,1.2s,11μm7μm5.3nm						
KSI	Kapahiang	8.11	148	P	Pn	12 44 13.6	+4.4
MNAI	Manna	8.90	149	P	Pn	12 44 21.6	+1.6
	423nm,1.2s,13μm12μm						
PMBI	Palembang	8.92	134	P	Pn	12 44 26.4	+6.1
	420nm,1.3s,11μm11μm						
PPBI	Pangkal Pinang	9.49	125	P	Pn	12 44 30.2	+2.1
	53nm,1.1s,5μm11μm						
MDSI	Maura Dua	9.69	143	P	Pn	12 44 31.7	+0.9
	246nm,2.0s,7μm11μm						
PBA	Port Blair	9.98	326	Pn	Pn	12 44 37.5	+2.5
PBA	Port Blair	9.98	326	eP	Pn	12 44 38.5	+3.6
PBA	Port Blair	9.98	326	P	Pn	12 44 40.1	+5.1
	SNR=25						
LWLI	Liwa	10.04	145	P	Pn	12 44 38.3	+2.5
	531nm,1.5s,11μm12μm						
KLI	Kotabumi	10.40	141	P	Pn	12 44 43.1	+2.5
	198nm,1.2s,6μm9μm						
KASI	Kota Agung	10.71	145	P	Pn	12 44 47.0	+2.2
	135nm,1.5s,5μm						
BLSI	Bandar Lampung	11.03	141	P	Pn	12 44 51.6	+2.4
	165nm,0.4s,5μm						
DGPR	DIGLIPUR	11.18	332	eP	Pn	12 44 53.9	+2.7
NAYO	Nakonayok	11.32	15	P	Pn	12 44 55.7	+2.5
CGJI	Cibinong	12.28	143	P	Pn	12 45 07.3	+0.9
	239nm,2.2s,6μm						
DLV	T Lat	13.20	49	P	Pn	12 45 22.1	+3.0
LEM	Lembang	13.67	137	Pn	Pn	12 45 26.1	+0.7
	2.0nm,0.3s,baz=246,slow=12,SNR=7.0						
LEM				LR	LR	12 51 24.5	
	comp=Z,19μm,19.0s,baz=308,slow=40						
	33nm,0.9s						
LEM	Lembang	13.67	137	P	Pn	12 45 25.4	-0.1
	133nm,1.7s,5μm6μm						
CNJI	Cibinong	13.71	140	P	Pn	12 45 28.2	+2.3
	75nm,1.7s,2μm2μm						
UBPT	Khong Chiam	13.81	30	P	P	12 45 33.1	-2.5
JCJI	Jatiwangi	13.88	135	P	P	12 45 32.5	-4.0
	282nm,1.3s,9μm6μm						
BBJI	Bungbulang	14.16	139	P	Pn	12 45 33.6	+1.5
PBKI	Pangkalan Bun	14.59	114	P	Pn	12 45 40.3	+2.4
	293nm,1.2s,5μm						
KPJI	Karang Pucung	14.94	135	P	P	12 45 45.4	-2.8
	78nm,1.4s,4μm						
CM31	Chiang Mai Arr	15.07	2		Pn	12 45 46.4	+2.0
CMAR	Chiang Mai Arr	15.07	2	Pn	Pn	12 45 46.8	+2.3
	0.2nm,0.3s,baz=195,slow=12,SNR=58						
CMAR				LR	LR	12 51 32.1	
	comp=Z,18μm,18.3s,baz=180,slow=38						
CMAR	Chiang Mai Arr	15.07	2		Pn	12 45 46.3	+1.9
CMAR	Chiang Mai Arr	15.07	2	P	Pn	12 45 46.3	+1.9
PHRA	Phrae	15.21	7		P	12 45 49.2	-2.0
NONG	Nongkai	15.40	17	P	Pn	12 45 50.6	+1.8
CHTO	Chiang Mai	15.42	2		Pn	12 45 51.0	+1.9
CHTO	Chiang Mai	15.42	2	P	Pn	12 45 51.0	+1.9
CHTO				pmax	pmax		
	comp=Z,273nm,1.8s						
COCO	West Island	15.47	186	Pn	Pn	12 45 49.0	-0.7
COCO				IAmb	IAmb	12 45 58.7	
	comp=Z,1μm,1.6s						
COCO	West Island	15.47	186	P	Pn	12 45 49.0	-0.7
COCO				pmax	pmax		
	comp=Z,1μm,1.6s						
SMRI	Semarang	15.85	130	P	P	12 45 56.9	-1.5
SMRI				IAmb	IAmb	12 45 59.4	
	comp=Z,799nm,1.5s						
SMRI	Semarang	15.85	130	P	P	12 45 58.1	-0.3
SMRI	Semarang	15.85	130	P	P	12 45 57.7	-0.7
	comp=Z,373nm,2.4s,comp=Z,13μmcomp=Z,12μm						
UWJI	Ujung Watu	15.86	128	P	P	12 45 57.4	-1.0
	comp=Z,521nm,1.2s,comp=Z,10μm						
NGJI	Ngawi	16.84	129	P	P	12 46 10.7	+1.4
	comp=Z,551nm,1.6s,comp=Z,11μm						
CRAI	Chiangrai	16.93	7	P	P	12 46 11.1	+0.7
BWJI	Bawean	16.94	122	P	P	12 46 10.7	+0.3
	comp=Z,1μm,1.5s,comp=Z,16μmcomp=Z,7μm						
MTKI	Muara Teweh, K	17.06	104	P	Pn	12 46 10.6	+0.5
	comp=Z,243nm,2.2s,comp=Z,7μmcomp=Z,5μm						
GRJI	Gresik	17.38	126	P	P	12 46 15.6	+0

comp=Z,18µm,20.4s,baz=208,slow=42
MDRS Chennai 20.36 299 *e*P Pn 12 46 50.8 +0.7
VIS Vishakhapatnam 20.55 315 IAMs_20 IAMs_20 12 55 12.1
comp=Z,9µm,11.3s
DNP Denpasar 20.60 125 P Pn 12 46 53.3 +0.4
comp=Z,369nm,1.0s,comp=Z,22µm
PPR Puerto Princes 21.23 71⇑ *i*P **P 12 46 59.0 +1.5**
TNCH TengChong 21.60 0⇓P **P 12 47 04.3 +2.8**
TNCH pP sP 12 47 07.4 -0.7
TNCH sP pP 12 47 10.0 +4.0
TNCH PP **PnPn 12 47 27.0 +4.6**
TNCH S **S 12 51 01.8 +1.2**
TNCH sS sS 12 51 07.8 -0.1
TNCH SS **SnSn 12 51 33.5 +8.6**
TNCH pmax pmax
comp=Z,430nm,1.5s
TNCH pmax pmax
comp=Z,4µm,3.3s
TNCH LR LR
comp=Z,19µm,8.8s
TNCH LR LR
comp=Z,15µm,9.7s
TNCH LR LR
comp=Z,12µm,15.4s
SALM Salem 21.62 294⇓ *i*P **P 12 47 05.7 +4.0**
SALM IAmb IAmb 12 47 07.9
comp=Z,760nm,1.7s
MPSI Mapaga 21.73 97 P **P 12 47 04.1 +1.2**
comp=Z,162nm,1.4s,comp=Z,3µmcomp=Z,6µm
IMP Imphal 21.82 349 *e*P **P 12 47 04.1 +0.3**
KOD Kodaikanal 21.84 289⇓ *i*P **P 12 47 07.4 +3.0**
KOD IAMs_20 IAMs_20 12 57 15.9
comp=Z,8µm,15.2s
TRD Trivandrum 21.89 285 *e*P **P 12 47 06.8 +2.2**
TRD IAmb IAmb 12 47 10.5
comp=Z,143nm,1.0s
TRD IAMs_20 IAMs_20 12 55 16.8
comp=Z,9µm,17.0s
SILR SILCHAR 22.01 346 *ex* x 12 47 09.0
TWSI Taliwang, Sumb 22.01 123 P **P 12 47 05.2 -0.7**
comp=Z,163nm,1.1s,comp=Z,2µmcomp=Z,3µm
KMI Kunming 22.10 11⇓P **P 12 47 10.5 +3.5**
KMI sP sP 12 47 16.3 +2.8
KMI S **S 12 51 14.0 +3.6**
KMI pmax pmax
comp=Z,140nm,1.8s
KMI pmax pmax
comp=Z,3µm,4.3s
KMI LR LR
comp=Z,39µm,14.0s
KMI LR LR
comp=Z,18µm,13.3s
KMI LR LR
comp=Z,46µm,14.3s
TOLI2 Tolitoli 22.52 95 P **P 12 47 11.4 0.0**
TOLI2 IAmb IAmb 12 47 25.3
comp=Z,252nm,1.3s
TOLI2 Tolitoli 22.52 95 P **P 12 47 12.6 +1.3**
SPSI Sidrap Palu 22.59 108 P **P 12 47 12.7 +0.6**
comp=Z,143nm,2.3s,comp=Z,3µmcomp=Z,4µm
PLAI Plampang 22.81 122 P **P 12 47 15.8 +1.4**
PLAI Plampang 22.81 122 P **P 12 47 13.3 -1.1**
comp=Z,243nm,1.7s,comp=Z,3µmcomp=Z,3µm
KAPI Kappang 22.92 111 P **P 12 47 17.7 +2.1**
comp=Z,73nm,0.9s,baz=279,slow=8.9,SNR=18
KAPI LR LR 12 55 17.6
comp=Z,11µm,20.9s,baz=288,slow=34
comp=Z,73nm,0.9s
KAPI Kappang 22.92 111 P **P 12 47 15.3 -0.3**
KAPI IAmb IAmb 12 47 29.1
comp=Z,349nm,1.4s
KAPI Kappang 22.92 111 P **P 12 47 15.3 -0.3**
KAPI pmax pmax
comp=Z,349nm,1.4s
KAPI MLR MLR
comp=Z,12µm,21.0s
PCHI Peechi 22.98 289 *e*P **P 12 47 18.8 +2.5**
PCHI *e*S **S 12 51 29.7 +3.3**
SHL Shillong 22.99 345 P **P 12 47 15.5 -0.9**
SHL Shillong 22.99 345 *e*P **P 12 47 15.0 -1.4**
SHL IAMs_20 IAMs_20 12 58 45.1
comp=Z,8µm,20.7s
SHL Shillong 22.99 345 P **P 12 47 15.5 -0.9**
SHL pmax pmax
comp=Z,1µm,1.2s
SHL Shillong 22.99 345 P **P 12 47 16.2 -0.2**
SNR=396
JHSG JHARSUGUGA 23.18 324 *e*P **P 12 47 16.2 -1.9**
MOKO MOKOCHONG 23.18 351 *e*P **P 12 47 17.7 -0.5**
PZH PanZhiHua 23.29 8 P **P 12 47 20.8 +1.4**
PZH sP **sP 12 47 25.6 -0.4**
PZH PP **PnPn 12 47 51.3 +5.8**
PZH PcP **PcP 12 51 07.3 +0.5**
PZH S **S 12 51 32.3 +0.7**
PZH sS **sS 12 51 40.0 +0.8**
PZH pmax pmax
comp=Z,180nm,1.5s
PZH pmax pmax
comp=Z,2µm,4.6s
PZH LR LR
comp=Z,23µm,15.9s
PZH LR LR
comp=Z,32µm,16.9s
PZH LR LR
comp=Z,26µm,14.7s
BKSI Bulukumba 23.37 111 P **P 12 47 20.8 +0.6**
comp=Z,380nm,1.1s,comp=Z,8µmcomp=Z,3µm
GUWA GUWAHATI 23.64 345 *e*P **P 12 47 21.6 -1.1**
BOK Bokaro 23.66 330 *e*P **P 12 47 21.5 -1.5**
BOK IAmb IAmb 12 47 30.2
comp=Z,71nm,1.2s
BOK IAMs_20 IAMs_20 13 00 05.3
comp=Z,4µm,17.0s
MRSI Marisa 23.74 96 P **P 12 47 23.2 -0.6**
comp=Z,172nm,2.2s,comp=Z,3µmcomp=Z,4µm
TEZP TEZPUR 23.78 348 *e*P **P 12 47 23.5 -0.6**
HYB Hyderabad 23.96 307 *e*P **P 12 47 25.4 -0.5**
HYB IVmB_BB 12 47 28.2
comp=Z,1µm,2.3s
HYB *e*S **S 12 51 46.0 +3.7**
HYB IVMs_BB IVMs_BB 12 56 30.7
comp=Z,937nm,18.8s
HYB Hyderabad 23.96 307 *e*P **P 12 47 25.1 -0.8**
HYB IAmb IAmb 12 47 28.8
comp=Z,89nm,1.0s
HYB IAMs_20 IAMs_20 12 58 48.9
comp=Z,4µm,20.7s
LKP Lekhapani 24.01 355 *e*P **P 12 47 26.5 +0.3**
BSSI Bau Bau, Buton 24.02 113 P **P 12 47 25.5 -0.9**
comp=Z,235nm,1.6s,comp=Z,4µmcomp=Z,4µm
DIBR DIBRUGARH 24.25 353 *e*P **P 12 47 28.1 -0.3**
HKPS Hong Kong Po S 24.29 38 P **P 12 47 32.1 +3.2**
GYA Guiyang 24.36 18⇓P **P 12 47 30.6 +1.0**
GYA sP sP 12 47 38.3 +2.0
GYA S **S 12 51 51.3 +2.6**
GYA sS sS 12 51 56.9 +0.6
GYA pmax pmax
comp=Z,200nm,1.4s
GYA pmax pmax
comp=Z,2µm,3.5s
GYA LR LR
comp=Z,13µm,9.7s
GYA LR LR
comp=Z,14µm,10.7s
GYA LR LR
comp=Z,21µm,10.3s
ZIRO ZIRO 24.46 350 *e*P **P 12 47 30.6 -0.1**
LUWI Luwuk 24.79 100 P **P 12 47 33.7 +0.2**
LUWI IAmb IAmb 12 47 44.8
comp=Z,380nm,1.2s
LUWI Luwuk 24.79 100 P **P 12 47 36.0 +2.5**
LUWI Luwuk 24.79 100 P **P 12 47 34.5 +1.0**
comp=Z,287nm,1.2s,comp=Z,5µm
CNOP Candoni, Negro 24.97 74⇓ *e*P **P 12 47 38.5 +3.4**
MNGI Mangalore 25.16 294 *e*P **P 12 47 39.0 +2.2**
LQP Lukban 25.27 63⇑ *e*P **P 12 47 38.3 +0.2**
PAGZ Pagadian 25.31 79⇑ *i*P **P 12 47 39.8 +1.6**
KAAM Kaadhehdhoo 25.50 264 P **P 12 47 42.0 +2.1**
RCP Roxas 25.52 70⇓ *e*P **P 12 47 44.4 +4.3**
MNCI Minicoy 25.64 282 P **P 12 47 41.3 +0.1**
MNCY Minicoy 25.66 282 IAMs_20 IAMs_20 12 59 49.3
comp=Z,8µm,17.0s
ODAN Odare 25.67 337 *e*P **P 12 47 40.9 -0.7**
comp=Z,24nm,1.4s
BASI Baing, Sumba 25.89 122 P **P 12 47 43.8 +0.3**
comp=Z,977nm,1.6s,comp=Z,12µm
TAPN Taplejung 25.98 338 *e*P **P 12 47 44.0 -0.5**
comp=Z,222nm,0.9s
RAMN Ramite 26.06 336 *e*P **P 12 47 44.1 -1.1**
comp=Z,231nm,1.2s
LATR Latur 26.09 307 *e*P **P 12 47 44.4 -0.9**
LATR IAMs_20 IAMs_20 13 02 51.4
comp=Z,3µm,17.2s
TBP Tagbilaran 26.11 75 *e*P **P 12 47 46.1 +0.6**
GHBP Garcia Hernand 26.54 75⇑ *i*P **P 12 47 52.4 +3.0**
JBP Jabalpur 26.57 320 *e*P **P 12 47 51.0 +1.5**
JBP *e*S **S 12 52 33.2 +10**
MMRI Maumere 26.61 117 P **P 12 47 46.6 -3.4**
MMRI IAmb IAmb 12 48 15.3
comp=Z,180nm,1.2s
MMRI Maumere 26.61 117 P **P 12 47 49.6 -0.4**
comp=Z,140nm,1.5s,comp=Z,2µm
TABP Talibon, Bohol 26.65 74⇑ *i*P **P 12 47 50.8 +0.5**
JIRN Jiri 26.86 336 *e*P **P 12 47 51.4 -1.1**
comp=Z,70nm,0.9s
GOA Goa 27.02 298⇓ *i*P **P 12 47 55.2 +1.6**
GOA IAmb IAmb 12 48 00.5
comp=Z,218nm,1.6s
GOA IAMs_20 IAMs_20 12 59 47.4
comp=Z,4µm,13.2s
AKL Akola 27.04 311 *ex* x 12 47 50.5
ALBI Allahabad 27.05 325⇓ *i*P **P 12 47 52.4 -1.5**
PKI Pulchoki 27.11 334 *e*P **P 12 47 53.8 -1.0**
comp=Z,146nm,1.1s
LSA Lhasa 27.12 346 P **P 12 47 55.1 +0.1**
LSA Lhasa 27.12 346 P **P 12 47 55.3 +0.3**
LSA pmax pmax
comp=Z,43nm,1.3s
LSA LR LR
comp=Z,5µm,25.6s
LSA LR LR
comp=Z,6µm,28.5s
LSA LR LR
comp=Z,6µm,28.5s
LSA Lhasa 27.12 346 P **P 12 47 55.1 +0.1**
LSA pmax pmax
comp=Z,84nm,1.1s
LSA MLR MLR
comp=Z,4µm,18.0s
LSA Lhasa 27.12 346 P **P 12 47 54.9 -0.1**
PKIN Phulchoki 27.12 334 *e*P **P 12 47 53.8 -1.0**
DMN Daman 27.28 334 *e*P **P 12 47 55.3 -0.9**
KKN Kakani 27.36 334 *e*P **P 12 47 56.5 -0.4**
comp=Z,35nm,1.6s
DAV Davao City (W) 27.36 81 P **P 12 47 58.1 +1.2**
comp=Z,180nm,0.4s,baz=158,slow=7.9,SNR=1.8
DAV LR LR 13 01 13.2
comp=Z,7µm,18.4s,baz=208,slow=42
GKN Gorkha 27.83 333 *e*P **P 12 48 00.5 -0.5**
CD2 Chengdu 27.93 10 P **P 12 48 02.0 +0.3**
CD2 pP pP 12 48 05.8 -0.7
CD2 sP sP 12 48 07.0 -1.4
CD2 S **S 12 52 44.5 -0.6**
CD2 sS sS 12 52 55.9 +3.2
CD2 pmax pmax
comp=Z,110nm,1.3s
CD2 pmax pmax
comp=Z,740nm,9.2s
CD2 LR LR
comp=Z,17µm,12.2s
CD2 LR LR
comp=Z,14µm,14.3s
CD2 LR LR
comp=Z,36µm,14.7s
H08S2 Diego Garcia H 28.00 247 T T 13 15 37.1
baz=70,slow=75,SNR=176
H08S3 Diego Garcia H 28.01 247 T T 13 15 56.3
baz=70,slow=75,SNR=130
H08S1 Diego Garcia H 28.02 247 T T 13 15 43.0
baz=70,slow=75,SNR=88
SANI Sanana 28.13 101 P **P 12 48 06.0 +2.3**
SANI Sanana 28.13 101 P **P 12 48 02.0 -1.7**
comp=Z,48nm,1.5s,comp=Z,906nmcomp=Z,2µm
BHPL Bhopal 28.34 316 *e*P **P 12 48 03.9 -1.6**
BHPL IAmb IAmb 12 48 09.3
comp=Z,22nm,1.2s
BHPL IAMs_20 IAMs_20 12 59 41.1
comp=Z,7µm,18.0s
POO Poona 28.36 304⇓ *i*P **P 12 48 05.9 +0.2**
CNSH ChangSha 28.37 28⇓P **P 12 48 06.0 +0.4**
CNSH S **S 12 52 52.0 -0.1**
CNSH LR LR
comp=Z,22µm,18.1s
CNSH LR LR
comp=Z,26µm,16.9s
CNSH LR LR
comp=Z,27µm,12.8s
DANN Dangsing 28.52 332 *e*P **P 12 48 06.5 -0.9**
comp=Z,207nm,1.2s
BATI Baumata 28.56 118 P **P 12 48 05.2 -2.3**
comp=Z,33nm,0.8s,baz=68,slow=18,SNR=4.6
BATI Baumata 28.56 118 P **P 12 48 04.9 -2.6**
comp=Z,51nm,1.0s
KNMB Chin-men Tao 28.56 41 IAMs_20 IAMs_20 13 00 11.6
comp=Z,19µm,19.0s
ENH Enshi 28.82 20 P **P 12 48 09.4 -0.2**
ENH IAmb IAmb 12 48 36.2
comp=Z,144nm,1.4s
ENH IAMs_20 IAMs_20 13 00 50.3
comp=Z,19µm,19.0s
SOEI Soe 28.89 117 P **P 12 48 07.2 -3.4**
SOEI IAmb IAmb 12 48 22.0
comp=Z,174nm,1.2s
SOEI IAMs_20 IAMs_20 13 00 30.5
comp=Z,15µm,20.0s
SOEI Soe 28.89 117 P **P 12 48 13.6 +3.0**
SOEI Soe 28.89 117 P **P 12 48 07.6 -3.0**
comp=Z,140nm,1.3s,comp=Z,1µm
JHNI Jhansi 29.13 321 *e*P **P 12 48 08.9 -3.5**
JHNI IAMs_20 IAMs_20 13 00 16.3
comp=Z,11µm,19.9s
TPUB Ta-pu 29.32 45 IAMs_20 IAMs_20 12 59 19.8
comp=Z,16µm,21.0s
YULB Yu-li 29.85 46 P **P 12 48 21.0 +2.1**
SSLB Suanglung 29.85 45 IAMs_20 IAMs_20 12 59 48.0
comp=Z,17µm,21.0s
SSLB Suanglung 29.85 45 P **P 12 48 22.3 +3.4**
AAI Ambon 30.62 103 P **P 12 48 26.1 +0.3**
comp=Z,52nm,0.6s
YHNB Yeheng 30.71 44 IAMs_20 IAMs_20 13 00 24.8
comp=Z,11µm,20.0s
WHN Wuhan 31.02 27⇑ P **P 12 48 30.9 +1.8**
WHN sP sP 12 48 44.8 +9.0
WHN S **S 12 53 38.0 +4.3**
WHN LR LR
comp=Z,65µm,11.3s
WHN LR LR
comp=Z,46µm,14.2s
WHN LR LR
comp=Z,88µm,13.5s
LGTI Lohaghat 31.17 328 *i* P **P 12 48 27.3 -3.1**
LGTI IAMs_20 IAMs_20 13 02 40.1
comp=Z,6µm,17.2s
PTH Pithoragarh 31.26 328 *e*P **P 12 48 29.9 -1.6**
PTH IAMs_20 IAMs_20 13 02 38.8
comp=Z,2µm,14.6s
XAN Xi'an 32.12 17⇓P **P 12 48 38.8 0.0**
XAN sP sP 12 48 45.1 -0.5
XAN PP **PnPn 12 49 45.6 +0.9**
XAN S **S 12 53 47.6 -3.3**
XAN sS sS 12 53 57.8 -0.8
XAN SS SS 12 55 40.4 -29
XAN ScS **ScS 12 59 08.8 -1.3**
XAN pmax pmax
comp=Z,82nm,1.2s
XAN pmax pmax
comp=Z,570nm,4.1s
XAN LR LR
comp=Z,17µm,11.3s
XAN LR LR
comp=Z,18µm,11.9s
XAN LR LR
comp=Z,28µm,11.3s
NDI New Delhi 32.27 324 *e*P **P 12 48 38.4 -1.8**
NDI IAMs_20 IAMs_20 13 02 47.1
comp=Z,9µm,16.9s
AJM Ajmer 32.36 318 *e*P **P 12 48 37.4 -3.6**
AJM IAMs_20 IAMs_20 13 02 24.0
comp=Z,9µm,19.1s
GOMU GeErMu 32.89 355 P **P 12 48 46.0 +0.1**
GOMU pP pP 12 48 49.6 -1.1
GOMU sP sP 12 48 53.3 +0.6
GOMU PP **PnPn 12 49 57.6 +2.7**
GOMU S **S 12 53 57.1 -6.4**
GOMU LR LR
comp=Z,5µm,13.7s
GOMU LR LR
comp=Z,3µm,13.8s
GOMU LR LR
comp=Z,3µm,13.6s
LZH Lanzhou 33.01 8⇓P **P 12 48 47.1 +0.4**
LZH pP pP 12 48 51.3 -0.2
LZH sP sP 12 48 54.8 +1.3
LZH PcP **PcP 12 51 31.9 +1.4**
LZH S **S 12 54 01.3 -3.6**
LZH ScS **ScS 12 59 14.4 -0.4**
LZH pmax pmax
comp=Z,300nm,5.5s
LZH LR LR
comp=Z,13µm,15.1s
LZH LR LR
comp=Z,34µm,15.1s
LZH LR LR
comp=Z,12µm,14.1s
LYN LuoYang 33.74 21⇓P **P 12 48 54.3 +1.4**
LYN PP **PnPn 12 50 05.4 +0.1**
LYN S **S 12 54 15.5 -0.5**
LYN pmax pmax
comp=Z,50nm,1.4s
LYN pmax pmax
comp=Z,640nm,4.9s
LYN LR LR
comp=Z,10µm,13.0s
LYN LR LR
comp=Z,15µm,12.2s
LYN LR LR
comp=Z,15µm,13.0s
SMLA Simla 34.13 326 *e*P **P 12 48 54.0 -2.3**
FITZ Fitzroy Crossi 34.29 129 P **P 12 48 55.8 -2.0**
FITZ Fitzroy Crossi 34.29 129 P **P 12 48 57.1 -0.8**
FAKI Fak Fak 34.44 100 P **P 12 48 57.6 -1.7**
FAKI IAmb IAmb 12 49 04.5
comp=Z,125nm,1.6s
FAKI Fak Fak 34.44 100 P **P 12 49 01.1 +1.8**
FAKI Fak Fak 34.44 100 P **P 12 48 57.9 -1.4**
comp=Z,49nm,1.3s,comp=Z,950nm
NJ2 Nanjing 34.48 32 *e*P **P 12 49 00.3 +1.0**
NJ2 S **S 12 54 29.8 +2.4**
NJ2 sS **sS 12 54 35.4 +0.2**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 LR LR
comp=Z,21µm,18.0s
NJ2 LR LR
comp=Z,25µm,17.5s
NJ2 LR LR
comp=Z,28µm,15.0s
SSE Sheshan 35.04 35 P **P 12 49 03.3 -0.9**
SSE S **S 12 54 37.0 +1.0**
SSE pmax pmax
comp=Z,200nm,5.8s
SSE LR LR
comp=Z,8µm,16.5s
SSE LR LR
comp=Z,8µm,16.5s
KNRA Kununurra 35.51 123 P **P 12 49 08.7 +0.3**
baz=36,SNR=7.9
KNRA Kununurra 35.51 123 P **P 12 49 06.1 -2.3**
KNRA Kununurra 35.51 123 P **P 12 49 10.3 +1.9**
MEEK Meekatharra 35.63 148 P **P 12 49 11.1 +1.7**
baz=36,SNR=5.2
GTA Gaotai 35.96 2 *e*P **P 12 49 12.1 -0.1**
GTA PP **PP 12 50 39.1 +5.0**
GTA PcP **PcP 12 51 39.8 +0.9**
GTA S **S 12 54 51.9 +1.6**
GTA sS sS 12 54 59.5 +1.5
GTA ScS **ScS 12 59 28.5 -1.8**
GTA pmax pmax
comp=Z,300nm,5.1s
GTA LR LR
comp=Z,4µm,18.2s
GTA LR LR
comp=Z,7µm,13.1s
GTA LR LR
comp=Z,7µm,18.2s
RKPI Ransiki, Papua 36.13 97 P **P 12 49 13.3 -0.5**
comp=Z,136nm,1.3s,comp=Z,2µm
MTN Manton Dam 36.29 117 P **P 12 49 15.8 +0.6**
baz=36,SNR=4.6
MTN Manton Dam 36.29 117 P **P 12 49 15.8 +0.6**
MORW Morawa 36.39 153 P **P 12 49 18.0 +2.2**
baz=37,SNR=4.0
MORW Morawa 36.39 153 P **P 12 49 14.2 -1.6**
MORW Morawa 36.39 153 P **P 12 49 18.9 +3.0**
TIY Taiyuan 36.59 19 *e*P **P 12 49 18.5 +0.9**
TIY PP **PP 12 50 46.9 +5.9**
TIY S **S 12 55 00.4 +0.5**
TIY pmax pmax
comp=Z,350nm,3.8s
TIY LR LR
comp=Z,9µm,15.1s
TIY LR LR
comp=Z,12µm,13.6s
TIY LR LR
comp=Z,15µm,12.0s
JOW Kunigami 36.97 48 LR LR 13 03 49.4
comp=Z,5µm,20.9s,baz=249,slow=35
TIA Tai'an 37.04 26 *e*P **P 12 49 21.8 +0.5**
TIA PcP **PcP 12 51 42.8 +0.7**
TIA S **S 12 55 07.5 +0.8**
TIA pmax pmax
comp=Z,13nm,0.8s
TIA pmax pmax
comp=Z,360nm,3.1s
TIA LR LR
comp=Z,8µm,18.0s
TIA LR LR
comp=Z,20µm,17.2s
TIA LR LR
comp=Z,4µm,12.9s
HNS HongShan 37.10 22⇓P **P 12 49 23.1 +1.3**
HNS PcP **PcP 12 51 42.8 +0.6**
HNS S **S 12 55 09.1 +1.6**
HNS PcS **PcS 12 55 30.5 +0.2**
HNS pmax pmax
comp=Z,39nm,1.6s
HNS pmax pmax
comp=Z,450nm,4.5s
HNS LR LR
comp=Z,5µm,14.3s
HNS LR LR
comp=Z,9µm,15.9s
HNS LR LR
comp=Z,12µm,14.7s
KDU Kakadu 37.43 116 P **P 12 49 23.5 -1.3**
baz=37,SNR=8.6
KDU Kakadu 37.43 116 P **P 12 49 27.2 +2.3**
NIL Nilore 38.21 325 P **P 12 49 30.1 -1.2**
NIL Nilore 38.21 325 P **P 12 49 30.1 -1.2**
NIL pmax pmax
comp=Z,60nm,1.1s
NIL MLR MLR
comp=Z,6µm,20.0s
BTO Baotou 38.60 14 *e*P **P 12 49 34.8 +0.3**
BTO PP **PnPn 12 51 09.8 +4.8**
BTO S S 12 55 21.1 -9.2
MUN Mundaring 38.98 156 P **P 12 49 40.5 +2.8**
baz=39,SNR=5.8
MUN Mundaring 38.98 156 P **P 12 49 40.6 +2.9**
HHC Hu-ho-hao-te 39.23 16 *e*P **P 12 49 41.3 +1.5**
HHC PP **PnPn 12 51 15.8 +3.2**
HHC S **S 12 55 41.0 +1.2**
HHC ScS **ScS 12 59 46.0 -2.7**
HHC pmax pmax
comp=Z,54nm,0.9s
HHC pmax pmax
comp=Z,930nm,4.4s
HHC LR LR
comp=Z,20µm,15.9s
HHC LR LR
comp=Z,15µm,14.6s
HHC LR LR
comp=Z,27µm,15.2s
KLBR Kellerberrin 39.31 153 P **P 12 49 42.8 +2.3**
baz=40,SNR=6.9
KLBR Kellerberrin 39.31 153 P **P 12 49 42.5 +2.0**

BJT Baijiatuau 39.95 21 P **P** **12 49 46.6 +0.9**
BJT Baijiatuau 39.95 21 P **P** **12 49 46.6 +0.9**
BJT pmax pmax
comp=Z,69nm,1.1s
BJT MLR MLR
comp=Z,6μm,18.0s
BJI Beijing 39.97 21 P **P** **12 49 47.3 +1.5**
BJI pP **pP** **12 49 50.1 -0.6**
BJI sP **sP** **12 49 51.4 -1.2**
BJI S **S** **12 55 53.8 +3.1**
BJI pmax pmax
comp=Z,25nm,1.1s
BJI pmax pmax
comp=Z,270nm,3.5s
BJI LR LR
comp=Z,3μm,14.3s
BJI LR LR
comp=Z,3μm,14.9s
BJI LR LR
comp=Z,4μm,16.9s
NWAO Narrogin (SRO) 40.23 155 P **P** **12 49 48.4 +0.3**
comp=Z,22nm,1.0s
NWAO LR LR 13 05 06.1
comp=Z,3μm,21.3s,slow=34
comp=Z,22nm,1.0s
NWAO Narrogin (SRO) 40.23 155 P **P** **12 49 51.4 +3.2**
baz=40,SNR=4.1
NWAO P **P** **12 49 51.4 +3.2**
baz=40,SNR=4.1
NWAO Narrogin (SRO) 40.23 155 P **P** **12 49 47.1 -1.0**
NWAO IAmb IAmb 12 49 53.1
comp=Z,171nm,1.6s
NWAO Narrogin (SRO) 40.23 155 P **P** **12 49 51.5 +3.4**
NWAO Narrogin (SRO) 40.23 155 P **P** **12 49 50.9 +2.8**
NWAO Narrogin (SRO) 40.23 155 P **P** **12 49 45.6 -2.5**
WRKA Warakurna 40.48 136 P **P** **12 49 49.4 -1.0**
baz=41,SNR=7.0
WRKA Warakurna 40.48 136 P **P** **12 49 49.4 -1.0**
SMPI Sarmi 40.68 97 P **P** **12 49 51.8 -0.3**
comp=Z,83nm,2.1s,comp=Z,2μm
H01W3 Cape Leeuwin H 40.78 160 T T 13 33 56.3
baz=334
H01W2 Cape Leeuwin H 40.80 160 T T 13 33 55.5
baz=334,slow=74
H01W1 Cape Leeuwin H 40.80 160 T T 13 33 55.4
baz=334,slow=74
DL2 Dalian 41.29 28 P **P** **12 49 57.8 +1.0**
DL2 PP **PP** **12 51 37.3 +5.1**
DL2 S **S** **12 56 10.0 -0.4**
DL2 pmax pmax
comp=Z,42nm,1.0s
DL2 pmax pmax
comp=Z,770nm,5.6s
DL2 LR LR
comp=Z,6μm,15.2s
DL2 LR LR
comp=Z,14μm,16.3s
DL2 LR LR
comp=Z,10μm,17.9s
KBL Kabul 41.33 322 P **P** **12 49 56.2 -1.2**
KBL Kabul 41.33 322 P **P** **12 49 56.2 -1.2**
KBL pmax pmax
comp=Z,34nm,1.4s
KBL Kabul 41.33 322 P **P** **12 49 56.5 -0.9**
SNR=11
KSH Kashi 41.38 334 P **P** **12 49 54.9 -2.8**
KSH PP **PP** **12 51 35.0 +1.7**
KSH PcP **PcP** **12 51 57.3 +1.5**
KSH sS sS 12 56 19.1 -0.8
KSH pmax pmax
comp=Z,280nm,12.2s
KSH LR LR
comp=Z,2μm,17.6s
KSH LR LR
comp=Z,5μm,17.9s
KSH LR LR
comp=Z,3μm,21.7s
WMQ Urumqi 41.44 348 ⇓P **P** **12 49 58.3 +0.3**
WMQ pP sP 12 50 05.6 +0.8
WMQ S **S** **12 56 10.8 -1.9**
WMQ SS **SS** **12 59 13.3 -3.9**
WMQ pmax pmax
comp=Z,38nm,1.1s
WMQ pmax pmax
comp=Z,270nm,4.9s
WMQ LR LR
comp=Z,3μm,17.3s
WMQ LR LR
comp=Z,6μm,17.3s
WMQ LR LR
comp=Z,3μm,22.1s
JLN Jalan Bani Buh 42.15 300 P **P** **12 50 06.0 +1.9**
SNR=38
JLN P **P** **12 50 06.0 +1.9**
SNR=38
WB0 Warramunga Arr 42.18 124 P **P** **12 50 02.1 -2.3**
GENI Genyem 42.20 97 P **P** **12 50 04.8 +0.1**
GENI Genyem 42.20 97 P **P** **12 50 03.9 -0.8**
comp=Z,94nm,1.7s
WRA Warramunga Arr 42.22 125 P **P** **12 50 04.2 -0.5**
comp=Z,43nm,0.8s,baz=301,slow=9.1,SNR=82
WRA PcP **PcP** **12 51 58.6 -0.3**
comp=Z,4.3nm,0.8s,baz=317,slow=2.6,SNR=10.0
WRA S **S** **12 56 19.7 -5.1**
comp=Z,2.2nm,1.1s,baz=294,slow=14,SNR=5.5
WRA LR LR 13 09 04.4
comp=Z,4μm,18.4s,baz=298,slow=38
comp=Z,43nm,0.8s
WRA Warramunga Arr 42.22 125 P **P** **12 50 02.9 -1.9**
WRA Warramunga Arr 42.22 125 *i* P **P** **12 50 04.1 -0.6**
WRA pmax pmax
comp=Z,48nm,0.8s
WRAB Tennant Creek 42.23 125 P **P** **12 50 03.8 -1.0**
WRAB Tennant Creek 42.23 125 P **P** **12 50 04.4 -0.4**
WRAB Tennant Creek 42.23 125 *ce*P **P** **12 50 03.6 -1.2**
WRAB pmax pmax
comp=Z,152nm,1.7s
WB2 Warramunga Arr 42.23 125 P **P** **12 50 03.3 -1.5**
WR0 Warramunga Arr 42.39 125 P **P** **12 50 05.5 -0.7**
WR0 IAmb IAmb 12 50 08.6
comp=Z,91nm,0.8s
TJN Taejon 42.40 35 P **P** **12 50 09.1 +3.2**
JNU Nakatsue 42.47 42 LR LR 13 08 47.4
comp=Z,8μm,18.9s,baz=237,slow=38
WBK Wadi Bani Khal 42.70 300 P **P** **12 50 11.0 +2.4**
SNR=21
INCN Inchon 42.77 34 IAMs_20 IAMs_20 13 09 16.5
comp=Z,8μm,19.0s
MHTO MHTO 43.03 297 P **P** **12 50 13.0 +1.7**
SNR=23
MHTO P **P** **12 50 13.0 +1.7**
SNR=23
DQM DQM 43.09 296 P **P** **12 50 15.0 +3.2**
SNR=13
DQM P **P** **12 50 15.0 +3.2**
SNR=13
SHLS Shalkode 43.09 340 *e*P **P** **12 50 09.8 -1.9**
baz=340
SHLS *e*PP **PP** **12 51 49.8 -2.0**
baz=340
SHLS *e*PcP **PcP** **12 52 00.8 -0.7**
baz=340
SHLS Shalkode 43.09 340 *e*P **P** **12 50 09.7 -1.9**
SHLS *e* 12 51 49.8
SHLS *e* 12 52 00.7
WSAR Wadi Sarin 43.22 301 LR LR 13 08 33.0
comp=Z,2μm,18.8s,baz=124,slow=37
UZB Uzynbulak 43.24 339 *e*P **P** **12 50 11.9 -0.9**
baz=339
UZB *e*PcP **PcP** **12 52 01.5 -0.4**
baz=339
UZB Uzynbulak 43.24 339 *e*P **P** **12 50 11.8 -1.0**
UZB *e* 12 52 01.5
XLT XiLinHaoTe 43.36 19 ⇓*i*P **P** **12 50 14.3 +0.6**
XLT pP pP 12 50 17.1 -1.5
XLT S **S** **12 56 40.3 -0.8**
XLT pmax pmax
comp=Z,43nm,1.2s
XLT pmax pmax
comp=Z,380nm,5.5s
XLT LR LR
comp=Z,1μm,13.2s
XLT LR LR
comp=Z,10μm,12.9s
XLT LR LR
comp=Z,13μm,13.5s

JMDO Jabal Madar 43.37 299 P **P** **12 50 16.0 +2.0**
SNR=24
JMDO P **P** **12 50 16.0 +2.0**
SNR=24
SATY Saty 43.38 339 *e*P **P** **12 50 13.1 -0.9**
baz=339
SATY *e*PcP **PcP** **12 52 01.5 -0.9**
baz=339
SATY Saty 43.38 339 *e*P **P** **12 50 13.0 -0.9**
SATY *e* 12 52 01.5
KSAR Wonju Array Be 43.44 35 P **P** **12 50 14.1 -0.2**
KSAR Wonju Array Be 43.44 35 P **P** **12 50 14.1 -0.2**
ZHN Zhinishke 43.46 339 *e*P **P** **12 50 13.4 -1.3**
baz=339
ZHN Zhinishke 43.46 339 *e*P **P** **12 50 13.3 -1.3**
KSRS Korea Array 43.47 35 P **P** **12 50 14.6 0.0**
comp=Z,13nm,1.1s,baz=221,slow=9.4,SNR=12
KSRS LR LR 13 09 31.3
comp=Z,8μm,18.4s,baz=230,slow=38
comp=Z,13nm,1.1s
ULHL Ulahol 43.52 336 P **PcP** **12 52 04.2 +1.2**
SNR=13
KPKS Kokpek 43.63 339 *e*P **P** **12 50 15.0 -0.9**
baz=339
KPKS Kokpek 43.63 339 *e*P **P** **12 50 15.0 -0.9**
SMDO Samad 43.65 300 P **P** **12 50 18.1 +1.7**
SNR=32
GAR Garm 43.73 328 P **P** **12 50 15.3 -1.6**
ASAR Alice Springs 43.79 130 P **P** **12 50 17.4 -0.1**
comp=Z,13nm,0.8s,baz=301,slow=7.4,SNR=87
ASAR PcP **PcP** **12 52 04.3 +0.2**
comp=Z,7.1nm,1.0s,baz=298,slow=3.6,SNR=5.7
ASAR PKiKP **PKiKP** **12 59 06.2 +0.2**
comp=Z,0.3nm,0.7s,baz=348,slow=1.0,SNR=4.9
ASAR LR LR 13 10 21.8
comp=Z,4μm,19.2s,baz=302,slow=39
comp=Z,13nm,0.8s
ASAR Alice Springs 43.79 130 P **P** **12 50 16.1 -1.4**
AS31 Alice Springs 43.79 130 P **P** **12 50 16.4 -1.0**
AS01 Alice Springs 43.82 130 P **P** **12 50 17.5 -0.2**
comp=Z,28nm,1.1s
TNSS Tian-Shan 43.91 337 *e*P **P** **12 50 17.4 -1.2**
baz=337
TNSS Tian-Shan 43.91 337 *e*P **P** **12 50 17.3 -1.2**
MDOK Medeo 43.98 337 P **P** **12 50 17.9 -0.9**
CHGR Chuyangaron 44.11 327 P **P** **12 50 18.4 -1.4**
CHGR IAmb IAmb 12 51 17.1
comp=Z,168nm,1.4s
CHGR Chuyangaron 44.11 327 P **P** **12 50 18.4 -1.4**
CHGR pmax pmax
comp=Z,168nm,1.4s
FORT Forrest 44.18 142 P **P** **12 50 20.6 +0.2**
baz=44,SNR=24
FORT Forrest 44.18 142 P **P** **12 50 19.8 -0.6**
FORT Forrest 44.18 142 P **P** **12 50 21.9 +1.5**
SIMJ Simiganj 44.19 327 P **P** **12 50 18.4 -2.1**
UCH Uchtor 44.23 335 P **P** **12 50 20.3 -0.9**
SNR=16
BSY Bisya 44.28 300 P **P** **12 50 24.0 +2.7**
SNR=50
BSY P **P** **12 50 24.0 +2.7**
SNR=50
TKM2 Tokmak 2 44.34 336 P **P** **12 50 21.0 -0.8**
SNR=14
KBK Karagaybulak 44.39 335 P **P** **12 50 21.9 -0.3**
SNR=23
HOQ Hoqain 44.47 301 P **P** **12 50 25.1 +2.2**
SNR=30
AML Almayashu 44.50 334 P **P** **12 50 22.3 -1.0**
SNR=30
SNY Shenyang 44.51 27 ⇑P **P** **12 50 23.1 +0.2**
SNY S **S** **12 56 58.3 +0.5**
SNY pmax pmax
comp=Z,34nm,0.9s
SNY pmax pmax
comp=Z,710nm,5.7s
SNY LR LR
comp=Z,12μm,17.1s
SNY LR LR
comp=Z,9μm,17.3s
SNY LR LR
comp=Z,28μm,15.7s
AAK Ala-Archa 44.57 335 P **P** **12 50 23.4 -0.1**
SNR=11
AAK Ala-Archa 44.57 335 LR LR 13 11 52.9
comp=Z,6μm,19.8s,baz=160,slow=40
AAK Ala-Archa 44.57 335 P **P** **12 50 23.4 -0.1**
AAK IAmb IAmb 12 51 22.7
comp=Z,93nm,1.6s
AAK Ala-Archa 44.57 335 *ce*P **P** **12 50 22.6 -0.9**
AAK pmax pmax
comp=Z,16nm,1.3s
AAK Ala-Archa 44.57 335 *i* P **P** **12 50 22.3 -1.2**
SNR=22
AAK Ala-Archa 44.57 335 P **P** **12 50 23.1 -0.4**
AAK P **P** **12 50 23.1 -0.4**
CHKK Chushkaly 44.59 338 *e*P **P** **12 50 21.7 -1.9**
baz=338
CHKK Chushkaly 44.59 338 *e*P **P** **12 50 21.6 -1.9**
CHMS Chumysh 44.76 335 P **P** **12 50 24.2 -0.7**
SNR=10
JASK Jask - Hormozg 44.85 304 P **P** **12 50 27.7 +1.9**
SNR=11
KUU Kurty 44.87 337 *e*P **P** **12 50 24.0 -1.8**
comp=Z,53nm,1.8s,baz=338
KUU Kurty 44.87 337 *e*P **P** **12 50 23.9 -1.8**
KUU pmax pmax
comp=Z,53nm,1.8s
DMTO DMTO 44.87 292 P **P** **12 50 29.0 +2.8**
SNR=12
EKS2 Erkin-Say 44.90 334 P **P** **12 50 26.0 -0.1**
SNR=8.2
SONM Songino Array 44.90 8 P **P** **12 50 26.4 +0.4**
comp=Z,4.7nm,0.7s,baz=190,slow=8.3,SNR=22
SONM PcP **PcP** **12 52 07.4 -0.1**
comp=Z,4.6nm,0.9s,baz=210,slow=2.9,SNR=1.4
SONM LR LR 13 11 04.4
comp=Z,10μm,18.0s,baz=180,slow=39
comp=Z,4.7nm,0.7s
SONM Songino Array 44.90 8 P **P** **12 50 25.7 -0.3**
SONM Songino Array 44.90 8 P **P** **12 50 25.7 -0.3**
SONM pmax pmax
comp=Z,25nm,1.1s
ULN Ulaanbaatar 45.02 8 P **P** **12 50 27.1 0.0**
ULN Ulaanbaatar 45.02 8 *ce*P **P** **12 50 26.7 -0.3**
ULN pmax pmax
comp=Z,25nm,1.7s
ARQ Araqi 45.06 300 P **P** **12 50 30.0 +2.3**
SNR=24
USP Ospenovka 45.08 335 P **P** **12 50 26.3 -1.1**
SNR=24
JHS Saijyo 45.08 41 P **P** **12 50 30.8 +3.2**
SGDS Sogindy 45.18 336 *e*P **P** **12 50 26.5 -1.9**
baz=336
SGDS Sogindy 45.18 336 *e*P **P** **12 50 26.4 -1.9**
SOHO SOHO 45.33 301 *i* P **P** **12 50 29.6 0.0**
SNR=15
SOHO SOHO 45.33 301 P **P** **12 50 30.5 +0.9**
SOHO P **P** **12 50 30.5 +0.9**
ZSN Zaisan 45.49 347 *e*P **P** **12 50 30.4 -0.3**
comp=Z,41nm,1.4s,baz=347
ZSN Zaisan 45.49 347 *e*P **P** **12 50 30.3 -0.3**
ZSN pmax pmax
comp=Z,41nm,1.4s
MK31 Makanchi Array 45.51 345 P **P** **12 50 29.7 -1.1**
MK31 IAmb IAmb 12 50 33.6
comp=Z,54nm,1.1s
MK31 Makanchi Array 45.51 345 P **P** **12 50 29.7 -1.1**
MK31 pmax pmax
comp=Z,54nm,1.2s
MKAR Makanchi Array 45.51 345 P **P** **12 50 30.1 -0.7**
comp=Z,61nm,1.1s,baz=151,slow=7.8,SNR=90
MKAR LR LR 13 12 09.8
comp=Z,3μm,18.9s,baz=168,slow=40
comp=Z,61nm,1.1s
MKAR Makanchi Array 45.51 345 P **P** **12 50 29.4 -1.4**
MKAR Makanchi Array 45.51 345 *ce*P **P** **12 50 29.7 -1.1**
MKAR pmax pmax
comp=Z,61nm,1.1s
RBK Rabkut 45.52 291 P **P** **12 50 34.0 +2.7**
SNR=35
MAKZ Makanchi 45.61 344 P **P** **12 50 30.4 -1.1**
MAKZ Makanchi 45.61 344 P **P** **12 50 30.5 -1.1**
HRA Herat 45.63 317 P **P** **12 50 31.9 -0.3**
HRA IAmb IAmb 12 52 12.7
comp=Z,95nm,1.4s

DOK Doka 45.84 293 P **P** **12 50 36.0 +2.1**
SNR=34
UOSS Minazif 45.90 302 P **P** **12 50 34.5 +0.3**
UOSS Minazif 45.90 302 *i* P **P** **12 50 33.6 -0.6**
SNR=10
UOSS Minazif 45.90 302 P **P** **12 50 34.4 +0.3**
HATD Hatta, Dubai 45.91 302 *i* P **P** **12 50 34.7 +0.4**
SNR=9.2
HATD Hatta, Dubai 45.91 302 P **P** **12 50 36.0 +1.6**
SNR=26
HATD P **P** **12 50 36.0 +1.6**
SNR=26
ASHO Ashiyiah 45.93 302 *i* P **P** **12 50 35.0 +0.5**
SNR=17
ASHO Ashiyiah 45.93 302 P **P** **12 50 36.0 +1.5**
SNR=14
MDH Madha 45.95 302 *i* P **P** **12 50 33.4 -1.1**
SNR=5.3
ALNE Al Ain 45.97 301 *i* P **P** **12 50 36.0 +1.1**
SNR=23
ALNE Al Ain 45.97 301 P **P** **12 50 36.8 +2.0**
SNR=67
WHFO Wadi Hawf 46.01 292 P **P** **12 50 37.0 +1.7**
SNR=29
UMZA Um Al Zommool 46.05 299 P **P** **12 50 36.7 +1.3**
MSFE Esma-Masafi 46.08 302 *i* P **P** **12 50 36.0 +0.3**
SNR=7.0
MASF Masafi 46.09 302 P **P** **12 50 38.4 +2.7**
SNR=6.3
DZA Taraz 46.17 332 *e*P **P** **12 50 34.2 -2.0**
baz=332
DZA Taraz 46.17 332 *e*P **P** **12 50 34.1 -2.0**
IUG Iuzhnay 46.22 331 *i* P **P** **12 50 35.4 -1.2**
baz=331
IUG Iuzhnay 46.22 331 *i* P **P** **12 50 35.3 -1.2**
ABTO Aybut 46.33 291 P **P** **12 50 40.0 +2.2**
SNR=24
FAQ Al Faqa, Dubai 46.35 301 *i* P **P** **12 50 40.0 +2.2**
SNR=11
FAQ Al Faqa, Dubai 46.35 301 P **P** **12 50 40.0 +2.2**
SNR=11
NAZ Nazwa, Dubai 46.37 302 *i* P **P** **12 50 38.1 +0.2**
SNR=7.7
NAZ Nazwa, Dubai 46.37 302 P **P** **12 50 40.0 +2.1**
SNR=9.8
ASUD Al Ashush, Dub 46.53 301 *i* P **P** **12 50 40.3 +1.2**
SNR=23
ASUD Al Ashush, Dub 46.53 301 P **P** **12 50 41.0 +1.9**
SNR=24
KK31 Karatay Array 46.72 332 P **P** **12 50 39.7 -0.7**
KK31 Karatay Array 46.72 332 *i* P **P** **12 50 38.9 -1.5**
KKAR Karatay Array 46.72 332 P **P** **12 50 39.0 -1.4**
KKAR Karatay Array 46.72 332 P **P** **12 50 39.7 -0.7**
KKAR IAmb IAmb 12 52 15.6
comp=Z,27nm,1.2s
KKAR Karatay Array 46.72 332 P **P** **12 50 39.0 -1.4**
KKAR 12 50 39.7
KKAR pmax pmax
comp=Z,27nm,1.3s
BTLS Baital 46.73 336 ⇓*i*P **P** **12 50 38.6 -1.8**
baz=336
BTLS *e*PcP **PcP** **12 52 12.9 -0.8**
baz=336
BTLS Baital 46.73 336 *di*P **P** **12 50 38.6 -1.8**
BTLS *e* 12 52 12.9
AJN Ajban 46.80 301 *i* P **P** **12 50 41.7 +0.4**
SNR=18
AJN Ajban 46.80 301 P **P** **12 50 42.5 +1.2**
SNR=21
QIS Mount Isa 46.89 122 P **P** **12 50 42.0 -0.1**
baz=47,SNR=28
QIS Mount Isa 46.89 122 P **P** **12 50 41.9 -0.1**
CN2 Changchun 46.91 27 *e*P **P** **12 50 41.1 -0.8**
CN2 *es*P sP 12 50 48.0 -0.7
CN2 *eS* **S** **12 57 31.4 -1.0**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,11μm,13.0s
CN2 LR LR
comp=Z,8μm,13.0s
CN2 LR LR
comp=Z,12μm,14.0s
GUMO Guam 47.04 75 LR LR 13 09 24.6
comp=Z,2μm,21.2s,baz=254,slow=35
ZAK Zakamensk 47.09 4 *e*P **P** **12 50 42.3 -1.0**
ZAK pmax pmax
comp=Z,16nm,1.7s
DGZ Jazzator, Alta 47.15 350 *di*P **P** **12 50 43.2 -0.6**
DGZ pmax pmax
comp=Z,36nm,1.3s
OOD Oodnadatta 47.42 133 P **P** **12 50 46.4 +0.4**
MZWR Madinat Zayed 47.49 299 P **P** **12 50 47.7 +1.1**
MZWR P **P** **12 50 47.7 +1.1**
MZR Muzera 47.61 298 *i* P **P** **12 50 49.0 +1.4**
SNR=45
MZR Muzera 47.61 298 P **P** **12 50 49.4 +1.8**
SNR=71
COEN Coen 47.64 112 P **P** **12 50 47.6 -0.4**
baz=48,SNR=6.3
COEN Coen 47.64 112 P **P** **12 50 46.0 -2.0**
COEN Coen 47.64 112 P **P** **12 50 49.1 +1.1**
MULG Mulgathing 47.74 137 P **P** **12 50 50.2 +1.7**
INU Inuyama 47.91 43 IAMs_20 IAMs_20 13 11 21.4
comp=Z,7μm,18.0s
JCJ Chichijima 48.09 56 LR LR 13 09 00.1
comp=Z,2μm,21.4s,baz=242,slow=34
MOY Mondy 48.24 2 *e*P **P** **12 50 52.2 0.0**
MOY pmax pmax
comp=Z,39nm,2.4s
JGF Kuroka 48.28 43 P **P** **12 50 54.4 +1.7**
GHWR Ruwais 48.43 299 P **P** **12 50 55.2 +1.2**
GHWR P **P** **12 50 55.2 +1.2**
JHJ Hachijo jima 2 48.75 48 LR LR 13 09 22.9
comp=Z,2μm,21.9s,baz=248,slow=34
IRK Irkutsk 49.02 5 *e*P **P** **12 50 57.6 -0.4**
IRK pmax pmax
comp=Z,70nm,2.1s
MANU Manus Island 49.28 96 P **P** **12 51 03.1 +2.5**
HIA Hailar 49.29 18 P **P** **12 51 00.1 -0.1**
HIA Hailar 49.29 18 IAMs_20 IAMs_20 13 12 15.4
comp=Z,6μm,20.0s
HIA Hailar 49.29 18 P **P** **12 51 00.1 -0.1**
HIA pmax pmax
comp=Z,34nm,1.2s
HIA MLR MLR
comp=Z,6μm,20.0s
BNX BinXian 49.30 27 ⇑P **P** **12 51 00.3 0.0**
BNX PP **PP** **12 52 54.5 +0.2**
BNX S **S** **12 58 09.4 +3.3**
BNX sS **sS** **12 58 14.8 +0.8**
BNX pmax pmax
comp=Z,16nm,0.9s
BNX pmax pmax
comp=Z,500nm,7.7s
BNX LR LR
comp=Z,12μm,15.1s
BNX LR LR
comp=Z,5μm,15.4s
BNX LR LR
comp=Z,17μm,15.7s
MAJO Matsushiro 49.37 43 IAMs_20 IAMs_20 13 13 13.7
comp=Z,6μm,19.0s
MJAR Matsushiro Arr 49.37 43 P **P** **12 51 01.3 +0.3**
comp=Z,6.6nm,1.1s,baz=20,slow=9.0,SNR=1.9
MJAR PcP **PcP** **12 52 23.6 +0.1**
comp=Z,6.5nm,1.1s,baz=191,slow=2.4,SNR=4.1
MJAR LR LR 13 13 27.3
comp=Z,5μm,19.1s,baz=230,slow=38
comp=Z,6.6nm,1.1s
MDJ Mudanjiang 49.48 29 P **P** **12 51 01.9 +0.2**
MDJ Mudanjiang 49.48 29 P **P** **12 51 02.5 +0.9**
MDJ pP pP 12 51 05.3 -1.3
MDJ S **S** **12 58 11.3 +2.7**
MDJ sS sS 12 58 16.8 +0.2
MDJ pmax pmax
comp=Z,16nm,1.0s
MDJ pmax pmax
comp=Z,350nm,5.3s
MDJ LR LR
comp=Z,12μm,17.1s
MDJ LR LR
comp=Z,7μm,16.7s
MDJ LR LR

	comp=Z,20µm,18.4s								
SLWR	**Sila**	**49.49**	**299**		P	**P**	**12 51 03.3**	**+1.2**	
KURBB	**Kurchatov Arra**	**50.03**	**344**		LR	LR	13 15 44.7		
	comp=Z,2µm,20.6s,baz=162,slow=40								
KURBB	**Kurchatov Arra**	**50.03**	**344**		P	**P**	**12 51 04.1**	**-1.6**	
MTSU	**Mount Surprise**	**50.04**	**117**		P	**P**	**12 51 05.5**	**-0.9**	
	baz=50,SNR=14								
MTSU	**Mount Surprise**	**50.04**	**117**		P	**P**	**12 51 06.6**	**+0.2**	
KURK	**Kurchatov**	**50.09**	**344**		P	**P**	**12 51 05.0**	**-1.2**	
KURK					IAmb	IAmb	12 51 09.0		
	comp=Z,80nm,1.1s								
KURK	**Kurchatov**	**50.09**	**344**	*ce*	P	**P**	**12 51 04.8**	**-1.4**	
KURK					pmax	pmax			
	comp=Z,93nm,1.3s								
KURK	**Kurchatov**	**50.09**	**344**		P	**P**	**12 51 05.3**	**-0.8**	
CIT	**Chita**	**50.18**	**12**	*e*	P	**P**	**12 51 07.8**	**+0.9**	
CIT				*e*			12 52 31.4		
CIT				*e*			12 53 03.0		
CIT				*e*			12 53 51.4		
CIT					pmax	pmax			
	comp=Z,131nm,2.3s								
PMG	**Port Moresby**	**50.24**	**105**		LR	LR	13 16 11.2		
	comp=Z,3µm,18.3s,baz=280,slow=41								
PMG	**Port Moresby**	**50.24**	**105**		P	**P**	**12 51 06.6**	**-1.4**	
PMG	**Port Moresby**	**50.24**	**105**		P	**P**	**12 51 07.9**	**-0.1**	
	comp=Z,41nm,1.1s								
PMG	**Port Moresby**	**50.24**	**105**	*ce*	P	**P**	**12 51 07.6**	**-0.4**	
PMG					pmax	pmax			
	comp=Z,33nm,1.0s								
GEYT	**Alibeck**	**50.38**	**318**		P	**P**	**12 51 08.6**	**0.0**	
	comp=Z,51nm,1.1s,baz=134,slow=6.4,SNR=47								
GEYT					PcP	**PcP**	**12 52 27.7**	**+0.6**	
	comp=Z,56nm,1.2s,baz=20,slow=4.7,SNR=5.4								
GEYT					LR	LR	13 14 53.2		
	comp=Z,4µm,19.5s,baz=154,slow=39								
	comp=Z,51nm,1.1s								
GEYT	**Alibeck**	**50.38**	**318**		P	**P**	**12 51 08.1**	**-0.5**	
GEYT					IAmb	IAmb	12 51 10.1		
	comp=Z,138nm,1.4s								
GYA0	**ALIBECK ARRAY**	**50.38**	**318**		P	**P**	**12 51 08.6**	**-0.1**	
GYA0B	**ALIBECK ARRAY**	**50.38**	**318**		P	**P**	**12 51 08.8**	**+0.1**	
GYA0B					IAmb	IAmb	12 51 10.8		
	comp=Z,107nm,1.3s								
USA0B	**Ussuriysk Arra**	**50.38**	**31**		P	**P**	**12 51 08.5**	**0.0**	
USA0B					IAmb	IAmb	12 51 17.6		
	comp=Z,60nm,1.2s								
USA0B	**Ussuriysk Arra**	**50.38**	**31**	*i*	P	**P**	**12 51 08.1**	**-0.4**	
USRK	**Ussuriysk Ar.**	**50.38**	**31**		P	**P**	**12 51 08.9**	**+0.4**	
	comp=Z,12nm,0.9s,baz=228,slow=8.3,SNR=11								
USRK					LR	LR	13 15 05.7		
	comp=Z,11µm,20.1s,baz=209,slow=39								
	comp=Z,12nm,0.9s								
USRK	**Ussuriysk Ar.**	**50.38**	**31**		P	**P**	**12 51 09.0**	**+0.5**	
SMRA	**Abu-Samra**	**50.45**	**300**		P	**P**	**12 51 10.3**	**+0.9**	
BBOO	**Buckleboo**	**50.63**	**138**		P	**P**	**12 51 09.9**	**-0.7**	
	baz=51,SNR=8.7								
BBOO	**Buckleboo**	**50.63**	**138**		P	**P**	**12 51 09.3**	**-1.3**	
BBOO	**Buckleboo**	**50.63**	**138**		P	**P**	**12 51 11.6**	**+1.0**	
SHMA	**Al-Shehemyia**	**50.66**	**301**		P	**P**	**12 51 11.6**	**+0.6**	
LCRK	**Leigh Creek**	**50.74**	**134**		P	**P**	**12 51 14.4**	**+3.0**	
SAKB	**Bahrain**	**51.07**	**301**		P	**P**	**12 51 13.8**	**-0.3**	
INKA	**Innaminka**	**51.17**	**130**		P	**P**	**12 51 16.3**	**+1.6**	
ZAA0	**Zalesovo Array**	**51.69**	**350**		P	**P**	**12 51 17.4**	**-0.8**	
ZAA0					IAmb	IAmb	12 51 44.8		
	comp=Z,79nm,1.1s								
ZALV	**Zalesovo Beam**	**51.69**	**350**		P	**P**	**12 51 17.3**	**-0.8**	
	comp=Z,6.3nm,0.4s,baz=173,slow=6.8,SNR=48								
ZALV					LR	LR	13 14 46.8		
	comp=Z,3µm,21.6s,baz=164,slow=38								
	comp=Z,6.3nm,0.4s								
ZALV	**Zalesovo Beam**	**51.69**	**350**		P	**P**	**12 51 16.8**	**-1.3**	
ZALV	**Zalesovo Beam**	**51.69**	**350**	*i*	P	**P**	**12 51 17.1**	**-1.1**	
ZALV					pmax	pmax			
	comp=Z,7.0nm,0.4s								
WHYH	**Whyalla**	**51.78**	**137**		P	**P**	**12 51 21.7**	**+2.5**	
	comp=Z,15nm,1.1s								
CTA	**Charters Tower**	**52.44**	**118**		LR	LR	13 15 14.7		
	comp=Z,4µm,18.4s,baz=284,slow=38								
CTAO	**Charters Tower**	**52.44**	**118**		P	**P**	**12 51 22.6**	**-1.8**	
CTAO	**Charters Tower**	**52.44**	**118**		P	**P**	**12 51 26.5**	**+2.1**	
CTAO	**Charters Tower**	**52.44**	**118**		P	**P**	**12 51 22.6**	**-1.8**	
CTAO					pmax	pmax			
	comp=Z,20nm,1.0s								
CTAO					MLR	MLR			
	comp=Z,4µm,19.0s								
HEH	**HeiHe**	**52.83**	**23**	*e*	P	**P**	**12 51 26.5**	**-0.2**	
HEH					pP	**pP**	**12 51 29.6**	**-2.1**	
HEH					S	**S**	**12 58 56.4**	**+1.6**	
HEH					pmax	pmax			
	comp=Z,32nm,1.4s								
HEH					pmax	pmax			
	comp=Z,520nm,7.3s								
HEH					LR	LR			
	comp=Z,8µm,17.8s								
HEH					LR	LR			
	comp=Z,11µm,16.9s								
HEH					LR	LR			
	comp=Z,16µm,14.1s								
HTT	**Hallett**	**52.93**	**137**		P	**P**	**12 51 26.7**	**-1.1**	
	baz=53,SNR=12								
HTT	**Hallett**	**52.93**	**137**		P	**P**	**12 51 29.3**	**+1.5**	
QLP	**Quilpie**	**53.35**	**127**		P	**P**	**12 51 31.1**	**+0.1**	
	baz=53,SNR=19								
QLP	**Quilpie**	**53.35**	**127**		P	**P**	**12 51 33.1**	**+2.1**	
KLR	**Kul'dur**	**53.87**	**27**		LR	LR	13 17 02.2		
	comp=Z,6µm,19.4s,baz=230,slow=39								
KLR	**Kul'dur**	**53.87**	**27**	*ce*	P	**P**	**12 51 33.6**	**-0.8**	
KLR					pmax	pmax			
	comp=Z,82nm,1.6s								
STKA	**Stephens Creek**	**53.94**	**134**		P	**P**	**12 51 35.1**	**-0.1**	
	comp=Z,9.4nm,0.7s,baz=298,slow=7.5,SNR=16								
STKA					LR	LR	13 14 46.7		
	comp=Z,5µm,21.9s,baz=304,slow=36								
	comp=Z,9.4nm,0.7s								
STKA	**Stephens Creek**	**53.94**	**134**		P	**P**	**12 51 35.1**	**-0.1**	
	baz=54,SNR=17								
STKA	**Stephens Creek**	**53.94**	**134**		P	**P**	**12 51 35.0**	**-0.2**	
STKA	**Stephens Creek**	**53.94**	**134**		P	**P**	**12 51 37.1**	**+1.9**	
STKA	**Stephens Creek**	**53.94**	**134**	*i*	P	**P**	**12 51 34.6**	**-0.6**	
KRVT	**Keravat (AS076**	**54.16**	**98**		LR	LR	13 16 40.8		
	comp=Z,999nm,19.4s,baz=45,slow=38								
BVA0	**Borovoye Array**	**54.67**	**340**	*i*	P	**P**	**12 51 38.4**	**-1.8**	
BVAR	**Borovoye Array**	**54.67**	**340**		P	**P**	**12 51 38.5**	**-1.6**	
	comp=Z,19nm,0.7s,baz=140,slow=7.7,SNR=58								
BVAR					LR	LR	13 18 39.6		
	comp=Z,3µm,19.5s,baz=154,slow=40								
	comp=Z,19nm,0.7s								
BRVK	**Borovoye**	**54.73**	**340**		P	**P**	**12 51 39.3**	**-1.3**	
BRVK					IAmb	IAmb	12 51 44.1		
	comp=Z,50nm,1.1s								
BRVK	**Borovoye**	**54.73**	**340**	*ce*	P	**P**	**12 51 38.3**	**-2.3**	
BRVK					pmax	pmax			
	comp=Z,66nm,1.3s								
BRVK	**Borovoye**	**54.73**	**340**		P	**P**	**12 51 39.1**	**-1.6**	
RAYN	**Ar Rayn**	**54.82**	**296**		P	**P**	**12 51 42.3**	**+0.4**	
RAYN					IAmb	IAmb	12 51 44.1		
	comp=Z,213nm,1.4s								
RAYN	**Ar Rayn**	**54.82**	**296**		IAMs_20	IAMs_20	13 16 04.0		
	comp=Z,5µm,18.0s								
RAYN	**Ar Rayn**	**54.82**	**296**		P	**P**	**12 51 42.3**	**+0.4**	
RAYN					pmax	pmax			
	comp=Z,213nm,1.5s								
RAYN					MLR	MLR			
	comp=Z,5µm,18.0s								
OPO	**Ambohidratompo**	**54.85**	**245**		P	**P**	**12 51 45.2**	**+2.9**	
	comp=Z,16nm,1.0s,baz=62,slow=8.5,SNR=13								
OPO					LR	LR	13 12 08.9		
	comp=Z,485nm,20.7s,baz=180,slow=33								
ERM	**Erimo**	**55.52**	**40**		IAMs_20	IAMs_20	13 15 45.1		
	comp=Z,5µm,18.0s								
ATD	**Arta Tunnel**	**55.56**	**282**		LR	LR	13 12 06.7		
	comp=Z,1µm,21.0s,baz=94,slow=32								
ATD	**Arta Tunnel**	**55.56**	**282**	*e*	P	**P**	**12 51 45.5**	**-1.9**	
ZEA	**Zeya**	**55.57**	**20**	*e*	P	**P**	**12 51 46.8**	**+0.1**	
ZEA				*e*			12 53 51.0		
ZEA				*e*	S	**S**	**12 59 35.1**	**+3.4**	
ZEA					pmax	pmax			
	comp=N,10.0nm,1.4s								
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.5s								
ZEA					pmax	pmax			
	comp=Z,200nm,4.6s								
ZEA					pmax	pmax			
	comp=N,100nm,7.1s								
ZEA					pmax	pmax			
	comp=Z,200nm,4.3s								
ZEA					smax	smax			
	comp=E,300nm,8.9s								
ZEA					MLR	MLR			
	comp=E,2µm,18.0s								
ZEA					MLR	MLR			
	comp=N,6µm,16.0s								
ZEA					MLR	MLR			
	comp=Z,6µm,16.0s								
BOD	**Bodaibo**	**55.74**	**10**	*e*	P	**P**	**12 51 47.9**	**+0.1**	
BOD					pmax	pmax			
	comp=Z,54nm,1.8s								
AB31	**Akbulak array**	**56.23**	**331**	*i*	P	**P**	**12 51 49.8**	**-1.7**	
ABKAR	**Akbulak array**	**56.23**	**331**		P	**P**	**12 51 49.5**	**-1.9**	
ABKAR	**Akbulak array**	**56.23**	**331**		P	**P**	**12 51 49.8**	**-1.7**	
ABKAR					IAmb	IAmb	12 52 25.9		
	comp=Z,44nm,1.2s								
VOI	**Vohitsoka**	**56.28**	**241**		P	**P**	**12 51 53.4**	**+0.9**	
VOI	**Vohitsoka**	**56.28**	**241**		P	P	12 52 06.0	+13	
ASAJ	**Asahikawa**	**56.30**	**37**		LR	LR	13 16 26.4		
	comp=Z,4µm,19.1s,baz=236,slow=37								
CMSA	**Cobar Meteorol**	**56.78**	**131**		P	**P**	**12 51 55.6**	**-0.1**	
	baz=57,SNR=41								
CMSA	**Cobar Meteorol**	**56.78**	**131**		P	**P**	**12 51 56.7**	**+1.0**	
RMQ	**Roma**	**56.98**	**125**		P	**P**	**12 51 57.4**	**+0.2**	
	baz=57,SNR=8.5								
RMQ	**Roma**	**56.98**	**125**		P	**P**	**12 51 59.3**	**+2.0**	
GRNR	**Gornyy**	**57.09**	**28**	*i*	P	**P**	**12 51 57.7**	**+0.1**	
GRNR					pmax	pmax			
	comp=Z,8.0nm,1.0s								
GRNR					MLR	MLR			
	comp=E,3µm,13.0s								
GRNR					MLR	MLR			
	comp=N,4µm,14.0s								
GRNR					MLR	MLR			
	comp=Z,8µm,13.0s								
AULRC	**Lightning Ridg**	**57.58**	**128**		P	**P**	**12 52 02.7**	**+1.3**	
	comp=Z,59nm,0.5s								
AKTO	**Aktyubinsk**	**57.95**	**331**		LR	LR	13 20 53.1		
	comp=Z,2µm,19.2s,baz=120,slow=40								
AKTO	**Aktyubinsk**	**57.95**	**331**		P	**P**	**12 52 01.4**	**-2.2**	
YSS	**Yuzh-Sakhalins**	**57.97**	**34**		P	**P**	**12 52 02.1**	**-1.7**	
YSS					IAmb	IAmb	12 52 28.9		
	comp=Z,55nm,1.1s								
YSS	**Yuzh-Sakhalins**	**57.97**	**34**		P	**P**	**12 52 05.8**	**+2.0**	
	comp=Z,50nm,1.2s								
YSS	**Yuzh-Sakhalins**	**57.97**	**34**	*e*	P	**P**	**12 52 04.3**	**+0.5**	
YSS				*e*			12 52 55.8		
YSS				*eS*		**S**	**13 00 02.8**	**-0.8**	
YSS				*eSS*		**SS**	**13 03 58.0**	**+3.1**	
YSS					pmax	pmax			
	comp=Z,40nm,1.3s								
YSS					pmax	pmax			
	comp=Z,400nm,5.1s								
YSS					MLR	MLR			
	comp=Z,8µm,15.0s								
YSS					MLR	MLR			
	comp=E,6µm,14.0s								
EIDS	**Eidsvold**	**58.50**	**122**		P	**P**	**12 52 08.1**	**+0.2**	
	baz=58,SNR=4.0								
EIDS	**Eidsvold**	**58.50**	**122**		P	**P**	**12 52 06.9**	**-1.0**	
EIDS					IAmb	IAmb	12 52 10.0		
	comp=Z,105nm,1.9s								
EIDS	**Eidsvold**	**58.50**	**122**		P	**P**	**12 52 10.5**	**+2.6**	
	comp=Z,24nm,1.8s								
ANKE	**Ethiopia-Afar**	**58.52**	**279**	*e*	P	**P**	**12 52 07.1**	**-1.7**	
DESE	**Dese**	**58.68**	**281**	*e*	P	**P**	**12 52 09.7**	**-0.1**	
UGL	**Uglegorsk**	**58.82**	**32**	*e*	P	P	12 52 03.9	-5.8	
UGL				*eS*		**S**	**13 00 09.5**	**-5.1**	
UGL					MLR	MLR			
	comp=E,8µm,13.0s								
UGL					MLR	MLR			
	comp=N,5µm,12.0s								
UGL					MLR	MLR			
	comp=Z,7µm,14.0s								
AKT	**Akhty**	**59.09**	**317**	*e*	P	**P**	**12 52 11.0**	**-0.9**	
AKT				*e*			12 52 58.6		
AKT				*e*			12 54 22.7		
AKT					pmax	pmax			
	comp=Z,87nm,1.3s								
AUDCS	**Dubbo College**	**59.31**	**131**		P	**P**	**12 52 15.5**	**+2.0**	
AAE	**Adis Abeba**	**59.46**	**278**	*e*	P	**P**	**12 52 14.0**	**-1.2**	
FURI	**Furi**	**59.54**	**278**	*e*	P	**P**	**12 52 13.2**	**-2.6**	
MAK	**Makhachkala**	**59.89**	**319**	*e*	P	**P**	**12 52 14.2**	**-3.0**	
MAK				*eS*		**S**	**13 00 24.4**	**-4.3**	
MAK				*eSS*		**SS**	**13 04 16.7**	**-8.5**	
MAK					pmax	pmax			
	comp=Z,379nm,1.3s								
DILA	**Dilla**	**59.91**	**275**	*e*	P	P	12 52 12.7	-5.4	
TYV	**Tymovskoe**	**60.19**	**31**	*e*	P	**P**	**12 52 19.1**	**0.0**	
TYV				*eS*		**S**	**13 00 31.4**	**-0.9**	
TYV					pmax	pmax			
	comp=Z,400nm,3.9s								
TYV					pmax	pmax			
	comp=Z,19nm,1.6s								
TYV					smax	smax			
	comp=N,400nm,4.7s								
TYV					smax	smax			
	comp=E,300nm,4.7s								
TYV					MLR	MLR			
	comp=E,10µm,15.0s								
TYV					MLR	MLR			
	comp=Z,11µm,15.0s								
KIBK	**Kibwezi**	**60.54**	**265**		P	**P**	**12 52 24.0**	**+1.6**	
KIBK	**Kibwezi**	**60.54**	**265**		P	**P**	**12 52 25.4**	**+3.1**	
	SNR=8.7								
GNI	**Garni**	**60.61**	**315**		LR	LR	13 22 57.1		
	comp=Z,1µm,19.1s,baz=102,slow=40								
GNI	**Garni**	**60.61**	**315**		P	**P**	**12 52 22.2**	**-0.2**	
GNI					IAmb	IAmb	12 52 24.2		
	comp=Z,153nm,1.4s								
GNI	**Garni**	**60.61**	**315**	*e*	P	**P**	**12 52 20.9**	**-1.6**	
GNI	**Garni**	**60.61**	**315**		P	**P**	**12 52 22.2**	**-0.2**	
GNI					pmax	pmax			
	comp=Z,153nm,1.5s								
GNI					MLR	MLR			
	comp=Z,2µm,22.0s								
GNI	**Garni**	**60.61**	**315**		P	**P**	**12 52 21.7**	**-0.7**	
NKL	**Nikolayevsk**	**60.64**	**28**	*e*	P	**P**	**12 52 19.3**	**-2.8**	
NKL				*e*			12 53 03.1		
NKL				*eS*		**S**	**13 00 35.3**	**-2.6**	
NKL					pmax	pmax			
	comp=N,51nm,1.4s								
NKL					pmax	pmax			
	comp=E,56nm,1.4s								
NKL					pmax	pmax			
	comp=Z,102nm,1.4s								
NKL					pmax	pmax			
	comp=Z,262nm,4.7s								
NKL					smax	smax			
	comp=E,189nm,4.5s								
NKL					smax	smax			
	comp=N,211nm,5.8s								
NKL					MLR	MLR			
	comp=N,15µm,16.0s								
NKL					MLR	MLR			
	comp=E,33µm,14.0s								
NKL					MLR	MLR			
	comp=Z,28µm,14.0s								
ARMA	**Armidale**	**60.87**	**128**		P	**P**	**12 52 24.4**	**+0.1**	
	baz=61,SNR=5.2								
ARMA	**Armidale**	**60.87**	**128**		P	**P**	**12 52 26.5**	**+2.2**	
TASB	**TASBURUN-IGDIR**	**60.90**	**315**	*e*	P	**P**	**12 52 23.3**	**-1.0**	
CAN	**Canberra**	**61.01**	**134**		IAMs_20	IAMs_20	13 18 52.2		
	comp=Z,5µm,22.0s								
GROC	**Groznyy**	**61.12**	**318**	*e*	P	**P**	**12 52 24.6**	**-1.1**	
GROC				*e*			12 53 07.7		
GROC				*eS*		**S**	**13 00 45.7**	**+1.2**	
GROC					pmax	pmax			
	comp=Z,204nm,1.2s								
GEVA	**Gevas**	**61.15**	**312**		P	**P**	**12 52 25.4**	**-0.7**	
GEVA					IAmb	IAmb	12 53 12.4		
	comp=Z,78nm,1.5s								
SVE	**Sverdlovsk**	**61.18**	**337**	*ce*	P	**P**	**12 52 24.3**	**-1.5**	
SVE					pmax	pmax			
	comp=Z,63nm,1.1s								
SVE					MLR	MLR			
	comp=Z,4µm,18.0s								
KMBO	**Kilima Mbogo**	**61.23**	**267**		LR	LR	13 16 17.8		
	comp=Z,36nm,19.1s,baz=87,slow=34								
KMBO	**Kilima Mbogo**	**61.23**	**267**		P	**P**	**12 52 29.1**	**+1.8**	
KMBO					IAmb	IAmb	12 52 32.8		
	comp=Z,77nm,1.6s								
KMBO	**Kilima Mbogo**	**61.23**	**267**		P	**P**	**12 52 29.1**	**+1.8**	
KMBO					pmax	pmax			
	comp=Z,77nm,1.6s								
KMBO	**Kilima Mbogo**	**61.23**	**267**		P	**P**	**12 52 29.0**	**+1.8**	
ARU	**Arti**	**61.72**	**336**		LR	LR	13 22 31.7		
	comp=Z,5µm,19.3s,baz=127,slow=39								
ARU	**Arti**	**61.72**	**336**		P	**P**	**12 52 27.5**	**-2.0**	
ARU					IAmb	IAmb	12 52 33.7		
	comp=Z,32nm,1.0s								
ARU					IAMs_20	IAMs_20	13 22 17.9		
	comp=Z,5µm,19.0s								
ARU	**Arti**	**61.72**	**336**	*di*	P	**P**	**12 52 27.4**	**-2.0**	
ARU							12 53 07.9		
ARU							12 54 39.9		
ARU					S	**S**	**13 00 50.8**	**-0.8**	
ARU							13 02 20.3		
ARU					pmax	pmax			
	comp=Z,26nm,1.1s								
ARU					MLR	MLR			
	comp=Z,4µm,18.0s								
MLAZ	**Malazgirt-MUS**	**61.81**	**313**	*e*	P	**P**	**12 52 30.3**	**-0.3**	
KARS	**Kars**	**61.97**	**315**		P	**P**	**12 52 32.0**	**+0.4**	
KARS	**Kars**	**61.97**	**315**	*e*	P	**P**	**12 52 29.9**	**-1.7**	
KARS	**Kars**	**61.97**	**315**		P	**P**	**12 52 32.0**	**+0.4**	
KARS					pmax	pmax			
	comp=Z,514nm,1.5s								
AKH	**Akhalkalaki**	**61.97**	**316**		P	**P**	**12 52 31.9**	**+0.2**	
AKH	**Akhalkalaki**	**61.97**	**316**		P	**P**	**12 52 31.9**	**+0.2**	
AKH					pmax	pmax			
	comp=Z,208nm,1.3s								
GURO	**Guroymak-BITLI**	**61.99**	**312**		P	**P**	**12 52 31.9**	**+0.1**	
GURO					IAmb	IAmb	12 52 32.9		
	comp=Z,129nm,1.4s								
GURO	**Guroymak-BITLI**	**61.99**	**312**	*e*	P	**P**	**12 52 31.7**	**-0.1**	
ZEI	**Tsey**	**62.22**	**317**	*e*	P	**P**	**12 52 30.9**	**-2.5**	
ZEI					pmax	pmax			
	comp=Z,35nm,1.3s								
ONI	**Oni**	**62.45**	**317**		P	**P**	**12 52 34.9**	**+0.2**	
ONI					IAmb	IAmb	12 53 18.3		
	comp=Z,93nm,1.8s								
ONI	**Oni**	**62.45**	**317**	*e*	P	**P**	**12 52 34.5**	**-0.2**	
ONI	**Oni**	**62.45**	**317**		P	**P**	**12 52 34.9**	**+0.2**	
ONI					pmax	pmax			
	comp=Z,93nm,1.8s								
SENK	**Senkaya-Erzuru**	**62.46**	**315**	*e*	P	**P**	**12 52 34.1**	**-0.9**	
SVAN	**Silvan-Diyarba**	**62.48**	**312**	*e*	P	**P**	**12 52 33.6**	**-1.4**	
MARD	**Mardin**	**62.52**	**311**		P	**P**	**12 52 35.1**	**-0.3**	
KOPR	**Koprukoy-ERZUR**	**62.61**	**314**	*e*	P	**P**	**12 52 36.2**	**+0.2**	
VRTB	**Varto-Mus**	**62.62**	**313**	*e*	P	**P**	**12 52 37.0**	**+1.0**	
HNR	**Honiara**	**62.66**	**102**		LR	LR	13 23 43.9		
	comp=Z,11µm,19.2s,baz=270,slow=40								
LODK	**Lodwar**	**62.87**	**272**		P	**P**	**12 52 40.1**	**+2.0**	
LODK					IAmb	IAmb	12 52 44.0		
	comp=Z,67nm,1.4s								
LODK	**Lodwar**	**62.87**	**272**	*e*	P	P	12 52 32.4	-5.6	
LODK	**Lodwar**	**62.87**	**272**		P	**P**	**12 52 41.2**	**+3.1**	
	SNR=19								
YAK	**Yakutsk**	**63.09**	**16**		LR	LR	13 22 40.7		
	comp=Z,8µm,18.0s,baz=215,slow=39								
YAK	**Yakutsk**	**63.09**	**16**		P	**P**	**12 52 37.2**	**-1.3**	
YAK					IAmb	IAmb	12 52 38.7		
	comp=Z,107nm,1.5s								
YAK	**Yakutsk**	**63.09**	**16**	*e*	P	**P**	**12 52 36.1**	**-2.4**	
YAK				*e*			12 54 51.7		
YAK				*eS*		**S**	**13 01 00.8**	**-7.8**	
YAK				*e**SS		sS	13 01 31.0	+14	
YAK				*e*			13 02 20.0		
YAK				*eSS		**SS**	**13 05 19.7**	**+5.1**	
YAK					pmax	pmax			
	comp=Z,44nm,1.3s								
YAK					pmax	pmax			
	comp=N,22nm,1.3s								
YAK					pmax	pmax			
	comp=E,23nm,1.4s								
YAK					pmax	pmax			
	comp=Z,112nm,2.0s								
YAK					pmax	pmax			
	comp=N,87nm,2.6s								
YAK					pmax	pmax			
	comp=E,25nm,1.5s								
YAK					smax	smax			
	comp=N,147nm,4.2s								
YAK					smax	smax			
	comp=E,59nm,2.6s								
YAK					MLR	MLR			
	comp=Z,10µm,13.0s								
YAK					MLR	MLR			
	comp=N,7µm,15.0s								
YAK					MLR	MLR			
	comp=E,8µm,17.0s								
NEY	**Neytrino**	**63.20**	**317**	*i*	P	**P**	**12 52 39.8**	**0.0**	
NEY					pmax	pmax			
	comp=Z,8.0nm,1.2s								
DYBB	**Diyarbakir**	**63.20**	**311**	*e*	P	**P**	**12 52 39.9**	**0.0**	
KBZ	**Khabaz**	**63.27**	**318**		P	**P**	**12 52 39.4**	**-0.6**	
	comp=Z,28nm,1.0s,baz=107,slow=6.0,SNR=34								
KBZ					LR	LR	13 25 37.0		
	comp=Z,919nm,18.7s,baz=104,slow=41								
	comp=Z,28nm,1.0s								
KBZ	**Khabaz**	**63.27**	**318**	*ce*	P	**P**	**12 52 38.5**	**-1.5**	
KBZ					pmax	pmax			
	comp=Z,66nm,1.4s								
SHA1	**Shidzhatmaz**	**63.43**	**318**	*di*	P	**P**	**12 52 40.1**	**-1.3**	
KVAR	**Kislovodsk Arr**	**63.49**	**318**		LR	LR	13 25 56.8		
	comp=Z,780nm,18.1s,baz=132,slow=41								
KIV	**Kislovodsk**	**63.49**	**318**	⇑	P	**P**	**12 52 41.6**	**-0.1**	
KIV	**Kislovodsk**	**63.49**	**318**		P	**P**	**12 52 40.6**	**-1.1**	
KIV					IAmb	IAmb	12 52 45.1		
	comp=Z,95nm,1.3s								
KIV	**Kislovodsk**	**63.49**	**318**	*e*	P	**P**	**12 52 40.8**	**-0.9**	
KIV	**Kislovodsk**	**63.49**	**318**	*e*	P	**P**	**12 52 40.0**	**-1.7**	
KIV				*eS*		**S**	**13 01 13.4**	**-1.2**	
KIV				*eSS		**SS**	**13 05 21.0**	**-0.9

KIRV Kirov 66.90 335 P **P** **12 53 02.5 -0.9**
comp=Z,17nm,0.4s,baz=126,slow=3.0,SNR=4.3
KIRV LR LR 13 25 08.9
comp=Z,2µm,20.5s,baz=131,slow=39
comp=Z,17nm,0.4s
KIRV Kirov 66.90 335*ce*P **P** **12 53 01.4 -1.9**
VRH Novokhopyorsk 67.05 325 *e*P **P** **12 53 01.8 -2.6**
VRH pmax pmax
comp=Z,50nm,0.8s
VRH MLR MLR
comp=Z,3µm,19.0s
KVT Kavak 67.16 313 *e*P **P** **12 53 05.3 -0.1**
YOZ Yozgat 67.30 312 *e*P **P** **12 53 04.6 -1.9**
ANN Anapa 67.31 318 *e*P **P** **12 53 01.8 -4.4**
ANN *e**PP **pP** **12 53 06.0 -5.2**
ANN *e* 12 53 30.3
ANN *e* 12 55 30.4
ANN *e*S **S** **13 01 56.7 -4.4**
ANN *e*SS **SS** **13 06 19.4 -1.6**
ANN pmax pmax
comp=Z,46nm,1.3s
MBAR Mbarara 67.69 268 LR LR 13 20 17.5
comp=Z,1µm,19.5s,baz=62,slow=34
MBAR Mbarara 67.69 268 P **P** **12 53 11.3 +1.8**
MBAR IAmb IAmb 12 53 15.5
comp=Z,88nm,1.4s
MBAR Mbarara 67.69 268*d i*P **P** **12 53 11.0 +1.5**
MBAR pmax pmax
comp=Z,33nm,1.2s
MBAR Mbarara 67.69 268 *e*P **P** **12 53 07.5 -1.9**
MBAR Mbarara 67.69 268 P **P** **12 53 12.1 +2.6**
CSS Mathiatis 67.73 306 P **P** **12 53 09.4 +0.2**
LEF Lefka 68.12 307 *e*P **P** **12 53 09.6 -2.0**
YAYX Yaylak 68.25 311 *e*P **P** **12 53 10.8 -1.7**
KAMT Kaman 68.43 311 *e*P **P** **12 53 09.9 -3.7**
SERE Sereflikochisa 68.44 311 *e*P **P** **12 53 12.5 -1.2**
VSR Storozhevoye 68.52 325 *e*P **P** **12 53 10.9 -2.8**
VSR pmax pmax
comp=Z,60nm,1.3s
VSR MLR MLR
comp=Z,2µm,17.0s
BR131 Keskin Array S 68.57 311 P **P** **12 53 13.1 -1.4**
BR131 Keskin Array S 68.57 311 *i*P **P** **12 53 12.3 -2.2**
BRTR Keskin Array B 68.57 311 P **P** **12 53 13.2 -1.3**
comp=Z,39nm,1.1s,baz=124,slow=6.1,SNR=92
BRTR LR LR 13 26 22.5
comp=Z,936nm,19.6s,baz=112,slow=39
comp=Z,39nm,1.1s
BRTR Keskin Array B 68.57 311 P **P** **12 53 12.9 -1.6**
BRTR Keskin Array B 68.57 311 *i*P **P** **12 53 13.1 -1.4**
BRTR pmax pmax
comp=Z,40nm,1.1s
VORR Voronezh 68.67 325 *e*P **P** **12 53 13.6 -1.1**
VORR pmax pmax
comp=Z,90nm,1.3s
VORR MLR MLR
comp=Z,2µm,18.0s
KOUNC Koumac, New Ca 68.80 113 IAMs_20 IAMs_20 13 23 21.1
comp=Z,3µm,20.0s
KOUNC Koumac, New Ca 68.80 113 P **P** **12 53 18.4 +2.3**
ILGA Ilgaz 68.84 313 P **P** **12 53 16.1 -0.1**
BZK Bozkurt 68.87 314 ⇓P **P** **12 53 14.3 -1.8**
BZK Bozkurt 68.87 314 P **P** **12 53 13.9 -2.1**
MA2 Magadan 68.95 26 P **P** **12 53 15.5 -0.8**
MA2 IAmb IAmb 12 53 17.3
comp=Z,139nm,1.9s
MA2 IAMs_20 IAMs_20 13 28 31.7
comp=Z,5µm,18.0s
MA2 Magadan 68.95 26 P **P** **12 53 17.3 +1.1**
comp=Z,32nm,1.2s
MA2 Magadan 68.95 26*ce*P **P** **12 53 15.7 -0.5**
MA2 pmax pmax
comp=Z,69nm,1.7s
LADK Ladik-KONYA 69.19 310 *e*P **P** **12 53 17.5 -0.8**
LPSR Galich'ya Gora 69.20 326 *e*P **P** **12 53 15.6 -2.3**
LPSR pmax pmax
comp=Z,70nm,1.2s
ANTO Ankara 69.24 311 ⇓P **P** **12 53 17.3 -1.3**
ANTO Ankara 69.24 311 P **P** **12 53 17.8 -0.8**
ANTO Ankara 69.24 311 P **P** **12 53 17.8 -0.8**
ANTO pmax pmax
comp=Z,175nm,1.5s
ANTO MLR MLR
comp=Z,1µm,19.0s
ANTO Ankara 69.24 311 P **P** **12 53 17.7 -0.8**
BR231 Keskin MP Arra 69.25 311 P **P** **12 53 17.9 -0.7**
BR231 IAmb IAmb 12 53 19.1
comp=Z,152nm,1.4s
PETK Petropavlovsk- 69.35 34 P **P** **12 53 18.4 -0.5**
comp=Z,8.6nm,1.1s,baz=343,slow=1.5,SNR=3.9
comp=Z,8.6nm,1.1s
SIM Simferopol' 69.61 317 *e*P **P** **12 53 20.3 -0.3**
SIM *e*S **S** **13 02 24.8 -3.7**
SIM pmax pmax
comp=Z,154nm,1.2s
SIM smax smax
comp=N,125nm,15.5s
SIM MLR MLR
comp=Z,554nm,20.3s
KIZT Kizilcal 69.70 310 *e*P **P** **12 53 19.5 -2.0**
PET Petropavlovsk 69.85 34 IAMs_20 IAMs_20 13 23 40.3
comp=Z,3µm,18.0s
PET Petropavlovsk 69.85 34 *e*P **P** **12 53 21.4 -0.5**
PET *e* 12 55 55.0
PET *e*S **S** **13 02 33.2 +2.2**
PET *e*SS **SS** **13 07 04.7 +4.9**
PET pmax pmax
comp=Z,22nm,0.7s
PET pmax pmax
comp=Z,300nm,9.8s
PET pmax pmax
comp=Z,100nm,16.1s
PET MLR MLR
comp=Z,5µm,15.0s
PET MLR MLR
comp=Z,5µm,17.0s
CASY Casey 69.98 175 P **P** **12 53 22.3 -0.1**
CASY IAmb IAmb 12 53 25.4
comp=Z,117nm,1.3s
SVRH Sivrihisar-ESK 70.10 311 *e*P **P** **12 53 23.2 -0.7**
ISP Isparta 70.53 309 P **P** **12 53 25.9 -0.7**
ISP Isparta 70.53 309 *i*P **P** **12 53 23.6 -3.0**
ISP pmax pmax
comp=Z,198nm,1.7s
MDUB Mudurnu 70.57 312 P **P** **12 53 26.2 -0.6**
MDUB Mudurnu 70.57 312 *e*P **P** **12 53 26.0 -0.8**
KDZE Karadeniz Ereo 70.57 313 ⇑P **P** **12 53 26.8 +0.1**
KDZE Karadeniz Ereo 70.57 313 *e*P **P** **12 53 24.6 -2.1**
SHUT Suhut-Afyon 70.65 310 *e*P **P** **12 53 26.8 -0.5**
ELL Elmali 70.81 308 P **P** **12 53 28.4 0.0**
ELL Elmali 70.81 308 *e*P **P** **12 53 27.7 -0.6**
ELL Elmali 70.81 308 P **P** **12 53 28.4 0.0**
ELL pmax pmax
comp=Z,980nm,1.4s
TIXI Tiksi 70.93 10 LR LR 13 27 24.0
comp=Z,5µm,19.8s,baz=359,slow=38
TIXI Tiksi 70.93 10 P **P** **12 53 26.8 -1.3**
TIXI IAmb IAmb 12 54 44.2
comp=Z,54nm,1.7s
TIXI Tiksi 70.93 10*ce*P **P** **12 53 25.3 -2.8**
TIXI pmax pmax
comp=Z,27nm,1.7s
BORA Eskisehir 71.00 311 P **P** **12 53 28.7 -0.7**
BORA IAmb IAmb 12 53 29.7
comp=Z,160nm,1.8s
DZM Mont Dzumac 71.08 115 *e*P **P** **12 53 29.7 -0.5**
comp=Z,82nm,1.5s
DZM *e*S **S** **13 02 45.8 -0.9**
comp=Z,414nm,28.2s
DZM Mont Dzumac 71.08 115 *e*LR LR 13 15 02.6
comp=Z,4µm,22.2s
DZM Mont Dzumac 71.08 115 LR LR 13 25 42.4
comp=Z,2µm,21.1s,baz=284,slow=37
DZM Mont Dzumac 71.08 115 P **P** **12 53 32.1 +1.9**
MOS Moscow 71.14 329 *e*P **P** **12 53 26.7 -3.0**
MOS *e*S **S** **13 02 45.9 0.0**
MOS pmax pmax
comp=Z,400nm,1.8s
MOS pmax pmax
comp=Z,170nm,1.5s
SAUV Serdivan-Sakar 71.27 312 *e*P **P** **12 53 29.8 -1.1**
SEY Seymchan 71.38 23 LR LR 13 30 20.3
comp=Z,3µm,18.1s,baz=230,slow=40
SEY Seymchan 71.38 23*ce*P **P** **12 53 29.9 -1.2**
SEY pmax pmax
comp=Z,59nm,1.7s
OBN Obninsk 71.45 328 P **P** **12 53 30.4 -1.3**
comp=Z,4.5nm,0.4s,baz=104,slow=4.6,SNR=22
comp=Z,4.5nm,0.4s
OBN Obninsk 71.45 328 P **P** **12 53 29.9 -1.7**
OBN IAMs_20 IAMs_20 13 29 38.0
comp=Z,3µm,20.0s
OBN Obninsk 71.45 328⇓ *e*P **P** **12 53 29.9 -1.7**
OBN *e* 12 53 49.8
OBN *e* 12 56 10.9
OBN *e*S **S** **13 02 49.6 +0.1**
OBN pmax pmax
comp=Z,119nm,1.3s
OBN MLR MLR
comp=Z,3µm,21.0s
LIFNC LIFOU 71.56 113 IAMs_20 IAMs_20 13 25 04.1
comp=Z,3µm,20.0s
GEDZ Gediz 71.62 310 *e*P **P** **12 53 31.0 -2.2**
HRT Hereke 71.78 312 *e*P **P** **12 53 32.3 -1.7**
LSZ Lusaka 71.83 253 LR LR 13 20 38.9
comp=Z,2µm,21.9s,baz=91,slow=32
LSZ Lusaka 71.83 253 P **P** **12 53 35.9 +1.1**
LSZ Lusaka 71.83 253 P **P** **12 53 35.9 +1.1**
LSZ pmax pmax
comp=Z,31nm,1.1s
GEMT Gemlik 72.06 311 *e*P **P** **12 53 34.4 -1.2**
KULA Kula-Manisa 72.10 309 P **P** **12 53 37.0 +0.9**
KULA Kula-Manisa 72.10 309 *e*P **P** **12 53 35.8 -0.3**
ARG Arkhangelos 72.13 307 P **P** **12 53 36.1 -0.1**
MANT Manisa 72.18 309 P **P** **12 53 36.5 -0.2**
MDNY Mudanya-Bursa 72.27 311 *e*P **P** **12 53 36.4 -0.5**
KAVV Kandilli-Istan 72.28 312 *e*P **P** **12 53 35.2 -1.7**
ISK Istanbul-Kandi 72.28 312 P **P** **12 53 35.7 -1.2**
ISK Istanbul-Kandi 72.28 312 *e*P **P** **12 53 36.2 -0.7**
KLYT Kilyos 72.33 312 *e*P **P** **12 53 36.2 -1.0**
KLMR Klimovskoe 72.37 334 *e*P P 12 53 32.0 -5.0
KLMR AMP 12 53 37.6
comp=Z,79nm,1.5s
KLMR *e*PcP **PcP** **12 53 51.6 -3.3**
KLMR LQ LQ 13 20 11.2
KLMR LQ LQ 13 20 11.2
KLMR LR LR 13 21 54.8
KLMR AMP 13 28 03.6
comp=Z,1µm,18.5s
KLMR Klimovskoe 72.37 334 *e*P P 12 53 32.0 -5.0
KLMR *e* 12 53 51.6
KLMR pmax pmax
comp=Z,79nm,1.5s
KLMR MLR MLR
comp=Z,1µm,19.0s
MLSB Milas 72.58 308 *e*P P 12 53 31.7 -7.2
DAT Datca 72.65 307 P **P** **12 53 36.2 -3.2**
KCTX Karacabey (Bur 72.65 311 *e*P **P** **12 53 40.4 +1.2**
KARP Karpathos 72.81 306 P **P** **12 53 39.4 -0.8**
KARP Karpathos 72.81 306 P **P** **12 53 39.0 -1.3**
BALB Balikesir 72.90 310 P **P** **12 53 40.6 0.0**
EDC Edincik 73.04 311 *e*P **P** **12 53 40.9 -0.6**
TIRR Tirgusor 73.43 315 ⇑P **P** **12 53 43.1 -0.6**
TIRR Tirgusor 73.43 315 P **P** **12 53 43.1 -0.6**
TIRR Tirgusor 73.43 315 P **P** **12 53 43.1 -0.6**
TIRR pmax pmax
comp=Z,315nm,1.4s
TIRR MLR MLR
comp=Z,2µm,22.0s
TPGR Topolog 73.51 316 ⇑P **P** **12 53 43.6 -0.6**
PHSR Pinarhisar 73.52 312 *e*P **P** **12 53 43.7 -0.6**
MILM Milestii Mici 73.69 318⇓ *i*P **P** **12 53 44.5 -0.6**
comp=Z,200nm,1.3s
MILM *e*L L 13 20 40.0
MILM LRM MLR 13 30 38.0
comp=Z,800nm,18.0s
MILM Milestii Mici 73.69 318 ⇑P **P** **12 53 44.9 -0.2**
MILM Milestii Mici 73.69 318*d i*P **P** **12 53 44.5 -0.6**
MILM *e* 12 53 50.0
MILM *e* 12 56 27.0
MILM pmax pmax
comp=Z,200nm,1.3s
KIS Kishinev 73.70 318⇓ *i*P **P** **12 53 43.7 -1.5**
comp=Z,190nm,2.4s
KIS *e*L L 13 25 16.0
KIS LRM MLR 13 30 34.0
comp=Z,300nm,17.5s
KIS Kishinev 73.70 318*d i*P **P** **12 53 44.0 -1.2**
KIS *e* 12 53 50.0
KIS pmax pmax
comp=Z,200nm,2.4s
CFR Carcaliu 73.77 316 ⇓P **P** **12 53 45.9 +0.2**
CFR Carcaliu 73.77 316 P **P** **12 53 45.8 +0.2**
HARR Harsova 73.81 316 ⇓P **P** **12 53 45.8 -0.2**
HARR Harsova 73.81 316 P **P** **12 53 45.7 -0.2**
PRD Provadia 73.90 314 P **P** **12 53 45.0 -1.5**
VLDR Vladesti 73.95 317 ⇓P **P** **12 53 46.1 -0.6**
SCTR Scanteiesti 73.97 317 ⇑P **P** **12 53 46.4 -0.5**
CHOS Chios island 74.10 309 P **P** **12 53 47.5 -0.4**
ERIK Erikli-Kesan 74.11 311 *e*P **P** **12 53 47.3 -0.4**
EDRB Edirne 74.13 313 P **P** **12 53 46.5 -1.4**
EDRB Edirne 74.13 313 *e*P **P** **12 53 46.5 -1.4**
ADZR Andozero 74.25 337 *e*P **P** **12 53 44.8 -3.2**
ADZR pmax pmax
comp=Z,41nm,1.3s
SORM Soroca 74.26 319 ⇓P **P** **12 53 47.4 -1.1**
VASR Vaslui 74.31 318 ⇑P **P** **12 53 48.0 -0.8**
AKASG Malin Array Be 74.31 322 P **P** **12 53 47.0 -1.7**
comp=Z,2.2nm,0.3s,baz=83,slow=4.2,SNR=92
AKASG LR LR 13 32 00.8
comp=Z,1µm,18.1s,baz=102,slow=40
comp=Z,2.2nm,0.3s
AKASG Malin Array Be 74.31 322 P **P** **12 53 47.6 -1.1**
AKASG Malin Array Be 74.31 322 *i*P **P** **12 53 46.7 -2.0**
AKASG pmax pmax
comp=Z,22nm,0.9s
AKBB Malin Array Si 74.31 322 P **P** **12 53 47.2 -1.6**
AKBB IAmb IAmb 12 53 48.2
comp=Z,50nm,1.1s
AKBB Malin Array Si 74.31 322*ce*P **P** **12 53 47.0 -1.7**
AKBB pmax pmax
comp=Z,68nm,1.3s
ALN Alexandroupoli 74.49 311 P **P** **12 53 49.1 -0.9**
ALN IAmb IAmb 12 53 50.7
comp=Z,142nm,1.3s
ALN Alexandroupoli 74.49 311 P **P** **12 53 48.5 -1.5**
ALN Alexandroupoli 74.49 311 P **P** **12 53 49.1 -0.9**
ALN pmax pmax
comp=Z,142nm,1.3s
IDI Anoyia 74.61 306 LR LR 13 30 04.0
comp=Z,814nm,21.8s,baz=98,slow=39
SMTH Samothraki Isl 74.81 311 P **P** **12 53 49.9 -2.0**
BISRR Bisoca 74.83 316 ⇓P **P** **12 53 53.1 +1.2**
ISR Istrita 74.86 316 ⇓P **P** **12 53 52.8 +0.6**
VRI Vrincioaia 74.88 317 ⇑P **P** **12 53 52.6 +0.4**
VRI Vrincioaia 74.88 317 *e*P **P** **12 53 52.3 +0.1**
RDO Rodhopi 74.91 312 P **P** **12 53 51.8 -0.6**
RDO IAmb IAmb 12 53 52.9
comp=Z,110nm,1.4s
RDO Rodhopi 74.91 312 P **P** **12 53 51.3 -1.1**
PLOR Plostina 74.93 317 ⇑P **P** **12 53 52.7 +0.2**
MAW Mawson 75.01 193 P **P** **12 53 53.6 +1.2**
comp=Z,27nm,0.9s,baz=38,slow=7.4,SNR=8.7
MAW LR LR 13 20 21.9
comp=Z,2µm,21.5s,baz=34,slow=30
comp=Z,27nm,0.9s
TESR Tescani 75.06 317 ⇑P **P** **12 53 52.8 -0.4**
KDZ Kurdzhali 75.08 312 P **P** **12 53 53.0 -3.4**
GVD Gavdhos 75.21 305 P **P** **12 53 54.4 +0.1**
COVR Voineasa-Covas 75.23 317 ⇑P **P** **12 53 53.8 -0.5**
MLR Muntele Rosu 75.35 316 P **P** **12 53 55.0 0.0**
comp=Z,110nm,1.2s,baz=36,slow=4.1,SNR=22
MLR LR LR 13 34 05.9
comp=Z,1µm,19.6s,baz=61,slow=41
MLR Muntele Rosu 75.35 316 ⇓P **P** **12 53 54.8 -0.2**
MLR Muntele Rosu 75.35 316 P **P** **12 53 54.6 -0.4**
MLR Muntele Rosu 75.35 316 *e*P **P** **12 53 54.2 -0.8**
MLR Muntele Rosu 75.35 316 P **P** **12 53 54.6 -0.4**
MLR pmax pmax
comp=Z,322nm,1.5s
IMMV Iera Moni Meta 75.37 306 P **P** **12 53 53.7 -1.5**
IMMV Iera Moni Meta 75.37 306 *e*P **P** **12 53 55.8 +0.6**
KAVA Kavala 75.66 311 P **P** **12 53 54.7 -2.0**
DION Dionisos Attik 75.71 308 P **P** **12 53 56.3 -0.8**
PTL Penteli 75.76 308 P **P** **12 53 56.9 -0.5**
VLY Voula,Athens 75.79 308 P **P** **12 53 55.5 -2.1**
ATHU Athens Univers 75.81 308 P **P** **12 53 55.9 -1.8**
LBTB Lobatse 75.85 243 LR LR 13 23 15.1
comp=Z,2µm,20.4s,baz=67,slow=32
LBTB Lobatse 75.85 243 P **P** **12 53 59.9 +1.6**
LBTB IAmb IAmb 12 54 03.5
comp=Z,49nm,0.9s
LBTB Lobatse 75.85 243 P **P** **12 53 59.9 +1.6**
LBTB pmax pmax
comp=Z,49nm,1.0s
HUMR Humele 75.86 315 ⇑P **P** **12 53 57.2 -0.6**
ATH Athens Observa 75.87 308 P **P** **12 53 56.6 -1.4**
STFAR Stefanesti-Arg 75.92 315 ⇑P **P** **12 53 58.7 +0.4**
PLVB Pleven 75.93 314 ⇓P **P** **12 53 58.2 -0.1**
MNK Minsk 76.04 325 *i*P **P** **12 53 56.8 -1.8**
comp=E,7.0nm,1.5s
MNK *i*P **P** **12 53 56.8 -1.8**
comp=N,17nm,0.7s
MNK *i*P **P** **12 53 56.8 -1.8**
comp=Z,57nm,1.1s,baz=104
MNK *i*PP **PP** **12 56 47.3 -2.0**
MNK *i*PPP PPP 12 58 35.5
MNK *i*S **S** **13 03 41.1 -0.4**
MNK *i*SS **SS** **13 08 33.3 -1.1**
MNK *i*SSS SSS 13 11 57.4
MNK *i*LQ LQ 13 22 22.5
MNK *i*LR LR 13 27 28.9
MNK *i*LRM MLR 13 30 15.3
comp=N,796nm,14.1s
MNK *i*LRM MLR 13 31 14.4
comp=Z,2µm,20.6s
MNK *i*LRM MLR 13 31 22.0
comp=E,242nm,17.4s
MNK Minsk 76.04 325 *i*P **P** **12 53 56.8 -1.8**
MNK *i* 12 56 47.3
MNK *i*PPP PPP 12 58 35.4
MNK *i*S **S** **13 03 41.0 -0.4**
MNK *i*SS **SS** **13 08 33.3 -1.1**
MNK pmax pmax
comp=E,7.0nm,1.5s
MNK pmax pmax
comp=Z,57nm,1.1s
MNK pmax pmax
comp=N,17nm,0.7s
MNK MLR MLR
comp=N,796nm,14.0s
MNK MLR MLR
comp=Z,2µm,21.0s
MNK MLR MLR
comp=E,242nm,17.0s
PGB Panagyurishte 76.14 313 P **P** **12 53 58.0 -1.5**
PAIG Paliouri 76.14 310 P **P** **12 53 57.9 -1.6**
VLAD Vladila 76.18 314 ⇑P **P** **12 53 59.8 +0.2**
NVR Nevrokopi 76.19 312 P **P** **12 53 59.6 -0.2**
BURAR Bucovina Array 76.22 318 ⇑P **P** **12 54 00.4 +0.4**
BURAR Bucovina Array 76.22 318 P **P** **12 53 59.6 -0.4**
BURAR IAmb IAmb 12 54 05.3
comp=Z,44nm,1.0s
ARR Arges 76.24 316 ⇑P **P** **12 53 59.6 -0.5**
BUR08 Bucovina Ar. S 76.24 318 P **P** **12 53 59.3 -0.8**
BUR08 IAmb IAmb 12 54 04.0
comp=Z,112nm,1.3s
KRND KRANIDI 76.25 308 P **P** **12 53 57.9 -2.3**
VLI Veliai 76.34 307 P **P** **12 53 58.5 -2.2**
SRS Serrai 76.36 311 P **P** **12 53 58.7 -2.1**
SOH Sokhos 76.50 311 P **P** **12 54 00.9 -0.7**
HORT Hortiatis 76.67 311 P **P** **12 53 59.9 -2.7**
ARCR ARCALIA 76.71 318 ⇑P **P** **12 54 03.0 +0.4**
NACGM Naroch 76.76 326⇑ *i*P **P** **12 54 01.3 -1.4**
comp=Z,58nm,0.9s,baz=103
VTS Vitosha 76.83 313 ⇑P **P** **12 54 03.1 -0.5**
VTS Vitosha 76.83 313 P **P** **12 54 02.7 -0.8**
VTS IAmb IAmb 12 54 04.2
comp=Z,153nm,1.5s
VTS Vitosha 76.83 313 P **P** **12 54 02.7 -0.8**
VTS pmax pmax
comp=Z,153nm,1.5s
VTS Vitosha 76.83 313 P **P** **12 54 02.0 -1.5**
BOSA Boshof 76.83 240 P **P** **12 54 05.3 +1.5**
comp=Z,12nm,0.9s,baz=69,slow=4.2,SNR=13
BOSA LR LR 13 24 57.8
comp=Z,1µm,19.2s,baz=66,slow=33
comp=Z,12nm,0.9s
BOSA Boshof 76.83 240 P **P** **12 54 04.5 +0.7**
BOSA IAmb IAmb 12 54 08.9
comp=Z,150nm,1.9s
BOSA Boshof 76.83 240 P **P** **12 54 04.5 +0.7**
BOSA pmax pmax
comp=Z,150nm,1.9s
IDID Didziasalis 76.88 326 *e*P P 12 53 55.8 -7.5
KNT Kendrikon 76.89 311 P **P** **12 54 02.3 -1.4**
LIT Litokhoron 77.07 310 P **P** **12 54 03.7 -1.1**
LIT IAmb IAmb 12 54 04.5
comp=Z,173nm,1.4s
LIT Litokhoron 77.07 310 P **P** **12 54 01.0 -3.8**
LIT Litokhoron 77.07 310 P **P** **12 54 03.7 -1.1**
LIT pmax pmax
comp=Z,173nm,1.4s
AGG Agios Georgios 77.07 309 P **P** **12 54 03.1 -1.7**
KLV Kalavryta, Ach 77.11 308 P **P** **12 54 03.1 -2.0**
VAY Valandovo 77.15 312 *i*P **P** **12 54 04.4 -0.8**
CJR Cluj-Napoca 77.16 317 ⇓P **P** **12 54 05.9 +0.6**
IIGN Ignalina 77.17 326 *e*P P 12 53 52.6 -12
ITM Ithomi 77.20 307 P **P** **12 54 04.4 -1.2**
ITM Ithomi 77.20 307 P P 12 53 54.2 -11
SERG Sergoula 77.22 308 P **P** **12 54 08.2 +2.5**
GRG Griva 77.23 311 P **P** **12 54 03.6 -2.1**
LVZ Lovozero 77.27 340 IAMs_20 IAMs_20 13 30 58.6
comp=Z,3µm,20.0s
ISAL Salakas 77.28 326 *e*P **P** **12 54 05.9 +0.3**
EFP Efpalio 77.34 309 P **P** **12 54 05.2 -1.1**
BMR Baia Mare 77.38 318 ⇑P **P** **12 54 06.0 -0.3**
LVV L'vov 77.39 320 *e*P **P** **12 54 04.2 -2.1**
LVV *e*S **S** **13 03 50.4 -5.9**
DRO Drossia 77.44 308 P **P** **12 54 06.6 -0.3**
MARR Marisel-Cluj 77.48 317 ⇑P **P** **12 54 07.4 +0.3**
STIP Stip 77.48 312 *i*P **P** **12 54 05.0 -2.1**
DEV Deva 77.51 316 ⇑P **P** **12 54 07.7 +0.6**
GZR Gura Zlata 77.53 316 ⇑P **P** **12 54 06.7 -0.7**
APA Apatity 77.58 339⇓ *i*P **P** **12 54 10.7 +3.7**
APA *i* 12 54 18.1
APA pmax pmax
comp=Z,9.0nm,1.0s
DJES Djerdap 77.61 315 ⇓P **P** **12 54 07.7 0.0**
DJES Djerdap 77.61 315 P **P** **12 54 07.6 -0.1**
VSU Vasula 77.63 329 *i*P **P** **12 54 05.6 -1.9**
VSU pmax pmax
comp=Z,43nm,0.9s
MESR Meseseni 77.67 317 ⇓P **P** **12 54 09.5 +1.5**
HERR Herculane 77.72 315 ⇓P **P** **12 54 07.6 -0.7**
DRGR 77.78 317 ⇑P **P** **12 54 09.2 +0.5**
DRGR 77.78 317 *e*P **P** **12 54 08.9 +0.2**
FNA Florina 77.99 311 P **P** **12 54 08.8 -1.2**
FNA Florina 77.99 311 P **P** **12 54 07.0 -3.0**
FNA Florina 77.99 311 P **P** **12 54 08.8 -1.2**
FNA pmax pmax
comp=Z,31nm,1.4s
SURR Surduc 78.04 316 ⇑P **P** **12 54 10.0 0.0**
BOVS Bovan 78.07 314 ⇓P **P** **12 54 08.9 -1.4**
SKO Skopje 78.07 312 *i*P **P** **12 54 09.2 -1.1**
TRPA Tarpa 78.09 318 ⇑P **P** **12 54 09.8 -0.5**
NEST Nestorio 78.20 310 P **P** **12 54 08.8 -2.4**
MDVR Moldovita 78.20 315 ⇑P **P** **12 54 10.8 -0.3**
NYDR Nydri-Lefkada 78.31 309 P **P** **12 54 10.4 -1.3**
UZH Uzhgorod 78.32 319⇓ *i*P **P** **12 54 10.0 -1.5**
UZH *e* 12 54 22.3
UZH *e*S **S** **13 04 01.0 -5.5**
LKD2 Lefkada island 78.35 309 P P 12 54 05.9 -6.1
BZS Buzias 78.37 316 ⇓P **P** **12 54 11.6 -0.3**
SIRR Siria 78.42 316 ⇑P **P** **12 54 12.5 +0.3**
OHR Ohrid 78.46 311 *i*P **P** **12 54 11.2 -1.4**
PABE Paberze 78.46 326 P **P** **12 54 11.0 -1.2**
PABE IAmb IAmb 12 54 12.4
comp=Z,129nm,1.3s
PABE Paberze 78.46 326 *e*P **P** **12 54 11.4 -0.8**
LSK Leskovik 78.52 310 P **P** **12 54 11.9 -1.0**
FIA1 FINESS Array S 78.68 332 P **P** **12 54 12.2 -1.1**
FIA1 IAmb IAmb 12 54 13.3
comp=Z,75nm,1.6s
FINES FINESS Array B 78.68 332 P **P** **12 54 12.3 -0.9**
comp=Z,5.3nm,0.5s,baz=104,slow=6.0,SNR=43
FINES LR LR 13 34 30.7
comp=Z,1µm,18.5s,baz=104,slow=40
comp=Z,5.3nm,0.5s
FINES FINESS Array B 78.68 332 P **P** **12 54 11.6 -1.6**
FINES FINESS Array B 78.68 332 *i*P **P** **12 54 12.1 -1.1**

FINES pmax pmax
comp=Z,5.0nm,0.5s
SHEM Shemya Is, Ala 78.75 37 LR LR 13 26 28.4
comp=Z,642nm,21.8s,baz=283,slow=34
BILL Bilibino 78.80 21 P **P** **12 54 12.2 -1.6**
BILL Bilibino 78.80 21 *e*P **P** **12 54 12.6 -1.2**
BILL *e* 12 54 24.6
BILL *e* 12 57 15.6
BILL *e*PPP PPP 12 58 56.0
BILL *e*S **S** **13 04 12.7 +1.8**
BILL *e*SS **SS** **13 09 18.7 +3.3**
BILL pmax pmax
comp=Z,24nm,1.7s
BILL MLR MLR
comp=Z,3µm,18.0s
STHS Stebnicka Huta 79.11 320 *e*P **P** **12 54 15.1 -0.9**
STHS pmax pmax
comp=Z,49nm,1.3s
STHS Stebnicka Huta 79.11 320 *e*P **P** **12 54 15.1 -0.9**
MTSE Matsula 79.18 329 *e*P **P** **12 54 15.0 -1.0**
TIR Tirane 79.18 311 ⇑P P 12 54 29.6 +13
MEF Metsahovi 79.20 331 *e*P **P** **12 54 14.3 -1.8**
DIVS Divibare 79.35 314 P **P** **12 54 17.3 -0.1**
DIVS IAmb IAmb 12 54 19.2
comp=Z,160nm,1.5s
DIVS Divibare 79.35 314 *e*P **P** **12 54 16.6 -0.8**
FRGS Fruska Gora 79.58 315 ⇑P **P** **12 54 18.5 -0.1**
FRGS Fruska Gora 79.58 315 ⇓*i*P **P** **12 54 18.4 -0.2**
PBUR Paburge 79.69 326 *e*P **P** **12 54 17.6 -1.3**
TEKS Tekeris 79.72 315 *e*P **P** **12 54 18.1 -1.3**
NIE Niedzica 79.73 320 *e*P **P** **12 54 19.2 -0.2**
BEL Belsk 79.73 322 *e*P **P** **12 54 18.8 -0.4**
BEL *e*L L 13 35 05.2
comp=Z,2µm,21.6s
PDG Podgorica 79.73 312 ⇑P **P** **12 54 18.5 -0.9**
PDG Podgorica 79.73 312 P **P** **12 54 18.5 -0.9**
BBLS Lazići 79.75 314 *e*P **P** **12 54 19.3 -0.3**
RUDO Rudo 79.75 314 *e*P **P** **12 54 17.2 -2.3**
DRME Dracevica, Mon 79.76 312 ⇓*i*P **P** **12 54 18.5 -1.1**
PSZ Piszkesteto 79.82 318 ⇑P **P** **12 54 19.7 -0.2**
PSZ Piszkesteto 79.82 318 P **P** **12 54 19.4 -0.5**
PSZ IAmb IAmb 12 54 24.7
comp=Z,119nm,1.3s
PSZ Piszkesteto 79.82 318 P **P** **12 54 19.4 -0.5**
PSZ pmax pmax
comp=Z,119nm,1.3s
RPZ Rata Peaks 79.87 135 LR LR 13 32 31.6
comp=Z,2µm,18.6s,baz=282,slow=38
RPZ Rata Peaks 79.87 135 P **P** **12 54 19.4 -0.8**
RPZ IAmb IAmb 12 54 22.3
comp=Z,62nm,1.1s
RPZ IAMs_20 IAMs_20 13 24 39.0
comp=Z,3µm,21.0s
INZ Inchbonnie 79.91 134 P **P** **12 54 19.3 -1.1**
INZ IAmb IAmb 12 54 21.8
comp=Z,62nm,1.0s
DSZ Denniston Nort 79.93 133 IAMs_20 IAMs_20 13 26 55.6
comp=Z,3µm,21.0s
UPM Unac-Piva 80.05 313 *e*P **P** **12 54 20.7 -0.7**
OJC Ojcow 80.14 320 *e*P **P** **12 54 20.9 -0.6**
OJC *e*L L 13 40 26.2
comp=Z,1µm,18.5s
OJC Ojcow 80.14 320 P **P** **12 54 20.3 -1.2**
OJC IAmb IAmb 12 54 22.3
comp=Z,122nm,1.5s
OJC Ojcow 80.14 320 P **P** **12 54 20.3 -1.2**
OJC pmax pmax
comp=Z,122nm,1.5s
LANS Liptovska Anna 80.24 319 *e*P **P** **12 54 22.1 0.0**
LANS pmax pmax
comp=Z,20nm,1.5s
LANS Liptovska Anna 80.24 319 *e*P **P** **12 54 22.1 0.0**
TREB Trebinje 80.42 313 *e*P **P** **12 54 21.9 -1.3**
MORH Mrgy, Hungar 80.50 316 ⇑P **P** **12 54 22.9 -0.6**
KEV Kevo 80.51 340 IAMs_20 IAMs_20 13 33 30.3
comp=Z,3µm,21.0s
LTZ Lake Taylor 80.51 134 IAMs_20 IAMs_20 13 33 19.9
comp=Z,3µm,20.0s
VYHS Vyhne 80.58 318 *e*P **P** **12 54 23.6 -0.3**
VYHS pmax pmax
comp=Z,119nm,1.7s
VYHS Vyhne 80.58 318 *e*P **P** **12 54 23.6 -0.3**
RAF Rauma 80.63 331 *e*P **P** **12 54 22.8 -1.1**
THZ Tophouse 80.74 133 P **P** **12 54 23.9 -1.0**
THZ IAmb IAmb 12 54 26.2
comp=Z,54nm,0.9s
SRO Srobarova 80.87 318 *e*P **P** **12 54 25.6 +0.2**
SRO pmax pmax
comp=Z,82nm,1.1s
SRO Srobarova 80.87 318 *e*P **P** **12 54 25.6 +0.2**
STON Ston 80.91 313 *e*P **P** **12 54 23.7 -2.0**
ARCES ARCESS Array B 80.96 340 P **P** **12 54 24.3 -1.2**
comp=Z,3.4nm,0.7s,baz=91,slow=5.7,SNR=15
ARCES LR LR 13 33 53.7
comp=Z,3µm,19.7s,baz=100,slow=38
comp=Z,3.4nm,0.7s
NNZ Nelson 80.97 132 IAMs_20 IAMs_20 13 33 32.9
comp=Z,3µm,20.0s
GVZ Greta Valley S 81.10 134 IAMs_20 IAMs_20 13 26 00.5
comp=Z,3µm,20.0s
OKC Ostrava-Krasne 81.16 320 *e*P **P** **12 54 27.1 +0.1**
OKC *e*SKS **S** **13 04 34.5 -2.0**
OKC AMS AMS 13 38 40.0
comp=Z,800nm,15.6s
OKC Ostrava-Krasne 81.16 320 *e*P **P** **12 54 27.1 +0.1**
OKC *e* 13 04 34.5
OKC MLR MLR
comp=Z,800nm,15.6s
SUR Sutherland 81.28 237 LR LR 13 25 09.3
comp=Z,1µm,19.8s,baz=72,slow=32
MAUC Maruska 81.33 319 *e*P **P** **12 54 27.9 0.0**
JAVC Velka Javorina 81.39 319 *e*P **P** **12 54 28.5 +0.2**
TIP Timpagrande 81.40 309 ⇑P **P** **12 54 29.3 +0.7**
TIP Timpagrande 81.40 309 P **P** **12 54 27.9 -0.7**
TIP IAmb IAmb 12 54 30.4
comp=Z,169nm,1.4s
BLY Banja Luka 81.41 315 *e*P **P** **12 54 27.0 -1.4**
MGRS Mrkonjic Grad 81.46 314 *e*P **P** **12 54 28.5 -0.2**
MATE Matera 81.52 310 ⇑P **P** **12 54 29.1 +0.1**
SMOL Smolenice 81.52 318 *e*P **P** **12 54 28.8 -0.1**
SMOL pmax pmax
comp=Z,18nm,1.4s
MORC Moravsky Berou 81.55 320 ⇓P **P** **12 54 29.1 +0.1**
MORC Moravsky Berou 81.55 320 P **P** **12 54 28.5 -0.6**
MORC IAmb IAmb 12 54 30.3
comp=Z,138nm,1.5s
MORC Moravsky Berou 81.55 320 *e*P **P** **12 54 28.8 -0.3**
MORC Moravsky Berou 81.55 320 P **P** **12 54 28.5 -0.6**
MORC pmax pmax
comp=Z,138nm,1.5s
MODS Modra-Piesok 81.61 318 *e*P **P** **12 54 29.3 -0.1**
MODS pmax pmax
comp=Z,315nm,1.8s
MODS Modra-Piesok 81.61 318 *e*P **P** **12 54 29.3 -0.1**
A051A Mrakovica 81.62 315 *e*P **P** **12 54 28.6 -1.0**
ZST Bratislava 81.71 318 *e*P **P** **12 54 29.5 -0.4**
ZST pmax pmax
comp=Z,374nm,1.5s
ZST Bratislava 81.71 318 *e*P **P** **12 54 29.5 -0.4**
A050A Klekovaca 81.86 314 *e*P **P** **12 54 30.3 -0.6**
SNZO South Karori 81.96 132 IAMs_20 IAMs_20 13 33 38.3
comp=Z,2µm,20.0s
CEL Celeste 82.04 308 P **P** **12 54 32.2 +0.2**
GKP Gorka Klasztor 82.04 323 *e*P **P** **12 54 30.8 -0.7**
GKP *e*L L 13 36 27.4
comp=Z,2µm,21.5s
KRLC Kraliky 82.06 320 *e*P **P** **12 54 31.9 +0.1**
KRLC AMS AMS 13 36 30.0
comp=Z,1µm,18.5s
KRLC Kraliky 82.06 320 *e*P **P** **12 54 31.9 +0.1**
KRLC MLR MLR
comp=Z,1µm,18.5s
BHW Baring Head 82.11 132 IAMs_20 IAMs_20 13 31 08.1
comp=Z,2µm,18.0s
VRAC Vranov 82.13 319 P **P** **12 54 31.6 -0.5**
comp=Z,3.3nm,0.5s,baz=72,slow=6.4,SNR=4.4
VRAC LR LR 13 36 58.4
comp=Z,556nm,18.8s,baz=100,slow=40
comp=Z,3.3nm,0.5s
VRAC Vranov 82.13 319 ⇑P **P** **12 54 31.9 -0.2**
VRAC Vranov 82.13 319 *e*P **P** **12 54 31.3 -0.8**
CUC Castrocucco 82.17 310 P **P** **12 54 32.6 0.0**
CUC IAmb IAmb 12 54 34.0
comp=Z,144nm,1.6s

KOGS Kog 82.17 316 *i*P **P** **12 54 32.0 -0.3**
RONA Rosalia, Austr 82.22 318 *e*P **P** **12 54 32.5 -0.2**
comp=Z,33nm,1.5s,SNR=7.0
KRUC Moravsky 82.24 319 *e*P **P** **12 54 32.0 -0.7**
DPC Dobruska-Polom 82.38 320 *e*P **P** **12 54 33.4 0.0**
DPC *e*SKS **S** **13 04 45.6 -3.5**
DPC AMS AMS 13 36 30.0
comp=Z,1µm,19.4s
DPC Dobruska-Polom 82.38 320 *e*P **P** **12 54 33.4 0.0**
DPC *e* 13 04 45.6
DPC MLR MLR
comp=Z,1µm,19.4s
TSUM Tsumeb 82.38 250 LR LR 13 29 13.3
comp=Z,815nm,18.3s,baz=32,slow=34
TSUM Tsumeb 82.38 250 P **P** **12 54 33.6 -0.6**
KSP Ksiaz 82.43 321 *e*P **P** **12 54 33.4 -0.2**
KSP *e*L L 13 37 11.9
comp=Z,2µm,19.2s
OSTC Ostas 82.46 320 *e*P **P** **12 54 34.2 +0.4**
OSTC AMS AMS 13 37 20.0
comp=Z,1µm,18.0s
MRZ Mangatainoka R 82.49 132 IAMs_20 IAMs_20 13 30 06.2
comp=Z,3µm,20.0s
CONA Conrad Observa 82.52 318 *i*P **P** **12 54 33.7 -0.6**
comp=Z,34nm,1.5s,SNR=8.5
GCIS Gornji Cirnik 82.57 316 *i*P **P** **12 54 34.5 0.0**
UPC Upice 82.58 320 *e*P **P** **12 54 34.7 +0.2**
UPC AMS AMS 13 36 50.0
comp=Z,1µm,18.7s
UPC Upice 82.58 320 *e*P **P** **12 54 34.7 +0.2**
UPC MLR MLR
comp=Z,1µm,18.7s
CRES Cresnjev 82.69 316 ⇓*i*P **P** **12 54 34.5 -0.6**
ARSA Arzberg 82.71 317 *i*P **P** **12 54 35.4 +0.2**
comp=Z,75nm,1.4s,SNR=16
BOJS Bojanci 82.82 315 *e*P **P** **12 54 35.2 -0.6**
TREC Trest 82.85 319 AMS AMS 13 39 50.0
comp=Z,1µm,16.4s
BKZ Black Stump Fm 82.91 130 P **P** **12 54 34.6 -1.8**
BKZ IAmb IAmb 12 54 37.9
comp=Z,59nm,0.9s
BFZ Birch Farm 82.99 131 IAMs_20 IAMs_20 13 37 23.5
comp=Z,3µm,20.0s
SOKA Soboth 83.02 316 *i*P **P** **12 54 36.6 -0.3**
comp=Z,105nm,1.4s,SNR=18
RTZ Ruatahuna 83.19 129 P **P** **12 54 36.0 -1.9**
RTZ IAMs_20 IAMs_20 13 30 58.8
comp=Z,3µm,20.0s
URZ Urewera 83.23 129 LR LR 13 31 52.0
comp=Z,3µm,20.3s,baz=9.5,slow=36
LJU Ljubljana 83.34 316 *i*P **P** **12 54 38.5 0.0**
OBKA Obir 83.35 316 *i*P **P** **12 54 39.0 +0.4**
comp=Z,57nm,1.3s,SNR=5.6
OBKA Obir 83.35 316 *e*P **P** **12 54 37.8 -0.8**
CEY Cerknica 83.40 315 *e*P **P** **12 54 38.2 -0.6**
PRU Pruhonice 83.50 320 *e*P **P** **12 54 38.9 -0.3**
PRU *e*SKS **S** **13 04 57.1 -3.3**
PRU AMS AMS 13 39 40.0
comp=Z,1µm,15.8s
PRU Pruhonice 83.50 320 *e*P **P** **12 54 38.9 -0.3**
PRU *e* 13 04 57.1
PRU MLR MLR
comp=Z,1µm,15.8s
PVCC Panska Ves 83.51 320 *e*P **P** **12 54 39.7 +0.5**
PVCC AMS AMS 13 37 20.0
comp=Z,2µm,17.0s
PVCC Panska Ves 83.51 320 *e*P **P** **12 54 39.7 +0.5**
PVCC MLR MLR
comp=Z,2µm,17.0s
MOA Molln 83.59 318 *i*P **P** **12 54 39.5 -0.3**
comp=Z,44nm,1.5s,SNR=11
CKRC Cesky Krumlov 83.60 319 *e*P **P** **12 54 40.4 +0.6**
CKRC *e*SKS **S** **13 05 00.9 -0.7**
CKRC AMS AMS 13 39 20.0
comp=Z,1µm,19.0s
INTR Introdacqua 83.67 312 P **P** **12 54 40.2 -0.2**
BRG Berggiesshubel 83.92 321 *i*P **P** **12 54 41.3 0.0**
BRG Amp 12 54 43.5
comp=Z,89nm,1.4s
BRG Berggiesshubel 83.92 321 P P 12 54 53.2 +12
BRG Amp 12 54 54.3
comp=Z,38nm,1.4s
BRG Berggiesshubel 83.92 321 S **S** **13 05 09.0 +4.4**
BRG Amp 13 38 26.0
comp=N,0.6nm,14.7s
BRG Amp 13 38 27.0
comp=E,1.2nm,18.1s
BRG Amp 13 38 31.0
comp=Z,1.8nm,18.0s
BRG Berggiesshubel 83.92 321 *i*P **P** **12 54 41.3 0.0**
BRG S **S** **13 05 09.0 +4.4**
BRG pmax pmax
comp=Z,89nm,1.4s
BRG pmax pmax
comp=Z,38nm,1.4s
BRG pmax pmax
comp=Z,22nm,1.3s
BRG smax smax
comp=N,624nm,14.7s
BRG Berggiesshubel 83.92 321 *e*P **P** **12 54 40.7 -0.7**
comp=N,161nm,1.6s,baz=91,slow=5.1
MYKA Terra Mystica 83.98 316 *i*P **P** **12 54 41.5 -0.3**
comp=N,60nm,1.7s,SNR=7.3
GEC2 GERESS Array S 84.00 319 P **P** **12 54 41.5 -0.4**
GEC2 IAmb IAmb 12 54 43.2
comp=Z,136nm,1.5s
GEC2 GERESS Array S 84.00 319 *e*P **P** **12 54 41.0 -0.9**
comp=Z,159nm,1.5s,baz=91,slow=5.1
GEC2 *e*L L 13 43 24.4
comp=Z,951nm,18.6s
GERES GERESS Array B 84.00 319 P **P** **12 54 41.8 -0.1**
comp=Z,49nm,1.2s,baz=191,slow=0.7,SNR=55
GERES LR LR 13 38 19.1
comp=Z,503nm,18.4s,baz=78,slow=40
comp=Z,49nm,1.2s
GERES GERESS Array B 84.00 319 P **P** **12 54 40.3 -1.7**
BIOA Bad Ischl, Aus 84.01 317 *e*P **P** **12 54 41.4 -0.5**
comp=Z,34nm,1.5s,SNR=8.1
PRED Cave del Predi 84.03 316 P **P** **12 54 42.0 -0.1**
PRED IAmb IAmb 12 54 48.0
comp=Z,86nm,1.1s
MXZ Matakaoa Point 84.05 128 IAMs_20 IAMs_20 13 30 48.7
comp=Z,3µm,21.0s
CAMP Campotosto 84.05 312 P **P** **12 54 42.9 +0.6**
AQU L'Aquila 84.06 312 P **P** **12 54 42.8 +0.5**
AQU L'Aquila 84.06 312 P **P** **12 54 42.8 +0.5**
AQU pmax pmax
comp=Z,216nm,1.3s
RUE Ruedersdorf 84.08 322 *e*P **P** **12 54 42.3 +0.3**
RUE Ruedersdorf 84.08 322 *e*P **P** **12 54 41.8 -0.2**
comp=Z,449nm,1.7s,baz=91,slow=5.1
KHC Kasperske Hory 84.09 319 P **P** **12 54 41.4 -1.0**
KHC Kasperske Hory 84.09 319 *e*P **P** **12 54 41.6 -0.7**
KHC *e*SKS **S** **13 05 05.1 -1.5**
KHC AMS AMS 13 40 20.0
comp=Z,1µm,16.8s
KHC Kasperske Hory 84.09 319 *e*P **P** **12 54 41.6 -0.7**
KHC *e* 13 05 05.1
KHC MLR MLR
comp=Z,1µm,16.8s
GUMA Gualdo di Mace 84.12 313 P **P** **12 54 42.4 -0.2**
GUMA IAmb IAmb 12 54 48.1
comp=Z,195nm,1.1s
KBA Koelnbreinsper 84.19 317 *i*P **P** **12 54 42.4 -0.7**
comp=Z,43nm,1.4s,SNR=6.8
NRCA Norcia 84.28 313 P **P** **12 54 43.2 -0.2**
FBE Freiberg 84.29 321 *e*P **P** **12 54 43.1 -0.1**
comp=Z,206nm,1.7s,baz=91,slow=5.1
HFS Hagfors 84.48 330 P **P** **12 54 43.6 -0.4**
comp=Z,4.2nm,0.6s,baz=108,slow=4.8,SNR=18
HFS LR LR 13 37 32.0
comp=Z,3µm,18.9s,baz=82,slow=39
comp=Z,4.2nm,0.6s
CLUD Cludinico 84.50 316 P **P** **12 54 44.3 -0.2**
CLL Collm 84.53 321 P **P** **12 54 43.6 -0.8**
CLL IAmb IAmb 12 54 45.3
comp=Z,60nm,1.3s
CLL Collm 84.53 321 ⇓*i*P **P** **12 54 43.7 -0.7**
comp=Z,115nm,1.6s
CLL *e*SKSac **SKSac** **13 05 04.0 -3.9**
CLL *e*Sx Sx 13 05 11.0
CLL *e*PS **PnS** **13 06 02.0 -3.3**
CLL *ex* x 13 07 00.0
CLL *e*SS **SS** **13 10 36.0 -5.4**
CLL *e*(SSS) 13 13 42.0

CLL *ex* x 13 16 18.0
CLL LmV 13 40 00.0
comp=Z,1µm,19.4s
CLL Collm 84.53 321 ⇓*i*P **P** **12 54 43.7 -0.7**
CLL *e*S **S** **13 05 03.0 -7.7**
CLL pmax pmax
comp=Z,115nm,1.6s
CLL MLR MLR
comp=Z,1µm,19.4s
CLL Collm 84.53 321 *e*P **P** **12 54 43.6 -0.8**
comp=Z,115nm,1.6s,baz=91,slow=5.1
CLL *e*L L 13 39 07.5
comp=Z,1µm,19.6s
STAL STALIGIAL 84.61 316 P **P** **12 54 44.8 -0.2**
ABTA Abfaltersbach 84.76 316 *e*P **P** **12 54 44.9 -0.9**
comp=Z,26nm,1.1s,SNR=6.1
CIMO Cimolais 84.80 316 P **P** **12 54 45.6 -0.4**
CIMO IAmb IAmb 12 54 47.6
comp=Z,186nm,1.4s
TANN Tannenbergstha 84.85 320 *e*P **P** **12 54 45.7 -0.5**
comp=Z,83nm,1.6s,baz=91,slow=5.1
NKC Novy Kostel 84.85 320 *e*P **P** **12 54 46.2 +0.1**
NKC AMS AMS 13 38 30.0
comp=Z,2µm,17.6s
NKC Novy Kostel 84.85 320 *e*P **P** **12 54 46.2 +0.1**
NKC MLR MLR
comp=Z,2µm,17.6s
WERN Wernitzgruen 84.90 320 *e*P **P** **12 54 45.9 -0.5**
comp=Z,62nm,1.6s,baz=91,slow=5.1
GUNZ Gunzen 84.93 320 *e*P **P** **12 54 45.9 -0.7**
comp=Z,107nm,1.6s,baz=91,slow=5.1
WERD Werda 84.95 320 *e*P **P** **12 54 46.2 -0.4**
comp=Z,82nm,1.6s,baz=91,slow=5.1
ROTZ Rotzenmuhle 85.00 320 *e*P **P** **12 54 46.9 0.0**
comp=Z,32nm,1.7s,baz=91,slow=5.1
MANZ Manzenberg 85.07 320 *e*P **P** **12 54 47.2 0.0**
comp=Z,36nm,1.6s,baz=91,slow=5.1
SPITS Spitsbergen Ar 85.14 348 LR LR 13 40 06.6
comp=Z,2µm,18.5s,baz=66,slow=41
NEUB Neuenburg 85.30 321 *e*P **P** **12 54 47.8 -0.4**
comp=Z,199nm,1.7s,baz=91,slow=5.1
WTTA Wattenberg 85.36 317 *e*P **P** **12 54 48.0 -0.9**
comp=Z,61nm,1.3s,SNR=11
MOX Moxa 85.39 320 *e*P **P** **12 54 48.4 -0.4**
comp=Z,113nm,1.6s,baz=91,slow=5.1
MOX *e*L L 13 39 27.0
comp=Z,1µm,19.5s
WATA Walderalm 85.40 317 *e*P **P** **12 54 48.1 -1.0**
comp=Z,71nm,1.4s,SNR=12
NC405 NORSAR Array S 85.50 331 P **P** **12 54 48.0 -1.1**
NC405 IAmb IAmb 12 54 48.6
comp=Z,64nm,1.5s
FUR Furstenfeldbru 85.61 318 *e*P **P** **12 54 49.2 -0.7**
comp=Z,181nm,1.8s,baz=91,slow=5.1
FUR *e*L L 13 41 05.6
comp=Z,772nm,19.0s
FLTG Flechtingen 85.64 322 *e*P **P** **12 54 48.9 -1.0**
comp=Z,113nm,1.8s,baz=91,slow=5.1
GRF Grafenberg Arr 85.64 319 *e*P **P** **12 54 50.0 -0.1**
comp=Z,145nm,1.6s,baz=91,slow=5.1
GRF *e*L L 13 39 27.0
comp=Z,2µm,19.5s
GRFO Grafenberg 85.64 319 P **P** **12 54 49.1 -0.9**
GRFO IAmb IAmb 12 54 51.6
comp=Z,90nm,1.3s
GRFO Grafenberg 85.64 319 P **P** **12 54 49.2 -0.9**
GRFO pmax pmax
comp=Z,91nm,1.3s
SQTA Sankt Quirin 85.65 317 *e*P **P** **12 54 49.5 -0.8**
comp=Z,22nm,0.7s,SNR=12
MOTA Moosalm 85.72 317 *i*P **P** **12 54 49.6 -1.1**
comp=Z,61nm,1.3s,SNR=12
NB2 NORSAR Subarra 85.74 331 P **P** **12 54 49.0 -1.3**
comp=Z,104nm,1.7s,baz=93,slow=4.6
NB2 NORSAR Subarra 85.74 331 P **P** **12 54 49.0 -1.3**
baz=93,slow=4.6
NOA NORSAR Array B 85.74 331 P **P** **12 54 49.2 -1.2**
comp=Z,9.8nm,1.1s,baz=90,slow=5.0,SNR=9.5
NOA LR LR 13 38 25.9
comp=Z,2µm,18.6s,baz=80,slow=39
comp=Z,9.8nm,1.1s
ZCCA Zocca 85.83 314 P **P** **12 54 52.5 +1.4**
RETA Reutte 85.95 317 *e*P **P** **12 54 51.1 -0.6**
comp=Z,66nm,1.2s,SNR=17
NC204 NORSAR Array S 85.96 331 P **P** **12 54 49.4 -2.0**
NC204 IAmb IAmb 12 54 51.8
comp=Z,44nm,1.4s
FETA Feichten 85.98 317 *e*P **P** **12 54 51.5 -0.5**
comp=Z,29nm,1.2s,SNR=9.5
ASSE Asse, Remlinge 85.98 322 *e*P **P** **12 54 51.1 -0.4**
comp=Z,122nm,1.6s,baz=91,slow=5.1
SALO Salr 86.14 315 P **P** **12 54 52.9 +0.3**
CLZ Clausthal 86.17 322 *e*P **P** **12 54 52.5 -0.2**
comp=Z,187nm,1.6s,baz=91,slow=5.1
BSEG Bad Segeberg 86.19 324 *e*P **P** **12 54 52.7 +0.1**
comp=Z,173nm,1.6s,baz=91,slow=5.1
BSEG *e*L L 13 37 37.7
comp=Z,2µm,20.8s
FUORN Ofenpass-Fuorn 86.31 316 P **P** **12 54 53.1 -0.6**
NRDL Niedersach Rie 86.33 322 *e*P **P** **12 54 53.5 +0.2**
comp=Z,258nm,1.6s,baz=91,slow=5.1
UBR Ueberruh 86.39 317 *e*P **P** **12 54 52.8 -1.1**
comp=Z,39nm,1.2s,baz=91,slow=5.1
UBBA Unterbreizbach 86.42 321 *e*P **P** **12 54 53.4 -0.3**
comp=Z,121nm,1.8s,baz=91,slow=5.1
GTTG Gottingen 86.43 321 *e*P **P** **12 54 53.8 -0.1**
comp=Z,167nm,1.6s,baz=91,slow=5.1
KONO Kongsberg 86.54 329 P **P** **12 54 53.7 -0.5**
KONO IAmb IAmb 12 54 54.9
comp=Z,120nm,1.6s
KONO Kongsberg 86.54 329 P **P** **12 54 53.7 -0.5**
KONO pmax pmax
comp=Z,120nm,1.6s
DAVA Damuels 86.56 317 *i*P **P** **12 54 54.6 -0.3**
comp=Z,80nm,1.4s,SNR=19
DAVOX Davos/Dischmat 86.57 317 P **P** **12 54 54.9 0.0**
comp=Z,57nm,0.9s,baz=150,slow=3.9,SNR=25
DAVOX LR LR 13 37 52.0
comp=Z,729nm,21.9s,baz=72,slow=39
comp=Z,57nm,0.9s
RETH Rethem/Aller, 86.78 322 *e*P **P** **12 54 55.7 +0.1**
comp=Z,184nm,1.6s,baz=91,slow=5.1
KEST Kesra 87.28 305 P **P** **12 54 59.0 +0.4**
comp=Z,28nm,1.1s,baz=238,slow=3.0,SNR=7.3
comp=Z,28nm,1.1s
KEST Kesra 87.28 305 P **P** **12 54 58.8 +0.3**
KASTN Kahler Asten 87.41 321 *e*P **P** **12 54 58.5 -0.2**
comp=Z,126nm,1.6s,baz=91,slow=5.1
TNS Taunus Mts 87.42 320 *e*P **P** **12 54 58.6 -0.2**
comp=Z,136nm,1.5s,baz=91,slow=5.1
TNS *e*L L 13 40 03.2
comp=Z,1µm,19.8s
BFO Black Forest 87.57 318 P **P** **12 54 58.7 -0.8**
BFO IAmb IAmb 12 55 00.4
comp=Z,58nm,1.5s
BFO Black Forest 87.57 318 P **P** **12 54 58.7 -0.8**
BFO pmax pmax
comp=Z,58nm,1.5s
BFO Black Forest 87.57 318 *e*P **P** **12 54 58.5 -1.0**
comp=Z,68nm,1.7s,baz=91,slow=5.1
BFO *e*L L 13 42 13.3
comp=Z,1µm,20.2s
VNDA Vanda 87.65 169 P **P** **12 54 60.0 +0.7**
comp=Z,14nm,1.1s,baz=302,slow=4.6,SNR=28
VNDA LR LR 13 31 39.9
comp=Z,908nm,18.2s,baz=309,slow=34
comp=Z,14nm,1.1s
VNDA Vanda 87.65 169 P **P** **12 54 59.6 +0.3**
VNDA IAmb IAmb 12 55 02.3
comp=Z,101nm,1.9s
VNDA Vanda 87.65 169 P **P** **12 54 59.6 +0.3**
VNDA pmax pmax
comp=Z,101nm,1.9s
IBBN Ibbenburen 87.77 322 *e*P **P** **12 55 00.6 +0.2**
comp=Z,261nm,1.5s,baz=91,slow=5.1
BUG Bochum--Univer 88.12 321 *e*P **P** **12 55 02.2 +0.2**
comp=Z,267nm,1.7s,baz=91,slow=5.1
AHRW Bad Neuenahr-A 88.29 320 *e*P **P** **12 55 03.1 +0.2**
comp=Z,218nm,1.6s,baz=91,slow=5.1
ECH Echery 88.36 318 P **P** **12 55 03.2 -0.1**
ECH IAmb IAmb 12 55 04.3
comp=Z,47nm,1.3s
ECH Echery 88.36 318 P **P** **12 55 03.2 -0.1**
ECH pmax pmax
comp=Z,47nm,1.3s
SENIN Lac Senin/Sane 88.36 316 P **P** **12 55 03.9 +0.3**
ELIB Princess Elisa 88.51 198 *d*P **P** **12 55 05.8 +2.2**

	comp=Z,56nm,1.1s						
TNA	Tin City	88.56	25	P	P	12 55 03.1	-0.7
SBA	Scott Base	88.75	169	P	P	12 55 05.2	+0.7
SBA				IAmb	IAmb	12 55 07.8	
	comp=Z,43nm,1.1s						
SBA	Scott Base	88.75	169	P	P	12 55 05.2	+0.7
SBA				pmax	pmax		
	comp=Z,43nm,1.1s						
BNI	Bardonecchia	88.87	315	P	P	12 55 05.9	-0.1
BNI				IAmb	IAmb	12 55 09.8	
	comp=Z,46nm,1.2s						
BNI	Bardonecchia	88.87	315	P	P	12 55 05.9	-0.1
BNI				pmax	pmax		
	comp=Z,46nm,1.2s						
BTNL	Ternell	88.89	320	*d*P	P	12 55 05.9	+0.1
	comp=Z,32nm,1.1s						
WLF	Walferdange	88.93	320	P	P	12 55 06.9	+0.9
WLF	Walferdange	88.93	320	P	P	12 55 06.9	+0.9
WLF				pmax	pmax		
	comp=Z,124nm,1.3s						
WLF	Walferdange	88.93	320	*d*P	P	12 55 06.8	+0.9
	comp=Z,33nm,1.4s						
WLF	Walferdange	88.93	320	*e*P	P	12 55 06.5	+0.6
	comp=Z,180nm,1.5s,baz=91,slow=5.1						
MEM	Membach	88.96	320	*d*P	P	12 55 06.0	-0.1
	comp=Z,28nm,1.0s						
BHOU	Houvegnez	88.98	320	*d*P	P	12 55 06.8	+0.6
	comp=Z,21nm,1.2s						
NIKH	Nikolski High	89.07	37	P	P	12 55 06.7	+0.2
	baz=274						
BSTI	Sart Tilman	89.24	320	*d*P	P	12 55 07.8	+0.5
BCLA	Clavier	89.42	320	*d*P	P	12 55 08.3	+0.1
	comp=Z,20nm,1.4s						
RCHB	Rochefort	89.49	320	*d*P	P	12 55 08.8	+0.2
	comp=Z,15nm,1.2s						
BGES	Gesves	89.56	320	*d*P	P	12 55 09.1	+0.2
	comp=Z,20nm,1.1s						
ANM	Nome	89.74	25	IAMs_20	IAMs_20	13 40 45.4	
	comp=Z,2µm,18.0s						
ANM	Nome	89.74	25	P	P	12 55 09.7	+0.4
	baz=277						
BMRD	Maredsous	89.78	320	*d*P	P	12 55 10.0	+0.2
	comp=Z,20nm,1.1s						
DOU	Dourbes	89.90	320	*d*P	P	12 55 10.6	+0.1
	comp=Z,26nm,1.1s						
SNF	Seneffe	90.07	320	*d*P	P	12 55 11.7	+0.5
	comp=Z,47nm,1.1s						
RDOG	Red Dog Mine	90.22	22	IAMs_20	IAMs_20	13 42 55.3	
	comp=Z,3µm,18.0s						
SSB	Saint Sauveur	90.36	315	P	P	12 55 13.3	+0.5
SSB				IAmb	IAmb	12 55 14.3	
	comp=Z,72nm,1.3s						
SSB	Saint Sauveur	90.36	315	P	P	12 55 13.3	+0.5
SSB				pmax	pmax		
	comp=Z,72nm,1.3s						
AFI	Afiamalu	90.66	104	LR	LR	13 37 01.0	
	comp=Z,336nm,21.4s,baz=270,slow=36						
CLF	Chambon-Foret	91.64	318	P	P	12 55 19.0	+0.4
A21K	Barrow	91.67	18	P	P	12 55 18.2	0.0
	baz=285						
NVL	N'lazarevskaya	91.95	199	*e*P	P	12 55 21.7	+2.2
NVL				*e*S	SKSac	13 05 55.0	+3.3
NVL				pmax	pmax		
	comp=Z,15nm,0.9s						
NVL				MLR	MLR		
	comp=Z,1µm,18.0s						
JMIC	Jan Mayen	92.34	342	LR	LR	13 43 17.0	
	comp=Z,776nm,18.8s,baz=90,slow=40						
DAG	Danmarks Havn	92.79	348	*i* P	P	12 55 21.0	-2.3
QSPA	South Pole Qui	93.24	180	P	P	12 55 26.4	+0.7
QSPA				IAmb	IAmb	12 55 28.3	
	comp=Z,28nm,1.4s						
GCSA	Galena City Sc	93.29	25	P	P	12 55 26.2	+0.4
	baz=285						
N16K	Nishlik Lake	93.46	29	P	P	12 55 27.4	+0.7
	baz=283						
EKA	Eskdalemuir Ar	93.83	326	P	P	12 55 28.9	+0.3
	comp=Z,8.7nm,1.0s,baz=108,slow=4.6,SNR=7.4						
EKA				LR	LR	13 42 56.3	
	comp=Z,1µm,21.4s,baz=62,slow=39						
	comp=Z,8.7nm,1.0s						
F21K	Alatna River	93.92	22	P	P	12 55 28.6	-0.2
	baz=288						
G21K	Allakaket	94.13	22	P	P	12 55 29.5	-0.2
	baz=288						
TTA	Tatalina	94.14	26	P	P	12 55 29.7	-0.2
TTA				IAmb	IAmb	12 55 36.1	
	comp=Z,33nm,1.8s						
TTA	Tatalina	94.14	26	P	P	12 55 29.7	-0.2
TTA				pmax	pmax		
	comp=Z,33nm,1.8s						
IMAR	Indian Mountai	94.20	23	P	P	12 55 29.3	-0.7
D23K	Nanushuk River	94.33	20	P	P	12 55 30.6	0.0
	baz=291						
J20K	Nowinta River	94.59	25	IAMs_20	IAMs_20	13 46 11.5	
	comp=Z,3µm,18.0s						
J20K	Nowinta River	94.59	25	P	P	12 55 32.2	+0.3
	baz=287						
H21K	Melozitna Rive	94.67	23	IAMs_20	IAMs_20	13 43 29.9	
	comp=Z,3µm,19.0s						
H21K	Melozitna Rive	94.67	23	P	P	12 55 32.6	+0.3
	baz=288						
C24K	Franklin Bluff	94.70	19	P	P	12 55 31.9	-0.3
	baz=293						
K20K	Telida	94.86	26	P	P	12 55 33.5	+0.3
	baz=287						
E23K	Chandalar	95.03	20	P	P	12 55 34.0	+0.1
	baz=292						
H22K	Ishtalitna Cre	95.15	23	P	P	12 55 35.1	+0.6
	baz=290						
I21K	Tanana	95.16	24	IAMs_20	IAMs_20	13 42 29.6	
	comp=Z,2µm,20.0s						
I21K	Tanana	95.16	24	P	P	12 55 34.8	+0.4
	baz=289						
G23K	Bananza Creek	95.38	22	P	P	12 55 35.6	+0.1
	baz=291						
CAST	Castle Rocks	95.69	25	IAMs_20	IAMs_20	13 46 55.8	
	comp=Z,2µm,20.0s						
MLY	Manley	95.70	23	P	P	12 55 37.0	0.0
	baz=290						
TORD	Torodi Ar. Bea	95.73	283	P	P	12 55 38.6	+0.5
	comp=Z,0.8nm,0.3s,baz=97,slow=3.8,SNR=10						
TORD				PP	PP	12 59 27.4	-2.5
	comp=Z,1.6nm,1.1s,baz=58,slow=6.0,SNR=2.3						
TORD				PKKPbc	PKKPdf	13 12 28.6	-0.3
	comp=Z,1.3nm,0.8s,baz=288,slow=3.5,SNR=6.1						
	comp=Z,0.8nm,0.3s						
F24K	Squaw Lake	95.84	21	P	P	12 55 38.1	+0.5
	baz=293						
BPAW	Bear Paw Mtn.	95.92	24	IAMs_20	IAMs_20	13 46 04.9	
	comp=Z,2µm,19.0s						
BPAW	Bear Paw Mtn.	95.92	24	P	P	12 55 38.0	0.0
	baz=290						
KTH	Kantishna Hill	96.14	25	IAMs_20	IAMs_20	13 42 44.6	
	comp=Z,2µm,19.0s						
I23K	Minto, Yukon-K	96.20	23	IAMs_20	IAMs_20	13 44 44.3	
	comp=Z,3µm,19.0s						
TRF	Thorofare Moun	96.44	25	IAMs_20	IAMs_20	13 46 10.6	
	comp=Z,2µm,18.0s						
H24K	Noodor Dome	96.51	22	IAMs_20	IAMs_20	13 43 40.4	
	comp=Z,2µm,20.0s						
H24K	Noodor Dome	96.51	22	P	P	12 55 41.3	+0.6
	baz=293						
BWN	Browne	96.52	24	IAMs_20	IAMs_20	13 46 43.5	
	comp=Z,3µm,19.0s						
SNAA	Sanae	96.64	198	LR	LR	13 36 42.7	
	comp=Z,672nm,18.4s,baz=94,slow=34						
POKR	Poker Plat Res	96.97	23	IAMs_20	IAMs_20	13 45 26.5	
	comp=Z,2µm,20.0s						
RND	Reindeer	97.06	25	IAMs_20	IAMs_20	13 37 44.8	
	comp=Z,3µm,19.0s						
FYU	Fort Yukon	97.19	21	IAMs_20	IAMs_20	13 46 27.3	
	comp=Z,2µm,19.0s						
KDAK	Kodiak Island	97.25	31	LR	LR	13 41 20.9	
	comp=Z,1µm,20.8s,baz=333,slow=36						
ILAR	Eielson Array	97.32	23	P	P	12 55 44.1	-0.2
	comp=Z,0.4nm,0.9s,baz=312,slow=3.9,SNR=5.3						
ILAR				LR	LR	13 45 47.7	
	comp=Z,2µm,18.0s,baz=296,slow=39						
	comp=Z,0.4nm,0.9s						
ESDC	Sonseca Array	97.35	311	P	Pdif	12 55 45.3	+0.2
	comp=Z,7.0nm,1.1s,baz=63,slow=3.7,SNR=14						
ESDC				PP	PP	12 59 42.0	+0.3
	comp=Z,3.9nm,1.2s,baz=53,slow=8.5,SNR=4.1						
ESDC				LR	LR	13 43 39.1	
	comp=Z,348nm,20.5s,baz=64,slow=38						
	comp=Z,7.0nm,1.1s						
PRP	Porcupine Dome	97.53	22	IAMs_20	IAMs_20	13 44 21.4	

	comp=Z,2µm,20.0s						
DHY	Denali Highway	97.80	25	IAMs_20	IAMs_20	13 45 59.6	
	comp=Z,2µm,18.0s						
RIDG	Independent Ri	98.56	24	IAMs_20	IAMs_20	13 49 36.7	
	comp=Z,2µm,18.0s						
BORG	Borgarnes	99.22	338	LR	LR	13 43 59.1	
	comp=Z,786nm,20.4s,baz=46,slow=37						
A36M	Sachs Harbour	99.81	13	IAMs_20	IAMs_20	13 44 25.9	
	comp=Z,2µm,20.0s						
TULEG	Thule	99.92	357	IAMs_20	IAMs_20	13 46 53.9	
	comp=Z,2µm,19.0s						
AVE	Averroes	101.30	305	IAMs_20	IAMs_20	13 43 42.1	
	comp=Z,2µm,20.0s						
YKA	Yellowknife Ar	109.77	16	PKiKP	PKiKP	13 00 43.2	+1.1
	comp=Z,0.6nm,1.0s,baz=317,slow=2.8,SNR=4.6						
YKA				PKKPbc	PKKPbc	13 11 46.7	-1.3
	comp=Z,0.7nm,0.9s,baz=142,slow=3.1,SNR=7.1						
TBI	Tubuai	111.66	114	*e*LR	LR	13 33 50.3	
	comp=Z,18µm,23.5s						
TBI				*e*LR	LR	13 33 50.3	
	comp=Z,5µm,27.8s						
PPT2	Papeete2	112.02	108	*e*LR	LR	13 34 00.5	
	comp=Z,670nm,22.0s						
PPT2				*e*LR	LR	13 34 00.5	
	comp=Z,762nm,21.2s						
FCC	Fort Churchill	117.33	7		PKPdf	13 00 54.7	-2.0
FCC	Fort Churchill	117.33	7	PKIKP	PKPdf	13 00 54.7	-2.0
PMSA	Palmer Station	117.36	188	IAMs_20	IAMs_20	13 46 44.0	
	comp=Z,2µm,19.0s						
COR	Corvallis	119.53	33	IAMs_20	IAMs_20	13 56 10.4	
	comp=Z,1µm,22.0s						
NEW	Newport	120.04	27	P	PKPdf	13 01 02.2	-0.1
	baz=318						
SCHQ	Schefferville	120.78	350	PKP	PKPdf	13 01 02.9	-0.6
	comp=Z,4.5nm,0.8s,baz=306,slow=1.1,SNR=7.9						
HUMO	Hull Mountain	121.00	35	PKPdf	PKiKP	13 01 04.9	+0.5
TAOE	Nuku Hiva Isla	121.62	98	*e*LR	LR	13 38 26.5	
	comp=Z,782nm,22.7s						
BMO	Blue Mountains	122.46	29	IAMs_20	IAMs_20	14 03 44.7	
	comp=Z,1µm,18.0s						
MSO	Missoula	122.53	26	PKPdf	PKPdf	13 01 06.6	-0.6
MSO	Missoula	122.53	26	P	PKPdf	13 01 06.8	-0.4
	baz=321						
PLID	Pearl Lake	122.92	28		PKPdf	13 01 06.4	-1.7
J08A	Circle Bar Ran	122.93	31		PKiKP	13 01 08.7	+0.4
EGMT	Eagleton	123.28	22	PKPdf	PKPdf	13 01 08.0	-0.6
EGMT				IAMs_20	IAMs_20	13 56 42.1	
	comp=Z,2µm,22.0s						
EGMT	Eagleton	123.28	22	P	PKPdf	13 01 08.0	-0.6
	baz=326						
MFID	Camas Ranch	124.23	30	PKPdf	PKiKP	13 01 11.0	+0.1
MFID				IAMs_20	IAMs_20	13 56 34.7	
	comp=Z,1µm,19.0s						
BOZ	Bozeman (W)	124.49	25		PKPdf	13 01 11.0	-0.1
BOZ	Bozeman (W)	124.49	25	P	PKPdf	13 01 10.9	-0.2
	baz=323						
BOZ	Bozeman (W)	124.49	25	PKIKP	PKPdf	13 01 11.0	-0.1
MCMT	McKenzie Canyo	124.57	27		PKiKP	13 01 11.8	+0.2
DGMT	Dagmar	124.81	18	P	PKPdf	13 01 11.5	+0.1
	baz=332						
DGMT	Dagmar	124.81	18	P	PKPdf	13 01 11.5	+0.1
	baz=332						
HLID	Hailey	124.81	29	PKPdf	PKiKP	13 01 12.4	+0.2
HLID				IAMs_20	IAMs_20	13 59 38.0	
	comp=Z,2µm,20.0s						
HLID	Hailey	124.81	29	P	PKiKP	13 01 12.3	+0.2
	baz=319						
GCMT	Greycliff	125.15	24		PKPdf	13 01 12.2	-0.1
ULM	Lac du Bonnet	125.26	11	PKP	PKPdf	13 01 11.4	-0.8
	comp=Z,5.0nm,0.8s,baz=309,slow=2.3,SNR=6.1						
LAO	LASA Array	125.69	21	PKPdf	PKiKP	13 01 14.0	+0.4
LAO				IAMs_20	IAMs_20	13 56 23.0	
	comp=Z,2µm,21.0s						
LAO	LASA Array	125.69	21	P	PKiKP	13 01 13.8	+0.2
	baz=329						
LAO	LASA Array	125.69	21	P	PKiKP	13 01 13.8	+0.2
	baz=329						
RLMT	Red Lodge	125.86	24	P	PKiKP	13 01 14.4	+0.2
	baz=325						
H17A	Grant Village	125.90	25	P	PKiKP	13 01 15.7	+1.3
	baz=323						
FLWY	Flagg Ranch	126.10	26	IAMs_20	IAMs_20	14 05 35.0	
	comp=Z,1µm,19.0s						
MOOW	Moose Ponds	126.35	26	PKPdf	PKPdf	13 01 14.1	-0.7
NVAR	Mina Array Bea	126.41	36	PKP	PKiKP	13 01 15.9	+0.4
	comp=Z,4.6nm,0.9s,baz=291,slow=2.2,SNR=16						
ELK	Elko	126.48	32	IAMs_20	IAMs_20	14 04 33.3	
	comp=Z,1µm,21.0s						
SNOW	Snow King Moun	126.57	26	IAMs_20	IAMs_20	14 06 43.5	
	comp=Z,2µm,19.0s						
REDW	Red Top Meadow	126.61	26		PKPdf	13 01 15.0	-0.3
AGMN	Agassiz Nation	127.13	12	IAMs_20	IAMs_20	14 06 46.0	
	comp=Z,2µm,19.0s						
BGU	Big Grassy Mou	127.47	30		PKiKP	13 01 17.5	0.0
BW06	Boulder Array	127.65	26		PKPdf	13 01 16.6	-0.7
BW06				IAMs_20	IAMs_20	14 06 27.1	
	comp=Z,1µm,21.0s						
BW06	Boulder Array	127.65	26	P	PKPdf	13 01 17.1	-0.3
	baz=324						
PD31	Pinedale Array	127.65	26	PKPdf	PKPdf	13 01 16.8	-0.5
PDAR	Pinedale Array	127.65	26	PKP	PKPdf	13 01 17.1	-0.3
	comp=Z,4.7nm,1.1s,baz=5.7,slow=1.5,SNR=17						
PDAR	Pinedale Array	127.65	26		PKPdf	13 01 15.7	-1.6
CWC	Cottonwood Cre	127.86	37	P	PKiKP	13 01 18.4	0.0
	baz=311						
R11A	Troy Canyon, C	128.01	34	P	PKiKP	13 01 19.0	+0.3
	baz=315						
DUG	Dugway, Tooele	128.13	30	IAMs_20	IAMs_20	14 06 36.0	
	comp=Z,1µm,18.0s						
DUG	Dugway, Tooele	128.13	30	P	PKiKP	13 01 19.2	+0.4
	baz=319						
EYMN	Ely	128.24	8	IAMs_20	IAMs_20	14 04 01.4	
	comp=Z,1µm,20.0s						
MPMC	Manual Prospec	128.47	37	P	PKiKP	13 01 20.0	+0.3
	baz=312						
TPNV	Topopah Spring	128.61	36	IAMs_20	IAMs_20	14 06 59.8	
	comp=Z,1µm,20.0s						
D62A	Allapoint, All	128.61	349	P	PKiKP	13 01 20.2	+0.9
	baz=16						
D62A				P	PKiKP	13 01 20.2	+0.9
	baz=16						
NLU	North Lily Min	128.69	30		PKPdf	13 01 18.9	-0.5
RSSD	Black Hills	128.69	21		PKPdf	13 01 18.9	-0.4
RSSD	Black Hills	128.69	21	IAMs_20	IAMs_20	14 03 00.3	
	comp=Z,1µm,19.0s						
RSSD	Black Hills	128.69	21	P	PKPdf	13 01 19.5	+0.2
	baz=331						
RSSD	Black Hills	128.69	21	P	PKiKP	13 01 19.7	-0.2
	baz=331						
RSSD	Black Hills	128.69	21	PKIKP	PKPdf	13 01 18.9	-0.4
LRMC	Laurel Mtn Rad	128.74	38	P	PKiKP	13 01 21.0	+0.9
	baz=311						
PQI	Presque Isle	128.80	348	IAMs_20	IAMs_20	14 09 33.0	
	comp=Z,1µm,19.0s						
EDW2	Edwards Air Fo	128.94	39	P	PKiKP	13 01 20.8	+0.4
	baz=310						
K22A	Casper	129.01	24	P	PKPdf	13 01 18.9	-1.0
	baz=327						
K22A	Casper	129.01	24	P	PKPdf	13 01 19.5	-0.4
	baz=327						
F33A	5 Mile Ranch,	129.37	13	P	PKPdf	13 01 19.7	-0.5
	baz=341						
GSC	Goldstone, Bar	129.39	38	P	PKiKP	13 01 21.8	+0.4
	baz=312						
RWWY	Rawlins	129.54	25		PKPdf	13 01 20.7	-0.3
RWWY				IAMs_20	IAMs_20	14 07 19.9	
	comp=Z,1µm,18.0s						
F36A	Milaca	129.92	11	P	PKPdf	13 01 20.4	-0.8
	baz=344						
SUSD	Miller	130.00	16	P	PKPdf	13 01 21.7	+0.2
	baz=337						
O20A	White River Ci	130.36	27		PKPdf	13 01 21.7	-0.8
O20A	White River Ci	130.36	27	P	PKPdf	13 01 22.6	+0.1
	baz=324						
PKME	Peaks-Kenny Pk	130.40	349	IAMs_20	IAMs_20	14 04 46.4	
	comp=Z,2µm,20.0s						
GMRC	Granite Mounta	130.44	37	P	PKiKP	13 01 24.8	+1.3
	baz=313						
EMMW	East Machias	130.54	347	IAMs_20	IAMs_20	14 08 29.2	
	comp=Z,1µm,19.0s						
PHWY	Pilot Hill	130.58	24	IAMs_20	IAMs_20	14 00 05.4	
	comp=Z,1µm,21.0s						
TPFO	Pinon Flats	130.73	39	P	PKiKP	13 01 24.9	+0.7
	baz=311						
WVL	Waterville	131.15	349	IAMs_20	IAMs_20	14 01 35.1	
	comp=Z,1µm,19.0s						
IRM	Iron Mountain	131.17	37	P	PKiKP	13 01 25.2	+0.2

	baz=313						
MONP2	Monument Peak	131.22	40	P	PKiKP	13 01 26.6	+1.3
	baz=311						
ECSD	EROS Data Cent	131.27	14	PKPdf	PKPdf	13 01 23.5	-0.4
ECSD	EROS Data Cent	131.27	14	P	PKPdf	13 01 23.9	0.0
	baz=340						
ECSD	EROS Data Cent	131.27	14	P	PKPdf	13 01 24.1	+0.2
	baz=340						
SWSC	Sam W. Stewart	131.58	39	P	PKiKP	13 01 27.2	+1.5
	baz=312						
BRIGG	Briggsdale	131.64	23	IAMs_20	IAMs_20	14 02 19.6	
	comp=Z,2µm,21.0s						
BMNY	Brushton-Moira	131.64	353	P	PKPdf	13 01 24.7	+0.2
	baz=9.4						
PV13	Radium Mtn., P	131.67	29		PKPdf	13 01 25.3	+0.2
K31A	O'Neill	131.73	17		PKPdf	13 01 24.8	0.0
K31A	O'Neill	131.73	17	P	PKPdf	13 01 24.8	0.0
	baz=337						
ISCO	Idaho Springs	131.78	25	IAMs_20	IAMs_20	14 00 41.2	
	comp=Z,2µm,21.0s						
ISCO	Idaho Springs	131.78	25	P	PKPdf	13 01 25.5	+0.2
	baz=327						
LBNH	Lisbon	131.87	351	IAMs_20	IAMs_20	14 02 11.3	
	comp=Z,2µm,21.0s						
LONY	Lake Ozonia	131.87	353	IAMs_20	IAMs_20	14 00 33.8	
	comp=Z,2µm,21.0s						
GLMI	Grayling	132.01	3	IAMs_20	IAMs_20	14 09 57.9	
	comp=Z,2µm,18.0s						
OGNE	Ogallala	132.18	21	IAMs_20	IAMs_20	14 11 46.8	
	comp=Z,1µm,20.0s						
WUAZ	Wupatki	132.38	33	IAMs_20	IAMs_20	14 11 13.6	
	comp=Z,1µm,19.0s						
HNH	Hanover	132.45	351	IAMs_20	IAMs_20	14 02 27.3	
	comp=Z,2µm,20.0s						
FFD	Franklin Falls	132.57	350	IAMs_20	IAMs_20	14 03 41.7	
	comp=Z,2µm,20.0s						
MVCO	Mesa Verde	132.58	29	IAMs_20	IAMs_20	14 08 32.9	
	comp=Z,1µm,18.0s						
L34A	Svendsen Farm,	132.99	15	P	PKPdf	13 01 26.2	-1.0
	baz=340						
BGNE	Belgrade	133.02	17	P	PKPdf	13 01 26.3	-1.0
	baz=337						
BGNE	Belgrade	133.02	17	P	PKPdf	13 01 27.6	+0.3
	baz=337						
K38A	Parkersburg	133.16	11	P	PKPdf	13 01 27.2	-0.2
	baz=345						
K62A	Royalston	133.45	350	P	PKPdf	13 01 27.9	-0.1
	baz=13						
K62A				P	PKPdf	13 01 27.9	-0.1
	baz=13						
HRV	Adam Dziewonsk	133.49	350	IAMs_20	IAMs_20	14 03 23.0	
	comp=Z,1µm,21.0s						
SDCO	Great Sand Dun	133.54	26	IAMs_20	IAMs_20	14 09 07.9	
	comp=Z,1µm,18.0s						
SDCO	Great Sand Dun	133.54	26	P	PKPdf	13 01 27.7	-1.1
	baz=326						
W18A	Petrified Fore	133.57	32	P	PKiKP	13 01 29.7	-0.2
	baz=320						
WES	Weston	133.57	349	IAMs_20	IAMs_20	14 04 22.0	
	comp=Z,2µm,22.0s						
L61B	Northampton	133.74	351	IAMs_20	IAMs_20	14 09 57.4	
	comp=Z,1µm,18.0s						
K43A	Burlington	133.80	7	P	PKPdf	13 01 28.4	-0.2
	baz=351						
BRYW	Bryant College	134.06	350	IAMs_20	IAMs_20	14 04 36.1	
	comp=Z,1µm,21.0s						
M65A	Busby, Falmout	134.23	348	IAMs_20	IAMs_20	14 05 27.7	
	comp=Z,1µm,20.0s						
L59A	Walton	134.32	353	P	PKiKP	13 01 31.7	+0.7
	baz=9.0						
L59A				P	PKiKP	13 01 31.7	+0.7
	baz=9.0						
RCBR	Riachuelo	134.34	265	IAMs_20	IAMs_20	14 01 41.6	
	comp=Z,964nm,18.0s						
BINY	Binghamton	134.42	354	IAMs_20	IAMs_20	14 05 18.1	
	comp=Z,1µm,20.0s						
L56A	Greenwood	134.62	356	P	PKPdf	13 01 30.1	-0.2
	baz=5.5						
L56A				P	PKPdf	13 01 30.1	-0.2
	baz=5.5						
HQIL	Hanson Quary C	134.75	7	IAMs_20	IAMs_20	14 07 42.3	
	comp=Z,1µm,19.0s						
ERPA	Erie	134.76	358	IAMs_20	IAMs_20	14 06 28.0	
	comp=Z,2µm,20.0s						
CBKS	Cedar Bluff	134.88	20	IAMs_20	IAMs_20	14 05 17.2	
	comp=Z,2µm,21.0s						
YLE	Yale	134.88	351	IAMs_20	IAMs_20	14 02 26.6	
	comp=Z,1µm,22.0s						
L48A	N Adams	134.89	3	P	PKPdf	13 01 29.9	-0.8
	baz=356						
L48A				P	PKPdf	13 01 29.9	-0.8
	baz=356						
BRNY	Black Rk. Fore	134.95	352	P	PKPdf	13 01 30.7	-0.2
	baz=11						
TUC	Tucson	135.06	36	IAMs_20	IAMs_20	14 13 06.8	
	comp=Z,1µm,18.0s						
TUC	Tucson	135.06	36	P	PKiKP	13 01 32.7	-0.3
	baz=316						
WSPT	Westport, CT	135.09	351	IAMs_20	IAMs_20	14 02 40.1	
	comp=Z,1µm,22.0s						
M44A	Midewin, Midew	135.14	7	P	PKPdf	13 01 29.9	-1.3
	baz=351						
PAL	Palisades	135.34	352	IAMs_20	IAMs_20	14 02 53.6	
	comp=Z,2µm,21.0s						
ANMO	Albuquerque	135.38	29	IAMs_20	IAMs_20	14 08 03.7	
	comp=Z,2µm,22.0s						
ANMO	Albuquerque	135.38	29	P	PKPdf	13 01 32.1	0.0
	baz=323						
ANMO	Albuquerque	135.38	29	P	PKPdf	13 01 32.9	+0.8
	baz=323						
ANMO	Albuquerque	135.38	29*c*	*i*PKIKP	PKPdf	13 01 32.9	+0.8
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
M53A	WI Miller and	135.46	359	IAMs_20	IAMs_20	14 08 50.3	
	comp=Z,1µm,20.0s						
HDIL	Hopedale	135.79	8	IAMs_20	IAMs_20	14 08 07.3	
	comp=Z,1µm,19.0s						
Y22D	IRIS PASSCAL I	135.84	31	IAMs_20	IAMs_20	14 01 22.9	
	comp=Z,1µm,22.0s						
P38A	Dawn	135.90	13		PKPdf	13 01 32.4	-0.2
P38A	Dawn	135.90	13	P	PKPdf	13 01 32.5	-0.2
	baz=343						
Y22A	Socorro	135.93	31	P	PKPdf	13 01 33.1	0.0
	baz=322						
PANJ	Princeton	136.06	352	P	PKiKP	13 01 34.0	-0.6
	baz=9.8						
N53A	Lisbon	136.09	359	P	PKPdf	13 01 32.9	-0.1
	baz=1.0						
N53A				P	PKPdf	13 01 32.9	-0.1
	baz=1.0						
SSPA	Standing Stone	136.13	356	IAMs_20	IAMs_20	14 07 11.4	
	comp=Z,2µm,20.0s						
SSPA	Standing Stone	136.13	356	P	PKPdf	13 01 33.1	0.0
	baz=5.2						
SSPA	Standing Stone	136.13	356	P	PKPdf	13 01 33.8	+0.7
	baz=5.2						
O48B	Farmland	136.53	4	P	PKPdf	13 01 33.8	0.0
	baz=355						
O54A	Avella	136.71	359	P	PKPdf	13 01 34.7	+0.5
	baz=1.7						
O54A				P	PKPdf	13 01 34.7	+0.5
	baz=1.7						
P52A	Corning	137.27	1	IAMs_20	IAMs_20	14 15 41.1	
	comp=Z,1µm,18.0s						
P48A	Milroy	137.30	4	P	PKPdf	13 01 34.5	-0.8
	baz=354						
P48A				P	PKPdf	13 01 34.5	-0.8
	baz=354						
P53A	Whipple	137.42	360	P	PKPdf	13 01 34.9	-0.6
	baz=0.2						
P53A				P	PKPdf	13 01 34.9	-0.6
	baz=0.2						
R40A	Maddies Statio	137.46	12	P	PKPdf	13 01 35.2	-0.4
	baz=344						
Q56A	Snyder Ridge,	137.80	357	P	PKPdf	13 01 36.0	-0.2
	baz=3.5						
Q56A				P	PKPdf	13 01 36.0	-0.2
	baz=3.5						
EPT	El Paso	137.86	32	IAMs_20	IAMs_20	14 08 09.5	
	comp=Z,1µm,21.0s						
CCM	Cathedral Cave	137.89	11	IAMs_20	IAMs_20	14 08 33.9	
	comp=Z,2µm,21.0s						
MSTX	Muleshoe	137.91	27	P	PKPdf	13 01 36.1	-0.6
	baz=328						
MSTX	Muleshoe	137.91	27	P	PKPdf	13 01 36.9	+0.2
	baz=328						
Q54A	Coxs Mills	137.91	359	P	PKPdf	13 01 36.6	+0.2
	baz=1.0						

Q54A				P		**PKPdf**	**13 01 36.6**	**+0.2**
	baz=1.0								
OK050	**Pawnee Station**	**137.99**	**19**	IAMs_20	IAMs_20		14 05 13.4		
	comp=Z,1μm,19.0s								
OK033	**Mehan**	**138.32**	**19**			**PKPdf**	**13 01 34.4**	**-2.9**
OK033				IAMs_20	IAMs_20		14 14 55.2		
	comp=Z,1μm,18.0s								
OK053	**SW of W Deep R**	**138.40**	**19**	IAMs_20	IAMs_20		14 09 57.2		
	comp=Z,1μm,20.0s								
OK031	**S. Brethren Rd**	**138.44**	**19**	IAMs_20	IAMs_20		14 12 54.3		
	comp=Z,1μm,20.0s								
MNTX	**Cornudas Mount**	**138.51**	**31**	IAMs_20	IAMs_20		14 11 34.6		
	comp=Z,1μm,20.0s								
MNTX	**Cornudas Mount**	**138.51**	**31**	P		**PKPdf**	**13 01 37.6**	**-0.2**
	baz=323								
MNTX	**Cornudas Mount**	**138.51**	**31**	P		**PKPdf**	**13 01 38.3**	**+0.6**
	baz=323								
CBN	**Corbin Frederi**	**138.51**	**355**	IAMs_20	IAMs_20		14 14 10.3		
	comp=Z,1μm,19.0s								
R53A	**Hurricane**	**138.57**	**0**	P		**PKPdf**	**13 01 36.6**	**-1.1**
	baz=359								
R53A				P		**PKPdf**	**13 01 36.6**	**-1.1**
	baz=359								
WMOK	**Wichita Mounta**	**138.87**	**22**	IAMs_20	IAMs_20		14 02 31.8		
	comp=Z,2μm,22.0s								
S57A	**Dark Hollow, R**	**139.06**	**357**	P		**PKPdf**	**13 01 35.2**	**-3.3**
	baz=3.9								
S57A				P		**PKPdf**	**13 01 35.2**	**-3.3**
	baz=3.9								
T47A	**Sharon Grove**	**139.59**	**7**	P		**PKPdf**	**13 01 38.8**	**-0.8**
	baz=351								
BLA	**Blacksburg**	**139.67**	**358**	IAMs_20	IAMs_20		14 09 55.9		
	comp=Z,2μm,21.0s								
T59A	**Double "B" Far**	**139.75**	**355**	P		**PKPdf**	**13 01 38.4**	**-1.4**
	baz=6.1								
T59A				P		**PKPdf**	**13 01 38.4**	**-1.4**
	baz=6.1								
X37A	**Clayton**	**140.15**	**18**	P		**PKPdf**	**13 01 39.9**	**-0.8**
	baz=338								
U49A	**Red Boiling Sp**	**140.20**	**5**	P		**PKPdf**	**13 01 40.1**	**-0.6**
	baz=353								
TZTN	**Tazewell**	**140.31**	**2**	P		**PKPdf**	**13 01 40.2**	**-0.7**
	baz=357								
TZTN	**Tazewell**	**140.31**	**2**	P		**PKPdf**	**13 01 40.8**	**-0.1**
	baz=357								
WVT	**Waverly**	**140.34**	**8**			**PKPdf**	**13 01 40.6**	**-0.3**
WVT	**Waverly**	**140.34**	**8**	IAMs_20	IAMs_20		14 05 20.3		
	comp=Z,1μm,20.0s								
WVT	**Waverly**	**140.34**	**8**	P		**PKPdf**	**13 01 40.5**	**-0.4**
	baz=350								
WVT	**Waverly**	**140.34**	**8**	P		**PKPdf**	**13 01 41.7**	**+0.8**
	baz=350								
WVT	**Waverly**	**140.34**	**8**	PKIKP		**PKPdf**	**13 01 40.6**	**-0.3**
WVT				MLR		MLR			
	comp=Z,1μm,20.0s								
ABTX	**Abilene, Hawle**	**140.40**	**24**	P		**PKPdf**	**13 01 40.9**	**-0.3**
	baz=331								
ABTX	**Abilene, Hawle**	**140.40**	**24**	P		**PKPdf**	**13 01 41.3**	**+0.1**
	baz=331								
MIAR	**Mount Ida**	**140.71**	**16**	IAMs_20	IAMs_20		14 10 06.4		
	comp=Z,1μm,22.0s								
MIAR	**Mount Ida**	**140.71**	**16**	P		**PKPdf**	**13 01 40.4**	**-1.2**
	baz=341								
V51A	**Loudon**	**141.01**	**3**	P		**PKPdf**	**13 01 42.0**	**-0.2**
	baz=356								
V52A	**Sevierville**	**141.01**	**3**	P		**PKPdf**	**13 01 41.0**	**-1.2**
	baz=357								
BBSR	**BB Station**	**141.04**	**337**	IAMs_20	IAMs_20		14 07 50.4		
	comp=Z,1μm,21.0s								
TKL	**Tuckaleechee C**	**141.19**	**3**			**PKPdf**	**13 01 41.9**	**-0.6**
TKL	**Tuckaleechee C**	**141.19**	**3**	P		**PKPdf**	**13 01 42.5**	**0.0**
	baz=356								
TKL	**Tuckaleechee C**	**141.19**	**3**	PKIKP		**PKPdf**	**13 01 41.9**	**-0.6**
V53A	**Saluda**	**141.21**	**2**	P		**PKPdf**	**13 01 42.6**	**0.0**
	baz=358								
V53A				P		**PKPdf**	**13 01 42.6**	**0.0**
	baz=358								
CPCT	**Cooper Cave**	**141.35**	**4**			**PKPdf**	**13 01 41.6**	**-1.2**
PLCA	**Paso Flores**	**141.42**	**194**	PKhKP		PKPpre	13 01 38.3		
	comp=Z,1.6nm,0.9s,baz=228,slow=2.7,SNR=3.1								
OXF	**Oxford**	**141.68**	**10**	P		**PKPdf**	**13 01 42.7**	**-0.7**
	baz=347								
PAULI	**Pauline**	**142.07**	**0**	P		**PKPdf**	**13 01 42.6**	**-1.5**
	baz=360								
JCT	**Junction City**	**142.19**	**26**	PKPdf		**PKPdf**	**13 01 44.3**	**-0.2**
JCT				IAMs_20	IAMs_20		14 15 03.9		
	comp=Z,1μm,20.0s								
JCT	**Junction City**	**142.19**	**26**	P		**PKPdf**	**13 01 43.4**	**-1.1**
	baz=329								
JCT	**Junction City**	**142.19**	**26**	P		**PKPdf**	**13 01 44.7**	**+0.2**
	baz=329								
JCT	**Junction City**	**142.19**	**26**	PKIKP		**PKPdf**	**13 01 44.3**	**-0.2**
X51A	**Calhoun**	**142.21**	**4**	P		**PKPdf**	**13 01 43.1**	**-1.3**
	baz=355								
X51A				P		**PKPdf**	**13 01 43.1**	**-1.3**
	baz=355								
Y45A	**Yeager Farm, C**	**142.28**	**11**	P		**PKPdf**	**13 01 42.9**	**-1.5**
	baz=347								
HODGE	**Hodges**	**142.66**	**1**	P		**PKPdf**	**13 01 43.8**	**-1.3**
	baz=359								
435B	**Jarrell**	**142.84**	**23**	IAMs_20	IAMs_20		14 12 58.1		
	comp=Z,1μm,20.0s								
LRAL	**Lakeview Retre**	**143.50**	**8**	IAMs_20	IAMs_20		14 05 47.8		
	comp=Z,1μm,21.0s								
LRAL	**Lakeview Retre**	**143.50**	**8**	P		**PKPdf**	**13 01 47.2**	**+0.5**
	baz=351								
VBMS	**Vicksburg**	**143.68**	**13**	IAMs_20	IAMs_20		14 08 15.1		
	comp=Z,2μm,22.0s								
152A	**Waverly Hall**	**144.10**	**4**			PKPbc	13 01 45.6	0.0	
152A	**Waverly Hall**	**144.10**	**4**	P		PKPbc	13 01 46.6	+1.0	
	baz=355								
833A	**Chaparral WMA,**	**144.22**	**27**			PKPbc	13 01 46.1	-0.1	
833A	**Chaparral WMA,**	**144.22**	**27**	P		PKPbc	13 01 46.8	+0.7	
	baz=329								
833A	**Chaparral WMA,**	**144.22**	**27**	P		PKPbc	13 01 46.9	+0.7	
	baz=329								
344A	**Westbrook Farm**	**144.37**	**13**	PKPdf		PKPbc	13 01 46.4	-0.1	
344A	**Westbrook Farm**	**144.37**	**13**	P		**PKPdf**	**13 01 47.9**	**-0.3**
	baz=344								
250A	**Grady**	**144.63**	**7**			PKPbc	13 01 47.8	+0.5	
250A	**Grady**	**144.63**	**7**	P		**PKPdf**	**13 01 48.3**	**-0.4**
	baz=352								
ITQB	**Itaqui**	**144.64**	**220**	PKPdf		**PKPdf**	**13 01 48.2**	**-0.5**
346A	**Big Creek Wild**	**144.70**	**12**	P		**PKPdf**	**13 01 48.7**	**-0.1**
	baz=346								
BDFB	**Brasilia**	**144.71**	**247**	PKP		**PKPdf**	**13 01 48.8**	**-0.5**
	comp=Z,23nm,0.8s,baz=112,slow=4.1,SNR=25								
255A	**Hazlehurst**	**144.95**	**1**	P		PKPbc	13 01 48.4	+0.1	
	baz=358								
352A	**Blakely**	**145.26**	**5**	P		**PKPbc**	**13 01 49.2**	**-0.1**
	baz=354								
BRAL	**Brewton**	**145.33**	**8**	P		**PKPbc**	**13 01 49.7**	**+0.1**
	baz=350								
BRAL	**Brewton**	**145.33**	**8**	P		**PKPdf**	**13 01 50.5**	**+0.6**
	baz=350								
TIGA	**Tifton**	**145.40**	**3**	P		**PKPab**	**13 01 50.0**	**0.0**
	baz=356								
TIGA	**Tifton**	**145.40**	**3**	P		**PKPdf**	**13 01 50.4**	**+0.4**
	baz=356								
451A	**Vernon**	**146.04**	**6**	P		**PKPbc**	**13 01 51.8**	**-0.1**
	baz=352								
GO05	**Huala**	**147.19**	**195**	*i* P		**PKPab**	**13 01 56.4**	**-0.3**
GO05	**Huala**	**147.19**	**195**	*i* P		**PKPab**	**13 01 56.4**	**-0.3**
CPUP	**Villa Florida**	**147.33**	**223**	PKPbc		**PKPbc**	**13 01 55.6**	**-0.1**
	comp=Z,11nm,1.0s,baz=153,slow=2.2,SNR=14								
MRA	**San Martin**	**147.41**	**206**	*i* P		**PKPbc**	**13 01 55.0**	**-1.0**
MRA	**San Martin**	**147.41**	**206**	*i* P		**PKPbc**	**13 01 55.0**	**-1.0**
BO04	**La Punta**	**147.79**	**197**			**PKPbc**	**13 01 57.4**	**+0.5**
AAGR	**Agrelo**	**148.04**	**201**	*i* P		**PKiKP**	**13 01 59.2**	**-0.3**
AAGR	**Agrelo**	**148.04**	**201**	*i* P		**PKiKP**	**13 01 59.2**	**-0.3**
MT01	**Popeta**	**148.09**	**196**			**PKPbc**	**13 01 57.5**	**-0.1**
ASAL	**Salagasta**	**148.49**	**201**	*eP*		**PKPdf**	**13 01 56.5**	**+1.3**
ASAL	**Salagasta**	**148.49**	**201**	*eP*		**PKPdf**	**13 01 56.5**	**+1.3**
ROC1	**El Roble**	**148.85**	**197**			**PKPbc**	**13 02 00.5**	**+0.6**
VA03	**San Esteban**	**148.91**	**198**			**PKPbc**	**13 01 59.3**	**-0.6**
CFA	**Coronel Fontan**	**149.15**	**203**	*i* P		**PKPbc**	**13 01 59.2**	**-1.3**
CFA	**Coronel Fontan**	**149.15**	**203**	*i* P		**PKPbc**	**13 01 59.2**	**-1.3**
VA06	**Catapilco**	**149.32**	**197**			**PKPbc**	**13 01 59.4**	**-1.4**
RTLS	**Leoncito**	**149.37**	**201**	*eP*		**PKPdf**	**13 01 59.1**	**+2.1**
RTLS	**Leoncito**	**149.37**	**201**	*eP*		**PKPdf**	**13 01 59.1**	**+2.1**
ZON	**Zonda**	**149.37**	**202**			**PKPbc**	**13 02 00.2**	**-0.8**
ZON	**Zonda**	**149.37**	**202**	PKP2		**PKPbc**	**13 02 00.2**	**-0.8**
RTLL	**Cerro Villicun**	**149.49**	**203**	*i* P		**PKiKP**	**13 02 02.5**	**0.0**
RTLL	**Cerro Villicun**	**149.49**	**203**	*i* P		**PKiKP**	**13 02 02.5**	**0.0**
ACCO	**Cerro Coronel**	**150.37**	**202**	*i* P		**PKPbc**	**13 02 02.0**	**-1.9**
ACCO	**Cerro Coronel**	**150.37**	**202**	*i* P		**PKPbc**	**13 02 02.0**	**-1.9**
ACDV	**Cuesta del Vie**	**150.77**	**203**	*eP*		**PKPbc**	**13 02 02.5**	**-2.1**
ACDV	**Cuesta del Vie**	**150.77**	**203**	*eP*		**PKPbc**	**13 02 02.5**	**-2.1**
CYA	**Choya**	**150.80**	**210**	*i* P		**PKiKP**	**13 02 05.6**	**+0.3**
CYA	**Choya**	**150.80**	**210**	*i* P		**PKiKP**	**13 02 05.6**	**+0.3**
AROD	**Rodeo**	**150.91**	**202**	*eP*		**PKPbc**	**13 02 02.6**	**-2.6**
AROD	**Rodeo**	**150.91**	**202**	*eP*		**PKPbc**	**13 02 02.6**	**-2.6**
UNM	**Universidad Na**	**151.66**	**37**	IAMs_20	IAMs_20		14 13 00.3		
	comp=Z,1μm,22.0s								
SEUS	**St. Eustatius**	**152.32**	**319**	IAMs_20	IAMs_20		14 12 09.1		
	comp=Z,1μm,22.0s								
LCO	**Las Campanas**	**152.40**	**201**	IAMs_20	IAMs_20		14 09 04.6		
	comp=Z,827nm,20.0s								
FDF	**Fort de France**	**152.91**	**312**	IAMs_20	IAMs_20		14 21 56.0		
	comp=Z,814nm,20.0s								
BIM	**Bigot**	**152.99**	**311**	IAMs_20	IAMs_20		14 13 32.1		
	comp=Z,1μm,21.0s								
SJG	**San Juan**	**153.80**	**325**	IAMs_20	IAMs_20		14 08 27.4		
	comp=Z,930nm,22.0s								
TEIG	**Tepich**	**155.72**	**15**	IAMs_20	IAMs_20		14 23 04.1		
	comp=Z,1μm,20.0s								
GTBY	**Guantanamo Bay**	**156.03**	**345**	IAMs_20	IAMs_20		14 26 35.5		
	comp=Z,1μm,19.0s								
BAUV	**El Baul**	**161.78**	**312**	PKPdf		**PKPdf**	**13 02 12.8**	**-0.8**
BAUV						**PKPab**	**13 02 58.5**	**-0.4**
SDV	**Santo Domingo**	**163.65**	**318**	PKPdf		**PKPdf**	**13 02 14.2**	**-1.5**
SDV				PKPab		**PKPab**	**13 03 07.0**	**-0.3**
ROSC	**El Rosal**	**169.09**	**318**	PKPab		**PKPab**	**13 03 32.0**	**+0.4**
	comp=Z,6.5nm,0.3s,baz=30,slow=7.5,SNR=4.4								
ROSC	**El Rosal**	**169.09**	**318**	PKP2		**PKPab**	**13 03 32.0**	**+0.4**

IDC ***16*** *12:46:09.8±0.8,3˚.34N×98˚.37E, h0km, mb4.3/13, mbtmp4.3/13, Error ellipse: s-maj=69.6km s-min=12.0km az=50.0*

NEIC ***16*** *12:46:11.3±2.1,3˚.30N±0˚.05×98˚.39E±0˚.06, h4km±5km, mb4.6/19, Error ellipse: s-maj=9.0km s-min=6.3km az=55.0*

DJA ***16*** *12:46:13.6±0.3,3˚N±3˚×9˚9E±˚, h10km, M5.0/9, mB6.5/3, mb5.1/2, MLv4.8/9, Mw(mB)6.2/3*

ISC 16 12:46:12.5±1.3,3˚35N±0˚04×98˚37E±0˚04,h15km±8km, n52,σ1°08/51,mb4.5/24,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSI	**Tuntungan**	**0.25**	**51**	P	**Pg**	**12 46 18.2**	**+0.3**
KCSI	**Kotacane, Aceh**	**0.62**	**286**	P	**Pn**	**12 46 27.2**	**+0.3**
PSI	**Prapat**	**0.77**	**134**	Pg	**Pg**	**12 46 26.2**	**-1.4**
	646nm,0.3s,baz=329,slow=16,SNR=12						
RPSI	**Rantau Prapat**	**0.85**	**139**	Pg	**Pg**	**12 46 26.7**	**-2.3**
MLSI	**Meulaboh, Aceh**	**2.17**	**295**	P	**Pg**	**12 46 53.7**	**-0.4**
GSI	**Gunungsitoli**	**2.18**	**201**	Pn	**Pn**	**12 46 49.2**	**+0.9**
SNSI	**Sinabang, Aceh**	**2.24**	**246**	P	**Pb**	**12 46 53.6**	**+0.8**
LHMI	**Lhok Sumawe**	**2.35**	**323**	Pn	**Pb**	**12 46 53.9**	**-0.7**
LHMI	**Lhok Sumawe**	**2.35**	**323**	P	**Pb**	**12 46 53.8**	**-0.8**
IPM	**Ipoh**	**2.88**	**67**	Pn	**Pn**	**12 46 59.1**	**+1.2**
PBSI	**Pulau Batu**	**3.38**	**182**	P	**Pn**	**12 47 07.6**	**+2.8**
PDSI	**Padang**	**4.72**	**154**	P	**Pn**	**12 47 25.1**	**+1.9**
SRIT	**Nakonsritamara**	**5.36**	**13**	Pn	**Pn**	**12 47 35.1**	**+3.1**
PBKI	**Pangkalan Bun**	**14.59**	**114**	P	**Pn**	**12 49 39.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**15.03**	**2**	Pn	**P**	**12 49 48.1**	**-1.8**
	baz=169,slow=32						
MYLDM	**Lahad Datu**	**20.16**	**84**	P	Pn	12 50 49.5	+1.0
TOLI2	**Tolitoli**	**22.50**	**95**	P	**P**	**12 51 11.5**	**-0.3**
TOLI2				IAmb	IAmb	12 51 28.1	
	comp=Z,22nm,1.0s						
WB0	**Warramunga Arr**	**42.19**	**124**	P	**P**	**12 54 03.5**	**-1.6**
WB0				IAmb	IAmb	12 54 13.4	
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**42.23**	**125**	P	**P**	**12 54 04.8**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=303,slow=9.4,SNR=5.1						
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**42.23**	**125**	P	**P**	**12 54 04.3**	**-1.2**
WRAB	**Tennant Creek**	**42.23**	**125**	P	**P**	**12 54 05.9**	**+0.4**
WRAB				IAmb	IAmb	12 54 07.6	
	comp=Z,8.9nm,0.8s						
WB2	**Warramunga Arr**	**42.24**	**125**	P	**P**	**12 54 05.0**	**-0.5**
WB2				IAmb	IAmb	12 54 08.4	
	comp=Z,11nm,0.9s						
WR0	**Warramunga Arr**	**42.40**	**125**	P	**P**	**12 54 07.0**	**+0.1**
WR0				IAmb	IAmb	12 54 09.4	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**43.80**	**130**	P	**P**	**12 54 17.6**	**-0.6**
ASAR	**Alice Springs**	**43.80**	**130**	P	**P**	**12 54 17.8**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=301,slow=8.0,SNR=3.5						
	comp=Z,1.8nm,0.8s						
MK31	**Makanchi Array**	**45.48**	**345**	P	**P**	**12 54 30.8**	**-0.4**
MKAR	**Makanchi Array**	**45.48**	**345**	P	**P**	**12 54 30.9**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=153,slow=8.2,SNR=4.8						
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**45.48**	**345**	P	**P**	**12 54 30.6**	**-0.6**
MAKZ	**Makanchi**	**45.57**	**344**	P	**P**	**12 54 31.6**	**-0.4**
MAKZ				IAmb	IAmb	12 54 35.2	
	comp=Z,12nm,1.4s						
KURK	**Kurchatov**	**50.05**	**344**	P	**P**	**12 55 05.8**	**-0.7**
KURK				IAmb	IAmb	12 55 07.6	
	comp=Z,17nm,1.4s						
GEYT	**Alibeck**	**50.36**	**318**	P	**P**	**12 55 10.3**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=145,slow=10,SNR=2.8						
	comp=Z,3.9nm,0.6s						
ZAA0	**Zalesovo Array**	**51.65**	**350**	P	**P**	**12 55 19.6**	**+1.0**
ZALV	**Zalesovo Beam**	**51.65**	**350**	P	**P**	**12 55 18.4**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=168,slow=6.9,SNR=5.1						
	comp=Z,2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**51.65**	**350**	P	**P**	**12 55 18.9**	**+0.3**
BRVK	**Borovoye**	**54.70**	**340**	P	**P**	**12 55 39.9**	**-1.2**
BRVK				IAmb	IAmb	12 55 40.7	
	comp=Z,4.1nm,0.7s						
RAYN	**Ar Rayn**	**54.82**	**296**	P	**P**	**12 55 43.4**	**+0.8**
RAYN				IAmb	IAmb	12 55 59.0	
	comp=Z,7.2nm,1.0s						
ABKAR	**Akbulak array**	**56.21**	**331**	P	**P**	**12 55 50.9**	**-1.0**
ABKAR	**Akbulak array**	**56.21**	**331**	P	**P**	**12 55 51.4**	**-0.6**
ABKAR				IAmb	IAmb	12 56 01.3	
	comp=Z,5.6nm,1.0s						
AKTO	**Aktyubinsk**	**57.92**	**331**	P	**P**	**12 56 03.7**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=128,slow=12,SNR=1.6						
	comp=Z,1.2nm,0.4s						
KBZ	**Khabaz**	**63.25**	**318**	P	**P**	**12 56 40.8**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=122,slow=6.9,SNR=3.8						
	comp=Z,4.2nm,0.9s						
BRTR	**Keskin Array B**	**68.56**	**311**	P	**P**	**12 57 14.6**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=136,slow=6.4,SNR=6.4						
	comp=Z,2.6nm,0.7s						
BRTR	**Keskin Array B**	**68.56**	**311**	P	**P**	**12 57 14.4**	**-0.7**
AKASG	**Malin Array Be**	**74.29**	**322**	P	**P**	**12 57 47.8**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=82,slow=4.8,SNR=7.3						
	comp=Z,0.7nm,0.4s						
FIA1	**FINESS Array S**	**78.65**	**332**	P	**P**	**12 58 13.7**	**-0.1**
FINES	**FINESS Array B**	**78.65**	**332**	P	**P**	**12 58 13.2**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=111,slow=6.5,SNR=8.9						
	comp=Z,1.4nm,0.4s						
PDG	**Podgorica**	**79.72**	**312**	P	**P**	**12 58 19.4**	**-0.6**
MORC	**Moravsky Berou**	**81.53**	**320**	P	**P**	**12 58 30.2**	**+0.6**
MORC				IAmb	IAmb	12 58 30.8	
	comp=Z,3.3nm,0.6s						
GERES	**GERESS Array B**	**83.98**	**319**	P	**P**	**12 58 42.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=112,slow=6.5,SNR=6.9						
	comp=Z,0.8nm,0.6s						
GERES	**GERESS Array B**	**83.98**	**319**	P	**P**	**12 58 43.0**	**+0.5**
HFS	**Hagfors**	**84.46**	**330**	P	**P**	**12 58 44.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=160,slow=4.6,SNR=1.7						
	comp=Z,1.1nm,0.5s						
DAVOX	**Davos/Dischmat**	**86.55**	**317**	P	**P**	**12 58 55.8**	**+0.3**
	comp=Z,4.4nm,0.6s,baz=159,slow=2.5,SNR=5.8						
	comp=Z,4.4nm,0.6s						
IMAR	**Indian Mountai**	**94.16**	**23**		**P**	**12 59 31.0**	**+0.4**

IDC ***16*** *12:50:03.7±1.1,56˚.26S×25˚.36W, h0km, mb4.3/4, mbtmp4.3/4, MS3.5/2, Error ellipse: s-maj=44.5km s-min=30.3km az=51.0*

NEIC ***16*** *12:50:19.7±1.4,57˚.0S±0˚.2×26˚.7W±0˚.3, h116km±10km, mb4.6/16, Error ellipse: s-maj=26.8km s-min=19.8km az=48.0*

ISC 16 12:50:08.4±0.9,56˚6S±0˚.1×25˚6W±0˚.2,h35km,n25,
σ1°18/22,mb4.7/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**20.23**	**230**	LR	LR	13 01 23.9	
	comp=Z,151nm,19.6s,baz=86,slow=33						
BELA	**Belgrano 2**	**21.65**	**185**	P	**P**	**12 54 54.3**	**-0.9**
TRQA	**Tornquist**	**30.31**	**292**	P	**P**	**12 56 15.7**	**-0.5**
PLCA	**Paso Flores**	**32.94**	**279**	LR	LR	13 09 33.2	
	comp=Z,77nm,20.7s,baz=170,slow=35						
QSPA	**South Pole Qui**	**33.70**	**180**	P	**P**	**12 56 44.4**	**-1.4**
QSPA				IAmb	IAmb	12 56 59.2	
	comp=Z,21nm,1.4s						
CPUP	**Villa Florida**	**37.79**	**310**	P	**P**	**12 57 20.0**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=146,slow=9.0,SNR=7.6						
	comp=Z,4.2nm,0.9s						
AC02	**Maricunga**	**42.87**	**295**	P	**P**	**12 58 03.9**	**+0.2**
AC02				IAmb	IAmb	12 58 05.1	
	comp=Z,9.9nm,1.1s						
VNDA	**Vanda**	**46.11**	**182**	P	**P**	**12 58 31.9**	**+3.6**
	comp=Z,2.6nm,0.9s,baz=188,slow=6.7,SNR=2.8						
	comp=Z,2.6nm,0.9s						
VNDA	**Vanda**	**46.11**	**182**	P	**P**	**12 58 29.1**	**+0.7**
VNDA				IAmb	IAmb	12 58 37.0	
	comp=Z,8.2nm,1.2s						
LVC	**Limon Verde**	**46.30**	**299**	P	**P**	**12 58 31.3**	**+0.5**
LVC				IAmb	IAmb	12 58 34.6	
	comp=Z,14nm,0.8s						
PB09	**IPOC Station P**	**47.15**	**299**	P	**P**	**12 58 38.3**	**+1.0**
PB03	**IPOC Station P**	**47.18**	**298**	P	**P**	**12 58 38.0**	**+0.5**
PB01	**IPOC Station P**	**47.91**	**299**	P	**P**	**12 58 43.6**	**+0.5**
PB01				IAmb	IAmb	12 58 45.2	
	comp=Z,14nm,0.9s						
GO01	**Chusmiza**	**48.94**	**301**	P	**P**	**12 58 52.3**	**+0.7**
GO01				IAmb	IAmb	12 58 53.8	
	comp=Z,15nm,0.8s						
PSGCX	**Pisagua**	**49.45**	**300**	P	**P**	**12 58 54.2**	**-0.8**
PSGCX				IAmb	IAmb	12 58 56.1	
	comp=Z,8.5nm,1.0s						
MNMC	**Minye Minye**	**49.59**	**300**	P	**P**	**12 58 57.4**	**+1.1**
POGA	**Pongola**	**49.74**	**79**	P	P	12 59 03.9	+6.8
PB16	**IPOC Station P**	**50.24**	**301**	P	**P**	**12 59 01.6**	**0.0**
PB16				IAmb	IAmb	12 59 03.4	
	comp=Z,4.5nm,0.9s						
LPAZ	**La Paz**	**51.37**	**304**	P	**P**	**12 59 11.4**	**+1.3**
	comp=Z,12nm,0.9s,baz=140,slow=6.2,SNR=35						
	comp=Z,12nm,0.9s						
LPAZ	**La Paz**	**51.37**	**304**	P	**P**	**12 59 11.2**	**+1.1**
ETMB	**Extrema**	**56.24**	**310**	P	**P**	**12 59 46.0**	**+1.0**
ETMB				IAmb	IAmb	12 59 47.6	
	comp=Z,3.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**73.08**	**28**	P	**P**	**13 01 35.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=198,slow=6.0,SNR=2.0						
	comp=Z,0.6nm,0.3s						
YKA	**Yellowknife Ar**	**137.12**	**317**	PKP	**PKPdf**	**13 09 26.2**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=127,slow=2.1,SNR=12						
SONM	**Songino Array**	**149.90**	**86**	PKPbc	**PKPbc**	**13 09 52.8**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=237,slow=3.6,SNR=5.5						
ILAR	**Eielson Array**	**151.09**	**311**	PKPbc	**PKiKP**	**13 09 56.1**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=130,slow=1.4,SNR=24						

DNK 16 13:17:15.8±0.5,58˚10N×13˚30E,h0km,ML1.2(UPP),
Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKPU	**Falk**	**0.23**	**74**	P	Pg	13 17 19.9	-0.4
FKPU				S	Sg	13 17 23.3	+0.1
BORU	**Boraas**	**0.54**	**212**	P	Pg	13 17 25.8	-0.4
BORU				S	Sg	13 17 33.4	+0.2
VANU	**Vaenersborg**	**0.76**	**302**	P	Pg	13 17 29.6	-0.8
NASU	**Vaermlandsnaes**	**

*DJA **16** 14:16:14.7±0.2,3˚N±2˚×9˚9E± ˚, h10km, M3.9/12, mb3.9/1, MLv3.9/12*

ISC 16 14:16:16.0±0.8,3˚40N±0˚07×98˚62E±0˚08, h35km, n20, σ1§44/20, mb3.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**0.12**	**333**	P		**Pn**	**14 16 20.0**	**-2.2**
TSI				S		**Sn**	**14 16 24.2**	**-2.2**
PSI	**Prapat**	**0.67**	**153**	Pg		**Pn**	**14 16 27.3**	**-1.8**
	74nm,0.3s,baz=318,slow=9.5,SNR=51							
PSI				Lg		Lg	14 16 37.2	
	122nm,0.3s,baz=318,slow=21,SNR=10							
KCSI	**Kotacane, Aceh**	**0.85**	**278**	P		**Pn**	**14 16 28.6**	**-3.0**
GSI	**Gunungsitoli**	**2.32**	**207**	P		**Pn**	**14 16 51.9**	**+0.1**
LHMI	**Lhok Sumawe**	**2.47**	**318**	P		**Pn**	**14 16 56.2**	**+2.4**
SNSI	**Sinabang, Aceh**	**2.49**	**247**	P		**Pn**	**14 16 54.4**	**+0.3**
MNSI	**Mandailing Nat**	**2.76**	**160**	P		**Pn**	**14 16 58.3**	**+0.5**
PBSI	**Pulau Batu**	**3.44**	**186**	P		**Pn**	**14 17 07.9**	**+0.7**
BKNI	**Bangkinang**	**3.89**	**142**	P		**Pn**	**14 17 13.1**	**-0.3**
PDSI	**Padang**	**4.66**	**157**	P		**Pn**	**14 17 24.8**	**+0.8**
SDSI	**Sungai Dareh**	**5.14**	**147**	P		**Pn**	**14 17 29.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**14.97**	**1**	Pn		**Pn**	**14 19 47.0**	**+1.8**
	0.5nm,0.3s,baz=216,slow=12,SNR=2.8							
CMAR				LR		LR	14 25 37.3	
	comp=Z,86nm,18.2s,baz=0.0,slow=37 0.7nm,0.3s							
WRA	**Warramunga Arr**	**42.05**	**125**	P		**P**	**14 24 04.8**	**0.0**
	0.7nm,0.9s,baz=296,slow=8.9,SNR=3.7 0.7nm,0.9s							
ASAR	**Alice Springs**	**43.64**	**130**	P		**P**	**14 24 16.6**	**-1.0**
	0.5nm,0.9s,baz=306,slow=8.3,SNR=3.1 0.5nm,0.9s							
SONM	**Songino Array**	**44.77**	**7**	P		**P**	**14 24 26.9**	**+0.5**
	0.1nm,0.4s,baz=197,slow=4.5,SNR=1.7 0.1nm,0.4s							
MKAR	**Makanchi Array**	**45.49**	**344**	P		**P**	**14 24 32.2**	**+0.2**
	0.5nm,0.7s,baz=159,slow=7.1,SNR=6.1 0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**50.02**	**343**	P		**P**	**14 25 07.6**	**+0.7**
	0.3nm,0.5s,baz=158,slow=7.6,SNR=3.1 0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**51.65**	**350**	P		**P**	**14 25 19.4**	**+0.2**
	0.5nm,0.3s,baz=169,slow=8.4,SNR=1.9 0.5nm,0.3s							
BVAR	**Borovoye Array**	**54.68**	**340**	P		**P**	**14 25 41.0**	**-0.5**
	0.5nm,0.7s,baz=120,slow=8.8,SNR=3.0 0.5nm,0.7s							
FINES	**FINESS Array B**	**78.72**	**332**	LR		LR	15 06 32.2	
	comp=Z,108nm,19.7s,baz=293,slow=38							

*MOS **16** 14:21:46.4±0.9, 40˚.19N×142˚.52E, h56km, mb4.6/24, Error ellipse: s-maj=8.3km s-min=5.2km az=102.2*

*JMA **16** 14:21:46.9±0.1, 40˚.2N±0˚.3×142˚.4E±0˚.7, h35km±1km, MD4.1/37, MV4.2/37, NE OFF IWATE PREF*

JMA Felt I J1 at NE OFF IWATE PREF .

*NIED **16** 14:21:46.9, 40˚.16N×142˚.42E, h35km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.10; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-1.00; $M_{r\theta}$0.49; $M_{\theta\phi}$-0.16; $M_{\phi r}$1.14; Fault plane solution: $M_0$1.63000×10¹⁵ NP1:ϕs20.00000°, δ70.00000°, λ96.00000°. NP2:ϕs182.00000°, δ21.00000°, λ73.00000°.*

*IDC **16** 14:21:49.4±1.7, 40˚.21N×142˚.47E, h66km±14km, mb3.8/29, mbtmp4.1/34, MS3.5/4 Error ellipse: s-maj=16.4km s-min=9.5km az=112.0*

*NEIC **16** 14:21:49.2±1.4, 40˚.20N±0˚.06×142˚.3E±0˚.1, h54km±7km, mb4.6/25, Error ellipse: s-maj=11.7km s-min=8.1km az=109.0*

ISC 16 14:21:47.7±0.7, 40˚19N±0˚.04×142˚44E±0˚.04, h48km±6km, n197, σ1§55/187, mb4.4/60, MS4.2/3, 8C-18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.51**	**241**	⇓P		**Pn**	**14 21 57.1**	**-1.7**
JTH				⇓S		**Sn**	**14 22 04.5**	**-2.3**
JTH	**Tanohata**	**0.51**	**241**	A		A	14 21 57.1	
	comp=E,8.0nm,0.6s,comp=E,12nm,0.4s							
JKEN	**Kujiedanarisaw**	**0.56**	**272**	⇓P		**Pn**	**14 21 57.9**	**-1.7**
JKEN				⇓S		**Sn**	**14 22 05.5**	**-2.5**
JKEN	**Kujiedanarisaw**	**0.56**	**272**	A		A	14 21 57.9	
	comp=E,15nm,0.3s,comp=E,16nm,0.9s							
JANG	**Nango**	**0.73**	**285**	⇓P		**Pn**	**14 22 00.5**	**-1.3**
JANG				⇓S		**Sn**	**14 22 09.9**	**-2.0**
JANG	**Nango**	**0.73**	**285**	A		A	14 22 00.5	
	comp=E,4.0nm,0.2s,comp=E,6.0nm,0.2s							
MIYJ	**Miyakonagasawa**	**0.77**	**218**	⇓P		**Pn**	**14 22 00.6**	**-1.7**
MIYJ				⇓S		**Sn**	**14 22 10.4**	**-2.6**
JKZ	**Kuzumaki**	**0.87**	**257**	⇓P		**Pn**	**14 22 02.8**	**-1.0**
JKZ				⇓S		**Sn**	**14 22 13.9**	**-1.5**
JKZ	**Kuzumaki**	**0.87**	**257**	A		A	14 22 02.8	
	comp=E,7.0nm,5.2s,comp=E,6.0nm,5.3s							
JOM	**Ohasama**	**1.13**	**231**	⇓P		**Pn**	**14 22 06.6**	**-0.6**
JOM				⇓S		**Sn**	**14 22 20.9**	**-0.7**
JOM	**Ohasama**	**1.13**	**231**	A		A	14 22 06.6	
	comp=E,9.0nm,0.3s,comp=E,6.0nm,0.5s							
JARK	**Aomorirokkasho**	**1.16**	**316**	⇓P		**Pn**	**14 22 07.1**	**-0.4**
JARK				⇓S		**Sn**	**14 22 21.7**	**-0.4**
JARK	**Aomorirokkasho**	**1.16**	**316**	A		A	14 22 07.1	
	comp=E,14nm,0.3s,comp=E,8.0nm,0.7s							
JTM	**Tenmabayashi**	**1.20**	**300**	Pn		**Pn**	**14 22 07.8**	**-0.4**
JTM				Sn		**Sn**	**14 22 20.0**	**-3.3**
JTM	**Tenmabayashi**	**1.20**	**300**	P		**P**	**14 22 08.2**	**+0.1**
JTM	**Tenmabayashi**	**1.20**	**300**	⇓P		**Pn**	**14 22 07.9**	**-0.2**
JTM				⇓S		**Sn**	**14 22 23.7**	**+0.4**
JTM	**Tenmabayashi**	**1.20**	**300**	A		A	14 22 07.9	
	comp=E,5.0nm,1.7s,comp=E,6.0nm,3.0s							
JSZI	**Iwateshizukuis**	**1.22**	**249**	A		A	14 22 08.3	
	comp=E,17nm,0.8s,comp=E,16nm,0.6s							
OFUJ	**Ofunato**	**1.25**	**208**	A		A	14 22 08.1	
	comp=E,5.0nm,2.2s,comp=E,3.0nm,7.0s							
JAHD	**Aomorihigashid**	**1.36**	**323**	A		A	14 22 10.5	
	comp=E,12nm,0.7s,comp=E,10.0nm,0.3s							
JAH	**Hinai**	**1.38**	**271**	⇓P		**Pn**	**14 22 10.4**	**-0.1**
JAH				⇓S		**Sn**	**14 22 27.4**	**-0.2**
JAH	**Hinai**	**1.38**	**271**	A		A	14 22 10.4	
	comp=E,7.0nm,0.4s,comp=E,5.0nm,0.8s							
JMK	**Ichinoseki**	**1.55**	**218**	P		**Pn**	**14 22 12.5**	**-0.3**
JMK	**Ichinoseki**	**1.55**	**218**	A		A	14 22 12.5	
	comp=E,6.0nm,0.9s,comp=E,4.0nm,5.7s							
JOT	**Ohata**	**1.59**	**319**	A		A	14 22 13.9	
	comp=E,3.0nm,7.6s,comp=E,3.0nm,3.1s							
JRG	**Rokugo**	**1.60**	**241**	A		A	14 22 13.3	
	comp=E,6.0nm,0.5s,comp=E,4.0nm,0.8s							
JSI2	**Shiura 2**	**1.77**	**300**	A		A	14 22 16.3	
	comp=E,4.0nm,1.9s,comp=E,4.0nm,0.8s							
JYW	**Yuwa**	**1.83**	**250**	A		A	14 22 16.8	
	comp=E,6.0nm,3.4s,comp=E,8.0nm,4.7s							
JIW	**Iwasaki**	**1.90**	**283**	A		A	14 22 18.0	
	comp=E,3.0nm,3.8s,comp=E,3.0nm,3.7s							
ERM	**Erimo**	**1.91**	**16**	Pn		**Pn**	**14 22 19.6**	**+1.9**
ERM	**Erimo**	**1.91**	**16**	P		**Pn**	**14 22 19.8**	**+2.1**
ERM	**Erimo**	**1.91**	**16**	P		**Pn**	**14 22 19.6**	**+1.9**
JEM	**Erimo**	**1.91**	**16**	P		**Pn**	**14 22 20.2**	**+2.5**
JOFO	**Osakifurukawao**	**1.98**	**217**	A		A	14 22 18.7	
	comp=E,16nm,4.1s,comp=E,15nm,3.7s							
JSR	**Shiriuchi**	**2.04**	**312**	A		A	14 22 20.2	
	comp=E,2.0nm,4.1s,comp=E,3.0nm,5.3s							
JYK	**Kaneyama**	**2.05**	**232**	A		A	14 22 19.7	
	comp=E,3.0nm,3.6s,comp=E,2.0nm,5.1s							
JNBK	**Urakawa-nobuka**	**2.10**	**6**	A		A	14 22 21.5	
	comp=E,4.0nm,5.7s,comp=E,3.0nm,2.8s							
JOU	**Okura**	**2.28**	**218**	A		A	14 22 23.0	
	comp=E,3.0nm,4.3s,comp=E,3.0nm,2.7s							
JIAM	**Iburiatsuma**	**2.46**	**351**	A		A	14 22 26.6	
	comp=E,6.0nm,1.7s							
JYA	**Atsumi**	**2.64**	**234**	A		A	14 22 28.3	
	comp=E,4.0nm,1.7s,comp=E,4.0nm,1.4s							
JMM	**Marumori**	**2.65**	**209**			**Pn**	**14 22 28.1**	**+0.2**
JMM	**Marumori**	**2.65**	**209**	P		**Pn**	**14 22 29.2**	**+1.3**
JMST	**Minamisoumatoc**	**2.74**	**207**	A		A	14 22 29.6	
	comp=N,2.0nm,4.2s							
JYAR	**Yonezawaarcadi**	**2.89**	**219**	A		A	14 22 31.7	
	comp=E,5.0nm,1.0s							
JSD	**Sado**	**3.89**	**238**	Pn		**Pn**	**14 22 44.6**	**-0.4**
JSD	**Sado**	**3.89**	**238**	P		**Pn**	**14 22 45.8**	**+0.8**
JKA	**Kamikawa-asahi**	**3.93**	**2**	Pn		**Pn**	**14 22 46.2**	**+0.7**
ASAJ	**Asahikawa**	**3.93**	**2**	P		**Pn**	**14 22 46.0**	**+0.5**
	15nm,0.4s,baz=204,slow=13,SNR=53							
ASAJ				S		**Sn**	**14 23 31.6**	**+1.4**
	27nm,0.5s,baz=129,slow=32,SNR=1.2							
ASAJ				LR		LR	14 24 19.0	
	comp=Z,182nm,21.5s,baz=204,slow=38							
ASAJ	**Asahikawa**	**3.93**	**2**	P		**Pn**	**14 22 46.2**	**+0.7**
NMR	**Nemuro--Hokkai**	**4.02**	**37**	*e*P		**Pn**	**14 22 45.4**	**-1.3**
NMR				*e*S		**Sn**	**14 23 28.8**	**-3.7**
RUSJ	**Misakicho**	**4.44**	**27**	*e*P		**Pn**	**14 22 51.7**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**4.61**	**32**	*e*P		**Pn**	**14 22 54.0**	**-0.8**
YUK				*e*S		**Sn**	**14 23 44.5**	**-2.5**
YUK				pmax	pmax			
	comp=Z,130nm,0.3s							
YUK				pmax	pmax			
	comp=E,128nm,0.2s							
YUK				pmax	pmax			
	comp=N,110nm,0.4s							
YUK				smax	smax			
	comp=N,471nm,0.3s							
YUK				smax	smax			
	comp=E,482nm,0.4s							
MJAR	**Matsushiro Arr**	**4.93**	**224**	P		**Pn**	**14 23 00.4**	**+1.2**
	comp=E,12nm,0.5s,baz=31,slow=14,SNR=63							
MJAR				S		**Sn**	**14 24 00.8**	**+5.9**
	comp=E,3.5nm,0.6s,baz=77,slow=29,SNR=1.5							
MJB9	**Matsu-Tunnel**	**4.93**	**224**	Pn		**Pn**	**14 22 59.3**	**+0.1**
MAJO	**Matsushiro**	**4.93**	**224**	Pn		**Pn**	**14 23 00.0**	**+0.8**
MAJO	**Matsushiro**	**4.93**	**224**	P		**Pn**	**14 23 01.2**	**+2.0**
MAJO	**Matsushiro**	**4.93**	**224**	*i* P		**Pn**	**14 23 00.6**	**+1.4**
JGF	**Kuroka**	**6.09**	**223**	Pn		**Pn**	**14 23 15.5**	**+0.3**
JGF	**Kuroka**	**6.09**	**223**	P		**Pn**	**14 23 17.8**	**+2.6**
KUR	**Kuril'sk**	**6.43**	**37**	*e*P		**Pn**	**14 23 19.8**	**0.0**
KUR				*e*S		**Sn**	**14 24 28.8**	**-3.1**
KUR				pmax	pmax			
	comp=Z,65nm,0.6s							
KUR				smax	smax			
	comp=E,88nm,0.7s							
KUR				smax	smax			
	comp=N,81nm,0.5s							
INU	**Inuyama**	**6.46**	**223**	Pn		**Pn**	**14 23 20.7**	**+0.5**
INU	**Inuyama**	**6.46**	**223**	P		**Pn**	**14 23 21.0**	**+0.8**
YSS	**Yuzh-Sakhalins**	**6.77**	**2**	*e*P		**Pn**	**14 23 25.6**	**+1.2**
YSS				*e*S		**Sn**	**14 24 39.7**	**-0.3**
YSS				pmax	pmax			
	comp=Z,30nm,0.8s							
YSS				smax	smax			
	comp=E,10.0nm,0.9s							
USA0B	**Ussuriysk Arra**	**8.73**	**301**	Pn		**Pn**	**14 23 52.5**	**+1.2**
USA0B	**Ussuriysk Arra**	**8.73**	**301**	*i* P		**Pn**	**14 23 54.8**	**+3.5**
USRK	**Ussuriysk Ar.**	**8.73**	**301**	P		**Pn**	**14 23 54.1**	**+2.8**
	comp=E,8.1nm,0.7s,baz=108,slow=15,SNR=11							
USRK				LR		LR	14 26 43.1	
	comp=E,170nm,19.1s,baz=55,slow=34							
USRK	**Ussuriysk Ar.**	**8.73**	**301**	Pn		**Pn**	**14 23 52.4**	**+1.1**
JHS	**Saijyo**	**9.03**	**238**	P		**Pn**	**14 23 57.7**	**+2.3**
MDJ	**Mudanjiang**	**10.48**	**299**	P		Pn	14 24 20.4	+5.2
MDJ				pmax	pmax			
	comp=Z,15nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,230nm,3.7s							
KSRS	**Korea Array**	**11.65**	**261**	P		**Pn**	**14 24 34.6**	**+3.4**
	comp=Z,0.9nm,0.6s,baz=71,slow=14,SNR=1.4							
KLR	**Kul'dur**	**11.80**	**324**	P		**Pn**	**14 24 34.2**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=158,slow=9.6,SNR=2.5							
HEH	**HeiHe**	**14.58**	**319**	*e*P		**Pn**	**14 25 10.9**	**0.0**
HEH				pmax	pmax			
	comp=Z,3.0nm,1.5s							
ZEA	**Zeya**	**17.01**	**328**	*e*P		**Pn**	**14 25 41.6**	**-0.4**
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
NJ2	**Nanjing**	**20.67**	**254**	*e*P		**P**	**14 26 23.5**	**0.0**
NJ2				pmax	pmax			
	comp=Z,18nm,0.6s							
YAK	**Yakutsk**	**23.21**	**345**	P		**P**	**14 26 48.7**	**-1.4**
	comp=Z,6.2nm,0.4s,baz=115,slow=2.9,SNR=6.4 comp=Z,6.2nm,0.4s							
YAK	**Yakutsk**	**23.21**	**345**	*e*P		**P**	**14 26 47.7**	**-2.4**
YAK				pmax	pmax			
	comp=Z,12nm,0.8s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**23.42**	**282**	*e*P		**P**	**14 26 52.9**	**+0.3**
HHC				pmax	pmax			
	comp=Z,12nm,0.9s							
HHC				pmax	pmax			
	comp=Z,210nm,4.9s							
SEY	**Seymchan**	**23.55**	**11**	P		**P**	**14 26 52.5**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=205,slow=8.4,SNR=13 comp=Z,3.6nm,0.7s							
SEY	**Seymchan**	**23.55**	**11**	*c*eP		**P**	**14 26 50.6**	**-2.8**
SEY				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BOD	**Bodaibo**	**25.38**	**324**	*e*P		**P**	**14 27 10.4**	**+0.2**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.3s							
ULN	**Ulaanbaatar**	**26.39**	**299**	P		**P**	**14 27 18.6**	**-1.0**
ULN	**Ulaanbaatar**	**26.39**	**299**	*c*eP		**P**	**14 27 19.0**	**-0.7**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**26.83**	**299**	P		**P**	**14 27 22.7**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=98,slow=8.4,SNR=11 comp=Z,1.7nm,0.7s							
SONM	**Songino Array**	**26.83**	**299**	P		**P**	**14 27 22.8**	**-0.8**
SONM	**Songino Array**	**26.83**	**299**	P		**P**	**14 27 22.8**	**-0.8**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZAK	**Zakamensk**	**29.07**	**304**	*e*P		**P**	**14 27 41.0**	**-2.5**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**29.24**	**127**	T		T	14 58 36.0	
	baz=319,slow=75,SNR=158							
H11N1	**WAKE ISLAND Hy**	**29.25**	**127**	T		T	14 58 27.8	
	baz=319,slow=75,SNR=128							
H11N3	**WAKE ISLAND Hy**	**29.26**	**127**	T		T	14 58 32.5	
	baz=319,slow=75,SNR=113							
H11S1	**WAKE ISLAND Hy**	**30.06**	**129**	T		T	14 59 38.1	
	baz=321,slow=76,SNR=90							
H11S3	**WAKE ISLAND Hy**	**30.06**	**129**	T		T	14 59 45.9	
	baz=321,slow=76,SNR=51							
H11S2	**WAKE ISLAND Hy**	**30.07**	**129**	T		T	14 59 45.6	
	baz=321,slow=76,SNR=51							
ADK	**Adak**	**30.30**	**54**	P		**P**	**14 27 56.7**	**+2.5**
ADK	**Adak**	**30.30**	**54**	P		**P**	**14 27 56.7**	**+2.5**
ADK				pmax	pmax			
	comp=Z,53nm,1.2s							
LZH	**Lanzhou**	**30.47**	**275**	*e*P		**P**	**14 27 58.4**	**+2.3**
LZH				pP	sP		14 28 16.9	+2.7
LZH				sP	pP		14 28 21.6	+13
LZH				pmax	pmax			
	comp=Z,6.0nm,1.5s							
BILL	**Bilibino**	**30.78**	**17**	*e*P		**P**	**14 27 54.7**	**-3.6**
BILL				*e*			14 28 55.0	
BILL				*e*			14 30 51.1	
BILL				pmax	pmax			
	comp=Z,1.0nm,1.1s							
TIXI	**Tiksi**	**32.27**	**352**	*i* P		**P**	**14 28 10.8**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,6.0nm,0.4s							
PZH	**PanZhiHua**	**36.31**	**261**	P		**P**	**14 28 46.5**	**-0.5**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
DGZ	**Jazzator, Alta**	**39.28**	**303**	*c* *i* P		**P**	**14 29 12.6**	**+0.8**
DGZ				pmax	pmax			
	comp=Z,16nm,0.6s							
WMQ	**Urumqi**	**40.22**	**294**	*e*P		**P**	**14 29 21.1**	**+1.5**
ZALV	**Zalesovo Beam**	**40.45**	**310**	P		**P**	**14 29 20.6**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=93,slow=8.2,SNR=8.4							
ZALV				PcP		**PcP**	**14 31 23.7**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=87,slow=3.0,SNR=2.6 comp=Z,1.3nm,0.3s							
ZALV	**Zalesovo Beam**	**40.45**	**310**	P		**P**	**14 29 19.4**	**-1.8**
ZALV	**Zalesovo Beam**	**40.45**	**310**	*i* P		**P**	**14 29 21.3**	**+0.1**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CRAI	**Chiangrai**	**40.97**	**254**	P		**P**	**14 29 27.1**	**+1.2**
CRAI				IAmb	IAmb		14 29 27.5	
	comp=Z,4.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**43.13**	**253**	P		**P**	**14 29 43.4**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=50,slow=7.7,SNR=4.2 comp=Z,0.9nm,0.3s							
CMAR	**Chiang Mai Arr**	**43.13**	**253**	*i* P		**P**	**14 29 43.7**	**+0.1**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MK31	**Makanchi Array**	**43.20**	**299**	P		**P**	**14 29 43.3**	**-0.5**
MK31	**Makanchi Array**	**43.20**	**299**	*e*P		**P**	**14 29 43.7**	**-0.1**
MKAR	**Makanchi Array**	**43.20**	**299**	P		**P**	**14 29 43.7**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=85,slow=9.8,SNR=27 comp=Z,1.8nm,0.5s							
MKAR	**Makanchi Array**	**43.20**	**299**	P		**P**	**14 29 43.4**	**-0.4**
MAKZ	**Makanchi**	**43.40**	**300**	P		**P**	**14 29 45.1**	**-0.3**
MAKZ	**Makanchi**	**43.40**	**300**	P		**P**	**14 29 45.1**	**-0.3**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
IMAR	**Indian Mountai**	**43.55**	**32**	P		**P**	**14 29 48.4**	**+2.1**
KURK	**Kurchatov**	**44.68**	**306**	P		**P**	**14 29 55.4**	**-0.2**
KURK				IAmb	IAmb		14 29 59.4	
	comp=Z,9.0nm,0.7s							
KURK	**Kurchatov**	**44.68**	**306**	P		**P**	**14 29 56.2**	**+0.6**
KURBB	**Kurchatov Arra**	**44.76**	**306**	P		**P**	**14 29 56.1**	**0.0**
	comp=Z,7.6nm,0.6s,baz=82,slow=8.7,SNR=34 comp=Z,7.6nm,0.6s							
ILAR	**Eielson Array**	**46.42**	**34**	P		**P**	**14 30 09.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=260,slow=4.5,SNR=9.2 comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**46.42**	**34**	P		**P**	**14 30 09.6**	**+0.4**
ILAR	**Eielson Array**	**46.42**	**34**	P		**P**	**14 30 09.6**	**+0.4**
BMAR	**Burnt Mountain**	**47.20**	**30**	P		**P**	**14 30 17.8**	**+2.5**
MDOK	**Medeo**	**47.81**	**296**	P		**P**	**14 30 22.0**	**+1.5**
BVA0	**Borovoye Array**	**49.09**	**311**	*i* P		**P**	**14 30 29.9**	**-0.1**
BVAR	**Borovoye Array**	**49.09**	**311**	P		**P**	**14 30 29.1**	**-0.9**
	comp=Z,4.3nm,0.4s,baz=72,slow=9.1,SNR=44 comp=Z,4.3nm,0.4s							
BRVK	**Borovoye**	**49.14**	**311**	P		**P**	**14 30 30.6**	**+0.2**
BRVK				IAmb	IAmb		14 30 31.9	
	comp=Z,3.4nm,0.6s							
BRVK	**Borovoye**	**49.14**	**311**	*ce*P		**P**	**14 30 30.3**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.7s							
AAK	**Ala-Archa**	**49.75**	**296**	P		**P**	**14 30 34.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=118,slow=11,SNR=2.5 comp=Z,0.5nm,0.3s							
AAK	**Ala-Archa**	**49.75**	**296**	P		**P**	**14 30 35.4**	**0.0**
AAK				IAmb	IAmb		14 30 56.3	
	comp=Z,1.8nm,0.8s							
AAK	**Ala-Archa**	**49.75**	**296**	*i* P		**P**	**14 30 36.0**	**+0.6**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.7s							
INK	**Inuvik**	**51.23**	**28**	P		**P**	**14 30 46.0**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=279,slow=6.4,SNR=7.1 comp=Z,1.1nm,0.5s							
INK	**Inuvik**	**51.23**	**28**	P		**P**	**14 30 47.1**	**+1.2**
INK				IAmb	IAmb		14 31 21.0	
	comp=Z,4.9nm,1.3s							
INK	**Inuvik**	**51.23**	**28**	P		**P**	**14 30 47.1**	**+1.2**
INK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
KKAR	**Karatay Array**	**52.29**	**298**	P		**P**	**14 30 53.7**	**-0.6**
KKAR	**Karatay Array**	**52.29**	**298**	P		**P**	**14 30 53.7**	**-0.6**
A36M	**Sachs Harbour**	**53.04**	**23**	P		**P**	**14 31 01.4**	**+2.0**
A36M				IAmb	IAmb		14 31 30.7	
	comp=Z,6.9nm,1.4s							
SVE	**Sverdlovsk**	**53.35**	**317**	*e*P		**P**	**14 31 02.9**	**+1.1**
SVE				pmax	pmax			
	comp=Z,14nm,0.9s							
C36M	**Paulatuk**	**54.24**	**26**	P		**P**	**14 31 09.2**	**+1.1**
ARU	**Arti**	**54.56**	**317**	P		**P**	**14 31 10.6**	**-0.1**
	comp=Z,5.7nm,0.6s,baz=48,slow=3.0,SNR=12 comp=Z,5.7nm,0.6s							
ARU	**Arti**	**54.56**	**317**	P		**P**	**14 31 10.4**	**-0.3**
ARU	**Arti**	**54.56**	**317**	*c* *i* P		**P**	**14 31 10.9**	**+0.2**
ARU				*PP		**pP**	**14 31 24.6**	**+0.8**
ARU							14 33 13.7	
ARU				S		**S**	**14 38 51.5**	**+5.2**
ARU				SS		**SS**	**14 42 30.8**	**+2.0**
ARU				pmax	pmax			
	comp=Z,8.0nm,0.7s							
CHGR	**Chuyangaron**	**55.08**	**294**	P		**P**	**14 31 14.6**	**-0.2**
CHGR	**Chuyangaron**	**55.08**	**294**	P		**P**	**14 31 14.6**	**-0.2**
CHGR				pmax	pmax			
	comp=Z,13nm,1.0s							
AB31	**Akbulak array**	**56.55**	**309**	*i* P		**P**	**14 31 25.1**	**0.0**
ABKAR	**Akbulak array**	**56.55**	**309**	P		**P**	**14 31 25.0**	**-0.1**
EUNU	**Eureka**	**56.95**	**9**	P		**P**	**14 31 28.1**	**+0.5**
EUNU				IAmb	IAmb		14 31 36.2	
	comp=Z,5.3nm,0.8s							
KBL	**Kabul**	**57.08**	**290**	P		**P**	**14 31 28.8**	**-0.5**
KBL				IAmb	IAmb		14 31 30.1	
	comp=Z,7.9nm,0.8s							
KBL	**Kabul**	**57.08**	**290**	P		**P**	**14 31 28.8**	**-0.5**
KBL				pmax	pmax			
	comp=Z,8.0nm,0.8s

MNK				*i* S	**S**	**14 41 59.4**	**-5.1**
MNK				*i* SS	**SS**	**14 46 32.5**	**-2.3**
MNK				*i* SSS	SSS	14 49 52.2	
MNK				*i* LQ	LQ	14 59 00.7	
MNK				*i* LR	LR	15 04 19.0	
MNK				*i* LRM	MLR	15 06 57.2	
	comp=Z,69nm,14.2s						
MNK				*i* LRM	MLR	15 07 00.1	
	comp=E,10.0nm,10.6s						
MNK				*i* LRM	MLR	15 07 13.9	
	comp=N,249nm,14.5s						
MNK	**Minsk**	**70.34**	**326**	*i* P	P	14 32 51.0	-5.1
MNK				*i* PPP	PPP	14 37 09.6	
MNK				*i* S	**S**	**14 41 59.4**	**-5.1**
MNK				*i* SS	**SS**	**14 46 32.5**	**-2.3**
MNK				pmax	pmax		
	comp=E,2.0nm,1.2s						
MNK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MNK				pmax	pmax		
	comp=N,21nm,0.9s						
MNK				MLR	MLR		
	comp=Z,69nm,14.0s						
MNK				MLR	MLR		
	comp=E,10.0nm,11.0s						
MNK				MLR	MLR		
	comp=N,249nm,15.0s						
HRY	**Holter Researc**	**71.13**	**44**	P	**P**	**14 33 02.0**	**+0.9**
NC204	**NORSAR Array S**	**71.53**	**338**	P	**P**	**14 33 03.5**	**+0.2**
NC204				IAmb	IAmb	14 33 24.8	
	comp=Z,13nm,1.2s						
HFS	**Hagfors**	**71.55**	**336**	P	**P**	**14 33 03.1**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=48,slow=8.8,SNR=9.6						
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**71.59**	**337**	P	**P**	**14 33 03.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**71.59**	**337**	P	**P**	**14 33 02.6**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=38,slow=6.0,SNR=5.9						
NOA				LR	LR	15 07 47.0	
	comp=Z,38nm,19.4s,baz=250,slow=38						
	comp=Z,1.7nm,0.8s						
UOSS	**Minazif**	**71.62**	**287**	P	**P**	**14 33 03.5**	**-0.9**
UOSS				IAmb	IAmb	14 33 05.4	
	comp=Z,6.6nm,0.9s						
AKASG	**Malin Array Be**	**72.30**	**322**	P	**P**	**14 33 07.3**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=44,slow=6.3,SNR=7.4						
	comp=Z,1.2nm,0.5s						
AKASG	**Malin Array Be**	**72.30**	**322**	*i* P	**P**	**14 33 07.6**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	**Malin Array Si**	**72.30**	**322**	*ce*P	**P**	**14 33 08.0**	**+0.1**
AKBB				pmax	pmax		
	comp=Z,21nm,2.8s						
PDAR	**Pinedale Array**	**74.90**	**46**	P	**P**	**14 33 23.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=316,slow=6.2,SNR=2.1						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**74.90**	**46**	P	**P**	**14 33 24.8**	**+1.1**
PDAR				PcP	**PcP**	**14 33 38.2**	**+0.7**
BUR08	**Bucovina Ar. S**	**76.32**	**322**	P	**P**	**14 33 32.2**	**+0.6**
BURAR	**Bucovina Array**	**76.34**	**322**	P	**P**	**14 33 32.1**	**+0.5**
BRTR	**Keskin Array B**	**77.36**	**312**	P	**P**	**14 33 38.3**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=76,slow=6.6,SNR=4.4						
	comp=Z,0.8nm,0.8s						
MLR	**Muntele Rosu**	**77.50**	**320**	LR	LR	15 08 36.4	
	comp=Z,109nm,19.0s,baz=286,slow=36						
KHC	**Kasperske Hory**	**80.27**	**329**	*eP*	**P**	**14 33 53.7**	**+0.4**
KHC	**Kasperske Hory**	**80.27**	**329**	*eP*	**P**	**14 33 53.7**	**+0.4**
EKA	**Eskdalemuir Ar**	**80.42**	**341**	P	**P**	**14 33 54.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=27,slow=4.7,SNR=4.3						
	comp=Z,0.5nm,0.4s						
GERES	**GERESS Array B**	**80.45**	**328**	P	**P**	**14 33 54.5**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=116,slow=2.3,SNR=4.8						
	comp=Z,0.4nm,0.4s						

IDC ***16*** *14:32:41.0±1.5,51°.70N×173°.33W, h0km, mb3.8/10, mbtmp3.8/12, ML3.3/2, Error ellipse: s-maj=38.5km s-min=21.8km az=170.0*
AEIC ***16*** *14:32:44.8±1.4,51°.5N±0°.2×173°.3W±0°.1, h22km±7km, Error ellipse: s-maj=29.7km s-min=8.2km az=168.0*
NEIC ***16*** *14:32:46.2±0.9,51°.7N±0°.2×173°.23W±0°.10, h31km±9km, mb3.9/42, ML3.3(AEIC), Error ellipse: s-maj=23.9km s-min=8.1km az=170.0*

ISC 16 14:32:46.3±1.0,51°.6N±0°.2×173°.24W±0°.06, h37km, n73, σ0s63/67, mb3.8/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSTR	**Great Sitkin T**	**1.81**	**286**		**Pn**	**14 33 14.3**	**-0.6**
ADK	**Adak**	**2.15**	**278**		**Pn**	**14 33 19.6**	**-0.1**
CLES	**Cleveland East**	**2.38**	**59**	Pn	**Pn**	**14 33 22.4**	**-0.3**
KIWB	**Kanaga Island**	**2.44**	**277**		**Pn**	**14 33 23.8**	**+0.2**
NIKH	**Nikolski High**	**3.01**	**62**		**Pn**	**14 33 30.8**	**-0.5**
UNV	**Unalaska Valle**	**4.65**	**59**		**Pn**	**14 33 53.4**	**-0.5**
AMKA	**Amchitka**	**4.67**	**270**	Pn	**Pn**	**14 33 53.4**	**-0.7**
CNPM	**China Poot**	**14.68**	**49**	Pn	**Pn**	**14 36 10.7**	**-0.4**
BRLK	**Bradley Lake**	**14.94**	**48**	Pn	**Pn**	**14 36 13.8**	**-0.8**
SKT	**Skwentna**	**15.68**	**40**	Pn	**Pn**	**14 36 24.2**	**+0.1**
SKT				IAmb	IAmb	14 36 25.9	
	comp=Z,5.6nm,1.2s						
SEW	**Seward**	**15.74**	**48**	Pn	**Pn**	**14 36 23.5**	**-1.4**
SUA	**Susitna One**	**15.74**	**43**	Pn	**Pn**	**14 36 25.8**	**+0.6**
PPLA	**Purkeypile**	**15.93**	**37**	P	**P**	**14 36 31.6**	**+0.8**
PPLA				IAmb	IAmb	14 36 35.5	
	comp=Z,10nm,1.2s						
RC01	**Rabbit Creek A**	**16.01**	**45**	Pn	**Pn**	**14 36 28.5**	**+0.1**
RC01				IAmb	IAmb	14 37 12.1	
	comp=Z,9.8nm,1.1s						
J20K	**Nowinta River**	**16.06**	**31**	P	**P**	**14 36 31.6**	**-0.4**
PWL	**Port Wells**	**16.54**	**46**	Pn	**Pn**	**14 36 33.8**	**-1.3**
GHO	**Glory Hole Cre**	**16.66**	**43**	Pn	**Pn**	**14 36 36.4**	**-0.3**
KTH	**Kantishna Hill**	**16.78**	**36**	P	**P**	**14 36 40.6**	**+0.5**
KTH				IAmb	IAmb	14 37 05.8	
	comp=Z,6.3nm,1.1s						
TRF	**Thorofare Moun**	**16.96**	**37**	P	**P**	**14 36 42.1**	**0.0**
TRF				IAmb	IAmb	14 36 53.9	
	comp=Z,20nm,1.5s						
BPAW	**Bear Paw Mtn.**	**17.08**	**34**	P	**P**	**14 36 44.2**	**+0.9**
BPAW				IAmb	IAmb	14 36 48.3	
	comp=Z,5.7nm,1.1s						
SCM	**Sheep Creek Mo**	**17.37**	**44**		**Pn**	**14 36 45.9**	**+0.3**
MLY	**Manley**	**17.73**	**32**	P	**P**	**14 36 51.8**	**+1.3**
PETK	**Petropavlovsk-**	**17.76**	**286**	P	**Pn**	**14 36 49.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=95,slow=12,SNR=2.3						
	comp=Z,3.0nm,0.9s						
I23K	**Minto, Yukon-K**	**18.27**	**33**	P	**Pn**	**14 36 57.9**	**+1.5**
I23K				IAmb	IAmb	14 37 00.9	
	comp=Z,3.1nm,0.6s						
N25K	**Chitina, Valde**	**18.49**	**46**	P	**P**	**14 36 58.5**	**-0.4**
N25K				IAmb	IAmb	14 37 23.4	
	comp=Z,16nm,1.3s						
CCB	**Clear Creek Bu**	**18.53**	**36**	P	**P**	**14 36 57.4**	**-1.8**
MDM	**Murphy Dome**	**18.55**	**34**	P	**P**	**14 36 58.7**	**-0.8**
HDA	**Harding Lake**	**18.72**	**37**	P	**P**	**14 37 01.1**	**-0.3**
HDA				IAmb	IAmb	14 37 05.1	
	comp=Z,17nm,1.4s						
IL31		**18.93**	**36**	P	**P**	**14 37 03.4**	**-0.2**
ILAR	**Eielson Array**	**18.93**	**36**	P	**P**	**14 37 02.3**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=226,slow=9.0,SNR=66						
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**18.93**	**36**	P	**P**	**14 37 03.6**	**0.0**
H24K	**Noodor Dome**	**19.17**	**32**	Pn	**Pn**	**14 37 07.5**	**0.0**
H24K				IAmb	IAmb	14 37 08.9	
	comp=Z,11nm,1.2s						
RIDG	**Independent Ri**	**19.21**	**40**	P	**P**	**14 37 07.1**	**+0.2**
RIDG				IAmb	IAmb	14 37 39.1	
	comp=Z,14nm,1.4s						
BILL	**Billbino**	**19.23**	**336**	Pn	**Pn**	**14 37 08.5**	**+0.5**
MESA	**MESA**	**19.34**	**52**	P	**P**	**14 37 08.4**	**0.0**
M26K	**Nabesna, AK**	**19.47**	**45**	P	**P**	**14 37 09.9**	**+0.2**
M26K				IAmb	IAmb	14 37 46.9	
	comp=Z,9.3nm,1.5s						
DOT	**Dot Lake**	**19.49**	**41**	P	**P**	**14 37 10.1**	**+0.3**
SCRK	**Sand Creek**	**19.66**	**40**	P	**P**	**14 37 11.5**	**-0.3**
SCRK				IAmb	IAmb	14 37 19.6	
	comp=Z,12nm,1.5s						
J26L	**Joseph Creek**	**20.05**	**39**	P	**P**	**14 37 15.7**	**-0.4**
K27K	**Chicken**	**20.45**	**41**	P	**P**	**14 37 20.2**	**-0.1**
I26K	**Coal Creek Min**	**20.57**	**37**	P	**P**	**14 37 21.2**	**-0.3**
I26K				IAmb	IAmb	14 37 22.6	
	comp=Z,13nm,1.5s						
EGAK	**Eagle**	**21.11**	**39**	P	**P**	**14 37 27.6**	**+0.2**
EGAK				IAmb	IAmb	14 37 28.8	
	comp=Z,6.8nm,0.7s						

BMAR	**Burnt Mountain**	**21.17**	**31**	P	**P**	**14 37 27.8**	**-0.2**
DAWY	**Dawson**	**21.57**	**42**	P	**P**	**14 37 32.2**	**-0.1**
DAWY				IAmb	IAmb	14 37 49.4	
	comp=Z,4.7nm,1.4s						
INK	**Inuvik**	**25.28**	**34**	P	**P**	**14 38 08.1**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=238,slow=6.3,SNR=20						
	comp=Z,1.4nm,0.4s						
INK	**Inuvik**	**25.28**	**34**	P	**P**	**14 38 08.6**	**0.0**
INK				IAmb	IAmb	14 38 10.9	
	comp=Z,8.8nm,1.4s						
C36M	**Paulatuk**	**28.87**	**34**	P	**P**	**14 38 40.9**	**0.0**
C36M				IAmb	IAmb	14 39 07.1	
	comp=Z,2.4nm,1.4s						
YKA	**Yellowknife Ar**	**32.52**	**48**	P	**P**	**14 39 13.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=314,slow=12,SNR=5.0						
	comp=Z,0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.45**	**213**	T	T	15 17 41.8	
	baz=21,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**35.46**	**213**	T	T	15 17 42.2	
	baz=21,slow=76,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**35.47**	**213**	T	T	15 17 46.0	
	baz=21,slow=76,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**36.65**	**213**	T	T	15 19 08.6	
	baz=20,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**36.67**	**213**	T	T	15 19 08.7	
	baz=20,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**36.67**	**213**	T	T	15 19 04.1	
	baz=20,slow=76,SNR=5.8						
BW06	**Boulder Array**	**42.90**	**76**	P	**P**	**14 40 41.9**	**+0.7**
BW06				IAmb	IAmb	14 40 42.8	
	comp=Z,1.0nm,0.8s						
PD31	**Pinedale Array**	**42.90**	**76**	P	**P**	**14 40 41.9**	**+0.6**
PD31				IAmb	IAmb	14 41 13.0	
	comp=Z,3.4nm,1.4s						
PDAR	**Pinedale Array**	**42.90**	**76**	P	**P**	**14 40 42.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=309,slow=4.7,SNR=7.9						
	comp=Z,0.6nm,0.6s						
PDAR	**Pinedale Array**	**42.90**	**76**	P	**P**	**14 40 42.2**	**+1.0**
FCC	**Fort Churchill**	**43.23**	**48**	P	**P**	**14 40 43.7**	**+0.3**
TULEG	**Thule**	**43.62**	**19**	P	**P**	**14 40 45.4**	**-0.9**
ARCES	**ARCESS Array B**	**58.36**	**352**	P	**P**	**14 42 36.8**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=15,slow=7.7,SNR=5.6						
	comp=Z,2.8nm,0.9s						
MKAR	**Makanchi Array**	**62.53**	**311**	P	**P**	**14 43 05.9**	**0.0**
	comp=Z,0.1nm,0.4s,baz=52,slow=7.7,SNR=2.0						
	comp=Z,0.1nm,0.4s						
G62A	**West of Eustis**	**62.85**	**51**	P	**P**	**14 43 08.8**	**+0.7**
BVAR	**Borovoye Array**	**62.87**	**323**	P	**P**	**14 43 07.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=62,slow=6.4,SNR=7.2						
	comp=Z,0.6nm,0.5s						
F64A	**Sherman**	**63.41**	**49**	P	**P**	**14 43 12.0**	**+0.2**
FINES	**FINESS Array B**	**66.22**	**350**	P	**P**	**14 43 29.3**	**-0.5**
	comp=Z,3.2nm,1.0s,baz=29,slow=6.5,SNR=2.7						
	comp=Z,3.2nm,1.0s						
FINES	**FINESS Array B**	**66.22**	**350**	P	**P**	**14 43 29.5**	**-0.2**
HFS	**Hagfors**	**68.44**	**356**	P	**P**	**14 43 43.8**	**-0.1**
	comp=Z,7.0nm,0.4s,baz=321,slow=1.9,SNR=6.6						
	comp=Z,0.7nm,0.4s						
AKTO	**Aktyubinsk**	**69.40**	**328**	P	**P**	**14 43 49.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=62,slow=4.7,SNR=4.1						
	comp=Z,0.9nm,0.7s						
ABKAR	**Akbulak array**	**69.75**	**326**	P	**P**	**14 43 52.7**	**+0.6**
BUR08	**Bucovina Ar. S**	**79.84**	**347**	P	**P**	**14 44 51.3**	**+0.6**
BUR08				IAmb	IAmb	14 44 57.5	
	comp=Z,1.7nm,1.1s						
BURAR	**Bucovina Array**	**79.87**	**347**	P	**P**	**14 44 51.2**	**+0.4**
BURAR				IAmb	IAmb	14 44 54.4	
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**88.12**	**227**	P	**P**	**14 45 32.5**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=21,slow=6.0,SNR=1.7						
	comp=Z,0.2nm,0.7s						

IDC ***16*** *14:34:36.8±1.3,27°.64S×71°.47W, h0km, mb4.7/2, mbtmp4.3/3, Error ellipse: s-maj=73.6km s-min=44.1km az=129.0*
NEIC ***16*** *14:34:36.4±0.8,27°.79S±0°.05×71°.59W±0°.06, h11km±11km, ML4.0(GUC), Error ellipse: s-maj=8.9km s-min=4.8km az=51.0*
GUC ***16*** *14:34:39.6±0.7,27°.92S×71°.34W, h34km±2km, ML4.0*

ISC 16 14:34:35.7±1.6,27°.80S±0°.04×71°.59W±0°.06, h6km±10km, n58, σ1s05/67, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.61**	**132**	Pg	**Pg**	**14 34 48.6**	**+1.1**
AC04					**Sg**	**14 34 55.0**	**-0.4**
AC04	**Llanos de Chal**	**0.61**	**132**	↓*i* P	**Pg**	**14 34 48.7**	**+1.2**
AC04				*i* S	**Sg**	**14 34 55.2**	**-0.2**
AC04				IAML		14 34 56.3	
	comp=E,12μm,0.1s						
AC06	**Mina Casimiro**	**1.18**	**69**		**Pn**	**14 34 58.9**	**+0.2**
AC06	**Mina Casimiro**	**1.18**	**69**	↓*i* P	**Pn**	**14 34 59.0**	**+0.2**
AC06				*e*S	**Sb**	**14 35 13.8**	**-0.3**
AC06				IAML		14 35 20.5	
	comp=N,5μm,0.4s						
GO03	**Copiap**	**1.22**	**81**		**Pn**	**14 34 59.4**	**0.0**
GO03	**Copiap**	**1.22**	**81**	*e*P	**Pn**	**14 34 59.2**	**-0.2**
GO03				*e*S	**Sb**	**14 35 14.2**	**-1.0**
GO03				IAML		14 35 20.8	
	comp=E,3μm,0.1s						
LCO	**Las Campanas**	**1.44**	**147**		**Pn**	**14 35 02.5**	**-0.1**
LCO	**Las Campanas**	**1.44**	**147**	↓*i* P	**Pn**	**14 35 02.6**	**-0.1**
LCO				*i* S	**Sn**	**14 35 19.9**	**-2.1**
AC05	**El Transito**	**1.56**	**132**		**Pn**	**14 35 04.4**	**+0.4**
AC05	**El Transito**	**1.56**	**132**	*e*P	**Pn**	**14 35 04.4**	**+0.4**
AC05				*i* S	**Sn**	**14 35 22.4**	**-2.2**
AC05				IAML		14 35 24.7	
	comp=N,3μm,0.5s						
AC01	**Pan de Azucar**	**1.87**	**29**	Pn	**Pn**	**14 35 09.0**	**+0.8**
AC01	**Pan de Azucar**	**1.87**	**29**	↑*i* P	**Pn**	**14 35 09.2**	**+1.0**
AC01				*i* S	**Sn**	**14 35 31.6**	**-0.5**
AC01				IAML		14 35 45.2	
	comp=E,2μm,0.5s						
AC02	**Maricunga**	**2.39**	**67**	↑*i* P	**Pb**	**14 35 18.6**	**-0.8**
AC02				*i* S	**Sb**	**14 35 47.8**	**-1.5**
AC02				IAML		14 35 55.2	
	comp=E,2μm,0.3s						
GO04	**Tololo Observa**	**2.47**	**164**		**Pn**	**14 35 17.2**	**+0.5**
GO04	**Tololo Observa**	**2.47**	**164**	↑*i* P	**Pn**	**14 35 17.7**	**+1.0**
GO04				*i* S	**Sn**	**14 35 48.6**	**+1.3**
GO04				IAML		14 36 05.0	
	comp=N,4μm,0.6s						
CO01	**Juntas del Tor**	**2.54**	**149**	*e*P	**Pn**	**14 35 19.2**	**+1.6**
CO01				*i* S	**Sn**	**14 35 49.5**	**+0.4**
CO01				IAML		14 35 55.5	
	comp=N,1μm,0.4s						
CO03	**El Pedregal**	**3.13**	**166**		**Pn**	**14 35 26.0**	**+0.3**
CO03	**El Pedregal**	**3.13**	**166**	*e*P	**Pn**	**14 35 27.0**	**+1.3**
CO03				IAML		14 36 19.8	
	comp=E,510nm,0.4s						
PB14	**IPOC Station P**	**3.33**	**19**	Pn	**Pn**	**14 35 28.9**	**+0.2**
CO02	**Combarbal**	**3.43**	**172**		**Pn**	**14 35 30.0**	**+0.1**
CO02	**Combarbal**	**3.43**	**172**	*e*P	**Pn**	**14 35 30.5**	**+0.6**
CO02				*e*S	**Sn**	**14 36 07.7**	**-3.3**
PB10	**IPOC Station P**	**4.37**	**13**		**Pn**	**14 35 42.0**	**-0.6**
VA06	**Catapilco**	**4.75**	**177**	Pn	**Pn**	**14 35 48.2**	**+0.3**
PB15	**IPOC Station P**	**4.95**	**23**		**Pn**	**14 35 50.6**	**-0.2**
VA03	**San Esteban**	**5.03**	**170**	Pn	**Pn**	**14 35 52.4**	**+0.5**
ROC1	**El Roble**	**5.19**	**175**	Pn	**Pn**	**14 35 54.1**	**0.0**
PB06	**IPOC Station P**	**5.39**	**20**		**Pn**	**14 35 56.9**	**+0.1**
MT02	**Curacav**	**5.46**	**176**	Pn	**Pn**	**14 35 57.7**	**+0.1**
PB04	**IPOC Station P**	**5.59**	**14**	Pn	**Pn**	**14 35 58.9**	**-0.8**
LVC	**Limon Verde**	**5.71**	**26**	Pn	**Pn**	**14 36 02.1**	**+0.8**
PB03	**IPOC Station P**	**5.96**	**17**		**Pn**	**14 36 04.2**	**-0.5**
MT09	**Talagante**	**5.98**	**175**	Pn	**Pn**	**14 36 05.4**	**+0.5**
MT01	**Popeta**	**6.05**	**177**	Pn	**Pn**	**14 36 05.1**	**-0.7**
BO04	**La Punta**	**6.23**	**172**	Pn	**Pn**	**14 36 08.2**	**-0.1**
PB07	**IPOC Station P**	**6.24**	**15**	Pn	**Pn**	**14 36 07.8**	**-0.7**
PB09	**IPOC Station P**	**6.34**	**20**		**Pn**	**14 36 10.2**	**+0.2**
BO01	**Tunca**	**6.59**	**176**	Pn	**Pn**	**14 36 13.3**	**+0.2**
PB02	**IPOC Station P**	**6.63**	**14**		**Pn**	**14 36 13.2**	**-0.6**
PB01	**IPOC Station P**	**6.99**	**16**		**Pn**	**14 36 18.3**	**-0.5**
PATCX	**Punta Patache**	**7.07**	**11**	Pn	**Pn**	**14 36 19.4**	**-0.4**
TA01	**Diego Aracena**	**7.31**	**10**	Pn	**Pn**	**14 36 21.9**	**-1.2**
PB11	**IPOC Station P**	**8.19**	**13**	Pn	**Pn**	**14 36 33.1**	**-2.2**
GO01	**Chusmiza**	**8.38**	**16**		**Pn**	**14 36 37.7**	**-0.6**
H03N1	**Juan Fernandez**	**8.45**	**226**	Pn	**Pn**	**14 36 38.0**	**-0.4**
H03N1				T	T	14 45 35.0	
	baz=55,slow=71,SNR=104						
H03N2	**Juan Fernandez**	**8.46**	**227**	T	T	14 45 44.5	
	baz=55,slow=71,SNR=76						
H03N3	**Juan Fernandez**	**8.47**	**226**	T	T	14 45 33.4	
	baz=55,slow=71,SNR=44						

H03S3	**Juan Fernandez**	**8.70**	**225**	Pn	**Pn**	**14 36 41.3**	**-0.6**
	baz=43,slow=20						
H03S1	**Juan Fernandez**	**8.71**	**224**	Pn	**Pn**	**14 36 39.9**	**-2.1**
	baz=43,slow=20						
H03S2	**Juan Fernandez**	**8.72**	**225**	Pn	**Pn**	**14 36 41.4**	**-0.7**
	baz=43,slow=20						
MNMC	**Minye Minye**	**8.82**	**12**	Pn	**Pn**	**14 36 43.2**	**-0.8**
LPAZ	**La Paz**	**11.89**	**16**	Pn	**Pn**	**14 37 23.9**	**-2.5**
	comp=E,0.8nm,0.4s,baz=195,slow=5.7,SNR=1.2						
TRQA	**Tornquist**	**13.02**	**144**	Pn	**Pn**	**14 37 42.1**	**+0.9**
DBIC	**Dimbokro**	**72.90**	**73**	P	**P**	**14 46 07.3**	**+1.2**
	comp=E,3.4nm,0.6s,baz=230,slow=5.5,SNR=5.3						
	comp=E,3.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**81.76**	**71**	P	**P**	**14 46 56.9**	**+1.1**
	comp=E,2.8nm,0.3s,baz=235,slow=5.7,SNR=2.5						
	comp=E,2.8nm,0.3s						
ASAR	**Alice Springs**	**123.23**	**208**	PKP	**PKiKP**	**14 53 35.5**	**+1.2**
	comp=E,0.1nm,0.6s,baz=125,slow=1.5,SNR=1.4						
WRA	**Warramunga Arr**	**126.32**	**211**	PKP	**PKiKP**	**14 53 41.7**	**+1.2**
	comp=E,0.2nm,0.4s,baz=145,slow=1.7,SNR=1.6						
ZALV	**Zalesovo Beam**	**148.66**	**27**	PKPbc	**PKiKP**	**14 54 25.6**	**+0.8**
	comp=E,2.6nm,0.7s,baz=300,slow=3.2,SNR=11						
MKAR	**Makanchi Array**	**152.08**	**40**	PKPbc	**PKiKP**	**14 54 33.7**	**+1.5**
	comp=E,0.6nm,0.7s,baz=329,slow=1.4,SNR=7.4						

IDC ***16*** *14:48:59.5±1.0,38°.41N×133°.50E, h458km±13km, mb2.9/8, mbtmp3.7/13, Error ellipse: s-maj=26.6km s-min=15.2km az=77.0*

ISC 16 14:48:59.0±0.8,38°.4N±0°.1×133°.5E±0°.1, h448km, n13, σ1s05/13, mb3.3/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.19**	**115**	P	**P**	**14 50 16.5**	**+0.9**
	1.1nm,0.3s,baz=306,slow=9.5,SNR=6.0						
KSRS	**Korea Array**	**4.52**	**259**	P	**P**	**14 50 19.4**	**+0.8**
	2.8nm,0.6s,baz=72,slow=8.7,SNR=15						
JNU	**Nakatsue**	**5.71**	**203**	P	**P**	**14 50 31.7**	**+1.3**
	12nm,1.1s,baz=72,slow=1.5,SNR=6.3						
USRK	**Ussuriysk Ar.**	**5.88**	**349**	P	**P**	**14 50 33.8**	**+2.1**
	4.3nm,0.4s,baz=172,slow=9.9,SNR=16						
ASAJ	**Asahikawa**	**8.89**	**47**	P	**P**	**14 51 04.2**	**+0.3**
	7.4nm,0.9s,baz=234,slow=14,SNR=1.2						
BVAR	**Borovoye Array**	**44.94**	**310**	P	**P**	**14 56 31.7**	**-0.5**
	0.2nm,0.4s,baz=79,slow=8.3,SNR=2.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**58.07**	**179**	P	**P**	**14 58 07.4**	**-0.6**
	0.3nm,0.9s,baz=347,slow=7.8,SNR=1.9						
	0.3nm,0.9s						
ARCES	**ARCESS Array B**	**60.39**	**337**	P	**P**	**14 58 23.4**	**+0.4**
	4.5nm,1.0s,baz=76,slow=8.4,SNR=2.1						
	4.5nm,1.0s						
ASAR	**Alice Springs**	**61.77**	**180**	P	**P**	**14 58 32.6**	**-0.1**
	0.2nm,0.5s,baz=358,slow=6.5,SNR=5.3						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**64.55**	**329**	P	**P**	**14 58 50.1**	**0.0**
	0.6nm,0.3s,baz=48,slow=5.8,SNR=12						
	0.6nm,0.3s						
AKASG	**Malin Array Be**	**69.24**	**319**	P	**P**	**14 59 19.2**	**-0.3**
	0.3nm,0.3s,baz=52,slow=5.8,SNR=1.7						
	0.3nm,0.3s						
HFS	**Hagfors**	**70.09**	**332**	P	**P**	**14 59 24.4**	**0.0**
	0.8nm,0.4s,baz=78,slow=9.2,SNR=4.1						
	0.8nm,0.4s						
BRTR	**Keskin Array B**	**73.13**	**307**	P	**P**	**14 59 41.2**	**-1.6**
	0.5nm,0.8s,baz=10,slow=8.8,SNR=2.7						
	0.5nm,0.8s						

IDC ***16*** *15:02:03.4±2.1, 17°.27S×175°.05W, h223km±21km, mb3.9/10, mbtmp4.5/12, Error ellipse: s-maj=18.8km s-min=12.8km az=119.0*
NEIC ***16*** *15:02:04.5±0.9, 17°.3S±0°.1×174°.95W±0°.05, h229km±12km, mb4.7/18, Error ellipse: s-maj=16.9km s-min=6.5km az=178.0*
NOU ***16*** *15:02:07.3, 17°.02S×174°.79W, h285km, mb4.7/30, Tonga Islands*

**ISC 16 15:02:05.5±0.5,17°.19S±0°.07×174°.78W±0°.06, h256km, n140, σ1s68/138, m

ARMA				IAmb	IAmb	15 08 19.8
	comp=Z,24nm,0.7s					
ARMA	**Armidale**	**33.30 241**	P		**P**	**15 08 18.9 -0.7**
AUPHS	**Peel High Scho**	**34.10 240**	P		**P**	**15 08 26.2 -0.2**
	comp=Z,40nm,1.4s					
RMQ	**Roma**	**34.99 248**	P		**P**	**15 08 33.2 -0.8**
	baz=35,SNR=11					
RMQ	**Roma**	**34.99 248**	P		**P**	**15 08 33.5 -0.5**
	comp=Z,9.7nm,0.7s					
AULRC	**Lightning Ridg**	**36.16 243**	P		**P**	**15 08 43.1 -0.8**
	comp=Z,28nm,1.3s					
CTA	**Charters Tower**	**36.98 259**	P		**P**	**15 08 49.0 -1.9**
	comp=Z,10nm,0.7s,baz=97,slow=9.9,SNR=17					
	comp=Z,10nm,0.7s					
CTA	**Charters Tower**	**36.98 259**	P		**P**	**15 08 49.9 -1.1**
	comp=Z,20nm,1.2s					
CTAO	**Charters Tower**	**36.98 259**	P		**P**	**15 08 49.1 -1.9**
CTAO				IAmb	IAmb	15 08 50.0
	comp=Z,12nm,0.8s					
PMG	**Port Moresby**	**37.78 277**	P		**P**	**15 08 56.9 -0.8**
	comp=Z,12nm,0.7s,baz=79,slow=6.6,SNR=6.5					
	comp=Z,12nm,0.7s					
PMG	**Port Moresby**	**37.78 277**	P		**P**	**15 08 54.5 -3.2**
PMG				IAmb	IAmb	15 08 58.5
	comp=Z,12nm,0.7s					
CMSA	**Cobar Meteorol**	**38.52 241**	P		**P**	**15 09 02.5 -1.1**
	baz=38,SNR=65					
CMSA	**Cobar Meteorol**	**38.52 241**	P		**P**	**15 09 02.8 -0.8**
QLP	**Quilpie**	**39.02 249**	P		**P**	**15 09 06.2 -1.7**
	baz=39,SNR=11					
QLP	**Quilpie**	**39.02 249**	P		**P**	**15 09 07.3 -0.6**
COEN	**Coen**	**40.58 268**	P		**P**	**15 09 18.7 -2.1**
	baz=40,SNR=16					
BRAT	**Ballarat**	**41.49 232**	P		**P**	**15 09 27.9 +0.1**
	comp=Z,10nm,0.9s					
STKA	**Stephens Creek**	**42.01 241**	P		**P**	**15 09 30.8 -1.4**
	comp=Z,21nm,0.8s,baz=89,slow=9.6,SNR=72					
	comp=Z,21nm,0.8s					
STKA	**Stephens Creek**	**42.01 241**	P		**P**	**15 09 31.6 -0.6**
	baz=42,SNR=31					
STKA	**Stephens Creek**	**42.01 241**	P		**P**	**15 09 31.3 -0.9**
STKA	**Stephens Creek**	**42.01 241**	P		**P**	**15 09 31.8 -0.4**
INKA	**Innaminka**	**42.22 248**	P		**P**	**15 09 34.3 +0.4**
QIS	**Mount Isa**	**43.19 258**	P		**P**	**15 09 39.9 -2.0**
	baz=43,SNR=4.9					
HTT	**Hallett**	**44.49 240**	P		**P**	**15 09 51.0 -1.0**
	baz=44,SNR=17					
HTT	**Hallett**	**44.49 240**	P		**P**	**15 09 51.9 -0.1**
LCRK	**Leigh Creek**	**44.68 244**	P		**P**	**15 09 52.9 -0.6**
OOD	**Oodnadatta**	**46.70 248**	P		**P**	**15 10 09.4 +0.2**
BBOO	**Buckleboo**	**46.78 241**	P		**P**	**15 10 08.6 -1.2**
	baz=47,SNR=23					
BBOO	**Buckleboo**	**46.78 241**	P		**P**	**15 10 08.4 -1.5**
BBOO				IAmb	IAmb	15 10 09.7
	comp=Z,18nm,1.0s					
BBOO	**Buckleboo**	**46.78 241**	P		**P**	**15 10 08.9 -0.9**
MULG	**Mulgathing**	**48.25 245**	P		**P**	**15 10 19.8 -1.3**
ASAR	**Alice Springs**	**48.32 253**	P		**P**	**15 10 20.4 -1.3**
	comp=Z,123nm,0.6s,baz=88,slow=8.9,SNR=1399					
ASAR	**Alice Springs**	**48.32 253**	Pn		**P**	**15 10 20.3 -1.5**
ASAR	**Alice Springs**	**48.32 253**	P		**P**	**15 10 20.3 -1.5**
FORT	**Forrest**	**53.44 244**	P		**P**	**15 10 58.1 -1.6**
	baz=53,SNR=11					
FORT	**Forrest**	**53.44 244**	P		**P**	**15 10 58.1 -1.6**
FORT				IAmb	IAmb	15 11 00.1
	comp=Z,23nm,0.7s					
FORT	**Forrest**	**53.44 244**	P		**P**	**15 10 59.7 0.0**
VNDA	**Vanda**	**61.48 186**	P		**P**	**15 11 56.1 +1.4**
	comp=Z,2.6nm,0.9s,baz=6.3,slow=5.6,SNR=10					
	comp=Z,2.6nm,0.9s					
VNDA	**Vanda**	**61.48 186**	P		**P**	**15 11 55.7 +0.9**
PETK	**Petropavlovsk-**	**73.93 343**	P		**P**	**15 13 13.8 +1.2**
	comp=Z,2.2nm,0.8s,baz=118,slow=9.6,SNR=4.4					
	comp=Z,2.2nm,0.8s					
KSRS	**Korea Array**	**76.52 316**	P		**P**	**15 13 29.7 +2.2**
	comp=Z,1.4nm,0.9s,baz=150,slow=13,SNR=4.3					
	comp=Z,1.4nm,0.9s					
NJ2	**Nanjing**	**80.20 308**	*e*P		**P**	**15 13 48.3 +0.5**
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
ILAR	**Eielson Array**	**84.45 12**	P		**P**	**15 14 09.6 +0.5**
	comp=Z,1.0nm,0.9s,baz=227,slow=5.9,SNR=16					
	comp=Z,1.0nm,0.9s					
HHC	**Hu-ho-hao-te**	**89.27 313**	*e*P		**P**	**15 14 31.6 -1.3**
HHC				pmax	pmax	
	comp=Z,25nm,0.9s					
HHC				pmax	pmax	
	comp=Z,250nm,6.1s					
KMI	**Kunming**	**90.61 296**	⇑P		**P**	**15 14 40.1 +0.5**
KMI				pmax	pmax	
	comp=Z,11nm,1.6s					
YKA	**Yellowknife Ar**	**92.26 24**	P		**P**	**15 14 47.6 +1.5**
	comp=Z,0.1nm,0.4s,baz=169,slow=8.9,SNR=2.5					
	comp=Z,0.1nm,0.4s					
STHS	**Stebnicka Huta**	**145.33 342**	*e*P		**PKPab**	**15 21 15.0 +1.4**
STHS	**Stebnicka Huta**	**145.33 342**	*e*PKP		**PKPab**	**15 21 15.0 +1.4**
CLL	**Collm**	**145.40 351**	*i* PKPbc		**PKPab**	**15 21 14.2 +0.4**
	comp=Z,8.0nm,0.9s					
CLL	**Collm**	**145.40 351**	*i* P		**PKPbc**	**15 21 13.4 +0.1**
CLL	**Collm**	**145.40 351**	*e*pPKPdf		pPKPdf	15 22 15.0 -2.3
CLL	**Collm**	**145.40 351**	pmax		pmax	
	comp=Z,8.0nm,0.9s					
CLL	**Collm**	**145.40 351**	*e*PKPdf		**PKPbc**	**15 21 13.4 +0.1**
BRG	**Berggiesshubel**	**145.68 350**	Amp			15 21 16.4
	comp=Z,6.3nm,1.0s					
BRG	**Berggiesshubel**	**145.68 350**	*e*P		**PKPab**	**15 21 15.5 +0.7**
BRG	**Berggiesshubel**	**145.68 350**	*e*PKP		**PKPab**	**15 21 15.6 +0.7**
BRG	**Berggiesshubel**	**145.68 350**	pmax		pmax	
	comp=Z,6.0nm,1.0s					
DPC	**Dobruska-Polom**	**145.74 347**	*e*PKP		**PKPab**	**15 21 16.1 +0.9**
DPC	**Dobruska-Polom**	**145.74 347**	*e*P		**PKPab**	**15 21 16.1 +0.9**
KRLC	**Kraliky**	**145.90 347**	*e*PKP		**PKPab**	**15 21 16.1 +0.3**
KRLC	**Kraliky**	**145.90 347**	*e*P		**PKPab**	**15 21 16.1 +0.3**
MORC	**Moravsky Berou**	**146.00 346**	*e*PKP		**PKPab**	**15 21 16.5 +0.3**
MAUC	**Maruska**	**146.31 345**	*e*PKP		**PKPab**	**15 21 18.0 +0.6**
BRTR	**Keskin Array B**	**146.65 318**	PKPbc		**PKPab**	**15 21 18.5 -0.7**
	comp=Z,3.5nm,0.8s,baz=112,slow=3.2,SNR=14					
VRAC	**Vranov**	**146.66 346**	*e*PKP		**PKiKP**	**15 21 19.8 +0.2**
JAVC	**Velka Javorina**	**146.82 345**	*e*PKP		**PKiKP**	**15 21 20.0 0.0**
VYHS	**Vyhne**	**146.85 343**	*e*P		**PKPab**	**15 21 19.1 -0.5**
VYHS	**Vyhne**	**146.85 343**	*e*PKP		**PKPab**	**15 21 19.1 -0.5**
KRUC	**Moravsky**	**146.94 346**	*e*PKP		**PKPab**	**15 21 18.9 -0.9**
MODS	**Modra-Piesok**	**147.37 345**	*e*P		**PKiKP**	**15 21 21.1 0.0**
MODS	**Modra-Piesok**	**147.37 345**	*e*PKP		**PKiKP**	**15 21 21.1 0.0**
KHC	**Kasperske Hory**	**147.42 350**	*e*PKP		**PKiKP**	**15 21 20.7 -0.5**
KHC	**Kasperske Hory**	**147.42 350**	*e*P		**PKiKP**	**15 21 20.7 -0.5**
CKRC	**Cesky Krumlov**	**147.59 349**	*e*PKP		**PKPab**	**15 21 22.3 -0.2**
GERES	**GERESS Array B**	**147.68 350**	PKPbc		**PKiKP**	**15 21 21.1 -0.7**
	comp=Z,1.4nm,0.7s,baz=35,slow=4.9,SNR=9.6					
RONA	**Rosalia, Austr**	**148.24 346**	*e*PKP		**PKPbc**	**15 21 21.0 -0.4**
	comp=Z,8.5nm,1.0s					
RETA	**Reutte**	**149.44 353**	*e*PKiKP		**PKiKP**	**15 21 25.7 +0.2**
	comp=Z,4.4nm,0.9s					
WATA	**Walderalm**	**149.48 351**	*i* PKiKP		**PKiKP**	**15 21 25.9 +0.3**
	comp=Z,11nm,1.7s					
MOTA	**Moosalm**	**149.54 352**	*e*PKiKP		**PKiKP**	**15 21 25.7 0.0**
	comp=Z,7.4nm,1.0s					
WTTA	**Wattenberg**	**149.54 351**	*i* PKiKP		**PKiKP**	**15 21 26.2 +0.4**
	comp=Z,4.3nm,0.5s					
SQTA	**Sankt Quirin**	**149.65 352**	*e*PKiKP		**PKiKP**	**15 21 26.2 +0.3**
	comp=Z,4.9nm,0.7s					
DAVA	**Damuels**	**149.74 354**	*i* PKiKP		**PKiKP**	**15 21 25.9 -0.2**
	comp=Z,12nm,1.3s					
ABTA	**Abfaltersbach**	**149.91 350**	*e*PKiKP		**PKPbc**	**15 21 25.9 +0.2**
	comp=Z,8.6nm,1.0s					

BJI ***16*** *15:06:33.5±0.0, 7.°95S×130.°25E, h26km, mb4.9/69, mB5.2/36, Ms4.8/12, Ms7 4.3/14*

NEIC ***16*** *15:06:36.7±1.4, 7.°64S±0.°07×129.°99E±0.°06, h10km±1km, mb5.3/110, Error ellipse: s-maj=12.1km s-min=9.8km az=188.0*

MOS ***16*** *15:06:37.0±0.9, 7.°64S×129.°98E, h28km, mb5.6/41, Error ellipse: s-maj=10.8km s-min=5.2km az=115.7*

KLM ***16*** *15:06:42, 7.°50S×130.°31E, h53km, mb5.6*

DJA ***16*** *15:06:42.6±0.2, 8.°S±2.°×13.°0E±.°, h74km±3km, M5.3/57, mb5.5/57, mB5.7/44, MLv6.0/17, Mw(mB)5.3/44, MwMwp4.9/14, Mwp5.2/14*

IDC ***16*** *15:06:42.3±1.2, 7.°66S×129.°98E, h57km±10km, mb4.7/22, mbtmp5.0/24, MS4.0/44, Error ellipse: s-maj=12.6km s-min=9.6km az=63.0*

GCMT ***16*** *15:06:44.7±0.1, 7.°79S±0.°01×130.°14E±0.°01, h63km±1km, MW5.2/109, Moment Tensor Solution. s79,c103; s109,c183; Duration: 1ꜱ0 Moment tensor: Scale 10¹⁶ Nm; Mrr1.93±.17; Mθθ1.53±.16; Mϕϕ-3.46±.18; Mrθ2.41±.12; Mrϕ7.53±.13; Mθϕ1.49±.15; Best double couple: Mw8.56800×10¹⁶ NP1:ϕꜱ102.00000°,δ74.00000°, λ18.00000°. NP2:ϕꜱ7.00000°,δ72.00000°,λ163.00000°. Principal axes: T 8.2350, Plg24.0000°, Azm324.0000°; N 0.6670, Plg66.0000°, Azm141.0000°; P -8.9020, Plg1.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 15:06:42.1±0.5, 7.°81S±0.°04×130.°07E±0.°04, h57km±4km, n643, σ1ꜱ53/615, mb5.2/128, MS4.1/49, 30C-5D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.23**	**98**	Pn	**Pn**	**15 07 01.1**	**-2.0**
SAUI	**Saumlaki**	**1.23**	**98**	P	**Pn**	**15 07 06.6**	**+3.5**
SAUI	**Saumlaki**	**1.23**	**98**	P	**Pn**	**15 07 04.8**	**+1.7**
BNDI	**Bandanaira**	**3.27**	**357**	P	**Pn**	**15 07 33.6**	**+2.7**
BNDI	**Bandanaira**	**3.27**	**357**	P	**Pn**	**15 07 32.5**	**+1.6**
AAI	**Ambon**	**4.50**	**335**	P	**Pn**	**15 07 49.8**	**+2.0**
MSAI	**Masohi**	**4.58**	**346**	P	**Pn**	**15 07 51.2**	**+2.3**
MTN	**Manton Dam**	**5.11**	**168**	P	**Pn**	**15 07 55.6**	**-0.5**
	baz=5.1,SNR=280						
MTN				S	**Sn**	**15 08 51.1**	**-2.8**
	baz=5.1						
MTN	**Manton Dam**	**5.11**	**168**	Pn	**Pn**	**15 07 55.5**	**-0.7**
MTN	**Manton Dam**	**5.11**	**168**	P	**Pn**	**15 07 56.2**	**0.0**
FAKI	**Fak Fak**	**5.32**	**24**	Pn	**Pn**	**15 07 57.7**	**-1.3**
FAKI	**Fak Fak**	**5.32**	**24**	P	**Pn**	**15 07 57.9**	**-1.1**
FAKI	**Fak Fak**	**5.32**	**24**	P	**Pn**	**15 07 57.7**	**-1.3**
	3μm,0.6s,25μm4μm9.6nm						
KDU	**Kakadu**	**5.39**	**154**	P	**Pn**	**15 07 59.3**	**-0.7**
	baz=5.3,SNR=1000						
KDU				S	**Sn**	**15 08 58.2**	**-2.5**
	baz=5.3						
KDU	**Kakadu**	**5.39**	**154**	P	**Pn**	**15 08 00.0**	**0.0**
NLAI	**Namlea**	**5.42**	**327**	P	**Pn**	**15 08 03.3**	**+2.9**
	496nm,0.5s,22μm2.5nm						
SOEI	**Soe**	**6.05**	**251**	Pn	**Pn**	**15 08 09.9**	**+0.7**
SOEI	**Soe**	**6.05**	**251**	P	**Pn**	**15 08 11.3**	**+2.1**
SOEI	**Soe**	**6.05**	**251**	P	**Pn**	**15 08 10.4**	**+1.2**
	2μm,1.1s,18μm7μm15nm						
BATI	**Baumata**	**6.76**	**249**	P	**Pn**	**15 08 20.1**	**+1.2**
	1μm,0.4s,baz=105,slow=4.6,SNR=95						
BATI				S	**Sn**	**15 09 34.8**	**+0.2**
	1μm,0.3s,baz=166,slow=23,SNR=8.1						
BATI	**Baumata**	**6.76**	**249**	P	**Pn**	**15 08 20.0**	**+1.2**
	1μm,0.4s,21μm5μm7.2nm						
SIJI	**Sorong**	**7.00**	**10**	P	**Pn**	**15 08 20.9**	**-1.1**
	117nm,0.3s,baz=201,slow=7.1,SNR=89						
SIJI				S	Sn	15 09 32.9	-7.4
	344nm,0.3s,baz=107,slow=19,SNR=19						
SANI	**Sanana**	**7.02**	**324**	P	**Pn**	**15 08 26.7**	**+4.4**
SANI	**Sanana**	**7.02**	**324**	P	**Pn**	**15 08 26.4**	**+4.1**
	2μm,1.5s,20μm5μm5.3nm						
RKPI	**Ransiki, Papua**	**7.47**	**33**	P	**Pn**	**15 08 28.1**	**-0.5**
	3μm,0.6s,30μm5μm34nm						
MMRI	**Maumere**	**7.80**	**263**	Pn	**Pn**	**15 08 33.9**	**+0.9**
MMRI	**Maumere**	**7.80**	**263**	P	**Pn**	**15 08 34.7**	**+1.7**
MMRI	**Maumere**	**7.80**	**263**	P	**Pn**	**15 08 34.4**	**+1.4**
	561nm,0.5s,15μm3μm3.5nm						
KNRA	**Kununurra**	**7.92**	**189**	P	**Pn**	**15 08 33.6**	**-1.1**
	baz=7.9,SNR=1000						
KNRA	**Kununurra**	**7.92**	**189**	Pn	**Pn**	**15 08 32.9**	**-1.8**
KNRA	**Kununurra**	**7.92**	**189**	P	**Pn**	**15 08 34.5**	**-0.2**
SRPI	**Serui, Papua**	**8.52**	**46**	P	**Pn**	**15 08 41.4**	**-1.5**
	556nm,0.5s,6μm3μm						
TNTI	**Ternate**	**8.94**	**342**	Pn	**Pn**	**15 08 49.9**	**+1.2**
TNTI	**Ternate**	**8.94**	**342**	P	**Pn**	**15 08 51.5**	**+2.8**
TNTI	**Ternate**	**8.94**	**342**	P	**Pn**	**15 08 50.9**	**+2.2**
	217nm,0.6s,2μm1μm						
WAMI	**Wamena**	**9.44**	**66**	P	**Pn**	**15 08 56.7**	**+1.3**
BASI	**Baing, Sumba**	**9.68**	**255**	P	**Pn**	**15 08 59.0**	**+0.2**
	2μm,1.1s,23μm4μm						
WSI	**Waingapu**	**9.84**	**258**	P	**Pn**	**15 09 02.6**	**+1.7**
	15μm,1.1s,261μm						
LUWI	**Luwuk**	**9.90**	**312**	Pn	**Pn**	**15 09 01.7**	**-0.1**
LUWI	**Luwuk**	**9.90**	**312**	P	**Pn**	**15 09 06.2**	**+4.3**
LUWI	**Luwuk**	**9.90**	**312**	P	**Pn**	**15 09 05.7**	**+3.8**
	558nm,1.2s,5μm						
BKSI	**Bulukumba**	**10.19**	**283**	P	**Pn**	**15 09 10.3**	**+4.6**
	155nm,1.0s,2μm						
SMPI	**Sarmi**	**10.36**	**57**	P	**Pn**	**15 09 07.1**	**-1.0**
	236nm,0.6s,3μm4μm						
KAPI	**Kappang**	**10.62**	**285**	P	**Pn**	**15 09 13.1**	**+1.4**
	13nm,0.5s,baz=146,slow=7.7,SNR=9.1						
KAPI				S	**Sn**	**15 11 12.7**	**+3.5**
	32nm,0.9s,baz=109,slow=18,SNR=2.0						
SPSI	**Sidrap Palu**	**10.94**	**290**	P	**Pn**	**15 09 19.0**	**+3.0**
	112nm,1.0s,2μm						
FITZ	**Fitzroy Crossi**	**11.10**	**202**	Pn	Pn	15 09 15.1	-3.1
GENI	**Genyem**	**11.31**	**63**	P	**Pn**	**15 09 22.8**	**+1.8**
GENI	**Genyem**	**11.31**	**63**	P	**Pn**	**15 09 20.1**	**-0.9**
	469nm,0.7s,5μm3μm						
MRSI	**Marisa**	**11.55**	**315**	P	**Pn**	**15 09 28.5**	**+4.1**
	419nm,1.3s,5μm2μm						
PLAI	**Plampang**	**12.21**	**264**	P	**Pn**	**15 09 33.7**	**+0.3**
PLAI	**Plampang**	**12.21**	**264**	P	**Pn**	**15 09 32.1**	**-1.3**
	1μm,0.6s,12μm						
WB0	**Warramunga Arr**	**12.60**	**161**		Pn	15 09 33.8	-5.0
WRAB	**Tennant Creek**	**12.75**	**161**		Pn	15 09 35.6	-5.1
WRAB	**Tennant Creek**	**12.75**	**161**	P	Pn	15 09 36.3	-4.4
WRAB	**Tennant Creek**	**12.75**	**161**	*ce*P	Pn	15 09 36.1	-4.6
WRAB				pmax	pmax		
	comp=Z,90nm,0.6s						
WRA	**Warramunga Arr**	**12.75**	**162**	P	Pn	15 09 35.5	-5.2
	comp=Z,94nm,0.5s,baz=339,slow=13,SNR=230						
WRA				S	Sn	15 11 50.2	-11
	comp=Z,355nm,0.6s,baz=333,slow=23,SNR=14						
WRA				LR	LR	15 14 51.2	
	comp=Z,1μm,21.9s,baz=334,slow=38						
WRA	**Warramunga Arr**	**12.75**	**162**		Pn	15 09 35.2	-5.5
WRA	**Warramunga Arr**	**12.75**	**162**	P	Pn	15 09 35.2	-5.5
WB2	**Warramunga Arr**	**12.76**	**161**		Pn	15 09 35.6	-5.2
TOLI2	**Tolitoli**	**12.82**	**313**	Pn	**Pn**	**15 09 44.3**	**+2.6**
TOLI2	**Tolitoli**	**12.82**	**313**	P	Pn	15 09 46.6	+4.9
WR0	**Warramunga Arr**	**12.83**	**161**		Pn	15 09 36.5	-5.3
MPSI	**Mapaga**	**12.98**	**308**	P	Pn	15 09 49.1	+5.3
	comp=Z,64nm,1.2s,comp=Z,2μm						
TWSI	**Taliwang, Sumb**	**13.09**	**265**	P	Pn	15 09 43.0	-2.3
	comp=Z,148nm,0.7s,comp=Z,3μm						
COEN	**Coen**	**14.24**	**117**	P	Pn	15 09 56.6	-4.3
	baz=14,SNR=289						
COEN	**Coen**	**14.24**	**117**	Pn	Pn	15 09 56.2	-4.7
COEN	**Coen**	**14.24**	**117**	P	**Pn**	**15 09 57.9**	**-3.0**
BKB	**Balikpapan**	**14.65**	**296**	P	**Pn**	**15 10 08.1**	**+1.8**
BKB	**Balikpapan**	**14.65**	**296**	P	**Pn**	**15 10 10.1**	**+3.8**
	comp=Z,245nm,0.9s,comp=Z,3μm						
SRBI	**Singaraja**	**14.72**	**268**	P	Pn	15 10 05.4	-1.8
	comp=Z,60nm,0.7s						
IGBI	**Denpasar**	**14.80**	**265**	P	Pn	15 10 05.9	-2.4
	comp=Z,129nm,0.5s,comp=Z,4μm						
DAV	**Davao City (W)**	**15.45**	**343**	P	**Pn**	**15 10 20.4**	**+3.8**
	comp=Z,145nm,0.4s,baz=83,slow=5.0,SNR=3.9						
DAV				LR	LR	15 17 00.1	
	comp=Z,686nm,18.9s,baz=130,slow=40						
QIS	**Mount Isa**	**15.68**	**145**	P	**Pn**	**15 10 15.3**	**-4.2**
	baz=16,SNR=93						
QIS	**Mount Isa**	**15.68**	**145**	P	**Pn**	**15 10 15.8**	**-3.7**
BBKI	**Banjar Baru**	**15.76**	**285**	P	**Pn**	**15 10 23.1**	**+2.5**
	comp=Z,324nm,1.3s,comp=Z,4μm						
JAGI	**Jajag, Banyuwa**	**15.78**	**267**	Pn	**Pn**	**15 10 17.4**	**-3.5**
JAGI	**Jajag, Banyuwa**	**15.78**	**267**	P	**Pn**	**15 10 20.5**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.78**	**267**	P	**Pn**	**15 10 17.3**	**-3.5**
	comp=Z,92nm,1.1s,comp=Z,2μm						
AS31	**Alice Springs**	**16.19**	**167**	Pn	Pn	15 10 20.2	-5.8
AS31				IAmb	IAmb	15 10 31.5	
	comp=Z,96nm,0.6s						
ASAR	**Alice Springs**	**16.19**	**167**	S	Sn	15 13 12.9	-12
	comp=Z,87nm,0.6s,baz=346,slow=22,SNR=10						
ASAR				LR	LR	15 16 55.3	
	comp=Z,662nm,18.0s,baz=346,slow=38						
BLJI	**Banyuglugur**	**16.33**	**269**	P	**Pn**	**15 10 28.5**	**+0.7**
	comp=Z,128nm,0.7s						
GMJI	**Gumukmas**	**16.47**	**267**	P	**Pn**	**15 10 26.6**	**-3.0**
MTKI	**Muara Teweh, K**	**16.59**	**294**	P	**Pn**	**15 10 34.7**	**+3.6**
	comp=Z,340nm,1.0s,comp=Z,4μm						
MBWA	**Marble Bar**	**16.61**	**216**	P	**Pn**	**15 10 28.4**	**-2.9**
MBWA				IAmb	IAmb	15 10 35.3	
	comp=Z,396nm,1.4s						
MBWA	**Marble Bar**	**16.61**	**216**	P	**Pn**	**15 10 28.4**	**-2.9**
MBWA	**Marble Bar**	**16.61**	**216**	P	**Pn**	**15 10 29.1**	**-2.2**
PSA00	**Pilbara Seismi**	**16.87**	**215**	P	**Pn**	**15 10 31.6**	**-2.9**
PSA00				IAmb	IAmb	15 10 38.4	
	comp=Z,521nm,1.4s						
PSA00	**Pilbara Seismi**	**16.87**	**215**	P	**Pn**	**15 10 32.6**	**-1.9**
PMG	**Port Moresby**	**16.97**	**97**	P	**Pn**	**15 10 36.1**	**+0.3**
	comp=Z,43nm,0.3s,baz=339,slow=1.5,SNR=24						
PMG				S	Sn	15 13 30.8	-13
	comp=Z,25nm,0.5s,baz=0.0,slow=20,SNR=1.7						
PMG				LR	LR	15 18 42.8	
	comp=Z,542nm,18.4s,baz=264,slow=42						
PMG	**Port Moresby**	**16.97**	**97**	Pn	**Pn**	**15 10 34.1**	**-1.7**
PMG	**Port Moresby**	**16.97**	**97**	P	**Pn**	**15 10 37.2**	**+1.4**
PMG	**Port Moresby**	**16.97**	**97**	*ce*P	**Pn**	**15 10 36.0**	**+0.3**
PMG				pmax	pmax		
	comp=Z,80nm,0.8s						
WRKA	**Warakurna**	**17.22**	**185**	P	**Pn**	**15 10 35.7**	**-3.1**
	baz=17,SNR=126						
WRKA	**Warakurna**	**17.22**	**185**	P	**Pn**	**15 10 36.0**	**-2.8**
MTSU	**Mount Surprise**	**17.25**	**128**	P	**Pn**	**15 10 37.3**	**-1.9**
	baz=17,SNR=50						
MTSU	**Mount Surprise**	**17.25**	**128**	P	**Pn**	**15 10 37.6**	**-1.6**
PWJI	**Pagerwojo**	**18.10**	**268**	P	**P**	**15 10 49.3**	**-0.1**
	comp=Z,118nm,0.7s						
MANU	**Manus Island**	**18.15**	**72**	P	**P**	**15 10 49.3**	**-0.7**
MANU				IAmb	IAmb	15 10 54.7	
	comp=Z,335nm,1.3s						
MANU	**Manus Island**	**18.15**	**72**	P	**Pn**	**15 10 52.9**	**+2.6**
PBKI	**Pangkalan Bun**	**19.01**	**284**	P	**P**	**15 11 00.6**	**+1.2**
	comp=Z,587nm,1.1s,comp=Z,23μm						
KKM	**Kota Kinabalu**	**19.50**	**314**	P	**P**	**15 11 01.7**	**-3.2**
KKM				IAmb	IAmb	15 11 14.8	
	comp=Z,195nm,1.0s						
KKM	**Kota Kinabalu**	**19.50**	**314**	P	**P**	**15 11 06.2**	**+1.3**
TV1H	**Townsville Har**	**19.82**	**127**	P	**P**	**15 11 09.8**	**+1.5**
CTA	**Charters Tower**	**19.86**	**130**	P	**P**	**15 11 10.4**	**+1.7**
	comp=Z,90nm,0.7s,baz=305,slow=13,SNR=56						
CTA				S	**S**	**15 14 41.8**	**-7.7**
	comp=Z,22nm,0.8s,baz=225,slow=19,SNR=2.3						
CTA				LR	LR	15 19 45.4	
	comp=Z,636nm,18.1s,baz=305,slow=39						
	comp=Z,90nm,0.7s						
CTA	**Charters Tower**	**19.86**	**130**	P	**P**	**15 11 11.1**	**+2.4**
CTAO	**Charters Tower**	**19.86**	**130**	P	**P**	**15 11 10.4**	**+1.7**
CTAO				IAmb	IAmb	15 11 14.3	
	comp=Z,105nm,0.8s						
CTAO	**Charters Tower**	**19.86**	**130**	P	**P**	**15 11 11.1**	**+2.4**
CTAO	**Charters Tower**	**19.86**	**130**	P	**P**	**15 11 10.4**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,105nm,0.8s						
SBUM	**Sibu**	**20.52**	**299**	Pn	**P**	**15 11 15.1**	**-0.8**
SBUM				IAmb	IAmb	15 11 19.1	
	comp=Z,101nm,0.8s						
OOD	**Oodnadatta**	**20.58**	**166**	P	**P**	**15 11 17.3**	**+1.0**
KPJI	**Karang Pucung**	**20.96**	**270**	P	**P**	**15 11 20.5**	**-0.2**
	comp=Z,64nm,0.8s						
GIRL	**Giralia**	**21.20**	**224**	P	**P**	**15 11 24.8**	**+1.6**
	baz=21,SNR=15						
GIRL	**Giralia**	**21.20**	**224**	P	**P**	**15 11 25.1**	**+2.0**
GIRL	**Giralia**	**21.20**	**224**	P	**P**	**15 11 26.7**	**+3.5**
CMJI	**Cimerak**	**21.42**	**269**	P	**P**	**15 11 25.3**	**-0.3**
	comp=Z,132nm,1.0s						
MEEK	**Meekatharra**	**21.66**	**209**	P	**P**	**15 11 28.1**	**+0.1**
	baz=22,SNR=38						
MEEK	**Meekatharra**	**21.66**	**209**	P	**P**	**15 11 29.4**	**+1.3**
KRVT	**Keravat (AS076**	**22.10**	**82**	LR	LR	15 21 01.5	
	comp=Z,432nm,21.8s,baz=28,slow=39						
BBJI	**Bungbulang**	**22.23**	**269**	P

comp=Z,40nm,0.8s
BRAT Ballarat 32.17 159 P **P** **15 13 06.7 +2.2**
YULB Yu-li 32.17 345 P P 15 13 01.0 -3.7
YULB IAmb IAmb 15 13 25.1
comp=Z,62nm,1.5s
TPUB Ta-pu 32.27 344 P P 15 13 02.0 -3.5
SSLB Suanglung 32.64 344 P P 15 13 05.1 -3.7
SSLB IAmb IAmb 15 13 08.8
comp=Z,57nm,1.3s
RPSI Rantau Prapat 32.78 287 P P 15 13 07.3 -2.8
RPSI IAmb IAmb 15 13 37.4
comp=Z,29nm,1.1s
PSI Prapat 32.81 288 P P 15 13 07.5 -3.1
comp=Z,18nm,0.9s,baz=149,slow=2.8,SNR=12
PSI LR LR 15 27 23.3
comp=Z,379nm,21.8s,baz=126,slow=38
comp=Z,18nm,0.9s
PSI Prapat 32.81 288 P **P** **15 13 09.7 -0.9**
NACB Ninganchiao 32.85 346 P **P** **15 13 07.9 -2.6**
NACB IAmb IAmb 15 13 08.9
comp=Z,38nm,1.2s
YHNB Yeheng 33.38 346 P P 15 13 12.1 -3.1
UBPT Khong Chiam 33.48 313 P **P** **15 13 14.7 -1.5**
UBPT IAmb IAmb 15 14 02.9
comp=Z,142nm,2.0s
UBPT Khong Chiam 33.48 313 P **P** **15 13 15.3 -0.9**
GSI Gunungsitoli 33.65 284 P **P** **15 13 15.6 -2.2**
GSI Gunungsitoli 33.65 284 P **P** **15 13 20.8 +3.0**
GSI Gunungsitoli 33.65 284 P **P** **15 13 16.3 -1.5**
comp=Z,21nm,1.3s
MILA Mila 33.89 152 P **P** **15 13 19.2 -0.5**
baz=34,SNR=3.2
KNMB Chin-men Tao 34.04 341 P **P** **15 13 18.7 -2.2**
KNMB IAmb IAmb 15 13 44.8
comp=Z,71nm,1.1s
KCSI Kotacane, Aceh 34.13 288 P **P** **15 13 20.1 -1.9**
comp=Z,15nm,1.1s
SRIT Nakonsritamara 34.46 298 P **P** **15 13 26.4 +1.6**
JOW Kunigami 34.48 357 LR LR 15 25 42.7
comp=Z,365nm,20.6s,baz=146,slow=33
SURA Surathani 34.70 299 P **P** **15 13 28.4 +1.6**
JCJ Chichijima 36.63 18 P **P** **15 13 42.8 -0.4**
comp=Z,40nm,0.3s,baz=298,slow=15,SNR=1.8
comp=Z,40nm,0.3s
JCJ Chichijima 36.63 18 P **P** **15 13 40.9 -2.2**
NONG Nongkai 36.98 314 P **P** **15 13 44.8 -1.5**
MOO Moorlands 37.66 159 P **P** **15 13 51.4 -0.3**
baz=38,SNR=3.5
DZM Mont Dzumac 37.77 116 *e*LR LR 15 24 10.0
comp=Z,765nm,27.4s
DZM Mont Dzumac 37.77 116 P **P** **15 13 54.0 +1.0**
comp=Z,4.5nm,0.7s,baz=263,slow=7.9,SNR=5.7
DZM LR LR 15 29 42.7
comp=Z,270nm,20.4s,baz=284,slow=36
comp=Z,4.5nm,0.7s
DZM Mont Dzumac 37.77 116 P **P** **15 13 54.1 +1.0**
TAU Tasmania Unive 38.11 159 P **P** **15 13 56.6 +1.1**
TAU IAmb IAmb 15 15 09.4
comp=Z,60nm,1.2s
TAU Tasmania Unive 38.11 159 P **P** **15 13 56.7 +1.1**
TAU pmax pmax
comp=Z,60nm,1.2s
OUENC Ouen Island, N 38.22 116 P **P** **15 13 57.9 +1.1**
PINNC Pines Island, 38.81 117 P **P** **15 14 03.0 +1.3**
PINNC IAmb IAmb 15 14 25.5
comp=Z,208nm,1.7s
JSU Suzuyama 39.09 1 P **P** **15 14 02.6 -1.3**
JSU IAmb IAmb 15 14 23.5
comp=Z,78nm,1.5s
PHRA Phrae 39.37 312 P **P** **15 14 04.8 -1.6**
CM31 Chiang Mai Arr 40.31 311 P **P** **15 14 12.1 -2.1**
CMAR Chiang Mai Arr 40.31 311 P **P** **15 14 12.8 -1.4**
comp=Z,5.8nm,0.6s,baz=140,slow=6.5,SNR=40
CMAR ScP **ScP** **15 20 01.8 +0.1**
comp=Z,3.9nm,0.9s,baz=160,slow=3.0,SNR=15
CMAR LR LR 15 33 59.4
comp=Z,106nm,18.5s,baz=150,slow=41
comp=Z,5.8nm,0.6s
CMAR Chiang Mai Arr 40.31 311 P **P** **15 14 11.9 -2.3**
CMAR Chiang Mai Arr 40.31 311 *i* P **P** **15 14 13.1 -1.1**
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CRAI Chiangrai 40.37 314 P **P** **15 14 12.8 -1.9**
CHTO Chiang Mai 40.52 311 P **P** **15 14 13.8 -2.2**
CHTO Chiang Mai 40.52 311 P **P** **15 14 13.8 -2.2**
CHTO pmax pmax
comp=Z,39nm,1.4s
JNU Nakatsue 40.71 1 LR LR 15 29 55.5
comp=Z,298nm,20.0s,baz=184,slow=34
JNU Nakatsue 40.71 1 P **P** **15 14 15.7 -1.6**
JNU IAmb IAmb 15 14 22.8
comp=Z,138nm,1.7s
GYA Guiyang 40.95 327 ⇑P **P** **15 14 19.1 -0.4**
GYA pmax pmax
comp=Z,11nm,0.9s
WHN Wuhan 41.01 339 ⇑P **P** **15 14 18.8 -1.0**
WHN pmax pmax
comp=Z,250nm,1.4s
NJ2 Nanjing 41.06 345 *e*P **P** **15 14 19.5 -0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
JMN Monobe 41.47 5 P **P** **15 14 22.4 -1.2**
JMN IAmb IAmb 15 15 49.3
comp=Z,191nm,1.8s
JHJ Hachijo jima 2 41.74 12 LR LR 15 29 47.5
comp=Z,460nm,20.1s,baz=88,slow=33
KMI Kunming 42.19 322 ⇓P **P** **15 14 28.4 -1.4**
KMI pmax pmax
comp=Z,12nm,1.2s
JHS Saijyo 42.67 4 P **P** **15 14 32.4 -1.0**
JHS IAmb IAmb 15 15 13.0
comp=Z,154nm,1.5s
ENH Enshi 42.71 333 P **P** **15 14 31.2 -2.6**
ENH Enshi 42.71 333 P **P** **15 14 34.7 +0.9**
INU Inuyama 43.42 8 P **P** **15 14 37.7 -1.6**
INU IAmb IAmb 15 16 14.8
comp=Z,83nm,1.6s
JGF Kuroka 43.72 9 P **P** **15 14 40.5 -1.3**
JGF IAmb IAmb 15 15 53.6
comp=Z,139nm,1.8s
PZH PanZhiHua 43.81 322 P **P** **15 14 40.6 -2.2**
PZH ScP **ScP** **15 20 15.0 -0.6**
PZH S **S** **15 21 11.0 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,6.3s
PZH LR LR
comp=Z,270nm,22.5s
PZH LR LR
comp=Z,470nm,22.6s
PZH LR LR
comp=Z,460nm,20.6s
TJN Taejon 44.02 357 P **P** **15 14 42.5 -1.7**
TJN Taejon 44.02 357 *ce*P **P** **15 14 43.1 -1.1**
MND Mandalay 44.57 312 P **P** **15 14 48.2 -0.6**
MJAR Matsushiro Arr 44.77 9 P **P** **15 14 48.1 -2.1**
comp=Z,12nm,0.5s,baz=191,slow=9.6,SNR=37
MJAR LR LR 15 32 56.6
comp=Z,166nm,18.8s,baz=185,slow=35
comp=Z,12nm,0.5s
MAJO Matsushiro 44.77 9 P **P** **15 14 47.6 -2.5**
MAJO IAmb IAmb 15 14 49.5
comp=Z,29nm,0.7s
MAJO Matsushiro 44.77 9 P **P** **15 14 49.1 -1.1**
MAJO Matsushiro 44.77 9 *i* P **P** **15 14 47.7 -2.5**
MAJO pmax pmax
comp=Z,28nm,0.7s
MJB9 Matsu-Tunnel 44.78 9 P **P** **15 14 48.5 -1.7**
MJB9 IAmb IAmb 15 14 50.5
comp=Z,28nm,0.7s
TNCH TengChong 44.83 318 P **P** **15 14 53.5 +2.5**
TNCH PP **PP** **15 16 38.4 +1.7**
TNCH S **S** **15 21 29.3 +4.5**
TNCH pmax pmax
comp=Z,19nm,3.4s
TNCH pmax pmax
comp=Z,150nm,5.3s
KSAR Wonju Array Be 45.06 358 P **P** **15 14 51.6 -0.8**
KSAR Wonju Array Be 45.06 358 P **P** **15 14 51.6 -0.8**
KSRS Korea Array 45.07 358 P **P** **15 14 51.4 -1.1**
comp=Z,7.5nm,0.6s,baz=175,slow=9.4,SNR=33
KSRS LR LR 15 32 12.8
comp=Z,123nm,21.7s,baz=180,slow=34
comp=Z,7.5nm,0.6s
KS19 Wonju Array Si 45.12 358 P **P** **15 14 51.1 -1.8**
KS19 IAmb IAmb 15 15 32.4
comp=Z,132nm,2.0s
LYN LuoYang 45.30 339 ⇑P **P** **15 14 52.5 -1.9**
LYN pmax pmax
comp=Z,20nm,0.5s
LYN pmax pmax
comp=Z,210nm,5.5s
TIA Tai'an 45.45 345 *e*P **P** **15 14 53.6 -1.9**
TIA pmax pmax
comp=Z,8.0nm,1.1s
CD2 Chengdu 46.02 328 P **P** **15 14 58.5 -1.7**
XAN Xi'an 46.20 335 ⇑P P 15 14 58.8 -2.8
XAN S **S** **15 21 43.8 -0.2**
XAN pmax pmax
comp=Z,17nm,1.1s
XAN pmax pmax
comp=Z,280nm,5.0s
XAN LR LR
comp=Z,240nm,17.2s
XAN LR LR
comp=Z,210nm,19.2s
XAN LR LR
comp=Z,220nm,16.7s
JSD Sado 46.24 9 P **P** **15 15 00.6 -1.2**
JMM Marumori 46.53 12 P **P** **15 15 03.1 -0.9**
JMM Marumori 46.53 12 P **P** **15 15 04.7 +0.7**
HNS HongShan 47.21 343 ⇑P **P** **15 15 07.8 -1.5**
HNS PcP **PcP** **15 16 41.4 +1.4**
HNS ScP **ScP** **15 20 28.4 -0.9**
HNS *e*S **S** **15 21 57.8 -0.4**
HNS pmax pmax
comp=Z,23nm,0.8s
HNS LR LR
comp=Z,180nm,24.7s
HNS LR LR
comp=Z,380nm,20.7s
HNS LR LR
comp=Z,270nm,19.1s
MSVF Nonsavu 47.70 107 LR LR 15 33 18.9
comp=Z,119nm,21.0s,baz=194,slow=33
BRDH Bariadhala 48.30 310 LR LR 15 36 05.2
comp=Z,179nm,21.9s,baz=82,slow=37
BJT Baijiatuau 49.29 346 P **P** **15 15 23.7 -1.6**
BJT IAmb IAmb 15 15 25.7
comp=Z,83nm,1.7s
BJT Baijiatuau 49.29 346 P **P** **15 15 25.1 -0.2**
BJT Baijiatuau 49.29 346 P **P** **15 15 23.7 -1.6**
BJT pmax pmax
comp=Z,83nm,1.7s
BJI Beijing 49.31 346 P **P** **15 15 23.9 -1.6**
BJI sP pP 15 15 33.5 -6.6
BJI pmax pmax
comp=Z,11nm,0.5s
BJI pmax pmax
comp=Z,120nm,4.5s
JTM Tenmabayashi 49.40 11 P **P** **15 15 24.3 -1.8**
SNY Shenyang 49.75 354 ⇓P **P** **15 15 27.5 -1.3**
SNY pmax pmax
comp=Z,22nm,0.7s
SNY pmax pmax
comp=Z,240nm,4.0s
SNY LR LR
comp=Z,380nm,5.2s
SNY LR LR
comp=Z,440nm,5.4s
SNY LR LR
comp=Z,380nm,17.1s
MLZ Mavora Lakes 49.77 145 P **P** **15 15 30.1 +1.0**
MLZ IAmb IAmb 15 16 15.2
comp=Z,118nm,1.6s
WKZ Wanaka 49.97 144 P **P** **15 15 31.7 +1.2**
WHZ Wether Hill Ro 49.99 146 P **P** **15 15 31.7 +1.0**
LZH Lanzhou 50.15 332 ⇑P **P** **15 15 31.0 -1.1**
LZH pP pP 15 15 36.3 -10
LZH sP pwP 15 15 40.1 -6.7
LZH PcP **PcP** **15 16 52.3 +1.4**
LZH ScP **ScP** **15 20 42.8 +0.7**
LZH S **S** **15 22 45.8 +5.8**
LZH sS sS 15 22 57.0 -8.2
LZH pmax pmax
comp=Z,19nm,1.6s
LZH pmax pmax
comp=Z,250nm,5.8s
LBZ Lake Benmore 50.40 143 P **P** **15 15 35.1 +1.3**
RPZ Rata Peaks 50.55 142 P **P** **15 15 36.7 +1.7**
comp=Z,16nm,0.6s,baz=304,slow=3.1,SNR=13
RPZ LR LR 15 35 51.5
comp=Z,255nm,20.2s,baz=298,slow=34
comp=Z,16nm,0.6s
RPZ Rata Peaks 50.55 142 P **P** **15 15 36.4 +1.4**
TUWZ Tuamarina 51.24 138 P **P** **15 15 40.5 +0.4**
HHC Hu-ho-hao-te 51.33 342 *e*P **P** **15 15 40.3 -0.6**
HHC pmax pmax
comp=Z,54nm,0.8s
HHC pmax pmax
comp=Z,270nm,5.1s
TCW Tory Channel 51.35 138 P **P** **15 15 41.5 +0.5**
MQZ McQueen's Vall 51.53 141 P **P** **15 15 43.8 +1.5**
CN2 Changchun 51.54 356 *e*P **P** **15 15 41.3 -0.9**
CN2 pmax pmax
comp=Z,20nm,0.6s
USA0B Ussuriysk Arra 51.79 2 P **P** **15 15 43.3 -0.8**
USA0B Ussuriysk Arra 51.79 2 P **P** **15 15 43.3 -0.8**
USA0B pmax pmax
comp=Z,15nm,0.7s
USRK Ussuriysk Ar. 51.79 2 P **P** **15 15 43.1 -1.0**
comp=Z,9.1nm,0.5s,baz=185,slow=7.6,SNR=43
USRK LR LR 15 36 59.4
comp=Z,107nm,21.1s,baz=175,slow=35
comp=Z,9.1nm,0.5s
USRK Ussuriysk Ar. 51.79 2 P **P** **15 15 43.2 -0.9**
USRK Ussuriysk Ar. 51.79 2 P **P** **15 15 43.2 -0.9**
URZ Urewera 52.06 133 LR LR 15 39 28.8
comp=Z,223nm,18.3s,baz=41,slow=38
MDJ Mudanjiang 52.18 360 P **P** **15 15 45.7 -1.3**
MDJ IAmb IAmb 15 15 48.1
comp=Z,51nm,1.6s
MDJ Mudanjiang 52.18 360 P **P** **15 15 45.9 -1.1**
MDJ pmax pmax
comp=Z,12nm,0.8s
MDJ pmax pmax
comp=Z,210nm,4.2s
MDJ Mudanjiang 52.18 360 P **P** **15 15 48.0 +1.0**
LSA Lhasa 52.83 317 P **P** **15 15 51.1 -1.6**
LSA IAmb IAmb 15 16 17.2
comp=Z,47nm,1.5s
LSA Lhasa 52.83 317 P **P** **15 15 52.0 -0.7**
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 52.83 317 P **P** **15 15 51.1 -1.6**
LSA pmax pmax
comp=Z,47nm,1.5s
LSA Lhasa 52.83 317 P **P** **15 15 52.9 +0.2**
ASAJ Asahikawa 52.91 11 LR LR 15 38 21.8
comp=Z,85nm,19.4s,baz=180,slow=36
ASAJ Asahikawa 52.91 11 P **P** **15 15 51.8 -0.6**
ASAJ pmax pmax
comp=Z,273nm,1.6s
JKA Kamikawa-asahi 52.91 11 P **P** **15 15 51.8 -0.6**
XLT XiLinHaoTe 53.01 347 ⇑*i* P **P** **15 15 52.1 -1.1**
XLT pP pP 15 15 56.0 -12
XLT pmax pmax
comp=Z,20nm,0.9s
XLT pmax pmax
comp=Z,160nm,5.5s
BNX BinXian 53.36 358 ⇑P **P** **15 15 55.6 -0.1**
BNX pmax pmax
comp=Z,6.0nm,0.5s
BNX pmax pmax
comp=Z,170nm,4.6s
GTA Gaotai 54.71 331 *e*P **P** **15 16 04.8 -1.0**
GTA sP pP 15 16 12.0 -8.7
GTA PcP **PcP** **15 17 08.5 +0.5**
GTA ScP **ScP** **15 21 02.1 +0.3**
GTA pmax pmax
comp=Z,11nm,1.2s
YSS Yuzh-Sakhalins 55.68 10 P **P** **15 16 11.1 -1.3**
YSS Yuzh-Sakhalins 55.68 10 P **P** **15 16 12.7 +0.3**
YSS Yuzh-Sakhalins 55.68 10 *e*P **P** **15 16 11.2 -1.3**
YSS pmax pmax
comp=Z,50nm,0.6s
PCHI Peechi 56.50 288 *e*P **P** **15 16 22.1 +3.2**
HYB Hyderabad 56.74 297 *e*P **P** **15 16 18.6 -2.1**
KLR Kul'dur 56.82 1 LR LR 15 40 15.6
comp=Z,97nm,20.9s,baz=174,slow=36
KLR Kul'dur 56.82 1 *ce*P **P** **15 16 19.2 -1.3**
KLR pmax pmax
comp=Z,35nm,1.7s
HEH HeiHe 57.87 358 *e*P **P** **15 16 26.9 -1.0**
HEH pmax pmax
comp=Z,36nm,1.7s
HEH pmax pmax
comp=Z,410nm,5.3s
GRNR Gornyy 58.60 5 ⇑*i* P **P** **15 16 33.0 0.0**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 59.05 342 P **P** **15 16 35.9 -0.6**
ULN IAmb IAmb 15 16 37.9
comp=Z,23nm,0.7s
ULN Ulaanbaatar 59.05 342 *ce*P **P** **15 16 36.1 -0.3**
ULN pmax pmax
comp=Z,24nm,0.7s
ULN Ulaanbaatar 59.05 342 P **P** **15 16 36.1 -0.3**
SONM Songino Array 59.23 342 P **P** **15 16 37.1 -0.5**
comp=Z,8.6nm,0.5s,baz=159,slow=7.3,SNR=97
SONM PcP **PcP** **15 17 24.7 -0.8**
comp=Z,4.1nm,0.5s,baz=154,slow=5.7,SNR=5.4
SONM ScP **ScP** **15 21 20.9 -0.5**
comp=Z,2.7nm,1.1s,baz=164,slow=6.1,SNR=6.5
comp=Z,8.6nm,0.5s
SONM Songino Array 59.23 342 P **P** **15 16 36.8 -0.8**
SONM IAmb IAmb 15 16 38.5
comp=Z,12nm,0.6s
TYV Tymovskoe 59.44 9 *e*P **P** **15 16 39.5 +0.7**
TYV *e*S **S** **15 24 50.3 +6.6**
TYV pmax pmax
comp=Z,21nm,0.7s
TYV pmax pmax
comp=Z,200nm,2.6s
TYV smax smax
comp=N,300nm,6.5s
TYV smax smax
comp=E,600nm,6.5s
CASY Casey 59.92 189 P **P** **15 16 43.4 +1.5**
ZEA Zeya 61.36 358 *e*P **P** **15 16 52.3 +0.4**
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZAK Zakamensk 62.45 341 *e*P **P** **15 16 58.0 -1.4**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
IRK Irkutsk 63.76 343 *e*P **P** **15 17 06.8 -1.2**
IRK pmax pmax
comp=Z,40nm,2.1s
WMQ Urumqi 64.11 327 ⇑P **P** **15 17 09.8 -0.7**
WMQ PcP **PcP** **15 17 46.0 +0.8**
WMQ pmax pmax
comp=Z,18nm,1.7s
WMQ LR LR
comp=Z,160nm,21.5s
MOY Mondy 64.30 340 *e*P **P** **15 17 11.8 +0.2**
MOY pmax pmax
comp=Z,46nm,1.4s
PEA0B Petropavlovsk- 65.07 18 P **P** **15 17 16.3 -0.1**
PEA0B Petropavlovsk- 65.07 18 *ce*P **P** **15 17 16.0 -0.5**
PETK Petropavlovsk- 65.07 18 P **P** **15 17 16.1 -0.4**
comp=Z,8.2nm,0.6s,baz=168,slow=3.3,SNR=38
PETK PcP **PcP** **15 17 50.2 +1.3**
comp=Z,3.0nm,0.5s,baz=193,slow=6.1,SNR=3.5
PETK LR LR 15 44 32.0
comp=Z,70nm,20.9s,baz=199,slow=35
comp=Z,8.2nm,0.6s
BOD Bodaibo 66.70 351 *e*P **P** **15 17 27.3 +0.4**
BOD pmax pmax
comp=Z,40nm,1.7s
ZSN Zaisan 68.00 329 *e*P **P** **15 17 34.8 -0.5**
baz=329
ZSN *i* S **S** **15 26 32.2 +1.9**
baz=329
ZSN Zaisan 68.00 329 *e*P **P** **15 17 34.8 -0.5**
ZSN *i* S **S** **15 26 32.1 +1.9**
DGZ Jazzator, Alta 68.25 332 *c i*P **P** **15 17 36.5 -0.5**
DGZ pmax pmax
comp=Z,44nm,0.6s
SHLS Shalkode 68.40 323 *e*P **P** **15 17 36.0 -2.1**
baz=323
SHLS Shalkode 68.40 323 *e*P **P** **15 17 36.0 -2.1**
UZB Uzynbulak 68.66 322 *e*P **P** **15 17 39.5 -0.3**
baz=322
UZB Uzynbulak 68.66 322 *e*P **P** **15 17 39.4 -0.3**
KSH Kashi 68.66 318 P **P** **15 17 39.9 +0.1**
KSH sP pP 15 17 48.3 -6.8
KSH PcP **PcP** **15 18 05.9 +1.5**
KSH S **S** **15 26 36.3 -2.4**
KSH pmax pmax
comp=Z,8.0nm,0.9s
RAR Rarotonga 68.75 110 P **P** **15 17 42.4 +1.9**
comp=Z,7.0nm,0.5s,baz=4.6,slow=14,SNR=2.1
RAR LR LR 15 47 58.1
comp=Z,74nm,18.0s,baz=210,slow=36
comp=Z,7.0nm,0.5s
MK31 Makanchi Array 68.94 327 P **P** **15 17 40.4 -0.9**
MK31 Makanchi Array 68.94 327 *e*P **P** **15 17 41.0 -0.2**
MKAR Makanchi Array 68.94 327 P **P** **15 17 40.6 -0.6**
comp=Z,38nm,0.5s,baz=115,slow=8.3,SNR=279
MKAR PcP **sP** **15 18 04.5 +1.7**
comp=Z,19nm,0.7s,baz=126,slow=8.0,SNR=6.6
MKAR S **S** **15 26 36.0 -5.5**
comp=Z,0.4nm,0.8s,baz=88,slow=6.2,SNR=2.4
comp=Z,38nm,0.5s
MKAR Makanchi Array 68.94 327 P **P** **15 17 40.4 -0.9**
SATY Saty 68.98 322 *e*P **P** **15 17 41.5 -0.3**
baz=322
SATY Saty 68.98 322 *e*P **P** **15 17 41.4 -0.3**
ZHN Zhinishke 69.03 322 *e*P **P** **15 17 41.5 -0.6**
baz=322
ZHN Zhinishke 69.03 322 *e*P **P** **15 17 41.4 -0.6**
KPKS Kokpek 69.04 322 *e*P **P** **15 17 41.4 -0.7**
comp=Z,9.3nm,0.6s,baz=322
KPKS Kokpek 69.04 322 *e*P **P** **15 17 41.3 -0.7**
KPKS pmax pmax
comp=Z,9.0nm,0.6s
MAKZ Makanchi 69.12 327 P **P** **15 17 41.2 -1.1**
MAKZ Makanchi 69.12 327 P **P** **15 17 41.2 -1.1**
MAKZ pmax pmax
comp=Z,40nm,0.7s
MA2 Magadan 69.17 11 LR LR 15 49 27.1
comp=Z,44nm,18.3s,baz=149,slow=37
MA2 Magadan 69.17 11 *ce*P **P** **15 17 39.8 -2.6**
MA2 pmax pmax
comp=Z,76nm,1.7s
YAK Yakutsk 69.63 360 LR LR 15 46 46.3
comp=Z,40nm,21.8s,baz=282,slow=35
YAK Yakutsk 69.63 360 P **P** **15 17 44.2 -0.9**
YAK Yakutsk 69.63 360 *c i*P **P** **15 17 44.7 -0.4**
YAK *e* 15 17 59.1
YAK *e* 15 20 27.0
YAK *e*S **S** **15 26 45.6 -3.3**
YAK *e* 15 27 37.4
YAK pmax pmax
comp=Z,87nm,0.8s
YAK pmax pmax
comp=N,35nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.7s
YAK pmax pmax
comp=Z,101nm,4.3s
YAK pmax pmax
comp=N,55nm,3.2s
YAK pmax pmax
comp=E,92nm,4.0s
YAK smax smax
comp=N,144nm,2.2s
YAK smax smax
comp=E,124nm,1.5s
TNSS Tian-Shan 69.87 321 *e*P **P** **15 17 47.4 -0.2**
baz=321
TNSS Tian-Shan 69.87 321 *e*P **P** **15 17 47.3 -0.2**
MDOK Medeo 69.88 321 P **P** **15 17 47.2 -0.1**
AAA Alma-Ata 69.98 321 *e*P **P** **15 17 47.5 -0.3**
comp=E,12nm,0.4s,baz=322
AAA Alma-Ata 69.98 321 *e*P **P** **15 17 47.5 -0.3**
AAA pmax pmax
comp=Z,12nm,0.4s
CHKK Chushkaly 70.28 322 *e*P **P** **15 17 48.8 -0.8**
baz=322
CHKK Chushkaly 70.28 322 *e*P **P** **15 17 48.8 -0.8**
TKM2 Tokmak 2 70.65 321 P **P** **15 17 51.8 -0.3**
SNR=33
KUU Kurty 70.70 322 ⇑*i* P **P** **15 17 51.4 -0.7**

comp=Z,22nm,0.6s,baz=322
KUU Kurty 70.70 322*c i*P **P** 15 17 51.4 -0.7
KUU pmax pmax
comp=Z,22nm,0.6s
KBK Karagaybulak 70.92 320 P **P** 15 17 53.8 +0.1
SNR=13
SHEM Shemya Is, Ala 70.97 27 LR LR 15 46 34.7
comp=Z,32nm,21.4s,baz=289,slow=34
UCH Uchtor 70.98 320 P **P** 15 17 55.0 +0.6
SNR=19
AAK Ala-Archa 71.20 320 P **P** 15 17 56.6 +1.2
SNR=12
AAK Ala-Archa 71.20 320 P **P** 15 17 54.2 -1.2
AAK IAmb IAmb 15 17 57.1
comp=Z,12nm,0.7s
AAK Ala-Archa 71.20 320*ce*P **P** 15 17 55.0 -0.4
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 71.20 320 P **P** 15 17 56.3 +0.9
AAK Ala-Archa 71.20 320 P **P** 15 17 55.2 -0.2
KBL Kabul 71.34 310 P **P** 15 17 55.3 -1.1
KBL IAmb IAmb 15 17 58.1
comp=Z,28nm,1.2s
KBL Kabul 71.34 310 P **P** 15 17 55.3 -1.1
KBL pmax pmax
comp=Z,28nm,1.2s
KBL Kabul 71.34 310 P **P** 15 17 56.3 -0.1
SNR=8.8
AML Almayashu 71.47 319 P **P** 15 17 57.4 +0.1
SNR=41
USP Ospenovka 71.52 321 P **P** 15 17 57.0 -0.1
SNR=28
SGDS Sogindy 71.53 321 *e*P **P** 15 17 56.4 -0.8
baz=321
SGDS Sogindy 71.53 321 *e*P **P** 15 17 56.4 -0.8
VNDA Vanda 71.64 173 P **P** 15 17 58.0 +0.8
comp=Z,3.7nm,0.9s,baz=314,slow=6.7,SNR=19
VNDA LR LR 15 48 06.0
comp=Z,107nm,20.6s,baz=338,slow=35
comp=Z,3.7nm,0.9s
VNDA Vanda 71.64 173 P **P** 15 17 58.0 +0.8
VNDA Vanda 71.64 173 P **P** 15 17 58.0 +0.8
VNDA pmax pmax
comp=Z,18nm,1.6s
EKS2 Erkin-Say 71.67 320 P **P** 15 17 58.2 +0.1
SNR=31
GAR Garm 72.28 315 P **P** 15 18 00.8 -1.1
ZAA0 Zalesovo Array 72.34 334 P **P** 15 18 00.2 -1.5
ZAA0 IAmb IAmb 15 18 02.2
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 72.34 334 P **P** 15 18 00.4 -1.3
comp=Z,18nm,0.5s,baz=132,slow=5.7,SNR=109
ZALV S **S** 15 27 17.7 -2.9
comp=Z,0.9nm,0.6s,baz=108,slow=14,SNR=7.1
ZALV LR LR 15 50 54.0
comp=Z,50nm,20.9s,baz=130,slow=37
comp=Z,18nm,0.5s
ZALV Zalesovo Beam 72.34 334 P **P** 15 18 00.1 -1.6
SEY Seymchan 72.58 10*ce*P **P** 15 18 03.7 +0.7
SEY pmax pmax
comp=Z,90nm,1.7s
BTLS Baital 72.70 322⇑ *i*P **P** 15 18 03.5 -0.7
baz=322
BTLS Baital 72.70 322*c i*P **P** 15 18 03.4 -0.7
CHGR Chuyangaron 72.95 314 P **P** 15 18 04.6 -1.2
CHGR Chuyangaron 72.95 314 P **P** 15 18 04.6 -1.2
CHGR pmax pmax
comp=Z,43nm,0.6s
KURBB Kurchatov Arra 73.23 329 P **P** 15 18 06.2 -0.9
KURK Kurchatov 73.24 329 P **P** 15 18 06.1 -1.1
KURK Kurchatov 73.24 329*ce*P **P** 15 18 06.4 -0.7
KURK pmax pmax
comp=Z,42nm,1.3s
KURK Kurchatov 73.24 329 P **P** 15 18 06.5 -0.6
DZA Taraz 73.36 319 *e*P **P** 15 18 07.3 -0.8
baz=319
DZA Taraz 73.36 319 *e*P **P** 15 18 07.3 -0.8
IUG luzhnay 73.88 318 *e*P **P** 15 18 10.9 -0.3
baz=318
IUG luzhnay 73.88 318 *e*P **P** 15 18 10.9 -0.3
KK31 Karatay Array 73.99 319 P **P** 15 18 11.1 -0.7
KK31 Karatay Array 73.99 319 *i*P **P** 15 18 11.4 -0.4
KKAR Karatay Array 73.99 319 P **P** 15 18 10.7 -1.1
KKAR Karatay Array 73.99 319 P **P** 15 18 11.0 -0.8
KKAR IAmb IAmb 15 18 14.8
comp=Z,19nm,1.2s
KKAR Karatay Array 73.99 319 P **P** 15 18 10.7 -1.1
KKAR pmax pmax
comp=Z,19nm,1.3s
MAW Mawson 74.23 202 LR LR 15 48 15.3
comp=Z,210nm,20.2s,baz=54,slow=34
KIWB Kanaga Island 74.58 31 P **P** 15 18 15.2 +0.2
NGCH Negor - Chabah 74.65 299 P **P** 15 18 16.5 +0.6
JLN Jalan Bani Buh 75.31 295 P **P** 15 18 20.0 +0.2
WBK Wadi Bani Khal 75.82 296 P **P** 15 18 22.7 -0.1
MHTO MHTO 76.32 294 P **P** 15 18 25.2 -0.3
SNR=5.0
DQM DQM 76.46 293 P **P** 15 18 25.8 -0.6
HRA Herat 76.50 308 P **P** 15 18 25.5 -1.2
JMDO Jabal Madar 76.54 295 P **P** 15 18 26.1 -0.7
SMDO Samad 76.76 296 P **P** 15 18 27.7 -0.4
BSY Bisya 77.44 295 P **P** 15 18 31.8 -0.1
HOQ Hoqain 77.54 296 P **P** 15 18 33.0 +0.5
SNR=7.0
JASK Jask - Hormozg 77.63 299 P **P** 15 18 34.1 +1.2
ARQ Araqi 78.19 296 P **P** 15 18 35.4 -0.6
TBI Tubuai 78.23 112 *e*LR LR 15 42 54.0
comp=Z,994nm,31.5s
SOHO SOHO 78.37 297 P **P** 15 18 36.7 -0.3
SOHO SOHO 78.37 297 P **P** 15 18 37.3 +0.3
PPT2 Papeete2 78.52 106 *e*LR LR 15 43 03.3
comp=Z,114nm,23.5s
BVA0 Borovoye Array 78.78 328 *i*P **P** 15 18 38.1 -0.6
BRVK Borovoye 78.85 328 P **P** 15 18 38.1 -0.9
BRVK IAmb IAmb 15 18 39.8
comp=Z,78nm,1.6s
BRVK Borovoye 78.85 328 P **P** 15 18 38.1 -0.9
BRVK pmax pmax
comp=Z,78nm,1.7s
BRVK Borovoye 78.85 328 P **P** 15 18 38.4 -0.6
UOSS Minazif 78.85 297 P **P** 15 18 38.6 -1.1
UOSS Minazif 78.85 297 P **P** 15 18 38.9 -0.8
MDH Madha 78.86 298 P **P** 15 18 38.9 -0.8
CLES Cleveland East 78.87 32 P **P** 15 18 38.4 -0.7
CLES IAmb IAmb 15 19 25.8
comp=Z,281nm,1.0s
HATD Hatta, Dubai 78.89 297 P **P** 15 18 40.3 +0.4
HATD Hatta, Dubai 78.89 297 P **P** 15 18 40.0 +0.1
SNR=5.7
ASHO Ashiyiah 78.92 297 P **P** 15 18 40.2 +0.1
ASHO Ashiyiah 78.92 297 P **P** 15 18 40.6 +0.5
MASF Masafi 79.00 298 P **P** 15 18 41.3 +0.8
BANOM Banah 79.01 298 P **P** 15 18 41.2 +0.6
BANOM Banah 79.01 298 P **P** 15 18 41.3 +0.8
RBK Rabkut 79.02 289 P **P** 15 18 40.7 -0.1
SNR=7.7
ALNE Al Ain 79.04 296 P **P** 15 18 41.4 +0.7
SNR=6.1
SHME Shamm 79.18 298 P **P** 15 18 42.1 +0.7
TIXI Tiksi 79.30 360 LR LR 15 52 33.0
comp=Z,80nm,22.0s,baz=174,slow=35
TIXI Tiksi 79.30 360 P **P** 15 18 39.6 -1.4
TIXI IAmb IAmb 15 18 42.3
comp=Z,31nm,0.6s
TIXI Tiksi 79.30 360*ce*P **P** 15 18 39.8 -1.2
TIXI pmax pmax
comp=Z,27nm,0.6s
DOK Doka 79.32 291 P **P** 15 18 42.1 -0.2
SNR=6.2
NAZ Nazwa, Dubai 79.34 297 P **P** 15 18 42.6 +0.3
FAQ Al Faqa, Dubai 79.35 297 P **P** 15 18 42.4 +0.1
NIKH Nikolski High 79.49 33 P **P** 15 18 42.0 -0.5
NIKH IAmb IAmb 15 19 11.3
comp=Z,67nm,1.1s
WHFO Wadi Hawf 79.51 290 P **P** 15 18 42.9 -0.5
SNR=8.1
ASUD Al Ashush, Dub 79.55 297 P **P** 15 18 43.9 +0.4
ASUD Al Ashush, Dub 79.55 297 P **P** 15 18 44.2 +0.8
ABTO Aybut 79.84 289 P **P** 15 18 45.5 +0.3
SNR=8.5
BILL Bilibino 79.88 13 P **P** 15 18 43.9 -0.4
BILL Bilibino 79.88 13 *e*P **P** 15 18 43.7 -0.6
BILL *e* 15 18 53.8
BILL *e* 15 21 46.4
BILL *e*PPP PPP 15 23 35.4
BILL pmax pmax
comp=Z,14nm,2.3s
MZWR Madinat Zayed 80.64 296 P **P** 15 18 49.8 +0.4
GEYT Alibeck 80.79 310 P **P** 15 18 49.9 0.0
comp=Z,4.2nm,0.5s,baz=182,slow=4.2,SNR=13
comp=Z,4.2nm,0.5s
GEYT Alibeck 80.79 310 P **P** 15 18 50.0 0.0
GEYT IAmb IAmb 15 18 51.5
comp=Z,40nm,1.5s
GEYT Alibeck 80.79 310 P **P** 15 18 50.0 0.0
GEYT pmax pmax
comp=Z,40nm,1.5s
GYA0 ALIBECK ARRAY 80.79 310 P **P** 15 18 49.9 0.0
GYA0B ALIBECK ARRAY 80.79 310 P **P** 15 18 50.1 +0.2
MZR Muzera 80.84 295 P **P** 15 18 50.9 +0.4
MZR Muzera 80.84 295 P **P** 15 18 51.1 +0.7
SNR=7.2
VOI Vohitsoka 80.92 249 P **P** 15 18 52.1 +0.9
VOI IAmb IAmb 15 18 53.7
comp=Z,27nm,1.2s
UNV Unalaska Valle 81.14 32 P **P** 15 18 52.2 +0.9
UNV IAmb IAmb 15 19 58.4
comp=Z,89nm,1.6s
GHWR Ruwais 81.58 296 P **P** 15 18 54.7 +0.3
NRIK Noril'sk 82.36 346 P **P** 15 18 57.3 -0.2
comp=Z,56nm,1.1s,baz=131,slow=5.7,SNR=32
NRIK LR LR 15 59 26.8
comp=Z,54nm,19.2s,baz=120,slow=38
comp=Z,56nm,1.1s
NRIK Noril'sk 82.36 346 P **P** 15 18 57.4 0.0
NRIK Noril'sk 82.36 346*ce*P **P** 15 18 57.2 -0.2
NRIK pmax pmax
comp=Z,63nm,1.2s
AB31 Akbulak array 83.18 322 *i*P **P** 15 19 01.7 -0.5
ABKAR Akbulak array 83.18 322 P **P** 15 19 01.8 -0.4
GAMB Gambell 83.63 22 P **P** 15 19 04.5 +0.5
GAMB IAmb IAmb 15 19 31.8
comp=Z,39nm,1.5s
GAMB Gambell 83.63 22 P **P** 15 19 05.3 +1.2
baz=238
SHMA Al-Shehemyia 83.68 297 P **P** 15 19 05.5 +0.4
AKTO Aktyubinsk 84.75 322 LR LR 16 00 01.7
comp=Z,77nm,21.0s,baz=143,slow=38
AKTO Aktyubinsk 84.75 322 P **P** 15 19 10.0 -0.1
SVE Sverdlovsk 85.49 329 *e*P **P** 15 19 14.0 +0.3
SVE pmax pmax
comp=Z,104nm,1.4s
TNA Tin City 85.94 22 P **P** 15 19 16.0 +0.3
TNA Tin City 85.94 22 P **P** 15 19 16.8 +1.1
baz=241
ARU Arti 86.43 328 P **P** 15 19 17.4 -0.9
ARU IAmb IAmb 15 19 19.4
comp=Z,49nm,1.1s
ARU Arti 86.43 328*d i*P **P** 15 19 17.2 -1.1
ARU S **SKSac** 15 29 40.6 +0.8
ARU SS **SS** 15 35 31.0 0.0
ARU pmax pmax
comp=Z,52nm,1.1s
ANM Nome 86.44 23 P **P** 15 19 18.6 +0.4
ANM Nome 86.44 23 P **P** 15 19 18.6 +0.4
ANM pmax pmax
comp=Z,22nm,1.9s
N16K Nishlik Lake 87.64 28 P **P** 15 19 24.7 +0.6
baz=250
ELIB Princess Elisa 87.75 197 *d*P **P** 15 19 27.0 +2.4
R17K Ugashik Creek 87.87 31 P **P** 15 19 24.9 -0.3
baz=252
SVW2 Sparrevohn 89.32 28 P **P** 15 19 32.3 +0.3
SVW2 IAmb IAmb 15 21 31.5
comp=Z,55nm,1.7s
AKT Akhty 89.42 312 *e*P P 15 19 30.1 -3.0
AKT *e* 15 23 00.5
AKT pmax pmax
comp=Z,42nm,1.3s
TTA Tatalina 89.68 26 P **P** 15 19 34.6 +0.9
TTA IAmb IAmb 15 20 53.5
comp=Z,31nm,2.0s
TTA Tatalina 89.68 26 P **P** 15 19 34.7 +0.9
TTA pmax pmax
comp=Z,31nm,2.0s
N19K Bonanza Creek 89.75 28 P **P** 15 19 34.8 +0.6
N19K IAmb IAmb 15 20 57.0
comp=Z,62nm,1.9s
KDAK Kodiak Island 89.87 32 LR LR 15 57 44.2
comp=Z,125nm,20.2s,baz=243,slow=34
J20K Nowinta River 90.84 25 P **P** 15 19 38.8 -0.3
J20K IAmb IAmb 15 22 36.1
comp=Z,47nm,2.0s
GROC Groznyy 91.14 313 *e*P **P** 15 19 40.8 -0.1
GROC pmax pmax
comp=Z,35nm,0.7s
GNI Garni 91.42 310 LR LR 16 07 34.5
comp=Z,29nm,20.6s,baz=116,slow=40
GNI Garni 91.42 310 P **P** 15 19 42.1 -0.5
GNI IAmb IAmb 15 20 12.2
comp=Z,16nm,1.3s
GNI Garni 91.42 310 P **P** 15 19 42.1 -0.5
GNI pmax pmax
comp=Z,16nm,1.3s
BELG Belogornoye 91.54 323 *i*P **P** 15 19 40.8 -1.7
BELG pmax pmax
comp=Z,5.0nm,1.3s
CHUM Lake Minchumin 91.55 26 P **P** 15 19 44.2 +1.9
baz=256
KIRV Kirov 91.76 329 LR LR 16 03 50.9
comp=Z,70nm,21.4s,baz=110,slow=37
KIRV Kirov 91.76 329*ce*P **P** 15 19 41.4 -2.0
ZEI Tsey 92.44 313 *e*P **P** 15 19 45.1 -2.2
ZEI pmax pmax
comp=Z,15nm,1.4s
MLY Manley 92.48 25 P **P** 15 19 46.9 +0.2
baz=257
I23K Minto, Yukon-K 93.08 25 P **P** 15 19 49.2 -0.2
baz=258
G23K Bananza Creek 93.14 23 P **P** 15 19 50.2 +0.4
baz=258
KBZ Khabaz 93.30 314 P **P** 15 19 49.9 -1.0
comp=Z,2.7nm,1.1s,baz=115,slow=3.4,SNR=3.6
comp=Z,2.7nm,1.1s
KBZ Khabaz 93.30 314*ce*P **P** 15 19 48.7 -2.2
KBZ pmax pmax
comp=Z,8.0nm,1.5s
TROLL Troll, Antarti 93.40 194 P **P** 15 19 52.9 +1.8
WRH Wood River Hil 93.48 25 P **P** 15 19 50.0 -1.2
WRH IAmb IAmb 15 19 51.8
comp=Z,20nm,1.4s
KIV Kislovodsk 93.48 314 *e*P P 15 19 47.7 -4.2
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,32nm,20.0s
E23K Chandalar 93.58 22 P **P** 15 19 52.0 +0.2
baz=258
CCB Clear Creek Bu 93.63 25 P **P** 15 19 50.3 -1.6
CCB IAmb IAmb 15 20 04.5
comp=Z,11nm,1.2s
COLA College 93.65 25 *i*P **P** 15 19 51.7 -0.3
COLA pmax pmax
comp=Z,40nm,4.2s
H24K Noodor Dome 93.82 24 P **P** 15 19 52.6 -0.3
H24K IAmb IAmb 15 19 54.6
comp=Z,14nm,1.4s
H24K Noodor Dome 93.82 24 P **P** 15 19 52.8 0.0
baz=260
ILAR Eielson Array 94.04 25 P **P** 15 19 51.5 -2.4
comp=Z,1.6nm,0.8s,baz=277,slow=3.6,SNR=11
ILAR PKKPbc **PKKPbc** 15 37 00.3 +1.6
comp=Z,0.3nm,0.9s,baz=207,slow=1.8,SNR=2.4
ILAR LR LR 16 01 12.8
comp=Z,43nm,18.8s,baz=244,slow=35
comp=Z,1.6nm,0.8s
MARD Mardin 94.11 307 P **P** 15 19 54.4 -0.6
MARD IAmb IAmb 15 19 55.9
comp=Z,30nm,1.5s
F24K Squaw Lake 94.12 22 P **P** 15 19 54.8 +0.6
baz=260
G24K Hadweenzic Riv 94.13 23 P **P** 15 19 54.6 +0.4
baz=260
C24K Franklin Bluff 94.23 20 P **P** 15 19 55.0 +0.4
baz=259
F25K Christian Rive 94.98 23 P **P** 15 19 59.0 +0.8
baz=262
VRH Novokhopyorsk 94.99 321 *e*P P 15 19 55.4 -3.0
VRH pmax pmax
comp=Z,30nm,1.6s
E25K Arctic Village 95.08 22 P **P** 15 19 58.6 0.0
baz=262
J26L Joseph Creek 95.42 26 P **P** 15 20 00.1 -0.2
baz=264
L27K Beaver Creek, 96.04 27 P **P** 15 20 03.3 +0.3
baz=265
I27K Kandik River 96.35 25 P **P** 15 20 05.1 +0.6
baz=265
H27K Steamboat Moun 96.44 24 P **P** 15 20 04.9 0.0
baz=266
E27K Coleen River 96.57 22 P **P** 15 20 06.6 +1.2
baz=266
VSR Storozhevoye 96.59 321 *e*P P 15 20 02.2 -3.6
VSR pmax pmax
comp=Z,10.0nm,1.3s
LPSR Galich'ya Gora 96.84 322 *e*P **P** 15 20 04.7 -2.1
LPSR pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 97.03 330 *e*P P 15 20 03.6 -3.9
KLMR AMP 15 20 07.1
comp=Z,42nm,1.5s
KLMR Klimovskoe 97.03 330 *e*P P 15 20 03.5 -4.0
KLMR pmax pmax
comp=Z,42nm,1.5s
I29M Ogilvie Camp, 97.72 25 P **P** 15 20 10.6 +0.1
baz=268
ADZR Andozero 97.74 334 *e*P P 15 20 06.6 -4.0
ADZR *e*PP Pdif 15 20 19.1 +8.4
ADZR pmax pmax
comp=Z,25nm,1.4s
MMAI Mount Meron Ar 98.10 302 LR LR 16 13 34.6
comp=Z,34nm,18.1s,baz=207,slow=41
EIL Elat 98.25 299 LR LR 16 12 33.8
comp=Z,39nm,18.1s,baz=59,slow=40
OBN Obninsk 98.35 325 *e*P P 15 20 10.8 -2.8
OBN *e* 15 24 14.3
OBN *e*PPP PPP 15 26 18.3
OBN pmax pmax
comp=Z,18nm,1.5s
EPYK Eagle Plains 98.39 24 P **P** 15 20 13.5 -0.1
baz=270
BOSA Boshof 99.12 239 LR LR 16 01 46.3
comp=Z,56nm,19.5s,baz=178,slow=33
MBAR Mbarara 99.17 268 LR LR 16 04 17.9
comp=Z,63nm,18.5s,baz=86,slow=35
LBTB Lobatse 99.67 243 LR LR 16 00 01.4
comp=Z,90nm,21.9s,baz=177,slow=32
APA Apatity 99.72 337‖ *i*P **Pdif** 15 20 20.9 +1.5
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,500nm,22.0s
BRTR Keskin Array B 99.88 309 P **Pdif** 15 20 19.3 -1.7
comp=Z,0.4nm,0.5s,baz=136,slow=5.9,SNR=2.3
BRTR LR LR 16 14 50.1
comp=Z,27nm,18.1s,baz=106,slow=41
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 102.36 340 P **Pdif** 15 20 29.8 -1.4
comp=Z,3.5nm,0.5s,baz=84,slow=6.3,SNR=28
ARCES PKiKP **PKiKP** 15 24 53.8 +1.2
comp=Z,2.3nm,0.9s,baz=112,slow=0.7,SNR=6.2
AKASG Malin Array Be 102.87 320 Pdiff **Pdif** 15 20 32.5 -1.4
comp=Z,0.7nm,0.5s,baz=58,slow=4.2,SNR=6.4
FINES FINESS Array B 103.50 331 Pdiff **Pdif** 15 20 34.9 -1.5
comp=Z,0.8nm,0.5s,baz=96,slow=3.8,SNR=10
FINES PKiKP **PP** 15 24 54.7 +1.9
comp=Z,1.0nm,0.6s,baz=90,slow=3.8,SNR=5.3
NACGM Norcoh 103.99 325 *e*P **Pdif** 15 20 37.6 -1.1
comp=Z,18nm,1.2s,baz=84
YKA Yellowknife Ar 108.44 26 PKiKP **PKiKP** 15 25 03.2 -0.7
comp=Z,0.6nm,0.6s,baz=286,slow=1.8,SNR=12
NOA NORSAR Array B 110.53 333 PKiKP **PKiKP** 15 25 09.3 +1.3
comp=Z,0.3nm,0.3s,baz=154,slow=4.4,SNR=3.9
GERES GERESS Array B 113.08 320 PKiKP **PKiKP** 15 25 13.2 0.0
comp=Z,0.9nm,0.5s,baz=76,slow=1.6,SNR=9.6
HLID Hailey 113.76 46 P **PKiKP** 15 25 16.4 +1.6
baz=282
EGMT Eagleton 115.74 40 P **PKiKP** 15 25 19.4 +1.0
baz=288
GCMT Greycliff 116.47 42 **PKPdf** 15 25 19.5 -0.5
U15A North Rim 116.77 53 **PKPdf** 15 25 21.7 +0.7
PDAR Pinedale Array 117.40 46 PKP **PKPdf** 15 25 22.2 +0.2
comp=Z,0.6nm,0.6s,baz=215,slow=3.0,SNR=7.8
LAO LASA Array 118.45 41 P **PKPdf** 15 25 24.2 +0.6
baz=291
LAO LASA Array 118.45 41 P **PKPdf** 15 25 25.1 +1.4
baz=291
FCC Fort Churchill 119.06 25 PKPdf **PKPdf** 15 25 23.3 -0.9
FCC Fort Churchill 119.06 25 PKiKP **PKPdf** 15 25 23.3 -0.9
O20A White River Ci 119.06 48 P **PKPdf** 15 25 26.7 +1.6
baz=286
MVCO Mesa Verde 119.59 52 P **PKPdf** 15 25 27.9 +1.6
baz=284
S22A 4UR Ranch, Cre 120.74 51 P **PKiKP** 15 25 30.6 +1.8
baz=285
RSSD Black Hills 120.80 43 P **PKPdf** 15 25 27.8 -0.6
baz=291
121A Cookes Peak, D 121.17 57 P **PKPdf** 15 25 30.5 +1.1
baz=282
121A Cookes Peak, D 121.17 57 P **PKPdf** 15 25 31.2 +1.8
baz=282
Y22A Socorro 121.55 55 P **PKPdf** 15 25 30.9 +0.8
baz=283
ANMO Albuquerque 121.73 54 P **PKPdf** 15 25 31.5 +1.1
baz=284
ANMO Albuquerque 121.73 54 P **PKPdf** 15 25 32.0 +1.5
baz=284
SDCO Great Sand Dun 121.76 50 **PKPdf** 15 25 31.2 +0.6
SDCO Great Sand Dun 121.76 50 P **PKPdf** 15 25 31.6 +1.0
baz=286
SDCO Great Sand Dun 121.76 50 P **PKPdf** 15 25 32.1 +1.6
baz=286
T25A Trinidad 122.76 51 P **PKPdf** 15 25 33.9 +1.5
baz=287
ULM Lac du Donnet 123.08 33 PKP **PKPdf** 15 25 31.8 -0.5
comp=Z,2.1nm,0.5s,baz=237,slow=3.4,SNR=4.5
MNTX Cornudas Mount 123.33 57 PKPdf **PKPdf** 15 25 34.2 +0.8
MNTX Cornudas Mount 123.33 57 P **PKPdf** 15 25 34.5 +1.1
baz=283
MNTX Cornudas Mount 123.33 57 P **PKPdf** 15 25 34.7 +1.3
baz=283
MSTX Muleshoe 124.92 54 P **PKPdf** 15 25 37.3 +0.8
baz=286
K31A O'Neill 124.93 43 P **PKPdf** 15 25 36.1 0.0
baz=295
F33A 5 Mile Ranch, 125.06 38 P **PKPdf** 15 25 36.5 +0.2
baz=299
CBKS Cedar Bluff 125.72 47 P **PKPdf** 15 25 38.6 +0.8
baz=292
BGNE Belgrade 125.84 44 P **PKPdf** 15 25 38.2 +0.2
baz=295
ECSD EROS Data Cent 125.85 41 PKPdf **PKPdf** 15 25 38.0 +0.2
ECSD EROS Data Cent 125.85 41 P **PKPdf** 15 25 37.6 -0.3
baz=298
ECSD EROS Data Cent 125.85 41 P **PKPdf** 15 25 38.3 +0.5
baz=298
R32A Long Quarter, 126.61 47 P **PKPdf** 15 25 39.8 +0.3
baz=292
F36A Milaca 126.73 37 P **PKPdf** 15 25 39.6 +0.2
baz=302
WMOK Wichita Mounta 127.84 52 P **PKPdf** 15 25 42.2 +0.3
baz=289
PLCA Paso Flores 128.10 160 PKP **PKPdf** 15 25 43.5 +1.2
comp=Z,4.1nm,1.0s,baz=211,slow=12,SNR=4.5
JCT Junction City 128.27 57 P **PKPdf** 15 25 43.9 +1.0
baz=286
T35B Sooner Cattle 128.79 48 P **PKPdf** 15 25 44.8 +1.1
baz=293
TORD Torodi Ar. Bea 129.03 281 SKPbc SKPab 15 28 59.2 -0.9
comp=Z,11nm,1.1s,baz=78,slow=3.4,SNR=6.7
MVO Moncorvo 129.53 318 *i* LQ LQ 15 29 01.6
P38A Dawn 129.78 44 PKPdf **PKPdf** 15 25 45.8 +0.3
P38A Dawn 129.78 44 P **PKPdf** 15 25 45.5 0.0
baz=298
POLO Lamas de Olo 129.93 319 *i* LQ LQ 15 29 03.0
MTE Manteigas 130.25 318 *i* LQ LQ 15 29 04.8
JFWS Jewell Farm 130.28 39 P **PKPdf** 15 25 46.5 +0.2
baz=303
PVIS Viseu 130.32 318 *i* LQ LQ 15 29 04.3
PCBR Castelo Branco 130.47 317 *i* LQ LQ 15 29 05.1
X37A Clayton 130.53 51 P **PKPdf** 15 25 47.6 +0.6
baz=292
PMRV Marv??o 130.61 316 *i* LQ LQ 15 29 04.6
PBAR Barrancos 130.94 315 *i* LQ LQ 15 29 07.1
PESTR Estremoz 131.00 316 *i* LQ LQ 15 29 07.0
PCAS Casmilo, Conde 131.05 318 *i* LQ LQ 15 29 08.5
SCHQ Schefferville 131.19 13 PKP **PKPdf** 15 25 46.8 -0.9
comp=Z,1.3nm,0.6s,baz=279,slow=2.0,SNR=4.3

SCHQ				SKPbc	**SKPbc**	15 29 06.0	-1.8		
	comp=Z,6.7nm,0.8s,baz=330,slow=2.4,SNR=9.3								
R40A	**Maddies Statio**	**131.27**	**45**		**PKPdf**	15 25 48.9	+0.6		
R40A	**Maddies Statio**	**131.27**	**45**	P	**PKPdf**	15 25 49.2	+0.9		
	baz=298								
EVO	**Evora**	**131.45**	**316**	*i* LQ	LQ	15 29 09.6			
PBEJ	**Beja**	**131.59**	**315**	*i* LQ	LQ	15 29 09.9			
PVAQ	**Vaqueiros**	**131.76**	**314**	*i* LQ	LQ	15 29 10.5			
PCVE	**Castro Verde**	**131.89**	**315**	*i* LQ	LQ	15 29 10.8			
PNCL	**Nicolau / Gran**	**132.01**	**315**	*i* LQ	LQ	15 29 13.7			
NATX	**Nacogdoches**	**132.09**	**54**	P	**PKPdf**	15 25 50.1	0.0		
	baz=250								
CCM	**Cathedral Cave**	**132.09**	**45**	PKPdf	**PKPdf**	15 25 50.5	+0.6		
CCM	**Cathedral Cave**	**132.09**	**45**	P	**PKPdf**	15 25 50.9	+1.1		
	baz=298								
CCM	**Cathedral Cave**	**132.09**	**45**	P	**PKPdf**	15 25 51.0	+1.1		
	baz=298								
CCM	**Cathedral Cave**	**132.09**	**45**	PKIKP	**PKPdf**	15 25 50.5	+0.6		
MORF	**Marmelete**	**132.47**	**315**	*i* LQ	LQ	15 29 14.0			
PFVI	**Vila Bisbo**	**132.68**	**314**	*i* LQ	LQ	15 28 37.0			
S44A	**Carbondale**	**133.65**	**44**	P	**PKPdf**	15 25 54.0	+1.2		
	baz=300								
SFIN	**Lafayette**	**133.65**	**40**	P	**PKPdf**	15 25 53.3	+0.6		
	baz=304								
I49A	**Point Hope**	**133.97**	**33**	P	**PKPdf**	15 25 53.8	+0.6		
	baz=312								
I49A				P	**PKPdf**	15 25 53.8	+0.6		
	baz=312								
Y45A	**Yeager Farm, C**	**135.23**	**49**	P	**PKPdf**	15 25 57.0	+1.1		
	baz=297								
DBIC	**Dimbokro**	**135.29**	**272**	PKP	**PKPdf**	15 25 56.6	+0.1		
	comp=Z,2.3nm,0.3s,baz=120,slow=3.2,SNR=6.0								
DBIC				SKPbc	**SKPbc**	15 29 21.5	-1.4		
	comp=Z,7.7nm,0.9s,baz=109,slow=5.3,SNR=7.1								
WVT	**Waverly**	**135.41**	**45**	P	**PKPdf**	15 25 57.1	+0.9		
	baz=300								
WVT	**Waverly**	**135.41**	**45**	P	**PKPdf**	15 25 57.6	+1.5		
	baz=300								
T50A	**Nancy**	**136.99**	**42**		**PKPdf**	15 25 59.2	+0.1		
T50A	**Nancy**	**136.99**	**42**	P	**PKPdf**	15 25 59.3	+0.2		
	baz=304								
T50A				P	**PKPdf**	15 25 59.3	+0.2		
	baz=304								
S51A	**Beattyville**	**137.46**	**41**	P	**PKPdf**	15 26 00.3	+0.4		
	baz=306								
S51A				P	**PKPdf**	15 26 00.3	+0.4		
	baz=306								
LRAL	**Lakeview Retre**	**137.50**	**49**	P	**PKPdf**	15 26 00.0	-0.1		
	baz=298								
P53A	**Whipple**	**137.69**	**37**	P	**PKPdf**	15 26 02.5	+2.1		
	baz=310								
P53A				P	**PKPdf**	15 26 02.5	+2.1		
	baz=310								
L56A	**Greenwood**	**138.00**	**31**	P	**PKPdf**	15 26 02.2	+1.3		
	baz=317								
L56A				P	**PKPdf**	15 26 02.2	+1.3		
	baz=317								
TZTN	**Tazewell**	**138.11**	**42**	P	**PKPdf**	15 26 03.4	+2.2		
	baz=305								
NCB	**Newcomb**	**138.20**	**26**	P	**PKPdf**	15 26 03.1	+2.0		
	baz=323								
F62A	**Pittston Farm,**	**138.30**	**21**	P	**PKPdf**	15 26 03.1	+1.9		
	baz=330								
F62A				P	**PKPdf**	15 26 03.1	+1.9		
	baz=330								
TKL	**Tuckaleechee C**	**138.46**	**43**	P	**PKPdf**	15 26 03.0	+1.1		
	baz=304								
J59A	**Piesco**	**138.47**	**27**	P	**PKPdf**	15 26 03.1	+1.5		
	baz=322								
J59A				P	**PKPdf**	15 26 03.1	+1.5		
	baz=322								
V52A	**Sevierville**	**138.48**	**43**	P	**PKPdf**	15 26 03.0	+1.1		
	baz=304								
W52A	**Murphy**	**138.66**	**44**	P	**PKPdf**	15 26 02.7	+0.4		
	baz=303								
F63A	**Nahmakanta, Br**	**138.78**	**20**	P	**PKPdf**	15 26 04.9	+2.8		
	baz=331								
F63A				P	**PKPdf**	15 26 04.9	+2.8		
	baz=331								
SSPA	**Standing Stone**	**138.90**	**33**	P	**PKPdf**	15 26 02.9	+0.4		
	baz=315								
R55A	**Marlinton**	**139.22**	**37**	P	**PKPdf**	15 26 04.6	+1.4		
	baz=311								
R55A				P	**PKPdf**	15 26 04.6	+1.4		
	baz=311								
Y52A	**Lilburn**	**139.23**	**46**	P	**PKPdf**	15 26 02.6	-0.7		
	baz=302								
Y52A				P	**PKPdf**	15 26 02.6	-0.7		
	baz=302								
152A	**Waverly Hall**	**139.36**	**48**	P	**PKPdf**	15 26 03.2	-0.3		
	baz=300								
CASEE	**Lake Jocassee**	**139.40**	**43**	P	**PKPdf**	15 26 02.8	-0.8		
	baz=304								
P57A	**Homestead Farm**	**139.64**	**34**	P	**PKPdf**	15 26 03.6	-0.3		
	baz=314								
P57A				P	**PKPdf**	15 26 03.6	-0.3		
	baz=314								
HODGE	**Hodges**	**140.29**	**44**	P	**PKPdf**	15 26 04.8	-0.3		
	baz=304								
PB04	**IPOC Station P**	**144.08**	**147**	PKPdf	PKPbc	15 26 12.4	+1.9		
PB03	**IPOC Station P**	**144.53**	**147**		**PKPab**	15 26 13.5	+1.8		
PB07	**IPOC Station P**	**144.72**	**147**	PKPdf	**PKPab**	15 26 14.3	+1.8		
CPUP	**Villa Florida**	**145.31**	**168**	PKPbc	**PKPbc**	15 26 15.3	+1.2		
	comp=Z,15nm,0.8s,baz=191,slow=2.5,SNR=32								
PB11	**IPOC Station P**	**146.41**	**145**		**PKPdf**	15 26 18.7	+2.1		
GO01	**Chusmiza**	**146.75**	**145**	PKPab	**PKPbc**	15 26 21.0	+1.7		
PB12	**IPOC Station P**	**146.92**	**143**	PKPbc	**PKPdf**	15 26 19.6	+2.2		
PB16	**IPOC Station P**	**147.62**	**144**	PKPab	**PKPbc**	15 26 23.9	+2.0		
MCRA	**Macar, Loja**	**147.69**	**111**	PKPbc	**PKPdf**	15 26 21.9	+3.2		
LPAZ	**La Paz**	**150.04**	**143**	PKPbc	**PKPbc**	15 26 28.8	+0.6		
	comp=Z,5.4nm,0.3s,baz=222,slow=1.4,SNR=27								
AQDB	**Aquidauana**	**151.32**	**169**		**PKPbc**	15 26 30.8	+0.4		

WEL ***16*** *15:12:24.2±0.9,35°S±10″×17°9W±1°5,h150km±29km, M4.1/26,mB4.6/7,ML4.8/18,MLv4.5/26,Mw(mB)3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=113.3, confirmed*

NEIC ***16*** *15:12:24.6±0.9,34°7S±0°2×179°4W±0°3,h35km±2km, mb4.4/1,Error ellipse: s-maj=51.6km s-min=3.9km az=121.0*

IDC ***16*** *15:12:30.1±4.0,35°03S×179°56W,h91km±35km,mb4.1/5, mbtmp4.4/7,MS3.2/1,Error ellipse: s-maj=36.3km s-min=24.0km az=175.0*

ISC 16 15:12:25.2±0.6,34°74S±0°08×179°37W±0°10,h50km,n74,
σ1°86/82,mb4.3/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.39**	**213**	Pn	**Pn**	**15 13 16.4**	**+0.9**
MXZ	**Matakaoa Point**	**3.39**	**213**	P	**Pn**	**15 13 15.1**	**-0.4**
WMGZ	**Waiomatatini S**	**3.56**	**210**	P	**Pn**	**15 13 19.6**	**+1.8**
PKGZ	**Pakihiroa**	**3.76**	**213**	P	**Pn**	**15 13 22.0**	**+1.4**
PKGZ				S	**Sn**	**15 14 05.9**	**+2.2**
HAZ	**Te Kaha**	**3.79**	**217**	P	**Pn**	**15 13 22.9**	**+1.8**
HAZ				S	**Sn**	**15 14 09.5**	**+5.2**
PUZ	**Puketiti**	**3.84**	**209**	P	**Pn**	**15 13 22.9**	**+1.1**
RUGZ	**Raukumara Rang**	**4.01**	**216**	P	**Pn**	**15 13 24.9**	**+0.8**
TWGZ	**Tauwhareparae**	**4.04**	**211**	P	**Pn**	**15 13 25.5**	**+1.0**
TWGZ				S	**Sn**	**15 14 14.9**	**+4.3**
CNGZ	**Carnagh Statio**	**4.21**	**207**	P	**Pn**	**15 13 27.8**	**+1.0**
TKGZ	**Te Karaka**	**4.32**	**210**	P	**Pn**	**15 13 28.5**	**+0.3**
TKGZ				S	**Sn**	**15 14 20.5**	**+3.1**
MWZ	**Matawai**	**4.37**	**214**	P	**Pn**	**15 13 29.3**	**+0.3**
MWZ				S	**Sn**	**15 14 19.9**	**+1.2**
KUZ	**Kuaotunu**	**4.47**	**242**	P	**Pn**	**15 13 30.3**	**-0.1**
GRZ	**Great Barrier**	**4.48**	**249**	P	**Pn**	**15 13 32.6**	**+2.1**
URZ	**Urewera**	**4.51**	**218**	P	**Pn**	**15 13 31.0**	**0.0**
	24nm,0.3s,baz=57,slow=1.7,SNR=39						
URZ				S	**Sn**	**15 14 20.0**	**-2.2**
	38nm,0.5s,baz=35,slow=11,SNR=1.4						
URZ	**Urewera**	**4.51**	**218**	P	**Pn**	**15 13 28.9**	**-2.1**
OPRZ	**Ohinepanea**	**4.52**	**226**	P	**Pn**	**15 13 31.9**	**+0.9**
MARZ	**Manawahe**	**4.55**	**223**	P	**Pn**	**15 13 33.9**	**+2.5**
RAGZ	**Rawiri**	**4.55**	**214**	P	**Pn**	**15 13 31.0**	**-0.6**
RAGZ				S	**Sn**	**15 14 26.1**	**+2.8**
RIGZ	**Rimuhau**	**4.58**	**209**	P	**Pn**	**15 13 31.3**	**-0.6**
RIGZ				S	**Sn**	**15 14 25.6**	**+1.7**
SNGZ	**Shannon Statio**	**4.82**	**212**	P	**Pn**	**15 13 36.4**	**+1.2**
SNGZ				S	**Sn**	**15 14 31.8**	**+2.0**
MUGZ	**Murupara**	**4.85**	**219**	P	**Pn**	**15 13 35.4**	**-0.2**
MUGZ				S	**Sn**	**15 14 32.9**	**+2.4**
RTZ	**Ruatahuna**	**4.86**	**216**		**Pn**	**15 13 35.8**	**+0.1**
RTZ	**Ruatahuna**	**4.86**	**216**	P	**Pn**	**15 13 36.8**	**+1.0**

KNZ	**Kokohu**	**4.89**	**208**	P	**Pn**	**15 13 35.9**	**-0.2**		
MHGZ	**Mahia Peninsul**	**4.92**	**206**	P	**Pn**	**15 13 35.9**	**-0.6**		
HSRZ	**Hossack Road**	**5.02**	**223**	P	Pn	15 13 45.3	+7.4		
RAHZ	**Arahi**	**5.05**	**213**	P	**Pn**	**15 13 39.4**	**+1.1**		
PRRZ	**Plateau Road**	**5.07**	**221**	P	**Pn**	**15 13 40.1**	**+1.5**		
MTHZ	**Maungataniwha**	**5.11**	**215**	P	**Pn**	**15 13 39.6**	**+0.5**		
MTHZ				S	**Sn**	**15 14 37.6**	**+0.7**		
WHHZ	**Waihua**	**5.11**	**211**	P	**Pn**	**15 13 40.6**	**+1.5**		
WHHZ				S	**Sn**	**15 14 38.0**	**+1.1**		
MRHZ	**Matea Rd**	**5.30**	**218**	P	**Pn**	**15 13 42.0**	**+0.1**		
NMHZ	**Naumai**	**5.32**	**214**	P	**Pn**	**15 13 41.5**	**-0.6**		
NMHZ				S	**Sn**	**15 14 43.7**	**+1.6**		
ARHZ	**Aropaoanui**	**5.37**	**212**	P	**Pn**	**15 13 43.2**	**+0.5**		
ARHZ				S	**Sn**	**15 14 45.4**	**+2.2**		
BKZ	**Black Stump Fm**	**5.52**	**216**		**Pn**	**15 13 43.8**	**-1.1**		
BKZ	**Black Stump Fm**	**5.52**	**216**	P	**Pn**	**15 13 45.4**	**+0.6**		
CKHZ	**Cape Kidnapper**	**5.67**	**209**	P	**Pn**	**15 13 44.1**	**-2.7**		
CKHZ				S	**Sn**	**15 14 49.4**	**-1.2**		
KAHZ	**Kahuranaki**	**5.87**	**210**	P	**Pn**	**15 13 48.3**	**-1.3**		
KAHZ				S	**Sn**	**15 14 55.2**	**-0.3**		
KRHZ	**Kereru**	**5.96**	**214**	P	**Pn**	**15 13 50.9**	**0.0**		
HIZ	**Hauiti**	**5.98**	**229**	P	Pn	15 13 55.8	+4.8		
BHHZ	**Black Hill Sta**	**5.98**	**216**	P	**Pn**	**15 13 51.6**	**+0.4**		
NGZ	**Ngauruhoe**	**5.99**	**221**	P	**Pn**	**15 13 53.1**	**+1.8**		
MOVZ	**Moawhango**	**6.08**	**219**	P	**Pn**	**15 13 52.1**	**-0.4**		
WNVZ	**Wahianoa**	**6.10**	**220**	P	**Pn**	**15 13 56.2**	**+3.4**		
TRVZ	**Turoa**	**6.10**	**220**	P	**Pn**	**15 13 53.7**	**+0.8**		
BFZ	**Birch Farm**	**6.87**	**209**	Pn	**Pn**	**15 14 02.4**	**-0.9**		
MRNZ	**Matariki Terra**	**9.09**	**221**	Pn	**Pn**	**15 14 29.5**	**-4.2**		
CTZ	**Chatham Island**	**9.23**	**167**	P	**Pn**	**15 14 35.3**	**-0.3**		
KHZ	**Kahutara**	**9.46**	**214**	Pn	**Pn**	**15 14 35.6**	**-3.1**		
RPZ	**Rata Peaks**	**11.63**	**217**	P	**Pn**	**15 15 08.7**	**+0.3**		
	12nm,0.8s,baz=15,slow=23,SNR=2.5								
RPZ				S	**Sn**	**15 17 09.8**	**-7.0**		
	12nm,0.8s,baz=308,slow=8.4,SNR=1.6								
WHZ	**Wether Hill Ro**	**14.73**	**217**	P	**P**	**15 15 53.6**	**-1.9**		
AFI	**Afiamalu**	**21.85**	**20**	S	**S**	**15 21 09.0**	**-3.4**		
	5.6nm,0.3s,baz=246,slow=23,SNR=1.4								
RAR	**Rarotonga**	**21.88**	**57**	LR	LR	15 25 38.9			
	comp=Z,68nm,19.8s,baz=228,slow=36								
ARMA	**Armidale**	**24.78**	**272**	P	**P**	**15 17 42.6**	**+0.2**		
ARMA				IAmb	IAmb	15 18 12.4			
	comp=Z,16nm,1.4s								
PPT	**Papeete**	**31.57**	**65**	P	**P**	**15 18 46.8**	**+3.8**		
	comp=Z,14nm,0.6s,baz=270,slow=20,SNR=2.3								
	comp=Z,14nm,0.6s								
ASAR	**Alice Springs**	**41.93**	**272**	P	**P**	**15 20 11.6**	**+0.4**		
	comp=Z,3.8nm,0.6s,baz=127,slow=7.0,SNR=4.0								
	comp=Z,3.8nm,0.6s								
WRA	**Warramunga Arr**	**43.31**	**277**	P	**P**	**15 20 21.9**	**-0.4**		
	comp=Z,3.6nm,0.7s,baz=122,slow=7.2,SNR=2.6								
	comp=Z,3.6nm,0.7s								
H03S2	**Juan Fernandez**	**79.04**	**124**	T	T	16 52 49.2			
	baz=234,slow=74,SNR=4.9								
H03S1	**Juan Fernandez**	**79.05**	**124**	T	T	16 52 50.4			
	baz=234,slow=74,SNR=5.1								
H03S3	**Juan Fernandez**	**79.05**	**124**	T	T	16 52 49.8			
	baz=234,slow=74,SNR=4.2								
H03N3	**Juan Fernandez**	**79.25**	**123**	T	T	16 53 00.5			
	baz=238,slow=72,SNR=4.5								
H03N2	**Juan Fernandez**	**79.26**	**123**	T	T	16 53 01.5			
	baz=238,slow=72,SNR=4.6								
H03N1	**Juan Fernandez**	**79.27**	**123**	T	T	16 53 16.5			
	baz=238,slow=72,SNR=6.8								
PLCA	**Paso Flores**	**80.39**	**133**	P	**P**	**15 24 31.2**	**-0.3**		
	comp=Z,1.6nm,0.9s,baz=203,slow=6.3,SNR=2.1								
	comp=Z,1.6nm,0.9s								
KSRS	**Korea Array**	**86.93**	**321**	P	**P**	**15 25 04.8**	**+0.2**		
	comp=Z,0.9nm,0.8s,baz=19,slow=10,SNR=2.7								
	comp=Z,0.9nm,0.8s								
MKAR	**Makanchi Array**	**119.62**	**309**	PKP	**PKiKP**	**15 31 08.7**	**-0.5**		
	comp=Z,0.2nm,0.5s,baz=90,slow=2.4,SNR=3.5								
ZALV	**Zalesovo Beam**	**120.46**	**317**	PKP	**PKPdf**	**15 31 09.4**	**-1.0**		
	comp=Z,0.3nm,0.3s,baz=40,slow=5.8,SNR=3.9								
ARCES	**ARCESS Array B**	**142.54**	**346**	PKP	**PKPdf**	**15 31 52.0**	**+0.5**		
	comp=Z,5.4nm,1.1s,baz=44,slow=3.7,SNR=4.3								
KBZ	**Khabaz**	**146.36**	**298**	PKPbc	**PKPbc**	**15 31 59.6**	**-0.5**		
	comp=Z,0.3nm,0.4s,baz=0.0,slow=2.0,SNR=3.8								
FINES	**FINESS Array B**	**148.74**	**337**	PKPbc	**PKPbc**	**15 32 06.1**	**0.0**		
	comp=Z,3.3nm,0.6s,baz=44,slow=5.1,SNR=22								
DBIC	**Dimbokro**	**151.61**	**168**	PKPbc	**PKPbc**	**15 32 14.1**	**-0.4**		
	comp=Z,4.5nm,0.9s,baz=106,slow=3.5,SNR=4.3								
NB2	**NORSAR Subarra**	**152.82**	**349**	PKP	**PKiKP**	**15 32 16.4**	**+0.4**		
	comp=Z,2.0nm,0.7s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**152.82**	**349**	PKPbc	**PKiKP**	**15 32 16.2**	**+0.2**		
	comp=Z,1.5nm,0.8s,baz=15,slow=4.6,SNR=8.0								
BRTR	**Keskin Array B**	**153.35**	**291**	PKPbc	**PKPbc**	**15 32 16.9**	**-1.0**		
	comp=Z,0.7nm,0.6s,baz=144,slow=2.5,SNR=4.1								
AKASG	**Malin Array Be**	**153.85**	**316**	PKPbc	**PKiKP**	**15 32 18.1**	**-0.2**		
	comp=Z,0.2nm,0.2s,baz=67,slow=2.2,SNR=7.9								

BER ***16*** *15:13:00.0±1.6,79°11N×2°98E,h10km,ML2.9,Confirmed Earthquake*

NAO ***16*** *15:13:01.6±4.2,79°86N×6°23E,ML3.2*

KOLA ***16*** *15:13:01.6,79°07N×4°22E,h0km,ML2.9,Greenland sea,Knipovich ridge, north*

DNK ***16*** *15:13:01.2±1.8,79°11N×3°30E,h36km±19km,ML1.8*

IEPN ***16*** *15:13:04.0,78°94N×4°11E,h10km*

ISC 16 15:12:56.5±0.9,79°08N±0°08×2°85E±0°04,h10km,n30,
σ2°18/50,3C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.75**	**91**	Pg	**Pn**	**15 13 28.0**	**+1.2**
KBS				Lg	Lg	15 13 46.6	
KBS	**Kingsbay**	**1.75**	**91**	*i* P	**Pn**	**15 13 28.1**	**+1.2**
KBS				*i* S	**Sn**	**15 13 46.6**	**-2.5**
KBS	**Kingsbay**	**1.75**	**91**	*i* P	**Pn**	**15 13 28.0**	**+1.2**
KBS				*e*		15 13 46.6	
KBS				IAML		15 13 48.9	
	comp=Z,262nm,0.2s						
KBS	**Kingsbay**	**1.75**	**91**	P	**Pn**	**15 13 27.3**	**+0.5**
KBS				S	**Sn**	**15 13 46.6**	**-2.5**
BRBB	**Barentsburg B**	**2.47**	**108**	Pn	**Pn**	**15 13 39.5**	**+2.8**
BRBB				Sn	**Sn**	**15 14 05.2**	**-1.6**
BRBB	**Barentsburg B**	**2.47**	**108**	*e*P	**Pn**	**15 13 38.9**	**+2.3**
BRBB				*e*S	**Sn**	**15 14 10.1**	**-1.6**
BRBB	**Barentsburg B**	**2.47**	**108**	P	**Pn**	**15 13 37.9**	**+1.3**
BRBB				S	**Sn**	**15 14 06.0**	**-0.7**
BRBA	**Barentsburg A**	**2.48**	**109**	Pn	**Pn**	**15 13 39.9**	**+3.0**
BRBA				Sn	**Sn**	**15 14 05.5**	**-1.7**
BRBA	**Barentsburg A**	**2.48**	**109**	*e*P	**Pn**	**15 13 39.3**	**+2.4**
BRBA				*e*S	**Sn**	**15 14 06.8**	**-0.4**
BRBA				IAML		15 14 11.1	
	comp=Z,132nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.83**	**102**	Pn	**Pn**	**15 13 44.2**	**+2.5**
	baz=310,slow=10						
SPA0				Sn	**Sn**	**15 14 14.7**	**-0.9**
	baz=321,slow=12						
SPA0	**Spitsbergen Ar**	**2.83**	**102**	*i* P	**Pn**	**15 13 44.0**	**+2.4**
SPA0				*i* S	**Sn**	**15 14 13.8**	**-1.8**
SPA0	**Spitsbergen Ar**	**2.83**	**102**	*e*P	**Pn**	**15 13 44.1**	**+2.5**
SPA0				*e*S	**Sn**	**15 14 14.5**	**-1.2**
SPA0				IAML		15 14 20.4	
	comp=Z,82nm,0.5s						
SPITS	**Spitsbergen Ar**	**2.83**	**102**	P	**Pn**	**15 13 43.6**	**+2.0**
SPITS				S	**Sn**	**15 14 15.7**	**0.0**
HSPB	**Hornsund (broa**	**3.36**	**122**	P	**Pn**	**15 13 52.2**	**+3.3**
HSPB				*e*S	**Sn**	**15 14 28.1**	**-0.7**
HSPB	**Hornsund (broa**	**3.36**	**122**	P	**Pn**	**15 13 52.8**	**+3.9**
HSPB				S	**Sn**	**15 14 28.1**	**-0.7**
NOR	**Nord**	**4.12**	**317**	*i* P	**Pn**	**15 14 00.9**	**+1.5**
NOR	**Nord**	**4.12**	**317**	*e*P	**Pn**	**15 14 00.6**	**+1.2**
DAG	**Danmarks Havn**	**5.05**	**254**	*e*	**Pn**	**15 14 12.6**	**+0.5**
	baz=55,slow=16						
DAG				*i* P	**Pn**	**15 14 14.0**	**+1.9**
DAG				*i* P	**Pn**	**15 14 14.0**	**+1.9**
DAG				*i*		15 14 16.1	
DAG				*i* S	**Sn**	**15 15 07.6**	**-2.7**
DAG				IAML		15 15 10.4	
	comp=Z,11nm,0.3s						
HOPEN	**Hopen**	**5.33**	**108**	Pn	**Pn**	**15 14 17.8**	**+1.8**
HOPEN				Sn	**Sn**	**15 15 14.5**	**-2.8**
HOPEN	**Hopen**	**5.33**	**108**	*e*P	**Pn**	**15 14 17.6**	**+1.7**
HOPEN				*e*S	**Sn**	**15 15 13.2**	**-4.1**
HOPEN	**Hopen**	**5.33**	**108**	*e*P	**Pn**	**15 14 17.6**	**+1.7**
HOPEN				*e*S	**Sn**	**15 15 13.7**	**-3.6**
HOPEN				IAML		15 15 18.1	
	comp=Z,30nm,0.2s						
DBG	**Daneborg**	**7.10**	**240**	*i* P	**Pn**	**15 14 41.9**	**+1.7**
DBG				*i*		15 14 43.9	
DBG				*i* S	**Sn**	**15 15 57.2**	**-3.5**
DBG				IAML		15 16 03.0	
	comp=Z,6.2nm,0.3s						
DBG	**Daneborg**	**7.10**	**240**	*e*P	**Pn**	**15 14 41.7**	**+1.6**
DBG				*e*S	**Sn**	**15 15 56.4**	**-4.3**
ZFI2	**Zemlya Franca-**	**7.85**	**56**	P	**Pn**	**15 14 51.6**	**+1.2**
ZFI2				*e*S	Sn	15 16 12.2	-6.8
ZFI	**Zemlya Franca-**	**7.85**	**56**	*e*P	**Pn**	**15 14 51.8**	**+1.3**
ZFI				*e*S	Sn	15 16 12.3	-6.8
	comp=Z,24nm,2.4s						
SCO	**Scoresbysund**	**10.67**	**230**	*e*P	**Pn**	**15 15 31.3**	**+2.3**
SCO				IAML		15 17 29.4	
	comp=Z,0.5nm,0.4s						
NEEM	**North Greenlan**	**10.75**	**289**	*i* P	**Pn**	**15 15 30.2**	**-0.3**
NEEM				*i* S	Sn	15 17 23.2	-7.5
NEEM				IAML		15 17 27.6	
	comp=Z,2.8nm,0.3s						
KIF	**Kilpisjarvi**	**11.17**	**145**	Pn	Pn	15 15 44.9	+8.9
ARA0	**ARCESS Array S**	**11.24**	**136**	Pn	Pn	15 15 43.5	+6.5
	baz=348,slow=10						
ARA0				Sn	**Sn**	**15 17 40.5**	**-1.9**
	baz=351,slow=28						
SUMG	**Summit**	**11.71**	**259**	*e*P	**Pn**	**15 15 44.0**	**+0.4**
SUMG				IAML		15 17 52.9	
	comp=Z,1.2nm,0.4s						

PRU 16 15:24:50.7±0.0,51°25N×12°40E,h0km,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLL	**Collm**	**0.38**	**81**	*i* Pg	Pg	15 24 57.5	-0.5
CLL				*i* Sg	Sg	15 25 02.8	-0.2
	comp=Z,16nm,0.3s						
CLL				*ex*	x	15 25 02.0	
NKC	**Novy Kostel**	**1.02**	**178**	*e*Pg	Pg	15 25 09.3	-0.9
NKC				*e*Sg	Sg	15 25 23.0	-0.4
	comp=Z,8.1nm,0.8s						
NKC	**Novy Kostel**	**1.02**	**178**	*e*	Sg	15 25 23.0	-0.4
NKC	**Novy Kostel**	**1.02**	**178**	*e*PKIKP	Pg	15 25 09.3	-0.9
BRG	**Berggiesshubel**	**1.04**	**111**	Sg	Sg	15 25 23.3	-0.9
BRG				Amp		15 25 24.0	
	comp=Z,2.2nm,0.4s						
KHC	**Kasperske Hory**	**2.25**	**160**	*e*Sg	Sg	15 26 02.0	-1.0
KHC	**Kasperske Hory**	**2.25**	**160**	*e*	Sg	15 26 02.0	-1.0

WEL 16 15:33:47.0±0.3,42°S±3°×17°4E±°,h10km±2km,M3.0/13, ML3.1/17,MLv3.0/13,Error ellipse: s-maj=0.0km s-min=0.0km az=140.3,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**24**	P	Pg	15 33 54.7	+0.6
BSWZ				S	Sg	15 33 59.7	+0.8
KHZ	**Kahutara**	**0.39**	**196**	P	Pb	15 33 56.4	+0.4
KHZ				S	Sb	15 34 02.4	+0.4
CMWZ	**Cape Campbell**	**0.49**	**54**	P	Pb	15 33 57.9	+0.1
CMWZ				S	Sb	15 34 05.6	+0.5
TUWZ	**Tuamarina**	**0.64**	**18**	P	Pg	15 33 59.6	+0.2
TUWZ				S	Sb	15 34 08.9	-0.4
THZ	**Tophouse**	**0.64**	**296**	P	Pb	15 34 00.1	-0.3
THZ				S	Sg	15 34 08.6	+0.7
NNZ	**Nelson**	**0.85**	**345**	P	Pg	15 34 03.2	-0.3
TCW	**Tory Channel**	**0.94**	**28**	P	Pg	15 34 04.6	-0.6
MRNZ	**Matariki Terra**	**0.94**	**313**	P	Pb	15 34 05.4	-0.1
GVZ	**Greta Val

PAVE	**Pavencul**	**0.93**	**39**	*eP*	**Pn**	**16 07 40.1 +1.5**
PAVE				*eS*	**Sn**	**16 07 52.1 +0.9**
SULM	**Suchitepequez,**	**1.19**	**98**	*eP*	**Pb**	**16 07 46.0 +3.0**
SULM				*eS*	**Sn**	**16 07 55.5 -1.9**
STG3	**Santiaguito 3,**	**1.20**	**78**	*eP*	**Pb**	**16 07 45.0 +1.8**
STG3				*eS*	**Sb**	**16 07 55.2 -3.3**
PCIG		**1.30**	**341**	*eP*	**Pb**	**16 07 44.3 -0.5**
PCIG				*eS*	**Sn**	**16 07 59.4 -0.6**
FUG	**Fuego 3**	**1.88**	**90**	*eP*	**Pb**	**16 07 55.0 +0.2**
FUG				*eS*	**Sn**	**16 08 12.2 -2.4**
CCIG	**Comitan**	**1.91**	**19**	*eP*	**Pn**	**16 07 51.2 -0.8**
CCIG				*I S*	**Sb**	**16 08 18.9 +0.1**
PCG	**Pacaya**	**2.11**	**92**	*eP*	**Pb**	**16 07 58.8 0.0**
PCG				*eS*	**Sn**	**16 08 18.5 -1.9**
TGIG		**2.32**	**352**	*eP*	**Pn**	**16 07 58.3 +0.7**
TGIG				*eS*	**Sn**	**16 08 26.3 +1.0**
UXUV	**UXUV**	**3.12**	**335**	*eP*	**Pn**	**16 08 10.8 +2.2**
UXUV				*eS*	**Sb**	**16 08 51.6 -2.0**
CMIG	**Matias Romero**	**3.30**	**323**	*eP*	**Pn**	**16 08 12.3 +1.3**
CMIG				*eS*	**Sn**	**16 08 47.2 -2.2**

DJA 16 16:14:03.8±0.3,3°N±3°×9°9E±°,h10km,M3.8/10,mb4.4/1, MLv3.5/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TSI	**Tuntungan**	**0.21**	**348**	P	Pg		16 14 08.3	0.0
GSI	**Gunungsitoli**	**2.23**	**208**	P	Pn		16 14 39.6	-1.2
MLSI	**Meulaboh, Aceh**	**2.41**	**294**	P	Pn		16 14 43.5	+0.2
SNSI	**Sinabang, Aceh**	**2.44**	**249**	P	Pn		16 14 43.9	+0.1
LHMI	**Lhok Sumawe**	**2.54**	**319**	P	Pn		16 14 44.8	-0.3
PBSI	**Pulau Batu**	**3.34**	**186**	P	Pn		16 14 57.1	+1.0
CNJI	**Cibinong**	**13.53**	**141**	P	Pn		16 17 16.5	+0.5

*JMA **16** 16:16:53.2±0.7,30°N±3°×13°9E±°,h0km,MV3.6/16,NEAR TORISHIMA IS*
*IDC **16** 16:17:02.1±10.0,29°68N×137°73E,h0km,mb3.4/3, mbtmp3.4/3,MS3.2/2,Error ellipse: s-maj=431.0km s-min=33.9km az=65.0*
ISC 16 16:16:59.5±2.4,30°1N±0°2×138°8E±0°6,h10km,n9, σ0s55/6,mb3.5/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JTNC	**Tanabenakahech**	**4.57**	**324**	*eP*	**Pn**		**16 18 08.8**	**+0.1**
JIE	**Ise**	**4.60**	**338**	*eP*	**Pn**		**16 18 09.5**	**+0.4**
JKN2	**Miekihoku**	**4.62**	**333**	*eP*	**Pn**		**16 18 08.7**	**-0.8**
JHU	**Hanno**	**5.71**	**4**	*eP*	Pn		16 18 24.5	+0.1
SEY	**Seymchan**	**33.95**	**11**	LR	LR		16 39 19.4	
	comp=Z,75nm,18.2s,baz=338,slow=39							
CMAR	**Chiang Mai Arr**	**37.99**	**261**	LR	LR		16 40 25.2	
	comp=Z,14nm,18.1s,baz=205,slow=38							
MKAR	**Makanchi Array**	**46.28**	**308**	P		**P**	**16 25 25.5**	**+0.3**
	0.5nm,0.9s,baz=77,slow=6.2,SNR=3.7 0.5nm,0.9s							
WRA	**Warramunga Arr**	**49.98**	**186**	P		**P**	**16 25 54.0**	**+0.1**
	0.7nm,0.8s,baz=2.3,slow=7.5,SNR=4.8 0.7nm,0.8s							
ASAR	**Alice Springs**	**53.71**	**186**	P		**P**	**16 26 21.6**	**-0.2**
	0.1nm,0.5s,baz=3.5,slow=7.4,SNR=5.2 0.1nm,0.5s							

IDC 16 16:24:10.9±4.9,29°76N×140°19E,h0km,mb3.6/3, mbtmp3.6/3,MS2.8/1,Error ellipse: s-maj=350.9km s-min=33.1km az=82.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PETK	**Petropavlovsk-**	**26.62**	**24**	LR	LR		16 40 11.4	
	comp=Z,23nm,20.6s,baz=151,slow=36							
WRA	**Warramunga Arr**	**49.73**	**187**	P		P	16 33 05.2	+0.1
	0.2nm,0.3s,baz=5.6,slow=7.6,SNR=6.4 0.2nm,0.3s							
ASAR	**Alice Springs**	**53.46**	**187**	P		P	16 33 32.6	-0.4
	0.2nm,0.7s,baz=4.8,slow=6.4,SNR=6.1 0.2nm,0.7s							
FINES	**FINESS Array B**	**74.79**	**333**	P		P	16 35 52.7	+0.1
	3.8nm,1.1s,baz=60,slow=5.5,SNR=3.8 3.8nm,1.1s							

*IDC **16** 16:49:18.5±1.1,21°27N×143°86E,h0km,mb3.6/11, mbtmp3.7/12,ML2.9/1,MS3.2/5,Error ellipse: s-maj=42.0km s-min=18.5km az=83.0*
ISC 16 16:49:23.8±1.2,21°3N±0°1×143°7E±0°3,h35km,n21, σ1s46/12,mb3.6/11,MS3.0/3,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JOW	**Kunigami**	**15.14**	**294**	LR	LR		16 57 44.1	
	comp=Z,75nm,20.9s,baz=248,slow=33							
MJAR	**Matsushiro Arr**	**15.95**	**344**	Pn		**Pn**	**16 53 05.6**	**0.0**
	baz=233,slow=8.0,SNR=2.8 3.0nm,0.9s							
JNU	**Nakatsue**	**16.40**	**319**	LR	LR		16 58 05.5	
	comp=Z,58nm,21.3s,baz=138,slow=32							
KSRS	**Korea Array**	**21.15**	**323**	P		**P**	**16 54 04.3**	**-1.4**
	0.7nm,0.7s,baz=142,slow=8.6,SNR=2.5							
KSRS				LR	LR		17 02 22.4	
	comp=Z,40nm,18.7s,baz=120,slow=37 0.7nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**21.77**	**90**	T	T		17 15 49.6	
	baz=278,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**21.77**	**90**	T	T		17 16 00.1	
	baz=278,slow=75,SNR=7.9							
H11S3	**WAKE ISLAND Hy**	**21.78**	**93**	T	T		17 16 04.2	
	baz=281,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**21.79**	**90**	T	T		17 15 50.3	
	baz=278,slow=75,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**21.79**	**93**	T	T		17 16 05.3	
	baz=281,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**21.80**	**93**	T	T		17 15 59.7	
	baz=281,slow=75,SNR=12							
USRK	**Ussuriysk Ar.**	**24.85**	**340**	P		**P**	**16 54 44.9**	**+2.1**
	0.5nm,0.5s,baz=103,slow=10,SNR=2.7 0.5nm,0.5s							
SONM	**Songino Array**	**39.98**	**321**	P		**P**	**16 56 53.7**	**-1.4**
	0.3nm,0.6s,baz=77,slow=7.6,SNR=1.4							
SONM				LR	LR		17 12 59.6	
	comp=Z,24nm,21.7s,baz=196,slow=36 0.3nm,0.6s							
WRA	**Warramunga Arr**	**41.97**	**193**	P		**P**	**16 57 11.6**	**0.0**
	0.8nm,0.6s,baz=14,slow=8.8,SNR=6.4 0.8nm,0.6s							
ASAR	**Alice Springs**	**45.67**	**193**	P		**P**	**16 57 41.4**	**0.0**
	0.4nm,0.6s,baz=17,slow=9.0,SNR=14 0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**54.85**	**322**	P		**P**	**16 58 52.7**	**+2.3**
	0.2nm,0.3s,baz=127,slow=7.9,SNR=3.0 0.2nm,0.3s							
MKAR	**Makanchi Array**	**55.34**	**313**	P		**P**	**16 58 56.4**	**+2.1**
	0.2nm,0.5s,baz=64,slow=14,SNR=2.4 0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**58.17**	**317**	P		**P**	**16 59 14.7**	**+0.6**
	0.9nm,0.2s,baz=95,slow=7.4,SNR=6.4 0.9nm,0.2s							
ILAR	**Eielson Array**	**62.20**	**27**	P		**P**	**16 59 40.9**	**-0.6**
	0.8nm,0.8s,baz=254,slow=5.6,SNR=7.5 0.8nm,0.8s							
BVAR	**Borovoye Array**	**63.31**	**320**	P		**P**	**16 59 49.4**	**+0.3**
	0.5nm,0.4s,baz=90,slow=5.9,SNR=4.4 0.5nm,0.4s							
URZ	**Urewera**	**67.01**	**152**	LR	LR		17 28 33.2	
	comp=Z,63nm,18.0s,baz=350,slow=35							
FINES	**FINESS Array B**	**83.77**	**335**	P		**P**	**17 01 48.4**	**-0.7**
	1.1nm,0.8s,baz=134,slow=10.0,SNR=3.5 1.1nm,0.8s							

ROM 16 16:53:45.9±0.0,42°726N±0°002×13°206E±0°004, h11km,ML2.3/28,12C-8D,Error ellipse: s-maj=0.3km s-min=0.2km az=244.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
T1218	**Civita (PG)**	**0.09**	**230**	⇑P	Pg		16 53 49.0	+0.4
T1218				S	Sg		16 53 50.9	+0.3
T1218				AML	AML			
	comp=E,11600μm,0.2s							
T1218				AML	AML			
	comp=N,20900μm,0.4s							
T1218				AML	AML			
	comp=E,10760μm,0.2s							
T1218				AML	AML			
	comp=E,11595μm,0.2s							
T1218				AML	AML			
	comp=E,10765μm,0.2s							
T1218				AML	AML			
	comp=E,11595μm,1.8s							
T1218				AML	AML			
	comp=E,10765μm,1.8s							
T1218				AML	AML			
	comp=N,20800μm,0.4s							
T1212	**Cascia, Frazio**	**0.12**	**282**	P	Pg		16 53 49.4	+0.4
T1212				S	Sg		16 53 51.7	+0.5
T1212				AML	AML			
	comp=E,1885μm,0.1s							
T1212				AML	AML			
	comp=E,2005μm,0.1s							
T1212				AML	AML			
	comp=N,1665μm,0.2s							
T1212				AML	AML			
	comp=E,1890μm,0.1s							
T1212				AML	AML			
	comp=N,1650μm,0.6s							
T1212				AML	AML			
	comp=N,1650μm,0.7s							
T1212				AML	AML			
	comp=E,2005μm,0.1s							
T1212				AML	AML			
	comp=E,1890μm,0.1s							
T1212				AML	AML			
	comp=N,1665μm,0.2s							
NRCA	**Norcia**	**0.13**	**328**	⇑P	Pg		16 53 49.5	+0.3
NRCA				S	Sg		16 53 51.7	+0.3
NRCA				AML	AML			
	comp=N,8425μm,0.1s							
NRCA				AML	AML			
	comp=E,5365μm,0.2s							
NRCA				AML	AML			
	comp=N,8430μm,0.1s							
NRCA				AML	AML			
	comp=E,6060μm,0.2s							
NRCA				AML	AML			
	comp=N,8430μm,0.1s							
NRCA				AML	AML			
	comp=N,8750μm,0.1s							
NRCA				AML	AML			
	comp=E,5365μm,0.2s							
SMA1	**SAN MARTINO**	**0.14**	**135**	⇓P	Pg		16 53 49.7	+0.5
SMA1				AML	AML			
	comp=E,2360μm,0.6s							
SMA1				AML	AML			
	comp=N,2265μm,1.1s							
SMA1				AML	AML			
	comp=N,2265μm,0.9s							
SMA1				AML	AML			
	comp=E,2360μm,1.4s							
LNSS	**Leonessa**	**0.17**	**225**	⇑P	Pg		16 53 50.4	+0.5
LNSS				S	Sg		16 53 53.5	+1.0
LNSS				AML	AML			
	comp=N,5525μm,0.9s							
LNSS				AML	AML			
	comp=E,4570μm,0.2s							
LNSS				AML	AML			
	comp=N,5525μm,1.1s							
T1241	**Roccafluvione,**	**0.21**	**52**	⇑P	Pg		16 53 50.9	+0.5
T1241				S	Sg		16 53 54.4	+0.9
T1241				AML	AML			
	comp=N,1180μm,0.4s							
T1241				AML	AML			
	comp=E,921μm,0.4s							
T1241				AML	AML			
	comp=E,957μm,0.4s							
T1241				AML	AML			
	comp=N,1155μm,0.4s							
RM33	**Pellescritta (**	**0.22**	**178**	⇑P	Pg		16 53 51.0	+0.5
RM33				S	Sg		16 53 54.9	+1.1
RM33				AML	AML			
	comp=N,849μm,0.4s							
RM33				AML	AML			
	comp=E,1155μm,0.5s							
RM33				AML	AML			
	comp=N,847μm,0.4s							
RM33				AML	AML			
	comp=N,850μm,0.4s							
RM33				AML	AML			
	comp=E,1125μm,0.5s							
CAMP	**Campotosto**	**0.24**	**142**	P	Pg		16 53 51.5	+0.4
CAMP				S	Sg		16 53 55.4	+0.9
CAMP				AML	AML			
	comp=E,421μm,0.2s							
CAMP				AML	AML			
	comp=N,464μm,0.4s							
T1215	**Vallo di Nera,**	**0.26**	**287**	⇓P	Pg		16 53 51.8	+0.5
T1215				S	Sg		16 53 56.0	+1.1
T1215				AML	AML			
	comp=E,1032μm,0.1s							
T1215				AML	AML			
	comp=N,908μm,0.1s							
T1215				AML	AML			
	comp=N,908μm,0.1s							
T1215				AML	AML			
	comp=N,890μm,0.1s							
T1215				AML	AML			
	comp=E,1038μm,0.1s							
T1215				AML	AML			
	comp=E,1032μm,0.1s							
T1256	**Bolognola (MC)**	**0.28**	**3**	P	Pg		16 53 52.1	+0.4
T1256				S	Sb		16 53 56.9	-1.0
T1256				AML	AML			
	comp=E,808μm,1.0s							
T1256				AML	AML			
	comp=E,784μm,1.0s							
T1256				AML	AML			
	comp=N,655μm,0.5s							
T1256				AML	AML			
	comp=N,709μm,0.9s							
T1256				AML	AML			
	comp=E,808μm,1.0s							
T1256				AML	AML			
	comp=E,784μm,1.0s							
T1247	**Pizzolo (AQ)**	**0.29**	**166**	P	Pg		16 53 52.4	+0.4
T1247				S	Sb		16 53 57.4	-0.8
T1247				AML	AML			
	comp=N,957μm,0.4s							
T1247				AML	AML			
	comp=E,761μm,0.4s							
GUMA	**Gualdo di Mace**	**0.35**	**16**	P	Pb		16 53 53.7	-0.5
GUMA				S	Sb		16 53 59.9	+0.1
GUMA				AML	AML			
	comp=N,2090μm,0.7s							
GUMA				AML	AML			
	comp=E,1625μm,0.7s							
ARRO	**Arrone**	**0.36**	**246**	⇑P	Pg		16 53 53.5	+0.5
ARRO				AML	AML			
	comp=E,282μm,1.2s							
ARRO				AML	AML			
	comp=N,269μm,0.2s							
CESI	**CESI - Serrava**	**0.36**	**322**	⇓P	Pg		16 53 53.6	+0.5
CESI				S	Sb		16 53 59.1	-0.9
CESI				AML	AML			
	comp=N,1495μm,0.3s							
CESI				AML	AML			
	comp=E,687μm,0.2s							
CSP1	**Cessapalombo**	**0.36**	**360**	⇑P	Pg		16 53 53.6	+0.4
CSP1				AML	AML			
	comp=E,854μm,0.2s							
CSP1				AML	AML			
	comp=N,1064μm,0.4s							
GIGS	**Gran Sasso**	**0.39**	**136**	P	Pg		16 53 53.7	+0.1
GIGS				S	Sg		16 53 59.6	+0.8
GIGS				AML	AML			
	comp=N,93μm,1.4s							
GIGS				AML	AML			
	comp=E,154μm,0.2s							
GIGS				AML	AML			
	comp=N,93μm,0.6s							
T1220	**Camerino, Fraz**	**0.39**	**347**	⇑P	Pg		16 53 54.1	+0.3
T1220				AML	AML			
	comp=E,2500μm,0.5s							
T1220				AML	AML			
	comp=N,2200μm,1.4s							
T1220				AML	AML			
	comp=N,2265μm,1.3s							
T1220				AML	AML			
	comp=N,2200μm,1.3s							
T1220				AML	AML			
	comp=E,2510μm,0.5s							
OFFI	**Offida**	**0.41**	**59**	P	Pb		16 53 55.3	+0.1
OFFI				AML	AML			
	comp=E,952μm,1.6s							
OFFI				AML	AML			
	comp=N,996μm,1.3s							
OFFI				AML	AML			
	comp=E,952μm,0.4s							
FIAM	**Fiamignano**	**0.46**	**188**	⇑P	Pg		16 53 55.2	+0.2
MOMA	**Monte Martano**	**0.47**	**280**	⇓P	Pb		16 53 56.0	-0.3
MOMA				AML	AML			
	comp=E,529μm,1.1s							
MOMA				AML	AML			
	comp=N,519μm,0.5s							
MOMA				AML	AML			
	comp=E,529μm,1.1s							
MOMA				AML	AML			
	comp=E,550μm,0.2s							
MOMA				AML	AML			
	comp=N,494μm,0.5s							
MOMA				AML	AML			
	comp=E,529μm,0.9s							
CESX	**Cesi**	**0.48**	**256**	⇑P	Pg		16 53 55.6	+0.3
CESX				AML	AML			
	comp=E,232μm,0.5s							
CESX				AML	AML			
	comp=N,159μm,1.6s							
CESX				AML	AML			
	comp=N,159μm,0.4s							
ASSB	**Assisi San Ben**	**0.51**	**308**	⇑P	Pg		16 53 56.3	+0.4
ASSB				AML	AML			
	comp=E,236μm,0.2s							
ASSB				AML	AML			
	comp=N,248μm,0.2s							
FAGN	**Fagnano**	**0.54**	**149**	⇓P	Pg		16 53 56.8	+0.3
FAGN				AML	AML			
	comp=E,526μm,0.7s							
FAGN				AML	AML			
	comp=N,394μm,1.6s							
FAGN				AML	AML			
	comp=E,526μm,1.3s							
FAGN				AML	AML			
	comp=N,394μm,0.4s							
SNTG	**Esanatoglia**	**0.56**	**340**	⇓P	Pg		16 53 57.1	+0.1
SNTG				S	Sb		16 54 06.2	+0.3
SNTG				AML	AML			
	comp=E,220μm,0.6s							
SNTG				AML	AML			
	comp=N,197μm,0.1s							
EL6	**Elcito**	**0.61**	**353**	P	Pg		16 53 57.3	-0.4
CING	**Cingoli**	**0.65**	**359**	⇑P	Pg		16 53 58.8	+0.3
CING				AML	AML			
	comp=E,212μm,1.2s							
CING				AML	AML			
	comp=N,186μm,0.5s							
CING				AML	AML			
	comp=E,212μm,0.8s							
FOSV	**Fossato di Vic**	**0.66**	**330**	P	Pg		16 53 58.8	+0.1
FOSV				AML	AML			
	comp=E,162μm,1.1s							
FOSV				AML	AML			
	comp=N,180μm,1.6s							
FOSV				AML	AML			
	comp=E,162μm,0.9s							
FOSV				AML	AML			
	comp=N,180μm,0.4s							
T0110	**Collepietro**	**0.66**	**139**	⇓P	Pg		16 53 58.5	-0.1
T0110				AML	AML			
	comp=E,263μm,1.3s							
T0110				AML	AML			
	comp=N,285μm,0.4s							
T0110				AML	AML			
	comp=N,285μm,1.6s							
T0110				AML	AML			
	comp=E,263μm,0.7s							
MURB	**Monte Urbino**	**0.73**	**317**	S	Sn		16 54 13.1	-0.4
SSFR	**Montelago di S**	**0.77**	**337**	⇓P	Pb		16 54 01.5	0.0
SSFR				AML	AML			
	comp=E,404μm,0.2s							
SSFR				AML	AML			
	comp=N,533μm,0.8s							
SSFR				AML	AML			
	comp=N,430μm,1.3s							
SSFR				AML	AML			
	comp=E,354μm,0.2s							

ROM 16 16:54:15.0±0.0,42°735N±0°002×13°199E±0°002, h11km,ML2.5/14,20C-5D,Error ellipse: s-maj=0.2km s-min=0.2km az=222.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
T1218	**Civita (PG)**	**0.09**	**224**	⇑P	Pg		16 54 18.0	+0.3
T1218				S	Sg		16 54 20.0	+0.4
T1218				AML	AML			
	comp=E,12900μm,0.4s							
T1218				AML	AML			
	comp=N,28800μm,0.3s							
T1218				AML	AML			
	comp=E,14250μm,0.4s							
T1218				AML	AML			
	comp=N,28950μm,0.4s							
T1212	**Cascia, Frazio**	**0.12**	**278**	⇑P	Pg		16 54 18.5	+0.5
T1212				S	Sg		16 54 20.8	+0.6
T1212				AML	AML			
	comp=E,1615μm,1.2s							
T1212				AML	AML			
	comp=N,2090μm,0.7s							
T1212				AML	AML			
	comp=E,1665μm,1.2s							
T1212				AML	AML			
	comp=N,2090μm,0.7s							
T1212				AML	AML			
	comp=E,1615μm,1.2s							
T1212				AML	AML			
	comp=E,1665μm,1.2s							
T1212				AML	AML			
	comp=E,1610μm,1.2s							
T1212				AML	AML			
	comp=N,2090μm,1.3s							
T1212				AML	AML			
	comp=E,1665μm,0.8s							
T1212				AML	AML			
	comp=N,2090μm,1.3s							
T1212				AML	AML			
	comp=E,1610μm,0.8s							
NRCA	**Norcia**	**0.12**	**328**	⇑P	Pg		16 54 18.5	+0.5
NRCA				S	Sg		16 54 20.8	+0.6
NRCA				AML	AML			
	comp=E,9160μm,0.1s							
NRCA				AML	AML			
	comp=N,8195μm,0.2s							
NRCA				AML	AML			
	comp=N,8190μm,0.2s							
NRCA				AML	AML			
	comp=E,9165μm,0.1s							
NRCA				AML	AML			
	comp=N,8190μm,0.1s							
NRCA				AML	AML			
	comp=N,8455μm,0.2s							
NRCA				AML	AML			
	comp=E,10105μm,0.2s							
SMA1	**SAN MARTINO**	**0.14**	**136**	⇑P	Pg		16 54 18.9	+0.4
SMA1				S	Sg		16 54 21.9	+1.0
SMA1				AML	AML			
	comp=E,3265μm,0.6s							
SMA1				AML	AML			
	comp=E,3260μm,0.6s							
SMA1				AML	AML			
	comp=N,2315μm,0.2s							
SMA1				AML	AML			
	comp=E,3260μm,1.4s							
LNSS	**Leonessa**	**0.18**	**222**	⇑P	Pg		16 54 19.4	+0.5
LNSS				S	Sg		16 54 22.8	+1.1
LNSS				AML	AML			
	comp=E,5255μm,0.2s							
LNSS				AML	AML			
	comp=N,5625μm,1.3s							
LNSS				AML	AML			
	comp=N,5625μm,0.7s							
T1241	**Roccafluvione,**	**0.21**	**55**	⇑P	Pg		16 54 19.9	+0.5
T1241				S	Sg		16 54 23.7	+1.2
T1241				AML	AML			
	comp=N,1605μm,0.4s							
T1241				AML	AML			
	comp=E,1460μm,0.4s							
T1241				AML	AML			
	comp=E,1460μm,0.4s							
RM33	**Pellescritta (**	**0.23**	**177**	⇑P	Pg		16 54 20.1	+0.3

RM33					AML	AML			
	comp=E,2050µm,0.1s								
RM33					AML	AML			
	comp=N,1710µm,0.2s								
RM33					AML	AML			
	comp=N,1720µm,0.2s								
RM33					AML	AML			
	comp=E,2030µm,0.1s								
CAMP	**Campotosto**	**0.25**	**142**	⇑P	Pg		16 54 20.5	+0.2	
CAMP				AML	AML				
	comp=E,646µm,0.2s								
CAMP				AML	AML				
	comp=N,582µm,0.6s								
T1215	**Vallo di Nera,**	**0.25**	**285**	⇑P	Pg		16 54 20.8	+0.6	
T1215				AML	AML				
	comp=E,823µm,0.3s								
T1215				AML	AML				
	comp=N,922µm,0.2s								
T1215				AML	AML				
	comp=N,988µm,0.2s								
T1215				AML	AML				
	comp=E,738µm,0.3s								
T1215				AML	AML				
	comp=N,988µm,0.2s								
T1215				AML	AML				
	comp=N,922µm,0.2s								
T1256	**Bolognola (MC)**	**0.27**	**4**	⇑P	Pg		16 54 21.2	+0.5	
T1247	**Pizzolo (AQ)**	**0.30**	**166**	⇑P	Pg		16 54 21.4	+0.3	
T1247				AML	AML				
	comp=E,1136µm,0.6s								
T1247				AML	AML				
	comp=N,1465µm,0.4s								
GUMA	**Gualdo di Mace**	**0.34**	**17**	⇑P	Pb		16 54 22.8	-0.4	
CESI	**CESI - Serrava**	**0.35**	**321**	⇑P	Pg		16 54 22.5	+0.6	
CESI				AML	AML				
	comp=E,700µm,0.3s								
CESI				AML	AML				
	comp=E,700µm,0.3s								
CESI				AML	AML				
	comp=N,1250µm,0.5s								
ARRO	**Arrone**	**0.36**	**244**	⇑P	Pb		16 54 23.3	0.0	
CSP1	**Cessapalombo**	**0.36**	**1**	⇑P	Pg		16 54 22.7	+0.5	
CSP1				AML	AML				
	comp=E,768µm,0.2s								
CSP1				AML	AML				
	comp=N,1245µm,0.9s								
CSP1				AML	AML				
	comp=E,768µm,0.2s								
CSP1				AML	AML				
	comp=N,1240µm,0.9s								
CSP1				AML	AML				
	comp=N,1240µm,1.1s								
T1220	**Camerino, Fraz**	**0.38**	**348**	⇓P	Pg		16 54 23.1	+0.4	
GIGS	**Gran Sasso**	**0.40**	**136**	⇑P	Pg		16 54 22.9	0.0	
OFFI	**Offida**	**0.41**	**61**	⇑P	Pb		16 54 24.4	+0.1	
MOMA	**Monte Martano**	**0.47**	**279**	P	Pg		16 54 24.7	+0.5	
FIAM	**Fiamignano**	**0.47**	**187**	⇑P	Pg		16 54 24.2	0.0	
ASSB	**Assisi San Ben**	**0.50**	**308**	⇑P	Pg		16 54 25.3	+0.5	
SNTG	**Esanatoglia**	**0.55**	**340**	⇓P	Pg		16 54 26.1	+0.3	
EL6	**Elcito**	**0.60**	**353**	⇓P	Pg		16 54 27.0	+0.3	
EL6				S	Sb		16 54 37.0	+0.9	
ATCC	**AVT- Casa Cast**	**0.61**	**318**	P	Pb		16 54 27.4	-0.3	
FOSV	**Fossato di Vic**	**0.65**	**330**	⇓P	Pg		16 54 27.9	+0.3	
T0110	**Collepietro**	**0.67**	**140**	⇓P	Pg		16 54 28.1	+0.2	
PP3	**Marolino**	**0.71**	**25**	⇑P	Pb		16 54 29.9	+0.5	
MURB	**Monte Urbino**	**0.72**	**317**	S	Sn		16 54 42.2	-0.2	
SENI	**Senigallia**	**0.97**	**1**	P	Pg		16 54 30.6	-3.1	
PTRJ	**Pietraroja**	**1.69**	**144**	P	Pn		16 54 42.3	-2.3	
PTRJ				AML	AML				
	comp=N,1690µm,0.7s								
PTRJ				AML	AML				
	comp=E,838µm,0.4s								
PTRJ				AML	AML				
	comp=N,1690µm,1.3s								

BJI ***16*** *17:04:02.4±0.0,20.˝66S×178.˚80W,h593km,mb4.7/19, mB5.1/11*
NOU ***16*** *17:04:04.6,21.˝25S×178.˚98W,h627km,mb4.7/54,Fiji Islands Region*
IDC ***16*** *17:04:04.9±0.6,21.˝24S×179.˚15W,h620km±5km,mb4.0/31, mbtmp4.9/33,Error ellipse: s-maj=10.4km s-min=9.0km az=124.0*
NEIC ***16*** *17:04:05.7±2.1,21.˝17S±0.˚10×179.˚2W±0.˚1,h619km±5km, mb4.7/236,Error ellipse: s-maj=16.6km s-min=13.6km az=115.0*
ISC 16 17:04:03.8±0.4,21.˝31S±0.˚04×179.˚03W±0.˚05, h616km±4km,h617km;pP-P,n479,σ1s63/533,mb4.7/143, 10C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.07**	**4**	P	**P**	**17 05 26.7**	**+1.9**
MSVF	**Nonsavu**	**4.50**	**322**	P	**P**	**17 05 35.6**	**+1.4**
	975nm,0.5s,baz=157,slow=6.1,SNR=536						
MSVF	**Nonsavu**	**4.50**	**322**	P	**P**	**17 05 35.5**	**+1.2**
MSVF	**Nonsavu**	**4.50**	**322**	P	**P**	**17 05 35.8**	**+1.6**
TAVE	**Taveuni**	**4.66**	**350**	P	**P**	**17 05 36.6**	**+1.3**
DGTI	**Dogotuki**	**5.12**	**347**	P	**P**	**17 05 39.8**	**+1.0**
FUTU	**Fugatoga**	**7.02**	**7**	P	**P**	**17 05 55.9**	**+1.0**
RAO	**Raoul Island**	**7.97**	**173**	P	**P**	**17 06 01.2**	**-2.0**
RAO	**Raoul Island**	**7.97**	**173**	S	S	17 07 31.2	-10
GLKZ	**Green Lake**	**7.98**	**173**	P	**P**	**17 06 04.2**	**+0.9**
GLKZ				S	**S**	**17 07 35.1**	**-6.3**
NIUE	**Niue**	**8.83**	**77**	P	**P**	**17 06 08.1**	**-3.5**
AFI	**Afiamalu**	**10.10**	**44**	P	**P**	**17 06 21.6**	**-2.5**
	77nm,0.7s,baz=116,slow=3.4,SNR=7.2						
AFI				S	**S**	**17 08 13.1**	**-6.0**
	80nm,0.6s,baz=228,slow=23,SNR=1.9						
AFI	**Afiamalu**	**10.10**	**44**	P	**P**	**17 06 21.0**	**-3.1**
MARNC	**Mare, Loyalty**	**12.06**	**267**	P	**P**	**17 06 42.5**	**-0.7**
FUNA	**Funafuti**	**12.83**	**352**	P	**P**	**17 06 49.8**	**-1.0**
FUNA	**Funafuti**	**12.83**	**352**	P	**P**	**17 06 50.4**	**-0.4**
DZM	**Mont Dzumac**	**13.53**	**264**	P	**P**	**17 06 57.2**	**-0.6**
	7.7nm,0.6s,baz=117,slow=12,SNR=19						
DZM	**Mont Dzumac**	**13.53**	**264**	P	**P**	**17 06 57.6**	**-0.2**
OUZ	**Omahuta**	**15.29**	**203**	P	**P**	**17 07 17.6**	**+3.8**
KOUNC	**Koumac, New Ca**	**15.61**	**270**	P	**P**	**17 07 18.3**	**+1.3**
KOUNC				IAmb	IAmb	17 07 33.0	
	comp=Z,42nm,1.1s						
KOUNC	**Koumac, New Ca**	**15.61**	**270**	P	**P**	**17 07 19.8**	**+2.8**
WCZ	**Waipu Caves**	**15.68**	**200**	P	**P**	**17 07 20.1**	**+2.7**
KUZ	**Kuaotunu**	**16.04**	**195**	P	**P**	**17 07 23.6**	**+2.9**
KUZ	**Kuaotunu**	**16.04**	**195**	P	**P**	**17 07 23.5**	**+2.9**
WIAZ	**Waiheke Island**	**16.24**	**197**	P	**P**	**17 07 25.7**	**+3.2**
MXZ	**Matakaoa Point**	**16.36**	**188**	P	**P**	**17 07 21.3**	**-2.3**
MXZ				IAmb	IAmb	17 08 04.5	
	comp=Z,36nm,0.9s						
MXZ	**Matakaoa Point**	**16.36**	**188**	P	**P**	**17 07 24.6**	**+1.1**
MXZ				S	**S**	**17 10 00.3**	**-5.8**
ETAZ	**East Tamaki Re**	**16.45**	**197**	P	**P**	**17 07 28.2**	**+3.8**
MKAZ	**Moumakai**	**16.53**	**197**	P	**P**	**17 07 28.1**	**+3.0**
WMGZ	**Waiomatatini S**	**16.60**	**187**	P	**P**	**17 07 26.2**	**+0.4**
WMGZ				S	**S**	**17 10 07.9**	**-2.1**
HAZ	**Te Kaha**	**16.62**	**189**	P	**P**	**17 07 26.7**	**+0.8**
HAZ				S	**S**	**17 10 04.0**	**-6.3**
PKGZ	**Pakihiroa**	**16.71**	**188**	P	**P**	**17 07 28.1**	**+1.3**
PKGZ				S	**S**	**17 10 09.9**	**-2.1**
RUGZ	**Raukumara Rang**	**16.84**	**189**	P	**P**	**17 07 28.3**	**+0.2**
RUGZ				S	**S**	**17 10 07.3**	**-6.9**
PUZ	**Puketiti**	**16.87**	**187**	P	**P**	**17 07 29.3**	**+1.0**
PUZ				S	**S**	**17 10 11.6**	**-2.9**
TWGZ	**Tauwhareparae**	**17.00**	**188**	P	**P**	**17 07 31.1**	**+1.6**
TWGZ				S	**S**	**17 10 11.2**	**-5.5**
TOZ	**Tahuroa Road**	**17.03**	**195**	P	**P**	**17 07 32.6**	**+2.9**
URZ	**Urewera**	**17.21**	**190**	P	**P**	**17 07 29.5**	**-1.9**
	comp=Z,29nm,0.3s,baz=333,slow=2.6,SNR=67						
URZ				S	**S**	**17 10 15.0**	**-5.0**
	comp=Z,23nm,0.7s,baz=271,slow=22,SNR=9.8						
URZ	**Urewera**	**17.21**	**190**	P	**P**	**17 07 31.1**	**-0.3**
URZ	**Urewera**	**17.21**	**190**	P	**P**	**17 07 30.0**	**-1.4**
URZ				S	**S**	**17 10 14.5**	**-5.5**
MWZ	**Matawai**	**17.22**	**189**	P	**P**	**17 07 31.3**	**-0.3**
MWZ				S	**S**	**17 10 13.0**	**-7.3**
CNGZ	**Carnagh Statio**	**17.28**	**187**	P	**P**	**17 07 33.3**	**+1.4**
TKGZ	**Te Karaka**	**17.28**	**188**	P	**P**	**17 07 33.3**	**+1.3**
MUGZ	**Murupara**	**17.49**	**191**	P	**P**	**17 07 34.4**	**+0.5**
RIGZ	**Rimuhau**	**17.55**	**188**	P	**P**	**17 07 35.2**	**+0.7**
RTZ	**Ruatahuna**	**17.59**	**190**	P	**P**	**17 07 34.5**	**-0.4**
RTZ				IAmb	IAmb	17 07 45.6	
	comp=Z,41nm,1.5s						
RTZ	**Ruatahuna**	**17.59**	**190**	P	**P**	**17 07 35.4**	**+0.5**
SNGZ	**Shannon Statio**	**17.69**	**189**	P	**P**	**17 07 34.7**	**-1.1**
MTHZ	**Maungataniwha**	**17.84**	**191**	P	**P**	**17 07 37.5**	**+0.3**
MRHZ	**Matea Rd**	**17.90**	**192**	P	**P**	**17 07 37.7**	**0.0**
MHGZ	**Mahia Peninsul**	**17.98**	**188**	P	**P**	**17 07 39.7**	**+1.3**
NMHZ	**Naumai**	**18.08**	**190**	P	**P**	**17 07 40.0**	**+0.6**
BKZ	**Black Stump Fm**	**18.20**	**191**	P	**P**	**17 07 39.3**	**-1.1**
BKZ				IAmb	IAmb	17 07 48.5	
	comp=Z,46nm,1.4s						
ETVZ	**East Tongariro**	**18.33**	**193**	P	**P**	**17 07 41.9**	**+0.2**
BFZ	**Birch Farm**	**19.72**	**191**	P	**P**	**17 07 54.0**	**-0.1**
MRZ	**Mangatainoka R**	**19.82**	**192**	P	**P**	**17 07 54.0**	**-1.0**
SNZO	**South Karori**	**20.63**	**194**	P	**P**	**17 08 02.5**	**+0.2**
TCW	**Tory Channel**	**20.63**	**194**	P	**P**	**17 08 01.9**	**-0.4**
BHW	**Baring Head**	**20.69**	**193**	P	**P**	**17 08 02.6**	**-0.2**
QRZ	**Quartz Range**	**20.73**	**198**	P	**P**	**17 08 04.7**	**+1.5**
QRZ	**Quartz Range**	**20.73**	**198**	P	**P**	**17 08 04.6**	**+1.4**
PLWZ	**Palliser**	**20.77**	**192**	P	**P**	**17 08 03.2**	**-0.4**
TKNZ	**Takaka Hill**	**20.80**	**197**	P	**P**	**17 08 04.2**	**+0.4**
NNZ	**Nelson**	**20.86**	**196**	P	**P**	**17 08 05.0**	**+0.7**
TUWZ	**Tuamarina**	**20.92**	**195**	P	**P**	**17 08 04.5**	**-0.4**
MRNZ	**Matariki Terra**	**21.20**	**197**	P	**P**	**17 08 07.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**21.20**	**195**	P	**P**	**17 08 08.8**	**+1.4**
THZ	**Tophouse**	**21.50**	**197**	P	**P**	**17 08 09.8**	**-0.3**
THZ				IAmb	IAmb	17 08 13.3	
	comp=Z,33nm,0.8s						
DSZ	**Denniston Nort**	**21.79**	**199**	P	**P**	**17 08 14.2**	**+1.5**
KHZ	**Kahutara**	**21.95**	**195**	P	**P**	**17 08 13.6**	**-0.4**
GVZ	**Greta Valley S**	**22.59**	**195**	P	**P**	**17 08 19.4**	**-0.4**
LTZ	**Lake Taylor**	**22.61**	**197**	P	**P**	**17 08 19.4**	**-0.6**
INZ	**Inchbonnie**	**22.80**	**198**	P	**P**	**17 08 21.9**	**+0.3**
AMCZ	**Amberley**	**22.88**	**196**	P	**P**	**17 08 22.1**	**-0.2**
OXZ	**Oxford**	**23.18**	**197**	P	**P**	**17 08 24.6**	**-0.4**
MQZ	**McQueen's Vall**	**23.38**	**195**	P	**P**	**17 08 26.1**	**-0.6**
RPZ	**Rata Peaks**	**23.82**	**198**	P	**P**	**17 08 30.0**	**-0.6**
	comp=Z,12nn,0.5s,baz=37,slow=3.6,SNR=8.9						
	comp=Z,12nn,0.5s						
RPZ	**Rata Peaks**	**23.82**	**198**	P	**P**	**17 08 30.2**	**-0.5**
RPZ				IAmb	IAmb	17 08 46.6	
	comp=Z,25nm,0.8s						
RPZ	**Rata Peaks**	**23.82**	**198**	P	**P**	**17 08 32.1**	**+1.5**
TARA	**Tarawa**	**23.86**	**340**	P	**P**	**17 08 30.6**	**-0.8**
TARA	**Tarawa**	**23.86**	**340**	P	**P**	**17 08 31.4**	**0.0**
FOZ	**Fox Glacier**	**24.03**	**200**	P	**P**	**17 08 31.9**	**-0.5**
LBZ	**Lake Benmore**	**24.68**	**199**	P	**P**	**17 08 37.7**	**-0.6**
JCZ	**Jackson Bay**	**24.85**	**201**	P	**P**	**17 08 40.7**	**+0.9**
ODZ	**Otahua Downs**	**25.15**	**197**	P	**P**	**17 08 42.5**	**+0.2**
ODZ				IAmb	IAmb	17 08 59.7	
	comp=Z,24nm,1.1s						
ODZ	**Otahua Downs**	**25.15**	**197**	P	**P**	**17 08 42.8**	**+0.4**
WKZ	**Wanaka**	**25.45**	**200**	P	**P**	**17 08 44.9**	**-0.1**
MLZ	**Mavora Lakes**	**26.22**	**201**	P	**P**	**17 08 52.7**	**+0.9**
DCZ	**Deep Cove**	**26.63**	**202**	P	**P**	**17 08 55.9**	**+0.7**
WHZ	**Wether Hill Ro**	**26.74**	**200**	P	**P**	**17 08 57.0**	**+0.8**
EIDS	**Eidsvold**	**27.71**	**256**	P	**P**	**17 09 05.1**	**0.0**
ARMA	**Armidale**	**27.85**	**245**	P	**P**	**17 09 07.9**	**+1.6**
ARMA				IAmb	IAmb	17 09 08.8	
	comp=Z,13nm,0.8s						
ARMA	**Armidale**	**27.85**	**245**	P	**P**	**17 09 08.0**	**+1.6**
RMQ	**Roma**	**29.85**	**254**	P	**P**	**17 09 24.3**	**+0.7**
AULRC	**Lightning Ridg**	**30.81**	**248**	P	**P**	**17 09 33.0**	**+1.4**
CNB	**Canberra Magne**	**30.98**	**236**	P	**P**	**17 09 33.8**	**+0.7**
CAN	**Canberra**	**31.26**	**237**	P	**P**	**17 09 36.4**	**+0.9**
CAN				IAmb	IAmb	17 09 37.9	
	comp=Z,17nm,1.0s						
CTA	**Charters Tower**	**32.46**	**266**	P	**P**	**17 09 45.6**	**-0.2**
	comp=Z,6.0nm,0.3s,baz=90,slow=10,SNR=33						
	comp=Z,6.0nm,0.3s						
CTAO	**Charters Tower**	**32.46**	**266**	P	**P**	**17 09 46.4**	**+0.6**
CTAO				IAmb	IAmb	17 10 25.3	
	comp=Z,25nm,1.4s						
KRVT	**Keravat (AS076**	**32.80**	**297**	P	**P**	**17 09 48.1**	**-0.6**
	comp=Z,39nn,0.5s,baz=196,slow=3.4,SNR=6.6						
	comp=Z,39nn,0.5s						
CMSA	**Cobar Meteorol**	**33.07**	**245**	P	**P**	**17 09 51.6**	**+0.9**
QLP	**Quilpie**	**33.91**	**254**	P	**P**	**17 09 58.6**	**+0.8**
MTSU	**Mount Surprise**	**34.60**	**269**	P	**P**	**17 10 04.3**	**+0.6**
PMG	**Port Moresby**	**34.60**	**285**	P	**P**	**17 10 03.8**	**+0.1**
	comp=Z,38nn,0.8s,baz=92,slow=5.0,SNR=19						
	comp=Z,38nn,0.8s						
PMG	**Port Moresby**	**34.60**	**285**	P	**P**	**17 10 03.6**	**-0.1**
PMG	**Port Moresby**	**34.60**	**285**	P	**P**	**17 10 04.2**	**+0.5**
PMG	**Port Moresby**	**34.60**	**285**	P	**P**	**17 10 04.1**	**+0.4**
TAU	**Tasmania Unive**	**35.38**	**225**	P	**P**	**17 10 10.5**	**+0.8**
TAU				IAmb	IAmb	17 10 23.7	
	comp=Z,28nn,1.1s						
PATS	**Pohnpei**	**35.74**	**319**	P	**P**	**17 10 13.2**	**+0.1**
GEXS	**Deakin Univers**	**35.74**	**234**	P	**P**	**17 10 14.1**	**+1.3**
BRAT	**Ballarat**	**35.82**	**235**	P	**P**	**17 10 15.3**	**+1.8**
STKA	**Stephens Creek**	**36.58**	**245**	P	**P**	**17 10 19.8**	**0.0**
	comp=Z,11nn,0.6s,baz=90,slow=9.5,SNR=41						
STKA				S	**S**	**17 15 17.8**	**-2.4**
	comp=Z,3.9nn,0.9s,baz=124,slow=6.3,SNR=5.0						
	comp=Z,11nn,0.6s						
STKA	**Stephens Creek**	**36.58**	**245**	P	**P**	**17 10 20.6**	**+0.8**
STKA	**Stephens Creek**	**36.58**	**245**	P	**P**	**17 10 20.9**	**+1.2**
COEN	**Coen**	**36.69**	**275**	P	**P**	**17 10 21.4**	**+0.5**
COEN				IAmb	IAmb	17 10 22.5	
	comp=Z,15nn,0.8s						
COEN	**Coen**	**36.69**	**275**	P	**P**	**17 10 21.6**	**+0.7**
INKA	**Innaminka**	**37.03**	**252**	P	**P**	**17 10 25.0**	**+1.5**
ARPS	**Mount Arapiles**	**37.24**	**237**	P	**P**	**17 10 26.0**	**+0.9**
MANU	**Manus Island**	**37.92**	**296**	P	**P**	**17 10 31.3**	**+0.4**
MANU				IAmb	IAmb	17 10 31.7	
	comp=Z,28nn,0.8s						
MANU	**Manus Island**	**37.92**	**296**	P	**P**	**17 10 31.4**	**+0.5**
HTT	**Hallett**	**39.00**	**243**	P	**P**	**17 10 40.0**	**+0.6**
	comp=Z,31nn,0.9s						
LCRK	**Leigh Creek**	**39.34**	**248**	P	**P**	**17 10 42.7**	**+0.6**
	comp=Z,42nn,1.1s						
WHYH	**Whyalla**	**40.08**	**244**	P	**P**	**17 10 48.7**	**+0.8**
BBOO	**Buckleboo**	**41.33**	**244**	P	**P**	**17 10 58.0**	**+0.2**
BBOO				IAmb	IAmb	17 10 58.7	
	comp=Z,25nn,0.6s						
BBOO	**Buckleboo**	**41.33**	**244**	P	**P**	**17 10 58.2**	**+0.3**
OOD	**Oodnadatta**	**41.51**	**252**	P	**P**	**17 11 00.6**	**+1.3**
MULG	**Mulgathing**	**42.92**	**248**	P	**P**	**17 11 10.7**	**+0.4**
WR0	**Warramunga Arr**	**43.35**	**263**	P	**P**	**17 11 13.7**	**-0.1**
AS01	**Alice Springs**	**43.36**	**258**	P	**P**	**17 11 14.2**	**+0.3**
AS31	**Alice Springs**	**43.40**	**258**	P	**P**	**17 11 14.4**	**+0.2**
AS31					**S**	**17 16 56.8**	**-2.6**
ASAR	**Alice Springs**	**43.40**	**258**	P	**P**	**17 11 14.4**	**+0.2**
	comp=Z,12nn,0.5s,baz=97,slow=7.5,SNR=367						
ASAR				PcP	**PcP**	**17 12 48.7**	**+0.3**
	comp=Z,4.3nn,0.6s,baz=86,slow=8.2,SNR=5.1						
ASAR				ScP	**ScP**	**17 15 43.7**	**+1.7**
	comp=Z,1.3nn,0.9s,baz=101,slow=4.5,SNR=3.2						
ASAR				S	**S**	**17 16 56.6**	**-2.7**
	comp=Z,7.1nn,0.8s,baz=95,slow=16,SNR=35						
ASAR				ScS	**ScS**	**17 20 07.0**	**+1.3**
	comp=Z,2.0nn,0.9s,baz=96,slow=7.0,SNR=8.5						
ASAR				P3KP		17 41 41.6	
	comp=Z,0.1nn,0.3s,baz=13,slow=8.6,SNR=8.4						
	comp=Z,12nn,0.5s						
WB0	**Warramunga Arr**	**43.53**	**263**	P	**P**	**17 11 15.1**	**0.0**
WB0					**S**	**17 16 57.3**	**-3.8**
WB2	**Warramunga Arr**	**43.53**	**263**	P	**P**	**17 11 15.0**	**-0.2**
WRAB	**Tennant Creek**	**43.54**	**263**	P	**P**	**17 11 15.0**	**-0.2**
WRA	**Warramunga Arr**	**43.55**	**263**	P	**P**	**17 11 15.1**	**-0.2**
	comp=Z,3.1nn,0.3s,baz=96,slow=7.7,SNR=99						
WRA				ScP	**ScP**	**17 15 44.2**	**+1.6**
	comp=Z,1.1nn,1.1s,baz=58,slow=9.0,SNR=4.4						
WRA				S	**S**	**17 16 56.6**	**-4.8**
	comp=Z,2.4nn,0.8s,baz=100,slow=13,SNR=6.2						
	comp=Z,3.1nn,0.3s						
WRA	**Warramunga Arr**	**43.55**	**263**	P	**P**	**17 11 14.1**	**-1.2**
GENI	**Genyem**	**43.84**	**290**	P	**P**	**17 11 17.9**	**+0.3**
KEKH	**Kekaha**	**46.98**	**25**	P	**P**	**17 11 42.2**	**+1.1**
HPAH	**Hawaii Prepara**	**47.00**	**31**	P	**P**	**17 11 42.9**	**+1.4**
HLK	**Haleakala**	**47.37**	**30**	P	**P**	**17 11 44.8**	**+0.3**
FORT	**Forrest**	**48.09**	**247**	P	**P**	**17 11 49.6**	**+0.1**
MTN	**Manton Dam**	**48.22**	**272**	P	**P**	**17 11 50.5**	**-0.1**
MTN				IAmb	IAmb	17 12 29.2	
	comp=Z,31nn,1.4s						
WRKA	**Warakurna**	**48.33**	**255**	P	**P**	**17 11 51.4**	**0.0**
KNRA	**Kununurra**	**49.66**	**267**	P	**P**	**17 12 01.3**	**+0.2**
KNRA				IAmb	IAmb	17 12 10.2	
	comp=Z,35nn,1.2s						
FAKI	**Fak Fak**	**50.76**	**284**	P	**P**	**17 12 09.2**	**0.0**
FAKI				IAmb	IAmb	17 12 09.8	
	comp=Z,31nn,1.1s						
FITZ	**Fitzroy Crossi**	**51.97**	**263**	P	**P**	**17 12 18.5**	**+0.6**
SIJI	**Sorong**	**52.53**	**286**	P	**P**	**17 12 22.1**	**+0.2**
	comp=Z,103nn,0.8s,baz=93,slow=5.9,SNR=107						
	comp=Z,103nn,0.8s						
SOEI	**Soe**	**55.57**	**273**	P	**P**	**17 12 44.2**	**+0.9**
SOEI				IAmb	IAmb	17 12 50.8	
	comp=Z,23nn,0.8s						
SOEI	**Soe**	**55.57**	**273**	P	**P**	**17 12 43.9**	**+0.5**
PSA00	**Pilbara Seismi**	**56.55**	**258**	P	**P**	**17 12 49.8**	**0.0**
MBWA	**Marble Bar**	**56.74**	**258**	P	**P**	**17 12 50.6**	**-0.5**
MBWA				IAmb	IAmb	17 12 51.7	
	comp=Z,17nn,0.7s						
SANI	**Sanana**	**56.80**	**282**	P	**P**	**17 12 51.2**	**-0.4**
KLBR	**Kellerberrin**	**56.85**	**246**	P	**P**	**17 12 51.9**	**+0.2**
SBA	**Scott Base**	**57.00**	**184**	P	**P**	**17 12 55.8**	**+3.9**
SBA				IAmb	IAmb	17 12 57.0	
	comp=Z,49nn,1.0s						
VNDA	**Vanda**	**57.02**	**185**	P	**P**	**17 12 55.0**	**+2.9**
	comp=Z,11nn,0.9s,baz=358,slow=8.0,SNR=98						
	comp=Z,11nn,0.9s						
VNDA	**Vanda**	**57.02**	**185**	P	**P**	**17 12 54.9**	**+2.9**
NWAO	**Narrogin (SRO)**	**57.15**	**244**	P	**P**	**17 12 53.9**	**+0.1**
	comp=Z,16nn,1.0s						
	comp=Z,16nn,1.0s						
NWAO	**Narrogin (SRO)**	**57.15**	**244**	P	**P**	**17 12 53.8**	**+0.1**
NWAO				IAmb	IAmb	17 13 10.5	
	comp=Z,110nn,1.3s						
NWAO	**Narrogin (SRO)**	**57.15**	**244**	P	**P**	**17 12 53.9**	**+0.1**
NWAO				IAmb	IAmb	17 13 25.7	
	comp=Z,36nn,1.4s						
MORW	**Morawa**	**58.63**	**248**	P	**P**	**17 13 04.0**	**+0.2**
MORW				IAmb	IAmb	17 13 33.4	
	comp=Z,37nn,1.5s						
GIRL	**Giralia**	**61.41**	**255**	P	**P**	**17 13 23.7**	**+1.5**
CASY	**Casey**	**62.82**	**205**	P	**P**	**17 13 31.8**	**+1.4**
CASY				IAmb	IAmb	17 13 32.9	
	comp=Z,49nn,1.1s						
TOLI2	**Tolitoli**	**62.84**	**283**	P	**P**	**17 13 30.9**	**-0.6**
KKM	**Kota Kinabalu**	**69.05**	**286**	P	**P**	**17 14 10.4**	**+0.4**
KKM				IAmb	IAmb	17 14 15.4	
	comp=Z,16nn,1.1s						
JMM	**Marumori**	**69.94**	**327**	P	**P**	**17 14 13.9**	**-0.8**
JMM				IAmb	IAmb	17 14 19.2	
	comp=Z,47nn,1.2s						
JOW	**Kunigami**	**69.96**	**311**	P	**P**	**17 14 15.6**	**+0.6**
	comp=Z,14nn,0.8s,baz=241,slow=13,SNR=2.1						
	comp=Z,14nn,0.8s						
JOW	**Kunigami**	**69.96**	**311**	P	**P**	**17 14 15.9**	**+0.8**
JOW				IAmb	IAmb	17 14 31.4	
	comp=Z,52nn,1.2s						
JGF	**Kuroka**	**70.08**	**323**	P	**P**	**17 14 15.7**	**+0.1**
JGF				IAmb	IAmb	17 14 49.6	
	comp=Z,54nn,1.4s						
MJAR	**Matsushiro Arr**	**70.30**	**324**	P	**P**	**17 14 16.8**	**-0.1**
	comp=Z,16nn,0.8s,baz=160,slow=5.6,SNR=20						
	comp=Z,16nn,0.8s						
MAJO	**Matsushiro**	**70.30**	**324**	P	**P**	**17 14 16.6**	**-0.3**
MAJO				IAmb	IAmb	17 14 17.9	
	comp=Z,24nn,1.0s						
MJB9	**Matsu-Tunnel**	**70.31**	**324**	P	**P**	**17 14 17.7**	**+0.8**
MJB9				IAmb	IAmb	17 14 18.9	
	comp=Z,22nn,1.0s						
JSU	**Suzuyama**	**71.43**	**316**	P	**P**	**17 14 23.7**	**+0.1**
JSU				IAmb	IAmb	17 14 24.9	
	comp=Z,21nn,0.9s						
JTM	**Tenmabayashi**	**72.06**	**329**	P	**P**	**17 14 27.8**	**+0.8**
JHS	**Saijyo**	**72.10**	**320**	P	**P**	**17 14 28.2**	**+0.8**
JHS				IAmb	IAmb	17 14 29.1	
	comp=Z,31nn,0.8s						
JNU	**Nakatsue**	**72.22**	**317**	P	**P**	**17 14 28.1**	**-0.1**
	comp=Z,14nn,0.9s,baz=119,slow=10,SNR=4.8						
	comp=Z,14nn,0.9s						
AMKA	**Amchitka**	**72.39**	**359**	P	**P**	**17 14 28.6**	**0.0**
KIWB	**Kanaga Island**	**72.87**	**1**	P	**P**	**17 14 31.5**	**+0.2**
ADK	**Adak**	**72.91**	**2**	P	**P**

BNX BinXian 82.54 325 ⇓P **P** **17 15 23.3 -0.1**
BNX pmax pmax
comp=Z,17nm,0.8s
BNX pmax pmax
comp=Z,180nm,5.7s
KLR Kul'dur 82.74 330 P **P** **17 15 24.3 0.0**
comp=Z,6.1nm,0.8s,baz=103,slow=3.5,SNR=23
comp=Z,6.1nm,0.8s
KVN Kaiserville 82.76 43 P **P** **17 15 26.7 +1.8**
TPH Tonopah 82.77 45 P **P** **17 15 27.0 +2.0**
TPNV Topopah Spring 82.79 46 P **P** **17 15 27.5 +2.4**
BUCK Buck Mountain 82.90 37 P **P** **17 15 27.6 +2.3**
BUCK IAmb IAmb 17 15 28.8
comp=Z,41nm,1.2s
MOD Modoc Plateau 83.05 40 P **P** **17 15 27.8 +1.6**
TIA Tai'an 83.12 313 *e*P **P** **17 15 27.3 +0.8**
TIA pmax pmax
comp=Z,10.0nm,0.9s
O18K Koktuh Hills 83.19 12 P **P** **17 15 26.3 0.0**
K05A Summer Lake 83.20 39 P **P** **17 15 29.5 +2.5**
K05A IAmb IAmb 17 15 30.4
comp=Z,30nm,0.9s
SHPR Sheep Range 83.29 47 P **P** **17 15 29.7 +2.1**
W13A Hualapai Mount 83.42 48 P **P** **17 15 30.6 +2.3**
Y14A Wickenburg 83.44 50 P **P** **17 15 30.3 +2.1**
H04A Detroit Lake 83.65 37 P **P** **17 15 30.8 +1.8**
H04A IAmb IAmb 17 15 31.6
comp=Z,27nm,1.4s
O19K Port Alsworth 83.68 12 P **P** **17 15 29.0 +0.4**
CNPM China Poot 83.71 14 P **P** **17 15 29.4 +0.5**
CNPM IAmb IAmb 17 15 30.5
comp=Z,33nm,0.8s
PINE Pine Mountain 83.81 38 P **P** **17 15 31.7 +1.7**
PINE IAmb IAmb 17 15 33.4
comp=Z,25nm,1.0s
BMN Battle Mountai 84.10 43 P **P** **17 15 32.3 +0.8**
N19K Bonanza Creek 84.22 12 P **P** **17 15 31.4 -0.1**
N19K IAmb IAmb 17 15 32.7
comp=Z,12nm,0.9s
TUC Tucson 84.23 52 **17 15 34.6 +2.4**
MA2 Magadan 84.31 345 P **P** **17 15 31.0 -0.8**
comp=Z,11nm,0.8s,baz=104,slow=5.4,SNR=7.3
comp=Z,11nm,0.8s
MA2 Magadan 84.31 345 P **P** **17 15 31.3 -0.6**
MA2 IAmb IAmb 17 15 32.3
comp=Z,16nm,0.9s
GSI Gunungsitoli 84.32 274 P **P** **17 15 32.4 -0.6**
NLWA Neilton Lookou 84.44 34 P **P** **17 15 35.1 +2.3**
NLWA IAmb IAmb 17 15 36.0
comp=Z,26nm,1.1s
LCMT Little Creek M 84.86 47 P **P** **17 15 36.6 +1.3**
J08A Circle Bar Ran 85.00 40 P **P** **17 15 37.5 +1.8**
J08A IAmb IAmb 17 15 38.7
comp=Z,12nm,1.2s
CCUT Cedar City 85.06 47 P **P** **17 15 38.5 +2.2**
SPR3 Spring Creek 3 85.18 45 P **P** **17 15 37.2 +0.3**
U15A North Rim 85.22 48 P **P** **17 15 39.5 +2.4**
U15A IAmb IAmb 17 15 40.4
comp=Z,9.3nm,0.7s
SZCU Shurtz Canyon 85.27 47 P **P** **17 15 39.5 +2.2**
D05A Enumclaw 85.31 35 P **P** **17 15 39.3 +2.4**
D05A IAmb IAmb 17 15 40.5
comp=Z,38nm,1.2s
L19K White Mountain 85.41 11 P **P** **17 15 38.0 +0.9**
L19K IAmb IAmb 17 15 39.0
comp=Z,20nm,0.9s
HEH HeiHe 85.50 329 *e*P **P** **17 15 38.4 +0.6**
HEH pmax pmax
comp=Z,18nm,0.7s
HEH pmax pmax
comp=Z,240nm,5.0s
ELK Elko 85.53 43 P **P** **17 15 40.1 +1.6**
SUA Susitna One 85.56 13 P **P** **17 15 38.2 +0.2**
SUA IAmb IAmb 17 15 39.0
comp=Z,22nm,0.7s
F07A Phinny Hill Vi 85.65 37 P **P** **17 15 40.5 +1.9**
ENH Enshi 85.71 305 P **P** **17 15 40.5 +1.2**
ENH IAmb IAmb 17 15 41.3
comp=Z,20nm,1.0s
ENH Enshi 85.71 305 P **P** **17 15 40.5 +1.2**
PKCU Pink Cliffs 85.72 47 P **P** **17 15 40.6 +1.0**
PKCU IAmb IAmb 17 15 43.4
comp=Z,14nm,1.1s
BJT Baijiatuau 85.79 316 P **P** **17 15 39.9 +0.5**
G08A Pilot Rock 85.84 38 P **P** **17 15 41.1 +1.5**
G08A IAmb IAmb 17 15 42.6
comp=Z,27nm,1.3s
TTA Tatalina 85.91 10 P **P** **17 15 40.4 +0.9**
TTA IAmb IAmb 17 15 44.6
comp=Z,12nm,1.0s
M22K Willow 85.96 13 P **P** **17 15 39.8 +0.2**
KNK Knik Glacier 86.02 14 P **P** **17 15 40.9 +0.9**
KNK IAmb IAmb 17 15 41.4
comp=Z,22nm,0.8s
LTY Liberty 86.06 36 P **P** **17 15 41.4 +0.7**
LTY IAmb IAmb 17 15 42.6
comp=Z,6.9nm,0.8s
MTPU Mount Pierson 86.11 47 P **P** **17 15 44.2 +2.8**
HAWA Hanford 86.17 37 P **P** **17 15 43.5 +2.5**
HAWA IAmb IAmb 17 15 44.1
comp=Z,16nm,0.9s
COYC Coyhaique 86.20 138 P **P** **17 15 44.4 +3.0**
GHO Glory Hole Cre 86.24 14 P **P** **17 15 41.4 +0.3**
E08A Dider Farm, El 86.49 37 P **P** **17 15 44.6 +2.1**
E08A IAmb IAmb 17 15 45.4
comp=Z,11nm,0.9s
CUT Chulitna 86.51 13 P **P** **17 15 42.7 +0.5**
BMO Blue Mountains 86.55 39 P **P** **17 15 44.7 +1.7**
BMRM Bremner River 86.57 16 P **P** **17 15 43.4 +0.7**
MFID Camas Ranch 86.62 41 P **P** **17 15 45.0 +1.5**
MFID IAmb IAmb 17 15 46.3
comp=Z,10nm,1.1s
K20K Telida 86.64 11 P **P** **17 15 43.7 +0.8**
K20K IAmb IAmb 17 15 44.3
comp=Z,22nm,1.1s
SCM Sheep Creek Mo 86.65 14 P **P** **17 15 43.9 +0.8**
KLU Klutina 86.69 15 P **P** **17 15 44.2 +1.0**
KLU IAmb IAmb 17 15 44.8
comp=Z,16nm,0.9s
D08A Wollman Farm, 86.90 36 P **P** **17 15 46.3 +1.8**
D08A IAmb IAmb 17 15 47.5
comp=Z,20nm,1.1s
TROLL Troll, Antarti 86.92 180 P **P** **17 15 45.1 +0.6**
SEY Seymchan 86.95 347 P **P** **17 15 44.8 +0.5**
comp=Z,15nm,0.9s,baz=143,slow=5.6,SNR=33
SEY pP **pwP** **17 17 57.3 +1.7**
comp=Z,2.8nm,0.9s,baz=166,slow=17,SNR=3.5
comp=Z,15nm,0.9s
E09A Wood Farm, Sta 87.02 37 P **P** **17 15 47.0 +1.9**
E09A IAmb IAmb 17 15 47.6
comp=Z,13nm,1.0s
CAST Castle Rocks 87.06 12 P **P** **17 15 44.1 -0.7**
CAST IAmb IAmb 17 15 45.4
comp=Z,20nm,0.7s
TABL Table Mountain 87.07 18 P **P** **17 15 46.4 +1.2**
N25K Chitina, Valde 87.12 16 P **P** **17 15 46.1 +0.8**
N25K IAmb IAmb 17 15 47.0
comp=Z,19nm,0.8s
GLB Gilahina Butte 87.18 16 P **P** **17 15 46.5 +1.0**
GLB IAmb IAmb 17 15 47.1
comp=Z,16nm,0.8s
F10A Beach Ranch, E 87.23 38 P **P** **17 15 47.7 +1.5**
F10A IAmb IAmb 17 15 48.5
comp=Z,19nm,0.9s
J20K Nowinta River 87.38 11 P **P** **17 15 47.2 +0.9**
J20K IAmb IAmb 17 15 47.6
comp=Z,11nm,0.9s
VNA3 Neumayer Olymp 87.39 177 P **P** **17 15 47.0 +0.5**
TMUT Trail Mountain 87.41 46 P **P** **17 15 49.8 +2.3**
KTH Kantishna Hill 87.41 12 P **P** **17 15 46.0 -0.5**
KTH IAmb IAmb 17 15 47.3
comp=Z,19nm,0.9s
BARN Barnard Glacie 87.44 17 P **P** **17 15 48.1 +1.2**
TRF Thorofare Moun 87.44 12 P **P** **17 15 46.8 -0.1**
B08A Colville Reser 87.44 35 P **P** **17 15 48.4 +1.4**
B08A IAmb IAmb 17 15 49.1
comp=Z,14nm,0.8s
LLLB Lillooet 87.49 32 P **P** **17 15 48.0 +0.9**
LLLB IAmb IAmb 17 15 49.8
comp=Z,13nm,1.0s
HLID Hailey 87.57 41 P **P** **17 15 50.1 +2.2**
HVU Hansel Valley 87.65 43 P **P** **17 15 50.3 +2.0**
C09A Chrisman Ranch 87.69 36 P **P** **17 15 49.7 +1.5**
C09A IAmb IAmb 17 15 50.7
comp=Z,12nm,0.8s
RND Reindeer 87.70 13 P **P** **17 15 48.5 +0.6**
DHY Denali Highway 87.73 14 P **P** **17 15 48.5 +0.4**
DHY IAmb IAmb 17 15 58.4
comp=Z,9.6nm,1.1s
SRU San Rafael Swe 87.78 46 P **P** **17 15 50.8 +1.8**
SRU IAmb IAmb 17 15 51.7
comp=Z,7.0nm,0.9s
P17A Butcher Ranch, 87.81 46 P **P** **17 15 51.2 +2.1**
VNA2 Neumayer--Watz 87.82 177 P **P** **17 15 49.2 +0.7**
baz=173,slow=3.0
XAN Xi'an 87.86 308 P **P** **17 15 50.5 +1.1**
XAN pmax pmax
comp=Z,13nm,0.9s
BPAW Bear Paw Mtn. 87.89 12 P **P** **17 15 47.7 -1.0**
BPAW IAmb IAmb 17 15 53.0
comp=Z,13nm,1.5s
MCK McKinley 87.97 13 P **P** **17 15 49.3 +0.2**
MCK IAmb IAmb 17 15 50.1
comp=Z,25nm,1.1s
MNTX Cornudas Mount 88.00 55 P **P** **17 15 52.5 +2.5**
MNTX **pwP** **17 18 07.1 +2.8**
VNA1 Neumayer--Stat 88.06 177 P **P** **17 15 50.5 +1.0**
PAX Paxson 88.08 15 P **P** **17 15 50.0 +0.4**
PAX IAmb IAmb 17 15 50.7
comp=Z,9.2nm,1.0s
BNM Barren Site 88.17 52 P **P** **17 15 51.9 +0.9**
TCUT Toone Canyon 88.19 44 P **P** **17 15 52.9 +1.9**
TCUT IAmb IAmb 17 15 53.9
comp=Z,13nm,0.9s
M26K Nabesna, AK 88.20 16 P **P** **17 15 50.9 +0.7**
M26K IAmb IAmb 17 15 52.2
comp=Z,14nm,1.1s
TX31 Lajitas Ar. Si 88.30 58 P **P** **17 15 53.6 +2.1**
TX31 IAmb IAmb 17 15 55.1
comp=Z,9.7nm,0.8s
TX32 Lajitas Array 88.30 58 P **P** **17 15 53.8 +2.2**
M27K Edge Creek, AK 88.45 16 P **P** **17 15 52.8 +1.3**
MENT Mentasta 88.47 15 P **P** **17 15 52.6 +1.1**
MENT IAmb IAmb 17 15 53.3
comp=Z,10nm,0.8s
BCYI Bear Canyon 88.58 41 P **P** **17 15 54.9 +2.2**
NEW Newport 88.59 36 P **P** **17 15 52.6 +0.2**
L26K Log Cabin Wild 88.64 15 P **P** **17 15 53.2 +1.0**
L26K IAmb IAmb 17 15 53.6
comp=Z,8.0nm,0.9s
PV01 Paradox Valley 88.64 48 P **P** **17 15 53.8 +0.7**
ANMO Albuquerque 88.66 52 P **P** **17 15 54.6 +1.4**
I21K Tanana 88.68 11 P **P** **17 15 52.7 +0.4**
NEA2 Nenana 88.71 12 P **P** **17 15 52.3 -0.2**
NEA2 IAmb IAmb 17 15 52.9
comp=Z,10nm,0.9s
MLY Manley 88.78 12 P **P** **17 15 52.6 -0.3**
MLY IAmb IAmb 17 15 53.3
comp=Z,15nm,1.2s
WRH Wood River Hil 88.80 13 P **P** **17 15 53.0 +0.1**
RIDG Independent Ri 88.88 14 P **P** **17 15 53.7 +0.3**
RIDG IAmb IAmb 17 15 54.9
comp=Z,14nm,0.9s
H21K Melozitna Rive 88.98 11 P **P** **17 15 53.8 +0.1**
H21K IAmb IAmb 17 15 55.2
comp=Z,9.8nm,0.9s
DOT Dot Lake 88.99 15 P **P** **17 15 54.4 +0.6**
DOT IAmb IAmb 17 15 55.3
comp=Z,9.7nm,0.8s
HDA Harding Lake 88.99 13 P **P** **17 15 53.9 +0.1**
HDA IAmb IAmb 17 15 54.4
comp=Z,12nm,0.7s
GDL2 Guadalupe Moun 89.00 55 P **P** **17 15 56.5 +1.7**
CCB Clear Creek Bu 89.02 13 P **P** **17 15 53.9 0.0**
L27K Beaver Creek, 89.05 16 P **P** **17 15 54.9 +0.7**
L27K IAmb IAmb 17 15 55.9
comp=Z,7.1nm,0.9s
BCAR Beaver Creek A 89.06 16 P **P** **17 15 55.1 +0.8**
IMAR Indian Mountai 89.12 10 P **P** **17 15 55.0 +0.7**
I23K Minto, Yukon-K 89.15 12 P **P** **17 15 54.6 +0.1**
I23K IAmb IAmb 17 15 56.5
comp=Z,5.3nm,0.8s
MCMT McKenzie Canyo 89.19 41 P **P** **17 15 56.9 +1.4**
MDM Murphy Dome 89.20 13 P **P** **17 15 54.7 -0.1**
MDM IAmb IAmb 17 15 55.5
comp=Z,18nm,0.9s
TCOL CIGO, UAF Yank 89.20 13 P **P** **17 15 54.6 -0.1**
COLA College 89.21 13 P **P** **17 15 54.6 -0.1**
COLA College 89.21 13 P **P** **17 15 54.7 0.0**
AHID Auburn Hatcher 89.22 43 P **P** **17 15 55.8 +0.1**
AHID IAmb IAmb 17 15 59.1
comp=Z,7.3nm,0.9s
SCRK Sand Creek 89.28 15 P **P** **17 15 56.4 +1.0**
SCRK IAmb IAmb 17 15 57.0
comp=Z,9.1nm,1.0s
IL31 89.32 13 P **P** **17 15 55.1 -0.1**
IL31 IAmb IAmb 17 15 55.7
comp=Z,6.9nm,0.8s
ILAR Eielson Array 89.32 13 P **P** **17 15 55.0 -0.3**
comp=Z,4.2nm,0.6s,baz=220,slow=5.0,SNR=74
ILAR pP **pP** **17 18 09.1 +1.5**
comp=Z,1.0nm,1.0s,baz=228,slow=6.7,SNR=3.7
comp=Z,4.2nm,0.6s
ILAR Eielson Array 89.32 13 P **P** **17 15 55.0 -0.3**
PLCA Paso Flores 89.41 134 P **P** **17 15 58.5 +2.0**
comp=Z,5.1nm,0.8s,baz=230,slow=4.5,SNR=9.6
comp=Z,5.1nm,0.8s
CMAR Chiang Mai Arr 89.48 290 P **P** **17 15 58.6 +1.5**
comp=Z,3.3nm,0.9s,baz=128,slow=3.1,SNR=24
CMAR pP **pP** **17 18 09.6 +1.1**
comp=Z,0.2nm,0.3s,baz=113,slow=2.1,SNR=1.1
comp=Z,3.3nm,0.9s
POKR Poker Plat Res 89.51 13 P **P** **17 15 55.7 -0.5**
POKR IAmb IAmb 17 15 56.8
comp=Z,15nm,1.2s
CHTO Chiang Mai 89.62 290 P **P** **17 15 59.6 +1.9**
S22A 4UR Ranch, Cre 89.67 49 P **P** **17 16 00.4 +2.4**
S22A IAmb IAmb 17 16 00.9
comp=Z,7.6nm,1.4s
REDW Red Top Meadow 89.68 43 P **P** **17 15 59.8 +1.9**
REDW IAmb IAmb 17 16 00.5
comp=Z,7.9nm,0.9s
FXWY Fox Creek 89.71 42 P **P** **17 15 59.7 +1.8**
BILL Bilibino 89.75 355 P **P** **17 15 56.7 -0.5**
BILL IAmb IAmb 17 15 58.8
comp=Z,11nm,1.0s
SNOW Snow King Moun 89.79 43 P **P** **17 16 00.3 +1.9**
SNOW IAmb IAmb 17 16 01.3
comp=Z,13nm,1.1s
K27K Chicken 89.79 15 P **P** **17 15 58.7 +1.2**
K27K IAmb IAmb 17 15 59.8
comp=Z,16nm,1.1s
J26L Joseph Creek 89.83 15 P **P** **17 15 59.0 +1.2**
IMW Indian Meadow 89.89 42 P **P** **17 16 00.6 +1.7**
IMW IAmb IAmb 17 16 01.8
comp=Z,6.0nm,1.0s
LOHW Long Hollow 89.96 42 P **P** **17 16 00.6 +1.5**
M30M Minto, Yukon 90.04 18 P **P** **17 15 59.7 +1.0**
M30M IAmb IAmb 17 16 01.2
comp=Z,11nm,0.8s
FLWY Flagg Ranch 90.13 42 P **P** **17 16 02.0 +2.1**
FLWY IAmb IAmb 17 16 03.7
comp=Z,12nm,1.4s
BW06 Boulder Array 90.21 44 P **P** **17 16 01.5 +1.2**
BW06 IAmb IAmb 17 16 02.8
comp=Z,8.0nm,1.4s
PD31 Pinedale Array 90.21 44 P **P** **17 16 01.1 +0.8**
PDAR Pinedale Array 90.21 44 P **P** **17 16 00.6 +0.3**
comp=Z,2.6nm,0.8s,baz=195,slow=3.4,SNR=24
PDAR pP **pwP** **17 18 14.3 -0.8**
comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=3.0
comp=Z,2.6nm,0.8s
PDAR Pinedale Array 90.21 44 P **P** **17 16 01.6 +1.4**
PZH PanZhiHua 90.25 298 P **P** **17 16 01.8 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.4s
BOZ Bozeman (W) 90.33 40 P **P** **17 16 02.3 +1.7**
DAWY Dawson 90.50 16 P **P** **17 16 02.0 +1.1**
DAWY IAmb IAmb 17 16 02.7
comp=Z,11nm,1.1s
LKWY Lake 90.56 42 P **P** **17 16 04.4 +2.5**
I26K Coal Creek Min 90.60 14 P **P** **17 16 01.6 +0.4**
I26K IAmb IAmb 17 16 03.9
comp=Z,6.0nm,0.9s
SDCO Great Sand Dun 90.61 49 P **P** **17 16 03.6 +1.3**
EGAK Eagle 90.64 15 P **P** **17 16 01.9 +0.5**
COLD Coldfoot 90.85 11 P **P** **17 16 03.3 +1.0**
COLD IAmb IAmb 17 16 04.4
comp=Z,9.8nm,1.1s
MT01 Popeta 92.09 128 P **P** **17 16 10.5 +1.6**
BMAR Burnt Mountain 92.09 13 P **P** **17 16 09.2 +1.1**
YAK Yakutsk 92.51 338 P **P** **17 16 10.0 -0.1**
comp=Z,5.9nm,0.7s,baz=101,slow=0.5,SNR=11
comp=Z,5.9nm,0.7s
YAK Yakutsk 92.51 338 P **P** **17 16 10.0 -0.1**
Z35A Perchaven, San 94.93 56 pwP 17 18 37.8 +0.3
SONM Songino Array 95.74 319 P **P** **17 16 24.9 -0.4**
comp=Z,0.4nm,0.7s,baz=98,slow=4.8,SNR=3.9
SONM PP **PP** **17 20 23.5 -4.8**
comp=Z,1.2nm,1.1s,baz=125,slow=7.4,SNR=3.7
SONM PKKPbc **PKKPbc** **17 33 11.9 -1.3**
comp=Z,0.4nm,0.7s,baz=225,slow=3.8,SNR=3.5
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 97.65 25 P Pdif 17 16 33.2 0.0
comp=Z,0.8nm,0.7s,baz=245,slow=4.7,SNR=14
YKA pP pwP 17 18 46.9 -1.8
comp=Z,0.3nm,0.8s,baz=263,slow=5.3,SNR=2.6
YKA PP **PP** **17 20 35.2 -6.9**
comp=Z,2.0nm,1.1s,baz=240,slow=8.0,SNR=6.7
comp=Z,0.8nm,0.7s
TIXI Tiksi 99.28 345 PP **PP** **17 20 49.5 -4.6**
comp=Z,0.7nm,0.3s,baz=270,slow=23,SNR=4.4
TIXI PKKPbc **PKKPbc** **17 33 01.6 -2.3**
comp=Z,1.5nm,0.7s,baz=271,slow=21,SNR=6.2
ZALV Zalesovo Beam 110.52 321 PP **PP** **17 22 11.1 -5.0**
comp=Z,0.2nm,0.4s,baz=68,slow=29,SNR=1.7
MKAR Makanchi Array 111.06 313 PP **PP** **17 22 16.0 -4.1**
comp=Z,0.6nm,0.8s,baz=96,slow=7.4,SNR=3.8
MKAR PKKPbc **PKKPbc** **17 32 26.6 -1.3**
comp=Z,1.0nm,0.8s,baz=275,slow=4.4,SNR=9.7
KURBB Kurchatov Arra 113.99 317 PKKPbc PKKPbc 17 32 17.3 -1.1
comp=Z,0.6nm,0.2s,baz=193,slow=26,SNR=2.1
BVAR Borovoye Array 119.08 320 PKP **PKPdf** **17 21 43.1 -0.5**
comp=Z,0.4nm,0.3s,baz=129,slow=1.9,SNR=8.8
BVAR PP **PP** **17 23 13.4 -1.8**
comp=Z,0.5nm,0.6s,baz=205,slow=37,SNR=2.7
BVAR SKP 17 24 22.2
comp=Z,1.0nm,0.8s,baz=60,slow=5.8,SNR=3.9
BOSA Boshof 125.11 206 PKP **PKPdf** **17 21 55.5 -0.7**
comp=Z,2.2nm,0.9s,baz=66,slow=3.3,SNR=4.4
GEYT Alibeck 128.41 302 pPKP pPKPdf 17 24 25.0 +2.4
comp=Z,1.9nm,0.8s,baz=96,slow=1.4,SNR=2.9
KIRV Kirov 129.18 330 pPKP pPKPdf 17 24 25.7 +1.9
comp=Z,12nm,0.7s,baz=59,slow=1.3,SNR=5.9
ARCES ARCESS Array B 129.54 349 PKP **PKPdf** **17 22 03.6 +0.4**
comp=Z,2.5nm,0.7s,baz=17,slow=1.4,SNR=10.0
ARCES pPKP **pPKPdf** **17 24 25.2 +0.8**
comp=Z,11nm,0.9s,baz=318,slow=1.6,SNR=2.2
BELG Belogornoye 132.67 323 SKPbc **SKPbc** **17 24 40.1 -0.1**
comp=Z,30nm,1.1s,baz=148,slow=0.3,SNR=9.8
FINES FINESS Array B 136.27 343 PKP **PKPdf** **17 22 15.1 -0.9**
comp=Z,1.0nm,0.4s,baz=354,slow=1.9,SNR=5.4
FINES SKP 17 24 51.8
comp=Z,5.0nm,0.7s,baz=49,slow=3.2,SNR=16
NB2 NORSAR Subarra139.66 352 PKP **PKPdf** **17 22 15.1 -7.2**
comp=Z,3.7nm,1.1s,baz=17,slow=2.6
NB2 SKPa 17 25 02.1
comp=Z,0.7nm,0.7s,baz=10,slow=2.6
NOA NORSAR Array B139.66 352 PKhKP PKPpre 17 22 14.8
comp=Z,1.2nm,0.8s,baz=14,slow=4.2,SNR=4.4
NOA SKKPbc **SKPbc** **17 25 00.1 -0.8**
comp=Z,4.5nm,1.1s,baz=15,slow=4.4,SNR=3.9
STRU Stroemstad 141.61 352 *i* P **PKPdf** **17 22 21.3 -4.5**
LODK Lodwar 142.14 247 **PKPdf** **17 22 26.1 -2.2**
SHEL Horse Pasture 142.38 169 PKPdf **PKPdf** **17 22 28.0 -0.5**
TJOU Tjoern 142.51 351 *i* P **PKPdf** **17 22 24.3 -3.1**
BORU Boraas 142.71 350 *i* P **PKPdf** **17 22 24.8 -3.0**
SNART Snartemo 142.74 355 *e*P **PKPdf** **17 22 26.0 -1.8**
ONAU Onsala 143.08 350 *i* P PKPab 17 22 26.1 -0.3
AKASG Malin Array Be 143.24 330 PKP PKPab 17 22 26.8 -0.5
comp=Z,21nm,0.7s,baz=39,slow=4.4,SNR=181
AKASG SKPbc **SKPbc** **17 25 10.2 +0.1**
comp=Z,3.2nm,0.9s,baz=39,slow=2.4,SNR=9.9
AKBB Malin Array Si 143.24 330 PKPdf PKPab 17 22 26.7 -0.6
AK05 Malin Array Si 143.31 330 PKPdf PKPab 17 22 27.1 -0.4
FABU Falkenberg 143.32 349 *i* P PKPab 17 22 27.1 -0.2
MBAR Mbarara 143.67 237 PKPdf **PKPdf** **17 22 31.4 +0.4**
GAZ Gaziantep 144.90 305 PKPdf PKPbc 17 22 33.2 +0.1
BNN Bunyan 145.39 308 **PKPbc** **17 22 34.7 +0.1**
ESK Eskdalemuir 145.90 4 PKPdf **PKPbc** **17 22 35.3 0.0**
BR131 Keskin Array S 146.66 311 **PKPbc** **17 22 37.8 -0.3**
BRTR Keskin Array B 146.66 311 PKPbc **PKPbc** **17 22 37.5 -0.7**
comp=Z,2.6nm,0.7s,baz=130,slow=3.7,SNR=11
BRTR pPKP pPKPab 17 24 55.6 -0.6
comp=Z,1.8nm,1.1s,baz=55,slow=5.5,SNR=2.3
BRTR SKPbc **SKPbc** **17 25 18.8 +0.3**
comp=Z,0.2nm,0.5s,baz=104,slow=22,SNR=2.3
BRTR Keskin Array B 146.66 311 **PKPbc** **17 22 37.8 -0.3**
BSEG Bad Segeberg 146.66 350 *e*PKPbc **PKPbc** **17 22 38.1 +0.7**
baz=20,slow=2.5
BSEG *e*PKPab **PKPab** **17 22 40.4 0.0**
baz=20,slow=2.5
BUR08 Bucovina Ar. S 147.27 329 **PKPbc** **17 22 40.1 +0.7**
BURAR Bucovina Array 147.28 329 **PKPbc** **17 22 39.6 +0.2**
OJC Ojcow 147.55 337 **PKPbc** **17 22 38.9 -1.0**
STHS Stebnicka Huta 147.66 335 *e*PKP **PKPbc** **17 22 40.9 +0.7**
STHS *e* 17 22 45.7
RETH Rethem/Aller, 147.97 350 *e*PKPbc **PKiKP** **17 22 41.8 -0.3**
baz=20,slow=2.5
FLTG Flechtingen 148.03 348 *e*PKPbc **PKPbc** **17 22 41.8 +0.8**
baz=20,slow=2.5
FLTG *e*PKPab **PKPab** **17 22 45.9 -0.2**
baz=20,slow=2.5
KSP Ksiaz 148.17 341 *e*PKP **PKiKP** **17 22 42.7 +0.1**
OSTC Ostas 148.44 341⇑ *e*PKP **PKiKP** **17 22 43.2 0.0**
OSTC *e*PKPAB **PKPab** **17 22 48.9 +0.9**
OSTC *ex* x 17 25 09.0
LANS Liptovska Anna 148.56 336 *e*PKP **PKiKP** **17 22 44.1 +0.6**
LANS *e* 17 22 50.0
DPC Dobruska-Polom 148.59 341⇑ *e*PKP **PKiKP** **17 22 43.0 -0.2**
DPC *e*PKPAB **PKPab** **17 22 49.6 +1.0**
CLL Collm 148.62 345 **PKPbc** **17 22 42.9 +0.4**
CLL Collm 148.62 345⇓ *i*PKPbc **PKPbc** **17 22 43.0 +0.5**
comp=Z,16nm,1.1s
CLL ⇑ *i*PKPab **PKPab** **17 22 48.9 +0.3**
comp=Z,10.0nm,0.9s
CLL *e*pPKPab **pPKPab** **17 25 05.0 +1.8**
CLL *i* x x 17 25 10.4
comp=Z,12nm,1.1s
CLL Collm 148.62 345 *e*PKPbc **PKPbc** **17 22 43.1 +0.6**
baz=20,slow=2.5
CLL *e*PKPab **PKPab** **17 22 48.7 +0.1**
baz=20,slow=2.5
CLZ Clausthal 148.66 349 *e*PKPbc **PKiKP** **17 22 43.7 0.0**
baz=20,slow=2.5
KRLC Kraliky 148.69 340⇑ *e*PKP **PKPbc** **17 22 43.4 +0.6**
KRLC *e*PKPAB **PKPab** **17 22 49.4 +0.4**
MORC Moravsky Berou 148.71 339 **PKiKP** **17 22 43.7 -0.1**
MORC Moravsky Berou 148.71 339 *e*PKP **PKPbc** **17 22 43.3 +0.5**
MORC *e* 17 22 49.8
BRG Berggiesshubel 148.79 344 *e*PKP **PKiKP** **17 22 43.9 0.0**
BRG Amp 17 22 45.3
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 148.79 344 P **PKPab** **17 22 50.2 +0.8**
BRG Amp 17 22 51.1
comp=Z,13nm,1.1s
BRG pPKP **pPKPab** **17 25 05.3 +1.4**
BRG Amp 17 25 09.2
comp=Z,7.3nm,1.2s
BRG Berggiesshubel 148.79 344 *e*PKPbc **PKPbc** **17 22 43.6 +0.6**
baz=20,slow=2.5
BRG *e*PKPab **PKPab** **17 22 49.9 +0.6**
baz=20,slow=2.5
FBE Freiberg 148.89 345 *e*PKPbc **PKiKP** **17 22 44.2 +0.2**
baz=20,slow=2.5
MAUC Maruska 148.96 338⇑ *e*PKP **PKiKP** **17 22 44.8 +0.5**
NEUB Neuenburg 148.99 347 *e*PKPab **PKPab** **17 22 50.4 +0.3**
baz=20,slow=2.5
VYHS Vyhne 149.33 336 *e*PKP **PKiKP** **17 22 45.3 +0.2**
VYHS *e* 17 22 52.6
VYHS *e* 17 25 11.4
VRAC Vranov 149.42 340 *e*PKP **PKiKP** **17 22 45.3 0.0**
VRAC *e* 17 22 53.2
GOPC GO Pecny, Ondr 149.43 342⇑ *e*PKP **PKiKP** **17 22 45.3 0.0**
PRU Pruhonice 149.44 343⇑ *e*PKP **PKiKP** **17 22 45.3 +0.1**
PRU *e*PKPAB **PKPab** **17 22 52.7 +0.7**
JAVC Velka Javorina 149.45 338 *e*PKP **PKiKP** **17 22 46.2 +0.8**
JAVC *e* 17 22 54.1
MOX Moxa 149.55 347 *e*PKPbc **PKPbc** **17 22 45.3 +0.5**
baz=20,slow=2.5
MOX *e*PKPab **PKPab** **17 22 52.6 +0.1**
baz=20,slow=2.5

WERD	**Werda**	**149.58**	**346**	*e*PKPbc	**PKiKP**	**17 22 45.6**	**+0.1**
	baz=20,slow=2.5							
WERD				*e*PKPab	**PKPab**	**17 22 53.2**	**+0.5**
	baz=20,slow=2.5							
GUNZ	**Gunzen**	**149.66**	**346**	*e*PKPbc	**PKiKP**	**17 22 45.8**	**0.0**
	baz=20,slow=2.5							
GUNZ				*e*PKPab	**PKPab**	**17 22 53.5**	**+0.5**
	baz=20,slow=2.5							
KRUC	**Moravsky**	**149.70**	**340**	*e*PKP	**PKiKP**	**17 22 46.0**	**+0.2**
KRUC				*e*		17 22 54.0		
WERN	**Wernitzgruen**	**149.72**	**345**	*e*PKP	**PKiKP**	**17 22 46.0**	**+0.1**
	baz=20,slow=2.5							
NKC	**Novy Kostel**	**149.75**	**345**	*e*PKP	**PKiKP**	**17 22 46.0**	**+0.1**
MODS	**Modra-Piesok**	**150.00**	**338**	*e*PKP	**PKiKP**	**17 22 47.2**	**+0.7**
MODS				*e*		17 22 55.5		
MODS				*e*		17 25 13.6		
MANZ	**Manzenberg**	**150.06**	**346**	*e*PKPbc	**PKiKP**	**17 22 46.7**	**+0.1**
	baz=20,slow=2.5							
KHC	**Kasperske Hory**	**150.48**	**343**		**PKPbc**	**17 22 47.3**	**+0.3**
KHC	**Kasperske Hory**	**150.48**	**343**	*e*PKP	**PKPbc**	**17 22 47.4**	**+0.3**
KHC				*e*PKPAB	**PKPab**	**17 22 57.1**	**+0.6**
KHC				*ep*PKP	**pPKPab**	**17 25 13.0**	**+2.3**
GRF	**Grafenberg Arr**	**150.54**	**346**	*e*PKPab	**PKPab**	**17 22 57.6**	**+0.9**
	baz=20,slow=2.5							
TNS	**Taunus Mts**	**150.55**	**350**	*e*PKPbc	**PKiKP**	**17 22 48.1**	**+0.5**
	baz=20,slow=2.5							
TNS				*e*PKPab	**PKPab**	**17 22 56.5**	**-0.2**
	baz=20,slow=2.5							
CKRC	**Cesky Krumlov**	**150.56**	**342**	*e*PKP	**PKiKP**	**17 22 48.8**	**+1.2**
GERES	**GERESS Array B**	**150.70**	**343**	PKPbc	**PKPbc**	**17 22 47.9**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=45,slow=2.3,SNR=19							
GERES				pPKPbc	**pPKPab**	**17 25 11.0**	**-0.6**
	comp=Z,1.8nm,1.0s,baz=346,slow=2.8,SNR=3.8							
CONA	**Conrad Observa**	**150.86**	**339**	*i* PKiKP	**PKiKP**	**17 22 48.8**	**+0.4**
	comp=Z,5.0nm,0.7s							
CONA				*i* PKP	**PKPab**	**17 22 59.6**	**+1.3**
	comp=Z,7.9nm,0.8s							
CONA				*ep*PKP	**pPKPab**	**17 25 14.2**	**+1.9**
	comp=Z,13nm,1.2s							
RONA	**Rosalia, Austr**	**150.92**	**338**	*i* PKiKP	**PKiKP**	**17 22 48.9**	**+0.4**
	comp=Z,6.2nm,0.6s							
RONA				*i* PKP	**PKPab**	**17 22 59.6**	**+1.2**
	comp=Z,11nm,0.8s							
RONA				*ep*PKP	**pPKPab**	**17 25 14.2**	**+1.7**
	comp=Z,12nm,1.4s							
WLF	**Walferdange**	**151.41**	**353**	*e*PKPab	**PKPab**	**17 23 01.0**	**+0.6**
	baz=20,slow=2.5							
MOA	**Molln**	**151.44**	**341**	*i* PKP	**PKPab**	**17 23 01.1**	**+0.6**
	comp=Z,10nm,1.2s							
ARSA	**Arzberg**	**151.57**	**339**	*e*PKP	**PKPab**	**17 23 01.9**	**+0.8**
	comp=Z,7.0nm,1.2s							
BIOA	**Bad Ischl, Aus**	**151.77**	**342**	*i* PKP	**PKPbc**	**17 22 50.2**	**+0.2**
	comp=Z,4.4nm,1.0s							
BIOA				*i* PKP	**PKPab**	**17 23 03.0**	**+1.0**
	comp=Z,9.5nm,0.8s							
SOKA	**Soboth**	**152.23**	**339**	*i* PKP	**PKPab**	**17 23 04.4**	**+0.4**
	comp=Z,11nm,1.3s							
SOKA				*ep*PKP	**pPKPab**	**17 25 16.5**	**-1.5**
	comp=Z,8.5nm,1.1s							
BFO	**Black Forest**	**152.40**	**349**	*e*PKPab	**PKPab**	**17 23 04.6**	**0.0**
	baz=20,slow=2.5							
KBA	**Koelnbreinsper**	**152.41**	**342**	*i* PKP	**PKPab**	**17 23 06.5**	**+1.6**
	comp=Z,4.4nm,0.7s							
WATA	**Walderalm**	**152.66**	**344**	*e*PKP	**PKPdf**	**17 22 45.9**	**+1.5**
	comp=Z,2.0nm,0.5s							
WATA				*e*PKP	**PKPab**	**17 23 06.5**	**+0.6**
	comp=Z,12nm,1.1s							
WTTA	**Wattenberg**	**152.71**	**344**	*e*PKP	**PKPab**	**17 23 07.0**	**+0.8**
	comp=Z,22nm,1.3s							
WTTA				*ep*PKP	**pPKPab**	**17 25 18.3**	**-1.7**
	comp=Z,7.9nm,0.8s							
RETA	**Reutte**	**152.71**	**345**	*e*PKP	**PKPab**	**17 23 06.2**	**+0.2**
	comp=Z,9.0nm,1.1s							
MYKA	**Terra Mystica**	**152.72**	**341**	*i* PKP	**PKPab**	**17 23 05.2**	**-0.9**
	comp=Z,11nm,1.0s							
MOTA	**Moosalm**	**152.76**	**345**	*e*PKP	**PKPab**	**17 23 07.0**	**+0.6**
	comp=Z,9.4nm,1.2s							
MOTA				*ep*PKP	**pPKPab**	**17 25 18.6**	**-1.6**
	comp=Z,8.3nm,1.1s							
SQTA	**Sankt Quirin**	**152.86**	**345**	*e*PKP	**PKPdf**	**17 22 45.8**	**+1.1**
	comp=Z,6.0nm,1.1s							
ABTA	**Abfaltersbach**	**152.95**	**342**	*e*PKP	**PKPbc**	**17 22 52.7**	**0.0**
	comp=Z,6.6nm,0.9s							
ABTA				*e*PKP	**PKPab**	**17 23 07.2**	**+0.1**
	comp=Z,5.3nm,0.7s							
ABTA				*ep*PKP	**pPKPab**	**17 25 19.2**	**-1.7**
	comp=Z,7.2nm,0.9s							
DAVA	**Damuels**	**153.10**	**347**	*e*PKP	**PKPab**	**17 23 07.3**	**-0.5**
	comp=Z,7.6nm,0.7s							
FETA	**Feichten**	**153.16**	**345**	*i* PKP	**PKPab**	**17 23 08.6**	**+0.6**
	comp=Z,9.5nm,1.2s							
FUORN	**Ofenpass-Fuorn**	**153.65**	**345**		**PKPab**	**17 23 10.6**	**+0.3**
ESDC	**Sonseca Array**	**161.22**	**12**	PKPab	**PKPab**	**17 23 41.0**	**-2.1**
	comp=Z,5.6nm,1.2s,baz=338,slow=4.7,SNR=12							
ESDC	**Sonseca Array**	**161.22**	**12**	PKPab	**PKPab**	**17 23 42.7**	**-0.4**
KEST	**Kesra**	**163.87**	**335**	PKPab	**PKPab**	**17 23 55.4**	**+0.5**
	comp=Z,6.0nm,1.0s,baz=87,slow=3.5,SNR=4.0							
DBIC	**Dimbokro**	**164.39**	**158**	PKP	**PKPdf**	**17 22 58.5**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=120,slow=2.8,SNR=4.9							
DBIC				PKPab	**PKPab**	**17 23 58.9**	**+1.3**
	comp=Z,3.1nm,0.6s,baz=211,slow=4.7,SNR=7.8							
TORD	**Torodi Ar. Bea**	**171.85**	**185**		**PKPab**	**17 24 30.1**	**-0.4**

HEL 16 17:24:06.2±0.7, 67.80N×20.24E, *h*0km, ML1.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.71**	**68**	SG	Sg	17 24 28.9	0.0
KIF	**Kilpisjarvi**	**1.23**	**10**	PG	Pg	17 24 29.4	-0.4
KIF				SG	Sg	17 24 44.3	-1.5
KIF				MSG		17 24 44.6	
	comp=Z,1.2nm,0.2s						
PAJU	**Pajala**	**1.35**	**124**	PN	Pg	17 24 31.7	-0.4
	baz=306						
PAJU				SN	Sn	17 24 50.7	-0.3
HEF	**Hetta**	**1.42**	**63**	PN	Pn	17 24 32.4	-0.9
HEF				MSG		17 24 49.0	
	comp=Z,0.8nm,0.2s						
HEF				SN	Sn	17 24 54.7	+2.0
ERTU	**Ertsjaerv**	**1.46**	**148**	SN	Sn	17 24 54.6	+1.0
KTK1	**Kautokeino**	**1.65**	**41**	SN	Sg	17 24 59.6	+0.4
RNF	**Rovaniemi**	**2.55**	**115**	PG	Pb	17 24 51.6	-1.1
RNF				SG	Sb	17 25 24.7	+0.3
ARA0	**ARCESS Array S**	**2.60**	**45**	PG	Pb	17 24 52.5	-1.1
KEV	**Kevo**	**3.15**	**48**	PG	Pb	17 25 03.5	+0.4
KEV				SG	Sb	17 25 41.3	-0.6

UPP 16 17:24:32.0±0.2, 67.14N×20.68E, *h*0km, ML2.0, Confirmed induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.05**	**252**	P	Pg	17 24 33.2	+0.3
	baz=36						
DUNU				S	Sg	17 24 34.2	+0.7
ERTU	**Ertsjaerv**	**0.83**	**134**	P	Pg	17 24 47.6	-0.3
PAJU	**Pajala**	**0.96**	**96**	P	Pg	17 24 50.0	-0.3

*IDC **16** 17:34:03.3±1.1, 22.60N×100.38E, *h*0km, mb3.3/5, mbtmp3.4/7, ML2.8/1, MS3.5/1, Error ellipse: s-maj=38.2km s-min=15.5km az=91.0*

ISC 16 17:34:05.0±1.0, 22.63N±0.10×100.5E±0.2, *h*10km, n8, σ1s 23/8, mb3.3/5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.39**	**199**	Pn	**Pn**	**17 35 10.1**	**-1.7**
	0.1nm,0.3s,baz=11,slow=12,SNR=11						
CMAR				Pg	**Pb**	**17 35 23.8**	**+1.5**
	0.7nm,0.3s,baz=14,slow=12,SNR=7.2						
CMAR				Lg	Lg	17 36 20.9	
	3.8nm,0.3s,baz=92,slow=26,SNR=5.0						
	0.9nm,0.6s						
PSI	**Prapat**	**19.77**	**185**	P	**P**	**17 38 35.7**	**+0.2**
	6.4nm,0.4s,baz=325,slow=19,SNR=3.1						
SONM	**Songino Array**	**25.59**	**9**	P	**P**	**17 39 35.7**	**+1.3**
	0.2nm,0.7s,baz=198,slow=12,SNR=2.3						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**28.22**	**333**	P	**P**	**17 39 57.9**	**-0.1**
	0.3nm,0.8s,baz=133,slow=10.0,SNR=4.8						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**33.43**	**343**	P	**P**	**17 40 43.0**	**-0.9**
	0.7nm,0.7s,baz=148,slow=8.7,SNR=4.3						
	0.7nm,0.7s						
AKTO	**Aktyubinsk**	**43.10**	**321**	LR	LR	18 01 17.4	
	comp=Z,52nm,18.0s,baz=38,slow=38						
WRA	**Warramunga Arr**	**53.71**	**139**	P	**P**	**17 43 27.2**	**-0.2**
	0.2nm,0.6s,baz=316,slow=6.9,SNR=1.4						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**56.35**	**143**	P	**P**	**17 43 46.3**	**-0.2**
	0.2nm,0.6s,baz=309,slow=5.4,SNR=4.1						
	0.2nm,0.6s						

IDC 16 17:40:14.7±22.0, 20.55S×85.05W, *h*0km, mbtmp3.7/1, ML4.0/1, Error ellipse: s-maj=3510.0km s-min=56.8km az=164.0, Southeastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**16.61**	**78**	Pn	Pn	17 44 09.7	0.0
	0.2nm,0.3s,baz=262,slow=13,SNR=4.1						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**121.93**	**223**	PKP	PKPdf	17 59 11.4	-0.5
	0.2nm,0.6s,baz=134,slow=2.7,SNR=5.6						
WRA	**Warramunga Arr**	**124.26**	**226**	PKP	PKPdf	17 59 16.4	0.0
	0.3nm,0.4s,baz=126,slow=2.8,SNR=5.2						

IDC 16 17:48:26.1±340.0, 5.49S×147.63E, *h*0km, Error ellipse: s-maj=134.7km s-min=18.6km az=75.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.38**	**315**	I	I	19 43 40.0	
	baz=135,slow=311,SNR=4.8						
I07AU	**WARRAMUNGA INF**	**19.32**	**221**	I	I	19 50 10.0	
	baz=44,slow=306,SNR=1.3						

*IDC **16** 18:11:28.8±1.0, 39.39N×73.60E, *h*0km, mb3.6/9, mbtmp3.6/14, ML2.6/5, MS2.9/2, Error ellipse: s-maj=18.2km s-min=14.9km az=105.0*
*KRNET **16** 18:11:29.5±0.1, 39.42N×73.45E, mb3.7*
*SOME **16** 18:11:29.1, 39.60N×73.42E, *h*10km*
*NNC **16** 18:11:34.0±3.8, 39.80N×73.40E, *h*0km, mb3.8, mpv3.5, Error ellipse: s-maj=30.3km s-min=15.0km az=167.0*

ISC 16 18:11:29.8±1.8, 39.45N±0.05×73.36E±0.03, *h*2km±12km, n69, σ1s 83/90, mb3.6/8, 27C-19D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.16**	**338**	↑*i*P	**Pb**	**18 11 52.5**	**-0.2**
	baz=35						
OHH				↑*i*S	**Sn**	**18 12 09.1**	**-0.6**
	baz=35						
DRK	**Karamyk**	**1.21**	**272**	↓*i*P	**Pb**	**18 11 53.3**	**-0.3**
	baz=73						
DRK				↓*i*S	**Sn**	**18 12 11.0**	**-0.1**
	baz=73						
BTK	**Batken**	**2.05**	**288**	↑*i*P	**Pb**	**18 12 07.9**	**+0.1**
	baz=88						
BTK				↑*i*S	**Sg**	**18 12 35.8**	**+0.1**
	baz=88						
GAR	**Garm**	**2.41**	**260**	↓*i*P	**Pb**	**18 12 12.7**	**-1.2**
	baz=61						
GAR				↓*i*S	**Sb**	**18 12 43.9**	**-0.2**
	baz=61						
ARLS	**Aral**	**2.52**	**17**	↑*e*P	**Pn**	**18 12 13.4**	**+1.5**
	baz=15						
ARLS				↑*i*S	**Sb**	**18 12 45.5**	**-1.9**
	baz=15						
ARK	**Arkit**	**2.58**	**336**	↑*i*P	**Pn**	**18 12 14.6**	**+1.9**
	baz=35						
ARK				↑*i*S	**Sb**	**18 12 48.0**	**-1.0**
	baz=35						
TRKS	**Terek-Say**	**2.68**	**322**	↑*i*P	**Pn**	**18 12 15.6**	**+1.4**
	baz=20						
TRKS				↑*i*S	**Sn**	**18 12 49.0**	**+1.7**
	baz=20						
AML	**Almayashu**	**2.69**	**5**	P	**Pb**	**18 12 17.9**	**-1.1**
	SNR=39						
AML	**Almayashu**	**2.69**	**5**	↑*i*P	**Pn**	**18 12 15.9**	**+1.4**
	baz=4.0						
AML				↑*i*S	**Sb**	**18 12 50.1**	**-2.5**
	baz=4.0						
NRN	**Naryn**	**2.83**	**45**	↑*e*P	**Pn**	**18 12 16.7**	**+0.4**
	baz=43						
NRN				↑*i*S	**Sn**	**18 12 51.1**	**0.0**
	baz=43						
UCH	**Uchtor**	**2.91**	**17**	P	**Pb**	**18 12 21.7**	**-1.0**
	SNR=17						
UCH	**Uchtor**	**2.91**	**17**	↓*i*P	**Pn**	**18 12 19.0**	**+1.4**
	baz=16						
UCH				↓*i*S	**Sn**	**18 12 54.9**	**+1.5**
	baz=16						
EKS2	**Erkin-Say**	**3.23**	**5**	P	**Pb**	**18 12 26.1**	**-1.7**
	SNR=8.2						
EKS2	**Erkin-Say**	**3.23**	**5**	↓*i*P	**Pn**	**18 12 23.4**	**+1.8**
	baz=4.0						
EKS2				↓*i*S	**Sn**	**18 13 02.8**	**+2.1**
	baz=4.0						
MRKS	**Merke**	**3.30**	**358**	Pg	**Pb**	**18 12 25.9**	**-3.1**
	8.6nm,0.3s						
MRKS				Lg	Lg	18 13 07.9	
	68nm,0.5s						
MRKS	**Merke**	**3.30**	**358**	*e*Pg	**Pb**	**18 12 25.9**	**-3.1**
	8.6nm,0.3s						
MRKS				*e*Lg	Lg	18 13 06.9	
	68nm,0.5s						
AAK	**Ala-Archa**	**3.30**	**15**	P	**Pb**	**18 12 26.8**	**-2.4**
	SNR=12						
AAK	**Ala-Archa**	**3.30**	**15**	Pn	**Pb**	**18 12 26.7**	**-2.4**
	3.9nm,0.3s,baz=170,slow=6.9,SNR=23						
AAK				Lg	Lg	18 13 11.8	
	9.9nm,0.3s,baz=28,slow=21,SNR=12						
AAK				LR	LR	18 13 50.4	
	comp=Z,50nm,18.9s,baz=16,slow=43						
	6.9nm,0.3s						
AAK	**Ala-Archa**	**3.30**	**15**	↓*i*P	**Pn**	**18 12 24.4**	**+1.7**
	baz=14						
AAK				↓*i*S	**Sn**	**18 13 04.2**	**+1.6**
	baz=14						
CHGR	**Chuyangaron**	**3.37**	**258**	↑*e*P	**Pn**	**18 12 25.9**	**+2.4**
	baz=59						
CHGR				↑*i*S	**Sn**	**18 13 06.9**	**+2.8**
	baz=59						
KBK	**Karagaybulak**	**3.42**	**20**	P	**Pb**	**18 12 33.1**	**+1.9**
	SNR=9.6						
KBK	**Karagaybulak**	**3.42**	**20**	↓*i*P	**Pn**	**18 12 25.9**	**+1.5**
	baz=19						
KBK				↓*i*S	**Sn**	**18 13 06.9**	**+1.3**
	baz=19						
FRU1	**Bishkek**	**3.49**	**16**	↑*i*P	**Pn**	**18 12 26.9**	**+1.7**
	baz=14						
FRU1				↑*i*S	**Sn**	**18 13 08.9**	**+1.7**
	baz=14						
ULHL	**Ulahol**	**3.55**	**37**	↓*i*P	**Pn**	**18 12 27.5**	**+1.4**
	baz=36						
ULHL				↓*i*S	**Sn**	**18 13 09.7**	**+0.9**
	baz=36						
TAS	**Tashkent**	**3.63**	**302**	↓*i*P	**Pn**	**18 12 29.5**	**+2.5**
	baz=2.0						
TAS				↓*i*S	**Sn**	**18 13 13.3**	**+2.9**
	baz=2.0						
IUG	**Iuzhnay**	**3.70**	**318**	Pg	**Pb**	**18 12 32.6**	**-3.2**
	12nm,0.3s						
IUG				Lg	Lg	18 13 18.2	
	38nm,0.7s						
IUG	**Iuzhnay**	**3.70**	**318**	*e*Pg	**Pb**	**18 12 32.6**	**-3.2**
	12nm,0.3s						
IUG				*e*Lg	Lg	18 13 18.2	
	38nm,0.7s						
CHMS	**Chumysh**	**3.70**	**16**	↑*i*P	**Pn**	**18 12 29.8**	**+1.8**
	baz=15						
CHMS				↑*i*S	**Sn**	**18 13 13.7**	**+1.5**
	baz=15						
TKM2	**Tokmak 2**	**3.86**	**25**	↑*i*P	**Pn**	**18 12 31.8**	**+1.4**
	baz=24						
TKM2				↑*i*S	**Sn**	**18 13 17.5**	**+1.1**
	baz=24						
USP	**Ospenovka**	**3.91**	**12**	↑*e*P	**Pn**	**18 12 32.8**	**+1.9**
	baz=11						
USP				↑*i*S	**Sn**	**18 13 18.8**	**+1.3**
	baz=11						
KDJ	**Kajisay**	**3.95**	**46**	↓*i*P	**Pn**	**18 12 32.8**	**+1.2**
	baz=45						
KDJ				↓*i*S	**Sn**	**18 13 19.1**	**+0.5**
	baz=45						
KST	**Kastek**	**4.09**	**28**	Pg	**Pb**	**18 12 40.2**	**-2.5**
	6.1nm,0.7s						
KST				Lg	Lg	18 13 31.0	
	36nm,1.0s						
KST	**Kastek**	**4.09**	**28**	*e*Pg	**Pb**	**18 12 40.2**	**-2.5**
	6.1nm,0.7s						
KST				*e*Lg	Lg	18 13 31.0	
	36nm,1.0s						
KK31	**Karatay Array**	**4.24**	**330**	↑Pn	**Pn**	**18 12 39.6**	**+4.2**
	2.3nm,0.5s,baz=133,slow=13,SNR=30						
KK31				↓Pg	**Pg**	**18 12 51.0**	**+0.1**
	5.3nm,0.6s,baz=142,slow=14,SNR=5.6						
KK31				Lg	Lg	18 13 44.6	
	14nm,0.5s,baz=141,slow=28,SNR=4.5						
KKAR	**Karatay Array**	**4.24**	**330**	↑*i*P	**Pn**	**18 12 37.9**	**+2.5**
	baz=30						
KKAR				↑*i*S	**Sn**	**18 13 27.8**	**+2.3**
	baz=30						
KRBS	**Karabastau**	**4.59**	**21**	Pg	**Pb**	**18 12 52.5**	**+1.5**
	3.5nm,0.4s						
KRBS				Lg	Lg	18 13 51.8	
	22nm,0.8s						
KRBS	**Karabastau**	**4.59**	**21**	*e*Pg	**Pb**	**18 12 52.5**	**+1.5**
	3.5nm,0.4s						
KRBS				*e*Lg	Lg	18 13 51.9	
	22nm,0.8s						
MDOK	**Medeo**	**4.64**	**36**	Pg	**Pb**	**18 12 52.8**	**+0.9**
	4.7nm,0.5s						
MDOK				Lg	Lg	18 13 52.6	
	20nm,0.8s						
MDOK	**Medeo**	**4.64**	**36**	*e*Pg	**Pb**	**18 12 52.8**	**+0.9**
	4.7nm,0.5s						
MDOK				*e*Lg	Lg	18 13 52.6	
	20nm,0.8s						
KOTS	**Kotyrbulak**	**4.72**	**36**	Pg	**Pb**	**18 12 53.7**	**+0.4**
KOTS				Lg	Lg	18 13 54.8	
KOTS	**Kotyrbulak**	**4.72**	**36**	*e*Pg	**Pb**	**18 12 53.7**	**+0.4**
	4.4nm,0.6s						
KOTS				*e*Lg	Lg	18 13 54.8	
	50nm,0.6s						
KTBS	**Karatobe**	**4.94**	**29**	Pg	**Pb**	**18 12 57.7**	**+0.8**
	2.9nm,0.6s						
KTBS				Lg	Lg	18 14 02.0	
	25nm,0.7s						
KTBS	**Karatobe**	**4.94**	**29**	*e*Pg	**Pb**	**18 12 57.8**	**+0.8**
	2.9nm,0.6s						
KTBS				*e*Lg	Lg	18 14 02.0	
	25nm,0.7s						
KUU	**Kurty**	**4.97**	**26**	Pg	**Pb**	**18 12 58.5**	**+0.9**
	2.9nm,0.7s						
KUU				Lg	Lg	18 14 02.9	
	20nm,0.8s						
KUU	**Kurty**	**4.97**	**26**	*e*Pg	**Pb**	**18 12 58.5**	**+0.9**
	2.9nm,0.7s						
KUU				*e*Lg	Lg	18 14 02.9	
	20nm,0.8s						
CHKK	**Chushkaly**	**5.17**	**31**	Pg	**Pb**	**18 13 02.1**	**+1.2**
CHKK				Lg	Lg	18 14 08.9	
CHKK	**Chushkaly**	**5.17**	**31**	*e*Pg	**Pb**	**18 13 02.1**	**+1.2**
	2.5nm,0.6s						
CHKK				*e*Lg	Lg	18 14 08.9	
	16nm,0.5s						
BTLS	**Baital**	**5.61**	**5**	Pg	**Pb**	**18 13 12.2**	**+3.7**
BTLS				Lg	Lg	18 14 26.4	
BTLS	**Baital**	**5.61**	**5**	*e*Pg	**Pb**	**18 13 12.2**	**+3.7**
	1.9nm,0.8s						
BTLS				*e*Lg	Lg	18 14 26.4	
	8.4nm,0.8s						
ARXS	**Arharly**	**5.81**	**34**	Pg	**Pb**	**18 13 14.7**	**+2.8**
ARXS				Lg	Lg	18 14 30.6	
ARXS	**Arharly**	**5.81**	**34**	*e*Pg	**Pb**	**18 13 14.7**	**+2.8**
	5.6nm,0.8s						
ARXS				*e*Lg	Lg	18 14 30.6	
	3.9nm,1.8s						
BLB	**Baldybastay**	**6.02**	**38**	Pg	**Pb**	**18 13 18.0**	**+2.6**
	5.2nm,0.7s						
BLB				Lg	Lg	18 14 36.7	
	9.4nm,0.6s						
MKAR	**Makanchi Array**	**9.82**	**39**	Pn	**Pn**	**18 13 51.5**	**-0.5**
	baz=230,slow=15,SNR=1.4						
MKAR				Lg	Lg	18 16 28.5	
	baz=222,slow=33,SNR=2.1						
KURBB	**Kurchatov Arra**	**11.75**	**16**	Lg	Lg	18 17 31.5	
	baz=190,slow=31,SNR=1.4						
BVAR	**Borovoye Array**	**13.73**	**352**	Pn	**Pn**	**18 14 43.8**	**-1.6**
	baz=159,slow=13,SNR=4.6						
	1.0nm,0.9s						
AKTO	**Aktyubinsk**	**15.42**	**320**	Pn	**Pn**	**18 15 06.8**	**-1.4**
	1.0nm,0.6s,baz=78,slow=23,SNR=1.3						
ZALV	**Zalesovo Beam**	**16.46**	**24**	Pn	**Pn**	**18 15 19.7**	**-2.1**
	0.1nm,0.3s,baz=215,slow=12,SNR=1.3						
	0.3nm,0.4s						
ARU	**Arti**	**19.60**	**335**	P	**Pn**	**18 16 01.2**	**+0.9**
	baz=147,slow=9.2,SNR=4.1						
	0.9nm,0.3s						
WSAR	**Wadi Sarin**	**20.43**	**222**	P	**P**	**18 16 08.6**	**+0.2**
	0.9nm,0.7s,baz=149,slow=20,SNR=0.9						
	0.9nm,0.7s						
BELG	**Belogornoye**	**21.95**	**315**	P	**P**	**18 16 26.6**	**+2.1**
	10nm,0.8s,baz=301,slow=21,SNR=3.0						
	10nm,0.8s						
GNI	**Garni**	**21.96**	**281**	P	**P**	**18 16 25.2**	**+0.2**
	1.4nm,0.4s,baz=18,slow=20,SNR=1.9						
	1.4nm,0.4s						
SONM	**Songino Array**	**25.18**	**60**	P	**P**	**18 16 54.7**	**-1.9**
	0.3nm,0.8s,baz=231,slow=9.1,SNR=1.5						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**36.16**	**323**	P	**P**	**18 18 34.3**	**+1.1**
	0.6nm,0.3s,baz=112,slow=10,SNR=14						
	0.6nm,0.3s						
ARCES	**ARCESS Array B**	**39.18**	**336**	P	**P**	**18 18 58.5**	**-0.3**
	1.2nm,0.8s,baz=101,slow=9.3,SNR=0.7						
	1.2nm,0.8s						
YAK	**Yakutsk**	**40.49**	**37**	LR	LR	18 36 51.2	
	comp=Z,54nm,19.7s,baz=62,slow=38						
NB2	**NORSAR Subarra**	**43.21**	**321**	P	**P**	**18 19 32.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=110,slow=7.9						
NOA	**NORSAR Array B**	**43.21**	**321**	P	**P**	**18 19 31.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=93,slow=7.8,SNR=3.7						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**82.02**	**124**	P	**P**	**18 23 49.8**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=340,slow=5.3,SNR=4.0						

WVZ	**Waitaha Valley**	**1.95**	**255**	P	**Pn**	**18 30 28.2**	**-0.5**
PAWZ	**Paruwai Farm**	**1.99**	**53**	P	**Pn**	**18 30 27.8**	**-1.4**
RPZ	**Rata Peaks**	**1.99**	**235**	P	**Pn**	**18 30 28.3**	**-0.9**
RPZ	**Rata Peaks**	**1.99**	**235**	P	**Pn**	**18 30 28.3**	**-0.9**
ARCZ	**Arundel**	**2.06**	**229**	P	**Pn**	**18 30 29.1**	**-1.1**
KIW	**Kapiti Island**	**2.11**	**35**	P	**Pn**	**18 30 30.2**	**-0.6**
MTW	**Mount Morrison**	**2.18**	**49**	P	**Pn**	**18 30 30.3**	**-1.5**
OGWZ	**Otaki Gorge**	**2.26**	**39**	P	**Pn**	**18 30 31.8**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.31**	**251**	P	**Pn**	**18 30 33.4**	**-0.1**
HOWZ	**Holdsworth Sta**	**2.37**	**45**	P	**Pn**	**18 30 32.9**	**-1.5**
TMZ	**Timaru**	**2.45**	**223**	P	**Pn**	**18 30 34.8**	**-0.7**
MRZ	**Mangatainoka R**	**2.58**	**42**	P	**Pn**	**18 30 35.7**	**-1.6**
FOZ	**Fox Glacier**	**2.73**	**249**	P	**Pn**	**18 30 39.6**	**+0.3**
LBZ	**Lake Benmore**	**2.89**	**231**	P	**Pn**	**18 30 41.0**	**-0.6**
ODZ	**Otahua Downs**	**3.11**	**217**	P	**Pn**	**18 30 43.5**	**-1.1**
ODZ	**Otahua Downs**	**3.11**	**217**	P	**Pn**	**18 30 43.4**	**-1.3**
TSZ	**Takapari Road**	**3.23**	**39**	P	**Pn**	**18 30 44.6**	**-1.6**
KHEZ	**Kahui Hut**	**3.35**	**9**	P	**Pn**	**18 30 48.4**	**+0.5**
KHEZ	**Kahui Hut**	**3.35**	**9**	P	**Pn**	**18 30 49.7**	**+1.8**
NBEZ	**Newall Road No**	**3.36**	**7**	P	**Pn**	**18 30 49.3**	**+1.4**
NEZ	**North Egmont**	**3.38**	**10**	P	**Pn**	**18 30 51.1**	**+2.7**
PKE	**Pukeiti**	**3.44**	**9**	P	**Pn**	**18 30 50.4**	**+1.2**
PKVZ	**Pokaka**	**3.65**	**26**	P	**Pn**	**18 30 51.9**	**-0.1**
MOVZ	**Moawhango**	**3.69**	**31**	P	**Pn**	**18 30 53.2**	**+0.6**
WNVZ	**Wahianoa**	**3.70**	**29**	P	**Pn**	**18 30 53.0**	**+0.1**
TRVZ	**Turoa**	**3.71**	**28**	P	**Pn**	**18 30 56.0**	**+3.0**
TUVZ	**Tukino**	**3.77**	**29**	P	**Pn**	**18 30 54.0**	**+0.2**
ETVZ	**East Tongariro**	**3.91**	**28**	P	**Pn**	**18 30 55.2**	**-0.5**
TMVZ	**Te Maari**	**3.92**	**28**	P	**Pn**	**18 30 55.7**	**-0.2**
BKZ	**Black Stump Fm**	**4.19**	**36**	P	**Pn**	**18 30 59.1**	**-0.4**
MKAZ	**Moumakai**	**5.67**	**15**	P	**Pn**	**18 31 19.8**	**0.0**
WIAZ	**Waiheke Island**	**5.97**	**14**	P	**Pn**	**18 31 24.2**	**+0.4**

WEL 16 18:35:18.4±0.6, 42°S±3°×17°4E±°, h5km, M2.4/5, ML2.7/11, MLv2.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=117.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.07**	**315**	P	Pg	18 35 19.3	-0.7
KHZ				S	Sg	18 35 20.1	-1.0
GVZ	**Greta Valley S**	**0.65**	**220**	P	Pb	18 35 33.0	+0.6
BSWZ	**Blackbirch Sta**	**0.78**	**15**	P	Pb	18 35 34.0	-0.4
THZ	**Tophouse**	**0.87**	**323**	P	Pg	18 35 34.9	-0.3
LTZ	**Lake Taylor**	**1.03**	**252**	P	Pb	18 35 39.0	+0.1
LTZ				S	Sb	18 35 53.6	+0.9
TUWZ	**Tuamarina**	**1.06**	**14**	P	Pb	18 35 39.4	+0.1
MRNZ	**Matariki Terra**	**1.24**	**329**	P	Pg	18 35 41.5	-0.6
MRNZ				S	Sn	18 36 01.5	+2.0
OKCZ	**Okains Bay**	**1.32**	**197**	P	Pn	18 35 42.9	-0.7
TCW	**Tory Channel**	**1.35**	**22**	P	Pn	18 35 42.9	-1.1
TCW				S	Sb	18 36 01.5	-0.3
MQZ	**McQueen's Vall**	**1.42**	**209**	P	Pn	18 35 43.6	-1.3
MQZ				S	Sb	18 36 02.4	-1.5
TKNZ	**Takaka Hill**	**1.51**	**341**	P	Pb	18 35 46.7	-0.2
DSZ	**Denniston Nort**	**1.52**	**298**	P	Pb	18 35 46.7	-0.4
PLWZ	**Palliser**	**1.52**	**55**	P	Pn	18 35 44.4	-1.9
QRZ	**Quartz Range**	**1.82**	**333**	P	Pb	18 35 51.5	-0.8

IDC 16 18:36:20.7±5.2, 21°23S×177°98W, h0km, mb3.7/4, mbtmp3.7/4, MS3.3/1, Error ellipse: s-maj=221.7km s-min=40.4km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.49**	**245**	P	P	18 43 36.0	-0.4
	0.5nm,0.4s,baz=86,slow=13,SNR=2.2						
STKA				LR	LR	18 56 46.6	
	comp=Z,43nm,21.1s,baz=26,slow=33						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.38**	**257**	P	P	18 44 33.2	-0.1
	1.4nm,0.7s,baz=94,slow=7.8,SNR=14						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**44.52**	**263**	P	P	18 44 34.5	0.0
	0.6nm,0.6s,baz=96,slow=6.6,SNR=3.9						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**89.02**	**13**	P	P	18 49 17.1	0.0
	0.2nm,0.6s,baz=201,slow=3.9,SNR=1.5						
	0.2nm,0.6s						

IDC 16 19:00:16.1±6.4, 29°67N×81°77E, h0km, mb3.2/3, mbtmp3.2/4, ML2.8/1, MS3.4/1, Error ellipse: s-maj=108.7km s-min=56.4km az=3.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**17.11**	**1**	Pn	Pn	19 04 16.0	-0.5
	baz=184,slow=12,SNR=3.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**21.07**	**354**	P	P	19 05 00.8	-0.9
	0.3nm,0.6s,baz=178,slow=9.8,SNR=9.5						
	0.3nm,0.6s						
SONM	**Songino Array**	**26.24**	**39**	P	P	19 05 52.9	0.0
	0.3nm,0.5s,baz=229,slow=10.0,SNR=3.7						
	0.3nm,0.5s						
DAV	**Davao City (W)**	**46.87**	**110**	LR	LR	19 30 23.8	
	comp=Z,40nm,18.5s,baz=326,slow=39						
FINES	**FINESS Array B**	**48.12**	**328**	P	P	19 08 57.5	+0.1
	0.5nm,0.6s,baz=103,slow=6.1,SNR=1.1						
	0.5nm,0.6s						

IDC 16 19:00:16.4±999.0, 51°86N×32°21E, h0km, Error ellipse: s-maj=408.6km s-min=121.2km az=35.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**5.69**	**29**	I	I	19 32 40.0	
	0.2nm,0.8s,baz=213,slow=320,SNR=4.1						
I31KZ	**AKTYUBINSK INF**	**16.25**	**85**	I	I	20 40 00.0	
	baz=286,slow=336,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**31.20**	**65**	I	I	22 14 40.0	
	baz=282,slow=316						

BJI ***16*** *19:07:17.5±0.0, 55°.49N×160°.38E, h209km, mb4.5/50, mB4.8/24*

KRSC ***16*** *19:07:18.1±1.0, 55°.51N×160°.38E, h198km±9km, Mc4.5, Ml5.2*

MOS ***16*** *19:07:19.3±0.8, 55°.61N×159°.97E, h194km, mb4.8/74, Error ellipse: s-maj=6.3km s-min=3.6km az=83.8*

IDC ***16*** *19:07:20.9±0.4, 55°.68N×159°.89E, h192km±3km, mb4.2/45, mbtmp4.7/51, MS3.2/4, Error ellipse: s-maj=7.7km s-min=5.3km az=155.0*

NEIC ***16*** *19:07:20.3±1.5, 55°.61N±0°.08×160°.0E±0°.1, h185km±5km, mb4.9/411, Error ellipse: s-maj=12.7km s-min=10.3km az=135.0*

ISC 16 19:07:20.3±0.3, 55°.53N±0°.03×160°.13E±0°.03, h194km±2km, h193km: pP-P, n1225, σ1s26/1393, mb4.8/324, 35C-24D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMNR	**Kamenistaya**	**0.23**	**16**	PN	**Pn**	**19 07 45.8**	**-0.2**
KMNR				S	**Sn**	**19 08 05.4**	**-0.7**
KMNR	**Kamenistaya**	**0.23**	**16**	*e*P	**Pn**	**19 07 45.8**	**-0.2**
KMNR				*e*S	**Sn**	**19 08 05.4**	**-0.7**
TUMR	**Tumrok**	**0.25**	**177**	PN	**Pn**	**19 07 45.8**	**-0.4**
TUMR				S	**Sn**	**19 08 05.0**	**-1.0**
TUMR	**Tumrok**	**0.25**	**177**	*e*P	**Pn**	**19 07 46.1**	**0.0**
TUMR				*e*S	**Sn**	**19 08 05.8**	**-0.2**
TUMD	**Tumrok D**	**0.37**	**155**	*e*P	**Pn**	**19 07 45.8**	**-0.6**
TUMD				*e*S	**Sn**	**19 08 05.0**	**-1.3**
KPT	**Kopyto**	**0.44**	**7**	PN	**Pn**	**19 07 45.9**	**-0.6**
KPT				S	**Sn**	**19 08 05.9**	**-1.1**
KPT	**Kopyto**	**0.44**	**7**	*e*P	**Pn**	**19 07 45.9**	**-0.6**
KPT				*e*S	**Sn**	**19 08 05.9**	**-1.1**
KIRR	**Kirishev**	**0.44**	**16**	PN	**Pn**	**19 07 45.9**	**-0.7**
KIRR				S	**Sn**	**19 08 05.9**	**-1.2**
KIRR	**Kirishev**	**0.44**	**16**	*e*P	**Pn**	**19 07 45.9**	**-0.7**
KIRR				*e*S	**Sn**	**19 08 05.9**	**-1.2**
BZP	**Bezymyannyi-Pe**	**0.45**	**31**	*e*P	**Pn**	**19 07 45.9**	**-0.8**
BZP				*e*S	**Sn**	**19 08 05.1**	**-2.1**
BZMR	**Bezymyannaya**	**0.45**	**27**	PN	**Pn**	**19 07 46.2**	**-0.5**
BZMR				S	**Sn**	**19 08 05.5**	**-1.7**
BZMR	**Bezymyannaya**	**0.45**	**27**	*e*P	**Pn**	**19 07 46.2**	**-0.5**
BZMR				*e*S	**Sn**	**19 08 05.5**	**-1.7**
BZWR	**Bezymyannyi-We**	**0.48**	**26**	PN	**Pn**	**19 07 46.5**	**-0.3**
BZWR				S	**Sn**	**19 08 06.9**	**-0.5**
BZWR	**Bezymyannyi-We**	**0.48**	**26**	*e*P	**Pn**	**19 07 46.5**	**-0.3**
BZWR				*e*S	**Sn**	**19 08 06.9**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**0.52**	**38**	PN	**Pn**	**19 07 46.2**	**-0.7**
BZGR				S	**Sn**	**19 08 06.5**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**0.52**	**38**	*e*P	**Pn**	**19 07 46.2**	**-0.7**
BZGR				*e*S	**Sn**	**19 08 06.5**	**-1.0**
KOZ	**Kozyrevsk**	**0.54**	**345**	PN	**Pn**	**19 07 46.4**	**-0.5**
KOZ				S	**Sn**	**19 08 06.8**	**-0.8**
KOZ	**Kozyrevsk**	**0.54**	**345**	*e*P	**Pn**	**19 07 46.4**	**-0.5**
KOZ				*e*S	**Sn**	**19 08 06.8**	**-0.8**
CIRR	**Tsirk**	**0.68**	**31**	PN	**Pn**	**19 07 47.3**	**-0.4**
CIRR	**Tsirk**	**0.68**	**31**	*e*P	**Pn**	**19 07 47.3**	**-0.4**
SRDR	**Sredinnyy**	**0.82**	**344**	PN	**Pn**	**19 07 47.6**	**-0.7**
SRDR				S	**Sn**	**19 08 09.0**	**-1.1**
SRDR	**Sredinnyy**	**0.82**	**344**	*e*P	**Pn**	**19 07 47.6**	**-0.7**
SRDR				*e*S	**Sn**	**19 08 09.0**	**-1.1**
KLY	**Klyuchi**	**0.83**	**21**	PN	**Pn**	**19 07 48.1**	**-0.2**
KLY				S	**Sn**	**19 08 09.3**	**-0.8**
KLY	**Klyuchi**	**0.83**	**21**	*e*P	**Pn**	**19 07 48.1**	**-0.2**
KLY				*e*S	**Sn**	**19 08 09.3**	**-0.8**
ESO	**Esso**	**0.90**	**297**	PN	**Pn**	**19 07 49.9**	**+1.2**
ESO				S	**Sn**	**19 08 11.5**	**+0.7**
ESO	**Esso**	**0.90**	**297**	*e*P	**Pn**	**19 07 49.9**	**+1.2**
ESO				*e*S	**Sn**	**19 08 11.5**	**+0.7**
SMKR	**Semkarok**	**1.29**	**35**	PN	**Pn**	**19 07 50.8**	**-0.9**
SMKR				S	**Sn**	**19 08 15.4**	**-0.8**
SMKR	**Semkarok**	**1.29**	**35**	*e*P	**Pn**	**19 07 50.8**	**-0.9**
SMKR				*e*S	**Sn**	**19 08 15.4**	**-0.8**
KBG	**Krutoberegovo**	**1.62**	**62**	PN	**Pn**	**19 07 53.0**	**-1.5**
KBG				S	**Sn**	**19 08 17.7**	**-3.4**
KBG	**Krutoberegovo**	**1.62**	**62**	*e*P	**Pn**	**19 07 53.0**	**-1.5**
KBG				*e*S	**Sn**	**19 08 17.7**	**-3.4**
KBTR	**Krutoberegovo**	**1.66**	**65**	PN	**Pn**	**19 07 53.2**	**-1.7**
KBTR	**Krutoberegovo**	**1.66**	**65**	*e*P	**Pn**	**19 07 53.2**	**-1.7**
KBTR				*e*S	**Sn**	**19 08 16.9**	**-4.9**
GNL	**Ganaly**	**2.24**	**215**	PN	**Pn**	**19 08 01.7**	**+0.7**
GNL				S	**Sn**	**19 08 33.6**	**+0.9**
GNL	**Ganaly**	**2.24**	**215**	*e*P	**Pn**	**19 08 01.7**	**+0.7**
GNL				*e*S	**Sn**	**19 08 33.6**	**+0.9**
KRX	**Arik**	**2.34**	**202**	PN	**Pn**	**19 08 02.7**	**+0.5**
KRX	**Arik**	**2.34**	**202**	*e*P	**Pn**	**19 08 02.7**	**+0.5**
TIGL	**Tigil**	**2.38**	**341**	*e*P	**Pn**	**19 08 02.2**	**-0.1**
TIGL				*e*S	**Sn**	**19 08 35.4**	**+0.2**
SMAR	**Somma**	**2.40**	**199**	PN	**Pn**	**19 08 03.3**	**+0.3**
SMAR				S	**Sn**	**19 08 34.9**	**-1.2**
SMAR	**Somma**	**2.40**	**199**	*e*P	**Pn**	**19 08 03.3**	**+0.3**
SMAR				*e*S	**Sn**	**19 08 34.9**	**-1.2**
KOK	**Koryaka**	**2.41**	**202**	PN	**Pn**	**19 08 03.6**	**+0.7**
KOK				S	**Sn**	**19 08 35.4**	**-0.6**
KOK	**Koryaka**	**2.41**	**202**	*e*P	**Pn**	**19 08 03.6**	**+0.7**
KOK				*e*S	**Sn**	**19 08 35.4**	**-0.6**
NLC	**Nalytchevo**	**2.41**	**191**	PN	**Pn**	**19 08 03.1**	**+0.3**
NLC				S	**Sn**	**19 08 34.2**	**-1.6**
NLC	**Nalytchevo**	**2.41**	**191**	*e*P	**Pn**	**19 08 03.1**	**+0.3**
NLC				*e*S	**Sn**	**19 08 34.2**	**-1.6**
AVH	**Avacha**	**2.41**	**200**	PN	**Pn**	**19 08 03.7**	**+0.7**
AVH				S	**Sn**	**19 08 36.8**	**+0.7**
AVH	**Avacha**	**2.41**	**200**	*e*P	**Pn**	**19 08 03.7**	**+0.7**
AVH				*e*S	**Sn**	**19 08 36.8**	**+0.7**
SPN	**Mys Shipunski**	**2.44**	**181**	PN	**Pn**	**19 08 01.1**	**-2.1**
SPN	**Mys Shipunski**	**2.44**	**181**	*e*P	**Pn**	**19 08 01.1**	**-2.1**
SPN				*e*S	**Sn**	**19 08 31.8**	**-4.7**
UGLR	**Uglovaya**	**2.45**	**199**	PN	**Pn**	**19 08 03.7**	**+0.3**
UGLR				S	**Sn**	**19 08 36.5**	**-0.4**
UGLR	**Uglovaya**	**2.45**	**199**	*e*P	**Pn**	**19 08 03.7**	**+0.3**
UGLR				*e*S	**Sn**	**19 08 36.5**	**-0.4**
INSR	**Institute**	**2.63**	**200**	*e*P	**Pn**	**19 08 05.4**	**+0.1**
INSR				*e*S	**Sn**	**19 08 40.1**	**-0.2**
DALK	**Dalny**	**2.63**	**198**	PN	**Pn**	**19 08 05.2**	**-0.1**
DALK				S	**Sn**	**19 08 38.9**	**-1.5**
DALK	**Dalny**	**2.63**	**198**	*e*P	**Pn**	**19 08 05.2**	**-0.1**
DALK				*e*S	**Sn**	**19 08 38.9**	**-1.5**
PET	**Petropavlovsk**	**2.66**	**200**	Pn	**Pn**	**19 08 05.5**	**-0.1**
PET	**Petropavlovsk**	**2.66**	**200**	P	**Pn**	**19 08 05.9**	**+0.3**
PET	**Petropavlovsk**	**2.66**	**200**	⇓*i*PN	**Pn**	**19 08 05.6**	**-0.1**
PET				*e*S	**Sn**	**19 08 39.9**	**-1.0**
PET				pmax	pmax		
	comp=Z,415nm,0.5s						
PET				pmax	pmax		
	comp=N,3μm,0.7s						
PET				smax	smax		
	comp=E,3μm,0.5s						
PET	**Petropavlovsk**	**2.66**	**200**	*e*P	**Pn**	**19 08 05.7**	**+0.1**
PET				*e*S	**Sn**	**19 08 39.8**	**-1.1**
PEA0B	**Petropavlovsk-**	**2.82**	**211**	Pn	**Pn**	**19 08 08.0**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.82**	**211**	*ce*PN	**Pn**	**19 08 07.9**	**+0.5**
PETK	**Petropavlovsk-**	**2.82**	**211**	P	**Pn**	**19 08 07.4**	**-0.1**
	comp=E,900nm,0.5s,baz=54,slow=13,SNR=488						
PETK				S	**Sn**	**19 08 47.5**	**+3.3**
	comp=E,91nm,0.6s,baz=83,slow=13,SNR=6.8						
PETK				LR	LR	19 09 01.8	
	comp=E,100nm,20.0s,baz=168,slow=35						
KRMR	**Karymshinskiy**	**2.95**	**204**	PN	**Pn**	**19 08 09.3**	**+0.3**
KRMR				S	**Sn**	**19 08 47.1**	**+0.1**
KRMR	**Karymshinskiy**	**2.95**	**204**	*e*P	**Pn**	**19 08 09.3**	**+0.3**
KRMR				*e*S	**Sn**	**19 08 47.1**	**+0.1**
APC	**Apacha**	**3.14**	**215**	PN	**Pn**	**19 08 12.6**	**+1.3**
APC				S	**Sn**	**19 08 49.0**	**-2.1**
APC	**Apacha**	**3.14**	**215**	*e*P	**Pn**	**19 08 12.6**	**+1.3**
APC				*e*S	**Sn**	**19 08 49.0**	**-2.1**
GRL	**Gorelyy**	**3.22**	**203**	PN	**Pn**	**19 08 12.8**	**+0.4**
GRL				S	**Sn**	**19 08 51.2**	**-1.9**
GRL	**Gorelyy**	**3.22**	**203**	*e*P	**Pn**	**19 08 12.8**	**+0.4**
GRL				*e*S	**Sn**	**19 08 51.2**	**-1.9**
MTVR	**Mutnovka**	**3.27**	**201**	PN	**Pn**	**19 08 13.2**	**+0.3**
MTVR				S	**Sn**	**19 08 53.9**	**-0.2**
MTVR	**Mutnovka**	**3.27**	**201**	*e*P	**Pn**	**19 08 13.2**	**+0.3**
MTVR				*e*S	**Sn**	**19 08 53.9**	**-0.2**
BKI	**Bering**	**3.35**	**93**	PN	**Pn**	**19 08 12.6**	**-1.2**
BKI	**Bering**	**3.35**	**93**	*e*P	**Pn**	**19 08 12.6**	**-1.2**
BKI				*e*S	**Sn**	**19 08 51.4**	**-4.2**
PALN	**Palana**	**3.57**	**359**	PN	**Pn**	**19 08 16.3**	**0.0**
PALN	**Palana**	**3.57**	**359**	*e*P	**Pn**	**19 08 16.3**	**0.0**
KDTR	**Khodutka, Kamc**	**3.93**	**199**	PN	**Pn**	**19 08 19.4**	**-1.5**
KDTR	**Khodutka, Kamc**	**3.93**	**199**	*e*P	**Pn**	**19 08 19.4**	**-1.5**
KDTR				*e*S	**Sn**	**19 09 03.3**	**-5.1**
OSSR	**Ossora**	**4.05**	**22**	PN	**Pn**	**19 08 22.4**	**+0.1**
OSSR	**Ossora**	**4.05**	**22**	*e*P	**Pn**	**19 08 22.4**	**+0.1**
SKR	**Severo-Kuril's**	**5.43**	**208**	*e*PN	**Pn**	**19 08 41.0**	**+1.0**
SKR				*e*S	**Sn**	**19 09 38.2**	**-4.6**
SKR				pmax	pmax		
	comp=Z,46nm,0.9s						
SKR				smax	smax		
	comp=N,203nm,0.4s						
SKR				smax	smax		
	comp=E,456nm,0.4s						
SKR				MLR	MLR		
	comp=Z,200nm,18.0s						
SKR	**Severo-Kuril's**	**5.43**	**208**	*e*P	**Pn**	**19 08 39.5**	**-0.4**
SKR				*e*S	**Sn**	**19 09 38.7**	**-4.0**
TILK	**Tilichiki**	**5.87**	**31**	PN	**Pn**	**19 08 46.6**	**+1.0**
TILK	**Tilichiki**	**5.87**	**31**	*e*P	**Pn**	**19 08 46.6**	**+1.0**
MA2	**Magadan**	**6.46**	**313**	P	**Pn**	**19 08 52.4**	**-0.9**
	comp=Z,25nm,0.8s,baz=121,slow=11,SNR=15						
MA2				S	**Sn**	**19 10 07.2**	**+0.2**
	comp=Z,18nm,0.9s,baz=153,slow=11,SNR=1.0						
MA2	**Magadan**	**6.46**	**313**	Pn	**Pn**	**19 08 52.0**	**-1.3**
MA2	**Magadan**	**6.46**	**313**	P	**Pn**	**19 08 55.0**	**+1.7**
MA2	**Magadan**	**6.46**	**313**	*ce*PN	**Pn**	**19 08 53.0**	**-0.3**
MA2				pmax	pmax		
	comp=Z,32nm,0.7s						
SEY	**Seymchan**	**8.41**	**335**	P	**Pn**	**19 09 20.7**	**+2.0**
	comp=Z,32nm,1.0s,baz=139,slow=12,SNR=58						
SEY				S	**Sn**	**19 10 50.6**	**-2.4**
	comp=Z,4.6nm,0.6s,baz=57,slow=13,SNR=1.4						
SEY				ScP	**ScP**	**19 18 43.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=204,slow=3.9,SNR=7.4						
SEY	**Seymchan**	**8.41**	**335**	*ce*PN	**Pn**	**19 09 20.3**	**+1.6**
SEY				pmax	pmax		
	comp=Z,43nm,1.0s						
SHEM	**Shemya Is, Ala**	**8.67**	**103**	P	**Pn**	**19 09 26.2**	**+4.0**
	comp=Z,31nm,0.4s,baz=285,slow=2.9,SNR=5.4						
SHEM				S	**Sn**	**19 10 53.5**	**-5.9**
	comp=Z,69nm,0.8s,baz=256,slow=15,SNR=1.5						
OKH	**Okha**	**10.19**	**266**	*de*PN	**Pn**	**19 09 39.1**	**-2.7**
OKH				*e*S	**Sn**	**19 11 28.5**	**-6.8**
OKH				smax	smax		
	comp=N,200nm,14.0s						
OKH				smax	smax		
	comp=E,200nm,12.5s						
TYV	**Tymovskoe**	**11.46**	**253**	*e*PN	**P**	**19 10 01.7**	**-2.5**
TYV				*e*S	**S**	**19 12 09.9**	**+2.4**
TYV				pmax	pmax		
	comp=Z,400nm,3.1s						
TYV				pmax	pmax		
	comp=Z,31nm,1.1s						
TYV				smax	smax		
	comp=N,7.0nm,1.1s						
TYV				smax	smax		
	comp=E,5.0nm,1.1s						
TYV				smax	smax		
	comp=N,1μm,5.9s						
TYV	**Tymovskoe**	**11.46**	**253**	*e*P	**Pn**	**19 10 00.1**	**+1.7**
AMKA	**Amchitka**	**12.15**	**102**	P	**P**	**19 10 11.8**	**+0.1**
BILL	**Bilibino**	**12.87**	**10**	Pn	**Pn**	**19 10 17.0**	**+1.0**
BILL	**Bilibino**	**12.87**	**10**	*e*PN	**Pn**	**19 10 16.9**	**+0.9**
BILL				*e*S	**S**	**19 12 42.7**	**+2.3**
BILL				pmax	pmax		
	comp=Z,39nm,0.9s						
KUR	**Kuril'sk**	**12.92**	**222**	*e*PN	**Pn**	**19 10 17.5**	**+0.7**
KUR				S	**Sn**	**19 12 35.1**	**-5.6**
YSS	**Yuzh-Sakhalins**	**13.83**	**239**	*e*P	**P**	**19 10 30.7**	**+0.3**
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
GRNR	**Gornyy**	**14.97**	**261**	⇓*i*P	**P**	**19 10 44.5**	**+1.5**
GRNR				pmax	pmax		
	comp=N,20nm,0.4s						
GRNR				pmax	pmax		
	comp=E,40nm,0.4s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.5s						
ASAJ	**Asahikawa**	**16.02**	**232**	P	**Pn**	**19 10 56.4**	**+1.4**
	comp=Z,38nm,0.4s,baz=62,slow=8.4,SNR=19						
GAMB	**Gambell**	**16.32**	**48**	P	**P**	**19 10 57.6**	**-0.2**
GAMB	**Gambell**	**16.32**	**48**	P	**P**	**19 10 58.0**	**+0.2**
	baz=253						
SPIA	**Saint Paul Isl**	**16.44**	**72**	P	**P**	**19 10 59.4**	**+0.2**
	baz=277						
YAK	**Yakutsk**	**16.95**	**305**	P	**P**	**19 11 04.6**	**0.0**
	comp=Z,57nm,0.3s,baz=65,slow=0.5,SNR=94						
YAK				LR	LR	19 19 08.2	
	comp=Z,78nm,18.4s,baz=73,slow=42						
YAK	**Yakutsk**	**16.95**	**305**	*d*⇓*i*P	**P**	**19 11 04.6**	**0.0**
YAK				*e*S	**S**	**19 14 12.6**	**+1.5**
YAK				pmax	pmax		
	comp=Z,30nm,0.7s						
YAK				pmax	pmax		
	comp=E,9.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				smax	smax		
	comp=E,20nm,0.8s						
YAK				smax	smax		
	comp=N,42nm,1.1s						
JEM	**Erimo**	**17.48**	**226**	P	**Pn**	**19 11 11.9**	**-0.5**
ERM	**Erimo**	**17.48**	**226**		**Pn**	**19 11 11.7**	**-0.7**
ERM	**Erimo**	**17.48**	**226**	P	**Pn**	**19 11 11.8**	**-0.6**
ERM	**Erimo**	**17.48**	**226**	*i* P	**P**	**19 11 11.3**	**+0.6**
NIKH	**Nikolski High**	**18.23**	**85**	P	**Pn**	**19 11 20.1**	**-0.9**
NIKH	**Nikolski High**	**18.23**	**85**	P	**P**	**19 11 19.4**	**+0.7**
	baz=290						
NIKH	**Nikolski High**	**18.23**	**85**	P	**P**	**19 11 19.4**	**+0.7**
KLR	**Kul'dur**	**18.35**	**262**	P	**P**	**19 11 20.5**	**+0.4**
	comp=N,14nm,0.7s,baz=62,slow=10,SNR=42						
KLR				S	**S**	**19 14 42.3**	**+3.0**
	comp=N,0.9nm,0.7s,baz=161,slow=23,SNR=0.8						
KLR	**Kul'dur**	**18.35**	**262**	*i* P	**P**	**19 11 20.1**	**0.0**
TNA	**Tin City**	**18.41**	**44**	P	**Pn**	**19 11 22.3**	**-0.8**
TNA	**Tin City**	**18.41**	**44**	P	**Pn**	**19 11 22.1**	**-0.9**
	baz=252,SNR=43						
ZEA	**Zeya**	**19.02**	**278**	*e*P	**P**	**19 11 27.4**	**+0.1**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.5s						
ANM	**Nome**	**19.21**	**48**	P	**P**	**19 11 30.7**	**+1.5**
ANM	**Nome**	**19.21**	**48**	P	**Pn**	**19 11 30.9**	**-1.5**
	baz=258,SNR=26						
ANM	**Nome**	**19.21**	**48**	P	**P**	**19 11 30.7**	**+1.5**
UNV	**Unalaska Valle**	**19.26**	**81**	P	**P**	**19 11 30.7**	**+0.9**
UNV	**Unala

M19K Big River Lodg 24.03 56 P P 19 12 18.3 +1.2
baz=275
K20K Telida 24.08 52 P P 19 12 18.2 +0.6
K20K Telida 24.08 52 P P 19 12 18.3 +0.7
baz=272
N19K Bonanza Creek 24.11 59 P P 19 12 19.2 +1.3
N19K Bonanza Creek 24.11 59 P P 19 12 18.7 +0.7
baz=278
MJB9 Matsu-Tunnel 24.15 227 P P 19 12 18.0 -0.5
MJB9 IAmb IAmb 19 12 24.2
comp=Z,20nm,0.6s
MAJO Matsushiro 24.15 227 P P 19 12 19.0 +0.5
MAJO IAmb IAmb 19 12 23.2
comp=Z,21nm,0.6s
MAJO Matsushiro 24.15 227 P P 19 12 18.7 +0.2
MAJO Matsushiro 24.15 227 P P 19 12 19.0 +0.5
MAJO pmax pmax
comp=Z,21nm,0.6s
MJAR Matsushiro Arr 24.15 227 P P 19 12 19.0 +0.5
comp=Z,6.8nm,0.5s,baz=21,slow=9.8,SNR=27
MJAR PcP PcP 19 15 53.7 +0.1
comp=Z,1.5nm,0.6s,baz=116,slow=1.8,SNR=4.4
comp=Z,6.8nm,0.5s
A21K Barrow 24.19 33 P P 19 12 18.6 +0.2
A21K IAmb IAmb 19 12 19.7
comp=Z,16nm,0.8s
L20K Farewell, AK 24.22 55 P P 19 12 19.6 +0.7
baz=275,SNR=10.0
Q18K Katmai Hardscr 24.22 64 P P 19 12 19.9 +0.9
baz=282,SNR=6.9
IMAR Indian Mountai 24.23 46 P P 19 12 19.4 +0.5
O19K Port Alsworth 24.28 60 P P 19 12 19.9 +0.6
O19K IAmb IAmb 19 12 22.9
comp=Z,32nm,0.7s
O19K Port Alsworth 24.28 60 P P 19 12 20.6 +1.2
baz=279,SNR=7.5
G21K Allakaket 24.36 45 P P 19 12 20.5 +0.4
baz=266,SNR=19
F21K Alatna River 24.43 43 P P 19 12 21.0 +0.3
baz=264
H21K Melozitna Rive 24.61 47 P P 19 12 22.7 +0.4
H21K IAmb IAmb 19 12 26.0
comp=Z,22nm,0.8s
H21K Melozitna Rive 24.61 47 P P 19 12 22.7 +0.4
baz=268
M20K Styx River 24.62 56 P P 19 12 24.1 +1.6
M20K Styx River 24.62 56 P P 19 12 22.9 +0.3
baz=276
CHIR Chirikof Islan 24.64 71 P P 19 12 22.8 +0.1
CHUM Lake Minchumin 24.84 51 P P 19 12 25.2 +0.8
baz=273,SNR=8.1
Q19K Cape Douglas, 24.86 63 P P 19 12 25.6 +0.9
Q19K Cape Douglas, 24.86 63 P P 19 12 25.5 +0.8
baz=282
ILSW Iliamna Southw 24.90 60 P P 19 12 26.0 +0.9
ILSW IAmb IAmb 19 12 27.6
comp=Z,46nm,1.1s
P19K Oil Pt 24.92 61 P P 19 12 26.3 +1.1
P19K Oil Pt 24.92 61 P P 19 12 26.3 +1.1
baz=281
I21K Tanana 24.95 48 P P 19 12 26.1 +0.7
I21K IAmb IAmb 19 12 29.1
comp=Z,18nm,0.6s
I21K Tanana 24.95 48 P P 19 12 26.6 +1.2
baz=270
PPLA Purkeypile 24.96 53 P P 19 12 27.1 +1.4
PPLA Purkeypile 24.96 53 P P 19 12 26.8 +1.1
baz=275,SNR=8.2
F22K John River 24.96 42 P P 19 12 26.2 +0.7
baz=265
CAST Castle Rocks 24.97 52 P P 19 12 26.4 +0.8
CAST IAmb IAmb 19 12 30.0
comp=Z,26nm,0.8s
CAST Castle Rocks 24.97 52 P P 19 12 26.7 +1.2
baz=274,SNR=13
RSO Redoubt South 25.00 59 P P 19 12 27.6 +1.4
CN2 Changchun 25.05 257 *eP* P 19 12 24.5 -2.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BOD Bodaibo 25.06 294 *eP* P 19 12 26.7 +0.2
BOD pmax pmax
comp=Z,30nm,0.8s
HIA Hailar 25.14 273 P P 19 12 27.6 +0.4
HIA Hailar 25.14 273 P P 19 12 27.7 +0.4
HIA pmax pmax
comp=Z,13nm,1.0s
N20K Mount Spurr 25.15 57 P P 19 12 28.5 +1.2
baz=279
SPCR Spurr Chakacha 25.15 57 P P 19 12 28.3 +1.0
baz=279
SII Sitkinak Islan 25.18 69 P P 19 12 28.4 +0.7
H22K Ishtalitna Cre 25.20 46 P P 19 12 28.5 +0.8
baz=269
SPU Mount Spurr 25.23 57 P P 19 12 29.1 +1.1
JGF Kuroka 25.31 228 P P 19 12 28.8 -0.3
JGF Kuroka 25.31 228 P P 19 12 29.2 +0.2
SKT Skwentna 25.36 55 P P 19 12 29.9 +0.7
SKT IAmb IAmb 19 12 32.7
comp=Z,45nm,1.6s
SKT Skwentna 25.36 55 P P 19 12 29.7 +0.6
baz=278
BPAW Bear Paw Mtn. 25.41 50 P P 19 12 30.1 +0.6
BPAW IAmb IAmb 19 12 33.8
comp=Z,15nm,0.6s
BPAW Bear Paw Mtn. 25.41 50 P P 19 12 30.0 +0.4
baz=273,SNR=13
OHAK Old Harbor 25.46 67 P P 19 12 30.0 -0.1
OHAK Old Harbor 25.46 67 P P 19 12 29.9 -0.1
baz=286
MLY Manley 25.48 48 P P 19 12 30.7 +0.5
MLY IAmb IAmb 19 12 34.7
comp=Z,11nm,0.6s
MLY Manley 25.48 48 P P 19 12 30.7 +0.5
baz=272,SNR=14
KTH Kantishna Hill 25.48 52 P P 19 12 30.9 +0.7
KTH IAmb IAmb 19 12 32.3
comp=Z,17nm,0.8s
Q20K Shuyak Island 25.57 63 P P 19 12 31.1 +0.1
baz=284
D23K Nanushuk River 25.67 39 P P 19 12 32.5 +0.7
baz=264
KDAK Kodiak Island 25.68 65 P P 19 12 31.2 -0.8
comp=Z,14nm,0.4s,baz=352,slow=2.8,SNR=28
KDAK LR LR 19 22 01.6
comp=Z,142nm,18.3s,baz=230,slow=34
COLD Coldfoot 25.71 43 P P 19 12 32.2 0.0
COLD Coldfoot 25.71 43 P P 19 12 32.5 +0.3
baz=268,SNR=8.5
CAPN Captain Cook N 25.73 58 P P 19 12 33.0 +0.6
baz=280
G23K Bananza Creek 25.76 44 P P 19 12 33.2 +0.4
baz=269
TRF Thorofare Moun 25.77 52 P P 19 12 33.5 +0.5
TRF Thorofare Moun 25.77 52 P P 19 12 33.5 +0.5
baz=275,SNR=14
SUA Susitna One 25.81 57 P P 19 12 33.3 0.0
SUA Susitna One 25.81 57 P P 19 12 33.7 +0.4
baz=279,SNR=12
CUT Chulitna 25.89 54 P P 19 12 34.2 +0.3
CUT Chulitna 25.89 54 P P 19 12 34.4 +0.5
baz=278,SNR=15
CNPM China Poot 25.94 61 P P 19 12 34.1 -0.3
E23K Chandalar 25.98 41 P P 19 12 35.4 +0.7
baz=266
I23K Minto, Yukon-K 26.05 48 P P 19 12 36.1 +0.8
I23K IAmb IAmb 19 12 37.8
comp=Z,44nm,1.6s
I23K Minto, Yukon-K 26.05 48 P P 19 12 36.1 +0.8
baz=273,SNR=7.4
M22K Willow 26.06 56 P P 19 12 35.0 -0.3
baz=279
BRLK Bradley Lake 26.06 60 P P 19 12 35.2 -0.2
BRLK IAmb IAmb 19 12 36.0
comp=Z,41nm,1.1s
BWN Browne 26.07 50 P P 19 12 36.8 +1.3
BWN IAmb IAmb 19 12 41.0
comp=Z,26nm,0.7s
BRSE Bradley Lake S 26.14 60 P P 19 12 36.0 -0.2
baz=283
NEA2 Nenana 26.21 49 P P 19 12 37.3 +0.6
NEA2 IAmb IAmb 19 12 41.3
comp=Z,17nm,0.6s
NEA2 Nenana 26.21 49 P P 19 12 37.5 +0.7
baz=274,SNR=14
MCK McKinley 26.34 51 P P 19 12 37.8 -0.2
MCK IAmb IAmb 19 12 40.0
comp=Z,53nm,1.4s
MCK McKinley 26.34 51 P P 19 12 38.7 +0.7
baz=276,SNR=7.8
MCK McKinley 26.34 51 P P 19 12 37.8 -0.2
MCK pmax pmax
comp=Z,53nm,1.4s
RC01 Rabbit Creek A 26.35 57 P P 19 12 37.7 -0.4
RC01 IAmb IAmb 19 12 39.7
comp=Z,30nm,1.2s
RC01 Rabbit Creek A 26.35 57 P P 19 12 38.7 +0.7
baz=281
E24K Your Creek 26.40 41 P P 19 12 39.0 +0.5
baz=268
RND Reindeer 26.41 52 P P 19 12 39.0 +0.3
RND IAmb IAmb 19 12 39.4
comp=Z,27nm,1.2s
RND Reindeer 26.41 52 P P 19 12 39.0 +0.3
RND pmax pmax
comp=Z,27nm,1.2s
C24K Franklin Bluff 26.45 38 P P 19 12 39.5 +0.7
baz=264
MDM Murphy Dome 26.54 48 P P 19 12 39.5 -0.3
PMR Palmer 26.55 56 P P 19 12 39.5 -0.2
PMR Palmer 26.55 56 P P 19 12 40.2 +0.5
baz=280
PMR Palmer 26.55 56 P P 19 12 39.5 -0.2
PMR pmax pmax
comp=Z,92nm,2.0s
F24K Squaw Lake 26.61 43 P P 19 12 41.1 +0.8
baz=269,SNR=7.9
GHO Glory Hole Cre 26.62 56 P P 19 12 40.6 +0.1
WAT1 Susitna Watana 26.62 53 P P 19 12 40.3 -0.2
baz=278
H24K Noodor Dome 26.64 46 P P 19 12 41.4 +0.8
H24K Noodor Dome 26.64 46 P P 19 12 41.3 +0.8
baz=272
WRH Wood River Hil 26.64 49 P P 19 12 41.2 +0.7
SEW Seward 26.69 59 P P 19 12 41.0 -0.1
SEW IAmb IAmb 19 12 41.9
comp=Z,30nm,0.8s
SEW Seward 26.69 59 P P 19 12 41.5 +0.5
baz=283
TCOL CIGO, UAF Yank 26.71 48 P P 19 12 41.5 +0.4
baz=274
COLA College 26.71 48 P P 19 12 41.4 +0.2
baz=274
COLA College 26.71 48 P P 19 12 42.0 +0.8
COLA College 26.71 48 *eP* P 19 12 41.5 +0.3
COLA pmax pmax
comp=Z,115nm,4.1s
CCB Clear Creek Bu 26.75 49 P P 19 12 42.1 +0.6
G24K Hadweenzic Riv 26.78 44 P P 19 12 42.6 +0.8
baz=271,SNR=23
POKR Poker Plat Res 26.87 48 P P 19 12 42.5 -0.2
POKR IAmb IAmb 19 12 49.4
comp=Z,44nm,1.9s
POKR Poker Plat Res 26.87 48 P P 19 12 43.8 +1.2
baz=274,SNR=6.3
SML Sawmill 26.89 55 P P 19 12 43.5 +0.6
SML Sawmill 26.89 55 P P 19 12 43.4 +0.6
baz=280,SNR=12
KNK Knik Glacier 26.90 56 P P 19 12 43.6 +0.7
KNK Knik Glacier 26.90 56 P P 19 12 43.5 +0.6
baz=281,SNR=11
WAT6 Susitna Watana 27.03 54 P P 19 12 44.2 0.0
baz=279,SNR=6.2
PWL Port Wells 27.07 57 P P 19 12 44.2 -0.2
PWL Port Wells 27.07 57 P P 19 12 44.7 +0.3
baz=282,SNR=7.1
DHY Denali Highway 27.12 52 P P 19 12 44.9 -0.1
DHY IAmb IAmb 19 12 46.4
comp=Z,21nm,0.8s
DHY Denali Highway 27.12 52 P P 19 12 45.5 +0.4
baz=278,SNR=11
IL31 27.13 49 P P 19 12 45.0 +0.1
IL31 IAmb IAmb 19 12 46.2
comp=Z,20nm,1.1s
ILAR Eielson Array 27.13 49 P P 19 12 45.0 +0.1
comp=Z,4.9nm,0.4s,baz=262,slow=8.3,SNR=275
ILAR pP pP 19 13 23.7 -0.5
comp=Z,0.7nm,0.8s,baz=264,slow=7.2,SNR=1.4
ILAR ScP ScP 19 19 20.3 -1.2
comp=Z,0.5nm,0.5s,baz=277,slow=2.8,SNR=6.3
ILAR P3KPbc 19 45 15.2
comp=Z,0.3nm,0.8s,baz=107,slow=4.9,SNR=4.4
comp=Z,4.9nm,0.4s
HDA Harding Lake 27.14 49 P P 19 12 45.2 +0.2
HDA IAmb IAmb 19 12 46.5
comp=Z,21nm,0.8s
HDA Harding Lake 27.14 49 P P 19 12 45.3 +0.2
baz=276,SNR=15
M23K Glacier View 27.17 55 P P 19 12 46.2 +0.8
baz=281,SNR=13
G25K Bearman Lake 27.32 44 P P 19 12 47.0 +0.5
baz=272
SCM Sheep Creek Mo 27.35 55 P P 19 12 47.7 +0.7
SCM Sheep Creek Mo 27.35 55 P P 19 12 47.9 +0.9
baz=281,SNR=8.5
SCM Sheep Creek Mo 27.35 55 P P 19 12 47.7 +0.7
SCM pmax pmax
comp=Z,65nm,0.7s
F25K Christian Rive 27.47 42 P P 19 12 49.2 +1.2
baz=271,SNR=10
E25K Arctic Village 27.50 41 P P 19 12 49.4 +1.1
baz=270,SNR=7.2
PRP Porcupine Dome 27.64 47 P P 19 12 50.9 +1.3
baz=275,SNR=7.2
FYU Fort Yukon 27.68 45 P P 19 12 50.0 +0.3
FYU IAmb IAmb 19 12 51.8
comp=Z,16nm,0.7s
K24K Donnelly Dome 27.73 51 P P 19 12 50.6 +0.3
baz=278,SNR=7.6
C26K Camden Bay 27.77 37 P P 19 12 51.8 +1.3
baz=267
M24K Tolsona, Glenn 27.83 54 P P 19 12 52.1 +0.8
M24K Tolsona, Glenn 27.83 54 P P 19 12 52.9 +1.6
baz=281,SNR=6.6
BMAR Burnt Mountain 27.89 43 P P 19 12 52.5 +0.9
PAX Paxson 28.00 52 P P 19 12 52.6 -0.1
PAX Paxson 28.00 52 P P 19 12 53.2 +0.5
baz=280
PAX Paxson 28.00 52 P P 19 12 52.6 -0.1
PAX pmax pmax
comp=Z,8.0nm,0.8s
F26K Sheenjek River 28.04 42 P P 19 12 53.9 +0.8
baz=272
KLU Klutina 28.08 56 P P 19 12 54.0 +0.6
KLU IAmb IAmb 19 12 58.6
comp=Z,21nm,0.6s
KLU Klutina 28.08 56 P P 19 12 54.2 +0.7
baz=282,SNR=7.6
RIDG Independent Ri 28.14 51 P P 19 12 53.6 -0.4
RIDG IAmb IAmb 19 12 54.5
comp=Z,22nm,1.0s
RIDG Independent Ri 28.14 51 P P 19 12 53.6 -0.4
baz=279,SNR=7.4
C27K Jago River 28.18 38 P P 19 12 55.2 +1.0
baz=269
DIV Divide 28.23 56 P P 19 12 54.3 -0.5
DIV IAmb IAmb 19 12 56.3
comp=Z,28nm,0.8s
KS19 Wonju Array Si 28.23 244 P P 19 12 54.4 -0.6
KSRS Korea Array 28.24 244 P P 19 12 55.0 0.0
comp=Z,8.3nm,0.7s,baz=35,slow=9.1,SNR=33
KSRS pP pP 19 13 36.1 +1.4
comp=Z,5.7nm,0.9s,baz=43,slow=8.8,SNR=4.4
KSRS PcP PcP 19 16 04.5 +1.4
comp=Z,4.4nm,0.7s,baz=15,slow=2.3,SNR=13
KSRS ScP ScP 19 19 26.4 +1.0
comp=Z,2.2nm,0.9s,baz=34,slow=3.1,SNR=6.2
comp=Z,8.3nm,0.7s
KSRS Korea Array 28.24 244 P P 19 12 55.0 0.0
HARP HAARP 28.24 53 P P 19 12 56.0 +1.2
baz=281,SNR=6.1
EYAK Cordova Ski Ar 28.38 57 P P 19 12 56.0 0.0
EYAK Cordova Ski Ar 28.38 57 P P 19 12 56.5 +0.6
baz=284
EYAK Cordova Ski Ar 28.38 57 P P 19 12 57.5 +1.5
SCRK Sand Creek 28.48 50 P P 19 12 56.6 -0.5
SCRK IAmb IAmb 19 12 58.0
comp=Z,30nm,0.9s
SCRK Sand Creek 28.48 50 P P 19 12 56.8 -0.3
baz=279,SNR=18
DOT Dot Lake 28.50 51 P P 19 12 56.9 -0.3
DOT IAmb IAmb 19 12 57.8
comp=Z,14nm,0.8s
J26L Joseph Creek 28.58 49 P P 19 12 57.4 -0.6
J26L Joseph Creek 28.58 49 P P 19 12 57.7 -0.2
baz=279
I26K Coal Creek Min 28.64 47 P P 19 12 58.2 -0.1
I26K IAmb IAmb 19 13 57.3
comp=Z,31nm,1.9s
I26K Coal Creek Min 28.64 47 P P 19 12 58.5 +0.1
baz=278
N25K Chitina, Valde 28.67 55 P P 19 12 59.4 +0.7
N25K Chitina, Valde 28.67 55 P P 19 12 59.8 +1.1
baz=283,SNR=10
MENT Mentasta 28.79 52 P P 19 13 00.3 +0.6
MENT IAmb IAmb 19 13 00.9
comp=Z,17nm,0.5s
BMRM Bremner River 28.82 56 P P 19 13 00.9 +0.9
BMRM Bremner River 28.82 56 P P 19 13 01.3 +1.3
baz=284,SNR=13
E27K Coleen River 28.98 41 P P 19 13 02.2 +0.9
baz=274
G27K Doyon Strip 29.07 44 P P 19 13 03.2 +1.1
baz=276
GLB Gilahina Butte 29.07 55 P P 19 13 03.2 +1.0
GLB IAmb IAmb 19 13 04.2
comp=Z,20nm,0.6s
H27K Steamboat Moun 29.19 45 P P 19 13 04.3 +1.1
baz=277
M26K Nabesna, AK 29.23 53 P P 19 13 05.1 +1.5
M26K Nabesna, AK 29.23 53 P P 19 13 05.0 +1.4
baz=283
I27K Kandik River 29.24 46 P P 19 13 03.6 0.0
baz=278
VRDI Verde Repeater 29.30 55 P P 19 13 05.2 +0.8
VRDI IAmb IAmb 19 13 05.9
comp=Z,36nm,1.2s
K27K Chicken 29.30 50 P P 19 13 04.9 +0.7
K27K IAmb IAmb 19 13 05.7
comp=Z,17nm,0.9s
K27K Chicken 29.30 50 P P 19 13 04.6 +0.4
baz=281
MCARA McCarthy VSAT 29.46 55 P P 19 13 07.0 +1.4
MCARA McCarthy VSAT 29.46 55 P P 19 13 07.0 +1.4
baz=285
EGAK Eagle 29.56 48 P P 19 13 06.7 +0.3
EGAK IAmb IAmb 19 13 07.2
comp=Z,21nm,0.8s
EGAK Eagle 29.56 48 P P 19 13 06.2 -0.2
baz=280,SNR=15
L27K Beaver Creek, 29.61 51 P P 19 13 08.0 +1.1
L27K IAmb IAmb 19 13 09.1
comp=Z,36nm,1.1s
L27K Beaver Creek, 29.61 51 P P 19 13 08.1 +1.1
baz=282
BCAR Beaver Creek A 29.62 51 P P 19 13 07.9 +0.8
M27K Edge Creek, AK 29.75 53 P P 19 13 09.9 +1.6
M27K Edge Creek, AK 29.75 53 P P 19 13 10.1 +1.8
baz=284
WAX Waxell Ridge 29.79 57 P P 19 13 09.7 +1.1
ISLE Juniper Island 29.99 56 P P 19 13 10.8 +0.4
BARN Barnard Glacie 30.18 55 P P 19 13 13.4 +1.3
MESA MESA 30.29 57 P P 19 13 13.9 +0.7
MESA MESA 30.29 57 P P 19 13 14.6 +1.4
baz=287
DAWY Dawson 30.45 49 P P 19 13 14.8 +0.4
DAWY Dawson 30.45 49 P P 19 13 15.1 +0.7
baz=283
YUK3 Moose Creek 30.54 54 P P 19 13 16.2 +0.9
baz=286
TABL Table Mountain 30.60 56 P P 19 13 16.5 +0.6
I29M Ogilvie Camp, 30.64 46 P P 19 13 17.0 +1.1
I29M IAmb IAmb 19 13 18.3
comp=Z,26nm,1.3s
I29M Ogilvie Camp, 30.64 46 P P 19 13 16.8 +0.9
baz=281,SNR=9.6
O28M Mount Upton 30.95 55 P P 19 13 20.3 +1.3
baz=287
YUK8 Steele Glacier 31.00 54 P P 19 13 21.0 +1.6
baz=287
EPYK Eagle Plains 31.09 44 P P 19 13 20.8 +0.8
EPYK IAmb IAmb 19 14 02.4
comp=Z,32nm,1.6s
EPYK Eagle Plains 31.09 44 P P 19 13 20.9 +1.0
baz=281
PCA Pinnacle 31.13 57 P P 19 13 21.1 +0.7
PINM Pinnacle 31.13 57 P P 19 13 21.2 +0.9
baz=288,SNR=5.2
G30M tAoh Zraii Nji 31.17 43 P P 19 13 21.6 +1.0
baz=280
L29M L29M 31.23 51 P P 19 13 22.7 +1.5
baz=285
M29M Somme Creek 31.26 52 P P 19 13 23.1 +1.6
baz=286
K29M Barlow Dome 31.31 49 P P 19 13 22.9 +1.0
baz=284
BCPM Bancas Point 31.47 57 P P 19 13 23.8 +0.6
YUK4 Talbot Arm 31.49 54 P P 19 13 24.4 +0.7
baz=287
PNL Peninsula 31.68 57 P P 19 13 26.3 +1.2
baz=290
PNL Peninsula 31.68 57 P P 19 13 26.7 +1.6
YUK6 Outpost Mounta 31.75 55 P P 19 13 27.2 +1.3
baz=288
O29M Mount Kennedy 31.86 56 P P 19 13 28.2 +1.4
baz=289
INK Inuvik 31.95 40 P P 19 13 28.0 +0.7
comp=Z,2.4nm,0.3s,baz=268,slow=6.4,SNR=29
comp=Z,2.4nm,0.3s
INK Inuvik 31.95 40 P P 19 13 28.2 +0.9
INK Inuvik 31.95 40 P P 19 13 28.4 +1.1
baz=280,SNR=6.7
M30M Minto, Yukon 31.97 51 P P 19 13 28.9 +1.2
M30M Minto, Yukon 31.97 51 P P 19 13 28.9 +1.2
baz=287
F31M Tsiigehtchic 32.03 42 P P 19 13 28.9 +0.9
baz=282,SNR=10
HYT Haines Junctio 32.18 55 P P 19 13 30.9 +1.3
HYT IAmb IAmb 19 13 32.8
comp=Z,22nm,0.7s
HYT Haines Junctio 32.18 55 P P 19 13 32.0 +2.4
baz=289,SNR=5.3
P30M Million Dollar 32.68 56 P P 19 13 35.7 +1.8
baz=290
BJT Baijiatuau 32.73 260 P P 19 13 34.1 -0.3
BJT Baijiatuau 32.73 260 P P 19 13 34.2 -0.3
BJT pmax pmax
comp=Z,4.0nm,0.9s
BJT Baijiatuau 32.73 260 P P 19 13 34.0 -0.5
N31M Braeburn, Yuko 32.76 53 P P 19 13 35.9 +1.4
N31M IAmb IAmb 19 13 37.4
comp=Z,13nm,0.8s
N31M Braeburn, Yuko 32.76 53 P P 19 13 36.5 +2.0
baz=289
O30N Mendenhall 32.86 54 P P 19 13 37.2 +1.8
baz=290
ULN Ulaanbaatar 33.05 279 *i* P P 19 13 36.7 -0.6
ULN pmax pmax
comp=Z,4.0nm,1.2s
M31M Drury Creek, Y 33.15 51 P P 19 13 39.5 +1.6
M31M IAmb IAmb 19 13 40.7
comp=Z,19nm,0.8s
M31M Drury Creek, Y 33.15 51 P P 19 13 39.7 +1.8
baz=289,SNR=7.0
PLBC Pleasant Camp 33.20 57 P P 19 13 40.1 +1.8
baz=292
SONM Songino Array 33.43 280 P P 19 13 40.5 -0.1
comp=Z,6.1nm,0.8s,baz=65,slow=6.9,SNR=35
SONM PP PP 19 15 01.8 +1.6
comp=Z,2.6nm,0.9s,baz=55,slow=10,SNR=6.9
SONM PcP PcP 19 16 17.2 +0.2
comp=Z,4.6nm,0.6s,baz=87,slow=1.5,SNR=18
SONM ScP ScP 19 19 44.0 +1.3
comp=Z,5.3nm,0.8s,baz=78,slow=2.0,SNR=30
comp=Z,6.1nm,0.8s
SONM Songino Array 33.43 280 P P 19 13 40.7 +0.1
SONM PcP PcP 19 16 17.4 +0.4
SONM ScP ScP 19 19 44.7 +2.0
WHY Whitehorse 33.45 54 P P 19 13 42.1 +1.5
WHY IAmb IAmb 19 13 43.6
comp=Z,19nm,0.8s
WHY Whitehorse 33.45 54 P P 19 13 42.5 +1.9
baz=291,SNR=7.6
FARO Faro, Yukon 33.60 51 P P 19 13 43.1 +1.4
FARO Faro, Yukon 33.60 51 P P 19 13 43.5 +1.8
baz=290,SNR=5.2
SKAG Skagway 33.69 56 P P 19 13 44.1 +1.7
baz=292
NRIK Noril'sk 33.95 323 P P 19 13 43.8 -0.9

comp=Z,3.3nm,0.6s,baz=86,slow=11,SNR=5.6
NRIK PcP **PcP** **19 16 18.1 +0.2**
comp=Z,4.4nm,0.4s,baz=42,slow=4.5,SNR=5.4
comp=Z,3.3nm,0.6s
NRIK Noril'sk 33.95 323 P **P** **19 13 44.7 +0.1**
NRIK Noril'sk 33.95 323 *ce*P **P** **19 13 43.6 -1.0**
NRIK pmax pmax
comp=Z,19nm,3.0s
A36M Sachs Harbour 34.03 32 P **P** **19 13 46.5 +1.3**
A36M PcP **PcP** **19 16 18.7 +0.6**
A36M Sachs Harbour 34.03 32 P **P** **19 13 46.4 +1.1**
baz=282,SNR=6.6
BESE Bessie Mountai 34.26 58 P **P** **19 13 48.8 +1.3**
P32M Atlin 34.39 55 P **P** **19 13 50.7 +2.1**
baz=293
P33M Teslin, Yukon 34.57 54 P **P** **19 13 51.4 +1.3**
P33M Teslin, Yukon 34.57 54 P **P** **19 13 51.5 +1.3**
baz=293
JIS Juneau Island 34.61 58 P **P** **19 13 51.9 +1.5**
SIT Sitka 34.66 60 P **P** **19 13 52.8 +1.9**
baz=296
HHC Hu-ho-hao-te 34.77 266 *e*P **P** **19 13 51.8 -0.4**
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,200nm,5.7s
TIA Tai'an 34.90 255 P **P** **19 13 51.9 -1.3**
TIA pmax pmax
comp=Z,7.0nm,0.5s
C36M Paulatuk 35.05 37 P **P** **19 13 54.9 +0.8**
C36M IAmb IAmb 19 13 55.6
comp=Z,14nm,0.8s
C36M Paulatuk 35.05 37 P **P** **19 13 54.8 +0.7**
baz=286,SNR=12
Q32M Nakina River 35.33 56 P **P** **19 13 58.9 +2.1**
baz=295
HNS HongShan 35.38 258 ⇑P **P** **19 13 56.6 -0.6**
HNS pP **pP** **19 14 39.3 +1.4**
HNS PcP **PcP** **19 16 23.3 +0.7**
HNS pmax pmax
comp=Z,8.0nm,0.6s
R33M Jennings River 35.76 55 P **P** **19 14 02.6 +2.2**
baz=295
BTO Baotou 35.81 267 *e*P P 19 14 27.1 +26
H11N2 WAKE ISLAND Hy 36.11 169 T T 19 51 32.4
baz=355,slow=76,SNR=47
H11N3 WAKE ISLAND Hy 36.12 169 T T 19 51 58.2
baz=355,slow=76,SNR=140
H11N1 WAKE ISLAND Hy 36.13 169 T T 19 51 59.3
baz=355,slow=76,SNR=61
S34M Telegraph Cree 36.32 57 P **P** **19 14 07.2 +2.2**
baz=297
WRAK Wrangell Islan 36.42 60 P **P** **19 14 08.2 +2.4**
baz=298
DLBC Dease Lake 36.61 56 P **P** **19 14 09.3 +1.7**
comp=Z,13nm,0.7s,baz=287,slow=5.9,SNR=18
comp=Z,13nm,0.7s
DLBC Dease Lake 36.61 56 P **P** **19 14 09.6 +2.0**
DLBC IAmb IAmb 19 14 11.1
comp=Z,17nm,0.8s
DLBC Dease Lake 36.61 56 P **P** **19 14 09.9 +2.3**
baz=297,SNR=5.4
NJ2 Nanjing 37.13 248 *e*P **P** **19 14 11.5 -0.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
T35M Bob Quinn 37.17 58 P **P** **19 14 15.3 +3.1**
baz=298,SNR=7.6
H11S1 WAKE ISLAND Hy 37.30 170 T T 19 53 22.4
baz=352
V35K Ketchikan 37.30 61 P **P** **19 14 15.6 +2.3**
baz=299
H11S3 WAKE ISLAND Hy 37.31 170 T T 19 53 05.3
baz=352
H11S2 WAKE ISLAND Hy 37.32 170 T T 19 53 24.4
baz=352
WRGLY Wrigley 37.44 46 P **P** **19 14 16.5 +2.1**
baz=295
DIB Dawson Inlet, 37.94 65 P **P** **19 14 20.7 +2.0**
LIRD Liard River Hi 37.98 53 P **P** **19 14 21.3 +2.4**
baz=298,SNR=5.8
MOBC Moresby Island 38.23 64 P **P** **19 14 23.4 +2.2**
KOTAN Kotaneelee Air 38.56 51 P **P** **19 14 25.9 +2.1**
baz=298
LYN LuoYang 38.69 257 ⇑*i*P **P** **19 14 24.8 -0.4**
LYN pP pP 19 15 07.5 +1.2
LYN pmax pmax
comp=Z,10.0nm,0.5s
HG4B Hotspring 39.09 65 P **P** **19 14 29.9 +1.7**
EUNU Eureka 39.57 14 P **P** **19 14 32.8 +0.8**
EUNU IAmb IAmb 19 14 33.7
comp=Z,26nm,0.7s
EUNU PcP **PcP** **19 16 35.8 +0.8**
BBB Bella Bella 40.73 64 P **P** **19 14 42.8 +1.1**
comp=Z,22nm,0.8s,baz=328,slow=7.6,SNR=4.8
comp=Z,22nm,0.8s
BBB Bella Bella 40.73 64 P **P** **19 14 42.8 +1.1**
RES Resolute Bay 41.06 23 P **P** **19 14 44.4 +0.3**
comp=Z,1.7nm,0.4s,baz=325,slow=3.4,SNR=7.5
comp=Z,1.7nm,0.4s
RES Resolute Bay 41.06 23 P **P** **19 14 45.0 +0.9**
YKA Yellowknife Ar 41.38 44 P **P** **19 14 47.5 +0.6**
comp=Z,12nm,0.7s,baz=301,slow=8.3,SNR=110
YKA pP **pP** **19 15 28.1 -0.1**
comp=Z,1.5nm,0.7s,baz=300,slow=8.3,SNR=1.3
YKA PcP **PcP** **19 16 40.3 -0.6**
comp=Z,0.7nm,0.5s,baz=305,slow=3.7,SNR=2.9
YKA ScP **ScP** **19 20 12.5 +0.3**
comp=Z,1.3nm,0.6s,baz=300,slow=3.9,SNR=14
YKA ScS **ScS** **19 24 30.0 +1.5**
comp=Z,0.1nm,0.5s,baz=316,slow=5.2,SNR=4.2
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 41.51 300 P **P** **19 14 47.2 -0.8**
ZALV Zalesovo Beam 41.51 300 P **P** **19 14 47.2 -0.8**
comp=Z,5.1nm,0.5s,baz=56,slow=7.2,SNR=22
ZALV PP **PP** **19 16 25.6 -2.3**
comp=Z,1.7nm,0.5s,baz=46,slow=10,SNR=4.3
ZALV PcP **PcP** **19 16 40.6 -1.0**
comp=Z,4.6nm,0.7s,baz=50,slow=9.9,SNR=7.4
ZALV ScP **ScP** **19 20 12.2 -0.7**
comp=Z,0.8nm,0.7s,baz=22,slow=4.8,SNR=4.1
comp=Z,5.1nm,0.5s
GTA Gaotai 42.41 274 *e*P **P** **19 14 55.3 -0.4**
GTA pP pP 19 15 38.9 +1.3
GTA PcP **PcP** **19 16 45.8 +0.8**
GTA pmax pmax
comp=Z,6.0nm,0.6s
LZH Lanzhou 42.43 267 *e*P **P** **19 14 55.8 -0.2**
LZH pP pP 19 15 39.8 +2.0
LZH sP sP 19 16 05.0 +5.3
LZH PcP **PcP** **19 16 46.3 +1.1**
LZH pmax pmax
comp=Z,7.0nm,1.5s
HILA High Level 42.47 50 P **P** **19 14 57.0 +1.2**
DGZ Jazzator, Alta 42.65 294 *d*iP **P** **19 14 57.7 +0.2**
DGZ pmax pmax
comp=Z,22nm,0.6s
ENH Enshi 43.57 256 P **P** **19 15 03.1 -1.8**
ENH Enshi 43.57 256 P **P** **19 15 03.4 -1.5**
SPA0 Spitsbergen Ar 44.73 350 *e*P **P** **19 15 13.6 +0.1**
SPITS Spitsbergen Ar 44.73 350 P **P** **19 15 13.1 -0.4**
comp=Z,8.2nm,0.4s,baz=61,slow=8.7,SNR=26
comp=Z,8.2nm,0.4s
SPB2 Spitsbergen Ar 44.73 350 P **P** **19 15 13.4 -0.1**
LLLB Lillooet 44.81 62 P **P** **19 15 16.3 +1.7**
BRLDA Berland Lookou 44.87 56 P **P** **19 15 16.6 +1.5**
ZSN Zaisan 45.38 293 *e*P **P** **19 15 18.9 -0.2**
baz=293
ZSN Zaisan 45.38 293 *e*P **P** **19 15 18.8 -0.2**
NLWA Neilton Lookou 45.81 67 P **P** **19 15 24.3 +1.9**
NLWA IAmb IAmb 19 15 24.9
comp=Z,19nm,0.7s
WISH Wishkah 46.04 67 P **P** **19 15 26.4 +2.2**
WMQ Urumqi 46.22 287 ⇓P **P** **19 15 26.3 +0.5**
WMQ pP pP 19 16 09.8 +1.6
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ Urumqi 46.22 287 P **P** **19 15 26.1 +0.3**
WMQ pP **pP** **19 16 09.5 +1.2**
B06A Marblemount 46.32 64 P **P** **19 15 27.2 +0.9**
B06A IAmb IAmb 19 15 28.4
comp=Z,22nm,0.8s
KURK Kurchatov 46.49 300 P **P** **19 15 26.9 -0.7**
KURK IAmb IAmb 19 15 28.2
comp=Z,42nm,0.8s
KURK Kurchatov 46.49 300 *ce*P **P** **19 15 26.8 -0.9**
KURK pmax pmax
comp=Z,65nm,1.3s
KURK Kurchatov 46.49 300 P **P** **19 15 26.9 -0.7**
KURK pP **pP** **19 16 10.5 +0.3**
KURK ScP **ScP** **19 20 33.5 +0.2**
E03A Lebam 46.52 68 P **P** **19 15 29.4 +1.5**
E03A IAmb IAmb 19 15 30.6
comp=Z,32nm,1.0s
KURBB Kurchatov Arra 46.60 300 P **P** **19 15 27.7 -0.7**
comp=Z,18nm,0.4s,baz=56,slow=7.9,SNR=240
KURBB pP **pP** **19 16 10.6 -0.4**
comp=Z,13nm,1.1s,baz=55,slow=7.9,SNR=2.4
KURBB PcP **PcP** **19 16 58.6 -0.4**
comp=Z,6.8nm,0.7s,baz=53,slow=3.6,SNR=11
KURBB PP **PP** **19 17 18.7 -1.4**
comp=Z,7.0nm,0.9s,baz=49,slow=10,SNR=6.7
comp=Z,18nm,0.4s
MK31 Makanchi Array 47.15 294 P **P** **19 15 30.9 -2.0**
MK31 Makanchi Array 47.15 294 *i*P **P** **19 15 31.7 -1.2**
MKAR Makanchi Array 47.15 294 P **P** **19 15 31.7 -1.2**
comp=Z,4.2nm,0.4s,baz=44,slow=6.3,SNR=118
MKAR pP **pP** **19 16 14.9 -0.5**
comp=Z,1.5nm,0.6s,baz=57,slow=7.4,SNR=1.4
MKAR ScP **ScP** **19 20 35.7 -0.5**
comp=Z,0.3nm,0.5s,baz=47,slow=3.9,SNR=4.4
MKAR S **S** **19 22 09.4 -0.7**
comp=Z,0.6nm,0.7s,baz=44,slow=16,SNR=4.5
comp=Z,4.2nm,0.4s
MKAR Makanchi Array 47.15 294 P **P** **19 15 31.3 -1.6**
LON Longmire 47.30 66 P **P** **19 15 34.6 +0.6**
LON Longmire 47.30 66 P **P** **19 15 34.6 +0.6**
LON pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 47.30 294 P **P** **19 15 32.6 -1.4**
MAKZ Makanchi 47.30 294 P **P** **19 15 32.6 -1.4**
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MAKZ Makanchi 47.30 294 P **P** **19 15 32.8 -1.2**
MAKZ pP **pP** **19 16 16.0 -0.7**
MAKZ ScP **ScP** **19 20 36.7 -0.1**
EDM Edmonton 47.31 55 P **P** **19 15 35.2 +1.2**
EDM Edmonton 47.31 55 P **P** **19 15 35.2 +1.2**
EDM pmax pmax
comp=Z,43nm,0.7s
B08A Colville Reser 47.52 63 P **P** **19 15 36.6 +0.9**
B08A IAmb IAmb 19 15 37.9
comp=Z,19nm,0.8s
LTY Liberty 47.56 65 P **P** **19 15 36.6 +0.6**
LTY IAmb IAmb 19 15 38.3
comp=Z,45nm,1.6s
COR Corvallis 47.94 69 P **P** **19 15 40.3 +1.4**
COR IAmb IAmb 19 15 41.9
comp=Z,28nm,0.8s
COR Corvallis 47.94 69 P **P** **19 15 40.3 +1.4**
COR pmax pmax
comp=Z,28nm,0.8s
COR Corvallis 47.94 69 P **P** **19 15 41.1 +2.2**
HOOD Mount Hood Mea 48.33 68 P **P** **19 15 43.2 +1.2**
BUCK Buck Mountain 48.37 70 P **P** **19 15 43.7 +1.4**
C09A Chrisman Ranch 48.43 63 P **P** **19 15 43.4 +0.8**
H04A Detroit Lake 48.47 69 P **P** **19 15 44.3 +1.3**
D08A Wollman Farm, 48.59 64 P **P** **19 15 44.5 +0.7**
NEW Newport 48.70 62 P **P** **19 15 45.8 +1.0**
comp=Z,6.5nm,0.6s,baz=315,slow=6.7,SNR=13
comp=Z,6.5nm,0.6s
NEW Newport 48.70 62 P **P** **19 15 45.5 +0.8**
NEW Newport 48.70 62 P **P** **19 15 45.9 +1.1**
baz=311,SNR=8.2
NEW Newport 48.70 62 P **P** **19 15 45.5 +0.8**
NEW pmax pmax
comp=Z,8.0nm,0.8s
HAWA Hanford 48.72 65 P **P** **19 15 45.0 +0.2**
F07A Phinny Hill Vi 48.84 66 P **P** **19 15 46.9 +1.1**
E08A Dider Farm, El 48.89 65 P **P** **19 15 46.3 +0.1**
BVA0 Borovoye Array 48.91 307 *i*P **P** **19 15 45.7 -0.5**
BRVK Borovoye 48.94 307 P **P** **19 15 46.2 -0.1**
BRVK IAmb IAmb 19 15 47.0
comp=Z,27nm,0.7s
BRVK Borovoye 48.94 307 *ce*P **P** **19 15 45.8 -0.6**
BRVK pmax pmax
comp=Z,24nm,0.6s
BRVK Borovoye 48.94 307 P **P** **19 15 46.0 -0.3**
BRVK pP **pP** **19 16 29.8 +0.5**
BRVK ScP **ScP** **19 20 43.4 -0.2**
E09A Wood Farm, Sta 49.35 64 P **P** **19 15 50.3 +0.7**
E09A IAmb IAmb 19 15 51.6
comp=Z,28nm,0.8s
HUMO Hull Mountain 49.47 71 P **P** **19 15 52.0 +1.4**
PINE Pine Mountain 49.73 69 P **P** **19 15 54.6 +1.8**
PINE IAmb IAmb 19 15 55.7
comp=Z,18nm,0.8s
G08A Pilot Rock 49.75 66 P **P** **19 15 53.6 +0.8**
WALA Waterton Lakes 49.76 59 P **P** **19 15 53.6 +0.8**
WALA IAmb IAmb 19 15 55.0
comp=Z,23nm,0.7s
F10A Beach Ranch, E 50.18 64 P **P** **19 15 56.7 +0.7**
YBH Yreka Blue Hor 50.20 72 P **P** **19 15 58.1 +1.9**
comp=Z,11nm,0.6s,baz=349,slow=4.5,SNR=38
YBH pP **pP** **19 16 39.7 +0.6**
comp=Z,2.5nm,0.7s,baz=80,slow=3.1,SNR=2.2
comp=Z,11nm,0.6s
YBH Yreka Blue Hor 50.20 72 P **P** **19 15 58.3 +2.1**
KHMM Horse Mountain 50.24 73 P **P** **19 15 59.3 +2.7**
KHMM IAmb IAmb 19 16 00.0
comp=Z,20nm,0.8s
LVZ Lovozero 50.46 336 P **P** **19 15 56.7 -1.0**
LVZ IAmb IAmb 19 17 07.6
comp=Z,61nm,1.4s
LVZ Lovozero 50.46 336 P **P** **19 15 56.7 -1.0**
LVZ pmax pmax
comp=Z,61nm,1.4s
LVZ Lovozero 50.46 336 P **P** **19 15 56.5 -1.2**
LVZ pP **pP** **19 16 39.6 -1.2**
LVZ ScP **ScP** **19 20 50.3 +0.4**
K05A Summer Lake 50.49 70 P **P** **19 16 00.6 +2.1**
SVE Sverdlovsk 50.53 315 *e*P **P** **19 15 58.4 +0.1**
SVE pmax pmax
comp=Z,20nm,0.8s
KMRM Mail Ridge 50.71 74 P **P** **19 16 02.5 +2.5**
KMRM IAmb IAmb 19 16 03.5
comp=Z,22nm,0.7s
PZH PanZhiHua 50.79 260 P **P** **19 15 59.8 -1.0**
PZH pP **pP** **19 16 44.8 +0.7**
PZH PcP **PcP** **19 17 15.0 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.0s
BMO Blue Mountains 50.91 65 P **P** **19 16 02.8 +1.3**
BMO Blue Mountains 50.91 65 P **P** **19 16 02.8 +1.3**
BMO pmax pmax
comp=Z,12nm,0.8s
ARA0 ARCESS Array S 50.97 341 *e*P **P** **19 16 00.7 -0.8**
ARCES ARCESS Array B 50.97 341 P **P** **19 16 00.3 -1.1**
comp=Z,6.1nm,0.7s,baz=33,slow=8.7,SNR=39
ARCES PcP **PcP** **19 17 14.3 -0.3**
comp=Z,2.9nm,0.8s,baz=32,slow=4.7,SNR=3.9
comp=Z,6.1nm,0.7s
SHLS Shalkode 51.08 292 *e*P **P** **19 16 00.9 -1.9**
baz=292
SHLS Shalkode 51.08 292 *e*P **P** **19 16 00.9 -1.9**
MSO Missoula 51.26 61 P **P** **19 16 05.1 +1.1**
MSO IAmb IAmb 19 16 06.2
comp=Z,24nm,1.2s
MSO Missoula 51.26 61 P **P** **19 16 05.4 +1.4**
baz=314,SNR=14
KPKS Kokpek 51.28 293 *e*P **P** **19 16 04.9 +0.7**
baz=292
KPKS Kokpek 51.28 293 *e*P **P** **19 16 04.8 +0.6**
FFC Flin Flon 51.33 47 P **P** **19 16 05.4 +1.1**
FFC Flin Flon 51.33 47 P **P** **19 16 05.4 +1.1**
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 51.33 47 P **P** **19 16 05.5 +1.1**
FFC ScP **ScP** **19 20 55.1 +1.3**
J08A Circle Bar Ran 51.33 67 P **P** **19 16 05.7 +1.1**
MOD Modoc Plateau 51.38 70 P **P** **19 16 06.0 +1.0**
MOD IAmb IAmb 19 16 07.7
comp=Z,19nm,0.6s
FCC Fort Churchill 51.57 40 P **P** **19 16 06.2 +0.2**
FCC Fort Churchill 51.57 40 P **P** **19 16 06.2 +0.2**
FCC pmax pmax
comp=Z,16nm,1.3s
ZHN Zhinishke 51.62 293 *e*P **P** **19 16 07.5 +0.7**
baz=292
ZHN Zhinishke 51.62 293 *e*P **P** **19 16 07.4 +0.7**
ARU Arti 51.63 316 LR LR 19 41 56.3
comp=Z,48nm,19.4s,baz=38,slow=40
ARU Arti 51.63 316 P **P** **19 16 06.5 0.0**
ARU Arti 51.63 316 *d*iP **P** **19 16 06.0 -0.5**
ARU *PP **pP** **19 16 48.3 -1.6**
ARU 19 17 10.7
ARU 19 18 05.9
ARU PPP PPP 19 19 12.3
ARU S **S** **19 23 11.9 -0.1**
ARU SS **SS** **19 26 49.3 -0.7**
ARU pmax pmax
comp=Z,23nm,0.6s
ARU Arti 51.63 316 P **P** **19 16 06.2 -0.3**
ARU pP **pP** **19 16 50.3 +0.5**
SATY Saty 51.71 292 *e*P **P** **19 16 07.7 +0.2**
baz=292
SATY Saty 51.71 292 *e*P **P** **19 16 07.6 +0.2**
KTK1 Kautokeino 51.84 342 *e*P **P** **19 16 07.2 -0.7**
KTK1 IAmb IAmb 19 16 07.7
comp=Z,15nm,0.9s
WVOR Wild Horse Val 51.89 68 P **P** **19 16 10.3 +1.5**
WVOR Wild Horse Val 51.89 68 P **P** **19 16 10.3 +1.5**
WVOR pmax pmax
comp=Z,12nm,0.9s
CHKK Chushkaly 51.89 294 *e*P **P** **19 16 08.4 -0.3**
baz=294
CHKK Chushkaly 51.89 294 *e*P **P** **19 16 08.4 -0.3**
KUU Kurty 52.20 295 *e*P **P** **19 16 10.7 -0.3**
baz=294
KUU Kurty 52.20 295 *e*P **P** **19 16 10.6 -0.3**
MDOK Medeo 52.34 293 P **P** **19 16 12.4 +0.2**
ORV Oroville 52.38 73 P **P** **19 16 13.5 +1.2**
ORV IAmb IAmb 19 16 14.5
comp=Z,23nm,1.2s
ORV Oroville 52.38 73 P **P** **19 16 13.5 +1.2**
ORV pmax pmax
comp=Z,23nm,1.3s
HRY Holter Researc 52.39 60 **P** **19 16 13.6 +1.2**
EGMT Eagleton 52.48 58 P **P** **19 16 13.9 +0.8**
EGMT IAmb IAmb 19 16 14.9
comp=Z,18nm,0.8s
EGMT Eagleton 52.48 58 P **P** **19 16 14.1 +1.1**
baz=314,SNR=11
BTLS Baital 52.57 297 *e*P **P** **19 16 13.5 -0.2**
baz=297
BTLS Baital 52.57 297 *e*P **P** **19 16 13.4 -0.2**
MFID Camas Ranch 52.67 66 P **P** **19 16 15.9 +1.3**
LRM Limekiln Ridge 52.70 61 P **P** **19 16 15.9 +1.0**
ADZR Andozero 52.74 332 *e*P **P** **19 16 11.6 -2.9**
ADZR *e*PP **pP** **19 16 56.9 -1.1**
ADZR pmax pmax
comp=Z,16nm,0.4s
MCMT McKenzie Canyo 53.20 63 P **P** **19 16 19.3 +0.7**
BOZ Bozeman (W) 53.27 61 P **P** **19 16 20.3 +1.4**
BOZ Bozeman (W) 53.27 61 P **P** **19 16 20.5 +1.6**
baz=315,SNR=19
BOZ Bozeman (W) 53.27 61 P **P** **19 16 20.3 +1.4**
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BCYI Bear Canyon 53.28 63 P **P** **19 16 19.5 +0.3**
HLID Hailey 53.30 65 P **P** **19 16 20.4 +1.2**
HLID Hailey 53.30 65 P **P** **19 16 20.9 +1.7**
baz=315,SNR=10
SGDS Sogindy 53.39 295 *e*P **P** **19 16 19.8 +0.1**
baz=295
SGDS Sogindy 53.39 295 *e*P **P** **19 16 19.8 +0.1**
KIRV Kirov 53.45 322 *ce*P **P** **19 16 19.2 -0.6**
VCNR Virginia City 53.57 72 P **P** **19 16 18.1 -3.2**
TNCH TengChong 53.74 262 P **P** **19 16 19.3 -3.3**
TNCH pP pP 19 17 08.0 +1.6
TNCH sP PcP 19 17 26.6 +0.6
TNCH S **S** **19 23 39.8 -2.0**
TNCH pmax pmax
comp=Z,6.0nm,2.4s
TNCH pmax pmax
comp=Z,94nm,4.5s
PNTR Pine Nut 53.75 72 P **P** **19 16 24.3 +1.7**
PNTR IAmb IAmb 19 16 25.8
comp=Z,32nm,0.9s
QLMT Earthquake Lak 53.91 62 P **P** **19 16 25.3 +1.6**
YERR Yerington 54.02 72 P **P** **19 16 26.4 +1.9**
YERR IAmb IAmb 19 16 27.1
comp=Z,16nm,0.6s
YHL Hebgen Lake 54.02 61 P **P** **19 16 25.9 +1.4**
AAK Ala-Archa 54.04 295 P **P** **19 16 23.7 -0.9**
comp=Z,6.4nm,0.6s,baz=108,slow=4.8,SNR=13
AAK pP **pP** **19 17 06.8 -1.5**
comp=Z,5.5nm,0.8s,baz=74,slow=5.1,SNR=3.2
AAK PcP **sP** **19 17 29.5 -0.3**
comp=Z,2.8nm,0.6s,baz=36,slow=23,SNR=1.7
comp=Z,6.4nm,0.6s
AAK Ala-Archa 54.04 295 P **P** **19 16 24.4 -0.2**
AAK Ala-Archa 54.04 295 *ce*P **P** **19 16 23.9 -0.7**
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 54.04 295 P **P** **19 16 24.0 -0.5**
AAK pP **pP** **19 17 08.8 +0.5**
AAK sP **sP** **19 17 29.3 -0.6**
BMN Battle Mountai 54.06 69 P **P** **19 16 26.2 +1.6**
BMN IAmb IAmb 19 16 27.8
comp=Z,14nm,0.8s
BMN Battle Mountai 54.06 69 P **P** **19 16 26.3 +1.6**
BMN pmax pmax
comp=Z,14nm,0.8s
CMB Columbia Colle 54.08 73 P **P** **19 16 26.0 +1.2**
CMB Columbia Colle 54.08 73 P **P** **19 16 26.0 +1.2**
CMB pmax pmax
comp=Z,5.0nm,0.6s
GCMT Greycliff 54.10 60 P **P** **19 16 26.5 +1.6**
STEI Steigen 54.13 344 *e* **P** **19 16 24.8 +0.2**
YMR Madison River 54.26 62 P **P** **19 16 27.8 +1.6**
YMR IAmb IAmb 19 16 28.9
comp=Z,17nm,0.7s
LSA Lhasa 54.34 272 P **P** **19 16 27.2 0.0**
LSA Lhasa 54.34 272 P **P** **19 16 27.2 0.0**
LSA pmax pmax
comp=Z,4.0nm,0.6s
YNR Norris Junctio 54.37 61 P **P** **19 16 29.1 +2.1**
KVN Kaiserville 54.58 71 P **P** **19 16 30.7 +2.2**
KVN IAmb IAmb 19 16 31.3
comp=Z,15nm,0.6s
KVN Kaiserville 54.58 71 P **P** **19 16 30.7 +2.2**
YMP Mirror Lake Pl 54.61 61 P **P** **19 16 30.3 +1.5**
YMP IAmb IAmb 19 16 31.7
comp=Z,12nm,0.7s
LKWY Lake 54.62 61 P **P** **19 16 28.4 -0.4**
LKWY IAmb IAmb 19 16 32.7
comp=Z,17nm,0.8s
LKWY Lake 54.62 61 P **P** **19 16 28.4 -0.4**
LKWY pmax pmax
comp=Z,17nm,0.9s
FAUS Fauske 54.63 344 *e*P **P** **19 16 27.5 -0.7**
H17A Grant Village 54.65 62 P **P** **19 16 31.9 +2.8**
H17A IAmb IAmb 19 16 33.1
comp=Z,21nm,0.9s
H17A **pP** **19 17 16.5 +3.9**
H17A Grant Village 54.65 62 P **P** **19 16 31.9 +2.8**
baz=316,SNR=21
RYN Ryan 54.66 72 P **P** **19 16 30.5 +1.4**
RYN IAmb IAmb 19 16 31.7
comp=Z,14nm,0.6s
RLMT Red Lodge 54.78 60 P **P** **19 16 31.5 +1.6**
RLMT Red Lodge 54.78 60 P **P** **19 16 32.0 +2.1**
baz=316,SNR=48
DGMT Dagmar 54.79 54 P **P** **19 16 31.0 +1.3**
DGMT IAmb IAmb 19 16 31.4
comp=Z,14nm,0.8s
DGMT Dagmar 54.79 54 P **P** **19 16 30.5 +0.8**
baz=316
DGMT Dagmar 54.79 54 P **P** **19 16 30.8 +1.1**
baz=316
FLWY Flagg Ranch 54.81 62 P **P** **19 16 32.2 +2.0**
FLWY IAmb IAmb 19 16 33.5
comp=Z,18nm,0.7s
IMW Indian Meadow 54.83 62 P **P** **19 16 32.2 +1.8**
IMW IAmb IAmb 19 16 34.7
comp=Z,11nm,0.7s
KLMR Klimovskoe 54.85 329 *e*P **P** **19 16 28.4 -1.5**
KLMR AMP 19 16 30.7
comp=Z,25nm,0.7s
KLMR *ePcP **PcP** **19 17 27.9 -1.6**
KLMR Klimovskoe 54.85 329 *e*P **P** **19 16 28.4 -1.5**
KLMR *e 19 17 27.9
KLMR pmax pmax

ELK **Elko** 54.88 68 P P 19 16 32.6 +1.9
comp=Z,8.9nm,0.5s,baz=312,slow=7.7,SNR=55
ELK **Elko** 54.88 68 P P 19 16 32.9 +2.2
IAmb IAmb 19 16 33.9
comp=Z,8.9nm,0.5s
comp=Z,17nm,0.9s
NVAR **Mina Array Bea** 54.92 72 P P 19 16 32.8 +1.7
comp=Z,12nm,0.7s,baz=302,slow=7.4,SNR=68
NVAR pP pP 19 17 15.8 +1.1
comp=Z,4.2nm,0.7s,baz=298,slow=7.0,SNR=4.7
NVAR ScP ScP 19 21 12.3 +2.2
comp=Z,0.8nm,0.8s,baz=286,slow=3.7,SNR=2.7
comp=Z,12nm,0.7s
NVAR **Mina Array Bea** 54.92 72 P P 19 16 33.1 +2.0
LHV **Little Huntoon** 54.94 72 P P 19 16 33.2 +2.3
LHV IAmb IAmb 19 16 34.7
comp=Z,28nm,1.2s
FXWY **Fox Creek** 54.97 62 P P 19 16 33.0 +1.7
FXWY IAmb IAmb 19 16 34.3
comp=Z,13nm,0.7s
NV11 **Mina Array Sit** 55.00 72 P P 19 16 34.4 +2.9
MOOW **Moose Ponds** 55.03 62 P P 19 16 33.6 +1.9
TPAW **Teton Pass** 55.11 63 P P 19 16 34.0 +1.7
TPAW IAmb IAmb 19 16 35.6
comp=Z,16nm,0.7s
LAO **LASA Array** 55.12 57 P P 19 16 33.7 +1.5
LAO IAmb IAmb 19 16 34.9
comp=Z,29nm,0.9s
LAO **LASA Array** 55.12 57 P P 19 16 34.0 +1.9
baz=316,SNR=12
LAO **LASA Array** 55.12 57 P P 19 16 34.0 +1.9
baz=316,SNR=12
LOHW **Long Hollow** 55.20 62 P P 19 16 34.5 +1.6
LOHW IAmb IAmb 19 16 36.1
comp=Z,11nm,0.8s
REDW **Red Top Meadow** 55.26 63 P P 19 16 34.7 +1.3
REDW IAmb IAmb 19 16 36.6
comp=Z,12nm,0.9s
HVU **Hansel Valley** 55.42 65 P P 19 16 36.3 +1.8
HVU IAmb IAmb 19 16 37.6
comp=Z,16nm,1.0s
HVU **Hansel Valley** 55.42 65 P P 19 16 36.3 +1.8
HVU pmax pmax
comp=Z,16nm,1.0s
DZA **Taraz** 55.48 297 eP P 19 16 34.9 +0.2
baz=297
DZA **Taraz** 55.48 297 eP P 19 16 34.9 +0.2
AHID **Auburn Hatcher** 55.56 63 P P 19 16 37.0 +1.5
AHID IAmb IAmb 19 16 38.3
comp=Z,14nm,1.0s
SFJD **Kangerlussuaq** 55.64 14 P P 19 16 34.7 -0.7
KK31 **Karatay Array** 55.74 298 P P 19 16 35.2 -1.4
KK31 **Karatay Array** 55.74 298 i P P 19 16 35.6 -0.9
KKAR **Karatay Array** 55.74 298 P P 19 16 35.5 -1.1
KKAR **Karatay Array** 55.74 298 P P 19 16 35.2 -1.4
KKAR IAmb IAmb 19 16 39.7
comp=Z,8.9nm,0.8s
KKAR **Karatay Array** 55.74 298 P P 19 16 35.5 -1.1
TPH **Tonopah** 55.76 71 P P 19 16 38.8 +1.8
TPH **Tonopah** 55.76 71 P P 19 16 38.8 +1.8
TPH pmax pmax
comp=Z,81nm,1.1s
DSP **Deep Springs** 55.88 72 P P 19 16 39.7 +2.2
MOR8 **Moi Rana** 55.88 344 eP P 19 16 35.1 -2.0
BGU **Big Grassy Mou** 55.91 66 P P 19 16 39.6 +1.7
BGU IAmb IAmb 19 16 40.4
comp=Z,8.1nm,0.6s
SPUT **South Promonto** 55.93 65 P P 19 16 39.7 +1.7
SPUT IAmb IAmb 19 16 40.7
comp=Z,17nm,0.6s
MZP **Montezuma Peak** 55.95 72 P P 19 16 39.7 +1.2
LCH **Last Change Ra** 56.15 72 P P 19 16 41.8 +2.1
LCH IAmb IAmb 19 16 42.4
comp=Z,7.9nm,0.6s
AKTO **Aktyubinsk** 56.21 311 P P 19 16 39.5 -0.2
AB31 **Akbulak array** 56.24 309 P P 19 16 39.7 -0.3
ABKAR **Akbulak array** 56.24 309 P P 19 16 39.4 -0.6
ABKAR **Akbulak array** 56.24 309 P P 19 16 39.3 -0.6
ABKAR IAmb IAmb 19 16 40.7
comp=Z,8.2nm,0.6s
SMMC **Simmler** 56.28 75 P P 19 16 42.8 +2.3
baz=318
BW06 **Boulder Array** 56.34 62 P P 19 16 42.4 +1.3
BW06 **Boulder Array** 56.34 62 P P 19 16 42.9 +1.9
baz=317,SNR=32
PD31 **Pinedale Array** 56.34 62 P P 19 16 42.7 +1.6
PD31 IAmb IAmb 19 16 43.3
comp=Z,17nm,0.6s
PDAR **Pinedale Array** 56.34 62 P P 19 16 42.2 +1.2
comp=Z,15nm,0.5s,baz=343,slow=2.2,SNR=278
PDAR pP pP 19 17 25.2 +0.3
comp=Z,2.8nm,0.7s,baz=311,slow=2.3,SNR=2.9
comp=Z,15nm,0.5s
PDAR **Pinedale Array** 56.34 62 P P 19 16 42.4 +1.3
VES **Vestal, Richgr** 56.39 74 P P 19 16 42.6 +1.4
baz=318
R11A **Troy Canyon, C** 56.44 70 P P 19 16 43.0 +1.2
R11A **Troy Canyon, C** 56.44 70 P P 19 16 43.6 +1.8
baz=317,SNR=10.0
GRAC **Grapevine Rang** 56.48 72 P P 19 16 42.6 +0.7
GRAC IAmb IAmb 19 16 45.2
comp=Z,31nm,1.2s
GRAC **Grapevine Rang** 56.48 72 P P 19 16 44.1 +2.2
baz=318
CWC **Cottonwood Cre** 56.50 73 P P 19 16 44.1 +2.0
baz=318
CRAI **Chiangrai** 56.52 257 P P 19 16 42.1 -0.1
DUG **Dugway, Tooele** 56.55 66 P P 19 16 43.6 +1.1
DUG IAmb IAmb 19 16 45.7
comp=Z,26nm,0.9s
DUG **Dugway, Tooele** 56.55 66 P P 19 16 44.8 +2.3
baz=317,SNR=25
DUG **Dugway, Tooele** 56.55 66 P P 19 16 43.6 +1.1
DUG pmax pmax
comp=Z,26nm,1.0s
TCUT **Toone Canyon** 56.60 65 P P 19 16 45.2 +2.3
TCUT IAmb IAmb 19 16 46.0
comp=Z,18nm,0.7s
SPR3 **Spring Creek 3** 56.63 68 P P 19 16 45.9 +2.6
SPR3 IAmb IAmb 19 16 47.0
comp=Z,21nm,0.7s
IUG **Iuzhnay** 56.68 297 eP P 19 16 43.0 -0.3
baz=297
IUG **Iuzhnay** 56.68 297 eP P 19 16 43.0 -0.3
PKM **Mcpherson Peak** 56.70 76 P P 19 16 45.6 +2.0
baz=318,SNR=6.8
CTU **Camp Tracy** 56.74 65 P P 19 16 45.2 +1.4
CTU IAmb IAmb 19 16 46.5
comp=Z,17nm,0.8s
ISA **Isabella, Lake** 56.86 74 P P 19 16 45.4 +0.8
ISA **Isabella, Lake** 56.86 74 P P 19 16 45.7 +1.1
baz=318,SNR=6.1
ISA **Isabella, Lake** 56.86 74 P P 19 16 45.4 +0.8
ISA pmax pmax
comp=Z,5.0nm,0.8s
S11A **Rachel** 56.87 71 P P 19 16 46.9 +2.1
WCT **Wildcat Mounta** 57.03 72 P P 19 16 47.3 +1.5
MPMC **Manual Prospec** 57.10 73 P P 19 16 48.3 +1.8
baz=318,SNR=9.0
NLU **North Lily Min** 57.11 66 P P 19 16 47.8 +1.3
NLU IAmb IAmb 19 16 49.5
comp=Z,18nm,0.7s
TPNV **Topopah Spring** 57.11 71 P P 19 16 47.9 +1.4
TPNV IAmb IAmb 19 16 49.5
comp=Z,18nm,1.1s
TPNV **Topopah Spring** 57.11 71 P P 19 16 48.6 +2.1
baz=318,SNR=17
TPNV **Topopah Spring** 57.11 71 P P 19 16 47.9 +1.4
TPNV pmax pmax
comp=Z,18nm,1.1s
FURC **Furnace Creek,** 57.14 72 P P 19 16 48.6 +2.2
baz=318
ULM **Lac du Bonnet** 57.15 48 P P 19 16 47.0 +0.7
comp=Z,2.1nm,0.4s,baz=290,slow=5.6,SNR=3.8
comp=Z,2.1nm,0.4s
ULM **Lac du Bonnet** 57.15 48 P P 19 16 47.2 +0.8
ULM **Lac du Bonnet** 57.15 48 P P 19 16 47.0 +0.7
MPU **Maple Canyon** 57.30 66 P P 19 16 49.5 +1.8
MPU IAmb IAmb 19 16 50.9
comp=Z,22nm,0.7s
MDND **Maddock** 57.33 52 P P 19 16 49.1 +1.4
MDND **Maddock** 57.33 52 P P 19 16 49.7 +2.1
baz=318,SNR=6.7
MDND **Maddock** 57.33 52 P P 19 16 49.4 +1.7
baz=318,SNR=6.7

PRN **Pahroc Range** 57.42 70 P P 19 16 50.5 +1.8
PRN IAmb IAmb 19 16 51.7
comp=Z,26nm,0.9s
LRMC **Laurel Mtn Rad** 57.42 74 P P 19 16 50.4 +1.7
baz=318,SNR=12
GWY **Greenwater Val** 57.45 72 P P 19 16 50.4 +1.5
GWY IAmb IAmb 19 16 51.7
comp=Z,18nm,0.8s
QSM **Queen of Sheba** 57.51 73 P P 19 16 50.5 +1.5
QSM IAmb IAmb 19 16 51.5
comp=Z,14nm,0.6s
EDW2 **Edwards Air Fo** 57.70 74 P P 19 16 52.4 +2.0
baz=318,SNR=15
SHOC **Shoshone, Teco** 57.88 72 P P 19 16 53.6 +1.9
baz=318
FIA0 **FINESS Array S** 57.89 336 P P 19 16 50.8 -0.5
FIA0 **FINESS Array S** 57.89 336 P P 19 16 50.8 -0.5
FINES **FINESS Array B** 57.89 336 P P 19 16 50.8 -0.5
comp=Z,8.8nm,0.4s,baz=30,slow=8.5,SNR=157
comp=Z,8.8nm,0.4s
TCRU **Three Creeks R** 57.91 67 P P 19 16 53.3 +1.1
TCRU IAmb IAmb 19 16 55.0
comp=Z,7.6nm,0.6s
K22A **Casper** 57.94 60 P P 19 16 53.4 +1.2
K22A IAmb IAmb 19 16 54.6
comp=Z,22nm,1.1s
K22A **Casper** 57.94 60 P P 19 16 53.6 +1.5
baz=318,SNR=7.5
K22A **Casper** 57.94 60 P P 19 16 53.6 +1.5
baz=318,SNR=7.5
DECC **Green Verdugo** 57.98 75 P P 19 16 54.5 +2.1
baz=319
PHRA **Phrae** 57.99 256 P P 19 16 53.0 +0.4
SHPR **Sheep Range** 58.03 71 P P 19 16 54.2 +1.3
GSC **Goldstone, Bar** 58.03 73 P P 19 16 54.6 +1.8
GSC IAmb IAmb 19 16 55.6
comp=Z,18nm,0.9s
GSC **Goldstone, Bar** 58.03 73 P P 19 16 54.8 +1.9
baz=318,SNR=12
GSC **Goldstone, Bar** 58.03 73 P P 19 16 54.6 +1.8
GSC pmax pmax
comp=Z,18nm,0.9s
TMUT **Trail Mountain** 58.05 66 P P 19 16 54.4 +1.2
RSSD **Black Hills** 58.05 58 P P 19 16 54.3 +1.3
RSSD **Black Hills** 58.05 58 P P 19 16 54.7 +1.7
baz=318,SNR=45
RSSD **Black Hills** 58.05 58 P P 19 16 54.6 +1.6
baz=318
RSSD **Black Hills** 58.05 58 P P 19 16 54.3 +1.3
RSSD pmax pmax
comp=Z,61nm,0.6s
RSSD **Black Hills** 58.05 58 P P 19 16 54.7 +1.7
RSSD pP pP 19 17 39.5 +2.3
TAPN **Taplejung** 58.08 273 eP P 19 16 52.6 -0.9
comp=Z,7.8nm,0.3s
MSU **Marysvale** 58.12 67 P P 19 16 54.1 +0.5
MSU **Marysvale** 58.12 67 P P 19 16 54.1 +0.5
P17A **Butcher Ranch,** 58.16 66 P P 19 16 55.4 +1.7
P17A IAmb IAmb 19 16 57.6
comp=Z,11nm,0.7s
CCUT **Cedar City** 58.21 69 P P 19 16 56.0 +1.7
CCUT IAmb IAmb 19 16 57.2
comp=Z,9.5nm,0.7s
RWWY **Rawlins** 58.31 62 P P 19 16 55.2 +0.3
RWWY IAmb IAmb 19 16 57.1
comp=Z,11nm,0.6s
SZCU **Shurtz Canyon** 58.33 69 P P 19 16 56.5 +1.5
Q16A **Castle Valley** 58.35 66 P P 19 16 57.3 +2.2
Q16A IAmb IAmb 19 16 58.2
comp=Z,16nm,0.7s
BFSC **Mount Baldy Ra** 58.36 75 P P 19 16 57.1 +1.9
baz=319,SNR=6.0
TUQ **Turquoise Moun** 58.41 72 P P 19 16 57.5 +2.0
baz=318,SNR=21
CHTO **Chiang Mai** 58.45 257 P P 19 16 54.2 -1.6
CHTO **Chiang Mai** 58.45 257 P P 19 16 54.2 -1.6
MTPU **Mount Pierson** 58.47 68 P P 19 16 58.4 +2.3
SRU **San Rafael Swe** 58.54 66 P P 19 16 58.1 +1.7
SRU **San Rafael Swe** 58.54 66 P P 19 16 58.1 +1.7
SRU pmax pmax
comp=Z,37nm,0.6s
CIS **Catalina Islan** 58.57 76 P P 19 16 57.9 +1.4
baz=319
AGMN **Agassiz Nation** 58.64 49 P P 19 16 57.3 +0.6
AGMN **Agassiz Nation** 58.64 49 P P 19 16 57.2 +0.6
baz=320
AGMN **Agassiz Nation** 58.64 49 P P 19 16 57.7 +1.0
baz=320
HEC **Hector,Ludlow** 58.64 73 P P 19 16 59.1 +2.1
baz=319,SNR=14
LCMT **Little Creek M** 58.68 69 P P 19 16 59.0 +1.7
JIRN **Jiri** 58.71 274 eP P 19 16 57.4 -0.5
comp=Z,4.6nm,0.3s
CMAR **Chiang Mai Arr** 58.73 257 P P 19 16 57.7 -0.1
comp=Z,2.4nm,0.9s,baz=19,slow=7.2,SNR=11
CMAR PcP PcP 19 17 45.9 +0.6
comp=Z,4.4nm,0.6s,baz=17,slow=3.4,SNR=19
CMAR ScP ScP 19 21 27.9 +1.0
comp=Z,1.3nm,0.7s,baz=15,slow=4.2,SNR=8.0
comp=Z,2.4nm,0.9s
CMAR **Chiang Mai Arr** 58.73 257 PcP 19 17 45.3 -0.1
V12A **Nelson** 58.78 71 P P 19 17 00.0 +2.0
V12A IAmb IAmb 19 17 01.0
comp=Z,14nm,0.8s
GAR **Garm** 58.86 294 P P 19 16 57.6 -1.0
KNB **Kanab** 58.90 69 P P 19 17 00.7 +1.8
KNB IAmb IAmb 19 17 02.3
comp=Z,17nm,1.2s
KNB **Kanab** 58.90 69 P P 19 17 00.7 +1.8
KNB pmax pmax
comp=Z,17nm,1.2s
ELS **Elsinore Mount** 58.93 75 P P 19 17 00.3 +1.2
ELS IAmb IAmb 19 17 01.4
comp=Z,11nm,0.8s
O20A **White River Ci** 58.95 63 P P 19 17 00.7 +1.5
O20A **White River Ci** 58.95 63 P P 19 17 01.2 +2.0
baz=319,SNR=18
RAMN **Ramite** 59.02 273 eP P 19 16 57.7 -2.2
comp=Z,9.5nm,0.3s
GMRC **Granite Mounta** 59.04 73 P P 19 17 01.9 +2.0
baz=319,SNR=15
MURC **Murrieta** 59.10 75 P P 19 17 02.1 +2.0
baz=319
PKI **Pulchoki** 59.22 275 eP P 19 16 59.8 -1.6
comp=Z,5.5nm,0.3s
PKIN **Phulchoki** 59.22 275 eP P 19 16 59.8 -1.5
comp=Z,7.0nm,0.5s
RAF **Rauma** 59.23 338 eP P 19 16 59.9 -0.6
GKN **Gorkha** 59.32 276 eP P 19 17 01.1 -0.8
comp=Z,6.4nm,0.2s
MEF **Metsahovi** 59.36 336 eP P 19 17 00.4 -1.0
BELC **Belle Mtn. Jos** 59.45 74 P P 19 17 03.9 +1.2
baz=319
PHWY **Pilot Hill** 59.47 61 P P 19 17 03.9 +0.9
PFO **Pinyon Flats O** 59.49 74 P P 19 17 04.0 +1.0
PFO **Pinyon Flats O** 59.49 74 P P 19 17 04.3 +1.4
baz=319,SNR=8.2
PFO **Pinyon Flats O** 59.49 74 i P P 19 17 03.5 +0.6
PFO pmax pmax
comp=Z,12nm,0.6s
PFO **Pinyon Flats O** 59.49 74 P P 19 17 04.2 +1.3
TPFO **Pinon Flats** 59.50 74 P P 19 17 04.3 +1.3
baz=319,SNR=6.7
B35A **Bob, Littlefor** 59.50 48 P P 19 17 03.1 +0.4
baz=321
PMD **Palm Desert** 59.51 74 P P 19 17 03.9 +1.0
PMD IAmb IAmb 19 17 05.0
comp=Z,12nm,0.8s
N23A **Red Feather La** 59.54 61 P P 19 17 04.7 +1.4
N23A IAmb IAmb 19 17 06.2
comp=Z,19nm,0.8s
N23A **Red Feather La** 59.54 61 P P 19 17 05.1 +1.8
baz=319,SNR=16
DANN **Dangsing** 59.55 277 eP P 19 17 02.9 -0.7
comp=Z,5.6nm,0.3s
U15A **North Rim** 59.62 69 P P 19 17 06.0 +2.0
MOS **Moscow** 59.62 326 eP P 19 17 02.4 -0.9
MOS pmax pmax
comp=Z,34nm,0.7s
NEE2 **Needles Airpor** 59.62 72 P P 19 17 05.1 +1.5
baz=319
109C **Camp Elliot, M** 59.68 75 P P 19 17 05.4 +1.3
baz=319
CHGR **Chuyangaron** 59.72 295 P P 19 17 02.9 -1.5
CHGR **Chuyangaron** 59.72 295 P P 19 17 02.9 -1.5
CHGR pmax pmax

comp=Z,26nm,0.5s
PV21 **Cone Mtn., Par** 59.75 65 P P 19 17 06.1 +1.3
PV21 IAmb IAmb 19 17 07.4
comp=Z,13nm,0.6s
W13A **Hualapai Mount** 59.77 71 P P 19 17 06.5 +1.6
IRM **Iron Mountain** 59.80 73 P P 19 17 06.7 +1.8
baz=319,SNR=13
PV23 **Carpenter Ridg** 59.82 65 P P 19 17 06.7 +1.4
PV23 IAmb IAmb 19 17 08.0
comp=Z,23nm,0.9s
PV10 **Paradox Valley** 59.86 65 P P 19 17 07.1 +1.6
PV10 IAmb IAmb 19 17 08.7
comp=Z,17nm,0.7s
PV22 **Blue Mesa, Par** 59.87 65 P P 19 17 06.7 +1.2
PV22 IAmb IAmb 19 17 08.2
comp=Z,18nm,0.6s
PV14 **Lion Creek, Pa** 59.87 65 P P 19 17 07.3 +1.7
PV14 IAmb IAmb 19 17 08.2
comp=Z,40nm,1.3s
PV04 **Paradox Valley** 59.92 65 P P 19 17 07.2 +1.4
PV04 IAmb IAmb 19 17 08.6
comp=Z,30nm,1.0s
PV20 **West Nyswonger** 59.92 65 P P 19 17 07.1 +1.2
PV20 IAmb IAmb 19 17 08.6
comp=Z,20nm,0.7s
PV19 **Morning Glory** 59.94 65 P P 19 17 07.1 +1.0
PV19 IAmb IAmb 19 17 08.7
comp=Z,16nm,0.7s
PV16 **Nyswonger Mesa** 59.97 65 P P 19 17 07.3 +1.0
PV16 IAmb IAmb 19 17 09.0
comp=Z,19nm,0.8s
PV17 **East Wray Mesa** 59.97 65 P P 19 17 07.7 +1.4
PV11 **David Mesa, Pa** 60.00 65 P P 19 17 06.7 +0.2
BC3 **Big Chuckawall** 60.01 73 P P 19 17 08.0 +1.6
baz=319,SNR=12
PV07 **Paradox Valley** 60.02 65 P P 19 17 07.7 +1.1
PV07 IAmb IAmb 19 17 09.2
comp=Z,19nm,0.9s
PV18 **Skein Mesa, Pa** 60.02 65 P P 19 17 08.1 +1.4
PV18 IAmb IAmb 19 17 09.3
comp=Z,22nm,0.9s
PV12 **Saucer Basin,** 60.03 65 P P 19 17 07.0 +0.3
PV12 IAmb IAmb 19 17 11.7
comp=Z,16nm,0.8s
BORG **Borgarnes** 60.04 1 P P 19 17 06.5 +0.5
comp=Z,11nm,0.6s,baz=22,slow=4.0,SNR=1.1
comp=Z,11nm,0.6s
PV03 **Paradox Valley** 60.05 65 P P 19 17 08.0 +1.2
PV03 IAmb IAmb 19 17 09.5
comp=Z,20nm,1.0s
MONP2 **Monument Peak** 60.05 75 P P 19 17 08.3 +1.4
baz=319
PV05 **Paradox Valley** 60.05 66 P P 19 17 08.5 +1.7
PV13 **Radium Mtn., P** 60.14 65 P P 19 17 08.6 +1.1
PV13 IAmb IAmb 19 17 10.1
comp=Z,21nm,0.7s
PV02 **Paradox Valley** 60.14 65 P P 19 17 08.7 +1.3
PV02 IAmb IAmb 19 17 09.6
comp=Z,9.1nm,0.6s
PV15 **Paradox Valley** 60.17 65 P P 19 17 09.2 +1.5
SUSD **Miller** 60.20 54 P P 19 17 07.7 +0.2
baz=320
SUSD **Miller** 60.20 54 P P 19 17 08.3 +0.8
baz=320
PV01 **Paradox Valley** 60.28 65 P P 19 17 09.8 +1.4
PV01 IAmb IAmb 19 17 11.8
comp=Z,11nm,0.5s
SMCO **Snowmass** 60.31 63 P P 19 17 10.3 +1.5
SMCO IAmb IAmb 19 17 11.4
comp=Z,16nm,0.7s
F33A **5 Mile Ranch,** 60.34 51 P P 19 17 09.1 +0.7
F33A **5 Mile Ranch,** 60.34 51 P P 19 17 09.1 +0.7
baz=321
SWSC **Sam W. Stewart** 60.35 74 P P 19 17 10.0 +1.4
baz=320
VSU **Vasula** 60.36 334 c i P P 19 17 08.1 -0.1
VSU pmax pmax
comp=Z,32nm,0.9s
VSU **Vasula** 60.36 334 eP P 19 17 08.2 0.0
IKP **In-Ko-Pah, Jac** 60.41 75 P P 19 17 10.6 +1.5
baz=320
KKM **Kota Kinabalu** 60.44 232 P P 19 17 10.3 +0.8
BLYC **Blythe** 60.44 73 P P 19 17 10.8 +1.6
BLYC IAmb IAmb 19 17 12.1
comp=Z,21nm,1.1s
OBN **Obninsk** 60.48 327 eP P 19 17 08.2 -0.9
OBN e*PP PcP 19 17 50.1 -1.6
OBN e*SP sP 19 18 11.7 -3.4
OBN eS S 19 25 12.9 +4.5
OBN e*SS sS 19 26 32.5 +6.1
OBN pmax pmax
comp=Z,34nm,2.5s
YUH **Yuha Desert** 60.51 75 P P 19 17 11.2 +1.5
YUH IAmb IAmb 19 17 11.8
comp=Z,10.0nm,0.7s
ISCO **Idaho Springs** 60.53 62 P P 19 17 12.2 +2.0
ISCO IAmb IAmb 19 17 12.9
comp=Z,11nm,0.6s
ISCO **Idaho Springs** 60.53 62 P P 19 17 12.6 +2.4
baz=320,SNR=20
ISCO **Idaho Springs** 60.53 62 P P 19 17 12.3 +2.2
baz=320,SNR=20
ISCO **Idaho Springs** 60.53 62 P P 19 17 12.2 +2.0
ISCO pmax pmax
comp=Z,11nm,0.6s
BRIGG **Briggsdale** 60.58 60 P P 19 17 12.1 +1.8
DOMB **Dombas** 60.59 345 eP P 19 17 09.8 0.0
EYMN **Ely** 60.76 47 P P 19 17 11.7 +0.5
baz=322
EYMN **Ely** 60.76 47 P P 19 17 11.7 +0.5
baz=322
WUAZ **Wupatki** 60.80 69 P P 19 17 14.0 +2.2
WUAZ IAmb IAmb 19 17 15.7
comp=Z,16nm,1.0s
WUAZ **Wupatki** 60.80 69 P P 19 17 14.0 +2.2
baz=320,SNR=11
GLA **Glamis** 60.80 73 P P 19 17 12.9 +1.1
GLA IAmb IAmb 19 17 14.6
comp=Z,24nm,0.8s
GLA **Glamis** 60.80 73 P P 19 17 13.7 +1.9
baz=320,SNR=10
GLA **Glamis** 60.80 73 P P 19 17 12.9 +1.1
GLA pmax pmax
comp=Z,24nm,0.8s
MTSE **Matsula** 60.84 336 eP P 19 17 11.4 -0.1
ESJX **Sierra Juarez** 60.99 75 P P 19 17 14.7 +1.5
ESJX IAmb IAmb 19 17 15.9
comp=Z,12nm,0.7s
MVCO **Mesa Verde** 61.02 66 P P 19 17 14.9 +1.5
MVCO IAmb IAmb 19 17 16.0
comp=Z,9.5nm,0.7s
MVCO **Mesa Verde** 61.02 66 P P 19 17 15.2 +1.8
baz=320,SNR=10.0
NC204 **NORSAR Array S** 61.05 344 P P 19 17 12.7 -0.3
Y14A **Wickenburg** 61.12 71 P P 19 17 15.4 +1.5
NB201 **NORSAR Array S** 61.18 343 P P 19 17 12.9 -1.0
NB2 **NORSAR Subarra** 61.20 343 P P 19 17 13.0 -1.0
comp=Z,3.5nm,0.6s,baz=20,slow=6.9
NB2 PCP PcP 19 17 54.5 -0.2
comp=Z,1.0nm,0.5s,baz=28,slow=4.6
NB2 **NORSAR Subarra** 61.20 343 P P 19 17 13.0 -1.0
slow=6.9
NOA **NORSAR Array B** 61.20 343 P P 19 17 13.1 -1.0
comp=Z,3.6nm,0.6s,baz=20,slow=6.8,SNR=27
NOA PcP PcP 19 17 54.1 -0.6
comp=Z,1.6nm,0.7s,baz=22,slow=2.7,SNR=4.1
comp=Z,3.6nm,0.6s
NIL **Nilore** 61.34 288 P P 19 17 14.8 -0.5
NIL **Nilore** 61.34 288 P P 19 17 14.8 -0.5
NIL pmax pmax
comp=Z,7.0nm,0.6s
Q24A **Divide** 61.40 62 P P 19 17 16.3 +0.3
Q24A **Divide** 61.40 62 P P 19 17 17.3 +1.3
baz=320
OGNE **Ogallala** 61.42 59 P P 19 17 16.3 +0.5
OGNE IAmb IAmb 19 17 19.4
comp=Z,24nm,1.0s
OGNE **Ogallala** 61.42 59 P P 19 17 16.8 +0.9
baz=320
OGNE **Ogallala** 61.42 59 P P 19 17 17.3 +1.4
baz=320
NC602 **NORSAR Array S** 61.44 343 eP P 19 17 15.8 +0.3
S22A **4UR Ranch, Cre** 61.47 64 P P 19 17 18.5 +2.0
S22A IAmb IAmb 19 17 19.7
comp=Z,12nm,0.9s
S22A **4UR Ranch, Cre** 61.47 64 P P 19 17 18.7 +2.2

baz=320,SNR=18
F36A Milaca 61.53 50 P P 19 17 16.4 0.0
baz=322
113A Mohawk Valley, 61.60 73 P P 19 17 18.4 +1.4
113A IAmb IAmb 19 17 19.6
comp=Z,10nm,0.8s
K31A O'Neill 61.70 55 P P 19 17 18.9 +1.4
K31A IAmb IAmb 19 17 19.5
comp=Z,29nm,1.4s
LPSR Galich'ya Gora 61.81 324 eP P 19 17 16.6 -1.5
LPSR pmax pmax
comp=Z,20nm,0.6s
ECSD EROS Data Cent 61.82 53 P P 19 17 19.1 +0.7
ECSD IAmb IAmb 19 17 19.9
comp=Z,12nm,1.0s
ECSD EROS Data Cent 61.82 53 P P 19 17 19.1 +0.7
baz=321,SNR=9.6
ECSD EROS Data Cent 61.82 53 P P 19 17 19.1 +0.7
baz=321,SNR=9.6
SKAR Skarslia 62.00 345 eP P 19 17 19.3 -0.1
VRH Novokhopyorsk 62.01 321 eP P 19 17 18.4 -1.0
VRH pmax pmax
comp=Z,40nm,0.5s
SDCO Great Sand Dun 62.15 63 P P 19 17 22.5 +1.5
SDCO Great Sand Dun 62.15 63 P P 19 17 22.9 +1.9
baz=320,SNR=18
SDCO Great Sand Dun 62.15 63 P P 19 17 22.7 +1.6
baz=320,SNR=18
SLIT Slitere, Latvi 62.17 336 eP P 19 17 19.4 -1.0
X18A Snowflake 62.30 69 P P 19 17 24.2 +2.3
VORR Voronezh 62.50 323 eP P 19 17 21.5 -1.2
VORR pmax pmax
comp=N,60nm,0.6s
FAKI Fak Fak 62.60 212 P P 19 17 25.0 +1.2
KSCO Kaye Shedlock' 62.62 60 P P 19 17 25.0 +1.1
baz=321
214A Organ Pipe Nat 62.74 73 P P 19 17 26.0 +1.4
214A IAmb IAmb 19 17 27.5
comp=Z,12nm,0.8s
214A Organ Pipe Nat 62.74 73 P P 19 17 26.3 +1.7
baz=320,SNR=6.5
VSR Storozhevoye 62.89 323 eP P 19 17 23.2 -2.1
VSR pmax pmax
comp=Z,10.0nm,0.5s
KBL Kabul 62.91 292 P P 19 17 23.7 -2.2
KBL Kabul 62.91 292 P P 19 17 23.7 -2.2
KBL pmax pmax
comp=Z,5.0nm,0.8s
TOLI2 Tolitoli 62.91 225 P P 19 17 26.3 +0.5
TOLI2 IAmb IAmb 19 17 27.5
comp=Z,14nm,0.8s
TOLI2 Tolitoli 62.91 225 P P 19 17 26.5 +0.6
BGNE Belgrade 62.92 56 P P 19 17 26.2 +0.5
BGNE Belgrade 62.92 56 P P 19 17 26.6 +0.9
baz=321
BGNE Belgrade 62.92 56 P P 19 17 27.1 +1.4
baz=321
I37A Lemond, Waseca 63.04 51 P P 19 17 26.8 +0.4
I37A IAmb IAmb 19 17 28.3
comp=Z,17nm,0.8s
I37B Waseca 63.04 51 P P 19 17 27.5 +1.0
baz=322
IDID Didziasalis 63.14 332 eP P 19 17 19.6 -7.2
T25A Trinidad 63.17 63 P P 19 17 28.9 +1.2
T25A IAmb IAmb 19 17 30.1
comp=Z,45nm,1.9s
T25A Trinidad 63.17 63 P P 19 17 29.2 +1.5
baz=321,SNR=5.6
IIGN Ignalina 63.25 333 eP P 19 17 15.3 -12
L34A Svendsen Farm, 63.31 54 P P 19 17 28.2 0.0
L34A IAmb IAmb 19 17 29.5
comp=Z,22nm,0.8s
L34A Svendsen Farm, 63.31 54 P P 19 17 28.7 +0.4
baz=322
G40A Rib Lake 63.43 48 P P 19 17 29.0 +0.1
baz=323
SCHQ Schefferville 63.48 28 P P 19 17 29.0 -0.1
comp=Z,3.0nm,0.4s,baz=338,slow=4.2,SNR=15
comp=Z,3.0nm,0.4s
NACGM Naroch 63.50 332 eP P 19 17 27.4 -1.8
comp=Z,18nm,1.0s,baz=28
MNK Minsk 63.55 331 i P P 19 17 27.6 -2.0
comp=E,3.0nm,1.3s
MNK i P P 19 17 27.6 -2.0
comp=N,38nm,1.0s
MNK i P P 19 17 27.6 -2.0
comp=Z,9.0nm,0.9s,baz=28
MNK i PP PP 19 19 50.5 -0.6
MNK i PPP PPP 19 21 21.2
MNK i S S 19 25 45.0 -2.0
MNK i SS SS 19 29 55.9 -1.0
MNK i SSS SSS 19 33 03.2
MNK i LRM MLR 19 48 40.9
comp=E,14nm,12.2s
MNK i LRM MLR 19 48 52.4
comp=Z,74nm,16.6s
MNK i LRM MLR 19 48 59.5
comp=N,172nm,10.9s
MNK Minsk 63.55 331 i P P 19 17 27.5 -2.0
MNK i 19 19 50.5
MNK i PPP PPP 19 21 21.1
MNK i S S 19 25 45.0 -2.0
MNK i SS SS 19 29 55.8 -1.0
MNK pmax pmax
comp=E,3.0nm,1.3s
MNK pmax pmax
comp=N,38nm,1.0s
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK MLR MLR
comp=E,14nm,12.0s
MNK MLR MLR
comp=Z,74nm,17.0s
MNK MLR MLR
comp=N,172nm,11.0s
TUC Tucson 63.56 71 P P 19 17 31.8 +1.7
TUC Tucson 63.56 71 P P 19 17 32.1 +2.0
baz=321
TUC Tucson 63.56 71 P P 19 17 31.8 +1.7
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 63.56 71 P P 19 17 31.9 +1.7
TUC pP pP 19 18 15.7 +0.6
PABE Paberze 63.69 334 P P 19 17 30.1 -0.3
PABE Paberze 63.69 334 eP P 19 17 30.3 -0.1
PBUR Paburge 63.71 335 eP P 19 17 30.6 0.0
ANMO Albuquerque 63.81 66 P P 19 17 33.0 +1.2
comp=Z,8.6nm,0.7s,baz=46,slow=8.7,SNR=20
comp=Z,8.6nm,0.7s
ANMO Albuquerque 63.81 66 P P 19 17 33.3 +1.5
ANMO IAmb IAmb 19 17 34.5
comp=Z,8.2nm,0.8s
ANMO Albuquerque 63.81 66 P P 19 17 33.8 +1.9
baz=321,SNR=14
ANMO Albuquerque 63.81 66 P P 19 17 33.7 +1.8
baz=321
ANMO Albuquerque 63.81 66 ceP P 19 17 33.2 +1.3
ANMO pmax pmax
comp=Z,9.0nm,0.8s
ANMO Albuquerque 63.81 66 P P 19 17 33.4 +1.5
ANMO pP pP 19 18 18.4 +1.5
SANI Sanana 63.83 219 P P 19 17 33.0 +1.1
CBKS Cedar Bluff 64.19 59 P P 19 17 34.0 -0.1
CBKS IAmb IAmb 19 17 35.5
comp=Z,14nm,0.9s
CBKS Cedar Bluff 64.19 59 P P 19 17 34.4 +0.3
baz=322
CBKS Cedar Bluff 64.19 59 P P 19 17 34.7 +0.6
baz=322
CBKS Cedar Bluff 64.19 59 P P 19 17 34.0 -0.1
CBKS pmax pmax
comp=Z,14nm,0.9s
DUN6 Lazy B Ranch 64.28 70 P P 19 17 36.6 +1.8
Y22A Socorro 64.33 67 P P 19 17 36.9 +1.6
baz=321
CRNM Carthage 64.44 67 P P 19 17 37.5 +1.6
N35A Tabor 64.52 55 P P 19 17 37.0 +0.8
N35A Tabor 64.52 55 P P 19 17 37.5 +1.3
baz=322,SNR=8.8
SCIA State Center 64.80 52 P P 19 17 38.3 +0.4
SCIA State Center 64.80 52 P P 19 17 38.2 +0.4
baz=323
SCIA State Center 64.80 52 P P 19 17 38.5 +0.5
baz=323
121A Cookes Peak, D 64.99 69 P P 19 17 41.4 +1.9
121A IAmb IAmb 19 17 42.9
comp=Z,15nm,0.9s
121A Cookes Peak, D 64.99 69 P P 19 17 42.1 +2.6
baz=321,SNR=8.8
121A Cookes Peak, D 64.99 69 P P 19 17 41.9 +2.4
baz=321,SNR=8.8
319A Douglas 65.09 71 P P 19 17 41.5 +1.4
SBUM Sibu 65.44 235 P P 19 17 43.9 +1.6
KSU1 Kansas State U 65.47 56 P P 19 17 42.2 -0.1
KSU1 IAmb IAmb 19 17 42.9
comp=Z,16nm,0.7s
KSU1 Kansas State U 65.47 56 P P 19 17 42.2 -0.1
baz=323
KSU1 Kansas State U 65.47 56 P P 19 17 42.1 -0.2
baz=323
L40A Anamosa 65.56 51 P P 19 17 42.5 -0.3
baz=324
N38A Joes South For 65.68 53 P P 19 17 43.8 +0.2
N38A IAmb IAmb 19 17 44.3
comp=Z,12nm,0.5s
N38A Joes South For 65.68 53 P P 19 17 43.8 +0.2
baz=323
GEYT Alibeck 65.79 302 P P 19 17 43.9 -0.5
comp=Z,5.5nm,0.6s,baz=38,slow=2.6,SNR=16
comp=Z,5.5nm,0.6s
GEYT Alibeck 65.79 302 P P 19 17 43.9 -0.5
GEYT IAmb IAmb 19 17 46.7
comp=Z,8.4nm,0.7s
GEYT Alibeck 65.79 302 P P 19 17 43.9 -0.5
GEYT pmax pmax
comp=Z,8.0nm,0.7s
GYA0 ALIBECK ARRAY 65.79 302 P P 19 17 44.6 +0.2
BSD Bornholm Skovb 66.10 339 eP P 19 17 45.2 -0.7
L42A Oliver, Polo 66.29 50 P P 19 17 47.2 -0.3
baz=324
NOKA Waynoka 66.30 60 P P 19 17 47.8 +0.2
NOKA IAmb IAmb 19 17 48.8
comp=Z,23nm,0.9s
AMTX Amarillo 66.31 63 P P 19 17 48.9 +1.1
baz=322
KAN01 Argonia South 66.46 58 P P 19 17 48.4 -0.2
MSTX Muleshoe 66.48 64 P P 19 17 49.6 +0.6
MSTX IAmb IAmb 19 17 50.7
comp=Z,17nm,0.9s
MSTX Muleshoe 66.48 64 P P 19 17 49.5 +0.6
baz=322,SNR=7.0
MSTX Muleshoe 66.48 64 P P 19 17 49.6 +0.6
baz=322,SNR=7.0
P38A Dawn 66.48 54 P P 19 17 49.0 +0.2
P38A IAmb IAmb 19 17 50.0
comp=Z,14nm,0.9s
P38A Dawn 66.48 54 P P 19 17 49.2 +0.5
baz=324,SNR=6.5
AKASG Malin Array Be 66.53 328 P P 19 17 48.0 -0.8
comp=Z,7.2nm,0.3s,baz=28,slow=6.7,SNR=63
comp=Z,7.2nm,0.3s
AKASG Malin Array Be 66.53 328 P P 19 17 47.7 -1.1
AKASG IAmb IAmb 19 17 49.6
comp=Z,9.4nm,0.5s
AKBB Malin Array Si 66.53 328 P P 19 17 48.3 -0.5
AKBB IAmb IAmb 19 17 49.6
comp=Z,8.3nm,0.5s
AKBB Malin Array Si 66.53 328 ceP P 19 17 48.7 -0.1
AKBB pmax pmax
comp=Z,24nm,2.1s
KAN09 Caldwell North 66.54 58 P P 19 17 48.7 -0.5
KAN09 IAmb IAmb 19 17 49.8
comp=Z,13nm,0.9s
KAN17 Caldwell West 66.54 59 P P 19 17 48.3 -0.9
HRA Herat 66.55 297 P P 19 17 49.0 -0.5
AK05 Malin Array Si 66.61 328 P P 19 17 48.6 -0.7
AK05 IAmb IAmb 19 17 50.2
comp=Z,14nm,0.5s
CPRX Cap Rock 66.65 65 P P 19 17 50.8 +0.8
N41A Harden Midland 66.82 51 P P 19 17 50.5 -0.3
N41A IAmb IAmb 19 17 51.7
comp=Z,16nm,0.8s
MNTX Cornudas Mount 66.91 67 P P 19 17 53.2 +1.6
MNTX IAmb IAmb 19 17 54.3
comp=Z,17nm,0.9s
MNTX Cornudas Mount 66.91 67 P P 19 17 53.4 +1.8
baz=322,SNR=22
MNTX Cornudas Mount 66.91 67 P P 19 17 53.5 +2.0
baz=322,SNR=22
GDL2 Guadalupe Moun 67.05 66 P P 19 17 53.5 +0.9
P40A Paris 67.24 53 P P 19 17 53.8 +0.4
P40A IAmb IAmb 19 17 54.7
comp=Z,11nm,0.8s
P40A Paris 67.24 53 P P 19 17 54.0 +0.6
baz=324,SNR=7.3
CLNB Carlsbad 67.25 66 P P 19 17 54.6 +0.8
T35A Sooner Cattle 67.25 58 P P 19 17 53.8 +0.2
T35A IAmb IAmb 19 17 54.5
comp=Z,21nm,1.5s
HDIL Hopedale 67.63 50 P P 19 17 55.9 -0.1
HDIL IAmb IAmb 19 17 56.7
comp=Z,18nm,0.7s
HDIL Hopedale 67.63 50 P P 19 17 55.9 -0.1
baz=325
HDIL Hopedale 67.63 50 P P 19 17 55.8 -0.1
baz=325
AKT Akhty 67.66 311 eP P 19 17 56.5 +0.3
AKT e 19 18 21.8
AKT e*PP pP 19 18 43.8 +1.9
AKT pmax pmax
comp=Z,19nm,0.8s
KIV Kislovodsk 67.68 316 eP P 19 17 56.3 0.0
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,21nm,17.0s
KBZ Khabaz 67.78 316 P P 19 17 57.0 +0.3
comp=Z,14nm,0.8s,baz=61,slow=2.9,SNR=32
comp=Z,14nm,0.8s
KBZ Khabaz 67.78 316 ceP P 19 17 56.7 -0.1
KBZ pmax pmax
comp=Z,21nm,1.1s
SHA1 Shidzhatmaz 67.87 316 i P P 19 17 57.8 +0.1
WMOK Wichita Mounta 67.88 61 P P 19 17 58.1 +0.5
WMOK IAmb IAmb 19 17 59.4
comp=Z,15nm,0.9s
WMOK Wichita Mounta 67.88 61 P P 19 17 58.7 +1.1
baz=323,SNR=14
WMOK Wichita Mounta 67.88 61 P P 19 17 58.7 +1.1
baz=323,SNR=14
WMOK Wichita Mounta 67.88 61 P P 19 17 58.1 +0.5
WMOK pmax pmax
comp=Z,15nm,0.9s
R40A Maddies Statio 68.14 54 P P 19 17 59.2 +0.1
R40A Maddies Statio 68.14 54 P P 19 17 59.3 +0.2
baz=324
ZEI Tsey 68.17 315 eP P 19 17 58.0 -1.5
ZEI pmax pmax
comp=Z,9.0nm,1.1s
O44A Mansfield 68.32 50 P P 19 18 00.3 +0.1
baz=325
TUL1 Leonard 68.40 58 P P 19 18 01.4 +0.6
baz=324
TUL1 Leonard 68.40 58 P P 19 18 01.3 +0.6
baz=324
ONI Oni 68.52 315 P P 19 18 02.2 +0.7
ONI Oni 68.52 315 P P 19 18 02.2 +0.7
ONI pmax pmax
comp=Z,9.0nm,1.1s
L48A N Adams 68.55 46 P P 19 18 01.6 -0.1
L48A IAmb IAmb 19 19 32.0
comp=Z,12nm,0.6s
L48A N Adams 68.55 46 P P 19 18 01.7 +0.1
baz=327
L48A P P 19 18 01.7 +0.1
baz=327
U38A Gravette 68.65 57 P P 19 18 02.4 +0.1
U38A IAmb IAmb 19 18 03.3
comp=Z,9.3nm,0.7s
U38A Gravette 68.65 57 P P 19 18 02.6 +0.3
baz=324,SNR=5.1
CCM Cathedral Cave 68.80 53 P P 19 18 03.3 +0.1
CCM Cathedral Cave 68.80 53 P P 19 18 03.2 +0.1
baz=325,SNR=5.3
CCM Cathedral Cave 68.80 53 P P 19 18 03.4 +0.2
baz=325
CCM Cathedral Cave 68.80 53 P P 19 18 03.3 +0.1
CCM pmax pmax
comp=Z,9.0nm,0.8s
CCM Cathedral Cave 68.80 53 P P 19 18 03.0 -0.2
CCM pP pP 19 18 48.4 -0.5
ANN Anapa 68.95 320 eP P 19 17 59.8 -4.2
ANN e*PP pP 19 18 49.8 -0.1
ANN eS S 19 26 45.4 -6.9
ANN eSS SS 19 31 17.4 -3.3
ANN pmax pmax
comp=Z,31nm,1.0s
HHAR Hobbs 68.99 56 P P 19 18 04.3 -0.1
MGMO Mountain Grove 69.06 55 P P 19 18 04.8 -0.1
MGMO IAmb IAmb 19 18 05.6
comp=Z,14nm,0.6s
SORM Soroca 69.08 328 ⇑P P 19 18 04.1 -0.6
SORM Soroca 69.08 328 ⇑P P 19 18 04.1 -0.6
Q44A Meyer Farm, Va 69.11 51 P P 19 18 05.6 +0.6
baz=326
ABTX Abilene, Hawle 69.13 63 P P 19 18 05.8 +0.5
ABTX IAmb IAmb 19 18 07.1
comp=Z,14nm,0.8s
ABTX Abilene, Hawle 69.13 63 P P 19 18 06.4 +1.0
baz=323,SNR=5.0
ABTX Abilene, Hawle 69.13 63 P P 19 18 06.7 +1.3
baz=323,SNR=5.0
SOC Sochi 69.14 318 eP P 19 18 03.8 -1.4
SOC e*PP pP 19 18 50.5 -0.5
SOC e*SP sP 19 19 13.6 +1.6
SOC e 19 20 47.8
SOC ePPP PPP 19 22 26.0
SOC eS S 19 26 53.2 -1.4
SOC eSS SS 19 31 22.4 -1.3
IPM Ipoh 69.21 246 P P 19 18 04.6 -1.4
IPM IAmb IAmb 19 18 07.0
comp=Z,20nm,0.7s
P46A Rosedale 69.31 50 P P 19 18 06.4 +0.1
baz=326
U40A Yellville 69.44 56 P P 19 18 07.5 +0.3
baz=325,SNR=16
U40A P P 19 18 07.5 +0.3
baz=325,SNR=16
AKH Akhalkalaki 69.49 314 P P 19 18 08.4 +0.8
AKH IAmb IAmb 19 18 09.4
comp=Z,22nm,0.9s
AKH Akhalkalaki 69.49 314 P P 19 18 08.4 +0.8
AKH pmax pmax
comp=Z,22nm,0.9s
N49A Columbus Grove 69.51 47 P P 19 18 07.5 -0.1
baz=327
N49A P P 19 18 07.5 -0.1
baz=327
OJC Ojcow 69.55 334 P P 19 18 08.0 +0.4
OJC Ojcow 69.55 334 P P 19 18 08.0 +0.4
OJC pmax pmax
comp=Z,11nm,1.2s
M50A Fremont 69.57 46 P P 19 18 07.2 -0.7
baz=327
M50A P P 19 18 07.2 -0.7
baz=327
FW03 Perrin-Whitt E 69.59 61 P P 19 18 08.0 -0.2
FW03 IAmb IAmb 19 18 09.5
comp=Z,18nm,0.6s
O48B Farmland 69.66 48 P P 19 18 07.6 -0.8
baz=327
X37A Clayton 69.67 58 P P 19 18 09.1 +0.5
X37A Clayton 69.67 58 P P 19 18 09.3 +0.7
baz=324
TX31 Lajitas Ar. Si 69.68 68 P P 19 18 10.1 +1.2
TX32 Lajitas Array 69.68 68 P P 19 18 10.1 +1.2
TX32 IAmb IAmb 19 18 11.4
comp=Z,20nm,0.6s
D62A Allapoint, All 69.72 33 P P 19 18 09.1 +0.4
baz=333
D62A P P 19 18 09.1 +0.4
baz=333
STHS Stebnicka Huta 69.92 333 eP P 19 18 10.8 +0.9
STHS pmax pmax
comp=Z,7.0nm,0.7s
STHS Stebnicka Huta 69.92 333 eP P 19 18 10.8 +0.9
E62A Clayton Lake 69.98 34 P P 19 18 10.7 +0.3
baz=333
E62A P P 19 18 10.7 +0.3
baz=333
S44A Carbondale 70.00 52 P P 19 18 10.8 +0.2
S44A IAmb IAmb 19 18 11.2
comp=Z,8.7nm,0.5s
S44A Carbondale 70.00 52 P P 19 18 10.6 +0.1
baz=326
MILM Milestii Mici 70.02 327 ⇑iP P 19 18 12.0 +1.5
comp=Z,18nm,0.4s
MILM Milestii Mici 70.02 327 ⇓P P 19 18 09.7 -0.8
MILM Milestii Mici 70.02 327 ⇓P P 19 18 09.7 -0.8
GNI Garni 70.03 313 P P 19 18 11.4 +0.5
comp=Z,3.7nm,0.5s,baz=185,slow=6.7,SNR=6.0
comp=Z,3.7nm,0.5s
GNI Garni 70.03 313 P P 19 18 10.9 0.0
GNI IAmb IAmb 19 18 14.0
comp=Z,31nm,1.5s
GNI Garni 70.03 313 P P 19 18 10.9 0.0
GNI pmax pmax
comp=Z,31nm,1.5s
GNI Garni 70.03 313 P P 19 18 12.5 +1.6
MYKOM Kota Tinggi 70.06 242 P P 19 18 12.0 +0.8
MYKOM IAmb IAmb 19 18 13.2
comp=Z,22nm,0.7s
CLL Collm 70.08 339 eP P 19 18 11.0 +0.2
comp=Z,31nm,2.0s
CLL epP pP 19 18 56.0 -0.8
CLL Collm 70.08 339 eP P 19 18 11.0 +0.2
CLL e*PP pP 19 18 56.0 -0.8
CLL pmax pmax
comp=Z,31nm,2.0s
FCAR Ozark Folk Cen 70.16 55 P P 19 18 11.1 -0.5
FCAR IAmb IAmb 19 18 12.4
comp=Z,16nm,1.1s
DPC Dobruska-Polom 70.26 336 eP P 19 18 12.3 +0.3
DPC Dobruska-Polom 70.26 336 eP P 19 18 12.3 +0.3
KRLC Kraliky 70.41 336 eP P 19 18 13.3 +0.4
KRLC Kraliky 70.41 336 eP P 19 18 13.3 +0.4
BUR08 Bucovina Ar. S 70.45 329 P P 19 18 13.2 -0.1
LCAR Lake Charles 70.46 55 P P 19 18 13.2 -0.2
BURAR Bucovina Array 70.47 329 ⇑P P 19 18 13.9 +0.5
BURAR Bucovina Array 70.47 329 P P 19 18 12.9 -0.5
BURAR Bucovina Array 70.47 329 ⇑P P 19 18 13.9 +0.5
M53A WI Miller and 70.50 44 P P 19 18 13.4 -0.1
M53A WI Miller and 70.50 44 P P 19 18 13.2 -0.3
baz=328
MORC Moravsky Berou 70.51 335 ⇑P P 19 18 14.0 +0.5
MORC Moravsky Berou 70.51 335 P P 19 18 14.3 +0.8
MORC Moravsky Berou 70.51 335 eP P 19 18 14.4 +0.9
MORC Moravsky Berou 70.51 335 ⇑P P 19 18 14.0 +0.5
MIAR Mount Ida 70.57 57 P P 19 18 14.7 +0.6
MIAR Mount Ida 70.57 57 P P 19 18 14.6 +0.6
baz=325
MIAR Mount Ida 70.57 57 P P 19 18 14.5 +0.4
baz=325
MIAR Mount Ida 70.57 57 P P 19 18 14.7 +0.6
baz=325
MIAR pmax pmax
comp=Z,12nm,1.0s
WHAR Wooly Hollow 70.57 56 P P 19 18 14.6 +0.5
WHAR IAmb IAmb 19 18 15.4
comp=Z,14nm,0.8s
VASR Vaslui 70.58 327 ⇑P P 19 18 14.7 +0.8
LANS Liptovska Anna 70.62 334 eP P 19 18 15.4 +1.2
LANS pmax pmax
comp=Z,6.0nm,0.7s
LANS Liptovska Anna 70.62 334 eP P 19 18 15.4 +1.2
COEN Coen 70.68 197 P P 19 18 15.7 +0.9
WHTX Lake Whitney, 70.74 62 P P 19 18 15.7 +0.6
baz=324
TRPA Tarpa 70.75 331 ⇓P P 19 18 15.3 +0.4
JCT Junction City 70.77 64 P P 19 18 15.8 +0.4
JCT IAmb IAmb 19 18 17.1
comp=Z,20nm,0.7s
JCT Junction City 70.77 64 P P 19 18 16.2 +0.8
baz=324,SNR=9.1
JCT Junction City 70.77 64 P P 19 18 16.2 +0.8
baz=324,SNR=9.1
JCT Junction City 70.77 64 P P 19 18 15.8 +0.4
JCT pmax pmax
comp=Z,20nm,0.7s
SLBS Sierra La Lagu 70.78 76 P P 19 18 17.7 +2.1
Z38A Mt. Pleasant 70.93 59 P P 19 18 16.5 +0.2
baz=325
X40A Basin Creek Fa 70.97 57 P P 19 18 17.7 +1.2
X40A Basin Creek Fa 70.97 57 P P 19 18 16.8 +0.4
baz=325
X40A P P 19 18 16.8 +0.4
baz=325
PRU Pruhonice 71.00 337 eP P 19 18 17.2 +0.8

PRU	**Pruhonice**	**71.00 337**	*e*P	**P**	**19 18 17.2 +0.8**			
TESR	**Tescani**	**71.05 328**	⇑P	**P**	**19 18 14.3 -2.4**			
L56A	**Greenwood**	**71.10 42**	P	**P**	**19 18 17.1 -0.1**			
	baz=330							
L56A			P	**P**	**19 18 17.1 -0.1**			
	baz=330							
VRAC	**Vranov**	**71.17 336**	⇓P	**P**	**19 18 19.1 +1.6**			
VRAC	**Vranov**	**71.17 336**	*e*P	**P**	**19 18 18.6 +1.1**			
VRAC	**Vranov**	**71.17 336**	⇓P	**P**	**19 18 19.1 +1.6**			
P51A	**Williamsport**	**71.19 47**		pP	19 18 57.5 -6.1			
VLDR	**Vladesti**	**71.21 327**	⇓P	**P**	**19 18 16.5 -1.2**			
NKC	**Novy Kostel**	**71.21 339**	*e*P	**P**	**19 18 18.7 +1.0**			
NKC	**Novy Kostel**	**71.21 339**	*e*P	**P**	**19 18 18.7 +1.0**			
GHRR		**71.22 327**	⇓P	**P**	**19 18 17.4 -0.4**			
H62A	**Milan**	**71.26 36**	P	**P**	**19 18 19.0 +0.9**			
	baz=332							
H62A			P	**P**	**19 18 19.0 +0.9**			
	baz=332							
JAVC	**Velka Javorina**	**71.33 335**	*e*P	**P**	**19 18 20.3 +1.8**			
VYHS	**Vyhne**	**71.39 334**	*e*P	**P**	**19 18 19.8 +1.0**			
VYHS			pmax	pmax				
	comp=Z,7.0nm,1.3s							
VYHS	**Vyhne**	**71.39 334**	*e*P	**P**	**19 18 19.8 +1.0**			
KRUC	**Moravsky**	**71.45 336**	*e*P	**P**	**19 18 20.0 +0.9**			
T47A	**Sharon Grove**	**71.54 51**	P	**P**	**19 18 20.2 +0.4**			
T47A			IAmb	IAmb	19 19 11.2			
	comp=Z,12nm,0.5s							
T47A	**Sharon Grove**	**71.54 51**	P	**P**	**19 18 20.7 +0.8**			
	baz=327,SNR=5.4							
TLCR		**71.56 326**	⇑P	**P**	**19 18 19.4 -0.4**			
TLCR		**71.56 326**	⇑P	**P**	**19 18 19.4 -0.4**			
SOEI	**Soe**	**71.60 217**	P	**P**	**19 18 20.4 -0.1**			
SOEI			IAmb	IAmb	19 18 50.1			
	comp=Z,19nm,1.0s							
SOEI	**Soe**	**71.60 217**	P	**P**	**19 18 21.6 +1.1**			
435B	**Jarrell**	**71.65 62**	P	**P**	**19 18 21.4 +0.8**			
PSI	**Prapat**	**71.73 247**	P	**P**	**19 18 21.7 +0.3**			
PSI			pmax	pmax				
	comp=Z,70nm,0.5s							
CFR	**Carcaliu**	**71.78 326**	⇓P	**P**	**19 18 21.5 +0.4**			
CFR	**Carcaliu**	**71.78 326**	⇓P	**P**	**19 18 21.5 +0.4**			
RPSI	**Rantau Prapat**	**71.82 247**	P	**P**	**19 18 21.7 -0.1**			
KDU	**Kakadu**	**71.83 208**	P	**P**	**19 18 22.9 +1.2**			
MODS	**Modra-Piesok**	**71.88 335**	*e*P	**P**	**19 18 22.9 +1.2**			
MODS	**Modra-Piesok**	**71.88 335**	*e*P	**P**	**19 18 22.9 +1.2**			
MARR	**Marisel-Cluj**	**71.92 330**	⇑P	**P**	**19 18 23.2 +1.0**			
WVT	**Waverly**	**71.93 52**	P	**P**	**19 18 22.7 +0.5**			
WVT	**Waverly**	**71.93 52**	P	**P**	**19 18 22.4 +0.2**			
	baz=326							
WVT	**Waverly**	**71.93 52**	P	**P**	**19 18 22.4 +0.2**			
	baz=326							
WVT	**Waverly**	**71.93 52**	P	**P**	**19 18 22.7 +0.5**			
WVT			pmax	pmax				
	comp=Z,7.0nm,0.8s							
WVT	**Waverly**	**71.93 52**	P	**P**	**19 18 22.7 +0.5**			
M57A	**Sunshine Farm,**	**71.96 42**	P	**P**	**19 18 22.5 +0.2**			
M57A			IAmb	IAmb	19 19 42.1			
	comp=Z,38nm,1.9s							
M57A	**Sunshine Farm,**	**71.96 42**	P	**P**	**19 18 22.2 0.0**			
	baz=330							
M57A			P	**P**	**19 18 22.2 0.0**			
	baz=330							
L59A	**Walton**	**71.99 40**	P	**P**	**19 18 22.4 -0.1**			
	baz=331							
L59A			P	**P**	**19 18 22.4 -0.1**			
	baz=331							
KHC	**Kasperske Hory**	**72.02 338**	P	**P**	**19 18 23.1 +0.5**			
KHC	**Kasperske Hory**	**72.02 338**	*e*P	**P**	**19 18 23.0 +0.5**			
KHC	**Kasperske Hory**	**72.02 338**	*e*P	**P**	**19 18 23.0 +0.5**			
W45A	**Hickory Valley**	**72.12 54**	P	**P**	**19 18 23.1 -0.2**			
W45A			IAmb	IAmb	19 18 25.8			
	comp=Z,27nm,0.8s							
MLR	**Muntele Rosu**	**72.18 328**	⇓P	**P**	**19 18 24.8 +1.1**			
MLR	**Muntele Rosu**	**72.18 328**	P	**P**	**19 18 22.7 -1.0**			
MLR	**Muntele Rosu**	**72.18 328**	⇓P	**P**	**19 18 24.8 +1.1**			
GERES	**GERESS Array B**	**72.26 337**	P	**P**	**19 18 23.8 -0.3**			
	comp=Z,1.8nm,0.7s,baz=39,slow=5.5,SNR=15							
	comp=Z,1.8nm,0.7s							
GERES	**GERESS Array B**	**72.26 337**	P	**P**	**19 18 24.2 +0.2**			
MTN	**Manton Dam**	**72.35 210**	P	**P**	**19 18 26.0 +1.2**			
MTN			IAmb	IAmb	19 18 28.9			
	comp=Z,28nm,1.0s							
MTN	**Manton Dam**	**72.35 210**	P	**P**	**19 18 26.2 +1.4**			
GURO	**Guroymak-BITLI**	**72.50 314**	P	**P**	**19 18 25.6 -0.2**			
T50A	**Nancy**	**72.50 49**	P	**P**	**19 18 25.5 -0.1**			
T50A				**pP**	**19 19 07.5 -4.2**			
S51A	**Beattyville**	**72.52 48**	P	**P**	**19 18 26.1 +0.4**			
S51A			pP	**pP**	**19 19 05.9 -5.7**			
S51A			IAmb	IAmb	19 19 10.2			
	comp=Z,20nm,0.7s							
U49A	**Red Boiling Sp**	**72.52 50**	P	**P**	**19 18 25.9 +0.2**			
OXF	**Oxford**	**72.55 54**	P	**P**	**19 18 26.7 +0.8**			
	baz=326							
OXF	**Oxford**	**72.55 54**	P	**P**	**19 18 26.0 +0.1**			
	baz=326							
CLTN	**Cedars of Leba**	**72.63 51**	P	**P**	**19 18 27.2 +0.9**			
CONA	**Conrad Observa**	**72.63 336**	*i* P	**P**	**19 18 27.3 +1.0**			
	comp=Z,5.6nm,1.0s							
ARR	**Arges**	**72.68 329**	⇑P	**P**	**19 18 24.2 -2.4**			
SIRR	**Siria**	**72.70 331**	⇓P	**P**	**19 18 26.4 -0.2**			
BKNI	**Bangkinang**	**72.74 244**	P	**P**	**19 18 28.7 +1.5**			
RONA	**Rosalia, Austr**	**72.75 335**	*i* P	**P**	**19 18 28.3 +1.4**			
	comp=Z,7.9nm,1.3s							
PLAL	**Pickwick Lake**	**72.77 53**	P	**P**	**19 18 27.5 +0.3**			
PLAL			IAmb	IAmb	19 18 28.4			
	comp=Z,12nm,0.8s							
ICOR	**Ion Corvin**	**72.84 326**	⇓P	**P**	**19 18 29.6 +2.1**			
Y45A	**Yeager Farm, C**	**73.03 55**	P	**P**	**19 18 28.5 -0.2**			
Y45A			IAmb	IAmb	19 18 30.7			
	comp=Z,20nm,0.8s							
SURR	**Surduc**	**73.05 331**	⇑P	**P**	**19 18 29.9 +1.3**			
TOKA	**Tokat**	**73.17 318**	P	**P**	**19 18 30.0 +0.4**			
TOKA			IAmb	IAmb	19 20 07.6			
	comp=Z,11nm,0.5s							
GZR	**Gura Zlata**	**73.19 330**	⇓P	**P**	**19 18 27.8 -1.8**			
GZR	**Gura Zlata**	**73.19 330**	⇓P	**P**	**19 18 27.8 -1.8**			
BZS	**Buzias**	**73.31 331**	⇑P	**P**	**19 18 28.5 -1.7**			
BZS	**Buzias**	**73.31 331**	⇑P	**P**	**19 18 28.5 -1.7**			
ARSA	**Arzberg**	**73.35 336**	*e*P	**P**	**19 18 31.6 +1.2**			
	comp=Z,9.8nm,1.4s							
TZTN	**Tazewell**	**73.46 49**	P	**P**	**19 18 31.6 +0.4**			
	baz=328							
SWET	**Sewanee**	**73.54 51**	P	**P**	**19 18 31.7 0.0**			
SWET			IAmb	IAmb	19 19 37.4			
	comp=Z,19nm,1.2s							
X48A	**Hartselle**	**73.68 53**	P	**P**	**19 18 32.5 0.0**			
X48A			IAmb	IAmb	19 19 03.3			
	comp=Z,14nm,0.7s							
GSI	**Gunungsitoli**	**73.70 248**	P	**P**	**19 18 32.8 -0.1**			
GSI	**Gunungsitoli**	**73.70 248**	P	**P**	**19 18 33.2 +0.3**			
V51A	**Loudon**	**73.74 50**	P	**P**	**19 18 32.7 -0.1**			
V51A			IAmb	IAmb	19 19 57.8			
	comp=Z,14nm,0.7s							
V51A	**Loudon**	**73.74 50**	P	**P**	**19 18 33.4 +0.6**			
	baz=328							
KBA	**Koelnbreinsper**	**74.01 337**	*e*P	**P**	**19 18 36.1 +1.7**			
	comp=Z,16nm,1.1s							
MARD	**Mardin**	**74.07 314**	P	**P**	**19 18 34.5 -0.4**			
RETA	**Reutte**	**74.17 339**	*i* P	**P**	**19 18 36.0 +0.8**			
	comp=Z,3.5nm,0.9s							
WTTA	**Wattenberg**	**74.20 338**	*i* P	**P**	**19 18 36.9 +1.3**			
	comp=Z,9.6nm,1.1s							
BLA	**Blacksburg**	**74.20 46**	P	**P**	**19 18 35.6 0.0**			
	baz=329							
MOTA	**Moosalm**	**74.23 339**	*i* P	**P**	**19 18 36.7 +1.0**			
	comp=Z,6.6nm,0.9s							
FPAL	**Fort Paine**	**74.25 51**	P	**P**	**19 18 36.2 +0.4**			
Z47A	**Carrollton**	**74.26 54**	P	**P**	**19 18 36.2 +0.3**			
Z47A			IAmb	IAmb	19 18 37.2			
	comp=Z,23nm,0.8s							
Z47A	**Carrollton**	**74.26 54**	P	**P**	**19 18 36.2 +0.3**			
	baz=327							
S57A	**Dark Hollow, R**	**74.33 45**	P	**P**	**19 18 36.1 -0.1**			
S57A			IAmb	IAmb	19 19 22.2			
	comp=Z,40nm,1.9s							
SQTA	**Sankt Quirin**	**74.33 339**	*e*P	**P**	**19 18 37.0 +0.8**			
	comp=Z,5.3nm,0.8s							
Y49A	**Blount Mountai**	**74.46 52**	P	**P**	**19 18 36.5 -0.6**			
	baz=327,SNR=7.1							
PLVB	**Pleven**	**74.49 328**	⇑P	**P**	**19 18 36.7 -0.3**			
ABTA	**Abfaltersbach**	**74.50 338**	*i* P	**P**	**19 18 38.9 +1.7**			
	comp=Z,9.7nm,1.1s							
FETA	**Feichten**	**74.62 339**	*e*P	**P**	**19 18 39.2 +1.2**			
	comp=Z,6.8nm,1.0s							
BNN	**Bunyan**	**74.69 318**	P	**P**	**19 18 38.2 -0.3**			
BNN			IAmb	IAmb	19 18 39.6			
	comp=Z,31nm,0.9s							
BR131	**Keskin Array S**	**74.75 320**	P	**P**	**19 18 38.7 -0.1**			
BR131			IAmb	IAmb	19 18 41.1			
	comp=Z,11nm,0.6s							
BR131	**Keskin Array S**	**74.75 320**	*i* P	**P**	**19 18 38.6 -0.2**			
BRTR	**Keskin Array B**	**74.75 320**	P	**P**	**19 18 38.8 -0.1**			
	comp=Z,7.2nm,0.5s,baz=24,slow=3.3,SNR=48							
	comp=Z,7.2nm,0.5s							
BRTR	**Keskin Array B**	**74.75 320**	P	**P**	**19 18 39.0 +0.2**			
LRAL	**Lakeview Retre**	**74.89 53**	P	**P**	**19 18 39.1 -0.4**			
LRAL			IAmb	IAmb	19 19 11.9			
	comp=Z,18nm,1.2s							
LRAL	**Lakeview Retre**	**74.89 53**	P	**P**	**19 18 39.5 0.0**			
	baz=327							
LRAL	**Lakeview Retre**	**74.89 53**	P	**P**	**19 18 39.2 -0.4**			
	baz=327							
DIVS	**Divibare**	**75.16 331**	P	**P**	**19 18 40.8 -0.2**			
DIVS			IAmb	IAmb	19 18 42.9			
	comp=Z,56nm,2.0s							
Z51A	**Franklin**	**75.47 52**	P	**P**	**19 18 42.2 -0.6**			
Z51A	**Franklin**	**75.47 52**	P	**P**	**19 18 42.6 -0.2**			
	baz=328,SNR=6.2							
VTS	**Vitosha**	**75.60 329**	⇑P	**P**	**19 18 43.6 0.0**			
VTS	**Vitosha**	**75.60 329**	P	**P**	**19 18 43.2 -0.5**			
VTS			IAmb	IAmb	19 18 45.5			
	comp=Z,38nm,1.9s							
VTS	**Vitosha**	**75.60 329**	⇑P	**P**	**19 18 43.6 0.0**			
KNRA	**Kununurra**	**75.72 211**	P	**P**	**19 18 45.0 +0.8**			
KNRA	**Kununurra**	**75.72 211**	P	**P**	**19 18 45.5 +1.3**			
TEOL	**Teoloyucan**	**76.00 338**	P	**P**	**19 18 46.1 +0.4**			
RDO	**Rodhopi**	**76.24 326**	P	**P**	**19 18 47.4 +0.3**			
RDO			IAmb	IAmb	19 21 29.4			
	comp=Z,37nm,1.7s							
WSAR	**Wadi Sarin**	**77.38 293**	P	**P**	**19 18 52.8 -0.9**			
	comp=Z,1.7nm,0.6s,baz=180,slow=19,SNR=1.6							
	comp=Z,1.7nm,0.6s							
MSSA	**Maissana**	**77.45 339**	P	**P**	**19 18 54.6 +0.7**			
NRCA	**Norcia**	**78.08 336**	P	**P**	**19 18 58.1 +0.7**			
WB0	**Warramunga Arr**	**78.13 205**	P	**P**	**19 18 58.6 +1.0**			
WR0	**Warramunga Arr**	**78.28 205**	P	**P**	**19 18 59.0 +0.5**			
WRAB	**Tennant Creek**	**78.30 205**	P	**P**	**19 18 59.9 +1.3**			
WRAB	**Tennant Creek**	**78.30 205**	*i* P	**P**	**19 18 59.0 +0.4**			
WRAB			pmax	pmax				
	comp=Z,10.0nm,1.2s							
WB2	**Warramunga Arr**	**78.31 205**	P	**P**	**19 18 59.7 +1.1**			
WB2			pP	**pP**	**19 19 43.6 -1.9**			
WRA	**Warramunga Arr**	**78.31 205**	P	**P**	**19 18 59.6 +1.0**			
	comp=Z,1.5nm,0.4s,baz=18,slow=5.9,SNR=30							
WRA			pP	**pP**	**19 19 45.1 -0.5**			
	comp=Z,4.1nm,0.7s,baz=20,slow=6.1,SNR=7.8							
	comp=Z,1.5nm,0.4s							
WRA	**Warramunga Arr**	**78.31 205**	P	**P**	**19 18 59.0 +0.4**			
WRA			pP	**pP**	**19 19 44.2 -1.3**			
FITZ	**Fitzroy Crossi**	**78.95 213**	P	**P**	**19 19 03.1 +1.0**			
MMAI	**Mount Meron Ar**	**79.98 315**	P	**P**	**19 19 07.5 -0.3**			
	comp=Z,1.5nm,0.4s,baz=27,slow=4.2,SNR=9.4							
	comp=Z,1.5nm,0.4s							
ASF	**Jabal al Asfar**	**80.11 314**	P	**P**	**19 19 08.7 +0.1**			
	comp=Z,4.5nm,0.8s,baz=20,slow=1.5,SNR=7.3							
	comp=Z,4.5nm,0.8s							
AS01	**Alice Springs**	**81.98 204**	P	**P**	**19 19 19.4 +1.2**			
AS31	**Alice Springs**	**82.00 204**	P	**P**	**19 19 19.9 +1.6**			
ASAR	**Alice Springs**	**82.00 204**	P	**P**	**19 19 19.9 +1.5**			
	comp=Z,5.0nm,0.8s,baz=11,slow=4.9,SNR=49							
ASAR			pP	**pP**	**19 20 05.2 -0.4**			
	comp=Z,2.9nm,0.9s,baz=12,slow=4.9,SNR=3.6							
	comp=Z,5.0nm,0.8s							
ASAR	**Alice Springs**	**82.00 204**	P	**P**	**19 19 19.6 +1.3**			
ASAR	**Alice Springs**	**82.00 204**	P	**P**	**19 19 19.6 +1.3**			
POLO	**Lamas de Ólo**	**82.92 351**	*e*P	**P**	**19 19 24.1 +1.0**			
PVRL	**Vila Real**	**83.01 351**	*e*P	**P**	**19 19 24.3 +0.8**			
MVO	**Moncorvo**	**83.05 350**	*e*P	**P**	**19 19 24.7 +0.9**			
	comp=Z,32nm,1.9s							
EIL	**Elat**	**83.10 314**	P	**P**	**19 19 23.6 -0.5**			
	comp=Z,5.3nm,0.9s,baz=156,slow=21,SNR=3.8							
	comp=Z,5.3nm,0.9s							
PVIS	**Viseu**	**83.58 351**	*e*P	**P**	**19 19 27.3 +0.8**			
RAYN	**Ar Rayn**	**83.74 303**	P	**P**	**19 19 26.7 -0.9**			
RAYN	**Ar Rayn**	**83.74 303**	P	**P**	**19 19 26.7 -0.9**			
RAYN			pmax	pmax				
	comp=Z,6.0nm,0.7s							
MBWA	**Marble Bar**	**83.75 217**	P	**P**	**19 19 27.7 +0.4**			
MTE	**Manteigas**	**83.86 351**	*e*P	**P**	**19 19 29.1 +1.2**			
	comp=Z,41nm,1.0s							
MTE	**Manteigas**	**83.86 351**	P	**P**	**19 19 28.4 +0.4**			
MTE			IAmb	IAmb	19 19 29.6			
	comp=Z,22nm,0.9s							
PSA00	**Pilbara Seismi**	**84.09 217**	P	**P**	**19 19 29.7 +0.7**			
ESBB	**Sonseca Array**	**84.19 348**	P	**P**	**19 19 30.1 +0.5**			
ESDC	**Sonseca Array**	**84.19 348**	P	**P**	**19 19 30.1 +0.5**			
	comp=Z,10nm,0.7s,baz=1.1,slow=4.7,SNR=68							
	comp=Z,10nm,0.7s							
ESDC	**Sonseca Array**	**84.19 348**	P	**P**	**19 19 30.5 +0.9**			
PCAS	**Casmilo, Conde**	**84.29 351**	*e*P	**P**	**19 19 31.1 +1.1**			
	comp=Z,27nm,1.5s							
PAB	**San Pablo**	**84.37 348**	P	**P**	**19 19 31.1 +0.6**			
PAB			IAmb	IAmb	19 19 32.1			
	comp=Z,11nm,0.8s							
PAB	**San Pablo**	**84.37 348**	P	**P**	**19 19 31.1 +0.6**			
PAB			pmax	pmax				
	comp=Z,11nm,0.9s							
PCBR	**Castelo Branco**	**84.41 350**	*e*P	**P**	**19 19 31.3 +0.7**			
	comp=Z,34nm,1.4s							
INKA	**Innaminka**	**84.58 197**	P	**P**	**19 19 32.6 +1.3**			
WRKA	**Warakurna**	**84.73 209**	P	**P**	**19 19 33.2 +1.0**			
PMRV	**Marv??o**	**84.81 350**	*e*P	**P**	**19 19 33.4 +0.8**			
PMTG	**Montargil**	**85.24 351**	*e*P	**P**	**19 19 35.1 +0.3**			
	comp=Z,20nm,1.8s							
OOD	**Oodnadatta**	**85.59 202**	P	**P**	**19 19 37.5 +1.2**			
KEST	**Kesra**	**85.72 337**	P	**P**	**19 19 37.1 -0.2**			
	comp=Z,3.0nm,0.5s,baz=256,slow=23,SNR=2.2							
	comp=Z,3.0nm,0.5s							
EVO	**Evora**	**85.75 351**	*e*P	**P**	**19 19 37.6 +0.3**			
PBAR	**Barrancos**	**86.02 350**	*e*P	**P**	**19 19 38.9 +0.3**			
	comp=Z,23nm,1.5s							
PNCL	**Nicolau / Gran**	**86.22 351**	*e*P	**P**	**19 19 40.0 +0.4**			
PBEJ	**Beja**	**86.24 351**	*e*P	**P**	**19 19 40.4 +0.7**			
PCVE	**Castro Verde**	**86.65 351**	*e*P	**P**	**19 19 42.2 +0.5**			
PVAQ	**Vaqueiros**	**86.84 350**	*e*P	**P**	**19 19 43.4 +0.8**			
MULG	**Mulgathing**	**88.34 202**	P	**P**	**19 19 50.9 +1.4**			
STKA	**Stephens Creek**	**88.50 196**	P	**P**	**19 19 51.0 +0.8**			
	comp=Z,0.5nm,0.5s,baz=6.3,slow=9.2,SNR=1.4							
STKA			pP	**pP**	**19 20 38.2 0.0**			
	comp=Z,1.2nm,0.7s,baz=354,slow=9.3,SNR=3.1							
	comp=Z,0.5nm,0.5s							
FORT	**Forrest**	**90.25 207**	P	**P**	**19 19 59.0 +0.6**			
TORD	**Torodi Ar. Bea**	**109.21 338**	PKiKP	**PKiKP**	**19 25 26.5 -0.6**			
	comp=Z,0.9nm,0.4s,baz=1.3,slow=1.8,SNR=1.0							
DBIC	**Dimbokro**	**116.78 343**	PKP	**PKPdf**	**19 25 41.4 -0.2**			
	comp=Z,2.7nm,0.6s,baz=71,slow=3.7,SNR=5.2							
LSZ	**Lusaka**	**125.60 298**	PKP	**PKiKP**	**19 25 58.9 0.0**			
	comp=Z,2.5nm,0.6s,baz=35,slow=2.2,SNR=9.7							
VNDA	**Vanda**	**132.79 179**	PKP	**PKPdf**	**19 26 10.3 +0.1**			
	comp=Z,0.6nm,0.8s,baz=103,slow=12,SNR=1.8							
LBTB	**Lobatse**	**135.04 294**	PKP	**PKPdf**	**19 26 16.3 +0.1**			
	comp=Z,1.8nm,0.6s,baz=106,slow=3.7,SNR=5.1							
LBTB			SKPbc	**SKPbc**	**19 29 29.6 +1.3**			
	comp=Z,3.1nm,0.6s,baz=30,slow=3.4,SNR=4.9							
BOSA	**Boshof**	**138.12 291**	PKP	**PKPdf**	**19 26 21.4 -0.4**			
	comp=Z,2.8nm,0.5s,baz=9.6,slow=1.7,SNR=12							
BOSA			SKP		19 29 38.4			
	comp=Z,2.9nm,0.9s,baz=20,slow=4.6,SNR=3.6							
CPUP	**Villa Florida**	**140.17 58**	PKhKP	PKPpre	19 26 21.3			
	comp=Z,0.9nm,0.5s,baz=72,slow=10,SNR=3.0							
CPUP			SKPbc	**SKPbc**	**19 29 42.7 -0.2**			
	comp=Z,2.1nm,0.6s,baz=319,slow=2.3,SNR=6.5							
SUR	**Sutherland**	**143.44 292**	PKP	PKPbc	19 26 30.3 +1.1			
	comp=Z,11nm,0.9s,baz=56,slow=5.4,SNR=6.0							
PLCA	**Paso Flores**	**143.95 87**	PKP	PKPbc	19 26 30.7 +0.5			
	comp=Z,1.2nm,0.6s,baz=278,slow=5.4,SNR=4.4							
PLCA			pPKP	pPKPdf	19 27 23.0 +0.7			
	comp=Z,3.7nm,1.0s,baz=4.5,slow=4.9,SNR=2.6							
ELIB	**Princess Elisa**	**155.62 211**	*d*PKP	**PKPab**	**19 27 17.5 +1.0**			

SOF 16 19:16:38.5,39.78N×26.00E,h5km,MD3.1,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**1.92**	**347**	P		Pb		19 17 13.3	-0.7
RZN	**Rozhen**	**2.14**	**333**	*i* P		Pb		19 17 16.9	-1.0
DIM	**Dimitrovgrad**	**2.29**	**351**	*i* P		Pb		19 17 19.0	-1.4
MMB	**Musomiste**	**2.50**	**317**	*i* P		Pn		19 17 21.2	+1.3
JMB	**Yambol**	**2.72**	**9**	P		Pn		19 17 25.0	+2.2
KKB	**Krupnik**	**3.04**	**314**	P		Pb		19 17 31.9	-1.2
SZH	**Strazhica**	**3.48**	**359**	P		Pn		19 17 35.8	+2.4
VTS	**Vitosha**	**3.52**	**325**	P		Pn		19 17 37.4	+3.4
PRD	**Provadia**	**3.58**	**17**	P		Pn		19 17 34.5	-0.1
MPEP	**Malo Peshtene**	**3.96**	**335**	P		Pn		19 17 40.8	+1.0

IDC 16 19:30:18.2±34.0,32.23S×57.55E,h0km,mb3.5/3,
mbtmp3.5/3,Error ellipse: s-maj=1197.0km
s-min=54.8km az=54.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**28.13**	**33**	T		T	T	20 06 24.8	
	baz=213								
H08S2	**Diego Garcia H**	**28.14**	**33**	T		T	T	20 06 27.4	
	baz=213								
H08S3	**Diego Garcia H**	**28.15**	**33**	T		T	T	20 06 28.3	
	baz=213								
ASAR	**Alice Springs**	**66.72**	**104**	P		P	P	19 41 11.8	+0.3
	0.5nm,0.6s,baz=239,slow=6.4,SNR=8.8								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**68.76**	**101**	P		P	P	19 41 24.0	-0.4
	0.6nm,0.7s,baz=242,slow=5.4,SNR=5.0								
	0.6nm,0.7s								
MKAR	**Makanchi Array**	**81.77**	**17**	P		P	P	19 42 38.6	0.0
	0.2nm,0.7s,baz=197,slow=4.5,SNR=2.1								
	0.2nm,0.7s								

*IDC **16** 19:33:43.0±2.2,6.83N×73.00W,h164km±28km,*
mbtmp3.7/2,Error ellipse: s-maj=242.1km s-min=14.8km
az=133.0
*RSNC **16** 19:33:44.9±1.1,6.79N×73.16W,h139km±5km,ML3.1*
ISC 16 19:33:43.9±1.1,6.81N±0.04×73.12W±0.04,h144km±7km,
n21,σ1°02/40,2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**195**	*e*P		**Pn**		**19 34 03.8**	**0.0**
BARC				*e*S		**Sn**		**19 34 18.6**	**-0.3**
BARC				*i*				19 34 19.9	
	comp=Z,592nm,0.5s								
BRRC	**Barranca, Sant**	**0.65**	**297**	*e*P		**Pn**		**19 34 05.7**	**+0.3**
BRRC				*e*S		**Sn**		**19 34 22.0**	**+0.2**
BRRC				*i*				19 34 27.8	
	comp=Z,122nm,0.2s								
PAMC	**Pamplona, Colo**	**0.67**	**39**	⇓*i*P		**Pn**		**19 34 06.7**	**+0.6**
PAMC				*e*S		**Sn**		**19 34 23.5**	**+0.4**
PAMC				*i*				19 34 25.8	
	comp=Z,188nm,0.5s								
RUSC	**La Rusia**	**0.91**	**177**	*e*P		**Pn**		**19 34 07.8**	**-0.2**
RUSC				*e*S		**Sn**		**19 34 25.3**	**-0.9**
RUSC				*i*				19 34 27.0	
	comp=Z,270nm,0.5s								
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P		**Pn**		**19 34 10.4**	**-1.0**
PTBC				*e*S		**Sn**		**19 34 31.0**	**-1.5**
PTBC				*i*				19 34 34.7	
	comp=Z,151nm,0.3s								
TAMC	**Tame, Arauca**	**1.38**	**106**	⇓*i*P		**Pn**		**19 34 12.2**	**+0.5**
TAMC				*e*S		**Sn**		**19 34 33.5**	**+0.6**
TAMC				*i*				19 34 34.7	
	comp=Z,94nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*P		**Pn**		**19 34 16.7**	**-0.1**
ZARC				*e*S		**Sn**		**19 34 41.5**	**-0.7**
ZARC				*i*				19 34 48.2	
	comp=Z,166nm,0.5s								
CHIC	**Chingaza**	**2.25**	**196**	*e*P		**Pn**	

IDC 16 19:47:21.1±4.9, 26°35N×66°26E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=127.8km s-min=39.7km az=143.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.04**	**28**	P	P	19 52 37.8	-0.1
	0.4nm,0.5s,baz=210,slow=11,SNR=5.2 0.4nm,0.5s						
FINES	**FINESS Array B**	**44.23**	**334**	P	P	19 55 31.9	0.0
	1.0nm,0.9s,baz=138,slow=11,SNR=1.2 1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**61.63**	**271**	P	P	19 57 41.0	-0.1
	2.2nm,0.3s,baz=57,slow=6.1,SNR=2.4 2.2nm,0.3s						

HEL 16 19:49:28.0±0.4, 67.79N×20.07E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.77**	**69**	PG	Pg	19 49 41.7	-1.0
LANU				SG	Sg	19 49 52.3	-0.4
KIF	**Kilpisjarvi**	**1.25**	**12**	PG	Pg	19 49 51.0	-1.0
KIF				SG	Sg	19 50 06.9	-1.3
KIF				MSG		19 50 07.2	
	comp=Z,1.5nm,0.2s						
PAJU	**Pajala**	**1.40**	**122**	PN	Pn	19 49 53.8	-1.0
PAJU				SN	Sg	19 50 12.1	-0.8
HEF	**Hetta**	**1.48**	**63**	PG	Pn	19 49 54.6	-1.3
HEF				MSG		19 50 12.6	
	comp=Z,1.0nm,0.2s						
HEF				SG	Sg	19 50 13.1	-2.5
ERTU	**Ertsjaerv**	**1.49**	**145**	PN	Pn	19 49 55.9	0.0
ERTU				SN	Sn	19 50 16.1	0.0
KTK1	**Kautokeino**	**1.70**	**42**	PN	Pb	19 49 59.5	-0.6
KTK1				SN	Sn	19 50 21.5	+0.2
KALU	**Kalix**	**2.33**	**145**	SG	Sb	19 50 40.4	+0.3
TOF	**Tornio**	**2.40**	**134**	PG	Pb	19 50 10.4	-1.5
TOF				MSG		19 50 39.0	
	comp=Z,0.6nm,0.2s						
TOF				SG	Sb	19 50 42.4	+0.4
SGF	**Sodankyl**	**2.50**	**95**	SG	Sb	19 50 44.9	+0.1
RNF	**Rovaniemi**	**2.60**	**114**	PG	Pb	19 50 13.8	-1.6
RNF				SG	Sb	19 50 46.9	-0.9
ARA0	**ARCESS Array S**	**2.65**	**46**	PN	Pn	19 50 12.4	+0.4
ARA0				SB	Sn	19 50 46.6	+1.8
KEV	**Kevo**	**3.21**	**49**	SN	Sn	19 50 57.6	-0.7

*NOU **16** 20:16:15.5, 33.73S×177.79W, h22km, mb4.7/6, South of Kermadec Islands*
*IDC **16** 20:16:32.5±1.2, 34.29S×179.72W, h0km, mb4.0/2, mbtmp4.2/4, ML3.9/2, MS3.2/1, Error ellipse: s-maj=41.6km s-min=30.1km az=141.0*
*WEL **16** 20:16:36.8±0.7, 35°S±7°×17°9W±1°6, h33km, M4.2/16, mB4.7/1, ML4.5/19, MLv4.2/16, Mw(mB)3.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=112.1, confirmed*
ISC 16 20:16:39.4±1.0, 34°63S±0.07×179°5W±0.1, h61km, n38, σ1°36/43, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.42**	**210**	P	**Pn**	**20 17 29.4**	**-0.8**
MXZ	**Matakaoa Point**	**3.42**	**210**	P	**Pn**	20 17 29.3	-0.8
MXZ				S	**Sn**	**20 18 08.9**	**-0.6**
WMGZ	**Waiomatatini S**	**3.59**	**207**	P	**Pn**	20 17 32.7	0.0
PKGZ	**Pakihiroa**	**3.79**	**210**	P	**Pn**	**20 17 34.1**	**-1.2**
HAZ	**Te Kaha**	**3.81**	**214**	P	**Pn**	**20 17 35.8**	**+0.2**
PUZ	**Puketiti**	**3.88**	**207**	P	**Pn**	**20 17 36.8**	**-0.7**
WIZ	**White Island**	**3.93**	**222**	P	**Pn**	**20 17 36.0**	**-1.3**
RUGZ	**Raukumara Rang**	**4.03**	**213**	P	**Pn**	**20 17 37.8**	**-0.8**
TWGZ	**Tauwhareparae**	**4.07**	**209**	P	**Pn**	**20 17 38.2**	**-1.1**
TWGZ				S	**Sn**	**20 18 26.8**	**+1.1**
CNGZ	**Carnagh Statio**	**4.26**	**205**	P	**Pn**	**20 17 40.8**	**-0.9**
CNGZ				S	**Sn**	**20 18 30.5**	**+0.3**
TKGZ	**Te Karaka**	**4.35**	**208**	P	**Pn**	**20 17 43.1**	**0.0**
MWZ	**Matawai**	**4.40**	**212**	P	**Pn**	20 17 42.2	-1.5
KUZ	**Kuaotunu**	**4.41**	**240**	P	**Pn**	**20 17 43.9**	**+0.1**
KUZ	**Kuaotunu**	**4.41**	**240**	P	**Pn**	20 17 43.7	-0.1
OPRZ	**Ohinepanea**	**4.51**	**223**	P	**Pn**	**20 17 45.0**	**-0.2**
URZ	**Urewera**	**4.53**	**216**	Pn	**Pn**	20 17 44.2	-1.2
	8.2nm,0.3s,baz=352,slow=4.1,SNR=30						
URZ				Sn	**Sn**	**20 18 33.4**	**-3.3**
	6.5nm,0.3s,baz=9.6,slow=23,SNR=1.7 19nm,0.3s						
URZ	**Urewera**	**4.53**	**216**	P	**Pn**	**20 17 44.6**	**-0.8**
URZ	**Urewera**	**4.53**	**216**	P	**Pn**	**20 17 43.9**	**-1.5**
URZ				S	**Sn**	**20 18 34.9**	**-1.9**
RAGZ	**Rawiri**	**4.58**	**212**	P	**Pn**	**20 17 45.0**	**-1.2**
RIGZ	**Rimuhau**	**4.62**	**207**	P	**Pn**	**20 17 46.0**	**-0.8**
RIGZ				S	**Sn**	**20 18 38.3**	**-0.7**
SNGZ	**Shannon Statio**	**4.85**	**210**	P	**Pn**	**20 17 49.6**	**-0.2**
MUGZ	**Murupara**	**4.86**	**217**	P	**Pn**	**20 17 49.6**	**-0.5**
RTZ	**Ruatahuna**	**4.87**	**214**	P	**Pn**	**20 17 49.2**	**-1.0**
MKAZ	**Moumakai**	**4.97**	**239**	P	**Pn**	**20 17 52.1**	**+0.6**
RAHZ	**Arahi**	**5.07**	**211**	P	**Pn**	**20 17 53.3**	**+0.4**
TOZ	**Tahuroa Road**	**5.08**	**231**	P	**Pn**	**20 17 53.7**	**+0.8**
GLKZ	**Green Lake**	**5.52**	**15**	P	Pn	20 17 53.6	-5.5
GLKZ				S	**Sn**	**20 18 57.5**	**-3.7**
BKZ	**Black Stump Fm**	**5.54**	**214**	P	**Pn**	**20 17 57.7**	**-1.7**
OUZ	**Omahuta**	**5.68**	**262**	P	**Pn**	**20 18 00.5**	**-0.7**
HIZ	**Hauiti**	**5.96**	**228**	P	**Pn**	**20 18 05.8**	**+0.8**
RPZ	**Rata Peaks**	**11.64**	**216**	Pn	**Pn**	**20 19 22.2**	**-0.6**
	0.5nm,0.3s,baz=197,slow=20,SNR=3.6						
RPZ				Sn	Sn	20 21 19.5	-12
	0.6nm,0.3s,baz=55,slow=23,SNR=1.6 16nm,0.9s						
MSVF	**Nonsavu**	**16.96**	**352**	Pn	**P**	**20 20 36.1**	**+2.3**
	2.2nm,0.3s,baz=259,slow=23,SNR=4.2						
RAR	**Rarotonga**	**21.93**	**58**	LR	LR	20 29 52.0	
	comp=Z,57nm,19.4s,baz=216,slow=36						
ASAR	**Alice Springs**	**41.79**	**272**	P	**P**	**20 24 22.2**	**-0.9**
	1.3nm,0.6s,baz=115,slow=7.5,SNR=33 1.3nm,0.6s						
WRA	**Warramunga Arr**	**43.16**	**277**	P	**P**	**20 24 34.1**	**-0.3**
	0.9nm,0.3s,baz=118,slow=7.6,SNR=20 0.9nm,0.3s						
FINES	**FINESS Array B**	**148.58**	**337**	PKPbc	**PKPbc**	**20 36 18.7**	**+0.1**
	1.4nm,0.8s,baz=46,slow=4.0,SNR=8.0						
FINES				SKP		20 39 49.5	
	1.3nm,0.3s,baz=42,slow=3.5,SNR=28						
DBIC	**Dimbokro**	**151.75**	**169**	PKPbc	**PKiKP**	**20 36 31.8**	**+3.6**
	1.4nm,0.6s,baz=247,slow=12,SNR=1.6						
NOA	**NORSAR Array B**	**152.68**	**349**	PKPbc	**PKiKP**	**20 36 29.6**	**+0.9**
	0.8nm,0.9s,baz=22,slow=3.9,SNR=1.9						
NOA				SKP		20 39 57.6	
	0.5nm,0.5s,baz=16,slow=4.2,SNR=1.9						

*DNK **16** 20:18:51.0±1.7, 81.01N×3.03W, h31km±16km, ML2.1*
*BER **16** 20:18:52.0±1.7, 80.98N×3.39W, h25km±18km, ML2.2, ML3.7(NAO), Confirmed Earthquake*
ISC 16 20:18:49.2±0.9, 81°02N±0.06×3°56W±0.04, h35km, n27, σ2°33/42, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.08**	**293**	Pn	**Pn**	**20 19 23.5**	**+2.1**
NOR	**Nord**	**2.08**	**293**	*i* P	**Pn**	**20 19 23.7**	**+2.3**
NOR				IAML		20 19 57.3	
	comp=Z,19nm,0.4s						
NOR	**Nord**	**2.08**	**293**	*e*P	**Pn**	**20 19 23.9**	**+2.5**
NOR				*e*S	**Sn**	**20 19 48.3**	**+2.3**
KBS	**Kingsbay**	**3.42**	**120**	Pn	**Pn**	**20 19 40.5**	**+0.7**
KBS				Sn	**Sn**	**20 20 19.3**	**+0.2**
KBS	**Kingsbay**	**3.42**	**120**	*i* P	**Pn**	**20 19 40.5**	**+0.7**
KBS				*i* S	**Sn**	**20 20 17.2**	**-1.9**
KBS	**Kingsbay**	**3.42**	**120**	*e*P	**Pn**	**20 19 40.5**	**+0.7**
KBS				*e*S	**Sn**	**20 20 17.5**	**-1.6**
KBS				IAML		20 20 20.4	
	comp=Z,8.0nm,0.2s						
BRBB	**Barentsburg B**	**4.35**	**123**	Pn	**Pn**	**20 19 54.4**	**+1.9**
BRBB				Sn	**Sn**	**20 20 43.2**	**+1.3**
BRBB	**Barentsburg B**	**4.35**	**123**	*e*P	**Pn**	**20 19 54.7**	**+2.1**
BRBB				*e*S	**Sn**	**20 20 39.8**	**-2.0**
BRBA	**Barentsburg A**	**4.37**	**124**	Pn	**Pn**	**20 19 54.9**	**+1.9**
BRBA				Sn	**Sn**	**20 20 43.6**	**+1.1**
BRBA	**Barentsburg A**	**4.37**	**124**	*e*P	**Pn**	**20 19 55.3**	**+2.4**
BRBA				*e*S	**Sn**	**20 20 41.5**	**-1.0**
BRBA				IAML		20 20 44.9	
	comp=Z,17nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**4.57**	**118**	Pn	**Pn**	**20 19 56.9**	**+1.1**
	baz=315,slow=9.3						
SPA0				Sn	**Sn**	**20 20 49.0**	**+1.5**
	baz=341,slow=22						
SPA0	**Spitsbergen Ar**	**4.57**	**118**	*e*P	**Pn**	**20 19 56.8**	**+1.1**
SPA0				*e*S	**Sn**	**20 20 44.8**	**-2.7**
SPA0	**Spitsbergen Ar**	**4.57**	**118**	Pn	**Pn**	**20 19 56.9**	**+1.1**
SPA0				*e*S	**Sn**	**20 20 46.3**	**-1.2**
DAG	**Danmarks Havn**	**5.14**	**222**	*e*	**Pn**	**20 20 03.9**	**+0.4**
	baz=29,slow=14						
DAG				*i* P		20 20 06.0	
DAG				*i* S	**Sn**	**20 20 59.0**	**-2.5**
DAG				IAML		20 21 04.2	
	comp=Z,11nm,0.3s						
HSPB	**Hornsund (broa**	**5.40**	**128**	Pn	**Pn**	**20 20 09.2**	**+2.1**
HSPB	**Hornsund (broa**	**5.40**	**128**	*e*P	**Pn**	**20 20 08.7**	**+1.6**
HSPB	**Hornsund (broa**	**5.40**	**128**	*e*P	**Pn**	**20 20 08.9**	**+1.9**
DBG	**Daneborg**	**7.58**	**216**	Pn	**Pn**	**20 20 38.1**	**+1.3**
DBG				Sn	**Sn**	**20 21 56.0**	**-5.3**
DBG	**Daneborg**	**7.58**	**216**	*i* P	**Pn**	**20 20 38.1**	**+1.3**
DBG				*i* S	**Sn**	**20 21 57.5**	**-3.8**
DBG				IAML		20 21 59.9	
	comp=Z,5.7nm,0.4s						
DBG	**Daneborg**	**7.58**	**216**	*e*P	**Pn**	**20 20 38.2**	**+1.3**
DBG				*e*S	Sn	20 21 55.1	-6.2
ZFI2	**Zemlya Franca-**	**7.88**	**66**	P	**Pn**	**20 20 42.5**	**+1.4**
ZFI2				*e*S	**Sn**	**20 22 02.9**	**-5.9**
ZFI	**Zemlya Franca-**	**7.88**	**66**	*e*P	**Pn**	**20 20 42.5**	**+1.4**
ZFI				*e*S	**Sn**	**20 22 02.9**	**-5.9**
	comp=Z,21nm,1.8s						
NEEM	**North Greenlan**	**9.29**	**273**	*i* P	**Pn**	**20 21 01.1**	**+0.5**
NEEM				*i* S	Sn	20 22 37.8	-6.0
NEEM				IAML		20 22 57.0	
	comp=Z,3.4nm,0.4s						
SCO	**Scoresbysund**	**11.41**	**212**	*e*P	**Pn**	**20 21 30.9**	**+1.6**
KULLO	**Kullorsuaq**	**12.45**	**269**	*e*P	**Pn**	**20 21 42.2**	**-1.3**
TULEG	**Thule**	**12.71**	**285**	*e*P	**Pn**	**20 21 46.1**	**-0.9**
TULEG				*e*S	Sn	20 23 53.1	-14
UPNV	**Upernavik**	**13.78**	**263**	*e*P	Pn	20 21 59.4	-2.2
UPNV				*e*S	Sn	20 24 21.0	-12

*IDC **16** 20:21:34.3±2.7, 36.91N×141.59E, h0km, mb3.2/2, mbtmp3.1/3, ML1.9/1, MS2.2/1, Error ellipse: s-maj=50.4km s-min=35.0km az=43.0*
*JMA **16** 20:21:38.1±0.1, 37.0N±0.2×141.4E±0.6, h32km, MV3.3/38, E OFF FUKUSHIMA PREF*
ISC 16 20:21:35.4±1.9, 36.99N±0.05×141.56E±0.08, h8km±10km, n19, σ0°42/22, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.62**	**281**	P	**Pb**	**20 21 48.7**	**+0.2**
ONAJ				S	**Sg**	**20 21 56.2**	**+0.6**
JFK	**Kawauchi**	**0.67**	**305**	P	**Pb**	**20 21 49.9**	**+0.6**
JFK				S	**Sb**	**20 21 58.3**	**-0.4**
JFFD	**Fukushimafurud**	**0.81**	**278**	P	**Pb**	**20 21 51.5**	**-0.1**
JFFD				S	**Sg**	**20 22 01.1**	**-0.3**
JHO	**Hitachi**	**0.88**	**245**	*i* P	**Pg**	**20 21 52.5**	**+0.1**
JHO				S	**Sg**	**20 22 03.0**	**-0.8**
JMST	**Minamisoumatoc**	**0.91**	**324**	*i* P	**Pn**	**20 21 54.1**	**-0.3**
JMST				⇓S	**Sb**	**20 22 05.8**	**+0.1**
JMM	**Marumori**	**1.07**	**325**	⇓P	**Pn**	**20 21 56.7**	**+0.1**
JMM				⇓S	**Sb**	**20 22 09.9**	**-0.3**
JIO	**Ouri**	**1.47**	**353**	P	**Pg**	**20 22 03.4**	**-0.2**
JIO				S	**Sb**	**20 22 22.1**	**+0.3**
JFY	**Yanaizu**	**1.54**	**286**	*e*P	**Pb**	**20 22 04.0**	**-0.2**
JFY				S	**Sn**	**20 22 22.9**	**-0.4**
JOU	**Okura**	**1.55**	**333**	P	**Pg**	**20 22 05.0**	**-0.1**
JOU				S	**Sb**	**20 22 24.3**	**+0.2**
MJAR	**Matsushiro Arr**	**2.73**	**262**	Pn	**Pn**	**20 22 20.2**	**+0.7**
	0.2nm,0.3s,baz=82,slow=24,SNR=8.2						
MJAR				Sn	**Sn**	**20 22 52.4**	**-0.2**
	0.3nm,0.3s,baz=299,slow=46,SNR=2.2 1.7nm,0.4s						
KSRS	**Korea Array**	**10.89**	**277**	LR	LR	20 27 08.7	
	comp=Z,14nm,21.3s,baz=65,slow=30						
H11N2	**WAKE ISLAND Hy**	**28.02**	**121**	T	T	20 56 54.2	
	baz=314,slow=75,SNR=87						
H11N1	**WAKE ISLAND Hy**	**28.03**	**121**	T	T	20 56 54.8	
	baz=314,slow=75,SNR=106						
H11N3	**WAKE ISLAND Hy**	**28.04**	**121**	T	T	20 56 53.0	
	baz=314,slow=75,SNR=72						
H11S1	**WAKE ISLAND Hy**	**28.73**	**123**	T	T	20 57 48.1	
	baz=316,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**28.74**	**123**	T	T	20 57 45.1	
	baz=316,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.75**	**123**	T	T	20 57 50.4	
	baz=316,slow=76,SNR=20						
MKAR	**Makanchi Array**	**44.24**	**302**	P	**P**	**20 29 45.4**	**+0.3**
	0.2nm,0.7s,baz=89,slow=8.8,SNR=2.2 0.2nm,0.7s						
WRA	**Warramunga Arr**	**57.03**	**188**	P	**P**	**20 31 21.4**	**-0.3**
	0.4nm,0.8s,baz=3.7,slow=7.4,SNR=2.7 0.4nm,0.8s						

*IDC **16** 20:34:19.7±2.5, 25.95N×128.21E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=152.3km s-min=29.7km az=67.0*
*JMA **16** 20:34:24.9±0.2, 26.4N±0.6×128.7E±0.8, h27km±2km, MV3.2/12, NEAR OKINAWAJIMA ISLAND*
ISC 16 20:34:19.9±1.8, 26°35N±0.05×128°84E±0.04, h6km±13km, n14, σ0°90/22, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.70**	**314**	P	**Pn**	**20 34 35.8**	**-0.5**
JOW				S	**Sb**	**20 34 43.5**	**-0.8**
JNTH	**Nagotoyohara**	**0.75**	**283**	*i* P	**Pn**	**20 34 36.9**	**-0.1**
JNTH				*e*S	**Sb**	**20 34 45.0**	**-0.8**
JYRO	**Yoronjima**	**0.76**	**333**	*i* P	**Pn**	**20 34 37.0**	**-0.1**
JYRO				S	**Sb**	**20 34 45.4**	**-0.7**
JJT3	**Tamagusuku3**	**0.97**	**258**	P	**Pn**	**20 34 41.2**	**+1.2**
JJT3				S	**Sb**	**20 34 52.4**	**+0.3**
JIH	**Iheya**	**1.03**	**312**	P	**Pn**	**20 34 41.6**	**+0.6**
JIH				S	**Sb**	**20 34 53.5**	**-0.6**
JOKE	**Okinoerabujima**	**1.04**	**347**	P	**Pn**	**20 34 41.9**	**+0.9**
JTK	**Tokunoshima**	**1.44**	**4**	P	**Pg**	**20 34 47.8**	**+0.4**
JTK				S	**Sb**	**20 35 05.5**	**-0.1**
JAGN	**Aguni-jima**	**1.45**	**280**	P	**Pg**	**20 34 48.0**	**+0.4**
JMZ	**Minamidaito 2**	**2.21**	**103**	P	**Pb**	**20 34 59.6**	**-0.6**
JMZ				*e*S	**Sn**	**20 35 25.0**	**+0.3**
JKDJ	**Kitadaitoujima**	**2.25**	**100**	P	**Pb**	**20 35 00.2**	**-0.7**
JKDJ				S	**Sn**	**20 35 27.1**	**+1.4**
SONM	**Songino Array**	**27.75**	**326**	P	**P**	**20 40 11.2**	**+1.7**
	0.6nm,0.6s,baz=138,slow=10.0,SNR=5.0 0.6nm,0.6s						
MKAR	**Makanchi Array**	**41.86**	**312**	P	**P**	**20 42 10.3**	**-0.5**
	0.2nm,0.4s,baz=98,slow=9.2,SNR=7.5 0.2nm,0.4s						
WRA	**Warramunga Arr**	**46.32**	**173**	P	**P**	**20 42 45.1**	**-1.7**
	0.7nm,1.1s,baz=351,slow=8.5,SNR=2.6 0.7nm,1.1s						
FINES	**FINESS Array B**	**73.03**	**331**	P	**P**	**20 45 51.0**	**+0.6**
	0.9nm,0.7s,baz=76,slow=5.9,SNR=6.2 0.9nm,0.7s						

*IDC **16** 20:47:35.2±0.3, 13.59S×166.50E, h0km, mb5.1/33, mbtmp5.0/35, ML2.8/1, MS5.5/57, Error ellipse: s-maj=14.2km s-min=11.4km az=87.0*
*BJI **16** 20:47:36.4±0.0, 13.09S×166.79E, h10km, mb5.3/79, mB5.8/77, Ms5.8/90, Ms7 5.4/86*
*MOS **16** 20:47:37.9±1.0, 13.50S×166.43E, h22km, mb5.8/57, MS5.7/33, Error ellipse: s-maj=8.3km s-min=5.8km az=126.9*
*NEIC **16** 20:47:39.2±2.7, 13.55S±0.07×166.42E±0.08, h15km±2km, mb5.6/139, Ms_20 5.9/371, Mwb5.9/41, Mww5.9/34, Error ellipse: s-maj=11.3km s-min=9.8km az=77.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr6.32; Mθθ-0.98; Mϕϕ-5.35; Mrθ6.33; Mθϕ0.81; Mϕr-3.69; Fault plane solution: Mo9.44000×10¹⁷ NP1: ϕs135.32000°, δ71.39000°, λ73.03000°. NP2: ϕs359.04000°, δ24.98000°, λ130.91000°. Principal axes: T 10.4877, Plg60.0000°, Azm21.0000°; N -2.6658, Plg16.0000°, Azm141.0000°; P -7.8219, Plg25.0000°, Azm238.0000°;*
*GCMT **16** 20:47:43.2±0.1, 13.54S±0.01×166.36E, h20km, MW5.9/165, Moment Tensor Solution. s165,c339; s154,c495; Duration: 2s2 Moment tensor: Scale 10¹⁸ Nm; Mrr0.81±.01; Mθθ-0.05±.01; Mϕϕ-0.75±.01; Mrθ0.35±.01; Mθϕ0.32±.00; Mϕr-0.31±.01; Best double couple: Mo0.96400×10¹⁸ NP1:ϕs146.00000°, δ59.00000°, λ75.00000°. NP2:ϕs353.00000°, δ34.00000°, λ113.00000°. Principal axes: T 0.9550, Plg72.0000°, Azm21.0000°; N 0.0200, Plg13.0000°, Azm153.0000°; P -0.9740, Plg13.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NOU **16** 20:47:44.9, 13.59S×166.21E, h36km, ML5.6/133, Vanuatu Islands*
*NEIC **16** 20:47:48.3, 13.79S×166.47E, h24km, Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 10¹⁷Nm; Mrr8.82; Mθθ-1.43; Mϕϕ-7.39; Mrθ3.72; Mθϕ3.10; Mϕr-1.44; Fault plane solution: Mo9.60000×10¹⁷ NP1: ϕs141.16000°, δ55.91000°, λ71.89000°. NP2: ϕs351.42000°, δ38.08000°, λ114.66000°. Principal axes: T 10.0396, Plg72.0000°, Azm5.0000°; N -0.8787, Plg15.0000°, Azm152.0000°; P -9.1609, Plg9.0000°, Azm244.0000°;*
ISC 16 20:47:40.1±0.4, 13°58S±0.04×166°45E±0.03, h25km±2km, h24km:pP-P, n1022, σ1°67/945, mb5.5/201, MS5.8/302, 65C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**4.45**	**158**	P	Pn	20 48 51.3	+5.3
RTV	**Rentapao**	**4.60**	**156**	P	Pb	20 48 54.3	-5.8
LIFNC	**LIFOU**	**7.20**	**174**		**Pn**	**20 49 25.1**	**+1.3**
LIFNC	**LIFOU**	**7.20**	**174**	P	**Pn**	**20 49 26.2**	**+2.4**
KOUNC	**Koumac, New Ca**	**7.24**	**196**	Pn	**Pn**	**20 49 24.8**	**+0.5**
KOUNC	**Koumac, New Ca**	**7.24**	**196**	P	**Pn**	**20 49 25.3**	**+1.0**
HNR	**Honiara**	**7.59**	**302**	Pn	**Pn**	**20 49 28.1**	**-1.1**
	354nm,0.3s,baz=182,slow=3.6,SNR=36						
HNR				Sn	**Sn**	**20 50 50.6**	**-3.9**
	154nm,0.3s,baz=109,slow=23,SNR=1.5						
HNR				LR	LR	20 52 20.0	
	comp=Z,448μm,19.4s,baz=138,slow=37						
HNR	**Honiara**	**7.59**	**302**		**Pn**	**20 49 27.7**	**-1.5**
HNR	**Honiara**	**7.59**	**302**	P	**Pn**	**20 49 30.0**	**+0.8**
MARNC	**Mare, Loyalty**	**8.00**	**169**	Pn	**Pn**	**20 49 35.6**	**+0.8**
MARNC	**Mare, Loyalty**	**8.00**	**169**	P	Pn	20 49 39.8	+5.0
DZM	**Mont Dzumac**	**8.45**	**180**	*e*Pn	**Pn**	**20 49 40.8**	**-0.2**
	829nm,1.5s						
DZM				*e*Sn	**Sn**	**20 51 11.7**	**-4.0**
	725nm,1.1s						
DZM				*e*LR	LR	20 51 35.8	
	comp=Z,73μm,23.8s						
DZM	**Mont Dzumac**	**8.45**	**180**	Pn	**Pn**	**20 49 40.1**	**-0.9**
	8.0nm,0.4s,baz=260,slow=6.6,SNR=40						
DZM				Sn	**Sn**	**20 51 13.3**	**-2.3**
	baz=61,slow=21						
DZM	**Mont Dzumac**	**8.45**	**180**	Pn	**Pn**	**20 49 42.2**	**+1.2**
NOUC	**Port Laguerre**	**8.48**	**181**	P	**Pn**	**20 49 44.0**	**+2.7**
ONTNC	**Ouen Toro**	**8.68**	**180**	Pn	**Pn**	**20 49 45.5**	**+1.4**
ONTNC	**Ouen Toro**	**8.68**	**180**	P	**Pn**	**20 49 48.2**	**+4.1**
OUENC	**Ouen Island, N**	**8.80**	**178**	Pn	**Pn**	**20 49 47.5**	**+1.8**
OUENC	**Ouen Island, N**	**8.80**	**178**	P	**Pn**	**20 49 50.2**	**+4.4**
PINNC	**Pines Island,**	**9.04**	**174**		**Pn**	**20 49 51.8**	**+2.8**
PINNC	**Pines Island,**	**9.04**	**174**	P	**Pn**	**20 49 53.5**	**+4.5**
MSVF	**Nonsavu**	**11.91**	**112**	Pn	**Pn**	**20 50 32.0**	**+3.5**
	baz=250,slow=7.1						
MSVF				LR	LR	20 54 04.1	
	comp=Z,40μm,18.9s,baz=292,slow=33						
MSVF	**Nonsavu**	**11.91**	**112**		**Pn**	**20 50 33.1**	**+4.6**
MSVF	**Nonsavu**	**11.91**	**112**	P	Pn	20 50 36.2	+7.7
MSVF	**Nonsavu**	**11.91**	**112**	*i* P	**Pn**	**20 50 31.3**	**+2.8**
DGTI	**Dogotuki**	**13.12**	**104**	P	**P**	**20 50 52.8**	**-2.1**
FUNA	**Funafuti**	**13.48**	**69**	Pn	**Pn**	**20 50 50.3**	**+0.5**
FUNA	**Funafuti**	**13.48**	**69**	P	**P**	**20 50 55.5**	**-3.4**
	203nm,2.4s						
TAVE	**Taveuni**	**13.54**	**105**	P	**P**	**20 50 59.8**	**+0.3**
LKBA	**Tubou, Lakemba**	**14.91**	**110**	P	**P**	**20 51 17.6**	**+2.8**
FUTU	**Fugatoga**	**15.00**	**95**	P	**P**	**20 51 17.3**	**+1.5**
TARA	**Tarawa**	**16.17**	**24**	P	**P**	**20 51 29.2**	**+0.4**
TARA	**Tarawa**	**16.17**	**24**	P	**P**	**20 51 31.7**	**+2.9**
KRVT	**Keravat (AS076**	**16.95**	**302**	P	**P**	**20 51 37.6**	**+0.1**
	82nm,1.0s,baz=273,slow=21,SNR=4.5						
KRVT				LR	LR	20 58 54.3	
	comp=Z,21μm,18.4s,baz=264,slow=40						
GD1S	**Gladstone Soft**	**17.69**	**233**	P	**P**	**20 51 46.9**	**+1.3**
AUBSH	**Beerwah State**	**18.28**	**222**	P	**P**	**20 51 54.1**	**+2.0**
AUWSH	**Wavell State H**	**18.60**	**220**	P	**Pn**	**20 51 58.0**	**+2.0**
EIDS	**Eidsvold**	**18.62**	**229**	P	**Pn**	**20 51 58.2**	**+2.0**
	baz=19,SNR=14						
EIDS	**Eidsvold**	**18.62**	**229**	Pn	**Pn**	**20 51 57.8**	**+1.5**
EIDS	**Eidsvold**	**18.62**	**229**	P	**Pn**	**20 51 58.2**	**+2.0**
GC1S	**Gold Coast 1 S**	**18.86**	**218**	P	**Pn**	**20 52 00.8**	**+1.7**
PMG	**Port Moresby**	**19.35**	**280**	P	**P**	**20 52 03.5**	**-0.5**
	0.9nm,0.3s,baz=99,slow=6.1,SNR=49						
PMG				LR	LR	20 57 27.4	
	comp=Z,12μm,21.2s,baz=71,slow=30 178nm,1.

baz=26,SNR=81
CMSA Cobar Meteorol 26.12 223 P P 20 53 13.1 +0.9
URZ Urewera 26.34 161 P P 20 53 13.8 -0.3
comp=Z,6.2nm,0.8s,baz=29,slow=16,SNR=2.6
URZ LR LR 21 02 36.0
comp=Z,19µm,18.4s,baz=55,slow=34
comp=Z,6.2nm,0.8s
QIS Mount Isa 26.56 251 P P 20 53 17.1 +0.8
baz=27,SNR=26
QIS Mount Isa 26.56 251 P P 20 53 17.2 +0.9
CNB Canberra Magne 26.57 212 P P 20 53 18.3 +2.0
RTZ Ruatahuna 26.63 161 P P 20 53 16.0 -0.8
CAN Canberra 26.76 213 P P 20 53 15.8 -2.2
CAN Canberra 26.76 213 P P 20 53 15.8 -2.2
CAN pmax pmax
comp=Z,114nm,1.4s
CAN MLR MLR
comp=Z,16µm,18.0s
BKZ Black Stump Fm 26.99 163 P P 20 53 20.4 +0.4
BKZ IAmb IAmb 20 53 50.5
comp=Z,186nm,1.7s
INKA Innaminka 27.79 236 P P 20 53 29.8 +2.5
AUSMG Snowy Mountain 27.81 212 P P 20 53 27.1 -0.3
MRZ Mangatainoka R 28.14 165 IAMs_20 IAMs_20 21 05 16.0
comp=Z,31µm,18.0s
BFZ Birch Farm 28.33 164 IAMs_20 IAMs_20 21 05 04.1
comp=Z,38µm,18.0s
SNZO South Karori 28.55 167 IAMs_20 IAMs_20 21 04 49.9
comp=Z,33µm,19.0s
STKA Stephens Creek 29.16 227 P P 20 53 39.7 +0.3
comp=Z,104nm,1.2s,baz=55,slow=8.9,SNR=63
STKA ScP **ScP 21 00 29.0 +2.0**
comp=Z,6.2nm,1.1s,baz=11,slow=5.9,SNR=3.7
STKA LR LR 21 05 29.0
comp=Z,28µm,18.2s,baz=57,slow=37
comp=Z,104nm,1.2s
STKA Stephens Creek 29.16 227 P P 20 53 40.3 +0.9
baz=29,SNR=43
STKA Stephens Creek 29.16 227 P P 20 53 40.1 +0.6
STKA Stephens Creek 29.16 227 P P 20 53 40.4 +1.0
STKA Stephens Creek 29.16 227 *d i* P **P 20 53 40.3 +0.9**
INZ Inchbonnie 29.36 172 IAMs_20 IAMs_20 21 05 46.4
comp=Z,21µm,18.0s
SMPI Sarmi 29.75 290 P P 20 53 45.0 +0.2
comp=Z,137nm,1.3s,comp=Z,2µmcomp=Z,5µm
FOZ Fox Glacier 29.99 175 IAMs_20 IAMs_20 21 05 27.9
comp=Z,18µm,19.0s
OXZ Oxford 30.03 172 IAMs_20 IAMs_20 21 06 35.1
comp=Z,21µm,18.0s
RPZ Rata Peaks 30.29 173 P P 20 53 47.5 -1.8
comp=Z,13nm,0.8s,baz=209,slow=15,SNR=2.8
RPZ LR LR 21 06 09.2
comp=Z,22µm,18.0s,baz=352,slow=37
comp=Z,13nm,0.8s
RPZ Rata Peaks 30.29 173 IAMs_20 IAMs_20 21 06 15.9
comp=Z,28µm,18.0s
JCZ Jackson Bay 30.46 177 P P 20 53 55.3 +4.4
comp=Z,61nm,1.4s
LCRK Leigh Creek 30.96 233 P P 20 53 56.5 +1.1
WR0 Warramunga Arr 31.17 254 P P 20 53 56.7 -0.6
BRAT Ballarat 31.18 216 P P 20 54 00.5 +3.3
comp=Z,42nm,1.2s
WKZ Wanaka 31.22 176 IAMs_20 IAMs_20 21 06 19.4
comp=Z,19µm,18.0s
WB0 Warramunga Arr 31.28 254 P P 20 53 57.8 -0.6
WB0 IAmb IAmb 20 54 10.0
comp=Z,51nm,0.9s
WB2 Warramunga Arr 31.34 254 P P 20 53 58.2 -0.7
WB2 IAmb IAmb 20 54 10.6
comp=Z,50nm,1.0s
WRAB Tennant Creek 31.34 254 P P 20 53 57.5 -1.4
WRAB IAmb IAmb 20 54 00.4
comp=Z,86nm,1.4s
WRAB Tennant Creek 31.34 254 P P 20 54 00.4 +1.5
WRAB Tennant Creek 31.34 254 *ce* P **P 20 53 56.8 -2.1**
WRAB pmax pmax
comp=Z,72nm,1.3s
WRA Warramunga Arr 31.35 254 P P 20 53 57.7 -1.3
comp=Z,26nm,1.0s,baz=85,slow=8.0,SNR=63
WRA PcP **PcP 20 56 51.9 -0.8**
comp=Z,2.5nm,0.7s,baz=82,slow=3.5,SNR=5.3
WRA S **S 20 59 04.9 -0.1**
comp=Z,2.3nm,1.1s,baz=84,slow=16,SNR=3.1
WRA ScP **ScP 21 00 36.0 +1.6**
comp=Z,10.0nm,1.2s,baz=82,slow=2.9,SNR=8.6
WRA PKiKP **PKiKP 21 04 20.4 -2.2**
comp=Z,1.3nm,1.1s,baz=97,slow=2.8,SNR=5.4
WRA LR LR 21 06 24.5
comp=Z,30µm,18.7s,baz=76,slow=36
comp=Z,26nm,1.0s
WRA Warramunga Arr 31.35 254 P P 20 53 57.4 -1.6
ODZ Otahua Downs 31.56 174 IAMs_20 IAMs_20 21 06 47.6
comp=Z,16µm,18.0s
MLZ Mavora Lakes 31.71 178 IAMs_20 IAMs_20 21 05 55.5
comp=Z,23µm,20.0s
DCZ Deep Cove 31.79 179 P P 20 54 01.7 -0.8
DCZ IAmb IAmb 20 54 16.8
comp=Z,126nm,1.1s
HTT Hallett 31.89 227 P P 20 54 04.7 +1.0
baz=32,SNR=23
HTT Hallett 31.89 227 P P 20 54 04.5 +0.9
ARPS Mount Arapiles 31.90 219 P P 20 54 04.9 +1.3
baz=32,SNR=20
ARPS Mount Arapiles 31.90 219 P P 20 54 05.2 +1.6
OOD Oodnadatta 31.95 239 P P 20 54 05.2 +1.0
WHZ Wether Hill Ro 32.23 178 IAMs_20 IAMs_20 21 06 20.2
comp=Z,20µm,20.0s
AULHS Lilydale High 32.27 208 P P 20 54 09.2 +2.5
AS01 Alice Springs 32.32 247 P P 20 54 07.2 -0.3
comp=Z,25nm,1.4s
AS31 Alice Springs 32.36 247 P P 20 54 06.6 -1.2
ASAR Alice Springs 32.36 247 P P 20 54 06.7 -1.1
comp=Z,9.4nm,0.7s,baz=73,slow=9.5,SNR=66
ASAR PcP **PcP 20 56 54.4 -1.1**
comp=Z,1.3nm,0.7s,baz=82,slow=2.8,SNR=1.5
ASAR ScP **ScP 21 00 38.2 +0.4**
comp=Z,5.7nm,1.0s,baz=76,slow=3.8,SNR=8.7
ASAR PKiKP **PKiKP 21 04 19.1 -4.0**
comp=Z,0.8nm,1.0s,baz=101,slow=0.9,SNR=3.6
ASAR LR LR 21 07 21.2
comp=Z,17µm,18.1s,baz=78,slow=37
comp=Z,9.4nm,0.7s
ASAR Alice Springs 32.36 247 P P 20 54 06.2 -1.7
CORO Coronation Par 32.46 208 P P 20 54 11.4 +3.0
AUHPC Hawkesdale P12 32.49 217 P P 20 54 10.9 +2.1
WHYH Whyalla 32.66 229 P P 20 54 11.4 +1.1
comp=Z,77nm,1.1s
RAR Rarotonga 33.06 108 P P 20 54 12.9 -1.1
comp=Z,22nm,0.9s,baz=183,slow=19,SNR=2.2
RAR LR LR 21 05 00.7
comp=Z,9µm,19.8s,baz=280,slow=32
comp=Z,22nm,0.9s
KDU Kakadu 33.08 268 P P 20 54 15.0 +0.8
baz=33,SNR=11
KDU Kakadu 33.08 268 P P 20 54 15.9 +1.7
MOO Moorlands 33.24 206 P P 20 54 18.7 +3.5
baz=33,SNR=5.2
MOO Moorlands 33.24 206 P P 20 54 18.1 +2.8
TAU Tasmania Unive 33.57 206 P P 20 54 18.9 +0.8
TAU Tasmania Unive 33.57 206 P P 20 54 20.4 +2.3
TAU Tasmania Unive 33.57 206 P P 20 54 18.9 +0.8
TAU pmax pmax
comp=Z,226nm,1.5s
TAU MLR MLR
comp=Z,12µm,21.0s
BBOO Buckleboo 33.68 230 P P 20 54 19.5 +0.3
baz=34,SNR=21
BBOO Buckleboo 33.68 230 P P 20 54 19.3 +0.1
BBOO Buckleboo 33.68 230 P P 20 54 19.9 +0.7
RKPI Ransiki, Papua 34.10 288 P P 20 54 24.6 +1.5
comp=Z,62nm,1.4s,comp=Z,5µm
MULG Mulgathing 34.17 236 P P 20 54 23.8 +0.3
MTN Manton Dam 34.37 267 P P 20 54 26.5 +1.1
baz=34,SNR=6.7
MTN Manton Dam 34.37 267 P P 20 54 22.1 -3.3
MTN IAmb IAmb 20 54 31.9
comp=Z,110nm,1.2s
MTN Manton Dam 34.37 267 P P 20 54 27.5 +2.1
GUMO Guam 34.43 321 LR LR 21 07 19.6
comp=Z,5µm,20.8s,baz=142,slow=34
SAUI Saumlaki 34.95 275 P P 20 54 27.7 -2.7
SAUI IAMs_20 IAMs_20 21 10 49.0
comp=Z,12µm,18.0s
FAKI Fak Fak 35.41 284 P P 20 54 35.6 +1.2
FAKI Fak Fak 35.41 284 P P 20 54 35.0 +0.6
comp=Z,42nm,1.2s,comp=Z,1µmcomp=Z,4µm

KNRA Kununurra 36.49 262 P P 20 54 43.7 0.0
baz=36,SNR=16
KNRA Kununurra 36.49 262 P P 20 54 43.5 -0.1
KNRA Kununurra 36.49 262 P P 20 54 45.3 +1.6
SIJI Sorong 37.04 287 LR LR 21 10 29.4
comp=Z,14µm,21.1s,baz=121,slow=37
WRKA Warakurna 37.64 247 P P 20 54 52.4 -1.0
baz=38,SNR=32
WRKA Warakurna 37.64 247 P P 20 54 55.2 +1.8
FORT Forrest 39.22 238 P P 20 55 07.1 +0.6
baz=39,SNR=9.8
FORT Forrest 39.22 238 P P 20 55 06.1 -0.4
FORT IAmb IAmb 20 55 12.6
comp=Z,146nm,1.1s
FORT Forrest 39.22 238 P P 20 55 06.8 +0.3
FITZ Fitzroy Crossi 39.46 258 P P 20 55 07.9 -0.8
NLAI Namlea 40.19 281 P P 20 55 16.3 +1.5
comp=Z,58nm,1.6s,comp=Z,10µm
SOEI Soe 41.45 271 P P 20 55 25.5 +0.1
SOEI IAmb IAmb 20 56 06.6
comp=Z,175nm,1.4s
SOEI IAMs_20 IAMs_20 21 11 57.3
comp=Z,12µm,20.0s
SOEI Soe 41.45 271 P P 20 55 26.8 +1.5
SOEI Soe 41.45 271 P P 20 55 26.9 +1.6
comp=Z,56nm,1.3s,comp=Z,1µmcomp=Z,5µm
SANI Sanana 41.61 282 P P 20 55 27.9 +1.4
SANI Sanana 41.61 282 P P 20 55 26.9 +0.4
comp=Z,59nm,1.1s,comp=Z,2µmcomp=Z,4µm
BATI Baumata 41.96 270 LR LR 21 13 23.4
comp=Z,14µm,19.8s,baz=138,slow=37
BATI Baumata 41.96 270 P P 20 55 29.6 +0.2
comp=Z,67nm,1.2s,comp=Z,2µmcomp=Z,5µm
PPT Papeete 42.48 101 LR LR 21 08 40.5
comp=Z,3µm,21.9s,baz=269,slow=30
PPT2 Papeete2 42.48 101 *e* P **P 20 55 34.8 +1.1**
comp=Z,705nm,25.5s
PPT2 *e*S **S 21 01 56.5 +1.9**
comp=Z,4µm,25.2s
PPT2 *e*SS **SS 21 05 06.2 +1.7**
comp=Z,4µm,27.5s
PPT2 *e*LQ LQ 21 05 31.1
comp=Z,25µm,28.5s
PPT2 *e*LR LR 21 07 18.1
comp=Z,8µm,27.2s
PPT2 *e*LR LR 21 07 18.2
comp=Z,10µm,25.2s
TBI Tubuai 42.79 110 *e* P **P 20 55 37.2 +1.2**
comp=Z,3µm,26.5s
TBI *e*S **S 21 02 01.0 +2.1**
comp=Z,15µm,26.8s
TBI *e*SS **SS 21 05 12.5 +2.1**
comp=Z,15µm,28.2s
TBI *e*LQ LQ 21 05 39.0
comp=Z,53µm,27.2s
TBI *e*LR LR 21 07 27.3
comp=Z,190µm,22.5s
TBI *e*LR LR 21 07 27.4
comp=Z,38µm,23.8s
SGSI Sangihe 44.08 290 P P **20 55 48.6 +2.0**
comp=Z,178nm,0.9s
MIDW Midway 44.41 21 IAMs_20 IAMs_20 21 10 11.6
comp=Z,11µm,19.0s
VAH Vaihoa 44.45 98 *e* P **P 20 55 49.5 0.0**
comp=Z,77nm,1.2s
KMBL Kambalda 44.48 239 P P **20 55 49.9 +0.2**
baz=44,SNR=10
KMBL Kambalda 44.48 239 P P 20 55 50.5 +0.9
LUWI Luwuk 44.98 282 P P 20 55 53.2 -0.5
LUWI IAmb IAmb 20 56 02.9
comp=Z,130nm,1.2s
LUWI Luwuk 44.98 282 P P 20 55 56.2 +2.5
LUWI Luwuk 44.98 282 P P 20 55 56.2 +2.5
comp=Z,98nm,1.3s,comp=Z,3µmcomp=Z,4µm
PSA00 Pilbara Seismi 45.00 253 P P 20 55 54.2 +0.4
PSA00 IAmb IAmb 20 56 02.0
comp=Z,183nm,1.7s
PSA00 Pilbara Seismi 45.00 253 P P 20 55 53.5 -0.3
PSA00 IAmb IAmb 20 56 01.2
comp=Z,97nm,1.6s
PSA00 Pilbara Seismi 45.00 253 P P 20 55 55.6 +1.8
comp=Z,47nm,1.5s
MBWA Marble Bar 45.09 254 P P 20 55 54.3 -0.3
MBWA IAmb IAmb 20 56 01.8
comp=Z,132nm,1.4s
MBWA Marble Bar 45.09 254 P P 20 55 56.4 +1.8
MRSI Marisa 46.25 284 P P 20 56 04.7 +0.9
comp=Z,27nm,1.2s,comp=Z,926nmcomp=Z,3µm
MEEK Meekatharra 46.51 246 P P 20 56 05.7 -0.1
baz=46,SNR=21
MEEK Meekatharra 46.51 246 P P 20 56 07.9 +2.2
KAPI Kappang 46.79 276 LR LR 21 15 42.0
comp=Z,3µm,20.1s,baz=88,slow=36
KAPI Kappang 46.79 276 P P 20 56 07.5 -0.6
KAPI IAmb IAmb 20 56 27.9
comp=Z,75nm,1.1s
KAPI Kappang 46.79 276 P P 20 56 07.5 -0.6
KAPI pmax pmax
comp=Z,75nm,1.1s
JCJ Chichijima 46.80 330 P P 20 56 08.0 +0.2
comp=Z,101nm,0.6s,baz=284,slow=22,SNR=1.7
JCJ LR LR 21 15 21.7
comp=Z,3µm,20.0s,baz=124,slow=36
comp=Z,101nm,0.6s
SPSI Sidrap Palu 47.03 277 P P 20 56 10.1 +0.2
comp=Z,41nm,1.4s,comp=Z,904nmcomp=Z,3µm
TOLI2 Tolitoli 47.55 284 P P 20 56 13.9 -0.1
TOLI2 IAmb IAmb 20 56 36.3
comp=Z,104nm,1.8s
TOLI2 Tolitoli 47.55 284 P P 20 56 16.3 +2.3
KLBR Kellerberrin 47.98 240 P P 20 56 18.6 +1.5
baz=48,SNR=7.8
KLBR Kellerberrin 47.98 240 P P 20 56 18.8 +1.7
MPSI Mapaga 48.14 283 P P 20 56 18.6 +0.1
comp=Z,47nm,1.2s,comp=Z,980nmcomp=Z,3µm
NWAO Narrogin (SRO) 48.67 238 LR LR 21 16 11.8
comp=Z,9µm,20.6s,slow=35
NWAO Narrogin (SRO) 48.67 238 P P 20 56 22.5 +0.1
baz=49,SNR=4.8
NWAO P P **20 56 22.5 +0.1**
baz=49,SNR=4.8
NWAO Narrogin (SRO) 48.67 238 P P 20 56 21.9 -0.5
NWAO Narrogin (SRO) 48.67 238 IAMs_20 IAMs_20 21 16 56.8
comp=Z,12µm,19.0s
NWAO Narrogin (SRO) 48.67 238 P P 20 56 25.3 +2.9
comp=Z,101nm,1.5s
NWAO Narrogin (SRO) 48.67 238 P P 20 56 23.8 +1.4
comp=Z,101nm,1.5s
NWAO Narrogin (SRO) 48.67 238 P P 20 56 21.9 -0.5
NWAO pmax pmax
comp=Z,389nm,1.9s
NWAO MLR MLR
comp=Z,12µm,19.0s
BLDU Ballidu 48.70 241 P P 20 56 24.2 +1.6
baz=49,SNR=4.4
BLDU Ballidu 48.70 241 P P 20 56 26.0 +3.3
TWSI Taliwang, Sumb 48.80 270 P P 20 56 24.5 +0.8
comp=Z,57nm,1.8s,comp=Z,1µmcomp=Z,4µm
MORW Morawa 49.06 243 P P 20 56 25.7 +0.3
baz=49,SNR=7.6
MORW Morawa 49.06 243 P P 20 56 25.2 -0.3
MORW Morawa 49.06 243 P P 20 56 27.8 +2.3
RKGY Rocky Gully 49.22 236 P P 20 56 28.7 +2.1
MUN Mundaring 49.35 239 P P 20 56 28.8 +1.2
baz=49,SNR=5.3
MUN Mundaring 49.35 239 P P 20 56 30.4 +2.8
comp=Z,84nm,1.5s
POHA Pohakuloa 49.98 49 IAMs_20 IAMs_20 21 15 10.2
comp=Z,14µm,18.0s
SRBI Singaraja 50.55 271 P P 20 56 41.8 +4.9
comp=Z,76nm,1.1s,comp=Z,2µmcomp=Z,4µm
MYLDM Lahad Datu 51.11 288 P P 20 56 39.6 -1.6
MYLDM IAmb IAmb 20 56 55.9
comp=Z,105nm,1.2s
JAGI Jajag, Banyuwa 51.51 270 P P 20 56 44.3 +0.1
JAGI IAmb IAmb 20 56 56.2
comp=Z,159nm,1.3s
JAGI Jajag, Banyuwa 51.51 270 P P 20 56 46.9 +2.7
comp=Z,99nm,1.5s
JAGI Jajag, Banyuwa 51.51 270 P P 20 56 45.7 +1.5
comp=Z,99nm,1.5s,comp=Z,2µmcomp=Z,4µm
ABJI Asem Bagus 51.55 271 P P 20 56 45.9 +1.4
comp=Z,92nm,1.2s,comp=Z,5µm
BBKI Banjar Baru 51.92 276 P P 20 56 49.2 +1.9
comp=Z,91nm,1.0s
BLJI Banyuglugur 52.18 271 P P 20 56 50.1 +0.9
comp=Z,58nm,0.8s,comp=Z,2µm

TAOE Nuku Hiva Isla 52.51 91 *e* P **P 20 56 52.9 +1.1**
comp=Z,921nm,24.6s
TAOE *e*S **S 21 04 18.2 +0.7**
comp=Z,4µm,25.8s
TAOE *e*SS **SS 21 07 58.2 +2.3**
comp=Z,3µm,26.1s
TAOE *e*LR LR 21 11 56.3
comp=Z,7µm,21.8s
MTKI Muara Teweh, K 52.53 279 P P **20 56 52.5 +0.7**
JHJ Hachijo jima 2 52.96 332 LR LR 21 20 08.1
comp=Z,2µm,18.6s,baz=150,slow=37
KKM Kota Kinabalu 53.55 288 P P 20 56 59.8 +0.3
KKM IAmb IAmb 20 57 02.8
comp=Z,106nm,1.1s
KKM Kota Kinabalu 53.55 288 P P 20 57 01.2 +1.8
comp=Z,88nm,1.2s
PWJI Pagerwojo 53.87 270 P P 20 57 03.9 +2.2
comp=Z,70nm,1.5s
NGJI Ngawi 54.33 271 P P 20 57 07.8 +2.8
comp=Z,171nm,1.5s
PBKI Pangkalan Bun 55.17 276 P P 20 57 13.5 +2.4
comp=Z,70nm,1.6s,comp=Z,2µm
SMRI Semarang 55.39 271 P P 20 57 14.6 +1.9
SMRI Semarang 55.39 271 P P 20 57 14.9 +2.2
comp=Z,112nm,1.5s,comp=Z,7µm
SBUM Sibu 56.08 282 P P 20 57 18.1 +0.4
SBUM IAmb IAmb 20 57 25.4
comp=Z,60nm,1.2s
INU Inuyama 56.09 331 P P 20 57 18.1 +0.9
INU IAmb IAmb 20 57 19.1
comp=Z,134nm,1.7s
INU Inuyama 56.09 331 P P 20 57 19.8 +2.5
JGF Kuroka 56.13 331 P P 20 57 17.1 -0.5
JGF IAmb IAmb 20 57 28.2
comp=Z,174nm,1.9s
JMN Monobe 56.36 327 P P 20 57 19.7 +0.4
JMN IAmb IAmb 20 57 23.2
comp=Z,107nm,1.1s
JMN Monobe 56.36 327 P P 20 57 21.9 +2.6
MJAR Matsushiro Arr 56.52 333 P P 20 57 19.1 -1.3
comp=Z,36nm,1.1s,baz=162,slow=6.9,SNR=17
MJAR LR LR 21 18 08.1
comp=Z,2µm,21.9s,baz=135,slow=32
comp=Z,36nm,1.1s
MAJO Matsushiro 56.52 333 P P 20 57 19.4 -1.0
MAJO IAmb IAmb 20 57 23.7
comp=Z,57nm,1.1s
MAJO Matsushiro 56.52 333 P P 20 57 22.3 +1.9
MAJO Matsushiro 56.52 333 *i* P **P 20 57 19.1 -1.3**
MAJO pmax pmax
comp=Z,62nm,1.1s
MJB9 Matsu-Tunnel 56.53 333 P P 20 57 19.8 -0.7
MJB9 IAmb IAmb 20 57 24.7
comp=Z,56nm,1.1s
JMM Marumori 56.55 336 P P 20 57 20.3 -0.3
JMM Marumori 56.55 336 P P 20 57 21.3 +0.7
JSU Suzuyama 56.59 323 P P 20 57 24.3 +3.3
KPJI Karang Pucung 56.80 270 P P 20 57 24.6 +1.8
comp=Z,95nm,1.1s
YULB Yu-li 57.45 309 P P 20 57 26.3 -1.0
YULB IAmb IAmb 20 57 49.2
comp=Z,79nm,1.3s
YULB Yu-li 57.45 309 P P 20 57 29.5 +2.3
JNU Nakatsue 57.53 325 P P 20 57 27.2 -0.4
comp=Z,26nm,1.1s,baz=118,slow=1.8,SNR=4.8
JNU LR LR 21 19 12.4
comp=Z,2µm,20.8s,baz=125,slow=33
comp=Z,26nm,1.1s
JNU Nakatsue 57.53 325 P P 20 57 25.5 -2.1
JNU IAmb IAmb 20 57 43.8
comp=Z,104nm,1.4s
JNU Nakatsue 57.53 325 P P 20 57 30.1 +2.5
NACB Ninganchiao 57.68 310 P P 20 57 28.0 -0.8
NACB IAmb IAmb 20 57 38.8
comp=Z,144nm,1.4s
NACB Ninganchiao 57.68 310 P P 20 57 30.2 +1.4
JSD Sado 57.75 334 P P 20 57 27.6 -1.4
JSD Sado 57.75 334 P P 20 57 31.6 +2.6
TPUB Ta-pu 57.91 309 P P 20 57 30.9 +0.4
TPUB Ta-pu 57.91 309 P P 20 57 33.2 +2.8
comp=Z,80nm,1.1s
BBJI Bungbulang 58.02 270 P P 20 57 34.1 +2.6
comp=Z,85nm,1.0s
YHNB Yeheng 58.13 311 P P 20 57 31.4 -0.6
YHNB IAmb IAmb 20 57 44.6
comp=Z,68nm,1.0s
YHNB Yeheng 58.13 311 P P 20 57 34.1 +2.0
LEM Lembang 58.18 270 LR LR 21 22 57.9
comp=Z,2µm,21.1s,baz=98,slow=36
CNJI Cibinong 58.55 270 P P 20 57 35.1 -0.1
comp=Z,53nm,1.2s,comp=Z,664nm
JTM Tenmabayashi 58.98 338 P P 20 57 38.4 +0.9
CBJI Citeko 59.01 271 P P 20 57 38.7 +0.4
comp=Z,116nm,1.7s,comp=Z,13µm
TNG Tangerang 59.25 271 P P 20 57 39.9 -0.1
comp=Z,1µm,0.5s,comp=Z,19µm
ERM Erimo 59.34 340 IAMs_20 IAMs_20 21 18 35.1
comp=Z,6µm,19.0s
ERM Erimo 59.34 340 *i* P **P 20 57 40.6 +0.6**
XMI Christmas Isla 59.38 266 P P 20 57 42.5 +1.5
CGJI Cibinong 60.09 270 P P 20 57 46.1 +0.3
comp=Z,240nm,1.3s,comp=Z,3µm
PPBI Pangkal Pinang 60.66 275 P P 20 57 50.8 +1.1
comp=Z,45nm,1.8s,comp=Z,1µm
JKA Kamikawa-asahi 61.40 341 P P 20 57 54.1 +0.1
ASAJ Asahikawa 61.40 341 P P 20 57 54.8 +0.7
comp=Z,63nm,0.7s,baz=220,slow=10,SNR=12
ASAJ LR LR 21 21 04.3
comp=Z,5µm,20.7s,baz=168,slow=33
comp=Z,63nm,0.7s
ASAJ Asahikawa 61.40 341 P P 20 57 54.1 +0.1
ASAJ pmax pmax
comp=Z,87nm,0.9s
KASI Kota Agung 61.48 271 P P 20 57 54.7 -0.6
comp=Z,192nm,1.2s,comp=Z,2µm
TJN Taejon 61.88 325 P P 20 57 58.2 +0.8
TJN Taejon 61.88 325 P P 20 58 00.9 +3.5
comp=Z,220nm,2.0s
TJN Taejon 61.88 325 *ce* P **P 20 57 57.8 +0.4**
LWLI Liwa 62.02 272 P P 20 57 59.4 +0.4
comp=Z,165nm,1.3s,comp=Z,2µmcomp=Z,3µm
MDSI Maura Dua 62.02 272 P P 20 57 58.3 -0.6
comp=Z,61nm,1.4s,comp=Z,1µmcomp=Z,3µm
SSE Sheshan 62.14 316 P P 20 57 58.3 -1.0
SSE S **S 21 06 23.1 -0.3**
SSE SS **SS 21 10 28.3 +1.4**
SSE pmax pmax
comp=Z,11nm,1.1s
SSE pmax pmax
comp=Z,400nm,8.6s
SSE LR LR
comp=Z,930nm,17.0s
KSRS Korea Array 62.35 326 P P 20 58 00.6 0.0
comp=Z,17nm,1.1s,baz=141,slow=6.8,SNR=22
KSRS LR LR 21 22 37.1
comp=Z,2µm,20.6s,baz=140,slow=34
comp=Z,17nm,1.1s
KSAR Wonju Array Be 62.36 326 P P 20 58 01.0 +0.4
KSAR Wonju Array Be 62.36 326 P P 20 58 01.0 +0.4
DSRI Dabo 62.59 277 P P 20 58 04.4 +1.7
comp=Z,63nm,1.5s,comp=Z,1µmcomp=Z,3µm
TPRI Tanjung Pinang 63.01 278 P P 20 58 06.7 +1.2
comp=Z,72nm,1.3s,comp=Z,2µmcomp=Z,4µm
INCN Inchon 63.08 325 P P 20 58 05.7 +0.2
INCN IAmb IAmb 20 58 09.1
comp=Z,116nm,1.5s
INCN Inchon 63.08 325 P P 20 58 08.8 +3.3
comp=Z,49nm,2.1s
INCN Inchon 63.08 325 P P 20 58 05.7 +0.2
INCN pmax pmax
comp=Z,116nm,1.5s
INCN MLR MLR
comp=Z,2µm,21.0s
MYKOM Kota Tinggi 63.89 279 P P 20 58 11.3 0.0
MYKOM IAmb IAmb 20 58 18.9
comp=Z,86nm,1.4s
YSS Yuzh-Sakhalins 63.90 342 P P 20 58 09.8 -0.8
YSS IAMs_20 IAMs_20 21 22 44.8
comp=Z,6µm,20.0s
YSS Yuzh-Sakhalins 63.90 342 P P 20 58 12.1 +1.5
comp=Z,106nm,1.0s
YSS Yuzh-Sakhalins 63.90 342 *e* P **P 20 58 11.6 +1.0**
YSS *e**SP **pwP 20 58 24.2 +2.0**
YSS *e*S **S 21 06 42.6 -2.1**
YSS *e*PPS PPS 21 07 01.5
YSS pmax pmax

YSS comp=Z,100nm,0.9s pmax pmax
comp=Z,1μm,7.6s
HJU Haeju 63.98 325 P **P** **20 58 11.3 -0.1**
HJU S **S** **21 06 45.3 -0.8**
HJU AmB
comp=Z,285nm,2.9s
VNDA Vanda 63.99 181 P **P** **20 58 10.9 -0.1**
comp=Z,12nm,0.9s,baz=350,slow=6.4,SNR=27
VNDA LR LR 21 22 38.4
comp=Z,4μm,20.6s,baz=23,slow=33
comp=Z,12nm,0.9s
VNDA Vanda 63.99 181 P **P** **20 58 10.8 -0.1**
VNDA IAmb IAmb 20 58 29.7
comp=Z,113nm,1.5s
VNDA Vanda 63.99 181 P **P** **20 58 10.8 -0.1**
VNDA pmax pmax
comp=Z,113nm,1.5s
MASI Maura Aman, Be 64.20 273 P **P** **20 58 13.7 +0.2**
comp=Z,52nm,1.2s,comp=Z,910nmcomp=Z,1μm
SBA Scott Base 64.28 180 P **P** **20 58 13.6 +0.8**
SBA Scott Base 64.28 180 P **P** **20 58 13.6 +0.8**
SBA pmax pmax
comp=Z,271nm,1.9s
SBA MLR MLR
comp=Z,4μm,20.0s
CASY Casey 64.29 202 P **P** **20 58 11.9 -1.2**
NJ2 Nanjing 64.30 316⇑ *i*P **P** **20 58 14.0 +0.4**
NJ2 pP **pP** **20 58 15.4 -4.6**
NJ2 sP **sP** **20 58 20.3 -2.0**
NJ2 S **S** **21 06 53.1 +2.8**
NJ2 sS **sS** **21 07 03.3 +3.0**
NJ2 pmax pmax
comp=Z,24nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,4.5s
NJ2 LR LR
comp=Z,2μm,18.8s
NJ2 LR LR
comp=Z,2μm,18.8s
NJ2 LR LR
comp=Z,3μm,19.1s
TEY Ternei 64.31 337⇑ *e*P **P** **20 58 12.8 -0.6**
TEY pmax pmax
comp=Z,200nm,3.2s
TEY pmax pmax
comp=Z,30nm,1.4s
TEY pmax pmax
comp=N,20nm,1.5s
TEY pmax pmax
comp=E,100nm,3.2s
TEY pmax pmax
comp=N,100nm,2.6s
HHU Hamhung 64.36 328 P **P** **20 58 14.6 +0.7**
HHU S **S** **21 06 53.8 +3.0**
HHU AmB
comp=Z,1μm,4.3s
QIZ Qiongzhong 64.49 299 P **P** **20 58 15.0 -0.1**
QIZ S **S** **21 06 55.1 +2.0**
QIZ LR LR
comp=Z,1μm,16.7s
QIZ LR LR
comp=Z,2μm,19.1s
SKR Severo-Kuril's 64.62 353 *e*P **P** **20 58 14.4 -0.9**
SKR *e*S **S** **21 06 54.6 +1.1**
SKR pmax pmax
comp=Z,600nm,12.7s
SKR MLR MLR
comp=Z,2μm,16.0s
PYAG Pyongyang 64.68 326 P **P** **20 58 16.4 +0.5**
PYAG S **S** **21 06 57.7 +3.1**
PYAG AmB
comp=Z,451nm,3.2s
USA0B Ussuriysk Arra 65.51 333 P **P** **20 58 21.4 +0.1**
USA0B Ussuriysk Arra 65.51 333*c i*P **P** **20 58 20.9 -0.3**
USRK Ussuriysk Ar. 65.51 333 P **P** **20 58 20.1 -1.2**
comp=Z,89nm,1.0s,baz=134,slow=5.5,SNR=48
USRK LR LR 21 24 57.4
comp=Z,2μm,20.3s,baz=134,slow=34
comp=Z,89nm,1.0s
USRK Ussuriysk Ar. 65.51 333 P **P** **20 58 20.7 -0.5**
USRK Ussuriysk Ar. 65.51 333 P **P** **20 58 20.7 -0.5**
SDSI Sungai Dareh 65.52 275 P **P** **20 58 22.1 +0.1**
comp=Z,39nm,1.3s,comp=Z,1μmcomp=Z,4μm
UGL Uglegorsk 66.01 343 *e*P **P** **20 58 26.3 +2.0**
UGL MLR MLR
comp=N,1μm,17.0s
UGL MLR MLR
comp=E,2μm,17.0s
UGL MLR MLR
comp=Z,2μm,16.0s
SUJ Sinuiju 66.11 326 P **P** **20 58 25.2 0.0**
SUJ S **S** **21 07 12.4 +0.3**
SUJ AmB
comp=Z,445nm,2.3s
SUJ AMS AMS
comp=Z,2μm,16.2s
BKNI Bangkinang 66.21 276 P **P** **20 58 28.0 +1.6**
BKNI Bangkinang 66.21 276 P **P** **20 58 29.0 +2.5**
BKNI Bangkinang 66.21 276 P **P** **20 58 28.8 +2.3**
comp=Z,216nm,1.3s,comp=Z,3μmcomp=Z,5μm
SHEM Shemya Is, Ala 66.36 5 LR LR 21 21 45.0
comp=Z,6μm,21.0s,baz=182,slow=31
CNSH ChangSha 66.37 309⇑ P **P** **20 58 27.6 +0.5**
CNSH S **S** **21 07 19.5 +3.6**
CNSH SS **SS** **21 11 38.3 +5.3**
CNSH pmax pmax
comp=Z,1μm,6.7s
CNSH LR LR
comp=Z,1μm,18.8s
CNSH LR LR
comp=Z,1μm,17.5s
CNSH LR LR
comp=Z,2μm,20.6s
PDSI Padang 66.46 275 P **P** **20 58 27.5 -0.6**
WHN Wuhan 66.58 312⇓ P P 20 58 34.0 +5.5
WHN S **S** **21 07 18.8 +0.5**
WHN pmax pmax
comp=Z,170nm,1.4s
WHN pmax pmax
comp=Z,2μm,6.3s
WHN LR LR
comp=Z,5μm,15.9s
WHN LR LR
comp=Z,2μm,10.6s
WHN LR LR
comp=Z,6μm,21.3s
PET Petropavlovsk 66.67 355 IAMs_20 IAMs_20 21 22 02.2
comp=Z,5μm,21.0s
PET Petropavlovsk 66.67 355 *e*P **P** **20 58 26.9 -1.6**
PET *e*S **S** **21 07 21.1 +2.7**
PET *e*PS 21 07 49.0
PET pmax pmax
comp=Z,2μm,17.8s
UBPT Khong Chiam 66.78 293 P **P** **20 58 31.9 +1.9**
UBPT IAmb IAmb 20 58 38.4
comp=Z,52nm,1.2s
UBPT Khong Chiam 66.78 293 P **P** **20 58 32.5 +2.5**
comp=Z,38nm,1.3s
ADK Adak 66.81 11 IAMs_20 IAMs_20 21 22 03.3
comp=Z,6μm,20.0s
PEA0B Petropavlovsk- 66.84 354 P **P** **20 58 29.2 -0.4**
PEA0B IAmb IAmb 20 58 44.1
comp=Z,84nm,1.2s
PEA0B Petropavlovsk- 66.84 354 P **P** **20 58 29.2 -0.4**
PEA0B pmax pmax
comp=Z,84nm,1.3s
PETK Petropavlovsk- 66.84 354 P **P** **20 58 29.6 0.0**
comp=Z,14nm,1.0s,baz=168,slow=5.5,SNR=9.3
PETK LR LR 21 22 22.1
comp=Z,4μm,21.4s,baz=163,slow=31
comp=Z,14nm,1.0s
PETK Petropavlovsk- 66.84 354 P **P** **20 58 27.8 -1.9**
MDJ Mudanjiang 66.90 332 P **P** **20 58 30.7 +0.6**
MDJ Mudanjiang 66.90 332 P **P** **20 58 31.3 +1.1**
MDJ pP pP 20 58 34.3 -2.1
MDJ sS sS 21 07 34.3 +1.6
MDJ SS **SS** **21 11 42.6 +2.0**
MDJ pmax pmax
comp=Z,89nm,1.3s
MDJ pmax pmax
comp=Z,2μm,8.6s
MDJ LR LR
comp=Z,2μm,17.7s
MDJ LR LR
comp=Z,2μm,22.3s

MDJ LR LR
comp=Z,3μm,18.0s
MDJ Mudanjiang 66.90 332 P **P** **20 58 31.5 +1.3**
comp=Z,108nm,1.2s
DL2 Dalian 66.91 323 P **P** **20 58 30.8 +0.5**
DL2 S **S** **21 07 24.0 +2.1**
DL2 pmax pmax
comp=Z,58nm,1.2s
DL2 pmax pmax
comp=Z,1μm,8.7s
DL2 LR LR
comp=Z,2μm,16.0s
DL2 LR LR
comp=Z,2μm,18.0s
DL2 LR LR
comp=Z,2μm,19.4s
IPM Ipoh 67.35 281 P **P** **20 58 34.2 +0.5**
IPM Ipoh 67.35 281 P **P** **20 58 35.2 +1.5**
comp=Z,110nm,1.5s
TYV Tymovskoe 67.46 344 *e*P **P** **20 58 34.2 +0.7**
TYV *e*S **S** **21 07 30.8 +2.8**
TYV pmax pmax
comp=Z,29nm,1.7s
TYV pmax pmax
comp=Z,1μm,5.9s
TYV smax smax
comp=N,200nm,8.5s
TYV smax smax
comp=E,500nm,8.5s
COCO West Island 67.66 262 IAMs_20 IAMs_20 21 30 55.0
comp=Z,5μm,19.0s
SNY Shenyang 67.81 327⇑ P **P** **20 58 35.9 -0.1**
SNY S **S** **21 07 34.4 +1.7**
SNY pmax pmax
comp=Z,27nm,2.1s
SNY pmax pmax
comp=Z,2μm,8.4s
SNY LR LR
comp=Z,3μm,20.0s
SNY LR LR
comp=Z,2μm,21.6s
SNY LR LR
comp=Z,4μm,18.1s
TIA Tai'an 67.95 319 P **P** **20 58 36.0 -1.1**
TIA PP **PP** **21 01 12.1 +4.8**
TIA S **S** **21 07 35.3 +0.6**
TIA SS **SS** **21 11 52.8 -4.5**
TIA pmax pmax
comp=Z,25nm,1.1s
TIA pmax pmax
comp=Z,790nm,4.3s
TIA LR LR
comp=Z,2μm,18.0s
TIA LR LR
comp=Z,1μm,18.0s
TIA LR LR
comp=Z,2μm,20.1s
CN2 Changchun 68.26 329 *e*P **P** **20 58 39.1 +0.3**
CN2 *e*S **S** **21 07 36.3 -1.6**
CN2 pmax pmax
comp=Z,80nm,1.4s
CN2 pmax pmax
comp=Z,2μm,7.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,2μm,18.0s
BNX BinXian 68.75 332⇑ P **P** **20 58 42.0 +0.2**
BNX PP **PP** **21 01 16.3 +2.3**
BNX S **S** **21 07 43.6 -0.2**
BNX pmax pmax
comp=Z,69nm,1.4s
BNX pmax pmax
comp=Z,1μm,8.6s
BNX LR LR
comp=Z,2μm,16.3s
BNX LR LR
comp=Z,2μm,15.7s
BNX LR LR
comp=Z,1μm,18.5s
RPSI Rantau Prapat 68.87 278 P **P** **20 58 42.4 -0.8**
PSI Prapat 68.90 278 P **P** **20 58 43.7 +0.1**
comp=Z,96nm,1.4s
PSI Prapat 68.90 278 P **P** **20 58 42.4 -1.2**
PSI pmax pmax
comp=Z,146nm,1.3s
GRNR Gornyy 69.24 340⇑ *i*P **P** **20 58 45.7 +0.9**
GRNR pmax pmax
comp=E,20nm,1.1s
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,60nm,1.0s
KLR Kul'dur 69.64 337 P **P** **20 58 47.2 -0.1**
comp=Z,46nm,0.9s,baz=135,slow=3.7,SNR=48
KLR LR LR 21 27 31.6
comp=Z,2μm,19.5s,baz=146,slow=34
comp=Z,46nm,0.9s
KLR Kul'dur 69.64 337*ce*P **P** **20 58 47.5 +0.2**
KLR pmax pmax
comp=Z,140nm,1.7s
GSI Gunungsitoli 69.81 276 P **P** **20 58 48.8 -0.3**
GSI Gunungsitoli 69.81 276 P **P** **20 58 49.8 +0.7**
comp=Z,146nm,1.3s
NONG Nongkai 69.90 295 P **P** **20 58 50.8 +1.3**
comp=Z,43nm,1.2s
SRIT Nakonsritamara 69.91 284 P **P** **20 58 48.9 -0.7**
SRIT Nakonsritamara 69.91 284 P **P** **20 58 52.3 +2.6**
comp=Z,34nm,1.1s
ENH Enshi 70.02 309 P **P** **20 58 50.0 -0.1**
ENH IAmb IAmb 20 58 53.1
comp=Z,54nm,1.1s
ENH Enshi 70.02 309 P **P** **20 58 50.8 +0.7**
NKL Nikolayevsk 70.05 344 *e*P **P** **20 58 47.1 -2.5**
NKL *e*S **S** **21 07 57.9 -0.8**
NKL pmax pmax
comp=N,73nm,1.4s
NKL pmax pmax
comp=E,36nm,1.4s
NKL pmax pmax
comp=Z,248nm,1.5s
NKL smax smax
comp=N,236nm,5.6s
NKL smax smax
comp=E,381nm,5.6s
NKL MLR MLR
comp=E,9μm,23.0s
NKL MLR MLR
comp=N,6μm,19.0s
NKL MLR MLR
comp=Z,10μm,19.0s
SURA Surathani 70.06 285 P **P** **20 58 52.8 +2.2**
comp=Z,122nm,1.3s
LYN LuoYang 70.11 315⇑ P **P** **20 58 50.4 0.0**
LYN PP **PP** **21 01 26.3 +0.3**
LYN S **S** **21 07 59.3 -0.9**
LYN pmax pmax
comp=Z,30nm,1.6s
LYN pmax pmax
comp=Z,1μm,10.4s
LYN LR LR
comp=Z,3μm,17.7s
LYN LR LR
comp=Z,2μm,17.3s
LYN LR LR
comp=Z,4μm,18.1s
NAYO Nakonayok 70.18 291 P **P** **20 58 54.4 +3.2**
comp=Z,457nm,1.3s
HNS HongShan 70.22 318⇑ P **P** **20 58 51.8 +0.8**
HNS PcP **PcP** **20 59 13.8 +1.0**
HNS S **S** **21 08 03.8 +2.5**
HNS SKS **SKSac** **21 08 47.5 -3.5**
HNS SS **SS** **21 12 30.1 -2.1**
HNS pmax pmax
comp=Z,31nm,1.9s
HNS pmax pmax
comp=Z,1μm,7.4s
HNS LR LR
comp=Z,1μm,15.9s
HNS LR LR
comp=Z,2μm,19.1s
HNS LR LR
comp=Z,2μm,17.8s
GYA Guiyang 70.41 305⇑ P **P** **20 58 53.4 +0.8**

GYA pP pP 20 58 57.3 -1.8
GYA S **S** **21 08 06.5 +2.2**
GYA pmax pmax
comp=Z,23nm,1.3s
GYA pmax pmax
comp=Z,1μm,6.7s
GYA LR LR
comp=Z,800nm,20.7s
GYA LR LR
comp=Z,1μm,20.4s
GYA LR LR
comp=Z,2μm,21.1s
BJT Baijiatuau 70.87 321 P **P** **20 58 55.9 +0.9**
BJT IAmb IAmb 20 58 58.8
comp=Z,68nm,1.3s
BJT Baijiatuau 70.87 321 P **P** **20 58 56.1 +1.1**
comp=Z,51nm,1.3s
BJT Baijiatuau 70.87 321 P **P** **20 58 55.9 +0.9**
BJT pmax pmax
comp=Z,68nm,1.3s
BJI Beijing 70.88 321 P **P** **20 58 55.8 +0.8**
BJI pP **pP** **20 59 00.8 -0.5**
BJI sP **sP** **20 59 03.9 +0.2**
BJI S **S** **21 08 09.3 +0.4**
BJI pmax pmax
comp=Z,13nm,1.4s
BJI LR LR
comp=Z,910nm,19.9s
BJI LR LR
comp=Z,840nm,19.8s
BJI LR LR
comp=Z,1μm,20.0s
TIY Taiyuan 71.88 318 *e*P **P** **20 59 02.3 +1.1**
TIY S **S** **21 08 20.3 -0.5**
TIY SS **SS** **21 12 53.6 -4.3**
TIY pmax pmax
comp=Z,970nm,3.7s
TIY LR LR
comp=Z,2μm,16.8s
TIY LR LR
comp=Z,1μm,14.6s
TIY LR LR
comp=Z,2μm,18.2s
HEH HeiHe 72.18 335 *e*P **P** **20 59 02.8 +0.1**
HEH pP **pwP** **20 59 13.8 -0.4**
HEH S **S** **21 08 21.5 -2.1**
HEH SS **SS** **21 12 57.1 -4.8**
HEH pmax pmax
comp=Z,63nm,1.0s
HEH pmax pmax
comp=Z,2μm,8.9s
HEH LR LR
comp=Z,3μm,16.7s
HEH LR LR
comp=Z,2μm,16.0s
HEH LR LR
comp=Z,3μm,19.1s
XAN Xi'an 72.33 313⇑ P **P** **20 59 03.8 -0.2**
XAN PP **PP** **21 01 49.4 +4.2**
XAN S **S** **21 08 25.3 -0.8**
XAN ScS **SKSac** **21 09 04.6 -2.7**
XAN SS **SS** **21 13 05.3 +0.4**
XAN pmax pmax
comp=Z,30nm,1.7s
XAN pmax pmax
comp=Z,2μm,6.9s
XAN LR LR
comp=Z,2μm,15.6s
XAN LR LR
comp=Z,1μm,16.0s
XAN LR LR
comp=Z,3μm,17.5s
PHRA Phrae 72.63 295 P **P** **20 59 06.7 +0.6**
KMI Kunming 73.03 302⇑ P **P** **20 59 10.1 +1.6**
KMI sP sP 20 59 16.5 -0.9
KMI S **S** **21 08 34.3 -0.4**
KMI SKS **SKSac** **21 09 09.9 -3.4**
KMI pmax pmax
comp=Z,38nm,1.4s
KMI pmax pmax
comp=Z,1μm,8.4s
KMI LR LR
comp=Z,1μm,17.6s
KMI LR LR
comp=Z,720nm,17.3s
KMI LR LR
comp=Z,940nm,20.3s
CRAI Chiangrai 73.13 296 P **P** **20 59 09.9 +0.9**
CRAI IAmb IAmb 20 59 17.5
comp=Z,86nm,1.3s
XLT XiLinHaoTe 73.31 324⇑ *i*P **P** **20 59 10.0 +0.3**
XLT pP pP 20 59 13.0 -3.0
XLT sP sP 20 59 16.4 -1.9
XLT S **SKiKP** **21 08 39.0 -0.8**
XLT sS sS 21 08 51.4 +3.3
XLT SKS **SKSac** **21 09 09.8 -4.6**
XLT ScS **ScS** **21 09 16.8 0.0**
XLT pmax pmax
comp=Z,61nm,1.4s
XLT pmax pmax
comp=Z,1μm,8.7s
XLT LR LR
comp=Z,220nm,16.7s
XLT LR LR
comp=Z,1μm,18.0s
XLT LR LR
comp=Z,1μm,18.9s
CM31 Chiang Mai Arr 73.76 294 P **P** **20 59 13.6 +0.9**
CM31 IAmb IAmb 20 59 21.5
comp=Z,90nm,1.1s
CMAR Chiang Mai Arr 73.76 294 P **P** **20 59 12.4 -0.3**
comp=Z,30nm,1.0s,baz=119,slow=4.1,SNR=79
CMAR LR LR 21 33 44.3
comp=Z,707nm,18.6s,baz=140,slow=38
comp=Z,30nm,1.0s
CMAR Chiang Mai Arr 73.76 294 P **P** **20 59 13.6 +0.9**
CMAR Chiang Mai Arr 73.76 294 *i* P **P** **20 59 14.0 +1.3**
CMAR pmax pmax
comp=Z,29nm,1.0s
CHTO Chiang Mai 73.88 294 P **P** **20 59 13.7 +0.2**
CHTO IAmb IAmb 20 59 22.0
comp=Z,106nm,1.3s
CHTO Chiang Mai 73.88 294 P **P** **20 59 13.7 +0.2**
CHTO pmax pmax
comp=Z,106nm,1.3s
CHTO MLR MLR
comp=Z,500nm,18.0s
MA2 Magadan 74.00 352 P **P** **20 59 12.3 -0.9**
comp=Z,2.1nm,0.4s,baz=138,slow=6.4,SNR=6.5
MA2 LR LR 21 27 37.4
comp=Z,5μm,21.0s,baz=170,slow=32
comp=Z,2.1nm,0.4s
MA2 Magadan 74.00 352 P **P** **20 59 12.3 -0.9**
MA2 IAmb IAmb 20 59 31.7
comp=Z,58nm,1.5s
MA2 IAMs_20 IAMs_20 21 27 15.0
comp=Z,5μm,21.0s
MA2 Magadan 74.00 352 P **P** **20 59 17.9 +4.7**
comp=Z,37nm,1.9s
MA2 Magadan 74.00 352*ce*P **P** **20 59 11.9 -1.3**
MA2 pmax pmax
comp=Z,46nm,1.7s
HHC Hu-ho-hao-te 74.20 320 *e*P **P** **20 59 16.3 +1.3**
HHC S **S** **21 08 47.9 +0.8**
HHC ScS **ScS** **21 09 23.4 -0.7**
HHC pmax pmax
comp=Z,64nm,1.3s
HHC pmax pmax
comp=Z,2μm,7.4s
HHC LR LR
comp=Z,4μm,17.8s
HHC LR LR
comp=Z,2μm,18.4s
HHC LR LR
comp=Z,4μm,17.8s
PZH PanZhiHua 74.41 303 P **P** **20 59 17.0 +0.5**
PZH pP **pP** **20 59 23.5 +0.5**
PZH PcP **PcP** **20 59 33.1 +2.0**
PZH S **S** **21 08 51.5 +1.4**
PZH SKS **SKSac** **21 09 23.3 -0.1**
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,1μm,10.0s
PZH LR LR
comp=Z,980nm,19.1s

PZH LR LR
comp=Z,1µm,19.6s
PZH LR LR
comp=Z,1µm,18.1s
CD2 Chengdu 74.68 308 P **P** **20 59 18.4 +0.5**
CD2 pP pP 20 59 22.0 -2.3
CD2 sP sP 20 59 23.0 -3.7
CD2 S **S** **21 08 55.8 +3.0**
CD2 SS **SS** **21 13 44.1 +3.2**
CD2 pmax pmax
comp=Z,50nm,1.4s
CD2 pmax pmax
comp=Z,1µm,8.4s
CD2 LR LR
comp=Z,910nm,15.3s
CD2 LR LR
comp=Z,620nm,14.1s
CD2 LR LR
comp=Z,1µm,18.0s
HIA Hailar 74.90 330 P **P** **20 59 18.9 +0.1**
HIA IAmb IAmb 20 59 22.2
comp=Z,83nm,1.0s
HIA Hailar 74.90 330 P **P** **20 59 20.0 +1.3**
HIA Hailar 74.90 330 P **P** **20 59 18.9 +0.1**
HIA pmax pmax
comp=Z,83nm,1.0s
HIA MLR MLR
comp=Z,2µm,20.0s
ZEA Zeya 74.93 337 *e*P **P** **20 59 20.0 +1.3**
ZEA *e*S **S** **21 09 00.5 +6.0**
ZEA *e* 21 13 46.2
ZEA pmax pmax
comp=N,30nm,1.6s
ZEA pmax pmax
comp=Z,40nm,1.6s
ZEA pmax pmax
comp=E,300nm,7.2s
ZEA pmax pmax
comp=N,300nm,8.0s
ZEA pmax pmax
comp=Z,800nm,10.2s
ZEA pmax pmax
comp=N,200nm,8.3s
ZEA pmax pmax
comp=Z,300nm,11.4s
ZEA smax smax
comp=N,1µm,12.2s
ZEA smax smax
comp=E,1µm,7.0s
BTO Baotou 75.04 319 *e*P **P** **20 59 21.1 +1.3**
BTO S **S** **21 08 55.4 -1.2**
BTO LR LR
comp=E,10µm,18.4s
BTO LR LR
comp=E,4µm,15.3s
QSPA South Pole Qui 76.44 180 LR LR 21 31 46.9
comp=E,4µm,18.1s,baz=36,slow=35
TNCH TengChong 76.51 300 ⇑P **P** **20 59 28.8 +0.1**
TNCH pP pP 20 59 34.9 -0.2
TNCH sP pwP 20 59 42.3 +1.0
TNCH PP **PP** **21 02 16.8 -4.2**
TNCH S **S** **21 09 17.0 +3.5**
TNCH sS sS 21 09 25.8 +1.9
TNCH SKS **SKSac** **21 09 39.5 +0.2**
TNCH SS **SS** **21 14 07.6 -1.5**
TNCH pmax pmax
comp=E,31nm,2.1s
TNCH pmax pmax
comp=E,880nm,8.6s
TNCH LR LR
comp=E,580nm,19.1s
TNCH LR LR
comp=E,660nm,19.4s
TNCH LR LR
comp=E,1µm,20.4s
LZH Lanzhou 76.96 312 ⇑P **P** **20 59 32.8 +1.8**
LZH pP sP 20 59 39.3 -0.5
LZH sP pwP 20 59 43.3 -0.5
LZH S **S** **21 09 21.8 +3.7**
LZH pmax pmax
comp=E,55nm,1.6s
LZH pmax pmax
comp=E,700nm,7.6s
LZH LR LR
comp=E,2µm,17.2s
LZH LR LR
comp=E,2µm,17.2s
LZH LR LR
comp=E,2µm,16.5s
SEY Seymchan 77.05 353 P **P** **20 59 30.1 -0.6**
comp=E,19nm,0.8s,baz=160,slow=6.4,SNR=32
SEY LR LR 21 29 18.2
comp=E,6µm,21.2s,baz=166,slow=32
comp=E,19nm,0.8s
MND Mandalay 77.48 296 P **P** **20 59 34.5 +0.5**
comp=E,40nm,1.4s
DGPR DIGLIPUR 77.53 287 *e*P **P** **20 59 33.8 -0.6**
P16K Nushagak River 77.91 18 P **P** **20 59 35.4 -0.1**
baz=215
Q17K Contact Creek 77.95 19 P **P** **20 59 36.0 +0.1**
baz=217
OHAK Old Harbor 78.00 21 P **P** **20 59 36.8 +0.8**
baz=220
Q16K King Salmon 78.03 19 P **P** **20 59 34.8 -1.3**
baz=217
Q18K Katmai Hardscr 78.53 19 P **P** **20 59 38.7 -0.4**
baz=218
KDAK Kodiak Island 78.68 21 LR LR 21 29 04.7
comp=E,9µm,20.2s,baz=239,slow=32
RPN Rapa Nui 78.86 115 LR LR 21 26 49.7
comp=E,1µm,21.5s,baz=270,slow=30
N16K Nishlik Lake 78.88 17 P **P** **20 59 41.1 +0.2**
baz=214
GAMB Gambell 78.93 10 IAMs_20 IAMs_20 21 28 10.7
comp=Z,4µm,21.0s
GAMB Gambell 78.93 10 P **P** **20 59 41.9 +0.8**
baz=202
P18K Big Mountain, 79.05 19 P **P** **20 59 39.1 -2.8**
P18K IAmb IAmb 21 00 52.6
comp=Z,59nm,1.2s
P18K IAMs_20 IAMs_20 21 27 57.3
comp=Z,6µm,21.0s
P18K Big Mountain, 79.05 19 P **P** **20 59 40.2 -1.7**
baz=218
Q19K Cape Douglas, 79.20 20 P **P** **20 59 40.3 -2.4**
baz=219
O18K Koktuh Hills 79.42 19 IAMs_20 IAMs_20 21 30 30.1
comp=Z,6µm,20.0s
LKP Lekhapani 79.59 301 *e*P **P** **20 59 45.0 -0.5**
LKP IAmb IAmb 20 59 47.9
CIT Chita 79.69 330 *e*P **P** **20 59 46.3 +0.8**
CIT *e* 20 59 57.8
CIT *e* 21 02 51.7
CIT pmax pmax
comp=Z,337nm,2.4s
O19K Port Alsworth 79.97 19 IAMs_20 IAMs_20 21 28 13.6
comp=Z,5µm,21.0s
IMP Imphal 80.31 298 *e*P **P** **20 59 47.6 -1.9**
IMP IAmb IAmb 20 59 51.0
comp=Z,36nm,1.1s
MOKO MOKOCHONG 80.34 300 *e*P **P** **20 59 50.5 +0.8**
MOKO IAmb IAmb 20 59 55.5
comp=Z,38nm,0.8s
SAIH SAIHA 80.37 296 *e*P **P** **20 59 50.3 +0.3**
SAIH IAmb IAmb 20 59 58.3
comp=Z,148nm,1.5s
N19K Bonanza Creek 80.40 18 IAMs_20 IAMs_20 21 31 02.0
comp=Z,6µm,20.0s
YAK Yakutsk 80.71 343 P **P** **20 59 50.4 -0.3**
comp=Z,16nm,0.7s,baz=106,slow=1.3,SNR=31
YAK LR LR 21 37 11.3
comp=Z,3µm,18.0s,baz=136,slow=37
comp=Z,16nm,0.7s
YAK Yakutsk 80.71 343 P **P** **20 59 50.0 -0.7**
YAK IAMs_20 IAMs_20 21 39 30.3
comp=Z,6µm,18.0s
YAK Yakutsk 80.71 343*c i*P **P** **20 59 50.1 -0.6**
YAK *e**PP **PcP** **20 59 54.4 -3.0**
YAK *e* 20 59 59.1
YAK *e*S **S** **21 10 03.6 +7.1**
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,11nm,1.1s

YAK pmax pmax
comp=Z,213nm,3.9s
YAK pmax pmax
comp=N,98nm,3.2s
YAK pmax pmax
comp=E,66nm,3.0s
YAK smax smax
comp=N,82nm,3.0s
YAK smax smax
comp=E,703nm,7.5s
YAK MLR MLR
comp=Z,7µm,20.0s
YAK MLR MLR
comp=N,3µm,15.0s
YAK MLR MLR
comp=E,1µm,15.0s
JORH JORHAT 80.71 300 *e*P **P** **20 59 52.3 +0.8**
ULN Ulaanbaatar 80.74 324 P **P** **20 59 51.2 -0.2**
ULN Ulaanbaatar 80.74 324*ce*P **P** **20 59 50.1 -1.4**
ULN pmax pmax
comp=Z,98nm,1.3s
ANM Nome 80.81 12 P **P** **20 59 50.3 -0.9**
ANM IAmb IAmb 21 00 20.2
comp=Z,64nm,1.4s
ANM IAMs_20 IAMs_20 21 30 51.4
comp=Z,4µm,20.0s
ANM Nome 80.81 12 P **P** **20 59 51.4 +0.1**
baz=208
ANM Nome 80.81 12 P **P** **20 59 50.3 -0.9**
ANM pmax pmax
comp=Z,64nm,1.4s
ANM MLR MLR
comp=Z,4µm,20.0s
AIS Amsterdam Isla 80.94 233 IAMs_20 IAMs_20 21 32 12.3
comp=Z,4µm,19.0s
SONM Songino Array 81.10 324 P **P** **20 59 52.9 -0.4**
comp=Z,20nm,1.0s,baz=140,slow=5.2,SNR=75
SONM LR LR 21 36 50.9
comp=Z,1µm,18.9s,baz=119,slow=36
comp=Z,20nm,1.0s
SONM Songino Array 81.10 324 P **P** **20 59 53.0 -0.4**
SONM IAmb IAmb 20 59 57.0
comp=Z,54nm,1.2s
TNA Tin City 81.22 10 P **P** **20 59 51.5 -1.8**
SILR SILCHAR 81.28 298 *e*P **P** **20 59 56.1 +1.5**
SILR IAmb IAmb 21 00 02.9
comp=Z,147nm,0.8s
M19K Big River Lodg 81.29 18 P **P** **20 59 52.8 -1.1**
baz=218
GTA Gaotai 81.30 314 ⇑P **P** **20 59 55.1 +0.5**
GTA sP pwP 21 00 08.0 +0.5
GTA S **S** **21 10 07.1 +3.0**
GTA sS SKSac 21 10 13.3 +0.7
GTA pmax pmax
comp=Z,34nm,1.6s
GTA pmax pmax
comp=Z,1µm,5.1s
GTA LR LR
comp=Z,570nm,16.4s
GTA LR LR
comp=Z,1µm,19.6s
GTA LR LR
comp=Z,2µm,18.5s
ZIRO ZIRO 81.31 301 *e*P **P** **20 59 56.4 +1.3**
ZIRO IAmb IAmb 21 00 03.8
comp=Z,193nm,1.9s
L19K White Mountain 81.37 17 IAMs_20 IAMs_20 21 32 42.6
comp=Z,7µm,21.0s
BILL Bilibino 81.40 360 P **P** **20 59 53.4 -0.9**
BILL IAmb IAmb 21 00 31.5
comp=Z,98nm,1.3s
BILL Bilibino 81.40 360 *e*P **P** **20 59 53.7 -0.6**
BILL *e* 21 03 04.6
BILL *e*S **S** **21 10 02.8 -0.8**
BILL *e*SS **SS** **21 15 21.4 +1.0**
BILL pmax pmax
comp=Z,82nm,1.7s
BILL MLR MLR
comp=Z,883nm,17.0s
M20K Styx River 81.65 18 IAMs_20 IAMs_20 21 31 22.9
comp=Z,6µm,21.0s
TEZP TEZPUR 81.89 300 *e*P **P** **20 59 58.1 +0.3**
TEZP IAmb IAmb 21 00 00.8
comp=Z,166nm,1.9s
L20K Farewell, AK 81.89 17 P **P** **20 59 57.0 -0.1**
baz=219
SUA Susitna One 82.07 19 P **P** **20 59 57.7 -0.5**
SUA IAmb IAmb 21 01 03.1
comp=Z,54nm,1.5s
SUA IAMs_20 IAMs_20 21 29 44.2
comp=Z,7µm,21.0s
SUA Susitna One 82.07 19 P **P** **20 59 58.3 +0.2**
baz=222
RC01 Rabbit Creek A 82.12 20 P **P** **20 59 58.8 +0.5**
baz=223
SKT Skwentna 82.21 19 IAMs_20 IAMs_20 21 30 29.8
comp=Z,5µm,20.0s
SHL Shillong 82.32 299 P **P** **21 00 00.5 +0.1**
SHL IAmb IAmb 21 00 02.4
comp=Z,81nm,1.3s
SHL Shillong 82.32 299 *e*P **P** **21 00 00.6 +0.3**
SHL IAmb IAmb 21 00 07.3
comp=Z,25nm,2.5s
SHL Shillong 82.32 299 P **P** **21 00 00.5 +0.1**
SHL pmax pmax
comp=Z,81nm,1.3s
PWL Port Wells 82.42 21 P **P** **20 59 59.1 -0.8**
PWL IAmb IAmb 21 00 23.5
comp=Z,44nm,1.0s
PWL IAMs_20 IAMs_20 21 30 25.6
comp=Z,4µm,19.0s
K20K Telida 82.52 17 IAMs_20 IAMs_20 21 33 49.0
comp=Z,5µm,20.0s
K20K Telida 82.52 17 P **P** **21 00 01.4 +1.0**
baz=218
MAW Mawson 82.64 202 P **P** **20 59 59.8 -1.2**
comp=Z,13nm,1.1s,baz=80,slow=12,SNR=1.5
MAW PKKPbc **PKKPbc** **21 18 28.4 +0.3**
comp=Z,22nm,0.9s,baz=240,slow=8.4,SNR=3.5
MAW LR LR 21 32 47.2
comp=Z,2µm,19.8s,baz=94,slow=33
comp=Z,13nm,1.1s
GUWA GUWAHATI 82.69 299 *e*P **P** **21 00 01.9 -0.1**
GUWA IAmb IAmb 21 00 04.2
comp=Z,35nm,1.1s
KNK Knik Glacier 82.78 20 IAMs_20 IAMs_20 21 37 09.0
comp=Z,5µm,19.0s
KNK Knik Glacier 82.78 20 P **P** **21 00 01.3 -0.4**
baz=224
CUT Chulitna 82.92 19 IAMs_20 IAMs_20 21 30 44.8
comp=Z,5µm,22.0s
BOD Bodaibo 83.10 335 *e*P **P** **21 00 03.3 -0.1**
BOD pmax pmax
comp=Z,84nm,2.0s
SML Sawmill 83.11 20 IAMs_20 IAMs_20 21 29 40.6
comp=Z,5µm,19.0s
SML Sawmill 83.11 20 P **P** **21 00 04.1 +0.6**
baz=224
CAST Castle Rocks 83.14 17 P **P** **21 00 02.6 -1.0**
CAST IAMs_20 IAMs_20 21 32 50.3
comp=Z,5µm,20.0s
CAST Castle Rocks 83.14 17 P **P** **21 00 02.9 -0.7**
baz=220
SCM Sheep Creek Mo 83.46 20 P **P** **21 00 05.2 -0.1**
SCM IAmb IAmb 21 00 53.2
comp=Z,55nm,1.2s
SCM Sheep Creek Mo 83.46 20 P **P** **21 00 05.2 -0.1**
SCM pmax pmax
comp=Z,55nm,1.2s
KTH Kantishna Hill 83.58 18 IAMs_20 IAMs_20 21 32 06.0
comp=Z,6µm,20.0s
GOMU GeErMu 83.65 309 P **P** **21 00 08.0 +0.8**
GOMU pP PcP 21 00 11.5 +0.1
GOMU S **S** **21 10 33.5 +4.8**
GOMU SS **SS** **21 15 53.5 -2.5**
GOMU pmax pmax
comp=Z,12nm,1.5s
GOMU pmax pmax
comp=Z,940nm,6.5s
GOMU LR LR
comp=Z,530nm,18.5s
GOMU LR LR
comp=Z,1µm,18.2s
GOMU LR LR
comp=Z,1µm,18.6s
TRF Thorofare Moun 83.70 18 IAMs_20 IAMs_20 21 32 58.0
comp=Z,7µm,20.0s

KLU Klutina 83.70 21 P **P** **21 00 06.6 0.0**
KLU IAmb IAmb 21 00 51.9
comp=Z,56nm,1.3s
WAT1 Susitna Watana 83.78 19 P **P** **21 00 06.0 -0.9**
baz=224
BMRM Bremner River 83.81 22 P **P** **21 00 07.7 +0.6**
baz=228
WAT6 Susitna Watana 83.86 20 P **P** **21 00 06.8 -0.7**
baz=224
JCC Jacoby Creek, 83.90 46 IAMs_20 IAMs_20 21 38 29.4
comp=Z,4µm,19.0s
BPAW Bear Paw Mtn. 83.98 17 IAMs_20 IAMs_20 21 32 16.4
comp=Z,5µm,20.0s
RND Reindeer 84.10 19 P **P** **21 00 08.3 -0.2**
RND IAmb IAmb 21 00 09.6
comp=Z,45nm,1.4s
RND IAMs_20 IAMs_20 21 33 15.7
comp=Z,6µm,20.0s
RND Reindeer 84.10 19 P **P** **21 00 08.4 -0.2**
RND pmax pmax
comp=Z,45nm,1.4s
RND MLR MLR
comp=Z,6µm,20.0s
WAX Waxell Ridge 84.11 23 IAMs_20 IAMs_20 21 33 50.1
comp=Z,6µm,18.0s
ZAK Zakamensk 84.16 325 *e*P **P** **21 00 09.5 +0.3**
ZAK pmax pmax
comp=Z,74nm,1.3s
N25K Chitina, Valde 84.24 21 P **P** **21 00 09.3 0.0**
N25K IAmb IAmb 21 00 42.8
comp=Z,32nm,1.1s
N25K IAMs_20 IAMs_20 21 30 38.7
comp=Z,3µm,20.0s
N25K Chitina, Valde 84.24 21 P **P** **21 00 09.6 +0.3**
baz=227
LSA Lhasa 84.28 302 P **P** **21 00 11.6 +0.9**
LSA IAmb IAmb 21 00 15.0
comp=Z,29nm,1.1s
LSA Lhasa 84.28 302 P **P** **21 00 11.0 +0.3**
LSA pmax pmax
comp=Z,20nm,1.3s
LSA Lhasa 84.28 302 P **P** **21 00 11.6 +0.9**
LSA pmax pmax
comp=Z,29nm,1.1s
MCK McKinley 84.31 18 P **P** **21 00 09.0 -0.6**
MCK IAmb IAmb 21 00 38.7
comp=Z,92nm,1.4s
MCK IAMs_20 IAMs_20 21 32 41.4
comp=Z,5µm,21.0s
MCK McKinley 84.31 18 P **P** **21 00 08.6 -1.0**
baz=223
MCK McKinley 84.31 18 P **P** **21 00 09.0 -0.6**
MCK pmax pmax
comp=Z,91nm,1.4s
MCK MLR MLR
comp=Z,5µm,21.0s
ISLE Juniper Island 84.40 23 IAMs_20 IAMs_20 21 34 16.9
comp=Z,4µm,19.0s
BWN Browne 84.48 18 IAMs_20 IAMs_20 21 33 23.0
comp=Z,5µm,20.0s
I21K Tanana 84.52 16 P **P** **21 00 10.2 -0.3**
I21K IAmb IAmb 21 00 39.1
comp=Z,54nm,1.3s
I21K IAMs_20 IAMs_20 21 33 46.6
comp=Z,4µm,20.0s
I21K Tanana 84.52 16 P **P** **21 00 10.5 0.0**
baz=220
IRK Irkutsk 84.54 327 *e*P **P** **21 00 09.4 -1.6**
IRK pmax pmax
comp=Z,184nm,2.0s
MCARA McCarthy VSAT 84.66 22 IAMs_20 IAMs_20 21 31 20.7
comp=Z,4µm,21.0s
H21K Melozitna Rive 84.66 16 P **P** **21 00 11.3 +0.1**
H21K IAmb IAmb 21 00 41.1
comp=Z,58nm,1.8s
H21K IAMs_20 IAMs_20 21 35 10.4
comp=Z,3µm,20.0s
H21K Melozitna Rive 84.66 16 P **P** **21 00 12.9 +1.7**
baz=220
IMAR Indian Mountai 84.67 15 P **P** **21 00 10.8 -0.4**
MLY Manley 84.75 17 IAMs_20 IAMs_20 21 34 28.7
comp=Z,5µm,19.0s
TABL Table Mountain 84.75 23 IAMs_20 IAMs_20 21 36 46.2
comp=Z,5µm,19.0s
NEA2 Nenana 84.90 18 P **P** **21 00 11.7 -0.8**
NEA2 IAMs_20 IAMs_20 21 35 03.0
comp=Z,5µm,20.0s
BARN Barnard Glacie 84.95 23 IAMs_20 IAMs_20 21 38 53.4
comp=Z,4µm,19.0s
BCPM Bancas Point 85.03 24 IAMs_20 IAMs_20 21 42 08.7
comp=Z,4µm,20.0s
WRH Wood River Hil 85.11 18 P **P** **21 00 12.9 -0.6**
WRH IAmb IAmb 21 00 37.7
comp=Z,59nm,1.3s
WRH IAMs_20 IAMs_20 21 37 13.4
comp=Z,4µm,19.0s
G21K Allakaket 85.15 15 P **P** **21 00 14.8 +1.1**
baz=219
YBH Yreka Blue Hor 85.17 45 P **P** **21 00 14.1 -0.4**
comp=Z,1.5nm,0.7s,baz=226,slow=7.9,SNR=4.3
YBH LR LR 21 29 58.9
comp=Z,1µm,21.6s,baz=257,slow=30
comp=Z,1.5nm,0.7s
I23K Minto, Yukon-K 85.23 17 IAMs_20 IAMs_20 21 33 47.5
comp=Z,5µm,19.0s
CCB Clear Creek Bu 85.32 18 P **P** **21 00 13.8 -0.7**
CCB IAMs_20 IAMs_20 21 37 46.9
comp=Z,3µm,20.0s
M26K Nabesna, AK 85.34 21 IAMs_20 IAMs_20 21 36 18.6
comp=Z,3µm,20.0s
HUMO Hull Mountain 85.34 44 IAMs_20 IAMs_20 21 35 52.5
comp=Z,5µm,18.0s
DBO Dodson Butte 85.35 44 P **P** **21 00 14.2 -1.1**
HDA Harding Lake 85.41 18 P **P** **21 00 13.6 -1.5**
HDA Harding Lake 85.41 18 P **P** **21 00 14.2 -0.8**
baz=225
MDM Murphy Dome 85.42 18 P **P** **21 00 13.6 -1.5**
MDM IAMs_20 IAMs_20 21 34 18.6
comp=Z,4µm,20.0s
TCOL CIGO, UAF Yank 85.47 18 P **P** **21 00 14.1 -1.1**
TCOL IAMs_20 IAMs_20 21 41 58.8
comp=Z,4µm,18.0s
COLA College 85.47 18 P **P** **21 00 13.7 -1.6**
COLA College 85.47 18 IAMs_20 IAMs_20 21 41 58.8
comp=Z,4µm,18.0s
COLA College 85.47 18 P **P** **21 00 13.7 -1.6**
PDE Pardee, Santa 85.58 53 P **P** **21 00 18.1 +1.6**
RIDG Independent Ri 85.61 20 IAMs_20 IAMs_20 21 31 53.8
comp=Z,5µm,20.0s
L26K Og Cabin Wild 85.63 21 IAMs_20 IAMs_20 21 33 10.3
comp=Z,5µm,20.0s
ILAR Eielson Array 85.69 18 P **P** **21 00 14.5 -1.9**
comp=Z,6.0nm,0.5s,baz=232,slow=5.2,SNR=16
ILAR PKKP **PKKPdf** **21 18 14.9 -0.1**
comp=Z,0.4nm,0.8s,baz=349,slow=2.5,SNR=7.3
ILAR LR LR 21 34 33.6
comp=Z,6µm,19.6s,baz=226,slow=33
comp=Z,6.0nm,0.5s
ILAR Eielson Array 85.69 18 P **P** **21 00 14.9 -1.5**
POKR Poker Plat Res 85.77 18 IAMs_20 IAMs_20 21 42 17.8
comp=Z,3µm,19.0s
POKR Poker Plat Res 85.77 18 P **P** **21 00 17.4 +0.5**
baz=225
MOY Mondy 86.04 325 *e*P **P** **21 00 18.6 0.0**
MOY pmax pmax
comp=Z,145nm,3.6s
SCRK Sand Creek 86.05 20 P **P** **21 00 17.9 -0.5**
SCRK IAmb IAmb 21 00 48.4
comp=Z,61nm,1.6s
SCRK IAMs_20 IAMs_20 21 35 38.4
comp=Z,3µm,20.0s
H24K Noodor Dome 86.15 17 IAMs_20 IAMs_20 21 34 53.0
comp=Z,6µm,19.0s
L27K Beaver Creek, 86.18 21 IAMs_20 IAMs_20 21 37 20.9
comp=Z,3µm,20.0s
G23K Bananza Creek 86.20 16 P **P** **21 00 21.2 +2.2**
baz=222
F22K John River 86.25 15 P **P** **21 00 21.2 +2.0**
baz=220
BBB Bella Bella 86.27 34 LR LR 21 31 39.7
comp=Z,5µm,20.4s,baz=258,slow=31
TAPN Taplejung 86.43 299 *e*P **P** **21 00 21.3 0.0**
comp=Z,258nm,1.5s
COLD Coldfoot 86.54 16 P **P** **21 00 19.7 -0.8**
COLD IAmb IAmb 21 00 49.8
comp=Z,49nm,1.5s
J26L Joseph Creek 86.54 19 IAMs_20 IAMs_20 21 32 24.4

comp=Z,4µm,20.0s
ODAN Odare 86.56 299 *e*P **P 21 00 22.4 +0.5**
comp=Z,8.0nm,0.9s
PRP Porcupine Dome 86.62 18 IAMs_20 IAMs_20 21 34 21.4
comp=Z,7µm,20.0s
NLWA Neilton Lookou 86.66 40 IAMs_20 IAMs_20 21 34 21.0
comp=Z,4µm,18.0s
K27K Chicken 86.72 20 IAMs_20 IAMs_20 21 33 33.1
comp=Z,4µm,20.0s
ESJX Sierra Juarez 86.89 56 P **P 21 00 22.6 -0.7**
ESJX IAmb IAmb 21 00 24.0
comp=Z,20nm,0.4s
PFO Pinyon Flats O 86.98 55 LR LR 21 34 43.5
comp=Z,9µm,18.2s,baz=272,slow=32
BOK Bokaro 86.99 295 *e*P **P 21 00 24.6 +0.8**
BOK IAmb IAmb 21 00 31.1
NVAR Mina Array Bea 87.13 50 P **P 21 00 24.2 -0.2**
comp=Z,0.5nm,0.5s,baz=242,slow=7.0,SNR=2.3
NVAR PKPPKP **P'P'df 21 26 23.5 +0.9**
comp=Z,0.1nm,0.3s,baz=79,slow=4.9,SNR=4.0
NVAR LR LR 21 33 51.6
comp=Z,12µm,18.9s,baz=285,slow=32
RAMN Ramite 87.26 298 *e*P **P 21 00 25.5 +0.2**
E23K Chandalar 87.31 15 P **P 21 00 26.7 +2.3**
baz=222
FYU Fort Yukon 87.43 17 IAMs_20 IAMs_20 21 40 51.8
comp=Z,4µm,18.0s
N31M Braeburn, Yuko 87.47 24 IAMs_20 IAMs_20 21 41 13.2
comp=Z,5µm,20.0s
EGAK Eagle 87.51 20 IAMs_20 IAMs_20 21 36 57.9
comp=Z,4µm,20.0s
MZP Montezuma Peak 87.57 50 P **P 21 00 25.6 -1.0**
PALK Pallekele 87.58 278 P **P 21 00 25.8 -1.1**
PALK IAmb IAmb 21 00 35.8
comp=Z,62nm,1.2s
PALK Pallekele 87.58 278 P **P 21 00 25.8 -1.1**
PALK pmax pmax
comp=Z,62nm,1.2s
PALK MLR MLR
comp=Z,2µm,20.0s
VIS Vishakhapatnam 87.68 289 *e*P **P 21 00 25.1 -2.1**
M30M Minto, Yukon 87.71 23 IAMs_20 IAMs_20 21 40 21.4
comp=Z,4µm,18.0s
JIRN Jiri 87.81 299 *e*P **P 21 00 28.3 +0.2**
BELA Belgrano 2 87.92 176 P **P 21 00 26.9 -0.4**
P33M Teslin, Yukon 87.98 26 IAMs_20 IAMs_20 21 37 03.8
comp=Z,5µm,20.0s
WVOR Wild Horse Val 88.25 46 IAMs_20 IAMs_20 21 39 58.6
comp=Z,6µm,18.0s
DLBC Dease Lake 88.30 28 LR LR 21 37 05.9
comp=Z,2µm,18.1s,baz=270,slow=34
J29M Klondike Camp 88.30 21 IAMs_20 IAMs_20 21 33 00.0
comp=Z,4µm,22.0s
A21K Barrow 88.31 11 P **P 21 00 28.2 -0.7**
A21K IAmb IAmb 21 00 49.1
comp=Z,49nm,1.2s
A21K IAMs_20 IAMs_20 21 34 01.5
comp=Z,3µm,22.0s
M31M Drury Creek, Y 88.42 24 IAMs_20 IAMs_20 21 34 14.2
comp=Z,5µm,20.0s
PKI Pulchoki 88.45 299 *e*P **P 21 00 31.0 -0.1**
comp=Z,79nm,1.0s
PKIN Phulchoki 88.46 299 *e*P **P 21 00 30.9 -0.2**
comp=Z,78nm,0.7s
BMN Battle Mountai 88.58 48 P **P 21 00 29.6 -1.6**
BMN Battle Mountai 88.58 48 P **P 21 00 29.6 -1.6**
BMN pmax pmax
comp=Z,21nm,1.5s
KKN Kakani 88.62 299 *e*P **P 21 00 31.9 +0.1**
J08A Circle Bar Ran 88.68 45 P **P 21 00 29.7 -1.8**
TIXI Tiksi 88.69 349 P **P 21 00 29.7 -1.1**
comp=Z,6.2nm,1.0s,baz=270,slow=23,SNR=18
TIXI LR LR 21 36 31.4
comp=Z,2µm,21.0s,baz=90,slow=33
comp=Z,6.2nm,1.0s
TIXI Tiksi 88.69 349 P **P 21 00 29.5 -1.2**
TIXI Tiksi 88.69 349 *ce*P **P 21 00 28.2 -2.6**
TIXI pmax pmax
comp=Z,47nm,2.5s
DMN Daman 88.72 299 *e*P **P 21 00 32.6 +0.3**
comp=Z,123nm,0.7s
C24K Franklin Bluff 88.76 14 P **P 21 00 31.9 +0.8**
baz=223
I29M Ogilvie Camp, 88.82 20 IAMs_20 IAMs_20 21 34 27.6
comp=Z,5µm,20.0s
SHPR Sheep Range 88.89 52 P **P 21 00 29.3 -3.4**
G08A Pilot Rock 89.02 43 P **P 21 00 31.2 -1.9**
HAWA Hanford 89.03 42 IAMs_20 IAMs_20 21 40 27.9
comp=Z,4µm,18.0s
R11A Troy Canyon, C 89.13 50 P **P 21 00 33.1 -0.7**
GKN Gorkha 89.23 299 *e*P **P 21 00 34.1 -0.4**
comp=Z,104nm,0.9s
PRN Pahroc Range 89.24 51 P **P 21 00 33.8 -0.6**
E08A Dider Farm, El 89.37 42 P **P 21 00 33.1 -1.4**
E08A IAmb IAmb 21 01 02.1
comp=Z,69nm,1.8s
214A Organ Pipe Nat 89.42 57 P **P 21 00 33.8 -1.4**
214A IAmb IAmb 21 01 24.5
comp=Z,42nm,1.8s
LPIG La Paz 89.44 65 LR LR 21 31 16.0
comp=Z,1µm,21.0s,baz=242,slow=29
W13A Hualapai Mount 89.46 54 P **P 21 00 34.8 -0.7**
SLBS Sierra La Lagu 89.65 66 IAMs_20 IAMs_20 21 36 50.1
comp=Z,3µm,18.0s
C27K Jago River 89.94 16 P **P 21 00 38.6 +1.9**
baz=228
EPYK Eagle Plains 89.95 20 IAMs_20 IAMs_20 21 34 53.4
comp=Z,6µm,21.0s
BMO Blue Mountains 89.97 44 P **P 21 00 37.2 -0.4**
BMO IAMs_20 IAMs_20 21 39 60.0
comp=Z,5µm,18.0s
BMO Blue Mountains 89.97 44 P **P 21 00 37.2 -0.4**
BMO pmax pmax
comp=Z,27nm,1.7s
BMO MLR MLR
comp=Z,5µm,18.0s
DANN Dangsing 90.06 299 *e*P **P 21 00 37.9 -0.7**
comp=Z,48nm,0.7s
ELK Elko 90.12 48 P **P 21 00 38.2 -0.3**
comp=Z,0.7nm,0.7s,baz=221,slow=6.2,SNR=3.0
ELK LR LR 21 35 59.4
comp=Z,5µm,18.6s,baz=244,slow=32
comp=Z,0.7nm,0.7s
ELK Elko 90.12 48 P **P 21 00 36.5 -2.0**
ELK Elko 90.12 48 P **P 21 00 36.5 -2.0**
ELK pmax pmax
comp=Z,10.0nm,1.4s
ELK MLR MLR
comp=Z,6µm,18.0s
SPR3 Spring Creek 3 90.26 50 P **P 21 00 37.0 -2.3**
C09A Chrisman Ranch 90.33 41 P **P 21 00 38.3 -0.8**
MFID Camas Ranch 90.52 45 IAMs_20 IAMs_20 21 42 27.6
comp=Z,3µm,18.0s
CCUT Cedar City 90.57 52 P **P 21 00 38.2 -2.5**
ALBI Allahabad 90.97 296 *e*P **P 21 00 42.0 -0.5**
SALM Salem 91.01 282 *e*P **P 21 00 43.9 +1.0**
U15A North Rim 91.08 53 P **P 21 00 42.2 -0.9**
TUC Tucson 91.17 57 IAMs_20 IAMs_20 21 34 35.7
comp=Z,5µm,20.0s
ELIB Princess Elisa 91.19 191 *d*P **P 21 00 41.8 -1.0**
comp=Z,24nm,1.4s
NEW Newport 91.21 41 LR LR 21 39 39.8
comp=Z,2µm,18.0s,baz=256,slow=34
NEW Newport 91.21 41 IAMs_20 IAMs_20 21 45 53.4
comp=Z,3µm,18.0s
WMQ Urumqi 91.36 315 ⇑P **P 21 00 43.9 -0.1**
WMQ pP pP 21 00 47.9 -2.6
WMQ sP pwP 21 00 55.4 -1.7
WMQ PP **PP 21 04 25.8 +3.9**
WMQ SKS **SKSac 21 11 11.1 -3.8**
WMQ S **ScS 21 11 43.5 -1.1**
WMQ pmax pmax
comp=Z,42nm,1.7s
WMQ pmax pmax
comp=Z,740nm,6.1s
WMQ LR LR
comp=Z,1µm,19.3s
WMQ LR LR
comp=Z,2µm,21.1s
WMQ LR LR
comp=Z,1µm,24.7s
KOD Kodaikanal 91.39 280 *e*P **P 21 00 46.0 +0.9**
HLID Hailey 91.55 46 IAMs_20 IAMs_20 21 36 33.8
comp=Z,4µm,19.0s
HYB Hyderabad 92.02 287 ⇑*e*P **P 21 00 47.1 -0.5**
HYB IVmBBB 21 00 48.1
comp=Z,257nm,3.4s
HYB IVMs_BB IVMs_BB 21 53 26.4
comp=Z,216nm,20.2s
HYB Hyderabad 92.02 287 *e*P **P 21 00 47.2 -0.3**
HYB IAmb IAmb 21 00 48.6
comp=Z,27nm,1.2s
INK Inuvik 92.06 19 LR LR 21 37 21.8
comp=Z,6µm,20.5s,baz=224,slow=32
DGAR Diego Garcia 92.14 262 IAMs_20 IAMs_20 21 45 17.7
comp=Z,4µm,18.0s
PCHI Peechi 92.53 280⇑ *e*P **P 21 00 50.7 +0.8**
PCHI *e*S **SKSac 21 11 19.6 -2.9**
MSO Missoula 92.82 43 IAMs_20 IAMs_20 21 37 06.2
comp=Z,3µm,19.0s
PMSA Palmer Station 93.11 161 LR LR 21 40 23.7
comp=Z,2µm,18.2s,baz=255,slow=34
PMSA Palmer Station 93.11 161 IAMs_20 IAMs_20 21 40 20.3
comp=Z,4µm,19.0s
DGZ Jazzator, Alta 93.28 320 *i*P **P 21 00 51.0 -1.8**
DGZ pmax pmax
comp=Z,37nm,1.4s
LGTI Lohaghat 93.32 299 *e*P **P 21 00 53.2 0.0**
KAAM Kaadhehdhoo 93.47 270 IAMs_20 IAMs_20 21 47 43.2
comp=Z,2µm,18.0s
AHID Auburn Hatcher 93.66 47 IAMs_20 IAMs_20 21 42 38.7
comp=Z,5µm,18.0s
JHNI Jhansi 93.88 295 *e*P **P 21 00 53.3 -2.6**
FXWY Fox Creek 93.93 46 IAMs_20 IAMs_20 21 39 11.9
comp=Z,4µm,18.0s
TROLL Troll, Antarti 93.94 185 P **P 21 00 54.5 -1.1**
BOZ Bozeman (W) 94.03 44 IAMs_20 IAMs_20 21 39 00.2
comp=Z,5µm,19.0s
IMW Indian Meadow 94.06 46 IAMs_20 IAMs_20 21 37 54.2
comp=Z,5µm,19.0s
NVL N'lazarevskaya 94.07 188 *e*P **P 21 00 54.4 -1.6**
NVL *e*S **SKSac 21 11 28.9 -0.2**
NVL pmax pmax
comp=Z,13nm,1.0s
NVL MLR MLR
comp=Z,3µm,17.0s
SNOW Snow King Moun 94.08 46 IAMs_20 IAMs_20 21 45 01.8
comp=Z,5µm,18.0s
MOOW Moose Ponds 94.16 46 IAMs_20 IAMs_20 21 42 41.9
comp=Z,5µm,18.0s
AKL Akola 94.19 290 *e*P **P 21 00 56.9 -0.6**
MVCO Mesa Verde 94.22 53 IAMs_20 IAMs_20 21 38 58.1
comp=Z,5µm,19.0s
LOHW Long Hollow 94.22 46 IAMs_20 IAMs_20 21 44 40.6
comp=Z,5µm,18.0s
ZSN Zaisan 94.28 318 *e*P **P 21 00 56.4 -1.0**
baz=318
ZSN *i*S **SKSac 21 11 31.1 +0.2**
baz=318
ZSN Zaisan 94.28 318 *e*P **P 21 00 56.3 -1.0**
ZSN *i*S **SKSac 21 11 31.1 +0.2**
BHPL Bhopal 94.38 293 *e*P **P 21 00 57.6 -0.8**
BHPL IAmb IAmb 21 01 04.0
comp=Z,84nm,1.9s
EPT El Paso 94.56 59 IAMs_20 IAMs_20 21 43 09.7
comp=Z,3µm,18.0s
SNAA Sanae 94.64 183 LR LR 21 42 27.3
comp=Z,4µm,19.0s,baz=172,slow=35
BW06 Boulder Array 94.76 47 IAMs_20 IAMs_20 21 42 04.8
comp=Z,5µm,18.0s
PDAR Pinedale Array 94.76 47 P **P 21 00 59.1 -0.8**
comp=Z,0.4nm,0.8s,baz=234,slow=3.0,SNR=2.8
PDAR LR LR 21 39 26.5
comp=Z,3µm,18.1s,baz=276,slow=33
comp=Z,0.4nm,0.8s
ANMO Albuquerque 95.31 55 LR LR 21 36 26.5
comp=Z,5µm,20.2s,baz=4.0,slow=31
VNA3 Neumayer Olymp 95.34 181 P **P 21 01 00.2 -1.7**
MNTX Cornudas Mount 95.48 59 IAMs_20 IAMs_20 21 42 31.0
comp=Z,3µm,18.0s
RLMT Red Lodge 95.52 45 IAMs_20 IAMs_20 21 43 22.9
comp=Z,3µm,18.0s
C36M Paulatuk 95.58 20 IAMs_20 IAMs_20 21 38 43.2
comp=Z,4µm,21.0s
VNA2 Neumayer--Watz 95.60 182 P **P 21 01 01.6 -1.4**
baz=163,slow=5.0
MK31 Makanchi Array 95.83 317 P **P 21 01 03.4 -1.0**
MK31 IAmb IAmb 21 01 08.3
comp=Z,56nm,1.6s
MK31 Makanchi Array 95.83 317*c i*P **P 21 01 03.8 -0.6**
MKAR Makanchi Array 95.83 317 P **P 21 01 04.1 -0.3**
comp=Z,9.4nm,0.7s,baz=95,slow=6.4,SNR=69
MKAR PKIKP **PKiKP 21 05 41.5 -2.2**
comp=Z,0.2nm,0.6s,baz=139,slow=4.1,SNR=9.6
MKAR PKKP **PKKPbc 21 17 55.5 +0.1**
comp=Z,0.4nm,0.6s,baz=280,slow=3.7,SNR=4.5
MKAR LR LR 21 45 32.4
comp=Z,987nm,19.6s,baz=98,slow=36
comp=Z,9.4nm,0.7s
MKAR Makanchi Array 95.83 317 P **P 21 01 03.8 -0.7**
MKAR Makanchi Array 95.83 317 *i*P **P 21 01 04.0 -0.4**
MKAR pmax pmax
comp=Z,10.0nm,0.7s
VNA1 Neumayer--Stat 95.90 182 P **P 21 01 03.9 -0.4**
ZAA0 Zalesovo Array 96.00 324 P **P 21 01 04.2 -0.8**
ZALV Zalesovo Beam 96.00 324 P **P 21 01 03.6 -1.4**
comp=Z,19nm,1.0s,baz=106,slow=4.8,SNR=54
ZALV LR LR 21 45 59.0
comp=Z,913nm,18.6s,baz=94,slow=36
comp=Z,19nm,1.0s
ZALV Zalesovo Beam 96.00 324 P **P 21 01 03.3 -1.7**
ZALV Zalesovo Beam 96.00 324 *i*P **P 21 01 04.1 -0.9**
ZALV pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 96.04 317 P **P 21 01 04.9 -0.5**
MAKZ IAmb IAmb 21 01 06.8
comp=Z,50nm,1.4s
MAKZ Makanchi 96.04 317 P **P 21 01 04.9 -0.5**
MAKZ pmax pmax
comp=Z,50nm,1.4s
MAKZ MLR MLR
comp=Z,1µm,19.0s
RWWY Rawlins 96.21 49 IAMs_20 IAMs_20 21 39 03.3
comp=Z,4µm,20.0s
SMLA Simla 96.29 300 *e*P **P 21 01 06.1 -0.7**
A36M Sachs Harbour 96.31 17 IAMs_20 IAMs_20 21 41 41.3
comp=Z,4µm,19.0s
POO Poona 96.63 287 *e*P **P 21 01 07.7 -1.0**
POO IAmb IAmb 21 01 11.1
comp=Z,18nm,1.9s
YKA Yellowknife Ar 96.90 27 P **P 21 01 07.5 -1.3**
comp=Z,0.6nm,0.6s,baz=254,slow=4.8,SNR=1.9
comp=Z,0.6nm,0.6s
SHLS Shalkode 96.98 313 *e*P **P 21 01 07.9 -2.1**
baz=313
SHLS Shalkode 96.98 313 *e*P **P 21 01 07.8 -2.1**
UZB Uzunbulak 97.30 313 *e*P **P 21 01 10.4 -1.0**
baz=312
UZB Uzunbulak 97.30 313 *e*P **P 21 01 10.3 -1.0**
AJM Ajmer 97.52 295 *e*P **P 21 01 12.1 -0.5**
KPKS Kokpek 97.60 313 *e*P **P 21 01 12.0 -0.7**
baz=313
KPKS Kokpek 97.60 313 *e*P **P 21 01 12.0 -0.7**
LAO LASA Array 97.93 44 IAMs_20 IAMs_20 21 43 21.6
comp=Z,4µm,18.0s
UNM Universidad Na 98.44 72 IAMs_20 IAMs_20 21 41 02.3
comp=Z,4µm,18.0s
MDOK Medeo 98.72 312 *e*P **P 21 01 16.8 -1.0**
baz=312
MDOK Medeo 98.72 312 *e*P **P 21 01 16.7 -1.0**
NRIK Noril'sk 98.72 339 P **P 21 01 15.6 -1.4**
comp=Z,15nm,1.1s,baz=114,slow=4.1,SNR=17
NRIK PP **PP 21 05 18.1 -0.2**
comp=Z,1.9nm,0.8s,baz=123,slow=4.2,SNR=3.7
NRIK LR LR 21 45 16.2
comp=Z,2µm,20.1s,baz=98,slow=35
comp=Z,15nm,1.1s
NRIK Noril'sk 98.72 339 **P 21 01 15.5 -1.4**
NRIK IAmb IAmb 21 01 17.4
comp=Z,38nm,1.4s
NRIK Noril'sk 98.72 339*ce*P **P 21 01 14.8 -2.1**
NRIK pmax pmax
comp=Z,33nm,1.5s
AAA Alma-Ata 98.82 312 *e*P **P 21 01 17.3 -0.8**
baz=312
AAA Alma-Ata 98.82 312 *e*P **P 21 01 17.3 -0.8**
KSH Kashi 98.86 308 P Pdif 21 01 19.6 +1.1
KSH PP **PP 21 05 27.6 +7.2**
KSH SKS **SKSac 21 11 59.3 +3.9**
KSH S **ScS 21 12 51.3 +3.8**
KSH SS **SS 21 19 37.5 +2.7**
KSH pmax pmax
comp=Z,5.0nm,2.4s
KSH LR LR
comp=Z,1µm,18.6s
KSH LR LR
comp=Z,2µm,19.6s
KSH LR LR
comp=Z,2µm,20.2s
RSSD Black Hills 98.97 47 IAMs_20 IAMs_20 21 46 25.3
comp=Z,4µm,18.0s
KURK Kurchatov 99.01 320 P **Pdif 21 01 17.1 -1.5**
KURK IAmb IAmb 21 01 20.7
comp=Z,17nm,1.4s
KURK Kurchatov 99.01 320*ce*P **Pdif 21 01 17.5 -1.1**
KURK pmax pmax
comp=Z,23nm,2.5s
KURBB Kurchatov Arra 99.05 320 P **Pdif 21 01 17.6 -1.2**
comp=Z,2.4nm,0.9s,baz=105,slow=3.3,SNR=11
KURBB PP **PP 21 05 21.2 -0.1**
comp=Z,1.6nm,1.0s,baz=102,slow=6.9,SNR=3.1
KURBB PKiKP **PKiKP 21 05 48.2 -1.1**
comp=Z,0.4nm,0.3s,baz=114,slow=1.1,SNR=4.0
KURBB LR LR 21 47 52.1
comp=Z,2µm,18.7s,baz=78,slow=36
comp=Z,2.4nm,0.9s
KUU Kurty 99.35 313 *i*P **Pdif 21 01 19.4 -1.0**
baz=313
KUU Kurty 99.35 313 *i*P **Pdif 21 01 19.3 -1.1**
DGMT Dagmar 99.61 42 IAMs_20 IAMs_20 21 43 59.7
comp=Z,2µm,19.0s
JCT Junction City 99.94 61 IAMs_20 IAMs_20 21 39 22.3
comp=Z,3µm,20.0s
SGDS Sogindy 100.51 312 *e*P **Pdif 21 01 24.7 -0.9**
baz=312
SGDS Sogindy 100.51 312 *e*P **Pdif 21 01 24.7 -0.9**
KVTX Kingsville 101.10 64 IAMs_20 IAMs_20 21 46 55.1
comp=Z,3µm,18.0s
BTLS Baital 101.15 314 *e*P **Pdif 21 01 27.7 -0.6**
baz=314
BTLS Baital 101.15 314 *e*P **Pdif 21 01 27.7 -0.6**
WMOK Wichita Mounta 101.47 57 IAMs_20 IAMs_20 21 44 28.6
comp=Z,4µm,18.0s
435B Jarrell 101.88 61 IAMs_20 IAMs_20 21 40 20.5
comp=Z,4µm,20.0s
PAYG Puerto Ayora 102.73 94 IAMs_20 IAMs_20 21 39 14.5
comp=Z,5µm,19.0s
HKT Hockley 103.25 62 IAMs_20 IAMs_20 21 48 17.0
comp=Z,3µm,18.0s
TUL1 Leonard 104.05 56 IAMs_20 IAMs_20 21 46 55.7
comp=Z,3µm,18.0s
BVAR Borovoye Array 104.36 322 Pdiff **Pdif 21 01 40.7 -1.7**
comp=Z,4.0nm,1.0s,baz=95,slow=4.9,SNR=12
BVAR PKiKP **PKiKP 21 05 59.0 +0.2**
comp=Z,1.5nm,0.9s,baz=111,slow=3.2,SNR=3.8
NATX Nacogdoches 104.49 60 IAMs_20 IAMs_20 21 43 20.7
comp=Z,4µm,19.0s
AGMN Agassiz Nation 105.10 43 IAMs_20 IAMs_20 21 45 19.2
comp=Z,3µm,20.0s
MIAR Mount Ida 105.71 58 IAMs_20 IAMs_20 21 47 51.7
comp=Z,3µm,18.0s
EYMN Ely 108.02 44 IAMs_20 IAMs_20 21 52 52.3
comp=Z,3µm,18.0s
VBMS Vicksburg 108.04 60 IAMs_20 IAMs_20 21 44 43.7
comp=Z,2µm,20.0s
TEIG Tepich 108.71 73 IAMs_20 IAMs_20 21 46 45.4
comp=Z,2µm,18.0s
JFWS Jewell Farm 108.82 49 IAMs_20 IAMs_20 21 46 25.3
comp=Z,3µm,20.0s
OXF Oxford 109.13 58 IAMs_20 IAMs_20 21 54 51.4
comp=Z,3µm,18.0s
MSEY Mahe Island 109.14 260 IAMs_20 IAMs_20 21 50 15.5
comp=Z,3µm,19.0s
BOAB BOACO BROADBA 109.98 82 IAMs_20 IAMs_20 21 45 40.5
comp=Z,3µm,18.0s
PLAL Pickwick Lake 110.26 58 IAMs_20 IAMs_20 21 45 43.1
comp=Z,2µm,20.0s
BRAL Brewton 110.91 62 IAMs_20 IAMs_20 21 51 28.8
comp=Z,2µm,20.0s
LRAL Lakeview Retre 111.06 60 IAMs_20 IAMs_20 21 50 17.6
comp=Z,3µm,19.0s
ARU Arti 111.09 325 PKiKP **PKiKP 21 06 09.9 -1.3**
comp=Z,4.4nm,0.8s,baz=144,slow=3.9,SNR=6.3
ARU Arti 111.09 325 *i*PKiKP **PKiKP 21 06 09.8 -1.4**
ARU 21 06 51.1
ARU 21 13 21.9
ARU SP SP 21 16 14.6 -3.4
ARU SS **SS 21 22 15.9 -4.9**
ARU SSS SSS 21 26 25.9
AKTO Aktyubinsk 112.08 319 PKiKP **PKiKP 21 06 12.1 -1.2**
comp=Z,2.0nm,0.6s,baz=326,slow=0.6,SNR=6.6
GEYT Alibeck 112.62 306 PKiKP **PKiKP 21 06 13.5 -1.3**
comp=Z,1.7nm,0.7s,baz=131,slow=4.1,SNR=4.7
GEYT PP **PP 21 07 01.9 -0.1**
comp=Z,3.9nm,1.0s,baz=87,slow=9.1,SNR=4.4
GLMI Grayling 112.86 47 IAMs_20 IAMs_20 21 52 32.8
comp=Z,3µm,18.0s
OTAV Otavalo 114.42 96 IAMs_20 IAMs_20 21 44 18.4
comp=Z,2µm,20.0s
KIRV Kirov 115.48 329 PKP **PKiKP 21 06 17.9 -1.7**
comp=Z,3.4nm,0.5s,baz=66,slow=1.0,SNR=3.5
NHSC New Hope 116.78 60 IAMs_20 IAMs_20 21 52 48.2
comp=Z,3µm,18.0s
APA Apatity 118.04 341⇓ *i*PKIKP **PKPdf 21 06 18.5 -5.7**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,3µm,22.0s
BELG Belogornoye 118.14 322 PKP **PKPdf 21 06 23.6 -1.2**
comp=Z,55nm,1.1s,baz=332,slow=2.8,SNR=16
KEV Kevo 118.42 345 IAMs_20 IAMs_20 21 57 43.8
comp=Z,2µm,20.0s
CNNC Cliffs of the 118.60 57 IAMs_20 IAMs_20 21 51 01.0
comp=Z,4µm,20.0s
ARCES ARCESS Array B 118.94 345 PKP **PKPdf 21 06 24.1 -1.9**
comp=Z,1.6nm,0.3s,baz=68,slow=1.3,SNR=52
ARCES PKKPbc **PKKPab 21 16 40.1 -2.2**
comp=Z,6.0nm,1.0s,baz=311,slow=2.6,SNR=4.1
KLMR Klimovskoe 119.30 333 *e*PKPdf **PKPdf 21 06 24.5 -2.4**
KLMR AMP 21 06 27.4
comp=Z,44nm,1.4s
KLMR *e*PP **PP 21 07 44.2 -3.6**
KLMR LQ LQ 21 43 49.1
KLMR LQ LQ 21 43 49.1
KLMR LR LR 21 47 11.7
KLMR AMP 22 07 45.1
comp=Z,2µm,15.1s
KLMR Klimovskoe 119.30 333 *e*PKIKP **PKPdf 21 06 24.4 -2.4**
KLMR *e* 21 07 44.1
KLMR pmax pmax
comp=Z,44nm,1.4s
KLMR MLR MLR
comp=Z,2µm,15.0s
ILULI Ilulissat 119.55 14 IAMs_20 IAMs_20 21 57 07.2
comp=Z,3µm,19.0s
MAK Makhachkala 120.26 312 *e*P **Pdif 21 02 50.5 -2.8**
MAK *e* 21 13 19.7
MAK *e*PS **PS 21 17 41.0 -4.8**
MAK *e*SS SS 21 24 15.7 -5.8
MAK pmax pmax
comp=Z,176nm,1.3s
AKT Akhty 120.33 310 *e*PKIKP **PKPdf 21 06 29.0 -0.6**
AKT *e* 21 07 53.7
AKT pmax pmax
comp=Z,16nm,1.2s
SFJD Kangerlussuaq 121.30 16 IAMs_20 IAMs_20 21 59 18.5
comp=Z,3µm,20.0s
VT1 Waterbury 121.32 46 IAMs_20 IAMs_20 22 07 11.7
comp=Z,2µm,19.0s
GROC Groznyy 121.44 312 *i*PKIKP **PKPdf 21 06 30.5 -1.0**
GROC *e* 21 07 59.9
GROC pmax pmax
comp=Z,36nm,1.0s
CPUP Villa Florida 121.81 133 PKP **PKPdf 21 06 32.4 -0.4**
comp=Z,1.2nm,0.7s,baz=147,slow=7.4,SNR=2.2
CPUP PKKPbc **PKKPbc 21 16 29.9 -1.5**
comp=Z,2.9nm,1.0s,baz=76,slow=12,SNR=3.6
LBNH Lisbon 121.92 46 IAMs_20 IAMs_20 21 56 07.4
comp=Z,2µm,19.0s
VRH Novokhopyorsk 122.00 322 *e*PKIKP **PKPdf 21 06 30.4 -1.9**
VRH pmax pmax
comp=Z,50nm,1.6s
MOS Moscow 122.49 329 *i*PKIKP **PKPdf 21 06 30.4 -2.7**
MOS pmax pmax
comp=Z,35nm,1.0s
HRV Adam Dziewonsk 122.55 48 IAMs_20 IAMs_20 21 57 13.4
comp=Z,3µm,19.0s
GNI Garni 122.79 309 PKP **PKPdf 21 06 33.1 -1.4**
comp=Z,14nm,1.1s,baz=149,slow=4.9,SNR=8.6
GNI Garni 122.79 309 **PKPdf 21 06 34.2 -0.2**

ZEI	**Tsey**	**122.89**	**312**	*i* PKIKP	**PKPdf**	**21 06 34.0**	**-0.6**
ZEI				pmax	pmax			
	comp=Z,14nm,1.0s							
SCO	**Scoresbysund**	**122.89**	**3**	IAMs_20	IAMs_20	21 54 58.9		
	comp=Z,2µm,20.0s							
LPSR	**Galich'ya Gora**	**123.10**	**325**	*e*PKIKP	**PKPdf**	**21 06 33.6**	**-0.8**
LPSR				pmax	pmax			
	comp=Z,40nm,1.1s							
ONI	**Oni**	**123.25**	**312**		**PKPdf**	**21 06 34.9**	**-0.2**
ONI	**Oni**	**123.25**	**312**	PKIKP	**PKPdf**	**21 06 34.9**	**-0.2**
VORR	**Voronezh**	**123.30**	**324**	*e*PKIKP	**PKPdf**	**21 06 34.8**	**0.0**
VORR				pmax	pmax			
	comp=Z,41nm,0.5s							
OBN	**Obninsk**	**123.31**	**328**	PKP	**PKPdf**	**21 06 33.8**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=314,slow=14,SNR=3.2							
OBN	**Obninsk**	**123.31**	**328**	IAMs_20	IAMs_20	22 04 55.2		
	comp=Z,2µm,19.0s							
OBN	**Obninsk**	**123.31**	**328**	*e*PKIKP	**PKPdf**	**21 06 33.7**	**-1.0**
OBN				*e*		21 08 19.6		
OBN				*e*PPP	PPP	21 10 51.4		
OBN				*e*SS	SS	21 25 00.8	+1.4	
OBN				pmax	pmax			
	comp=Z,23nm,1.1s							
KBZ	**Khabaz**	**123.39**	**314**	PKP	**PKPdf**	**21 06 34.6**	**-0.6**
	comp=Z,5.5nm,1.0s,baz=157,slow=4.4,SNR=8.9							
KBZ	**Khabaz**	**123.39**	**314**	*i* PKIKP	**PKPdf**	**21 06 34.0**	**-1.2**
WVL	**Waterville**	**123.42**	**45**	IAMs_20	IAMs_20	21 54 34.0		
	comp=Z,2µm,20.0s							
RAYN	**Ar Rayn**	**123.47**	**289**		**PKPdf**	**21 06 35.2**	**-0.9**
RAYN	**Ar Rayn**	**123.47**	**289**	PKIKP	**PKPdf**	**21 06 35.2**	**-0.9**
RAYN				MLR	MLR			
	comp=Z,1µm,20.0s							
AKH	**Akhalkalaki**	**123.48**	**311**	PKPdf	**PKPdf**	**21 06 35.8**	**+0.1**
AKH	**Akhalkalaki**	**123.48**	**311**	PKIKP	**PKPdf**	**21 06 35.8**	**+0.1**
KIV	**Kislovodsk**	**123.48**	**314**	⇑P	**PKPdf**	**21 06 34.9**	**-0.7**
KIV	**Kislovodsk**	**123.48**	**314**		**PKPdf**	**21 06 35.3**	**-0.3**
KIV	**Kislovodsk**	**123.48**	**314**	*i* P	**Pdif**	**21 03 02.7**	**-5.1**
KIV				*i*		21 06 34.6		
KIV				*e*		21 08 15.4		
KIV				*e*PPP	PPP	21 10 52.3		
KIV				*e*PS	**PS**	**21 18 11.6**	**-3.1**	
KIV				*e*SS	SS	21 25 02.8	0.0	
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
KIV				MLR	MLR			
	comp=Z,588nm,22.0s							
VSR	**Storozhevoye**	**123.49**	**323**	*e*PKIKP	**PKPdf**	**21 06 34.0**	**-1.2**
VSR				pmax	pmax			
	comp=Z,40nm,1.6s							
SHA1	**Shidzhatmaz**	**123.55**	**314**	*i* PKIKP	**PKPdf**	**21 06 35.4**	**-0.5**
SUR	**Sutherland**	**123.70**	**215**	IAMs_20	IAMs_20	21 49 35.0		
	comp=Z,3µm,22.0s							
BOSA	**Boshof**	**123.72**	**221**	PKP	**PKPdf**	**21 06 35.4**	**-1.2**
	comp=Z,7.8nm,1.1s,baz=132,slow=2.2,SNR=5.2							
SDV	**Santo Domingo**	**123.92**	**88**	IAMs_20	IAMs_20	21 52 05.0		
	comp=Z,2µm,19.0s							
PQI	**Presque Isle**	**123.94**	**42**	IAMs_20	IAMs_20	21 58 50.5		
	comp=Z,2µm,19.0s							
FINES	**FINESS Array B**	**124.36**	**338**	PKP	**PKPdf**	**21 06 35.4**	**-1.1**
	comp=Z,14nm,1.1s,baz=26,slow=3.0,SNR=16							
FINES				PP	**PP**	**21 08 20.3**	**-1.7**	
	comp=Z,4.6nm,1.0s,baz=25,slow=7.6,SNR=3.2							
FINES	**FINESS Array B**	**124.36**	**338**	PKIKP	**PKPdf**	**21 06 35.3**	**-1.2**
EMMW	**East Machias**	**124.89**	**45**	IAMs_20	IAMs_20	22 00 35.0		
	comp=Z,3µm,19.0s							
ATD	**Arta Tunnel**	**125.01**	**275**	*e*P	PKPdf	21 06 28.1	-11	
GURO	**Guroymak-BITLI**	**125.15**	**308**		**PKPdf**	**21 06 39.0**	**0.0**
SOC	**Sochi**	**125.65**	**314**	*i* PKIKP	**PKPdf**	**21 06 37.5**	**-2.1**
SOC				*e*PPP	PPP	21 11 11.0		
SOC				*e*PS	PS	21 18 28.9	-4.7	
SOC				*e*SSS	SSS	21 30 03.7		
SOC				pmax	pmax			
	comp=Z,14nm,0.8s							
VSU	**Vasula**	**126.04**	**335**	*e*P	**PKPdf**	**21 06 39.4**	**-0.4**
RAF	**Rauma**	**126.17**	**340**	*e*P	**PKPdf**	**21 06 38.7**	**-1.2**
MARD	**Mardin**	**126.36**	**306**		**PKPdf**	**21 06 41.0**	**-0.3**
KIBK	**Kibwezi**	**126.45**	**257**		**PKPdf**	**21 06 41.7**	**-0.4**
KIBK				IAMs_20	IAMs_20	22 03 29.8		
	comp=Z,3µm,18.0s							
PTLB	**Pontes e Lacer**	**126.48**	**121**		**PKPdf**	**21 06 40.4**	**-1.6**
ANN	**Anapa**	**126.84**	**316**	*i* PKIKP	**PKPdf**	**21 06 40.0**	**-1.8**
ANN				*e*		21 06 43.4		
ANN				*e*		21 08 36.2		
ANN				*e*		21 13 44.7		
ANN				pmax	pmax			
	comp=Z,35nm,1.0s							
TRCB	**Terra Rica**	**127.35**	**133**		**PKPdf**	**21 06 42.1**	**-1.4**
KMBO	**Kilima Mbogo**	**127.58**	**258**	PKP	**PKPdf**	**21 06 41.3**	**-1.3**
	baz=52,slow=23,SNR=4.0							
KMBO	**Kilima Mbogo**	**127.58**	**258**	IAMs_20	IAMs_20	22 02 21.0		
	comp=Z,3µm,18.0s							
KMBO	**Kilima Mbogo**	**127.58**	**258**	*e*P	**PKiKP**	**21 06 46.1**	**+1.0**
ANKE	**Ethiopia-Afar**	**127.73**	**272**	*e*P	PKPdf	21 06 32.3	-13	
MNK	**Minsk**	**127.93**	**331**	*i* PKP	**PKPdf**	**21 06 41.4**	**-2.2**
	comp=N,40nm,0.9s,baz=55							
MNK				*i* PKP	**PKiKP**	**21 06 42.8**	**-1.3**	
	comp=E,1.0nm,0.9s							
MNK				*i* PKP	**PKiKP**	**21 06 42.8**	**-1.3**	
	comp=Z,20nm,1.1s							
MNK				*i* PP	**PP**	**21 08 45.2**	**-0.7**	
MNK				*i* PPP	PPP	21 11 28.0		
MNK				*i* SKS	**SKSdf**	**21 13 53.7**	**+0.1**	
MNK				*i* SKKS	**SKKSdf**	**21 24 02.8**	**-4.5**	
MNK				*i* SS	**SS**	**21 25 56.6**	**-0.6**	
MNK				*i* SSS	SSS	21 30 41.3		
MNK				*i* LQ	LQ	21 55 15.7		
MNK				*i* LR	LR	22 00 08.5		
MNK				*i* LRM	MLR	22 05 57.9		
	comp=E,183nm,20.4s							
MNK				*i* LRM	MLR	22 06 08.0		
	comp=Z,1µm,14.4s							
MNK				*i* LRM	MLR	22 06 14.0		
	comp=N,1µm,21.2s							
MNK	**Minsk**	**127.93**	**331**	*i* PKIKP	**PKPdf**	**21 06 41.4**	**-2.2**
MNK				*i*		21 08 45.2		
MNK				*i* PPP	PPP	21 11 27.9		
MNK				*i*		21 13 53.7		
MNK				*i* SS	SS	21 25 56.5	-0.7	
MNK				*i* SSS	SSS	21 30 41.3		
MNK				pmax	pmax			
	comp=N,40nm,0.9s							
MNK				pmax	pmax			
	comp=Z,20nm,1.1s							
MNK				pmax	pmax			
	comp=E,1.0nm,0.9s							
IDID	**Didziasalis**	**127.98**	**332**	*e*P	**PKPdf**	**21 06 36.2**	**-7.5**
IIGN	**Ignalina**	**128.20**	**332**	*e*P	PKPdf	21 06 32.0	-12	
NACGM	**Naroch**	**128.21**	**332**	*e*PKP	**PKPdf**	**21 06 43.4**	**-0.7**
	comp=Z,42nm,1.1s,baz=53							
DILA	**Dilla**	**128.54**	**267**	*e*P	PKPdf	21 06 36.9	-9.3	
AAE	**Adis Abeba**	**128.57**	**271**	*e*P	PKPdf	21 06 33.4	-13	
FURI	**Furi**	**128.63**	**271**	IAMs_20	IAMs_20	22 03 54.1		
	comp=Z,2µm,19.0s							
FURI	**Furi**	**128.63**	**271**	*e*P	PKPdf	21 06 33.4	-13	
PABE	**Paberze**	**129.10**	**333**		**PKPdf**	**21 06 45.4**	**-0.3**
PABE				IAMs_20	IAMs_20	22 03 01.6		
	comp=Z,2µm,22.0s							
PABE	**Paberze**	**129.10**	**333**	*e*P	**PKPdf**	**21 06 45.9**	**+0.2**
GAZ	**Gaziantep**	**129.17**	**307**	PKPdf	**PKiKP**	**21 06 47.1**	**-0.2**
NB2	**NORSAR Subarra**	**129.31**	**345**	PKPdf	**PKPdf**	**21 06 45.4**	**-0.7**
	comp=Z,18nm,1.4s,baz=31,slow=1.9							
NB2				SKPa		21 10 17.1		
	comp=Z,1.1nm,0.9s,baz=34,slow=4.4							
NB2	**NORSAR Subarra**	**129.31**	**345**	PKPdf	**PKPdf**	**21 06 45.4**	**-0.7**
	baz=31,slow=1.9							
NOA	**NORSAR Array B**	**129.31**	**345**	PKP	**PKPdf**	**21 06 45.3**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=36,slow=2.1,SNR=8.1							
NOA				SKPbc	SKPbc	21 10 06.3	+0.2	
	comp=Z,2.8nm,1.1s,baz=33,slow=2.9,SNR=3.7							
AKASG	**Malin Array Be**	**129.34**	**326**	PKP	**PKPdf**	**21 06 45.4**	**-1.0**
	comp=Z,4.7nm,0.8s,baz=52,slow=2.0,SNR=30							
AKASG				PP	**PP**	**21 08 55.5**	**+0.2**	
	comp=Z,0.2nm,0.4s,baz=39,slow=6.6,SNR=4.1							
AKASG				SKPbc	SKPbc	21 10 06.9	+0.4	
	comp=Z,0.2nm,0.3s,baz=42,slow=4.3,SNR=1.6							
AKASG	**Malin Array Be**	**129.34**	**326**		**PKPdf**	**21 06 45.2**	**-1.2**
AKASG	**Malin Array Be**	**129.34**	**326**	PKIKP	**PKPdf**	**21 06 45.2**	**-1.2**
AKBB	**Malin Array Si**	**129.34**	**326**		**PKPdf**	**21 06 45.0**	**-1.4**
AKBB	**Malin Array Si**	**129.34**	**326**	PKIKP	**PKPdf**	**21 06 45.0**	**-1.4**
HFS	**Hagfors**	**129.40**	**343**	PKP	**PKPdf**	**21 06 44.8**	**-1.4**
	comp=Z,3.1nm,0.7s,baz=48,slow=2.1,SNR=3.4							
HFS				SKP		21 10 20.9		
	comp=Z,9.3nm,1.1s,baz=19,slow=9.4,SNR=4.7							
LSZ	**Lusaka**	**129.73**	**237**		**PKPdf**	**21 06 48.4**	**+0.1**
LSZ	**Lusaka**	**129.73**	**237**	PKIKP	**PKPdf**	**21 06 48.4**	**+0.1**
BNN	**Bunyan**	**129.78**	**310**	PKPdf	**PKPdf**	**21 06 48.0**	**+0.2**
BBSR	**BB Station**	**129.83**	**59**	IAMs_20	IAMs_20	22 01 57.6		
	comp=Z,2µm,20.0s							
SPB	**Sao Paulo**	**130.37**	**138**	IAMs_20	IAMs_20	22 05 34.7		
	comp=Z,2µm,18.0s							
LODK	**Lodwar**	**130.68**	**263**	IAMs_20	IAMs_20	22 07 58.2		
	comp=Z,2µm,18.0s							
LODK	**Lodwar**	**130.68**	**263**	*e*P	PKPdf	21 06 42.2	-7.9	
SORM	**Soroca**	**131.15**	**324**	⇑P	**PKPdf**	**21 06 48.6**	**-1.3**
SORM	**Soroca**	**131.15**	**324**	⇑PKIKP	**PKPdf**	**21 06 48.6**	**-1.3**
BRTR	**Keskin Array B**	**131.16**	**311**	PKP	**PKPdf**	**21 06 49.5**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=138,slow=5.2,SNR=5.7							
BRTR				PP	**PP**	**21 09 09.8**	**+1.9**	
	comp=Z,0.7nm,0.8s,baz=90,slow=4.3,SNR=2.3							
BRTR				SKPbc	**SKPab**	**21 10 15.2**	**+1.2**	
	comp=Z,1.2nm,0.8s,baz=81,slow=5.0,SNR=3.6							
KIS	**Kishinev**	**131.44**	**322**	*e*PKP	**PKiKP**	**21 06 55.0**	**+3.6**
KIS	**Kishinev**	**131.44**	**322**	*e*PP	PP	21 09 08.0	-1.1	
KIS				LRM	MLR	21 14 08.0		
	comp=Z,500nm,17.0s							
KIS	**Kishinev**	**131.44**	**322**	*e*PKIKP	**PKiKP**	**21 06 55.0**	**+3.6**
KIS				*e*		21 09 08.0		
MILM	**Milestii Mici**	**131.48**	**322**	*e*PKP	**PKiKP**	**21 06 52.0**	**+0.5**
	comp=Z,19nm,0.8s							
MILM	**Milestii Mici**	**131.48**	**322**	*e*PP	PP	21 09 09.0	-0.3	
MILM				*e*L	L	22 02 50.0		
MILM				LQM		22 06 08.0		
	comp=Z,1µm,18.5s							
MILM				LRM	MLR	22 12 04.0		
	comp=Z,1µm,19.5s							
MILM	**Milestii Mici**	**131.48**	**322**	⇑P	**PKPdf**	**21 06 49.7**	**-0.9**
MILM	**Milestii Mici**	**131.48**	**322**	*e*PKIKP	**PKiKP**	**21 06 52.0**	**+0.5**
MILM				*e*		21 09 09.0		
MILM				pmax	pmax			
	comp=Z,20nm,0.9s							
MMAI	**Mount Meron Ar**	**131.53**	**302**	PKP	**PKiKP**	**21 06 51.7**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=90,slow=8.3,SNR=5.3							
EIL	**Elat**	**132.50**	**298**	PKP	**PKPdf**	**21 06 52.8**	**-0.3**
	comp=Z,8.6nm,0.9s,baz=297,slow=5.5,SNR=5.5							
LVV	**L'vov**	**132.60**	**328**	*e*PKIKP	**PKPdf**	**21 06 52.0**	**-0.6**
LVV				*e*		21 13 54.0		
LVV				*e*SS	SS	21 26 55.2	+0.5	
LVV				MLR	MLR			
	comp=Z,2µm,21.0s							
MDUB	**Mudurnu**	**132.66**	**313**	PKPdf	**PKPdf**	**21 06 52.9**	**-0.3**
CFR	**Carcaliu**	**132.73**	**320**	⇑P	**PKPdf**	**21 06 53.0**	**0.0**
CFR	**Carcaliu**	**132.73**	**320**	⇑PKIKP	**PKPdf**	**21 06 53.0**	**0.0**
BUR08	**Bucovina Ar. S**	**133.21**	**324**		**PKPdf**	**21 06 53.1**	**-0.9**
BURAR	**Bucovina Array**	**133.22**	**324**	⇑P	**PKPdf**	**21 06 53.8**	**-0.2**
BURAR	**Bucovina Array**	**133.22**	**324**		**PKPdf**	**21 06 54.3**	**+0.3**
BURAR	**Bucovina Array**	**133.22**	**324**	⇑PKIKP	**PKPdf**	**21 06 53.8**	**-0.2**
PLOR	**Plostina**	**133.31**	**322**	⇑P	**PKPdf**	**21 06 54.5**	**+0.4**
PLOR	**Plostina**	**133.31**	**322**	⇑PKIKP	**PKPdf**	**21 06 54.5**	**+0.4**
BORA	**Eskisehir**	**133.41**	**313**		**PKPdf**	**21 06 53.4**	**-1.2**
MBAR	**Mbarara**	**133.91**	**256**		**PKPdf**	**21 06 52.8**	**-3.6**
MBAR	**Mbarara**	**133.91**	**256**	IAMs_20	IAMs_20	21 59 47.8		
	comp=Z,3µm,21.0s							
MBAR	**Mbarara**	**133.91**	**256**	PKIKP	**PKPdf**	**21 06 52.8**	**-3.6**
MBAR				MLR	MLR			
	comp=Z,3µm,21.0s							
MBAR	**Mbarara**	**133.91**	**256**	*e*P	**PKPdf**	**21 06 49.3**	**-7.1**
MLR	**Muntele Rosu**	**133.92**	**322**	PKP	**PKPdf**	**21 06 54.3**	**-1.1**
MLR	**Muntele Rosu**	**133.92**	**322**	⇑P	**PKPdf**	**21 06 54.2**	**-1.1**
MLR	**Muntele Rosu**	**133.92**	**322**	PKPdf	**PKPdf**	**21 06 54.3**	**-1.1**
MLR				IAMs_20	IAMs_20	22 07 28.7		
	comp=Z,2µm,20.0s							
DOPR	**Dopca**	**134.00**	**322**	⇑P	**PKPdf**	**21 06 54.0**	**-1.4**
ILAM	**Ilet Lapin Mar**	**134.17**	**83**	IAMs_20	IAMs_20	21 57 52.5		
	comp=Z,2µm,22.0s							
UZH	**Uzhgorod**	**134.23**	**327**	*i* PKHKP	PKPpre	21 06 43.7		
UZH				MLR	MLR			
	comp=E,330nm,19.0s							
UZH				MLR	MLR			
	comp=Z,240nm,19.0s							
STHS	**Stebnicka Huta**	**134.28**	**329**	*e*PKIKP	**PKiKP**	**21 06 58.8**	**+1.6**
STHS	**Stebnicka Huta**	**134.28**	**329**	*e*PKP	**PKiKP**	**21 06 58.8**	**+1.6**
TRPA	**Tarpa**	**134.40**	**326**	⇑P	**PKPdf**	**21 06 55.4**	**-0.6**
OJC	**Ojcow**	**134.47**	**330**	PKPdf	**PKPdf**	**21 06 54.6**	**-1.5**
OJC	**Ojcow**	**134.47**	**330**	PKIKP	**PKPdf**	**21 06 54.7**	**-1.5**
CJR	**Cluj-Napoca**	**134.64**	**324**	⇑P	**PKPdf**	**21 06 54.4**	**-2.2**
CJR	**Cluj-Napoca**	**134.64**	**324**	⇑PKIKP	**PKPdf**	**21 06 54.4**	**-2.2**
MESR	**Meseseni**	**134.75**	**325**	⇑P	**PKPdf**	**21 06 52.2**	**-4.5**
ARR	**Arges**	**134.77**	**322**	⇑P	**PKPdf**	**21 06 56.8**	**-0.1**
MARR	**Marisel-Cluj**	**134.93**	**324**	⇑P	**PKPdf**	**21 06 55.8**	**-1.4**
HUMR	**Humele**	**135.00**	**321**	⇑P	**PKPdf**	**21 06 56.3**	**-1.0**
BDFB	**Brasilia**	**135.23**	**129**	PKP	**PKPdf**	**21 06 57.0**	**-1.7**
	comp=Z,1.6nm,0.6s,baz=286,slow=9.4,SNR=2.2							
TSUM	**Tsumeb**	**135.26**	**224**	IAMs_20	IAMs_20	22 05 20.0		
	comp=Z,3µm,20.0s							
LANS	**Liptovska Anna**	**135.34**	**329**	*e*PKIKP	**PKiKP**	**21 06 59.8**	**+0.4**
LANS	**Liptovska Anna**	**135.34**	**329**	*e*PKP	**PKiKP**	**21 06 59.8**	**+0.4**
RUE	**Ruedersdorf**	**135.47**	**336**	*e*P	**PKiKP**	**21 06 58.7**	**-0.7**
DEV	**Deva**	**135.50**	**324**	⇑P	**PKPdf**	**21 06 57.7**	**-0.5**
DEV	**Deva**	**135.50**	**324**	⇑PKIKP	**PKPdf**	**21 06 57.7**	**-0.5**
OKC	**Ostrava-Krasne**	**135.52**	**331**	AMS	AMS	22 03 40.0		
	comp=Z,2µm,22.3s							
BSEG	**Bad Segeberg**	**135.56**	**340**	*e*L	L	22 07 13.4		
	comp=Z,2µm,21.6s							
PLVB	**Pleven**	**135.81**	**320**	⇑P	**PKPdf**	**21 06 57.8**	**-1.0**
MORC	**Moravsky Berou**	**135.84**	**331**	⇑P	**PKPdf**	**21 06 58.1**	**-0.7**
MORC	**Moravsky Berou**	**135.84**	**331**	PKPdf	**PKPdf**	**21 06 57.8**	**-1.0**
MORC	**Moravsky Berou**	**135.84**	**331**	*e*PKP	**PKPdf**	**21 06 58.1**	**-0.7**
MORC	**Moravsky Berou**	**135.84**	**331**	PKIKP	**PKPdf**	**21 06 57.8**	**-1.0**
GZR	**Gura Zlata**	**135.85**	**323**	⇑P	**PKPdf**	**21 06 57.7**	**-1.3**
GZR	**Gura Zlata**	**135.85**	**323**	⇑PKIKP	**PKPdf**	**21 06 57.7**	**-1.3**
OSTC	**Ostas**	**135.90**	**333**	*e*PKP	**PKPdf**	**21 06 58.8**	**0.0**
OSTC				AMS	AMS	22 12 30.0		
	comp=Z,2µm,19.1s							
PSZ	**Piszkesteto**	**135.92**	**328**	IAMs_20	IAMs_20	22 19 03.9		
	comp=Z,2µm,18.0s							
SIRR	**Siria**	**135.99**	**325**	⇑P	**PKPdf**	**21 06 59.2**	**+0.1**
KRLC	**Kraliky**	**135.99**	**332**	*e*PKP	**PKPdf**	**21 06 58.7**	**-0.3**
KRLC	**Kraliky**	**135.99**	**332**	*e*PKIKP	**PKPdf**	**21 06 58.7**	**-0.3**
MAUC	**Maruska**	**135.99**	**331**	*e*PKP	**PKPdf**	**21 06 59.3**	**+0.3**
DPC	**Dobruska-Polom**	**136.00**	**333**	*e*PKP	**PKPdf**	**21 06 59.4**	**+0.4**
DPC				AMS	AMS	22 12 10.0		
	comp=Z,2µm,18.1s							
DPC	**Dobruska-Polom**	**136.00**	**333**	*e*PKIKP	**PKPdf**	**21 06 59.4**	**+0.4**
DPC				MLR	MLR			
	comp=Z,2µm,18.1s							
UPC	**Upice**	**136.02**	**333**	AMS	AMS	22 12 50.0		
	comp=Z,2µm,20.2s							
SURR	**Surduc**	**136.02**	**324**	⇑P	**PKPdf**	**21 06 58.8**	**-0.4**
VYHS	**Vyhne**	**136.09**	**329**	*e*PKIKP	**PKPdf**	**21 06 59.5**	**+0.3**
VYHS				*e*		21 09 39.0		
VYHS	**Vyhne**	**136.09**	**329**	*e*PKP	**PKPdf**	**21 06 59.5**	**+0.3**
VYHS				*e*PP	**PP**	**21 09 39.0**	**+0.5**	
VYHS				*e*		21 10 32.9		
HERR	**Herculane**	**136.35**	**323**	⇓P	**PKPdf**	**21 06 58.8**	**-1.0**
BZS	**Buzias**	**136.39**	**324**	⇑P	**PKPdf**	**21 06 59.2**	**-0.6**
BZS	**Buzias**	**136.39**	**324**	⇑PKIKP	**PKPdf**	**21 06 59.2**	**-0.6**
JAVC	**Velka Javorina**	**136.42**	**330**	*e*PKP	**PKPdf**	**21 07 00.4**	**+0.5**
JAVC				*e*PP	**PP**	**21 09 42.6**	**+2.1**	
VRAC	**Vranov**	**136.62**	**331**	PKP	**PKPdf**	**21 06 58.2**	**-1.9**
	comp=Z,1.1nm,0.4s,baz=267,slow=7.0,SNR=4.0							
VRAC				PP	**PP**	**21 09 41.5**	**-0.2**	
	comp=Z,3.1nm,0.9s,baz=91,slow=4.2,SNR=4.6							
VRAC	**Vranov**	**136.62**	**331**	*e*PKP	**PKPdf**	**21 06 59.0**	**-1.2**
VRAC				*e*PP	**PP**	**21 09 41.4**	**-0.2**
PVCC	**Panska Ves**	**136.63**	**334**	*e*PKP	**PKiKP**	**21 07 01.4**	**-0.5**
PVCC				AMS	AMS	22 11 40.0		
	comp=Z,2µm,19.6s							
PVCC	**Panska Ves**	**136.63**	**334**	*e*PKIKP	**PKiKP**	**21 07 01.4**	**-0.5**
PVCC				MLR	MLR			
	comp=Z,2µm,19.6s							
BRG	**Berggiesshubel**	**136.64**	**335**	*e*PKP	**PKPdf**	**21 06 60.0**	**-0.2**
BRG				Amp		21 07 01.8		
	comp=Z,19nm,1.2s							
BRG	**Berggiesshubel**	**136.64**	**335**	P	PKiKP	21 07 13.1	+11	
BRG				Amp		21 07 14.8		
	comp=Z,23nm,1.3s							
BRG	**Berggiesshubel**	**136.64**	**335**	PP	PP	21 09 46.0	+4.3	
BRG				SKP		21 10 43.2		
BRG				Amp		21 10 47.2		
	comp=Z,13nm,1.3s							
BRG	**Berggiesshubel**	**136.64**	**335**	*e*PKIKP	**PKPdf**	**21 06 59.9**	**-0.2**
BRG						21 09 46.0		
BRG				pmax	pmax			
	comp=Z,19nm,1.2s							
BRG				pmax	pmax			
	comp=Z,23nm,1.3s							
BRG				pmax	pmax			
	comp=Z,13nm,1.3s							
BRG				pmax	pmax			
	comp=Z,2µm,20.4s							
BRG				MLR	MLR			
	comp=N,2µm,18.1s							
BRG				MLR	MLR			
	comp=E,653nm,18.5s							
BRG	**Berggiesshubel**	**136.64**	**335**	*e*PKPdf	**PKPdf**	**21 07 00.0**	**-0.2**
	baz=38,slow=1.3							
CLL	**Collm**	**136.69**	**336**	PKPdf	**PKPdf**	**21 06 58.8**	**-1.4**
CLL				IAMs_20	IAMs_20	22 12 02.3		
	comp=Z,2µm,19.0s							
CLL	**Collm**	**136.69**	**336**	*i* PKPdf	**PKPdf**	**21 07 00.0**	**-0.2**
	comp=Z,17nm,1.2s							
CLL				*ex*	x	21 07 26.0		
CLL				*e*PP	**PP**	**21 09 40.0**	**-1.9**	
	comp=Z,25nm,1.7s							
CLL				*e*SKPdf	**SKiKP**	**21 10 36.0**	**-0.6**	
	comp=Z,14nm,1.4s							
CLL				*e*PKSab	**PKSab**	**21 10 41.0**	**+1.0**	
CLL				*e*PSKS		21 19 54.0		
CLL				*e*PPS	PPS	21 21 46.0		
CLL				*e*SS	**SS**	**21 27 52.0**	**+8.7**	
CLL				*ex*	x	21 29 18.0		
CLL				*ex*	x	21 29 56.0		
CLL				*e*SSS	SSS	21 32 42.0		
CLL				*e*SSSS		21 36 18.0		
CLL				*ex*	x	21 38 42.0		
CLL				Lm	MLR	22 12 00.0		
	comp=N,1µm,20.5s							
CLL				Lm	MLR	22 12 00.0		
	comp=E,700nm,18.3s							
CLL				Lm	MLR	22 12 00.0		
	comp=Z,2µm,19.1s							
CLL	**Collm**	**136.69**	**336**	PKIKP	**PKPdf**	**21 06 58.8**	**-1.4**
CLL				MLR	MLR			
	comp=Z,2µm,19.0s							
CLL	**Collm**	**136.69**	**336**	*e*L	L	22 08 08.4		
	comp=Z,2µm,21.9s							
NRDL	**Niedersach Rie**	**136.82**	**339**	*e*PKPdf	**PKPdf**	**21 07 00.6**	**+0.3**
	baz=38,slow=1.3							
MDVR	**Moldovita**	**136.82**	**323**	⇑P	**PKPdf**	**21 07 00.6**	**-0.2**
FBE	**Freiberg**	**136.84**	**335**	*e*PKPdf	**PKPdf**	**21 07 00.5**	**0.0**
	baz=38,slow=1.3							
KRUC	**Moravsky**	**136.88**	**331**	*e*PKP	**PKPdf**	**21 06 59.8**	**-0.8**
MODS	**Modra-Piesok**	**136.94**	**330**	*e*PKIKP	**PKPdf**	**21 07 00.9**	**+0.1**
MODS	**Modra-Piesok**	**136.94**	**330**	*e*PKP	**PKPdf**	**21 07 00.9**	**+0.1**
GOPC	**GO Pecny, Ondr**	**136.99**	**333**	AMS	AMS	22 10 30.0		
	comp=Z,2µm,21.6s							
PRU	**Pruhonice**	**137.05**	**334**	*e*PKP	**PKPdf**	**21 07 00.9**	**0.0**
PRU				*e*PP	**PP**	**21 09 38.6**	**-5.7**	
PRU				AMS	AMS	22 10 30.0		
	comp=Z,2µm,18.9s							
PRU	**Pruhonice**	**137.05**	**334**	*e*PKIKP	**PKPdf**	**21 07

PRMA	PARMA	142.87 331			PKPpre	21 07 05.0		
AQU	L'Aquila	143.04 326		IAMs_20	IAMs_20	22 18 38.3		
	comp=Z,2µm,20.0s							
TIP	Timpagrande	143.06 319	⇑P		PKPbc	21 07 09.9	+0.8	
CLF	Chambon-Foret	143.22 342		IAMs_20	IAMs_20	22 19 51.8		
	comp=Z,2µm,20.0s							
VLC	Villacollemand	143.29 331		IAMs_20	IAMs_20	22 17 23.4		
	comp=Z,2µm,20.0s							
LATE	Laterza	143.71 328			PKPbc	21 07 10.5	-0.2	
CEL	Celeste	144.14 319			PKPbc	21 07 12.6	+0.3	
BNI	Bardonecchia	144.22 335			PKPbc	21 07 13.0	+0.6	
BNI				IAMs_20	IAMs_20	22 19 39.8		
	comp=Z,2µm,19.0s							
BNI	Bardonecchia	144.22 335		PKIKP	PKPbc	21 07 13.0	+0.6	
BNI				MLR	MLR			
	comp=Z,2µm,19.0s							
SSB	Saint Sauveur	144.87 338			PKPab	21 07 14.1	-0.2	
SSB				IAMs_20	IAMs_20	22 23 22.6		
	comp=Z,2µm,18.0s							
SSB	Saint Sauveur	144.87 338		PKIKP	PKPab	21 07 14.1	-0.2	
SSB				MLR	MLR			
	comp=Z,2µm,18.0s							
VAE	Valguarnera	145.55 319		PKPbc	PKPdf	21 07 15.8	-0.8	
	comp=Z,27nm,1.0s,baz=177,slow=9.9,SNR=2.2							
CLTB	Caltabellotta	146.25 320			PKPbc	21 07 18.7	-0.2	
KEST	Kesra	149.82 321		PKPbc	PKPbc	21 07 28.3	-0.3	
	comp=Z,67nm,1.0s,baz=151,slow=0.9,SNR=33							
RCBR	Riachuelo	150.60 130		IAMs_20	IAMs_20	22 07 57.8		
	comp=Z,2µm,21.0s							
PBRG	Braganca	151.26 349		ePKPbc	PKPbc	21 07 31.3	-0.4	
PBRG	Braganca	151.26 349		ePKPab	PKPab	21 07 39.7	+0.1	
PGAV	Gavieira, Arco	151.35 352		ePKPdf	PKPdf	21 07 25.4	-0.6	
PGAV	Gavieira, Arco	151.35 352		ePKPbc	PKPbc	21 07 31.2	-0.8	
PGAV	Gavieira, Arco	151.35 352		eLR	LR	22 01 56.2		
	comp=Z,1µm,16.0s							
PCAB	Cabril	151.56 351		ePKPbc	PKiKP	21 07 33.2	+0.3	
POLO	Lamas de Olo	151.86 351		ePKPbc	PKPbc	21 07 32.9	-0.3	
MVO	Moncorvo	151.93 349		ePKPbc	PKPbc	21 07 33.2	-0.1	
MVO	Moncorvo	151.93 349		eLR	LR	22 06 00.0		
	comp=Z,2µm,22.0s							
PVRL	Vila Real	151.94 351		ePKPbc	PKPbc	21 07 33.1	-0.2	
PVIS	Viseu	152.51 351		ePKPbc	PKPbc	21 07 33.9	-0.7	
ESDC	Sonseca Array	152.67 344		PKP	PKPdf	21 07 27.3	-0.7	
	comp=Z,0.6nm,0.6s,baz=9.5,slow=3.9,SNR=4.1							
ESDC				PKPbc	PKPbc	21 07 34.1	-0.9	
	comp=Z,7.5nm,1.1s,baz=4.6,slow=2.7,SNR=20							
ESDC				PP	PP	21 11 17.1	-0.1	
	comp=Z,5.0nm,1.2s,baz=22,slow=5.7,SNR=4.7							
ESDC	Sonseca Array	152.67 344			PKPdf	21 07 26.7	-1.2	
MTE	Manteigas	152.77 350		ePKPbc	PKPbc	21 07 34.6	-0.6	
MTE	Manteigas	152.77 350		eLR	LR	22 06 22.9		
	comp=Z,2µm,20.0s							
MTE	Manteigas	152.77 350			PKPbc	21 07 34.7	-0.5	
MTE				IAMs_20	IAMs_20	22 15 38.8		
	comp=Z,2µm,20.0s							
ADJB	Djebel Djouab	152.83 329		P	PKiKP	21 07 35.7	-0.1	
PAB	San Pablo	152.89 344			PKPdf	21 07 28.8	+0.4	
PAB	San Pablo	152.89 344		IAMs_20	IAMs_20	22 19 21.6		
	comp=Z,2µm,21.0s							
PAB	San Pablo	152.89 344		PKIKP	PKPdf	21 07 28.8	+0.4	
PAB				MLR	MLR			
	comp=Z,2µm,21.0s							
COI	Coimbra	153.09 351		IAMs_20	IAMs_20	22 17 35.4		
	comp=Z,2µm,20.0s							
CART	Cartagena	153.60 337		IAMs_20	IAMs_20	22 15 39.8		
	comp=Z,2µm,22.0s							
PMRV	Marv??o	153.68 349		ePKPbc	PKPbc	21 07 36.9	-0.3	
PMRV	Marv??o	153.68 349		ePKPab	PKPab	21 07 50.2	+0.4	
PMRV	Marv??o	153.68 349		eLR	LR	22 08 13.2		
	comp=Z,2µm,18.0s							
PMTG	Montargil	154.18 350		ePKPbc	PKPbc	21 07 37.7	-0.5	
LIS	Lisbon	154.66 352		ePKPdf	PKPdf	21 07 30.3	-0.4	
LIS				ePP	PP	21 11 29.4	+1.2	
LIS				IAMs_20	IAMs_20	22 28 03.3		
	comp=Z,2µm,24.7s							
LIS	Lisbon	154.66 352		ePKIKP	PKPdf	21 07 30.3	-0.4	
LIS				e		21 11 29.3		
EVO	Evora	154.66 350		ePKPdf	PKPdf	21 07 30.4	-0.4	
EVO	Evora	154.66 350		ePKPab	PKPab	21 07 55.1	+1.2	
PBAR	Barrancos	154.83 348		ePKPab	PKPab	21 07 54.0	-0.6	
PBEJ	Beja	155.13 349		ePKPab	PKPab	21 07 57.2	+1.3	
MESJ	Messejana	155.38 350		ePKPdf	PKPdf	21 07 31.3	-0.5	
MESJ				ePP	PP	21 11 33.5	+1.2	
MESJ				IAMs_20	IAMs_20	22 31 40.1		
	comp=Z,2µm,15.6s							
MESJ	Messejana	155.38 350		ePKPab	PKPab	21 07 56.3	-0.7	
MESJ	Messejana	155.38 350		ePKIKP	PKPdf	21 07 31.2	-0.5	
MESJ				e		21 11 33.4		
PCVE	Castro Verde	155.55 349		ePKPab	PKPab	21 07 59.4	+1.7	
PVAQ	Vaqueiros	155.71 349		ePKPab	PKPab	21 07 59.2	+0.8	
PVAQ	Vaqueiros	155.71 349		eLR	LR	22 05 10.3		
	comp=Z,2µm,22.0s							
MORF	Marmelete	155.97 350		ePKPdf	PKPdf	21 07 32.1	-0.5	
MORF				ePP	PP	21 11 36.7	+1.1	
MORF				IAMs_20	IAMs_20	22 27 33.3		
	comp=Z,2µm,20.2s							
MORF	Marmelete	155.97 350		ePKPdf	PKPdf	21 07 34.5	+1.8	
MORF	Marmelete	155.97 350		ePKPab	PKPab	21 08 00.0	+0.4	
MORF	Marmelete	155.97 350		ePKIKP	PKPdf	21 07 32.1	-0.5	
MORF				e		21 11 36.6		
PFVI	Vila Bisbo	156.17 351		ePKPab	PKPab	21 08 01.0	+0.6	
PMOZ	Porto Moniz, M	160.56 9		eLR	LR	22 09 29.9		
TORD	Torodi Ar. Bea	165.16 270		PKP	PKPdf	21 07 41.7	-1.5	
	comp=Z,1.9nm,0.4s,baz=259,slow=0.8,SNR=5.7							
TORD				PKPab	PKPab	21 08 39.4	-1.0	
	comp=Z,3.4nm,0.4s,baz=83,slow=4.8,SNR=3.4							
TORD	Torodi Ar. Bea	165.16 270			PKPdf	21 07 42.1	-1.1	
DBIC	Dimbokro	169.03 232		PKP	PKPdf	21 07 45.0	-1.2	
	comp=Z,9.3nm,1.1s,baz=207,slow=3.8,SNR=4.8							
DBIC				PKPab	PKPab	21 08 54.9	-2.6	
	comp=Z,1.8nm,0.7s,baz=40,slow=8.0,SNR=1.4							
DBIC	Dimbokro	169.03 232		PKPdf	PKPdf	21 07 44.2	-1.9	
DBIC	Dimbokro	169.03 232		PKIKP	PKPdf	21 07 44.3	-1.9	

IDC ***16*** *20:53:36.7±0.7,58°31N×136°98W,h0km,mb3.9/14, mbtmp3.9/22,ML3.7/6,MS4.5/1,Error ellipse: s-maj=14.3km s-min=8.1km az=26.0*

NEIC ***16*** *20:53:36.7±1.8,58°11N±0°05×136°80W±0°07,h10km±1km, Error ellipse: s-maj=8.9km s-min=5.3km az=201.0*

OTT ***16*** *20:53:37.2±1.8,58°16N±0°05×136°82W±0°07,h10km±5km, ML4.1,mb4.1/12(NEIC),ML3.9(AEIC),ML4.2/56(NEIC), Error ellipse: s-maj=7.5km s-min=4.5km az=203.0*

PGC ***16*** *20:53:37.3±0.3,58°17N×136°94W,h5km,ML4.1,ML4.1/12, 144km Wsw of Haines, Ak Southeastern Alaska*

AEIC ***16*** *20:53:37±2.1,58°18N±0°05×136°83W±0°08,h11km±5km, Error ellipse: s-maj=8.2km s-min=5.9km az=198.0*

ISC 16 20:53:37.2±0.4,58°20N±0°02×136°82W±0°02,h10km, n331,σ18≥82/386,mb4.1/21,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
S31K	Pelican	0.39	127	P		Pg	20 53 44.3	-0.6
	baz=304,SNR=238							
S31K				S		Sg	20 53 49.5	-0.7
	baz=304							
R31K	City Hall, Gus	0.61	69	P		Pg	20 53 49.0	0.0
	baz=248,SNR=30							
R31K				S		Sg	20 53 57.7	+0.7
	baz=248							
BESE	Bessie Mountai	1.10	69			Sg	20 54 12.4	-0.3
BESE	Bessie Mountai	1.10	69			Pb	20 53 57.6	-0.7
BESE	Bessie Mountai	1.10	69	P		Pb	20 53 57.7	-0.7
BESE				S		Sb	20 54 13.2	+0.4
R32K	Eaglecrest	1.22	86	P		Pn	20 53 59.6	-0.7
	baz=266,SNR=74							
R32K				S		Sb	20 54 15.7	-0.5
	baz=266							
PLBC	Pleasant Camp	1.28	10	Pn		Pn	20 54 00.2	-0.9
PLBC				Sg		Sb	20 54 17.5	-0.5
PLBC	Pleasant Camp	1.28	10	P		Pn	20 54 00.3	-0.9
	baz=191,SNR=143							
PLBC				S		Sb	20 54 17.2	-0.7
	baz=191							
JIS	Juneau Island	1.29	86			Pn	20 54 00.7	-0.6
JIS				IAML			20 54 25.1	
	comp=N,5µm,0.7s							
JIS	Juneau Island	1.29	86			Sb	20 54 18.1	0.0
SIT	Sitka	1.40	144	Pn		Pn	20 54 00.9	-1.9
SIT	Sitka	1.40	144	P		Pn	20 54 01.5	-1.3
	baz=325,SNR=41							
SIT				S		Sb	20 54 20.0	-1.2
	baz=325							

SKAG	Skagway	1.48	31			Pn	20 54 02.8	-1.1
SKAG				IAML			20 54 29.6	
	comp=N,3µm,0.7s							
SKAG	Skagway	1.48	31	P		Pn	20 54 04.0	+0.1
	baz=212,SNR=244							
SKAG				S		Sb	20 54 24.2	+0.5
	baz=212							
P30M	Million Dollar	1.93	358	Pn		Pn	20 54 10.4	+0.2
P30M				Sg		Sb	20 54 36.9	+0.2
P30M	Million Dollar	1.93	358	P		Pn	20 54 09.7	-0.4
	baz=178							
P30M				S		Sb	20 54 36.7	+0.1
	baz=178							
YKU2	Yakutat	1.98	313	Pn		Pn	20 54 09.6	-1.2
PNL	Peninsula	1.99	319			Pn	20 54 11.4	+0.4
PNL						Sb	20 54 38.0	-0.4
PNL	Peninsula	1.99	319	Pn		Pn	20 54 09.8	-1.2
PNL				Pg		Pb	20 54 11.5	-2.0
PNL				Sg		Sb	20 54 38.0	-0.4
PNL	Peninsula	1.99	319	P		Pn	20 54 11.4	+0.4
	baz=137,SNR=22							
PNL				S		Sb	20 54 37.9	-0.4
	baz=137							
P32M	Atlin	2.13	48	Pn		Pn	20 54 13.2	+0.3
P32M				Pg		Pb	20 54 16.2	+0.3
P32M				Sg		Sg	20 54 44.6	-1.1
P32M	Atlin	2.13	48	P		Pn	20 54 12.9	0.0
	baz=230,SNR=75							
P32M				Sb		Sb	20 54 44.4	+1.9
	baz=230							
BCPM	Bancas Point	2.28	322			Pn	20 54 14.1	-0.8
BCPM				IAML			20 54 53.8	
	comp=N,2µm,0.8s							
BCPM				IAML			20 54 53.8	
	comp=E,1µm,0.8s							
O29M	Mount Kennedy	2.29	338	Pn		Pn	20 54 15.6	+0.4
O29M				Sg		Sb	20 54 46.9	-0.3
O29M	Mount Kennedy	2.29	338	P		Pn	20 54 16.0	+0.8
	baz=156							
O29M				S		Sb	20 54 46.3	-0.9
	baz=156							
YUK7	Dusty Glacier	2.43	344	Pn		Pn	20 54 17.8	+0.6
YUK7				Sg		Sb	20 54 52.2	+0.9
Q32M	Nakina River	2.50	70	P		Pn	20 54 17.2	-1.0
	baz=254							
Q32M				Sb		Sb	20 54 55.5	+2.3
	baz=254							
T33K	Petersburg	2.51	122	Pb		Pb	20 54 21.9	-0.4
	baz=305							
PINM	Pinnacle	2.60	319	P		Pn	20 54 19.6	+0.3
	baz=136,SNR=18							
PCA	Pinnacle	2.60	319			Pn	20 54 17.0	-2.3
PCA	Pinnacle	2.60	319	Pn		Pn	20 54 19.2	-0.1
O30N	Mendenhall	2.60	8	P		Pn	20 54 19.8	+0.4
	baz=189,SNR=89							
HYT	Haines Junctio	2.66	353	Pn		Pn	20 54 20.7	+0.5
HYT				IAML			20 55 02.2	
	comp=N,620nm,0.8s							
HYT	Haines Junctio	2.66	353	Pn		Pn	20 54 21.1	+0.9
HYT				Pg		Pb	20 54 24.6	-0.3
HYT				Sg		Sb	20 54 59.7	+2.1
HYT	Haines Junctio	2.66	353	P		Pn	20 54 21.1	+0.9
	baz=172,SNR=98							
HYT				Sb		Sb	20 55 00.4	+2.8
	baz=172							
WHY	Whitehorse	2.66	21			Pn	20 54 19.4	-0.8
WHY				IAML			20 55 01.4	
	comp=E,896nm,0.9s							
WHY				IAML			20 55 04.0	
	comp=N,784nm,0.7s							
WHY	Whitehorse	2.66	21	Pn		Pn	20 54 20.7	+0.5
WHY				Pg		Pb	20 54 25.3	+0.3
WHY				Sg		Sb	20 55 00.4	+2.8
WHY	Whitehorse	2.66	21	P		Pn	20 54 20.9	+0.7
	baz=203,SNR=113							
WHY				Sb		Sb	20 55 00.2	+2.5
	baz=203							
SAMH	Samovar Hills	2.81	315			Pn	20 54 22.8	+0.5
SAMH	Samovar Hills	2.81	315	Pn		Pn	20 54 22.6	+0.3
YUK6	Outpost Mounta	2.86	345	Pn		Pn	20 54 23.7	+0.6
YUK6				Sg		Sb	20 55 05.8	+2.2
YUK6	Outpost Mounta	2.86	345	P		Pn	20 54 23.9	+0.8
	baz=164,SNR=25							
YUK6				Sb		Sg	20 55 07.6	-1.5
	baz=164							
P33M	Teslin, Yukon	2.88	44	Pn		Pn	20 54 23.5	+0.3
P33M	Teslin, Yukon	2.88	44	Pn		Pn	20 54 23.8	+0.6
P33M				Pg		Pb	20 54 29.9	+1.2
P33M				Sg		Sg	20 55 08.6	-1.1
P33M	Teslin, Yukon	2.88	44	P		Pn	20 54 23.4	+0.1
	baz=227,SNR=76							
P33M				Sb		Sb	20 55 06.9	+2.9
	baz=227							
U33K	Whale Pass	2.90	134	Pb		Pb	20 54 27.9	-1.2
	baz=317							
YUK5	Granite Creek	2.99	350	Pn		Pn	20 54 26.1	+1.3
YUK5				Sg		Sg	20 55 10.7	-2.5
WRAK	Wrangell Islan	3.01	124			Pn	20 54 24.3	-0.6
WRAK				IAML			20 55 15.3	
	comp=N,531nm,0.5s							
WRAK				IAML			20 55 20.4	
	comp=N,499nm,0.6s							
WRAK	Wrangell Islan	3.01	124	Pb		Pb	20 54 30.6	-0.2
	baz=308,SNR=7.6							
S34M	Telegraph Cree	3.04	93	Pn		Pn	20 54 25.4	+0.1
S34M				Sg		Sg	20 55 12.1	-2.6
S34M	Telegraph Cree	3.04	93	P		Pn	20 54 25.4	+0.1
	baz=277,SNR=12							
O28M	Mount Upton	3.10	328	Pn		Pn	20 54 26.9	+0.4
O28M				Sg		Sb	20 55 11.4	+0.9
O28M	Mount Upton	3.10	328	P		Pn	20 54 27.4	+0.9
	baz=145,SNR=25							
TABL	Table Mountain	3.16	317			Pn	20 54 28.0	+0.9
TABL				IAML			20 55 33.2	
	comp=N,723nm,0.8s							
TABL				IAML			20 55 35.1	
	comp=E,440nm,0.7s							
TABL	Table Mountain	3.16	317	Pn		Pn	20 54 27.2	+0.1
R33M	Jennings River	3.27	66	Pn		Pn	20 54 29.0	+0.3
R33M				Sg		Sg	20 55 19.9	-2.3
R33M	Jennings River	3.27	66	P		Pn	20 54 28.9	+0.3
	baz=251							
YUK4	Talbot Arm	3.29	344	Pn		Pn	20 54 30.6	+1.7
YUK4	Talbot Arm	3.29	344	P		Pn	20 54 31.1	+2.2
	baz=164,SNR=24							
MESA	MESA	3.30	309			Pn	20 54 28.6	-0.5
MESA	MESA	3.30	309	Pn		Pn	20 54 28.2	-0.9
MESA	MESA	3.30	309	P		Pn	20 54 29.3	+0.2
	baz=125,SNR=9.8							
N31M	Braeburn, Yuko	3.34	9			Pn	20 54 29.8	+0.3
N31M				IAML			20 55 35.2	
	comp=N,710nm,0.8s							
N31M	Braeburn, Yuko	3.34	9	Pn		Pn	20 54 30.1	+0.6
N31M				Sg		Sb	20 55 20.8	+3.6
N31M	Braeburn, Yuko	3.34	9	P		Pn	20 54 30.4	+0.9
	baz=190,SNR=12							
N31M				Sb		Sb	20 55 20.2	+3.1
	baz=190							
CRAG	Craig	3.41	142	Pn		Pn	20 54 27.8	-2.5
CRAG	Craig	3.41	142	Pb		Pb	20 54 36.0	-1.6
	baz=325							
YUK8	Steele Glacier	3.43	336	Pn		Pn	20 54 33.0	+2.0
YUK8				Sg		Sg	20 55 26.3	-1.1
YUK8	Steele Glacier	3.43	336	P		Pn	20 54 32.8	+1.8
	baz=153,SNR=24							
YUK8				Sb		Sg	20 55 25.3	-2.1
	baz=153							
BAGL	Bagley Icefiel	3.54	313			Pn	20 54 32.2	0.0
DLBC	Dease Lake	3.59	83	Pn		Pn	20 54 33.7	+0.7
	comp=N,5.3nm,0.3s,baz=251,slow=13,SNR=23							
DLBC				Pg		Pb	20 54 41.6	+0.8
	comp=N,17nm,0.3s,baz=268,slow=15,SNR=42							
DLBC				Lg		Lg	20 55 25.6	
	comp=N,23nm,0.3s,baz=164,slow=25,SNR=2.3							
	comp=N,13nm,0.4s							
DLBC	Dease Lake	3.59	83			Pn	20 54 33.1	+0.1
DLBC				IAML			20 55 32.9	
	comp=N,495nm,0.6s							
DLBC				IAML			20 55 37.7	
	comp=E,367nm,0.8s							
DLBC	Dease Lake	3.59	83	Pn		Pn	20 54 33.4	+0.4
DLBC				Sg		Sg	20 55 30.5	-2.0
DLBC	Dease Lake	3.59	83	P		Pn	20 54 33.7	+0.7
	baz=269,SNR=14							
SNH	Sunshine Point	3.68	305			Pn	20 54 33.5	-0.7

ISLE	Juniper Island	3.71	313			Pn	20 54 35.7	+1.0
ISLE				IAML			20 56 02.0	
	comp=E,491nm,1.1s							
T35M	Bob Quinn	3.74	106	Pn		Pn	20 54 35.3	+0.3
T35M				Sg		Sg	20 55 34.4	-2.9
T35M	Bob Quinn	3.74	106	P		Pn	20 54 35.5	+0.5
	baz=291,SNR=17							
BARN	Barnard Glacie	3.78	321			Pn	20 54 36.2	+0.6
BARN				IAML			20 55 39.3	
	comp=E,239nm,0.7s							
WAX	Waxell Ridge	3.83	309			Pn	20 54 36.0	-0.2
KIAG	Kiagna River	3.92	316			Pn	20 54 37.6	-0.1
KIAG	Kiagna River	3.92	316	Pn		Pn	20 54 37.6	-0.1
KIAG				Sn		Sb	20 55 32.5	-1.6
KHIT	Khitrov Hills	3.99	307			Pn	20 54 37.1	-1.3
BALM	Baldy	4.00	318			Pn	20 54 38.5	-0.1
BALM	Baldy	4.00	318	Pn		Pn	20 54 38.6	+0.1
YUK3	Moose Creek	4.03	335	Pn		Pn	20 54 40.2	+1.1
YUK3				Sg		Sg	20 55 43.2	-3.1
YUK3	Moose Creek	4.03	335	P		Pn	20 54 40.7	+1.6
	baz=152,SNR=5.9							
SUCK	Suckling Hills	4.05	301	Pn		Pn	20 54 39.2	+0.1
SUCK				IAML			20 56 06.1	
	comp=N,357nm,1.8s							
SUCK				IAML			20 56 15.6	
	comp=E,350nm,1.8s							
YUK2	White River	4.13	332	Pn		Pn	20 54 41.2	+0.8
YUK2				Sg		Sb	20 55 44.7	+4.8
M31M	Drury Creek, Y	4.19	16			Pn	20 54 42.5	+1.2
M31M				IAML			20 55 57.0	
	comp=E,274nm,0.8s							
M31M				IAML			20 56 02.6	
	comp=N,186nm,0.8s							
M31M	Drury Creek, Y	4.19	16	Pn		Pn	20 54 42.6	+1.4
M31M				Sg		Sg	20 55 48.6	-3.1
M31M	Drury Creek, Y	4.19	16	P		Pn	20 54 42.6	+1.4
	baz=198,SNR=12							
M29M	Somme Creek	4.33	350	Pn		Pn	20 54 44.0	+0.7
M29M	Somme Creek	4.33	350	P		Pn	20 54 43.9	+0.7
	baz=169							
HMT	Hamilton	4.38	302			Pn	20 54 43.5	-0.2
M30M	Minto, Yukon	4.39	0			Pn	20 54 43.9	-0.1
M30M				IAML			20 55 58.8	
	comp=E,301nm,0.8s							
M30M				IAML			20 56 02.0	
	comp=N,210nm,0.9s							
M30M	Minto, Yukon	4.39	0	Pn		Pn	20 54 44.4	+0.5
M30M				Sg		Sg	20 55 54.2	-3.9
M30M	Minto, Yukon	4.39	0	P		Pn	20 54 45.3	+1.4
	baz=180,SNR=6.7							
FARO	Faro, Yukon	4.40	22	Pn		Pn	20 54 45.2	+1.2
FARO	Faro, Yukon	4.40	22	Pn		Pn	20 54 45.6	+1.6
FARO				Sg		Sg	20 55 54.0	-4.3
FARO	Faro, Yukon	4.40	22	P		Pn	20 54 45.1	+1.1
	baz=205,SNR=15							
MCARA	McCarthy VSAT	4.47	318			Pn	20 54 46.2	+1.2
MCARA				IAML			20 56 09.2	
	comp=E,218nm,1.1s							
MCARA	McCarthy VSAT	4.47	318	P		Pn	20 54 45.7	+0.7
	baz=133							
VRDI	Verde Repeater	4.53	315	Pn		Pn	20 54 46.1	+0.2
GLB	Gilahina Butte	4.80	316	Pn		Pn	20 54 49.9	+0.4
GLB				IAML			20 56 23.9	
	comp=N,121nm,1.9s							
BMRM	Bremner River	4.83	308			Pn	20 54 50.9	+0.9
BMRM	Bremner River	4.83	308	P		Pn	20 54 50.6	+0.6
	baz=122,SNR=7.6							
M27K	Edge Creek, AK	4.87	331			Pn	20 54 52.3	+1.7
M27K				IAML			20 56 24.4	
	comp=N,109nm,2.3s							
M27K				IAML			20 56 24.9	
	comp=E,106nm,2.4s							
M27K	Edge Creek, AK	4.87	331	Pn		Pn	20 54 51.8	+1.2
M27K				Sg		Sg	20 56 08.1	-5.4
M27K	Edge Creek, AK	4.87	331	P		Pn	20 54 52.0	+1.4
	baz=147							
L29M	L29M	4.97	353	Pn		Pn	20 54 52.6	+0.8
L29M				Sg		Sg	20 56 13.6	-2.9
L29M	L29M	4.97	353	P		Pn	20 54 53.2	+1.3
	baz=172							
EYAK	Cordova Ski Ar	5.14	301	Pn		Pn	20 54 53.9	-0.2
N25K	Chitina, Valde	5.20	314			Pn	20 54 55.7	+0.7
N25K				IAML			20 55 44.9	
	comp=N,96nm,4.8s							
N25K				IAML			20 56 22.5	
	comp=E,91nm,4.8s							
N25K	Chitina, Valde	5.20	314	P		Pn	20 54 55.3	+0.3
	baz=128							
M26K	Nabesna, AK	5.21	327			Pn	20 54 56.0	+0.8
M26K	Nabesna, AK	5.21	327	P		Pn	20 54 55.8	+0.6
	baz=141							
MMPY	Sheldon Lake,	5.22	29	Pn		Pn	20 54 56.1	+0.8
MMPY				Sg		Sg	20 56 22.3	-2.3
MMPY	Sheldon Lake,	5.22	29	P		Pn	20 54 57.1	+1.8
	baz=214,SNR=23							
RUBB	Prince Rupert	5.33	134	Sg		Sg	20 56 24.9	-3.5
DIV	Divide	5.41	307			Pn	20 54 57.1	-0.8
DIV	Divide	5.41	307	Pn		Pn	20 54 57.8	-0.1
MAYO	Mayo, Yukon	5.43	4	Sg		Sg	20 56 25.4	-6.1
BCAR	Beaver Creek A	5.46	336	Pn		Pn	20 54 58.5	-0.1
L27K	Beaver Creek,	5.46	335	Pn		Pn	20 54 58.6	-0.1
L27K	Beaver Creek,	5.46	335	Pn		Pn	20 54 59.2	+0.6
L27K	Beaver Creek,	5.46	335	P		Pn	20 54 59.4	+0.7

baz=124,SNR=12
GHO **Glory Hole Cre** 7.05 306 **Pn** **Pn** 20 55 21.0 +0.6
PMR **Palmer** 7.06 304 Pn **Pn** 20 55 20.7 +0.2
PMR **Palmer** 7.06 304 P **Pn** 20 55 21.1 +0.6
baz=114
J26L **Joseph Creek** 7.10 336 **Pn** 20 55 22.2 +1.0
J26L **Joseph Creek** 7.10 336 P **Pn** 20 55 22.4 +1.3
baz=150
K24K **Donnelly Dome** 7.11 326 P **Pn** 20 55 23.5 +2.4
baz=138
DHY **Denali Highway** 7.13 318 Pn **Pn** 20 55 22.7 +1.1
DHY **Denali Highway** 7.13 318 P **Pn** 20 55 22.8 +1.3
baz=129
RC01 **Rabbit Creek A** 7.16 299 **Pn** 20 55 21.0 -0.9
RC01 **Rabbit Creek A** 7.16 299 P **Pn** 20 55 22.0 +0.2
baz=108
I29M **Ogilvie Camp,** 7.22 355 Pn **Pn** 20 55 23.5 +0.7
I29M **Ogilvie Camp,** 7.22 355 Sg **Sg** 20 57 21.6 -7.1
I29M **Ogilvie Camp,** 7.22 355 P **Pn** 20 55 23.7 +1.0
baz=174,SNR=8.4
SLKM **Skilak Lake** 7.23 294 **Pn** 20 55 21.7 -1.1
FNBB **Fort Nelson** 7.26 79 Pn **Pn** 20 55 23.1 -0.2
FNBB Sg **Sg** 20 57 22.0 -8.0
WAT1 **Susitna Watana** 7.42 314 **Pn** 20 55 26.3 +0.9
WAT1 **Susitna Watana** 7.42 314 P **Pn** 20 55 26.3 +0.9
baz=124
BRLK **Bradley Lake** 7.44 288 Pn **Pn** 20 55 25.1 -0.5
WAT7 **Susitna Watana** 7.53 313 **Pn** 20 55 28.3 +1.2
M22K **Willow** 7.56 304 Pn **Pn** 20 55 26.6 -0.7
M22K **Willow** 7.56 304 P **Pn** 20 55 28.3 +1.0
baz=112
NBC5 **NorthernBC 5** 7.58 89 Sg **Sg** 20 57 31.7 -8.4
CNPM **China Poot** 7.59 286 **Pn** 20 55 26.5 -1.3
SUA **Susitna One** 7.74 301 **Pn** 20 55 29.6 -0.3
SUA **Susitna One** 7.74 301 P **Pn** 20 55 29.9 0.0
baz=109,SNR=5.2
I27K **Kandik River** 7.76 345 Pn **Pn** 20 55 29.0 -1.2
I27K Sg **Sg** 20 57 39.9 -6.2
I27K **Kandik River** 7.76 345 P **Pn** 20 55 31.0 +0.8
baz=161
BBB **Bella Bella** 7.81 137 Pn **Pn** 20 55 32.5 +1.6
comp=E,0.2nm,0.3s,baz=320,slow=2.8,SNR=1.9
BBB Sn **Sn** 20 57 00.1 +0.9
comp=E,0.3nm,0.3s,baz=257,slow=21,SNR=1.5
BBB Lg Lg 20 57 41.3
comp=E,0.4nm,0.3s,baz=145,slow=18,SNR=1.6
comp=E,12nm,0.9s
RND **Reindeer** 7.86 317 Pn **Pn** 20 55 31.7 +0.2
CUT **Chulitna** 7.89 308 Pn **Pn** 20 55 32.6 +0.8
CUT **Chulitna** 7.89 308 P **Pn** 20 55 33.2 +1.3
baz=116
HDA **Harding Lake** 7.90 326 Pn **Pn** 20 55 32.7 +0.7
HDA **Harding Lake** 7.90 326 P **Pn** 20 55 33.2 +1.2
baz=138
FSJB **Fort St James** 7.90 113 Sg **Sg** 20 57 44.5 -6.1
MCK **McKinley** 8.09 318 Pn **Pn** 20 55 34.2 -0.3
MCK **McKinley** 8.09 318 P **Pn** 20 55 36.4 +1.8
baz=128
NBC6 **NorthernBC 6** 8.15 81 Sg **Sg** 20 57 51.2 -7.2
IL31 8.15 328 Pn **Pn** 20 55 35.7 +0.2
ILAR **Eielson Array** 8.15 328 Pn **Pn** 20 55 34.0 -1.5
comp=E,0.4nm,0.6s,baz=158,slow=13,SNR=4.4
ILAR Lg Lg 20 57 49.1
comp=E,0.1nm,0.3s,baz=115,slow=27,SNR=4.0
ILAR **Eielson Array** 8.15 328 Pn **Pn** 20 55 36.5 +1.0
EPYK **Eagle Plains** 8.20 0 Pn **Pn** 20 55 37.2 +1.0
EPYK **Eagle Plains** 8.20 0 Pn **Pn** 20 55 38.0 +1.8
EPYK Sg **Sg** 20 57 51.7 -8.4
EPYK **Eagle Plains** 8.20 0 P **Pn** 20 55 37.1 +1.0
baz=180
SKT **Skwentna** 8.27 303 **Pn** 20 55 36.7 -0.3
SKT **Skwentna** 8.27 303 P **Pn** 20 55 37.0 -0.1
baz=111,SNR=6.2
WRH **Wood River Hil** 8.29 324 Pn **Pn** 20 55 39.7 +2.4
CCB **Clear Creek Bu** 8.33 325 Pn **Pn** 20 55 40.6 +2.7
N20K **Mount Spurr** 8.34 298 P **Pn** 20 55 37.4 -0.7
baz=104
H27K **Steamboat Moun** 8.35 347 Pn **Pn** 20 55 39.1 +0.9
H27K Sg **Sg** 20 57 58.5 -6.4
H27K **Steamboat Moun** 8.35 347 P **Pn** 20 55 40.1 +1.9
baz=163
KDAK **Kodiak Island** 8.39 274 Pn **Pn** 20 55 37.6 -1.1
comp=E,6.2nm,0.3s,baz=88,slow=7.1,SNR=4.2
KDAK Sn Sn 20 57 03.1 -10
baz=128,slow=3.6
comp=E,47nm,0.6s
TRF **Thorofare Moun** 8.42 314 Pn **Pn** 20 55 40.4 +1.2
TRF **Thorofare Moun** 8.42 314 P **Pn** 20 55 40.5 +1.2
baz=123,SNR=2.9
RSO **Redoubt South** 8.45 292 Pn **Pn** 20 55 39.2 -0.6
BWN **Browne** 8.54 320 Pn **Pn** 20 55 40.8 0.0
ILSW **Iliamna Southw** 8.59 289 Pn **Pn** 20 55 41.4 -0.2
MDM **Murphy Dome** 8.68 326 Pn **Pn** 20 55 43.5 +0.7
NEA2 **Nenana** 8.68 323 **Pn** 20 55 43.6 +0.9
NEA2 **Nenana** 8.68 323 P **Pn** 20 55 43.6 +0.9
baz=132
KTH **Kantishna Hill** 8.71 314 **Pn** 20 55 44.7 +1.5
G30M **tAoh Zraii Nji** 8.82 2 P **Pn** 20 55 46.0 +1.3
baz=182
Q19K **Cape Douglas,** 8.82 282 Pn **Pn** 20 55 44.9 +0.1
OHAK **Old Harbor** 8.87 271 Pn **Pn** 20 55 43.5 -1.8
OHAK **Old Harbor** 8.87 271 P **Pn** 20 55 44.4 -0.9
baz=77
PPLA **Purkeypile** 8.90 308 Pn **Pn** 20 55 47.2 +1.3
PPLA **Purkeypile** 8.90 308 P **Pn** 20 55 46.7 +0.7
baz=115
G27K **Doyon Strip** 8.92 348 Pn **Pn** 20 55 45.6 -0.4
G27K **Doyon Strip** 8.92 348 P **Pn** 20 55 46.8 +0.8
baz=163
M20K **Styx River** 8.95 301 **Pn** 20 55 46.3 -0.2
M20K **Styx River** 8.95 301 P **Pn** 20 55 46.3 -0.2
baz=107
BPAW **Bear Paw Mtn.** 9.04 317 **Pn** 20 55 47.6 0.0
BPAW **Bear Paw Mtn.** 9.04 317 P **Pn** 20 55 47.9 +0.3
baz=124
CAST **Castle Rocks** 9.10 311 Pn **Pn** 20 55 49.0 +0.6
CAST **Castle Rocks** 9.10 311 P **Pn** 20 55 48.8 +0.3
baz=118
I23K **Minto, Yukon-K** 9.15 325 Pn **Pn** 20 55 50.2 +1.1
I23K **Minto, Yukon-K** 9.15 325 P **Pn** 20 55 49.9 +0.8
baz=134
H24K **Noodor Dome** 9.24 331 Pn **Pn** 20 55 50.7 +0.3
FYU **Fort Yukon** 9.25 339 Pn **Pn** 20 55 49.8 -0.6
G26K **Porcupine Rive** 9.34 343 P **Pn** 20 55 53.8 +2.0
baz=157
N19K **Bonanza Creek** 9.35 294 Pn **Pn** 20 55 50.0 -1.9
F31M **Tsiigehtchic** 9.38 7 P **Pn** 20 55 53.4 +1.2
baz=190
CHUM **Lake Minchumin** 9.41 314 P **Pn** 20 55 53.4 +0.7
baz=120,SNR=5.7
L20K **Farewell, AK** 9.47 304 P **Pn** 20 55 53.6 0.0
baz=109
MLY **Manley** 9.51 322 **Pn** 20 55 54.7 +0.6
MLY **Manley** 9.51 322 P **Pn** 20 55 54.5 +0.3
baz=130
SII **Sitkinak Islan** 9.52 267 Pn **Pn** 20 55 52.6 -1.6
M19K **Big River Lodg** 9.53 300 Pn **Pn** 20 55 52.9 -1.4
M19K **Big River Lodg** 9.53 300 P **Pn** 20 55 53.5 -0.9
baz=105
Q18K **Katmai Hardscr** 9.55 280 P **Pn** 20 55 54.8 +0.1
baz=85
P18K **Big Mountain,** 9.63 285 Pn **Pn** 20 55 55.0 -0.7
L19K **White Mountain** 9.81 302 **Pn** 20 55 57.3 -1.0
L19K **White Mountain** 9.81 302 P **Pn** 20 55 57.7 -0.5
baz=106
K20K **Telida** 9.88 309 **Pn** 20 55 58.8 -0.3
K20K **Telida** 9.88 309 P **Pn** 20 55 58.6 -0.5
baz=114
BMAR **Burnt Mountain** 9.91 342 Pn **Pn** 20 56 00.5 +1.0
I21K **Tanana** 10.02 321 **Pn** 20 56 01.4 +0.4
I21K **Tanana** 10.02 321 P **Pn** 20 56 00.7 -0.3
baz=127
Q17K **Contact Creek** 10.05 278 P **Pn** 20 56 01.2 -0.5
baz=82
F25K **Christian Rive** 10.24 341 P **Pn** 20 56 06.5 +2.5
baz=153
E27K **Coleen River** 10.25 350 P **Pn** 20 56 05.3 +1.1
baz=166
INK **Inuvik** 10.25 7 Pn **Pn** 20 56 04.5 +0.4
comp=E,0.2nm,0.3s,baz=192,slow=13,SNR=12
INK Sn **Sn** 20 57 54.9 -4.1
comp=E,0.2nm,0.3s,baz=244,slow=15,SNR=2.7
INK Lg Lg 20 58 51.2
comp=E,0.1nm,0.3s,baz=149,slow=19,SNR=1.7
comp=E,5.9nm,1.0s
INK **Inuvik** 10.25 7 Pn **Pn** 20 56 03.2 -0.9
INK **Inuvik** 10.25 7 Pn **Pn** 20 56 04.9 +0.7
INK Sg 20 58 59.4
INK **Inuvik** 10.25 7 P **Pn** 20 56 06.1 +2.0
baz=190
H22K **Ishtalitna Cre** 10.28 325 P **Pn** 20 56 06.2 +1.6
baz=132
R17K **Ugashik Creek** 10.42 275 P **Pn** 20 56 06.8 +0.3
baz=79
G23K **Bananza Creek** 10.47 330 P **Pn** 20 56 08.6 +1.3
baz=138
CHIR **Chirikof Islan** 10.52 265 Pn **Pn** 20 56 06.5 -1.4
TTA **Tatalina** 10.55 305 Pn **Pn** 20 56 06.9 -1.4
TTA **Tatalina** 10.55 305 P **Pn** 20 56 07.5 -0.9
baz=108
H21K **Melozitna Rive** 10.58 322 **Pn** 20 56 09.1 +0.3
H21K **Melozitna Rive** 10.58 322 P **Pn** 20 56 09.5 +0.8
baz=128
F24K **Squaw Lake** 10.61 336 P **Pn** 20 56 09.9 +0.8
baz=147
E25K **Arctic Village** 10.70 342 P **Pn** 20 56 10.9 +0.6
baz=154
COLD **Coldfoot** 10.91 332 P **Pn** 20 56 15.3 +2.1
baz=140
O16K **Kokwok River B** 11.08 286 P **Pn** 20 56 15.5 -0.1
baz=88
IMAR **Indian Mountai** 11.09 322 Pn **Pn** 20 56 16.6 +0.9
E24K **Your Creek** 11.20 337 P **Pn** 20 56 18.6 +1.4
baz=147
G21K **Allakaket** 11.34 324 P **Pn** 20 56 20.3 +1.2
baz=130
N16K **Nishlik Lake** 11.42 291 P **Pn** 20 56 19.8 -0.4
baz=92
YKA **Yellowknife Ar** 11.78 59 Pn **Pn** 20 56 24.9 -0.3
comp=E,0.5nm,0.3s,baz=258,slow=13,SNR=24
YKA Lg Lg 20 59 37.9
baz=252,slow=26,SNR=1.2
comp=E,2.0nm,0.5s
C27K **Jago River** 11.85 348 P **Pn** 20 56 28.2 +2.1
baz=162
SDPT **Sand Point** 13.26 268 Pn **Pn** 20 56 46.7 +1.4
SDPT **Sand Point** 13.26 268 P **Pn** 20 56 46.9 +1.6
baz=68
A36M **Sachs Harbour** 14.63 14 P **Pn** 20 57 03.1 -0.7
baz=205
ANM **Nome** 14.99 307 **Pn** 20 57 07.5 -1.3
ANM IAmb IAmb 20 57 21.7
comp=Z,8.5nm,1.0s
NEW **Newport** 15.37 122 Pn **P** 20 57 16.7 -2.0
comp=Z,0.2nm,0.3s,baz=346,slow=5.4,SNR=3.9
comp=Z,0.6nm,0.3s
TNA **Tin City** 16.25 310 Pn **Pn** 20 57 26.0 +0.8
TNA **Tin City** 16.25 310 P **Pn** 20 57 26.4 +1.1
baz=102
UNV **Unalaska Valle** 17.07 268 Pn **Pn** 20 57 34.9 -0.8
YBH **Yreka Blue Hor** 18.75 145 P **Pn** 20 57 58.7 +2.1
comp=Z,0.7nm,0.7s,baz=291,slow=8.7,SNR=2.0
YHL **Hebgen Lake** 20.64 119 P **P** 20 58 16.1 -0.9
YHL IAmb IAmb 20 58 27.1
comp=Z,12nm,1.5s
IMW **Indian Meadow** 21.48 121 P **P** 20 58 27.1 +1.0
IMW IAmb IAmb 20 58 38.4
comp=Z,8.0nm,0.9s
FXWY **Fox Creek** 21.64 121 **P** 20 58 30.6 +2.9
FXWY IAmb IAmb 20 58 35.9
comp=Z,5.6nm,1.0s
TPAW **Teton Pass** 21.79 121 P **P** 20 58 28.0 -1.4
LOHW **Long Hollow** 21.86 120 P **P** 20 58 29.9 -0.1
LOHW IAmb IAmb 20 58 35.8
comp=Z,7.2nm,1.1s
SNOW **Snow King Moun** 21.91 121 P **P** 20 58 30.0 -0.6
SNOW IAmb IAmb 20 58 36.6
comp=Z,9.6nm,1.0s
RES **Resolute Bay** 22.70 27 P **P** 20 58 39.1 +0.6
comp=Z,1.6nm,0.8s,baz=260,slow=11,SNR=1.7
RES Lg Lg 21 05 25.2
baz=316,slow=22,SNR=0.8
comp=Z,1.6nm,0.8s
BW06 **Boulder Array** 23.00 120 P **P** 20 58 46.0 +3.8
PD31 **Pinedale Array** 23.00 120 P **P** 20 58 45.5 +3.3
PDAR **Pinedale Array** 23.00 120 P **P** 20 58 45.2 +3.1
comp=Z,0.7nm,0.7s,baz=331,slow=5.6,SNR=8.0
comp=Z,0.7nm,0.7s
PDAR **Pinedale Array** 23.00 120 P **P** 20 58 46.2 +4.0
NVAR **Mina Array Bea** 23.16 141 P **P** 20 58 47.0 +3.2
comp=Z,0.8nm,0.8s,baz=307,slow=8.4,SNR=5.0
comp=Z,0.8nm,0.8s
R50A **Paris** 39.00 97 P **P** 21 01 02.3 -1.2
TKL **Tuckaleechee C** 41.27 99 LR LR 21 18 30.4
comp=Z,669nm,19.9s,baz=196,slow=36
KLR **Kul'dur** 50.81 302 P **P** 21 02 38.1 +0.8
comp=Z,1.0nm,0.5s,baz=2.7,slow=18,SNR=1.7
comp=Z,1.0nm,0.5s
H11N2 **WAKE ISLAND Hy** 55.84 251 T T 22 03 55.3
baz=30
H11N3 **WAKE ISLAND Hy** 55.84 251 T T 22 03 50.1
baz=30,slow=74
H11N1 **WAKE ISLAND Hy** 55.85 251 T T 22 03 12.5
baz=30,slow=74
H11S1 **WAKE ISLAND Hy** 56.97 251 T T 22 04 27.4
baz=31,slow=75,SNR=44
H11S2 **WAKE ISLAND Hy** 56.98 251 T T 22 04 15.6
baz=31,slow=75,SNR=16
H11S3 **WAKE ISLAND Hy** 56.98 251 T T 22 04 26.8
baz=31,slow=75,SNR=12
FINES **FINESS Array B** 59.95 9 P **P** 21 03 42.5 -0.5
comp=Z,3.7nm,1.0s,baz=353,slow=9.8,SNR=3.0
comp=Z,3.7nm,1.0s
KSRS **Korea Array** 61.64 296 P **P** 21 03 55.2 +0.4
comp=Z,0.7nm,0.5s,baz=28,slow=7.3,SNR=2.4
comp=Z,0.7nm,0.5s
SONM **Songino Array** 62.22 317 P **P** 21 03 59.4 +0.6
comp=Z,1.1nm,0.9s,baz=25,slow=8.1,SNR=1.9
comp=Z,1.1nm,0.9s
ZALV **Zalesovo Beam** 63.24 334 P **P** 21 04 05.1 -0.1
comp=Z,1.8nm,0.8s,baz=3.7,slow=4.6,SNR=3.5
comp=Z,1.8nm,0.8s
ARU **Arti** 65.06 351 P **P** 21 04 17.0 -0.1
comp=Z,0.5nm,0.3s,baz=347,slow=22,SNR=1.9
comp=Z,0.5nm,0.3s
HHC **Hu-ho-hao-te** 66.12 310 *eP* **P** 21 04 23.9 -0.6
HHC pmax pmax
comp=Z,22nm,0.8s
KURBB **Kurchatov Arra** 67.74 337 P **P** 21 04 34.3 -0.1
comp=Z,1.4nm,0.8s,baz=19,slow=6.0,SNR=7.0
comp=Z,1.4nm,0.8s
MKAR **Makanchi Array** 70.48 333 P **P** 21 04 51.5 -0.1
comp=Z,1.3nm,0.8s,baz=34,slow=6.2,SNR=4.0
comp=Z,1.3nm,0.8s
AKASG **Malin Array Be** 70.86 9 P **P** 21 04 53.7 0.0
comp=Z,0.4nm,0.3s,baz=357,slow=5.4,SNR=4.7
comp=Z,0.4nm,0.3s
WMQ **Urumqi** 71.82 328 *eP* **P** 21 05 01.4 +1.7
WMQ PP **PP** 21 07 42.9 +4.4
WMQ pmax pmax
comp=Z,11nm,2.3s
WMQ LR LR
comp=N,1μm,18.5s
WMQ LR LR
comp=E,2μm,18.5s
WMQ LR LR
comp=Z,2μm,20.9s
ESDC **Sonseca Array** 74.84 36 P **P** 21 05 18.6 +1.0
comp=Z,0.7nm,0.7s,baz=339,slow=5.1,SNR=4.9
comp=Z,0.7nm,0.7s
PZH **PanZhiHua** 82.59 310 P **P** 21 05 59.5 -1.0
PZH pmax pmax
comp=Z,10.0nm,0.9s
CMAR **Chiang Mai Arr** 90.91 308 P **P** 21 06 41.9 +0.7
comp=Z,1.3nm,0.8s,baz=11,slow=3.7,SNR=3.7
comp=Z,1.3nm,0.8s

IDC ***16*** *21:29:37.6±1.7,39°.41N×27°.97E, h0km, mb3.6/3, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=39.3km s-min=22.9km az=165.0*
ISK ***16*** *21:29:38.9, 39°.24N×28°.08E, h11km, ML3.5/21*
DDA ***16*** *21:29:38.9±0.0, 39°.22N×28°.06E, h17km±1km, ML3.4*
BEO ***16*** *21:29:44.9±1.0, 41°.95N×29°.40E, h0km, ML3.1/4*
ISC 16 21:29:38.8±1.0, 39°.22N±0'.02×28°.12E±0'.02, h13km±7km, n85, σ1°52/113, mb3.5/3, 11C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STEP	**BALIKESIR_Sava**	**0.35**	**297**	**P**	**Pg**	**21 29 45.5**	**-0.3**
STEP				S	**Sg**	**21 29 50.7**	**0.0**
AKHS	**Akhisar**	**0.42**	**215**	**P**	**Pg**	**21 29 47.3**	**+0.3**
AKHS				S	**Sb**	**21 29 53.5**	**-0.7**
AKS	**Akhisar**	**0.42**	**215**	**Pg**	**Pg**	**21 29 47.4**	**+0.3**
AKS				Sg	**Sb**	**21 29 53.9**	**-0.3**
BALB	**Balikesir**	**0.46**	**336**	**Pg**	**Pb**	**21 29 48.3**	**-0.4**
BALB				Sg	**Sb**	**21 29 54.9**	**-0.5**
GOMA	**Golmarmara-Man**	**0.54**	**197**	**Pg**	**Pb**	**21 29 49.8**	**-0.2**
GOMA				Sg	**Sb**	**21 29 58.6**	**+1.0**
DST	**Dursunbey**	**0.54**	**45**	**Pg**	**Pg**	**21 29 49.4**	**-0.1**
BALY	**Balya**	**0.65**	**323**	**P**	**Pg**	**21 29 51.3**	**-0.2**
BALY				S	**Sb**	**21 30 00.5**	**-0.4**
SMAA	**Simav-Kutahya**	**0.68**	**100**	**Pg**	**Pn**	**21 29 53.5**	**-0.7**
SIMA	**Simav-Kutahya**	**0.68**	**101**	**Pg**	**Pb**	**21 29 53.2**	**+0.6**
MANT	**Manisa**	**0.81**	**155**	**P**	**Pb**	**21 29 55.2**	**+0.4**
MANT				S	**Sg**	**21 30 04.3**	**-0.7**
KULA	**Kula-Manisa**	**0.82**	**149**	**Pg**	**Pb**	**21 29 55.6**	**+0.6**
ZEDA	**zmir-Bergama**	**0.85**	**253**	**P**	**Pb**	**21 29 55.2**	**-0.2**
ZEDA				S	**Sg**	**21 30 06.2**	**-0.1**
BUHA	**Balikesir, Bur**	**0.86**	**289**	**P**	**Pb**	**21 29 55.3**	**-0.2**
USAK	**Uak-Merkez**	**0.86**	**126**	**P**	**Pb**	**21 29 56.3**	**+0.6**
USAK				S	**Sg**	**21 30 05.4**	**-1.4**
USAK				*i* AML	AML	21 30 12.0	
	comp=N,415nm,0.3s						
GONE	**Gonen-Balikesi**	**0.89**	**338**	**Pg**	**Pg**	**21 29 55.9**	**-0.1**
DKL	**Dikili**	**0.96**	**261**	**Pg**	**Pg**	**21 29 57.3**	**+0.1**
GEDZ	**Gediz**	**1.02**	**100**	**Pg**	**Pn**	**21 29 59.9**	**+1.1**
KCTX	**Karacabey (Bur**	**1.06**	**10**	**Pg**	**Pn**	**21 29 59.9**	**+0.5**
KCTX				Sg	**Sn**	**21 30 14.2**	**+0.2**
TVSB	**Tavsanli**	**1.06**	**77**	**Pn**	**Pn**	**21 30 00.3**	**+0.8**
AYVA	**Ayvalik**	**1.11**	**275**	**P**	**Pg**	**21 30 00.5**	**+0.3**
AYVA				S	**Sn**	**21 30 15.1**	**-0.2**
AYVA				*i* AML	AML	21 30 18.0	
	comp=N,988nm,0.4s						
EDC	**Edincik**	**1.14**	**350**	**Pn**	**Pg**	**21 30 00.7**	**-0.1**
KNL	**Balıkesir**	**1.15**	**337**	**P**	**Pn**	**21 30 00.5**	**0.0**
KNL				S	**Sn**	**21 30 15.9**	**-0.1**
KNL				*i* AML	AML	21 30 17.0	
	comp=E,2μm,0.5s						
KNL				*i* AML	AML	21 30 18.0	
	comp=N,1μm,0.4s						
MDNY	**Mudanya-Bursa**	**1.29**	**27**	**Pn**	**Pg**	**21 30 03.7**	**+0.1**
MDNY				Sn	**Sg**	**21 30 21.4**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**1.32**	**294**	**P**	**Pb**	**21 30 03.7**	**+0.2**
BAYC				S	**Sn**	**21 30 20.3**	**-0.2**
KRBG	**Karabiga-Canak**	**1.33**	**332**	**Pn**	**Pn**	**21 30 03.1**	**+0.1**
KRBG				Sn	**Sg**	**21 30 21.4**	**-0.3**
PASA	**Karahalli, Usa**	**1.38**	**129**	**P**	**Pn**	**21 30 04.0**	**+0.2**
ANDZ	**Kutahya, Merke**	**1.41**	**78**	**P**	**Pb**	**21 30 05.4**	**+0.4**
ANDZ				S	**Sg**	**21 30 24.7**	**+0.5**
ANDZ				*i* AML	AML	21 30 27.0	
	comp=E,547nm,0.3s						
ANDZ				*i* AML	AML	21 30 28.0	
	comp=N,384nm,0.4s						
URLA	**Izmir**	**1.47**	**235**	**Pn**	**Pb**	**21 30 05.5**	**-0.5**
URLA	**Izmir**	**1.47**	**235**	**P**	**Pn**	**21 30 05.4**	**+0.4**
EZN	**Ezine**	**1.51**	**294**	**Pn**	**Pb**	**21 30 07.0**	**+0.3**
DGB	**zmir**	**1.52**	**220**	**P**	**Pn**	**21 30 05.7**	**+0.1**
DGB				S	**Sn**	**21 30 23.4**	**-1.8**
LPK	**Lapseki**	**1.56**	**318**	**Pn**	**Pb**	**21 30 07.0**	**-0.4**
KOCA	**Canakkale, Ayv**	**1.56**	**281**	**P**	**Pb**	**21 30 07.0**	**-0.6**
AYDN	**Tasoluk**	**1.57**	**187**	**P**	**Pn**	**21 30 05.9**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**1.60**	**233**	**P**	**Pn**	**21 30 06.9**	**+0.2**
KURT	**Yalova, Merkez**	**1.60**	**31**	**P**	**Pn**	**21 30 07.4**	**+0.6**
KURT				P	**Pb**	**21 30 08.2**	**-0.1**
BILE	**Bilecik/Merkez**	**1.65**	**55**	**P**	**Pb**	**21 30 08.7**	**-0.4**
BILE				S	**Sn**	**21 30 28.9**	**+0.3**
BILE				*i* AML	AML	21 30 35.0	
	comp=N,648nm,0.4s						
BILE				*i* AML	AML	21 30 35.0	
	comp=E,470nm,0.4s						
GCAM	**G?zelcami?**	**1.67**	**205**	**Pn**	**Pb**	**21 30 09.7**	**+0.3**
ECEA	**Canakkale, Ece**	**1.71**	**299**	**P**	**Pn**	**21 30 09.0**	**+0.7**
BOZC	**Bozcaada**	**1.71**	**292**	**Pn**	**Pb**	**21 30 09.4**	**-0.7**
BOZC	**Bozcaada**	**1.71**	**292**	**P**	**Pn**	**21 30 09.0**	**+0.7**
SIGR	**SIGRI**	**1.76**	**270**	**Pn**	**Pn**	**21 30 09.8**	**+0.9**
TUZL	**Tuzla-Istanbul**	**1.82**	**29**	**P**	**Pb**	**21 30 11.2**	**-0.7**
KZIL	**AFYON_Kizioren**	**1.85**	**121**	**P**	**Pn**	**21 30 11.5**	**+1.2**
DDIM	**Aydin, Didim**	**1.89**	**202**	**P**	**Pg**	**21 30 15.1**	**0.0**
BORA	**Eskisehir**	**1.92**	**69**	**P**	**Pn**	**21 30 11.2**	**0.0**
ELBA	**Catalca**	**1.94**	**7**	**P**	**Pn**	**21 30 10.9**	**-0.5**
MLSB	**Milas**	**1.94**	**188**	**Pn**	**Pb**	**21 30 13.5**	**-0.5**
KESN	**Edirne-Kesan**	**1.95**	**326**	**P**	**Pn**	**21 30 12.5**	**+0.6**
MULA	**Mugla, Merkez-**	**1.97**	**175**	**P**	**Pn**	**21 30 11.8**	**-0.1**
YER	**Yerkesik**	**2.09**	**176**	**Pn**	**Pn**	**21 30 14.4**	**+0.9**
VIZE	**Kirklareli, Vi**	**2.37**	**355**	**P**	**Pn**	**21 30 18.1**	**+0.8**
APE	**Apeiranthos**	**2.96**	**224**	**⇑P**	**Pb**	**21 30 31.5**	**+0.1**
KDZ	**Kurdzhali**	**3.19**	**320**	**P**	**Pn**	**21 30 30.0**	**+1.4**
KDZE	**Karadeniz Ereo**	**3.29**	**50**	**⇑P**	**Pg**	**21 30 40.3**	**-1.6**
KDZE				⇑S	**Sg**	**21 31 22.1**	**-1.6**
DIM	**Dimitrovgrad**	**3.44**	**326**	**P**	**Pg**	**21 30 42.2**	**-2.6**
RZN	**Rozhen**	**3.58**	**315**	**P**	**Pn**	**21 30 35.6**	**+1.4**
ANTO	**Ankara**	**3.67**	**78**	**⇑P**	**Pg**	**21 30 48.7**	**-0.4**
PLD	**Plovdiv**	**3.88**	**319**	***e*Pn**	**Pn**	**21 30 39.3**	**+1.2**
PLD				***e*Sn**	**Sn**	**21 31 21.9**	**-1.6**
SRS	**Serrai**	**3.95**	**300**	***e*Pn**	**Pg**	**21 30 54.4**	**-0.1**
SRS				***e*Sn**	**Sg**	**21 31 43.9**	**-1.8**
MMB	**Musomiste**	**4.10**	**307**	**P**	**Pn**	**21 30 42.9**	**+1.7**
BRTR	**Keskin Array B**	**4.30**	**82**	**Pn**	**Pn**	**21 30 46.2**	**+2.2**
	0.6nm,0.3s,baz=268,slow=13,SNR=15						
BRTR				Pg	**Pg**	**21 30 60.0**	**-1.2**
	0.8nm,0.3s,baz=272,slow=9.5,SNR=23						
BRTR				Sn	**Sn**	**21 31 34.6**	**+0.5**
	0.4nm,0.3s,baz=276,slow=15,SNR=1.4						
BRTR				Lg	Lg	21 32 01.2	
	0.7nm,0.3s,baz=264,slow=24,SNR=10						
	1.5nm,0.4s						
VTS	**Vitosha**	**5.02**	**314**	**⇑P**	**Pn**	**21 30 55.8**	**+1.9**
VTS	**Vitosha**	**5.02**	**314**	***e*Pn**	**Pn**	**21 30 56.0**	**+2.1**
VTS	**Vitosha**	**5.02**	**314**	***e*Pn**	**Pn**	**21 30 57.1**	**+3.2**
VTS				***e*Sn**	**Sn**	**21 31 49.0**	**-2.9**
VTS				***e*Sn**	**Sn**	**21 31 49.5**	**-2.4**
MPEP	**Malo Peshtene**	**5.29**	**323**	**P**	**Pn**	**21 30 59.0**	**+1.6**
PRVS	**Prvonek**	**5.64**	**308**	***e*Pn**	**Pn**	**21 31 05.7**	**+3.4**
PRVS				***e*Sn**	**Sn**	**21 32 08.8**	**+1.9**
ZAPS	**Zavoj**	**5.79**	**316**	***e*Pn**	**Pn**	**21 31 02.8**	**-1.5**
CFR	**Carcaliu**	**5.95**	**0**	**⇑P**	**Pn**	**21 31 07.3**	**+0.8**
BARS	**Barje**	**5.97**	**309**	***e*Pn**	**Pn**	**21 31 09.1**	**+2.3**
MLR	**Muntele Rosu**	**6.47**	**346**	**⇑P**	**Pn**	**21 31 18.1**	**+4.3**
BOVS	**Bovan**	**6.53**	**315**	***e*Pn**	**Pn**	**21 31 13.1**	**-1.4**
SELS	**Selova**	**6.62**	**309**	***e*Pn**	**Pn**	**21 31 16.9**	**+1.2**
PLOR	**Plostina**	**6.71**	**351**	**⇑P**	**Pn**	**21 31 21.0**	**+4.0**
VRI	**Vrincioaia**	**6.72**	**352**	**⇑P**	**Pn**	**21 31 21.7**	**+4.6**
SEV	**Sevastopol'**	**6.74**	**36**	***e*P**	**Pn**	**21 31 16.9**	**-0.4**
SEV				Pm		21 31 19.6	
	comp=Z,5.0nm,0.4s						
SEV				***e*S**	**Sn**	**21 32 29.3**	**-4.6**
SEV				Sm		21 32 29.8	
	comp=N,1.0nm,0.3s						
SEV				Sm		21 32 29.8	
	comp=E,3.0nm,0.4s						
COVR	**Voineasa-Covas**	**6.77**	**349**	**⇓P**	**Pn**	**21 31 21.9**	**+4.1**
DOPR	**Dopca**	**7.04**	**344**	**⇑P**	**Pn**	**21 31 23.5**	**+2.0**
OZUR		**7.08**	**347**	**⇓P**	**Pn**	**21 31 25.2**	**+3.1**
IVAS	**Ivanjica**	**7.40**	**309**	***e*Pn**	**Pn**	**21 31 28.6**	**+2.1**
SUDU	**Sudak**	**7.63**	**40**	***e*S**	**Sn**	**21 32 57.3**	**+1.4**
SUDU				Sm		21

BARC eS Sn 21 34 58.6 -0.8
BARC i 21 35 00.7
comp=Z,1μm,0.3s
BRRC Barranca, Sant 0.64 296 ⇓ iP Pn 21 34 45.4 +0.8
BRRC eS Sn 21 35 02.6 +0.8
BRRC i 21 35 06.6
comp=Z,617nm,0.1s
PAMC Pamplona, Colo 0.67 40 ⇓ iP Pn 21 34 46.4 +1.0
PAMC eS Sn 21 35 03.4 +0.2
PAMC i 21 35 05.8
comp=Z,2μm,0.5s
RUSC La Rusia 0.93 177 ⇑ iP Pn 21 34 47.5 +0.3
RUSC eS Sn 21 35 06.2 -0.2
RUSC i 21 35 07.5
comp=Z,946nm,0.3s
PTBC PUERTO BERRIO, 1.34 258 ⇑ eP Pn 21 34 49.9 -0.4
PTBC eS Sn 21 35 11.2 -0.8
PTBC i 21 35 15.1
comp=Z,460nm,0.2s
TAMC Tame, Arauca 1.39 106 ⇓ iP Pn 21 34 52.0 +1.1
TAMC eS Sn 21 35 13.7 +0.8
ZARC Zaragoza, Cauc 1.83 291 eP Pn 21 34 55.8 +0.2
ZARC eS Sn 21 35 20.8 -0.5
ZARC i 21 35 27.5
comp=Z,422nm,0.2s
CHIC Chingaza 2.26 195 ⇑ iP Pn 21 35 01.4 +0.5
CHIC eS Sn 21 35 30.9 +0.1
CHIC i 21 35 34.6
comp=Z,300nm,0.4s
ROSC El Rosal 2.29 211 P Pn 21 35 03.2 +1.8
comp=Z,311nm,0.3s,baz=77,slow=14,SNR=293
ROSC S Sn 21 35 30.2 -1.4
comp=Z,427nm,0.3s,baz=136,slow=19,SNR=9.8
ROSC El Rosal 2.29 211 ⇑ iP Pn 21 35 03.1 +1.8
ROSC eS Sn 21 35 32.5 +0.9
ROSC i 21 35 41.8
comp=Z,479nm,0.3s
UREC San Jos de Ur 2.55 291 eP Pn 21 35 03.2 -0.9
UREC eS Sn 21 35 34.2 -2.2
UREC i 21 35 46.3
comp=Z,331nm,0.2s
GUY2C Guyana, Caldas 2.73 235 eP Pn 21 35 07.5 +0.8
GUY2C eS Sn 21 35 41.4 +0.3
GUY2C IAML 21 35 49.8
comp=Z,312nm,0.3s
LL1C La Loma 1 Cana 2.73 351 eP Pn 21 35 08.7 +2.4
LL1C eS Sn 21 35 43.4 +2.9
PTGC Puerto Gaitan, 2.79 159 ⇑ iP Pn 21 35 06.7 -0.3
PTGC eS Sn 21 35 40.0 -1.8
PTGC i 21 35 45.0
comp=Z,449nm,0.3s
LL5C La Loma 5 El P 2.97 349 eS Sn 21 35 47.5 +1.8
CBOC Ciudad Bolivar 3.01 252 eP Pn 21 35 07.6 -2.4
CBOC eS Sn 21 35 48.1 +1.1
CBOC i 21 35 56.9
comp=Z,78nm,0.4s
DBBC Dabeiba 3.06 274 ⇓ eP Pn 21 35 10.9 +0.5
DBBC eS Sn 21 35 45.8 -2.1
DBBC i 21 35 48.8
comp=Z,108nm,0.2s
ARGC Ariguani, Magd 3.21 340 eP Pn 21 35 15.4 +3.1
ARGC eS Sn 21 35 52.2 +1.0
ARGC i 21 36 03.9
comp=Z,102nm,0.3s
SDV Santo Domingo 3.22 50 P Pn 21 35 13.1 +0.6
comp=Z,24nm,0.3s,baz=249,slow=3.6,SNR=50
SDV S Sn 21 35 49.7 -2.0
comp=Z,192nm,0.5s,baz=49,slow=21,SNR=49
ORTC Ortega, Tolima 3.58 216 eP Pn 21 35 17.6 +0.6
ORTC eS Sn 21 36 01.5 +1.8
ORTC i 21 36 07.5
comp=Z,173nm,0.4s
SJCC San Jacinto, C 3.66 327 eP Pn 21 35 17.8 -0.4
SJCC eS Sn 21 35 58.6 -3.1
SJCC i 21 36 03.3
comp=Z,93nm,0.6s
PLMC San Jos del P 3.67 239 eP Pn 21 35 19.3 +1.1
PLMC eS Sn 21 36 01.7 -0.1
PLMC i 21 36 05.2
comp=Z,99nm,0.2s
LCBC Los crdobas, 3.79 302 eP Pn 21 35 19.5 -0.2
LCBC eS Sn 21 36 06.2 +1.7
LCBC i 21 36 08.3
comp=Z,89nm,0.2s
CRJC Cerrejon, Guaj 4.18 3 eP Pn 21 35 23.7 -1.1
CRJC eS Sn 21 36 11.7 -2.1
CRJC i 21 36 17.2
comp=Z,131nm,0.2s
YOTC Yotoco, Valle 4.26 229 ⇓ eP Pn 21 35 26.0 0.0
YOTC eS Sn 21 36 20.6 +4.8
SMRC Santa Marta, M 4.45 346 eP Pn 21 35 28.3 0.0
SMRC eS Sn 21 36 16.8 -3.2
SMRC i 21 36 20.1
comp=Z,93nm,0.2s
MACC Macarena, Meta 4.70 189 eP Pn 21 35 30.5 -1.2
MACC eS Sn 21 36 23.0 -3.0
MACC i 21 36 26.0
comp=Z,48nm,0.3s
URIC Uribia, Colomb 4.98 13 eP Pn 21 35 34.1 -1.1
URIC eS Sn 21 36 30.2 -2.3
GARC Garzon, Huila 5.17 207 eP Pn 21 35 37.6 -0.5
GARC eS Sn 21 36 34.6 -2.8
GARC i 21 36 40.0
comp=Z,83nm,0.2s
FLOC Florencia 5.78 206 eP Pn 21 35 46.1 +0.2
FLOC eS Sn 21 36 52.6 +1.0
FLOC i 21 37 29.0
comp=Z,9.4nm,0.5s
JTS Las Juntas de 12.18 287 P P 21 37 18.1 +1.2
comp=Z,5.5nm,0.4s,baz=320,slow=20,SNR=3.8
PDAR Pinedale Array 48.07 324 P P 21 42 46.5 +0.2
comp=Z,0.2nm,0.6s,baz=116,slow=10,SNR=2.3
comp=Z,0.2nm,0.6s
SCHQ Schefferville 48.14 5 P P 21 42 44.6 -1.8
comp=Z,4.7nm,1.0s,baz=128,slow=6.3,SNR=4.3
comp=Z,4.7nm,1.0s
NVAR Mina Array Bea 51.47 315 P P 21 43 12.9 +0.7
comp=Z,0.2nm,0.3s,baz=102,slow=7.5,SNR=2.2
comp=Z,0.2nm,0.3s
ASAR Alice Springs 149.10 234 PKPbc **PKPdf** 21 53 49.6 +0.9
comp=Z,0.6nm,0.8s,baz=110,slow=2.8,SNR=6.4
WRA Warramunga Arr 150.32 241 PKPbc **PKPbc** 21 53 54.9 -1.2
comp=Z,0.3nm,0.5s,baz=108,slow=2.6,SNR=9.9

NEIC **16** *21:40:09.9±1.5,58.˚06N±0.˚03×136.˚85W±0.˚05,h10km±1km, mb4.5/39,ML4.4/41,ML4.2(AEIC),Mwr5.0(OTT),Error ellipse: s-maj=6.5km s-min=2.7km az=224.0*

MOS **16** *21:40:09.1±1.4,58.˚22N×136.˚78W,h10km,mb4.7/28, Error ellipse: s-maj=13.9km s-min=5.4km az=110.4*

IDC **16** *21:40:10.3±0.6,58.˚16N×136.˚97W,h0km,mb4.1/20, mbtmp4.1/27,ML3.6/7,Error ellipse: s-maj=12.6km s-min=7.0km az=20.0*

AEIC **16** *21:40:10.5±2.0,58.˚15N±0.˚03×136.˚85W±0.˚07,h13km±1km, Error ellipse: s-maj=6.2km s-min=3.2km az=53.0*

ANF **16** *21:40:11.5±0.4,58.˚15N×136.˚80W,h12km±2km,ML4.6/35, Error ellipse: s-maj=2.0km s-min=1.3km az=22.0*

PGC **16** *21:40:11.4±0.7,58.˚20N×136.˚87W,h5km,ML4.4/12, Mw5.0,139km Wsw of Haines, Ak Southeastern Alaska*

NEIC **16** *21:40:11.4,58.˚20N×136.˚87W,h17km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=0.03; Mθθ=-2.41; Mφφ=3.68; Mrθ=0.16; Mrφ=2.77; Mθφ=0.49; Fault plane solution: Ms4.20000×10^16 NP1:φs336.00000°, δ86.00000°, λ175.00000°. NP2:φs66.00000°, δ85.00000°, λ4.00000°. Principal axes: T 4.3923, Plg6.0000°, Azm291.0000°; N -0.4978, Plg84.0000°, Azm116.0000°; P -3.8945, Plg1.0000°, Azm21.0000°;*

OTT **16** *21:40:11.4±2.7,58.˚20N±0.˚03×136.˚87W±0.˚06,h5km±1km Error ellipse: s-maj=6.3km s-min=3.3km az=229.0*

ISC 16 21:40:09.3±1.1,58.˚12N±0.˚02×136.˚81W±0.˚02,h1km±7km, n481,σ1§48/528,mb4.5/60,13C-1D,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
S31K	**Pelican**	**0.35**	**117**	P		**Pb**	**21 40 18.3**	**0.0**
	baz=300,SNR=947							
S31K				S		**Sb**	**21 40 23.2**	**-1.0**
	baz=300							
R31K	**City Hall, Gus**	**0.64**	**62**	P		**Pg**	**21 40 22.4**	**+0.9**
	baz=246,SNR=24							
R31K				S		**Sg**	**21 40 31.8**	**+2.1**
	baz=246							
BESE	**Bessie Mountai**	**1.13**	**65**			**Sb**	**21 40 46.5**	**-0.3**
BESE	**Bessie Mountai**	**1.13**	**65**			**Pb**	**21 40 31.2**	**-0.4**
BESE	**Bessie Mountai**	**1.13**	**65**	P		**Pb**	**21 40 31.2**	**-0.4**
BESE				S		**Sb**	**21 40 47.0**	**+0.2**
R32K	**Eaglecrest**	**1.23**	**82**	P		**Pn**	**21 40 33.3**	**-0.2**
	baz=265,SNR=408							
R32K				S		**Sb**	**21 40 49.7**	**+0.2**
	baz=265							
JIS	**Juneau Island**	**1.30**	**82**			**Pn**	**21 40 33.9**	**-0.5**
JIS						**Sb**	**21 40 51.3**	**-0.2**
JIS				IAML			21 40 55.7	
	comp=E,9μm,0.8s							
JIS				IAML			21 40 58.1	
	comp=N,8μm,1.0s							
SIT	**Sitka**	**1.34**	**142**			**Pg**	**21 40 34.8**	**-0.1**
SIT						**Sg**	**21 40 52.0**	**-0.2**
SIT	**Sitka**	**1.34**	**142**	P		**Pg**	**21 40 34.8**	**-0.1**
	baz=324,SNR=82							
SIT				S		**Sg**	**21 40 52.5**	**+0.4**
	baz=324							
SIT	**Sitka**	**1.34**	**142**	P		**Pg**	**21 40 34.8**	**-0.1**
SIT							21 40 52.0	
PLBC	**Pleasant Camp**	**1.36**	**10**	Pn		**Pn**	**21 40 33.7**	**-1.6**
PLBC						**Sn**	**21 40 50.8**	**-3.2**
PLBC	**Pleasant Camp**	**1.36**	**10**	Pn		**Pn**	**21 40 33.7**	**-1.6**
PLBC				Sg		**Sn**	**21 40 50.8**	**-3.2**
PLBC	**Pleasant Camp**	**1.36**	**10**	P		**Pn**	**21 40 34.1**	**-1.2**
	baz=191,SNR=155							
PLBC				S		**Sn**	**21 40 50.6**	**-3.4**
	baz=191							
SKAG	**Skagway**	**1.55**	**29**			**Pn**	**21 40 37.4**	**-0.5**
SKAG				Sn		**Sn**	**21 40 56.4**	**-2.2**
SKAG				IAML			21 41 02.5	
	comp=E,6μm,0.8s							
SKAG	**Skagway**	**1.55**	**29**	P		**Pn**	**21 40 37.6**	**-0.3**
	baz=212,SNR=206							
SKAG				S		**Sn**	**21 40 56.9**	**-1.7**
	baz=212							
P30M	**Million Dollar**	**2.01**	**358**	P		**Pn**	**21 40 44.0**	**-0.3**
	baz=178							
P30M				S		**Sn**	**21 41 09.8**	**-0.2**
	baz=178							
YKU2	**Yakutat**	**2.04**	**314**	Pn		**Pn**	**21 40 43.4**	**-1.2**
PNL	**Peninsula**	**2.05**	**320**	Pn		**Pn**	**21 40 43.8**	**-1.0**
PNL				Sg		**Sb**	**21 41 13.5**	**+0.3**
PNL	**Peninsula**	**2.05**	**320**	Pn		**Pn**	**21 40 43.8**	**-1.0**
PNL				Sg		**Sb**	**21 41 13.5**	**+0.3**
PNL	**Peninsula**	**2.05**	**320**	P		**Pn**	**21 40 44.7**	**-0.1**
	baz=138,SNR=23							
P32M	**Atlin**	**2.18**	**46**	Pn		**Pn**	**21 40 47.1**	**+0.4**
P32M				Sg		**Sb**	**21 41 18.4**	**+1.3**
P32M	**Atlin**	**2.18**	**46**	Pn		**Pn**	**21 40 47.1**	**+0.4**
P32M				Sg		**Sb**	**21 41 18.4**	**+1.3**
P32M	**Atlin**	**2.18**	**46**	P		**Pn**	**21 40 47.1**	**+0.4**
	baz=230,SNR=91							
P32M				Sb		**Sb**	**21 41 17.8**	**+0.8**
	baz=230							
BCPM	**Bancas Point**	**2.34**	**323**	Pn		**Pn**	**21 40 47.8**	**-1.1**
BCPM				IAML			21 41 27.7	
	comp=E,2μm,1.2s							
O29M	**Mount Kennedy**	**2.37**	**338**	P		**Pn**	**21 40 49.4**	**+0.1**
	baz=157							
YUK7	**Dusty Glacier**	**2.51**	**345**	Pn		**Pn**	**21 40 51.9**	**+0.5**
YUK7				Sg		**Sb**	**21 41 27.8**	**+1.1**
YUK7	**Dusty Glacier**	**2.51**	**345**	Pn		**Pn**	**21 40 51.9**	**+0.5**
YUK7				Sg		**Sb**	**21 41 27.8**	**+1.1**
Q32M	**Nakina River**	**2.53**	**69**	P		**Pn**	**21 40 51.9**	**+0.3**
	baz=253							
PINM	**Pinnacle**	**2.66**	**320**	P		**Pn**	**21 40 54.0**	**+0.7**
	baz=137,SNR=15							
PCA	**Pinnacle**	**2.66**	**320**			**Pn**	**21 40 52.2**	**-1.0**
PCA	**Pinnacle**	**2.66**	**320**	Pn		**Pn**	**21 40 52.8**	**-0.5**
O30N	**Mendenhall**	**2.68**	**8**	P		**Pn**	**21 40 54.3**	**+0.7**
	baz=189,SNR=42							
WHY	**Whitehorse**	**2.73**	**20**	Pn		**Pn**	**21 40 54.4**	**+0.1**
WHY				IAML			21 41 35.2	
	comp=E,2μm,0.9s							
WHY				IAML			21 41 37.9	
	comp=N,1μm,0.9s							
WHY	**Whitehorse**	**2.73**	**20**	Pn		**Pn**	**21 40 54.5**	**+0.2**
WHY				Sg		**Sb**	**21 41 33.5**	**+0.6**
WHY	**Whitehorse**	**2.73**	**20**	P		**Pn**	**21 40 54.7**	**+0.4**
	baz=203,SNR=54							
WHY				Sb		**Sb**	**21 41 33.6**	**+0.7**
	baz=203							
HYT	**Haines Junctio**	**2.73**	**353**	Pn		**Pn**	**21 40 54.2**	**-0.2**
HYT				IAML			21 41 35.9	
	comp=N,1μm,1.0s							
HYT				IAML			21 41 40.8	
	comp=E,1μm,0.9s							
HYT	**Haines Junctio**	**2.73**	**353**	Pn		**Pn**	**21 40 54.8**	**+0.4**
HYT				Sg		**Sb**	**21 41 33.2**	**+0.2**
HYT	**Haines Junctio**	**2.73**	**353**	Pn		**Pn**	**21 40 54.8**	**+0.4**
HYT				Sg		**Sb**	**21 41 33.2**	**+0.2**
HYT	**Haines Junctio**	**2.73**	**353**	P		**Pn**	**21 40 55.0**	**+0.6**
	baz=173,SNR=159							
HYT				Sb		**Sb**	**21 41 32.5**	**-0.5**
	baz=173							
U33K	**Whale Pass**	**2.85**	**133**	Pb		**Pb**	**21 41 00.8**	**0.0**
	baz=317							
SAMH	**Samovar Hills**	**2.87**	**316**			**Pn**	**21 40 56.6**	**+0.3**
SAMH	**Samovar Hills**	**2.87**	**316**	Pn		**Pn**	**21 40 56.5**	**+0.3**
P33M	**Teslin, Yukon**	**2.94**	**43**	Pn		**Pn**	**21 40 58.0**	**+0.9**
P33M	**Teslin, Yukon**	**2.94**	**43**	Pn		**Pn**	**21 40 57.6**	**+0.5**
P33M				Sg		**Sb**	**21 41 41.1**	**+2.3**
P33M	**Teslin, Yukon**	**2.94**	**43**	Pn		**Pn**	**21 40 57.6**	**+0.5**
P33M				Sg		**Sb**	**21 41 41.1**	**+2.3**
P33M	**Teslin, Yukon**	**2.94**	**43**	P		**Pn**	**21 40 56.4**	**-0.7**
	baz=227,SNR=158							
P33M				Sb		**Sb**	**21 41 40.4**	**+1.6**
	baz=227							
YUK6	**Outpost Mounta**	**2.94**	**345**	Pn		**Pn**	**21 40 57.9**	**+0.6**
YUK6				Sg		**Sb**	**21 41 39.5**	**+0.5**
YUK6	**Outpost Mounta**	**2.94**	**345**	Pn		**Pn**	**21 40 57.9**	**+0.6**
YUK6				Sg		**Sb**	**21 41 39.5**	**+0.5**
YUK6	**Outpost Mounta**	**2.94**	**345**	P		**Pn**	**21 40 57.4**	**+0.1**
	baz=164,SNR=25							
YUK6				Sb		**Sb**	**21 41 40.2**	**+1.2**
	baz=164							
WRAK	**Wrangell Islan**	**2.97**	**123**	Pn		**Pn**	**21 40 58.2**	**+0.9**
WRAK				IAML			21 41 54.9	
	comp=E,956nm,0.8s							
WRAK				IAML			21 41 55.9	
	comp=E,1μm,1.2s							
WRAK	**Wrangell Islan**	**2.97**	**123**	P		**Pn**	**21 40 57.3**	**-0.1**
	baz=307,SNR=18							
S34M	**Telegraph Cree**	**3.03**	**92**	Pn		**Pn**	**21 40 59.0**	**+0.7**
S34M	**Telegraph Cree**	**3.03**	**92**	Pn		**Pn**	**21 40 59.0**	**+0.7**
S34M				Sg		**Sg**	**21 41 45.8**	**-0.8**
S34M	**Telegraph Cree**	**3.03**	**92**	P		**Pn**	**21 40 58.0**	**-0.3**
	baz=277,SNR=29							
S34M				Sb		**Sg**	**21 41 44.8**	**-1.8**
	baz=277							
YUK5	**Granite Creek**	**3.06**	**350**	Pn		**Pn**	**21 40 59.8**	**+0.9**
YUK5				Sg		**Sb**	**21 41 43.9**	**+1.3**
YUK5	**Granite Creek**	**3.06**	**350**	Pn		**Pn**	**21 40 59.8**	**+0.9**
YUK5				Sg		**Sb**	**21 41 43.9**	**+1.3**
O28M	**Mount Upton**	**3.17**	**328**	Sg		**Sb**	**21 41 46.1**	**+0.5**
O28M	**Mount Upton**	**3.17**	**328**	Sg		**Sb**	**21 41 46.1**	**+0.5**
O28M	**Mount Upton**	**3.17**	**328**	P		**Pn**	**21 40 59.7**	**-0.7**
	baz=146							
TABL	**Table Mountain**	**3.21**	**318**	Pn		**Pn**	**21 41 00.7**	**-0.4**
TABL	**Table Mountain**	**3.21**	**318**	Pn		**Pn**	**21 41 02.0**	**+0.9**
R33M	**Jennings River**	**3.30**	**65**	P		**Pn**	**21 41 01.8**	**-0.3**
	baz=250							
CRAG	**Craig**	**3.35**	**141**	P		**Pn**	**21 41 04.4**	**+1.8**
	baz=324							
MESA	**MESA**	**3.35**	**310**			**Pn**	**21 41 02.3**	**-0.6**
MESA	**MESA**	**3.35**	**310**	Pn		**Pn**	**21 41 02.6**	**-0.3**
MESA	**MESA**	**3.35**	**310**	P		**Pn**	**21 41 02.9**	**0.0**
	baz=126,SNR=13							
YUK4	**Talbot Arm**	**3.36**	**345**	Pn		**Pn**	**21 41 04.8**	**+1.8**
YUK4	**Talbot Arm**	**3.36**	**345**	Pn		**Pn**	**21 41 04.8**	**+1.8**
YUK4	**Talbot Arm**	**3.36**	**345**	P		**Pn**	**21 41 03.7**	**+0.6**
	baz=165,SNR=35							
N31M	**Braeburn, Yuko**	**3.42**	**8**			**Pn**	**21 41 04.2**	**+0.6**
N31M				IAML			21 42 01.5	
	comp=E,2μm,1.0s							
N31M				IAML			21 42 08.6	
	comp=N,1μm,1.5s							
N31M	**Braeburn, Yuko**	**3.42**	**8**	Pn		**Pn**	**21 41 04.8**	**+1.1**
N31M				Sg		**Sb**	**21 41 54.3**	**+1.8**
N31M	**Braeburn, Yuko**	**3.42**	**8**	P		**Pn**	**21 41 04.4**	**+0.8**
	baz=190,SNR=9.6							
N31M				Sb		**Sb**	**21 41 54.3**	**+1.8**
	baz=190							
YUK8	**Steele Glacier**	**3.51**	**336**	Pn		**Pn**	**21 41 06.7**	**+1.6**
YUK8				Sg		**Sb**	**21 41 57.5**	**+2.2**
YUK8	**Steele Glacier**	**3.51**	**336**	P		**Pn**	**21 41 04.8**	**-0.3**
	baz=154,SNR=41							
DLBC	**Dease Lake**	**3.60**	**82**	Pn		**Pn**	**21 41 07.5**	**+1.3**
	comp=N,3.2nm,0.3s,baz=259,slow=5.9,SNR=27							
DLBC				Pg		**Pb**	**21 41 16.6**	**+3.0**
	comp=N,20nm,0.3s,baz=263,slow=16,SNR=83							
DLBC				Sn		**Sn**	**21 41 53.1**	**+3.8**
	comp=N,28nm,0.3s,baz=203,slow=7.6,SNR=5.0							
DLBC				Lg		Lg	21 42 02.4	
	comp=N,56nm,0.3s,baz=171,slow=19,SNR=16							
	comp=N,15nm,0.3s							
DLBC	**Dease Lake**	**3.60**	**82**	Pn		**Pn**	**21 41 06.9**	**+0.7**
DLBC				IAML			21 42 08.0	
	comp=E,707nm,1.2s							
DLBC	**Dease Lake**	**3.60**	**82**	Pn		**Pn**	**21 41 07.4**	**+1.3**
DLBC				Sg		**Sg**	**21 42 04.4**	**-0.3**
DLBC	**Dease Lake**	**3.60**	**82**	P		**Pn**	**21 41 06.9**	**+0.7**
	baz=268,SNR=12							
BAGL	**Bagley Icefiel**	**3.60**	**314**			**Pn**	**21 41 06.1**	**0.0**
T35M	**Bob Quinn**	**3.72**	**105**	Pn		**Pn**	**21 41 08.5**	**+0.8**
T35M	**Bob Quinn**	**3.72**	**105**	Pn		**Pn**	**21 41 08.5**	**+0.8**
T35M				Sg		**Sg**	**21 42 08.2**	**-0.4**
T35M	**Bob Quinn**	**3.72**	**105**	P		**Pn**	**21 41 08.4**	**+0.6**
	baz=291,SNR=23							
ISLE	**Juniper Island**	**3.77**	**314**			**Pn**	**21 41 07.7**	**-0.8**
BARN	**Barnard Glacie**	**3.84**	**322**			**Pn**	**21 41 09.1**	**-0.5**
BARN				IAML			21 42 14.3	
	comp=N,350nm,0.9s							
BARN				IAML			21 42 27.1	
	comp=E,444nm,1.0s							
WAX	**Waxell Ridge**	**3.88**	**310**	Pn		**Pn**	**21 41 09.5**	**-0.5**
KIAG	**Kiagna River**	**3.98**	**317**	Pn		**Pn**	**21 41 11.4**	**-0.1**
KIAG	**Kiagna River**	**3.98**	**317**	Pn		**Pn**	**21 41 11.4**	**-0.1**
V35K	**Ketchikan**	**4.01**	**132**	P		**Pn**	**21 41 13.6**	**+1.9**
	baz=317							
KHIT	**Khitrov Hills**	**4.04**	**308**			**Pn**	**21 41 11.0**	**-1.2**
BALM	**Baldy**	**4.06**	**318**			**Pn**	**21 41 12.3**	**-0.2**
BALM	**Baldy**	**4.06**	**318**	Pn		**Pn**	**21 41 11.7**	**-0.8**
YUK3	**Moose Creek**	**4.10**	**335**	Pn		**Pn**	**21 41 13.9**	**+0.7**
YUK3	**Moose Creek**	**4.10**	**335**	Pn		**Pn**	**21 41 13.9**	**+0.7**
YUK3				Sg		**Sb**	**21 42 16.8**	**+4.5**
YUK3	**Moose Creek**	**4.10**	**335**	P		**Pn**	**21 41 13.0**	**-0.1**
	baz=152,SNR=9.7							
YUK2	**White River**	**4.20**	**333**	Pn		**Pn**	**21 41 14.6**	**+0.2**
YUK2	**White River**	**4.20**	**333**	Pn		**Pn**	**21 41 14.6**	**+0.2**
NICHA	**Nichawak Mount**	**4.25**	**303**			**Pn**	**21 41 15.4**	**+0.4**
M31M	**Drury Creek, Y**	**4.27**	**15**	Pn		**Pn**	**21 41 15.7**	**+0.3**
M31M				IAML			21 42 30.3	
	comp=E,528nm,0.9s							
M31M				IAML			21 42 32.2	
	comp=N,440nm,1.0s							
M31M	**Drury Creek, Y**	**4.27**	**15**	Pn		**Pn**	**21 41 16.3**	**+0.9**
M31M				Sg		**Sb**	**21 42 19.4**	**+2.3**
M31M	**Drury Creek, Y**	**4.27**	**15**	Pn		**Pn**	**21 41 16.3**	**+0.9**
M31M				Sg		**Sb**	**21 42 19.4**	**+2.3**
M31M	**Drury Creek, Y**	**4.27**	**15**	P		**Pn**	**21 41 15.7**	**+0.3**
	baz=198,SNR=20							
M29M	**Somme Creek**	**4.41**	**350**	Pn		**Pn**	**21 41 18.1**	**+0.8**
M29M				Sn		**Sn**	**21 42 09.4**	**0.0**
M29M	**Somme Creek**	**4.41**	**350**	Pn		**Pn**	**21 41 18.1**	**+0.8**
M29M				Sn		**Sn**	**21 42 09.4**	**0.0**
M29M	**Somme Creek**	**4.41**	**350**	P		**Pn**	**21 41 17.6**	**+0.2**
	baz=169,SNR=29							
HMT	**Hamilton**	**4.42**	**303**	Pn		**Pn**	**21 41 16.7**	**-0.7**
FARO	**Faro, Yukon**	**4.47**	**21**	Pn		**Pn**	**21 41 18.3**	**+0.2**
FARO	**Faro, Yukon**	**4.47**	**21**	Pn		**Pn**	**21 41 18.6**	**+0.5**
FARO	**Faro, Yukon**	**4.47**	**21**	Pn		**Pn**	**21 41 18.6**	**+0.5**
FARO				Sg		**Sb**	**21 42 28.0**	**+5.2**
FARO	**Faro, Yukon**	**4.47**	**21**	P		**Pn**	**21 41 18.8**	**+0.7**
	baz=205,SNR=12							
M30M	**Minto, Yukon**	**4.47**	**0**			**Pn**	**21 41 18.7**	**+0.6**
M30M				IAML			21 42 35.2	
	comp=N,458nm,1.1s							
M30M	**Minto, Yukon**	**4.47**	**0**	Pn		**Pn**	**21 41 18.5**	**+0.3**
M30M				Sg		**Sb**	**21 42 27.3**	**+4.5**
M30M	**Minto, Yukon**	**4.47**	**0**	P		**Pn**	**21 41 18.4**	**+0.3**
	baz=180,SNR=11							
MCARA	**McCarthy VSAT**	**4.53**	**319**	Pn		**Pn**	**21 41 18.6**	**-0.3**
MCARA	**McCarthy VSAT**	**4.53**	**319**	P		**Pn**	**21 41 19.0**	**0.0**
	baz=134,SNR=12							
VRDI	**Verde Repeater**	**4.58**	**316**	Pn		**Pn**	**21 41 19.8**	**-0.1**
VRDI				IAML			21 42 46.4	
	comp=N,317nm,1.1s							
WTLY	**Watson Lake, Y**	**4.59**	**61**	P		**Pn**	**21 41 19.9**	**+0.1**
	baz=248							
BVCY	**Beaver Creek**	**4.75**	**337**	Pn		**Pn**	**21 41 25.6**	**+3.7**
BVCY	**Beaver Creek**	**4.75**	**337**	Pb		**Pb**	**21 41 33.5**	**+0.2**
	baz=153							
GLB	**Gilahina Butte**	**4.86**	**316**	Pn		**Pn**	**21 41 22.7**	**-0.7**
GLB				IAML			21 43 01.1	
	comp=N,215nm,1.7s							
BMRM	**Bremner River**	**4.88**	**309**			**Pn**	**21 41 22.4**	**-1.4**
BMRM	**Bremner River**	**4.88**	**309**	P		**Pn**	**21 41 24.2**	**+0.4**
	baz=122							
M27K	**Edge Creek, AK**	**4.94**	**331**			**Pn**	**21 41 24.8**	**+0.1**
M27K				IAML			21 42 57.3	
	comp=N,277nm,1.5s							
M27K				IAML			21 42 58.6	
	comp=E,289nm,2.3s							
M27K	**Edge Creek, AK**	**4.94**	**331**	P		**Pn**	**21 41 24.9**	**+0.2**
	baz=147							
L29M	**L29M**	**5.05**	**353**	Pn		**Pn**	**21 41 27.1**	**+1.1**
L29M	**L29M**	**5.05**	**353**	Pn		**Pn**	**21 41 27.1**	**+1.1**
L29M				Sg		**Sb**	**21 42 47.0**	**+7.7**
L29M	**L29M**	**5.05**	**353**	P		**Pn**	**21 41 26.9**	**+0.9**
	baz=172,SNR=22							
EYAK	**Cordova Ski Ar**	**5.18**	**302**	P		**Pn**	**21 41 28.0**	**+0.2**
	baz=114							
N25K	**Chitina, Valde**	**5.25**	**315**			**Pn**	**21 41 29.0**	**+0.1**
N25K				IAML			21 43 10.1	
	comp=N,135nm,0.9s							
N25K	**Chitina, Valde**	**5.25**	**315**	P		**Pn**	**21 41 28.8**	**-0.1**
	baz=128							
RUBB	**Prince Rupert**	**5.28**	**133**	Sg		**Sg**	**21 42 58.2**	**-0.5**
M26K	**Nabesna, AK**	**5.28**	**327**			**Pn**	**21 41 29.9**	**+0.6**
M26K	**Nabesna, AK**	**5.28**	**327**	P		**Pn**	**21 41 29.5**	**+0.3**
	baz=142							
DIV	**Divide**	**5.45**	**307**	Pn		**Pn**	**21 41 31.2**	**-0.4**
DIV	**Divide**	**5.45**	**307**	Pn		**Pn**	**21 41 31.8**	**+0.2**
MAYO	**Mayo, Yukon**	**5.51**	**4**	Sg		**Sb**	**21 43 00.5**

PAX Paxson 6.47 322 P Pn 21 41 46.0 +0.4
baz=135
PAX Paxson 6.47 322 P Pn 21 41 45.4 -0.2
PWL Port Wells 6.48 300 Pn 21 41 44.6 -1.0
PWL Port Wells 6.48 300 P Pn 21 41 44.9 -0.7
baz=110
DOT Dot Lake 6.57 331 Pn 21 41 47.1 +0.2
M23K Glacier View 6.60 308 P Pn 21 41 48.0 +0.7
baz=119,SNR=21
KNK Knik Glacier 6.74 304 Pn 21 41 48.4 -0.8
KNK Knik Glacier 6.74 304 P Pn 21 41 49.2 0.0
baz=114
SEW Seward 6.80 292 P Pn 21 41 50.3 +0.3
baz=101
SCRK Sand Creek 6.82 332 P Pn 21 41 49.8 -0.7
baz=146
RIDG Independent Ri 6.86 329 P Pn 21 41 50.3 -0.6
baz=142
SML Sawmill 6.86 307 Pn Pn 21 41 51.0 +0.1
SML Sawmill 6.86 307 P Pn 21 41 50.3 -0.6
baz=117
EGAK Eagle 6.99 345 Pn 21 41 53.5 +0.9
EGAK Eagle 6.99 345 P Pn 21 41 53.4 +0.7
baz=161,SNR=26
WAT6 Susitna Watana 7.02 314 Pn 21 41 53.9 +0.7
WAT6 Susitna Watana 7.02 314 P Pn 21 41 53.7 +0.4
baz=125,SNR=16
GHO Glory Hole Cre 7.09 306 Pn 21 41 54.4 +0.3
PMR Palmer 7.11 304 Pn Pn 21 41 52.9 -1.3
PMR Palmer 7.11 304 P Pn 21 41 53.8 -0.4
baz=114
PMR Palmer 7.11 304 P Pn 21 41 52.9 -1.3
K24K Donnelly Dome 7.17 326 P Pn 21 41 54.3 -0.9
baz=139
J26L Joseph Creek 7.17 336 Pn 21 41 56.0 +0.8
J26L Joseph Creek 7.17 336 P Pn 21 41 54.8 -0.5
baz=150
DHY Denali Highway 7.18 318 Pn Pn 21 41 55.1 -0.4
DHY Denali Highway 7.18 318 P Pn 21 41 55.1 -0.4
baz=129,SNR=5.9
RC01 Rabbit Creek A 7.20 300 Pn Pn 21 41 55.0 -0.5
RC01 Rabbit Creek A 7.20 300 P Pn 21 41 55.6 +0.1
baz=109
SLKM Skilak Lake 7.26 295 Pn 21 41 55.5 -1.0
FNBB Fort Nelson 7.27 78 Pn Pn 21 41 57.6 +1.1
FNBB Fort Nelson 7.27 78 Pn Pn 21 41 57.6 +1.1
FNBB Sg Sg 21 43 59.5 -3.1
I29M Ogilvie Camp, 7.30 355 Pn Pn 21 41 58.5 +1.6
I29M Ogilvie Camp, 7.30 355 Pn Pn 21 41 57.8 +0.9
I29M Ogilvie Camp, 7.30 355 Pn Pn 21 41 58.5 +1.6
I29M Ogilvie Camp, 7.30 355 P Pn 21 41 58.2 +1.3
baz=174,SNR=15
BRSE Bradley Lake S 7.39 289 P Pn 21 41 57.7 -0.4
baz=96
WAT1 Susitna Watana 7.47 314 Pn 21 42 00.3 +1.1
WAT1 Susitna Watana 7.47 314 P Pn 21 41 59.2 0.0
baz=124
NBC5 NorthernBC 5 7.57 89 Sg Sg 21 44 08.9 -3.4
WAT7 Susitna Watana 7.59 314 Pn 21 42 01.9 +0.9
NBC2 NorthernBC 2 7.59 71 Sg Sg 21 44 09.1 -3.7
M22K Willow 7.61 304 Pn Pn 21 42 01.4 +0.4
M22K Willow 7.61 304 P Pn 21 42 01.4 +0.4
baz=113
BBB Bella Bella 7.76 136 Pn Pn 21 42 05.0 +1.8
comp=N,1.0nm,0.3s,baz=320,slow=15,SNR=4.7
BBB Sn Sn 21 43 28.9 -2.6
comp=N,0.4nm,0.3s,baz=101,slow=23,SNR=1.2
BBB Lg Lg 21 44 03.0
comp=N,0.6nm,0.3s,baz=106,slow=18,SNR=0.8
comp=N,32nm,1.0s
SUA Susitna One 7.78 301 Pn 21 42 03.0 -0.6
SUA Susitna One 7.78 301 P Pn 21 42 04.6 +1.0
baz=109,SNR=14
I27K Kandik River 7.84 345 Pn Pn 21 42 05.2 +0.9
I27K Kandik River 7.84 345 Pn Pn 21 42 05.2 +0.9
I27K Kandik River 7.84 345 P Pn 21 42 04.2 -0.1
baz=161
FSJB Fort St James 7.87 112 Sg Sg 21 44 17.3 -4.5
RND Reindeer 7.92 317 Pn Pn 21 42 06.1 +0.7
RND Reindeer 7.92 317 P Pn 21 42 06.1 +0.7
CUT Chulitna 7.94 308 Pn 21 42 06.5 +0.9
CUT Chulitna 7.94 308 P Pn 21 42 06.8 +1.1
baz=117,SNR=10
HDA Harding Lake 7.97 327 P Pn 21 42 06.5 +0.5
baz=138
MCK McKinley 8.14 319 Pn Pn 21 42 08.5 0.0
MCK McKinley 8.14 319 P Pn 21 42 10.0 +1.6
baz=128,SNR=5.7
MCK McKinley 8.14 319 P Pn 21 42 08.5 0.0
NBC6 NorthernBC 6 8.16 80 Pn Pn 21 42 10.1 +1.5
NBC6 NorthernBC 6 8.16 80 Pn Pn 21 42 10.1 +1.5
NBC6 Sg Sg 21 44 29.6 -1.3
Q20K Shuyak Island 8.21 280 P Pn 21 42 10.7 +1.3
baz=87
IL31 8.22 328 Pn 21 42 10.0 +0.5
ILAR Eielson Array 8.22 328 Pn Pn 21 42 10.1 +0.5
comp=N,0.2nm,0.3s,baz=151,slow=12,SNR=20
ILAR Lg Lg 21 44 23.7
comp=N,0.1nm,0.3s,baz=120,slow=27,SNR=2.6
comp=N,1.6nm,0.8s
EPYK Eagle Plains 8.28 0 Pn Pn 21 42 10.6 +0.3
EPYK Eagle Plains 8.28 0 Sg Sg 21 44 29.4 -5.4
EPYK Eagle Plains 8.28 0 P Pn 21 42 11.4 +1.1
baz=180,SNR=9.0
SKT Skwentna 8.31 304 Pn 21 42 09.4 -1.3
SKT Skwentna 8.31 304 P Pn 21 42 10.9 +0.1
baz=111,SNR=7.5
WRH Wood River Hil 8.36 324 Pn Pn 21 42 11.2 -0.2
N20K Mount Spurr 8.38 298 P Pn 21 42 11.6 -0.1
baz=105
SPCR Spurr Chakacha 8.38 298 P Pn 21 42 11.9 +0.2
baz=105
CCB Clear Creek Bu 8.39 326 Pn 21 42 12.5 +0.6
KDAK Kodiak Island 8.40 274 Pn Pn 21 42 11.4 -0.5
comp=N,6.2nm,0.3s,baz=85,slow=7.1,SNR=56
KDAK Sn Sn 21 43 39.9 -7.2
baz=0.8,slow=18
comp=N,38nm,0.5s
H27K Steamboat Moun 8.43 347 P Pn 21 42 12.9 +0.6
baz=163
TRF Thorofare Moun 8.47 315 Pn Pn 21 42 14.0 +0.9
TRF Thorofare Moun 8.47 315 P Pn 21 42 14.4 +1.3
baz=123,SNR=60
COLA College 8.57 327 *i* P Pn 21 42 14.0 -0.3
TCOL CIGO, UAF Yank 8.58 327 Pn 21 42 15.1 +0.8
BWN Browne 8.60 320 Pn 21 42 15.2 +0.4
POKR Poker Plat Res 8.64 329 P Pn 21 42 16.8 +1.6
baz=139
NEA2 Nenana 8.75 323 Pn Pn 21 42 17.1 +0.3
NEA2 Nenana 8.75 323 P Pn 21 42 17.9 +1.2
baz=132,SNR=12
KTH Kantishna Hill 8.77 314 Pn Pn 21 42 17.5 +0.4
Q19K Cape Douglas, 8.84 282 P Pn 21 42 17.3 -0.8
baz=88
OHAK Old Harbor 8.88 271 P Pn 21 42 18.3 -0.1
baz=77
G30M tAoh Zraii Nji 8.90 2 P Pn 21 42 19.3 +0.5
baz=182,SNR=7.0
PPLA Purkeypile 8.96 309 Pn Pn 21 42 20.6 +0.9
PPLA Purkeypile 8.96 309 P Pn 21 42 19.3 -0.4
baz=115
M20K Styx River 8.99 302 Pn Pn 21 42 18.9 -1.2
M20K Styx River 8.99 302 P Pn 21 42 19.2 -1.0
baz=107
G27K Doyon Strip 9.00 348 P Pn 21 42 20.4 +0.2
baz=164
BPAW Bear Paw Mtn. 9.09 317 Pn Pn 21 42 21.7 +0.2
BPAW Bear Paw Mtn. 9.09 317 P Pn 21 42 22.3 +0.8
baz=125,SNR=7.5
CAST Castle Rocks 9.15 312 Pn Pn 21 42 21.6 -0.6
CAST Castle Rocks 9.15 312 P Pn 21 42 22.7 +0.5
baz=118,SNR=11
I23K Minto, Yukon-K 9.22 325 Pn Pn 21 42 23.7 +0.5
I23K Minto, Yukon-K 9.22 325 P Pn 21 42 23.8 +0.7
baz=134
H24K Noodor Dome 9.31 331 P Pn 21 42 25.4 +0.9
baz=141
N19K Bonanza Creek 9.38 294 P Pn 21 42 22.7 -2.8
baz=99
F31M Tsiigehtchic 9.46 7 P Pn 21 42 27.9 +1.5
baz=190,SNR=12
CHUM Lake Minchumin 9.47 314 P Pn 21 42 27.2 +0.6
baz=120,SNR=10
L20K Farewell, AK 9.52 304 P Pn 21 42 26.6 -0.7
baz=110

Q18K Katmai Hardscr 9.57 281 P Pn 21 42 28.0 -0.1
baz=85
MLY Manley 9.58 322 Pn Pn 21 42 27.9 -0.2
MLY Manley 9.58 322 P Pn 21 42 28.7 +0.6
baz=130,SNR=9.6
P18K Big Mountain, 9.65 285 P Pn 21 42 29.2 +0.1
baz=90
L19K White Mountain 9.86 302 Pn Pn 21 42 30.6 -1.3
L19K White Mountain 9.86 302 P Pn 21 42 31.7 -0.3
baz=144
G24K Hadweenzic Riv 9.91 335 P Pn 21 42 32.1 -0.5
baz=145
K20K Telida 9.93 309 Pn Pn 21 42 32.2 -0.6
K20K Telida 9.93 309 P Pn 21 42 32.8 -0.1
baz=114,SNR=6.8
Q17K Contact Creek 10.07 279 P Pn 21 42 34.1 -0.8
baz=82
I21K Tanana 10.08 321 Pn 21 42 34.7 -0.3
I21K Tanana 10.08 321 P Pn 21 42 35.3 +0.4
baz=128
P17K Kvichak River 10.28 284 P Pn 21 42 37.6 0.0
baz=87
F25K Christian Rive 10.31 341 P Pn 21 42 38.7 +0.6
baz=153
E27K Coleen River 10.33 350 P Pn 21 42 38.5 +0.2
baz=166
INK Inuvik 10.33 7 Pn Pn 21 42 39.0 +0.7
comp=N,0.1nm,0.3s,baz=180,slow=13,SNR=15
INK Sn Sn 21 44 37.0 +2.5
comp=N,0.1nm,0.3s,baz=155,slow=15,SNR=4.0
INK Lg Lg 21 45 26.6
comp=N,0.2nm,0.3s,baz=112,slow=11,SNR=3.0
comp=N,6.4nm,0.9s
INK Inuvik 10.33 7 Pn 21 42 38.1 -0.2
INK Inuvik 10.33 7 Pn Pn 21 42 38.1 -0.2
INK Inuvik 10.33 7 P Pn 21 42 38.1 -0.2
INK Inuvik 10.33 7 P Pn 21 42 38.0 -0.2
baz=190,SNR=8.2
INK Inuvik 10.33 7 P Pn 21 42 39.0 +0.7
H22K Ishtalitna Cre 10.35 325 P Pn 21 42 39.2 +0.6
baz=132
R17K Ugashik Creek 10.43 276 P Pn 21 42 40.0 +0.2
baz=79
G23K Bananza Creek 10.54 330 P Pn 21 42 42.7 +1.3
baz=139
TTA Tatalina 10.59 305 Pn Pn 21 42 40.6 -1.4
TTA Tatalina 10.59 305 P Pn 21 42 41.4 -0.7
baz=108
TTA Tatalina 10.59 305 P Pn 21 42 40.6 -1.4
H21K Melozitna Rive 10.64 322 Pn Pn 21 42 42.8 +0.1
H21K Melozitna Rive 10.64 322 P Pn 21 42 43.5 +0.8
baz=128
F24K Squaw Lake 10.68 337 P Pn 21 42 44.1 +0.9
baz=147
E25K Arctic Village 10.77 342 P Pn 21 42 45.7 +1.3
baz=154
COLD Coldfoot 10.98 332 Pn Pn 21 42 46.8 -0.5
COLD Coldfoot 10.98 332 P Pn 21 42 48.8 +1.5
baz=140
P16K Nushagak River 11.09 284 P Pn 21 42 49.5 +0.9
baz=86
O16K Kokwok River B 11.11 287 P Pn 21 42 50.5 +1.5
baz=88
IMAR Indian Mountai 11.15 322 Pn Pn 21 42 49.1 -0.5
E24K Your Creek 11.27 337 P Pn 21 42 52.0 +0.8
baz=147
G21K Allakaket 11.41 324 P Pn 21 42 53.6 +0.5
baz=130
N16K Nishlik Lake 11.45 291 P Pn 21 42 53.5 -0.2
baz=92
LLLB Lillooet 11.49 124 Sg 21 46 14.2
E23K Chandalar 11.50 335 P Pn 21 42 54.7 +0.3
baz=144
SWHSA Sweathouse Loo 11.53 98 Sg 21 46 16.4
F22K John River 11.70 330 P Pn 21 42 57.7 +0.5
baz=136
YKA Yellowknife Ar 11.82 59 Pn Pn 21 42 58.0 -0.7
comp=N,0.4nm,0.3s,baz=261,slow=13,SNR=24
YKA Sn Sn 21 45 05.4 -5.6
baz=250,slow=17,SNR=2.4
YKA Lg Lg 21 46 11.2
baz=255,slow=26
comp=N,3.8nm,0.8s
F21K Alatna River 11.87 327 P Pn 21 42 59.5 +0.1
baz=132
C27K Jago River 11.93 348 P Pn 21 43 00.7 +0.5
baz=162
C36M Paulatuk 12.56 21 P Pn 21 43 08.9 +0.2
baz=213
C24K Franklin Bluff 12.72 341 P Pn 21 43 13.3 +2.3
baz=150
EDM Edmonton 14.08 100 Pn Pn 21 43 29.0 -0.7
EDM Edmonton 14.08 100 P Pn 21 43 29.0 -0.7
B08A Colville Reser 14.28 126 P 21 43 38.2 -1.7
A36M Sachs Harbour 14.70 14 Pn 21 43 35.6 -2.4
A36M Sachs Harbour 14.70 14 P Pn 21 43 37.2 -0.8
baz=205
ANM Nome 15.04 307 Pn Pn 21 43 40.9 -1.7
ANM IAmb IAmb 21 43 47.4
comp=Z,20nm,1.5s
ANM Nome 15.04 307 P Pn 21 43 41.8 -0.8
baz=102
ANM Nome 15.04 307 P Pn 21 43 40.9 -1.7
ANM pmax pmax
comp=Z,20nm,1.5s
C09A Chrisman Ranch 15.16 125 Pn Pn 21 43 41.4 -3.0
C09A IAmb IAmb 21 43 50.8
comp=Z,20nm,1.4s
NEW Newport 15.32 122 Pn Pn 21 43 48.2 +1.6
comp=Z,0.2nm,0.3s,baz=320,slow=2.1,SNR=1.8
NEW Lg Lg 21 48 17.4
comp=Z,0.2nm,0.3s,baz=261,slow=10,SNR=3.0
comp=Z,0.9nm,0.5s
NEW Newport 15.32 122 P Pn 21 43 46.6 +0.1
baz=318,SNR=5.8
HOOD Mount Hood Mea 15.84 137 Pn Pn 21 43 52.0 -1.4
H04A Detroit Lake 16.20 140 Pn Pn 21 43 56.4 -1.7
WALA Waterton Lakes 16.27 114 Pn Pn 21 43 58.2 -0.7
WALA Waterton Lakes 16.27 114 P P 21 44 05.6 +3.6
TNA Tin City 16.31 310 P Pn 21 43 59.7 +0.6
baz=102,SNR=5.3
UNV Unalaska Valle 17.08 268 P Pn 21 44 07.9 -1.1
baz=63
PINE Pine Mountain 17.42 139 Pn Pn 21 44 10.7 -2.8
GAMB Gambell 17.69 303 P P 21 44 17.0 -0.4
baz=92
MSO Missoula 17.84 119 Pn 21 44 17.9 -0.7
MSO Missoula 17.84 119 P P 21 44 19.9 +0.5
baz=318,SNR=6.1
LYMT Lyon Mountain 18.51 116 P Pn 21 44 31.3 +4.3
EGMT Eagleton 19.01 110 P Pn 21 44 34.3 +1.4
baz=312,SNR=12
FFC Flin Flon 19.43 85 P 21 44 34.7 -1.9
FFC IAmb IAmb 21 44 46.5
comp=Z,24nm,1.2s
FFC Flin Flon 19.43 85 P P 21 44 34.7 -1.9
FFC pmax pmax
comp=Z,24nm,1.3s
BOZ Bozeman (W) 19.83 118 P Pn 21 44 43.8 +1.0
baz=318,SNR=5.2
HLID Hailey 20.17 127 P P 21 44 44.6 -0.4
HLID Hailey 20.17 127 P Pn 21 44 48.4 +1.5
baz=324,SNR=10
GCMT Greycliff 20.62 115 P P 21 44 47.7 -2.2
YMP Mirror Lake PI 21.16 118 P P 21 44 54.1 -1.8
YMP IAmb IAmb 21 45 04.6
comp=Z,32nm,1.4s
H17A Grant Village 21.23 119 P P 21 44 57.2 +0.7
baz=320,SNR=6.4
RLMT Red Lodge 21.30 116 P P 21 44 59.3 +2.0
baz=318,SNR=11
LAO LASA Array 21.68 109 P P 21 45 03.0 +1.8
baz=313
BMN Battle Mountai 21.70 136 P P 21 45 00.9 -0.6
BMN Battle Mountai 21.70 136 P P 21 45 00.9 -0.6
BMN pmax pmax
comp=Z,12nm,1.3s
FCC Fort Churchill 22.10 70 P P 21 45 05.3 -0.2
FCC IAmb IAmb 21 45 12.1
comp=Z,17nm,1.3s
FCC Fort Churchill 22.10 70 P P 21 45 07.6 +2.1
FCC Fort Churchill 22.10 70 P P 21 45 05.3 -0.2
FCC pmax pmax
comp=Z,17nm,1.3s
ELK Elko 22.18 132 P P 21 45 08.6 +1.8
comp=Z,7.0nm,1.3s,baz=335,slow=6.5,SNR=7.5
comp=Z,7.0nm,1.3s
ELK Elko 22.18 132 P P 21 45 06.5 -0.3
HVU Hansel Valley 22.32 127 P P 21 45 07.6 -0.6
HVU IAmb IAmb 21 45 15.3
comp=Z,16nm,1.3s
HVU Hansel Valley 22.32 127 P P 21 45 07.6 -0.6
HVU pmax pmax
comp=Z,16nm,1.3s
RES Resolute Bay 22.77 27 P P 21 45 12.8 +0.3
comp=Z,1.9nm,0.8s,baz=220,slow=12,SNR=3.7
RES Lg Lg 21 51 56.5
comp=Z,0.1nm,0.3s,baz=304,slow=22,SNR=1.4
comp=Z,1.9nm,0.8s
RES Resolute Bay 22.77 27 P P 21 45 11.9 -0.7
BW06 Boulder Array 22.95 120 P P 21 45 17.7 +2.7
baz=322,SNR=11
PDAR Pinedale Array 22.95 120 P P 21 45 17.0 +2.0
comp=Z,2.8nm,0.9s,baz=335,slow=5.6,SNR=20
comp=Z,2.8nm,0.9s
NVAR Mina Array Bea 23.09 141 P P 21 45 19.3 +2.8
comp=Z,2.6nm,1.0s,baz=322,slow=7.6,SNR=12
comp=Z,2.6nm,1.0s
NVAR Mina Array Bea 23.09 141 P P 21 45 14.8 -1.6
DUG Dugway, Tooele 23.62 129 P P 21 45 25.3 +3.6
baz=328,SNR=17
CTU Camp Tracy 23.65 127 P P 21 45 21.1 -0.9
CTU IAmb IAmb 21 45 27.4
comp=Z,30nm,1.4s
R11A Troy Canyon, C 24.13 136 P P 21 45 27.3 +0.6
baz=332
RSSD Black Hills 24.58 110 P P 21 45 33.1 +2.3
baz=316
ULM Lac du Bonnet 24.88 91 P P 21 45 35.0 +1.9
comp=Z,1.6nm,0.4s,baz=317,slow=9.4,SNR=3.5
comp=Z,1.6nm,0.4s
ULM Lac du Bonnet 24.88 91 P P 21 45 35.0 +1.9
TPNV Topopah Spring 25.13 139 P P 21 45 34.1 -1.6
TPNV IAmb IAmb 21 45 41.5
comp=Z,8.6nm,1.2s
TPNV Topopah Spring 25.13 139 P P 21 45 35.1 -0.6
baz=334
TPNV Topopah Spring 25.13 139 P P 21 45 34.1 -1.6
TPNV pmax pmax
comp=Z,9.0nm,1.3s
MPMC Manual Prospec 25.52 142 P P 21 45 42.0 +2.8
baz=336
ISA Isabella, Lake 25.56 144 P P 21 45 42.4 +2.9
baz=337
LRMC Laurel Mtn Rad 25.98 142 P P 21 45 45.2 +1.9
baz=337
AGMN Agassiz Nation 26.03 94 P P 21 45 45.2 +1.6
baz=308
N23A Red Feather La 26.10 118 P P 21 45 46.5 +1.9
baz=322
BILL Bilibino 26.58 315 P P 21 45 48.9 +0.5
BILL IAmb IAmb 21 45 53.8
comp=Z,9.5nm,1.2s
BILL Bilibino 26.58 315 *e*P P 21 45 48.7 +0.3
BILL *e*PPP PPP 21 46 33.4
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,665nm,18.0s
SUSD Miller 26.93 104 P P 21 45 50.2 -1.6
PFO Pinyon Flats O 28.09 142 *i* P P 21 46 06.2 +3.8
PFO pmax pmax
comp=Z,5.0nm,1.0s
WUAZ Wupatki 28.22 132 P P 21 46 06.2 +2.7
baz=331
S22A 4UR Ranch, Cre 28.23 123 P P 21 46 05.4 +1.6
baz=326
109C Camp Elliot, M 28.55 144 P P 21 46 07.4 +1.1
baz=338
ECSD EROS Data Cent 28.64 102 P P 21 46 07.9 +0.9
baz=314
W18A Petrified Fore 29.22 130 P P 21 46 10.4 -2.1
W18A IAmb IAmb 21 46 17.9
comp=Z,11nm,1.3s
ANMO Albuquerque 30.74 126 P P 21 46 27.0 +1.0
baz=328
ANMO Albuquerque 30.74 126 *ce*P P 21 46 28.4 +2.4
ANMO pmax pmax
comp=Z,11nm,2.5s
TUC Tucson 31.28 134 P P 21 46 33.0 +2.4
baz=334
KSU1 Kansas State U 32.03 109 P P 21 46 39.1 +2.1
baz=320
121A Cookes Peak, D 32.27 130 P P 21 46 41.6 +2.2
baz=331
MSTX Muleshoe 33.19 122 P P 21 46 46.4 -0.9
MSTX Muleshoe 33.19 122 P P 21 46 46.1 -1.3
baz=327
P38A Dawn 33.20 105 P P 21 46 47.8 +0.5
P38A IAmb IAmb 21 46 50.4
comp=Z,8.2nm,1.1s
SEY Seymchan 33.54 309 *ce*P P 21 46 50.4 +0.4
SEY pmax pmax
comp=Z,10.0nm,1.3s
MNTX Cornudas Mount 33.99 127 P P 21 46 52.4 -1.8
MNTX IAmb IAmb 21 46 59.6
comp=Z,21nm,1.7s
MNTX Cornudas Mount 33.99 127 P P 21 46 56.2 +2.0
baz=330,SNR=8.8
P40A Paris 34.03 103 P P 21 46 53.0 -1.5
L44A Lake County Fo 34.28 96 P P 21 46 58.1 +1.4
baz=315
WMOK Wichita Mounta 34.41 116 P P 21 46 59.9 +2.0
baz=325,SNR=5.6
HDIL Hopedale 34.71 99 P P 21 47 02.3 +1.9
baz=317
MA2 Magadan 35.79 304 *i* P P 21 47 10.1 +0.6
MA2 pmax pmax
comp=Z,13nm,1.1s
SFIN Lafayette 36.00 97 P P 21 47 12.9 +1.4
baz=317
MIAR Mount Ida 37.10 110 P P 21 47 23.5 +2.6
baz=323,SNR=5.1
O48B Farmland 37.11 96 P P 21 47 22.7 +1.8
baz=316
JCT Junction City 37.48 121 P P 21 47 23.3 -0.9
JCT IAmb IAmb 21 47 28.7
comp=Z,6.9nm,1.0s
JCT Junction City 37.48 121 P P 21 47 27.2 +3.0
baz=328
JCT Junction City 37.48 121 P P 21 47 23.3 -0.9
JCT pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 37.70 329 P P 21 47 26.4 +0.9
comp=Z,2.0nm,0.8s,baz=90,slow=23,SNR=8.5
comp=Z,2.0nm,0.8s
TIXI Tiksi 37.70 329 *ce*P P 21 47 25.5 0.0
TIXI pmax pmax
comp=Z,9.0nm,2.5s
M53A WI Miller and 38.63 90 P P 21 47 33.1 -0.7
baz=315
WVT Waverly 38.79 103 P P 21 47 33.1 -2.0
WVT IAmb IAmb 21 47 37.9
comp=Z,8.8nm,1.1s
WVT Waverly 38.79 103 P P 21 47 33.1 -2.0
WVT pmax pmax
comp=Z,9.0nm,1.2s
OXF Oxford 39.23 106 P P 21 47 38.8 -0.1
OXF Oxford 39.23 106 P P 21 47 41.0 +2.1
baz=322,SNR=6.2
OXF Oxford 39.23 106 P P 21 47 38.8 -0.1
OXF pmax pmax
comp=Z,36nm,1.0s
U49A Red Boiling Sp 39.56 100 P P 21 47 40.6 -1.0
U49A IAmb IAmb 21 47 44.5
comp=Z,9.1nm,1.0s
R53A Hurricane 40.21 95 P P 21 47 46.4 -0.6
VBMS Vicksburg 40.49 109 P P 21 47 52.2 +2.8
baz=324
SSPA Standing Stone 40.69 89 P P 21 47 51.7 +0.8
baz=316
FPAL Fort Paine 41.16 102 P P 21 47 54.0 -1.0
FPAL IAmb IAmb 21 47 57.8
comp=Z,17nm,0.9s
YAK Yakutsk 42.93 316 *ce*P P 21 48 10.4 +1.4
YAK pmax pmax
comp=Z,6.0nm,0.6s
KMSC Kings Mountain 42.93 98 P P 21 48 08.4 -0.9
KMSC IAmb IAmb 21 48 11.7
comp=Z,13nm,1.3s
KMSC Kings Mountain 42.93 98 P P 21 48 09.2 -0.2
baz=320
NRIK Noril'sk 48.87 341 P P 21 48 56.7 +0.9

comp=Z,3.1nm,0.7s,baz=74,slow=8.9,SNR=2.8
comp=Z,3.1nm,0.7s
NRIK Noril'sk 48.87 341 P **P** **21 48 55.3 -0.5**
NRIK IAmb IAmb 21 49 00.3
comp=Z,8.6nm,1.2s
NRIK Noril'sk 48.87 341 *ce*P **P** **21 48 54.2 -1.5**
NRIK pmax pmax
comp=Z,11nm,1.5s
KLR Kul'dur 50.85 302 P **P** **21 49 11.8 +0.8**
comp=Z,1.7nm,0.8s,baz=45,slow=6.0,SNR=3.9
comp=Z,1.7nm,0.8s
CMIG Matias Romero 51.31 125 P **P** **21 49 16.8 +1.9**
comp=Z,2.9nm,0.7s,baz=336,slow=11,SNR=5.3
comp=Z,2.9nm,0.7s
HEH HeiHe 52.00 306 *e*P **P** **21 49 20.6 +0.9**
HEH pmax pmax
comp=Z,7.0nm,1.1s
H11N2 WAKE ISLAND Hy 55.81 251 T T 22 50 24.8
baz=32,slow=76,SNR=229
H11N3 WAKE ISLAND Hy 55.82 251 T T 22 50 31.6
baz=32,slow=76,SNR=185
H11N1 WAKE ISLAND Hy 55.83 251 T T 22 50 26.1
baz=32,slow=76,SNR=141
HIA Hailar 55.97 310 *i* P **P** **21 49 50.2 +1.5**
HIA pmax pmax
comp=Z,4.0nm,1.2s
H11S1 WAKE ISLAND Hy 56.94 251 T T 22 50 47.9
baz=32
H11S2 WAKE ISLAND Hy 56.95 251 T T 22 51 34.1
baz=32,slow=74
H11S3 WAKE ISLAND Hy 56.96 251 T T 22 51 26.0
baz=32,slow=74
NB2 NORSAR Subarra 58.58 18 P **P** **21 50 07.5 +0.5**
comp=Z,2.0nm,0.9s,baz=343,slow=7.4
NOA NORSAR Array B 58.58 18 P **P** **21 50 07.7 +0.7**
comp=Z,1.9nm,0.9s,baz=344,slow=7.2,SNR=3.9
comp=Z,1.9nm,0.9s
FINES FINESS Array B 60.02 9 P **P** **21 50 17.3 +0.4**
comp=Z,2.2nm,0.8s,baz=308,slow=4.6,SNR=4.0
comp=Z,2.2nm,0.8s
KLMR Klimovskoe 61.33 2 *e*P **P** **21 50 23.1 -2.7**
KLMR AMP 21 50 38.8
comp=Z,34nm,2.1s
KLMR Klimovskoe 61.33 2 *e*P **P** **21 50 23.1 -2.7**
KLMR pmax pmax
comp=Z,34nm,2.1s
KSRS Korea Array 61.67 296 P **P** **21 50 29.9 +1.4**
comp=Z,2.7nm,1.0s,baz=32,slow=6.1,SNR=6.5
comp=Z,2.7nm,1.0s
ULN Ulaanbaatar 62.02 317 *ce*P **P** **21 50 32.0 +1.1**
ULN pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 62.28 317 P **P** **21 50 33.7 +1.1**
comp=Z,3.5nm,1.1s,baz=42,slow=10.0,SNR=10
comp=Z,3.5nm,1.1s
SONM Songino Array 62.28 317 P **P** **21 50 31.7 -0.9**
SONM IAmb IAmb 21 50 38.6
comp=Z,7.6nm,1.2s
ZAA0 Zalesovo Array 63.31 334 P **P** **21 50 38.5 -0.6**
ZALV Zalesovo Beam 63.31 334 P **P** **21 50 40.2 +1.1**
comp=Z,4.8nm,0.9s,baz=17,slow=6.7,SNR=14
comp=Z,4.8nm,0.9s
ZALV Zalesovo Beam 63.31 334 P **P** **21 50 39.2 +0.1**
SVE Sverdlovsk 64.55 349 *e*P **P** **21 50 48.8 +1.5**
SVE pmax pmax
comp=Z,10.0nm,1.3s
ARU Arti 65.13 351 *d i*P **P** **21 50 51.0 -0.1**
ARU 21 51 21.7
ARU S **S** **21 59 32.0 -2.2**
ARU pmax pmax
comp=Z,8.0nm,1.0s
HHC Hu-ho-hao-te 66.18 310 *e*P **P** **21 50 56.3 -1.9**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,950nm,5.6s
OBN Obninsk 66.99 4 *e*P **P** **21 51 03.6 +0.6**
OBN *e* 21 51 27.5
OBN *e* 21 53 29.2
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,680nm,17.0s
BRVK Borovoye 67.01 343 P **P** **21 51 03.0 -0.2**
BRVK Borovoye 67.01 343 *ce*P **P** **21 51 04.2 +1.0**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 67.70 337 P **P** **21 51 07.7 0.0**
KURK Kurchatov 67.70 337 *ce*P **P** **21 51 08.2 +0.6**
KURK pmax pmax
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 67.81 337 P **P** **21 51 09.2 +0.9**
comp=Z,4.8nm,0.9s,baz=19,slow=5.7,SNR=13
comp=Z,4.8nm,0.9s
BELG Belogornoye 69.78 357 *i* P **P** **21 51 19.5 -1.0**
BELG pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 70.66 20 P **P** **21 51 26.2 +0.1**
comp=Z,0.8nm,0.8s,baz=332,slow=3.3,SNR=4.3
comp=Z,0.8nm,0.8s
AKASG Malin Array Be 70.94 9 P **P** **21 51 28.3 +0.7**
comp=Z,2.4nm,0.8s,baz=353,slow=6.0,SNR=10
comp=Z,2.4nm,0.8s
AKASG Malin Array Be 70.94 9 P **P** **21 51 27.3 -0.3**
AKASG Malin Array Be 70.94 9 *ce*P **P** **21 51 28.2 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 70.94 9 P **P** **21 51 27.6 -0.1**
AKBB Malin Array Si 70.94 9 *ce*P **P** **21 51 26.2 -1.4**
AKBB pmax pmax
comp=Z,17nm,1.5s
LYN LuoYang 71.12 305 ⇑P **P** **21 51 31.8 +2.8**
LYN pmax pmax
comp=Z,10.0nm,0.6s
WMQ Urumqi 71.89 328 *e*P **P** **21 51 33.3 -0.3**
WMQ pP sP 21 51 37.8 +3.6
WMQ sP pP 21 51 42.4 +8.4
WMQ pmax pmax
comp=Z,10.0nm,1.1s
ABKAR Akbulak array 72.10 349 P **P** **21 51 34.0 -0.7**
XAN Xi'an 73.07 308 P **P** **21 51 39.5 -1.3**
XAN pmax pmax
comp=Z,8.0nm,1.3s
LZH Lanzhou 73.36 313 *e*P **P** **21 51 44.3 +1.7**
LZH sP PcP 21 51 54.8 -4.1
LZH pmax pmax
comp=Z,8.0nm,1.5s
ESDC Sonseca Array 74.91 36 P **P** **21 51 53.2 +1.7**
comp=Z,3.1nm,0.9s,baz=330,slow=6.5,SNR=16
comp=Z,3.1nm,0.9s
AAK Ala-Archa 76.26 337 P **P** **21 51 58.6 -0.7**
AAK IAmb IAmb 21 52 04.1
comp=Z,11nm,1.4s
AAK Ala-Archa 76.26 337 *ce*P **P** **21 52 00.9 +1.6**
AAK pmax pmax
comp=Z,7.0nm,1.3s
KK31 Karatay Array 76.60 340 P **P** **21 52 01.5 +0.4**
KK31 IAmb IAmb 21 53 20.5
comp=Z,3.3nm,0.4s
KK31 Karatay Array 76.60 340 P **P** **21 52 01.5 +0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 76.60 340 P **P** **21 52 01.3 +0.3**
KKAR Karatay Array 76.60 340 P **P** **21 52 01.3 +0.3**
KIV Kislovodsk 78.29 0 *e*P **P** **21 52 09.1 -1.5**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KSH Kashi 78.93 335 P P 21 52 19.0 +4.8
KSH pmax pmax
comp=Z,9.0nm,1.2s
BRTR Keskin Array B 82.19 7 P **P** **21 52 32.0 +0.3**
comp=Z,0.9nm,0.8s,baz=316,slow=6.0,SNR=3.0
comp=Z,0.9nm,0.8s
BRTR Keskin Array B 82.19 7 P **P** **21 52 32.0 +0.3**
PZH PanZhiHua 82.64 310 P **P** **21 52 33.4 -0.9**
PZH pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 90.96 308 P **P** **21 53 15.7 +0.8**
comp=Z,2.9nm,0.8s,baz=9.2,slow=4.1,SNR=16
comp=Z,2.9nm,0.8s
CMAR Chiang Mai Arr 90.96 308 *ce*P **P** **21 53 16.7 +1.8**
CMAR pmax pmax
comp=Z,4.0nm,1.0s
BOSA Boshof 147.97 31 PKPbc **PKiKP** **21 59 56.4 -1.4**
comp=Z,4.4nm,1.1s,baz=66,slow=11,SNR=1.9

IDC ***16*** *21:43:05.8±0.7, 40.°32N×144.°13E, h0km, mb3.9/17, mbtmp3.9/23, ML3.0/6, Error ellipse: s-maj=17.9km s-min=15.8km az=95.0*
NIED ***16*** *21:43:09.3, 40.°38N×143.°76E, h30km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.87; Mθθ1.23; Mθφ-3.10; Mrθ1.82; Mθφ-0.51; Mφφ1.94; Fault plane solution: M₀3.81000×10¹⁵ NP1:ϕ₀36.00000°, δ72.00000°, λ120.00000°. NP2:ϕ₀154.00000°, δ34.00000°, λ33.00000°.*
JMA ***16*** *21:43:09.3±0.2, 40.°4N±0.°7×14.°4E±.°, h30km, MV4.0/30, FAR E OFF SANRIKU*
NEIC ***16*** *21:43:10.1±1.0, 40.°41N±0.°07×143.°9E±0.°2, h23km±6km, mb4.3/11, Error ellipse: s-maj=17.5km s-min=9.3km az=107.0*

ISC 16 21:43:08.4±4.3, 40.°37N±0.°05×143.°93E±0.°07, h15km±27km, n73, σ1$22/76, mb4.2/25, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.64**	**255**	P	**Pn**	**21 43 35.3**	**-1.4**
JKEN	**Kujiedanarisaw**	**1.70**	**265**	P	**Pn**	**21 43 36.0**	**-1.6**
ERM	**Erimo**	**1.74**	**341**		**Pn**	**21 43 37.8**	**-0.3**
JEM	**Erimo**	**1.74**	**341**	*e*P	**Pn**	**21 43 37.2**	**-0.9**
MIYJ	**Miyakonagasawa**	**1.80**	**245**	P	**Pn**	**21 43 37.9**	**-1.0**
MIYJ				*e*S	**Sn**	**21 43 58.1**	**-3.4**
JANG	**Nango**	**1.84**	**271**	P	**Pn**	**21 43 38.1**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.10**	**336**	*e*P	**Pn**	**21 43 43.4**	**+0.3**
JNBK				*e*S	**Sn**	**21 44 08.0**	**-0.8**
JOM	**Ohasama**	**2.22**	**247**	P	**Pn**	**21 43 44.3**	**-0.2**
JTM	**Tenmabayashi**	**2.22**	**282**		**Pn**	**21 43 44.3**	**-0.3**
JCH	**Churui**	**2.28**	**349**	*e*P	**Pn**	**21 43 45.9**	**+0.5**
JCH				*e*S	**Sn**	**21 44 12.8**	**-0.5**
JOT	**Ohata**	**2.41**	**296**	P	**Pn**	**21 43 46.9**	**-0.3**
JMK	**Ichinoseki**	**2.52**	**237**	P	**Pn**	**21 43 48.6**	**-0.2**
JAK	**Akkeshi**	**2.69**	**12**	*e*P	**Pn**	**21 43 52.4**	**+1.4**
JAK				*e*S	**Sn**	**21 44 23.0**	**-0.3**
JAR	**Ashorobuto**	**2.93**	**358**	P	**Pn**	**21 43 54.6**	**+0.2**
JAR				*S*	**Sn**	**21 44 27.8**	**-1.4**
JEW	**Eniwo**	**3.09**	**324**	*e*P	**Pn**	**21 43 58.0**	**+1.4**
JEW				*e*S	**Sn**	**21 44 33.6**	**+0.4**
JYK	**Kaneyama**	**3.11**	**243**	*e*P	**Pn**	**21 43 57.0**	**+0.1**
NEM2	**Nemuro 2**	**3.28**	**24**	*e*P	**Pn**	**21 44 00.3**	**+1.0**
NEM2				*e*S	**Sn**	**21 44 37.0**	**-1.0**
JTKR	**Abashiri--Toko**	**3.60**	**360**	*e*P	**Pn**	**21 44 04.6**	**+1.0**
JTKR				S	**Sn**	**21 44 44.6**	**-1.1**
JKA	**Kamikawa-asahi**	**3.87**	**346**	Pn	**Pn**	**21 44 07.5**	**+0.2**
ASAJ	**Asahikawa**	**3.87**	**346**	Pn	**Pn**	**21 44 08.8**	**+1.5**
	1.2nm,0.3s,baz=178,slow=29,SNR=2.1						
ASAJ				Sn	**Sb**	**21 44 58.5**	**-4.4**
	3.4nm,0.3s,baz=60,slow=27,SNR=2.5						
	13nm,0.9s						
JSD	**Sado**	**4.98**	**244**	Pn	**Pn**	**21 44 23.5**	**+0.9**
MJAR	**Matsushiro Arr**	**5.89**	**231**	Pn	**Pn**	**21 44 35.9**	**+0.7**
	0.3nm,0.3s,baz=41,slow=11,SNR=14						
	6.7nm,0.7s						
MAJO	**Matsushiro**	**5.89**	**231**	Pn	**Pn**	**21 44 34.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**5.89**	**231**	Pn	**Pn**	**21 44 36.1**	**+0.9**
JGF	**Kuroka**	**7.04**	**230**	Pn	**Pn**	**21 44 51.9**	**+0.9**
INU	**Inuyama**	**7.42**	**230**	Pn	**Pn**	**21 44 56.6**	**+0.6**
USA0B	**Ussuriysk Arra**	**9.64**	**297**	Pn	**Pn**	**21 45 26.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**9.64**	**297**	Pn	**Pn**	**21 45 29.7**	**+3.2**
	1.0nm,0.3s,baz=97,slow=15,SNR=14						
	12nm,0.7s						
USRK	**Ussuriysk Ar.**	**9.64**	**297**	Pn	**Pn**	**21 45 25.9**	**-0.5**
JHS	**Saijyo**	**10.10**	**241**	Pn	**Pn**	**21 45 34.5**	**+1.6**
KLR	**Kul'dur**	**12.37**	**320**	Pn	**Pn**	**21 46 04.3**	**+0.6**
	baz=129,slow=12,SNR=6.1						
	4.2nm,1.1s						
KSRS	**Korea Array**	**12.80**	**262**	Pn	**Pn**	**21 46 12.8**	**+3.0**
	0.2nm,0.3s,baz=84,slow=29,SNR=1.4						
	1.3nm,0.8s						
PETK	**Petropavlovsk-**	**15.82**	**32**	Pn	**Pn**	**21 46 48.7**	**-1.7**
	baz=230,slow=13,SNR=1.6						
	3.5nm,1.0s						
SEY	**Seymchan**	**23.16**	**10**	P	**P**	**21 48 13.8**	**0.0**
	2.3nm,0.7s,baz=185,slow=6.1,SNR=4.3						
	2.3nm,0.7s						
SONM	**Songino Array**	**27.75**	**298**	P	**P**	**21 48 56.8**	**+0.4**
	1.0nm,0.7s,baz=94,slow=8.7,SNR=7.4						
	1.0nm,0.7s						
SONM	**Songino Array**	**27.75**	**298**	P	**P**	**21 48 55.4**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**28.46**	**130**	T	T	22 18 52.2	
	baz=322,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.47**	**130**	T	T	22 18 59.0	
	baz=322,slow=75,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**28.48**	**130**	T	T	22 18 55.7	
	baz=322,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.30**	**131**	T	T	22 20 05.8	
	baz=323,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**29.31**	**131**	T	T	22 20 02.5	
	baz=323,slow=76,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**29.32**	**131**	T	T	22 20 02.5	
	baz=323,slow=76,SNR=6.4						
TIXI	**Tiksi**	**32.26**	**351**	P	**P**	**21 49 36.2**	**+0.4**
	0.9nm,0.3s,baz=90,slow=23,SNR=4.0						
	0.9nm,0.3s						
ZAA0	**Zalesovo Array**	**41.21**	**310**	P	**P**	**21 50 52.6**	**+0.4**
ZAA0				IAmb	IAmb	21 50 53.9	
	comp=Z,4.1nm,0.8s						
ZALV	**Zalesovo Beam**	**41.21**	**310**	P	**P**	**21 50 53.3**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=81,slow=9.2,SNR=8.4						
	comp=Z,2.8nm,0.7s						
CRAI	**Chiangrai**	**42.12**	**255**	P	**P**	**21 50 59.8**	**-0.3**
CRAI				IAmb	IAmb	21 51 05.3	
	comp=Z,9.9nm,1.5s						
MK31	**Makanchi Array**	**44.10**	**300**	P	**P**	**21 51 15.1**	**-0.7**
MK31				IAmb	IAmb	21 51 33.8	
	comp=Z,4.2nm,0.8s						
MKAR	**Makanchi Array**	**44.10**	**300**	P	**P**	**21 51 16.6**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=82,slow=8.7,SNR=29						
	comp=Z,3.6nm,0.8s						
MKAR	**Makanchi Array**	**44.10**	**300**	P	**P**	**21 51 16.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**44.28**	**254**	P	**P**	**21 51 18.8**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=51,slow=5.8,SNR=4.2						
	comp=Z,0.6nm,0.7s						
MAKZ	**Makanchi**	**44.30**	**300**	P	**P**	**21 51 17.5**	**+0.1**
MAKZ				IAmb	IAmb	21 51 30.1	
	comp=Z,9.8nm,0.9s						
KURK	**Kurchatov**	**45.50**	**306**	P	**P**	**21 51 27.7**	**+0.8**
KURK				IAmb	IAmb	21 51 28.5	
	comp=Z,8.1nm,1.1s						
KURBB	**Kurchatov Arra**	**45.57**	**306**	P	**P**	**21 51 27.9**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=78,slow=8.4,SNR=17						
	comp=Z,4.2nm,0.5s						
BRVK	**Borovoye**	**49.89**	**311**	P	**P**	**21 52 01.0**	**+0.1**
BRVK				IAmb	IAmb	21 52 03.4	
	comp=Z,3.4nm,1.1s						
HNR	**Honiara**	**51.72**	**160**	P	**P**	**21 52 12.9**	**-2.1**
	comp=Z,2μm,0.5s,baz=165,slow=7.1,SNR=4.6						
BATI	**Baumata**	**53.70**	**205**	P	**P**	**21 52 29.2**	**-0.6**
	comp=Z,12nm,0.5s,baz=44,slow=23,SNR=1.4						
ABKAR	**Akbulak array**	**57.32**	**309**	P	**P**	**21 52 55.7**	**+0.2**
YKA	**Yellowknife Ar**	**59.94**	**32**	P	**P**	**21 53 12.2**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=298,slow=6.3,SNR=1.9						
	comp=Z,0.2nm,0.7s						
WRA	**Warramunga Arr**	**60.66**	**190**	P	**P**	**21 53 19.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=8.3,slow=7.0,SNR=4.7						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**60.66**	**190**	P	**P**	**21 53 18.8**	**-0.1**
GEYT	**Aiikeck**	**63.95**	**299**	P	**P**	**21 53 41.4**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=12,slow=7.4,SNR=4.7						
	comp=Z,2.0nm,0.8s						
FIA1	**FINESS Array S**	**66.77**	**332**	P	**P**	**21 53 59.0**	**+0.4**
FINES	**FINESS Array B**	**66.78**	**332**	P	**P**	**21 53 59.0**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=54,slow=8.8,SNR=9.3						
	comp=Z,2.5nm,0.8s						
KBZ	**Khabaz**	**70.22**	**311**	P	**P**	**21 54 22.4**	**+1.8**
	comp=Z,2.1nm,0.9s,baz=99,slow=1.3,SNR=6.1						
	comp=Z,2.1nm,0.9s						
NVAR	**Mina Array Bea**	**71.44**	**55**	P	**P**	**21 54 28.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=291,slow=7.6,SNR=1.6						
	comp=Z,0.2nm,0.5s						
NB2	**NORSAR Subarra**	**71.86**	**338**	P	**P**	**21 54 31.3**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.86**	**338**	P	**P**	**21 54 31.2**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=38,slow=5.9,SNR=3.9						
	comp=Z,1.1nm,0.9s						
AKASG	**Malin Array Be**	**72.85**	**323**	P	**P**	**21 54 36.8**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=44,slow=5.8,SNR=12						
	comp=Z,1.7nm,0.7s						
PDAR	**Pinedale Array**	**73.94**	**47**	P	**P**	**21 54 43.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=268,slow=2.6,SNR=2.2						
	comp=Z,0.2nm,0.6s						
BUR08	**Bucovina Ar. S**	**76.88**	**322**	P	**P**	**21 55 00.1**	**+0.3**
BURAR	**Bucovina Array**	**76.89**	**322**	P	**P**	**21 54 59.6**	**-0.2**
BURAR				IAmb	IAmb	21 55 02.7	
	comp=Z,1.8nm,0.8s						
VYHS	**Vyhne**	**79.07**	**326**	*e*	**P**	**21 55 13.9**	**+2.0**
GERES	**GERESS Array B**	**80.88**	**329**	P	**P**	**21 55 21.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=53,slow=3.8,SNR=1.6						
	comp=Z,0.2nm,0.5s						

ISK ***16*** *22:11:26.1, 36.°20N×27.°94E, h75km±1km, ML2.9/20*
ATH ***16*** *22:11:26.5, 36.°19N×28.°00E, h77km±3km, ML3.0/3, Error ellipse: s-maj=3.3km s-min=1.3km az=7.0*
THE ***16*** *22:11:27.9, 36.°17N×27.°99E, h71km±1km, ML2.7/4, Error ellipse: s-maj=1.3km s-min=0.6km az=113.0*
DDA ***16*** *22:11:27.9±0.0, 36.°30N×27.°96E, h54km±4km, ML2.7*
GII ***16*** *22:11:31.1±0.7, 35.°73N×28.°30E, h75km*

ISC 16 22:11:26.1±1.2, 36.°11N±0.°03×28.°05E±0.°03, h72km±8km, n50, σ1$49/86, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.12**	**29**	P	**Pn**	**22 11 37.8**	**+1.1**
ARG				S	**Sn**	**22 11 46.0**	**+1.6**
	992nm,0.1s						
ARG	**Arkhangelos**	**0.12**	**29**	Pg	**Pn**	**22 11 37.7**	**+1.1**
ARG				Sg	**Sn**	**22 11 46.1**	**+1.6**
ARG	**Arkhangelos**	**0.12**	**29**	P	**Pn**	**22 11 37.9**	**+1.1**
ARG				S	**Sn**	**22 11 45.6**	**+1.2**
ARG				AML	AML	22 11 46.6	
	comp=E,2534μm,0.2s						
ARG				AML	AML	22 11 47.0	
	comp=N,1401μm,0.2s						
DAT	**Datca**	**0.73**	**328**	P	**Pn**	**22 11 41.4**	**-0.1**
DAT				S	**Sn**	**22 11 51.9**	**-1.1**
DAT	**Datca**	**0.73**	**328**	Pg	**Pn**	**22 11 41.5**	**-0.1**
DAT				Sg	**Sn**	**22 11 51.9**	**-1.1**
DALY	**Dalyan (Mula)**	**0.86**	**34**	Pg	**Pn**	**22 11 43.7**	**+0.8**
DALY				Sg	**Sn**	**22 11 56.2**	**+0.8**
NISR	**Nisiros**	**0.90**	**304**	P	**Pn**	**22 11 43.1**	**-0.3**
NISR				S	**Sn**	**22 11 55.0**	**-1.4**
KARP	**Karpathos**	**0.92**	**233**	P	**Pn**	**22 11 44.4**	**+0.7**
KARP				S	**Sn**	**22 11 57.2**	**+0.4**
KARP	**Karpathos**	**0.92**	**233**	Pg	**Pn**	**22 11 44.4**	**+0.7**
KARP				Sg	**Sn**	**22 11 57.2**	**+0.4**
KARP	**Karpathos**	**0.92**	**233**	P	**Pn**	**22 11 44.4**	**+0.7**
KARP				S	**Sn**	**22 11 57.2**	**+0.4**
KARP				AML	AML	22 11 57.6	
	comp=N,3826μm,0.1s						
KARP				AML	AML	22 11 57.7	
	comp=E,4295μm,0.1s						
FETY	**Fethiye**	**0.98**	**57**	Pg	**Pn**	**22 11 45.5**	**+1.0**
YER	**Yerkesik**	**1.04**	**10**	P	**Pn**	**22 11 45.7**	**+0.5**
YER				S	**Sn**	**22 11 59.1**	**-0.4**
YER	**Yerkesik**	**1.04**	**10**	Pg	**Pn**	**22 11 45.7**	**+0.5**
BDRM	**Kayabasi**	**1.07**	**333**	P	**Pn**	**22 11 45.1**	**-0.5**
BDRM				S	**Sn**	**22 11 58.7**	**-1.5**
BDRM				*i* AML	AML	22 11 59.0	
	comp=E,310nm,0.4s						
MULA	**Mugla, Merkez-**	**1.16**	**11**	P	**Pn**	**22 11 48.1**	**+1.3**
MULA				S	**Sn**	**22 12 03.8**	**+1.4**
MLSB	**Milas**	**1.21**	**349**	Pn	**Pn**	**22 11 47.3**	**0.0**
MLSB				Sn	**Sn**	**22 12 02.2**	**-1.0**
KSL	**Kastellorizon**	**1.24**	**88**	P	**Pn**	**22 11 49.4**	**+1.7**
KSL	**Kastellorizon**	**1.24**	**88**	P	**Pn**	**22 11 48.5**	**+0.8**
KSL				S	**Sn**	**22 12 05.2**	**+1.4**
AKAS	**Kas**	**1.26**	**84**	Pn	**Pn**	**22 11 49.8**	**+1.7**
CAME	**Cameli-Denizli**	**1.30**	**50**	Pn	**Pn**	**22 11 50.4**	**+1.7**
CAME				Sn	**Sn**	**22 12 07.2**	**+1.5**
TAVA	**DENIZLI_Tavas**	**1.52**	**27**	P	**Pn**	**22 11 52.2**	**+0.8**
TAVA				S	**Sn**	**22 12 10.9**	**+0.3**
TAVA				*i* AML	AML	22 12 11.0	
	comp=E,98nm,0.4s						
TAVA				*i* AML	AML	22 12 15.0	
	comp=E,102nm,0.5s						
AYDN	**Tasoluk**	**1.56**	**355**	P	**Pn**	**22 11 52.0**	**+0.1**
AYDN				S	**Sn**	**22 12 09.8**	**-1.6**
ELL	**Elmali**	**1.63**	**66**	Pn	**Pn**	**22 11 54.9**	**+2.0**
GOLH	**Golhisar**	**1.65**	**47**	P	**Pn**	**22 11 55.0**	**+1.7**
GOLH				S	**Sn**	**22 12 15.0**	**+1.2**
GOLH				*i* AML	AML	22 12 17.0	
	comp=E,86nm,0.3s						
GOLH				*i* AML	AML	22 12 17.0	
	comp=E,94nm,0.5s						
APMY	**Acipayam-Deniz**	**1.69**	**36**	Pn	**Pn**	**22 11 54.6**	**+0.9**
APMY				Sn	**Sn**	**22 12 15.2**	**+0.6**
GCAM	**G?zelcaml?**	**1.72**	**338**	Pn	**Pn**	**22 11 53.8**	**-0.2**
GCAM				Sn	**Sn**	**22 12 13.2**	**-1.9**
GCAM	**G?zelcaml?**	**1.72**	**338**	P	**Pn**	**22 11 53.7**	**-0.3**
GCAM				S	**Sn**	**22 12 13.0**	**-2.1**
GCAM				*i* AML	AML	22 12 14.0	
	comp=E,75nm,0.2s						
GCAM				*i* AML	AML	22 12 14.0	
	comp=E,78nm,0.2s						
ZKR	**Zakros**	**1.80**	**237**	P	**Pn**	**22 11 56.6**	**+1.6**
ZKR				S	**Sn**	**22 12 18.4**	**+1.4**
	comp=E,202nm,0.4s						
ZKR	**Zakros**	**1.80**	**237**	Pn	**Pn**	**22 11 56.4**	**+1.4**
ZKR				Sn	**Sn**	**22 12 17.8**	**+0.8**
ZKR	**Zakros**	**1.80**	**237**	P	**Pn**	**22 11 56.2**	**+1.2**
ZKR				S	**Sn**	**22 12 17.4**	**+0.4**
ZKR				AML	AML	22 12 18.5	
	comp=E,568μm,0.4s						
ZKR				AML	AML	22 12 20.7	
	comp=N,243μm,0.4s						
KORT	**Korkueli**	**2.05**	**64**	Pn	**Pn**	**22 12 00.8**	**+2.2**
FRMA	**Ierapetra Chan**	**2.19**	**241**	P	**Pn**	**22 11 59.9**	**-0.3**
FRMA				S	**Sn**	**22 12 24.0**	**-2.4**
APE	**Apeiranthos**	**2.25**	**296**	Pn	**Pn**	**22 12 01.1**	**0.0**
APE	**Apeiranthos**	**2.25**	**296**	P	**Pn**	**22 12 01.0**	**-0.1**
BASM	**Basmaki-Afyon**	**2.41**	**41**	Pn	**Pn**	**22 12 04.3**	**+0.9**
KULA	**Kula-Manisa**	**2.45**	**11**	Pn	**Pn**	**22 12 03.6**	**-0.3**
PASA	**Karahalli, USA**	**2.51**	**27**	P	**Pn**	**22 12 04.5**	**-0.2**
PASA				S	**Sn**	**22 12 31.9**	**-2.5**
HRKL	**Herakleio**	**2.53**	**253**	Pn	**Pn**	**22 12 06.2**	**+1.3**
URLA	**Izmir**	**2.53**	**333**	Pn	**Pn**	**22 12 04.1**	**-0.8**
IDI	**Anoyia**	**2.70**	**253**	P	**Pn**	**22 12 07.0**	**-0.3**
IDI				S	**Sn**	**22 12 38.9**	**-0.1**
	comp=N,58nm,0.3s						
USAK	**Uak-Merkez**	**2.71**	**16**	P	**Pn**	**22 12 07.2**	**-0.2**
USAK				S	**Sn**	**22 12 37.2**	**-1.9**
USAK				*i* AML	AML	22 12 38.0	
	comp=N,34nm,0.8s						
SHUT	**Suhut-Afyon**	**3.15**	**38**	Pn	**Pn**	**22 12 14.1**	**+0.7**
IMMV	**Iera Moni Meta**	**3.37**	**260**	P	**Pn**	**22 12 16.1**	**-0.3**
IMMV				S	**Sn**	**22 12 53.9**	**-1.4**
	comp=N,48nm,0.5s						
MMA0B	**Mount Meron ar**	**6.80**	**115**	Pn	**Pn**	**22 13 03.5**	**+0.2**
MMA0B			

0.3nm,0.3s,baz=10,slow=21,SNR=7.1
1.6nm,0.7s
CTA Charters Tower 18.10 155 P **Pn** 22 21 12.4 +2.0
0.5nm,0.3s,baz=338,slow=11,SNR=11
7.3nm,0.7s
ASAR Alice Springs 20.41 192 P Pn 22 21 35.7 -2.0
11nm,0.7s,baz=21,slow=9.5,SNR=144
ASAR S **S** **22 25 17.8 -0.1**
1.1nm,0.6s,baz=14,slow=23,SNR=4.9
11nm,0.7s
MKAR Makanchi Array 70.29 323 P **P** **22 28 09.3 +1.1**
0.1nm,0.5s,baz=102,slow=7.8,SNR=4.4
0.1nm,0.5s

NIED ***16*** *22:35:22.2, 38.°65N×142.°16E, h40km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.36; Mθθ-0.56; Mφφ-0.80; Mrθ0.44; Mrφ-0.85; Mθφ1.12; Fault plane solution: M₀1.89000×10¹⁵ NP1:φs28.00000°, δ65.00000°, λ78.00000°. NP2:φs235.00000°, δ27.00000°, λ114.00000°.*
JMA ***16*** *22:35:22.2±0.1, 38.°7N±0.°2×142.°2E±0.°6, h40km±1km, MD3.9/40, MV4.1/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
NEIC ***16*** *22:35:24.8±1.1, 38.°70N±0.°10×142.°1E±0.°2, h59km±10km, mb4.3/13, Error ellipse: s-maj=22.5km s-min=8.7km az=121.0*
IDC ***16*** *22:35:24.3±2.5, 38.°67N×142.°12E, h57km±21km, mb3.6/10, mbtmp3.9/14, ML3.4/4, MS3.3/4, Error ellipse: s-maj=26.1km s-min=15.5km az=106.0*
ISC 16 22:35:22.7±1.5,**38.°65N**±0.°05×**142.°13E**±0.°09,**h43**km±11km, **n87,σ1s19/80, mb4.1**/17,**17D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.54**	**288**	⇓*i*P		**Pn**	**22 35 33.8**	**-0.3**
JKMT				⇓S		**Sn**	**22 35 41.8**	**-0.4**
OFUJ	**Ofunato**	**0.57**	**320**	⇓*i*P		**Pn**	**22 35 34.1**	**-0.3**
OFUJ				⇓S		**Sn**	**22 35 42.4**	**-0.4**
OFUJ	**Ofunato**	**0.57**	**320**	A		A	22 35 34.1	
	comp=E,9.0nm,0.8s,comp=E,7.0nm,1.3s							
JIKH	**Ishinomakikobu**	**0.62**	**238**	⇓*i*P		**Pn**	**22 35 34.7**	**-0.4**
JIKH				⇓S		**Sn**	**22 35 43.2**	**-0.8**
JIKH	**Ishinomakikobu**	**0.62**	**238**	A		A	22 35 34.7	
	comp=E,30nm,0.3s,comp=E,25nm,1.1s							
JIO	**Ouri**	**0.64**	**253**	⇓*i*P		**Pn**	**22 35 35.0**	**-0.4**
JIO				⇓S		**Sn**	**22 35 44.0**	**-0.5**
JIO	**Ouri**	**0.64**	**253**	A		A	22 35 35.0	
	comp=E,10.0nm,0.5s,comp=E,11nm,1.3s							
JMK	**Ichinoseki**	**0.78**	**294**	⇓*i*P		**Pn**	**22 35 37.1**	**-0.1**
JMK				⇓S		**Sn**	**22 35 47.9**	**+0.2**
JOM	**Ohasama**	**1.05**	**322**	⇓*i*P		**Pn**	**22 35 41.1**	**+0.1**
JOM				⇓S		**Sn**	**22 35 54.9**	**+0.3**
JOM	**Ohasama**	**1.05**	**322**	A		A	22 35 41.1	
	comp=E,7.0nm,0.2s,comp=E,4.0nm,0.2s							
JOU	**Okura**	**1.19**	**257**	⇓*i*P		**Pn**	**22 35 43.0**	**+0.1**
JOU				⇓S		**Sn**	**22 35 58.4**	**+0.6**
JOU	**Okura**	**1.19**	**257**	A		A	22 35 43.0	
	comp=E,8.0nm,1.4s,comp=E,7.0nm,2.1s							
JMM	**Marumori**	**1.31**	**234**			**Pn**	**22 35 43.9**	**-0.6**
JMM	**Marumori**	**1.31**	**234**	P		**Pn**	**22 35 44.2**	**-0.3**
JMM	**Marumori**	**1.31**	**234**	⇓*i*P		**Pn**	**22 35 44.1**	**-0.4**
JMM				⇓S		**Sn**	**22 36 00.2**	**-0.6**
JMST	**Minamisoumatoc**	**1.34**	**227**	A		A	22 35 45.4	
	comp=E,3.0nm,0.4s,comp=E,3.0nm,1.4s							
JRG	**Rokugo**	**1.39**	**303**	*i* P		**Pn**	**22 35 46.0**	**+0.4**
JYK	**Kaneyama**	**1.41**	**282**	⇓*i*P		**Pn**	**22 35 46.3**	**+0.4**
JFK	**Kawauchi**	**1.62**	**218**	P		**Pn**	**22 35 48.3**	**-0.5**
JFK				S		**Sn**	**22 36 07.3**	**-1.1**
JYS	**Shirataka**	**1.68**	**256**	A		A	22 35 50.3	
	comp=E,5.0nm,1.0s,comp=E,4.0nm,1.3s							
JYAR	**Yonezawaarcadi**	**1.73**	**246**	A		A	22 35 51.0	
	comp=E,15nm,1.1s,comp=E,9.0nm,1.1s							
JTM	**Tenmabayashi**	**2.29**	**339**	Pn		**Pn**	**22 35 59.0**	**+1.1**
JTM	**Tenmabayashi**	**2.29**	**339**	P		**Pn**	**22 35 58.9**	**+0.9**
JSD	**Sado**	**3.10**	**260**	Pn		**Pn**	**22 36 08.7**	**-0.4**
JSD	**Sado**	**3.10**	**260**	P		**Pn**	**22 36 09.7**	**+0.6**
ERM	**Erimo**	**3.46**	**13**	Pn		**Pn**	**22 36 14.8**	**+0.8**
ERM	**Erimo**	**3.46**	**13**	P		**Pn**	**22 36 14.8**	**+0.8**
JEM	**Erimo**	**3.46**	**13**	P		**Pn**	**22 36 14.9**	**+0.9**
MJAR	**Matsushiro Arr**	**3.76**	**237**	P		**Pn**	**22 36 19.9**	**+1.7**
	1.5nm,0.3s,baz=38,slow=13,SNR=44							
MJAR				S		**Sn**	**22 37 06.4**	**+5.2**
	7.2nm,0.4s,baz=152,slow=29,SNR=1.7							
MJAR				LR		LR	22 38 00.1	
	comp=Z,316nm,20.8s,baz=54,slow=41							
	18nm,0.5s							
MAJO	**Matsushiro**	**3.76**	**237**	Pn		**Pn**	**22 36 20.3**	**+2.1**
MAJO	**Matsushiro**	**3.76**	**237**	P		**Pn**	**22 36 20.4**	**+2.2**
MJB9	**Matsu-Tunnel**	**3.76**	**237**	Pn		**Pn**	**22 36 20.8**	**+2.7**
JGF	**Kuroka**	**4.88**	**233**	Pn		**Pn**	**22 36 36.0**	**+2.5**
JGF	**Kuroka**	**4.88**	**233**	P		**Pn**	**22 36 36.1**	**+2.5**
INU	**Inuyama**	**5.25**	**233**	Pn		**Pn**	**22 36 40.0**	**+1.3**
INU	**Inuyama**	**5.25**	**233**	P		**Pn**	**22 36 41.9**	**+3.3**
ASAJ	**Asahikawa**	**5.48**	**4**	P		**Pn**	**22 36 42.0**	**+0.3**
	1.9nm,0.3s,baz=177,slow=32,SNR=2.3							
ASAJ				S		**Sn**	**22 37 45.5**	**+2.1**
	9.8nm,0.6s,baz=348,slow=31,SNR=1.5							
	4.8nm,0.3s							
JKA	**Kamikawa-asahi**	**5.48**	**4**	Pn		**Pn**	**22 36 41.9**	**+0.1**
JHS	**Saijyo**	**8.09**	**246**	Pn		**Pn**	**22 37 19.9**	**+2.2**
JHS	**Saijyo**	**8.09**	**246**	P		**Pn**	**22 37 18.2**	**+0.5**
JMN	**Monobe**	**8.28**	**236**	Pn		**Pn**	**22 37 21.8**	**+1.5**
USA0B	**Ussuriysk Arra**	**9.42**	**309**	Pn		Pn	22 37 41.1	+5.3
USRK	**Ussuriysk Ar.**	**9.42**	**309**	P		**Pn**	**22 37 35.9**	**+0.1**
	0.3nm,0.3s,baz=132,slow=20,SNR=1.6							
	3.3nm,0.7s							
USRK	**Ussuriysk Ar.**	**9.42**	**309**	Pn		Pn	22 37 42.1	+6.3
JNU	**Nakatsue**	**10.62**	**242**	LR		LR	22 42 18.4	
	comp=Z,196nm,18.6s,baz=28,slow=39							
KSRS	**Korea Array**	**11.27**	**268**	P		**Pn**	**22 38 03.5**	**+2.4**
	0.2nm,0.3s,baz=85,slow=14,SNR=7.1							
KSRS				LR		LR	22 42 00.1	
	comp=Z,122nm,19.2s,baz=340,slow=35							
	2.0nm,0.6s							
KLR	**Kul'dur**	**12.95**	**328**	LR		LR	22 43 01.6	
	comp=Z,192nm,19.3s,baz=316,slow=35							
SONM	**Songino Array**	**27.40**	**301**	P		**P**	**22 41 04.1**	**0.0**
	0.3nm,0.4s,baz=116,slow=10,SNR=2.4							
	0.3nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.53**	**124**	T		T	23 11 36.5	
	baz=317,slow=76,SNR=257							
H11N1	**WAKE ISLAND Hy**	**28.54**	**124**	T		T	23 11 36.4	
	baz=317,slow=76,SNR=210							
H11N3	**WAKE ISLAND Hy**	**28.55**	**124**	T		T	23 11 39.3	
	baz=317,slow=76,SNR=93							
H11S1	**WAKE ISLAND Hy**	**29.30**	**126**	T		T	23 12 30.1	
	baz=318,slow=76,SNR=74							
H11S3	**WAKE ISLAND Hy**	**29.30**	**126**	T		T	23 12 30.3	
	baz=318,slow=76,SNR=78							
H11S2	**WAKE ISLAND Hy**	**29.32**	**126**	T		T	23 12 31.3	
	baz=318,slow=76,SNR=82							
CRAI	**Chiangrai**	**40.33**	**255**	P		**P**	**22 42 56.2**	**+0.1**
CRAI				IAmb		IAmb	22 43 00.4	
	comp=Z,4.7nm,1.1s							
ZAA0	**Zalesovo Array**	**41.27**	**311**	P		**P**	**22 43 02.9**	**-0.6**
ZALV	**Zalesovo Beam**	**41.27**	**311**	P		**P**	**22 43 03.5**	**0.0**
	comp=Z,1.4nm,0.5s,baz=86,slow=7.9,SNR=8.7							
	comp=Z,1.4nm,0.5s							
ZALV	**Zalesovo Beam**	**41.27**	**311**	P		**P**	**22 43 02.9**	**-0.7**
MK31	**Makanchi Array**	**43.77**	**301**	P		**P**	**22 43 23.6**	**-0.3**
MKAR	**Makanchi Array**	**43.77**	**301**	P		**P**	**22 43 24.1**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=85,slow=8.7,SNR=25							
	comp=Z,2.4nm,0.7s							
MKAR	**Makanchi Array**	**43.77**	**301**	P		**P**	**22 43 23.7**	**-0.2**
MAKZ	**Makanchi**	**43.97**	**301**	P		**P**	**22 43 25.6**	**-0.1**
KURK	**Kurchatov**	**45.40**	**307**	P		**P**	**22 43 36.4**	**-0.5**
JIRN	**Jiri**	**47.45**	**274**	*e*P		**P**	**22 43 53.4**	**-0.3**
	comp=Z,1.8nm,0.3s							
RAMN	**Ramite**	**47.47**	**273**	*e*P		**P**	**22 43 53.5**	**-0.2**
ILAR	**Eielson Array**	**47.83**	**33**	P		**P**	**22 43 56.2**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=266,slow=6.0,SNR=6.1							
	comp=Z,0.3nm,0.6s							
PKI	**Pulchoki**	**48.11**	**274**	*e*P		**P**	**22 43 58.1**	**-0.6**
GKN	**Gorkha**	**48.51**	**275**	*e*P		**P**	**22 44 01.3**	**-0.3**
	comp=Z,6.6nm,0.2s							
DANN	**Dangsing**	**49.03**	**276**	*e*P		**P**	**22 44 05.6**	**-0.2**
	comp=Z,5.9nm,0.3s							
KKAR	**Karatay Array**	**52.82**	**299**	P		**P**	**22 44 33.8**	**0.0**
GAR	**Garm**	**54.53**	**295**	P		**P**	**22 44 45.3**	**-1.2**
GAR				IAmb		IAmb	22 45 20.1	
	comp=Z,5.9nm,1.2s							

CHGR	**Chuyangaron**	**55.50**	**295**	P	**P**	**22 44 53.2**	**-0.3**
ARU	**Arti**	**55.54**	**318**	P	**P**	**22 44 52.4**	**-0.9**
ARU				IAmb	IAmb	22 44 53.9	
	comp=Z,5.3nm,1.1s						
ABKAR	**Akbulak array**	**57.35**	**310**	P	**P**	**22 45 05.7**	**-0.6**
ABKAR				IAmb	IAmb	22 45 06.2	
	comp=Z,1.7nm,0.7s						
WRA	**Warramunga Arr**	**58.73**	**189**	P	**P**	**22 45 16.4**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=216,slow=35,SNR=3.4						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**62.46**	**189**	P	**P**	**22 45 41.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=9.9,slow=5.9,SNR=2.4						
	comp=Z,0.5nm,0.8s						
GEYT	**Alibeck**	**63.56**	**299**	P	**P**	**22 45 49.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=44,slow=4.4,SNR=4.0						
	comp=Z,1.7nm,0.8s						
FIA1	**FINESS Array S**	**67.66**	**332**	P	**P**	**22 46 14.8**	**0.0**
FINES	**FINESS Array B**	**67.66**	**332**	P	**P**	**22 46 13.8**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=38,slow=7.2,SNR=5.6						
	comp=Z,1.1nm,0.7s						
FINES	**FINESS Array B**	**67.66**	**332**	P	**P**	**22 46 14.0**	**-0.9**
KBZ	**Khabaz**	**70.29**	**311**	P	**P**	**22 46 32.3**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=113,slow=5.5,SNR=4.9						
	comp=Z,1.9nm,0.9s						
AKASG	**Malin Array Be**	**73.37**	**322**	P	**P**	**22 46 49.4**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=47,slow=6.1,SNR=8.9						
	comp=Z,0.9nm,0.5s						
BUR08	**Bucovina Ar. S**	**77.39**	**322**	P	**P**	**22 47 13.0**	**-0.2**
BUR08				IAmb	IAmb	22 47 24.2	
	comp=Z,8.2nm,1.4s						
BURAR	**Bucovina Array**	**77.40**	**322**	P	**P**	**22 47 13.1**	**-0.1**
BURAR				IAmb	IAmb	22 47 19.7	
	comp=Z,3.1nm,1.5s						
BRTR	**Keskin Array B**	**78.21**	**312**	P	**P**	**22 47 17.5**	**-0.4**
CLL	**Collm**	**79.98**	**330**	*e*P	**P**	**22 47 27.0**	**-0.2**
FUORN	**Ofenpass-Fuorn**	**84.82**	**329**	P	**P**	**22 47 52.9**	**0.0**
FUORN				IAmb	IAmb	22 47 53.5	
	comp=Z,2.4nm,0.8s						

AEIC ***16*** *22:41:04.5±5.0, 59.°87N±0.°03×136.°71W±0.°03, h17km±2km, Error ellipse: s-maj=2.5km s-min=1.6km az=224.0*
PGC ***16*** *22:41:05.7±0.0, 59.°86N×136.°73W, h2km, ML2.5/2, 108km southeast of Haines Jct., Yt Southeastern Alaska*
NEIC ***16*** *22:41:05.1±1.3, 59.°83N±0.°02×136.°81W±0.°02, h10km±1km, Error ellipse: s-maj=2.8km s-min=2.4km az=204.0*
OTT ***16*** *22:41:05.7±2.2, 59.°86N±0.°01×136.°73W±0.°02, h2km±3km, ML2.6, ML1.3(AEIC), ML2.1/12(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=199.0*
ISC 16 22:41:04.9±1.1,**59.°86N**±0.°03×**136.°79W**±0.°03,**h6**km±10km, **n39,σ1s27/56, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
P30M	**Million Dollar**	**0.28**	**342**		**Pg**	**22 41 10.7**	**+0.3**
P30M					**Sg**	**22 41 14.5**	**+0.3**
P30M	**Million Dollar**	**0.28**	**342**	P	**Pg**	**22 41 10.7**	**+0.3**
P30M				S	**Sg**	**22 41 14.5**	**+0.3**
PLBC	**Pleasant Camp**	**0.45**	**152**		**Pg**	**22 41 13.6**	**-0.1**
PLBC					**Sg**	**22 41 19.6**	**0.0**
PLBC	**Pleasant Camp**	**0.45**	**152**	P	**Pg**	**22 41 13.6**	**-0.1**
PLBC				S	**Sg**	**22 41 19.6**	**0.0**
SKAG	**Skagway**	**0.84**	**118**	Pg	**Pb**	**22 41 21.5**	**-0.3**
SKAG				IAML		22 41 40.7	
	comp=E,39nm,4.1s						
YUK7	**Dusty Glacier**	**0.96**	**316**		**Pg**	**22 41 23.5**	**+0.3**
YUK7	**Dusty Glacier**	**0.96**	**316**	P	**Pg**	**22 41 23.5**	**+0.3**
O29M	**Mount Kennedy**	**1.00**	**297**		**Pg**	**22 41 23.8**	**-0.3**
O29M					**Sg**	**22 41 37.2**	**0.0**
O29M	**Mount Kennedy**	**1.00**	**297**	P	**Pg**	**22 41 23.8**	**-0.3**
O29M				S	**Sg**	**22 41 37.2**	**0.0**
HYT	**Haines Junctio**	**1.04**	**340**		**Pg**	**22 41 24.4**	**-0.3**
HYT	**Haines Junctio**	**1.04**	**340**	P	**Pg**	**22 41 24.3**	**-0.5**
HYT				S	**Sg**	**22 41 38.9**	**+0.7**
WHY	**Whitehorse**	**1.25**	**49**		**Pn**	**22 41 27.5**	**-1.4**
WHY				IAML		22 41 36.0	
	comp=N,25nm,4.6s						
WHY				IAML		22 41 55.8	
	comp=E,29nm,4.3s						
WHY	**Whitehorse**	**1.25**	**49**	P	**Pn**	**22 41 27.5**	**-1.4**
WHY				S	**Sb**	**22 41 43.8**	**-1.3**
PNL	**Peninsula**	**1.33**	**263**		**Pn**	**22 41 28.0**	**-2.0**
P32M	**Atlin**	**1.58**	**98**	Pn	**Pn**	**22 41 33.6**	**+0.2**
P32M					**Sn**	**22 41 53.9**	**-0.3**
P32M	**Atlin**	**1.58**	**98**	Pn	**Pn**	**22 41 33.6**	**+0.2**
P32M				Sg	**Sn**	**22 41 53.9**	**-0.3**
BESE	**Bessie Mountai**	**1.62**	**141**	Pn	**Pn**	**22 41 34.0**	**0.0**
BESE	**Bessie Mountai**	**1.62**	**141**	Pn	**Pn**	**22 41 34.0**	**0.0**
N31M	**Braeburn, Yuko**	**1.71**	**16**	Pn	**Pn**	**22 41 35.6**	**+0.4**
N31M				IAML		22 42 15.6	
	comp=N,32nm,4.9s						
N31M	**Braeburn, Yuko**	**1.71**	**16**		**Sb**	**22 41 58.8**	**+0.4**
N31M	**Braeburn, Yuko**	**1.71**	**16**	Pn	**Pb**	**22 41 36.5**	**-0.2**
N31M				Sg	**Sb**	**22 41 58.8**	**+0.4**
O28M	**Mount Upton**	**1.93**	**300**		**Sg**	**22 42 06.2**	**-0.6**
O28M	**Mount Upton**	**1.93**	**300**	Sg	**Sg**	**22 42 06.2**	**-0.6**
P33M	**Teslin, Yukon**	**2.02**	**78**	Pn	**Pn**	**22 41 39.2**	**-0.3**
P33M				IAML		22 42 31.2	
	comp=E,25nm,4.9s						
P33M				IAML		22 42 56.3	
	comp=N,19nm,4.8s						
P33M	**Teslin, Yukon**	**2.02**	**78**	Pn	**Pn**	**22 41 39.7**	**+0.1**
P33M				Sg	**Sb**	**22 42 07.6**	**+0.1**
P33M	**Teslin, Yukon**	**2.02**	**78**	Pn	**Pn**	**22 41 39.7**	**+0.1**
P33M				Sg	**Sb**	**22 42 07.6**	**+0.1**
M31M	**Drury Creek, Y**	**2.63**	**25**	Sg	**Sb**	**22 42 25.9**	**+1.1**
M31M	**Drury Creek, Y**	**2.63**	**25**	Sg	**Sb**	**22 42 25.9**	**+1.1**
M29M	**Somme Creek**	**2.72**	**343**	Sg	**Sg**	**22 42 30.6**	**-1.6**
M29M	**Somme Creek**	**2.72**	**343**	Sg	**Sg**	**22 42 30.6**	**-1.6**
M30M	**Minto, Yukon**	**2.73**	**360**	Pg	**Pb**	**22 41 55.3**	**+1.2**
M30M				Sg	**Sb**	**22 42 29.9**	**+2.1**
M30M	**Minto, Yukon**	**2.73**	**360**	Pg	**Pb**	**22 41 55.3**	**+1.2**
M30M				Sg	**Sb**	**22 42 29.9**	**+2.1**
R33M	**Jennings River**	**2.99**	**96**	Pg	**Pb**	**22 41 58.4**	**-0.2**
R33M				Sg	**Sb**	**22 42 37.8**	**+2.4**
R33M	**Jennings River**	**2.99**	**96**	Pg	**Pb**	**22 41 58.4**	**-0.2**
R33M				Sg	**Sb**	**22 42 37.8**	**+2.4**
L29M	**L29M**	**3.33**	**349**	Sg	**Sb**	**22 42 48.3**	**+3.3**
L29M	**L29M**	**3.33**	**349**	Sg	**Sb**	**22 42 48.3**	**+3.3**
K29M	**Barlow Dome**	**4.02**	**355**	Sg	**Sg**	**22 43 10.7**	**-3.1**
DAWY	**Dawson**	**4.40**	**345**	Sg	**Sg**	**22 43 23.5**	**-2.5**
KLU	**Klutina**	**4.78**	**294**	Pn	**Pn**	**22 42 16.4**	**-1.1**

WEL 16 22:56:30.5±0.4,**42.°3**s±3.°×**17.°4E**±.°,**h8**km±3km,**M2.8**/13, **ML3.0**/14,**MLv2.8**/13,**Error ellipse: s-maj=0.0km s-min=0.0km az=138.8, confirmed, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.35**	**16**	P	Pg	22 56 38.0	+0.6
BSWZ				S	Sb	22 56 43.6	-1.2
KHZ	**Kahutara**	**0.39**	**203**	P	Pb	22 56 39.0	-0.7
KHZ				S	Sb	22 56 45.6	-0.2
CMWZ	**Cape Campbell**	**0.47**	**49**	P	Pb	22 56 40.8	-0.1
TUWZ	**Tuamarina**	**0.64**	**13**	P	Pb	22 56 43.4	-0.5
TUWZ				S	Sb	22 56 52.8	-0.3
THZ	**Tophouse**	**0.69**	**295**	P	Pg	22 56 44.0	+0.2
THZ				S	Sg	22 56 53.0	+0.1
MRNZ	**Matariki Terra**	**0.99**	**311**	P	Pg	22 56 49.6	+0.1
MRNZ				S	Sb	22 57 03.3	+0.2
GVZ	**Greta Valley S**	**1.05**	**210**	P	Pg	22 56 50.1	-0.6
WEL	**Wellington**	**1.09**	**45**	P	Pb	22 56 51.7	+0.1
TKNZ	**Takaka Hill**	**1.18**	**330**	P	Pb	22 56 52.7	-0.4
PLWZ	**Palliser**	**1.23**	**67**	P	Pb	22 56 52.3	-1.6
PLWZ				S	Sb	22 57 09.4	-0.6
DUWZ	**D'Urville Isla**	**1.26**	**6**	P	Pn	22 56 53.9	-0.5
LTZ	**Lake Taylor**	**1.31**	**236**	P	Pn	22 56 54.7	-0.4
CAW	**Cannon Point**	**1.37**	**47**	P	Pn	22 56 54.9	-1.0
KIW	**Kapiti Island**	**1.48**	**37**	P	Pn	22 56 57.0	-0.4
DSZ	**Denniston Nort**	**1.48**	**281**	P	Pb	22 56 58.3	0.0
QRZ	**Quartz Range**	**1.53**	**323**	P	Pn	22 56 58.6	+0.4
OGWZ	**Otaki Gorge**	**1.64**	**41**	P	Pn	22 56 58.8	-0.7
OKCZ	**Okains Bay**	**1.74**	**197**	P	Pn	22 56 59.6	-1.4
INZ	**Inchbonnie**	**1.83**	**248**	P	Pn	22 57 02.3	0.0
MQZ	**McQueen's Vall**	**1.83**	**206**	P	Pn	22 56 59.8	-2.5
AKCZ	**Akaroa Harbour**	**1.92**	**198**	P	Pn	22 57 01.9	-1.6
RACZ	**Rakaia**	**2.04**	**215**	P	Pn	22 57 03.1	-2.1
WACZ	**Wakanui South**	**2.35**	**216**	P	Pn	22 57 07.6	-1.8
WVZ	**Waitaha Valley**	**2.44**	**244**	P	Pn	22 57 10.8	+0.1
RPZ	**Rata Peaks**	**2.58**	**229**	P	Pn	22 57 11.2	-1.4
ARCZ	**Arundel**	**2.67**	**224**	P	Pn	22 57 12.2	-1.6
TMZ	**Timaru**	**3.07**	**220**	P	Pn	22 57 17.8	-1.4
NGZ	**Ngauruhoe**	**3.21**	**27**	P	Pn	22 57 23.4	+2.1
ETVZ	**East Tongariro**	**3.28**	**28**	P	Pb	22 57 27.3	-1.7
ODZ	**Otahua Downs**	**3.74**	**216**	P	Pn	22 57 26.2	-2.3

IDC 16 23:05:19.3±6.4,**15.°61S×173.°38W, h0km, mb3.5**/3, **mbtmp3.6**/4,**ML3.6**/1,**Error ellipse: s-maj=308.4km s-min=24.8km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.29**	**43**	Pn	Pn	23 05 56.8	-1.7
	15nm,0.3s,baz=104,slow=3.4,SNR=7.7						
AFI				Sn	Sn	23 06 23.0	-4.5
	35nm,0.3s,baz=32,slow=22,SNR=20						
	34nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**39.15**	**329**	T	T	23 54 58.2	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.16**	**329**	T	T	23 54 49.1	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**39.17**	**329**	T	T	23 55 00.6	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**40.10**	**330**	T	T	23 55 59.1	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**40.10**	**330**	T	T	23 56 02.3	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**40.12**	**330**	T	T	23 55 42.4	
	baz=150						
WRA	**Warramunga Arr**	**49.81**	**257**	P	P	23 14 14.2	-0.2
	0.3nm,0.6s,baz=90,slow=7.3,SNR=6.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**50.06**	**252**	P	P	23 14 15.8	-0.6
	0.8nm,0.6s,baz=86,slow=8.5,SNR=12						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**82.65**	**11**	P	P	23 17 45.4	+1.2
	0.2nm,0.8s,baz=227,slow=6.7,SNR=7.1						
	0.2nm,0.8s						

IDC 16 23:12:51.7±1.8,**2.°39N×125.°82E, h0km, mb3.6**/5, **mbtmp3.6**/5,**MS3.6**/1,**Error ellipse: s-maj=209.6km s-min=21.5km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**20.35**	**243**	LR	LR	23 26 55.3	
	comp=Z,176nm,20.6s,baz=276,slow=42						
WRA	**Warramunga Arr**	**23.72**	**160**	P	P	23 18 04.8	-0.9
	0.4nm,0.8s,baz=337,slow=10,SNR=4.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**27.07**	**164**	P	P	23 18 37.2	+1.0
	0.3nm,0.6s,baz=354,slow=8.5,SNR=1.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.14**	**326**	P	P	23 22 48.3	+0.9
	0.8nm,0.4s,baz=111,slow=7.9,SNR=6.4						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**62.38**	**328**	P	P	23 23 15.8	-0.4
	0.6nm,0.4s,baz=127,slow=6.0,SNR=7.7						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**67.95**	**328**	P	P	23 23 51.8	-0.6
	0.8nm,0.7s,baz=123,slow=7.1,SNR=5.8						
	0.8nm,0.7s						

IDC ***16*** *23:18:23.8±3.2, 14.°08S×167.°14E, h0km, mb3.8/8, mbtmp3.7/8, Error ellipse: s-maj=117.3km s-min=32.5km az=143.0*
ISC 16 23:18:29.1±2.7,**14.°1S**±0.°6×**167.°1E**±0.°4,**h35**km,**n8, σ0s52/8, mb3.5**/8,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.86**	**255**	P	**P**	**23 24 50.6**	**-0.5**
	0.7nm,1.0s,baz=85,slow=7.9,SNR=2.6						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**32.77**	**248**	P	**P**	**23 24

comp=E,2275µm,0.4s
AYVA **Ayvalik** 0.58 57 P Pg 23 44 03.8 -0.6
AYVA S Sg 23 44 11.8 -0.1
AYVA *i* AML AML 23 44 12.0
comp=E,83nm,0.2s
AYVA *i* AML AML 23 44 16.0
comp=E,99nm,0.3s
PSRA **Psara** 0.60 221 P Pg 23 44 04.6 0.0
PSRA S Sg 23 44 12.4 0.0
CHOS **Chios island** 0.61 181 P Pg 23 44 04.3 -0.6
CHOS S Sb 23 44 14.2 -0.5
CHOS **Chios island** 0.61 181 Pg Pg 23 44 04.5 -0.4
CHOS **Chios island** 0.61 181 P Pg 23 44 04.3 -0.6
URLA **Izmir** 0.76 146 Pg Pg 23 44 07.6 -0.1
URLA Sg Sb 23 44 19.5 +0.5
URLA **Izmir** 0.76 146 P Pg 23 44 07.0 -0.7
URLA S Sb 23 44 19.3 +0.3
URLA *i* AML AML 23 44 21.0
comp=E,58nm,0.4s
URLA *i* AML AML 23 44 21.0
comp=E,70nm,0.3s
ZEDA **zmir-Bergama** 0.79 92 P Pg 23 44 08.0 -0.3
ZEDA S Sb 23 44 20.6 +0.8
ZEDA *i* AML AML 23 44 21.0
comp=E,41nm,0.3s
ZEDA *i* AML AML 23 44 21.0
comp=E,35nm,0.3s
BAYC **CANAKKALE_Bayr** 0.83 27 P Pg 23 44 09.1 -0.1
BAYC S Sb 23 44 22.0 +0.8
BAYC *i* AML AML 23 44 22.0
comp=E,56nm,0.2s
BOZC **Bozcaada** 0.85 359 Pg Pg 23 44 08.8 -0.6
EZN **Ezine** 0.85 14 P Pg 23 44 08.8 -0.8
EZN **Ezine** 0.85 14 Pg Pg 23 44 08.8 -0.8
EZN Sg Sb 23 44 22.4 +0.7
BUHA **Balikesir, Bur** 0.94 57 P Pg 23 44 10.3 -0.8
BUHA S Sg 23 44 23.2 -0.1
BUHA *i* AML AML 23 44 25.0
comp=E,67nm,0.4s
BUHA *i* AML AML 23 44 27.0
comp=E,50nm,0.5s
GADA **Gvkgeada** 1.20 354 Pn Pg 23 44 15.1 -1.1
GELI **Tayfur-Gelibol** 1.44 13 Pn Pb 23 44 19.6 -0.5
LPK **Lapseki** 1.48 21 Pn Pb 23 44 20.6 -0.2
SMTH **Samothraki Isl** 1.53 345 P Pn 23 44 20.4 -0.3
SMTH S Sb 23 44 41.1 -0.1
SMTH **Samothraki Isl** 1.53 345 P Pn 23 44 20.4 -0.3
SMTH S Sn 23 44 40.7 -0.1
SMTH AML AML 23 44 42.4
comp=E,56µm,0.6s
SMTH AML AML 23 44 44.2
comp=N,78µm,1.2s
GCAM **G?zelcaml?** 1.59 144 Pn Pn 23 44 21.8 +0.4
ERIK **Erikli-Kesan** 1.71 12 Pn Pn 23 44 23.7 +0.6
RKY **Sarkoy-Tekirda** 1.90 27 Pn Pn 23 44 26.2 +0.4
ALN **Alexandroupoli** 1.90 360 Pn Pn 23 44 26.4 +0.7
ALN **Alexandroupoli** 1.90 360 P Pn 23 44 25.2 -0.6
ALN S Sn 23 44 49.6 -0.2
ALN AML AML 23 44 52.0
comp=N,53µm,1.4s
ALN AML AML 23 44 56.9
comp=E,34µm,0.9s
EDC **Edincik** 1.94 45 Pn Pn 23 44 27.2 +0.9
UKOP **Uzunkopru-Edir** 2.18 11 Pn Pn 23 44 30.5 +1.0
KCTX **Karacabey (Bur** 2.18 54 Pn Pn 23 44 30.4 +0.8

*IDC **17** 00:06:26.9±1.3, 11°.08S×161°.47E, h0km, mb3.7/6, mbtmp3.8/7, ML5.1/1, Error ellipse: s-maj=34.9km s-min=25.1km az=79.0*
*NEIC **17** 00:06:27.7±2.5, 11°.19S±0°.10×161°.4E±0°.1, h10km±1km, mb4.1/8, Error ellipse: s-maj=26.1km s-min=11.5km az=58.0*
ISC 17 00:06:30.3±0.8, 11°24S±0°.08×161°.4E±0°.1, h28km, n22, σ1§47/23, mb3.8/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.31**	**321**	Pn	**Pn**	**00 07 04.6**	**-1.9**
	524nm,0.3s,baz=162,slow=6.4,SNR=3.8						
HNR				Sn	**Sn**	**00 07 34.9**	**+0.9**
	745nm,0.3s,baz=348,slow=19,SNR=2.2						
	2µm,0.4s						
KOUNC	**Koumac, New Ca**	**9.66**	**164**	Pn	**Pn**	**00 08 46.8**	**-0.8**
LIFNC	**LIFOU**	**11.01**	**150**	Pn	**Pn**	**00 09 04.9**	**-1.2**
OUENC	**Ouen Island, N**	**12.27**	**156**	Pn	**Pn**	**00 09 22.9**	**-0.3**
PINNC	**Pines Island,**	**12.69**	**154**	Pn	**Pn**	**00 09 27.7**	**-1.4**
CTAO	**Charters Tower**	**17.03**	**237**	P	**Pn**	**00 10 24.4**	**-2.3**
CTAO				IAmb	IAmb	00 10 40.5	
	comp=Z,8.1nm,1.1s						
EIDS	**Eidsvold**	**17.12**	**213**	P	**Pn**	**00 10 25.4**	**-2.3**
COEN	**Coen**	**18.00**	**259**		**Pn**	**00 10 38.5**	**-0.2**
WB0	**Warramunga Arr**	**27.35**	**249**	P	**P**	**00 12 13.0**	**-0.4**
WB0				IAmb	IAmb	00 12 18.2	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**27.44**	**248**	P	**P**	**00 12 15.9**	**+1.8**
	comp=Z,1.1nm,0.9s,baz=76,slow=9.5,SNR=5.3						
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**28.94**	**241**	P	**P**	**00 12 29.1**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=74,slow=9.8,SNR=4.2						
	comp=Z,0.2nm,0.3s						
BBOO	**Buckleboo**	**31.68**	**223**	P	**P**	**00 12 52.5**	**+1.0**
BBOO				IAmb	IAmb	00 13 02.8	
	comp=Z,4.4nm,1.1s						
KNRA	**Kununurra**	**32.04**	**258**	P	**P**	**00 12 57.0**	**+2.1**
USA0B	**Ussuriysk Arra**	**61.31**	**336**	P	**P**	**00 16 41.3**	**-2.0**
VNDA	**Vanda**	**66.27**	**180**	P	**P**	**00 17 17.8**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=343,slow=5.4,SNR=4.0						
	comp=Z,0.8nm,0.8s						
SONM	**Songino Array**	**76.36**	**325**	P	**P**	**00 18 18.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=125,slow=6.2,SNR=2.1						
	comp=Z,0.4nm,0.7s						
L19K	**White Mountain**	**80.70**	**19**	P	**P**	**00 18 41.7**	**+1.1**
L19K				IAmb	IAmb	00 18 51.7	
	comp=Z,2.3nm,1.0s						
CAST	**Castle Rocks**	**82.48**	**19**	P	**P**	**00 18 50.1**	**+0.2**
TRF	**Thorofare Moun**	**83.09**	**20**	P	**P**	**00 18 53.0**	**-0.3**
IMAR	**Indian Mountai**	**83.80**	**17**	P	**P**	**00 18 57.7**	**+1.0**
ILAR	**Eielson Array**	**85.09**	**20**	P	**P**	**00 19 03.3**	**0.0**
	comp=Z,0.6nm,1.0s,baz=243,slow=4.0,SNR=4.2						
	comp=Z,0.6nm,1.0s						
MKAR	**Makanchi Array**	**90.78**	**318**	P	**P**	**00 19 31.3**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=90,slow=4.5,SNR=6.0						
	comp=Z,0.1nm,0.4s						

*IDC **17** 00:07:01.2±1.2, 13°.77N×120°.59E, h0km, mb3.6/5, mbtmp3.6/5, MS3.2/1, Error ellipse: s-maj=163.6km s-min=19.3km az=66.0*
*MAN **17** 00:07:20.9, 13°.88N×120°.51E, h168km, mb4.3, ML3.1, MS2.8*
ISC 17 00:07:18.9±0.9, 13°.79N±0°.09×120°.3E±0°.1, h150km, n11, σ2§13/8, mb3.5/5, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.06**	**204**	*i*	P	00 07 45.1	+6.1
TGY	**Tagaytay City**	**0.72**	**64**	*e*	P	00 07 46.1	+4.6
LQP	**Lukban**	**1.27**	**75**	*e*	**Pn**	**00 07 48.5**	**+2.2**
LQP				*i*	**Sn**	**00 08 05.0**	**-2.3**
PCPH	**Palayan**	**1.93**	**24**	*e*	**Pn**	**00 07 54.9**	**+1.7**
RCP	**Roxas**	**3.28**	**132**	*e*	**Pn**	**00 08 11.8**	**+2.1**
ASAJ	**Asahikawa**	**35.74**	**28**	LR	LR	00 27 36.3	
	comp=Z,44nm,22.0s,baz=145,slow=35						
SONM	**Songino Array**	**35.85**	**344**	P	**P**	**00 14 03.6**	**-0.6**
	0.4nm,0.6s,baz=166,slow=10,SNR=4.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**36.27**	**157**	P	P	00 14 04.9	-3.0
	0.5nm,0.5s,baz=335,slow=9.7,SNR=5.0						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**39.54**	**160**	P	**P**	**00 14 33.4**	**-2.0**
	0.8nm,0.4s,baz=335,slow=6.7,SNR=22						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**45.71**	**324**	P	**P**	**00 15 26.1**	**+1.2**
	0.2nm,0.3s,baz=108,slow=8.4,SNR=8.9						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**48.79**	**333**	P	**P**	**00 15 48.3**	**-0.2**
	0.4nm,0.4s,baz=139,slow=6.8,SNR=4.1						
	0.4nm,0.4s						

WEL 17 00:17:48.1±0.3, 42°S±3°×17°4E±°, h10km±3km, M3.0/18, ML3.1/19, MLv3.0/18, Error ellipse: s-maj=0.0km

s-min=0.0km az=122.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.09**	**215**	P	Pg	00 17 51.7	+1.1
KHZ				S	Sg	00 17 54.0	+1.6
BSWZ	**Blackbirch Sta**	**0.66**	**18**	P	Pg	00 18 01.1	+0.4
GVZ	**Greta Valley S**	**0.76**	**214**	P	Pn	00 18 05.0	+0.1
GVZ				S	Sn	00 18 17.0	+0.5
THZ	**Tophouse**	**0.78**	**317**	P	Pg	00 18 02.8	-0.4
THZ				S	Sg	00 18 12.3	-1.0
TUWZ	**Tuamarina**	**0.94**	**15**	P	Pb	00 18 06.6	+0.1
TUWZ				S	Sb	00 18 19.6	+0.6
LTZ	**Lake Taylor**	**1.08**	**246**	P	Pg	00 18 08.6	-0.4
AMCZ	**Amberley**	**1.09**	**220**	P	Pn	00 18 09.8	+0.3
NNZ	**Nelson**	**1.14**	**351**	P	Pb	00 18 09.3	-0.5
MRNZ	**Matariki Terra**	**1.14**	**326**	P	Pb	00 18 09.4	-0.4
TCW	**Tory Channel**	**1.23**	**24**	P	Pn	00 18 11.2	-0.2
WEL	**Wellington**	**1.36**	**40**	P	Pn	00 18 12.4	-0.8
TKNZ	**Takaka Hill**	**1.39**	**339**	P	Pn	00 18 13.7	+0.1
OKCZ	**Okains Bay**	**1.44**	**196**	P	Pn	00 18 14.1	-0.2
PLWZ	**Palliser**	**1.45**	**58**	P	Pn	00 18 13.5	-0.8
DSZ	**Denniston Nort**	**1.47**	**293**	P	Pb	00 18 15.5	-0.1
OXZ	**Oxford**	**1.52**	**229**	P	Pn	00 18 14.5	-0.8
MQZ	**McQueen's Vall**	**1.54**	**207**	P	Pn	00 18 14.5	-1.0
DUWZ	**D'Urville Isla**	**1.55**	**9**	P	Pb	00 18 16.5	-0.5
AKCZ	**Akaroa Harbour**	**1.62**	**198**	P	Pn	00 18 16.1	-0.5
CAW	**Cannon Point**	**1.64**	**42**	P	Pn	00 18 16.7	-0.4
INZ	**Inchbonnie**	**1.65**	**256**	P	Pn	00 18 17.3	+0.3
PAWZ	**Paruwai Farm**	**1.66**	**55**	P	Pn	00 18 16.3	-1.0
QRZ	**Quartz Range**	**1.72**	**331**	P	Pb	00 18 19.2	-0.5
RACZ	**Rakaia**	**1.76**	**217**	P	Pn	00 18 17.8	-0.8
KIW	**Kapiti Island**	**1.77**	**34**	P	Pn	00 18 18.9	+0.1
TRWZ	**Traveller**	**1.81**	**59**	P	Pn	00 18 18.1	-1.2
MTW	**Mount Morrison**	**1.84**	**51**	P	Pn	00 18 18.7	-1.1
MHCZ	**Mount Hutt**	**1.92**	**231**	P	Pn	00 18 20.2	-0.6
OGWZ	**Otaki Gorge**	**1.92**	**38**	P	Pn	00 18 20.4	-0.4
HOWZ	**Holdsworth Sta**	**2.03**	**45**	P	Pn	00 18 21.4	-0.9
WACZ	**Wakanui South**	**2.06**	**218**	P	Pn	00 18 22.3	-0.5
TMWZ	**Te Maipa**	**2.10**	**55**	P	Pn	00 18 22.1	-1.3
MRZ	**Mangatainoka R**	**2.23**	**42**	P	Pn	00 18 24.2	-0.9
WVZ	**Waitaha Valley**	**2.24**	**250**	P	Pn	00 18 25.6	+0.4
RPZ	**Rata Peaks**	**2.33**	**233**	P	Pn	00 18 26.0	-0.4
ARCZ	**Arundel**	**2.40**	**227**	P	Pn	00 18 26.9	-0.6
TMZ	**Timaru**	**2.79**	**222**	P	Pn	00 18 32.2	-0.6
ANWZ	**Angora Road**	**2.86**	**50**	P	Pn	00 18 33.9	+0.2
TSZ	**Takapari Road**	**2.89**	**39**	P	Pn	00 18 32.8	-1.3
ODZ	**Otahua Downs**	**3.46**	**218**	P	Pn	00 18 40.9	-1.1

*HEL **17** 00:24:48.8±0.3, 67°.84N×20°.03E, h0km, ML1.5, Explosion*
*UPP **17** 00:24:49.5±0.1, 67°.83N×20°.20E, h0km, ML2.5, Suspected explosion*
ISC 17 00:24:48.8±0.8, 67°.81N±0°.03×20°.36E±0°.03, h0km, n27, σ1§17/42, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.29**	**273**	P	**Pg**	**00 24 54.1**	**-0.3**
RATU				S	**Sg**	**00 24 57.3**	**-0.8**
NIKU	**Nikkaluokta**	**0.51**	**277**	P	**Pg**	**00 24 58.0**	**-0.5**
LANU	**Lannavaara**	**0.66**	**68**	P	**Pb**	**00 25 02.9**	**-0.3**
LANU	**Lannavaara**	**0.66**	**68**	PG	**Pb**	**00 25 02.7**	**-0.5**
LANU				SG	**Sb**	**00 25 12.2**	**-0.7**
DUNU	**Dundret**	**0.70**	**173**	P	**Pb**	**00 25 03.1**	**-0.7**
MASU	**Masugnsbyn**	**0.72**	**119**	P	**Pb**	**00 25 04.4**	**+0.2**
SALU	**Saltoluokta**	**0.83**	**240**	P	**Pg**	**00 25 04.3**	**-0.4**
KIF	**Kilpisjarvi**	**1.21**	**8**	*e*P	**Pb**	**00 25 12.3**	**-0.2**
KIF	**Kilpisjarvi**	**1.21**	**8**	PN	**Pn**	**00 25 12.7**	**-0.2**
KIF				MSG		00 25 26.4	
	comp=Z,4.7nm,0.2s						
KIF				SN	**Sb**	**00 25 28.6**	**-0.1**
PAJU	**Pajala**	**1.32**	**125**	P	**Pn**	**00 25 14.8**	**+0.3**
PAJU	**Pajala**	**1.32**	**125**	PG	**Pn**	**00 25 14.5**	**0.0**
	baz=304						
PAJU				SG	**Sn**	**00 25 33.0**	**+0.2**
HEF	**Hetta**	**1.38**	**63**	*e*P	**Pn**	**00 25 15.2**	**0.0**
HEF	**Hetta**	**1.38**	**63**	PG	**Pb**	**00 25 15.4**	**0.0**
	baz=250						
HEF				MSG		00 25 33.1	
	comp=Z,3.7nm,0.2s						
HEF				SG	**Sn**	**00 25 34.1**	**0.0**
ERTU	**Ertsjaerv**	**1.45**	**150**	P	**Pb**	**00 25 16.8**	**+0.2**
ERTU	**Ertsjaerv**	**1.45**	**150**	PG	**Pb**	**00 25 16.7**	**+0.2**
ERTU				SN	**Sn**	**00 25 36.9**	**+1.0**
KTK1	**Kautokeino**	**1.61**	**40**	PG	**Pb**	**00 25 19.3**	**0.0**
KTK1				SN	**Sg**	**00 25 41.0**	**+0.6**
HARU	**Harads**	**1.67**	**171**	P	**Pb**	**00 25 20.1**	**-0.2**
KALU	**Kalix**	**2.29**	**147**	PB	**Pb**	**00 25 29.9**	**-1.0**
KALU				SG	**Sg**	**00 26 01.0**	**-1.2**
TOF	**Tornio**	**2.34**	**136**	PG	**Pb**	**00 25 31.3**	**-0.4**
TOF				MSG		00 26 01.1	
	comp=Z,1.4nm,0.2s						
TOF				SG	**Sg**	**00 26 02.6**	**-1.1**
SGF	**Sodankyl**	**2.39**	**96**	PB	**Pb**	**00 25 32.7**	**+0.1**
SGF				SB	**Sb**	**00 26 03.5**	**+1.0**
RNF	**Rovaniemi**	**2.51**	**116**	PB	**Pb**	**00 25 33.8**	**-0.8**
RNF				SG	**Sb**	**00 26 07.7**	**+1.7**
ARA0	**ARCESS Array S**	**2.56**	**45**	PB	**Pb**	**00 25 33.8**	**-1.7**
ARA0				SB	**Sb**	**00 26 06.4**	**-1.0**
KEV	**Kevo**	**3.11**	**48**	SN	**Sn**	**00 26 19.1**	**+2.4**
VRF	**Varrio**	**3.52**	**87**	PN	**Pn**	**00 25 46.9**	**+2.4**
VRF				SB	**Sb**	**00 26 37.6**	**+2.7**
OLKF	**Oulanka, Finla**	**3.84**	**109**	PG	**Pg**	**00 26 00.2**	**-2.1**
MSF	**Maaselka**	**3.92**	**115**	PG	**Pg**	**00 26 01.9**	**-1.9**
	baz=306						
MSF				SG	**Sg**	**00 26 55.1**	**+0.5**
KU6	**Riekki**	**4.16**	**111**	PG	**Pb**	**00 26 05.3**	**+2.6**
KU6				SG	**Sg**	**00 27 00.2**	**-2.0**

*MEX **17** 00:48:53.1±0.6, 14°.16N×93°.00W, h6km±43km, MD3.9*
*IDC **17** 00:48:53.7±6.2, 14°.87N×92°.36W, h0km, mb3.4/3, mbtmp3.3/5, ML3.3/2, MS2.2/1, Error ellipse: s-maj=158.9km s-min=50.5km az=25.0*
*GCG **17** 00:48:59.2±0.5, 14°.40N×92°.57W, h43km±56km, MD3.8*
ISC 17 00:48:50.6±2.3, 14°16N±0°.08×92°.95W±0°.05, h5km±12km, n20, σ2§57/32, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.00**	**42**	*e*P	**Pg**	**00 49 10.2**	**+0.4**
THIG				*e*S	**Sg**	**00 49 21.8**	**-0.9**
PATR	**El Naranjo**	**1.18**	**36**	*e*P	**Pg**	**00 49 12.8**	**-0.5**
PATR				*e*S	**Sg**	**00 49 27.9**	**-0.7**
CHUJ	**Union Juarez**	**1.24**	**41**	*e*P	**Pg**	**00 49 13.7**	**-0.7**
CHUJ				*e*S	**Sg**	**00 49 29.8**	**-0.7**
PAVE	**Pavencul**	**1.27**	**36**	*e*P	**Pn**	**00 49 14.1**	**-1.2**
PAVE				*e*S	**Sg**	**00 49 31.3**	**-0.3**
SULM	**Suchitepequez,**	**1.35**	**84**	*e*P	**Pn**	**00 49 16.3**	**+0.1**
STG3	**Santiaguito 3,**	**1.45**	**68**	*e*P	**Pn**	**00 49 17.8**	**+0.1**
STG3				*e*S	**Sn**	**00 49 31.9**	**-5.3**
PCIG		**1.56**	**351**	*e*P	**Pn**	**00 49 17.2**	**-1.9**
PCIG				*e*S	**Sn**	**00 49 36.6**	**-3.1**
FUG	**Fuego 3**	**2.07**	**82**	*e*P	**Pn**	**00 49 26.4**	**+0.2**
FUG				*e*S	**Sn**	**00 49 47.9**	**-4.6**
CCIG	**Comitan**	**2.25**	**20**	*e*P	**Pn**	**00 49 31.0**	**+2.2**
CCIG				*e*S	**Sn**	**00 49 59.3**	**+2.2**
PCG	**Pacaya**	**2.29**	**84**	*e*S	**Sn**	**00 49 54.5**	**-3.6**
NBG	**Las Nubes**	**2.56**	**80**	*e*P	**Pn**	**00 49 36.3**	**+3.1**
TGIG		**2.61**	**356**	*e*P	**Pn**	**00 49 33.1**	**-0.5**
TGIG				*e*S	**Sn**	**00 50 04.3**	**-1.4**
UXUV	**UXUV**	**3.34**	**340**	*e*P	**Pn**	**00 49 44.5**	**+0.9**
UXUV				*e*S	**Sn**	**00 50 23.5**	**-3.2**
HUIG	**Huatulco**	**3.44**	**298**	*e*P	Pn	00 49 41.8	-3.2
HUIG				*e*S	**Sn**	**00 50 19.7**	**-6.6**
CMIG	**Matias Romero**	**3.46**	**328**	Pn	**Pn**	**00 49 44.9**	**-0.3**
	2.0nm,0.3s,baz=138,slow=14,SNR=2.4						
CMIG				Sn	**Sn**	**00 50 27.0**	**+0.4**
	6.2nm,0.3s,baz=66,slow=20,SNR=5.6						
CMIG				LR	LR	00 50 59.9	
	comp=Z,37nm,21.7s,baz=210,slow=38						
	8.1nm,0.4s						
CMIG	**Matias Romero**	**3.46**	**328**	*e*P	**Pn**	**00 49 44.7**	**-0.5**
CMIG				*e*S	**Sn**	**00 50 21.9**	**-4.7**
TXAR	**Lajitas Array**	**18.07**	**328**	Pn	**P**	**00 53 06.0**	**+2.9**
	baz=148,slow=14,SNR=4.3						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**32.97**	**322**	P	**P**	**00 55 29.7**	**+2.9**
	0.4nm,0.6s,baz=119,slow=9.4,SNR=3.5						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**50.66**	**347**	P	**P**	**00 57 49.8**	**-0.9**
	0.6nm,0.8s,baz=151,slow=7.3,SNR=10						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**62.33**	**337**	P	**P**	**00 59 14.7**	**+0.8**
	0.2nm,0.8s,baz=126,slow=8.1,SNR=1.8						
	0.2nm,0.8s						

*IDC **17** 00:54:07.9±0.7, 18°.86N×144°.87E, h0km, mb3.9/13, mbtmp3.9/13, MS3.0/4, Error ellipse: s-maj=26.5km s-min=16.0km az=88.0*
*NEIC **17** 00:54:11.2±1.2, 18°.97N±0°.04×144°.9E±0°.2, h18km±5km, mb4.5/19, Error ellipse: s-maj=20.8km s-min=5.3km az=89.0*
ISC 17 00:54:09.6±0.5, 18°.93N±0°.07×144°.8E±0°.1, h10km, n45, σ0§82/37, mb4.4/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.31**	**180**	LR	LR	00 57 20.0	
	comp=Z,118nm,18.2s,baz=304,slow=37						
GUMO	**Guam**	**5.31**	**180**	Pn	**Pn**	**00 55 30.2**	**+1.2**
JCJ	**Chichijima**	**8.49**	**344**	Pn	**Pn**	**00 56 12.2**	**-0.4**
JOW	**Kunigami**	**17.15**	**300**	LR	LR	01 03 33.9	
	comp=Z,109nm,20.9s,baz=192,slow=33						
JOW	**Kunigami**	**17.15**	**300**	Pn	**Pn**	**00 58 08.9**	**-0.5**
JOW				IAmb	IAmb	00 58 20.0	
	comp=Z,33nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**20.71**	**88**	T	T	01 20 38.1	
	baz=275,slow=75,SNR=220						
H11S1	**WAKE ISLAND Hy**	**20.73**	**88**	T	T	01 20 30.2	
	baz=275,slow=75,SNR=131						
H11S2	**WAKE ISLAND Hy**	**20.73**	**88**	T	T	01 20 42.4	
	baz=275,slow=75,SNR=146						
H11N1	**WAKE ISLAND Hy**	**20.84**	**84**	T	T	01 21 00.3	
	baz=272,slow=75						
H11N2	**WAKE ISLAND Hy**	**20.85**	**84**	T	T	01 20 49.0	
	baz=272,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**20.86**	**84**	T	T	01 21 02.6	
	baz=272,slow=75						
DAV	**Davao City (W)**	**22.12**	**240**	LR	LR	01 05 30.9	
	comp=Z,47nm,21.6s,baz=310,slow=31						
KSRS	**Korea Array**	**23.65**	**325**	P	**P**	**00 59 21.7**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=145,slow=8.7,SNR=6.1						
KSRS				LR	LR	01 06 56.6	
	comp=Z,22nm,20.3s,baz=150,slow=32						
	comp=Z,1.3nm,0.6s						
KSAR	**Wonju Array Be**	**23.66**	**325**	P	**P**	**00 59 19.3**	**-2.0**
WRA	**Warramunga Arr**	**39.97**	**195**	P	**P**	**01 01 43.7**	**-0.8**
	comp=Z,2.7nm,1.0s,baz=16,slow=9.3,SNR=9.2						
WRA				PcP	**PcP**	**01 03 48.8**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=7.7,slow=2.9,SNR=3.0						
	comp=Z,2.7nm,1.0s						
WRA	**Warramunga Arr**	**39.97**	**195**	P	**P**	**01 01 44.0**	**-0.5**
SONM	**Songino Array**	**42.45**	**322**	P	**P**	**01 02 07.1**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=126,slow=9.1,SNR=2.4						
	comp=Z,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**43.37**	**277**	P	**P**	**01 02 12.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=82,slow=7.4,SNR=0.8						
	comp=Z,0.6nm,0.3s						
ASAR	**Alice Springs**	**43.65**	**195**	P	**P**	**01 02 13.7**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=8.2,slow=8.4,SNR=13						
	comp=Z,1.1nm,0.7s						
STKA	**Stephens Creek**	**50.61**	**184**	P	**P**	**01 03 08.8**	**0.0**
	comp=Z,4.0nm,0.8s,baz=345,slow=9.1,SNR=8.3						
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**50.61**	**184**	P	**P**	**01 03 08.0**	**-0.7**
BILL	**Bilibino**	**50.94**	**10**	P	**P**	**01 03 11.3**	**+0.5**
BILL				IAmb	IAmb	01 03 19.9	
	comp=Z,9.9nm,1.3s						
ZAA0	**Zalesovo Array**	**57.33**	**323**	P	**P**	**01 03 56.4**	**-1.3**
ZALV	**Zalesovo Beam**	**57.33**	**323**	P	**P**	**01 03 57.8**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=102,slow=6.6,SNR=11						
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**57.33**	**323**	P	**P**	**01 03 57.2**	**-0.5**
MK31	**Makanchi Array**	**57.71**	**314**	P	**P**	**01 03 59.8**	**-0.7**
MK31				IAmb	IAmb	01 04 08.6	
	comp=Z,6.1nm,1.5s						
MKAR	**Makanchi Array**	**57.71**	**314**	P	**P**	**01 04 00.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=87,slow=6.6,SNR=6.4						
	comp=Z,0.9nm,0.8s						
NWAO	**Narrogin (SRO)**	**57.92**	**207**	P	**P**	**01 04 02.5**	**+0.5**
NWAO				IAmb	IAmb	01 04 31.7	
	comp=Z,11nm,1.0s						
MAKZ	**Makanchi**	**57.92**	**314**	P	**P**	**01 04 02.1**	**0.0**
MAKZ				IAmb	IAmb	01 04 10.0	
	comp=Z,4.1nm,1.1s						
KURK	**Kurchatov**	**60.55**	**318**	P	**P**	**01 04 20.4**	**+0.3**
KURK				IAmb	IAmb	01 04 22.3	
	comp=Z,6.7nm,1.1s						
NRIK	**Noril'sk**	**61.11**	**340**	P	**P**	**01 04 23.4**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=110,slow=7.5,SNR=6.6						
	comp=Z,1.4nm,0.3s						
CAST	**Castle Rocks**	**61.27**	**27**	P	**P**	**01 04 25.6**	**+0.7**
CAST				IAmb	IAmb	01 04 49.7	
	comp=Z,8.9nm,1.4s						
ILAR	**Eielson Array**	**63.81**	**26**	P	**P**	**01 04 41.1**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=264,slow=5.2,SNR=7.7						
	comp=Z,0.7nm,0.8s						
BRVK	**Borovoye**	**65.84**	**320**	P	**P**	**01 04 55.4**	**+0.2**
BRVK				IAmb	IAmb	01 05 03.0	
	comp=Z,5.9nm,0.8s						
KK31	**Karatay Array**	**65.98**	**309**	P	**P**	**01 04 56.5**	**+0.2**
KK31				IAmb	IAmb	01

DJA ***17*** *01:11:28.6±0.3,3˚N±3˚×9˚9E±˚, h10km, M4.1/13, mb4.1/2, mB5.5/1, MLv4.0/13, Mw(mB)5.0/1*

ISC 17 01:11:27.8±0.8, 3˚29N±0˚06×98˚49E±0˚06, h10km, n19, σ1§39/19, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TSI	**Tuntungan**	**0.22**	**19**	P		**Pg**	**01 11 32.9**	**+0.6**
PSI	**Prapat**	**0.65**	**139**	Pg		**Pb**	**01 11 41.8**	**+0.4**
	50nm,0.3s,baz=314,slow=9.6,SNR=93							
PSI				Lg		Lg	01 11 50.9	
	59nm,0.3s,baz=270,slow=13,SNR=10							
KCSI	**Kotacane, Aceh**	**0.76**	**287**	P		**Pg**	**01 11 41.8**	**-0.6**
GSI	**Gunungsitoli**	**2.18**	**205**	P		**Pn**	**01 12 05.3**	**+1.1**
MLSI	**Meulaboh, Aceh**	**2.30**	**295**	P		**Pn**	**01 12 08.0**	**+2.2**
SNSI	**Sinabang, Aceh**	**2.34**	**248**	P		**Pn**	**01 12 08.4**	**+2.1**
LHMI	**Lhok Sumawe**	**2.46**	**321**	P		**Pn**	**01 12 09.5**	**+1.4**
MNSI	**Mandailing Nat**	**2.71**	**156**	P		**Pn**	**01 12 12.0**	**+0.6**
PBSI	**Pulau Batu**	**3.33**	**184**	P		**Pn**	**01 12 21.6**	**+1.6**
BKNI	**Bangkinang**	**3.89**	**339**	P		**Pn**	**01 12 28.7**	**+0.9**
PDSI	**Padang**	**4.62**	**155**	P		**Pn**	**01 12 38.7**	**+1.0**
SISI	**Saibi**	**4.63**	**173**	P		**Pn**	**01 12 38.9**	**+1.1**
SDSI	**Sungai Dareh**	**5.12**	**145**	P		**Pn**	**01 12 45.6**	**+1.0**
	8.7nm,0.7s,0.1nm							
CMAR	**Chiang Mai Arr**	**15.08**	**2**	Pn		**P**	**01 15 06.7**	**+0.3**
	0.7nm,0.3s,baz=193,slow=12,SNR=14							
CMAR				Lg		Lg	01 19 26.4	
	0.3nm,0.3s,baz=195,slow=32,SNR=4.3							
WRA	**Warramunga Arr**	**42.10**	**125**	P		**P**	**01 19 20.6**	**+0.1**
	1.2nm,0.9s,baz=299,slow=9.0,SNR=5.7							
	1.2nm,0.9s							
ASAR	**Alice Springs**	**43.67**	**130**	P		**P**	**01 19 34.6**	**+1.4**
	0.4nm,0.8s,baz=303,slow=8.5,SNR=2.6							
	0.4nm,0.8s							
MKAR	**Makanchi Array**	**45.56**	**344**	P		**P**	**01 19 46.0**	**-1.9**
	0.7nm,0.9s,baz=155,slow=7.6,SNR=4.6							
	0.7nm,0.9s							
ZALV	**Zalesovo Beam**	**51.72**	**350**	P		**P**	**01 20 34.0**	**-1.2**
	0.8nm,0.7s,baz=165,slow=6.0,SNR=4.5							
	0.8nm,0.7s							
BRTR	**Keskin Array B**	**68.68**	**311**	P		**P**	**01 22 30.0**	**-1.9**
	1.0nm,1.0s,baz=111,slow=7.9,SNR=3.2							
	1.0nm,1.0s							

SNET ***17*** *01:12:47.0±0.9, 13˚.09N×89˚.00W, h55km±12km, ML3.6*
INET ***17*** *01:12:48.1±0.7, 12˚.97N×88˚.86W, h15km±6km, MW2.9*

ISC 17 01:12:46.8±1.7, 13˚0N±0˚.1×89˚.02W±0˚.06, h46km±32km, n29, σ0§39/35, 4C-13D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ALJI	**Alcalda de J**	**0.55**	**52**	*e*P		**Pn**	**01 12 58.8**	**+0.2**
TECO	**Alcaldia de Te**	**0.59**	**23**	*i*P		**Pn**	**01 12 58.8**	**-0.3**
SJTE	**Alcalda de S**	**0.63**	**1**	*e*P		**Pn**	**01 12 59.1**	**-0.5**
SJTE				*e*S		**Sn**	**01 13 08.3**	**-0.3**
LFRS	**El Faro**	**0.64**	**356**	*i*P		**Pn**	**01 12 59.3**	**-0.4**
SNVI	**San Vicente**	**0.65**	**16**	*e*P		**Pn**	**01 12 59.7**	**-0.3**
COEB	**Comit de Eme**	**0.70**	**43**	*e*P		**Pn**	**01 13 00.5**	**0.0**
PAVA	**Las Pavas**	**0.73**	**6**	*i*P		**Pn**	**01 13 00.8**	**-0.2**
SNET	**Serv Nac Est T**	**0.73**	**343**	*e*P		**Pn**	**01 13 00.5**	**-0.4**
LBRS	**Las Brisas**	**0.75**	**358**	*e*P		**Pn**	**01 13 01.2**	**0.0**
UEES	**Universidad Ev**	**0.76**	**343**	*e*P		**Pn**	**01 13 01.0**	**-0.3**
LFU	**La Fuente**	**0.77**	**353**	*i*P		**Pn**	**01 13 01.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.77**	**21**	*i*P		**Pn**	**01 13 01.5**	**+0.1**
SCLA				*e*S		**Sn**	**01 13 12.8**	**+0.9**
PQSS	**Presa 15 de Se**	**0.78**	**35**	*e*P		**Pn**	**01 13 01.5**	**+0.1**
PQSS				*e*S		**Sn**	**01 13 12.7**	**+0.7**
JAYA	**Jayaque - finc**	**0.79**	**328**	*e*P		**Pn**	**01 13 01.3**	**-0.5**
JAYA				*e*S		**Sn**	**01 13 12.3**	**-0.2**
BOQS	**Boqueron**	**0.79**	**341**	*e*P		**Pn**	**01 13 01.7**	**-0.1**
BOQS				*e*S		**Sn**	**01 13 12.9**	**+0.2**
PACA	**Pacayal**	**0.83**	**54**	*e*P		**Pn**	**01 13 02.5**	**+0.2**
CEVE	**Cerro Verde**	**1.02**	**325**	*e*P		**Pn**	**01 13 05.7**	**+0.6**
P5NO	**Presa 5 de nov**	**1.03**	**14**	*i*P		**Pn**	**01 13 04.5**	**-0.4**
SBLS	**San Blas**	**1.03**	**325**	*i*P		**Pn**	**01 13 05.7**	**+0.5**
RTR	**El Retiro**	**1.09**	**326**	*e*P		**Pn**	**01 13 06.3**	**+0.4**
CAHU	**Cacacuatique**	**1.11**	**45**	*e*P		**Pn**	**01 13 06.0**	**-0.1**
FAGO	**Alcalda de S**	**1.13**	**51**	*i*P		**Pn**	**01 13 06.0**	**-0.3**
LCND	**La Caada**	**1.14**	**74**	*e*P		**Pn**	**01 13 06.4**	**0.0**
NUBE	**Las Nubes**	**1.18**	**321**	*e*P		**Pn**	**01 13 06.9**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.28**	**324**	*e*P		**Pn**	**01 13 08.6**	**+0.3**
MTO3	**Montecristo**	**1.45**	**347**	*i*P		**Pn**	**01 13 10.5**	**-0.3**
CRIN	**San Cristobal**	**1.94**	**98**	*e*P		**Pn**	**01 13 17.7**	**+0.3**
CRIN				*e*S		**Sn**	**01 13 40.5**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.00**	**58**	*e*P		**Pn**	**01 13 18.0**	**-0.4**
BOAB	**BOACO BROADBAN**	**3.31**	**99**	*e*P		**Pn**	**01 13 35.6**	**-0.6**

IDC ***17*** *01:17:40.6±0.6, 13˚.67S×166˚.59E, h0km, mb4.7/21, mbtmp4.7/22, ML4.0/1, MS4.5/52, Error ellipse: s-maj=19.7km s-min=12.6km az=130.0*
MOS ***17*** *01:17:44.9±0.9, 13˚.63S×166˚.52E, h35km, mb5.4/36, MS4.6/6, Error ellipse: s-maj=10.6km s-min=7.5km az=132.1*
NEIC ***17*** *01:17:47.0±2.0, 13˚.59S±0˚.08×166˚.64E±0˚.09, h37km±5km, mb5.1/44, Error ellipse: s-maj=13.5km s-min=10.3km az=58.0*
BJI ***17*** *01:17:47.6±0.0, 13˚.15S×166˚.70E, h46km, mb5.0/69, mB5.4/47, Ms4.9/20, Ms7 4.6/22*
GCMT ***17*** *01:17:47.0±0.1, 13˚.60S±0˚.01×166˚.41E±0˚.01, h22km, MW5.2/119, Moment Tensor Solution. s107,c160; s119,c183; Duration: 1§0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.76±.02; Mθθ-0.04±.01; Mφφ-0.72±.01; Mrθ0.28±.02; Mrφ0.34±.01; Mθr-0.16±.02; Best double couple: M₀0.87900×10¹⁷ NP1:φs143.00000°, δ56.00000°, λ72.00000°. NP2:φs353.00000°, δ38.00000°, λ114.00000°. Principal axes: T 0.8520, Plg73.0000°, Azm7.0000°; N 0.0540, Plg15.0000°, Azm153.0000°; P -0.9060, Plg9.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 01:17:47.3±0.4, 13˚.64S±0˚.05×166˚.48E±0˚.05, h42km±2km, h42km:pP-P, n325, σ1§40/348, mb5.0/80, MS4.6/66, 21C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KOUNC	**Koumac, New Ca**	**7.19**	**197**	Pn		**Pn**	**01 19 30.1**	**+0.2**
HNR	**Honiara**	**7.65**	**302**	Pn		**Pn**	**01 19 38.3**	**+2.1**
	266nm,0.3s,baz=153,slow=16,SNR=6.9							
HNR				Sn		**Sn**	**01 21 00.4**	**-1.2**
	378nm,0.3s,baz=72,slow=20,SNR=1.3							
HNR				LR		LR	01 22 18.4	
	comp=Z,44μm,19.7s,baz=140,slow=36							
HNR	**Honiara**	**7.65**	**302**			**Pn**	**01 19 37.6**	**+1.5**
HNR						**Sn**	**01 21 02.5**	**+0.9**
HNR	**Honiara**	**7.65**	**302**	P		**Pn**	**01 19 37.7**	**+1.5**
HNR							01 21 02.5	
MARNC	**Mare, Loyalty**	**7.94**	**170**	Pn		**Pn**	**01 19 40.0**	**-0.1**
DZM	**Mont Dzumac**	**8.39**	**180**	*e*Pn		**Pn**	**01 19 48.5**	**+2.1**
	157nm,1.2s							
DZM				*e*Sn		**Sn**	**01 21 22.3**	**+2.4**
	288nm,1.3s							
DZM				*e*LR		LR	01 21 55.0	
	comp=Z,7μm,23.6s							
DZM	**Mont Dzumac**	**8.39**	**180**	Pn		**Pn**	**01 19 44.8**	**-1.6**
	1.9nm,0.3s,baz=336,slow=18,SNR=13							
DZM				Sn		**Sn**	**01 21 17.3**	**-2.6**
	baz=323,slow=20							
	5.3nm,0.3s							
DZM	**Mont Dzumac**	**8.39**	**180**	Pn		**Pn**	**01 19 45.9**	**-0.5**
ONTNC	**Ouen Toro**	**8.62**	**180**			**Pn**	**01 19 50.1**	**+0.6**
OUENC	**Ouen Island, N**	**8.74**	**178**	Pn		**Pn**	**01 19 52.3**	**+1.1**
PINNC	**Pines Island,**	**8.97**	**174**	Pn		**Pn**	**01 19 54.8**	**+0.4**
MSVF	**Nonsavu**	**11.86**	**112**	Pn		**Pn**	**01 20 37.8**	**+3.8**
	0.7nm,0.3s,baz=258,slow=6.6,SNR=13							
MSVF				LR		LR	01 24 13.6	
	comp=Z,4μm,18.2s,baz=286,slow=33							
MSVF	**Nonsavu**	**11.86**	**112**	Pn		**Pn**	**01 20 32.8**	**-1.2**
MSVF	**Nonsavu**	**11.86**	**112**	P		**Pn**	**01 20 32.8**	**-1.2**
TARA	**Tarawa**	**16.21**	**24**	P		**Pn**	**01 21 32.9**	**+0.8**
TARA					IAmb	IAmb	01 21 37.0	
	comp=Z,129nm,1.1s							
KRVT	**Keravat (AS076**	**17.01**	**302**	LR		LR	01 28 53.1	
	comp=Z,2μm,18.0s,baz=262,slow=39							
EIDS	**Eidsvold**	**18.60**	**229**			**P**	**01 22 01.4**	**+0.2**
PMG	**Port Moresby**	**19.39**	**280**	P		**Pn**	**01 22 12.0**	**+0.7**
	comp=Z,12nm,0.4s,baz=105,slow=12,SNR=4.5							
PMG				S		**Sn**	**01 25 50.5**	**+2.4**
	comp=Z,6.3nm,0.3s,baz=172,slow=23,SNR=1.2							
PMG				LR		LR	01 28 30.8	
	comp=Z,858nm,20.7s,baz=76,slow=33							
PMG	**Port Moresby**	**19.39**	**280**	*ce*P		**Pn**	**01 22 11.8**	**+0.5**
PMG				pmax		pmax		
	comp=Z,23nm,1.0s							
CTA	**Charters Tower**	**20.38**	**249**	P		Pn	01 22 22.1	-1.0
	comp=Z,5.8nm,0.9s,baz=73,slow=11,SNR=8.0							
CTA				S		Sn	01 26 11.4	-0.6
	comp=Z,1.4nm,0.6s,baz=194,slow=10,SNR=1.8							
CTA				LR		LR	01 29 22.8	
	comp=Z,915nm,18.2s,baz=66,slow=34							
	comp=Z,5.8nm,0.9s							
CTAO	**Charters Tower**	**20.38**	**249**	P		**P**	**01 22 20.6**	**-0.1**
CTAO	**Charters Tower**	**20.38**	**249**	P		**P**	**01 22 20.6**	**-0.1**
CTAO				pmax		pmax		
	comp=Z,51nm,1.5s							
ARMA	**Armidale**	**21.60**	**217**	P		**P**	**01 22 34.7**	**+0.9**
PATS	**Pohnpei**	**21.90**	**338**	P		**P**	**01 22 36.1**	**-0.9**
COEN	**Coen**	**22.64**	**266**	P		**P**	**01 22 45.5**	**+0.5**
URZ	**Urewera**	**26.28**	**161**	LR		LR	01 32 37.9	
	comp=Z,2μm,18.8s,baz=53,slow=34							
STKA	**Stephens Creek**	**29.14**	**227**	P		**P**	**01 23 45.5**	**+1.0**
	comp=Z,6.2nm,0.7s,baz=41,slow=7.7,SNR=18							
STKA				ScP		**ScP**	**01 30 34.4**	**+4.4**
	comp=Z,1.5nm,0.7s,baz=31,slow=4.5,SNR=3.4							
STKA				LR		LR	01 35 33.9	
	comp=Z,2μm,18.2s,baz=56,slow=37							
	comp=Z,6.2nm,0.7s							
STKA	**Stephens Creek**	**29.14**	**227**	P		**P**	**01 23 46.1**	**+1.6**
STKA	**Stephens Creek**	**29.14**	**227**	*i*P		**P**	**01 23 45.3**	**+0.8**
RPZ	**Rata Peaks**	**30.23**	**173**	LR		LR	01 36 02.9	
	comp=Z,1μm,18.4s,baz=352,slow=36							
WB0	**Warramunga Arr**	**31.30**	**254**	P		**P**	**01 24 03.4**	**-0.4**
WRAB	**Tennant Creek**	**31.36**	**254**	*i*P		**P**	**01 24 05.8**	**+1.5**
WRAB				pmax		pmax		
	comp=Z,8.0nm,1.2s							
WRAB	**Tennant Creek**	**31.36**	**254**	P		**P**	**01 24 03.5**	**-0.8**
WRAB				pP		**pP**	**01 24 13.2**	**-0.7**
WRA	**Warramunga Arr**	**31.37**	**254**	P		**P**	**01 24 03.5**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=85,slow=9.7,SNR=20							
WRA				ScP		**ScP**	**01 30 40.4**	**+2.9**
	comp=Z,4.1nm,1.1s,baz=79,slow=3.7,SNR=8.9							
WRA				LR		LR	01 36 31.2	
	comp=Z,3μm,18.4s,baz=74,slow=36							
	comp=Z,3.2nm,0.8s							
WRA	**Warramunga Arr**	**31.37**	**254**	P		**P**	**01 24 04.7**	**+0.3**
WRA						**PcP**	**01 26 57.1**	**-0.5**
WRA	**Warramunga Arr**	**31.37**	**254**	*i*P		**P**	**01 24 03.7**	**-0.7**
WRA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
AS31	**Alice Springs**	**32.37**	**247**	P		**P**	**01 24 12.8**	**-0.4**
ASAR	**Alice Springs**	**32.37**	**247**	P		**P**	**01 24 12.1**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=72,slow=9.8,SNR=27							
ASAR				ScP		**ScP**	**01 30 43.5**	**+2.6**
	comp=Z,2.5nm,1.1s,baz=96,slow=2.9,SNR=7.7							
ASAR				LR		LR	01 37 45.1	
	comp=Z,1μm,18.1s,baz=77,slow=37							
	comp=Z,2.6nm,0.7s							
RAR	**Rarotonga**	**33.01**	**108**	LR		LR	01 35 12.2	
	comp=Z,797nm,20.0s,baz=262,slow=32							
BBOO	**Buckleboo**	**33.66**	**230**	P		**P**	**01 24 24.9**	**+0.6**
BBOO				IAmb		IAmb	01 24 32.3	
	comp=Z,24nm,0.8s							
KNRA	**Kununurra**	**36.52**	**262**	P		**P**	**01 24 48.4**	**-0.7**
KNRA				IAmb		IAmb	01 25 02.1	
	comp=Z,28nm,1.1s							
SIJI	**Sorong**	**37.09**	**287**	LR		LR	01 40 37.1	
	comp=Z,988nm,20.8s,baz=104,slow=37							
BATI	**Baumata**	**41.99**	**270**	LR		LR	01 43 30.3	
	comp=Z,1μm,19.4s,baz=137,slow=37							
PPT2	**Papete2**	**42.43**	**101**	*e*S		**S**	**01 31 59.2**	**+1.5**
	comp=Z,284nm,24.8s							
PPT2				*e*SS		**SS**	**01 35 10.7**	**+2.7**
	comp=Z,410nm,25.8s							
PPT2				*e*LR		LR	01 37 28.9	
	comp=Z,570nm,23.2s							
PPT2				*e*LR		LR	01 37 29.0	
	comp=Z,499nm,25.0s							
PPT	**Papeete**	**42.44**	**101**	LR		LR	01 39 42.8	
	comp=Z,276nm,21.2s,baz=244,slow=31							
TBI	**Tubuai**	**42.74**	**110**	*e*S		**S**	**01 32 04.3**	**+2.4**
	comp=Z,1μm,27.5s							
TBI				*e*SS		**SS**	**01 35 17.6**	**+3.8**
	comp=Z,1μm,27.8s							
TBI				*e*LR		LR	01 37 39.3	
	comp=Z,16μm,22.0s							
TBI				*e*LR		LR	01 37 39.4	
	comp=Z,3μm,24.5s							
MBWA	**Marble Bar**	**45.10**	**254**	P		**P**	**01 25 59.8**	**-0.1**
MBWA				pP		**pP**	**01 26 09.4**	**-0.3**
MBWA				sP		**sP**	**01 26 14.1**	**+0.3**
DAV	**Davao City (W)**	**45.52**	**294**	LR		LR	01 45 57.4	
	comp=Z,205nm,18.9s,baz=120,slow=37							
KAPI	**Kappang**	**46.83**	**276**	LR		LR	01 45 48.9	
	comp=Z,298nm,20.4s,baz=88,slow=36							
MPSI	**Mapaga**	**48.18**	**283**	P		**P**	**01 26 24.3**	**+0.3**
	comp=Z,20nm,1.5s,comp=Z,2μm							
NWAO	**Narrogin (SRO)**	**48.66**	**238**	LR		LR	01 46 26.8	
	comp=Z,542nm,19.2s,slow=35							
TAOE	**Nuku Hiva Isla**	**52.48**	**91**	*e*SS		**SS**	**01 37 58.9**	**-0.4**
	comp=Z,224nm,24.5s							
TAOE				*e*LR		LR	01 42 06.3	
	comp=Z,508nm,21.8s							
JHJ	**Hachijo jima 2**	**53.03**	**332**	LR		LR	01 50 05.3	
	comp=Z,170nm,18.8s,baz=106,slow=37							
KKM	**Kota Kinabalu**	**53.59**	**288**	P		**P**	**01 27 03.6**	**-1.3**
DRV	**Dumont d'Urvil**	**55.84**	**192**	P		**P**	**01 27 20.1**	**0.0**
DRV				pP		**pP**	**01 27 30.8**	**0.0**
DRV				sP		**sP**	**01 27 34.6**	**-0.5**
MJAR	**Matsushiro Arr**	**56.59**	**333**	P		**P**	**01 27 24.8**	**-1.2**
	comp=Z,11nm,1.1s,baz=160,slow=7.3,SNR=10.0							
MJAR				LR		LR	01 48 24.7	
	comp=Z,175nm,21.4s,baz=138,slow=32							
	comp=Z,11nm,1.1s							
JNU	**Nakatsue**	**57.59**	**325**	LR		LR	01 49 08.8	
	comp=Z,163nm,21.0s,baz=126,slow=33							
LEM	**Lembang**	**58.21**	**270**	LR		LR	01 55 02.1	
	comp=Z,167nm,18.6s,baz=142,slow=38							
ASAJ	**Asahikawa**	**61.46**	**341**	P		**P**	**01 28 00.1**	**+0.5**
	comp=Z,33nm,1.2s,baz=176,slow=14,SNR=3.0							
ASAJ				LR		LR	01 50 50.8	
	comp=Z,475nm,20.9s,baz=158,slow=32							
	comp=Z,33nm,1.2s							
TJN	**Taejon**	**61.94**	**325**	*ce*P		**P**	**01 28 03.4**	**+0.5**
MDSI	**Maura Dua**	**62.05**	**272**	P		**P**	**01 28 04.0**	**-0.2**
KSRS	**Korea Array**	**62.41**	**326**	P		**P**	**01 28 06.7**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=138,slow=7.9,SNR=10							
KSRS				LR		LR	01 52 43.6	
	comp=Z,163nm,20.4s,baz=150,slow=34							
	comp=Z,3.0nm,0.8s							
KSAR	**Wonju Array Be**	**62.42**	**326**	P		**P**	**01 28 05.6**	**-0.6**
KSAR	**Wonju Array Be**	**62.42**	**326**	P		**P**	**01 28 05.6**	**-0.6**
VNDA	**Vanda**	**63.93**	**181**	P		**P**	**01 28 14.4**	**-1.2**
	comp=Z,6.0nm,1.2s,baz=10.0,slow=6.6,SNR=10							
VNDA				LR		LR	01 54 02.6	
	comp=Z,367nm,18.8s,baz=16,slow=34							
	comp=Z,6.0nm,1.2s							
VNDA	**Vanda**	**63.93**	**181**	P		**P**	**01 28 15.9**	**+0.3**
VNDA				IAmb		IAmb	01 28 17.3	
	comp=Z,48nm,1.8s							
VNDA	**Vanda**	**63.93**	**181**	P		**P**	**01 28 15.9**	**+0.3**
VNDA				pP		**pP**	**01 28 25.8**	**-0.5**
VNDA				sP		**sP**	**01 28 30.7**	**+0.1**
YSS	**Yuzh-Sakhalins**	**63.96**	**342**	*e*P		**P**	**01 28 17.1**	**+1.0**
YSS				pmax		pmax		
	comp=Z,20nm,0.7s							
YSS				MLR		MLR		
	comp=Z,300nm,17.0s							
SBA	**Scott Base**	**64.22**	**180**	P		**P**	**01 28 17.8**	**+0.4**
SBA	**Scott Base**	**64.22**	**180**	P		**P**	**01 28 17.8**	**+0.4**
SBA				pmax		pmax		
	comp=Z,111nm,2.0s							
CASY	**Casey**	**64.25**	**202**	P		**P**	**01 28 17.5**	**-0.3**
CASY				IAmb		IAmb	01 28 19.1	
	comp=Z,51nm,1.8s							
CASY	**Casey**	**64.25**	**202**	P		**P**	**01 28 17.6**	**-0.2**
CASY				pP		**pP**	**01 28 27.7**	**-1.0**
CASY				sP		**sP**	**01 28 32.2**	**-0.8**
NJ2	**Nanjing**	**64.37**	**316**	*e*P		**P**	**01 28 21.0**	**+1.9**
NJ2				pmax		pmax		
	comp=Z,19nm,0.5s							
SDSI	**Sungai Dareh**	**65.56**	**275**	P		**P**	**01 28 26.9**	**-0.4**
	comp=Z,7.0nm,2.0s							
USA0B	**Ussuriysk Arra**	**65.57**	**333**	P		**P**	**01 28 27.4**	**+0.7**
USA0B	**Ussuriysk Arra**	**65.57**	**333**	*i*P		**P**	**01 28 26.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**65.57**	**333**	P		**P**	**01 28 27.5**	**+0.8**
	comp=Z,29nm,0.9s,baz=144,slow=6.2,SNR=25							
USRK				LR		LR	01 55 13.6	
	comp=Z,118nm,20.1s,baz=141,slow=34							
	comp=Z,29nm,0.9s							
USRK	**Ussuriysk Ar.**	**65.57**	**333**	P		**P**	**01 28 27.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**65.57**	**333**	P		**P**	**01 28 27.3**	**+0.6**
CCD	**Concordia, Ant**	**65.81**	**191**	P		**P**	**01 28 29.2**	**+0.9**
CCD				pP		**pP**	**01 28 39.6**	**+0.4**
SHEM	**Shemya Is, Ala**	**66.42**	**5**	LR		LR	01 52 11.5	
	comp=Z,410nm,19.4s,baz=161,slow=31							
WHN	**Wuhan**	**66.65**	**312**	*i*P		**P**	**01 28 34.3**	**+0.4**
PET	**Petropavlovsk**	**66.73**	**355**	*e*P		**P**	**01 28 32.9**	**-1.0**
PET				*e*S		**S**	**01 37 24.1**	**+1.4**
PET				pmax		pmax		
	comp=Z,100nm,9.5s							
PET				MLR		MLR		
	comp=Z,100nm,18.0s							
MDJ	**Mudanjiang**	**66.97**	**332**	P		**P**	**01 28 36.4**	**+0.7**
MDJ	**Mudanjiang**	**66.97**	**332**	P		**P**	**01 28 36.6**	**+0.9**
MDJ				pmax		pmax		
	comp=Z,52nm,1.5s							
MDJ				pmax		pmax		
	comp=Z,440nm,3.5s							
MDJ	**Mudanjiang**	**66.97**	**332**	P		**P**	**01 28 36.5**	**+0.9**
MDJ				pP		**pP**	**01 28 47.1**	**+0.9**
MDJ				sP		**sP**	**01 28 52.0**	**+1.6**
TIA	**Tai'an**	**68.02**	**319**	*e*P		**P**	**01 28 42.3**	**-0.2**
TIA				pmax		pmax		
	comp=Z,9.0nm,1.6s							
CN2	**Changchun**	**68.32**	**329**	*i*P		**P**	**01 28 44.8**	**+0.6**
CN2				*e*pP		pwP	01 29 01.1	-0.4
CN2				*e*S		**S**	**01 37 40.8**	**-1.5**
CN2				pmax		pmax		
	comp=Z,30nm,0.9s							
CN2				pmax		pmax		
	comp=Z,300nm,5.0s							
BNX	**BinXian**	**68.82**	**332**	*i*P		**P**	**01 28 47.5**	**+0.2**
BNX				pmax		pmax		
	comp=Z,33nm,1.7s							
BNX				pmax		pmax		
	comp=Z,220nm,7.0s							
RPSI	**Rantau Prapat**	**68.91**	**278**	P		**P**	**01 28 48.2**	**-0.3**
RPSI				pP		**pP**	**01 28 59.2**	**+0.5**
GRNR	**Gornyy**	**69.31**	**340**	*i*P		**P**	**01 28 51.7**	**+1.5**
GRNR				pmax		pmax		
	comp=E,10.0nm,1.1s							
GRNR				pmax		pmax		
	comp=N,20nm,1.2s							
GRNR				pmax		pmax		
	comp=Z,60nm,1.2s							
KLR	**Kul'dur**	**69.71**	**337**	P		**P**	**01 28 53.1**	**+0.4**
	comp=Z,18nm,0.9s,baz=132,slow=4.3,SNR=53							
KLR				LR		LR	01 56 01.0	
	comp=Z,167nm,21.0s,baz=146,slow=33							
	comp=Z,18nm,0.9s							
KLR	**Kul'dur**	**69.71**	**337**	*ce*P		**P**	**01 28 53.1**	**+0.4**
KLR				pmax		pmax		
	comp=Z,63nm,1.8s							
GSI	**Gunungsitoli**	**69.85**	**276**	P		**P**	**01 28 54.4**	**0.0**
GSI				IAmb		IAmb	01 29 07.3	
	comp=Z,14nm,0.8s							
GSI	**Gunungsitoli**	**69.85**	**276**	P		**P**	**01 28 54.4**	**0.0**
ENH	**Enshi**	**70.09**	**309**	P		**P**	**01 28 56.1**	**+0.6**
LYN	**LuoYang**	**70.17**	**315**	*e*P		**P**	**01 28 52.3**	**-3.6**
LYN				pmax		pmax		
	comp=Z,10.0nm,0.8s							
LYN				pmax		pmax		
	comp=Z,340nm,5.7s							
LYN				LR		LR		
	comp=Z,230nm,16.7s							
LYN				LR		LR		
	comp=Z,230nm,13.1s							
LYN				LR		LR		
	comp=Z,340nm,19.1s							
HNS	**HongShan**	**70.28**	**318**	*i*P		**P**	**01 28 57.5**	**+1.0**
HNS				pP		**sP**	**01 29 10.4**	**-1.1**
HNS				PcP		**PcP**	**01 29 23.5**	**+5.5**
HNS				*e*S		**S**	**01 38 03.9**	**-1.7**
HNS				pmax		pmax		
	comp=Z,19nm,1.9s							
HNS				LR		LR		
	comp=Z,320nm,23.9s							
HNS				LR		LR		
	comp

HIA IAmb IAmb 01 29 25.9
comp=Z,41nm,1.1s
HIA Hailar 74.97 330*c* *i*P **P** **01 29 24.4 +0.3**
HIA pmax pmax
comp=Z,43nm,1.1s
ZEA Zeya 75.00 337 *e*P **P** **01 29 25.2 +1.1**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,1.5s
BTO Baotou 75.11 319 *e*P **P** **01 29 28.0 +2.8**
TNCH TengChong 76.57 300 P **P** **01 29 34.6 +0.6**
TNCH pmax pmax
comp=Z,66nm,1.9s
TNCH pmax pmax
comp=Z,230nm,3.3s
LZH Lanzhou 77.03 312 *e*P **P** **01 29 38.3 +2.0**
LZH pP sP 01 29 50.6 -0.9
LZH sP pwP 01 29 56.3 +3.0
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,270nm,4.8s
LZH LR LR
comp=Z,310nm,14.1s
LZH LR LR
comp=Z,240nm,15.5s
LZH LR LR
comp=Z,190nm,14.8s
SEY Seymchan 77.12 353 P **P** **01 29 35.7 -0.3**
comp=Z,7.2nm,0.8s,baz=179,slow=9.9,SNR=11
SEY LR LR 01 58 31.5
comp=Z,577nm,21.9s,baz=177,slow=32
comp=Z,7.2nm,0.8s
SEY Seymchan 77.12 353*ce*P **P** **01 29 35.1 -0.9**
SEY pmax pmax
comp=Z,28nm,1.7s
Q16K King Salmon 78.08 19 P **P** **01 29 42.3 +0.9**
baz=216
Q18K Katmai Hardscr 78.58 19 P **P** **01 29 46.1 +1.7**
baz=218
KDAK Kodiak Island 78.72 21 LR LR 01 58 38.8
comp=Z,696nm,19.2s,baz=231,slow=31
RPN Rapa Nui 78.81 115 LR LR 01 58 16.4
comp=Z,152nm,18.2s,baz=256,slow=31
CIT Chita 79.75 330 *e*P **P** **01 29 50.6 -0.3**
CIT *e* 01 30 03.2
CIT pmax pmax
comp=Z,128nm,1.9s
YAK Yakutsk 80.77 343 P **P** **01 29 55.7 -0.3**
comp=Z,5.7nm,0.3s,baz=145,slow=1.6,SNR=5.8
YAK LR LR 02 07 09.1
comp=Z,324nm,18.0s,baz=140,slow=37
comp=Z,5.7nm,0.3s
YAK Yakutsk 80.77 343 *e*P **P** **01 29 55.8 -0.2**
YAK *e* 01 30 12.1
YAK *e*S **S** **01 40 03.6 +3.0**
YAK pmax pmax
comp=Z,40nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=N,14nm,1.4s
YAK pmax pmax
comp=Z,196nm,4.2s
YAK pmax pmax
comp=N,22nm,2.2s
YAK pmax pmax
comp=E,88nm,4.2s
YAK smax smax
comp=N,153nm,5.3s
YAK smax smax
comp=E,87nm,4.9s
YAK MLR MLR
comp=Z,719nm,24.0s
YAK MLR MLR
comp=N,279nm,18.0s
YAK MLR MLR
comp=E,174nm,17.0s
ULN Ulaanbaatar 80.81 324*ce*P **P** **01 29 57.5 +0.7**
ULN pmax pmax
comp=Z,71nm,2.5s
ANM Nome 80.86 12 P **P** **01 29 59.5 +3.0**
baz=208
SONM Songino Array 81.17 324 P **P** **01 29 58.8 +0.1**
comp=Z,5.5nm,1.0s,baz=144,slow=6.9,SNR=34
SONM LR LR 02 03 34.0
comp=Z,162nm,21.9s,baz=164,slow=34
comp=Z,5.5nm,1.0s
SONM Songino Array 81.17 324 P **P** **01 29 58.8 +0.1**
SONM Songino Array 81.17 324 P **P** **01 29 58.8 +0.1**
SONM pmax pmax
comp=Z,87nm,2.0s
GTA Gaotai 81.36 314 *e*P **P** **01 30 01.3 +1.4**
GTA pP sP 01 30 14.3 -0.8
GTA pmax pmax
comp=Z,20nm,2.0s
GTA pmax pmax
comp=Z,210nm,4.9s
GTA LR LR
comp=Z,150nm,17.1s
GTA LR LR
comp=Z,150nm,19.3s
GTA LR LR
comp=Z,190nm,19.6s
BILL Bilibino 81.45 360 *i* P **P** **01 29 58.6 -1.0**
BILL pmax pmax
comp=Z,17nm,1.0s
SUA Susitna One 82.12 19 P **P** **01 30 05.5 +2.2**
baz=222
MAW Mawson 82.60 202 LR LR 02 00 24.3
comp=Z,345nm,20.9s,baz=92,slow=31
BOD Bodaibo 83.17 335 *e*P **P** **01 30 08.1 -0.6**
BOD pmax pmax
comp=Z,112nm,1.7s
CAST Castle Rocks 83.19 17 P **P** **01 30 07.0 -1.8**
CAST IAmb IAmb 01 30 11.8
comp=Z,11nm,1.0s
GOMU GeErMu 83.71 309 P **P** **01 30 13.8 +1.3**
GOMU S **S** **01 40 35.6 +2.9**
GOMU pmax pmax
comp=Z,7.0nm,1.1s
GOMU pmax pmax
comp=Z,150nm,5.4s
GOMU LR LR
comp=Z,61nm,10.0s
GOMU LR LR
comp=Z,74nm,9.7s
GOMU LR LR
comp=Z,84nm,9.2s
TRF Thorofare Moun 83.74 18 P **P** **01 30 10.5 -1.3**
TRF IAmb IAmb 01 30 50.0
comp=Z,20nm,1.4s
WAT1 Susitna Watana 83.82 19 P **P** **01 30 11.7 -0.3**
baz=224
ZAK Zakamensk 84.22 325 *e*P **P** **01 30 14.2 -0.3**
ZAK pmax pmax
comp=Z,30nm,1.4s
MCK McKinley 84.36 18 P **P** **01 30 13.7 -1.1**
MCK IAmb IAmb 01 30 17.5
comp=Z,18nm,1.1s
MCK McKinley 84.36 18 P **P** **01 30 14.4 -0.3**
baz=223
MCK McKinley 84.36 18 P **P** **01 30 13.7 -1.1**
MCK pmax pmax
comp=Z,18nm,1.1s
DHY Denali Highway 84.37 19 P **P** **01 30 16.5 +1.5**
baz=225
I21K Tanana 84.56 16 P **P** **01 30 15.4 -0.3**
baz=220
IRK Irkutsk 84.61 327 *e*P **P** **01 30 15.2 -1.1**
IRK pmax pmax
comp=Z,76nm,1.9s
MLY Manley 84.79 17 P **P** **01 30 15.6 -1.3**
MLY IAmb IAmb 01 30 19.1
comp=Z,13nm,1.4s
MLY Manley 84.79 17 P **P** **01 30 16.4 -0.6**
baz=222
WRH Wood River Hil 85.15 18 P **P** **01 30 17.6 -1.1**
WRH IAmb IAmb 01 30 21.2
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 85.19 45 P **P** **01 30 20.8 +1.3**
comp=Z,2.6nm,0.9s,baz=278,slow=7.1,SNR=5.1
YBH LR LR 02 06 53.3
comp=Z,120nm,18.4s,baz=288,slow=35
comp=Z,2.6nm,0.9s
CCB Clear Creek Bu 85.37 18 P **P** **01 30 18.1 -1.6**
CCB IAmb IAmb 01 30 22.5
comp=Z,6.3nm,0.7s
M26K Nabesna, AK 85.38 21 P **P** **01 30 21.4 +1.4**
baz=229
HDA Harding Lake 85.46 18 P **P** **01 30 19.4 -0.8**
HDA Harding Lake 85.46 18 P **P** **01 30 19.6 -0.6**
baz=225
MDM Murphy Dome 85.46 18 P **P** **01 30 19.3 -1.0**
MDM IAmb IAmb 01 30 23.3
comp=Z,16nm,1.0s
TCOL CIGO, UAF Yank 85.51 18 P **P** **01 30 19.9 -0.6**
TCOL IAmb IAmb 01 30 23.9
comp=Z,19nm,0.9s
COLA College 85.52 18 P **P** **01 30 19.9 -0.6**
COLA IAmb IAmb 01 30 23.4
comp=Z,12nm,0.8s
COLA College 85.52 18 *i* P **P** **01 30 18.9 -1.5**
COLA pmax pmax
comp=Z,13nm,0.9s
RIDG Independent Ri 85.66 20 P **P** **01 30 21.8 +0.5**
baz=227
IL31 85.73 18 P **P** **01 30 20.3 -1.2**
IL31 IAmb IAmb 01 30 23.5
comp=Z,8.9nm,1.1s
ILAR Eielson Array 85.73 18 P **P** **01 30 20.1 -1.5**
comp=Z,6.5nm,0.9s,baz=240,slow=5.9,SNR=26
ILAR LR LR 02 04 08.8
comp=Z,496nm,19.4s,baz=222,slow=32
comp=Z,6.5nm,0.9s
F21K Alatna River 85.75 15 P **P** **01 30 21.9 +0.2**
baz=219
MOY Mondy 86.11 325 *e*P **P** **01 30 24.1 +0.2**
MOY pmax pmax
comp=Z,67nm,2.7s
L27K Beaver Creek, 86.22 21 P **P** **01 30 23.6 -0.5**
baz=230
G23K Bananza Creek 86.25 16 P **P** **01 30 24.3 +0.1**
baz=222
F22K John River 86.30 15 P **P** **01 30 24.5 +0.2**
baz=220
BBB Bella Bella 86.30 34 LR LR 02 09 17.2
comp=Z,462nm,18.1s,baz=290,slow=36
TAPN Taplejung 86.49 299 *e*P **P** **01 30 26.5 0.0**
COLD Coldfoot 86.59 16 P **P** **01 30 25.8 0.0**
COLD IAmb IAmb 01 30 29.1
comp=Z,8.7nm,1.0s
COLD Coldfoot 86.59 16 P **P** **01 30 26.3 +0.5**
baz=222
G24K Hadwenzic Riv 86.94 17 P **P** **01 30 27.6 +0.1**
baz=224
PFO Pinyon Flats O 86.98 55 LR LR 02 04 20.3
comp=Z,676nm,18.3s,baz=270,slow=32
NVAR Mina Array Bea 87.14 49 P **P** **01 30 30.1 +0.7**
comp=Z,1.0nm,0.8s,baz=240,slow=7.2,SNR=6.9
comp=Z,1.0nm,0.8s
RAMN Ramite 87.32 298 *e*P **P** **01 30 30.7 +0.2**
F24K Squaw Lake 87.41 16 P **P** **01 30 30.7 +0.9**
baz=224
EGAK Eagle 87.55 20 P **P** **01 30 32.0 +1.5**
D23K Nanushuk River 87.77 14 P **P** **01 30 33.2 +1.7**
baz=221
BELA Belgrano 2 87.86 176 P **P** **01 30 31.0 -0.9**
BELA IAmb IAmb 01 30 32.4
comp=Z,19nm,1.1s
JIRN Jiri 87.87 299 *e*P **P** **01 30 33.5 +0.2**
comp=Z,31nm,0.9s
DLBC Dease Lake 88.34 28 LR LR 02 10 43.9
comp=Z,242nm,18.1s,baz=248,slow=36
PKI Pulchoki 88.51 299 *e*P **P** **01 30 36.2 -0.1**
PKIN Phulchoki 88.52 299 *e*P **P** **01 30 36.1 -0.2**
TIXI Tiksi 88.76 349 LR LR 02 06 38.3
comp=Z,188nm,20.7s,baz=89,slow=33
TIXI Tiksi 88.76 349 P **P** **01 30 34.6 -1.4**
TIXI Tiksi 88.76 349*ce*P **P** **01 30 34.8 -1.2**
TIXI pmax pmax
comp=Z,18nm,2.5s
DMN Daman 88.78 299 *e*P **P** **01 30 37.9 +0.4**
C24K Franklin Bluff 88.81 14 P **P** **01 30 36.8 +0.5**
baz=223
GKN Gorkha 89.28 299 *e*P **P** **01 30 39.0 -0.7**
LPIG La Paz 89.43 65 LR LR 02 03 21.8
comp=Z,114nm,19.1s,baz=260,slow=31
C26K Camden Bay 89.88 15 P **P** **01 30 42.8 +1.5**
baz=227
DANN Dangsing 90.12 299 *e*P **P** **01 30 43.0 -0.8**
comp=Z,32nm,1.0s
ELK Elko 90.13 48 LR LR 02 06 03.7
comp=Z,389nm,18.7s,baz=260,slow=32
ELIB Princess Elisa 91.14 191 *d*P **P** **01 30 46.4 -1.2**
comp=Z,14nm,1.1s
NEW Newport 91.23 41 LR LR 02 12 31.0
comp=Z,212nm,18.1s,baz=298,slow=36
WMQ Urumqi 91.42 315 *e*P **P** **01 30 49.6 +0.4**
WMQ pmax pmax
comp=Z,19nm,1.7s
WMQ pmax pmax
comp=Z,200nm,6.7s
WMQ LR LR
comp=Z,180nm,23.5s
INK Inuvik 92.11 19 LR LR 02 08 46.7
comp=Z,450nm,18.6s,baz=244,slow=33
PCHI Peechi 92.57 280 *e*P **P** **01 30 55.2 +0.2**
DGZ Jazzator, Alta 93.34 320 *i* P **P** **01 30 57.3 -0.8**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
TROLL Troll, Antarti 93.88 185 P **P** **01 30 59.6 -0.5**
SNAA Sanae 94.59 183 LR LR 02 12 27.6
comp=Z,348nm,18.6s,baz=238,slow=35
PDAR Pinedale Array 94.77 47 LR LR 02 10 52.2
comp=Z,239nm,18.3s,baz=310,slow=34
VNA3 Neumayer Olymp 95.28 181 P **P** **01 31 04.7 -1.8**
ANMO Albuquerque 95.32 55 LR LR 02 11 26.6
comp=Z,380nm,18.0s,baz=2.0,slow=34
VNA2 Neumayer--Watz 95.54 182 P **P** **01 31 07.2 -0.4**
baz=160,slow=4.0
VNA1 Neumayer--Stat 95.84 182 P **P** **01 31 07.7 -1.3**
MK31 Makanchi Array 95.89 317 P **P** **01 31 09.7 +0.1**
MK31 IAmb IAmb 01 31 11.2
comp=Z,19nm,1.4s
MK31 Makanchi Array 95.89 317*c* *i*P **P** **01 31 09.4 -0.3**
MKAR Makanchi Array 95.89 317 P **P** **01 31 09.5 -0.2**
comp=Z,6.9nm,1.0s,baz=98,slow=6.5,SNR=30
MKAR LR LR 02 13 24.7
comp=Z,91nm,21.9s,baz=136,slow=35
comp=Z,6.9nm,1.0s
MKAR Makanchi Array 95.89 317 P **P** **01 31 09.8 +0.2**
MKAR Makanchi Array 95.89 317*ce*P **P** **01 31 10.1 +0.4**
MKAR pmax pmax
comp=Z,7.0nm,1.0s
ZAA0 Zalesovo Array 96.06 324 P **P** **01 31 09.6 -0.6**
ZALV Zalesovo Beam 96.06 324 P **P** **01 31 09.2 -1.0**
comp=Z,6.5nm,0.9s,baz=104,slow=5.0,SNR=27
ZALV LR LR 02 14 48.7
comp=Z,95nm,19.9s,baz=82,slow=36
comp=Z,6.5nm,0.9s
ZALV Zalesovo Beam 96.06 324 P **P** **01 31 09.4 -0.8**
ZALV Zalesovo Beam 96.06 324 *i* P **P** **01 31 09.6 -0.6**
ZALV pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 96.10 317 P **P** **01 31 10.4 -0.2**
MAKZ Makanchi 96.10 317 P **P** **01 31 10.4 -0.2**
MAKZ pmax pmax
comp=Z,19nm,1.4s
TXAR Lajitas Array 96.43 61 LR LR 02 09 01.9
comp=Z,159nm,19.6s,baz=268,slow=32
YKA Yellowknife Ar 96.93 27 P **P** **01 31 13.6 -0.3**
comp=Z,0.7nm,0.7s,baz=259,slow=4.9,SNR=8.3
comp=Z,0.7nm,0.7s
NRIK Noril'sk 98.79 339 P **P** **01 31 21.2 -0.9**
comp=Z,5.7nm,0.9s,baz=97,slow=5.4,SNR=6.5
NRIK LR LR 02 13 21.2
comp=Z,228nm,21.8s,baz=101,slow=34
comp=Z,5.7nm,0.9s
NRIK Noril'sk 98.79 339 P **P** **01 31 21.2 -0.9**
NRIK IAmb IAmb 01 31 22.6
comp=Z,14nm,1.3s
NRIK Noril'sk 98.79 339*ce*P **P** **01 31 21.6 -0.5**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 99.08 320 *i* P **Pdif** **01 31 21.8 -2.1**
KURK pmax pmax
comp=Z,3.0nm,1.4s
KURBB Kurchatov Arra 99.12 320 LR LR 02 18 08.3
comp=Z,133nm,18.6s,baz=158,slow=37
GEYT Alibeck 112.68 306 PKiKP **PKiKP** **01 36 19.4 -0.4**
comp=Z,0.5nm,0.4s,baz=101,slow=4.6,SNR=4.4
BELG Belogornoye 118.21 322 *i* PKIKP **PKPdf** **01 36 29.0 -0.8**
ARCES ARCESS Array B 119.01 345 PKP **PKPdf** **01 36 29.7 -1.2**
comp=Z,4.8nm,0.8s,baz=72,slow=1.8,SNR=16
KLMR Klimovskoe 119.37 333 *e*PKPdf **PKPdf** **01 36 27.9 -3.9**
KLMR AMP 01 36 34.6
comp=Z,27nm,1.7s
KLMR Klimovskoe 119.37 333 *e*PKIKP **PKPdf** **01 36 27.8 -4.0**
KLMR pmax pmax
comp=Z,27nm,1.7s
VRH Novokhopyorsk 122.06 322 *e*PKIKP **PKPdf** **01 36 35.3 -2.0**
VRH pmax pmax
comp=Z,20nm,0.8s
ZEI Tsey 122.95 312 *i* PKIKP **PKPdf** **01 36 39.3 -0.3**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
LPSR Galich'ya Gora 123.17 325 *e*PKIKP **PKPdf** **01 36 38.3 -1.0**
LPSR pmax pmax
comp=Z,20nm,1.2s
ONI Oni 123.32 312 **PKiKP** **01 36 40.2 -0.1**
ONI Oni 123.32 312 PKIKP **PKiKP** **01 36 40.2 -0.1**
OBN Obninsk 123.38 328 *i* PKIKP **PKPdf** **01 36 38.3 -1.3**
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,137nm,17.0s
KBZ Khabaz 123.45 314 PKP **PKPdf** **01 36 39.2 -0.9**
comp=Z,2.5nm,0.9s,baz=135,slow=2.9,SNR=5.9
AKH Akhalkalaki 123.54 311 PKPdf **PKPdf** **01 36 39.1 -1.6**
AKH Akhalkalaki 123.54 311 PKIKP **PKPdf** **01 36 39.1 -1.6**
KIV Kislovodsk 123.55 314 *i* PKIKP **PKiKP** **01 36 40.7 -0.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,82nm,22.0s
VSR Storozhevoye 123.56 323 *e*PKIKP **PKPdf** **01 36 38.3 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 124.43 338 PKP **PKPdf** **01 36 39.9 -1.7**
comp=Z,4.1nm,0.8s,baz=101,slow=2.8,SNR=9.5
FINES FINESS Array B 124.43 338*c* *i*PKIKP **PKPdf** **01 36 41.2 -0.3**
FINES pmax pmax
comp=Z,4.0nm,0.8s
GURO Guroymak-BITLI 125.21 308 **PKPdf** **01 36 44.0 +0.1**
MNK Minsk 128.00 331 *i* PKP **PKPdf** **01 36 46.5 -2.0**
comp=E,2.0nm,1.1s
MNK *i* PKP **PKPdf** **01 36 46.5 -2.0**
comp=N,28nm,0.8s
MNK *i* PKP **PKPdf** **01 36 46.5 -2.0**
comp=Z,13nm,0.9s,baz=55
MNK *i* pPKP **pPKPdf** **01 37 01.7 +1.5**
MNK *i* PP **PP** **01 38 49.2 -2.2**
MNK *i* SKP 01 40 17.4
MNK *i* PKS **PKSdf** **01 40 23.1 -1.7**
MNK *i* PPP PPP 01 41 33.5
MNK *i* SKS **SKSdf** **01 43 53.8 -3.1**
MNK *i* SKKS **SKKSdf** **01 54 04.6 -5.7**
MNK *i* SS **SS** **01 55 59.4 -2.2**
MNK *i* SSS SSS 02 00 43.0
MNK *i* LQ LQ 02 24 49.5
MNK *i* LR LR 02 29 08.2
MNK *i* LRM MLR 02 31 53.7
comp=N,336nm,17.9s
MNK *i* LRM MLR 02 31 55.0
comp=E,16nm,17.9s
MNK *i* LRM MLR 02 31 56.2
comp=Z,159nm,17.9s
MNK Minsk 128.00 331 *i* PKIKP **PKPdf** **01 36 46.5 -2.0**
MNK *i* 01 37 01.6
MNK *i* 01 38 49.2
MNK *i* PPP PPP 01 41 33.5
MNK *i* 01 43 53.8
MNK *i* PS **PS** **01 48 55.7 -3.1**
MNK *i* SS SS 01 55 59.4 -2.2
MNK *i* SSS SSS 02 00 43.0
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,28nm,0.8s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=N,336nm,18.0s
MNK MLR MLR
comp=E,16nm,18.0s
MNK MLR MLR
comp=Z,159nm,18.0s
NACGM Naroch 128.28 332 *e*PKP **PKPdf** **01 36 48.8 -0.2**
comp=Z,21nm,1.0s,baz=53
PABE Paberze 129.16 333 PKPdf **PKPdf** **01 36 50.9 +0.2**
NB2 NORSAR Subarra 129.38 345 PKPdf **PKPdf** **01 36 50.2 -0.9**
comp=Z,30nm,2.0s,baz=31,slow=1.9
NB2 SKPa **SKPdf** **01 40 22.4 -0.8**
comp=Z,1.0nm,0.8s,baz=14,slow=3.7
NB2 NORSAR Subarra 129.38 345 PKPdf **PKPdf** **01 36 50.2 -0.9**
baz=31,slow=1.9
NOA NORSAR Array B 129.38 345 PKP **PKPdf** **01 36 50.8 -0.3**
comp=Z,1.6nm,0.8s,baz=30,slow=2.0,SNR=5.9
NOA SKPbc SKPbc 01 40 13.1 +3.5
comp=Z,0.9nm,0.8s,baz=28,slow=4.4,SNR=2.2
AKASG Malin Array Be 129.41 326 PKP **PKPdf** **01 36 51.1 -0.3**
comp=Z,0.6nm,0.4s,baz=59,slow=1.9,SNR=14
AKASG Malin Array Be 129.41 326 **PKPdf** **01 36 50.9 -0.5**
AKASG Malin Array Be 129.41 326*c* *i*PKIKP **PKPdf** **01 36 51.5 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 129.41 326 *i* PKIKP **PKPdf** **01 36 50.8 -0.5**
BNN Bunyan 129.85 309 **PKPdf** **01 36 51.6 -1.2**
BRTR Keskin Array B 131.22 311 PKP **PKPdf** **01 36 54.8 -0.6**
comp=Z,1.4nm,0.9s,baz=29,slow=3.3,SNR=5.8
BUR08 Bucovina Ar. S 133.28 324 PKPdf **PKPdf** **01 36 58.6 -0.3**
MBAR Mbarara 133.93 256*c* *i*PKIKP **PKiKP** **01 37 03.3 +0.7**
MBAR pmax pmax
comp=Z,4.0nm,1.3s
MORC Moravsky Berou 135.91 331 *e*PKP **PKPdf** **01 37 03.9 +0.2**
OSTC Ostas 135.96 333 *e*PKPDF **PKPdf** **01 37 03.3 -0.5**
KRLC Kraliky 136.05 332 *e*PKPDF **PKPdf** **01 37 01.4 -2.6**
KRLC *e*SKP **SKPab** **01 40 36.3 -1.5**
KRLC *ex* x 01 40 46.2
KRLC Kraliky 136.05 332 *e*PKIKP **PKPdf** **01 37 01.4 -2.6**
MAUC Maruska 136.06 331 *e*PKPDF **PKPdf** **01 37 04.5 +0.5**
MAUC *e*SKP **SKPab** **01 40 45.7 +7.8**
MAUC *ex* x 01 40 59.2
DPC Dobruska-Polom 136.06 333 *e*PKPDF **PKPdf** **01 37 03.7 -0.3**
DPC *e*SKP **SKPab** **01 40 37.2 -0.6**
DPC *ex* x 01 40 44.2
DPC Dobruska-Polom 136.06 333 *e*PKIKP **PKPdf** **01 37 03.7 -0.3**
JAVC Velka Javorina 136.48 330 *e*PKP **PKiKP** **01 37 06.1 -0.5**
JAVC *e* 01 40 39.7
VRAC Vranov 136.68 331 *e*PKP **PKPdf** **01 37 05.4 +0.3**
PVCC Panska Ves 136.70 334 *e*PKPDF **PKiKP** **01 37 06.5 -0.4**
PVCC Panska Ves 136.70 334 *e*PKIKP **PKiKP** **01 37 06.5 -0.4**
BRG Berggiesshubel 136.70 335 *e*PKP **PKiKP** **01 37 06.3 -0.5**
BRG Amp 01 37 07.4
comp=Z,14nm,1.3s
BRG SKP **SKPab** **01 40 47.4 +6.9**
BRG Amp 01 40 48.3
comp=Z,7.3nm,1.0s
BRG Berggiesshubel 136.70 335 *e*PKIKP **PKiKP** **01 37 06.3 -0.5**
BRG pmax pmax
comp=Z,14nm,1.3s
BRG pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 136.75 336 *i* PKPdf **PKPdf** **01 37 04.9 -0.3**
comp=Z,9.0nm,1.2s
CLL *e*SKPdf **SKPdf** **01 40 38.0 +1.0**
CLL *e*PKSab **PKSab** **01 40 46.0 +0.8**
comp=Z,5.0nm,1.0s
CLL Lm MLR 02 38 00.0
comp=N,200nm,19.5s
CLL Lm MLR 02 38 00.0
comp=E,100nm,21.5s
CLL Lm MLR 02 38 00.0
comp=Z,200nm,19.7s
CLL Collm 136.75 336 *i* PKIKP **PKPdf** **01 37 04.9 -0.3**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL pmax pmax
comp=Z,5.0nm,1.0s
KRUC Moravsky 136.95 331 *e*PKP **PKPdf** **01 37 05.7 +0.1**
KRUC *e* 01 40 39.8
NKC Novy Kostel 137.81 335 *e*PKS 01 40 50.5
RONA Rosalia, Austr 137.95 330 *i* PKP **PKPdf** **01 37 08.0 +0.4**
comp=Z,9.8nm,1.1s
CONA Conrad Observa 138.00 330 *i* PKP **PKPdf** **01 37 08.0 +0.3**
comp=Z,9.5nm,1.0s
CONA *e*SKP **SKPab** **01 40 44.2 -2.3**

	comp=Z,10nm,1.4s							
CKRC	**Cesky Krumlov**	**138.08**	**332**	*e*PKPDF	**PKPdf**	**01**	**37**	**07.8 +0.1**
CKRC				*e*PKS	**PKSbc**	**01**	**40**	**44.0 +1.0**
CKRC				*ex*	x	01	40	52.5
KHC	**Kasperske Hory**	**138.17**	**333**		**PKPdf**	**01**	**37**	**07.2 -0.7**
KHC	**Kasperske Hory**	**138.17**	**333**	*e*PKPDF	**PKPdf**	**01**	**37**	**07.9 0.0**
KHC				*ex*	x	01	39	59.0
KHC				*e*SKP	**SKPab**	**01**	**40**	**42.9 -4.3**
KHC				*ex*	x	01	40	50.7
KHC	**Kasperske Hory**	**138.17**	**333**	*e*PKIKP	**PKPdf**	**01**	**37**	**07.9 0.0**
KHC				*e*		01	39	59.0
GERES	**GERESS Array B**	**138.33**	**333**	PKP	**PKPdf**	**01**	**37**	**07.7 -0.6**
	comp=Z,1.8nm,0.8s,baz=92,slow=2.9,SNR=6.8							
GERES				SKPbc	**SKiKP**	**01**	**40**	**43.4 0.0**
	comp=Z,2.1nm,0.8s,baz=64,slow=4.5,SNR=7.9							
BIOA	**Bad Ischl, Aus**	**139.21**	**332**	*i* PKiKP	**PKiKP**	**01**	**37**	**11.4 -0.7**
	comp=Z,4.9nm,1.1s							
BIOA				*e*PP	**PP**	**01**	**40**	**01.9 -1.0**
	comp=Z,5.2nm,1.3s							
SOKA	**Soboth**	**139.28**	**330**	*e*PKP	**PKPdf**	**01**	**37**	**09.9 -0.2**
	comp=Z,18nm,1.6s							
SOKA				*e*PP	**PP**	**01**	**40**	**02.3 -1.0**
	comp=Z,6.9nm,1.7s							
KBA	**Koelnbreinsper**	**139.80**	**331**	*i* PKP	**PKPdf**	**01**	**37**	**10.5 -0.6**
	comp=Z,8.7nm,1.2s							
KBA				*e*PP	**PP**	**01**	**40**	**05.7 -1.0**
	comp=Z,12nm,1.8s							
BTNL	**Ternell**	**139.83**	**341**	*d*PKiKP	**PKiKP**	**01**	**37**	**13.1 -0.2**
MEM	**Membach**	**139.85**	**341**	*d*PKPdf	**PKPdf**	**01**	**37**	**10.6 -0.2**
MEM				*d*PKiKP	**PKiKP**	**01**	**37**	**13.2 -0.1**
WTTA	**Wattenberg**	**140.43**	**333**	*i* SKP	**SKPab**	**01**	**40**	**57.3 -0.1**
	comp=Z,6.8nm,1.0s							
BMRD	**Maredsous**	**140.51**	**342**	*d*PKiKP	**PKiKP**	**01**	**37**	**14.5 -0.1**
MOTA	**Mooslm**	**140.60**	**333**	*e*PKP	**PKPdf**	**01**	**37**	**12.3 -0.3**
	comp=Z,12nm,1.3s							
MOTA				*e*SKP	**SKPab**	**01**	**40**	**57.9 -0.3**
	comp=Z,9.4nm,1.0s							
WLF	**Walferdange**	**140.62**	**340**	*d*PKiKP	**PKiKP**	**01**	**37**	**14.4 -0.4**
RETA	**Reutte**	**140.64**	**334**	*e*SKP	**SKPab**	**01**	**40**	**57.8 -0.4**
	comp=Z,6.6nm,1.1s							
SQTA	**Sankt Quirin**	**140.66**	**333**	*e*PKP	**PKPdf**	**01**	**37**	**12.7 +0.1**
	comp=Z,7.5nm,1.4s							
SQTA				*e*SKP	**SKPab**	**01**	**40**	**56.0 -2.3**
	comp=Z,7.9nm,1.0s							
FETA	**Feichten**	**141.02**	**333**	*e*PKP	**PKPdf**	**01**	**37**	**13.6 +0.3**
	comp=Z,7.0nm,1.2s							
FETA				*e*SKP	**SKPab**	**01**	**40**	**59.4 -0.6**
	comp=Z,8.0nm,1.0s							
DAVA	**Damuels**	**141.17**	**334**	*i* SKP	**SKPab**	**01**	**40**	**58.6 -2.1**
	comp=Z,7.8nm,1.2s							
CEL	**Celeste**	**144.21**	**319**		**PKPab**	**01**	**37**	**17.0 +0.1**
BNI	**Bardonecchia**	**144.29**	**335**	PKPdf	PKPbc	01	37	18.2 +0.7
BNI	**Bardonecchia**	**144.29**	**335**	PKIKP	PKPbc	01	37	18.2 +0.7
SSB	**Saint Sauveur**	**144.93**	**338**	PKPdf	PKPbc	01	37	19.7 +0.3
SSB	**Saint Sauveur**	**144.93**	**338**	PKIKP	PKPbc	01	37	19.7 +0.3
RAFF	**Raffo Rosso**	**145.80**	**318**		**PKPdf**	**01**	**37**	**21.9 0.0**
KEST	**Kesra**	**149.89**	**321**	PKPbc	**PKPbc**	**01**	**37**	**33.6 0.0**
	comp=Z,32nm,0.8s,baz=317,slow=2.4,SNR=18							
KEST	**Kesra**	**149.89**	**321**		**PKPbc**	**01**	**37**	**31.8 -1.8**
PBRG	**Braganca**	**151.32**	**349**	*e*PKPbc	**PKPbc**	**01**	**37**	**36.3 -0.4**
PGAV	**Gavieira, Arco**	**151.41**	**352**	*e*PKPbc	**PKPbc**	**01**	**37**	**37.0 0.0**
PGAV				*i* LQ	LQ	01	37	40.7
POLO	**Lamas de Olo**	**151.92**	**351**	*e*PKPbc	**PKPbc**	**01**	**37**	**38.0 -0.2**
POLO				*i* LQ	LQ	01	37	42.3
MVO	**Moncorvo**	**152.00**	**350**	*e*PKPbc	**PKPbc**	**01**	**37**	**38.3 0.0**
MVO				*i* LQ	LQ	01	37	42.7
PVRL	**Vila Real**	**152.00**	**351**	*e*PKPbc	**PKiKP**	**01**	**37**	**38.5 -0.2**
PVRL				*i* LQ	LQ	01	37	42.6
PVIS	**Viseu**	**152.58**	**351**	*e*PKPbc	**PKPbc**	**01**	**37**	**39.5 -0.1**
PVIS				*i* LQ	LQ	01	37	43.5
ESDC	**Sonseca Array**	**152.73**	**344**	PKPbc	**PKPbc**	**01**	**37**	**39.5 -0.5**
	comp=Z,4.2nm,1.0s,baz=17,slow=2.5,SNR=18							
ESDC	**Sonseca Array**	**152.73**	**344**		**PKiKP**	**01**	**37**	**40.2 -0.1**
MTE	**Manteigas**	**152.83**	**350**	*e*PKPbc	**PKPbc**	**01**	**37**	**39.9 -0.3**
MTE				*i* LQ	LQ	01	37	44.3
PCAS	**Casmilo, Conde**	**153.32**	**351**	*e*PKPbc	**PKiKP**	**01**	**37**	**41.5 +0.1**
PCBR	**Castelo Branco**	**153.36**	**350**	*e*PKPbc	**PKPbc**	**01**	**37**	**41.2 -0.1**
PCBR				*i* LQ	LQ	01	37	45.3
PMRV	**Marv??o**	**153.75**	**349**	*e*PKPbc	**PKPbc**	**01**	**37**	**41.9 -0.3**
PMTG	**Montargil**	**154.24**	**350**	*e*PKPbc	**PKPbc**	**01**	**37**	**42.6 -0.6**
PBAR	**Barrancos**	**154.89**	**348**	*i* LQ	LQ	01	38	02.0
MORF	**Marmelete**	**156.03**	**350**	*e*PKPdf	**PKPdf**	**01**	**37**	**34.6 -3.0**
TORD	**Torodi Ar. Bea**	**165.19**	**270**	PKP	**PKPdf**	**01**	**37**	**47.4 -0.7**
	comp=Z,1.3nm,0.3s,baz=57,slow=1.1,SNR=1.5							
TORD				PKPab	**PKPab**	**01**	**38**	**46.1 +0.5**
	comp=Z,2.0nm,0.3s,baz=90,slow=4.9,SNR=1.7							
DBIC	**Dimbokro**	**169.02**	**232**	PKP	**PKPdf**	**01**	**37**	**50.1 -0.9**
	comp=Z,4.0nm,1.0s,baz=90,slow=2.9,SNR=4.2							

*IDC **17** 01:22:10.0±1.5, 13°.46S×166°.54E, h0km, mb3.8/5, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=53.8km s-min=31.6km az=123.0*

ISC 17 01:22:15.5±1.2, 13°.6S±0°.1×166°.6E±0°.3, h39km, n7, σ0$79/8, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
DZM	**Mont Dzumac**	**8.41**	**181**	Pn	**Pn**	**01**	**24**	**15.7**	**+0.8**
	0.6nm,0.3s,baz=305,slow=18,SNR=1.4								
DZM				Sn	**Sn**	**01**	**25**	**47.7**	**-0.9**
	baz=176,slow=21								
	6.2nm,0.9s								
WRA	**Warramunga Arr**	**31.47**	**254**	P	**P**	**01**	**28**	**33.4**	**-0.3**
	0.4nm,0.7s,baz=86,slow=9.3,SNR=1.5								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**32.46**	**247**	P	**P**	**01**	**28**	**42.5**	**0.0**
	0.5nm,0.7s,baz=73,slow=9.7,SNR=1.9								
	0.5nm,0.7s								
ILAR	**Eielson Array**	**85.68**	**18**	P	**P**	**01**	**34**	**49.6**	**-0.2**
	0.3nm,0.5s,baz=235,slow=5.3,SNR=4.5								
	0.3nm,0.5s								
MKAR	**Makanchi Array**	**95.94**	**317**	P	**P**	**01**	**35**	**39.4**	**+1.0**
	0.2nm,0.6s,baz=111,slow=3.2,SNR=2.0								
	0.2nm,0.6s								
ZALV	**Zalesovo Beam**	**96.11**	**324**	P	**P**	**01**	**35**	**38.2**	**-0.7**
	0.6nm,0.6s,baz=98,slow=6.0,SNR=3.8								
	0.6nm,0.6s								
ARCES	**ARCESS Array B**	**119.01**	**345**	PKP	**PKPdf**	**01**	**40**	**59.2**	**-0.2**
	2.1nm,0.8s,baz=50,slow=1.4,SNR=7.8								

*IDC **17** 01:33:07.4±3.9, 14°.18N×59°.92W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=75.8km s-min=38.7km az=165.0*

*TRN **17** 01:33:11.3, 14°.24N×60°.05W, h27km, MD3.8*

ISC 17 01:33:10.6±1.4, 14°.25N±0°.04×59°.99W±0°.05, h17km±8km, n38, σ0$55/50, mb3.5/4, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
H05S1	**Guadeloupe/Mar**	**0.84**	**282**	Pn	**Pg**	**01**	**33**	**27.2**	**+0.2**
H05S1				Sn	**Sb**	**01**	**33**	**37.8**	**-0.1**
MPOM	**Morne Pois Mar**	**0.87**	**283**	*e*P	**Pg**	**01**	**33**	**27.5**	**0.0**
MPOM				*e*S	**Sn**	**01**	**33**	**40.5**	**+0.1**
MVM	**Montagne Vaucl**	**0.93**	**289**	*e*P	**Pg**	**01**	**33**	**28.8**	**+0.1**
SLBI	**Saint Lucia, B**	**0.98**	**257**	*e*P	**Pb**	**01**	**33**	**28.9**	**-0.4**
SLCP	**Castries, St.**	**1.00**	**256**	*e*P	**Pn**	**01**	**33**	**29.7**	**-0.2**
SLCP				*e*S	**Sn**	**01**	**33**	**43.9**	**+0.2**
LPMF	**Morne Lapointe**	**1.00**	**289**	*e*P	**Pb**	**01**	**33**	**29.7**	**+0.1**
ILAM	**Ilet Lapin Mar**	**1.01**	**301**	*e*P	**Pb**	**01**	**33**	**30.0**	**+0.3**
ILAM				*e*S	**Sg**	**01**	**33**	**43.8**	**+0.4**
ZAM	**Aeronautique**	**1.06**	**288**	*e*P	**Pb**	**01**	**33**	**30.6**	**+0.1**
MCLT	**Moule a Chique**	**1.07**	**240**	*e*P	**Pb**	**01**	**33**	**30.1**	**-0.6**
TRMF	**Trois Ilets**	**1.07**	**286**	*e*P	**Pb**	**01**	**33**	**30.8**	**0.0**
BIM	**Bigot**	**1.08**	**284**	*e*P	**Pb**	**01**	**33**	**31.1**	**+0.1**
BIM				*e*S	**Sg**	**01**	**33**	**45.6**	**-0.3**
SLB	**Belfond**	**1.11**	**248**	*e*P	**Pg**	**01**	**33**	**31.8**	**-0.3**
BBGH	**Gun Hill**	**1.17**	**159**	*e*P	**Pg**	**01**	**33**	**33.5**	**+0.2**
FDF	**Fort de France**	**1.23**	**293**	*e*P	**Pn**	**01**	**33**	**32.9**	**-0.2**
FDF				*e*S	**Sb**	**01**	**33**	**48.1**	**-0.9**
BBSP	**Saint Philip**	**1.25**	**156**	*e*P	**Pg**	**01**	**33**	**33.9**	**-0.8**
BAMF	**Morne Balai**	**1.26**	**297**	*e*P	**Pn**	**01**	**33**	**33.9**	**+0.3**
GBMF	**Grand Be**	**1.27**	**296**	*e*P	**Pn**	**01**	**33**	**33.9**	**+0.2**
PML	**Morne Lenard**	**1.28**	**295**	*e*P	**Pn**	**01**	**33**	**34.2**	**+0.4**
PCM	**Pelee Case Pet**	**1.31**	**296**	*e*P	**Pn**	**01**	**33**	**34.2**	**0.0**
PCM	**Pelee Case Pet**	**1.31**	**296**	*e*P	**Pn**	**01**	**33**	**34.7**	**+0.4**
DLPL	**La Plaine**	**1.63**	**312**	*e*P	**Pn**	**01**	**33**	**39.3**	**+0.7**
MDCT	**Cottage Hill,**	**1.97**	**314**	*e*P	**Pn**	**01**	**33**	**43.9**	**+0.6**
MDCT				*e*S	**Sn**	**01**	**34**	**07.3**	**-0.4**
MAGL	**Barre de l'ile**	**2.10**	**324**	*e*P	**Pn**	**01**	**33**	**44.8**	**-0.3**
MAGL				*e*S	**Sn**	**01**	**34**	**10.2**	**-0.7**
TBG	**Guadaloupe-3**	**2.26**	**315**	*e*P	**Pn**	**01**	**33**	**47.6**	**+0.3**
TBG				*e*S	**Sn**	**01**	**34**	**14.3**	**-0.5**
H05N1	**Guadeloupe/Mar**	**2.30**	**333**	Pn	**Pn**	**01**	**33**	**47.8**	**0.0**
H05N1				Sn	**Sn**	**01**	**34**	**14.8**	**-1.1**
CBE	**Ff, Capester**	**2.39**	**319**	*e*P	**Pn**	**01**	**33**	**49.5**	**+0.4**
CBE				*e*S	**Sn**	**01**	**34**	**18.1**	**-0.1**
ABD	**La Joyeuse, An**	**2.65**	**327**	*e*P	**Pn**	**01**	**33**	**53.6**	**+1.0**
ABD				*e*S	**Sn**	**01**	**34**	**23.3**	**-1.1**
GRGR	**Grenville**	**2.66**	**218**	*e*P	**Pn**	**01**	**33**	**53.6**	**+0.9**
GRGR				*e*S	**Sn**	**01**	**34**	**24.2**	**-0.4**
MLYT	**Lee's Yard**	**3.25**	**319**	*e*P	**Pn**	**01**	**34**	**01.9**	**+1.0**
MLYT				*e*S	**Sn**	**01**	**34**	**39.4**	**0.0**
MBFL	**Flemmings, Mon**	**3.29**	**319**	*e*P	**Pn**	**01**	**34**	**02.6**	**+1.2**
MBFL				*e*S	**Sn**	**01**	**34**	**40.1**	**0.0**
TRN	**Trinidad (W)**	**3.84**	**201**	*e*P	**Pn**	**01**	**34**	**10.3**	**+1.3**
TXAR	**Lajitas Array**	**42.99**	**298**	P	**P**	**01**	**41**	**09.7**	**+0.2**
	0.2nm,0.5s,baz=113,slow=9.2,SNR=3.1								
	0.2nm,0.5s								
H10N3	**ASCENSION HYDR**	**50.18**	**113**	T	T	02	35	40.7	
	baz=295,slow=75,SNR=7.6								
H10N2	**ASCENSION HYDR**	**50.19**	**113**	T	T	02	35	39.5	
	baz=295,slow=75,SNR=12								
H10N1	**ASCENSION HYDR**	**50.20**	**113**	T	T	02	35	42.4	
	baz=295,slow=75,SNR=11								
PDAR	**Pinedale Array**	**51.06**	**314**	P	**P**	**01**	**42**	**13.0**	**+0.5**
	0.6nm,0.6s,baz=119,slow=9.4,SNR=7.2								
	0.6nm,0.6s								
YKA	**Yellowknife Ar**	**61.49**	**334**	P	**P**	**01**	**43**	**26.1**	**-0.1**
	0.5nm,0.5s,baz=105,slow=7.2,SNR=12								
	0.5nm,0.5s								
ILAR	**Eielson Array**	**75.91**	**334**	P	**P**	**01**	**44**	**55.8**	**-0.3**
	0.3nm,0.8s,baz=84,slow=5.3,SNR=4.1								
	0.3nm,0.8s								

*NIED **17** 01:55:33.8, 39°.60N×142°.24E, h51km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr7.42; Mθθ-2.00; Mφφ-5.43; Mrθ2.57; Mθφ-1.67; Mφr1.71; Fault plane solution: M₀7.40000×10¹⁴ NP1:φ₁s34.00000°, δ56.00000°, λ101.00000°. NP2:φ₂s194.00000°, δ35.00000°, λ74.00000°.*

*JMA **17** 01:55:33.8±0.1, 39°.6N±0°.2×142°.2E±0°.5, h51km, MD3.9/35, MV4.0/35, E OFF IWATE PREF*

JMA Felt I J1 at E OFF IWATE PREF .

*IDC **17** 01:55:35.7±2.2, 39°.56N×142°.10E, h71km±20km, mb3.6/18, mbtmp3.9/20, Error ellipse: s-maj=19.4km s-min=12.9km az=123.0*

ISC 17 01:55:33.9±1.0, 39°.58N±0°.05×142°.21E±0°.09, h52km±8km, n48, σ0$90/40, mb3.8/17, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MIYJ	**Miyakonagasawa**	**0.30**	**269**	⇓*i*P	**Pn**	**01**	**55**	**43.1**	**-0.1**
MIYJ				⇓S	**Sn**	**01**	**55**	**49.8**	**-0.1**
JTH	**Tanohata**	**0.44**	**324**	⇓*i*P	**Pn**	**01**	**55**	**44.4**	**-0.3**
JTH				⇓*e*S	**Sn**	**01**	**55**	**51.9**	**-0.5**
JTH	**Tanohata**	**0.44**	**324**	A	A	01	55	44.4	
	comp=E,16nm,0.3s,comp=E,10.0nm,1.4s								
OFUJ	**Ofunato**	**0.65**	**220**	*i* P	**Pn**	**01**	**55**	**47.2**	**+0.1**
OFUJ	**Ofunato**	**0.65**	**220**	A	A	01	55	47.2	
	comp=E,5.0nm,6.0s,comp=E,4.0nm,1.3s								
JOM	**Ohasama**	**0.71**	**261**	⇓*i*P	**Pn**	**01**	**55**	**48.3**	**+0.4**
JOM				⇓S	**Sn**	**01**	**55**	**59.0**	**+0.9**
JOM	**Ohasama**	**0.71**	**261**	A	A	01	55	48.3	
	comp=E,9.0nm,1.0s,comp=E,5.0nm,0.6s								
JKEN	**Kujiedanarisaw**	**0.73**	**329**	A	A	01	55	48.0	
	comp=E,20nm,0.8s,comp=E,16nm,0.3s								
JKZ	**Kuzumaki**	**0.79**	**301**	⇓*i*P	**Pn**	**01**	**55**	**49.1**	**+0.2**
JKZ				⇓S	**Sn**	**01**	**56**	**00.0**	**+0.2**
JKZ	**Kuzumaki**	**0.79**	**301**	A	A	01	55	49.1	
	comp=E,8.0nm,0.2s,comp=E,5.0nm,0.9s								
JANG	**Nango**	**0.95**	**326**	⇓*i*P	**Pn**	**01**	**55**	**50.7**	**-0.3**
JANG				⇓S	**Sn**	**01**	**56**	**03.3**	**-0.3**
JANG	**Nango**	**0.95**	**326**	A	A	01	55	50.7	
	comp=E,8.0nm,0.2s,comp=E,7.0nm,0.6s								
JKMT	**Kesennumamotoy**	**0.96**	**217**	*i* P	**Pn**	**01**	**55**	**51.4**	**+0.3**
JSZI	**Iwateshizukuis**	**0.98**	**280**	A	A	01	55	52.3	
	comp=E,9.0nm,1.7s,comp=E,8.0nm,4.2s								
JMK	**Ichinoseki**	**0.99**	**231**	⇓*i*P	**Pn**	**01**	**55**	**51.9**	**+0.4**
JMK				⇓S	**Sn**	**01**	**56**	**05.2**	**+0.6**
JRG	**Rokugo**	**1.23**	**262**	⇓*i*P	**Pn**	**01**	**55**	**55.2**	**+0.4**
JAHD	**Aomorihigashid**	**1.81**	**339**	A	A	01	56	03.0	
	comp=E,5.0nm,2.7s,comp=E,5.0nm,2.1s								
JYA	**Atsumi**	**2.18**	**244**	A	A	01	56	09.0	
	comp=E,2.0nm,3.7s,comp=E,2.0nm,4.1s								
MJAR	**Matsushiro Arr**	**4.38**	**227**	P	**Pn**	**01**	**56**	**40.4**	**+2.6**
	7.1nm,0.6s,baz=36,slow=13,SNR=13								
MJAR				S	**Sn**	**01**	**57**	**27.6**	**0.0**
	2.9nm,0.8s,baz=52,slow=22,SNR=1.3								
ASAJ	**Asahikawa**	**4.54**	**4**	P	**Pn**	**01**	**56**	**41.1**	**+1.1**
	7.2nm,0.3s,baz=194,slow=10,SNR=7.5								
ASAJ				S	**Sn**	**01**	**57**	**31.2**	**-0.2**
	12nm,0.5s,baz=160,slow=29,SNR=1.8								
USRK	**Ussuriysk Ar.**	**8.90**	**304**	P	**Pn**	**01**	**57**	**43.2**	**+3.4**
	3.3nm,0.5s,baz=106,slow=15,SNR=5.8								
KSRS	**Korea Array**	**11.39**	**264**	P	Pn	01	58	19.2	+5.4
	0.6nm,0.3s,baz=75,slow=14,SNR=1.7								
MA2	**Magadan**	**20.73**	**12**	P	**P**	**02**	**00**	**09.8**	**0.0**
	1.8nm,0.3s,baz=154,slow=18,SNR=1.7								
	1.8nm,0.3s								
YAK	**Yakutsk**	**23.74**	**345**	P	**P**	**02**	**00**	**42.3**	**+1.3**
	12nm,0.6s,baz=169,slow=2.2,SNR=1.9								
	12nm,0.6s								
SEY	**Seymchan**	**24.17**	**11**	P	**P**	**02**	**00**	**45.0**	**0.0**
	3.9nm,0.7s,baz=193,slow=14,SNR=9.0								
	3.9nm,0.7s								
SONM	**Songino Array**	**26.97**	**300**	P	**P**	**02**	**01**	**10.5**	**-0.2**
	0.5nm,0.6s,baz=90,slow=9.6,SNR=4.7								
	0.5nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**29.02**	**126**	T	T	02	32	00.5	
	baz=318,slow=75,SNR=153								
H11N1	**WAKE ISLAND Hy**	**29.03**	**126**	T	T	02	32	01.2	
	baz=318,slow=75,SNR=194								
H11N3	**WAKE ISLAND Hy**	**29.04**	**126**	T	T	02	32	01.9	
	baz=318,slow=75,SNR=120								
H11S1	**WAKE ISLAND Hy**	**29.82**	**128**	T	T	02	33	05.7	
	baz=320,slow=76,SNR=51								
H11S3	**WAKE ISLAND Hy**	**29.82**	**128**	T	T	02	33	06.9	
	baz=320,slow=76,SNR=35								
H11S2	**WAKE ISLAND Hy**	**29.84**	**128**	T	T	02	33	04.3	
	baz=320,slow=76,SNR=45								
ZALV	**Zalesovo Beam**	**40.70**	**310**	P	**P**	**02**	**03**	**08.4**	**-0.7**
	1.1nm,0.4s,baz=86,slow=8.9,SNR=5.4								
	1.1nm,0.4s								
MKAR	**Makanchi Array**	**43.34**	**300**	P	**P**	**02**	**03**	**30.4**	**-0.3**
	0.9nm,0.6s,baz=86,slow=9.9,SNR=12								
	0.9nm,0.6s								
ILAR	**Eielson Array**	**47.02**	**34**	P	**P**	**02**	**03**	**60.0**	**+0.4**
	0.9nm,0.7s,baz=267,slow=6.4,SNR=12								
	0.9nm,0.7s								
INK	**Inuvik**	**51.84**	**28**	P	**P**	**02**	**04**	**37.2**	**+1.0**
	1.5nm,0.5s,baz=280,slow=7.7,SNR=10								
	1.5nm,0.5s								
WRA	**Warramunga Arr**	**59.67**	**189**	P	**P**	**02**	**05**	**31.8**	**-1.0**
	0.4nm,0.6s,baz=6.0,slow=7.0,SNR=13								
	0.4nm,0.6s								
YKA	**Yellowknife Ar**	**61.30**	**31**	P	**P**	**02**	**05**	**43.4**	**-0.1**
	0.2nm,0.5s,baz=298,slow=6.7,SNR=5.5								
	0.2nm,0.5s								
FINES	**FINESS Array B**	**66.86**	**332**	P	**P**	**02**	**06**	**19.1**	**-0.8**
	1.7nm,0.6s,baz=54,slow=7.6,SNR=13								
	1.7nm,0.6s								
NB2	**NORSAR Subarra**	**72.08**	**337**	P	**P**	**02**	**06**	**51.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=37,slow=6.2								
NOA	**NORSAR Array B**	**72.08**	**337**	P	**P**	**02**	**06**	**51.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=48,slow=5.4,SNR=5.1								
	comp=Z,0.7nm,0.6s								
AKASG	**Malin Array Be**	**72.67**	**322**	P	**P**	**02**	**06**	**55.4**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=44,slow=6.4,SNR=21								
	comp=Z,1.4nm,0.4s								
NVAR	**Mina Array Bea**	**72.98**	**54**	P	**P**	**02**	**06**	**59.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=2.6								
	comp=Z,0.3nm,0.6s								
FRB	**Frobisher Bay**	**74.15**	**14**	P	**P**	**02**	**07**	**04.1**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=324,slow=9.5,SNR=3.3								
	comp=Z,1.3nm,0.5s								
PDAR	**Pinedale Array**	**75.45**	**46**	P	**P**	**02**	**07**	**12.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=325,slow=1.1,SNR=8.1								
	comp=Z,0.4nm,0.5s								
GERES	**GERESS Array B**	**80.87**	**328**	P	**P**	**02**	**07**	**42.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=43,slow=7.4,SNR=1.6								
	comp=Z,0.2nm,0.4s								
TXAR	**Lajitas Array**	**88.08**	**53**	P	**P**	**02**	**08**	**18.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=288,slow=3.7,SNR=2.6								
	comp=Z,0.2nm,0.5s								
SIV	**San Ignacio**	**148.93**	**47**	PKPbc	**PKPbc**	**02**	**15**	**15.9**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=284,slow=1.6,SNR=3.0								

*SOME **17** 01:55:36.5, 39°.18N×73°.08E, h10km*

*NNC **17** 01:55:43.6±7.2, 39°.18N×74°.01E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=78.4km s-min=31.0km az=138.0*

ISC 17 01:55:40.3±4.9, 38°.9N±0°.3×73°.9E±0°.1, h10km, n7, σ1$88/8, 1C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MRKS	**Merke**	**3.89**	**353**	Pg	**Pb**	**01**	**56**	**47.3**	**-1.8**
	2.0nm,0.7s								
MRKS	**Merke**	**3.89**	**353**	*e*Pg	**Pb**	**01**	**56**	**46.5**	**-2.6**
	2.0nm,0.7s								
MRKS				*e*Lg	Lg	01	57	36.3	
	15nm,0.8s								
IUG	**luzhnay**	**4.37**	**319**	Pg	**Pn**	**01**	**56**	**46.9**	**+0.1**
	4.8nm,0.2s								
IUG				Lg	Lg	01	57	37.0	
	36nm,0.6s								
IUG	**luzhnay**	**4.37**	**319**	*e*Pg	**Pn**	**01**	**56**	**47.0**	**+0.1**
	4.8nm,0.2s								
IUG				*e*Lg	Lg	01	57	37.0	
	36nm,0.6s								
KST	**Kastek**	**4.46**	**20**	Pg	**Pb**	**01**	**56**	**58.1**	**-0.6**
	2.8nm,0.5s								
KST				Lg	Lg	01	57	55.7	
	3.1nm,1.1s								
KST	**Kastek**	**4.46**	**20**	*e*Pg	**Pb**	**01**	**56**	**58.1**	**-0.6**
	2.8nm,0.5s								
KST				*e*Lg	Lg	01	57	55.7	
	3.1nm,1.1s								
KK31	**Karatay Array**	**4.92**	**330**	⇑P	**Pn**	**01**	**56**	**56.2**	**+2.0**
	2.8nm,0.4s,baz=156,slow=12,SNR=67								
KK31				⇓S	**Sn**	**01**	**57**	**53.0**	**+1.8**
	14nm,0.5s,baz=154,slow=23								

WEL 17 01:58:10.1±0.3, 42°S±2°×17°4E±°, h13km±2km, M2.7/18, ML3.0/25, MLv2.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=132.6, confirmed, South Island

| Code | Station Name | Δ° | AZ° |

baz=271
FUSB Fushanzhiwuyua 0.59 253 ⇓P Pn 02 08 07.0 0.0
baz=250
FUSB eS Sn 02 08 22.1 0.0
baz=250
YM01 YM01 0.62 290 eP Pn 02 08 07.0 0.0
baz=287
YM01 eS Sn 02 08 21.5 -0.8
baz=287
NHDH Xindian Distri 0.62 272 eP Pn 02 08 07.1 +0.1
baz=269
NHDH eS Sn 02 08 21.9 -0.4
baz=269
EWUT Wuta 0.63 219 eP Pn 02 08 07.5 +0.4
baz=217
EWUT eS Sn 02 08 22.5 +0.2
baz=217
TAP Taipei 0.65 279 eP Pn 02 08 08.0 +0.8
baz=276
TAP eS Sn 02 08 22.9 +0.4
baz=276
ENTT Nioudou 0.66 243⇓eP Pn 02 08 07.7 +0.4
baz=240
ENTT eS Sn 02 08 23.2 +0.5
baz=240
NWLT Wulai 0.66 256 eP Pn 02 08 07.6 +0.2
baz=253
NWLT eS Sn 02 08 22.2 -0.7
baz=253
ENA Nanau 0.66 220⇓eP Pn 02 08 07.9 +0.5
baz=218
ENA S Sn 02 08 23.2 +0.4
baz=218
ANP Anpu 0.67 292 eS Sn 02 08 22.8 -0.3
baz=289
PCYT Pengchaiyu 0.70 350 eP Pn 02 08 07.9 +0.3
baz=349
NTST Danshui 0.72 288 eP Pn 02 08 07.9 +0.2
baz=285
TWS1 Kuangyinshan 0.74 283 eP Pn 02 08 08.3 +0.4
baz=280
TWS1 eS Sn 02 08 23.9 +0.2
baz=280
LATG Datong 0.74 237 eP Pn 02 08 08.7 +0.7
baz=235
LATG eS Sn 02 08 24.6 +0.6
baz=235
YHNB Yeheng 0.80 251 P Pn 02 08 08.6 +0.1
YHNB Yeheng 0.80 251 eP Pn 02 08 08.4 -0.1
baz=248
YHNB eS Sn 02 08 24.1 -0.7
baz=248
NSK Sanguang 0.82 251⇓eP Pn 02 08 08.8 +0.2
baz=249
NSK eS Sn 02 08 24.3 -0.7
baz=249
JYNG Yonagunijimaku 0.83 126 P Pn 02 08 08.8 +0.2
JYNG eS Sn 02 08 25.0 0.0
YOJ Yonaguni jima 0.87 123 P Pn 02 08 09.1 +0.2
YOJ S Sn 02 08 25.4 -0.2
YOJ Yonaguni jima 0.87 123 eP Pn 02 08 08.8 -0.1
baz=124
YOJ eS Sn 02 08 25.4 -0.2
baz=124
NNSB Datong 0.91 236 eP Pn 02 08 09.8 +0.4
baz=234
NNSB eS Sn 02 08 26.0 -0.4
baz=234
NNS Nan Shan 0.91 237 eP Pn 02 08 09.9 +0.5
baz=235
NNS eS Sn 02 08 26.6 +0.1
baz=235
NCU National Centr 0.93 272 eP Pn 02 08 09.9 +0.5
baz=270
NCU eS Sn 02 08 27.0 +0.5
baz=270
NCUH Zhongli 0.93 272 eP Pn 02 08 09.6 +0.2
baz=270
NCUH eS Sn 02 08 26.5 0.0
baz=270
ETL Fush Village 0.94 215 eP Pn 02 08 09.6 -0.1
baz=213
ETL eS Sn 02 08 27.1 +0.3
baz=213
NACB Ninganchiao 0.94 216 P Pn 02 08 09.6 0.0
NACB Ninganchiao 0.94 216⇓eP Pn 02 08 09.4 -0.2
baz=215
NACB eS Sn 02 08 26.5 -0.3
baz=215
ETLH Xiulin Townshi 0.98 222 eP Pn 02 08 10.5 +0.4
baz=221
ETLH eS Sn 02 08 27.4 -0.2
baz=221
TWD Chiawan 1.02 213 eP Pn 02 08 10.4 +0.1
baz=212
TWD eS Sn 02 08 27.6 -0.4
baz=212
NFF Wufeng Townshi 1.04 253⇓eP Pn 02 08 10.7 +0.2
baz=251
NFF eS Sn 02 08 27.8 -0.6
baz=251
HWA Hwalien 1.10 210 eP Pn 02 08 11.7 +0.6
baz=209
HWA eS Sn 02 08 30.3 +0.8
baz=209
FUSS Fushou 1.12 232⇓eP Pn 02 08 12.3 +0.8
baz=231
FUSS eS Sn 02 08 30.5 +0.4
baz=231
SBCB Hsinchu 1.12 263 eP Pn 02 08 11.8 +0.6
baz=261
SBCB eS Sn 02 08 29.8 +0.1
baz=261
LIOB Emei 1.12 255 eP Pn 02 08 11.6 +0.3
baz=253
LIOB eS Sn 02 08 29.7 -0.1
baz=253
HSN Hsinchu 1.14 263 eS Sn 02 08 29.8 -0.1
baz=262
NSTT Nanjuang 1.14 255 eP Pn 02 08 11.8 +0.3
baz=253
NSTT eS Sn 02 08 29.5 -0.5
baz=253
TWT Tachien 1.16 234 eP Pn 02 08 13.1 +1.3
baz=233
TWT eS Sn 02 08 31.5 +0.8
baz=233
WHF Hehuan Shan 1.17 228 eP Pn 02 08 12.8 +0.6
baz=226
WHF eS Sn 02 08 31.4 +0.1
baz=226
TDCB Techi 1.18 235 eP Pn 02 08 12.7 +0.7
baz=233
TDCB eS Sn 02 08 31.1 +0.2
baz=233
CHGB Renai 1.29 227 eP Pn 02 08 14.2 +1.1
baz=226
CHGB eS Sn 02 08 33.4 +0.3
baz=226
ESL Shilin 1.32 212 eP Pn 02 08 12.7 -0.6
baz=211
ESL eS Sn 02 08 32.2 -1.2
baz=211
WHP Taichung City 1.32 240 eP Pn 02 08 14.2 +0.8
baz=239
WHP eS Sn 02 08 33.9 +0.3
baz=239
NMLH Miaoli 1.35 253 eP Pn 02 08 14.1 +0.5
baz=251
NMLH eS Sn 02 08 33.2 -0.7
baz=251
OWD Renai 1.36 224 eP Pn 02 08 14.6 +0.7
baz=223
OWD eS Sn 02 08 34.6 +0.3
baz=223
WUSB Renai 1.37 227 eP Pn 02 08 15.1 +1.1
baz=225
WUSB eS Sn 02 08 35.1 +0.6
baz=225
NSY Sanyi 1.42 249 eP Pn 02 08 15.0 +0.7
baz=247
NSY eS Sn 02 08 35.6 +0.4
baz=247
TWQ1 Liyutan 1.43 246 eP Pn 02 08 14.8 +0.3
baz=244
TWQ1 eS Sn 02 08 35.1 -0.4
baz=244
EGFH Guangfu 1.45 210 eP Pn 02 08 14.9 +0.1
baz=209
EGFH eS Sn 02 08 34.9 -0.9
baz=209
WCS Beigang Elemen 1.47 234 eP Pn 02 08 15.8 +0.8
baz=232
WCS eS Sn 02 08 36.5 +0.3
baz=232
IRIF Iriomote-Funau 1.51 113 P Pn 02 08 15.5 +0.2
IRIF S Sn 02 08 37.0 +0.1
VWDT VWDT 1.53 220⇓eP Pn 02 08 16.4 +0.8
baz=219
VWDT eS Sn 02 08 37.8 +0.4
baz=219
WDJ Dajia District 1.54 248 eP Pn 02 08 16.0 +0.3
baz=246
WDJ eS Sn 02 08 37.7 +0.1
baz=246
SMLT Sun Moon Lake 1.59 229 eP Pn 02 08 17.3 +0.9
baz=227
SMLT eS Sn 02 08 40.0 +1.1
baz=227
TCU Taichung 1.60 241 eP Pn 02 08 16.8 +0.4
baz=239
TCU eS Sn 02 08 38.7 -0.1
baz=239
TYC Yuchr 1.61 230 eP Pn 02 08 17.2 +0.8
baz=229
TYC eS Sn 02 08 39.7 +0.8
baz=229
HGSD Ruisui 1.61 207 eP Pn 02 08 16.4 -0.1
baz=206
HGSD eS Sn 02 08 39.1 +0.1
baz=206
SSLB Suanglung 1.62 225 P Pn 02 08 18.2 +1.6
SSLB Suanglung 1.62 225 eP Pn 02 08 17.5 +0.8
baz=224
SSLB eS Sn 02 08 40.1 +0.9
baz=224
EHY Hungye 1.64 210 eP Pn 02 08 16.4 -0.5
baz=209
EHY eS Sn 02 08 38.2 -1.5
baz=209
HATJ Hateruma jima 1.70 121 P Pn 02 08 18.0 +0.5
HATJ S Sn 02 08 41.1 +0.3
WCHH Zhanghua 1.73 241 eS Sn 02 08 42.2 +0.8
baz=239
WNT Mingjian 1.75 233 eS Sn 02 08 42.8 +1.0
baz=232
WJS Zhushan 1.75 231 eP Pn 02 08 19.1 +1.0
baz=229
WJS eS Sn 02 08 43.0 +1.1
baz=229
YULB Yu-li 1.75 209 eP Pn 02 08 17.2 -0.9
baz=208
YULB eS Sn 02 08 40.1 -1.8
baz=208
EYUL Yuli 1.78 207 eP Pn 02 08 18.2 -0.3
baz=206
EYUL eS Sn 02 08 41.5 -1.1
baz=206
JKRS Kuro-shima 1.78 113 P Pn 02 08 18.9 +0.5
JKRS S Sn 02 08 42.7 +0.2
JIJ Ishigaki jima 1.85 108 P Pn 02 08 19.6 +0.3
JIJ eS Sn 02 08 43.8 -0.2
ALS Alishan 1.92 222 eP Pn 02 08 21.3 +0.9
baz=221
ALS eS Sn 02 08 46.5 +0.7
baz=221
FULB Fuli 1.92 206 eP Pn 02 08 20.3 0.0
baz=205
FULB eS Sn 02 08 46.0 +0.3
baz=205
JISG Ishigakijimahi 1.94 100 P Pn 02 08 20.7 +0.3
JISG S Sn 02 08 45.8 -0.1
WRL Guolierlin Hig 1.96 239 eP Pn 02 08 20.8 +0.2
baz=237
WRL eS Sn 02 08 45.7 -0.7
baz=237
WDLH Douliu 1.97 231 eS Sn 02 08 47.1 +0.6
baz=230
CHKT Chengkung 1.99 203 eP Pn 02 08 20.8 -0.1
baz=202
CHKT eS Sn 02 08 46.1 -0.9
baz=202
EHD Haiduan 2.00 207 eP Pn 02 08 22.7 +1.6
baz=207
EHD eS Sn 02 08 45.4 -1.9
baz=207
ELDTW Lidau 2.06 212 eP Pn 02 08 22.2 +0.3
baz=211
ELDTW eS Sn 02 08 48.7 +0.1
baz=211
WCKO Fanlu 2.09 225 eP Pn 02 08 22.7 +0.5
baz=224
WCKO eS Sn 02 08 49.7 +0.5
baz=224
EDH Donghe 2.13 203 eP Pn 02 08 22.4 -0.2
baz=202
EDH eS Sn 02 08 48.6 -1.3
baz=202
CHY Chiayi 2.17 229 eP Pn 02 08 23.4 +0.2
baz=228
CHY eS Sn 02 08 51.1 +0.1
baz=228
TPUB Ta-pu 2.18 222 P Pn 02 08 27.2 +3.9
TPUB Ta-pu 2.18 222 eP Pn 02 08 24.0 +0.7
baz=221
TPUB eS Sn 02 08 50.8 -0.3
baz=221
STYH Taoyuan 2.19 217 eP Pn 02 08 25.3 +1.8
baz=216
STYH eS Sn 02 08 51.6 +0.1
baz=216
WSF Szhu 2.23 235 eP Pn 02 08 25.2 +1.3
baz=233
WSF eS Sn 02 08 52.4 +0.2
baz=233
WTP Ta-pu 2.23 221 eP Pn 02 08 25.9 +1.9
baz=220
WTP eS Sn 02 08 52.6 +0.3
baz=220
LONT Longtian 2.25 206 eS Sn 02 08 52.2 -0.6
baz=205
JTJ Tarama 2.29 97 P Pn 02 08 24.9 +0.4
JTJ eS Sn 02 08 54.4 +1.0
TWK Hsinying 2.29 224 eP Pn 02 08 24.9 +0.2
baz=222
TWK eS Sn 02 08 53.9 +0.2
baz=222
CHN1 Nanshi 2.33 222 eP Pn 02 08 26.5 +1.3
baz=221
CHN1 eS Sn 02 08 54.8 +0.4
baz=221
TWGBT Beinan 2.35 206 eP Pn 02 08 25.6 +0.2
baz=205
TWGBT eS Sn 02 08 55.3 +0.3
baz=205
TWG Pinlang 2.35 207 eP Pn 02 08 25.4 -0.1
baz=205
TWG eS Sn 02 08 53.4 -1.6
baz=205
LDUT Ludao 2.35 197 eP Pn 02 08 24.7 -0.8
baz=196
LDUT eS Sn 02 08 53.4 -1.7
baz=196
MATB Ma-tsu 2.38 301 eP Pn 02 08 24.9 -0.7
baz=299
XPSS Dashiqiu 2.69 318 eP Pn 02 08 28.8 -0.9
baz=316
PNG Penghu 2.78 241 eP Pn 02 08 30.7 -0.1
baz=240
PNG eS Sn 02 09 03.1 -1.6
baz=240
PHUB P'eng-hu 2.79 240 eP Pn 02 08 30.5 -0.6
baz=238
PHUB eS Sn 02 09 02.7 -2.2
baz=238
PTMZ Houxiangcun 2.81 273 eP Pn 02 08 30.8 -0.3
baz=271
PTMZ eS Sn 02 09 13.6 +8.4
baz=271
WDGT Dungji 2.87 235 eS Sn 02 09 04.8 -1.8
baz=233
SCZT Fangliau 2.94 210 eS Sn 02 09 09.1 +0.7
baz=209
LYUB Lan-yu 2.98 191 eP Pn 02 08 33.3 -0.2
baz=191
LYUB eS Sn 02 09 08.1 -1.2
baz=191
SLIU Shizi 3.00 206 eP Pn 02 08 36.4 +2.7
baz=205
SLIU eS Sn 02 09 11.3 +1.5
baz=205
VCHM Qimei 3.07 236 eP Pn 02 08 34.9 +0.3
baz=235
VCHM eS Sn 02 09 09.2 -2.1
baz=235
MHZQ Yeshan 3.10 293 eP Pn 02 08 34.5 -0.3
baz=291
KNM Kinmen 3.47 262 eP Pn 02 08 30.9 -8.9
baz=261
KNMB Chin-men Tao 3.51 263 eP Pn 02 08 35.8 -4.4
baz=261

VAO ***17*** *02:09:33.6±0.7,21°.15S×68°.73W,h91km±6km, mb3.9*
IDC ***17*** *02:09:35.0±1.1,21°.48S×68°.47W,h105km±14km,mb3.4/4, mbtmp3.8/6,Error ellipse: s-maj=31.3km s-min=18.9km az=122.0*
GUC ***17*** *02:09:35.3±0.6,21°.45S×68°.70W,h105km±3km,ML3.5*
ISC 17 02:09:34.2±0.7,21°.42S±0'.04×68°.68W±0'.06,h106km±7km, n44,σ1s01/59,mb3.6/3,10C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.64**	**234**	⇑*i*P	**Pn**	**Pn**	**02 09 52.6**	**+0.6**
PB09				*i* S	**Sn**	**Sn**	**02 10 06.0**	**+0.7**
PB01	**IPOC Station P**	**0.84**	**296**	⇑*i*P	**Pn**	**Pn**	**02 09 53.7**	**+0.1**
PB01				*i* S	**Sn**	**Sn**	**02 10 07.9**	**-0.3**
PB01				IAML			02 10 10.9	
	comp=N,2μm,0.3s							
PB02	**IPOC Station P**	**1.14**	**275**	⇑*i*P	**Pn**	**Pn**	**02 09 56.8**	**+0.1**
PB02				*i* S	**Sn**	**Sn**	**02 10 13.7**	**0.0**
PB02				IAML			02 10 14.8	
	comp=N,3μm,0.4s							
PB07	**IPOC Station P**	**1.16**	**254**	⇑*i*P	**Pn**	**Pn**	**02 09 57.2**	**+0.1**
PB07				*i* S	**Sn**	**Sn**	**02 10 14.3**	**0.0**
PB07				IAML			02 10 15.2	
	comp=E,1μm,0.4s							
PB03	**IPOC Station P**	**1.18**	**238**	⇑*i*P	**Pn**	**Pn**	**02 09 57.5**	**+0.2**
PB03				*i* S	**Sn**	**Sn**	**02 10 14.4**	**-0.2**
PB03				IAML			02 10 15.8	
	comp=N,941nm,0.5s							
LVC	**Limon Verde**	**1.21**	**190**	P	**Pn**	**Pn**	**02 09 58.5**	**+0.8**
	comp=N,299nm,0.3s,baz=39,slow=11,SNR=922							
LVC				S	**Sn**	**Sn**	**02 10 15.9**	**+0.4**
	comp=N,274nm,0.3s,baz=25,slow=8.6,SNR=9.1							
LVC	**Limon Verde**	**1.21**	**190**	*e*P	**Pn**	**Pn**	**02 09 58.1**	**+0.3**
LVC				*e*S	**Sn**	**Sn**	**02 10 16.3**	**+0.8**
LVC	**Limon Verde**	**1.21**	**190**	*e*P	**Pn**	**Pn**	**02 09 58.6**	**+0.8**
PB08	**IPOC Station P**	**1.34**	**341**	⇓*i*P	**Pn**	**Pn**	**02 10 00.8**	**+1.4**
PB08				*i* S	**Sn**	**Sn**	**02 10 20.1**	**+1.7**
PB08				IAML			02 10 21.9	
	comp=E,492nm,0.4s							
PATCX	**Punta Patache**	**1.50**	**293**	⇑*i*P	**Pn**	**Pn**	**02 10 01.2**	**+0.4**
PATCX				*i* S	**Sn**	**Sn**	**02 10 21.3**	**+0.2**
PATCX				IAML			02 10 25.9	
	comp=E,2μm,0.2s							
PB06	**IPOC Station P**	**1.53**	**213**	⇑*i*P	**Pn**	**Pn**	**02 10 01.7**	**+0.4**
PB06				*i* S	**Sn**	**Sn**	**02 10 22.2**	**+0.3**
PB06				IAML			02 10 25.5	
	comp=E,583nm,0.4s							
AF01	**San Pedro de A**	**1.60**	**163**	*e*P	**Pn**	**Pn**	**02 10 03.2**	**+0.9**
AF01				IAML			02 10 45.9	
	comp=E,602nm,0.7s							
TA01	**Diego Aracena**	**1.64**	**301**	⇑*i*P	**Pn**	**Pn**	**02 10 02.5**	**+0.1**
TA01				*i* S	**Sn**	**Sn**	**02 10 23.8**	**-0.1**
TA01				IAML			02 10 28.4	
	comp=E,712nm,0.3s							
PB04	**IPOC Station P**	**1.64**	**236**	⇑*i*P	**Pn**	**Pn**	**02 10 02.5**	**-0.3**
PB04				*i* S	**Sn**	**Sn**	**02 10 24.6**	**+0.3**
PB04				IAML			02 10 30.7	
	comp=N,480nm,0.2s							
GO01	**Chusmiza**	**1.81**	**344**	⇓*i*P	**Pn**	**Pn**	**02 10 06.2**	**+1.1**
PB11	**IPOC Station P**	**1.88**	**331**	*i* P	**Pn**	**Pn**	**02 10 06.3**	**+0.6**
PB11				*i* S	**Sn**	**Sn**	**02 10 30.5**	**+0.7**
PB11				IAML			02 10 32.5	
	comp=N,520nm,0.6s							
PB15	**IPOC Station P**	**1.93**	**202**	⇑*i*P	**Pn**	**Pn**	**02 10 06.8**	**+0.5**
PB15				*i* S	**Sn**	**Sn**	**02 10 31.4**	**+0.6**
PSGC	**Pisagua**	**2.26**	**323**	*i* P	**Pn**	**Pn**	**02 10 10.1**	**-0.4**
PSGC				IAML			02 10 46.2	
	comp=N,230nm,0.4s							
MNMC	**Minye Minye**	**2.43**	**339**	*i* P	**Pn**	**Pn**	**02 10 13.8**	**+0.8**
MNMC				*i* S	**Sn**	**Sn**	**02 10 44.2**	**+1.7**
MNMC				IAML			02 10 52.8	
	comp=E,378nm,0.4s							
PB10	**IPOC Station P**	**2.71**	**219**	*i* P	**Pn**	**Pn**	**02 10 16.2**	**-0.1**
PB10				IAML			02 10 60.0	
	comp=E,123nm,0.4s							
PB16	**IPOC Station P**	**3.16**	**346**	*e*P	**Pn**	**Pn**	**02 10 24.6**	**+1.8**
LPAZ	**La Paz**	**5.13**	**6**	P	**Pn**	**Pn**	**02 10 51.7**	**+2.3**
	comp=E,2.4nm,0.4s,baz=213,slow=7.6,SNR=14							
BBSD	**Serra de San D**	**8.70**	**62**	*e*P	**Pn**	**Pn**	**02 11 34.8**	**-2.5**
SIV	**San Ignacio**	**9.00**	**54**	P	**Pn**	**Pn**	**02 11 38.9**	**-2.5**
	comp=E,12nm,0.7s,baz=243,slow=12,SNR=72							
PTLB	**Pontes e Lacer**	**10.83**	**58**	*e*P	**Pn**		**02 12 04.2**	**-1.9**
VILB	**Vilhena**	**11.68**	**45**	*e*P	**Pn**		**02 12 16.0**	**-1.7**
AQDB	**Aquidauana**	**12.17**	**88**	*e*P	**Pn**		**02 12 24.4**	**+0.4**
CRSM	**Crissiumal (Br**	**14.63**	**117**	*e*P	**P**		**02 12 58.9**	**-0.6**
FRBT	**Francisco Belt**	**15.01**	**111**	*e*P	**P**		**02 13 03.7**	**0.0**
PTGB	**Pitanga**	**15.64**	**105**	*e*P	**P**		**02 13 10.9**	**+0.1**
FRTB	**Fartura**	**17.79**	**100**	*e*P	**Pn**		**02 13 35.5**	**+0.4**
SNDB	**Serra Nova Dou**	**19.10**	**63**	*e*P	**P**		**02 13 47.8**	**-1.0**
NPGB	**Novo Progresso**	**19.23**	**44**	*e*P	**P**		**02 13 49.3**	**-1.0**
IPMB	**Ipameri, GO**	**19.57**	**84**	*e*P	**P**		**02 13 54.4**	**+0.5**
BDFB	**Brasilia**	**20.41**	**77**	P	**P**		**02 14 02.5**	**-0.6**
	comp=E,1.1nm,0.5s,baz=241,slow=9.8,SNR=4.2							
	comp=E,1.1nm,0.5s							
ITTB	**Itaituba**	**21.10**	**38**	*e*P	**P**		**02 14 08.7**	**-1.6**
SGCB	**SΣo Gabriel d**	**21.23**	**5**	*e*P	**P**		**02 14 10.2**	**-1.5**
SMTB	**Santa Maria do**	**23.84**	**62**	*e*P	**P**		**02 14 37.5**	**-0.4**
JANB	**Januaria**	**23.98**	**79**	*e*P	**P**		**02 14 39.4**	**+0.3**
MALB	**Monte Alegre**	**23.99**	**38**	*e*P	**P**		**02 14 38.4**	**-0.7**
PDAR	**Pinedale Array**	**74.14**	**330**	P	**P**		**02 21 00.8**	**+1.5**
	comp=E,0.2nm,0.7s,baz=146,slow=6.6,SNR=2.0							
	comp=E,0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P	**P**		**02 21 16.5**	**-0.1**
	comp=E,1.2nm,0.3s,baz=248,slow=6.4,SNR=2.0							
	comp=E,1.2nm,0.3s							
YKA	**Yellowknife Ar**	**91.18**	**341**	P	**P**		**02 22 27.6**	**+0.9**
	comp=E,0.2nm,0.5s,baz=134,slow=4.3,SNR=8.4							
	comp=E,0.2nm,0.5s							
MKAR	**Makanchi Array**	**145.44**	**36**	PKPbc	**PKPab**		**02 29 00.7**	**+0.5**
	comp=E,0.3nm,0.8s,baz=304,slow=2.9,SNR=2.9							

IDC ***17*** *02:13:41.0±1.8,30°.66N×83°.22E,h0km,mb3.3/7, mbtmp3.4/7,MS3.9/1,Error ellipse: s-maj=61.2km s-min=26.7km az=58.0*
ISC 17 02:13:46.2±1.6,30°.7N±0'.2×83°.2E±0'.3,h35km,n9,σ0s43/8, mb3.3/6,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.12**	**358**	Pn	**Pn**	**Pn**	**02 17 30.5**	**+0.4**
	0.1nm,0.3s,baz=183,slow=11,SNR=3.0							
KURBB	**Kurchatov Arra**	**20.24**	**351**	P		**P**	**02 18 17.5**	**-0.8**
	0.7nm,0.9s,baz=174,slow=11,SNR=7.1							
	0.7nm,0.9s							
BVAR	**Borovoye Array**	**24.22**	**341**	P		**P**	**02 18 59.6**	**+0.2**
	0.3nm,0.4s,baz=156,slow=9.7,SNR=4.3							
	0.3nm,0.4s							
SONM	**Songino Array**	**24.70**	**39**	P		**P**	**02 19 04.3**	**+0.2**
	0.2nm,0.6s,baz=248,slow=7.6,SNR=1.3							
	0.2nm,0.6s							
EIL	**Elat**	**41.45**	**281**	LR	LR		02 40 04.4	
	comp=Z,152nm,19.5s,baz=57,slow=38							
FINES	**FINESS Array B**	**47.94**	**327**	P		**P**	**02 22 21.1**	**+0.2**
	2.0nm,0.9s,baz=117,slow=8.0,SNR=1.9							
	2.0nm,0.9s							
WRA	**Warramunga Arr**	**70.35**	**129**	P		**P**	**02 24 56.7**	**0.0**
	0.3nm,0.5s,baz=324,slow=6.3,SNR=6.8							
	0.3nm,0.5s							
ILAR	**Eielson Array**	**77.21**	**20**	P		**P**	**02 25 36.1**	**-0.1**
	0.3nm,0.7s,baz=315,slow=6.4,SNR=2.2							
	0.3nm,0.7s							
YKA	**Yellowknife Ar**	**86.07**	**8**	P		**P**	**02 26 22.8**	**-0.2**
	0.1nm,0.7s,baz=332,slow=5.2,SNR=2.1							
	0.1nm,0.7s							

OTT 17 02:48:10.8±0.3, 43°.85N×56°.71W, h18km, ML3.6/14, Atlantic Ocean. 345km southeast from Louisbourg, Ns, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**3.77**	**296**	PN	Pn	02 49 07.8	-0.1
GBN				SN	Sn	02 49 49.7	-2.1
GBN				Trac		02 49 55.0	
	comp=Z,2.5nm,0.0s						
CHEG	**Cheticamp, Nov**	**4.07**	**318**	PN	Pn	02 49 12.4	+0.2
CHEG				SN	Sn	02 49 57.5	-1.8
CHEG				Trac		02 50 00.4	
	comp=Z,5.7nm,0.1s						
DRLN	**Deer Lake**	**5.43**	**354**	PN	Pn	02 49 29.7	-1.1
DRLN				SN	Sn	02 50 28.8	-4.0
DRLN				Trac		02 50 40.5	
	comp=Z,27nm,0.7s						
LMN	**Caledonia Moun**	**6.10**	**292**	PN	Pn	02 49 39.5	-0.5
LMN				SN	Sn	02 50 45.5	-3.8
LMN				Trac		02 50 51.0	
	comp=Z,3.0nm,0.1s						
SVNB	**Stilesville Qu**	**6.24**	**295**	PN	Pn	02 49 41.1	-0.8
SVNB				SN	Sn	02 50 49.2	-3.4
SVNB				Trac		02 50 54.6	
	comp=Z,3.2nm,0.0s						
ELNB	**Elgin, New Bru**	**6.33**	**291**	PN	Pn	02 49 42.5	-0.6
ELNB				SN	Sn	02 50 50.6	-4.3
ELNB				Trac		02 50 51.4	
	comp=Z,0.4nm,0.0s						
HKNB	**Havelock Quarr**	**6.52**	**292**	PN	Pn	02 49 45.0	-0.7
HKNB				SN	Sn	02 50 55.0	-4.5
HKNB				Trac		02 50 58.0	
	comp=Z,9.3nm,0.2s						
WCNB	**Wards Creek**	**6.52**	**289**	PN	Pn	02 49 45.1	-0.7
WCNB				SN	Sn	02 50 55.0	-4.6
WCNB				Trac		02 50 59.4	
	comp=Z,5.6nm,0.1s						
SRNB	**Snider Mountai**	**6.65**	**290**	PN	Pn	02 49 46.9	-0.7
SRNB				SN	Sn	02 50 58.6	-4.2
SRNB				Trac		02 51 06.0	
	comp=Z,1.4nm,0.1s						
GGN	**Saint George**	**7.36**	**283**	PN	Pn	02 49 55.8	-1.5
GGN				SN	Sn	02 51 14.3	-5.9
GGN				Trac		02 51 19.1	
	comp=Z,2.1nm,0.0s						
BATG	**Bathurst New B**	**7.40**	**301**	PN	Pn	02 49 57.0	-0.9
BATG				SN	Sn	02 51 15.5	-5.9
BATG				Trac		02 51 20.0	
	comp=Z,2.4nm,0.0s						
PKME	**Peaks-Kenny Pk**	**9.10**	**283**	PN	Pn	02 50 19.8	-1.3
PKME				SN	Sn	02 51 54.9	-8.1
PKME				Trac		02 52 09.6	
	comp=Z,56nm,0.9s						
ICQ	**Pointe Anglais**	**9.21**	**312**	PN	Pn	02 50 21.1	-1.5
ICQ				SN	Sn	02 51 58.2	-7.4
ICQ				Trac		02 52 09.0	
	comp=Z,257nm,1.4s						
SMQ	**Clarke City**	**9.33**	**317**	PN	Pn	02 50 23.8	-0.5
SMQ				SN	Sn	02 52 01.1	-7.6
SMQ				Trac		02 52 05.0	
	comp=Z,2.5nm,0.2s						
CNQ	**Baie Comeau**	**9.54**	**309**	PN	Pn	02 50 25.9	-1.2
CNQ				SN	Sn	02 52 06.9	-6.8
CNQ				Trac		02 52 10.5	
	comp=Z,1.3nm,0.1s						
BACQ	**Baie-Comeau**	**9.58**	**309**	PN	Pn	02 50 26.1	-1.6
BACQ				SN	Sn	02 52 07.1	-7.7
BACQ				Trac		02 52 12.8	
	comp=Z,9.3nm,0.4s						
A21	**Saint Andre**	**9.85**	**298**	PN	Pn	02 50 29.9	-1.5
A21				Trac		02 52 22.6	
	comp=Z,240nm,2.0s						
FORQ	**Forestville**	**9.88**	**304**	PN	Pn	02 50 30.0	-1.9
FORQ				Trac		02 52 25.2	
	comp=Z,0.2nm,0.0s						

IDC 17 02:57:10.6±6.7, 10°.54S×161°.36E, h49km±58km, mb3.3/3, mbtmp3.5/3, Error ellipse: s-maj=52.3km s-min=38.3km az=121.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.77**	**308**	P	Pn	02 57 38.6	-0.2
	6μm,0.4s,baz=49,slow=19,SNR=15						
HNR				S	Sn	02 58 00.4	+0.3
	4μm,0.4s,baz=296,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**27.66**	**247**	P	P	03 02 54.0	-0.1
	0.5nm,0.7s,baz=76,slow=9.1,SNR=3.1						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**84.45**	**20**	P	P	03 09 37.8	+0.1
	0.3nm,0.9s,baz=233,slow=5.7,SNR=4.8						
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**96.52**	**28**	P	P	03 10 34.3	-0.3
	0.1nm,0.5s,baz=258,slow=4.6,SNR=1.8						
	0.1nm,0.5s						

IDC 17 03:04:16.8±1.5, 49°.94N×118°.52E, h0km, mb3.4/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=40.7km s-min=24.2km az=164.0
MOS 17 03:04:16.4±2.5, 49°.68N×118°.68E, h10km, mb3.8/1, Error ellipse: s-maj=18.1km s-min=14.9km az=125.7
BYKL 17 03:04:17.8±0.3, 49°.75N×118°.79E
ISC 17 03:04:17.1±0.7, 49°.85N±0°.03×118°.73E±0°.03, h10km, n35, σ3°.30/61, 1C-1D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIA	**Hailar**	**0.88**	**131**	*e*Pg	**Pg**	**03 04 32.0**	**-2.1**
HIA				*e*Sg	**Sg**	**03 04 42.1**	**-3.5**
HIA	**Hailar**	**0.88**	**131**	*e*PG	**Pg**	**03 04 32.0**	**-2.1**
HIA				*e*S	**Sg**	**03 04 42.1**	**-3.5**
CIT	**Chita**	**3.93**	**306**	*e*Sn	**Sn**	**03 06 05.5**	**+1.9**
CIT				*e*Sg	**Sb**	**03 06 21.0**	**+7.0**
CIT				Smax			
	883nm,1.5s						
CIT	**Chita**	**3.93**	**306**	*e*PN	**Pn**	**03 05 21.7**	**+4.2**
CIT				*e*		03 05 30.3	
CIT				*e*S	**Sn**	**03 06 06.0**	**+2.4**
CIT				*e*		03 06 20.3	
CIT				pmax	pmax		
	comp=Z,68nm,0.3s						
CIT				smax	smax		
	comp=E,878nm,1.0s						
KPC	**Khapcheranga**	**4.12**	**270**	⇓*i*Pn	**Pn**	**03 05 21.1**	**+0.9**
KPC				*e*Pg	**Pb**	**03 05 32.1**	**+2.4**
KPC				*e*Sn	**Sn**	**03 06 08.2**	**-0.2**
KPC				*e*Sg	**Sb**	**03 06 26.0**	**+6.5**
KPC				Pmax			
	comp=E,31nm,0.5s						
KPC				Smax			
	comp=E,147nm,1.8s						
KPC	**Khapcheranga**	**4.12**	**270**	*e*PN	**Pn**	**03 05 21.0**	**+0.9**
KPC				*e*		03 05 31.6	
KPC				*e*S	**Sn**	**03 06 07.8**	**-0.6**
KPC				*e*		03 06 24.0	
KPC				pmax	pmax		
	comp=Z,23nm,0.2s						
KPC				smax	smax		
	comp=N,122nm,0.5s						
TUP	**Tupik**	**4.64**	**9**	⇑*i*Pn	**Pn**	**03 05 27.8**	**+0.6**
TUP				*e*Pg	**Pb**	**03 05 43.1**	**+4.6**
TUP				*e*Sn	**Sn**	**03 06 23.9**	**+2.8**
TUP				*e*Sg	**Sg**	**03 06 45.0**	**-1.0**
TUP				Pmax			
	comp=N,28nm,0.5s						
TUP				Smax			
	comp=N,222nm,0.9s						
TUP	**Tupik**	**4.64**	**9**	*e*PN	**Pn**	**03 05 28.0**	**+0.8**
TUP				*e*		03 05 43.3	
TUP				*e*		03 06 45.3	
TUP				pmax	pmax		
	comp=Z,28nm,0.4s						
TUP				smax	smax		
	comp=E,223nm,0.9s						
UKT	**Uakit**	**6.44**	**333**	*e*Pn	**Pn**	**03 05 52.7**	**+0.7**
UKT				*e*		03 06 00.0	
UKT				max		03 06 17.6	
	comp=E,10.0nm,0.8s						
UKT				*e*Sg	**Sg**	**03 07 39.8**	**-3.8**
UKT				Smax			
	comp=E,103nm,0.2s						
ZEA	**Zeya**	**6.56**	**50**	*e*PN	Pn	03 06 02.2	+8.7
ZEA				*e*S	**Sn**	**03 07 16.4**	**+8.1**
ZEA				*e*		03 07 45.3	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				smax	smax		
	comp=E,100nm,1.7s						
ZEA				smax	smax		
	comp=N,200nm,1.3s						
ZEA				smax	smax		
	comp=N,150nm,0.7s						
ZEA				smax	smax		
	comp=E,50nm,0.7s						
ZEA				MLR	MLR		
	comp=Z,200nm,8.0s						
SYVR	**Suvo**	**6.62**	**308**	*e*Pn	**Pn**	**03 05 56.1**	**+1.7**
SYVR				*e*Pg	Pb	03 06 18.4	+6.1
SYVR				*e*Sn	**Sn**	**03 07 09.6**	**-0.3**
SYVR				*e*Sg	**Sg**	**03 07 45.5**	**-4.0**
SYVR				Pmax			
	comp=Z,6.0nm,0.6s						
SYVR				Smax			
	comp=Z,126nm,0.8s						
YLYR	**Ulyunkhan**	**6.84**	**320**	*e*Pn	**Pn**	**03 05 58.0**	**+0.6**
YLYR				*e*		03 06 06.1	
YLYR				*e*Pg	Pb	03 06 22.3	+6.4
YLYR				*e*Sn	**Sn**	**03 07 15.8**	**+0.6**
YLYR				*e*Sg	**Sg**	**03 07 51.7**	**-4.7**
YLYR				Pmax			
	comp=Z,14nm,1.4s						
YLYR				Smax			
	comp=Z,187nm,1.6s						
NLYR	**Nelyaty**	**6.89**	**346**	*e*Pn	**Pn**	**03 05 58.0**	**-0.1**
NLYR				*e*		03 06 07.0	
NLYR				*e*Pg	Pb	03 06 24.3	+7.4
NLYR				*e*Sn	**Sn**	**03 07 17.6**	**+1.0**
NLYR				*e*Sg	**Sg**	**03 07 55.2**	**-2.9**
NLYR				Pmax			
	comp=Z,25nm,2.5s						
NLYR				Smax			
	comp=Z,173nm,1.5s						
YKLR	**Yuktali**	**6.97**	**13**	*e*Pn	**Pn**	**03 05 58.9**	**-0.3**
YKLR				*e*Pg	Pb	03 06 25.0	+6.8
YKLR				*e*Sn	**Sn**	**03 07 19.4**	**+0.9**
YKLR				*e*Sg	**Sg**	**03 07 56.9**	**-3.8**
YKLR				*e*		03 08 11.2	
CRS	**Chara**	**7.07**	**358**	*e*Pn	**Pn**	**03 06 01.5**	**+1.0**
CRS				*e*Pg	Pb	03 06 27.1	+7.3
CRS				*e*Sn	**Sn**	**03 07 23.0**	**+2.2**
CRS				*e*Sg	**Sg**	**03 08 00.1**	**-3.5**
CRS				Pmax			
	comp=Z,20nm,1.0s						
CRS				Smax			
	comp=Z,82nm,1.5s						
MXMB	**Maximikha**	**7.10**	**303**	*e*Pn	**Pn**	**03 06 04.8**	**+3.9**
MXMB				*e*Pg	Pb	03 06 26.5	+6.1
MXMB				*e*Sn	**Sn**	**03 07 20.5**	**-1.1**
MXMB				*e*Sg	**Sg**	**03 07 59.7**	**-5.0**
KHNR	**Khani**	**7.12**	**6**	*e*Pn	**Pn**	**03 06 01.0**	**-0.2**
KHNR				*e*		03 06 09.6	
KHNR				*e*Pg	Pb	03 06 27.9	+7.2
KHNR				*e*Sn	**Sn**	**03 07 23.3**	**+1.2**
KHNR				*e*Sg	**Sg**	**03 08 01.6**	**-3.8**
KELR	**Kotokel**	**7.28**	**298**	*e*Sn	**Sn**	**03 07 26.0**	**-0.1**
KELR				*e*Sg	**Sg**	**03 08 05.7**	**-4.9**
IENR	**Iengra**	**7.37**	**28**	*e*Pn	**Pn**	**03 06 04.7**	**0.0**
IENR				*e*Pg	Pb	03 06 31.8	+6.8
IENR				*e*Sn	**Sn**	**03 07 28.4**	**+0.1**
IENR				*e*Sg	**Sg**	**03 08 08.0**	**-5.4**
KMO	**Kumora**	**7.56**	**326**	*e*Pn	**Pn**	**03 06 08.9**	**+1.6**
KMO				*e*Sn	**Sn**	**03 07 33.4**	**+0.3**
KMO				*e*Sg	**Sg**	**03 08 15.7**	**-3.9**
KMO				max			
	comp=Z,6.0nm,0.5s						
KMO				Smax			
	comp=Z,210nm,1.1s						
YOA	**Uoyan**	**7.58**	**329**	*e*Sg	**Sg**	**03 08 15.7**	**-4.3**
OGRR	**Ongureny**	**7.88**	**303**	*e*PN	**Pn**	**03 06 14.6**	**+2.9**
OGRR				*e*		03 06 42.2	
CLNS	**Chul'man**	**7.91**	**25**	*e*Sg	**Sg**	**03 08 24.9**	**-5.6**
TRG	**Tyrgan**	**8.29**	**295**	*e*Pg	Pb	03 06 48.6	+8.0
TRG				*e*		03 07 20.8	
TRG				*e*Sg	Sg	03 08 36.8	-6.0
TRG				Pmax			
	comp=Z,2.0nm,0.3s						
TRG				Smax			
	comp=Z,54nm,1.0s						
SONM	**Songino Array**	**8.38**	**261**	Pn	**Pn**	**03 06 18.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=74,slow=13,SNR=9.7						
SONM				Lg	Lg	03 08 35.8	
	comp=Z,2.4nm,0.3s,baz=77,slow=27,SNR=5.8						
	comp=Z,0.8nm,0.3s						
BOD	**Bodaibo**	**8.45**	**343**	*e*Sg	**Sg**	**03 08 43.6**	**-4.5**
BOD				Smax			
	comp=Z,80nm,0.4s						
KLR	**Kul'dur**	**8.49**	**89**	Pn	**Pn**	**03 06 21.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=295,slow=18,SNR=6.7						
KLR				Sn	**Sn**	**03 07 48.4**	**-7.5**
	comp=Z,0.6nm,0.3s,baz=307,slow=12,SNR=2.6						
KLR				Lg	Lg	03 08 43.2	
	comp=Z,1.1nm,0.3s,baz=11,slow=13,SNR=3.5						
	comp=Z,1.0nm,0.4s						
LSTR	**Listvyanka**	**9.02**	**288**	*e*Sg	Sn	03 08 57.9	+49
LSTR				Smax			
	comp=Z,38nm,1.1s						
IVK	**Ivanovka**	**9.27**	**288**	*e*Pg	Pn	03 07 06.9	+36
IVK				*e*Sg	Sn	03 09 07.4	+52
IVK				Pmax			
	comp=Z,2.0nm,0.4s						
IVK				Smax			
	comp=Z,25nm,1.1s						
TLY	**Talaya**	**9.73**	**287**	*e*Pg	Pn	03 07 14.4	+37
TLY				*e*Sn	**Sn**	**03 08 24.7**	**-1.7**
TLY				*e*Sg		03 09 21.1	
TLY				Pmax			
	comp=Z,2.0nm,0.4s						
TLY				Smax			
	comp=Z,22nm,2.0s						
ZAK	**Zakamensk**	**9.94**	**279**	*e*Sg	Sn	03 09 26.6	+55
ZAK				Smax			
	comp=Z,27nm,0.5s						
MOY	**Mondy**	**11.38**	**286**	*e*Sg		03 10 11.4	
MOY				Smax			
	comp=Z,28nm,0.8s						
ORL	**Orlik**	**12.17**	**290**	*e*Sg		03 10 37.5	
ORL				Smax			
	comp=Z,15nm,1.6s						
YKA	**Yellowknife Ar**	**60.29**	**25**	P	**P**	**03 14 26.4**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=321,slow=6.9,SNR=6.5						
	comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**70.85**	**164**	P	**P**	**03 15 36.7**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=352,slow=6.6,SNR=2.0						
	comp=Z,0.2nm,0.3s						

IDC 17 03:23:42.4±1.5, 2°.02S×128°.38E, h0km, mb3.5/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=31.5km s-min=26.6km az=79.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.10**	**68**	Pn	Pn	03 24 33.0	+0.4
	3.8nm,0.3s,baz=166,slow=23,SNR=13						
SIJI				Sn	Sn	03 25 09.7	-0.7
	4.0nm,0.3s,baz=3.4,slow=23,SNR=9.2						
	8.6nm,0.3s						
WRA	**Warramunga Arr**	**18.74**	**162**	P	P	03 28 02.9	-0.1
	0.1nm,0.3s,baz=343,slow=12,SNR=2.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**22.18**	**166**	P	P	03 28 40.6	+0.3
	1.1nm,0.6s,baz=344,slow=12,SNR=11						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**63.20**	**326**	P	P	03 34 12.4	-0.2
	0.5nm,0.8s,baz=124,slow=6.5,SNR=5.6						
	0.5nm,0.8s						

IDC 17 03:25:15.4±0.8, 1°.88S×128°.35E, h0km, mb4.0/10, mbtmp4.0/11, ML4.2/1, MS3.4/8, Error ellipse: s-maj=30.5km s-min=16.6km az=67.0
DJA 17 03:25:18.5±1.4, 2°.5±2°×12°.8E±°, h19km±14km, M4.6/13, mb5.1/6, mB5.3/3, MLv4.4/13, Mw(mB)4.7/3
NEIC 17 03:25:19.3±1.8, 1°.96S±0°.05×128°.45E±0°.07, h39km±9km, mb4.3/14, Error ellipse: s-maj=11.8km s-min=5.2km az=61.0
ISC 17 03:25:19.2±0.5, 1°.97S±0°.05×128°.45E±0°.06, h34km, n58, σ1°.78/57, mb4.2/17, MS3.4/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.45**	**161**	P	**Pb**	**03 25 45.4**	**-0.3**
MSAI				S	**Sb**	**03 26 03.4**	**-0.5**
AAI	**Ambon**	**1.73**	**188**	P	**Pn**	**03 25 48.7**	**+1.8**
NLAI	**Namlea**	**1.84**	**227**	P	**Pn**	**03 25 48.7**	**+0.2**
SANI	**Sanana**	**2.46**	**268**	P	**Pn**	**03 25 54.2**	**-2.7**
BNDI	**Bandanaira**	**2.93**	**150**	P	**Pn**	**03 26 05.8**	**+2.4**
TNTI	**Ternate**	**2.93**	**338**	Pn	**Pn**	**03 26 03.3**	**-0.1**
TNTI	**Ternate**	**2.93**	**338**	P	**Pn**	**03 26 03.7**	**+0.3**
SIJI	**Sorong**	**3.02**	**69**	Pn	**Pn**	**03 26 04.4**	**-0.3**
	27nm,0.3s,baz=256,slow=8.4,SNR=18						
SIJI				Sn	**Sn**	**03 26 40.8**	**+1.0**
	61nm,0.3s,baz=166,slow=23,SNR=20						
SIJI				LR	LR	03 27 51.2	
	comp=Z,880nm,21.7s,baz=276,slow=50						
	172nm,0.5s						
FAKI	**Fak Fak**	**3.92**	**104**		**Pn**	**03 26 16.8**	**-0.2**
FAKI	**Fak Fak**	**3.92**	**104**	P	**Pn**	**03 26 16.8**	**-0.2**
LUWI	**Luwuk**	**5.75**	**279**	Pn	**Pn**	**03 26 41.3**	**-0.9**
LUWI					**Sn**	**03 27 46.2**	**-0.7**
APSI	**Ampana**	**6.88**	**279**	P	**Pn**	**03 26 57.8**	**+0.1**
	281nm,0.7s,4μm1.3nm						
MRSI	**Marisa**	**6.94**	**290**	P	**Pn**	**03 27 00.6**	**+2.0**
	70nm,0.5s,1μm0.9nm						
TOLI2	**Tolitoli**	**8.25**	**292**	Pn	**Pn**	**03 27 16.1**	**-0.4**
MPSI	**Mapaga**	**8.85**	**285**	P	**Pn**	**03 27 26.8**	**+2.0**
	30nm,0.7s						
SPSI	**Sidrap Palu**	**8.89**	**257**	P	**Pn**	**03 27 28.3**	**+3.0**
BKSI	**Bulukumba**	**8.95**	**248**	P	**Pn**	**03 27 27.7**	**+1.6**
KAPI	**Kappang**	**9.19**	**251**	Pn	**Pn**	**03 27 33.3**	**+3.9**
	6.5nm,0.3s,baz=87,slow=10,SNR=11						
KAPI				LR	LR	03 31 04.7	
	comp=Z,84nm,18.6s,baz=85,slow=38						
KAPI	**Kappang**	**9.19**	**251**		**Pn**	**03 27 33.5**	**+4.1**
BATI	**Baumata**	**9.46**	**210**	LR	LR	03 31 41.5	
	comp=Z,308nm,19.6s,baz=24,slow=41						
MTN	**Manton Dam**	**11.13**	**166**	Pn	**Pn**	**03 27 54.7**	**-1.4**
KNRA	**Kununurra**	**13.63**	**179**	Pn	**Pn**	**03 28 30.6**	**+0.4**
WB0	**Warramunga Arr**	**18.62**	**162**	P	**P**	**03 29 31.5**	**-2.5**
WRA	**Warramunga Arr**	**18.77**	**163**	P	**P**	**03 29 33.9**	**-1.8**
	2.8nm,0.6s,baz=342,slow=13,SNR=18						
WRA				S	**Sn**	**03 33 01.1**	**-4.4**
	1.0nm,0.7s,baz=338,slow=23,SNR=3.7						
WRA	**Warramunga Arr**	**18.77**	**163**	P	**P**	**03 29 33.6**	**-2.1**
WB2	**Warramunga Arr**	**18.77**	**162**	P	**P**	**03 29 33.7**	**-2.0**
COEN	**Coen**	**18.81**	**130**		**P**	**03 29 36.4**	**+0.2**
COEN				IAmb	IAmb	03 29 48.7	
	comp=Z,18nm,0.7s						
PMG	**Port Moresby**	**20.02**	**112**	LR	LR	03 38 36.5	
	comp=Z,165nm,18.0s,baz=336,slow=40						
LEM	**Lembang**	**21.31**	**256**	LR	LR	03 40 13.2	
	comp=Z,92nm,18.1s,baz=139,slow=42						
AS31	**Alice Springs**	**22.21**	**167**	P	**P**	**03 30 12.0**	**-0.9**
AS31				IAmb	IAmb	03 30 25.8	
	comp=Z,5.3nm,0.5s						
ASAR	**Alice Springs**	**22.21**	**167**	P	**P**	**03 30 11.9**	**-1.0**
	comp=Z,9.2nm,0.8s,baz=348,slow=12,SNR=26						
ASAR				S	**S**	**03 34 13.2**	**-2.4**
	comp=Z,3.8nm,0.9s,baz=349,slow=20,SNR=8.7						
ASAR	**Alice Springs**	**22.21**	**167**	P	**P**	**03 30 11.7**	**-1.2**
GUMO	**Guam**	**22.45**	**46**	LR	LR	03 38 16.8	
	comp=Z,75nm,19.5s,baz=228,slow=35						
CTA	**Charters Tower**	**25.04**	**137**	P	**P**	**03 30 43.9**	**+3.3**
	comp=Z,4.0nm,0.9s,baz=327,slow=7.7,SNR=1.8						
	comp=Z,4.0nm,0.9s						
HNR	**Honiara**	**32.19**	**105**	LR	LR	03 46 25.7	
	comp=Z,840nm,18.1s,baz=278,slow=39						
STKA	**Stephens Creek**	**32.23**	**159**	P	**P**	**03 31 45.3**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=3.1,slow=7.0,SNR=4.0						
STKA				LR	LR	03 47 27.3	
	comp=Z,91nm,19.0s,baz=25,slow=41						
	comp=Z,1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**35.42**	**306**	P	**P**	**03 32 13.8**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=122,slow=7.6,SNR=5.0						
	comp=Z,0.9nm,0.3s						
KSRS	**Korea Array**	**39.23**	**359**	P	**P**	**03 32 45.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=170,slow=9.3,SNR=4.7						
	comp=Z,0.9nm,0.6s						
MJAR	**Matsushiro Arr**	**39.38**	**12**	P	**P**	**03 32 47.1**	**+1.5**
	comp=Z,1.8nm,0.9s,baz=192,slow=9.3,SNR=2.5						
	comp=Z,1.8nm,0.9s						
SHL	**Shillong**	**44.73**	**310**	P	**P**	**03 33 29.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**46.07**	**4**	P	**P**	**03 33 40.9**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=194,slow=10,SNR=2.5						
	comp=Z,0.8nm,0.6s						
SONM	**Songino Array**	**53.21**	**342**	P	**P**	**03 34 34.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=152,slow=8.7,SNR=5.7						
	comp=Z,0.6nm,0.7s						
MK31	**Makanchi Array**	**63.20**	**326**	P	**P**	**03 35 44.0**	**-0.1**
MK31				IAmb	IAmb	03 35 45.8	
	comp=Z,2.9nm,0.8s						
MKAR	**Makanchi Array**	**63.20**	**326**	P	**P**	**03 35 44.0**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=126,slow=7.3,SNR=29						
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**63.20**	**326**	P	**P**	**03 35 43.6**	**-0.5**
MAKZ	**Makanchi**	**63.38**	**326**	P	**P**	**03 35 42.7**	**-2.6**
MAKZ				IAmb	IAmb	03 35 46.4	
	comp=Z,4.1nm,1.1s						
AAK	**Ala-Archa**	**65.73**	**319**	LR	LR	04 07 38.8	
	comp=Z,17nm,18.4s,baz=68,slow=39						
ZALV	**Zalesovo Beam**	**66.41**	**334**	P	**P**	**03 36 03.8**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=116,slow=3.4,SNR=5.1						
	comp=Z,0.6nm,0.5s						
GAR	**Garm**	**67.06**	**314**	P	**P**	**03 36 07.1**	**-2.4**
KURK	**Kurchatov**	**67.45**	**328**	P	**P**	**03 36 10.7**	**-0.8**
KK31	**Karatay Array**	**68.57**	**318**	P	**P**	**03 36 17.7**	**-1.1**
KK31				IAmb	IAmb	03 36 20.8	
	comp=Z,2.4nm,1.0s						
KKAR	**Karatay Array**	**68.57**	**318**	P	**P**	**03 36 16.7**	**-2.0**
KKAR	**Karatay Array**	**68.57**	**318**	P	**P**	**03 36 17.0**	**-1.7**
KKAR				IAmb	IAmb	03 36 20.8	
	comp=Z,2.4nm,1.0s						
BRVK	**Borovoye**	**73.08**	**328**	P	**P**	**03 36 45.4**	**-0.6**
BRVK				IAmb	IAmb	03 36 48.2	
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**77.60**	**173**	P	**P**	**03 37 14.1**	**+2.7**
	comp=Z,1.0nm,0.7s,baz=307,slow=7.0,SNR=8.7						
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**77.60**	**173**	P	**P**	**03 37 11.2**	**-0.3**
VNDA				IAmb	IAmb	03 37 50.7	
	comp=Z,5.2nm,1.4s						
ABKAR	**Akbulak array**	**77.63**	**321**	P	**P**	**03 37 11.3**	**-0.9**
CPUP	**Villa Florida**	**151.32**	**169**	PKPbc	**PKiKP**	**03 45 12.0**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=127,slow=2.0,SNR=5.0						

*FUNV 17 03:34:34.

RUSC	**La Rusia**	**2.68**	**208**	*eP*		**Pn**	**03 35 18.9**	**+0.9**
RUSC				*eS*		**Sb**	**03 35 53.5**	**-2.4**
RUSC				*i*			03 36 01.7	
	comp=Z,3.8nm,0.3s							
CRJC	**Cerrejon, Guaj**	**2.93**	**339**	*eP*		**Pn**	**03 35 20.9**	**0.0**
CRJC				*eS*		**Sn**	**03 35 56.0**	**-0.6**
CRJC				*i*			03 36 11.7	
	comp=Z,16nm,0.2s							
SIQV	**Siquisique**	**3.08**	**40**	*eP*		**Pn**	**03 35 24.0**	**+1.0**
SIQV				*eS*		**Sn**	**03 35 59.3**	**-1.0**
ZARC	**Zaragoza, Cauc**	**3.12**	**256**	*eP*		**Pn**	**03 35 26.1**	**+2.6**
ZARC				*eS*		**Sb**	**03 36 07.6**	**-0.3**
ZARC				*i*			03 36 15.0	
	comp=Z,7.7nm,0.4s							
PTBC	**PUERTO BERRIO,**	**3.14**	**237**	*eS*		**Sb**	**03 36 08.9**	**+0.3**
PTBC				*i*			03 36 11.4	
	comp=Z,3.9nm,0.5s							
URIC	**Uribia, Colomb**	**3.41**	**357**	*eP*		**Pn**	**03 35 30.0**	**+2.4**
MAPV	**Macapo**	**3.66**	**65**	*eP*		**Pn**	**03 35 31.5**	**+0.5**
MAPV				*eS*		**Sn**	**03 36 13.7**	**-0.9**
SJCC	**San Jacinto, C**	**3.70**	**296**	*eP*		**Pn**	**03 35 33.2**	**+1.7**
BAUV	**El Baul**	**3.79**	**80**	*eP*		**Pn**	**03 35 34.0**	**+1.2**
BAUV				*eS*		**Sn**	**03 36 16.3**	**-1.5**
CHIC	**Chingaza**	**4.09**	**208**	*eP*		**Pn**	**03 35 38.9**	**+1.6**
BENV	**Beln**	**4.49**	**68**	*eP*		**Pn**	**03 35 42.8**	**+0.3**
BENV				*eS*		**Sn**	**03 36 32.8**	**-2.3**
CACV	**CAICARA DEL OR**	**5.27**	**97**	*eP*		Pb	03 36 00.7	-5.6

*IDC **17** 03:50:22.8±1.6,28˚.18N×57˚.19E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=46.0km s-min=26.3km az=165.0*
*TEH **17** 03:50:26.8,28˚.27N×57˚.24E, h18km±29km, ML3.8*
*DSN **17** 03:50:27.8±3.4,28˚.20N×57˚.18E, h10km, ML3.1/6, Error ellipse: s-maj=113.7km s-min=26.4km az=119.0*
*OMAN **17** 03:50:28.3±2.0,28˚.37N×57˚.46E, h33km, mb5.1/6, ml3.6/12, Error ellipse: s-maj=20.3km s-min=15.6km az=160.0*

ISC 17 03:50:26.2±1.5,**28˚.28N**±0˚.04×**57˚.24E**±0˚.04,**h13**km±11km, **n89**,σ1ˢ**85**/95,**mb3.6**/6,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.53**	**129**	Pg	**Pg**	**03 50 36.7**	**0.0**
IBND	**Bandar-abas**	**1.04**	**217**	Pg	**Pn**	**03 50 47.1**	**+0.6**
IBND				Sg	**Sn**	**03 51 01.6**	**+0.8**
GENO	**Geno**	**1.29**	**227**	Pg	**Pg**	**03 50 50.9**	**-0.2**
GENO				Sg	**Sn**	**03 51 09.8**	**+2.4**
BNDS	**Bandar-Abbas**	**1.29**	**227**	Pg	**Pn**	**03 50 51.2**	**+1.0**
NGRK	**Negar Kerman**	**1.43**	**342**	Pg	**Pn**	**03 50 52.7**	**+0.5**
CHMN	**Cheshme madani**	**1.59**	**9**	Pg	**Pn**	**03 50 55.1**	**+0.7**
KRBR	**Kerman**	**1.74**	**346**	Pg	**Pn**	**03 50 57.9**	**+1.4**
TVBK	**TV Kerman**	**1.75**	**346**	Pg	**Pn**	**03 50 58.2**	**+1.6**
KHGB	**Koh Gabri**	**2.19**	**342**	Pn	**Pn**	**03 51 04.8**	**+2.2**
SHME	**Shamm** SNR=9.1	**2.43**	**204**	P	**Pb**	**03 51 09.2**	**-0.6**
SHME				S	**Sb**	**03 51 41.0**	**+1.3**
SHME	**Shamm**	**2.43**	**204**	Pn	**Pn**	**03 51 05.8**	**+0.1**
JASK	**Jask - Hormozg**	**2.47**	**167**	P	**Pn**	**03 51 08.4**	**+2.1**
JASK				S	**Sn**	**03 51 38.2**	**+1.9**
JASK	**Jask - Hormozg**	**2.47**	**167**	Pn	**Pn**	**03 51 07.4**	**+1.1**
BANOM	**Banah**	**2.50**	**200**	P	**Pn**	**03 51 07.5**	**+0.9**
BANOM	**Banah** SNR=13	**2.50**	**200**	P	**Pb**	**03 51 10.1**	**-0.9**
BANOM				S	**Sb**	**03 51 41.4**	**-0.2**
BANOM	**Banah**	**2.50**	**200**	Pn	**Pn**	**03 51 07.4**	**+0.8**
ZRDN	**Zarand Kerman**	**2.74**	**347**	Pn	**Pn**	**03 51 13.2**	**+3.0**
MASF	**Masafi**	**3.06**	**199**	P	**Pn**	**03 51 17.2**	**+2.8**
MSFE	**Esma-Masafi**	**3.07**	**199**	Pn	**Pn**	**03 51 16.4**	**+1.9**
UMQ	**Umm Al-Quwin**	**3.09**	**207**	P	**Pn**	**03 51 18.4**	**+3.7**
UMQ	**Umm Al-Quwin**	**3.09**	**207**	Pn	**Pn**	**03 51 15.8**	**+1.1**
MDH	**Madha**	**3.09**	**196**	P	**Pn**	**03 51 13.6**	**-1.1**
MDH	**Madha**	**3.09**	**196**	P	**Pn**	**03 51 17.4**	**+2.7**
MDH	**Madha**	**3.09**	**196**	Pn	**Pn**	**03 51 13.4**	**-1.4**
ZHDN	**Zahedan**	**3.33**	**70**	Pn	**Pn**	**03 51 20.4**	**+2.3**
ZHSF	**Zahedan**	**3.37**	**66**	Pn	**Pn**	**03 51 19.1**	**+0.4**
UOSS	**Minazif**	**3.45**	**196**	P	**Pn**	**03 51 23.2**	**+3.5**
UOSS	**Minazif**	**3.45**	**196**	P	**Pn**	**03 51 22.4**	**+2.7**
UOSS	**Minazif**	**3.45**	**196**	Pn	**Pn**	**03 51 21.0**	**+1.3**
NAZ	**Nazwa, Dubai**	**3.57**	**204**	P	**Pn**	**03 51 23.7**	**+2.4**
NAZ	**Nazwa, Dubai**	**3.57**	**204**	Pn	**Pn**	**03 51 19.7**	**-1.6**
HATD	**Hatta, Dubai**	**3.58**	**196**	P	**Pn**	**03 51 21.2**	**-0.4**
HATD	**Hatta, Dubai**	**3.58**	**196**	P	**Pn**	**03 51 24.1**	**+2.6**
HATD	**Hatta, Dubai**	**3.58**	**196**	Pn	**Pn**	**03 51 24.1**	**+2.6**
IBAF	**Bafgh**	**3.60**	**337**	Pn	**Pn**	**03 51 24.4**	**+2.5**
ASHO	**Ashiyiah**	**3.74**	**197**	P	**Pn**	**03 51 25.0**	**+1.3**
ASHO	**Ashiyiah** SNR=10.0	**3.74**	**197**	P	**Pn**	**03 51 25.4**	**+1.7**
ASHO	**Ashiyiah**	**3.74**	**197**	Pn	**Pn**	**03 51 25.5**	**+1.8**
GHIR	**Ghir-Karzin**	**3.75**	**271**	Pn	**Pn**	**03 51 25.2**	**+1.3**
FAQ	**Al Faqa, Dubai**	**3.82**	**203**	Pn	**Pn**	**03 51 26.1**	**+1.3**
IMEH	**Mehriz**	**3.84**	**324**	Pn	**Pn**	**03 51 27.4**	**+2.1**
CHBR	**Chabahar**	**3.94**	**132**	Pn	**Pn**	**03 51 27.5**	**+1.0**
NHDN	**Nehbandan**	**3.94**	**38**	Pn	**Pn**	**03 51 28.9**	**+2.3**
BSRN	**Basiran**	**4.02**	**24**	Pn	**Pn**	**03 51 30.4**	**+2.8**
ASUD	**Al Ashush, Dub**	**4.03**	**206**	P	**Pn**	**03 51 29.1**	**+1.5**
ASUD	**Al Ashush, Dub**	**4.03**	**206**	P	**Pn**	**03 51 29.1**	**+1.5**
ASUD				S	**Sn**	**03 51 56.9**	**+2.3**
ASUD	**Al Ashush, Dub**	**4.03**	**206**	Pn	**Pn**	**03 51 28.8**	**+1.2**
ESRB	**Sir Abu**	**4.07**	**222**	Pn	**Pn**	**03 51 28.1**	**0.0**
SOHO	**SOHO**	**4.18**	**189**	P	**Pn**	**03 51 30.9**	**+1.1**
AJN	**Ajban**	**4.22**	**209**	Pn	**Pn**	**03 51 31.0**	**+0.8**
IKOO	**Kooshah**	**4.40**	**20**	Pn	**Pn**	**03 51 35.8**	**+2.8**
NGCH	**Negor - Chabah**	**4.54**	**129**	Pn	**Pn**	**03 51 36.5**	**+1.9**
SRVN	**Saravan**	**4.65**	**100**	Pn	**Pn**	**03 51 38.9**	**+2.6**
HOQ	**Hoqain**	**4.68**	**179**	P	**Pn**	**03 51 36.0**	**-0.6**
HOQ	**Hoqain**	**4.68**	**179**	Pn	**Pn**	**03 51 36.2**	**-0.4**
YZKH	**Yazd**	**4.69**	**331**	Pn	**Pn**	**03 51 38.8**	**+2.0**
ISAD	**Sadrabad**	**4.75**	**320**	Pn	**Pn**	**03 51 40.0**	**+2.2**
TPRV	**Parvadeh(Tabas**	**4.75**	**354**	Pn	**Pn**	**03 51 39.8**	**+2.1**
ITEG	**Tejag**	**4.78**	**15**	Pn	**Pn**	**03 51 41.0**	**+2.9**
BAGH	**Bagheran - Bir**	**4.79**	**20**	Pn	**Pn**	**03 51 40.6**	**+2.2**
ARQ	**Araqi** SNR=20	**4.97**	**188**	P	**Pn**	**03 51 42.0**	**+1.4**
TKDS	**Koohdasht(Taba**	**5.31**	**359**	Pn	**Pn**	**03 51 47.9**	**+2.5**
AFRZ	**Afriz**	**5.35**	**16**	Pn	**Pn**	**03 51 49.3**	**+3.4**
TABS	**Tabas**	**5.35**	**359**	Pn	**Pn**	**03 51 47.2**	**+1.4**
IRAM	**Rameshеh**	**5.48**	**311**	Pn	**Pn**	**03 51 49.4**	**+1.6**
BSY	**Bisya**	**5.52**	**180**	P	**Pn**	**03 51 48.6**	**+0.5**
KLNJ	**Kolanjah**	**5.61**	**300**	Pn	**Pn**	**03 51 51.1**	**+1.4**
TNSJ	**Nastanj**	**5.69**	**355**	Pn	**Pn**	**03 51 53.1**	**+2.6**
ANAR	**Anarak**	**5.75**	**329**	Pn	**Pn**	**03 51 53.2**	**+1.8**
WBK	**Wadi Bani Khal** SNR=13	**5.86**	**164**	P	**Pn**	**03 51 54.0**	**+1.0**
WBK	**Wadi Bani Khal**	**5.86**	**164**	Pn	**Pn**	**03 51 53.9**	**+1.0**
NASN	**Na'in**	**5.90**	**321**	Pn	**Pn**	**03 51 56.1**	**+2.4**
JMDO	**Jabal Madar**	**5.94**	**172**	P	**Pn**	**03 51 55.1**	**+1.1**
SHRT	**Shahrakht**	**5.95**	**25**	Pn	**Pn**	**03 51 56.8**	**+2.7**
IZEF	**Zefreh**	**6.25**	**319**	Pn	**Pn**	**03 51 60.0**	**+1.6**
MZR	**Muzera**	**6.26**	**214**	P	**Pn**	**03 51 59.7**	**+1.4**
MZR	**Muzera**	**6.26**	**214**	Pn	**Pn**	**03 51 57.4**	**-0.9**
IBRJ	**Brojen**	**6.31**	**306**	Pn	**Pn**	**03 52 01.2**	**+1.9**
JLN	**Jalan Bani Buh**	**6.42**	**162**	P	**Pn**	**03 52 00.7**	**+0.3**
IPIR	**Pirpir**	**7.01**	**310**	Pn	**Pn**	**03 52 11.5**	**+2.5**
MHTO	**MHTO**	**7.30**	**175**	P	**Pn**	**03 52 13.2**	**+0.6**
TBJM	**Torbat-e-JAM**	**7.44**	**20**	Pn	**Pn**	**03 52 17.4**	**+2.7**
IDOB	**Doab**	**9.51**	**307**	Pn	**Pn**	**03 52 45.4**	**+2.3**
BRTR	**Keskin Array B** 0.7nm,0.8s,baz=131,slow=12,SNR=4.5 0.7nm,0.8s	**22.58**	**306**	P	**P**	**03 55 26.1**	**-0.4**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=220,slow=7.8,SNR=9.9 0.4nm,0.6s	**26.95**	**40**	P	**P**	**03 56 06.9**	**-0.4**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=248,slow=7.6,SNR=1.8 1.0nm,0.5s	**32.62**	**31**	P	**P**	**03 56 56.4**	**-1.0**
SONM	**Songino Array** 0.2nm,0.3s,baz=254,slow=9.3,SNR=1.9 0.2nm,0.3s	**42.53**	**49**	P	**P**	**03 58 20.9**	**-0.7**
TORD	**Torodi Ar. Bea** 1.4nm,0.4s,baz=61,slow=7.5,SNR=1.7 1.4nm,0.4s	**53.66**	**266**	P	**P**	**03 59 45.4**	**-2.5**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=316,slow=4.0,SNR=1.8 0.2nm,0.4s	**88.55**	**113**	P	**P**	**04 03 18.3**	**-0.8**

*IDC **17** 03:50:33.7±1.6,6˚.98S×129˚.10E, h0km, mb4.0/3, mbtmp4.0/5, ML4.1/2, Error ellipse: s-maj=112.2km s-min=28.6km az=69.0*

*DJA **17** 03:50:43.8±0.4,7˚.S±3˚×13˚.0E±˚, h83km±28km, M4.3/6, mb4.3/3, mB5.1/2, MLv4.3/6, Mw(mB)4.5/2*

ISC 17 03:50:42.8±0.8,**6˚.90S**±0˚.07×**129˚.68E**±0˚.06,**h100**km,**n16**, σ2ˢ**58**/19,**mb4.0**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.93**	**124**	P	**Pn**	**03 51 17.3**	**+2.8**
SAUI	**Saumlaki**	**1.93**	**124**	P	**Pn**	**03 51 17.0**	**+2.5**
SAUI				S	**Sn**	**03 51 38.3**	**-0.4**
MSAI	**Masohi**	**3.61**	**348**	P	**Pn**	**03 51 36.9**	**+0.1**
FAKI	**Fak Fak**	**4.71**	**33**	P	**Pn**	**03 51 51.5**	**-0.2**
FAKI	**Fak Fak**	**4.71**	**33**	P	**Pn**	**03 51 51.5**	**-0.2**
SOEI	**Soe** 21nm,0.9s,0.2nm	**6.06**	**242**	P	**Pn**	**03 52 12.2**	**+2.1**
SOEI	21nm,0.9s,0.2nm			S	**Sn**	**03 53 19.3**	**+1.1**
MTN	**Manton Dam**	**6.07**	**166**	P	**Pn**	**03 52 12.4**	**+2.2**
KDU	**Kakadu**	**6.37**	**155**	P	**Pn**	**03 52 15.2**	**+1.0**
KNRA	**Kununurra**	**8.77**	**186**	P	**Pn**	**03 52 48.1**	**+1.3**
TOLI2	**Tolitoli**	**11.93**	**312**	P	**Pn**	**03 53 26.1**	**-3.5**
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=337,slow=13,SNR=44	**13.73**	**161**	Pn	**Pn**	**03 53 50.5**	**-2.8**
WRA	1.3nm,0.3s,baz=323,slow=24,SNR=9.3 1.3nm,0.4s			Sn	Sn	03 56 14.2	-10
COEN	**Coen**	**15.00**	**119**	P	**Pn**	**03 54 09.8**	**+0.1**
ASAR	**Alice Springs** 0.6nm,0.3s,baz=349,slow=11,SNR=20	**17.16**	**167**	P	**Pn**	**03 54 36.8**	**+0.3**
ASAR	1.3nm,0.6s,baz=359,slow=29,SNR=6.4 1.4nm,0.4s			S	**Sn**	**03 57 40.7**	**-6.6**
SONM	**Songino Array** 0.6nm,0.3s,baz=134,slow=8.3,SNR=2.9 0.6nm,0.3s	**58.25**	**342**	P	**P**	**04 00 29.9**	**+3.0**
MKAR	**Makanchi Array** 1.4nm,0.7s,baz=122,slow=8.0,SNR=15	**67.97**	**327**	P	**P**	**04 01 33.5**	**+2.4**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=122,slow=5.4,SNR=3.0 0.5nm,0.4s	**71.36**	**334**	P	**P**	**04 01 52.7**	**+1.0**

*IDC **17** 03:57:26.9±1.2,2˚.05S×128˚.30E, h0km, mb3.6/3, mbtmp3.6/5, ML3.5/2, MS2.9/4, Error ellipse: s-maj=40.1km s-min=23.2km az=66.0*
*DJA **17** 03:57:30.6±1.1,2˚.S±3˚×12˚.8E±˚, h20km±10km, M3.8/8, mb4.1/2, mB5.1/1, MLv3.6/8, Mw(mB)4.5/1*

ISC 17 03:57:32.1±1.0,**2˚.0S**±0˚.1×**128˚.42E**±0˚.06,**h34**km,**n12**, σ0ˢ**56**/13,**mb3.7**/3,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.43**	**159**	P	**Pn**	**03 57 56.0**	**+0.3**
AAI	**Ambon**	**1.69**	**187**	P	**Pn**	**03 58 00.0**	**+0.8**
NLAI	**Namlea**	**1.80**	**227**	P	**Pn**	**03 58 01.0**	**+0.3**
NLAI				S	**Sb**	**03 58 26.0**	**-0.7**
SIJI	**Sorong** 4.8nm,0.3s,baz=249,slow=17,SNR=14	**3.06**	**69**	Pn	**Pn**	**03 58 17.9**	**-0.3**
SIJI	4.2nm,0.3s,baz=95,slow=19,SNR=11			Sn	**Sn**	**03 58 53.8**	**+0.2**
SIJI	comp=Z,180nm,18.6s,baz=124,slow=52 14nm,0.2s			LR	LR	04 00 13.8	
FAKI	**Fak Fak**	**3.94**	**103**	P	**Pn**	**03 58 30.3**	**+0.2**
FAKI				S	**Sn**	**03 59 15.7**	**+0.5**
APSI	**Ampana**	**6.85**	**279**	P	**Pn**	**03 59 11.0**	**+0.8**
KAPI	**Kappang** comp=Z,42nm,19.1s,baz=138,slow=40	**9.15**	**251**	LR	LR	04 03 26.7	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=342,slow=13,SNR=4.7	**18.75**	**162**	P	**P**	**04 01 47.8**	**-0.5**
WRA	comp=Z,60nm,18.5s,baz=70,slow=39 0.4nm,0.6s			LR	LR	04 09 41.1	
ASAR	**Alice Springs** 0.9nm,0.4s,baz=344,slow=10.0,SNR=9.8 0.9nm,0.4s	**22.18**	**167**	P	**P**	**04 02 24.9**	**-0.7**
GUMO	**Guam** comp=Z,37nm,18.1s,baz=182,slow=40	**22.50**	**46**	LR	LR	04 12 19.7	
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=124,slow=7.5,SNR=6.1 0.6nm,0.8s	**63.21**	**326**	P	**P**	**04 07 56.7**	**-0.3**
KURBB	**Kurchatov Arra** 0.5nm,0.7s,baz=137,slow=5.5,SNR=7.0 0.5nm,0.7s	**67.45**	**328**	P	**P**	**04 08 24.6**	**+0.3**

*NEIC **17** 04:10:47.5±0.8,58˚.12N±0˚.05×136˚.83W±0˚.07, h1km±10km, Error ellipse: s-maj=7.8km s-min=5.7km az=185.0*
*AEIC **17** 04:10:48.9±1.0,58˚.17N±0˚.05×136˚.80W±0˚.09, h13km±7km, Error ellipse: s-maj=7.4km s-min=6.5km az=205.0*
*PGC **17** 04:10:49.5±0.4,58˚.24N×136˚.81W, h1km, ML3.4, ML3.4/12, 133km Wsw of Haines, Ak Southeastern Alaska*
*ANF **17** 04:10:49.4±0.3,58˚.19N×136˚.70W, h15km±2km, ML3.6/19, Error ellipse: s-maj=2.6km s-min=1.7km az=55.0*
*OTT **17** 04:10:49±1.3,58˚.24N±0˚.05×136˚.81W±0˚.04, h1km±2km, ML3.4, ML3.2(AEIC), ML3.5/41(NEIC), Error ellipse: s-maj=8.3km s-min=3.0km az=162.0*

ISC 17 04:10:48.2±1.3,**58˚.18N**±0˚.03×**136˚.82W**±0˚.03,**h4**km±11km, **n99**,σ1ˢ**86**/134,**Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican** baz=305,SNR=27	**0.38**	**124**	P	**Pg**	**04 10 56.0**	**+0.5**
S31K	baz=305			S	**Sg**	**04 11 01.3**	**+0.8**
R31K	**City Hall, Gus** baz=247,SNR=5.6	**0.62**	**67**	P	**Pb**	**04 11 00.5**	**-1.1**
R31K	baz=247			Sb	**Sg**	**04 11 09.0**	**+0.9**
BESE	**Bessie Mountai**	**1.11**	**68**		**Pn**	**04 11 09.1**	**-1.5**
BESE	**Bessie Mountai**	**1.11**	**68**		**Sb**	**04 11 23.8**	**-1.1**
BESE	**Bessie Mountai**	**1.11**	**68**	P	**Pn**	**04 11 09.1**	**-1.5**
BESE				S	**Sb**	**04 11 23.6**	**-1.3**
R32K	**Eaglecrest** baz=266,SNR=44	**1.22**	**84**	P	**Pn**	**04 11 11.0**	**-1.1**
R32K	baz=266			Sb	**Sb**	**04 11 27.0**	**-1.0**
JIS	**Juneau Island** comp=E,1μm,0.6s	**1.30**	**85**		**Pn**	**04 11 12.5**	**-0.5**
JIS				IAML		04 11 31.3	
JIS	**Juneau Island**	**1.30**	**85**		**Sn**	**04 11 29.2**	**-1.5**
PLBC	**Pleasant Camp**	**1.31**	**10**	P	**Pn**	**04 11 11.4**	**-1.8**
PLBC				S	**Sn**	**04 11 27.9**	**-3.2**
PLBC	**Pleasant Camp** baz=190,SNR=1000	**1.31**	**10**	P	**Pn**	**04 11 11.4**	**-1.8**
PLBC	baz=190			S	**Sn**	**04 11 27.8**	**-3.2**
SIT	**Sitka**	**1.38**	**144**	Pn	**Pn**	**04 11 13.3**	**-0.9**
SIT	**Sitka** baz=325	**1.38**	**144**	P	**Pn**	**04 11 13.1**	**-1.0**
SIT	baz=325			S	**Sn**	**04 11 31.7**	**-1.1**
SKAG	**Skagway**	**1.50**	**30**		**Pn**	**04 11 15.5**	**-0.4**
SKAG	comp=E,714nm,0.7s			IAML		04 11 40.0	
SKAG	**Skagway** baz=211,SNR=70	**1.50**	**30**	P	**Pn**	**04 11 15.2**	**-0.7**
SKAG	baz=211			Sb	**Sn**	**04 11 34.9**	**-1.0**
P30M	**Million Dollar**	**1.95**	**358**	Pn	**Pn**	**04 11 21.4**	**-0.7**
P30M				Sg	**Sb**	**04 11 47.8**	**-1.2**
P30M	**Million Dollar** baz=177	**1.95**	**358**	P	**Pn**	**04 11 21.7**	**-0.4**
P30M	baz=177			S	**Sn**	**04 11 46.8**	**-0.3**
PNL	**Peninsula**	**2.01**	**319**		**Pn**	**04 11 22.8**	**0.0**
PNL	**Peninsula**	**2.01**	**319**	Pn	**Pn**	**04 11 22.8**	**0.0**
PNL				Sg	**Sb**	**04 11 48.6**	**-1.9**
PNL	**Peninsula** baz=137,SNR=109	**2.01**	**319**	P	**Pn**	**04 11 22.9**	**0.0**
PNL	baz=137			S	**Sb**	**04 11 48.8**	**-1.7**
P32M	**Atlin**	**2.15**	**47**	Pn	**Pn**	**04 11 24.4**	**-0.5**
P32M				Sg	**Sb**	**04 11 55.4**	**+0.7**
P32M	**Atlin** baz=230,SNR=38	**2.15**	**47**	P	**Pn**	**04 11 24.0**	**-0.8**
P32M	baz=230			Sb	**Sb**	**04 11 54.5**	**-0.2**
BCPM	**Bancas Point**	**2.30**	**322**		**Pn**	**04 11 27.1**	**+0.2**
BCPM	comp=N,318nm,0.5s			IAML		04 12 03.4	
BCPM	comp=E,305nm,0.5s			IAML		04 12 05.8	
O29M	**Mount Kennedy**	**2.31**	**338**	Pn	**Pn**	**04 11 27.5**	**+0.4**
O29M				Sg	**Sb**	**04 11 57.2**	**-2.4**
O29M	**Mount Kennedy** baz=156	**2.31**	**338**	P	**Pn**	**04 11 27.8**	**+0.6**
O29M	baz=156			S	**Sn**	**04 11 56.9**	**+0.8**
YUK7	**Dusty Glacier**	**2.46**	**345**	Pn	**Pn**	**04 11 29.6**	**+0.4**
YUK7				Sg	**Sb**	**04 12 04.1**	**+0.4**
Q32M	**Nakina River** baz=253	**2.51**	**70**	Pb	**Pb**	**04 11 33.5**	**-0.5**
PINM	**Pinnacle** baz=136,SNR=15	**2.61**	**319**	P	**Pn**	**04 11 31.9**	**+0.7**
PCA	**Pinnacle**	**2.62**	**319**		**Pn**	**04 11 30.5**	**-0.7**
PCA	**Pinnacle**	**2.62**	**319**	Pn	**Pn**	**04 11 30.4**	**-0.9**
PCA				Sg	**Sb**	**04 12 05.7**	**-2.4**
O30N	**Mendenhall** baz=188,SNR=89	**2.63**	**8**	P	**Pn**	**04 11 30.8**	**-0.6**
O30N	baz=188			Sb	**Sb**	**04 12 09.4**	**+0.9**
HYT	**Haines Junctio**	**2.68**	**353**		**Pn**	**04 11 31.9**	**-0.3**
HYT	**Haines Junctio**	**2.68**	**353**	Pn	**Pn**	**04 11 32.4**	**+0.1**
HYT				Pg	**Pb**	**04 11 35.6**	**-1.1**
HYT				Sg	**Sb**	**04 12 10.2**	**+0.2**
HYT	**Haines Junctio** baz=172,SNR=20	**2.68**	**353**	P	**Pn**	**04 11 32.3**	**+0.1**
HYT	baz=172			Sb	**Sb**	**04 12 11.5**	**+1.5**
WHY	**Whitehorse**	**2.68**	**21**		**Pn**	**04 11 32.1**	**-0.1**
WHY	comp=E,133nm,0.5s			IAML		04 12 15.4	
WHY	**Whitehorse**	**2.68**	**21**	Pn	**Pn**	**04 11 32.0**	**-0.2**
WHY				Sg	**Sb**	**04 12 11.1**	**+1.0**
WHY	**Whitehorse** baz=202,SNR=45	**2.68**	**21**	P	**Pn**	**04 11 31.8**	**-0.4**
WHY	baz=202			Sb	**Sb**	**04 12 10.0**	**0.0**
SAMH	**Samovar Hills**	**2.83**	**316**		**Pn**	**04 11 34.0**	**-0.2**
SAMH	**Samovar Hills**	**2.83**	**316**	Pn	**Pn**	**04 11 35.4**	**+1.2**
YUK6	**Outpost Mounta**	**2.88**	**345**	Pn	**Pn**	**04 11 35.4**	**+0.3**
P33M	**Teslin, Yukon**	**2.90**	**44**	Pn	**Pn**	**04 11 36.1**	**+0.9**
P33M	**Teslin, Yukon**	**2.90**	**44**	Pn	**Pn**	**04 11 35.8**	**+0.6**
P33M				Pg	**Pb**	**04 11 41.1**	**+0.6**
P33M				Sg	**Sb**	**04 12 17.5**	**+1.2**
P33M	**Teslin, Yukon** baz=227,SNR=14	**2.90**	**44**	P	**Pn**	**04 11 35.8**	**+0.6**
P33M	baz=227			Sb	**Sb**	**04 12 15.9**	**-0.4**
WRAK	**Wrangell Islan**	**3.00**	**124**	Pn	**Pn**	**04 11 35.0**	**-1.4**
WRAK	comp=E,99nm,1.8s			IAML		04 12 32.1	
WRAK	comp=E,103nm,1.5s			IAML		04 12 36.3	
YUK5	**Granite Creek**	**3.01**	**350**	Pn	**Pn**	**04 11 37.6**	**+0.8**
S34M	**Telegraph Cree**	**3.04**	**93**	Pn	**Pn**	**04 11 37.8**	**+0.8**
S34M				Sg	**Sb**	**04 12 22.1**	**+2.0**
TABL	**Table Mountain**	**3.17**	**318**	Pn	**Pn**	**04 11 41.1**	**+2.1**
TABL	comp=N,131nm,4.1s			IAML		04 12 33.6	
TABL	comp=E,95nm,2.1s			IAML		04 12 51.1	
TABL	**Table Mountain**	**3.17**	**318**	Pn	**Pn**	**04 11 39.5**	**+0.5**
R33M	**Jennings River**	**3.29**	**66**	Pn	**Pn**	**04 11 40.9**	**+0.4**
R33M				Sg	**Sb**	**04 12 29.8**	**+2.4**
R33M	**Jennings River** baz=250	**3.29**	**66**	P	**Pn**	**04 11 40.5**	**0.0**
YUK4	**Talbot Arm**	**3.31**	**345**	Pn	**Pn**	**04 11 40.0**	**-0.9**
MESA	**MESA**	**3.32**	**309**	Pn	**Pn**	**04 11 40.6**	**-0.3**
MESA	**MESA**	**3.32**	**309**	Pn	**Pn**	**04 11 40.1**	**-0.9**
N31M	**Braeburn, Yuko**	**3.36**	**9**		**Pn**	**04 11 42.1**	**+0.6**
N31M	comp=E,117nm,0.7s			IAML		04 12 37.2	
N31M	comp=N,90nm,0.6s			IAML		04 12 46.6	
N31M	**Braeburn, Yuko**	**3.36**	**9**	Pn	**Pn**	**04 11 41.2**	**-0.3**
N31M				Sg	**Sb**	**04 12 32.8**	**+3.3**
N31M	**Braeburn, Yuko** baz=189,SNR=13	**3.36**	**9**	P	**Pn**	**04 11 42.6**	**+1.1**
DLBC	**Dease Lake**	**3.60**	**83**	Pn	**Pn**	**04 11 44.9**	**+0.1**
DLBC	comp=N,96nm,1.0s			IAML		04 12 45.1	
DLBC	comp=E,78nm,0.6s			IAML		04 12 46.0	
DLBC	**Dease Lake**	**3.60**	**83**	Pn	**Pn**	**04 11 45.0**	**+0.3**
DLBC				Sg	**Sb**	**04 12 39.7**	**+3.4**
DLBC	**Dease Lake** baz=269	**3.60**	**83**	P	**Pn**	**04 11 44.8**	**+0.1**
ISLE	**Juniper Island**	**3.73**	**313**	Pn	**Pn**	**04 11 46.7**	**+0.2**
ISLE	comp=E,114nm,4.4s			IAML		04 12 52.2	
T35M	**Bob Quinn**	**3.74**	**106**	Pn	**Pn**	**04 11 45.5**	**-1.1**
T35M				Sg	**Sb**	**04 12 45.0**	**+4.7**
BARN	**Barnard Glacie**	**3.79**	**322**		**Pn**	**04 11 47.4**	**-0.2**
BARN	**Barnard Glacie** comp=E,49nm,1.8s	**3.79**	**322**	IAML		04 12 43.4	
WAX	**Waxell Ridge**	**3.84**	**309**	Pn	**Pn**	**04 11 47.1**	**-0.9**
KHIT	**Khitrov Hills**	**4.00**	**307**		**Pn**	**04 11

s-min=0.0km az=133.5, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**206**	P	Pb	04 19 42.2	-0.8
KHZ				S	Sb	04 19 47.9	-0.9
BSWZ	**Blackbirch Sta**	**0.38**	**14**	P	Pg	04 19 42.3	+0.6
BSWZ				S	Sg	04 19 47.9	+1.2
TUWZ	**Tuamarina**	**0.67**	**12**	P	Pb	04 19 47.7	-0.5
TUWZ				S	Sb	04 19 57.5	-0.1
THZ	**Tophouse**	**0.71**	**297**	P	Pg	04 19 48.3	+0.4
THZ				S	Sg	04 19 57.9	+0.7
NNZ	**Nelson**	**0.91**	**342**	P	Pg	04 19 51.7	-0.1
TCW	**Tory Channel**	**0.96**	**24**	P	Pg	04 19 52.4	-0.3
MRNZ	**Matariki Terra**	**1.01**	**312**	P	Pb	04 19 54.0	0.0
GVZ	**Greta Valley S**	**1.03**	**211**	P	Pg	04 19 53.8	-0.2
WEL	**Wellington**	**1.11**	**84**	P	Pg	04 19 55.0	-0.4
TKNZ	**Takaka Hill**	**1.21**	**330**	P	Pn	04 19 57.5	0.0
PLWZ	**Palliser**	**1.24**	**66**	P	Pb	04 19 55.8	-2.0
DUWZ	**D'Urville Isla**	**1.29**	**6**	P	Pn	04 19 58.1	-0.5
LTZ	**Lake Taylor**	**1.30**	**237**	P	Pn	04 19 58.0	-0.7
CAW	**Cannon Point**	**1.39**	**46**	P	Pn	04 19 58.2	-1.7
PAWZ	**Paruwai Farm**	**1.44**	**61**	P	Pn	04 19 58.5	-2.1
DSZ	**Dennistoun Nort**	**1.49**	**283**	P	Pb	04 20 02.2	-0.1
KIW	**Kapiti Island**	**1.50**	**36**	P	Pn	04 20 00.6	-0.9
QRZ	**Quartz Range**	**1.56**	**323**	P	Pb	04 20 03.4	0.0
MTW	**Mount Morrison**	**1.61**	**55**	P	Pn	04 20 00.7	-2.2
OGWZ	**Otaki Gorge**	**1.66**	**40**	P	Pn	04 20 02.3	-1.3
OKCZ	**Okains Bay**	**1.71**	**197**	P	Pn	04 20 01.9	-2.5
OXZ	**Oxford**	**1.77**	**225**	P	Pn	04 20 03.3	-1.9
HOWZ	**Holdsworth Sta**	**1.78**	**49**	P	Pn	04 20 03.3	-2.0
MQZ	**McQueen's Vall**	**1.81**	**206**	P	Pn	04 20 02.9	-2.8
INZ	**Inchbonnie**	**1.82**	**249**	P	Pn	04 20 05.9	0.0
AKCZ	**Akaroa Harbour**	**1.89**	**199**	P	Pn	04 20 04.6	-2.2
MRZ	**Mangatainoka R**	**1.98**	**45**	P	Pn	04 20 06.1	-1.9
RACZ	**Rakaia**	**2.02**	**215**	P	Pn	04 20 06.1	-2.5
MHCZ	**Mount Hutt**	**2.16**	**227**	P	Pn	04 20 08.7	-1.9
WACZ	**Wakanui South**	**2.33**	**216**	P	Pn	04 20 10.8	-2.0
ARCZ	**Arundel**	**2.65**	**225**	P	Pn	04 20 15.5	-1.8
ODZ	**Otahua Downs**	**3.72**	**216**	P	Pn	04 20 29.3	-2.6

KRSC 17 04:36:45.8±1.4, 48°43N×155°39E, h21km±24km, MI3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**3.80**	**26**	*eP*	Pn	04 37 46.2	+3.2
KDTR				*eS*	Sn	04 38 30.8	+3.8
GRL	**Gorelyy**	**4.47**	**22**	*eP*	Pn	04 37 56.7	+4.3
GRL				*eS*	Sn	04 38 49.4	+5.7
UGLR	**Uglovaya**	**5.26**	**23**	*eP*	Pn	04 38 08.3	+5.1
KOK	**Koryaka**	**5.28**	**22**	*eP*	Pn	04 38 07.9	+4.4
SMAR	**Somma**	**5.30**	**23**	*eP*	Pn	04 38 08.2	+4.4
GNL	**Ganaly**	**5.51**	**16**	*eP*	Pn	04 38 10.6	+3.9

WEL 17 04:50:45.7±0.4, 42°S±3°×17°4E±°, h10km±3km, M2.7/13, ML3.0/18, MLv2.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=123.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**218**	P	Pb	04 50 52.4	-0.2
KHZ				S	Sb	04 50 56.8	-0.5
BSWZ	**Blackbirch Sta**	**0.49**	**10**	P	Pg	04 50 55.7	+0.4
BSWZ				S	Sg	04 51 02.7	+0.9
CMWZ	**Cape Campbell**	**0.56**	**36**	P	Pb	04 50 58.2	+0.6
THZ	**Tophouse**	**0.78**	**304**	P	Pg	04 50 59.8	-0.9
TUWZ	**Tuamarina**	**0.78**	**10**	P	Pb	04 51 01.1	-0.3
GVZ	**Greta Valley S**	**0.94**	**211**	P	Pn	04 51 04.6	-0.3
NNZ	**Nelson**	**1.03**	**344**	P	Pg	04 51 04.4	-1.0
TCW	**Tory Channel**	**1.06**	**21**	P	Pg	04 51 05.8	-0.3
MRNZ	**Matariki Terra**	**1.10**	**316**	P	Pb	04 51 06.2	-0.6
LTZ	**Lake Taylor**	**1.25**	**242**	P	Pn	04 51 08.8	-0.4
AMCZ	**Amberley**	**1.27**	**220**	P	Pn	04 51 09.1	-0.4
PLWZ	**Palliser**	**1.28**	**61**	P	Pn	04 51 09.1	-0.5
TKNZ	**Takaka Hill**	**1.32**	**332**	P	Pn	04 51 09.5	-0.6
DUWZ	**D'Urville Isla**	**1.41**	**5**	P	Pn	04 51 11.4	0.0
CAW	**Cannon Point**	**1.47**	**42**	P	Pn	04 51 11.9	-0.3
PAWZ	**Paruwai Farm**	**1.49**	**57**	P	Pn	04 51 11.7	-0.8
DSZ	**Dennistoun Nort**	**1.53**	**287**	P	Pb	04 51 14.2	+0.1
KIW	**Kapiti Island**	**1.59**	**33**	P	Pn	04 51 14.0	+0.1
OKCZ	**Okains Bay**	**1.60**	**199**	P	Pn	04 51 13.4	-0.7
QRZ	**Quartz Range**	**1.66**	**326**	P	Pn	04 51 15.4	+0.5
MTW	**Mount Morrison**	**1.67**	**52**	P	Pn	04 51 14.2	-0.7
OXZ	**Oxford**	**1.70**	**228**	P	Pn	04 51 14.1	-1.3
MQZ	**McQueen's Vall**	**1.71**	**208**	P	Pn	04 51 13.9	-1.6
OGWZ	**Otaki Gorge**	**1.74**	**45**	P	Pn	04 51 15.6	-0.3
AKCZ	**Akaroa Harbour**	**1.78**	**200**	P	Pn	04 51 15.5	-1.0
INZ	**Inchbonnie**	**1.79**	**252**	P	Pn	04 51 16.7	0.0
RACZ	**Rakaia**	**1.94**	**218**	P	Pn	04 51 17.2	-1.4
MRZ	**Mangatainoka R**	**2.06**	**42**	P	Pn	04 51 19.6	-0.7
MHCZ	**Mount Hutt**	**2.09**	**230**	P	Pn	04 51 19.3	-1.5
WACZ	**Wakanui South**	**2.24**	**218**	P	Pn	04 51 21.7	-1.0
ARCZ	**Arundel**	**2.58**	**227**	P	Pn	04 51 26.0	-1.4
WAZ	**Wanganui**	**2.62**	**21**	P	Pb	04 51 34.1	+1.5
TMZ	**Timaru**	**2.97**	**222**	P	Pn	04 51 31.8	-1.1
TRVZ	**Turoa**	**3.20**	**26**	P	Pb	04 51 41.7	-1.1
ODZ	**Otahua Downs**	**3.63**	**218**	P	Pn	04 51 40.3	-1.6

*IDC **17** 04:54:00.9±1.0, 13°.75S×166°.71E, h0km, mb4.2/12, mbtmp4.1/12, MS3.9/26, Error ellipse: s-maj=35.2km s-min=20.8km az=120.0*
*NEIC **17** 04:54:03.5±1.7, 13°.7S±0°.1×166°.51E±0°.06, h10km±2km, mb4.6/12, Error ellipse: s-maj=19.0km s-min=9.5km az=175.0*
ISC 17 04:54:07.0±0.7, 13°.72S±0°.07×166°.5E±0°.1, h39km, n60, σ1§48/36, mb4.3/17, MS3.9/25, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**7.12**	**197**		**Pn**	**04 55 51.2**	**+2.5**
HNR	**Honiara**	**7.73**	**303**	LR	LR	04 58 37.9	
	comp=Z,5μm,19.3s,baz=146,slow=35						
DZM	**Mont Dzumac**	**8.31**	**181**	eLR	LR	04 58 29.0	
	comp=Z,700nm,23.6s						
DZM	**Mont Dzumac**	**8.31**	**181**	Pn	**Pn**	**04 56 06.1**	**+1.1**
	0.3nm,0.3s,baz=298,slow=17,SNR=0.9						
DZM				Sn	**Sn**	**04 57 39.5**	**+1.9**
	0.2nm,0.3s,baz=120,slow=21,SNR=1.7						
DZM				LR	LR	04 58 13.6	
	comp=Z,153nm,18.2s,baz=24,slow=30						
DZM	**Mont Dzumac**	**8.31**	**181**	Pn	**Pn**	**04 56 04.9**	**-0.1**
OUENC	**Ouen Island, N**	**8.66**	**178**	Pn	**Pn**	**04 56 06.0**	**-3.8**
MSVF	**Nonsavu**	**11.79**	**111**	LR	LR	05 00 26.4	
	comp=Z,440nm,20.1s,baz=277,slow=33						
EIDS	**Eidsvold**	**18.59**	**229**	P	**Pn**	**04 58 23.2**	**+1.7**
PMG	**Port Moresby**	**19.45**	**281**	LR	LR	05 05 01.3	
	comp=Z,160nm,20.4s,baz=40,slow=34						
PMG	**Port Moresby**	**19.45**	**281**		**Pn**	**04 58 31.5**	**-0.5**
CTA	**Charters Tower**	**20.40**	**249**	LR	LR	05 05 52.2	
	comp=Z,226nm,18.4s,baz=74,slow=35						
CTAO	**Charters Tower**	**20.40**	**249**	P	**P**	**04 58 36.6**	**-4.2**
CTAO				IAmb	IAmb	04 58 58.2	
	comp=Z,20nm,0.9s						
AFI	**Afiamalu**	**21.07**	**93**	LR	LR	05 04 52.7	
	comp=Z,180nm,19.3s,baz=266,slow=31						
URZ	**Urewera**	**26.18**	**161**	LR	LR	05 08 39.9	
	comp=Z,241nm,19.7s,baz=50,slow=34						
STKA	**Stephens Creek**	**29.12**	**227**	P	**P**	**05 00 06.0**	**+1.7**
	comp=Z,2.6nm,0.7s,baz=21,slow=9.4,SNR=5.2						
STKA				LR	LR	05 11 54.4	
	comp=Z,314nm,18.3s,baz=42,slow=37						
	comp=Z,2.6nm,0.7s						
STKA	**Stephens Creek**	**29.12**	**227**	P	**P**	**05 00 03.8**	**-0.5**
WB0	**Warramunga Arr**	**31.32**	**255**	P	**P**	**05 00 23.3**	**-0.7**
WB0				IAmb	IAmb	05 00 36.9	
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**31.39**	**254**	P	**P**	**05 00 24.2**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=85,slow=8.7,SNR=9.0						
WRA				LR	LR	05 13 00.3	
	comp=Z,440nm,18.1s,baz=70,slow=36						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**32.38**	**247**	P	**P**	**05 00 33.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=70,slow=10,SNR=16						
ASAR				LR	LR	05 14 05.0	
	comp=Z,194nm,18.1s,baz=98,slow=37						
	comp=Z,1.2nm,0.7s						
RAR	**Rarotonga**	**32.94**	**108**	LR	LR	05 11 12.2	
	comp=Z,137nm,20.8s,baz=267,slow=32						
BBOO	**Buckleboo**	**33.65**	**230**	P	**P**	**05 00 42.1**	**-2.1**
SIJI	**Sorong**	**37.16**	**287**	LR	LR	05 16 56.3	
	comp=Z,181nm,20.2s,baz=246,slow=37						
BATI	**Baumata**	**42.04**	**270**	LR	LR	05 20 10.2	
	comp=Z,207nm,18.7s,baz=182,slow=37						
PPT2	**Papeete2**	**42.37**	**101**	eLR	LR	05 14 16.3	
	comp=Z,88nm,22.0s						
TBI	**Tubuai**	**42.67**	**110**	eLR	LR	05 14 24.3	
	comp=Z,709nm,26.2s						
TBI				eLR	LR	05 14 24.3	
	comp=Z,3μm,22.2s						
NWAO	**Narrogin (SRO)**	**48.66**	**238**	LR	LR	05 24 17.0	
	comp=Z,71nm,18.2s,slow=37						
TAOE	**Nuku Hiva Isla**	**52.43**	**91**	eLR	LR	05 18 47.1	
	comp=Z,169nm,23.9s						
ASAJ	**Asahikawa**	**61.56**	**341**	LR	LR	05 27 41.3	
	comp=Z,45nm,20.3s,baz=162,slow=33						
KSRS	**Korea Array**	**52.51**	**326**	LR	LR	05 28 52.6	
	comp=Z,19nm,20.7s,baz=90,slow=33						
INCN	**Inchon**	**63.24**	**325**	P	**P**	**05 04 31.2**	**-0.4**
VNDA	**Vanda**	**63.85**	**181**	P	**P**	**05 04 34.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=35,slow=2.6,SNR=3.2						
	comp=Z,0.3nm,0.7s						
USA0B	**Ussuriysk Arra**	**65.67**	**333**	P	**P**	**05 04 46.6**	**-0.7**
USRK	**Ussuriysk Ar.**	**65.67**	**333**	P	**P**	**05 04 47.8**	**+0.5**
	comp=Z,5.8nm,0.8s,baz=142,slow=6.8,SNR=8.2						
	comp=Z,5.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**65.67**	**333**	P	**P**	**05 04 46.9**	**-0.4**
PETK	**Petropavlovsk-**	**66.99**	**354**	LR	LR	05 29 09.8	
	comp=Z,66nm,19.0s,baz=124,slow=32						
MDJ	**Mudanjiang**	**67.06**	**332**	P	**P**	**05 04 56.8**	**+0.5**
MDJ				IAmb	IAmb	05 04 58.4	
	comp=Z,8.9nm,1.0s						
KLR	**Kul'dur**	**69.80**	**337**	P	**P**	**05 05 14.3**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=136,slow=5.0,SNR=10.0						
	comp=Z,2.4nm,0.7s						
BJT	**Baijiatuau**	**71.03**	**321**	P	**P**	**05 05 20.6**	**-0.4**
BJT				IAmb	IAmb	05 05 36.1	
	comp=Z,8.3nm,1.2s						
CMAR	**Chiang Mai Arr**	**73.89**	**294**	P	**P**	**05 05 40.1**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=122,slow=4.4,SNR=7.9						
	comp=Z,1.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**73.89**	**294**	P	**P**	**05 05 37.8**	**-0.7**
MA2	**Magadan**	**74.15**	**352**	LR	LR	05 34 46.3	
	comp=Z,37nm,18.7s,baz=146,slow=33						
HIA	**Hailar**	**75.06**	**330**	P	**P**	**05 05 45.4**	**+0.7**
HIA				IAmb	IAmb	05 05 46.4	
	comp=Z,8.0nm,1.0s						
SEY	**Seymchan**	**77.20**	**353**	P	**P**	**05 05 59.2**	**+2.8**
	comp=Z,1.5nm,0.5s,baz=148,slow=6.0,SNR=9.4						
KDAK	**Kodiak Island**	**78.78**	**21**	LR	LR	05 37 07.7	
	comp=Z,235nm,18.1s,baz=158,slow=33						
YAK	**Yakutsk**	**80.86**	**343**	LR	LR	05 41 02.1	
	comp=Z,43nm,19.0s,baz=82,slow=35						
SONM	**Songino Array**	**81.27**	**324**	P	**P**	**05 06 20.0**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=138,slow=5.5,SNR=7.4						
	comp=Z,1.5nm,1.0s						
SONM	**Songino Array**	**81.27**	**324**	P	**P**	**05 06 19.8**	**+0.5**
SONM				IAmb	IAmb	05 06 21.3	
	comp=Z,7.5nm,1.4s						
MAW	**Mawson**	**82.55**	**202**	LR	LR	05 37 07.5	
	comp=Z,79nm,20.6s,baz=100,slow=31						
ILAR	**Eielson Array**	**85.80**	**18**	P	**P**	**05 06 40.6**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=233,slow=5.6,SNR=26						
ILAR				LR	LR	05 40 57.8	
	comp=Z,115nm,18.5s,baz=158,slow=33						
	comp=Z,1.2nm,0.5s						
PFO	**Pinyon Flats O**	**86.99**	**55**	LR	LR	05 41 07.6	
	comp=Z,131nm,18.2s,baz=310,slow=32						
ELK	**Elko**	**90.15**	**48**	LR	LR	05 40 08.7	
	comp=Z,79nm,19.3s,baz=316,slow=31						
SNAA	**Sanae**	**94.51**	**183**	LR	LR	05 48 26.3	
	comp=Z,282nm,18.3s,baz=354,slow=35						
ANMO	**Albuquerque**	**95.32**	**55**	LR	LR	05 44 19.9	
	comp=Z,60nm,18.7s,baz=32,slow=32						
MKAR	**Makanchi Array**	**95.98**	**317**	P	**P**	**05 07 29.6**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=92,slow=7.4,SNR=8.1						
	comp=Z,1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**96.16**	**324**	P	**P**	**05 07 30.8**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=96,slow=6.0,SNR=4.9						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**96.98**	**27**	P	**P**	**05 07 34.1**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=264,slow=5.2,SNR=2.2						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**119.10**	**345**	PKP	**PKPdf**	**05 12 50.5**	**-0.6**
	comp=Z,4.7nm,0.9s,baz=33,slow=1.9,SNR=6.0						
FINES	**FINESS Array B**	**124.53**	**338**	PKP	**PKiKP**	**05 13 02.6**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=111,slow=3.6,SNR=4.1						
KEST	**Kesra**	**149.98**	**321**	PKPbc	**PKPbc**	**05 13 53.9**	**0.0**
	comp=Z,10nm,1.0s,baz=284,slow=4.2,SNR=5.1						
ESDC	**Sonseca Array**	**152.82**	**344**	PKPbc	**PKiKP**	**05 14 00.9**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=7.3,slow=3.5,SNR=2.5						

*JMA **17** 04:59:44.0±0.1, 33°.7N±0°.1×132°.2E±0°.2, h55km, MV3.2/32, IYONADA SETONAIKAI*
JMA Felt I J1 at IYONADA SETONAIKAI .
*IDC **17** 04:59:44.3±2.0, 33°.65N×132°.02E, h68km±25km, mb3.6/1, mbtmp3.6/3, MS3.3/1, Error ellipse: s-maj=53.6km s-min=21.2km az=151.0*
ISC 17 04:59:43.6±1.1, 33°.69N±0°.05×132°.13E±0°.05, h54km±9km, n13, σ0§71/17, 5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.32**	**114**	P	**Pn**	**04 59 53.5**	**+0.1**
JNA				S	**Sn**	**05 00 00.3**	**0.0**
JKD	**Kudamatsu**	**0.42**	**330**	P	**Pn**	**04 59 54.6**	**+0.3**
JKD				S	**Sn**	**05 00 02.3**	**+0.2**
JHM	**Kurahashi**	**0.56**	**36**	P	**Pn**	**04 59 55.7**	**-0.2**
JHM				S	**Sn**	**05 00 04.5**	**-0.2**
UWA2	**Uwa jima 2**	**0.63**	**139**	⇓P	**Pn**	**04 59 57.1**	**+0.4**
UWA2				⇓S	**Sn**	**05 00 06.8**	**+0.6**
JET	**Tanbara**	**0.77**	**83**	⇓P	**Pn**	**04 59 58.4**	**-0.1**
JKU	**Kubokawa**	**0.86**	**116**	⇓P	**Pn**	**04 59 59.6**	**-0.1**
JTO	**Tosashimizu**	**1.00**	**146**	⇓P	**Pn**	**05 00 01.9**	**+0.4**
JHT	**Toyohira**	**1.00**	**14**	P	**Pn**	**05 00 02.0**	**+0.4**
JNU	**Nakatsue**	**1.19**	**242**	P	**Pn**	**05 00 04.9**	**+0.8**
	89nm,0.3s,baz=43,slow=4.0,SNR=122						
JNU				S	**Sn**	**05 00 18.7**	**-0.6**
	108nm,0.3s,baz=22,slow=19,SNR=20						
KSRS	**Korea Array**	**5.09**	**319**	P	**Pn**	**05 00 58.0**	**+0.7**
	0.4nm,0.3s,baz=136,slow=15,SNR=1.9						
MJAR	**Matsushiro Arr**	**5.74**	**59**	P	**Pn**	**05 01 07.9**	**+1.7**
	9.4nm,0.5s,baz=242,slow=13,SNR=19						
JCJ	**Chichijima**	**10.88**	**124**	LR	LR	05 05 48.9	
	comp=Z,180nm,21.0s,baz=257,slow=33						
FINES	**FINESS Array B**	**68.08**	**330**	P	**P**	**05 10 36.2**	**-1.0**
	1.1nm,0.9s,baz=52,slow=9.0,SNR=4.3						
	1.1nm,0.9s						

IDC 17 05:12:38.9±6.6, 23°.60S×178°.41E, h513km±43km, mb3.0/3, mbtmp3.9/4, Error ellipse: s-maj=137.9km s-min=36.0km az=138.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.85**	**357**	P	P	05 14 14.6	0.0
	2.9nm,0.3s,baz=170,slow=9.5,SNR=4.8						
STKA	**Stephens Creek**	**33.49**	**248**	P	P	05 18 34.6	-0.7
	1.0nm,0.4s,baz=95,slow=11,SNR=3.9						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**40.65**	**261**	P	P	05 19 33.9	-0.4
	0.3nm,0.4s,baz=95,slow=7.9,SNR=6.3						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**40.97**	**266**	P	P	05 19 37.2	+0.3
	1.7nm,0.6s,baz=97,slow=8.3,SNR=18						
	1.7nm,0.6s						
BRTR	**Keskin Array B**	**146.24**	**307**	PKPbc	PKPbc	05 31 21.2	-0.8
	0.2nm,0.4s,baz=62,slow=4.0,SNR=3.6						

*IDC **17** 05:17:47.9±1.6, 15°.77S×173°.24W, h0km, mb3.8/4, mbtmp3.8/5, ML3.4/1, MS2.3/1, Error ellipse: s-maj=62.8km s-min=23.4km az=131.0*
ISC 17 05:17:52.4±1.3, 15°.8S±0°.3×173°.1W±0°.3, h35km, n5, σ1§91/6, mb3.7/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**35**	Pn	**Pn**	**05 18 25.6**	**-1.1**
	9.1nm,0.3s,baz=170,slow=3.8,SNR=8.7						
AFI				LR	LR	05 18 44.0	
	comp=Z,69nm,20.0s,baz=146,slow=24						
AFI				Sn	**Sn**	**05 18 52.4**	**-0.5**
	32nm,0.3s,baz=36,slow=21,SNR=21						
	20nm,0.3s						
URZ	**Urewera**	**24.04**	**199**	P	**P**	**05 23 03.9**	**-0.2**
	17nm,1.1s,baz=34,slow=7.8,SNR=3.1						
	17nm,1.1s						
WRA	**Warramunga Arr**	**50.07**	**257**	P	**P**	**05 26 43.3**	**-0.9**
	0.3nm,0.6s,baz=91,slow=6.7,SNR=5.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**50.30**	**252**	P	**P**	**05 26 45.0**	**-0.9**
	1.0nm,0.7s,baz=87,slow=8.1,SNR=12						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**82.72**	**11**	P	**P**	**05 30 14.9**	**+2.8**
	0.2nm,0.6s,baz=224,slow=6.8,SNR=6.0						
	0.2nm,0.6s						

*ECX **17** 05:27:55.5±0.3, 27°.48N×111°.34W, h18km±12km, MD2.3, ML2.5*
*MEX **17** 05:27:55.8±0.5, 27°.35N×111°.25W, h17km±712km, MD3.5*
ISC 17 05:27:54.1±1.5, 27°.43N±0°.09×111°.34W±0°.07, h12km±13km, n7, σ0§87/12, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.63**	**41**	*eP*	**Pg**	**05 28 06.4**	**0.0**
GUYB				*eS*	**Sg**	**05 28 14.5**	**-0.1**
GUYB				⇓*e*		05 28 15.3	
GUYB				IAML		05 28 15.3	
	comp=N,229nm,0.2s						
GUYB				⇑*e*		05 28 15.4	
GUYB				IAML		05 28 15.4	
	comp=E,310nm,0.2s						
GUYB	**Guaymas**	**0.63**	**41**	*eP*	**Pg**	**05 28 06.3**	**0.0**
GUYB				*eS*	**Sg**	**05 28 14.1**	**-0.5**
SRIG	**Santa Rosalia**	**0.81**	**263**	*eP*	**Pb**	**05 28 09.9**	**-0.1**
SRIG				*eS*	**Sb**	**05 28 20.9**	**0.0**
SRIG	**Santa Rosalia**	**0.81**	**263**	*eP*	**Pb**	**05 28 09.8**	**-0.2**
SRIG				*eS*	**Sb**	**05 28 20.2**	**-0.7**
HSIG		**1.62**	**12**	*eP*	**Pn**	**05 28 24.3**	**+1.8**
HSIG				*eS*	**Sn**	**05 28 42.1**	**-1.3**
NE80	**Navojoa**	**1.95**	**105**	*eP*	**Pn**	**05 28 27.6**	**+0.7**
NOVRB	**El Novillo Son**	**2.13**	**44**	*eP*	**Pn**	**05 28 29.6**	**+0.3**

*NEIC **17** 05:28:01.4±0.5, 17°.83N±0°.02×65°.63W±0°.02, h19km±2km, ML2.9/27, Md3.5/26(RSPR), Error ellipse: s-maj=3.7km s-min=1.5km az=220.0*
*RSPR **17** 05:28:03.0, 17°.90N×65°.63W, h7km, MD3.5/15*
ISC 17 05:28:02.5±1.0, 17°.99N±0°.05×65°.63W±0°.03, h30km±6km, n52, σ0§49/51, 10C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.13**	**33**	⇑*iP*	**Pb**	**05 28 08.0**	**0.0**
MTP	**Monte Pirata**	**0.13**	**33**	*eS*	**Sb**	**05 28 11.7**	**0.0**
MTP	**Monte Pirata**	**0.13**	**33**		**Pb**	**05 28 08.0**	**0.0**
MTP					**Sb**	**05 28 11.7**	**0.0**
MTP	**Monte Pirata**	**0.13**	**33**	IAML		05 28 12.6	
	comp=E,2μm,0.3s						
MTP				IAML		05 28 12.9	
	comp=N,2μm,0.2s						
HUMP	**Col San Antoni**	**0.26**	**306**	⇑*iP*	**Pb**	**05 28 09.5**	**+0.1**
HUMP	**Col San Antoni**	**0.26**	**306**	*eS*	**Sn**	**05 28 14.7**	**-0.7**
HUMP	**Col San Antoni**	**0.26**	**306**		**Pb**	**05 28 09.5**	**+0.1**
HUMP					**Sn**	**05 28 14.7**	**-0.7**
HUMP	**Col San Antoni**	**0.26**	**306**	IAML		05 28 15.5	
	comp=N,1μm,0.2s						
CBYP	**Canovanas**	**0.36**	**322**	⇑*eP*	**Pn**	**05 28 11.4**	**-0.4**
CBYP	**Canovanas**	**0.36**	**322**	*eS*	**Sn**	**05 28 17.7**	**-0.1**
CBYP	**Canovanas**	**0.36**	**322**		**Pn**	**05 28 11.4**	**-0.4**
CBYP					**Sn**	**05 28 17.7**	**-0.1**
CBYP	**Canovanas**	**0.36**	**322**	IAML		05 28 20.9	
	comp=N,2μm,0.2s						
CBYP				IAML		05 28 21.9	
	comp=E,1μm,0.2s						
CUPR	**Culebra, Puert**	**0.46**	**46**	⇓*iP*	**Pn**	**05 28 13.0**	**0.0**
CUPR	**Culebra, Puert**	**0.46**	**46**	*eS*	**Sn**	**05 28 20.7**	**+0.6**
CUPR	**Culebra, Puert**	**0.46**	**46**		**Pn**	**05 28 13.0**	**0.0**
CUPR					**Sn**	**05 28 20.7**	**+0.6**
CUPR	**Culebra, Puert**	**0.46**	**46**	IAML		05 28 21.3	
	comp=E,597nm,0.4s						
CUPR				IAML		05 28 21.8	
	comp=N,408nm,0.2s						
IGPR	**InterUniversit**	**0.46**	**267**	⇑*eP*	**Pb**

baz=208
SONM Songino Array 67.31 328 P **P** **05 41 35.9 +0.3**
0.4nm,0.6s,baz=126,slow=4.6,SNR=2.4
0.4nm,0.6s
MKAR Makanchi Array 81.34 319 P **P** **05 42 57.4 +0.2**
0.3nm,0.5s,baz=90,slow=5.8,SNR=4.8
0.3nm,0.5s
TORD Torodi Ar. Bea 151.24 287 PKPbc **PKPbc** **05 50 34.5 -0.4**
0.6nm,0.3s,baz=74,slow=2.1,SNR=6.0

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*IDC **17** 05:39:32.7±2.6,5.°99S×153.°45E, h0km, mb3.6/4, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=58.2km s-min=25.9km az=91.0*
ISC 17 05:39:37.9±2.4, 6.°0S±0.°2×153.°4E±0.°3, h32km, n5, σ0.°71/6, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.15**	**322**	Pn		**Pn**	**05 40 10.7**	**-0.8**
	7.2nm,0.3s,baz=233,slow=20,SNR=1.2							
KRVT				Sn		**Sn**	**05 40 37.8**	**+0.7**
	22nm,0.3s,baz=248,slow=23,SNR=8.1							
	28nm,0.4s							
WRA	**Warramunga Arr**	**23.09**	**231**	P		**P**	**05 44 41.0**	**-0.1**
	1.0nm,0.9s,baz=57,slow=9.6,SNR=8.0							
	1.0nm,0.9s							
ASAR	**Alice Springs**	**25.65**	**225**	P		**P**	**05 45 05.0**	**0.0**
	0.7nm,0.7s,baz=57,slow=9.0,SNR=6.3							
	0.7nm,0.7s							
MKAR	**Makanchi Array**	**81.60**	**319**	P		**P**	**05 51 53.4**	**+0.6**
	0.3nm,0.5s,baz=89,slow=7.2,SNR=4.3							
	0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**82.46**	**326**	P		**P**	**05 51 57.1**	**+0.1**
	0.5nm,0.3s,baz=92,slow=4.6,SNR=4.1							
	0.5nm,0.3s							

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*IDC **17** 05:52:08.5±12.0, 18.°50N×146.°36E, h282km±132km, mb3.2/5, mbtmp4.0/6, Error ellipse: s-maj=228.3km s-min=79.1km az=52.0*
ISC 17 05:52:10.0±3.6, 18.°4N±0.°2×146.°2E±0.°9, h300km, n6, σ0.°73/6, mb3.4/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**4.91**	**195**	P		**Pn**	**05 53 26.5**	**-0.1**
	87nm,0.5s,baz=319,slow=21,SNR=4.0							
SONM	**Songino Array**	**43.71**	**321**	P		**P**	**05 59 46.4**	**+0.2**
	0.4nm,0.6s,baz=136,slow=6.9,SNR=4.3							
	0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**58.57**	**323**	P		**P**	**06 01 34.5**	**-1.1**
	0.4nm,0.3s,baz=110,slow=8.7,SNR=2.9							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**59.04**	**314**	P		**P**	**06 01 39.3**	**+0.3**
	0.6nm,0.6s,baz=92,slow=8.5,SNR=5.2							
	0.6nm,0.6s							
BVAR	**Borovoye Array**	**67.04**	**321**	P		**P**	**06 02 31.7**	**+0.4**
	1.4nm,0.5s,baz=100,slow=6.6,SNR=9.3							
	1.4nm,0.5s							
FINES	**FINESS Array B**	**87.39**	**335**	P		**P**	**06 04 23.4**	**+0.1**
	0.5nm,0.4s,baz=76,slow=6.1,SNR=5.8							
	0.5nm,0.4s							

IDC 17 06:08:52.0±3.0, 41.°73N×126.°98E, h0km, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=39.8km s-min=15.1km az=106.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**4.33**	**170**	Pn		Pn	06 09 58.1	-1.1
	0.5nm,0.3s,baz=352,slow=13,SNR=2.3							
KSRS				Pg		Pb	06 10 11.6	+2.6
	2.0nm,0.3s,baz=349,slow=18,SNR=13							
KSRS				Lg		Lg	06 11 10.5	
	5.9nm,0.3s,baz=350,slow=30,SNR=14							
	0.9nm,0.3s							
I45RU	**USSURIYSK INFR**	**4.42**	**54**	I		I	06 35 20.0	
	0.1nm,0.7s,baz=237,slow=330,SNR=6.6							
USRK	**Ussuriysk Ar.**	**4.43**	**54**	Pn		Pn	06 10 02.1	+1.7
	0.3nm,0.3s,baz=236,slow=14,SNR=1.8							
USRK				Pg		Pb	06 10 12.3	+1.7
	1.2nm,0.3s,baz=238,slow=16,SNR=6.7							
USRK				Lg		Lg	06 11 12.0	
	2.7nm,0.3s,baz=236,slow=27,SNR=7.1							
	1.6nm,0.5s							
KLR	**Kul'dur**	**8.21**	**22**	Pn		Pn	06 10 52.0	-0.3
	0.4nm,0.3s,baz=208,slow=13,SNR=5.7							
KLR				Lg		Lg	06 13 12.6	
	0.2nm,0.3s,baz=190,slow=13,SNR=4.9							
	0.8nm,0.3s							

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*SOME **17** 06:10:58.0, 42.°43N×81.°33E, h0km*
NNC 17 06:10:59.2±7.7, 41.°39N×78.°00E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=105.7km s-min=45.3km az=105.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UZB	**Uzynbulak**	**1.91**	**23**	Pg		Pn	06 11 33.6	+0.5
	4.7nm,0.4s							
UZB				Lg		Lg	06 11 59.2	
	3.6nm,0.4s							
UZB	**Uzynbulak**	**1.91**	**23**	*e*P		Pn	06 11 33.6	+0.5
	4.7nm,0.4s							
UZB				*e*S		Sb	06 11 59.2	-0.3
	3.6nm,0.4s							
KPKS	**Kokpek**	**2.13**	**13**	Pg		Pb	06 11 38.7	-0.1
	3.2nm,0.3s							
KPKS				Lg		Lg	06 12 08.2	
	5.0nm,0.3s							
KPKS	**Kokpek**	**2.13**	**13**	*e*Pg		Pb	06 11 38.7	-0.1
	3.2nm,0.3s							
KPKS				*e*Lg		Lg	06 12 08.2	
	5.0nm,0.3s							
BLB	**Baldybastay**	**2.73**	**7**	Pg		Pb	06 11 48.3	-0.6
	2.1nm,0.4s							
BLB				Lg		Lg	06 12 24.4	
	4.0nm,0.9s							

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*MEX **17** 06:14:17.9±0.6, 27.°36N×111.°26W, h16km±999km, MD3.9*
*ECX **17** 06:14:17.7±0.8, 27.°52N×111.°38W, h20km±8km, MD3.6, ML3.8*
ISC 17 06:14:13.6±1.6, 27.°43N±0.°04×111.°30W±0.°04, h6km±13km, n14, σ1.°924/22, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUYB	**Guaymas**	**0.60**	**39**	*e*P		**Pn**	**06 14 28.1**	**-0.5**
GUYB				*e*S		**Sb**	**06 14 36.3**	**+1.1**
GUYB				IAML			06 14 37.4	
	comp=N,8μm,0.5s							
GUYB	**Guaymas**	**0.60**	**39**	*e*P		**Pn**	**06 14 28.4**	**-0.2**
GUYB				*e*S		**Sb**	**06 14 35.6**	**+0.4**
SRIG	**Santa Rosalia**	**0.84**	**263**	*e*P		**Pn**	**06 14 31.7**	**-0.3**
SRIG				*e*S		**Sb**	**06 14 42.7**	**+0.6**
SRIG	**Santa Rosalia**	**0.84**	**263**	*e*P		**Pn**	**06 14 31.7**	**-0.3**
SRIG				*i* S		**Sb**	**06 14 42.0**	**-0.2**
SNIRB	**San Nicol¡s**	**0.91**	**194**	*e*P		**Pn**	**06 14 35.1**	**+2.2**
HSIG		**1.61**	**11**	*e*P		**Pg**	**06 14 44.3**	**-0.2**
HSIG				*e*S		**Sb**	**06 15 04.6**	**+0.2**
HSIG				IAML			06 15 10.0	
	comp=E,563nm,0.5s							
HSIG				⇑*e*			06 15 10.0	
HSIG		**1.61**	**11**	*e*P		**Pb**	**06 14 43.3**	**-0.5**
HSIG				*e*S		**Sn**	**06 15 03.4**	**-0.3**
SFQB	**San Francisqui**	**1.69**	**305**	*e*P		**Pn**	**06 14 42.7**	**-0.8**
NE80	**Navojoa**	**1.92**	**105**	*e*P		**Pg**	**06 14 50.3**	**0.0**
NOVRB	**El Novillo Son**	**2.10**	**44**	*e*P		**Pb**	**06 14 50.8**	**-1.3**
BAHB	**Baha de los**	**2.50**	**308**	*e*P		**Pn**	**06 14 54.0**	**-0.8**
CSIG	**Choix**	**2.68**	**102**	*e*P		**Pb**	**06 14 59.5**	**-2.5**
CSIG				*e*S		**Sn**	**06 15 30.9**	**+0.8**
LAPR	**La Primavera**	**3.18**	**344**	*e*P		**Pn**	**06 15 05.5**	**+1.3**
NZIG	**Nacozari, Sono**	**3.31**	**27**	*e*P		**Pg**	**06 15 19.9**	**+2.9**
NZIG				*e*S		**Sg**	**06 15 59.3**	**-0.5**
NZIG				IAML			06 16 01.2	
	comp=E,302nm,0.5s							
NZIG				⇑*e*			06 16 01.2	
NZIG				⇓*e*			06 16 06.1	
NZIG				IAML			06 16 06.1	
	comp=N,294nm,0.5s							

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*IDC **17** 06:15:60.0±1.5, 67.°89N×19.°67E, h0km, mbtmp2.8/3, ML1.8/3, Error ellipse: s-maj=22.2km s-min=11.6km az=110.0*
*UPP **17** 06:16:02.7±0.1, 67.°83N×20.°21E, h0km, ML2.2, Confirmed Induced event*
*HEL **17** 06:16:03.4±0.0, 67.°83N×20.°20E, h1km, ML1.8, ML2.2(UPP), Confirmed Induced event*
*BER **17** 06:16:05.3±1.7, 67.°90N×20.°29E, h0km±9km, ML1.8, Confirmed Induced event*
ISC 17 06:16:01.9±0.8, 67.°83N±0.°02×20.°28E±0.°03, h0km, n33, σ0.°49/50, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.26**	**270**	P		**Pg**	**06 16 07.4**	**+0.5**
RATU				S		**Sg**	**06 16 10.6**	**+0.4**
RATU	**Laukkuluspa**	**0.26**	**270**	*i* P		**Pg**	**06 16 07.4**	**+0.5**
RATU				*i* S		**Sg**	**06 16 10.6**	**+0.4**
NIKU	**Nikkaluokta**	**0.47**	**276**	P		**Pg**	**06 16 11.2**	**+0.3**
NIKU				S		**Sg**	**06 16 17.3**	**+0.3**
NIKU	**Nikkaluokta**	**0.47**	**276**	*i* P		**Pg**	**06 16 11.2**	**+0.3**
NIKU				*i* S		**Sg**	**06 16 17.3**	**+0.3**
LANU	**Lannavaara**	**0.68**	**70**	P		**Pb**	**06 16 16.1**	**-0.6**
LANU	**Lannavaara**	**0.68**	**70**	*e*P		**Pb**	**06 16 16.1**	**-0.6**
LANU				*e*S		**Sb**	**06 16 25.5**	**-1.1**
DUNU	**Dundret**	**0.72**	**171**	P		**Pb**	**06 16 16.3**	**-0.9**
DUNU	**Dundret**	**0.72**	**171**	*i* P		**Pb**	**06 16 16.3**	**-0.9**
MASU	**Masugnsbyn**	**0.75**	**119**	P		**Pb**	**06 16 17.4**	**-0.5**
MASU	**Masugnsbyn**	**0.75**	**119**	*i* P		**Pb**	**06 16 17.4**	**-0.5**
SALU	**Saltoluokta**	**0.81**	**237**	P		**Pg**	**06 16 17.6**	**+0.2**
SALU	**Saltoluokta**	**0.81**	**237**	*i* P		**Pg**	**06 16 17.6**	**+0.2**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P		**Pn**	**06 16 25.6**	**-0.2**
KIF				*e*S		**Sb**	**06 16 41.9**	**+0.4**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P		**Pn**	**06 16 25.6**	**-0.2**
KIF				*e*S		**Sb**	**06 16 41.6**	**+0.1**
KIF				MSG			06 16 45.1	
	comp=Z,9.4nm,0.1s							
PAJU	**Pajala**	**1.36**	**125**	P		**Pb**	**06 16 28.1**	**-0.1**
PAJU	**Pajala**	**1.36**	**125**	*e*P		**Pb**	**06 16 28.0**	**-0.1**
PAJU				*e*S		**Sn**	**06 16 46.2**	**-0.6**
HEF	**Hetta**	**1.40**	**64**	*e*P		**Pb**	**06 16 28.7**	**0.0**
HEF				*e*S		**Sn**	**06 16 47.4**	**-0.2**
HEF	**Hetta**	**1.40**	**64**	*e*P		**Pb**	**06 16 28.8**	**+0.1**
HEF				*e*S		**Sn**	**06 16 47.2**	**-0.4**
HEF				MSG			06 16 52.9	
	comp=Z,6.1nm,0.1s							
ERTU	**Ertsjaerv**	**1.48**	**149**	P		**Pb**	**06 16 30.0**	**-0.2**
ERTU	**Ertsjaerv**	**1.48**	**149**	*e*P		**Pb**	**06 16 30.0**	**-0.2**
ERTU				*e*S		**Sn**	**06 16 49.5**	**-0.2**
KTK1	**Kautokeino**	**1.62**	**41**	*e*P		**Pb**	**06 16 32.5**	**0.0**
KTK1				*e*Sg		**Sg**	**06 16 53.9**	**+0.2**
KTK1				IAML			06 16 57.6	
	comp=Z,14nm,0.3s							
KTK1	**Kautokeino**	**1.62**	**41**	*e*P		**Pb**	**06 16 32.3**	**-0.2**
KTK1				*e*S		**Sg**	**06 16 53.8**	**+0.1**
HARU	**Harads**	**1.69**	**170**	P		**Pb**	**06 16 33.6**	**-0.2**
HARU	**Harads**	**1.69**	**170**	*e*P		**Pb**	**06 16 33.6**	**-0.2**
JETT	**Jettan, Norway**	**1.74**	**1**	*e*P		**Pb**	**06 16 34.3**	**-0.3**
JETT				*e*S		**Sn**	**06 16 56.0**	**-0.2**
JETT				IAML			06 17 00.5	
	comp=Z,35nm,0.4s							
TRO	**Tromso**	**1.88**	**345**	*e*		**Pb**	**06 16 36.6**	**-0.4**
TRO				*e*Sg		**Sb**	**06 17 00.6**	**-0.4**
TRO	**Tromso**	**1.88**	**345**	*e*S		**Sb**	**06 17 00.7**	**-0.4**
FAUS	**Fauske**	**1.96**	**259**	*e*P		**Pb**	**06 16 37.8**	**-0.6**
FAUS				*e*S		**Sb**	**06 17 02.6**	**-0.8**
FAUS				IAML			06 17 05.7	
	comp=Z,13nm,0.3s							
KALU	**Kalix**	**2.32**	**147**	*e*P		**Pb**	**06 16 43.4**	**-1.1**
KALU				*e*SB		**Sb**	**06 17 13.8**	**+0.1**
TOF	**Tornio**	**2.37**	**136**	*e*PB		**Pb**	**06 16 44.6**	**-0.7**
TOF				MSG			06 17 17.7	
	comp=Z,5.2nm,0.2s							
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn		**Pn**	**06 16 45.1**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=232,slow=14,SNR=39							
ARCES				Lg		Lg	06 17 18.7	
	comp=Z,1.3nm,0.3s,baz=233,slow=22,SNR=14							
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**6.87**	**156**	Pn		**Pn**	**06 17 44.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=1.9							
FINES				Sn		**Sn**	**06 19 03.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=337,slow=19,SNR=1.8							
FINES				Lg		Lg	06 19 38.4	
	comp=Z,0.3nm,0.3s,baz=338,slow=22,SNR=5.6							
	comp=Z,1.5nm,0.8s							
NOA	**NORSAR Array B**	**7.85**	**214**	Pn		Pn	06 17 51.1	-6.1
	baz=25,slow=14,SNR=2.1							
NOA				Lg		Lg	06 20 07.5	
	baz=149,slow=16,SNR=1.6							
	comp=Z,0.3nm,0.7s							

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*ISK **17** 06:19:09.2, 37.°46N×22.°10E, h3km, ML3.9/24*
*BEO **17** 06:19:09.7±0.6, 37.°25N×21.°75E, h5km±3km, ML3.8/12*
*ATH **17** 06:19:11.2, 37.°42N×22.°04E, h4km±1km, ML3.8/22, Error ellipse: s-maj=1.5km s-min=0.7km az=254.0*
*THE **17** 06:19:11.1, 37.°41N×22.°04E, h12km±2km, ML4.0/11, Error ellipse: s-maj=2.2km s-min=0.6km az=233.0*
*IDC **17** 06:19:14.2±1.6, 37.°43N×22.°18E, h48km±19km, mb3.5/14, mbtmp3.7/20, ML3.6/6, MS3.0/10, Error ellipse: s-maj=16.9km s-min=12.8km az=57.0*
ISC 17 06:19:10.4±0.9, 37.°46N±0.°02×22.°05E±0.°02, h14km±6km, n183, σ1.°80/223, mb3.8/13, MS3.0/3, 11C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ITM	**Ithomi**	**0.30**	**200**	P		**Pg**	**06 19 16.5**	**-0.1**
ITM				S		**Sg**	**06 19 20.1**	**-0.7**
	80μm,0.5s							
ITM	**Ithomi**	**0.30**	**200**	Pg		**Pg**	**06 19 16.3**	**-0.3**
ITM				Sg		**Sg**	**06 19 20.9**	**+0.1**
ITM	**Ithomi**	**0.30**	**200**	P		**Pg**	**06 19 16.5**	**-0.1**
ITM				S		**Sg**	**06 19 20.4**	**-0.4**
ITM				AML		AML	06 19 21.1	
ITM				AML		AML	06 19 21.4	
KLMT	**Kalamata**	**0.40**	**179**	P		**Pg**	**06 19 18.4**	**0.0**
KLMT				S		**Sg**	**06 19 24.3**	**+0.6**
	24μm,0.3s							
DRO	**Drossia**	**0.56**	**331**	P		**Pb**	**06 19 22.2**	**+0.1**
DRO				S		**Sb**	**06 19 31.7**	**+1.7**
	23μm,0.4s							
DRO	**Drossia**	**0.56**	**331**	P		**Pb**	**06 19 22.1**	**+0.1**
DRO				S		**Sb**	**06 19 31.1**	**+1.0**
DRO				AML		AML	06 19 37.1	
	comp=N,48680μm,0.5s							
DRO				AML		AML	06 19 38.8	
	comp=E,42764μm,0.6s							
KLV	**Kalavryta, Ach**	**0.59**	**7**	P		**Pb**	**06 19 22.4**	**-0.2**
KLV				S		**Sb**	**06 19 32.9**	**+2.1**
	comp=E,8μm,0.5s							
KLV	**Kalavryta, Ach**	**0.59**	**7**	P		**Pb**	**06 19 22.3**	**-0.3**
KLV				S		**Sb**	**06 19 32.5**	**+1.6**
KLV				AML		AML	06 19 32.6	
	comp=E,16931μm,0.6s							
KLV				AML		AML	06 19 35.3	
	comp=N,14822μm,0.3s							
PYL	**PYLOS**	**0.61**	**204**	P		**Pg**	**06 19 21.7**	**-0.7**
PYL				S		**Sg**	**06 19 30.7**	**+0.1**
	comp=N,13μm,0.5s							
PYL	**PYLOS**	**0.61**	**204**	P		**Pg**	**06 19 21.7**	**-0.7**
PYL				S		**Sg**	**06 19 30.3**	**-0.2**
PYL				AML		AML	06 19 30.9	
	comp=N,24826μm,0.5s							
PYL				AML		AML	06 19 31.6	
	comp=E,27728μm,0.5s							
THAL	**Thalero**	**0.75**	**40**	P		**Pb**	**06 19 25.8**	**+0.5**
THAL				S		**Sn**	**06 19 37.9**	**0.0**
	comp=E,20μm,0.5s							
THAL	**Thalero**	**0.75**	**40**	P		**Pb**	**06 19 25.5**	**+0.2**
THAL				S		**Sn**	**06 19 37.8**	**0.0**
THAL				AML		AML	06 19 43.0	
	comp=N,30557μm,0.6s							
THAL				AML		AML	06 19 44.8	
	comp=E,40680μm,0.5s							
RLS	**Riolos of Patr**	**0.76**	**322**	P		**Pb**	**06 19 25.5**	**+0.1**
RLS				S		**Sb**	**06 19 37.9**	**+2.3**
	comp=E,7μm,0.4s							
RLS	**Riolos of Patr**	**0.76**	**322**	P		**Pb**	**06 19 25.5**	**+0.1**
RLS				S		**Sb**	**06 19 37.3**	**+1.7**
RLS				AML		AML	06 19 40.0	
	comp=N,14292μm,0.5s							
RLS				AML		AML	06 19 40.7	
	comp=E,13087μm,0.3s							
LAKA	**Lakka**	**0.78**	**356**	P		**Pb**	**06 19 25.6**	**-0.3**
LAKA				S		**Sn**	**06 19 39.0**	**+0.3**
	comp=E,22μm,0.6s							
LAKA	**Lakka**	**0.78**	**356**	P		**Pb**	**06 19 25.7**	**-0.1**
LAKA				S		**Sn**	**06 19 38.9**	**+0.2**
LAKA				AML		AML	06 19 43.0	
	comp=E,11183μm,0.4s							
LAKA				AML		AML	06 19 44.4	
	comp=N,12000μm,0.9s							
ALIK	**Aliki, Aigiali**	**0.80**	**3**	P		**Pb**	**06 19 26.4**	**+0.3**
ALIK				S		**Sn**	**06 19 40.7**	**+1.6**
EPID	**Epidavros**	**0.86**	**79**	P		**Pb**	**06 19 27.5**	**+0.3**
EPID	**Epidavros**	**0.86**	**79**	P		**Pb**	**06 19 28.3**	**+1.1**
KRND	**KRANIDI**	**0.88**	**95**	P		**Pb**	**06 19 27.9**	**+0.5**
KRND				S		**Sn**	**06 19 41.7**	**+0.8**
	comp=N,4μm,0.4s							
KRND	**KRANIDI**	**0.88**	**95**	P		**Pb**	**06 19 27.7**	**+0.3**
KRND				S		**Sb**	**06 19 40.3**	**+1.3**
KRND				AML		AML	06 19 44.1	
	comp=E,5322μm,0.5s							
KRND				AML		AML	06 19 45.0	
	comp=N,10878μm,0.5s							
LOUT	**Loutraki**	**0.90**	**54**	P		**Pn**	**06 19 29.0**	**+0.3**
LOUT				S		**Sn**	**06 19 42.2**	**+0.6**
SERG	**Sergoula**	**0.95**	**0**	P		**Pn**	**06 19 29.8**	**+0.4**
SERG				S		**Sb**	**06 19 43.0**	**+1.8**
SERG				AML		AML	06 19 49.2	
	comp=E,8916μm,0.2s							
SERG				AML		AML	06 19 57.4	
	comp=N,9367μm,0.5s							
EFP	**Efpalio**	**0.97**	**353**	P		**Pb**	**06 19 29.5**	**+0.4**
EFP				S		**Sn**	**06 19 44.1**	**+0.8**
EFP				AML		AML	06 19 47.8	
	comp=N,5868μm,0.3s							
EFP				AML		AML	06 19 51.3	
	comp=E,10054μm,0.6s							
LTHK	**Lithakia**	**1.00**	**285**	P		**Pg**	**06 19 29.0**	**-0.7**
LTHK				S		**Sn**	**06 19 45.5**	**+1.6**
	comp=E,12μm,0.4s							
LTHK	**Lithakia**	**1.00**	**285**	P		**Pg**	**06 19 29.2**	**-0.5**
LTHK				S		**Sb**	**06 19 44.0**	**+1.5**
LTHK				AML		AML	06 19 50.8	
	comp=N,20177μm,0.4s							
LTHK				AML		AML	06 19 51.2	
	comp=E,24434μm,0.5s							
VLI	**Veliai**	**1.02**	**136**	P		**Pg**	**06 19 29.4**	**-0.7**
VLI				S		**Sb**	**06 19 44.3**	**+1.1**
	comp=E,4μm,0.6s							
VLI	**Veliai**	**1.02**	**136**	P		**Pg**	**06 19 29.6**	**-0.6**
VLI				AML		AML	06 19 48.5	
	comp=E,9165μm,0.6s							
VLI				AML		AML	06 19 53.6	
	comp=N,6658μm,0.7s							
DLFA	**Delphi**	**1.08**	**19**	P		**Pb**	**06 19 31.1**	**+0.3**
MNVA	**Monemvasia**	**1.10**	**134**	P		**Pg**	**06 19 31.5**	**-0.1**
YDRA	**Hydra**	**1.13**	**95**	P		**Pb**	**06 19 32.0**	**+0.3**
ANX	**Ano Chora**	**1.14**	**355**	P		**Pb**	**06 19 32.5**	**+0.6**
ANX				S		**Sn**	**06 19 48.5**	**+1.0**
ANX				AML		AML	06 20 00.7	
	comp=E,11942μm,0.6s							
ANX				AML		AML	06 20 01.1	
	comp=N,13555μm,0.6s							
VIL2	**Platees**	**1.22**	**52**	P		**Pn**	**06 19 34.4**	**+1.3**
VIL2				S		**Sn**	**06 19 51.2**	**+1.7**
VIL2				AML		AML	06 19 53.7	
	comp=E,6445μm,0.9s							
VIL2				AML		AML	06 19 55.0	
	comp=N,3635μm,0.5s							
PVO	**Paravola**	**1.23**	**340**	P		**Pb**	**06 19 33.9**	**+0.5**
PSDA	**Pessada-Kefalo**	**1.34**	**300**	P		**Pg**	**06 19 35.5**	**-0.6**
VLS	**Valsamata**	**1.36**	**302**	P		**Pb**	**06 19 36.4**	**+0.7**
VLS				AML		AML	06 20 01.6	
	comp=N,4573μm,0.4s							
VLS				AML		AML	06 20 08.3	
	comp=E,3910μm,0.9s							
AXAR	**Agios Charalam**	**1.39**	**20**	P		**Pb**	**06 19 36.9**	**+0.7**
AXAR				AML		AML	06 20 07.8	
	comp=N,12084μm,1.1s							
AXAR				AML		AML	06 20 08.4	
	comp=E,16866μm,0.7s							
ATH	**Athens Observa**	**1.42**	**68**	P		**Pb**	**06 19 37.5**	**+0.9**
ATH				AML		AML	06 20 04.4	
	comp=N,3010μm,0.6s							
ATH				AML		AML	06 20 04.6	
	comp=E,3982μm,0.6s							
VLY	**Voula,Athens**	**1.44**	**74**	P		**Pb**	**06 19 37.6**	**+0.6**
ATHU	**Athens Univers**	**1.46**	**69**	P		**Pn**	**06 19 37.5**	**+1.0**
EVR	**Evrytania**	**1.47**	**353**	P		**Pb**	**06 19 38.3**	**+0.8**
KEF4	**Livadi, Kephal**	**1.52**	**302**	P		**Pn**	**06 19 37.8**	**+0.6**
KEF3	**Kipouria, Keph**	**1.54**	**299**	P		**Pb**	**06 19 39.3**	**+0.5**
FSK	**Fiskardo**	**1.54**	**311**	P		**Pn**	**06 19 39.1**	**+1.5**
FSK				AML		AML	06 20 08.9	
	comp=N,2274μm,0.4s							
FSK				AML		AML	06 20 11.0	
	comp=E,3196μm,0.4s							
PTL	**Penteli**	**1.55**	**67**	P		**Pb**	**06 19 39.4**	**+0.4**
PTL				AML		AML	06 20 08.2	
	comp=N,2914μm,0.5s							
PTL				AML		AML	06 20 09.9	
	comp=E,2416μm,0.5s							
MAKR	**Makrakomi, Fth**	**1.55**	**2**	P		**Pg**	**06 19 39.7**	**-0.5**
MAKR				AML		AML	06 20 11.1	
	comp=N,9031μm,1.0s							
MAKR				AML		AML	06 20 13.4	
	comp=E,7130μm,0.8s							
AGG	**Agios Georgios**	**1.58**	**8**	Pn		**Pg**	**06 19 40.1**	**-0.6**
AGG				Sn		**Sg**	**06 20 00.4**	**-0.8**
AGG	**Agios Georgios**	**1.58**	**8**	P		**Pb**	**06 19 39.7**	**+0.4**
EVGI	**Lefkada island**	**1.60**	**317**	P		**Pb**	**06 19 40.0**	**+0.2**
DION	**Dionisos Attik**	**1.61**	**67**	P		**Pb**	**06 19 40.4**	**+0.4**
DION				AML		AML	06 20 07.5	
	comp=N,3576μm,1.0s							
DION				AML		AML	06 20 07.5	
	comp=E,3525μm,0.3s							
LKD2	**Lefkada island**	**1.73**	**321**	P		**Pn**	**06 19 40.9**	**+0.8**
TSLK	**Tsoukalades, L**	**1.75**	**321**	P		**Pn**	**06 19 42.0**	**+1.5**
EREA	**Eretria**	**1.77**	**57**	P		**

VAY				*e*Sn		**Sn**	**06 20 59.4**	**+4.4**
VAY	**Valandovo**	**3.88**	**6**	*i* Pn		**Pn**	**06 20 12.0**	**+2.4**
BOZC	**Bozcaada**	**3.93**	**52**	Pn		**Pn**	**06 20 12.1**	**+1.7**
GADA	**Gvkgeada**	**4.06**	**47**	Pn		**Pn**	**06 20 12.9**	**+0.8**
EZN	**Ezine**	**4.09**	**53**	Pn		**Pn**	**06 20 14.1**	**+1.5**
STIP	**Stip**	**4.23**	**1**	*i* Pn		**Pn**	**06 20 17.5**	**+3.0**
STIP				*i* Sn		**Sb**	**06 21 11.6**	**-3.9**
TIR	**Tirane**	**4.24**	**337**	*e*Pn		**Pn**	**06 20 14.7**	**+0.1**
TIP	**Timpagrande**	**4.50**	**294**	⇑P		**Pn**	**06 20 19.9**	**+1.6**
GELI	**Tayfur-Gelibol**	**4.53**	**48**	Pn		**Pn**	**06 20 19.7**	**+1.2**
RDO	**Rodhopi**	**4.57**	**35**	Pn		**Pn**	**06 20 20.8**	**+1.7**
ENEZ	**Enez**	**4.57**	**43**	Pn		**Pn**	**06 20 21.2**	**+2.1**
ALN	**Alexandroupoli**	**4.63**	**41**	Pn		**Pn**	**06 20 21.7**	**+1.8**
LPK	**Lapseki**	**4.68**	**50**	Pn		**Pn**	**06 20 22.9**	**+2.2**
ERIK	**Erikli-Kesan**	**4.72**	**46**	Pn		**Pn**	**06 20 23.1**	**+1.9**
PRVS	**Prvonek**	**5.04**	**0**	*e*Pn		**Pn**	**06 20 29.7**	**+4.0**
PRVS	**Prvonek**	**5.04**	**0**	*e*Pg		**Pg**	**06 20 44.9**	**-2.1**
DRME	**Dracevica, Mon**	**5.21**	**336**	*e*Pn		**Pn**	**06 20 29.0**	**+1.0**
MATE	**Matera**	**5.24**	**309**	⇑P		**Pn**	**06 20 29.1**	**+0.8**
BARS	**Barje**	**5.35**	**358**	*e*Pn		**Pn**	**06 20 33.4**	**+3.5**
BARS				*e*Sn		**Sn**	**06 21 36.5**	**+5.1**
PDG	**Podgorica**	**5.41**	**337**	⇑P		**Pn**	**06 20 33.6**	**+2.9**
PDG				⇓S		**Sn**	**06 21 38.7**	**+6.0**
PDG	**Podgorica**	**5.41**	**337**	*e*Pn		**Pn**	**06 20 33.6**	**+2.9**
PDG				*e*Sn		**Sn**	**06 21 34.3**	**+1.6**
EDRB	**Edirne**	**5.68**	**38**	Pn		**Pn**	**06 20 36.7**	**+2.3**
HCY	**Herceg Novi**	**5.68**	**332**	*e*Pn		**Pn**	**06 20 31.7**	**-2.7**
SELS	**Selova**	**5.80**	**353**	*e*Pn		**Pn**	**06 20 37.9**	**+1.9**
SELS	**Selova**	**5.80**	**353**	*e*Pg		**Pb**	**06 20 55.3**	**+4.0**
TREB	**Trebinje**	**5.97**	**333**	*e*Pn		**Pn**	**06 20 38.9**	**+0.5**
TREB				*e*Sn		**Sn**	**06 21 46.0**	**-0.5**
TREB	**Trebinje**	**5.97**	**333**	*e*Pn		**Pn**	**06 20 38.1**	**-0.3**
SJES	**Sjenica**	**6.01**	**345**	*e*Pn		**Pn**	**06 20 41.3**	**+2.3**
SJES	**Sjenica**	**6.01**	**345**	*e*Pg		**Pb**	**06 20 59.0**	**+4.0**
SJES				*e*Sn		**Sn**	**06 21 50.1**	**+2.4**
BRY	**Bratogost**	**6.07**	**335**	*e*Pn		**Pn**	**06 20 39.3**	**-0.5**
BOVS	**Bovan**	**6.17**	**358**	⇑P		**Pn**	**06 20 43.8**	**+2.6**
BOVS	**Bovan**	**6.17**	**358**	*e*Pn		**Pn**	**06 20 43.4**	**+2.2**
UPM	**Unac-Piva**	**6.22**	**338**	*e*Pn		**Pn**	**06 20 44.9**	**+2.9**
PLVB	**Pleven**	**6.24**	**17**	⇓P		**Pn**	**06 20 45.9**	**+3.9**
IVAS	**Ivanjica**	**6.28**	**347**	*e*Pn		**Pn**	**06 20 43.8**	**+1.1**
IVAS				*e*Sn		**Sn**	**06 21 54.5**	**+0.2**
ZAGS	**Zajecar**	**6.35**	**1**	*e*Pn		**Pn**	**06 20 45.3**	**+1.8**
STON	**Ston**	**6.35**	**330**	*e*Pn		**Pn**	**06 20 43.5**	**-0.1**
STON				*e*Sn		**Sn**	**06 21 55.5**	**-0.4**
STON	**Ston**	**6.35**	**330**	*e*Pn		**Pn**	**06 20 43.2**	**-0.4**
RUDO	**Rudo**	**6.48**	**342**	*e*Pn		**Pn**	**06 20 45.8**	**+0.4**
GRUS	**Gruza**	**6.50**	**351**	*e*Pn		**Pn**	**06 20 47.4**	**+1.7**
GRUS				*e*Sn		**Sn**	**06 22 03.0**	**+3.4**
BBLS	**Lazići**	**6.71**	**343**	*e*Pn		**Pn**	**06 20 49.8**	**+1.2**
BBLS				*e*Sn		**Sn**	**06 22 05.6**	**+0.8**
DIVS	**Divibare**	**6.81**	**347**	*e*Pn		**Pn**	**06 20 51.4**	**+1.4**
DIVS				*e*Sn		**Sn**	**06 22 06.6**	**-0.9**
DIVS	**Divibare**	**6.81**	**347**	*e*Pn		**Pn**	**06 20 50.5**	**+0.5**
TRUS	**Trudelj**	**6.87**	**350**	*e*Pn		**Pn**	**06 20 52.7**	**+1.9**
TRUS				*e*Sn		**Sn**	**06 22 08.8**	**+0.1**
HAPS	**Han Pijesak,Bl**	**7.03**	**341**	*e*Pn		**Pn**	**06 20 53.3**	**+0.3**
TEKS	**Tekeris**	**7.34**	**346**	*e*Pn		**Pn**	**06 20 57.3**	**+0.2**
TEKS				*e*Sn		**Sn**	**06 22 20.4**	**+0.2**
TEKS	**Tekeris**	**7.34**	**346**	*e*Pn		**Pn**	**06 20 56.1**	**-1.0**
HERR	**Herculane**	**7.42**	**2**	⇑P		**Pn**	**06 21 01.5**	**+3.3**
SRKY	**Kupres RS**	**7.57**	**332**	*e*Pn		Pn	06 20 55.0	-5.4
FRGS	**Fruska Gora**	**7.88**	**348**	⇑P		**Pn**	**06 21 07.4**	**+2.9**
FRGS	**Fruska Gora**	**7.88**	**348**	*e*Pn		**Pn**	**06 21 07.0**	**+2.5**
FRGS				*e*Sn		**Sn**	**06 22 32.3**	**-1.1**
FRGS	**Fruska Gora**	**7.88**	**348**	*e*Pn		**Pn**	**06 21 06.1**	**+1.6**
MGRS	**Mrkonjic Grad**	**7.90**	**333**	*e*Pn		**Pn**	**06 21 05.5**	**+0.6**
BLY	**Banja Luka**	**8.16**	**335**	*e*Pn		**Pn**	**06 21 09.2**	**+0.8**
BLY	**Banja Luka**	**8.16**	**335**	*e*Pn		**Pn**	**06 21 07.6**	**-0.8**
A050A	**Klekovaca**	**8.16**	**331**	*e*Pn		**Pn**	**06 21 09.2**	**+0.7**
A051A	**Mrakovica**	**8.48**	**334**	*e*Pn		**Pn**	**06 21 12.0**	**-0.9**
MLR	**Muntele Rosu**	**8.54**	**19**	P		**Pn**	**06 21 15.7**	**+1.9**
	comp=E,0.6nm,0.3s,baz=154,slow=16,SNR=3.1							
MLR				LR		LR	06 24 42.0	
	comp=E,153nm,18.5s,baz=313,slow=38							
	comp=E,4.4nm,0.8s							
MLR	**Muntele Rosu**	**8.54**	**19**	⇑P		**Pn**	**06 21 18.0**	**+4.3**
DOPR	**Dopca**	**8.86**	**15**	⇑P		**Pn**	**06 21 22.1**	**+4.1**
COVR	**Voineasa-Covas**	**8.94**	**19**	⇑P		**Pn**	**06 21 23.1**	**+4.1**
VRI	**Vrincioaia**	**9.10**	**21**	⇑P		**Pn**	**06 21 25.3**	**+4.0**
MORH	**Mrgy. Hungar**	**9.11**	**345**	*e*Pn		**Pn**	**06 21 22.6**	**+1.2**
MARR	**Marisel-Cluj**	**9.24**	**5**	⇓P		**Pn**	**06 21 27.6**	**+4.2**
BRTR	**Keskin Array B**	**9.35**	**72**	P		**Pn**	**06 21 26.7**	**+1.9**
	comp=E,0.2nm,0.3s,baz=252,slow=14,SNR=8.7							
BRTR				LR		LR	06 26 10.7	
	comp=E,40nm,18.3s,baz=284,slow=45							
	comp=E,0.7nm,0.7s							
BOJS	**Bojanci**	**9.52**	**330**	*e*Pn		**Pn**	**06 21 27.2**	**+0.2**
CRES	**Cresnjev**	**9.71**	**332**	*e*Pn		**Pn**	**06 21 28.5**	**-1.1**
CEY	**Cerknica**	**10.05**	**328**	*e*Pn		**Pn**	**06 21 35.5**	**+1.2**
OBKA	**Obir**	**10.62**	**331**	*e*Pn		**Pn**	**06 21 38.8**	**-3.5**
VYHS	**Vyhne**	**11.28**	**349**	*e*		Sn	06 22 04.8	+14
MODS	**Modra-Piesok**	**11.45**	**344**	*e*		Pn	06 22 02.9	+9.4
MMAI	**Mount Meron Ar**	**11.78**	**108**	P		**Pn**	**06 21 54.7**	**-3.4**
	comp=E,0.3nm,0.3s,baz=312,slow=17,SNR=1.4							
MMAI				LR		LR	06 27 58.8	
	comp=E,31nm,18.8s,baz=154,slow=45							
GERES	**GERESS Array B**	**12.90**	**335**	P		**Pn**	**06 22 14.2**	**+0.8**
	comp=E,0.2nm,0.3s,baz=157,slow=16,SNR=1.5							
	comp=E,0.2nm,0.3s							
DAVOX	**Davos/Dischmat**	**12.96**	**320**	LR		LR	06 28 38.7	
	comp=E,87nm,18.2s,baz=86,slow=43							
KHC	**Kasperske Hory**	**13.19**	**335**	*e*P		**Pn**	**06 22 20.5**	**+3.3**
EIL	**Elat**	**13.26**	**122**	LR		LR	06 29 24.6	
	comp=E,43nm,19.0s,baz=239,slow=46							
AKASG	**Malin Array Be**	**14.20**	**19**	P		**Pn**	**06 22 31.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=206,slow=12,SNR=5.3							
AKASG				LR		LR	06 28 18.6	
	comp=E,75nm,18.7s,baz=180,slow=38							
	comp=E,0.5nm,0.5s							
KBZ	**Khabaz**	**17.00**	**62**	P		**Pn**	**06 23 08.6**	**+0.9**
	comp=E,0.1nm,0.3s,baz=258,slow=12,SNR=3.4							
	comp=E,2.0nm,1.0s							
NACGM	**Naroch**	**17.75**	**9**	*e*P		**P**	**06 23 20.5**	**+2.8**
	comp=Z,16nm,1.2s							
GNI	**Garni**	**17.88**	**74**	LR		LR	06 31 03.6	
	comp=Z,41nm,18.5s,baz=248,slow=40							
ESDC	**Sonseca Array**	**20.44**	**284**	P		Pn	06 23 50.1	+0.5
	comp=Z,2.1nm,0.9s,baz=77,slow=12,SNR=6.9							
	comp=Z,2.1nm,0.9s							
BELG	**Belogornoye**	**23.30**	**42**	P		**P**	**06 24 17.2**	**-0.5**
	comp=Z,4.4nm,0.6s,baz=263,slow=3.9,SNR=5.3							
	comp=Z,4.4nm,0.6s							
HFS	**Hagfors**	**23.31**	**349**	P		**P**	**06 24 16.9**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=166,slow=13,SNR=3.3							
	comp=Z,3.5nm,0.8s							
FINES	**FINESS Array B**	**24.14**	**5**	P		**P**	**06 24 25.5**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=171,slow=13,SNR=12							
FINES				LR		LR	06 34 45.3	
	comp=Z,54nm,19.4s,baz=168,slow=38							
	comp=Z,0.9nm,0.3s							
NB2	**NORSAR Subarra**	**24.57**	**347**	P		**P**	**06 24 29.3**	**-0.5**
	comp=Z,6.8nm,1.1s,baz=153,slow=10							
NOA	**NORSAR Array B**	**24.57**	**347**	P		**P**	**06 24 29.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=150,slow=9.2,SNR=1.8							
NOA				LR		LR	06 35 43.1	
	comp=Z,24nm,20.7s,baz=320,slow=40							
	comp=Z,0.7nm,0.8s							
EKA	**Eskdalemuir Ar**	**24.72**	**324**	P		**P**	**06 24 31.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=114,slow=10,SNR=5.7							
	comp=Z,1.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**30.27**	**222**	P		**P**	**06 25 20.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=31,slow=24,SNR=6.5							
	comp=Z,0.7nm,0.4s							
HEF	**Hetta**	**31.02**	**1**	*e*P		**P**	**06 25 27.5**	**+0.3**
KIF	**Kilpisjarvi**	**31.61**	**359**	*e*P		**P**	**06 25 33.2**	**+0.8**
ARCES	**ARCESS Array B**	**32.19**	**2**	P		**P**	**06 25 37.3**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=190,slow=9.9,SNR=10							
	comp=Z,2.3nm,0.8s							
BVAR	**Borovoye Array**	**36.66**	**49**	P		**P**	**06 26 14.8**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=243,slow=6.3,SNR=2.3							
	comp=Z,0.3nm,0.4s							
MBAR	**Mbarara**	**38.72**	**166**	LR		LR	06 43 57.9	
	comp=Z,56nm,18.2s,baz=160,slow=38							
MKAR	**Makanchi Array**	**44.65**	**58**	P		**P**	**06 27 21.3**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=281,slow=6.0,SNR=8.0							
	comp=Z,0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**45.27**	**48**	P		**P**	**06 27 26.1**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=284,slow=5.8,SNR=4.6							
	comp=Z,1.5nm,0.6s							
SCHQ	**Schefferville**	**59.81**	**318**	P		**P**	**06 29 16.1**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=68,slow=5.4,SNR=1.7							
	comp=Z,2.5nm,0.7s							
SONM	**Songino Array**	**59.97**	**51**	P		**P**	**06 29 15.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=280,slow=8.6,SNR=2.4							
	comp=Z,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**74.47**	**341**	P		**P**	**06 30 47.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=30,slow=4.7,SNR=3.3							
	comp=Z,0.2nm,0.7s							
ASAR	**Alice Springs**	**120.88**	**97**	PKP		**PKPdf**	**06 38 01.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=308,slow=1.6,SNR=1.7							

IDC 17 06:21:08.1±2.5, 52°99N×89°96E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=24.3km s-min=18.8km az=15.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.22**	**289**	Pn		Pn		06 21 59.0	-0.8
	0.3nm,0.3s,baz=102,slow=17,SNR=8.3								
ZALV				Lg		Lg		06 22 50.4	
	0.4nm,0.3s,baz=92,slow=24,SNR=8.1								
	1.5nm,0.6s								
MKAR	**Makanchi Array**	**7.93**	**222**	Pn		Pn		06 23 06.5	+1.9
	baz=37,slow=12,SNR=4.5								
MKAR				Sn		Sn		06 24 33.7	-1.3
	0.1nm,0.3s,baz=34,slow=10,SNR=1.8								
MKAR				Lg		Lg		06 25 17.3	
	0.1nm,0.3s,baz=38,slow=7.3,SNR=1.5								
	0.3nm,0.7s								
SONM	**Songino Array**	**11.68**	**110**	Pn		Pn		06 23 55.0	-1.1
	0.2nm,0.3s,baz=330,slow=14,SNR=2.9								
SONM				Lg		Lg		06 27 18.9	
	0.1nm,0.3s,baz=304,slow=26,SNR=4.2								
	0.1nm,0.3s								

*MDD **17** 06:23:14.9±0.8, 36°37N×11°37W, h0km, Mb4.0/14, M_mb3.4/14, Error ellipse: s-maj=6.6km s-min=5.0km az=81.0*
*INMG **17** 06:23:16.8±1.4, 36°26N×11°52W, h28km±16km, ML2.5, Error ellipse: s-maj=12.5km s-min=4.5km az=73.0*
*CNRM **17** 06:23:21.8, 36°06N×10°68W, h83km, ml2.2*

ISC 17 06:23:13.9±2.2, 36°26N±0°05×11°5W±0°1, h35km, n70, σ1s82/123, 17C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.33**	**67**	⇑*i* Pn		**Pn**		**06 23 51.5**	**+1.8**
PFVI				*e*Sn		**Sn**		**06 24 16.9**	**-0.3**
PFVI				A		A		06 24 18.4	
	15nm,0.3s								
PFVI	**Vila Bisbo**	**2.33**	**67**	P		**Pn**		**06 23 51.3**	**+1.6**
PFVI				S		**Sn**		**06 24 15.4**	**-1.7**
PFVI	**Vila Bisbo**	**2.33**	**67**	S		**Sn**		**06 24 16.8**	**-0.3**
PFVI				P		**Pn**		**06 23 51.5**	**+1.8**
MORF	**Marmelete**	**2.53**	**65**	*e*P		**Pn**		**06 23 54.2**	**+1.8**
MORF				*e*S		**Sn**		**06 24 21.9**	**0.0**
MORF				IAML				06 24 23.9	
	comp=N,22nm,0.1s								
MORF	**Marmelete**	**2.53**	**65**	⇑*i* Pn		**Pn**		**06 23 54.2**	**+1.8**
MORF				*e*Sn		**Sn**		**06 24 21.0**	**-1.0**
MORF				A		A		06 24 27.0	
	comp=N,14nm,0.1s								
PTEO	**Sao Teotonio**	**2.58**	**59**	*e*Pn		**Pn**		**06 23 55.0**	**+1.9**
PTEO				*e*Sn		**Sn**		**06 24 23.4**	**+0.1**
PTEO				A		A		06 24 29.6	
	comp=N,13nm,0.7s								
PNCL	**Nicolau / Gran**	**3.02**	**51**	*e*Pn		**Pn**		**06 24 00.9**	**+1.7**
PNCL				*e*Sn		**Sn**		**06 24 34.2**	**+0.1**
PNCL				A		A		06 24 37.3	
	comp=N,13nm,0.2s								
PNCL	**Nicolau / Gran**	**3.02**	**51**	S		**Sn**		**06 24 33.8**	**-0.3**
PNCL				P		**Pn**		**06 24 00.9**	**+1.7**
MESJ	**Messejana**	**3.07**	**58**	*e*P		**Pn**		**06 24 01.6**	**+1.7**
MESJ				*e*S		**Sn**		**06 24 35.0**	**-0.5**
MESJ				IAML				06 24 39.1	
	comp=E,8.3nm,0.2s								
MESJ	**Messejana**	**3.07**	**58**	*e*Pn		**Pn**		**06 24 01.6**	**+1.7**
MESJ				*e*Sn		**Sn**		**06 24 36.1**	**+0.6**
MESJ				A		A		06 24 46.5	
	comp=E,5.1nm,0.4s								
PCVE	**Castro Verde**	**3.11**	**63**	*e*Pn		**Pn**		**06 24 02.2**	**+1.9**
PCVE				*e*Sn		**Sn**		**06 24 36.0**	**-0.2**
PCVE				A		A		06 24 42.5	
	comp=E,7.5nm,0.2s								
PCVE	**Castro Verde**	**3.11**	**63**	S		**Sn**		**06 24 35.0**	**-1.2**
PCVE				P		**Pn**		**06 24 02.2**	**+1.9**
PMAFR	**Mafra**	**3.23**	**33**	*e*Pn		**Pn**		**06 24 03.5**	**+1.4**
PMAFR				*e*Sn		**Sn**		**06 24 39.1**	**-0.1**
PMAFR				A		A		06 24 40.2	
	comp=E,28nm,0.2s								
PMAFR	**Mafra**	**3.23**	**33**	S		**Sn**		**06 24 38.9**	**-0.3**
PMAFR				P		**Pn**		**06 24 03.4**	**+1.4**
PVAQ	**Vaqueiros**	**3.26**	**68**	⇑*e*Pn		**Pn**		**06 24 04.4**	**+2.0**
PVAQ				*e*Sn		**Sn**		**06 24 39.3**	**-0.6**
PVAQ				A		A		06 24 47.4	
	comp=E,6.9nm,0.2s								
PVAQ	**Vaqueiros**	**3.26**	**68**	P		**Pn**		**06 24 04.3**	**+1.9**
PVAQ	**Vaqueiros**	**3.26**	**68**	S		**Sn**		**06 24 40.7**	**+0.8**
PVAQ				P		**Pn**		**06 24 04.4**	**+2.0**
PBEJ	**Beja**	**3.41**	**58**	*e*Pn		**Pn**		**06 24 06.6**	**+2.1**
PBEJ				*e*Sn		**Sn**		**06 24 43.7**	**0.0**
PBEJ				A		A		06 24 46.5	
	comp=E,5.7nm,0.3s								
EGRO	**El Granado**	**3.48**	**67**	S		**Sn**		**06 24 46.1**	**+0.7**
EGRO				P		**Pn**		**06 24 07.5**	**+2.1**
EGRO	**El Granado**	**3.48**	**67**	Pn		**Pn**		**06 24 07.7**	**+2.2**
EGRO				⇑*i* Vmb_V				06 24 08.5	
	comp=E,187nm,SNR=2.3								
EGRO				Sn		**Sn**		**06 24 45.2**	**-0.1**
EVO	**Evora**	**3.60**	**50**	*e*Pn		**Pn**		**06 24 08.8**	**+1.7**
EVO				*e*Sn		**Sn**		**06 24 48.3**	**-0.1**
EVO				A		A		06 24 50.6	
	comp=E,12nm,0.1s								
EVO	**Evora**	**3.60**	**50**	P		**Pn**		**06 24 08.7**	**+1.7**
EVO				S		**Sn**		**06 24 47.3**	**-1.0**
PMTG	**Montargil**	**3.83**	**42**	*e*Pn		**Pn**		**06 24 11.5**	**+1.1**
PMTG				*e*Sn		**Sn**		**06 24 54.0**	**-0.2**
PMTG				A		A		06 24 57.8	
	comp=E,3.4nm,0.1s								
PSBE	**So Bento**	**3.90**	**33**	*e*Pn		**Pn**		**06 24 12.9**	**+1.6**
PSBE				*e*Sn		**Sn**		**06 24 56.4**	**+0.5**
PSBE				A		A		06 25 03.1	
	comp=E,5.6nm,0.5s								
PBAR	**Barrancos**	**4.05**	**60**	*e*Pn		**Pn**		**06 24 15.4**	**+2.0**
PBAR				*e*Sn		**Sn**		**06 24 58.7**	**-0.9**
PBAR				A		A		06 25 02.4	
	comp=E,2.9nm,0.3s								
PBAR	**Barrancos**	**4.05**	**60**	P		**Pn**		**06 24 15.4**	**+2.0**
PBAR				S		**Sn**		**06 24 58.4**	**-1.3**
PESTR	**Estremoz**	**4.07**	**49**	*e*Pn		**Pn**		**06 24 15.3**	**+1.7**
PESTR				*e*Sn		**Sn**		**06 24 59.3**	**-0.6**
PESTR				A		A		06 25 05.1	
	comp=E,3.5nm,0.6s								
PESTR	**Estremoz**	**4.07**	**49**	P		**Pn**		**06 24 15.1**	**+1.5**
PESTR				S		**Sn**		**06 24 58.2**	**-1.7**
PESTR	**Estremoz**	**4.07**	**49**	P		**Pn**		**06 24 15.7**	**+2.2**
PESTR				S		**Sn**		**06 24 59.3**	**-0.6**
EMIN	**Mina Concepcio**	**4.16**	**67**	P		**Pn**		**06 24 16.8**	**+2.0**
EMIN				S		**Sn**		**06 25 01.4**	**-0.8**
EMIN	**Mina Concepcio**	**4.16**	**67**	Pn		**Pn**		**06 24 16.8**	**+2.0**
EMIN				⇑*i* Vmb_V				06 24 17.6	
	comp=E,97nm,SNR=1.4								
EMIN				Sn		**Sn**		**06 25 01.5**	**-0.7**
EBAD	**Badajoz**	**4.36**	**54**	P		**Pn**		**06 24 18.9**	**+1.3**
EBAD				S		**Sn**		**06 25 06.8**	**-0.4**
EBAD	**Badajoz**	**4.36**	**54**	Pn		**Pn**		**06 24 18.9**	**+1.3**
EBAD				⇑*i* Vmb_V				06 24 20.0	
	comp=E,73nm,SNR=1.0								
EBAD				Sn		**Sn**		**06 25 06.3**	**-1.0**
PCAS	**Casmilo, Conde**	**4.47**	**31**	*e*Pn		**Pn**		**06 24 20.8**	**+1.6**
PCAS				*e*Sn		**Sn**		**06 25 09.9**	**-0.1**
PCAS				A		A		06 25 13.9	
	comp=E,3.3nm,0.5s								
AVE	**Averroes**	**4.48**	**130**	P		**Pn**		**06 24 21.3**	**+2.0**
AVE				S		**Sn**		**06 25 09.9**	**-0.4**
PMRV	**Marv??o**	**4.55**	**45**	*e*Pn		**Pn**		**06 24 21.3**	**+1.1**
PMRV				*e*Sn		**Sn**		**06 25 09.9**	**-1.9**
PMRV				A		A		06 25 16.7	
	comp=E,3.5nm,0.8s								
ESPR	**Espera**	**4.60**	**81**	P		**Pn**		**06 24 22.8**	**+1.9**
ESPR				S		**Sn**		**06 25 12.0**	**-1.0**
ESPR	**Espera**	**4.60**	**81**	Pn		**Pn**		**06 24 23.1**	**+2.3**
ESPR				⇑*i* Vmb_V				06 24 23.8	
	comp=E,218nm,SNR=2.6								
ESPR				Sn		**Sn**		**06 25 12.0**	**-1.0**
PCBR	**Castelo Branco**	**4.79**	**40**	*e*Pn		**Pn**		**06 24 25.2**	**+1.7**
PCBR				*e*Sn		**Sn**		**06 25 16.5**	**-1.3**
PCBR				A		A		06 25 18.6	
	comp=E,3.3nm,0.3s								
SRHM	**Skhour des Reh**	**4.82**	**141**	P		**Pn**		**06 24 25.1**	**+1.1**
SRHM				S		**Sn**		**06 25 14.8**	**-3.7**
EJIF	**Jimena Fronter**	**4.88**	**86**	Pn		**Pn**		**06 24 27.5**	**+2.7**
CHEFC	**Chefchaouen**	**5.16**	**101**	P		**Pn**		**06 24 28.6**	**0.0**
CHEFC				S		**Sn**		**06 25 21.9**	**-5.0**
MTE	**Manteigas**	**5.18**	**36**	*e*Pn		**Pn**		**06 24 30.6**	**+1.6**
MTE				*e*Sn		**Sn**		**06 25 27.0**	**-0.5**
MTE				A		A		06 25 28.3	
	comp=E,4.0nm,0.7s								
ECAB	**El Cabril**	**5.20**	**68**	P		**Pn**		**06 24 30.9**	**+1.8**
ECAB				S		**Sn**		**06 25 26.4**	**-1.5**
ECAB	**El Cabril**	**5.20**	**68**	Pn		**Pn**		**06 24 30.8**	**+1.8**
ECAB				⇑*i* Vmb_V				06 24 31.4	
	comp=E,125nm,SNR=2.0								
ECAB				Sn		**Sn**		**06 25 25.8**	**-2.0**
PVIS	**Viseu**	**5.28**	**31**	*e*Pn		**Pn**		**06 24 31.3**	**+1.0**
PVIS				*e*Sn		**Sn**		**06 25 28.1**	**-1.9**
PVIS				A		A		06 25 31.7	
	comp=E,4.4nm,0.1s								
EPLA	**Plasencia**	**5.73**	**47**	Pn		**Pn**		**06 24 38.0**	**+1.6**
EPLA				⇑*i* Vmb_V				06 24 38.7	
	comp=E,166nm,SNR=1.7								
EPLA				Sn		**Sn**		**06 25 39.9**	**-1.0**
PVRL	**Vila Real**	**5.83**	**29**	*e*Sn		**Sn**		**06 25 41.5**	**-1.8**
EADA	**Adamuz**	**5.86**	**69**	P		**Pn**		**06 24 39.7**	**+1.5**
EADA				S		**Sn**		**06 25 42.6**	**-1.5**
EADA	**Adamuz**	**5.86**	**69**	Pn		**Pn**		**06 24 40.2**	**+2.0**
EADA				⇑*i* Vmb_V				06 24 40.4	
	comp=E,112nm,SNR=1.1								
EADA				Sn		**Sn**		**06 25 42.4**	**-1.7**
POLO	**Lamas de Olo**	**5.88**	**28**	*e*Sn		**Sn**		**06 25 41.4**	**-3.3**
POLO				A		A		06 25 47.6	
	comp=E,1.7nm,0.5s								
OUK	**Oukaimeden**	**5.88**	**148**	P		**Pn**		**06 24 40.2**	**+1.3**
MVO	**Moncorvo**	**6.03**	**34**	*e*Pn		**Pn**		**06 24 42.8**	**+2.2**
MVO				*e*Sn		**Sn**		**06 25 45.8**	**-2.5**
MVO				A		A		06 25 52.1	
	comp=E,3.9nm,0.7s								
PCAB

9.2nm,0.4s,baz=65,slow=5.3,SNR=6.2
KSRS Korea Array 7.34 283 P **Pn 06 48 60.0 +1.4**
1.9nm,0.5s,baz=100,slow=13,SNR=6.4
ERM Erimo 7.55 38 P **Pn 06 49 00.8 -0.3**
JEM Erimo 7.55 38 P **Pn 06 49 00.8 -0.3**
USRK Ussuriysk Ar. 8.84 336 P **Pn 06 49 18.0 +0.9**
5.2nm,0.5s,baz=159,slow=12,SNR=11
ASAJ Asahikawa 9.01 27 P **Pn 06 49 17.4 -1.8**
11nm,0.3s,baz=234,slow=11,SNR=13
KLR Kul'dur 13.57 345 P **Pn 06 50 14.5 -0.6**
4.9nm,0.5s,baz=172,slow=10.0,SNR=21
SONM Songino Array 25.33 307 P **P 06 52 14.0 -1.2**
0.1nm,0.3s,baz=101,slow=7.5,SNR=2.2
0.1nm,0.3s
KURBB Kurchatov Arra 43.68 308 P **P 06 54 51.2 +0.3**
0.1nm,0.4s,baz=87,slow=7.7,SNR=2.1
0.1nm,0.4s
ILAR Eielson Array 52.11 32 P **P 06 55 55.9 +0.9**
0.4nm,0.6s,baz=263,slow=5.6,SNR=8.1
0.4nm,0.6s
WRA Warramunga Arr 55.89 183 P **P 06 56 22.2 -0.4**
2.5nm,0.4s,baz=355,slow=7.6,SNR=47
2.5nm,0.4s
ASAR Alice Springs 59.61 183 P **P 06 56 48.6 +0.2**
0.7nm,0.3s,baz=13,slow=13,SNR=19
0.7nm,0.3s
YKA Yellowknife Ar 66.30 29 P **P 06 57 31.9 +0.1**
0.2nm,0.5s,baz=298,slow=7.0,SNR=8.3
0.2nm,0.5s
NVAR Mina Array Bea 78.34 51 P **P 06 58 42.8 -0.6**
0.4nm,0.4s,baz=302,slow=5.2,SNR=6.3
0.4nm,0.4s
PDAR Pinedale Array 80.78 43 P **P 06 58 56.4 +0.1**
0.3nm,0.6s,baz=201,slow=1.3,SNR=3.7
0.3nm,0.6s
TXAR Lajitas Array 93.44 50 P **P 06 59 58.3 +0.6**
0.3nm,0.6s,baz=307,slow=4.1,SNR=4.1
0.3nm,0.6s

*NIED **17** 06:53:08.8, 36.59N×135.98E, h22km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.93; $M_{\theta\theta}$0.26; $M_{\phi\phi}$ -1.20; $M_{r\theta}$0.45; $M_{\theta\phi}$0.24; $M_{\phi r}$0.21; Fault plane solution: $M_0$1.22000×10^{14} NP1:ϕ_s16.00000°, δ55.00000°, λ125.00000°. NP2:ϕ_s145.00000°, δ48.00000°, λ51.00000°.*

JMA 17 06:53:08.8±0.1, 36.6N±0.2×136.0E±0.3, h22km, MV3.6/36, 4D,NW OFF HOKURIKU DISTRICT,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**0.42**	**138**	⇓P	Pb	06 53 17.4	-0.1
JKG				⇓S	Sb	06 53 23.3	0.0
JJH	**Hakui**	**0.72**	**62**	⇓P	Pb	06 53 22.4	-0.3
JJH				⇓S	Sb	06 53 32.5	+0.3
JTT	**Ttatey**	**1.09**	**89**	*e*S	Sn	06 53 43.4	+0.2
JYTA	**Yamagatataniai**	**1.17**	**148**	*e*P	Pb	06 53 30.2	0.0
JYTA				*e*S	Sn	06 53 45.6	+0.6
JKY	**Yasaka**	**1.19**	**217**	P	Pn	06 53 29.9	-0.3
JKY				S	Sn	06 53 45.7	0.0

NOU 17 06:56:51.2, 16.14S×167.55E, h14km, MLv3.9/9, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.69**	**159**	P	Pn	06 57 20.4	+0.1
RTV	**Rentapao**	**1.84**	**153**	P	Pn	06 57 23.5	+1.1
KOUNC	**Koumac, New Ca**	**5.37**	**215**	P	Pn	06 58 10.3	-0.7
DZM	**Mont Dzumac**	**5.99**	**190**	P	Pn	06 58 19.2	-0.4
NOUC	**Port Laguerre**	**6.05**	**191**	P	Pn	06 58 19.8	-0.4

*WEL **17** 07:05:00, 41.67S×174.34E, h18km, ML3.8, Mw3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14} Nm; M_{rr}1.68; $M_{\theta\theta}$4.99; $M_{\phi\phi}$ -6.67; $M_{r\theta}$0.83; $M_{\theta\phi}$3.65; $M_{\phi r}$0.37; Fault plane solution: $M_0$6.97000×10^{14} NP1: ϕ_s119.00000°, δ82.00000°, λ7.00000°. NP2:ϕ_s28.00000°, δ83.00000°, λ171.00000°. Principal axes: T -77.2100, Plg11.0000°, Azm344.0000°; N 62.1600, Plg79.0000°, Azm167.0000°; P 15.0400, Plg1.0000°, Azm74.0000°;*
*NOU **17** 07:05:19.9, 41.90S×174.61E, h5km, MLv4.2/12, Cook Strait, New Zealand*
*WEL **17** 07:05:21.4±0.3, 42.2S±3.3×17.4E±1.1, h12km±4km, M3.8/17, ML4.1/17, MLv3.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=128.1, confirmed*
ISC 17 07:05:21.0±1.0, 41.73S±0.03×174.40E±0.03, h12km±7km, n94,σ1^{s}49/100, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**261**	P	**Pg**	**07 05 24.0**	**-0.4**
CMWZ				S	**Sg**	**07 05 27.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.39**	**272**	P	**Pb**	**07 05 28.9**	**-0.9**
TUWZ	**Tuamarina**	**0.45**	**311**	P	**Pb**	**07 05 30.1**	**-0.8**
TUWZ				S	**Sb**	**07 05 37.3**	**-0.3**
SNZO	**South Karori**	**0.48**	**29**	P	**Pb**	**07 05 30.8**	**-0.5**
TCW	**Tory Channel**	**0.53**	**350**	P	**Pb**	**07 05 31.0**	**-1.2**
TCW				S	**Sb**	**07 05 38.0**	**-1.7**
PLWZ	**Palliser**	**0.66**	**76**	P	**Pg**	**07 05 34.7**	**+0.8**
MSWZ	**Moikau Station**	**0.71**	**64**	P	**Pb**	**07 05 36.3**	**+1.0**
MSWZ				S	**Sn**	**07 05 48.5**	**+0.8**
CAW	**Cannon Point**	**0.80**	**39**	P	**Pg**	**07 05 36.0**	**-0.5**
PAWZ	**Paruwai Farm**	**0.84**	**66**	P	**Pg**	**07 05 37.7**	**+0.4**
NNZ	**Nelson**	**0.92**	**303**	P	**Pb**	**07 05 38.2**	**-0.7**
KHZ	**Kahutara**	**0.94**	**223**	P	**Pg**	**07 05 39.6**	**+0.5**
KHZ	**Kahutara**	**0.94**	**223**	P	**Pg**	**07 05 39.6**	**+0.5**
KHZ				S	**Sn**	**07 05 54.6**	**+1.2**
KIW	**Kapiti Island**	**0.95**	**24**	P	**Pg**	**07 05 38.5**	**-0.7**
DUWZ	**D'Urville Isla**	**0.99**	**339**	P	**Pb**	**07 05 39.3**	**-0.9**
MTW	**Mount Morrison**	**1.00**	**56**	P	**Pb**	**07 05 40.2**	**-0.2**
MTW				S	**Sn**	**07 05 56.0**	**+1.0**
TRWZ	**Traveller**	**1.02**	**72**	P	**Pb**	**07 05 40.0**	**-0.6**
OGWZ	**Otaki Gorge**	**1.08**	**33**	P	**Pb**	**07 05 41.0**	**-0.6**
OGWZ				S	**Sn**	**07 05 58.2**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.18**	**46**	P	**Pb**	**07 05 42.9**	**-0.4**
TMWZ	**Te Maipa**	**1.28**	**62**	P	**Pn**	**07 05 43.7**	**-1.0**
TKNZ	**Takaka Hill**	**1.28**	**302**	P	**Pg**	**07 05 44.7**	**-1.0**
MRZ	**Mangatainoka R**	**1.39**	**40**	P	**Pn**	**07 05 45.8**	**-0.4**
TIWZ	**Tintock**	**1.47**	**50**	P	**Pn**	**07 05 46.5**	**-0.8**
CPWZ	**Castlepoint**	**1.58**	**60**	P	**Pg**	**07 05 53.1**	**+1.7**
GVZ	**Greta Valley S**	**1.60**	**219**	P	**Pn**	**07 05 48.2**	**-0.9**
PRWZ	**Pori Road**	**1.67**	**46**	P	**Pn**	**07 05 49.3**	**-0.7**
QRZ	**Quartz Range**	**1.67**	**302**	P	**Pb**	**07 05 51.3**	**-0.4**
POWZ	**Post Office Ro**	**1.69**	**38**	P	**Pn**	**07 05 49.9**	**-0.4**
BFZ	**Birch Farm**	**1.74**	**54**	P	**Pn**	**07 05 49.7**	**-1.4**
BFZ	**Birch Farm**	**1.74**	**54**	P	**Pn**	**07 05 49.6**	**-1.4**
DVHZ	**Dannevirke**	**1.96**	**44**	P	**Pn**	**07 05 52.7**	**-1.3**
ANWZ	**Angora Road**	**2.02**	**52**	P	**Pn**	**07 05 53.3**	**-1.5**
WAZ	**Wanganui**	**2.02**	**13**	P	**Pb**	**07 05 57.8**	**+0.2**
TSZ	**Takapari Road**	**2.04**	**36**	P	**Pn**	**07 05 54.6**	**-0.7**
PRHZ	**Porangahau**	**2.23**	**50**	P	**Pn**	**07 05 56.1**	**-1.7**
LREZ	**Lake Rotokare**	**2.27**	**0**	P	**Pg**	**07 06 03.5**	**-0.9**
PNHZ	**Pukenui**	**2.27**	**38**	P	**Pn**	**07 05 57.4**	**-0.9**
WPHZ	**Waipukurau**	**2.27**	**44**	P	**Pn**	**07 05 57.2**	**-1.1**
NMEZ	**Namu Road**	**2.34**	**350**	P	**Pg**	**07 06 03.8**	**-2.2**
KHEZ	**Kahui Hut**	**2.45**	**353**	P	**Pb**	**07 06 04.8**	**-0.2**
KHEZ	**Kahui Hut**	**2.45**	**353**	P	**Pb**	**07 06 04.7**	**-0.2**
NEZ	**North Egmont**	**2.46**	**355**	P	**Pb**	**07 06 04.8**	**-0.5**
MTVZ	**Mangateitei**	**2.48**	**20**	P	**Pg**	**07 06 06.8**	**-1.7**
NBEZ	**Newall Road No**	**2.49**	**350**	P	**Pb**	**07 06 05.8**	**+0.2**
PXZ	**Pawanui**	**2.52**	**49**	P	**Pn**	**07 05 59.8**	**-1.9**
MOVZ	**Moawhango**	**2.54**	**24**	P	**Pn**	**07 06 03.0**	**+1.0**
PKE	**Pukeiti**	**2.55**	**353**	P	**Pb**	**07 06 05.8**	**-0.9**
KRHZ	**Kereru**	**2.56**	**36**	P	**Pn**	**07 06 01.2**	**-1.2**
WNVZ	**Wahianoa**	**2.57**	**21**	P	**Pn**	**07 06 03.4**	**+0.9**
BHHZ	**Black Hill Sta**	**2.57**	**30**	P	**Pn**	**07 06 02.7**	**+0.2**
TRVZ	**Turoa**	**2.58**	**20**	P	**Pn**	**07 06 04.5**	**+1.7**
DRZ	**Dome Shelter**	**2.60**	**20**	P	**Pb**	**07 06 08.2**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.60**	**21**	P	**Pb**	**07 06 05.2**	**-2.5**
VRZ	**Vera Road**	**2.62**	**6**	P	**Pb**	**07 06 05.8**	**-2.0**
FWVZ	**Far West T-bar**	**2.62**	**20**	P	**Pb**	**07 06 05.4**	**-2.6**
TUVZ	**Tukino**	**2.64**	**22**	P	**Pn**	**07 06 04.4**	**+0.9**
KAHZ	**Kahuranaki**	**2.70**	**45**	P	**Pn**	**07 06 02.3**	**-1.9**
NGZ	**Ngauruhoe**	**2.71**	**20**	P	**Pn**	**07 06 05.7**	**+1.2**
SNVZ	**South Ngauruho**	**2.71**	**21**	P	**Pn**	**07 06 06.3**	**+1.8**
OTVZ	**Oturere**	**2.74**	**21**	P	**Pn**	**07 06 05.8**	**+0.9**
NNVZ	**North Ngauruho**	**2.75**	**20**	P	**Pn**	**07 06 06.2**	**+1.1**
WTVZ	**West Tongariro**	**2.76**	**20**	P	**Pn**	**07 06 07.0**	**+1.8**
TWVZ	**Taurewa**	**2.77**	**17**	P	**Pb**	**07 06 10.4**	**-0.1**
ETVZ	**East Tongariro**	**2.78**	**22**	P	**Pn**	**07 06 06.5**	**+1.2**
TMVZ	**Te Maari**	**2.79**	**21**	P	**Pn**	**07 06 06.5**	**+0.9**
KRVZ	**Karewarewa**	**2.80**	**20**	P	**Pn**	**07 06 07.5**	**+1.8**
NTVZ	**North Tongarir**	**2.80**	**21**	P	**Pn**	**07 06 07.3**	**+1.6**
MCHZ	**McNeill Hill**	**2.87**	**38**	P	**Pn**	**07 06 05.5**	**-1.1**
MCHZ				P	Pb	07 06 06.4	-5.8
KATZ	**Kakaramea**	**2.92**	**20**	P	**Pb**	**07 06 13.6**	**+0.5**
RITZ	**Rihia Road**	**2.96**	**23**	P	**Pb**	**07 06 13.9**	**+0.1**
BKZ	**Black Stump Fm**	**3.02**	**33**	P	**Pn**	**07 06 10.8**	**+2.2**
BKZ	**Black Stump Fm**	**3.02**	**33**	P	**Pb**	**07 06 14.9**	**+0.2**
RATZ	**Rangitukua**	**3.04**	**21**	P	**Pb**	**07 06 16.0**	**+0.8**
HATZ	**Hinemaiaia**	**3.12**	**25**	P	**Pb**	**07 06 16.5**	**+0.1**
RPZ	**Rata Peaks**	**3.17**	**230**	P	**Pn**	**07 06 10.1**	**-0.5**
WATZ	**Wairara**	**3.18**	**19**	P	**Pb**	**07 06 18.2**	**+0.7**
NMHZ	**Naumai**	**3.21**	**36**	P	**Pn**	**07 06 10.1**	**-1.1**
HIZ	**Hauiti**	**3.23**	**6**	P	**Pn**	**07 06 13.9**	**+2.4**
HIZ	**Hauiti**	**3.23**	**6**	P	**Pb**	**07 06 15.5**	**-2.8**
MRHZ	**Matea Rd**	**3.28**	**29**	P	**Pb**	**07 06 18.8**	**-0.3**
URZ	**Urewera**	**4.04**	**32**	P	**Pn**	**07 06 22.2**	**-0.5**
URZ	**Urewera**	**4.04**	**32**	P	**Pn**	**07 06 22.1**	**-0.5**
TOZ	**Tahuroa Road**	**4.08**	**12**	P	**Pn**	**07 06 27.5**	**+4.3**
MWZ	**Matawai**	**4.15**	**36**	P	**Pn**	**07 06 21.7**	**-2.5**
ODZ	**Otahua Downs**	**4.30**	**218**	P	**Pn**	**07 06 24.4**	**-1.8**
TWGZ	**Tauwhareparae**	**4.49**	**39**	P	**Pn**	**07 06 27.6**	**-1.3**
RUGZ	**Raukumara Rang**	**4.53**	**35**	P	**Pn**	**07 06 28.0**	**-1.5**
MKAZ	**Moumakai**	**4.66**	**8**	P	**Pn**	**07 06 33.7**	**+2.6**
AWAZ	**Awhitu Peninsu**	**4.66**	**2**	P	**Pn**	**07 06 34.5**	**+3.3**
HAZ	**Te Kaha**	**4.75**	**34**	P	**Pn**	**07 06 29.7**	**-2.6**
ETAZ	**East Tamaki Re**	**4.79**	**5**	P	Pn	07 06 37.5	+4.6
WIAZ	**Waiheke Island**	**4.96**	**7**	P	**Pn**	**07 06 38.7**	**+3.5**
KUZ	**Kuaotunu**	**5.08**	**12**	P	**Pn**	**07 06 39.9**	**+3.0**
OUZ	**Omahuta**	**6.53**	**354**	P	**Pn**	**07 06 58.3**	**+1.5**
OUZ	**Omahuta**	**6.53**	**354**	P	**Pn**	**07 07 00.6**	**+3.8**

*KEA **17** 07:06:56.5, 38.81N×125.85E, h14km, ML2.8/4*
*KMA **17** 07:06:56.7±0.7, 38.71N×125.86E, h6km±5km, Error ellipse: s-maj=5.2km s-min=4.7km az=126.0*
ISC 17 07:06:55.1±1.0, 38.81N±0.03×125.81E±0.07, h14km±11km, n12,σ0^{s}31/23, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYAG	**Pyongyang**	**0.24**	**351**	Pg	**Pg**	**07 07 00.5**	**+0.1**
PYAG				Sg	**Sg**	**07 07 04.1**	**+0.1**
PYAG				AML	AML		
	comp=N,1μm,0.2s						
PYAG				AML	AML		
	comp=E,1μm,0.3s						
PYAG				AML	AML		
	comp=Z,600nm,0.2s						
PYS	**Pyongsong**	**0.44**	**5**	Pg	**Pg**	**07 07 03.8**	**-0.1**
PYS				Sg	**Sg**	**07 07 09.5**	**-0.4**
PYS				AML	AML		
	comp=N,2μm,0.2s						
PYS				AML	AML		
	comp=E,4μm,0.5s						
PYS				AML	AML		
	comp=Z,1μm,0.3s						
HJU	**Haeju**	**0.77**	**185**	Pg	**Pg**	**07 07 10.2**	**+0.1**
HJU				Sg	**Sb**	**07 07 20.1**	**-0.5**
HJU				AML	AML		
	comp=N,686nm,0.2s						
HJU				AML	AML		
	comp=E,1μm,0.2s						
HJU				AML	AML		
	comp=Z,656nm,0.2s						
KSMUS	**Musan**	**1.19**	**141**	P	**Pn**	**07 07 17.4**	**+0.1**
	SNR=20						
KSMUS				P	**Pn**	**07 07 17.4**	**+0.1**
	SNR=20						
KSBAR	**Backryungdo**	**1.20**	**226**	P	**Pg**	**07 07 18.5**	**+0.3**
	SNR=113						
YPDB	**Yeonpyeongdo**	**1.20**	**184**	P	**Pg**	**07 07 18.1**	**-0.2**
YPDB				P	**Pg**	**07 07 18.1**	**-0.2**
YPDB				S	**Sg**	**07 07 33.6**	**-0.4**
YPDB				S	**Sg**	**07 07 33.6**	**-0.4**
KSGAH	**Ganghwa**	**1.21**	**155**	P	**Pb**	**07 07 18.2**	**+0.4**
	SNR=24						
HWCB	**Hwacheon**	**1.57**	**111**	P	**Pb**	**07 07 24.3**	**+0.2**
	SNR=49						
HWCB				P	**Pb**	**07 07 24.3**	**+0.2**
	SNR=49						
KSSEO	**Seoul**	**1.58**	**146**	P	**Pb**	**07 07 24.4**	**+0.2**
	SNR=14						
KSSEO				P	**Pb**	**07 07 24.4**	**+0.2**
	SNR=14						
GAPB	**Gapyeong**	**1.64**	**125**	P	**Pb**	**07 07 25.6**	**+0.5**
	SNR=8.3						
GAPB				P	**Pb**	**07 07 25.6**	**+0.5**
	SNR=8.3						
SUJ	**Sinuiju**	**1.64**	**322**	Pg	**Pg**	**07 07 26.4**	**-0.3**
SUJ				Sg	**Sg**	**07 07 48.0**	**-0.1**
SUJ				AML	AML		
	comp=N,216nm,0.3s						
SUJ				AML	AML		
	comp=E,202nm,0.4s						
SUJ				AML	AML		
	comp=Z,105nm,0.4s						
HWCA	**Hwacheon Acc B**	**1.71**	**115**	P	**Pb**	**07 07 26.7**	**+0.3**
	SNR=12						

IDC 17 07:25:11.4±2.6, 53.94N×86.56E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=20.8km s-min=12.8km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**271**	I	I	07 31 10.0	
	0.1nm,0.8s,baz=88,slow=347,SNR=17						
ZALV	**Zalesovo Beam**	**1.03**	**271**	Pg	Pg	07 25 30.3	-0.9
	0.7nm,0.3s,baz=85,slow=14,SNR=9.9						
ZALV				Lg	Lg	07 25 45.9	
	2.0nm,0.3s,baz=92,slow=30,SNR=19						
KURBB	**Kurchatov Arra**	**5.94**	**239**	Pn	Pn	07 26 41.5	+0.9
	0.1nm,0.3s,baz=56,slow=14,SNR=8.3						
KURBB				Lg	Lg	07 28 19.0	
	baz=31,slow=26,SNR=4.0						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.66**	**203**	Pn	Pn	07 27 05.2	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=5.5						
MKAR				Lg	Lg	07 29 12.1	
	baz=23,slow=34,SNR=4.2						
	0.1nm,0.3s						

IDC 17 07:26:17.2±3.2, 53.54N×87.27E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=30.9km s-min=17.7km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.51**	**287**	Pg	Pn	07 26 44.5	-1.1
	0.6nm,0.3s,baz=110,slow=11,SNR=5.5						
ZALV				Lg	Lg	07 27 05.3	
	0.2nm,0.3s,baz=106,slow=29,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**1.51**	**287**	I	I	07 36 20.9	
	baz=104,slow=339,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.12**	**245**	Pn	Pn	07 27 49.4	+0.5
	baz=61,slow=14,SNR=4.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.46**	**207**	Pn	Pn	07 28 08.8	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=2.2						
	0.1nm,0.4s						

*NNC **17** 07:32:23.6±3.1, 53.63N×88.44E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=21.1km s-min=12.2km az=77.0, Suspected Mining explosion.*
*IDC **17** 07:32:25.5±3.0, 53.75N×88.18E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=26.0km s-min=16.7km az=64.0*
ISC 17 07:32:23.4±4.1, 53.8N±0.1×88.5E±0.2, h0km, n7, σ0^{s}90/11, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.20**	**277**	I	I	07 43 55.6	
	0.5nm,0.9s,baz=93,slow=342,SNR=15						
ZAA0	**Zalesovo Array**	**2.20**	**277**	⇓P	**Pn**	**07 33 00.7**	**-0.3**
	2.5nm,0.8s,baz=99,slow=11						
ZAA0				⇓S	**Sn**	**07 33 29.7**	**+0.8**
	5.9nm,0.7s,baz=97,slow=26						
ZALV	**Zalesovo Beam**	**2.20**	**277**	Pn	**Pn**	**07 33 00.4**	**-0.7**
	2.0nm,0.3s,baz=95,slow=16,SNR=52						
ZALV				Lg	Lg	07 33 28.4	
	3.5nm,0.3s,baz=94,slow=22,SNR=23						
	11nm,0.6s						
KURBB	**Kurchatov Arra**	**6.89**	**247**	Pn	**Pn**	**07 34 06.1**	**+0.6**
	0.1nm,0.3s,baz=62,slow=14,SNR=10						
KURBB				Sn	**Sn**	**07 35 24.8**	**+0.3**
	baz=66,slow=25,SNR=4.1						
KURBB				Lg	Lg	07 35 58.8	
	baz=52,slow=32,SNR=5.3						
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**6.89**	**247**	⇑Pn	**Pn**	**07 34 06.0**	**+0.6**
	1.8nm,0.5s						
KURBB				⇑Sn	**Sn**	**07 35 23.5**	**-1.0**
	4.6nm,0.6s						
KURBB				⇑Lg	Lg	07 35 59.1	
	8.4nm,0.9s,baz=46,slow=13						
MK31	**Makanchi Array**	**8.02**	**212**	⇑Pn	**Pn**	**07 34 20.1**	**-0.9**
	1.1nm,0.9s,baz=30,slow=12,SNR=6.5						
MK31				⇓Sn	**Sn**	**07 35 51.9**	**-0.5**
	0.4nm,0.5s,baz=31,slow=26						
MK31				⇓Lg	Lg	07 36 39.3	
	1.8nm,0.8s,baz=27,slow=28						
MKAR	**Makanchi Array**	**8.02**	**212**	Pn	**Pn**	**07 34 22.6**	**+1.5**
	0.1nm,0.3s,baz=29,slow=14,SNR=7.4						
MKAR				Sn	**Sn**	**07 35 51.9**	**-0.5**
	0.3nm,0.3s,baz=33,slow=22,SNR=10.0						
MKAR				Lg	Lg	07 36 34.3	
	baz=34,slow=31						
	0.3nm,0.5s						

*NNC **17** 07:33:56.8±2.4, 54.16N×87.18E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=17.3km s-min=8.4km az=82.0, Suspected Mining explosion.*
IDC 17 07:34:06.6±2.5, 54.11N×86.46E, h0km, mbtmp3.0/2, ML2.8/2, 5C-1D, Error ellipse: s-maj=20.5km s-min=12.5km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**261**	I	I	07 39 49.0	
	0.2nm,0.8s,baz=80,slow=347,SNR=13						
ZAA0	**Zalesovo Array**	**0.98**	**261**	⇑Pn	Pg	07 34 23.7	-1.6
	0.3nm,0.3s,baz=80,slow=17						
ZAA0				⇑Sn	Sn	07 34 43.9	+1.7
	0.1nm,0.2s,baz=80,slow=31						
ZALV	**Zalesovo Beam**	**0.98**	**261**	Pg	Pg	07 34 23.9	-1.4
	1.2nm,0.3s,baz=83,slow=17,SNR=6.3						
ZALV				Lg	Lg	07 34 39.5	
	2.4nm,0.3s,baz=78,slow=29,SNR=6.2						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	07 35 37.0	+0.7
	0.2nm,0.3s,baz=54,slow=13,SNR=7.9						
KURBB				Lg	Lg	07 37 18.0	
	baz=61,slow=29,SNR=2.0						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**5.98**	**237**	⇓Pn	Pn	07 35 37.3	+1.0
	2.5nm,0.8s,baz=50,slow=11						
KURBB				⇑Lg	Lg	07 37 18.4	
	9.0nm,1.1s						
MK31	**Makanchi Array**	**7.79**	**202**	⇑Pn	Pn	07 36 01.3	+0.1
	0.3nm,0.5s,baz=25,slow=14						
MK31				⇑Lg	Lg	07 38 15.1	
	2.5nm,1.1s						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	07 36 02.5	+1.4
	0.2nm,0.3s,baz=24,slow=14,SNR=8.5						
MKAR				Lg	Lg	07 38 10.8	
	baz=26,slow=30						
	0.3nm,0.4s						

IDC 17 07:38:26.8±2.9, 53.82N×86.83E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=26.1km s-min=15.0km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**277**	I	I	07 45 54.1	
	baz=93,slow=338						
ZALV	**Zalesovo Beam**	**1.20**	**277**	Pg	Pg	07 38 49.5	-0.2
	0.4nm,0.3s,baz=96,slow=17,SNR=4.3						
ZALV				Lg	Lg	07 39 05.8	
	0.4nm,0.3s,baz=99,slow=31,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.02**	**241**	Pn	Pn	07 39 57.6	+0.5
	0.1nm,0.3s,baz=54,slow=14,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.61**	**204**	Pn	Pn	07 40 20.1	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=5.1						
	0.1nm,0.3s						

*BJI **17** 07:46:14.9±0.0, 21.85N×144.14E, h122km, mb4.7/48, mB5.0/22*
*IDC **17** 07:46:20.9±1.6, 22.02N×143.65E, h136km±13km, mb4.2/28, mbtmp4.6/31, MS3.1/10, Error ellipse: s-maj=14.3km s-min=9.4km az=85.0*
*NEIC **17** 07:46:21±1.4, 22.05N±0.08×143.7E±0.1, h127km±7km, mb4.7/85, Error ellipse: s-maj=17.7km s-min=12.0km az=87.0*
*JMA **17** 07:46:23.2±0.2, 22.5N±0.7×144.4E±1.1, h152km±2km, MV5.4/37, IOTO ISLANDS REGION*
ISC 17 07:46:22.8±0.4, 22.12N±0.05×143.71E±0.08, h150km, n170,σ1^{s}64/176, mb4.6/76, 3C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.71**	**343**	P	**Pn**	**07 47 30.4**	**-1.9**
JHH2				S	**Sn**	**07 48 22.2**	**-4.2**
JHH2	**Haha-jima-NKT2**	**4.71**	**343**	A	A	07 47 30.4	
	comp=E,15nm,0.5s,comp=E,16nm,0.4s						
CBIJ	**Chichi jima**	**5.14**	**345**	P	**Pn**	**07 47 35.6**	**-2.5**
CBIJ				*e*S	**Sn**	**07 48 32.4**	**-4.5**
JCJ	**Chichijima**	**5.14**	**345**

KSAR	**Wonju Array Be**	20.49	322	P		**P**	**07 50 47.9**	**-1.0**
KS19	**Wonju Array Si**	20.54	322	P		Pn	07 50 52.1	-1.3
KS19				IAmb		IAmb	07 50 53.4	
	comp=Z,33nm,0.7s							
SSLB	**Suanglung**	21.02	279			**P**	**07 50 56.8**	**+2.0**
H11S3	**WAKE ISLAND Hy**	21.84	95	T		T	08 13 59.9	
	baz=283,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hy**	21.85	95	T		T	08 13 43.8	
	baz=283,slow=75,SNR=4.6							
H11S2	**WAKE ISLAND Hy**	21.86	95	T		T	08 13 48.5	
	baz=283,slow=75,SNR=5.5							
ASAJ	**Asahikawa**	21.96	358	P		**P**	**07 51 06.2**	**+1.8**
	comp=Z,16nm,0.8s,baz=201,slow=14,SNR=6.7							
	comp=Z,16nm,0.8s							
JKA	**Kamikawa-asahi**	21.96	358	P		**P**	**07 51 05.2**	**+0.8**
JKA				IAmb		IAmb	07 51 14.0	
	comp=Z,32nm,0.9s							
USA0B	**Ussuriysk Arra**	24.06	339	P		**P**	**07 51 26.1**	**+2.1**
USA0B				IAmb		IAmb	07 51 29.8	
	comp=Z,19nm,0.8s							
USRK	**Ussuriysk Ar.**	24.06	339	P		**P**	**07 51 25.0**	**+1.0**
	comp=Z,28nm,0.9s,baz=143,slow=9.6,SNR=13							
	comp=Z,28nm,0.9s							
USRK	**Ussuriysk Ar.**	24.06	339	P		**P**	**07 51 26.0**	**+2.0**
NJ2	**Nanjing**	24.19	299	*e*P		**P**	**07 51 25.5**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
SIJI	**Sorong**	25.88	210	P		**P**	**07 51 39.8**	**-1.0**
	comp=Z,5.8nm,0.5s,baz=33,slow=17,SNR=3.7							
	comp=Z,5.8nm,0.5s							
CN2	**Changchun**	26.39	329	*e*P		**P**	**07 51 47.8**	**+2.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BNX	**BinXian**	27.06	334	⇑P		**P**	**07 51 51.8**	**+0.7**
BNX				pmax		pmax		
	comp=Z,15nm,0.9s							
BNX				pmax		pmax		
	comp=Z,110nm,5.1s							
FAKI	**Fak Fak**	27.29	206	P		**P**	**07 51 52.1**	**-1.3**
FAKI				IAmb		IAmb	07 51 52.3	
	comp=Z,23nm,0.9s							
WHN	**Wuhan**	27.56	294	⇑P		**P**	**07 51 59.3**	**+3.6**
KLR	**Kul'dur**	28.67	344	P		**P**	**07 52 06.4**	**+1.0**
	comp=Z,75nm,0.6s,baz=154,slow=8.2,SNR=262							
KLR				LR		LR	08 02 11.9	
	comp=Z,56nm,19.0s,baz=149,slow=33							
HNS	**HongShan**	29.27	308	⇑P		**P**	**07 52 10.0**	**-0.8**
HNS				pmax		pmax		
	comp=Z,13nm,0.7s							
HEH	**HeiHe**	30.86	339	*e*P		**P**	**07 52 25.3**	**+0.6**
HEH				pmax		pmax		
	comp=Z,17nm,1.2s							
HEH				pmax		pmax		
	comp=Z,330nm,5.5s							
PEA0B	**Petropavlovsk-**	32.74	16	P		**P**	**07 52 43.3**	**+2.2**
PETK	**Petropavlovsk-**	32.74	16	P		**P**	**07 52 41.7**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=270,slow=4.3,SNR=2.7							
PETK				LR		LR	08 07 30.9	
	comp=Z,22nm,18.9s,baz=168,slow=39							
	comp=Z,4.0nm,0.8s							
PET	**Petropavlovsk**	32.91	17	P		**P**	**07 52 44.3**	**+1.8**
HHC	**Hu-ho-hao-te**	32.91	312	*e*P		**P**	**07 52 42.8**	**-0.1**
HHC				pmax		pmax		
	comp=Z,24nm,0.9s							
HHC				pmax		pmax		
	comp=Z,160nm,4.6s							
COEN	**Coen**	35.86	181	P		**P**	**07 53 07.6**	**-0.7**
COEN				IAmb		IAmb	07 53 08.2	
	comp=Z,12nm,0.9s							
SBUM	**Sibu**	36.30	242	P		**P**	**07 53 12.3**	**+0.2**
MTN	**Manton Dam**	36.87	201	P		**P**	**07 53 15.8**	**-1.1**
LZH	**Lanzhou**	37.25	301	*e*P		**P**	**07 53 20.8**	**+0.6**
LZH				pmax		pmax		
	comp=Z,14nm,1.1s							
PZH	**PanZhiHua**	38.37	285	P		**P**	**07 53 30.6**	**+0.9**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.2s							
PZH				pmax		pmax		
	comp=Z,100nm,5.7s							
ULN	**Ulaanbaatar**	38.95	320	P		**P**	**07 53 35.0**	**+0.7**
ULN				IAmb		IAmb	07 53 35.8	
	comp=Z,12nm,0.8s							
SONM	**Songino Array**	39.33	320	P		**P**	**07 53 37.8**	**+0.5**
	comp=Z,6.0nm,0.5s,baz=135,slow=8.1,SNR=33							
	comp=Z,6.0nm,0.5s							
SONM	**Songino Array**	39.33	320	P		**P**	**07 53 37.5**	**+0.1**
SONM				IAmb		IAmb	07 53 38.6	
	comp=Z,10nm,1.0s							
KNRA	**Kununurra**	40.32	203	P		**P**	**07 53 44.7**	**-0.9**
GTA	**Gaotai**	41.03	305	*e*P		**P**	**07 53 52.1**	**+0.6**
GTA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TNCH	**TengChong**	41.38	283	P		**P**	**07 53 57.0**	**+2.4**
TNCH				pmax		pmax		
	comp=Z,150nm,4.5s							
CTAO	**Charters Tower**	42.02	176	P		**P**	**07 53 58.8**	**-0.8**
CTAO				IAmb		IAmb	07 54 00.5	
	comp=Z,8.2nm,0.7s							
CMAR	**Chiang Mai Arr**	42.04	273	LR		LR	08 12 36.7	
	comp=Z,13nm,19.3s,baz=75,slow=38							
WB0	**Warramunga Arr**	42.62	193	P		**P**	**07 54 02.6**	**-1.7**
WB0				IAmb		IAmb	07 54 04.6	
	comp=Z,6.7nm,0.5s							
WR0	**Warramunga Arr**	42.77	193	P		**P**	**07 54 04.3**	**-1.3**
WR0				IAmb		IAmb	07 54 10.0	
	comp=Z,15nm,1.4s							
WB2	**Warramunga Arr**	42.79	193	P		**P**	**07 54 04.7**	**-1.0**
WB2				IAmb		IAmb	07 54 05.7	
	comp=Z,11nm,0.5s							
WRA	**Warramunga Arr**	42.80	193	P		**P**	**07 54 04.0**	**-1.8**
	comp=Z,5.1nm,0.5s,baz=16,slow=9.3,SNR=113							
WRA				ScP		**ScP**	**07 59 31.3**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=7.6,slow=4.4,SNR=9.6							
	comp=Z,5.1nm,0.5s							
WRA	**Warramunga Arr**	42.80	193	P		**P**	**07 54 04.3**	**-1.5**
FITZ	**Fitzroy Crossi**	43.71	205	P		**P**	**07 54 12.2**	**-0.9**
AS31	**Alice Springs**	46.50	192	P		**P**	**07 54 33.8**	**-1.4**
ASAR	**Alice Springs**	46.50	192	P		**P**	**07 54 33.4**	**-1.7**
	comp=Z,2.4nm,0.4s,baz=9.7,slow=6.9,SNR=52							
ASAR				PcP		**PcP**	**07 56 06.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=15,slow=5.1,SNR=2.6							
ASAR				ScP		**ScP**	**07 59 47.3**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=356,slow=2.7,SNR=5.7							
	comp=Z,2.4nm,0.4s							
ASAR	**Alice Springs**	46.50	192	P		**P**	**07 54 33.9**	**-1.3**
RPSI	**Rantau Prapat**	47.55	252	P		**P**	**07 54 44.0**	**+0.5**
RPSI				IAmb		IAmb	07 54 44.8	
	comp=Z,16nm,1.0s							
MBWA	**Marble Bar**	48.97	210	P		**P**	**07 54 53.4**	**-0.8**
GSI	**Gunungsitoli**	49.39	252	P		**P**	**07 54 57.7**	**+0.1**
TIXI	**Tiksi**	50.28	354	P		**P**	**07 55 03.8**	**+0.4**
TIXI				IAmb		IAmb	07 55 06.2	
	comp=Z,5.0nm,0.5s							
WMQ	**Urumqi**	50.69	309	*e*P		**P**	**07 55 08.3**	**+1.2**
WMQ				pmax		pmax		
	comp=Z,13nm,0.7s							
STKA	**Stephens Creek**	53.73	182	P		**P**	**07 55 27.6**	**-1.8**
	comp=Z,3.1nm,0.4s,baz=12,slow=8.6,SNR=22							
STKA				LR		LR	08 19 22.0	
	comp=Z,49nm,19.1s,baz=168,slow=37							
	comp=Z,3.1nm,0.4s							
STKA	**Stephens Creek**	53.73	182	P		**P**	**07 55 28.0**	**-1.4**
ANM	**Nome**	53.83	25	P		**P**	**07 55 30.9**	**+1.1**
ANM				IAmb		IAmb	07 55 32.5	
	comp=Z,7.7nm,1.1s							
ZAA0	**Zalesovo Array**	54.19	321	P		**P**	**07 55 32.6**	**+0.1**
ZAA0				IAmb		IAmb	07 55 33.2	
	comp=Z,9.3nm,1.0s							
ZALV	**Zalesovo Beam**	54.19	321	P		**P**	**07 55 32.5**	**0.0**
	comp=Z,4.7nm,0.4s,baz=99,slow=6.7,SNR=25							
ZALV				LR		LR	08 18 13.0	
	comp=Z,19nm,18.9s,baz=73,slow=35							
	comp=Z,4.7nm,0.4s							
ZALV	**Zalesovo Beam**	54.19	321	P		**P**	**07 55 32.1**	**-0.4**
FORT	**Forrest**	54.70	197	P		**P**	**07 55 35.6**	**-0.9**
MK31	**Makanchi Array**	54.77	312	P		**P**	**07 55 37.8**	**+0.8**
MKAR	**Makanchi Array**	54.77	312	P		**P**	**07 55 37.2**	**+0.3**
	comp=Z,4.9nm,0.6s,baz=90,slow=8.9,SNR=41							
	comp=Z,4.9nm,0.6s							
MAKZ	**Makanchi**	54.99	312	P		**P**	**07 55 38.9**	**+0.4**
MAKZ				IAmb		IAmb	07 55 41.1	
	comp=Z,6.9nm,0.8s							
BBOO	**Buckleboo**	55.11	188	P		**P**	**07 55 38.2**	**-1.1**
BBOO				IAmb		IAmb	07 55 44.3	
	comp=Z,16nm,1.1s							
MORW	**Morawa**	57.45	209	P		**P**	**07 55 55.7**	**-0.3**

KURK	**Kurchatov**	57.50	317	P		**P**	**07 55 56.5**	**+0.4**
KURK				IAmb		IAmb	07 55 58.1	
	comp=Z,7.1nm,0.7s							
KURBB	**Kurchatov Arra**	57.55	317	P		**P**	**07 55 56.7**	**+0.2**
	comp=Z,9.0nm,0.6s,baz=93,slow=7.7,SNR=18							
	comp=Z,9.0nm,0.6s							
KDAK	**Kodiak Island**	57.58	35	P		**P**	**07 55 56.9**	**+0.3**
	comp=Z,8.4nm,0.8s,baz=308,slow=12,SNR=14							
	comp=Z,8.4nm,0.8s							
NRIK	**Noril'sk**	57.77	340	P		**P**	**07 55 57.7**	**0.0**
	comp=Z,9.9nm,0.6s,baz=111,slow=8.8,SNR=19							
	comp=Z,9.9nm,0.6s							
NRIK	**Noril'sk**	57.77	340	P		**P**	**07 55 58.1**	**+0.3**
PPLA	**Purkeypile**	58.78	29	P		**P**	**07 56 05.5**	**+0.4**
PPLA				IAmb		IAmb	07 56 24.6	
	comp=Z,14nm,1.4s							
IMAR	**Indian Mountai**	58.90	25	P		**P**	**07 56 06.8**	**+1.1**
CAST	**Castle Rocks**	58.94	28	P		**P**	**07 56 07.3**	**+1.3**
CAST				IAmb		IAmb	07 56 08.3	
	comp=Z,10nm,1.0s							
H21K	**Melozitna Rive**	59.18	26	P		**P**	**07 56 08.5**	**+0.9**
H21K				IAmb		IAmb	07 56 10.4	
	comp=Z,8.6nm,1.0s							
I21K	**Tanana**	59.40	26	P		**P**	**07 56 10.0**	**+1.0**
I21K				IAmb		IAmb	07 56 11.9	
	comp=Z,13nm,1.1s							
KSH	**Kashi**	59.40	304	P		P	07 56 14.1	+4.4
KSH				pP		pP	07 56 42.8	-1.6
KSH				pmax		pmax		
	comp=Z,9.0nm,0.6s							
BPAW	**Bear Paw Mtn.**	59.57	28	P		**P**	**07 56 11.5**	**+1.2**
BPAW				IAmb		IAmb	07 56 12.4	
	comp=Z,9.4nm,1.0s							
A21K	**Barrow**	59.65	19	P		**P**	**07 56 12.5**	**+1.8**
TRF	**Thorofare Moun**	59.74	28	P		**P**	**07 56 12.5**	**+0.8**
MLY	**Manley**	59.88	27	P		**P**	**07 56 13.5**	**+1.1**
MLY				IAmb		IAmb	07 56 14.8	
	comp=Z,6.2nm,1.0s							
AAK	**Ala-Archa**	60.30	307	P		**P**	**07 56 15.7**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=120,slow=8.1,SNR=5.8							
	comp=Z,1.7nm,0.4s							
MDM	**Murphy Dome**	60.91	27	P		**P**	**07 56 20.3**	**+0.9**
MDM				IAmb		IAmb	07 56 54.6	
	comp=Z,8.9nm,1.4s							
H24K	**Noodor Dome**	61.21	26	P		**P**	**07 56 22.8**	**+1.4**
H24K				IAmb		IAmb	07 56 24.0	
	comp=Z,4.5nm,0.8s							
IL31		61.44	27	P		**P**	**07 56 22.8**	**-0.1**
IL31				IAmb		IAmb	07 56 23.6	
	comp=Z,7.0nm,0.9s							
ILAR	**Eielson Array**	61.44	27	P		**P**	**07 56 22.4**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=258,slow=5.6,SNR=29							
	comp=Z,3.8nm,0.8s							
ILAR	**Eielson Array**	61.44	27	P		**P**	**07 56 22.6**	**-0.4**
N25K	**Chitina, Valde**	62.09	31	P		**P**	**07 56 28.2**	**+0.7**
N25K				IAmb		IAmb	07 56 48.8	
	comp=Z,17nm,1.5s							
BVAR	**Borovoye Array**	62.67	319	P		**P**	**07 56 31.7**	**+0.3**
	comp=Z,7.2nm,0.6s,baz=92,slow=7.7,SNR=36							
	comp=Z,7.2nm,0.6s							
BRVK	**Borovoye**	62.73	319	P		**P**	**07 56 32.4**	**+0.7**
BRVK				IAmb		IAmb	07 56 33.1	
	comp=Z,8.1nm,0.9s							
BMAR	**Burnt Mountain**	62.76	24	P		**P**	**07 56 33.1**	**+1.4**
KK31	**Karatay Array**	63.18	308	P		**P**	**07 56 35.6**	**+0.7**
KKAR	**Karatay Array**	63.18	308	P		**P**	**07 56 35.8**	**+0.9**
KKAR	**Karatay Array**	63.18	308	P		**P**	**07 56 35.2**	**+0.3**
BCAR	**Beaver Creek A**	63.51	29	P		**P**	**07 56 37.6**	**+0.8**
GAR	**Garm**	63.82	304	P		**P**	**07 56 40.1**	**+0.8**
CHGR	**Chuyangaron**	64.77	303	P		**P**	**07 56 45.9**	**+0.4**
EPYK	**Eagle Plains**	65.78	26	P		**P**	**07 56 52.7**	**+1.3**
INK	**Inuvik**	66.98	24	P		**P**	**07 56 59.6**	**+0.7**
INK				IAmb		IAmb	07 57 01.8	
	comp=Z,18nm,1.4s							
ARU	**Arti**	69.22	324	P		**P**	**07 57 12.7**	**-0.4**
	comp=Z,6.3nm,0.2s,baz=174,slow=23,SNR=7.9							
	comp=Z,6.3nm,0.2s							
ARU	**Arti**	69.22	324	P		**P**	**07 57 12.9**	**-0.1**
ARU				IAmb		IAmb	07 57 14.6	
	comp=Z,11nm,1.1s							
A36M	**Sachs Harbour**	69.48	19	P		**P**	**07 57 15.5**	**+1.1**
A36M				IAmb		IAmb	07 57 16.9	
	comp=Z,12nm,1.0s							
ABKAR	**Akbulak array**	69.59	316	P		**P**	**07 57 15.0**	**-0.5**
ABKAR	**Akbulak array**	69.59	316	P		**P**	**07 57 15.8**	**+0.2**
ABKAR				IAmb		IAmb	07 57 17.4	
	comp=Z,5.5nm,0.7s							
PLWZ	**Palliser**	69.79	155	P		**P**	**07 57 14.7**	**-2.0**
C36M	**Paulatuk**	70.29	22	P		**P**	**07 57 20.0**	**+0.6**
AKTO	**Aktyubinsk**	70.59	317	P		**P**	**07 57 22.0**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=87,slow=8.0,SNR=6.4							
	comp=Z,1.9nm,0.6s							
EUNU	**Eureka**	74.61	8	P		**P**	**07 57 46.0**	**+1.0**
YKA	**Yellowknife Ar**	75.85	28	P		**P**	**07 57 52.8**	**+0.6**
	comp=Z,4.1nm,0.6s,baz=293,slow=6.1,SNR=55							
	comp=Z,4.1nm,0.6s							
BELG	**Belogornoye**	76.37	321	P		**P**	**07 57 55.4**	**+0.1**
	comp=Z,6.0nm,0.6s,baz=312,slow=1.2,SNR=6.3							
	comp=Z,6.0nm,0.6s							
RES	**Resolute Bay**	76.55	13	P		**P**	**07 57 56.8**	**+0.9**
YBH	**Yreka Blue Hor**	78.17	50	P		**P**	**07 58 06.6**	**+0.9**
B08A	**Colville Reser**	78.23	43	P		**P**	**07 58 07.2**	**+1.4**
ARCES	**ARCESS Array B**	78.68	342	P		**P**	**07 58 07.8**	**-0.1**
	comp=Z,3.7nm,0.6s,baz=60,slow=7.2,SNR=12							
	comp=Z,3.7nm,0.6s							
ARCES	**ARCESS Array B**	78.68	342	P		**P**	**07 58 08.5**	**+0.6**
ARCES				IAmb		IAmb	07 58 28.6	
	comp=Z,32nm,1.4s							
PINE	**Pine Mountain**	78.72	47	P		**P**	**07 58 11.0**	**+2.2**
PINE				IAmb		IAmb	07 58 11.6	
	comp=Z,10nm,0.8s							
BMO	**Blue Mountains**	80.78	45	P		**P**	**07 58 21.1**	**+1.2**
CMB	**Columbia Colle**	81.12	53	P		**P**	**07 58 23.2**	**+1.5**
CMB				IAmb		IAmb	07 58 23.7	
	comp=Z,5.6nm,0.7s							
LHV	**Little Huntoon**	82.42	52	P		**P**	**07 58 29.6**	**+1.2**
KBZ	**Khabaz**	82.43	314	P		**P**	**07 58 28.6**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=82,slow=2.5,SNR=13							
	comp=Z,8.2nm,0.9s							
NVAR	**Mina Array Bea**	82.50	52	P		**P**	**07 58 30.1**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=278,slow=5.3,SNR=39							
	comp=Z,3.8nm,0.7s							
NVAR	**Mina Array Bea**	82.50	52	P		**P**	**07 58 30.6**	**+1.5**
FIA1	**FINESS Array S**	83.01	335	P		**P**	**07 58 30.2**	**-0.8**
FIA1				IAmb		IAmb	07 58 56.9	
	comp=Z,21nm,1.5s							
FINES	**FINESS Array B**	83.01	335	P		**P**	**07 58 29.7**	**-1.2**
	comp=Z,3.4nm,0.4s,baz=70,slow=4.8,SNR=66							
	comp=Z,3.4nm,0.4s							
FINES	**FINESS Array B**	83.01	335	P		**P**	**07 58 30.4**	**-0.6**
HRY	**Holter Researc**	83.55	42	P		**P**	**07 58 35.7**	**+1.4**
GWY	**Greenwater Val**	84.57	53	P		**P**	**07 58 39.7**	**+0.1**
YHL	**Hebgen Lake**	84.77	44	P		**P**	**07 58 41.3**	**+0.6**
FFC	**Flin Flon**	85.21	32	P		**P**	**07 58 43.5**	**+1.2**
FFC				IAmb		IAmb	07 58 44.2	
	comp=Z,9.1nm,0.8s							
DUG	**Dugway, Tooele**	85.69	48	P		**P**	**07 58 45.8**	**+0.6**
RLMT	**Red Lodge**	85.86	43	P		**P**	**07 58 47.5**	**+1.5**
RLMT				IAmb		IAmb	07 58 48.6	
	comp=Z,6.2nm,0.8s							
MNK	**Minsk**	86.07	328	*i* P		**P**	**07 58 47.1**	**+0.7**
	comp=E,3.0nm,0.8s							
MNK				*i* P		**P**	**07 58 47.1**	**+0.7**
	comp=N,34nm,0.8s							
MNK				*i* P		**P**	**07 58 47.1**	**+0.7**
	comp=Z,5.0nm,0.5s,baz=237							
MNK				*i* pP		**pP**	**07 59 17.9**	**-5.1**
MNK				*i* PP		**PP**	**08 02 08.7**	**+0.5**
MNK				*i* PPP		PPP	08 04 03.0	
MNK				*i* S		**SKSac**	**08 09 01.0**	**+2.6**
MNK				*i* sS		**pS**	**08 09 57.1**	**+3.0**
MNK				*i* SS		**SS**	**08 14 53.7**	**+5.0**
MNK				*i* SSS		SSS	08 18 26.2	
MNK				*i* LRM		MLR	08 38 42.1	
	comp=Z,79nm,15.4s							
MNK				*i* LRM		MLR	08 38 51.1	
MNK				*i* LRM		MLR	08 38 51.1	
	comp=N,280nm,16.1s							
FCC	**Fort Churchill**	86.45	26	P		**P**	**07 58 48.9**	**+0.7**
FCC				IAmb		IAmb	07 58 49.1	
	comp=Z,5.2nm,0.8s							
PDAR	**Pinedale Array**	86.75	45	P		**P**	**07 58 50.2**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=270,slow=1.8,SNR=4.5							
	comp=Z,0.5nm,0.7s							
PDAR	**Pinedale Array**	86.75	45	P		**P**	**07 58 51.2**	**+0.8**
W13A	**Hualapai Mount**	87.08	53	P		**P**	**07 58 53.0**	**+0.9**

AKASG	**Malin Array Be**	87.45	325	P		**P**	**07 58 51.4**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=50,slow=5.0,SNR=9.7							
	comp=Z,1.1nm,0.5s							
NOA	**NORSAR Array B**	88.73	339	LR		LR	08 40 35.1	
	comp=Z,11nm,18.6s,baz=270,slow=37							
BRTR	**Keskin Array B**	90.41	314	P		**P**	**07 59 06.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=116,slow=4.0,SNR=4.5							
	comp=Z,0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	128.85	310	PKP		**PKiKP**	**08 05 13.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=33,slow=2.0,SNR=2.3							
PLCA	**Paso Flores**	145.66	131	PKPbc		**PKiKP**	**08 05 44.4**	**-3.3**
	comp=Z,8.0nm,0.7s,baz=248,slow=4.1,SNR=40							
LPAZ	**La Paz**	149.41	85	PKPbc		**PKiKP**	**08 05 56.4**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=4.0,slow=2.8,SNR=11							

IDC ***17*** *07:48:58.0±1.6,20°49S×70°18W,h0km,mb4.4/1, mbtmp4.1/3,ML4.0/2,Error ellipse: s-maj=54.9km s-min=44.5km az=71.0*

SJA ***17*** *07:49:11.3±0.8, 19°86S×69°18W,h107km±3km, ML4.0, MW3.9*

NEIC ***17*** *07:49:13.0±1.3, 19°87S±0°04×69°18W±0°07, h100km±4km, mb4.1/4, ML4.0(GUC),Error ellipse: s-maj=10.3km s-min=4.8km az=112.0*

GUC ***17*** *07:49:13.5±0.8, 19°87S×69°15W, h97km±3km, ML4.0*

VAO ***17*** *07:49:13.2±0.6, 19°72S×69°13W, h108km±6km, mb3.9*

ISC 17 07:49:12.1±0.6, 19°88S±0°02×69°22W±0°04, h101km±5km, n115, σ1s70/158, 1C-9D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
GO01	**Chusmiza**	**0.21**	**7**			**Pn**	**07 49 27.4**	**+0.3**
GO01				Sn		**Sn**	**07 49 38.8**	**+0.7**
GO01	**Chusmiza**	**0.21**	**7**	*i* P		**Pn**	**07 49 27.4**	**+0.3**
GO01				*e*S		**Sn**	**07 49 38.5**	**+0.4**
GO01				IAML			07 49 39.9	
	comp=E,22μm,0.1s							
GO01	**Chusmiza**	**0.21**	**7**	*e*P		**Pn**	**07 49 27.4**	**+0.3**
GO01				*e*S		**Sn**	**07 49 39.3**	**+1.1**
GO01	**Chusmiza**	**0.21**	**7**	*e*P		**Pn**	**07 49 27.4**	**+0.3**
GO01				*e*S		**Sn**	**07 49 39.3**	**+1.1**
PB11	**IPOC Station P**	**0.42**	**286**	Pn		**Pn**	**07 49 28.3**	**+0.6**
PB11	**IPOC Station P**	**0.42**	**286**	⇓*i*P		**Pn**	**07 49 28.3**	**+0.6**
PB11				*i* S		**Sn**	**07 49 40.2**	**+0.9**
PB11				IAML			07 49 40.8	
	comp=E,6μm,0.3s							
PB11	**IPOC Station P**	**0.42**	**286**	*e*P		**Pn**	**07 49 28.3**	**+0.6**
PB11				*e*S		**Sn**	**07 49 41.0**	**+1.7**
PB11	**IPOC Station P**	**0.42**	**286**	*e*P		**Pn**	**07 49 28.3**	**+0.6**
PB11				*e*S		**Sn**	**07 49 41.0**	**+1.7**
HMBC	**Humberstone**	**0.74**	**237**	⇓*i*P		**Pn**	**07 49 30.9**	**+0.7**
HMBC				*i* S		**Sn**	**07 49 44.8**	**+1.1**
HMBC				IAML			07 49 45.5	
	comp=N,6μm,0.1s							
MNMC	**Minye Minye**	**0.82**	**335**			**Pn**	**07 49 32.6**	**+1.5**
MNMC	**Minye Minye**	**0.82**	**335**	⇓*i*P		**Pn**	**07 49 32.4**	**+1.2**
MNMC				*i* S		**Sn**	**07 49 47.1**	**+1.8**
MNMC				IAML			07 49 48.4	
	comp=E,9μm,0.3s							
MNMCX	**Minye Minye**	**0.82**	**335**	*e*P		**Pn**	**07 49 32.0**	**+0.9**
MNMCX				*e*P		**Pn**	**07 49 32.4**	**+1.2**
MNMCX				*e*S		**Sn**	**07 49 47.1**	**+1.8**
MNMCX				IAML			07 49 48.7	
	comp=Z,4μm,0.4s							
MNMCX	**Minye Minye**	**0.82**	**335**	*e*P		**Pn**	**07 49 32.0**	**+0.9**
MNMCX				*e*P		**Pn**	**07 49 32.4**	**+1.2**
MNMCX				*e*S		**Sn**	**07 49 47.1**	**+1.8**
MNMCX				IAML			07 49 48.7	
	comp=Z,4μm,0.4s							
PSGCX	**Pisagua**	**0.89**	**288**	Pn		**Pn**	**07 49 32.1**	**+0.5**
PSGCX	**Pisagua**	**0.89**	**288**	*e*P		**Pn**	**07 49 32.0**	**+0.4**
PSGCX				*e*P		**Pn**	**07 49 32.4**	**+0.8**
PSGCX				*e*S		**Sn**	**07 49 48.0**	**+1.7**
PSGCX				IAML			07 49 48.2	
	comp=Z,1μm,0.1s							
PSGCX	**Pisagua**	**0.89**	**288**	*e*P		**Pn**	**07 49 32.0**	**+0.4**
PSGCX				*e*P		**Pn**	**07 49 32.4**	**+0.8**
PSGCX				*e*S		**

PB09	**IPOC Station P**	**1.91**	**181**	*e*P	**Pn**	**07 49 45.0**	**+1.2**
PB09				*e*S	**Sn**	**07 50 11.3**	**+3.5**
PB09				IAML		07 50 13.6	
	comp=Z,1μm,0.5s						
PB07	**IPOC Station P**	**1.94**	**199**	*e*P	**Pn**	**07 49 45.0**	**+0.8**
PB07				*e*S	**Sn**	**07 50 10.0**	**+1.4**
PB07				IAML		07 50 17.5	
	comp=E,2μm,0.7s						
PB07	**IPOC Station P**	**1.94**	**199**	*e*P	**Pn**	**07 49 45.0**	**+0.8**
PB07				*e*S	Sn	07 49 55.2	-13
PB07				IAML		07 50 19.7	
	comp=Z,1μm,0.3s						
PB07	**IPOC Station P**	**1.94**	**199**	*e*P	**Pn**	**07 49 45.0**	**+0.8**
PB07				*e*S	Sn	07 49 55.2	-13
PB07				IAML		07 50 19.7	
	comp=Z,1μm,0.3s						
PB03	**IPOC Station P**	**2.22**	**193**	*i* P	**Pn**	**07 49 48.5**	**+0.7**
PB03				*e*S	**Sn**	**07 50 16.2**	**+1.3**
PB03				IAML		07 50 25.6	
	comp=E,968nm,0.4s						
PB03	**IPOC Station P**	**2.22**	**193**	*e*P	**Pn**	**07 49 48.7**	**+0.9**
PB03				*e*S	**Sn**	**07 50 16.5**	**+1.5**
PB03				IAML		07 50 26.9	
	comp=Z,735nm,0.2s						
PB03	**IPOC Station P**	**2.22**	**193**	*e*P	**Pn**	**07 49 48.7**	**+0.9**
PB03				*e*S	**Sn**	**07 50 16.5**	**+1.5**
PB03				IAML		07 50 26.9	
	comp=Z,735nm,0.2s						
PB04	**IPOC Station P**	**2.59**	**199**	*i* P	**Pn**	**07 49 53.3**	**+0.6**
PB04				IAML		07 50 36.9	
	comp=N,869nm,0.4s						
PB04	**IPOC Station P**	**2.59**	**199**	*e*P	**Pn**	**07 49 53.3**	**+0.6**
PB04				*e*S	**Sn**	**07 50 30.2**	**+6.4**
PB04				IAML		07 50 36.7	
	comp=Z,587nm,0.5s						
PB04	**IPOC Station P**	**2.59**	**199**	*e*P	**Pn**	**07 49 53.3**	**+0.6**
PB04				*e*S	**Sn**	**07 50 30.2**	**+6.4**
PB04				IAML		07 50 36.7	
	comp=Z,587nm,0.5s						
LVC	**Limon Verde**	**2.73**	**174**	Pn	**Pn**	**07 49 57.0**	**+2.2**
LVC	**Limon Verde**	**2.73**	**174**	*e*P	**Pn**	**07 49 56.5**	**+1.7**
LVC				*e*S	**Sn**	**07 50 29.1**	**+1.6**
LVC	**Limon Verde**	**2.73**	**174**	*e*P	**Pn**	**07 49 57.1**	**+2.3**
PB06	**IPOC Station P**	**2.83**	**187**	*e*P	**Pn**	**07 49 56.6**	**+0.7**
PB06				IAML		07 50 39.6	
	comp=E,530nm,0.3s						
PB06	**IPOC Station P**	**2.83**	**187**	*e*P	**Pn**	**07 49 56.7**	**+0.8**
PB06				*e*S	Sn	07 50 17.7	-12
PB06				IAML		07 50 40.0	
	comp=Z,394nm,0.5s						
PB06	**IPOC Station P**	**2.83**	**187**	*e*P	**Pn**	**07 49 56.7**	**+0.8**
PB06				*e*S	Sn	07 50 17.7	-12
PB06				IAML		07 50 40.0	
	comp=Z,394nm,0.5s						
PB15	**IPOC Station P**	**3.32**	**184**	*e*P	**Pn**	**07 50 03.2**	**+0.8**
PB15	**IPOC Station P**	**3.32**	**184**	*e*P	**Pn**	**07 50 04.0**	**+1.5**
PB15				*e*S	**Sn**	**07 50 41.2**	**0.0**
PB15				IAML		07 50 59.5	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**3.32**	**184**	*e*P	**Pn**	**07 50 04.0**	**+1.5**
PB15				*e*S	**Sn**	**07 50 41.2**	**0.0**
PB15				IAML		07 50 59.5	
	comp=Z,1μm,0.2s						
LPAZ	**La Paz**	**3.72**	**16**	Pn	**Pn**	**07 50 11.2**	**+3.1**
	comp=Z,4.3nm,0.3s,baz=190,slow=6.7,SNR=121						
LPAZ				Sn	**Sn**	**07 50 55.6**	**+4.2**
	baz=207,slow=15						
	comp=Z,29nm,0.6s						
PB10	**IPOC Station P**	**3.82**	**199**	*e*P	**Pn**	**07 50 08.3**	**-0.7**
PB10				IAML		07 51 08.4	
	comp=E,213nm,0.3s						
PB10	**IPOC Station P**	**3.82**	**199**	*e*P	**Pn**	**07 50 08.6**	**-0.4**
PB10				*e*S	Sn	07 51 07.1	+14
PB10				IAML		07 51 09.5	
	comp=Z,134nm,0.5s						
PB10	**IPOC Station P**	**3.82**	**199**	*e*P	**Pn**	**07 50 08.6**	**-0.4**
PB10				*e*S	Sn	07 51 07.1	+14
PB10				IAML		07 51 09.5	
	comp=Z,134nm,0.5s						
YJA	**Yavi**	**4.15**	**124**	*e*P	**Pn**	**07 50 17.0**	**+3.2**
YJA	**Yavi**	**4.15**	**124**	*e*P	**Pn**	**07 50 17.0**	**+3.2**
PB14	**IPOC Station P**	**4.85**	**193**	*e*P	**Pn**	**07 50 22.3**	**-0.8**
PB14				*e*S	**Sn**	**07 51 17.5**	**-0.9**
PB14				IAML		07 51 45.9	
	comp=Z,100nm,0.5s						
PB14	**IPOC Station P**	**4.85**	**193**	*e*P	**Pn**	**07 50 22.3**	**-0.8**
PB14				*e*S	**Sn**	**07 51 17.5**	**-0.9**
PB14				IAML		07 51 45.9	
	comp=Z,100nm,0.5s						
HJA	**Humahuaca**	**4.86**	**134**	*e*P	**Pn**	**07 50 26.0**	**+2.7**
HJA	**Humahuaca**	**4.86**	**134**	*e*P	**Pn**	**07 50 26.0**	**+2.7**
AC02	**Maricunga**	**6.93**	**179**	Pn	**Pn**	**07 50 51.7**	**+0.2**
BBSD	**Serra de San D**	**8.60**	**73**	*e*P	**Pn**	**07 51 11.7**	**-2.2**
ETMB	**Extrema**	**10.41**	**17**	*e*P	**Pn**	**07 51 38.2**	**-0.4**
PTLB	**Pontes e Lacer**	**10.57**	**67**	*e*P	**Pn**	**07 51 38.3**	**-2.4**
VILB	**Vilhena**	**11.06**	**53**	Pn	**Pn**	**07 51 45.9**	**-1.5**
VILB	**Vilhena**	**11.06**	**53**	*e*P	**Pn**	**07 51 45.3**	**-2.0**
CZSB	**Cruzeiro do Su**	**12.54**	**344**	*e*P	**Pn**	**07 52 06.4**	**-0.6**
CPUP	**Villa Florida**	**12.69**	**123**	Pn	**Pn**	**07 52 06.8**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=320,slow=12,SNR=4.8						
	comp=Z,1.6nm,0.7s						
CPUP	**Villa Florida**	**12.69**	**123**	Pn	**Pn**	**07 52 08.2**	**-0.7**
AQDB	**Aquidauana**	**12.71**	**95**	*e*P	**Pn**	**07 52 09.9**	**+0.6**
SALV	**Santo Antonio**	**13.47**	**75**	*e*P	**Pn**	**07 52 18.3**	**-1.0**
AMBA	**Amambai (Brazi**	**13.60**	**105**	*e*P	**Pn**	**07 52 22.8**	**+1.9**
PP1B	**Ponte de Pedra**	**13.78**	**83**	*e*P	**Pn**	**07 52 22.8**	**-0.4**
PDRB	**Porto dos Gac**	**14.56**	**57**	*e*P	**Pn**	**07 52 33.4**	**0.0**
TRCB	**Terra Rica**	**15.73**	**104**	*e*P	**P**	**07 52 50.0**	**0.0**
H03N1	**Juan Fernandez**	**16.03**	**211**	T	T	08 08 58.2	
	baz=33,slow=74						
H03N2	**Juan Fernandez**	**16.04**	**211**	T	T	08 08 56.5	
	baz=33,slow=74						
H03N3	**Juan Fernandez**	**16.05**	**211**	T	T	08 08 53.0	
	baz=33						
PTGB	**Pitanga**	**16.59**	**110**	*e*P	**P**	**07 53 00.3**	**+0.7**
TEFE	**Tefe**	**16.87**	**16**	*e*P	**Pn**	**07 53 00.0**	**-2.2**
ITAB	**Concordia**	**17.29**	**118**		**Pn**	**07 53 07.6**	**+0.4**
ITAB				IAmb	IAmb	07 53 11.4	
	comp=Z,21nm,1.3s						
NPGB	**Novo Progresso**	**18.54**	**48**	*e*P	**P**	**07 53 20.1**	**-0.9**
MCRA	**Macar, Loja**	**18.63**	**324**	P	**Pn**	**07 53 23.1**	**-0.4**
SNDB	**Serra Nova Dou**	**18.93**	**68**	*e*P	**P**	**07 53 24.1**	**-1.2**
BB19B	**Bebedouro**	**19.43**	**97**	*e*P	**P**	**07 53 29.7**	**-1.0**
IPMB	**Ipameri, GO**	**19.96**	**88**	*e*P	**P**	**07 53 35.0**	**-1.6**
ITTB	**Itaituba**	**20.26**	**42**	*e*P	**P**	**07 53 37.8**	**-1.9**
PLCA	**Paso Flores**	**20.82**	**183**	P	**P**	**07 53 46.3**	**+0.6**
PLCA				IAmb	IAmb	07 53 47.8	
	comp=Z,9.5nm,1.4s						
SMTB	**Santa Maria do**	**23.61**	**65**	*e*P	**P**	**07 54 13.3**	**-1.0**
BOAV	**Boa Vista**	**23.73**	**22**	*e*P	**P**	**07 54 14.8**	**-0.5**
DIAM	**Diamantina, MG**	**24.19**	**91**	*e*P	**P**	**07 54 18.5**	**-1.1**
MC01	**Montes Claros**	**24.20**	**87**	*e*P	**P**	**07 54 18.0**	**-1.6**
JANB	**Januaria**	**24.23**	**83**	*e*P	**P**	**07 54 18.9**	**-1.0**
RUSC	**La Rusia**	**25.89**	**351**	P	**P**	**07 54 35.7**	**+0.4**
YKA	**Yellowknife Ar**	**89.57**	**341**	P	**P**	**08 01 58.5**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=136,slow=4.5,SNR=36						
	comp=Z,1.6nm,0.7s						
H11S2	**WAKE ISLAND Hyd**	**27.37**	**278**	T	T	10 28 00.5	
	baz=102,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hyd**	**27.38**	**278**	T	T	10 27 53.4	
	baz=102,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hyd**	**27.39**	**278**	T	T	10 27 54.1	
	baz=102,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hyd**	**27.41**	**280**	T	T	10 27 58.8	
	baz=101,slow=75,SNR=8.4						
H11N2	**WAKE ISLAND Hyd**	**27.42**	**280**	T	T	10 27 59.7	
	baz=101,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hyd**	**27.42**	**280**	T	T	10 28 01.1	
	baz=101,slow=75,SNR=6.7						
WRA	**Warramunga Arr**	**134.19**	**212**	PKP	**PKPdf**	**08 08 18.5**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=145,slow=2.5,SNR=1.9						
MKAR	**Makanchi Array**	**144.48**	**34**	PKPbc	**PKPab**	**08 08 35.5**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=314,slow=2.9,SNR=4.7						
SONM	**Songino Array**	**151.88**	**6**	PKPbc	**PKiKP**	**08 08 56.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=324,slow=1.6,SNR=6.7						

*IDC **17** 07:53:42.8±1.0, 50.°05N×78.°76E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=13.2km s-min=6.5km az=64.0*
*NNC **17** 07:53:42.4±1.6, 50.°02N×78.°57E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=36.2km s-min=3.5km az=77.0, Suspected Mining explosion.*

ISC 17 07:53:42.7±2.2, 50.°01N±0.°08×78.°6E±0.°3, h0km, n8, σ0s84/12, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.62**	**357**	Pg	**Pg**	**07 53 54.0**	**-0.6**
	1.1nm,0.3s,baz=166,slow=19,SNR=66						
KURBB				Lg	Lg	07 54 03.0	
	1.2nm,0.3s,baz=166,slow=32,SNR=23						
KURBB	**Kurchatov Arra**	**0.62**	**357**	⇑P	**Pg**	**07 53 54.2**	**-0.4**
	5.2nm,0.2s						
KURBB				⇓S	**Sg**	**07 54 03.2**	**+0.7**
	119nm,0.8s						
KURK	**Kurchatov**	**0.71**	**2**	⇑P	**Pg**	**07 53 55.6**	**-0.8**
	3.6nm,0.4s						
KURK				⇑S	**Sg**	**07 54 05.9**	**+0.4**
	68nm,1.0s						
MAKZ	**Makanchi**	**3.92**	**143**	⇑Pn	**Pn**	**07 54 44.7**	**+0.5**
	0.2nm,0.1s						
MAKZ				⇑Pg	**Pb**	**07 54 53.6**	**+0.9**
	0.4nm,0.2s						
MK31	**Makanchi Array**	**4.05**	**141**	⇑Pn	**Pn**	**07 54 46.5**	**+0.5**
	0.1nm,0.1s,baz=322,slow=10,SNR=35						
MK31				⇓Pg	**Pb**	**07 54 55.2**	**+0.2**
	0.2nm,0.1s,baz=322,slow=14,SNR=12						
MKAR	**Makanchi Array**	**4.05**	**141**	Pn	**Pn**	**07 54 46.1**	**+0.1**
	0.2nm,0.3s,baz=320,slow=11,SNR=28						
MKAR				Pg	**Pb**	**07 54 53.2**	**-1.8**
	0.4nm,0.3s,baz=329,slow=15,SNR=11						
MKAR				Lg	Lg	07 55 46.8	
	0.9nm,0.3s,baz=329,slow=27,SNR=12						
	0.2nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.52**	**42**	I	I	08 29 20.0	
	baz=218,slow=333,SNR=2.1						
ZALV	**Zalesovo Beam**	**5.52**	**42**	Pn	**Pn**	**07 55 06.4**	**+0.4**
	0.5nm,0.3s,baz=229,slow=14,SNR=3.5						
	1.0nm,0.3s						

*MDD **17** 07:59:22.7±0.3, 37.°67N×2.°91W, h12km, mb_Lg2.2/12, Error ellipse: s-maj=2.4km s-min=1.8km az=152.0*
*SFS **17** 07:59:23.2, 37.°56N×2.°88W, h17km, ML2.5/6, MLv2.5/6*

ISC 17 07:59:21.2±0.9, 37.°69N±0.°02×2.°88W±0.°02, h16km±7km, n25, σ1s47/55, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EQES	**Quesada**	**0.19**	**306**	Pg	**Pg**	**07 59 26.3**	**+0.4**
EQES				Sg	**Sg**	**07 59 29.8**	**+0.7**
EQUE	**Quentar**	**0.66**	**223**	Pg	**Pg**	**07 59 33.4**	**-0.8**
EQUE				Sg	**Sg**	**07 59 42.2**	**-0.8**
ENIJ	**Nijar**	**0.89**	**143**	S	**Sg**	**07 59 47.2**	**-3.1**
ENIJ				P	**Pg**	**07 59 38.4**	**-0.2**
ELGU	**Los Guajares,**	**1.01**	**216**	S	**Sb**	**07 59 52.8**	**-0.9**
ELGU				P	**Pb**	**07 59 40.5**	**0.0**
ELGU	**Los Guajares,**	**1.01**	**216**	Pg	**Pb**	**07 59 40.2**	**-0.2**
ELGU				Sg	**Sb**	**07 59 53.5**	**-0.2**
EGOR	**Sierra Gorda,**	**1.14**	**240**	P	**Pn**	**07 59 43.1**	**+0.4**
EGOR	**Sierra Gorda,**	**1.14**	**240**	Pg	**Pn**	**07 59 43.2**	**+0.6**
EGOR				Sg	**Sn**	**07 59 60.0**	**+1.9**
EGOR				*i* Vmb_Lg		08 00 03.8	
EMUR	**La Murta**	**1.30**	**83**	S	**Sg**	**08 00 02.5**	**-0.8**
EMUR				P	**Pg**	**07 59 46.3**	**0.0**
EMUR	**La Murta**	**1.30**	**83**	Pg	**Pg**	**07 59 46.3**	**0.0**
EMUR				Sg	**Sg**	**08 00 03.2**	**-0.2**
EMUR				*i* Vmb_Lg		08 00 05.5	
PSIM	**Granatula de C**	**1.33**	**329**	Pg	**Pn**	**07 59 45.1**	**0.0**
PSIM				Sg	**Sb**	**08 00 01.9**	**-0.7**
ETOB	**Tobarra**	**1.42**	**47**	S	**Sg**	**08 00 07.4**	**+0.4**
ETOB				P	**Pg**	**07 59 48.6**	**+0.1**
ETOB	**Tobarra**	**1.42**	**47**	Pn	**Pb**	**07 59 47.2**	**-0.1**
ETOB				Pg	**Pg**	**07 59 48.4**	**0.0**
ETOB				Sn	**Sg**	**08 00 06.2**	**-0.8**
ETOB				Sg	**Sg**	**08 00 07.3**	**+0.4**
ETOB				*i* Vmb_Lg		08 00 10.7	
EADA	**Adamuz**	**1.43**	**290**	S	**Sb**	**08 00 06.4**	**+0.9**
EADA				P	**Pn**	**07 59 47.0**	**+0.5**
EADA	**Adamuz**	**1.43**	**290**	Pn	**Pn**	**07 59 46.9**	**+0.3**
EADA				Pg	**Pb**	**07 59 47.8**	**+0.3**
EADA				Sg	**Sb**	**08 00 07.2**	**+1.7**
EADA				*i* Vmb_Lg		08 00 09.8	
ECAB	**El Cabril**	**2.05**	**282**	P	**Pn**	**07 59 55.0**	**-0.1**
ECAB				S	**Sn**	**08 00 20.1**	**-0.2**
ECAB	**El Cabril**	**2.05**	**282**	Pn	**Pn**	**07 59 55.0**	**-0.1**
ECAB				Sg	**Sb**	**08 00 24.5**	**+1.1**
ECAB				*i* Vmb_Lg		08 00 27.5	
ESDC	**Sonseca Array**	**2.16**	**337**	Pn	**Pb**	**07 59 58.7**	**-1.3**
ESDC				Pg	**Pg**	**08 00 01.8**	**-0.8**
ESDC				Sn	**Sn**	**08 00 22.3**	**-0.8**
ESDC				Sg	**Sg**	**08 00 30.3**	**-0.3**
ESDC				*i* Vmb_Lg		08 00 32.6	
PAB	**San Pablo**	**2.18**	**329**	Pg	**Pg**	**08 00 02.6**	**-0.6**
PAB				Sn	**Sn**	**08 00 23.4**	**-0.4**
PAB				Sg	**Sg**	**08 00 30.6**	**-0.9**
PAB				*i* Vmb_Lg		08 00 33.9	
EMIN	**Mina Concepcio**	**3.01**	**273**	Pn	**Pn**	**08 00 08.1**	**-0.2**
EMIN				Sg	**Sb**	**08 00 53.0**	**+2.0**
EMIN				*i* Vmb_Lg		08 00 59.9	
GUD	**Guadarrama**	**3.11**	**342**	Pg	**Pg**	**08 00 19.4**	**-1.4**
GUD				Sg	**Sg**	**08 00 58.7**	**-2.5**
GUD				*i* Vmb_Lg		08 01 04.2	
ETOR	**Torete**	**3.19**	**11**	Pn	**Pn**	**08 00 11.9**	**+1.1**
ETOR				Pg	**Pg**	**08 00 22.2**	**-0.2**
ETOR				Sg	**Sg**	**08 01 02.7**	**-1.0**
ETOR				*i* Vmb_Lg		08 01 05.9	
PBAR	**Barrancos**	**3.33**	**280**	*e*Sg	**Sb**	**08 01 03.2**	**+3.1**
PBAR				A	A	08 01 10.3	
	2.1nm,0.8s						
EBAD	**Badajoz**	**3.43**	**289**	Sn	**Sn**	**08 00 53.6**	**-0.8**
EBAD				Sg	**Sb**	**08 01 06.0**	**+3.0**
PVAQ	**Vaqueiros**	**3.86**	**267**	*e*Pn	**Pn**	**08 00 20.4**	**+0.5**
PVAQ				*e*Sn	**Sn**	**08 01 04.4**	**-0.5**
PVAQ				*e*Sg	**Sb**	**08 01 21.1**	**+5.7**
PVAQ				A	A	08 01 25.1	
	1.9nm,0.3s						
PMRV	**Marv??o**	**3.94**	**298**	*e*Sg	**Sg**	**08 01 23.9**	**-3.9**
PMRV				A	A	08 01 30.8	
	4.4nm,0.4s						

NNC 17 08:42:38.9±2.3, 53.°78N×90.°60E, h0km, mb3.6, mpv3.3, 5C-6D, Error ellipse: s-maj=17.3km s-min=11.2km az=84.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.43**	**275**	⇓Pg	**Pb**	**08 43 40.9**	**+0.5**
	0.6nm,0.5s,baz=90,slow=16						
ZAA0				⇑Lg	Lg	08 44 29.6	
	6.0nm,1.1s,baz=90,slow=29						
KURK	**Kurchatov**	**7.97**	**252**	⇓Pn	Pn	08 44 36.3	+0.5
	2.9nm,1.0s						
KURK				⇑Sn	Sn	08 46 07.5	+0.9
	3.7nm,0.6s						
KURK				⇑Lg	Lg	08 46 53.2	
	11nm,1.0s						
KURBB	**Kurchatov Arra**	**8.06**	**252**	⇑Pn	Pn	08 44 37.8	+0.7
	3.2nm,0.4s						
KURBB				⇓Sn	Sn	08 46 10.1	+1.2
	26nm,0.8s						
KURBB				⇑Lg	Lg	08 46 54.0	
	15nm,0.7s						
MK31	**Makanchi Array**	**8.79**	**221**	⇓Pn	Pn	08 44 47.9	+0.8
	0.5nm,0.6s,baz=36,slow=11,SNR=23						
MK31				Pg	Pg	08 44 55.0	-32
	0.7nm,0.6s,baz=36,slow=12,SNR=7.5						
MK31				⇓Sn	Sn	08 46 26.0	-0.7
	0.5nm,0.5s						
MK31				⇓Lg	Lg	08 46 50.1	
	1.1nm,0.7s						

IDC 17 08:47:34.0±784.0, 54.°03N×0.°39E, h0km, Error ellipse: s-maj=407.6km s-min=188.8km az=104.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**9.80**	**117**	I	I	09 47 00.0	
	baz=308,slow=340,SNR=1.1						
I43RU	**DUBNA INFRASON**	**20.94**	**68**	I	I	10 55 21.8	
	baz=279,slow=326,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**34.66**	**72**	I	I	12 21 30.0	
	baz=299,slow=338,SNR=1.3						

IDC 17 08:52:27.3±2.0, 3.°47N×128.°05E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=147.6km s-min=25.4km az=66.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.07**	**165**	P	P	08 57 45.5	+0.9
	0.6nm,0.6s,baz=345,slow=10,SNR=9.7						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**27.57**	**168**	P	P	08 58 15.3	-1.0
	0.2nm,0.5s,baz=356,slow=7.4,SNR=5.1						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**37.44**	**161**	P	P	08 59 42.2	-0.2
	0.7nm,0.4s,baz=333,slow=9.3,SNR=4.9						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**58.53**	**325**	P	P	09 02 25.7	0.0
	0.5nm,0.5s,baz=107,slow=7.9,SNR=4.6						
	0.5nm,0.5s						

*MOS **17** 08:53:47.2±3.0, 49.°74N×118.°83E, h10km, mb4.2/4, Error ellipse: s-maj=10.5km s-min=7.5km az=113.2*
*BYKL **17** 08:53:47.0±0.5, 49.°72N×118.°74E*
*IDC **17** 08:53:48.8±0.8, 49.°57N×118.°50E, h0km, mb3.6/9, mbtmp3.7/11, ML3.3/2, MS2.9/4, Error ellipse: s-maj=25.5km s-min=14.9km az=1.0*

ISC 17 08:53:47.0±0.5, 49.°81N±0.°03×118.°72E±0.°03, h10km, n73, σ3s26/105, mb3.6/13, 4C-3D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIA	**Hailar**	**0.86**	**129**	*e*Pg	**Pg**	**08 54 01.0**	**-2.6**
HIA				*e*Sg	**Sg**	**08 54 11.4**	**-3.5**
HIA	**Hailar**	**0.86**	**129**	⇓*i*PG	**Pg**	**08 54 01.0**	**-2.6**
HIA				*e*S	**Sg**	**08 54 11.4**	**-3.5**
CIT	**Chita**	**3.95**	**306**	*e*Pn	**Pn**	**08 54 48.0**	**+0.3**
CIT				max		08 55 04.7	
	122nm,0.2s						
CIT				*e*Sn	**Sn**	**08 55 33.8**	**-0.2**
CIT				*e*Sg	**Sb**	**08 55 50.3**	**+5.9**
CIT				Smax		08 55 55.6	
	4μm,1.4s						
CIT	**Chita**	**3.95**	**306**	*e*PN	**Pg**	**08 55 01.8**	**-0.8**
CIT				*e*S	**Sg**	**08 55 52.9**	**-0.8**
KPC	**Khapcheranga**	**4.11**	**271**	⇓*i*Pn	**Pn**	**08 54 49.2**	**-0.7**
KPC				*e*		08 54 52.9	
KPC				*e*Pg	**Pb**	**08 55 00.4**	**+0.9**
KPC				Pmax		08 55 07.1	
	133nm,0.6s						
KPC				*e*Sn	**Sn**	**08 55 35.5**	**-2.6**
KPC				*e*Sg	**Sb**	**08 55 53.4**	**+4.2**
KPC				Smax		08 56 08.9	
	737nm,1.6s						
KPC	**Khapcheranga**	**4.11**	**271**	⇓*i*PN	**Pb**	**08 55 01.8**	**+2.3**
KPC				*e*S	**Sn**	**08 55 36.5**	**-1.6**
KPC				*e*		08 55 54.2	
KPC				pmax	pmax		
	comp=Z,133nm,0.6s						
KPC				smax	smax		
	comp=N,694nm,0.9s						
TUP	**Tupik**	**4.68**	**9**	⇑*i*Pn	**Pn**	**08 54 56.9**	**-0.8**
TUP				*e*Pg	**Pb**	**08 55 12.3**	**+3.1**
TUP				Pmax		08 55 15.9	
	comp=N,86nm,0.6s						
TUP				*e*Sn	**Sn**	**08 55 53.7**	**+1.6**
TUP				*e*Sg	**Sg**	**08 56 15.1**	**-2.1**
TUP				Smax		08 56 16.5	
	comp=N,1μm,1.4s						
TUP	**Tupik**	**4.68**	**9**	⇑*i*PN	**Pn**	**08 54 56.7**	**-1.0**
TUP				*e*		08 55 11.2	
TUP				*e*S	**Sn**	**08 55 53.0**	**+0.9**
TUP				*e*		08 56 14.5	
TUP				pmax	pmax		
	comp=Z,59nm,0.4s						
TUP				smax	smax		
	comp=E,1μm,1.2s						
HEH	**HeiHe**	**5.62**	**82**	Pn	**Pn**	**08 55 08.6**	**-2.0**
HEH				Pg	**Pg**	**08 55 30.9**	**-3.7**
HEH				Sg	**Sg**	**08 56 42.9**	**-4.5**
HEH				smax	smax		
	comp=N,680nm,0.9s						
HEH				smax	smax		
	comp=E,290nm,0.6s						
XLT	**XiLinHaoTe**	**6.18**	**198**	*e*Pn	**Pn**	**08 55 19.6**	**+1.1**
XLT				Pg	**Pg**	**08 55 42.6**	**-2.8**
XLT				Sg	**Sg**	**08 56 58.1**	**-7.4**
XLT				smax	smax		
	comp=N,6.0nm,0.7s						
XLT				smax	smax		
	comp=E,120nm,1.0s						
UKT	**Uakit**	**6.47**	**333**	*e*Pn	**Pn**	**08 55 21.6**	**-0.8**
UKT				*e*		08 55 29.8	
UKT				*e*Pg	Pb	08 55 45.0	+5.3
UKT				Pmax		08 56 09.2	
	comp=E,21nm,1.2s						
UKT				*e*Sn	**Sn**	**08 56 34.3**	**-2.0**
UKT				*e*Sg	**Sg**	**08 57 09.3**	**-5.3**
UKT				Smax		08 57 16.3	
	comp=E,474nm,1.2s						
UKT	**Uakit**	**6.47**	**333**	*e*PG	Pb	08 55 45.2	+5.5
UKT				*e*		08 57 09.1	
UKT				pmax	pmax		
	comp=Z,16nm,0.5s						
UKT				smax	smax		
	comp=N,468nm,1.3s						
ZEA	**Zeya**	**6.59**	**50**	*i* PN	Pn	08 55 31.0	+7.1
SYVR	**Suvo**	**6.64**	**309**	*e*Pn	**Pn**	**08 55 24.8**	**+0.2**
SYVR				*e*		08

comp=E,110nm,1.2s
KHNR Khani 7.16 6 *e*Sg **Sg** **08 57 32.5 -4.2**
IENR Iengra 7.41 28 *e*Pn **Pn** **08 55 34.7 -0.5**
IENR *e*Sg **Sg** **08 57 38.5 -6.2**
IENR *e* 08 58 00.0
KMO Kumora 7.59 326 *e*Pn **Pn** **08 55 36.9 -0.8**
KMO *e*Sn **Sn** **08 57 03.8 +0.1**
KMO max 08 57 19.3
comp=E,31nm,0.3s
KMO *e*Sg **Sg** **08 57 44.7 -5.8**
KMO Smax 08 58 00.7
comp=E,1μm,1.6s
YOA Uoyan 7.61 329 *e*Sg **Sg** **08 57 44.7 -6.2**
YOA Smax 08 58 12.1
comp=E,4μm,1.5s
ZRHB Zarechye 7.77 295 *e*Sg **Sg** **08 57 49.1 -7.1**
ZRHB Smax 08 58 10.9
comp=E,2μm,1.4s
FFNB Fofonovo 7.88 291 *e*Sg **Sg** **08 57 53.2 -6.5**
OGRR Ongureny 7.90 303 *e*PN **Pn** **08 55 44.0 +2.2**
OGRR *e* 08 56 11.8
OGRR pmax pmax
comp=Z,7.0nm,0.6s
ULN Ulaanbaatar 7.94 260 *i* PN **Pn** **08 55 42.2 -0.4**
CLNS Chul'man 7.95 25 *e*Sg **Sg** **08 57 56.3 -5.5**
CLNS *e* 08 58 09.4
KAB Kabansk 7.95 291 *e*Sg **Sg** **08 57 55.7 -6.1**
KAB Smax 08 58 14.4
comp=Z,1μm,0.8s
TRG Tyrgan 8.30 296 *e*Pn **Pn** **08 55 46.0 -1.3**
TRG *e* 08 55 49.3
TRG max 08 56 27.4
comp=Z,11nm,0.6s
TRG *e*Sn **Sn** **08 57 19.7 -1.4**
TRG *e*Sg **Sg** **08 58 06.2 -6.9**
TRG Smax 08 58 25.0
comp=Z,214nm,1.4s
TRG Tyrgan 8.30 296 *e*PG Pb 08 56 17.6 +6.9
TRG *e*S **Sn** **08 57 19.4 -1.7**
SONM Songino Array 8.37 261 Pn **Pn** **08 55 47.5 -0.9**
comp=Z,1.0nm,0.3s,baz=74,slow=13,SNR=19
SONM Pg Pg 08 56 19.8 -7.4
comp=Z,3.2nm,0.3s,baz=74,slow=16,SNR=8.4
SONM Sn **Sn** **08 57 24.2 +1.2**
comp=Z,4.4nm,0.3s,baz=68,slow=17,SNR=6.8
SONM Lg Lg 08 58 07.3
comp=Z,6.3nm,0.3s,baz=81,slow=26,SNR=4.4
SONM LR LR 08 59 24.6
comp=Z,107nm,20.4s,baz=346,slow=41
comp=Z,4.0nm,0.5s
BOD Bodaibo 8.49 343 *e*Pg Pg 08 56 22.3 -7.1
BOD Pmax 08 56 24.5
comp=Z,7.0nm,0.3s
BOD *e* 08 57 46.7
BOD *e*Sg Sg 08 58 12.8 -6.4
BOD Smax 08 58 18.6
comp=Z,276nm,1.1s
BOD Bodaibo 8.49 343 *e*PG Pg 08 56 23.0 -6.4
BOD *e* 08 58 13.1
BOD pmax pmax
comp=Z,7.0nm,0.3s
BOD smax smax
comp=E,276nm,1.0s
KLR Kul'dur 8.50 89 Pn **Pn** **08 55 49.4 -0.8**
comp=E,1.9nm,0.3s,baz=296,slow=18,SNR=33
KLR Pg **Pg** **08 56 27.2 -2.5**
comp=E,1.9nm,0.3s,baz=299,slow=14,SNR=4.7
KLR Lg Lg 08 58 14.8
comp=E,2.6nm,0.3s,baz=192,slow=18,SNR=9.7
KLR LR LR 08 58 35.1
comp=E,55nm,21.2s,baz=278,slow=33
KLR Kul'dur 8.50 89 *i* PN **Pn** **08 55 51.4 +1.3**
BGT Bolshoye Golou 8.70 290 *e*Sg Sg 08 58 18.4 -7.6
BGT Smax 08 58 35.1
comp=E,225nm,1.4s
LSTR Listvyanka 9.03 288 *e*Sg Sg 08 58 28.2
LSTR Smax 08 58 51.9
comp=E,213nm,2.2s
IVK Ivanovka 9.28 288 *e* **Pn** **08 55 58.2 -2.5**
IVK max 08 56 04.6
comp=E,5.0nm,0.5s
IVK *e*Sn **Sn** **08 57 40.8 -4.2**
IVK *e*Sg 08 58 35.0
IVK Smax 08 58 53.0
comp=E,119nm,1.5s
IRK Irkutsk 9.42 290 *e*Sg Sg 08 58 38.2
IRK Smax 08 58 54.9
comp=E,275nm,0.6s
TLY Talaya 9.74 287 *e*Pn **Pn** **08 56 05.6 -1.5**
TLY *e* 08 56 09.5
TLY max 08 56 51.4
comp=E,8.0nm,0.9s
TLY *e* 08 57 49.4
TLY *e*Sg Sg 08 58 50.2
TLY Smax 08 59 02.0
comp=E,95nm,1.9s
ARS Arshan 10.52 288 *e*Pn **Pn** **08 56 21.3 +3.5**
ARS max 08 57 20.9
comp=E,11nm,0.5s
ARS *e*Sn **Sn** **08 58 11.1 -4.4**
ARS *e*Sg 08 59 13.1
ARS Smax 08 59 34.7
comp=E,164nm,1.2s
USA0B Ussuriysk Arra 10.65 117 *i* P Pn 08 56 26.3 +6.7
USRK Ussuriysk Ar. 10.65 117 Pn **Pn** **08 56 20.8 +1.2**
comp=E,0.1nm,0.3s,baz=318,slow=44,SNR=4.1
USRK Lg Lg 08 59 18.8
comp=E,0.6nm,0.3s,baz=296,slow=27,SNR=3.7
comp=E,2.4nm,0.7s
MOY Mondy 11.38 286 *e*Sg 08 59 40.5
MOY Smax 08 59 56.5
comp=E,125nm,1.2s
ORL Orlik 12.17 290 *e*Pn **Pn** **08 56 41.0 +0.5**
ORL max 08 56 58.0
comp=E,7.0nm,1.3s
ORL *e*Sg 09 00 04.4
ORL Smax 09 00 27.9
comp=E,72nm,2.0s
HNS HongShan 12.74 195 *e*P Pn 08 56 53.8 +5.6
HNS *e*S Sn 08 59 23.8 +14
HNS LR LR
comp=N,440nm,11.2s
HNS LR LR
comp=E,390nm,13.5s
HNS LR LR
comp=Z,460nm,11.6s
YAK Yakutsk 13.67 22 *e*P Pn 08 56 52.0 -8.7
YAK *e*S **Sn** **08 59 27.6 -4.9**
YAK pmax pmax
comp=Z,6.0nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,203nm,5.1s
YAK pmax pmax
comp=N,141nm,7.9s
YAK pmax pmax
comp=E,241nm,6.8s
YAK smax smax
comp=E,151nm,5.8s
YAK smax smax
comp=N,52nm,2.9s
YAK MLR MLR
comp=Z,68nm,24.0s
YAK MLR MLR
comp=N,225nm,23.0s
YAK MLR MLR
comp=E,172nm,21.0s
KSRS Korea Array 14.02 148 Lg Lg 09 01 05.9
comp=E,0.3nm,0.3s,baz=336,slow=28,SNR=5.5
KSRS LR LR 09 03 04.5
comp=E,37nm,20.0s,baz=135,slow=40
GTA Gaotai 16.96 239 *e*P **P** **08 57 46.8 +0.4**
GTA pmax pmax
comp=Z,3.0nm,1.5s
GTA pmax pmax
comp=Z,80nm,4.4s
GTA LR LR
comp=N,350nm,13.1s
GTA LR LR
comp=E,400nm,13.1s
GTA LR LR
comp=Z,240nm,14.5s
DGZ Jazzator, Alta 20.14 282 *i* P **P** **08 58 22.2 +0.9**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
MA2 Magadan 20.74 50 P Pn 08 58 32.6 +2.7
comp=Z,5.4nm,0.6s,baz=268,slow=14,SNR=4.7
comp=Z,5.4nm,0.6s
MA2 Magadan 20.74 50 *i* P Pn 08 58 32.0 +2.1
MA2 pmax pmax
comp=Z,8.0nm,1.0s
ZALV Zalesovo Beam 21.20 294 P **P** **08 58 37.0 +4.5**
comp=Z,0.8nm,0.6s,baz=96,slow=10,SNR=2.4
comp=Z,0.8nm,0.6s
WMQ Urumqi 21.96 266 *e*P **P** **08 58 40.8 0.0**
TIXI Tiksi 22.40 8 *i* P **P** **08 58 50.0 +4.8**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 24.27 277 *i* P **P** **08 59 06.6 +2.4**
MKAR Makanchi Array 24.27 277 P **P** **08 59 05.7 +1.5**
comp=Z,0.4nm,0.7s,baz=64,slow=9.8,SNR=2.3
MKAR LR LR 09 09 05.2
comp=Z,41nm,18.8s,baz=146,slow=38
comp=Z,0.4nm,0.7s
PETK Petropavlovsk- 24.30 67 P **P** **08 59 09.8 +5.3**
comp=Z,0.9nm,0.5s,baz=286,slow=10,SNR=1.1
comp=Z,0.9nm,0.5s
KURK Kurchatov 25.43 288 *i* P **P** **08 59 15.1 +0.5**
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURBB Kurchatov Arra 25.51 287 P **P** **08 59 17.8 +2.4**
comp=Z,0.3nm,0.3s,baz=81,slow=10,SNR=4.1
comp=Z,0.3nm,0.3s
BILL Bilibino 29.51 34 *i* P **P** **08 59 49.2 -1.8**
BILL pmax pmax
comp=Z,1.0nm,1.1s
OBN Obninsk 47.60 310*c* *i*P **P** **09 02 24.0 +1.4**
OBN pmax pmax
comp=Z,9.0nm,1.4s
MNK Minsk 52.17 312 *i* P **P** **09 02 55.3 -2.1**
comp=E,3.0nm,1.0s
MNK *i* P **P** **09 02 55.3 -2.1**
comp=N,19nm,0.8s
MNK *i* P **P** **09 02 55.3 -2.1**
comp=Z,7.0nm,0.8s,baz=235
MNK *i* PcP **PcP** **09 04 07.2 -1.8**
MNK *i* PP **PP** **09 04 53.6 -1.8**
MNK *i* PPP PPP 09 05 54.9
MNK *i* S **S** **09 10 18.4 -3.1**
MNK *i* ScS **ScS** **09 12 45.5 -1.5**
MNK *i* SS **SS** **09 13 58.6 +0.4**
MNK *i* SSS SSS 09 15 39.0
MNK *i* LR LR 09 24 04.6
MNK *i* LRM MLR 09 26 03.2
comp=Z,129nm,14.2s
MNK *i* LRM MLR 09 26 12.8
comp=N,258nm,15.4s
MNK *i* LRM MLR 09 26 27.7
comp=E,8.0nm,11.6s
MNK Minsk 52.17 312 *i* P **P** **09 02 55.3 -2.1**
MNK *i* 09 04 07.1
MNK *i* 09 04 53.5
MNK *i* S **S** **09 10 18.4 -3.1**
MNK *i* 09 12 45.4
MNK *i* SS **SS** **09 13 58.5 +0.4**
MNK *i* SSS SSS 09 15 38.9
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,19nm,0.8s
MNK MLR MLR
comp=Z,129nm,14.0s
MNK MLR MLR
comp=N,258nm,15.0s
MNK MLR MLR
comp=E,8.0nm,12.0s
WRA Warramunga Arr 70.81 164 P **P** **09 05 05.5 +1.9**
comp=E,0.8nm,0.6s,baz=353,slow=6.7,SNR=15
comp=E,0.8nm,0.6s
ASAR Alice Springs 74.39 166 P **P** **09 05 27.8 +2.9**
comp=E,0.3nm,0.5s,baz=344,slow=5.2,SNR=5.2
comp=E,0.3nm,0.5s
NVAR Mina Array Bea 78.78 42 P P 09 05 55.3 +5.3
comp=E,0.3nm,0.5s,baz=337,slow=3.9,SNR=3.0
comp=E,0.3nm,0.5s
STKA Stephens Creek 83.83 161 P **P** **09 06 19.3 +3.0**
comp=E,0.8nm,0.5s,baz=337,slow=7.7,SNR=4.9
comp=E,0.8nm,0.5s
STKA Stephens Creek 83.83 161 *e*P **P** **09 06 19.9 +3.6**
STKA pmax pmax
comp=Z,1.0nm,0.5s

IDC 17 08:55:22.6±2.4, 54°26N×86°19E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=19.0km s-min=12.1km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.87**	**249**	I	I	09 00 15.5	
	0.2nm,1.0s,baz=68,slow=343,SNR=11						
ZALV	**Zalesovo Beam**	**0.87**	**249**	Pg	Pg	08 55 37.9	-1.4
	1.3nm,0.3s,baz=67,slow=17,SNR=23						
ZALV				Lg	Lg	08 55 51.7	
	4.2nm,0.3s,baz=69,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**5.94**	**235**	Pn	Pn	08 56 53.3	+1.6
	0.2nm,0.3s,baz=52,slow=14,SNR=11						
KURBB				Lg	Lg	08 58 32.6	
	baz=44,slow=28,SNR=2.7						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**7.88**	**200**	Pn	Pn	08 57 18.9	+0.5
	0.3nm,0.3s,baz=20,slow=13,SNR=16						
	0.5nm,0.4s						

MAN 17 09:03:54.3, 9°54N×122°47E, h28km, mb3.9, ML2.7, MS2.2, 5C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CNOP	**Candoni, Negro**	**0.33**	**30↑**	*e*P	Pn	09 04 03.5	+0.2
CNOP				*e*S	Sn	09 04 10.3	+1.2
SNPH	**Sibulan**	**0.78**	**105↑**	*i*P	Pb	09 04 09.2	-0.2
SNPH				*i* S	Sn	09 04 20.1	-0.2
GUIM	**Jordan**	**1.08**	**6↑**	*e*P	Pn	09 04 13.2	-0.4
GUIM				*e*S	Sn	09 04 27.6	-0.1
LSIP	**Lazi, Siquijor**	**1.22**	**110↑**	*i*P	Pn	09 04 15.2	-0.3
BESP	**Borongan**	**3.56**	**55↑**	*e*P	Pb	09 05 11.3	+15

*MOS **17** 09:07:59.8±0.9, 19°.82N×76°.70W, h10km, mb5.6/73, MS5.3/31, Error ellipse: s-maj=6.1km s-min=4.2km az=96.6*
*IDC **17** 09:07:59.7±0.4, 19°.84N×76°.57W, h0km, mb5.1/34, mbtmp5.1/40, ML3.7/4, MS5.2/75, Error ellipse: s-maj=12.3km s-min=9.4km az=64.0*
*SSNC **17** 09:08:00.5±1.5, 19°.69N×76°.67W, h10km±6km, ML5.5, MW5.8*
*OSPL **17** 09:08:00.9±3.0, 19°.75N×76°.76W, h2km±25km, ML5.2*
*NEIC **17** 09:08:02.0±1.7, 19°.85N±0°.06×76°.59W±0°.06, h11km±1km, mb5.4/705, Ms_20 5.6/279, Mwb5.7/61, Mww5.8, Error ellipse: s-maj=10.1km s-min=8.7km az=216.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr2.61; Mθθ-2.78; Mφφ0.17; Mrθ3.05; Mθφ1.06; Mφr-1.20; Fault plane solution: M0 4.37000×10^17 NP1: φs110.89000°, δ69.46000°, λ92.50000°. NP2: φs283.80000°, δ20.69000°, λ83.36000°. Principal axes: T 4.1017, Plg65.0000°, Azm25.0000°; N 0.5018, Plg2.0000°, Azm290.0000°; P -4.6035, Plg24.0000°, Azm199.0000°;*
*NEIC **17** 09:08:05, 19°.86N×76°.70W, h12km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^17 Nm; Mrr5.32; Mθθ-4.68; Mφφ-0.64; Mrθ4.29; Mθφ1.88; Mφr-2.22; Fault plane solution: M0 7.23000×10^17 NP1: φs287.00000°, δ24.00000°, λ83.00000°. NP2: φs115.00000°, δ66.00000°, λ93.00000°. Principal axes: T 7.1855, Plg69.0000°, Azm32.0000°; N 0.0789, Plg3.0000°, Azm294.0000°; P -7.2644, Plg21.0000°, Azm203.0000°;*
*GCMT **17** 09:08:07.0±0.1, 19°.94N×76°.60W, h12km, MW5.8/164, Moment Tensor Solution. s135,c273; s164,c514; Duration: 2s0 Moment tensor: Scale 10^17 Nm; Mrr5.40±.03; Mθθ-4.53±.03; Mφφ-0.86±.03; Mrθ4.45±.10; Mθφ1.81±.03; Mφr-1.93±.11; Best double couple:*
M0 7.21200×10^17 NP1:φs113.00000°, δ66.00000°, λ91.00000°. NP2:φs292.00000°, δ24.00000°, λ89.00000°. Principal axes: T 7.2750, Plg69.0000°, Azm24.0000°; N -0.1250, Plg1.0000°, Azm293.0000°; P -7.1480, Plg21.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
*BGR **17** 09:08:09.3, 19°.45N×75°.24W, h33km, mb5.4, Ms5.3*
*JSN **17** 09:08:09.6±1.4, 19°.30N×76°.75W, h30km±133km, MD5.1*

ISC 17 09:08:01.2±0.5, 19°.77N±0°.03×76°.64W±0°.03, h11km±2km, h11km:pP-P, n2036, σ1°43/1948, mb5.5/475, MS5.5/249, 89C-70D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
HLGC	**Holguin**	**1.24**	**26**	*e*P	**Pn**	**09 08 22.9**	**-1.5**
HLGC				*e*S	**Sb**	**09 08 40.2**	**-0.4**
HLGC				IAML		09 08 43.0	
	comp=E,230μm,0.5s						
HLGC				IAML		09 08 43.2	
	comp=N,198μm,0.6s						
GTBY	**Guantanamo Bay**	**1.45**	**84**	Pn	**Pn**	**09 08 26.2**	**-1.1**
GTBY	**Guantanamo Bay**	**1.45**	**84**	*e*P	**Pn**	**09 08 26.1**	**-1.3**
GTBY				*e*S	**Sn**	**09 08 43.4**	**-2.9**
GTBY				IAML		09 08 51.6	
	comp=N,56μm,0.4s						
GTBY				IAML		09 08 51.9	
	comp=N,42μm,0.5s						
GTBY	**Guantanamo Bay**	**1.45**	**84**	⇑P	**Pn**	**09 08 26.0**	**-1.3**
GTBY	**Guantanamo Bay**	**1.45**	**84**	*e*P	**Pn**	**09 08 25.6**	**-1.7**
GTBY	**Guantanamo Bay**	**1.45**	**84**	*i* P	**Pn**	**09 08 27.1**	**-0.3**
GTBY				*e*S	**Sn**	**09 08 45.9**	**-0.4**
GTBY				IAML		09 09 02.3	
	comp=Z,18μm,0.8s						
BNJ	**Bonny Gate**	**1.47**	**192**	⇓*i*P	**Pn**	**09 08 25.9**	**-1.8**
BBJ	**Bamboo Saint A**	**1.50**	**203**	*i* P	**Pn**	**09 08 26.0**	**-2.1**
GWJ	**Greenwich**	**1.69**	**183**	⇓*i*P	**Pn**	**09 08 28.7**	**-2.0**
STH	**Stony Hill**	**1.69**	**185**	⇓*i*P	**Pn**	**09 08 28.7**	**-2.0**
CVJ	**Coleyville**	**1.75**	**209**	⇑*i*P	**Pn**	**09 08 31.6**	**0.0**
MTDJ	**Mount Denham**	**1.75**	**209**	Pn	**Pn**	**09 08 29.6**	**-1.9**
MTDJ	**Mount Denham**	**1.75**	**209**	*e*P	**Pn**	**09 08 29.1**	**-2.5**
MTDJ				*e*S	**Sn**	**09 08 48.9**	**-5.0**
MTDJ				IAML		09 08 55.7	
	comp=Z,33μm,0.5s						
MTDJ				IAML		09 08 56.6	
	comp=Z,31μm,0.6s						
MTDJ	**Mount Denham**	**1.75**	**209**	⇓P	**Pn**	**09 08 29.4**	**-2.2**
MTDJ	**Mount Denham**	**1.75**	**209**	*e*P	**Pn**	**09 08 29.7**	**-1.9**
MTDJ	**Mount Denham**	**1.75**	**209**	*i* P	**Pn**	**09 08 31.0**	**-0.6**
MTDJ				*e*S	**Sn**	**09 08 49.7**	**-4.2**
MTDJ				IAML		09 08 57.0	
	comp=Z,25μm,0.7s						
HOJ	**Hope**	**1.76**	**183**	⇓*i*P	**Pn**	**09 08 29.9**	**-1.7**
CCCC	**Cccc**	**1.77**	**324**	*e*P	**Pn**	**09 08 27.9**	**-3.8**
MOAC	**Moa**	**1.81**	**60**	*e*P	**Pn**	**09 08 30.6**	**-1.6**
PCJ	**Portland Cotta**	**2.08**	**194**	⇓*i*P	**Pn**	**09 08 34.5**	**-1.4**
MCJ	**Malvern**	**2.08**	**209**	⇓*i*P	**Pn**	**09 08 34.6**	**-1.5**
NEJ	**Negril**	**2.20**	**227**	*i* P	**Pn**	**09 08 37.1**	**-0.6**
NEJ				*i* S	**Sn**	**09 08 58.2**	**-0.6**
MASC	**Masc**	**2.30**	**80**	*e*P	**Pn**	**09 08 37.5**	**-1.5**
MASC				*e*S	**Sn**	**09 09 06.5**	**-0.9**
MASC	**Masc**	**2.30**	**80**	*i* P	**Pn**	**09 08 39.2**	**+0.1**
MASC				*e*S	**Sb**	**09 09 10.7**	**-0.5**
MASC				IAML		09 09 20.3	
	comp=Z,9μm,0.6s						
MGV	**Manicaragua**	**3.89**	**307**	*e*P	**Pn**	**09 09 00.4**	**-0.5**
MGV				*e*S	**Sn**	**09 09 43.6**	**-3.0**
MGV				IAML		09 10 04.0	
	comp=E,3μm,0.7s						
MGV				IAML		09 10 08.4	
	comp=N,5μm,0.9s						
PAPH	**Port-au-Prince**	**4.29**	**106**	*i* P	**Pn**	**09 09 05.5**	**-0.9**
PAPH				IAML		09 10 13.5	
	comp=Z,1μm,0.6s						
NQUSE	**US Embassy, Po**	**4.32**	**105**	Pn	**Pn**	**09 09 05.0**	**-1.9**
LODA1	**ITESIL, Dajabo**	**4.66**	**92**	*i* P	**Pn**	**09 09 10.8**	**-0.6**
LOPE2	**Hotel El Peder**	**4.95**	**110**	*i* P	**Pn**	**09 09 14.8**	**-0.7**
LOPE2				IAML		09 10 34.7	
	comp=Z,1μm,1.0s						
SDDR	**Presa de Saban**	**5.11**	**98**		**Pn**	**09 09 16.9**	**-0.9**
SDDR	**Presa de Saban**	**5.11**	**98**	⇓P	**Pn**	**09 09 16.8**	**-0.9**
SDDR	**Presa de Saban**	**5.11**	**98**	*e*P	**Pn**	**09 09 17.7**	**0.0**
SDDR	**Presa de Saban**	**5.11**	**98**	*i* P	**Pn**	**09 09 17.8**	**0.0**
SDDR				IAML		09 10 42.3	
	comp=Z,1μm,0.6s						
GRTK	**Grand Turk**	**5.44**	**70**	Pn	**Pn**	**09 09 20.7**	**-1.5**
GRTK	**Grand Turk**	**5.44**	**70**	⇓P	**Pn**	**09 09 21.1**	**-1.1**
GRTK	**Grand Turk**	**5.44**	**70**	*i* P	**Pn**	**09 09 21.2**	**-1.0**
GRTK				*e*S	**Sn**	**09 10 22.8**	**-2.1**
GRTK				IAML		09 10 25.8	
	comp=Z,1μm,0.9s						
SC01	**Santiago de lo**	**5.59**	**93**		**Pn**	**09 09 23.8**	**-0.5**
SC01	**Santiago de lo**	**5.59**	**93**	*i* P	**Pn**	**09 09 24.4**	**+0.2**
SDD	**Santo Domingo**	**6.49**	**100**	Pn	**Pn**	**09 09 36.9**	**+0.2**
SDD	**Santo Domingo**	**6.49**	**100**	*i* P	**Pn**	**09 09 38.0**	**+1.3**
SOR	**Soroa**	**6.65**	**298**	Pn	**Pn**	**09 09 39.1**	**+0.3**
SOR	**Soroa**	**6.65**	**298**	P	**Pn**	**09 09 39.2**	**+0.3**
061Z	**Ochoppi**	**7.23**	**328**		**Pn**	**09 09 46.0**	**-0.8**
061Z	**Ochoppi**	**7.23**	**328**	P	**Pn**	**09 09 46.2**	**-0.6**
	baz=146						
PRVC	**Isla de Provid**	**7.80**	**216**	Pn	**Pn**	**09 09 54.8**	**+0.1**
PRVC	**Isla de Provid**	**7.80**	**216**	*e*P	**Pn**	**09 09 55.4**	**+0.7**
PCDR	**Punta Cana, DR**	**7.91**	**98**	Pn	**Pn**	**09 09 55.2**	**-0.9**
PCDR	**Punta Cana, DR**	**7.91**	**98**	*i* P	**Pn**	**09 09 55.8**	**-0.4**
PCDR				IAML		09 11 50.6	
	comp=Z,562nm,1.3s						
060A	**Indiantown**	**8.00**	**335**		**Pn**	**09 09 55.5**	**-1.8**
060A	**Indiantown**	**8.00**	**335**	P	**Pn**	**09 09 56.0**	**-1.3**
	baz=154,SNR=7.7						
SMRC	**Santa Marta, M**	**8.87**	**164**	*e*P	**Pn**	**09 10 10.6**	**+1.2**
AGPR	**Aguadilla, PR**	**9.10**	**97**	Pn	**Pn**	**09 10 12.1**	**-0.4**
AGPR	**Aguadilla, PR**	**9.10**	**97**	*i* P	**Pn**	**09 10 10.2**	**-2.4**
PRSN	**Puerto Rico Se**	**9.12**	**98**		**Pn**	**09 10 12.3**	**-0.4**
URIC	**Uribia, Colomb**	**9.19**	**150**		**Pn**	**09 10 13.5**	**-0.2**
CRPR	**Cabo Rojo, PR**	**9.19**	**99**		**Pn**	**09 10 13.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**9.19**	**99**	*i* P	**Pn**	**09 10 13.4**	**-0.4**
MLPR	**Magueyes Islan**	**9.26**	**100**	Pn	**Pn**	**09 10 13.7**	**-1.0**
DWPF	**Disney Wildern**	**9.39**	**333**		**Pn**	**09 10 14.3**	**-2.0**
DWPF	**Disney Wildern**	**9.39**	**333**	P	**Pn**	**09 10 14.9**	**-1.4**
	baz=151,SNR=25						
DWPF	**Disney Wildern**	**9.39**	**333**	P	**Pn**	**09 10 14.7**	**-1.7**
	baz=151						
DWPF	**Disney Wildern**	**9.39**	**333**	⇓P	**Pn**	**09 10 14.7**	**-1.7**
AOPR	**Arecibo Observ**	**9.46**	**97**		**Pn**	**09 10 15.6**	**-0.8**
AOPR	**Arecibo Observ**	**9.46**	**97**	*e*P	**Pn**	**09 10 18.4**	**+1.0**
UUPR	**Utuado, UPR, P**	**9.51**	**98**		**Pn**	**09 10 17.0**	**-1.1**
OBIP	**Obispado Ponce**	**9.65**	**99**		**Pn**	**09 10 19.7**	**-0.4**
CELP	**Cerrillos**	**9.67**	**98**		**Pn**	**09 10 21.2**	**+0.8**
SJCC	**San Jacinto, C**	**9.92**	**172**	*e*P	**Pn**	**09 10 25.1**	**+1.3**
SJG	**San Juan**	**10.06**	**98**	Pn	**Pn**	**09 10 24.5**	**-1.2**
	comp=Z,9.4nm,0.3s,baz=288,slow=16,SNR=1.1						
SJG				Sn	**Sn**	**09 12 18.2**	**-0.4**
	comp=Z,10nm,0.3s,baz=342,slow=19,SNR=2.3						
SJG				LR	LR	09 14 05.5	
	comp=Z,6μm,21.3s,baz=274,slow=37						
SJG	**San Juan**	**10.06**	**98**	Pn	**Pn**	**09 10 27.2**	**+1.5**
SJG	**San Juan**	**10.06**	**98**	P	**Pn**	**09 10 27.2**	**+1.5**
GCPR	**Guaynabo City**	**10.09**	**97**		**Pn**	**09 10 26.9**	**+0.8**
ARGC	**Ariguani, Magd**	**10.12**	**166**	*e*P	**Pn**	**09 10 29.2**	**+2.7**
ARGC				*e*P	**Pn**	**09 10 30.3**	**+3.8**
ARGC				*e*P	Pn	09 10 32.5	+5.9
CBYP	**Canovanas**	**10.31**	**97**		**Pn**	**09 10 27.9**	**-1.2**
HUMP	**Col San Antoni**	**10.34**	**97**	Pn	**Pn**	**09 10 28.0**	**-1.5**
LL5C	**La Loma 5 El P**	**10.35**	**164**	*e*P	**Pn**	**09 10 30.1**	**+0.4**
ESPN	**Las Esperanzas**	**10.53**	**225**		**Pn**	**09 10 34.0**	**+1.9**
HATO	**Hato, Curacao**	**10.56**	**134**		**Pn**	**09 10 33.0**	**+0.5**
LL1C	**La Loma 1 Cana**	**10.60**	**163**	*e*P	**Pn**	**09 10 28.4**	**-4.6**
MTP	**Monte Pirata**	**10.62**	**97**		**Pn**	**09 10 33.0**	**-0.4**
CUPR	**Culebra, Puert**	**10.84**	**96**	Pn	**Pn**	**09 10 36.4**	**+0.1**
TEIG	**Tepich**	**10.95**	**274**	Pn	**Pn**	**09 10 37.7**	**-0.1**
TEIG	**Tepich**	**10.95**	**274**	⇑P	**Pn**	**09 10 37.4**	**-0.4**
TEIG	**Tepich**	**10.95**	**274**	*e*P	**Pn**	**09 10 37.9**	**0.0**
656A	**Willston**	**10.96**	**332**	Pn	**Pn**	**09 10 36.2**	**-1.7**
656A	**Willston**	**10.96**	**332**	P	**Pn**	**09 10 37.0**	**-0.8**
	baz=149,SNR=17						
BCIP	**Isla Barro Col**	**10.98**	**197**	Pn	**Pn**	**09 10 38.5**	**+0.1**
BCIP	**Isla Barro Col**	**10.98**	**197**	⇑P	**Pn**	**09 10 37.8**	**-0.6**
BCIP	**Isla Barro Col**	**10.98**	**197**	P	**Pn**	**09 10 38.5**	**+0.1**
BCIP	**Isla Barro Col**	**10.98**	**197**	*e*P	**Pn**	**09 10 37.5**	**-0.8**
BCIP				*e*P	**Pn**	**09 10 40.8**	**+2.5**
ACON	**Acoyapa**	**11.29**	**228**		**Pn**	**09 10 43.9**	**+1.4**

ACON Acoyapa 11.29 228 eP Pn 09 10 44.3 +1.8
BOAB BOACO BROADBAN 11.32 231 Pn Pn 09 10 44.9 +2.0
CDVI St. Croix 11.43 98 Pn Pn 09 10 44.6 +0.3
CDVI St. Croix 11.43 98 eP Pn 09 10 49.8 +5.5
TGUH Tegucigalpa,Un 11.65 242 Pn 09 10 48.6 +1.0
TGUH Tegucigalpa,Un 11.65 242 ⇓P Pn 09 10 47.6 +0.1
TGUH Tegucigalpa,Un 11.65 242 eP Pn 09 10 48.8 +1.2
COVE Coope Vega, Sa 11.70 221 Pn Pn 09 10 50.0 +1.9
PNME Penonome 11.77 198 eP Pn 09 10 48.9 -0.2
456A Hilliard 11.94 337 Pn Pn 09 10 49.0 -2.4
456A Hilliard 11.94 337 P Pn 09 10 49.5 -1.8
baz=154,SNR=12
CNGN Cerro Negro 12.06 235 Pn Pn 09 10 54.1 +0.9
CNGN Cerro Negro 12.06 235 eP Pn 09 10 56.2 +3.1
HDC Heredia 12.10 218 Pn 09 10 55.6 +1.9
HDC Heredia 12.10 218 ⇓P Pn 09 10 56.5 +2.8
HDC Heredia 12.10 218 eP Pn 09 10 56.8 +3.0
RIMA Rio Macho 12.15 216 Pn Pn 09 10 55.5 +1.0
CRIN San Cristobal 12.21 236 Pn 09 10 57.4 +2.1
CRIN San Cristobal 12.21 236 eP Pn 09 10 57.3 +2.1
SDV Santo Domingo 12.28 151 Pn Pn 09 10 56.3 0.0
comp=Z,3.7nm,0.3s,baz=348,slow=5.7,SNR=61
SDV Sn Sn 09 13 09.2 -4.2
comp=Z,3.8nm,0.3s,baz=344,slow=20,SNR=2.0
SDV LR LR 09 16 49.5
comp=Z,15µm,18.2s,baz=346,slow=43
comp=Z,85nm,0.7s
SDV Santo Domingo 12.28 151 Pn Pn 09 10 56.5 +0.1
SDV Santo Domingo 12.28 151 eP Pn 09 10 55.8 -0.5
SRBA San Rafael, Bu 12.33 213 Pn Pn 09 10 56.8 0.0
PEZE Perez Zeledon, 12.37 214 Pn Pn 09 10 59.0 +1.6
JTS Las Juntas de 12.37 222 Pn Pn 09 10 58.0 +0.6
comp=Z,1.1nm,0.3s,baz=16,slow=14,SNR=7.4
JTS LR LR 09 15 55.0
comp=Z,12µm,20.2s,baz=42,slow=38
comp=Z,10nm,0.5s
JTS Las Juntas de 12.37 222 Pn Pn 09 10 59.1 +1.7
JTS Las Juntas de 12.37 222 ⇓P Pn 09 10 58.2 +0.8
JTS Las Juntas de 12.37 222 d iP Pn 09 10 58.5 +1.1
JTS Las Juntas de 12.37 222 eP Pn 09 10 58.6 +1.1
BRU2 Volcan 12.38 209 Pn Pn 09 10 59.0 +1.4
BRU2 Volcan 12.38 209 eP Pn 09 10 59.8 +2.2
BRU2 eP Pn 09 11 00.3 +2.7
HZTE Horizontes, Gu 12.47 225 Pn Pn 09 11 01.9 +3.1
553A Crawfordville 12.54 327 Pn Pn 09 10 57.0 -2.7
553A Crawfordville 12.54 327 P Pn 09 10 58.5 -1.1
baz=144,SNR=7.4
ORTG Ortega, Santa 12.64 224 Pn 09 11 00.8 -0.3
DBBC Dabeiba 12.68 178 eP Pn 09 11 02.8 +1.1
JACO JACO, Garabito 12.69 219 Pn Pn 09 11 04.5 +2.8
257A Skidaway Islan 12.78 343 Pn Pn 09 10 59.4 -3.4
257A Skidaway Islan 12.78 343 P Pn 09 11 00.4 -2.3
baz=161
PETF Flores 12.87 259 Pn 09 11 05.0 +0.9
DUNO Dulce Nombre, 12.88 223 Pn Pn 09 11 06.6 +2.4
BRRC Barranca, Sant 12.90 167 eP Pn 09 11 03.4 -1.2
PAMC Pamplona, Colo 12.94 162 eP Pn 09 11 09.0 +3.5
255A Hazlehurst 13.19 338 Pn Pn 09 11 06.3 -2.2
255A Hazlehurst 13.19 338 P Pn 09 11 07.0 -1.4
baz=155,SNR=14
ESQI Esquipulas 13.19 249 Pn Pn 09 11 07.9 -0.8
TIGA Tifton 13.20 333 Pn Pn 09 11 05.7 -2.8
TIGA Tifton 13.20 333 P Pn 09 11 06.7 -1.8
baz=150,SNR=16
TIGA Tifton 13.20 333 P Pn 09 11 06.7 -1.8
baz=150,SNR=16
MTO3 Montecristo 13.28 248 Pn 09 11 09.7 -0.3
PTBC PUERTO BERRIO, 13.32 171 eP Pn 09 11 11.7 +1.3
SNET Serv Nac Est T 13.49 245 Pn Pn 09 11 12.8 +0.2
CSU Charleston Sou 13.52 348 Pn Pn 09 11 10.3 -2.6
BARC Barichara 13.52 165 eP Pn 09 11 17.3 +4.0
451A Vernon 13.58 324 Pn Pn 09 11 11.3 -2.4
451A Vernon 13.58 324 P Pn 09 11 13.3 -0.4
baz=140
BAUV El Baul 13.60 141 Pn Pn 09 11 13.6 -0.6
BAUV El Baul 13.60 141 eP Pn 09 11 13.0 -1.2
NHSC New Hope 13.65 347 Pn Pn 09 11 12.3 -2.4
NHSC New Hope 13.65 347 P Pn 09 11 13.8 -1.0
baz=166
NHSC New Hope 13.65 347 P Pn 09 11 13.1 -1.7
baz=166
CBOC Ciudad Bolivar 13.84 177 eP Pn 09 11 20.3 +2.8
CBOC eP P 09 11 21.6 -4.4
CBOC eP P 09 11 22.4 -3.5
352A Blakely 13.84 329 Pn Pn 09 11 14.5 -2.8
352A Blakely 13.84 329 P Pn 09 11 15.4 -1.9
baz=145,SNR=18
MBFL Flemmings, Mon 14.03 100 eP Pn 09 11 21.4 +1.3
154A Montrose 14.04 337 Pn Pn 09 11 17.6 -2.4
154A Montrose 14.04 337 P Pn 09 11 17.6 -2.4
baz=154,SNR=53
TAMC Tame, Arauca 14.07 160 eP Pn 09 11 22.8 +2.2
RUSC La Rusia 14.22 165 Pn 09 11 24.4 +1.3
RUSC La Rusia 14.22 165 eP Pn 09 11 22.3 -0.8
ANWB Willy Bob 14.23 96 eP Pn 09 11 19.7 -3.0
HAW Hawthorne Fire 14.24 343 P Pn 09 11 19.1 -3.7
baz=160,SNR=8.2
Y60A Bolivia 14.25 355 Pn Pn 09 11 18.1 -4.8
Y60A Bolivia 14.25 355 P Pn 09 11 18.6 -4.2
baz=174,SNR=14
Y60A P Pn 09 11 18.6 -4.2
baz=174,SNR=14
Y58A Scranton 14.34 350 Pn 09 11 20.9 -3.2
Y58A Scranton 14.34 350 P Pn 09 11 21.8 -2.3
baz=168,SNR=5.8
Y58A P Pn 09 11 21.8 -2.3
baz=168,SNR=5.8
GUY2C Guyana, Caldas 14.51 175 eP Pn 09 11 27.1 +0.1
GDHS Morne Mazeau, 14.57 101 Pn Pn 09 11 26.3 -1.2
Y57A Sumter 14.58 348 Pn Pn 09 11 23.6 -3.8
Y57A Sumter 14.58 348 P Pn 09 11 25.4 -2.0
baz=166,SNR=5.8
Y57A P Pn 09 11 25.4 -2.0
baz=166,SNR=5.8
BRAL Brewton 14.72 322 P Pn 09 11 27.0 -2.4
baz=138
152A Waverly Hall 14.74 332 Pn 09 11 27.2 -2.4
152A Waverly Hall 14.74 332 P Pn 09 11 27.1 -2.6
baz=148,SNR=24
ABD La Joyeuse, An 14.77 100 eP P 09 11 35.9 -0.2
CBE Ft, Capester 14.77 102 eP P 09 11 36.0 -0.2
PLMC San Jos del P 14.78 179 eP Pn 09 11 30.4 0.0
HUEH Huehuetenango 14.85 255 Pn Pn 09 11 30.5 -0.9
250A Grady 14.92 326 Pn 09 11 28.9 -3.1
250A Grady 14.92 326 P Pn 09 11 29.9 -2.2
baz=142,SNR=21
X58A Rowland 14.92 351 Pn 09 11 28.9 -3.2
X58A Rowland 14.92 351 P Pn 09 11 29.3 -2.7
baz=170,SNR=8.4
X58A P Pn 09 11 29.3 -2.7
baz=170,SNR=8.4
ROSC El Rosal 15.01 171 Pn Pn 09 11 34.4 +0.6
comp=Z,1.5nm,0.3s,baz=41,slow=9.6,SNR=16
ROSC Sn Sn 09 14 20.8 +0.5
comp=Z,2.7nm,0.3s,baz=195,slow=20,SNR=1.8
ROSC LR LR 09 17 47.3
comp=Z,22µm,21.8s,baz=5.0,slow=39
comp=Z,38nm,0.9s
ROSC El Rosal 15.01 171 Pn 09 11 34.0 +0.2
ROSC El Rosal 15.01 171 eP P 09 11 36.5 -2.7
JSC Jenkinsville 15.03 345 Pn 09 11 30.2 -3.3
JSC Jenkinsville 15.03 345 P Pn 09 11 30.1 -3.4
baz=163,SNR=8.6
JSC Jenkinsville 15.03 345 P Pn 09 11 30.2 -3.3
MDCT Cottage Hill, 15.04 104 eP P 09 11 41.1 +2.0
MAGL Barre de l'ile 15.11 102 eP P 09 11 38.6 -1.3
CCIG Comitan 15.14 259 ⇓P Pn 09 11 35.6 +0.4
BIRD Birdtown, Kers 15.20 348 Pn 09 11 31.7 -4.1
BIRD Birdtown, Kers 15.20 348 P Pn 09 11 32.6 -3.2
baz=166,SNR=18
GDSD La Dsirade Is 15.21 101 Pn Pn 09 11 34.0 -2.0
HODGE Hodges 15.24 342 Pn 09 11 33.4 -3.0
HODGE Hodges 15.24 342 P Pn 09 11 32.3 -4.1
baz=159,SNR=9.0
CHIC Chingaza 15.31 169 eP Pn 09 11 39.5 +1.8
CNNC Cliffs of the 15.45 356 Pn 09 11 36.6 -2.5
CNNC Cliffs of the 15.45 356 P Pn 09 11 37.1 -1.9
baz=175
CNNC Cliffs of the 15.45 356 P Pn 09 11 36.2 -2.9
baz=175
Z51A Franklin 15.49 332 Pn 09 11 36.6 -3.0
Z51A Franklin 15.49 332 P Pn 09 11 38.5 -1.1
baz=148,SNR=26
Y52A Lilburn 15.51 336 Pn 09 11 37.4 -2.5
Y52A Lilburn 15.51 336 P Pn 09 11 38.5 -1.4
baz=153,SNR=44
Y52A P Pn 09 11 38.5 -1.4
baz=153,SNR=44
W57A Gilead 15.61 350 Pn Pn 09 11 38.0 -3.1
W57A Gilead 15.61 350 P Pn 09 11 38.5 -2.6
baz=168,SNR=34
W57A P Pn 09 11 38.5 -2.6
baz=168,SNR=34
FDF Fort de France 15.62 106 eP Pn 09 11 35.5 -5.9
PAULI Pauline 15.68 344 Pn 09 11 39.0 -3.0
PAULI Pauline 15.68 344 P Pn 09 11 40.1 -1.9
baz=162,SNR=16
BIM Bigot 15.77 107 Pn Pn 09 11 42.2 -1.2
BIM Bigot 15.77 107 eP Pn 09 11 43.0 -0.3
ORTC Ortega, Tolima 15.82 175 eP P 09 11 46.1 -1.8
KMSC Kings Mountain 15.87 346 Pn Pn 09 11 40.3 -4.1
KMSC Kings Mountain 15.87 346 P Pn 09 11 40.6 -3.8
baz=164,SNR=21
KMSC Kings Mountain 15.87 346 P Pn 09 11 41.8 -2.6
baz=164,SNR=21
V61A Roper 15.96 0 Pn 09 11 42.9 -2.8
V61A IAmb IAmb 09 11 52.7
comp=Z,483nm,1.2s
V61A Roper 15.96 0 P Pn 09 11 43.1 -2.6
baz=180,SNR=9.1
V61A P Pn 09 11 43.1 -2.6
baz=180,SNR=9.1
MPOM Morne Pois Mar 15.98 107 eP P 09 11 48.1 -1.5
PTGC Puerto Gaitan, 16.09 164 eP Pn 09 11 47.7 +0.2
V58A Windy Hill, Pi 16.11 353 Pn 09 11 45.0 -2.6
V58A Windy Hill, Pi 16.11 353 P Pn 09 11 45.0 -2.6
baz=171,SNR=20
V58A P Pn 09 11 45.0 -2.6
baz=171,SNR=20
LRAL Lakeview Retre 16.13 327 Pn Pn 09 11 45.0 -2.8
LRAL Lakeview Retre 16.13 327 P Pn 09 11 45.1 -2.8
baz=142,SNR=41
LRAL Lakeview Retre 16.13 327 P Pn 09 11 45.8 -2.1
baz=142,SNR=41
BG3 Lake Jocassee 16.15 341 Pn 09 11 45.3 -2.9
CASEE Lake Jocassee 16.15 341 P Pn 09 11 46.0 -2.2
baz=158,SNR=12
GRGR Grenville 16.28 116 Pn Pn 09 11 48.3 -1.6
GRGR IAmb IAmb 09 11 56.7
comp=Z,493nm,1.6s
GRGR Grenville 16.28 116 eP Pn 09 11 44.2 -5.7
GRGR Grenville 16.28 116 eP P 09 11 52.9 0.0
346A Big Creek Wild 16.34 318 Pn 09 11 48.9 -1.7
346A Big Creek Wild 16.34 318 P Pn 09 11 49.4 -1.2
baz=132
MAPC Malpelo 16.40 198 eP P 09 11 53.3 -1.0
X51A Calhoun 16.44 335 Pn 09 11 50.3 -1.6
X51A Calhoun 16.44 335 P Pn 09 11 51.2 -0.6
baz=152,SNR=32
X51A P Pn 09 11 51.2 -0.6
baz=152,SNR=32
BBSR BB Station 16.49 38 Pn Pn 09 11 51.3 -1.2
BBSR BB Station 16.49 38 P Pn 09 11 51.5 -1.0
baz=223,SNR=5.9
BBSR BB Station 16.49 38 ⇑P Pn 09 11 51.1 -1.4
Y49A Blount Mountai 16.50 330 Pn 09 11 50.5 -2.2
Y49A Blount Mountai 16.50 330 P Pn 09 11 51.1 -1.6
baz=146,SNR=26
V55A Taylorsville 16.52 347 Pn 09 11 50.2 -2.7
V55A Taylorsville 16.52 347 P Pn 09 11 50.0 -2.8
baz=165,SNR=23
V55A P Pn 09 11 50.0 -2.8
baz=165,SNR=23
U59A Littleton 16.55 357 Pn 09 11 49.8 -3.5
U59A Littleton 16.55 357 P Pn 09 11 49.6 -3.6
baz=176,SNR=15
U59A P Pn 09 11 49.6 -3.6
baz=176,SNR=15
W52A Murphy 16.57 339 Pn 09 11 50.9 -2.6
W52A Murphy 16.57 339 P Pn 09 11 51.2 -2.3
baz=155,SNR=9.7
FPAL Fort Paine 16.72 333 Pn Pn 09 11 53.8 -1.7
GR1C Gorgona, Isla 16.73 185 eP Pn 09 11 56.7 +1.0
V53A Saluda 16.75 342 Pn 09 11 52.3 -3.5
V53A Saluda 16.75 342 P Pn 09 11 52.5 -3.3
baz=159,SNR=19
V53A P Pn 09 11 52.5 -3.3
baz=159,SNR=19
Z47A Carrollton 16.82 325 Pn Pn 09 11 54.1 -2.6
Z47A IAmb IAmb 09 12 04.7
comp=Z,300nm,1.1s
Z47A Carrollton 16.82 325 P Pn 09 11 54.8 -1.9
baz=140,SNR=25
U56A King 16.84 350 Pn 09 11 53.6 -3.3
U56A King 16.84 350 P Pn 09 11 54.2 -2.7
baz=168,SNR=22
U56A P Pn 09 11 54.2 -2.7
baz=168,SNR=22
146A Union 16.96 322 Pn 09 11 56.8 -1.6
146A IAmb IAmb 09 12 06.4
comp=Z,332nm,1.2s
146A Union 16.96 322 P Pn 09 11 57.4 -1.1
baz=136,SNR=12
TKL Tuckaleechee C 17.03 340 Pn Pn 09 11 57.4 -1.9
comp=Z,1.6nm,0.3s,baz=161,slow=13,SNR=34
TKL Sn Sn 09 14 59.6 -9.1
comp=Z,2.0nm,0.3s,baz=60,slow=14,SNR=2.5
TKL LR LR 09 18 33.9
comp=Z,14µm,20.1s,baz=165,slow=37
comp=Z,41nm,1.0s
TKL Tuckaleechee C 17.03 340 Pn 09 11 57.4 -1.9
TKL Tuckaleechee C 17.03 340 P Pn 09 11 58.2 -1.1
baz=156,SNR=39
TKL Tuckaleechee C 17.03 340 P Pn 09 11 57.4 -1.9
TKL pmax pmax
comp=Z,79nm,1.0s
CPCT Cooper Cave 17.10 338 Pn Pn 09 11 58.3 -1.8
V52A Sevierville 17.14 341 Pn Pn 09 11 58.1 -2.6
V52A Sevierville 17.14 341 P P 09 12 04.2 +1.8
baz=157,SNR=12
T59A Double "B" Far 17.16 358 Pn Pn 09 11 57.3 -3.6
T59A Double "B" Far 17.16 358 P Pn 09 11 57.7 -3.2
baz=177,SNR=45
T59A P Pn 09 11 57.7 -3.2
baz=177,SNR=45
W50A Signal Mountai 17.17 335 Pn 09 11 59.1 -2.1
W50A IAmb IAmb 09 12 09.1
comp=Z,351nm,1.4s
W50A Signal Mountai 17.17 335 P Pn 09 12 00.6 -0.6
baz=151,SNR=37
344A Westbrook Farm 17.21 315 Pn 09 12 00.3 -1.2
344A IAmb IAmb 09 12 09.8
comp=Z,529nm,1.2s
344A Westbrook Farm 17.21 315 P Pn 09 12 00.4 -1.2
baz=129,SNR=48
X48A Hartselle 17.29 330 Pn 09 12 01.1 -1.4
X48A IAmb IAmb 09 12 09.7
comp=Z,546nm,1.9s
X48A Hartselle 17.29 330 P Pn 09 12 01.2 -1.4
baz=145,SNR=35
U54A Nelsons Funny 17.30 346 Pn 09 11 59.6 -3.1
U54A Nelsons Funny 17.30 346 P Pn 09 11 59.6 -3.1
baz=163,SNR=27
U54A P Pn 09 11 59.6 -3.1
baz=163,SNR=27
T60A Surry 17.31 360 Pn 09 11 59.9 -2.9
T60A IAmb IAmb 09 12 09.5
comp=Z,429nm,0.9s
T60A Surry 17.31 360 P Pn 09 12 00.2 -2.6
baz=180,SNR=23
T60A P Pn 09 12 00.2 -2.6
baz=180,SNR=23
T57A Hurt 17.32 353 Pn 09 11 59.3 -3.6
T57A Hurt 17.32 353 P Pn 09 12 00.2 -2.7
baz=172,SNR=39
T57A P Pn 09 12 00.2 -2.7
baz=172,SNR=39
V51A Loudon 17.36 339 Pn 09 12 01.8 -1.6
V51A Loudon 17.36 339 P Pn 09 12 02.9 -0.4
baz=155,SNR=26
SWET Sewanee 17.44 334 Pn 09 12 03.8 -0.7
GARC Garzon, Huila 17.51 176 eP Pn 09 12 06.2 +0.5
CMIG Matias Romero 17.51 264 P P 09 12 06.5 0.0
comp=Z,18nm,1.1s
CMIG S Sn 09 15 14.6 -6.0
comp=Z,6.2nm,0.6s,baz=309,slow=14,SNR=1.1
CMIG LR LR 09 18 46.8
comp=Z,4µm,19.6s,baz=74,slow=37
VBMS Vicksburg 17.56 318 Pn 09 12 04.9 -1.1
VBMS IAmb IAmb 09 12 13.1
comp=Z,403nm,1.4s
VBMS Vicksburg 17.56 318 P Pn 09 12 04.1 -1.8
baz=131,SNR=11
VBMS Vicksburg 17.56 318 P Pn 09 12 05.4 -0.6
baz=131,SNR=11
BBGH Gun Hill 17.65 109 eP Pn 09 12 03.4 -3.8
BLA Blacksburg 17.69 350 Pn 09 12 06.4 -1.2
BLA IAmb IAmb 09 12 14.8
comp=Z,529nm,1.2s
BLA Blacksburg 17.69 350 P Pn 09 12 06.8 -0.8
baz=168,SNR=96
BLA Blacksburg 17.69 350 P Pn 09 12 06.4 -1.2
baz=168,SNR=96
BLA Blacksburg 17.69 350 P Pn 09 12 06.4 -1.2
BLA pmax pmax
comp=Z,529nm,1.3s
MACC Macarena, Meta 17.73 171 eP Pn 09 12 08.1 -0.1
TZTN Tazewell 17.78 342 Pn 09 12 07.7 -0.9
TZTN Tazewell 17.78 342 P Pn 09 12 07.4 -1.2
baz=158,SNR=16
TZTN Tazewell 17.78 342 P Pn 09 12 08.1 -0.5
baz=158,SNR=16
S61A Accomac 17.87 3 Pn 09 12 07.8 -1.9
S61A IAmb IAmb 09 12 16.6
comp=Z,354nm,1.1s
S61A Accomac 17.87 3 P Pn 09 12 08.7 -1.0
baz=183,SNR=9.7
S61A P Pn 09 12 08.7 -1.0
baz=183,SNR=9.7
S57A Dark Hollow, R 18.04 354 Pn 09 12 09.3 -2.6
S57A Dark Hollow, R 18.04 354 P Pn 09 12 10.0 -1.9
baz=173,SNR=44
S57A P Pn 09 12 10.0 -1.9
baz=173,SNR=44
CRUC La Cruz 18.09 181 eP P 09 12 19.4 +6.1
FLOC Florencia 18.10 177 ⇓eP P 09 12 14.7 +1.6
R58B Mineral 18.16 357 Pn 09 12 10.7 -2.6
R58B Mineral 18.16 357 P Pn 09 12 10.7 -2.6
baz=176,SNR=18
R58B P Pn 09 12 10.7 -2.6
baz=176,SNR=18
PLAL Pickwick Lake 18.22 329 P Pn 09 12 12.5 -1.6
342A Flagon Creek P 18.24 312 P Pn 09 12 13.3 -1.0
342A IAmb IAmb 09 12 21.5
comp=Z,364nm,1.4s
342B Flagon Creek P 18.24 312 P P 09 12 14.6 +0.1
baz=125,SNR=24
V48A Smith Brothers 18.26 333 P Pn 09 12 13.9 -0.7
V48A Smith Brothers 18.26 333 P Pn 09 12 14.3 -0.3
baz=148,SNR=56
CLTN Cedars of Leba 18.36 334 P Pn 09 12 14.7 -1.0
CBN Corbin Frederi 18.38 358 P Pn 09 12 14.1 -1.9
CBN IAmb IAmb 09 12 22.9
comp=Z,346nm,1.4s
CBN Corbin Frederi 18.38 358 P Pn 09 12 15.0 -1.0
baz=178,SNR=11
CBN Corbin Frederi 18.38 358 P Pn 09 12 15.8 -0.2
baz=178,SNR=11
S54A Dingess, Beckl 18.42 348 P P 09 12 15.1 -1.4
S54A IAmb IAmb 09 12 23.2
comp=Z,298nm,1.3s
S54A Dingess, Beckl 18.42 348 P P 09 12 15.3 -1.2
baz=166,SNR=45
S54A P P 09 12 15.3 -1.2
baz=166,SNR=45
GCUF Volcan Galeras 18.44 182 eP Pn 09 12 19.2 +1.8
143A Socs Landing, 18.45 317 P P 09 12 15.0 -1.8
143A Socs Landing, 18.45 317 P P 09 12 15.3 -1.5
baz=130,SNR=9.3
U49A Red Boiling Sp 18.51 336 P P 09 12 16.6 -0.8
U49A Red Boiling Sp 18.51 336 P Pn 09 12 17.6 0.0
baz=152,SNR=100
441A DeRidder 18.51 309 P P 09 12 17.1 -0.3
441A DeRidder 18.51 309 P Pn 09 12 18.1 +0.5
baz=122
R61A Willards 18.53 3 P P 09 12 16.2 -1.4
R61A IAmb IAmb 09 12 23.2
comp=Z,435nm,1.0s
R61A Willards 18.53 3 P Pn 09 12 18.6 +0.8
baz=184,SNR=30
R61A P Pn 09 12 18.6 +0.8
baz=184,SNR=30
OXF Oxford 18.54 325 P P 09 12 16.6 -1.2
OXF IAmb IAmb 09 12 26.2
comp=Z,360nm,1.1s
OXF Oxford 18.54 325 P P 09 12 17.2 -0.5
baz=139,SNR=24
OXF Oxford 18.54 325 P P 09 12 17.2 -0.5
baz=139,SNR=24
OXF Oxford 18.54 325 P P 09 12 16.6 -1.2
OXF pmax pmax
comp=Z,360nm,1.2s
T50A Nancy 18.62 339 P P 09 12 18.1 -0.5
T50A Nancy 18.62 339 P Pn 09 12 19.1 +0.1
baz=155
T50A P Pn 09 12 19.1 +0.1
baz=155
R55A Marlinton 18.69 351 P P 09 12 19.2 -0.3
R55A IAmb IAmb 09 12 24.0
comp=Z,396nm,1.3s
R55A Marlinton 18.69 351 P P 09 12 19.6 0.0
baz=170,SNR=84
R55A P P 09 12 19.6 0.0
baz=170,SNR=84
CMBC Cumbal 18.75 184 eP Pn 09 12 26.4 +5.3
S51A Beattyville 18.81 343 P P 09 12 20.2 -0.5
S51A Beattyville 18.81 343 P P 09 12 20.8 +0.1
baz=159,SNR=27
S51A P P 09 12 20.8 +0.1
baz=159,SNR=27
W45A Hickory Valley 18.91 327 P P 09 12 21.3 -0.6
W45A IAmb IAmb 09 12 26.9
comp=Z,376nm,1.2s
W45A Hickory Valley 18.91 327 P Pn 09 12 22.6 0.0
baz=141,SNR=24
TULM Tulcn-Chalpat 18.97 184 P Pn 09 12 24.2 +0.4
WVT Waverly 19.04 331 P P 09 12 22.9 -0.3
WVT IAmb IAmb 09 12 28.1
comp=Z,215nm,1.2s
WVT Waverly 19.04 331 P P 09 12 23.3 +0.1
baz=146
WVT Waverly 19.04 331 P P 09 12 22.9 -0.3
baz=146
WVT Waverly 19.04 331 P P 09 12 22.9 -0.3
WVT pmax pmax
comp=Z,215nm,1.2s
R53A Hurricane 19.06 347 P P 09 12 23.7 +0.2
R53A IAmb IAmb 09 12 31.0
comp=Z,181nm,0.9s
R53A Hurricane 19.06 347 P Pn 09 12 24.4 +0.2
baz=164,SNR=52
R53A P Pn 09 12 24.4 +0.2
baz=164,SNR=52
BONI La Bonita 19.22 183 eP Pn 09 12 28.1 +1.5
MET Memphis--Engin 19.28 325 P P 09 12 25.1 -0.9
Q56A Snyder Ridge, 19.33 354 P P 09 12 26.0 -0.4
Q56A Snyder Ridge, 19.33 354 P Pn 09 12 27.7 +0.1
baz=173,SNR=40
Q56A P Pn 09 12 27.7 +0.1
baz=173,SNR=40
CUSE Cuicocha Este 19.42 185 eP Pn 09 12 29.9 +0.7
IMBA Imbabura, San 19.43 185 P Pn 09 12 29.5 +0.2
IMBA IAmb IAmb 09 12 41.8
comp=Z,191nm,1.0s
T47A Sharon Grove 19.44 334 P P 09 12 27.9 +0.2
T47A Sharon Grove 19.44 334 P Pn 09 12 28.5 -0.4
baz=149,SNR=50
CCAR Cane Creek 19.48 319 P P 09 12 28.3 +0.2
CCAR Cane Creek 19.48 319 P Pn 09 12 29.5 +0.2
baz=132,SNR=52
Q54A Coxs Mills 19.49 350 P P 09 12 27.8 -0.4
Q54A IAmb IAmb 09 12 40.1
comp=Z,239nm,1.6s
Q54A Coxs Mills 19.49 350 P Pn 09 12 29.2 -0.1
baz=168,SNR=24
Q54A P Pn 09 12 29.2 -0.1
baz=168,SNR=24
OTAV Otavalo 19.49 185 P Pn 09 12 31.1 +1.0
OTAV Otavalo 19.49 185 ⇓P Pn 09 12 30.0 0.0
OTAV Otavalo 19.49 185 P Pn 09 12 31.1 +1.0
OTAV pmax pmax
comp=Z,105nm,1.3s
OTAV Otavalo 19.49 185 eP Pn 09 12 30.0 0.0
OTAV Otavalo 19.49 185 eP Pn 09 12 32.4 +2.4
PAC1 Pacto, Paraso 19.50 186 eP Pn 09 12 31.0 +1.2
HALT Halls 19.58 328 P P 09 12 29.1 -0.1

HALT IAmb IAmb 09 12 38.9
comp=Z,178nm,0.9s
R50A Paris 19.62 342 P **P** **09 12 29.3 -0.3**
R50A Paris 19.62 342 P **Pn** **09 12 30.5 -0.5**
baz=158,SNR=21
R50A P **Pn** **09 12 30.5 -0.5**
baz=158,SNR=21
P57A Homestead Farm 19.68 357 P **P** **09 12 30.5 +0.3**
P57A IAmb IAmb 09 12 37.3
comp=Z,310nm,1.4s
P57A Homestead Farm 19.68 357 P **Pn** **09 12 32.0 +0.3**
baz=176,SNR=38
P57A P **Pn** **09 12 32.0 +0.3**
baz=176,SNR=38
UTMT University of 19.69 330 P **P** **09 12 30.9 +0.5**
PULU Pululahua 19.71 186 P **Pn** **09 12 34.1 +1.5**
Q52A Bidwell 19.73 347 P **P** **09 12 30.3 -0.6**
Q52A IAmb IAmb 09 12 40.4
comp=Z,376nm,1.4s
Q52A Bidwell 19.73 347 P **P** **09 12 31.1 +0.2**
baz=164,SNR=56
Q52A P **P** **09 12 31.1 +0.2**
baz=164,SNR=56
LNXT Lenox 19.80 328 P **P** **09 12 31.9 +0.3**
LNXT Lenox 19.80 328 P **P** **09 12 32.2 +0.6**
baz=142
GLAT Glass 19.84 329 P **P** **09 12 32.3 +0.3**
R49A Shelbyville 19.89 340 P **P** **09 12 32.8 +0.3**
R49A IAmb IAmb 09 12 43.8
comp=Z,281nm,1.2s
R49A Shelbyville 19.89 340 P **P** **09 12 33.2 +0.7**
baz=156,SNR=28
R49A P **P** **09 12 33.2 +0.7**
baz=156,SNR=28
P61A Hammonton 19.90 4 P **P** **09 12 31.6 -1.0**
P61A Hammonton 19.90 4 P **Pn** **09 12 33.7 -0.5**
baz=185,SNR=24
P61A P **Pn** **09 12 33.7 -0.5**
baz=185,SNR=24
GNAR Gosnell 19.97 327 P **P** **09 12 32.5 -0.9**
GEDE Greenville 19.99 2 P **Pn** **09 12 34.8 -0.6**
baz=183,SNR=22
HBAR Harrisburg 20.00 325 P **P** **09 12 33.7 0.0**
HBAR Harrisburg 20.00 325 P **Pn** **09 12 34.7 -0.7**
baz=138,SNR=16
PEBM Pemiscott Bayo 20.00 327 P **P** **09 12 34.2 +0.5**
PEBM IAmb IAmb 09 12 41.3
comp=Z,321nm,1.1s
MCWV Mont Chateau 20.01 353 P **P** **09 12 33.5 -0.4**
MCWV IAmb IAmb 09 12 42.1
comp=Z,237nm,1.2s
MCWV Mont Chateau 20.01 353 P Pn 09 12 35.8 +0.1
baz=171,SNR=54
MCWV Mont Chateau 20.01 353 P Pn 09 12 35.1 -0.6
baz=171,SNR=54
Q51A Peebles 20.05 345 IAmb IAmb 09 12 45.1
comp=Z,284nm,1.5s
Q51A Peebles 20.05 345 P **P** **09 12 35.0 +0.7**
baz=161,SNR=27
Q51A P **P** **09 12 35.0 +0.7**
baz=161,SNR=27
P53A Whipple 20.07 349 IAmb IAmb 09 12 45.0
comp=Z,402nm,1.8s
P53A Whipple 20.07 349 P **P** **09 12 35.4 +0.9**
baz=167,SNR=28
P53A P **P** **09 12 35.4 +0.9**
baz=167,SNR=28
NATX Nacogdoches 20.11 310 P **P** **09 12 35.0 -0.1**
NATX Nacogdoches 20.11 310 P **P** **09 12 35.8 +0.7**
baz=122,SNR=11
NATX Nacogdoches 20.11 310 P Pn 09 12 36.3 -0.6
baz=122,SNR=11
WUPA West Chester U 20.11 2 P **P** **09 12 35.4 +0.5**
WUPA IAmb IAmb 09 12 44.1
comp=Z,191nm,1.4s
PSUB Penn St. - Bra 20.12 3 P Pn 09 12 36.0 -0.8
baz=183
HKT Hockley 20.12 304 P **P** **09 12 35.3 +0.2**
HKT IAmb IAmb 09 12 49.1
comp=Z,389nm,1.6s
HKT Hockley 20.12 304 P Pn 09 12 35.9 -1.0
baz=116
HKT Hockley 20.12 304 ⇑P Pn 09 12 36.1 -0.9
HKT Hockley 20.12 304 P **P** **09 12 35.3 +0.2**
HKT pmax pmax
comp=Z,389nm,1.7s
T45B Paducah 20.14 331 P Pn 09 12 36.8 -0.2
baz=145,SNR=12
MVL Millersville 20.16 1 P **P** **09 12 34.9 -0.6**
WLAR White Oak Lake 20.17 317 P Pn 09 12 36.6 -1.0
WLAR IAmb IAmb 09 12 43.1
comp=Z,316nm,1.1s
WCI Wyandotte Cave 20.21 338 P **P** **09 12 35.0 -1.1**
WCI Wyandotte Cave 20.21 338 IAMs_20 IAMs_20 09 20 31.3
comp=Z,20μm,18.0s
WCI Wyandotte Cave 20.21 338 P **P** **09 12 36.6 +0.6**
baz=153,SNR=47
WCI Wyandotte Cave 20.21 338 P **P** **09 12 36.5 +0.4**
baz=153
WCI Wyandotte Cave 20.21 338 ⇑P **P** **09 12 36.5 +0.4**
WCI Wyandotte Cave 20.21 338 P **P** **09 12 35.0 -1.1**
WCI pmax pmax
comp=Z,637nm,1.8s
WCI MLR MLR
comp=Z,20μm,18.0s
FLF1 Flavio Alfaro- 20.25 189 *e*P Pn 09 12 40.5 +1.9
P52A Corning 20.35 348 P **P** **09 12 37.5 -0.1**
P52A IAmb IAmb 09 12 42.3
comp=Z,279nm,1.1s
P52A IAMs_20 IAMs_20 09 20 44.7
comp=Z,25μm,18.0s
P52A Corning 20.35 348 P **P** **09 12 38.2 +0.6**
baz=165,SNR=72
TUPA Temple Univers 20.37 3 P **P** **09 12 38.5 +0.8**
baz=184,SNR=86
PARMO Parma 20.38 328 P **P** **09 12 37.9 +0.1**
PAGS Pennsylvania G 20.39 360 P **P** **09 12 38.4 +0.4**
UALR University of 20.41 320 IAmb IAmb 09 12 54.2
comp=Z,236nm,1.4s
P51A Williamsport 20.41 346 P **P** **09 12 37.7 -0.5**
P51A IAmb IAmb 09 12 40.9
comp=Z,163nm,1.2s
P51A Williamsport 20.41 346 P **P** **09 12 38.9 +0.7**
baz=162,SNR=28
P51A P **P** **09 12 38.9 +0.7**
baz=162,SNR=28
PABK Blue Knob Stat 20.50 356 P **P** **09 12 39.9 +0.7**
baz=175
USIN University of 20.51 334 IAmb IAmb 09 12 48.7
comp=Z,126nm,0.9s
X40A Basin Creek Fa 20.51 319 P **P** **09 12 40.3 +0.9**
baz=131,SNR=65
X40A P **P** **09 12 40.3 +0.9**
baz=131,SNR=65
O54A Avella 20.60 352 P **P** **09 12 40.2 0.0**
O54A IAmb IAmb 09 12 48.6
comp=Z,281nm,1.2s
O54A Avella 20.60 352 P **P** **09 12 41.4 +1.1**
baz=170,SNR=46
O54A P **P** **09 12 41.4 +1.1**
baz=170,SNR=46
LCAR Lake Charles 20.65 325 P **P** **09 12 39.1 -1.7**
LCAR IAmb IAmb 09 12 48.4
comp=Z,228nm,1.4s
LCAR Lake Charles 20.65 325 P **P** **09 12 41.4 +0.6**
baz=138,SNR=50
PIAT Ana Tenorio 20.70 185 *e*P Pn 09 12 43.2 -1.1
WHAR Wooly Hollow 20.73 321 P **P** **09 12 39.8 -1.9**
WHAR IAmb IAmb 09 12 49.3
comp=Z,258nm,1.1s
O52A Adamsville 20.76 349 P **P** **09 12 42.9 +0.9**
baz=166,SNR=56
O52A P **P** **09 12 42.9 +0.9**
baz=166,SNR=56
O53A New Philadelph 20.79 350 P **P** **09 12 41.9 -0.4**
O53A IAmb IAmb 09 12 50.5
comp=Z,269nm,1.2s
O53A IAMs_20 IAMs_20 09 21 07.0
comp=Z,14μm,18.0s
O53A New Philadelph 20.79 350 P **P** **09 12 43.1 +0.9**
baz=168,SNR=28
LUPA Lehigh Univers 20.79 3 P **P** **09 12 41.6 -0.7**
LUPA IAmb IAmb 09 12 57.2
comp=Z,403nm,1.4s
PBMO Poplar Bluff 20.81 327 P **P** **09 12 41.7 -0.8**
PBMO IAmb IAmb 09 12 50.0
comp=Z,354nm,1.2s
PBMO Poplar Bluff 20.81 327 P **P** **09 12 42.4 -0.2**
baz=141,SNR=5.2
SSPA Standing Stone 20.82 357 P **P** **09 12 42.0 -0.7**
SSPA IAmb IAmb 09 12 50.8
comp=Z,262nm,1.1s
SSPA Standing Stone 20.82 357 P Pn 09 12 44.4 -0.8
baz=177,SNR=85
SSPA Standing Stone 20.82 357 P **P** **09 12 43.6 +0.9**
baz=177
SSPA Standing Stone 20.82 357 ⇑P **P** **09 12 43.6 +0.9**
CGM3 Cape Girardeau 20.84 330 P **P** **09 12 41.6 -1.2**
CGM3 IAmb IAmb 09 12 48.0
comp=Z,244nm,1.3s
UPAO U. Pittsburgh 20.85 353 P **P** **09 12 43.6 +0.7**
baz=171
TLIG Tlapa 20.89 268 ⇑P Pn 09 12 47.8 +1.6
P49A Miami Univ. Ec 20.89 342 P **P** **09 12 42.9 -0.5**
P49A IAmb IAmb 09 12 51.3
comp=Z,279nm,1.1s
P49A IAMs_20 IAMs_20 09 20 54.0
comp=Z,19μm,18.0s
P49A Miami Univ. Ec 20.89 342 P **P** **09 12 43.8 +0.3**
baz=158,SNR=46
P49A Miami Univ. Ec 20.89 342 P **P** **09 12 43.8 +0.3**
baz=158,SNR=46
BRNJ Basking Ridge 20.92 4 **P** **09 12 44.0 +0.3**
BRNJ Basking Ridge 20.92 4 P Pn 09 12 45.3 -1.0
baz=137,SNR=49
KVTX Kingsville 20.93 296 IAmb IAmb 09 13 00.3
comp=Z,424nm,1.4s
KVTX Kingsville 20.93 296 P Pn 09 12 45.8 -0.7
baz=107
S44A Carbondale 20.97 331 P **P** **09 12 43.9 -0.4**
S44A Carbondale 20.97 331 P **P** **09 12 44.9 +0.6**
baz=145,SNR=74
N58A Sunbury 21.00 360 P **P** **09 12 44.3 -0.3**
N58A IAmb IAmb 09 12 59.9
comp=Z,415nm,1.5s
N58A Sunbury 21.00 360 P **P** **09 12 45.8 +1.2**
baz=180,SNR=23
N58A P **P** **09 12 45.8 +1.2**
baz=180,SNR=23
MIAR Mount Ida 21.02 318 P **P** **09 12 45.6 +0.7**
baz=130,SNR=206
MIAR Mount Ida 21.02 318 P **P** **09 12 45.6 +0.7**
baz=130,SNR=206
MIAR Mount Ida 21.02 318 ⇑P **P** **09 12 45.4 +0.5**
P48A Milroy 21.03 341 IAmb IAmb 09 12 51.8
comp=Z,224nm,1.1s
P48A Milroy 21.03 341 P **P** **09 12 45.1 +0.1**
baz=156,SNR=79
P48A P **P** **09 12 45.1 +0.1**
baz=156,SNR=79
FCAR Ozark Folk Cen 21.06 323 P **P** **09 12 45.8 +0.5**
FCAR IAmb IAmb 09 12 52.1
comp=Z,192nm,0.9s
237A Washetta, Mont 21.07 309 IAmb IAmb 09 13 03.4
comp=Z,319nm,1.2s
237A Washetta, Mont 21.07 309 P **P** **09 12 46.9 +1.5**
baz=120,SNR=21
ACSO Alum Creek Sta 21.11 346 IAmb IAmb 09 12 51.4
comp=Z,271nm,1.1s
ACSO IAMs_20 IAMs_20 09 21 17.7
comp=Z,31μm,18.0s
ACSO Alum Creek Sta 21.11 346 P **P** **09 12 46.6 +0.8**
baz=163,SNR=60
ACSO Alum Creek Sta 21.11 346 P **P** **09 12 46.6 +0.8**
baz=163,SNR=60
BLO Bloomington 21.14 338 IAmb IAmb 09 12 54.0
comp=Z,162nm,1.1s
FOR Fordham 21.16 6 P **P** **09 12 46.9 +0.6**
baz=187
Z38A Mt. Pleasant 21.17 313 P **P** **09 12 46.9 +0.4**
Z38A Mt. Pleasant 21.17 313 P **P** **09 12 47.6 +1.1**
baz=125,SNR=12
PORT Chimborazo Vol 21.20 186 IAmb IAmb 09 13 00.8
comp=Z,130nm,1.0s
CHSH Refugio Sur-Vo 21.25 186 IAmb IAmb 09 13 00.4
comp=Z,186nm,0.9s
N62A Caumsett State 21.27 7 P **P** **09 12 47.6 +0.2**
baz=188,SNR=9.0
N62A P **P** **09 12 47.6 +0.2**
baz=188,SNR=9.0
N53A Lisbon 21.27 351 IAmb IAmb 09 12 52.8
comp=Z,318nm,1.2s
N53A Lisbon 21.27 351 P **P** **09 12 48.5 +1.0**
baz=169,SNR=60
N53A P **P** **09 12 48.5 +1.0**
baz=169,SNR=60
735A Kenedy 21.28 299 P **P** **09 12 48.7 +1.0**
baz=110
PAL Palisades 21.30 6 P **P** **09 12 48.7 +1.0**
baz=187,SNR=7.9
PAL Palisades 21.30 6 P **P** **09 12 48.0 +0.3**
baz=187,SNR=7.9
ODNJ Ogdensburg 21.32 4 IAmb IAmb 09 13 04.2
comp=Z,240nm,1.1s
ODNJ Ogdensburg 21.32 4 P **P** **09 12 48.9 +0.9**
baz=185,SNR=49
OLIL Olney 21.34 335 P **P** **09 12 48.0 -0.3**
OLIL Olney 21.34 335 P **P** **09 12 48.9 +0.6**
baz=149,SNR=62
PSDB Penn State Uni 21.36 356 P **P** **09 12 49.8 +1.2**
baz=174
O49A Covington 21.39 344 P **P** **09 12 48.0 -0.8**
O49A IAmb IAmb 09 12 53.8
comp=Z,307nm,1.1s
O49A Covington 21.39 344 P **P** **09 12 49.2 +0.4**
baz=160,SNR=64
O49A P **P** **09 12 49.2 +0.4**
baz=160,SNR=64
TRNY Table Rock, Ra 21.41 5 IAmb IAmb 09 13 05.3
comp=Z,332nm,1.2s
PSWB Penn State Wil 21.47 1 P **P** **09 12 50.6 +0.9**
baz=182
M57A Sunshine Farm, 21.50 359 P **P** **09 12 50.4 +0.4**
M57A Sunshine Farm, 21.50 359 P **P** **09 12 51.2 +1.3**
baz=179,SNR=61
M57A P **P** **09 12 51.2 +1.3**
baz=179,SNR=61
PPLP Puerto Lpez 21.57 191 *e*P **P** **09 12 51.9 +1.0**
N51A Ashland 21.64 348 P **P** **09 12 52.0 +0.5**
baz=165,SNR=62
N51A P **P** **09 12 52.0 +0.5**
baz=165,SNR=62
O48B Farmland 21.69 342 P **P** **09 12 51.9 0.0**
baz=158,SNR=88
O48B Farmland 21.69 342 P **P** **09 12 51.9 0.0**
baz=158,SNR=88
BRNY Black Rk. Fore 21.69 5 P **P** **09 12 52.4 +0.4**
baz=187,SNR=41
M55A Ridgway 21.70 356 P **P** **09 12 50.7 -1.5**
M55A IAmb IAmb 09 12 58.9
comp=Z,169nm,1.1s
M55A Ridgway 21.70 356 P **P** **09 12 53.1 +0.9**
baz=174,SNR=43
M55A P **P** **09 12 53.1 +0.9**
baz=174,SNR=43
YLE Yale 21.71 8 P **P** **09 12 52.0 -0.2**
KSPA Keystone Colle 21.73 2 IAmb IAmb 09 12 58.4
comp=Z,331nm,1.2s
KSPA Keystone Colle 21.73 2 P **P** **09 12 53.5 +1.0**
baz=182,SNR=62
P46A Rosedale 21.77 338 P **P** **09 12 53.5 +0.6**
baz=152,SNR=49
U40A Yellville 21.80 323 P **P** **09 12 53.6 +0.3**
baz=135,SNR=102
U40A P **P** **09 12 53.6 +0.3**
baz=135,SNR=102
PAOC Oil Creek Stat 21.83 354 P **P** **09 12 54.1 +0.6**
baz=172
435B Jarrell 21.84 304 P **P** **09 12 53.8 0.0**
435B IAmb IAmb 09 13 01.4
comp=Z,163nm,0.9s
435B Jarrell 21.84 304 P **P** **09 12 54.6 +0.8**
baz=115,SNR=31
435B Jarrell 21.84 304 P **P** **09 12 54.4 +0.6**
baz=115
M53A WI Miller and 21.87 352 IAmb IAmb 09 12 58.8
comp=Z,184nm,1.1s
M53A WI Miller and 21.87 352 P **P** **09 12 54.7 +0.8**
baz=170,SNR=30
SGCB SEo Gabriel d 21.90 153 *e*P **P** **09 12 56.4 +1.9**
M63A Gales Ferry 21.92 9 P **P** **09 12 54.5 +0.1**
M63A IAmb IAmb 09 13 10.1
comp=Z,173nm,1.1s
M63A Gales Ferry 21.92 9 P **P** **09 12 55.3 +0.9**
baz=192,SNR=15
M63A P **P** **09 12 55.3 +0.9**
baz=192,SNR=15
ALLY Alegheny Colle 22.01 353 P **P** **09 12 57.0 +1.5**
baz=171,SNR=23
NPNY Mohonk Preserv 22.02 5 P **P** **09 12 56.4 +0.9**
baz=186,SNR=39
N49A Columbus Grove 22.05 345 P **P** **09 12 55.4 -0.4**
N49A IAmb IAmb 09 13 03.2
comp=Z,194nm,1.0s
N49A Columbus Grove 22.05 345 P **P** **09 12 55.9 +0.1**
baz=161,SNR=36
N49A P **P** **09 12 55.9 +0.1**
baz=161,SNR=36
KSCT Kent School, K 22.05 6 P **P** **09 12 56.1 +0.3**
MGMO Mountain Grove 22.05 325 IAmb IAmb 09 13 00.6
comp=Z,210nm,1.1s
M52A Chesterland 22.07 351 IAmb IAmb 09 13 05.7
comp=Z,177nm,0.8s
M52A Chesterland 22.07 351 P **P** **09 12 56.6 +0.6**
baz=168,SNR=18
M52A P **P** **09 12 56.6 +0.6**
baz=168,SNR=18
SLM Saint Louis 22.18 331 IAmb IAmb 09 13 11.4
comp=Z,126nm,1.1s
SLM Saint Louis 22.18 331 P **P** **09 12 58.0 +0.6**
baz=144,SNR=9.3
X37A Clayton 22.20 315 **P** **09 12 58.2 +0.6**
X37A IAmb IAmb 09 13 11.4
comp=Z,222nm,0.9s
X37A Clayton 22.20 315 P **P** **09 12 58.3 +0.7**
baz=127,SNR=71
CCM Cathedral Cave 22.20 328 P **P** **09 12 57.0 -0.6**
CCM IAmb IAmb 09 13 06.1
comp=Z,182nm,0.9s
CCM Cathedral Cave 22.20 328 IAMs_20 IAMs_20 09 21 44.3
comp=Z,13μm,19.0s
CCM Cathedral Cave 22.20 328 P **P** **09 12 57.6 +0.1**
baz=141,SNR=101
CCM Cathedral Cave 22.20 328 P **P** **09 12 57.5 -0.1**
baz=141
CCM Cathedral Cave 22.20 328 ⇑P **P** **09 12 57.4 -0.1**
CCM Cathedral Cave 22.20 328 P **P** **09 12 57.0 -0.6**
CCM pmax pmax
comp=Z,182nm,1.0s
CCM MLR MLR
comp=Z,13μm,19.0s
M50A Fremont 22.24 347 P **P** **09 12 57.6 -0.3**
M50A Fremont 22.24 347 P **P** **09 12 58.7 +0.8**
baz=164,SNR=24
M50A P **P** **09 12 58.7 +0.8**
baz=164,SNR=24
UCCT U. Connecticut 22.27 9 P **P** **09 12 58.2 -0.1**
UCCT IAmb IAmb 09 13 15.1
comp=Z,254nm,1.2s
WHTX Lake Whitney, 22.29 307 P **P** **09 12 59.1 +0.6**
WHTX IAmb IAmb 09 13 17.9
comp=Z,223nm,1.0s
WHTX Lake Whitney, 22.29 307 P **P** **09 13 00.5 +2.0**
baz=118,SNR=45
WHTX Lake Whitney, 22.29 307 P **P** **09 12 59.4 +0.9**
baz=118,SNR=45
L56A Greenwood 22.31 358 P **P** **09 12 58.7 0.0**
L56A IAmb IAmb 09 13 07.5
comp=Z,276nm,1.6s
L56A Greenwood 22.31 358 P **P** **09 12 59.0 +0.3**
baz=178,SNR=21
L56A P **P** **09 12 59.0 +0.3**
baz=178,SNR=21
M65A Busby, Falmout 22.31 12 P **P** **09 12 58.7 +0.1**
baz=195
BINY Binghamton 22.37 1 P **P** **09 12 58.8 -0.5**
BINY IAmb IAmb 09 13 11.3
comp=Z,198nm,1.1s
BINY Binghamton 22.37 1 P **P** **09 13 00.3 +1.0**
baz=182,SNR=50
BINY Binghamton 22.37 1 P **P** **09 12 60.0 +0.7**
baz=182,SNR=50
HHAR Hobbs 22.39 321 P **P** **09 13 00.1 +0.5**
HHAR IAmb IAmb 09 13 06.3
comp=Z,164nm,1.1s
HHAR Hobbs 22.39 321 P **P** **09 12 59.8 +0.2**
baz=133
L59A Walton 22.39 3 P **P** **09 13 00.0 +0.4**
L59A IAmb IAmb 09 13 04.8
comp=Z,168nm,1.3s
L59A Walton 22.39 3 P **P** **09 13 00.1 +0.6**
baz=184,SNR=22
L59A P **P** **09 13 00.1 +0.6**
baz=184,SNR=22
SFIN Lafayette 22.41 339 P **P** **09 12 59.5 -0.2**
SFIN IAmb IAmb 09 13 04.9
comp=Z,207nm,1.1s
SFIN Lafayette 22.41 339 P **P** **09 13 00.3 +0.5**
baz=153,SNR=36
SFIN Lafayette 22.41 339 P **P** **09 13 00.3 +0.5**
baz=153,SNR=36
N47A Urbana 22.42 342 P **P** **09 12 59.5 -0.3**
baz=157,SNR=46
N47A P **P** **09 12 59.5 -0.3**
baz=157,SNR=46
833A Chaparral WMA, 22.43 297 IAmb IAmb 09 13 06.9
comp=Z,285nm,1.3s
833A Chaparral WMA, 22.43 297 P **P** **09 13 00.8 +0.8**
baz=107,SNR=38
833A Chaparral WMA, 22.43 297 P **P** **09 13 00.8 +0.8**
baz=107,SNR=38
ERPA Erie 22.46 353 P **P** **09 12 59.6 -0.6**
ERPA IAmb IAmb 09 13 08.2
comp=Z,242nm,1.1s
ERPA Erie 22.46 353 P **P** **09 13 01.1 +0.9**
baz=172,SNR=28
ERPA Erie 22.46 353 P **P** **09 13 00.6 +0.4**
baz=172,SNR=28
BRYW Bryant College 22.50 10 P **P** **09 12 59.4 -1.3**
WVNY West Valley, N 22.63 356 IAmb IAmb 09 13 21.9
comp=Z,224nm,1.0s
WVNY West Valley, N 22.63 356 P **P** **09 13 02.8 +0.7**
baz=175,SNR=42
O44A Mansfield 22.71 336 IAmb IAmb 09 13 20.4
comp=Z,209nm,1.0s
O44A Mansfield 22.71 336 P **P** **09 13 03.7 +0.8**
baz=150,SNR=32
QUA2 Belchertown 22.73 8 P **P** **09 13 02.4 -0.7**
QUA2 IAmb IAmb 09 13 20.1
comp=Z,384nm,1.7s
QUA2 Belchertown 22.73 8 P **P** **09 13 03.6 +0.4**
baz=190,SNR=7.7
U38A Gravette 22.76 321 P **P** **09 13 03.5 0.0**
baz=132,SNR=42
Z35A Perchaven, San 22.80 310 P **P** **09 13 04.2 +0.3**
Z35A IAmb IAmb 09 13 16.9
comp=Z,148nm,0.9s
Z35A Perchaven, San 22.80 310 P **P** **09 13 04.6 +0.6**
baz=121,SNR=19
FW06 Azle 22.84 309 IAmb IAmb 09 13 19.1
comp=Z,462nm,1.5s
L61B Northampton 22.86 8 IAmb IAmb 09 13 26.8
comp=Z,141nm,0.9s
L61B Northampton 22.86 8 P **P** **09 13 05.0 +0.5**
baz=190,SNR=16
L61B Northampton 22.86 8 P **P** **09 13 05.0 +0.5**
baz=190,SNR=16
K57A Scipio Center 22.89 0 P **P** **09 13 05.7 +0.8**
baz=180,SNR=45
R40A Maddies Statio 22.90 327 IAmb IAmb 09 13 11.3
comp=Z,179nm,0.9s
R40A Maddies Statio 22.90 327 P **P** **09 13 04.9 0.0**
baz=139,SNR=118
MMNY Mt. Morris Dam 22.92 358 P **P** **09 13 03.1 -2.0**
HCNY Howe Caverns 22.93 4 P **P** **09 13 06.3 +1.0**
baz=185,SNR=20
RLO Rose Lookout 22.96 319 **P** **09 13 05.7 +0.1**
RLO IAmb IAmb 09 13 26.6
comp=Z,97nm,1.0s
BCX Boston College 22.97 10 P **P** **09 13 06.1 +0.6**
BCX IAmb IAmb 09 13 25.2
comp=Z,187nm,1.0s
WES Weston 22.99 10 IAmb IAmb 09 13 26.1
comp=Z,165nm,1.1s
WES Weston 22.99 10 P **P** **09 13 06.6 +0.8**
baz=193,SNR=22
HRV Adam Dziewonsk 23.07 10 P **P** **09 13 06.5 -0.1**
HRV IAmb IAmb 09 13 28.8
comp=Z,328nm,1.8s
HRV Adam Dziewonsk 23.07 10 P **P** **09 13 07.5 +0.7**

baz=192,SNR=6.3
HRV Adam Dziewonsk 23.07 10 P P 09 13 07.4 +0.7
HRV Adam Dziewonsk 23.07 10 ⇓P P 09 13 08.4 +1.8
HRV ⇑S S 09 17 16.6 -0.9
HRV Adam Dziewonsk 23.07 10 P P 09 13 06.6 -0.1
HRV pmax pmax
comp=Z,328nm,1.8s
L48A N Adams 23.07 345 P P 09 13 06.2 -0.5
L48A IAmb IAmb 09 13 12.7
comp=Z,161nm,0.9s
L48A N Adams 23.07 345 P P 09 13 07.0 +0.3
baz=161,SNR=40
L48A P P 09 13 07.0 +0.3
baz=161,SNR=40
K62A Royalston 23.13 8 P P 09 13 07.0 -0.2
K62A IAmb IAmb 09 13 29.3
comp=Z,153nm,1.2s
K62A Royalston 23.13 8 P P 09 13 08.2 +0.9
baz=190,SNR=16
K62A P P 09 13 08.2 +0.9
baz=190,SNR=16
AAM Ann Arbor 23.23 347 P P 09 13 07.3 -1.0
AAM Ann Arbor 23.23 347 P P 09 13 09.6 +1.3
baz=163,SNR=6.5
AAM Ann Arbor 23.23 347 P P 09 13 08.5 +0.2
baz=163,SNR=6.5
AAM Ann Arbor 23.23 347 P P 09 13 07.3 -1.0
AAM pmax pmax
comp=Z,442nm,1.7s
AAM MLR MLR
comp=Z,30µm,18.0s
TUL1 Leonard 23.28 318 P 09 13 08.8 -0.1
TUL1 IAmb IAmb 09 13 15.8
comp=Z,165nm,1.0s
TUL1 Leonard 23.28 318 P P 09 13 09.5 +0.6
baz=128,SNR=116
TUL1 Leonard 23.28 318 P P 09 13 08.9 -0.1
baz=128,SNR=116
BOAV Boa Vista 23.38 136 P P 09 13 10.0 0.0
BOAV IAmb IAmb 09 13 17.8
comp=Z,116nm,1.0s
BOAV Boa Vista 23.38 136 *eP* **P 09 13 10.1 +0.1**
BOAV Boa Vista 23.38 136 *eP* **P 09 13 09.6 -0.4**
HDIL Hopedale 23.38 335 IAMs_20 IAMs_20 09 22 00.1
comp=Z,16µm,20.0s
HDIL Hopedale 23.38 335 P P 09 13 10.4 +0.6
baz=149,SNR=27
HDIL Hopedale 23.38 335 P P 09 13 09.9 +0.1
baz=149,SNR=27
ARNL Arenillas 23.41 189 IAmb IAmb 09 13 26.8
comp=Z,209nm,1.7s
J56A Wolcott 23.44 360 IAmb IAmb 09 13 16.1
comp=Z,232nm,1.2s
J56A Wolcott 23.44 360 P P 09 13 11.8 +1.4
baz=179,SNR=30
J56A P P 09 13 11.8 +1.4
baz=179,SNR=30
J55A Hilton 23.45 358 P P 09 13 09.7 -0.7
J55A IAmb IAmb 09 13 31.0
comp=Z,113nm,0.9s
J55A Hilton 23.45 358 P P 09 13 11.8 +1.4
baz=177,SNR=12
J55A P P 09 13 11.8 +1.4
baz=177,SNR=12
JCT Junction City 23.48 302 P P 09 13 11.2 +0.2
JCT Junction City 23.48 302 P P 09 13 11.9 +0.9
baz=112,SNR=23
JCT Junction City 23.48 302 P P 09 13 11.9 +0.9
baz=112,SNR=23
JCT Junction City 23.48 302 ⇑P P 09 13 11.8 +0.9
JCT Junction City 23.48 302 P P 09 13 11.2 +0.2
JCT pmax pmax
comp=Z,544nm,1.8s
K50A Casco 23.48 349 P P 09 13 09.9 -0.9
K50A IAmb IAmb 09 13 32.2
comp=Z,307nm,1.6s
K50A Casco 23.48 349 P P 09 13 11.7 +0.9
baz=166
K50A P P 09 13 11.7 +0.9
baz=166
J54A Appleton 23.49 356 P P 09 13 10.8 -0.1
J54A Appleton 23.49 356 P P 09 13 12.7 +1.8
baz=175,SNR=15
J54A P P 09 13 12.7 +1.8
baz=175,SNR=15
J58A Remsen 23.55 2 P P 09 13 11.3 -0.2
J58A IAmb IAmb 09 13 31.7
comp=Z,204nm,1.2s
J58A Remsen 23.55 2 P P 09 13 12.9 +1.4
baz=183,SNR=20
J58A P P 09 13 12.9 +1.4
baz=183,SNR=20
J57A Williamstown 23.58 1 P P 09 13 11.8 +0.1
J57A IAmb IAmb 09 13 31.7
comp=Z,172nm,1.2s
J57A Williamstown 23.58 1 P P 09 13 13.0 +1.3
baz=181,SNR=18
J57A P P 09 13 13.0 +1.3
baz=181,SNR=18
M44A Midewin, Midew 23.64 338 P P 09 13 12.7 +0.3
M44A Midewin, Midew 23.64 338 P P 09 13 13.5 +1.1
baz=152,SNR=23
L46A Eue Claire 23.64 342 IAmb IAmb 09 13 17.8
comp=Z,141nm,1.0s
L46A Eue Claire 23.64 342 P P 09 13 13.5 +1.2
baz=157,SNR=15
L46A P P 09 13 13.5 +1.2
baz=157,SNR=15
ACCN Adirondack Com 23.68 5 P P 09 13 12.1 -0.6
ACCN IAmb IAmb 09 13 18.0
comp=Z,254nm,1.7s
ACCN Adirondack Com 23.68 5 P P 09 13 13.9 +1.1
baz=187,SNR=13
DEOK Depew 23.69 317 P 09 13 12.5 -0.5
DEOK IAmb IAmb 09 13 34.7
comp=Z,213nm,1.1s
J59A Piesco 23.69 4 IAmb IAmb 09 13 36.4
comp=Z,237nm,1.3s
J59A Piesco 23.69 4 P P 09 13 13.7 +0.8
baz=185,SNR=20
J59A P P 09 13 13.7 +0.8
baz=185,SNR=20
P40A Paris 23.75 329 P P 09 13 12.8 -0.7
P40A IAmb IAmb 09 13 18.9
comp=Z,226nm,1.2s
P40A Paris 23.75 329 P P 09 13 13.2 -0.2
baz=142,SNR=73
J61A Chester 23.76 7 IAmb IAmb 09 13 17.5
comp=Z,154nm,1.6s
J61A Chester 23.76 7 P P 09 13 15.1 +1.6
baz=190,SNR=6.7
J61A P P 09 13 15.1 +1.6
baz=190,SNR=6.7
UNH University of 23.76 11 P P 09 13 14.0 +0.5
baz=194
X34A Smith Ranch, M 23.88 313 IAmb IAmb 09 13 21.8
comp=Z,121nm,0.9s
HQIL Hanson Quary C 23.94 339 P P 09 13 14.4 -0.8
HQIL IAmb IAmb 09 13 33.8
comp=Z,148nm,1.4s
HQIL IAMs_20 IAMs_20 09 22 29.7
comp=Z,18µm,18.0s
OK053 SW of W Deep R 23.98 317 P 09 13 16.2 +0.4
FFD Franklin Falls 24.00 9 IAmb IAmb 09 13 32.8
comp=Z,199nm,1.2s
QUOK Quay 24.03 317 P 09 13 16.3 +0.1
HNH Hanover 24.14 8 P P 09 13 19.1 +1.9
baz=190,SNR=12
N41A Harden Midland 24.15 333 IAmb IAmb 09 13 37.4
comp=Z,138nm,1.0s
N41A Harden Midland 24.15 333 P P 09 13 17.5 +0.3
baz=146
WCNY West Carthage 24.16 2 P P 09 13 18.0 +0.7
baz=182,SNR=12
MCRA Macar, Loja 24.21 188 P P 09 13 19.1 +1.1
MCRA IAmb IAmb 09 13 46.9
comp=Z,90nm,1.2s
NCB Newcomb 24.21 4 P P 09 13 18.6 +0.8
NCB IAmb IAmb 09 13 40.7
comp=Z,124nm,1.1s
NCB Newcomb 24.21 4 P P 09 13 18.7 +0.8
baz=186,SNR=36
ABTX Abilene, Hawle 24.22 307 P P 09 13 18.4 +0.4
ABTX IAmb IAmb 09 13 38.3
comp=Z,151nm,1.2s
ABTX Abilene, Hawle 24.22 307 P P 09 13 18.8 +0.7
baz=116,SNR=24
ABTX Abilene, Hawle 24.22 307 P P 09 13 18.8 +0.7
baz=116,SNR=24
L44A Lake County Fo 24.29 339 P P 09 13 17.6 -0.9
L44A IAMs_20 IAMs_20 09 22 50.2
comp=Z,18µm,20.0s
L44A Lake County Fo 24.29 339 P P 09 13 19.3 +0.8
baz=153
L44A Lake County Fo 24.29 339 P P 09 13 18.4 -0.1
baz=153
MCVT Middlebury Col 24.31 6 P P 09 13 19.3 +0.7
baz=188
BCOK Bluff Creek, N 24.31 315 IAmb IAmb 09 13 23.9
comp=Z,75nm,1.0s
PAYG Puerto Ayora 24.33 215 P P 09 13 19.9 +0.8
PAYG IAmb IAmb 09 13 45.0
comp=Z,83nm,1.2s
ZAIG Zacatecas 24.33 282 ⇑P P 09 13 20.7 +1.2
OK050 Pawnee Station 24.34 317 IAmb IAmb 09 13 32.5
comp=Z,163nm,1.0s
OK050 IAMs_20 IAMs_20 09 24 29.3
comp=Z,15µm,18.0s
T35A Sooner Cattle 24.36 319 P 09 13 19.2 -0.1
T35A IAmb IAmb 09 13 46.2
comp=Z,124nm,0.9s
T35B Sooner Cattle 24.36 319 P P 09 13 19.8 +0.5
baz=129,SNR=31
J47A Sunmer 24.39 345 P P 09 13 19.7 +0.3
J47A IAmb IAmb 09 13 43.3
comp=Z,136nm,0.9s
J47A Sunmer 24.39 345 P P 09 13 19.9 +0.5
baz=161,SNR=18
J47A P P 09 13 19.9 +0.5
baz=161,SNR=18
I62A Tamworth 24.44 9 P P 09 13 20.7 +0.8
baz=192
I62A P P 09 13 20.7 +0.8
baz=192
P38A Dawn 24.55 327 P P 09 13 20.6 -0.4
P38A IAmb IAmb 09 13 25.8
comp=Z,100nm,0.8s
P38A Dawn 24.55 327 P P 09 13 21.6 +0.6
baz=139,SNR=50
WMOK Wichita Mounta 24.61 312 P P 09 13 21.4 -0.1
baz=121,SNR=60
WMOK Wichita Mounta 24.61 312 P P 09 13 21.4 -0.1
baz=121,SNR=60
WMOK Wichita Mounta 24.61 312 ⇑P P 09 13 21.3 -0.3
I49A Point Hope 24.65 349 P P 09 13 22.9 +1.1
baz=166
I49A P P 09 13 22.9 +1.1
baz=166
DELO Deloro Mine 24.69 358 P P 09 13 22.2 +0.1
DELO IAmb IAmb 09 13 51.1
comp=Z,116nm,1.3s
VT1 Waterbury 24.71 7 IAmb IAmb 09 13 26.8
comp=Z,83nm,1.3s
VT1 Waterbury 24.71 7 P P 09 13 23.3 +1.0
baz=189,SNR=15
TBTG Tabatinga, AM 24.71 164 P P 09 13 23.9 +1.4
TBTG IAmb IAmb 09 13 28.7
comp=Z,493nm,0.8s
TBTG Tabatinga, AM 24.71 164 *eP* **P 09 13 23.8 +1.3**
TBTG Tabatinga, AM 24.71 164 *eP* **P 09 13 24.4 +1.9**
LBNH Lisbon 24.72 8 P P 09 13 23.6 +1.2
LBNH Lisbon 24.72 8 P P 09 13 23.2 +0.8
baz=191
LBNH Lisbon 24.72 8 P P 09 13 23.1 +0.7
baz=191
LBNH Lisbon 24.72 8 P P 09 13 23.6 +1.2
LBNH pmax pmax
comp=Z,461nm,2.0s
I63A Otisfield 24.73 10 P P 09 13 19.8 -2.7
I63A IAmb IAmb 09 13 42.7
comp=Z,171nm,1.2s
I63A Otisfield 24.73 10 P P 09 13 23.5 +1.0
baz=194
I63A P P 09 13 23.5 +1.0
baz=194
L42A Oliver, Polo 24.76 336 P P 09 13 22.9 0.0
baz=150,SNR=21
LONY Lake Ozonia 24.84 4 IAmb IAmb 09 13 26.6
comp=Z,115nm,1.2s
LONY Lake Ozonia 24.84 4 P P 09 13 24.2 +0.7
baz=184,SNR=33
K43A Burlington 24.90 339 P P 09 13 23.6 -0.5
K43A Burlington 24.90 339 P P 09 13 24.7 +0.6
baz=153,SNR=17
SADO Sadowa 25.02 356 P P 09 13 24.6 -0.4
comp=Z,90nm,1.0s,baz=194,slow=9.8,SNR=26
SADO LR LR 09 24 15.1
comp=Z,4µm,18.9s,baz=199,slow=39
comp=Z,90nm,1.0s
SADO Sadowa 25.02 356 P P 09 13 24.5 -0.6
SADO IAmb IAmb 09 13 31.2
comp=Z,141nm,1.1s
SADO Sadowa 25.02 356 ⇑P P 09 13 25.3 +0.3
KAN13 South Haven SW 25.03 318 P P 09 13 25.7 +0.4
BMNY Brushton-Moira 25.06 4 P P 09 13 26.2 +0.7
baz=185,SNR=30
FRNY Flat Rock 25.12 5 P P 09 13 27.2 +1.2
baz=187,SNR=10
H62A Milan 25.15 9 IAmb IAmb 09 13 39.1
comp=Z,83nm,0.9s
H62A Milan 25.15 9 P P 09 13 27.4 +1.0
baz=192,SNR=11
H62A P P 09 13 27.4 +1.0
baz=192,SNR=11
KS20 Mayfield South 25.21 318 P P 09 13 27.5 +0.5
KAN17 Caldwell West 25.23 317 P P 09 13 27.7 +0.6
N38A Joes South For 25.30 330 P P 09 13 28.4 +0.7
baz=141,SNR=26
WVL Waterville 25.40 12 IAmb IAmb 09 13 32.0
comp=Z,164nm,1.4s
WVL Waterville 25.40 12 P P 09 13 29.3 +0.8
baz=195,SNR=5.6
L40A Anamosa 25.43 334 P P 09 13 28.8 0.0
baz=146,SNR=66
I45A Fountain 25.49 344 P P 09 13 28.8 -0.6
I45A Fountain 25.49 344 P P 09 13 29.6 +0.3
baz=158
I45A P P 09 13 29.6 +0.3
baz=158
KAN12 Harper NE Stat 25.53 318 P P 09 13 30.4 +0.6
U32A Winter Ranch, 25.65 315 P 09 13 31.2 +0.2
U32A IAmb IAmb 09 13 37.8
comp=Z,139nm,1.1s
U32A Winter Ranch, 25.65 315 P P 09 13 31.6 +0.6
baz=124,SNR=35
ELIS Ellis County 25.76 314 P P 09 13 32.6 +0.6
JFWS Jewell Farm 25.77 337 P P 09 13 31.3 -0.6
JFWS Jewell Farm 25.77 337 IAMs_20 IAMs_20 09 23 45.3
comp=Z,16µm,18.0s
JFWS Jewell Farm 25.77 337 P P 09 13 32.1 +0.2
baz=149,SNR=34
JFWS Jewell Farm 25.77 337 P P 09 13 32.1 +0.2
baz=149,SNR=34
JFWS Jewell Farm 25.77 337 P P 09 13 31.3 -0.6
JFWS pmax pmax
comp=Z,133nm,0.9s
JFWS MLR MLR
comp=Z,16µm,18.0s
MNTQ Montreal, Queb 25.78 5 IAmb IAmb 09 13 46.3
comp=Z,103nm,1.0s
MNTQ Montreal, Queb 25.78 5 ⇑P P 09 13 32.8 +0.8
KSU1 Kansas State U 25.85 322 IAMs_20 IAMs_20 09 25 04.0
comp=Z,15µm,20.0s
KSU1 Kansas State U 25.85 322 P P 09 13 33.4 +0.6
baz=132,SNR=43
KSU1 Kansas State U 25.85 322 P P 09 13 33.4 +0.6
baz=132,SNR=43
KSU1 Kansas State U 25.85 322 ⇑P P 09 13 33.2 +0.5
GLMI Grayling 25.85 347 P P 09 13 32.0 -0.6
GLMI Grayling 25.85 347 P P 09 13 33.0 +0.4
baz=162,SNR=30
GLMI Grayling 25.85 347 P P 09 13 33.7 +1.1
baz=162,SNR=30
G62A West of Eustis 25.88 10 IAmb IAmb 09 13 49.4
comp=Z,138nm,1.3s
G62A West of Eustis 25.88 10 P P 09 13 33.6 +0.7
baz=193,SNR=6.3
G62A P P 09 13 33.6 +0.7
baz=193,SNR=6.3
TEFE Tefe 25.97 152 *eP* **P 09 13 35.1 +1.2**
PKME Peaks-Kenny Pk 26.14 12 P P 09 13 36.1 +0.9
baz=196
PKME Peaks-Kenny Pk 26.14 12 P P 09 13 36.1 +0.9
baz=196
I42A Draeger Farm, 26.15 340 P P 09 13 35.9 +0.5
baz=153,SNR=15
SCIA State Center 26.16 331 IAmb IAmb 09 13 42.3
comp=Z,102nm,0.8s
SCIA IAMs_20 IAMs_20 09 23 57.0
comp=Z,20µm,19.0s
SCIA State Center 26.16 331 P P 09 13 36.3 +0.8
baz=142,SNR=15
SCIA State Center 26.16 331 P P 09 13 36.3 +0.8
baz=142,SNR=15
G45A Suttons Bay 26.29 345 P P 09 13 37.4 +0.8
baz=160,SNR=14
G45A P P 09 13 37.4 +0.8
baz=160,SNR=14
TX31 Lajitas Ar. Si 26.31 296 P P 09 13 38.0 +0.9
baz=105
TXAR Lajitas Array 26.31 296 P P 09 13 37.7 +0.6
comp=Z,28nm,0.9s,baz=116,slow=8.7,SNR=104
TXAR PcP PcP 09 17 03.8 +0.5
comp=Z,2.5nm,0.7s,baz=124,slow=4.8,SNR=1.6
comp=Z,28nm,0.9s
H43A Windswept, Lux 26.32 342 IAmb IAmb 09 13 43.6
comp=Z,102nm,0.8s
H43A Windswept, Lux 26.32 342 P P 09 13 37.5 +0.6
baz=156
TRQ Mont Tremblant 26.44 3 IAmb IAmb 09 14 01.7
comp=Z,76nm,1.2s
G65A Princeton 26.45 15 P P 09 13 39.4 +1.3
baz=199
G65A P P 09 13 39.4 +1.3
baz=199
N35A Tabor 26.55 326 P P 09 13 39.1 0.0
N35A Tabor 26.55 326 P P 09 13 39.4 +0.3
baz=137,SNR=14
K38A Parkersburg 26.56 333 P P 09 13 39.3 +0.2
baz=144,SNR=40
F63A Nahmakanta, Br 26.60 12 P P 09 13 38.0 -1.5
F62A Pittston Farm, 26.63 10 P P 09 13 40.5 +0.8
baz=194
F62A P P 09 13 40.5 +0.8
baz=194
R32A Long Quarter, 26.67 319 IAmb IAmb 09 14 06.1
comp=Z,136nm,0.9s
R32A Long Quarter, 26.67 319 P P 09 13 41.0 +0.8
baz=128,SNR=22
I40A Norwalk 26.74 337 P P 09 13 40.8 0.0
I40A Norwalk 26.74 337 P P 09 13 40.9 +0.1
baz=150,SNR=24
AMTX Amarillo 26.76 309 IAmb IAmb 09 14 15.6
comp=Z,98nm,1.1s
AMTX Amarillo 26.76 309 P P 09 13 41.5 +0.3
baz=118,SNR=31
AMTX Amarillo 26.76 309 P P 09 13 41.2 +0.1
baz=118
ATAH Atahualpa 26.79 184 P P 09 13 44.1 +2.3
comp=Z,8.7nm,0.8s,baz=317,slow=22,SNR=9.7
ATAH LR LR 09 27 17.5
comp=Z,7µm,18.1s,baz=35,slow=43
comp=Z,8.7nm,0.8s
F64A Sherman 26.91 13 P P 09 13 42.8 +0.6
baz=197
F64A P P 09 13 42.8 +0.6
baz=197
MSTX Muleshoe 27.17 307 IAmb IAmb 09 14 21.7
comp=Z,78nm,1.1s
MSTX Muleshoe 27.17 307 P P 09 13 45.1 +0.3
baz=115,SNR=17
MSTX Muleshoe 27.17 307 P P 09 13 45.1 +0.3
baz=115,SNR=17
E46A Sault Ste Mari 27.26 348 IAmb IAmb 09 13 58.8
comp=Z,141nm,1.4s
E46A Sault Ste Mari 27.26 348 P P 09 13 46.3 +0.9
baz=164,SNR=14
CLNB Carlsbad 27.37 303 P P 09 13 46.9 +0.2
E62A Clayton Lake 27.41 11 IAmb IAmb 09 14 18.5
comp=Z,60nm,1.1s
E62A Clayton Lake 27.41 11 P P 09 13 48.2 +1.5
baz=195,SNR=5.8
E62A P P 09 13 48.2 +1.5
baz=195,SNR=5.8
N33A J Bar K, Exete 27.44 324 P P 09 13 46.3 -0.8
N33B J Bar K, Exete 27.44 324 P P 09 13 47.8 +0.7
baz=133,SNR=9.9
MDP Montagnes des 27.54 119 P P 09 13 48.7 +0.5
comp=Z,32nm,1.2s,baz=331,slow=18,SNR=2.3
comp=Z,32nm,1.2s
HPIG 27.54 290 ⇑P P 09 13 49.1 +0.7
CBKS Cedar Bluff 27.54 318 P P 09 13 49.0 +1.0
baz=127,SNR=32
CBKS Cedar Bluff 27.54 318 P P 09 13 49.0 +1.0
baz=127,SNR=32
CBKS Cedar Bluff 27.54 318 ⇑P P 09 13 48.9 +0.8
CZSB Cruzeiro do Su 27.60 172 P P 09 13 49.1 +0.4
CZSB IAmb IAmb 09 14 08.3
comp=Z,100nm,0.9s
CZSB Cruzeiro do Su 27.60 172 *eP* **P 09 13 49.8 +1.1**
CPRX Cap Rock 27.64 304 P P 09 13 48.7 -0.4
MACA Manacapuru-AM 27.66 144 P P 09 13 49.7 +0.4
MACA IAmb IAmb 09 14 10.5
comp=Z,34nm,0.7s
MACA Manacapuru-AM 27.66 144 *eP* **P 09 13 50.0 +0.8**
LATQ La Tuque 27.72 6 P P 09 13 48.8 -0.7
LATQ IAmb IAmb 09 14 09.1
comp=Z,128nm,1.6s
GDL2 Guadalupe Moun 27.74 302 P P 09 13 50.3 +0.4
L34A Svendsen Farm, 27.74 327 P P 09 13 49.8 +0.1
L34A IAmb IAmb 09 14 34.7
comp=Z,91nm,0.8s
L34A Svendsen Farm, 27.74 327 P P 09 13 50.4 +0.6
baz=137
LMN Caledonia Moun 27.78 18 P P 09 13 47.4 -2.7
LMN IAmb IAmb 09 14 24.9
comp=Z,99nm,1.3s
G40A Rib Lake 27.80 339 P P 09 13 49.6 -0.6
G40A IAmb IAmb 09 14 32.1
comp=Z,101nm,1.1s
G40A Rib Lake 27.80 339 P P 09 13 51.1 +0.9
baz=152,SNR=21
E43A Lone Tree Farm 27.87 345 P P 09 13 49.9 -0.9
E43A Lone Tree Farm 27.87 345 P P 09 13 51.4 +0.6
baz=159
D62A Allapoint, All 27.94 11 P P 09 13 51.2 -0.2
D62A Allapoint, All 27.94 11 P P 09 13 52.2 +0.8
baz=195
D62A P P 09 13 52.2 +0.8
baz=195
I37A Lemond, Waseca 27.94 334 P P 09 13 51.5 0.0
I37A IAmb IAmb 09 14 36.0
comp=Z,110nm,1.1s
I37B Waseca 27.94 334 P P 09 13 51.3 -0.2
baz=144
COWI Conover 28.20 341 P P 09 13 54.3 +0.4
COWI IAmb IAmb 09 14 35.1
comp=Z,121nm,1.4s
COWI IAMs_20 IAMs_20 09 25 27.6
comp=Z,14µm,18.0s
COWI Conover 28.20 341 P P 09 13 54.2 +0.4
baz=154
BGNE Belgrade 28.28 324 P P 09 13 55.1 +0.6
baz=133,SNR=11
BGNE Belgrade 28.28 324 P P 09 13 55.1 +0.6
baz=133,SNR=11
MNTX Cornudas Mount 28.39 300 P P 09 13 56.7 +0.9
MNTX Cornudas Mount 28.39 300 P P 09 13 56.8 +1.1
baz=108,SNR=54
MNTX Cornudas Mount 28.39 300 P P 09 13 56.8 +1.1
baz=108,SNR=54
SPMN Marine on St. 28.70 336 IAmb IAmb 09 14 57.2
comp=Z,49nm,1.1s
SPMN Marine on St. 28.70 336 P P 09 13 58.1 -0.1
baz=147,SNR=7.4
SPMN Marine on St. 28.70 336 P P 09 13 58.3 0.0
baz=147,SNR=7.4
D41A Chassel 28.91 343 P P 09 13 58.0 -2.1
D41A IAmb IAmb 09 15 05.0
comp=Z,67nm,1.1s
D41A Chassel 28.91 343 P P 09 14 00.9 +0.8
baz=156
ECSD EROS Data Cent 29.16 329 P P 09 14 01.9 -0.5
ECSD EROS Data Cent 29.16 329 IAMs_20 IAMs_20 09 25 51.4
comp=Z,16µm,19.0s
ECSD EROS Data Cent 29.16 329 P P 09 14 02.1 -0.3
baz=139,SNR=40
ECSD EROS Data Cent 29.16 329 P P 09 14 02.1 -0.3
baz=139,SNR=40
KIDD KIDD Seismic O 29.33 300 P P 09 14 04.6 +0.5

baz=107,SNR=10.0
E38A The Farm, Brul 29.43 339 IAmb IAmb 09 14 22.7
comp=Z,134nm,1.5s
E38A The Farm, Brul 29.43 339 P P 09 14 05.2 +0.5
baz=150,SNR=11
K31A O'Neill 29.44 326 P P 09 14 04.4 -0.5
K31A O'Neill 29.44 326 P P 09 14 05.7 +0.8
baz=134,SNR=46
KSCO Kaye Shedlock' 29.50 316 P P 09 14 05.6 0.0
KSCO IAmb IAmb 09 15 08.3
comp=Z,70nm,1.0s
KSCO Kaye Shedlock' 29.50 316 P P 09 14 06.4 +0.8
baz=123,SNR=15
KSCO Kaye Shedlock' 29.50 316 P P 09 14 06.1 +0.5
baz=123,SNR=15
F36A Milaca 29.51 336 IAmb IAmb 09 15 02.7
comp=Z,66nm,1.1s
F36A Milaca 29.51 336 P P 09 14 05.5 0.0
baz=146,SNR=24
T25A Trinidad 29.77 311 IAmb IAmb 09 14 14.3
comp=Z,55nm,0.8s
T25A Trinidad 29.77 311 P P 09 14 09.4 +1.3
baz=118,SNR=53
KAPO Kapuskasing 29.98 352 ⇑P P 09 14 10.1 +0.5
BNM Barren Site 30.19 304 P P 09 14 11.9 0.0
OGNE Ogallala 30.23 320 IAmb IAmb 09 14 17.4
comp=Z,101nm,1.2s
OGNE IAMs_20 IAMs_20 09 27 18.2
comp=Z,15µm,18.0s
OGNE Ogallala 30.23 320 P P 09 14 12.7 +0.7
baz=127,SNR=11
OGNE Ogallala 30.23 320 P P 09 14 12.7 +0.7
baz=127,SNR=11
ANMO Albuquerque 30.35 306 LR LR 09 28 12.3
comp=Z,3µm,18.8s,baz=188,slow=40
ANMO Albuquerque 30.35 306 P P 09 14 13.3 0.0
ANMO Albuquerque 30.35 306 P P 09 14 14.7 +1.4
baz=112,SNR=28
ANMO Albuquerque 30.35 306 P P 09 14 14.4 +1.1
baz=112
ANMO Albuquerque 30.35 306 ⇑P P 09 14 14.5 +1.3
ANMO Albuquerque 30.35 306 *ce*P P 09 14 12.2 -1.0
ANMO pmax pmax
comp=Z,39nm,2.5s
Y22A Socorro 30.38 304 P P 09 14 14.7 +1.2
baz=110,SNR=22
Y22F Passcal Instru 30.39 304 P P 09 14 15.1 +1.5
baz=110
EYMN Ely 30.58 340 P P 09 14 14.7 -0.2
EYMN IAmb IAmb 09 14 41.1
comp=Z,61nm,1.1s
EYMN Ely 30.58 340 IAMs_20 IAMs_20 09 26 51.5
comp=Z,18µm,18.0s
EYMN Ely 30.58 340 P P 09 14 15.2 +0.4
baz=152,SNR=25
EYMN Ely 30.58 340 P P 09 14 15.2 +0.4
baz=152,SNR=25
121A Cookes Peak, D 30.59 301 IAmb IAmb 09 14 47.5
comp=Z,60nm,1.3s
121A Cookes Peak, D 30.59 301 P P 09 14 17.2 +1.9
baz=107,SNR=14
121A Cookes Peak, D 30.59 301 P P 09 14 17.2 +1.9
baz=107,SNR=14
F33A 5 Mile Ranch, 30.63 333 P P 09 14 14.1 -1.2
F33A IAmb IAmb 09 14 20.1
comp=Z,85nm,1.1s
F33A 5 Mile Ranch, 30.63 333 P P 09 14 15.3 -0.1
baz=142,SNR=48
MALB Monte Alegre 30.73 132 *e*P P 09 14 17.4 +0.9
SDCO Great Sand Dun 30.82 312 P P 09 14 18.0 +0.6
SDCO Great Sand Dun 30.82 312 P P 09 14 18.7 +1.3
baz=117,SNR=46
SDCO Great Sand Dun 30.82 312 P P 09 14 18.7 +1.3
baz=117,SNR=46
SUSD Miller 30.83 328 P P 09 14 17.3 +0.2
SUSD Miller 30.83 328 P P 09 14 17.4 +0.3
baz=136
SUSD Miller 30.83 328 P P 09 14 16.6 -0.5
baz=136
SLBS Sierra La Lagu 31.14 283 P P 09 14 18.6 -1.6
SLBS IAmb IAmb 09 14 27.0
comp=Z,43nm,0.9s
SLBS Sierra La Lagu 31.14 283 ⇓P P 09 14 22.7 +2.5
ETMB Extrema 31.14 160 P P 09 14 20.1 0.0
ETMB IAmb IAmb 09 14 28.6
comp=Z,102nm,1.1s
ETMB Extrema 31.14 160 *e*P P 09 14 20.4 +0.3
Q24A Divide 31.16 314 IAmb IAmb 09 14 25.8
comp=Z,38nm,0.9s
Q24A Divide 31.16 314 P P 09 14 20.8 +0.4
baz=120,SNR=29
MCPB Macapa, AP 31.32 127 *e*P P 09 14 21.1 -0.6
BRIGG Briggsdale 31.45 317 P P 09 14 22.3 -0.6
BRIGG IAMs_20 IAMs_20 09 28 40.5
comp=Z,8µm,21.0s
LPIG La Paz 31.48 284 P P 09 14 24.4 +1.3
comp=Z,64nm,0.9s,baz=175,slow=13,SNR=5.5
LPIG LR LR 09 29 04.9
comp=Z,2µm,18.2s,baz=96,slow=40
comp=Z,64nm,0.9s
319A Douglas 31.51 298 P P 09 14 24.0 +0.6
319A IAmb IAmb 09 14 51.9
comp=Z,64nm,0.9s
NNA Nana 31.56 180 LR LR 09 29 11.5
comp=Z,4µm,21.6s,baz=354,slow=40
NNA Nana 31.56 180 P P 09 14 25.2 +1.4
NNA IAmb IAmb 09 14 56.3
comp=Z,34nm,0.9s
NNA Nana 31.56 180 *ce*P P 09 14 26.2 +2.4
NNA pmax pmax
comp=Z,26nm,0.7s
NNA Nana 31.56 180 *e*P P 09 14 26.5 +2.7
ITTB Itaituba 31.59 137 *e*P P 09 14 25.5 +1.4
DUN6 Lazy B Ranch 31.65 300 P P 09 14 25.7 +1.0
B35A Bob, Littlefor 31.69 338 P P 09 14 24.4 -0.3
B35A IAmb IAmb 09 14 27.2
comp=Z,91nm,1.6s
B35A Bob, Littlefor 31.69 338 P P 09 14 24.9 +0.3
baz=148,SNR=22
S22A 4UR Ranch, Cre 31.76 311 P P 09 14 25.9 +0.1
S22A 4UR Ranch, Cre 31.76 311 P P 09 14 26.7 +0.9
baz=116,SNR=26
ISCO Idaho Springs 31.88 315 P P 09 14 27.5 +0.7
ISCO IAmb IAmb 09 14 32.9
comp=Z,64nm,1.1s
ISCO Idaho Springs 31.88 315 P P 09 14 28.0 +1.2
baz=120,SNR=74
ISCO Idaho Springs 31.88 315 P P 09 14 28.0 +1.2
baz=120,SNR=74
ISCO Idaho Springs 31.88 315 P P 09 14 27.5 +0.7
ISCO pmax pmax
comp=Z,64nm,1.1s
ISCO MLR MLR
comp=Z,5µm,22.0s
D32A Dogwood Acres, 31.96 333 P P 09 14 26.9 -0.2
D32A IAmb IAmb 09 14 30.9
comp=Z,54nm,0.9s
D32B Dogwood Acres, 31.96 333 P P 09 14 26.8 -0.2
baz=142
AGMN Agassiz Nation 32.42 336 IAMs_20 IAMs_20 09 27 33.1
comp=Z,13µm,20.0s
HSIG 32.48 293 ⇑P P 09 14 33.0 +1.2
SMCO Snowmass 32.50 313 IAmb IAmb 09 14 38.3
comp=Z,83nm,1.1s
SMCO IAMs_20 IAMs_20 09 29 39.6
comp=Z,8µm,19.0s
SMCO Snowmass 32.50 313 ⇑P P 09 14 33.4 +1.0
PHWY Pilot Hill 32.56 318 IAmb IAmb 09 14 38.3
comp=Z,81nm,1.6s
PHWY IAMs_20 IAMs_20 09 29 43.0
comp=Z,8µm,18.0s
N23A Red Feather La 32.66 317 IAmb IAmb 09 14 41.1
comp=Z,68nm,1.2s
N23A Red Feather La 32.66 317 P P 09 14 34.1 +0.5
baz=121,SNR=33
MVCO Mesa Verde 32.74 309 P P 09 14 34.8 +0.4
MVCO IAmb IAmb 09 15 01.2
comp=Z,57nm,1.2s
MVCO Mesa Verde 32.74 309 P P 09 14 35.6 +1.3
baz=113,SNR=30
X18A Snowflake 32.91 303 P P 09 14 35.4 -0.3
X18A *pP* 09 14 36.1 -1.4
W18A Petrified Fore 32.93 305 IAmb IAmb 09 14 42.4
comp=Z,60nm,1.0s
W18A Petrified Fore 32.93 305 P P 09 14 37.1 +1.2
baz=109,SNR=12
TUC Tucson 32.98 299 P P 09 14 36.6 +0.3
TUC Tucson 32.98 299 P P 09 14 36.5 +0.3
baz=104
TUC Tucson 32.98 299 ⇑P P 09 14 37.7 +1.4
TUC Tucson 32.98 299 P P 09 14 36.6 +0.3
TUC pmax pmax
comp=Z,42nm,1.5s
TUC MLR MLR
comp=Z,2µm,18.0s
PV15 Paradox Valley 33.19 311 P P 09 14 38.8 +0.6
PV15 IAmb IAmb 09 14 46.7
comp=Z,58nm,1.0s
E28A Huff 33.21 329 P P 09 14 37.7 -0.3
E28A Huff 33.21 329 P P 09 14 38.5 +0.5
baz=135,SNR=28
RSSD Black Hills 33.33 323 P P 09 14 39.1 -0.3
RSSD IAmb IAmb 09 14 51.8
comp=Z,27nm,0.8s
RSSD Black Hills 33.33 323 IAMs_20 IAMs_20 09 29 33.1
comp=Z,8µm,19.0s
RSSD Black Hills 33.33 323 P P 09 14 39.8 +0.4
baz=128,SNR=23
RSSD Black Hills 33.33 323 P P 09 14 39.5 +0.2
baz=128
RSSD Black Hills 33.33 323 ⇑P P 09 14 39.6 +0.2
RSSD Black Hills 33.33 323 P P 09 14 39.1 -0.3
RSSD pmax pmax
comp=Z,27nm,0.9s
RSSD MLR MLR
comp=Z,8µm,19.0s
PV13 Radium Mtn., P 33.36 310 IAmb IAmb 09 14 46.0
comp=Z,65nm,0.8s
PV10 Paradox Valley 33.60 310 P P 09 14 42.4 +0.6
PV10 IAmb IAmb 09 14 45.5
comp=Z,74nm,1.4s
MDND Maddock 33.63 332 P P 09 14 41.8 +0.1
MDND Maddock 33.63 332 P P 09 14 42.0 +0.3
baz=138
MDND Maddock 33.63 332 P P 09 14 41.2 -0.4
baz=138
O20A White River Ci 33.81 314 P P 09 14 43.7 +0.1
O20A IAmb IAmb 09 14 52.1
comp=Z,53nm,1.1s
O20A White River Ci 33.81 314 P P 09 14 43.6 0.0
baz=118,SNR=24
RWWY Rawlins 33.89 317 P P 09 14 44.2 -0.1
RWWY IAmb IAmb 09 14 50.1
comp=Z,68nm,0.9s
NPGB Novo Progresso 33.90 140 *e*P P 09 14 45.0 +0.7
K22A Casper 33.96 319 P P 09 14 45.1 +0.2
K22A IAmb IAmb 09 15 24.7
comp=Z,54nm,1.1s
K22A Casper 33.96 319 P P 09 14 45.5 +0.7
baz=123,SNR=10
K22A Casper 33.96 319 P P 09 14 45.5 +0.7
baz=123,SNR=10
ULM Lac du Bonnet 34.04 338 P P 09 14 45.0 -0.2
comp=Z,34nm,0.6s,baz=146,slow=9.0,SNR=29
ULM LR LR 09 28 51.3
comp=Z,13µm,19.9s,baz=146,slow=37
comp=Z,34nm,0.6s
ULM Lac du Bonnet 34.04 338 P P 09 14 45.3 +0.1
ULM IAmb IAmb 09 14 50.1
comp=Z,50nm,0.8s
ULM Lac du Bonnet 34.04 338 ⇓P P 09 14 43.8 -1.4
ULM Lac du Bonnet 34.04 338 P P 09 14 45.3 +0.1
ULM pmax pmax
comp=Z,50nm,0.8s
WUAZ Wupatki 34.32 304 P P 09 14 49.7 +1.6
baz=108,SNR=129
WUAZ Wupatki 34.32 304 ⇑P P 09 14 50.0 +1.9
214A Organ Pipe Nat 34.58 298 P P 09 14 51.1 +1.0
214A IAmb IAmb 09 14 56.8
comp=Z,59nm,1.1s
214A Organ Pipe Nat 34.58 298 P P 09 14 51.3 +1.2
baz=102,SNR=28
SRU San Rafael Swe 34.96 311 P P 09 14 54.3 +0.7
SRU San Rafael Swe 34.96 311 P P 09 14 54.3 +0.7
SRU pmax pmax
comp=Z,27nm,0.8s
Y14A Wickenburg 35.18 301 P P 09 14 57.1 +1.8
P17A Butcher Ranch, 35.26 311 P P 09 14 56.7 +0.6
P17A IAmb IAmb 09 15 02.1
comp=Z,55nm,1.0s
U15A North Rim 35.31 306 IAmb IAmb 09 15 03.6
comp=Z,42nm,0.9s
TMUT Trail Mountain 35.52 311 P P 09 14 59.4 +0.8
PKCU Pink Cliffs 35.66 307 IAmb IAmb 09 15 40.9
comp=Z,67nm,1.1s
MTPU Mount Pierson 35.77 308 IAmb IAmb 09 15 08.9
comp=Z,49nm,0.8s
SCHQ Schefferville 35.79 10 P P 09 15 00.1 -0.1
comp=Z,30nm,1.1s,baz=208,slow=9.4,SNR=14
SCHQ LR LR 09 28 35.5
comp=Z,7µm,21.9s,baz=204,slow=35
comp=Z,30nm,1.1s
SCHQ Schefferville 35.79 10 IAmb IAmb 09 15 05.4
comp=Z,96nm,1.6s
SCHQ Schefferville 35.79 10 ⇑P P 09 15 00.7 +0.4
MSU Marysvale 35.93 309 P P 09 15 03.4 +1.5
MSU Marysvale 35.93 309 P P 09 15 03.4 +1.5
PD31 Pinedale Array 35.94 317 P P 09 15 01.9 -0.1
PD31 IAmb IAmb 09 15 06.8
comp=Z,166nm,1.9s
PD31 Pinedale Array 35.94 317 ⇑P P 09 15 01.9 -0.1
PDAR Pinedale Array 35.94 317 P P 09 15 01.9 -0.1
comp=Z,17nm,0.8s,baz=125,slow=9.4,SNR=63
PDAR PcP **PcP** 09 17 29.5 +0.7
comp=Z,2.9nm,0.8s,baz=134,slow=5.1,SNR=2.0
PDAR PKiKP **PKiKP** 09 24 48.6 -0.2
comp=Z,0.3nm,0.5s,baz=100,slow=3.2,SNR=4.1
PDAR LR LR 09 31 05.7
comp=Z,6µm,18.6s,baz=116,slow=39
comp=Z,17nm,0.8s
BW06 Boulder Array 35.94 317 P P 09 15 01.9 0.0
BW06 IAMs_20 IAMs_20 09 31 05.3
comp=Z,11µm,18.0s
BW06 Boulder Array 35.94 317 P P 09 15 02.0 0.0
baz=119,SNR=41
LAO LASA Array 36.13 325 IAmb IAmb 09 15 10.2
comp=Z,44nm,1.0s
LAO LASA Array 36.13 325 P P 09 15 03.3 0.0
baz=128,SNR=21
LAO LASA Array 36.13 325 P P 09 15 02.8 -0.5
baz=128,SNR=21
W13A Hualapai Mount 36.18 303 IAmb IAmb 09 15 11.1
comp=Z,47nm,0.9s
LCMT Little Creek M 36.22 306 P P 09 15 05.8 +1.4
LCMT IAmb IAmb 09 15 31.7
comp=Z,46nm,1.1s
DGMT Dagmar 36.23 329 P P 09 15 04.4 +0.3
DGMT IAmb IAmb 09 15 42.1
comp=Z,40nm,0.9s
DGMT Dagmar 36.23 329 IAMs_20 IAMs_20 09 30 11.5
comp=Z,13µm,19.0s
DGMT Dagmar 36.23 329 P P 09 15 04.7 +0.5
baz=132,SNR=7.7
DGMT Dagmar 36.23 329 P P 09 15 04.7 +0.5
baz=132,SNR=7.7
VILB Vilhena 36.32 152 P P 09 15 06.1 +0.9
VILB IAmb IAmb 09 15 47.2
comp=Z,65nm,0.9s
VILB Vilhena 36.32 152 *e*P P 09 15 07.1 +1.9
BLYC Blythe 36.36 300 IAmb IAmb 09 15 12.0
comp=Z,41nm,1.0s
TCUT Toone Canyon 36.41 313 P P 09 15 06.6 +0.6
TCUT IAmb IAmb 09 15 52.0
comp=Z,60nm,1.0s
GLA Glamis 36.47 299 P P 09 15 06.8 +0.4
baz=102,SNR=6.0
CTU Camp Tracy 36.47 313 P P 09 15 07.2 +0.8
CCUT Cedar City 36.48 307 P P 09 15 07.9 +1.2
NEE2 Needles Airpor 36.68 302 P P 09 15 08.8 +0.7
baz=104
CLDB Colider 36.72 144 *e*P P 09 15 08.7 +0.1
LPAZ La Paz 36.80 166 P P 09 15 10.6 +0.8
comp=Z,8.6nm,0.8s,baz=357,slow=7.4,SNR=20
LPAZ LR LR 09 32 33.0
comp=Z,3µm,18.1s,baz=336,slow=40
comp=Z,8.6nm,0.8s
LPAZ La Paz 36.80 166 ⇓P P 09 15 09.8 0.0
LPAZ La Paz 36.80 166 *e*P P 09 15 09.7 -0.1
LPAZ La Paz 36.80 166 *e*P P 09 15 10.1 +0.2
PDRB Porto dos Gac 36.84 146 *e*P P 09 15 08.9 -0.6
PRPB Parauapebas 36.90 132 *e*P P 09 15 10.6 +0.4
AHID Auburn Hatcher 36.94 316 IAMs_20 IAMs_20 09 31 50.7
comp=Z,11µm,18.0s
IRM Iron Mountain 36.96 301 P P 09 15 12.6 +2.1
baz=103,SNR=58
RLMT Red Lodge 36.96 321 IAmb IAmb 09 15 27.2
comp=Z,73nm,1.1s
RLMT IAMs_20 IAMs_20 09 32 09.3
comp=Z,9µm,19.0s
RLMT Red Lodge 36.96 321 P P 09 15 11.1 +0.4
baz=122,SNR=46
DUG Dugway, Tooele 37.01 311 P P 09 15 10.9 -0.2
DUG IAmb IAmb 09 15 20.8
comp=Z,60nm,0.8s
DUG Dugway, Tooele 37.01 311 P P 09 15 12.4 +1.3
baz=112,SNR=93
DUG Dugway, Tooele 37.01 311 P P 09 15 10.9 -0.2
DUG pmax pmax
comp=Z,60nm,0.8s
DUG MLR MLR
comp=Z,4µm,19.0s
LOHW Long Hollow 37.02 318 P P 09 15 11.5 +0.4
LOHW IAmb IAmb 09 15 17.3
comp=Z,65nm,0.9s
LOHW IAMs_20 IAMs_20 09 31 54.8
comp=Z,7µm,22.0s
SNOW Snow King Moun 37.04 317 IAmb IAmb 09 15 16.9
comp=Z,44nm,0.8s
SNOW IAMs_20 IAMs_20 09 32 50.4
comp=Z,9µm,18.0s
REDW Red Top Meadow 37.05 317 P P 09 15 11.9 +0.4
REDW IAmb IAmb 09 15 16.9
comp=Z,96nm,0.9s
REDW IAMs_20 IAMs_20 09 31 58.8
comp=Z,7µm,19.0s
V12A Nelson 37.10 303 IAmb IAmb 09 15 18.5
comp=Z,59nm,1.0s
BC3 Big Chuckawall 37.10 300 P P 09 15 13.5 +1.7
baz=102,SNR=14
PSUT Pine Spring 37.17 308 IAmb IAmb 09 15 21.4
comp=Z,74nm,0.8s
MOOW Moose Ponds 37.17 318 IAmb IAmb 09 15 17.7
comp=Z,77nm,0.9s
MOOW IAMs_20 IAMs_20 09 32 33.9
comp=Z,5µm,19.0s
ESJX Sierra Juarez 37.21 297 P P 09 15 12.9 0.0
SWSC Sam W. Stewart 37.25 299 P P 09 15 14.6 +1.6
baz=101,SNR=18
FXWY Fox Creek 37.30 317 IAmb IAmb 09 15 18.8
comp=Z,56nm,0.9s
FXWY IAMs_20 IAMs_20 09 32 05.3
comp=Z,8µm,20.0s
YMP Mirror Lake Pl 37.30 320 P P 09 15 13.8 +0.1
YMP IAmb IAmb 09 15 27.5
comp=Z,128nm,1.1s
FLWY Flagg Ranch 37.31 318 P P 09 15 13.7 +0.1
FLWY IAmb IAmb 09 15 19.1
comp=Z,59nm,0.9s
FLWY IAMs_20 IAMs_20 09 32 53.5
comp=Z,13µm,18.0s
IMW Indian Meadow 37.37 318 IAmb IAmb 09 15 19.4
comp=Z,65nm,0.9s
IMW IAMs_20 IAMs_20 09 31 51.1
comp=Z,8µm,18.0s
H17A Grant Village 37.38 319 IAmb IAmb 09 15 22.6
comp=Z,67nm,1.4s
H17A Grant Village 37.38 319 P P 09 15 15.2 +0.9
baz=120,SNR=24
BGU Big Grassy Mou 37.45 312 IAmb IAmb 09 15 20.6
comp=Z,50nm,1.1s
IKP In-Ko-Pah, Jac 37.45 298 P P 09 15 16.5 +1.7
baz=100,SNR=10
GMRC Granite Mounta 37.51 302 P P 09 15 17.2 +1.8
baz=103,SNR=17
GCMT Greycliff 37.56 321 P P 09 15 16.3 +0.7
SPR3 Spring Creek 3 37.68 309 IAmb IAmb 09 15 23.5
comp=Z,81nm,1.0s
PRN Pahroc Range 37.72 306 IAmb IAmb 09 15 45.6
comp=Z,69nm,1.3s
PRN Pahroc Range 37.72 306 ⇑P P 09 15 19.2 +2.2
MONP2 Monument Peak 37.75 298 P P 09 15 19.7 +2.2
baz=100,SNR=19
TKX Tecate 37.85 298 IAmb IAmb 09 15 24.6
comp=Z,31nm,0.5s
PMD Palm Desert 37.85 300 P P 09 15 19.6 +1.5
PMD IAmb IAmb 09 15 25.5
comp=Z,61nm,1.1s
TUQ Turquoise Moun 37.88 303 P P 09 15 20.3 +1.9
baz=104,SNR=30
TPFO Pinon Flats 37.91 300 P P 09 15 20.6 +1.9
baz=101,SNR=9.3
PFO Pinyon Flats O 37.91 300 P P 09 15 18.8 0.0
comp=Z,10nm,1.0s,baz=94,slow=8.4,SNR=9.4
PFO LR LR 09 34 01.1
comp=Z,2µm,18.6s,baz=113,slow=41
comp=Z,10nm,1.0s
PFO Pinyon Flats O 37.91 300 P P 09 15 18.7 -0.1
PFO Pinyon Flats O 37.91 300 P P 09 15 20.3 +1.6
baz=101,SNR=8.1
PFO Pinyon Flats O 37.91 300 *i* P P 09 15 18.2 -0.6
PFO pmax pmax
comp=Z,20nm,0.9s
HEC Hector,Ludlow 38.06 302 P P 09 15 21.5 +1.5
baz=103
QLMT Earthquake Lak 38.13 319 P P 09 15 21.8 +1.3
SHOC Shoshone, Teco 38.26 303 P P 09 15 22.8 +1.2
baz=104
S11A Rachel 38.32 306 P P 09 15 23.5 +1.4
S11A IAmb IAmb 09 15 29.3
comp=Z,71nm,0.9s
109C Camp Elliot, M 38.32 298 P P 09 15 22.9 +0.9
baz=100
R11A Troy Canyon, C 38.40 307 P P 09 15 24.5 +1.6
baz=108,SNR=51
BBRC Big Bear Solar 38.42 300 P P 09 15 24.9 +1.8
baz=101,SNR=7.2
PB16 IPOC Station P 38.51 169 P P 09 15 25.1 +0.8
TPNV Topopah Spring 38.51 305 P P 09 15 23.9 +0.1
TPNV Topopah Spring 38.51 305 P P 09 15 26.2 +2.4
baz=105,SNR=41
TPNV Topopah Spring 38.51 305 ⇑P P 09 15 26.1 +2.3
TPNV Topopah Spring 38.51 305 P P 09 15 23.9 +0.1
TPNV pmax pmax
comp=Z,44nm,1.0s
TPNV MLR MLR
comp=Z,3µm,22.0s
MURC Murrieta 38.52 299 P P 09 15 25.5 +1.8
baz=100,SNR=12
GSC Goldstone, Bar 38.55 302 P P 09 15 25.6 +1.6
baz=103,SNR=26
RRX Edison Barstow 38.61 301 P P 09 15 26.5 +2.0
baz=102,SNR=6.6
BOZ Bozeman (W) 38.63 320 P P 09 15 24.9 +0.2
BOZ IAMs_20 IAMs_20 09 32 25.5
comp=Z,9µm,18.0s
BOZ Bozeman (W) 38.63 320 P P 09 15 25.4 +0.7
baz=120,SNR=46
BOZ Bozeman (W) 38.63 320 P P 09 15 24.9 +0.2
BOZ pmax pmax
comp=Z,36nm,1.0s
BOZ MLR MLR
comp=Z,8µm,18.0s
GWY Greenwater Val 38.64 304 P P 09 15 25.5 +0.6
PB12 IPOC Station P 38.65 170 P P 09 15 26.6 +1.7
SIV San Ignacio 38.69 156 LR LR 09 32 02.3
comp=Z,7µm,21.4s,baz=344,slow=37
ELS Elsinore Mount 38.72 299 P P 09 15 25.7 +0.3
QSM Queen of Sheba 38.75 303 P P 09 15 26.2 +0.6
EGMT Eagleton 38.85 324 P P 09 15 25.6 -0.8
EGMT IAmb IAmb 09 15 31.7
comp=Z,77nm,1.0s
EGMT IAMs_20 IAMs_20 09 32 47.1
comp=Z,9µm,18.0s
EGMT Eagleton 38.85 324 P P 09 15 26.9 +0.5
baz=125,SNR=40
FURC Furnace Creek, 38.86 304 P P 09 15 28.1 +1.5
baz=104,SNR=20
ELK Elko 38.94 311 LR LR 09 32 06.4
comp=Z,3µm,21.9s,baz=106,slow=37
PTLB Pontes e Lacer 39.00 153 P P 09 15 28.4 +0.6
PTLB IAmb IAmb 09 15 34.9
comp=Z,28nm,1.0s
PTLB Pontes e Lacer 39.00 153 *e*P P 09 15 28.4 +0.6
BFSC Mount Baldy Ra 39.01 300 P P 09 15 29.6 +1.5
baz=101,SNR=12
MCMT McKenzie Canyo 39.02 318 P P 09 15 29.3 +1.3
ROSB Rosrio 39.08 122 *e*P P 09 15 29.4 +0.8
LRM Limekiln Ridge 39.25 320 P P 09 15 29.9 -0.1
MPMC Manual Prospec 39.26 303 P P 09 15 31.0 +0.9
baz=103,SNR=22

MNMC Minye Minye 39.27 169 P **P** **09 15 31.9 +1.5**
LRMC Laurel Mtn Rad 39.28 302 P **P** **09 15 32.0 +1.7**
baz=102,SNR=35
HRY Holter Researc 39.32 321 P **P** **09 15 30.5 +0.1**
GRAC Grapevine Rang 39.39 305 P **P** **09 15 33.1 +2.1**
baz=104
EDW2 Edwards Air Fo 39.41 301 P **P** **09 15 33.0 +1.8**
baz=101,SNR=43
FMP Fort Macarthur 39.44 299 P **P** **09 15 33.0 +1.6**
baz=100
HLID Hailey 39.46 316 IAMs_20 IAMs_20 09 34 18.6
comp=Z,6µm,18.0s
HLID Hailey 39.46 316 P **P** **09 15 32.6 +0.9**
baz=115,SNR=52
CCAC Calif City Air 39.48 302 P **P** **09 15 33.8 +2.0**
CCAC IAmb IAmb 09 15 40.7
comp=Z,76nm,0.8s
CIS Catalina Islan 39.49 299 P **P** **09 15 33.4 +1.5**
baz=99
DECC Green Verdugo 39.57 300 P **P** **09 15 33.5 +1.0**
baz=100
MZP Montezuma Peak 39.58 306 P **P** **09 15 34.0 +1.1**
LCH Last Change Ra 39.66 305 P **P** **09 15 34.8 +1.4**
CWC Cottonwood Cre 39.81 304 P **P** **09 15 35.8 +1.1**
baz=103
FFC Flin Flon 39.86 337 P **P** **09 15 34.7 +0.1**
FFC Flin Flon 39.86 337 ⇑P **P** **09 15 34.8 +0.1**
FFC Flin Flon 39.86 337 P **P** **09 15 34.7 +0.1**
FFC pmax pmax
comp=Z,40nm,1.1s
FFC MLR MLR
comp=Z,15µm,18.0s
GO01 Chusmiza 39.87 169 P **P** **09 15 35.3 -0.2**
PB11 IPOC Station P 39.88 170 P **P** **09 15 34.8 -0.4**
DSP Deep Springs 39.95 305 P **P** **09 15 37.5 +2.0**
OSI Osito Audit: C 39.95 301 P **P** **09 15 36.1 +0.4**
baz=100
ISA Isabella, Lake 39.95 302 P **P** **09 15 37.3 +1.5**
ISA Isabella, Lake 39.95 302 P **P** **09 15 37.7 +2.0**
baz=102,SNR=14
ISA Isabella, Lake 39.95 302 P **P** **09 15 37.3 +1.5**
ISA pmax pmax
comp=Z,23nm,1.1s
BBSD Serra de San D 39.96 156 *e*P **P** **09 15 36.1 +0.3**
TIN Tinemaha, Big 40.07 304 P **P** **09 15 38.4 +1.7**
baz=104,SNR=14
ARVC Arvin 40.13 301 P **P** **09 15 39.1 +1.9**
baz=101,SNR=19
SNDB Serra Nova Dou 40.23 140 *e*P **P** **09 15 38.4 +0.4**
SMTB Santa Maria do 40.35 132 *e*P **P** **09 15 39.6 +0.4**
NV11 Mina Array Sit 40.36 307 P **P** **09 15 40.5 +1.3**
SNCC San Nicolas Is 40.38 298 P **P** **09 15 39.6 +0.4**
SNCC IAmb IAmb 09 15 42.2
comp=Z,75nm,1.2s
SNCC San Nicolas Is 40.38 298 P **P** **09 15 39.4 +0.2**
baz=98
NVAR Mina Array Bea 40.47 306 P **P** **09 15 41.7 +1.5**
comp=Z,33nm,0.8s,baz=109,slow=7.0,SNR=94
NVAR PcP **PcP** **09 17 42.8 -0.1**
comp=Z,2.8nm,0.7s,baz=122,slow=4.4,SNR=1.5
comp=Z,33nm,0.8s
NVAR Mina Array Bea 40.47 306 P **P** **09 15 41.2 +1.0**
VES Vestal, Richgr 40.48 302 P **P** **09 15 40.7 +0.7**
baz=102,SNR=41
KVN Kaiserville 40.49 307 P **P** **09 15 41.7 +1.4**
KVN IAmb IAmb 09 15 46.4
comp=Z,63nm,1.0s
KVN Kaiserville 40.49 307 P **P** **09 15 41.7 +1.4**
KVN pmax pmax
comp=Z,63nm,1.0s
BCW Bitter Crk WRg 40.57 301 IAmb IAmb 09 15 54.4
comp=Z,55nm,0.8s
LHV Little Huntoon 40.58 306 P **P** **09 15 42.5 +1.7**
TA01 Diego Aracena 40.58 171 P **P** **09 15 41.0 +0.1**
TA01 IAmb IAmb 09 15 55.1
comp=Z,67nm,1.2s
SCZ2 Santa Cruz Isl 40.59 299 P **P** **09 15 42.0 +1.1**
baz=99,SNR=8.1
MSO Missoula 40.64 320 P **P** **09 15 41.5 +0.2**
MSO IAMs_20 IAMs_20 09 33 56.5
comp=Z,8µm,20.0s
MSO Missoula 40.64 320 P **P** **09 15 41.7 +0.3**
baz=119,SNR=19
MLAC Mammoth, Mammo 40.68 305 P **P** **09 15 43.5 +1.5**
baz=104
RYN Ryan 40.69 307 P **P** **09 15 41.6 -0.3**
SBC Santa Barbara 40.72 300 P **P** **09 15 43.1 +1.0**
baz=100
VOG Valley Oaks Go 40.81 303 P **P** **09 15 42.5 -0.2**
baz=102
PATCX Punta Patache 40.84 171 P **P** **09 15 44.0 +0.9**
PATCX IAmb IAmb 09 16 09.1
comp=Z,71nm,1.1s
MDPB Devils Postpil 40.87 305 P **P** **09 15 44.6 +1.1**
PKM Mcpherson Peak 40.88 301 P **P** **09 15 45.0 +1.4**
baz=100,SNR=16
FCC Fort Churchill 40.96 346 P **P** **09 15 43.0 -0.6**
FCC IAmb IAmb 09 15 44.9
comp=Z,114nm,1.6s
FCC Fort Churchill 40.96 346 P **P** **09 15 43.0 -0.6**
FCC pmax pmax
comp=Z,114nm,1.6s
SALV Santo Antonio 41.00 148 *e*P **P** **09 15 44.9 +0.5**
SMMC Simmler 41.10 301 P **P** **09 15 45.5 +0.2**
baz=100
PLID Pearl Lake 41.13 317 P **P** **09 15 45.4 -0.2**
PLID IAMs_20 IAMs_20 09 34 36.8
comp=Z,7µm,20.0s
PB01 IPOC Station P 41.16 170 P **P** **09 15 46.7 +0.9**
BBRB Robore, Bolivi 41.26 155 *e*P **P** **09 15 46.6 0.0**
YERR Yerington 41.33 307 P **P** **09 15 48.4 +1.1**
YERR IAmb IAmb 09 15 50.6
comp=Z,72nm,0.8s
PNTR Pine Nut 41.62 307 IAmb IAmb 09 15 56.5
comp=Z,56nm,0.8s
VCNR Virginia City 41.71 307 P **P** **09 15 50.9 +0.5**
WALA Waterton Lakes 41.73 323 P **P** **09 15 50.3 0.0**
WALA Waterton Lakes 41.73 323 ⇓P **P** **09 15 50.6 +0.3**
PB07 IPOC Station P 41.77 171 P **P** **09 15 51.2 +0.3**
PB07 IAmb IAmb 09 16 06.5
comp=Z,98nm,1.6s
BMO Blue Mountains 41.89 316 P **P** **09 15 50.9 -0.7**
BMO Blue Mountains 41.89 316 P **P** **09 15 50.9 -0.7**
BMO pmax pmax
comp=Z,23nm,1.0s
BMO MLR MLR
comp=Z,4µm,19.0s
WVOR Wild Horse Val 41.91 312 P **P** **09 15 51.6 -0.3**
WVOR IAMs_20 IAMs_20 09 36 00.6
comp=Z,5µm,18.0s
WVOR Wild Horse Val 41.91 312 ⇑P **P** **09 15 52.4 +0.5**
WVOR Wild Horse Val 41.91 312 P **P** **09 15 51.6 -0.3**
WVOR pmax pmax
comp=Z,48nm,1.1s
WVOR MLR MLR
comp=Z,5µm,18.0s
PMPB Monarch Peak 41.91 303 P **P** **09 15 52.0 0.0**
PMPB IAmb IAmb 09 15 57.5
comp=Z,52nm,0.9s
PLTX Planet X, Gerl 41.97 309 P **P** **09 15 52.9 +0.6**
J08A Circle Bar Ran 42.11 313 IAmb IAmb 09 15 58.5
comp=Z,54nm,1.0s
BBGB Big Mountain B 42.17 303 IAmb IAmb 09 16 20.0
comp=Z,71nm,0.8s
F10A Beach Ranch, E 42.29 318 P **P** **09 15 53.0 -1.8**
F10A Beach Ranch, E 42.29 318 ⇑P **P** **09 15 54.6 -0.2**
SAO San Andreas Ge 42.53 303 P **P** **09 15 56.6 -0.2**
SAO San Andreas Ge 42.53 303 ⇑P **P** **09 15 57.9 +1.1**
SAO San Andreas Ge 42.53 303 P **P** **09 15 56.6 -0.2**
SAO pmax pmax
comp=Z,41nm,0.9s
LVC Limon Verde 42.79 169 P **P** **09 16 00.5 +1.1**
comp=Z,8.5nm,0.8s,baz=322,slow=3.3,SNR=10.0
LVC LR LR 09 36 35.2
comp=Z,4µm,19.3s,baz=332,slow=40
comp=Z,8.5nm,0.8s
LVC Limon Verde 42.79 169 P **P** **09 16 00.2 +0.8**
LVC Limon Verde 42.79 169 P **P** **09 16 00.2 +0.8**
LVC pmax pmax
comp=Z,15nm,0.8s
LVC MLR MLR
comp=Z,4µm,19.0s
LVC Limon Verde 42.79 169 *e*P **P** **09 16 01.0 +1.5**
PP1B Ponte de Pedra 42.85 149 *e*P **P** **09 16 01.0 +1.4**
E09A Wood Farm, Sta 43.09 318 P **P** **09 16 01.1 -0.2**

G08A Pilot Rock 43.14 316 P **P** **09 16 02.1 +0.3**
NEW Newport 43.21 321 LR LR 09 36 44.6
comp=Z,7µm,18.1s,baz=112,slow=40
NEW Newport 43.21 321 IAmb IAmb 09 16 07.2
comp=Z,65nm,1.1s
NEW Newport 43.21 321 P **P** **09 16 02.5 +0.2**
baz=117,SNR=31
PB10 IPOC Station P 43.43 172 IAmb IAmb 09 16 11.6
comp=Z,169nm,1.8s
E08A Dider Farm, El 43.66 318 P **P** **09 16 05.9 +0.1**
C09A Chrisman Ranch 43.71 320 P **P** **09 16 06.5 +0.2**
C09A IAmb IAmb 09 16 19.3
comp=Z,98nm,1.3s
D08A Wollman Farm, 43.80 318 P **P** **09 16 07.0 0.0**
HAWA Hanford 43.92 317 P **P** **09 16 08.0 0.0**
HAWA IAmb IAmb 09 16 21.0
comp=Z,89nm,1.8s
HAWA IAMs_20 IAMs_20 09 35 59.6
comp=Z,7µm,18.0s
HAWA Hanford 43.92 317 ⇑P **P** **09 16 07.8 -0.1**
HOPS Hopland Field 44.23 306 IAmb IAmb 09 16 16.9
comp=Z,47nm,1.1s
HOPS IAMs_20 IAMs_20 09 37 03.4
comp=Z,5µm,18.0s
FRB Frobisher Bay 44.29 5 LR LR 09 35 02.6
comp=Z,4µm,19.0s,baz=182,slow=37
FRB Frobisher Bay 44.29 5 ⇑P **P** **09 16 10.7 +0.1**
PB14 IPOC Station P 44.54 172 P **P** **09 16 14.3 +0.8**
PB14 IAmb IAmb 09 16 34.3
comp=Z,49nm,0.9s
B08A Colville Reser 44.59 320 P **P** **09 16 13.4 +0.1**
B08A IAmb IAmb 09 16 18.2
comp=Z,56nm,0.9s
YBH Yreka Blue Hor 44.60 310 LR LR 09 37 58.1
comp=Z,3µm,18.5s,baz=104,slow=40
YBH Yreka Blue Hor 44.60 310 P **P** **09 16 13.4 -0.2**
YBH Yreka Blue Hor 44.60 310 P **P** **09 16 13.4 -0.2**
YBH pmax pmax
comp=Z,9.0nm,0.8s
YBH MLR MLR
comp=Z,4µm,21.0s
SDBA SAO DESIDERIO 44.71 133 *e*P **P** **09 16 14.4 -0.2**
KCPM Cahto Peak 44.76 307 P **P** **09 16 14.3 -0.7**
C2SB Chapadao do Su 44.86 147 *e*P **P** **09 16 18.6 +2.9**
HOOD Mount Hood Mea 44.92 315 IAmb IAmb 09 16 30.2
comp=Z,75nm,1.1s
AQDB Aquidauana 44.95 152 P **P** **09 16 17.0 +0.6**
AQDB IAmb IAmb 09 16 49.1
comp=Z,65nm,0.8s
AQDB Aquidauana 44.95 152 *e*P **P** **09 16 17.2 +0.8**
KMRM Mail Ridge 44.97 308 IAmb IAmb 09 16 23.9
comp=Z,43nm,0.9s
LTY Liberty 44.98 318 IAmb IAmb 09 16 21.7
comp=Z,57nm,1.1s
HUMO Hull Mountain 45.01 311 ⇓P **P** **09 16 16.1 -0.6**
BDFB Brasilia 45.06 139 P **P** **09 16 17.9 +0.4**
comp=Z,16nm,0.7s,baz=314,slow=7.2,SNR=26
BDFB LR LR 09 35 31.6
comp=Z,4µm,20.8s,baz=316,slow=37
comp=Z,16nm,0.7s
BDFB Brasilia 45.06 139 P **P** **09 16 17.9 +0.4**
BDFB Brasilia 45.06 139 P **P** **09 16 17.9 +0.4**
BDFB pmax pmax
comp=Z,110nm,1.2s
BDFB Brasilia 45.06 139 *e*P **P** **09 16 18.1 +0.6**
H04A Detroit Lake 45.08 314 P **P** **09 16 17.6 +0.3**
H04A IAmb IAmb 09 16 22.5
comp=Z,69nm,1.0s
PNT Penticton 45.16 321 ⇑P **P** **09 16 17.3 -0.6**
MURT Porto Murtinho 45.19 155 *e*P **P** **09 16 17.7 -0.6**
KMPM Mount Pierce 45.32 308 P **P** **09 16 19.0 -0.3**
DBO Dodson Butte 45.35 312 P **P** **09 16 19.6 0.0**
BUCK Buck Mountain 45.48 313 IAmb IAmb 09 16 20.8
comp=Z,78nm,1.3s
LON Longmire 45.52 317 IAmb IAmb 09 16 25.8
comp=Z,32nm,1.0s
D05A Enumclaw 45.79 317 P **P** **09 16 22.7 -0.1**
D05A IAmb IAmb 09 16 48.6
comp=Z,73nm,1.2s
KBO Bosley Butte 45.81 310 IAmb IAmb 09 16 26.6
comp=Z,88nm,1.2s
BRLDA Berland Lookou 46.22 328 IAmb IAmb 09 16 31.0
comp=Z,70nm,1.1s
IPMB Ipameri, GO 46.76 142 *e*P **P** **09 16 30.0 -0.8**
NRS Narsarsuaq 46.80 20 P **P** **09 16 31.2 +0.7**
NRS Narsarsuaq 46.80 20 *e*P **P** **09 16 28.8 -1.7**
NRS IAmb IAmb 09 16 33.0
comp=Z,55nm,1.2s
NRS Narsarsuaq 46.80 20 ⇓P **P** **09 16 31.8 +1.3**
NRS Narsarsuaq 46.80 20 P **P** **09 16 31.2 +0.7**
NRS pmax pmax
comp=Z,77nm,1.2s
AC02 Maricunga 46.90 171 P **P** **09 16 31.1 -1.2**
JANB Januaria 47.00 135 *e*P **P** **09 16 34.2 +1.4**
LLLB Lillooet 47.02 322 P **P** **09 16 32.7 +0.1**
LLLB IAmb IAmb 09 16 46.9
comp=Z,55nm,1.0s
NLWA Neilton Lookou 47.06 317 IAMs_20 IAMs_20 09 38 00.6
comp=Z,7µm,19.0s
AC06 Mina Casimiro 47.24 172 IAmb IAmb 09 17 23.1
comp=Z,22nm,0.9s
AMBA Amambai (Brazi 47.41 152 *e*P **P** **09 16 36.7 +1.0**
RCBR Riachuelo 47.47 118 LR LR 09 38 47.8
comp=Z,2µm,18.5s,baz=84,slow=39
PCMB Pacaembu 48.03 148 *e*P **P** **09 16 41.4 +0.7**
TRCB Terra Rica 48.37 150 *e*P **P** **09 16 44.4 +1.2**
HILA High Level 48.52 333 P **P** **09 16 43.3 -0.6**
AC05 El Transito 48.71 173 P **P** **09 16 46.6 +0.7**
AC05 IAmb IAmb 09 17 05.8
comp=Z,36nm,1.1s
MCR1 Marechal Candi 49.17 152 *e*P **P** **09 16 51.8 +2.5**
CPUP Villa Florida 49.51 157 P **P** **09 16 52.3 +0.4**
comp=Z,7.3nm,0.8s,baz=344,slow=7.4,SNR=8.9
CPUP LR LR 09 39 03.5
comp=Z,3µm,21.4s,baz=340,slow=38
comp=Z,7.3nm,0.8s
CPUP Villa Florida 49.51 157 IAmb IAmb 09 17 20.6
comp=Z,32nm,1.1s
CPUP Villa Florida 49.51 157 ⇑P **P** **09 16 52.5 +0.6**
DIAM Diamantina, MG 49.78 137 *e*P **P** **09 16 53.7 -0.6**
YKA Yellowknife Ar 50.02 338 P **P** **09 16 55.3 0.0**
comp=Z,22nm,0.9s,baz=127,slow=8.4
comp=Z,22nm,0.9s
SFJD Kangerlussuaq 50.07 13 P **P** **09 16 55.6 0.0**
comp=Z,26nm,0.9s,baz=217,slow=7.1,SNR=9.4
SFJD LR LR 09 39 11.1
comp=Z,3µm,18.1s,baz=220,slow=37
comp=Z,26nm,0.9s
SFJD Kangerlussuaq 50.07 13 P **P** **09 16 55.4 -0.3**
SFJD IAmb IAmb 09 16 57.2
comp=Z,80nm,1.4s
SFJD Kangerlussuaq 50.07 13 IAMs_20 IAMs_20 09 38 41.3
comp=Z,4µm,18.0s
SFJD Kangerlussuaq 50.07 13 *e*P **P** **09 16 55.2 -0.5**
SFJD IAmb IAmb 09 16 56.8
comp=Z,89nm,1.4s
SFJD Kangerlussuaq 50.07 13 ⇓P **P** **09 16 56.3 +0.6**
PTGB Pitanga 50.28 151 *e*P **P** **09 17 00.5 +2.6**
FRTB Fartura 50.34 147 *e*P **P** **09 16 57.9 -0.4**
CO03 El Pedregal 50.64 173 P **P** **09 17 01.1 +0.6**
DY2G Dye2 50.65 15 *e*P **P** **09 16 59.4 -0.9**
DY2G IAmb IAmb 09 17 04.3
comp=Z,120nm,1.4s
RCLB Rio Claro- Sao 50.66 144 *e*P **P** **09 17 01.5 +0.7**
FRBT Francisco Belt 50.91 152 *e*P **P** **09 17 04.5 +1.9**
GUA01 Guaratinga, BA 51.14 132 *e*P **P** **09 17 06.3 +1.9**
BBB Bella Bella 51.23 322 LR LR 09 40 41.9
comp=Z,6µm,18.0s,baz=116,slow=38
AZCA Azaras, Argent 51.60 157 *e*P **P** **09 17 10.1 +2.5**
SPB Sao Paulo 51.66 145 IAMs_20 IAMs_20 09 41 58.7
comp=Z,5µm,18.0s
SJMB Sao Joao De Ma 51.69 136 *e*P **P** **09 17 10.2 +1.7**
CFA Coronel Fontan 51.71 171 LR LR 09 39 37.0
comp=Z,2µm,21.7s,baz=354,slow=37
ILULI Ilulissat 51.87 11 IAmb IAmb 09 17 26.6
comp=Z,103nm,1.6s
ILULI IAMs_20 IAMs_20 09 37 24.8
comp=Z,4µm,20.0s
ILULI Ilulissat 51.87 11 *e*P **P** **09 17 07.8 -1.4**
ILULI IAmb IAmb 09 17 10.8
comp=Z,39nm,1.1s
ISOG Isortoq, Green 51.97 19 *e*P **P** **09 17 09.8 -0.1**
ISOG IAmb IAmb 09 17 14.4
comp=Z,75nm,1.0s
PET01 Itanhaem-SP 52.31 146 *e*P **P** **09 17 14.5 +1.5**

KOTAN Kotaneelee Air 52.40 332 P **P** **09 17 14.5 +1.2**
baz=119,SNR=12
ANGG Ammassalik, Gr 52.43 19 IAmb IAmb 09 17 20.7
comp=Z,39nm,0.7s
ANGG Ammassalik, Gr 52.43 19 *e*P **P** **09 17 13.1 -0.3**
ANGG IAmb IAmb 09 17 14.3
comp=Z,36nm,0.7s
ANGG Ammassalik, Gr 52.43 19 ⇓P **P** **09 17 13.8 +0.4**
RIB01 Linhares ES 52.65 135 *e*P **P** **09 17 17.5 +1.9**
ITQB Itaqui 52.81 158 P **P** **09 17 16.4 -0.2**
ITQB Itaqui 52.81 158 *e*P **P** **09 17 18.5 +1.9**
LIRD Liard River Hi 52.98 331 P **P** **09 17 18.6 +1.0**
baz=116,SNR=21
DUB01 Friburgo-RJ 53.40 139 *e*P **P** **09 17 22.5 +1.3**
MT09 Talagante 53.52 174 IAmb IAmb 09 17 58.1
comp=Z,35nm,0.9s
NUUG Nuugaatsiaq 53.56 9 *e*P **P** **09 17 21.5 -0.1**
NUUG IAmb IAmb 09 17 34.7
comp=Z,50nm,1.4s
WRGLY Wrigley 53.73 336 P **P** **09 17 24.0 +1.0**
baz=122,SNR=30
BO04 La Punta 53.77 174 IAmb IAmb 09 17 43.1
comp=Z,27nm,0.9s
RODS Rosario do Sul 53.93 157 *e*P **P** **09 17 26.9 +2.1**
T35M Bob Quinn 54.03 327 P **P** **09 17 25.5 +0.1**
baz=110
BO01 Tunca 54.12 174 P **P** **09 17 26.8 +0.7**
BO01 IAmb IAmb 09 17 55.1
comp=Z,28nm,1.1s
V35K Ketchikan 54.21 325 P **P** **09 17 26.4 -0.2**
baz=108
PMOZ Porto Moniz, M 54.23 63 *e*S S 09 25 19.7 +15
PMOZ *e*LR LR 09 32 44.5
comp=Z,2µm,18.0s
ICESG Greenland Ices 54.28 15 *i*P **P** **09 17 26.2 -1.1**
ICESG IAmb IAmb 09 17 31.4
comp=Z,62nm,0.8s
UPNV Upernavik 54.29 7 *i*P **P** **09 17 26.5 -0.4**
UPNV IAmb IAmb 09 17 28.2
comp=Z,17nm,0.9s
DLBC Dease Lake 54.45 329 LR LR 09 42 58.2
comp=Z,9µm,18.0s,baz=102,slow=39
DLBC Dease Lake 54.45 329 P **P** **09 17 29.0 +0.6**
DLBC IAmb IAmb 09 17 31.8
comp=Z,57nm,0.9s
DLBC Dease Lake 54.45 329 P **P** **09 17 29.7 +1.3**
baz=112,SNR=17
WTLY Watson Lake, Y 54.52 331 P **P** **09 17 29.9 +1.1**
WTLY IAmb IAmb 09 17 35.2
comp=Z,47nm,0.9s
WTLY Watson Lake, Y 54.52 331 P **P** **09 17 30.0 +1.1**
baz=114,SNR=11
CPSB Cacapava Do Su 54.65 155 *e*P **P** **09 17 31.9 +1.8**
S34M Telegraph Cree 54.81 328 P **P** **09 17 31.5 +0.6**
baz=110
WRAK Wrangell Islan 54.94 326 P **P** **09 17 32.6 +0.7**
baz=108
CRAG Craig 55.07 325 P **P** **09 17 33.2 +0.3**
baz=107
R33M Jennings River 55.26 330 P **P** **09 17 34.5 +0.2**
baz=111
U33K Whale Pass 55.26 325 P **P** **09 17 34.3 +0.1**
baz=107
T33K Petersburg 55.38 326 P **P** **09 17 35.8 +0.7**
baz=108
Q32M Nakina River 55.73 329 P **P** **09 17 38.1 +0.3**
baz=110
RES Resolute Bay 55.82 354 LR LR 09 42 47.2
comp=Z,6µm,18.1s,baz=157,slow=37
RES Resolute Bay 55.82 354 P **P** **09 17 37.3 -0.7**
RES IAmb IAmb 09 17 46.9
comp=Z,25nm,0.8s
RES Resolute Bay 55.82 354 P **P** **09 17 37.3 -0.7**
RES pmax pmax
comp=Z,25nm,0.9s
KULLO Kullorsuaq 55.83 6 *e*P **P** **09 17 38.2 +0.2**
KULLO IAmb IAmb 09 17 38.7
comp=Z,56nm,1.4s
RPN Rapa Nui 56.37 215 LR LR 09 36 56.7
comp=Z,5µm,21.5s,baz=40,slow=31
RPN Rapa Nui 56.37 215 IAMs_20 IAMs_20 09 36 33.2
comp=Z,6µm,21.0s
P33M Teslin, Yukon 56.42 330 IAmb IAmb 09 17 47.7
comp=Z,65nm,1.5s
P33M Teslin, Yukon 56.42 330 P **P** **09 17 43.8 +1.1**
baz=110,SNR=10.0
R32K Eaglecrest 56.63 328 P **P** **09 17 43.1 -1.0**
baz=107
P32M Atlin 56.64 329 P **P** **09 17 44.2 0.0**
baz=109
TULEG Thule 56.94 2 P **P** **09 17 45.4 -0.5**
TULEG IAMs_20 IAMs_20 09 40 58.9
comp=Z,4µm,21.0s
TULEG Thule 56.94 2 *e*P **P** **09 17 45.3 -0.6**
TULEG IAmb IAmb 09 17 47.9
comp=Z,108nm,1.2s
TULEG Thule 56.94 2 ⇑P **P** **09 17 46.4 +0.4**
MBO M'Bour 57.07 85 IAMs_20 IAMs_20 09 38 41.9
comp=Z,3µm,19.0s
SUMG Summit 57.07 13 *i*P **P** **09 17 46.0 -1.4**
SUMG IAmb IAmb 09 17 49.1
comp=Z,77nm,1.1s
LPA La Plata 57.21 162 *d*iP P 09 17 43.4 -4.9
LPA PCP **PcP** **09 18 45.7 +2.9**
LPA PPP PPP 09 21 30.7
LPA PKIKP **PKiKP** **09 25 11.1 +1.4**
LPA SCS 09 27 36.6
C36M Paulatuk 57.29 342 P **P** **09 17 47.0 -1.5**
C36M Paulatuk 57.29 342 P **P** **09 17 47.0 -1.5**
baz=124,SNR=13
FARO Faro, Yukon 57.37 332 P **P** **09 17 49.8 +0.5**
FARO IAmb IAmb 09 18 16.7
comp=Z,54nm,1.6s
FARO Faro, Yukon 57.37 332 P **P** **09 17 48.4 -0.9**
baz=111
SKAG Skagway 57.38 329 P **P** **09 17 50.0 +0.7**
baz=107
BBTS Babate 57.40 85 LR LR 09 38 54.1
comp=Z,4µm,19.0s,baz=261,slow=32
S31K Pelican 57.41 327 P **P** **09 17 49.6 +0.1**
baz=105
WHY Whitehorse 57.53 330 P **P** **09 17 50.2 -0.4**
baz=108
WHY Whitehorse 57.53 330 ⇑P **P** **09 17 51.7 +1.2**
BORG Borgarnes 57.75 25 LR LR 09 41 44.5
comp=Z,3µm,18.0s,baz=234,slow=35
M31M Drury Creek, Y 57.82 332 P **P** **09 17 52.8 +0.4**
M31M IAmb IAmb 09 17 59.4
comp=Z,33nm,1.1s
M31M Drury Creek, Y 57.82 332 P **P** **09 17 52.7 +0.3**
baz=110,SNR=14
PLBC Pleasant Camp 57.89 329 P **P** **09 17 53.4 +0.5**
baz=106
O30N Mendenhall 58.14 330 P **P** **09 17 55.5 +0.8**
baz=107,SNR=6.8
N31M Braeburn, Yuko 58.21 331 P **P** **09 17 56.3 +1.2**
N31M IAmb IAmb 09 18 01.2
comp=Z,45nm,0.9s
N31M IAMs_20 IAMs_20 09 40 12.5
comp=Z,5µm,18.0s
N31M Braeburn, Yuko 58.21 331 P **P** **09 17 56.4 +1.2**
baz=108,SNR=10.0
P30M Million Dollar 58.36 329 P **P** **09 17 57.0 +0.7**
baz=106
HYT Haines Junctio 58.82 330 P **P** **09 17 59.0 -0.6**
HYT IAmb IAmb 09 18 12.7
comp=Z,76nm,1.5s
HYT Haines Junctio 58.82 330 P **P** **09 18 00.1 +0.6**
baz=106
MAYO Mayo, Yukon 58.93 333 P **P** **09 18 01.1 +1.0**
MAYO IAmb IAmb 09 18 20.3
comp=Z,40nm,1.0s
MAYO Mayo, Yukon 58.93 333 P **P** **09 18 00.5 +0.3**
baz=109
M30M Minto, Yukon 59.00 332 IAmb IAmb 09 18 03.0
comp=Z,25nm,0.9s
M30M Minto, Yukon 59.00 332 P **P** **09 18 01.3 +0.6**
baz=108,SNR=11
NEEM North Greenlan 59.07 6 *e*P **P** **09 18 00.3 -1.0**
NEEM IAmb IAmb 09 18 02.2
comp=Z,17nm,0.8s
NEEM North Greenlan 59.07 6 ⇑P **P** **09 18 01.3 0.0**
A36M Sachs Harbour 59.12 344 P **P** **09 18 01.0 -0.2**
baz=124,SNR=106
TRQA Tornquist 59.15 167 IAMs_20 IAMs_20 09 45 19.4
comp=Z,3µm,21.0s

O29M Mount Kennedy 59.19 329 P **P** 09 18 02.2 +0.1
baz=105
GO06 Curarrehue 59.24 175 P **P** 09 18 03.6 +0.9
GO06 IAmb IAmb 09 18 54.3
comp=Z,36nm,1.2s
YUK6 Outpost Mounta 59.25 330 P **P** 09 18 03.6 +0.9
baz=105
YUK4 Talbot Arm 59.49 330 P **P** 09 18 04.5 +0.2
baz=105
F31M Tsiigehtchic 59.50 338 P **P** 09 18 04.2 +0.3
baz=113,SNR=64
K29M Barlow Dome 59.70 333 P **P** 09 18 06.3 +0.7
baz=108
M29M Somme Creek 59.70 332 P **P** 09 18 05.3 -0.3
baz=106
L29M L29M 59.74 332 P **P** 09 18 05.6 -0.2
baz=107
INK Inuvik 59.77 339 P **P** 09 18 05.7 -0.1
comp=Z,29nm,1.2s,baz=94,slow=7.5,SNR=29
INK LR LR 09 44 27.6
comp=Z,10µm,19.4s,baz=106,slow=37
comp=Z,29nm,1.2s
INK Inuvik 59.77 339 P **P** 09 18 06.0 +0.2
INK Inuvik 59.77 339 P **P** 09 18 06.0 +0.2
baz=114,SNR=26
INK Inuvik 59.77 339 ⇑P **P** 09 18 05.8 -0.1
INK Inuvik 59.77 339 P **P** 09 18 06.0 +0.2
INK pmax pmax
comp=Z,121nm,2.0s
PINM Pinnacle 59.95 329 P **P** 09 18 07.8 +0.5
baz=103
YUK8 Steele Glacier 60.00 330 P **P** 09 18 08.0 +0.2
baz=104
SCO Scoresbysund 60.02 18 IAMs_20 IAMs_20 09 41 22.4
comp=Z,4µm,22.0s
J29M Klondike Camp 60.17 334 P **P** 09 18 09.8 +1.0
baz=107,SNR=11
EPYK Eagle Plains 60.19 336 IAmb IAmb 09 18 21.1
comp=Z,39nm,0.9s
EPYK IAMs_20 IAMs_20 09 44 41.7
comp=Z,6µm,22.0s
EPYK Eagle Plains 60.19 336 P **P** 09 18 09.2 +0.4
baz=110,SNR=21
G30M tAoh Zraii Nji 60.22 337 P **P** 09 18 09.4 +0.4
baz=111
YUK3 Moose Creek 60.44 331 P **P** 09 18 10.7 -0.1
baz=104
PMAFR Mafra 60.45 56 P **P** 09 18 12.7 +1.6
PLCA Paso Flores 60.46 175 P **P** 09 18 11.2 +0.3
comp=Z,15nm,0.8s,baz=350,slow=7.3,SNR=30
PLCA LR LR 09 45 43.0
comp=Z,960nm,20.1s,baz=4.5,slow=37
comp=Z,15nm,0.8s
PLCA Paso Flores 60.46 175 P **P** 09 18 11.4 +0.5
PLCA IAmb IAmb 09 18 30.7
comp=Z,29nm,0.8s
PLCA Paso Flores 60.46 175 ⇑P **P** 09 18 11.2 +0.3
PLCA Paso Flores 60.46 175 P **P** 09 18 11.4 +0.5
PLCA pmax pmax
comp=Z,29nm,0.9s
PLCA Paso Flores 60.46 175 *e*P **P** 09 18 11.1 +0.1
I29M Ogilvie Camp, 60.48 335 P **P** 09 18 11.1 +0.3
baz=108
EUNU Eureka 60.50 358 IAmb IAmb 09 18 23.2
comp=Z,25nm,0.9s
EUNU Eureka 60.50 358 ⇓P **P** 09 18 11.2 +0.4
LL04 Puerto Octay 60.50 176 P **P** 09 18 11.9 +0.9
LL04 IAmb IAmb 09 19 01.8
comp=Z,48nm,1.2s
DAWY Dawson 60.55 333 P **P** 09 18 11.4 +0.1
DAWY IAmb IAmb 09 18 13.3
comp=Z,24nm,1.2s
DAWY Dawson 60.55 333 P **P** 09 18 12.6 +1.2
baz=106,SNR=9.5
DAWY Dawson 60.55 333 ⇓P **P** 09 18 11.7 +0.3
LIS Lisbon 60.56 56 *e*P **P** 09 18 12.0 +0.2
LIS *e*S **S** 09 26 28.2 +0.5
LIS IAMs_20 IAMs_20 09 38 59.5
comp=Z,4µm,12.5s
BVCY Beaver Creek 60.77 331 P **P** 09 18 13.4 +0.6
baz=104
MESA MESA 60.80 329 P **P** 09 18 13.4 +0.1
baz=101
BARN Barnard Glacie 60.84 330 IAMs_20 IAMs_20 09 42 26.2
comp=Z,4µm,20.0s
PCAS Casmilo, Conde 61.01 55 *e*P **P** 09 18 15.5 +0.6
comp=Z,60nm,1.4s
MORF Marmelete 61.03 58 *e*P **P** 09 18 15.5 +0.4
MORF *e*S **S** 09 26 34.5 +0.6
MORF IAMs_20 IAMs_20 09 36 30.1
comp=Z,4µm,25.4s
MORF Marmelete 61.03 58 *e*P **P** 09 18 16.7 +1.6
comp=Z,45nm,1.5s
COI Coimbra 61.07 54 *e*P **P** 09 18 15.9 +0.7
comp=Z,81nm,1.1s
PNCL Nicolau / Gran 61.08 57 *e*P **P** 09 18 15.8 +0.5
comp=Z,35nm,1.3s
PGAV Gavieira, Arco 61.13 52 *e*P **P** 09 18 16.5 +0.8
comp=Z,69nm,2.0s
PGAV *e*S S 09 26 50.8 +16
PGAV *e*LR LR 09 35 56.3
comp=Z,2µm,18.0s
M27K Edge Creek, AK 61.22 331 P **P** 09 18 16.7 +0.6
M27K IAmb IAmb 09 18 24.6
comp=Z,36nm,0.8s
M27K Edge Creek, AK 61.22 331 P **P** 09 18 16.3 +0.2
baz=103
PMTG Montargil 61.27 56 *e*P **P** 09 18 17.2 +0.6
comp=Z,67nm,1.4s
PCAB Cabril 61.31 53 *e*P **P** 09 18 17.9 +1.0
comp=Z,78nm,1.5s
BCAR Beaver Creek A 61.34 332 P **P** 09 18 16.6 -0.2
MESJ Messejana 61.34 57 *e*P **P** 09 18 17.6 +0.4
MESJ *e*S **S** 09 26 38.4 +0.7
MESJ IAMs_20 IAMs_20 09 41 17.2
comp=Z,3µm,12.8s
MESJ Messejana 61.34 57 *e*P **P** 09 18 18.1 +1.0
comp=Z,74nm,1.4s
MESJ Messejana 61.34 57 P **P** 09 18 16.9 -0.1
MESJ IAmb IAmb 09 18 23.3
comp=Z,67nm,1.4s
MESJ Messejana 61.34 57 ⇓P **P** 09 18 18.4 +1.3
MESJ Messejana 61.34 57 P **P** 09 18 17.0 -0.1
MESJ pmax pmax
comp=Z,67nm,1.4s
L27K Beaver Creek, 61.36 332 IAmb IAmb 09 18 23.0
comp=Z,20nm,0.8s
L27K Beaver Creek, 61.36 332 P **P** 09 18 17.3 +0.4
baz=103
PVIS Viseu 61.45 54 *e*P **P** 09 18 17.3 -0.6
comp=Z,53nm,1.8s
EVO Evora 61.46 56 *e*P **P** 09 18 18.5 +0.6
comp=Z,50nm,1.6s
EGAK Eagle 61.48 334 P **P** 09 18 17.6 0.0
EGAK IAmb IAmb 09 18 24.8
comp=Z,18nm,0.9s
EGAK Eagle 61.48 334 P **P** 09 18 18.0 +0.4
baz=105,SNR=9.1
PCVE Castro Verde 61.50 57 *e*P **P** 09 18 19.7 +1.5
comp=Z,65nm,1.9s
PCVE Castro Verde 61.50 57 P **P** 09 18 18.8 +0.6
POLO Lamas de Olo 61.50 53 *e*P **P** 09 18 18.8 +0.5
comp=Z,29nm,1.5s
MCARA McCarthy VSAT 61.55 330 P **P** 09 18 17.8 -0.4
MCARA IAmb IAmb 09 18 32.3
comp=Z,43nm,1.0s
MCARA IAMs_20 IAMs_20 09 46 17.0
comp=Z,6µm,20.0s
MCARA McCarthy VSAT 61.55 330 P **P** 09 18 18.0 -0.1
baz=101
PVRL Vila Real 61.56 53 *e*P **P** 09 18 19.2 +0.6
comp=Z,69nm,1.3s
PBEJ Beja 61.61 57 *e*P **P** 09 18 20.4 +1.5
comp=Z,36nm,1.8s
K27K Chicken 61.69 333 P **P** 09 18 19.7 +0.7
K27K IAMs_20 IAMs_20 09 45 49.4
comp=Z,6µm,18.0s
K27K Chicken 61.69 333 P **P** 09 18 18.5 -0.5
baz=103
VRDI Verde Repeater 61.73 330 P **P** 09 18 19.2 -0.3
VRDI IAmb IAmb 09 18 39.5
comp=Z,78nm,1.7s
VRDI IAMs_20 IAMs_20 09 46 37.6
comp=Z,5µm,20.0s
MTE Manteigas 61.73 54 *e*P **P** 09 18 19.9 +0.1
comp=Z,84nm,1.3s
MTE *e*S S 09 26 52.0 +9.3
comp=Z,2µm,18.0s
MTE *e*LR LR 09 35 22.7
MTE Manteigas 61.73 54 P **P** 09 18 19.4 -0.4
M26K Nabesna, AK 61.74 331 IAmb IAmb 09 18 28.0
comp=Z,27nm,0.9s
M26K Nabesna, AK 61.74 331 P **P** 09 18 19.9 +0.4
baz=102
PVAQ Vaqueiros 61.77 58 *e*P **P** 09 18 21.1 +1.1
comp=Z,57nm,1.4s
PVAQ *e*S S 09 26 56.3 +13
PVAQ *e*LR LR 09 36 19.1
comp=Z,4µm,18.0s
PVAQ Vaqueiros 61.77 58 P **P** 09 18 19.6 -0.4
PVAQ Vaqueiros 61.77 58 P **P** 09 18 21.3 +1.3
PVAQ Vaqueiros 61.77 58 ⇓P **P** 09 18 21.3 +1.3
PVAQ Vaqueiros 61.77 58 P **P** 09 18 21.3 +1.3
PESTR Estremoz 61.77 56 *e*P **P** 09 18 20.6 +0.6
comp=Z,84nm,1.4s
PESTR Estremoz 61.77 56 P **P** 09 18 18.9 -1.1
PESTR IAmb IAmb 09 18 25.4
comp=Z,26nm,1.2s
PESTR Estremoz 61.77 56 P **P** 09 18 21.6 +1.5
PESTR Estremoz 61.77 56 P **P** 09 18 21.2 +1.2
PCBR Castelo Branco 61.80 55 *e*P **P** 09 18 21.1 +0.9
comp=Z,64nm,1.4s
I27K Kandik River 61.88 335 P **P** 09 18 20.7 +0.3
baz=105
PMRV Marv??o 61.89 55 *e*P **P** 09 18 21.3 +0.5
comp=Z,84nm,1.5s
PMRV *e*S S 09 26 59.4 +15
PMRV *e*LR LR 09 35 39.7
comp=Z,2µm,20.0s
GLB Gilahina Butte 61.94 330 IAmb IAmb 09 18 23.2
comp=Z,40nm,1.3s
H27K Steamboat Moun 62.01 335 P **P** 09 18 21.6 +0.5
baz=105
L26K Log Cabin Wild 62.03 332 P **P** 09 18 21.3 0.0
L26K IAmb IAmb 09 18 24.2
comp=Z,45nm,1.1s
L26K Log Cabin Wild 62.03 332 P **P** 09 18 22.0 +0.7
baz=102,SNR=21
MVO Moncorvo 62.08 53 *e*P **P** 09 18 22.8 +0.6
comp=Z,51nm,1.5s
MVO *e*S S 09 26 59.5 +12
MVO *e*LR LR 09 36 42.5
comp=Z,2µm,18.0s
MENT Mentasta 62.17 332 P **P** 09 18 23.4 +1.0
MENT IAmb IAmb 09 18 30.6
comp=Z,31nm,0.8s
G27K Doyon Strip 62.21 336 P **P** 09 18 22.7 +0.2
baz=105
BMRM Bremner River 62.23 329 P **P** 09 18 23.1 +0.3
baz=99,SNR=6.6
PBAR Barrancos 62.25 57 *e*P **P** 09 18 24.0 +0.8
comp=Z,59nm,1.4s
DBG Daneborg 62.27 15 *e*P **P** 09 18 22.3 -0.4
DBG IAmb IAmb 09 18 23.9
comp=Z,65nm,1.7s
DBG Daneborg 62.27 15 ⇑P **P** 09 18 22.9 +0.2
PBRG Braganca 62.27 52 *e*P **P** 09 18 24.4 +1.0
comp=Z,70nm,1.4s
N25K Chitina, Valde 62.34 330 IAmb IAmb 09 18 31.7
comp=Z,38nm,1.0s
N25K Chitina, Valde 62.34 330 P **P** 09 18 23.7 +0.2
baz=100
AVE Averroes 62.39 62 IAMs_20 IAMs_20 09 39 56.2
comp=Z,4µm,20.0s
AVE Averroes 62.39 62 P **P** 09 18 25.6 +1.4
AVE Averroes 62.39 62 P **P** 09 18 25.4 +1.1
J26L Joseph Creek 62.43 333 P **P** 09 18 24.6 +0.5
J26L IAmb IAmb 09 18 32.5
comp=Z,30nm,0.8s
J26L Joseph Creek 62.43 333 P **P** 09 18 24.7 +0.6
baz=102
SCRK Sand Creek 62.50 333 IAmb IAmb 09 18 30.3
comp=Z,36nm,1.1s
SCRK IAMs_20 IAMs_20 09 46 05.9
comp=Z,4µm,19.0s
SCRK Sand Creek 62.50 333 P **P** 09 18 25.5 +0.9
baz=102,SNR=17
E27K Coleen River 62.56 338 P **P** 09 18 25.4 +0.6
baz=106
DSB Dublin 62.62 40 IAmb IAmb 09 18 29.8
comp=Z,32nm,1.1s
ILTH Belurgan, Co L 62.69 39 *e*P **P** 09 18 26.2 +0.4
EYAK Cordova Ski Ar 62.72 329 P **P** 09 18 26.9 +0.9
baz=98
HARP HAARP 62.73 331 P **P** 09 18 26.6 +0.6
baz=100
RIDG Independent Ri 62.83 332 P **P** 09 18 27.6 +0.9
baz=100,SNR=30
KLU Klutina 62.94 330 IAMs_20 IAMs_20 09 48 23.8
comp=Z,6µm,20.0s
KLU Klutina 62.94 330 P **P** 09 18 27.9 +0.4
baz=98,SNR=18
PAX Paxson 62.97 331 P **P** 09 18 28.4 +0.7
PAX IAmb IAmb 09 18 33.2
comp=Z,49nm,1.2s
PAX Paxson 62.97 331 P **P** 09 18 28.5 +0.7
baz=100,SNR=19
PAX Paxson 62.97 331 P **P** 09 18 28.4 +0.7
PAX pmax pmax
comp=Z,49nm,1.2s
M24K Tolsona, Glenn 63.15 330 P **P** 09 18 30.2 +1.3
M24K Tolsona, Glenn 63.15 330 P **P** 09 18 29.8 +0.8
baz=98,SNR=18
OUZM OUZ 63.24 65 P **P** 09 18 32.0 +1.9
K24K Donnelly Dome 63.24 332 P **P** 09 18 30.7 +1.2
baz=100,SNR=30
F26K Sheenjek River 63.36 337 P **P** 09 18 30.8 +0.6
baz=105
PRP Porcupine Dome 63.45 334 IAmb IAmb 09 18 40.5
comp=Z,20nm,0.8s
PRP Porcupine Dome 63.45 334 P **P** 09 18 31.2 +0.3
baz=101,SNR=11
FYU Fort Yukon 63.53 335 IAMs_20 IAMs_20 09 48 23.0
comp=Z,5µm,18.0s
RSBS Rosebush, Pemb 63.56 41 *e*P **P** 09 18 31.9 +0.2
SBD Saint Breward 63.58 43 *e*P **P** 09 18 32.5 +0.6
SCM Sheep Creek Mo 63.66 330 P **P** 09 18 32.8 +0.6
baz=97,SNR=7.5
C27K Jago River 63.68 339 P **P** 09 18 32.5 +0.3
baz=104
WIM Isle of Man 63.68 39 *e*P **P** 09 18 32.9 +0.4
GAL1 Galloway 63.69 38 *e*P **P** 09 18 32.5 +0.1
GAL1 IAmb IAmb 09 18 37.0
comp=Z,64nm,1.3s
HTL Hartland 63.71 42 *e*P **P** 09 18 33.2 +0.5
HTL IAmb IAmb 09 18 37.2
comp=Z,42nm,0.9s
DAG Danmarks Havn 63.76 13 *i*P **P** 09 18 30.6 -1.9
DAG IAmb IAmb 09 18 33.5
comp=Z,66nm,1.4s
M23K Glacier View 63.84 330 P **P** 09 18 33.6 +0.2
baz=97,SNR=12
DHY Denali Highway 63.84 331 IAmb IAmb 09 18 45.9
comp=Z,32nm,1.0s
DHY Denali Highway 63.84 331 P **P** 09 18 34.0 +0.4
baz=98,SNR=12
HDA Harding Lake 63.85 333 P **P** 09 18 33.5 +0.1
HDA IAmb IAmb 09 18 35.5
comp=Z,60nm,1.5s
HDA IAMs_20 IAMs_20 09 45 58.6
comp=Z,6µm,21.0s
HDA Harding Lake 63.85 333 P **P** 09 18 33.7 +0.3
baz=99,SNR=16
WME Myndd Eilian 63.87 39 *e*P **P** 09 18 33.9 +0.2
ILAR Eielson Array 63.88 333 P **P** 09 18 33.2 -0.4
comp=Z,9.6nm,0.4s,baz=105,slow=4.2,SNR=49
ILAR LR LR 09 47 18.5
comp=Z,10µm,18.3s,baz=86,slow=37
comp=Z,9.6nm,0.4s
F25K Christian Rive 63.90 337 P **P** 09 18 34.4 +0.7
baz=102
G25K Bearman Lake 63.91 336 P **P** 09 18 34.5 +0.8
baz=101
WAT6 Susitna Watana 63.94 331 P **P** 09 18 34.3 0.0
baz=97,SNR=13
NEWG New Galloway 63.98 38 *e*P **P** 09 18 34.5 +0.1
AY01 Puyuhuapi 63.98 177 IAmb IAmb 09 18 54.0
comp=Z,42nm,1.0s
E25K Arctic Village 63.98 337 P **P** 09 18 34.7 +0.5
baz=102,SNR=53
LPW Lampeter 63.98 41 *e*P **P** 09 18 34.9 +0.4
PWL Port Wells 64.02 329 P **P** 09 18 34.7 +0.1
baz=96
SML Sawmill 64.12 330 P **P** 09 18 36.1 +0.8
SML Sawmill 64.12 330 P **P** 09 18 35.4 0.0
baz=96,SNR=8.1
KNK Knik Glacier 64.14 329 P **P** 09 18 35.6 +0.2
baz=96,SNR=7.9
INVG Invergeldie, C 64.15 36 *e*P **P** 09 18 35.5 0.0
INVG IAmb IAmb 09 18 39.8
comp=Z,48nm,1.0s
C26K Camden Bay 64.15 339 P **P** 09 18 35.0 -0.2
baz=104
POKR Poker Plat Res 64.17 334 IAmb IAmb 09 18 39.7
comp=Z,23nm,0.9s
POKR Poker Plat Res 64.17 334 P **P** 09 18 35.2 -0.3
baz=99,SNR=9.1
PAB San Pablo 64.23 55 P **P** 09 18 37.1 +0.6
PAB IAmb IAmb 09 18 39.3
comp=Z,65nm,1.4s
PAB San Pablo 64.23 55 IAMs_20 IAMs_20 09 42 16.5
comp=Z,3µm,20.0s
PAB San Pablo 64.23 55 P **P** 09 18 37.2 +0.7
PAB San Pablo 64.23 55 ⇓P **P** 09 18 37.6 +1.1
PAB San Pablo 64.23 55 P **P** 09 18 37.1 +0.6
PAB pmax pmax
comp=Z,65nm,1.5s
LLW Llanuwychllyn 64.24 40 *e*P **P** 09 18 36.4 +0.3
CCB Clear Creek Bu 64.25 333 P **P** 09 18 35.7 -0.3
CCB IAmb IAmb 09 18 43.2
comp=Z,14nm,0.8s
TZRR Tazzarine 64.27 65 P **P** 09 18 39.0 +2.1
COLA College 64.31 333 P **P** 09 18 36.2 -0.1
COLA IAmb IAmb 09 18 40.3
comp=Z,49nm,1.3s
COLA College 64.31 333 P **P** 09 18 36.3 -0.1
baz=98
COLA College 64.31 333 ⇑P **P** 09 18 36.2 -0.1
COLA College 64.31 333 *i*P **P** 09 18 35.1 -1.2
COLA pmax pmax
comp=Z,17nm,1.0s
TCOL CIGO, UAF Yank 64.31 333 P **P** 09 18 36.1 -0.3
TCOL IAmb IAmb 09 18 40.3
comp=Z,42nm,1.2s
TCOL CIGO, UAF Yank 64.31 333 P **P** 09 18 36.8 +0.4
baz=98
ZGR Zagora 64.33 65 P **P** 09 18 39.0 +1.7
WAT1 Susitna Watana 64.34 331 P **P** 09 18 36.9 +0.2
baz=97
WRH Wood River Hil 64.35 333 P **P** 09 18 36.6 0.0
WRH IAmb IAmb 09 18 48.5
comp=Z,23nm,1.0s
WRH IAMs_20 IAMs_20 09 44 44.8
comp=Z,6µm,20.0s
JMIC Jan Mayen 64.37 20 LR LR 09 44 47.7
comp=Z,809nm,20.9s,baz=246,slow=34
GHO Glory Hole Cre 64.40 330 P **P** 09 18 38.2 +1.1
G24K Hadweenzic Riv 64.44 335 P **P** 09 18 37.1 -0.1
baz=100
H24K Noodor Dome 64.46 334 P **P** 09 18 37.5 0.0
H24K IAmb IAmb 09 18 39.0
comp=Z,45nm,1.3s
H24K Noodor Dome 64.46 334 P **P** 09 18 37.6 +0.2
baz=99
MDM Murphy Dome 64.48 333 IAmb IAmb 09 18 43.3
comp=Z,52nm,1.3s
PMR Palmer 64.48 330 IAmb IAmb 09 18 49.2
comp=Z,25nm,0.8s
PMR Palmer 64.48 330 P **P** 09 18 38.8 +1.3
baz=96,SNR=6.8
SEW Seward 64.50 328 P **P** 09 18 37.2 -0.5
baz=94
ESDC Sonseca Array 64.52 55 P **P** 09 18 38.7 +0.4
comp=Z,37nm,1.3s,baz=280,slow=6.6,SNR=44
ESDC LR LR 09 40 50.4
comp=Z,3µm,21.7s,baz=272,slow=31
ESDC PKP2bc **P'P'df** **09 47 31.8 +1.1**
comp=Z,2.0nm,1.0s,baz=68,slow=2.0,SNR=5.8
comp=Z,37nm,1.3s
ESDC Sonseca Array 64.52 55 IAmb IAmb 09 18 41.3
comp=Z,50nm,1.4s
ESBB Sonseca Array 64.52 55 P **P** 09 18 39.1 +0.8
FOEL Foel Wylfa 64.52 40 *e*P **P** 09 18 38.1 +0.1
FOEL IAmb IAmb 09 18 42.5
comp=Z,95nm,1.4s
RND Reindeer 64.55 332 P **P** 09 18 38.5 +0.4
RND Reindeer 64.55 332 P **P** 09 18 38.5 +0.4
RND pmax pmax
comp=Z,111nm,1.0s
ESK Eskdalemuir 64.57 37 P **P** 09 18 38.1 -0.2
ESK Eskdalemuir 64.57 37 *e*P **P** 09 18 38.2 -0.1
ESK IAmb IAmb 09 18 42.6
comp=Z,41nm,0.9s
ESK Eskdalemuir 64.57 37 ⇓P **P** 09 18 38.7 +0.4
ESK ⇓P **sP** 09 18 42.1 +1.2
ESK Eskdalemuir 64.57 37 P **P** 09 18 38.1 -0.2
ESK pmax pmax
comp=Z,44nm,0.9s
EKA Eskdalemuir Ar 64.60 37 LR LR 09 44 09.0
comp=Z,1µm,18.4s,baz=264,slow=34
MCK McKinley 64.62 332 P **P** 09 18 38.9 +0.4
MCK McKinley 64.62 332 P **P** 09 18 38.6 +0.1
baz=97,SNR=17
MCK McKinley 64.62 332 P **P** 09 18 38.9 +0.4
MCK pmax pmax
comp=Z,53nm,1.1s
MCK MLR MLR
comp=Z,9µm,18.0s
MCD Coleburn Disti 64.64 35 *e*P **P** 09 18 39.0 +0.4
MCH1 Michaelchurch 64.64 41 *e*P **P** 09 18 38.7 -0.1
MCH1 IAmb IAmb 09 18 43.0
comp=Z,71nm,0.8s
MCH1 Michaelchurch 64.64 41 ⇓P **P** 09 18 39.4 +0.6
GOLM Goulmima 64.66 64 P **P** 09 18 43.0 +3.5
HLM1 Long Mynd 64.72 40 *e*P **P** 09 18 39.3 0.0
HLM1 IAmb IAmb 09 18 44.0
comp=Z,83nm,1.2s
EDU Dundee 64.72 36 *e*P **P** 09 18 40.4 +1.2
RC01 Rabbit Creek A 64.73 329 P **P** 09 18 40.1 +1.0
RC01 Rabbit Creek A 64.73 329 P **P** 09 18 39.8 +0.6
baz=95,SNR=13
F24K Squaw Lake 64.73 336 P **P** 09 18 39.7 +0.5
baz=100
NEA2 Nenana 64.79 333 P **P** 09 18 39.8 +0.3
baz=97,SNR=14
MDT Midelt 64.79 62 LR LR 09 42 31.7
comp=Z,3µm,19.4s,baz=292,slow=32
MDT Midelt 64.79 62 P **P** 09 18 41.7 +1.5
BWN Browne 64.91 332 IAMs_20 IAMs_20 09 43 38.6
comp=Z,6µm,19.0s
OLDB Oldbury-Upon-S 64.92 41 *e*P **P** 09 18 41.2 +0.6
ESY Stoneypath 64.93 37 *e*P **P** 09 18 40.7 +0.1
M22K Willow 64.97 330 P **P** 09 18 41.1 +0.5
M22K Willow 64.97 330 P **P** 09 18 41.2 +0.5
baz=95,SNR=9.0
I23K Minto, Yukon-K 64.98 334 P **P** 09 18 41.0 +0.3
I23K Minto, Yukon-K 64.98 334 P **P** 09 18 41.4 +0.6
baz=97,SNR=10
E24K Your Creek 65.05 337 P **P** 09 18 42.2 +1.0
baz=99
CUT Chulitna 65.09 330 IAMs_20 IAMs_20 09 45 28.4
comp=Z,6µm,19.0s
CUT Chulitna 65.09 330 P **P** 09 18 42.5 +0.9
baz=95,SNR=18
BRSE Bradley Lake S 65.13 328 P **P** 09 18 41.9 0.0
baz=93
TRF Thorofare Moun 65.19 332 P **P** 09 18 42.5 +0.1
baz=95,SNR=31
BRLK Bradley Lake 65.20 328 P **P** 09 18 42.8 +0.5
BRLK IAMs_20 IAMs_20 09 48 17.9
comp=Z,5µm,20.0s
SUA Susitna One 65.24 329 P **P** 09 18 43.4 +0.7
baz=94,SNR=11
ARF Arif 65.32 64 P **P** 09 18 46.0 +2.3
CAPN Captain Cook N 65.39 329 P **P** 09 18 43.5 0.0
baz=93
C24K Franklin Bluff 65.40 339 P **P** 09 18 43.8 +0.4
baz=100
LBWR Ladybower, Pea 65.42 39 *e*P **P** 09 18 44.3 +0.5
LBWR IAmb IAmb 09 18 48.8
comp=Z,82nm,1.0s
G23K Bananza Creek 65.44 335 P **P** 09 18 44.0 +0.2
baz=97
E23K Chandalar 65.47 337 P **P** 09 18 44.6 +0.6
baz=98
MLY Manley 65.55 333 IAmb IAmb 09 19 05.1
comp=Z,18nm,0.9s
MLY Manley 65.55 333 P **P** 09 18 44.7 +0.2
baz=96,SNR=14
BPAW Bear Paw Mtn. 65.56 332 P **P** 09 18 44.8 +0.2

BPAW IAmb IAmb 09 19 05.3
comp=Z,46nm,1.0s
BPAW IAMs_20 IAMs_20 09 48 12.9
comp=Z,6µm,19.0s
BPAW Bear Paw Mtn. 65.56 332 P **P** **09 18 44.9 +0.3**
baz=95,SNR=21
COLD Coldfoot 65.58 336 P **P** **09 18 45.7 +1.1**
COLD IAmb IAmb 09 18 50.4
comp=Z,30nm,0.9s
COLD Coldfoot 65.58 336 P **P** **09 18 45.5 +0.8**
baz=97,SNR=36
HOM Homer 65.58 327 P **P** **09 18 44.0 -0.8**
baz=92
SKT Skwentna 65.65 330 P **P** **09 18 45.5 +0.3**
SKT IAmb IAmb 09 18 56.6
comp=Z,40nm,1.1s
SKT Skwentna 65.65 330 P **P** **09 18 45.1 -0.1**
baz=94,SNR=8.2
SPU Mount Spurr 65.85 329 P **P** **09 18 47.0 +0.4**
H22K Ishtalitna Cre 65.89 334 P **P** **09 18 46.7 0.0**
baz=96
SPCR Spurr Chakacha 65.93 329 P **P** **09 18 47.3 +0.2**
baz=93
Q20K Shuyak Island 65.93 326 P **P** **09 18 47.3 +0.3**
baz=91
D23K Nanushuk River 65.98 338 P **P** **09 18 48.2 +1.0**
baz=98
CAST Castle Rocks 66.00 332 IAmb IAmb 09 19 07.7
comp=Z,46nm,1.4s
CAST Castle Rocks 66.00 332 P **P** **09 18 47.4 0.0**
baz=94,SNR=11
PPLA Purkeypile 66.01 331 P **P** **09 18 47.9 +0.2**
baz=93,SNR=6.8
KDAK Kodiak Island 66.02 325 LR LR 09 48 30.0
comp=Z,7µm,18.7s,baz=101,slow=37
I21K Tanana 66.08 333 P **P** **09 18 47.7 -0.2**
baz=95
O20K Slope Mountain 66.09 328 P **P** **09 18 48.0 -0.1**
baz=92
CHUM Lake Minchumin 66.13 332 P **P** **09 18 48.1 -0.1**
baz=94,SNR=15
RSO Redoubt South 66.17 328 P **P** **09 18 49.4 +0.6**
JBK JBK 66.26 60 P **P** **09 18 52.0 +2.1**
E22K Anaktuvuk Pass 66.29 337 P **P** **09 18 49.5 +0.2**
baz=96
NOR Nord 66.30 8 *i* P **P** **09 18 48.4 -0.7**
NOR IAmb IAmb 09 18 52.8
comp=Z,41nm,1.1s
NOR Nord 66.30 8 ⇑P **P** **09 18 48.8 -0.3**
NOR ⇑P **pP** **09 18 49.0 -1.8**
ILSW Iliamna Southw 66.35 328 P **P** **09 18 50.3 +0.5**
F22K John River 66.37 336 P **P** **09 18 50.2 +0.5**
baz=95,SNR=16
P19K Oil Pt 66.39 327 P **P** **09 18 50.0 0.0**
baz=91
OHAK Old Harbor 66.39 325 P **P** **09 18 50.6 +0.6**
OHAK Old Harbor 66.39 325 P **P** **09 18 49.9 -0.1**
baz=90
M20K Styx River 66.40 330 P **P** **09 18 49.7 -0.4**
baz=92
H21K Melozitna Rive 66.46 334 IAmb IAmb 09 19 23.1
comp=Z,25nm,1.1s
H21K Melozitna Rive 66.46 334 P **P** **09 18 50.3 0.0**
baz=94,SNR=14
G21K Allakaket 66.81 335 P **P** **09 18 52.9 +0.4**
baz=94
F21K Alatna River 66.85 336 P **P** **09 18 52.8 0.0**
baz=94
IMAR Indian Mountai 66.87 334 P **P** **09 18 52.9 -0.1**
K20K Telida 66.89 331 P **P** **09 18 53.0 -0.1**
K20K IAmb IAmb 09 19 13.5
comp=Z,45nm,1.2s
K20K Telida 66.89 331 P **P** **09 18 52.3 -0.9**
baz=92
SII Sitkinak Islan 66.89 324 P **P** **09 18 52.5 -0.8**
baz=89
O19K Port Alsworth 66.94 328 P **P** **09 18 53.4 -0.1**
O19K IAMs_20 IAMs_20 09 45 08.6
comp=Z,4µm,19.0s
O19K Port Alsworth 66.94 328 P **P** **09 18 53.8 +0.4**
baz=90,SNR=12
N19K Bonanza Creek 67.03 329 P **P** **09 18 53.7 -0.4**
baz=90
L19K White Mountain 67.22 330 IAmb IAmb 09 18 57.1
comp=Z,35nm,1.1s
L19K White Mountain 67.22 330 P **P** **09 18 54.7 -0.6**
baz=91
Q18K Katmai Hardscr 67.30 326 P **P** **09 18 56.5 +0.6**
baz=89,SNR=10.0
O18K Koktuh Hills 67.39 328 IAmb IAmb 09 19 24.6
comp=Z,45nm,1.0s
O18K IAMs_20 IAMs_20 09 45 35.1
comp=Z,5µm,18.0s
O18K Koktuh Hills 67.39 328 P **P** **09 18 56.5 +0.1**
baz=89
P18K Big Mountain, 67.40 327 IAmb IAmb 09 19 03.2
comp=Z,27nm,0.9s
P18K IAMs_20 IAMs_20 09 50 28.9
comp=Z,5µm,18.0s
P18K Big Mountain, 67.40 327 P **P** **09 18 56.3 -0.2**
baz=89
SVW2 Sparrevohn 67.56 329 P **P** **09 18 57.4 0.0**
SVW2 IAmb IAmb 09 18 59.2
comp=Z,22nm,0.8s
FIGM Figuig 67.69 63 P **P** **09 19 01.0 +2.1**
CHIR Chirikof Islan 67.72 323 P **P** **09 18 58.8 +0.4**
baz=87
TTA Tatalina 67.76 331 IAmb IAmb 09 19 00.1
comp=Z,22nm,0.9s
TTA Tatalina 67.76 331 P **P** **09 18 58.2 -0.5**
baz=90,SNR=19
TTA Tatalina 67.76 331 ⇑P **P** **09 18 58.1 -0.7**
Q17K Contact Creek 67.77 326 P **P** **09 18 59.1 +0.2**
baz=88,SNR=8.0
R17K Ugashik Creek 68.06 325 P **P** **09 19 00.5 -0.1**
baz=88
GCSA Galena City Sc 68.15 333 P **P** **09 19 01.0 0.0**
baz=90,SNR=11
Q16K King Salmon 68.16 326 P **P** **09 19 01.1 0.0**
baz=88,SNR=12
A21K Barrow 68.22 340 P **P** **09 19 01.6 +0.3**
A21K IAMs_20 IAMs_20 09 52 19.4
comp=Z,4µm,19.0s
A21K Barrow 68.22 340 P **P** **09 19 01.6 +0.3**
baz=93,SNR=25
CLF Chambon-Foret 68.23 45 ⇑P **P** **09 19 02.9 +1.0**
O17K Koliganek Bris 68.34 328 P **P** **09 19 02.3 -0.1**
baz=88
TAOE Nuku Hiva Isla 68.67 252 *e*P **P** **09 19 07.2 +2.0**
comp=Z,339nm,24.2s
TAOE *e*S **S** **09 28 09.0 +0.4**
comp=Z,806nm,26.1s
TAOE *e*SS **SS** **09 32 34.9 +1.5**
comp=Z,577nm,27.7s
TAOE *e*LQ LQ 09 36 57.8
comp=Z,4µm,27.0s
TAOE *e*LR LR 09 39 51.9
comp=Z,986nm,39.5s
R16K Pilot Point 68.70 325 P **P** **09 19 04.5 -0.1**
baz=86
P16K Nushagak River 68.84 327 P **P** **09 19 05.9 +0.5**
baz=87
O16K Kokwok River B 68.86 327 P **P** **09 19 05.1 -0.4**
baz=87
N16K Nishlik Lake 69.15 328 P **P** **09 19 07.7 +0.3**
baz=87
CHGN Chignik 69.25 324 P **P** **09 19 07.7 -0.3**
baz=85
SNF Seneffe 69.29 42 *d*P **P** **09 19 08.7 +0.3**
comp=Z,14nm,0.8s
DOU Dourbes 69.53 43 *d*P **P** **09 19 10.3 +0.4**
comp=Z,20nm,0.9s
BMRD Maredsous 69.62 43 *d*P **P** **09 19 10.5 +0.1**
comp=Z,21nm,1.0s
BLS5 Blasjo 69.71 33 *e*P **P** **09 19 13.6 +2.7**
ODD1 Odda 69.75 32 *e*P **P** **09 19 11.5 +0.4**
ODD1 IAmb IAmb 09 19 13.1
comp=Z,234nm,1.7s
AKN Aaknes 69.76 30 *e*P **P** **09 19 11.0 -0.1**
AKN IAmb IAmb 09 19 13.6
comp=Z,136nm,1.4s
BGES Gesves 69.81 42 *d*P **P** **09 19 12.3 +0.6**
comp=Z,19nm,1.0s
BGES *d*PcP **PcP** **09 19 32.5 -1.7**
RCHB Rochefort 69.93 43 *d*P **P** **09 19 12.7 +0.4**
comp=Z,12nm,1.1s
BCLA Clavier 69.95 42 *d*P **P** **09 19 13.0 +0.5**
comp=Z,23nm,1.1s
BCLA *d*PcP **PcP** **09 19 33.3 -1.5**
BSTI Sart Tilman 70.10 42 *d*P **P** **09 19 13.9 +0.5**
comp=Z,11nm,1.1s
BSTI *d*PcP **PcP** **09 19 34.4 -1.0**
SSB Saint Sauveur 70.12 48 IAmb IAmb 09 19 53.6
comp=Z,40nm,1.4s
SSB IAMs_20 IAMs_20 09 43 38.8
comp=Z,2µm,21.0s
MEM Membach 70.37 42 *d*P **P** **09 19 15.3 +0.2**
comp=Z,21nm,1.1s
BHOU Houvegnez 70.40 42 *d*P **P** **09 19 16.4 +1.1**
comp=Z,18nm,1.1s
BHOU *d*PcP **PcP** **09 19 35.6 -1.1**
RDOG Red Dog Mine 70.45 337 IAMs_20 IAMs_20 09 55 15.7
comp=Z,2µm,20.0s
BTNL Ternell 70.45 42 *d*P **P** **09 19 15.7 +0.1**
comp=Z,14nm,1.1s
SDPT Sand Point 70.50 323 P **P** **09 19 15.4 -0.3**
baz=83
TIC Toumodi 70.51 90⇑ *e*P **P** **09 19 19.7 +3.1**
comp=Z,18nm,0.7s
SKAR Skarslia 70.52 31 *e*P **P** **09 19 17.1 +1.3**
SKAR IAmb IAmb 09 19 21.3
comp=Z,116nm,1.2s
WLF Walferdange 70.59 43 IAmb IAmb 09 19 21.9
comp=Z,60nm,1.2s
WLF Walferdange 70.59 43 *d*P **P** **09 19 17.6 +1.2**
comp=Z,25nm,1.1s
WLF Walferdange 70.59 43 *e*P **P** **09 19 17.3 +0.8**
comp=Z,86nm,1.6s,baz=280,slow=5.9
LIC Lamto 70.64 90⇑ *e*P **P** **09 19 17.0 -0.3**
comp=Z,27nm,0.6s
DBIC Dimbokro 70.66 90 P **P** **09 19 17.5 0.0**
comp=Z,14nm,1.0s,baz=299,slow=3.7,SNR=6.8
comp=Z,14nm,1.0s
DBIC Dimbokro 70.66 90 P **P** **09 19 17.1 -0.3**
DBIC IAmb IAmb 09 19 39.9
comp=Z,22nm,0.9s
DBIC Dimbokro 70.66 90 ⇓P **P** **09 19 17.7 +0.3**
KIC Kosan Boka 70.86 90 *e*P **P** **09 19 18.4 -0.3**
comp=Z,12nm,0.6s
HOMB Homborsund 70.88 34 *e*P **P** **09 19 18.4 +0.4**
BUG Bochum--Univer 71.05 41 *e*P **P** **09 19 19.9 +0.8**
comp=Z,44nm,1.0s,baz=280,slow=5.9
AHRW Bad Neuenahr-A 71.06 42 *e*P **P** **09 19 20.3 +1.1**
comp=Z,62nm,1.3s,baz=280,slow=5.9
IBBN Ibbenburen 71.23 40 *e*P **P** **09 19 21.1 +0.9**
comp=Z,148nm,1.5s,baz=280,slow=5.9
KONO Kongsberg 71.28 32 P **P** **09 19 21.0 +0.6**
KONO Kongsberg 71.28 32 P **P** **09 19 21.0 +0.6**
KONO pmax pmax
comp=Z,73nm,1.3s
KONO Kongsberg 71.28 32 *e*P **P** **09 19 21.2 +0.8**
KONO IAmb IAmb 09 19 23.0
comp=Z,61nm,1.2s
S12K Black Hills 71.35 323 P **P** **09 19 20.1 -0.8**
baz=82
SPA0 Spitsbergen Ar 71.41 13 *e*P **P** **09 19 21.1 +0.2**
SPA0 IAmb IAmb 09 19 21.5
comp=Z,148nm,1.3s
SPITS Spitsbergen Ar 71.41 13 LR LR 09 50 44.4
comp=Z,2µm,18.2s,baz=242,slow=36
ECH Echery 71.46 45 IAmb IAmb 09 19 23.7
comp=Z,75nm,1.5s
ECH IAMs_20 IAMs_20 09 45 49.9
comp=Z,3µm,19.0s
ECH Echery 71.46 45 ⇑P **P** **09 19 22.2 +0.5**
ECH ⇑P **P** **09 19 22.3 +0.5**
MUD Monsted U'grnd 71.47 36 *i* P **P** **09 19 22.4 +0.9**
MUD IAmb IAmb 09 19 27.0
comp=Z,154nm,1.5s
NC204 NORSAR Array S 71.64 31 P **P** **09 19 23.8 +1.2**
NC204 IAmb IAmb 09 19 25.4
comp=Z,64nm,1.4s
BNI Bardonecchia 71.65 48 IAmb IAmb 09 19 55.0
comp=Z,36nm,1.1s
BNI IAMs_20 IAMs_20 09 44 08.2
comp=Z,3µm,22.0s
NBO00 NORSAR Array S 71.68 31 P **P** **09 19 23.0 +0.1**
NAO01 NORSAR Array S 71.76 31 P **P** **09 19 24.6 +1.3**
KASTN Kahler Asten 71.80 41 *e*P **P** **09 19 24.4 +0.6**
comp=Z,36nm,1.3s,baz=280,slow=5.9
ANM Nome 71.80 333 P **P** **09 19 23.8 +0.3**
ANM Nome 71.80 333 P **P** **09 19 23.9 +0.4**
baz=82,SNR=8.9
ANM Nome 71.80 333 P **P** **09 19 23.8 +0.3**
ANM pmax pmax
comp=Z,29nm,1.6s
ANM MLR MLR
comp=Z,8µm,18.0s
NB2 NORSAR Subarra 71.89 31 P **P** **09 19 24.9 +0.8**
comp=Z,67nm,1.0s,baz=279,slow=6.2
NB2 NORSAR Subarra 71.89 31 P **P** **09 19 24.9 +0.8**
slow=6.2
NOA NORSAR Array B 71.89 31 P **P** **09 19 24.6 +0.5**
comp=Z,34nm,1.0s,baz=279,slow=6.2,SNR=41
NOA LR LR 09 49 00.1
comp=Z,967nm,18.9s,baz=280,slow=34
comp=Z,34nm,1.0s
NC303 NORSAR Array S 71.94 31 P **P** **09 19 24.0 -0.3**
NC303 IAmb IAmb 09 19 29.8
comp=Z,44nm,0.9s
TNS Taunus Mts 71.97 42 *e*P **P** **09 19 25.7 +0.8**
comp=Z,60nm,1.4s,baz=280,slow=5.9
TNS *e*L L 09 44 09.9
comp=Z,2µm,21.6s
NC602 NORSAR Array S 72.09 31 P **P** **09 19 25.3 0.0**
NC602 NORSAR Array S 72.09 31 *e*P **P** **09 19 25.5 +0.2**
NC602 IAmb IAmb 09 19 28.3
comp=Z,122nm,1.4s
RETH Rethem/Aller, 72.13 40 *e*P **P** **09 19 26.8 +1.2**
comp=Z,71nm,1.3s,baz=280,slow=5.9
BFO Black Forest 72.21 44 P **P** **09 19 26.3 0.0**
BFO IAMs_20 IAMs_20 09 46 21.8
comp=Z,3µm,20.0s
BFO Black Forest 72.21 44 P **P** **09 19 26.3 0.0**
BFO pmax pmax
comp=Z,24nm,1.2s
BFO Black Forest 72.21 44 *e*P **P** **09 19 26.6 +0.3**
comp=Z,34nm,1.4s,baz=280,slow=5.9
BFO *e*L L 09 46 12.8
comp=Z,3µm,19.5s
BSEG Bad Segeberg 72.50 38 *e*P **P** **09 19 28.7 +0.9**
comp=Z,40nm,1.4s,baz=280,slow=5.9
BSEG *e*L L 09 45 47.1
comp=Z,1µm,20.0s
MOR8 Moi Rana 72.54 25 *e* **P** **09 19 29.2 +1.3**
NRDL Niederrasch Rie 72.62 40 *e*P **P** **09 19 29.7 +1.2**
comp=Z,84nm,1.3s,baz=280,slow=5.9
GTTG Gottingen 72.70 41 *e*P **P** **09 19 30.0 +0.9**
comp=Z,76nm,1.4s,baz=280,slow=5.9
TNA Tin City 72.72 334 IAmb IAmb 09 19 36.9
comp=Z,24nm,1.0s
TNA Tin City 72.72 334 P **P** **09 19 29.3 +0.4**
baz=80,SNR=14
UBBA Unterbreizbach 72.85 42 *e*P **P** **09 19 30.6 +0.8**
comp=Z,43nm,1.4s,baz=280,slow=5.9
CLZ Clausthal 72.89 40 *e*P **P** **09 19 31.3 +1.0**
comp=Z,90nm,1.4s,baz=280,slow=5.9
ASSE Asse, Remlinge 73.03 40 *e*P **P** **09 19 32.1 +1.2**
comp=Z,68nm,1.5s,baz=280,slow=5.9
TUE Stuetta 73.23 46 IAmb IAmb 09 19 38.5
comp=Z,47nm,1.1s
TUE IAMs_20 IAMs_20 09 49 35.9
comp=Z,3µm,18.0s
HFS Hagfors 73.24 32 LR LR 09 50 27.9
comp=Z,2µm,18.3s,baz=288,slow=35
FLTG Flechtingen 73.33 40 *e*P **P** **09 19 33.3 +0.5**
comp=Z,70nm,1.3s,baz=280,slow=5.9
LLD Lille Linde 73.34 37 *e*P **P** **09 19 35.1 +2.3**
LLD IAmb IAmb 09 19 38.6
comp=Z,79nm,1.1s
DAVA Damuels 73.43 45 *e*pP pP 09 19 35.3 -0.3
comp=Z,23nm,1.1s
DAVOX Davos/Dischmat 73.53 46 LR LR 09 47 31.6
comp=Z,2µm,19.1s,baz=291,slow=32
FUORN Ofenpass-Fuorn 73.82 46 IAMs_20 IAMs_20 09 47 40.5
comp=Z,2µm,19.0s
GRFO Grafenberg 73.83 43 P **P** **09 19 35.5 -0.2**
GRFO IAmb IAmb 09 19 41.1
comp=Z,30nm,1.1s
GRFO Grafenberg 73.83 43 P **P** **09 19 35.6 -0.2**
GRFO pmax pmax
comp=Z,30nm,1.1s
GRA1 Grafenberg Arr 73.83 43 P **P** **09 19 35.8 0.0**
GRA1 IAmb IAmb 09 19 41.2
comp=Z,30nm,1.1s
GRF Grafenberg Arr 73.83 43 P **P** **09 19 35.8 0.0**
GRF pmax pmax
comp=Z,31nm,1.1s
GRF Grafenberg Arr 73.83 43 *e*P **P** **09 19 36.5 +0.6**
comp=Z,38nm,1.5s,baz=280,slow=5.9
GRF *e*L L 09 45 40.4
comp=Z,1µm,21.8s
NEUB Neuenburg 73.87 41 *e*P **P** **09 19 37.0 +1.0**
comp=Z,70nm,1.3s,baz=280,slow=5.9
MOX Moxa 73.89 41 *e*P **P** **09 19 36.8 +0.7**
comp=Z,45nm,1.4s,baz=280,slow=5.9
MOX *e*L L 09 45 53.2
comp=Z,2µm,21.4s
RETA Reutte 73.98 45 *e*P **P** **09 19 37.9 +1.0**
comp=Z,55nm,1.3s,SNR=14
FETA Feichten 74.05 45 epP pP 09 19 38.5 -0.8
comp=Z,54nm,1.3s,SNR=11
JETT Jettan, Norway 74.09 21 *e*P **P** **09 19 37.9 +0.8**
RGN Rugen 74.12 37 IAMs_20 IAMs_20 09 51 01.8
comp=Z,2µm,20.0s
RGN Rugen 74.12 37 *e*P **P** **09 19 38.8 +1.4**
comp=Z,76nm,1.1s,baz=280,slow=5.9
FUR Furstenfeldbru 74.18 44 *e*L L 09 45 26.5
comp=Z,2µm,21.8s
UNV Unalaska Valle 74.21 322 P **P** **09 19 38.3 +0.4**
baz=78
MOTA Moosalm 74.23 45 *e*P **P** **09 19 39.0 +0.6**
comp=Z,48nm,1.3s,SNR=8.2
SQTA Sankt Quirin 74.33 45 *i* P **P** **09 19 39.2 +0.3**
comp=Z,52nm,1.4s,SNR=9.2
MANZ Manzenberg 74.33 42 *e*P **P** **09 19 39.6 +0.8**
comp=Z,7.1nm,1.2s,baz=280,slow=5.9
WERD Werda 74.36 42 *e*P **P** **09 19 39.7 +0.8**
comp=Z,42nm,1.3s,baz=280,slow=5.9
GUNZ Gunzen 74.39 42 *e*P **P** **09 19 39.9 +0.7**
comp=Z,40nm,1.4s,baz=280,slow=5.9
WERN Wernitzgruen 74.44 42 *e*P **P** **09 19 40.1 +0.7**
comp=Z,49nm,1.4s,baz=280,slow=5.9
ROTZ Rotzenmuhle 74.44 42 *e*P **P** **09 19 40.2 +0.8**
comp=Z,14nm,1.3s,baz=280,slow=5.9
TANN Tannenbergstha 74.46 42 *e*P **P** **09 19 40.3 +0.8**
comp=Z,50nm,1.2s,baz=280,slow=5.9
NKC Novy Kostel 74.49 42 *e*P **P** **09 19 40.1 +0.4**
NKC AMS AMS 09 47 20.0
comp=Z,2µm,20.3s
NKC Novy Kostel 74.49 42 *e*P **P** **09 19 40.1 +0.4**
NKC MLR MLR
comp=Z,2µm,20.3s
WATA Walderalm 74.55 45 *i* P **P** **09 19 40.5 +0.3**
comp=Z,41nm,1.5s
WTTA Wattenberg 74.61 45 *i* P **P** **09 19 40.5 -0.1**
comp=Z,26nm,1.3s
CLL Collm 74.61 41 IAmb IAmb 09 19 43.7
comp=Z,37nm,1.3s
CLL IAMs_20 IAMs_20 09 49 57.0
comp=Z,2µm,19.0s
CLL Collm 74.61 41 *i* P **P** **09 19 41.1 +0.8**
comp=Z,41nm,1.4s
CLL *ex* x 09 20 14.0
CLL *e*PP **PP** **09 22 25.0 -1.8**
CLL *e*S **S** **09 29 23.0 +7.1**
CLL *e*PPS PPS 09 30 01.0
CLL *ex* x 09 31 06.0
CLL *e*SS SS 09 33 48.0 -14
CLL *ex* x 09 36 36.0
CLL *e*SSS SSS 09 37 24.0
CLL LmH 09 49 00.0
comp=N,500nm,19.2s
CLL LmH 09 49 00.0
comp=E,2µm,20.7s
CLL LmV 09 49 00.0
comp=Z,2µm,18.8s
CLL Collm 74.61 41 *i* P **P** **09 19 41.1 +0.8**
CLL *e*S **S** **09 29 23.0 +7.1**
CLL pmax pmax
comp=Z,41nm,1.4s
CLL MLR MLR
comp=Z,2µm,18.8s
CLL Collm 74.61 41 *e*P **P** **09 19 41.1 +0.8**
comp=Z,40nm,1.4s,baz=280,slow=5.9
CLL *e*L L 09 49 28.1
comp=Z,2µm,18.8s
USHA Ushuaia 74.63 175 LR LR 09 53 33.3
comp=Z,2µm,19.4s,baz=358,slow=37
GAMB Gambell 74.67 333 P **P** **09 19 41.0 +0.6**
baz=76
TORD Torodi Ar. Bea 74.84 81 P **P** **09 19 41.1 -1.2**
comp=Z,16nm,0.8s,baz=301,slow=4.6,SNR=11
comp=Z,16nm,0.8s
TORD Torodi Ar. Bea 74.84 81 P **P** **09 19 42.5 +0.2**
CTI Castel Tesino 74.88 46 P **P** **09 19 42.2 +0.1**
CTI Castel Tesino 74.88 46 P **P** **09 19 42.3 +0.1**
CTI pmax pmax
comp=Z,25nm,1.1s
BSD Bornholm Skovb 74.90 37 *i* P **P** **09 19 42.4 +0.5**
BSD IAmb IAmb 09 19 46.8
comp=Z,69nm,1.1s
BSD Bornholm Skovb 74.90 37 *e*P **P** **09 19 43.4 +1.5**
FBE Freiberg 74.91 41 *e*P **P** **09 19 43.0 +1.0**
comp=Z,66nm,1.4s,baz=280,slow=5.9
TEOL Teolo 75.05 47 P **P** **09 19 43.4 +0.4**
KTK1 Kautokeino 75.20 22 *e*P **P** **09 19 43.8 +0.4**
KTK1 IAmb IAmb 09 19 44.7
comp=Z,151nm,1.4s
BRG Berggiesshubel 75.28 41⇑ *i*P **P** **09 19 45.0 +0.7**
BRG Amp 09 19 47.3
comp=Z,33nm,1.2s
BRG Berggiesshubel 75.28 41 P **PcP** **09 19 58.9 +1.3**
BRG Amp 09 20 01.2
comp=Z,20nm,1.1s
BRG Berggiesshubel 75.28 41 Amp 09 49 53.0
comp=Z,1.6nm,18.2s
BRG Berggiesshubel 75.28 41⇑ *i*P **P** **09 19 44.9 +0.7**
BRG 09 19 58.9
BRG pmax pmax
comp=Z,33nm,1.3s
BRG pmax pmax
comp=Z,20nm,1.1s
BRG pmax pmax
comp=E,1µm,17.1s
BRG Berggiesshubel 75.28 41 *e*P **P** **09 19 45.0 +0.7**
comp=E,47nm,1.5s,baz=280,slow=5.9
BRG Berggiesshubel 75.28 41 SS SS 09 34 37.0 +24
BRG Berggiesshubel 75.28 41 Amp 09 49 48.0
comp=E,1.1nm,17.1s
BRG Berggiesshubel 75.28 41 Amp 09 49 49.0
comp=N,0.9nm,17.6s
ABTA Abfaltersbach 75.30 45 *e*P **P** **09 19 44.9 +0.4**
comp=N,32nm,1.3s
CIMO Cimolais 75.36 46 P **P** **09 19 45.4 +0.6**
CIMO IAmb IAmb 09 19 47.5
comp=Z,46nm,1.3s
KHC Kasperske Hory 75.45 43 P **P** **09 19 45.9 +0.6**
KHC IAmb IAmb 09 19 48.4
comp=Z,38nm,1.3s
KHC Kasperske Hory 75.45 43 *e*P **P** **09 19 45.8 +0.5**
KHC *e*S **S** **09 29 29.0 +3.5**
KHC AMS AMS 09 46 00.0
comp=Z,2µm,23.5s
KHC Kasperske Hory 75.45 43 *e*P **P** **09 19 45.8 +0.5**
KHC *e*S **S** **09 29 29.0 +3.5**
KHC MLR MLR
comp=Z,2µm,23.5s
STAL STALIGIAL 75.55 46 P **P** **09 19 45.7 -0.2**
STAL IAmb IAmb 09 20 01.1
comp=Z,55nm,1.4s
KEST Kesra 75.58 57 P **P** **09 19 46.1 -0.2**
comp=Z,53nm,1.2s,baz=160,slow=1.4,SNR=8.9
KEST LR LR 09 48 58.0
comp=Z,814nm,19.5s,baz=221,slow=33
comp=Z,53nm,1.2s
GEC2 GERESS Array S 75.60 43 P **P** **09 19 46.9 +0.7**
GEC2 IAmb IAmb 09 19 49.7
comp=Z,64nm,1.4s
GEC2 GERESS Array S 75.60 43 *e*P **P** **09 19 46.9 +0.7**
comp=Z,63nm,1.4s,baz=280,slow=5.9
GEC2 *e*L L 09 48 59.6
comp=Z,2µm,20.3s
GERES GERESS Array B 75.60 43 P **P** **09 19 45.9 -0.3**
comp=Z,9.3nm,1.0s,baz=248,slow=7.1,SNR=31
GERES LR LR 09 49 20.3
comp=Z,2µm,19.7s,baz=276,slow=33
comp=Z,9.3nm,1.0s
GERES GERESS Array B 75.60 43 P **P** **09 19 46.5 +0.3**
GERES GERESS Array B 75.60 43 P **P** **09 19 46.5 +0.3**
CLUD Cludinico 75.62 46 P **P** **09 19 46.1 -0.2**

CLUD IAmb IAmb 09 19 55.4
comp=Z,68nm,1.3s
PVCC Panska Ves 75.75 41 AMS AMS 09 46 30.0
comp=Z,2μm,20.4s
NIKH Nikolski High 75.77 321 P **P** **09 19 48.3 +1.3**
baz=76
LATE Laterza 75.78 50 P **P** **09 19 46.9 -0.4**
KBA KoeInbreinsper 75.78 45 *e*P **P** **09 19 47.9 +0.5**
comp=Z,57nm,14s,SNR=7.9
ARA0 ARCESS Array S 75.81 21 *e*P **P** **09 19 47.1 +0.2**
ARA0 IAmb IAmb 09 19 51.8
comp=Z,93nm,1.2s
ARCES ARCESS Array B 75.81 21 P **P** **09 19 46.6 -0.3**
comp=Z,55nm,1.0s,baz=294,slow=4.0,SNR=29
ARCES LR LR 09 50 25.9
comp=Z,810nm,20.7s,baz=280,slow=34
comp=Z,55nm,1.0s
ARCES ARCESS Array B 75.81 21 P **P** **09 19 46.9 -0.1**
ARCES IAmb IAmb 09 19 51.4
comp=Z,47nm,1.0s
ARCES ARCESS Array B 75.81 21 *e*P **P** **09 19 46.8 -0.1**
BIOA Bad Ischl, Aus 75.83 44 *e*P **P** **09 19 47.8 +0.3**
comp=Z,88nm,1.4s,SNR=12
PRU Pruhonice 75.86 42 *e*P **P** **09 19 48.3 +0.7**
PRU *e*S **S** **09 29 29.7 -0.2**
PRU AMS AMS 09 48 20.0
comp=Z,2μm,21.0s
PRU Pruhonice 75.86 42 *e*P **P** **09 19 48.3 +0.7**
PRU *e*S **S** **09 29 29.7 -0.2**
PRU MLR MLR
comp=Z,2μm,21.0s
PTCC Patocco-Chiusa 75.95 46 ⇑P **P** **09 19 49.1 +0.9**
CKRC Cesky Krumlov 76.00 43 *e*P **P** **09 19 49.7 +1.3**
CKRC *e*S **S** **09 29 28.1 -3.3**
GOPC GO Pecny, Ondr 76.03 42 *e*S **S** **09 29 30.8 -1.0**
GOPC AMS AMS 09 48 40.0
comp=Z,2μm,19.1s
PRED Cave del Predi 76.08 45 P **P** **09 19 49.8 +0.8**
MYKA Terra Mystica 76.09 45 *i*P **P** **09 19 49.1 +0.1**
comp=Z,42nm,1.3s
MOA Molln 76.20 44 *i*P **P** **09 19 50.1 +0.5**
comp=Z,41nm,1.4s
CESX Cesi 76.33 49 P **P** **09 19 49.7 -0.7**
CESX IAmb IAmb 09 19 55.4
comp=Z,52nm,1.1s
TREC Trest 76.63 42 AMS AMS 09 46 50.0
comp=Z,2μm,24.5s
UPC Upice 76.65 41 *e*P **P** **09 19 52.8 +0.8**
UPC AMS AMS 09 50 40.0
comp=Z,2μm,17.8s
UPC Upice 76.65 41 *e*P **P** **09 19 52.8 +0.8**
UPC MLR MLR
comp=Z,2μm,17.8s
OBKA Obir 76.72 45 *i*P **P** **09 19 53.0 +0.3**
comp=Z,62nm,1.4s
OSTC Ostas 76.76 41 *e*S **S** **09 29 31.7 -8.1**
OSTC AMS AMS 09 50 40.0
comp=Z,2μm,17.4s
VADS Vadso 76.87 20 *e* **P** **09 19 52.8 -0.1**
RAF Rauma 76.90 30 *e*P **P** **09 19 53.0 -0.2**
AQU L'Aquila 76.99 50 IAMs_20 IAMs_20 09 51 07.7
comp=Z,2μm,20.0s
SOKA Soboth 77.00 45 *e*P **P** **09 19 54.3 +0.1**
comp=Z,50nm,1.4s,SNR=6.2
ARSA Arzberg 77.18 44 *i*P **P** **09 19 55.4 +0.3**
comp=Z,15nm,1.2s
CONA Conrad Observa 77.22 44 *e*P **P** **09 19 56.2 +0.8**
comp=Z,30nm,1.5s,SNR=6.9
KRLC Kraliky 77.24 41 *e*P **P** **09 19 56.4 +1.0**
KRLC *e*S **S** **09 29 43.8 -1.3**
KRLC AMS AMS 09 50 20.0
comp=Z,2μm,17.5s
KRLC Kraliky 77.24 41 *e*P **P** **09 19 56.4 +1.0**
KRLC *e*S **S** **09 29 43.8 -1.3**
KRLC MLR MLR
comp=Z,2μm,17.5s
KRUC Moravsky 77.27 42 *e*P **P** **09 19 55.0 -0.5**
VRAC Vranov 77.32 42 LR LR 09 48 33.5
comp=Z,2μm,21.9s,baz=278,slow=32
VRAC Vranov 77.32 42 ⇑P **P** **09 19 56.6 +0.6**
VRAC Vranov 77.32 42 *e*P **P** **09 19 56.4 +0.5**
VRAC Vranov 77.32 42 P **P** **09 19 56.5 +0.6**
RONA Rosalia, Austr 77.56 44 *e*P **P** **09 19 58.2 +0.9**
comp=Z,58nm,1.4s,SNR=13
MORC Moravsky Berou 77.79 41 ⇓P **P** **09 19 59.2 +0.7**
MORC Moravsky Berou 77.79 41 P **P** **09 19 58.1 -0.4**
MORC IAmb IAmb 09 20 01.8
comp=Z,37nm,1.3s
MORC Moravsky Berou 77.79 41 *e*P **P** **09 19 59.4 +0.9**
MORC Moravsky Berou 77.79 41 P **P** **09 19 59.2 +0.7**
ZST Bratislava 77.95 43 *e*P **P** **09 20 00.9 +1.5**
ZST pmax pmax
comp=Z,113nm,1.4s
ZST Bratislava 77.95 43 *e*P **P** **09 20 00.9 +1.5**
KLNR Kaliningrad 77.99 36 *i*P **P** **09 19 58.9 -0.5**
KLNR pmax pmax
comp=Z,26nm,1.2s
MODS Modra-Piesok 78.01 43 *e*P **P** **09 20 01.0 +1.2**
MODS pmax pmax
comp=Z,92nm,1.3s
MODS Modra-Piesok 78.01 43 *e*P **P** **09 20 01.0 +1.2**
MAUC Maruska 78.08 42 *e*P **P** **09 20 01.5 +1.3**
JAVC Velka Javorina 78.13 42 *e*P **P** **09 20 02.4 +2.0**
OKC Ostrava-Krasne 78.15 41 *e*P **P** **09 20 01.3 +0.8**
OKC AMS AMS 09 50 00.0
comp=Z,2μm,19.5s
OKC Ostrava-Krasne 78.15 41 *e*P **P** **09 20 01.3 +0.8**
OKC MLR MLR
comp=Z,2μm,19.5s
MEF Metsahovi 78.39 30 *e*P **P** **09 20 02.1 +0.6**
PBUR Paburge 78.50 35 *e*P **P** **09 20 01.6 -0.6**
MTSE Matsula 78.60 32 *e*P **P** **09 20 03.3 +0.6**
FIA1 FINESS Array S 78.74 29 P **P** **09 20 03.6 +0.1**
FIA1 IAmb IAmb 09 20 06.0
comp=Z,76nm,1.2s
FINES FINESS Array B 78.74 29 P **P** **09 20 03.8 +0.3**
comp=Z,15nm,0.6s,baz=276,slow=3.2,SNR=44
FINES LR LR 09 49 57.6
comp=Z,2μm,22.0s,baz=278,slow=32
comp=Z,15nm,0.6s
VYHS Vyhne 78.97 42 *e*P **P** **09 20 06.2 +1.1**
VYHS pmax pmax
comp=Z,50nm,1.6s
VYHS Vyhne 78.97 42 *e*P **P** **09 20 06.1 +1.0**
VAE Valguarnera 79.05 54 LR LR 09 51 48.3
comp=Z,2μm,18.1s,baz=272,slow=33
OJC Ojcow 79.06 41 *e*P **P** **09 20 06.5 +1.1**
OJC *e*SKSac **SKSac** **09 30 14.5 -6.7**
OJC *e*L L 09 48 02.3
comp=Z,2μm,22.8s
OJC Ojcow 79.06 41 P **P** **09 20 05.1 -0.4**
OJC IAmb IAmb 09 20 08.6
comp=Z,53nm,1.3s
OJC Ojcow 79.06 41 P **P** **09 20 05.1 -0.4**
OJC pmax pmax
comp=Z,53nm,1.3s
BEL Belsk 79.16 39 *e*P **P** **09 20 07.5 +1.6**
BEL *e*L L 09 50 40.3
comp=Z,2μm,20.3s
LANS Liptovska Anna 79.18 42 *e*P **P** **09 20 08.1 +1.9**
LANS pmax pmax
comp=Z,19nm,1.3s
LANS Liptovska Anna 79.18 42 *e*P **P** **09 20 08.1 +1.9**
APA Apatity 79.25 22 ⇓*i*P **P** **09 20 03.5 -2.6**
APA *i* 09 20 18.0
APA *i* 09 23 11.0
APA *i*S S 09 29 56.0 -10
APA *i* 09 30 11.0
APA pmax pmax
comp=Z,30nm,0.9s
CUC Castrocucco 79.38 51 P **P** **09 20 07.2 -0.3**
CUC IAmb IAmb 09 20 15.8
comp=Z,50nm,1.0s
LVZ Lovozero 79.53 21 P **P** **09 20 07.9 +0.2**
LVZ IAmb IAmb 09 20 12.6
comp=Z,44nm,0.9s
LVZ Lovozero 79.53 21*ce*P **P** **09 20 08.2 +0.5**
LVZ pmax pmax
comp=Z,42nm,1.1s
MORH Mrgy, Hungar 79.53 45 ⇓P **P** **09 20 09.0 +0.9**
NIE Niedzica 79.61 41 *e*P **P** **09 20 10.4 +1.8**
NIE *e*SKSac **SKSac** **09 30 21.3 -4.0**
NIE *e*L L 09 48 08.0
comp=Z,1μm,23.6s
PABE Paberze 79.75 35 P **P** **09 20 09.6 +0.5**
PABE Paberze 79.75 35 *e*P **P** **09 20 09.6 +0.5**
MATE Matera 79.84 51 ⇓P **P** **09 20 10.1 +0.3**
CEL Celeste 79.95 53 IAMs_20 IAMs_20 09 51 00.3
comp=Z,2μm,21.0s
VSU Vasula 80.12 31 *i*P **P** **09 20 10.6 -0.4**
VSU pmax pmax
comp=Z,135nm,0.9s
VSU Vasula 80.12 31 *e*P **P** **09 20 11.5 +0.5**
TIP Timpagrande 80.32 52 ⇑P **P** **09 20 13.2 +0.6**
TIP Timpagrande 80.32 52 P **P** **09 20 11.6 -1.0**
TIP IAmb IAmb 09 20 20.2
comp=Z,34nm,1.1s
TIP IAMs_20 IAMs_20 09 51 16.0
comp=Z,3μm,22.0s
PPT Papeete 80.63 248 LR LR 09 49 38.7
comp=Z,414nm,19.4s,baz=67,slow=31
FRGS Fruska Gora 80.63 45 ⇑P **P** **09 20 14.9 +0.8**
PPT2 Papeete2 80.64 248 *e*P **P** **09 20 15.8 +1.2**
comp=Z,192nm,25.5s
PPT2 Papeete2 80.64 248 *e*PP **PP** **09 23 18.2 -0.4**
comp=Z,160nm,25.2s
PPT2 *e*S **S** **09 30 22.2 -0.1**
comp=Z,544nm,23.5s
PPT2 *e*SS **SS** **09 35 36.7 +1.2**
comp=Z,666nm,26.8s
PPT2 *e*LQ LQ 09 42 00.4
comp=Z,2μm,28.8s
PPT2 *e*LR LR 09 45 24.2
comp=Z,2μm,30.8s
PPT2 *e*LR LR 09 45 24.3
comp=Z,1μm,35.0s
ISAL Salakas 80.88 34 *e*P **P** **09 20 16.5 +1.4**
IIGN Ignalina 81.01 34 *e*P P 09 20 04.0 -12
DIVS Divibare 81.09 46 P **P** **09 20 16.7 0.0**
DIVS IAmb IAmb 09 20 19.3
comp=Z,73nm,1.4s
UZH Uzhgorod 81.11 42 *e*P **P** **09 20 18.0 +1.5**
UZH *e* 09 20 24.5
UZH *e* 09 23 30.5
UZH *e*S **S** **09 30 22.1 -4.0**
UZH *e*PS PnS 09 31 36.7 +24
PDG Podgorica 81.12 48 IAMs_20 IAMs_20 09 53 36.9
comp=Z,2μm,20.0s
IDID Didziasalis 81.30 34 *e*P P 09 20 10.5 -6.9
PUL Pulkovo 81.31 29*ce*P **P** **09 20 18.8 +1.4**
PUL pmax pmax
comp=Z,83nm,0.9s
BILL Bilibino 81.36 340 P **P** **09 20 17.5 -0.1**
BILL IAmb IAmb 09 20 22.7
comp=Z,60nm,1.1s
BILL IAMs_20 IAMs_20 10 00 28.9
comp=Z,3μm,20.0s
BILL Bilibino 81.36 340*d*P **P** **09 20 17.4 -0.1**
BILL *i* 09 23 29.0
BILL *i*SS SS 09 35 39.0 -4.1
BILL pmax pmax
comp=Z,50nm,1.1s
BILL MLR MLR
comp=Z,3μm,17.0s
HOPE Hope Point 81.39 158 IAMs_20 IAMs_20 10 00 41.6
comp=Z,3μm,19.0s
TRPA Tarpa 81.43 42 ⇑P **P** **09 20 19.6 +1.3**
NACGM Naroch 81.48 35 ⇓*i*P **P** **09 20 19.1 +0.8**
comp=Z,77nm,1.0s,baz=293
SIRR Siria 81.50 44 ⇑P **P** **09 20 19.7 +1.0**
BZS Buzias 81.69 45 ⇑P **P** **09 20 20.8 +1.0**
BZS Buzias 81.69 45 P **P** **09 20 20.7 +1.0**
LVV L'vov 81.77 40 *e*P **P** **09 20 20.6 +0.6**
LVV MLR MLR
comp=Z,1μm,19.0s
SURR Surduc 81.98 44 ⇑P **P** **09 20 22.3 +1.1**
DRGR 82.00 43 ⇑P **P** **09 20 22.0 +0.5**
DRGR 82.00 43 P **P** **09 20 21.9 +0.5**
MNK Minsk 82.22 35 *i*P **P** **09 20 21.1 -1.3**
comp=E,8.0nm,1.1s
MNK *i*P **P** **09 20 21.1 -1.3**
comp=N,50nm,0.9s
MNK *i*P **P** **09 20 21.1 -1.3**
comp=Z,60nm,0.9s,baz=113
MNK *i*PP **PP** **09 23 29.1 -1.2**
MNK *i*PPP PPP 09 25 19.8
MNK *i*S **S** **09 30 37.0 -0.4**
MNK *i*SS **SS** **09 35 57.7 +1.1**
MNK *i*SSS SSS 09 39 25.6
MNK *i*LQ LQ 09 51 31.7
MNK *i*LR LR 09 56 37.3
MNK *i*LRM MLR 09 58 37.1
comp=E,83nm,19.5s
MNK *i*LRM MLR 09 58 37.1
comp=Z,802nm,19.5s
MNK *i*LRM MLR 09 58 47.9
comp=N,727nm,16.9s
MNK Minsk 82.22 35 *i*P **P** **09 20 21.0 -1.3**
MNK *i* 09 23 29.0
MNK *i*PPP PPP 09 25 19.7
MNK *i*S **S** **09 30 37.0 -0.4**
MNK *i*SS **SS** **09 35 57.6 +1.1**
MNK *i*SSS SSS 09 39 25.6
MNK pmax pmax
comp=E,8.0nm,1.1s
MNK pmax pmax
comp=N,50nm,0.9s
MNK pmax pmax
comp=Z,60nm,0.9s
MNK MLR MLR
comp=E,83nm,20.0s
MNK MLR MLR
comp=Z,802nm,20.0s
MNK MLR MLR
comp=N,727nm,17.0s
MARR Marisel-Cluj 82.31 43 ⇑P **P** **09 20 23.2 +0.2**
HERR Herculane 82.47 45 ⇓P **P** **09 20 24.5 +0.7**
GZR Gura Zlata 82.53 45 ⇑P **P** **09 20 25.5 +1.2**
GZR Gura Zlata 82.53 45 P **P** **09 20 25.4 +1.2**
CJR Cluj-Napoca 82.60 43 ⇑P **P** **09 20 25.6 +1.1**
CJR Cluj-Napoca 82.60 43 P **P** **09 20 25.6 +1.1**
DJES Djerdap 82.61 45 P **P** **09 20 25.2 +0.6**
OHR Ohrid 82.64 49 *i*P **P** **09 20 27.4 +2.5**
ADZR Andozero 82.75 24 *e*P **P** **09 20 22.6 -2.2**
ADZR pmax pmax
comp=Z,33nm,0.7s
SKO Skopje 82.80 48 *i*P **P** **09 20 26.7 +1.0**
TBI Tubuai 82.92 242 *e*P **P** **09 20 27.7 +1.2**
comp=Z,481nm,23.2s
TBI Tubuai 82.92 242 *e*PP **PP** **09 23 37.0 -0.3**
comp=Z,511nm,26.8s
TBI *e*S **S** **09 30 45.6 +0.1**
comp=Z,2μm,26.0s
TBI *e*SS **SS** **09 36 10.7 +1.5**
comp=Z,3μm,26.8s
TBI *e*LQ LQ 09 42 58.2
comp=Z,3μm,21.8s
TBI *e*LR LR 09 46 28.1
comp=Z,9μm,33.0s
TBI *e*LR LR 09 46 28.1
comp=Z,18μm,28.2s
FNA Florina 83.16 49 P **P** **09 20 28.5 +0.9**
FNA Florina 83.16 49 P **P** **09 20 28.5 +0.9**
FNA pmax pmax
comp=Z,17nm,1.2s
BUR08 Bucovina Ar. S 83.28 42 P **P** **09 20 27.6 -0.5**
BURAR Bucovina Array 83.30 42 ⇑P **P** **09 20 29.4 +1.2**
BURAR Bucovina Array 83.30 42 P **P** **09 20 27.8 -0.4**
BURAR Bucovina Array 83.30 42 P **P** **09 20 29.4 +1.2**
STIP Stip 83.42 48 *i*P **P** **09 20 30.1 +1.3**
ARR Arges 83.76 44 ⇑P **P** **09 20 31.5 +0.9**
VAY Valandovo 83.82 48 *i*P **P** **09 20 30.8 -0.1**
VTS Vitosha 83.82 47 P **P** **09 20 32.4 +1.3**
MPEP Malo Peshtene 83.90 46 P **P** **09 20 32.4 +1.1**
DOPR Dopca 84.03 43 ⇑P **P** **09 20 32.7 +0.8**
LIT Litokhoron 84.20 50 P **P** **09 20 32.1 -0.8**
LIT Litokhoron 84.20 50 P **P** **09 20 32.1 -0.8**
LIT pmax pmax
comp=Z,115nm,1.7s
HUMR Humele 84.30 45 ⇓P **P** **09 20 34.7 +1.4**
AGG Agios Georgios 84.47 51 P **P** **09 20 34.7 +0.4**
AGG Agios Georgios 84.47 51 P **P** **09 20 34.7 +0.4**
AGG pmax pmax
comp=Z,12nm,1.0s
PLVB Pleven 84.49 46 ⇓P **P** **09 20 35.6 +1.4**
PGB Panagyurishte 84.49 47 P **P** **09 20 36.3 +2.0**
AKASG Malin Array Be 84.50 38 P **P** **09 20 33.7 -0.5**
comp=Z,8.1nm,0.9s,baz=280,slow=4.3,SNR=24
AKASG LR LR 09 53 58.8
comp=Z,1μm,21.6s,baz=286,slow=33
comp=Z,8.1nm,0.9s
AKASG Malin Array Be 84.50 38 P **P** **09 20 33.9 -0.2**
AKASG Malin Array Be 84.50 38 *i*P **P** **09 20 34.0 -0.2**
AKASG pmax pmax
comp=Z,9.0nm,0.9s
AKBB Malin Array Si 84.50 38 P **P** **09 20 34.2 0.0**
AKBB IAmb IAmb 09 20 38.0
comp=Z,26nm,1.2s
AKBB Malin Array Si 84.50 38*ce*P **P** **09 20 33.8 -0.3**
AKBB pmax pmax
comp=Z,10.0nm,1.0s
MLR Muntele Rosu 84.57 44 LR LR 09 53 48.5
comp=Z,2μm,22.0s,baz=288,slow=32
MLR Muntele Rosu 84.57 44 ⇓P **P** **09 20 35.5 +0.7**
MLR Muntele Rosu 84.57 44 P **P** **09 20 35.6 +0.7**
MLR IAMs_20 IAMs_20 09 53 14.7
comp=Z,2μm,22.0s
MLR Muntele Rosu 84.57 44 P **P** **09 20 35.5 +0.7**
COVR Voineasa-Covas 84.60 43 ⇓P **P** **09 20 35.8 +1.0**
PMSA Palmer Station 84.83 175 LR LR 09 58 50.7
comp=Z,579nm,19.8s,baz=319,slow=36
KLMR Klimovskoe 84.84 26 ⇑*i*P **P** **09 20 36.0 +0.4**
KLMR *e*P **P** **09 20 36.0 +0.4**
KLMR *e*P **P** **09 20 36.0 +0.4**
KLMR AMP 09 20 38.8
comp=Z,223nm,1.3s
KLMR S **S** **09 31 02.3 -1.4**
KLMR S **S** **09 31 02.3 -1.4**
KLMR LQ LQ 09 45 02.5
KLMR LQ LQ 09 45 02.5
KLMR LR LR 09 46 51.6
KLMR AMP 09 50 41.8
comp=Z,2μm,22.8s
KLMR Klimovskoe 84.84 26*c i*P **P** **09 20 36.0 +0.4**
KLMR S **S** **09 31 02.2 -1.4**
KLMR pmax pmax
comp=Z,223nm,1.3s
PLOR Plostina 84.89 43 ⇓P **P** **09 20 38.0 +1.7**
PLOR Plostina 84.89 43 P **P** **09 20 38.0 +1.7**
VRI Vrincioaia 84.93 43 ⇓P **P** **09 20 38.2 +1.8**
VRI Vrincioaia 84.93 43 P **P** **09 20 38.2 +1.8**
PVL Pavlikeni 85.03 46 P **P** **09 20 38.0 +1.0**
SORM Soroca 85.04 41 ⇑P **P** **09 20 37.3 +0.3**
SORM Soroca 85.04 41 P **P** **09 20 37.2 +0.3**
SHEM Shemya Is, Ala 85.53 325 LR LR 09 58 10.0
comp=Z,1μm,21.6s,baz=52,slow=35
KIS Kishinev 85.80 41 *e*P **P** **09 20 42.0 +1.3**
KIS *e*SKS **SKSac** **09 31 02.0 -4.4**
KIS *e*S **ScS** **09 31 21.0 -2.1**
KIS *e*L L 09 53 05.0
KIS LRM MLR 10 10 10.0
comp=Z,400nm,16.0s
KIS Kishinev 85.80 41 *e*P **P** **09 20 42.0 +1.3**
KIS *e* 09 31 02.0
KIS *e*S **ScS** **09 31 21.0 -2.1**
MILM Milestii Mici 85.83 41 ⇓*i*P **P** **09 20 41.6 +0.8**
comp=Z,450nm,2.8s
MILM *e*SKS **SKSac** **09 31 04.0 -2.6**
MILM *e*S **ScS** **09 31 20.0 -3.3**
MILM *e*L L 09 48 06.0
MILM LRM MLR 10 10 20.0
comp=Z,1μm,18.0s
MILM Milestii Mici 85.83 41*d i*P **P** **09 20 41.6 +0.8**
MILM *e* 09 31 04.0
MILM *e*S **ScS** **09 31 20.0 -3.3**
MILM *e* 09 32 05.0
MILM pmax pmax
comp=Z,450nm,2.8s
RDO Rodhopi 85.97 48 P **P** **09 20 40.1 -1.6**
RDO IAmb IAmb 09 20 44.5
comp=Z,50nm,1.3s
CFR Carcaliu 86.11 43 ⇓P **P** **09 20 42.4 +0.1**
CFR Carcaliu 86.11 43 P **P** **09 20 42.4 +0.1**
ALN Alexandroupoli 86.42 48 P **P** **09 20 43.0 -0.9**
ALN IAmb IAmb 09 22 16.2
comp=Z,67nm,1.5s
ALN Alexandroupoli 86.42 48 P **P** **09 20 43.0 -0.9**
ALN pmax pmax
comp=Z,67nm,1.5s
OBN Obninsk 86.45 32 LR LR 09 57 14.4
comp=Z,294nm,19.3s,baz=302,slow=34
OBN Obninsk 86.45 32 ⇓P **P** **09 20 44.3 +0.6**
OBN Obninsk 86.45 32 P **P** **09 20 44.0 +0.3**
OBN IAMs_20 IAMs_20 09 57 01.4
comp=Z,2μm,20.0s
OBN Obninsk 86.45 32*c i*P **P** **09 20 43.4 -0.3**
OBN *i* 09 20 52.6
OBN *i* 09 23 59.7
OBN *i*SS SS 09 37 08.3 +10
OBN pmax pmax
comp=Z,106nm,1.2s
OBN MLR MLR
comp=Z,1μm,18.0s
MOS Moscow 86.65 31 *e*P **P** **09 20 44.2 -0.5**
MOS pmax pmax
comp=Z,128nm,1.3s
TIXI Tiksi 87.15 352 LR LR 10 03 14.9
comp=Z,4μm,18.5s,baz=1.0,slow=38
TIXI Tiksi 87.15 352 P **P** **09 20 46.4 -0.4**
TIXI IAmb IAmb 09 20 48.8
comp=Z,18nm,0.9s
TIXI Tiksi 87.15 352*ce*P **P** **09 20 46.6 -0.3**
TIXI pmax pmax
comp=Z,31nm,1.3s
IDI Anoyia 87.75 53 LR LR 09 57 03.8
comp=Z,361nm,20.5s,baz=308,slow=34
IDI Anoyia 87.75 53 ⇓P **P** **09 20 52.0 +1.4**
IDI Anoyia 87.75 53 P **P** **09 20 51.1 +0.6**
BALB Balikesir 88.21 48 P **P** **09 20 51.2 -1.3**
LPSR Galich'ya Gora 88.94 33 *e*P **P** **09 20 55.7 0.0**
LPSR pmax pmax
comp=Z,140nm,0.9s
SEY Seymchan 89.06 340 LR LR 10 03 27.0
comp=Z,1μm,18.2s,baz=60,slow=37
SEY Seymchan 89.06 340*ce*P **P** **09 20 55.5 -0.6**
SEY pmax pmax
comp=Z,21nm,1.1s
VORR Voronezh 89.58 34 *e*P **P** **09 20 58.8 0.0**
VORR pmax pmax
comp=Z,87nm,0.4s
VSR Storozhevoye 89.80 34 *e*P **P** **09 20 58.9 -0.9**
VSR pmax pmax
comp=Z,60nm,1.2s
BORA Eskisehir 89.90 47 P **P** **09 20 59.8 -0.9**
BORA IAmb IAmb 09 21 08.5
comp=Z,20nm,1.0s
SIM Simferopol' 90.02 42 *e*P **P** **09 21 03.6 +2.6**
SIM *e* 09 24 39.0
SIM *e*S **S** **09 31 59.0 +5.0**
SIM *e*SSS SSS 09 41 28.0
SIM pmax pmax
comp=Z,52nm,1.1s
SIM pmax pmax
comp=Z,140nm,6.0s
SIM MLR MLR
comp=Z,1μm,19.0s
MDUB Mudurnu 90.16 47 P **P** **09 21 01.5 -0.4**
KIRV Kirov 90.22 25 P **P** **09 21 01.8 +0.2**
comp=Z,23nm,0.6s,baz=301,slow=5.9,SNR=5.0
KIRV LR LR 10 00 24.4
comp=Z,1μm,18.3s,baz=309,slow=35
comp=Z,23nm,0.6s
KIRV Kirov 90.22 25*ce*P **P** **09 21 01.1 -0.5**
NRIK Noril'sk 90.42 6 P **P** **09 21 02.5 +0.2**
comp=Z,16nm,1.0s,baz=356,slow=3.3,SNR=9.9
comp=Z,16nm,1.0s
NRIK Noril'sk 90.42 6 P **P** **09 21 02.4 +0.1**
NRIK IAmb IAmb 09 21 07.5
comp=Z,26nm,1.1s
NRIK Noril'sk 90.42 6*ce*P **P** **09 21 01.3 -1.0**
NRIK pmax pmax
comp=Z,19nm,1.1s
ELL Elmali 90.87 50 P **P** **09 21 05.7 +0.4**
ELL Elmali 90.87 50 P **P** **09 21 05.7 +0.4**
ELL pmax pmax
comp=Z,135nm,1.2s
RAR Rarotonga 90.91 248 LR LR 09 54 23.2
comp=Z,425nm,20.2s,baz=70,slow=31
VRH Novokhopyorsk 91.15 34 *e*P **P** **09 21 06.2 +0.1**
VRH pmax pmax
comp=Z,120nm,1.1s
ANTO Ankara 91.52 47 ⇑P **P** **09 21 08.7 +0.5**
ANTO Ankara 91.52 47 P **P** **09 21 08.5 +0.3**

ANTO IAmb IAmb 09 21 13.5
comp=Z,16nm,0.8s
ANTO Ankara 91.52 47 P **P** **09 21 08.5 +0.3**
ANTO pmax pmax
comp=Z,16nm,0.9s
ANTO MLR MLR
comp=Z,900nm,19.0s
MA2 Magadan 92.00 338 LR LR 10 06 51.0
comp=Z,3µm,18.3s,baz=51,slow=38
MA2 Magadan 92.00 338 P **P** **09 21 10.4 +0.5**
MA2 IAmb IAmb 09 21 12.2
comp=Z,34nm,1.4s
MA2 IAMs_20 IAMs_20 10 06 40.2
comp=Z,3µm,18.0s
MA2 Magadan 92.00 338 *ce*P **P** **09 21 09.4 -0.5**
MA2 pmax pmax
comp=Z,23nm,1.0s
ANN Anapa 92.14 41 *e*P **P** **09 21 10.3 -0.5**
ANN *e**PP **sP** **09 21 13.8 +0.2**
ANN *e* 09 24 55.3
ANN *e*SP SP 09 33 22.1 -0.6
ANN pmax pmax
comp=Z,52nm,0.9s
ANN MLR MLR
comp=N,1µm,18.0s
ANN MLR MLR
comp=Z,2µm,20.0s
ANN MLR MLR
comp=E,491nm,17.0s
BR131 Keskin Array S 92.16 46 P **P** **09 21 11.5 +0.2**
BR131 IAmb IAmb 09 21 14.1
comp=Z,21nm,1.1s
BR131 Keskin Array S 92.16 46 P **P** **09 21 11.5 +0.2**
BR131 pmax pmax
comp=Z,21nm,1.2s
BRTR Keskin Array B 92.16 46 P **P** **09 21 11.3 0.0**
comp=Z,10nm,1.0s,baz=289,slow=3.8,SNR=23
BRTR LR LR 10 01 54.5
comp=Z,636nm,18.5s,baz=312,slow=35
comp=Z,10nm,1.0s
BRTR Keskin Array B 92.16 46 P **P** **09 21 09.8 -1.5**
PET Petropavlovsk 93.21 330 IAMs_20 IAMs_20 10 03 30.9
comp=Z,2µm,22.0s
PET Petropavlovsk 93.21 330 *e*P **P** **09 21 18.0 +2.4**
PET *e* 09 25 02.5
PET *e* 09 31 51.9
PET *e*S **S** **09 32 28.8 +6.3**
PET *e*PS **PS** **09 33 39.8 +4.0**
PET *e*SS **SS** **09 38 39.0 +2.4**
PET pmax pmax
comp=Z,200nm,18.8s
PET MLR MLR
comp=Z,2µm,19.0s
BELG Belogornoye 93.40 30 LR LR 10 01 35.8
comp=Z,2µm,19.7s,baz=320,slow=34
BELG Belogornoye 93.40 30 *i* P **P** **09 21 15.9 -0.5**
BELG pmax pmax
comp=Z,10.0nm,1.1s
PETK Petropavlovsk- 93.60 331 P **P** **09 21 16.5 -0.9**
comp=Z,6.7nm,1.1s,baz=79,slow=9.0,SNR=2.7
PETK LR LR 10 04 42.5
comp=Z,3µm,21.1s,baz=46,slow=36
comp=Z,6.7nm,1.1s
BNN Bunyan 94.08 46 P **P** **09 21 20.3 +0.2**
SOC Sochi 94.18 41 *e*P P 09 21 15.5 -4.8
SOC *e*S **SKSac** **09 31 49.4 -6.0**
SOC *e*SS **SS** **09 38 57.7 +6.6**
SOC MLR MLR
comp=Z,664nm,16.0s
ARU Arti 95.26 23 P **P** **09 21 25.5 +0.6**
comp=Z,4.9nm,0.2s,baz=316,slow=4.0,SNR=9.7
ARU LR LR 10 00 46.4
comp=Z,2µm,21.6s,baz=321,slow=33
comp=Z,4.9nm,0.2s
ARU Arti 95.26 23 P **P** **09 21 24.2 -0.7**
ARU IAmb IAmb 09 21 27.4
comp=Z,14nm,1.0s
ARU IAMs_20 IAMs_20 10 00 10.8
comp=Z,2µm,20.0s
ARU Arti 95.26 23 *c i*P **P** **09 21 24.6 -0.3**
ARU 09 25 15.2
ARU S **SKSac** **09 32 00.5 -0.2**
ARU SP **SP** **09 34 08.6 +12**
ARU PS PS 09 34 31.0 +33
ARU pmax pmax
comp=Z,18nm,1.0s
SVE Sverdlovsk 95.71 22 *e*P **P** **09 21 27.6 +0.6**
SVE pmax pmax
comp=Z,24nm,1.3s
KIV Kislovodsk 95.77 39 P **P** **09 21 27.5 -0.1**
KIV IAmb IAmb 09 21 29.5
comp=Z,14nm,1.1s
KIV Kislovodsk 95.77 39 *e*P **P** **09 21 26.7 -1.0**
KIV *e*PPP PPP 09 27 21.7
KIV *e* 09 32 02.9
KIV *e*SS SS 09 39 15.4 +1.5
KIV *e*SSS SSS 09 43 01.4
KIV pmax pmax
comp=Z,44nm,3.7s
KIV pmax pmax
comp=Z,10.0nm,1.0s
KVAR Kislovodsk Arr 95.78 39 LR LR 10 01 45.8
comp=Z,683nm,20.8s,baz=289,slow=34
YAK Yakutsk 95.82 348 *e*P **P** **09 21 28.3 +1.0**
YAK pmax pmax
comp=Z,18nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.5s
SHA1 Shidzhatmaz 95.88 39 *i* P **P** **09 21 27.2 -1.1**
KBZ Khabaz 96.03 39 P **P** **09 21 29.3 +0.6**
comp=E,4.1nm,0.9s,baz=265,slow=3.1,SNR=6.6
KBZ LR LR 10 02 18.3
comp=E,858nm,20.2s,baz=316,slow=34
comp=E,4.1nm,0.9s
KBZ Khabaz 96.03 39 *ce*P **P** **09 21 29.0 +0.3**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
NEY Neytrino 96.19 40 *i* P **P** **09 21 29.9 +0.2**
NEY pmax pmax
comp=Z,3.0nm,1.0s
MMAI Mount Meron Ar 96.58 52 LR LR 10 01 46.2
comp=Z,234nm,22.0s,baz=154,slow=33
ONI Oni 97.01 40 P **P** **09 21 33.3 0.0**
ONI Oni 97.01 40 P **P** **09 21 33.3 0.0**
ONI pmax pmax
comp=Z,7.0nm,1.2s
ZEI Tsey 97.17 40 *e*P **P** **09 21 32.9 -1.3**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
EIL Elat 97.82 55 LR LR 10 04 59.3
comp=Z,339nm,19.7s,baz=283,slow=35
MAK Makhachkala 99.19 38 *e*P **Pdif** **09 21 38.3 -4.7**
MAK *e* 09 32 13.6
MAK *e*SSS SSS 09 43 46.4
MAK pmax pmax
comp=Z,197nm,1.4s
GNI Garni 99.20 42 LR LR 10 04 36.1
comp=Z,437nm,21.0s,baz=332,slow=34
GNI Garni 99.20 42 P **Pdif** **09 21 43.3 0.0**
GNI IAmb IAmb 09 21 46.9
comp=Z,19nm,1.2s
GNI Garni 99.20 42 P **Pdif** **09 21 43.3 0.0**
GNI pmax pmax
comp=Z,19nm,1.2s
AFI Afiamalu 99.33 259 LR LR 10 00 11.8
comp=Z,417nm,18.9s,baz=68,slow=32
AKTO Aktyubinsk 99.49 27 LR LR 10 02 50.8
comp=Z,1µm,21.4s,baz=300,slow=33
TSUM Tsumeb 100.11 107 IAMs_20 IAMs_20 10 10 38.8
comp=Z,1µm,18.0s
ABKAR Akbulak array 101.20 27 Pdif **Pdif** **09 21 49.7 -2.1**
ABKAR Akbulak array 101.20 27 Pdif **Pdif** **09 21 49.1 -2.6**
BRVK Borovoye 102.02 20 Pdif **Pdif** **09 21 53.5 -1.9**
BRVK Borovoye 102.02 20 IAMs_20 IAMs_20 10 04 09.4
comp=Z,1µm,20.0s
BRVK Borovoye 102.02 20 *i* P **Pdif** **09 21 54.6 -0.8**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 102.08 20 PKKPbc PKKPbc 09 37 59.3 -1.3
comp=Z,0.5nm,0.5s,baz=132,slow=2.1,SNR=4.3
YSS Yuzh-Sakhalins 104.69 333 IAMs_20 IAMs_20 10 18 11.2
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 104.69 333 *e*P **Pdif** **09 22 08.9 +1.6**
YSS *e* 09 26 29.4
YSS *e* 09 32 44.7
YSS *e* 09 33 25.6
YSS *e*S **Sdif** **09 34 02.0 +1.7**
YSS *e*PS **PS** **09 35 42.5 +2.9**
YSS *e*SS **SKKPbc** **09 41 27.7 -5.1**
ZALV Zalesovo Beam 104.87 11 Pdif **Pdif** **09 22 05.7 -2.3**
ZALV Zalesovo Beam 104.87 11 *i* P **Pdif** **09 22 05.7 -2.3**
KURK Kurchatov 106.51 16 IAMs_20 IAMs_20 10 15 28.0
comp=Z,1µm,20.0s
MBAR Mbarara 106.55 85 IAMs_20 IAMs_20 10 08 53.2
comp=Z,2µm,19.0s
MBAR Mbarara 106.55 85 *e*P **PKiKP** **09 26 22.9 -4.6**
KURBB Kurchatov Arra 106.57 16 PKiKP **PKiKP** **09 26 24.4 -1.9**
comp=Z,0.5nm,0.6s,baz=316,slow=2.6,SNR=4.1
KURBB PKKPbc **PKKPbc** **09 37 45.6 -1.5**
comp=Z,0.2nm,0.5s,baz=158,slow=2.4,SNR=4.2
HEH HeiHe 107.11 344 Pdif **Pdif** **09 22 18.8 +0.7**
HEH AMB AMB
comp=Z,450nm,5.6s
HEH LR LR
comp=Z,2µm,20.1s
HEH LR LR
comp=Z,2µm,20.7s
HEH LR LR
comp=Z,2µm,22.7s
LSZ Lusaka 108.70 100 IAMs_20 IAMs_20 10 21 35.3
comp=Z,1µm,19.0s
RAYN Ar Rayn 109.06 55 IAMs_20 IAMs_20 10 13 03.3
comp=Z,2µm,18.0s
FURI Furi 110.26 72 IAMs_20 IAMs_20 10 14 57.5
comp=Z,2µm,19.0s
MAKZ Makanchi 110.98 16 IAMs_20 IAMs_20 10 21 02.1
comp=Z,1µm,19.0s
MKAR Makanchi Array 111.07 15 PKiKP **PKiKP** **09 26 35.0 +0.1**
comp=Z,0.2nm,0.5s,baz=286,slow=2.2,SNR=4.8
MKAR PKKPbc **PKKPbc** **09 37 31.1 -1.7**
comp=Z,0.3nm,0.6s,baz=143,slow=3.3,SNR=4.0
AAK Ala-Archa 112.44 23 PKKPbc PKKPbc 09 37 29.4 +1.1
comp=Z,0.5nm,0.3s,baz=234,slow=3.7,SNR=3.6
AAK Ala-Archa 112.44 23 IAMs_20 IAMs_20 10 17 59.2
comp=Z,1µm,20.0s
AAK Ala-Archa 112.44 23 *i* PKiKP **PKiKP** **09 26 37.7 -0.1**
AAK pmax pmax
comp=Z,2.0nm,1.2s
ULN Ulaanbaatar 112.60 357 IAMs_20 IAMs_20 10 20 51.7
comp=Z,2µm,19.0s
SONM Songino Array 112.65 358 PKKP **PKKPdf** **09 37 47.5 +0.6**
comp=Z,1.3nm,0.8s,baz=191,slow=3.2,SNR=4.2
ATD Arta Tunnel 112.80 68 IAMs_20 IAMs_20 10 12 01.2
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 112.83 83 IAMs_20 IAMs_20 10 12 53.5
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 112.83 83 *e*P PKiKP 09 26 50.9 +12
CN2 Changchun 113.57 343 Pdif **Pdif** **09 22 49.9 +2.9**
CN2 PP **PP** **09 27 37.6 +7.3**
CN2 SS SS 09 43 20.0 +3.4
CN2 AMB AMB
comp=Z,300nm,8.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,1µm,22.0s
KIBK Kibwezi 114.00 84 IAMs_20 IAMs_20 10 16 48.6
comp=Z,1µm,19.0s
WMQ Urumqi 115.11 12 *e*PKP **PKPdf** **09 26 43.3 +0.5**
WMQ PP **PP** **09 27 42.1 +0.9**
WMQ AMB AMB
comp=Z,180nm,6.7s
WMQ LR LR
comp=Z,890nm,18.5s
WMQ LR LR
comp=Z,1µm,16.5s
WMQ LR LR
comp=Z,880nm,22.7s
XLT XiLinHaoTe 115.58 350 *e*P **PKPdf** **09 26 50.8 +7.1**
XLT pmax pmax
comp=Z,170nm,4.7s
XLT pmax pmax
comp=Z,5.0nm,0.7s
KSRS Korea Array 118.56 338 PKP **PKPdf** **09 26 48.8 -0.7**
comp=Z,1.8nm,0.7s,baz=353,slow=2.2,SNR=8.0
HHC Hu-ho-hao-te 119.21 353 *e*PKP **PKPdf** **09 26 48.0 -2.8**
HHC PP **PP** **09 28 13.6 +3.8**
HHC SS SS 09 44 26.3 -3.9
HHC AMB AMB
comp=Z,590nm,7.5s
HHC LR LR
comp=Z,5µm,20.1s
HHC LR LR
comp=Z,5µm,18.7s
HHC LR LR
comp=Z,4µm,20.6s
BJT Baijiatuan 119.33 349 IAMs_20 IAMs_20 10 19 51.4
comp=Z,2µm,20.0s
GTA Gaotai 121.04 3 *e*PKP **PKiKP** **09 26 54.8 +0.3**
GTA PP **PP** **09 28 23.3 +1.0**
GTA SS SS 09 44 54.0 +0.3
GTA AMB AMB
comp=Z,470nm,7.6s
GTA LR LR
comp=Z,1µm,22.9s
GTA LR LR
comp=Z,1µm,20.7s
GTA LR LR
comp=Z,1µm,22.5s
DZM Mont Dzumac 121.40 256 *e*LR LR 10 04 17.3
comp=Z,616nm,23.2s
HNS HongShan 122.14 349 *e*PKP **PKiKP** **09 26 56.6 +0.1**
HNS LR LR
comp=Z,720nm,18.3s
HNS LR LR
comp=Z,2µm,17.5s
HNS LR LR
comp=Z,2µm,18.2s
SMLA Simla 123.48 27 *e*P **PKPdf** **09 26 58.8 -0.3**
GOMU GeErMu 123.75 8 PKP **PKiKP** **09 27 01.5 +1.2**
GOMU PP **PP** **09 28 41.5 +0.5**
GOMU LR LR
comp=Z,1µm,20.2s
GOMU LR LR
comp=Z,860nm,20.6s
GOMU LR LR
comp=Z,390nm,19.2s
LZH Lanzhou 124.45 360 *e*PKP **PKPdf** **09 27 00.9 -0.2**
LZH sPKP 09 27 13.8
LZH PP **PP** **09 28 48.6 +3.2**
LZH SKS **SKSdf** **09 34 10.8 -2.5**
LZH AMB AMB
comp=Z,450nm,5.3s
LZH LR LR
comp=Z,650nm,16.0s
LZH LR LR
comp=Z,2µm,16.5s
LZH LR LR
comp=Z,2µm,18.7s
LYN LuoYang 125.29 351 *e*PKP **PKiKP** **09 27 06.1 +3.2**
XAN Xi'an 126.23 354 PKP **PKPdf** **09 27 03.9 -0.5**
XAN sPKP 09 27 14.4
XAN PP **PP** **09 29 00.8 +3.6**
XAN PKS **PKSdf** **09 30 39.3 -1.8**
XAN SKS **SKSdf** **09 34 12.3 -4.2**
XAN SKKS **SKKSac** **09 35 51.3 -5.7**
XAN AMB AMB
comp=Z,380nm,6.4s
XAN LR LR
comp=Z,2µm,20.3s
XAN LR LR
comp=Z,3µm,20.3s
XAN LR LR
comp=Z,2µm,23.0s
NJ2 Nanjing 126.38 344 *e*PKP **PKPdf** **09 27 04.4 -0.2**
NJ2 LR LR
comp=Z,1µm,18.0s
NJ2 LR LR
comp=Z,2µm,20.8s
NJ2 LR LR
comp=Z,1µm,20.8s
ABPO Ambohimpanom 127.26 99 IAMs_20 IAMs_20 10 21 49.1
comp=Z,781nm,20.0s
VOI Vohitsoka 127.34 103 IAMs_20 IAMs_20 10 29 38.7
comp=Z,1µm,19.0s
WHN Wuhan 128.87 348 ⇑PKP **PKPdf** **09 27 05.8 -3.6**
WHN PP **PP** **09 29 16.8 +2.2**
WHN LR LR
comp=Z,3µm,14.3s
WHN LR LR
comp=Z,4µm,14.5s
WHN LR LR
comp=Z,6µm,17.2s
LSA Lhasa 129.43 14 **PKPdf** **09 27 11.1 0.0**
LSA IAMs_20 IAMs_20 10 34 42.2
comp=Z,956nm,19.0s
LSA Lhasa 129.43 14 PKIKP **PKPdf** **09 27 11.1 0.0**
CD2 Chengdu 129.61 360 PKP **PKiKP** **09 27 11.4 -0.3**
CD2 PP **PP** **09 29 20.1 +0.7**
CD2 SKKS 09 36 18.8
CD2 SS **SS** **09 46 45.9 +4.6**
CD2 AMB AMB
comp=Z,360nm,11.2s
CD2 LR LR
comp=Z,530nm,15.7s
CD2 LR LR
comp=Z,610nm,15.7s
CD2 LR LR
comp=Z,1µm,18.6s
ENH Enshi 129.90 353 **PKPdf** **09 27 11.7 +0.2**
ENH Enshi 129.90 353 IAMs_20 IAMs_20 10 29 19.7
comp=Z,2µm,20.0s
MSEY Mahe Island 131.06 79 IAMs_20 IAMs_20 10 23 14.2
comp=Z,1µm,20.0s
TATO Taipei 132.15 338 IAMs_20 IAMs_20 10 25 52.8
comp=Z,1µm,20.0s
YHNB Yeheng 132.47 338 IAMs_20 IAMs_20 10 33 40.3
comp=Z,1µm,18.0s
NACB Ninganchiao 132.85 337 IAMs_20 IAMs_20 10 27 07.2
comp=Z,2µm,22.0s
CASY Casey 133.28 184 IAMs_20 IAMs_20 10 28 52.9
comp=Z,1µm,20.0s
MOKO MOKOCHONG 133.39 11 *e*P **PKiKP** **09 27 19.0 -0.5**
SSLB Suanglung 133.43 338 IAMs_20 IAMs_20 10 31 47.7
comp=Z,1µm,19.0s
BOK Bokaro 133.47 22 *e*P **PKiKP** **09 27 19.7 +0.1**
SHL Shillong 133.57 14 PKPdf **PKPdf** **09 27 18.3 -0.4**
SHL Shillong 133.57 14 *e*P **PKPdf** **09 27 18.1 -0.7**
SHL Shillong 133.57 14 PKIKP **PKPdf** **09 27 18.3 -0.4**
KNMB Chin-men Tao 133.66 341 IAMs_20 IAMs_20 10 32 55.4
comp=Z,1µm,19.0s
YULB Yu-li 133.67 337 IAMs_20 IAMs_20 10 32 00.0
comp=Z,2µm,20.0s
GYA Guiyang 133.94 356 *e*PKP **PKiKP** **09 27 20.8 +0.2**
GYA sPKP 09 27 24.3
GYA PP **PP** **09 29 49.3 +1.9**
GYA PKS **PKSdf** **09 30 51.9 -4.1**
GYA SKKS 09 36 45.0
GYA AMB AMB
comp=Z,420nm,13.0s
GYA LR LR
comp=Z,2µm,17.7s
GYA LR LR
comp=Z,870nm,20.4s
GYA LR LR
comp=Z,3µm,18.4s
PZH PanZhiHua 133.97 2 PKP **PKPdf** **09 27 18.9 -0.5**
PZH AMB AMB
comp=Z,330nm,8.4s
PZH LR LR
comp=Z,760nm,19.8s
PZH LR LR
comp=Z,1µm,19.4s
PZH LR LR
comp=Z,870nm,18.9s
TPUB Ta-pu 133.99 338 IAMs_20 IAMs_20 10 38 00.6
comp=Z,2µm,19.0s
TWG Pinlang 134.27 337 IAMs_20 IAMs_20 10 35 01.0
comp=Z,1µm,19.0s
TNCH TengChong 135.22 6 PKP **PKPdf** **09 27 21.6 -0.2**
TNCH sPKP 09 27 28.0
TNCH PP **PP** **09 30 00.9 +5.2**
TNCH AMB AMB
comp=Z,270nm,8.8s
KMI Kunming 135.37 1 ⇓PKP **PKiKP** **09 27 24.8 +1.1**
KMI PP **PP** **09 29 56.8 +0.1**
KMI PKS **PKSdf** **09 30 58.6 -0.3**
KMI LR LR
comp=Z,560nm,16.8s
KMI LR LR
comp=Z,890nm,20.5s
KMI LR LR
comp=Z,1µm,21.4s
PCHI Peechi 139.82 44 *e*P PKPpre 09 27 22.4
PCHI *ex* x 09 34 38.1
CRAI Chiangrai 140.14 4 PKPdf **PKPdf** **09 27 29.6 -1.2**
HMDM Hanimaadhoo 140.28 51 IAMs_20 IAMs_20 10 29 09.1
comp=Z,843nm,20.0s
QIZ Qiongzhong 140.92 350 IAMs_20 IAMs_20 10 35 44.0
comp=Z,1µm,20.0s
QIZ Qiongzhong 140.92 350 PKP **PKPdf** **09 27 30.5 -1.7**
QIZ SS SS 09 48 56.4 -0.7
QIZ LR LR
comp=Z,1µm,18.6s
QIZ LR LR
comp=Z,1µm,18.6s
QIZ LR LR
comp=Z,1µm,22.4s
CHTO Chiang Mai 141.41 7 IAMs_20 IAMs_20 10 19 21.6
comp=Z,1µm,19.0s
CMAR Chiang Mai Arr 141.76 7 PKhKP PKPpre 09 27 29.9
comp=Z,1.3nm,0.4s,baz=332,slow=4.2,SNR=7.1
CMAR PKP **PKPdf** **09 27 34.3 +0.6**
comp=Z,7.7nm,0.9s,baz=326,slow=2.6,SNR=16
STKA Stephens Creek 143.71 243 PKhKP PKPpre 09 27 34.5
comp=Z,16nm,1.0s,baz=64,slow=4.9,SNR=9.9
STKA Stephens Creek 143.71 243 PKPdf PKPbc 09 27 35.0 +0.7
STKA Stephens Creek 143.71 243 PKIKP PKPbc 09 27 35.0 +0.7
PALK Pallekele 145.08 42 **PKPbc** **09 27 38.9 -0.2**
PALK Pallekele 145.08 42 IAMs_20 IAMs_20 10 38 37.9
comp=Z,984nm,20.0s
PALK Pallekele 145.08 42 PKIKP **PKPbc** **09 27 38.9 -0.2**
UBPT Khong Chiam 145.11 356 PKPbc **PKPbc** **09 27 39.0 0.0**
FAKI Fak Fak 147.19 297 IAMs_20 IAMs_20 10 26 57.6
comp=Z,977nm,21.0s
BBOO Buckleboo 148.07 239 **PKPbc** **09 27 47.2 -0.2**
WB0 Warramunga Arr 150.81 265 PKPdf **PKPdf** **09 27 48.1 -0.8**
WB0 PKPbc **PKPbc** **09 27 54.0 -0.5**
WB0 PKPab **PKPab** **09 28 02.0 +0.4**
WB2 Warramunga Arr 150.87 264 PKPdf **PKPdf** **09 27 48.2 -0.8**
WB2 PKPbc **PKiKP** **09 27 55.4 +0.2**
WB2 PKPab **PKPab** **09 28 01.8 -0.1**
WRAB Tennant Creek 150.87 264 IAMs_20 IAMs_20 10 48 34.9
comp=Z,1µm,20.0s
WRA Warramunga Arr 150.88 264 PKP **PKPdf** **09 27 48.8 -0.2**
comp=Z,22nm,0.7s,baz=81,slow=1.8,SNR=16
WRA PKPbc **PKPbc** **09 27 54.6 -0.1**
comp=Z,22nm,0.6s,baz=83,slow=2.6,SNR=31
WRA Warramunga Arr 150.88 264 **PKPdf** **09 27 48.3 -0.7**
WRA PKPbc **PKiKP** **09 27 55.9 +0.6**
WRA PKPab **PKPab** **09 28 02.1 +0.1**
WRA Warramunga Arr 150.88 264 PKIKP **PKPdf** **09 27 48.3 -0.7**
WRA 09 27 55.9
MYLDM Lahad Datu 151.08 327 PKPbc **PKPbc** **09 27 54.3 -1.0**
AS31 Alice Springs 151.39 257 PKPdf **PKPdf** **09 27 48.7 -1.0**
AS31 **PKPab** **09 28 04.8 +0.8**
ASAR Alice Springs 151.39 257 PKP **PKPdf** **09 27 49.1 -0.6**
comp=Z,13nm,1.1s,baz=93,slow=1.2,SNR=19
ASAR PKPbc **PKPbc** **09 27 55.8 0.0**
comp=Z,22nm,0.7s,baz=95,slow=2.1,SNR=22
ASAR Alice Springs 151.39 257 PKPdf **PKPdf** **09 27 48.7 -1.0**
ASAR **pPKPab** **09 28 05.0 -1.1**
KKM Kota Kinabalu 151.40 332 **PKPbc** **09 27 55.5 -0.7**
KKM IAMs_20 IAMs_20 10 40 58.4
comp=Z,963nm,22.0s
SRIT Nakonsritamara 151.57 8 **PKPbc** **09 27 56.5 +0.1**
MTN Manton Dam 152.49 280 PKPbc **PKiKP** **09 27 59.3 +0.6**
MTN PKPab **PKPab** **09 28 07.4 -1.4**
LHMI Lhok Sumawe 154.37 15 IAMs_20 IAMs_20 10 40 32.3
comp=Z,1µm,22.0s
IPM Ipoh 155.79 6 IAMs_20 IAMs_20 10 46 14.7
comp=Z,1µm,20.0s
SBUM Sibu 156.26 338 IAMs_20 IAMs_20 10 48 19.8
comp=Z,714nm,20.0s
PSI Prapat 157.15 11 PKIKP **PKPdf** **09 27 56.8 -1.4**
RPSI Rantau Prapat 157.25 12 PKPdf **PKPdf** **09 27 56.8 -1.3**
RPSI PKPab **PKPab** **09 28 27.6 -1.2**
RPSI IAMs_20 IAMs_20 10 51 47.6
comp=Z,792nm,19.0s
SOEI Soe 157.49 293 IAMs_20 IAMs_20 10 51 27.0
comp=Z,889nm,22.0s
GSI Gunungsitoli 158.30 16 PKPdf **PKPdf** **09 27 54.8 -4.7**
GSI PKPab **PKPab** **09 28 30.4 -2.9**

KAPI	Kappang	158.32	310		IAMs_20	IAMs_20	10	52	22.5
	comp=Z,690nm,22.0s								
MYKOM	Kota Tinggi	158.57	359		IAMs_20	IAMs_20	10	47	09.3
	comp=Z,1μm,20.0s								
MMRI	Maumere	158.64	299		IAMs_20	IAMs_20	10	55	50.7
	comp=Z,640nm,19.0s								
BKNI	Bangkinang	159.90	7		IAMs_20	IAMs_20	10	48	46.6
	comp=Z,925nm,20.0s								

*SJA **17** 09:20:24.0,28°.67S×71°.71W,h10km,ML4.0*
*GUC **17** 09:20:26.1±0.7,28°.78S×71°.45W,h37km±3km,ML3.3*

ISC 17 09:20:23.6±1.6,**28.73S**±0.03×**71.61W**±0.07,**h13**km±10km, **n42**,σ1?75/51,**3C-3D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
AC04	**Llanos de Chal**	**0.70**	**42**	⇓*i*P	**Pg**	**09**	**20**	**38.2**	**+0.9**
AC04				*i*S	**Sg**	**09**	**20**	**47.3**	**+0.7**
AC04				IAML		09	20	51.0	
	comp=N,2μm,0.2s								
AC04	**Llanos de Chal**	**0.70**	**42**	*i*P	**Pg**	**09**	**20**	**38.0**	**+0.7**
AC04	**Llanos de Chal**	**0.70**	**42**	*i*P	**Pg**	**09**	**20**	**38.0**	**+0.7**
LCO	**Las Campanas**	**0.84**	**110**	⇓*i*P	**Pg**	**09**	**20**	**39.5**	**-0.5**
LCO				*i*S	**Sg**	**09**	**20**	**49.0**	**-2.2**
AC05	**El Transito**	**1.18**	**96**	⇓*i*P	**Pn**	**09**	**20**	**45.0**	**-0.9**
AC05				*i*S	**Sb**	**09**	**20**	**58.1**	**-3.1**
AC05	**El Transito**	**1.18**	**96**	*i*P	**Pn**	**09**	**20**	**45.0**	**-0.9**
AC05	**El Transito**	**1.18**	**96**	*i*P	**Pn**	**09**	**20**	**45.0**	**-0.9**
CO05	**La Serena**	**1.23**	**165**	⇑*i*P	**Pn**	**09**	**20**	**46.5**	**0.0**
CO05				*i*S	**Sb**	**09**	**21**	**01.2**	**-1.3**
CO05				IAML		09	21	02.8	
	comp=E,1μm,0.3s								
GO04	**Tololo Observa**	**1.60**	**154**	⇑*i*P	**Pn**	**09**	**20**	**52.0**	**+0.1**
GO04				*i*S	**Sn**	**09**	**21**	**11.9**	**-0.7**
GO04	**Tololo Observa**	**1.60**	**154**	*i*P	**Pn**	**09**	**20**	**52.0**	**+0.1**
GO04	**Tololo Observa**	**1.60**	**154**	*i*P	**Pn**	**09**	**20**	**52.0**	**+0.1**
GO03	**Copiap**	**1.66**	**47**	*i*P	**Pn**	**09**	**20**	**53.1**	**+0.6**
GO03				*i*S	**Sn**	**09**	**21**	**14.1**	**+0.3**
GO03				IAML		09	21	17.8	
	comp=N,349nm,0.2s								
GO03	**Copiap**	**1.66**	**47**	*i*P	**Pb**	**09**	**20**	**54.0**	**-0.1**
GO03	**Copiap**	**1.66**	**47**	*i*P	**Pb**	**09**	**20**	**54.0**	**-0.1**
AC06	**Mina Casimiro**	**1.76**	**39**	⇑*i*P	**Pn**	**09**	**20**	**55.0**	**+1.2**
AC06				*i*S	**Sn**	**09**	**21**	**17.2**	**+1.1**
AC06				IAML		09	21	20.6	
	comp=E,395nm,0.5s								
CO01	**Juntas del Tor**	**1.82**	**134**	*i*P	**Pn**	**09**	**20**	**55.7**	**+0.9**
CO01				*eS*	**Sn**	**09**	**21**	**16.8**	**-1.1**
CO01				IAML		09	21	19.1	
	comp=N,788nm,0.3s								
CO01	**Juntas del Tor**	**1.82**	**134**	*i*P	**Pn**	**09**	**20**	**56.0**	**+1.2**
CO01	**Juntas del Tor**	**1.82**	**134**	*i*P	**Pn**	**09**	**20**	**56.0**	**+1.2**
CO03	**El Pedregal**	**2.25**	**159**	*eP*	**Pn**	**09**	**21**	**01.4**	**+0.8**
CO03				*eS*	**Sn**	**09**	**21**	**28.3**	**0.0**
CO03				IAML		09	21	38.5	
	comp=E,365nm,0.4s								
CO03	**El Pedregal**	**2.25**	**159**	*i*P	**Pn**	**09**	**21**	**01.0**	**+0.3**
CO03	**El Pedregal**	**2.25**	**159**	*i*P	**Pn**	**09**	**21**	**01.0**	**+0.3**
CO02	**Combarbal**	**2.52**	**168**	*eP*	**Pn**	**09**	**21**	**04.9**	**+0.4**
CO02	**Combarbal**	**2.52**	**168**	*i*P	**Pn**	**09**	**21**	**05.0**	**+0.6**
CO02	**Combarbal**	**2.52**	**168**	*i*P	**Pn**	**09**	**21**	**05.0**	**+0.6**
AC01	**Pan de Azucar**	**2.72**	**19**	*i*P	**Pn**	**09**	**21**	**06.7**	**-0.5**
AC01				IAML		09	21	54.2	
	comp=E,86nm,0.5s								
AC01	**Pan de Azucar**	**2.72**	**19**	*i*P	**Pn**	**09**	**21**	**06.0**	**-1.1**
AC01	**Pan de Azucar**	**2.72**	**19**	*i*P	**Pn**	**09**	**21**	**06.0**	**-1.1**
AC02	**Maricunga**	**2.90**	**50**	*eP*	**Pn**	**09**	**21**	**11.7**	**+1.8**
AC02				IAML		09	21	59.2	
	comp=N,185nm,0.5s								
AC02	**Maricunga**	**2.90**	**50**	*i*P	**Pn**	**09**	**21**	**12.0**	**+2.1**
AC02	**Maricunga**	**2.90**	**50**	*i*P	**Pn**	**09**	**21**	**12.0**	**+2.1**
RTLS	**Leoncito**	**3.66**	**147**	*i*P	**Pn**	**09**	**21**	**24.0**	**+3.8**
RTLS	**Leoncito**	**3.66**	**147**	*i*P	**Pn**	**09**	**21**	**24.0**	**+3.8**
RTLL	**Cerro Villicun**	**3.76**	**134**	*i*P	**Pn**	**09**	**21**	**25.0**	**+3.7**
RTLL	**Cerro Villicun**	**3.76**	**134**	*i*P	**Pn**	**09**	**21**	**25.0**	**+3.7**
PB14	**IPOC Station P**	**4.23**	**15**	*i*P	**Pn**	**09**	**21**	**28.0**	**-0.1**
PB14	**IPOC Station P**	**4.23**	**15**	*i*P	**Pn**	**09**	**21**	**28.0**	**-0.1**
ASAL	**Salagasta**	**4.53**	**149**	*i*P	**Pn**	**09**	**21**	**36.0**	**+4.0**
ASAL	**Salagasta**	**4.53**	**149**	*i*P	**Pn**	**09**	**21**	**36.0**	**+4.0**
CYA	**Choya**	**5.12**	**88**	*i*P	**Pn**	**09**	**21**	**42.0**	**+2.0**
CYA	**Choya**	**5.12**	**88**	*i*P	**Pn**	**09**	**21**	**42.0**	**+2.0**
PB10	**IPOC Station P**	**5.28**	**11**	*i*P	**Pn**	**09**	**21**	**41.0**	**-1.3**
PB10	**IPOC Station P**	**5.28**	**11**	*i*P	**Pn**	**09**	**21**	**41.0**	**-1.3**

*IDC **17** 09:21:49.3±0.6,56°.62S×25°.47W,h0km,mb4.6/9, mbtmp4.6/10,ML4.1/1,Error ellipse: s-maj=25.3km s-min=17.5km az=58.0*
*NEIC **17** 09:21:52.5±1.4,56°.7S±0°.1×25°.9W±0°.2,h10km±1km, mb5.1/69,Error ellipse: s-maj=27.2km s-min=16.4km az=224.0*
*BJI **17** 09:21:58.0±0.0,56°.90S×25°.60W,h60km,mB5.5/1, Ms5.6/2,Ms7 5.3/1*

ISC 17 09:21:51.5±0.4,**56.72S**±0.08×**25.71W**±0.10,**h10**km,**n246**, σ0.94/252,**mb5.1**/41,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
HOPE	**Hope Point**	**6.59**	**287**	Pn	**Pn**	**09**	**23**	**27.4**	**-1.0**
VNA1	**Neumayer--Stat**	**15.87**	**159**	P	**Pn**	**09**	**25**	**35.3**	**+0.7**
VNA3	**Neumayer Olymp**	**16.09**	**161**	P	**Pn**	**09**	**25**	**37.7**	**+0.2**
VNA2	**Neumayer--Watz**	**16.26**	**158**	P	**Pn**	**09**	**25**	**39.7**	**0.0**
	baz=327,slow=14								
SNAA	**Sanae**	**17.80**	**156**	P	**Pn**	**09**	**25**	**59.9**	**+0.9**
	0.7nm,0.3s,baz=316,slow=14,SNR=16								
SNAA				S	**Sn**	**09**	**29**	**15.6**	**-1.5**
	0.8nm,0.6s,baz=129,slow=13,SNR=1.3								
	2.8nm,0.4s								
TROLL	**Troll, Antarti**	**19.28**	**154**	P	**P**	**09**	**26**	**16.9**	**+0.8**
PMSA	**Palmer Station**	**20.10**	**231**	P	**P**	**09**	**26**	**25.2**	**+0.4**
	16nm,0.7s,baz=54,slow=4.7,SNR=4.6								
	16nm,0.7s								
PMSA	**Palmer Station**	**20.10**	**231**	P	**P**	**09**	**26**	**25.7**	**+0.8**
BELA	**Belgrano 2**	**21.48**	**185**	P	**P**	**09**	**26**	**39.5**	**-0.2**
BELA				IAmb	IAmb	09	26	43.4	
	comp=Z,35nm,0.7s								
USHA	**Ushuaia**	**23.82**	**256**	P	**P**	**09**	**27**	**04.3**	**0.0**
	comp=Z,9.2nm,0.3s,baz=88,slow=4.5,SNR=1.9								
	comp=Z,9.2nm,0.3s								
TRQA	**Tornquist**	**30.34**	**292**	P	**P**	**09**	**28**	**03.2**	**0.0**
TRQA				IAmb	IAmb	09	28	18.1	
	comp=Z,106nm,2.0s								
PLTB	**Pedras Altas**	**31.56**	**310**	P	**P**	**09**	**28**	**15.0**	**+1.1**
PLTB				IAmb	IAmb	09	28	15.6	
	comp=Z,22nm,0.7s								
PLTB	**Pedras Altas**	**31.56**	**310**	*eP*	**P**	**09**	**28**	**15.0**	**+1.1**
AY01	**Puyuhuapi**	**31.61**	**273**	P	**P**	**09**	**28**	**13.9**	**-0.2**
AY01				IAmb	IAmb	09	29	24.4	
	comp=Z,72nm,1.9s								
PLCA	**Paso Flores**	**32.93**	**280**	P	**P**	**09**	**28**	**25.1**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=94,slow=6.6,SNR=4.2								
	comp=Z,1.9nm,0.7s								
PLCA	**Paso Flores**	**32.93**	**280**	P	**P**	**09**	**28**	**25.3**	**-0.6**
RODS	**Rosario do Sul**	**33.46**	**309**	*eP*	**P**	**09**	**28**	**31.5**	**+1.0**
QSPA	**South Pole Qui**	**33.53**	**180**	P	**P**	**09**	**28**	**31.9**	**+0.9**
	comp=Z,9.1nm,0.5s,baz=206,slow=2.2								
	comp=Z,9.1nm,0.5s								
ALGR	**Alto Alegre (B**	**33.93**	**314**	*eP*	**P**	**09**	**28**	**36.4**	**+1.7**
ITQB	**Itaqui**	**34.66**	**308**	P	**P**	**09**	**28**	**41.1**	**+0.2**
ITQB				IAmb	IAmb	09	28	44.1	
	comp=Z,59nm,1.4s								
ITQB	**Itaqui**	**34.66**	**308**	*eP*	**P**	**09**	**28**	**41.6**	**+0.7**
ITAB	**Concordia**	**34.98**	**316**	P	**P**	**09**	**28**	**44.5**	**+0.8**
ITAB				IAmb	IAmb	09	28	45.7	
	comp=Z,57nm,1.4s								
ITAB	**Concordia**	**34.98**	**316**	*eP*	**P**	**09**	**28**	**45.2**	**+1.6**
CRSM	**Crissiumal (Br**	**35.49**	**313**	*eP*	**P**	**09**	**28**	**49.2**	**+1.1**
MECA	**Mercedes**	**35.66**	**306**	*eP*	**P**	**09**	**28**	**50.3**	**+0.7**
FRBT	**Francisco Belt**	**36.47**	**316**	*eP*	**P**	**09**	**28**	**58.1**	**+1.5**
PTGB	**Pitanga**	**37.23**	**318**	*eP*	**P**	**09**	**29**	**04.2**	**+1.0**
CPUP	**Villa Florida**	**37.87**	**310**	P	**P**	**09**	**29**	**08.6**	**+0.2**
	comp=Z,13nm,0.7s,baz=146,slow=7.5,SNR=29								
	comp=Z,13nm,0.7s								
CPUP	**Villa Florida**	**37.87**	**310**	P	**P**	**09**	**29**	**08.8**	**+0.4**
MT03	**Universidad Ad**	**38.27**	**288**	P	**P**	**09**	**29**	**11.3**	**-0.5**
MT09	**Talagante**	**38.30**	**287**	P	**P**	**09**	**29**	**09.6**	**-2.6**
MT09				IAmb	IAmb	09	29	31.4	
	comp=Z,51nm,1.7s								
PEL	**Peldehue**	**38.63**	**288**	P	**P**	**09**	**29**	**14.5**	**-0.3**
MT02	**Curacav**	**38.78**	**288**	P	**P**	**09**	**29**	**15.2**	**-0.8**
MT02				IAmb	IAmb	09	29	16.0	
	comp=Z,52nm,1.6s								

ZON	**Zonda**	**38.85**	**292**	P	**P**	**09**	**29**	**15.7**	**-1.0**
ROC1	**El Roble**	**38.93**	**288**	P	**P**	**09**	**29**	**17.6**	**0.0**
TRCB	**Terra Rica**	**39.19**	**319**	P	**P**	**09**	**29**	**21.0**	**+1.4**
TRCB				IAmb	IAmb	09	29	21.6	
	comp=Z,32nm,0.9s								
TRCB	**Terra Rica**	**39.19**	**319**	*eP*	**P**	**09**	**29**	**21.2**	**+1.6**
AMBA	**Amambai (Brazi**	**39.96**	**315**	*eP*	**P**	**09**	**29**	**26.2**	**+0.3**
NAN01	**Guarapari, ES**	**40.30**	**338**	*eP*	**P**	**09**	**29**	**29.1**	**+0.4**
CO02	**Combarbal**	**40.32**	**290**	P	**P**	**09**	**29**	**27.1**	**-1.9**
CO03	**El Pedregal**	**40.45**	**290**	P	**P**	**09**	**29**	**29.7**	**-0.3**
CO01	**Juntas del Tor**	**40.83**	**292**	P	**P**	**09**	**29**	**34.0**	**+0.6**
CO05	**La Serena**	**41.47**	**291**	P	**P**	**09**	**29**	**37.6**	**-0.8**
AC05	**El Transito**	**41.85**	**293**	P	**P**	**09**	**29**	**41.6**	**0.0**
AC05				IAmb	IAmb	09	29	42.9	
	comp=Z,20nm,0.8s								
LCO	**Las Campanas**	**41.92**	**292**	P	**P**	**09**	**29**	**41.2**	**-1.2**
IPMB	**Ipameri, GO**	**42.20**	**327**	*eP*	**P**	**09**	**29**	**45.8**	**+1.3**
AQDB	**Áquidauana**	**42.45**	**316**	P	**P**	**09**	**29**	**46.4**	**0.0**
AQDB	**Áquidauana**	**42.45**	**316**	*eP*	**P**	**09**	**29**	**46.9**	**+0.5**
AC04	**Llanos de Chal**	**42.77**	**292**	P	**P**	**09**	**29**	**48.9**	**-0.1**
AC04				IAmb	IAmb	09	29	50.0	
	comp=Z,25nm,0.7s								
GO03	**Copiap**	**42.84**	**294**	P	**P**	**09**	**29**	**49.2**	**-0.4**
AC02	**Maricunga**	**42.91**	**296**	P	**P**	**09**	**29**	**50.9**	**+0.2**
AC02				IAmb	IAmb	09	29	52.7	
	comp=Z,17nm,0.8s								
AC06	**Mina Casimiro**	**43.09**	**294**	P	**P**	**09**	**29**	**50.4**	**-1.2**
JANB	**Januaria**	**43.93**	**334**	*eP*	**P**	**09**	**29**	**59.1**	**+0.6**
AC01	**Pan de Azucar**	**44.21**	**295**	P	**P**	**09**	**30**	**01.1**	**+0.4**
AC01				IAmb	IAmb	09	30	54.8	
	comp=Z,44nm,1.6s								
BDFB	**Brasilia**	**44.36**	**328**	P	**P**	**09**	**30**	**01.3**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=216,slow=1.5,SNR=3.5								
	comp=Z,1.9nm,0.4s								
PP1B	**Ponte de Pedra**	**44.77**	**319**	*eP*	**P**	**09**	**30**	**06.2**	**+1.0**
PB14	**IPOC Station P**	**45.38**	**296**	P	**P**	**09**	**30**	**09.8**	**-0.5**
PB14				IAmb	IAmb	09	30	27.4	
	comp=Z,68nm,2.0s								
AF01	**San Pedro de A**	**45.71**	**300**	P	**P**	**09**	**30**	**14.2**	**+1.3**
VNDA	**Vanda**	**45.94**	**182**	P	**P**	**09**	**30**	**14.4**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=186,slow=7.5,SNR=14								
	comp=Z,2.2nm,0.6s								
VNDA	**Vanda**	**45.94**	**182**	P	**P**	**09**	**30**	**15.1**	**+1.4**
VNDA				IAmb	IAmb	09	30	29.2	
	comp=Z,44nm,1.9s								
BBRB	**Robore, Bolivi**	**46.06**	**312**	*eP*	**P**	**09**	**30**	**15.7**	**+0.3**
PB15	**IPOC Station P**	**46.11**	**298**	P	**P**	**09**	**30**	**16.5**	**+0.5**
PB15				IAmb	IAmb	09	30	21.4	
	comp=Z,26nm,0.8s								
LVC	**Limon Verde**	**46.35**	**299**	P	**P**	**09**	**30**	**18.7**	**+0.7**
LVC	**Limon Verde**	**46.35**	**299**	*eP*	**P**	**09**	**30**	**18.6**	**+0.7**
PB06	**IPOC Station P**	**46.59**	**298**	P	**P**	**09**	**30**	**17.9**	**-1.8**
PB06				IAmb	IAmb	09	30	25.3	
	comp=Z,20nm,0.8s								
SALV	**Santo Antonio**	**46.63**	**319**	*eP*	**P**	**09**	**30**	**21.0**	**+1.2**
PB04	**IPOC Station P**	**47.18**	**298**	P	**P**	**09**	**30**	**24.6**	**+0.2**
PB09	**IPOC Station P**	**47.20**	**299**	P	**P**	**09**	**30**	**24.4**	**0.0**
PB03	**IPOC Station P**	**47.23**	**299**	P	**P**	**09**	**30**	**23.9**	**-0.9**
PB03				IAmb	IAmb	09	30	25.8	
	comp=Z,19nm,0.7s								
BBSD	**Serra de San D**	**47.37**	**312**	*eP*	**P**	**09**	**30**	**25.6**	**0.0**
PB07	**IPOC Station P**	**47.57**	**299**	P	**P**	**09**	**30**	**27.4**	**+0.1**
PB02	**IPOC Station P**	**47.92**	**299**	P	**P**	**09**	**30**	**29.5**	**-0.5**
PB01	**IPOC Station P**	**47.96**	**300**	P	**P**	**09**	**30**	**29.9**	**-0.4**
PTLB	**Pontes e Lacer**	**48.35**	**315**	P	**P**	**09**	**30**	**33.6**	**+0.4**
PTLB				IAmb	IAmb	09	30	34.9	
	comp=Z,19nm,0.8s								
PTLB	**Pontes e Lacer**	**48.35**	**315**	*eP*	**P**	**09**	**30**	**33.8**	**+0.6**
PATCX	**Punta Patache**	**48.47**	**299**	P	**P**	**09**	**30**	**34.8**	**+0.6**
TA01	**Diego Aracena**	**48.70**	**299**	P	**P**	**09**	**30**	**36.0**	**+0.2**
TA01				IAmb	IAmb	09	30	46.4	
	comp=Z,13nm,0.8s								
SNDB	**Serra Nova Dou**	**48.81**	**326**	*eP*	**P**	**09**	**30**	**37.8**	**+1.0**
TA02	**Huaiquique**	**48.93**	**299**	P	**P**	**09**	**30**	**37.8**	**+0.2**
TA02				IAmb	IAmb	09	30	38.8	
	comp=Z,27nm,0.8s								
GO01	**Chusmiza**	**49.00**	**301**	P	**P**	**09**	**30**	**39.7**	**+1.0**
PB11	**IPOC Station P**	**49.14**	**300**	P	**P**	**09**	**30**	**39.8**	**+0.4**
PSGCX	**Pisagua**	**49.50**	**300**	P	**P**	**09**	**30**	**42.2**	**0.0**
PSGCX				IAmb	IAmb	09	30	43.2	
	comp=Z,25nm,0.7s								
H10N1	**ASCENSION HYDR**	**49.54**	**15**	T	T	10	25	10.0	
	baz=188								
H10N3	**ASCENSION HYDR**	**49.54**	**15**	T	T	10	25	07.9	
	baz=188								
H10N2	**ASCENSION HYDR**	**49.56**	**15**	T	T	10	25	11.1	
	baz=188								
MNMC	**Minye Minye**	**49.65**	**301**	P	**P**	**09**	**30**	**44.4**	**+0.9**
PB16	**IPOC Station P**	**50.30**	**301**	P	**P**	**09**	**30**	**49.2**	**+0.4**
PB16				IAmb	IAmb	09	30	50.5	
	comp=Z,17nm,0.6s								
PB12	**IPOC Station P**	**50.44**	**300**	P	**P**	**09**	**30**	**49.5**	**+0.2**
PB12				IAmb	IAmb	09	30	51.4	
	comp=Z,32nm,1.4s								
VILB	**Vilhena**	**51.04**	**315**	P	**P**	**09**	**30**	**53.0**	**-0.8**
VILB				IAmb	IAmb	09	30	55.0	
	comp=Z,15nm,0.7s								
VILB	**Vilhena**	**51.04**	**315**	*eP*	**P**	**09**	**30**	**54.2**	**+0.4**
CLDB	**Colider**	**51.32**	**321**	*eP*	**P**	**09**	**30**	**56.1**	**+0.3**
LPAZ	**La Paz**	**51.44**	**304**	P	**P**	**09**	**30**	**58.5**	**+1.1**
	comp=Z,44nm,0.7s,baz=147,slow=6.1,SNR=157								
	comp=Z,44nm,0.7s								
LPAZ	**La Paz**	**51.44**	**304**	P	**P**	**09**	**30**	**58.4**	**+0.9**
LPAZ	**La Paz**	**51.44**	**304**	*eP*	**P**	**09**	**30**	**58.3**	**+0.9**
PRPB	**Parauapebas**	**53.88**	**330**	*eP*	**P**	**09**	**31**	**15.6**	**+0.8**
NPGB	**Novo Progresso**	**54.74**	**323**	*eP*	**P**	**09**	**31**	**21.5**	**+0.4**
ETMB	**Extrema**	**56.33**	**310**	P	**P**	**09**	**31**	**32.0**	**-0.5**
ETMB				IAmb	IAmb	09	31	34.7	
	comp=Z,9.3nm,0.8s								
ETMB	**Extrema**	**56.33**	**310**	*eP*	**P**	**09**	**31**	**32.7**	**+0.3**
ITTB	**Itaituba**	**57.38**	**324**	*eP*	**P**	**09**	**31**	**40.4**	**+0.4**
MALB	**Monte Alegre**	**59.28**	**326**	*eP*	**P**	**09**	**31**	**54.1**	**+0.9**
MCPB	**Macapa, AP**	**60.05**	**329**	*eP*	**P**	**09**	**31**	**59.3**	**+0.8**
MACA	**Manacapuru-AM**	**60.21**	**319**	P	**P**	**09**	**31**	**59.2**	**-0.4**
MACA				IAmb	IAmb	09	31	59.9	
	comp=Z,22nm,0.8s								
MACA	**Manacapuru-AM**	**60.21**	**319**	*eP*	**P**	**09**	**31**	**59.1**	**-0.4**
CZSB	**Cruzeiro do Su**	**61.05**	**304**	P	**P**	**09**	**32**	**04.4**	**-0.9**
CZSB				IAmb	IAmb	09	32	05.6	
	comp=Z,56nm,1.4s								
CZSB	**Cruzeiro do Su**	**61.05**	**304**	*eP*	**P**	**09**	**32**	**05.0**	**-0.3**
TEFE	**Tefe**	**61.39**	**314**	*eP*	**P**	**09**	**32**	**07.5**	**-0.2**
TBTG	**Tabatinga, AM**	**62.95**	**309**	P	**P**	**09**	**32**	**18.1**	**-0.1**
TBTG				IAmb	IAmb	09	32	19.1	
	comp=Z,50nm,1.5s								
BOAV	**Boa Vista**	**65.32**	**321**	P	**P**	**09**	**32**	**33.4**	**-0.3**
BOAV				IAmb	IAmb	09	32	34.3	
	comp=Z,15nm,0.9s								
BOAV	**Boa Vista**	**65.32**	**321**	*eP*	**P**	**09**	**32**	**33.2**	**-0.4**
SGCB	**SÃo Gabriel d**	**65.43**	**313**	*eP*	**P**	**09**	**32**	**33.7**	**-0.7**
MCRA	**Macar, Loja**	**67.40**	**299**	P	**P**	**09**	**32**	**46.9**	**-0.1**
MCRA				IAmb	IAmb	09	32	47.8	
	comp=Z,10nm,0.7s								
ARNL	**Arenillas**	**68.17**	**299**	P	**P**	**09**	**32**	**52.6**	**+0.7**
PORT	**Chimborazo Vol**	**69.37**	**301**	P	**P**	**09**	**32**	**58.9**	**-1.2**
PORT				IAmb	IAmb	09	33	15.9	
	comp=Z,8.3nm,0.8s								
CHSH	**Refugio Sur-Vo**	**69.39**	**301**	P	**P**	**09**	**33**	**01.3**	**+1.1**
CHSH				IAmb	IAmb	09	33	06.0	
	comp=Z,11nm,0.7s								
PIAT	**Ana Tenorio**	**69.54**	**302**	*eP*	**P**	**09**	**33**	**02.6**	**+1.8**
MACC	**Macarena, Meta**	**70.33**	**308**	*eP*	**P**	**09**	**33**	**05.1**	**-0.1**
FLOC	**Florencia**	**70.62**	**306**	*eP*	**P**	**09**	**33**	**06.3**	**-0.7**
OTAV	**Otavalo**	**70.71**	**303**	P	**P**	**09**	**33**	**08.7**	**+0.6**
OTAV				IAmb	IAmb	09	33	11.2	
	comp=Z,41nm,1.6s								
OTAV	**Otavalo**	**70.71**	**303**	*eP*	**P**	**09**	**33**	**09.9**	**+1.8**
OTAV	**Otavalo**	**70.71**	**303**	*eP*	**P**	**09**	**33**	**07.1**	**-1.0**
TULM	**Tulcn-Chalpat**	**70.83**	**303**	P	**P**	**09**	**33**	**09.0**	**+0.2**
TULM				IAmb	IAmb	09	33	15.4	
	comp=Z,30nm,1.1s								
TULM	**Tulcn-Chalpat**	**70.83**	**303**	*eP*	**P**	**09**	**33**	**09.8**	**+1.0**
GCUF	**Volcan Galeras**	**71.07**	**304**	*eP*	**P**	**09**	**33**	**12.8**	**+2.4**
GARC	**Garzon, Huila**	**71.09**	**306**	*eP*	**P**	**09**	**33**	**09.4**	**-0.7**
CHIC	**Chingaza**	**72.50**	**309**	*eP*	**P**	**09**	**33**	**20.0**	**+1.2**
ORTC	**Ortega, Tolima**	**72.52**	**307**	*eP*	**P**	**09**	**33**	**19.0**	**+0.5**
YOTC	**Yotoco, Valle**	**73.07**	**306**	*eP*	**P**	**09**	**33**	**21.6**	**-0.2**
RUSC	**La Rusia**	**73.36**	**310**	P	**P**	**09**	**33**	**23.1**	**-0.9**
RUSC				IAmb	IAmb	09	33	26.3	
	comp=Z,15nm,1.3s								
RUSC	**La Rusia**	**73.36**	**310**	*eP*	**P**	**09**	**33**	**23.1**	**-0.9**
GUY2C	**Guyana, Caldas**	**73.74**	**308**	*eP*	**P**	**09**	**33**	**25.8**	**-0.4**
PLMC	**San Jos del P**	**73.86**	**307**	*eP*	**P**	**09**	**33**	**26.3**	**-0.2**

BAUV	**El Baul**	**74.11**	**316**	P	**P**	**09**	**33**	**27.9**	**+0.2**
PTBC	**PUERTO BERRIO,**	**74.53**	**309**	*eP*	**P**	**09**	**33**	**28.1**	**-2.1**
CBOC	**Ciudad Bolivar**	**74.59**	**307**	*eP*	**P**	**09**	**33**	**29.2**	**-1.7**
GRGR	**Grenville**	**74.80**	**323**	P	**P**	**09**	**33**	**31.9**	**+0.2**
SDV	**Santo Domingo**	**75.07**	**314**	P	**P**	**09**	**33**	**33.4**	**-0.1**
SDV				IAmb	IAmb	09	33	34.8	
	comp=Z,13nm,0.8s								
SDV	**Santo Domingo**	**75.07**	**314**	*eP*	**P**	**09**	**33**	**33.2**	**-0.4**
ZARC	**Zaragoza, Cauc**	**75.55**	**309**	*eP*	**P**	**09**	**33**	**34.5**	**-1.7**
ASAR	**Alice Springs**	**98.10**	**161**	P	**P**	**09**	**35**	**27.1**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=194,slow=4.2,SNR=4.4								
	comp=Z,0.8nm,0.9s								
MVU	**Marysvale**	**119.40**	**296**		**PKPdf**	**09**	**40**	**41.2**	**+0.5**
TCRU	**Three Creeks R**	**119.60**	**296**		**PKiKP**	**09**	**40**	**41.9**	**+0.8**
PDAR	**Pinedale Array**	**121.40**	**301**	PKP	**PKPdf**	**09**	**40**	**42.6**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=166,slow=3.1,SNR=4.1								
NVAR	**Mina Array Bea**	**122.41**	**292**	PKP	**PKPdf**	**09**	**40**	**45.7**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=159,slow=2.7,SNR=1.7								
MOOW	**Moose Ponds**	**122.70**	**301**	PKPdf	**PKPdf**	**09**	**40**	**46.5**	**-0.4**
FXWY	**Fox Creek**	**122.75**	**301**		**PKPdf**	**09**	**40**	**47.3**	**+0.3**
IMW	**Indian Meadow**	**122.91**	**301**	PKPdf	**PKPdf**	**09**	**40**	**47.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**124.06**	**110**	PKP	**PKPdf**	**09**	**40**	**48.4**	**-1.5**
	comp=Z,1.0nm,

M22K	**Willow** baz=106	**151.89**	**304**	P	**PKPbc**	09 41 45.7	**+0.7**
F24K	**Squaw Lake** baz=97	**152.01**	**316**	P	**PKPbc**	09 41 45.9	**+0.6**
NEA2	**Nenana**	**152.06**	**310**		**PKPbc**	09 41 44.9	**-0.5**
NEA2				PKPab	**PKPab**	09 41 54.6	**-0.5**
NEA2	**Nenana** baz=101	**152.06**	**310**	P	**PKPbc**	09 41 44.8	**-0.5**
BWN	**Browne**	**152.15**	**309**		**PKPbc**	09 41 45.7	**+0.1**
BWN				PKPab	**PKPab**	09 41 56.4	**+0.9**
E24K	**Your Creek** baz=95	**152.29**	**317**	P	**PKPbc**	09 41 46.6	**+0.7**
SKT	**Skwentna**	**152.60**	**304**		**PKPbc**	09 41 46.9	**+0.2**
KTH	**Katishna Hill**	**152.66**	**307**		**PKPbc**	09 41 47.3	**+0.4**
G23K	**Bananza Creek** baz=96	**152.76**	**314**	P	**PKPbc**	09 41 47.8	**+0.8**
BPAW	**Bear Paw Mtn.**	**152.79**	**308**		**PKPbc**	09 41 47.1	**0.0**
BPAW				PKPab	**PKPab**	09 41 58.1	**-0.1**
BPAW	**Bear Paw Mtn.** baz=101	**152.79**	**308**	P	**PKPbc**	09 41 47.1	**0.0**
XLT	**XiLinHaoTe**	**152.82**	**102**	*e*PKPbc	**PKPdf**	09 41 37.9	**-2.8**
MLY	**Manley** baz=99	**152.84**	**310**	P	**PKPbc**	09 41 47.0	**-0.2**
COLD	**Coldfoot**	**152.88**	**315**		**PKPbc**	09 41 47.6	**+0.5**
COLD	**Coldfoot** baz=95	**152.88**	**315**	P	**PKPbc**	09 41 47.2	**+0.1**
CAST	**Castle Rocks**	**153.15**	**307**	PKPdf	**PKPdf**	09 41 39.8	**-0.7**
CAST					**PKPbc**	09 41 46.9	**-1.0**
CAST					**PKPab**	09 41 59.9	**+0.1**
H22K	**Ishtalitna Cre** baz=97	**153.22**	**312**	P	**PKPbc**	09 41 48.1	**+0.1**
CHUM	**Lake Minchumin** baz=100	**153.33**	**308**	P	**PKPbc**	09 41 48.4	**+0.2**
G21K	**Allakaket** baz=94	**154.13**	**313**	P	**PKPbc**	09 41 50.5	**+0.6**
CN2	**Changchun**	**157.68**	**113**	*e*PKP	**PKPdf**	09 41 49.5	**+2.3**

*IDC **17** 09:27:52.4±0.9,56°.50S×25°.04W, h0km, mb4.2/6, mbtmp4.2/7, ML3.4/1, Error ellipse: s-maj=36.5km s-min=20.8km az=48.0*
*NEIC **17** 09:27:56.6±2.2, 57°.3S±0°.1×26°.7W±0°.1, h10km±1km, mb4.7/46, Error ellipse: s-maj=18.3km s-min=12.3km az=153.0*

ISC 17 09:27:55.6±0.7,**57°.2S**±0°.1×**26°.7W**±0°.1,**h10**km,**n56**, σ1ᵖ**30**/54,**mb4.7**/27,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.27**	**294**	Pn	**Pn**	**09 29 27.4**	**-0.7**
SNAA	**Sanae**	**17.56**	**155**	P	**P**	**09 32 02.0**	**+0.8**
	0.1nm,0.3s,baz=310,slow=14,SNR=2.9 1.9nm,0.8s						
BELA	**Belgrano 2**	**20.93**	**185**	P	**P**	**09 32 37.7**	**-0.2**
GO09	**Cerro Castillo**	**26.91**	**263**	P	**P**	**09 33 35.3**	**-1.3**
GO09				IAmb	IAmb	09 33 36.3	
	comp=Z,31nm,1.4s						
GO08	**Villa O'Higgin**	**28.56**	**268**	P	**P**	**09 33 49.3**	**-2.0**
TRQA	**Tornquist**	**30.05**	**294**	P	**P**	**09 34 04.2**	**-0.5**
AY01	**Puyuhuapi**	**31.11**	**274**	P	**P**	**09 34 13.7**	**-0.1**
AY01				IAmb	IAmb	09 34 29.7	
	comp=Z,15nm,1.1s						
PLTB	**Pedras Altas**	**31.49**	**312**	P	**P**	**09 34 17.7**	**+0.3**
PLTB				IAmb	IAmb	09 34 28.1	
	comp=Z,13nm,1.5s						
QSPA	**South Pole Qui**	**33.03**	**180**	P	P	09 34 35.3	+4.6
	comp=Z,2.2nm,0.5s,baz=348,slow=1.8,SNR=21 comp=Z,2.2nm,0.5s						
LL05	**Los Muermos**	**33.59**	**278**	P	**P**	**09 34 37.1**	**+1.4**
GO06	**Curarrehue**	**33.81**	**282**	P	**P**	**09 34 38.5**	**+0.8**
GO06				IAmb	IAmb	09 35 03.1	
	comp=Z,13nm,1.5s						
CPUP	**Villa Florida**	**37.80**	**312**	P	**P**	**09 35 12.1**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=121,slow=8.6,SNR=3.6 comp=Z,1.2nm,0.6s						
CPUP	**Villa Florida**	**37.80**	**312**	P	**P**	**09 35 11.9**	**+0.1**
MT09	**Talagante**	**37.95**	**289**	P	**P**	**09 35 13.6**	**+0.3**
MT09				IAmb	IAmb	09 35 19.3	
	comp=Z,18nm,1.4s						
MT01	**Popeta**	**38.02**	**289**	P	**P**	**09 35 13.6**	**0.0**
MT02	**Curacav**	**38.43**	**289**	P	**P**	**09 35 18.2**	**+1.0**
MT02				IAmb	IAmb	09 35 35.2	
	comp=Z,24nm,1.4s						
CO02	**Combarbal**	**40.00**	**291**	P	**P**	**09 35 30.7**	**+0.2**
CO02				IAmb	IAmb	09 35 56.6	
	comp=Z,18nm,1.1s						
GO04	**Tololo Observa**	**40.73**	**292**	P	**P**	**09 35 38.1**	**+1.5**
GO04				IAmb	IAmb	09 35 39.5	
	comp=Z,18nm,1.2s						
AC05	**El Transito**	**41.56**	**294**	P	**P**	**09 35 45.2**	**+1.9**
AC04	**Llanos de Chal**	**42.48**	**294**	P	**P**	**09 35 52.4**	**+1.8**
AC04				IAmb	IAmb	09 36 13.1	
	comp=Z,12nm,1.1s						
AC02	**Maricunga**	**42.66**	**297**	P	**P**	**09 35 54.8**	**+2.0**
AC01	**Pan de Azucar**	**43.95**	**296**	P	**P**	**09 36 04.1**	**+1.5**
AC01				IAmb	IAmb	09 36 21.0	
	comp=Z,22nm,1.4s						
BDFB	**Brasilia**	**44.52**	**330**	P	**P**	**09 36 06.9**	**-0.4**
SBA	**Scott Base**	**44.93**	**184**	P	**P**	**09 36 09.9**	**+0.1**
PB14	**IPOC Station P**	**45.13**	**297**	P	**P**	**09 36 12.9**	**+0.5**
PB14				IAmb	IAmb	09 36 19.3	
	comp=Z,15nm,1.2s						
BOSA	**Boshof**	**46.00**	**74**	P	**P**	**09 36 18.4**	**-0.6**
BOSA				IAmb	IAmb	09 36 19.3	
	comp=Z,11nm,1.3s						
LVC	**Limon Verde**	**46.14**	**301**	P	**P**	**09 36 22.1**	**+1.7**
	comp=Z,5.8nm,0.7s,baz=151,slow=7.2,SNR=8.6 comp=Z,5.8nm,0.7s						
LVC	**Limon Verde**	**46.14**	**301**	P	**P**	**09 36 22.3**	**+1.9**
LVC				IAmb	IAmb	09 36 27.1	
	comp=Z,6.1nm,0.8s						
PB10	**IPOC Station P**	**46.15**	**298**	P	**P**	**09 36 20.9**	**+0.9**
PB06	**IPOC Station P**	**46.37**	**300**	P	**P**	**09 36 23.5**	**+1.5**
PB04	**IPOC Station P**	**46.96**	**299**	P	**P**	**09 36 28.3**	**+1.6**
PB09	**IPOC Station P**	**46.99**	**301**	P	**P**	**09 36 28.9**	**+1.9**
PB09				IAmb	IAmb	09 36 37.8	
	comp=Z,8.3nm,0.9s						
PB03	**IPOC Station P**	**47.02**	**300**	P	**P**	**09 36 28.4**	**+1.3**
PB07	**IPOC Station P**	**47.35**	**300**	P	**P**	**09 36 31.3**	**+1.5**
PB07				IAmb	IAmb	09 36 32.0	
	comp=Z,11nm,1.2s						
PB02	**IPOC Station P**	**47.71**	**300**	P	**P**	**09 36 34.6**	**+2.1**
PB01	**IPOC Station P**	**47.76**	**301**	P	**P**	**09 36 34.5**	**+1.7**
PB01				IAmb	IAmb	09 36 35.0	
	comp=Z,7.3nm,0.8s						
PTLB	**Pontes e Lacer**	**48.34**	**316**	P	**P**	**09 36 37.6**	**+0.4**
PTLB				IAmb	IAmb	09 37 03.5	
	comp=Z,0.7nm,0.8s						
SIV	**San Ignacio**	**48.59**	**314**	P	**P**	**09 36 38.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=193,slow=14,SNR=1.7 comp=Z,0.3nm,0.3s						
TA02	**Huaiquique**	**48.72**	**301**	P	**P**	**09 36 41.7**	**+1.6**
TA02				IAmb	IAmb	09 36 45.6	
	comp=Z,11nm,1.1s						
GO01	**Chusmiza**	**48.81**	**302**	P	**P**	**09 36 43.2**	**+1.8**
GO01				IAmb	IAmb	09 36 43.7	
	comp=Z,8.4nm,0.8s						
PB11	**IPOC Station P**	**48.94**	**302**	P	**P**	**09 36 43.5**	**+1.5**
PB11				IAmb	IAmb	09 36 44.6	
	comp=Z,7.2nm,1.1s						
LBTB	**Lobatse**	**49.09**	**72**	P	P	09 36 32.9	-10
	comp=Z,2.3nm,0.6s,baz=188,slow=19,SNR=1.8 comp=Z,2.3nm,0.6s						
PSGCX	**Pisagua**	**49.30**	**301**	P	**P**	**09 36 46.0**	**+1.3**
PSGCX				IAmb	IAmb	09 37 05.7	
	comp=Z,12nm,1.3s						
MNMC	**Minye Minye**	**49.46**	**302**	P	**P**	**09 36 47.9**	**+1.8**
PB16	**IPOC Station P**	**50.11**	**303**	P	**P**	**09 36 52.8**	**+1.4**
PB12	**IPOC Station P**	**50.25**	**302**	P	**P**	**09 36 53.4**	**+1.4**
PB12				IAmb	IAmb	09 37 18.2	
	comp=Z,14nm,1.5s						
LPAZ	**La Paz**	**51.29**	**305**	P	**P**	**09 37 01.4**	**+1.0**
	comp=Z,4.5nm,0.6s,baz=174,slow=6.5,SNR=15 comp=Z,4.5nm,0.6s						
LPAZ	**La Paz**	**51.29**	**305**	P	**P**	**09 37 02.0**	**+1.6**
LPAZ				IAmb	IAmb	09 37 03.0	
	comp=Z,5.8nm,0.8s						
CZSB	**Cruzeiro do Su**	**60.90**	**305**	P	**P**	**09 38 09.6**	**+1.2**
CZSB				IAmb	IAmb	09 38 29.9	
	comp=Z,3.0nm,0.9s						
MCRA	**Macar, Loja**	**67.18**	**300**	P	**P**	**09 38 48.7**	**-1.1**
ARNL	**Arenillas**	**67.95**	**300**	P	**P**	**09 38 54.0**	**-0.6**
ARNL				IAmb	IAmb	09 38 55.5	
	comp=Z,3.6nm,0.7s						
GRGR	**Grenville**	**74.89**	**325**	P	**P**	**09 39 36.0**	**-0.3**
PAYG	**Puerto Ayora**	**75.43**	**292**	P	**P**	**09 39 39.9**	**+0.3**
YKA	**Yellowknife Ar**	**137.23**	**317**	PKP	**PKPdf**	**09 47 15.9**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=133,slow=2.1,SNR=4.8						
SONM	**Songino Array**	**150.50**	**88**	PKPbc	**PKPdf**	**09 47 42.9**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=250,slow=3.5,SNR=3.7						
ILAR	**Eielson Array**	**151.10**	**310**	PKPbc	**PKPbc**	**09 47 45.6**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=119,slow=0.9,SNR=8.7						

*SSNC **17** 09:28:43.7±1.2, 19°.73N×76°.69W, h6km±8km, ML3.7, MW3.5*
*OSPL **17** 09:28:44.1±1.1, 19°.52N×76°.56W, h0km±999km, ML2.6*
*JSN **17** 09:28:45.6±0.6, 19°.68N×76°.64W, h30km±999km, MD3.8*

ISC 17 09:28:41.1±1.9,**19°.79N**±0°.07×**76°.72W**±0°.07,**h13**km±12km, **n18**,σ0ᵖ**88**/25,**3C-4D**,**Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.99**	**78**	*e*P	**Pg**	**09 29 00.5**	**+0.2**
RCC				*e*S	**Sg**	09 29 12.1	**-1.1**
HLGC	**Holguin**	**1.26**	**29**	*e*P	**Pn**	**09 29 04.7**	**+0.2**
HLGC				*e*S	**Sb**	09 29 20.9	**-0.1**
BBJ	**Bamboo Saint A**	**1.49**	**200**	*i*P	**Pn**	**09 29 08.2**	**+0.6**
GTBY	**Guantanamo Bay**	**1.52**	**85**	*e*P	**Pn**	**09 29 08.6**	**+0.5**
GTBY				*e*S	**Sn**	**09 29 26.9**	**-0.8**
GTBY	**Guantanamo Bay**	**1.52**	**85**	*e*P	**Pn**	**09 29 08.8**	**+0.7**
GTBY				*e*S	**Sn**	**09 29 27.1**	**-0.6**
GTBY	**Guantanamo Bay**	**1.52**	**85**	*i*P	**Pn**	**09 29 09.0**	**+0.9**
GTBY				*e*S	**Sn**	**09 29 27.6**	**-0.2**
GTBY				IAML		09 29 36.5	
	comp=Z,103nm,0.9s						
STH	**Stony Hill**	**1.70**	**183**	*i*P	**Pn**	**09 29 11.0**	**+0.3**
GWJ	**Greenwich**	**1.71**	**180**	*i*P	**Pn**	**09 29 11.0**	**+0.3**
CCCC	**Cccc**	**1.71**	**325**	*e*P	Pn	09 29 09.9	-0.7
CCCC				*e*S	Sn	09 29 28.7	-3.7
MTDJ	**Mount Denham**	**1.73**	**206**	*e*P	**Pn**	**09 29 11.8**	**+0.7**
MTDJ	**Mount Denham**	**1.73**	**206**	*e*P	**Pn**	**09 29 11.9**	**+0.9**
MTDJ	**Mount Denham**	**1.73**	**206**	*i*P	**Pn**	**09 29 12.0**	**+0.9**
MTDJ				*e*S	**Sn**	**09 29 31.3**	**-1.8**
MTDJ				IAML		09 29 38.8	
	comp=Z,76nm,2.4s						
HOJ	**Hope**	**1.77**	**181**	*i*P	**Pn**	**09 29 12.2**	**+0.7**
MOAC	**Moa**	**1.87**	**62**	*e*P	**Pn**	**09 29 13.4**	**+0.6**
MCJ	**Malvern**	**2.07**	**206**	*i*P	**Pn**	**09 29 17.1**	**+1.4**
MCJ				*i*S	**Sn**	**09 29 40.4**	**-0.9**
PCJ	**Portland Cotta**	**2.08**	**192**	*i*P	**Pn**	**09 29 16.8**	**+1.1**
MASC	**Masc**	**2.38**	**80**	*e*P	**Pn**	**09 29 20.0**	**+0.2**
MASC	**Masc**	**2.38**	**80**	*i*P	**Pn**	**09 29 20.9**	**+1.1**
MASC				*e*S	**Sn**	**09 29 49.3**	**+0.5**
MASC				IAML		09 29 54.5	
	comp=Z,14nm,0.2s						

*UPP **17** 09:59:21.7±1.6, 67°.68N×27°.04E, h0km, ML2.5*
*BER **17** 09:59:21.9±1.6, 67°.60N×26°.92E, h0km, ML1.6, Suspected explosion*
*KOLA **17** 09:59:23.4, 67°.79N×27°.05E, h0km, ML2.2, Finland, Lapland*

ISC 17 09:59:18.5±0.9,**67°.68N**±0°.04×**27°.06E**±0°.03,**h0**km,**n16**, σ0ᵖ**87**/28,**Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEF	**Hetta**	**1.48**	**301**	*e*P	**Pn**	**09 59 46.3**	**0.0**
HEF				*e*S	**Sn**	**10 00 07.1**	**+0.8**
PAJU	**Pajala**	**1.66**	**249**	P	**Pb**	**09 59 49.4**	**-0.5**
PAJU				S	**Sg**	**10 00 13.0**	**+1.1**
ARA0	**ARCESS Array S**	**1.96**	**344**	*e*P	**Pb**	**09 59 54.3**	**-0.6**
ARA0				*e*S	**Sb**	**10 00 19.4**	**-0.4**
ARA0				IAML		10 00 23.8	
	comp=Z,9.2nm,0.1s						
ARCES	**ARCESS Array B**	**1.96**	**344**	P	**Pg**	**09 59 56.1**	**+0.3**
ARCES				S	**Sb**	**10 00 20.0**	**+0.2**
KTK1	**Kautokeino**	**1.96**	**315**	*e*P	**Pb**	**09 59 54.5**	**-0.4**
KTK1				*e*S	**Sn**	**10 00 18.8**	**+0.7**
KTK1				IAML		10 00 25.9	
	comp=Z,8.5nm,0.2s						
MASU	**Masugnsbyn**	**1.96**	**266**	P	**Pb**	**09 59 54.5**	**-0.4**
MASU				S	**Sg**	**10 00 21.0**	**-0.2**
LANU	**Lannavaara**	**1.96**	**283**	P	**Pb**	**09 59 54.6**	**-0.4**
LANU				S	**Sg**	**10 00 20.8**	**-0.6**
KEV	**Kevo**	**2.09**	**359**	*e*P	**Pb**	**09 59 56.8**	**-0.4**
KEV				*e*S	**Sb**	**10 00 23.2**	**-0.5**
ERTU	**Ertsjaerv**	**2.21**	**242**	P	**Pb**	**09 59 58.6**	**-0.7**
APA0	**Apatity Array**	**2.27**	**89**	P	**Pg**	**10 00 01.6**	**-0.3**
APA0				S	**Sg**	**10 00 30.1**	**-1.1**
KALU	**Kalix**	**2.34**	**221**	P	**Pb**	**10 00 00.8**	**-0.7**
APA	**Apatity**	**2.43**	**90**	S	**Sg**	**10 00 36.1**	**-0.3**
DUNU	**Dundret**	**2.57**	**261**	P	**Pb**	**10 00 04.3**	**-1.1**
VADS	**Vadso**	**2.59**	**18**	*e*P	**Pb**	**10 00 05.1**	**-0.6**
VADS				*e*S	**Sb**	**10 00 36.5**	**-1.6**
VADS				IAML		10 00 41.2	
	comp=Z,5.1nm,0.3s						
KIF	**Kilpisjarvi**	**2.68**	**303**	*e*P	**Pb**	**10 00 05.9**	**-1.3**
KIF				*e*S	**Sn**	**10 00 36.6**	**+0.8**
TERR	**Teriberka**	**3.34**	**59**	P	**Pn**	**10 00 13.3**	**+1.4**
TERR				S	**Sn**	**10 00 54.0**	**+1.8**

*HEL **17** 10:25:08.7±0.2, 64°.70N×30°.78E, h0km, ML2.1, Explosion*
*KOLA **17** 10:25:11.9, 64°.73N×30°.23E, h0km, ML2.1, Error ellipse: s-maj=27.4km s-min=13.7km az=150.0, Karelia,Finland, Oulu area*
*IDC **17** 10:25:12.4±2.4, 64°.75N×30°.31E, h0km, mbtmp2.9/2, ML1.9/2, Error ellipse: s-maj=40.5km s-min=7.8km az=97.0*

ISC 17 10:25:10.5±0.9,**64°.74N**±0°.02×**30°.56E**±0°.04,**h0**km,**n34**, σ1ᵖ**93**/53,**Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.59**	**208**	PG	**Pg**	**10 25 19.5**	**-2.3**
RMF				MSG		10 25 27.9	
	comp=Z,41nm,0.2s						
RMF				SG	**Sg**	**10 25 30.0**	**+0.5**
KU6	**Riekki** baz=167	**1.32**	**348**	PG	**Pg**	**10 25 33.7**	**-2.1**
KU6				MSG		10 25 50.4	
	comp=Z,21nm,0.2s						
KU6				SN	**Sb**	**10 25 54.4**	**+0.9**
MSF	**Maaselka**	**1.34**	**332**	PG	**Pg**	**10 25 34.3**	**-1.8**
MSF				SB	**Sg**	**10 25 52.8**	**-0.6**
OLKF	**Oulanka, Finla**	**1.66**	**344**	PG	**Pn**	**10 25 39.8**	**-1.0**
OLKF				MSG		10 26 00.3	
	comp=Z,19nm,0.2s						
OLKF				SN	**Sb**	**10 26 04.2**	**+0.9**
JOF	**Joensuu**	**1.86**	**169**	PG	**Pn**	**10 25 40.9**	**-2.7**
JOF				SG	**Sn**	**10 26 06.6**	**-1.2**
OUL	**Oulu** baz=97	**2.02**	**282**	PG	**Pn**	**10 25 46.2**	**+0.4**
OUL				SB	**Sn**	**10 26 12.5**	**+0.9**
OBF4	**Vikkela, Lumij**	**2.34**	**274**	PB	**Pn**	**10 25 51.3**	**+1.1**
OBF4				MSG		10 26 20.7	
	comp=Z,11nm,0.2s						
OBF4				SG	**Sb**	**10 26 24.2**	**+1.3**
OUF	**Merijarvi** baz=77	**2.54**	**264**	PN	**Pn**	**10 25 52.9**	**-0.1**
OUF				MSG		10 26 26.4	
	comp=Z,11nm,0.2s						
OUF				SB	**Sb**	**10 26 28.0**	**-0.8**
RNF	**Rovaniemi**	**2.66**	**317**	PB	**Pn**	**10 25 55.2**	**+0.7**
RNF				SG	**Sb**	**10 26 33.4**	**+1.4**
OBF0	**Syolatti, Pyha**	**2.73**	**268**	PB	**Pn**	**10 25 57.7**	**+2.1**
OBF0				MSG		10 26 31.9	
	comp=Z,8.3nm,0.2s						
OBF0				SG	**Sb**	**10 26 36.6**	**+2.3**
TOF	**Tornio**	**2.93**	**300**	PB	**Pn**	**10 25 59.7**	**+1.4**
TOF				MSG		10 26 37.8	
	comp=Z,3.8nm,0.2s						
TOF				SG	**Sb**	**10 26 41.0**	**+1.1**
APA0	**Apatity Array**	**3.04**	**18**	P	**Pn**	**10 26 01.7**	**+1.9**
APA0				S	**Sn**	**10 26 38.6**	**+1.7**
VRF	**Varrio**	**3.04**	**353**	PB	**Pn**	**10 26 01.5**	**+1.6**
VRF				MSG		10 26 39.9	
	comp=Z,4.7nm,0.2s						
APA	**Apatity**	**3.06**	**21**	S	**Sn**	**10 26 38.2**	**+0.7**
SGF	**Sodankyl**	**3.17**	**331**	PB	**Pn**	**10 26 04.2**	**+2.6**
SGF				SB	**Sb**	**10 26 45.1**	**-1.7**
KALU	**Kalix**	**3.23**	**294**	PB	**Pn**	**10 26 04.4**	**+2.1**
KALU				SB	**Sb**	**10 26 49.1**	**+0.7**
KAF	**Kangasniemi**	**3.26**	**218**	PB	**Pn**	**10 26 05.5**	**+2.7**
KAF				SB	**Sb**	**10 26 47.8**	**-1.6**
RUF	**Ruokolahti**	**3.41**	**193**	PN	**Pn**	**10 26 03.9**	**-1.0**
LVZ	**Lovozero**	**3.57**	**26**	PB	**Pn**	**10 26 08.7**	**+1.5**
KEF	**Keuruu**	**3.63**	**227**	PB	**Pn**	**10 26 10.0**	**+2.0**
PAJU	**Pajala** baz=126	**3.82**	**310**	PN	**Pn**	**10 26 11.8**	**+1.3**
VAF	**Ylistaro**	**3.88**	**248**	PN	**Pn**	**10 26 11.7**	**+0.4**
FIA0	**FINESS Array S**	**3.89**	**214**	SG	**Sb**	**10 27 10.7**	**+3.3**
FINES	**FINESS Array B**	**3.89**	**214**	Pn	**Pn**	**10 26 12.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=8.3						
FINES				Pg	**Pb**	**10 26 20.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=31,slow=14,SNR=7.3						
FINES				Lg	Lg	10 27 11.0	
	comp=Z,1.2nm,0.3s,baz=40,slow=27,SNR=11 comp=Z,1.3nm,0.6s						
ERTU	**Ertsjaerv**	**3.92**	**301**	PN	**Pn**	**10 26 13.5**	**+1.7**
BURU	**Burvik**	**3.95**	**272**	PN	**Pn**	**10 26 13.0**	**+0.7**
UMAU	**Umeaa**	**4.39**	**263**	PN	**Pn**	**10 26 17.0**	**-1.3**
UMAU				SG	**Sg**	**10 27 28.3**	**-3.1**
VJF	**Virojoki**	**4.44**	**200**	SG	**Sb**	**10 27 26.7**	**+3.4**
HEF	**Hetta**	**4.59**	**326**	SG	**Sb**	**10 27 32.2**	**+4.5**
PVF	**Pernaja**	**4.74**	**209**	SG	**Sb**	**10 27 36.8**	**+5.0**
TERR	**Teriberka**	**4.82**	**20**	P	**Pn**	**10 26 26.1**	**+1.9**
TERR				S	**Sn**	**10 27 20.3**	**-0.4**
ARCES	**ARCESS Array B**	**5.20**	**340**	Pn	**Pn**	**10 26 28.4**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=152,slow=13,SNR=19						
ARCES				Sn	**Sn**	**10 27 28.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=154,slow=26,SNR=6.2						
ARCES				Lg	Lg	10 27 52.0	
	comp=Z,0.6nm,0.3s,baz=154,slow=28,SNR=8.0 comp=Z,2.2nm,0.7s						
ARCES	**ARCESS Array B**	**5.20**	**340**	P	**Pn**	**10 26 28.7**	**-0.7**
ARCES				S	**Sn**	**10 27 27.2**	**-2.9**
I43RU	**DUBNA INFRASON**	**8.68**	**155**	I	I	11 16 41.6	
	comp=Z,0.1nm,1.6s,baz=344,slow=324,SNR=4.9						

*IDC **17** 10:28:30.6±0.9, 13°.57S×166°.76E, h0km, mb4.1/14, mbtmp4.1/14, ML5.7/1, MS4.0/2, Error ellipse: s-maj=28.8km s-min=19.0km az=114.0*
*NEIC **17** 10:28:35.0±1.2, 13°.40S±0°.06×166°.4E±0°.1, h10km±1km, mb4.5/10, Error ellipse: s-maj=20.6km s-min=10.4km az=92.0*

ISC 17 10:28:37.0±0.7,**13°.46S**±0°.07×**166°.5E**±0°.1,**h39**km,**n39**, σ1ᵖ**24**/41,**mb4.3**/17,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**7.30**	**175**	Pn	**Pn**	**10 30 22.0**	**+0.8**
KOUNC	**Koumac, New Ca**	**7.37**	**197**		**Pn**	**10 30 23.0**	**+0.9**
HNR	**Honiara**	**7.60**	**301**	Pn	**Pn**	**10 30 25.6**	**+0.4**
	95nm,0.3s,baz=175,slow=12,SNR=1.8						
HNR				Sn	**Sn**	**10 31 48.7**	**-1.4**
	baz=225,slow=19						
HNR	**Honiara**	**7.60**	**301**	Pn	**Pn**	**10 30 24.0**	**-1.3**
MARNC	**Mare, Loyalty**	**8.10**	**170**	Pn	**Pn**	**10 30 32.8**	**+0.7**
DZM	**Mont Dzumac**	**8.56**	**181**	Pn	**Pn**	**10 30 38.1**	**-0.5**
	3.0nm,0.3s,baz=305,slow=21,SNR=14						
DZM				Sn	**Sn**	**10 32 10.9**	**-3.0**
	baz=122,slow=22						
DZM	**Mont Dzumac**	**8.56**	**181**		**Pn**	**10 30 39.2**	**+0.7**
ONTNC	**Ouen Toro**	**8.79**	**180**	Pn	**Pn**	**10 30 44.6**	**+2.9**
OUENC	**Ouen Island, N**	**8.91**	**178**	Pn	**Pn**	**10 30 44.6**	**+1.3**
PINNC	**Pines Island,**	**9.14**	**175**	Pn	**Pn**	**10 30 48.2**	**+1.8**
PMG	**Port Moresby**	**19.41**	**280**	LR	LR	10 39 45.4	
	comp=Z,394nm,18.6s,baz=334,slow=34						
PMG	**Port Moresby**	**19.41**	**280**	P	**P**	**10 32 59.0**	**-1.0**
PMG				IAmb	IAmb	10 33 03.6	
	comp=Z,7.6nm,0.8s						
CTA	**Charters Tower**	**20.49**	**249**	P	**P**	**10 33 13.3**	**+1.5**
	comp=Z,4.1nm,0.9s,baz=70,slow=6.3,SNR=2.5 comp=Z,4.1nm,0.9s						
CTAO	**Charters Tower**	**20.49**	**249**	P	**P**	**10 33 11.5**	**-0.3**
CTAO				IAmb	IAmb	10 33 25.1	
	comp=Z,24nm,1.5s						
PATS	**Pohnpei**	**21.76**	**337**	P	**P**	**10 33 25.1**	**-0.3**
URZ	**Urewera**	**26.42**	**161**	LR	LR	10 43 08.2	
	comp=Z,288nm,19.6s,baz=103,slow=33						
STKA	**Stephens Creek**	**29.29**	**227**	P	**P**	**10 34 36.5**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=38,slow=9.8,SNR=5.9 comp=Z,2.2nm,0.6s						
STKA	**Stephens Creek**	**29.29**	**227**	P	**P**	**10 34 37.1**	**+1.3**
WR0	**Warramunga Arr**	**31.28**	**254**	P	**P**	**10 34 53.0**	**-0.6**
WR0				IAmb	IAmb	10 35 03.6	
	comp=Z,6.0nm,1.1s						
WB0	**Warramunga Arr**	**31.39**	**254**	P	**P**	**10 34 54.0**	**-0.5**
WB0				IAmb	IAmb	10 35 16.9	
	comp=Z,7.9nm,1.2s						
WRA	**Warramunga Arr**	**31.46**	**254**	P	**P**	**10 34 53.9**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=84,slow=8.5,SNR=8.3						
WRA				PcP	**PcP**	**10 37 48.3**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=78,slow=3.6,SNR=2.3 comp=Z,1.3nm,0.8s						
AS31	**Alice Springs**	**32.48**	**

IDC **17** *10:41:12.6±0.5,29.°58N×51.°50E,h0km,mb4.3/31, mbtmp4.3/40,ML4.2/9,MS3.9/30,Error ellipse: s-maj=13.2km s-min=10.7km az=6.0*
MOS **17** *10:41:12.9±1.4,29.°53N×51.°60E,h13km,mb4.9/37,Error ellipse: s-maj=5.7km s-min=3.5km az=109.3*
BGR **17** *10:41:13.5,29.°41N×52.°60E,h33km,mb4.8*
THR **17** *10:41:14.2±1.2,29.°59N×51.°48E,h15km,ML4.6*
NEIC **17** *10:41:14.6±1.9,29.°64N±0.°05×51.°50E±0.°08,h10km±1km, mb4.8/75,Error ellipse: s-maj=11.9km s-min=8.4km az=113.0*
TEH **17** *10:41:14.6,29.°66N×51.°50E,h9km±23km,ML4.8*
ISN **17** *10:41:14.9±1.0,29.°42N×51.°41E,h10km±279km,ML4.8*
BJI **17** *10:41:14.0±0.0,29.°60N×51.°60E,h10km,mb4.5/45, mB5.1/23,Ms4.6/19,Ms7 4.3/19*
GII **17** *10:41:14.0±0.0,29.°58N×51.°58E,h10km*
DSN **17** *10:41:15.7±0.5,29.°65N×51.°74E,h10km,mb4.9/2, ML4.5/12,Error ellipse: s-maj=16.4km s-min=5.1km az=50.0*
OMAN **17** *10:41:17.4±1.3,29.°53N×51.°80E,h10km,mb6.0/29, ml5.1/2,Error ellipse: s-maj=10.0km s-min=6.1km az=164.0*
GCMT **17** *10:41:18.6±0.5,29.°51N±0.°03×51.°40E±0.°03,h18km±2km, MW4.9/70,Moment Tensor Solution. s9,c10; s70,c96; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.08±.16; Mθθ-0.65±.13; Mϕϕ0.72±.14; Mrθ-0.15±.28; Mθϕ 1.90±.13; Mϕr-1.60±.43; Best double couple: Mo2.55400×10^16^ NP1:ϕs171.00000°,δ88.00000°,λ143.00000°. NP2: ϕs263.00000°,δ53.00000°,λ3.00000°. Principal axes: T 2.7750, Plg27.0000°, Azm120.0000°; N -0.4420, Plg53.0000°, Azm348.0000°; P -2.3330, Plg24.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 10:41:15.8±0.8,29.°60N±0.°03×51.°54E±0.°03,h19km±2km, n582,σ1°73/619,mb4.8/125,MS3.9/30,35C-13D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	**Kazerun**	**0.09**	**72**	Pg	**Pg**	**10 41 18.2**	**-1.5**
AHBU	**AHRAM**	**0.76**	**196**	Pg	**Pb**	**10 41 30.0**	**-0.5**
SHI	**Shiraz**	**0.85**	**87**	Pg	**Pb**	**10 41 31.6**	**-0.4**
DSBU	**Dashti - Bushe**	**1.25**	**191**	Pg	**Pg**	**10 41 40.2**	**0.0**
KLNJ	**Kolanjah**	**1.41**	**2**	Pg	**Pn**	**10 41 39.4**	**-1.3**
ABEH	**Behbahan**	**1.50**	**312**	Pg	**Pn**	**10 41 42.4**	**+0.7**
QIR1	**Qir**	**1.73**	**130**	Pg	**Pb**	**10 41 47.3**	**+0.4**
GHIR	**Ghir-Karzin**	**1.82**	**136**	*e*Pn	**Pb**	**10 41 48.2**	**-0.4**
GHIR	comp=E,4μm,0.5s			IAML		10 42 26.8	
GHIR	comp=N,4μm,0.6s			IAML		10 42 27.1	
GHIR	**Ghir-Karzin**	**1.82**	**136**	Pn	**Pb**	**10 41 48.2**	**-0.4**
JHRM	**Jahrom**	**2.09**	**121**	Pn	**Pb**	**10 41 51.9**	**-1.3**
IBRJ	**Brojen**	**2.32**	**354**	Pn	**Pn**	**10 41 54.2**	**+1.0**
IRAM	**Ramesheh**	**2.32**	**18**	Pn	**Pn**	**10 41 54.5**	**+1.3**
LMD1	**Lamerd**	**2.67**	**147**	Pn	**Pn**	**10 42 00.2**	**+2.5**
SHK1	**Shahrekord**	**2.78**	**348**	Pn	**Pn**	**10 42 00.1**	**+0.6**
IGAR	**Gharneh**	**2.83**	**9**	Pn	**Pn**	**10 42 01.7**	**+1.5**
AMIS	**Naft Sefid**	**2.83**	**317**	Pn	**Pn**	**10 42 01.5**	**+1.4**
ISAD	**Sadrabad**	**2.96**	**38**	Pn	**Pn**	**10 42 04.5**	**+2.5**
AHWZ	**Ahwaz**	**3.04**	**305**	Pn	**Pn**	**10 42 03.7**	**+0.8**
IPIR	**Pirpir**	**3.13**	**350**	Pn	**Pn**	**10 42 05.4**	**+1.0**
LAR1	**LAR**	**3.15**	**127**	Pn	**Pn**	**10 42 07.1**	**+2.7**
IMEH	**Mehriz**	**3.20**	**55**	Pn	**Pn**	**10 42 07.9**	**+2.6**
IZEF	**Zefreh**	**3.36**	**11**	Pn	**Pn**	**10 42 08.5**	**+1.0**
NASN	**Na'in**	**3.37**	**18**	*e*Pn	**Pn**	**10 42 08.8**	**+1.0**
NASN	**Na'in**	**3.37**	**18**	Pn	**Pn**	**10 42 08.8**	**+1.0**
ICHK	**Chekchek**	**3.61**	**42**	Pn	**Pn**	**10 42 12.6**	**+1.7**
IKLH	**Kolahrood**	**3.71**	**0**	Pn	**Pn**	**10 42 13.1**	**+0.8**
SAKB	**Bahrain**	**3.71**	**194**	P	**Pn**	**10 42 14.3**	**+2.2**
SAKB				S	**Sn**	**10 42 57.2**	**+1.8**
SAKB	**Bahrain**	**3.71**	**194**	Pn	**Pn**	**10 42 14.4**	**+2.2**
SHMA	**Al-Shehemyia**	**3.76**	**188**	P	**Pn**	**10 42 16.2**	**+3.4**
SHMA				S	**Sn**	**10 42 59.6**	**+3.1**
YZKH	**Yazd**	**3.82**	**42**	*e*Pn	**Pn**	**10 42 16.1**	**+2.4**
YZKH	comp=N,444nm,0.3s			IAML		10 43 04.1	
YZKH	comp=E,323nm,0.8s			IAML		10 43 05.6	
YZKH	**Yazd**	**3.82**	**42**	Pn	**Pn**	**10 42 16.1**	**+2.4**
IBAF	**Bafgh**	**4.00**	**59**	Pn	**Pn**	**10 42 18.6**	**+2.4**
ANAR	**Anarak**	**4.04**	**27**	Pn	**Pn**	**10 42 18.2**	**+1.5**
QAMS	**Qamsar**	**4.13**	**358**	Pn	**Pn**	**10 42 19.3**	**+1.2**
KHMZ	**Khomeyn**	**4.34**	**342**	*e*Pn	**Pn**	**10 42 21.9**	**+0.9**
KHMZ	comp=E,430nm,0.4s			IAML		10 43 16.3	
KHMZ	comp=N,228nm,0.6s			IAML		10 43 18.4	
KHMZ	**Khomeyn**	**4.34**	**342**	Pn	**Pn**	**10 42 21.9**	**+0.9**
KHGB	**Koh Gabri**	**4.35**	**79**	Pn	**Pn**	**10 42 23.4**	**+2.3**
KRSH	**Karshahi**	**4.39**	**6**	Pn	**Pn**	**10 42 22.0**	**+0.4**
NGRK	**Negar Kerman**	**4.52**	**88**	Pn	**Pn**	**10 42 26.0**	**+2.4**
ZRDN	**Zarand Kerman**	**4.53**	**71**	Pn	**Pn**	**10 42 26.0**	**+2.4**
KRBR	**Kerman**	**4.55**	**84**	*e*Pn	**Pn**	**10 42 26.4**	**+2.4**
KRBR	comp=N,391nm,0.6s			IAML		10 43 53.3	
KRBR	comp=E,546nm,0.4s			IAML		10 43 59.2	
KRBR	**Kerman**	**4.55**	**84**	Pn	**Pn**	**10 42 26.4**	**+2.4**
TVBK	**TV Kerman**	**4.55**	**84**	Pn	**Pn**	**10 42 26.9**	**+2.8**
BNDS	**Bandar-Abbas**	**4.63**	**117**	*e*Pn	**Pn**	**10 42 25.8**	**+0.9**
BNDS	comp=E,361nm,0.5s			IAML		10 43 35.3	
BNDS	comp=N,317nm,0.5s			IAML		10 43 44.0	
GENO	**Geno**	**4.63**	**117**	Pn	**Pn**	**10 42 26.6**	**+1.7**
ISFB	**Sefidab**	**4.78**	**7**	Pn	**Pn**	**10 42 27.3**	**+0.4**
GHVR	**GHOM**	**4.87**	**358**	*e*Pn	**Pn**	**10 42 29.6**	**+1.4**
GHVR	comp=E,279nm,0.3s			IAML		10 43 31.6	
GHVR	comp=N,346nm,0.5s			IAML		10 43 34.5	
GHVR	**GHOM**	**4.87**	**358**	Pn	**Pn**	**10 42 29.6**	**+1.4**
SMRA	**Abu-Samra**	**4.88**	**188**	P	**Pn**	**10 42 31.0**	**+2.9**
SMRA				S	**Sn**	**10 43 27.0**	**+3.0**
IBND	**Bandar-abas**	**4.89**	**115**	Pn	**Pn**	**10 42 29.0**	**+0.7**
ESRB	**Sir Abu**	**4.97**	**151**	Pn	**Pn**	**10 42 31.0**	**+1.5**
IKFM	**Kafar-mosalman**	**5.03**	**322**	Pn	**Pn**	**10 42 30.9**	**+0.7**
IDOB	**Doab**	**5.07**	**326**	Pn	**Pn**	**10 42 30.3**	**-0.7**
ASAO	**Ashtian**	**5.10**	**346**	*e*Pn	**Pn**	**10 42 32.4**	**+1.0**
ASAO	comp=E,342nm,0.6s			IAML		10 43 32.7	
ASAO	comp=N,447nm,0.4s			IAML		10 43 33.6	
ASAO	**Ashtian**	**5.10**	**346**	Pn	**Pn**	**10 42 32.4**	**+1.0**
RAFI	**Al-Rafai**	**5.13**	**296**	*e*Pn	**Pn**	**10 42 35.0**	**+3.3**
RAFI				*e*Sn	**Sn**	**10 43 30.0**	**+2.6**
CHMN	**Cheshme madani**	**5.22**	**86**	Pn	**Pn**	**10 42 35.5**	**+2.2**
HSAM	**Samen**	**5.24**	**332**	Pn	**Pn**	**10 42 33.8**	**+0.5**
IQOM	**Qom**	**5.25**	**356**	Pn	**Pn**	**10 42 33.2**	**-0.3**
IVRN	**Varamin**	**5.38**	**2**	Pn	**Pn**	**10 42 36.4**	**+1.2**
SHME	**Shamm** SNR=19	**5.39**	**130**	P	**Pn**	**10 42 36.3**	**+1.1**
SHME				S	**Sn**	**10 43 39.2**	**+2.4**
SHME	**Shamm**	**5.39**	**130**	Pn	**Pn**	**10 42 36.0**	**+0.7**
SLWR	**Sila**	**5.51**	**179**	P	**Pn**	**10 42 40.0**	**+3.2**
SLWR				S	**Sn**	**10 43 41.1**	**+1.5**
SLWR	**Sila**	**5.51**	**179**	Pn	**Pn**	**10 42 39.5**	**+2.7**
TPRV	**Parvadeh(Tabas**	**5.57**	**51**	Pn	**Pn**	**10 42 39.6**	**+1.8**
BANOM	**Banah** SNR=14	**5.58**	**130**	*i* P	**Pn**	**10 42 38.4**	**+0.5**
BANOM	**Banah** SNR=14	**5.58**	**130**	P	**Pn**	**10 42 39.8**	**+1.9**
BANOM				S	**Sn**	**10 43 40.4**	**-1.2**
BANOM	**Banah**	**5.58**	**130**	Pn	**Pn**	**10 42 39.6**	**+1.7**
HAGD	**Aghdareh**	**5.59**	**339**	Pn	**Pn**	**10 42 39.1**	**+0.9**
KHNJ	**Kahnooj**	**5.66**	**105**	Pn	**Pn**	**10 42 39.6**	**+0.7**
IKOM	**Komasi**	**5.71**	**324**	Pn	**Pn**	**10 42 39.8**	**+0.1**
GHWR	**Ruwais**	**5.74**	**168**	P	**Pn**	**10 42 42.9**	**+2.9**
GHWR	**Ruwais**	**5.74**	**168**	Pn	**Pn**	**10 42 42.0**	**+2.1**
IBZA	**Bozab**	**5.78**	**328**	Pn	**Pn**	**10 42 40.6**	**-0.2**
IHSB	**Hasanabad**	**5.83**	**358**	Pn	**Pn**	**10 42 42.6**	**+1.3**
NAZ	**Nazwa, Dubai** SNR=18	**5.87**	**140**	*i* P	**Pn**	**10 42 42.7**	**+0.8**
NAZ	**Nazwa, Dubai** SNR=18	**5.87**	**140**	P	**Pn**	**10 42 43.3**	**+1.4**
NAZ				S	**Sn**	**10 43 49.3**	**+0.6**
NAZ	**Nazwa, Dubai**	**5.87**	**140**	Pn	**Pn**	**10 42 43.3**	**+1.4**
MASF	**Masafi** SNR=17	**5.88**	**135**	P	**Pn**	**10 42 43.1**	**+1.2**
MASF				S	**Sn**	**10 43 49.6**	**+0.8**
AJN	**Ajban** SNR=9.2	**5.88**	**148**	*i* P	**Pn**	**10 42 43.1**	**+1.2**
AJN	**Ajban** SNR=9.2	**5.88**	**148**	P	**Pn**	**10 42 43.8**	**+1.8**
AJN				S	**Sn**	**10 43 49.7**	**+0.8**
AJN	**Ajban**	**5.88**	**148**	Pn	**Pn**	**10 42 43.7**	**+1.8**
MSFE	**Esma-Masafi** SNR=17	**5.88**	**135**	*i* P	**Pn**	**10 42 43.1**	**+1.1**
MSFE	**Esma-Masafi**	**5.88**	**135**	Pn	**Pn**	**10 42 43.2**	**+1.2**
ILAS	**Lasjerd**	**5.89**	**11**	Pn	**Pn**	**10 42 42.7**	**+0.3**
IBDR	**Badra**	**5.94**	**308**	*e*Pn	**Pn**	**10 42 46.0**	**+3.3**
IBDR				*e*Sn	**Sn**	**10 43 53.0**	**+2.7**
IRAZ	**Razeghan**	**5.95**	**347**	Pn	**Pn**	**10 42 43.8**	**+0.8**
IDMV	**Damavand**	**5.98**	**4**	Pn	**Pn**	**10 42 44.4**	**+0.9**
MDH	**Madha** SNR=16	**6.02**	**134**	*i* P	**Pn**	**10 42 44.2**	**+0.3**
MDH	**Madha** SNR=5.6	**6.02**	**134**	P	**Pn**	**10 42 44.5**	**+0.7**
MDH	**Madha**	**6.02**	**134**	Pn	**Pn**	**10 42 44.7**	**+0.9**
DAMV	**Damavand**	**6.03**	**3**	*e*Pn	**Pn**	**10 42 44.8**	**+0.6**
DAMV	**Damavand**	**6.03**	**3**	Pn	**Pn**	**10 42 44.8**	**+0.6**
FAQ	**Al Faqa, Dubai** SNR=8.6	**6.03**	**142**	P	**Pn**	**10 42 45.0**	**+1.1**
FAQ	**Al Faqa, Dubai**	**6.03**	**142**	Pn	**Pn**	**10 42 45.1**	**+1.1**
KCHF	**Cheshme Sefid,**	**6.03**	**322**	Pn	**Pn**	**10 42 44.4**	**+0.2**
ILBA	**Ilam Banvizeh**	**6.07**	**313**	*e*Pn	**Pn**	**10 42 43.1**	**-1.5**
ILBA	**Ilam Banvizeh**	**6.07**	**313**	Pn	**Pn**	**10 42 43.3**	**-1.2**
KER	**Kermanshah**	**6.07**	**323**	Pn	**Pn**	**10 42 45.2**	**+0.6**
IFIR	**Firoozkooh**	**6.11**	**9**	Pn	**Pn**	**10 42 46.2**	**+0.8**
IMHD	**Mahdasht**	**6.12**	**353**	Pn	**Pn**	**10 42 44.9**	**-0.4**
TNSJ	**Nastanj**	**6.13**	**43**	Pn	**Pn**	**10 42 47.5**	**+2.0**
MZWR	**Madinat Zayed**	**6.18**	**160**	P	**Pn**	**10 42 47.9**	**+1.8**
MZWR				S	**Sn**	**10 43 58.8**	**+2.6**
MZWR	**Madinat Zayed**	**6.18**	**160**	Pn	**Pn**	**10 42 47.5**	**+1.4**
IANJ	**Anjilo**	**6.19**	**18**	Pn	**Pn**	**10 42 47.1**	**+0.8**
UOSS	**Minazif**	**6.22**	**137**	Pn	**Pn**	**10 42 47.0**	**+0.4**
UOSS	**Minazif** SNR=14	**6.22**	**137**	*i* P	**Pn**	**10 42 45.9**	**-0.8**
UOSS	**Minazif**	**6.22**	**137**	P	**Pn**	**10 42 47.1**	**+0.4**
UOSS				S	**Sn**	**10 43 56.4**	**-0.8**
UOSS	**Minazif**	**6.22**	**137**	Pn	**Pn**	**10 42 47.1**	**+0.5**
TKDS	**Koohdasht(Taba**	**6.22**	**49**	Pn	**Pn**	**10 42 48.0**	**+1.3**
TABS	**Tabas**	**6.24**	**48**	*e*Pn	**Pn**	**10 42 48.6**	**+1.7**
TABS	**Tabas**	**6.24**	**48**	Pn	**Pn**	**10 42 48.6**	**+1.7**
HATD	**Hatta, Dubai** SNR=15	**6.27**	**138**	*i* P	**Pn**	**10 42 46.9**	**-0.4**
HATD				S	**Sn**	**10 43 58.0**	**-0.4**
HATD	**Hatta, Dubai** SNR=15	**6.27**	**138**	P	**Pn**	**10 42 48.6**	**+1.3**
HATD				S	**Sn**	**10 43 58.0**	**-0.4**
HATD	**Hatta, Dubai**	**6.27**	**138**	Pn	**Pn**	**10 42 48.0**	**+0.7**
CHTH	**Charan**	**6.30**	**357**	*e*Pn	**Pn**	**10 42 48.7**	**+0.8**
CHTH	**Charan**	**6.30**	**357**	Pn	**Pn**	**10 42 48.7**	**+0.8**
QABG	**Abgarm-Qazvin**	**6.31**	**345**	Pn	**Pn**	**10 42 44.3**	**-3.8**
THKV	**Tehran--Karaj**	**6.33**	**355**	*e*Pn	**Pn**	**10 42 50.2**	**+1.9**
THKV	**Tehran--Karaj**	**6.33**	**355**	Pn	**Pn**	**10 42 50.2**	**+1.9**
IGHG	**Ghaleghazi**	**6.33**	**319**	Pn	**Pn**	**10 42 48.2**	**-0.1**
ASHO	**Ashiyiah** SNR=20	**6.33**	**140**	*i* P	**Pn**	**10 42 48.3**	**0.0**
ASHO	**Ashiyiah** SNR=20	**6.33**	**140**	P	**Pn**	**10 42 49.0**	**+0.7**
ASHO				S	**Sn**	**10 44 00.3**	**+0.2**
ASHO	**Ashiyiah**	**6.33**	**140**	Pn	**Pn**	**10 42 49.0**	**+0.7**
ISHM	**Shahmirzad**	**6.37**	**13**	Pn	**Pn**	**10 42 49.5**	**+0.6**
SNGE	**Sanandaj**	**6.53**	**328**	*e*Pn	**Pn**	**10 42 51.3**	**+0.3**
SNGE	**Sanandaj**	**6.53**	**328**	Pn	**Pn**	**10 42 51.3**	**+0.3**
ILIN	**Lien**	**6.57**	**325**	Pn	**Pn**	**10 42 51.3**	**-0.3**
IPRN	**Peran**	**6.66**	**6**	Pn	**Pn**	**10 42 54.3**	**+1.6**
ALNE	**Al Ain** SNR=12	**6.68**	**145**	*i* P	**Pn**	**10 42 52.9**	**0.0**
ALNE	**Al Ain** SNR=12	**6.68**	**145**	P	**Pn**	**10 42 54.0**	**+1.1**
ALNE				S	**Sn**	**10 44 10.0**	**+1.5**
ALNE	**Al Ain**	**6.68**	**145**	Pn	**Pn**	**10 42 54.0**	**+1.1**
IDHR	**Dehrash**	**6.71**	**321**	Pn	**Pn**	**10 42 53.6**	**+0.1**
JASK	**Jask - Hormozg** SNR=9.4	**6.72**	**122**	P	**Pn**	**10 42 54.8**	**+1.2**
JASK	**Jask - Hormozg**	**6.72**	**122**	Pn	**Pn**	**10 42 54.5**	**+0.9**
MZR	**Muzera** SNR=61	**6.79**	**165**	*i* P	**Pn**	**10 42 55.4**	**+0.9**
MZR	**Muzera** SNR=21	**6.79**	**165**	P	**Pn**	**10 42 56.3**	**+1.7**
MZR				S	**Sn**	**10 44 12.3**	**+0.9**
MZR	**Muzera**	**6.79**	**165**	Pn	**Pn**	**10 42 56.0**	**+1.5**
MZPU	**Pul - Mazandar**	**6.82**	**0**	Pn	**Pn**	**10 42 56.7**	**+1.6**
QALM	**Alamut, Qazvin**	**6.86**	**354**	Pn	**Pn**	**10 42 54.9**	**-0.7**
IGZV	**Ghazvin**	**6.86**	**351**	Pn	**Pn**	**10 42 56.5**	**+0.9**
KLST	**Kelardasht - M**	**6.91**	**357**	Pn	**Pn**	**10 42 57.3**	**+0.9**
BSRN	**Basiran**	**6.94**	**68**	*e*Pn	**Pn**	**10 42 58.6**	**+2.0**
BSRN	**Basiran**	**6.94**	**68**	Pn	**Pn**	**10 42 59.0**	**+2.4**
ITEG	**Tejag**	**6.99**	**60**	Pn	**Pn**	**10 42 59.2**	**+1.8**
IKOO	**Kooshah**	**7.00**	**64**	Pn	**Pn**	**10 42 59.7**	**+2.1**
SOHO	**SOHO** SNR=30	**7.03**	**140**	*i* P	**Pn**	**10 42 57.1**	**-0.7**
SOHO	**SOHO**	**7.03**	**140**	P	**Pn**	**10 42 58.1**	**+0.3**
SOHO				S	**Sn**	**10 44 18.5**	**+1.3**
SOHO	**SOHO**	**7.03**	**140**	Pn	**Pn**	**10 42 58.0**	**+0.2**
BHD	**Baghdad**	**7.13**	**303**	*e*Pn	**Pn**	**10 43 03.0**	**+3.9**
BHD				*e*Sn	**Sn**	**10 44 22.0**	**+2.5**
BHD	comp=E,461nm,0.7s			AML	AML	10 44 31.9	
IGLO	**Ghaloghah**	**7.15**	**15**	Pn	**Pn**	**10 43 02.0**	**+2.5**
SHRO	**Shahrood**	**7.40**	**29**	*e*Pn	**Pn**	**10 43 03.9**	**+1.0**
SHRO	**Shahrood**	**7.40**	**29**	Pn	**Pn**	**10 43 03.9**	**+1.0**
GIDE	**GILAN DEYLAMAN**	**7.43**	**350**	*e*Pn	**Pn**	**10 43 06.3**	**+2.8**
GIDE	**GILAN DEYLAMAN**	**7.43**	**350**	Pn	**Pn**	**10 43 06.3**	**+2.8**
AFRZ	**Afriz**	**7.43**	**57**	Pn	**Pn**	**10 43 05.2**	**+1.8**
ZNJK	**Zanjan**	**7.45**	**342**	*e*Pn	**Pn**	**10 43 04.3**	**+0.7**
ZNJK	**Zanjan**	**7.45**	**342**	Pn	**Pn**	**10 43 04.3**	**+0.7**
UMZA	**Um Al Zommool**	**7.59**	**154**	P	**Pn**	**10 43 06.2**	**+0.8**
UMZA	**Um Al Zommool**	**7.59**	**154**	Pn	**Pn**	**10 43 05.9**	**+0.5**
ARQ	**Araqi** SNR=26	**7.67**	**143**	P	**Pn**	**10 43 06.7**	**+0.2**
ARQ				S	**Sn**	**10 44 34.6**	**+1.7**
IMON	**Monand**	**7.81**	**61**	Pn	**Pn**	**10 43 13.3**	**+4.5**
HOQ	**Hoqain** SNR=13	**7.91**	**138**	P	**Pn**	**10 43 10.4**	**+0.5**
ZHSF	**Zahedan**	**8.04**	**88**	*e*Pn	**Pn**	**10 43 12.2**	**+0.4**
ZHSF	**Zahedan**	**8.04**	**88**	Pn	**Pn**	**10 43 12.2**	**+0.4**
ZHDN	**Zahedan**	**8.08**	**89**	Pn	**Pn**	**10 43 14.6**	**+2.3**
RAYN	**Ar Rayn**	**8.11**	**223**			**10 43 12.6**	**-0.1**
RAYN	**Ar Rayn**	**8.11**	**223**	P	**Pn**	**10 43 12.6**	**-0.1**
IKRK	**Kirkuk**	**8.39**	**315**	*e*Pn	**Pn**	**10 43 21.0**	**+4.6**
IKRK				*e*Sn	**Sn**	**10 44 53.0**	**+2.4**
IHSH	**Hashtrud**	**8.48**	**336**	Pn	**Pn**	**10 43 17.5**	**-0.4**
SHRT	**Shahrakht**	**8.48**	**59**	*e*Pn	**Pn**	**10 43 21.0**	**+3.2**
SHRT	**Shahrakht**	**8.48**	**59**	Pn	**Pn**	**10 43 21.6**	**+3.9**
BSY	**Bisya** SNR=16	**8.51**	**142**	P	**Pn**	**10 43 18.3**	**+0.2**
BSY				S	**Sn**	**10 44 49.6**	**-3.9**
MAHB	**Mahabad**	**8.66**	**327**	Pn	**Pn**	**10 43 19.9**	**-0.3**
SMDO	**Samad** SNR=9.2	**8.74**	**137**	P	**Pn**	**10 43 21.6**	**+0.3**
SMDO				S	**Sn**	**10 44 55.8**	**-3.7**
ISRB	**Sarab**	**8.82**	**340**	Pn	**Pn**	**10 43 21.4**	**-1.0**
CHBR	**Chabahar**	**8.88**	**115**	*e*Pn	**Pn**	**10 43 22.3**	**-0.8**
CHBR	**Chabahar**	**8.88**	**115**	Pn	**Pn**	**10 43 22.8**	**-0.2**
MRVT	**Maraveh tapeh**	**8.89**	**24**	*e*Pn	**Pn**	**10 43 24.9**	**+1.6**
MRVT	**Maraveh tapeh**	**8.89**	**24**	Pn	**Pn**	**10 43 24.7**	**+1.4**
WSAR	**Wadi Sarin** comp=E,7.2nm,0.3s,baz=322,slow=9.0,SNR=46	**8.97**	**133**	Pn	**Pn**	**10 43 23.1**	**-1.3**
WSAR				Sn	**Sn**	**10 45 02.1**	**-2.8**
WSAR	comp=E,4.6nm,0.3s,baz=172,slow=22,SNR=7.5			LR	LR	10 47 41.9	
ISFR	**Sfrayin** comp=E,719nm,20.2s,baz=338,slow=43 comp=E,18nm,0.3s	**9.19**	**34**	Pn	**Pn**	**10 43 28.7**	**+1.1**
IMOG	**Moghan**	**9.23**	**43**	Pn	**Pn**	**10 43 30.1**	**+2.0**
IAZR	**Azarshahr**	**9.29**	**332**	Pn	**Pn**	**10 43 30.6**	**+1.5**
JMDO	**Jabal Madar** SNR=7.1	**9.31**	**139**	P	**Pn**	**10 43 29.3**	**+0.3**
BJRD	**Bojnurd**	**9.44**	**30**	*e*Pn	**Pn**	**10 43 32.8**	**+1.8**
BJRD	**Bojnurd**	**9.44**	**30**	Pn	**Pn**	**10 43 32.8**	**+1.8**
IHRS	**Heris**	**9.46**	**338**	Pn	**Pn**	**10 43 32.4**	**+1.0**
NGCH	**Negor - Chabah** SNR=11	**9.51**	**114**	P	**Pn**	**10 43 31.9**	**+0.2**
NGCH				S	**Sn**	**10 45 15.3**	**-2.8**
NGCH	**Negor - Chabah**	**9.51**	**114**	Pn	**Pn**	**10 43 31.2**	**-0.5**
WBK	**Wadi Bani Khal** SNR=12	**9.64**	**134**	P	**Pn**	**10 43 32.7**	**-0.9**
WBK				S	**Sn**	**10 45 18.2**	**-3.2**
GRMI	**Germi**	**9.67**	**343**	*e*Pn	**Pn**	**10 43 35.1**	**+1.0**
GRMI	**Germi**	**9.67**	**343**	Pn	**Pn**	**10 43 35.1**	**+1.0**
JRKH	**Jarkhoshk**	**9.72**	**47**	Pn	**Pn**	**10 43 37.0**	**+2.3**
IEMG	**Emamgholi**	**9.80**	**35**	Pn	**Pn**	**10 43 37.4**	**+1.5**
SRVN	**Saravan**	**9.80**	**100**	Pn	**Pn**	**10 43 37.2**	**+1.3**
IMYA	**Miami**	**9.84**	**45**	Pn	**Pn**	**10 43 38.4**	**+2.0**
GEYT	**Alibeck** comp=E,2.7nm,0.3s,baz=216,slow=14,SNR=10.0	**9.95**	**32**	Pn	**Pn**	**10 43 38.5**	**+0.7**
GEYT	comp=E,541nm,20.9s,baz=241,slow=37 comp=E,6.4nm,0.4s			LR	LR	10 47 19.8	
GEYT	**Alibeck**	**9.95**	**32**	Pn	**Pn**	**10 43 39.4**	**+1.6**
GEYT	**Alibeck**	**9.95**	**32**	P	**Pn**	**10 43 39.4**	**+1.6**
GYA0	**ALIBECK ARRAY**	**9.95**	**32**	P	**Pn**	**10 43 39.6**	**+1.8**
GYA0B	**ALIBECK ARRAY**	**9.95**	**32**	Pn	**Pn**	**10 43 39.6**	**+1.8**
JLN	**Jalan Bani Buh** SNR=9.9	**10.25**	**135**	P	**Pn**	**10 43 40.8**	**-1.1**
HRA	**Herat**	**10.26**	**60**	Pn	**Pn**	**10 43 42.1**	**-0.1**
MHTO	**MHTO** SNR=37	**10.36**	**144**	P	**Pn**	**10 43 43.3**	**-0.1**
DQM	**DQM** SNR=17	**11.06**	**149**	P	**Pn**	**10 43 52.6**	**-0.4**
DOK	**Doka** SNR=35	**11.18**	**167**	P	**Pn**	**10 43 53.7**	**-1.0**
GEVA	**Gevas**	**11.18**	**323**		**Pn**	**10 43 53.6**	**-1.2**
MAKU	**Maku**	**11.25**	**332**	*e*Pn	**Pn**	**10 43 58.1**	**+2.3**
MAKU	**Maku**	**11.25**	**332**	Pn	**Pn**	**10 43 58.1**	**+2.3**
MNGR	**Mingechevir, A**	**11.73**	**343**	P	Pn	10 44 07.4	+5.3
WHFO	**Wadi Hawf** SNR=51	**11.80**	**170**	P	**Pn**	**10 44 01.9**	**-1.4**
GANJ	**Ganja**	**11.82**	**340**	P	**Pn**	**10 44 07.7**	**+4.3**
MARD	**Mardin**	**11.82**	**313**	Pn	**Pn**	**10 43 60.0**	**-3.6**
GURO	**Guroymak-BITLI**	**11.90**	**321**		**Pn**	**10 44 03.3**	**-1.4**
GNI	**Garni** comp=E,0.3nm,0.3s,baz=162,slow=20,SNR=1.9 comp=E,7.0nm,0.8s	**11.91**	**334**	Pn	**Pn**	**10 44 06.6**	**+1.8**
GNI	**Garni**	**11.91**	**334**		**Pn**	**10 44 04.5**	**-0.2**
GNI	**Garni**	**11.91**	**334**	P	**Pn**	**10 44 04.5**	**-0.2**
SEKA	**Sheki**	**12.11**	**344**	P	**Pn**	**10 44 11.0**	**+3.6**
DMTO	**DMTO** SNR=32	**12.23**	**164**	P	**Pn**	**10 44 07.7**	**-1.3**
RBK	**Rabkut** SNR=5.9	**12.28**	**168**	P	**Pn**	**10 44 08.6**	**-1.2**
ABTO	**Aybut** SNR=34	**12.29**	**172**	P	**Pn**	**10 44 08.9**	**-1.1**
ASF	**Jabal al Asfar** comp=E,3.6nm,0.3s,baz=67,slow=5.9,SNR=10	**12.84**	**285**	Pn	**Pn**	**10 44 14.6**	**-2.8**
ASF	comp=E,0.8nm,0.3s,baz=292,slow=19,SNR=1.6 comp=E,4.6nm,0.3s			Sn	**Sn**	**10 46 31.4**	**-8.3**
ASF	**Jabal al Asfar**	**12.84**	**285**	P	**Pn**	**10 44 18.9**	**+1.5**
KARS	**Kars**	**12.99**	**330**		**Pn**	**10 44 18.1**	**-1.5**
KARS	**Kars**	**12.99**	**330**	P	**Pn**	**10 44 18.1**	**-1.5**
AKH	**Akhalkalaki**	**13.48**	**333**	Pn	**Pn**	**10 44 25.0**	**-1.1**
AKH	**Akhalkalaki**	**13.48**	**333**	P	**Pn**	**10 44 25.0**	**-1.1**
WALJ	**Wala**	**13.69**	**282**	P	**Pn**	**10 44 32.6**	**+3.6**
MAK	**

ATD **Arta Tunnel** 19.72 206 LR LR 10 54 04.4
comp=Z,105nm,0.9s
MDUB **Mudurnu** 19.83 309 P P **10 45 44.0 -1.5**
KDZE **Karadeniz Ereo** 20.07 311 ⇑P Pn 10 45 50.0 +0.2
BORA **Eskisehir** 20.09 306 P P **10 45 47.7 -0.7**
BORA IAmb IAmb 10 45 54.7
comp=Z,335nm,19.3s,baz=6.5,slow=39
comp=Z,30nm,1.0s
KK31 **Karatay Array** 20.31 43 P P **10 45 50.8 +0.1**
KK31 **Karatay Array** 20.31 43 P P **10 45 50.8 +0.1**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR **Karatay Array** 20.31 43 P P **10 45 50.9 +0.2**
KKAR **Karatay Array** 20.31 43 P P **10 45 50.9 +0.2**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
ABKAR **Akbulak array** 20.65 16 P P **10 45 54.3 0.0**
AKTO **Aktyubinsk** 21.38 11 P P **10 46 01.9 -0.1**
comp=Z,3.2nm,0.5s,baz=215,slow=9.2,SNR=10
AKTO LR LR 10 56 43.6
comp=Z,349nm,19.4s,baz=354,slow=44
comp=Z,3.2nm,0.5s
AKTO **Aktyubinsk** 21.38 11 P P **10 46 02.0 -0.1**
KSH **Kashi** 22.36 57 P P **10 46 10.1 -2.8**
KSH pP pP 10 46 13.1 -5.6
KSH pmax pmax
comp=Z,17nm,1.0s
KSH LR LR
comp=Z,510nm,13.5s
KSH LR LR
comp=Z,840nm,17.7s
KSH LR LR
comp=Z,830nm,17.5s
AAK **Ala-Archa** 22.57 49 P P **10 46 15.8 +0.7**
comp=Z,2.0nm,0.5s,baz=226,slow=11,SNR=6.0
AAK LR LR 10 55 49.5
comp=Z,436nm,20.4s,baz=251,slow=39
comp=Z,2.0nm,0.5s
AAK **Ala-Archa** 22.57 49 P P **10 46 14.2 -0.9**
AAK IAmb IAmb 10 46 25.4
comp=Z,31nm,1.6s
AAK **Ala-Archa** 22.57 49 *ce*P P **10 46 15.5 +0.4**
AAK pmax pmax
comp=Z,12nm,1.3s
VRH **Novokhopyorsk** 22.80 344 *e*P P **10 46 16.3 -0.9**
VRH *e*S S **10 50 21.6 -3.7**
VRH pmax pmax
comp=Z,120nm,0.9s
VRH smax smax
comp=N,470nm,1.3s
BELG **Belogornoye** 22.96 354 P P **10 46 17.3 -1.6**
comp=N,22nm,0.7s,baz=208,slow=1.9,SNR=7.2
BELG S S **10 50 24.4 -3.6**
comp=N,13nm,0.9s,baz=347,slow=14,SNR=2.4
BELG LR LR 10 57 23.8
comp=N,276nm,19.3s,baz=196,slow=42
comp=N,22nm,0.7s
BELG **Belogornoye** 22.96 354 *i* P P **10 46 18.4 -0.5**
BELG pmax pmax
comp=Z,10.0nm,0.9s
IDI **Anoyia** 23.16 291 P P **10 46 22.1 +0.9**
comp=Z,12nm,0.5s,baz=90,slow=13,SNR=11
IDI LR LR 10 59 03.4
comp=Z,180nm,19.2s,baz=103,slow=46
comp=Z,12nm,0.5s
IDI **Anoyia** 23.16 291 ⇑P P **10 46 24.4 +3.2**
IDI **Anoyia** 23.16 291 P P **10 46 20.8 -0.4**
IDI IAmb IAmb 10 46 32.3
comp=Z,60nm,1.1s
VSR **Storozhevoye** 23.50 340 *e*P P **10 46 23.5 -0.8**
VSR *e*S S **10 50 32.5 -4.5**
VSR pmax pmax
comp=Z,70nm,1.1s
VSR smax smax
comp=N,360nm,1.2s
TIRR **Tirgusor** 23.57 315 ⇓P P **10 46 26.3 +1.1**
TIRR **Tirgusor** 23.57 315 P P **10 46 23.8 -1.3**
TIRR **Tirgusor** 23.57 315 P P **10 46 23.8 -1.3**
TIRR pmax pmax
comp=Z,132nm,1.0s
ALN **Alexandroupoli** 23.59 305 P P **10 46 23.7 -1.7**
ALN IAmb IAmb 10 46 30.7
comp=Z,79nm,1.3s
ALN **Alexandroupoli** 23.59 305 P P **10 46 23.7 -1.7**
ALN pmax pmax
comp=Z,79nm,1.3s
TPGR **Topolog** 23.78 316 ⇑P P **10 46 29.5 +2.4**
VORR **Voronezh** 23.89 341 *e*P P **10 46 29.7 +1.6**
VORR pmax pmax
comp=Z,122nm,0.6s
CFR **Carcaliu** 24.12 317 ⇑P P **10 46 32.3 +1.9**
CFR **Carcaliu** 24.12 317 P P **10 46 32.2 +1.9**
TARG **Taragay, Kyrgy** 24.43 53 P P **10 46 32.9 -0.9**
TARG **Taragay, Kyrgy** 24.43 53 P P **10 46 32.9 -0.9**
TARG pmax pmax
comp=Z,10.0nm,0.9s
MILM **Milestii Mici** 24.71 321 *e*P P **10 46 35.0 -0.7**
MILM **Milestii Mici** 24.71 321 *e*P P **10 46 35.0 -0.7**
LPSR **Galich'ya Gora** 24.80 341 *e*P P **10 46 37.9 +1.5**
LPSR *e*S S **10 50 57.7 -0.1**
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR smax smax
comp=E,310nm,1.6s
SECR 25.31 314 ⇓P P **10 46 43.8 +2.6**
VRI **Vrincioaia** 25.32 317 ⇑P P **10 46 43.5 +2.1**
VRI **Vrincioaia** 25.32 317 P P **10 46 43.4 +2.1**
NEHR **Nehoiu** 25.36 315 ⇑P P **10 46 44.1 +2.5**
PLOR **Plostina** 25.36 317 ⇑P P **10 46 44.2 +2.5**
PLOR **Plostina** 25.36 317 P P **10 46 44.1 +2.5**
COPA **Copaceanca** 25.43 312 ⇓P P **10 46 44.9 +2.6**
PLVB **Pleven** 25.51 310 ⇑P P **10 46 45.4 +2.3**
MLR **Muntele Rosu** 25.61 315 P P **10 46 46.7 +2.7**
comp=E,19nm,0.6s,baz=90,slow=20,SNR=20
MLR LR LR 10 59 29.8
comp=E,418nm,20.1s,baz=104,slow=43
MLR **Muntele Rosu** 25.61 315 ⇑P P **10 46 46.8 +2.7**
MLR **Muntele Rosu** 25.61 315 P P **10 46 44.0 0.0**
MLR **Muntele Rosu** 25.61 315 P P **10 46 44.0 0.0**
MLR pmax pmax
comp=Z,74nm,1.1s
COVR **Voineasa-Covas** 25.63 316 ⇑P P **10 46 46.1 +2.0**
SORM **Soroca** 25.69 323 P P **10 46 45.9 +1.3**
TESR **Tescani** 25.71 318 ⇓P P **10 46 46.0 +1.2**
HUMR **Humele** 25.76 313 ⇑P P **10 46 47.7 +2.4**
ITM **Ithomi** 25.79 295 P P **10 46 47.7 +2.2**
AGG **Agios Georgios** 25.80 299 P P **10 46 45.5 -0.2**
AGG **Agios Georgios** 25.80 299 P P **10 46 45.5 -0.2**
AGG pmax pmax
comp=Z,7.0nm,1.0s
OZUR 26.00 316 ⇓P P **10 46 50.2 +2.6**
ARR **Arges** 26.36 314 ⇑P P **10 46 53.0 +2.3**
AKASG **Malin Array Be** 26.93 328 P P **10 46 54.9 -0.8**
comp=Z,4.5nm,0.5s,baz=134,slow=9.2,SNR=28
comp=Z,4.5nm,0.5s
AKASG **Malin Array Be** 26.93 328 P P **10 46 55.5 -0.2**
AKASG IAmb IAmb 10 47 06.0
comp=Z,17nm,1.1s
AKASG **Malin Array Be** 26.93 328 *ce*P P **10 46 57.2 +1.5**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB **Malin Array Si** 26.93 328 P P **10 46 55.2 -0.5**
AKBB IAmb IAmb 10 46 59.6
comp=Z,35nm,1.2s
AKBB **Malin Array Si** 26.93 328 *ce*P P **10 46 55.8 +0.1**
FNA **Florina** 26.93 303 P P **10 46 55.6 -0.4**
FNA IAmb IAmb 10 47 02.6
comp=Z,17nm,1.2s
FNA **Florina** 26.93 303 P P **10 46 55.6 -0.4**
FNA pmax pmax
comp=Z,17nm,1.2s
BURAR **Bucovina Array** 27.13 319 ⇑P P **10 46 59.6 +1.9**
BURAR **Bucovina Array** 27.13 319 P P **10 46 58.2 +0.6**
BURAR IAmb IAmb 10 47 18.7
comp=Z,11nm,0.8s
BURAR **Bucovina Array** 27.13 319 P P **10 46 59.6 +1.9**
BUR08 **Bucovina Ar. S** 27.15 319 P P **10 46 58.6 +0.7**
BUR08 IAmb IAmb 10 47 05.0
comp=Z,14nm,1.0s
BRVK **Borovoye** 27.18 25 P P **10 46 56.6 -1.3**
BRVK **Borovoye** 27.18 25 *i* P P **10 46 57.7 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR **Borovoye Array** 27.19 25 P P **10 46 58.8 +0.7**
comp=Z,4.0nm,0.6s,baz=222,slow=7.7,SNR=12

BVAR PcP PcP **10 50 18.8 +0.8**
comp=Z,1.4nm,0.5s,baz=174,slow=3.4,SNR=3.3
BVAR LR LR 10 59 48.0
comp=Z,173nm,18.1s,baz=199,slow=41
comp=Z,4.0nm,0.6s
ARU **Arti** 27.28 9 P P **10 46 59.5 +0.7**
comp=Z,2.4nm,0.3s,baz=176,slow=13,SNR=1.3
ARU LR LR 11 00 50.7
comp=Z,198nm,18.2s,baz=188,slow=43
comp=Z,2.4nm,0.3s
ARU **Arti** 27.28 9*d* *i*P P **10 46 58.6 -0.2**
ARU 10 47 41.8
ARU S S **10 51 40.0 +3.0**
ARU SS SnSn **10 52 47.3 +1.6**
ARU pmax pmax
comp=Z,8.0nm,1.4s
KBN **Korca** 27.33 302 P P **10 46 57.1 -2.4**
KBN **Korca** 27.33 302 P P **10 46 57.1 -2.4**
KBN pmax pmax
comp=Z,90nm,1.2s
GZR **Gura Zlata** 27.55 313 ⇑P P **10 47 03.9 +2.5**
GZR **Gura Zlata** 27.55 313 P P **10 47 03.9 +2.5**
HERR **Herculane** 27.57 312 ⇓P P **10 47 03.7 +2.2**
OBN **Obninsk** 27.68 341 LR LR 10 58 43.8
comp=Z,66nm,21.8s,baz=158,slow=38
OBN **Obninsk** 27.68 341 *i* P P **10 47 05.3 +3.0**
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,226nm,19.0s
MARR **Marisel-Cluj** 27.90 316 ⇑P P **10 47 06.3 +1.6**
MOS **Moscow** 27.95 343 *e*P P **10 47 03.8 -1.0**
MOS *e* 10 47 53.4
MDVR **Moldovita** 27.99 311 ⇓P P **10 47 07.1 +1.7**
SURR **Surduc** 28.11 313 ⇓P P **10 47 09.1 +2.7**
DANN **Dangsing** 28.17 85 *e*P P **10 47 08.4 +1.0**
DRGR 28.20 315 ⇑P P **10 47 09.8 +2.5**
DRGR 28.20 315 P P **10 47 09.8 +2.5**
BZS **Buzias** 28.38 313 ⇓P P **10 47 11.6 +2.7**
BZS **Buzias** 28.38 313 P P **10 47 11.5 +2.7**
SIRR **Siria** 28.62 314 ⇑P P **10 47 12.9 +1.9**
TRPA **Tarpa** 28.94 318 ⇑P P **10 47 16.2 +2.5**
GKN **Gorkha** 28.99 85 *e*P P **10 47 14.5 -0.1**
comp=Z,7.5nm,0.3s
KIRV **Kirov** 29.02 358 LR LR 11 01 08.1
comp=Z,338nm,19.3s,baz=167,slow=41
KIRV **Kirov** 29.02 358 *i* P P **10 47 14.0 -0.3**
KURBB **Kurchatov Arra** 29.17 36 P P **10 47 17.0 +1.2**
comp=Z,4.7nm,0.8s,baz=236,slow=9.0,SNR=11
KURBB LR LR 10 59 42.7
comp=Z,124nm,19.5s,baz=157,slow=38
comp=Z,4.7nm,0.8s
MAKZ **Makanchi** 29.20 45 P P **10 47 16.7 +0.6**
MAKZ **Makanchi** 29.20 45 P P **10 47 16.7 +0.6**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
KURK **Kurchatov** 29.27 36 P P **10 47 17.9 +1.2**
KURK IAmb IAmb 10 47 23.6
comp=Z,11nm,1.1s
KURK **Kurchatov** 29.27 36 *ce*P P **10 47 15.3 -1.4**
KURK pmax pmax
comp=Z,27nm,2.5s
MK31 **Makanchi Array** 29.39 46 P P **10 47 18.6 +0.8**
MK31 **Makanchi Array** 29.39 46 *i* P P **10 47 17.5 -0.3**
MKAR **Makanchi Array** 29.39 46 P P **10 47 18.5 +0.7**
comp=Z,0.9nm,0.5s,baz=230,slow=9.3,SNR=9.2
MKAR PcP PcP **10 50 24.1 +0.5**
comp=Z,0.7nm,0.6s,baz=228,slow=1.8,SNR=2.4
MKAR LR LR 10 59 34.9
comp=Z,294nm,19.2s,baz=252,slow=38
comp=Z,0.9nm,0.5s
MKAR **Makanchi Array** 29.39 46 P P **10 47 16.6 -1.2**
MKAR **Makanchi Array** 29.39 46 P P **10 47 16.6 -1.2**
DMN **Daman** 29.48 86 *e*P P **10 47 19.3 +0.2**
comp=Z,12nm,0.4s
PKIN **Phulchoki** 29.74 86 *e*P P **10 47 21.3 -0.1**
PKI **Pulchoki** 29.75 86 *e*P P **10 47 21.3 -0.2**
comp=Z,2.4nm,0.2s
MNK **Minsk** 30.18 332 *i* P P **10 47 22.6 -2.0**
comp=E,3.0nm,0.8s
MNK *i* P P **10 47 22.6 -2.0**
comp=N,18nm,0.7s
MNK *i* P P **10 47 22.6 -2.0**
comp=Z,8.0nm,0.7s,baz=136
MNK *i* PP PnPn **10 48 20.0 -2.2**
MNK *i* PPP PPP 10 48 28.4
MNK *i* PcP PcP **10 50 23.1 -2.2**
MNK *i* S S **10 52 22.9 +0.1**
MNK *i* SS SnSn **10 53 57.6 +1.1**
MNK *i* SSS SSS 10 54 12.4
MNK *i* ScS ScS **10 58 01.3 -0.8**
MNK *i* LR LR 11 00 21.5
MNK *i* LRM MLR 11 01 19.5
comp=Z,126nm,13.6s
MNK *i* LRM MLR 11 01 25.9
comp=E,18nm,14.8s
MNK *i* LRM MLR 11 01 36.2
comp=N,1μm,14.2s
MNK **Minsk** 30.18 332 *i* P P **10 47 22.6 -2.0**
MNK *i* PPP PPP 10 48 28.3
MNK *i* 10 50 23.1
MNK *i* S S **10 52 22.8 +0.1**
MNK *i* SS SnSn **10 53 57.6 +1.1**
MNK *i* 10 58 01.2
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=N,18nm,0.6s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=Z,126nm,14.0s
MNK MLR MLR
comp=E,18nm,15.0s
MNK MLR MLR
comp=N,1μm,14.0s
JIRN **Jiri** 30.41 85 *e*P P **10 47 27.8 +0.4**
comp=N,5.2nm,0.3s
MORH **Mrgy, Hungar** 30.53 312 ⇑P P **10 47 29.6 +1.8**
RAMN **Ramite** 30.92 86 *e*P P **10 47 31.4 -0.4**
comp=N,14nm,0.5s
LANS **Liptovska Anna** 31.22 318 *e*P P **10 47 37.9 +4.0**
LANS pmax pmax
comp=Z,9.0nm,1.1s
LANS **Liptovska Anna** 31.22 318 *e*P P **10 47 37.9 +4.0**
VYHS **Vyhne** 31.31 316 *e*P P **10 47 38.6 +3.9**
VYHS pmax pmax
comp=Z,17nm,1.1s
VYHS **Vyhne** 31.31 316 *e*P P **10 47 38.6 +3.9**
OJC **Ojcow** 31.53 320 P P **10 47 36.1 -0.5**
OJC **Ojcow** 31.53 320 P P **10 47 36.1 -0.5**
OJC pmax pmax
comp=Z,43nm,1.5s
TAPN **Taplejung** 31.80 85 *e*P P **10 47 40.7 +1.1**
comp=Z,1.7nm,0.2s
WMQ **Urumqi** 32.00 54 *e*P P **10 47 42.3 +1.4**
WMQ pP pP 10 47 46.8 -0.3
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ LR LR
comp=Z,990nm,16.7s
WMQ LR LR
comp=Z,500nm,16.7s
WMQ LR LR
comp=Z,260nm,18.9s
JAVC **Velka Javorina** 32.16 316 *e*P P **10 47 45.6 +3.3**
SMOL **Smolenice** 32.17 316 *e*P P **10 47 45.9 +3.6**
MODS **Modra-Piesok** 32.20 315 *e*P P **10 47 45.9 +3.3**
MODS pmax pmax
comp=Z,39nm,1.5s
MODS **Modra-Piesok** 32.20 315 *e*P P **10 47 45.9 +3.3**
ZST **Bratislava** 32.24 315 *e*P P **10 47 45.9 +3.0**
ZST pmax pmax
comp=Z,46nm,1.1s
ZST **Bratislava** 32.24 315 *e*P P **10 47 45.9 +3.0**
KLMR **Klimovskoe** 32.28 349 *e*P P **10 47 44.3 +1.3**
comp=Z,15nm,0.8s
KLMR AMP 10 47 50.8
KLMR **Klimovskoe** 32.28 349 *e*P P **10 47 44.2 +1.3**
KLMR pmax pmax
comp=Z,15nm,0.8s
MAUC **Maruska** 32.28 317 *e*P P **10 47 44.7 +1.4**
OKC **Ostrava-Krasne** 32.30 318 *e*P P **10 47 42.6 -0.7**
OKC **Ostrava-Krasne** 32.30 318 *e*P P **10 47 42.6 -0.7**
RONA **Rosalia, Austr** 32.56 314 *i* P P **10 47 46.7 +0.9**
comp=Z,16nm,1.2s
MORC **Moravsky Berou** 32.62 318 ⇑P P **10 47 48.1 +1.8**
MORC **Moravsky Berou** 32.62 318 P P **10 47 45.0 -1.3**
MORC IAmb IAmb 10 47 50.2
comp=Z,14nm,0.9s
MORC **Moravsky Berou** 32.62 318 *e*P P **10 47 47.6 +1.3**
MORC **Moravsky Berou** 32.62 318 P P **10 47 45.0 -1.3**
MORC pmax pmax
comp=Z,14nm,0.9s
ARSA **Arzberg** 32.90 312 *e*P P **10 47 49.7 +1.0**
comp=Z,6.7nm,0.7s
CONA **Conrad Observa** 32.92 314 *e*P P **10 47 49.6 +0.6**
comp=Z,21nm,1.4s
VRAC **Vranov** 32.99 316 LR LR 11 04 45.6
comp=Z,173nm,18.9s,baz=96,slow=43
VRAC **Vranov** 32.99 316 ⇓P P **10 47 51.3 +1.8**
VRAC **Vranov** 32.99 316 *e*P P **10 47 51.4 +1.9**
VRAC **Vranov** 32.99 316 P P **10 47 51.2 +1.8**
KRUC **Moravsky** 33.01 316 *e*P P **10 47 50.3 +0.7**
KRLC **Kraliky** 33.19 318 *e*P P **10 47 52.1 +0.8**
KRLC **Kraliky** 33.19 318 *e*P P **10 47 52.1 +0.8**
DPC **Dobruska-Polom** 33.58 318 *e*P P **10 47 55.9 +1.3**
DPC **Dobruska-Polom** 33.58 318 *e*P P **10 47 55.9 +1.3**
TREC **Trest** 33.65 316 *e*P P **10 47 58.8 +3.6**
TREC **Trest** 33.65 316 *e*P P **10 47 58.8 +3.6**
DGZ **Jazzator, Alta** 33.71 43 *i* P P **10 47 56.4 +0.5**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
OSTC **Ostas** 33.73 318 *e*P P **10 47 58.8 +2.9**
UPC **Upice** 33.82 318 *e*P P **10 47 59.6 +2.9**
UPC **Upice** 33.82 318 *e*P P **10 47 59.6 +2.9**
MOA **Molln** 33.90 313 *e*P P **10 47 58.2 +0.8**
comp=Z,24nm,1.2s,SNR=4.2
CKRC **Cesky Krumlov** 34.20 315 *e*P P **10 48 02.6 +2.6**
ZAA0 **Zalesovo Array** 34.23 35 P P **10 48 01.0 +0.8**
ZAA0 IAmb IAmb 10 48 06.8
comp=Z,8.6nm,0.6s
ZALV **Zalesovo Beam** 34.23 35 P P **10 48 00.7 +0.5**
comp=Z,5.1nm,0.4s,baz=250,slow=8.7,SNR=19
comp=Z,5.1nm,0.4s
ZALV **Zalesovo Beam** 34.23 35 *i* P P **10 48 00.9 +0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
BIOA **Bad Ischl, Aus** 34.25 312 *e*P P **10 48 01.2 +0.7**
comp=Z,14nm,0.6s,SNR=7.0
KBA **Koelnbreinsper** 34.26 311 *i* P P **10 48 01.6 +0.9**
comp=Z,20nm,0.6s
PRU **Pruhonice** 34.48 317 *e*P P **10 48 05.3 +2.9**
PRU **Pruhonice** 34.48 317 *e*P P **10 48 05.3 +2.9**
GEC2 **GERESS Array S** 34.59 314 P P **10 48 04.0 +0.6**
GEC2 IAmb IAmb 10 48 12.5
comp=Z,14nm,1.3s
GERES **GERESS Array B** 34.59 314 P P **10 48 01.7 -1.7**
comp=Z,1.2nm,0.5s,baz=107,slow=8.4,SNR=10
GERES LR LR 11 03 21.8
comp=Z,150nm,20.9s,baz=93,slow=38
comp=Z,1.2nm,0.5s
GERES **GERESS Array B** 34.59 314 P P **10 48 02.4 -1.1**
GERES **GERESS Array B** 34.59 314 P P **10 48 02.4 -1.1**
ABTA **Abfaltersbach** 34.71 310 *ep*P P **10 48 06.1 +1.6**
comp=Z,9.1nm,0.7s
KHC **Kasperske Hory** 34.76 315 P P **10 48 04.4 -0.4**
KHC IAmb IAmb 10 48 09.5
comp=Z,43nm,1.5s
KHC **Kasperske Hory** 34.76 315 *e*P P **10 48 04.6 -0.3**
KHC **Kasperske Hory** 34.76 315 *i* P P **10 48 04.1 -0.8**
KHC pmax pmax
comp=Z,34nm,1.1s
TEOL **Teolo** 34.94 308 P P **10 48 06.0 -0.5**
BRG **Berggiesshubel** 35.18 318 Amp 10 48 13.3
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 35.18 318 *e*P P **10 48 11.3 +3.0**
BRG pmax pmax
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 35.18 318 *e*P P **10 48 10.9 +2.5**
comp=Z,11nm,1.0s,baz=112,slow=9.6
BRG **Berggiesshubel** 35.18 318 *e*P P **10 48 11.4 +3.0**
WTTA **Wattenberg** 35.43 311 *i* P P **10 48 11.2 +0.3**
comp=Z,40nm,1.0s,SNR=5.5
WATA **Walderalm** 35.49 311 *e*P P **10 48 11.4 +0.1**
comp=Z,24nm,0.6s
SQTA **Sankt Quirin** 35.70 311 *e*P P **10 48 13.2 +0.2**
comp=Z,23nm,0.4s,SNR=12
SALO **Salr** 35.78 308 P P **10 48 12.0 -1.7**
MOTA **Moosalm** 35.80 311 *e*P P **10 48 13.5 -0.5**
comp=Z,16nm,0.7s,SNR=4.7
ROTZ **Rotzenmuhle** 35.82 315 *e*P P **10 48 15.9 +1.9**
comp=Z,9.3nm,1.4s,baz=112,slow=9.6
NKC **Novy Kostel** 35.83 316 *e*P P **10 48 16.1 +2.1**
NKC **Novy Kostel** 35.83 316 *e*P P **10 48 16.1 +2.1**
SHL **Shillong** 35.86 87 P P **10 48 13.8 -1.0**
SHL IAmb IAmb 10 48 20.3
comp=Z,37nm,1.6s
SHL **Shillong** 35.86 87 P P **10 48 13.8 -1.0**
SHL pmax pmax
comp=Z,37nm,1.6s
CLL **Collm** 35.89 318 P P **10 48 12.5 -2.0**
CLL IAmb IAmb 10 48 18.9
comp=Z,30nm,1.2s
CLL **Collm** 35.89 318 LmV 11 05 00.0
comp=Z,200nm,19.1s
CLL **Collm** 35.89 318 *i* P P **10 48 16.8 +2.3**
CLL pmax pmax
comp=Z,26nm,1.2s
CLL **Collm** 35.89 318 *e*P P **10 48 16.8 +2.3**
comp=Z,26nm,1.2s,baz=112,slow=9.6
CLL *e*L L 11 05 15.9
comp=Z,230nm,19.1s
CLL **Collm** 35.89 318 *i* P P **10 48 16.8 +2.3**
comp=Z,26nm,1.2s
FETA **Feichten** 35.97 310 *e*P P **10 48 15.4 0.0**
comp=Z,48nm,1.2s,SNR=8.3
FIA1 **FINESS Array S** 36.02 339 P P **10 48 15.1 -0.4**
FIA1 IAmb IAmb 10 49 04.2
comp=Z,44nm,1.6s
FINES **FINESS Array B** 36.02 339 P P **10 48 14.3 -1.1**
comp=Z,1.4nm,0.4s,baz=147,slow=10.0,SNR=12
FINES PcP PcP **10 50 41.5 -0.1**
comp=Z,1.3nm,0.7s,baz=137,slow=4.9,SNR=1.3
FINES LR LR 11 04 14.0
comp=Z,278nm,18.1s,baz=141,slow=38
comp=Z,1.4nm,0.4s
FINES **FINESS Array B** 36.02 339 P P **10 48 14.9 -0.6**
FINES **FINESS Array B** 36.02 339 P P **10 48 14.9 -0.6**
RETA **Reutte** 36.06 311 *e*P P **10 48 14.6 -1.5**
comp=Z,14nm,0.9s
FUORN **Ofenpass-Fuorn** 36.18 310 P P **10 48 16.5 -0.9**
FUORN IAmb IAmb 10 48 30.5
comp=Z,16nm,1.4s
GRA1 **Grafenberg Arr** 36.40 315 P P **10 48 16.2 -2.7**
GRA1 IAmb IAmb 10 48 22.4
comp=Z,19nm,0.6s
GRF **Grafenberg Arr** 36.40 315 P P **10 48 16.2 -2.7**
GRF pmax pmax
comp=Z,19nm,0.6s
GRF **Grafenberg Arr** 36.40 315 *e*P P **10 48 21.3 +2.4**
comp=Z,20nm,0.7s,baz=112,slow=9.6
GRF *e*L L 11 05 02.3
comp=Z,198nm,18.5s
GRFO **Grafenberg** 36.40 315 P P **10 48 16.3 -2.6**
GRFO IAmb IAmb 10 48 22.4
comp=Z,17nm,0.7s
GRFO **Grafenberg** 36.40 315 P P **10 48 16.3 -2.6**
GRFO pmax pmax
comp=Z,17nm,0.7s
MOX **Moxa** 36.47 317 *e*L L 11 02 45.0
comp=Z,274nm,20.4s
DAVOX **Davos/Dischmat** 36.47 310 P P **10 48 19.6 -0.3**
comp=Z,5.3nm,0.5s,baz=95,slow=5.4,SNR=11
comp=Z,5.3nm,0.5s
DAVA **Damuels** 36.59 311 *e*P P **10 48 19.7 -1.1**
comp=Z,35nm,0.5s,SNR=20
FLTG **Flechtingen** 37.29 319 *e*P P **10 48 29.4 +3.0**
comp=Z,36nm,1.2s,baz=112,slow=9.6
ASSE **Asse, Remlinge** 37.54 319 *e*P P **10 48 31.9 +3.4**
comp=Z,12nm,1.3s,baz=112,slow=9.6
CLZ **Clausthal** 37.61 318 *e*P P **10 48 31.4 +2.2**
comp=Z,59nm,1.3s,baz=112,slow=9.6
BFO **Black Forest** 37.85 312 *e*L L 11 07 00.0
comp=Z,166nm,18.3s
NRDL **Niedersach Rie** 37.99 319 *e*P P **10 48 35.4 +3.1**
comp=Z,42nm,1.1s,baz=112,slow=9.6
BNI **Bardonecchia** 38.35 306 P P **10 48 36.9 +1.2**
BNI **Bardonecchia** 38.35 306 P P **10 48 36.9 +1.2**
BNI pmax pmax
comp=Z,90nm,1.9s

RETH	**Rethem/Aller,**	**38.51**	**319**	*eP*		**P**		**10 48 40.0**	**+3.4**
	comp=Z,24nm,1.1s,baz=112,slow=9.6								
KASTN	**Kahler Asten**	**38.57**	**316**	*eP*		**P**		**10 48 40.7**	**+3.4**
	comp=Z,43nm,1.4s,baz=112,slow=9.6								
ECH	**Echery**	**38.59**	**311**	P		**P**		**10 48 36.7**	**-0.8**
ECH				IAmb		IAmb		10 48 40.6	
	comp=Z,11nm,0.9s								
ECH	**Echery**	**38.59**	**311**	P		**P**		**10 48 36.7**	**-0.8**
ECH				pmax		pmax			
	comp=Z,11nm,0.9s								
WLF	**Walferdange**	**39.56**	**313**	*eP*		**P**		**10 48 47.6**	**+2.0**
	comp=Z,14nm,1.0s,baz=112,slow=9.6								
HFS	**Hagfors**	**39.68**	**331**	LR		LR		11 06 34.3	
	comp=Z,158nm,18.4s,baz=110,slow=38								
GTA	**Gaotai**	**40.55**	**63**	*eP*		**P**		**10 48 55.9**	**+1.8**
GTA				pP		pP		10 49 01.3	+0.8
GTA				pmax		pmax			
	comp=Z,4.0nm,0.7s								
GTA				pmax		pmax			
	comp=Z,180nm,6.5s								
GTA				LR		LR			
	comp=Z,250nm,17.8s								
GTA				LR		LR			
	comp=Z,200nm,15.6s								
GTA				LR		LR			
	comp=Z,290nm,19.6s								
NC405	**NORSAR Array S**	**41.03**	**332**	P		**P**		**10 48 56.0**	**-1.6**
NB2	**NORSAR Subarra**	**41.20**	**331**	P		**P**		**10 48 57.3**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=121,slow=8.6								
NOA	**NORSAR Array B**	**41.20**	**331**	P		**P**		**10 48 57.5**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=128,slow=8.7,SNR=9.8								
NOA				LR		LR		11 07 24.1	
	comp=Z,131nm,20.9s,baz=140,slow=38								
	comp=Z,0.6nm,0.3s								
TNCH	**TengChong**	**41.77**	**85**	*eP*		**P**		**10 49 05.6**	**+1.2**
MOY	**Mondy**	**42.52**	**44**	*eP*		**P**		**10 49 11.5**	**+1.5**
KEV	**Kevo**	**42.57**	**348**	P		**P**		**10 49 09.5**	**-0.5**
KEV	**Kevo**	**42.57**	**348**	P		**P**		**10 49 09.5**	**-0.5**
KEV				pmax		pmax			
	comp=Z,240nm,1.8s								
ARCES	**ARCESS Array B**	**42.67**	**347**	P		**P**		**10 49 09.9**	**-1.0**
	comp=Z,6.7nm,0.9s,baz=147,slow=8.1,SNR=16								
	comp=Z,6.7nm,0.9s								
ARCES	**ARCESS Array B**	**42.67**	**347**	P		**P**		**10 49 11.4**	**+0.5**
ARCES				IAmb		IAmb		10 49 19.5	
	comp=Z,54nm,1.5s								
ARCES	**ARCESS Array B**	**42.67**	**347**	P		**P**		**10 49 11.4**	**+0.5**
ARCES				pmax		pmax			
	comp=Z,54nm,1.5s								
ZAK	**Zakamensk**	**43.72**	**47**	*eP*		**P**		**10 49 20.4**	**+0.7**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
LZH	**Lanzhou**	**43.98**	**67**	*eP*		**P**		**10 49 22.8**	**+0.6**
LZH				pP		pP		10 49 27.8	-0.7
LZH				pmax		pmax			
	comp=Z,10.0nm,1.1s								
PZH	**PanZhiHua**	**44.14**	**81**	P		**P**		**10 49 24.6**	**+1.1**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,5.3s								
CHTO	**Chiang Mai**	**44.28**	**93**	P		**P**		**10 49 24.5**	**0.0**
CHTO	**Chiang Mai**	**44.28**	**93**	P		**P**		**10 49 24.5**	**0.0**
CHTO				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**44.42**	**93**	P		**P**		**10 49 25.3**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=285,slow=8.0,SNR=11								
CMAR				PcP		**PcP**		**10 51 09.3**	**0.0**
	comp=Z,1.6nm,0.8s,baz=281,slow=5.4,SNR=4.6								
CMAR				LR		LR		11 12 16.9	
	comp=Z,139nm,18.6s,baz=185,slow=42								
	comp=Z,2.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**44.42**	**93**	*ce*P		**P**		**10 49 25.8**	**+0.1**
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
NRIK	**Noril'sk**	**44.81**	**17**	LR		LR		11 09 19.3	
	comp=Z,121nm,18.8s,baz=216,slow=38								
NRIK	**Noril'sk**	**44.81**	**17**	*i* P		**P**		**10 49 27.9**	**-0.2**
NRIK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KMI	**Kunming**	**45.40**	**83**	⇑P		**P**		**10 49 34.3**	**+0.7**
KMI				sP		pP		10 49 40.3	+0.3
KMI				pmax		pmax			
	comp=Z,17nm,0.9s								
KMI				LR		LR			
	comp=Z,290nm,18.9s								
KMI				LR		LR			
	comp=Z,230nm,20.1s								
KMI				LR		LR			
	comp=Z,190nm,15.8s								
SONM	**Songino Array**	**45.50**	**51**	P		**P**		**10 49 34.1**	**0.0**
	comp=Z,1.2nm,0.9s,baz=266,slow=10.0,SNR=6.2								
SONM				PcP		**PcP**		**10 51 13.3**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=223,slow=4.2,SNR=2.9								
	comp=Z,1.2nm,0.9s								
SONM	**Songino Array**	**45.50**	**51**	P		**P**		**10 49 35.1**	**+1.0**
PHRA	**Phrae**	**45.53**	**93**	P		**P**		**10 49 34.7**	**+0.3**
ULN	**Ulaanbaatar**	**45.94**	**51**	P		**P**		**10 49 37.1**	**-0.5**
ULN	**Ulaanbaatar**	**45.94**	**51**	*ce*P		**P**		**10 49 38.8**	**+1.2**
ULN				pmax		pmax			
	comp=Z,6.0nm,1.3s								
ESDC	**Sonseca Array**	**46.12**	**298**	P		**P**		**10 49 38.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=72,slow=8.3,SNR=5.2								
	comp=Z,1.0nm,0.7s								
ESK	**Eskdalemuir**	**46.33**	**320**	P		**P**		**10 49 39.5**	**-0.8**
ESK	**Eskdalemuir**	**46.33**	**320**	P		**P**		**10 49 39.5**	**-0.8**
ESK				pmax		pmax			
	comp=Z,70nm,2.0s								
MDT	**Midelt**	**47.66**	**289**	P		**P**		**10 49 51.5**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=61,slow=13,SNR=2.3								
	comp=Z,1.0nm,0.4s								
OPO	**Ambohidratompo**	**48.07**	**186**	P		**P**		**10 49 54.9**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=288,slow=3.2,SNR=2.8								
	comp=Z,2.4nm,0.6s								
XAN	**Xi'an**	**48.42**	**69**	P		**P**		**10 49 57.5**	**+0.5**
XAN				pP		pP		10 50 01.8	-1.6
XAN				S		**S**		**10 56 58.8**	**+2.0**
XAN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
XAN				LR		LR			
	comp=Z,360nm,14.6s								
XAN				LR		LR			
	comp=Z,340nm,17.4s								
XAN				LR		LR			
	comp=Z,470nm,17.7s								
TORD	**Torodi Ar. Bea**	**48.84**	**261**	P		**P**		**10 50 00.4**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=55,slow=9.4,SNR=3.6								
	comp=Z,9.1nm,0.6s								
TORD	**Torodi Ar. Bea**	**48.84**	**261**	P		**P**		**10 50 01.4**	**+1.0**
TORD				IAmb		IAmb		10 50 05.6	
	comp=Z,7.4nm,0.6s								
HHC	**Hu-ho-hao-te**	**49.44**	**60**	*eP*		**P**		**10 50 05.3**	**+0.6**
HHC				pmax		pmax			
	comp=Z,12nm,0.9s								
HHC				pmax		pmax			
	comp=Z,250nm,4.6s								
BOD	**Bodaibo**	**50.91**	**38**	*eP*		**P**		**10 50 15.7**	**+0.2**
BOD				pmax		pmax			
	comp=Z,14nm,1.4s								
SPITS	**Spitsbergen Ar**	**51.12**	**351**	P		**P**		**10 50 16.7**	**-0.2**
SPITS				pmax		pmax			
	comp=Z,259nm,1.7s								
LYN	**LuoYang**	**51.19**	**68**	*eP*		P		10 50 24.3	+6.3
LYN				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PSI	**Prapat**	**52.20**	**112**	P		**P**		**10 50 25.7**	**-0.2**
PSI				pmax		pmax			
	comp=Z,6.0nm,0.9s								
RPSI	**Rantau Prapat**	**52.27**	**112**	P		**P**		**10 50 25.7**	**-0.5**
RPSI				IAmb		IAmb		10 50 30.9	
	comp=Z,5.9nm,0.9s								
IPM	**Ipoh**	**52.97**	**108**	P		**P**		**10 50 30.5**	**-0.9**
IPM				IAmb		IAmb		10 50 32.0	
	comp=Z,10nm,0.8s								
BORG	**Borgarnes**	**56.36**	**331**	LR		LR		11 16 41.0	
	comp=Z,72nm,19.3s,baz=114,slow=38								
NJ2	**Nanjing**	**56.99**	**69**	*eP*		**P**		**10 50 59.6**	**-0.7**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
DBIC	**Dimbokro**	**57.62**	**258**	P		**P**		**10 51 05.7**	**+0.7**
	comp=Z,4.3nm,0.5s,baz=49,slow=5.6,SNR=9.4								
	comp=Z,4.3nm,0.5s								
DBIC	**Dimbokro**	**57.62**	**258**	P		**P**		**10 51 03.8**	**-1.2**
DBIC				IAmb		IAmb		10 51 13.9	
	comp=Z,14nm,1.0s								
KIC	**Kosan Boka**	**57.68**	**258**	⇑*eP*		**P**		**10 51 07.2**	**+1.8**
	comp=Z,4.0nm,0.5s								
TIC	**Toumodi**	**57.78**	**258**	⇑*iP*		**P**		**10 51 09.9**	**+3.8**
	comp=Z,2.9nm,0.4s								
LIC	**Lamto**	**58.00**	**258**	⇓*eP*		**P**		**10 51 07.6**	**0.0**
	comp=Z,20nm,0.6s								
TIXI	**Tiksi**	**58.22**	**21**	P		**P**		**10 51 08.6**	**+0.3**
TIXI				IAmb		IAmb		10 51 37.8	
	comp=Z,5.4nm,1.1s								
TIXI	**Tiksi**	**58.22**	**21**	*ce*P		**P**		**10 51 08.2**	**-0.1**
TIXI				pmax		pmax			
	comp=Z,8.0nm,2.5s								
YAK	**Yakutsk**	**58.82**	**33**	*eP*		**P**		**10 51 13.6**	**+1.0**
YAK				*e**PP		**sP**		**10 51 22.5**	**+0.8**
YAK				*e*				10 52 05.4	
YAK				*e*				10 53 31.3	
YAK				*e*S		**S**		**10 59 19.5**	**+2.7**
YAK				pmax		pmax			
	comp=Z,11nm,1.5s								
YAK				pmax		pmax			
	comp=N,2.0nm,1.3s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.5s								
YAK				pmax		pmax			
	comp=Z,208nm,5.9s								
YAK				pmax		pmax			
	comp=N,144nm,6.5s								
YAK				pmax		pmax			
	comp=E,109nm,6.9s								
YAK				smax		smax			
	comp=E,193nm,7.6s								
YAK				smax		smax			
	comp=N,110nm,6.9s								
HEH	**HeiHe**	**59.12**	**46**	*eP*		**P**		**10 51 14.9**	**0.0**
HEH				pmax		pmax			
	comp=N,7.0nm,1.0s								
HEH				pmax		pmax			
	comp=N,250nm,4.5s								
BNX	**BinXian**	**60.02**	**52**	⇓P		**P**		**10 51 21.5**	**+0.3**
BNX				pmax		pmax			
	comp=N,5.0nm,0.9s								
BNX				pmax		pmax			
	comp=N,230nm,11.8s								
KLR	**Kul'dur**	**62.09**	**47**	LR		LR		11 20 14.7	
	comp=N,229nm,20.5s,baz=260,slow=38								
KLR	**Kul'dur**	**62.09**	**47**	*ce*P		**P**		**10 51 35.6**	**+0.4**
KLR				pmax		pmax			
	comp=Z,2.0nm,1.3s								
KS19	**Wonju Array Si**	**62.51**	**61**	P		**P**		**10 51 37.4**	**-0.9**
KSAR	**Wonju Array Be**	**62.54**	**61**	P		**P**		**10 51 37.6**	**-0.8**
KSAR	**Wonju Array Be**	**62.54**	**61**	P		**P**		**10 51 37.6**	**-0.8**
KSRS	**Korea Array**	**62.56**	**61**	P		**P**		**10 51 38.5**	**0.0**
	comp=Z,2.2nm,0.5s,baz=275,slow=7.0,SNR=13								
	comp=Z,2.2nm,0.5s								
BOSA	**Boshof**	**63.10**	**206**	P		**P**		**10 51 41.2**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=6.8,slow=3.6,SNR=4.1								
	comp=Z,1.3nm,0.5s								
USRK	**Ussuriysk Ar.**	**63.55**	**52**	P		**P**		**10 51 44.7**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=269,slow=6.1,SNR=1.0								
	comp=Z,0.6nm,0.5s								
BBTS	**Babate**	**64.00**	**273**	LR		LR		11 21 55.4	
	comp=Z,168nm,18.9s,baz=59,slow=38								
SEY	**Seymchan**	**68.78**	**29**	*ce*P		**P**		**10 52 19.1**	**+0.9**
SEY				pmax		pmax			
	comp=Z,20nm,2.5s								
BILL	**Bilibino**	**71.44**	**21**	P		**P**		**10 52 34.2**	**-0.3**
BILL				IAmb		IAmb		10 52 45.5	
	comp=Z,4.3nm,0.9s								
BILL	**Bilibino**	**71.44**	**21**	*i* P		**P**		**10 52 35.4**	**+0.9**
BILL				*i*				10 52 42.6	
BILL				*i*				10 52 54.7	
BILL				*i*				10 55 15.5	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.0s								
TOLI2	**Tolitoli**	**71.45**	**100**	P		**P**		**10 52 34.8**	**-0.7**
TOLI2				IAmb		IAmb		10 52 35.7	
	comp=Z,11nm,0.7s								
FRB	**Frobisher Bay**	**75.76**	**337**	LR		LR		11 28 01.0	
	comp=Z,181nm,18.4s,baz=11,slow=37								
A36M	**Sachs Harbour**	**78.67**	**359**	P		**P**		**10 53 16.3**	**+0.2**
A36M				IAmb		IAmb		10 53 34.0	
	comp=Z,15nm,0.8s								
SCHQ	**Schefferville**	**80.72**	**329**	P		**P**		**10 53 27.6**	**0.0**
	comp=Z,2.9nm,0.5s,baz=41,slow=3.4,SNR=13								
	comp=Z,2.9nm,0.5s								
C36M	**Paulatuk**	**81.30**	**358**	P		**P**		**10 53 30.2**	**-0.1**
C36M				IAmb		IAmb		10 53 36.5	
	comp=Z,22nm,1.6s								
INK	**Inuvik**	**82.32**	**2**	P		**P**		**10 53 35.6**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=7.7,slow=7.7,SNR=6.4								
	comp=Z,0.8nm,0.5s								
BMAR	**Burnt Mountain**	**82.51**	**6**	P		**P**		**10 53 37.6**	**+0.7**
IMAR	**Indian Mountai**	**82.76**	**10**	P		**P**		**10 53 38.2**	**+0.1**
ILAR	**Eielson Array**	**84.84**	**8**	P		**P**		**10 53 48.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=323,slow=5.7,SNR=6.1								
	comp=Z,0.4nm,0.5s								
ILAR	**Eielson Array**	**84.84**	**8**	P		**P**		**10 53 48.6**	**-0.2**
PPLA	**Purkeypile**	**85.89**	**11**	P		**P**		**10 53 53.6**	**-0.7**
K27K	**Chicken**	**86.07**	**6**	P		**P**		**10 53 54.3**	**-0.7**
K27K				IAmb		IAmb		10 54 02.7	
	comp=Z,5.3nm,0.8s								
SKT	**Skwentna**	**86.86**	**11**	P		**P**		**10 53 59.2**	**+0.3**
BCAR	**Beaver Creek A**	**87.05**	**6**	P		**P**		**10 54 00.0**	**+0.2**
YKA	**Yellowknife Ar**	**87.56**	**354**	P		**P**		**10 54 02.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=11,slow=5.5,SNR=11								
	comp=Z,1.1nm,0.7s								
YKA	**Yellowknife Ar**	**87.56**	**354**	P		**P**		**10 54 01.0**	**-1.2**
KDAK	**Kodiak Island**	**90.62**	**13**	LR		LR		11 43 12.9	
	comp=Z,152nm,18.0s,baz=302,slow=41								
WRA	**Warramunga Arr**	**93.66**	**111**	P		**P**		**10 54 29.9**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=316,slow=4.0,SNR=14								
	comp=Z,0.7nm,0.5s								
WRA	**Warramunga Arr**	**93.66**	**111**	*ce*P		**P**		**10 54 28.8**	**-2.6**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**95.17**	**114**	P		**P**		**10 54 37.0**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=305,slow=4.7,SNR=23								
	comp=Z,1.1nm,0.6s								
BBB	**Bella Bella**	**98.57**	**360**	LR		LR		11 47 44.9	
	comp=Z,114nm,19.4s,baz=270,slow=40								

IDC ***17*** *10:41:51.5±0.9,32.˚77N×39.˚89W,h0km,mb4.0/17, mbtmp4.0/17,MS3.9/22,Error ellipse: s-maj=29.7km s-min=16.6km az=179.0*

NEIC ***17*** *10:41:53.2±2.0,32.˚6N±0.˚1×40.˚0W±0.˚1,h10km±1km, mb4.7/16,Error ellipse: s-maj=24.4km s-min=12.3km az=218.0*

ISC 17 10:41:53.3±0.7,32.˚7N±0.˚2×39.˚90W±0.˚10,h13km,n67, σ0s83/43,mb4.3/24,MS3.9/22,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
G65A	**Princeton**	**24.76**	**308**	P		**P**	**10**	**47**	**13.1**	**-1.5**
G65A				IAmb		IAmb	10	47	32.6	
	comp=Z,26nm,1.1s									
BBTS	**Babate**	**27.81**	**125**	LR		LR	10	56	08.3	
	comp=Z,264nm,20.7s,baz=345,slow=31									
SCHQ	**Schefferville**	**29.17**	**327**	LR		LR	10	58	24.6	
	comp=Z,187nm,21.1s,baz=77,slow=34									
MDT	**Midelt**	**29.61**	**80**	LR		LR	10	56	45.3	
	comp=Z,241nm,20.9s,baz=340,slow=30									
ESDC	**Sonseca Array**	**29.70**	**66**	P		**P**	**10**	**47**	**58.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=263,slow=11,SNR=2.6									
	comp=Z,0.4nm,0.5s									
MDP	**Montagnes des**	**29.89**	**206**	LR		LR	10	56	07.7	
	comp=Z,116nm,20.8s,baz=352,slow=28									
TKL	**Tuckaleechee C**	**36.20**	**287**	LR		LR	11	01	52.6	
	comp=Z,159nm,20.2s,baz=104,slow=33									
SUMG	**Summit**	**39.99**	**1**	*i* P		P	10	49	37.4	+10
DBIC	**Dimbokro**	**41.59**	**121**	LR		LR	11	04	42.3	
	comp=Z,107nm,19.9s,baz=50,slow=33									
TORD	**Torodi Ar. Bea**	**42.62**	**107**	P		**P**	**10**	**49**	**49.3**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=310,slow=6.8,SNR=3.1									
	comp=Z,1.4nm,0.3s									
FCC	**Fort Churchill**	**44.31**	**323**	P		**P**	**10**	**50**	**04.2**	**+1.6**
FCC				IAmb		IAmb	10	50	04.5	
	comp=Z,10.0nm,1.3s									
ULM	**Lac du Bonnet**	**44.37**	**310**	LR		LR	11	06	36.7	
	comp=Z,86nm,21.9s,baz=78,slow=34									
H10N2	**ASCENSION HYDR**	**46.98**	**144**	T		T	11	40	10.5	
	baz=330,slow=75									
H10N3	**ASCENSION HYDR**	**46.98**	**144**	T		T	11	40	10.0	
	baz=330,slow=75									
H10N1	**ASCENSION HYDR**	**47.00**	**144**	T		T	11	40	11.8	
	baz=330,slow=75									
JTS	**Las Juntas de**	**47.01**	**252**	LR		LR	11	07	29.3	
	comp=Z,51nm,21.0s,baz=31,slow=33									
H10S3	**ASCENSION HYDR**	**47.87**	**145**	T		T	11	41	20.2	
	baz=330,slow=74,SNR=56									
H10S2	**ASCENSION HYDR**	**47.88**	**145**	T		T	11	41	35.7	
	baz=250,slow=74,SNR=26									
FINES	**FINESS Array B**	**50.51**	**35**	P		**P**	**10**	**50**	**49.9**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=256,slow=5.6,SNR=2.5									
	comp=Z,2.6nm,0.7s									
FINES	**FINESS Array B**	**50.51**	**35**	P		**P**	**10**	**50**	**50.5**	**-0.3**
BURAR	**Bucovina Array**	**50.54**	**53**	P		**P**	**10**	**50**	**52.9**	**+1.5**
ARCES	**ARCESS Array B**	**51.23**	**24**	LR		LR	11	08	00.4	
	comp=Z,168nm,21.6s,baz=132,slow=31									
CMIG	**Matias Romero**	**51.70**	**266**	LR		LR	11	10	23.8	
	comp=Z,95nm,21.1s,baz=30,slow=33									
AKASG	**Malin Array Be**	**52.73**	**48**	P		**P**	**10**	**51**	**06.5**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=279,slow=6.6,SNR=12									
	comp=Z,3.4nm,0.7s									
TXAR	**Lajitas Array**	**54.03**	**285**	P		**P**	**10**	**51**	**17.0**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=74,slow=6.7,SNR=5.0									
TXAR				LR		LR	11	12	53.3	
	comp=Z,90nm,19.8s,baz=13,slow=34									
	comp=Z,0.7nm,0.9s									
ANMO	**Albuquerque**	**54.41**	**292**	LR		LR	11	11	50.4	
	comp=Z,144nm,21.6s,baz=124,slow=33									
BW06	**Boulder Array**	**54.60**	**302**	P						
PD31	**Pinedale Array**	**54.60**	**302**	P		**P**	**10**	**51**	**21.0**	**-0.8**
PDAR	**Pinedale Array**	**54.60**	**302**	P		**P**	**10**	**51**	**20.8**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=98,slow=6.7,SNR=8.4						**10**	**51**	**21.4**	**-0.4**
PDAR				LR		LR	11	14	35.4	
	comp=Z,78nm,18.2s,baz=358,slow=36									
	comp=Z,1.5nm,0.9s									
PDAR	**Pinedale Array**	**54.60**	**302**	P		**P**	**10**	**51**	**22.3**	**+0.6**
YKA	**Yellowknife Ar**	**54.62**	**327**	P		**P**	**10**	**51**	**20.3**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=81,slow=7.1									
YKA				PcP		**PcP**	**10**	**52**	**24.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=90,slow=4.3,SNR=6.4									
	comp=Z,1.0nm,0.8s									
YMR	**Madison River**	**55.14**	**305**	P		**P**	**10**	**51**	**24.8**	**-0.8**
LPAZ	**La Paz**	**55.66**	**213**	P		**P**	**10**	**51**	**31.4**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=22,slow=16,SNR=2.0									
	comp=Z,0.7nm,0.7s									
MSU	**Marysvale**	**57.69**	**298**	P		**P**	**10**	**51**	**44.6**	**+0.7**
A36M	**Sachs Harbour**	**57.88**	**339**	P		**P**	**10**	**51**	**45.6**	**+1.3**
BR131	**Keskin Array S**	**58.25**	**60**	P		**P**	**10**	**51**	**47.5**	**-0.3**
BR131				IAmb		IAmb	10	52	14.6	
	comp=Z,10nm,1.4s									
BRTR	**Keskin Array B**	**58.25**	**60**	P		**P**	**10**	**51**	**47.3**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=256,slow=5.0,SNR=4.6									
	comp=Z,1.1nm,0.8s									
BRTR	**Keskin Array B**	**58.25**	**60**	P		**P**	**10**	**51**	**47.6**	**-0.1**
NEW	**Newport**	**58.38**	**310**	P		**P**	**10**	**51**	**48.8**	**+0.4**
NEW				IAmb		IAmb	10	51	52.0	
	comp=Z,5.6nm,0.9s									
INK	**Inuvik**	**61.40**	**335**	P		**P**	**10**	**52**	**08.4**	**-0.2**
	comp=Z,4.6nm,1.1s,baz=62,slow=8.7,SNR=10									
	comp=Z,4.6nm,1.1s									
INK	**Inuvik**	**61.40**	**335**	P		**P**	**10**	**52**	**08.4**	**-0.2**
LPIG	**La Paz**	**61.53**	**282**	LR		LR	11	16	46.7	
	comp=Z,84nm,20.2s,baz=14,slow=34									
PB04	**IPOC Station P**	**61.85**	**212**	P		**P**	**10**	**52**	**11.7**	**-0.7**
MMAI	**Mount Meron Ar**	**61.90**	**67**	LR		LR	11	18	15.7	
	comp=Z,88nm,19.9s,baz=336,slow=35									
NVAR	**Mina Array Bea**	**62.25**	**300**	P		**P**	**10**	**52**	**14.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=81,slow=7.3,SNR=4.0									
	comp=Z,0.5nm,0.8s									
PFO	**Pinyon Flats O**	**62.64**	**294**	LR		LR	11	18	34.1	
	comp=Z,102nm,18.7s,baz=51,slow=35									
DLBC	**Dease Lake**	**62.88**	**324**	LR		LR	11	19	07.6	
	comp=Z,196nm,18.1s,baz=44,slow=36									
KBZ	**Khabaz**	**63.48**	**53**	P		**P**	**10**	**52**	**23.7**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=280,slow=1.9,SNR=3.8									
	comp=Z,1.8nm,0.8s									
YBH	**Yreka Blue Hor**	**64.20**	**304**	LR		LR	11	19	15.9	
	comp=Z,100nm,20.1s,baz=340,slow=35									
EGAK	**Eagle**	**65.50**	**332**	P		**P**	**10**	**52**	**37.4**	**+1.5**
EGAK				IAmb		IAmb	10	52	37.8	
	comp=Z,9.3nm,1.1s									
GNI	**Garni**	**66.09**	**57**	LR		LR	11	19	59.0	
	comp=Z,104nm,22.0s,baz=140,slow=35									
ILAR	**Eielson Array**	**67.69**	**334**	P		**P**	**10**

ISC 17 10:45:57.5±0.9, 41°05'N×70°17'E±0°04, h10km, n11, σ2§12/20, 13C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.71**	**293**	⇑*e*P	**Pg**	**10 46 10.2**	**-1.1**
	baz=92						
TAS				⇑*e*S	**Sg**	**10 46 19.5**	**-1.2**
	baz=92						
TRKS	**Terek-Say**	**0.88**	**56**	⇑*e*P	**Pg**	**10 46 13.7**	**-0.8**
	baz=64						
TRKS				⇑*e*S	**Sg**	**10 46 25.9**	**0.0**
	baz=64						
BTK	**Batken**	**1.10**	**153**	⇑*e*P	**Pb**	**10 46 19.0**	**+0.3**
	baz=52						
BTK				⇑*e*S	**Sn**	**10 46 34.8**	**+0.4**
	baz=52						
IUG	**Iuzhnay**	**1.11**	**355**	P	**Pn**	**10 46 18.7**	**-0.4**
	44nm,0.2s						
IUG				S	**Sn**	**10 46 41.2**	**+6.6**
	82nm,0.4s						
ARK	**Arkit**	**1.55**	**60**	⇑*e*P	**Pb**	**10 46 26.3**	**0.0**
	baz=62						
ARK				⇑*e*S	**Sg**	**10 46 47.6**	**+0.4**
	baz=62						
GAR	**Garm**	**2.04**	**177**	⇑*e*P	**Pb**	**10 46 35.0**	**+0.2**
	baz=76						
GAR				⇑*e*S	**Sg**	**10 47 02.7**	**-0.5**
	baz=76						
KK31	**Karatay Array**	**2.07**	**7**	Pn	**Pg**	**10 46 36.3**	**-1.0**
	3.1nm,0.3s,baz=191,slow=17,SNR=22						
KK31				⇑Sn	**Sg**	**10 47 05.9**	**+1.8**
	2.1nm,0.2s,baz=193,slow=30,SNR=9.9						
KKAR	**Karatay Array**	**2.07**	**7**	⇓*e*P	**Pb**	**10 46 34.4**	**-0.8**
	baz=8.0						
KKAR				⇓*i*S	**Sg**	**10 47 01.5**	**-2.6**
	baz=8.0						
MRKS	**Merke**	**2.85**	**52**	Pg	**Pn**	**10 46 45.3**	**+2.2**
	5.8nm,0.7s						
MRKS				Lg	Lg	10 47 26.6	
	11nm,0.5s						
AML	**Almayashu**	**2.86**	**67**	⇑*e*P	**Pb**	**10 46 46.4**	**-2.5**
	baz=67						
AML				⇑*e*S	**Sb**	**10 47 22.3**	**-1.8**
	baz=67						
SGDS	**Sogindy**	**4.09**	**53**	Pg	**Pb**	**10 47 08.0**	**-1.7**
	1.3nm,0.4s						
SGDS				Lg	Lg	10 48 06.5	
	3.4nm,0.7s						

*IDC **17** 10:57:34.4±1.4, 35°54N×25°96E, h0km, mb4.1/3, mbtmp3.8/4, ML2.4/1, Error ellipse: s-maj=76.3km s-min=10.0km az=159.0*
*ATH **17** 10:57:37.2, 35°47N×25°92E, h17km±2km, ML3.2/11, Error ellipse: s-maj=3.3km s-min=0.9km az=163.0*
*THE **17** 10:57:37.3, 35°46N×25°93E, h16km±2km, ML3.4/6, Error ellipse: s-maj=3.0km s-min=0.8km az=152.0*

ISC 17 10:57:36.2±1.1, 35°50N±0°04×25°90E±0°03, h12km±9km, n32, σ1§21/50, mb3.9/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.47**	**146**	P	**Pg**	**10 57 45.6**	**+0.2**
ZKR				S	**Sb**	**10 57 52.4**	**-0.8**
ZKR	**Zakros**	**0.47**	**146**	P	**Pg**	**10 57 45.5**	**+0.1**
ZKR				S	**Sg**	**10 57 51.8**	**+0.3**
ZKR				AML	AML	10 57 52.5	
	comp=E,6746μm,0.4s						
ZKR				AML	AML	10 57 57.1	
	comp=N,2367μm,0.3s						
FRMA	**Ierapetra Chan**	**0.51**	**196**	P	**Pg**	**10 57 46.2**	**0.0**
FRMA				S	**Sg**	**10 57 53.1**	**+0.2**
FRMA	**Ierapetra Chan**	**0.51**	**196**	P	**Pg**	**10 57 46.2**	**0.0**
FRMA				S	**Sg**	**10 57 52.4**	**-0.5**
FRMA				AML	AML	10 57 53.2	
	comp=E,5020μm,0.4s						
FRMA				AML	AML	10 57 57.8	
	comp=N,4772μm,0.2s						
HRKL	**Herakleio**	**0.68**	**254**	P	**Pb**	**10 57 51.2**	**+1.2**
HRKL				S	**Sb**	**10 58 00.5**	**+1.1**
	comp=N,4μm,0.4s						
HRKL	**Herakleio**	**0.68**	**254**	P	**Pg**	**10 57 50.5**	**+1.1**
HRKL				S	**Sg**	**10 57 59.8**	**+1.4**
HRKL				AML	AML	10 58 05.2	
	comp=N,22022μm,0.3s						
HRKL				AML	AML	10 58 05.2	
	comp=E,22452μm,0.5s						
IACM	**Heraklion**	**0.71**	**254**	P	**Pb**	**10 57 51.5**	**+1.1**
IACM				S	**Sb**	**10 58 01.9**	**+1.8**
	comp=E,11μm,0.4s						
IACM	**Heraklion**	**0.71**	**254**	P	**Pg**	**10 57 51.1**	**+1.1**
IACM				S	**Sg**	**10 58 00.6**	**+1.4**
KSTL	**Kastelli Herak**	**0.71**	**254**	P	**Pg**	**10 57 48.1**	**-1.8**
KSTL				S	**Sg**	**10 57 55.8**	**-3.4**
KSTL	**Kastelli Herak**	**0.71**	**254**	P	**Pg**	**10 57 47.8**	**-2.1**
KSTL				S	**Sg**	**10 57 55.2**	**-4.0**
KSTL				AML	AML	10 58 01.1	
	comp=E,3281μm,0.3s						
KSTL				AML	AML	10 58 01.3	
	comp=N,5523μm,0.4s						
IDI	**Anoyia**	**0.85**	**256**	Pg	**Pb**	**10 57 53.0**	**0.0**
	comp=N,52nm,0.3s,baz=47,slow=7.4,SNR=445						
IDI				Lg	Lg	10 58 03.8	
	comp=N,328nm,0.3s,baz=316,slow=18,SNR=42						
IDI	**Anoyia**	**0.85**	**256**	P	**Pb**	**10 57 53.0**	**0.0**
IDI				S	**Sb**	**10 58 04.9**	**+0.5**
	comp=N,2μm,0.3s						
IDI	**Anoyia**	**0.85**	**256**	P	**Pb**	**10 57 53.1**	**+0.1**
IDI				S	**Sb**	**10 58 04.0**	**-0.5**
IDI				AML	AML	10 58 06.6	
	comp=N,3868μm,0.2s						
IDI				AML	AML	10 58 06.9	
	comp=E,3470μm,0.4s						
THR6	**Thira Island,**	**0.94**	**334**	P	**Pb**	**10 57 55.1**	**+0.6**
THR3	**Thira Island,**	**0.99**	**336**	P	**Pb**	**10 57 55.6**	**+0.3**
TMBK	**Timbaki Herakl**	**1.02**	**245**	P	**Pb**	**10 57 56.5**	**+0.7**
TMBK				S	**Sb**	**10 58 09.8**	**+0.5**
TMBK				AML	AML	10 58 13.8	
	comp=N,5853μm,0.4s						
TMBK				AML	AML	10 58 16.9	
	comp=E,4369μm,0.4s						
SAP3	**Santorini-Thir**	**1.03**	**334**	P	**Pb**	**10 57 56.9**	**+0.9**
SAP3				S	**Sn**	**10 58 12.2**	**+1.3**
	comp=E,7μm,0.6s						
PRNS	**Prines Rethymn**	**1.15**	**263**	P	**Pn**	**10 57 58.1**	**0.0**
PRNS				S	**Sg**	**10 58 15.4**	**+2.0**
	comp=E,625nm,0.5s						
NISR	**Nisiros**	**1.49**	**42**	P	**Pn**	**10 58 02.0**	**-0.8**
CHAN	**Chania**	**1.52**	**271**	P	**Pn**	**10 58 02.6**	**-0.5**
CHAN				S	**Sn**	**10 58 21.8**	**-1.0**
CHAN				AML	AML	10 58 30.9	
	comp=N,1416μm,0.3s						
CHAN				AML	AML	10 58 33.6	
	comp=E,1295μm,0.5s						
IMMV	**Iera Moni Meta**	**1.57**	**269**	P	**Pn**	**10 58 03.9**	**0.0**
IMMV				S	**Sn**	**10 58 23.4**	**-0.7**
IMMV				AML	AML	10 58 32.5	
	comp=E,1369μm,0.5s						
IMMV				AML	AML	10 58 36.2	
	comp=N,1731μm,0.5s						
APE	**Apeiranthos**	**1.59**	**349**	P	**Pn**	**10 58 03.7**	**-0.5**
APE				S	**Sn**	**10 58 23.7**	**-1.0**
	comp=N,300nm,0.5s						
APE	**Apeiranthos**	**1.59**	**349**	P	**Pn**	**10 58 04.0**	**-0.2**
APE				AML	AML	10 58 30.0	
	comp=E,583μm,0.7s						
APE				AML	AML	10 58 30.7	
	comp=N,617μm,0.4s						
MHLO	**Agia Marina, M**	**1.70**	**315**	P	**Pn**	**10 58 06.5**	**+0.9**
MHLO	**Agia Marina, M**	**1.70**	**315**	P	**Pn**	**10 58 06.2**	**+0.6**
MHLO				AML	AML	10 58 33.0	
	comp=N,2419μm,0.4s						
MHLO				AML	AML	10 58 34.1	
	comp=E,2871μm,0.3s						
KNDR	**Palaiochora Ch**	**1.83**	**262**	P	**Pn**	**10 58 07.6**	**+0.2**
KNDR				AML	AML	10 58 43.7	
	comp=E,838μm,0.4s						
KNDR				AML	AML	10 58 45.9	
	comp=N,881μm,0.7s						
ARG	**Arkhangelos**	**1.94**	**68**	P	**Pn**	**10 58 08.9**	**0.0**
ANKY	**Antikythira Is**	**2.15**	**280**	P	**Pn**	**10 58 10.9**	**-0.9**
BRTR	**Keskin Array B**	**7.45**	**53**	Pn	**Pn**	**10 59 26.0**	**+1.2**
	comp=N,0.1nm,0.3s,baz=233,slow=14,SNR=3.3						
	comp=N,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**31.18**	**230**	P	**P**	**11 03 55.6**	**+0.5**
	comp=N,1.5nm,0.2s,baz=32,slow=8.6,SNR=4.9						
	comp=N,1.5nm,0.2s						
MKAR	**Makanchi Array**	**43.08**	**57**	P	**P**	**11 05 35.5**	**-0.4**
	comp=N,0.9nm,0.4s,baz=268,slow=8.4,SNR=27						
	comp=N,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**44.33**	**46**	P	**P**	**11 05 44.7**	**-1.1**
	comp=N,0.5nm,0.4s,baz=281,slow=9.6,SNR=2.2						
	comp=N,0.5nm,0.4s						

IDC 17 11:03:56.5±330.0, 5°44S×147°74E, h0km, Error ellipse: s-maj=132.3km s-min=33.9km az=76.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.42**	**314**	I	I	12 54 30.0	
	baz=134,slow=313,SNR=1.3						
I07AU	**WARRAMUNGA INF**	**19.43**	**221**	I	I	13 07 10.0	
	baz=42,slow=304,SNR=1.0						

*DJA **17** 11:11:12.8±0.8, 0°S±2°×12°3E±°, h30km±13km, M4.4/8, mb4.9/1, mB6.0/1, MLv4.2/8, Mw(mB)5.6/1*
*IDC **17** 11:11:15.8±2.3, 0.38S×122.73E, h86km±21km, mb3.3/4, mbtmp3.8/6, Error ellipse: s-maj=23.2km s-min=18.3km az=83.0*

ISC 17 11:11:14.1±0.8, 0°30S±0°05×122°88E±0°07, h78km, n14, σ1§59/20, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.75**	**188**	P	**Pn**	**11 11 28.4**	**-1.7**
LUWI				S	**Sn**	**11 11 39.6**	**-2.4**
GTOI	**Gorontalo**	**0.94**	**8**	P	**Pn**	**11 11 31.2**	**-1.1**
GTOI				S	**Sn**	**11 11 44.6**	**-1.3**
MRSI	**Marisa**	**1.21**	**309**	P	**Pn**	**11 11 33.3**	**-2.4**
APSI	**Ampana**	**1.37**	**244**	P	**Pn**	**11 11 37.4**	**-0.3**
APSI				S	**Sn**	**11 11 56.3**	**+0.9**
MPSI	**Mapaga**	**3.04**	**282**	P	**Pn**	**11 11 59.4**	**-0.6**
SANI	**Sanana**	**3.56**	**119**	P	**Pn**	**11 12 04.4**	**-2.7**
SPSI	**Sidrap Palu**	**4.79**	**220**	P	**Pn**	**11 12 23.7**	**-0.1**
NLAI	**Namlea**	**5.13**	**125**	P	**Pn**	**11 12 28.0**	**-0.5**
KAPI	**Kappang**	**5.63**	**214**	P	**Pn**	**11 12 33.8**	**-1.5**
	16nm,0.9s,baz=106,slow=18,SNR=4.9						
KAPI				S	**Sn**	**11 13 37.5**	**-1.1**
	7.7nm,0.4s,baz=208,slow=22,SNR=1.4						
SIJI	**Sorong**	**8.41**	**94**	P	**Pn**	**11 13 15.4**	**+2.1**
	8.5nm,0.6s,baz=291,slow=8.6,SNR=4.8						
WRA	**Warramunga Arr**	**22.52**	**151**	P	**P**	**11 16 07.1**	**-0.6**
	1.5nm,0.6s,baz=335,slow=9.8,SNR=14						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**25.58**	**156**	P	**P**	**11 16 37.5**	**+1.4**
	1.1nm,0.6s,baz=345,slow=16,SNR=14						
ASAR				ScP	**ScP**	**11 23 40.0**	**+1.8**
	0.5nm,0.6s,baz=349,slow=2.6,SNR=5.1						
	1.1nm,0.6s						
SONM	**Songino Array**	**50.04**	**346**	P	**P**	**11 20 02.4**	**+1.4**
	0.4nm,0.7s,baz=161,slow=6.1,SNR=3.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**58.80**	**328**	P	**P**	**11 21 04.9**	**+0.5**
	0.3nm,0.4s,baz=127,slow=8.9,SNR=5.0						
MKAR				pP	**pwP**	**11 21 25.4**	**-0.8**
	0.6nm,0.7s,baz=128,slow=9.0,SNR=4.6						
	0.3nm,0.4s						

WEL 17 11:26:26.7±0.6, 42°S±4°×17°4E±°, h5km, M2.6/5, ML2.7/6, MLv2.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=127.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.35**	**227**	P	Pg	11 26 34.0	+0.5
KHZ				S	Sg	11 26 37.7	-0.6
CMWZ	**Cape Campbell**	**0.49**	**30**	S	Sg	11 26 43.0	+0.5
TUWZ	**Tuamarina**	**0.75**	**3**	P	Pg	11 26 40.8	-0.3
TUWZ				S	Sg	11 26 51.4	+0.7
THZ	**Tophouse**	**0.84**	**299**	P	Pb	11 26 44.4	+0.6
GVZ	**Greta Valley S**	**1.01**	**218**	P	Pb	11 26 46.8	0.0
GVZ				S	Sb	11 27 00.9	+0.5
KIW	**Kapiti Island**	**1.52**	**31**	P	Pn	11 26 53.3	-1.3
MTW	**Mount Morrison**	**1.58**	**51**	P	Pn	11 26 54.5	-0.8
OGWZ	**Otaki Gorge**	**1.66**	**36**	P	Pn	11 26 56.1	-0.5
MOVZ	**Moawhango**	**3.11**	**28**	P	Pn	11 27 17.4	+0.9

WEL 17 11:26:35.9±0.7, 42°S±6°×17°4E±°, h5km, M2.0/4, ML2.5/8, MLv2.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=138.3, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**252**	P	Pg	11 26 38.8	-0.4
CMWZ	**Cape Campbell**	**0.17**	**252**	P	Pg	11 26 38.4	-0.8
BSWZ	**Blackbirch Sta**	**0.41**	**268**	P	Pg	11 26 43.6	-0.3
BSWZ				S	Sb	11 26 50.8	-1.4
TCW	**Tory Channel**	**0.50**	**347**	P	Pg	11 26 45.6	+0.1
DUWZ	**D'Urville Isla**	**0.97**	**337**	P	Pb	11 26 55.0	-0.2
KHZ	**Kahutara**	**0.97**	**222**	P	Pg	11 26 54.0	-0.5
KHZ				S	Sb	11 27 09.0	+0.6
THZ	**Tophouse**	**1.14**	**266**	P	Pg	11 26 57.7	0.0

*NEIC **17** 11:46:26.9±1.6, 27°70N±0°02×142°65E±0°08, h10km±1km, mb4.5/18, Error ellipse: s-maj=11.7km s-min=3.0km az=272.0*
*IDC **17** 11:46:32.0±1.2, 27°68N×142°63E, h58km±11km, mb3.7/15, mbtmp3.9/17, MS3.3/4, Error ellipse: s-maj=23.4km s-min=13.4km az=85.0*

ISC 17 11:46:26.4±0.6, 27°78N±0°05×142°7E±0°1, h10km, n59, σ1§21/53, mb4.2/23, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.81**	**213**	LR	LR	11 46 36.2	
	comp=Z,89nm,18.9s,baz=116,slow=5.9						
JCJ				P	**Pn**	**11 46 47.1**	**+3.2**
	580nm,0.4s,baz=85,slow=18,SNR=41						
JCJ				S	**Sn**	**11 46 58.0**	**+2.2**
	2μm,0.7s,baz=280,slow=23,SNR=10.0						
JCJ	**Chichijima**	**0.81**	**213**	Pg	**Pb**	**11 46 41.4**	**-1.1**
JCJ					**Sg**	**11 46 50.2**	**-2.2**
JHJ	**Hachijo jima 2**	**5.88**	**336**	LR	LR	11 50 22.6	
	comp=Z,258nm,20.2s,baz=142,slow=39						
JSG	**Sagara**	**7.88**	**332**	Pn	**Pn**	**11 48 21.4**	**+0.4**
MJAR	**Matsushiro Arr**	**9.52**	**338**	P	**Pn**	**11 48 44.6**	**+1.0**
	2.1nm,0.6s,baz=163,slow=11,SNR=6.7						
MJAR				S	**Sn**	**11 50 27.4**	**-3.3**
	0.9nm,0.6s,baz=166,slow=28,SNR=1.7						
MAJO	**Matsushiro**	**9.52**	**338**	Pn	**Pn**	**11 48 44.1**	**+0.5**
MJB9	**Matsu-Tunnel**	**9.53**	**338**	Pn	**Pn**	**11 48 42.9**	**-0.8**
JMM	**Marumori**	**10.19**	**352**	Pn	**Pn**	**11 48 52.1**	**-0.6**
JNU	**Nakatsue**	**11.48**	**301**	LR	LR	11 53 07.5	
	comp=Z,107nm,20.9s,baz=116,slow=34						
JOW	**Kunigami**	**12.84**	**269**	LR	LR	11 53 48.6	
	comp=Z,164nm,18.8s,baz=262,slow=34						
KSRS	**Korea Array**	**15.72**	**312**	P	**Pn**	**11 50 08.7**	**+0.8**
	1.8nm,0.8s,baz=118,slow=13,SNR=8.2						
KSRS				LR	LR	11 56 17.0	
	comp=Z,117nm,18.2s,baz=160,slow=37						
USRK	**Ussuriysk Ar.**	**18.50**	**335**	P	**Pn**	**11 50 44.2**	**+1.3**
	3.2nm,0.8s,baz=142,slow=11,SNR=5.2						
KLR	**Kul'dur**	**23.02**	**341**	P	**P**	**11 51 32.8**	**+1.3**
	3.0nm,0.9s,baz=131,slow=9.7,SNR=7.8						
	3.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**23.55**	**105**	T	T	12 16 00.9	
	baz=297,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**23.55**	**105**	T	T	12 15 58.2	
	baz=297,slow=75,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**23.56**	**105**	T	T	12 15 59.1	
	baz=297,slow=75,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**23.90**	**108**	T	T	12 16 52.3	
	baz=296						
H11S1	**WAKE ISLAND Hy**	**23.91**	**108**	T	T	12 16 44.2	
	baz=296						
H11S2	**WAKE ISLAND Hy**	**23.92**	**108**	T	T	12 16 56.3	
	baz=296						
SONM	**Songino Array**	**34.53**	**315**	P	**P**	**11 53 14.5**	**-0.5**
	1.0nm,0.7s,baz=111,slow=6.5,SNR=5.5						
	1.0nm,0.7s						
SONM	**Songino Array**	**34.53**	**315**	P	**P**	**11 53 15.8**	**+0.7**
SEY	**Seymchan**	**35.73**	**8**	P	**P**	**11 53 25.5**	**+0.5**
	1.7nm,0.7s,baz=165,slow=8.0,SNR=4.8						
	1.7nm,0.7s						
COEN	**Coen**	**41.49**	**179**	P	**P**	**11 54 14.1**	**+0.2**
COEN				IAmb	IAmb	11 54 25.8	
	comp=Z,4.4nm,0.8s						
MTN	**Manton Dam**	**41.90**	**197**	P	**P**	**11 54 16.1**	**-1.1**
MTN				IAmb	IAmb	11 54 17.2	
	comp=Z,22nm,1.2s						
TIXI	**Tiksi**	**44.58**	**354**	P	**P**	**11 54 37.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=90,slow=24,SNR=1.3						
	comp=Z,0.5nm,0.3s						
WB0	**Warramunga Arr**	**47.94**	**191**	P	**P**	**11 55 03.4**	**-1.8**
WR0	**Warramunga Arr**	**48.10**	**190**	P	**P**	**11 55 05.1**	**-1.4**
WR0				IAmb	IAmb	11 55 06.6	
	comp=Z,8.5nm,1.1s						
WB2	**Warramunga Arr**	**48.12**	**191**	P	**P**	**11 55 05.5**	**-1.2**
WRA	**Warramunga Arr**	**48.12**	**191**	P	**P**	**11 55 04.9**	**-1.7**
	comp=Z,2.4nm,0.5s,baz=12,slow=8.5,SNR=30						
	comp=Z,2.4nm,0.5s						
WRA	**Warramunga Arr**	**48.12**	**191**	P	**P**	**11 55 05.1**	**-1.6**
ZAA0	**Zalesovo Array**	**49.26**	**319**	P	**P**	**11 55 14.9**	**-0.2**
ZAA0				IAmb	IAmb	11 55 16.7	
	comp=Z,8.0nm,1.0s						
ZALV	**Zalesovo Beam**	**49.26**	**319**	P	**P**	**11 55 15.5**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=103,slow=6.7,SNR=15						
	comp=Z,5.5nm,0.8s						
ZALV	**Zalesovo Beam**	**49.26**	**319**	P	**P**	**11 55 14.9**	**-0.2**
MK31	**Makanchi Array**	**50.38**	**309**	P	**P**	**11 55 24.0**	**+0.1**
MKAR	**Makanchi Array**	**50.38**	**309**	P	**P**	**11 55 23.8**	**0.0**
	comp=Z,1.7nm,0.8s,baz=95,slow=9.4,SNR=16						
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**50.38**	**309**	P	**P**	**11 55 24.0**	**+0.2**
MAKZ	**Makanchi**	**50.59**	**309**	P	**P**	**11 55 25.2**	**-0.3**
MAKZ				IAmb	IAmb	11 55 27.9	
	comp=Z,3.2nm,1.1s						
ASAR	**Alice Springs**	**51.84**	**190**	P	**P**	**11 55 33.5**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=8.2,slow=9.8,SNR=9.7						
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**52.82**	**314**	P	**P**	**11 55 42.8**	**+0.9**
KURK				IAmb	IAmb	11 55 43.4	
	comp=Z,12nm,1.1s						
K20K	**Telida**	**53.59**	**30**	P	**P**	**11 55 48.3**	**+0.8**
K20K				IAmb	IAmb	11 56 07.1	
	comp=Z,10nm,1.4s						
MDM	**Murphy Dome**	**56.36**	**29**	P	**P**	**11 56 08.4**	**+0.9**
ILAR	**Eielson Array**	**56.91**	**29**	P	**P**	**11 56 10.8**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=266,slow=6.6,SNR=4.9						
	comp=Z,0.9nm,1.0s						
BRVK	**Borovoye**	**57.90**	**317**	P	**P**	**11 56 19.7**	**+1.2**
BMAR	**Burnt Mountain**	**58.06**	**26**	P	**P**	**11 56 17.7**	**-1.7**
J26L	**Joseph Creek**	**58.32**	**29**	P	**P**	**11 56 21.1**	**-0.3**
J26L				IAmb	IAmb	11 56 40.0	
	comp=Z,1.9nm,0.8s						
KKAR	**Karatay Array**	**59.04**	**306**	P	**P**	**11 56 27.1**	**+0.4**
BCAR	**Beaver Creek A**	**59.11**	**31**	P	**P**	**11 56 28.4**	**+1.5**
BARN	**Barnard Glacie**	**59.22**	**33**	P	**P**	**11 56 28.7**	**+0.8**
STKA	**Stephens Creek**	**59.33**	**181**	P	**P**	**11 56 27.1**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=0.0,slow=10,SNR=3.0						
	comp=Z,1.0nm,0.5s						
STKA	**Stephens Creek**	**59.33**	**181**	P	**P**	**11 56 28.6**	**0.0**
STKA				IAmb	IAmb	11 56 47.5	
	comp=Z,3.0nm,1.4s						
INK	**Inuvik**	**62.23**	**25**	P	**P**	**11 56 47.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=295,slow=6.4,SNR=5.5						
	comp=Z,0.5nm,0.6s						
INK	**Inuvik**	**62.23**	**25**	P	**P**	**11 56 48.8**	**+0.8**
INK				IAmb	IAmb	11 57 05.7	
	comp=Z,4.7nm,1.4s						
ABKAR	**Akbulak array**	**64.93**	**314**	P	**P**	**11 57 07.1**	**+1.0**
FINES	**FINESS Array B**	**77.53**	**334**	P	**P**	**11 58 21.9**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=57,slow=7.0,SNR=6.6						
	comp=Z,2.1nm,0.8s						
FINES	**FINESS Array B**	**77.53**	**334**	P	**P**	**11 58 22.6**	**+0.5**
KBZ	**Khabaz**	**77.86**	**313**	P	**P**	**11 58 24.4**	**0.0**
	comp=Z,3.2nm,0.8s,baz=5.5,slow=4.0,SNR=8.5						
	comp=Z,3.2nm,0.8s						
NVAR	**Mina Array Bea**	**79.76**	**52**	P	**P**	**11 58 35.5**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=292,slow=4.7,SNR=4.3						
	comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	**83.43**	**45**	P	**P**	**11 58 54.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=270,slow=3.0,SNR=3.7						
	comp=Z,0.4nm,0.8s						
LPAZ	**La Paz**	**149.33**	**75**	PKPbc	**PKPbc**	**12 06 15.6**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=323,slow=5.1,SNR=2.3						

IDC 17 11:48:35.0±1.1, 10°49N×138°84E, h0km, mb3.6/5, mbtmp3.6/5, MS3.4/1, Error ellipse: s-maj=101.4km s-min=21.7km az=98.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**19.71**	**138**	LR	LR	11 59 29.5	
	comp=Z,101nm,19.2s,baz=204,slow=33						
H11S3	**WAKE ISLAND Hy**	**28.08**	**70**	T	T	12 24 25.2	
	baz=256,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.10**	**70**	T	T	12 24 26.5	
	baz=256						
H11S2	**WAKE ISLAND Hy**	**28.10**	**70**	T	T	12 24 28.4	
	baz=256,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.55**	**68**	T	T	12 25 03.2	
	baz=254,slow=75,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**28.56**	**68**	T	T	12 25 01.7	
	baz=254,slow=75,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**28.57**	**68**	T	T	12 25 02.4	
	baz=254,slow=75,SNR=4.8						
WRA	**Warramunga Arr**	**30.57**	**188**	P	P	11 54 50.6	0.0
	0.8nm,1.1s,baz=7.0,slow=9.8,SNR=2.8						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**34.29**	**188**	P	P	11 55 23.2	-0.1
	0.3nm,0.4s,baz=16,slow=12,SNR=15						
	0.3nm,0.4s						
KLR	**Kul'dur**	**39.06**	**353**	P	P	11 56 03.7	0.0
	2.1nm,0.7s,baz=172,slow=5.7,SNR=6.6						
	2.1nm,0.7s						
ILAR	**Eielson Array**	**73.88**	**25**	P	P	12 00 11.5	-0.1

MLSI Meulaboh, Aceh 2.12 123 P **Pn** **11 49 21.2 0.0**
MLSI S **Sn** **11 49 48.4 +1.9**
LHMI Lhok Sumawe 2.33 95 P **Pn** **11 49 25.2 +1.2**
LHMI Lhok Sumawe 2.33 95 P **Pn** **11 49 25.4 +1.3**
LHMI Lhok Sumawe 2.33 95 P **Pn** **11 49 25.1 +1.0**
LHMI S **Sn** **11 49 53.0 +1.4**
SNSI Sinabang, Aceh 3.45 150 P **Pn** **11 49 38.3 -1.1**
SNSI S **Sn** **11 50 19.1 +0.1**
KCSI Kotacane, Aceh 3.67 121 P **Pn** **11 49 43.7 +1.3**
KCSI S **Sn** **11 50 24.3 -0.3**
TSI Tuntungan 4.38 116 P **Pn** **11 49 53.5 +1.4**
PSI Prapat 5.03 121 P **Pn** **11 50 02.1 +1.0**
200nm,0.5s,baz=315,slow=14,SNR=105
PSI S **Sn** **11 50 58.8 +0.7**
581nm,0.9s,baz=207,slow=16,SNR=7.4
PSI LR LR 11 52 24.3
comp=Z,4µm,20.0s,baz=298,slow=43
PSI ScS **ScS** **12 04 10.6 -2.3**
2.5nm,0.4s,baz=227,slow=23,SNR=8.0
PSI Prapat 5.03 121 P **Pn** **11 50 03.5 +2.4**
GSI Gunungsitoli 5.05 144 Pn **Pn** **11 50 00.3 -1.0**
GSI Gunungsitoli 5.05 144 P **Pn** **11 50 00.3 -1.0**
521nm,0.7s
GSI Gunungsitoli 5.05 144 P **Pn** **11 50 00.4 -0.9**
524nm,0.7s,8µm4µm4.5nm
GSI S **Sn** **11 50 54.8 -3.6**
524nm,0.7s,8µm4µm4.5nm
RPSI Rantau Prapat 5.08 122 **Pn** **11 50 02.1 +0.4**
RPSI **Sn** **11 50 58.8 -0.4**
RPSI Rantau Prapat 5.08 122 Pn **Pn** **11 50 03.1 +1.4**
SRIT Nakonsritamara 5.87 57 Pn **Pn** **11 50 14.0 +1.5**
SURA Surathani 6.21 53 P **Pn** **11 50 19.0 +1.8**
IPM Ipoh 6.46 98 Pn **Pn** **11 50 20.4 -0.2**
IPM Ipoh 6.46 98 P **Pn** **11 50 20.5 -0.2**
IPM Ipoh 6.46 98 P **Pn** **11 50 21.0 +0.4**
PBA Port Blair 6.46 344 Pn **Pn** **11 50 18.1 -2.5**
PBA Port Blair 6.46 344 *eP* **Pn** **11 50 21.0 +0.4**
PBA IAmb IAmb 11 50 27.4
comp=Z,87nm,0.4s
PBSI Pulau Batu 6.56 146 P **Pn** **11 50 21.4 -0.6**
comp=Z,660nm,1.3s,comp=Z,6µmcomp=Z,3.8nm
PBSI S **Sn** **11 51 32.2 -3.3**
comp=Z,660nm,1.3s,comp=Z,6µmcomp=Z,3.8nm
MNSI Mandailing Nat 6.76 133 P **Pn** **11 50 25.0 +0.2**
comp=Z,348nm,0.5s,comp=Z,8µmcomp=Z,2.6nm
MNSI S **Sn** **11 51 40.9 +0.4**
comp=Z,348nm,0.5s,comp=Z,8µmcomp=Z,2.6nm
DGPR DIGLIPUR 7.88 348 *eP* **Pn** **11 50 40.8 +0.8**
DGPR *eS* **Sn** **11 52 04.8 -3.0**
JRMM Jerantut 7.99 101 P **Pn** **11 50 42.0 +0.4**
BKNI Bangkinang 8.18 128 **Pn** **11 50 43.5 -0.7**
BKNI Bangkinang 8.18 128 P **Pn** **11 50 44.9 +0.7**
comp=Z,299nm,0.9s,comp=Z,9µm
PDSI Padang 8.59 137 P **Pn** **11 50 49.7 -0.1**
comp=Z,203nm,0.8s,comp=Z,2µm
SDSI Sungai Dareh 9.29 133 P **Pn** **11 50 59.2 -0.1**
comp=Z,90nm,1.0s,comp=Z,3µm
PPSI Pulau Pagai 9.76 146 P **Pn** **11 51 05.3 -0.5**
comp=Z,282nm,0.8s
MYKOM **Kota Tinggi 9.90 111** **Pn** **11 51 07.7 0.0**
MYKOM **Kota Tinggi 9.90 111** P **Pn** **11 51 08.0 +0.2**
TPRI Tanjung Pinang 10.86 114 P **Pn** **11 51 21.6 +0.7**
comp=Z,104nm,0.5s,comp=Z,2µm
NAYO Nakonayok 11.03 36 P **Pn** **11 51 23.3 +0.1**
MASI Maura Aman, Be 11.42 138 P **Pn** **11 51 31.4 +2.8**
comp=Z,133nm,0.7s,comp=Z,1µm
DSRI Dabo 11.55 120 P **Pn** **11 51 31.7 +1.4**
comp=Z,31nm,0.8s,comp=Z,960nmcomp=Z,2µm
KSI Kapahiang 12.04 138 P **Pn** **11 51 37.4 +0.4**
comp=Z,346nm,0.8s
MNAI Manna 12.80 139 Pn **Pn** **11 51 45.9 -1.6**
MNAI Manna 12.80 139 P **Pn** **11 51 45.4 -2.0**
CM31 Chiang Mai Arr 13.62 18 Pn **Pn** **11 51 57.0 -1.6**
CMAR Chiang Mai Arr 13.62 18 P **Pn** **11 51 57.1 -1.5**
comp=Z,1.3nm,0.8s,baz=210,slow=14,SNR=2.9
CMAR LR LR 11 57 04.0
comp=Z,1µm,20.9s,baz=200,slow=37
CMAR ScP **ScP** **12 00 50.0 +0.7**
comp=Z,4.8nm,0.8s,baz=225,slow=3.2,SNR=8.6
CMAR Chiang Mai Arr 13.62 18 Pn **Pn** **11 51 59.4 +0.8**
CMAR Chiang Mai Arr 13.62 18 *i* P **Pn** **11 52 01.5 +2.9**
CMAR pmax pmax
comp=Z,58nm,0.6s
MDSI Maura Dua 13.72 136 P **Pn** **11 51 58.1 -1.8**
comp=Z,167nm,0.8s,comp=Z,2µm
PPBI Pangkal Pinang 13.76 123 P **Pn** **11 52 00.3 -0.1**
PALK Pallekele 13.95 278 Pn **Pn** **11 51 58.6 -4.4**
PALK Pallekele 13.95 278 P **Pn** **11 52 04.2 +1.2**
CHTO Chiang Mai 13.96 17 Pn **Pn** **11 52 01.2 -1.9**
CHTO Chiang Mai 13.96 17 P **Pn** **11 52 01.3 -1.9**
LWLI Liwa 14.02 138 P **Pn** **11 52 05.1 +1.0**
comp=Z,293nm,0.7s,comp=Z,14µm
PHRA Phrae 14.10 22 **Pn** **11 52 02.5 -2.5**
UBPT Khong Chiam 14.48 47 Pn **Pn** **11 52 08.2 -1.7**
KASI Kota Agung 14.69 138 P **Pn** **11 52 11.5 -1.2**
comp=Z,207nm,1.0s,comp=Z,2µm
CRAI Chiangrai 15.74 20 Pn **Pn** **11 52 23.8 -2.5**
MDRS Chennai 16.08 299 *eP* **P** **11 52 32.9 0.0**
CGJI Cibinong 16.29 137 P **P** **11 52 34.8 -0.5**
comp=Z,119nm,0.9s
VIS Vishakhapatnam 16.46 319 *eP* **P** **11 52 36.4 -0.8**
MND Mandalay 16.56 5 P **Pn** **11 52 34.9 -1.6**
SAIH SAIHA 17.04 355 *eP* **Pn** **11 52 39.1 -3.5**
SAIH IAmb IAmb 11 52 46.6
comp=Z,254nm,0.2s
SALM Salem 17.36 292 *eP* **P** **11 52 50.8 +3.7**
SALM *ex* x 11 55 44.0
BRDH Bariadhala 17.39 351 P **Pn** **11 52 44.5 -2.3**
comp=Z,92nm,0.3s,baz=270,slow=21,SNR=1.4
BRDH LR LR 12 00 45.4
comp=Z,2µm,21.8s,baz=88,slow=41
RAGD RAYAGADA 17.52 323 *eP* **P** **11 52 49.2 +0.4**
COCO West Island 17.64 173 Pn **Pn** **11 52 47.8 -2.1**
COCO IAmb IAmb 11 52 55.2
comp=Z,273nm,0.8s
COCO West Island 17.64 173 P **Pn** **11 52 47.8 -2.1**
COCO pmax pmax
comp=Z,273nm,0.9s
KOD Kodaikanal 17.64 287 *eP* **P** **11 52 52.8 +2.3**
TRD Trivandrum 17.79 281 *eP* **P** **11 52 54.2 +2.3**
LEM Lembang 17.79 133 P **Pn** **11 52 50.5 -1.5**
comp=Z,22nm,0.6s,baz=321,slow=18,SNR=3.0
SBUM Sibu 17.81 99 P **Pn** **11 52 49.5 -2.6**
SBUM Sibu 17.81 99 P **P** **11 52 53.0 +0.8**
BBJI Bungbulang 18.25 134 P **P** **11 52 55.8 -1.3**
PCHI Peechi 18.78 287⇓ *eP* **Pn** **11 53 05.9 +2.0**
PCHI *ex* x 11 56 19.1
PBKI Pangkalan Bun 18.86 115 P **Pn** **11 53 05.3 +0.6**
comp=Z,187nm,0.9s
KPJI Karang Pucung 19.10 131 P **P** **11 53 05.3 -1.0**
comp=Z,52nm,0.6s
IMP Imphal 19.30 358 *eP* **P** **11 53 06.0 -2.6**
IMP IAmb IAmb 11 53 08.4
comp=Z,45nm,0.7s
JHSG JHARSUGUGA 19.34 328 *ex* x 11 53 05.3
HYB Hyderabad 19.72 308⇑ *eP* **Pn** **11 53 15.3 +0.3**
HYB *e* 11 56 43.1
HYB Hyderabad 19.72 308 *eP* **Pn** **11 53 15.3 +0.3**
HYB IAmb IAmb 11 53 18.6
comp=Z,42nm,0.8s
TNCH TengChong 19.85 10⇑ P **P** **11 53 15.3 +0.7**
TNCH pP pP 11 53 28.5 +1.6
TNCH PP **sP** **11 53 37.0 +2.9**
TNCH S **S** **11 56 54.8 -0.4**
TNCH SS **SnSn** **11 57 16.9 +2.0**
TNCH pmax pmax
comp=Z,150nm,0.8s
TNCH pmax pmax
comp=Z,510nm,7.2s
QIZ Qiongzhong 20.08 46 P **P** **11 53 15.3 -1.7**
QIZ Qiongzhong 20.08 46 IAMs_20 IAMs_20 12 01 52.6
comp=Z,3µm,19.0s
QIZ Qiongzhong 20.08 46 P **P** **11 53 17.8 +0.8**
QIZ S Sn 11 57 03.4 -1.3
QIZ pmax pmax
comp=Z,110nm,1.1s
QIZ LR LR
comp=Z,3µm,12.8s
QIZ LR LR
comp=Z,2µm,14.2s
QIZ LR LR
comp=Z,2µm,18.2s
QIZ Qiongzhong 20.08 46 P Pn 11 53 19.0 -0.2
BOK Bokaro 20.10 336 *eP* Pn 11 53 18.2 -1.2

BOK IAmb IAmb 11 53 21.9
comp=Z,479nm,0.3s
UWJI Ujung Watu 20.11 126 P **P** **11 53 17.1 -0.2**
comp=Z,338nm,0.9s
SHL Shillong 20.20 353 P **P** **11 53 15.0 -3.4**
SHL Shillong 20.20 353 *eP* **P** **11 53 14.6 -3.7**
SHL Shillong 20.20 353 P **P** **11 53 15.0 -3.4**
SHL pmax pmax
comp=Z,72nm,0.6s
SHL Shillong 20.20 353 P **P** **11 53 14.9 -3.4**
SNR=21
UGM Wanagama 20.68 130 P **P** **11 53 21.5 -2.0**
UGM IAmb IAmb 11 53 34.2
comp=Z,366nm,1.7s
UGM Wanagama 20.68 130 P **P** **11 53 23.7 +0.2**
MOKO MOKOCHONG 20.78 360 *eP* **P** **11 53 22.4 -2.2**
GUWA GUWAHATI 20.84 353 *eP* **P** **11 53 20.8 -4.2**
GUWA IAmb IAmb 11 53 24.6
comp=Z,31nm,0.5s
MNGI Mangalore 20.90 292 *eP* Pn 11 53 35.2 +6.3
NGJI Ngawi 21.07 127 P **P** **11 53 31.7 +4.0**
comp=Z,125nm,1.0s
KMI Kunming 21.08 21⇑ P **P** **11 53 29.9 +1.9**
KMI S **S** **11 57 22.3 +2.6**
KMI sS sS 11 57 35.6 -4.2
KMI pmax pmax
comp=Z,190nm,1.0s
KMI LR LR
comp=Z,830nm,25.0s
KMI LR LR
comp=Z,920nm,13.1s
KMI LR LR
comp=Z,1µm,23.1s
TEZP TEZPUR 21.14 355 *eP* **P** **11 53 25.1 -3.3**
HMDM Hanimaadhoo 21.35 275 P **P** **11 53 28.0 -2.7**
KKM Kota Kinabalu 21.50 87 P **P** **11 53 31.5 -1.0**
KKM Kota Kinabalu 21.50 87 P **P** **11 53 34.3 +1.8**
MNCI Minicoy 21.58 279 P **P** **11 53 30.6 -2.6**
MNCI IAmb IAmb 11 53 44.5
comp=Z,466nm,1.8s
PWJI Pagerwojo 21.74 128 P **P** **11 53 36.8 +2.0**
comp=Z,41nm,0.8s
SPMM Sapulut 21.78 91 P **P** **11 53 37.0 +1.7**
LKP Lekhapani 21.82 3 *eP* **P** **11 53 33.4 -2.2**
ZIRO ZIRO 21.99 358 *eP* **P** **11 53 34.8 -2.8**
PZH PanZhiHua 22.04 17⇑ P **P** **11 53 38.3 +0.2**
PZH sP **sP** **11 53 58.4 +0.3**
PZH PP **PnPn** **11 54 04.5 +2.2**
PZH S **S** **11 57 37.8 -0.3**
PZH sS **sS** **11 57 57.0 -1.5**
PZH SS **SnSn** **11 58 12.8 +4.5**
PZH pmax pmax
comp=Z,80nm,1.0s
PZH pmax pmax
comp=Z,340nm,4.2s
PZH LR LR
comp=Z,3µm,22.6s
PZH LR LR
comp=Z,2µm,22.4s
PZH LR LR
comp=Z,2µm,21.7s
BBKI Banjar Baru 22.05 113 P **P** **11 53 39.3 +1.1**
comp=Z,678nm,0.8s,comp=Z,7µm
KAAM Kaadhehdhoo 22.13 258 P **P** **11 53 34.9 -4.2**
KAAM IAMs_20 IAMs_20 12 00 28.9
comp=Z,2µm,22.0s
JBP Jabalpur 22.59 323⇓ *eP* **P** **11 53 43.4 -0.5**
JBP IAmb IAmb 11 53 47.1
comp=Z,662nm,2.2s
JBP *ex* x 11 57 48.2
VAR Varanasi 22.67 332 *eP* **P** **11 53 44.8 +0.1**
RAMN Ramite 22.73 341 *eP* **P** **11 53 43.9 -1.7**
comp=Z,152nm,0.6s
TAPN Taplejung 22.77 344 *eP* **P** **11 53 44.2 -1.9**
comp=Z,78nm,0.5s
AKL Akola 22.86 313 *eP* **P** **11 53 48.9 +2.1**
BLJI Banyuglugur 23.02 124 P **P** **11 53 49.9 +1.5**
comp=Z,153nm,0.7s,comp=Z,2µm
GMJI Gumukmas 23.19 126 P **P** **11 53 50.7 +0.6**
comp=Z,61nm,0.9s
BKB Balikpapan 23.23 106 P **P** **11 53 48.4 -2.1**
BKB IAmb IAmb 11 54 15.7
comp=Z,111nm,0.7s
BKB IAMs_20 IAMs_20 12 03 37.1
comp=Z,1µm,21.0s
ALBI Allahabad 23.27 329 *eP* **P** **11 53 51.6 +0.8**
JIRN Jiri 23.52 341 *eP* **P** **11 53 52.4 -1.1**
comp=Z,277nm,0.6s
ABJI Asem Bagus 23.57 124 P **P** **11 53 54.8 +1.1**
comp=Z,180nm,0.9s,comp=Z,3µm
PKI Pulchoki 23.70 339 *eP* **P** **11 53 54.0 -1.2**
comp=Z,109nm,0.6s
PKIN Phulchoki 23.71 339 *eP* **P** **11 53 54.2 -1.0**
comp=Z,103nm,0.6s
MYLDM **Lahad Datu 23.79 89** P **P** **11 53 55.4 -0.3**
MYLDM IAmb IAmb 11 54 13.6
comp=Z,138nm,1.0s
DMN Daman 23.84 339 *eP* **P** **11 53 55.8 -0.6**
comp=Z,138nm,0.6s
GYA Guiyang 23.87 28⇑ P **P** **11 53 56.8 +0.3**
GYA pP pP 11 54 09.5 -0.8
GYA sP sP 11 54 14.4 -2.8
GYA S **S** **11 58 12.9 +4.1**
GYA ScP **ScP** **12 01 07.9 -4.0**
GYA pmax pmax
comp=Z,410nm,0.8s
GYA LR LR
comp=Z,1µm,15.2s
GYA LR LR
comp=Z,1µm,17.8s
GYA LR LR
comp=Z,2µm,20.4s
JAGI Jajag, Banyuwa 23.88 125 P **P** **11 53 54.3 -2.2**
JAGI Jajag, Banyuwa 23.88 125 P **P** **11 53 56.3 -0.2**
comp=Z,89nm,1.0s
VLK Valmikinagar 24.06 336 *eP* **P** **11 54 00.4 +2.4**
POO Poona 24.09 304 *eP* **P** **11 54 01.4 +2.9**
BHPL Bhopal 24.26 319 *eP* **P** **11 54 01.7 +1.7**
BHPL IAmb IAmb 11 54 05.5
comp=Z,141nm,1.4s
LSA Lhasa 24.36 353 P **P** **11 54 00.3 -1.0**
LSA IAmb IAmb 11 54 04.4
comp=Z,130nm,0.6s
LSA Lhasa 24.36 353 P **P** **11 54 01.5 +0.2**
LSA pmax pmax
comp=Z,180nm,0.7s
LSA Lhasa 24.36 353 P **P** **11 54 00.3 -1.0**
LSA pmax pmax
comp=Z,130nm,0.6s
LSA Lhasa 24.36 353 P **P** **11 54 02.0 +0.6**
LSA Lhasa 24.36 353 P **P** **11 54 01.3 0.0**
GKN Gorkha 24.37 338 *eP* **P** **11 54 00.5 -0.6**
comp=Z,77nm,0.3s
SRBI Singaraja 24.54 123 P **P** **11 54 04.0 +1.4**
comp=Z,638nm,0.9s,comp=Z,5µm
DANN Dangsing 25.02 337 *eP* **P** **11 54 07.5 +0.4**
comp=Z,401nm,0.6s
JHNI Jhansi 25.18 324 *eP* **P** **11 54 08.8 +0.5**
HKPS Hong Kong Po S 25.24 47 P **P** **11 54 05.9 -3.0**
HKPS Hong Kong Po S 25.24 47 IAMs_20 IAMs_20 12 04 12.4
comp=Z,1µm,20.0s
DGAR Diego Garcia 25.52 240 P **P** **11 54 10.2 -1.3**
DGAR Diego Garcia 25.52 240 P **P** **11 54 10.2 -1.3**
DGAR pmax pmax
comp=Z,473nm,1.6s
H08S3 Diego Garcia H 25.60 240 T T 12 19 25.9
baz=60,slow=76
H08S2 Diego Garcia H 25.60 240 T T 12 19 35.0
baz=60,slow=76
H08S1 Diego Carcia H 25.62 240 T T 12 19 36.1
baz=60,slow=76
MPSI Mapaga 25.75 100 P **P** **11 54 13.7 +0.2**
comp=Z,187nm,1.2s,comp=Z,1µm
TWSI Taliwang, Sumb 26.29 122 P **P** **11 54 16.8 -1.6**
comp=Z,103nm,1.2s,comp=Z,916nm
TOLI2 Tolitoli 26.47 98 P **P** **11 54 19.7 -0.4**
TOLI2 Tolitoli 26.47 98 P **P** **11 54 21.9 +1.8**
CD2 Chengdu 26.77 18⇑ P **P** **11 54 22.1 -0.5**
CD2 sP pP 11 54 38.8 +2.2
CD2 S **S** **11 58 57.9 +3.3**
CD2 pmax pmax
comp=Z,120nm,1.2s
CD2 pmax pmax
comp=Z,280nm,6.4s
CD2 LR LR

comp=Z,250nm,10.3s
CD2 LR LR
comp=Z,480nm,9.3s
CD2 LR LR
comp=Z,720nm,17.7s
SPSI Sidrap Palu 26.80 110 P **P** **11 54 22.7 -0.4**
comp=Z,33nm,1.3s,comp=Z,809nm
PLAI Plampang 27.09 121 P **P** **11 54 25.1 -0.5**
PLAI Plampang 27.09 121 P **P** **11 54 24.8 -0.8**
comp=Z,65nm,0.7s
KAPI Kappang 27.16 112 P **P** **11 54 26.8 +0.5**
comp=Z,71nm,0.6s,baz=262,slow=14,SNR=25
KAPI LR LR 12 06 26.2
comp=Z,488nm,18.8s,baz=292,slow=39
comp=Z,71nm,0.6s
KAPI Kappang 27.16 112 P **P** **11 54 27.3 +1.0**
KAPI IAmb IAmb 11 54 28.6
comp=Z,88nm,0.8s
KAPI Kappang 27.16 112 P **P** **11 54 27.3 +1.0**
KAPI pmax pmax
comp=Z,88nm,0.8s
KAPI MLR MLR
comp=Z,500nm,20.0s
LGTI Lohaghat 27.48 332 *eP* **P** **11 54 29.6 +0.6**
PTH Pithoragarh 27.58 332 *eP* **P** **11 54 30.9 +0.8**
BKSI Bulukumba 27.62 112 P **P** **11 54 30.7 +0.3**
comp=Z,380nm,0.8s,comp=Z,3µm
MRSI Marisa 27.72 99 P **P** **11 54 31.2 -0.1**
comp=Z,54nm,0.8s,comp=Z,908nm
APSI Ampana 27.73 102 P **P** **11 54 31.7 +0.3**
comp=Z,127nm,1.1s,comp=Z,1µm
SONA Sohna 28.14 326 *eP* **P** **11 54 35.2 +0.3**
AJM Ajmer 28.32 320 *eP* **P** **11 54 38.1 +1.6**
NDI New Delhi 28.41 326 *eP* **P** **11 54 37.2 0.0**
ENH Enshi 28.41 28 P **P** **11 54 36.7 -0.6**
ENH IAmb IAmb 11 54 37.7
comp=Z,68nm,0.6s
ENH Enshi 28.41 28 IAMs_20 IAMs_20 12 06 22.2
comp=Z,2µm,21.0s
ENH Enshi 28.41 28 P **P** **11 54 37.1 -0.2**
CNSH ChangSha 28.54 35⇓ P **P** **11 54 38.9 +0.4**
CNSH S **S** **11 59 26.9 +4.4**
CNSH LR LR
comp=Z,1µm,14.6s
CNSH LR LR
comp=Z,1µm,20.0s
CNSH LR LR
comp=Z,2µm,17.5s
GTOI Gorontalo 28.75 99 P **P** **11 54 39.4 -1.1**
comp=Z,38nm,1.4s,comp=Z,422nm
LUWI Luwuk 28.85 102 P **P** **11 54 40.6 -0.8**
LUWI Luwuk 28.85 102 P **P** **11 54 42.3 +0.9**
comp=Z,274nm,0.8s,comp=Z,2µm
KNMB Chin-men Tao 29.67 48 IAMs_20 IAMs_20 12 06 23.5
comp=Z,2µm,21.0s
BASI Baing, Sumba 30.17 121 P **P** **11 54 53.6 +0.5**
comp=Z,128nm,0.9s
SMLA Simla 30.37 329 *eP* **P** **11 54 54.9 +0.3**
GOMU GeErMu 30.63 0 P **P** **11 54 57.3 0.0**
GOMU S **S** **11 59 49.3 -6.5**
GOMU pmax pmax
comp=Z,11nm,0.6s
GOMU pmax pmax
comp=Z,90nm,6.8s
GOMU LR LR
comp=Z,210nm,18.5s
GOMU LR LR
comp=Z,310nm,18.4s
TPUB Ta-pu 30.74 52 P **P** **11 54 57.8 -0.2**
TPUB IAmb IAmb 11 55 26.9
comp=Z,257nm,1.8s
DAV Davao City (W) 30.82 85 LR LR 12 09 37.8
comp=Z,320nm,20.8s,baz=280,slow=41
TWG Pinlang 30.84 53 IAMs_20 IAMs_20 12 09 08.8
comp=Z,2µm,18.0s
WHN Wuhan 31.14 34⇑ P **P** **11 55 01.8 +0.4**
WHN pmax pmax
comp=Z,170nm,1.2s
WHN LR LR
comp=Z,3µm,11.6s
WHN LR LR
comp=Z,3µm,13.7s
WHN LR LR
comp=Z,6µm,14.5s
YULB Yu-li 31.31 53 P **P** **11 55 00.6 -2.4**
YULB IAmb IAmb 11 55 13.6
comp=Z,131nm,1.8s
YULB IAMs_20 IAMs_20 12 08 38.1
comp=Z,2µm,19.0s
XAN Xi'an 31.42 23⇑ P **P** **11 55 03.3 -0.6**
XAN pP pP 11 55 17.4 -0.7
XAN sP sP 11 55 25.4 +0.6
XAN PP **PnPn** **11 56 11.3 +2.7**
XAN S **S** **12 00 07.8 +0.2**
XAN sS sS 12 00 33.6 +2.3
XAN SS **SnSn** **12 01 53.4 -3.3**
XAN pmax pmax
comp=Z,280nm,0.7s
XAN pmax pmax
comp=Z,400nm,6.2s
XAN LR LR
comp=Z,1µm,17.3s
XAN LR LR
comp=Z,1µm,17.5s
XAN LR LR
comp=Z,2µm,19.9s
XAN Xi'an 31.42 23 P **P** **11 55 03.1 -0.8**
XAN sP **sP** **11 55 21.8 -3.0**
LZH Lanzhou 31.67 14 *eP* **P** **11 55 05.8 -0.4**
LZH PcP **PcP** **11 57 58.8 +1.7**
LZH ScP **ScP** **12 01 35.5 -0.2**
LZH ScS **ScS** **12 05 33.8 -0.1**
LZH pmax pmax
comp=Z,89nm,1.1s
LZH pmax pmax
comp=Z,320nm,4.3s
LZH LR LR
comp=Z,870nm,15.3s
LZH LR LR
comp=Z,460nm,15.5s
LZH LR LR
comp=Z,1µm,16.2s
NACB Ninganchiao 31.95 52 IAMs_20 IAMs_20 12 09 15.8
comp=Z,2µm,19.0s
YHNB Yeheng 32.03 51 P **P** **11 55 07.7 -1.8**
YHNB IAmb IAmb 11 55 39.8
comp=Z,74nm,1.2s
YHNB IAMs_20 IAMs_20 12 09 44.2
comp=Z,2µm,18.0s
SANI Sanana 32.21 103 P **P** **11 55 10.0 -1.0**
comp=Z,63nm,1.1s,comp=Z,628nm
TATO Taipei 32.28 50 P **P** **11 55 11.8 +0.2**
TATO Taipei 32.28 50 IAMs_20 IAMs_20 12 07 08.0
comp=Z,1µm,21.0s
TNTI Ternate 33.02 97 P **P** **11 55 17.0 -1.2**
SOEI Soe 33.17 117 P **P** **11 55 17.8 -1.8**
SOEI IAmb IAmb 11 56 08.9
comp=Z,74nm,0.9s
SOEI Soe 33.17 117 P **P** **11 55 20.5 +0.9**
SOEI Soe 33.17 117 P **P** **11 55 19.9 +0.3**
comp=Z,75nm,0.7s
YOJ Yonaguni jima 33.20 52 P **P** **11 55 18.7 -0.9**
YOJ Yonaguni jima 33.20 52 P **P** **11 55 18.7 -0.9**
YOJ pmax pmax
comp=Z,416nm,1.8s
LYN LuoYang 33.36 27⇑ *i* P **P** **11 55 21.3 +0.4**
LYN pP pP 11 55 36.3 +1.1
LYN sP sP 11 55 43.8 +1.9
LYN S **S** **12 00 37.8 0.0**
LYN pmax pmax
comp=Z,70nm,0.6s
LYN LR LR
comp=Z,1µm,21.3s
LYN LR LR
comp=Z,1µm,22.2s
NLAI Namlea 33.57 104 P **P** **11 55 23.7 +0.7**
comp=Z,38nm,0.6s
GIRL Giralia 33.86 146 P **P** **11 55 27.0 +1.7**
baz=34,SNR=3.8
GTA Gaotai 34.16 7⇑ P **P** **11 55 27.6 -0.3**
GTA pP pP 11 55 40.8 -1.1
GTA PcP **PcP** **11 58 04.8 +0.9**
GTA sS sS 12 01 09.6 -4.5
GTA ScP **ScP** **12 01 44.3 +0.1**
GTA PcS **PcS** **12 01 50.4 +0.2**
GTA ScS **ScS** **12 05 45.4 -1.1**

GTA pmax pmax
comp=Z,130nm,0.9s
GTA pmax pmax
comp=Z,280nm,3.8s
GTA LR LR
comp=Z,420nm,23.6s
GTA LR LR
comp=Z,340nm,22.9s
GTA LR LR
comp=Z,640nm,24.0s
NIL Nilore 34.39 327 P P 11 55 29.7 -0.1
NIL IAmb IAmb 11 55 30.6
comp=Z,84nm,0.7s
NIL Nilore 34.39 327 P P 11 55 29.7 -0.1
NIL pmax pmax
comp=Z,84nm,0.7s
NIL MLR MLR
comp=Z,300nm,21.0s
AAI Ambon 34.74 104 P P 11 55 33.2 +0.1
comp=Z,146nm,0.9s,comp=Z,2µm
NJ2 Nanjing 34.87 38 ⇑*iP* **P 11 55 34.9 +1.0**
NJ2 pP **pP 11 55 43.9 -4.3**
NJ2 sP **sP 11 55 52.0 -2.9**
NJ2 pmax pmax
comp=Z,120nm,0.8s
NJ2 LR LR
comp=Z,1µm,14.7s
NJ2 LR LR
comp=Z,740nm,11.4s
NJ2 LR LR
comp=Z,2µm,14.7s
MSAI Masohi 35.37 104 P P 11 55 38.4 -0.1
comp=Z,15nm,0.5s,comp=Z,578nm
SSE Sheshan 35.70 41 P P 11 55 42.3 +1.2
SSE S **S 12 01 13.8 -0.1**
SSE pmax pmax
comp=Z,18nm,0.8s
SSE pmax pmax
comp=Z,100nm,3.5s
SSE LR LR
comp=Z,370nm,18.0s
SSE LR LR
comp=Z,340nm,19.2s
SSE Sheshan 35.70 41 P P 11 55 42.0 +0.9
TIY Taiyuan 36.01 24 *eP* **P 11 55 43.5 -0.3**
TIY LR LR
comp=Z,2µm,18.0s
TIY LR LR
comp=Z,930nm,16.1s
TIY LR LR
comp=Z,2µm,18.2s
MBWA Marble Bar 36.13 138 P P 11 55 44.9 0.0
MBWA IAmb IAmb 11 56 07.5
comp=Z,112nm,1.5s
MBWA Marble Bar 36.13 138 P P 11 55 44.9 0.0
MBWA Marble Bar 36.13 138 P P 11 55 56.9 +12
MBWA Marble Bar 36.13 138 P P 11 55 44.9 0.0
MBWA sP **sP 11 56 04.0 -1.9**
PSA00 Pilbara Seismi 36.49 138 P P 11 55 46.3 -1.7
PSA00 Pilbara Seismi 36.49 138 P P 11 55 48.2 +0.2
HNS HongShan 36.73 27 ⇑**P P 11 55 51.1 +1.3**
HNS sP **pP 11 56 05.0 +0.7**
HNS PP **PP 11 57 17.5 +3.0**
HNS PcP **PcP 11 58 12.3 +1.0**
HNS S **S 12 01 31.3 +1.8**
HNS ScP **ScP 12 01 52.1 -1.3**
HNS SS **SnSn 12 04 00.0 -5.3**
HNS pmax pmax
comp=Z,220nm,1.1s
HNS LR LR
comp=Z,350nm,23.9s
HNS LR LR
comp=Z,1µm,20.4s
HNS LR LR
comp=Z,830nm,22.3s
TIA Tai'an 36.96 31 ⇑P **P 11 55 52.0 +0.2**
TIA S **S 12 01 31.3 -1.7**
TIA pmax pmax
comp=Z,95nm,0.9s
TIA LR LR
comp=Z,830nm,19.1s
TIA LR LR
comp=Z,590nm,19.1s
TIA LR LR
comp=Z,1µm,18.6s
SIJI Sorong 37.14 99 LR LR 12 14 51.7
comp=Z,82nm,18.2s,baz=204,slow=42
KBL Kabul 37.40 324 P P 11 55 54.9 -0.9
KBL Kabul 37.40 324 P P **11 55 54.9 -0.9**
KBL pmax pmax
comp=Z,14nm,0.7s
KBL Kabul 37.40 324 P P 11 55 55.6 -0.2
SNR=8.5
BTO Baotou 37.66 19 *eP* **P 11 55 57.9 +0.1**
BTO LR LR
comp=Z,2µm,19.8s
BTO LR LR
comp=Z,3µm,16.9s
NGCH Negor - Chabah 37.69 305 P P 11 56 02.7 +4.6
JLN Jalan Bani Buh 37.87 299 P P 11 56 02.7 +3.0
SNR=8.9
KSH Kashi 37.88 336 P P 11 55 58.9 -0.8
KSH pP pP 11 56 07.3 -6.4
KSH sP pwP 11 56 12.6 -4.1
KSH PcP **PcP 11 58 17.0 +2.0**
KSH SS SS 12 04 19.4 -16
KSH pmax pmax
comp=Z,130nm,0.7s
KSH pmax pmax
comp=Z,220nm,5.9s
WUS Wushi 38.19 341 P P 11 56 03.4 +1.1
WUS pP **pwP 11 56 17.6 -1.1**
WUS ScP **ScP 12 02 00.0 +1.0**
HHC Hu-ho-hao-te 38.41 21 ⇑*iP* **P 11 56 04.8 +0.7**
HHC sP sP 11 56 24.5 -0.5
HHC pmax pmax
comp=Z,150nm,0.9s
HHC pmax pmax
comp=Z,340nm,4.5s
HHC LR LR
comp=Z,2µm,19.2s
HHC LR LR
comp=Z,1µm,15.1s
HHC LR LR
comp=Z,2µm,18.6s
WBK Wadi Bani Khal 38.41 300 P P 11 56 07.5 +3.2
SNR=6.0
FAKI Fak Fak 38.50 102 P P 11 56 04.6 -0.5
FAKI IAmb IAmb 11 56 05.7
comp=Z,80nm,0.7s
FAKI Fak Fak 38.50 102 P P 11 56 05.1 0.0
FAKI Fak Fak 38.50 102 P P 11 56 04.3 -0.8
comp=Z,137nm,1.1s,comp=Z,1µm
JOW Kunigami 38.50 53 P P 11 56 05.8 +0.8
comp=Z,36nm,0.7s,baz=258,slow=7.5,SNR=10
JOW LR LR 12 11 38.4
comp=Z,943nm,21.5s,baz=272,slow=36
comp=Z,36nm,0.7s
JOW Kunigami 38.50 53 P P 11 56 04.9 -0.1
JOW IAmb IAmb 11 56 07.0
comp=Z,48nm,0.8s
JOW Kunigami 38.50 53 P P 11 56 07.9 +2.9
comp=Z,82nm,1.0s
WMQ Urumqi 38.72 352 ⇑P **P 11 56 07.6 +1.0**
WMQ pP pP 11 56 19.3 -1.5
WMQ PcP **PcP 11 58 19.1 +1.6**
WMQ S **S 12 01 59.0 -0.6**
WMQ ScP **ScP 12 02 02.4 +1.5**
WMQ pmax pmax
comp=Z,150nm,0.7s
WMQ pmax pmax
comp=Z,340nm,5.3s
WMQ LR LR
comp=Z,240nm,18.9s
WMQ LR LR
comp=Z,320nm,18.9s
WMQ LR LR
comp=Z,480nm,21.9s
WMQ Urumqi 38.72 352 P P 11 56 07.6 +1.0
MHTO MHTO 38.75 297 P P 11 56 09.0 +2.0
SNR=6.7
DQM DQM 38.81 295 P P 11 56 09.7 +2.0
WSAR Wadi Sarin 38.93 301 LR LR 12 10 30.5
comp=Z,144nm,21.3s,baz=127,slow=33
SAUI Saumlaki 38.94 110 P P 11 56 06.7 -2.1
JMDO Jabal Madar 39.08 299 P P 11 56 12.7 +2.8
SNR=6.0
TARG Taragay, Kyrgy 39.13 340 P P 11 56 12.0 +1.5
TARG Taragay, Kyrgy 39.13 340 P P **11 56 12.0 +1.5**
TARG pmax pmax
comp=Z,397nm,1.3s
SMDO Samad 39.37 300 P P 11 56 15.6 +3.3
SNR=6.7
MEEK Meekatharra 39.45 145 P P 11 56 13.9 +1.0
baz=40,SNR=4.9
MEEK Meekatharra 39.45 145 P P 11 56 13.0 +0.1
BJT Baijiatuao 39.53 26 P P 11 56 14.7 +1.3
BJT IAmb IAmb 11 56 16.1
comp=Z,122nm,0.9s
BJT Baijiatuao 39.53 26 IAMs_20 IAMs_20 12 13 17.2
comp=Z,822nm,21.0s
BJT Baijiatuao 39.53 26 P P 11 56 14.1 +0.7
BJT Baijiatuao 39.53 26 P P 11 56 14.7 +1.3
BJT pmax pmax
comp=Z,122nm,0.9s
BJT MLR MLR
comp=Z,800nm,21.0s
BJT Baijiatuao 39.53 26 P P 11 56 14.8 +1.5
BJT pP pP **11 56 29.1 +1.2**
BJI Beijing 39.55 26 P P 11 56 14.8 +1.3
BJI sP **pP 11 56 30.1 +2.0**
BJI S **S 12 02 12.4 +0.4**
BJI pmax pmax
comp=Z,73nm,0.9s
BJI pmax pmax
comp=Z,230nm,4.1s
BJI LR LR
comp=Z,330nm,19.8s
BJI LR LR
comp=Z,130nm,19.3s
BJI LR LR
comp=Z,470nm,20.1s
ROCAM Rodrigues Isla 39.63 230 P P 11 56 11.6 -2.8
KNRA Kununurra 39.79 122 P P 11 56 14.8 -1.0
KNRA IAmb IAmb 11 56 39.3
comp=Z,71nm,1.2s
KNRA Kununurra 39.79 122 P P 11 56 14.8 -1.0
SHLS Shalkode 39.89 343 ⇑*iP* **P 11 56 17.1 +0.6**
comp=Z,95nm,0.8s,baz=343
SHLS *eS* **S 12 02 17.6 +0.2**
baz=343
SHLS Shalkode 39.89 343*c iP* **P 11 56 17.0 +0.6**
SHLS *eS* **S 12 02 17.5 +0.2**
SHLS pmax pmax
comp=Z,95nm,0.8s
BSY Bisya 39.99 299 P P 11 56 21.1 +3.6
SNR=12
GAR Garm 40.01 330 P P 11 56 17.3 -0.2
GAR IAmb IAmb 11 56 17.9
comp=Z,72nm,0.8s
MORW Morawa 40.01 150 P P 11 56 17.0 -0.5
UZB Uzunbulak 40.02 342 ⇑*iP* **P 11 56 19.0 +1.5**
comp=Z,130nm,0.7s,baz=342
UZB *i* S **S 12 02 20.9 +1.6**
baz=342
UZB Uzunbulak 40.02 342*c iP* **P 11 56 19.0 +1.5**
UZB *i* S **S 12 02 20.8 +1.6**
UZB pmax pmax
comp=Z,131nm,0.7s
RKPI Ransiki, Papua 40.11 99 P P 11 56 20.1 +1.5
comp=Z,87nm,0.7s,comp=Z,5µm
SATY Saty 40.13 341 ⇑*iP* **P 11 56 19.9 +1.5**
comp=Z,121nm,0.6s,baz=342
SATY *eS* **S 12 02 23.1 +2.2**
baz=342
SATY Saty 40.13 341*c iP* **P 11 56 19.9 +1.5**
SATY *eS* **S 12 02 23.0 +2.2**
SATY pmax pmax
comp=Z,121nm,0.6s
ULHL Ulahol 40.14 339 P P 11 56 19.0 +0.4
SNR=106
HOQ Hoqain 40.19 300 P P 11 56 22.6 +3.5
SNR=7.9
ZHN Zhinishke 40.22 342 *eP* **P 11 56 20.4 +1.2**
comp=Z,99nm,0.8s,baz=342
ZHN Zhinishke 40.22 342 *eP* **P 11 56 20.3 +1.2**
ZHN pmax pmax
comp=Z,99nm,0.8s
CHGR Chuyangaron 40.34 329 P P 11 56 19.6 -0.6
CHGR IAmb IAmb 11 56 20.6
comp=Z,88nm,0.7s
CHGR Chuyangaron 40.34 329 P P 11 56 19.6 -0.6
CHGR pmax pmax
comp=Z,88nm,0.7s
MSEY Mahe Island 40.35 256 IAMs_20 IAMs_20 12 09 23.8
comp=Z,889nm,20.0s
KPKS Kokpek 40.41 342 ⇑*iP* **P 11 56 22.1 +1.3**
comp=Z,119nm,0.7s,baz=342
KPKS *eS* **S 12 02 26.2 +1.1**
baz=342
KPKS Kokpek 40.41 342*c iP* **P 11 56 22.0 +1.3**
KPKS *eS* **S 12 02 26.1 +1.1**
KPKS pmax pmax
comp=Z,119nm,0.7s
MTN Manton Dam 40.57 117 P P 11 56 21.2 -1.1
baz=41,SNR=10
MTN Manton Dam 40.57 117 P P 11 56 21.0 -1.3
MTN IAmb IAmb 11 56 43.4
comp=Z,53nm,0.5s
MTN Manton Dam 40.57 117 P P 11 56 21.8 -0.5
JASK Jask - Hormozg 40.58 304 P P 11 56 26.3 +4.1
TNSS Tian-Shan 40.59 340 *i P* **P 11 56 23.8 +1.2**
baz=340
TNSS Tian-Shan 40.59 340 *i P* **P 11 56 23.7 +1.2**
DMTO DMTO 40.63 291 P P 11 56 25.7 +2.9
AAA Alma-Ata 40.75 340 *eP* **P 11 56 25.1 +1.6**
baz=340
AAA Alma-Ata 40.75 340 *eP* **P 11 56 25.1 +1.6**
UCH Uchtor 40.77 337 P P 11 56 25.5 +1.4
SNR=142
ARQ Araqi 40.78 300 P P 11 56 27.4 +3.4
SNR=6.1
TKM2 Tokmak 2 40.96 339 P P 11 56 26.6 +1.2
SNR=111
TKM2 Tokmak 2 40.96 339 P P 11 56 26.1 +0.7
KBK Karagaybulak 40.97 338 P P 11 56 27.4 +1.9
SNR=224
AML Almayashu 41.02 336 P P 11 56 27.6 +1.5
SNR=22
SOHO SOHO 41.05 301 *i P* **P 11 56 29.0 +2.9**
SNR=8.3
SOHO SOHO 41.05 301 P P 11 56 29.2 +3.1
AAK Ala-Archa 41.13 337 P P 11 56 28.2 +1.5
SNR=136
AAK Ala-Archa 41.13 337 LR LR 12 15 39.9
comp=Z,230nm,21.0s,baz=150,slow=39
AAK Ala-Archa 41.13 337 P P 11 56 28.3 +1.5
AAK IAmb IAmb 11 56 30.8
comp=Z,120nm,0.8s
AAK Ala-Archa 41.13 337 *i P* **P 11 56 26.9 +0.2**
AAK pmax pmax
comp=Z,70nm,0.8s
AAK Ala-Archa 41.13 337 *i P* **P 11 56 28.2 +1.5**
SNR=152
AAK Ala-Archa 41.13 337 P P 11 56 28.3 +1.6
AAK Ala-Archa 41.13 337 P P 11 56 28.1 +1.5
AAK sP **sP 11 56 48.6 +1.2**
AAK ScP **ScP 12 02 12.3 +1.9**
RBK Rabkut 41.28 290 P P 11 56 32.1 +3.9
SNR=5.3
CHKK Chushkaly 41.30 341 *eP* **P 11 56 28.3 +0.4**
baz=341
CHKK Chushkaly 41.30 341 *eP* **P 11 56 28.3 +0.4**
CHMS Chumysh 41.34 338 P P 11 56 29.4 +1.0
SNR=43
CHMS Chumysh 41.34 338 P P 11 56 28.5 +0.2
DL2 Dalian 41.34 32 P P 11 56 29.3 +1.0
DL2 pmax pmax
comp=Z,220nm,0.8s
DL2 pmax pmax
comp=Z,140nm,4.9s
DL2 LR LR
comp=Z,820nm,17.3s
DL2 LR LR
comp=Z,610nm,18.3s
DL2 LR LR
comp=Z,990nm,19.0s
EKS2 Erkin-Say 41.43 337 P P 11 56 30.8 +1.6
SNR=167
KUU Kurty 41.55 340 ⇑*iP* **P 11 56 30.6 +0.6**
baz=340
KUU *eS* **S 12 02 42.7 +0.9**
baz=340
KUU Kurty 41.55 340*c iP* **P 11 56 30.6 +0.6**
KUU *eS* **S 12 02 42.7 +0.9**
HRA Herat 41.56 318 P P 11 56 29.8 -0.7
DOK Doka 41.59 292 P P 11 56 33.5 +2.8
SNR=9.5
BLDU Ballidu 41.61 151 P P 11 56 31.8 +1.2
baz=42,SNR=5.1
BLDU Ballidu 41.61 151 P P 11 56 32.2 +1.6
UOSS Minazif 41.62 302 P P 11 56 31.8 +0.9
UOSS Minazif 41.62 302 P P 11 56 32.9 +2.1
UOSS Minazif 41.62 302 P P 11 56 32.8 +1.9
UOSS Minazif 41.62 302 P P 11 56 32.5 +1.7
UOSS pP **pP 11 56 45.0 0.0**
HATD Hatta, Dubai 41.63 302 *i P* **P 11 56 33.9 +2.9**
SNR=9.4
HATD Hatta, Dubai 41.63 302 P P 11 56 34.2 +3.2
SNR=8.2
ASHO Ashiyiah 41.65 301 *i P* **P 11 56 34.1 +3.0**
SNR=12
ASHO Ashiyiah 41.65 301 P P 11 56 34.1 +3.0
SNR=5.6
USP Ospenovka 41.67 338 P P 11 56 32.2 +1.2
SNR=373
MDH Madha 41.67 302 P P 11 56 32.7 +1.5
ALNE Al Ain 41.69 300 *i P* **P 11 56 34.7 +3.3**
SNR=6.7
ALNE Al Ain 41.69 300 P P 11 56 34.9 +3.4
SNR=14
KDU Kakadu 41.71 116 P P 11 56 30.5 -1.1
baz=42,SNR=17
KDU Kakadu 41.71 116 P P 11 56 31.0 -0.6
UMZA Um Al Zommool 41.76 298 P P 11 56 35.0 +2.9
WHFO Wadi Hawf 41.77 291 P P 11 56 34.9 +2.7
SNR=7.5
SGDS Sogindy 41.78 338 ⇑*iP* **P 11 56 32.9 +0.9**
baz=338
SGDS Sogindy 41.78 338*c iP* **P 11 56 32.8 +0.9**
MASF Masafi 41.81 302 P P 11 56 35.7 +3.2
BANOM Banah 41.90 303 P P 11 56 36.6 +3.4
BANOM Banah 41.90 303 P P 11 56 36.5 +3.4
FAQ Al Faqa, Dubai 42.06 301 *i P* **P 11 56 39.0 +4.5**
SNR=7.0
FAQ Al Faqa, Dubai 42.06 301 P P 11 56 37.2 +2.8
SHME Shamm 42.08 303 P P 11 56 37.1 +2.5
NAZ Nazwa, Dubai 42.09 302 P P 11 56 37.0 +2.3
NAZ Nazwa, Dubai 42.09 302 P P 11 56 37.5 +2.8
ABTO Aybut 42.10 290 P P 11 56 37.9 +3.0
SNR=5.9
TAS Tashkent 42.30 331 P P 11 56 37.0 +0.9
TAS Tashkent 42.30 331 P P 11 56 37.1 +0.9
TAS pmax pmax
comp=Z,132nm,0.5s
JSU Suzuyama 42.42 48 P P 11 56 36.9 -0.5
JSU Suzuyama 42.42 48 P P 11 56 38.7 +1.4
MUN Mundaring 42.51 152 P P 11 56 39.6 +1.7
baz=43,SNR=6.7
MUN Mundaring 42.51 152 P P 11 56 38.5 +0.6
AJN Ajban 42.52 301 P P 11 56 40.9 +2.8
AJN Ajban 42.52 301 P P 11 56 40.7 +2.5
MK31 Makanchi Array 42.56 347 P P 11 56 38.5 +0.3
MK31 IAmb IAmb 11 56 39.6
comp=Z,71nm,0.9s
MK31 Makanchi Array 42.56 347 *i P* **P 11 56 38.1 -0.1**
MKAR Makanchi Array 42.56 347 P P 11 56 38.6 +0.3
comp=Z,70nm,0.7s,baz=166,slow=8.1,SNR=443
MKAR PcP **PcP 11 58 31.0 +1.2**
comp=Z,8.2nm,0.6s,baz=186,slow=2.9,SNR=2.4
comp=Z,70nm,0.7s
MKAR Makanchi Array 42.56 347*ce* P **P 11 56 38.5 +0.3**
MKAR pmax pmax
comp=Z,69nm,0.7s
IUG Iuzhnay 42.60 333 ⇑*iP* **P 11 56 39.7 +1.0**
baz=333
IUG Iuzhnay 42.60 333*c iP* **P 11 56 39.7 +1.0**
DZA Taraz 42.63 335 *eP* **P 11 56 39.3 +0.5**
baz=335
DZA Taraz 42.63 335 *eP* **P 11 56 39.3 +0.5**
MAKZ Makanchi 42.65 347 P P 11 56 39.2 +0.5
MAKZ IAmb IAmb 11 56 40.1
comp=Z,87nm,0.7s
MAKZ IAMs_20 IAMs_20 12 16 27.7
comp=Z,531nm,22.0s
MAKZ Makanchi 42.65 347 P P 11 56 39.1 +0.2
MAKZ pmax pmax
comp=Z,87nm,0.7s
MAKZ MLR MLR
comp=Z,500nm,22.0s
MAKZ Makanchi 42.65 347 P P 11 56 39.0 +0.2
MAKZ pP **pP 11 56 53.1 -0.1**
MAKZ sP **sP 11 56 59.9 +0.1**
ZSN Zaisan 42.70 350 ⇑*iP* **P 11 56 40.3 +1.0**
baz=350
ZSN Zaisan 42.70 350*c iP* **P 11 56 40.3 +1.0**
XLT XiLinHaoTe 42.72 23 ⇑*iP* **P 11 56 40.0 +0.4**
XLT pP pP 11 56 49.5 -4.7
XLT S **S 12 02 56.8 -2.4**
XLT sS sS 12 03 20.5 -3.0
XLT pmax pmax
comp=Z,56nm,1.0s
XLT pmax pmax
comp=Z,310nm,3.5s
XLT LR LR
comp=Z,130nm,20.2s
XLT LR LR
comp=Z,960nm,18.6s
XLT LR LR
comp=Z,2µm,20.8s
TJN Taejon 43.01 40 P P 11 56 42.2 +0.2
TJN Taejon 43.01 40 P P 11 56 42.0 0.0
TJN Taejon 43.01 40 P P 11 56 42.2 +0.2
TJN pmax pmax
comp=Z,574nm,0.8s
KK31 Karatay Array 43.15 334 P P 11 56 43.1 +0.1
KK31 IAmb IAmb 11 56 44.7
comp=Z,67nm,0.8s
KK31 Karatay Array 43.15 334 *i P* **P 11 56 43.2 +0.1**
KKAR Karatay Array 43.15 334 P P 11 56 42.5 -0.6
KKAR Karatay Array 43.15 334 P P 11 56 42.5 -0.6
MZWR Madinat Zayed 43.21 299 P P 11 56 46.2 +2.4
INCN Inchon 43.25 38 P P 11 56 43.5 -0.4
INCN IAmb IAmb 11 56 44.7
comp=Z,82nm,0.9s
INCN Inchon 43.25 38 P P 11 56 43.5 -0.4
INCN pmax pmax
comp=Z,82nm,1.0s
INCN MLR MLR
comp=Z,1µm,20.0s
INCN Inchon 43.25 38 P P 11 56 43.2 -0.7
INCN Inchon 43.25 38 P P 11 56 43.7 -0.2
INCN pP **pP 11 56 57.0 -1.6**
JTU Tsushima 43.27 43 P P 11 56 45.4 +1.3
MZR Muzera 43.33 298 *i P* **P 11 56 47.9 +3.1**
SNR=33
MZR Muzera 43.33 298 P P 11 56 48.1 +3.3
SNR=7.3
BTLS Baital 43.36 339 ⇑*iP* **P 11 56 45.5 +0.8**
comp=Z,45nm,0.6s,baz=339
BTLS *eS* **S 12 03 07.8 -0.6**
baz=339
BTLS Baital 43.36 339*c iP* **P 11 56 45.4 +0.8**
BTLS *eS* **S 12 03 07.7 -0.6**
BTLS pmax pmax
comp=Z,45nm,0.6s
SONM Songino Array 43.44 12 P P 11 56 45.1 -0.3
comp=Z,64nm,0.7s,baz=190,slow=8.7,SNR=389
SONM PcP **PcP 11 58 33.9 +1.0**
comp=Z,11nm,0.6s,baz=198,slow=3.9,SNR=9.8
SONM ScP **ScP 12 02 19.2 -0.3**
comp=Z,3.7nm,0.9s,baz=183,slow=4.3,SNR=5.6
comp=Z,64nm,0.7s
SONM Songino Array 43.44 12 P P 11 56 45.1 -0.3
SONM IAmb IAmb 11 56 46.3
comp=Z,76nm,0.8s
SONM Songino Array 43.44 12 P P 11 56 45.1 -0.3
SONM pmax pmax
comp=Z,76nm,0.8s
JNU Nakatsue 43.55 46 P P 11 56 46.9 +0.4
comp=Z,57nm,0.8s,baz=233,slow=4.0,SNR=41
JNU LR LR 12 14 59.9
comp=Z,811nm,21.9s,baz=236,slow=36
comp=Z,57nm,0.8s
JNU Nakatsue 43.55 46 P P 11 56 46.4 -0.1
JNU IAmb IAmb 11 56 47.9
comp=Z,65nm,0.8s

JNU	**Nakatsue**	**43.55**	**46**	P	**P**	**11 56 47.2**	**+0.7**
ULN	**Ulaanbaatar**	**43.61**	**12**	P	**P**	**11 56 46.4**	**-0.4**
ULN				IAmb	IAmb	11 56 47.3	
	comp=Z,49nm,0.7s						
ULN	**Ulaanbaatar**	**43.61**	**12**	IAMs_20	IAMs_20	12 17 18.2	
	comp=Z,539nm,21.0s						
ULN	**Ulaanbaatar**	**43.61**	**12**	*ce*P	**P**	**11 56 46.2**	**-0.6**
ULN				pmax	pmax		
	comp=Z,42nm,0.6s						
ULN	**Ulaanbaatar**	**43.61**	**12**	P	**P**	**11 56 46.4**	**-0.4**
ULN	**Ulaanbaatar**	**43.61**	**12**	P	**P**	**11 56 46.5**	**-0.4**
ULN				ScP	**ScP**	**12 02 19.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**43.77**	**152**	LR	LR	12 14 27.2	
	comp=Z,185nm,19.3s,slow=35						
NWAO	**Narrogin (SRO)**	**43.77**	**152**	P	**P**	**11 56 48.3**	**+0.2**
NWAO	**Narrogin (SRO)**	**43.77**	**152**	P	P	11 57 01.6	+14
KSAR	**Wonju Array Be**	**44.00**	**39**	P	**P**	**11 56 49.3**	**-0.6**
KSAR	**Wonju Array Be**	**44.00**	**39**	P	**P**	**11 56 49.3**	**-0.6**
KS19	**Wonju Array Si**	**44.02**	**39**	P	**P**	**11 56 50.0**	**-0.1**
KSRS	**Korea Array**	**44.03**	**39**	P	**P**	**11 56 49.9**	**-0.3**
	comp=Z,30nm,0.8s,baz=216,slow=9.0,SNR=148						
KSRS				ScP	**ScP**	**12 02 20.9**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=219,slow=4.5,SNR=8.9						
KSRS				LR	LR	12 16 44.1	
	comp=Z,621nm,19.0s,baz=235,slow=38						
	comp=Z,30nm,0.8s						
GHWR	**Ruwais**	**44.15**	**299**	P	**P**	**11 56 54.3**	**+3.0**
SNY	**Shenyang**	**44.49**	**31**	⇑P	**P**	**11 56 53.5**	**-0.2**
SNY				pmax	pmax		
	comp=Z,130nm,0.8s						
SNY				pmax	pmax		
	comp=Z,290nm,4.7s						
SNY				LR	LR		
	comp=Z,870nm,16.7s						
SNY				LR	LR		
	comp=Z,610nm,19.6s						
SNY				LR	LR		
	comp=Z,1μm,18.3s						
DGZ	**Jazzator, Alta**	**44.54**	**353**	*i* P	**P**	**11 56 54.5**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,17nm,0.8s						
WRKA	**Warakurna**	**44.61**	**134**	P	**P**	**11 56 55.5**	**+0.5**
	baz=45,SNR=16						
WRKA	**Warakurna**	**44.61**	**134**	P	**P**	**11 56 55.7**	**+0.7**
SMPI	**Sarmi**	**44.66**	**98**	P	**P**	**11 56 55.0**	**-0.5**
SLWR	**Sila**	**45.21**	**299**	P	**P**	**11 57 02.6**	**+2.9**
ZAK	**Zakamensk**	**45.39**	**8**	*e*P	**P**	**11 56 59.8**	**-1.1**
ZAK				*e*		11 58 38.2	
ZAK				pmax	pmax		
	comp=Z,30nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,16nm,1.3s						
JMN	**Monobe**	**46.03**	**47**	P	**P**	**11 57 05.9**	**-0.2**
JMN				IAmb	IAmb	11 57 08.1	
	comp=Z,54nm,0.7s						
JMN	**Monobe**	**46.03**	**47**	P	**P**	**11 57 07.5**	**+1.3**
JHS	**Saijyo**	**46.11**	**45**	P	**P**	**11 57 06.8**	**+0.1**
JHS				IAmb	IAmb	11 57 08.9	
	comp=Z,94nm,0.8s						
JHS	**Saijyo**	**46.11**	**45**	P	**P**	**11 57 08.4**	**+1.6**
SMRA	**Abu-Samra**	**46.16**	**299**	P	**P**	**11 57 09.9**	**+2.6**
GEYT	**Alibeck**	**46.34**	**319**	P	**P**	**11 57 09.8**	**+1.3**
	comp=Z,51nm,0.6s,baz=148,slow=8.7,SNR=86						
GEYT				ScP	**ScP**	**12 02 31.9**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=174,slow=1.5,SNR=6.0						
GEYT				LR	LR	12 20 49.4	
	comp=Z,145nm,18.3s,baz=142,slow=41						
	comp=Z,51nm,0.6s						
GEYT	**Alibeck**	**46.34**	**319**	P	**P**	**11 57 09.4**	**+0.9**
GEYT				IAmb	IAmb	11 57 10.4	
	comp=Z,60nm,0.7s						
GYA0	**ALIBECK ARRAY**	**46.34**	**319**	P	**P**	**11 57 08.7**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**46.34**	**319**	P	**P**	**11 57 08.3**	**-0.2**
GYA0B				IAmb	IAmb	11 57 10.4	
	comp=Z,56nm,0.7s						
SHMA	**Al-Shehemyia**	**46.38**	**301**	P	**P**	**11 57 11.2**	**+2.2**
MOY	**Mondy**	**46.39**	**5**	*e*P	**P**	**11 57 08.6**	**-0.2**
MOY				pmax	pmax		
	comp=Z,25nm,1.9s						
WB0	**Warramunga Arr**	**46.45**	**124**	P	**P**	**11 57 09.8**	**+0.2**
WB0				IAmb	IAmb	11 57 10.3	
	comp=Z,66nm,0.6s						
WRA	**Warramunga Arr**	**46.49**	**124**	P	**P**	**11 57 10.2**	**+0.3**
	comp=Z,56nm,0.8s,baz=302,slow=9.7,SNR=313						
WRA				ScP	**ScP**	**12 02 32.0**	**-0.5**
	comp=Z,4.6nm,0.7s,baz=316,slow=3.6,SNR=9.1						
WRA				S	**S**	**12 03 50.3**	**-4.0**
	comp=Z,3.2nm,0.9s,baz=294,slow=16,SNR=6.3						
WRA				ScS	**ScS**	**12 06 58.0**	**-2.3**
	comp=Z,0.5nm,0.9s,baz=295,slow=4.5,SNR=2.0						
WRA				LR	LR	12 17 48.4	
	comp=Z,228nm,21.8s,baz=298,slow=37						
	comp=Z,56nm,0.8s						
WRA	**Warramunga Arr**	**46.49**	**124**	P	**P**	**11 57 09.3**	**-0.7**
WRAB	**Tennant Creek**	**46.49**	**124**	P	**P**	**11 57 10.2**	**+0.3**
WRAB	**Tennant Creek**	**46.49**	**124**	P	**P**	**11 57 10.5**	**+0.6**
WRAB	**Tennant Creek**	**46.49**	**124**	*ce*P	**P**	**11 57 10.3**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,174nm,1.3s						
WRAB	**Tennant Creek**	**46.49**	**124**	P	**P**	**11 57 10.3**	**+0.4**
WRAB				pP	**pP**	**11 57 25.1**	**+0.3**
WRAB				ScP	**ScP**	**12 02 31.7**	**-0.8**
WB2	**Warramunga Arr**	**46.50**	**124**	P	**P**	**11 57 10.3**	**+0.3**
WB1	**Warramunga Ar.**	**46.50**	**124**	P	**P**	**11 57 09.8**	**-0.2**
	comp=Z,153nm,1.1s						
WR0	**Warramunga Arr**	**46.66**	**124**	P	**P**	**11 57 11.6**	**+0.4**
WR0				IAmb	IAmb	11 57 12.8	
	comp=Z,86nm,0.8s						
SAKB	**Bahrain**	**46.79**	**301**	P	**P**	**11 57 13.2**	**+1.0**
CN2	**Changchun**	**46.86**	**31**	⇑P	**P**	**11 57 12.4**	**-0.1**
CN2				PcP	**PcP**	**11 58 44.5**	**-0.1**
CN2				S	**S**	**12 03 57.3**	**-1.7**
CN2				pmax	pmax		
	comp=Z,60nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
CN2				LR	LR		
	comp=Z,600nm,20.0s						
KURBB	**Kurchatov Arra**	**47.02**	**346**	P	**P**	**11 57 13.5**	**0.0**
KURK	**Kurchatov**	**47.08**	**346**	P	**P**	**11 57 15.0**	**+1.0**
KURK	**Kurchatov**	**47.08**	**346**	IAMs_20	IAMs_20	12 20 47.3	
	comp=Z,440nm,19.0s						
KURK	**Kurchatov**	**47.08**	**346**	*ce*P	**P**	**11 57 14.8**	**+0.8**
KURK				pmax	pmax		
	comp=Z,185nm,0.7s						
KURK	**Kurchatov**	**47.08**	**346**	P	**P**	**11 57 15.0**	**+1.0**
KURK	**Kurchatov**	**47.08**	**346**	P	**P**	**11 57 14.8**	**+0.8**
KURK				sP	**sP**	**11 57 35.3**	**+0.3**
IRK	**Irkutsk**	**47.35**	**8**	*e*P	**P**	**11 57 15.1**	**-1.0**
IRK				pmax	pmax		
	comp=Z,88nm,1.6s						
ASAR	**Alice Springs**	**48.01**	**129**	P	**P**	**11 57 22.1**	**+0.4**
	comp=Z,51nm,0.7s,baz=300,slow=7.4,SNR=589						
ASAR				S	**S**	**12 04 13.2**	**-2.7**
	comp=Z,6.2nm,1.0s,baz=299,slow=14,SNR=16						
ASAR				ScS	**ScS**	**12 07 08.5**	**-1.7**
	comp=Z,1.4nm,1.1s,baz=289,slow=6.5,SNR=3.4						
ASAR				LR	LR	12 20 13.7	
	comp=Z,224nm,20.3s,baz=274,slow=39						
	comp=Z,51nm,0.7s						
ASAR	**Alice Springs**	**48.01**	**129**	P	**P**	**11 57 21.9**	**+0.1**
AS31	**Alice Springs**	**48.01**	**129**	P	**P**	**11 57 22.2**	**+0.4**
AS01	**Alice Springs**	**48.05**	**129**	P	**P**	**11 57 21.8**	**-0.2**
	comp=Z,91nm,0.8s						
FORT	**Forrest**	**48.16**	**140**	P	**P**	**11 57 22.4**	**-0.3**
FORT	**Forrest**	**48.16**	**140**	P	**P**	**11 57 24.4**	**+1.7**
HIA	**Hailar**	**48.59**	**22**	*i* P	**P**	**11 57 25.7**	**-0.1**
HIA				pmax	pmax		
	comp=Z,30nm,0.5s						
HIA	**Hailar**	**48.59**	**22**	P	**P**	**11 57 25.9**	**+0.1**
HIA				pP	**pP**	**11 57 40.8**	**+0.2**
HIA				sP	**sP**	**11 57 46.9**	**-0.2**
ZAA0	**Zalesovo Array**	**49.03**	**352**	P	**P**	**11 57 29.3**	**+0.3**
ZALV	**Zalesovo Beam**	**49.03**	**352**	P	**P**	**11 57 29.4**	**+0.4**
	comp=Z,161nm,0.8s,baz=184,slow=7.3,SNR=381						
ZALV				ScP	**ScP**	**12 02 41.6**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=197,slow=4.0,SNR=4.3						
ZALV				S	**S**	**12 04 26.2**	**-3.1**
	comp=Z,3.4nm,0.9s,baz=169,slow=16,SNR=3.9						
ZALV				LR	LR	12 20 28.5	
	comp=Z,114nm,20.5s,baz=188,slow=39						
	comp=Z,161nm,0.8s						
INU	**Inuyama**	**49.08**	**47**	P	**P**	**11 57 29.5**	**-0.1**
INU				IAmb	IAmb	11 57 30.7	
	comp=Z,58nm,0.7s						
INU	**Inuyama**	**49.08**	**47**	P	**P**	**11 57 30.1**	**+0.4**
INU	**Inuyama**	**49.08**	**47**	P	**P**	**11 57 29.6**	**-0.1**
INU				sP	**sP**	**11 57 50.9**	**-0.2**
BNX	**BinXian**	**49.22**	**30**	⇑P	**P**	**11 57 30.4**	**-0.2**
BNX				pmax	pmax		
	comp=Z,97nm,0.7s						
JGF	**Kuroka**	**49.44**	**47**	P	**P**	**11 57 31.3**	**-1.3**
JGF				IAmb	IAmb	11 57 33.5	
	comp=Z,64nm,0.7s						
JGF	**Kuroka**	**49.44**	**47**	P	**P**	**11 57 32.6**	**+0.1**
MDJ	**Mudanjiang**	**49.58**	**33**	IAMs_20	IAMs_20	12 19 34.5	
	comp=Z,706nm,20.0s						
MDJ	**Mudanjiang**	**49.58**	**33**	P	**P**	**11 57 34.1**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,99nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,310nm,3.9s						
MDJ	**Mudanjiang**	**49.58**	**33**	P	**P**	**11 57 34.6**	**+1.2**
MDJ	**Mudanjiang**	**49.58**	**33**	P	**P**	**11 57 34.1**	**+0.7**
MDJ				pP	**pP**	**11 57 47.5**	**-1.0**
MDJ				sP	**sP**	**11 57 54.0**	**-1.0**
JCJ	**Chichijima**	**50.11**	**59**	P	**P**	**11 57 39.1**	**+1.4**
	comp=Z,186nm,0.8s,baz=278,slow=16,SNR=2.7						
JCJ				LR	LR	12 16 23.0	
	comp=Z,199nm,21.0s,baz=283,slow=33						
	comp=Z,186nm,0.8s						
JCJ	**Chichijima**	**50.11**	**59**	P	**P**	**11 57 36.5**	**-1.2**
GUMO	**Guam**	**50.14**	**77**	LR	LR	12 18 30.7	
	comp=Z,130nm,21.8s,baz=281,slow=36						
JHJ	**Hachijo jima 2**	**50.20**	**51**	LR	LR	12 18 15.2	
	comp=Z,364nm,21.6s,baz=267,slow=35						
MJB9	**Matsu-Tunnel**	**50.48**	**46**	P	**P**	**11 57 41.0**	**+0.6**
MAJO	**Matsushiro**	**50.48**	**46**	P	**P**	**11 57 39.7**	**-0.7**
MAJO	**Matsushiro**	**50.48**	**46**	P	**P**	**11 57 39.7**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,22nm,0.8s						
MAJO	**Matsushiro**	**50.48**	**46**	P	**P**	**11 57 40.8**	**+0.3**
MJAR	**Matsushiro Arr**	**50.48**	**46**	P	**P**	**11 57 40.9**	**+0.5**
	comp=Z,13nm,0.8s,baz=249,slow=8.4,SNR=10						
MJAR				PcP	**PcP**	**11 58 58.2**	**+0.3**
	comp=Z,12nm,0.8s,baz=241,slow=3.0,SNR=7.1						
MJAR				LR	LR	12 21 40.5	
	comp=Z,596nm,18.5s,baz=230,slow=39						
	comp=Z,13nm,0.8s						
RAYN	**Ar Rayn**	**50.54**	**296**	IAMs_20	IAMs_20	12 17 55.4	
	comp=Z,515nm,22.0s						
RAYN	**Ar Rayn**	**50.54**	**296**	P	**P**	**11 57 43.2**	**+2.1**
RAYN				pP	**pP**	**11 57 58.9**	**-0.1**
RAYN				sP	**sP**	**11 58 04.9**	**+3.0**
RAYN				ScP	**ScP**	**12 02 49.9**	**+0.1**
USA0B	**Ussuriysk Arra**	**50.63**	**34**	P	**P**	**11 57 41.5**	**+0.2**
USA0B	**Ussuriysk Arra**	**50.63**	**34**	*i* P	**P**	**11 57 41.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**50.63**	**34**	P	**P**	**11 57 41.6**	**+0.2**
	comp=Z,24nm,0.7s,baz=245,slow=6.9,SNR=39						
USRK				LR	LR	12 21 24.8	
	comp=Z,724nm,18.9s,baz=211,slow=39						
	comp=Z,24nm,0.7s						
USRK	**Ussuriysk Ar.**	**50.63**	**34**	P	**P**	**11 57 41.3**	**-0.1**
QIS	**Mount Isa**	**51.17**	**122**	P	**P**	**11 57 46.0**	**+0.1**
	baz=51,SNR=32						
QIS	**Mount Isa**	**51.17**	**122**	P	**P**	**11 57 46.0**	**+0.1**
JSD	**Sado**	**51.21**	**44**	P	**P**	**11 57 44.2**	**-1.6**
JSD				IAmb	IAmb	11 57 46.5	
	comp=Z,86nm,1.0s						
BVA0	**Borovoye Array**	**51.44**	**342**	*i* P	**P**	**11 57 46.9**	**-0.4**
ATD	**Arta Tunnel**	**51.50**	**280**	LR	LR	12 15 44.0	
	comp=Z,160nm,21.6s,baz=72,slow=31						
BRVK	**Borovoye**	**51.51**	**341**	P	**P**	**11 57 48.2**	**+0.4**
BRVK	**Borovoye**	**51.51**	**341**	*ce*P	**P**	**11 57 48.0**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,72nm,0.6s						
BRVK	**Borovoye**	**51.51**	**341**	P	**P**	**11 57 48.3**	**+0.5**
BRVK	**Borovoye**	**51.51**	**341**	P	**P**	**11 57 48.2**	**+0.4**
BRVK				pP	**pP**	**11 58 03.1**	**+0.6**
OOD	**Oodnadatta**	**51.59**	**132**	P	**P**	**11 57 49.0**	**+0.2**
MULG	**Mulgathing**	**51.84**	**136**	P	**P**	**11 57 50.3**	**-0.3**
COEN	**Coen**	**51.89**	**112**	P	**P**	**11 57 50.4**	**-0.9**
	baz=52,SNR=16						
COEN	**Coen**	**51.89**	**112**	P	**P**	**11 57 49.5**	**-1.8**
COEN	**Coen**	**51.89**	**112**	P	**P**	**11 57 50.2**	**-1.1**
HEH	**HeiHe**	**52.47**	**26**	*e*P	**P**	**11 57 54.8**	**-0.2**
HEH				pP	**pP**	**11 58 09.0**	**-0.9**
HEH				PcP	**PcP**	**11 59 03.8**	**-1.1**
HEH				pmax	pmax		
	comp=Z,56nm,0.8s						
HEH				pmax	pmax		
	comp=Z,130nm,5.0s						
HEH				LR	LR		
	comp=Z,410nm,20.4s						
HEH				LR	LR		
	comp=Z,280nm,19.1s						
HEH				LR	LR		
	comp=Z,540nm,21.2s						
OPO	**Ambohidtompo**	**52.47**	**242**	LR	LR	12 17 05.9	
	comp=Z,156nm,20.5s,baz=212,slow=32						
AB31	**Akbulak array**	**52.59**	**332**	*i* P	**P**	**11 57 56.0**	**+0.1**
ABKAR	**Akbulak array**	**52.59**	**332**	P	**P**	**11 57 56.7**	**+0.8**
ABPO	**Ambohimpanom**	**52.60**	**241**	IAMs_20	IAMs_20	12 16 14.3	
	comp=Z,356nm,19.0s						
ABPO	**Ambohimpanom**	**52.60**	**241**	P	**P**	**11 57 59.4**	**+2.7**
ABPO				pP	**pwP**	**11 58 14.0**	**-0.6**
JMM	**Marumori**	**52.92**	**46**	P	**P**	**11 57 58.6**	**+0.1**
KLR	**Kul'dur**	**53.76**	**29**	P	**P**	**11 58 05.0**	**+0.5**
	comp=Z,35nm,0.8s,baz=244,slow=8.2,SNR=65						
KLR				LR	LR	12 24 18.1	
	comp=Z,478nm,19.4s,baz=225,slow=40						
	comp=Z,35nm,0.8s						
KLR	**Kul'dur**	**53.76**	**29**	*ce*P	**P**	**11 58 04.9**	**+0.5**
KLR				pmax	pmax		
	comp=Z,108nm,1.7s						
VOI	**Vohitsoka**	**54.13**	**238**	IAMs_20	IAMs_20	12 15 55.5	
	comp=Z,689nm,22.0s						
AKTO	**Aktyubinsk**	**54.31**	**332**	P	**P**	**11 58 08.1**	**-0.4**
MTSU	**Mount Surprise**	**54.32**	**117**	P	**P**	**11 58 09.5**	**+0.4**
	baz=54,SNR=14						
MTSU	**Mount Surprise**	**54.32**	**117**	P	**P**	**11 58 09.8**	**+0.7**
PMG	**Port Moresby**	**54.40**	**106**	P	**P**	**11 58 09.7**	**0.0**
PMG				IAmb	IAmb	11 58 10.7	
	comp=Z,57nm,0.8s						
PMG	**Port Moresby**	**54.40**	**106**	P	**P**	**11 58 10.1**	**+0.4**
PMG	**Port Moresby**	**54.40**	**106**	*ce*P	**P**	**11 58 09.8**	**0.0**
PMG				pmax	pmax		
	comp=Z,92nm,1.3s						
PMG	**Port Moresby**	**54.40**	**106**	P	**P**	**11 58 09.7**	**0.0**
BOD	**Bodaibo**	**54.41**	**13**	*e*P	**P**	**11 58 08.6**	**-0.5**
BOD				pmax	pmax		
	comp=Z,98nm,1.6s						
JTM	**Tenmabayashi**	**54.41**	**43**	P	**P**	**11 58 09.1**	**-0.3**
JTM				IAmb	IAmb	11 58 10.6	
	comp=Z,73nm,1.0s						
BBOO	**Buckleboo**	**54.70**	**137**	P	**P**	**11 58 12.6**	**+0.9**
	baz=55,SNR=6.7						
BBOO	**Buckleboo**	**54.70**	**137**	P	**P**	**11 58 11.6**	**-0.1**
BBOO				IAmb	IAmb	11 58 27.8	
	comp=Z,31nm,0.9s						
BBOO	**Buckleboo**	**54.70**	**137**	P	**P**	**11 58 11.9**	**+0.2**
LCRK	**Leigh Creek**	**54.89**	**133**	P	**P**	**11 58 13.4**	**+0.4**
ZEA	**Zeya**	**55.00**	**23**	*e*P	**P**	**11 58 13.5**	**+0.1**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=N,20nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
ZEA				MLR	MLR		
	comp=E,200nm,15.0s						
ZEA				MLR	MLR		
	comp=N,300nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,16.0s						
AKT	**Akhty**	**55.02**	**318**	*e*P	**P**	**11 58 14.1**	**+0.1**
AKT				*e**PP	**pP**	**11 58 28.9**	**+0.2**
AKT				*e*		11 59 13.5	
AKT				pmax	pmax		
	comp=Z,45nm,1.0s						
INKA	**Innaminka**	**55.39**	**129**	P	**P**	**11 58 17.7**	**+1.1**
FURI	**Furi**	**55.56**	**277**	IAMs_20	IAMs_20	12 18 51.7	
	comp=Z,541nm,21.0s						
GNI	**Garni**	**56.48**	**315**	P	**P**	**11 58 24.7**	**+0.2**
GNI				IAmb	IAmb	11 59 00.0	
	comp=Z,66nm,1.2s						
GNI	**Garni**	**56.48**	**315**	P	**P**	**11 58 24.7**	**+0.2**
GNI				pmax	pmax		
	comp=Z,66nm,1.2s						
GNI	**Garni**	**56.48**	**315**	P	**P**	**11 58 24.9**	**+0.4**
GNI	**Garni**	**56.48**	**315**	P	**P**	**11 58 25.3**	**+0.7**
GNI				pP	**pP**	**11 58 39.1**	**-0.3**
CTA	**Charters Tower**	**56.73**	**118**	P	**P**	**11 58 26.3**	**-0.1**
	comp=Z,17nm,0.9s,baz=291,slow=7.4,SNR=15						
CTA				LR	LR	12 23 56.6	
	comp=Z,317nm,21.3s,baz=285,slow=37						
	comp=Z,17nm,0.9s						
CTAO	**Charters Tower**	**56.73**	**118**	P	**P**	**11 58 26.7**	**+0.3**
CTAO				IAmb	IAmb	11 58 45.1	
	comp=Z,35nm,1.0s						
CTAO	**Charters Tower**	**56.73**	**118**	P	**P**	**11 58 26.7**	**+0.3**
CTAO	**Charters Tower**	**56.73**	**118**	P	**P**	**11 58 26.7**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,35nm,1.0s						
CTAO	**Charters Tower**	**56.73**	**118**	P	**P**	**11 58 25.9**	**-0.4**
CTAO				pP	**pP**	**11 58 40.6**	**-1.0**
ASAJ	**Asahikawa**	**56.97**	**40**	P	**P**	**11 58 27.9**	**+0.3**
	comp=Z,22nm,0.9s,baz=283,slow=15,SNR=11						
ASAJ				LR	LR	12 24 00.7	
	comp=Z,440nm,19.2s,baz=244,slow=37						
	comp=Z,22nm,0.9s						
ASAJ	**Asahikawa**	**56.97**	**40**	P	**P**	**11 58 28.3**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,32nm,0.9s						
JKA	**Kamikawa-asahi**	**56.97**	**40**	P	**P**	**11 58 28.3**	**+0.6**
JKA				IAmb	IAmb	11 58 37.8	
	comp=Z,32nm,0.9s						
GEVA	**Gevas**	**56.98**	**313**	P	**P**	**11 58 28.2**	**+0.1**
KIBK	**Kibwezi**	**57.02**	**264**	P	**P**	**11 58 28.9**	**+0.2**
KIBK				IAMs_20	IAMs_20	12 17 45.8	
	comp=Z,475nm,22.0s						
HTT	**Hallett**	**57.03**	**136**	P	**P**	**11 58 29.2**	**+0.9**
	baz=57,SNR=9.9						
HTT	**Hallett**	**57.03**	**136**	P	**P**	**11 58 28.5**	**+0.2**
GRNR	**Gornyy**	**57.06**	**30**	⇑P	**P**	**11 58 28.5**	**+0.3**
GRNR				pmax	pmax		
	comp=Z,20nm,1.2s						
GRNR				MLR	MLR		
	comp=E,230nm,14.0s						
GRNR				MLR	MLR		
	comp=N,400nm,17.0s						
GRNR				MLR	MLR		
	comp=Z,390nm,20.0s						
GROC	**Groznyy**	**57.08**	**319**	*e*P	**P**	**11 58 28.8**	**+0.3**
GROC				*e**PP	**pwP**	**11 58 44.6**	**-1.6**
GROC				*e*		11 59 22.8	
GROC				*e*S	**S**	**12 06 19.3**	**+0.1**
GROC				pmax	pmax		
	comp=Z,200nm,0.8s						
QLP	**Quilpie**	**57.61**	**126**	P	**P**	**11 58 33.4**	**+0.9**
	baz=58,SNR=47						
QLP	**Quilpie**	**57.61**	**126**	P	**P**	**11 58 34.1**	**+1.6**
KMBO	**Kilima Mbogo**	**57.65**	**265**	P	**P**	**11 58 34.7**	**+1.4**
KMBO	**Kilima Mbogo**	**57.65**	**265**	IAMs_20	IAMs_20	12 18 45.3	
	comp=Z,647nm,22.0s						
KMBO	**Kilima Mbogo**	**57.65**	**265**	P	**P**	**11 58 34.7**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,34nm,1.2s						
KMBO	**Kilima Mbogo**	**57.65**	**265**	P	**P**	**11 58 36.9**	**+3.5**
KMBO				pP	**pwP**	**11 58 51.9**	**+0.4**
KMBO				sP	**sP**	**11 58 58.4**	**+4.0**
GURO	**Guroymak-BITLI**	**57.81**	**313**	P	**P**	**11 58 34.7**	**+0.7**
SVE	**Sverdlovsk**	**57.84**	**339**	*d* P	**P**	**11 58 34.3**	**+0.8**
SVE				*e*S	**S**	**12 06 29.8**	**+1.2**
SVE				pmax	pmax		
	comp=Z,136nm,0.8s						
STKA	**Stephens Creek**	**58.10**	**133**	P	**P**	**11 58 36.2**	**+0.4**
	comp=Z,13nm,0.6s,baz=306,slow=5.7,SNR=35						
STKA				LR	LR	12 26 22.7	
	comp=Z,193nm,20.5s,baz=318,slow=39						
	comp=Z,13nm,0.6s						
STKA	**Stephens Creek**	**58.10**	**133**	P	**P**	**11 58 36.4**	**+0.6**
	baz=58,SNR=15						
STKA	**Stephens Creek**	**58.10**	**133**	P	**P**	**11 58 36.2**	**+0.4**
STKA	**Stephens Creek**	**58.10**	**133**	P	**P**	**11 58 36.2**	**+0.4**
STKA	**Stephens Creek**	**58.10**	**133**	*i* P	**P**	**11 58 36.1**	**+0.3**
ZEI	**Tsey**	**58.15**	**318**	*e*P	**P**	**11 58 35.9**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,39nm,0.8s						
ARU	**Arti**	**58.31**	**337**	P	**P**	**11 58 37.1**	**+0.2**
ARU				IAmb	IAmb	11 58 38.2	
	comp=Z,65nm,0.9s						
ARU	**Arti**	**58.31**	**337**	*ce*P	**P**	**11 58 37.1**	**+0.2**
ARU				pmax	pmax		
	comp=Z,132nm,1.7s						
ARU	**Arti**	**58.31**	**337**	P	**P**	**11 58 36.9**	**0.0**
ARU				pP	**pP**	**11 58 51.5**	**-0.4**
ARU				sP	**sP**	**11 58 57.1**	**-1.2**
MARD	**Mardin**	**58.32**	**311**	IAmb	IAmb	11 58 39.9	
	comp=Z,45nm,0.6s						
YSS	**Yuzh-Sakhalins**	**58.43**	**37**	P	**P**	**11 58 38.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**58.43**	**37**	*ce*P	**P**	**11 58 38.4**	**+0.5**
YSS				pmax	pmax		
	comp=Z,100nm,1.1s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
YSS	**Yuzh-Sakhalins**	**58.43**	**37**	P	**P**	**11 58 38.4**	**+0.5**
YSS				sP	**sP**	**11 58 58.2**	**-1.4**
LODK	**Lodwar**	**59.09**	**271**	IAMs_20	IAMs_20	12 20 25.3	
	com

YAK e 11 59 39.4
YAK e 12 01 18.5
YAK ePPP PPP 12 02 52.4
YAK eS S **12 07 22.8 -1.1**
YAK e*SS sS 12 08 02.3 +13
YAK e 12 08 45.0
YAK pmax pmax
comp=Z,123nm,1.2s
YAK pmax pmax
comp=N,38nm,1.5s
YAK pmax pmax
comp=E,18nm,1.5s
YAK pmax pmax
comp=Z,146nm,3.8s
YAK pmax pmax
comp=N,29nm,2.5s
YAK pmax pmax
comp=E,115nm,5.2s
YAK smax smax
comp=E,40nm,1.6s
YAK smax smax
comp=N,35nm,1.4s
YAK Yakutsk 62.16 18 P **P 11 59 01.8 -1.2**
BNN Bunyan 62.50 311 P **P 11 59 05.5 -0.5**
BRAT Ballarat 62.69 137 P **P 11 59 08.9 +1.9**
comp=N,25nm,0.7s
EIDS Eidsvold 62.77 122 P **P 11 59 08.2 +0.3**
baz=63,SNR=3.7
EIDS Eidsvold 62.77 122 P **P 11 59 08.0 +0.1**
EIDS IAmb IAmb 11 59 37.1
comp=Z,47nm,1.8s
VRH Novokhopyorsk 63.20 326 eP **P 11 59 09.2 -1.0**
VRH pmax pmax
comp=Z,130nm,0.6s
PATS Pohnpei 63.31 85 P **P 11 59 10.1 -1.6**
KIRV Kirov 63.42 335 ceP **P 11 59 11.4 -0.1**
CSS Mathiatis 63.48 306 P **P 11 59 11.8 -0.7**
NRIK Noril'sk 63.99 357 P **P 11 59 14.9 -0.1**
comp=Z,69nm,0.7s,baz=150,slow=5.3,SNR=139
comp=Z,69nm,0.7s
NRIK Noril'sk 63.99 357 P **P 11 59 14.9 -0.1**
NRIK Noril'sk 63.99 357 ceP **P 11 59 14.1 -1.0**
NRIK pmax pmax
comp=Z,43nm,0.8s
CRZF Crozet Islands 64.03 211 P **P 11 59 16.8 +1.1**
MBAR Mbarara 64.06 267 LR LR 12 23 50.2
comp=Z,692nm,20.6s,baz=85,slow=33
MBAR Mbarara 64.06 267 P **P 11 59 16.0 -0.8**
MBAR Mbarara 64.06 267 P **P 11 59 16.0 -0.8**
MBAR pmax pmax
comp=Z,15nm,1.0s
MBAR Mbarara 64.06 267 P **P 11 59 20.8 +4.0**
BR131 Keskin Array S 64.38 312 P **P 11 59 18.1 -0.4**
BR131 IAmb IAmb 11 59 19.3
comp=Z,43nm,0.8s
BR131 Keskin Array S 64.38 312 *i* P **P 11 59 18.6 +0.2**
BR131 Keskin Array S 64.38 312 P **P 11 59 18.0 -0.4**
SNR=14
BRTR Keskin Array B 64.38 312 P **P 11 59 18.2 -0.2**
comp=Z,23nm,0.7s,baz=128,slow=7.5,SNR=128
BRTR LR LR 12 28 33.9
comp=Z,150nm,21.9s,baz=116,slow=37
comp=Z,23nm,0.7s
BRTR Keskin Array B 64.38 312 P **P 11 59 17.9 -0.4**
BRTR Keskin Array B 64.38 312 ceP **P 11 59 18.2 -0.2**
BRTR pmax pmax
comp=Z,24nm,0.7s
VSR Storozhevoye 64.65 325 eP **P 11 59 18.3 -1.4**
VSR pmax pmax
comp=Z,90nm,0.6s
ILGA Ilgaz 64.68 313 P **P 11 59 20.8 +0.4**
BZK Bozkurt 64.72 314 P **P 11 59 18.8 -1.6**
VORR Voronezh 64.82 325 ⇑*i*P **P 11 59 20.2 -0.6**
VORR pmax pmax
comp=Z,150nm,0.7s
ANTO Ankara 65.05 312 ⇓P **P 11 59 21.9 -0.8**
ANTO Ankara 65.05 312 P **P 11 59 22.4 -0.3**
ANTO Ankara 65.05 312 P **P 11 59 22.4 -0.3**
ANTO pmax pmax
comp=Z,158nm,1.7s
ANTO Ankara 65.05 312 P **P 11 59 21.8 -0.9**
ANTO Ankara 65.05 312 P **P 11 59 22.7 0.0**
BR231 Keskin MP Arra 65.06 312 P **P 11 59 23.1 +0.3**
ARMA Armidale 65.11 127 P **P 11 59 23.7 +0.5**
baz=65,SNR=5.1
ARMA Armidale 65.11 127 P **P 11 59 23.7 +0.5**
ARMA IAmb IAmb 11 59 26.5
comp=Z,62nm,1.5s
ARMA Armidale 65.11 127 P **P 11 59 23.7 +0.5**
CAN Canberra 65.17 133 P **P 11 59 24.4 +1.0**
CAN pP **pP 11 59 40.1 +1.2**
LPSR Galich'ya Gora 65.37 326 eP **P 11 59 23.5 -0.9**
LPSR pmax pmax
comp=Z,80nm,0.8s
CNB Canberra Magne 65.43 133 P **P 11 59 25.7 +0.5**
SIM Simferopol' 65.52 317 eP **P 11 59 26.0 +0.5**
SIM pmax pmax
comp=Z,77nm,0.8s
SIM MLR MLR
comp=Z,300nm,21.0s
ISP Isparta 66.31 309 P **P 11 59 31.0 +0.2**
ISP Isparta 66.31 309 P **P 11 59 31.0 +0.2**
ISP pmax pmax
comp=Z,258nm,1.6s
MDUB Mudurnu 66.38 312 P **P 11 59 31.3 0.0**
ELL Elmali 66.57 308 P **P 11 59 33.7 +1.1**
ELL Elmali 66.57 308 P **P 11 59 33.7 +1.1**
ELL pmax pmax
comp=Z,456nm,0.8s
AKAS Kas 66.71 307 P **P 11 59 34.1 +0.6**
HNR Honiara 66.76 103 LR LR 12 32 49.2
comp=Z,1µm,18.1s,baz=264,slow=40
BORA Eskisehir 66.80 311 P **P 11 59 33.4 -0.5**
MOS Moscow 67.40 329 eP **P 11 59 36.2 -1.1**
MOS *e* 12 00 03.5
MOS pmax pmax
comp=Z,137nm,0.6s
OBN Obninsk 67.69 328 P **P 11 59 38.8 -0.3**
OBN Obninsk 67.69 328 *i* P **P 11 59 38.1 -1.0**
OBN *i* *PP **pwP 11 59 58.4 +1.0**
OBN *i* 12 00 05.2
OBN *i* 12 02 09.8
OBN pmax pmax
comp=Z,57nm,1.0s
OBN Obninsk 67.69 328 P **P 11 59 39.0 -0.1**
TAU Tasmania Unive 67.70 141 P **P 11 59 39.4 0.0**
MANT Manisa 67.96 309 P **P 11 59 42.1 +0.6**
SKR Severo-Kuril's 68.00 37 ceP **P 11 59 42.2 +1.1**
BALB Balikesir 68.69 310 P **P 11 59 45.7 0.0**
MA2 Magadan 68.71 27 P **P 11 59 45.3 -0.2**
comp=Z,42nm,0.7s,baz=240,slow=5.5,SNR=52
MA2 LR LR 12 33 46.3
comp=Z,295nm,18.1s,baz=244,slow=39
comp=Z,42nm,0.7s
MA2 Magadan 68.71 27 P **P 11 59 45.3 -0.2**
MA2 IAmb IAmb 11 59 46.3
comp=Z,50nm,0.7s
MA2 Magadan 68.71 27 P **P 11 59 45.6 +0.1**
MA2 Magadan 68.71 27 ceP **P 11 59 45.2 -0.2**
MA2 pmax pmax
comp=Z,53nm,0.7s
MA2 Magadan 68.71 27 P **P 11 59 45.2 -0.3**
KLMR Klimovskoe 68.85 335 eP **P 11 59 43.7 -2.6**
KLMR AMP 11 59 47.3
comp=Z,90nm,1.4s
KLMR epP **pP 12 00 00.8 -0.8**
KLMR Klimovskoe 68.85 335 eP **P 11 59 43.7 -2.6**
KLMR e*PP **pP 12 00 00.8 -0.8**
KLMR pmax pmax
comp=Z,90nm,1.4s
LSZ Lusaka 68.92 251 LR LR 12 26 22.7
comp=Z,728nm,19.7s,baz=102,slow=33
LSZ Lusaka 68.92 251 P **P 11 59 47.7 0.0**
LSZ IAmb IAmb 12 00 12.9
comp=Z,57nm,1.5s
LSZ Lusaka 68.92 251 P **P 11 59 47.7 0.0**
LSZ pmax pmax
comp=Z,57nm,1.5s
TLCR 69.20 316 ⇓P **P 11 59 49.0 +0.2**
TLCR 69.20 316 P **P 11 59 49.0 +0.2**
TPGR Topolog 69.40 316 ⇑P **P 11 59 50.0 -0.1**
TIXI Tiksi 69.53 11 LR LR 12 33 25.9
comp=Z,612nm,20.3s,baz=261,slow=39
TIXI Tiksi 69.53 11 P **P 11 59 49.1 -1.2**
TIXI Tiksi 69.53 11 ceP **P 11 59 48.9 -1.4**
TIXI pmax pmax
comp=Z,64nm,0.6s
TIXI Tiksi 69.53 11 P **P 11 59 49.1 -1.2**
TIXI pP **pP 12 00 04.2 -1.5**
MILM Milestii Mici 69.63 318 ⇑*i*P **P 11 59 51.7 +0.3**
MILM Milestii Mici 69.63 318 ⇑P **P 11 59 52.2 +0.9**
MILM Milestii Mici 69.63 318 *c iP* **P 11 59 51.7 +0.3**
MILM pmax pmax
comp=Z,100nm,0.6s
CFR Carcaliu 69.67 316 ⇑P **P 11 59 51.9 +0.2**
CFR Carcaliu 69.67 316 P **P 11 59 51.8 +0.2**
PETK Petropavlovsk- 69.72 35 P **P 11 59 51.0 -0.8**
comp=Z,5.1nm,0.9s,baz=217,slow=5.4,SNR=9.3
PETK LR LR 12 30 37.3
comp=Z,353nm,21.8s,baz=235,slow=36
comp=Z,5.1nm,0.9s
VLDR Vladesti 69.86 317 ⇑P **P 11 59 53.5 +0.7**
TUDR 70.08 317 ⇑P **P 11 59 55.0 +0.8**
SORM Soroca 70.23 319 ⇑P **P 11 59 54.9 -0.1**
SORM Soroca 70.23 319 P **P 11 59 54.9 -0.1**
PET Petropavlovsk 70.24 35 P **P 11 59 53.9 -1.1**
PET Petropavlovsk 70.24 35 eP **P 11 59 54.5 -0.5**
PET eS **S 12 09 06.1 +3.8**
PET pmax pmax
comp=Z,39nm,0.7s
PET pmax pmax
comp=Z,100nm,18.8s
ALN Alexandroupoli 70.30 311 P **P 11 59 56.0 +0.4**
ALN IAmb IAmb 11 59 56.8
comp=Z,51nm,1.0s
ALN Alexandroupoli 70.30 311 P **P 11 59 56.1 +0.4**
ALN pmax pmax
comp=Z,51nm,1.0s
AK05 Malin Array Si 70.35 322 P **P 11 59 55.0 -0.7**
AK05 IAmb IAmb 11 59 55.7
comp=Z,41nm,0.7s
IDI Anoyia 70.35 305 LR LR 12 35 35.5
comp=Z,67nm,20.2s,baz=80,slow=40
IDI Anoyia 70.35 305 ⇓P **P 11 59 57.2 +1.1**
IDI Anoyia 70.35 305 P **P 11 59 57.2 +1.1**
AKASG Malin Array Be 70.36 322 P **P 11 59 55.0 -0.7**
comp=Z,12nm,0.6s,baz=85,slow=4.7,SNR=126
AKASG LR LR 12 34 27.0
comp=Z,41nm,20.5s,baz=96,slow=39
comp=Z,12nm,0.6s
AKASG Malin Array Be 70.36 322 P **P 11 59 55.0 -0.7**
AKASG IAmb IAmb 11 59 55.6
comp=Z,38nm,0.7s
AKASG Malin Array Be 70.36 322 P **P 11 59 55.0 -0.7**
AKASG pmax pmax
comp=Z,38nm,0.7s
AKBB Malin Array Si 70.36 322 P **P 11 59 55.1 -0.6**
AKBB IAmb IAmb 11 59 55.6
comp=Z,35nm,0.7s
AKBB Malin Array Si 70.36 322 ceP **P 11 59 55.0 -0.8**
AKBB pmax pmax
comp=Z,27nm,0.9s
RDO Rodhopi 70.72 312 P **P 11 59 58.4 +0.2**
RDO IAmb IAmb 11 59 59.7
comp=Z,69nm,1.2s
VRI Vrincioaia 70.79 317 P **P 11 59 59.6 +1.1**
PLOR Plostina 70.84 317 ⇑P **P 11 59 60.0 +1.1**
PLOR Plostina 70.84 317 P **P 11 59 59.8 +0.9**
ADZR Andozero 70.84 337 ⇑*i*P **P 11 59 58.6 +0.2**
ADZR e*PP **pP 12 00 14.3 +0.5**
ADZR *e* 12 02 35.2
ADZR eS **S 12 09 10.5 +1.6**
ADZR pmax pmax
comp=Z,49nm,0.8s
SEY Seymchan 70.95 24 P **P 11 59 58.5 -0.6**
comp=Z,13nm,0.6s,baz=256,slow=3.6,SNR=42
SEY LR LR 12 35 20.5
comp=Z,326nm,18.4s,baz=288,slow=39
comp=Z,13nm,0.6s
SEY Seymchan 70.95 24 ceP **P 11 59 58.6 -0.6**
SEY pmax pmax
comp=Z,43nm,1.7s
TESR Tescani 70.98 317 ⇑P **P 12 00 00.5 +0.8**
SECR 71.07 316 ⇓P **P 12 00 02.1 +1.9**
COVR Voineasa-Covas 71.14 317 ⇓P **P 12 00 00.7 0.0**
MLR Muntele Rosu 71.25 316 LR LR 12 35 54.1
comp=Z,71nm,21.8s,baz=90,slow=40
MLR Muntele Rosu 71.25 316 ⇓P **P 12 00 02.8 +1.3**
MLR Muntele Rosu 71.25 316 P **P 12 00 01.4 -0.1**
MLR IAmb IAmb 12 00 03.5
comp=Z,62nm,0.8s
MLR Muntele Rosu 71.25 316 P **P 12 00 02.8 +1.3**
DOPR Dopca 71.72 317 ⇓P **P 12 00 04.4 +0.2**
HUMR Humele 71.73 315 ⇓P **P 12 00 04.9 +0.7**
PLVB Pleven 71.78 314 ⇑P **P 12 00 05.6 +1.1**
MTUR Matau 71.80 316 ⇓P **P 12 00 05.2 +0.4**
MTUR Matau 71.80 316 P **P 12 00 05.2 +0.4**
ARR Arges 72.13 316 ⇑P **P 12 00 07.1 +0.4**
BURAR Bucovina Array 72.17 318 ⇓P **P 12 00 08.4 +1.4**
BURAR Bucovina Array 72.17 318 P **P 12 00 08.0 +1.1**
BURAR Bucovina Array 72.17 318 P **P 12 00 08.3 +1.4**
BUR08 Bucovina Ar. S 72.19 318 P **P 12 00 08.0 +0.9**
BUR08 IAmb IAmb 12 00 09.2
comp=Z,76nm,1.4s
MNK Minsk 72.20 326 *i* P **P 12 00 05.8 -1.0**
comp=E,5.0nm,0.9s
MNK *i* P **P 12 00 05.8 -1.0**
comp=N,30nm,1.1s
MNK *i* P **P 12 00 05.8 -1.0**
comp=Z,61nm,0.8s,baz=286
MNK *i* pP **pP 12 00 22.3 +0.2**
MNK *i* PP **PP 12 02 46.6 -1.2**
MNK *i* PPP PPP 12 04 30.8
MNK *i* S **S 12 09 24.4 -0.6**
MNK *i* sS **sS 12 09 52.8 +1.9**
MNK *i* SS **SS 12 14 00.4 -3.0**
MNK *i* SSS SSS 12 17 24.1
MNK *i* LQ LQ 12 27 55.7
MNK *i* LR LR 12 32 31.3
MNK *i* LRM MLR 12 34 14.1
comp=E,18nm,13.5s
MNK *i* LRM MLR 12 34 26.0
comp=N,216nm,12.9s
MNK *i* LRM MLR 12 34 26.0
comp=Z,44nm,10.9s
MNK Minsk 72.20 326 *i* P **P 12 00 05.8 -1.0**
MNK *i* *PP **pP 12 00 22.2 +0.2**
MNK *i* 12 02 46.6
MNK *i* PPP PPP 12 04 30.8
MNK *i* S **S 12 09 24.3 -0.6**
MNK *i* *SS **sS 12 09 52.7 +1.9**
MNK *i* 12 10 06.6
MNK *i* SS **SS 12 14 00.4 -3.0**
MNK pmax pmax
comp=N,30nm,1.0s
MNK pmax pmax
comp=E,61nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=E,18nm,14.0s
MNK MLR MLR
comp=N,216nm,13.0s
MNK MLR MLR
comp=Z,44nm,11.0s
CASY Casey 72.46 173 P **P 12 00 09.7 +1.7**
PUL Pulkovo 72.57 331 ceP **P 12 00 10.1 +1.2**
PUL pmax pmax
comp=Z,105nm,0.6s
ARCR ARCALIA 72.64 318 ⇑P **P 12 00 10.8 +1.2**
LIT Litokhoron 72.86 310 P **P 12 00 10.1 -1.0**
LIT IAmb IAmb 12 00 11.6
comp=Z,48nm,0.7s
LIT Litokhoron 72.86 310 P **P 12 00 10.1 -1.0**
LIT pmax pmax
comp=Z,48nm,0.7s
NACGM Naroch 72.92 326 ⇑*i*P **P 12 00 11.1 0.0**
comp=Z,92nm,0.9s,baz=105
ITM Ithomi 72.95 307 P **P 12 00 11.8 +0.1**
ITM IAmb IAmb 12 00 12.6
comp=Z,68nm,0.8s
IDID Didziasalis 73.06 326 eP P 12 00 04.1 -7.8
KOUNC Koumac, New Ca 73.06 113 P **P 12 00 11.1 -1.5**
KOUNC IAmb IAmb 12 00 35.1
comp=Z,88nm,1.3s
KOUNC Koumac, New Ca 73.06 113 P **P 12 00 13.7 +1.1**
CJR Cluj-Napoca 73.08 317 ⇑P **P 12 00 13.6 +1.3**
CJR Cluj-Napoca 73.08 317 P **P 12 00 13.6 +1.3**
IIGN Ignalina 73.35 326 eP P 12 00 00.7 -13
LVV L'vov 73.38 320 eP **P 12 00 13.2 -0.8**
LVV *PP **PcP 12 00 30.7 +0.7**
LVV pmax pmax
comp=Z,100nm,1.3s
MARR Marisel-Cluj 73.40 317 ⇓P **P 12 00 15.6 +1.3**
ISAL Salakas 73.46 327 eP **P 12 00 15.6 +1.3**
DJES Djerdap 73.49 315 ⇑P **P 12 00 15.5 +0.8**
DJES Djerdap 73.49 315 P **P 12 00 15.2 +0.5**
LBTB Lobatse 73.50 242 LR LR 12 28 22.0
comp=Z,414nm,20.4s,baz=70,slow=32
HERR Herculane 73.59 315 ⇑P **P 12 00 16.0 +0.7**
DRGR 73.69 317 ⇑P **P 12 00 17.0 +1.0**
DRGR 73.69 317 P **P 12 00 16.9 +1.0**
FNA Florina 73.79 311 P **P 12 00 15.8 -0.8**
FNA Florina 73.79 311 P **P 12 00 15.8 -0.8**
FNA pmax pmax
comp=Z,48nm,1.9s
BOVS Bovan 73.92 314 ⇑P **P 12 00 17.0 -0.2**
VSU Vasula 73.92 330 eP **P 12 00 17.1 +0.2**
SURR Surduc 73.93 316 ⇓P **P 12 00 18.4 +1.2**
LVZ Lovozero 74.00 340 P **P 12 00 16.1 -1.1**
LVZ IAmb IAmb 12 00 18.6
comp=Z,60nm,0.8s
LVZ Lovozero 74.00 340 ceP **P 12 00 17.8 +0.5**
LVZ pmax pmax
comp=Z,214nm,2.5s
TRPA Tarpa 74.04 318 ⇑P **P 12 00 18.9 +1.1**
BZS Buzias 74.26 316 ⇑P **P 12 00 19.8 +0.6**
BZS Buzias 74.26 316 P **P 12 00 19.8 +0.6**
UZH Uzhgorod 74.28 319 eP **P 12 00 19.7 +0.5**
UZH *e* 12 00 31.1
UZH *e* 12 00 37.7
APA Apatity 74.29 340 ⇓*i*P **P 12 00 17.1 -1.8**
APA *i* 12 00 34.7
APA pmax pmax
comp=Z,50nm,0.7s
APA MLR MLR
comp=Z,1µm,19.0s
PABE Paberze 74.63 326 P **P 12 00 20.6 -0.5**
PABE Paberze 74.63 326 eP **P 12 00 21.7 +0.6**
BOSA Boshof 74.70 239 P **P 12 00 24.4 +2.2**
comp=Z,12nm,1.0s,baz=86,slow=5.4,SNR=6.1
BOSA pP **pwP 12 00 40.1 -0.6**
comp=Z,29nm,0.7s,baz=80,slow=6.6,SNR=12
BOSA LR LR 12 29 29.6
comp=Z,193nm,19.8s,baz=80,slow=33
comp=Z,12nm,1.0s
BOSA Boshof 74.70 239 P **P 12 00 21.9 -0.3**
BOSA IAmb IAmb 12 00 41.7
comp=Z,32nm,0.8s
VSVD Vaisvydziai 74.76 327 eP **P 12 00 21.7 -0.1**
FIA1 FINESS Array S 75.08 332 P **P 12 00 23.5 -0.1**
FIA0 FINESS Array S 75.08 332 P **P 12 00 22.9 -0.7**
FIA0 FINESS Array S 75.08 332 P **P 12 00 22.9 -0.7**
FINES FINESS Array B 75.08 332 P **P 12 00 23.5 -0.1**
comp=Z,16nm,0.5s,baz=98,slow=5.3,SNR=75
comp=Z,16nm,0.5s
FINES FINESS Array B 75.08 332 P **P 12 00 23.3 -0.2**
STHS Stebnicka Huta 75.09 320 eP **P 12 00 24.2 +0.2**
STHS pmax pmax
comp=Z,41nm,0.8s
STHS Stebnicka Huta 75.09 320 eP **P 12 00 24.1 +0.1**
DIVS Divibare 75.20 314 P **P 12 00 24.9 +0.1**
DIVS Divibare 75.20 314 ⇑*i*P **P 12 00 24.9 +0.1**
DZM Mont Dzumac 75.35 114 eP **P 12 00 28.3 +2.3**
comp=Z,108nm,1.3s
DZM Mont Dzumac 75.35 114 eLR LR 12 23 41.7
comp=Z,286nm,23.1s
DZM Mont Dzumac 75.35 114 LR LR 12 38 30.1
comp=Z,212nm,18.2s,baz=216,slow=40
DZM Mont Dzumac 75.35 114 P **P 12 00 26.3 +0.3**
DZM IAmb IAmb 12 00 29.1
comp=Z,112nm,1.5s
KECS Kecovo 75.45 319 eP **P 12 00 27.1 +1.1**
KECS pmax pmax
comp=Z,51nm,0.7s
KECS Kecovo 75.45 319 eP **P 12 00 27.1 +1.1**
FRGS Fruska Gora 75.46 315 ⇓P **P 12 00 27.5 +1.3**
FRGS Fruska Gora 75.46 315 ⇑*i*P **P 12 00 26.9 +0.7**
MTSE Matsula 75.46 329 eP **P 12 00 26.0 +0.2**
MEF Metsahovi 75.55 331 eP **P 12 00 26.7 +0.4**
PDG Podgorica 75.55 312 ⇑P **P 12 00 26.6 0.0**
PDG Podgorica 75.55 312 P **P 12 00 25.9 -0.8**
PDG IAmb IAmb 12 00 45.2
comp=Z,45nm,0.9s
DRME Dracevica, Mon 75.58 312 ⇑*i*P **P 12 00 26.4 -0.5**
TEKS Tekeris 75.59 314 ⇑*i*P **P 12 00 26.0 -0.9**
RUDO Rudo 75.60 314 ⇑*i*P **P 12 00 26.9 -0.1**
BBLS Lazići 75.60 314 ⇑*i*P **P 12 00 27.6 +0.6**
NIE Niedzica 75.70 320 eP **P 12 00 28.9 +1.4**
PSZ Piszkesteto 75.76 318 P **P 12 00 27.7 -0.2**
PSZ IAmb IAmb 12 00 29.1
comp=Z,40nm,0.7s
PSZ Piszkesteto 75.76 318 P **P 12 00 27.7 -0.2**
PSZ pmax pmax
comp=Z,40nm,0.7s
BEL Belsk 75.77 322 eP **P 12 00 28.5 +0.7**
PBUR Paburge 75.87 326 eP **P 12 00 27.6 -0.6**
UPM Unac-Piva 75.89 313 ⇑*i*P **P 12 00 28.2 -0.7**
HAPS Han Pijesak,BI 75.95 314 ⇑*i*P **P 12 00 29.7 +0.6**
BRY Bratogost 76.13 313 ⇑*i*P **P 12 00 29.6 -0.6**
OJC Ojcow 76.14 320 eP **P 12 00 30.8 +0.8**
OJC Ojcow 76.14 320 P **P 12 00 30.7 +0.8**
OJC Ojcow 76.14 320 P **P 12 00 30.7 +0.8**
OJC pmax pmax
comp=Z,85nm,0.7s
LANS Liptovska Anna 76.20 319 eP **P 12 00 31.7 +1.4**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 76.20 319 eP **P 12 00 31.6 +1.3**
MAW Mawson 76.25 192 LR LR 12 30 54.6
comp=Z,187nm,18.8s,baz=15,slow=33
MORH Mrgy, Hungar 76.40 316 ⇓P **P 12 00 32.3 +0.9**
VYHS Vyhne 76.53 318 eP **P 12 00 33.0 +0.8**
VYHS pmax pmax
comp=Z,76nm,1.6s
VYHS Vyhne 76.53 318 eP **P 12 00 33.0 +0.8**
VADS Vadso 76.65 341 eP **P 12 00 33.0 +0.6**
VADS IAmb IAmb 12 00 33.6
comp=Z,140nm,0.6s
STON Ston 76.74 313 ⇑*i*P **P 12 00 32.8 -0.6**
SRO Srobarova 76.80 318 eP **P 12 00 35.1 +1.4**
SRO pmax pmax
comp=Z,49nm,0.8s
SRO Srobarova 76.80 318 eP **P 12 00 35.1 +1.4**
RAF Rauma 77.00 331 eP **P 12 00 34.5 +0.1**
OKC Ostrava-Krasne 77.15 320 eP **P 12 00 35.8 +0.2**
OKC Ostrava-Krasne 77.15 320 eP **P 12 00 35.8 +0.2**
BLY Banja Luka 77.27 315 ⇑*i*P **P 12 00 36.8 +0.4**
MAUC Maruska 77.30 319 eP **P 12 00 36.8 +0.3**
MGRS Mrkonjic Grad 77.31 314 ⇑*i*P **P 12 00 36.2 -0.5**
JAVC Velka Javorina 77.34 319 eP **P 12 00 38.4 +1.6**
SMOL Smolenice 77.47 318 eP **P 12 00 38.4 +1.0**
SMOL pmax pmax
comp=Z,17nm,1.5s
A051A Mrakovica 77.49 315 ⇑*i*P **P 12 00 37.9 +0.2**
MORC Moravsky Berou 77.53 320 ⇑P **P 12 00 38.9 +1.1**
MORC Moravsky Berou 77.53 320 P **P 12 00 38.2 +0.4**
MORC IAmb IAmb 12 00 40.1
comp=Z,130nm,1.5s
MORC Moravsky Berou 77.53 320 eP **P 12 00 38.8 +1.0**
MORC Moravsky Berou 77.53 320 P **P 12 00 38.9 +1.1**
MODS Modra-Piesok 77.55 318 eP **P 12 00 38.9 +1.0**
MODS pmax pmax
comp=Z,391nm,2.1s
MODS Modra-Piesok 77.55 318 eP **P 12 00 38.9 +1.0**
ZST Bratislava 77.65 318 eP **P 12 00 39.8 +1.4**
ZST pmax pmax
comp=Z,399nm,1.5s
ZST Bratislava 77.65 318 eP **P 12 00 39.8 +1.4**
ARA0 ARCESS Array S 77.71 340 eP **P 12 00 39.0 +0.7**
ARA0 IAML 12 00 39.6
comp=Z,18nm,0.6s
ARCES ARCESS Array B 77.71 340 P **P 12 00 38.9 +0.6**
comp=Z,25nm,0.6s,baz=89,slow=5.7,SNR=168
ARCES PP **PP 12 03 34.4 +0.3**
comp=Z,12nm,0.8s,baz=97,slow=7.4,SNR=4.1
ARCES LR LR 12 38 17.0
comp=Z,240nm,19.1s,baz=110,slow=38
comp=Z,25nm,0.6s
ARCES ARCESS Array B 77.71 340 P **P 12 00 39.0 +0.6**
ARCES IAmb IAmb 12 00 40.0

comp=Z,98nm,1.3s
ARCES ARCESS Array B 77.71 340 P **P** **12 00 39.0 +0.6**
ARCES pmax pmax
comp=Z,98nm,1.3s
CEL Celeste 77.80 308 P **P** **12 00 39.3 -0.3**
CEL lAmb lAmb 12 00 42.1
comp=Z,95nm,1.1s
KRLC Kraliky 78.05 320 *eP* **P** **12 00 41.7 +1.0**
KRLC Kraliky 78.05 320 *eP* **P** **12 00 41.7 +1.0**
KOGS Kog 78.07 316 *i* P **P** **12 00 41.7 +0.9**
VRAC Vranov 78.09 319 LR LR 12 41 08.9
comp=Z,56nm,18.4s,baz=90,slow=40
VRAC Vranov 78.09 319 *eP* **P** **12 00 41.5 +0.6**
RONA Rosalia, Austr 78.14 317 *i* P **P** **12 00 42.1 +0.9**
comp=Z,12nm,0.6s,SNR=6.2
BILL Bilibino 78.18 21 P **P** **12 00 40.7 -0.3**
BILL Bilibino 78.18 21 *c i* P **P** **12 00 39.8 -1.2**
BILL *i* 12 00 51.8
BILL pmax pmax
comp=Z,18nm,0.7s
BILL MLR MLR
comp=Z,619nm,19.0s
KRUC Moravsky 78.20 319 *eP* **P** **12 00 42.1 +0.6**
KTK1 Kautokeino 78.34 340 *eP* **P** **12 00 42.3 +0.5**
KTK1 lAmb lAmb 12 00 42.8
comp=Z,56nm,0.7s
DPC Dobruska-Polom 78.37 320 *eP* **P** **12 00 43.6 +1.1**
DPC Dobruska-Polom 78.37 320 *eP* **P** **12 00 43.6 +1.1**
KSP Ksiaz 78.44 321 *eP* **P** **12 00 44.0 +1.2**
CONA Conrad Observa 78.45 318 *i* P **P** **12 00 43.8 +0.8**
comp=Z,29nm,1.3s,SNR=5.5
OSTC Ostas 78.46 320 *eP* **P** **12 00 44.2 +1.3**
CRES Cresnjev 78.57 316 ⇑ *i* P **P** **12 00 43.9 +0.3**
UPC Upice 78.58 320 *eP* **P** **12 00 44.7 +1.1**
UPC Upice 78.58 320 *eP* **P** **12 00 44.7 +1.1**
ARSA Arzberg 78.63 317 *i* P **P** **12 00 45.0 +1.1**
comp=Z,69nm,1.4s,SNR=11
HAMF Hammerfest 78.64 341 *eP* **P** **12 00 44.1 +0.7**
HAMF lAmb lAmb 12 00 47.0
comp=Z,68nm,0.8s
BOJS Bojanci 78.69 315 ⇑ *i* P **P** **12 00 45.1 +0.8**
TREC Trest 78.81 319 *eP* **P** **12 00 45.6 +0.7**
TREC Trest 78.81 319 *eP* **P** **12 00 45.6 +0.7**
PERS Pernice 78.86 316 *i* P **P** **12 00 46.2 +1.0**
SOKA Soboth 78.92 316 *eP* **P** **12 00 46.8 +1.2**
comp=Z,84nm,1.3s,SNR=11
OBKA Obir 79.25 316 *i* P **P** **12 00 48.2 +0.8**
comp=Z,37nm,0.8s
OBKA Obir 79.25 316 ⇑ *i* P **P** **12 00 47.7 +0.3**
CEY Cerknica 79.29 315 ⇑ *i* P **P** **12 00 47.6 0.0**
GOPC GO Pecny, Ondr 79.32 320 *eP* **P** **12 00 48.7 +1.1**
GOPC *es* P **pP** **12 01 04.2 +1.2**
GOPC GO Pecny, Ondr 79.32 320 *eP* **P** **12 00 48.7 +1.1**
GOPC *e* 12 01 04.2
SHEM Shemya Is, Ala 79.34 37 P **P** **12 00 47.4 -0.2**
comp=Z,82nm,0.7s,baz=270,slow=1.0,SNR=6.0
SHEM LR LR 12 41 16.7
comp=Z,88nm,18.1s,baz=282,slow=40
comp=Z,82nm,0.7s
SMY Shemya 79.34 37 P **P** **12 00 47.6 0.0**
SMY Shemya 79.34 37 P **P** **12 00 47.6 0.0**
SMY pmax pmax
comp=Z,210nm,1.2s
SUR Sutherland 79.34 236 P **P** **12 00 48.1 -0.2**
SUR lAmb lAmb 12 01 13.1
comp=Z,48nm,0.9s
JETT Jettan, Norway 79.44 340 *eP* **P** **12 00 48.5 +0.5**
PRU Pruhonice 79.48 320 *eP* **P** **12 00 49.4 +0.9**
PRU Pruhonice 79.48 320 *eP* **P** **12 00 49.4 +0.9**
PVCC Panska Ves 79.50 320 *eP* **P** **12 00 50.0 +1.4**
PVCC Panska Ves 79.50 320 *eP* **P** **12 00 50.0 +1.4**
MOA Molln 79.52 318 *i* P **P** **12 00 49.5 +0.7**
comp=Z,17nm,0.8s
CKRC Cesky Krumlov 79.55 319 *eP* **P** **12 00 50.7 +1.8**
SKDS Skadanscina 79.56 315 ⇑ *i* P **P** **12 00 48.7 -0.4**
TSUM Tsumeb 79.60 249 LR LR 12 34 33.6
comp=Z,267nm,18.1s,baz=140,slow=34
TSUM Tsumeb 79.60 249 P **P** **12 00 47.9 -2.0**
BSD Bornholm Skovb 79.68 325 *i* P **P** **12 00 48.7 -0.7**
BSD lAmb lAmb 12 00 49.5
comp=Z,22nm,0.7s
BSD Bornholm Skovb 79.68 325 *eP* **P** **12 00 49.5 +0.1**
AQU L'Aquila 79.87 312 P **P** **12 00 48.8 -2.0**
AQU L'Aquila 79.87 312 P **P** **12 00 48.8 -2.0**
AQU pmax pmax
comp=Z,126nm,0.6s
MYKA Terra Mystica 79.88 316 *i* P **P** **12 00 51.5 +0.7**
comp=Z,16nm,0.7s
PRED Cave del Predi 79.92 316 P **P** **12 00 51.7 +0.7**
PRED lAmb lAmb 12 00 52.9
comp=Z,46nm,0.8s
BRG Berggiesshubel 79.92 321 *i* P **P** **12 00 51.9 +1.1**
BRG Amp 12 00 52.5
comp=Z,24nm,0.8s
BRG Berggiesshubel 79.92 321 *i* P **P** **12 00 51.9 +1.1**
BRG 12 01 08.3
BRG pmax pmax
comp=Z,24nm,0.9s
BRG pmax pmax
comp=Z,14nm,0.9s
BRG Berggiesshubel 79.92 321 *eP* **P** **12 00 51.8 +1.0**
comp=Z,83nm,1.8s,baz=91,slow=5.2
BIOA Bad Ischl, Aus 79.93 317 *i* P **P** **12 00 51.6 +0.5**
comp=Z,22nm,0.5s,SNR=8.4
ROBS Robic 79.95 316 *i* P **P** **12 00 51.5 +0.4**
GEC2 GERESS Array S 79.95 319 P **P** **12 00 52.2 +1.0**
GEC2 lAmb lAmb 12 00 53.3
comp=Z,54nm,0.8s
GEC2 GERESS Array S 79.95 319 *eP* **P** **12 00 52.2 +1.0**
comp=Z,316nm,2.1s,baz=91,slow=5.2
GERES GERESS Array B 79.95 319 P **P** **12 00 52.2 +1.0**
comp=Z,32nm,0.7s,baz=99,slow=5.7,SNR=140
comp=Z,32nm,0.7s
GERES GERESS Array B 79.95 319 P **P** **12 00 52.0 +0.8**
TRO Tromso 79.97 340 *e* **P** **12 00 50.9 +0.2**
KHC Kasperske Hory 80.05 319 P **P** **12 00 52.0 +0.4**
KHC Kasperske Hory 80.05 319 *eP* **P** **12 00 51.6 0.0**
KHC *ex* x 12 01 17.9
KHC Kasperske Hory 80.05 319 P **P** **12 00 52.0 +0.4**
KHC pmax pmax
comp=Z,20nm,0.9s
KBA Koelnbreinsper 80.10 317 *eP* **P** **12 00 52.4 +0.3**
comp=Z,18nm,0.6s,SNR=5.2
RUE Ruedersdorf 80.14 322 *eP* **P** **12 00 53.2 +1.3**
RUE Ruedersdorf 80.14 322 *eP* **P** **12 00 52.7 +0.8**
comp=Z,162nm,1.6s,baz=91,slow=5.2
FBE Freiberg 80.30 321 *eP* **P** **12 00 54.0 +1.1**
comp=Z,143nm,1.8s,baz=91,slow=5.2
DEL Delary 80.39 326 *i* P **P** **12 00 53.1 -0.1**
CLUD Cludinico 80.39 316 P **P** **12 00 54.1 +0.6**
CLL Collm 80.54 321 P **P** **12 00 54.7 +0.5**
CLL Collm 80.54 321 ⇑ *i* P **P** **12 00 54.3 +0.1**
comp=Z,30nm,1.3s
CLL *es* P **pwP** **12 01 12.0 -0.9**
CLL Collm 80.54 321 P **P** **12 00 54.7 +0.5**
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 80.54 321 *eP* **P** **12 00 54.7 +0.5**
comp=Z,30nm,1.3s,baz=91,slow=5.2
CLL *eL* L 12 36 28.6
comp=Z,94nm,19.4s
LUNU Lund 80.56 325 *i* P **P** **12 00 53.9 -0.2**
ABTA Abfaltersbach 80.66 316 *i* P **P** **12 00 54.8 -0.3**
comp=Z,17nm,0.7s
CIMO Cimolais 80.69 316 lAmb lAmb 12 00 56.9
comp=Z,73nm,0.9s
HFS Hagfors 80.79 330 LR LR 12 40 46.4
comp=Z,79nm,18.4s,baz=88,slow=39
BJUU Bjuv 80.83 326 *i* P **P** **12 00 55.7 +0.2**
NKC Novy Kostel 80.84 320 *eP* **P** **12 00 56.5 +0.7**
NKC Novy Kostel 80.84 320 *eP* **P** **12 00 56.5 +0.7**
TANN Tannenbergstha 80.84 320 *eP* **P** **12 00 56.6 +0.7**
comp=Z,27nm,1.4s,baz=91,slow=5.2
WERN Wernitzgruen 80.89 320 *eP* **P** **12 00 56.9 +0.8**
comp=Z,12nm,0.9s,baz=91,slow=5.2
FAUS Fauske 80.91 337 *eP* **P** **12 00 56.1 +0.4**
FAUS lAmb lAmb 12 00 56.6
comp=Z,54nm,0.8s
GUNZ Gunzen 80.92 320 *eP* **P** **12 00 57.2 +0.9**
comp=Z,55nm,1.7s,baz=91,slow=5.2
WERD Werda 80.94 320 *eP* **P** **12 00 57.2 +0.8**
comp=Z,20nm,1.0s,baz=91,slow=5.2
ROTZ Rotzenmuhle 80.98 319 *eP* **P** **12 00 57.8 +1.3**
comp=Z,7.8nm,1.0s,baz=91,slow=5.2
MANZ Manzenberg 81.05 320 *eP* **P** **12 00 58.3 +1.3**
comp=Z,15nm,1.4s,baz=91,slow=5.2
MOR8 Moi Rana 81.09 336 *eP* **P** **12 00 56.6 -0.2**
MOR8 lAmb lAmb 12 00 56.8
comp=Z,27nm,0.5s
WTTA Wattenberg 81.28 317 *i* P **P** **12 00 58.6 +0.2**
comp=Z,39nm,0.6s,SNR=8.6
NEUB Neuenburg 81.31 321 *eP* **P** **12 00 58.9 +0.6**
comp=Z,44nm,1.4s,baz=91,slow=5.2
WATA Walderalm 81.32 317 *i* P **P** **12 00 58.5 -0.1**
comp=Z,18nm,0.6s,SNR=7.4
MOX Moxa 81.39 320 *eP* **P** **12 00 59.5 +0.8**
comp=Z,51nm,1.7s,baz=91,slow=5.2
MOX *eL* L 12 31 50.6
comp=Z,116nm,21.6s
SQTA Sankt Quirin 81.56 317 *i* P **P** **12 01 00.1 +0.3**
comp=Z,43nm,0.6s,SNR=9.8
GRA1 Grafenberg Arr 81.61 319 P **P** **12 01 01.0 +1.1**
GRF Grafenberg Arr 81.61 319 P **P** **12 01 01.0 +1.1**
GRF pmax pmax
comp=Z,30nm,0.9s
GRF Grafenberg Arr 81.61 319 *eP* **P** **12 01 01.2 +1.3**
comp=Z,88nm,1.6s,baz=91,slow=5.2
GRF *eL* L 12 31 50.9
comp=Z,100nm,21.6s
GRFO Grafenberg 81.61 319 P **P** **12 00 58.8 -1.1**
GRFO Grafenberg 81.61 319 P **P** **12 00 58.8 -1.1**
GRFO pmax pmax
comp=Z,31nm,0.9s
MOTA Moosalm 81.64 317 *i* P **P** **12 01 00.4 +0.1**
comp=Z,35nm,0.7s,SNR=8.0
LOF Lofoten 81.66 338 *eP* **P** **12 00 59.9 +0.2**
FLTG Flechtingen 81.68 322 *eP* **P** **12 01 00.2 +0.1**
comp=Z,160nm,2.9s,baz=91,slow=5.2
ZCCA Zocca 81.69 314 P **P** **12 01 00.4 0.0**
ZCCA lAmb lAmb 12 01 42.8
comp=Z,93nm,1.0s
NC405 NORSAR Array S 81.84 331 P **P** **12 00 59.6 -1.3**
RETA Reutte 81.87 317 *i* P **P** **12 01 01.8 +0.4**
comp=Z,42nm,0.6s,SNR=16
FETA Feichten 81.89 317 *i* P **P** **12 01 01.8 +0.2**
comp=Z,26nm,0.8s
NC602 NORSAR Array S 81.90 330 P **P** **12 01 00.9 -0.3**
NC602 lAmb lAmb 12 02 19.0
comp=Z,82nm,1.9s
NC602 NORSAR Array S 81.90 330 *eP* **P** **12 01 01.3 +0.2**
NSS Namsos 81.96 334 *eP* **P** **12 01 01.9 +0.5**
NSS lAmb lAmb 12 01 02.4
comp=Z,40nm,0.9s
SALO Salr 82.02 315 P **P** **12 01 00.3 -1.9**
SALO lAmb lAmb 12 01 04.8
comp=Z,76nm,0.8s
ASSE Asse, Remlinge 82.02 322 *eP* **P** **12 01 02.5 +0.6**
comp=Z,38nm,1.6s,baz=91,slow=5.2
NB2 NORSAR Subarra 82.08 331 P **P** **12 01 02.2 0.0**
comp=Z,2.6nm,0.7s,baz=97,slow=5.1
NB2 NORSAR Subarra 82.08 331 P **P** **12 01 02.2 0.0**
slow=5.1
NOA NORSAR Array B 82.08 331 P **P** **12 01 01.8 -0.4**
comp=Z,7.9nm,0.9s,baz=94,slow=5.6,SNR=12
NOA PP **PP** **12 04 10.7 +0.1**
comp=Z,2.2nm,0.9s,baz=90,slow=8.9,SNR=4.0
NOA LR LR 12 41 58.8
comp=Z,76nm,18.9s,baz=85,slow=39
comp=Z,7.9nm,0.9s
CLZ Clausthal 82.20 321 *eP* **P** **12 01 03.8 +0.8**
comp=Z,29nm,1.0s,baz=91,slow=5.2
FUORN Ofenpass-Fuorn 82.20 316 lAmb lAmb 12 01 05.8
comp=Z,11nm,1.6s
BSEG Bad Segeberg 82.28 324 *eP* **P** **12 01 04.3 +1.0**
comp=Z,92nm,1.6s,baz=91,slow=5.2
SPB2 Spitsbergen Ar 82.31 348 lAmb lAmb 12 01 04.0
comp=Z,71nm,0.8s
SPA0 Spitsbergen Ar 82.31 348 *eP* **P** **12 01 03.2 +0.1**
SPA0 lAmb lAmb 12 01 04.3
comp=Z,81nm,1.0s
UBR Ueberruh 82.32 317 *eP* **P** **12 01 04.0 +0.3**
comp=Z,18nm,0.7s,baz=91,slow=5.2
NRDL Niedersach Rie 82.38 322 *eP* **P** **12 01 04.9 +1.2**
comp=Z,53nm,1.3s,baz=91,slow=5.2
GTTG Gottingen 82.45 321 *eP* **P** **12 01 05.1 +0.8**
comp=Z,55nm,1.5s,baz=91,slow=5.2
DAVA Damuels 82.47 317 *i* P **P** **12 01 05.3 +0.6**
comp=Z,38nm,1.1s,SNR=7.6
DAVOX Davos/Dischmat 82.47 316 LR LR 12 44 06.9
comp=Z,54nm,19.6s,baz=78,slow=40
RETH Rethem/Aller, 82.84 322 *eP* **P** **12 01 06.9 +0.7**
comp=Z,58nm,1.5s,baz=91,slow=5.2
KEST Kesra 83.02 305 P **P** **12 01 09.6 +1.9**
comp=Z,54nm,1.0s,baz=112,slow=1.0,SNR=20
comp=Z,54nm,1.0s
DOMB Dombas 83.15 332 *eP* **P** **12 01 08.6 +0.9**
DOMB IAML 12 01 09.0
comp=Z,4.6nm,0.5s
TNS Taunus Mts 83.41 320 *eP* **P** **12 01 10.1 +0.8**
comp=Z,21nm,1.0s,baz=91,slow=5.2
KASTN Kahler Asten 83.42 321 *eP* **P** **12 01 10.0 +0.7**
comp=Z,40nm,1.7s,baz=91,slow=5.2
BFO Black Forest 83.51 318 P **P** **12 01 09.5 -0.3**
BFO Black Forest 83.51 318 P **P** **12 01 09.5 -0.3**
BFO pmax pmax
comp=Z,15nm,0.8s
BFO Black Forest 83.51 318 *eP* **P** **12 01 10.1 +0.2**
comp=Z,19nm,0.8s,baz=91,slow=5.2
IBBN Ibbenburen 83.82 322 *eP* **P** **12 01 12.2 +0.9**
comp=Z,41nm,1.2s,baz=91,slow=5.2
MOL Molde 83.86 332 *e* **P** **12 01 12.7 +1.4**
RPZ Rata Peaks 84.00 135 LR LR 12 40 49.1
comp=Z,130nm,19.5s,baz=263,slow=37
BUG Bochum--Univer 84.14 321 *eP* **P** **12 01 13.8 +0.9**
comp=Z,57nm,1.5s,baz=91,slow=5.2
SENIN Lac Senin/Sane 84.26 316 P **P** **12 01 14.6 +0.7**
AHRW Bad Neuenahr-A 84.28 320 *eP* **P** **12 01 14.7 +1.0**
comp=Z,23nm,1.0s,baz=91,slow=5.2
ECH Echery 84.29 318 P **P** **12 01 14.0 +0.1**
ECH Echery 84.29 318 P **P** **12 01 14.0 +0.1**
ECH pmax pmax
comp=Z,12nm,0.8s
QRZ Quartz Range 84.44 132 P **P** **12 01 14.5 -0.1**
BNI Bardonecchia 84.74 315 P **P** **12 01 16.2 -0.1**
BNI lAmb lAmb 12 01 37.1
comp=Z,26nm,0.8s
BNI Bardonecchia 84.74 315 P **P** **12 01 16.2 -0.1**
BNI pmax pmax
comp=Z,26nm,0.9s
BTNL Ternell 84.88 320 *dP* **P** **12 01 17.6 +0.8**
comp=Z,9.5nm,0.9s
WLF Walferdange 84.91 319 P **P** **12 01 15.8 -1.1**
WLF lAmb lAmb 12 01 18.6
comp=Z,35nm,1.3s
WLF Walferdange 84.91 319 P **P** **12 01 15.8 -1.1**
WLF pmax pmax
comp=Z,35nm,1.3s
WLF Walferdange 84.91 319 *dP* **P** **12 01 18.0 +1.2**
WLF Walferdange 84.91 319 *eP* **P** **12 01 17.8 +0.9**
comp=Z,32nm,1.2s,baz=91,slow=5.2
MEM Membach 84.96 320 *dP* **P** **12 01 17.7 +0.6**
comp=Z,12nm,0.8s
MEM *dx* x 12 01 35.7
BHOU Houvegnez 84.97 320 *dP* **P** **12 01 17.7 +0.5**
comp=Z,8.1nm,1.3s
MSVF Nonsavu 85.41 108 LR LR 12 42 53.7
comp=Z,73nm,18.1s,baz=232,slow=38
MSVF Nonsavu 85.41 108 P **P** **12 01 21.9 +1.9**
MSVF lAmb lAmb 12 01 23.2
comp=Z,26nm,0.8s
MSVF Nonsavu 85.41 108 P **P** **12 01 22.0 +1.9**
MSVF pmax pmax
comp=Z,26nm,0.9s
BCLA Clavier 85.42 320 *dP* **P** **12 01 19.6 +0.3**
comp=Z,6.0nm,1.2s
BGES Gesves 85.56 320 *dP* **P** **12 01 20.5 +0.4**
comp=Z,8.0nm,0.8s
BGES *dP cP* **PcP** **12 01 23.1 +0.2**
BMRD Maredsous 85.77 320 *dP* **P** **12 01 21.9 +0.8**
SNF Seneffe 86.06 320 *dP* **P** **12 01 23.2 +0.6**
comp=Z,15nm,0.9s
SNF *dx* x 12 01 40.6
SSB Saint Sauveur 86.23 315 P **P** **12 01 24.3 +0.7**
SSB lAmb lAmb 12 01 41.8
comp=Z,23nm,0.9s
SSB Saint Sauveur 86.23 315 P **P** **12 01 24.3 +0.7**
SSB pmax pmax
comp=Z,23nm,0.9s
GAMB Gambell 86.81 26 P **P** **12 01 26.0 +0.1**
GAMB lAmb lAmb 12 01 27.0
comp=Z,56nm,0.9s
GAMB Gambell 86.81 26 P **P** **12 01 26.1 +0.2**
baz=276
BKZ Black Stump Fm 87.12 130 P **P** **12 01 27.7 -0.3**
BKZ lAmb lAmb 12 02 04.0
comp=Z,26nm,0.9s
BKZ Black Stump Fm 87.12 130 P **P** **12 01 28.5 +0.4**
RTZ Ruatahuna 87.41 129 lAmb lAmb 12 01 50.3
comp=Z,53nm,1.1s
URZ Urewera 87.46 129 LR LR 12 42 11.7
comp=Z,166nm,19.9s,baz=6.5,slow=37
URZ Urewera 87.46 129 P **P** **12 01 30.1 +0.5**
NOR Nord 87.72 352 *i* P **P** **12 01 28.9 -1.2**
NOR lAmb lAmb 12 01 30.1
comp=Z,42nm,0.9s
TNA Tin City 88.19 24 lAmb lAmb 12 01 33.5
comp=Z,25nm,0.7s
TNA Tin City 88.19 24 P **P** **12 01 32.7 +0.2**
baz=279
ELIB Princess Elisa 89.40 197 *dP* **P** **12 01 41.6 +3.4**
ELIB *dx* x 12 01 45.5
ELIB *dx* x 12 01 58.2
ANM Nome 89.43 25 lAmb lAmb 12 01 40.1
comp=Z,34nm,1.2s
ANM Nome 89.43 25 P **P** **12 01 39.2 +0.8**
baz=281
NIKH Nikolski High 89.64 37 P **P** **12 01 38.9 -0.7**
baz=278
NIKH Nikolski High 89.64 37 P **P** **12 01 39.8 +0.2**
DAG Danmarks Havn 89.95 348 *i* P **P** **12 01 40.0 -0.6**
DAG lAmb lAmb 12 01 40.5
comp=Z,20nm,0.7s
VNDA Vanda 90.45 168 P **P** **12 01 44.0 +1.1**
comp=Z,1.4nm,0.8s,baz=286,slow=4.9,SNR=11
VNDA pP **pwP** **12 02 01.3 -0.5**
comp=Z,7.4nm,0.9s,baz=289,slow=5.9,SNR=8.7
VNDA PKKP **PKKPdf** **12 19 11.8 +1.9**
comp=Z,1.5nm,0.9s,baz=70,slow=3.2,SNR=5.9
VNDA LR LR 12 38 31.7
comp=Z,204nm,18.5s,baz=296,slow=33
comp=Z,1.4nm,0.8s
VNDA Vanda 90.45 168 P **P** **12 01 42.1 -0.7**
A21K Barrow 90.82 18 P **P** **12 01 45.4 +0.6**
A21K Barrow 90.82 18 P **P** **12 01 45.4 +0.6**
baz=290
DBG Daneborg 91.34 346 *eP* **P** **12 01 47.4 +0.3**
DBG lAmb lAmb 12 01 49.1
comp=Z,9.6nm,1.1s
TORD Torodi Ar. Bea 91.61 283 P **P** **12 01 51.4 +1.7**
comp=Z,8.5nm,0.7s,baz=82,slow=4.2,SNR=18
TORD pP **pwP** **12 02 07.8 -0.7**
comp=Z,9.9nm,0.9s,baz=79,slow=4.1,SNR=5.4
TORD PKKPbc **PKKPbc** **12 19 09.7 +0.8**
comp=Z,1.1nm,0.3s,baz=295,slow=3.7,SNR=16
comp=Z,8.5nm,0.7s
NVL N'lazarevskaya 92.70 199 *eP* P 12 02 12.0 +19
NVL pmax pmax
comp=Z,10.0nm,1.1s
GCSA Galena City Sc 92.91 24 P **P** **12 01 55.5 +1.0**
baz=289,SNR=48
ESBB Sonseca Array 93.14 310 P **P** **12 01 56.4 +0.1**
ESBB lAmb lAmb 12 01 58.6
comp=Z,46nm,1.6s
ESDC Sonseca Array 93.14 310 P **P** **12 01 57.5 +1.2**
comp=Z,5.0nm,0.6s,baz=61,slow=4.1,SNR=38
ESDC pP **pwP** **12 02 14.1 -1.2**
comp=Z,5.8nm,0.8s,baz=62,slow=4.1,SNR=5.4
ESDC LR LR 12 48 18.1
comp=Z,72nm,19.9s,baz=42,slow=38
comp=Z,5.0nm,0.6s
ESDC Sonseca Array 93.14 310 P **P** **12 01 56.8 +0.5**
ESDC lAmb lAmb 12 01 58.6
comp=Z,34nm,1.6s
F21K Alatna River 93.33 21 P **P** **12 01 57.0 +0.5**
baz=292
N16K Nishlik Lake 93.41 28 P **P** **12 01 57.8 +0.9**
baz=287
SCO Scoresbysund 93.51 342 P **P** **12 01 58.5 +1.3**
SCO lAmb lAmb 12 04 20.5
comp=Z,74nm,1.9s
SCO Scoresbysund 93.51 342 *eP* **P** **12 01 57.7 +0.5**
SCO lAmb lAmb 12 01 59.3
comp=Z,12nm,0.9s
SCO Scoresbysund 93.51 342 P **P** **12 01 58.5 +1.3**
SCO pmax pmax
comp=Z,74nm,1.9s
D23K Nanushuk River 93.59 19 P **P** **12 01 58.5 +0.9**
baz=295
IMAR Indian Mountai 93.70 22 P **P** **12 01 58.7 +0.5**
TTA Tatalina 93.88 26 lAmb lAmb 12 02 01.0
comp=Z,34nm,1.3s
TTA Tatalina 93.88 26 P **P** **12 01 59.7 +0.6**
baz=290
C24K Franklin Bluff 93.89 18 P **P** **12 01 59.7 +0.7**
baz=297
SDPT Sand Point 93.97 34 P **P** **12 01 59.5 -0.1**
baz=285
O16K Kokwok River B 94.00 29 P **P** **12 01 59.8 +0.2**
baz=288
H21K Melozitna Rive 94.19 23 P **P** **12 02 01.2 +0.7**
baz=293
E23K Chandalar 94.34 20 P **P** **12 02 01.9 +0.7**
baz=296
O17K Koliganek Bris 94.42 29 P **P** **12 02 01.9 +0.4**
baz=289,SNR=13
COLD Coldfoot 94.50 21 lAmb lAmb 12 02 03.9
comp=Z,46nm,2.0s
COLD Coldfoot 94.50 21 P **P** **12 02 02.4 +0.6**
baz=295,SNR=6.2
K20K Telida 94.55 25 P **P** **12 02 03.1 +1.0**
baz=292
EUNU Eureka 94.62 0 P **P** **12 02 02.6 +0.3**
EUNU lAmb lAmb 12 02 03.7
comp=Z,22nm,0.8s
H22K Ishtalitna Cre 94.63 22 P **P** **12 02 03.5 +1.0**
baz=294
L19K White Mountain 94.64 26 P **P** **12 02 03.5 +0.9**
L19K lAmb lAmb 12 02 04.6
comp=Z,29nm,0.9s
L19K White Mountain 94.64 26 P **P** **12 02 03.3 +0.7**
baz=291
I21K Tanana 94.69 23 P **P** **12 02 03.6 +0.8**
baz=294
SVW2 Sparrevohn 94.69 27 lAmb lAmb 12 02 04.8
comp=Z,45nm,1.3s
E24K Your Creek 94.71 20 P **P** **12 02 03.4 +0.5**
baz=297
G23K Bananza Creek 94.78 21 P **P** **12 02 03.9 +0.7**
baz=296
C26K Camden Bay 94.95 17 P **P** **12 02 05.0 +1.2**
baz=301,SNR=28
Q16K King Salmon 94.99 30 P **P** **12 02 04.7 +0.5**
baz=289
NEEM North Greenlan 95.06 353 *i* P **P** **12 02 04.0 -0.6**
NEEM lAmb lAmb 12 02 05.8
comp=Z,26nm,0.8s
CHUM Lake Minchumin 95.08 24 P **P** **12 02 05.5 +1.0**
baz=293,SNR=19
F24K Squaw Lake 95.17 20 P **P** **12 02 05.8 +0.9**
baz=298
MLY Manley 95.23 23 lAmb lAmb 12 02 07.1
comp=Z,26nm,1.6s
MLY Manley 95.23 23 P **P** **12 02 05.6 +0.3**
baz=295,SNR=10.0
N19K Bonanza Creek 95.29 27 P **P** **12 02 06.4 +0.7**
baz=291
CAST Castle Rocks 95.35 25 P **P** **12 02 06.3 +0.5**
CAST Castle Rocks 95.35 25 P **P** **12 02 06.4 +0.5**
baz=293,SNR=29
P18K Big Mountain, 95.44 29 P **P** **12 02 05.0 -1.3**
P18K Big Mountain, 95.44 29 P **P** **12 02 06.5 +0.2**
baz=290
C27K Jago River 95.46 17 P **P** **12 02 07.0 +0.8**
baz=302
R17K Ugashik Creek 95.46 31 P **P** **12 02 06.2 -0.2**
baz=289
M20K Styx River 95.50 26 P **P** **12 02 07.0 +0.3**
baz=292
Q17K Contact Creek 95.50 30 P **P** **12 02 06.1 -0.7**
baz=290,SNR=6.4
PPLA Purkeypile 95.52 25 lAmb lAmb 12 02 28.2
comp=Z,50nm,1.5s
PPLA Purkeypile 95.52 25 P **P** **12 02 06.8 +0.1**
baz=293
BPAW Bear Paw Mtn. 95.52 24 lAmb lAmb 12 02 08.9
comp=Z,29nm,1.0s
BPAW Bear Paw Mtn. 95.52 24 P **P** **12 02 06.9 +0.3**
baz=294,SNR=18
O19K Port Alsworth 95.59 28 P **P** **12 02 06.8 -0.1**

O19K IAmb IAmb 12 02 08.0
comp=Z,27nm,0.8s
O19K Port Alsworth 95.59 28 P **P 12 02 07.2 +0.3**
baz=291,SNR=7.3
E25K Arctic Village 95.65 19 P **P 12 02 07.5 +0.3**
baz=300,SNR=11
G24K Hadweenzic Riv 95.69 21 P **P 12 02 08.0 +0.7**
baz=298
I23K Minto, Yukon-K 95.71 22 P **P 12 02 08.0 +0.7**
I23K Minto, Yukon-K 95.71 22 P **P 12 02 08.2 +0.8**
baz=296,SNR=5.8
Q18K Katmai Hardscr 95.81 30 P **P 12 02 07.7 -0.4**
baz=290
BORG Borgarnes 95.85 337 LR LR 12 48 42.0
comp=Z,114nm,18.8s,baz=61,slow=38
F25K Christian Rive 95.89 20 P **P 12 02 09.2 +0.9**
baz=300
H24K Noodor Dome 95.95 22 P **P 12 02 08.8 +0.2**
baz=298
NEA2 Nenana 96.07 23 P **P 12 02 09.2 +0.1**
baz=296,SNR=5.0
TRF Thorofare Moun 96.08 24 IAmb IAmb 12 03 50.1
comp=Z,46nm,1.9s
TRF Thorofare Moun 96.08 24 P **P 12 02 09.2 -0.1**
baz=295
G25K Bearman Lake 96.14 20 P **P 12 02 10.2 +0.9**
baz=299
SKT Skwentna 96.16 26 P **P 12 02 09.4 -0.1**
baz=294,SNR=8.2
SPCR Spurr Chakacha 96.17 27 P **P 12 02 09.8 +0.1**
baz=293
MDM Murphy Dome 96.22 22 P **P 12 02 08.9 -0.9**
SPU Mount Spurr 96.25 27 P **P 12 02 09.4 -0.6**
P19K Oil Pt 96.30 28 P **P 12 02 10.4 +0.2**
baz=292
BMAR Burnt Mountain 96.33 19 P **P 12 02 10.3 +0.1**
F26K Sheenjek River 96.33 19 P **P 12 02 11.0 +0.8**
baz=301
TCOL CIGO, UAF Yank 96.40 22 P **P 12 02 10.1 -0.4**
baz=297
COLA College 96.41 22 P **P 12 02 10.0 -0.5**
baz=297
POKR Poker Plat Res 96.45 22 P **P 12 02 11.2 +0.4**
baz=298
MCK McKinley 96.50 24 IAmb IAmb 12 02 11.2
comp=Z,14nm,1.0s
MCK McKinley 96.50 24 P **P 12 02 11.0 0.0**
baz=296,SNR=5.5
CUT Chulitna 96.53 25 P **P 12 02 09.3 -1.9**
CUT Chulitna 96.53 25 P **P 12 02 11.2 0.0**
baz=295
FYU Fort Yukon 96.54 20 P **P 12 02 11.3 +0.1**
FYU IAmb IAmb 12 02 14.5
comp=Z,13nm,1.0s
SUMG Summit 96.62 347 *i* P **P 12 02 11.7 -0.2**
SUMG IAmb IAmb 12 02 13.8
comp=Z,10nm,1.0s
IL31 96.82 22 P **P 12 02 11.0 -1.4**
IL31 IAmb IAmb 12 03 41.9
comp=Z,30nm,1.9s
ILAR Eielson Array 96.82 22 P **P 12 02 11.1 -1.4**
comp=Z,2.5nm,0.7s,baz=289,slow=3.7,SNR=40
ILAR PP **PP 12 06 09.8 +2.1**
comp=Z,0.6nm,0.7s,baz=294,slow=8.2,SNR=4.7
ILAR PKKPbc **PKKPbc 12 18 54.8 -2.2**
comp=Z,0.1nm,0.5s,baz=118,slow=1.5,SNR=4.6
ILAR LR LR 12 48 22.9
comp=Z,220nm,18.5s,baz=274,slow=37
comp=Z,2.5nm,0.7s
ILAR Eielson Array 96.82 22 P **P 12 02 10.7 -1.7**
M22K Willow 96.87 26 P **P 12 02 12.3 -0.3**
baz=295
E27K Coleen River 96.88 18 P **P 12 02 12.8 +0.1**
baz=304
PRP Porcupine Dome 96.96 21 P **P 12 02 13.6 +0.4**
baz=300
HDA Harding Lake 96.97 23 P **P 12 02 11.4 -1.7**
HDA Harding Lake 96.97 23 P **P 12 02 12.3 -0.8**
baz=298
WAT1 Susitna Watana 97.06 24 P **P 12 02 13.6 0.0**
baz=297
Q20K Shuyak Island 97.09 29 P **P 12 02 13.8 0.0**
baz=293
OHAK Old Harbor 97.18 31 P Pdif 12 02 14.4 +0.2
baz=292
RC01 Rabbit Creek A 97.31 26 P Pdif 12 02 14.9 +0.1
baz=295
KDAK Kodiak Island 97.32 30 LR LR 12 47 19.4
comp=Z,214nm,21.9s,baz=313,slow=36
PMR Palmer 97.36 26 P Pdif 12 02 15.0 0.0
baz=296
DHY Denali Highway 97.42 24 P Pdif 12 02 15.5 0.0
baz=298
WAT6 Susitna Watana 97.50 24 P Pdif 12 02 15.8 0.0
baz=297
TULEG Thule 97.60 356 P Pdif 12 02 16.1 +0.3
TULEG IAmb IAmb 12 02 18.1
comp=Z,9.4nm,0.8s
SML Sawmill 97.61 25 P **P 12 02 14.8 -1.3**
SML Sawmill 97.61 25 P Pdif 12 02 16.6 +0.4
baz=297,SNR=6.4
G27K Doyon Strip 97.63 19 P Pdif 12 02 16.5 +0.3
baz=303
K24K Donnelly Dome 97.71 23 P Pdif 12 02 16.6 0.0
baz=299
KNK Knik Glacier 97.73 26 P Pdif 12 02 17.0 +0.3
baz=296
SEW Seward 97.86 27 P **P 12 02 16.5 -0.7**
baz=295
M23K Glacier View 97.87 25 P **P 12 02 17.1 -0.2**
baz=297
H27K Steamboat Moun 97.99 20 P Pdif 12 02 18.2 +0.4
baz=304
SCM Sheep Creek Mo 98.02 25 P **P 12 02 17.8 -0.2**
baz=298
PWL Port Wells 98.03 26 P Pdif 12 02 18.4 +0.4
baz=296
RIDG Independent Ri 98.10 23 IAmb IAmb 12 02 18.8
comp=Z,9.6nm,0.9s
RIDG Independent Ri 98.10 23 P Pdif 12 02 18.4 0.0
baz=300
J26L Joseph Creek 98.20 22 P **P 12 02 18.8 0.0**
baz=301
PAX Paxson 98.24 24 P **P 12 02 19.0 0.0**
baz=299
I27K Kandik River 98.30 20 P Pdif 12 02 19.9 +0.7
baz=303,SNR=6.6
SCRK Sand Creek 98.31 22 P **P 12 02 18.4 -0.9**
SCRK Sand Creek 98.31 22 P Pdif 12 02 19.7 +0.4
baz=301
M24K Tolsona, Glenn 98.37 25 P **P 12 02 17.5 -2.1**
A36M Sachs Harbour 98.54 12 P **P 12 02 19.6 -0.4**
A36M Sachs Harbour 98.54 12 P Pdif 12 02 20.1 +0.1
baz=320,SNR=51
HARP HAARP 98.65 24 P Pdif 12 02 20.8 0.0
baz=300
DBIC Dimbokro 98.73 278 P Pdif 12 02 23.8 +1.7
comp=Z,3.2nm,0.7s,baz=134,slow=3.0,SNR=3.6
DBIC LR LR 12 46 52.7
comp=Z,129nm,19.5s,baz=88,slow=35
comp=Z,3.2nm,0.7s
KLU Klutina 98.77 25 P **P 12 02 21.2 -0.2**
baz=299
P23K Montague Islan 98.83 27 P Pdif 12 02 21.6 0.0
baz=297
EGAK Eagle 98.92 21 P **P 12 02 21.8 -0.1**
baz=304
MENT Mentasta 98.95 23 P Pdif 12 02 22.5 +0.4
MENT IAmb IAmb 12 02 24.3
comp=Z,14nm,1.0s
K27K Chicken 99.00 22 P **Pdif 12 02 22.6 +0.3**
baz=303
L26K Log Cabin Wild 99.05 23 P **Pdif 12 02 22.8 +0.3**
L26K IAmb IAmb 12 02 24.5
comp=Z,11nm,1.0s
L26K Log Cabin Wild 99.05 23 P **Pdif 12 02 22.9 +0.3**
baz=301
INK Inuvik 99.20 16 LR LR 12 53 53.3
comp=Z,190nm,18.2s,baz=289,slow=39
INK Inuvik 99.20 16 P **Pdif 12 02 22.9 -0.1**
INK IAmb IAmb 12 02 24.8
comp=Z,19nm,1.2s
INK Inuvik 99.20 16 P **Pdif 12 02 23.4 +0.4**
baz=311,SNR=14
INK Inuvik 99.20 16 P **Pdif 12 02 22.9 -0.1**
INK pmax pmax
comp=Z,19nm,1.3s

G30M tAoh Zraii Nji 99.26 18 P **Pdif 12 02 23.0 -0.4**
baz=309,SNR=6.0
N25K Chitina, Valde 99.27 25 P **Pdif 12 02 21.9 -1.8**
N25K Chitina, Valde 99.27 25 P **Pdif 12 02 23.4 -0.2**
baz=300
EYAK Cordova Ski Ar 99.30 26 P **Pdif 12 02 23.9 +0.3**
baz=299
EPYK Eagle Plains 99.48 19 P **Pdif 12 02 24.2 -0.2**
EPYK IAmb IAmb 12 02 24.5
comp=Z,9.6nm,0.8s
EPYK Eagle Plains 99.48 19 P **Pdif 12 02 24.4 -0.1**
baz=308,SNR=7.3
M26K Nabesna, AK 99.51 24 P **Pdif 12 02 25.3 +0.6**
baz=302
I29M Ogilvie Camp, 99.58 20 P **Pdif 12 02 24.8 -0.1**
baz=306
BMRM Bremner River 99.59 25 P **Pdif 12 02 24.9 -0.1**
baz=300
L27K Beaver Creek, 99.62 23 P **Pdif 12 02 25.2 +0.1**
baz=303
BCAR Beaver Creek A 99.63 23 Pdif **Pdif 12 02 25.9 +0.8**
GLB Gilahina Butte 99.68 25 Pdif **Pdif 12 02 24.9 -0.5**
GLB IAmb IAmb 12 05 52.1
comp=Z,36nm,1.6s
F31M Tsiigehtchic 99.71 17 P **Pdif 12 02 25.2 -0.1**
baz=311,SNR=6.7
UPNV Upernavik 99.73 352 *e*P **Pdif 12 02 25.4 0.0**
UPNV IAmb IAmb 12 02 26.3
comp=Z,12nm,0.6s
RES Resolute Bay 99.81 3 LR LR 12 51 21.1
comp=Z,160nm,21.8s,baz=0.0,slow=38
RES Resolute Bay 99.81 3 Pdif **Pdif 12 02 26.1 +0.4**
RES IAmb IAmb 12 02 27.8
comp=Z,16nm,0.8s
RES Resolute Bay 99.81 3 *i* P **Pdif 12 02 26.1 +0.4**
RES pmax pmax
comp=Z,17nm,0.8s
DAWY Dawson 99.96 21 P **Pdif 12 02 26.8 +0.2**
baz=305
M27K Edge Creek, AK 99.98 23 P **Pdif 12 02 27.6 +0.7**
baz=303
J29M Klondike Camp 100.15 21 P **Pdif 12 02 27.9 +0.4**
baz=306
BVCY Beaver Creek 100.34 23 P **Pdif 12 02 28.7 +0.4**
baz=304
K29M Barlow Dome 100.76 21 P **Pdif 12 02 30.7 +0.4**
baz=307
C36M Paulatuk 100.83 13 Pdif **Pdif 12 02 29.6 -0.6**
C36M Paulatuk 100.83 13 P **Pdif 12 02 30.1 -0.1**
baz=321
L29M L29M 100.98 22 P **Pdif 12 02 31.6 +0.5**
baz=306
M29M Somme Creek 101.25 22 P **Pdif 12 02 33.1 +0.6**
baz=306
M30M Minto, Yukon 101.79 22 P **Pdif 12 02 35.6 +0.8**
baz=307
YKA Yellowknife Ar 108.68 14 PKiKP **PKiKP 12 07 10.1 -0.1**
comp=Z,0.8nm,0.6s,baz=330,slow=2.2,SNR=9.9
TBI Tubuai 115.92 113 *e*SS SS 12 24 30.6 +2.9
comp=Z,479nm,31.5s
TBI Tubuai 115.92 113 *e*LR LR 12 42 29.4
comp=Z,3μm,24.2s
TBI *e*LR LR 12 42 29.7
comp=Z,1μm,33.5s
PPT2 Papeete2 116.21 107 *e*LR LR 12 42 38.4
comp=Z,161nm,28.5s
PPT2 *e*LR LR 12 42 39.0
comp=Z,107nm,23.5s
SCHQ Schefferville 118.00 348 PKP **PKiKP 12 07 28.8 +0.4**
comp=Z,5.0nm,0.5s,baz=0.7,slow=1.3,SNR=24
SCHQ pPKP **pPKPdf 12 07 46.5 +1.7**
comp=Z,4.1nm,0.7s,baz=35,slow=6.3,SNR=2.7
FFC Flin Flon 118.49 11 **PKiKP 12 07 29.6 +0.3**
FFC Flin Flon 118.49 11 PKiKP **PKiKP 12 07 29.6 +0.3**
B08A Colville Reser 118.74 25 **PKiKP 12 07 30.3 +0.3**
NEW Newport 119.73 24 P **PKiKP 12 07 32.4 +0.4**
baz=323
D08A Wollman Farm, 119.92 26 **PKiKP 12 07 32.4 +0.1**
BUCK Buck Mountain 120.14 30 PKPdf **PKiKP 12 07 34.3 +1.3**
HAWA Hanford 120.17 27 PKPdf **PKiKP 12 07 33.5 +0.7**
MSO Missoula 122.15 23 P **PKiKP 12 07 36.9 0.0**
baz=326
EGMT Eagleton 122.63 19 P **PKiKP 12 07 38.4 +0.6**
baz=331
PLID Pearl Lake 122.73 25 **PKiKP 12 07 38.5 +0.3**
KCPM Cahto Peak 122.96 35 PKPdf **PKiKP 12 07 39.7 +1.0**
J08A Circle Bar Ran 122.97 28 PKPdf **PKiKP 12 07 39.7 +1.1**
HRY Holter Researc 123.04 21 **PKiKP 12 07 38.6 0.0**
MOD Modoc Plateau 123.16 31 PKPdf **PKiKP 12 07 40.1 +1.0**
ULM Lac du Bonnet 123.81 8 PKP **PKPdf 12 07 39.2 -0.4**
comp=Z,24nm,0.6s,baz=9.4,slow=2.4,SNR=30
DGMT Dagmar 123.85 15 P **PKiKP 12 07 40.7 +0.6**
baz=337
DGMT Dagmar 123.85 15 P **PKiKP 12 07 40.9 +0.8**
baz=337,SNR=5.7
BOZ Bozeman (W) 124.06 22 P **PKiKP 12 07 41.1 +0.3**
baz=328,SNR=18
HLID Hailey 124.63 25 P **PKiKP 12 07 42.8 +0.8**
baz=324,SNR=21
LAO LASA Array 124.92 17 P **PKiKP 12 07 43.4 +1.1**
baz=334
LAO LASA Array 124.92 17 P **PKiKP 12 07 43.5 +1.3**
baz=334,SNR=18
RLMT Red Lodge 125.32 21 P **PKiKP 12 07 44.0 +0.7**
baz=330,SNR=11
H17A Grant Village 125.47 22 P **PKiKP 12 07 45.6 +1.9**
baz=329,SNR=8.5
MDND Maddock 125.50 12 P **PKiKP 12 07 43.2 -0.2**
baz=343
MDND Maddock 125.50 12 P **PKiKP 12 07 43.3 0.0**
baz=343
AGMN Agassiz Nation 125.72 9 P **PKPdf 12 07 43.5 +0.2**
baz=347
AGMN Agassiz Nation 125.72 9 P **PKPdf 12 07 43.2 -0.2**
baz=347
D62A Allapoint, All 125.76 346 P **PKiKP 12 07 43.6 -0.2**
baz=20
D62A P **PKiKP 12 07 43.6 -0.2**
baz=20
B35A Bob, Littlefor 125.94 7 P **PKPdf 12 07 43.9 +0.1**
baz=350
FXWY Fox Creek 125.95 23 PKPdf **PKiKP 12 07 45.0 +0.3**
MOOW Moose Ponds 125.96 23 PKPdf **PKiKP 12 07 45.5 +0.9**
E63A Oxbow 126.22 346 P **PKiKP 12 07 44.8 0.0**
baz=21
E63A P **PKiKP 12 07 44.8 0.0**
baz=21
E62A Clayton Lake 126.30 346 P **PKPdf 12 07 44.7 +0.1**
baz=20
E62A P **PKPdf 12 07 44.7 +0.1**
baz=20
E28A Huff 126.47 13 P **PKiKP 12 07 45.3 -0.1**
baz=341
EYMN Ely 126.58 5 P **PKiKP 12 07 45.5 +0.1**
baz=352
EYMN Ely 126.58 5 P **PKiKP 12 07 45.6 +0.1**
baz=352
D32B Dogwood Acres, 126.66 10 P **PKPdf 12 07 44.8 -0.3**
baz=346
F64A Sherman 126.72 345 P **PKiKP 12 07 45.6 -0.2**
baz=21
F64A P **PKiKP 12 07 45.6 -0.2**
baz=21
NVAR Mina Array Bea 126.75 32 PKP **PKiKP 12 07 46.9 +0.5**
comp=Z,8.2nm,0.7s,baz=293,slow=2.5,SNR=56
F62A Pittston Farm, 127.09 347 P **PKiKP 12 07 46.8 +0.3**
baz=19
F62A P **PKiKP 12 07 46.8 +0.3**
baz=19
BW06 Boulder Array 127.25 22 P **PKPdf 12 07 46.6 -0.2**
baz=329
PDAR Pinedale Array 127.25 22 PKP **PKPdf 12 07 45.4 -1.4**
comp=Z,6.7nm,0.6s,baz=106,slow=1.4,SNR=64
D41A Chassel 127.67 3 P **PKiKP 12 07 47.7 +0.1**
baz=356
TRQ Mont Tremblant 127.68 351 **PKiKP 12 07 48.1 +0.3**
DSP Deep Springs 127.70 33 PKPdf **PKiKP 12 07 49.2 +1.2**
MZP Montezuma Peak 127.77 32 PKPdf **PKiKP 12 07 49.8 +1.2**
G62A West of Eustis 127.86 347 PKPdf **PKiKP 12 07 48.7 +0.5**
G62A West of Eustis 127.86 347 P **PKiKP 12 07 48.4 +0.3**
baz=19
G62A P **PKiKP 12 07 48.4 +0.3**
baz=19
RSSD Black Hills 127.89 17 PKPdf **PKiKP 12 07 48.9 +0.4**
RSSD Black Hills 127.89 17 P **PKiKP 12 07 48.3 -0.2**
baz=336
RSSD Black Hills 127.89 17 P **PKiKP 12 07 48.7 +0.2**
baz=336
RSSD Black Hills 127.89 17 PKIKP **PKiKP 12 07 48.9 +0.4**
E38A The Farm, Brul 127.91 5 P **PKiKP 12 07 48.2 +0.1**
baz=352
SMMC Simmler 128.03 36 P **PKiKP 12 07 49.3 +0.5**
baz=314
F33A 5 Mile Ranch, 128.04 10 PKPdf **PKiKP 12 07 48.5 +0.1**
F33A 5 Mile Ranch, 128.04 10 P **PKiKP 12 07 48.2 -0.3**
baz=346
DUG Dugway, Tooele 128.06 27 P **PKiKP 12 07 49.2 +0.3**
baz=324
VES Vestal, Richgr 128.19 35 P **PKiKP 12 07 49.5 +0.4**
baz=316
R11A Troy Canyon, C 128.21 30 P **PKiKP 12 07 50.1 +0.8**
baz=321
CWC Cottonwood Cre 128.32 34 P **PKiKP 12 07 49.7 +0.2**
baz=317
E43A Lone Tree Farm 128.41 1 P **PKiKP 12 07 48.9 -0.3**
baz=358
E46A Sault Ste Mari 128.43 359 P **PKiKP 12 07 49.1 -0.1**
baz=1.4
F36A Milaca 128.43 7 P **PKiKP 12 07 49.0 -0.2**
baz=350
PKM Mcpherson Peak 128.43 36 P **PKiKP 12 07 50.0 +0.1**
baz=314
K22A Casper 128.44 20 P **PKPdf 12 07 49.1 +0.1**
baz=333
K22A Casper 128.44 20 P **PKiKP 12 07 49.4 -0.2**
baz=333
COWI Conover 128.59 3 P **PKiKP 12 07 49.5 -0.1**
baz=355
H62A Milan 128.61 347 P **PKiKP 12 07 49.7 0.0**
baz=18
H62A P **PKiKP 12 07 49.7 0.0**
baz=18
ISA Isabella, Lake 128.66 35 P **PKiKP 12 07 50.5 +0.4**
baz=316
FRNY Flat Rock 128.86 349 P **PKiKP 12 07 50.1 0.0**
baz=15
SUSD Miller 128.88 12 P **PKiKP 12 07 50.3 +0.1**
baz=343
SUSD Miller 128.88 12 P **PKiKP 12 07 50.6 +0.3**
baz=343
MPMC Manual Prospec 128.93 34 P **PKiKP 12 07 51.8 +1.0**
baz=317,SNR=14
TPNV Topopah Spring 128.93 32 P **PKiKP 12 07 51.0 +0.2**
baz=319
FURC Furnace Creek, 128.97 33 P **PKiKP 12 07 51.3 +0.8**
baz=318,SNR=5.2
I63A Otisfield 128.97 346 P **PKiKP 12 07 51.0 +0.6**
baz=19
I63A P **PKiKP 12 07 51.0 +0.6**
baz=19
F42A Maple Grove Fa 128.99 2 P **PKiKP 12 07 50.5 +0.2**
baz=357
BMNY Brushton-Moira 129.02 350 P **PKiKP 12 07 50.4 0.0**
baz=14
LBNH Lisbon 129.09 348 P **PKiKP 12 07 51.3 +0.6**
baz=17
LBNH Lisbon 129.09 348 P **PKiKP 12 07 51.0 +0.4**
baz=17
SPMN Marine on St. 129.14 7 P **PKiKP 12 07 50.9 +0.2**
baz=351
SPMN Marine on St. 129.14 7 P **PKiKP 12 07 50.9 +0.2**
baz=351,SNR=5.2
LRMC Laurel Mtn Rad 129.24 34 P **PKiKP 12 07 52.1 +0.7**
baz=317,SNR=6.5
LONY Lake Ozonia 129.24 350 P **PKiKP 12 07 51.1 +0.2**
baz=14
G40A Rib Lake 129.35 4 P **PKiKP 12 07 50.8 -0.3**
baz=354
EDW2 Edwards Air Fo 129.50 35 P **PKiKP 12 07 52.5 +0.7**
baz=316
SHOC Shoshone, Teco 129.71 33 P **PKiKP 12 07 52.9 +0.8**
baz=319
G45A Suttons Bay 129.76 0 P **PKiKP 12 07 52.3 +0.3**
baz=360
G45A P **PKiKP 12 07 52.3 +0.3**
baz=360
NCB Newcomb 129.81 350 P **PKiKP 12 07 52.5 +0.4**
baz=15
GSC Goldstone, Bar 129.86 34 P **PKiKP 12 07 53.3 +0.8**
baz=318,SNR=7.0
UNH University of 129.94 346 P **PKiKP 12 07 52.9 +0.6**
baz=19
GLMI Grayling 129.97 359 P **PKPdf 12 07 51.7 +0.2**
baz=1.1
GLMI Grayling 129.97 359 P **PKiKP 12 07 52.6 +0.2**
baz=1.1
O20A White River Ci 130.02 23 P **PKiKP 12 07 53.2 +0.3**
baz=330
ECSD EROS Data Cent 130.03 11 P **PKPdf 12 07 52.0 +0.3**
baz=345
ECSD EROS Data Cent 130.03 11 P **PKiKP 12 07 52.3 -0.3**
baz=345,SNR=23
WCNY West Carthage 130.04 351 P **PKPdf 12 07 52.1 +0.3**
baz=13
J61A Chester 130.08 348 P **PKiKP 12 07 53.7 +1.0**
baz=17
J61A P **PKiKP 12 07 53.7 +1.0**
baz=17
N23A Red Feather La 130.20 20 P **PKiKP 12 07 53.5 +0.2**
baz=333
TUQ Turquoise Moun 130.24 33 P **PKiKP 12 07 53.9 +0.5**
baz=319
I37B Waseca 130.26 8 P **PKiKP 12 07 52.7 -0.3**
baz=350
ACCN Adirondack Com 130.27 349 P **PKiKP 12 07 53.1 +0.1**
baz=15
H43A Windswept, Lux 130.29 2 P **PKiKP 12 07 53.3 +0.3**
baz=357
J59A Piesco 130.35 350 P **PKiKP 12 07 53.2 0.0**
baz=14
J59A P **PKiKP 12 07 53.2 0.0**
baz=14
HEC Hector,Ludlow 130.47 34 P **PKiKP 12 07 54.6 +0.8**
baz=318
J58A Remsen 130.59 350 P **PKiKP 12 07 53.5 -0.2**
baz=13
J58A P **PKiKP 12 07 53.5 -0.2**
baz=13
J57A Williamstown 130.65 351 P **PKiKP 12 07 54.0 +0.3**
baz=12
J57A P **PKiKP 12 07 54.0 +0.3**
baz=12
K31A O'Neill 130.66 13 P **PKiKP 12 07 53.7 -0.1**
baz=342
HRV Adam Dziewonsk 130.66 347 P **PKiKP 12 07 54.1 +0.3**
baz=18
K62A Royalston 130.66 347 P **PKiKP 12 07 54.0 +0.2**
baz=17
K62A P **PKiKP 12 07 54.0 +0.2**
baz=17
I40A Norwalk 130.68 5 P **PKPdf 12 07 52.8 -0.1**
baz=353
I45A Fountain 130.76 1 P **PKiKP 12 07 53.6 -0.4**
baz=359
I45A P **PKiKP 12 07 53.6 -0.4**
baz=359
I42A Draeger Farm, 130.81 3 P **PKPdf 12 07 53.3 +0.1**
baz=355
I49A Point Hope 130.81 358 P **PKiKP 12 07 54.0 0.0**
baz=3.4
I49A P **PKiKP 12 07 54.0 0.0**
baz=3.4
GMRC Granite Mounta 130.87 33 P **PKiKP 12 07 55.6 +0.9**
baz=319,SNR=7.3
MURC Murrieta 130.88 36 P **PKiKP 12 07 54.6 0.0**
baz=316
J56A Wolcott 130.91 352 P **PKiKP 12 07 54.0 -0.2**
baz=11
J56A P **PKiKP 12 07 54.0 -0.2**
baz=11
L61B Northampton 130.97 348 P **PKiKP 12 07 54.5 0.0**
baz=17
L61B Northampton 130.97 348 P **PKiKP 12 07 54.7 +0.2**
baz=17
L64A Middleborough 131.03 346 P **PKiKP 12 07 55.1 +0.6**
baz=19
L64A P **PKiKP 12 07 55.1 +0.6**
baz=19
J55A Hilton 131.05 353 P **PKiKP 12 07 54.2 -0.3**
baz=10
J55A P **PKiKP 12 07 54.2 -0.3**
baz=10
HCNY Howe Caverns 131.07 349 P **PKiKP 12 07 54.5 -0.2**
baz=15
J54A Appleton 131.15 353 P **PKiKP 12 07 54.7 -0.1**

	baz=9.0							
J54A				P		PKiKP	12 07 54.7	-0.1
	baz=9.0							
BELC	Belle Mtn. Jos	131.27	34	P		PKiKP	12 07 55.3	-0.2
	baz=318							
ISCO	Idaho Springs	131.28	21	P		PKiKP	12 07 55.2	-0.4
	baz=333							
ISCO	Idaho Springs	131.28	21	P		PKPdf	12 07 55.0	+0.4
	baz=333,SNR=6.0							
PFO	Pinyon Flats O	131.29	35	PKPdf		PKiKP	12 07 55.5	0.0
PFO	Pinyon Flats O	131.29	35	P		PKiKP	12 07 55.7	+0.1
	baz=317							
PFO	Pinyon Flats O	131.29	35	PKIKP		PKiKP	12 07 55.5	0.0
TPFO	Pinon Flats	131.30	35	P		PKiKP	12 07 55.8	+0.3
	baz=317							
PMD	Palm Desert	131.31	35	PKPdf		PKiKP	12 07 55.6	+0.2
PV17	East Wray Mesa	131.31	25	PKPdf		PKiKP	12 07 55.3	-0.3
K57A	Scipio Center	131.40	351	P		PKiKP	12 07 55.2	-0.1
	baz=12							
J47A	Sumner	131.56	359	P		PKiKP	12 07 55.2	-0.4
	baz=0.8							
J47A				P		PKiKP	12 07 55.2	-0.4
	baz=0.8							
IRM	Iron Mountain	131.62	33	P		PKiKP	12 07 56.2	+0.1
	baz=319							
L59A	Walton	131.68	350	P		PKiKP	12 07 56.5	+0.5
	baz=14							
L59A				P		PKiKP	12 07 56.5	+0.5
	baz=14							
JFWS	Jewell Farm	131.69	5	P		PKPdf	12 07 54.5	-0.4
	baz=354							
JFWS	Jewell Farm	131.69	5	P		PKiKP	12 07 55.7	-0.2
	baz=354,SNR=7.0							
K38A	Parkersburg	131.69	7	P		PKPdf	12 07 55.2	+0.4
	baz=350							
L34A	Svendsen Farm,	131.78	11	P		PKPdf	12 07 55.1	0.0
	baz=345							
M63A	Gales Ferry	131.82	347	P		PKiKP	12 07 56.7	+0.6
	baz=18							
M63A				P		PKiKP	12 07 56.7	+0.6
	baz=18							
BC3	Big Chuckawall	131.83	34	P		PKiKP	12 07 56.7	+0.1
	baz=318							
BINY	Binghamton	131.83	351	P		PKiKP	12 07 56.0	-0.2
	baz=13							
BINY	Binghamton	131.83	351	P		PKiKP	12 07 56.3	+0.1
	baz=13							
MONP2	Monument Peak	131.83	36	P		PKiKP	12 07 56.3	-0.4
	baz=317							
NPNY	Mohonk Preserv	131.94	349	P		PKiKP	12 07 56.0	-0.4
	baz=15							
BGNE	Belgrade	131.95	13	P		PKPdf	12 07 55.6	+0.1
	baz=343							
BGNE	Belgrade	131.95	13	P		PKiKP	12 07 56.4	-0.1
	baz=343,SNR=5.0							
K50A	Casco	131.96	357	P		PKiKP	12 07 56.2	-0.2
	baz=3.8							
K50A				P		PKiKP	12 07 56.2	-0.2
	baz=3.8							
WVNY	West Valley, N	132.00	353	P		PKPdf	12 07 55.9	+0.4
	baz=9.1							
L56A	Greenwood	132.13	352	P		PKPdf	12 07 56.2	+0.4
	baz=11							
L56A				P		PKPdf	12 07 56.2	+0.4
	baz=11							
SWSC	Sam W. Stewart	132.15	35	P		PKiKP	12 07 57.1	0.0
	baz=317							
IKP	In-Ko-Pah, Jac	132.19	36	P		PKiKP	12 07 57.2	-0.1
	baz=317							
Q24A	Divide	132.19	21	P		PKPdf	12 07 56.8	+0.4
	baz=333							
BRNY	Black Rk. Fore	132.24	348	P		PKPdf	12 07 56.4	+0.4
	baz=15							
SCIA	State Center	132.35	8	P		PKPdf	12 07 56.5	+0.3
	baz=350							
SCIA	State Center	132.35	8	P		PKiKP	12 07 57.3	0.0
	baz=350,SNR=5.7							
MVCO	Mesa Verde	132.41	25	P		PKiKP	12 07 57.6	-0.2
	baz=328,SNR=7.3							
KSPA	Keystone Colle	132.42	350	P		PKiKP	12 07 57.3	-0.1
	baz=13							
ERPA	Erie	132.43	355	P		PKiKP	12 07 57.2	-0.2
	baz=7.3							
ERPA	Erie	132.43	355	P		PKiKP	12 07 57.2	-0.2
	baz=7.3							
L40A	Anamosa	132.44	6	P		PKPdf	12 07 56.2	-0.1
	baz=352							
WUAZ	Wupatki	132.51	29	P		PKiKP	12 07 57.8	-0.2
	baz=324							
L44A	Lake County Fo	132.57	3	P		PKiKP	12 07 57.5	-0.2
	baz=357							
L44A	Lake County Fo	132.57	3	P		PKiKP	12 07 57.8	+0.2
	baz=357							
PAL	Palisades	132.61	348	P		PKiKP	12 07 58.4	+0.6
	baz=16							
GLA	Glamis	132.62	34	P		PKiKP	12 07 58.2	+0.1
	baz=318							
S22A	4UR Ranch, Cre	132.63	23	P		PKiKP	12 07 58.4	0.0
	baz=330							
L42A	Oliver, Polo	132.64	4	P		PKPdf	12 07 56.8	+0.1
	baz=354							
ODNJ	Ogdensburg	132.67	349	P		PKPdf	12 07 57.1	+0.4
	baz=15							
N33B	J Bar K, Exete	132.75	12	P		PKPdf	12 07 56.9	-0.1
	baz=344							
L48A	N Adams	132.85	359	P		PKPdf	12 07 57.3	+0.2
	baz=1.4							
L48A				P		PKPdf	12 07 57.3	+0.2
	baz=1.4							
M57A	Sunshine Farm,	132.85	352	P		PKPdf	12 07 57.3	+0.1
	baz=11							
M57A				P		PKPdf	12 07 57.3	+0.1
	baz=11							
ALLY	Alegheny Colle	132.91	355	P		PKiKP	12 07 58.4	0.0
	baz=7.2							
M55A	Ridgway	132.94	353	P		PKPdf	12 07 57.8	+0.5
	baz=9.1							
M55A				P		PKPdf	12 07 57.8	+0.5
	baz=9.1							
N35A	Tabor	132.99	11	P		PKPdf	12 07 57.8	+0.4
	baz=346							
KSCO	Kaye Shedlock'	132.99	18	P		PKPdf	12 07 57.6	0.0
	baz=336							
KSCO	Kaye Shedlock'	132.99	18	P		PKPdf	12 07 58.2	+0.5
	baz=336							
M52A	Chesterland	133.12	356	P		PKiKP	12 07 58.2	-0.6
	baz=5.5							
M52A				P		PKiKP	12 07 58.2	-0.6
	baz=5.5							
SDCO	Great Sand Dun	133.14	22	P		PKPdf	12 07 58.3	+0.1
	baz=332							
SDCO	Great Sand Dun	133.14	22	P		PKiKP	12 07 59.0	-0.4
	baz=332							
M53A	WI Miller and	133.16	355	P		PKPdf	12 07 58.1	+0.4
	baz=6.5							
PSDB	Penn State Uni	133.28	353	P		PKPdf	12 07 57.8	-0.2
	baz=9.1							
N58A	Sunbury	133.28	351	P		PKPdf	12 07 58.3	+0.4
	baz=12							
N58A				P		PKPdf	12 07 58.3	+0.4
	baz=12							
M50A	Fremont	133.35	358	P		PKPdf	12 07 57.9	-0.2
	baz=3.3							
M50A				P		PKPdf	12 07 57.9	-0.2
	baz=3.3							
M44A	Midewin, Midew	133.35	3	P		PKiKP	12 07 58.7	-0.5
	baz=356							
N38A	Joes South For	133.45	8	P		PKPdf	12 07 58.2	-0.1
	baz=349							
PAMR	Moraine State	133.61	354	P		PKPdf	12 07 58.9	+0.3
	baz=7.3							
W18A	Petrified Fore	133.61	28	P		PKiKP	12 07 59.7	-0.6
	baz=326							
SSPA	Standing Stone	133.65	352	P		PKPdf	12 07 58.8	+0.2
	baz=10							
SSPA	Standing Stone	133.65	352	P		PKiKP	12 07 59.6	-0.3
	baz=10							
N51A	Ashland	133.80	357	P		PKPdf	12 07 58.7	-0.2
	baz=4.2							
N51A				P		PKPdf	12 07 58.7	-0.2
	baz=4.2							
N53A	Lisbon	133.80	355	P		PKPdf	12 07 59.5	+0.6
	baz=6.3							
N53A				P		PKPdf	12 07 59.5	+0.6
	baz=6.3							
N49A	Columbus Grove	133.87	359	P		PKPdf	12 07 59.1	+0.1
	baz=1.7							
N49A				P		PKPdf	12 07 59.1	+0.1
	baz=1.7							
PSUB	Penn St. - Bra	133.95	349	P		PKPdf	12 07 58.9	-0.4
	baz=14							
CBKS	Cedar Bluff	134.02	16	P		PKPdf	12 07 59.8	+0.3
	baz=340							
CBKS	Cedar Bluff	134.02	16	P		PKiKP	12 08 00.2	-0.6
	baz=340							
UPAO	U. Pittsburgh	134.05	354	P		PKPdf	12 07 59.6	+0.2
	baz=7.5							
T25A	Trinidad	134.08	21	PKPdf		PKiKP	12 08 01.0	-0.2
T25A	Trinidad	134.08	21	P		PKiKP	12 08 00.8	-0.4
	baz=333,SNR=11							
GEDE	Greenville	134.10	350	P		PKPdf	12 07 59.3	-0.2
	baz=14							
HDIL	Hopedale	134.10	4	P		PKPdf	12 07 59.6	+0.1
	baz=355							
HDIL	Hopedale	134.10	4	P		PKiKP	12 08 00.8	0.0
	baz=355							
O54A	Avella	134.38	355	P		PKPdf	12 08 00.7	+0.6
	baz=7.0							
O54A				P		PKPdf	12 08 00.7	+0.6
	baz=7.0							
O53A	New Philadelph	134.39	356	P		PKiKP	12 08 01.0	-0.4
	baz=5.9							
SFIN	Lafayette	134.39	2	P		PKPdf	12 08 00.2	+0.2
	baz=358							
SFIN	Lafayette	134.39	2	P		PKiKP	12 08 00.9	-0.5
	baz=358							
KSU1	Kansas State U	134.50	12	P		PKPdf	12 08 00.3	0.0
	baz=344							
KSU1	Kansas State U	134.50	12	P		PKiKP	12 08 01.4	-0.3
	baz=344,SNR=6.7							
ACSO	Alum Creek Sta	134.51	357	P		PKPdf	12 08 00.4	+0.2
	baz=3.4							
ACSO	Alum Creek Sta	134.51	357	P		PKiKP	12 08 01.2	-0.5
	baz=3.4							
O48B	Farmland	134.54	360	P		PKPdf	12 08 00.2	-0.1
	baz=0.4							
O48B	Farmland	134.54	360	P		PKiKP	12 08 01.3	-0.5
	baz=0.4							
P38A	Dawn	134.55	9	P		PKPdf	12 08 00.3	-0.1
	baz=349							
O44A	Mansfield	134.56	3	P		PKPdf	12 08 00.8	+0.4
	baz=356							
214A	Organ Pipe Nat	134.56	33	P		PKiKP	12 08 01.7	-0.4
	baz=320							
O52A	Adamsville	134.57	356	P		PKPdf	12 08 00.5	+0.1
	baz=5.0							
O52A				P		PKPdf	12 08 00.5	+0.1
	baz=5.0							
O49A	Covington	134.60	359	P		PKPdf	12 08 00.2	-0.2
	baz=1.5							
O49A				P		PKPdf	12 08 00.2	-0.2
	baz=1.5							
R32A	Long Quarter,	134.65	15	P		PKPdf	12 08 00.8	+0.1
	baz=341							
P57A	Homestead Farm	134.80	352	P		PKPdf	12 08 01.4	+0.5
	baz=10							
P57A				P		PKPdf	12 08 01.4	+0.5
	baz=10							
P40A	Paris	134.85	7	P		PKPdf	12 08 00.7	-0.2
	baz=351							
P52A	Corning	135.06	356	P		PKPdf	12 08 01.9	+0.6
	baz=4.6							
P46A	Rosedale	135.15	2	P		PKPdf	12 08 01.2	-0.3
	baz=358							
P53A	Whipple	135.16	356	P		PKPdf	12 08 01.5	0.0
	baz=5.7							
P53A				P		PKPdf	12 08 01.5	0.0
	baz=5.7							
ANMO	Albuquerque	135.20	25	PKPdf		PKiKP	12 08 03.1	-0.4
ANMO	Albuquerque	135.20	25	P		PKPdf	12 08 01.7	-0.3
	baz=330							
ANMO	Albuquerque	135.20	25	P		PKPdf	12 08 02.7	+0.7
	baz=330							
ANMO	Albuquerque	135.20	25	*i*PKIKP		PKiKP	12 08 03.6	+0.1
ANMO				pmax		pmax		
	comp=Z,11nm,1.0s							
P49A	Miami Univ. Ec	135.26	359	PKPdf		PKiKP	12 08 02.8	-0.4
P49A	Miami Univ. Ec	135.26	359	P		PKPdf	12 08 01.3	-0.4
	baz=1.0							
P49A	Miami Univ. Ec	135.26	359	P		PKPdf	12 08 02.3	+0.6
	baz=1.0							
P51A	Williamsport	135.26	357	PKPdf		PKPdf	12 08 01.7	0.0
P51A	Williamsport	135.26	357	P		PKPdf	12 08 01.0	-0.7
	baz=3.4							
P51A				P		PKPdf	12 08 01.0	-0.7
	baz=3.4							
P48A	Milroy	135.34	0	P		PKPdf	12 08 01.4	-0.4
	baz=0.0							
P48A				P		PKPdf	12 08 01.4	-0.4
	baz=0.0							
TUC	Tucson	135.37	31	PKPdf		PKPdf	12 08 01.7	-0.5
TUC	Tucson	135.37	31	P		PKiKP	12 08 03.1	-0.7
	baz=323							
TUC	Tucson	135.37	31	PKIKP		PKPdf	12 08 01.7	-0.5
Q56A	Snyder Ridge,	135.39	353	PKPdf		PKiKP	12 08 02.8	-0.7
Q56A	Snyder Ridge,	135.39	353	P		PKPdf	12 08 02.0	0.0
	baz=8.8							
Q56A				P		PKPdf	12 08 02.0	0.0
	baz=8.8							
Q54A	Coxs Mills	135.61	355	PKPdf		PKPdf	12 08 03.1	+0.7
Q54A	Coxs Mills	135.61	355	P		PKPdf	12 08 02.4	0.0
	baz=6.5							
Q54A				P		PKPdf	12 08 02.4	0.0
	baz=6.5							
Q51A	Peebles	135.73	358	P		PKPdf	12 08 02.1	-0.5
	baz=3.0							
Q51A				P		PKPdf	12 08 02.1	-0.5
	baz=3.0							
Q52A	Bidwell	135.74	357	P		PKPdf	12 08 02.0	-0.6
	baz=4.5							
Q52A				P		PKPdf	12 08 02.0	-0.6
	baz=4.5							
BNM	Barren Site	135.81	26	PKPdf		PKiKP	12 08 04.3	-0.6
Y22A	Socorro	135.85	26	P		PKPdf	12 08 03.0	-0.2
	baz=328							
OLIL	Olney	135.99	3	P		PKPdf	12 08 03.4	+0.3
	baz=356							
R40A	Maddies Statio	136.04	8	P		PKPdf	12 08 03.4	+0.2
	baz=350							
R55A	Marlinton	136.24	354	P		PKPdf	12 08 03.8	+0.2
	baz=7.6							
R55A				P		PKPdf	12 08 03.8	+0.2
	baz=7.6							
R58B	Mineral	136.27	351	P		PKPdf	12 08 03.8	+0.2
	baz=11							
R58B				P		PKPdf	12 08 03.8	+0.2
	baz=11							
R53A	Hurricane	136.35	356	P		PKPdf	12 08 03.5	-0.3
	baz=5.0							
R53A				P		PKPdf	12 08 03.5	-0.3
	baz=5.0							
CCM	Cathedral Cave	136.40	7	PKPdf		PKPdf	12 08 03.7	-0.2
CCM	Cathedral Cave	136.40	7	P		PKPdf	12 08 03.4	-0.5
	baz=352							
CCM	Cathedral Cave	136.40	7	P		PKiKP	12 08 04.8	-0.7
	baz=352							
CCM	Cathedral Cave	136.40	7	PKIKP		PKPdf	12 08 03.7	-0.2
U32A	Winter Ranch,	136.50	16	P		PKPdf	12 08 03.4	-0.7
	baz=340							
R50A	Paris	136.50	359	PKPdf		PKPdf	12 08 03.6	-0.5
R50A	Paris	136.50	359	P		PKPdf	12 08 03.6	-0.5
	baz=1.6							
R50A				P		PKPdf	12 08 03.6	-0.5
	baz=1.6							
R49A	Shelbyville	136.50	360	PKPdf		PKPdf	12 08 04.0	-0.1
R49A	Shelbyville	136.50	360	P		PKPdf	12 08 04.0	-0.1
	baz=0.4							
R49A				P		PKPdf	12 08 04.0	-0.1
	baz=0.4							
WCI	Wyandotte Cave	136.56	1	PKPdf		PKPdf	12 08 04.3	+0.1
WCI	Wyandotte Cave	136.56	1	P		PKPdf	12 08 04.2	+0.1
	baz=359							
WCI	Wyandotte Cave	136.56	1	P		PKiKP	12 08 05.0	-0.9
	baz=359							
WCI	Wyandotte Cave	136.56	1	PKIKP		PKPdf	12 08 04.3	+0.1
BLOK	Blackwell	136.60	14	PKPdf		PKPdf	12 08 03.7	-0.6
T35A	Sooner Cattle	136.61	13	PKPdf		PKPdf	12 08 04.0	-0.3
T35B	Sooner Cattle	136.61	13	P		PKPdf	12 08 04.4	0.0
	baz=344							
S57A	Dark Hollow, R	136.62	353	PKPdf		PKPdf	12 08 04.3	0.0
S57A	Dark Hollow, R	136.62	353	P		PKPdf	12 08 04.8	+0.5
	baz=9.4							
S57A				P		PKPdf	12 08 04.8	+0.5
	baz=9.4							
121A	Cookes Peak, D	136.66	28	P		PKPdf	12 08 04.5	-0.2
	baz=327							
121A	Cookes Peak, D	136.66	28	P		PKiKP	12 08 05.8	-0.7
	baz=327							
S54A	Dingess, Beckl	136.83	355	P		PKPdf	12 08 04.7	-0.1
	baz=6.0							
S54A				P		PKPdf	12 08 04.7	-0.1
	baz=6.0							
S44A	Carbondale	136.95	4	P		PKPdf	12 08 05.2	+0.3
	baz=354							
AMTX	Amarillo	137.06	20	P		PKiKP	12 08 06.3	-0.9
	baz=336							
S51A	Beattyville	137.12	358	P		PKPdf	12 08 05.2	0.0
	baz=2.7							
S51A				P		PKPdf	12 08 05.2	0.0
	baz=2.7							
T59A	Double "B" Far	137.19	351	PKPdf		PKiKP	12 08 08.3	+1.1
T59A	Double "B" Far	137.19	351	P		PKPdf	12 08 05.5	+0.2
	baz=12							
T59A				P		PKPdf	12 08 05.5	+0.2
	baz=12							
CGM3	Cape Girardeau	137.31	5	PKPdf		PKiKP	12 08 06.7	-0.8
BLA	Blacksburg	137.33	354	P		PKPdf	12 08 05.1	-0.6
	baz=7.3							
BLA	Blacksburg	137.33	354	P		PKPdf	12 08 06.5	+0.9
	baz=7.3							
T57A	Hurt	137.41	353	P		PKPdf	12 08 05.5	-0.3
	baz=9.1							
T57A				P		PKPdf	12 08 05.5	-0.3
	baz=9.1							
MSTX	Muleshoe	137.51	22	P		PKPdf	12 08 06.1	-0.1
	baz=334							
MSTX	Muleshoe	137.51	22	P		PKPdf	12 08 06.8	+0.6
	baz=334							
U38A	Gravette	137.51	11	P		PKPdf	12 08 05.9	-0.1
	baz=347							
TUL1	Leonard	137.74	13	P		PKPdf	12 08 06.0	-0.4
	baz=345							
TUL1	Leonard	137.74	13	P		PKPdf	12 08 07.3	+0.9
	baz=345							
HHAR	Hobbs	137.74	10	P		PKPdf	12 08 06.0	-0.4
	baz=347							
T50A	Nancy	137.77	359	P		PKPdf	12 08 06.3	-0.2
	baz=0.9							
T50A				P		PKPdf	12 08 06.3	-0.2
	baz=0.9							
T47A	Sharon Grove	137.78	2	P		PKPdf	12 08 06.4	0.0
	baz=358							
U59A	Littleton	137.84	351	P		PKPdf	12 08 06.4	-0.2
	baz=11							
U59A				P		PKPdf	12 08 06.4	-0.2
	baz=11							
WMOK	Wichita Mounta	138.10	17	P		PKPdf	12 08 07.9	+0.7
	baz=340							
TZTN	Tazewell	138.22	358	P		PKPdf	12 08 06.9	-0.4
	baz=2.8							
TZTN	Tazewell	138.22	358	P		PKiKP	12 08 08.5	-0.9
	baz=2.8							
U49A	Red Boiling Sp	138.28	0	P		PKPdf	12 08 07.2	-0.2
	baz=360							
LCAR	Lake Charles	138.37	7	P		PKPdf	12 08 06.9	-0.6
	baz=351							
MNTX	Cornudas Mount	138.45	26	P		PKPdf	12 08 07.9	+0.1
	baz=329							
MNTX	Cornudas Mount	138.45	26	P		PKPdf	12 08 08.9	+1.0
	baz=329							
V58A	Windy Hill, Pi	138.58	352	P		PKPdf	12 08 07.7	-0.2
	baz=9.5							
V58A				P		PKPdf	12 08 07.7	-0.2
	baz=9.5							
WVT	Waverly	138.60	3	P		PKPdf	12 08 07.8	-0.1
	baz=356							
WVT	Waverly	138.60	3	P		PKiKP	12 08 09.3	-0.8
	baz=356							
V55A	Taylorsville	138.75	355	P		PKPdf	12 08 07.9	-0.4
	baz=6.4							
V55A				P		PKPdf	12 08 07.9	-0.4
	baz=6.4							
V52A	Sevierville	138.92	358	P		PKPdf	12 08 08.0	-0.6
	baz=2.8							
V51A	Loudon	138.98	359	P		PKPdf	12 08 08.3	-0.4
	baz=1.6							
V48A	Smith Brothers	139.03	2	P		PKPdf	12 08 08.4	-0.4
	baz=358							
V53A	Saluda	139.05	357	P		PKPdf	12 08 08.2	-0.7
	baz=4.0							
V53A				P		PKPdf	12 08 08.2	-0.7
	baz=4.0							
X37A	Clayton	139.10	13	P		PKPdf	12 08 09.0	0.0
	baz=345							
TKL	Tuckaleechee C	139.11	358	P		PKPdf	12 08 08.6	-0.3
	baz=2.5							
W57A	Gilead	139.32	353	P		PKPdf	12 08 08.5	-0.8
	baz=8.3							
W57A				P		PKPdf	12 08 08.5	-0.8
	baz=8.3							
MIAR	Mount Ida	139.50	10	P		PKPdf	12 08 09.4	-0.2
	baz=348							
MIAR	Mount Ida	139.50	10	P		PKPdf	12 08 10.6	+0.9
	baz=348							
W50A	Signal Mountai	139.59	360	P		PKPdf	12 08 10.0	+0.1
	baz=0.2							
W52A	Murphy	139.67	358	P		PKPdf	12 08 10.2	+0.2
	baz=2.3							
ABTX	Abilene, Hawle	139.81	19	P		PKPdf	12 08 10.2	-0.1
	baz=338							
ABTX	Abilene, Hawle	139.81	19	P		PKPdf	12 08 11.4	+1.1
	baz=338							
PAULI	Pauline	139.83	355	P		PKPdf	12 08 10.2	-0.1
	baz=5.6							
OXF	Oxford	140.10	5	P		PKiKP	12 08 12.4	-0.8
	baz=354							
X48A	Hartselle	140.31	2	P		PKPdf	12 08 10.3	-0.8
	baz=358							
JSC	Jenkinsville	140.31	355	P		PKPdf	12 08 10.9	-0.3
	baz=6.5							
HODGE	Hodges	140.45	356	P		PKPdf	12 08 11.4	0.0
	baz=5.0							
Y57A	Sumter	140.49	353	P		PKPdf	12 08 11.4	-0.1
	baz=7.9							
Y57A				P		PKPdf	12 08 11.4	-0.1
	baz=7.9							
Y58A	Scranton	140.51	353	P		PKPdf	12 08 11.9	+0.5
	baz=9.0							
Y58A				P		PKPdf	12 08 11.9	+0.5
	baz=9.0							
WHTX	Lake Whitney,	141.05	16	P		PKiKP	12 08 14.2	-1.0
	baz=341							
TXAR	Lajitas Array	141.23	26	PKhKP		PKPpre	12 08 07.4	
	comp=Z,1.2nm,0.6s,baz=237,slow=0.9,SNR=14							
TXAR				PKP		PKPdf	12 08 13.6	+0.5
	comp=Z,5.0nm,0.6s,baz=174,slow=0.7,SNR=26							
TXAR				PP		PP	12 11 18.1	+4.0
	comp=Z,1.7nm,0.9s,baz=347,slow=5.1,SNR=4.1							
TXAR				SKPbc		SKPbc	12 11 44.1	-1.2
	comp=Z,3.4nm,1.0s,baz=234,slow=1.4,SNR=4.4							
237A	Washetta, Mont	141.48	14	P		PKPdf	12 08 13.0	-0.3
	baz=343							
Z47A	Carrollton	141.50	4	P		PKPdf	12 08 13.0	-0.3
	baz=356							
LRAL	Lakeview Retre	141.72	2	P		PKPdf	12 08 13.2	-0.5
	baz=358							
LRAL	Lakeview Retre	141.72	2	P		PKiKP	12 08 15.8	-0.8
	baz=358							
JCT	Junction City	141.72	20	P		PKiKP	12 08 15.9	-0.8
	baz=337							
BDFB	Brasilia	141.94	252	PKhKP		PKPpre	12 08 10.9	
	comp=Z,1.6nm,0.4s,baz=72,slow=11,SNR=1.9							
BDFB				PKP		PKiKP	12 08 16.6	-1.0
	comp=Z,4.7nm,0.6s,baz=146,slow=2.9,SNR=5.5							
BDFB				SKPbc		SKPbc	12 11 48.2	+0.8
	com

	baz=351							
TIGA	**Tifton**	**143.30 357**		P		PKPbc	12 08 14.8	+1.2
	baz=3.1							
TIGA	**Tifton**	**143.30 357**		P		**PKiKP**	**12 08 18.4**	**-1.5**
	baz=3.1							
BRAL	**Brewton**	**143.58**	**2**	P		PKPbc	12 08 15.1	+0.7
	baz=357							
BRAL	**Brewton**	**143.58**	**2**	P		**PKiKP**	**12 08 19.2**	**-1.3**
	baz=357							
833A	**Chaparral WMA,**	**143.83**	**21**	P		PKPbc	12 08 15.4	+0.1
	baz=336							
735A	**Kenedy**	**143.88**	**19**	P		PKPbc	12 08 16.1	+0.7
	baz=339							
CPUP	**Villa Florida**	**146.09 229**		PKPbc		**PKPab**	**12 08 23.4**	**+0.3**
	comp=Z,8.1nm,0.6s,baz=107,slow=1.9,SNR=21							
DWPF	**Disney Wildern**	**146.44 354**		P		**PKPab**	**12 08 24.2**	**-0.1**
	baz=7.2							
NPGB	**Novo Progresso**	**150.11 265**		*e*P		**PKPdf**	**12 08 29.9**	**+1.4**
CLDB	**Colider**	**150.23 258**		*e*P		**PKPdf**	**12 08 29.9**	**+1.3**
MLPR	**Magueyes Islan**	**150.54 322**				**PKPbc**	**12 08 34.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**150.55 323**		PKPbc		**PKPbc**	**12 08 34.6**	**+0.2**
GRGR	**Grenville**	**150.65 307**		PKPbc		**PKPbc**	**12 08 34.8**	**0.0**
PTLB	**Pontes e Lacer**	**152.36 247**		PKPbc		**PKiKP**	**12 08 39.2**	**+0.3**
AC05	**El Transito**	**152.66 210**		PKPbc		**PKPbc**	**12 08 39.2**	**0.0**
LCO	**Las Campanas**	**152.73 209**		PKPbc		**PKPbc**	**12 08 38.4**	**-1.1**
LCO	**Las Campanas**	**152.73 209**		PKIKP		**PKPbc**	**12 08 38.4**	**-1.1**
GTBY	**Guantanamo Bay**	**152.85 338**		PKPdf		**PKPdf**	**12 08 30.1**	**-2.4**
TEIG	**Tepich**	**154.35**	**6**	PKPab		**PKPab**	**12 08 57.3**	**+0.4**
SDV	**Santo Domingo**	**159.54 314**		PKPdf		**PKPdf**	**12 08 40.8**	**-0.8**
SDV				PKPab		**PKPab**	**12 09 20.1**	**+0.3**
SDV	**Santo Domingo**	**159.54 314**		*e*P		**PKPdf**	**12 08 42.4**	**+0.8**
PB16	**IPOC Station P**	**159.87 229**		PKPdf		**PKPdf**	**12 08 40.7**	**-1.6**
MTO3	**Montecristo**	**159.91**	**11**	PKPdf		**PKPdf**	**12 08 38.1**	**-3.9**
MTO3				PKPab		**PKPab**	**12 09 20.4**	**-0.8**
LPAZ	**La Paz**	**159.93 236**		PKP		**PKPdf**	**12 08 43.9**	**+1.4**
	comp=Z,4.1nm,0.6s,baz=114,slow=1.9,SNR=13							
LPAZ				PKPab		**PKPab**	**12 09 23.9**	**+1.9**
	comp=Z,8.8nm,1.1s,baz=90,slow=6.0,SNR=4.4							
LPAZ	**La Paz**	**159.93 236**		PKPdf		**PKPdf**	**12 08 42.9**	**+0.4**
PB12	**IPOC Station P**	**160.31 227**		PKPdf		**PKPdf**	**12 08 39.0**	**-3.2**
RUSC	**La Rusia**	**163.35 312**		*e*P		**PKPdf**	**12 08 45.0**	**-1.0**
PTBC	**PUERTO BERRIO**	**163.87 317**		*e*P		**PKPdf**	**12 08 45.0**	**-0.8**
ROSC	**El Rosal**	**164.96 313**		PKP		**PKPdf**	**12 08 48.5**	**+1.1**
	comp=Z,9.1nm,0.4s,baz=134,slow=7.0,SNR=5.8							
GUY2C	**Guyana, Caldas**	**165.44 316**		*e*P		**PKPdf**	**12 08 49.2**	**+1.4**
YOTC	**Yotoco, Valle**	**167.00 316**		*e*P		**PKPdf**	**12 08 48.1**	**-0.5**
MAPC	**Malpelo**	**169.90 338**		*e*P		**PKPdf**	**12 08 57.5**	**+7.1**
OTAV	**Otavalo**	**171.08 309**		*e*P		**PKPdf**	**12 08 51.5**	**-0.2**

*IDC **17** 12:17:07.7±0.8,8°.36S×159°.03E,h90$^{km}_{\pm 8}$,mb3.4/5, mbtmp3.7/5,Error ellipse: s-maj=23.6km s-min=9.5km az=45.0*

ISC 17 12:17:08.1±0.8,8°.4S±0°.1×159°.1E±0°.1,h100km,n9, σ1^{s}01/11,mb3.4/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.31**	**139**	P	**Pn**	**12 17 31.8**	**-0.3**
	4µm,0.2s,baz=229,slow=6.0,SNR=143						
HNR				S	**Sn**	**12 17 50.6**	**+0.4**
	9µm,0.4s,baz=123,slow=21,SNR=18						
WRA	**Warramunga Arr**	**26.53**	**242**	P	**P**	**12 22 37.2**	**+0.6**
	0.5nm,0.4s,baz=68,slow=8.9,SNR=7.4						
WRA				pP	**pP**	**12 22 57.5**	**-0.9**
	0.8nm,0.8s,baz=68,slow=9.3,SNR=3.3						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**28.46**	**235**	P	**P**	**12 22 54.3**	**+0.3**
	0.7nm,0.4s,baz=62,slow=10.0,SNR=22						
ASAR				PcP	**PcP**	**12 26 04.0**	**+0.2**
	0.1nm,0.4s,baz=78,slow=2.1,SNR=1.0						
	0.7nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**29.01**	**15**	T	T	12 52 52.9	
	baz=196,slow=76,SNR=116						
H11N3	**WAKE ISLAND Hy**	**29.02**	**15**	T	T	12 52 53.2	
	baz=196,slow=76,SNR=80						
H11N2	**WAKE ISLAND Hy**	**29.03**	**15**	T	T	12 53 05.3	
	baz=196,slow=76,SNR=94						
SONM	**Songino Array**	**72.76**	**326**	P	**P**	**12 28 27.3**	**+1.6**
	0.3nm,0.5s,baz=134,slow=4.7,SNR=2.7						
SONM				pP	**pP**	**12 28 48.9**	**-1.8**
	0.5nm,0.8s,baz=138,slow=6.7,SNR=2.8						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**83.26**	**20**	P	**P**	**12 29 23.1**	**-0.1**
	0.5nm,1.0s,baz=248,slow=4.2,SNR=2.0						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**87.16**	**318**	P	**P**	**12 29 43.5**	**+0.3**
	0.3nm,0.6s,baz=97,slow=6.7,SNR=5.2						
MKAR				pP	**pP**	**12 30 07.8**	**-1.0**
	0.3nm,0.7s,baz=93,slow=6.3,SNR=2.4						
	0.3nm,0.6s						

*IDC **17** 12:18:17.9±0.8,56°.57S×25°.24W,h0km,mb4.5/7, mbtmp4.4/8,ML4.0/1,MS3.9/5,Error ellipse: s-maj=35.2km s-min=18.5km az=62.0*

*NEIC **17** 12:18:20.7±1.5,57°.1S±0°.1×26°.2W±0°.2,h10$^{km}_{\pm 1}$,mb4.8/40,Error ellipse: s-maj=21.2km s-min=16.3km az=48.0*

ISC 17 12:18:19.8±0.6,56°.96S±0°.09×26°.1W±0°.1,h10km,n62, σ1^{s}38/54,mb4.7/23,MS4.0/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.46**	**290**	Pn	**Pn**	**12 19 54.0**	**-0.8**
VNA1	**Neumayer--Stat**	**15.72**	**158**	P	**P**	**12 22 04.4**	**-0.6**
VNA3	**Neumayer Olymp**	**15.93**	**161**	P	**P**	**12 22 05.5**	**-1.8**
VNA2	**Neumayer--Watz**	**16.12**	**158**	P	**P**	**12 22 07.8**	**-1.7**
	baz=328,slow=15						
ESPZ	**Base Esperanza**	**16.53**	**234**	Pn	**Pn**	**12 22 09.7**	**-1.7**
ESPZ				IAmb	IAmb	12 22 27.3	
	comp=Z,73nm,1.1s						
SNAA	**Sanae**	**17.66**	**156**	P	**P**	**12 22 28.2**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=297,slow=14,SNR=18						
	comp=Z,3.2nm,0.7s						
PMSA	**Palmer Station**	**19.77**	**231**	LR	LR	12 29 52.6	
	comp=Z,218nm,19.5s,baz=114,slow=34						
PMSA	**Palmer Station**	**19.77**	**231**	P	**P**	**12 22 49.0**	**-0.7**
PMSA				IAmb	IAmb	12 23 08.5	
	comp=Z,51nm,0.7s						
BELA	**Belgrano 2**	**21.21**	**185**	P	**P**	**12 23 03.1**	**-2.1**
GO09	**Cerro Castillo**	**27.26**	**262**	P	**P**	**12 24 02.1**	**-1.8**
GO09				IAmb	IAmb	12 24 30.4	
	comp=Z,34nm,1.4s						
PLTB	**Pedras Altas**	**31.55**	**311**	P	**P**	**12 24 43.4**	**+1.2**
PLTB				IAmb	IAmb	12 25 05.3	
	comp=Z,10nm,1.0s						
PLCA	**Paso Flores**	**32.76**	**280**	P	**P**	**12 24 52.4**	**-0.3**
GO07	**Milladeo Hill,**	**32.81**	**274**	P	**P**	**12 24 51.8**	**-1.3**
LL07	**Hotel Espejo d**	**32.90**	**275**	P	**P**	**12 24 53.8**	**0.0**
QSPA	**South Pole Qui**	**33.29**	**180**	P	**P**	**12 24 59.9**	**+2.7**
	comp=Z,3.9nm,0.5s,baz=222,slow=2.9,SNR=15						
	comp=Z,3.9nm,0.5s						
CPUP	**Villa Florida**	**37.86**	**311**	P	**P**	**12 25 36.8**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=147,slow=6.1,SNR=7.4						
	comp=Z,3.1nm,0.6s						
CPUP	**Villa Florida**	**37.86**	**311**	P	**P**	**12 25 37.5**	**+0.9**
MT09	**Talagante**	**38.16**	**288**	P	**P**	**12 25 39.8**	**+0.5**
MT09				IAmb	IAmb	12 25 54.1	
	comp=Z,28nm,1.5s						
MT02	**Curacav**	**38.65**	**288**	P	**P**	**12 25 44.7**	**+1.5**
MT02				IAmb	IAmb	12 25 46.1	
	comp=Z,34nm,1.4s						
CO02	**Combarbal**	**40.20**	**290**	P	**P**	**12 25 56.9**	**+0.5**
CO02				IAmb	IAmb	12 26 15.1	
	comp=Z,12nm,0.9s						
GO04	**Tololo Observa**	**40.92**	**292**	P	**P**	**12 26 04.2**	**+1.7**
GO04				IAmb	IAmb	12 26 32.4	
	comp=Z,18nm,1.2s						
AC05	**El Transito**	**41.74**	**293**	P	**P**	**12 26 09.0**	**-0.1**
AC05				IAmb	IAmb	12 26 11.1	
	comp=Z,23nm,1.5s						
LCO	**Las Campanas**	**41.81**	**293**	P	**P**	**12 26 08.8**	**-1.0**
AC04	**Llanos de Chal**	**42.66**	**293**	P	**P**	**12 26 17.2**	**+0.9**
AC04				IAmb	IAmb	12 26 18.8	
	comp=Z,22nm,1.4s						
AC02	**Maricunga**	**42.82**	**296**	P	**P**	**12 26 19.6**	**+1.3**
AC01	**Pan de Azucar**	**44.12**	**295**	P	**P**	**12 26 29.1**	**+0.9**
AC01				IAmb	IAmb	12 26 32.5	
	comp=Z,18nm,1.2s						
BDFB	**Brasilia**	**44.45**	**329**	P	**P**	**12 26 32.3**	**+1.3**
SBA	**Scott Base**	**45.21**	**184**	P	**P**	**12 26 37.3**	**+1.1**
BOSA	**Boshof**	**45.63**	**74**	LR	LR	12 44 01.0	
	comp=Z,217nm,18.0s,baz=195,slow=34						

VNDA	**Vanda**	**45.69**	**182**	P	**P**	**12 26 43.5**	**+3.4**
	comp=Z,1.1nm,0.8s,baz=179,slow=6.7,SNR=6.5							
	comp=Z,1.1nm,0.8s							
VNDA	**Vanda**	**45.69**	**182**	P	**P**	**12 26 41.4**	**+1.3**
LVC	**Limon Verde**	**46.28**	**300**	P	**P**	**12 26 47.1**	**+1.3**
	comp=Z,16nm,0.7s,baz=139,slow=5.9,SNR=16							
	comp=Z,16nm,0.7s							
LVC	**Limon Verde**	**46.28**	**300**	P	**P**	**12 26 47.4**	**+1.7**
PB06	**IPOC Station P**	**46.51**	**299**	P	**P**	**12 26 48.1**	**+0.7**
PB06				IAmb	IAmb	12 27 16.9		
	comp=Z,7.9nm,0.8s							
CRZF	**Crozet Islands**	**46.91**	**112**	P	**P**	**12 26 49.2**	**-0.8**
PB04	**IPOC Station P**	**47.10**	**299**	P	**P**	**12 26 52.7**	**+0.7**
PB04				IAmb	IAmb	12 27 19.1		
	comp=Z,16nm,1.2s							
PB09	**IPOC Station P**	**47.13**	**300**	P	**P**	**12 26 53.9**	**+1.7**
PB09				IAmb	IAmb	12 26 59.7		
	comp=Z,12nm,0.8s							
PB03	**IPOC Station P**	**47.16**	**299**	P	**P**	**12 26 53.0**	**+0.6**
PB07	**IPOC Station P**	**47.50**	**299**	P	**P**	**12 26 55.6**	**+0.5**
PB01	**IPOC Station P**	**47.89**	**300**	P	**P**	**12 26 58.5**	**+0.5**
PTLB	**Pontes e Lacer**	**48.37**	**315**	P	**P**	**12 27 02.8**	**+1.2**
PTLB				IAmb	IAmb	12 27 03.7		
	comp=Z,14nm,1.3s							
LBTB	**Lobatse**	**48.71**	**71**	LR	LR	12 44 33.9		
	comp=Z,102nm,18.0s,baz=194,slow=33							
GO01	**Chusmiza**	**48.94**	**301**	P	**P**	**12 27 07.7**	**+1.1**
PB11	**IPOC Station P**	**49.07**	**301**	P	**P**	**12 27 08.4**	**+1.2**
PB11				IAmb	IAmb	12 27 09.7		
	comp=Z,14nm,0.8s							
MNMC	**Minye Minye**	**49.59**	**301**	P	**P**	**12 27 12.5**	**+1.1**
H10N1	**ASCENSION HYDR**	**49.83**	**15**	T	T	13 21 24.5		
	baz=188							
H10N3	**ASCENSION HYDR**	**49.83**	**15**	T	T	13 21 32.8		
	baz=188							
H10N2	**ASCENSION HYDR**	**49.85**	**15**	T	T	13 21 39.4		
	baz=188							
PB16	**IPOC Station P**	**50.24**	**302**	P	**P**	**12 27 17.3**	**+0.7**
PB16				IAmb	IAmb	12 27 18.6		
	comp=Z,14nm,1.4s							
LPAZ	**La Paz**	**51.39**	**305**	P	**P**	**12 27 26.7**	**+1.3**
	comp=Z,9.2nm,0.6s,baz=154,slow=6.3,SNR=34							
	comp=Z,9.2nm,0.6s							
LPAZ	**La Paz**	**51.39**	**305**	P	**P**	**12 27 26.6**	**+1.3**
LPAZ				IAmb	IAmb	12 27 27.7		
	comp=Z,14nm,0.8s							
ETMB	**Extrema**	**56.31**	**310**	P	**P**	**12 28 01.4**	**+0.7**
ETMB				IAmb	IAmb	12 28 09.2		
	comp=Z,8.6nm,1.5s							
LSZ	**Lusaka**	**58.16**	**67**	LR	LR	12 50 12.7		
	comp=Z,120nm,19.7s,baz=43,slow=33							
MCRA	**Macar, Loja**	**67.32**	**299**	P	**P**	**12 29 14.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**73.56**	**28**	P	**P**	**12 29 49.8**	**-3.0**
	comp=Z,1.0nm,0.3s,baz=198,slow=6.5,SNR=5.2							
	comp=Z,1.0nm,0.3s							
BAUV	**El Baul**	**74.13**	**317**	P	**P**	**12 29 54.8**	**-1.4**
SDV	**Santo Domingo**	**75.08**	**314**	P	**P**	**12 30 01.2**	**-0.7**
SDV				IAmb	IAmb	12 30 07.4		
	comp=Z,4.9nm,0.8s							
ASAR	**Alice Springs**	**97.94**	**162**	P	**P**	**12 31 55.6**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=187,slow=3.0,SNR=3.0							
	comp=Z,0.5nm,0.9s							
EIL	**Elat**	**100.45**	**51**	LR	LR	13 13 43.1		
	comp=Z,48nm,19.6s,baz=237,slow=33							
YKA	**Yellowknife Ar**	**137.25**	**317**	PKP	**PKPdf**	**12 37 41.2**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=132,slow=1.7,SNR=9.7							
SONM	**Songino Array**	**150.18**	**87**	PKPbc	**PKPdf**	**12 38 07.6**	**+2.7**
	comp=Z,1.1nm,0.6s,baz=223,slow=3.5,SNR=7.1							
ILAR	**Eielson Array**	**151.17**	**310**	PKPbc	**PKPbc**	**12 38 10.8**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=123,slow=1.3,SNR=24							

*IDC **17** 12:21:13.0±0.9,56°.58S×25°.48W,h0km,mb4.3/9, mbtmp4.2/10,ML3.8/1,Error ellipse: s-maj=31.2km s-min=18.9km az=60.0*

*NEIC **17** 12:21:20.8±1.3,57°.24S±0°.05×27°.6W±0°.2,h10$^{km}_{\pm 1}$, mb4.8/44,Error ellipse: s-maj=20.5km s-min=5.5km az=68.0*

ISC 17 12:21:18.7±0.7,57°.15S±0°.09×27°.23W±0°.10,h10km,n63, σ1^{s}61/59,mb4.8/25,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.97**	**295**	Pn	**Pn**	**12 22 47.2**	**+0.2**
VNA1	**Neumayer--Stat**	**15.79**	**157**	P	**Pn**	**12 24 58.3**	**-2.4**
ESPZ	**Base Esperanza**	**15.92**	**235**	Pn	**Pn**	**12 25 00.7**	**-1.8**
ESPZ				IAmb	IAmb	12 25 20.3		
	comp=Z,57nm,1.0s							
VNA3	**Neumayer Olymp**	**15.96**	**159**	P	**Pn**	**12 25 02.4**	**-0.7**
VNA2	**Neumayer--Watz**	**16.18**	**156**	P	**Pn**	**12 25 02.8**	**-3.2**
	baz=327,slow=15							
SNAA	**Sanae**	**17.75**	**155**	P	**Pn**	**12 25 23.1**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=352,slow=14,SNR=4.6							
	comp=Z,1.8nm,0.5s							
PMSA	**Palmer Station**	**19.18**	**231**	P	**Pn**	**12 25 49.0**	**+6.1**
	comp=Z,6.1nm,0.7s,baz=83,slow=8.1,SNR=1.2							
	comp=Z,6.1nm,0.7s							
PMSA	**Palmer Station**	**19.18**	**231**	P	**P**	**12 25 39.8**	**-2.2**
PMSA				IAmb	IAmb	12 26 03.7		
	comp=Z,79nm,1.4s							
SMAI	**San Martin Ant**	**20.92**	**222**	P	**P**	**12 26 00.8**	**-0.2**
BELA	**Belgrano 2**	**20.98**	**184**	P	**P**	**12 26 02.9**	**+1.3**
MG02	**Cerro Sombrero**	**24.20**	**262**	P	**P**	**12 26 34.4**	**-0.7**
GO10	**Punta Arenas**	**25.02**	**260**	P	**P**	**12 26 41.6**	**-1.0**
MG04	**Isla Riesco**	**25.43**	**261**	P	**P**	**12 26 45.4**	**-0.9**
GO09	**Cerro Castillo**	**26.62**	**263**	P	**P**	**12 26 54.7**	**-2.3**
TRQA	**Tornquist**	**29.75**	**295**	P	**P**	**12 27 26.4**	**+1.3**
TRQA				IAmb	IAmb	12 27 53.2		
	comp=Z,21nm,1.5s							
PLTB	**Pedras Altas**	**31.22**	**313**	P	**P**	**12 27 38.3**	**+0.1**
PLTB				IAmb	IAmb	12 27 43.5		
	comp=Z,13nm,1.3s							
PLCA	**Paso Flores**	**32.19**	**282**	P	**P**	**12 27 47.9**	**+1.2**
QSPA	**South Pole Qui**	**33.10**	**180**	P	**P**	**12 27 55.3**	**+0.8**
	comp=Z,4.1nm,0.4s,baz=229,slow=1.5,SNR=9.3							
	comp=Z,4.1nm,0.4s							
CPUP	**Villa Florida**	**37.53**	**312**	P	**P**	**12 28 31.2**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=120,slow=7.3,SNR=3.5							
	comp=Z,1.6nm,0.6s							
CPUP	**Villa Florida**	**37.53**	**312**	P	**P**	**12 28 32.7**	**0.0**
MT09	**Talagante**	**37.64**	**289**	P	**P**	**12 28 34.2**	**+0.4**
MT09				IAmb	IAmb	12 29 01.4		
	comp=Z,23nm,1.3s							
MT01	**Popeta**	**37.71**	**289**	P	**P**	**12 28 34.4**	**+0.2**
MT01				IAmb	IAmb	12 29 01.1		
	comp=Z,14nm,1.3s							
CFA	**Coronel Fontan**	**37.98**	**295**	P	**P**	**12 28 36.3**	**-0.3**
	comp=Z,3.3nm,0.5s,baz=156,slow=9.9,SNR=4.3							
	comp=Z,3.3nm,0.5s							
MT02	**Curacav**	**38.12**	**290**	P	**P**	**12 28 36.9**	**-0.8**
MAW	**Mawson**	**39.28**	**143**	P	**P**	**12 28 49.4**	**+2.4**
CO01	**Juntas del Tor**	**40.23**	**294**	P	**P**	**12 28 55.8**	**+0.1**
SUR	**Sutherland**	**40.96**	**74**	P	**P**	**12 29 03.0**	**+1.4**
SUR				IAmb	IAmb	12 29 20.4		
	comp=Z,33nm,1.4s							
AC05	**El Transito**	**41.25**	**295**	P	**P**	**12 29 04.6**	**+0.6**
LCO	**Las Campanas**	**41.32**	**294**	P	**P**	**12 29 05.2**	**+0.5**
VA04	**Juan Fernndez**	**41.86**	**282**	P	**P**	**12 29 07.9**	**-0.8**
AC04	**Llanos de Chal**	**42.17**	**294**	P	**P**	**12 29 11.7**	**+0.3**
AC01	**Pan de Azucar**	**43.65**	**297**	P	**P**	**12 29 24.4**	**+1.1**
AC01				IAmb	IAmb	12 29 46.5		
	comp=Z,23nm,1.4s							
VNDA	**Vanda**	**45.47**	**183**	P	**P**	**12 29 38.2**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=193,slow=8.8,SNR=3.2							
	comp=Z,1.1nm,0.7s							
VNDA	**Vanda**	**45.47**	**183**	P	**P**	**12 29 38.5**	**+1.2**
LVC	**Limon Verde**	**45.84**	**301**	P	**P**	**12 29 41.3**	**0.0**
	comp=Z,6.8nm,0.4s,baz=131,slow=6.4,SNR=8.8							
	comp=Z,6.8nm,0.4s							
LVC	**Limon Verde**	**45.84**	**301**	P	**P**	**12 29 40.4**	**-0.9**
LVC				IAmb	IAmb	12 29 44.8		
	comp=Z,9.9nm,0.8s							
PB10	**IPOC Station P**	**45.85**	**299**	P	**P**	**12 29 41.3**	**+0.5**
PB10				IAmb	IAmb	12 29 44.8		
	comp=Z,18nm,1.1s							
PB06	**IPOC Station P**	**46.07**	**300**	P	**P**	**12 29 41.7**	**-1.2**
PB06				IAmb	IAmb	12 29 54.5		
	comp=Z,6.9nm,0.9s							
PB04	**IPOC Station P**	**46.66**	**300**	P	**P**	**12 29 48.2**	**+0.8**
PB04				IAmb	IAmb	12 29 56.4		
	comp=Z,21nm,1.3s							
PB09	**IPOC Station P**	**46.70**	**301**	P	**P**	**12 29 49.3**	**+1.5**
PB09				IAmb	IAmb	12 29 52.5		
	comp=Z,9.4nm,1.0s							
PB03	**IPOC Station P**	**46.72**	**301**	P	**P**	**12 29 48.7**	**+0.8**
PB03				IAmb	IAmb	12 30 17.5		
	comp=Z,17nm,1.5s							
PB07	**IPOC Station P**	**47.06**	**301**	P	**P**	**12 29 51.5**	**+0.9**
PB02	**IPOC Station P**	**47.41**	**301**	P	**P**	**12 29 54.2**	**+1.0**
PB02				IAmb	IAmb	12 29 54.9		
	comp=Z,11nm,1.0s							
PB01	**IPOC Station P**	**47.46**	**302**	P	**P**	**12 29 54.9**	**+1.3**
PB01				IAmb	IAmb	12 29 55.3		
	comp=Z,10.0nm,0.7s							
PATCX	**Punta Patache**	**47.96**	**301**	P	**P**	**12 29 58.5**	**+0.9**
PATCX				IAmb	IAmb	12 30 10.5		
	comp=Z,8.8nm,0.9s							
PTLB	**Pontes e Lacer**	**48.08**	**317**	P	**P**	**12 29 58.0**	**-0.3**
PTLB				IAmb	IAmb	12 29 58.2		
	comp=Z,3.6nm,0.8s							
GO01	**Chusmiza**	**48.51**	**303**	P	**P**	**12 30 03.2**	**+1.0**
PB11	**IPOC Station P**	**48.65**	**302**	P	**P**	**12 30 03.6**	**+0.7**
PB11				IAmb	IAmb	12 30 05.4		
	comp=Z,11nm,0.9s							
PSGCX	**Pisagua**	**49.00**	**302**	P	**P**	**12 30 06.2**	**+0.6**
MNMC	**Minye Minye**	**49.16**	**303**	P	**P**	**12 30 07.9**	**+0.9**
PB16	**IPOC Station P**	**49.82**	**303**	P	**P**	**12 30 13.0**	**+0.6**
PB16				IAmb	IAmb	12 30 13.8		
	comp=Z,3.9nm,0.5s							
PB12	**IPOC Station P**	**49.95**	**302**	P	**P**	**12 30 13.9**	**+1.0**
PB12				IAmb	IAmb	12 30 26.6		
	comp=Z,7.8nm,1.1s							
H10N1	**ASCENSION HYDR**	**50.18**	**17**	T	T	13 24 19.6		
	baz=188							
H10N3	**ASCENSION HYDR**	**50.18**	**17**	T	T	13 24 29.8		
	baz=188							
H10N2	**ASCENSION HYDR**	**50.20**	**17**	T	T	13 24 22.3		
	baz=188							
LPAZ	**La Paz**	**51.00**	**306**	P	**P**	**12 30 21.9**	**+0.5**
	comp=Z,9.4nm,0.7s,baz=166,slow=6.2,SNR=16							
	comp=Z,9.4nm,0.7s							
LPAZ	**La Paz**	**51.00**	**306**	P	**P**	**12 30 22.1**	**+0.7**
LPAZ				IAmb	IAmb	12 30 22.9		
	comp=Z,11nm,0.7s							
TORD	**Torodi Ar. Bea**	**74.03**	**29**	P	P	12 32 44.4	-10	
	comp=Z,0.5nm,0.6s,baz=200,slow=7.1,SNR=1.6							
	comp=Z,0.5nm,0.6s							
LBZ	**Lake Benmore**	**77.78**	**193**	P	**P**	**12 33 16.2**	**+0.5**
ASAR	**Alice Springs**	**97.94**	**163**	P	**P**	**12 34 52.2**	**-2.7**
	comp=Z,0.2nm,0.7s,baz=198,slow=2.6,SNR=1.6							
	comp=Z,0.2nm,0.7s							
YKA	**Yellowknife Ar**	**136.97**	**317**	PKP	**PKPdf**	**12 40 36.1**	**-4.0**
	comp=Z,0.6nm,0.9s,baz=129,slow=2.1,SNR=7.5							
SONM	**Songino Array**	**150.80**	**88**	PKPbc	**PKPdf**	**12 41 03.0**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=219,slow=3.4,SNR=5.6							
ILAR	**Eielson Array**	**150.82**	**310**	PKPbc	**PKPdf**	**12 41 06.5**	**+2.4**
	comp=Z,2.2nm,0.9s,baz=123,slow=1.6,SNR=10.0							

IDC 17 12:45:53.0±999.0,50°.61N×54°.21E,h0km,Error ellipse: s-maj=886.2km s-min=53.4km az=93.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**2.45**	**93**	I	I	13 00 40.0	
	0.3nm,0.7s,baz=276,slow=332,SNR=3.5						
I46RU	**ZALESOVO INFRA**	**18.95**	**68**	I	I	14 43 40.0	
	baz=274,slow=330,SNR=1.0						
I34MN	**SONGINO INFRAS**	**33.64**	**74**	I	I	16 13 30.0	
	baz=291,slow=335,SNR=0.5						

*NNC **17** 13:02:25.1±3.5,35°.61N×77°.23E,h332km±50km,mb3.0, mpv4.2,Error ellipse: s-maj=35.2km s-min=27.1km az=178.0*

*IDC **17** 13:02:30.6±3.7,36°.13N×78°.36E,h95km±33km,mb3.4/8, mbtmp3.8/13,Error ellipse: s-maj=38.8km s-min=17.4km az=50.0*

ISC 17 13:02:29.2±0.6,36°.03N±0°.05×78°.32E±0°.06,h100km,n39, σ2^{s}63/52,mb3.5/7,3C-5D,Kashmir-Xinjiang border region

| Code | Station Name | Δ° | AZ° | Phase

SONM	**Songino Array**	**23.86**	**52**	P		**P**	**13 07 35.8**	**+2.6**
	comp=E,0.8nm,0.7s,baz=247,slow=11,SNR=5.9							
	comp=E,0.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**25.26**	**128**	P		**P**	**13 07 49.0**	**+2.9**
	comp=E,1.5nm,0.7s,baz=312,slow=11,SNR=9.8							
	comp=E,1.5nm,0.7s							
FINES	**FINESS Array B**	**41.23**	**325**	P		**P**	**13 10 05.1**	**+1.2**
	comp=E,3.0nm,1.0s,baz=265,slow=23,SNR=3.5							
	comp=E,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**43.91**	**336**	P		**P**	**13 10 26.7**	**+1.2**
	comp=E,4.5nm,0.9s,baz=95,slow=10.0,SNR=1.6							
	comp=E,4.5nm,0.9s							
WRA	**Warramunga Arr**	**76.84**	**127**	P		**P**	**13 14 11.8**	**+1.5**
	comp=E,0.4nm,0.5s,baz=322,slow=6.4,SNR=11							
	comp=E,0.4nm,0.5s							
ASAR	**Alice Springs**	**79.26**	**130**	P		**P**	**13 14 25.6**	**+1.9**
	comp=E,0.4nm,0.6s,baz=319,slow=5.9,SNR=6.4							
	comp=E,0.4nm,0.6s							
YKA	**Yellowknife Ar**	**81.27**	**6**	P		**P**	**13 14 35.0**	**+1.1**
	comp=E,0.2nm,0.7s,baz=341,slow=5.6,SNR=3.7							
	comp=E,0.2nm,0.7s							

*NEIC **17** 13:03:54.2±0.7, 56.37S±0.05×24.3W±0.4, h10km±2km, mb4.7/16, Error ellipse: s-maj=34.4km s-min=7.3km az=83.0*
*IDC **17** 13:03:54.7±1.1, 56.54S×25.22W, h0km, mb4.1/4, mbtmp4.1/4, MS3.7/2, Error ellipse: s-maj=45.5km s-min=31.9km az=56.0*
ISC 17 13:03:57.4±1.0, 56.6S±0.1×25.3W±0.2, h10km, n25, σ1°89/17, mb4.7/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BELA	**Belgrano 2**	**21.59**	**185**	P	**P**	**13 08 44.9**	**-2.0**
GO08	**Villa O'Higgin**	**29.34**	**266**	P	**P**	**13 10 01.7**	**+1.7**
GO08				IAmb	IAmb	13 10 12.6	
	comp=Z,16nm,1.1s						
PLTB	**Pedras Altas**	**31.66**	**310**	P	**P**	**13 10 20.1**	**-0.5**
CPUP	**Villa Florida**	**37.98**	**309**	P	P	13 11 13.7	-1.4
	comp=Z,1.6nm,0.3s,baz=169,slow=10.0,SNR=1.9						
	comp=Z,1.6nm,0.3s						
SUR	**Sutherland**	**39.80**	**72**	LR	LR	13 25 46.6	
	comp=Z,82nm,18.2s,baz=180,slow=33						
BOSA	**Boshof**	**45.11**	**73**	LR	LR	13 28 20.3	
	comp=Z,79nm,19.6s,baz=194,slow=32						
SBA	**Scott Base**	**45.58**	**184**	P	**P**	**13 12 16.8**	**+0.1**
VNDA	**Vanda**	**46.05**	**182**	P	**P**	**13 12 20.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=175,slow=8.5,SNR=1.4						
	comp=Z,0.3nm,0.6s						
VNDA	**Vanda**	**46.05**	**182**	P	**P**	**13 12 20.6**	**+0.1**
LVC	**Limon Verde**	**46.49**	**299**	P	P	13 12 22.6	-2.5
LVC				IAmb	IAmb	13 12 27.0	
	comp=Z,8.7nm,1.1s						
PB09	**IPOC Station P**	**47.34**	**299**	P	**P**	**13 12 30.8**	**-0.7**
PB07	**IPOC Station P**	**47.72**	**298**	P	**P**	**13 12 33.3**	**-1.1**
PB01	**IPOC Station P**	**48.10**	**299**	P	**P**	**13 12 36.3**	**-1.0**
PB01				IAmb	IAmb	13 12 40.8	
	comp=Z,6.1nm,1.0s						
GO01	**Chusmiza**	**49.14**	**300**	P	**P**	**13 12 44.9**	**-0.8**
GO01				IAmb	IAmb	13 12 48.4	
	comp=Z,11nm,1.2s						
PB11	**IPOC Station P**	**49.28**	**300**	P	**P**	**13 12 45.4**	**-1.0**
PB11				IAmb	IAmb	13 12 46.6	
	comp=Z,9.3nm,1.1s						
PSGCX	**Pisagua**	**49.64**	**299**	P	P	13 12 47.8	-1.4
PSGCX				IAmb	IAmb	13 13 19.1	
	comp=Z,8.9nm,1.1s						
MNMC	**Minye Minye**	**49.79**	**300**	P	**P**	**13 12 49.4**	**-1.0**
PB16	**IPOC Station P**	**50.43**	**301**	P	P	13 12 54.4	-1.3
LPAZ	**La Paz**	**51.56**	**304**	P	**P**	**13 13 03.5**	**-0.7**
	comp=Z,3.3nm,0.4s,baz=146,slow=6.2,SNR=15						
	comp=Z,3.3nm,0.4s						
LPAZ	**La Paz**	**51.56**	**304**	P	P	13 13 02.8	-1.4
LPAZ				IAmb	IAmb	13 13 04.6	
	comp=Z,5.4nm,0.6s						
CASY	**Casey**	**53.01**	**159**	P	P	13 13 11.0	-2.7
CASY				IAmb	IAmb	13 13 24.9	
	comp=Z,14nm,1.5s						
TORD	**Torodi Ar. Bea**	**73.06**	**28**	P	**P**	**13 15 26.3**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=204,slow=6.3,SNR=0.8						
	comp=Z,0.5nm,0.3s						
YKA	**Yellowknife Ar**	**137.30**	**317**	PKP	**PKPdf**	**13 23 16.5**	**-2.9**
	comp=Z,0.1nm,0.7s,baz=135,slow=2.2,SNR=3.0						
SONM	**Songino Array**	**149.72**	**86**	PKPbc	**PKPdf**	**13 23 44.8**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=218,slow=2.9,SNR=2.6						
ILAR	**Eielson Array**	**151.28**	**311**	PKPbc	**PKPdf**	**13 23 47.8**	**+4.3**
	comp=Z,1.0nm,1.0s,baz=105,slow=0.4,SNR=7.5						

*NNC **17** 13:22:17.8±2.5, 38.78N×70.92E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=91.3km s-min=17.0km az=86.0*
ISC 17 13:22:17.1±3.9, 38.6N±0.3×69.7E±0.1, h12km, n15, σ0°73/18, 6C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luznay**	**3.54**	**4**	Pg	**Pn**	**13 23 12.5**	**+0.6**
IUG	11nm,0.3s			Lg	Lg	13 24 06.3	
	136nm,0.6s						
KK31	**Karatay Array**	**4.53**	**8**	⇑Pn	**Pn**	**13 23 25.3**	**-0.1**
KK31	0.9nm,0.2s,baz=191,slow=13,SNR=18			⇑Pg	**Pb**	**13 23 36.6**	**+0.1**
KK31	2.5nm,0.2s,baz=190,slow=16,SNR=14			Lg	Lg	13 24 35.8	
	7.4nm,0.2s,baz=192,slow=30,SNR=10						
AML	**Almayashu**	**4.66**	**40**	P	**Pn**	**13 23 25.5**	**-2.1**
	SNR=21						
MRKS	**Merke**	**4.93**	**32**	Pg	**Pn**	**13 23 31.3**	**+0.3**
	17nm,0.4s						
EKS2	**Erkin-Say**	**5.10**	**36**	P	**Pn**	**13 23 32.8**	**-0.6**
	SNR=12						
UCH	**Uchtor**	**5.16**	**44**	P	**Pn**	**13 23 35.2**	**+0.7**
	SNR=11						
AAK	**Ala-Archa**	**5.43**	**41**	P	**Pn**	**13 23 38.1**	**+0.1**
	SNR=15						
KBK	**Karagaybulak**	**5.69**	**43**	P	**Pn**	**13 23 42.8**	**+1.3**
	SNR=8.5						
CHMS	**Chumysh**	**5.83**	**40**	P	**Pn**	**13 23 43.8**	**+0.5**
	SNR=5.6						
CHMS	**Chumysh**	**5.83**	**40**	⇑Pn	**Pn**	**13 23 43.7**	**+0.4**
	5.1nm,0.4s						
CHMS	11nm,0.5s			⇓Sn	**Sn**	**13 24 50.0**	**0.0**
CHMS	8.3nm,0.5s			⇑Lg	Lg	13 25 12.0	
USP	**Ospenovka**	**5.91**	**37**	P	**Pn**	**13 23 44.6**	**+0.2**
	SNR=18						
SGDS	**Sogindy**	**6.11**	**36**	Pg	**Pn**	**13 23 46.9**	**-0.3**
	4.1nm,0.5s						
SGDS	7.1nm,0.8s			Lg	Lg	13 25 07.2	
TKM2	**Tokmak 2**	**6.22**	**44**	P	**Pn**	**13 23 49.0**	**+0.2**
	SNR=12						
TKM2	**Tokmak 2**	**6.22**	**44**	⇑Pg	**Pn**	**13 23 49.0**	**+0.2**
	7.6nm,0.3s						
TKM2	13nm,0.6s			⇑Sn	**Sn**	**13 24 59.9**	**0.0**
TKM2	12nm,0.8s			⇓Lg	Lg	13 25 20.0	
AB31	**Akbulak array**	**12.73**	**330**	P	**Pn**	**13 25 17.6**	**-0.2**
	0.8nm,0.3s,baz=154,slow=11,SNR=38						

*IDC **17** 13:27:25.5±3.2, 17.87N×145.80E, h155km±31km, mb3.0/5, mbtmp3.6/6, Error ellipse: s-maj=78.4km s-min=22.9km az=110.0*
ISC 17 13:27:25.1±0.9, 17.9N±0.2×145.8E±0.5, h150km, n13, σ0°99/8, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.40**	**192**	P	**Pn**	**13 28 32.1**	**+1.4**
	40nm,0.3s,baz=342,slow=16,SNR=7.5						
GUMO	32nm,0.4s,baz=9.6,slow=23,SNR=1.6			S	**Sn**	**13 29 20.4**	**-1.2**
H11S3	**WAKE ISLAND Hy**	**19.88**	**85**	T	T	13 52 55.6	
	baz=270						
H11S1	**WAKE ISLAND Hy**	**19.89**	**85**	T	T	13 52 50.5	
	baz=270						
H11S2	**WAKE ISLAND Hy**	**19.90**	**85**	T	T	13 53 01.4	
	baz=270						
H11N1	**WAKE ISLAND Hy**	**20.07**	**82**	T	T	13 53 08.4	
	baz=268						
H11N2	**WAKE ISLAND Hy**	**20.08**	**82**	T	T	13 53 10.6	
	baz=268						
H11N3	**WAKE ISLAND Hy**	**20.09**	**82**	T	T	13 53 03.9	
	baz=268						
WRA	**Warramunga Arr**	**39.27**	**197**	P	**P**	**13 34 39.1**	**-0.3**
	0.6nm,0.8s,baz=24,slow=9.5,SNR=3.2						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**42.93**	**196**	P	**P**	**13 35 08.5**	**-0.8**
	0.2nm,0.7s,baz=14,slow=7.7,SNR=5.3						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**64.31**	**26**	P	**P**	**13 37 43.4**	**-0.8**
	0.4nm,0.8s,baz=269,slow=6.0,SNR=2.8						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**78.64**	**28**	P	**P**	**13 39 10.4**	**+0.3**
	0.4nm,0.8s,baz=286,slow=5.6,SNR=5.0						
	0.4nm,0.8s						
ARCES	**ARCESS Array B**	**83.25**	**342**	P	**P**	**13 39 34.6**	**+0.2**
	8.4nm,0.9s,baz=17,slow=4.7,SNR=3.2						
NVAR	**Mina Array Bea**	**83.56**	**52**	P	**P**	**13 39 37.3**	**+0.3**
	0.2nm,0.5s,baz=255,slow=6.5,SNR=2.7						
	0.2nm,0.5s						

*SOME **17** 13:30:23.6, 37.42N×71.35E, h10km*
*NNC **17** 13:30:33.5±4.5, 37.65N×71.55E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=36.6km s-min=20.8km az=157.0*
ISC 17 13:30:22.9±2.9, 37.3N±0.1×71.37E±0.09, h10km, n11, σ3°09/15, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luznay**	**4.92**	**348**	Pg	**Pg**	**13 31 55.0**	**-2.0**
	18nm,0.2s						
IUG	62nm,0.7s			Lg	Lg	13 33 00.2	
IUG	**luznay**	**4.92**	**348**	*e*Pg	**Pg**	**13 31 55.0**	**-2.0**
	18nm,0.2s						
IUG	62nm,0.7s			*e*Lg	Lg	13 33 00.1	
MRKS	**Merke**	**5.59**	**14**	Pg	**Pg**	**13 32 10.2**	**+0.3**
	1.9nm,0.4s						
MRKS	**Merke**	**5.59**	**14**	*e*Pg	**Pg**	**13 32 10.2**	**+0.3**
	1.9nm,0.4s						
MRKS	6.5nm,0.5s			*e*Lg	Lg	13 33 26.2	
KK31	**Karatay Array**	**5.80**	**354**	⇑P	**Pb**	**13 32 08.0**	**+3.9**
	1.7nm,0.3s,baz=178,slow=13,SNR=23						
KK31	0.9nm,0.3s			⇓Pg	**Pg**	**13 32 14.0**	**+0.1**
KK31	7.0nm,0.4s,baz=187,slow=23			⇓S	**Sg**	**13 33 23.8**	**-5.2**
CHMS	**Chumysh**	**6.22**	**24**	⇑P	**Pg**	**13 32 18.9**	**-3.1**
	3.0nm,0.2s						
CHMS	5.6nm,0.4s			⇓S	**Sg**	**13 33 45.4**	**+2.8**
TKM2	**Tokmak 2**	**6.45**	**29**	⇓P	**Pg**	**13 32 23.0**	**-3.4**
	2.2nm,0.4s						
TKM2	4.7nm,0.7s			⇑S	**Sg**	**13 33 52.0**	**+2.1**
SGDS	**Sogindy**	**6.60**	**21**	Pg	**Pg**	**13 32 25.1**	**-4.1**
	2.1nm,0.5s						
SGDS	3.0nm,1.2s			Lg	Lg	13 33 51.6	
KST	**Kastek**	**6.70**	**30**	Pg	**Pg**	**13 32 28.5**	**-2.6**
	2.9nm,0.5s						
KST	4.8nm,1.2s			Lg	Lg	13 33 57.2	
KST	**Kastek**	**6.70**	**30**	*e*Pg	**Pg**	**13 32 28.5**	**-2.6**
	2.9nm,0.5s						
KST	4.8nm,1.2s			*e*Lg	Lg	13 33 57.2	
AB31	**Akbulak array**	**14.51**	**329**	⇑P	**P**	**13 33 54.4**	**-0.4**
	0.7nm,0.3s,baz=155,slow=12,SNR=18						

*NEIC **17** 13:53:19.8±1.0, 50.80N±0.10×150.4E±0.2, h461km±9km, mb4.1/26, Error ellipse: s-maj=17.8km s-min=11.2km az=129.0*
*IDC **17** 13:53:26.1±1.8, 50.80N×149.98E, h528km±23km, mb3.0/10, mbtmp3.9/13, Error ellipse: s-maj=24.2km s-min=18.3km az=73.0*
ISC 17 13:53:23.5±0.7, 50.73N±0.09×150.1E±0.1, h500km, n46, σ1°23/43, mb3.9/19, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.30**	**60**	P	**P**	**13 54 56.6**	**+3.6**
	1.5nm,0.6s,baz=207,slow=2.3,SNR=13						
MA2	**Magadan**	**8.88**	**2**	P	**P**	**13 55 32.1**	**+3.4**
	2.0nm,0.5s,baz=144,slow=11,SNR=4.2						
JTM	**Tenmabayashi**	**11.75**	**216**	P	**P**	**13 56 00.1**	**+0.7**
YAK	**Yakutsk**	**15.90**	**323**	P	**P**	**13 56 42.0**	**-0.7**
	4.4nm,0.3s,baz=16,slow=2.0,SNR=4.4						
MJB9	**Matsu-Tunnel**	**16.54**	**216**	P	**P**	**13 56 48.3**	**-1.5**
MJB9				IAmb	IAmb	13 56 52.8	
	comp=Z,13nm,1.2s						
MAJO	**Matsushiro**	**16.54**	**216**	P	**P**	**13 56 47.4**	**-2.4**
MAJO				IAmb	IAmb	13 56 51.8	
	comp=Z,13nm,1.2s						
BILL	**Bilibino**	**19.11**	**19**	P	**P**	**13 57 11.1**	**-2.4**
BILL				IAmb	IAmb	13 57 12.5	
	comp=Z,3.4nm,1.3s						
TIXI	**Tiksi**	**23.07**	**343**	P	**P**	**13 57 49.8**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=270,slow=22,SNR=9.1						
	comp=Z,1.4nm,0.4s						
TIXI	**Tiksi**	**23.07**	**343**	P	**P**	**13 57 49.7**	**+0.4**
TIXI				IAmb	IAmb	13 57 50.5	
	comp=Z,1.6nm,0.5s						
SDPT	**Sand Point**	**29.58**	**62**	P	P	13 58 42.4	-4.4
ILAR	**Eielson Array**	**34.82**	**42**	P	**P**	**13 59 32.0**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=264,slow=6.0,SNR=1.5						
	comp=Z,0.2nm,0.7s						
ZAA0	**Zalesovo Array**	**38.73**	**301**	P	**P**	**14 00 03.8**	**0.0**
ZALV	**Zalesovo Beam**	**38.73**	**301**	P	**P**	**14 00 03.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=48,slow=8.6,SNR=4.1						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**38.73**	**301**	P	**P**	**14 00 03.4**	**-0.3**
M31M	**Drury Creek, Y**	**40.86**	**44**	P	**P**	**14 00 18.5**	**-2.3**
MK31	**Makanchi Array**	**43.43**	**292**	P	**P**	**14 00 41.6**	**+0.4**
MKAR	**Makanchi Array**	**43.43**	**292**	P	**P**	**14 00 41.7**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=65,slow=7.8,SNR=17						
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**43.43**	**292**	P	**P**	**14 00 41.6**	**+0.3**
KURK	**Kurchatov**	**43.56**	**299**	P	**P**	**14 00 42.3**	**+0.1**
KURK				IAmb	IAmb	14 00 43.1	
	comp=Z,2.7nm,0.6s						
MAKZ	**Makanchi**	**43.61**	**292**	P	**P**	**14 00 43.1**	**+0.5**
MOBC	**Moresby Island**	**45.89**	**55**	P	**P**	**14 00 58.4**	**-1.7**
BRVK	**Borovoye**	**46.87**	**306**	P	**P**	**14 01 08.1**	**+0.6**
BRVK				IAmb	IAmb	14 01 08.7	
	comp=Z,3.9nm,0.7s						
TARG	**Taragay, Kyrgy**	**48.93**	**289**	P	**P**	**14 01 24.9**	**+1.2**
KKAR	**Karatay Array**	**52.40**	**295**	P	**P**	**14 01 48.8**	**+0.3**
HMH	**Humu'ula Sheep**	**52.72**	**105**	P	P	14 01 48.8	-2.6
ARCES	**ARCES Array B**	**53.42**	**339**	P	**P**	**14 01 54.9**	**-0.4**
	comp=Z,4.0nm,0.9s,baz=39,slow=7.8,SNR=6.8						
	comp=Z,4.0nm,0.9s						
ARCES	**ARCES Array B**	**53.42**	**339**	P	**P**	**14 01 55.8**	**+0.5**
ARCES				IAmb	IAmb	14 02 03.0	
	comp=Z,23nm,1.4s						
ABKAR	**Akbulak array**	**54.38**	**306**	P	**P**	**14 02 02.6**	**+0.2**
GAR	**Garm**	**55.10**	**291**	P	**P**	**14 02 08.2**	**+0.3**
GAR				IAmb	IAmb	14 02 08.9	
	comp=Z,4.4nm,0.6s						
CHGR	**Chuyangaron**	**56.01**	**291**	P	**P**	**14 02 14.2**	**0.0**
CHGR				IAmb	IAmb	14 02 14.6	
	comp=Z,9.3nm,0.4s						
FIA1	**FINESS Array S**	**59.57**	**332**	P	**P**	**14 02 37.5**	**-0.3**
FIA1				IAmb	IAmb	14 02 50.1	
	comp=Z,25nm,1.4s						
FINES	**FINESS Array B**	**59.57**	**332**	P	**P**	**14 02 37.8**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=36,slow=7.5,SNR=41						
	comp=Z,2.5nm,0.4s						
FINES	**FINESS Array B**	**59.57**	**332**	P	**P**	**14 02 37.6**	**-0.3**
SAUI	**Saumlaki**	**60.69**	**201**	P	**P**	**14 02 46.7**	**+0.8**
NOA	**NORSAR Array B**	**63.80**	**339**	P	**P**	**14 03 05.6**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=26,slow=6.2,SNR=3.5						
	comp=Z,0.7nm,0.5s						
KBZ	**Khabaz**	**66.68**	**311**	P	**P**	**14 03 23.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=34,slow=11,SNR=2.5						
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**67.12**	**324**	P	**P**	**14 03 25.8**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=34,slow=6.1,SNR=6.2						
	comp=Z,1.2nm,0.5s						
BUR08	**Bucovina Ar. S**	**71.14**	**324**	P	**P**	**14 03 50.9**	**-0.1**
BUR08				IAmb	IAmb	14 04 10.6	
	comp=Z,7.3nm,1.4s						
BURAR	**Bucovina Array**	**71.16**	**324**	P	**P**	**14 03 50.9**	**-0.2**
BURAR				IAmb	IAmb	14 03 53.1	
	comp=Z,2.2nm,1.4s						
319A	**Douglas**	**72.58**	**62**	P	P	14 03 56.0	-3.6
319A				IAmb	IAmb	14 03 57.0	
	comp=Z,3.5nm,0.6s						
BR131	**Keskin Array S**	**74.13**	**314**	P	**P**	**14 04 07.5**	**-0.8**
BR131				IAmb	IAmb	14 04 39.8	
	comp=Z,3.8nm,1.2s						
BRTR	**Keskin Array B**	**74.13**	**314**	P	**P**	**14 04 08.0**	**-0.4**
AS31	**Alice Springs**	**75.43**	**195**	P	**P**	**14 04 16.1**	**+0.5**
ASAR	**Alice Springs**	**75.43**	**195**	P	**P**	**14 04 16.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=8.8,slow=5.0,SNR=10						
	comp=Z,0.3nm,0.5s						
RDO	**Rodhopi**	**76.46**	**320**	P	**P**	**14 04 23.2**	**+2.1**
R53A	**Hurricane**	**80.26**	**39**	P	**P**	**14 04 40.7**	**-0.9**

IDC 17 13:54:02.5±3.8, 19.11S×176.40W, h0km, mb3.5/2, mbtmp3.7/3, ML4.2/1, Error ellipse: s-maj=81.6km s-min=52.9km az=70.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.90**	**195**	Pn	Pn	13 58 38.0	+0.9
	0.7nm,0.3s,baz=349,slow=6.1,SNR=6.1						
URZ	0.3nm,0.3s,baz=122,slow=12,SNR=1.1			Sn	S	14 01 51.8	-29
	4.4nm,0.7s						
KRVT	**Keravat (AS076**	**34.14**	**292**	P	P	14 00 49.9	+0.4
	38nm,0.7s,baz=122,slow=13,SNR=1.3						
WRA	**Warramunga Arr**	**46.30**	**260**	P	P	14 02 30.2	-0.1
	0.2nm,0.3s,baz=97,slow=7.6,SNR=7.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.31**	**255**	P	P	14 02 30.2	-0.2
	0.3nm,0.4s,baz=89,slow=8.4,SNR=22						
ASAR	1.0nm,1.2s,baz=95,slow=3.6,SNR=4.7			PcP	PcP	14 04 04.6	-1.3
	0.3nm,0.4s						
AKASG	**Malin Array Be**	**142.49**	**333**	PKP	PKPdf	14 13 38.5	+1.3
	0.1nm,0.3s,baz=43,slow=4.3,SNR=5.0						

*NEIC **17** 14:07:39.7±1.3, 42.12S±0.03×173.06E±0.05, h51km±4km, mb4.4/3, Error ellipse: s-maj=5.8km s-min=4.2km az=60.0*
*WEL **17** 14:07:40.0±0.3, 42.2°S±3°×17.3°E±°, h30km±4km, M4.0/13, ML4.3/13, MLv4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=120.3, confirmed*
ISC 17 14:07:39.8±0.9, 42.14S±0.03×173.10E±0.03, h51km±8km, n148, σ1°13/160, mb4.5/5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.40**	**339**	Pn	**Pn**	**14 07 49.1**	**-1.0**
THZ	**Tophouse**	**0.40**	**339**	P	**Pn**	**14 07 49.3**	**-0.9**
THZ				S	**Sn**	**14 07 55.6**	**-1.8**
KHZ	**Kahutara**	**0.43**	**130**		**Pn**	**14 07 50.7**	**+0.5**
KHZ				Sn	**Sn**	**14 07 58.3**	**+0.5**
KHZ	**Kahutara**	**0.43**	**130**	P	**Pn**	**14 07 51.0**	**+0.7**
KHZ				S	**Sn**	**14 07 59.0**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.72**	**54**		**Pn**	**14 07 53.6**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.72**	**54**	P	**Pn**	**14 07 54.0**	**+0.1**
BSWZ				S	**Sn**	**14 08 06.0**	**+1.9**
MRNZ	**Matariki Terra**	**0.78**	**341**		**Pn**	**14 07 54.1**	**-0.6**
MRNZ				Sn	**Sn**	**14 08 04.0**	**-1.5**
MRNZ	**Matariki Terra**	**0.78**	**341**	P	**Pn**	**14 07 54.3**	**-0.4**
MRNZ				S	**Sn**	**14 08 04.7**	**-0.8**
GVZ	**Greta Valley S**	**0.83**	**183**		**Pn**	**14 07 55.6**	**+0.4**
GVZ	**Greta Valley S**	**0.83**	**183**	P	**Pn**	**14 07 55.9**	**+0.7**
LTZ	**Lake Taylor**	**0.89**	**223**	Pn	**Pn**	**14 07 56.5**	**+0.5**
LTZ	**Lake Taylor**	**0.89**	**223**	P	**Pn**	**14 07 56.7**	**+0.6**
LTZ				S	**Sn**	**14 08 09.3**	**+1.4**
CMWZ	**Cape Campbell**	**0.92**	**65**	P	**Pn**	**14 07 57.6**	**+1.1**
NNZ	**Nelson**	**0.95**	**13**		**Pn**	**14 07 56.5**	**-0.3**
NNZ	**Nelson**	**0.95**	**13**	P	**Pn**	**14 07 56.5**	**-0.3**
NNZ				S	**Sn**	**14 08 09.4**	**+0.1**
TUWZ	**Tuamarina**	**0.95**	**42**		**Pn**	**14 07 56.8**	**-0.1**
TUWZ	**Tuamarina**	**0.95**	**42**	P	**Pn**	**14 07 57.0**	**+0.1**
TUWZ				S	**Sn**	**14 08 10.1**	**+0.6**
DSZ	**Denniston Nort**	**1.04**	**292**		**Pn**	**14 07 58.0**	**-0.1**
DSZ	**Denniston Nort**	**1.04**	**292**	P	**Pn**	**14 07 58.1**	**-0.1**
DSZ				S	**Sn**	**14 08 12.9**	**+1.2**
AMCZ	**Amberley**	**1.09**	**197**	Pn	**Pn**	**14 07 58.9**	**+0.1**
AMCZ	**Amberley**	**1.09**	**197**	P	**Pn**	**14 07 59.1**	**+0.4**
TKNZ	**Takaka Hill**	**1.11**	**355**		**Pn**	**14 07 58.8**	**-0.3**
TKNZ	**Takaka Hill**	**1.11**	**355**	P	**Pn**	**14 07 59.0**	**-0.1**
TKNZ				S	**Sn**	**14 08 13.5**	**+0.2**
TCW	**Tory Channel**	**1.28**	**44**		**Pn**	**14 08 01.3**	**0.0**
TCW	**Tory Channel**	**1.28**	**44**	P	**Pn**	**14 08 01.4**	**0.0**
TCW				S	**Sn**	**14 08 17.8**	**+0.3**
INZ	**Inchbonnie**	**1.35**	**244**		**Pn**	**14 08 02.7**	**+0.4**
INZ	**Inchbonnie**	**1.35**	**244**	P	**Pn**	**14 08 03.0**	**+0.6**
QRZ	**Quartz Range**	**1.38**	**342**		**Pn**	**14 08 02.7**	**0.0**
QRZ	**Quartz Range**	**1.38**	**342**	P	**Pn**	**14 08 02.7**	**0.0**
OXZ	**Oxford**	**1.42**	**213**		**Pn**	**14 08 02.7**	**-0.5**
OXZ	**Oxford**	**1.42**	**213**	P	**Pn**	**14 08 02.9**	**-0.4**
SNZO	**South Karori**	**1.46**	**56**	Pn	**Pn**	**14 08 03.4**	**-0.4**
DUWZ	**D'Urville Isla**	**1.48**	**25**	P	**Pn**	**14 08 04.1**	**+0.1**
BHW	**Baring Head**	**1.52**	**62**		**Pn**	**14 08 03.9**	**-0.7**
WEL	**Wellington**	**1.52**	**56**	P	**Pn**	**14 08 04.3**	**-0.2**
OKCZ	**Okains Bay**	**1.58**	**181**	P	**Pn**	**14 08 05.2**	**-0.3**
**M

ETVZ	**East Tongariro**	**3.60**	**34**	P	**Pn**	**14 08 33.1**	**-0.1**
TMVZ	**Te Maari**	**3.62**	**34**	P	**Pn**	**14 08 33.2**	**-0.2**
KAHZ	**Kahuranaki**	**3.70**	**52**	P	**Pn**	**14 08 32.6**	**-1.8**
JCZ	**Jackson Bay**	**3.70**	**237**	P	**Pn**	**14 08 33.2**	**-1.3**
RITZ	**Rihia Road**	**3.80**	**35**	P	**Pn**	**14 08 35.3**	**-0.6**
RATZ	**Rangitukua**	**3.85**	**33**	P	**Pn**	**14 08 39.5**	**+2.8**
HIZ	**Hauiti**	**3.87**	**21**	P	**Pn**	**14 08 37.2**	**+0.4**
BKZ	**Black Stump Fm**	**3.94**	**42**	P	**Pn**	**14 08 35.8**	**-2.0**
WATZ	**Wairara**	**3.98**	**31**	P	**Pn**	**14 08 38.6**	**+0.4**
WKZ	**Wanaka**	**4.00**	**226**	P	**Pn**	**14 08 36.4**	**-2.2**
ARHZ	**Aropaoanui**	**4.13**	**47**	P	**Pn**	**14 08 40.7**	**+0.4**
EAZ	**Earnscleugh**	**4.13**	**220**	P	**Pn**	**14 08 38.8**	**-1.6**
NMHZ	**Naumai**	**4.15**	**44**	P	**Pn**	**14 08 40.7**	**0.0**
HHSZ	**Highcliff Hill**	**4.15**	**205**	P	**Pn**	**14 08 39.5**	**-1.2**
MRHZ	**Matea Rd**	**4.16**	**39**	P	**Pn**	**14 08 38.6**	**-2.3**
KUTZ	**Kaahu Road**	**4.20**	**31**	P	**Pn**	**14 08 43.7**	**+2.3**
MTHZ	**Maungataniwha**	**4.35**	**42**	P	**Pn**	**14 08 41.5**	**-1.9**
RAHZ	**Arahi**	**4.43**	**45**	P	**Pn**	**14 08 46.0**	**+1.5**
RTZ	**Ruatahuna**	**4.60**	**41**	P	**Pn**	**14 08 46.3**	**-0.6**
MUGZ	**Murupara**	**4.61**	**39**	P	**Pn**	**14 08 44.5**	**-2.5**
SNGZ	**Shannon Statio**	**4.66**	**45**	P	**Pn**	**14 08 47.1**	**-0.5**
KNZ	**Kokohu**	**4.67**	**50**	P	**Pn**	**14 08 45.6**	**-2.2**
MHGZ	**Mahia Peninsul**	**4.72**	**52**	P	**Pn**	**14 08 46.2**	**-2.3**
TOZ	**Tahuroa Road**	**4.78**	**24**	P	**Pn**	**14 08 48.8**	**-0.4**
MLZ	**Mavora Lakes**	**4.84**	**227**	Pn	**Pn**	**14 08 48.3**	**-1.7**
MLZ	**Mavora Lakes**	**4.84**	**227**	P	**Pn**	**14 08 48.3**	**-1.7**
RIGZ	**Rimuhau**	**4.94**	**48**	P	**Pn**	**14 08 49.8**	**-1.7**
TGRZ	**Tauranga**	**5.03**	**30**	P	**Pn**	**14 08 51.8**	**-1.0**
AWAZ	**Awhitu Peninsu**	**5.21**	**14**	P	**Pn**	**14 08 56.1**	**+0.9**
SYZ	**Scrubby Hill**	**5.23**	**212**	P	**Pn**	**14 08 54.6**	**-0.8**
MKAZ	**Moumakai**	**5.28**	**18**	P	**Pn**	**14 08 56.1**	**0.0**
WHZ	**Wether Hill Ro**	**5.28**	**223**	P	**Pn**	**14 08 53.4**	**-2.6**
WTAZ	**Waiatarua**	**5.33**	**13**	P	**Pn**	**14 08 58.3**	**+1.6**
ETAZ	**East Tamaki Re**	**5.37**	**16**	P	**Pn**	**14 08 57.9**	**+0.6**
TWGZ	**Tauwhareparae**	**5.45**	**45**	P	**Pn**	**14 08 56.8**	**-1.6**
RUGZ	**Raukumara Rang**	**5.45**	**42**	P	**Pn**	**14 08 56.4**	**-2.2**
RVAZ	**Riverhead Bore**	**5.49**	**13**	P	**Pn**	**14 08 59.8**	**+0.9**
MBAZ	**Motutapu North**	**5.54**	**15**	P	**Pn**	**14 09 00.5**	**+0.8**
WIAZ	**Waiheke Island**	**5.57**	**17**	P	**Pn**	**14 09 00.7**	**+0.6**
PUZ	**Puketiti**	**5.67**	**46**	P	**Pn**	**14 08 59.3**	**-2.2**
KUZ	**Kuaotunu**	**5.76**	**22**	P	**Pn**	**14 09 01.9**	**-0.8**
APZ	**The Paps**	**5.94**	**216**	P	**Pn**	**14 09 03.7**	**-1.5**
GRZ	**Great Barrier**	**6.16**	**18**	P	**Pn**	**14 09 10.1**	**+1.9**
WCZ	**Waipu Caves**	**6.27**	**9**	P	**Pn**	**14 09 10.3**	**+0.7**
OUZ	**Omahuta**	**6.92**	**3**	P	**Pn**	**14 09 19.0**	**+0.4**
CTZ	**Chatham Island**	**7.71**	**105**	P	**Pn**	**14 09 29.0**	**-0.4**
WR0	**Warramunga Arr**	**39.29**	**292**	P	**P**	**14 15 02.8**	**-1.0**
WR0				IAmb	IAmb	14 15 09.0	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**39.44**	**292**	P	**P**	**14 15 03.5**	**-1.6**
WRAB				IAmb	IAmb	14 15 28.1	
	comp=Z,7.3nm,1.4s						
WB0	**Warramunga Arr**	**39.52**	**292**	P	**P**	**14 15 05.2**	**-0.6**
WB0				IAmb	IAmb	14 15 47.1	
	comp=Z,9.4nm,1.4s						
PZH	**PanZhiHua**	**94.80**	**302**	P	**P**	**14 20 57.3**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
HHC	**Hu-ho-hao-te**	**99.59**	**317**	*eP*	**Pdif**	**14 21 19.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,260nm,5.0s						

NOU 17 14:11:44.4, 15°.84S × 167°.29E, h15 km, MLv4.5/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.06**	**156**	P	Pn	14 12 18.9	+0.4
RTV	**Rentapao**	**2.23**	**151**	P	Pn	14 12 21.4	+0.6
LIFNC	**LIFOU**	**4.91**	**181**	P	Pn	14 12 57.9	+0.2
KOUNC	**Koumac, New Ca**	**5.49**	**211**	P	Pn	14 13 04.8	-0.8
MARNC	**Mare, Loyalty**	**5.66**	**173**	P	Pn	14 13 07.9	0.0
DZM	**Mont Dzumac**	**6.25**	**187**	P	Pn	14 13 15.8	-0.4
NOUC	**Port Laguerre**	**6.30**	**188**	P	Pn	14 13 16.3	-0.5
ONTNC	**Ouen Toro**	**6.48**	**187**	P	Pn	14 13 20.3	+1.0
OUTNC	**Ouen Island, N**	**6.56**	**184**	P	Pn	14 13 19.3	-0.5
PINNC	**Pines Island,**	**6.74**	**179**	P	Pn	14 13 23.4	+0.6

*GII **17** 14:31:27.7±0.0, 34°.85N × 33°.21E, h3 km, Mm2.9/2*
*ISK **17** 14:31:31.7, 34°.50N × 33°.11E, h13 km, ML3.1/16*
*DDA **17** 14:31:33.4±0.0, 34°.74N × 33°.01E, h2 km ± 2 km, ML2.5*
*NIC **17** 14:31:34.1±0.0, 34°.61N × 33°.14E, h20 km ± 31 km, MJ3.0/7*
ISC 17 14:31:33.6±1.1, 34°.53N±0°.03 × 33°.12E±0°.03, h10 km ± 8 km, n37, σ1°20/58, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.27**	**23**	P	**Pg**	**14 31 39.7**	**+0.6**
ASGA				S	**Sg**	**14 31 43.7**	**+0.9**
ASGA				AML	AML	14 31 43.9	
	46nm,0.2s						
ASGA				AML	AML	14 31 43.9	
	46nm,0.2s						
ASGA				AML	AML	14 31 44.0	
	30nm,0.2s						
ASGA				AML	AML	14 31 44.0	
	30nm,0.2s						
SZAC	**Souni**	**0.30**	**319**	P	**Pb**	**14 31 40.3**	**-0.7**
SZAC				S	**Sg**	**14 31 45.1**	**+1.5**
SZAC				AML	AML	14 31 45.2	
	29nm,0.3s						
SZAC				AML	AML	14 31 45.2	
	29nm,0.3s						
SZAC				AML	AML	14 31 45.2	
	49nm,0.2s						
SZAC				AML	AML	14 31 45.2	
	49nm,0.2s						
CSS	**Mathiatis**	**0.46**	**22**	Pg	**Pg**	**14 31 42.0**	**-0.7**
CSS				Sg	**Sg**	**14 31 48.5**	**-0.2**
CSS	**Mathiatis**	**0.46**	**22**	P	**Pg**	**14 31 41.9**	**-0.7**
CSS				S	**Sg**	**14 31 48.7**	**0.0**
CSS				AML	AML	14 31 52.4	
	1.1nm,0.4s						
CSS				AML	AML	14 31 52.4	
	1.1nm,0.4s						
CSS				AML	AML	14 31 53.0	
	1.5nm,0.5s						
CSS				AML	AML	14 31 53.0	
	1.5nm,0.5s						
NATA	**Nata**	**0.52**	**299**	P	**Pg**	**14 31 43.7**	**+0.1**
NATA				S	**Sb**	**14 31 52.1**	**-0.2**
NATA				AML	AML	14 31 57.0	
	4.7nm,0.9s						
NATA				AML	AML	14 31 57.0	
	4.7nm,0.9s						
NATA				AML	AML	14 31 57.3	
	6.6nm,0.4s						
NATA				AML	AML	14 31 57.3	
	6.6nm,0.4s						
LEF	**Lefka**	**0.61**	**342**	Pg	**Pg**	**14 31 44.7**	**-0.8**
LEF				Sg	**Sg**	**14 31 54.1**	**+0.5**
MVOU	**Mavrovouni**	**0.64**	**41**	P	**Pg**	**14 31 45.7**	**-0.3**
MVOU				S	**Sb**	**14 31 55.9**	**0.0**
MVOU				AML	AML	14 32 01.6	
	1.4nm,0.8s						
MVOU				AML	AML	14 32 01.6	
	1.4nm,0.8s						
MVOU				AML	AML	14 32 02.4	
	1.6nm,0.7s						
MVOU				AML	AML	14 32 02.4	
	1.6nm,0.7s						
ALFC	**Alefka**	**0.76**	**326**	P	**Pg**	**14 31 47.4**	**-0.7**
ALFC				S	**Sg**	**14 31 58.4**	**+0.3**
ALFC				AML	AML	14 31 59.5	
	8.2nm,0.8s						
ALFC				AML	AML	14 31 59.5	
	8.2nm,0.8s						
ALFC				AML	AML	14 32 02.3	
	5.1nm,0.4s						
ALFC				AML	AML	14 32 02.3	
	5.1nm,0.4s						
AKDN	**Akdeniz- Kıbrı**	**0.77**	**351**	Pg	**Pg**	**14 31 47.8**	**-0.7**
AKDN				Sg	**Sg**	**14 31 59.9**	**+1.3**
AKMS	**Akamas**	**0.81**	**307**	P	**Pg**	**14 31 49.2**	**+0.1**
AKMS				S	**Sb**	**14 32 01.3**	**+0.6**
AKMS				AML	AML	14 32 04.1	
	1.3nm,0.5s						
AKMS				AML	AML	14 32 05.3	
	1.5nm,0.5s						
AKMS				AML	AML	14 32 05.3	
	1.5nm,0.5s						
LFK	**Lefkose**	**0.82**	**24**	Pg	**Pg**	**14 31 48.8**	**-0.6**
EREN	**Erenkoy**	**1.32**	**41**	Pn	**Pn**	**14 31 56.6**	**-1.4**
OSC2	**CSNet OBS 4**	**1.62**	**206**	S	**Sg**	**14 32 24.7**	**-0.9**
AKKU	**Akkuyu-Mersin**	**1.66**	**12**	Pn	**Pn**	**14 32 01.5**	**-1.2**
AKKU				Sn	**Sn**	**14 32 23.8**	**-0.3**
IKL	**Isikli**	**1.76**	**15**	Pn	**Pn**	**14 32 03.4**	**-0.8**
IKL				Sn	**Sn**	**14 32 26.3**	**-0.4**
BERE	**Bereket-Mersin**	**1.81**	**3**	Pn	**Pn**	**14 32 03.9**	**-1.1**
GAZI	**Gazipasa**	**1.82**	**339**	Pn	**Pn**	**14 32 03.8**	**-1.2**
GAZI	**Gazipasa**	**1.82**	**339**	P	**Pn**	**14 32 04.1**	**-0.9**
GAZI				S	**Sn**	**14 32 25.9**	**-2.3**
GAZI				*i* AML	AML	14 32 27.0	
	comp=N,85nm,0.6s						
SILI	**Silifke-Mersin**	**1.94**	**19**	Pn	**Pn**	**14 32 05.8**	**-0.9**
KIZK	**Mersin**	**2.12**	**23**	Pn	**Pn**	**14 32 08.4**	**-0.6**
KEPZ	**Antalya-Kepez**	**2.67**	**333**	P	**Pn**	**14 32 16.3**	**-0.4**
KEPZ				S	**Sn**	**14 32 50.8**	**+1.8**
KEPZ				*i* AML	AML	14 32 54.0	
	comp=N,22nm,1.4s						
KKBE	**Karaman, Kazim**	**2.69**	**357**	P	**Pn**	**14 32 17.6**	**+0.7**
KKBE				S	**Sn**	**14 32 50.7**	**+1.1**
MMLI	**Mount Malkishu**	**2.84**	**137**	Pn	**Pn**	**14 32 18.0**	**-1.0**
YAYL	**Yayladag**	**2.87**	**58**	Pn	**Pn**	**14 32 19.1**	**-0.4**
KERG	**Konya-Eregli**	**2.99**	**16**	P	**Pn**	**14 32 22.5**	**+1.3**
KERG				S	**Sn**	**14 32 59.0**	**+1.8**
KERG				*i* AML	AML	14 33 05.0	
	comp=E,20nm,0.6s						
HMDT	**Nahal Hemdat**	**3.04**	**138**	Sn	**Sn**	**14 32 58.6**	**+0.5**
SEYD	**Seydisehir-KON**	**3.05**	**340**	Pn	**Pn**	**14 32 21.3**	**-0.7**
SEDI	**Konya, Seydise**	**3.12**	**340**	P	**Pn**	**14 32 23.9**	**+1.0**
SEDI				S	**Sn**	**14 33 03.5**	**+3.3**
KARA	**Karaisali**	**3.14**	**29**	Pn	**Pn**	**14 32 23.0**	**-0.2**
AKO	**Adana**	**3.48**	**32**	P	**Pn**	**14 32 27.4**	**-0.4**
AKO				S	**Sn**	**14 33 10.9**	**+1.9**
FETY	**Fethiye**	**3.90**	**304**	Pn	**Pn**	**14 32 33.3**	**-0.3**
APMY	**Acipayam-Deniz**	**4.26**	**315**	Pn	**Pn**	**14 32 38.5**	**-0.1**
TAVA	**DENIZLI_Tavas**	**4.49**	**312**	P	**Pn**	**14 32 40.3**	**-1.5**
TAVA				S	**Sn**	**14 33 32.1**	**-2.1**
KRMI	**Paran Flat**	**4.61**	**162**	Pn	**Pn**	**14 32 42.7**	**-0.6**
HRFI	**Mount Harif**	**4.77**	**160**	Pn	**Pn**	**14 32 44.5**	**-1.0**
HRFI				Sn	**Sn**	**14 33 43.9**	**+3.0**
MBRI	**Mt Berech**	**4.96**	**162**	Pn	**Pn**	**14 32 47.5**	**-0.7**
EIL	**Elat**	**5.09**	**162**	Pn	**Pn**	**14 32 48.8**	**-1.1**
EIL				Sn	**Sn**	**14 33 51.4**	**+2.6**

*WEL **17** 14:39:45.6±0.3, 42°.5S × 173°.4E±1°, h10 km ± 2 km, M3.0/19, ML3.2/24, MLv3.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=126.4, confirmed*
*NOU **17** 14:39:46.7, 42°.21S × 173°.74E, h13 km, MLv3.6/8, South Island, New Zealand*
ISC 17 14:39:44.7±1.2, 42°.16S±0°.03 × 173°.82E±0°.03, h13 km ± 10 km, n58, σ1°24/65, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**219**	P	**Pn**	**14 39 53.7**	**-1.5**
KHZ	**Kahutara**	**0.33**	**219**	P	**Pn**	**14 39 53.7**	**-1.5**
KHZ				S	**Sn**	**14 39 59.4**	**-2.3**
BSWZ	**Blackbirch Sta**	**0.45**	**6**	P	**Pb**	**14 39 54.0**	**-0.4**
BSWZ				S	**Sb**	**14 40 00.1**	**-0.8**
CMWZ	**Cape Campbell**	**0.51**	**36**	P	**Pn**	**14 39 56.7**	**-0.9**
TUWZ	**Tuamarina**	**0.74**	**7**	P	**Pb**	**14 39 59.4**	**+0.1**
TUWZ				S	**Sb**	**14 40 09.6**	**+0.3**
THZ	**Tophouse**	**0.79**	**300**	P	**Pb**	**14 39 59.8**	**-0.4**
THZ				S	**Sg**	**14 40 09.6**	**-0.7**
GVZ	**Greta Valley S**	**0.99**	**215**	P	**Pn**	**14 40 05.9**	**+1.6**
GVZ				S	**Sn**	**14 40 21.5**	**+3.3**
NNZ	**Nelson**	**1.00**	**341**	P	**Pb**	**14 40 03.3**	**-0.5**
TCW	**Tory Channel**	**1.01**	**20**	P	**Pn**	**14 40 04.2**	**-0.3**
SNZO	**South Karori**	**1.08**	**38**	P	**Pg**	**14 40 06.5**	**+1.1**
MRNZ	**Matariki Terra**	**1.10**	**313**	P	**Pg**	**14 40 05.4**	**-0.4**
WEL	**Wellington**	**1.13**	**40**	P	**Pg**	**14 40 07.2**	**+0.8**
PLWZ	**Palliser**	**1.23**	**62**	P	**Pg**	**14 40 08.3**	**0.0**
TKNZ	**Takaka Hill**	**1.29**	**330**	P	**Pb**	**14 40 08.7**	**-0.2**
TKNZ				S	**Sn**	**14 40 25.0**	**-0.6**
LTZ	**Lake Taylor**	**1.30**	**241**	P	**Pg**	**14 40 10.2**	**+0.5**
LTZ				S	**Sg**	**14 40 27.6**	**+1.0**
AMCZ	**Amberley**	**1.33**	**220**	P	**Pg**	**14 40 10.3**	**0.0**
DUWZ	**D'Urville Isla**	**1.36**	**3**	P	**Pb**	**14 40 09.9**	**-0.1**
CAW	**Cannon Point**	**1.41**	**42**	P	**Pb**	**14 40 10.8**	**0.0**
PAWZ	**Paruwai Farm**	**1.43**	**58**	P	**Pb**	**14 40 10.8**	**-0.4**
KIW	**Kapiti Island**	**1.54**	**33**	P	**Pb**	**14 40 12.8**	**-0.2**
DSZ	**Denniston Nort**	**1.56**	**285**	P	**Pg**	**14 40 14.0**	**-0.6**
QRZ	**Quartz Range**	**1.65**	**324**	P	**Pb**	**14 40 14.6**	**-0.3**
QRZ	**Quartz Range**	**1.65**	**324**	P	**Pn**	**14 40 14.5**	**-0.4**
OKCZ	**Okains Bay**	**1.66**	**199**	P	**Pb**	**14 40 14.9**	**-0.2**
OGWZ	**Otaki Gorge**	**1.68**	**38**	P	**Pb**	**14 40 14.5**	**-1.0**
OXZ	**Oxford**	**1.75**	**228**	P	**Pn**	**14 40 15.3**	**+0.5**
MQZ	**McQueen's Vall**	**1.77**	**209**	P	**Pn**	**14 40 15.1**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.79**	**46**	P	**Pn**	**14 40 15.6**	**+0.3**
AKCZ	**Akaroa Harbour**	**1.84**	**201**	P	**Pb**	**14 40 16.9**	**-1.2**
INZ	**Inchbonnie**	**1.84**	**251**	P	**Pb**	**14 40 18.2**	**0.0**
TMWZ	**Te Maipa**	**1.88**	**57**	P	**Pn**	**14 40 16.4**	**-0.1**
RACZ	**Rakaia**	**1.99**	**218**	P	**Pn**	**14 40 18.4**	**+0.4**
MRZ	**Mangatainoka R**	**2.00**	**42**	P	**Pn**	**14 40 18.4**	**+0.2**
WACZ	**Wakanui South**	**2.30**	**218**	P	**Pn**	**14 40 22.8**	**+0.6**
RPZ	**Rata Peaks**	**2.56**	**232**	P	**Pn**	**14 40 26.8**	**+1.0**
RPZ	**Rata Peaks**	**2.56**	**232**	P	**Pn**	**14 40 26.8**	**+1.0**
WAZ	**Wanganui**	**2.56**	**21**	P	**Pb**	**14 40 30.4**	**-0.1**
ARCZ	**Arundel**	**2.63**	**226**	P	**Pn**	**14 40 27.2**	**+0.3**
TSZ	**Takapari Road**	**2.65**	**38**	P	**Pn**	**14 40 27.1**	**-0.1**
LREZ	**Lake Rotokare**	**2.73**	**10**	P	**Pb**	**14 40 33.6**	**+0.2**
KHEZ	**Kahui Hut**	**2.87**	**3**	P	**Pb**	**14 40 33.5**	**-2.2**
KHEZ	**Kahui Hut**	**2.87**	**3**	P	**Pb**	**14 40 35.3**	**-0.4**
PNHZ	**Pukenui**	**2.88**	**40**	P	**Pb**	**14 40 37.3**	**+1.4**
NBEZ	**Newall Road No**	**2.89**	**1**	P	**Pb**	**14 40 37.0**	**+0.9**
PKE	**Pukeiti**	**2.96**	**3**	P	**Pb**	**14 40 36.7**	**-0.7**
TMZ	**Timaru**	**3.02**	**222**	P	**Pn**	**14 40 32.9**	**+0.6**
VRZ	**Vera Road**	**3.12**	**14**	P	**Pb**	**14 40 38.0**	**-1.9**
MOVZ	**Moawhango**	**3.12**	**29**	P	**Pb**	**14 40 38.7**	**-1.3**
WNVZ	**Wahianoa**	**3.14**	**26**	P	**Pb**	**14 40 40.2**	**-0.2**
TUVZ	**Tukino**	**3.21**	**26**	P	**Pb**	**14 40 41.6**	**0.0**
NNVZ	**North Ngauruho**	**3.32**	**25**	P	**Pb**	**14 40 43.4**	**-0.1**
ETVZ	**East Tongariro**	**3.35**	**26**	P	**Pb**	**14 40 43.4**	**-0.6**
TMVZ	**Te Maari**	**3.36**	**26**	P	**Pb**	**14 40 43.6**	**-0.6**
BKZ	**Black Stump Fm**	**3.62**	**35**	P	**Pb**	**14 40 44.4**	**-4.1**
ODZ	**Otahua Downs**	**3.69**	**218**	P	**Pn**	**14 40 41.9**	**+0.5**
ODZ	**Otahua Downs**	**3.69**	**218**	P	**Pn**	**14 40 41.6**	**+0.2**
HIZ	**Hauiti**	**3.73**	**13**	P	**Pn**	**14 40 45.8**	**+3.9**
TLZ	**Tolley Road**	**4.05**	**20**	P	**Pb**	**14 40 52.5**	**-3.4**

*IDC **17** 14:42:10.8±1.8, 14°.15N × 91°.23W, h82 km ± 16 km, mb3.7/7, mbtmp4.0/10, MS3.2/7, Error ellipse: s-maj=31.9km s-min=10.7km az=40.0*
*GCG **17** 14:42:11.0±0.5, 14°.08N × 91°.33W, h51 km, MD4.2*
*SNET **17** 14:42:11.0±0.7, 13°.83N × 91°.15W, h18 km ± 4 km, ML4.2*
ISC 17 14:42:08.3±0.8, 14°.0N±0°.1 × 91°.34W±0°.06, h61 km, n27, σ1°64/33, mb4.1/6, 1C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.39**	**325**	*eP*	**Pn**	**14 42 22.0**	**+2.8**
FUG	**Fuego 3**	**0.66**	**46**	*iP*	**Pn**	**14 42 24.1**	**+1.7**
STG3	**Santiaguito 3,**	**0.75**	**343**	*eP*	**Pn**	**14 42 25.1**	**+1.6**
PCG	**Pacaya**	**0.81**	**60**	*iP*	**Pn**	**14 42 26.2**	**+1.9**
NBG	**Las Nubes**	**1.13**	**58**	*eP*	**Pn**	**14 42 30.8**	**+2.5**
SLOZ	**Alcaldia de Sa**	**1.51**	**88**	*eP*	**Pn**	**14 42 34.5**	**+1.3**
SLOZ				*eS*	**Sn**	**14 42 53.5**	**+1.6**
NUBE	**Las Nubes**	**1.51**	**93**	*eP*	**Pn**	**14 42 34.4**	**+1.0**
NUBE				*eS*	**Sn**	**14 42 52.4**	**+0.2**
CEVE	**Cerro Verde**	**1.67**	**95**	*eP*	**Pn**	**14 42 37.1**	**+1.5**
CEVE				*eS*	**Sn**	**14 42 57.8**	**+1.7**
CEVE				IAML		14 43 04.0	
	comp=Z,6μm,0.3s						
JAYA	**Jayaque - finc**	**1.86**	**100**	*eP*	**Pn**	**14 42 39.3**	**+1.2**
JAYA				*eS*	**Sn**	**14 43 00.7**	**0.0**
JAYA				IAML		14 43 03.9	
	comp=Z,5μm,0.3s						
PAVA	**Las Pavas**	**2.35**	**96**	*eP*	**Pn**	**14 42 46.0**	**+1.3**
COEG	**Centro de Oper**	**2.41**	**98**	*eP*	**Pn**	**14 42 47.2**	**+1.7**
CMIG	**Matias Romero**	**4.61**	**313**	P	**Pn**	**14 43 17.9**	**+2.5**
	comp=Z,13nm,0.3s,baz=151,slow=13,SNR=37						
CMIG				S	**Sn**	**14 44 09.3**	**+1.6**
	comp=Z,19nm,0.4s,baz=110,slow=22,SNR=6.2						
CMIG				LR	LR	14 45 20.6	
	comp=Z,126nm,20.3s,baz=130,slow=42						
JTS	**Las Juntas de**	**7.24**	**120**	P	**Pn**	**14 43 55.1**	**+3.5**
	comp=Z,4.1nm,0.3s,baz=293,slow=23,SNR=2.5						
JTS				S	**Sn**	**14 45 14.3**	**+1.8**
	comp=Z,9.1nm,0.6s,baz=299,slow=22,SNR=2.2						
TXAR	**Lajitas Array**	**19.07**	**325**	P	**P**	**14 46 26.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=146,slow=8.3,SNR=6.2						
SDV	**Santo Domingo**	**20.91**	**102**	P	**P**	**14 46 46.5**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=310,slow=9.3,SNR=4.4						
SDV				LR	LR	14 54 38.9	
	comp=Z,49nm,19.2s,baz=267,slow=36						
	comp=Z,4.1nm,0.6s						
TKL	**Tuckaleechee C**	**22.62**	**16**	P	**P**	**14 47 04.3**	**+0.1**
	comp=Z,4.1nm,0.5s,baz=180,slow=11,SNR=9.5						
TKL				LR	LR	14 56 11.6	
	comp=Z,56nm,19.9s,baz=188,slow=38						
	comp=Z,4.1nm,0.5s						
SJG	**San Juan**	**24.54**	**77**	LR	LR	14 56 29.8	
	comp=Z,32nm,19.7s,baz=245,slow=35						
PDAR	**Pinedale Array**	**32.70**	**335**	LR	LR	15 04 59.6	
	comp=Z,54nm,18.2s,baz=316,slow=42						
NVAR	**Mina Array Bea**	**34.09**	**321**	P	**P**	**14 48 48.6**	**+1.2**
	comp=Z,2.8nm,0.7s,baz=132,slow=8.8,SNR=18						
NVAR				PcP	**PcP**	**14 51 24.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=145,slow=2.2,SNR=3.9						
	comp=Z,2.8nm,0.7s						
SIV	**San Ignacio**	**42.22**	**134**	P	**P**	**14 49 56.3**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=307,slow=8.2,SNR=16						
	comp=Z,3.1nm,0.6s						
SCHQ	**Schefferville**	**45.01**	**20**	P	**P**	**14 50 15.1**	**-2.6**
	comp=Z,2.7nm,0.8s,baz=250,slow=9.2,SNR=3.9						
SCHQ				LR	LR	15 10 28.1	
	comp=Z,46nm,18.1s,baz=138,slow=38						
	comp=Z,2.7nm,0.8s						
YKA	**Yellowknife Ar**	**51.19**	**346**	P	**P**	**14 51 03.8**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=151,slow=7.5,SNR=19						
YKA				PcP	**PcP**	**14 52 19.0**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=150,slow=3.7,SNR=9.1						
	comp=Z,0.9nm,0.7s						
SFJD	**Kangerlussuaq**	**59.33**	**17**	LR	LR	15 18 10.9	
	comp=Z,31nm,19.6s,baz=239,slow=36						
ILAR	**Eielson Array**	**63.10**	**337**	P	**P**	**14 52 28.8**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=174,slow=4.7,SNR=9.1						
ILAR				PcP	**PcP**	**14 53 05.5**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=119,slow=1.8,SNR=4.2						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**119.23**	**5**	PKP	**PKPdf**	**15 00 49.2**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=1,slow=2.7,SNR=1.7						
WRA	**Warramunga Arr**	**136.02**	**256**	PKP	**PKPdf**	**15 01 21.9**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=92,slow=3.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**146.20**	**342**	PKPbc	**PKPdf**	**15 01 41.3**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=337,slow=3.2,SNR=24						

*NEIC **17** 14:42:17.7±0.7, 6°.18S±0°.05 × 153°.56E±0°.06, h10 km ± 1 km, mb4.0/8, Error ellipse: s-maj=11.0km s-min=6.9km az=129.0*
*IDC **17** 14:42:22.6±1.6, 6°.11S × 153°.50E, h57 km ± 15 km, mb3.5/5, mbtmp3.8/7, Error ellipse: s-maj=22.0km s-min=12.0km az=51.0*
ISC 17 14:42:20.4±0.7, 6°.18S±0°.07 × 153°.45E±0°.07, h32 km, n22, σ1°37/26, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.34**	**323**	P	**Pn**	**14 42 57.1**	**+0.4**
	42nm,0.3s,baz=248,slow=2.1,SNR=27						
KRVT				S	**S

JGF	Kuroka	4.53	259	P		Pn	14 51 29.7	+1.9	
INU	Inuyama	4.86	256	P		Pn	14 51 32.9	+0.5	
ERM	Erimo	5.39	3	P		Pn	14 51 37.1	-2.4	
JEM	Erimo	5.39	3	P		Pn	14 51 38.3	-1.2	
ASAJ	Asahikawa	7.48	359	Pn		Pn	14 52 06.9	-1.4	
	1.7nm,0.3s,baz=204,slow=13,SNR=20								
ASAJ				Sn		Sn	14 53 28.8	-3.3	
	0.6nm,0.3s,baz=254,slow=25,SNR=1.9 4.3nm,0.3s								
JHS	Saiiyo	8.04	261	P		Pn	14 52 18.2	+2.2	
KSRS	Korea Array	11.92	278	Pn		Pn	14 53 12.1	+2.9	
	0.2nm,0.3s,baz=84,slow=14,SNR=2.3								
KSRS				LR		LR	14 57 07.4		
	comp=Z,40nm,18.2s,baz=75,slow=34								
KLR	Kul'dur	14.95	331	Pn		P	14 53 54.8	-0.8	
	0.2nm,0.3s,baz=145,slow=8.3,SNR=3.8								
KLR				LR		LR	14 58 49.6		
	comp=Z,38nm,18.2s,baz=152,slow=34								
MA2	Magadan	23.54	10	P		P	14 55 29.0	+0.3	
	1.0nm,0.2s,baz=161,slow=14,SNR=2.3 1.0nm,0.2s								
H11N2	WAKE ISLAND Hy	26.98	122	T		T	15 24 10.5		
	baz=314,slow=75,SNR=8.1								
SEY	Seymchan	26.99	10	P		P	14 56 01.1	+0.9	
	1.1nm,0.8s,baz=181,slow=9.8,SNR=4.4 1.1nm,0.8s								
H11N1	WAKE ISLAND Hy	26.99	122	T		T	15 24 11.1		
	baz=314,slow=75,SNR=6.3								
H11N3	WAKE ISLAND Hy	27.00	122	T		T	15 24 11.8		
	baz=314,slow=75,SNR=5.9								
H11S1	WAKE ISLAND Hy	27.70	124	T		T	15 25 04.5		
	baz=316,slow=76,SNR=5.6								
H11S3	WAKE ISLAND Hy	27.71	124	T		T	15 25 05.8		
	baz=316,slow=76,SNR=3.5								
H11S2	WAKE ISLAND Hy	27.72	124	T		T	15 25 06.7		
	baz=316,slow=76,SNR=4.2								
SONM	Songino Array	28.94	304	P		P	14 56 19.5	+1.7	
	3.7nm,1.2s,baz=116,slow=8.2,SNR=10.0 3.7nm,1.2s								
TIXI	Tiksi	35.83	353	LR		LR	15 13 16.1		
	comp=Z,23nm,20.1s,baz=182,slow=38								
CMAR	Chiang Mai Arr	42.48	257	LR		LR	15 19 25.5		
	comp=Z,15nm,18.1s,baz=40,slow=41								
ZALV	Zalesovo Beam	43.01	313	P		P	14 58 17.8	+0.1	
	0.9nm,0.6s,baz=95,slow=6.4,SNR=5.1 0.9nm,0.6s								
MKAR	Makanchi Array	45.28	303	P		P	14 58 36.9	+0.8	
	0.8nm,0.7s,baz=89,slow=9.9,SNR=9.4 0.8nm,0.7s								
ILAR	Eielson Array	49.24	32	P		P	14 59 07.9	+1.3	
	0.3nm,0.8s,baz=242,slow=6.9,SNR=4.1 0.3nm,0.8s								
WRA	Warramunga Arr	56.83	190	P		P	15 00 02.5	-0.5	
	0.3nm,0.7s,baz=11,slow=7.7,SNR=2.1 0.3nm,0.7s								
ASAR	Alice Springs	60.55	189	P		P	15 00 28.8	-0.1	
	0.4nm,0.7s,baz=4.5,slow=7.1,SNR=5.4 0.4nm,0.7s								
YKA	Yellowknife Ar	63.59	30	P		P	15 00 49.6	+0.8	
	0.2nm,0.7s,baz=304,slow=7.2,SNR=3.5 0.2nm,0.7s								
AKASG	Malin Array Be	75.30	323	P		P	15 02 01.9	+0.6	
	0.2nm,0.3s,baz=23,slow=5.0,SNR=1.7 0.2nm,0.3s								

*NEIC **17** 14:55:28.8±1.0,35°.73N±0°.01×121°.12W±0°.02,h12km±4km, Error ellipse: s-maj=2.4km s-min=2.0km az=76.0*
*NCEDC **17** 14:55:29.1±1.7,35°.73N±0°.01×121°.09W±0°.02,h7km±5km, ML3.1/22,ML2.8/64(NEIC),Error ellipse: s-maj=2.8km s-min=2.0km az=82.0*
*ANF **17** 14:55:30.3±0.9,35°.66N×121°.11W,h25km,ML3.1/17, Error ellipse: s-maj=8.5km s-min=6.2km az=113.0*

ISC 17 14:55:28.5±0.9,35.72N±0°.02×121.14W±0°.03,h14km±5km, n166,σ0s69/170,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHCM	Hearst Castle	0.03	197		Pg	14 55 31.0	+0.1
PHSB	Hesperia Broad	0.13	33		Pg	14 55 31.7	-0.3
PHSB					Sg	14 55 33.8	-0.6
PANM	San Antonio Re	0.20	71		Pg	14 55 32.7	-0.4
RAMR	Ramage Ranch	0.23	110		Pg	14 55 33.6	0.0
RAMR					Sg	14 55 37.0	0.0
BLDC	Black Mountain	0.26	133		Pg	14 55 34.5	+0.5
ARDC	Alexander Ranc	0.28	152		Pg	14 55 34.8	+0.4
ARDC					Sg	14 55 39.2	+0.8
PCCM	Crazy Canyon	0.38	357		Pg	14 55 36.6	+0.5
PPO	Portuguese Can	0.45	70		Pg	14 55 37.6	+0.1
PTAM	Tassajara Cree	0.48	132		Pg	14 55 38.4	+0.5
LSDC	Los Osos Digit	0.48	150		Pg	14 55 38.8	+0.8
TCAS	Cass Winery, P	0.48	102		Pg	14 55 37.9	-0.2
PHPM	Hope Ranch	0.51	58		Pg	14 55 38.1	-0.4
EFD	Emergency Oper	0.52	139		Pg	14 55 38.9	+0.2
PPTM	Peach Tree Val	0.52	41		Pg	14 55 38.6	-0.1
PWKM	Work Ranch	0.52	79		Pg	14 55 38.9	+0.1
VPDC	Valencia Peak	0.52	155		Pb	14 55 39.7	+0.2
PVCM	Vineyard Canyo	0.53	67		Pg	14 55 38.7	-0.3
PKD	Bear Valley Ra	0.54	65		Pg	14 55 38.6	-0.5
PSTM	Stockdale Moun	0.56	67		Pg	14 55 38.9	-0.5
DCD	Diablo Creek	0.56	154		Pg	14 55 39.8	+0.4
DPD	Davis Peak	0.56	149		Pg	14 55 40.2	+0.6
PSMM	Smith Mountain	0.57	51		Pg	14 55 39.6	-0.1
PMPB	Monarch Peak	0.57	29		Pg	14 55 39.7	0.0
TCHL	Shandon	0.60	92		Pg	14 55 40.3	0.0
BAPM	Anderson Peak	0.61	319		Pg	14 55 41.1	+0.6
PHAM	Harlan Ranch	0.62	78		Pg	14 55 40.3	-0.3
PHFM	Heflinger Ranc	0.62	74		Pg	14 55 40.4	-0.3
GHC	Gold Hill	0.65	80		Pg	14 55 40.8	-0.4
PKLM	Kerr Lake	0.65	85		Pg	14 55 41.0	-0.2
TSCN	Private Proper	0.67	105		Pg	14 55 41.6	+0.1
PJUM	Juniper Ridge	0.68	41		Pg	14 55 41.8	+0.1
CTM	Castle Mountai	0.69	71		Pg	14 55 42.0	0.0
TSCS	Shell Creek So	0.70	113		Pb	14 55 42.5	0.0
BSGM	Shirttail Gulc	0.70	353		Pg	14 55 42.0	-0.2
TRAM	Private Proper	0.71	93		Pg	14 55 42.0	-0.3
LRV	Little Rabbit	0.71	8		Pg	14 55 42.6	+0.1
BPOM	Post Ranch	0.72	315		Pg	14 55 43.0	+0.5
HAST	Hastings Reser	0.75	334		Pg	14 55 43.2	+0.2
BPIM	Pinnacles	0.77	358		Pg	14 55 43.2	-0.3
BBNM	San Benito	0.80	4		Pg	14 55 44.0	+0.1
TRAY	Twisselman Ran	0.84	101		Pb	14 55 45.3	+0.3
BVL	Bear Valley	0.86	357		Pg	14 55 44.9	-0.2
BBGB	Big Mountain B	0.87	5		Pb	14 55 45.7	+0.3
PDRM	Domengine Ranc	0.88	45		Pb	14 55 46.1	+0.5
SCZ	Santa Cruz	0.91	347		Pg	14 55 45.8	-0.3
BJOM	Mount Johnson	0.92	351		Pg	14 55 45.7	-0.7
PMLM	Mount Lospe	0.93	152		Pg	14 55 46.2	-0.2
BPCNC	Pine Canyon	0.94	335		Pg	14 55 46.7	0.0
BLRM	Lewis Ranch	0.95	354		Pg	14 55 46.9	-0.1
BMSM	Mercy Hot Spri	0.98	16		Pn	14 55 48.2	+0.2
YEG	Yeguas Mountai	1.00	106		Pg	14 55 47.7	-0.2
BCH	Branch Mountai	1.01	121		Pg	14 55 47.6	-0.5
BHRM	Hodges Ranch	1.02	354		Pn	14 55 49.0	+0.6
SMMC	Simmler	1.02	113		Pb	14 55 47.6	-0.4
SMMC	Simmler	1.02	113	P	Pb	14 55 47.4	-0.5
	baz=295,SNR=47						
SMMC				S	Sn	14 56 02.8	+0.2
	baz=295						
PWMM	Westland Maint	1.04	46		Pb	14 55 48.2	0.0
BVYM	Vineyard	1.06	348		Pb	14 55 48.4	-0.2
BSLM	Silva Ranch	1.07	351		Pn	14 55 49.7	+0.6
FRP	Fremont Peak	1.07	345		Pb	14 55 48.6	-0.3
SAO	San Andreas Ge	1.08	347		Pb	14 55 48.7	-0.2
CARC	Carrizo Plain	1.13	111		Pb	14 55 49.5	-0.4
HBTM	San Juan Bauti	1.18	344		Pb	14 55 50.4	-0.3
HTUM	Tustin Road	1.18	340		Pb	14 55 50.0	-0.7
ANZ	Anzar Road	1.22	343		Pn	14 55 51.2	0.0
CRGC	Crocker Grade	1.25	112		Pn	14 55 51.2	-0.5
HCOM	Corn Cob Canyo	1.26	339		Pn	14 55 51.9	+0.3
GATR	Gnd/Air Tx Cnt	1.27	156		Pn	14 55 51.7	-0.2
HFEM	San Felipe	1.28	351		Pn	14 55 52.3	+0.2
PACP	Pacheco Peak	1.30	355		Pb	14 55 52.8	+0.1
JELB	Ellicott, Sant	1.33	336		Pn	14 55 52.8	+0.1
CDC	Canada Road	1.34	348		Pb	14 55 54.0	+0.6
HPCM	Pacheco Lake	1.35	355		Pn	14 55 53.3	+0.3
SLD	San Luis Dam	1.36	357		Pn	14 55 53.1	0.0
PKM	Mcpherson Peak	1.36	127		Pn	14 55 53.0	-0.3
PKM	Mcpherson Peak	1.36	127	P	Pn	14 55 52.8	-0.5
	baz=309,SNR=23						
FIGC	Figueroa Mtn.	1.36	136		Pn	14 55 52.6	-0.6
NJQ	Nojoqui County	1.42	146		Pn	14 55 53.9	0.0
JTGM	Trout Gulch Ro	1.44	336		Pn	14 55 54.5	+0.3
JRGM	Rodeo Gulch Ro	1.48	333		Pn	14 55 54.5	-0.2
JLAB	Laurel Hill	1.51	342		Pn	14 55 55.5	+0.2
SYP	Santa Ynez Pea	1.52	141		Pn	14 55 55.0	-0.5
AMC	Almaden	1.55	339		Pn	14 55 55.7	0.0
VOG	Valley Oaks Go	1.55	66	S	Sn	14 56 15.6	0.0
	baz=247						
CCOB	Coe Ranch Numb	1.60	345		Pn	14 55 57.0	+0.5
BCW	Bitter Crk WRg	1.61	118		Pn	14 55 57.2	+0.5
JBNB	Ben Lomond Mou	1.63	330		Pn	14 55 56.2	-0.6
JJOM	Saint Joseph's	1.63	336		Pn	14 55 56.7	-0.2
CMPM	Mikes Peak	1.65	355		Pn	14 55 57.5	+0.4
ARN	Arnold Ranch	1.66	349		Pn	14 55 57.5	+0.2
MHC	Mount Hamilton	1.67	346		Pn	14 55 57.7	+0.1
VES	Vestal, Richgr	1.68	85	P	Pn	14 55 57.2	-0.3
	baz=267,SNR=12						
VES				S	Sn	14 56 17.9	-0.9
	baz=267						
MHDM	Hidden Dam	1.72	35		Pn	14 55 58.2	+0.1
JSGM	Saratoga Golf	1.73	335		Pn	14 55 58.4	+0.2
MRHM	Rocky Hill	1.76	70		Pn	14 55 57.8	-0.8
MYLM	Yosemite Lake	1.76	19		Pn	14 55 58.9	+0.3
JSJM	St Joseph	1.79	335		Pn	14 55 59.4	+0.4
BSM	San Miguel Isl	1.79	159		Pn	14 55 58.7	-0.4
COSM	Mount Oso	1.80	354		Pn	14 56 00.1	+0.8
CALM	Calaveras Res.	1.81	343		Pn	14 55 59.2	-0.2
JFP	Foothills Park	1.85	333		Pn	14 55 59.6	-0.2
BGH	Bear Gulch	1.89	330		Pn	14 56 00.3	0.0
JRSC	Jasper Ridge	1.90	333		Pn	14 56 00.3	-0.3
WOFM	Oak Flat	1.99	94		Pb	14 56 05.2	+0.7
SPG2	Springville 2	1.99	75		Pn	14 56 01.5	-0.3
MMIM	Miami Mountain	2.04	33		Pn	14 56 03.2	+0.6
WASM	Alta Sierra Ca	2.10	89		Pn	14 56 03.2	-0.3
ISA	Isabella, Lake	2.17	91		Pn	14 56 05.0	+0.6
ISA	Isabella, Lake	2.17	91	IAML		14 56 33.6	
	comp=N,70nm,0.3s						
ISA				IAML		14 56 33.9	
	comp=E,60nm,0.3s						
ISA	Isabella, Lake	2.17	91	P	Pn	14 56 04.5	+0.2
	baz=272,SNR=15						
ISA				S	Sn	14 56 30.6	-0.6
	baz=272						
MCUB	Copperopolis B	2.29	10		Pn	14 56 06.0	0.0
WLHM	Little Horse	2.34	78		Pn	14 56 07.2	+0.4
CMB	Columbia Colle	2.39	14		Pn	14 56 08.1	+0.7
CTAM	Taylor	2.41	343		Pg	14 56 13.9	-0.9
MRDM	Red Cones	2.52	41		Pn	14 56 10.5	+1.2
MDPB	Devils Postpil	2.53	40		Pn	14 56 10.8	+1.3
MDPB	Devils Postpil	2.53	40	IAML		14 56 48.7	
	comp=N,45nm,0.9s						
MDPB				IAML		14 56 52.4	
	comp=E,52nm,0.6s						
MMPM	Mammoth Pass	2.54	41		Pn	14 56 11.1	+1.4
CWC	Cottonwood Cre	2.58	73	P	Pn	14 56 11.1	+1.0
	baz=255						
MDYM	Dry Creek	2.59	41		Pn	14 56 12.1	+1.8
MLCM	Laurel Creek C	2.60	43		Pn	14 56 12.1	+1.6
MDCM	Deadman Creek	2.61	40		Pn	14 56 12.0	+1.5
CCAC	Calif City Air	2.61	101		Pn	14 56 10.6	+0.3
CCAC				IAML		14 57 08.0	
	comp=E,46nm,0.9s						
CCAC				IAML		14 57 29.8	
	comp=N,53nm,1.4s						
MCVM	Convict Lake	2.64	44		Pn	14 56 12.6	+1.6
MCBM	Casa Benchmark	2.64	42		Pn	14 56 12.8	+1.8
MTUM	Tungsten Hills	2.64	51		Pn	14 56 12.6	+1.7
MLAC	Mammoth, Mammo	2.66	43		Pn	14 56 13.2	+2.0
MLAC	Mammoth, Mammo	2.66	43	P	Pn	14 56 12.8	+1.6
	baz=224,SNR=15						
MDRNC	Doe Ridge	2.67	43		Pn	14 56 13.2	+1.9
LMCR	Lookout Mounta	2.67	41		Pn	14 56 13.8	+2.3
TIN	Tinemaha, Big	2.70	60	P	Pn	14 56 12.6	+0.9
	baz=241,SNR=9.4						
EDW2	Edwards Air Fo	2.71	107	P	Pn	14 56 11.5	-0.2
	baz=289						
MLHM	Little Hot Cre	2.71	43		Pn	14 56 14.2	+2.3
MCCM	Marconi Confer	2.80	331	Pn	Pn	14 56 12.9	0.0
MCCM				IAML		14 57 08.8	
	comp=N,53nm,2.0s						
LRMC	Laurel Mtn Rad	2.83	94	P	Pn	14 56 14.1	+0.7
	baz=276						
PASC	Pasadena Art C	2.88	122		Pn	14 56 13.8	-0.1
MPMC	Manual Prospec	2.98	82	P	Pn	14 56 16.4	+0.8
	baz=265						
DSP	Deep Springs	3.04	56		Pn	14 56 16.9	+0.7
DSP				IAML		14 57 12.8	
	comp=N,23nm,0.8s						
DSP				IAML		14 57 13.6	
	comp=E,20nm,1.0s						
FMP	Fort Macarthur	3.08	130	P	Pn	14 56 15.8	-1.0
	baz=312						
LCH	Last Change Ra	3.20	61		Pn	14 56 19.7	+1.1
LCH				IAML		14 57 15.2	
	comp=E,19nm,0.6s						
LCH				IAML		14 57 17.7	
	comp=N,17nm,1.0s						
BFSC	Mount Baldy Ra	3.22	116	P	Pn	14 56 18.9	+0.1
	baz=299						
AFDM	Forest Hills D	3.23	2	Pn	Pn	14 56 20.4	+1.6
AFDM				IAML		14 57 01.4	
	comp=E,16nm,0.4s						
LHV	Little Huntoon	3.30	39	Pn	Pn	14 56 20.2	+0.5
LHV				IAML		14 57 23.4	
	comp=N,29nm,0.9s						
LHV				IAML		14 57 27.7	
	comp=E,38nm,0.9s						
GRAC	Grapevine Rang	3.30	66	Pn	Pn	14 56 20.4	+0.5
GRAC				IAML		14 57 15.8	
	comp=N,36nm,0.7s						
QSM	Queen of Sheba	3.48	85		Pn	14 56 22.3	+0.1
QSM				IAML		14 57 17.9	
	comp=N,19nm,4.2s						
QSM				IAML		14 57 32.8	
	comp=E,13nm,4.5s						
GSC	Goldstone, Bar	3.56	95		Pn	14 56 23.5	+0.1
GSC				IAML		14 57 27.5	
	comp=E,17nm,1.4s						
RYN	Ryan	3.58	35		Pn	14 56 23.7	-0.1
RYN				IAML		14 57 34.1	
	comp=N,30nm,0.6s						
RYN				IAML		14 57 35.5	
	comp=E,27nm,0.6s						
YERR	Yerington	3.60	24		Pn	14 56 23.9	-0.2
YERR				IAML		14 57 24.5	
	comp=N,19nm,0.6s						
MZP	Montezuma Peak	3.61	56		Pn	14 56 23.8	-0.6
HOPS	Hopland Field	3.62	335	Pn	Pn	14 56 23.5	-0.6
HOPS				IAML		14 57 08.1	
	comp=E,26nm,3.9s						
GWY	Greenwater Val	3.66	81	Pn	Pn	14 56 25.4	+0.5
GWY				IAML		14 57 24.7	
	comp=E,15nm,1.0s						
ELS	Elsinore Mount	3.69	123		Pn	14 56 24.4	-0.8
WCT	Wildcat Mounta	3.80	72		Pn	14 56 27.7	+0.9
TPH	Tonopah	3.93	52	Pn	Pn	14 56 28.4	-0.1
HEC	Hector,Ludlow	4.03	101	P	Pn	14 56 29.1	-0.8
	baz=284						
TPNV	Topopah Spring	4.14	71		Pn	14 56 32.5	+1.0
TPNV				IAML		14 57 44.8	
	comp=E,13nm,0.9s						
TPNV				IAML		14 58 04.8	
	comp=E,13nm,3.9s						
TPNV	Topopah Spring	4.14	71	P	Pn	14 56 33.0	+1.6
	baz=254						
TUQ	Turquoise Moun	4.26	92	P	Pn	14 56 33.6	+0.5
	baz=276						
PFO	Pinyon Flats O	4.39	117	Pn	Pn	14 56 35.3	+0.4
PFO				IAML		14 57 10.2	
	comp=E,7.1nm,4.5s						
PFO	Pinyon Flats O	4.39	117	P	Pn	14 56 34.4	-0.5
	baz=300						
BELC	Belle Mtn. Jos	4.56	111	P	Pn	14 56 37.2	-0.1
	baz=294						
BAR	Barrett	4.78	128	Pn	Pn	14 56 40.1	-0.1
BAR				IAML		14 58 52.8	
	comp=N,6.8nm,4.8s						
BAR				IAML		14 59 49.6	
	comp=E,7.2nm,4.8s						
MONP2	Monument Peak	4.81	124	P	Pn	14 56 40.2	-0.6
	baz=308						
CBX	Cerro Bola	5.03	131	Pn	Pn	14 56 44.3	+0.6
CBX				IAML		14 57 50.9	
	comp=N,8.7nm,2.2s						
CBX				IAML		14 57 59.3	
	comp=E,9.4nm,3.8s						
RMX	La Rumorosa	5.22	125	Pn	Pn	14 56 47.1	+0.8
YUH	Yuha Desert	5.30	124	Pn	Pn	14 56 47.2	-0.1
YUH				IAML		14 57 35.6	
	comp=E,6.6nm,4.8s						
YUH				IAML		15 00 19.1	
	comp=N,6.2nm,4.9s						
ESJX	Sierra Juarez	5.69	129		Pn	14 56 53.3	+0.5

MAN 17 15:11:27.1,5°.09N×126°.24E,h2km,mb3.9,ML2.7,MS2.2, Mindanao

*ISK **17** 15:19:44.4,34°.46N×33°.13E,h12km,ML3.0/11*
*DDA **17** 15:19:47.3±0.0,34°.78N×33°.04E,h8km±2km,ML2.5*
*NIC **17** 15:19:48.7±0.0,34°.64N×33°.14E,h17km±4km,Ml2.8/7*
*GII **17** 15:19:50.0±0.0,34°.59N×33°.20E,h20km,Mm2.9/2*

ISC 17 15:19:48.2±1.0,34°.62N±0°.03×33°.11E±0°.03,h18km±5km, n35,σ1s38/57,2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	Asgata	0.20	35	∥iP	Pg	15 19 53.2	+0.1
ASGA				S	Sb	15 19 57.2	+0.6
ASGA				AML	AML	15 19 57.4	
	38nm,0.3s						
ASGA				AML	AML	15 19 57.4	
	38nm,0.3s						
ASGA				AML	AML	15 19 57.4	
	36nm,0.2s						
ASGA				AML	AML	15 19 57.4	
	36nm,0.2s						
SZAC	Souni	0.23	305	∥iP	Pg	15 19 53.9	+0.3
SZAC				S	Sg	15 19 58.3	+0.9
SZAC				AML	AML	15 19 58.8	
	15nm,0.2s						
SZAC				AML	AML	15 19 58.8	
	27nm,0.2s						
SZAC				AML	AML	15 19 58.8	
	15nm,0.2s						
SZAC				AML	AML	15 19 58.8	
	27nm,0.2s						
CSS	Mathiatis	0.38	28	Pg	Pg	15 19 55.3	-1.0
CSS				Sg	Sb	15 20 02.7	+0.4
CSS	Mathiatis	0.38	28	P	Pg	15 19 55.4	-0.8
CSS				S	Sg	15 20 01.2	-0.5
CSS				AML	AML	15 20 06.3	
	0.6nm,0.3s						
CSS				AML	AML	15 20 06.3	
	0.6nm,0.3s						
CSS				AML	AML	15 20 06.5	
	1.0nm,0.5s						
CSS				AML	AML	15 20 06.5	
	1.0nm,0.5s						
NATA	Nata	0.47	289	P	Pg	15 19 58.4	+0.7
NATA				S	Sn	15 20 07.7	-0.3
NATA				AML	AML	15 20 10.8	
	3.9nm,0.3s						
NATA				AML	AML	15 20 10.8	
	3.9nm,0.3s						
NATA				AML	AML	15 20 13.9	
	2.4nm,0.6s						
NATA				AML	AML	15 20 13.9	
	2.4nm,0.6s						
LEF	Lefka	0.53	340	Pg	Pg	15 19 58.2	-0.6
LEF				Sg	Sn	15 20 08.4	-1.0
ATHAL	Athalassa	0.57	25	P	Pg	15 19 59.4	-0.2
ATHAL				S	Sb	15 20 08.7	+1.2
MVOU	Mavrovouni	0.58	48	P	Pg	15 19 59.2	-0.7
MVOU				S	Sb	15 20 08.0	+0.2
MVOU				AML	AML	15 20 12.4	
	0.9nm,0.5s						
MVOU				AML	AML	15 20 12.4	
	0.9nm,0.5s						
MVOU				AML	AML	15 20 14.6	
	0.9nm,0.3s						
MVOU				AML	AML	15 20 14.6	
	0.9nm,0.3s						
ALFC	Alefka	0.68	322	P	Pg	15 20 01.0	-0.6
ALFC				S	Sn	15 20 12.7	-0.5
ALFC				AML	AML	15 20 13.0	
	5.1nm,0.9s						
ALFC				AML	AML	15 20 13.0	
	5.1nm,0.9s						
ALFC				AML	AML	15 20 16.0	
	2.8nm,0.4s						
ALFC				AML	AML	15 20 16.0	
	2.8nm,0.4s						
AKDN	Akdeniz- Kıbrı	0.68	350	Pg	Pg	15 20 01.1	-0.6
AKDN				Sg	Sn	15 20 13.4	+0.1
LFK	Lefkose	0.74	28	Pg	Pg	15 20 02.6	-0.2
LFK				Sg	Sn	15 20 14.7	-0.1
AKMS	Akamas	0.75	302	P	Pb	15 20 03.0	+0.2
AKMS				S	Sn	15 20 15.1	+0.1
AKMS				AML	AML	15 20 22.0	
	0.9nm,0.5s						
AKMS				AML	AML	15 20 22.0	
	0.9nm,0.5s						
PARAL	Paralimni	0.85	64	P	Pn	15 20 05.9	+0.5
PARAL				S	Sn	15 20 19.1	+1.7
EREN	Erenkoy	1.26	44	Pn	Pn	15 20 09.9	-1.0
AKKU	Akkuyu-Mersin	1.57	13	Pn	Pn	15 20 15.1	-0.2
IKL	Isikli	1.68	16	Pn	Pn	15 20 16.7	-0.1
IKL				Sn	Sb	15 20 39.2	-0.3
BERE	Bereket-Mersin	1.72	3	Pn	Pn	15 20 17.5	0.0
GAZI	Gazipasa	1.73	338	Pn	Pn	15 20 17.6	+0.1
GAZI	Gazipasa	1.73	338	P	Pn	15 20 17.3	-0.3
GAZI				S	Sn	15 20 33.5	-5.8
GAZI				*i* AML	AML	15 20 41.0	
	comp=N,58nm,0.7s						
SILI	Silifke-Mersin	1.86	21	Pn	Pn	15 20 19.3	0.0
MMA0B	Mount Meron ar	2.49	129	Pn	Pn	15 20 27.9	-0.1
MMA0B				Sn	Sn	15 20 57.3	-0.8
GEM	Giv'at Ha'Em	2.55	123	Pn	Pn	15 20 29.2	+0.5
GEM				Sn	Sn	15 20 59.1	-0.2
KEPZ	Antalya-Kepez	2.58	332	P	Pn	15 20 29.8	+0.5
KEPZ				*i* AML	AML	15 21 25.0	
	comp=E,22nm,1.6s						
KEPZ				*i* AML	AML	15 21 31.0	
	comp=N,26nm,2.0s						
KKBE	Karaman, Kazim	2.59

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.64**	**245**	⇓*iP*	**Pn**	**15 28 38.1**	**-0.6**
JAHD				⇓S	**Sn**	**15 28 48.3**	**-0.7**
JARK	**Aomorirokkasho**	**0.77**	**226**	⇓*iP*	**Pn**	**15 28 39.2**	**-1.0**
JARK				⇓S	**Sn**	**15 28 50.1**	**-1.6**
JOT	**Ohata**	**0.81**	**259**	⇓*iP*	**Pn**	**15 28 39.6**	**-1.1**
JOT				⇓S	**Sn**	**15 28 51.5**	**-1.1**
JKB	**Kayabe**	**0.87**	**293**	⇓*iP*	**Pn**	**15 28 40.1**	**-1.4**
JNBK	**Urakawa-nobuka**	**0.88**	**33**	*iP*	**Pn**	**15 28 40.4**	**-1.1**
JNBK				*eS*	**Sn**	**15 28 53.6**	**-0.4**
ERM	**Erimo**	**0.92**	**59**		**Pn**	**15 28 41.4**	**-0.6**
ERM				Sn	**Sn**	**15 28 52.9**	**-1.9**
ERM	**Erimo**	**0.92**	**59**	P	**Pn**	**15 28 41.4**	**-0.6**
ERM						15 28 52.9	
JEM	**Erimo**	**0.92**	**59**	*iP*	**Pn**	**15 28 41.4**	**-0.6**
JEM				S	**Sn**	**15 28 54.2**	**-0.6**
JIAM	**Iburiatsuma**	**1.09**	**353**	⇓*iP*	**Pn**	**15 28 44.3**	**+0.1**
JIAM				⇓S	**Sn**	**15 28 59.7**	**+1.1**
JTM	**Tenmabayashi**	**1.09**	**226**	Pn	**Pn**	**15 28 43.2**	**-1.0**
JTM	**Tenmabayashi**	**1.09**	**226**	⇓*iP*	**Pn**	**15 28 43.7**	**-0.5**
JTM				⇓S	**Sn**	**15 28 57.7**	**-1.0**
JNB	**Noboribetsu**	**1.22**	**320**	⇓*iP*	**Pn**	**15 28 44.5**	**-1.4**
JNB				⇓S	**Sn**	**15 28 59.7**	**-2.0**
JBT2	**Biratori 2**	**1.25**	**9**	⇓P	**Pn**	**15 28 45.9**	**-0.4**
JANG	**Nango**	**1.25**	**201**	*iP*	**Pn**	**15 28 45.6**	**-0.8**
JANG				S	**Sn**	**15 29 01.2**	**-1.3**
JSR	**Shiriuchi**	**1.27**	**270**	P	**Pn**	**15 28 45.6**	**-0.9**
JEW	**Eniwo**	**1.38**	**340**	⇓*iP*	**Pn**	**15 28 47.7**	**-0.4**
JEW				⇓S	**Sn**	**15 29 05.0**	**-0.6**
JYM2	**Yakumo 2**	**1.42**	**294**	⇓*iP*	**Pn**	**15 28 48.0**	**-0.5**
JCH	**Churui**	**1.42**	**41**	*iP*	**Pn**	**15 28 48.8**	**+0.2**
JCH				*eS*	**Sn**	**15 29 07.9**	**+1.5**
JOMM	**Oshimamatsumae**	**1.58**	**270**	⇓*iP*	**Pn**	**15 28 49.7**	**-0.9**
JFR	**Furan**	**1.66**	**12**	P	**Pn**	**15 28 51.3**	**-0.5**
JOSM	**Okushiri--Mats**	**2.04**	**286**	⇓P	**Pn**	**15 28 55.6**	**-1.2**
ASAJ	**Asahikawa**	**2.60**	**8**	P	**Pn**	**15 29 04.5**	**+0.1**
	29nm,0.4s,baz=212,slow=15,SNR=210						
ASAJ				S	**Sn**	**15 29 33.2**	**-1.6**
	51nm,0.4s,baz=165,slow=12,SNR=5.6						
ASAJ				LR	LR	15 30 26.0	
	comp=Z,126nm,21.0s,baz=240,slow=48						
JKA	**Kamikawa-asahi**	**2.60**	**8**	Pn	**Pn**	**15 29 05.0**	**+0.6**
NMR	**Nemuro--Hokkai**	**3.24**	**55**	*cP*	**Pn**	**15 29 11.3**	**-1.9**
NMR				*i* S	**Sn**	**15 29 46.2**	**-4.4**
RUSJ	**Misakicho**	**3.45**	**41**	*eP*	**Pn**	**15 29 15.9**	**-0.1**
RUSJ				*eS*	**Sn**	**15 29 55.1**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**3.72**	**47**	*dP*	**Pn**	**15 29 19.1**	**-0.6**
YUK				*i* S	**Sn**	**15 29 59.7**	**-2.5**
YUK				pmax	pmax		
	comp=Z,379nm,0.3s						
YUK				pmax	pmax		
	comp=N,85nm,0.2s						
YUK				pmax	pmax		
	comp=E,97nm,0.2s						
YUK				smax	smax		
	comp=N,473nm,0.5s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
JMM	**Marumori**	**3.81**	**196**		**Pn**	**15 29 21.2**	**+0.2**
JSD	**Sado**	**4.59**	**221**	Pn	**Pn**	**15 29 32.7**	**+1.1**
YSS	**Yuzh-Sakhalins**	**5.43**	**5**	*eP*	**Pn**	**15 29 45.1**	**+2.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KUR	**Kuril'sk**	**5.59**	**47**	*eP*	**Pn**	**15 29 46.3**	**+1.1**
KUR				*eS*	**Sn**	**15 30 46.5**	**-1.5**
KUR				pmax	pmax		
	comp=Z,41nm,0.4s						
KUR				smax	smax		
	comp=E,84nm,0.3s						
KUR				smax	smax		
	comp=N,49nm,0.2s						
MJB9	**Matsu-Tunnel**	**5.84**	**213**		**Pn**	**15 29 48.6**	**-0.3**
MAJO	**Matsushiro**	**5.84**	**213**		**Pn**	**15 29 47.1**	**-1.7**
MAJO	**Matsushiro**	**5.84**	**213**	*iP*	Pn	15 29 54.4	+5.6
MJAR	**Matsushiro Arr**	**5.84**	**213**	P	**Pn**	**15 29 47.9**	**-0.9**
	comp=N,0.7nm,0.5s,baz=98,slow=34,SNR=2.0						
MJAR				LR	LR	15 32 03.3	
	comp=N,75nm,19.6s,baz=164,slow=37						
JGF	**Kuroka**	**7.00**	**214**	Pn	**Pn**	**15 30 02.9**	**-1.8**
INU	**Inuyama**	**7.36**	**214**	Pn	**Pn**	**15 30 06.7**	**-2.8**
USA0B	**Ussuriysk Arra**	**7.89**	**293**	Pn	Pn	15 30 10.9	-5.8
USA0B	**Ussuriysk Arra**	**7.89**	**293**	P	Pn	15 30 10.9	-5.8
USRK	**Ussuriysk Ar.**	**7.89**	**293**	P	**Pn**	**15 30 16.1**	**-0.7**
	comp=N,5.1nm,0.8s,baz=93,slow=14,SNR=9.1						
USRK	**Ussuriysk Ar.**	**7.89**	**293**	Pn	Pn	15 30 11.9	-4.8
KLR	**Kul'dur**	**10.58**	**320**	P	**Pn**	**15 30 54.6**	**+1.2**
	comp=N,2.0nm,0.8s,baz=123,slow=14,SNR=7.1						
KLR				LR	LR	15 35 00.3	
	comp=N,54nm,18.6s,baz=123,slow=38						
KLR	**Kul'dur**	**10.58**	**320**	*iP*	**Pn**	**15 30 53.3**	**-0.1**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KSRS	**Korea Array**	**11.69**	**254**	P	**Pn**	**15 31 12.8**	**+4.2**
	comp=Z,2.8nm,0.4s,baz=63,slow=14,SNR=15						
KSRS				LR	LR	15 35 00.4	
	comp=Z,35nm,19.8s,baz=215,slow=34						
HEH	**HeiHe**	**13.42**	**315**	*eP*	**Pn**	**15 31 31.6**	**-0.4**
PETK	**Petropavlovsk-**	**15.63**	**37**	P	**Pn**	**15 32 00.4**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=218,slow=11,SNR=1.6						
ZEA	**Zeya**	**15.74**	**326**	*eP*	**Pn**	**15 32 01.5**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YAK	**Yakutsk**	**21.83**	**344**	P	**P**	**15 33 09.2**	**-2.1**
	comp=Z,3.0nm,0.4s,baz=151,slow=4.5,SNR=4.8						
	comp=Z,3.0nm,0.4s						
YAK	**Yakutsk**	**21.83**	**344**	*eP*	**P**	**15 33 07.6**	**-3.7**
YAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
SEY	**Seymchan**	**22.27**	**12**	P	**P**	**15 33 14.1**	**-2.0**
	comp=N,0.8nm,0.5s,baz=188,slow=12,SNR=6.3						
	comp=N,0.8nm,0.5s						
HHC	**Hu-ho-hao-te**	**22.94**	**278**	*eP*	**P**	**15 33 23.0**	**-0.4**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,96nm,4.5s						
ULN	**Ulaanbaatar**	**25.55**	**296**	*cePP*	**P**	**15 33 46.5**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**25.99**	**296**	P	**P**	**15 33 51.2**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=86,slow=8.7,SNR=12						
SONM				LR	LR	15 44 28.9	
	comp=Z,35nm,19.0s,baz=163,slow=37						
	comp=Z,1.7nm,0.6s						
SONM	**Songino Array**	**25.99**	**296**	P	**P**	**15 33 51.5**	**+0.2**
SONM	**Songino Array**	**25.99**	**296**	P	**P**	**15 33 51.5**	**+0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**30.27**	**128**	T	T	16 07 01.9	
	baz=321,slow=75,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**30.28**	**128**	T	T	16 07 02.1	
	baz=321,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**30.29**	**128**	T	T	16 07 02.7	
	baz=321,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**31.11**	**130**	T	T	16 08 02.6	
	baz=323,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**31.12**	**130**	T	T	16 08 02.2	
	baz=323,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**31.13**	**130**	T	T	16 08 03.9	
	baz=323,slow=76,SNR=42						
PZH	**PanZhiHua**	**36.31**	**259**	P	**P**	**15 35 23.8**	**+1.6**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
DGZ	**Jazzator, Alta**	**38.34**	**301**	*iP*	**P**	**15 35 40.0**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAA0	**Zalesovo Array**	**39.40**	**308**	P	**P**	**15 35 46.3**	**-1.4**
ZAA0				IAmb	IAmb	15 35 50.5	
	comp=Z,6.2nm,1.3s						
ZALV	**Zalesovo Beam**	**39.40**	**308**	P	**P**	**15 35 47.8**	**0.0**
	comp=Z,1.6nm,0.4s,baz=80,slow=8.0,SNR=11						
ZALV				PcP	**PcP**	**15 37 54.3**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=71,slow=4.1,SNR=3.6						
	comp=Z,1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**39.40**	**308**	P	**P**	**15 35 46.1**	**-1.7**
WMQ	**Urumqi**	**39.46**	**292**	*eP*	**P**	**15 35 49.8**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
CRAI	**Chiangrai**	**41.14**	**252**	P	**P**	**15 36 03.3**	**+0.8**
CRAI				IAmb	IAmb	15 36 05.6	
	comp=Z,4.5nm,0.9s						
MK31	**Makanchi Array**	**42.32**	**298**	P	**P**	**15 36 11.5**	**-0.4**
MK31	**Makanchi Array**	**42.32**	**298**	*iP*	**P**	**15 36 11.7**	**-0.2**
MKAR	**Makanchi Array**	**42.32**	**298**	P	**P**	**15 36 11.6**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=84,slow=8.8,SNR=12						
MKAR				PcP	**PcP**	**15 38 04.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=82,slow=6.0,SNR=5.2						
	comp=Z,2.8nm,0.9s						
MKAR	**Makanchi Array**	**42.32**	**298**	*ce*P	**P**	**15 36 14.1**	**+2.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**42.53**	**298**	P	**P**	**15 36 12.9**	**-0.7**
MAKZ				IAmb	IAmb	15 36 18.0	
	comp=Z,3.3nm,0.9s						
MAKZ	**Makanchi**	**42.53**	**298**	P	**P**	**15 36 12.9**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
IMAR	**Indian Mountai**	**42.54**	**33**	P	**P**	**15 36 12.9**	**-0.5**
CAST	**Castle Rocks**	**43.24**	**37**	P	**P**	**15 36 19.4**	**+0.2**
CAST				IAmb	IAmb	15 36 58.2	
	comp=Z,6.5nm,1.4s						
CMAR	**Chiang Mai Arr**	**43.31**	**251**	P	**P**	**15 36 21.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=52,slow=7.1,SNR=4.2						
	comp=Z,0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.31**	**251**	*iP*	**P**	**15 36 23.3**	**+3.1**
KURK	**Kurchatov**	**43.69**	**305**	P	**P**	**15 36 22.4**	**-0.5**
KURK				IAmb	IAmb	15 36 23.4	
	comp=Z,4.3nm,0.9s						
KURK	**Kurchatov**	**43.69**	**305**	*ce*P	**P**	**15 36 23.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KTH	**Kantishna Hill**	**43.76**	**37**	P	**P**	**15 36 25.0**	**+1.6**
KTH				IAmb	IAmb	15 36 41.1	
	comp=Z,14nm,1.5s						
KURBB	**Kurchatov Arra**	**43.77**	**304**	P	**P**	**15 36 23.3**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=78,slow=8.7,SNR=25						
	comp=Z,3.5nm,0.7s						
MLY	**Manley**	**43.79**	**34**	P	**P**	**15 36 25.1**	**+1.6**
I23K	**Minto, Yukon-K**	**44.37**	**34**	P	**P**	**15 36 28.8**	**+0.8**
I23K				IAmb	IAmb	15 36 53.5	
	comp=Z,7.2nm,1.5s						
NEA2	**Nenana**	**44.52**	**35**	P	**P**	**15 36 30.3**	**+1.0**
NEA2				IAmb	IAmb	15 36 31.3	
	comp=Z,2.8nm,0.6s						
GHO	**Glory Hole Cre**	**44.82**	**39**	P	**P**	**15 36 32.5**	**+0.7**
MDM	**Murphy Dome**	**44.85**	**34**	P	**P**	**15 36 33.1**	**+1.1**
MDM				IAmb	IAmb	15 36 35.5	
	comp=Z,9.1nm,1.4s						
H24K	**Noodor Dome**	**44.95**	**33**	P	**P**	**15 36 32.9**	**+0.1**
SML	**Sawmill**	**45.10**	**39**	P	**P**	**15 36 35.1**	**+1.1**
ILAR	**Eielson Array**	**45.44**	**35**	P	**P**	**15 36 37.2**	**+0.6**
	comp=Z,1.4nm,1.0s,baz=278,slow=9.1,SNR=13						
	comp=Z,1.4nm,1.0s						
M24K	**Tolsona, Glenn**	**46.07**	**38**	P	**P**	**15 36 42.8**	**+1.1**
BMAR	**Burnt Mountain**	**46.16**	**31**	P	**P**	**15 36 43.1**	**+0.8**
SCRK	**Sand Creek**	**46.79**	**36**	P	**P**	**15 36 47.4**	**+0.1**
DOT	**Dot Lake**	**46.80**	**36**	P	**P**	**15 36 48.7**	**+1.3**
DOT				IAmb	IAmb	15 37 15.8	
	comp=Z,8.1nm,1.3s						
BCAR	**Beaver Creek A**	**47.91**	**37**	P	**P**	**15 36 57.9**	**+1.9**
M27K	**Edge Creek, AK**	**48.01**	**38**	P	**P**	**15 36 58.4**	**+1.6**
M27K				IAmb	IAmb	15 37 09.3	
	comp=Z,2.4nm,1.1s						
BRVK	**Borovoye**	**48.08**	**310**	P	**P**	**15 36 57.7**	**+0.3**
BRVK	**Borovoye**	**48.08**	**310**	*iP*	**P**	**15 36 57.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,11nm,2.6s						
AAK	**Ala-Archa**	**48.94**	**295**	P	**P**	**15 37 04.0**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=104,slow=5.9,SNR=8.1						
AAK				LR	LR	16 00 15.1	
	comp=Z,37nm,18.8s,baz=320,slow=39						
	comp=Z,1.4nm,0.4s						
AAK	**Ala-Archa**	**48.94**	**295**	P	**P**	**15 37 04.1**	**-0.2**
AAK				IAmb	IAmb	15 37 04.7	
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**48.94**	**295**	P	**P**	**15 37 04.1**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
EPYK	**Eagle Plains**	**49.38**	**32**	P	**P**	**15 37 08.6**	**+1.4**
EPYK				IAmb	IAmb	15 37 09.2	
	comp=Z,3.6nm,0.6s						
YKU2	**Yakutat**	**49.72**	**41**	P	**P**	**15 37 10.5**	**+0.7**
INK	**Inuvik**	**50.15**	**29**	P	**P**	**15 37 12.6**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=288,slow=8.7,SNR=14						
	comp=Z,1.6nm,0.5s						
INK	**Inuvik**	**50.15**	**29**	P	**P**	**15 37 13.7**	**+0.7**
INK				IAmb	IAmb	15 37 28.9	
	comp=Z,3.0nm,1.4s						
INK	**Inuvik**	**50.15**	**29**	P	**P**	**15 37 13.7**	**+0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KK31	**Karatay Array**	**51.43**	**297**	P	**P**	**15 37 22.5**	**-0.5**
KK31	**Karatay Array**	**51.43**	**297**	P	**P**	**15 37 22.5**	**-0.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKAR	**Karatay Array**	**51.43**	**297**	P	**P**	**15 37 22.4**	**-0.6**
KKAR	**Karatay Array**	**51.43**	**297**	P	**P**	**15 37 22.4**	**-0.6**
A36M	**Sachs Harbour**	**51.89**	**23**	P	**P**	**15 37 25.2**	**-0.8**
A36M				IAmb	IAmb	15 37 28.7	
	comp=Z,4.7nm,0.9s						
ARU	**Arti**	**53.40**	**317**	*di*P	**P**	**15 37 37.2**	**-0.1**
ARU				*PP	**pP**	**15 37 55.1**	**+0.9**
ARU						15 38 39.8	
ARU						15 39 33.4	
ARU				S	**S**	**15 45 05.7**	**+1.5**
ARU				SS	**SS**	**15 48 40.1**	**-4.2**
ARU				pmax	pmax		
	comp=Z,11nm,2.1s						
CHGR	**Chuyangaron**	**54.31**	**293**	P	**P**	**15 37 43.8**	**-0.6**
CHGR	**Chuyangaron**	**54.31**	**293**	P	**P**	**15 37 43.8**	**-0.6**
CHGR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ABKAR	**Akbulak array**	**55.52**	**308**	P	**P**	**15 37 52.3**	**-0.4**
EUNU	**Eureka**	**55.65**	**9**	P	**P**	**15 37 53.1**	**-0.3**
EUNU				IAmb	IAmb	15 38 16.8	
	comp=Z,7.5nm,1.4s						
RES	**Resolute Bay**	**58.11**	**15**	P	**P**	**15 38 10.6**	**-0.1**
RES				IAmb	IAmb	15 38 11.4	
	comp=Z,3.8nm,0.7s						
RES	**Resolute Bay**	**58.11**	**15**	P	**P**	**15 38 10.6**	**-0.1**
RES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YKA	**Yellowknife Ar**	**59.66**	**32**	P	**P**	**15 38 21.7**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=298,slow=6.2,SNR=3.1						
	comp=Z,0.3nm,0.8s						
WB0	**Warramunga Arr**	**61.42**	**188**	P	**P**	**15 38 33.5**	**-0.5**
WB0				IAmb	IAmb	15 38 59.0	
	comp=Z,7.8nm,1.4s						
WR0	**Warramunga Arr**	**61.59**	**188**	P	**P**	**15 38 34.8**	**-0.4**
WRA	**Warramunga Arr**	**61.60**	**188**	P	**P**	**15 38 34.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=4.9,slow=6.8,SNR=12						
	comp=Z,0.7nm,0.5s						
WRA	**Warramunga Arr**	**61.60**	**188**	P	**P**	**15 38 34.7**	**-0.6**
WRA	**Warramunga Arr**	**61.60**	**188**	P	**P**	**15 38 34.7**	**-0.6**
GEYT	**Alibeck**	**62.19**	**297**	P	**P**	**15 38 39.0**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=169,slow=3.0,SNR=3.8						
	comp=Z,1.6nm,0.5s						
FIA1	**FINESS Array S**	**65.09**	**332**	P	**P**	**15 38 57.5**	**-0.4**
FINES	**FINESS Array B**	**65.09**	**332**	P	**P**	**15 38 57.6**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=45,slow=8.2,SNR=15						
	comp=Z,2.7nm,0.6s						
FINES	**FINESS Array B**	**65.09**	**332**	*ce*P	**P**	**15 38 57.5**	**-0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**65.32**	**188**	P	**P**	**15 38 60.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=8.1,slow=8.2,SNR=9.5						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**65.32**	**188**	P	**P**	**15 38 59.3**	**-0.5**
ASAR	**Alice Springs**	**65.32**	**188**	P	**P**	**15 39 00.0**	**+0.2**
KIV	**Kislovodsk**	**68.39**	**310**	*eP*	**P**	**15 39 19.7**	**+0.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBZ	**Khabaz**	**68.41**	**310**	P	**P**	**15 39 18.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=135,slow=2.9,SNR=4.1						
	comp=Z,0.9nm,0.7s						
SHA1	**Shidzhatmaz**	**68.54**	**310**	*iP*	**P**	**15 39 23.4**	**+3.0**
NB2	**NORSAR Subarra**	**70.24**	**337**	P	**P**	**15 39 30.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=35,slow=6.2						
NOA	**NORSAR Array B**	**70.24**	**337**	P	**P**	**15 39 30.0**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=52,slow=7.8,SNR=3.9						
	comp=Z,0.9nm,0.6s						
UOSS	**Minazif**	**70.98**	**287**	P	**P**	**15 39 35.7**	**+0.2**
AKASG	**Malin Array Be**	**71.08**	**322**	P	**P**	**15 39 35.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=45,slow=6.1,SNR=11						
	comp=Z,1.0nm,0.5s						
REDW	**Red Top Meadow**	**73.05**	**47**	P	**P**	**15 39 47.0**	**-0.8**
REDW				IAmb	IAmb	15 39 57.1	
	comp=Z,6.0nm,1.4s						
PDAR	**Pinedale Array**	**74.15**	**47**	P	**P**	**15 39 54.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=230,slow=4.2,SNR=2.3						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**74.15**	**47**	P	**P**	**15 39 54.5**	**+0.2**
BUR08	**Bucovina Ar. S**	**75.11**	**321**	P	**P**	**15 40 00.2**	**+0.6**
BUR08				IAmb	IAmb	15 40 09.8	
	comp=Z,7.4nm,1.5s						
BURAR	**Bucovina Array**	**75.12**	**321**	P	**P**	**15 39 60.0**	**+0.3**
BRTR	**Keskin Array B**	**76.28**	**311**	P	**P**	**15 40 07.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=17,slow=6.5,SNR=1.8						
	comp=Z,0.5nm,0.7s						
BRTR	**Keskin Array B**	**76.28**	**311**	P	**P**	**15 40 05.9**	**-0.6**
SCHQ	**Schefferville**	**80.86**	**16**	P	**P**	**15 40 31.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**114.47**	**317**	PKP	**PKiKP**	**15 46 57.0**	**-0.5**
	comp=Z,3.0nm,0.4s,baz=48,slow=2.1,SNR=1.9						

IDC 17 15:31:59.0±331.0, 5°.70S×147°.78E, h0km, Error ellipse: s-maj=128.4km s-min=17.5km az=72.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.63**	**315**	I	I	17 28 49.9	
	baz=134,slow=314,SNR=1.0						
I07AU	**WARRAMUNGA INF**	**59.27**	**222**	I	I	17 33 15.6	
	baz=43,slow=303,SNR=1.3						

IDC 17 15:35:10.4±1.9, 2°.77N×123°.81E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=218.9km s-min=27.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.83**	**156**	P	P	15 40 34.9	+0.2
	0.3nm,0.4s,baz=334,slow=10,SNR=6.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**28.06**	**160**	P	P	15 41 03.5	-0.3
	0.2nm,0.9s,baz=340,slow=6.5,SNR=1.4						
	0.2nm,0.9s						
MKAR	**Makanchi Array**	**56.72**	**327**	P	P	15 44 56.0	-0.1
	0.2nm,0.4s,baz=138,slow=8.3,SNR=5.5						
	0.2nm,0.4s						

*SSNC **17** 15:46:21.5±1.2, 19°.72N×76°.69W, h3km±5km, ML3.4, MW3.5*
*OSPL **17** 15:46:22.0±0.8, 19°.53N×76°.56W, h1km±508km, ML2.7*
*JSN **17** 15:46:23.5±0.5, 19°.70N×76°.64W, h31km±999km, MD3.5*
ISC 17 15:46:19.6±1.2, 19°.72N±0°.04×76°.75W±0°.04, h28km±14km, n15, σ1°.06/23, 2C-4D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.42**	**325**	*eP*	**Pb**	**15 46 29.8**	**+1.1**
HLGC	**Holguin**	**1.33**	**29**	*eP*	**Pn**	**15 46 43.2**	**+0.8**
HLGC				*eS*	**Sn**	**15 47 00.2**	**+0.9**
HLGC				IAML		15 47 01.1	
	comp=N,955nm,0.3s						
HLGC				IAML		15 47 02.6	
	comp=E,2μm,0.3s						
BBJ	**Bamboo Saint A**	**1.42**	**200**	⇑*iP*	**Pb**	**15 46 46.4**	**+1.0**
GTBY	**Guantanamo Bay**	**1.56**	**82**	*eP*	**Pb**	**15 46 46.9**	**-0.9**
GTBY				*eS*	**Sn**	**15 47 04.9**	**0.0**
GTBY				IAML		15 47 10.1	
	comp=E,178nm,0.3s						
GTBY				IAML		15 47 10.4	
	comp=E,311nm,0.4s						
GTBY	**Guantanamo Bay**	**1.56**	**82**	*iP*	**Pb**	**15 46 46.9**	**-0.9**
GTBY				*eS*	**Sb**	**15 47 05.5**	**-1.7**
GTBY				IAML		15 47 10.2	
	comp=Z,108nm,0.3s						
STH	**Stony Hill**	**1.64**	**182**	⇓*iP*	**Pb**	**15 46 49.1**	**-0.1**
GWJ	**Greenwich**	**1.64**	**179**	⇓*iP*	**Pb**	**15 46 49.1**	**-0.2**
CVJ	**Coleyville**	**1.66**	**207**	*iP*	**Pb**	**15 46 50.2**	**+0.6**
MTDJ	**Mount Denham**	**1.66**	**207**	*iP*	**Pb**	**15 46 49.9**	**+0.3**
MTDJ				*eS*	**Sb**	**15 47 09.5**	**-0.7**
MTDJ				IAML		15 47 11.4	
	comp=Z,72nm,1.8s						
HOJ	**Hope**	**1.71**	**180**	⇓*iP*	**Pb**	**15 46 50.3**	**-0.1**
CCCC	**Cccc**	**1.75**	**327**	*eP*	**Pn**	**15 46 47.9**	**-0.3**
CCCC				*eS*	**Sn**	**15 47 07.4**	**-2.2**
MCJ	**Malvern**	**1.99**	**207**	⇓*iP*	**Pb**	**15 46 55.1**	**-0.2**
MCJ				*i*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.10**	**211**	Pn	Pn	15 58 08.2	-1.3
URZ	0.3nm,0.3s,baz=280,slow=12,SNR=1.0			Sn	Sn	15 59 27.1	-3.7
	0.7nm,0.3s,baz=190,slow=7.3,SNR=1.5 2.9nm,0.5s						
ASAR	**Alice Springs**	**42.84**	**269**	P	P	16 04 24.5	0.0
	0.2nm,0.6s,baz=108,slow=8.0,SNR=5.7 0.2nm,0.6s						
WRA	**Warramunga Arr**	**43.99**	**274**	P	P	16 04 33.8	0.0
	0.4nm,0.3s,baz=113,slow=7.9,SNR=11 0.4nm,0.3s						
FINES	**FINESS Array B**	**146.80**	**339**	PKPbc	PKPbc	16 16 06.9	-0.8
	1.0nm,0.5s,baz=48,slow=2.8,SNR=6.1						

IDC ***17*** *16:07:57.8±1.4, 18°.92S×169°.65E, h283km±14km, mb3.2/6, mbtmp3.9/8, Error ellipse: s-maj=18.3km s-min=15.5km az=164.0*
NOU ***17*** *16:07:59.0, 19°.02S×169°.72E, h255km, MLv4.2/13, Vanuatu Islands*

ISC 17 16:07:58.6±0.7, 18°.99S±0°.08×169°.66E±0°.09, h300km, n20, σ1°.95/22, mb3.4/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.67**	**315**	P	**Pn**	**16 08 40.8**	**-2.2**
DVP	**Devils Point**	**1.88**	**312**	P	**Pn**	**16 08 41.6**	**-2.9**
LIFNC	**LIFOU**	**2.89**	**232**	P	**Pn**	**16 08 49.2**	**-4.0**
MARNC	**Mare, Loyalty**	**2.91**	**211**	P	**Pn**	**16 08 50.2**	**-3.3**
DZM	**Mont Dzumac**	**4.30**	**224**	P	**Pn**	**16 09 06.9**	**-1.3**
	37nm,0.6s,baz=65,slow=18,SNR=38			S	**S**	**16 10 02.9**	**-1.1**
DZM	13nm,0.6s,baz=323,slow=21,SNR=1.2						
DZM	**Mont Dzumac**	**4.30**	**224**	P	**Pn**	**16 09 07.0**	**-1.2**
OUENC	**Ouen Island, N**	**4.31**	**217**	P	**Pn**	**16 09 07.1**	**-1.2**
NOUC	**Port Laguerre**	**4.41**	**225**	P	**Pn**	**16 09 08.4**	**-1.0**
ONTNC	**Ouen Toro**	**4.46**	**222**	P	**Pn**	**16 09 08.7**	**-1.2**
KOUNC	**Koumac, New Ca**	**5.29**	**252**	P	**Pn**	**16 09 19.7**	**+0.1**
MSVF	**Nonsavu**	**8.06**	**82**	P	**Pn**	**16 09 53.0**	**-0.1**
	11nm,0.6s,baz=277,slow=10,SNR=9.7						
HNR	**Honiara**	**13.37**	**314**	P	**P**	**16 10 57.7**	**-0.2**
	1µm,1.0s,baz=174,slow=18,SNR=9.8						
URZ	**Urewera**	**20.27**	**163**	P	**P**	**16 12 13.6**	**+1.4**
	2.9nm,0.3s,baz=23,slow=7.7,SNR=7.1 2.9nm,0.3s						
KRVT	**Keravat (AS076**	**22.57**	**308**	P	**P**	**16 12 34.2**	**+0.2**
	20nm,0.5s,baz=129,slow=7.5,SNR=4.8						
WRA	**Warramunga Arr**	**33.28**	**262**	P	**P**	**16 14 08.9**	**+0.1**
	0.4nm,0.9s,baz=90,slow=7.9,SNR=1.8 0.4nm,0.9s						
ASAR	**Alice Springs**	**33.58**	**256**	P	**P**	**16 14 11.9**	**+0.6**
	0.4nm,0.5s,baz=80,slow=9.7,SNR=13						
ASAR	0.3nm,0.9s,baz=94,slow=4.3,SNR=1.7 0.4nm,0.5s			ScP	**ScP**	**16 20 04.1**	**+4.2**
PETK	**Petropavlovsk-**	**72.54**	**352**	P	**P**	**16 18 54.6**	**+1.7**
	4.5nm,1.0s,baz=149,slow=6.1,SNR=5.6 4.5nm,1.0s						
NVAR	**Mina Array Bea**	**88.34**	**48**	P	**P**	**16 20 17.2**	**+0.2**
	0.2nm,0.3s,baz=243,slow=6.0,SNR=4.4 0.2nm,0.3s						
ILAR	**Eielson Array**	**89.88**	**17**	P	**P**	**16 20 22.1**	**-1.2**
	0.3nm,0.7s,baz=238,slow=5.2,SNR=5.6 0.3nm,0.7s						
YKA	**Yellowknife Ar**	**100.27**	**27**	P	**Pdif**	**16 21 10.5**	**0.0**
	0.1nm,0.7s,baz=258,slow=4.9,SNR=1.9						

KRSC ***17*** *16:08:57.8±1.4, 60°.20N×163°.19E, h11km±25km, Ml4.0*
NERS ***17*** *16:09:03.5±0.0, 60°.36N×162°.99E, h33km*

ISC 17 16:08:58.3±0.9, 60°.19N±0°.03×163°.22E±0°.03, h10km, n10, σ1°.96/22, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.94**	**185**	*e*P	**Pg**	**16 09 14.8**	**-1.6**
OSSR				*e*S	**Sg**	**16 09 26.8**	**-1.9**
TILK	**Tilichiki**	**1.48**	**79**	*e*P	**Pg**	**16 09 25.7**	**-1.0**
TILK				*e*S	**Sg**	**16 09 46.0**	**+0.1**
PALN	**Palana**	**1.98**	**238**	*e*P	**Pg**	**16 09 33.2**	**-1.3**
PALN				*e*S	**Sg**	**16 09 59.2**	**+0.1**
EVEN	**Evensk**	**2.60**	**313**	*e*P	**Pn**	**16 09 42.3**	**+2.0**
EVEN				*e*Pg	**Pg**	**16 09 46.9**	**-1.1**
EVEN	20nm,0.2s			Pgmax		16 09 52.6	
EVEN				*e*Sg	**Sg**	**16 10 20.4**	**-1.3**
EVEN	140nm,0.4s			Sgmax		16 10 29.2	
EVEN	140nm,0.4s			Sgmax		16 10 29.2	
KMSK	**Kamenskaya**	**2.70**	**31**	*e*P	**Pn**	**16 09 42.6**	**+0.8**
KMSK				*e*S	**Sn**	**16 10 14.9**	**+0.5**
TIGL	**Tigil**	**3.38**	**226**	*e*P	**Pn**	**16 09 52.6**	**+1.5**
TIGL				*e*S	**Sn**	**16 10 34.7**	**+3.5**
OMS	**Omsukchan**	**4.28**	**306**	*e*	**Pg**	**16 10 18.4**	**-1.7**
OMS				*e*Sg	**Sg**	**16 11 14.7**	**-0.7**
OMS	40nm,0.6s			Sgmax		16 11 22.5	
TLAR	**Talaya**	**5.40**	**285**	*e*P	**Pn**	**16 10 21.6**	**+2.7**
TLAR				*e*Pg	**Pg**	**16 10 40.5**	**-1.2**
TLAR	10.0nm,0.4s			Pgmax		16 10 41.9	
TLAR				*e*Sg	**Sg**	**16 11 52.4**	**+0.8**
TLAR	40nm,0.7s			Sgmax		16 11 53.1	
SEY	**Seymchan**	**5.86**	**303**	*e*P	**Pn**	**16 10 29.0**	**+3.9**
SEY				*e*		16 11 43.1	
SEY				*e*Sg	**Sg**	**16 12 05.4**	**-0.8**
SEY	10.0nm,0.6s			Sgmax		16 12 17.2	
SUUS	**Susuman**	**7.65**	**296**	*e*P	**Pn**	**16 10 50.4**	**+0.7**
SUUS				*e*Sg	**Sg**	**16 13 00.0**	**-3.6**
SUUS	10.0nm,0.8s			Sgmax		16 13 14.5	

NEIC ***17*** *16:31:27.6±1.4, 23°.4S±0°.1×179°.5W±0°.2, h537km±14km, mb4.6/25, Error ellipse: s-maj=28.2km s-min=8.1km az=127.0*
IDC ***17*** *16:31:27.5±2.8, 23°.32S×179°.40W, h545km±29km, mb3.4/4, mbtmp4.3/6, Error ellipse: s-maj=42.2km s-min=35.2km az=107.0*

ISC 17 16:31:26.2±1.7, 23°.4S±0°.1×179°.3W±0°.2, h536km, n36, σ1°22/37, mb4.5/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.17**	**336**	P	**P**	**16 33 06.8**	**+0.8**
	1.4nm,0.3s,baz=233,slow=22,SNR=2.6						
MSVF	**Nonsavu**	**6.17**	**336**	P	**P**	**16 33 05.8**	**-0.2**
URZ	**Urewera**	**15.10**	**191**	P	**P**	**16 34 37.6**	**+0.9**
	3.2nm,0.5s,baz=5.6,slow=2.3,SNR=6.3			S	**S**	**16 37 10.5**	**-3.1**
URZ	6.2nm,1.0s,baz=105,slow=20,SNR=1.6						
RTZ	**Ruatahuna**	**15.47**	**191**	P	**P**	**16 34 41.1**	**+0.4**
RTZ				IAmb	IAmb	16 35 12.3	
BKZ	**Black Stump Fm**	**16.09**	**192**	P	**P**	**16 34 47.1**	**+0.2**
BKZ				IAmb	IAmb	16 35 17.6	
MRZ	**Mangatainoka R**	**17.71**	**193**	P	**P**	**16 35 02.1**	**+0.1**
TCW	**Tory Channel**	**18.53**	**195**	P	**P**	**16 35 12.0**	**+2.6**
QRZ	**Quartz Range**	**18.65**	**200**	P	**P**	**16 35 13.1**	**+2.6**
TKNZ	**Takaka Hill**	**18.71**	**198**	P	**P**	**16 35 12.8**	**+1.8**
THZ	**Tophouse**	**19.40**	**198**	P	**P**	**16 35 19.4**	**+2.0**
THZ				IAmb	IAmb	16 36 01.4	
OXZ	**Oxford**	**21.09**	**198**	P	**P**	**16 35 33.5**	**+0.9**
WKZ	**Wanaka**	**23.38**	**201**	P	**P**	**16 35 54.4**	**+1.3**
ARMA	**Armidale**	**26.76**	**249**	P	**P**	**16 36 22.7**	**-0.7**
ARMA				IAmb	IAmb	16 36 27.1	
EIDS	**Eidsvold**	**26.98**	**260**	P	**P**	**16 36 24.9**	**-0.3**
EIDS				IAmb	IAmb	16 36 53.1	
CAN	**Canberra**	**29.90**	**239**	P	**P**	**16 36 51.8**	**+1.2**
CAN				IAmb	IAmb	16 37 19.1	
CTA	**Charters Tower**	**32.08**	**269**	P	**P**	**16 37 10.1**	**+0.6**
	comp=Z,5.2nm,0.4s,baz=106,slow=10.0,SNR=5.4 comp=Z,5.2nm,0.4s						
CTAO	**Charters Tower**	**32.08**	**269**	P	**P**	**16 37 09.9**	**+0.4**
STKA	**Stephens Creek**	**35.46**	**248**	P	**P**	**16 37 38.4**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=72,slow=15,SNR=1.7 comp=Z,2.1nm,0.5s						
BBOO	**Buckleboo**	**40.19**	**246**	P	**P**	**16 38 16.3**	**+0.1**
AS31	**Alice Springs**	**42.71**	**260**	P	**P**	**16 38 36.6**	**+0.2**
ASAR	**Alice Springs**	**42.71**	**260**	P	**P**	**16 38 36.7**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=95,slow=7.0,SNR=79 comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**42.71**	**260**	P	**P**	**16 38 36.2**	**-0.2**
WR0	**Warramunga Arr**	**42.86**	**265**	P	**P**	**16 38 37.1**	**-0.4**
WB2	**Warramunga Arr**	**43.03**	**265**	P	**P**	**16 38 38.7**	**-0.3**
WB0	**Warramunga Arr**	**43.04**	**266**	P	**P**	**16 38 38.5**	**-0.5**
WB0	comp=Z,5.4nm,0.3s			IAmb	IAmb	16 38 39.1	
WRA	**Warramunga Arr**	**43.05**	**265**	P	**P**	**16 38 38.9**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=96,slow=7.9,SNR=62 comp=Z,2.3nm,0.5s						
FORT	**Forrest**	**47.04**	**249**	P	**P**	**16 39 09.6**	**+0.1**
FORT	comp=Z,29nm,0.9s			IAmb	IAmb	16 39 34.0	
MTN	**Manton Dam**	**48.02**	**274**	P	**P**	**16 39 16.8**	**-0.3**
MTN	comp=Z,26nm,1.3s			IAmb	IAmb	16 39 37.3	
KNRA	**Kununurra**	**49.30**	**269**	P	**P**	**16 39 27.1**	**+0.7**
KNRA	comp=Z,32nm,1.2s			IAmb	IAmb	16 39 53.0	
FITZ	**Fitzroy Crossi**	**51.47**	**265**	P	**P**	**16 39 43.4**	**+1.0**
SOEI	**Soe**	**55.41**	**274**	P	**P**	**16 40 08.1**	**-2.4**
SOEI	comp=Z,72nm,1.5s			IAmb	IAmb	16 40 19.0	
MBWA	**Marble Bar**	**56.05**	**260**	P	**P**	**16 40 15.0**	**+0.2**
MBWA	comp=Z,20nm,1.2s			IAmb	IAmb	16 40 54.6	
MORW	**Morawa**	**57.61**	**250**	P	**P**	**16 40 26.0**	**+0.7**
MORW	comp=Z,56nm,1.5s			IAmb	IAmb	16 40 51.1	
MMRI	**Maumere**	**57.68**	**275**	P	**P**	**16 40 25.8**	**-0.3**
SBUM	**Sibu**	**71.31**	**281**	P	**P**	**16 41 50.1**	**-2.2**
HFS	**Hagfors**	**142.19**	**349**	PKP	**PKPdf**	**16 49 56.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=44,slow=4.4,SNR=7.6						

IDC 17 16:51:24.4±999.0, 50°.66N×54°.60E, h0km, Error ellipse: s-maj=761.0km s-min=49.1km az=95.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**2.21**	**95**	I	I	17 04 40.0	
	0.2nm,0.6s,baz=278,slow=335,SNR=2.2						
I46RU	**ZALESOVO INFRA**	**18.70**	**68**	I	I	18 50 10.0	
	0.1nm,1.0s,baz=274,slow=330,SNR=2.1						
I34MN	**SONGINO INFRAS**	**33.39**	**74**	I	I	20 16 40.0	
	baz=292,slow=338,SNR=0.7						

NEIC ***17*** *17:38:17.8±1.3, 59°.72N±0°.04×152°.56W±0°.06, h96km±6km, Error ellipse: s-maj=5.7km s-min=4.3km az=174.0*
AEIC ***17*** *17:38:19.8±1.6, 59°.75N±0°.04×152°.54W±0°.06, h84km±5km, ML3.0, ML3.4/106(NEIC), Error ellipse: s-maj=5.7km s-min=4.4km az=165.0*
IDC ***17*** *17:38:25.9±7.6, 60°.45N×152°.78W, h126km±83km, mb3.8/1, mbtmp3.5/3, Error ellipse: s-maj=70.8km s-min=34.6km az=1.0*

ISC 17 17:38:18.5±0.9, 59°.74N±0°.03×152°.52W±0°.03, h94km±6km, n193, σ0°.94/222, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.35**	**352**	P	**Pn**	**17 38 32.4**	**-0.3**
	baz=173						
OPT	**Oil Point**	**0.37**	**257**	P	**Pn**	**17 38 32.6**	**-0.2**
	baz=74						
P19K	**Oil Pt**	**0.37**	**257**		**Pn**	**17 38 32.5**	**-0.3**
P19K				Sn	**Sn**	**17 38 42.0**	**-1.5**
P19K				IAML		17 38 44.1	
	comp=E,1µm,0.5s						
P19K				IAML		17 38 44.1	
	comp=N,904nm,0.5s						
P19K	**Oil Pt**	**0.37**	**257**	P	**Pn**	**17 38 32.6**	**-0.3**
	baz=74						
P19K				S	**Sn**	**17 38 43.2**	**-0.3**
	baz=74						
ILSW	**Iliamna Southw**	**0.40**	**309**		**Pn**	**17 38 32.2**	**-0.9**
ILSW				Sn	**Sn**	**17 38 42.2**	**-1.9**
HOM	**Homer**	**0.45**	**100**	Pn	**Pn**	**17 38 33.3**	**0.0**
HOM				Sn	**Sn**	**17 38 44.3**	**-0.1**
HOM	**Homer**	**0.45**	**100**	P	**Pn**	**17 38 33.3**	**0.0**
	baz=282						
HOM				S	**Sn**	**17 38 44.6**	**+0.3**
	baz=282						
CNPM	**China Poot**	**0.69**	**107**		**Pn**	**17 38 35.1**	**-0.1**
CNPM				Sn	**Sn**	**17 38 47.2**	**-0.6**
RSO	**Redoubt South**	**0.74**	**351**		**Pn**	**17 38 35.5**	**-0.5**
BRLK	**Bradley Lake**	**0.83**	**87**	Pn	**Pn**	**17 38 36.2**	**-0.5**
BRLK				Sn	**Sn**	**17 38 49.1**	**-1.2**
BRLK				IAML		17 38 49.9	
	comp=N,936nm,0.4s						
BRLK				IAML		17 38 51.2	
	comp=E,1µm,0.3s						
BRSE	**Bradley Lake S**	**0.90**	**89**		**Pn**	**17 38 37.0**	**-0.4**
BRSE	**Bradley Lake S**	**0.90**	**89**	P	**Pn**	**17 38 37.0**	**-0.4**
	baz=271						
Q19K	**Cape Douglas,**	**0.99**	**216**		**Pn**	**17 38 38.2**	**-0.3**
Q19K				Sn	**Sn**	**17 38 52.8**	**-0.6**
Q19K				IAML		17 38 54.2	
	comp=N,510nm,0.7s						
Q19K				IAML		17 38 57.5	
	comp=E,581nm,1.0s						
Q19K	**Cape Douglas,**	**0.99**	**216**	P	**Pn**	**17 38 38.3**	**-0.1**
	baz=34						
O19K	**Port Alsworth**	**1.01**	**298**		**Pn**	**17 38 38.2**	**-0.3**
O19K				Sn	**Sn**	**17 38 52.4**	**-1.3**
O19K				IAML		17 38 53.8	
	comp=N,850nm,0.4s						
O19K				IAML		17 38 55.9	
	comp=E,1µm,0.5s						
O19K	**Port Alsworth**	**1.01**	**298**	P	**Pn**	**17 38 38.2**	**-0.3**
	baz=116						
Q20K	**Shuyak Island**	**1.13**	**177**	P	**Pn**	**17 38 40.2**	**+0.3**
	baz=356						
CAPN	**Captain Cook N**	**1.24**	**33**		**Pn**	**17 38 42.8**	**+1.7**
CAPN				Sn	**Sn**	**17 39 00.9**	**+2.5**
CAPN	**Captain Cook N**	**1.24**	**33**	P	**Pn**	**17 38 42.8**	**+1.7**
	baz=215						
SLKM	**Skilak Lake**	**1.39**	**55**		**Pn**	**17 38 42.8**	**-0.2**
P18K	**Big Mountain,**	**1.42**	**257**		**Pn**	**17 38 42.9**	**-0.6**
P18K				Sn	**Sn**	**17 39 00.8**	**-1.5**
P18K	**Big Mountain,**	**1.42**	**257**	P	**Pn**	**17 38 42.9**	**-0.6**
	baz=74						
N19K	**Bonanza Creek**	**1.46**	**319**		**Pn**	**17 38 43.5**	**-0.4**
N19K				Sn	**Sn**	**17 39 02.5**	**-0.8**
N19K	**Bonanza Creek**	**1.46**	**319**	P	**Pn**	**17 38 43.5**	**-0.4**
	baz=137						
SPU	**Mount Spurr**	**1.47**	**9**		**Pn**	**17 38 44.0**	**-0.1**
N20K	**Mount Spurr**	**1.48**	**6**	P	**Pn**	**17 38 44.2**	**0.0**
	baz=187						
N20K				S	**Sn**	**17 39 03.2**	**-0.4**
	baz=187						
SPCR	**Spurr Chakacha**	**1.48**	**6**	P	**Pn**	**17 38 44.1**	**-0.1**
	baz=187						
SEW	**Seward**	**1.59**	**75**	Pn	**Pn**	**17 38 45.2**	**-0.3**
SEW	**Seward**	**1.59**	**75**	P	**Pn**	**17 38 45.5**	**0.0**
	baz=258						
KAHC	**Katmai Hardscr**	**1.68**	**231**	P	**Pn**	**17 38 46.8**	**0.0**
	baz=48						
Q18K	**Katmai Hardscr**	**1.68**	**231**	P	**Pn**	**17 38 46.8**	**0.0**
	baz=48						
Q18K				S	**Sn**	**17 39 07.6**	**-0.8**
	baz=48						
FIS	**Fire Island**	**1.82**	**38**	Pn	**Pn**	**17 38 49.3**	**+0.9**
FIS				Sn	**Sn**	**17 39 10.6**	**-0.5**
FIS				IAML		17 39 18.3	
	comp=E,385nm,0.4s						
FIS				IAML		17 39 21.8	
	comp=N,448nm,0.6s						
RC01	**Rabbit Creek A**	**1.94**	**44**		**Pn**	**17 38 49.9**	**-0.1**
RC01				Sn	**Sn**	**17 39 13.0**	**-1.0**
RC01	**Rabbit Creek A**	**1.94**	**44**	P	**Pn**	**17 38 49.9**	**-0.1**
	baz=227						
KDAK	**Kodiak Island**	**1.96**	**181**		**Pn**	**17 38 49.5**	**-0.8**
KDAK				Sn	**Sn**	**17 39 13.3**	**-1.1**
KDAK	**Kodiak Island**	**1.96**	**181**	P	**Pn**	**17 38 49.5**	**-0.8**
	baz=0.6						
SVW2	**Sparrevohn**	**2.04**	**313**		**Pn**	**17 38 50.8**	**-0.5**
SVW2				Sn	**Sn**	**17 39 13.8**	**-2.6**
M20K	**Styx River**	**2.17**	**352**		**Pn**	**17 38 53.2**	**+0.1**
M20K	**Styx River**	**2.17**	**352**	P	**Pn**	**17 38 53.3**	**+0.1**
	baz=172						
Q17K	**Contact Creek**	**2.28**	**231**	P	**Pn**	**17 38 54.8**	**+0.2**
	baz=48						
SKT	**Skwentna**	**2.30**	**12**		**Pn**	**17 38 53.6**	**-1.1**
SKT				Sn	**Sn**	**17 39 23.1**	**+0.5**
SKT	**Skwentna**	**2.30**	**12**	P	**Pn**	**17 38 54.6**	**-0.1**
	baz=193						
O17K	**Koliganek Bris**	**2.31**	**273**	P	**Pn**	**17 38 54.9**	**+0.1**
	baz=89						
M22K	**Willow**	**2.34**	**29**		**Pn**	**17 38 55.4**	**+0.2**
M22K				Sn	**Sn**	**17 39 23.2**	**-0.2**
M22K				IAML		17 39 34.0	
	comp=N,304nm,0.4s						
M22K	**Willow**	**2.34**	**29**	P	**Pn**	**17 38 55.9**	**+0.6**
	baz=212						
PWL	**Port Wells**	**2.37**	**60**	Pn	**Pn**	**17 38 55.0**	**-0.6**
PWL				Sn	**Sn**	**17 39 22.0**	**-2.1**
PWL	**Port Wells**	**2.37**	**60**	P	**Pn**	**17 38 55.5**	**-0.1**
	baz=244						
PMR	**Palmer**	**2.50**	**40**	Pn	**Pn**	**17 38 56.1**	**-1.2**
PMR				Sn	**Sn**	**17 39 24.0**	**-3.1**
PMR				IAML		17 39 26.7	
	comp=E,143nm,0.6s						
PMR				IAML		17 39 27.5	
	comp=N,98nm,0.8s						
PMR	**Palmer**	**2.50**	**40**	P	**Pn**	**17 38 57.1**	**-0.2**
	baz=224						
OHAK	**Old Harbor**	**2.55**	**189**	Pn	**Pn**	**17 38 56.8**	**-1.2**
OHAK				Sn	**Sn**	**17 39 25.7**	**-2.8**
OHAK	**Old Harbor**	**2.55**	**189**	P	**Pn**	**17 38 57.0**	**-1.0**
	baz=8.4						
P23K	**Montague Islan**	**2.60**	**82**	P	**Pn**	**17 38 58.5**	**-0.1**
	baz=267						
KNK	**Knik Glacier**	**2.62**	**48**		**Pn**	**17 38 58.3**	**-0.6**
KNK				Sn	**Sn**	**17 39 28.0**	**-2.0**
KNK				IAML		17 39 31.5	
	comp=N,212nm,0.4s						
KNK	**Knik Glacier**	**2.62**	**48**	P	**Pn**	**17 38 58.4**	**-0.6**
	baz=232						
GHO	**Glory Hole Cre**	**2.70**	**39**		**Pn**	**17 38 59.6**	**-0.5**
GHO				Sn	**Sn**	**17 39 29.8**	**-2.2**
GHO				IAML		17 39 33.8	
	comp=N,191nm,0.4s						
L19K	**White Mountain**	**2.70**	**336**	Pn	**Pn**	**17 39 00.1**	**+0.1**
L19K				Sn	**Sn**	**17 39 30.9**	**-1.2**
L19K	**White Mountain**	**2.70**	**336**	P	**Pn**	**17 39 00.2**	**+0.1**
	baz=154						
O16K	**Kokwok River B**	**2.83**	**269**	P	**Pn**	**17 39 01.8**	**+0.1**
	baz=84						
P16K	**Nushagak River**	**2.88**	**258**	P	**Pn**	**17 39 03.1**	**+0.7**
	baz=73						
CUT	**Chulitna**	**2.89**	**21**		**Pn**	**17 39 02.6**	**+0.1**
CUT				Sn	**Sn**	**17 39 37.3**	**+0.8**
CUT				IAML		17 39 41.4	
	comp=E,139nm,0.4s						
CUT				IAML		17 39 42.3	
	comp=N,103nm,0.4s						
R17K	**Ugashik Creek**	**2.91**	**225**	P	**Pn**	**17 39 03.7**	**+0.8**
	baz=42						
SML	**Sawmill**	**2.92**	**43**		**Pn**	**17 39 02.5**	**-0.5**
SML				Sn	**Sn**	**17 39 35.1**	**-2.2**
SML				IAML		17 39 37.8	
	comp=N,147nm,0.6s						
SML				IAML		17 39 42.5	
	comp=E,107nm,0.8s						
SML	**Sawmill**	**2.92**	**43**	P	**Pn**	**17 39 02.9**	**-0.1**
	baz=227						
M23K	**Glacier View**	**3.13**	**47**	P	**Pn**	**17 39 05.5**	**-0.3**
	baz=231						
Q23K	**Middleton Isla**	**3.15**	**93**	Pn	**Pn**	**17 39 05.4**	**-0.6**
PPLA	**Purkeypile**	**3.17**	**3**	Pn	**Pn**	**17 39 07.3**	**+0.9**
PPLA	**Purkeypile**	**3.17**	**3**	P	**Pn**	**17 39 07.0**	**+0.6**
	baz=183						
N16K	**Nishlik Lake**	**3.21**	**286**	P	**Pn**	**17 39 07.2**	**+0.3**
	baz=100						
SCM	**Sheep Creek Mo**	**3.30**	**48**	Pn	**Pn**	**17 39 08.0**	**-0.1**
SCM				IAML		17 39 45.9	
	comp=E,123nm,1.1s						
SCM				IAML		17 39 52.2	
	comp=N,108nm,0.9s						
SCM	**Sheep Creek Mo**	**3.30**	**48**	P	**Pn**	**17 39 07.9**	**-0.1**
	baz=233						
SII	**Sitkinak Islan**	**3.31**	**196**	Pn	**Pn**	**17 39 07.1**	**-1.0**
SII				IAML		17 39 58.9	
	comp=E,114nm,3.2s						
SII				IAML		17 40 30.1	
	comp=N,115nm,4.4s						
EYAK	**Cordova Ski Ar**	**3.48**	**74**	Pn	**Pn**	**17 39 09.6**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.48**	**74**	P	**Pn**	**17 39 10.5**	**0.0**
	baz=260						
WAT7	**Susitna Watana**	**3.58**	**28**		**Pn**	**17 39 12.0**	**+0.1**
TTA	**Tatalina**	**3.62**	**334**	Pn	**Pn**	**17 39 12.1**	**-0.3**
TTA	**Tatalina**	**3.62**	**334**	P	**Pn**	**17 39 12.0**	**-0.3**
	baz=151						
DIV	**Divide**	**3.63**	**64**		**Pn**	**17 39 11.8**	**-0.7**
WAT1	**Susitna Watana**	**3.65**	**30**		**Pn**	**17 39 12.8**	**0.0**
WAT1	**Susitna Watana**	**3.65**	**30**	P	**Pn**	**17 39 13.0**	**+0.2**
	baz=214						
WAT6	**Susitna Watana**	**3.68**	**37**		**Pn**	**17 39 13.1**	**-0.1**
WAT6	**Susitna Watana**	**3.68**	**37**	P	**Pn**	**17 39 13.1**	**-0.1**
	baz=221						
KLU	**Klutina**	**3.70**	**59**	Pn	**Pn**	**17 39 12.9**	**-0.7**
KLU	**Klutina**	**3.70**	**59**	P	**Pn**	**17 39 12.8**	**-0.7**
	baz=245						
CAST	**Castle Rocks**	**3.70**	**3**	Pn	**Pn**	**17 39 13.5**	**+0.1**
CAST	**Castle Rocks**	**3.70**	**3**	P	**Pn**	**17 39 13.5**	**+0.1**
	baz=184						
TRF	**Thorofare Moun**	**3.88**	**15**	Pn	**Pn**	**17 39 15.9**	**0.0**
TRF				IAML		17 40 03.2	
	comp=N,35nm,2.1s						
TRF	**Thorofare Moun**	**3.88**	**15**	P	**Pn**	**17 39 16.7**	**+0.8**
	baz=197						
KTH	**Kantishna Hill**	**3.91**	**11**		**Pn**	**17 39 16.2**	**-0.1**
KTH				IAML		17 40 37.7	
	comp=E,30nm,4.3s						
M24K	**Tolsona, Glenn**	**3.91**	**50**		**Pn**	**17 39 16.2**	**-0.1**
M24K	**Tolsona, Glenn**	**3.91**	**50**	P	**Pn**	**17 39 16.8**	**+0.5**
	baz=236						
RND	**Reindeer**	**4.08**	**24**		**Pn**	**17 39 18.6**	**0.0**
RND				IAML		17 40 15.3	
	comp=E,22nm,3.8s						
BMRM	**Bremner River**	**4.12**	**69**	Pn	**Pn**	**17 39 19.1**	**-0.1**
BMRM	**Bremner River**	**4.12**	**69**	P	**Pn**	**17 39 19.1**	**-0.1**
	baz=256						
CHUM	**Lake Minchumin**	**4.16**	**1**		**Pn**	**17 39 19.8**	**+0.2**
CHUM	**Lake Minchumin**	**4.16**	**1**	P

CHGN				IAML		17 41 04.5	
	comp=N,45nm,3.3s						
CHGN				IAML		17 41 29.0	
	comp=E,40nm,2.7s						
BWN	**Browne**	**4.68**	**17**	Pn	**Pn**	**17 39 26.5**	**-0.1**
BWN				IAML		17 41 21.5	
	comp=E,42nm,4.3s						
BWN				IAML		17 41 36.4	
	comp=N,47nm,4.6s						
PAX	**Paxson**	**4.69**	**43**		**Pn**	**17 39 27.1**	**+0.2**
PAX	**Paxson**	**4.69**	**43**	P	**Pn**	**17 39 27.1**	**+0.2**
	baz=230						
VRDI	**Verde Repeater**	**4.73**	**68**	Pn	**Pn**	**17 39 26.9**	**-0.6**
VRDI				IAML		17 41 58.4	
	comp=N,37nm,4.3s						
VRDI				IAML		17 42 13.6	
	comp=E,23nm,3.0s						
SNH	**Sunshine Point**	**4.89**	**81**	Pn	**Pn**	**17 39 30.2**	**+0.7**
MCARA	**McCarthy VSAT**	**4.97**	**67**	Pn	**Pn**	**17 39 31.0**	**+0.4**
MCARA				IAML		17 40 44.7	
	comp=E,40nm,3.9s						
MCARA	**McCarthy VSAT**	**4.97**	**67**	P	**Pn**	**17 39 31.2**	**+0.6**
	baz=255						
NEA2	**Nenana**	**5.13**	**17**		**Pn**	**17 39 32.6**	**-0.2**
NEA2				IAML		17 41 42.8	
	comp=N,18nm,4.7s						
NEA2				IAML		17 42 06.0	
	comp=E,22nm,4.9s						
NEA2	**Nenana**	**5.13**	**17**	P	**Pn**	**17 39 32.4**	**-0.4**
	baz=200						
K24K	**Donnelly Dome**	**5.18**	**35**	P	**Pn**	**17 39 34.3**	**+0.7**
	baz=221						
WRH	**Wood River Hil**	**5.19**	**22**		**Pn**	**17 39 33.0**	**-0.5**
WRH				IAML		17 40 31.1	
	comp=N,23nm,3.9s						
WRH				IAML		17 42 36.4	
	comp=E,17nm,4.8s						
KIAG	**Kiagna River**	**5.19**	**72**		**Pn**	**17 39 33.6**	**-0.1**
BALM	**Baldy**	**5.21**	**71**		**Pn**	**17 39 34.3**	**+0.3**
MENT	**Mentasta**	**5.32**	**49**	Pn	**Pn**	**17 39 35.5**	**+0.1**
MENT				IAML		17 40 24.6	
	comp=E,28nm,5.0s						
M26K	**Nabesna, AK**	**5.34**	**56**	Pn	**Pn**	**17 39 35.5**	**-0.2**
M26K				IAML		17 40 51.2	
	comp=N,23nm,4.8s						
M26K				IAML		17 42 43.3	
	comp=E,17nm,4.9s						
HDA	**Harding Lake**	**5.37**	**27**		**Pn**	**17 39 36.0**	**-0.1**
HDA				IAML		17 40 37.4	
	comp=E,30nm,0.5s						
HDA	**Harding Lake**	**5.37**	**27**	P	**Pn**	**17 39 35.9**	**-0.1**
	baz=212						
MLY	**Manley**	**5.38**	**8**		**Pn**	**17 39 36.5**	**+0.3**
MLY				IAML		17 41 04.2	
	comp=N,12nm,3.8s						
MLY				IAML		17 43 17.8	
	comp=E,8.5nm,4.8s						
MLY	**Manley**	**5.38**	**8**	P	**Pn**	**17 39 36.4**	**+0.2**
	baz=190						
CCB	**Clear Creek Bu**	**5.40**	**22**	Pn	**Pn**	**17 39 35.9**	**-0.5**
CCB				IAML		17 40 20.9	
	comp=N,11nm,4.7s						
CCB				IAML		17 41 30.6	
	comp=E,18nm,4.4s						
RIDG	**Independent Ri**	**5.42**	**39**	Pn	**Pn**	**17 39 36.7**	**-0.1**
RIDG	**Independent Ri**	**5.42**	**39**	P	**Pn**	**17 39 36.9**	**+0.1**
	baz=226						
I21K	**Tanana**	**5.47**	**2**		**Pn**	**17 39 36.8**	**-0.6**
I21K	**Tanana**	**5.47**	**2**	P	**Pn**	**17 39 37.4**	**+0.1**
	baz=183						
BARN	**Barnard Glacie**	**5.55**	**71**	Pn	**Pn**	**17 39 39.3**	**+0.7**
TCOL	**CIGO, UAF Yank**	**5.59**	**21**	Pn	**Pn**	**17 39 37.4**	**-1.6**
COLA	**College**	**5.60**	**21**	Pn	**Pn**	**17 39 37.6**	**-1.5**
MDM	**Murphy Dome**	**5.61**	**19**		**Pn**	**17 39 38.6**	**-0.6**
I23K	**Minto, Yukon-K**	**5.63**	**14**		**Pn**	**17 39 39.6**	**+0.2**
I23K	**Minto, Yukon-K**	**5.63**	**14**	P	**Pn**	**17 39 39.6**	**+0.2**
	baz=197						
IL31		**5.70**	**25**		**Pn**	**17 39 40.0**	**-0.4**
ILAR	**Eielson Array**	**5.70**	**25**	P	**Pn**	**17 39 40.0**	**-0.4**
	comp=E,2.8nm,0.3s,baz=217,slow=14,SNR=34						
ILAR				S	**Sn**	**17 40 39.4**	**-4.9**
	comp=E,1.2nm,0.5s,baz=212,slow=23,SNR=4.2						
ILAR	**Eielson Array**	**5.70**	**25**	Pn	**Pn**	**17 39 39.4**	**-1.0**
M27K	**Edge Creek, AK**	**5.80**	**58**	Pn	**Pn**	**17 39 41.7**	**-0.3**
M27K	**Edge Creek, AK**	**5.80**	**58**	P	**Pn**	**17 39 42.0**	**0.0**
	baz=248						
SCRK	**Sand Creek**	**5.86**	**40**	Pn	**Pn**	**17 39 41.6**	**-1.2**
SCRK	**Sand Creek**	**5.86**	**40**	P	**Pn**	**17 39 42.7**	**-0.2**
	baz=228						
POKR	**Poker Plat Res**	**5.89**	**21**	Pn	**Pn**	**17 39 42.0**	**-1.2**
POKR	**Poker Plat Res**	**5.89**	**21**	P	**Pn**	**17 39 42.7**	**-0.4**
	baz=206						
H21K	**Melozitna Rive**	**5.94**	**359**		**Pn**	**17 39 43.1**	**-0.7**
H21K	**Melozitna Rive**	**5.94**	**359**	P	**Pn**	**17 39 43.8**	**0.0**
	baz=179						
L27K	**Beaver Creek,**	**6.12**	**52**	Pn	**Pn**	**17 39 45.0**	**-1.3**
BCAR	**Beaver Creek A**	**6.14**	**52**	Pn	**Pn**	**17 39 46.2**	**-0.3**
PCA	**Pinnacle**	**6.18**	**81**	Pn	**Pn**	**17 39 47.0**	**-0.1**
PINM	**Pinnacle**	**6.18**	**81**	P	**Pn**	**17 39 46.8**	**-0.3**
	baz=272						
H22K	**Ishtalitna Cre**	**6.20**	**4**	P	**Pn**	**17 39 47.2**	**-0.2**
	baz=186						
O28M	**Mount Upton**	**6.23**	**75**	P	**Pn**	**17 39 48.4**	**+0.4**
	baz=266						
YUK3	**Moose Creek**	**6.26**	**66**	P	**Pn**	**17 39 48.5**	**+0.3**
	baz=256						
BVCY	**Beaver Creek**	**6.26**	**60**	P	**Pn**	**17 39 48.1**	**-0.1**
	baz=250						
IMAR	**Indian Mountai**	**6.30**	**355**	Pn	**Pn**	**17 39 48.1**	**-0.5**
J26L	**Joseph Creek**	**6.36**	**37**		**Pn**	**17 39 48.7**	**-0.9**
J26L	**Joseph Creek**	**6.36**	**37**	P	**Pn**	**17 39 48.7**	**-0.9**
	baz=226						
H24K	**Noodor Dome**	**6.48**	**17**		**Pn**	**17 39 50.0**	**-1.1**
H24K	**Noodor Dome**	**6.48**	**17**	P	**Pn**	**17 39 50.9**	**-0.3**
	baz=201						
BCPM	**Bancas Point**	**6.50**	**83**	Pn	**Pn**	**17 39 49.9**	**-1.5**
K27K	**Chicken**	**6.55**	**44**	Pn	**Pn**	**17 39 50.0**	**-2.0**
PNL	**Peninsula**	**6.64**	**85**		**Pn**	**17 39 53.3**	**-0.1**
PNL	**Peninsula**	**6.64**	**85**	P	**Pn**	**17 39 53.3**	**-0.1**
	baz=276						
G21K	**Allakaket**	**6.82**	**357**	P	**Pn**	**17 39 55.7**	**0.0**
	baz=176						
G23K	**Bananza Creek**	**7.09**	**8**	P	**Pn**	**17 39 59.6**	**+0.2**
	baz=190						
EGAK	**Eagle**	**7.32**	**42**	Pn	**Pn**	**17 40 00.6**	**-1.9**
G24K	**Hadweenzic Riv**	**7.35**	**16**	P	**Pn**	**17 40 02.2**	**-0.7**
	baz=200						
HYT	**Haines Junctio**	**7.55**	**75**	Pn	**Pn**	**17 40 04.9**	**-0.8**
DAWY	**Dawson**	**7.56**	**49**	Pn	**Pn**	**17 40 04.9**	**-0.9**
COLD	**Coldfoot**	**7.59**	**7**	Pn	**Pn**	**17 40 05.4**	**-0.7**
COLD	**Coldfoot**	**7.59**	**7**	P	**Pn**	**17 40 06.2**	**+0.1**
	baz=189						
FYU	**Fort Yukon**	**7.60**	**23**	Pn	**Pn**	**17 40 06.4**	**+0.1**
G25K	**Bearman Lake**	**7.62**	**20**	P	**Pn**	**17 40 06.2**	**-0.3**
	baz=205						
F22K	**John River**	**7.80**	**1**	P	**Pn**	**17 40 09.2**	**+0.1**
	baz=181						
F24K	**Squaw Lake**	**8.08**	**13**	P	**Pn**	**17 40 11.6**	**-1.2**
	baz=197						
M30M	**Minto, Yukon**	**8.12**	**63**	Pn	**Pn**	**17 40 13.0**	**-0.4**
PLBC	**Pleasant Camp**	**8.20**	**85**	P	**Pn**	**17 40 13.8**	**-0.8**
	baz=279						
N31M	**Braeburn, Yuko**	**8.42**	**71**	Pn	**Pn**	**17 40 16.6**	**-0.9**
BMAR	**Burnt Mountain**	**8.49**	**21**	Pn	**Pn**	**17 40 17.1**	**-1.3**
SKAG	**Skagway**	**8.72**	**84**	Pn	**Pn**	**17 40 21.1**	**-0.5**
WHY	**Whitehorse**	**8.83**	**76**	Pn	**Pn**	**17 40 20.8**	**-2.4**
BESE	**Bessie Mountai**	**9.15**	**90**	Pn	**Pn**	**17 40 28.0**	**+0.5**
M31M	**Drury Creek, Y**	**9.15**	**67**	Pn	**Pn**	**17 40 26.2**	**-1.3**
TNA	**Tin City**	**9.16**	**316**	Pn	**Pn**	**17 40 28.4**	**+0.9**
UNV	**Unalaska Valle**	**9.67**	**238**	Pn	**Pn**	**17 40 35.3**	**+0.8**
P33M	**Teslin, Yukon**	**9.88**	**79**	Pn	**Pn**	**17 40 37.5**	**0.0**
GAMB	**Gambell**	**9.93**	**302**	Pn	**Pn**	**17 40 34.3**	**-3.7**
DLBC	**Dease Lake**	**11.63**	**87**	Pn	**Pn**	**17 41 00.6**	**-0.5**
YKA	**Yellowknife Ar**	**18.34**	**65**	P	**Pn**	**17 42 27.5**	**+1.4**
	comp=E,0.2nm,0.6s,baz=284,slow=11,SNR=2.9						
PETK	**Petropavlovsk-**	**27.73**	**278**	P	**P**	**17 44 00.4**	**+2.8**
	comp=E,2.5nm,0.8s,baz=70,slow=12,SNR=2.5						
	comp=E,2.5nm,0.8s						

WEL 17 18:00:26.3±0.4,42°S±3°×17°4E±°, h5km, M3.1/11, ML3.3/11, MLv3.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=112.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**192**	P	Pg	18 00 29.4	-0.3
KHZ				S	Sg	18 00 32.2	+0.4
BSWZ	**Blackbirch Sta**	**0.58**	**22**	P	Pg	18 00 37.9	+0.4
BSWZ				S	Sb	18 00 46.8	-0.7
CMWZ	**Cape Campbell**	**0.69**	**43**	P	Pg	18 00 40.2	+0.6
THZ	**Tophouse**	**0.71**	**314**	P	Pg	18 00 40.0	+0.1
GVZ	**Greta Valley S**	**0.82**	**210**	P	Pg	18 00 42.5	+0.4
GVZ				S	Sb	18 00 55.6	+1.1
TUWZ	**Tuamarina**	**0.87**	**18**	P	Pg	18 00 43.1	+0.1
NNZ	**Nelson**	**1.05**	**351**	P	Pg	18 00 46.2	-0.2
MRNZ	**Matariki Terra**	**1.06**	**324**	P	Pg	18 00 46.6	0.0
LTZ	**Lake Taylor**	**1.11**	**241**	P	Pg	18 00 46.4	-1.1
AMCZ	**Amberley**	**1.15**	**216**	P	Pb	18 00 48.8	+0.1
TCW	**Tory Channel**	**1.16**	**27**	P	Pg	18 00 48.0	-0.6
TCW				S	Sn	18 01 05.0	-0.5
TKNZ	**Takaka Hill**	**1.31**	**339**	P	Pn	18 00 50.8	-0.5
PLWZ	**Palliser**	**1.42**	**62**	P	Pn	18 00 50.5	-2.4
DSZ	**Denniston Nort**	**1.42**	**290**	P	Pb	18 00 53.2	-0.2
DSZ				S	Sg	18 01 13.4	+1.3
DUWZ	**D'Urville Isla**	**1.47**	**10**	P	Pn	18 00 53.0	-0.6
DUWZ				S	Sg	18 01 14.1	+0.5
OKCZ	**Okains Bay**	**1.52**	**195**	P	Pn	18 00 51.9	-2.3
OXZ	**Oxford**	**1.56**	**226**	P	Pn	18 00 53.2	-1.6
CAW	**Cannon Point**	**1.59**	**45**	P	Pn	18 00 53.7	-1.5
MQZ	**McQueen's Vall**	**1.60**	**205**	P	Pn	18 00 52.3	-3.0
MQZ				S	Sn	18 01 12.9	-3.5
PAWZ	**Paruwai Farm**	**1.63**	**58**	P	Pn	18 00 53.3	-2.4
QRZ	**Quartz Range**	**1.63**	**331**	P	Pn	18 00 56.2	+0.5
AKCZ	**Akaroa Harbour**	**1.69**	**197**	P	Pn	18 00 54.0	-2.6
KIW	**Kapiti Island**	**1.71**	**36**	P	Pn	18 00 56.0	-0.8
MTW	**Mount Morrison**	**1.81**	**53**	P	Pn	18 00 55.7	-2.4
OGWZ	**Otaki Gorge**	**1.86**	**40**	P	Pn	18 00 57.5	-1.4
MHCZ	**Mount Hutt**	**1.96**	**229**	P	Pn	18 00 58.5	-1.7
HOWZ	**Holdsworth Sta**	**1.98**	**48**	P	Pb	18 01 02.1	-0.9
WACZ	**Wakanui South**	**2.12**	**217**	P	Pn	18 01 00.1	-2.3
MRZ	**Mangatainoka R**	**2.19**	**44**	P	Pn	18 01 01.5	-1.8
ARCZ	**Arundel**	**2.44**	**225**	P	Pn	18 01 04.9	-2.0
WAZ	**Wanganui**	**2.71**	**23**	P	Pb	18 01 15.1	-0.3
TMZ	**Timaru**	**2.84**	**221**	P	Pn	18 01 11.1	-1.2
KHEZ	**Kahui Hut**	**2.98**	**6**	P	Pb	18 01 17.8	-2.1
PKVZ	**Pokaka**	**3.25**	**25**	P	Pb	18 01 21.3	-3.2
VRZ	**Vera Road**	**3.25**	**16**	P	Pn	18 01 21.2	+3.2
ODZ	**Otahua Downs**	**3.51**	**216**	P	Pn	18 01 19.3	-2.3
RAHZ	**Arahi**	**4.27**	**40**	P	Pn	18 01 29.3	-2.7
KUZ	**Kuaotunu**	**5.74**	**17**	P	Pn	18 01 55.3	+3.1

*NEIC **17** 18:15:37.8±2.1, 10°.73S±0°.09×161°.7E±0°.1, h47km±9km, mb4.2/15, Error ellipse: s-maj=20.3km s-min=9.5km az=60.0*

*IDC **17** 18:15:38.9±2.5, 10°.75S×161°.70E, h68km±20km, mb3.6/11, mbtmp4.0/14, MS3.4/15, Error ellipse: s-maj=23.4km s-min=14.8km az=73.0*

ISC 17 18:15:37.5±0.6, 10°.74S±0°.08×161°.77E±0°.08, h50km, n47, σ1§45/42, mb4.0/16, MS3.3/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.22**	**306**	P	**Pn**	**18 16 11.5**	**-0.4**
	7μm,0.5s,baz=150,slow=7.1,SNR=28						
HNR				S	**Sn**	**18 16 39.4**	**+1.3**
	10μm,0.3s,baz=144,slow=23,SNR=12						
HNR	**Honiara**	**2.22**	**306**		**Pn**	**18 16 10.9**	**-0.9**
HNR				Sn	**Sn**	**18 16 39.1**	**+1.0**
KOUNC	**Koumac, New Ca**	**10.05**	**166**	Pn	**Pn**	**18 17 60.0**	**+0.8**
LIFNC	**LIFOU**	**11.28**	**153**	Pn	**Pn**	**18 18 14.1**	**-2.0**
KRVT	**Keravat (AS076**	**11.58**	**303**	LR	LR	18 23 13.7	
	comp=Z,222nm,20.8s,baz=270,slow=40						
DZM	**Mont Dzumac**	**12.12**	**159**	P	**Pn**	**18 18 28.4**	**+0.7**
	6.8nm,0.8s,baz=44,slow=8.2,SNR=16						
DZM				S	**Sn**	**18 20 38.9**	**-2.5**
	3.9nm,0.7s,baz=297,slow=23,SNR=1.7						
DZM				LR	LR	18 22 33.6	
	comp=Z,210nm,18.0s,baz=25,slow=34						
MARNC	**Mare, Loyalty**	**12.25**	**151**	Pn	**Pn**	**18 18 30.0**	**+0.7**
ONTNC	**Ouen Toro**	**12.34**	**159**	Pn	**Pn**	**18 18 31.7**	**+1.1**
OUENC	**Ouen Island, N**	**12.58**	**158**	Pn	**Pn**	**18 18 32.9**	**-0.9**
PMG	**Port Moresby**	**14.45**	**274**	P	**Pn**	**18 19 00.1**	**+0.8**
	7.1nm,1.0s,baz=78,slow=23,SNR=3.5						
PMG				LR	LR	18 24 29.6	
	comp=Z,254nm,19.2s,baz=100,slow=37						
PMG	**Port Moresby**	**14.45**	**274**	P	**Pn**	**18 19 01.8**	**+2.5**
MSVF	**Nonsavu**	**17.23**	**116**	LR	LR	18 24 30.9	
	comp=Z,178nm,20.3s,baz=309,slow=31						
MSVF	**Nonsavu**	**17.23**	**116**	Pn	**P**	**18 19 40.3**	**+4.5**
MSVF				IAmb	IAmb	18 19 50.7	
	comp=Z,17nm,1.2s						
CTA	**Charters Tower**	**17.59**	**236**	P	**P**	**18 19 40.6**	**+0.9**
	comp=Z,14nm,0.7s,baz=69,slow=11,SNR=19						
CTA				LR	LR	18 25 26.6	
	comp=Z,93nm,20.2s,baz=68,slow=34						
CTAO	**Charters Tower**	**17.59**	**236**	P	**P**	**18 19 40.9**	**+1.2**
CTAO				IAmb	IAmb	18 19 44.4	
	comp=Z,19nm,0.9s						
EIDS	**Eidsvold**	**17.73**	**213**	P	**P**	**18 19 42.5**	**+1.4**
COEN	**Coen**	**18.44**	**258**	P	**P**	**18 19 49.2**	**+0.1**
COEN				IAmb	IAmb	18 19 55.3	
	comp=Z,11nm,1.0s						
AFI	**Afiamalu**	**26.03**	**100**	LR	LR	18 29 03.2	
	comp=Z,134nm,20.5s,baz=255,slow=31						
WR0	**Warramunga Arr**	**27.77**	**247**	P	**P**	**18 21 19.0**	**-2.9**
WR0				IAmb	IAmb	18 21 42.0	
	comp=Z,5.6nm,1.1s						
WB0	**Warramunga Arr**	**27.86**	**248**	P	**P**	**18 21 21.9**	**-0.7**
WB0				IAmb	IAmb	18 21 37.9	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**27.94**	**248**	P	**P**	**18 21 23.9**	**+0.5**
WB2				IAmb	IAmb	18 21 39.2	
	comp=Z,5.4nm,0.9s						
WRA	**Warramunga Arr**	**27.95**	**248**	P	**P**	**18 21 22.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=78,slow=8.8,SNR=4.4						
WRA				LR	LR	18 32 18.0	
	comp=Z,166nm,18.4s,baz=54,slow=36						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**27.95**	**248**	P	**P**	**18 21 24.4**	**+0.9**
STKA	**Stephens Creek**	**28.10**	**219**	LR	LR	18 32 38.3	
	comp=Z,154nm,18.6s,baz=29,slow=36						
ASAR	**Alice Springs**	**29.49**	**241**	P	**P**	**18 21 35.8**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=64,slow=10,SNR=8.8						
ASAR				LR	LR	18 33 29.0	
	comp=Z,152nm,18.6s,baz=90,slow=36						
	comp=Z,0.4nm,0.6s						
KNRA	**Kununurra**	**32.48**	**258**	P	**P**	**18 22 01.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**35.70**	**254**	P	**P**	**18 22 30.3**	**-1.1**
RAR	**Rarotonga**	**38.31**	**111**	LR	LR	18 37 52.4	
	comp=Z,30nm,18.0s,baz=274,slow=35						
DAV	**Davao City (W)**	**40.14**	**295**	LR	LR	18 39 08.1	
	comp=Z,24nm,19.5s,baz=16,slow=35						
MBWA	**Marble Bar**	**41.61**	**250**	P	**P**	**18 23 20.4**	**-0.5**
KAPI	**Kappang**	**41.98**	**274**	LR	LR	18 41 07.6	
	comp=Z,42nm,19.7s,baz=134,slow=36						
ASAJ	**Asahikawa**	**57.31**	**344**	P	**P**	**18 25 19.2**	**-1.0**
	comp=Z,4.1nm,1.0s,baz=180,slow=12,SNR=1.3						
ASAJ				LR	LR	18 47 27.0	
	comp=Z,23nm,20.3s,baz=156,slow=33						
	comp=Z,4.1nm,1.0s						
KLR	**Kul'dur**	**65.30**	**339**	LR	LR	18 54 16.4	
	comp=Z,19nm,18.9s,baz=168,slow=36						
VNDA	**Vanda**	**66.76**	**180**	P	**P**	**18 26 23.1**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=348,slow=7.0,SNR=14						
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**66.76**	**180**	P	**P**	**18 26 23.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**68.43**	**295**	P	**P**	**18 26 34.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=139,slow=7.0,SNR=4.3						
CMAR				LR	LR	18 55 12.9	
	comp=Z,14nm,21.9s,baz=90,slow=35						
	comp=Z,0.7nm,0.3s						
SONM	**Songino Array**	**76.15**	**325**	P	**P**	**18 27 19.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=142,slow=6.0,SNR=8.5						
	comp=Z,0.9nm,0.7s						
SONM	**Songino Array**	**76.15**	**325**	P	**P**	**18 27 20.1**	**-0.3**
SONM				IAmb	IAmb	18 27 31.3	
	comp=Z,2.1nm,0.8s						
SVW2	**Sparrevohn**	**79.09**	**20**	P	**P**	**18 27 37.9**	**+1.6**
CAST	**Castle Rocks**	**81.90**	**19**	P	**P**	**18 27 51.7**	**+0.4**
CAST				IAmb	IAmb	18 28 01.4	
	comp=Z,3.5nm,0.9s						
IMAR	**Indian Mountai**	**83.22**	**17**	P	**P**	**18 27 58.9**	**+0.7**
MLY	**Manley**	**83.45**	**18**	P	**P**	**18 27 59.9**	**+0.6**
MLY				IAmb	IAmb	18 28 43.5	
	comp=Z,3.1nm,1.2s						
ILAR	**Eielson Array**	**84.51**	**20**	P	**P**	**18 28 04.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=244,slow=5.2,SNR=6.0						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**88.83**	**51**	P	**P**	**18 28 27.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=236,slow=6.4,SNR=0.9						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**90.65**	**318**	P	**P**	**18 28 32.6**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=86,slow=5.7,SNR=7.3						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**93.96**	**321**	P	**P**	**18 28 48.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=60,slow=5.6,SNR=1.6						
	comp=Z,0.1nm,0.3s						
YKA	**Yellowknife Ar**	**96.51**	**28**	P	**P**	**18 29 00.5**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=263,slow=4.8,SNR=7.1						
	comp=Z,0.3nm,0.7s						

*NEIC **17** 18:18:16.7±1.5, 19°.61N±0°.09×65°.43W±0°.06, h36km±46km, ML2.6/22, Md3.5/9(RSPR), Error ellipse: s-maj=14.4km s-min=5.5km az=208.0*

*RSPR **17** 18:18:18.5, 19°.27N×65°.38W, h112km±5km, MD3.5/3*

ISC 17 18:18:16.0±2.4, 19°.5N±0°.1×65°.49W±0°.08, h22km±7km, n22, σ0§87/28, 5C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.25**	**171**	⇑eP	**Pb**	**18 18 38.8**	**0.0**
CUPR	**Culebra, Puert**	**1.25**	**171**	eS	**Sb**	**18 18 55.2**	**+0.8**
CUPR	**Culebra, Puert**	**1.25**	**171**		**Pb**	**18 18 38.3**	**-0.5**
CUPR				Sn	**Sb**	**18 18 55.0**	**+0.6**
CBYP	**Canovanas**	**1.31**	**195**	⇑eP	**Pb**	**18 18 38.9**	**-1.1**
CBYP	**Canovanas**	**1.31**	**195**		**Pb**	**18 18 38.9**	**-1.1**
CBYP				IAML		18 19 00.8	
	comp=N,172nm,0.2s						
CBYP				IAML		18 19 01.9	
	comp=E,147nm,0.2s						
GCPR	**Guaynabo City**	**1.35**	**205**	Pn	**Pb**	**18 18 39.8**	**-0.7**
GCPR				Sn	**Sn**	**18 18 57.0**	**+0.1**
HUMP	**Col San Antoni**	**1.44**	**194**		**Pn**	**18 18 40.2**	**-0.5**
HUMP				Sn	**Sn**	**18 18 57.5**	**-1.4**
HUMP				IAML		18 19 00.8	
	comp=N,48nm,0.4s						
HUMP				IAML		18 19 01.3	
	comp=E,57nm,0.2s						
MTP	**Monte Pirata**	**1.44**	**182**	⇑eP	**Pb**	**18 18 41.4**	**-0.8**
MTP	**Monte Pirata**	**1.44**	**182**	eS	**Sn**	**18 18 58.9**	**-0.2**
MTP	**Monte Pirata**	**1.44**	**182**		**Pb**	**18 18 41.2**	**-0.9**
MTP				IAML		18 19 01.9	
	comp=N,50nm,0.6s						
MTP				IAML		18 19 02.0	
	comp=E,74nm,0.3s						
EMPR	**Esperanza - Ma**	**1.45**	**223**	Pn	**Pb**	**18 18 42.2**	**0.0**
SJG	**San Juan**	**1.56**	**204**	Pn	**Pn**	**18 18 42.0**	**-0.4**
SJG				IAML		18 19 13.2	
	comp=E,47nm,1.0s						
SJG				IAML		18 19 13.3	
	comp=E,52nm,0.6s						
AOPR	**Arecibo Observ**	**1.69**	**225**	⇑eP	**Pb**	**18 18 46.1**	**-0.3**
AOPR	**Arecibo Observ**	**1.69**	**225**	eS	**Sb**	**18 19 07.8**	**+0.6**
AOPR	**Arecibo Observ**	**1.69**	**225**		**Pb**	**18 18 45.2**	**-1.1**
AOPR					**Sn**	**18 19 06.6**	**+1.4**
AOPR				IAML		18 19 10.5	
	comp=N,122nm,0.7s						
UUPR	**Utuado, UPR, P**	**1.73**	**222**		**Pn**	**18 18 45.7**	**+0.9**
CELP	**Cerrillos**	**1.79**	**215**	⇑eP	**Pb**	**18 18 47.0**	**-1.0**
CELP	**Cerrillos**	**1.79**	**215**	eS	**Sn**	**18 19 09.0**	**+1.3**
CELP	**Cerrillos**	**1.79**	**215**		**Pb**	**18 18 46.7**	**-1.4**
CELP					**Sn**	**18 19 08.1**	**+0.5**
CELP				IAML		18 19 25.4	
	comp=N,41nm,1.7s						
CDVI	**St. Croix**	**1.91**	**159**	Pn	**Pb**	**18 18 50.2**	**+0.1**
MLPR	**Magueyes Islan**	**2.15**	**223**	Pn	**Pn**	**18 18 51.4**	**+0.9**
MLPR				IAML		18 19 31.7	
	comp=N,36nm,3.9s						
MLPR				IAML		18 19 37.5	
	comp=E,36nm,2.5s						
SDDR	**Presa de Saban**	**5.50**	**265**	Pn	**Pn**	**18 19 36.8**	**0.0**
SDDR				Sn	**Sn**	**18 20 39.0**	**-0.5**

*IDC **17** 18:18:48.2±6.9, 36°.58N×70°.89E, h101km±59km, mbtmp3.6/5, Error ellipse: s-maj=84.3km s-min=21.1km az=153.0*

**ISC 17 18:18:46.9±3.0, 36°.4N±

ellipse: s-maj=11.5km s-min=4.1km az=75.2
*NEIC **17** 18:28:13.1±1.5,50.1N±0.1×156.1E±0.2,h79km±8km, mb4.5/61, Error ellipse: s-maj=20.0km s-min=10.6km az=132.0*

ISC 17 18:28:10.9±1.1,**49.90N**±0.07×**156.36E**±0.07,**h66**km±9km, **n182**,σ1s**21**/**188**,**mb4.4**/54,**4C-2D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**0.81**	**349**	⇓*i*	PN	**Pn**	**18 28 25.4**	**-1.3**
SKR				*i*	S	**Sn**	**18 28 37.3**	**-1.1**
SKR					pmax	pmax		
	comp=Z,965nm,0.6s							
SKR					pmax	pmax		
	comp=Z,200nm,2.8s							
SKR					smax	smax		
	comp=N,3μm,0.7s							
SKR					smax	smax		
	comp=E,2μm,0.6s							
SKR	**Severo-Kuril's**	**0.81**	**349**	*e*P		**Pn**	**18 28 25.3**	**-1.3**
SKR				*e*S		**Sn**	**18 28 37.3**	**-1.1**
KDTR	**Khodutka, Kamc**	**2.20**	**29**	PN		**Pn**	**18 28 43.8**	**-1.3**
KDTR				S		**Sn**	**18 29 10.1**	**-1.2**
KDTR	**Khodutka, Kamc**	**2.20**	**29**	*e*P		**Pn**	**18 28 43.8**	**-1.3**
KDTR				*e*S		**Sn**	**18 29 10.1**	**-1.2**
MTVR	**Mutnovka**	**2.83**	**23**	PN		**Pn**	**18 28 53.6**	**-0.2**
MTVR	**Mutnovka**	**2.83**	**23**	*e*P		**Pn**	**18 28 53.6**	**-0.2**
GRL	**Gorelyy**	**2.87**	**21**	PN		**Pn**	**18 28 54.2**	**-0.1**
GRL	**Gorelyy**	**2.87**	**21**	*e*P		**Pn**	**18 28 54.2**	**-0.1**
APC	**Apacha**	**3.08**	**9**	PN		**Pn**	**18 28 57.4**	**+0.4**
APC	**Apacha**	**3.08**	**9**	*e*P		**Pn**	**18 28 57.4**	**+0.4**
KRMR	**Karymshinskiy**	**3.14**	**20**	PN		**Pn**	**18 28 58.0**	**+0.1**
KRMR	**Karymshinskiy**	**3.14**	**20**	*e*P		**Pn**	**18 28 58.0**	**+0.1**
PEA0B	**Petropavlovsk-**	**3.33**	**14**	Pn		**Pn**	**18 29 00.7**	**+0.3**
PEA0B	**Petropavlovsk-**	**3.33**	**14**	*ce*PN		**Pn**	**18 29 00.6**	**+0.2**
PETK	**Petropavlovsk-**	**3.33**	**14**	P		**Pn**	**18 29 00.4**	**0.0**
	comp=E,39nm,0.7s,baz=169,slow=9.1,SNR=36							
PETK					S	Sn	18 29 52.3	+14
	comp=E,14nm,0.6s,baz=142,slow=17,SNR=0.6							
PETK					LR	LR	18 30 33.2	
	comp=E,564nm,20.5s,baz=173,slow=43							
PET	**Petropavlovsk**	**3.45**	**24**	Pn		**Pn**	**18 29 01.9**	**-0.2**
PET					Sn	**Sn**	**18 29 42.9**	**+1.3**
PET	**Petropavlovsk**	**3.45**	**24**	⇑*i*	PN	**Pn**	**18 29 02.1**	**+0.1**
PET				*e*S		**Sn**	**18 29 43.4**	**+1.8**
PET					pmax	pmax		
	comp=Z,183nm,0.8s							
PET					smax	smax		
	comp=E,555nm,0.7s							
PET					MLR	MLR		
	comp=Z,200nm,20.0s							
PET	**Petropavlovsk**	**3.45**	**24**	*e*P		**Pn**	**18 29 02.1**	**+0.1**
PET				*e*S		**Sn**	**18 29 41.8**	**+0.2**
DALK	**Dalny**	**3.48**	**25**	PN		**Pn**	**18 29 02.4**	**-0.1**
DALK				S		**Sn**	**18 29 43.2**	**+0.8**
DALK	**Dalny**	**3.48**	**25**	*e*P		**Pn**	**18 29 02.4**	**-0.1**
DALK				*e*S		**Sn**	**18 29 43.2**	**+0.8**
UGLR	**Uglovaya**	**3.66**	**24**	PN		**Pn**	**18 29 05.9**	**+0.9**
UGLR	**Uglovaya**	**3.66**	**24**	*e*P		**Pn**	**18 29 05.9**	**+0.9**
AVH	**Avacha**	**3.69**	**23**	PN		**Pn**	**18 29 06.4**	**+1.0**
AVH	**Avacha**	**3.69**	**23**	*e*P		**Pn**	**18 29 06.4**	**+1.0**
KOK	**Koryaka**	**3.69**	**22**	PN		**Pn**	**18 29 06.9**	**+1.5**
KOK	**Koryaka**	**3.69**	**22**	*e*P		**Pn**	**18 29 06.9**	**+1.5**
SMAR	**Somma**	**3.70**	**23**	PN		**Pn**	**18 29 06.5**	**+0.8**
SMAR	**Somma**	**3.70**	**23**	*e*P		**Pn**	**18 29 06.5**	**+0.8**
KRX	**Arik**	**3.75**	**21**	PN		**Pn**	**18 29 07.3**	**+1.0**
KRX	**Arik**	**3.75**	**21**	*e*P		**Pn**	**18 29 07.3**	**+1.0**
NLC	**Nalytchevo**	**3.77**	**28**	PN		**Pn**	**18 29 05.8**	**-0.7**
NLC	**Nalytchevo**	**3.77**	**28**	*e*P		**Pn**	**18 29 05.8**	**-0.7**
SPN	**Mys Shipunski**	**3.94**	**34**	PN		**Pn**	**18 29 07.5**	**-1.3**
SPN				S		**Sn**	**18 29 52.3**	**-1.4**
SPN	**Mys Shipunski**	**3.94**	**34**	*e*P		**Pn**	**18 29 07.5**	**-1.3**
SPN				*e*S		**Sn**	**18 29 52.3**	**-1.4**
TUMD	**Tumrok D**	**5.86**	**23**	*e*P		**Pn**	**18 29 36.0**	**+1.0**
TUMR	**Tumrok**	**5.87**	**22**	PN		**Pn**	**18 29 36.0**	**+0.8**
TUMR	**Tumrok**	**5.87**	**22**	*e*P		**Pn**	**18 29 37.3**	**+2.0**
ESO	**Esso**	**6.20**	**12**	PN		**Pn**	**18 29 41.3**	**+1.5**
ESO	**Esso**	**6.20**	**12**	*e*P		**Pn**	**18 29 41.3**	**+1.5**
SMKR	**Semkarok**	**7.36**	**23**	PN		**Pn**	**18 29 57.1**	**+1.5**
SMKR	**Semkarok**	**7.36**	**23**	*e*P		**Pn**	**18 29 57.1**	**+1.5**
KUR	**Kuril'sk**	**7.40**	**234**	*e*PN		**Pn**	**18 29 57.9**	**+1.8**
KUR				*e*S		**Sn**	**18 31 19.4**	**+0.9**
KUR					pmax	pmax		
	comp=Z,52nm,0.6s							
KUR					smax	smax		
	comp=N,70nm,0.6s							
KBTR	**Krutoberegovo**	**7.42**	**29**	PN		**Pn**	**18 29 55.3**	**-1.1**
KBTR	**Krutoberegovo**	**7.42**	**29**	*e*P		**Pn**	**18 29 55.3**	**-1.1**
KBG	**Krutoberegovo**	**7.43**	**28**	PN		**Pn**	**18 29 57.4**	**+1.0**
KBG	**Krutoberegovo**	**7.43**	**28**	*e*P		**Pn**	**18 29 57.4**	**+1.0**
BKI	**Bering**	**7.91**	**44**	PN		**Pn**	**18 30 00.7**	**-2.2**
BKI	**Bering**	**7.91**	**44**	*e*P		**Pn**	**18 30 00.7**	**-2.2**
TYV	**Tymovskoe**	**8.82**	**282**	*e*PN		**Pn**	**18 30 18.4**	**+3.0**
TYV					pmax	pmax		
	comp=Z,9.0nm,0.8s							
YSS	**Yuzh-Sakhalins**	**9.51**	**257**	*e*PN		Pn	18 30 19.2	-5.8
YSS					pmax	pmax		
	comp=Z,10.0nm,1.2s							
MA2	**Magadan**	**10.22**	**344**	P		**Pn**	**18 30 34.3**	**-0.2**
	comp=Z,21nm,0.5s,baz=155,slow=10,SNR=43							
MA2					LR	LR	18 34 44.6	
	comp=Z,74nm,20.6s,baz=146,slow=39							
MA2	**Magadan**	**10.22**	**344**	Pn		**Pn**	**18 30 33.7**	**-0.9**
MA2	**Magadan**	**10.22**	**344**	*de*PN		**Pn**	**18 30 35.0**	**+0.4**
MA2					pmax	pmax		
	comp=Z,16nm,0.6s							
JKA	**Kamikawa-asahi**	**11.03**	**244**	Pn		**Pn**	**18 30 46.8**	**+1.2**
ASAJ	**Asahikawa**	**11.03**	**244**	P		**Pn**	**18 30 46.6**	**+1.0**
	comp=Z,7.3nm,0.6s,baz=73,slow=16,SNR=15							
ASAJ					LR	LR	18 34 32.0	
	comp=Z,40nm,18.6s,baz=155,slow=35							
ASAJ	**Asahikawa**	**11.03**	**244**	PN		**Pn**	**18 30 46.8**	**+1.2**
SHEM	**Shemya Is, Ala**	**11.46**	**69**	LR		LR	18 34 41.6	
	comp=Z,50nm,21.7s,baz=266,slow=34							
ERM	**Erimo**	**12.09**	**234**	Pn		**Pn**	**18 30 59.1**	**-1.0**
ERM	**Erimo**	**12.09**	**234**	*ce*PN		**Pn**	**18 30 58.5**	**-1.7**
ERM					pmax	pmax		
	comp=Z,263nm,2.5s							
SEY	**Seymchan**	**13.25**	**352**	P		**Pn**	**18 31 16.2**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=160,slow=10,SNR=4.8							
JTM	**Tenmabayashi**	**14.07**	**235**	Pn		**Pn**	**18 31 29.3**	**+2.5**
KLR	**Kul'dur**	**15.97**	**277**	LR		LR	18 37 39.9	
	comp=Z,72nm,20.4s,baz=79,slow=36							
MJB9	**Matsu-Tunnel**	**18.73**	**231**	P		**P**	**18 32 25.1**	**+1.1**
MAJO	**Matsushiro**	**18.73**	**231**	P		**P**	**18 32 23.9**	**-0.2**
MAJO	**Matsushiro**	**18.73**	**231**	P		**P**	**18 32 23.9**	**-0.2**
MAJO					pmax	pmax		
	comp=Z,8.0nm,0.7s							
MJAR	**Matsushiro Arr**	**18.73**	**231**	P		**P**	**18 32 23.9**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=20,slow=11,SNR=1.6							
MJAR					LR	LR	18 40 21.5	
	comp=Z,89nm,18.4s,baz=84,slow=39							
BILL	**Bilibino**	**18.86**	**12**	P		**P**	**18 32 24.7**	**-0.4**
BILL	**Bilibino**	**18.86**	**12**	*i* P		**P**	**18 32 25.7**	**+0.5**
BILL					pmax	pmax		
	comp=Z,8.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,119nm,16.0s							
YAK	**Yakutsk**	**19.08**	**320**	P		**P**	**18 32 26.2**	**-1.5**
	comp=Z,2.7nm,0.4s,baz=330,slow=1.3,SNR=6.0							
YAK					LR	LR	18 39 45.8	
	comp=Z,103nm,19.6s,baz=90,slow=37							
YAK	**Yakutsk**	**19.08**	**320**	P		**P**	**18 32 24.2**	**-3.5**
YAK	**Yakutsk**	**19.08**	**320**	*e*P		**P**	**18 32 27.4**	**-0.2**
YAK					pmax	pmax		
	comp=Z,15nm,1.1s							
YAK					pmax	pmax		
	comp=N,3.0nm,1.5s							
YAK					pmax	pmax		
	comp=E,5.0nm,1.7s							
JSG	**Sagara**	**20.22**	**228**	P		**P**	**18 32 39.9**	**-0.4**
INU	**Inuyama**	**20.26**	**231**	P		**P**	**18 32 42.1**	**+1.4**
INU				IAmb		IAmb	18 32 42.9	
	comp=Z,32nm,1.5s							
KSRS	**Korea Array**	**23.88**	**249**	P		**P**	**18 33 17.7**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=48,slow=9.9,SNR=2.2							
	comp=Z,0.7nm,0.7s							
TNA	**Tin City**	**24.21**	**36**	P		**P**	**18 33 21.6**	**+0.8**
ANM	**Nome**	**24.88**	**39**	P		**P**	**18 33 26.8**	**-0.1**
ANM	**Nome**	**24.88**	**39**	P		**P**	**18 33 26.8**	**-0.1**
ANM					pmax	pmax		
	comp=Z,9.0nm,1.0s							
TIXI	**Tiksi**	**25.16**	**340**	P		**P**	**18 33 28.0**	**-1.4**
	comp=Z,3.4nm,0.6s,baz=90,slow=23,SNR=23							
	comp=Z,3.4nm,0.6s							
TIXI	**Tiksi**	**25.16**	**340**	P		**P**	**18 33 27.4**	**-1.9**
TIXI	**Tiksi**	**25.16**	**340**	*i* P		**P**	**18 33 27.8**	**-1.5**
TIXI					pmax	pmax		
	comp=Z,6.0nm,0.9s							
L19K	**White Mountain**	**29.13**	**46**	P		**P**	**18 34 04.2**	**-1.0**
L19K					IAmb	IAmb	18 34 33.6	
	comp=Z,8.4nm,1.4s							
IMAR	**Indian Mountai**	**29.95**	**39**	P		**P**	**18 34 12.3**	**0.0**
ILSW	**Iliamna Southw**	**29.98**	**51**	P		**P**	**18 34 13.4**	**+0.5**
H21K	**Melozitna Rive**	**30.30**	**40**	P		**P**	**18 34 16.7**	**+1.3**
CAST	**Castle Rocks**	**30.45**	**44**	P		**P**	**18 34 17.9**	**+1.1**
I21K	**Tanana**	**30.59**	**41**	P		**P**	**18 34 17.3**	**-0.7**
I21K					IAmb	IAmb	18 34 54.9	
	comp=Z,11nm,1.5s							
BPAW	**Bear Paw Mtn.**	**30.96**	**43**	P		**P**	**18 34 22.3**	**+1.1**
CNPM	**China Poot**	**30.98**	**52**	P		**P**	**18 34 21.8**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**31.25**	**161**	T		T	19 07 22.9	
	baz=347,slow=76,SNR=33							
H11N1	**WAKE ISLAND Hy**	**31.27**	**161**	T		T	19 07 23.4	
	baz=347,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**31.27**	**161**	T		T	19 07 26.0	
	baz=347,slow=76,SNR=24							
COLD	**Coldfoot**	**31.51**	**37**	P		**P**	**18 34 25.9**	**-0.1**
COLD					IAmb	IAmb	18 34 28.3	
	comp=Z,5.1nm,1.0s							
JOW	**Kunigami**	**31.54**	**234**	LR		LR	18 46 58.2	
	comp=Z,149nm,18.9s,baz=303,slow=36							
GHO	**Glory Hole Cre**	**31.94**	**47**	P		**P**	**18 34 29.9**	**0.0**
GHO					IAmb	IAmb	18 34 54.6	
	comp=Z,11nm,1.3s							
MDM	**Murphy Dome**	**32.17**	**41**	P		**P**	**18 34 32.4**	**+0.5**
MDM					IAmb	IAmb	18 34 34.4	
	comp=Z,8.2nm,1.4s							
SML	**Sawmill**	**32.22**	**47**	P		**P**	**18 34 32.9**	**+0.6**
WRH	**Wood River Hil**	**32.23**	**42**	P		**P**	**18 34 32.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**32.32**	**271**	*e*P		**P**	**18 34 32.5**	**-1.0**
HHC					pmax	pmax		
	comp=Z,15nm,0.9s							
HHC					pmax	pmax		
	comp=Z,140nm,6.2s							
COLA	**College**	**32.33**	**41**	*i* P		**P**	**18 34 34.6**	**+1.4**
COLA					pmax	pmax		
	comp=Z,4.0nm,0.9s							
CCB	**Clear Creek Bu**	**32.35**	**42**	P		**P**	**18 34 33.9**	**+0.5**
H11S1	**WAKE ISLAND Hy**	**32.39**	**161**	T		T	19 08 53.5	
	baz=347,slow=76,SNR=273							
H11S3	**WAKE ISLAND Hy**	**32.40**	**161**	T		T	19 08 51.2	
	baz=347,slow=76,SNR=557							
H11S2	**WAKE ISLAND Hy**	**32.41**	**161**	T		T	19 08 47.5	
	baz=347,slow=76,SNR=234							
ILAR	**Eielson Array**	**32.74**	**42**	P		**P**	**18 34 37.3**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=252,slow=7.3,SNR=15							
	comp=Z,1.7nm,0.9s							
ILAR	**Eielson Array**	**32.74**	**42**	P		**P**	**18 34 35.7**	**-1.2**
ILAR	**Eielson Array**	**32.74**	**42**	P		**P**	**18 34 35.7**	**-1.2**
FYU	**Fort Yukon**	**33.43**	**38**	P		**P**	**18 34 42.1**	**-0.7**
BMAR	**Burnt Mountain**	**33.70**	**37**	P		**P**	**18 34 46.5**	**+1.3**
N25K	**Chitina, Valde**	**34.01**	**47**	P		**P**	**18 34 49.0**	**+1.0**
N25K					IAmb	IAmb	18 35 17.2	
	comp=Z,16nm,1.4s							
L26K	**Log Cabin Wild**	**34.41**	**44**	P		**P**	**18 34 51.0**	**-0.4**
L26K					IAmb	IAmb	18 35 30.4	
	comp=Z,8.8nm,1.5s							
K27K	**Chicken**	**34.87**	**43**	P		**P**	**18 34 55.9**	**+0.6**
K27K					IAmb	IAmb	18 34 58.1	
	comp=Z,12nm,1.4s							
L27K	**Beaver Creek,**	**35.10**	**44**	P		**P**	**18 34 58.9**	**+1.6**
L27K					IAmb	IAmb	18 35 00.0	
	comp=Z,9.3nm,1.1s							
BCAR	**Beaver Creek A**	**35.12**	**44**	P		**P**	**18 34 58.0**	**+0.5**
M27K	**Edge Creek, AK**	**35.17**	**46**	P		**P**	**18 34 59.5**	**+1.4**
BARN	**Barnard Glacie**	**35.49**	**48**	P		**P**	**18 35 02.6**	**+1.7**
HYT	**Haines Junctio**	**37.52**	**47**	P		**P**	**18 35 19.6**	**+1.4**
HYT					IAmb	IAmb	18 35 21.0	
	comp=Z,11nm,1.0s							
INK	**Inuvik**	**37.83**	**35**	P		**P**	**18 35 21.7**	**+1.2**
	comp=Z,5.9nm,0.8s,baz=293,slow=7.3,SNR=25							
	comp=Z,5.9nm,0.8s							
INK	**Inuvik**	**37.83**	**35**	P		**P**	**18 35 21.6**	**+1.2**
INK					IAmb	IAmb	18 35 22.7	
	comp=Z,5.3nm,0.8s							
INK	**Inuvik**	**37.83**	**35**	P		**P**	**18 35 21.6**	**+1.2**
INK					pmax	pmax		
	comp=Z,5.0nm,0.8s							
N31M	**Braeburn, Yuko**	**38.17**	**46**	P		**P**	**18 35 25.8**	**+2.3**
N31M					IAmb	IAmb	18 35 27.0	
	comp=Z,8.8nm,0.9s							
M31M	**Drury Creek, Y**	**38.63**	**45**	P		**P**	**18 35 29.2**	**+1.9**
M31M					IAmb	IAmb	18 35 31.1	
	comp=Z,8.0nm,1.1s							
WHY	**Whitehorse**	**38.81**	**47**	P		**P**	**18 35 30.0**	**+1.1**
LZH	**Lanzhou**	**40.00**	**270**	*e*P		P	18 35 33.9	-5.3
LZH					pmax	pmax		
	comp=Z,7.0nm,1.0s							
A36M	**Sachs Harbour**	**40.06**	**28**	P		**P**	**18 35 40.1**	**+1.1**
A36M					IAmb	IAmb	18 35 41.8	
	comp=Z,11nm,0.9s							
ZALV	**Zalesovo Beam**	**42.59**	**304**	P		**P**	**18 35 58.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=66,slow=5.9,SNR=2.6							
ZALV					PcP	**PcP**	**18 37 50.8**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=74,slow=5.1,SNR=4.7							
	comp=Z,0.5nm,0.4s							
DGZ	**Jazzator, Alta**	**43.03**	**297**	*i* P		**P**	**18 36 02.8**	**-0.9**
DGZ					pmax	pmax		
	comp=Z,1.0nm,1.0s							
EUNU	**Eureka**	**45.60**	**12**	P		**P**	**18 36 23.8**	**+0.1**
MK31	**Makanchi Array**	**47.46**	**296**	P		**P**	**18 36 37.9**	**-0.8**
MK31	**Makanchi Array**	**47.46**	**296**	P		**P**	**18 36 37.9**	**-0.8**
MK31					pmax	pmax		
	comp=Z,2.0nm,1.2s							
MKAR	**Makanchi Array**	**47.46**	**296**	P		**P**	**18 36 38.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=47,slow=5.5,SNR=14							
MKAR					PcP	**PcP**	**18 38 08.2**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=62,slow=2.4,SNR=3.1							
MKAR					LR	LR	18 57 39.6	
	comp=Z,63nm,19.7s,baz=71,slow=37							
	comp=Z,0.7nm,0.5s							
MKAR	**Makanchi Array**	**47.46**	**296**	P		**P**	**18 36 37.6**	**-1.1**
MKAR					PcP	**PcP**	**18 38 08.0**	**-0.1**
KURK	**Kurchatov**	**47.46**	**303**	P		**P**	**18 36 37.7**	**-1.0**
KURK					IAmb	IAmb	18 36 38.6	
	comp=Z,8.4nm,1.4s							
KURK					PcP	**PcP**	**18 38 08.1**	**+0.2**
KURK	**Kurchatov**	**47.46**	**303**	*ce*P		**P**	**18 36 37.2**	**-1.4**
KURK					pmax	pmax		
	comp=Z,6.0nm,2.5s							
MAKZ	**Makanchi**	**47.63**	**296**	P		**P**	**18 36 37.7**	**-2.3**
MAKZ	**Makanchi**	**47.63**	**296**	P		**P**	**18 36 37.7**	**-2.3**
MAKZ					pmax	pmax		
	comp=Z,3.0nm,1.4s							
BRVK	**Borovoye**	**50.59**	**309**	P		**P**	**18 37 01.0**	**-1.5**
BRVK					IAmb	IAmb	18 37 02.0	
	comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**50.59**	**309**	*i* P		**P**	**18 37 01.3**	**-1.2**
BRVK					pmax	pmax		
	comp=Z,8.0nm,2.1s							
EDM	**Edmonton**	**52.59**	**49**	P		**P**	**18 37 18.2**	**+0.7**
EDM	**Edmonton**	**52.59**	**49**	P		**P**	**18 37 18.2**	**+0.7**
EDM					pmax	pmax		
	comp=Z,13nm,0.7s							
CHTO	**Chiang Mai**	**54.94**	**257**	P		**P**	**18 37 34.7**	**-0.3**
CHTO					IAmb	IAmb	18 38 15.4	
	comp=Z,3.8nm,1.1s							
CHTO	**Chiang Mai**	**54.94**	**257**	P		**P**	**18 37 34.7**	**-0.3**
CHTO					pmax	pmax		
	comp=Z,4.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**55.21**	**257**	P		**P**	**18 37 37.4**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=31,slow=8.2,SNR=5.3							
	comp=Z,0.8nm,0.3s							
PLID	**Pearl Lake**	**56.14**	**58**	P		**P**	**18 37 44.9**	**+1.4**
PLID					IAmb	IAmb	18 37 46.0	
	comp=Z,3.3nm,1.0s							
FFC	**Flin Flon**	**56.94**	**43**	P		**P**	**18 37 50.0**	**+1.2**
FFC					IAmb	IAmb	18 37 50.9	
	comp=Z,3.2nm,0.8s							
FFC	**Flin Flon**	**56.94**	**43**	P		**P**	**18 37 50.0**	**+1.2**
FFC					pmax	pmax		
	comp=Z,3.0nm,0.8s							
SUMG	**Summit**	**57.39**	**5**	*i* P		**P**	**18 37 51.0**	**-1.2**
FCC	**Fort Churchill**	**57.44**	**36**	P		**P**	**18 37 52.8**	**+0.6**
FCC					IAmb	IAmb	18 37 54.0	
	comp=Z,4.1nm,0.8s							
FCC	**Fort Churchill**	**57.44**	**36**	P		**P**	**18 37 52.8**	**+0.6**
FCC					pmax	pmax		
	comp=Z,4.0nm,0.8s							
ABKAR	**Akbulak array**	**58.07**	**310**	P		**P**	**18 37 55.9**	**-0.9**
ABKAR					IAmb	IAmb	18 37 56.9	
	comp=Z,5.7nm,1.4s							
ABKAR	**Akbulak array**	**58.07**	**310**	P		**P**	**18 37 55.1**	**-1.7**
BOZ	**Bozeman (W)**	**58.18**	**56**	P		**P**	**18 37 59.3**	**+1.4**
BOZ					IAmb	IAmb	18 38 00.5	
	comp=Z,4.7nm,0.9s							
BOZ	**Bozeman (W)**	**58.18**	**56**	P		**P**	**18 37 59.3**	**+1.4**
BOZ					pmax	pmax		
	comp=Z,5.0nm,1.0s							
AKTO	**Aktyubinsk**	**58.24**	**312**	LR		LR	19 04 50.9	
	comp=Z,87nm,18.5s,baz=32,slow=38							
HNR	**Honiara**	**59.16**	**176**	LR		LR	19 02 19.0	
	comp=Z,466nm,19.4s,baz=290,slow=35							
YMP	**Mirror Lake PI**	**59.53**	**56**	P		**P**	**18 38 06.9**	**-0.6**
YMP					IAmb	IAmb	18 38 45.1	
	comp=Z,6.8nm,1.0s							
H17A	**Grant Village**	**59.53**	**56**	P		**P**	**18 38 08.4**	**+1.0**
H17A					IAmb	IAmb	18 38 12.3	
	comp=Z,6.5nm,1.0s							
IMW	**Indian Meadow**	**59.67**	**57**	P		**P**	**18 38 10.4**	**+2.1**
IMW					IAmb	IAmb	18 38 31.1	
	comp=Z,4.5nm,1.1s							
RLMT	**Red Lodge**	**59.75**	**55**	P		**P**	**18 38 09.6**	**+0.8**
MOOW	**Moose Ponds**	**59.87**	**57**	P		**P**	**18 38 11.0**	**+1.3**
MOOW					IAmb	IAmb	18 38 35.5	
	comp=Z,2.2nm,0.8s							
TPAW	**Teton Pass**	**59.93**	**57**	P		**P**	**18 38 11.6**	**+1.4**
LOHW	**Long Hollow**	**60.04**	**57**	P		**P**	**18 38 11.8**	**+1.0**
LOHW					IAmb	IAmb	18 38 32.7	
	comp=Z,8.6nm,1.1s							
CHGR	**Chuyangaron**	**60.05**	**296**	P		**P**	**18 38 10.1**	**-0.7**
CHGR					IAmb	IAmb	18 38 11.4	
	comp=Z,6.4nm,0.9s							
CHGR	**Chuyangaron**	**60.05**	**296**	P		**P**	**18 38 10.1**	**-0.7**
CHGR					pmax	pmax		
	comp=Z,6.0nm,0.9s							
REDW	**Red Top Meadow**	**60.07**	**57**	P		**P**	**18 38 11.9**	**+0.9**
DGMT	**Dagmar**	**60.09**	**49**	P		**P**	**18 38 11.3**	**+0.5**
LAO	**LASA Array**	**60.28**	**52**	P		**P**	**18 38 13.7**	**+1.4**
AHID	**Auburn Hatcher**	**60.34**	**58**	P		**P**	**18 38 14.1**	**+1.3**
AHID					IAmb	IAmb	18 38 29.6	
	comp=Z,6.3nm,1.1s							
SPUT	**South Promonto**	**60.56**	**60**	P		**P**	**18 38 15.1**	**+0.8**
SPUT					IAmb	IAmb	18 38 34.3	
	comp=Z,3.5nm,0.9s							
PDAR	**Pinedale Array**	**61.17**	**57**	P		**P**	**18 38 21.1**	**+2.5**
	comp=Z,3.5nm,0.9s,baz=142,slow=7.5,SNR=3.6							
	comp=Z,3.5nm,0.9s							
OBN	**Obninsk**	**63.92**	**326**	*i* P		**P**	**18 38 39.3**	**+3.0**
OBN					pmax	pmax		
	comp=Z,3.0nm,0.9s							
NOA	**NORSAR Array B**	**65.92**	**342**	P		**P**	**18 38 48.3**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=30,slow=7.1,SNR=2.4							
NOA					LR	LR	19 12 27.7	
	comp=Z,43nm,19.3s,baz=335,slow=40							
	comp=Z,0.6nm,0.7s							
KIV	**Kislovodsk**	**70.12**	**315**	*e*P		**P**	**18 39 17.7**	**+1.7**
KIV					pmax	pmax		
	comp=Z,3.0nm,1.1s							
KIV					MLR	MLR		
	comp=Z,62nm,17.0s							
KBZ	**Khabaz**	**70.20**	**315**	P		**P**	**18 39 16.3**	**0.0**
	comp=Z,1.2nm,0.8s,baz=27,slow=14,SNR=3.7							
	comp=Z,1.2nm,0.8s							
KBZ	**Khabaz**	**70.20**	**315**	*i* P		**P**	**18 39 16.9**	**+0.6**
KBZ					pmax	pmax		
	comp=Z,1.0nm,0.9s							
SHA1	**Shidzhatmaz**	**70.31**	**315**	*i* P		**P**	**18 39 16.8**	**-0.5**
WRA	**Warramunga Arr**	**72.22**	**202**	P		**P**	**18 39 27.8**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=17,slow=6.4,SNR=2.5							
WRA					pP	**Pc

RCON **San Juan de Ri** 2.35 54 *e*P P 18 31 57.7 -1.3
NUBE **Las Nubes** 2.42 318 *e*P P 18 31 54.4 +1.0
NUBE *e*S S 18 32 22.9 -0.1
NUBE IAML 18 32 34.2
comp=Z,742nm,0.4s
ESQI **Esquipulas** 2.73 334 *e*P P 18 31 59.8 +2.3
HZTE **Horizontes, Gu** 2.82 119 *e*P P 18 31 59.2 +0.5
GB1A **Borinquen Arri** 2.95 115 *e*P P 18 32 02.4 +1.9
ORTG **Ortega, Santa** 3.12 123 *e*P P 18 32 03.7 +0.8
CLARA **Aguas Claras** 3.16 114 *e*P P 18 32 05.1 +1.7
MESS **Mesas** 3.16 115 *e*P P 18 32 04.4 +1.0
JUD3 **Juan Diaz 3** 3.17 127 *e*P P 18 32 04.3 +0.8
COLC **Colonia** 3.19 116 *e*P P 18 32 05.8 +2.0
VMAR **Armenia, Volca** 3.20 113 *e*P P 18 32 04.6 +0.6
SAAN **San Antonio** 3.23 126 *e*P P 18 32 05.2 +1.0
CANAL **Canalete** 3.25 112 *e*P P 18 32 05.8 +1.3
CANAL *e*S S 18 32 41.8 -1.4
ACAL **Aguas Claras** 3.35 115 *e*P P 18 32 08.0 +1.9
PTEN **Parque Tenorio** 3.36 114 *e*P P 18 32 07.5 +1.4
POPE **POPE, Guanacas** 3.45 126 *e*P P 18 32 08.4 +1.1
JTS **Las Juntas de** 3.58 120 P P 18 32 10.4 +1.2
comp=Z,2.7nm,0.3s,baz=115,slow=23,SNR=5.7
JTS S S 18 32 51.1 -0.3
comp=Z,17nm,0.3s,baz=24,slow=7.1,SNR=3.7
JTS LR LR 18 33 49.5
comp=Z,523nm,20.1s,baz=312,slow=44
comp=Z,7.4nm,0.5s
JTS **Las Juntas de** 3.58 120 *e*P P 18 32 10.0 +0.8
LAFE **Finca La Fe, P** 3.88 126 *e*P P 18 32 13.9 +0.6
LAFE **Finca La Fe, P** 3.88 126 *e*P P 18 32 14.1 +0.9
JACO **JACO, Garabito** 4.16 125 *e*P P 18 32 19.5 +2.4
JACO **JACO, Garabito** 4.16 125 *e*P P 18 32 20.0 +2.8
ACOS **Acosta** 4.50 120 *e*P P 18 32 25.7 +3.8
ABE2 **San Pablo** 4.64 120 *e*P P 18 32 26.9 +3.0
RIMA **Rio Macho** 4.77 119 *e*P P 18 32 27.6 +1.9
RIMA **Rio Macho** 4.77 119 *e*P P 18 32 29.2 +3.5
CDM **Cerro de Muert** 4.96 120 *e*P P 18 32 31.4 +2.8
BUS1 **Rivas** 4.97 120 *e*P P 18 32 31.5 +2.7
BUS1 *e*S S 18 33 26.4 -0.1
CMIG **Matias Romero** 8.22 308 P P 18 33 16.3 +3.3
comp=Z,1.3nm,0.3s,baz=138,slow=7.7,SNR=12
CMIG S S 18 34 51.0 +5.2
comp=Z,8.2nm,0.8s,baz=269,slow=21,SNR=3.9
comp=Z,2.8nm,0.3s
ROSC **El Rosal** 15.42 117 LR LR 18 41 44.6
comp=Z,110nm,18.9s,baz=77,slow=41
SDV **Santo Domingo** 17.48 99 LR LR 18 44 28.4
comp=Z,144nm,18.0s,baz=264,slow=46
ATAH **Atahualpa** 21.41 153 LR LR 18 42 55.4
comp=Z,131nm,20.1s,baz=348,slow=32
TXAR **Lajitas Array** 22.45 322 P P 18 36 13.9 +1.1
comp=Z,11nm,0.8s,baz=135,slow=12,SNR=31
comp=Z,11nm,0.8s
TKL **Tuckaleechee C** 23.78 9 P P 18 36 25.4 -0.9
comp=Z,7.9nm,0.8s,baz=192,slow=13,SNR=8.3
TKL LR LR 18 46 51.3
comp=Z,87nm,19.4s,baz=178,slow=40
comp=Z,7.9nm,0.8s
SADO **Sadowa** 33.45 12 LR LR 18 52 28.1
comp=Z,117nm,18.3s,baz=272,slow=38
LPAZ **La Paz** 34.44 145 LR LR 18 52 51.3
comp=Z,64nm,18.2s,baz=316,slow=38
MDP **Montagnes des** 35.72 98 LR LR 18 55 06.2
comp=Z,56nm,18.8s,baz=300,slow=40
PDAR **Pinedale Array** 35.78 333 P P 18 38 13.3 +0.2
comp=Z,2.2nm,1.0s,baz=116,slow=8.4,SNR=10
PDAR PcP PcP 18 40 41.1 +0.3
comp=Z,1.1nm,1.0s,baz=134,slow=6.4,SNR=4.1
comp=Z,2.2nm,1.0s
NVAR **Mina Array Bea** 37.55 320 P P 18 38 30.5 +2.3
comp=Z,0.4nm,0.4s,baz=122,slow=8.6,SNR=1.1
NVAR PcP PcP 18 40 47.7 +1.4
comp=Z,0.8nm,0.8s,baz=150,slow=3.8,SNR=3.6
comp=Z,0.4nm,0.4s
ULM **Lac du Bonnet** 38.58 352 P P 18 38 34.6 -1.8
comp=Z,9.8nm,0.8s,baz=170,slow=9.1,SNR=10
ULM LR LR 18 58 55.2
comp=Z,59nm,18.6s,baz=112,slow=43
comp=Z,9.8nm,0.8s
SIV **San Ignacio** 38.66 136 P P 18 38 36.7 -0.8
comp=Z,1.8nm,0.5s,baz=312,slow=9.0,SNR=11
comp=Z,1.8nm,0.5s
NEW **Newport** 43.41 332 LR LR 19 02 27.8
comp=Z,56nm,18.3s,baz=95,slow=43
RPN **Rapa Nui** 44.10 208 LR LR 18 53 44.3
comp=Z,80nm,18.2s,baz=222,slow=30
SCHQ **Schefferville** 45.80 17 P P 18 39 30.9 -4.4
comp=Z,7.3nm,0.8s,baz=224,slow=9.3,SNR=6.4
SCHQ LR LR 18 59 56.5
comp=Z,125nm,18.5s,baz=230,slow=38
comp=Z,7.3nm,0.8s
YKA **Yellowknife Ar** 53.78 345 P P 18 40 35.2 -0.7
comp=Z,2.2nm,0.9s,baz=140,slow=7.5,SNR=32
YKA PcP PcP 18 41 41.6 -0.1
comp=Z,0.9nm,0.9s,baz=148,slow=3.9,SNR=4.9
YKA LR LR 19 04 41.4
comp=Z,83nm,19.6s,baz=280,slow=37
comp=Z,2.2nm,0.9s
INK **Inuvik** 63.35 343 P P 18 41 41.7 -0.8
comp=Z,1.4nm,0.8s,baz=118,slow=8.9,SNR=4.9
INK LR LR 19 12 08.5
comp=Z,64nm,18.5s,baz=314,slow=39
comp=Z,1.4nm,0.8s
ILAR **Eielson Array** 66.08 336 P P 18 41 59.4 -1.0
comp=Z,0.9nm,0.9s,baz=112,slow=4.2,SNR=7.6
comp=Z,0.9nm,0.9s
SEY **Seymchan** 92.02 337 P P 18 44 21.6 -0.8
comp=Z,1.0nm,0.8s,baz=145,slow=6.8,SNR=4.1
comp=Z,1.0nm,0.8s
MKAR **Makanchi Array** 120.75 8 PKP PKPdf 18 50 03.3 -2.7
comp=Z,0.5nm,1.0s,baz=345,slow=2.3,SNR=2.6
ASAR **Alice Springs** 138.54 248 PKP PKPdf 18 50 38.7 -1.6
comp=Z,0.3nm,0.7s,baz=105,slow=3.3,SNR=1.3
WRA **Warramunga Arr** 138.55 254 PKP PKPdf 18 50 41.1 +0.7
comp=Z,1.0nm,1.1s,baz=89,slow=2.3,SNR=2.4
CMAR **Chiang Mai Arr** 148.85 347 PKPbc PKPdf 18 50 59.9 +1.5
comp=Z,1.4nm,0.6s,baz=331,slow=2.9,SNR=12

*IDC **17** 18:54:31.8±1.1,56°.62S×25°.39W, h0km, mb4.3/6, mbtmp4.3/7, ML4.1/1, MS3.9/27, Error ellipse: s-maj=50.5km s-min=18.4km az=60.0*
*NEIC **17** 18:54:46.5±1.3, 57°.05S±0°.1×26°.8W±0°.3, h98km±10km, mb4.9/32, Error ellipse: s-maj=24.8km s-min=19.2km az=85.0*
ISC 17 18:54:40.2±0.6,**57°.00S**±0°.08×**26°.5W**±0°.1,**h50**km,
h50km:**pP-P, n92**,σ1°**12/75, mb5.0**/21,**MS3.9**/26,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	15.77	157	P	Pn	18 58 16.7	-1.8
VNA3	**Neumayer Olymp**	15.96	160	P	Pn	18 58 18.4	-2.6
VNA2	**Neumayer--Watz**	16.16	157	P	Pn	18 58 20.9	-2.6
	baz=326,slow=15						
SNAA	**Sanae**	17.71	155	P	Pn	18 58 41.6	-1.3
	0.6nm,0.3s,baz=349,slow=9.7,SNR=21						
	3.0nm,0.5s						
TROLL	**Troll, Antarti**	19.22	153	P	Pn	18 59 02.5	+1.3
PMSA	**Palmer Station**	19.59	231	P	P	18 59 02.4	-1.2
	17nm,0.9s,baz=224,slow=10.0,SNR=6.7						
PMSA				LR	LR	19 06 05.0	
	comp=Z,375nm,18.8s,baz=99,slow=34						
BELA	**Belgrano 2**	21.16	185	P	P	18 59 21.0	+0.4
MG02	**Cerro Sombrero**	24.63	262	P	P	18 59 56.1	+0.5
TRQA	**Tornquist**	30.06	294	P	P	19 00 45.1	+0.7
TRQA				IAmb	IAmb	19 00 52.5	
	comp=Z,55nm,1.9s						
PLTB	**Pedras Altas**	31.42	312	P	P	19 00 56.5	+0.1
PLTB				IAmb	IAmb	19 01 40.0	
	comp=Z,48nm,1.9s						
PLCA	**Paso Flores**	32.56	281	LR	LR	19 16 02.8	
	comp=Z,228nm,18.2s,baz=138,slow=39						
QSPA	**South Pole Qui**	33.25	180	P	P	19 01 13.6	+1.3
	comp=Z,5.0nm,0.5s,baz=232,slow=0.7,SNR=42						
QSPA				LR	LR	19 14 38.0	
	comp=Z,209nm,18.8s,baz=198,slow=36						
	comp=Z,5.0nm,0.5s						
CPUP	**Villa Florida**	37.73	311	P	P	19 01 51.1	+0.3
	comp=Z,1.8nm,0.5s,baz=140,slow=8.2,SNR=4.2						
CPUP				LR	LR	19 17 15.6	
	comp=Z,106nm,20.2s,baz=166,slow=36						
	comp=Z,1.8nm,0.5s						
CPUP	**Villa Florida**	37.73	311	P	P	19 01 51.0	+0.1
CPUP				IAmb	IAmb	19 01 51.6	
	comp=Z,18nm,1.4s						
CPUP	**Villa Florida**	37.73	311	P	P	19 01 50.8	-0.1
CPUP				pP	pP	19 02 03.3	-0.4
MT09	**Talagante**	37.98	288	P	P	19 01 53.5	+0.4
CFA	**Coronel Fontan**	38.30	294	P	P	19 01 55.6	0.0
	comp=Z,2.4nm,0.4s,baz=94,slow=5.2,SNR=5.6						
CFA				LR	LR	19 20 09.7	
	comp=Z,134nm,18.7s,baz=144,slow=40						
	comp=Z,2.4nm,0.4s						
VA06	**Catapilco**	39.09	289	P	P	19 02 02.4	+0.1
MAW	**Mawson**	39.15	143	LR	LR	19 16 31.5	
	comp=Z,113nm,19.6s,baz=254,slow=34						
CO02	**Combarbal**	40.02	291	P	P	19 02 10.5	+0.4
CO02				IAmb	IAmb	19 02 40.7	
	comp=Z,36nm,1.3s						
SUR	**Sutherland**	40.53	73	LR	LR	19 15 50.0	
	comp=Z,304nm,18.0s,baz=196,slow=32						
LCO	**Las Campanas**	41.64	293	P	P	19 02 24.2	+0.5
LCO				IAmb	IAmb	19 03 19.7	
	comp=Z,14nm,0.8s						
AQDB	**Aquidauana**	42.36	317	P	P	19 02 27.0	-2.3
AQDB	**Aquidauana**	42.36	317	*e*P	P	19 02 28.1	-1.2
SHEL	**Horse Pasture**	43.86	29	P	P	19 02 43.0	+1.5
VNDA	**Vanda**	45.64	183	P	P	19 02 56.5	+1.6
	comp=Z,0.8nm,0.5s,baz=186,slow=5.6,SNR=8.8						
VNDA				LR	LR	19 21 03.1	
	comp=Z,89nm,18.8s,baz=166,slow=35						
	comp=Z,0.8nm,0.5s						
VNDA	**Vanda**	45.64	183	P	P	19 02 56.3	+1.4
VNDA	**Vanda**	45.64	183	P	P	19 02 57.4	+2.5
VNDA				pP	pwP	19 03 10.3	+0.2
BOSA	**Boshof**	45.84	74	LR	LR	19 19 23.6	
	comp=Z,389nm,18.4s,baz=194,slow=33						
BBRB	**Robore, Bolivi**	45.94	313	*e*P	P	19 02 59.4	+1.4
LVC	**Limon Verde**	46.12	300	P	P	19 02 59.5	-0.2
LVC	**Limon Verde**	46.12	300	*e*P	P	19 03 02.4	+2.6
LVC	**Limon Verde**	46.12	300	P	P	19 03 00.8	+1.0
PB10	**IPOC Station P**	46.13	298	P	P	19 02 60.0	+0.5
PB10				IAmb	IAmb	19 04 17.6	
	comp=Z,35nm,1.1s						
SALV	**Santo Antonio**	46.57	320	*e*P	P	19 03 03.4	+0.5
CCD	**Concordia, Ant**	46.67	170	P	P	19 03 03.6	+0.1
CCD				pP	pP	19 03 15.4	-0.8
PB04	**IPOC Station P**	46.94	299	P	P	19 03 06.6	+0.6
PB04				IAmb	IAmb	19 03 31.4	
	comp=Z,22nm,1.1s						
PB09	**IPOC Station P**	46.97	300	P	P	19 03 06.8	+0.6
PB09				IAmb	IAmb	19 03 09.9	
	comp=Z,32nm,1.2s						
PB03	**IPOC Station P**	46.99	300	P	P	19 03 07.4	+1.0
BBSD	**Serra de San D**	47.25	313	*e*P	P	19 03 08.6	+0.3
PB07	**IPOC Station P**	47.33	300	P	P	19 03 09.1	0.0
PB02	**IPOC Station P**	47.69	300	P	P	19 03 11.2	-0.5
PB02				IAmb	IAmb	19 03 15.3	
	comp=Z,21nm,1.1s						
PB01	**IPOC Station P**	47.73	301	P	P	19 03 10.5	-1.5
PB01				IAmb	IAmb	19 03 15.1	
	comp=Z,25nm,1.2s						
PTLB	**Pontes e Lacer**	48.25	316	P	P	19 03 15.3	-0.7
PTLB				IAmb	IAmb	19 03 18.2	
	comp=Z,17nm,1.3s						
PTLB	**Pontes e Lacer**	48.25	316	*e*P	P	19 03 16.6	+0.6
PB08	**IPOC Station P**	48.35	302	P	P	19 03 17.5	+0.3
PB08				IAmb	IAmb	19 03 19.4	
	comp=Z,22nm,1.3s						
SIV	**San Ignacio**	48.51	313	P	P	19 03 17.4	-0.6
	comp=Z,0.7nm,0.3s,baz=162,slow=8.1,SNR=3.6						
SIV				LR	LR	19 23 13.6	
	comp=Z,110nm,21.9s,baz=112,slow=35						
	comp=Z,0.7nm,0.3s						
GO01	**Chusmiza**	48.78	302	P	P	19 03 20.9	+0.3
GO01				IAmb	IAmb	19 03 26.1	
	comp=Z,32nm,1.3s						
SNDB	**Serra Nova Dou**	48.81	327	*e*P	P	19 03 19.7	-0.5
PB11	**IPOC Station P**	48.91	301	P	P	19 03 21.2	0.0
LBTB	**Lobatse**	48.92	72	LR	LR	19 20 55.5	
	comp=Z,194nm,18.1s,baz=174,slow=33						
PSGCX	**Pisagua**	49.27	301	P	P	19 03 24.4	+0.5
PSGCX				IAmb	IAmb	19 04 49.5	
	comp=Z,17nm,1.2s						
MNMC	**Minye Minye**	49.43	302	P	P	19 03 25.9	+0.5
TSUM	**Tsumeb**	49.82	59	LR	LR	19 20 48.3	
	comp=Z,67nm,18.6s,baz=159,slow=32						
H10N1	**ASCENSION HYDR**	49.92	16	T	T	19 57 47.5	
	baz=191						
H10N3	**ASCENSION HYDR**	49.92	16	T	T	19 57 35.5	
	baz=191						
H10N2	**ASCENSION HYDR**	49.94	16	T	T	19 57 39.2	
	baz=191						
PB16	**IPOC Station P**	50.08	302	P	P	19 03 30.6	0.0
PB12	**IPOC Station P**	50.22	301	P	P	19 03 31.7	+0.6
SMTB	**Santa Maria do**	50.76	333	*e*P	P	19 03 34.7	-0.3
PDRB	**Porto dos Gac**	50.91	321	*e*P	P	19 03 36.9	+0.7
LPAZ	**La Paz**	51.24	305	P	P	19 03 40.5	+1.0
	comp=Z,7.4nm,0.4s,baz=108,slow=4.1,SNR=37						
LPAZ				LR	LR	19 25 51.0	
	comp=Z,37nm,21.7s,baz=122,slow=36						
	comp=Z,7.4nm,0.4s						
LPAZ	**La Paz**	51.24	305	P	P	19 03 40.0	+0.6
LPAZ	**La Paz**	51.24	305	*e*P	P	19 03 40.5	+1.0
LPAZ	**La Paz**	51.24	305	P	P	19 03 40.4	+1.0
LPAZ				pP	pP	19 03 52.1	-0.4
CLDB	**Colider**	51.27	322	*e*P	P	19 03 39.2	+0.2
CASY	**Casey**	52.88	160	P	P	19 03 49.4	-0.9
CASY				pP	pP	19 04 02.5	-0.6
NBCL	**Cascavel-CE**	53.45	345	*e*P	P	19 03 53.5	-1.6
LSZ	**Lusaka**	58.36	68	LR	LR	19 27 12.0	
	comp=Z,145nm,18.1s,baz=203,slow=34						
CZSB	**Cruzeiro do Su**	60.85	305	P	P	19 04 46.1	-1.3
CZSB				IAmb	IAmb	19 04 46.7	
	comp=Z,36nm,0.5s						
RPN	**Rapa Nui**	63.88	260	LR	LR	19 28 46.8	
	comp=Z,81nm,18.2s,baz=176,slow=32						
ATAH	**Atahualpa**	64.00	300	LR	LR	19 36 36.0	
	comp=Z,48nm,18.0s,baz=131,slow=39						
BOAV	**Boa Vista**	65.27	322	P	P	19 05 15.4	-1.1
BOAV				IAmb	IAmb	19 05 57.7	
	comp=Z,26nm,1.7s						
MDP	**Montagnes des**	65.46	331	LR	LR	19 33 05.0	
	comp=Z,58nm,19.2s,baz=172,slow=35						
DBIC	**Dimbokro**	65.88	24	LR	LR	19 28 04.1	
	comp=Z,99nm,18.8s,baz=210,slow=31						
OTAV	**Otavalo**	70.50	303	P	P	19 05 51.4	+1.4
OTAV				IAmb	IAmb	19 05 53.2	
	comp=Z,24nm,1.6s						
OTAV	**Otavalo**	70.50	303	*e*P	P	19 05 52.5	+2.5
OTAV	**Otavalo**	70.50	303	P	P	19 05 51.5	+1.5
MBAR	**Mbarara**	72.24	62	LR	LR	19 35 37.7	
	comp=Z,59nm,18.4s,baz=196,slow=34						
ROSC	**El Rosal**	72.79	309	LR	LR	19 40 56.8	
	comp=Z,73nm,18.9s,baz=172,slow=38						
BAUV	**El Baul**	74.02	317	P	P	19 06 10.3	-0.1
BAUV				IAmb	IAmb	19 06 11.3	
	comp=Z,19nm,1.1s						
SDV	**Santo Domingo**	74.96	315	LR	LR	19 41 51.2	
	comp=Z,122nm,18.9s,baz=186,slow=38						
SJG	**San Juan**	81.83	322	LR	LR	19 48 05.3	
	comp=Z,23nm,18.2s,baz=166,slow=39						
CRPR	**Cabo Rojo, PR**	82.06	321	P	P	19 06 55.8	+0.9
ATD	**Arta Tunnel**	88.68	67	LR	LR	19 46 16.9	
	comp=Z,98nm,18.4s,baz=72,slow=35						
STKA	**Stephens Creek**	90.90	170	LR	LR	19 49 00.7	
	comp=Z,100nm,18.2s,baz=203,slow=36						
MDT	**Midelt**	91.36	18	LR	LR	19 44 48.5	
	comp=Z,128nm,18.4s,baz=160,slow=33						
PPT	**Papeete**	91.94	233	LR	LR	19 45 16.3	
	comp=Z,39nm,18.1s,baz=118,slow=33						
EIL	**Elat**	100.63	51	LR	LR	19 50 07.3	
	comp=Z,55nm,19.2s,baz=236,slow=33						
YKA	**Yellowknife Ar**	137.13	317	PKP	PKPdf	19 13 54.8	-1.3
	comp=Z,1.1nm,1.0s,baz=133,slow=2.2,SNR=9.5						
SONM	**Songino Array**	150.39	88	PKPbc	PKPbc	19 14 21.6	+1.9
	comp=Z,1.4nm,0.8s,baz=231,slow=2.2,SNR=7.8						
ILAR	**Eielson Array**	151.03	310	PKPbc	PKPbc	19 14 25.0	-0.9
	comp=Z,7.4nm,1.1s,baz=102,slow=1.1,SNR=22						
ILAR				PKPab	pPKPdf	19 14 34.5	-0.1
	comp=Z,1.4nm,0.9s,baz=114,slow=2.2,SNR=6.8						

IDC 17 19:04:33.4±3.0,**4°.57N×128°.75E, h0**km,**mb3.4**/3,
mbtmp3.4/3,**1C, Error ellipse: s-maj=213.9km s-min=30.1km az=68.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	4.37	304	⇑*e*P	Pg	19 06 00.3	+3.0
WRA	**Warramunga Arr**	24.97	167	P	P	19 09 58.1	-0.8
	0.8nm,0.8s,baz=347,slow=11,SNR=6.4						
	0.8nm,0.8s						
ASAR	**Alice Springs**	28.52	170	P	P	19 10 31.8	+0.9
	0.4nm,1.0s,baz=344,slow=9.6,SNR=1.5						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	58.04	324	P	P	19 14 28.4	0.0
	0.3nm,0.8s,baz=130,slow=8.3,SNR=2.2						
	0.3nm,0.8s						

*MAN **17** 19:05:37.0, 3°.62N×127°.42E, h4km, mb4.4, ML3.3, MS3.0*
*IDC **17** 19:05:44.3±1.3, 4°.17N×126°.66E, h0km, mb3.7/5, mbtmp3.8/6, ML3.7/1, MS3.0/5, Error ellipse: s-maj=97.5km s-min=20.3km az=63.0*
*NEIC **17** 19:05:52.7±2.1, 3°.9N±0°.1×126°.81E±0°.06, h62km±12km, mb4.1/11, Error ellipse: s-maj=15.5km s-min=6.9km az=195.0*
ISC 17 19:05:51.8±0.7,**3°.98N**±0°.08×**126°.9E**±0°.1,**h50**km,**n26,**
σ1°**89/24, mb4.0/11, MS3.1/3, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	3.22	172	Pn	Pn	19 06 40.4	+0.5
SKMP	**Bagumbayan, Su**	3.45	317	⇓*e*P	Pn	19 06 41.2	-1.9
SKMP				*e*S	Sn	19 07 27.4	+4.7
SIJI	**Sorong**	6.50	138	Pn	Pn	19 07 25.6	+0.7
	1.3nm,0.3s,baz=332,slow=18,SNR=8.3						
SIJI				Sn	Sn	19 08 39.0	+1.2
	0.2nm,0.3s,baz=327,slow=23,SNR=0.8						
SIJI				LR	LR	19 09 12.4	
	comp=Z,23nm,21.4s,baz=220,slow=31						
	3.3nm,0.3s						
TOLI2	**Tolitoli**	6.74	245	Pn	Pn	19 07 27.6	-0.6
FAKI	**Fak Fak**	8.69	142	Pn	Pn	19 07 55.3	+0.3
KAPI	**Kappang**	11.44	219	LR	LR	19 13 04.8	
	comp=Z,54nm,19.1s,baz=38,slow=38						
MTN	**Manton Dam**	17.23	166	Pn	Pn	19 09 47.3	-1.8
MTN				IAmb	IAmb	19 09 51.4	
	comp=Z,26nm,1.3s						
KNRA	**Kununurra**	19.61	175	P	P	19 10 15.0	-1.2
FITZ	**Fitzroy Crossi**	21.97	183	P	P	19 10 41.1	-0.5
JOW	**Kunigami**	22.77	3	LR	LR	19 17 43.0	
	comp=Z,83nm,21.5s,baz=291,slow=32						
PMG	**Port Moresby**	24.17	123	P	P	19 11 02.4	-1.2
PMG				IAmb	IAmb	19 11 03.9	
	comp=Z,4.6nm,0.8s						
WB0	**Warramunga Arr**	24.72	163	P	P	19 11 08.3	-0.3
WB0				IAmb	IAmb	19 11 15.3	
	comp=Z,5.8nm,0.9s						
WRA	**Warramunga Arr**	24.87	163	P	P	19 11 10.5	+0.6
	comp=Z,2.8nm,0.8s,baz=343,slow=11,SNR=12						
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	24.87	163	P	P	19 11 10.2	+0.2
WB2	**Warramunga Arr**	24.87	163	P	P	19 11 10.9	+1.0
WB2				IAmb	IAmb	19 11 17.4	
	comp=Z,6.8nm,0.8s						
ASAR	**Alice Springs**	28.31	166	P	P	19 11 42.6	+1.6
	comp=Z,0.2nm,0.3s,baz=342,slow=8.0,SNR=7.0						
	comp=Z,0.2nm,0.3s						
MAJO	**Matsushiro**	34.04	16	P	P	19 12 31.8	+0.6
STKA	**Stephens Creek**	38.30	160	P	P	19 13 08.7	+1.1
	comp=Z,0.6nm,0.3s,baz=342,slow=20,SNR=2.1						
	comp=Z,0.6nm,0.3s						
KLR	**Kul'dur**	45.28	4	LR	LR	19 33 20.8	
	comp=Z,25nm,19.5s,baz=19,slow=37						
SONM	**Songino Array**	47.12	341	P	P	19 14 20.9	+1.8
SONM				IAmb	IAmb	19 14 40.5	
	comp=Z,5.0nm,1.4s						
MK31	**Makanchi Array**	57.45	325	P	P	19 15 33.0	-2.7
MK31				IAmb	IAmb	19 15 46.8	
	comp=Z,3.1nm,1.5s						
MKAR	**Makanchi Array**	57.45	325	P	P	19 15 32.9	-2.8
	comp=Z,0.4nm,0.6s,baz=125,slow=8.7,SNR=4.0						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	57.45	325	P	P	19 15 32.7	-3.0
ZALV	**Zalesovo Beam**	60.45	333	P	P	19 15 54.0	-2.3
	comp=Z,0.3nm,0.4s,baz=141,slow=5.2,SNR=2.4						
	comp=Z,0.3nm,0.4s						
BRVK	**Borovoye**	67.28	327	P	P	19 16 40.0	-1.3
BRVK				IAmb	IAmb	19 16 45.1	
	comp=Z,1.6nm,0.9s						
GNI	**Garni**	81.46	310	LR	LR	19 59 51.5	
	comp=Z,30nm,18.4s,baz=244,slow=40						

*IDC **17** 19:34:12.3±1.2, 15°.40N×122°.13E, h0km, mb3.4/6, mbtmp3.5/6, MS3.1/1, Error ellipse: s-maj=37.3km s-min=22.6km az=63.0*
*MAN **17** 19:34:15.0, 15°.48N×121°.93E, h1km, mb4.7, ML3.5, MS3.4*
ISC 17 19:34:15.6±1.5,**15°.47N**±0°.04×**121°.97E**±0°.05,**h13**km±10km,
n24,σ1°**40/28, mb3.5/6, 5C-7D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	0.84	276	⇓*e*P	Pg	19 34 31.0	-1.0
PCPH				*e*S	Sb	19 34 42.8	-0.7
JCNP	**Jose Panganiba**	1.37	149	⇓*e*P	Pn	19 34 40.4	-0.2
JCNP				*e*S	Sg	19 34 59.3	-0.6
JCNP	**Jose Panganiba**	1.37	149	⇑*i*P	Pn	19 34 40.6	+0.1
SMPP	**San Manuel, Pa**	1.41	299	⇑*e*P	Pn	19 34 40.5	-0.6
SMPP				*e*S	Sb	19 34 59.7	-0.1
LQP	**Lukban**	1.42	197	⇑*e*P	Pn	19 34 41.0	-0.4
LQP				*e*S	Sn	19 35 02.1	+2.1
GQP	**Guinayangan**	1.63	163	⇑*e*P	Pn	19 34 45.1	+1.1
GQP				*e*S	Sn	19 35 06.9	+2.0
TGY	**Tagaytay City**	1.69	216	⇓*e*P	Pg	19 34 48.5	+0.4
TGY				*i* S	Sg	19 35 10.6	+0.5
MACP	**Maragondon, Ca**	1.71	225	⇓*e*P	Pn	19 34 44.9	-0.2
MACP				*e*S	Sg	19 35 11.5	+0.9
SAMP	**Sagada Mountai**	1.90	327	⇓*e*P	Pn	19 34 49.1	+1.4
SAMP				*e*S	Sn	19 35 13.2	+1.6
BOAC	**Boac**	2.01	183	⇓*e*P	Pn	19 34 51.0	+1.8
BOAC				*e*S	Sb	19 35 18.7	+1.7
SIPP	**Brgy, Tapao**	2.83	329	⇓*e*P	Pb	19 35 06.9	+0.8
SIPP				*i* S	Sg	19 36 02.8	+16
PACPP	**Pamplona Cagay**	3.03	349	⇑*e*P	Pn	19 35 05.3	+2.0
PACP

DRK	**Karamyk**	**1.43**	**265**	⇓*e*P	**Pn**	**19 34 58.5**	**+0.2**
	baz=74						
DRK				⇓*e*S	**Sb**	**19 35 18.1**	**+0.8**
	baz=74						
BTK	**Batken**	**2.22**	**283**	⇑*e*P	**Pb**	**19 35 12.8**	**+0.2**
	baz=88						
BTK				⇑*e*S	**Sg**	**19 35 42.3**	**-2.0**
	baz=88						
ARLS	**Aral**	**2.31**	**13**	⇑*e*P	**Pg**	**19 35 16.3**	**-1.0**
	baz=12						
ARLS				⇑*e*S	**Sg**	**19 35 48.3**	**+1.1**
	baz=12						
AML	**Almayashu**	**2.52**	**1**	⇑*e*P	**Pg**	**19 35 19.5**	**-1.8**
	baz=1.0						
AML				⇑*e*S	**Sg**	**19 35 53.9**	**-0.1**
	baz=1.0						
ARK	**Arkit**	**2.53**	**330**	⇑*e*P	**Pb**	**19 35 18.9**	**+0.9**
	baz=33						
ARK				⇑*e*S	**Sg**	**19 35 53.0**	**-1.3**
	baz=33						
NRN	**Naryn**	**2.56**	**44**	⇑*e*P	**Pb**	**19 35 19.0**	**+0.4**
	baz=41						
NRN				⇑*e*S	**Sg**	**19 35 53.2**	**-2.1**
	baz=41						
GAR	**Garm**	**2.65**	**258**	⇑*e*P	**Pn**	**19 35 17.4**	**+2.4**
	baz=62						
GAR				⇑*e*S	**Sb**	**19 35 50.2**	**-2.0**
	baz=62						
UCH	**Uchtor**	**2.70**	**14**	⇑*e*P	**Pb**	**19 35 21.7**	**+0.7**
	baz=13						
UCH				⇑*e*S	**Sg**	**19 35 58.2**	**-1.5**
	baz=13						
TRKS	**Terek-Say**	**2.70**	**316**	⇑*e*P	**Pb**	**19 35 20.0**	**-0.9**
	baz=19						
TRKS				⇑*e*S	**Sb**	**19 35 54.9**	**+1.0**
	baz=19						
EKS2	**Erkin-Say**	**3.05**	**2**	⇑*e*P	**Pb**	**19 35 26.7**	**-0.2**
	baz=2.0						
EKS2				⇑*e*S	**Sb**	**19 36 06.3**	**+2.4**
	baz=2.0						
MRKS	**Merke**	**3.15**	**354**	Pg	**Pg**	**19 35 31.0**	**-2.3**
	4.5nm,0.3s						
MRKS				Lg	Lg	19 36 13.6	
	20nm,0.4s						
MRKS	**Merke**	**3.15**	**354**	*e*Pg	**Pg**	**19 35 31.0**	**-2.3**
	4.5nm,0.3s						
MRKS				*e*Lg	Lg	19 36 13.6	
	20nm,0.4s						
KBK	**Karagaybulak**	**3.20**	**18**	⇓*e*P	**Pb**	**19 35 28.6**	**-0.8**
	baz=17						
KBK				⇓*e*S	**Sb**	**19 36 09.9**	**+1.7**
	baz=17						
CHMS	**Chumysh**	**3.49**	**14**	⇑Pn	**Pb**	**19 35 33.7**	**-0.5**
	5.4nm,0.7s						
CHMS				⇑Lg	Lg	19 36 29.2	
	15nm,0.8s						
TKM2	**Tokmak 2**	**3.62**	**23**	⇑Pn	**Pb**	**19 35 38.5**	**+1.8**
	3.9nm,0.8s						
TKM2				⇑Lg	Lg	19 36 34.0	
	6.5nm,0.5s						
IUG	**Iuzhnay**	**3.73**	**314**	Pg	**Pb**	**19 35 37.1**	**-1.3**
	6.5nm,0.4s						
IUG				Lg	Lg	19 36 24.2	
	25nm,0.6s						
IUG	**Iuzhnay**	**3.73**	**314**	*e*Pg	**Pb**	**19 35 37.1**	**-1.3**
	6.5nm,0.4s						
IUG				*e*Lg	Lg	19 36 24.2	
	25nm,0.6s						
KST	**Kastek**	**3.85**	**26**	Pg	**Pg**	**19 35 45.4**	**-1.3**
	5.2nm,0.5s						
KST				Lg	Lg	19 36 38.4	
	13nm,0.6s						
KST	**Kastek**	**3.85**	**26**	*e*Pg	**Pg**	**19 35 45.1**	**-1.6**
	5.2nm,0.5s						
KST				*e*Lg	Lg	19 36 37.2	
	13nm,0.6s						
SGDS	**Sogindy**	**3.91**	**11**	Pg	**Pg**	**19 35 47.1**	**-0.7**
	2.1nm,0.6s						
SGDS				Lg	Lg	19 36 41.1	
	10nm,0.8s						
IZV	**Izvestkoviy**	**4.09**	**32**	Pg	**Pg**	**19 35 51.6**	**+0.3**
	2.4nm,0.5s						
IZV				Lg	Lg	19 36 47.7	
	19nm,0.7s						
IZV	**Izvestkoviy**	**4.09**	**32**	*e*Pg	**Pg**	**19 35 51.1**	**-0.2**
	2.4nm,0.5s						
IZV				*e*Lg	Lg	19 36 47.7	
	19nm,0.7s						
MTBS	**Maitube**	**4.10**	**30**	Pg	**Pg**	**19 35 51.2**	**-0.2**
	7.3nm,0.4s						
MTBS				Lg	Lg	19 36 47.9	
	9.9nm,0.5s						
MTBS	**Maitube**	**4.10**	**30**	*e*Pg	**Pg**	**19 35 51.2**	**-0.2**
	7.3nm,0.4s						
MTBS				*e*Lg	Lg	19 36 47.9	
	9.9nm,0.5s						
KK31	**Karatay Array**	**4.21**	**327**	Pn	**Pb**	**19 35 44.6**	**-1.9**
	0.5nm,0.4s,baz=126,slow=2.7,SNR=4.9						
KK31				⇓Pg	**Pg**	**19 35 54.1**	**+0.5**
	0.8nm,0.3s,baz=149,slow=14,SNR=4.6						
KK31				⇑Sn	**Sb**	**19 36 33.5**	**-3.6**
	1.4nm,0.3s						
KK31				⇑Lg	Lg	19 36 50.8	
	3.4nm,0.5s						
TNSS	**Tian-Shan**	**4.24**	**35**	Pg	**Pg**	**19 35 53.9**	**-0.1**
	5.7nm,0.4s						
TNSS				Lg	Lg	19 36 52.4	
	7.0nm,0.6s						
TNSS	**Tian-Shan**	**4.24**	**35**	*e*Pg	**Pg**	**19 35 53.9**	**-0.1**
	5.7nm,0.4s						
TNSS				*e*Lg	Lg	19 36 52.5	
	7.0nm,0.6s						
KRBS	**Karabastau**	**4.36**	**20**	Pg	**Pg**	**19 35 56.1**	**-0.3**
	4.6nm,0.6s						
KRBS				Lg	Lg	19 36 55.8	
	6.2nm,0.7s						
KRBS	**Karabastau**	**4.36**	**20**	*e*Pg	**Pg**	**19 35 56.1**	**-0.3**
	4.6nm,0.6s						
KRBS				*e*Lg	Lg	19 36 55.8	
	6.2nm,0.7s						
MDOK	**Medeo**	**4.38**	**35**	⇑Pg	**Pg**	**19 35 56.6**	**-0.2**
	4.8nm,0.7s						
MDOK				Pg	**Pg**	**19 35 56.9**	**+0.1**
	4.8nm,0.8s						
MDOK				⇑Lg	Lg	19 36 56.9	
	8.8nm,0.6s						
MDOK				Lg	Lg	19 36 57.5	
	10nm,0.7s						
MDOK	**Medeo**	**4.38**	**35**	*e*Pg	**Pg**	**19 35 56.0**	**-0.8**
	4.8nm,0.8s						
MDOK				*e*Lg	Lg	19 36 56.1	
	10nm,0.7s						
KOTS	**Kotyrbulak**	**4.46**	**35**	Pg	**Pg**	**19 35 58.0**	**-0.4**
	4.7nm,0.6s						
KOTS				Lg	Lg	19 36 59.1	
	22nm,0.6s						
KOTS	**Kotyrbulak**	**4.46**	**35**	*e*Pg	**Pg**	**19 35 58.0**	**-0.4**
	4.7nm,0.6s						
KOTS				*e*Lg	Lg	19 36 59.1	
	22nm,0.6s						
KTBS	**Karatobe**	**4.69**	**28**	Pg	**Pg**	**19 36 02.2**	**-0.6**
	2.1nm,0.3s						
KTBS				Lg	Lg	19 37 06.3	
	13nm,0.7s						
KTBS	**Karatobe**	**4.69**	**28**	*e*Pg	**Pg**	**19 36 02.1**	**-0.6**
	2.1nm,0.3s						
KTBS				*e*Lg	Lg	19 37 06.2	
	13nm,0.7s						
KUU	**Kurty**	**4.73**	**24**	Pg	**Pg**	**19 36 02.0**	**-1.6**
	1.3nm,0.6s						
KUU				Lg	Lg	19 37 05.8	
	6.4nm,0.9s						
KUU	**Kurty**	**4.73**	**24**	*e*Pg	**Pg**	**19 36 02.0**	**-1.6**
	1.3nm,0.6s						
KUU				*e*Lg	Lg	19 37 05.8	
	6.4nm,0.9s						
CHKK	**Chushkaly**	**4.93**	**29**	Pg	**Pg**	**19 36 05.4**	**-1.8**
	1.5nm,0.1s						
CHKK				Lg	Lg	19 37 12.1	
	7.2nm,0.6s						
CHKK	**Chushkaly**	**4.93**	**29**	*e*Pg	**Pg**	**19 36 05.4**	**-1.8**
	1.5nm,0.1s						
CHKK				*e*Lg	Lg	19 37 12.1	
	7.2nm,0.6s						

*SOME **17** 19:38:00.9, 41˚.05N×72˚.55E, h5km*
*KRNET **17** 19:38:03.4±0.1, 41˚.24N×72˚.43E, h19km, mb3.3*

*KNET **17** 19:38:05.6±0.3, 41˚.41N×72˚.52E, h0km±1km, ml2.9, Error ellipse: s-maj=4.2km s-min=2.2km az=136.0*
*ISU **17** 19:38:05.6, 41˚.32N×72˚.61E, h30km*
*NNC **17** 19:38:09.4±1.1, 41˚.48N×72˚.59E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=13.1km s-min=3.4km az=15.0*

ISC 17 19:38:04.2±1.1, **41˚.28N**±0˚.02×**72˚.44E**±0˚.02, **h19**km±3km, **n70**, σ1s **89**/109, **41C-22D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.53**	**187**	P		**Pb**	**19 38 14.2**	**-0.6**
ANR				S		**Sn**	**19 38 22.9**	**-2.2**
ARK	**Arkit**	**0.63**	**326**	⇓*e*P		**Pb**	**19 38 15.9**	**-0.8**
	baz=28							
ARK				⇓*e*S		**Sg**	**19 38 25.2**	**-0.2**
	baz=28							
ARK	**Arkit**	**0.63**	**326**	P		**Pb**	**19 38 15.9**	**-0.8**
ARK				S		**Sg**	**19 38 25.8**	**+0.4**
OHH	**Osh**	**0.80**	**161**	⇑*e*P		**Pb**	**19 38 17.7**	**-1.8**
	baz=59							
OHH				⇑*e*S		**Sb**	**19 38 28.3**	**-1.6**
	baz=59							
TRKS	**Terek-Say**	**1.01**	**285**	⇑*e*P		**Pb**	**19 38 21.4**	**-1.8**
	baz=83							
TRKS				⇑*e*S		**Sb**	**19 38 34.8**	**-1.4**
	baz=83							
FRG	**Fergana**	**1.03**	**209**	P		**Pg**	**19 38 26.1**	**+1.8**
FRG				S		**Sn**	**19 38 42.8**	**+5.2**
CHMI	**Chimion**	**1.23**	**215**	P		**Pg**	**19 38 28.6**	**+0.6**
CHMI				S		**Sg**	**19 38 48.2**	**+4.2**
AML	**Almayashu**	**1.27**	**47**	⇑P		**Pb**	**19 38 27.4**	**-0.3**
	28nm,0.2s,SNR=15							
AML				⇑S		**Sg**	**19 38 45.1**	**-0.4**
	94nm,0.2s							
AML	**Almayashu**	**1.27**	**47**	⇓*e*P		**Pb**	**19 38 27.4**	**-0.3**
	baz=46							
AML				⇓*e*S		**Sg**	**19 38 44.9**	**-0.6**
	baz=46							
CHDK	**Chadak**	**1.31**	**257**	P		**Pg**	**19 38 29.4**	**-0.2**
CHDK				S		**Sg**	**19 38 50.1**	**+3.3**
ARLS	**Aral**	**1.53**	**67**	⇑*e*P		**Pb**	**19 38 31.7**	**-0.3**
	baz=66							
ARLS				⇑*e*S		**Sg**	**19 38 52.4**	**-1.2**
	baz=66							
MRKS	**Merke**	**1.58**	**21**	P		**Pb**	**19 38 32.8**	**-0.1**
	33nm,0.3s							
MRKS				S		**Sg**	**19 38 55.4**	**+0.1**
	299nm,0.4s							
MRKS	**Merke**	**1.58**	**21**	*e*P		**Pb**	**19 38 32.5**	**-0.4**
	33nm,0.3s							
MRKS				*e*S		**Sg**	**19 38 55.1**	**-0.2**
	299nm,0.4s							
EKS2	**Erkin-Say**	**1.70**	**35**	⇓P		**Pb**	**19 38 35.4**	**+0.4**
	8.3nm,0.1s,SNR=12							
EKS2				⇑S		**Sg**	**19 38 59.0**	**-0.2**
	58nm,0.3s							
EKS2	**Erkin-Say**	**1.70**	**35**	⇓*e*P		**Pb**	**19 38 34.9**	**-0.1**
	baz=35							
EKS2				⇓*e*S		**Sg**	**19 38 58.1**	**-1.2**
	baz=35							
BTK	**Batken**	**1.73**	**226**	⇑*e*P		**Pb**	**19 38 34.6**	**-0.9**
	baz=27							
BTK				⇑*e*S		**Sg**	**19 38 57.1**	**-3.1**
	baz=27							
DZA	**Taraz**	**1.81**	**333**	*e*Pg		**Pg**	**19 38 37.6**	**-1.5**
	46nm,0.2s							
DZA				*e*Lg		Lg	19 39 03.8	
	496nm,0.3s							
UCH	**Uchtor**	**1.82**	**58**	⇓P		**Pb**	**19 38 37.7**	**+0.6**
	16nm,0.2s,SNR=19							
UCH				⇓S		**Sg**	**19 39 03.6**	**+0.7**
	107nm,0.3s							
UCH	**Uchtor**	**1.82**	**58**	⇑*e*P		**Pb**	**19 38 36.8**	**-0.3**
	baz=57							
UCH				⇑*e*S		**Sg**	**19 39 01.4**	**-1.6**
	baz=57							
DRK	**Karamyk**	**1.86**	**195**	⇑*i*P		**Pb**	**19 38 35.8**	**-2.0**
	baz=95							
DRK				⇑*i*S		**Sg**	**19 39 00.6**	**-3.7**
	baz=95							
CHRV	**Charvak**	**1.91**	**282**	P		**Pg**	**19 38 39.6**	**-1.3**
CHRV				S		**Sg**	**19 39 07.6**	**+1.9**
IUG	**Iuzhnay**	**2.00**	**296**	Pg		**Pg**	**19 38 41.2**	**-1.6**
IUG				Lg		Lg	19 39 09.4	
	170nm,0.4s							
IUG	**Iuzhnay**	**2.00**	**296**	*e*Pg		**Pg**	**19 38 40.9**	**-1.8**
	60nm,0.2s							
IUG				*e*Lg		Lg	19 39 09.5	
	110nm,0.3s							
AAK	**Ala-Archa**	**2.05**	**48**	⇓P		**Pg**	**19 38 42.0**	**-1.6**
	21nm,0.3s,SNR=16							
AAK				⇑S		**Sg**	**19 39 09.3**	**-0.9**
	53nm,0.3s							
AAK	**Ala-Archa**	**2.05**	**48**	⇑*e*P		**Pb**	**19 38 39.9**	**-1.0**
	baz=47							
AAK				⇑*e*S		**Sb**	**19 39 06.4**	**+0.4**
	baz=47							
FRU1	**Bishkek**	**2.24**	**46**	⇑*e*P		**Pb**	**19 38 42.6**	**-1.4**
	baz=46							
FRU1				⇑*e*S		**Sb**	**19 39 11.0**	**-0.3**
	baz=46							
KK31	**Karatay Array**	**2.32**	**322**	⇓Pn		**Pb**	**19 38 46.0**	**+0.6**
	5.3nm,0.2s,baz=135,slow=17,SNR=146							
KK31				⇓Sn		**Sg**	**19 39 17.3**	**-1.6**
	36nm,0.3s,baz=131,slow=26							
KKAR	**Karatay Array**	**2.32**	**322**	⇓*e*P		**Pb**	**19 38 43.5**	**-2.0**
	baz=23							
KKAR				⇓*e*S		**Sb**	**19 39 12.8**	**-0.9**
	baz=23							
KBK	**Karagaybulak**	**2.32**	**53**	⇑P		**Pb**	**19 38 46.6**	**+1.0**
	15nm,0.1s,SNR=15							
KBK				⇑S		**Sg**	**19 39 17.5**	**-1.5**
	166nm,0.5s							
KBK	**Karagaybulak**	**2.32**	**53**	⇑*e*P		**Pb**	**19 38 43.7**	**-1.9**
	baz=52							
KBK				⇑*e*S		**Sb**	**19 39 13.2**	**-0.7**
	baz=52							
CHM	**Chimkent**	**2.36**	**297**	*e*Pg		**Pg**	**19 38 47.8**	**-1.8**
	69nm,0.2s							
CHM				*e*Lg		Lg	19 39 21.3	
	129nm,0.3s							
TAS	**Tashkent**	**2.37**	**272**	⇓*e*P		**Pb**	**19 38 43.8**	**-2.5**
	baz=73							
TAS				⇓*e*S		**Sb**	**19 39 13.4**	**-1.8**
	baz=73							
CHMS	**Chumysh**	**2.43**	**44**	⇓P		**Pb**	**19 38 47.9**	**+0.5**
	14nm,0.3s,SNR=12							
CHMS				⇑S		**Sg**	**19 39 20.4**	**-2.1**
	33nm,0.3s							
CHMS	**Chumysh**	**2.43**	**44**	⇓Pn		**Pb**	**19 38 47.8**	**+0.5**
	14nm,0.2s							
CHMS				⇑Sn		**Sg**	**19 39 21.6**	**-0.8**
	23nm,0.2s							
CHMS	**Chumysh**	**2.43**	**44**	⇑*e*P		**Pb**	**19 38 45.2**	**-2.1**
	baz=44							
CHMS				⇑*e*S		**Sb**	**19 39 15.7**	**-1.2**
	baz=44							
USP	**Ospenovka**	**2.51**	**37**	⇑P		**Pb**	**19 38 48.4**	**-0.3**
	19nm,0.3s,SNR=24							
USP	**Ospenovka**	**2.51**	**37**	⇓*e*P		**Pb**	**19 38 46.1**	**-2.5**
	baz=37							
USP				⇓*e*S		**Sb**	**19 39 17.3**	**-1.8**
	baz=37							
NRN	**Naryn**	**2.68**	**86**	⇑*e*P		**Pn**	**19 38 48.2**	**+1.5**
	baz=85							
NRN				⇑*e*S		**Sn**	**19 39 21.0**	**+2.2**
	baz=85							
SGDS	**Sogindy**	**2.71**	**36**	Pg		**Pb**	**19 38 52.4**	**+0.2**
	10nm,0.4s							
SGDS				Lg		Lg	19 39 28.3	
	41nm,0.4s							
GAR	**Garm**	**2.80**	**216**	⇑*e*P		**Pn**	**19 38 49.4**	**+1.3**
	baz=17							
GAR				⇑*e*S		**Sb**	**19 39 23.2**	**-4.4**
	baz=17							
TKM2	**Tokmak 2**	**2.87**	**54**	⇑P		**Pb**	**19 38 53.4**	**-1.4**
	5.2nm,0.2s,SNR=12							
TKM2	**Tokmak 2**	**2.87**	**54**	⇑Pn		**Pb**	**19 38 53.8**	**-1.0**
	7.0nm,0.3s							
TKM2				⇓Sn		**Sg**	**19 39 34.6**	**-1.7**
	35nm,0.5s							
TKM2	**Tokmak 2**	**2.87**	**54**	⇑*e*P		**Pn**	**19 38 51.2**	**+2.1**
	baz=54							
TKM2				⇑*e*S		**Sn**	**19 39 26.1**	**+3.0**
	baz=54							
ULHL	**Ulahol**	**3.00**	**70**	⇓P		**Pb**	**19 38 56.2**	**-1.0**
	7.0nm,0.4s,SNR=9.4							
ULHL	**Ulahol**	**3.00**	**70**	⇑*i*P		**Pn**	**19 38 53.2**	**+2.2**
	baz=69							
ULHL				⇑*i*S		**Sn**	**19 39 29.4**	**+2.9**
	baz=69							
KST	**Kastek**	**3.16**	**55**	Pg		**Pb**	**19 39 01.3**	**+1.6**
	12nm,0.5s							
KST				Lg		Lg	19 39 43.6	
	44nm,0.7s							
KST	**Kastek**	**3.16**	**55**	*e*Pg		**Pb**	**19 39 00.5**	**+0.8**
	12nm,0.5s							
KST				*e*Lg		Lg	19 39 43.9	
	44nm,0.7s							
KRBS	**Karabastau**	**3.40**	**44**	Pg		**Pb**	**19 39 05.1**	**+1.2**
	3.6nm,0.5s							
KRBS				Lg		Lg	19 39 50.0	
	13nm,0.5s							
KRBS	**Karabastau**	**3.40**	**44**	*e*Pg		**Pb**	**19 39 04.3**	**+0.5**
	3.6nm,0.5s							
KRBS				*e*Lg		Lg	19 39 50.0	
	13nm,0.5s							
MTBS	**Maitube**	**3.49**	**57**	Pg		**Pb**	**19 39 07.4**	**+1.9**
	3.5nm,0.3s							
MTBS				Lg		Lg	19 39 53.7	
	20nm,0.4s							
MTBS	**Maitube**	**3.49**	**57**	*e*Pg		**Pb**	**19 39 05.8**	**+0.4**
	3.5nm,0.3s							
MTBS				*e*Lg		Lg	19 39 52.4	
	20nm,0.4s							
IZV	**Izvestkoviy**	**3.56**	**59**	*e*Pg		**Pb**	**19 39 08.0**	**+1.3**
	1.5nm,0.3s							
IZV				*e*Lg		Lg	19 39 56.4	
	12nm,0.5s							
CHGR	**Chuyangaron**	**3.63**	**225**	⇑*e*P		**Pn**	**19 39 01.2**	**+1.7**
	baz=25							
CHGR				⇑*e*S		**Sn**	**19 39 43.1**	**+1.2**
	baz=25							
TNSS	**Tian-Shan**	**3.78**	**61**	Pg		**Pb**	**19 39 13.1**	**+2.5**
	2.3nm,0.3s							
TNSS	**Tian-Shan**	**3.78**	**61**	*e*Pg		**Pb**	**19 39 11.7**	**+1.1**
	2.3nm,0.3s							
TNSS				*e*Lg		Lg	19 40 02.3	
	9.7nm,0.7s							
KUU	**Kurty**	**3.89**	**46**	Pg		**Pb**	**19 39 13.8**	**+1.7**
	1.6nm,0.4s							
KUU				Lg		Lg	19 40 04.9	
	17nm,0.4s							
KUU	**Kurty**	**3.89**	**46**	*e*Pg		**Pb**	**19 39 12.6**	**+0.5**
	1.6nm,0.4s							
KUU				*e*Lg		Lg	19 40 04.1	
	17nm,0.4s							
MDOK	**Medeo**	**3.91**	**60**	Pn		**Pb**	**19 39 08.0**	**-4.5**
MDOK				Pg		**Pg**	**19 39 14.8**	**-4.2**
	3.5nm,0.5s							
MDOK				Lg		Lg	19 40 08.7	
MDOK	**Medeo**	**3.91**	**60**	*e*Pg		**Pb**	**19 39 14.1**	**+1.6**
	3.5nm,0.5s							
MDOK				*e*Lg		Lg	19 40 06.6	
	13nm,0.7s							
BTLS	**Baital**	**3.94**	**17**	*e*Pg		**Pb**	**19 39 14.6**	**+1.6**
	2.4nm,0.4s							
BTLS				*e*Lg		Lg	19 40 07.3	
	9.2nm,0.4s							
KTBS	**Karatobe**	**3.97**	**51**	Pg		**Pb**	**19 39 15.6**	**+2.1**
	1.6nm,0.4s							
KTBS				Lg		Lg	19 40 08.0	
	27nm,0.4s							
KTBS	**Karatobe**	**3.97**	**51**	*e*Pg		**Pb**	**19 39 14.8**	**+1.3**
	1.6nm,0.4s							
KTBS				*e*Lg		Lg	19 40 08.3	
	27nm,0.4s							
KOTS	**Kotyrbulak**	**3.98**	**59**	Pg		**Pb**	**19 39 15.2**	**+1.4**
	4.0nm,0.5s							
KOTS				Lg		Lg	19 40 07.8	
	22nm,0.6s							
KOTS	**Kotyrbulak**	**3.98**	**59**	*e*Pg		**Pb**	**19 39 15.6**	**+1.8**
	4.0nm,0.5s							
KOTS				*e*Lg		Lg	19 40 09.8	
	22nm,0.6s							
CHKK	**Chushkaly**	**4.23**	**51**	Pg		**Pb**	**19 39 20.4**	**+2.4**
	1.3nm,0.1s							
CHKK				Lg		Lg	19 40 16.5	
CHKK	**Chushkaly**	**4.23**	**51**	*e*Pg		**Pb**	**19 39 19.6**	**+1.6**
	1.3nm,0.1s							
CHKK				*e*Lg		Lg	19 40 16.2	
	12nm,0.3s							
SATY	**Saty**	**4.78**	**66**	*e*Pg		**Pg**	**19 39 31.5**	**-4.2**
	2.7nm,0.6s							
SATY				*e*Lg		Lg	19 40 36.6	
	4.8nm,0.6s							
KURS	**Kuram**	**4.78**	**61**	*e*Pg		**Pb**	**19 39 28.7**	**+1.3**
	1.8nm,0.5s							
KURS				*e*Lg		Lg	19 40 32.2	
	2.8nm,0.8s							
KPKS	**Kokpek**	**5.12**	**63**	*e*Pg		**Pb**	**19 39 36.8**	**+3.7**
	2.4nm,0.7s							
KPKS				*e*Lg		Lg	19 40 45.3	
	7.5nm,1.1s							
UZB	**Uzynbulak**	**5.23**	**67**	*e*Pg		**Pb**	**19 39 38.6**	**+3.5**
	2.2nm,0.3s							
UZB				*e*Lg		Lg	19 40 48.8	
	4.7nm,0.9s							

*IDC **17** 19:38:39.8±2.2, 13˚.33N×93˚.45E, h0km, mb3.3/4, mbtmp3.3/5, ML3.7/1, Error ellipse: s-maj=67.7km s-min=25.1km az=72.0*

ISC 17 19:38:46.4±1.5, **13˚.5N**±0˚.1×**93˚.8E**±0˚.2, **h35**km, **n8**, σ2s **00**/6, **mb3.4/4, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.00**	**45**	Pn		**Pn**	**19 40 29.1**	**+2.5**
	0.3nm,0.3s,baz=242,slow=15,SNR=3.1							
CMAR				Sn		**Sn**	**19 41 42.8**	**-2.3**
	0.5nm,0.3s,baz=240,slow=26,SNR=5.1							
	0.5nm,0.4s							
H08S3	**Diego Garcia H**	**29.79**	**226**	T		T	20 15 31.8	
	baz=45,slow=74,SNR=6.0							
H08S2	**Diego Garcia H**	**29.79**	**226**	T		T	20 15 36.2	
	baz=45,slow=74,SNR=6.5							
H08S1	**Diego Carcia H**	**29.80**	**226**	T		T	20 15 32.9	
	baz=45,SNR=1.8							
MKAR	**Makanchi Array**	**34.56**	**346**	P		**P**	**19 45 31.3**	**-0.4**
	0.3nm,0.6s,baz=158,slow=7.5,SNR=2.1							
	0.3nm,0.6s							
SONM	**Songino Array**	**35.81**	**15**	P		**P**	**19 45 42.2**	**-0.3**
	0.3nm,0.9s,baz=188,slow=8.7,SNR=1.5							
	0.3nm,0.9s							
WRA	**Warramunga Arr**	**51.94**	**129**	P		**P**	**19 47 51.9**	**-0.4**
	0.2nm,0.5s,baz=306,slow=9.5,SNR=6.8							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**53.90**	**133**	P		**P**	**19 48 06.2**	**-0.5**
	0.3nm,0.4s,baz=311,slow=7.3,SNR=10							
	0.3nm,0.4s							

ROM 17 19:39:42.0±0.1, **42˚.959N**±0˚.003×**13˚.116E**±0˚.004, **h10**km, **ML1.4/5, 1C, Error ellipse: s-maj=0.3km s-min=0.3km az=130.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.05**	**274**	P		Pg	19 39

T1220				AML	AML		
	comp=E,528µm,1.2s						
T1220				AML	AML		
	comp=E,555µm,1.2s						
T1220				AML	AML		
	comp=N,403µm,1.5s						
T1220				AML	AML		
	comp=N,419µm,1.6s						
T1220				AML	AML		
	comp=N,403µm,0.5s						
CESI	**CESI - Serrava**	**0.16**	**287**	P	Pg	19 39 46.1	+0.6
CESI				S	Sg	19 39 49.1	+1.1
CESI				AML	AML		
	comp=E,193µm,1.3s						
CESI				AML	AML		
	comp=N,302µm,0.2s						
CESI				AML	AML		
	comp=E,189µm,0.3s						
GUMA	**Gualdo di Mace**	**0.19**	**57**	P	Pg	19 39 46.6	+0.6
GUMA				S	Sg	19 39 50.5	+1.7
T1215	**Vallo di Nera,**	**0.24**	**229**	P	Pg	19 39 47.7	+0.8
T1215				S	Sg	19 39 52.0	+1.8
T1215				AML	AML		
	comp=E,81µm,2.7s						
T1215				AML	AML		
	comp=N,100µm,2.6s						
T1215				AML	AML		
	comp=E,87µm,2.9s						
T1215				AML	AML		
	comp=N,62µm,2.7s						
T1241	**Roccafluvione,**	**0.25**	**114**	P	Pg	19 39 47.6	+0.4
T1241				S	Sb	19 39 52.3	-0.8
SNTG	**Esanatoglia**	**0.32**	**337**	P	Pg	19 39 48.9	+0.4
SNTG				S	Sb	19 39 54.3	-0.9
ASSB	**Assisi San Ben**	**0.35**	**284**	P	Pg	19 39 49.3	+0.5
ASSB				S	Sb	19 39 55.3	-0.5
ASSB				AML	AML		
	comp=E,86µm,3.4s						
ASSB				AML	AML		
	comp=N,101µm,0.7s						
LNSS	**Leonessa**	**0.36**	**189**	P	Pg	19 39 49.6	+0.5
FOSV	**Fossato di Vic**	**0.42**	**322**	P	Pg	19 39 50.8	+0.5
FOSV				S	Sb	19 39 57.6	-0.5
RM33	**Pellescritta (**	**0.46**	**171**	P	Pg	19 39 51.5	+0.6
CESX	**Cesi**	**0.53**	**229**	P	Pg	19 39 52.3	+0.1

BEO ***17*** *19:40:28.0±1.3, 39°.62N×24°.06E, h18km±6km, ML2.8/3*
ISK ***17*** *19:40:28.6, 39°.72N×23°.69E, h7km, ML3.0/16*
SOF ***17*** *19:40:30.0, 39°.78N×23°.90E, h20km, MD3.2*
ATH ***17*** *19:40:30.4, 39°.76N×23°.71E, h14km±1km, ML2.8/13, Error ellipse: s-maj=1.7km s-min=0.9km az=97.0*
THE ***17*** *19:40:30.5, 39°.78N×23°.66E, h14km, ML2.8/10, Error ellipse: s-maj=1.1km s-min=0.3km az=114.0*
DDA ***17*** *19:40:31.0±0.0, 39°.74N×23°.87E, h20km, ML2.9*

ISC 17 19:40:28.7±1.0, 39°.71N±0°.02×23°.81E±0°.02, h11km±8km, n85, σ1°.07/113, 5C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.24**	**335**	P	**Pg**	**19 40 34.3**	**+0.7**
PAIG				S	**Sg**	**19 40 37.5**	**+0.5**
	5µm,0.2s						
PAIG	**Paliouri**	**0.24**	**335**	P	**Pg**	**19 40 34.3**	**+0.7**
PAIG				S	**Sg**	**19 40 37.5**	**+0.5**
ALNA	**Alonissos**	**0.56**	**175**	P	**Pn**	**19 40 42.0**	**-0.6**
ALNA				S	**Sn**	**19 40 51.1**	**-0.8**
ALNA				AML	AML	19 40 52.8	
	comp=E,7064µm,0.3s						
ALNA				AML	AML	19 40 53.0	
	comp=N,5310µm,0.4s						
XOR	**Xorichti**	**0.59**	**234**	P	**Pb**	**19 40 41.6**	**+0.6**
XOR				S	**Sb**	**19 40 49.0**	**-0.4**
	comp=N,2µm,0.4s						
XOR	**Xorichti**	**0.59**	**234**	P	**Pb**	**19 40 41.6**	**+0.6**
XOR				S	**Sb**	**19 40 49.0**	**-0.4**
XOR				AML	AML	19 40 52.4	
	comp=E,3836µm,0.5s						
XOR				AML	AML	19 40 52.4	
	comp=N,4312µm,0.3s						
NEO	**Neokhori**	**0.61**	**229**	P	**Pb**	**19 40 41.6**	**+0.3**
NEO				S	**Sb**	**19 40 49.8**	**-0.1**
	comp=N,3µm,0.4s						
NEO	**Neokhori**	**0.61**	**229**	P	**Pb**	**19 40 41.6**	**+0.3**
NEO				S	**Sb**	**19 40 49.8**	**-0.1**
NEO				AML	AML	19 40 51.4	
	comp=N,4531µm,0.5s						
NEO				AML	AML	19 40 51.6	
	comp=E,6114µm,0.4s						
OUR	**Ouranopolis**	**0.64**	**12**	P	**Pb**	**19 40 42.4**	**+0.5**
OUR				S	**Sb**	**19 40 50.8**	**0.0**
	comp=E,3µm,0.4s						
OUR	**Ouranopolis**	**0.64**	**12**	Pg	**Pb**	**19 40 42.3**	**+0.5**
OUR				Sg	**Sb**	**19 40 51.1**	**+0.3**
OUR	**Ouranopolis**	**0.64**	**12**	P	**Pb**	**19 40 42.4**	**+0.5**
OUR				AML	AML	19 40 54.4	
	comp=N,8232µm,0.4s						
OUR				AML	AML	19 40 54.9	
	comp=E,5121µm,0.5s						
HORT	**Hortiatis**	**1.04**	**329**	P	**Pg**	**19 40 47.7**	**-1.0**
HORT				S	**Sg**	**19 41 01.1**	**-1.2**
	comp=E,475nm,0.2s						
HORT	**Hortiatis**	**1.04**	**329**	Pg	**Pg**	**19 40 47.3**	**-1.4**
HORT				Sg	**Sg**	**19 41 01.9**	**-0.4**
HORT	**Hortiatis**	**1.04**	**329**	P	**Pg**	**19 40 47.7**	**-1.0**
HORT				S	**Sg**	**19 41 01.1**	**-1.2**
HORT				AML	AML	19 41 04.3	
	comp=E,1001µm,0.3s						
HORT				AML	AML	19 41 04.9	
	comp=N,887µm,0.3s						
LIT	**Litokhoron**	**1.09**	**291**	P	**Pg**	**19 40 48.6**	**-1.0**
LIT	**Litokhoron**	**1.09**	**291**	P	**Pg**	**19 40 48.6**	**-1.0**
KYMI	**Kymi, Euboea I**	**1.10**	**168**	P	**Pn**	**19 40 51.0**	**+0.9**
KYMI				S	**Sn**	**19 41 08.7**	**+3.5**
	comp=N,172nm,0.4s						
KYMI	**Kymi, Euboea I**	**1.10**	**168**	P	**Pn**	**19 40 50.9**	**+0.9**
KYMI				AML	AML	19 41 11.9	
	comp=N,303µm,0.4s						
KYMI				AML	AML	19 41 13.7	
	comp=E,390µm,0.4s						
SOH	**Sokhos**	**1.16**	**343**	P	**Pb**	**19 40 50.2**	**-0.7**
SOH				S	**Sb**	**19 41 05.5**	**-0.5**
	comp=E,675nm,0.4s						
SOH	**Sokhos**	**1.16**	**343**	P	**Pb**	**19 40 50.2**	**-0.7**
SOH				AML	AML	19 41 08.6	
	comp=E,1428µm,0.4s						
SOH				AML	AML	19 41 09.4	
	comp=N,1950µm,0.4s						
EREA	**Eretria**	**1.29**	**176**	P	**Pg**	**19 40 54.0**	**+0.5**
EREA				S	**Sn**	**19 41 12.4**	**+2.4**
	comp=N,390nm,0.3s						
EREA	**Eretria**	**1.29**	**176**	P	**Pg**	**19 40 54.0**	**+0.5**
EREA				AML	AML	19 41 11.4	
	comp=E,681µm,0.2s						
EREA				AML	AML	19 41 18.8	
	comp=N,875µm,0.4s						
AXAR	**Agios Charalam**	**1.30**	**224**	P	**Pb**	**19 40 53.0**	**-0.1**
AXAR	**Agios Charalam**	**1.30**	**224**	P	**Pb**	**19 40 53.0**	**-0.1**
AXAR				AML	AML	19 41 15.9	
	comp=E,890µm,0.5s						
AXAR				AML	AML	19 41 17.9	
	comp=N,905µm,0.3s						
AGG	**Agios Georgios**	**1.34**	**240**	P	**Pn**	**19 40 53.2**	**-0.1**
AGG				S	**Sb**	**19 41 10.4**	**-0.5**
	comp=N,225nm,0.4s						
AGG	**Agios Georgios**	**1.34**	**240**	Pn	**Pn**	**19 40 53.2**	**-0.1**
AGG				Sn	**Sb**	**19 41 10.9**	**0.0**
AGG	**Agios Georgios**	**1.34**	**240**	P	**Pn**	**19 40 53.2**	**-0.1**
AGG				AML	AML	19 41 14.8	
	comp=E,528µm,0.5s						
AGG				AML	AML	19 41 22.0	
	comp=N,398µm,0.6s						
THL	**Klokotos Trika**	**1.39**	**265**	P	**Pn**	**19 40 53.0**	**-1.1**
THL	**Klokotos Trika**	**1.39**	**265**	P	**Pn**	**19 40 53.0**	**-1.1**
THL				AML	AML	19 41 16.3	
	comp=E,180µm,0.5s						
THL				AML	AML	19 41 17.5	
	comp=N,200µm,0.6s						
SRS	**Serrai**	**1.42**	**353**	P	**Pn**	**19 40 54.5**	**+0.1**
SRS				S	**Sn**	**19 41 12.5**	**-0.6**
	comp=N,175nm,0.5s						
SRS	**Serrai**	**1.42**	**353**	*e*Pn	**Pn**	**19 40 54.8**	**+0.4**
SRS				*e*Sn	**Sb**	**19 41 13.5**	**+0.3**
SRS				*e*Lg	Lg	19 41 15.5	
SRS	**Serrai**	**1.42**	**353**	P	**Pn**	**19 40 54.6**	**+0.1**
SRS				AML	AML	19 41 18.4	
	comp=E,380µm,0.7s						
SRS				AML	AML	19 41 21.4	
	comp=N,319µm,0.3s						
KNT	**Kendrikon**	**1.61**	**335**	Pn	**Pn**	**19 40 57.4**	**+0.3**
KNT				Sn	**Sb**	**19 41 18.7**	**-0.1**
GRG	**Griva**	**1.65**	**320**	Pn	**Pn**	**19 40 57.5**	**-0.1**
GRG				Sn	**Sn**	**19 41 18.9**	**+0.1**
SIGR	**SIGRI**	**1.66**	**107**	Pn	**Pb**	**19 40 59.6**	**+0.3**
GADA	**Gvkgeada**	**1.68**	**73**	Pn	**Pb**	**19 40 59.9**	**+0.3**
GOKA	**anakkale-Gk**	**1.68**	**73**	P	**Pb**	**19 40 59.0**	**-0.6**
GOKA				S	**Sg**	**19 41 21.7**	**-1.1**
GOKA				*i* AML	AML	19 41 30.0	
	comp=N,109nm,0.4s						
BOZC	**Bozcaada**	**1.73**	**85**	Pn	**Pg**	**19 41 01.2**	**-0.7**
BOZC	**Bozcaada**	**1.73**	**85**	P	**Pb**	**19 41 00.4**	**-0.2**
BOZC				S	**Sg**	**19 41 25.1**	**+0.7**
BOZC				*i* AML	AML	19 41 29.0	
	comp=N,138nm,2.1s						
BOZC				*i* AML	AML	19 41 59.0	
	comp=N,194nm,1.5s						
EVR	**Evrytania**	**1.74**	**244**	P	**Pn**	**19 40 59.0**	**0.0**
EVR	**Evrytania**	**1.74**	**244**	P	**Pn**	**19 40 59.0**	**0.0**
KOCA	**Canakkale, Ayv**	**1.81**	**96**	P	**Pb**	**19 41 02.2**	**+0.4**
KOCA				*i* AML	AML	19 41 47.0	
	comp=N,182nm,1.5s						
KOCA				*i* AML	AML	19 42 02.0	
	comp=N,132nm,1.6s						
ANX	**Ano Chora**	**1.84**	**233**	P	**Pn**	**19 41 00.9**	**+0.5**
ANX	**Ano Chora**	**1.84**	**233**	P	**Pn**	**19 41 00.9**	**+0.5**
ANX				AML	AML	19 41 30.0	
	comp=N,246µm,0.5s						
ANX				AML	AML	19 41 34.3	
	comp=E,178µm,0.6s						
VAY	**Valandovo**	**1.87**	**330**	*e*Pn	**Pb**	**19 41 03.2**	**+0.4**
VAY				*e*Sn	**Sb**	**19 41 27.3**	**+1.1**
VAY	**Valandovo**	**1.87**	**330**	*i* Pn	**Pb**	**19 41 02.9**	**+0.1**
VAY				*i* Sn	**Sg**	**19 41 28.9**	**+0.2**
MMB	**Musomiste**	**1.88**	**358**	P	**Pn**	**19 41 00.7**	**-0.1**
MMB	**Musomiste**	**1.88**	**358**	P	**Pn**	**19 41 00.7**	**-0.1**
EZN	**Ezine**	**1.94**	**86**	Pn	**Pb**	**19 41 03.9**	**-0.2**
RDO	**Rodhopi**	**1.95**	**42**	Pn	**Pb**	**19 41 03.9**	**-0.3**
ENEZ	**Enez**	**2.07**	**60**	Pn	**Pb**	**19 41 05.6**	**-0.6**
ALN	**Alexandroupoli**	**2.08**	**55**	Pn	**Pb**	**19 41 05.9**	**-0.6**
RZN	**Rozhen**	**2.09**	**19**	P	**Pn**	**19 41 04.9**	**+1.0**
RZN	**Rozhen**	**2.09**	**19**	P	**Pn**	**19 41 04.9**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**2.11**	**88**	P	**Pb**	**19 41 05.9**	**-1.1**
BAYC				S	**Sb**	**19 41 31.8**	**-1.5**
FNA	**Florina**	**2.15**	**301**	Pn	**Pn**	**19 41 04.1**	**-0.5**
FNA	**Florina**	**2.15**	**301**	*e*Pn	**Pn**	**19 41 05.1**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.16**	**71**	Pn	**Pb**	**19 41 07.0**	**-0.8**
KKB	**Krupnik**	**2.22**	**346**	P	**Pn**	**19 41 06.1**	**+0.5**
KKB	**Krupnik**	**2.22**	**346**	P	**Pn**	**19 41 06.1**	**+0.5**
AYVA	**Ayvalik**	**2.27**	**99**	P	**Pn**	**19 41 05.8**	**-0.2**
ERIK	**Erikli-Kesan**	**2.28**	**64**	Pn	**Pb**	**19 41 08.7**	**-1.2**
KDZ	**Kurdzhali**	**2.29**	**32**	P	**Pn**	**19 41 06.4**	**-0.1**
KDZ	**Kurdzhali**	**2.29**	**32**	P	**Pn**	**19 41 06.4**	**-0.1**
STIP	**Stip**	**2.33**	**329**	*i* Pn	**Pn**	**19 41 08.1**	**+1.0**
STIP				*i* Sn	**Sg**	**19 41 42.1**	**-1.6**
DKL	**Dikili**	**2.48**	**104**	Pn	**Pb**	**19 41 11.8**	**-1.5**
BUHA	**Balikesir, Bur**	**2.53**	**94**	P	**Pn**	**19 41 11.6**	**+1.9**
BUHA				S	**Sg**	**19 41 48.0**	**-2.0**
URLA	**Izmir**	**2.56**	**121**	Pn	**Pb**	**19 41 13.2**	**-1.4**
ZEDA	**zmir-Bergama**	**2.64**	**105**	P	**Pb**	**19 41 13.9**	**-2.1**
VTS	**Vitosha**	**2.94**	**352**	P	**Pn**	**19 41 16.6**	**+1.1**
VTS	**Vitosha**	**2.94**	**352**	P	**Pn**	**19 41 16.6**	**+1.1**
EDRB	**Edirne**	**3.09**	**45**	Pn	**Pn**	**19 41 20.1**	**+2.7**
PRVS	**Prvonek**	**3.09**	**335**	*e*Pn	**Pn**	**19 41 18.2**	**+0.8**
PRVS				*e*Lg	Lg	19 42 11.6	
BALB	**Balikesir**	**3.14**	**90**	Pn	**Pb**	**19 41 21.3**	**-3.3**
BARS	**Barje**	**3.45**	**335**	*e*Pn	**Pn**	**19 41 23.0**	**+0.6**
BARS				*e*Lg	Lg	19 42 20.5	
ZAPS	**Zavoj**	**3.67**	**346**	*e*Pn	**Pn**	**19 41 27.2**	**+1.8**
ZAPS				*e*Lg	Lg	19 42 27.7	
PLVB	**Pleven**	**3.72**	**9**	⇑P	**Pg**	**19 41 39.3**	**-0.7**
PLVB				⇑S	**Sg**	**19 42 27.5**	**-0.8**
SELS	**Selova**	**4.05**	**331**	*e*Pn	**Pn**	**19 41 30.8**	**+0.2**
ZAGS	**Zajecar**	**4.27**	**344**	*e*Pn	**Pn**	**19 41 33.9**	**+0.3**
IVAS	**Ivanjica**	**4.74**	**326**	*e*Pn	**Pn**	**19 41 40.3**	**+0.2**
GRUS	**Gruza**	**4.77**	**332**	*e*Pn	**Pn**	**19 41 39.9**	**-0.6**
DIVS	**Divibare**	**5.23**	**328**	*e*Pn	**Pn**	**19 41 48.4**	**+1.5**
MLR	**Muntele Rosu**	**5.99**	**15**	⇑P	Pn	19 42 03.7	+6.4
PLOR	**Plostina**	**6.48**	**18**	⇑P	**Pn**	**19 42 06.9**	**+2.8**
VRI	**Vrincioaia**	**6.52**	**18**	⇑P	**Pn**	**19 42 06.6**	**+2.1**
TESR	**Tescani**	**7.11**	**16**	P	**Pn**	**19 42 16.1**	**+3.5**

UUSS ***17*** *19:46:45.0±2.2, 37°.41N±0°.01×113°.21W±0°.02, h13km±4km, ML2.8/5, ML2.5/105(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=71.0*

NEIC 17 19:46:44.4±1.8, 37°.40N±0°.01×113°.20W±0°.02, h12km±5km, Error ellipse: s-maj=2.2km s-min=1.7km az=66.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZNPU	**Zion National**	**0.07**	**124**		Pg	19 46 47.6	+0.3
ZNPU					Sg	19 46 49.7	+0.4
CCUT	**Cedar City**	**0.20**	**320**		Pb	19 46 49.8	-0.4
CCUT					Sg	19 46 53.1	+0.8
CCUT	**Cedar City**	**0.20**	**320**	IAML		19 46 53.2	
	comp=N,384nm,0.1s						
CCUT				IAML		19 46 53.2	
	comp=E,1µm,0.4s						
SZCU	**Shurtz Canyon**	**0.22**	**24**		Pg	19 46 49.5	+0.2
SZCU					Sg	19 46 52.7	+0.1
SZCU	**Shurtz Canyon**	**0.22**	**24**	IAML		19 46 53.0	
	comp=N,1µm,0.1s						
SZCU				IAML		19 46 53.8	
	comp=E,1µm,0.2s						
LCMT	**Little Creek M**	**0.39**	**185**		Pb	19 46 52.8	-0.5
LCMT	**Little Creek M**	**0.39**	**185**		Sg	19 46 58.2	+0.8
LCMT				IAML		19 46 58.5	
	comp=E,949nm,0.2s						
LCMT				IAML		19 46 58.9	
	comp=N,916nm,0.1s						
ARUT	**Antelope Range**	**0.43**	**334**		Pb	19 46 53.9	-0.3
KNB	**Kanab**	**0.48**	**141**		Pg	19 46 54.4	+0.4
KNB	**Kanab**	**0.48**	**141**		Sg	19 47 00.8	+0.3
KNB				IAML		19 47 01.2	
	comp=N,251nm,0.5s						
KNB				IAML		19 47 01.5	
	comp=E,383nm,0.2s						
ICU	**Indian Springs**	**0.63**	**247**		Pg	19 46 56.0	-0.8
EKU	**East Kanab**	**0.65**	**120**		Pb	19 46 57.4	-0.3
PKCU	**Pink Cliffs**	**0.71**	**86**		Pb	19 46 58.8	-0.1
PKCU	**Pink Cliffs**	**0.71**	**86**		Sg	19 47 07.8	+0.1
PKCU				IAML		19 47 09.4	
	comp=E,601nm,0.2s						
PKCU				IAML		19 47 09.4	
	comp=N,398nm,0.3s						
DWU	**Dry Willow Pea**	**0.73**	**13**		Pb	19 46 59.0	-0.1
MTPU	**Mount Pierson**	**1.03**	**51**		Pb	19 47 04.6	+0.2
MTPU	**Mount Pierson**	**1.03**	**51**	IAML		19 47 18.6	
	comp=E,115nm,0.4s						
MTPU				IAML		19 47 18.7	
	comp=N,178nm,0.3s						
BTU	**Barney Top**	**1.11**	**71**		Pn	19 47 06.2	+0.1
NMUT	**North Mineral**	**1.15**	**14**		Pn	19 47 06.5	0.0
U15A	**North Rim**	**1.21**	**143**		Pb	19 47 07.5	+0.1
U15A	**North Rim**	**1.21**	**143**	IAML		19 47 23.6	
	comp=N,93nm,0.4s						
U15A				IAML		19 47 25.9	
	comp=E,107nm,0.6s						
IMU	**Iron Mountain**	**1.23**	**2**		Pg	19 47 08.5	+0.2
PSUT	**Pine Spring**	**1.25**	**336**		Pn	19 47 07.6	-0.3
PSUT					Sb	19 47 23.7	-0.4
PSUT				IAML		19 47 27.2	
	comp=E,76nm,0.6s						
TCRU	**Three Creeks R**	**1.35**	**26**	Pn	Pg	19 47 10.2	-0.2
MVU	**Marysvale**	**1.35**	**35**		Pb	19 47 10.0	+0.1
MSU	**Marysvale**	**1.38**	**36**		Pb	19 47 10.2	0.0
PRN	**Pahroc Range**	**1.47**	**271**		Pb	19 47 11.6	-0.3
PRN				IAML		19 47 37.6	
	comp=N,59nm,0.2s						
PRN				IAML		19 47 39.2	
	comp=E,61nm,0.4s						
SHPR	**Sheep Range**	**1.81**	**241**		Pn	19 47 15.9	+0.4
SPR3	**Spring Creek 3**	**1.83**	**331**		Pn	19 47 15.7	-0.3
SPR3				IAML		19 47 43.4	
	comp=N,30nm,0.7s						
WTNK	**Soaring Height**	**1.89**	**231**		Pn	19 47 16.1	-0.4
S11A	**Rachel**	**2.04**	**278**		Pn	19 47 19.1	+0.4
S11A				IAML		19 48 24.8	
	comp=E,67nm,0.1s						
S11A				IAML		19 48 30.5	
	comp=N,63nm,0.1s						
R11A	**Troy Canyon, C**	**2.11**	**297**		Pn	19 47 18.9	-0.9
V12A	**Nelson**	**2.13**	**219**		Pn	19 47 18.3	-1.7
Q16A	**Castle Valley**	**2.21**	**46**		Pn	19 47 20.4	-0.6
Q16A				IAML		19 47 54.7	
	comp=E,18nm,0.3s						
Q16A				IAML		19 47 54.7	
	comp=N,19nm,0.4s						
W13A	**Hualapai Mount**	**2.36**	**194**		Pn	19 47 24.2	+1.0
WUAZ	**Wupatki**	**2.38**	**141**		Pn	19 47 23.6	+0.1
TMUT	**Trail Mountain**	**2.46**	**39**		Pn	19 47 24.2	-0.4
TMUT				IAML		19 48 04.0	
	comp=E,25nm,0.6s						
TMUT				IAML		19 48 04.1	
	comp=N,32nm,0.6s						
TPNV	**Topopah Spring**	**2.48**	**261**		Pn	19 47 24.6	-0.1
TPNV				IAML		19 48 06.2	
	comp=N,17nm,0.4s						
TPNV				IAML		19 48 07.6	
	comp=N,16nm,0.9s						
NLU	**North Lily Min**	**2.70**	**19**		Pn	19 47 26.7	-1.2
SRU	**San Rafael Swe**	**2.71**	**50**		Pn	19 47 27.8	-0.2
SRU				IAML		19 48 18.4	
	comp=N,11nm,0.4s						
SRU				IAML		19 48 18.9	
	comp=E,13nm,0.6s						
WCT	**Wildcat Mounta**	**2.81**	**259**	Pn	Pn	19 47 29.5	+0.3
WCT				IAML		19 48 27.1	
	comp=E,10.0nm,4.7s						
DUG	**Dugway, Tooele**	**2.81**	**6**		Pn	19 47 28.8	-0.5
GWY	**Greenwater Val**	**3.04**	**248**		Pn	19 47 32.5	+0.1
GWY				IAML		19 48 28.7	
	comp=E,11nm,3.4s						
GWY				IAML		19 48 33.4	
	comp=N,9.2nm,3.4s						
TPH	**Tonopah**	**3.26**	**283**		Pn	19 47 34.6	-0.9
QSM	**Queen of Sheba**	**3.28**	**245**	Pn	Pn	19 47 34.5	-1.0
QSM				IAML		19 48 31.1	
	comp=E,7.3nm,4.9s						
QSM				IAML		19 48 39.1	
	comp=N,9.2nm,4.3s						
MZP	**Montezuma Peak**	**3.34**	**276**		Pn	19 47 35.8	-0.9
PV10	**Paradox Valley**	**3.43**	**72**	Pn	Pn	19 47 36.2	-1.8
PV10				IAML		19 48 39.8	
	comp=N,21nm,1.2s						
PV23	**Carpenter Ridg**	**3.48**	**71**		Pn	19 47 39.4	+0.8
PV11	**David Mesa, Pa**	**3.54**	**74**	Pn	Pn	19 47 39.0	-0.4
LCH	**Last Change Ra**	**3.55**	**269**		Pn	19 47 38.8	-0.7
LCH				IAML		19 48 48.0	
	comp=N,5.2nm,3.6s						
LCH				IAML		19 49 00.2	
	comp=E,5.5nm,5.0s						
PV13	**Radium Mtn., P**	**3.55**	**76**		Pn	19 47 40.6	+1.0
W18A	**Petrified Fore**	**3.61**	**128**		Pn	19 47 40.4	+0.1
ELK	**Elko**	**3.70**	**335**	Pn	Pn	19 47 40.5	-1.2
ELK				IAML		19 48 46.6	
	comp=E,4.7nm,3.0s						
PV07	**Paradox Valley**	**3.75**	**73**	Pn	Pn	19 47 40.8	-1.5
PV07				IAML		19 48 44.8	
	comp=N,12nm,0.9s						
PV07				IAML		19 48 45.2	
	comp=E,11nm,0.9s						
MVCO	**Mesa Verde**	**3.75**	**91**		Pn	19 47 40.3	-2.0
MVCO				IAML		19 48 47.2	
	comp=E,16nm,0.6s						
BLYC	**Blythe**	**3.79**	**197**	Pn	Pn	19 47 42.5	-0.2
BLYC				IAML		19 48 20.9	
	comp=E,7.1nm,4.1s						
BLYC				IAML		19 49 49.7	
	comp=N,6.2nm,4.0s						
DSP	**Deep Springs**	**3.80**	**271**		Pn	19 47 42.2	-0.5
DSP				IAML		19 48 49.5	
	comp=E,5.8nm,2.6s						
DSP				IAML		19 48 57.0	
	comp=N,6.4nm,4.6s						
PV15	**Paradox Valley**	**3.85**	**74**	Pn	Pn	19 47 43.1	-0.6
X18A	**Snowflake**	**3.89**	**136**		Pn	19 47 43.8	-0.4
NV11	**Mina Array Sit**	**4.05**	**286**		Pn	19 47 44.8	-1.6
NV11				IAML		19 49 55.3	
	comp=E,10nm,4.8s						
NV11				IAML		19 50 12.2	
	comp=N,5.4nm,4.5s						
NVAR	**Mina Array Bea**	**4.17**	**286**	Pn	Pn	19 47 45.8	-2.2
KVN	**Kaiserville**	**4.20**	**295**		Pn	19 47 45.6	-2.8
KVN				IAML		19 48 52.6	
	comp=N,4.1nm,5.0s						
KVN				IAML		19 50 20.2	
	comp=E,6.7nm,5.0s						
LHV	**Little Huntoon**	**4.29**	**283**	Pn	Pn	19 47 47.2	-2.2
BMN	**Battle Mountai**	**4.36**	**315**	Pn	Pn	19 47 47.8	-2.8
BMN				IAML		19 49 03.2	
	comp=N,7.7nm,4.2s						
BMN				IAML		19 50 02.4	
	comp=E,8.7nm,4.6s						
RYN	**Ryan**	**4.38**	**288**	Pn	Pn	19 47 48.2	-2.7
RYN				IAML		19 50 08.8	
	comp=N,8.2nm,0.6s						
CCAC	**Calif City Air**	**4.49**	**242**	Pn	Pn	19 47 50.3	-2.0
ESJX	**Sierra Juarez**	**5.83**	**204**	Pn	Pn	19 48 09.4	-1.5
DUN6	**Lazy B Ranch**	**5.89**	**144**	Pn	Pn	19 48 09.4	-2.2

IDC ***17*** *19:47:15.3±0.9, 4°.06N×126°.32E, h0km, mb3.6/7, mbtmp3.6/8, ML3.6/1, MS3.1/5, Error ellipse: s-maj=69.7km s-min=17.3km az=66.0*
MAN ***17*** *19:47:20.9, 3°.74N×126°.03E, h6km, mb4.3, ML3.1, MS2.9*

ISC 17 19:47:22.7±0.8, 3°.9N±0°.1×126°.4E±0°.3, h50km, n14, σ2°.90/13, mb3.6/7, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.29**	**342**	⇑*e*P	**Pn**	**19 47 54.3**	**-3.7**
DDMP				*e*S	**Sn**	**19 48 30.8**	**+5.8**
SKMP	**Bagumbayan, Su**	**3.20**	**324**	⇑*e*P	Pn	19 48 13.1	+2.6
SKMP				*e*S	**Sn**	**19 48 49.7**	**+2.3**
KCP	**Kidapawan**	**3.35**

H11S3	**WAKE ISLAND Hy**	**20.82**	**93**	T	T	20 18 35.3		
	baz=280,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**20.82**	**92**	T	T	20 18 33.1		
	baz=280,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**20.83**	**89**	T	T	20 18 33.9		
	baz=276,slow=75,SNR=21							
H11N2	**WAKE ISLAND Hy**	**20.83**	**89**	T	T	20 18 35.4		
	baz=276,slow=75,SNR=21							
H11S2	**WAKE ISLAND Hy**	**20.83**	**93**	T	T	20 18 33.6		
	baz=280,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**20.85**	**89**	T	T	20 18 33.2		
	baz=276,slow=75,SNR=14							
KSRS	**Korea Array**	**22.10**	**322**	P	**P**	**19 57 17.4**	**-0.7**	
	1.7nm,0.9s,baz=140,slow=9.6,SNR=5.8							
	1.7nm,0.9s							
SONM	**Songino Array**	**40.95**	**320**	P	**P**	**20 00 03.5**	**-0.3**	
	0.2nm,0.5s,baz=122,slow=8.9,SNR=1.8							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**41.74**	**195**	P	**P**	**20 00 09.4**	**-0.9**	
	0.6nm,0.6s,baz=7.8,slow=8.6,SNR=8.5							
	0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**43.07**	**275**	P	**P**	**20 00 22.9**	**+1.6**	
	0.3nm,0.6s,baz=99,slow=5.6,SNR=2.6							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**45.43**	**194**	P	**P**	**20 00 39.3**	**-0.7**	
	0.4nm,0.6s,baz=16,slow=7.6,SNR=7.2							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**56.36**	**313**	P	**P**	**20 02 01.7**	**0.0**	
	0.6nm,0.8s,baz=92,slow=7.5,SNR=5.7							
	0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**59.16**	**317**	P	**P**	**20 02 20.6**	**-0.6**	
	0.4nm,0.2s,baz=95,slow=7.6,SNR=5.5							
	0.4nm,0.2s							
ILAR	**Eielson Array**	**62.19**	**27**	P	**P**	**20 02 40.1**	**-1.5**	
	0.5nm,0.9s,baz=263,slow=7.2,SNR=4.1							
	0.5nm,0.9s							
YKA	**Yellowknife Ar**	**76.58**	**28**	P	**P**	**20 04 10.4**	**+0.2**	
	0.4nm,0.7s,baz=290,slow=5.7,SNR=7.1							
	0.4nm,0.7s							
NVAR	**Mina Array Bea**	**82.58**	**52**	P	**P**	**20 04 45.4**	**+1.9**	
	1.1nm,0.9s,baz=281,slow=5.4,SNR=4.9							
	1.1nm,0.9s							

INET ***17*** *20:06:50.7±1.4, 16°.34N×87°.50W, h15km±16km, MW3.5*
SNET ***17*** *20:06:51.1±0.9, 16°.32N×87°.51W, h32km±12km, ML4.2*

ISC 17 20:06:50.4±2.4, 16°.39N±0°.09×87°.4W±0°.1, h35km, n16, σ0.54/23, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**2.32**	**177**	*eP*	**Pn**	**20 07 25.4**	**-0.9**
TGUH				*eS*	**Sn**	**20 07 54.1**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.32**	**177**	*eP*	**Pn**	**20 07 25.4**	**-0.9**
PETF	**Flores**	**2.42**	**283**	*eP*	**Pn**	**20 07 27.5**	**0.0**
PETF				*eS*	**Sn**	**20 07 55.9**	**-0.1**
PETF	**Flores**	**2.42**	**283**	*eP*	**Pn**	**20 07 27.9**	**+0.4**
PETF				*eS*	**Sn**	**20 07 56.0**	**-0.1**
ESQI	**Esquipulas**	**2.61**	**226**	*eP*	**Pn**	**20 07 29.9**	**-0.3**
ESQI				*eS*	**Sn**	**20 08 00.5**	**-0.3**
LLGN	**La Laguna**	**2.67**	**214**	*eP*	**Pn**	**20 07 30.7**	**-0.3**
LLGN				*eS*	**Sn**	**20 08 01.8**	**-0.4**
LLGN				*IAML*		20 08 04.0	
	comp=Z,876nm,0.6s						
P5NO	**Presa 5 de nov**	**2.73**	**209**	*eP*	**Pn**	**20 07 31.9**	**+0.3**
MTO3	**Montecristo**	**2.74**	**224**	*eP*	**Pn**	**20 07 32.0**	**-0.1**
PACA	**Pacayal**	**3.04**	**197**	*eP*	**Pn**	**20 07 36.5**	**+0.4**
PACA				*IAML*		20 08 16.8	
	comp=Z,5μm,0.3s						
PACA	**Pacayal**	**3.04**	**197**	*eP*	**Pn**	**20 07 36.5**	**+0.4**
PACA				*eS*	**Sn**	**20 08 12.7**	**+1.4**
PAVA	**Las Pavas**	**3.05**	**209**	*eP*	**Pn**	**20 07 36.2**	**0.0**
PAVA				*eS*	**Sn**	**20 08 11.2**	**-0.4**
PAVA				*IAML*		20 08 18.5	
	comp=Z,656nm,0.3s						
LCND	**La Caada**	**3.10**	**189**	*eP*	**Pn**	**20 07 37.2**	**+0.4**
LCND				*IAML*		20 08 24.5	
	comp=Z,380nm,0.4s						
COEG	**Centro de Oper**	**3.10**	**208**	*eP*	**Pn**	**20 07 37.1**	**+0.2**
COEG				*IAML*		20 08 19.1	
	comp=Z,502nm,0.3s						
CEVE	**Cerro Verde**	**3.33**	**220**	*eP*	**Pn**	**20 07 40.5**	**+0.3**
CEVE				*eS*	**Sn**	**20 08 18.6**	**-0.2**
JAYA	**Jayaque - finc**	**3.36**	**216**	*eP*	**Pn**	**20 07 39.7**	**-0.9**
JAYA				*IAML*		20 08 26.8	
	comp=Z,426nm,0.3s						
TEIG	**Tepich**	**3.91**	**348**	*eP*	Pn	20 07 52.7	+4.8

WEL 17 20:07:41.8, 42°S±5°×17°4E±°, h16km±10km, M2.2/8, ML2.7/15, MLv2.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=104.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**18**	P	Pg	20 07 45.3	+0.4
TUWZ	**Tuamarina**	**0.44**	**336**	P	Pb	20 07 51.3	+0.2
TCW	**Tory Channel**	**0.62**	**7**	P	Pb	20 07 54.4	+0.2
KHZ	**Kahutara**	**0.76**	**219**	P	Pb	20 07 57.2	+0.6
NNZ	**Nelson**	**0.86**	**315**	P	Pn	20 07 58.8	-0.4
THZ	**Tophouse**	**0.95**	**274**	P	Pg	20 08 00.2	-0.1
CAW	**Cannon Point**	**0.98**	**43**	P	Pn	20 08 01.7	+0.8
DUWZ	**D'Urville Isla**	**1.04**	**349**	P	Pg	20 08 02.0	+0.1
KIW	**Kapiti Island**	**1.11**	**30**	P	Pg	20 08 03.5	+0.2
MRNZ	**Matariki Terra**	**1.15**	**291**	P	Pg	20 08 04.0	0.0
MTW	**Mount Morrison**	**1.20**	**56**	P	Pn	20 08 04.0	+0.1
TKNZ	**Takaka Hill**	**1.21**	**311**	P	Pb	20 08 04.7	+0.4
OGWZ	**Otaki Gorge**	**1.26**	**37**	P	Pg	20 08 05.5	-0.4
GVZ	**Greta Valley S**	**1.42**	**216**	P	Pn	20 08 06.6	-0.3
MRZ	**Mangatainoka R**	**1.57**	**43**	P	Pn	20 08 09.5	+0.4
QRZ	**Quartz Range**	**1.60**	**308**	P	Pb	20 08 11.6	+0.7
LTZ	**Lake Taylor**	**1.71**	**235**	P	Pn	20 08 11.0	+0.1
DSZ	**Denniston Nort**	**1.78**	**272**	P	Pb	20 08 13.8	-0.2
MHCZ	**Mount Hutt**	**2.57**	**228**	P	Pn	20 08 21.7	-1.0

WEL 17 20:08:32.1±1.1, 37°S±7°×17°9E±°, h20km±5km, M3.5/20, ML3.7/20, MLv3.5/20, Error ellipse: s-maj=0.0km s-min=0.0km az=131.5, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.54**	**237**	P	Pg	20 08 43.4	+0.4
MXZ				S	Sg	20 08 50.7	+0.4
WMGZ	**Waiomatatini S**	**0.66**	**213**	P	Pn	20 08 46.3	0.0
WMGZ				S	Sn	20 08 56.4	+0.2
PKGZ	**Pakihiroa**	**0.89**	**225**	P	Pg	20 08 49.4	-0.1
PKGZ				S	Sg	20 09 01.4	+0.2
PUZ	**Puketiti**	**0.94**	**211**	P	Pn	20 08 50.0	-0.2
PUZ				S	Sg	20 09 02.9	0.0
HAZ	**Te Kaha**	**0.99**	**240**	P	Pb	20 08 50.4	-0.2
HAZ				S	Sg	20 09 04.8	+0.2
TWGZ	**Tauwhareparae**	**1.15**	**218**	P	Pn	20 08 53.2	0.0
TWGZ	**Tauwhareparae**	**1.15**	**218**	P	Pn	20 08 53.2	+0.1
RUGZ	**Raukumara Rang**	**1.18**	**233**	P	Pb	20 08 54.1	+0.2
RUGZ	**Raukumara Rang**	**1.18**	**233**	P	Pb	20 08 54.0	+0.1
RUGZ				S	Sn	20 09 09.5	+0.4
CNGZ	**Carnagh Statio**	**1.32**	**203**	P	Pn	20 08 55.7	+0.3
WIZ	**White Island**	**1.37**	**259**	P	Pb	20 08 56.5	-0.5
TKGZ	**Te Karaka**	**1.42**	**214**	P	Pn	20 08 56.5	-0.3
MWZ	**Matawai**	**1.51**	**225**	P	Pn	20 08 57.9	-0.1
MWZ				S	Sb	20 09 17.8	-0.3
WHRZ	**Whale Island**	**1.62**	**248**	P	Pn	20 09 00.1	+0.6
RAGZ	**Rawiri**	**1.68**	**223**	P	Pn	20 09 00.6	+0.1
RIGZ	**Rimuhau**	**1.68**	**211**	P	Pn	20 08 60.0	-0.5
URZ	**Urewera**	**1.71**	**234**	P	Pn	20 09 01.0	+0.2
URZ				S	Sn	20 09 22.5	+0.4
EDRZ	**Edgecumbe**	**1.89**	**243**	P	Pn	20 09 03.7	+0.4
OPRZ	**Ohinepanea**	**1.93**	**252**	P	Pn	20 09 03.6	-0.2
SNGZ	**Shannon Statio**	**1.94**	**218**	P	Pn	20 09 03.5	-0.4
SNGZ				S	Sn	20 09 27.9	+0.2
KNZ	**Kokohu**	**1.99**	**208**	P	Pn	20 09 03.3	-1.3
RTZ	**Ruatahuna**	**2.01**	**227**	P	Pn	20 09 05.0	0.0
MHGZ	**Mahia Peninsul**	**2.03**	**202**	P	Pn	20 09 04.5	-0.7
MUGZ	**Murupara**	**2.06**	**233**	P	Pn	20 09 05.5	-0.1
TARZ	**Mount Tarawera**	**2.11**	**242**	P	Pn	20 09 07.1	+0.7
OMRZ	**Omania**	**2.15**	**246**	P	Pn	20 09 07.1	+0.1
RAHZ	**Arahi**	**2.17**	**220**	P	Pn	20 09 06.9	-0.2
KARZ	**Kaharoa**	**2.22**	**249**	P	Pn	20 09 07.9	+0.1
WHHZ	**Waihua**	**2.22**	**215**	P	Pn	20 09 07.3	-0.6
MTHZ	**Maungataniwha**	**2.25**	**225**	P	Pn	20 09 08.3	-0.1
PRRZ	**Plateau Road**	**2.32**	**237**	P	Pn	20 09 09.0	-0.1
ALRZ	**Allen Road**	**2.38**	**236**	P	Pn	20 09 09.8	-0.3
NMHZ	**Naumai**	**2.45**	**221**	P	Pn	20 09 11.4	+0.4
ARHZ	**Aropaoanui**	**2.48**	**216**	P	Pn	20 09 10.7	-0.7
MRHZ	**Matea Rd**	**2.49**	**230**	P	Pn	20 09 11.5	-0.1
KUZ	**Kuaotunu**	**2.58**	**281**	P	Pn	20 09 11.9	-0.8
BKZ	**Black Stump Fm**	**2.67**	**224**	P	Pn	20 09 13.4	-0.6
TOZ	**Tahuroa Road**	**2.72**	**259**	P	Pn	20 09 14.7	0.0
CKHZ	**Cape Kidnapper**	**2.77**	**210**	P	Pn	20 09 13.6	-1.8
KWHZ	**Kaweka Forest**	**2.89**	**221**	P	Pn	20 09 16.3	-0.8
GRZ	**Great Barrier**	**2.92**	**289**	P	Pn	20 09 17.5	0.0
RITZ	**Rihia Road**	**2.93**	**233**	P	Pn	20 09 17.7	+0.2
MKAZ	**Moumakai**	**2.97**	**272**	P	Pn	20 09 17.9	-0.1
KAHZ	**Kahuranaki**	**2.97**	**211**	P	Pn	20 09 16.4	-1.7
WIAZ	**Waiheke Island**	**3.03**	**278**	P	Pn	20 09 18.8	-0.1
KRHZ	**Kereru**	**3.08**	**219**	P	Pn	20 09 18.1	-1.6
TMVZ	**Te Maari**	**3.10**	**233**	P	Pn	20 09 19.4	-0.7
ETVZ	**East Tongariro**	**3.11**	**232**	P	Pn	20 09 19.5	-0.7
NTVZ	**North Tongarir**	**3.11**	**233**	P	Pn	20 09 19.6	-0.6
BHHZ	**Black Hill Sta**	**3.13**	**224**	P	Pn	20 09 19.8	-0.6
KRVZ	**Karewarewa**	**3.13**	**233**	P	Pn	20 09 20.0	-0.5
OTVZ	**Oturere**	**3.16**	**232**	P	Pn	20 09 20.5	-0.4
NNVZ	**North Ngauruho**	**3.17**	**233**	P	Pn	20 09 20.8	-0.2
WTVZ	**West Tongariro**	**3.18**	**233**	P	Pn	20 09 21.0	-0.1
SNVZ	**South Ngauruho**	**3.19**	**232**	P	Pn	20 09 20.5	-0.7
NGZ	**Ngauruhoe**	**3.21**	**233**	P	Pn	20 09 20.8	-0.7
MBAZ	**Motutapu North**	**3.22**	**278**	P	Pn	20 09 22.1	+0.6
TUVZ	**Tukino**	**3.23**	**231**	P	Pn	20 09 21.2	-0.6
TWVZ	**Taurewa**	**3.25**	**235**	P	Pn	20 09 21.9	-0.2
MOVZ	**Moawhango**	**3.25**	**228**	P	Pn	20 09 21.0	-1.1
WHVZ	**Whangaehu Hut**	**3.28**	**231**	P	Pn	20 09 21.8	-0.8
FWVZ	**Far West T-bar**	**3.28**	**232**	P	Pn	20 09 22.0	-0.6
WNVZ	**Wahianoa**	**3.30**	**230**	P	Pn	20 09 21.7	-1.0
TRVZ	**Turoa**	**3.31**	**231**	P	Pn	20 09 22.2	-0.8
PNHZ	**Pukenui**	**3.37**	**218**	P	Pn	20 09 21.2	-2.5
MTVZ	**Mangateitei**	**3.41**	**231**	P	Pn	20 09 23.8	-0.4
HIZ	**Hauiti**	**3.41**	**247**	P	Pn	20 09 25.2	+1.0
PKVZ	**Pokaka**	**3.43**	**233**	P	Pn	20 09 24.2	-0.4
TSZ	**Takapari Road**	**3.60**	**218**	P	Pn	20 09 24.6	-2.3
VRZ	**Vera Road**	**3.73**	**239**	P	Pn	20 09 29.0	+0.4
WCZ	**Waipu Caves**	**3.88**	**289**	P	Pn	20 09 31.3	+0.7
WAZ	**Wanganui**	**3.93**	**230**	P	Pn	20 09 31.1	-0.3
KHEZ	**Kahui Hut**	**4.33**	**241**	P	Pn	20 09 39.4	+2.6
OUZ	**Omahuta**	**4.73**	**294**	P	Pn	20 09 43.6	+1.3
CTZ	**Chatham Island**	**7.32**	**153**	P	Pn	20 10 17.3	-0.5

ISK ***17*** *20:13:48.5, 40°.42N×25°.97E, h6km, ML2.9/18*
ATH ***17*** *20:13:49.0, 40°.42N×25°.90E, h7km±1km, ML2.4/4, Error ellipse: s-maj=2.1km s-min=1.0km az=32.0*
DDA ***17*** *20:13:48.9±0.0, 40°.42N×25°.92E, h14km, ML2.8*
THE ***17*** *20:13:49.3, 40°.44N×25°.87E, h10km±1km, ML2.2/6, Error ellipse: s-maj=2.0km s-min=0.6km az=305.0*

ISC 17 20:13:48.8±0.8, 40°.43N±0°.02×25°.92E±0°.02, h16km±6km, n55, σ0.74/92, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.23**	**185**	Pg	**Pg**	**20 13 54.1**	**0.0**
GADA				Sg	**Sg**	**20 13 57.9**	**+0.3**
GOKA	**anakkale-Gk**	**0.23**	**183**	P	**Pg**	**20 13 54.0**	**-0.1**
GOKA				S	**Sg**	**20 13 57.9**	**+0.3**
SMTH	**Samothraki Isl**	**0.30**	**279**	P	**Pg**	**20 13 55.1**	**-0.2**
SMTH				S	**Sg**	**20 13 58.5**	**-1.2**
	1μm,0.1s						
SMTH	**Samothraki Isl**	**0.30**	**279**	P	**Pg**	**20 13 55.1**	**-0.2**
SMTH				S	**Sg**	**20 13 58.5**	**-1.2**
SMTH				*AML*	AML	20 14 00.5	
	comp=E,2071μm,0.1s						
SMTH				*AML*	AML	20 14 00.6	
	comp=N,2743μm,0.2s						
CAVK	**Edirne/Enez-Ca**	**0.33**	**35**	P	**Pg**	**20 13 55.3**	**-0.3**
CAVK				S	**Sg**	**20 14 00.1**	**-0.1**
ENEZ	**Enez**	**0.36**	**29**	Pg	**Pg**	**20 13 55.8**	**-0.4**
ENEZ				Sg	**Sg**	**20 14 01.4**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.42**	**93**	Pg	**Pg**	**20 13 56.7**	**-0.6**
GELI				Sg	**Sg**	**20 14 02.7**	**-0.4**
ECEA	**Canakkale, Ece**	**0.42**	**153**	P	**Pg**	**20 13 57.0**	**-0.4**
ECEA				S	**Sg**	**20 14 03.4**	**+0.2**
ECEA				*i AML*	AML	20 14 06.0	
	comp=N,507nm,0.3s						
ALN	**Alexandroupoli**	**0.48**	**11**	P	**Pg**	**20 13 58.0**	**-0.4**
ALN				S	**Sg**	**20 14 05.2**	**+0.2**
	comp=N,260nm,0.2s						
ALN	**Alexandroupoli**	**0.48**	**11**	Pg	**Pg**	**20 13 58.1**	**-0.4**
ALN				Sg	**Sg**	**20 14 05.1**	**+0.2**
ALN	**Alexandroupoli**	**0.48**	**11**	P	**Pg**	**20 13 58.0**	**-0.4**
ALN				S	**Sg**	**20 14 05.2**	**+0.2**
ALN				*AML*	AML	20 14 05.6	
	comp=N,458μm,0.2s						
ALN				*AML*	AML	20 14 05.7	
	comp=E,574μm,0.2s						
ERIK	**Erikli-Kesan**	**0.51**	**61**	Pg	**Pg**	**20 13 58.3**	**-0.7**
ERIK				Sg	**Sg**	**20 14 05.3**	**-0.6**
BOZC	**Bozcaada**	**0.59**	**170**	Pg	**Pg**	**20 14 00.1**	**-0.3**
BOZC				Sg	**Sg**	**20 14 08.3**	**0.0**
BOZC	**Bozcaada**	**0.59**	**170**	P	**Pg**	**20 14 00.1**	**-0.3**
BOZC				P	**Pg**	**20 14 00.2**	**-0.3**
BOZC				S	**Sg**	**20 14 07.7**	**-0.6**
BOZC				S	**Sb**	**20 14 08.2**	**-0.7**
LPK	**Lapseki**	**0.64**	**94**	Pg	**Pg**	**20 14 00.8**	**-0.6**
LPK				Sg	**Sg**	**20 14 09.8**	**-0.1**
EZN	**Ezine**	**0.67**	**153**	Pg	**Pg**	**20 14 01.8**	**-0.2**
EZN				Sg	**Sg**	**20 14 10.6**	**-0.3**
KESN	**Edirne-Kesan**	**0.70**	**55**	P	**Pg**	**20 14 01.3**	**-1.4**
KESN				S	**Sg**	**20 14 10.1**	**-1.9**
KESN				*i AML*	AML	20 14 16.0	
	comp=E,514nm,0.2s						
RDO	**Rodhopi**	**0.78**	**338**	P	**Pg**	**20 14 03.3**	**-0.7**
RDO				S	**Sb**	**20 14 14.6**	**+0.3**
	comp=E,232nm,0.3s						
RDO	**Rodhopi**	**0.78**	**338**	Pg	**Pg**	**20 14 03.7**	**-0.3**
RDO	**Rodhopi**	**0.78**	**338**	P	**Pg**	**20 14 03.3**	**-0.7**
RDO				S	**Sb**	**20 14 14.5**	**+0.3**
RDO				*AML*	AML	20 14 16.6	
	comp=E,367μm,0.3s						
RDO				*AML*	AML	20 14 18.4	
	comp=N,558μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.83**	**145**	P	**Pg**	**20 14 04.3**	**-0.7**
BAYC				S	**Sg**	**20 14 15.5**	**-0.5**
KOCA	**Canakkale, Ayv**	**0.94**	**170**	P	**Pg**	**20 14 03.5**	**-3.5**
KOCA				S	**Sg**	**20 14 17.9**	**-1.3**
GPNR	**Gulpinar-Canak**	**0.98**	**170**	Pg	**Pg**	**20 14 07.1**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.99**	**74**	Pg	**Pg**	**20 14 07.4**	**-0.6**
KRBG	**Karabiga-Canak**	**1.05**	**91**	Pg	**Pg**	**20 14 08.4**	**-0.7**
SIGR	**SIGRI**	**1.21**	**183**	P	**Pb**	**20 14 11.4**	**0.0**
SIGR				S	**Sn**	**20 14 28.1**	**+0.9**
	comp=N,318nm,0.5s						
SIGR	**SIGRI**	**1.21**	**183**	Pn	**Pb**	**20 14 11.4**	**0.0**
SIGR	**SIGRI**	**1.21**	**183**	P	**Pb**	**20 14 11.4**	**0.0**
SIGR				S	**Sg**	**20 14 27.5**	**-0.5**
SIGR				*AML*	AML	20 14 29.4	
	comp=E,618μm,0.5s						
SIGR				*AML*	AML	20 14 29.4	
	comp=N,649μm,0.5s						
KAVA	**Kavala**	**1.22**	**299**	P	**Pn**	**20 14 11.4**	**+0.3**
KAVA				S	**Sb**	**20 14 27.2**	**+0.4**
	comp=N,108nm,0.2s						
KAVA	**Kavala**	**1.22**	**299**	P	**Pn**	**20 14 11.4**	**+0.3**
KAVA				S	**Sb**	**20 14 27.2**	**+0.4**
KNL	**Balıkesir**	**1.23**	**97**	P	**Pn**	**20 14 10.9**	**-0.5**
KNL				S	**Sb**	**20 14 26.3**	**-1.1**
KNL				*i AML*	AML	20 14 30.0	
	comp=N,221nm,0.7s						
KNL				*i AML*	AML	20 14 31.0	
	comp=N,188nm,0.6s						
AYVA	**Ayvalik**	**1.26**	**152**	P	**Pn**	**20 14 12.0**	**+0.2**
AYVA				S	**Sb**	**20 14 28.2**	**0.0**
AYVA				*i AML*	AML	20 14 31.0	
	comp=N,183nm,0.4s						
BUHA	**Balikesir, Bur**	**1.28**	**136**	P	**Pn**	**20 14 12.5**	**+0.5**
BUHA				S	**Sb**	**20 14 29.4**	**+0.7**
BUHA				*i AML*	AML	20 14 31.0	
	comp=N,149nm,0.3s						
BUHA				*i AML*	AML	20 14 31.0	
	comp=N,181nm,0.5s						
TKR	**Tekirdag**	**1.35**	**65**	Pn	**Pn**	**20 14 13.7**	**+0.7**
GONE	**Gonen-Balikesi**	**1.40**	**105**	Pn	**Pn**	**20 14 14.4**	**+0.7**
BALY	**Balya**	**1.47**	**117**	P	**Pn**	**20 14 15.0**	**+0.3**
BALY				S	**Sn**	**20 14 34.4**	**+0.8**
BALY				*i AML*	AML	20 14 37.0	
	comp=N,82nm,0.5s						
EDC	**Edincik**	**1.48**	**92**	Pn	**Pn**	**20 14 15.4**	**+0.5**
OUR	**Ouranopolis**	**1.49**	**267**	P	**Pn**	**20 14 14.7**	**-0.1**
OUR	**Ouranopolis**	**1.49**	**267**	P	**Pn**	**20 14 14.7**	**-0.1**
CRLT	**Corlu**	**1.55**	**62**	Pn	**Pn**	**20 14 16.6**	**+0.9**
DKL	**Dikili**	**1.55**	**150**	Pn	**Pn**	**20 14 16.6**	**+0.9**
BOTS	**Marmara Eregli**	**1.66**	**69**	Pn	**Pn**	**20 14 18.3**	**+1.0**
BALB	**Balikesir**	**1.69**	**117**	Pn	**Pn**	**20 14 18.3**	**+0.6**
ZEDA	**zmir-Bergama**	**1.71**	**148**	P	**Pn**	**20 14 19.1**	**+1.2**
ZEDA				S	**Sn**	**20 14 40.6**	**+1.3**
ZEDA				*i AML*	AML	20 14 44.0	
	comp=N,88nm,0.5s						
STEP	**BALIKESIR_Sava**	**1.73**	**127**	P	**Pn**	**20 14 18.8**	**+0.5**
STEP				S	**Sn**	**20 14 40.4**	**+0.3**
STEP				*i AML*	AML	20 14 45.0	
	comp=N,82nm,0.9s						
STEP				*i AML*	AML	20 14 46.0	
	comp=N,80nm,0.9s						
NVR	**Nevrokopi**	**1.82**	**301**	P	**Pn**	**20 14 20.1**	**+0.6**
NVR				S	**Sn**	**20 14 42.4**	**+0.2**
	comp=N,18nm,0.3s						
NVR	**Nevrokopi**	**1.82**	**301**	P	**Pn**	**20 14 20.1**	**+0.6**
NVR				S	**Sn**	**20 14 42.4**	**+0.2**
SRS	**Serrai**	**1.90**	**292**	P	**Pn**	**20 14 21.1**	**+0.5**
SRS	**Serrai**	**1.90**	**292**	P	**Pn**	**20 14 21.1**	**+0.5**
SOH	**Sokhos**	**2.00**	**282**	P	**Pn**	**20 14 22.1**	**+0.2**
SOH				S	**Sn**	**20 14 46.5**	**-0.1**
SOH	**Sokhos**	**2.00**	**282**	P	**Pn**	**20 14 22.1**	**+0.2**
SOH				S	**Sn**	**20 14 46.5**	**-0.1**
AKS	**Akhisar**	**2.12**	**136**	Pn	**Pn**	**20 14 25.2**	**+1.5**
URLA	**Izmir**	**2.13**	**166**	Pn	**Pn**	**20 14 25.3**	**+1.6**
KNT	**Kendrikon**	**2.41**	**289**	P	**Pn**	**20 14 28.2**	**+0.6**
KNT	**Kendrikon**	**2.41**	**289**	P	**Pn**	**20 14 28.2**	**+0.6**

IDC 17 20:48:14.3±1.9, 3°.15N×127°.41E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=166.9km s-min=21.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**164**	P	P	20 53 30.3	0.0
	0.5nm,0.6s,baz=344,slow=10,SNR=6.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**27.39**	**167**	P	P	20 54 01.7	0.0
	0.1nm,0.6s,baz=347,slow=7.6,SNR=2.6						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**58.42**	**325**	P	P	20 58 12.2	+0.4
	0.3nm,0.4s,baz=118,slow=8.2,SNR=9.5						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.59**	**327**	P	P	20 58 39.8	-0.4
	0.2nm,0.5s,baz=131,slow=6.0,SNR=2.3						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**68.17**	**327**	P	P	20 59 16.2	-0.2
	0.3nm,0.5s,baz=113,slow=9.6,SNR=1.8						
	0.3nm,0.5s						

IDC ***17*** *20:50:48.0±0.9, 62°.56S×158°.10W, h0km, mb3.8/3, mbtmp3.8/4, ML3.9/1, MS3.8/37, Error ellipse: s-maj=45.5km s-min=30.9km az=5.0*

ISC 17 20:50:49.2±0.9, 62°.6S±0°.3×158°.1W±0°.2, h10km, n62, σ1.03/12, mb3.9/3, MS3.9/39, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.55**	**205**	P	**P**	**20 55 16.4**	**-0.2**
	0.3nm,0.3s,baz=72,slow=18,SNR=26						
VNDA				LR	LR	21 00 43.0	
	comp=Z,257nm,21.3s,baz=66,slow=30						
	1.7nm,0.5s						
QSPA	**South Pole Qui**	**27.52**	**180**	LR	LR	21 05 01.7	
	comp=Z,256nm,21.9s,baz=62,slow=31						
URZ	**Urewera**	**28.67**	**317**	LR	LR	21 05 24.3	
	comp=Z,149nm,22.0s,baz=248,slow=31						
PMSA	**Palmer Station**	**38.10**	**136**	LR	LR	21 11 00.1	
	comp=Z,101nm,18.5s,baz=308,slow=32						
TBI

comp=Z,63nm,20.4s,baz=152,slow=33
BDFB Brasilia 85.16 115 LR LR 21 38 49.3
comp=Z,93nm,19.1s,baz=41,slow=34
SUR Sutherland 85.35 179 LR LR 21 37 32.8
comp=Z,123nm,20.3s,baz=180,slow=33
LEM Lembang 85.96 263 LR LR 21 38 12.1
comp=Z,54nm,20.2s,baz=181,slow=33
BOSA Boshof 89.07 183 LR LR 21 38 37.2
comp=Z,86nm,22.0s,baz=188,slow=32
DAV Davao City (W) 89.99 285 LR LR 21 45 44.3
comp=Z,36nm,18.4s,baz=103,slow=37
ROSC El Rosal 91.40 82 LR LR 21 37 58.6
comp=Z,36nm,21.5s,baz=242,slow=31
JTS Las Juntas de 91.45 70 LR LR 21 36 47.0
comp=Z,22nm,18.3s,baz=331,slow=30
LBTB Lobatse 92.65 183 LR LR 21 40 44.2
comp=Z,71nm,21.8s,baz=180,slow=32
SDV Santo Domingo 96.65 84 LR LR 21 40 15.5
comp=Z,37nm,21.2s,baz=186,slow=31
TSUM Tsumeb 98.41 176 LR LR 21 45 50.9
comp=Z,55nm,18.3s,baz=154,slow=34
ILAR Eielson Array 127.33 6 PKP **PKiKP 21 09 52.7 0.0**
0.6nm,0.9s,baz=190,slow=2.6,SNR=2.9
TORD Torodi Ar. Bea 128.56 155 PKP **PKiKP 21 09 58.5 +1.7**
1.4nm,0.3s,baz=174,slow=1.4,SNR=3.5
MKAR Makanchi Array 143.24 273 PKP **PKPdf 21 10 21.6 -0.8**
0.2nm,0.8s,baz=144,slow=2.7,SNR=2.0
GEYT Alibeck 146.91 239 PKPbc **PKPab 21 10 32.4 0.0**
0.6nm,0.4s,baz=122,slow=2.2,SNR=2.2
ZALV Zalesovo Beam 147.09 284 PKPbc **PKPbc 21 10 29.4 -1.4**
1.4nm,0.8s,baz=127,slow=3.8,SNR=5.1
KURBB Kurchatov Arra 147.72 275 PKPbc **PKPbc 21 10 32.2 -0.5**
1.2nm,0.8s,baz=133,slow=2.3,SNR=7.0
ESDC Sonseca Array 152.26 134 PKPbc **PKiKP 21 10 44.3 -0.2**
0.3nm,0.3s,baz=178,slow=3.7,SNR=2.3
BVAR Borovoye Array 153.09 272 PKPbc **PKPbc 21 10 44.3 -1.2**
0.3nm,0.6s,baz=64,slow=3.4,SNR=1.9

*IDC **17** 20:52:25.2±1.7, 30.˚59N×87.˚31E, h0km, mb3.3/6, mbtmp3.3/8, ML3.4/2, Error ellipse: s-maj=65.0km s-min=20.3km az=66.0*
ISC 17 20:52:29.8±1.7, **30.˚6N**±0.˚2×**87.˚4E**±0.˚3, **h35**km, **n8**, σ1$**29**/8, **mb3.3**/6, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.02**	**136**	Pn	**Pn**	**20 56 10.7**	**-1.8**
	0.1nm,0.3s,baz=332,slow=11,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**16.64**	**348**	Pn	**Pn**	**20 56 19.4**	**-0.9**
	baz=149,slow=13,SNR=2.1						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**21.07**	**344**	P	**P**	**20 57 10.4**	**-0.3**
	1.2nm,0.9s,baz=156,slow=10,SNR=5.5						
	1.2nm,0.9s						
SONM	**Songino Array**	**22.57**	**35**	P	**P**	**20 57 27.2**	**+0.2**
	0.3nm,0.8s,baz=219,slow=11,SNR=1.8						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**23.41**	**356**	P	**P**	**20 57 36.3**	**+0.9**
	0.6nm,0.7s,baz=186,slow=8.7,SNR=2.3						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**25.60**	**336**	P	**P**	**20 57 55.4**	**-0.2**
	0.1nm,0.3s,baz=141,slow=9.3,SNR=2.1						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**67.56**	**132**	P	**P**	**21 03 23.9**	**+1.0**
	0.6nm,0.5s,baz=328,slow=6.7,SNR=3.5						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**70.03**	**135**	P	**P**	**21 03 39.6**	**+1.4**
	0.6nm,0.8s,baz=321,slow=7.2,SNR=4.6						
	0.6nm,0.8s						

IDC 17 20:54:18.4±1.5, **18.˚04S**×**178.˚21E**, **h508**km±14km, **mb3.4**/3, **mbtmp4.3**/3, **Error ellipse: s-maj=116.6km s-min=12.3km az=153.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**0.34**	**334**	P	P	20 55 19.7	+0.1
	1.7nm,0.4s,baz=154,slow=23,SNR=0.5						
STKA	**Stephens Creek**	**35.76**	**240**	P	P	21 00 34.1	0.0
	2.2nm,0.6s,baz=95,slow=12,SNR=5.3						
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**41.44**	**260**	P	P	21 01 20.1	-0.3
	0.9nm,0.5s,baz=95,slow=7.5,SNR=8.4						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**41.65**	**254**	P	P	21 01 22.1	-0.1
	9.4nm,0.6s,baz=88,slow=8.4,SNR=70						
	9.4nm,0.6s						

*RISSC **17** 21:19:25.1, 40.˚66N×15.˚46E, h3km, ML2.0/5*
ROM 17 21:19:25.1±0.1, **40.˚629N**±0.˚007×**15.˚46E**±0.˚02, **h8**km±1km, **ML2.0/7, 2C-1D, Error ellipse: s-maj=1.4km s-min=0.3km az=80.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCL3	**Muro Lucano (S**	**0.08**	**32**	⇑*i*P	Pg	21 19 26.9	-0.3
SCL3				*i* S	Sg	21 19 28.5	-0.3
VDP3	**Vietri Di Pote**	**0.09**	**105**	*i* P	Pg	21 19 27.9	+0.5
CGG3	**Caggiano**	**0.10**	**150**	*i* P	Pg	21 19 28.4	+0.9
MRLC	**Muro Lucano**	**0.13**	**11**	⇑P	Pg	21 19 27.8	-0.2
MRLC				S	Sg	21 19 30.5	+0.5
MRLC				AML	AML		
	comp=E,2380μm,1.0s						
MRLC				AML	AML		
	comp=N,3060μm,1.2s						
MRLC				AML	AML		
	comp=N,3045μm,1.2s						
MRLC				AML	AML		
	comp=N,3055μm,1.2s						
MRLC				AML	AML		
	comp=E,2295μm,1.0s						
MRLC				AML	AML		
	comp=N,3045μm,0.8s						
MRLC				AML	AML		
	comp=N,3055μm,0.8s						
MRLC				AML	AML		
	comp=E,2380μm,1.0s						
MRLC				AML	AML		
	comp=E,2011μm,0.3s						
MRLC				AML	AML		
	comp=N,3448μm,1.8s						
MRLC				AML	AML		
	comp=N,3270μm,1.8s						
MRLC				AML	AML		
	comp=E,2172μm,0.5s						
SRN3	**Sant'Arsenio**	**0.14**	**180**	*i* P	Pg	21 19 29.3	+1.1
SRN3				*i* S	Sg	21 19 32.8	+2.4
CDRU	**Civita di Ruta**	**0.18**	**220**	P	Pg	21 19 30.0	+1.2
SFL3	**San Fele**	**0.18**	**30**	*i* P	Pg	21 19 29.3	+0.4
PZUN	**Potenza**	**0.27**	**86**	P	Pb	21 19 32.1	0.0
SLCN	**Sala Consilina**	**0.27**	**151**	⇓P	Pb	21 19 31.6	-0.6
SLCN				S	Sg	21 19 35.6	+1.4
SLCN				AML	AML		
	comp=N,850μm,0.6s						
SLCN				AML	AML		
	comp=E,1080μm,0.9s						
SLCN				AML	AML		
	comp=N,849μm,0.6s						
SLCN				AML	AML		
	comp=E,1085μm,0.9s						
SLCN				AML	AML		
	comp=E,1120μm,0.9s						
SLCN				AML	AML		
	comp=N,828μm,0.5s						
SLCN				AML	AML		
	comp=N,360μm,2.6s						
SLCN				AML	AML		
	comp=E,650μm,1.8s						
SLCN				AML	AML		
	comp=E,669μm,1.7s						
SLCN				AML	AML		
	comp=E,563μm,3.7s						
SLCN				AML	AML		
	comp=E,456μm,0.9s						
SLCN				AML	AML		
	comp=N,654μm,1.3s						
SLCN				AML	AML		
	comp=N,693μm,1.2s						
CMPR	**Campora**	**0.33**	**201**	P	Pg	21 19 32.3	+0.7
LIO3	**Lioni**	**0.34**	**322**	P	Pg	21 19 31.8	0.0
VULT	**Monte Vulture**	**0.35**	**20**	P	Pb	21 19 33.0	-0.5
VULT				AML	AML		
	comp=E,316μm,0.8s						
VULT				AML	AML		
	comp=N,530μm,1.4s						
VULT				AML	AML		
	comp=N,530μm,1.4s						
VULT				AML	AML		
	comp=N,530μm,0.6s						
VULT				AML	AML		
	comp=N,240μm,1.4s						
VULT				AML	AML		
	comp=E,316μm,0.8s						
VULT				AML	AML		
	comp=N,291μm,0.5s						
VULT				AML	AML		
	comp=E,251μm,2.2s						
VULT				AML	AML		
	comp=N,254μm,2.5s						
VULT				AML	AML		
	comp=E,288μm,3.5s						
ACER	**Acerenza**	**0.40**	**67**	P	Pb	21 19 34.0	-0.4
ACER				AML	AML		
	comp=E,327μm,0.3s						
ACER				AML	AML		
	comp=N,340μm,1.6s						
ACER				AML	AML		
	comp=N,340μm,0.4s						
ACER				AML	AML		
	comp=E,326μm,0.3s						
ACER				AML	AML		
	comp=E,343μm,2.1s						
ACER				AML	AML		
	comp=N,281μm,2.6s						
ACER				AML	AML		
	comp=N,298μm,0.6s						
ACER				AML	AML		
	comp=E,327μm,0.3s						
ACER				AML	AML		
	comp=E,291μm,0.2s						
MCEL	**Monticello**	**0.40**	**139**	P	Pg	21 19 33.5	+0.5
MCEL				AML	AML		
	comp=E,222μm,0.6s						
MCEL				AML	AML		
	comp=N,244μm,1.0s						
MCEL				AML	AML		
	comp=N,238μm,1.0s						
MCEL				AML	AML		
	comp=E,224μm,1.3s						
MCEL				AML	AML		
	comp=N,237μm,1.0s						
MCEL				AML	AML		
	comp=E,222μm,1.4s						
MCEL				AML	AML		
	comp=N,179μm,4.5s						
MCEL				AML	AML		
	comp=E,168μm,0.4s						
MCEL				AML	AML		
	comp=E,147μm,0.6s						
MCEL				AML	AML		
	comp=N,179μm,4.5s						
CAFE	**Carife**	**0.43**	**337**	P	Pg	21 19 34.0	+0.5
PALZ	**Palazzo San Ge**	**0.49**	**50**	P	Pb	21 19 35.8	-0.2
PALZ				AML	AML		
	comp=N,452μm,2.1s						
PALZ				AML	AML		
	comp=E,491μm,2.2s						
MGR	**Morigerati**	**0.50**	**171**	P	Pg	21 19 35.1	+0.5
SIRI	**Monte Sirino -**	**0.55**	**145**	P	Pg	21 19 35.9	+0.3
SIRI				AML	AML		
	comp=E,238μm,0.3s						
SIRI				AML	AML		
	comp=N,160μm,0.7s						
SIRI				AML	AML		
	comp=N,177μm,0.7s						
SIRI				AML	AML		
	comp=N,142μm,3.6s						
SIRI				AML	AML		
	comp=E,234μm,0.3s						
SIRI				AML	AML		
	comp=E,235μm,0.3s						
SIRI				AML	AML		
	comp=E,239μm,0.3s						
SIRI				AML	AML		
	comp=N,151μm,3.6s						
SCHR	**S. Chirico Rap**	**0.64**	**132**	P	Pg	21 19 37.3	0.0
CUC	**Castrocucco**	**0.69**	**157**	P	Pb	21 19 39.0	-0.4
PSB1	**Pescosannita**	**0.77**	**321**	P	Pb	21 19 40.8	+0.1
VITU	**Vitulano (BN)**	**0.84**	**312**	P	Pb	21 19 42.1	+0.2

*ROM **17** 21:20:37.5±0.1, 38.˚062N±0.˚005×14.˚723E±0.˚007, h6km, ML3.4/38, Error ellipse: s-maj=0.6km s-min=0.3km az=295.0*
*BEO **17** 21:20:38.6±0.9, 38.˚24N×14.˚48E, h0km, ML3.5/4*
ISC 17 21:20:37.5±0.8, **38.˚06N**±0.˚02×**14.72E**±0.˚02, **h11**km±5km, **n126**, σ0$**94**/114, **11C-5D, Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSFR	**San Fratello**	**0.10**	**258**	⇑P	**Pg**	**21 20 40.5**	**+0.3**
MSFR	**San Fratello**	**0.10**	**258**	S	**Sg**	**21 20 42.6**	**+0.3**
MSFR				AML	AML		
	comp=E,41550μm,1.0s						
MSFR				AML	AML		
	comp=N,35350μm,1.0s						
MSFR				AML	AML		
	comp=N,35350μm,1.0s						
MSFR				AML	AML		
	comp=E,41550μm,1.0s						
MSFR	**San Fratello**	**0.10**	**258**	AML	AML		
	comp=N,35350μm,1.0s						
MSFR	**San Fratello**	**0.10**	**258**	AML	AML		
	comp=E,41550μm,1.0s						
MNO	**Monte Soro**	**0.12**	**188**	S	**Pg**	**21 20 40.0**	**-0.7**
MNO	**Monte Soro**	**0.12**	**188**	⇑P	**Pg**	**21 20 40.5**	**-0.2**
MNO				S	**Sg**	**21 20 42.7**	**-0.3**
MNO				AML	AML		
MNO				AML	AML		
MNO				AML	AML		
MNO	**Monte Soro**	**0.12**	**188**	AML	AML		
MNO	**Monte Soro**	**0.12**	**188**	AML	AML		
MNO	**Monte Soro**	**0.12**	**188**	AML	AML		
EPZF	**Pizzo Felice**	**0.26**	**154**	S	**Pg**	**21 20 43.5**	**+0.7**
EPZF	**Pizzo Felice**	**0.26**	**154**	⇑P	**Pg**	**21 20 43.5**	**+0.7**
EPZF				S	**Sb**	**21 20 47.8**	**-0.9**
EPZF				AML	AML		
	comp=E,36300μm,0.3s						
EPZF				AML	AML		
	comp=N,65650μm,0.3s						
EPZF	**Pizzo Felice**	**0.26**	**154**	AML	AML		
	comp=E,36300μm,0.3s						
EPZF	**Pizzo Felice**	**0.26**	**154**	AML	AML		
	comp=N,65650μm,0.3s						
EMSG	**Monte Spagnolo**	**0.30**	**142**	S	**Pg**	**21 20 44.5**	**+0.9**
EMSG	**Monte Spagnolo**	**0.30**	**142**	⇑P	**Pg**	**21 20 44.6**	**+0.9**
EMSG				S	**Sb**	**21 20 50.0**	**-0.1**
EMSG				AML	AML		
	comp=E,79100μm,0.5s						
EMSG				AML	AML		
	comp=N,57500μm,0.4s						
EMSG	**Monte Spagnolo**	**0.30**	**142**	AML	AML		
	comp=N,57500μm,0.4s						
EMSG	**Monte Spagnolo**	**0.30**	**142**	AML	AML		
	comp=E,79100μm,0.5s						
NOV	**Novara**	**0.33**	**94**	S	**Pg**	**21 20 44.7**	**+0.4**
NOV	**Novara**	**0.33**	**94**	⇓P	**Pg**	**21 20 44.7**	**+0.4**
NOV				S	**Sb**	**21 20 50.5**	**-0.5**
NOV				AML	AML		
	comp=E,12300μm,1.4s						
NOV				AML	AML		
	comp=N,17050μm,0.4s						
NOV	**Novara**	**0.33**	**94**	AML	AML		
	comp=N,17050μm,0.4s						
NOV	**Novara**	**0.33**	**94**	AML	AML		
	comp=E,12300μm,1.4s						
GALF	**Gagliano Caste**	**0.36**	**199**	⇑P	**Pg**	**21 20 45.1**	**+0.3**
GALF				S	**Sb**	**21 20 50.9**	**-0.9**
GALF				AML	AML		
	comp=E,14100μm,0.5s						
GALF				AML	AML		
	comp=N,18650μm,0.9s						
GALF				AML	AML		
	comp=E,14100μm,1.5s						
GALF				AML	AML		
	comp=N,18650μm,1.1s						
GALF	**Gagliano Caste**	**0.36**	**199**	S	**Pg**	**21 20 45.1**	**+0.3**
VPL	**Vulcano Piano**	**0.39**	**33**	⇑P	**Pb**	**21 20 46.6**	**+0.1**
VPL				S	**Sb**	**21 20 53.2**	**+0.8**
VPL				AML	AML		
	comp=E,67650μm,1.2s						
VPL				AML	AML		
	comp=N,61800μm,0.3s						
VPL				AML	AML		
	comp=E,67650μm,0.8s						
ESLN	**Serra La Nave**	**0.41**	**150**	S	**Pg**	**21 20 46.7**	**+1.0**
ESLN	**Serra La Nave**	**0.41**	**150**	P	**Pb**	**21 20 46.9**	**-0.2**
ESLN				AML	AML		
	comp=E,15400μm,1.1s						
ESLN				AML	AML		
	comp=N,12550μm,0.5s						
ESLN	**Serra La Nave**	**0.41**	**150**	AML	AML		
	comp=N,13050μm,0.7s						
ESLN	**Serra La Nave**	**0.41**	**150**	AML	AML		
	comp=E,15400μm,1.1s						
AIO	**Antillo**	**0.42**	**101**	S	**Pg**	**21 20 46.1**	**+0.3**
AIO	**Antillo**	**0.42**	**101**	S	**Pg**	**21 20 46.1**	**+0.3**
AIO	**Antillo**	**0.42**	**101**	S	**Pg**	**21 20 46.1**	**+0.3**
AIO	**Antillo**	**0.42**	**101**	⇓P	**Pg**	**21 20 46.1**	**+0.3**
AIO				S	**Sb**	**21 20 53.2**	**-0.2**
AIO				AML	AML		
	comp=E,7050μm,0.2s						
AIO				AML	AML		
	comp=N,9195μm,0.5s						
AIO				AML	AML		
	comp=E,7050μm,1.8s						
AIO	**Antillo**	**0.42**	**101**	AML	AML		
	comp=E,7050μm,0.2s						
AIO	**Antillo**	**0.42**	**101**	AML	AML		
	comp=N,9195μm,0.5s						
LLI	**Lipari**	**0.43**	**25**	P	**Pb**	**21 20 47.6**	**+0.4**
ESML	**S. M. di Licod**	**0.45**	**164**	S	**Pg**	**21 20 48.3**	**+1.9**
ESML	**S. M. di Licod**	**0.45**	**164**	P	**Pb**	**21 20 47.4**	**-0.2**
ESML				AML	AML		
	comp=E,10410μm,0.6s						
ESML				AML	AML		
	comp=N,6985μm,0.4s						
ESML				AML	AML		
	comp=N,6985μm,1.6s						
ESML	**S. M. di Licod**	**0.45**	**164**	AML	AML		
	comp=E,10410μm,0.6s						
ESML	**S. M. di Licod**	**0.45**	**164**	AML	AML		
	comp=N,7570μm,1.6s						
PLLN	**Pollina**	**0.46**	**262**	S	**Pg**	**21 20 46.8**	**+0.3**
PLLN	**Pollina**	**0.46**	**262**	⇓P	**Pg**	**21 20 46.8**	**+0.3**
PLLN				S	**Sb**	**21 20 55.0**	**+0.5**
PLLN				AML	AML		
	comp=E,15350μm,0.5s						
PLLN				AML	AML		
	comp=N,21300μm,0.5s						
PLLN	**Pollina**	**0.46**	**262**	AML	AML		
	comp=E,15350μm,0.5s						
PLLN	**Pollina**	**0.46**	**262**	AML	AML		
	comp=N,21300μm,0.5s						
MILZ	**Milazzo**	**0.46**	**62**	⇑P	**Pb**	**21 20 47.1**	**-0.6**
MILZ				S	**Sb**	**21 20 54.2**	**-0.3**
CAGR	**Agira**	**0.47**	**202**	S	**Pg**	**21 20 47.9**	**+1.2**
CAGR	**Agira**	**0.47**	**202**	P	**Pg**	**21 20 47.9**	**+1.2**
CAGR				AML	AML		
	comp=E,18100μm,0.9s						
CAGR				AML	AML		
	comp=N,12955μm,1.1s						
CAGR				AML	AML		
	comp=E,18100μm,1.1s						
CAGR	**Agira**	**0.47**	**202**	AML	AML		
	comp=N,12955μm,1.1s						
CAGR	**Agira**	**0.47**	**202**	AML	AML		
	comp=E,18100μm,0.9s						
IFIL	**Filicudi I Eol**	**0.52**	**347**	P	**Pb**	**21 20 48.9**	**+0.1**
IFIL				AML	AML		
	comp=N,29550μm,0.3s						
IFIL				AML	AML		
	comp=E,66350μm,0.3s						
PETRA	**Petralia Sopra**	**0.52**	**245**	S	**Pg**	**21 20 47.8**	**-0.1**
PETRA	**Petralia Sopra**	**0.52**	**245**	P	**Pg**	**21 20 47.7**	**-0.1**
PETRA				S	**Sb**	**21 20 57.3**	**+0.7**
PETRA				AML	AML		
	comp=E,6615μm,0.6s						
PETRA				AML	AML		
	comp=N,6500μm,0.7s						
PETRA				AML	AML		
	comp=N,6500μm,1.3s						
PETRA	**Petralia Sopra**	**0.52**	**245**	AML	AML		
	comp=E,6615μm,0.6s						
PETRA	**Petralia Sopra**	**0.52**	**245**	AML	AML		
	comp=N,6500μm,0.7s						
GIB	**Gibilmanna**	**0.55**	**263**	S	**Pg**	**21 20 48.4**	**+0.2**
GIB	**Gibilmanna**	**0.55**	**263**	P	**Pg**	**21 20 48.3**	**+0.1**
GIB				S	**Sb**	**21 20 57.5**	**+0.3**
GIB				AML	AML		
	comp=N,10350μm,1.3s						
GIB				AML	AML		
	comp=N,10350μm,0.7s						
GIB				AML	AML		
	comp=E,10065μm,0.3s						
GIB	**Gibilmanna**	**0.55**	**263**	AML	AML		
	comp=N,10350μm,1.3s						
GIB	**Gibilmanna**	**0.55**	**263**	AML	AML		
	comp=E,10065μm,0.3s						
IACL	**Alicudi**	**0.56**	**330**	⇑P	**Pb**	**21 20 49.5**	**+0.1**
IACL				S	**Sn**	**21 20 58.8**	**-2.0**
IACL				AML	AML		
	comp=E,15950μm,1.4s						
IACL				AML	AML		
	comp=N,13010μm,1.5s						
IACL				AML	AML		
	comp=E,15950μm,0.6s						
IACL				AML	AML		
	comp=N,13010μm,0.5s						
EPOZ	**Pozzillo**	**0.61**	**152**	S	**Pg**	**21 20 49.3**	**-0.1**
EPOZ	**Pozzillo**	**0.61**	**152**	P	**Pg**	**21 20 49.5**	**+0.1**
EPOZ				AML	AML		
	comp=E,10680μm,0.7s						
EPOZ				AML	AML		
	comp=N,9680μm,0.7s						
EPOZ				AML	AML		
	comp=E,10680μm,1.3s						
EPOZ	**Pozzillo**	**0.61**	**152**	AML	AML		
	comp=N,9680μm,0.7s						
EPOZ	**Pozzillo**	**0.61**	**152**	AML	AML		
	comp=E,10680μm,0.7s						
MSRU	**Castanea**	**0.66**	**71**	P	**Pb**	**21 20 50.9**	**-0.2**
MSRU				S	**Sb**	**21 21 01.2**	**+0.9**
MSRU				AML	AML		
	comp=N,5235μm,1.4s						
MSRU				AML	AML		
	comp=E,6455μm,0.4s						
MSRU				AML	AML		
	comp=N,5235μm,0.6s						
HLNI	**Lentini**	**0.72**	**170**	S	**Pg**	**21 20 51.5**	**+0.1**
HLNI	**Lentini**	**0.72**	**170**	P	**Pg**	**21 20 51.5**	**+0.1**
HLNI				S	**Sn**	**21 21 03.1**	**-1.5**
HLNI				AML	AML		
	comp=E,2975μm,0.7s						
HLNI				AML	AML		
	comp=N,6545μm,1.3s						
HLNI	**Lentini**	**0.72**	**170**	AML	AML		
	comp=E,2975μm,0.7s						
HLNI	**Lentini**	**0.72**	**170**	AML	AML		
	comp=N,6545μm,1.3s						
ISTR	**Stromboli Gino**	**0.82**	**27**	P	**Pn**	**21 20 54.4**	**-0.7**
ISTR				AML	AML		
	comp=E,2960μm,0.3s						
ISTR				AML	AML		
	comp=N,3410μm,0.4s						
HAGA	**Augusta**	**0.84**	**155**	S	**Pg**	**21 20 53.7**	**-0.1**
HAGA	**Augusta**	**0.84**	**155**	⇑P	**Pg**	**21 20 53.6**	**-0.1**
HAGA				S	**Sn**	**21 21 06.7**	**-1.1**
HAGA				AML	AML		
	comp=N,2295μm,0.8s						
HAGA				AML	AML		
	comp=E,2085μm,0.5s						
HAGA				AML	AML		
	comp=N,2295μm,1.2s						
HAGA	**Augusta**	**0.84**	**155**	AML	AML		
	comp=N,2295μm,0.8s						
HAGA	**Augusta**	**0.84**	**155**	AML	AML		
	comp=E,2085μm,0.5s						
IST3	**Stromboli F**	**0.85**	**28**	P	**Pn**	**21 20 55.0**	**-0.5**
IST3				AML	AML		
	comp=E,1200μm,0.4s						
IST3				AML	AML		
	comp=N,2300μm,0.3s						
RAFF	**Raffo Rosso**	**0.88**	**199**	P	**Pn**	**21 20 55.5**	**-0.4**
RAFF				AML	AML		
	comp=E,2840μm,0.7s						

RAFF					AML	AML		
	comp=E,2840μm,1.3s							
RAFF					AML	AML		
	comp=N,1955μm,0.8s							
GMB	**Gambarie**	**0.89**	**82**		AML	AML		
	comp=E,8285μm,0.7s							
GMB					AML	AML		
	comp=E,8285μm,1.3s							
GMB					AML	AML		
	comp=N,7940μm,0.7s							
AGST	**Augusta-Monte**	**0.89**	**153**	S		**Pg**	**21 20 54.4**	**-0.4**
AGST	**Augusta-Monte**	**0.89**	**153**	P		**Pg**	**21 20 54.3**	**-0.4**
AGST				S		**Sn**	**21 21 07.8**	**-1.2**
AGST				AML	AML			
	comp=E,3385μm,0.6s							
AGST				AML	AML			
	comp=N,2705μm,1.4s							
AGST				AML	AML			
	comp=N,2710μm,1.4s							
AGST				AML	AML			
	comp=N,2710μm,0.6s							
AGST				AML	AML			
	comp=E,3385μm,1.4s							
AGST	**Augusta-Monte**	**0.89**	**153**	AML	AML			
	comp=N,2710μm,1.4s							
AGST	**Augusta-Monte**	**0.89**	**153**	AML	AML			
	comp=E,3385μm,0.6s							
SOLUN	**Solunto**	**0.94**	**273**	S		**Pg**	**21 20 55.4**	**-0.2**
SOLUN	**Solunto**	**0.94**	**273**	P		**Pg**	**21 20 55.3**	**-0.2**
SOLUN				S		**Sn**	**21 21 09.3**	**-0.8**
SOLUN				AML	AML			
	comp=E,804μm,1.1s							
SOLUN				AML	AML			
	comp=N,771μm,0.4s							
SOLUN				AML	AML			
	comp=E,804μm,0.9s							
SOLUN	**Solunto**	**0.94**	**273**	AML	AML			
	comp=E,804μm,1.1s							
SOLUN	**Solunto**	**0.94**	**273**	AML	AML			
	comp=N,771μm,0.4s							
CEL	**Celeste**	**0.95**	**77**	AML	AML			
	comp=E,1570μm,1.1s							
CEL				AML	AML			
	comp=E,1270μm,1.1s							
CEL				AML	AML			
	comp=N,1375μm,1.6s							
CEL				AML	AML			
	comp=N,1121μm,1.6s							
MEU	**Monte Lauro**	**0.97**	**170**	P		**Pg**	**21 20 55.5**	**-0.6**
MEU				S		**Sn**	**21 21 10.8**	**-0.2**
MEU				AML	AML			
	comp=E,6270μm,0.3s							
MEU				AML	AML			
	comp=E,6265μm,0.3s							
MEU				AML	AML			
	comp=N,9720μm,0.5s							
SOI	**Samo**	**1.06**	**89**	⇓P		**Pb**	**21 20 57.3**	**-0.6**
SOI				AML	AML			
	comp=E,1600μm,0.5s							
SOI				AML	AML			
	comp=N,2305μm,0.6s							
SOI				AML	AML			
	comp=E,1600μm,1.5s							
JOPP	**Joppolo**	**1.07**	**59**	⇓P		**Pg**	**21 20 58.0**	**-0.1**
JOPP				AML	AML			
	comp=N,1130μm,0.7s							
JOPP				AML	AML			
	comp=E,1090μm,1.5s							
JOPP				AML	AML			
	comp=E,1090μm,0.5s							
CLTA	**Licata**	**1.08**	**214**	⇑P		**Pn**	**21 20 59.4**	**+0.8**
CLTA				AML	AML			
	comp=E,2515μm,0.7s							
CLTA				AML	AML			
	comp=N,2695μm,0.8s							
CLTA				AML	AML			
	comp=E,2515μm,1.3s							
CLTA				AML	AML			
	comp=N,2695μm,1.2s							
HMDC	**Modica**	**1.10**	**177**	P		**Pb**	**21 20 57.9**	**-0.7**
HMDC				S		**Sn**	**21 21 14.6**	**+0.5**
HMDC				AML	AML			
	comp=N,3580μm,0.3s							
HMDC				AML	AML			
	comp=E,3060μm,1.0s							
CORL	**Corleone**	**1.13**	**262**	S		**Pg**	**21 20 59.1**	**-0.2**
CORL	**Corleone**	**1.13**	**262**	P		**Pb**	**21 20 58.6**	**-0.6**
CORL				AML	AML			
	comp=E,1775μm,0.5s							
CORL				AML	AML			
	comp=N,2130μm,1.0s							
CORL	**Corleone**	**1.13**	**262**	AML	AML			
	comp=E,1775μm,0.5s							
CORL	**Corleone**	**1.13**	**262**	AML	AML			
	comp=N,2130μm,1.0s							
FAVR	**Favara**	**1.15**	**227**	P		**Pg**	**21 21 01.8**	**+2.3**
HPAC	**Pachino**	**1.39**	**167**	P		**Pn**	**21 21 02.6**	**-0.3**
HPAC				S		**Sg**	**21 21 22.8**	**+0.5**
HPAC				AML	AML			
	comp=N,2630μm,1.3s							
HPAC				AML	AML			
	comp=N,2630μm,0.7s							
HPAC				AML	AML			
	comp=E,2660μm,0.6s							
PLAC	**Placanica**	**1.41**	**73**	P		**Pb**	**21 21 03.6**	**-0.3**
PLAC				AML	AML			
	comp=E,615μm,0.7s							
PLAC				AML	AML			
	comp=E,756μm,0.7s							
PLAC				AML	AML			
	comp=N,616μm,0.8s							
PLAC				AML	AML			
	comp=N,789μm,0.7s							
PLAC				AML	AML			
	comp=N,616μm,1.2s							
PLAC				AML	AML			
	comp=N,789μm,1.3s							
PLAC				AML	AML			
	comp=E,756μm,1.3s							
PLAC				AML	AML			
	comp=E,615μm,1.3s							
GRI	**Girifalco**	**1.54**	**60**	P		**Pn**	**21 21 04.6**	**-0.5**
GRI				AML	AML			
	comp=E,1085μm,0.7s							
GRI				AML	AML			
	comp=N,970μm,1.3s							
GRI				AML	AML			
	comp=N,970μm,0.7s							
GRI				AML	AML			
	comp=E,1085μm,1.3s							
CAVT	**Castelvetrano**	**1.60**	**257**	P		**Pb**	**21 21 06.9**	**-0.2**
CAR1	**CAROLEI**	**1.67**	**44**	P		**Pn**	**21 21 06.0**	**-0.9**
CAR1				AML	AML			
	comp=N,1635μm,0.6s							
CAR1				AML	AML			
	comp=E,1270μm,0.4s							
CAR1				AML	AML			
	comp=E,1335μm,0.5s							
CAR1				AML	AML			
	comp=N,1700μm,0.6s							
CET2	**Cetraro**	**1.76**	**33**	P		**Pn**	**21 21 07.3**	**-0.8**
CET2				AML	AML			
	comp=E,967μm,1.0s							
CET2				AML	AML			
	comp=N,974μm,0.5s							
CET2				AML	AML			
	comp=E,967μm,1.0s							
SPS2	**Spezzano della**	**1.77**	**45**	P		**Pn**	**21 21 07.8**	**-0.4**
SPS2				AML	AML			
	comp=E,246μm,0.4s							
SPS2				AML	AML			
	comp=N,237μm,1.4s							
SPS2				AML	AML			
	comp=E,246μm,1.6s							
SPS2				AML	AML			
	comp=N,237μm,0.6s							
TIP	**Timpagrande**	**1.95**	**54**	AML	AML			
	comp=N,199μm,1.4s							
TIP				AML	AML			
	comp=N,199μm,0.6s							
TIP				AML	AML			
	comp=E,210μm,0.9s							
TDS	**Terranova Siba**	**2.04**	**38**	P		**Pn**	**21 21 11.2**	**-0.7**
TDS				AML	AML			
	comp=E,186μm,0.8s							
TDS				AML	AML			
	comp=N,153μm,0.7s							
TDS				AML	AML			
	comp=E,186μm,1.2s							
TDS				AML	AML			
	comp=N,153μm,1.3s							
MMN	**Mormanno**	**2.08**	**28**	P		**Pn**	**21 21 12.5**	**+0.1**
MGR	**Morigerati**	**2.18**	**17**	⇑P		**Pn**	**21 21 13.4**	**-0.4**
MGR				AML	AML			
	comp=E,220μm,0.4s							
MGR				AML	AML			
	comp=N,216μm,1.2s							
MGR				AML	AML			
	comp=E,342μm,5.1s							
MGR				AML	AML			
	comp=N,274μm,5.3s							
SALB	**San Lorenzo Be**	**2.22**	**34**	P		**Pn**	**21 21 14.8**	**+0.4**
SALB				AML	AML			
	comp=N,160μm,0.9s							
SALB				AML	AML			
	comp=N,158μm,0.9s							
SALB				AML	AML			
	comp=N,160μm,1.1s							
SALB				AML	AML			
	comp=E,274μm,0.8s							
SALB				AML	AML			
	comp=E,277μm,0.8s							
CMPR	**Campora**	**2.31**	**11**	P		**Pn**	**21 21 15.0**	**-0.6**
SIRI	**Monte Sirino -**	**2.31**	**22**	P		**Pn**	**21 21 15.6**	**0.0**
SIRI				AML	AML			
	comp=E,288μm,0.3s							
SIRI				AML	AML			
	comp=N,226μm,1.2s							
SIRI				AML	AML			
	comp=E,288μm,0.3s							
SIRI				AML	AML			
	comp=E,288μm,1.7s							
SIRI				AML	AML			
	comp=N,226μm,0.8s							
SIRI				AML	AML			
	comp=N,214μm,0.4s							
SIRI				AML	AML			
	comp=E,288μm,1.7s							
SCHR	**S. Chirico Rap**	**2.39**	**26**	P		**Pn**	**21 21 17.0**	**+0.2**
SCHR				AML	AML			
	comp=N,114μm,0.6s							
SCHR				AML	AML			
	comp=E,128μm,0.7s							
MCEL	**Monticello**	**2.42**	**20**	P		**Pn**	**21 21 17.2**	**0.0**
MCEL				AML	AML			
	comp=E,160μm,1.5s							
MCEL				AML	AML			
	comp=E,160μm,1.5s							
MCEL				AML	AML			
	comp=N,160μm,1.4s							
MCEL				AML	AML			
	comp=N,177μm,1.4s							
SLCN	**Sala Consilina**	**2.44**	**17**	P		**Pn**	**21 21 17.8**	**+0.4**
SLCN				AML	AML			
	comp=E,278μm,0.3s							
SLCN				AML	AML			
	comp=N,195μm,0.7s							
SLCN				AML	AML			
	comp=N,195μm,1.3s							
SLCN				AML	AML			
	comp=N,256μm,4.9s							
SLCN				AML	AML			
	comp=E,269μm,3.5s							
MRLC	**Muro Lucano**	**2.76**	**12**	P		**Pn**	**21 21 23.1**	**+1.3**
MRLC				AML	AML			
	comp=E,92μm,1.6s							
MRLC				AML	AML			
	comp=N,104μm,1.2s							
MRLC				AML	AML			
	comp=E,101μm,2.5s							
MRLC				AML	AML			
	comp=N,71μm,0.7s							
MRLC				AML	AML			
	comp=E,92μm,0.4s							
MRLC				AML	AML			
	comp=E,115μm,2.4s							
MRLC				AML	AML			
	comp=N,104μm,0.8s							
LIO3	**Lioni**	**2.86**	**7**	P		**Pn**	**21 21 23.5**	**+0.3**
ACER	**Acerenza**	**2.89**	**19**	P		**Pn**	**21 21 25.6**	**+2.0**
TAR1	**Taranto**	**3.17**	**38**	P		**Pn**	**21 21 28.0**	**+0.6**
TAR1				AML	AML			
	comp=N,120μm,1.5s							
TAR1				AML	AML			
	comp=E,132μm,2.4s							
STON	**Ston**	**5.32**	**24**	*e*Sn		**Sn**	**21 22 57.9**	**-0.3**
TREB	**Trebinje**	**5.42**	**30**	*e*Pn		**Pn**	**21 21 57.8**	**-0.5**
TREB				*e*Sn		**Sn**	**21 22 58.7**	**-2.0**
PDG	**Podgorica**	**5.58**	**37**	*e*Pn		**Pn**	**21 22 00.8**	**+0.3**
PDG				*e*Sn		**Sn**	**21 23 05.3**	**+0.6**
FNA	**Florina**	**5.83**	**60**	*e*Pn		**Pn**	**21 22 07.1**	**+3.1**
FNA				*e*Sn		**Sn**	**21 23 12.9**	**+1.9**
SJES	**Sjenica**	**6.56**	**36**	*e*Pn		**Pn**	**21 22 16.4**	**+2.3**
SJES				*e*Sn		**Sn**	**21 23 26.5**	**-2.4**
BBLS	**Lazići**	**6.80**	**30**	*e*Pn		**Pn**	**21 22 18.8**	**+1.4**
IVAS	**Ivanjica**	**6.88**	**35**	*e*Pn		**Pn**	**21 22 19.6**	**+1.1**
IVAS				*e*Sn		**Sn**	**21 23 34.4**	**-2.5**
SELS	**Selova**	**7.09**	**41**	*e*Pn		**Pn**	**21 22 21.4**	**+0.1**
PRVS	**Prvonek**	**7.17**	**49**	*e*Pn		**Pn**	**21 22 23.9**	**+1.5**
PRVS				*e*Sn		**Sn**	**21 23 42.4**	**-1.5**
BARS	**Barje**	**7.21**	**46**	*e*Pn		**Pn**	**21 22 24.4**	**+1.6**
BARS				*e*Sn		**Sn**	**21 23 45.7**	**+1.0**
GRUS	**Gruza**	**7.38**	**36**	*e*Pn		**Pn**	**21 22 26.8**	**+1.5**
GRUS				*e*Sn		**Sn**	**21 23 47.4**	**-1.7**

NEIC ***17*** *21:34:52.7±0.7, 1.°65N±0.°10×128.°4E±0.°1, h90km±7km, mb4.0/10, Error ellipse: s-maj=19.9km s-min=9.0km az=51.0*
IDC ***17*** *21:34:53.4±2.1, 1.°63N×128.°55E, h101km±19km, mb3.5/5, mbtmp3.9/7, Error ellipse: s-maj=33.7km s-min=14.1km az=57.0*

ISC 17 21:34:53.2±1.0, 1.°6N±0.°1×128.°4E±0.°1, h100km, n23, σ0s 83/24, mb3.9/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.74**	**131**	P		**Pn**	**21 35 48.5**	**-0.4**
	38nm,0.2s,baz=324,slow=19,SNR=61							
SIJI				S		**Sn**	**21 36 30.9**	**-1.2**
	13nm,0.3s,baz=189,slow=22,SNR=6.0							
FAKI	**Fak Fak**	**5.88**	**140**	Pn		**Pn**	**21 36 17.7**	**-0.2**
TOLI2	**Tolitoli**	**7.66**	**267**	Pn		**Pn**	**21 36 40.2**	**-1.9**
MYLDM	**Lahad Datu**	**10.54**	**290**	Pn		**Pn**	**21 37 21.4**	**+0.1**
KAPI	**Kappang**	**10.87**	**233**	P		**Pn**	**21 37 26.0**	**+0.3**
	6.2nm,0.6s,baz=59,slow=12,SNR=3.0							
KAPI	**Kappang**	**10.87**	**233**	Pn		**Pn**	**21 37 25.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**17.39**	**235**			**Pn**	**21 38 50.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.75**	**188**	P		**P**	**21 39 13.8**	**-1.4**
WB0	**Warramunga Arr**	**22.01**	**165**	P		**P**	**21 39 39.5**	**0.0**
WB0				IAmb		IAmb	21 39 45.2	
	comp=Z,3.8nm,0.8s							
WRA	**Warramunga Arr**	**22.16**	**165**	P		**P**	**21 39 41.6**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=344,slow=10,SNR=16 comp=Z,0.8nm,0.4s							
WRA	**Warramunga Arr**	**22.16**	**165**	P		**P**	**21 39 42.1**	**+0.9**
ASAR	**Alice Springs**	**25.66**	**168**	P		**P**	**21 40 13.8**	**0.0**
	comp=Z,0.6nm,0.5s,baz=349,slow=7.4,SNR=11 comp=Z,0.6nm,0.5s							
ASAR	**Alice Springs**	**25.66**	**168**	P		**P**	**21 40 15.7**	**+1.9**
STKA	**Stephens Creek**	**35.54**	**161**	P		**P**	**21 41 41.5**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=354,slow=11,SNR=3.4 comp=Z,0.9nm,0.4s							
STKA	**Stephens Creek**	**35.54**	**161**	P		**P**	**21 41 41.1**	**+0.3**
STKA				IAmb		IAmb	21 41 48.2	
	comp=Z,1.0nm,1.1s							
MK31	**Makanchi Array**	**60.27**	**325**	P		**P**	**21 44 51.1**	**-0.1**
MK31				IAmb		IAmb	21 44 55.7	
	comp=Z,1.6nm,1.1s							
MKAR	**Makanchi Array**	**60.27**	**325**	P		**P**	**21 44 51.7**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=113,slow=8.0,SNR=19 comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**60.27**	**325**	P		**P**	**21 44 51.0**	**-0.2**
MAKZ	**Makanchi**	**60.46**	**325**	P		**P**	**21 44 52.2**	**-0.3**
MAKZ				IAmb		IAmb	21 44 53.8	
	comp=Z,3.6nm,1.4s							
KURK	**Kurchatov**	**64.45**	**327**	P		**P**	**21 45 18.4**	**-0.5**
KURK				IAmb		IAmb	21 45 19.8	
	comp=Z,2.1nm,0.9s							
VNDA	**Vanda**	**81.10**	**173**	P		**P**	**21 46 57.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=318,slow=5.6,SNR=6.8 comp=Z,0.6nm,0.5s							
VNDA	**Vanda**	**81.10**	**173**	P		**P**	**21 46 57.1**	**+0.2**
VNDA				IAmb		IAmb	21 47 10.2	
	comp=Z,4.6nm,1.3s							
MAW	**Mawson**	**82.35**	**201**	P		**P**	**21 47 04.5**	**+1.0**

IDC ***17*** *21:37:26.8±1.7, 9.°68N×127.°01E, h0km, mb3.5/4, mbtmp3.6/5, ML4.3/1, Error ellipse: s-maj=51.7km s-min=27.6km az=82.0*
NEIC ***17*** *21:37:30.4±0.5, 9.°60N±0.°05×126.°7E±0.°1, h21km±7km, mb4.2/7, Error ellipse: s-maj=21.1km s-min=3.4km az=71.0*
MAN ***17*** *21:37:36.0, 9.°24N×126.°10E, h26km, mb4.7, ML3.6, MS3.5*

ISC 17 21:37:35.4±0.9, 9.°30N±0.°03×126.°18E±0.°05, h55km±8km, n44, σ2s 12/55, mb3.9/7, 16C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.48**	**354**	⇑*e*P		**Pn**	**21 37 47.2**	**+0.4**
GLSP				*e*S		**Sn**	**21 37 56.4**	**+1.3**
BUTP	**Butuan**	**0.64**	**239**	⇑*e*P		**Pn**	**21 37 47.7**	**-1.0**
BUTP				*e*S		**Sn**	**21 37 57.7**	**-0.6**
SCPH	**Surigao**	**0.83**	**305**	*e*P		**Pn**	**21 37 51.0**	**-0.1**
SCPH				*e*S		**Sn**	**21 38 02.2**	**-0.3**
TASP	**Talacogon, Agu**	**0.92**	**203**	⇓*e*P		**Pn**	**21 37 52.5**	**+0.2**
TASP				*i* S		**Sn**	**21 38 05.7**	**+1.1**
CDOP	**Cateel, Davao**	**1.53**	**170**	⇑*i*P		**Pn**	**21 37 59.8**	**-0.6**
CDOP				*i* S		**Sn**	**21 38 18.2**	**-1.1**
MSLP	**Maasin**	**1.54**	**303**	⇑*e*P		**Pn**	**21 38 01.0**	**+0.4**
MSLP				*e*S		**Sn**	**21 38 22.9**	**+3.4**
CGP	**Cagayan de Oro**	**1.69**	**240**	⇑*i*P		**Pn**	**21 38 01.9**	**-0.7**
CGP				*i* S		**Sn**	**21 38 22.5**	**-0.7**
BUKP	**Musuan**	**1.79**	**218**	⇑*i*P		**Pn**	**21 38 04.7**	**+0.6**
GHBP	**Garcia Hernand**	**1.86**	**280**	⇑*e*P		**Pn**	**21 38 05.2**	**+0.3**
GHBP				*i* S		**Sn**	**21 38 27.6**	**+0.2**
TABP	**Talibon, Bohol**	**1.98**	**294**	⇑*i*P		**Pn**	**21 38 07.1**	**+0.6**
TABP				*i* S		**Sn**	**21 38 30.5**	**+0.2**
DAV	**Davao City (W)**	**2.29**	**195**	Pn		Pn	21 38 16.1	+5.3
	44nm,0.3s,baz=83,slow=21,SNR=7.4							
DAV				Sn		Sn	21 38 50.5	+13
	62nm,0.3s,baz=283,slow=19,SNR=4.7 152nm,0.5s							
DAV	**Davao City (W)**	**2.29**	**195**	Pn		**Pn**	**21 38 12.0**	**+1.1**
DAV				Sn		**Sn**	**21 38 45.5**	**+7.5**
TBP	**Tagbilaran**	**2.32**	**280**	⇓*e*P		**Pn**	**21 38 12.3**	**+1.2**
TBP				*i* S		**Sn**	**21 38 38.9**	**+0.3**
MATI	**Mati**	**2.34**	**178**	⇑*e*P		**Pn**	**21 38 12.7**	**+1.1**
BESP	**Borongan**	**2.40**	**342**	⇑*e*P		**Pn**	**21 38 14.9**	**+2.6**
BESP				*e*S		**Sn**	**21 38 45.8**	**+5.3**
LLP	**Lapu-Lapu**	**2.40**	**295**	⇑*i*P		**Pn**	**21 38 14.4**	**+2.0**
LLP				*i* S		**Sn**	**21 38 43.1**	**+2.5**
KCP	**Kidapawan**	**2.52**	**205**	⇑*e*P		**Pn**	**21 38 14.3**	**+0.3**
KCP				*i* S		**Sn**	**21 38 49.8**	**+6.2**
LSIP	**Lazi, Siquijor**	**2.52**	**266**	⇑*i*P		**Pn**	**21 38 14.4**	**+0.4**
LSIP				*i* S		**Sn**	**21 38 43.5**	**+0.1**
CTBH	**Cotabato--PC H**	**2.81**	**223**	⇓*i*P		**Pn**	**21 38 18.6**	**+0.6**
CTBH				*i* S		**Sn**	**21 38 53.9**	**+3.2**
SNPH	**Sibulan**	**2.90**	**271**	⇑*i*P		**Pn**	**21 38 21.2**	**+2.0**
SNPH				*i* S		**Sn**	**21 38 54.3**	**+1.3**
PAGZ	**Pagadian**	**3.12**	**243**	⇑*e*P		**Pn**	**21 38 23.9**	**+1.8**
DDMP	**Don Marcelino,**	**3.21**	**188**	⇑*e*P		**Pn**	**21 38 24.9**	**+1.5**
DDMP				*e*S		**Sn**	**21 39 01.9**	**+1.5**
RCP	**Roxas**	**4.05**	**304**	⇓*e*P		**Pn**	**21 38 37.3**	**+2.3**
KNRA	**Kununurra**	**24.95**	**174**	P		**P**	**21 42 54.0**	**+0.2**
KNRA				IAmb		IAmb	21 43 00.3	
	comp=Z,18nm,1.4s							
WRA	**Warramunga Arr**	**30.15**	**165**	P		**P**	**21 43 41.0**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=345,slow=9.6,SNR=1.4 comp=Z,0.3nm,0.8s							
WRA	**Warramunga Arr**	**30.15**	**165**	S		**P**	**21 43 41.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=344,slow=9.5,SNR=1.4							
AS31	**Alice Springs**	**33.62**	**167**			**P**	**21 44 11.2**	**+0.3**
ASAR	**Alice Springs**	**33.62**	**167**	P		**P**	**21 44 10.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=348,slow=7.3,SNR=4.8 comp=Z,0.2nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**40.29**	**72**	T		T	22 28 01.6	
	baz=262,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hy**	**40.30**	**72**	T		T	22 28 07.7	
	baz=262,slow=75,SNR=22							
H11S2	**WAKE ISLAND Hy**	**40.31**	**72**	T		T	22 28 10.7	
	baz=262,slow=75,SNR=21							
H11N1	**WAKE ISLAND Hy**	**40.65**	**71**	T		T	22 28 43.4	
	baz=265,slow=74,SNR=6.6							
H11N2	**WAKE ISLAND Hy**	**40.66**	**71**	T		T	22 28 46.6	
	baz=265,slow=74,SNR=5.0							
H11N3	**WAKE ISLAND Hy**	**40.67**	**71**	T		T	22 28 49.5	
	baz=265,slow=74,SNR=5.8							
NWAO	**Narrogin (SRO)**	**42.85**	**191**	P		**P**	**21 45 29.5**	**+1.2**
BBOO	**Buckleboo**	**42.92**	**168**	P		**P**	**21 45 28.6**	**-0.3**
MK31	**Makanchi Array**	**52.74**	**323**	P		**P**	**21 46 44.0**	**-0.7**
MK31				IAmb		IAmb	21 47 06.3	
	comp=Z,1.9nm,1.4s							
MKAR	**Makanchi Array**	**52.74**	**323**	P		**P**	**21 46 44.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=114,slow=7.4,SNR=3.2 comp=Z,0.4nm,0.7s							
MKAR	**Makanchi Array**	**52.74**	**323**	P		**P**	**21 46 43.6**	**-1.2**
MAKZ	**Makanchi**	**52.93**	**323**	P		**P**	**21 46 45.1**	**-1.1**
MAKZ				IAmb		IAmb	21 46 56.0	
	comp=Z,1.8nm,1.2s							
IMAR	**Indian Mountai**	**77.52**	**24**	P		**P**	**21 49 20.8**	**-4.2**
BMAR	**Burnt Mountain**	**81.19**	**23**	P		**P**	**21 49 41.7**	**-3.4**
VNDA	**Vanda**	**88.99**	**173**	P		**P**	**21 50 23.9**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=308,slow=3.2,SNR=2.3 comp=Z,0.7nm,0.8s							
VNDA	**Vanda**	**88.99**	**173**	P		**P**	**21 50 23.8**	**+0.2**
VNDA				IAmb		IAmb	21 50 47.5	
	comp=Z,5.9nm,1.4s							

TRN ***17*** *21:42:46.9, 10.°95N×62.°14W, h85km, MD3.5*
FUNV ***17*** *21:42:46.4, 11.°00N×62.°04W, h100km, MW3.8*

ISC 17 21:42:44.9±1.5, 10.°94N±0.°05×62.°15W±0.°05, h110km±14km, n20, σ1s 72/35, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.78**	**111**	⇑*i*P		**Pn**	**21 43 04.4**	**+0.4**
TRN				*e*S		**Sn**	**21 43 15.9**	**-2.4**
TPP	**Pointe-a-Pierr**	**0.92**	**132**	*e*P		**Pn**	**21 43 06.6**	**+1.4**
CRUV	**Carupano**	**1.10**	**257**	*e*P		**Pn**	**21 43 08.8**	**+1.7**
CRUV				*e*S		**Sn**	**21 43 24.7**	**+0.8**
TBH	**Brigand Hill**	**1.15**	**113**	*e*P		**Pn**	**21 43 09.4**	**+1.7**
TBH				*e*S		**Sn**	**21 43 23.4**	**-1.5**
GRGR	**Grenville**	**1.28**	**22**	*e*P		**Pn**	**21 43 09.5**	**+0.3**
GRGR				*e*S		**Sn**	**21 43 26.8**	**-0.8**
TPR	**Prospect**	**1.37**	**79**	*e*P		**Pn**	**21 43 11.3**	**+1.2**
TPR				*e*S		**Sn**	**21 43 28.5**	**-0.7**
BOT	**Bacolet**	**1.42**	**81**	*e*P		**Pn**	**21 43 11.6**	**+0.9**
BOT				*e*S		**Sn**	**21 43 29.7**	**-0.7**
TOSP	**Speyside**	**1.62**	**77**	*e*P		**Pn**	**21 43 12.9**	**-0.2**
TOSP				*e*S		**Sn**	**21 43 32.4**	**-2.2**
GCMP	**Grenada, Carri**	**1.70**	**25**	*e*P		**Pn**	**21 43 14.4**	**+0.3**
GCMP				*e*S		**Sn**	**21 43 34.8**	**-1.5**
SVB	**Belmont**	**2.48**	**21**	*e*P		**Pn**	**21 43 25.6**	**+1.5**
SVB				*e*S		**Sn**	**21 43 53.1**	**-1.1**
MCLT	**Moule a Chique**	**3.00**	**23**	*e*P		**Pn**	**21 43 32.9**	**+2.0**
MCLT				*e*S		**Sn**	**21 44 06.2**	**-0.1**
SLB	**Belfond**	**3.07**	**20**	*e*P		**Pn**	**21 43 33.5**	**+1.6**
SLB				*e*S		**Sn**	**21 44 08.0**	**-0.1**
PRGV	**PARIAGUAN**	**3.28**	**229**	*e*P		**Pn**	**21 43 37.2**	**+2.6**
PRGV				*e*S		**Sn**	**21 44 14.1**	**+1.1**
SLBI	**Saint Lucia, B**	**3.28**	**20**	*e*P		**Pn**	**21 43 36.6**	**+2

1.8nm,0.7s,baz=343,slow=11,SNR=13
1.8nm,0.7s
ASAR Alice Springs 28.52 166 P P 21 49 27.9 +0.2
0.2nm,0.5s,baz=334,slow=9.1,SNR=4.5
0.2nm,0.5s
MKAR Makanchi Array 57.19 325 P P 21 53 18.9 -0.3
0.2nm,0.4s,baz=117,slow=8.1,SNR=5.4
0.2nm,0.4s
KURBB Kurchatov Arra 61.37 327 P P 21 53 47.6 -0.3
0.5nm,0.2s,baz=129,slow=5.5,SNR=4.0
0.5nm,0.2s
BVAR Borovoye Array 66.95 327 P P 21 54 25.2 +0.7
0.4nm,0.6s,baz=106,slow=4.7,SNR=3.1
0.4nm,0.6s

JMA ***17*** *22:00:39.6±0.1,23.8N±0.4×121.6E±0.8,h18km±1km, MV2.9/10,TAIWAN REGION*
TAP ***17*** *22:00:41.2,23.85N×121.59E,h25km,ML3.7,B*
ISC 17 22:00:41.4±0.9,23.82N±0.01×121.63E±0.02,h24km±4km, n148,σ1♀05/279,20C-24D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.05**	**324**	**⇑*i*P**			**Pb**	**22 00 45.7**	**0.0**
	baz=12								
TEYL				S			**Sb**	**22 00 49.4**	**+0.9**
	baz=12								
TEGC	**Jichi Village**	**0.14**	**217**	P			**Pb**	**22 00 46.3**	**0.0**
	baz=195								
TEGC				*e*S			**Sb**	**22 00 50.9**	**+1.3**
	baz=195								
HWA	**Hwalien**	**0.15**	**351**	**⇑*i*P**			**Pb**	**22 00 46.2**	**-0.3**
	baz=10.0								
HWA				*e*S			**Sb**	**22 00 50.7**	**+0.9**
	baz=10.0								
ESL	**Shilin**	**0.18**	**267**	**⇑*i*P**			**Pb**	**22 00 46.2**	**-0.6**
	baz=253								
ESL				*i* S			**Sb**	**22 00 49.8**	**-0.6**
	baz=253								
ETM	**Tongmen**	**0.19**	**318**	**⇑*i*P**			**Pb**	**22 00 46.4**	**-0.5**
	baz=321								
ETM				S			**Sb**	**22 00 49.8**	**-0.8**
	baz=321								
EGFH	**Guangfu**	**0.24**	**231**	**⇑*i*P**			**Pb**	**22 00 47.3**	**-0.3**
	baz=219								
EGFH				*e*S			**Sb**	**22 00 51.7**	**0.0**
	baz=219								
TWD	**Chiawan**	**0.26**	**353**	**⇑*i*P**			**Pb**	**22 00 47.3**	**-0.5**
	baz=3.0								
TWD				*e*S			**Sb**	**22 00 52.0**	**-0.1**
	baz=3.0								
ETL	**Fush Village**	**0.33**	**358**	**⇑*i*P**			**Pb**	**22 00 48.4**	**-0.6**
	baz=6.0								
ETL				*e*S			**Sb**	**22 00 54.5**	**+0.4**
	baz=6.0								
NACB	**Ninganchiao**	**0.35**	**354**	P			**Pb**	**22 00 48.5**	**-0.7**
NACB	**Ninganchiao**	**0.35**	**354**	**⇑*i*P**			**Pb**	**22 00 48.5**	**-0.7**
	baz=1.0								
NACB				S			**Sb**	**22 00 53.8**	**-0.7**
	baz=1.0								
HGSD	**Ruisui**	**0.38**	**210**	**⇓*i*P**			**Pb**	**22 00 50.1**	**+0.5**
	baz=203								
HGSD				*e*S			**Sn**	**22 00 58.3**	**+0.3**
	baz=203								
ETLH	**Xiulin Townshi**	**0.41**	**340**	**⇓*i*P**			**Pb**	**22 00 49.3**	**-0.8**
	baz=344								
ETLH				S			**Sb**	**22 00 54.8**	**-1.3**
	baz=344								
EHY	**Hungye**	**0.43**	**222**	**⇑*i*P**			**Pb**	**22 00 49.6**	**-0.8**
	baz=214								
EHY				*e*S			**Sb**	**22 00 54.5**	**-2.0**
	baz=214								
OWD	**Renai**	**0.44**	**287**	**⇓*i*P**			**Pb**	**22 00 49.8**	**-0.8**
	baz=285								
OWD				*e*S			**Sb**	**22 00 55.5**	**-1.4**
	baz=285								
VWDT	**VWDT**	**0.46**	**261**	**⇓*i*P**			**Pb**	**22 00 50.5**	**-0.3**
	baz=256								
VWDT				S			**Sb**	**22 00 57.2**	**-0.1**
	baz=256								
WHF	**Hehuan Shan**	**0.46**	**314**	**⇓*i*P**			**Pb**	**22 00 50.2**	**-1.0**
	baz=315								
WHF				S			**Sb**	**22 00 56.5**	**-1.4**
	baz=315								
CHGB	**Renai**	**0.48**	**299**	**⇓*i*P**			**Pb**	**22 00 50.7**	**-0.7**
	baz=298								
CHGB				S			**Sb**	**22 00 57.5**	**-0.8**
	baz=298								
EHP	**Heping Village**	**0.49**	**12**	*e*P			**Pb**	**22 00 52.0**	**+0.5**
	baz=18								
EHP				*e*S			**Sb**	**22 00 59.4**	**+1.0**
	baz=18								
WUSB	**Renai**	**0.50**	**290**	**⇓*i*P**			**Pb**	**22 00 51.0**	**-0.6**
	baz=288								
WUSB				S			**Sb**	**22 00 57.8**	**-0.9**
	baz=288								
YULB	**Yu-li**	**0.53**	**216**	P			**Pb**	**22 00 51.0**	**-1.1**
YULB	**Yu-li**	**0.53**	**216**	**⇑*i*P**			**Pb**	**22 00 51.1**	**-1.1**
	baz=210								
YULB				*e*S			**Sb**	**22 00 58.2**	**-1.1**
	baz=210								
ECBN	**Changbin**	**0.53**	**198**	P			**Pb**	**22 00 52.5**	**+0.4**
	baz=193								
ECBN				*e*S			**Sn**	**22 01 01.4**	**-0.3**
	baz=193								
EYUL	**Yuli**	**0.56**	**211**	P			**Pb**	**22 00 51.9**	**-0.6**
	baz=206								
EYUL				*e*S			**Sn**	**22 01 03.0**	**+0.7**
	baz=206								
TWF1	**Yuli**	**0.56**	**213**	**⇑*i*P**			**Pb**	**22 00 51.6**	**-1.0**
	baz=208								
TWF1				*e*S			**Sb**	**22 00 59.9**	**-0.4**
	baz=208								
TWT	**Tachien**	**0.60**	**316**	**⇓*i*P**			**Pb**	**22 00 52.9**	**-0.5**
	baz=315								
TWT				*e*S			**Sb**	**22 01 00.7**	**-0.8**
	baz=315								
TDCB	**Techi**	**0.61**	**315**	**⇓*i*P**			**Pb**	**22 00 52.9**	**-0.6**
	baz=315								
TDCB				*e*S			**Sb**	**22 01 00.6**	**-1.2**
	baz=315								
ENA	**Nanau**	**0.61**	**9**	**⇓P**			**Pb**	**22 00 53.1**	**-0.4**
	baz=14								
ENA				*e*S			**Sb**	**22 01 01.6**	**-0.1**
	baz=14								
SSLB	**Suanglung**	**0.62**	**267**	P			**Pb**	**22 00 53.5**	**-0.2**
SSLB	**Suanglung**	**0.62**	**267**	**⇑P**			**Pb**	**22 00 52.8**	**-0.9**
	baz=263								
SSLB				*e*S			**Sb**	**22 01 00.1**	**-1.9**
	baz=263								
EWUT	**Wuta**	**0.63**	**12**	**⇓P**			**Pb**	**22 00 53.5**	**-0.4**
	baz=16								
EWUT				*e*S			**Sb**	**22 01 02.0**	**-0.3**
	baz=16								
NNSB	**Datong**	**0.64**	**339**	**⇓P**			**Pb**	**22 00 53.3**	**-0.8**
	baz=342								
NNSB				*e*S			**Sb**	**22 01 01.3**	**-1.5**
	baz=342								
NNSH	**Datong**	**0.64**	**339**	**⇓P**			**Pb**	**22 00 53.2**	**-0.9**
	baz=342								
NNSH				*e*S			**Sb**	**22 01 01.2**	**-1.5**
	baz=342								
WPL	**Puli Township**	**0.65**	**287**	P			**Pb**	**22 00 53.3**	**-0.8**
	baz=285								
WPL				*e*S			**Sb**	**22 01 01.5**	**-1.2**
	baz=285								
NNS	**Nan Shan**	**0.66**	**339**	**⇓*e*P**			**Pb**	**22 00 53.3**	**-1.1**
	baz=342								
NNS				*e*S			**Sb**	**22 01 01.6**	**-1.6**
	baz=342								
SMLT	**Sun Moon Lake**	**0.67**	**275**	**⇓*i*P**			**Pb**	**22 00 54.0**	**-0.6**
	baz=272								
SMLT				S			**Sb**	**22 01 02.9**	**-0.7**
	baz=272								
DPDB	**Guoxing**	**0.68**	**288**	**⇓*i*P**			**Pb**	**22 00 54.1**	**-0.6**
	baz=286								
DPDB				*e*S			**Sb**	**22 01 02.9**	**-0.8**
	baz=286								
FULB	**Fuli**	**0.70**	**207**	P			**Pb**	**22 00 54.8**	**-0.1**
	baz=203								
FULB				*e*S			**Sn**	**22 01 05.5**	**-0.3**
	baz=203								
WCS	**Beigang Elemen**	**0.70**	**290**	**⇓P**			**Pb**	**22 00 54.3**	**-0.7**
	baz=288								
WCS				*e*S			**Sb**	**22 01 03.5**	**-0.7**
	baz=288								
LATG	**Datong**	**0.71**	**352**	**⇓P**			**Pb**	**22 00 54.4**	**-0.9**
	baz=355								
LATG				*e*S			**Sb**	**22 01 03.4**	**-1.4**
	baz=355								
TYC	**Yuchr**	**0.71**	**277**	*e*P			**Pb**	**22 00 54.5**	**-0.7**
	baz=274								
TYC				*e*S			**Sb**	**22 01 02.8**	**-1.9**
	baz=274								
CHKT	**Chengkung**	**0.76**	**199**	*e*P			**Pb**	**22 00 55.9**	**-0.1**
	baz=195								
CHKT				*e*S			**Sn**	**22 01 07.5**	**+0.1**
	baz=195								
WHP	**Taichung City**	**0.77**	**306**	**⇓P**			**Pb**	**22 00 55.7**	**-0.6**
	baz=306								
WHP				*e*S			**Sb**	**22 01 05.7**	**-0.7**
	baz=306								
EHD	**Haiduan**	**0.78**	**210**	*e*P			**Pb**	**22 00 54.5**	**-1.8**
	baz=207								
EHD				*e*S			**Sn**	**22 01 10.0**	**+2.1**
	baz=207								
TWC	**Suao**	**0.81**	**14**	*e*P			**Pb**	**22 00 56.2**	**-0.5**
	baz=18								
TWC				*e*S			**Sb**	**22 01 07.3**	**0.0**
	baz=18								
NDS	**Dongshan**	**0.81**	**5**	*e*P			**Pb**	**22 00 56.0**	**-0.9**
	baz=8.0								
NDS				*e*S			**Sb**	**22 01 07.5**	**+0.1**
	baz=8.0								
ENTT	**Nioudou**	**0.81**	**356**	**⇓*e*P**			**Pb**	**22 00 56.1**	**-0.9**
	baz=359								
ENTT				*e*S			**Sb**	**22 01 07.0**	**-0.5**
	baz=359								
ECS	**Chishang**	**0.82**	**208**	*e*P			**Pb**	**22 00 56.0**	**-0.9**
	baz=204								
ECS				*e*S			**Sn**	**22 01 11.4**	**+2.6**
	baz=204								
ALS	**Alishan**	**0.82**	**248**	**⇑P**			**Pb**	**22 00 56.9**	**-0.3**
	baz=244								
ALS				*e*S			**Sb**	**22 01 07.5**	**-0.5**
	baz=244								
WJS	**Zhushan**	**0.83**	**270**	*e*P			**Pn**	**22 00 57.4**	**-0.2**
	baz=268								
WJS				*e*S			**Sn**	**22 01 09.2**	**+0.1**
	baz=268								
ELDTW	**Lidau**	**0.85**	**222**	**⇑*e*P**			**Pb**	**22 00 56.0**	**-1.5**
	baz=218								
ELDTW				*e*S			**Sb**	**22 01 07.5**	**-1.1**
	baz=218								
WNT	**Mingjian**	**0.87**	**274**	*e*P			**Pn**	**22 00 58.3**	**+0.1**
	baz=272								
WNT				*e*S			**Sn**	**22 01 10.2**	**+0.2**
	baz=272								
YHNB	**Yeheng**	**0.87**	**344**	P			**Pb**	**22 00 57.3**	**-0.7**
YHNB	**Yeheng**	**0.87**	**344**	**⇓P**			**Pb**	**22 00 57.2**	**-0.7**
	baz=346								
YHNB				*e*S			**Sb**	**22 01 08.1**	**-1.2**
	baz=346								
WNT1	**Nantou City**	**0.88**	**276**	*e*P			**Pn**	**22 00 58.6**	**+0.4**
	baz=274								
WNT1				*e*S			**Sn**	**22 01 10.7**	**+0.5**
	baz=274								
WWF	**Wufeng**	**0.88**	**284**	*e*P			**Pn**	**22 00 58.7**	**+0.4**
	baz=283								
WWF				*e*S			**Sn**	**22 01 11.6**	**+1.2**
	baz=283								
NSK	**Sanguang**	**0.89**	**344**	**⇓P**			**Pb**	**22 00 57.3**	**-0.8**
	baz=346								
NSK				*e*S			**Sb**	**22 01 08.6**	**-1.0**
	baz=346								
TWE	**Neicheng**	**0.89**	**2**	*e*P			**Pb**	**22 00 57.4**	**-0.8**
	baz=6.0								
TWE				*e*S			**Sb**	**22 01 08.8**	**-1.0**
	baz=6.0								
EDH	**Donghe**	**0.90**	**200**	*e*P			**Pb**	**22 00 57.4**	**-1.0**
	baz=197								
EDH				*e*S			**Sn**	**22 01 11.6**	**+0.8**
	baz=197								
NFF	**Wufeng Townshi**	**0.93**	**330**	*e*P			**Pb**	**22 00 58.3**	**-0.7**
	baz=331								
NFF				*e*S			**Sb**	**22 01 09.9**	**-1.0**
	baz=331								
FUSB	**Fushanzhiwuyua**	**0.93**	**357**	*e*P			**Pb**	**22 00 58.1**	**-0.9**
	baz=360								
FUSB				*e*S			**Sb**	**22 01 09.4**	**-1.6**
	baz=360								
TCU	**Taichung**	**0.93**	**290**	*e*P			**Pn**	**22 00 59.8**	**+0.8**
	baz=289								
TCU				*e*S			**Sn**	**22 01 12.3**	**+0.7**
	baz=289								
TWQ1	**Liyutan**	**0.94**	**304**	*e*P			**Pn**	**22 00 59.1**	**0.0**
	baz=304								
TWQ1				*e*S			**Sn**	**22 01 11.6**	**-0.4**
	baz=304								
NWLT	**Wulai**	**0.96**	**353**	P			**Pb**	**22 00 58.5**	**-0.9**
	baz=355								
NWLT				*e*S			**Sb**	**22 01 10.0**	**-1.7**
	baz=355								
WYL	**Yuanlin Townsh**	**0.97**	**278**	*e*P			**Pn**	**22 00 59.9**	**+0.3**
	baz=277								
WYL				*e*S			**Sn**	**22 01 13.4**	**+0.8**
	baz=277								
NSTT	**Nanjuang**	**0.99**	**324**	**⇓*e*P**			**Pn**	**22 00 59.5**	**-0.3**
	baz=325								
NSTT				*e*S			**Sb**	**22 01 12.1**	**-0.5**
	baz=325								
WGK	**Gukeng**	**0.99**	**262**	*e*P			**Pb**	**22 00 60.0**	**+0.1**
	baz=260								
WGK				*e*S			**Sn**	**22 01 13.8**	**+0.7**
	baz=260								
LIOB	**Emei**	**0.99**	**326**	*e*P			**Pn**	**22 00 59.9**	**0.0**
	baz=326								
LIOB				*e*S			**Sn**	**22 01 12.9**	**-0.2**
	baz=326								
WDLH	**Douliu**	**1.01**	**263**	*e*P			**Pb**	**22 01 00.3**	**0.0**
	baz=260								
WDLH				*e*S			**Sn**	**22 01 14.3**	**+0.8**
	baz=260								
WCHH	**Zhanghua**	**1.01**	**285**	*e*P			**Pb**	**22 01 00.6**	**+0.3**
	baz=283								
WCHH				*e*S			**Sn**	**22 01 15.0**	**+1.3**
	baz=283								
WCKO	**Fanlu**	**1.02**	**248**	**⇑*e*P**			**Pb**	**22 01 00.5**	**+0.1**
	baz=245								
WCKO				*e*S			**Sn**	**22 01 14.6**	**+0.8**
	baz=245								
STYH	**Taoyuan**	**1.02**	**231**	**⇑P**			**Pn**	**22 00 59.8**	**-0.5**
	baz=228								
STYH				*e*S			**Sb**	**22 01 13.2**	**-0.1**
	baz=228								
LONT	**Longtian**	**1.02**	**207**	*e*P			**Pn**	**22 00 58.4**	**-1.9**
	baz=204								
LONT				*e*S			**Sn**	**22 01 14.3**	**+0.4**
	baz=204								
NJD	**Zhudong**	**1.03**	**331**	*e*P			**Pb**	**22 01 02.5**	**+1.8**
	baz=332								
NJD				*e*S			**Sn**	**22 01 14.9**	**+0.7**
	baz=332								
STYT	**Tauyuan**	**1.04**	**231**	*e*P			**Pn**	**22 01 00.2**	**-0.3**
	baz=228								
STYT				*e*S			**Sn**	**22 01 14.3**	**0.0**
	baz=228								
WDJ	**Dajia District**	**1.05**	**300**	*e*P			**Pb**	**22 01 01.2**	**+0.4**
	baz=299								
WDJ				*e*S			**Sn**	**22 01 15.4**	**+1.0**
	baz=299								
NMLH	**Miaoli**	**1.05**	**313**	**⇑*e*P**			**Pb**	**22 01 01.4**	**+0.5**
	baz=313								
NMLH				*e*S			**Sn**	**22 01 14.7**	**+0.3**
	baz=313								
EGS		**1.05**	**15**	*e*P			**Pb**	**22 01 01.7**	**+0.7**
	baz=18								
EGS				*e*S			**Sn**	**22 01 15.3**	**+0.7**
	baz=18								
TPUB	**Ta-pu**	**1.06**	**241**	P			**Pb**	**22 01 01.2**	**+0.1**
TPUB	**Ta-pu**	**1.06**	**241**	**⇑*e*P**			**Pb**	**22 01 00.9**	**-0.1**
	baz=238								
TPUB				*e*S			**Sn**	**22 01 15.9**	**+1.1**
	baz=238								
CHN4	**Tsaushan**	**1.06**	**244**	**⇑*e*P**			**Pb**	**22 01 01.2**	**+0.1**
	baz=241								
CHN4				*e*S			**Sn**	**22 01 16.4**	**+1.5**
	baz=241								
WTP	**Ta-pu**	**1.10**	**239**	**⇑*e*P**			**Pb**	**22 01 01.6**	**-0.1**
	baz=236								
WTP				*e*S			**Sn**	**22 01 16.9**	**+1.2**
	baz=236								
CHN2	**Minshiung**	**1.10**	**255**	*e*P			**Pb**	**22 01 02.5**	**+0.7**
	baz=253								
CHN2				*e*S			**Sn**	**22 01 17.8**	**+2.0**
	baz=253								
NJN	**Zhunan**	**1.10**	**321**	*e*P			**Pb**	**22 01 02.3**	**+0.5**
	baz=321								
NJN				*e*S			**Sn**	**22 01 16.9**	**+1.1**
	baz=321								
TWGBT	**Beinan**	**1.12**	**207**	P			**Pn**	**22 01 00.0**	**-1.6**
TWGBT	**Beinan**	**1.12**	**207**	**⇓*e*P**			**Pn**	**22 00 59.7**	**-1.9**
	baz=204								
TWGBT				*e*S			**Sb**	**22 01 13.8**	**-2.5**
	baz=204								
TWG	**Pinlang**	**1.12**	**207**	*e*P			**Pn**	**22 00 59.7**	**-1.9**
	baz=204								
TWG				*e*S			**Sb**	**22 01 14.0**	**-2.4**
	baz=204								
SBCB	**Hsinchu**	**1.13**	**329**	*e*P			**Pb**	**22 01 02.6**	**+0.3**
	baz=329								
SBCB				*e*S			**Sn**	**22 01 18.7**	**+2.1**
	baz=329								
NHDH	**Xindian Distri**	**1.14**	**355**	*e*P			**Pn**	**22 01 02.0**	**+0.1**
	baz=357								
NHDH				*e*S			**Sn**	**22 01 16.0**	**-0.7**
	baz=357								
HSN	**Hsinchu**	**1.15**	**328**	*e*P			**Pb**	**22 01 03.7**	**+1.2**
	baz=332								
HSN				*e*S			**Sb**	**22 01 19.1**	**+2.1**
	baz=332								
WTK	**Tuku**	**1.15**	**263**	*e*P			**Pb**	**22 01 02.7**	**+0.2**
	baz=261								
WTK				*e*S			**Sb**	**22 01 17.9**	**+0.8**
	baz=261								
TWA	**Mucha**	**1.15**	**358**	*e*P			**Pn**	**22 01 02.1**	**0.0**
TWA				*e*S			**Sn**	**22 01 15.6**	**-1.5**
WRL	**Guolierlin Hig**	**1.15**	**274**	*e*P			**Pn**	**22 01 02.3**	**+0.2**
	baz=272								
WRL				*e*S			**Sb**	**22 01 17.6**	**+0.4**
	baz=272								
TATO	**Taipei**	**1.15**	**353**	P			**Pn**	**22 01 02.3**	**+0.2**
TATO	**Taipei**	**1.15**	**353**	*e*P			**Pn**	**22 01 02.2**	**+0.2**
	baz=356								
TATO				*e*S			**Sb**	**22 01 17.2**	**0.0**
	baz=356								
CHY	**Chiayi**	**1.16**	**254**	*e*P			**Pb**	**22 01 02.6**	**-0.1**
	baz=251								
CHY				*e*S			**Sb**	**22 01 18.5**	**+1.3**
	baz=251								
LDUT	**Ludao**	**1.16**	**188**	*e*P			**Pn**	**22 01 00.3**	**-1.8**
	baz=185								
LDUT				*e*S			**Sn**	**22 01 16.4**	**-0.7**
	baz=185								
TIPB	**Shuangxi**	**1.16**	**9**	*e*P			**Pn**	**22 01 01.9**	**-0.2**
	baz=11								
TIPB				*e*S			**Sb**	**22 01 18.0**	**+0.7**
	baz=11								
TWK	**Hsinying**	**1.19**	**242**	*e*P			**Pn**	**22 01 02.9**	**+0.3**
	baz=240								
TWK				*e*S			**Sb**	**22 01 19.6**	**+1.3**
	baz=240								
CHN1	**Nanshi**	**1.20**	**238**	*e*P			**Pb**	**22 01 03.1**	**-0.3**
	baz=236								
CHN1				*e*S			**Sb**	**22 01 20.1**	**+1.6**
	baz=236								
SNST	**Tainan City**	**1.20**	**240**	*e*P			**Pb**	**22 01 05.7**	**+2.2**
	baz=238								
SNST				*e*S			**Sb**	**22 01 22.2**	**+3.5**
	baz=238								
NCUH	**Zhongli**	**1.21**	**340**	*e*P			**Pn**	**22 01 02.9**	**+0.1**
	baz=342								
NCUH				*e*S			**Sb**	**22 01 20.0**	**+1.1**
	baz=342								
NCU	**National Centr**	**1.21**	**340**	*e*P			**Pb**	**22 01 03.3**	**-0.4**
	baz=342								
NCU				*e*S			**Sb**	**22 01 20.2**	**+1.3**
	baz=342								
SGST	**Jiashian**	**1.21**	**233**	*e*P			**Pn**	**22 01 02.2**	**-0.7**
	baz=230								
SGST				*e*S			**Sb**	**22 01 19.5**	**+0.5**
	baz=230								
TWB1	**Santiao Chiao**	**1.22**	**15**	*e*P			**Pb**	**22 01 04.3**	**+0.4**
	baz=18								
SLGT	**Liugui**	**1.23**	**228**	*e*P			**Pb**	**22 01 04.6**	**+0.6**
	baz=225								
SLGT				*e*S			**Sb**	**22 01 20.8**	**+1.4**
	baz=225								
WTCT	**Ta-ch'eng**	**1.24**	**272**	*e*P			**Pb**	**22 01 04.3**	**+0.2**
	baz=270								
WTCT				*e*S			**Sb**	**22 01 19.8**	**+0.1**
	baz=270								
NWF	**Wu-fen Shan**	**1.25**	**6**	*e*P			**Pb**	**22 01 04.7**	**+0.3**
	baz=8.0								
WFSB	**Wu-fen Shan**	**1.25**	**6**	*e*P			**Pb**	**22 01 03.9**	**-0.4**
	baz=8.0								
WFSB				*e*S			**Sb**	**22 01 21.9**	**+1.9**
	baz=8.0								
SXI1	**Grass Mountain**	**1.28**	**10**	*e*P			**Pn**	**22 01 04.0**	**0.0**
	baz=12								
SXI1				*e*S			**Sb**	**22 01 24.1**	**+3.0**
	baz=12								
TWS1	**Kuangyinshan**	**1.29**	**351**	*e*P			**Pn**	**22 01 04.0**	**+0.1**
	baz=353								
TWS1				*e*S			**Sb**	**22 01 21.4**	**+0.4**
	baz=353								
NHW	**Xinwu Township**	**1.29**	**336**	*e*P			**Pb**	**22 01 05.1**	**0.0**
	baz=337								
NHW				*e*S			**Sb**	**22 01 22.1**	**+0.8**
	baz=337								
WSF	**Szhu**	**1.31**	**262**	*e*P			**Pb**	**22 01 05.0**	**-0.2**
	baz=260								
WSF				*e*S			**Sb**	**22 01 22.5**	**+0.9**
	baz=260								
YM01	**YM01**	**1.32**	**358**	*e*P			**Pn**	**22 01 04.1**	**-0.3**
	baz=359								
YM01				*e*S			**Sb**	**22 01 22.0**	**0.0**
	baz=359								
WSL	**Shuilin Townsh**	**1.32**	**257**	*e*P			**Pb**	**22 01 05.2**	**-0.3**
	baz=255								
WSL				*e*S			**Sb**	**22 01 23.7**	**+1.6**
	baz=255								
ICHU	**Yijhu**	**1.32**	**250**	*e*P			**Pb**	**22 01 05.4**	**-0.2**
	baz=248								
JYNG	**Yonagunijimaku**	**1.35**	**62**	P			**Pn**	**22 01 05.2**	**+0.4**
JYNG				S			**Sb**	**22 01 22.6**	**-0.3**
YM08	**YM08**	**1.36**	**358**	*e*P			**Pn**	**22 01 04.2**	**-0.7**
	baz=360								
ANP	**Anpu**	**1.36**	**356**	*e*P			**Pn**	**22 01 04.9**	**-0.1**
	baz=358								
ANP				*e*S			**Sb**	**22 01 22.9**	**-0.4**
	baz=358								
ECL	**Taimali**	**1.37**	**207**	*e*P			**Pn**	**22 01 03.2**	**-1.9**
	baz=205								
ECL				*e*S			**Sb**	**22 01 25.1**	**+1.6**
	baz=205								
CHN8	**Yiju**	**1.39**	**250**	*e*P			**Pb**	**22 01 06.1**	**-0.6**
	baz=248								
CHN8				*e*S			**Sb**	**22 01 25.1**	**+1.2**
	baz=248								
SCST	**Cishan**	**1.40**	**228**	*e*P			**Pb**	**22 01 07.5**	**+0.6**
	baz=226								
SCST				*e*S			**Sb**	**22 01 28.2**	**+3.8**
	baz=226								
YOJ	**Yonaguni jima**	**1.41**	**63**	*e*P			**Pn**	**22 01 06.0**	**+0.4**
YOJ				*e*S			**Sb**	**22 01 24.8**	**+0.2**
YOJ	**Yonaguni jima**	**1.41**	**63**	*e*P			**Pn**	**22 01 05.8**	**+0.2**
	baz=65								
YOJ				*e*S			**Sn**	**22 01 23.6**	**+0.2**
	baz=65								
SSD	**Sandimen**	**1.41**	**221**	*e*P			**Pn**	**22

baz=205
EAST eS **Sb** **22 01 31.5 +1.2**
baz=205
TAWH Dawu Township **1.63 205** *e*P **Pn** **22 01 07.1 -1.5**
baz=203
SCZT Fangliau **1.72 213** *e*P **Pn** **22 01 10.5 +0.6**
baz=211
SCZT eS **Sb** **22 01 33.6 +0.1**
baz=211
SLIU Shizi **1.77 206** *e*P **Pn** **22 01 12.0 +1.4**
baz=204
LAY Lan-yu **1.78 182** *e*P **Pn** **22 01 08.7 -2.0**
baz=181
LAY eS **Sn** **22 01 30.5 -2.0**
baz=181
WDGT Dungji **1.90 253** *e*P **Pn** **22 01 12.4 +0.2**
baz=251
PHUB P'eng-hu **1.92 261** *e*P **Pn** **22 01 12.8 +0.3**
baz=260
PHUB eS **Sn** **22 01 36.4 +0.5**
baz=260
PNG Penghu **1.92 263** *e*P **Pn** **22 01 12.9 +0.3**
baz=261
PNG eS **Sn** **22 01 37.1 +1.1**
baz=261
SMST Manzhou Townsh **1.94 202** *e*P **Pn** **22 01 13.0 +0.1**
baz=201
SMST eS **Sb** **22 01 38.9 -1.0**
baz=201
IRIF Iriomote-Funau **1.98 75** P **Pn** **22 01 13.7 +0.3**
IRIF eS **Sn** **22 01 38.2 +0.7**
TWKBT Hengchun **2.02 202** *e*P **Pn** **22 01 13.9 -0.1**
baz=201
JKRS Kuro-shima **2.21 79** *e*P **Pn** **22 01 15.3 -1.3**
JKRS S **Sn** **22 01 44.3 +1.1**
JIJ Ishigaki jima **2.36 76** P **Pn** **22 01 18.7 +0.1**
JIJ S **Sn** **22 01 46.0 -0.8**
JISG Ishigakijimahi **2.56 72** P **Pn** **22 01 21.4 0.0**
JISG eS **Sn** **22 01 51.1 -0.7**
PTMZ Houxiangcun **2.59 298** *e*P **Pn** **22 01 21.2 -0.6**
baz=298
PTMZ eS **Sn** **22 01 49.9 -2.7**
baz=298
MATB Ma-tsu **2.78 327** *e*P **Pn** **22 01 23.8 -0.6**
baz=326
MATB eS **Sn** **22 01 54.9 -2.3**
baz=326
JTJ Tarama **2.92 73** *e*P **Pn** **22 01 26.9 +0.5**
JTJ eS **Sn** **22 02 02.9 +2.3**
KNMB Chin-men Tao **3.03 283** *e*P **Pn** **22 01 27.4 -0.5**
baz=282
LYJJ Jianjiangzhen **3.20 328** *e*P **Pn** **22 01 30.0 -0.2**
baz=328
LYJJ eS **Sn** **22 02 06.3 -1.3**
baz=328

MAN 17 22:02:40.3, 12°.66N×123°.59E, h13km, mb4.4, ML3.2, MS3.0, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**1.37**	**217**	*e*P	Pn	22 03 02.6	-2.6
RCP				eS	Sn	22 03 19.7	-3.5
GQP	**Guinayangan**	**1.67**	**318**	*e*P	Pn	22 03 07.5	-1.7
GQP				eS	Sb	22 03 31.2	-0.6
BOAC	**Boac**	**1.88**	**295**	eS	Sb	22 03 37.8	-0.1
BOAC	**Boac**	**1.88**	**295**	*e*P	Pn	22 03 09.0	-3.1
GUIM	**Jordan**	**2.25**	**206**	*e*P	Pn	22 03 17.9	+0.7
GUIM				eS	Sb	22 03 49.3	+0.8
LLP	**Lapu-Lapu**	**2.36**	**171**	*e*P	Pn	22 03 17.1	-1.6
LLP				eS	Sn	22 03 48.8	+1.3

*IDC **17** 22:18:44.9±5.9, 10°.76S×161°.50E, h73km±43km, mb3.5/7, mbtmp3.8/8, ML4.9/1, MS3.6/1, Error ellipse: s-maj=47.3km s-min=25.3km az=117.0*

ISC 17 22:18:38.7±1.2, 10°.9S±0°.2×161°.7E±0°.1, h28km, n8, σ0s90/9, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.25**	**310**	P	**Pb**	**22 19 18.0**	**-0.6**
	433nm,0.3s,baz=180,slow=17,SNR=7.9						
HNR				S	**Sn**	**22 19 41.5**	**+0.5**
	4μm,0.3s,baz=118,slow=14,SNR=7.2						
HNR				LR	LR	22 20 17.3	
	comp=Z,1μm,19.5s,baz=122,slow=46						
	2μm,0.5s						
WRA	**Warramunga Arr**	**27.82**	**248**	P	**P**	**22 24 27.5**	**+1.7**
	0.7nm,0.7s,baz=74,slow=9.6,SNR=6.1						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**29.34**	**241**	P	**P**	**22 24 38.8**	**-0.6**
	0.2nm,0.4s,baz=64,slow=9.1,SNR=1.7						
	0.2nm,0.4s						
KLR	**Kul'dur**	**65.41**	**339**	P	**P**	**22 29 19.2**	**+0.5**
	0.6nm,0.5s,baz=137,slow=9.6,SNR=2.2						
	0.6nm,0.5s						
SONM	**Songino Array**	**76.23**	**325**	P	**P**	**22 30 25.1**	**+0.4**
	1.0nm,0.7s,baz=142,slow=6.2,SNR=7.7						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**84.68**	**20**	P	**P**	**22 31 09.7**	**+0.2**
	0.4nm,0.6s,baz=239,slow=5.0,SNR=9.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**90.71**	**318**	P	**P**	**22 31 38.3**	**-0.8**
	0.2nm,0.5s,baz=100,slow=5.7,SNR=2.5						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**22 32 05.9**	**-0.2**
	0.3nm,0.5s,baz=262,slow=4.3,SNR=3.2						
	0.3nm,0.5s						

*JMA **17** 22:23:21.7±0.1, 31°.8N±0°.2×131°.3E±0°.3, h63km, MV3.4/39, SOUTHERN MIYAZAKI PREF*
JMA Felt I J1 at SOUTHERN MIYAZAKI PREF .
*IDC **17** 22:23:22.1±1.3, 31°.81N×131°.15E, h71km±11km, mb3.4/6, mbtmp3.7/8, MS2.9/1, Error ellipse: s-maj=28.3km s-min=10.9km az=92.0*

ISC 17 22:23:21.6±0.8, 31°.83N±0°.04×131°.24E±0°.05, h64km±6km, n31, σ0s66/36, mb3.5/6, 6D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTZ	**Takazaki**	**0.15**	**300**	P	**Pn**	**22 23 31.2**	**-0.1**
JTZ				eS	**Sn**	**22 23 38.2**	**-0.1**
JNKG	**Nichinankitago**	**0.20**	**145**	P	**Pn**	**22 23 31.4**	**-0.1**
JNKG				eS	**Sn**	**22 23 38.7**	**+0.1**
JNAR	**Kushima--Naru**	**0.30**	**175**	P	**Pn**	**22 23 32.3**	**+0.2**
JNAR				S	**Sn**	**22 23 40.3**	**+0.6**
JTSN	**Tsuno**	**0.47**	**28**	⇓P	**Pn**	**22 23 33.2**	**-0.4**
JTSN				⇓S	**Sn**	**22 23 41.8**	**-0.7**
JZO	**Okuchi**	**0.63**	**300**	P	**Pn**	**22 23 35.3**	**0.0**
JZO				S	**Sn**	**22 23 45.4**	**-0.1**
JSU	**Suzuyama**	**0.74**	**245**	P	**Pn**	**22 23 37.2**	**+0.6**
JIU3	**Izumi3**	**0.81**	**333**	⇓P	**Pn**	**22 23 37.6**	**+0.2**
JIU3				⇓S	**Sn**	**22 23 48.8**	**-0.3**
JTN	**Tanegashima 3**	**1.19**	**191**	⇓*i*P	**Pn**	**22 23 42.8**	**+0.5**
JSJ	**Shimokoshiki**	**1.31**	**264**	*i*P	**Pn**	**22 23 43.6**	**-0.2**
JSJ				S	**Sn**	**22 24 00.1**	**-0.4**
JNU	**Nakatsue**	**1.33**	**347**	P	**Pn**	**22 23 44.7**	**+0.6**
	146nm,0.3s,baz=184,slow=19,SNR=223						
JNU				S	**Sn**	**22 24 01.9**	**+0.9**
	315nm,0.4s,baz=231,slow=21,SNR=7.9						
JNU	**Nakatsue**	**1.33**	**347**	P	**Pn**	**22 23 44.8**	**+0.6**
JMTN	**Minamitane**	**1.45**	**192**	⇓*i*P	**Pn**	**22 23 46.5**	**+0.8**
JMN	**Monobe**	**2.92**	**49**	P	**Pn**	**22 24 05.2**	**-0.5**
JTU	**Tsushima**	**3.10**	**331**	P	**Pn**	**22 24 08.5**	**+0.4**
JHS	**Saijyo**	**3.53**	**26**	P	**Pn**	**22 24 14.2**	**+0.2**
JOW	**Kunigami**	**5.61**	**208**	P	**Pn**	**22 24 42.5**	**+0.1**
	23nm,0.5s,baz=110,slow=26,SNR=22						
JOW				S	**Sn**	**22 25 44.6**	**-0.9**
	5.9nm,0.6s,baz=99,slow=27,SNR=1.4						
JOW	**Kunigami**	**5.61**	**208**	P	**Pn**	**22 24 42.8**	**+0.4**
JGF	**Kuroka**	**6.33**	**52**	P	**Pn**	**22 24 52.6**	**+0.3**
MAJO	**Matsushiro**	**7.44**	**49**	P	**Pn**	**22 25 08.3**	**+0.8**
MJAR	**Matsushiro Arr**	**7.45**	**49**	P	**Pn**	**22 25 08.4**	**+0.9**
	2.6nm,0.3s,baz=50,slow=16,SNR=39						
USRK	**Ussuriysk Ar.**	**12.37**	**3**	LR	LR	22 31 18.8	
	comp=Z,55nm,18.6s,baz=223,slow=38						
KLR	**Kul'dur**	**17.39**	**1**	P	**P**	**22 27 22.6**	**+2.4**
	1.8nm,0.6s,baz=193,slow=4.7,SNR=9.2						
SONM	**Songino Array**	**24.74**	**317**	P	**P**	**22 28 36.9**	**-0.2**
	1.0nm,0.8s,baz=136,slow=10,SNR=6.2						
	1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.14**	**102**	T	T	23 06 08.7	
	baz=297						
H11N1	**WAKE ISLAND Hy**	**34.14**	**102**	T	T	23 06 07.2	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**34.16**	**102**	T	T	23 06 07.5	
	baz=297						
MKAR	**Makanchi Array**	**40.06**	**306**	P	**P**	**22 30 50.2**	**-0.3**
	0.8nm,1.0s,baz=98,slow=8.9,SNR=2.5						
	0.8nm,1.0s						
WRA	**Warramunga Arr**	**51.56**	**176**	P	**P**	**22 32 21.2**	**+0.1**
	0.2nm,0.7s,baz=354,slow=7.9,SNR=1.8						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**55.24**	**177**	P	**P**	**22 32 48.2**	**0.0**
	0.2nm,0.4s,baz=9.3,slow=12,SNR=5.4						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**69.32**	**330**	P	**P**	**22 34 20.9**	**-0.8**
	2.2nm,0.4s,baz=68,slow=6.3,SNR=32						
	2.2nm,0.4s						
AKASG	**Malin Array Be**	**73.01**	**319**	P	**P**	**22 34 43.5**	**-0.8**
	0.5nm,0.4s,baz=55,slow=6.1,SNR=5.7						
	0.5nm,0.4s						

*NEIC **17** 23:44:20.3±1.3, 12°.25S±0°.08×77°.31W±0°.06, h38km±14km, mb4.2/6, Error ellipse: s-maj=11.3km s-min=7.8km az=171.0*
*IDC **17** 23:44:24.8±1.3, 11°.67S×76°.59W, h0km, mb3.6/2, mbtmp3.8/5, ML3.9/3, MS3.2/7, Error ellipse: s-maj=26.1km s-min=8.3km az=120.0*

ISC 17 23:44:18.9±1.1, 12°.28S±0°.06×77°.4W±0°.1, h33km, n45, σ0s96/27, mb4.2/5, MS3.1/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.59**	**60**	Pg	**Pb**	**23 44 31.2**	**+0.2**
	202nm,0.3s,baz=256,slow=16,SNR=527						
NNA				LR	LR	23 44 37.9	
	comp=Z,135nm,18.2s,baz=328,slow=33						
NNA				Lg	Lg	23 44 38.9	
	2μm,0.3s,baz=19,slow=18,SNR=73						
NNA	**Nana**	**0.59**	**60**		**Pb**	**23 44 31.1**	**+0.1**
NNA					**Sb**	**23 44 39.8**	**+0.4**
ATAH	**Atahualpa**	**5.21**	**349**	Pn	Pn	23 45 37.9	+2.9
	8.8nm,0.3s,baz=163,slow=4.7,SNR=49						
ATAH				Sn	**Sn**	**23 46 37.0**	**+2.7**
	2.8nm,0.3s,baz=102,slow=7.6,SNR=4.5						
	23nm,0.3s						
CZSB	**Cruzeiro do Su**	**6.45**	**46**	Pn	**Pn**	**23 45 51.4**	**-0.2**
MCRA	**Macar, Loja**	**8.27**	**342**	Pn	**Pn**	**23 46 14.8**	**-1.9**
PB12	**IPOC Station P**	**9.25**	**134**	Pn	**Pn**	**23 46 29.9**	**-0.3**
PB16	**IPOC Station P**	**9.68**	**129**	Pn	**Pn**	**23 46 36.8**	**+0.3**
LPAZ	**La Paz**	**9.80**	**115**	Pn	Pn	23 46 42.8	+4.6
	0.9nm,0.3s,baz=304,slow=7.3,SNR=12						
LPAZ				LR	LR	23 51 08.0	
	comp=Z,86nm,21.2s,baz=284,slow=43						
	1.9nm,0.5s						
PSGCX	**Pisagua**	**10.07**	**137**	Pn	**Pn**	**23 46 41.9**	**+0.5**
MNMC	**Minye Minye**	**10.12**	**133**	Pn	**Pn**	**23 46 42.9**	**+0.7**
PB11	**IPOC Station P**	**10.50**	**136**	Pn	**Pn**	**23 46 46.0**	**-1.3**
TA01	**Diego Aracena**	**10.74**	**141**	Pn	**Pn**	**23 46 50.8**	**+0.4**
GO01	**Chusmiza**	**10.75**	**134**	Pn	**Pn**	**23 46 51.9**	**+0.8**
CHSH	**Refugio Sur-Vo**	**10.82**	**352**	Pn	**Pn**	**23 46 50.9**	**-1.3**
PORT	**Chimborazo Vol**	**10.84**	**353**		Pn	23 46 53.3	+0.9
TBTG	**Tabatinga, AM**	**10.91**	**43**	Pn	**Pn**	**23 46 51.7**	**-1.2**
ETMB	**Extrema**	**11.22**	**78**	Pn	**Pn**	**23 46 57.1**	**+0.1**
PB08	**IPOC Station P**	**11.48**	**142**	Pn	**Pn**	**23 47 00.2**	**-0.6**
SLOR	**San Lorenzo -**	**11.53**	**354**	Pn	**Pn**	**23 47 02.0**	**+0.2**
PB09	**IPOC Station P**	**12.24**	**142**	Pn	**Pn**	**23 47 11.6**	**+0.5**
TULM	**Tulcn-Chalpat**	**12.92**	**358**	Pn	**Pn**	**23 47 20.9**	**+0.1**
LVC	**Limon Verde**	**13.05**	**143**	Pn	**P**	**23 47 32.8**	**+0.4**
	0.2nm,0.3s,baz=331,slow=10,SNR=2.0						
LVC				Sn	**Sn**	**23 49 45.9**	**-0.9**
	0.2nm,0.3s,baz=44,slow=20,SNR=1.7						
	1.6nm,0.6s						
SIV	**San Ignacio**	**16.23**	**105**	LR	LR	23 54 50.2	
	comp=Z,82nm,19.6s,baz=286,slow=40						
ROSC	**El Rosal**	**17.28**	**10**	LR	LR	23 55 35.9	
	comp=Z,69nm,19.8s,baz=212,slow=40						
PTLB	**Pontes e Lacer**	**17.98**	**102**		**P**	**23 48 27.2**	**+0.5**
PTLB				IAmb	IAmb	23 48 28.2	
	comp=Z,2.5nm,0.7s						
RUSC	**La Rusia**	**18.55**	**14**		**Pn**	**23 48 32.9**	**-1.0**
RUSC				IAmb	IAmb	23 48 52.7	
	comp=Z,5.0nm,0.9s						
H03N1	**Juan Fernandez**	**21.11**	**184**	T	T	00 10 59.4	
	baz=3.7,slow=75,SNR=12						
H03N2	**Juan Fernandez**	**21.11**	**184**	T	T	00 11 07.6	
	baz=3.7,slow=75,SNR=120						
H03N3	**Juan Fernandez**	**21.12**	**184**	T	T	00 11 07.1	
	baz=3.7,slow=75,SNR=117						
SDV	**Santo Domingo**	**22.07**	**18**	LR	LR	23 58 54.4	
	comp=Z,44nm,18.9s,baz=114,slow=41						
BOAV	**Boa Vista**	**22.20**	**50**	P	**P**	**23 49 11.9**	**-0.7**
BOAV				IAmb	IAmb	23 49 54.5	
	comp=Z,12nm,1.4s						
BAUV	**El Baul**	**23.04**	**24**	P	**P**	**23 49 20.4**	**-1.0**
PLCA	**Paso Flores**	**28.97**	**169**	P	P	23 50 17.1	+1.7
PLCA				IAmb	IAmb	23 50 41.6	
	comp=Z,15nm,1.5s						
TRQA	**Tornquist**	**29.11**	**154**	P	**P**	**23 50 17.3**	**+0.6**
TRQA				IAmb	IAmb	23 50 18.1	
	comp=Z,13nm,1.5s						
MDP	**Montagnes des**	**30.04**	**56**	LR	LR	00 02 43.2	
	comp=Z,57nm,20.7s,baz=188,slow=38						
SJG	**San Juan**	**32.17**	**20**	LR	LR	00 05 31.0	
	comp=Z,30nm,18.0s,baz=200,slow=40						
RCBR	**Riachuelo**	**41.41**	**85**	LR	LR	00 08 56.8	
	comp=Z,49nm,18.4s,baz=120,slow=36						
TXAR	**Lajitas Array**	**48.54**	**329**	P	P	23 53 09.6	+10
	comp=Z,0.4nm,0.7s,baz=152,slow=8.1,SNR=3.5						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**79.98**	**343**	P	P	23 56 34.9	+10
	comp=Z,0.4nm,0.6s,baz=144,slow=6.1,SNR=7.7						
	comp=Z,0.4nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**18.07**	**286**	T	T	02 11 33.9	
	baz=95,slow=75,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**18.08**	**286**	T	T	02 11 35.5	
	baz=95,slow=75,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**18.09**	**286**	T	T	02 11 35.3	
	baz=95,slow=75,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**18.18**	**284**	T	T	02 11 41.0	
	baz=95,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**18.18**	**284**	T	T	02 11 41.5	
	baz=95,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hy**	**18.19**	**284**	T	T	02 11 42.3	
	baz=95,slow=75,SNR=39						

*DJA **18** 00:02:49.7±0.4, 8°.5S±5°×11°.9E±°, h10km, M4.2/11, mb5.0/2, MLv3.9/11*
*IDC **18** 00:02:52.0±2.1, 8°.05S×119°.28E, h0km, mb3.3/2, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=64.5km s-min=23.1km az=68.0*

ISC 18 00:02:52.1±1.2, 8°.14S±0°.08×118°.61E±0°.07, h35km, n14, σ0s42/14, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**1.81**	**251**	P	**Pn**	**00 03 20.7**	**-0.1**
BSSI	**Bau Bau, Buton**	**2.73**	**43**	P	**Pn**	**00 03 33.9**	**+0.4**
BASI	**Baing, Sumba**	**2.84**	**137**	P	**Pn**	**00 03 34.9**	**-0.1**
BKSI	**Bulukumba**	**3.18**	**28**	P	**Pn**	**00 03 40.2**	**+0.5**
KAPI	**Kappang**	**3.31**	**20**	Pn	**Pn**	**00 03 41.5**	**0.0**
	1.8nm,0.3s,baz=190,slow=16,SNR=1.7						
KAPI				Sn	**Sn**	**00 04 18.9**	**-0.7**
	9.4nm,0.3s,baz=149,slow=20,SNR=8.2						
	5.6nm,0.3s						
SRBI	**Singaraja**	**3.36**	**271**	P	**Pn**	**00 03 42.8**	**+0.6**
IGBI	**Denpasar**	**3.49**	**259**	P	**Pn**	**00 03 44.1**	**+0.2**
SPSI	**Sidrap Pau**	**4.31**	**16**	P	**Pn**	**00 03 55.5**	**+0.3**
GMJI	**Gumukmas**	**5.11**	**268**	P	**Pn**	**00 04 05.7**	**-0.6**
TBJI	**Tambak Boyo**	**6.83**	**281**	P	**Pn**	**00 04 30.0**	**+0.1**
	77nm,0.9s,0.7nm						
UWJI	**Ujung Watu**	**7.79**	**282**	P	**Pn**	**00 04 43.2**	**+0.1**
WRA	**Warramunga Arr**	**19.23**	**129**	P	**P**	**00 07 13.4**	**-0.1**
	0.1nm,0.3s,baz=302,slow=13,SNR=8.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**21.29**	**138**	P	**P**	**00 07 36.3**	**+0.4**
	0.5nm,0.5s,baz=313,slow=8.8,SNR=13						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**63.52**	**333**	P	P	00 13 25.8	+6.8
	0.4nm,0.9s,baz=152,slow=7.5,SNR=2.8						
	0.4nm,0.9s						

*IDC **18** 00:05:02.7±2.3, 18°.74N×145°.45E, h244km±23km, mb3.7/23, mbtmp4.3/26, Error ellipse: s-maj=14.8km s-min=10.1km az=82.0*
*NEIC **18** 00:05:03.5±1.4, 18°.67N±0°.09×145°.5E±0°.2, h245km±8km, mb4.2/36, Error ellipse: s-maj=21.1km s-min=12.7km az=88.0*

ISC 18 00:05:03.1±0.5, 18°.61N±0°.06×145°.4E±0°.1, h250km, n70, σ1s00/74, mb4.0/36, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.02**	**186**	P	**Pn**	**00 06 18.4**	**-0.8**
	65nm,0.4s,baz=338,slow=17,SNR=1.5						
GUMO				S	**S**	**00 07 17.0**	**-3.0**
	231nm,1.1s,baz=2.9,slow=19,SNR=2.1						
GUMO	**Guam**	**5.02**	**186**	Pn	**Pn**	**00 06 18.1**	**-1.2**
JOW	**Kunigami**	**17.78**	**300**	P	**Pn**	**00 08 55.0**	**-1.2**
	16nm,0.7s,baz=112,slow=11,SNR=5.1						
JOW	**Kunigami**	**17.78**	**300**	P	**Pn**	**00 08 55.0**	**-1.2**
JMN	**Monobe**	**18.24**	**328**		**P**	**00 08 59.1**	**+0.7**
JGF	**Kuroka**	**18.36**	**339**	P	**P**	**00 08 59.2**	**-0.4**
JGF				IAmb	IAmb	00 09 00.9	
	comp=Z,13nm,0.7s						
MJAR	**Matsushiro Ar**	**18.95**	**342**	P	**P**	**00 09 02.8**	**-3.2**
	comp=Z,1.3nm,0.4s,baz=160,slow=10,SNR=2.6						
JMM	**Marumori**	**19.60**	**349**	P	**P**	**00 09 12.6**	**-0.2**
JTM	**Tenmabayashi**	**22.41**	**351**	P	**P**	**00 09 40.2**	**-0.6**
SSLB	**Suanglung**	**23.36**	**287**	P	**P**	**00 09 51.7**	**+2.0**
KSRS	**Korea Array**	**24.23**	**324**	P	**P**	**00 09 56.6**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=145,slow=9.2,SNR=5.7						
	comp=Z,1.4nm,0.6s						
JKA	**Kamikawa-asahi**	**25.54**	**355**	P	**P**	**00 10 08.2**	**-0.8**
ASAJ	**Asahikawa**	**25.54**	**355**	P	**P**	**00 10 09.1**	**+0.1**
	comp=Z,6.4nm,0.5s,baz=149,slow=15,SNR=5.5						
	comp=Z,6.4nm,0.5s						
COEN	**Coen**	**32.44**	**184**	P	**P**	**00 11 10.9**	**+0.6**
COEN				IAmb	IAmb	00 11 40.8	
	comp=Z,7.3nm,1.2s						
MTN	**Manton Dam**	**34.28**	**205**	P	**P**	**00 11 26.3**	**+0.2**
MTN				IAmb	IAmb	00 11 46.0	
	comp=Z,21nm,1.2s						
PETK	**Petropavlovsk-**	**35.74**	**13**	P	**P**	**00 11 37.9**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=244,slow=14,SNR=2.7						
	comp=Z,2.6nm,0.8s						
WB0	**Warramunga Arr**	**39.64**	**196**	P	**P**	**00 12 12.7**	**+1.6**
WB0				IAmb	IAmb	00 12 14.2	
	comp=Z,4.7nm,0.6s						
WR0	**Warramunga Arr**	**39.78**	**196**	P	**P**	**00 12 13.9**	**+1.6**
WB2	**Warramunga Arr**	**39.82**	**196**	P	**P**	**00 12 14.2**	**+1.7**
WB2				IAmb	IAmb	00 12 15.2	
	comp=Z,6.0nm,0.9s						
WRA	**Warramunga Arr**	**39.82**	**196**	P	**P**	**00 12 14.2**	**+1.6**
	comp=Z,3.1nm,0.6s,baz=24,slow=9.1,SNR=37						
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**39.82**	**196**	P	**P**	**00 12 13.2**	**+0.6**
MA2	**Magadan**	**41.10**	**4**	P	**P**	**00 12 22.6**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=165,slow=20,SNR=1.0						
	comp=Z,2.8nm,0.3s						
SONM	**Songino Array**	**43.04**	**322**	P	**P**	**00 12 38.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=137,slow=9.2,SNR=13						
	comp=Z,1.2nm,0.5s						
SONM	**Songino Array**	**43.04**	**322**	P	**P**	**00 12 37.9**	**-0.6**
AS31	**Alice Springs**	**43.49**	**195**	P	**P**	**00 12 43.5**	**+1.3**
ASAR	**Alice Springs**	**43.49**	**195**	P	**P**	**00 12 43.5**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=10,slow=7.6,SNR=9.3						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**43.49**	**195**	P	**P**	**00 12 43.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**43.95**	**278**	P	**P**	**00 12 46.8**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=66,slow=6.0,SNR=4.7						
	comp=Z,2.3nm,0.3s						
SEY	**Seymchan**	**44.55**	**5**	P	**P**	**00 12 49.8**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=194,slow=7.3,SNR=5.9						
	comp=Z,0.8nm,0.4s						
DZM	**Mont Dzumac**	**45.37**	**152**	P	**P**	**00 12 57.6**	**+0.4**
	comp=Z,4.1nm,0.5s,baz=37,slow=18,SNR=6.3						
	comp=Z,4.1nm,0.5s						
BILL	**Bilibino**	**51.15**	**10**	P	**P**	**00 13 40.4**	**-0.1**
BILL				IAmb	IAmb	00 13 41.4	
	comp=Z,7.2nm,1.0s						
TNA	**Tin City**	**56.00**	**21**	P	**P**	**00 14 15.8**	**+0.2**
NWAO	**Narrogin (SRO)**	**57.89**	**208**	P	**P**	**00 14 29.8**	**+0.5**
ZAA0	**Zalesovo Array**	**57.91**	**323**	P	**P**	**00 14 28.0**	**-1.1**
ZALV	**Zalesovo Beam**	**57.91**	**323**	P	**P**	**00 14 28.1**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=108,slow=7.6,SNR=12						
ZALV				PcP	**PcP**	**00 15 18.0**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=101,slow=7.8,SNR=2.1						
	comp=Z,1.8nm,0.4s						
ZALV	**Zalesovo Beam**	**57.91**	**323**	P	**P**	**00 14 28.3**	**-0.8**
MK31	**Makanchi Array**	**58.32**	**314**	P	**P**	**00 14 32.6**	**+0.4**
MKAR	**Makanchi Array**	**58.32**	**314**	P	**P**	**00 14 32.2**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=93,slow=7.7,SNR=48						
MKAR				PcP	**PcP**	**00 15 20.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=92,slow=4.3,SNR=2.2						
	comp=Z,2.9nm,0.5s						
MKAR	**Makanchi Array**	**58.32**	**314**	P	**P**	**00 14 32.4**	**+0.2**
MAKZ	**Makanchi**	**58.54**	**314**	P	**P**	**00 14 33.9**	**+0.3**
MAKZ				IAmb	IAmb	00 14 35.1	
	comp=Z,4.6nm,0.6s						
KURK	**Kurchatov**	**61.15**	**318**	P	**P**	**00 14 51.2**	**0.0**
KURK				IAmb	IAmb	00 14 52.6	
	comp=Z,5.6nm,1.1s						
NRIK	**Noril'sk**	**61.60**	**340**	P	**P**	**00 14 53.0**	**-0.9**
	comp=Z,6.4nm,0.7s,baz=108,slow=8.1,SNR=14						
	comp=Z,6.4nm,0.7s						
NRIK	**Noril'sk**	**61.60**	**340**	P	**P**	**00 14 53.3**	**-0.6**
NRIK				IAmb	IAmb	00 14 53.9	
	comp=Z,6.7nm,0.6s						
H24K	**Noodor Dome**	**63.68**

NOA	**NORSAR Array B**	**92.56**	**340**	P	**P**	**00 17 44.5**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=43,slow=4.6,SNR=1.3						
	comp=Z,0.2nm,0.6s						

*IDC **18** 00:46:59.2±5.7, 18°.01N×146°.68E, h110km±51km, mb3.7/18, mbtmp4.0/19, MS3.2/1, Error ellipse: s-maj=26.7km s-min=13.4km az=88.0*

ISC 18 00:46:54.4±0.7, 18°.0N±0°.1×146°.7E±0°.2, h66km, n26, σ0s75/24, mb4.1/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.01**	**85**	T	T	01 10 21.4	
	baz=272,slow=74						
H11S1	**WAKE ISLAND Hy**	**19.02**	**85**	T	T	01 10 21.2	
	baz=272,slow=74						
H11S2	**WAKE ISLAND Hy**	**19.03**	**86**	T	T	01 10 23.0	
	baz=272						
H11N1	**WAKE ISLAND Hy**	**19.20**	**82**	T	T	01 10 41.7	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**19.21**	**82**	T	T	01 10 36.6	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**19.22**	**82**	T	T	01 10 36.8	
	baz=266						
MJAR	**Matsushiro Arr**	**19.89**	**340**	P	**Pn**	**00 51 24.0**	**+1.3**
	3.2nm,0.5s,baz=171,slow=10,SNR=11						
JNU	**Nakatsue**	**20.66**	**320**	LR	LR	00 57 54.3	
	comp=Z,64nm,18.9s,baz=28,slow=32						
USRK	**Ussuriysk Ar.**	**28.86**	**338**	P	**P**	**00 52 47.4**	**+0.7**
	1.5nm,0.3s,baz=153,slow=9.7,SNR=2.0						
	1.5nm,0.3s						
KLR	**Kul'dur**	**33.38**	**342**	P	**P**	**00 53 26.7**	**+0.4**
	3.8nm,0.7s,baz=142,slow=9.3,SNR=14						
	3.8nm,0.7s						
WRA	**Warramunga Arr**	**39.64**	**198**	P	**P**	**00 54 19.7**	**-0.3**
	1.0nm,0.5s,baz=28,slow=8.8,SNR=13						
WRA				PcP	**PcP**	**00 56 27.1**	**+1.2**
	0.5nm,0.5s,baz=14,slow=3.5,SNR=5.5						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**43.29**	**197**	P	**P**	**00 54 50.0**	**+0.2**
	0.4nm,0.3s,baz=21,slow=6.9,SNR=8.7						
ASAR				PcP	**PcP**	**00 56 39.1**	**+1.3**
	0.6nm,0.8s,baz=11,slow=3.7,SNR=3.2						
	0.4nm,0.3s						
SONM	**Songino Array**	**44.24**	**321**	P	**P**	**00 54 56.7**	**-0.6**
	0.3nm,0.3s,baz=139,slow=8.9,SNR=3.7						
SONM				PcP	**PP**	**00 56 41.4**	**-0.1**
	0.2nm,0.4s,baz=103,slow=3.3,SNR=4.1						
	0.3nm,0.3s						
STKA	**Stephens Creek**	**49.87**	**186**	P	**P**	**00 55 41.2**	**+0.1**
	2.0nm,0.7s,baz=44,slow=7.2,SNR=3.2						
	2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**59.10**	**323**	P	**P**	**00 56 47.5**	**-0.4**
	1.0nm,0.5s,baz=114,slow=7.1,SNR=7.1						
ZALV				PcP	**PcP**	**00 57 35.2**	**-0.7**
	0.9nm,0.7s,baz=127,slow=5.2,SNR=4.7						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**59.59**	**314**	P	**P**	**00 56 52.0**	**+0.6**
	1.0nm,0.5s,baz=90,slow=7.6,SNR=18						
MKAR				PcP	**PcP**	**00 57 38.1**	**0.0**
	0.9nm,0.8s,baz=87,slow=4.2,SNR=4.5						
	1.0nm,0.5s						
NRIK	**Noril'sk**	**62.55**	**340**	P	**P**	**00 57 11.6**	**+0.6**
	1.7nm,0.3s,baz=97,slow=9.2,SNR=4.5						
	1.7nm,0.3s						
ILAR	**Eielson Array**	**63.83**	**26**	P	**P**	**00 57 18.6**	**-1.0**
	0.4nm,0.5s,baz=262,slow=4.6,SNR=4.8						
	0.4nm,0.5s						
INK	**Inuvik**	**69.61**	**23**	P	**P**	**00 57 56.1**	**-0.1**
	1.1nm,0.8s,baz=240,slow=6.1,SNR=4.4						
	1.1nm,0.8s						
GEYT	**Alibeck**	**78.04**	**306**	P	**P**	**00 58 45.7**	**-0.6**
	0.5nm,0.5s,baz=112,slow=0.8,SNR=1.7						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**82.81**	**52**	P	**P**	**00 59 12.6**	**+0.6**
	0.7nm,0.6s,baz=266,slow=6.2,SNR=4.9						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**83.40**	**342**	P	**P**	**00 59 15.0**	**+0.8**
	4.1nm,0.7s,baz=65,slow=8.6,SNR=8.6						
	4.1nm,0.7s						
PDAR	**Pinedale Array**	**87.62**	**46**	P	**P**	**00 59 35.9**	**-0.1**
	0.2nm,0.6s,baz=290,slow=2.6,SNR=1.9						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**87.87**	**336**	P	**P**	**00 59 35.6**	**-0.9**
	1.6nm,0.4s,baz=59,slow=5.3,SNR=21						
	1.6nm,0.4s						
NOA	**NORSAR Array B**	**93.51**	**340**	P	**P**	**01 00 01.9**	**-1.0**
	0.5nm,0.7s,baz=45,slow=4.7,SNR=1.8						
	0.5nm,0.7s						
BRTR	**Keskin Array B**	**95.24**	**315**	P	**P**	**01 00 10.6**	**-0.8**
	0.6nm,0.8s,baz=119,slow=2.4,SNR=2.5						
	0.6nm,0.8s						

*IDC **18** 00:54:44.0±13.0, 24°.45S×177°.10W, h169km±98km, mb3.4/6, mbtmp3.9/7, Error ellipse: s-maj=136.9km s-min=21.9km az=148.0*

*NOU **18** 00:54:50.0, 23°.78S×177°.09W, h257km, mb4.2/10, South of Fiji Islands*

ISC 18 00:54:48.0±0.8, 24°.0S±0°.1×177°.2W±0°.1, h200km, n15, σ0s99/15, mb3.4/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.65**	**324**	P	**Pn**	**00 56 38.5**	**+1.7**
	29nm,0.7s,baz=137,slow=16,SNR=20						
NIUE	**Niue**	**8.34**	**56**	P	**Pn**	**00 56 46.1**	**+0.3**
FUTU	**Fugatoga**	**9.67**	**355**	P	**Pn**	**00 57 02.1**	**-0.9**
OUZ	**Omahuta**	**13.76**	**213**	P	**P**	**00 57 58.3**	**+1.3**
URZ	**Urewera**	**15.03**	**198**	P	**P**	**00 58 11.8**	**+0.6**
BKZ	**Black Stump Fm**	**16.05**	**198**	P	**Pn**	**00 58 22.5**	**-0.4**
RPZ	**Rata Peaks**	**21.92**	**203**	P	**P**	**00 59 24.7**	**-0.6**
JCZ	**Jackson Bay**	**23.10**	**206**	P	**P**	**00 59 35.7**	**-0.5**
CTA	**Charters Tower**	**34.04**	**269**	P	**P**	**01 01 13.2**	**-0.2**
	2.5nm,0.3s,baz=94,slow=10,SNR=7.5						
	2.5nm,0.3s						
ASAR	**Alice Springs**	**44.55**	**260**	P	**P**	**01 02 39.4**	**-0.9**
	0.3nm,0.4s,baz=96,slow=7.4,SNR=5.7						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.96**	**265**	P	**P**	**01 02 42.1**	**-1.4**
	0.9nm,0.4s,baz=92,slow=8.4,SNR=36						
	0.9nm,0.4s						
NVAR	**Mina Array Bea**	**83.05**	**43**	P	**P**	**01 06 52.3**	**+0.9**
	0.5nm,0.7s,baz=246,slow=5.6,SNR=3.4						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**90.99**	**43**	P	**P**	**01 07 30.6**	**+1.0**
	0.2nm,0.6s,baz=222,slow=2.4,SNR=2.8						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**91.54**	**12**	P	**P**	**01 07 30.7**	**-0.6**
	0.3nm,0.7s,baz=228,slow=6.8,SNR=1.7						
	0.3nm,0.7s						
AKASG	**Malin Array Be**	**146.40**	**329**	PKPbc	**PKPab**	**01 14 06.2**	**-0.2**
	0.9nm,0.4s,baz=42,slow=4.1,SNR=10						

*HEL **18** 00:59:34.6±0.3, 67°.84N×20°.09E, h0km, ML1.3, Suspected explosion*

*UPP **18** 00:59:35.2±0.4, 67°.82N×20°.21E, h1km±5km, ML3.0, Suspected explosion*

*DNK **18** 00:59:35.5±0.4, 67°.82N×20°.23E, h0km, ML3.0(UPP), Explosion*

ISC 18 00:59:34.5±0.8, 67°.83N±0°.03×20°.34E±0°.02, h0km, n27, σ0s88/46, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.28**	**268**	P	**Pg**	**00 59 39.7**	**-0.2**
RATU				S	**Sg**	**00 59 42.9**	**-0.7**
RATU	**Laukkuluspa**	**0.28**	**268**	P	**Pg**	**00 59 39.7**	**-0.2**
RATU				S	**Sg**	**00 59 42.9**	**-0.7**
NIKU	**Nikkaluokta**	**0.49**	**275**	P	**Pg**	**00 59 43.7**	**-0.3**
NIKU				S	**Sg**	**00 59 50.1**	**-0.2**
NIKU	**Nikkaluokta**	**0.49**	**275**	P	**Pg**	**00 59 43.7**	**-0.3**
NIKU				S	**Sg**	**00 59 50.1**	**-0.2**
LANU	**Lannavaara**	**0.66**	**70**	P	**Pb**	**00 59 48.6**	**-0.4**
LANU	**Lannavaara**	**0.66**	**70**	P	**Pb**	**00 59 48.6**	**-0.4**
LANU	**Lannavaara**	**0.66**	**70**	PG	**Pb**	**00 59 48.4**	**-0.6**
	baz=258						
LANU				SB	**Sb**	**00 59 57.9**	**-0.8**
DUNU	**Dundret**	**0.72**	**173**	P	**Pg**	**00 59 48.5**	**+0.2**
DUNU				S	**Sg**	**00 59 58.2**	**+0.6**
DUNU	**Dundret**	**0.72**	**173**	P	**Pg**	**00 59 48.5**	**+0.2**
DUNU				S	**Sg**	**00 59 58.2**	**+0.6**
SALU	**Saltoluokta**	**0.83**	**238**	P	**Pg**	**00 59 50.2**	**-0.3**
SALU				S	**Sg**	**01 00 01.0**	**-0.3**
SALU	**Saltoluokta**	**0.83**	**238**	P	**Pg**	**00 59 50.2**	**-0.3**
SALU				S	**Sg**	**01 00 01.0**	**-0.3**
KIF	**Kilpisjarvi**	**1.19**	**8**	PN	**Pn**	**00 59 58.6**	**+0.2**
KIF				MSG		01 00 12.2	
	comp=Z,3.5nm,0.2s						
KIF				SB	**Sn**	**01 00 14.4**	**-0.8**
PAJU	**Pajala**	**1.34**	**126**	P	**Pn**	**01 00 00.3**	**-0.2**
PAJU				S	**Sb**	**01 00 18.6**	**+0.2**
PAJU	**Pajala**	**1.34**	**126**	P	**Pn**	**01 00 00.3**	**-0.2**
PAJU				S	**Sb**	**01 00 18.6**	**+0.2**
PAJU	**Pajala**	**1.34**	**126**	PG	**Pg**	**01 00 00.0**	**-0.3**
PAJU				SG	**Sn**	**01 00 19.1**	**-0.1**
HEF	**Hetta**	**1.37**	**64**	PN	**Pb**	**01 00 01.4**	**+0.3**
HEF				MSG		01 00 18.4	
	comp=Z,1.8nm,0.2s						
HEF				SN	**Sn**	**01 00 21.6**	**+1.8**
ERTU	**Ertsjaerv**	**1.47**	**150**	P	**Pn**	**01 00 02.3**	**0.0**
ERTU	**Ertsjaerv**	**1.47**	**150**	P	**Pn**	**01 00 02.3**	**0.0**
ERTU	**Ertsjaerv**	**1.47**	**150**	PG	**Pb**	**01 00 02.6**	**-0.2**
ERTU				SN	**Sn**	**01 00 22.7**	**+0.5**
KALU	**Kalix**	**2.31**	**148**	PB	**Pb**	**01 00 15.9**	**-1.1**
	baz=330						
KALU				SB	**Sb**	**01 00 46.5**	**+0.4**
TOF	**Tornio**	**2.36**	**136**	PB	**Pb**	**01 00 16.8**	**-1.0**
	baz=321						
TOF				MSG		01 00 46.4	
	comp=Z,0.9nm,0.2s						
TOF				SG	**Sb**	**01 00 48.6**	**+1.2**
SGF	**Sodankyl**	**2.40**	**97**	PG	**Pb**	**01 00 18.4**	**-0.2**
	baz=284						
SGF				SG	**Sg**	**01 00 50.8**	**-0.7**
RNF	**Rovaniemi**	**2.53**	**116**	PB	**Pb**	**01 00 19.8**	**-0.9**
RNF				SG	**Sg**	**01 00 54.0**	**-1.7**
KEV	**Kevo**	**3.10**	**48**	SN	**Sn**	**01 01 04.6**	**+2.3**
VRF	**Varrio**	**3.52**	**87**	PN	**Pn**	**01 00 32.5**	**+2.0**
MSF	**Maaselka**	**3.94**	**115**	SN	**Sn**	**01 01 20.5**	**-2.5**
HUSU	**Husum**	**4.54**	**186**	PG	**Pb**	**01 00 55.9**	**+1.0**

WEL 18 01:03:39.4, 42°S±5°×17°4E±1°0, h28km±19km, M2.8/14, mB4.5/2, ML3.1/23, MLv2.8/14, Mw(mB)3.6/2, Error ellipse: s-maj=0.0km s-min=0.0km az=76.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**255**	P	Pb	01 03 45.0	0.0
GVZ	**Greta Valley S**	**0.81**	**222**	P	Pn	01 03 57.2	+2.3
THZ	**Tophouse**	**0.88**	**313**	P	Pb	01 03 56.9	+0.8
TUWZ	**Tuamarina**	**0.95**	**8**	P	Pb	01 03 58.5	+1.2
LTZ	**Lake Taylor**	**1.18**	**249**	P	Pb	01 04 02.2	+1.0
NNZ	**Nelson**	**1.19**	**346**	P	Pb	01 04 02.2	+0.9
TCW	**Tory Channel**	**1.22**	**18**	P	Pb	01 04 02.2	+0.4
MRNZ	**Matariki Terra**	**1.23**	**322**	P	Pb	01 04 03.3	+1.3
PLWZ	**Palliser**	**1.37**	**55**	P	Pb	01 04 04.0	-0.4
OKCZ	**Okains Bay**	**1.45**	**201**	P	Pb	01 04 05.5	-0.2
TKNZ	**Takaka Hill**	**1.47**	**335**	P	Pb	01 04 06.8	+0.8
MQZ	**McQueen's Vall**	**1.56**	**211**	P	Pn	01 04 06.3	+1.0
DUWZ	**D'Urville Isla**	**1.57**	**4**	P	Pb	01 04 09.0	+1.2
DSZ	**Denniston Nort**	**1.59**	**293**	P	Pb	01 04 09.1	+0.9
OXZ	**Oxford**	**1.59**	**233**	P	Pb	01 04 07.1	-1.0
CAW	**Cannon Point**	**1.59**	**38**	P	Pb	01 04 07.2	-0.9
AKCZ	**Akaroa Harbour**	**1.63**	**202**	P	Pb	01 04 07.9	-0.8
MTW	**Mount Morrison**	**1.77**	**48**	P	Pn	01 04 09.5	+1.2
QRZ	**Quartz Range**	**1.80**	**329**	P	Pb	01 04 12.0	+0.3
MHCZ	**Mount Hutt**	**1.99**	**234**	P	Pn	01 04 12.5	+1.2
RPZ	**Rata Peaks**	**2.40**	**235**	P	Pn	01 04 18.3	+1.5
ARCZ	**Arundel**	**2.46**	**229**	P	Pn	01 04 18.5	+0.8
TMZ	**Timaru**	**2.85**	**224**	P	Pn	01 04 24.8	+1.8
LBZ	**Lake Benmore**	**3.30**	**231**	P	Pn	01 04 31.5	+2.3
KRHZ	**Kereru**	**3.36**	**37**	P	Pb	01 04 36.6	-1.7
ODZ	**Otahua Downs**	**3.50**	**219**	P	Pn	01 04 32.9	+0.9
PUZ	**Puketiti**	**5.50**	**40**	P	Pn	01 05 02.6	+3.2
MBAZ	**Motutapu North**	**5.66**	**9**	P	Pn	01 05 04.7	+3.1
WIAZ	**Waiheke Island**	**5.67**	**11**	P	Pn	01 05 04.7	+2.9

IDC 18 01:06:19.3±5.9, 20°.00S×173°.73W, h0km, mb3.9/4, mbtmp3.8/4, Error ellipse: s-maj=301.1km s-min=40.0km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.53**	**263**	P	P	01 13 36.7	+1.4
	1.8nm,0.4s,baz=90,slow=10,SNR=1.6						
	1.8nm,0.4s						
ASAR	**Alice Springs**	**48.53**	**256**	P	P	01 15 03.0	-1.5
	0.5nm,0.5s,baz=89,slow=7.0,SNR=4.4						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**48.64**	**261**	P	P	01 15 05.3	0.0
	0.8nm,0.5s,baz=96,slow=8.3,SNR=22						
	0.8nm,0.5s						
YKA	**Yellowknife Ar**	**94.42**	**24**	P	P	01 19 40.6	-0.1
	0.1nm,0.4s,baz=249,slow=5.2,SNR=4.3						
	0.1nm,0.4s						

*NOU **18** 01:07:17.6, 39°.60S×177°.32E, h20km, MLv3.4/7, Off E. Coast of N. Island, N.Z.*

*WEL **18** 01:07:19.4±0.7, 40°.5±3°×17°.7E±°, h48km±7km, M3.1/17, ML3.5/18, MLv3.1/17, Error ellipse: s-maj=0.0km s-min=0.0km az=106.7, confirmed*

ISC 18 01:07:18.0±1.4, 39°.60S±0°.03×177°.21E±0°.04, h69km±8km, n99, σ0s86/110, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.12**	**239**	P	**Pn**	**01 07 28.7**	**+0.4**
CKHZ				S	**Sn**	**01 07 35.5**	**-0.2**
KAHZ	**Kahuranaki**	**0.32**	**233**	P	**Pn**	**01 07 30.0**	**+0.7**
ARHZ	**Aropaoanui**	**0.37**	**334**	P	**Pn**	**01 07 29.8**	**+0.1**
ARHZ				S	**Sn**	**01 07 37.6**	**-0.5**
MCHZ	**McNeill Hill**	**0.42**	**291**	P	**Pn**	**01 07 30.3**	**+0.2**
MCHZ				S	**Sn**	**01 07 38.5**	**-0.5**
PXZ	**Pawanui**	**0.51**	**212**	P	**Pn**	**01 07 31.6**	**+0.8**
PXZ				S	**Sn**	**01 07 41.3**	**+1.1**
WHHZ	**Waihua**	**0.52**	**2**	P	**Pn**	**01 07 31.2**	**+0.2**
NMHZ	**Naumai**	**0.59**	**328**	P	**Pn**	**01 07 32.0**	**+0.2**
NMHZ				S	**Sn**	**01 07 41.1**	**-0.8**
KWHZ	**Kaweka Forest**	**0.63**	**286**	P	**Pn**	**01 07 32.2**	**0.0**
KWHZ				S	**Sn**	**01 07 41.8**	**-0.9**
KRHZ	**Kereru**	**0.65**	**266**	P	**Pn**	**01 07 32.4**	**+0.1**
KRHZ				S	**Sn**	**01 07 42.3**	**-0.6**
KNZ	**Kokohu**	**0.68**	**32**	P	**Pn**	**01 07 33.1**	**+0.5**
KNZ				S	**Sn**	**01 07 43.9**	**+0.5**
RAHZ	**Arahi**	**0.69**	**352**	P	**Pn**	**01 07 33.0**	**+0.2**
RAHZ				S	**Sn**	**01 07 43.2**	**-0.4**
MHGZ	**Mahia Peninsul**	**0.70**	**51**	P	**Pn**	**01 07 34.1**	**+1.2**
BKZ	**Black Stump Fm**	**0.70**	**308**	P	**Pn**	**01 07 32.7**	**-0.3**
BKZ	**Black Stump Fm**	**0.70**	**308**	P	**Pn**	**01 07 32.9**	**-0.1**
BKZ				S	**Sn**	**01 07 42.8**	**-1.2**
WPHZ	**Waipukurau**	**0.75**	**232**	P	**Pn**	**01 07 34.6**	**+1.1**
MTHZ	**Maungataniwha**	**0.80**	**339**	P	**Pn**	**01 07 34.2**	**+0.1**
MTHZ				S	**Sn**	**01 07 45.0**	**-0.9**
PRHZ	**Porangahau**	**0.80**	**213**	P	**Pn**	**01 07 35.2**	**+1.1**
SNGZ	**Shannon Statio**	**0.82**	**7**	P	**Pn**	**01 07 34.7**	**+0.4**
SNGZ				S	**Sn**	**01 07 46.6**	**+0.2**
PNHZ	**Pukenui**	**0.84**	**248**	P	**Pn**	**01 07 34.9**	**+0.3**
BHHZ	**Black Hill Sta**	**0.89**	**277**	P	**Pn**	**01 07 35.4**	**+0.2**
MRHZ	**Matea Rd**	**0.98**	**321**	P	**Pn**	**01 07 36.6**	**+0.3**
RIGZ	**Rimuhau**	**0.99**	**26**	P	**Pn**	**01 07 36.9**	**+0.5**
RTZ	**Ruatahuna**	**1.00**	**350**	P	**Pn**	**01 07 36.8**	**+0.3**
DVHZ	**Dannevirke**	**1.06**	**229**	P	**Pn**	**01 07 37.9**	**+0.6**
RAGZ	**Rawiri**	**1.11**	**8**	P	**Pn**	**01 07 38.4**	**+0.4**
MOVZ	**Moawhango**	**1.14**	**279**	P	**Pn**	**01 07 39.2**	**+0.8**
MUGZ	**Murupara**	**1.17**	**343**	P	**Pn**	**01 07 38.9**	**+0.2**
RITZ	**Rihia Road**	**1.22**	**300**	P	**Pn**	**01 07 40.2**	**+0.9**
ALRZ	**Allen Road**	**1.23**	**327**	P	**Pn**	**01 07 39.9**	**+0.4**
TUVZ	**Tukino**	**1.25**	**285**	P	**Pn**	**01 07 40.7**	**+0.9**
ETVZ	**East Tongariro**	**1.25**	**291**	P	**Pn**	**01 07 40.6**	**+0.8**
TKGZ	**Te Karaka**	**1.26**	**24**	P	**Pn**	**01 07 40.3**	**+0.5**
TMVZ	**Te Maari**	**1.26**	**292**	P	**Pn**	**01 07 40.8**	**+0.8**
PRRZ	**Plateau Road**	**1.27**	**330**	P	**Pn**	**01 07 40.2**	**+0.3**
OTVZ	**Oturere**	**1.27**	**289**	P	**Pn**	**01 07 41.1**	**+1.0**
WNVZ	**Wahianoa**	**1.28**	**282**	P	**Pn**	**01 07 41.0**	**+0.8**
SNVZ	**South Ngauruho**	**1.28**	**288**	P	**Pn**	**01 07 41.2**	**+0.9**
MWZ	**Matawai**	**1.29**	**11**	P	**Pn**	**01 07 40.3**	**+0.1**
NTVZ	**North Tongarir**	**1.29**	**292**	P	**Pn**	**01 07 41.1**	**+0.8**
WHVZ	**Whangaehu Hut**	**1.29**	**284**	P	**Pn**	**01 07 41.2**	**+0.8**
BFZ	**Birch Farm**	**1.31**	**214**	P	**Pn**	**01 07 41.3**	**+0.8**
BFZ	**Birch Farm**	**1.31**	**214**	P	**Pn**	**01 07 41.3**	**+0.8**
DRZ	**Dome Shelter**	**1.31**	**284**	P	**Pn**	**01 07 41.6**	**+0.8**
KRVZ	**Karewarewa**	**1.31**	**292**	P	**Pn**	**01 07 41.4**	**+0.8**
NGZ	**Ngauruhoe**	**1.31**	**288**	P	**Pn**	**01 07 41.3**	**+0.6**
NNVZ	**North Ngauruho**	**1.32**	**290**	P	**Pn**	**01 07 41.6**	**+0.8**
TRVZ	**Turoa**	**1.32**	**283**	P	**Pn**	**01 07 41.5**	**+0.7**
FWVZ	**Far West T-bar**	**1.33**	**284**	P	**Pn**	**01 07 41.6**	**+0.7**
KATZ	**Kakaramea**	**1.33**	**297**	P	**Pn**	**01 07 41.6**	**+0.7**
RATZ	**Rangitukua**	**1.33**	**303**	P	**Pn**	**01 07 41.5**	**+0.7**
URZ	**Urewera**	**1.34**	**357**	P	**Pn**	**01 07 40.9**	**+0.1**
URZ	**Urewera**	**1.34**	**357**	P	**Pn**	**01 07 40.9**	**+0.1**
WTVZ	**West Tongariro**	**1.34**	**291**	P	**Pn**	**01 07 41.9**	**+0.9**
WHTZ	**Whakaoraora**	**1.35**	**313**	P	**Pn**	**01 07 41.7**	**+0.7**
WPRZ	**Whakapapataran**	**1.35**	**323**	P	**Pn**	**01 07 41.3**	**+0.2**
CNGZ	**Carnagh Statio**	**1.36**	**35**	P	**Pn**	**01 07 41.8**	**+0.8**
MTVZ	**Mangateitei**	**1.36**	**278**	P	**Pn**	**01 07 42.0**	**+0.8**
HRRZ	**Handcock Road**	**1.41**	**329**	P	**Pn**	**01 07 42.1**	**+0.3**
WATZ	**Wairara**	**1.45**	**307**	P	**Pn**	**01 07 42.6**	**+0.2**
TARZ	**Mount Tarawera**	**1.47**	**338**	P	**Pn**	**01 07 43.2**	**+0.6**
TWVZ	**Taurewa**	**1.47**	**290**	P	**Pn**	**01 07 43.1**	**+0.4**
PKVZ	**Pokaka**	**1.48**	**282**	P	**Pn**	**01 07 43.4**	**+0.7**
HSRZ	**Hossack Road**	**1.49**	**329**	P	**Pn**	**01 07 43.3**	**+0.5**
TWGZ	**Tauwhareparae**	**1.54**	**23**	P	**Pn**	**01 07 44.3**	**+0.7**
MRZ	**Mangatainoka R**	**1.64**	**229**	P	**Pn**	**01 07 45.1**	**+0.3**
RUGZ	**Raukumara Rang**	**1.67**	**13**	P	**Pn**	**01 07 45.8**	**+0.4**
WAZ	**Wanganui**	**1.72**	**264**	P	**Pn**	**01 07 47.8**	**+1.9**
PUZ	**Puketiti**	**1.73**	**29**	P	**Pn**	**01 07 43.9**	**-2.1**
TMWZ	**Te Maipa**	**1.81**	**213**	P	**Pn**	**01 07 47.2**	**+0.1**
TLZ	**Tolley Road**	**1.82**	**314**	P	**Pn**	**01 07 47.3**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.83**	**224**	P	**Pn**	**01 07 47.6**	**+0.1**
PKGZ	**Pakihiroa**	**1.84**	**22**	P	**Pn**	**01 07 48.0**	**+0.5**
HAZ	**Te Kaha**	**1.89**	**14**	P	**Pn**	**01 07 48.8**	**+0.6**
VRZ	**Vera Road**	**1.96**	**283**	P	**Pn**	**01 07 49.8**	**+0.8**
OGWZ	**Otaki Gorge**	**1.98**	**231**	P	**Pn**	**01 07 49.4**	**+0.1**
WMGZ	**Waiomatatini S**	**2.01**	**28**	P	**Pn**	**01 07 50.0**	**+0.2**
MTW	**Mount Morrison**	**2.03**	**219**	P	**Pn**	**01 07 49.8**	**-0.3**
HIZ	**Hauiti**	**2.13**	**300**	P	**Pn**	**01 07 52.2**	**+0.8**
HIZ	**Hauiti**	**2.13**	**300**	P	**Pn**	**01 07 51.9**	**+0.5**
KIW	**Kapiti Island**	**2.17**	**234**	P	**Pn**	**01 07 52.0**	**+0.2**
MXZ	**Matakaoa Point**	**2.21**	**23**	P	**Pn**	**01 07 53.0**	**+0.5**
MXZ	**Matakaoa Point**	**2.21**	**23**	P	**Pn**	**01 07 52.9**	**+0.5**
NEZ	**North Egmont**	**2.43**	**277**	P	**Pn**	**01 07 57.7**	**+2.1**
KHEZ	**Kahui Hut**	**2.49**	**276**	P	**Pn**	**01 07 58.9**	**+2.5**
KHEZ	**Kahui Hut**	**2.49**	**276**	P	**Pn**	**01 07 58.6**	**+2.2**
PKE	**Pukeiti**	**2.53**	**278**	P	**Pn**	**01 07 59.0**	**+2.2**
TCW	**Tory Channel**	**2.76**	**233**	P	**Pn**	**01 07 59.1**	**-0.8**
MKAZ	**Moumakai**	**2.96**	**326**	P	**Pn**	**01 08 03.5**	**+0.8**
KUZ	**Kuaotunu**	**3.08**	**337**	P	**Pn**	**01 08 06.5**	**+2.2**
CMWZ	**Cape Campbell**	**3.13**	**226**	P	Pn	01 08 11.8	+6.9
AWAZ	**Awhitu Peninsu**	**3.24**	**321**	P	**Pn**	**01 08 07.4**	**+1.0**
MBAZ	**Motutapu North**	**3.36**	**326**	P	**Pn**	**01 08 09.1**	**+1.0**
WTAZ	**Waiataroa**	**3.37**	**321**	P	**Pn**	**01 08 09.5**	**+1.2**
QRZ	**Quartz Range**	**3.79**	**250**	P	**Pn**	**01 08 12.8**	**-1.1**
LTZ	**Lake Taylor**	**4.90**	**228**	P	**Pn**	**01 08 28.7**	**-0.4**
AKCZ	**Akaroa Harbour**	**5.34**	**216**	P	**Pn**	**01 08 34.8**	**-0.4**
CTZ	**Chatham Island**	**6.20**	**134**	P	**Pn**	**01 08 47.0**	**+0.1**
CTZ	**Chatham Island**	**6.20**	**134**	P	**Pn**	**01 08 48.8**	**+1.9**
TMZ	**Timaru**	**6.65**	**222**	P	**Pn**	**01 08 51.9**	**-1.2**

*SSNC **18** 01:38:51.7±0.9, 19°.69N×76°.64W, h1km±4km, MD2.7, ML2.5, MW2.8*

*JSN **18** 01:38:54.2±0.4, 19°.63N×76°.56W, h30km±328km, MD4.0*

**ISC 18 01:38:51.4±1.3, 19°.78N±0°.05×76°.63W±0°.05, h35km±8km, n13, σ0s73

HLW ***18*** *01:50:01.4,26˙80N×34˙85E,h29km±4km, Md2.7*
GII ***18*** *01:50:02.4±0.0,27˙06N×34˙74E,h6km*
ISC 18 01:49:58.3±1.2,26°82N±0˙04×34°7E±0˙1,h10km,n10,
σ0s99/14,Red Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HHRG	**Al Ghardaqah**	**1.08**	**292**	P	**Pn**	**01 50 20.6**	**+1.1**
	baz=284						
NADB	**Abo Dabab**	**1.48**	**187**	P	**Pb**	**01 50 25.8**	**-0.2**
	baz=193						
HKAT	**Jabal Katrina**	**1.81**	**340**	P	**Pb**	**01 50 31.1**	**-0.6**
	baz=337						
HKAT				S	**Sn**	**01 50 52.7**	**-0.1**
	baz=337						
GRB	**Gharib**	**2.23**	**311**	P	**Pb**	**01 50 37.8**	**-0.9**
	baz=310						
HAGS	**Hagol**	**2.44**	**174**	P	**Pn**	**01 50 38.5**	**+0.2**
	baz=176						
EIL	**Elat**	**2.85**	**4**	Pn	**Pn**	**01 50 44.4**	**+0.6**
EIL				Sn	**Sn**	**01 51 17.0**	**-1.2**
MBRI	**Mt Berech**	**2.97**	**4**	Pn	**Pn**	**01 50 46.1**	**+0.5**
MBRI				Sn	**Sn**	**01 51 21.3**	**0.0**
KRMI	**Paran Flat**	**3.29**	**0**	Pn	**Pn**	**01 50 51.0**	**+1.1**
KRMI				Sn	**Sn**	**01 51 28.0**	**-1.0**
PRNI	**Paran**	**3.53**	**4**	Pn	**Pn**	**01 50 54.7**	**+1.5**
KZIT	**Kziot**	**4.08**	**356**	Pn	**Pn**	**01 51 02.1**	**+1.3**

WEL 18 01:54:03.5±0.5,42°S±2˚×17°4E±˚,h5km±2km,M2.9/11,
ML3.0/12,MLv2.9/11,Error ellipse: s-maj=0.0km
s-min=0.0km az=106.2,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**183**	P	Pg	01 54 08.3	+0.4
KHZ				S	Sg	01 54 11.7	+1.0
BSWZ	**Blackbirch Sta**	**0.54**	**27**	P	Pg	01 54 14.5	+0.6
BSWZ				S	Sb	01 54 22.2	-1.3
THZ	**Tophouse**	**0.65**	**312**	P	Pg	01 54 16.1	+0.1
TUWZ	**Tuamarina**	**0.82**	**21**	P	Pg	01 54 19.6	+0.4
TUWZ				S	Sb	01 54 31.3	-0.3
GVZ	**Greta Valley S**	**0.86**	**206**	P	Pg	01 54 20.4	+0.4
GVZ				S	Sb	01 54 33.3	+0.4
NNZ	**Nelson**	**0.99**	**352**	P	Pg	01 54 22.2	-0.2
NNZ				S	Sg	01 54 35.6	+0.4
MRNZ	**Matariki Terra**	**0.99**	**323**	P	Pg	01 54 22.6	0.0
MRNZ				S	Sb	01 54 36.7	0.0
LTZ	**Lake Taylor**	**1.11**	**238**	P	Pg	01 54 23.7	-1.2
TCW	**Tory Channel**	**1.12**	**29**	P	Pg	01 54 24.6	-0.5
TCW				S	Sn	01 54 41.4	-0.4
AMCZ	**Amberley**	**1.19**	**214**	P	Pg	01 54 25.4	-0.8
TKNZ	**Takaka Hill**	**1.24**	**339**	P	Pg	01 54 26.9	-0.4
DSZ	**Denniston Nort**	**1.38**	**288**	P	Pn	01 54 29.3	-0.2
PLWZ	**Palliser**	**1.42**	**64**	P	Pn	01 54 28.0	-2.0
DUWZ	**D'Urville Isla**	**1.42**	**11**	P	Pn	01 54 29.9	-0.1
QRZ	**Quartz Range**	**1.57**	**330**	P	Pn	01 54 32.2	+0.1
OKCZ	**Okains Bay**	**1.57**	**193**	P	Pn	01 54 29.5	-2.6
CAW	**Cannon Point**	**1.57**	**47**	P	Pn	01 54 30.5	-1.6
MQZ	**McQueen's Vall**	**1.65**	**203**	P	Pn	01 54 29.7	-3.5
AKCZ	**Akaroa Harbour**	**1.74**	**195**	P	Pn	01 54 31.5	-2.9
MTW	**Mount Morrison**	**1.79**	**55**	P	Pb	01 54 36.3	-0.5
OGWZ	**Otaki Gorge**	**1.84**	**42**	P	Pn	01 54 34.2	-1.5
HOWZ	**Holdsworth Sta**	**1.96**	**49**	P	Pb	01 54 40.3	+0.6
MHCZ	**Mount Hutt**	**1.98**	**227**	P	Pn	01 54 34.9	-2.9
RPZ	**Rata Peaks**	**2.38**	**230**	P	Pn	01 54 40.7	-2.6
TMZ	**Timaru**	**2.87**	**220**	P	Pn	01 54 48.0	-2.0
MOVZ	**Moawhango**	**3.25**	**32**	P	Pb	01 55 00.9	-0.8
WNVZ	**Wahianoa**	**3.26**	**29**	P	Pb	01 55 01.3	-0.6
BHHZ	**Black Hill Sta**	**3.31**	**36**	P	Pb	01 55 01.6	-1.1
MSZ	**Milford Sound**	**4.79**	**237**	P	Pn	01 55 12.5	-3.8

IDC ***18*** *02:02:24.6±0.5,52˙86S×9˙97E,h0km,mb4.7/14,*
mbtmp4.7/15,ML5.1/1,MS4.8/53,Error ellipse:
s-maj=20.0km s-min=15.2km az=93.0
NEIC ***18*** *02:02:26.4±1.7,52˙9S±0˙1×10˙0E±0˙2,h10km±1km,*
mb5.2/38,Error ellipse: s-maj=20.9km s-min=18.0km
az=120.0
GCMT ***18*** *02:02:30.4±0.1,53˙02S±0˙01×9˙99E±0˙01,h12km,*
MW5.4/154,Moment Tensor Solution. s116,c173;
s154,c281; Duration: 1ŝ2 Moment tensor: Scale 10¹⁷
Nm; Mrr-0.67±.02; Mθθ 1.78±.02; Mϕϕ-1.11±.02;
Mrθ0.53±.05; Mrϕ0.17±.02; Mθϕ 0.31±.06; Best double
couple: Mo1.58800×10¹⁷ NP1:φ=227.00000°,δ79.00000°,
λ-150.00000°. NP2:φ=130.00000°,δ61.00000°,
λ-13.00000°. Principal axes: T 1.9050, Plg12.0000°,
Azm356.0000°; N -0.6370, Plg58.0000°, Azm245.0000°;
P -1.2720, Plg29.0000°, Azm92.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
ISC 18 02:02:26.7±0.3,52°90S±0˙06×10°11E±0˙08,h12km,n249,
σ1s58/191,mb5.1/51,MS4.9/57,7C,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TROLL	**Troll, Antarti**	**19.46**	**187**	P	**Pn**	**02 06 54.1**	**-0.1**
ELIM	**Elim**	**19.55**	**24**	*eP*	**Pn**	**02 06 56.2**	**+0.8**
ELIM				IAmb	IAmb	02 06 58.2	
	comp=Z,2μm,3.1s						
VNA1	**Neumayer--Stat**	**19.65**	**198**	P	**Pn**	**02 06 55.5**	**-0.8**
SNAA	**Sanae**	**19.69**	**192**	P	**Pn**	**02 06 55.7**	**-1.1**
	comp=Z,6.2nm,0.3s,baz=20,slow=10,SNR=219						
SNAA				S	S	02 10 16.6	-20
	comp=Z,6.1nm,0.7s,baz=5.4,slow=15,SNR=2.5						
SNAA				LR	LR	02 12 45.5	
	comp=Z,2μm,21.5s,baz=22,slow=32						
	comp=Z,251nm,0.8s						
VNA2	**Neumayer--Watz**	**19.72**	**197**	P	**P**	**02 06 55.6**	**-0.1**
	baz=22,slow=13						
VNA3	**Neumayer Olymp**	**20.40**	**198**	P	**P**	**02 07 03.0**	**-0.1**
MATJ	**Matjiesfontein**	**21.02**	**25**	⇑*i*P	**P**	**02 07 12.0**	**+1.8**
MATJ				IAmb	IAmb	02 07 20.6	
	comp=Z,113nm,1.1s						
KROM	**Kromhout**	**21.43**	**35**	*eP*	**P**	**02 07 17.6**	**+3.2**
KROM				IAmb	IAmb	02 07 24.7	
	comp=Z,115nm,1.2s						
MERW	**Merweville**	**21.83**	**27**	*eP*	**P**	**02 07 20.3**	**+1.4**
MERW				IAmb	IAmb	02 07 24.0	
	comp=Z,131nm,1.2s						
SUR	**Sutherland**	**21.92**	**25**	P	**P**	**02 07 21.4**	**+1.4**
	comp=Z,47nm,1.1s,baz=196,slow=3.7,SNR=7.3						
SUR				S	**S**	**02 11 15.1**	**-6.8**
	comp=Z,7.1nm,1.0s,baz=255,slow=21,SNR=2.0						
SUR				LR	LR	02 13 49.1	
	comp=Z,2μm,21.5s,baz=197,slow=31						
	comp=Z,47nm,1.1s						
SUR	**Sutherland**	**21.92**	**25**	P	**P**	**02 07 18.6**	**-1.4**
SUR				IAmb	IAmb	02 07 25.4	
	comp=Z,143nm,1.4s						
GRAN	**Grantham**	**22.36**	**28**	*eP*	**P**	**02 07 26.2**	**+1.7**
GRAN				IAmb	IAmb	02 07 40.9	
	comp=Z,24nm,0.9s						
FRAZ	**Fraserburg**	**22.50**	**26**	*eP*	**P**	**02 07 27.9**	**+1.7**
FRAZ				IAmb	IAmb	02 07 43.4	
	comp=Z,46nm,1.0s						
CVNA	**Calvinia**	**22.53**	**22**	*eP*	**P**	**02 07 27.9**	**+1.5**
CVNA				IAmb	IAmb	02 07 34.6	
	comp=Z,125nm,1.3s						
ROOI	**Rooidraai Farm**	**22.59**	**31**	*eP*	**P**	**02 07 25.4**	**-1.6**
ROOI				IAmb	IAmb	02 09 02.8	
	comp=Z,1μm,3.4s						
SOE	**Somerset East**	**23.05**	**35**	P	**P**	**02 07 32.5**	**+0.7**
SOE	**Somerset East**	**23.05**	**35**	*eP*	**P**	**02 07 32.1**	**+0.3**
SOE				IAmb	IAmb	02 08 28.0	
	comp=Z,326nm,2.4s						
BRAK	**Brakfontein**	**23.06**	**29**	*eP*	**P**	**02 07 32.7**	**+0.8**
BRAK				IAmb	IAmb	02 07 57.4	
	comp=Z,40nm,1.3s						
GRAF	**Camdeboo Natio**	**23.09**	**32**	*eP*	**P**	**02 07 32.0**	**-0.2**
GRAF				IAmb	IAmb	02 07 34.9	
	comp=Z,65nm,1.3s						
BFON	**Badsfontein, M**	**23.28**	**30**	*eP*	**P**	**02 07 37.6**	**+3.4**
BFON				IAmb	IAmb	02 08 25.1	
	comp=Z,477nm,2.8s						
KOMG	**Komaggas**	**23.71**	**16**	⇑*i*P	**P**	**02 07 40.5**	**+2.2**
KOMG				IAmb	IAmb	02 07 41.2	
	comp=Z,17μm,2.8s						
HVD	**Gariep Dam**	**24.96**	**33**	*eP*	P	02 07 59.4	+9.4
HVD				IAmb	IAmb	02 08 13.3	
	comp=Z,482nm,2.7s						
KEIM	**Keimoes**	**25.47**	**23**	*eP*	**P**	**02 07 55.5**	**+0.9**
KEIM				IAmb	IAmb	02 07 59.1	
	comp=Z,69nm,1.3s						
ARMS	**Ukamas**	**25.85**	**20**	*eP*	**P**	**02 07 55.8**	**-2.2**
ARMS				IAML		02 08 19.3	
	comp=Z,5.2nm,0.8s						
UPI	**Upington**	**25.87**	**23**	*eP*	**P**	**02 07 59.6**	**+1.4**
UPI				IAmb	IAmb	02 08 25.7	
	comp=Z,330nm,2.7s						
KSTD	**Kokstad**	**26.31**	**40**	*eP*	P	02 08 40.3	+38
KSTD				IAmb	IAmb	02 08 59.1	
	comp=Z,65nm,1.6s						
AUSN	**Aus**	**26.60**	**12**	*eP*	**P**	**02 08 06.7**	**+1.8**
AUSN				IAmb	IAmb	02 08 10.9	
	comp=Z,72nm,1.2s						
BOSA	**Boshof**	**26.73**	**31**	P	**P**	**02 08 05.8**	**-0.3**
	comp=Z,12nm,1.2s,baz=210,slow=6.7,SNR=4.4						
BOSA				LR	LR	02 16 39.5	
	comp=Z,1μm,21.5s,baz=202,slow=32						
	comp=Z,12nm,1.2s						
BOSA	**Boshof**	**26.73**	**31**	P	**P**	**02 08 06.2**	**+0.2**
BOSA	**Boshof**	**26.73**	**31**	*eP*	**P**	**02 08 07.4**	**+1.4**
BOSA				IAmb	IAmb	02 08 13.8	
	comp=Z,37nm,1.4s						
SNKL	**Senekal, Frees**	**27.87**	**35**	*eP*	P	02 08 26.0	+10
SNKL				IAmb	IAmb	02 09 25.7	
	comp=Z,96nm,1.8s						
MAW	**Mawson**	**28.91**	**141**	LR	LR	02 17 33.8	
	comp=Z,3μm,21.9s,baz=286,slow=31						
PRYS	**Parys**	**28.97**	**33**	*eP*	**P**	**02 08 27.9**	**+1.8**
PRYS				IAmb	IAmb	02 08 49.0	
	comp=Z,186nm,2.5s						
BELA	**Belgrano 2**	**29.70**	**197**	P	**P**	**02 08 30.6**	**-1.3**
KSR	**Koster**	**29.82**	**32**	*eP*	**P**	**02 08 35.7**	**+2.0**
KSR				IAmb	IAmb	02 09 18.9	
	comp=Z,19nm,1.2s						
LBTB	**Lobatse**	**30.21**	**29**	LR	LR	02 19 23.2	
	comp=Z,1μm,18.4s,baz=198,slow=34						
LBTB	**Lobatse**	**30.21**	**29**	P	**P**	**02 08 36.8**	**-0.2**
LBTB				IAmb	IAmb	02 08 39.5	
	comp=Z,56nm,1.8s						
LBTB	**Lobatse**	**30.21**	**29**	*eP*	**P**	**02 08 35.5**	**-1.5**
WIN	**Windhoek**	**30.75**	**13**	*eP*	**P**	**02 08 41.7**	**-0.3**
WIN				IAmb	IAmb	02 08 45.1	
	comp=Z,6.0nm,1.1s						
LEPH	**Lephalale, Lim**	**31.96**	**32**	*eP*	**P**	**02 08 52.6**	**+0.2**
LEPH				IAmb	IAmb	02 09 09.0	
	comp=Z,27nm,1.2s						
MUSN	**Musina, Limpop**	**34.10**	**34**	*eP*	**P**	**02 09 14.4**	**+3.3**
MUSN				IAmb	IAmb	02 09 26.1	
	comp=Z,27nm,1.5s						
TSUM	**Tsumeb**	**34.13**	**13**	LR	LR	02 20 42.2	
	comp=Z,3μm,21.5s,baz=184,slow=32						
TSUM	**Tsumeb**	**34.13**	**13**	P	**P**	**02 09 11.7**	**+0.2**
TSUM				IAmb	IAmb	02 09 14.7	
	comp=Z,46nm,1.2s						
TSUM	**Tsumeb**	**34.13**	**13**	⇑*i*P	**P**	**02 09 12.9**	**+1.4**
QSPA	**South Pole Qui**	**37.34**	**180**	P	**P**	**02 09 38.6**	**0.0**
	comp=Z,35nm,1.2s,baz=229,slow=4.1,SNR=19						
QSPA				LR	LR	02 23 51.3	
	comp=Z,3μm,21.6s,baz=226,slow=34						
	comp=Z,35nm,1.2s						
PMSA	**Palmer Station**	**37.84**	**222**	LR	LR	02 23 04.1	
	comp=Z,965nm,18.1s,baz=100,slow=33						
SMAI	**San Martin Ant**	**38.01**	**216**	P	**P**	**02 09 43.4**	**-0.6**
LSZ	**Lusaka**	**40.17**	**28**	LR	LR	02 25 12.4	
	comp=Z,1μm,18.5s,baz=198,slow=34						
CASY	**Casey**	**46.90**	**147**	P	**P**	**02 10 57.2**	**+0.8**
H10S2	**ASCENSION HYDR**	**48.20**	**326**	T	T	03 03 12.5	
	baz=152						
H10S3	**ASCENSION HYDR**	**48.21**	**326**	T	T	03 03 06.6	
	baz=68						
VNDA	**Vanda**	**48.66**	**172**	P	**P**	**02 11 10.5**	**+0.6**
	comp=Z,9.8nm,0.9s,baz=226,slow=5.2,SNR=24						
VNDA				LR	LR	02 31 03.1	
	comp=Z,2μm,19.0s,baz=191,slow=35						
	comp=Z,9.8nm,0.9s						
VNDA	**Vanda**	**48.66**	**172**	P	**P**	**02 11 10.7**	**+0.8**
VNDA				IAmb	IAmb	02 11 18.2	
	comp=Z,24nm,0.9s						
PLTB	**Pedras Altas**	**49.81**	**269**	P	**P**	**02 11 18.4**	**-0.8**
PLTB				IAmb	IAmb	02 11 29.4	
	comp=Z,31nm,1.0s						
PLTB	**Pedras Altas**	**49.81**	**269**	*eP*	**P**	**02 11 21.9**	**+2.7**
CNLB	**Canela**	**49.88**	**273**	*eP*	**P**	**02 11 22.7**	**+2.8**
TRQA	**Tornquist**	**50.54**	**257**	P	**P**	**02 11 24.3**	**-0.4**
TRQA				IAmb	IAmb	02 11 28.0	
	comp=Z,21nm,0.9s						
TRQA	**Tornquist**	**50.54**	**257**	*eP*	**P**	**02 11 27.8**	**+3.1**
CPSB	**Cacapava Do Su**	**50.67**	**270**	*eP*	**P**	**02 11 28.7**	**+2.9**
PARB	**Paraibuna**	**51.17**	**283**	*eP*	**P**	**02 11 31.8**	**+2.1**
ABR01	**Abrolhos, BA**	**51.41**	**294**	*eP*	**P**	**02 11 32.6**	**+1.2**
ALGR	**Alto Alegre (B**	**51.57**	**272**	*eP*	**P**	**02 11 35.5**	**+2.9**
RODS	**Rosario do Sul**	**51.77**	**269**	*eP*	**P**	**02 11 37.7**	**+2.6**
SPB	**Sao Paulo**	**52.05**	**281**	*eP*	**P**	**02 11 38.5**	**+2.3**
ITAB	**Concordia**	**52.16**	**274**	*eP*	**P**	**02 11 39.7**	**+2.7**
SJMB	**Sao Joao De Ma**	**52.22**	**291**	*eP*	**P**	**02 11 39.0**	**+1.5**
VAO	**Valinhos**	**52.23**	**282**	*eP*	**P**	**02 11 39.7**	**+2.2**
AY01	**Puyuhuapi**	**52.43**	**244**	P	**P**	**02 11 39.2**	**+0.5**
AY01				IAmb	IAmb	02 11 50.7	
	comp=Z,35nm,0.9s						
RCLB	**Rio Claro- Sao**	**53.01**	**282**	*eP*	**P**	**02 11 45.4**	**+2.1**
ITQB	**Itaqui**	**53.12**	**268**	P	**P**	**02 11 44.0**	**0.0**
ITQB				IAmb	IAmb	02 11 53.7	
	comp=Z,36nm,1.1s						
ITQB	**Itaqui**	**53.12**	**268**	*eP*	**P**	**02 11 46.0**	**+2.0**
CRSM	**Crissiumal (Br**	**53.13**	**272**	*eP*	**P**	**02 11 46.9**	**+2.7**
FRTB	**Fartura**	**53.51**	**279**	*eP*	**P**	**02 11 49.1**	**+2.1**
FRBT	**Francisco Belt**	**53.65**	**274**	*eP*	**P**	**02 11 50.6**	**+2.6**
PLCA	**Paso Flores**	**53.71**	**248**	P	**P**	**02 11 47.9**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=126,slow=6.3,SNR=10						
PLCA				LR	LR	02 31 01.2	
	comp=Z,886nm,21.6s,baz=133,slow=32						
	comp=Z,4.8nm,0.7s						
PLCA	**Paso Flores**	**53.71**	**248**	P	**P**	**02 11 48.4**	**+0.1**
PLCA	**Paso Flores**	**53.71**	**248**	*eP*	**P**	**02 11 51.1**	**+2.8**
AZCA	**Azaras, Argent**	**53.88**	**270**	*eP*	**P**	**02 11 52.9**	**+3.2**
DIAM	**Diamantina, MG**	**53.96**	**289**	*eP*	**P**	**02 11 52.1**	**+1.6**
PTGB	**Pitanga**	**53.98**	**276**	*eP*	**P**	**02 11 53.2**	**+2.6**
MECA	**Mercedes**	**54.33**	**267**	*eP*	**P**	**02 11 54.8**	**+2.0**
LL03	**Petrolhue**	**54.47**	**247**	P	**P**	**02 11 53.8**	**0.0**
MBAR	**Mbarara**	**54.89**	**26**	LR	LR	02 33 52.6	
	comp=Z,2μm,20.4s,baz=178,slow=34						
MCR1	**Marechal Candi**	**55.37**	**275**	*eP*	**P**	**02 12 03.1**	**+2.7**
TRCB	**Terra Rica**	**55.77**	**277**	P	**P**	**02 12 02.1**	**-1.3**
TRCB	**Terra Rica**	**55.77**	**277**	*eP*	**P**	**02 12 04.7**	**+1.3**
PCMB	**Pacaembu**	**55.85**	**279**	*eP*	**P**	**02 12 06.2**	**+2.2**
CPUP	**Villa Florida**	**55.97**	**270**	P	**P**	**02 12 03.8**	**-1.0**
	comp=Z,12nm,0.9s,baz=129,slow=6.6,SNR=16						
CPUP				LR	LR	02 31 56.0	
	comp=Z,814nm,21.9s,baz=146,slow=32						
	comp=Z,12nm,0.9s						
CPUP	**Villa Florida**	**55.97**	**270**	P	**P**	**02 12 04.1**	**-0.7**
CPUP				IAmb	IAmb	02 12 14.2	
	comp=Z,34nm,1.0s						
CPUP	**Villa Florida**	**55.97**	**270**	*eP*	**P**	**02 12 04.2**	**-0.5**
KMBO	**Kilima Mbogo**	**56.33**	**33**	LR	LR	02 35 02.0	
	comp=Z,15nm,19.6s,baz=194,slow=35						
IPMB	**Ipameri, GO**	**56.84**	**285**	*eP*	**P**	**02 12 12.8**	**+1.7**
JANB	**Januaria**	**56.91**	**290**	*eP*	**P**	**02 12 10.4**	**-1.3**
VACA	**Villa Angela C**	**57.06**	**267**	*eP*	**P**	**02 12 14.2**	**+1.7**
AMBA	**Amambai (Brazi**	**57.09**	**275**	*eP*	**P**	**02 12 15.6**	**+2.8**
ESFA	**Espinillo Form**	**57.69**	**271**	*eP*	**P**	**02 12 16.7**	**-0.3**
BDFB	**Brasilia**	**58.57**	**287**	P	**P**	**02 12 21.4**	**-2.0**
	comp=Z,15nm,1.0s,baz=160,slow=5.0,SNR=5.6						
BDFB				LR	LR	02 32 31.5	
	comp=Z,1μm,19.2s,baz=144,slow=31						
	comp=Z,15nm,1.0s						
BDFB	**Brasilia**	**58.57**	**287**	P	**P**	**02 12 21.7**	**-1.7**
BDFB				IAmb	IAmb	02 12 26.7	
	comp=Z,37nm,1.2s						
BDFB	**Brasilia**	**58.57**	**287**	*eP*	**P**	**02 12 23.4**	**0.0**
CFA	**Coronel Fontan**	**58.71**	**258**	LR	LR	02 33 19.1	
	comp=Z,2μm,21.9s,baz=126,slow=32						
C2SB	**Chapadao do Su**	**58.97**	**280**	*eP*	**P**	**02 12 27.9**	**+1.9**
ZON	**Zonda**	**59.02**	**258**	P	**P**	**02 12 25.7**	**-0.5**
AQDB	**Aquidauana**	**59.37**	**276**	P	**P**	**02 12 27.4**	**-1.4**
AQDB				IAmb	IAmb	02 12 31.7	
	comp=Z,26nm,1.3s						
AQDB	**Aquidauana**	**59.37**	**276**	*eP*	**P**	**02 12 29.4**	**+0.6**
SDBA	**SÃO DESIDERIO**	**59.39**	**292**	*eP*	**P**	**02 12 29.9**	**+0.9**
MURT	**Porto Murtinho**	**59.63**	**274**	*eP*	**P**	**02 12 32.2**	**+1.7**
BDQN	**Bodoquena, MS**	**60.03**	**275**	*eP*	**P**	**02 12 34.5**	**+1.2**
RCBR	**Riachuelo**	**60.08**	**304**	LR	LR	02 32 50.3	
	comp=Z,659nm,18.7s,baz=290,slow=30						
RCBR	**Riachuelo**	**60.08**	**304**	*eP*	**P**	**02 12 31.6**	**-2.1**
LIC	**Lamto**	**60.29**	**343**	⇑*i*P	**P**	**02 12 34.7**	**-0.3**
KIC	**Kosan Boka**	**60.37**	**343**	⇑*i*P	**P**	**02 12 35.6**	**+0.1**
DBIC	**Dimbokro**	**60.69**	**343**	P	**P**	**02 12 37.4**	**-0.3**
	comp=Z,24nm,0.9s,baz=171,slow=7.1,SNR=19						
DBIC				LR	LR	02 33 06.1	
	comp=Z,790nm,21.9s,baz=147,slow=30						
	comp=Z,24nm,0.9s						
DBIC	**Dimbokro**	**60.69**	**343**	P	**P**	**02 12 36.9**	**-0.9**
DBIC				IAmb	IAmb	02 12 38.4	
	comp=Z,29nm,1.0s						
DBIC	**Dimbokro**	**60.69**	**343**	⇑*i*P	**P**	**02 12 37.4**	**-0.3**
DBIC				IAmb	IAmb	02 12 38.6	
	comp=Z,40nm,1.2s						
TIC	**Toumodi**	**60.70**	**343**	⇑*i*P	**P**	**02 12 37.3**	**-0.5**
CO01	**Juntas del Tor**	**60.99**	**258**	P	**P**	**02 12 39.6**	**-0.4**
CO01				IAmb	IAmb	02 12 44.5	
	comp=Z,17nm,0.9s						
PP1B	**Ponte de Pedra**	**61.09**	**279**	*eP*	**P**	**02 12 43.1**	**+2.5**
AC05	**El Transito**	**61.93**	**259**	P	**P**	**02 12 44.6**	**-1.6**
AC05				IAmb	IAmb	02 13 05.0	
	comp=Z,19nm,0.9s						
LCO	**Las Campanas**	**62.05**	**258**	P	**P**	**02 12 46.2**	**-1.1**
LCO				IAmb	IAmb	02 13 03.8	
	comp=Z,13nm,0.8s						
NBCL	**Cascavel-CE**	**62.66**	**303**	*eP*	**P**	**02 12 51.6**	**+0.6**
AC02	**Maricunga**	**62.72**	**261**	P	**P**	**02 12 50.2**	**-1.8**
GO03	**Copiap**	**62.82**	**260**	P	**P**	**02 12 52.5**	**+0.4**
GO03				IAmb	IAmb	02 13 04.6	
	comp=Z,12nm,0.8s						
SALV	**Santo Antonio**	**62.90**	**280**	*eP*	**P**	**02 12 53.6**	**+0.9**
AC06	**Mina Casimiro**	**63.06**	**260**	P	**P**	**02 12 53.5**	**-0.3**
SNDB	**Serra Nova Dou**	**63.40**	**286**	*eP*	**P**	**02 12 57.2**	**+1.1**
BBRB	**Robore, Bolivi**	**63.53**	**275**	*eP*	**P**	**02 12 56.7**	**-0.2**
SMTB	**Santa Maria do**	**63.79**	**291**	*eP*	**P**	**02 12 58.2**	**-0.4**
BBSD	**Serra de San D**	**64.86**	**275**	*eP*	**P**	**02 13 06.1**	**+0.4**
PTLB	**Pontes e Lacer**	**65.31**	**277**	P	**P**	**02 13 07.0**	**-1.5**
PTLB				IAmb	IAmb	02 13 11.8	
	comp=Z,14nm,1.0s						
PTLB	**Pontes e Lacer**	**65.31**	**277**	*eP*	**P**	**02 13 08.4**	**-0.2**
LVC	**Limon Verde**	**65.75**	**264**	LR	LR	02 38 49.2	
	comp=Z,415nm,20.9s,baz=150,slow=33						
LVC	**Limon Verde**	**65.75**	**264**	P	**P**	**02 13 11.0**	**-0.7**
LVC	**Limon Verde**	**65.75**	**264**	*eP*	**P**	**02 13 14.4**	**+2.6**
SIV	**San Ignacio**	**66.06**	**275**	LR	LR	02 37 47.7	
	comp=Z,2μm,20.7s,baz=142,slow=32						
TORD	**Torodi Ar. Bea**	**66.18**	**351**	P	**P**	**02 13 13.6**	**-0.4**
	comp=Z,6.7nm,1.0s,baz=171,slow=6.6,SNR=6.5						
	comp=Z,6.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**66.18**	**351**	P	**P**	**02 13 12.9**	**-1.1**
PB03	**IPOC Station P**	**66.68**	**264**	P	**P**	**02 13 17.6**	**+0.1**
PB03				IAmb	IAmb	02 13 26.2	
	comp=Z,13nm,0.9s						
ROSB	**Rosrio**	**66.82**	**298**	*eP*	**P**	**02 13 17.9**	**-0.4**
PDRB	**Porto dos Gac**	**66.88**	**282**	*eP*	**P**	**02 13 19.1**	**+0.4**
CLDB	**Colider**	**66.92**	**283**	*eP*	**P**	**02 13 18.4**	**-0.6**
PB07	**IPOC Station P**	**67.00**	**264**	P	**P**	**02 13 18.8**	**-0.8**
PB07				IAmb	IAmb	02 13 30.6	
	comp=Z,17nm,0.9s						
PRPB	**Parauapebas**	**67.24**	**291**	*eP*	**P**	**02 13 19.6**	**-1.4**
VILB	**Vilhena**	**67.90**	**278**	*eP*	**P**	**02 13 27.4**	**+2.2**
GO01	**Chusmiza**	**68.15**	**266**	P	**P**	**02 13 26.7**	**-0.5**
GO01				IAmb	IAmb	02 13 35.5	
	comp=Z,14nm,1.1s						
MNMC	**Minye Minye**	**68.80**	**266**	P	**P**	**02 13 29.4**	**-1.7**
TMAB	**Tom-Au,PA,Br**	**69.41**	**295**	*eP*	**P**	**02 13 35.7**	**+1.1**
NPGB	**Novo Progresso**	**69.72**	**286**	*eP*	**P**	**02 13 37.5**	**+1.0**
ATD	**Arta Tunnel**	**70.04**	**34**	LR	LR	02 41 59.3	
	comp=Z,406nm,21.7s,baz=192,slow=34						
LPAZ	**La Paz**	**70.10**	**269**	P	**P**	**02 13 39.0**	**-0.5**
	comp=Z,14nm,0.8s,baz=100,slow=4.4,SNR=13						
LPAZ				LR	LR

	comp=Z,266nm,20.3s,baz=155,slow=33								
	comp=Z,1.3nm,1.0s								
BRTR	**Keskin Array B**	**94.48**	**18**	LR		LR		02 58 54.9	
	comp=Z,344nm,21.9s,baz=200,slow=36								
BATI	**Baumata**	**95.64**	**115**	LR		LR		02 54 54.2	
	comp=Z,343nm,18.8s,baz=226,slow=33								
SJG	**San Juan**	**96.26**	**292**	LR		LR		02 56 04.8	
	comp=Z,410nm,19.4s,baz=144,slow=34								
GNI	**Garni**	**97.41**	**26**	LR		LR		03 01 17.7	
	comp=Z,373nm,18.4s,baz=208,slow=36								
KAPI	**Kappang**	**97.69**	**109**	LR		LR		02 51 29.7	
	comp=Z,298nm,21.5s,baz=208,slow=30								
CTA	**Charters Tower**	**97.98**	**139**	LR		LR		02 54 06.0	
	comp=Z,325nm,21.3s,baz=224,slow=32								
MLR	**Muntele Rosu**	**98.95**	**11**	LR		LR		03 03 44.0	
	comp=Z,331nm,18.8s,baz=178,slow=37								
DAVOX	**Davos/Dischmat**	**99.30**	**360**	LR		LR		02 58 41.6	
	comp=Z,318nm,20.6s,baz=191,slow=34								
GEYT	**Alibeck**	**99.59**	**37**	LR		LR		03 04 16.2	
	comp=Z,240nm,18.1s,baz=230,slow=37								
VYHS	**Vyhne**	**101.29**	**6**	*e*PDIFF		**Pdif**		**02 16 20.8**	**+4.2**
GERES	**GERESS Array B**	**101.42**	**2**	PP		**PP**		**02 20 26.8**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=197,slow=4.2,SNR=3.8								
TBI	**Tubuai**	**102.02**	**199**	*e*SS		SS		02 35 08.8	+3.6
	comp=Z,748nm,29.8s								
TBI	**Tubuai**	**102.02**	**199**	*e*LR		LR		02 49 40.2	
	comp=Z,2μm,35.8s								
TBI				*e*LR		LR		02 49 41.0	
	comp=Z,6μm,23.0s								
DZM	**Mont Dzumac**	**102.56**	**158**	*e*SS		SS		02 35 17.0	+4.0
	comp=Z,163nm,24.9s								
DZM	**Mont Dzumac**	**102.56**	**158**	*e*LR		LR		02 49 56.9	
	comp=Z,993nm,26.9s								
CLL	**Collm**	**103.86**	**2**	*e*PS		PS		02 30 03.0	+7.1
CLL				*e*SS		SS		02 35 32.0	-0.4
CLL				LmV				03 03 00.0	
	comp=Z,300nm,19.6s								
PPT2	**Papeete2**	**107.63**	**200**	*e*SS		SS		02 36 25.7	+3.3
	comp=Z,279nm,26.8s								
PPT2	**Papeete2**	**107.63**	**200**	*e*LR		LR		02 52 17.0	
	comp=Z,404nm,23.8s								
PPT2				*e*LR		LR		02 52 17.2	
	comp=Z,339nm,23.8s								
PZH	**PanZhiHua**	**111.63**	**74**	PKP		**PKiKP**		**02 21 02.5**	**+1.6**
MKAR	**Makanchi Array**	**116.79**	**47**	PKP		**PKPdf**		**02 21 09.6**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=251,slow=4.4,SNR=2.5								
BVAR	**Borovoye Array**	**116.92**	**36**	PKP		**PKPdf**		**02 21 09.0**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=327,slow=2.4,SNR=3.1								
WMQ	**Urumqi**	**117.05**	**53**	*e*PKP		**PKiKP**		**02 21 12.5**	**+1.8**
XAN	**Xi'an**	**121.36**	**74**	PKP		**PKiKP**		**02 21 19.8**	**+0.4**
ZALV	**Zalesovo Beam**	**123.19**	**43**	PKP		PKiKP		02 21 31.8	+10
	comp=Z,0.6nm,0.6s,baz=270,slow=2.4,SNR=3.9								
NJ2	**Nanjing**	**125.84**	**83**	*e*PKP		**PKiKP**		**02 21 30.1**	**+1.8**
TX31	**Lajitas Ar. Si**	**126.94**	**271**			**PKPdf**		**02 21 28.5**	**-1.8**
TXAR	**Lajitas Array**	**126.94**	**271**	PKP		**PKPdf**		**02 21 30.6**	**+0.4**
	comp=Z,2.7nm,1.1s,baz=160,slow=4.0,SNR=7.1								
HNS	**HongShan**	**127.07**	**75**	*e*PKP		**PKiKP**		**02 21 30.9**	**+0.4**
HNS				LR		LR			
	comp=Z,250nm,19.9s								
HNS				LR		LR			
	comp=Z,430nm,24.7s								
HNS				LR		LR			
	comp=Z,360nm,18.6s								
HHC	**Hu-ho-hao-te**	**127.57**	**70**	*e*PKP		**PKPdf**		**02 21 29.6**	**-1.4**
SONM	**Songino Array**	**129.25**	**60**	PKP		**PKPdf**		**02 21 33.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=238,slow=2.7,SNR=2.3								
JLU	**Jordanelle**	**139.22**	**277**	PKPpre		PKPpre		02 21 45.6	
PDAR	**Pinedale Array**	**139.38**	**281**	PKHKP		PKPpre		02 21 44.3	
	comp=Z,0.3nm,0.6s,baz=77,slow=4.0,SNR=2.7								
PDAR				PKP		**PKPdf**		**02 21 54.0**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=139,slow=3.9,SNR=8.7								
LOHW	**Long Hollow**	**140.50**	**281**	PKPpre		PKPpre		02 21 49.5	
MOOW	**Moose Ponds**	**140.66**	**281**	PKPdf		**PKPdf**		**02 21 53.2**	**-2.4**
FXWY	**Fox Creek**	**140.76**	**281**	PKPdf		**PKPdf**		**02 21 53.1**	**-2.7**
IMW	**Indian Meadow**	**140.86**	**281**	PKPpre		PKPpre		02 21 49.9	
NV11	**Mina Array Sit**	**141.92**	**269**	PKPdf		**PKPdf**		**02 21 56.5**	**-1.4**
NVAR	**Mina Array Bea**	**142.01**	**269**	PKP		**PKPdf**		**02 21 56.2**	**-2.0**
	comp=Z,1.8nm,0.8s,baz=149,slow=4.0,SNR=7.4								
RES	**Resolute Bay**	**143.97**	**334**	PKPdf		**PKPdf**		**02 22 00.5**	**+0.3**
KLR	**Kul'dur**	**144.01**	**72**	PKP		**PKPab**		**02 21 59.0**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=285,slow=7.7,SNR=5.5								
MSO	**Missoula**	**144.22**	**283**	PKPdf		PKPbc		02 22 00.9	+0.9
PLID	**Pearl Lake**	**144.53**	**279**	PKPdf		**PKPab**		**02 22 00.5**	**-0.5**
EDM	**Edmonton**	**146.78**	**294**	PKPdf		**PKPdf**		**02 22 04.7**	**-1.0**
TIXI	**Tiksi**	**147.89**	**31**	PKPbc		**PKPdf**		**02 22 07.5**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=270,slow=12,SNR=4.6								
B08A	**Colville Reser**	**148.16**	**283**			**PKPbc**		**02 22 11.1**	**-0.4**
YKA	**Yellowknife Ar**	**149.87**	**311**	PKPbc		**PKPbc**		**02 22 15.1**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=93,slow=2.3,SNR=31								
YKA	**Yellowknife Ar**	**149.87**	**311**	PKPdf		**PKPdf**		**02 22 09.7**	**-0.8**
YKA				PKPbc		**PKPbc**		**02 22 15.1**	**-0.2**
A36M	**Sachs Harbour**	**152.90**	**331**	PKPdf		**PKPdf**		**02 22 14.9**	**+0.1**
A36M						**PKPab**		**02 22 31.1**	**-2.2**
ILAR	**Eielson Array**	**163.30**	**324**	PKPbc		PKPdf		02 22 41.8	+14
	comp=Z,0.9nm,1.0s,baz=332,slow=2.0,SNR=6.3								
ILAR				PKPab		**PKPab**		**02 23 18.5**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=32,slow=3.0,SNR=10.0								

DJA 18 02:25:53.5±0.3, 3°N±3°×9°8E±°, h10km±4km, M4.0/12, mb4.5/5, mB5.5/1, MLv3.8/12, Mw(mB)5.0/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSI	**Tuntungan**	**0.24**	**20**	P	Pg	02 25 59.3	+0.8
KCSI	**Kotacane, Aceh**	**0.75**	**290**	P	Pb	02 26 08.4	-0.3
MLSI	**Meulaboh, Aceh**	**2.30**	**296**	P	Pn	02 26 31.0	-0.5
SNSI	**Sinabang, Aceh**	**2.31**	**248**	P	Pn	02 26 31.9	+0.2
PBSI	**Pulau Batu**	**3.31**	**183**	P	Pn	02 26 45.2	-0.2
PDSI	**Padang**	**4.60**	**154**	P	Pn	02 27 03.2	0.0
PPSI	**Pulau Pagai**	**6.18**	**166**	P	Pn	02 27 24.7	-0.3
	102nm,0.8s,0.7nm						
MASI	**Maura Aman, Be**	**7.39**	**149**	P	Pn	02 27 41.9	+0.3

*IDC **18** 02:30:27.7±1.6, 1°.22N×123°.60E, h0km, mb3.5/3, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=45.5km s-min=24.5km az=73.0*
*DJA **18** 02:30:29.3±1.2, 1°N±12°×12°4E±°, h10km, M3.9/6, MLv3.9/6*
ISC 18 02:30:29.4±1.4, 1°.2N±0°.1×123°.58E±0°.08, h10km, n10, σ1s16/11, mb3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.79**	**226**	P	**Pg**	**02 30 43.5**	**-1.1**
MRSI	**Marisa**	**1.79**	**247**	P	**Pn**	**02 31 00.4**	**+0.1**
LUWI	**Luwuk**	**2.36**	**200**	P	**Pn**	**02 31 09.6**	**+1.4**
APSI	**Ampana**	**2.84**	**223**	P	**Pn**	**02 31 15.8**	**+1.0**
MPSI	**Mapaga**	**3.78**	**257**	P	**Pn**	**02 31 28.7**	**+1.0**
SANI	**Sanana**	**4.02**	**143**	P	**Pn**	**02 31 31.2**	**+0.2**
KAPI	**Kappang**	**7.25**	**212**	Pn	**Pn**	**02 32 16.0**	**+0.5**
	4.1nm,0.3s,baz=23,slow=13,SNR=7.9						
KAPI				Sn	**Sn**	**02 33 37.8**	**-0.1**
	1.5nm,0.3s,baz=25,slow=22,SNR=9.0						
	11nm,0.4s						
WRA	**Warramunga Arr**	**23.50**	**154**	P	**P**	**02 35 38.2**	**-1.5**
	0.9nm,0.5s,baz=333,slow=10.0,SNR=10						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**26.67**	**159**	P	**P**	**02 36 10.4**	**+1.7**
	0.2nm,0.4s,baz=344,slow=7.8,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**57.92**	**328**	P	**P**	**02 40 21.8**	**-0.1**
	0.3nm,0.5s,baz=122,slow=8.6,SNR=6.2						
	0.3nm,0.5s						

*TAP **18** 02:38:34.0, 24°.36N×122°.20E, h29km, ML3.0, B*
*JMA **18** 02:38:33.6±0.1, 24°.3N±0°.7×122°.2E±0°.2, h52km±2km, MV2.4/10, TAIWAN REGION*
ISC 18 02:38:34.0±1.0, 24°.34N±0°.03×122°.22E±0°.02, h33km±6km, n79, σ0s69/107, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.41**	**284**	*i* P	**Pb**	**02 38 43.2**	**-0.1**
	baz=282						
EWUT				*e*S	**Sb**	**02 38 49.5**	**-0.1**
	baz=282						
TWC	**Suao**	**0.43**	**308**	P	**Pb**	**02 38 43.4**	**-0.1**
	baz=308						
TWC				*i* S	**Sb**	**02 38 49.9**	**-0.1**
	baz=308						
ENA	**Nanau**	**0.44**	**281**	*i* P	**Pb**	**02 38 43.6**	**-0.1**
	baz=278						
ENA				*i* S	**Sb**	**02 38 50.5**	**+0.1**
	baz=278						
NDS	**Dongshan**	**0.54**	**302**	*e*P	**Pb**	**02 38 45.3**	**+0.1**
	baz=301						
EGS		**0.56**	**333**	*e*P	**Pb**	**02 38 45.6**	**+0.1**
	baz=334						
EGS				*i* S	**Sb**	**02 38 53.5**	**0.0**
	baz=334						
ETL	**Fush Village**	**0.57**	**251**	*e*P	**Pb**	**02 38 45.3**	**-0.5**
	baz=248						
ETL				*e*S	**Sb**	**02 38 54.7**	**+0.9**
	baz=248						
NACB	**Ninganchiao**	**0.59**	**254**	P	**Pb**	**02 38 45.8**	**-0.2**
NACB	**Ninganchiao**	**0.59**	**254**	P	**Pb**	**02 38 45.9**	**-0.2**
	baz=251						
NACB				*e*S	**Sb**	**02 38 54.7**	**+0.3**
	baz=251						
TWD	**Chiawan**	**0.62**	**245**	P	**Pb**	**02 38 46.3**	**-0.3**
	baz=242						
TWD				*i* S	**Sb**	**02 38 55.5**	**+0.3**
	baz=242						
TWE	**Neicheng**	**0.63**	**307**	*e*P	**Pb**	**02 38 46.7**	**+0.1**
	baz=307						
TWE				*i* S	**Sb**	**02 38 55.1**	**-0.2**
	baz=307						
LATG	**Datong**	**0.66**	**287**	*e*P	**Pb**	**02 38 47.1**	**-0.1**
	baz=285						
LATG				*e*S	**Sb**	**02 38 56.6**	**+0.4**
	baz=285						
ENTT	**Nioudou**	**0.66**	**297**	*e*P	**Pb**	**02 38 47.2**	**-0.1**
	baz=295						
ENTT				S	**Sb**	**02 38 56.3**	**0.0**
	baz=295						
JYNG	**Yonagunijimaku**	**0.67**	**81**	*e*P	**Pb**	**02 38 47.2**	**-0.2**
JYNG				S	**Sb**	**02 38 57.3**	**+0.8**
ETLH	**Xiulin Townshi**	**0.69**	**259**	*e*P	**Pb**	**02 38 47.2**	**-0.5**
	baz=256						
ETLH				S	**Sb**	**02 38 57.1**	**+0.1**
	baz=256						
TWB1	**Santiao Chiao**	**0.69**	**343**	*e*P	**Pb**	**02 38 47.1**	**-0.7**
	baz=344						
TWB1				*e*S	**Sb**	**02 38 56.2**	**-0.9**
	baz=344						
FUSB	**Fushanzhiwuyua**	**0.71**	**306**	*e*P	**Pb**	**02 38 47.9**	**-0.1**
	baz=305						
TIPB	**Shuangxi**	**0.72**	**330**	*i* P	**Pb**	**02 38 47.7**	**-0.5**
	baz=330						
TIPB				*e*S	**Sb**	**02 38 57.5**	**-0.4**
	baz=330						
YOJ	**Yonaguni jima**	**0.73**	**81**	P	**Pb**	**02 38 48.1**	**-0.3**
YOJ				*e*S	**Sb**	**02 38 58.9**	**+0.7**
YOJ	**Yonaguni jima**	**0.73**	**81**	*e*P	**Pb**	**02 38 48.1**	**-0.3**
	baz=81						
YOJ				S	**Sn**	**02 38 59.1**	**+1.0**
	baz=81						
TEYL	**Yanliau Villag**	**0.74**	**230**	*e*P	**Pb**	**02 38 48.0**	**-0.5**
	baz=229						
ETM	**Tongmen**	**0.76**	**240**	*e*P	**Pb**	**02 38 47.8**	**-1.0**
	baz=238						
NNSB	**Datong**	**0.77**	**276**	*i* P	**Pb**	**02 38 48.6**	**-0.5**
	baz=275						
NNSH	**Datong**	**0.77**	**276**	*i* P	**Pb**	**02 38 48.6**	**-0.5**
	baz=275						
NNS	**Nan Shan**	**0.78**	**277**	*e*P	**Pb**	**02 38 48.8**	**-0.4**
	baz=275						
NNS				S	**Sb**	**02 38 59.4**	**-0.1**
	baz=275						
NWLT	**Wulai**	**0.78**	**304**	*e*P	**Pb**	**02 38 49.1**	**-0.1**
	baz=303						
NWLT				*e*S	**Sb**	**02 38 60.0**	**+0.4**
	baz=303						
SXI1	**Grass Mountain**	**0.81**	**337**	*e*P	**Pb**	**02 38 48.8**	**-0.9**
	baz=338						
SXI1				*e*S	**Sb**	**02 38 59.4**	**-1.0**
	baz=338						
NWF	**Wu-fen Shan**	**0.82**	**331**	*e*P	**Pb**	**02 38 49.1**	**-0.9**
	baz=331						
NWF				*e*S	**Sb**	**02 39 00.3**	**-0.6**
	baz=331						
WFSB	**Wu-fen Shan**	**0.82**	**331**	P	**Pb**	**02 38 49.2**	**-0.7**
	baz=331						
WFSB				*e*S	**Sb**	**02 39 00.3**	**-0.5**
	baz=331						
YHNB	**Yeheng**	**0.83**	**293**	P	**Pb**	**02 38 49.9**	**-0.2**
YHNB	**Yeheng**	**0.83**	**293**	*e*P	**Pb**	**02 38 49.8**	**-0.3**
	baz=292						
NSK	**Sanguang**	**0.85**	**293**	*e*P	**Pb**	**02 38 50.0**	**-0.4**
	baz=292						
TWA	**Mucha**	**0.86**	**318**	*e*P	**Pb**	**02 38 50.0**	**-0.5**
	baz=318						
WHF	**Hehuan Shan**	**0.89**	**257**	*e*P	**Pb**	**02 38 50.7**	**-0.6**
	baz=255						
WHF				S	**Sb**	**02 39 02.5**	**-0.6**
	baz=255						
FUSS	**Fushou**	**0.89**	**264**	P	**Pb**	**02 38 50.6**	**-0.6**
	baz=262						
TNOU	**National Taiwa**	**0.90**	**333**	*e*P	**Pb**	**02 38 50.1**	**-1.1**
	baz=333						
TATO	**Taipei**	**0.91**	**314**	P	**Pb**	**02 38 51.4**	**0.0**
TWT	**Tachien**	**0.95**	**265**	*e*P	**Pb**	**02 38 52.0**	**-0.2**
	baz=263						
TWT				S	**Sb**	**02 39 04.4**	**-0.2**
	baz=263						
TDCB	**Techi**	**0.97**	**265**	*e*P	**Pb**	**02 38 52.0**	**-0.5**
	baz=263						
EGFH	**Guangfu**	**0.99**	**227**	*e*P	**Pn**	**02 38 51.5**	**-0.1**
	baz=225						
YM01	**YM01**	**0.99**	**324**	*e*P	**Pn**	**02 38 51.6**	**-0.1**
	baz=323						
CHGB	**Renai**	**0.99**	**254**	S	**Sb**	**02 39 05.3**	**-0.5**
	baz=252						
YM08	**YM08**	**1.02**	**326**	*e*P	**Pn**	**02 38 51.9**	**-0.1**
	baz=326						
OWD	**Renai**	**1.03**	**248**	*e*P	**Pn**	**02 38 52.4**	**+0.1**
	baz=246						
OWD				*e*S	**Sb**	**02 39 04.9**	**-1.7**
	baz=246						
NFF	**Wufeng Townshi**	**1.04**	**286**	*e*P	**Pn**	**02 38 53.0**	**+0.6**
	baz=285						
WUSB	**Renai**	**1.06**	**251**	*e*P	**Pn**	**02 38 53.1**	**+0.3**
	baz=249						
WUSB				*e*S	**Sb**	**02 39 06.8**	**-0.8**
	baz=249						
HGSD	**Ruisui**	**1.12**	**221**	*e*P	**Pn**	**02 38 52.9**	**-0.5**
	baz=219						
LIOB	**Emei**	**1.14**	**286**	*e*P	**Pn**	**02 38 54.6**	**+0.9**
	baz=284						
NSTT	**Nanjuang**	**1.14**	**285**	*e*P	**Pn**	**02 38 54.8**	**+1.1**
	baz=283						
VWDT	**VWDT**	**1.15**	**239**	*e*P	**Pn**	**02 38 53.9**	**+0.1**
	baz=237						
WHP	**Taichung City**	**1.16**	**267**	*e*P	**Pn**	**02 38 55.0**	**+1.0**
	baz=265						
EHY	**Hungye**	**1.17**	**225**	*e*P	**Pn**	**02 38 53.3**	**-0.8**
	baz=222						
DPDB	**Guoxing**	**1.22**	**256**	*e*P	**Pn**	**02 38 55.6**	**+0.8**
	baz=254						
WCS	**Beigang Elemen**	**1.23**	**257**	*e*P	**Pn**	**02 38 55.7**	**+0.9**
	baz=255						
YULB	**Yu-li**	**1.27**	**222**	P	**Pn**	**02 38 54.7**	**-0.8**
YULB	**Yu-li**	**1.27**	**222**	*e*P	**Pn**	**02 38 54.5**	**-1.0**
	baz=220						
SSLB	**Suanglung**	**1.28**	**245**	P	**Pb**	**02 38 57.8**	**+0.2**
SSLB	**Suanglung**	**1.28**	**245**	*e*P	**Pn**	**02 38 55.9**	**+0.2**
	baz=243						
SMLT	**Sun Moon Lake**	**1.29**	**249**	*e*P	**Pn**	**02 38 57.0**	**+1.1**
	baz=247						
EYUL	**Yuli**	**1.29**	**220**	*e*P	**Pn**	**02 38 55.5**	**-0.3**
	baz=218						
TWF1	**Yuli**	**1.30**	**221**	*e*P	**Pn**	**02 38 55.1**	**-0.8**
	baz=219						
TYC	**Yuchr**	**1.32**	**251**	*e*P	**Pn**	**02 38 57.1**	**+1.0**
	baz=249						
IRIF	**Iriomote-Funau**	**1.38**	**90**	*e*S	**Sn**	**02 39 14.1**	**0.0**
FULB	**Fuli**	**1.42**	**217**	*e*P	**Pn**	**02 38 57.1**	**-0.5**
	baz=215						
ALS	**Alishan**	**1.54**	**238**	*e*P	**Pn**	**02 39 00.1**	**+0.7**
	baz=236						
CHN5	**Tsauling**	**1.59**	**242**	*e*P	**Pn**	**02 39 00.8**	**+0.9**
	baz=241						
EDH	**Donghe**	**1.60**	**212**	*e*P	**Pn**	**02 38 59.1**	**-0.9**
	baz=210						
JKRS	**Kuro-shima**	**1.64**	**93**	P	**Pn**	**02 39 01.2**	**+0.7**
JKRS				S	**Sn**	**02 39 21.6**	**+1.1**
WCKO	**Fanlu**	**1.73**	**239**	*e*P	**Pn**	**02 39 02.8**	**+1.0**
	baz=237						
JIJ	**Ishigaki jima**	**1.76**	**89**	P	**Pn**	**02 39 02.4**	**+0.2**
JIJ				*e*S	**Sn**	**02 39 22.4**	**-1.0**
STYT	**Tauyuan**	**1.78**	**229**	*e*P	**Pn**	**02 39 03.4**	**+0.9**
	baz=227						
CHN4	**Tsaushan**	**1.79**	**237**	*e*P	**Pn**	**02 39 04.2**	**+1.6**
	baz=235						
TPUB	**Ta-pu**	**1.79**	**235**	P	**Pn**	**02 39 04.5**	**+1.9**
TPUB	**Ta-pu**	**1.79**	**235**	*e*P	**Pn**	**02 39 03.8**	**+1.1**
	baz=233						
LDUT	**Ludao**	**1.80**	**203**	*e*P	**Pn**	**02 39 02.4**	**-0.3**
	baz=201						
WTP	**Ta-pu**	**1.83**	**234**	*e*P	**Pn**	**02 39 04.3**	**+1.1**
	baz=232						
JISG	**Ishigakijimahi**	**1.92**	**82**	*e*P	**Pn**	**02 39 04.4**	**0.0**
JISG				*e*S	**Sn**	**02 39 26.7**	**-0.8**
CHN1	**Nanshi**	**1.93**	**234**	*e*P	**Pn**	**02 39 06.0**	**+1.4**
	baz=232						
MASBT	**Mashibuluo**	**2.26**	**220**	*e*P	**Pn**	**02 39 10.3**	**+1.3**
	baz=219						
JTJ	**Tarama**	**2.28**	**82**	*e*S	**Sn**	**02 39 36.8**	**+0.4**

*NCEDC **18** 02:53:36.4±1.8, 37°.48N±0°.01×118°.78W±0°.01, h5km±4km, ML3.4/16, ML2.9/7(REN), ML2.8/68(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=222.0*
*REN **18** 02:53:36.3±2.7, 37°.48N±0°.01×118°.80W±0°.02, h10km±3km, Error ellipse: s-maj=2.1km s-min=1.9km az=192.0*
*ANF **18** 02:53:36.2±0.2, 37°.45N×118°.80W, h1km±2km, ML3.2/18, Error ellipse: s-maj=1.9km s-min=1.8km az=77.0*
*NEIC **18** 02:53:37.1±2.3, 37°.48N±0°.02×118°.77W±0°.02, h8km±4km, Error ellipse: s-maj=2.5km s-min=1.9km az=206.0*
ISC 18 02:53:36.7±0.8, 37°.49N±0°.02×118°.77W±0°.02, h9km±7km, n171, σ0s89/189, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCVM	**Convict Lake**	**0.11**	**336**		**Pg**	**02 53 39.1**	**-0.5**
MLAC	**Mammoth, Mammo**	**0.15**	**340**		**Pg**	**02 53 40.0**	**-0.1**
MLAC	**Mammoth, Mammo**	**0.15**	**340**		**Sg**	**02 53 42.7**	**+0.1**
MLAC	**Mammoth, Mammo**	**0.15**	**340**	P	**Pg**	**02 53 40.0**	**-0.1**
	baz=165,SNR=811						
MLAC				S	**Sg**	**02 53 42.4**	**-0.2**
	baz=165						
MDRNC	**Doe Ridge**	**0.16**	**341**		**Pg**	**02 53 40.2**	**-0.1**
MLCM	**Laurel Creek C**	**0.17**	**318**		**Pg**	**02 53 40.0**	**-0.4**
MGPM	**Gravel Pit**	**0.17**	**323**		**Pg**	**02 53 40.3**	**-0.2**
MCBM	**Casa Benchmark**	**0.19**	**328**		**Pg**	**02 53 40.5**	**-0.2**
MCBM					**Sg**	**02 53 43.6**	**+0.1**
MLHM	**Little Hot Cre**	**0.20**	**350**		**Pg**	**02 53 41.0**	**+0.1**
MCSM	**Casa Diablo Ho**	**0.20**	**327**		**Pg**	**02 53 40.9**	**-0.1**
MTUM	**Tungsten Hills**	**0.21**	**129**		**Pg**	**02 53 40.9**	**-0.2**
OMMB	**Old Mammoth Mi**	**0.22**	**305**		**Pg**	**02 53 40.8**	**-0.5**
OMMB					**Sg**	**02 53 43.6**	**-1.0**
OMMB				IAML		02 53 44.0	
	comp=N,2μm,0.2s						
OMMB				IAML		02 53 44.0	
	comp=E,2μm,0.4s						
MEMM	**East Mammoth H**	**0.22**	**323**		**Pg**	**02 53 41.3**	**-0.1**
MMLB	**Mammoth Lakes**	**0.24**	**316**		**Pg**	**02 53 41.5**	**-0.1**
MMPM	**Mammoth Pass**	**0.24**	**301**		**Pg**	**02 53 41.2**	**-0.5**
MLIM	**Lincoln Peak**	**0.25**	**307**		**Pg**	**02 53 41.6**	**-0.2**
MMSM	**Mammoth Summit**	**0.25**	**305**		**Pg**	**02 53 41.6**	**-0.3**
MRDM	**Red Cones**	**0.25**	**296**		**Pg**	**02 53 41.5**	**-0.4**
MDYM	**Dry Creek**	**0.26**	**312**		**Pg**	**02 53 41.9**	**-0.2**
MDYM	**Dry Creek**	**0.26**	**312**		**Sg**	**02 53 45.7**	**+0.1**
MCDM	**Chidago Canyon**	**0.27**	**77**		**Pg**	**02 53 42.3**	**+0.2**
BENR	**Benton**	**0.28**	**34**		**Pg**	**02 53 42.1**	**-0.2**
MFBM	**Five Bridges**	**0.28**	**102**		**Pg**	**02 53 42.6**	**+0.3**
LMCR	**Lookout Mounta**	**0.28**	**330**		**Pg**	**02 53 42.5**	**+0.1**
MRCM	**Red Rock Canyo**	**0.28**	**48**		**Pg**	**02 53 42.3**	**-0.1**
MDPB	**Devils Postpil**	**0.28**	**301**	Pg	**Pg**	**02 53 42.0**	**-0.5**
MDPB				Sg	**Sg**	**02 53 45.7**	**-0.7**
MDPB				IAML		02 53 46.1	
	comp=E,2μm,0.3s						
MDPB				IAML		02 53 46.2	
	comp=N,2μm,0.3s						
BHPR	**Bishop**	**0.29**	**129**		**Pg**	**02 53 42.1**	**-0.5**
MDCM	**Deadman Creek**	**0.31**	**316**		**Pg**	**02 53 42.6**	**-0.4**
MLNR	**Milner Canyon**	**0.36**	**72**		**Pg**	**02 53 43.8**	**0.0**
POCCA	**Poleta Canyon**	**0.41**	**107**		**Pg**	**02 53 44.6**	**-0.2**
KCC	**Kaiser Creek**	**0.47**	**250**		**Pg**	**02 53 45.1**	**-0.7**
KCC					**Sg**	**02 53 51.1**	**-0.8**
TIN	**Tinemaha, Big**	**0.61**	**135**		**Pg**	**02 53 48.4**	**-0.1**
TIN	**Tinemaha, Big**	**0.61**	**135**		**Sg**	**02 53 57.3**	**+0.8**
TIN	**Tinemaha, Big**	**0.61**	**135**	P	**Pg**	**02 53 48.3**	**-0.2**
	baz=314,SNR=22						
TIN				S	**Sg**	**02 53 56.9**	**+0.4**
	baz=314						

WASM	**Alta Sierra Ca**	**1.75**	**174**		**Pn**	**02 54 08.5**	**+1.1**
MPMC	**Manual Prospec**	**1.76**	**144**	P	**Pn**	**02 54 07.7**	**+0.1**
	baz=324,SNR=44						
MPMC				S	**Sb**	**02 54 31.8**	**+0.3**
	baz=324						
WNMM	**Nine Mile Cany**	**1.78**	**157**		**Pb**	**02 54 09.1**	**-0.5**
BMSM	**Mercy Hot Spri**	**1.82**	**244**		**Pn**	**02 54 09.3**	**+1.0**
FURC	**Furnace Creek,**	**1.83**	**123**		**Pb**	**02 54 11.2**	**+0.8**
FURC	**Furnace Creek,**	**1.83**	**123**	Pb	**Pb**	**02 54 10.9**	**+0.5**
	baz=304						
ISA	**Isabella, Lake**	**1.84**	**172**		**Pb**	**02 54 09.9**	**-0.6**
ISA	**Isabella, Lake**	**1.84**	**172**	Pb	**Pb**	**02 54 09.9**	**-0.6**
	baz=352						
ISA				S	**Sb**	**02 54 33.2**	**-0.5**
	baz=352						
WORM	**Onyx Ranch**	**1.84**	**166**		**Pb**	**02 54 09.9**	**-0.6**
WCT	**Wildcat Mounta**	**1.85**	**111**	Pn	**Pn**	**02 54 08.9**	**+0.2**
WCT				IAML		02 54 39.2	
	comp=N,91nm,0.6s						
WCT				IAML		02 54 40.0	
	comp=E,81nm,0.7s						
SCKWR	**San Luis Creek**	**1.86**	**261**		**Pb**	**02 54 10.2**	**-0.6**
PJUM	**Juniper Ridge**	**1.93**	**230**		**Pn**	**02 54 10.9**	**+1.2**
VCNR	**Virginia City**	**1.93**	**339**	Pn	**Pn**	**02 54 10.1**	**+0.1**
VCNR				IAML		02 55 05.2	
	comp=E,46nm,0.7s						
WOFM	**Oak Flat**	**1.95**	**179**		**Pn**	**02 54 10.6**	**+0.6**
SLD	**San Luis Dam**	**2.00**	**259**		**Pn**	**02 54 12.0**	**+1.3**
CTM	**Castle Mountai**	**2.00**	**220**		**Pn**	**02 54 12.1**	**+1.4**
BBGB	**Big Mountain B**	**2.03**	**244**	Pn	**Pn**	**02 54 12.1**	**+0.9**
CMPM	**Mikes Peak**	**2.03**	**267**		**Pn**	**02 54 12.4**	**+1.2**
PSMM	**Smith Mountain**	**2.04**	**227**		**Pn**	**02 54 12.3**	**+1.0**
HPCM	**Pacheco Lake**	**2.04**	**259**		**Pn**	**02 54 12.3**	**+1.0**
PACP	**Pacheco Peak**	**2.06**	**257**		**Pn**	**02 54 12.9**	**+1.3**
PMPB	**Monarch Peak**	**2.06**	**233**	Pn	**Pn**	**02 54 12.2**	**+0.6**
PHFM	**Heflinger Ranc**	**2.07**	**220**		**Pn**	**02 54 12.6**	**+0.9**
COSM	**Mount Oso**	**2.07**	**271**		**Pn**	**02 54 13.2**	**+1.4**
TPNV	**Topopah Spring**	**2.08**	**104**	Pn	**Pn**	**02 54 12.1**	**+0.1**
TPNV				IAML		02 54 48.3	
	comp=E,74nm,0.8s						
TPNV				IAML		02 54 49.0	
	comp=E,80nm,1.0s						
TPNV	**Topopah Spring**	**2.08**	**104**	P	**Pn**	**02 54 12.3**	**+0.3**
	baz=286,SNR=79						
PPTM	**Peach Tree Val**	**2.08**	**229**		**Pn**	**02 54 12.6**	**+0.8**
BBNM	**San Benito**	**2.09**	**243**		**Pn**	**02 54 13.3**	**+1.4**
PSTM	**Stockdale Moun**	**2.09**	**222**		**Pn**	**02 54 12.8**	**+0.8**
PKD	**Bear Valley Ra**	**2.10**	**223**		**Pn**	**02 54 12.8**	**+0.6**
PHPM	**Hope Ranch**	**2.11**	**225**		**Pn**	**02 54 13.0**	**+0.8**
PVCM	**Vineyard Canyo**	**2.11**	**223**		**Pn**	**02 54 12.9**	**+0.7**
SDH	**Striped Hills**	**2.12**	**113**		**Pn**	**02 54 13.2**	**+0.7**
PKLM	**Kerr Lake**	**2.13**	**217**		**Pn**	**02 54 13.3**	**+0.9**
GWY	**Greenwater Val**	**2.13**	**127**	Pn	**Pn**	**02 54 12.1**	**-0.5**
GWY				IAML		02 54 50.1	
	comp=E,43nm,0.6s						
GWY				IAML		02 54 50.3	
	comp=N,37nm,0.6s						
HJSM	**John Smith Roa**	**2.13**	**252**		**Pn**	**02 54 14.0**	**+1.6**
BVL	**Bear Valley**	**2.14**	**246**		**Pn**	**02 54 14.2**	**+1.6**
QSM	**Queen of Sheba**	**2.15**	**134**	Pn	**Pn**	**02 54 12.4**	**-0.5**
QSM				IAML		02 54 47.0	
	comp=N,68nm,0.7s						
HFEM	**San Felipe**	**2.16**	**257**		**Pn**	**02 54 14.6**	**+1.7**
BLRM	**Lewis Ranch**	**2.16**	**248**		**Pb**	**02 54 14.9**	**-1.1**
BPIM	**Pinnacles**	**2.16**	**243**		**Pn**	**02 54 14.1**	**+1.1**
TRAM	**Private Proper**	**2.17**	**214**		**Pn**	**02 54 13.9**	**+0.8**
PWKM	**Work Ranch**	**2.18**	**221**		**Pn**	**02 54 14.0**	**+0.8**
BSLM	**Silva Ranch**	**2.18**	**252**		**Pn**	**02 54 14.7**	**+1.6**
LRMC	**Laurel Mtn Rad**	**2.19**	**156**	Pb	**Pb**	**02 54 16.5**	**-0.1**
	baz=336						
LRMC				Sb	**Sb**	**02 54 45.3**	**+1.5**
	baz=336						
PPO	**Portuguese Can**	**2.19**	**223**		**Pn**	**02 54 14.4**	**+1.0**
BCGM	**Cienega Road**	**2.20**	**250**		**Pb**	**02 54 16.6**	**0.0**
BJOM	**Mount Johnson**	**2.21**	**248**		**Pn**	**02 54 15.3**	**+1.8**
CDC	**Canada Road**	**2.21**	**259**		**Pn**	**02 54 15.6**	**+1.9**
TCHL	**Shandon**	**2.22**	**217**		**Pn**	**02 54 14.8**	**+1.1**
DONR	**Donner Summit**	**2.23**	**327**		**Pn**	**02 54 14.9**	**+0.9**
CPY	**CP-1**	**2.24**	**104**		**Pn**	**02 54 14.3**	**+0.2**
AMDNV	**Amargosa**	**2.25**	**117**		**Pn**	**02 54 14.8**	**+0.8**
SAO	**San Andreas Ge**	**2.26**	**252**		**Pn**	**02 54 15.6**	**+1.4**
SAO	**San Andreas Ge**	**2.26**	**252**	Pn	**Pn**	**02 54 15.0**	**+0.8**
AFDM	**Forest Hills D**	**2.27**	**311**	Pn	**Pn**	**02 54 15.2**	**+0.8**
HSFM	**Saint Francis**	**2.28**	**254**		**Pn**	**02 54 16.2**	**+1.6**
SCZ	**Santa Cruz**	**2.29**	**248**		**Pn**	**02 54 15.8**	**+1.2**
MHC	**Mount Hamilton**	**2.29**	**267**		**Pn**	**02 54 16.7**	**+1.9**
FRP	**Fremont Peak**	**2.29**	**252**		**Pn**	**02 54 15.8**	**+1.0**
TSCN	**Private Proper**	**2.32**	**214**		**Pn**	**02 54 16.3**	**+1.2**
CCOB	**Coe Ranch Numb**	**2.32**	**265**		**Pb**	**02 54 17.7**	**-1.1**
CARC	**Carrizo Plain**	**2.34**	**202**		**Pn**	**02 54 16.6**	**+1.2**
ARVC	**Arvin**	**2.35**	**181**		**Pb**	**02 54 18.6**	**-0.7**
ARVC	**Arvin**	**2.35**	**181**	P	**Pn**	**02 54 15.6**	**0.0**
	baz=0.9						
ARVC				Sb	**Sb**	**02 54 49.2**	**+0.7**
	baz=0.9						
CRGC	**Crocker Grade**	**2.37**	**199**		**Pn**	**02 54 17.2**	**+1.4**
PCCM	**Crazy Canyon**	**2.37**	**235**		**Pn**	**02 54 17.2**	**+1.4**
WENL	**Wente Vineyard**	**2.38**	**274**		**Pb**	**02 54 18.5**	**-1.2**
SMMC	**Simmler**	**2.38**	**205**	S	**Sn**	**02 54 46.8**	**+1.4**
	baz=24						
JLAB	**Laurel Hill**	**2.39**	**263**		**Pn**	**02 54 17.9**	**+1.9**
CCAC	**Calif City Air**	**2.41**	**165**	Pn	**Pn**	**02 54 16.4**	**+0.1**
S11A	**Rachel**	**2.41**	**85**	Pn	**Pn**	**02 54 15.9**	**-0.5**
S11A				IAML		02 55 07.0	
	comp=E,79nm,1.3s						
S11A				IAML		02 55 11.0	
	comp=N,82nm,1.0s						
TSCS	**Shell Creek So**	**2.41**	**212**		**Pn**	**02 54 18.5**	**+2.2**
BPCNC	**Pine Canyon**	**2.46**	**249**		**Pn**	**02 54 18.5**	**+1.5**
AMC	**Almaden**	**2.47**	**263**		**Pn**	**02 54 18.4**	**+1.2**
HAST	**Hastings Reser**	**2.48**	**245**		**Pn**	**02 54 18.4**	**+1.1**
RAMR	**Ramage Ranch**	**2.50**	**223**		**Pn**	**02 54 18.7**	**+1.1**
BCH	**Branch Mountai**	**2.53**	**205**		**Pn**	**02 54 19.2**	**+1.2**
SHOC	**Shoshone, Teco**	**2.56**	**128**	Sb	**Sg**	**02 54 57.0**	**-1.8**
	baz=309						
BLDC	**Black Mountain**	**2.60**	**222**		**Pn**	**02 54 20.2**	**+1.3**
PTAM	**Tassajara Cree**	**2.61**	**217**		**Pn**	**02 54 20.5**	**+1.4**
PHCM	**Hearst Castle**	**2.63**	**228**		**Pn**	**02 54 20.6**	**+1.2**
BAPM	**Anderson Peak**	**2.65**	**241**		**Pn**	**02 54 21.0**	**+1.3**
R11A	**Troy Canyon, C**	**2.66**	**70**	Pb	**Pb**	**02 54 24.7**	**+0.1**
	baz=252,SNR=43						
R11A				Sb	**Sg**	**02 55 00.4**	**-1.8**
	baz=252						
EDW2	**Edwards Air Fo**	**2.67**	**166**	Pb	**Pb**	**02 54 24.9**	**+0.1**
	baz=346,SNR=18						
EDW2				Sb	**Sb**	**02 54 59.9**	**+2.1**
	baz=346						
GSC	**Goldstone, Bar**	**2.70**	**143**	Pn	**Pn**	**02 54 20.3**	**-0.1**
GSC				IAML		02 55 10.7	
	comp=E,30nm,0.6s						
PKM	**Mcpherson Peak**	**2.73**	**198**	P	**Pn**	**02 54 21.7**	**+0.9**
	baz=18,SNR=5.8						
OSI	**Osito Audit: C**	**2.87**	**179**	Sb	**Sb**	**02 55 04.7**	**+1.4**
	baz=359						
PRN	**Pahroc Range**	**2.96**	**90**	Pn	**Pn**	**02 54 24.4**	**+0.4**
PRN				IAML		02 55 14.8	
	comp=N,34nm,0.6s						
PRN				IAML		02 55 24.6	
	comp=E,33nm,0.8s						
SHPR	**Sheep Range**	**3.05**	**108**	Pn	**Pn**	**02 54 25.0**	**-0.3**
BMN	**Battle Mountai**	**3.18**	**22**	Pn	**Pn**	**02 54 26.6**	**-0.5**
BMN				IAML		02 55 20.2	
	comp=E,16nm,1.0s						
ELK	**Elko**	**4.26**	**39**	Pn	**Pn**	**02 54 41.0**	**-0.9**
ELK				IAML		02 55 55.5	
	comp=E,7.3nm,0.7s						
CCUT	**Cedar City**	**4.30**	**88**	Pn	**Pn**	**02 54 42.7**	**+0.1**
LAMM	**Antelope Mount**	**5.08**	**325**		**Pn**	**02 54 53.7**	**+0.5**
PKCU	**Pink Cliffs**	**5.14**	**89**	Pn	**Pn**	**02 54 53.4**	**-0.8**
MTPU	**Mount Pierson**	**5.25**	**82**	Pn	**Pn**	**02 54 56.1**	**+0.4**
DUG	**Dugway, Tooele**	**5.38**	**58**	Pn	**Pn**	**02 54 56.9**	**-0.4**
DUG				IAML		02 56 30.4	
	comp=E,9.0nm,3.2s						

*NEIC **18** 03:03:22.0±1.9,24°.56N±0°.07×94°.57E±0°.08,h63^{km}±6^{km}, mb4.5/23,Error ellipse: s-maj=11.3km s-min=8.8km az=51.0*

*IDC **18** 03:03:22.0±1.2,24°.47N×94°.56E,h74^{km}±11^{km},mb3.7/19, mbtmp4.0/21,Error ellipse: s-maj=12.1km s-min=11.3km az=35.0*

*NDI **18** 03:03:23.7±2.5,24°.58N×94°.40E,h76^{km}±16^{km},ML4.3,*

mb4.5(NEIC)

ISC 18 03:03:22.6±0.4,**24°.45N**±0°.05×**94°.41E**±0°.05,**h82**^{km},**n80, σ2s02**/102,**mb4.2**/32,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.57**	**312**	*e*Pg	**Pn**	**03 03 36.5**	**-0.7**
IMP				*i* Sg	**Sn**	**03 03 46.9**	**-1.2**
SILR	**SILCHAR**	**1.50**	**283**	*e*P	**Pn**	**03 03 49.9**	**+1.9**
MOKO	**MOKOCHONG**	**1.86**	**3**	*e*P	**Pn**	**03 03 51.9**	**-1.0**
MOKO				*e*P	**Pn**	**03 03 56.7**	**+3.8**
MOKO				*e*S	**Sn**	**03 04 14.8**	**-1.1**
MOKO				IAML		03 04 21.6	
	comp=E,4μm,0.3s						
MOKO				IAML		03 04 22.6	
	comp=N,2μm,0.1s						
SAIH	**SAIHA**	**2.35**	**214**	*e*P	**Pn**	**03 04 00.9**	**+1.5**
SHL	**Shillong**	**2.55**	**296**	Pn	**Pn**	**03 04 01.7**	**-0.4**
TEZP	**TEZPUR**	**2.60**	**326**	*e*P	**Pn**	**03 04 01.4**	**-1.2**
MND	**Mandalay**	**2.89**	**147**	Pn	**Pn**	**03 04 06.3**	**-0.2**
GUWA	**GUWAHATI**	**3.01**	**306**	*e*P	**Pn**	**03 04 06.8**	**-1.3**
GUWA				*e*S	**Sn**	**03 04 39.4**	**-3.8**
BRDH	**Bariadhala**	**3.10**	**236**	P	**Pn**	**03 04 10.0**	**+0.7**
	comp=N,134nm,0.3s,baz=90,slow=18,SNR=7.7						
BRDH				S	**Sn**	**03 04 47.7**	**+2.4**
	comp=N,732nm,0.3s,baz=270,slow=22,SNR=33						
ZIRO	**ZIRO**	**3.10**	**351**	*e*P	**Pn**	**03 04 07.9**	**-1.6**
ZIRO				IAML		03 04 48.4	
	comp=N,2μm,0.5s						
ZIRO				IAML		03 04 49.7	
	comp=E,2μm,0.6s						
LKP	**Lekhapani**	**3.14**	**24**	*ex*	x	03 04 15.4	
LSA	**Lhasa**	**5.98**	**332**		**Pn**	**03 04 48.6**	**-0.4**
TAPN	**Taplejung**	**6.69**	**297**	*e*Pg	**Pn**	**03 04 59.0**	**+0.5**
TAPN				*e*Sg	**Sn**	**03 06 10.3**	**-3.1**
	comp=E,115nm,0.4s						
ODAN	**Odare**	**6.78**	**292**	*e*Pg	**Pn**	**03 05 00.4**	**+0.8**
CRAI	**Chiangrai**	**6.94**	**126**	Pn	**Pn**	**03 05 00.1**	**-1.5**
CHTO	**Chiang Mai**	**7.02**	**142**	Pn	**Pn**	**03 05 02.7**	**0.0**
CM31	**Chiang Mai Arr**	**7.30**	**144**	Pn	**Pn**	**03 05 06.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**7.30**	**144**	P	**Pn**	**03 05 06.7**	**0.0**
	comp=E,3.3nm,0.4s,baz=320,slow=13,SNR=23						
CMAR				S	**Sn**	**03 06 29.0**	**+0.9**
	comp=E,2.5nm,0.3s,baz=325,slow=26,SNR=5.6						
CMAR	**Chiang Mai Arr**	**7.30**	**144**	Pn	**Pn**	**03 05 04.1**	**-2.6**
RAMN	**Ramite**	**7.47**	**291**	*e*Pg	**Pn**	**03 05 09.9**	**+0.7**
RAMN				*e*Sg	**Sn**	**03 06 28.9**	**-3.6**
	comp=E,154nm,0.5s						
PHRA	**Phrae**	**8.03**	**136**	Pn	**Pn**	**03 05 16.5**	**0.0**
JIRN	**Jiri**	**8.05**	**295**	*e*Pg	**Pn**	**03 05 17.9**	**+0.7**
JIRN				*e*Sg	**Sn**	**03 06 42.8**	**-4.1**
	comp=E,102nm,0.3s						
PKI	**Pulchoki**	**8.68**	**293**	*e*Pg	**Pn**	**03 05 25.6**	**0.0**
PKI				*e*Sg	**Sn**	**03 06 56.7**	**-5.3**
	comp=E,15nm,0.3s						
PKIN	**Phulchoki**	**8.69**	**293**	*e*Pg	**Pn**	**03 05 25.7**	**0.0**
PKIN				*e*Sg	**Sn**	**03 06 56.8**	**-5.4**
	comp=E,37nm,0.4s						
KKN	**Kakani**	**8.86**	**294**	*e*Pg	**Pn**	**03 05 28.1**	**+0.1**
DMN	**Daman**	**8.94**	**293**	*e*Pg	**Pn**	**03 05 29.7**	**+0.5**
DMN				*e*Sg	**Sn**	**03 07 03.7**	**-4.7**
	comp=E,52nm,0.4s						
GKN	**Gorkha**	**9.46**	**294**	*e*Pg	**Pn**	**03 05 36.0**	**-0.2**
GKN				*e*Sg	**Sn**	**03 07 16.5**	**-4.5**
	comp=E,82nm,0.4s						
KOLN	**Koldanda**	**10.26**	**291**	*e*Pg	**Pn**	**03 05 46.8**	**-0.4**
DANN	**Dangsing**	**10.31**	**294**	*e*Pg	**Pn**	**03 05 48.1**	**+0.2**
DANN				*e*Sg	**Sn**	**03 07 36.3**	**-5.5**
	comp=E,69nm,0.6s						
RAGD	**RAYAGADA**	**11.41**	**245**	*e*S	**Sn**	**03 08 00.7**	**-7.8**
JBP	**Jabalpur**	**13.27**	**267**	*e*P	**Pn**	**03 06 25.3**	**-2.4**
JBP				*e*S	**Sn**	**03 08 48.3**	**-5.3**
ENH	**Enshi**	**14.59**	**63**	P	**Pn**	**03 06 42.8**	**-2.1**
HYB	**Hyderabad**	**16.38**	**248**	*e*P	**P**	**03 07 12.4**	**+3.3**
MK31	**Makanchi Array**	**24.32**	**339**	P	**P**	**03 08 33.9**	**+1.5**
MKAR	**Makanchi Array**	**24.32**	**339**	P	**P**	**03 08 34.4**	**+2.0**
	comp=E,4.2nm,0.5s,baz=149,slow=7.9,SNR=52						
MKAR				PcP	**PcP**	**03 12 11.4**	**+1.2**
	comp=E,0.4nm,0.5s,baz=191,slow=2.9,SNR=4.2						
MKAR				ScP	**ScP**	**03 15 42.1**	**+0.5**
	comp=E,0.5nm,0.8s,baz=179,slow=1.0,SNR=4.0						
	comp=E,4.2nm,0.5s						
MKAR	**Makanchi Array**	**24.32**	**339**	P	**P**	**03 08 34.2**	**+1.8**
MAKZ	**Makanchi**	**24.43**	**339**	P	**P**	**03 08 34.5**	**+1.1**
GAR	**Garm**	**25.01**	**311**	P	**P**	**03 08 40.4**	**+1.4**
GAR				IAmb	IAmb	03 08 58.3	
	comp=Z,20nm,0.8s						
SONM	**Songino Array**	**25.20**	**19**	P	**P**	**03 08 41.0**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=196,slow=9.5,SNR=16						
SONM				ScP	**ScP**	**03 15 44.3**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=197,slow=4.5,SNR=1.8						
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**25.20**	**19**	P	**P**	**03 08 40.8**	**+0.2**
ULN	**Ulaanbaatar**	**25.43**	**20**	P	**P**	**03 08 42.0**	**-0.7**
KURBB	**Kurchatov Arra**	**28.88**	**339**	P	**P**	**03 09 13.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=150,slow=9.8,SNR=2.6						
KURBB				PcP	**PcP**	**03 12 21.8**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=167,slow=1.9,SNR=9.3						
KURBB				ScP	**ScP**	**03 15 55.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=148,slow=2.5,SNR=7.4						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**30.32**	**349**	P	**P**	**03 09 25.4**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=169,slow=8.6,SNR=3.3						
	comp=Z,0.8nm,0.5s						
KSRS	**Korea Array**	**31.35**	**58**	P	**P**	**03 09 33.2**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=218,slow=4.8,SNR=1.8						
	comp=Z,0.5nm,0.3s						
GEYT	**Alibeck**	**33.61**	**302**	P	**P**	**03 09 57.7**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=138,slow=6.9,SNR=1.5						
GEYT				ScP	**ScP**	**03 16 13.0**	**+1.9**
	comp=Z,0.7nm,0.4s,baz=101,slow=7.5,SNR=2.1						
	comp=Z,0.4nm,0.3s						
BVAR	**Borovoye Array**	**33.81**	**334**	P	**P**	**03 09 57.4**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=127,slow=11,SNR=2.2						
BVAR				ScP	**ScP**	**03 16 12.8**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=147,slow=3.0,SNR=6.6						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**36.56**	**321**	P	**P**	**03 10 22.4**	**+2.1**
ABKAR				IAmb	IAmb	03 10 41.9	
	comp=Z,4.0nm,1.3s						
ABKAR	**Akbulak array**	**36.56**	**321**	P	**P**	**03 10 21.5**	**+1.2**
AKTO	**Aktyubinsk**	**38.23**	**322**	P	**P**	**03 10 34.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=135,slow=4.3,SNR=1.2						
AKTO				ScP	**ScP**	**03 16 29.5**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=153,slow=2.6,SNR=4.5						
	comp=Z,0.3nm,0.3s						
FAKI	**Fak Fak**	**45.73**	**121**	P	**P**	**03 11 34.5**	**-1.4**
TIXI	**Tiksi**	**51.06**	**13**	P	**P**	**03 12 15.5**	**-0.6**
KNRA	**Kununurra**	**52.10**	**136**	P	**P**	**03 12 24.0**	**-0.6**
BRTR	**Keskin Array B**	**52.76**	**302**	P	**P**	**03 12 31.1**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=106,slow=9.1,SNR=1.4						
	comp=Z,0.4nm,0.5s						
ELL	**Elmali**	**55.92**	**299**	P	**P**	**03 12 54.0**	**+1.5**
MORW	**Morawa**	**57.13**	**157**	P	**P**	**03 13 01.2**	**+0.4**
MORW				IAmb	IAmb	03 13 44.6	
	comp=Z,14nm,1.1s						
FINES	**FINESS Array B**	**58.49**	**328**	P	**P**	**03 13 08.6**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=121,slow=9.9,SNR=1.7						
	comp=Z,1.9nm,0.7s						
FINES	**FINESS Array B**	**58.49**	**328**	P	**P**	**03 13 11.0**	**+1.1**
WB0	**Warramunga Arr**	**58.71**	**135**	P	**P**	**03 13 11.4**	**-0.6**
WB0				IAmb	IAmb	03 13 11.7	
	comp=Z,3.3nm,0.6s						
WRA	**Warramunga Arr**	**58.81**	**135**	P	**P**	**03 13 11.6**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=324,slow=7.3,SNR=24						
	comp=Z,1.4nm,0.5s						
WB2	**Warramunga Arr**	**58.81**	**135**	P	**P**	**03 13 11.8**	**-1.0**
WB2				IAmb	IAmb	03 13 12.9	
	comp=Z,6.0nm,1.1s						
ARCES	**ARCESS Array B**	**59.95**	**338**	P	**P**	**03 13 20.5**	**+0.6**
	comp=Z,6.4nm,1.1s,baz=64,slow=8.1,SNR=1.6						
	comp=Z,6.4nm,1.1s						
ASAR	**Alice Springs**	**61.28**	**138**	P	**P**	**03 13 29.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=320,slow=6.7,SNR=13						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**61.28**	**138**	P	**P**	**03 13 29.7**	**+0.1**
NOA	**NORSAR Array B**	**65.66**	**328**	P	**P**	**03 13 58.5**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=84,slow=6.3,SNR=4.4						
	comp=Z,1.0nm,0.8s						
NC204	**NORSAR Array S**	**65.85**	**328**	P	**P**	**03 13 59.6**	**+0.4**
GERES	**GERESS Array B**	**66.03**	**314**	P	**P**	**03 14 01.7**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=113,slow=9.7,SNR=4.6						
	comp=Z,0.8nm,0.6s						
A21K	**Barrow**	**72.89**	**19**	P	**P**	**03 14 43.0**	**+0.7**
A21K				IAmb	IAmb	03 14 43.7	
	comp=Z,7.9nm,0.7s						
EUNU	**Eureka**	**75.70**	**0**	P	**P**	**03 15 00.3**	**+1.7**
EUNU				IAmb	IAmb	03 15 01.6	
	comp=Z,3.3nm,0.9s						
IMAR	**Indian Mountai**	**76.30**	**23**	P	**P**	**03 15 02.2**	**0.0**
H21K	**Melozitna Rive**	**76.80**	**23**	P	**P**	**03 15 05.6**	**+0.6**
H21K				IAmb	IAmb	03 15 06.8	
	comp=Z,5.6nm,0.9s						
K20K	**Telida**	**77.48**	**25**	P	**P**	**03 15 09.8**	**+0.9**
K20K				IAmb	IAmb	03 15 15.6	
	comp=Z,6.9nm,1.5s						
MLY	**Manley**	**77.87**	**23**	P	**P**	**03 15 11.7**	**+0.6**
MLY				IAmb	IAmb	03 15 12.8	
	comp=Z,4.1nm,1.0s						
CAST	**Castle Rocks**	**78.22**	**25**	P	**P**	**03 15 13.0**	**0.0**
CAST				IAmb	IAmb	03 15 19.1	
	comp=Z,5.5nm,1.3s						
BPAW	**Bear Paw Mtn.**	**78.28**	**24**	P	**P**	**03 15 13.4**	**+0.1**
BPAW				IAmb	IAmb	03 15 15.3	
	comp=Z,3.1nm,1.0s						
MDM	**Murphy Dome**	**78.80**	**23**	P	**P**	**03 15 16.5**	**+0.4**
MDM				IAmb	IAmb	03 15 17.2	
	comp=Z,5.1nm,0.7s						
ILAR	**Eielson Array**	**79.38**	**22**	P	**P**	**03 15 18.4**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=296,slow=4.8,SNR=13						
	comp=Z,0.9nm,0.7s						
RES	**Resolute Bay**	**80.92**	**2**	P	**P**	**03 15 27.9**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=320,slow=2.4,SNR=5.6						
	comp=Z,1.1nm,0.7s						
INK	**Inuvik**	**81.07**	**16**	P	**P**	**03 15 28.6**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=335,slow=4.8,SNR=32						
	comp=Z,3.3nm,0.5s						
YKA	**Yellowknife Ar**	**90.31**	**13**	P	**P**	**03 16 13.9**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=332,slow=5.0						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**123.77**	**19**	PKP	**PKiKP**	**03 22 11.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=108,slow=2.3,SNR=2.3						

IDC 18 03:33:09.3±2.7,**7°.88S**×**124°.45E**,**h370**^{km}±39^{km},**mb3.0**/2, **mbtmp3.8**/5,**Error ellipse: s-maj=107.6km s-min=20.5km az=53.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.44**	**199**	P	Pn	03 34 06.8	+1.1
	70nm,0.3s,baz=63,slow=2.3,SNR=14						
BATI				S	S	03 34 51.1	-0.1
	123nm,0.5s,baz=61,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**15.35**	**142**	P	P	03 36 25.8	-1.1
	2.6nm,0.6s,baz=317,slow=13,SNR=29						
ASAR	**Alice Springs**	**18.13**	**151**	P	P	03 36 57.1	+0.4
	0.9nm,0.4s,baz=320,slow=8.1,SNR=16						
SONM	**Songino Array**	**57.72**	**346**	P	P	03 42 22.1	-0.6
	0.1nm,0.4s,baz=157,slow=7.8,SNR=1.8						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**66.07**	**330**	P	P	03 43 17.7	+0.1
	1.0nm,0.4s,baz=124,slow=7.4,SNR=26						
	1.0nm,0.4s						

*IDC **18** 03:34:35.4±1.8,1°.54N×126°.06E,h0^{km},mb3.5/3, mbtmp3.5/3,MS4.1/1,Error ellipse: s-maj=176.6km s-min=25.8km az=65.0*

*DJA **18** 03:34:52.5±0.7,0

18nm,0.8s
KURBB **Kurchatov Arra** **2.83 252** Pn **Pn** **03 57 53.1 +0.2**
0.1nm,0.3s,baz=72,slow=17,SNR=7.1
KURBB Pg **Pb** **03 57 58.4 +0.5**
0.1nm,0.3s,baz=70,slow=16,SNR=5.4
KURBB Sn **Sn** **03 58 27.2 -0.5**
0.2nm,0.3s,baz=73,slow=33,SNR=7.3
0.5nm,0.7s
KURBB **Kurchatov Arra** **2.83 252** ⇑Pn **Pn** **03 57 52.5 -0.4**
4.0nm,0.8s
KURBB ⇑Lg Lg 03 58 29.3
25nm,0.6s
MK31 **Makanchi Array** **4.82 184** ⇓Pn **Pn** **03 58 20.1 -0.2**
2.6nm,0.7s,baz=18,slow=14,SNR=32
MK31 ⇑Lg Lg 03 59 34.5
1.5nm,0.5s,baz=23,slow=29,SNR=9.6
MKAR **Makanchi Array** **4.82 184** Pn **Pn** **03 58 20.1 -0.1**
0.4nm,0.3s,baz=7.6,slow=12,SNR=34
MKAR Lg Lg 03 59 33.5
0.5nm,0.3s,baz=8.2,slow=26,SNR=16
2.7nm,0.6s
MAKZ **Makanchi** **4.82 186** ⇑Pn **Pn** **03 58 19.6 -0.6**
3.4nm,0.9s
MAKZ ⇓Lg Lg 03 59 32.4
3.5nm,0.9s

NEIC ***18*** *04:09:37.9±1.8,27°.36N±0°.07×111°.28W±0°.10,h10km±2km, mb4.1/8,Md4.1/11(MEX),Error ellipse: s-maj=15.3km s-min=11.1km az=250.0*
IDC ***18*** *04:09:38.9±2.5,27°.75N×111°.15W,h0km,mb3.8/5, mbtmp3.6/10,ML3.5/5,MS3.3/9,Error ellipse: s-maj=38.0km s-min=12.6km az=15.0*
ECX ***18*** *04:09:38.9±0.6,27°.57N×111°.40W,h20km±16km,MD3.9, ML4.1*
MEX ***18*** *04:09:39.0±0.3,27°.39N×111°.29W,h15km±11km,MD4.1*
ISC 18 04:09:38.1±1.1,27°.56N±0°.04×111°.40W±0°.03,h8km±8km, n116,σ2§23/118,mb3.9/7,MS3.5/3,6C-2D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.57**	**54**	*e*P		**Pg**	**04 09 49.4**	**+0.2**
GUYB				*e*S		**Sg**	**04 09 57.4**	**+0.6**
GUYB				IAML			04 09 58.6	
	comp=N,19μm,0.4s							
GUYB				⇓*e*			04 09 58.6	
GUYB	**Guaymas**	**0.57**	**54**	*e*P		**Pg**	**04 09 49.3**	**+0.1**
GUYB				*e*S		**Sg**	**04 09 57.7**	**+0.9**
SRIG	**Santa Rosalia**	**0.79**	**253**	*e*P		**Pg**	**04 09 52.7**	**-0.6**
SRIG				*e*S		**Sb**	**04 10 03.6**	**-1.3**
SRIG				IAML			04 10 05.2	
	comp=N,8μm,0.4s							
SRIG				⇑*e*			04 10 05.2	
SRIG				*e*			04 10 05.5	
SRIG				IAML			04 10 05.5	
	comp=E,7μm,0.7s							
SRIG	**Santa Rosalia**	**0.79**	**253**	*e*P		**Pg**	**04 09 52.6**	**-0.6**
SRIG				*e*S		**Sg**	**04 10 03.0**	**-0.6**
SNIRB	**San Nicol¡s**	**1.02**	**188**	*e*P		**Pg**	**04 09 56.4**	**-1.4**
HSIG		**1.51**	**15**	*e*P		**Pn**	**04 10 04.7**	**-0.7**
HSIG				IAML			04 10 31.2	
	comp=E,2μm,0.5s							
HSIG				⇑*e*			04 10 31.2	
HSIG				IAML			04 10 31.3	
	comp=N,1μm,0.7s							
HSIG				*e*			04 10 31.3	
HSIG		**1.51**	**15**	*e*P		**Pn**	**04 10 04.0**	**-1.4**
HSIG				*e*S		**Sn**	**04 10 23.9**	**-1.4**
SFQB	**San Francisqui**	**1.54**	**303**	*e*P		**Pn**	**04 10 03.7**	**-2.3**
NE80	**Navojoa**	**2.03**	**108**	*e*P		**Pn**	**04 10 09.8**	**-2.9**
NOVRB	**El Novillo Son**	**2.07**	**48**	*e*P		**Pn**	**04 10 12.5**	**-0.7**
NOVRB				⇓*e*			04 10 47.7	
NOVRB				IAML			04 10 47.7	
	comp=E,1μm,0.3s							
NOVRB				IAML			04 10 48.3	
	comp=N,1μm,0.8s							
NOVRB				⇑*e*			04 10 48.3	
BAHB	**Baha de los**	**2.36**	**306**	⇑*e*P		**Pn**	**04 10 15.0**	**-2.1**
CSIG	**Choix**	**2.79**	**104**			**Pn**	**04 10 18.9**	**-4.2**
CSIG	**Choix**	**2.79**	**104**	*e*P		**Pn**	**04 10 18.9**	**-4.2**
TSIG	**Topolobambo**	**2.87**	**132**			Pn	04 10 18.9	-5.3
TSIG	**Topolobambo**	**2.87**	**132**	*e*P		Pn	04 10 18.9	-5.3
LAPR	**La Primavera**	**3.04**	**345**	*e*P		**Pn**	**04 10 26.2**	**-0.4**
LAPR				⇑*e*			04 11 26.6	
LAPR				IAML			04 11 26.6	
	comp=N,567nm,0.9s							
LAPR				⇑*e*			04 11 31.9	
LAPR				IAML			04 11 31.9	
	comp=E,518nm,0.7s							
NZIG	**Nacozari, Sono**	**3.23**	**30**	*e*P		**Pb**	**04 10 36.3**	**+0.4**
NZIG				*e*S		**Sg**	**04 11 20.7**	**-1.4**
LPIG	**La Paz**	**3.58**	**164**	LR		LR	04 11 48.8	
	comp=E,171nm,21.2s,baz=312,slow=35							
LPIG	**La Paz**	**3.58**	**164**			Pn	04 10 26.1	-7.8
LPIG	**La Paz**	**3.58**	**164**	*e*P		Pn	04 10 26.1	-7.8
SLBS	**Sierra La Lagu**	**4.07**	**161**			**Pn**	**04 10 36.6**	**-4.2**
CGIG		**4.10**	**46**			**Pn**	**04 10 41.5**	**+0.2**
CGIG						**Sn**	**04 11 27.3**	**-2.2**
CGIG		**4.10**	**46**	*e*P		**Pn**	**04 10 41.5**	**+0.2**
CGIG				*e*S		**Sn**	**04 11 27.3**	**-2.2**
319A	**Douglas**	**4.23**	**25**			**Pn**	**04 10 42.8**	**-0.2**
PIX	**Pinacate**	**4.37**	**336**	Pn		**Pn**	**04 10 43.9**	**-0.9**
214A	**Organ Pipe Nat**	**4.55**	**345**	Pn		**Pn**	**04 10 47.7**	**-0.2**
214A	**Organ Pipe Nat**	**4.55**	**345**	P		**Pn**	**04 10 47.2**	**-0.1**
	baz=163,SNR=19							
214A				S		**Sn**	**04 11 36.3**	**-4.1**
	baz=163							
214A	**Organ Pipe Nat**	**4.55**	**345**	*e*P		**Pn**	**04 10 47.6**	**+0.2**
TUC	**Tucson**	**4.76**	**6**	Pn		**Pn**	**04 10 50.8**	**+0.5**
TUC	**Tucson**	**4.76**	**6**	P		**Pn**	**04 10 50.3**	**0.0**
	baz=186							
TUC				S		**Sn**	**04 11 40.1**	**-5.7**
	baz=186							
DUN6	**Lazy B Ranch**	**5.36**	**21**	Pn		**Pn**	**04 10 58.7**	**+0.1**
113A	**Mohawk Valley,**	**5.58**	**339**	Pn		**Pn**	**04 11 02.0**	**+0.6**
121A	**Cookes Peak, D**	**5.86**	**31**	Pn		**Pn**	**04 11 06.2**	**+0.7**
121A	**Cookes Peak, D**	**5.86**	**31**	P		**Pn**	**04 11 06.0**	**+0.5**
	baz=212							
121A				Sg		**Sg**	**04 12 41.8**	**-4.6**
	baz=212							
ESJX	**Sierra Juarez**	**5.94**	**319**	Pn		**Pn**	**04 11 09.2**	**+2.7**
GLA	**Glamis**	**6.22**	**332**	Pn		**Pn**	**04 11 11.0**	**+0.7**
GLA	**Glamis**	**6.22**	**332**	P		**Pn**	**04 11 11.1**	**+0.7**
	baz=150,SNR=58							
YUH	**Yuha Desert**	**6.41**	**323**			**Pn**	**04 11 15.0**	**+2.1**
RMX	**La Rumorosa**	**6.46**	**322**	Pn		**Pn**	**04 11 15.3**	**+1.7**
Y14A	**Wickenburg**	**6.51**	**348**			**Pn**	**04 11 15.9**	**+1.7**
IKP	**In-Ko-Pah, Jac**	**6.51**	**322**	P		**Pn**	**04 11 16.9**	**+2.5**
	baz=140,SNR=10							
SWSC	**Sam W. Stewart**	**6.58**	**326**	P		**Pn**	**04 11 16.7**	**+1.5**
	baz=143							
CBX	**Cerro Bola**	**6.58**	**317**	Pn		**Pn**	**04 11 18.0**	**+2.7**
MNTX	**Cornudas Mount**	**6.66**	**50**	Pn		**Pn**	**04 11 15.7**	**-0.7**
MNTX	**Cornudas Mount**	**6.66**	**50**	P		**Pn**	**04 11 17.2**	**+0.8**
	baz=232							
MNTX				S		**Sn**	**04 12 29.9**	**-2.6**
	baz=232							
BLYC	**Blythe**	**6.73**	**337**	Pn		**Pn**	**04 11 19.0**	**+1.8**
BAR	**Barrett**	**6.85**	**319**			**Pn**	**04 11 21.7**	**+2.8**
MONP2	**Monument Peak**	**6.87**	**322**	P		**Pn**	**04 11 21.8**	**+2.4**
	baz=139							
BC3	**Big Chuckawall**	**7.01**	**331**	P		**Pn**	**04 11 22.1**	**+0.9**
	baz=149							
TX31	**Lajitas Ar. Si**	**7.03**	**74**			**Pn**	**04 11 21.0**	**-0.5**
TX32	**Lajitas Array**	**7.03**	**74**			**Pn**	**04 11 20.6**	**-0.9**
TXAR	**Lajitas Array**	**7.03**	**74**	Pn		**Pn**	**04 11 20.6**	**-0.9**
	comp=E,0.4nm,0.3s,baz=249,slow=13,SNR=17							
TXAR				Sn		**Sn**	**04 12 38.6**	**-3.1**
	comp=E,0.3nm,0.3s,baz=221,slow=41,SNR=1.0							
TXAR				Lg		Lg	04 13 10.8	
	comp=E,0.6nm,0.3s,baz=250,slow=16,SNR=2.6							
TXAR				LR		LR	04 14 16.6	
	comp=E,228nm,20.4s,baz=294,slow=41 comp=E,0.4nm,0.3s							
X18A	**Snowflake**	**7.06**	**10**			**Pn**	**04 11 22.2**	**+0.3**
109C	**Camp Elliot, M**	**7.25**	**318**	P		Pn	04 11 29.8	+5.4
	baz=136							
IRM	**Iron Mountain**	**7.32**	**335**	P		**Pn**	**04 11 26.4**	**+1.0**
	baz=153,SNR=16							
PFO	**Pinyon Flats O**	**7.44**	**325**	Pn		**Pn**	**04 11 28.7**	**+1.6**
	comp=E,0.3nm,0.3s,baz=141,slow=12,SNR=5.3							
PFO				LR		LR	04 14 36.0	
	comp=E,72nm,18.2s,baz=170,slow=40							
	comp=E,1.4nm,0.5s							
PFO	**Pinyon Flats O**	**7.44**	**325**	Pn		**Pn**	**04 11 29.0**	**+1.8**
PFO	**Pinyon Flats O**	**7.44**	**325**	P		**Pn**	**04 11 29.3**	**+2.1**
	baz=143							
BELC	**Belle Mtn. Jos**	**7.54**	**329**	P		**Pn**	**04 11 30.1**	**+1.6**
	baz=147							
Y22F	**Passcal Instru**	**7.55**	**30**	Sg		**Sg**	**04 13 38.0**	**-2.4**
	baz=211							
GDL2	**Guadalupe Moun**	**7.66**	**51**	Pn		**Pn**	**04 11 30.0**	**-0.1**
W18A	**Petrified Fore**	**7.67**	**10**	Sg		**Sg**	**04 13 40.8**	**-3.5**
	baz=190							
W13A	**Hualapai Mount**	**7.81**	**345**	Pn		**Pn**	**04 11 33.2**	**+0.9**
WUAZ	**Wupatki**	**7.93**	**0**	Pn		**Pn**	**04 11 36.1**	**+2.2**
WUAZ	**Wupatki**	**7.93**	**0**	P		**Pn**	**04 11 36.6**	**+2.7**
	baz=180,SNR=5.3							
GMRC	**Granite Mounta**	**8.07**	**334**	P		**Pn**	**04 11 36.7**	**+0.9**
	baz=152,SNR=8.8							
ANMO	**Albuquerque**	**8.49**	**29**	Pg		Pg	04 12 06.8	-14
	comp=E,0.1nm,0.3s,baz=289,slow=11,SNR=3.1							
ANMO				Lg		Lg	04 14 04.4	
	comp=E,0.7nm,0.3s,baz=96,slow=16,SNR=7.6							
TUQ	**Turquoise Moun**	**8.75**	**335**	P		**Pn**	**04 11 46.3**	**+1.2**
	baz=152							
U15A	**North Rim**	**8.88**	**355**	Pn		**Pn**	**04 11 49.6**	**+2.7**
GSC	**Goldstone, Bar**	**8.99**	**330**	Pn		**Pn**	**04 11 49.7**	**+1.3**
GSC	**Goldstone, Bar**	**8.99**	**330**	P		**Pn**	**04 11 50.4**	**+2.0**
	baz=147							
KNB	**Kanab**	**9.51**	**353**			**Pn**	**04 11 58.4**	**+2.9**
LRMC	**Laurel Mtn Rad**	**9.54**	**327**	P		**Pn**	**04 11 59.6**	**+3.7**
	baz=144							
LCMT	**Little Creek M**	**9.55**	**351**	Pn		**Pn**	**04 11 59.2**	**+3.1**
MVCO	**Mesa Verde**	**9.93**	**14**	Pn		**Pn**	**04 12 01.9**	**+0.5**
MVCO	**Mesa Verde**	**9.93**	**14**	P		**Pn**	**04 12 04.4**	**+3.1**
	baz=195							
ISA	**Isabella, Lake**	**10.08**	**325**	P		**Pn**	**04 12 05.6**	**+2.3**
	baz=141							
CCUT	**Cedar City**	**10.10**	**351**	Pn		**Pn**	**04 12 05.5**	**+1.8**
TPNV	**Topopah Spring**	**10.22**	**338**	Pn		**Pn**	**04 12 08.4**	**+3.1**
TPNV	**Topopah Spring**	**10.22**	**338**	P		**Pn**	**04 12 08.4**	**+3.1**
	baz=155,SNR=6.1							
PKM	**Mcpherson Peak**	**10.26**	**317**	P		Pn	04 12 11.0	+5.1
	baz=133,SNR=5.4							
PRN	**Pahroc Range**	**10.29**	**343**			**Pn**	**04 12 08.9**	**+2.6**
CWC	**Cottonwood Cre**	**10.51**	**329**	P		**Pn**	**04 12 12.7**	**+3.4**
	baz=145							
VES	**Vestal, Richgr**	**10.53**	**324**	P		**Pn**	**04 12 12.3**	**+2.9**
	baz=139							
SMMC	**Simmler**	**10.66**	**319**	P		**Pn**	**04 12 15.8**	**+4.7**
	baz=134							
LCH	**Last Chance Ra**	**10.99**	**333**	Pn		**Pn**	**04 12 18.1**	**+2.3**
T25A	**Trinidad**	**11.22**	**30**	P		**Pn**	**04 12 22.4**	**+3.3**
	baz=213							
DSP	**Deep Springs**	**11.24**	**332**	Pn		**Pn**	**04 12 21.4**	**+2.3**
R11A	**Troy Canyon, C**	**11.32**	**343**	Pn		**Pn**	**04 12 23.9**	**+3.6**
R11A	**Troy Canyon, C**	**11.32**	**343**	P		**Pn**	**04 12 23.4**	**+3.0**
	baz=160							
ABTX	**Abilene, Hawle**	**11.36**	**61**	P		**Pn**	**04 12 22.6**	**+1.8**
	baz=246							
SPR3	**Spring Creek 3**	**11.67**	**349**	Pn		**Pn**	**04 12 28.2**	**+2.9**
NVAR	**Mina Array Bea**	**12.29**	**334**	Pn		**Pn**	**04 12 38.0**	**+4.4**
	comp=E,0.1nm,0.3s,baz=158,slow=15,SNR=6.1 comp=E,1.0nm,0.8s							
DUG	**Dugway, Tooele**	**12.66**	**355**	P		**Pn**	**04 12 43.3**	**+4.7**
	baz=174							
O20A	**White River Ci**	**12.81**	**11**	P		**Pn**	**04 12 42.9**	**+2.1**
	baz=192							
WMOK	**Wichita Mounta**	**12.95**	**53**	P		**Pn**	**04 12 45.1**	**+2.5**
	baz=239							
ELK	**Elko**		**13.53**	**347**	Pn	**Pn**	**04 12 52.8**	**+2.2**
	comp=E,0.1nm,0.3s,baz=166,slow=17,SNR=3.2							
ELK					LR	LR	04 18 04.7	
	comp=E,93nm,21.3s,baz=179,slow=38 comp=E,0.5nm,0.4s							
PDAR	**Pinedale Array**	**15.25**	**5**	Pn		**Pn**	**04 13 16.4**	**+2.5**
	baz=175,slow=15,SNR=2.9							
PDAR					Lg	Lg	04 17 31.9	
	baz=189,slow=11,SNR=2.8							
PDAR					LR	LR	04 19 20.8	
	comp=E,86nm,20.6s,baz=146,slow=39 comp=E,0.3nm,0.8s							
X37A	**Clayton**	**15.41**	**59**	P		**P**	**04 13 20.6**	**+0.1**
WVOR	**Wild Horse Val**	**15.97**	**340**	P		**P**	**04 13 27.7**	**+0.8**
WVOR				IAmb		IAmb	04 13 30.2	
	comp=Z,12nm,1.4s							
HLID	**Hailey**	**16.15**	**352**	P		**P**	**04 13 28.0**	**-0.9**
	baz=170							
MOOW	**Moose Ponds**	**16.16**	**2**	P		**P**	**04 13 30.9**	**+1.8**
CMIG	**Matias Romero**	**18.47**	**121**	LR		LR	04 20 37.9	
	comp=Z,92nm,18.3s,baz=288,slow=36							
NEW	**Newport**	**21.15**	**349**	P		**P**	**04 14 25.5**	**+1.9**
	comp=E,6.2nm,0.9s,baz=168,slow=11,SNR=13 comp=E,6.2nm,0.9s							
NEW	**Newport**	**21.15**	**349**	P		**P**	**04 14 24.9**	**+1.3**
NEW				IAmb		IAmb	04 14 28.4	
	comp=Z,7.2nm,1.1s							
WVT	**Waverly**	**21.73**	**61**	P		**P**	**04 14 31.0**	**+1.2**
WVT				IAmb		IAmb	04 14 38.8	
	comp=Z,12nm,1.4s							
TKL	**Tuckaleechee C**	**24.81**	**64**	P		**P**	**04 14 60.0**	**-0.8**
	comp=E,2.3nm,0.8s,baz=258,slow=11,SNR=2.6							
TKL					LR	LR	04 25 35.6	
	comp=E,106nm,18.6s,baz=260,slow=39 comp=E,2.3nm,0.8s							
SADO	**Sadowa**	**30.93**	**48**	LR		LR	04 28 52.2	
	comp=Z,110nm,19.4s,baz=292,slow=38							
YKA	**Yellowknife Ar**	**35.00**	**357**	P		**P**	**04 16 30.1**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=170,slow=7.8,SNR=3.3 comp=Z,0.4nm,0.9s							
INK	**Inuvik**	**42.86**	**348**	P		**P**	**04 17 36.9**	**+0.4**
	comp=Z,2.6nm,1.1s,baz=157,slow=6.3,SNR=3.7 comp=Z,2.6nm,1.1s							
ILAR	**Eielson Array**	**43.48**	**339**	P		**P**	**04 17 42.0**	**+0.5**
	comp=Z,1.4nm,1.1s,baz=157,slow=6.7,SNR=7.8 comp=Z,1.4nm,1.1s							
TRF	**Thorofare Moun**	**43.81**	**336**	P		**P**	**04 17 46.8**	**+2.4**
PPLA	**Purkeypile**	**44.20**	**335**	P		**P**	**04 17 49.8**	**+2.3**
MLY	**Manley**	**44.91**	**338**	P		**P**	**04 17 55.2**	**+2.0**
MLY				IAmb		IAmb	04 17 58.8	
	comp=Z,4.9nm,1.5s							
IMAR	**Indian Mountai**	**46.49**	**338**	P		**P**	**04 18 06.8**	**+1.3**
AFI	**Afiamalu**	**71.57**	**243**	LR		LR	04 43 49.1	
	comp=Z,154nm,20.4s,baz=222,slow=28							

NEIC ***18*** *04:32:15.9±1.6,2°.5N±0°.1×124°.9E±0°.1,h85km±8km, mb4.3/16,Error ellipse: s-maj=21.6km s-min=13.0km az=68.0*
IDC ***18*** *04:32:16.9±4.2,2°.59N×124°.96E,h99km±38km,mb3.9/9, mbtmp4.2/9,Error ellipse: s-maj=58.3km s-min=11.6km az=71.0*
DJA ***18*** *04:32:22.5±1.5,2°.1N±3°×12°.6E±°,h23km±15km,M4.5/12, mb4.8/5,mB5.5/1,MLv4.3/12,Mw(mB)4.9/1*
ISC 18 04:32:21.8±0.5,2°.72N±0°.05×125°.58E±0°.08,h150km,n40, σ2§17/46,mb4.0/15,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.97**	**357**	P		**Pn**	**04 32 43.6**	**-2.7**
SGSI				S		**Sn**	**04 33 00.5**	**-4.6**
TNTI	**Ternate**	**2.63**	**137**			**Pn**	**04 33 02.4**	**-2.2**
TNTI					Sn	**Sn**	**04 33 34.6**	**-3.0**
TNTI	**Ternate**	**2.63**	**137**	P		**Pn**	**04 33 02.1**	**-2.5**
TNTI				S		**Sn**	**04 33 31.7**	**-5.9**
GTOI	**Gorontalo**	**3.29**	**231**	P		**Pn**	**04 33 12.0**	**-0.9**
LUWI	**Luwuk**	**4.67**	**217**	P		**Pn**	**04 33 28.9**	**-2.0**
SANI	**Sanana**	**4.75**	**175**	P		**Pn**	**04 33 28.1**	**-3.9**
NLAI	**Namlea**	**6.11**	**166**	P		**Pn**	**04 33 47.6**	**-2.4**
	38nm,0.8s,0.3nm							
AAI	**Ambon**	**6.88**	**158**	P		**Pn**	**04 33 59.4**	**-0.9**
	69nm,0.5s,0.4nm							
MSAI	**Masohi**	**6.89**	**151**	P		**Pn**	**04 34 00.1**	**-0.3**
MMRI	**Maumere**	**11.76**	**196**	Pn		Pn	04 34 52.3	-13
KNRA	**Kununurra**	**18.54**	**170**	Pn		**P**	**04 36 25.7**	**-1.4**
KNRA				IAmb		IAmb	04 37 04.7	
	comp=Z,34nm,1.4s							
WB0	**Warramunga Arr**	**23.96**	**159**	P		**P**	**04 37 22.7**	**+0.2**
WB0				IAmb		IAmb	04 37 24.3	
	comp=Z,13nm,0.6s							
COEN	**Coen**	**24.06**	**134**	P		**P**	**04 37 24.1**	**+0.7**
COEN				IAmb		IAmb	04 37 25.0	
	comp=Z,4.5nm,0.9s							
WRA	**Warramunga Arr**	**24.11**	**159**	P		**P**	**04 37 24.0**	**+0.2**
	comp=Z,6.7nm,0.6s,baz=341,slow=10,SNR=49							
WRA				S		**S**	**04 41 37.2**	**+6.5**
	comp=Z,0.6nm,0.8s,baz=341,slow=19,SNR=2.6 comp=Z,6.7nm,0.6s							
WRA	**Warramunga Arr**	**24.11**	**159**	P		**P**	**04 37 22.9**	**-0.9**
WB2	**Warramunga Arr**	**24.11**	**159**	P		**P**	**04 37 24.1**	**+0.3**
WB2				IAmb		IAmb	04 37 25.8	
	comp=Z,16nm,0.8s							
JOW	**Kunigami**	**24.12**	**6**	P		**P**	**04 37 26.4**	**+2.5**
WR0	**Warramunga Arr**	**24.19**	**159**	P		**P**	**04 37 24.3**	**-0.2**
WR0				IAmb		IAmb	04 37 26.6	
	comp=Z,8.6nm,0.8s							
AS31	**Alice Springs**	**27.45**	**163**	P		**P**	**04 37 53.1**	**-0.7**
ASAR	**Alice Springs**	**27.45**	**163**	P		**P**	**04 37 54.5**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=344,slow=8.5,SNR=18 comp=Z,1.2nm,0.4s							
ASAR	**Alice Springs**	**27.45**	**163**	P		**P**	**04 37 52.5**	**-1.4**
JMN	**Monobe**	**31.82**	**13**	P		**P**	**04 38 34.4**	**+2.1**
FORT	**Forrest**	**33.39**	**176**	P		**P**	**04 38 45.1**	**-0.9**
KSRS	**Korea Array**	**34.64**	**3**	P		**P**	**04 38 58.5**	**+1.8**
	comp=Z,1.3nm,0.6s,baz=183,slow=9.9,SNR=4.9 comp=Z,1.3nm,0.6s							
STKA	**Stephens Creek**	**37.62**	**157**	P		**P**	**04 39 23.5**	**+1.3**
	comp=Z,4.6nm,0.6s,baz=339,slow=7.6,SNR=10.0 comp=Z,4.6nm,0.6s							
STKA	**Stephens Creek**	**37.62**	**157**	P		**P**	**04 39 23.3**	**+1.2**
STKA				IAmb		IAmb	04 39 24.4	
	comp=Z,1.4nm,1.0s							
USRK	**Ussuriysk Ar.**	**41.70**	**7**	P		**P**	**04 39 57.3**	**+1.6**
	comp=Z,2.3nm,0.5s,baz=193,slow=9.2,SNR=4.8 comp=Z,2.3nm,0.5s							
USRK	**Ussuriysk Ar.**	**41.70**	**7**	P		**P**	**04 39 57.1**	**+1.4**
SONM	**Songino Array**	**47.90**	**343**	P		**P**	**04 40 44.3**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=163,slow=6.4,SNR=4.4 comp=Z,0.4nm,0.5s							
SONM	**Songino Array**	**47.90**	**343**	P		**P**	**04 40 44.5**	**-0.4**
MK31	**Makanchi Array**	**57.74**	**326**	P		**P**	**04 41 56.0**	**-1.0**
MK31				IAmb		IAmb	04 42 17.4	
	comp=Z,1.7nm,1.4s							
MK31				PcP		**PcP**	**04 42 48.5**	**+0.3**
MKAR	**Makanchi Array**	**57.74**	**326**	P		**P**	**04 41 56.5**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.3,SNR=26							
MKAR				PcP		**PcP**	**04 42 48.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=114,slow=4.3,SNR=11 comp=Z,0.7nm,0.4s							
MKAR	**Makanchi Array**	**57.74**	**326**	P		**P**	**04 41 56.1**	**-0.9**
MKAR				PcP		**PcP**	**04 42 48.4**	**+0.2**
KURK	**Kurchatov**	**61.98**	**328**	P		**P**	**04 42 25.6**	**-0.3**
KURK				IAmb		IAmb	04 42 25.8	
	comp=Z,3.1nm,0.6s							
RTZ	**Ruatahuna**	**62.68**	**136**	P		**P**	**04 42 32.4**	**+1.5**
PLWZ	**Palliser**	**63.01**	**140**	P		**P**	**04 42 36.5**	**+3.6**
NRIK	**Noril'sk**	**71.14**	**347**	P		**P**	**04 43 24.0**	**+0.4**
	comp=Z,2.9nm,0.5s,baz=118,slow=7.6,SNR=4.7 comp=Z,2.9nm,0.5s							
ABKAR	**Akbulak array**	**72.21**	**321**	P		**P**	**04 43 29.2**	**-1.2**
ABKAR	**Akbulak array**	**72.21**	**321**	P		**P**	**04 43 30.0**	**-0.4**
ABKAR				IAmb		IAmb	04 43 30.7	
	comp=Z,0.7nm,0.8s							
FINES	**FINESS Array B**	**92.17**	**332**	P		**P**	**04 45 13.1**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=50,slow=6.0,SNR=7.3 comp=Z,1.3nm,0.7s							

KOLA ***18*** *04:48:11.7,67°.60N×33°.89E,h0km,ML1.9,Error ellipse: s-maj=8.8km s-min=2.5km az=140.0,Khibiny, mines Rasvumchorr, Central*
HEL ***18*** *04:48:12.4±0.1,67°.69N×33°.72E,h0km,ML1.7,Explosion*
BER ***18*** *04:48:12.1±0.6,67°.12N×33°.01E,h0km,ML2.0,Suspected explosion*
IDC ***18*** *04:48:17.1±2.0,67°.55N×32°.62E,h0km,mbtmp3.5/4, ML2.2/4,Error ellipse: s-maj=22.1km s-min=8.8km az=84.0*
ISC 18 04:48:10.6±0.9,67°.58N±0°.03×33°.86E±0°.04,h0km,n28, σ1§76/48,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17**	**268**	P		**Pg**	**04 48 15.3**	**+1.3**
APA				S		**Sg**	**04 48 17.7**	**+1.5**
APA0	**Apatity Array**	**0.34**	**276**	P		**Pg**	**04 48 17.4**	**+0.4**
APA0				S		**Sg**	**04 48 21.8**	**+0.5**
LVZ	**Lovozero**	**0.44**	**43**	PG		**Pg**	**04 48 19.6**	**+0.5**
LVZ				SG		**Sg**	**04 48 25.2**	**+0.4**
VRF	**Varrio**	**1.63**	**278**	PN		**Pn**	**04 48 40.8**	**+0.2**
	baz=87							
VRF				MSG			04 48 59.3	
	comp=Z,6.6nm,0.2s							
VRF				SN		**Sn**	**04 49 01.2**	**-1.1**
TERR	**Teriberka**	**1.70**	**15**	P		**Pn**	**04 48 41.3**	**-0.2**
TERR				S		**Sn**	**04 49 02.6**	**-1.2**
OLKF	**Oulanka, Finla**	**2.16**	**236**	PG		**Pb**	**04 48 51.3**	**+0.8**
OLKF				MSG			04 49 17.2	
	comp=Z,3.9nm,0.2s							
OLKF				SG		**Sg**	**04 49 20.2**	**+0.2**
KU6	**Riekki**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.42**	**72**	Pn	**Pn**	**04 58 14.7**	**-1.1**
	0.9nm,0.3s,baz=311,slow=10,SNR=2.0 2.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**18.52**	**19**	P	**Pn**	**05 00 58.4**	**+0.6**
	0.6nm,0.3s,baz=230,slow=13,SNR=1.9 0.7nm,0.3s						
DAV	**Davao City (W)**	**33.27**	**78**	LR	LR	05 19 16.2	
	comp=Z,45nm,18.2s,baz=352,slow=41						
SIJI	**Sorong**	**38.50**	**92**	LR	LR	05 23 56.1	
	comp=Z,59nm,18.2s,baz=106,slow=42						
WRA	**Warramunga Arr**	**45.64**	**119**	P	**P**	**05 05 03.2**	**+1.1**
	1.6nm,0.8s,baz=297,slow=8.6,SNR=11 1.6nm,0.8s						
MKAR	**Makanchi Array**	**46.68**	**350**	P	**P**	**05 05 09.9**	**+0.1**
	0.3nm,0.7s,baz=183,slow=7.2,SNR=2.7 0.3nm,0.7s						
ASAR	**Alice Springs**	**46.76**	**124**	P	**P**	**05 05 11.6**	**+0.7**
	0.5nm,0.7s,baz=308,slow=7.6,SNR=4.8 0.5nm,0.7s						
SONM	**Songino Array**	**48.28**	**12**	P	**P**	**05 05 23.9**	**+1.5**
	0.4nm,0.4s,baz=186,slow=9.7,SNR=3.0 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**51.06**	**348**	P	**P**	**05 05 43.3**	**0.0**
	0.1nm,0.3s,baz=171,slow=6.3,SNR=1.2 0.1nm,0.3s						
AKASG	**Malin Array Be**	**72.89**	**323**	LR	LR	05 45 25.9	
	comp=Z,40nm,18.0s,baz=352,slow=40						
GERES	**GERESS Array B**	**82.19**	**319**	P	**P**	**05 09 01.4**	**-1.0**
	0.7nm,0.7s,baz=108,slow=3.2,SNR=2.8 0.7nm,0.7s						
TXAR	**Lajitas Array**	**146.12**	**26**	PKPbc	**PKPbc**	**05 16 20.7**	**-1.5**
	0.4nm,0.9s,baz=255,slow=2.5,SNR=3.9						

IDC 18 05:20:02.6±2.9, 30.76S×177.75W, h0km, mb4.1/3, mbtmp4.0/4, ML3.1/1, Error ellipse: s-maj=66.5km s-min=35.5km az=117.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.60**	**208**	Pn	Pn	05 22 07.2	-1.1
URZ	0.8nm,0.3s,baz=349,slow=5.2,SNR=1.1			Sn	Sn	05 23 45.0	-0.9
	0.8nm,0.3s,baz=297,slow=16,SNR=5.6 3.5nm,0.8s						
STKA	**Stephens Creek**	**34.61**	**257**	P	P	05 26 54.8	+1.4
	4.2nm,0.6s,baz=100,slow=10,SNR=9.3 4.2nm,0.6s						
ASAR	**Alice Springs**	**43.30**	**267**	P	P	05 28 06.0	-0.5
	0.4nm,0.4s,baz=103,slow=7.5,SNR=9.5 0.4nm,0.4s						
WRA	**Warramunga Arr**	**44.33**	**272**	P	P	05 28 14.1	-0.6
	1.1nm,0.3s,baz=111,slow=8.0,SNR=20 1.1nm,0.3s						
H03S2	**Juan Fernandez**	**80.09**	**123**	T	T	07 01 22.9	
	baz=237						
H03S1	**Juan Fernandez**	**80.10**	**123**	T	T	07 01 17.0	
	baz=237						
H03S3	**Juan Fernandez**	**80.11**	**123**	T	T	07 01 15.5	
	baz=237						
H03N3	**Juan Fernandez**	**80.28**	**123**	T	T	07 01 42.9	
	baz=242						
H03N2	**Juan Fernandez**	**80.28**	**123**	T	T	07 01 39.9	
	baz=242						
H03N1	**Juan Fernandez**	**80.30**	**123**	T	T	07 01 36.1	
	baz=242						
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc	PKPdf	05 39 41.3	-0.7
	3.3nm,0.8s,baz=47,slow=3.6,SNR=11						

*OSPL **18** 05:20:24.4±1.7, 19.75N×76.75W, h0km±163km, ML3.2*
*SSNC **18** 05:20:25.8±0.9, 19.70N×76.64W, h1km±3km, MD3.6, ML3.2, MW3.6*
*JSN **18** 05:20:27.2±0.5, 19.70N×76.60W, h30km±999km, MD4.2*

ISC 18 05:20:23.5±1.5, 19.72N±0.04×76.67W±0.04, h10km±12km, n18, σ1§29/27, 3C-3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.96**	**74**	*eP*	**Pg**	**05 20 42.6**	**+0.6**
RCC				*eS*	**Sg**	**05 20 54.6**	**+0.1**
RCC				IAML		05 20 57.4	
	comp=E,235nm,0.2s						
RCC				IAML		05 20 58.2	
	comp=N,511nm,0.2s						
HLGC	**Holguin**	**1.30**	**26**	*eP*	**Pg**	**05 20 48.1**	**-0.3**
HLGC				*eS*	**Sg**	**05 21 05.4**	**+0.1**
HLGC				IAML		05 21 07.2	
	comp=E,2μm,0.4s						
HLGC				IAML		05 21 07.3	
	comp=N,1μm,0.4s						
GTBY	**Guantanamo Bay**	**1.49**	**82**	*eP*	**Pn**	**05 20 50.7**	**+0.4**
GTBY				*eS*	**Sg**	**05 21 08.9**	**-2.5**
GTBY	**Guantanamo Bay**	**1.49**	**82**	*i P*	**Pn**	**05 20 51.0**	**+0.7**
GTBY				IAML		05 21 21.5	
	comp=Z,296nm,0.7s						
GWJ	**Greenwich**	**1.64**	**182**	↑ *iP*	**Pn**	**05 20 52.8**	**+0.2**
STH	**Stony Hill**	**1.64**	**184**	↓ *iP*	**Pn**	**05 20 53.0**	**+0.4**
CVJ	**Coleyville**	**1.70**	**209**	↑ *iP*	**Pn**	**05 20 54.2**	**+0.8**
MTDJ	**Mount Denham**	**1.70**	**209**	*eP*	**Pn**	**05 20 54.1**	**+0.7**
MTDJ				*eS*	**Sn**	**05 21 14.4**	**-0.8**
MTDJ	**Mount Denham**	**1.70**	**209**	*i P*	**Pn**	**05 20 54.2**	**+0.8**
MTDJ				*eS*	**Sn**	**05 21 13.9**	**-1.4**
MTDJ				IAML		05 21 17.1	
	comp=Z,236nm,1.2s						
HOJ	**Hope**	**1.71**	**182**	↓ *iP*	**Pn**	**05 20 54.1**	**+0.6**
CCCC	**Cccc**	**1.79**	**325**	*eP*	Pn	05 20 52.6	-2.0
CCCC				*eS*	**Sn**	**05 21 13.7**	**-3.7**
CCCC				IAML		05 21 17.1	
	comp=E,277nm,0.6s						
CCCC				IAML		05 21 21.1	
	comp=N,180nm,0.4s						
MOAC	**Moa**	**1.86**	**60**	*eP*	**Pn**	**05 20 56.1**	**+0.6**
MOAC				*eS*	**Sn**	**05 21 19.6**	**+0.5**
MOAC				IAML		05 21 32.0	
	comp=N,136nm,0.6s						
MOAC				IAML		05 21 33.1	
	comp=E,166nm,0.3s						
PCJ	**Portland Cotta**	**2.02**	**193**	*i P*	**Pn**	**05 20 58.8**	**+1.1**
MCJ	**Malvern**	**2.03**	**208**	↓ *iP*	**Pn**	**05 20 59.1**	**+1.1**
MCJ				↑ *iS*	**Sn**	**05 21 22.9**	**-0.5**
MASC	**Masc**	**2.34**	**79**	*eP*	**Pn**	**05 21 02.3**	**+0.2**
MASC				*eS*	**Sn**	**05 21 30.4**	**-0.6**
MASC				IAML		05 21 40.3	
	comp=E,73nm,0.4s						
MASC				IAML		05 21 40.8	
	comp=N,75nm,0.4s						
MASC	**Masc**	**2.34**	**79**	*i P*	**Pn**	**05 21 02.5**	**+0.3**
MASC				*eS*	**Sn**	**05 21 32.6**	**+1.6**
MASC				IAML		05 21 37.8	
	comp=Z,94nm,2.4s						
MGV	**Manicaragua**	**3.90**	**308**	*eP*	**Pn**	**05 21 25.0**	**+1.4**
SOR	**Soroa**	**6.65**	**298**	*eP*	**Pn**	**05 22 03.4**	**+2.0**

*IDC **18** 05:31:40.5±6.1, 18.85N×145.43E, h297km±63km, mb3.0/7, mbtmp3.7/8, Error ellipse: s-maj=35.7km s-min=16.0km az=90.0*

ISC 18 05:31:32.3±1.0, 18.9N±0.1×145.5E±0.2, h214km, n8, σ0§85/8, mb3.3/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.69**	**341**	P	**Pn**	**05 35 38.2**	**+0.5**
	2.9nm,0.7s,baz=165,slow=9.2,SNR=6.5						
WRA	**Warramunga Arr**	**40.13**	**196**	P	**P**	**05 38 47.2**	**-0.3**
	1.1nm,0.7s,baz=9.1,slow=8.5,SNR=9.5 1.1nm,0.7s						
SONM	**Songino Array**	**42.85**	**321**	P	**P**	**05 39 09.6**	**+0.1**
	0.4nm,0.5s,baz=133,slow=9.6,SNR=4.6 0.4nm,0.5s						
ASAR	**Alice Springs**	**43.80**	**195**	P	**P**	**05 39 17.5**	**+0.4**
	0.1nm,0.4s,baz=7.0,slow=16,SNR=2.2 0.1nm,0.4s						
MKAR	**Makanchi Array**	**58.16**	**314**	P	**P**	**05 41 04.4**	**+0.6**
	0.5nm,0.6s,baz=92,slow=8.9,SNR=6.6 0.5nm,0.6s						
ILAR	**Eielson Array**	**63.55**	**26**	P	**P**	**05 41 39.1**	**-0.6**
	0.2nm,0.4s,baz=254,slow=6.1,SNR=4.1 0.2nm,0.4s						
NVAR	**Mina Array Bea**	**83.18**	**52**	P	**P**	**05 43 35.9**	**+0.9**
	0.5nm,0.8s,baz=255,slow=4.4,SNR=3.8 0.5nm,0.8s						
FINES	**FINESS Array B**	**86.61**	**335**	P	**P**	**05 43 49.9**	**-1.3**
	1.8nm,0.9s,baz=76,slow=5.9,SNR=5.6						

1.8nm,0.9s

*NEIC **18** 05:56:06.9±2.1, 36.13N±0.06×140.01E±0.09, h49km±9km, mb4.1/7, Error ellipse: s-maj=11.5km s-min=6.1km az=125.0*
*IDC **18** 05:56:07.9±3.5, 36.11N×139.81E, h61km±29km, mb3.2/5, mbtmp3.4/5, MS3.2/1, Error ellipse: s-maj=33.6km s-min=27.0km az=67.0*
*JMA **18** 05:56:07.4±0.1, 36.1N±0.3×139.8E±0.3, h50km, MV3.5/35, SW IBARAKI PREF*
JMA Felt II J1 at SW IBARAKI PREF .
*NIED **18** 05:56:07.4, 36.14N×139.84E, h50km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.38; $M_{\theta\theta}$-1.06; $M_{\phi\phi}$-1.31; $M_{r\theta}$1.49; $M_{\theta\phi}$-1.23; $M_{\phi r}$0.91; Fault plane solution: M_o2.97000×10^{14} NP1:ϕ_s52.00000°, δ63.00000°, λ,99.00000°. NP2:ϕ_s213.00000°, δ28.00000°, λ,73.00000°.*

ISC 18 05:56:07.1±0.9, 36.18N±0.05×139.87E±0.05, h53km±7km, n41, σ1§03/39, mb3.6/11, 7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.26**	**79**	*i P*	**Pn**	**05 56 16.6**	**+0.4**
JYT				S	**Sn**	**05 56 23.2**	**+0.6**
JAG	**Ashikaga**	**0.42**	**306**	↓ *iP*	**Pn**	**05 56 17.8**	**+0.1**
JAG				↓ *iS*	**Sn**	**05 56 25.1**	**-0.1**
JKT	**Katashina**	**0.77**	**320**	↓ *iP*	**Pn**	**05 56 22.0**	**0.0**
JKT				↓ *iS*	**Sn**	**05 56 33.1**	**+0.2**
JRY	**Ryogami san**	**0.80**	**259**	↓ *iP*	**Pn**	**05 56 21.9**	**-0.4**
JRY				↓ *eS*	**Sn**	**05 56 32.6**	**-0.9**
JOD2	**Odawara 2**	**1.11**	**215**	*eP*	**Pn**	**05 56 26.8**	**+0.3**
JUON	**Uonuma**	**1.22**	**328**	↓ *P*	**Pn**	**05 56 28.2**	**+0.3**
JYN	**Shimob**	**1.28**	**238**	P	**Pn**	**05 56 29.6**	**+0.9**
MJAR	**Matsushiro Arr**	**1.39**	**286**	P	**Pn**	**05 56 30.1**	**-0.1**
	58nm,0.3s,baz=90,slow=16,SNR=147						
MJAR				S	**Sn**	**05 56 47.1**	**-0.4**
	27nm,0.5s,baz=129,slow=15,SNR=5.6						
MAJO	**Matsushiro**	**1.39**	**286**	Pn	**Pn**	**05 56 30.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**1.40**	**286**	Pn	**Pn**	**05 56 31.4**	**+1.1**
JMM	**Marumori**	**1.84**	**23**	Pn	**Pn**	**05 56 37.1**	**+0.9**
JGF	**Kuroka**	**2.12**	**255**	Pn	**Pn**	**05 56 41.9**	**+1.7**
JSD	**Sado**	**2.26**	**326**	Pn	**Pn**	**05 56 42.4**	**+0.4**
INU	**Inuyama**	**2.47**	**251**	Pn	**Pn**	**05 56 45.7**	**+0.8**
JHJ2	**Mitsune**	**3.06**	**181**	Pn	**Pn**	**05 56 51.9**	**-1.1**
JTM	**Tenmabayashi**	**4.70**	**11**	Pn	**Pn**	**05 57 15.8**	**+0.5**
ERM	**Erimo**	**6.36**	**23**		**Pn**	**05 57 36.6**	**-1.6**
HHC	**Hu-ho-hao-te**	**22.59**	**291**	*eP*	**P**	**06 01 03.4**	**+0.1**
HHC				pmax	pmax		
	comp=Z,26nm,0.9s						
HHC				pmax	pmax		
	comp=Z,240nm,5.7s						
SONM	**Songino Array**	**27.26**	**306**	P	**P**	**06 01 46.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=123,slow=10,SNR=2.2 comp=Z,0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.82**	**117**	T	T	06 32 10.2	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.82**	**117**	T	T	06 32 11.0	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.83**	**117**	T	T	06 32 13.3	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**29.48**	**120**	T	T	06 33 03.1	
	baz=314,slow=75,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**29.48**	**120**	T	T	06 33 01.8	
	baz=314,slow=75,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**29.49**	**120**	T	T	06 33 04.5	
	baz=314,slow=75,SNR=3.0						
DAV	**Davao City (W)**	**31.79**	**208**	LR	LR	06 14 51.6	
	comp=Z,41nm,20.3s,baz=158,slow=35						
WMQ	**Urumqi**	**40.13**	**297**	*eP*	**P**	**06 03 40.3**	**+2.5**
ZALV	**Zalesovo Beam**	**41.58**	**313**	P	**P**	**06 03 49.0**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=100,slow=8.1,SNR=2.8 comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**43.53**	**303**	P	**P**	**06 04 08.3**	**+2.8**
MK31				IAmb	IAmb	06 04 34.5	
	comp=Z,1.6nm,1.3s						
MKAR	**Makanchi Array**	**43.53**	**303**	P	**P**	**06 04 05.4**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=78,slow=9.4,SNR=2.5 comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**43.53**	**303**	P	**P**	**06 04 06.8**	**+1.3**
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**06 05 02.8**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=258,slow=4.5,SNR=5.7 comp=Z,0.3nm,0.6s						
RIDG	**Independent Ri**	**51.84**	**33**	P	**P**	**06 05 09.6**	**-0.1**
RIDG				IAmb	IAmb	06 05 29.0	
	comp=Z,7.1nm,1.4s						
SCRK	**Sand Creek**	**52.20**	**33**	P	**P**	**06 05 12.8**	**+0.4**
SCRK				IAmb	IAmb	06 05 33.1	
	comp=Z,2.5nm,1.3s						
DOT	**Dot Lake**	**52.20**	**33**	P	**P**	**06 05 12.2**	**0.0**
DOT				IAmb	IAmb	06 05 51.2	
	comp=Z,2.1nm,1.2s						
BCAR	**Beaver Creek A**	**53.30**	**34**	P	**P**	**06 05 19.3**	**-1.1**
EGAK	**Eagle**	**53.32**	**32**	P	**P**	**06 05 20.3**	**-0.1**
EGAK				IAmb	IAmb	06 06 04.3	
	comp=Z,3.1nm,1.4s						
EPYK	**Eagle Plains**	**54.88**	**29**	P	**P**	**06 05 33.2**	**+1.3**
WRA	**Warramunga Arr**	**56.06**	**186**	P	**P**	**06 05 40.0**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=1.4,slow=7.4,SNR=6.4 comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**56.06**	**186**	P	**P**	**06 05 39.2**	**-1.6**
ABKAR	**Akbulak array**	**57.54**	**310**	P	**P**	**06 05 49.7**	**-1.3**

*BGR **18** 05:59:05.0, 16.16S×173.63W, h33km, Ms4.7*
*IDC **18** 05:59:10.7±2.1, 15.71S×173.69W, h67km±18km, mb4.4/19, mbtmp4.8/22, MS3.8/51, Error ellipse: s-maj=17.8km s-min=11.1km az=137.0*
*BJI **18** 05:59:10.0±0.0, 15.80S×173.60W, h67km, mb4.9/27, mbB5.4/14, Ms4.9/3, Ms7 4.5/3*
*NEIC **18** 05:59:12.7±2.1, 15.77S±0.08×173.61W±0.09, h82km±7km, mb4.8/193, Error ellipse: s-maj=13.1km s-min=11.0km az=102.0*
*NOU **18** 05:59:15.4, 15.62S×173.21W, h141km, mb5.1/47, Tonga Islands*
*GCMT **18** 05:59:18.7±0.2, 15.77S±0.01×173.30W±0.01, h116km±1km, MW5.2/125, Moment Tensor Solution. s80,c117; s125,c199; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.91±.14; $M_{\theta\theta}$-6.17±.19; $M_{\phi\phi}$4.26±.17; $M_{r\theta}$-0.99±.13; $M_{\theta\phi}$3.83±.19; $M_{\phi r}$4.58±.10; Best double couple: M_o8.15600×10^{16} NP1:ϕ_s329.00000°, δ78.00000°, λ144.00000°. NP2:ϕ_s68.00000°, δ55.00000°, λ15.00000°. Principal axes: T 8.2500, Plg34.0000°, Azm282.0000°; N -0.1870, Plg52.0000°, Azm133.0000°; P -8.0620, Plg15.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 05:59:11.7±0.3, 15.82S±0.04×173.55W±0.05, h79km, n556, σ1§17/431, mb4.8/127, 21C-25D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.56**	**42**	P	**Pn**	**05 59 51.9**	**+0.7**
	917nm,0.3s,baz=193,slow=2.2,SNR=186						
AFI				S	**Sn**	**06 00 18.6**	**-2.9**
	10μm,0.7s,baz=236,slow=17,SNR=9.8						
AFI	**Afiamalu**	**2.56**	**42**	Pn	**Pn**	**05 59 52.0**	**+0.7**
AFI				Sn	**Sn**	**06 00 19.5**	**-2.0**
FUTU	**Fugatoga**	**4.66**	**288**	P	Pn	06 00 26.8	+7.1
NIUE	**Niue**	**4.74**	**134**	P	**Pn**	**06 00 22.2**	**+1.5**
	baz=4.7,SNR=1000						
NIUE				S	**Sn**	**06 01 12.2**	**-2.2**
	baz=4.7						
NIUE	**Niue**	**4.74**	**134**	Pn	**Pn**	**06 00 22.2**	**+1.5**
NIUE	**Niue**	**4.74**	**134**	P	**Pn**	**06 00 22.5**	**+1.8**
LKBA	**Tubou, Lakemba**	**5.58**	**244**	P	Pn	06 00 41.8	+10
TAVE	**Taveuni**	**6.16**	**261**	P	Pn	06 00 49.2	+9.0
DGTI	**Dogotuki**	**6.47**	**265**	P	Pn	06 00 52.3	+7.9
MSVF	**Nonsavu**	**8.26**	**256**	LR	LR	06 03 35.6	
	comp=Z,1μm,21.3s,baz=85,slow=32						
MSVF	**Nonsavu**	**8.26**	**256**	Pn	Pn	06 01 17.5	+8.6
MSVF	**Nonsavu**	**8.26**	**256**	P	Pn	06 01 18.2	+9.3
GLKZ	**Green Lake**	**13.97**	**196**	S	**Sn**	**06 04 54.1**	**-5.5**
RAR	**Rarotonga**	**14.12**	**114**	P	**Pn**	**06 02 27.9**	**-0.2**
	57nm,0.5s,baz=260,slow=13,SNR=9.9						
RAR				S	**Sn**	**06 04 57.8**	**-5.7**
	23nm,0.6s,baz=144,slow=19,SNR=1.4						
RAR				LR	LR	06 06 47.7	
	comp=Z,187nm,21.8s,baz=287,slow=32						
RAR	**Rarotonga**	**14.12**	**114**	Pn	**Pn**	**06 02 29.4**	**+1.3**
RAR	**Rarotonga**	**14.12**	**114**	P	**Pn**	**06 02 26.9**	**-1.2**
MARNC	**Mare, Loyalty**	**18.33**	**249**	P	**Pn**	**06 03 20.3**	**-0.4**
MARNC	**Mare, Loyalty**	**18.33**	**249**	P	**Pn**	**06 03 21.8**	**+1.1**
LIFNC	**LIFOU**	**18.89**	**252**	P	**P**	**06 03 25.0**	**-1.0**
PINNC	**Pines Island,**	**19.16**	**246**	P	**P**	**06 03 29.7**	**+0.8**
PINNC	**Pines Island,**	**19.16**	**246**	P	**Pn**	**06 03 32.3**	**+1.7**
OUENC	**Ouen Island, N**	**19.64**	**247**	P	**P**	**06 03 34.8**	**+0.6**
OUENC	**Ouen Island, N**	**19.64**	**247**	P	**Pn**	**06 03 37.7**	**+1.4**
DZM	**Mont Dzumac**	**19.91**	**249**	P	**P**	**06 03 37.0**	**-0.2**
	27nm,0.8s,baz=74,slow=17,SNR=18						
DZM				LR	LR	06 09 02.1	
	comp=Z,191nm,21.2s,baz=51,slow=30						
DZM	**Mont Dzumac**	**19.91**	**249**	*eP*	**Pn**	**06 03 39.8**	**+0.3**
	299nm,24.8s						
DZM				*e*LR	LR	06 08 24.9	
	comp=Z,1μm,31.4s						
DZM	**Mont Dzumac**	**19.91**	**249**	P	**P**	**06 03 37.4**	**+0.2**
DZM	**Mont Dzumac**	**19.91**	**249**	P	**Pn**	**06 03 41.0**	**+1.5**
ONTNC	**Ouen Toro**	**19.96**	**248**	P	**P**	**06 03 38.1**	**+0.5**
NOUC	**Port Laguerre**	**20.04**	**249**	P	Pn	06 03 42.4	+1.5
KOUNC	**Koumac, New Ca**	**21.57**	**254**	P	**P**	**06 03 52.1**	**-2.8**
KOUNC	**Koumac, New Ca**	**21.57**	**254**	P	**P**	**06 03 57.3**	**+2.4**
	43nm,0.9s						
GRZ	**Great Barrier**	**22.58**	**204**	P	**P**	**06 04 08.4**	**+2.8**
MXZ	**Matakaoa Point**	**22.82**	**197**	P	**P**	**06 04 10.5**	**+2.4**
KUZ	**Kuaotunu**	**22.92**	**203**	P	**P**	**06 04 11.5**	**+2.4**
KUZ	**Kuaotunu**	**22.92**	**203**	P	**P**	**06 04 11.5**	**+2.4**
PPT	**Papeete**	**23.03**	**98**	LR	LR	06 11 13.1	
	comp=Z,157nm,19.3s,baz=250,slow=31						
PPT2	**Papeete2**	**23.03**	**98**	*eP*	**P**	**06 04 11.8**	**+1.3**
	182nm,25.5s						
WMGZ	**Waiomatatini S**	**23.03**	**196**	P	**P**	**06 04 13.5**	**+3.3**
HAZ	**Te Kaha**	**23.15**	**198**	P	**P**	**06 04 13.5**	**+2.2**
WIAZ	**Waiheke Island**	**23.18**	**204**	P	**P**	**06 04 14.6**	**+3.0**
PKGZ	**Pakihiroa**	**23.19**	**197**	P	**P**	**06 04 13.8**	**+2.0**
PUZ	**Puketiti**	**23.31**	**197**	P	**P**	**06 04 15.6**	**+2.7**
TVO	**Taravao**	**23.34**	**98**	*eT*	T	06 27 48.3	
	2.6nm,0.3s						
RUGZ	**Raukumara Rang**	**23.38**	**198**	P	**P**	**06 04 16.6**	**+2.9**
MKAZ	**Moumakai**	**23.44**	**203**	P	**P**	**06 04 15.8**	**+1.8**
TWGZ	**Tauwhareparae**	**23.49**	**197**	P	**P**	**06 04 17.5**	**+3.0**
MWZ	**Matawai**	**23.76**	**198**	P	**P**	**06 04 19.9**	**+2.9**
URZ	**Urewera**	**23.82**	**198**	P	**P**	**06 04 17.1**	**-0.3**
	34nm,0.6s,baz=95,slow=4.8,SNR=30						
URZ				S	**S**	**06 08 28.0**	**+0.6**
	6.6nm,0.7s,baz=9.3,slow=20,SNR=1.8 34nm,0.6s						
URZ	**Urewera**	**23.82**	**198**	P	**P**	**06 04 18.8**	**+1.4**
URZ	**Urewera**	**23.82**	**198**	P	**P**	**06 04 17.5**	**+0.1**
XMAS	**Kiritimati**	**23.85**	**43**	P	**P**	**06 04 18.3**	**+0.4**
TOZ	**Tahuroa Road**	**23.87**	**202**	P	**P**	**06 04 20.1**	**+2.2**
TBI	**Tubuai**	**23.88**	**112**	*eP*	**P**	**06 04 19.7**	**+1.6**
	778nm,28.8s						
TBI				*e*LR	LR	06 10 11.3	
	comp=Z,3μm,35.2s						
TBI	**Tubuai**	**23.88**	**112**	*eT*	T	06 28 44.3	
	18nm,0.3s						
RTZ	**Ruatahuna**	**24.18**	**198**	P	**P**	**06 04 20.9**	**+0.1**
RTZ				IAmb	IAmb	06 04 25.6	
	comp=Z,17nm,0.6s						
RTZ	**Ruatahuna**	**24.18**	**198**	P	**P**	**06 04 25.2**	**+4.4**
SNGZ	**Shannon Statio**	**24.23**	**198**	P	**P**	**06 04 25.7**	**+4.5**
BKZ	**Black Stump Fm**	**24.84**	**199**	P	**P**	**06 04 25.7**	**-1.1**
VAH	**Vaihoa**	**24.98**	**92**	*eT*	T	06 30 17.2	
	comp=Z,7.4nm,0.3s						
BFZ	**Birch Farm**	**26.31**	**198**	P	**P**	**06 04 39.9**	**-0.1**
HNR	**Honiara**	**26.61**	**281**	LR	LR	06 14 16.2	
	comp=Z,2μm,19.6s,baz=117,slow=34						
TCW	**Tory Channel**	**27.41**	**200**	P	**P**	**06 04 51.1**	**+1.3**
QRZ	**Quartz Range**	**27.69**	**203**	P	**P**	**06 04 53.5**	**+1.1**
THZ	**Tophouse**	**28.37**	**202**	P	**P**	**06 04 59.0**	**+0.5**
LTZ	**Lake Taylor**	**29.49**	**201**	P	**P**	**06 05 07.3**	**-1.1**
OXZ	**Oxford**	**30.05**	**201**	P	**P**	**06 05 12.6**	**-0.6**
RPZ	**Rata Peaks**	**30.74**	**202**	P	**P**	**06 05 19.1**	**-0.3**
	comp=Z,12nm,0.6s,baz=343,slow=2.3,SNR=7.3 comp=Z,12nm,0.6s						
MLZ	**Mavora Lakes**	**33.24**	**204**	P	**P**	**06 05 41.9**	**+0.6**
TAOE	**Nuku Hiva Isla**	**33.33**	**82**	*eT*	T	06 40 24.3	
	comp=Z,44nm,0.2s						
WHZ	**Wether Hill Ro**	**33.75**	**204**	P	**P**	**06 05 46.4**	**+0.7**
EIDS	**Eidsvold**	**34.35**	**248**	P	**P**	**06 05 51.2**	**0.0**
EIDS				IAmb	IAmb	06 06 18.6	
	comp=Z,28nm,1.7s						
ARMA	**Armidale**	**35.00**	**239**	P	**P**	**06 05 56.7**	**-0.2**
	baz=35,SNR=8.1						
ARMA	**Armidale**	**35.00**	**239**	P	**P**	**06 05 56.8**	**0.0**
ARMA				IAmb	IAmb	06 05 57.7	
	comp=Z,11nm,0.7s						
MGCD	**Mangrove Creek**	**36.29**	**235**	P	**P**	**06 06 09.3**	**+1.5**
	baz=36,SNR=4.7						
RMQ	**Roma**	**36.59**	**247**	P	**P**	**06 06 10.6**	**+0.2**
	baz=37,SNR=8.7						
RMQ	**Roma**	**36.59**	**247**	P	**P**	**06 06 10.6**	**+0.2**
	comp=Z,17nm,0.7s						
CTA	**Charters Tower**	**38.41**	**258**	P	**P**	**06 06 24.1**	**-1.7**
	comp=Z,5.2nm,0.8s,baz=103,slow=11,SNR=6.8						
CTA				LR	LR	06 21 06.3	
	comp=Z,123nm,18.4s,baz=83,slow=34 comp=Z,5.2nm,0.8s						
CTA	**Charters Tower**	**38.41**	**258**	P	**P**	**06 06 25.8**	**0.0**
CTAO	**Charters Tower**	**38.41**

baz=49,SNR=19
BBOO Buckleboo 48.47 240 P **P** **06 07 46.7 +0.1**
BBOO Buckleboo 48.47 240 P **P** **06 07 46.1 -0.5**
WR0 Warramunga Arr 49.41 257 P **P** **06 07 52.9 -1.1**
WR0 IAmb IAmb 06 07 55.5
comp=Z,14nm,1.0s
WB0 Warramunga Arr 49.57 257 **P** **06 07 54.2 -1.0**
WB2 Warramunga Arr 49.59 257 P **P** **06 07 53.9 -1.5**
WRAB Tennant Creek 49.59 257 P **P** **06 07 53.3 -2.1**
WRAB Tennant Creek 49.59 257 P **P** **06 07 54.0 -1.4**
WRA Warramunga Arr 49.60 257 P **P** **06 07 53.5 -2.0**
comp=Z,14nm,1.0s,baz=89,slow=7.2,SNR=53
WRA PcP **PcP** **06 09 16.1 +0.1**
comp=Z,2.9nm,0.6s,baz=95,slow=3.3,SNR=5.6
WRA LR LR 06 28 31.2
comp=Z,134nm,19.0s,baz=108,slow=36
comp=Z,14nm,1.0s
WRA Warramunga Arr 49.60 257 **P** **06 07 53.9 -1.5**
AS01 Alice Springs 49.80 252 P **P** **06 07 56.1 -0.8**
AS31 Alice Springs 49.84 252 **P** **06 07 56.5 -0.8**
ASAR Alice Springs 49.84 252 P **P** **06 07 56.2 -1.0**
comp=Z,56nm,0.6s,baz=86,slow=7.6,SNR=230
ASAR ScP **ScP** **06 13 06.9 +1.3**
comp=Z,0.4nm,0.7s,baz=89,slow=5.9,SNR=2.2
ASAR S **S** **06 14 56.2 -5.3**
comp=Z,0.7nm,0.8s,baz=86,slow=16,SNR=4.4
ASAR LR LR 06 28 24.2
comp=Z,94nm,18.4s,baz=102,slow=35
comp=Z,56nm,0.6s
ASAR Alice Springs 49.84 252 **P** **06 07 56.1 -1.1**
MULG Mulgathing 49.90 244 P **P** **06 07 56.5 -1.0**
GUMO Guam 50.44 303 LR LR 06 28 04.4
comp=Z,20nm,18.8s,baz=115,slow=34
KDU Kakadu 52.29 266 P **P** **06 08 15.0 -0.6**
baz=52,SNR=9.3
MTN Manton Dam 53.55 266 P **P** **06 08 24.0 -0.9**
baz=54,SNR=3.9
MTN Manton Dam 53.55 266 P **P** **06 08 25.3 +0.4**
WRKA Warakurna 54.91 250 P **P** **06 08 33.9 -0.9**
baz=55,SNR=44
WRKA Warakurna 54.91 250 P **P** **06 08 34.0 -0.8**
FORT Forrest 55.09 243 P **P** **06 08 35.0 -0.9**
baz=55,SNR=12
FORT Forrest 55.09 243 P **P** **06 08 34.8 -1.1**
KNRA Kununurra 55.36 262 P **P** **06 08 36.7 -1.3**
baz=56,SNR=5.2
NLAI Namlea 59.66 276 P **P** **06 09 08.1 -0.1**
comp=Z,9.4nm,0.9s
RPN Rapa Nui 60.26 112 LR LR 06 31 32.6
comp=Z,21nm,18.7s,baz=230,slow=32
SOEI Soe 60.76 268 P **P** **06 09 17.0 +1.0**
comp=Z,63nm,0.8s
SANI Sanana 61.06 277 P **P** **06 09 17.1 -0.7**
comp=Z,21nm,1.0s
BATI Baumata 61.24 267 LR LR 06 34 04.8
comp=Z,168nm,18.0s,baz=96,slow=34
PSA00 Pilbara Seismi 62.94 254 **P** **06 09 29.0 -1.3**
VNDA Vanda 62.94 186 P **P** **06 09 31.5 +2.0**
comp=Z,5.6nm,0.9s,baz=2.4,slow=7.2,SNR=15
comp=Z,5.6nm,0.9s
VNDA Vanda 62.94 186 **P** **06 09 31.4 +2.0**
VNDA IAmb IAmb 06 09 33.5
comp=Z,11nm,1.1s
MBWA Marble Bar 63.10 254 **P** **06 09 29.4 -2.0**
MEEK Meekatharra 63.52 248 P **P** **06 09 33.6 -0.6**
baz=64,SNR=9.7
KLBR Kellerberrin 63.91 242 P **P** **06 09 36.1 -0.5**
baz=64,SNR=11
NWAO Narrogin (SRO) 64.28 241 LR LR 06 36 13.5
comp=Z,102nm,18.2s,slow=35
BLDU Balliduu 64.87 243 P **P** **06 09 42.5 -0.4**
baz=65,SNR=7.9
MUN Mundaring 65.20 242 P **P** **06 09 45.4 +0.4**
baz=65,SNR=5.9
MORW Morawa 65.57 245 P **P** **06 09 47.2 -0.2**
baz=66,SNR=3.6
MORW Morawa 65.57 245 **P** **06 09 47.1 -0.4**
JHJ Hachijo jima 2 65.98 318 LR LR 06 32 02.5
comp=Z,25nm,20.9s,baz=162,slow=30
KAPI Kappang 66.24 271 LR LR 06 37 09.7
comp=Z,10nm,18.2s,baz=104,slow=34
SHEM Shemya Is, Ala 69.10 352 LR LR 06 33 36.0
comp=Z,57nm,21.7s,baz=320,slow=30
MJAR Matsushiro Arr 69.16 320 P **P** **06 10 08.7 -1.2**
comp=Z,1.0nm,0.2s,baz=152,slow=4.8,SNR=5.5
MJAR LR LR 06 35 05.9
comp=Z,30nm,21.2s,baz=120,slow=31
comp=Z,1.0nm,0.2s
SCZ2 Santa Cruz Isl 71.33 45 P **P** **06 10 24.6 +1.4**
baz=235
PKM Mcpherson Peak 71.72 44 P **P** **06 10 27.1 +1.4**
baz=235
SAO San Andreas Ge 71.74 42 P **P** **06 10 25.5 -0.1**
SAO IAmb IAmb 06 10 28.2
comp=Z,12nm,1.0s
ASAJ Asahikawa 71.82 328 LR LR 06 35 31.4
comp=Z,55nm,20.7s,baz=186,slow=30
CIS Catalina Islan 71.83 46 P **P** **06 10 27.6 +1.4**
baz=236
PMPB Monarch Peak 71.83 43 P **P** **06 10 26.9 +0.6**
PMPB IAmb IAmb 06 10 28.6
comp=Z,22nm,1.2s
SMMC Simmler 71.84 44 P **P** **06 10 27.9 +1.7**
baz=234
BBGB Big Mountain B 71.89 42 P **P** **06 10 27.9 +1.3**
JNU Nakatsue 71.98 313 LR LR 06 35 34.7
comp=Z,34nm,20.0s,baz=134,slow=30
BCW Bitter Crk WRg 72.01 44 P **P** **06 10 24.8 -2.6**
BCW IAmb IAmb 06 10 29.7
comp=Z,13nm,0.9s
KMRM Mail Ridge 72.48 38 P **P** **06 10 31.7 +1.7**
ARVC Arvin 72.51 45 P **P** **06 10 30.9 +0.7**
baz=235
ELS Elsinore Mount 72.66 47 P **P** **06 10 31.1 0.0**
ELS IAmb IAmb 06 10 32.8
comp=Z,8.8nm,1.0s
VES Vestal, Richgr 72.75 44 P **P** **06 10 32.1 +0.5**
baz=235
MURC Murrieta 72.79 47 P **P** **06 10 33.0 +1.0**
baz=237
BFSC Mount Baldy Ra 72.82 46 P **P** **06 10 32.6 +0.3**
baz=236
ESJX Sierra Juarez 72.83 49 P **P** **06 10 33.3 +0.9**
EDW2 Edwards Air Fo 72.94 45 P **P** **06 10 33.7 +0.8**
baz=236,SNR=11
MONP2 Monument Peak 72.96 48 P **P** **06 10 34.4 +1.2**
baz=238,SNR=8.0
PETK Petropavlovsk- 72.98 342 P **P** **06 10 32.3 -0.3**
comp=Z,5.4nm,0.8s,baz=128,slow=9.6,SNR=5.7
PETK LR LR 06 34 45.8
comp=Z,27nm,21.7s,baz=143,slow=29
comp=Z,5.4nm,0.8s
RMX La Rumorosa 73.05 48 IAmb IAmb 06 10 36.4
comp=Z,11nm,0.9s
IKP In-Ko-Pah, Jac 73.05 48 P **P** **06 10 34.4 +0.9**
baz=238,SNR=5.8
ISA Isabella, Lake 73.06 44 IAmb IAmb 06 10 35.5
comp=Z,9.2nm,1.1s
ISA Isabella, Lake 73.06 44 P **P** **06 10 34.6 +1.1**
baz=236,SNR=5.9
CMB Columbia Colle 73.18 41 IAmb IAmb 06 10 36.4
comp=Z,11nm,1.1s
YUH Yuha Desert 73.18 48 P **P** **06 10 34.8 +0.5**
YUH IAmb IAmb 06 10 36.3
comp=Z,9.1nm,1.1s
PFO Pinyon Flats O 73.31 47 LR LR 06 38 19.5
comp=Z,110nm,18.5s,baz=256,slow=32
PFO Pinyon Flats O 73.31 47 P **P** **06 10 34.9 -0.3**
PFO Pinyon Flats O 73.31 47 P **P** **06 10 35.6 +0.4**
baz=238
TPFO Pinon Flats 73.32 47 P **P** **06 10 35.8 +0.7**
baz=238
AFDM Forest Hills D 73.35 40 IAmb IAmb 06 10 36.7
comp=Z,8.9nm,0.9s
LPIG La Paz 73.38 58 LR LR 06 34 09.1
comp=Z,72nm,20.8s,baz=248,slow=29
SWSC Sam W. Stewart 73.43 48 P **P** **06 10 36.4 +0.7**
baz=238
LRMC Laurel Mtn Rad 73.49 45 P **P** **06 10 36.6 +0.5**
baz=236,SNR=8.0
CWC Cottonwood Cre 73.76 44 P **P** **06 10 38.2 +0.5**
baz=236
YSS Yuzh-Sakhalins 73.78 330 P **P** **06 10 36.9 -0.5**
MDPB Devils Postpil 73.78 42 IAmb IAmb 06 10 39.7
comp=Z,16nm,1.4s
BELC Belle Mtn. Jos 73.85 47 P **P** **06 10 39.2 +0.9**
baz=238,SNR=9.0

SII Sitkinak Islan 73.91 11 P **P** **06 10 39.3 +1.3**
baz=199
MLAC Mammoth, Mammo 73.94 42 P **P** **06 10 39.3 +0.4**
baz=235
MPMC Manual Prospec 73.94 44 P **P** **06 10 39.2 +0.3**
baz=236,SNR=15
YBH Yreka Blue Hor 74.02 37 LR LR 06 37 44.2
comp=Z,69nm,20.7s,baz=236,slow=31
YBH Yreka Blue Hor 74.02 37 P **P** **06 10 40.2 +1.1**
YBH IAmb IAmb 06 10 41.7
comp=Z,18nm,1.1s
BC3 Big Chuckawall 74.05 47 P **P** **06 10 40.4 +0.9**
baz=238,SNR=6.6
HEC Hector,Ludlow 74.06 46 P **P** **06 10 39.8 +0.4**
baz=237,SNR=15
GLA Glamis 74.18 48 IAmb IAmb 06 10 42.7
comp=Z,17nm,1.1s
GLA Glamis 74.18 48 P **P** **06 10 40.4 +0.3**
baz=239
QSPA South Pole Qui 74.22 180 LR LR 06 39 44.2
comp=Z,48nm,19.9s,baz=62,slow=33
PNTR Pine Nut 74.30 41 IAmb IAmb 06 10 42.8
comp=Z,14nm,1.0s
QSM Queen of Sheba 74.31 45 IAmb IAmb 06 10 42.4
comp=Z,9.3nm,0.8s
DSP Deep Springs 74.35 43 IAmb IAmb 06 10 43.2
comp=Z,14nm,1.4s
VCNR Virginia City 74.39 41 IAmb IAmb 06 10 43.2
comp=Z,9.3nm,1.0s
PIX Pinacate 74.42 50 IAmb IAmb 06 10 43.5
comp=Z,15nm,1.1s
YERR Yerington 74.46 41 IAmb IAmb 06 10 43.6
comp=Z,12nm,1.1s
GMRC Granite Mounta 74.50 46 P **P** **06 10 42.6 +0.5**
baz=238,SNR=7.7
LHV Little Huntoon 74.51 42 IAmb IAmb 06 10 48.9
comp=Z,13nm,1.1s
IRM Iron Mountain 74.53 47 P **P** **06 10 42.5 +0.4**
baz=238,SNR=13
GRAC Grapevine Rang 74.54 44 P **P** **06 10 42.9 +0.8**
baz=236
FURC Furnace Creek, 74.59 44 P **P** **06 10 42.6 +0.3**
baz=236
TUQ Turquoise Moun 74.67 46 P **P** **06 10 43.4 +0.3**
baz=237,SNR=9.4
SHOC Shoshone, Teco 74.67 45 P **P** **06 10 43.3 +0.4**
baz=237
RYN Ryan 74.71 42 IAmb IAmb 06 10 44.5
comp=Z,12nm,1.3s
NVAR Mina Array Bea 74.74 42 P **P** **06 10 44.2 +0.7**
comp=Z,11nm,1.1s,baz=227,slow=9.0,SNR=32
comp=Z,11nm,1.1s
BLYC Blythe 74.76 48 IAmb IAmb 06 10 45.3
comp=Z,13nm,1.1s
113A Mohawk Valley, 74.80 49 IAmb IAmb 06 10 45.3
comp=Z,9.5nm,0.9s
NV11 Mina Array Sit 74.84 42 IAmb IAmb 06 10 46.8
comp=Z,16nm,1.2s
214A Organ Pipe Nat 75.10 50 IAmb IAmb 06 10 47.3
comp=Z,20nm,1.4s
214A Organ Pipe Nat 75.10 50 P **P** **06 10 45.7 +0.3**
baz=240,SNR=6.2
KVN Kaiserville 75.22 42 IAmb IAmb 06 10 48.0
comp=Z,11nm,1.2s
TPNV Topopah Spring 75.26 44 IAmb IAmb 06 10 48.5
comp=Z,28nm,1.9s
TPNV Topopah Spring 75.26 44 P **P** **06 10 47.2 +0.7**
baz=237
KDAK Kodiak Island 75.36 11 LR LR 06 35 22.5
comp=Z,108nm,20.3s,baz=208,slow=29
MOD Modoc Plateau 75.54 38 IAmb IAmb 06 10 50.1
comp=Z,16nm,1.1s
PRN Paonia Ranger 76.32 44 IAmb IAmb 06 10 54.6
comp=Z,24nm,1.7s
KSRS Korea Array 76.36 316 P **P** **06 10 53.4 +0.9**
comp=Z,2.1nm,0.9s,baz=116,slow=5.7,SNR=5.6
KSRS LR LR 06 37 52.1
comp=Z,17nm,21.5s,baz=130,slow=30
KSAR Wonju Array Be 76.37 316 **P** **06 10 53.0 +0.5**
P18K Big Mountain, 76.42 10 P **P** **06 10 53.0 +0.7**
baz=198
R11A Troy Canyon, C 76.47 43 P **P** **06 10 54.1 +0.8**
baz=237
O17K Koliganek Bris 76.51 8 P **P** **06 10 54.9 +2.1**
baz=196
BMN Battle Mountai 76.57 41 IAmb IAmb 06 10 55.5
comp=Z,12nm,1.2s
TUC Tucson 76.77 51 P **P** **06 10 56.1 +1.0**
TUC IAmb IAmb 06 10 57.1
comp=Z,9.9nm,0.8s
TUC Tucson 76.77 51 P **P** **06 10 55.8 +0.8**
baz=242
WVOR Wild Horse Val 76.85 38 IAmb IAmb 06 10 57.6
comp=Z,15nm,1.1s
319A Douglas 77.47 52 IAmb IAmb 06 11 01.0
comp=Z,16nm,0.9s
J08A Circle Bar Ran 77.49 38 IAmb IAmb 06 11 01.5
comp=Z,10nm,1.0s
USRK Ussuriysk Ar. 77.63 323 P **P** **06 10 59.2 -0.2**
comp=Z,1.7nm,0.4s,baz=126,slow=5.5,SNR=5.4
comp=Z,1.7nm,0.4s
USRK Ussuriysk Ar. 77.63 323 P **P** **06 11 00.0 +0.6**
U15A North Rim 77.70 46 IAmb IAmb 06 11 02.7
comp=Z,12nm,1.1s
SZCU Shurtz Canyon 77.74 45 P **P** **06 11 00.8 +0.3**
WUAZ Wupatki 77.89 48 IAmb IAmb 06 11 03.5
comp=Z,14nm,1.2s
WUAZ Wupatki 77.89 48 P **P** **06 11 02.4 +1.1**
baz=240
ELK Elko 78.00 41 LR LR 06 36 37.1
comp=Z,88nm,20.2s,baz=250,slow=29
BBB Bella Bella 78.33 27 LR LR 06 42 36.9
comp=Z,109nm,18.2s,baz=264,slow=33
RC01 Rabbit Creek A 78.98 12 P **P** **06 11 08.7 +2.1**
baz=203
121A Cookes Peak, D 79.12 52 IAmb IAmb 06 11 10.3
comp=Z,11nm,0.9s
121A Cookes Peak, D 79.12 52 P **P** **06 11 09.4 +1.2**
baz=243
DUG Dugway, Tooele 79.27 43 P **P** **06 11 09.5 +0.7**
baz=239
D08A Wollman Farm, 79.44 35 IAmb IAmb 06 11 10.8
comp=Z,9.9nm,1.0s
M22K Willow 79.52 11 P **P** **06 11 10.4 +1.0**
baz=203
KNK Knik Glacier 79.53 12 P **P** **06 11 10.2 +0.7**
baz=204
GHO Glory Hole Cre 79.77 12 IAmb IAmb 06 11 16.5
comp=Z,25nm,1.3s
DIV Divide 79.84 13 IAmb IAmb 06 11 23.9
comp=Z,25nm,1.3s
TMUT Trail Mountain 79.88 44 P **P** **06 11 12.8 +0.5**
PLID Pearl Lake 79.94 37 IAmb IAmb 06 13 45.3
comp=Z,18nm,1.9s
BMRM Bremner River 79.96 14 IAmb IAmb 06 11 20.2
comp=Z,17nm,1.0s
BMRM Bremner River 79.96 14 P **P** **06 11 13.3 +1.4**
baz=208
HLID Hailey 80.05 39 P **P** **06 11 14.2 +1.2**
baz=237
CUT Chulitna 80.10 11 P **P** **06 11 14.1 +1.6**
baz=203
HVU Hansel Valley 80.12 41 IAmb IAmb 06 12 02.9
comp=Z,25nm,1.9s
KLU Klutina 80.13 13 P **P** **06 11 14.3 +1.4**
baz=207
SCM Sheep Creek Mo 80.14 12 P **P** **06 11 13.5 +0.6**
baz=206
SBM South Baldy 80.22 51 P **P** **06 11 14.2 -0.2**
SRU San Rafael Swe 80.25 45 P **P** **06 11 14.3 +0.1**
P17A Butcher Ranch, 80.28 44 IAmb IAmb 06 11 58.3
comp=Z,12nm,1.4s
NJ2 Nanjing 80.30 307 *e*P **P** **06 11 15.6 +1.3**
NJ2 pmax pmax
comp=Z,11nm,0.9s
K20K Telida 80.37 9 P **P** **06 11 16.2 +2.2**
baz=199
ANM Nome 80.38 4 P **P** **06 11 16.1 +2.0**
baz=188
Y22D IRIS PASSCAL I 80.46 51 P **P** **06 11 16.1 +0.8**
baz=244
Y22F Passcal Instru 80.46 51 P **P** **06 11 15.9 +0.5**
baz=244
MA2 Magadan 80.52 342 LR LR 06 39 26.5
comp=Z,37nm,22.0s,baz=148,slow=30
MA2 Magadan 80.52 342 P **P** **06 11 13.9 -0.9**
MA2 IAmb IAmb 06 11 15.5
comp=Z,24nm,1.4s

N25K Chitina, Valde 80.53 14 P **P** **06 11 15.3 +0.4**
baz=208
MNTX Cornudas Mount 80.59 53 IAmb IAmb 06 11 17.7
comp=Z,11nm,1.0s
MNTX Cornudas Mount 80.59 53 P **P** **06 11 16.3 +0.4**
baz=245
M24K Tolsona, Glenn 80.63 13 P **P** **06 11 15.9 +0.4**
baz=207
TCUT Toone Canyon 80.66 43 IAmb IAmb 06 11 18.0
comp=Z,13nm,0.9s
WAT6 Susitna Watana 80.74 12 P **P** **06 11 16.5 +0.3**
baz=205
WAT1 Susitna Watana 80.81 11 P **P** **06 11 16.6 +0.2**
baz=204
TX32 Lajitas Array 80.97 56 IAmb IAmb 06 11 20.8
comp=Z,12nm,1.1s
TXAR Lajitas Array 80.97 56 P **P** **06 11 18.6 +0.5**
comp=Z,9.5nm,1.1s,baz=220,slow=6.7,SNR=44
TXAR LR LR 06 37 50.5
comp=Z,66nm,21.6s,baz=233,slow=29
comp=Z,9.5nm,1.1s
TRF Thorofare Moun 81.06 10 P **P** **06 11 18.3 +0.4**
baz=203
CHUM Lake Minchumin 81.13 9 P **P** **06 11 19.9 +1.9**
baz=201
NEW Newport 81.14 34 LR LR 06 41 53.6
comp=Z,56nm,18.6s,baz=238,slow=32
NEW Newport 81.14 34 P **P** **06 11 18.4 -0.1**
baz=234
ANMO Albuquerque 81.19 50 LR LR 06 41 34.8
comp=Z,50nm,19.6s,baz=333,slow=31
ANMO Albuquerque 81.19 50 P **P** **06 11 19.3 +0.1**
ANMO Albuquerque 81.19 50 P **P** **06 11 19.4 +0.1**
baz=244
SKAG Skagway 81.19 19 P **P** **06 11 20.1 +1.7**
baz=217
P30M Million Dollar 81.23 18 P **P** **06 11 20.2 +1.5**
baz=216
TNA Tin City 81.25 2 IAmb IAmb 06 11 21.1
comp=Z,12nm,1.0s
TNA Tin City 81.25 2 P **P** **06 11 20.3 +1.7**
baz=186
CN2 Changchun 81.31 320 *e*P **P** **06 11 19.0 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
S34M Telegraph Cree 81.36 21 P **P** **06 11 20.9 +1.5**
baz=221
BPAW Bear Paw Mtn. 81.55 10 P **P** **06 11 21.1 +0.8**
baz=202
MCK McKinley 81.56 11 IAmb IAmb 06 11 27.6
comp=Z,13nm,1.0s
MCK McKinley 81.56 11 P **P** **06 11 20.7 +0.3**
baz=204
M26K Nabesna, AK 81.59 14 IAmb IAmb 06 11 26.8
comp=Z,10nm,0.9s
M26K Nabesna, AK 81.59 14 P **P** **06 11 21.3 +0.7**
baz=210
HYT Haines Junctio 81.66 17 P **P** **06 11 21.8 +0.8**
baz=215
YUK3 Moose Creek 81.66 15 P **P** **06 11 21.4 +0.2**
baz=212
YUK4 Talbot Arm 81.77 16 P **P** **06 11 22.6 +0.9**
baz=214
M27K Edge Creek, AK 81.81 14 IAmb IAmb 06 11 31.7
comp=Z,17nm,1.3s
M27K Edge Creek, AK 81.81 14 P **P** **06 11 22.6 +0.7**
baz=211
O30N Mendenhall 82.01 18 P **P** **06 11 23.6 +0.8**
baz=216
L26K Log Cabin Wild 82.06 13 P **P** **06 11 23.4 +0.4**
baz=209
MSO Missoula 82.11 37 P **P** **06 11 23.9 +0.2**
baz=237
BVCY Beaver Creek 82.11 15 P **P** **06 11 24.0 +0.7**
baz=212
DLBC Dease Lake 82.14 21 LR LR 06 43 26.4
comp=Z,123nm,18.1s,baz=236,slow=32
REDW Red Top Meadow 82.15 41 P **P** **06 11 24.5 +0.3**
REDW IAmb IAmb 06 12 09.9
comp=Z,21nm,1.4s
TPAW Teton Pass 82.15 41 P **P** **06 11 24.2 -0.1**
TPAW IAmb IAmb 06 11 26.4
comp=Z,8.3nm,0.9s
S22A 4UR Ranch, Cre 82.16 47 P **P** **06 11 25.1 +0.6**
S22A IAmb IAmb 06 11 26.5
comp=Z,16nm,0.9s
S22A 4UR Ranch, Cre 82.16 47 P **P** **06 11 25.7 +1.2**
baz=243
K24K Donnelly Dome 82.23 12 P **P** **06 11 24.3 +0.4**
baz=207
SNOW Snow King Moun 82.26 41 IAmb IAmb 06 11 27.5
comp=Z,9.2nm,0.9s
WHY Whitehrse 82.28 18 P **P** **06 11 25.2 +0.9**
baz=217
O20A White River Ci 82.28 45 IAmb IAmb 06 12 23.8
comp=Z,25nm,1.8s
O20A White River Ci 82.28 45 P **P** **06 11 25.4 +0.5**
baz=242
NEA2 Nenana 82.33 10 P **P** **06 11 24.9 +0.6**
baz=204
RIDG Independent Ri 82.36 12 P **P** **06 11 25.1 +0.5**
baz=208
IMW Indian Meadow 82.36 40 IAmb IAmb 06 11 27.0
comp=Z,14nm,1.3s
WRH Wood River Hil 82.39 11 IAmb IAmb 06 11 35.3
comp=Z,26nm,1.5s
MOOW Moose Ponds 82.41 41 P **P** **06 11 24.8 -0.8**
LOHW Long Hollow 82.43 41 IAmb IAmb 06 12 08.7
comp=Z,24nm,1.9s
L27K Beaver Creek, 82.43 14 P **P** **06 11 25.4 +0.5**
baz=211
MLY Manley 82.46 10 P **P** **06 11 25.8 +0.7**
baz=202
R33M Jennings River 82.54 20 P **P** **06 11 26.3 +0.6**
baz=221
HDA Harding Lake 82.55 11 IAmb IAmb 06 12 01.2
comp=Z,37nm,1.8s
HDA Harding Lake 82.55 11 P **P** **06 11 26.0 +0.5**
baz=206
P33M Teslin, Yukon 82.56 19 P **P** **06 11 26.5 +0.8**
baz=219
CCB Clear Creek Bu 82.60 11 IAmb IAmb 06 12 01.4
comp=Z,6.9nm,0.8s
FLWY Flagg Ranch 82.61 40 IAmb IAmb 06 11 34.1
comp=Z,11nm,1.1s
BW06 Boulder Array 82.68 42 IAmb IAmb 06 11 28.3
comp=Z,7.4nm,0.9s
BW06 Boulder Array 82.68 42 P **P** **06 11 26.9 0.0**
baz=241
PDAR Pinedale Array 82.68 42 P **P** **06 11 26.0 -1.0**
comp=Z,6.5nm,0.9s,baz=216,slow=3.1,SNR=49
PDAR PKKPbc **PKKPbc** **06 29 52.0 -1.1**
comp=Z,0.8nm,1.0s,baz=116,slow=3.4,SNR=4.9
PDAR LR LR 06 44 46.6
comp=Z,81nm,18.7s,baz=252,slow=33
comp=Z,6.5nm,0.9s
N31M Braeburn, Yuko 82.68 17 P **P** **06 11 27.4 +1.1**
baz=216
YHL Hebgen Lake 82.70 39 IAmb IAmb 06 11 29.3
comp=Z,17nm,1.0s
SMCO Snowmass 82.71 46 IAmb IAmb 06 11 28.9
comp=Z,8.5nm,0.8s
H21K Melozitna Rive 82.73 9 IAmb IAmb 06 11 30.5
comp=Z,12nm,1.4s
H21K Melozitna Rive 82.73 9 P **P** **06 11 27.3 +0.9**
baz=200
M29M Somme Creek 82.74 16 P **P** **06 11 27.1 +0.5**
baz=214
YMR Madison River 82.74 40 IAmb IAmb 06 12 13.1
comp=Z,21nm,1.5s
SCRK Sand Creek 82.75 13 IAmb IAmb 06 11 37.3
comp=Z,12nm,1.3s
SCRK Sand Creek 82.75 13 P **P** **06 11 27.1 +0.4**
baz=209
I23K Minto, Yukon-K 82.79 10 P **P** **06 11 27.4 +0.7**
baz=203
TCOL CIGO, UAF Yank 82.80 11 IAmb IAmb 06 12 03.0
comp=Z,14nm,0.8s
TCOL CIGO, UAF Yank 82.80 11 P **P** **06 11 26.5 -0.2**
baz=205
COLA College 82.80 11 P **P** **06 11 25.4 -1.3**
COLA IAmb IAmb 06 12 03.0
comp=Z,15nm,0.9s
COLA College 82.80 11 P **P** **06 11 26.8 0.0**
baz=205
BOZ Bozeman (W) 82.81 39 P **P** **06 11 27.9 +0.4**
baz=239
MDM Murphy Dome 82.81 11 IAmb IAmb 06 12 02.4

comp=Z,29nm,1.7s
H17A Grant Village 82.84 40 P **P 06 11 28.8 +1.0**
baz=240
IL31 82.89 11 IAmb IAmb 06 11 37.6
comp=Z,10nm,1.2s
ILAR Eielson Array 82.89 11 P **P 06 11 26.4 -0.8**
comp=Z,1.2nm,0.6s,baz=227,slow=6.1,SNR=21
ILAR LR LR 06 40 04.5
comp=Z,44nm,20.3s,baz=187,slow=30
comp=Z,1.2nm,0.6s
LKWY Lake 83.04 40 IAmb IAmb 06 11 32.6
comp=Z,9.2nm,0.9s
POKR Poker Plat Res 83.10 11 IAmb IAmb 06 12 22.6
comp=Z,10nm,0.8s
POKR Poker Plat Res 83.10 11 P **P 06 11 28.5 +0.2**
baz=205
SDCO Great Sand Dun 83.11 48 P **P 06 11 29.8 +0.4**
baz=244
M30M Minto, Yukon 83.29 16 P **P 06 11 29.0 -0.4**
baz=216
J26L Joseph Creek 83.30 13 IAmb IAmb 06 11 39.0
comp=Z,31nm,1.9s
J26L Joseph Creek 83.30 13 P **P 06 11 30.1 +0.6**
baz=209
L29M L29M 83.38 15 P **P 06 11 30.1 +0.3**
baz=214
G21K Allakaket 83.45 8 P **P 06 11 31.2 +1.1**
baz=199
MSTX Muleshoe 83.53 52 P **P 06 11 31.7 +0.2**
baz=246
BELA Belgrano 2 83.60 172 P **P 06 11 30.9 -0.1**
BELA IAmb IAmb 06 11 33.4
comp=Z,14nm,1.0s
T25A Trinidad 83.63 49 P **P 06 11 32.1 +0.1**
baz=245
M31M Drury Creek, Y 83.65 17 P **P 06 11 31.4 +0.2**
baz=218
HEH HeiHe 83.67 326 *e*P **P 06 11 30.3 -1.3**
RWWY Rawlins 83.70 44 IAmb IAmb 06 11 33.8
comp=Z,17nm,1.0s
WTLY Watson Lake, Y 83.81 21 P **P 06 11 32.7 +0.6**
baz=223
DAWY Dawson 83.86 14 P **P 06 11 32.5 +0.2**
baz=213
Q24A Divide 83.89 47 IAmb IAmb 06 11 34.8
comp=Z,7.6nm,1.1s
Q24A Divide 83.89 47 P **P 06 11 33.9 +0.5**
baz=244
ISCO Idaho Springs 83.93 46 P **P 06 11 34.0 +0.4**
baz=244
FARO Faro, Yukon 83.98 18 P **P 06 11 33.2 +0.3**
baz=219
RLMT Red Lodge 84.01 40 P **P 06 11 34.6 +0.8**
baz=241
833A Chaparral WMA, 84.05 59 P **P 06 11 34.2 +0.2**
baz=248
EGAK Eagle 84.06 13 P **P 06 11 33.2 -0.1**
baz=211
F21K Alatna River 84.12 8 P **P 06 11 33.9 +0.4**
baz=199
G23K Bananza Creek 84.13 9 P **P 06 11 34.8 +1.1**
baz=203
K29M Barlow Dome 84.14 15 P **P 06 11 34.2 +0.4**
baz=215
CMIG Matias Romero 84.16 70 LR LR 06 42 24.4
comp=Z,43nm,18.8s,baz=254,slow=31
N23A Red Feather La 84.19 45 IAmb IAmb 06 11 37.1
comp=Z,13nm,1.0s
N23A Red Feather La 84.19 45 P **P 06 11 34.9 +0.1**
baz=243
F22K John River 84.56 8 P **P 06 11 37.3 +1.5**
baz=201
COLD Coldfoot 84.58 9 IAmb IAmb 06 11 39.6
comp=Z,9.3nm,1.1s
COLD Coldfoot 84.58 9 P **P 06 11 37.8 +2.0**
baz=203
K22A Casper 84.59 43 P **P 06 11 36.7 0.0**
baz=243
AMTX Amarillo 84.72 52 P **P 06 11 37.4 0.0**
baz=247
BILL Bilibino 84.91 353 P **P 06 11 36.9 -0.5**
BILL IAmb IAmb 06 11 42.9
comp=Z,28nm,1.7s
H03S2 Juan Fernandez 85.09 124 T T 07 45 43.4
baz=251,slow=74,SNR=10
H03S1 Juan Fernandez 85.11 124 T T 07 45 46.5
baz=251,slow=74,SNR=3.6
H03S3 Juan Fernandez 85.11 124 T T 07 45 24.2
baz=251,slow=74,SNR=9.5
EGMT Eagleton 85.15 37 P **P 06 11 39.8 +0.6**
baz=240
H03N2 Juan Fernandez 85.19 123 T T 07 45 49.6
baz=260,slow=74
H03N3 Juan Fernandez 85.20 123 T T 07 45 53.1
baz=260
F24K Squaw Lake 85.21 10 P **P 06 11 40.8 +1.8**
baz=205
H03N1 Juan Fernandez 85.21 123 T T 07 45 47.2
baz=260,slow=74
H27K Steamboat Moun 85.23 12 P **P 06 11 40.6 +1.4**
baz=211
ABTX Abilene, Hawle 85.43 54 P **P 06 11 41.2 +0.3**
baz=248
E23K Chandalar 85.44 9 P **P 06 11 41.9 +1.7**
baz=203
E24K Your Creek 85.62 9 P **P 06 11 42.7 +1.6**
baz=204
HNS HongShan 85.62 311 ⇑P **P 06 11 42.3 +0.6**
HNS pmax pmax
comp=Z,13nm,1.3s
BJT Baijiatuau 85.65 314 P **P 06 11 40.2 -1.5**
BJT IAmb IAmb 06 11 43.9
comp=Z,14nm,1.1s
F25K Christian Rive 85.65 10 P **P 06 11 43.1 +1.9**
baz=207
BJI Beijing 85.65 314 P **P 06 11 41.9 +0.1**
BJI pmax pmax
comp=Z,7.0nm,1.1s
G27K Doyon Strip 85.71 12 P **P 06 11 42.8 +1.3**
baz=211
EDM Edmonton 85.92 32 IAmb IAmb 06 11 44.0
comp=Z,14nm,1.1s
F26K Sheenjek River 86.00 11 P **P 06 11 45.3 +2.3**
baz=208
D23K Nanushuk River 86.13 8 P **P 06 11 45.7 +2.2**
baz=202
E25K Arctic Village 86.14 10 P **P 06 11 45.1 +1.5**
baz=207
435B Jarrell 86.39 57 P **P 06 11 46.4 +0.7**
baz=249
LAO LASA Array 86.62 40 IAmb IAmb 06 11 48.2
comp=Z,6.7nm,0.9s
LAO LASA Array 86.62 40 P **P 06 11 46.8 +0.3**
baz=243
RSSD Black Hills 86.87 43 P **P 06 11 46.4 -1.6**
RSSD IAmb IAmb 06 12 21.2
comp=Z,16nm,1.6s
RSSD Black Hills 86.87 43 P **P 06 11 47.6 -0.4**
baz=244
WMOK Wichita Mounta 86.88 53 P **P 06 11 47.4 -0.5**
baz=248
E27K Coleen River 86.91 11 P **P 06 11 48.1 +0.7**
baz=211
WHTX Lake Whitney, 86.92 56 P **P 06 11 48.3 +0.1**
baz=249
G30M tAoh Zraii Nji 87.03 14 P **P 06 11 48.4 +0.4**
baz=216
C24K Franklin Bluff 87.10 8 P **P 06 11 49.0 +0.8**
baz=204
FW06 Azle 87.19 55 IAmb IAmb 06 11 51.2
comp=Z,7.9nm,0.7s
XLT XiLinHaoTe 87.33 317 ⇑*i*P **P 06 11 50.8 +0.8**
XLT pmax pmax
comp=Z,9.0nm,1.5s
XLT pmax pmax
comp=Z,150nm,6.0s
MAW Mawson 87.35 199 LR LR 06 49 06.7
comp=Z,53nm,19.4s,baz=110,slow=34
CBKS Cedar Bluff 87.68 49 P **P 06 11 52.1 +0.3**
baz=248
C27K Jago River 87.79 10 P **P 06 11 53.3 +1.7**
baz=209
C26K Camden Bay 87.85 10 P **P 06 11 53.3 +1.6**
baz=208
F31M Tsiigehtchic 87.98 14 P **P 06 11 53.6 +1.2**
baz=218
GYA Guiyang 88.11 298 ⇑P **P 06 11 55.8 +1.6**
GYA pmax pmax
comp=Z,15nm,0.7s
DGMT Dagmar 88.65 39 P **P 06 11 56.8 +0.6**
baz=244
INK Inuvik 88.71 14 LR LR 06 49 22.7
comp=Z,61nm,19.1s,baz=334,slow=34
INK Inuvik 88.71 14 IAmb IAmb 06 12 02.9
comp=Z,6.1nm,1.1s
INK Inuvik 88.71 14 P **P 06 11 58.4 +2.5**
baz=218
XAN Xi'an 88.76 306 ⇓P **P 06 11 57.4 +0.4**
XAN pmax pmax
comp=Z,14nm,1.1s
XAN pmax pmax
comp=Z,170nm,5.0s
HHC Hu-ho-hao-te 89.20 313 *e*P **P 06 12 00.0 +1.0**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,290nm,4.8s
PLCA Paso Flores 89.34 132 P **P 06 12 01.4 +1.6**
comp=Z,1.1nm,0.9s,baz=238,slow=7.9,SNR=3.5
PLCA LR LR 06 45 01.7
comp=Z,63nm,18.2s,baz=240,slow=31
comp=Z,1.1nm,0.9s
YAK Yakutsk 89.44 337 LR LR 06 44 06.6
comp=Z,31nm,21.6s,baz=318,slow=30
BTO Baotou 90.21 312 *e*P **P 06 12 03.8 +0.1**
YKA Yellowknife Ar 90.54 23 P **P 06 12 03.6 -0.9**
comp=Z,1.2nm,0.9s,baz=235,slow=4.4,SNR=16
YKA PKKPbc **PKKPdf 06 29 32.1 +1.2**
comp=Z,0.1nm,0.5s,baz=50,slow=2.6,SNR=4.9
comp=Z,1.2nm,0.9s
MIAR Mount Ida 90.84 54 P **P 06 12 07.4 +0.7**
baz=251
JTS Las Juntas de 91.43 80 LR LR 06 45 47.6
comp=Z,23nm,18.4s,baz=203,slow=31
ECSD EROS Data Cent 91.66 45 P **P 06 12 10.0 -0.3**
baz=250
ELIB Princess Elisa 91.70 185 *d*P **P 06 12 10.3 +0.1**
comp=Z,24nm,0.8s
ELIB *d*PcP **PcP 06 12 11.0 0.0**
TROLL Troll, Antarti 92.34 179 P **P 06 12 13.8 +0.7**
VNA3 Neumayer Olymp 92.45 175 P **P 06 12 14.3 +0.8**
CMAR Chiang Mai Arr 92.61 288 P **P 06 12 16.3 +1.1**
comp=Z,4.5nm,0.4s,baz=94,slow=2.9,SNR=38
CMAR LR LR 06 54 08.5
comp=Z,13nm,18.2s,baz=90,slow=36
comp=Z,4.5nm,0.4s
CHTO Chiang Mai 92.70 289 P **P 06 12 15.9 +0.3**
VNA2 Neumayer--Watz 92.95 175 P **P 06 12 16.9 +1.1**
baz=182,slow=4.0
ATAH Atahualpa 93.01 98 LR LR 06 46 08.6
comp=Z,82nm,18.3s,baz=247,slow=30
NNA Nana 93.11 103 LR LR 06 45 10.2
comp=Z,21nm,19.6s,baz=292,slow=30
VNA1 Neumayer--Stat 93.15 175 P **P 06 12 17.5 +0.8**
LCAR Lake Charles 93.19 54 IAmb IAmb 06 12 18.0
comp=Z,6.5nm,1.0s
LZH Lanzhou 93.35 306 *e*P **P 06 12 18.6 +0.1**
LZH pP pP 06 12 37.6 -2.0
LZH pmax pmax
comp=Z,10.0nm,1.1s
CCM Cathedral Cave 93.71 52 P **P 06 12 19.1 -0.7**
baz=253
CFA Coronel Fontan 94.34 124 LR LR 06 45 55.2
comp=Z,62nm,20.5s,baz=293,slow=30
ULM Lac du Bonnet 94.35 39 LR LR 06 52 20.0
comp=Z,97nm,18.4s,baz=253,slow=34
SPMN Marine on St. 94.72 44 P **P 06 12 24.1 -0.2**
baz=252
SONM Songino Array 95.06 318 P **P 06 12 25.0 -0.9**
comp=Z,0.6nm,0.7s,baz=137,slow=5.9,SNR=4.0
comp=Z,0.6nm,0.7s
TIXI Tiksi 95.37 344 LR LR 06 50 46.2
comp=Z,20nm,19.9s,baz=180,slow=32
JFWS Jewell Farm 95.82 47 P **P 06 12 28.9 -0.5**
baz=254
LVC Limon Verde 96.97 116 LR LR 06 47 28.5
comp=Z,38nm,19.6s,baz=251,slow=30
TKL Tuckaleechee C 98.87 56 LR LR 06 51 59.5
comp=Z,65nm,19.6s,baz=270,slow=32
LPAZ La Paz 99.81 110 LR LR 06 49 45.9
comp=Z,28nm,18.6s,baz=284,slow=30
MKAR Makanchi Array 111.02 314 PKiKP **PKiKP 06 17 35.9 -0.1**
comp=Z,1.3nm,0.9s,baz=85,slow=2.6,SNR=8.0
KURBB Kurchatov Arra 113.42 319 PKiKP **PKiKP 06 17 40.6 +0.2**
comp=Z,1.7nm,0.8s,baz=90,slow=1.8,SNR=15
KURBB PP **PP 06 18 30.3 -2.4**
comp=Z,0.3nm,0.2s,baz=88,slow=7.4,SNR=4.2
BVAR Borovoye Array 118.12 322 PKP **PKPdf 06 17 48.6 -0.8**
comp=Z,4.3nm,0.9s,baz=66,slow=1.8,SNR=13
ARU Arti 123.62 328 PKP **PKPdf 06 17 59.4 -0.5**
comp=Z,4.7nm,0.5s,baz=57,slow=3.3,SNR=9.3
ARCES ARCESS Array B 125.00 352 PKP **PKPdf 06 18 01.8 -0.4**
comp=Z,7.1nm,0.7s,baz=20,slow=0.9,SNR=13
AKTO Aktyubinsk 126.22 322 PKP **PKPdf 06 18 04.5 -0.6**
comp=Z,2.1nm,0.8s,baz=52,slow=1.1,SNR=5.8
KLMR Klimovskoe 129.13 340 *e*PKPdf **PKPdf 06 18 09.4 -0.9**
KLMR AMP 06 18 17.0
comp=Z,29nm,2.2s
GEYT Alibeck 129.64 306 PKP **PKPdf 06 18 10.8 -1.3**
comp=Z,1.5nm,0.6s,baz=315,slow=3.1,SNR=1.8
BELG Eggegemoye 131.16 328 PKP **PKiKP 06 18 15.3 0.0**
comp=Z,17nm,0.8s,baz=123,slow=3.5,SNR=9.4
BOSA Boshof 132.22 203 PKP **PKPdf 06 18 17.9 +0.5**
comp=Z,4.1nm,0.8s,baz=202,slow=1.4,SNR=4.6
FINES FINESS Array B 132.32 347 PKP **PKPdf 06 18 16.1 -0.2**
comp=Z,1.2nm,0.5s,baz=38,slow=1.6,SNR=13
HFS Hagfors 135.44 355 PKP **PKPdf 06 18 22.3 +0.1**
comp=Z,2.8nm,0.7s,baz=122,slow=2.3,SNR=5.1
KBZ Khabaz 138.41 320 PKP **PKPdf 06 18 28.5 +0.3**
comp=Z,1.9nm,1.0s,baz=41,slow=9.3,SNR=2.8
AKASG Malin Array Be 140.67 337 PKhKP PKPpre 06 18 25.5
comp=Z,0.6nm,0.4s,baz=39,slow=4.2,SNR=4.4
AKASG PKP **PKPdf 06 18 31.4 -0.7**
comp=Z,3.1nm,0.8s,baz=39,slow=3.2,SNR=11
CLL Collm 144.21 353 *e*PKPpre PKPpre 06 18 36.0
CLL *i* PKPdf **PKPdf 06 18 37.7 -0.7**
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 144.39 343 *e*PKP **PKPab 06 18 37.0 -0.1**
OSTC Ostas 144.47 349 *e*PKP PKPbc 06 18 38.0 +0.4
BRG Berggiesshubel 144.52 352 *e*PKP **PKiKP 06 18 44.2 +1.6**
BRG Amp 06 18 45.3
comp=Z,5.0nm,0.9s
UPC Upice 144.55 349 *e*PKP **PKPdf 06 18 38.7 -0.3**
DPC Dobruska-Polom 144.65 349 *e*PKP PKPbc 06 18 38.5 +0.3
BURAR Bucovina Array 144.70 338 ⇑P PKPbc 06 18 39.0 +0.5
OKC Ostrava-Krasne 144.77 347 *e*PKP PKPbc 06 18 38.9 +0.4
CRVS Cervenica-Dubn 144.79 343 *e*PKP **PKPdf 06 18 39.2 -0.3**
KRLC Kraliky 144.82 348 *e*PKP **PKPab 06 18 38.7 0.0**
MORC Moravsky Berou 144.95 347 ⇑P **PKPdf 06 18 40.0 +0.1**
MORC Moravsky Berou 144.95 347 *e*PKP PKPbc 06 18 39.4 +0.2
MOX Moxa 145.01 354 *e*L L 07 21 01.2
comp=Z,114nm,18.4s
LANS Liptovska Anna 145.10 345 *e*PKP **PKPdf 06 18 41.8 +1.7**
TRPA Tarpa 145.16 341 ⇓P **PKPdf 06 18 40.2 +0.1**
KMBO Kilima Mbogo 145.22 244 PKPbc **PKPbc 06 18 40.7 -0.7**
comp=Z,0.5nm,0.8s,baz=73,slow=19,SNR=9.5
BMR Baia Mare 145.25 340 ⇑P **PKPdf 06 18 40.9 +0.6**
MAUC Maruska 145.28 347 *e*PKP **PKPab 06 18 41.1 +0.7**
PRU Pruhonice 145.29 351 *e*PKP **PKPbc 06 18 39.1 -1.1**
MEM Membach 145.30 0 *d*PKP **PKPab 06 18 41.0 +0.6**
BSTI Sart Tilman 145.32 1 *d*PcP **PKPbc 06 18 40.1 -0.1**
BSTI *ds*PKP 06 19 15.6
BTNL Ternell 145.32 0 *d*PKP **PKPab 06 18 41.1 +0.6**
BTNL *ds*PKP 06 19 16.2
GOPC GO Pecny, Ondr 145.33 351 *e*PKP **PKPab 06 18 41.1 +0.6**
NKC Novy Kostel 145.34 353 *e*PKP **PKPab 06 18 40.7 +0.1**
SNF Seneffe 145.36 2 *d*PKP **PKPab 06 18 41.3 +0.7**
PANC Panciu 145.38 334 ⇑P **PKPab 06 18 41.7 +0.9**
ARCR ARCALIA 145.46 338 ⇑P **PKPab 06 18 41.6 +0.5**
BCLA Clavier 145.48 1 *d*PKP **PKPbc 06 18 40.9 +0.1**
BCLA *dk* 06 19 16.2
BGES Gesves 145.51 2 *d*PKP **PKPab 06 18 41.5 +0.3**
BGES *ds*PKP 06 19 16.3
VRI Vrincioaia 145.56 335 ⇓P **PKPab 06 18 41.6 +0.1**
BMRD Maredsous 145.58 2 *d*PKP **PKPdf 06 18 40.7 -0.1**
BMRD *ds*PKP 06 19 15.4
VRAC Vranov 145.59 348 ⇑P **PKPab 06 18 42.5 +1.0**
VRAC Vranov 145.59 348 *e*PKP **PKPab 06 18 41.5 0.0**
PLOR Plostina 145.61 335 ⇑P **PKPab 06 18 41.7 0.0**
TPGR Topolog 145.63 332 ⇓P **PKPab 06 18 42.1 +0.3**
TNS Taunus Mts 145.65 358 *e*L L 07 29 55.9
comp=Z,147nm,19.3s
OZUR 145.75 336 ⇑P **PKPab 06 18 42.9 +0.7**
DOU Dourbes 145.78 2 *d*PKP **PKPab 06 18 42.3 +0.1**
DOU *dx* x 06 19 17.5
COVR Voineasa-Covas 145.79 335 ⇑P **PKPab 06 18 42.3 -0.2**
JAVC Velka Javorina 145.79 347 *e*PKP **PKPab 06 18 43.3 +0.9**
VYHS Vyhne 145.86 345 *e*PKP **PKPab 06 18 43.1 +0.5**
KRUC Moravsky 145.87 348 *e*PKP **PKPab 06 18 42.3 -0.2**
GRF Grafenberg Arr 146.00 354 *e*PKPbc **PKPdf 06 18 41.6 0.0**
baz=8.4,slow=3.0
GRF *e*L L 07 22 41.8
comp=Z,108nm,18.3s
DOPR Dopca 146.02 336 ⇑P **PKPab 06 18 43.9 +0.7**
MLR Muntele Rosu 146.19 335 ⇓P **PKPbc 06 18 43.4 +0.1**
MARR Marisel-Cluj 146.25 339 ⇑P **PKPbc 06 18 43.5 +0.2**
WLF Walferdange 146.25 0 *ds*PKP 06 19 19.2
KHC Kasperske Hory 146.27 352 *e*PKP **PKPbc 06 18 43.0 -0.3**
KHC *ex* x 06 19 13.9
DRGR 146.28 340 ⇑P **PKPdf 06 18 42.7 +0.5**
MODS Modra-Piesok 146.34 347 *e*PKP **PKPab 06 18 44.7 +0.3**
BRTR Keskin Array B 146.39 320 PKPbc **PKPdf 06 18 42.8 +0.1**
comp=Z,42nm,1.0s,baz=95,slow=1.4,SNR=65
CKRC Cesky Krumlov 146.47 351 *e*PKP **PKPbc 06 18 43.3 -0.6**
GERES GERESS Array B 146.53 351 PKPbc **PKPbc 06 18 44.3 +0.1**
comp=Z,2.6nm,0.6s,baz=8.1,slow=2.8,SNR=11
ARR Arges 146.81 336 ⇑P **PKiKP 06 18 47.4 -0.2**
CONA Conrad Observa 147.05 348 *e*PKP **PKPbc 06 18 45.9 +0.2**
comp=Z,26nm,1.5s
SIRR Siria 147.09 340 ⇓P **PKPbc 06 18 44.7 -1.0**
RONA Rosalia, Austr 147.19 348 *e*PKP **PKPbc 06 18 46.3 +0.3**
comp=Z,25nm,1.2s
SURR Surduc 147.39 339 ⇑P **PKPbc 06 18 46.7 +0.2**
MOA Molln 147.42 350 *e*PKP **PKPbc 06 18 47.0 +0.5**
comp=Z,11nm,1.1s
GZR Gura Zlata 147.48 338 ⇑P **PKPbc 06 18 47.1 +0.2**
BZS Buzias 147.68 340 ⇑P **PKPbc 06 18 47.7 +0.4**
MORH Mrgy, Hungar 148.03 344 ⇑P **PKPdf 06 18 45.6 +0.6**
HERR Herculane 148.05 338 ⇓P **PKPbc 06 18 48.6 +0.2**
KBA Koelnbreinsper 148.31 351 *e*PKiKP **PKiKP 06 18 50.4 -0.5**
comp=Z,11nm,1.1s
WTTA Wattenberg 148.35 353 *e*PKP **PKPbc 06 18 50.0 +0.7**
comp=Z,7.1nm,0.6s
MDVR Moldovita 148.38 339 ⇑P **PKPbc 06 18 49.8 +0.5**
SQTA Sankt Quirin 148.44 354 *e*PKP **PKiKP 06 18 50.4 -0.6**
comp=Z,7.5nm,1.0s
DAVA Damuels 148.50 356 *e*PKP **PKiKP 06 18 50.7 -0.5**
comp=Z,8.6nm,0.9s
FRGS Fruska Gora 148.66 342 ⇓P **PKiKP 06 18 51.0 -0.4**
FETA Feichten 148.69 354 *e*PKiKP **PKiKP 06 18 51.3 -0.3**
comp=Z,9.9nm,1.0s
ABTA Abfaltersbach 148.75 352 *e*PKP **PKPbc 06 18 50.6 +0.3**
comp=Z,8.7nm,0.8s
ESDC Sonseca Array 154.55 19 PKP **PKPdf 06 18 56.0 +0.7**
comp=Z,0.5nm,0.7s,baz=302,slow=2.9,SNR=2.0

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*NNC **18** 06:19:58.3±2.2,54.08N×86.58E,h0km,mb2.5,mpv2.4, Error ellipse: s-maj=22.9km s-min=10.4km az=9.0, Suspected Mining explosion.*
*IDC **18** 06:19:59.8±2.5,54.08N×86.55E,h0km,mbtmp3.1/2, ML2.9/2,Error ellipse: s-maj=20.7km s-min=12.3km az=59.0*
ISC 18 06:19:60.0±4.0,54.1N±0.2×86.5E±0.2,h0km,n7,σ1s23/10, 6C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**264**	I	I	I	06 25 50.0	
	0.1nm,0.8s,baz=83,slow=350,SNR=12							
ZAA0	**Zalesovo Array**	**1.00**	**264**	⇑P	**Pg**		**06 20 18.0**	**-1.2**
	0.1nm,0.3s							
ZAA0				⇓S	**Sg**		**06 20 32.9**	**+0.7**
	5.2nm,1.1s							
ZALV	**Zalesovo Beam**	**1.00**	**264**	Pg	**Pg**		**06 20 17.7**	**-1.5**
	1.3nm,0.3s,baz=86,slow=18,SNR=21							
ZALV				Lg	Lg		06 20 34.8	
	3.6nm,0.3s,baz=79,slow=28,SNR=9.5							
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	**Pn**		**06 21 31.0**	**+1.3**
	0.2nm,0.3s,baz=55,slow=14,SNR=11							
KURBB				Lg	Lg		06 23 10.9	
	baz=53,slow=31,SNR=4.6							
	0.8nm,0.3s							
KURBB	**Kurchatov Arra**	**5.98**	**238**	⇑Pn	**Pn**		**06 21 30.9**	**+1.3**
	0.9nm,0.3s							
KURBB				⇑Sn	**Sn**		**06 22 39.2**	**+0.4**
	2.0nm,0.9s							
KURBB				⇓Lg	Lg		06 23 08.2	
	7.1nm,1.2s							
MK31	**Makanchi Array**	**7.76**	**202**	⇑Pn	**Pn**		**06 21 54.3**	**+0.2**
	0.1nm,0.2s,baz=27,slow=13,SNR=30							
MK31				⇑Sn	**Sn**		**06 23 21.4**	**-1.2**
	0.1nm,0.2s							
MK31				⇑Lg	Lg		06 24 06.2	
	0.6nm,0.8s							
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	**Pn**		**06 21 55.4**	**+1.3**
	0.3nm,0.3s,baz=21,slow=13,SNR=18							
MKAR				Sn	**Sn**		**06 23 22.7**	**0.0**
	0.1nm,0.3s,baz=24,slow=26,SNR=3.2							
MKAR				Lg	Lg		06 24 09.3	
	0.1nm,0.3s,baz=24,slow=29,SNR=3.2							
	0.3nm,0.3s							

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*IDC **18** 06:23:42.3±3.6,23.54N×143.99E,h48km±30km,mb3.5/7, mbtmp3.8/8,ML3.8/1,Error ellipse: s-maj=49.2km s-min=19.3km az=82.0*
ISC 18 06:23:42.4±1.2,23.5N±0.1×144.0E±0.3,h50km,n8, σ1s04/9,mb3.6/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.93**	**335**	P	**Pn**		**06 24 40.6**	**+0.4**
	7.0nm,0.3s,baz=255,slow=19,SNR=1.6							
JCJ				S	**Sn**		**06 25 24.8**	**-0.3**
	63nm,0.8s,baz=280,slow=22,SNR=1.5							
	54nm,0.6s							
WRA	**Warramunga Arr**	**44.22**	**193**	P	**P**		**06 31 46.9**	**0.0**
	0.3nm,0.4s,baz=13,slow=8.8,SNR=6.3							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**47.93**	**193**	P	**P**		**06 32 16.0**	**0.0**
	0.2nm,0.4s,baz=18,slow=9.1,SNR=5.1							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**54.06**	**312**	P	**P**		**06 33 02.1**	**+0.2**
	0.6nm,0.8s,baz=90,slow=9.1,SNR=3.9							
	0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**56.74**	**316**	P	**P**		**06 33 20.3**	**-0.8**
	0.7nm,0.7s,baz=92,slow=8.0,SNR=7.3							
	0.7nm,0.7s							
BVAR	**Borovoye Array**	**61.81**	**319**	P	**P**		**06 33 54.9**	**-1.2**
	0.9nm,0.6s,baz=74,slow=5.3,SNR=4.7							
	0.9nm,0.6s							
YKA	**Yellowknife Ar**	**74.48**	**28**	P	**P**		**06 35 14.7**	**-0.6**
	0.3nm,0.9s,baz=293,slow=5.6,SNR=3.8							
	0.3nm,0.9s							
FINES	**FINESS Array B**	**81.88**	**335**	P	**P**		**06 35 58.2**	**+2.0**
	4.2nm,1.1s,baz=78,slow=7.3,SNR=4.7							
	4.2nm,1.1s							

IDC 18 06:31:03.9±5.5,47.84N×108.50E,h0km,Error ellipse: s-maj=36.6km s-min=24.8km az=89.0,Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**1.41**	**269**	I	I	I	06 41 10.0	
	0.1nm,0.7s,baz=86,slow=338,SNR=9.1							
SONM	**Songino Array**	**1.42**	**271**	Pg	Pn		06 31 30.6	-0.5
	76nm,0.3s,baz=92,slow=18,SNR=244							
SONM				Lg	Lg		06 31 49.0	
	23nm,0.3s,baz=92,slow=26,SNR=36							
I45RU	**USSURIYSK INFR**	**16.69**	**94**	I	I		08 11 40.0	
	baz=289,slow=336,SNR=1.1							

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*IDC **18** 06:32:17.6±2.8,53.47N×87.54E,h0km,mbtmp3.0/2, ML2.6/2,Error ellipse: s-maj=24.4km s-min=13.6km az=66.0*
*NNC **18** 06:32:17.9±1.6,53.48N×87.45E,h0km,mb2.9,mpv2.7, Error ellipse: s-maj=14.4km s-min=6.4km az=49.0, Suspected Mining explosion.*
ISC 18 06:32:17.1±3.6,53.6N±0.1×87.5E±0.2,h0km,n8,σ1s02/9, 5C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**285**	I	I	I	06 44 00.2	
	baz=108,slow=344,SNR=6.2							
ZAA0	**Zalesovo Array**	**1.62**	**285**	⇓P	**Pb**		**06 32 47.2**	**-0.7**
	0.6nm,0.6s							

ZAA0				⇑S		Sg	06 33 09.7	+0.4	
	1.5nm,0.5s								
ZALV	**Zalesovo Beam**	**1.62 285**		Pg		**Pn**	**06 32 47.1**	**+0.2**	
	1.4nm,0.3s,baz=102,slow=17,SNR=16								
ZALV				Lg		Lg	06 33 11.3		
	3.2nm,0.3s,baz=105,slow=27,SNR=12								
KURK	**Kurchatov**	**6.16 246**		⇑Lg		Lg	06 35 32.6		
	12nm,1.2s								
KURBB	**Kurchatov Arra**	**6.25 245**		Pn		**Pn**	**06 33 52.0**	**+1.4**	
	0.1nm,0.3s,baz=62,slow=14,SNR=5.1								
KURBB				Lg		Lg	06 35 34.8		
	baz=62,slow=32,SNR=5.8								
	1.0nm,0.5s								
KURBB	**Kurchatov Arra**	**6.25 245**		⇓Pn		**Pn**	**06 33 51.3**	**+0.8**	
	2.9nm,1.1s								
KURBB				⇓Lg		Lg	06 35 34.2		
	8.3nm,0.8s								
MK31	**Makanchi Array**	**7.55 208**		⇑Pn		**Pn**	**06 34 09.1**	**+0.8**	
	0.3nm,0.5s,baz=29,slow=13,SNR=7.8								
MK31				⇑Sn		**Sn**	**06 35 33.6**	**-1.0**	
	2.3nm,1.1s								
MK31				⇑Lg		Lg	06 36 15.1		
	4.4nm,0.9s,baz=33,slow=29,SNR=4.7								
MKAR	**Makanchi Array**	**7.55 208**		Pn		**Pn**	**06 34 09.0**	**+0.6**	
	0.2nm,0.3s,baz=29,slow=13,SNR=8.9								
MKAR				Sn		**Sn**	**06 35 33.9**	**-0.8**	
	0.1nm,0.3s,baz=30,slow=27,SNR=3.2								
MKAR				Lg		Lg	06 36 15.5		
	0.1nm,0.3s,baz=19,slow=27,SNR=10.0								
	0.4nm,0.4s								

*NNC **18** 06:35:57.5±2.7,54.09N×86.68E,h0km,mb2.7,mpv2.6, Error ellipse: s-maj=29.6km s-min=12.9km az=9.0, Suspected Mining explosion.*

*IDC **18** 06:36:00.4±2.5,54.02N×86.55E,h0km,mbtmp3.0/2, ML2.6/2,Error ellipse: s-maj=20.0km s-min=11.3km az=67.0*

ISC 18 06:36:00.4±4.2,54.0N±0.2×86.5E±0.2,h0km,n8,σ1s33/9, 5C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**1.00**	**267**	I		I		06 42 04.8	
	0.2nm,0.7s,baz=83,slow=351,SNR=28								
ZAA0	**Zalesovo Array**	**1.00**	**267**	⇓P		**Pg**		**06 36 18.1**	**-1.5**
	0.2nm,0.5s								
ZAA0				⇓S		**Sg**		**06 36 33.9**	**+1.3**
	2.5nm,0.8s								
ZALV	**Zalesovo Beam**	**1.00**	**267**	Pg		**Pg**		**06 36 18.5**	**-1.2**
	0.7nm,0.3s,baz=83,slow=16,SNR=10								
ZALV				Lg		Lg		06 36 34.6	
	5.1nm,0.3s,baz=87,slow=30,SNR=31								
KURK	**Kurchatov**	**5.86**	**239**	⇑Lg		Lg		06 39 04.7	
	1.9nm,0.7s								
KURBB	**Kurchatov Arra**	**5.96**	**238**	Pn		**Pn**		**06 37 31.1**	**+1.2**
	0.1nm,0.3s,baz=56,slow=14,SNR=12								
KURBB				Lg		Lg		06 39 11.3	
	baz=53,slow=36,SNR=4.8								
	1.9nm,0.5s								
KURBB	**Kurchatov Arra**	**5.96**	**238**	⇓Pn		**Pn**		**06 37 30.7**	**+0.9**
	2.8nm,0.6s								
KURBB				Lg		Lg		06 39 08.1	
	3.7nm,0.6s								
MK31	**Makanchi Array**	**7.72**	**202**	⇑Pn		**Pn**		**06 37 54.5**	**+0.6**
	0.5nm,0.7s,baz=26,slow=14,SNR=9.5								
MK31				⇑Sn		**Sn**		**06 39 21.6**	**-0.4**
	1.1nm,1.0s,baz=18,slow=27								
MK31				⇑Lg		Lg		06 40 04.5	
	3.4nm,1.1s,baz=251,slow=64,SNR=3.5								
MKAR	**Makanchi Array**	**7.72**	**202**	Pn		**Pn**		**06 37 55.2**	**+1.2**
	0.1nm,0.3s,baz=23,slow=12,SNR=7.3								
MKAR				Sn		**Sn**		**06 39 21.0**	**-1.0**
	0.1nm,0.3s,baz=20,slow=26,SNR=5.6								
MKAR				Lg		Lg		06 40 06.8	
	0.1nm,0.3s,baz=21,slow=32,SNR=4.3								
	0.2nm,0.3s								

IDC 18 06:40:49.6±471.0,56.12N×96.07E,h0km,Error ellipse: s-maj=174.9km s-min=123.3km az=71.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**6.82**	**256**	I		I		07 18 24.2	
	0.1nm,1.0s,baz=66,slow=341,SNR=1.5								
I34MN	**SONGINO INFRAS**	**10.48**	**138**	I		I		07 47 30.0	
	baz=328,slow=345,SNR=0.7								
I31KZ	**AKTYUBINSK INF**	**23.23**	**272**	I		I		09 05 30.0	
	baz=66,slow=336,SNR=1.4								

*NNC **18** 07:06:01.1±1.8,54.35N×86.16E,h0km,mb3.3,mpv2.4, Error ellipse: s-maj=28.0km s-min=9.2km az=160.0, Suspected Mining explosion.*

*IDC **18** 07:06:03.0±2.3,54.28N×86.09E,h0km,mbtmp3.2/2, ML2.8/2,Error ellipse: s-maj=17.8km s-min=10.9km az=54.0*

ISC 18 07:06:04.1±4.4,54.3N±0.2×86.0E±0.2,h0km,n8,σ1s00/9, 5C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**0.75**	**247**	I		I		07 11 00.0	
	0.1nm,0.8s,baz=66,slow=346,SNR=8.5								
ZAA0	**Zalesovo Array**	**0.75**	**247**	⇓P		**Pg**		**07 06 18.0**	**-0.5**
	0.1nm,0.2s								
ZAA0				⇑S		**Sb**		**07 06 30.6**	**-0.2**
	2.5nm,0.6s								
ZALV	**Zalesovo Beam**	**0.75**	**247**	Pg		**Pg**		**07 06 17.2**	**-1.3**
	1.0nm,0.3s,baz=62,slow=15,SNR=9.5								
ZALV				Lg		Lg		07 06 30.2	
	4.6nm,0.3s,baz=68,slow=27,SNR=18								
KURK	**Kurchatov**	**5.72**	**235**	⇓Lg		Lg		07 09 08.2	
	3.7nm,1.0s								
KURBB	**Kurchatov Arra**	**5.83**	**234**	Pn		**Pn**		**07 07 32.7**	**+0.9**
	0.1nm,0.3s,baz=52,slow=14,SNR=13								
KURBB				Lg		Lg		07 09 12.7	
	0.1nm,0.3s,baz=52,slow=34,SNR=6.3								
	1.2nm,0.5s								
KURBB	**Kurchatov Arra**	**5.83**	**234**	⇑Pn		**Pn**		**07 07 33.1**	**+1.3**
	1.4nm,0.5s								
KURBB				⇑Lg		Lg		07 09 10.9	
	5.1nm,0.9s								
MK31	**Makanchi Array**	**7.83**	**199**	⇑Pn		**Pn**		**07 07 58.6**	**-0.6**
	0.1nm,0.2s,baz=28,slow=14,SNR=21								
MK31				⇓Sn		**Sn**		**07 09 29.5**	**+1.0**
	1.0nm,0.9s,baz=23,slow=25,SNR=2.5								
MK31				⇑Lg		Lg		07 10 10.7	
	1.6nm,1.0s								
MKAR	**Makanchi Array**	**7.83**	**199**	Pn		**Pn**		**07 07 59.4**	**+0.2**
	0.3nm,0.3s,baz=23,slow=14,SNR=17								
MKAR				Sn		**Sn**		**07 09 28.9**	**+0.3**
	0.1nm,0.3s,baz=23,slow=27,SNR=5.2								
MKAR				Lg		Lg		07 10 11.7	
	baz=26,slow=27,SNR=3.5								
	0.6nm,0.3s								

IDC 18 07:09:54.4±2.1,54.46N×83.60E,h0km,mbtmp2.5/2, ML2.1/2,Error ellipse: s-maj=16.2km s-min=9.8km az=155.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**0.88**	**125**	I		I		07 15 20.0	
	0.3nm,0.8s,baz=306,slow=342,SNR=30								
ZALV	**Zalesovo Beam**	**0.88**	**125**	Pg		Pg		07 10 11.0	-0.3
	1.3nm,0.3s,baz=307,slow=15,SNR=17								
ZALV				Lg		Lg		07 10 24.3	
	3.2nm,0.3s,baz=307,slow=29,SNR=22								
KURBB	**Kurchatov Arra**	**4.93**	**221**	Pn		Pn		07 11 09.9	+0.2
	baz=43,slow=13,SNR=2.3								
KURBB				Lg		Lg		07 12 31.2	
	baz=41,slow=30,SNR=5.6								
	0.3nm,0.5s								
MKAR	**Makanchi Array**	**7.72**	**187**	Pn		Pn		07 11 48.8	+0.8
	0.1nm,0.3s,baz=13,slow=13,SNR=4.1								
MKAR				Sn		Sn		07 13 13.4	-2.6
	baz=10,slow=26,SNR=2.1								
MKAR				Lg		Lg		07 13 56.7	
	baz=0.0,slow=30,SNR=4.4								
	0.2nm,0.4s								

IDC 18 07:11:23.2±3.9,55.69N×86.24E,h0km,mbtmp2.7/2, ML2.2/2,Error ellipse: s-maj=32.8km s-min=29.2km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**1.93**	**206**	I		I		07 24 10.0	
	0.1nm,0.7s,baz=26,slow=308,SNR=2.9								
ZALV	**Zalesovo Beam**	**1.93**	**206**	Pg		Pn		07 11 56.4	-0.8
	1.4nm,0.3s,baz=22,slow=17,SNR=8.7								
ZALV				Lg		Lg		07 12 24.9	
	1.0nm,0.3s,baz=26,slow=23,SNR=4.8								
KURBB	**Kurchatov Arra**	**6.87**	**226**	Pn		Pn		07 13 04.9	-0.2
	baz=43,slow=14,SNR=3.8								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**9.24**	**197**	Pn		Pn		07 13 38.4	+0.8
	baz=21,slow=13,SNR=1.9								
	0.2nm,0.6s								

*KRSC **18** 07:32:53.8±0.7,55.36N×163.31E,h23km±27km,Ml3.6*

*IDC **18** 07:32:54.5±1.5,55.72N×163.28E,h0km,mb3.2/4, mbtmp3.1/5,ML1.9/1,Error ellipse: s-maj=59.3km s-min=23.3km az=154.0*

ISC 18 07:32:55.7±0.8,55.47N±0.05×163.26E±0.04,h20km,n36, σ1s14/37,mb3.2/4,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KBTR	**Krutoberegovo**	**0.78**	**342**	*eP*		**Pn**		**07 33 10.5**	**-1.1**
KBTR				*eS*		**Sn**		**07 33 22.9**	**+0.3**
KBG	**Krutoberegovo**	**0.85**	**339**	*eP*		**Pn**		**07 33 11.8**	**-0.7**
SMKR	**Semkarok**	**1.50**	**319**	*eP*		**Pb**		**07 33 21.3**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**1.52**	**289**	*eP*		**Pb**		**07 33 23.2**	**-0.1**
BKI	**Bering**	**1.57**	**99**	*eP*		**Pn**		**07 33 21.3**	**-1.2**
BKI				*eS*		**Sn**		**07 33 41.5**	**-0.7**
BZP	**Bezymyannyi-Pe**	**1.60**	**287**	*eP*		**Pb**		**07 33 24.0**	**-0.7**
BZMR	**Bezymyannaya**	**1.63**	**288**	*eP*		**Pb**		**07 33 24.8**	**-0.4**
BZWR	**Bezymyannyi-We**	**1.64**	**289**	*eP*		**Pn**		**07 33 23.5**	**0.0**
TUMD	**Tumrok D**	**1.65**	**262**	*eP*		**Pn**		**07 33 23.2**	**-0.4**
TUMD				*eS*		**Sb**		**07 33 45.5**	**-0.3**
KLY	**Klyuchi**	**1.69**	**301**	*eP*		**Pn**		**07 33 22.7**	**-1.4**
KMNR	**Kamenistaya**	**1.74**	**281**	*eP*		**Pn**		**07 33 24.7**	**-0.1**
TUMR	**Tumrok**	**1.78**	**265**	*eP*		**Pn**		**07 33 25.0**	**-0.5**
KPT	**Kopyto**	**1.79**	**287**	*eP*		**Pn**		**07 33 25.7**	**+0.2**
KOZ	**Kozyrevsk**	**2.00**	**289**	*eP*		**Pb**		**07 33 29.3**	**-2.1**
SRDR	**Sredinnyy**	**2.17**	**295**	*eP*		**Pn**		**07 33 31.5**	**+0.8**
ESO	**Esso**	**2.62**	**282**	*eP*		**Pb**		**07 33 39.5**	**-2.4**
SPN	**Mys Shipunski**	**3.04**	**220**	*eP*		**Pn**		**07 33 41.6**	**-1.0**
SDLR	**Sedlovina**	**3.37**	**231**	*eP*		**Pn**		**07 33 47.3**	**+0.1**
SMAR	**Somma**	**3.42**	**232**	*eP*		**Pn**		**07 33 48.1**	**+0.1**
KRX	**Arik**	**3.42**	**234**	*eP*		**Pn**		**07 33 48.4**	**+0.3**
UGLR	**Uglovaya**	**3.44**	**231**	*eP*		**Pn**		**07 33 48.6**	**+0.4**
AVH	**Avacha**	**3.44**	**232**	*eP*		**Pn**		**07 33 49.1**	**+0.8**
KOK	**Koryaka**	**3.47**	**233**	*eP*		**Pn**		**07 33 49.4**	**+0.8**
GNL	**Ganaly**	**3.57**	**242**	*eP*		**Pn**		**07 33 50.8**	**+0.8**
DALK	**Dalny**	**3.60**	**229**	*eP*		**Pn**		**07 33 51.0**	**+0.7**
PET	**Petropavlovsk**	**3.65**	**230**	*eP*		**Pn**		**07 33 52.3**	**+1.4**
OSSR	**Ossora**	**3.79**	**358**	*eP*		**Pn**		**07 33 55.1**	**+2.1**
KRMR	**Karymshinskiy**	**4.01**	**231**	*eP*		**Pn**		**07 33 57.2**	**+1.3**
PETK	**Petropavlovsk-**	**4.02**	**236**	Pn		**Pn**		**07 33 58.8**	**+2.7**
	0.4nm,0.3s,baz=85,slow=22,SNR=1.3								
PETK				Sn		**Sb**		**07 34 52.3**	**-1.7**
	0.3nm,0.3s,baz=81,slow=27,SNR=1.5								
	1.2nm,0.5s								
ILAR	**Eielson Array**	**25.84**	**49**	P		**P**		**07 38 25.4**	**+0.1**
	0.2nm,0.6s,baz=266,slow=8.3,SNR=2.6								
	0.2nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**35.79**	**174**	T		T		08 19 09.1	
	baz=358,slow=76,SNR=6.6								
H11N3	**WAKE ISLAND Hy**	**35.80**	**174**	T		T		08 19 14.0	
	baz=358,slow=76,SNR=4.6								
H11N1	**WAKE ISLAND Hy**	**35.80**	**174**	T		T		08 19 15.1	
	baz=358,slow=76,SNR=5.9								
YKA	**Yellowknife Ar**	**40.16**	**45**	P		**P**		**07 40 30.5**	**+0.7**
	0.1nm,0.5s,baz=300,slow=8.6,SNR=2.0								
	0.1nm,0.5s								
KURBB	**Kurchatov Arra**	**48.16**	**302**	P		**P**		**07 41 34.7**	**+0.6**
	0.2nm,0.5s,baz=54,slow=8.3,SNR=2.1								
	0.2nm,0.5s								
TXAR	**Lajitas Array**	**68.04**	**70**	P		**P**		**07 43 54.9**	**+1.2**
	0.2nm,0.5s,baz=314,slow=4.4,SNR=6.2								
	0.2nm,0.5s								

*NNC **18** 07:35:26.1±1.8,54.64N×86.42E,h0km,mb3.1,mpv2.9, Error ellipse: s-maj=30.9km s-min=9.7km az=148.0, Suspected Mining explosion.*

IDC 18 07:35:28.1±2.9,54.59N×86.41E,h0km,mbtmp3.0/2, ML2.8/2,8C-2D,Error ellipse: s-maj=22.0km s-min=13.8km az=47.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**1.13**	**236**	I		I		07 42 00.0	
	0.2nm,0.8s,baz=55,slow=349,SNR=16								
ZAA0	**Zalesovo Array**	**1.13**	**236**	⇑P		Pg		07 35 47.6	-2.1
	0.3nm,0.3s								
ZAA0				⇑S		Sg		07 36 04.4	0.0
	9.5nm,1.1s								
ZALV	**Zalesovo Beam**	**1.13**	**236**	Pg		Pg		07 35 48.1	-1.7
	1.7nm,0.3s,baz=56,slow=17,SNR=13								
ZALV				Lg		Lg		07 36 05.3	
	4.2nm,0.3s,baz=53,slow=27,SNR=17								
KURK	**Kurchatov**	**6.12**	**234**	⇑Pn		Pn		07 36 59.8	+0.1
	3.1nm,1.0s								
KURK				⇑Lg		Lg		07 38 41.4	
	8.6nm,1.2s								
KURBB	**Kurchatov Arra**	**6.23**	**234**	Pn		Pn		07 37 02.1	+0.9
	0.1nm,0.3s,baz=52,slow=14,SNR=8.6								
KURBB				Sn		Sn		07 38 13.3	+0.3
	baz=56,slow=25,SNR=1.3								
KURBB				Lg		Lg		07 38 47.6	
	baz=49,slow=34,SNR=9.5								
	0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**6.23**	**234**	⇑Pn		Pn		07 37 01.3	+0.1
	1.5nm,0.5s								
KURBB				⇑Sn		Sn		07 38 13.5	+0.5
	3.6nm,0.6s								
KURBB				⇓Lg		Lg		07 38 45.5	
	10nm,0.9s								
MK31	**Makanchi Array**	**8.23**	**200**	⇓Pn		Pn		07 37 29.5	+0.8
	1.1nm,0.9s,baz=23,slow=12,SNR=11								
MK31				⇑Sn		Sn		07 39 01.7	-0.6
	1.0nm,0.8s								
MK31				⇑Lg		Lg		07 39 46.1	
	4.2nm,1.1s,baz=16,slow=32,SNR=4.5								
MKAR	**Makanchi Array**	**8.23**	**200**	Pn		Pn		07 37 29.6	+0.9
	0.2nm,0.3s,baz=22,slow=13,SNR=11								
MKAR				Sn		Sn		07 39 01.2	-1.1
	0.1nm,0.3s,baz=24,slow=29,SNR=4.4								
MKAR				Lg		Lg		07 39 47.6	
	baz=21,slow=25,SNR=6.0								
	0.3nm,0.3s								

IDC 18 07:46:31.7±468.0,55.99N×95.99E,h0km,Error ellipse: s-maj=173.4km s-min=125.1km az=72.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**6.75**	**257**	I		I		08 23 50.0	
	baz=68,slow=332,SNR=1.2								
I34MN	**SONGINO INFRAS**	**10.41**	**138**	I		I		08 54 40.0	
	baz=328,slow=346,SNR=0.8								
I31KZ	**AKTYUBINSK INF**	**23.19**	**272**	I		I		10 10 10.0	
	baz=65,slow=333,SNR=1.3								

*NNC **18** 07:47:44.2±3.5,54.08N×87.38E,h0km,mb3.2,mpv3.0, Error ellipse: s-maj=32.3km s-min=16.9km az=20.0, Suspected Mining explosion.*

*IDC **18** 07:47:45.6±2.8,54.12N×87.43E,h0km,mbtmp3.1/3, ML2.6/3,Error ellipse: s-maj=24.6km s-min=15.1km az=67.0*

ISC 18 07:47:44.8±4.4,54.2N±0.2×87.3E±0.2,h0km,n9,σ1s28/12, 10C,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**1.49**	**262**	I		I		07 55 57.7	
	0.2nm,0.9s,baz=81,slow=350,SNR=12								
ZAA0	**Zalesovo Array**	**1.49**	**262**	⇑P		**Pn**		**07 48 11.7**	**-1.1**
	0.4nm,0.3s								
ZAA0				⇑S		**Sn**		**07 48 32.6**	**-0.3**
	3.3nm,0.5s								
ZALV	**Zalesovo Beam**	**1.49**	**262**	Pg		**Pn**		**07 48 12.0**	**-0.7**
	3.1nm,0.3s,baz=85,slow=16,SNR=23								
ZALV				Lg		Lg		07 48 36.0	
	6.3nm,0.3s,baz=83,slow=28,SNR=9.6								
KURK	**Kurchatov**	**6.35**	**240**	⇑Pn		**Pn**		**07 49 20.1**	**+0.6**
	2.0nm,0.9s								
KURK				⇑Lg		Lg		07 51 06.2	
	7.2nm,1.0s								
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn		**Pn**		**07 49 22.5**	**+1.6**
	0.1nm,0.3s,baz=58,slow=14,SNR=6.9								
KURBB				Lg		Lg		07 51 09.3	
	baz=51,slow=32,SNR=1.9								
	0.7nm,0.3s								
KURBB	**Kurchatov Arra**	**6.45**	**240**	⇑Pn		**Pn**		**07 49 22.1**	**+1.2**
	5.6nm,1.4s								
KURBB				⇑Sn		**Sn**		**07 50 35.4**	**+0.2**
	2.4nm,0.5s								
KURBB				⇑Lg		Lg		07 51 06.3	
	16nm,1.1s								
MK31	**Makanchi Array**	**8.07**	**205**	⇑Pn		**Pn**		**07 49 42.2**	**-0.9**
	1.0nm,0.8s,baz=29,slow=14,SNR=4.1								
MK31				⇑Sn		**Sn**		**07 51 13.6**	**-1.4**
	0.4nm,0.5s								
MK31				⇑Lg		Lg		07 51 57.7	
	11nm,1.4s,baz=27,slow=28,SNR=4.1								
MKAR	**Makanchi Array**	**8.07**	**205**	Pn		**Pn**		**07 49 45.2**	**+2.1**
	0.1nm,0.3s,baz=27,slow=14,SNR=4.5								
MKAR				Sn		**Sn**		**07 51 14.1**	**-0.8**
	0.1nm,0.3s,baz=26,slow=28,SNR=2.9								
MKAR				Lg		Lg		07 52 02.0	
	0.1nm,0.3s,baz=27,slow=31,SNR=6.4								
	0.1nm,0.3s								
BVAR	**Borovoye Array**	**10.13**	**270**	Pn		**Pn**		**07 50 12.3**	**+1.0**
	baz=71,slow=15,SNR=4.8								
BVAR				Sn		Sn		07 51 57.4	-8.1
	baz=108,slow=24,SNR=2.9								
	0.5nm,0.3s								

IDC 18 07:47:56.1±2.4,2.39N×126.54E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=207.7km s-min=27.7km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**23.48**	**161**	P		P		07 53 07.7	+0.1
	0.7nm,0.6s,baz=339,slow=9.8,SNR=5.9								
	0.7nm,0.6s								
ASAR	**Alice Springs**	**26.87**	**165**	P		P		07 53 37.3	-1.6
	0.1nm,0.5s,baz=347,slow=7.1,SNR=1.9								
	0.1nm,0.5s								
MKAR	**Makanchi Array**	**58.54**	**326**	P		P		07 57 55.7	+1.2
	0.1nm,0.4s,baz=129,slow=8.6,SNR=1.8								
	0.1nm,0.4s								

*NEIC **18** 08:00:30.9±1.3,43.91N±0.08×128.5W±0.1,h10km±2km, ML3.8/26,Error ellipse: s-maj=18.5km s-min=13.4km az=259.0*

*IDC **18** 08:00:33.9±2.6,44.25N×127.87W,h0km,mb2.9/2, mbtmp3.2/6,ML3.0/4,MS3.3/11,Error ellipse: s-maj=47.6km s-min=19.4km az=54.0*

ISC 18 08:00:33.0±1.6,43.95N±0.08×128.3W±0.1,h10km,n47, σ1s36/36,MS3.1/6,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
HEBO	**Mount Hebo**	**3.48**	**67**	Pn		**Pn**		**08 01 26.0**	**-1.2**
HEBO				IAML				08 02 00.0	
	comp=N,234nm,2.2s								
COR	**Corvallis**	**3.64**	**78**	Pn		**Pn**		**08 01 29.0**	**-0.3**
COR				IAML				08 02 08.0	
	comp=N,122nm,3.7s								
COR				IAML				08 03 30.7	
	comp=N,130nm,4.8s								
DBO	**Dodson Butte**	**3.76**	**101**	Pn		**Pn**		**08 01 31.0**	**-0.2**
DBO				IAML				08 02 38.9	
	comp=E,92nm,4.2s								
DBO				IAML				08 03 53.8	
	comp=N,95nm,3.7s								
BUCK	**Buck Mountain**	**3.83**	**84**	Pn		**Pn**		**08 01 31.2**	**-0.9**
BUCK				IAML				08 02 39.2	
	comp=N,92nm,4.2s								
BUCK				IAML				08 03 06.8	
	comp=E,138nm,3.4s								
HUMO	**Hull Mountain**	**4.12**	**107**	Pn		**Pn**		**08 01 35.9**	**-0.1**
HUMO				Sn		**Sn**		**08 02 23.5**	**-0.7**
E03A	**Lebam**	**4.23**	**50**	Pn		**Pn**		**08 01 37.4**	**-0.1**
E03A				IAML				08 02 18.9	
	comp=E,112nm,4.9s								
H04A	**Detroit Lake**	**4.44**	**78**			**Pn**		**08 01 40.6**	**+0.1**
WISH	**Wishkah**	**4.49**	**43**	Pn		**Pn**		**08 01 41.0**	**0.0**
NLWA	**Neilton Lookou**	**4.63**	**40**	Pn		**Pn**		**08 01 42.5**	**-0.6**
NLWA				IAML				08 03 38.0	
	comp=E,91nm,4.5s								
NLWA				IAML				08 04 04.3	
	comp=E,89nm,4.7s								
YBH	**Yreka Blue Hor**	**4.66**	**116**	Pn		**Pn**		**08 01 43.9**	**+0.4**
	comp=E,0.2nm,0.3s,baz=301,slow=12,SNR=1.2								
YBH				Sn		**Sn**		**08 02 39.5**	**+1.7**
	comp=E,0.2nm,0.3s,baz=35,slow=21,SNR=2.0								
	comp=E,5.2nm,1.3s								
YBH	**Yreka Blue Hor**	**4.66**	**116**	Pn		**Pn**		**08 01 41.1**	**-2.4**
HOOD	**Mount Hood Mea**	**4.93**	**72**			**Pn**		**08 01 47.9**	**+0.6**
HOOD				IAML				08 02 28.7	
	comp=E,59nm,3.9s								
HOOD				IAML				08 04 18.6	
	comp=N,53nm,4.1s								
KMRM	**Mail Ridge**	**5.05**	**136**	Pn		**Pn**		**08 01 48.2**	**-0.6**
PINE	**Pine Mountain**	**5.32**	**89**	Pn		**Pn**		**08 01 52.7**	**0.0**
LON	**Longmire**	**5.36**	**56**			**Pn**		**08 01 53.2**	**+0.1**
OZB	**Mount Ozzard**	**5.37**	**20**	Pn		**Pn**		**08 01 52.1**	**-1.1**
D05A	**Enumclaw**	**5.48**	**52**	Pn		**Pn

H11N2 WAKE ISLAND Hy 58.56 268 T T 09 13 35.0
baz=50,slow=75,SNR=325
H11N1 WAKE ISLAND Hy 58.57 268 T T 09 13 25.8
baz=50,slow=75,SNR=271

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*IDC **18** 08:03:25.5±0.8, 15°.38S×70°.18W, h212$_{km}$±7$_{km}$, mb3.8/13, mbtmp4.3/19, Error ellipse: s-maj=18.2km s-min=9.0km az=32.0*
*VAO **18** 08:03:25.8±0.5, 15°.42S×70°.25W, h229$_{km}$±4$_{km}$, mb4.2*
*NEIC **18** 08:03:25.3±2.9, 15°.59S±0°.07×70°.26W±0°.09, h236$_{km}$±8$_{km}$, mb4.3/49, Error ellipse: s-maj=12.1km s-min=9.9km az=97.0*

ISC 18 08:03:24.9±0.6, 15°.59S±0°.04×70°.27W±0°.05, h227$_{km}$±6$_{km}$, n190, σ1$28/202, mb4.2/27, 4C-2D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LPAZ	**La Paz**	**2.17**	**109**	P		**Pn**	**08 04 09.2**	**+1.4**
	952nm,0.3s,baz=306,slow=8.0,SNR=5619							
LPAZ				S		**S**	**08 04 41.3**	**0.0**
	130nm,0.4s,baz=189,slow=23,SNR=1.7							
LPAZ	**La Paz**	**2.17**	**109**			**Pn**	**08 04 09.6**	**+1.8**
LPAZ				Sn		**S**	**08 04 41.6**	**+0.4**
LPAZ	**La Paz**	**2.17**	**109**	⇓ *i*P		**Pn**	**08 04 09.6**	**+1.8**
LPAZ	**La Paz**	**2.17**	**109**	*e*P		**Pn**	**08 04 09.6**	**+1.8**
AP01	**Chacalluta**	**2.77**	**181**			**Pn**	**08 04 14.3**	**+1.0**
AP01				Sn		**S**	**08 04 51.1**	**-0.3**
AP01	**Chacalluta**	**2.77**	**181**	*e*P		**Pn**	**08 04 14.2**	**+0.8**
AP01				*e*S		**S**	**08 04 50.9**	**-0.6**
AP01				IAML			08 04 54.9	
	comp=N,3μm,0.2s							
PB16	**IPOC Station P**	**2.83**	**165**			**Pn**	**08 04 17.2**	**+2.5**
PB16	**IPOC Station P**	**2.83**	**165**	⇓ *e*P		**Pn**	**08 04 17.2**	**+2.5**
PB16				*e*S		**S**	**08 04 54.4**	**+0.8**
PB16				IAML			08 04 59.1	
	comp=N,392nm,0.5s							
PB12	**IPOC Station P**	**3.01**	**181**	Pn		**Pn**	**08 04 16.9**	**+0.7**
PB12	**IPOC Station P**	**3.01**	**181**	⇑ *i*P		**Pn**	**08 04 16.9**	**+0.7**
PB12				*e*S		**S**	**08 04 55.0**	**-1.4**
MNMC	**Minye Minye**	**3.58**	**170**			**Pn**	**08 04 24.6**	**+1.6**
MNMC	**Minye Minye**	**3.58**	**170**	*e*P		**Pn**	**08 04 24.5**	**+1.5**
MNMC				*e*S		**S**	**08 05 08.8**	**+0.1**
PSGC	**Pisagua**	**3.99**	**178**	⇑ *i*P		**Pn**	**08 04 28.0**	**+0.3**
PSGCX	**Pisagua**	**3.99**	**178**	Pn		**Pn**	**08 04 27.9**	**+0.2**
GO01	**Chusmiza**	**4.18**	**166**			**Pn**	**08 04 32.5**	**+2.1**
GO01	**Chusmiza**	**4.18**	**166**	*e*P		**Pn**	**08 04 32.4**	**+2.0**
GO01				*e*S		**S**	**08 05 23.7**	**+1.6**
PB11	**IPOC Station P**	**4.19**	**172**	Pn		**Pn**	**08 04 31.1**	**+1.0**
PB11	**IPOC Station P**	**4.19**	**172**	⇑ *i*P		**Pn**	**08 04 31.1**	**+1.0**
PB11				*e*S		**S**	**08 05 20.3**	**-1.3**
TA02	**Huaiquique**	**4.66**	**178**			**Pn**	**08 04 35.6**	**-0.1**
TA02	**Huaiquique**	**4.66**	**178**	⇑ *e*P		**Pn**	**08 04 35.8**	**+0.1**
TA02				*e*S		**S**	**08 05 28.8**	**-3.0**
TA01	**Diego Aracena**	**4.95**	**179**	Pn		**Pn**	**08 04 39.5**	**+0.1**
PATCX	**Punta Patache**	**5.20**	**179**			**Pn**	**08 04 42.6**	**0.0**
PB01	**IPOC Station P**	**5.47**	**172**			**Pn**	**08 04 46.4**	**+0.4**
PB02	**IPOC Station P**	**5.71**	**176**			**Pn**	**08 04 49.6**	**+0.6**
PB07	**IPOC Station P**	**6.12**	**177**	Pn		**Pn**	**08 04 53.9**	**-0.4**
PB09	**IPOC Station P**	**6.23**	**166**			**Pn**	**08 04 56.2**	**+0.7**
PB03	**IPOC Station P**	**6.44**	**176**			**Pn**	**08 04 58.8**	**+0.4**
PB04	**IPOC Station P**	**6.71**	**179**	Pn		**Pn**	**08 05 02.2**	**+0.4**
ETMB	**Extrema**	**6.97**	**35**			**Pn**	**08 05 04.4**	**-0.6**
ETMB	**Extrema**	**6.97**	**35**	*e*P		**Pn**	**08 05 04.5**	**-0.6**
LVC	**Limon Verde**	**7.10**	**170**	P		**Pn**	**08 05 08.5**	**+1.6**
	comp=N,39nm,0.3s,baz=12,slow=7.9,SNR=76							
LVC				S		**S**	**08 06 25.4**	**-3.0**
	comp=N,58nm,0.4s,baz=197,slow=21,SNR=17							
LVC	**Limon Verde**	**7.10**	**170**	Pn		**Pn**	**08 05 07.7**	**+0.7**
LVC	**Limon Verde**	**7.10**	**170**	*e*P		**Pn**	**08 05 08.7**	**+1.7**
PB06	**IPOC Station P**	**7.11**	**175**			**Pn**	**08 05 07.1**	**+0.2**
NNA	**Nana**	**7.32**	**298**	P		**Pn**	**08 05 09.6**	**+0.1**
	comp=N,10nm,0.3s,baz=171,slow=9.7,SNR=7.2							
NNA				S		**S**	**08 06 32.3**	**-0.9**
	comp=N,29nm,0.3s,baz=25,slow=9.9,SNR=6.3							
NNA	**Nana**	**7.32**	**298**			**Pn**	**08 05 09.2**	**-0.3**
AF01	**San Pedro de A**	**7.58**	**165**			**Pn**	**08 05 13.6**	**+0.5**
PB10	**IPOC Station P**	**7.89**	**182**	Pn		**Pn**	**08 05 17.6**	**+0.9**
CZSB	**Cruzeiro do Su**	**8.17**	**343**	Pn		**Pn**	**08 05 18.7**	**-1.7**
CZSB	**Cruzeiro do Su**	**8.17**	**343**	*e*P		**Pn**	**08 05 17.6**	**-2.8**
SIV	**San Ignacio**	**8.86**	**94**	P		**Pn**	**08 05 28.5**	**-0.9**
	comp=N,4.3nm,0.6s,baz=268,slow=12,SNR=23							
PB14	**IPOC Station P**	**8.99**	**181**	Pn		**Pn**	**08 05 32.2**	**+1.1**
BBSD	**Serra de San D**	**9.41**	**101**	*e*P		**Pn**	**08 05 36.0**	**-0.3**
VILB	**Vilhena**	**10.11**	**76**	Pn		**Pn**	**08 05 44.5**	**-0.7**
VILB	**Vilhena**	**10.11**	**76**	*e*P		**Pn**	**08 05 44.4**	**-0.9**
BBRB	**Robore, Bolivi**	**10.36**	**106**	*e*P		**Pn**	**08 05 49.7**	**+1.2**
AC01	**Pan de Azucar**	**10.51**	**182**			**Pn**	**08 05 52.2**	**+1.9**
PTLB	**Pontes e Lacer**	**10.73**	**91**			**Pn**	**08 05 51.9**	**-1.2**
PTLB	**Pontes e Lacer**	**10.73**	**91**	*e*P		**Pn**	**08 05 53.8**	**+0.7**
AC02	**Maricunga**	**11.24**	**175**			**P**	**08 06 02.6**	**-2.3**
TBTG	**Tabatinga, AM**	**11.34**	**2**	Pn		**Pn**	**08 05 59.1**	**-1.7**
TBTG	**Tabatinga, AM**	**11.34**	**2**	*e*P		**Pn**	**08 05 59.2**	**-1.6**
ATAH	**Atahualpa**	**11.57**	**316**	P		**Pn**	**08 06 04.2**	**0.0**
	comp=N,8.1nm,0.9s,baz=116,slow=9.0,SNR=6.5							
AC06	**Mina Casimiro**	**11.71**	**180**			**P**	**08 06 07.6**	**-2.0**
GO03	**Copiap**	**11.95**	**180**	Pn		**Pn**	**08 06 07.9**	**-0.5**
AC04	**Llanos de Chal**	**12.58**	**183**	Pn		**Pn**	**08 06 15.0**	**-1.3**
AC05	**El Transito**	**13.18**	**180**			**Pn**	**08 06 24.1**	**+0.2**
TEFE	**Tefe**	**13.22**	**25**	*e*P		**Pn**	**08 06 23.9**	**-0.5**
LCO	**Las Campanas**	**13.36**	**182**	Pn		**Pn**	**08 06 26.2**	**-0.1**
PDRB	**Porto dos Gac**	**13.74**	**75**			**Pn**	**08 06 31.1**	**+0.3**
SALV	**Santo Antonio**	**14.04**	**93**	*e*P		**P**	**08 06 35.6**	**0.0**
CO05	**La Serena**	**14.29**	**183**	Pn		**Pn**	**08 06 35.4**	**-1.9**
CO01	**Juntas del Tor**	**14.32**	**179**	Pn		**Pn**	**08 06 37.7**	**-0.3**
CO01						**P**	**08 06 37.9**	**-0.9**
GO04	**Tololo Observa**	**14.52**	**182**			**Pn**	**08 06 38.8**	**-1.7**
MCRA	**Macar, Loja**	**14.66**	**318**	P		**P**	**08 06 42.0**	**-0.6**
AQDB	**Aquidauana**	**14.68**	**111**			**Pn**	**08 06 41.9**	**-0.3**
AQDB	**Aquidauana**	**14.68**	**111**	*e*P		**P**	**08 06 43.9**	**+1.2**
CLDB	**Colider**	**14.85**	**73**	*e*P		**P**	**08 06 44.9**	**+0.4**
PP1B	**Ponte de Pedra**	**14.89**	**100**	*e*P		**P**	**08 06 46.4**	**+1.4**
RVDE	**Rio Verde (Bra**	**15.03**	**105**	*e*P		**P**	**08 06 47.9**	**+1.3**
CO03	**El Pedregal**	**15.18**	**181**			**Pn**	**08 06 49.4**	**+1.1**
CO03				IAmb		IAmb	08 07 06.3	
	comp=Z,17nm,1.2s							
ARNL	**Arenillas**	**15.37**	**320**	P		**Pn**	**08 06 50.2**	**-0.4**
MACA	**Manacapuru-AM**	**15.54**	**38**	P		**P**	**08 06 52.0**	**-0.2**
MACA				IAmb		IAmb	08 06 52.8	
	comp=Z,98nm,0.6s							
MACA	**Manacapuru-AM**	**15.54**	**38**	*e*P		**P**	**08 06 51.6**	**-0.6**
CO02	**Combarbal**	**15.56**	**182**			**P**	**08 06 51.3**	**-1.0**
CO02				IAmb		IAmb	08 06 57.6	
	comp=Z,16nm,1.1s							
SGCB	**São Gabriel d**	**15.70**	**12**	*e*P		**P**	**08 06 52.8**	**-1.1**
CFA	**Coronel Fontan**	**16.05**	**174**	P		**Pn**	**08 07 01.9**	**+3.3**
	comp=Z,1.5nm,0.3s,baz=353,slow=8.9,SNR=6.3							
CPUP	**Villa Florida**	**16.12**	**134**	P		**Pn**	**08 07 00.6**	**+1.2**
	comp=Z,3.0nm,0.6s,baz=324,slow=10,SNR=16							
CPUP	**Villa Florida**	**16.12**	**134**	P		**P**	**08 06 58.5**	**+0.1**
PIAT	**Ana Tenorio**	**16.51**	**331**	*e*P		**Pn**	**08 07 05.5**	**+1.0**
SLOR	**San Lorenzo -**	**16.85**	**330**	P		**P**	**08 07 05.6**	**-1.5**
SLOR				IAmb		IAmb	08 07 19.3	
	comp=Z,21nm,1.0s							
NPGB	**Novo Progresso**	**16.90**	**61**	*e*P		**P**	**08 07 05.7**	**-1.4**
C2SB	**Chapadao do Su**	**16.95**	**103**	*e*P		**Pn**	**08 07 10.0**	**+0.6**
VA03	**San Esteban**	**17.10**	**181**	P		**P**	**08 07 07.7**	**-1.5**
VA03				IAmb		IAmb	08 07 14.6	
	comp=Z,14nm,0.8s							
PPLP	**Puerto Lpez**	**17.38**	**322**	*e*P		**Pn**	**08 07 16.2**	**+1.7**
MCR1	**Marechal Candi**	**17.61**	**123**	*e*P		**Pn**	**08 07 17.1**	**+0.1**
MT02	**Curacav**	**17.61**	**182**	P		**P**	**08 07 18.8**	**-1.9**
OTAV	**Otavalo**	**17.68**	**332**	P		**Pn**	**08 07 17.9**	**-0.5**
OTAV				IAmb		IAmb	08 07 31.2	
	comp=Z,14nm,1.2s							
OTAV	**Otavalo**	**17.68**	**332**	*e*P		**Pn**	**08 07 20.1**	**+1.7**
OTAV	**Otavalo**	**17.68**	**332**	*e*P		**P**	**08 07 16.5**	**+0.3**
TULM	**Tulcn-Chalpat**	**17.82**	**335**	P		**Pn**	**08 07 20.8**	**+0.7**
TULM	**Tulcn-Chalpat**	**17.82**	**335**	*e*P		**Pn**	**08 07 21.1**	**+0.9**
FLOC	**Florencia**	**17.87**	**342**	*e*P		**P**	**08 07 18.1**	**+0.4**
GCUF	**Volcan Galeras**	**18.11**	**337**	*e*P		**Pn**	**08 07 23.7**	**+0.2**
ITTB	**Itaituba**	**18.13**	**54**	*e*P		**P**	**08 07 21.0**	**+0.5**
CRUC	**La Cruz**	**18.28**	**338**	*e*P		**Pn**	**08 07 25.6**	**+0.2**
SNDB	**Serra Nova Dou**	**18.77**	**81**	*e*P		**P**	**08 07 28.1**	**+0.7**
ITQB	**Itaqui**	**18.82**	**140**	*e*P		**Pn**	**08 07 30.6**	**-0.6**
PCMB	**Pacaembu**	**18.98**	**111**	*e*P		**Pn**	**08 07 31.7**	**-1.5**
BO02	**Sierra Bellavi**	**19.13**	**181**	P		**P**	**08 07 30.6**	**-0.5**
BO02				IAmb		IAmb	08 07 39.1	
	comp=Z,12nm,0.8s							
CRSM	**Crissiumal (Br**	**19.16**	**131**	*e*P		**P**	**08 07 33.3**	**+1.8**
PTGB	**Pitanga**	**19.33**	**121**	*e*P		**P**	**08 07 34.8**	**+1.3**
ITRB	**Iturama**	**19.41**	**105**	*e*P		**P**	**08 07 35.1**	**+0.9**
PTGC	**Puerto Gaitan,**	**19.75**	**354**	*e*P		**P**	**08 07 38.5**	**+0.6**
ORTC	**Ortega, Tolima**	**19.99**	**345**	*e*P		P	08 07 30.8	-10
BOAV	**Boa Vista**	**20.31**	**29**	P		**P**	**08 07 44.2**	**+0.3**
BOAV				IAmb		IAmb	08 07 51.1	
	comp=Z,10nm,0.9s							
BOAV	**Boa Vista**	**20.31**	**29**	*e*P		**P**	**08 07 44.4**	**+0.6**
BOAV	**Boa Vista**	**20.31**	**29**	*e*P		**P**	**08 07 43.9**	**0.0**
CHIC	**Chingaza**	**20.38**	**350**	*e*P		Pn	08 07 48.2	-2.2
ITAB	**Concordia**	**20.45**	**127**	*e*P		**P**	**08 07 47.6**	**+2.3**
ALGR	**Alto Alegre (B**	**20.64**	**132**	*e*P		**P**	**08 07 47.8**	**+0.4**
FRTB	**Fartura**	**20.97**	**115**	*e*P		**P**	**08 07 53.4**	**+2.5**
IPMB	**Ipameri, GO**	**21.25**	**100**	*e*P		**P**	**08 07 53.4**	**-0.4**
BB19B	**Bebedouro**	**21.34**	**108**	*e*P		**P**	**08 07 54.9**	**+0.2**
CPSB	**Cacapava Do Su**	**21.35**	**137**	*e*P		**P**	**08 07 57.0**	**+2.4**
BDFB	**Brasilia**	**21.43**	**93**	P		**P**	**08 07 56.0**	**+0.3**
	comp=Z,5.0nm,0.5s,baz=253,slow=15,SNR=9.1							
	comp=Z,5.0nm,0.5s							
BDFB	**Brasilia**	**21.43**	**93**	P		**P**	**08 07 55.9**	**+0.3**
BDFB				IAmb		IAmb	08 07 56.2	
	comp=Z,6.4nm,0.7s							
BDFB	**Brasilia**	**21.43**	**93**	*e*P		**P**	**08 07 56.0**	**+0.3**
RUSC	**La Rusia**	**21.52**	**352**	P		**P**	**08 07 55.1**	**-1.9**
RUSC				IAmb		IAmb	08 08 00.1	
	comp=Z,6.9nm,0.7s							
RUSC	**La Rusia**	**21.52**	**352**	*e*P		**P**	**08 07 57.9**	**+1.0**
CBOC	**Ciudad Bolivar**	**22.06**	**345**	*e*P		**P**	**08 08 03.2**	**+1.5**
PLTB	**Pedras Altas**	**22.14**	**140**	*e*P		**P**	**08 08 04.9**	**+2.8**
PRPB	**Parauapebas**	**22.14**	**67**	*e*P		**P**	**08 08 02.3**	**0.0**
PMNB	**Patos De Minas**	**22.97**	**101**	*e*P		**P**	**08 08 11.2**	**+1.3**
SMTB	**Santa Maria do**	**23.14**	**76**	*e*P		**P**	**08 08 12.1**	**+0.7**
VAO	**Valinhos**	**23.18**	**112**	*e*P		**P**	**08 08 13.2**	**+1.5**
ZARC	**Zaragoza, Cauc**	**23.38**	**348**	*e*P		P	08 08 03.8	-10
MCPB	**Macapa, AP**	**23.50**	**52**	*e*P		**P**	**08 08 14.1**	**-0.6**
BAUV	**El Baul**	**24.48**	**5**	P		**P**	**08 08 24.0**	**+0.6**
SDBA	**SAO DESIDERIO**	**24.81**	**86**	*e*P		**P**	**08 08 26.4**	**-0.2**
JANB	**Januaria**	**25.04**	**92**	*e*P		**P**	**08 08 28.3**	**-0.4**
PLCA	**Paso Flores**	**25.05**	**181**	P		**P**	**08 08 31.7**	**+3.2**
	comp=Z,1.3nm,0.8s,baz=11,slow=8.5,SNR=4.8							
	comp=Z,1.3nm,0.8s							
MC01	**Montes Claros**	**25.31**	**96**	*e*P		**P**	**08 08 31.4**	**+0.3**
DIAM	**Diamantina, MG**	**25.58**	**100**	*e*P		**P**	**08 08 34.0**	**+0.4**
BSFB	**Barra de Sao F**	**28.27**	**101**	*e*P		**P**	**08 08 55.8**	**-1.7**
ROSB	**Rosrio**	**28.67**	**67**	*e*P		**P**	**08 08 60.0**	**-1.0**
CMC01	**Camacan, BA**	**29.62**	**94**	*e*P		**P**	**08 09 10.2**	**+0.8**
GDU01	**Guandu, BA**	**29.74**	**90**	*e*P		**P**	**08 09 10.4**	**-0.1**
RCBR	**Riachuelo**	**35.08**	**78**	P		**P**	**08 09 57.6**	**+0.6**
	comp=Z,15nm,0.9s,baz=61,slow=2.9,SNR=4.5							
	comp=Z,15nm,0.9s							
CMIG	**Matias Romero**	**40.55**	**322**	P		**P**	**08 10 44.1**	**+1.7**
	comp=Z,3.1nm,0.8s,baz=143,slow=8.1,SNR=8.1							
	comp=Z,3.1nm,0.8s							
WHTX	**Lake Whitney,**	**54.02**	**331**	P		**P**	**08 12 23.6**	**-2.3**
TX32	**Lajitas Array**	**55.09**	**324**	P		**P**	**08 12 34.8**	**+1.1**
TXAR	**Lajitas Array**	**55.09**	**324**	P		**P**	**08 12 34.9**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=148,slow=9.5,SNR=17							
	comp=Z,1.1nm,0.6s							
TXAR	**Lajitas Array**	**55.09**	**324**	P		**P**	**08 12 34.7**	**+1.0**
TX31	**Lajitas Ar. Si**	**55.09**	**324**	P		**P**	**08 12 35.0**	**+1.2**
TX31				IAmb		IAmb	08 12 37.0	
	comp=Z,8.4nm,1.3s							
ASCN	**Ascension**	**55.13**	**89**	P		**P**	**08 12 32.5**	**-1.8**
ABTX	**Abilene, Hawle**	**55.57**	**330**	P		**P**	**08 12 37.7**	**+0.7**
ABTX				IAmb		IAmb	08 12 39.1	
	comp=Z,11nm,0.8s							
OK031	**S. Brethren Rd**	**57.10**	**334**	P		**P**	**08 12 45.7**	**-2.1**
OK052	**Battle Ridge R**	**57.12**	**334**	P		**P**	**08 12 45.9**	**-1.9**
OK052				IAmb		IAmb	08 12 49.4	
	comp=Z,6.6nm,0.8s							
OK029	**Liberty Lake**	**57.22**	**334**	P		**P**	**08 12 48.8**	**+0.2**
OK048	**Pawnee Station**	**57.54**	**335**	P		**P**	**08 12 48.8**	**-2.0**
OK048				IAmb		IAmb	08 12 53.3	
	comp=Z,14nm,1.5s							
M53A	**WI Miller and**	**57.55**	**351**	P		**P**	**08 12 49.8**	**-0.9**
GDL2	**Guadalupe Moun**	**57.66**	**326**	P		**P**	**08 12 53.5**	**+1.6**
MNTX	**Cornudas Mount**	**57.84**	**325**	P		**P**	**08 12 53.3**	**+0.3**
MNTX				IAmb		IAmb	08 12 55.1	
	comp=Z,6.1nm,1.1s							
MSTX	**Muleshoe**	**58.20**	**328**	P		**P**	**08 12 54.5**	**-1.1**
MSTX				IAmb		IAmb	08 12 57.8	
	comp=Z,8.5nm,0.9s							
ANMO	**Albuquerque**	**60.88**	**326**	P		**P**	**08 13 15.4**	**+1.5**
	comp=Z,1.7nm,0.8s,baz=229,slow=9.2,SNR=6.3							
	comp=Z,1.7nm,0.8s							
ANMO	**Albuquerque**	**60.88**	**326**	P		**P**	**08 13 15.2**	**+1.3**
T25A	**Trinidad**	**61.52**	**329**	P		**P**	**08 13 16.7**	**-1.5**
214A	**Organ Pipe Nat**	**62.43**	**320**	P		**P**	**08 13 24.6**	**+0.5**
214A				IAmb		IAmb	08 13 27.3	
	comp=Z,6.9nm,1.0s							
BATG	**Bathurst New B**	**62.69**	**3**	P		**P**	**08 13 25.5**	**0.0**
O20A	**White River Ci**	**65.74**	**329**	P		**P**	**08 13 47.6**	**+1.9**
O20A				IAmb		IAmb	08 13 48.4	
	comp=Z,5.7nm,1.1s							
PDAR	**Pinedale Array**	**68.37**	**330**	P		**P**	**08 14 03.4**	**+1.2**
	comp=Z,6.8nm,0.5s,baz=124,slow=8.5,SNR=17							
	comp=Z,0.8nm,0.5s							
ISA	**Isabella, Lake**	**68.41**	**319**	P		**P**	**08 14 04.0**	**+1.6**
R11A	**Troy Canyon, C**	**68.42**	**323**	P		**P**	**08 14 03.8**	**+1.2**
DBIC	**Dimbokro**	**68.44**	**76**	P		**P**	**08 14 03.1**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=280,slow=8.3,SNR=1.9							
	comp=Z,1.8nm,0.5s							
HVU	**Hansel Valley**	**69.26**	**327**	P		**P**	**08 14 06.8**	**-0.9**
ULM	**Lac du Bonnet**	**69.32**	**343**	P		**P**	**08 14 07.0**	**-0.6**
	comp=Z,5.0nm,0.6s,baz=161,slow=4.8,SNR=6.0							
	comp=Z,5.0nm,0.6s							
LOHW	**Long Hollow**	**69.51**	**330**	P		**P**	**08 14 10.2**	**+1.0**
MOOW	**Moose Ponds**	**69.68**	**330**	P		**P**	**08 14 11.8**	**+1.5**
IMW	**Indian Meadow**	**69.89**	**330**	P		**P**	**08 14 12.6**	**+1.0**
IMW				IAmb		IAmb	08 14 15.0	
	comp=Z,3.4nm,0.8s							
FLWY	**Flagg Ranch**	**69.91**	**330**	P		**P**	**08 14 13.0**	**+1.4**
FLWY				IAmb		IAmb	08 14 14.8	
	comp=Z,9.5nm,1.1s							
PMOZ	**Porto Moniz, M**	**69.92**	**46**	P		**P**	**08 14 10.1**	**-1.6**
RLMT	**Red Lodge**	**70.03**	**332**	P		**P**	**08 14 10.8**	**-1.5**
YMP	**Mirror Lake Pl**	**70.15**	**331**	P		**P**	**08 14 10.3**	**-2.8**
YERR	**Yerington**	**70.99**	**322**	P		**P**	**08 14 17.2**	**-1.0**
YERR				IAmb		IAmb	08 14 21.9	
	comp=Z,6.8nm,1.3s							
PNTR	**Pine Nut**	**71.28**	**321**	P		**P**	**08 14 19.6**	**-0.4**
PNTR				IAmb		IAmb	08 14 23.3	
	comp=Z,4.2nm,0.9s							
EGMT	**Eagleton**	**72.46**	**333**	P		**P**	**08 14 27.2**	**+0.5**
EGMT				IAmb		IAmb	08 14 28.9	
	comp=Z,6.9nm,0.9s							
MCCM	**Marconi Confer**	**72.72**	**319**	P		**P**	**08 14 25.5**	**-2.7**
PLID	**Pearl Lake**	**73.26**	**328**	P		**P**	**08 14 30.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.69**	**72**	P		**P**	**08 14 51.2**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=262,slow=5.4,SNR=1.9							
	comp=Z,1.4nm,0.3s							
YKA	**Yellowknife Ar**	**85.21**	**341**	P		**P**	**08 15 36.8**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=135,slow=4.4,SNR=34							
	comp=Z,1.6nm,0.6s							
DLBC	**Dease Lake**	**88.39**	**333**	P		**P**	**08 15 52.9**	**+2.0**
	comp=Z,5.8nm,1.1s,baz=140,slow=1.2,SNR=5.9							
	comp=Z,5.8nm,1.1s							
INK	**Inuvik**	**94.97**	**341**	P		**P**	**08 16 22.4**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=87,slow=4.1,SNR=8.2							
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**134.39**	**212**	PKP		**PKiKP**	**08 22 18.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=138,slow=2.1,SNR=5.5							
ZALV	**Zalesovo Beam**	**137.06**	**21**	PKP		**PKiKP**	**08 22 23.8**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=289,slow=4.5,SNR=4.7							
ZALV				SKPbc		**SKiKP**	**08 25 35.9**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=305,slow=5.2,SNR=6.6							
WRA	**Warramunga Arr**	**137.20**	**215**	PKP		**PKiKP**	**08 22 24.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=133,slow=1.6,SNR=11							
MKAR	**Makanchi Array**	**141.41**	**31**	PKP		**PKiKP**	**08 22 30.7**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=320,slow=2.5,SNR=1.9							
MKAR				SKPbc		**SKiKP**	**08 25 48.3**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=338,slow=2.9,SNR=7.3							
MJAR	**Matsushiro Arr**	**147.19**	**315**	PKPbc		**PKPab**	**08 22 43.8**	**-0.2**
	comp=Z,9.2nm,0.7s,baz=125,slow=1.8,SNR=2.3							
SONM	**Songino Array**	**147.73**	**4**	PKPbc		**PKiKP**	**08 22 45.1**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=319,slow=1.8,SNR=7.6							
PZH	**PanZhiHua**	**166.83**	**33**	PKP		**PKPdf**	**08 23 01.8**	**-2.3**

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*ANF **18** 08:04:31.8±0.7, 38°.43N×118°.90W, h4km±3km, ML3.9/20, Error ellipse: s-maj=5.4km s-min=2.9km az=127.0*
*REN **18** 08:04:32.3±1.4, 38°.407N±0°.008×118°.93W±0°.02, h8km±6km, Mwr3.5, ML3.5/55(NEIC), Mwr3.6/14(NEIC), Error ellipse: s-maj=2.4km s-min=1.2km az=97.0*
*NEIC **18** 08:04:32.6±1.4, 38°.405N±0°.005×118°.94W±0°.02, h6km±9km, Error ellipse: s-maj=2.3km s-min=0.8km az=88.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.05; $M_{\theta\theta}$-2.46; $M_{\phi\phi}$2.51; $M_{r\theta}$1.46; $M_{r\phi}$-0.86; $M_{\theta\phi}$0.44; Fault plane solution: $M_0$3.04000×10^{14} NP1: ϕ_s308.50000°, δ69.12000°, λ-165.16000°. NP2: ϕ_s213.10000°, δ76.15000°, λ-21.54000°. Principal axes: T 2.6758, Plg5.0000°, Azm262.0000°; N 0.6339, Plg65.0000°, Azm2.0000°; P -3.3097, Plg25.0000°, Azm170.0000°;*
*IDC **18** 08:04:32.9±0.9, 38°.41N×118°.98W, h0km, mb3.0/1, mbtmp3.2/6, ML3.5/5 Error ellipse: s-maj=9.5km s-min=6.1km az=15.0*
*NEIC **18** 08:04:33, 38°.41N×118°.93W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.87; $M_{\theta\theta}$-1.42; $M_{\phi\phi}$2.29; $M_{r\theta}$1.05; $M_{\theta\phi}$-0.13; $M_{r\phi}$0.38; Fault plane solution: $M_0$2.30000×10^{14} NP1: ϕ_s216.00000°, δ69.00000°, λ-34.00000°. NP2: ϕ_s319.00000°, δ59.00000°, λ-156.00000°. Principal axes: T 2.3351, Plg7.0000°, Azm270.0000°; N -0.0798, Plg51.0000°, Azm8.0000°; P -2.2552, Plg38.0000°, Azm175.0000°;*

ISC 18 08:04:32.9±0.7, 38°.40N±0°.02×118°.95W±0°.02, h10km, n95, σ1$08/112, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TVH1	**TV Hill, Hawth**	**0.15**	**68**			**Pg**	**08 04 36.0**	**-0.6**
TVH1						**Sg**	**08 04 38.5**	**-0.6**
**

R11A	Troy Canyon, C	2.64	90			Pn	08 05 14.3	-1.5
R11A	Troy Canyon, C	2.64	90	P		Pn	08 05 14.3	-1.5
	baz=272							
ISA	Isabella, Lake	2.76	172	Pn		Pb	08 05 21.9	-0.5
ISA				IAML			08 06 02.4	
	comp=E,204nm,0.3s							
ISA				IAML			08 06 04.0	
	comp=N,145nm,0.6s							
ISA	Isabella, Lake	2.76	172	Pb		Pb	08 05 22.5	+0.1
	baz=353							
ISA				Sb		Sg	08 05 59.3	-2.3
	baz=353							
GWY	Greenwater Val	2.86	140			Pn	08 05 18.2	-0.5
AMDNV	Amargosa	2.88	132			Pn	08 05 18.9	+0.1
GDXM	Geysers	3.04	279	Pn		Pb	08 05 24.7	-2.6
LRMC	Laurel Mtn Rad	3.09	160	Pb		Pb	08 05 28.6	+0.6
	baz=342							
LRMC				Sb		Sg	08 06 08.8	-3.3
	baz=342							
MCCM	Marconi Confer	3.11	266	Pn		Pn	08 05 22.5	+0.6
MCCM				IAML			08 06 12.6	
	comp=E,114nm,1.6s							
PRN	Pahroc Range	3.24	107			Pn	08 05 23.5	-0.4
ARVC	Arvin	3.27	178	Pb		Pb	08 05 30.5	-0.5
	baz=359							
SHOC	Shoshone, Teco	3.28	139	P		Pn	08 05 23.9	-0.6
	baz=321							
CCAC	Calif City Air	3.33	167	Pn		Pb	08 05 30.9	-1.1
CCAC				IAML			08 06 34.3	
	comp=E,129nm,1.1s							
CCAC				IAML			08 06 38.9	
	comp=N,103nm,1.2s							
BCW	Bitter Crk WRg	3.48	186			Pn	08 05 29.8	+2.6
BCW				IAML			08 06 30.3	
	comp=N,142nm,0.8s							
BCW				IAML			08 06 31.3	
	comp=E,185nm,0.7s							
GSC	Goldstone, Bar	3.54	150	P		Pn	08 05 28.2	+0.2
	baz=332,SNR=9.3							
SHPR	Sheep Range	3.56	121			Pn	08 05 29.2	+0.9
EDW2	Edwards Air Fo	3.60	167	Pb		Pb	08 05 36.1	-0.5
	baz=348							
SPR3	Spring Creek 3	3.66	79			Pn	08 05 30.0	+0.1
ELK	Elko	3.70	50	Pn		Pn	08 05 29.5	-0.8
	comp=E,9.7nm,0.3s,baz=235,slow=13,SNR=136							
ELK				Lg		Lg	08 06 28.1	
	comp=E,33nm,0.3s,baz=321,slow=21,SNR=21							
	comp=E,16nm,0.3s							
ELK	Elko	3.70	50			Pn	08 05 29.6	-0.8
ELK				IAML			08 06 30.4	
	comp=E,92nm,0.6s							
ELK				IAML			08 06 33.4	
	comp=E,60nm,0.3s							
TUQ	Turquoise Moun	3.82	140	P		Pn	08 05 31.7	-0.3
	baz=322							
HEC	Hector,Ludlow	4.14	149	P		Pn	08 05 36.2	0.0
	baz=331							
YBH	Yreka Blue Hor	4.41	320	Pn		Pn	08 05 42.8	+2.9
	comp=E,0.4nm,0.3s,baz=87,slow=2.5,SNR=8.0							
YBH				Lg		Lg	08 06 53.3	
	comp=E,0.3nm,0.3s,baz=286,slow=22,SNR=1.9							
	comp=E,3.3nm,0.7s							
CCUT	Cedar City	4.49	99			Pn	08 05 41.2	0.0
BELC	Belle Mtn. Jos	5.00	151	P		Pn	08 05 48.6	+0.5
	baz=333,SNR=7.4							
DUG	Dugway, Tooele	5.08	67	Pg		Pg	08 06 08.1	-2.2
	baz=251							
PFO	Pinyon Flats O	5.19	156	Pn		Pn	08 05 51.7	+0.9
	comp=E,0.5nm,0.3s,baz=345,slow=13,SNR=7.7							
PFO				Lg		Lg	08 07 17.4	
	comp=E,0.4nm,0.3s,baz=216,slow=15,SNR=1.7							
	comp=E,0.9nm,0.3s							
PFO	Pinyon Flats O	5.19	156	Pn		Pn	08 05 51.2	+0.5
TPFO	Pinon Flats	5.19	156	P		Pn	08 05 51.5	+0.7
	baz=338							
NLU	North Lily Min	5.56	72			Pn	08 05 57.4	+1.4
PDAR	Pinedale Array	8.37	56	Pn		Pn	08 06 37.7	+3.3
	comp=E,0.2nm,0.3s,baz=234,slow=12,SNR=7.4							
PDAR				Lg		Lg	08 08 53.0	
	comp=E,0.2nm,0.3s,baz=231,slow=21,SNR=2.3							
	comp=E,0.5nm,0.5s							
TXAR	Lajitas Array	15.57	121	Pn		P	08 08 19.1	+2.2
	baz=310,slow=11,SNR=2.1							
	comp=E,0.6nm,1.1s							
YKA	Yellowknife Ar	24.27	5	P		P	08 09 53.3	+3.4
	comp=E,0.3nm,0.8s,baz=191,slow=9.6,SNR=6.8							
	comp=E,0.3nm,0.8s							

NEIC ***18*** *08:12:47.5±1.3,2°.8N±0°.1×128°.26E±0°.06,h41km±9km, mb4.2/9, Error ellipse: s-maj=15.4km s-min=8.8km az=181.0*

IDC ***18*** *08:12:48.6±4.2,2°.82N×128°.47E,h57km±40km,mb3.8/8, mbtmp4.0/9,ML3.8/1,MS3.1/2,Error ellipse: s-maj=44.7km s-min=17.2km az=79.0*

ISC 18 08:12:46.2±0.8,2°.83N±0°.09×128°.28E±0°.09,h35km,n23, σ0s97/24,mb4.2/11,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	Ternate	2.24	204			Pn	08 13 22.1	+1.3
SIJI	Sorong	4.73	141	P		Pn	08 13 57.7	+2.5
	4.0nm,0.3s,baz=151,slow=22,SNR=4.7							
SIJI				S		Sn	08 14 47.8	-1.1
	16nm,0.6s,baz=22,slow=23,SNR=11							
SIJI				LR		LR	08 15 41.7	
	comp=Z,111nm,19.1s,baz=164,slow=38							
	8.1nm,0.3s							
LUWI	Luwuk	6.71	235	Pn		Pn	08 14 23.6	+1.2
FAKI	Fak Fak	6.95	145	Pn		Pn	08 14 27.3	+1.6
SBUM	Sibu	16.05	269	Pn		Pn	08 16 29.9	+0.5
KNRA	Kununurra	18.39	179	P		P	08 16 57.9	-0.5
KNRA				IAmb		IAmb	08 17 09.3	
	comp=Z,18nm,1.1s							
WB0	Warramunga Arr	23.24	165	P		P	08 17 50.4	-0.3
WB0				IAmb		IAmb	08 17 51.0	
	comp=Z,7.0nm,0.6s							
WRAB	Tennant Creek	23.39	165	P		P	08 17 51.2	-0.9
WRA	Warramunga Arr	23.40	166	P		P	08 17 52.0	-0.1
	comp=Z,5.2nm,0.6s,baz=345,slow=10,SNR=46							
	comp=Z,5.2nm,0.6s							
WRA	Warramunga Arr	23.40	166	P		P	08 17 51.2	-0.9
WB2	Warramunga Arr	23.40	165	P		P	08 17 52.0	-0.2
WB2				IAmb		IAmb	08 17 53.7	
	comp=Z,6.0nm,0.7s							
WR0	Warramunga Arr	23.47	165	P		P	08 17 52.6	-0.2
WR0				IAmb		IAmb	08 17 53.3	
	comp=Z,8.5nm,1.0s							
ASAR	Alice Springs	26.90	169	P		P	08 18 23.6	-0.6
	comp=Z,0.4nm,0.4s,baz=350,slow=7.3,SNR=5.8							
ASAR				PcP		PcP	08 21 45.5	-0.5
	comp=Z,0.3nm,0.6s,baz=355,slow=2.4,SNR=6.9							
	comp=Z,0.4nm,0.4s							
KSRS	Korea Array	34.46	359	P		P	08 19 30.6	0.0
	comp=Z,1.5nm,0.7s,baz=172,slow=10,SNR=4.3							
	comp=Z,1.5nm,0.7s							
BBOO	Buckleboo	36.20	169	P		P	08 19 44.0	-1.8
STKA	Stephens Creek	36.76	161	P		P	08 19 50.4	-0.2
	comp=Z,2.3nm,0.4s,baz=350,slow=8.4,SNR=6.7							
	comp=Z,2.3nm,0.4s							
NWAO	Narrogin (SRO)	37.07	196	P		P	08 19 53.5	+0.3
	comp=Z,9.8nm,1.0s							
	comp=Z,9.8nm,1.0s							
MK31	Makanchi Array	59.17	325	P		P	08 22 43.9	+0.1
MKAR	Makanchi Array	59.17	325	P		P	08 22 44.2	+0.5
	comp=Z,1.1nm,0.7s,baz=120,slow=7.7,SNR=13							
	comp=Z,1.1nm,0.7s							
MKAR	Makanchi Array	59.17	325	P		P	08 22 43.8	0.0
AAK	Ala-Archa	62.06	318	LR		LR	08 51 10.5	
	comp=Z,28nm,18.7s,baz=20,slow=37							
VNDA	Vanda	82.35	173	P		P	08 25 03.7	-0.3
	comp=Z,1.1nm,0.9s,baz=357,slow=7.8,SNR=2.2							
	comp=Z,1.1nm,0.9s							
ILAR	Eielson Array	85.25	25	P		P	08 25 18.6	-0.5
	comp=Z,0.4nm,0.9s,baz=238,slow=6.2,SNR=1.7							
	comp=Z,0.4nm,0.9s							

BJI ***18*** *08:19:23.2±0.0,36°.38N×140°.66E,h51km,mb4.6/26, mB4.9/11,Ms7 4.7/1*

MOS ***18*** *08:19:24.3±1.4,36°.52N×140°.67E,h57km,mb4.8/19,Error ellipse: s-maj=9.8km s-min=5.9km az=111.5*

JMA ***18*** *08:19:25.8±0.1,36°.4N±0°.2×140°.6E±0°.5,h53km,MD4.2/40, MW4.3/40,NORTHERN IBARAKI PREF*

JMA Felt IV J1 at NORTHERN IBARAKI PREF .

NIED ***18*** *08:19:25.8,36°.43N×140°.64E,h53km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.51; Mθθ-0.34; Mφφ-1.17; Mrθ0.63; Mrφ-0.34; Mθφ1.70; Fault plane solution: Mo2.29000×10^15 NP1:φs20.00000°, δ71.00000°, λ90.00000°. NP2:φs199.00000°, δ19.00000°, λ89.00000°.*

NEIC ***18*** *08:19:27.0±2.0,36°.48N±0°.05×140°.65E±0°.09,h59km±7km, mb4.5/63 Error ellipse: s-maj=10.5km s-min=7.1km az=111.0*

IDC ***18*** *08:19:27.5±1.5,36°.38N×140°.60E,h70km±14km,mb4.0/22, mbtmp4.3/28,MS3.2/9,Error ellipse: s-maj=15.2km s-min=9.4km az=79.0*

ISC 18 08:19:25.8±0.6,36°.43N±0°.03×140°.72E±0°.05,h57km±5km, n250,σ1s33/214,mb4.5/72,MS3.0/5,9C-9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHYU	Hitachinakayam	0.14	233	*i* P		Pn	08 19 34.0	-0.6
JHYU				*e*S		Sn	08 19 39.8	-1.2
JHYU	Hitachinakayam	0.14	233	A		A	08 19 34.0	
	comp=E,168nm,0.3s,comp=E,261nm,0.3s							
JHO	Hitachi	0.22	326	P		Pn	08 19 34.5	-0.6
JHO				S		Sn	08 19 40.3	-1.5
JHO	Hitachi	0.22	326	A		A	08 19 34.5	
	comp=E,109nm,1.0s,comp=E,66nm,0.2s							
JYT	Yasato	0.47	245	⇓P		Pn	08 19 36.4	-0.8
JYT				⇓S		Sn	08 19 43.6	-1.9
JYT	Yasato	0.47	245	A		A	08 19 36.4	
	comp=E,104nm,0.4s,comp=E,102nm,0.3s							
JIHU	Itakohorinouch	0.48	199	*i* P		Pn	08 19 37.3	-0.1
JIHU				S		Sn	08 19 46.1	+0.3
JIHU	Itakohorinouch	0.48	199	A		A	08 19 37.3	
	comp=E,57nm,1.0s,comp=E,36nm,0.3s							
JFFD	Fukushimafurud	0.68	349	A		A	08 19 39.2	
	comp=E,28nm,0.7s,comp=E,24nm,0.5s							
ONAJ	Iwakimizuishiy	0.68	5	P		Pn	08 19 38.9	-0.8
ONAJ				S		Sn	08 19 48.4	-1.4
ONAJ	Iwakimizuishiy	0.68	5	A		A	08 19 38.9	
	comp=E,32nm,0.3s,comp=E,16nm,0.3s							
CHOJ	Chosi	0.73	171	A		A	08 19 40.3	
	comp=E,11nm,0.7s,comp=E,6.0nm,1.2s							
JSMT	Sammumatsuo	0.81	196	P		Pn	08 19 41.4	+0.1
JSMT				S		Sn	08 19 53.0	+0.4
JSMT	Sammumatsuo	0.81	196	A		A	08 19 41.4	
	comp=E,29nm,0.3s,comp=E,17nm,6.9s							
JSB	Shiboa	0.84	310	⇓P		Pn	08 19 41.1	-0.6
JSB				⇓S		Sn	08 19 52.4	-1.0
JSB	Shiboa	0.84	310	A		A	08 19 41.1	
	comp=E,16nm,0.8s,comp=E,19nm,0.9s							
JFK	Kawauchi	0.95	7	P		Pn	08 19 42.2	-0.9
JFK	Kawauchi	0.95	7	A		A	08 19 42.2	
	comp=E,5.0nm,2.3s,comp=E,4.0nm,1.6s							
JAG	Ashikaga	1.02	270	P		Pn	08 19 43.4	-0.7
JAG				S		Sn	08 19 55.9	-1.7
JAG	Ashikaga	1.02	270	A		A	08 19 43.4	
	comp=E,11nm,0.5s,comp=E,17nm,0.4s							
TOK	Tokyo	1.07	227	A		A	08 19 44.2	
	comp=E,21nm,0.2s,comp=E,19nm,0.3s							
JCN	Nagara	1.09	203	A		A	08 19 44.8	
	comp=E,17nm,5.4s,comp=E,13nm,6.2s							
JKT	Katashina	1.23	286	⇓P		Pn	08 19 46.4	-0.5
JKT				⇓S		Sn	08 20 01.9	-0.8
JFY	Yanaizu	1.28	320	⇓P		Pn	08 19 47.1	-0.3
JFY	Yanaizu	1.28	320	A		A	08 19 47.1	
	comp=E,3.0nm,1.5s,comp=E,3.0nm,4.7s							
JHU	Hanno	1.30	244	A		A	08 19 47.2	
	comp=E,3.0nm,1.2s,comp=E,3.0nm,0.9s							
JKUC	kamogawauchiur	1.33	199	A		A	08 19 48.3	
	comp=E,5.0nm,4.9s,comp=E,6.0nm,4.9s							
JMM	Marumori	1.44	2	Pn		Pn	08 19 49.4	-0.2
JMM	Marumori	1.44	2	P		Pn	08 19 49.9	+0.3
JYO	Yokosk	1.48	216	A		A	08 19 50.0	
	comp=E,8.0nm,3.1s,comp=E,9.0nm,1.9s							
JSGW	Sagamiharawaka	1.48	237	A		A	08 19 49.8	
	comp=E,7.0nm,16.0s,comp=E,6.0nm,0.8s							
JRY	Ryogami san	1.53	255	A		A	08 19 50.4	
	comp=E,3.0nm,0.3s,comp=E,4.0nm,1.3s							
TATJ	Tateyama 2	1.55	206	A		A	08 19 51.2	
	comp=E,9.0nm,4.5s,comp=E,8.0nm,2.7s							
JYAR	Yonezawaarcadi	1.56	343	A		A	08 19 51.3	
	comp=E,7.0nm,1.2s,comp=E,8.0nm,4.4s							
JGK	Kuni	1.69	275	A		A	08 19 52.6	
	comp=E,6.0nm,0.5s,comp=E,5.0nm,3.4s							
JOD2	Odawara 2	1.76	229	A		A	08 19 54.0	
	comp=E,5.0nm,1.8s,comp=E,6.0nm,1.5s							
JNS	Sasagawa	1.79	321	A		A	08 19 54.4	
	comp=E,2.0nm,0.6s,comp=E,2.0nm,0.6s							
JYS	Shirataka	1.87	344	A		A	08 19 55.8	
	comp=E,6.0nm,2.1s,comp=E,6.0nm,2.0s							
JOU	Okura	1.94	359	A		A	08 19 57.1	
	comp=E,4.0nm,0.6s,comp=E,4.0nm,3.5s							
JIZZ	Izumozaki	1.96	305	A		A	08 19 56.6	
	comp=E,5.0nm,6.7s,comp=E,6.0nm,6.2s							
JIM2	Oshima 3	2.00	212	A		A	08 19 57.6	
	comp=E,4.0nm,2.4s,comp=E,5.0nm,2.8s							
JHTM	Izuhatsuma	2.02	224	A		A	08 19 57.7	
	comp=E,7.0nm,0.4s,comp=E,7.0nm,0.4s							
MJAR	Matsushiro Arr	2.03	274	P		Pn	08 19 57.3	-0.4
	316nm,0.3s,baz=107,slow=11,SNR=728							
MJAR				S		Sn	08 20 12.2	-10
	355nm,0.3s,baz=88,slow=17,SNR=11							
MJAR				LR		LR	08 20 55.6	
	comp=Z,503nm,21.1s,baz=136,slow=45							
MAJO	Matsushiro	2.03	274	Pn		Pn	08 19 57.0	-0.6
MAJO	Matsushiro	2.03	274	P		Pn	08 19 58.4	+0.7
MAJO	Matsushiro	2.03	274	*i* P		Pn	08 19 56.9	-0.8
MJB9	Matsu-Tunnel	2.04	274	Pn		Pn	08 19 58.8	+1.0
JFNN	Fujinakano	2.06	234	A		A	08 19 58.2	
	comp=E,4.0nm,7.4s,comp=E,5.0nm,7.8s							
JNG	Nsakai	2.12	270	A		A	08 19 58.7	
	comp=E,2.0nm,7.6s,comp=E,2.0nm,2.1s							
JJN	Nakama	2.17	289	A		A	08 19 59.5	
	comp=E,5.0nm,5.3s,comp=E,3.0nm,1.0s							
JOFO	Osakifurukawao	2.18	4	A		A	08 20 00.5	
	comp=E,9.0nm,2.4s,comp=E,9.0nm,7.8s							
JYA	Atsumi	2.31	340	A		A	08 20 02.0	
	comp=E,4.0nm,1.0s,comp=E,3.0nm,1.6s							
SHZ3	Shizuoka 3	2.45	237	A		A	08 20 03.7	
	comp=E,5.0nm,0.8s,comp=E,6.0nm,0.7s							
JYK	Kaneyama	2.51	353	A		A	08 20 05.0	
	comp=E,2.0nm,0.8s,comp=E,2.0nm,8.5s							
JSD	Sado	2.54	310	Pn		Pn	08 20 03.2	-1.4
JSD	Sado	2.54	310	P		Pn	08 20 04.9	+0.3
JNY	Yasuok	2.56	246	A		A	08 20 05.0	
	comp=E,3.0nm,1.2s,comp=E,4.0nm,1.2s							
JSG	Sagara	2.71	231	Pn		Pn	08 20 08.2	+1.3
JSG	Sagara	2.71	231	P		Pn	08 20 12.3	+5.4
JGF	Kuroka	2.85	254	Pn		Pn	08 20 10.1	+1.2
JGF	Kuroka	2.85	254	P		Pn	08 20 10.5	+1.6
JAO	Obara	3.04	249	A		A	08 20 11.9	
	comp=E,2.0nm,1.4s,comp=E,2.0nm,8.4s							
INU	Inuyama	3.20	251	Pn		Pn	08 20 14.0	+0.4
INU	Inuyama	3.20	251	P		Pn	08 20 15.1	+1.5
JHJ	Hachijo jima 2	3.39	193	P		Pn	08 20 17.2	+1.0
	122nm,0.3s,baz=331,slow=17,SNR=21							
JHJ				S		Sn	08 20 55.3	+0.2
	414nm,0.3s,baz=81,slow=24,SNR=9.2							
JHJ2	Mitsune	3.39	193	Pn		Pn	08 20 16.8	+0.6
JTM	Tenmabayashi	4.36	3	Pn		Pn	08 20 30.3	+0.8
JTM	Tenmabayashi	4.36	3	P		Pn	08 20 30.8	+1.3
ERM	Erimo	5.89	18	Pn		Pn	08 20 49.7	-0.8
ERM						Sn	08 21 57.6	+1.0
ERM	Erimo	5.89	18	P		Pn	08 20 49.7	-0.8
ERM							08 21 57.6	
JMN	Monobe	6.22	246	Pn		Pn	08 20 55.4	+0.3
JHS	Saijyo	6.35	259	Pn		Pn	08 20 58.3	+1.4
JHS	Saijyo	6.35	259	P		Pn	08 20 59.2	+2.4
ASAJ	Asahikawa	7.81	10	P		Pn	08 21 15.6	-1.2
	6.6nm,0.3s,baz=226,slow=9.5,SNR=20							
ASAJ				S		Sn	08 22 41.1	-2.7
	8.6nm,0.6s,baz=100,slow=32,SNR=4.1							
ASAJ	Asahikawa	7.81	10	P		Pn	08 21 14.7	-2.1
JKA	Kamikawa-asahi	7.81	10	Pn		Pn	08 21 14.7	-2.1
JNU	Nakatsue	8.74	251	P		Pn	08 21 31.3	+1.7
	17nm,0.8s,baz=39,slow=6.8,SNR=7.9							
JNU				LR		LR	08 25 08.4	
	comp=Z,132nm,19.3s,baz=56,slow=40							
JNU	Nakatsue	8.74	251	Pn		Pn	08 21 31.1	+1.5
JCJ	Chichijima	9.38	172	P		Pn	08 21 38.9	+0.5
	55nm,0.3s,baz=281,slow=21,SNR=8.9							
JCJ				S		Sn	08 23 15.5	-6.9
	67nm,0.4s,baz=250,slow=17,SNR=2.9							
JCJ	Chichijima	9.38	172	Pn		Pn	08 21 35.3	-3.1

USRK	Ussuriysk Ar.	10.23	322	P		Pn	08 21 52.6	+2.8
	3.7nm,0.5s,baz=140,slow=12,SNR=6.4							
USRK				LR		LR	08 25 30.7	
	comp=Z,74nm,19.4s,baz=155,slow=36							
USA0B	Ussuriysk Arra	10.23	322	Pn		Pn	08 21 52.0	+2.2
USA0B	Ussuriysk Arra	10.23	322	P		Pn	08 21 52.1	+2.2
KSRS	Korea Array	10.30	280	P		Pn	08 21 53.5	+2.7
	5.3nm,0.6s,baz=94,slow=14,SNR=15							
KSRS				LR		LR	08 25 37.9	
	comp=Z,89nm,20.8s,baz=85,slow=36							
YSS	Yuzh-Sakhalins	10.63	8	*e*P		Pn	08 21 54.0	-1.2
KLR	Kul'dur	14.38	336	P		Pn	08 22 47.3	+1.2
	1.0nm,0.4s,baz=154,slow=14,SNR=3.0							
KLR				LR		LR	08 28 01.8	
	comp=Z,65nm,19.5s,baz=140,slow=36							
KLR	Kul'dur	14.38	336	*i* P		Pn	08 22 42.2	-3.9
TYV	Tymovskoe	14.50	5	*e*P		P	08 22 53.9	+1.0
TYV				pmax		pmax		
	comp=Z,10.0nm,0.6s							
TYV				pmax		pmax		
	comp=Z,100nm,2.6s							
TIA	Tai'an	19.01	276	⇓P		P	08 23 41.4	-1.5
TIA				pmax		pmax		
	comp=Z,8.0nm,0.7s							
BJT	Baijiatuau	19.61	288	P		P	08 23 48.0	-1.3
BJT	Baijiatuau	19.61	288	P		P	08 23 48.0	-1.3
BJT				pmax		pmax		
	comp=Z,7.0nm,0.5s							
XLT	XiLinHaoTe	20.21	299	⇑*i* P		P	08 23 54.3	-1.7
XLT				pP		pP	08 24 07.9	-0.8
XLT				pmax		pmax		
	comp=Z,6.0nm,0.6s							
XLT				pmax		pmax		
	comp=Z,56nm,5.1s							
PETK	Petropavlovsk-	20.49	30	LR		LR	08 31 41.7	
	comp=Z,29nm,19.0s,baz=187,slow=36							
HNS	HongShan	20.81	280	⇑P		P	08 24 00.0	-2.4
HNS				pmax		pmax		
	comp=Z,14nm,0.9s							
MA2	Magadan	24.07	13	P		P	08 24 35.7	+0.2
	comp=Z,1.6nm,0.3s,baz=177,slow=23,SNR=1.9							
MA2				LR		LR	08 33 57.6	
	comp=Z,25nm,20.6s,baz=159,slow=36							
	comp=Z,1.6nm,0.3s							
ENH	Enshi	26.73	266	P		P	08 24 58.6	-1.4
ENH				IAmb		IAmb	08 24 59.8	
	comp=Z,14nm,0.8s							
ULN	Ulaanbaatar	27.25	305	*ce*P		P	08 25 02.7	-1.9
ULN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SEY	Seymchan	27.50	12	P		P	08 25 07.2	+0.8
	comp=Z,2.1nm,0.7s,baz=162,slow=3.2,SNR=6.4							
	comp=Z,2.1nm,0.7s							
SEY	Seymchan	27.50	12	*ce*P		P	08 25 06.7	+0.3
SEY				pmax		pmax		
	comp=Z,5.0nm,1.7s							
SONM	Songino Array	27.67	305	P		P	08 25 07.8	-0.6
	comp=Z,2.8nm,0.5s,baz=108,slow=9.6,SNR=16							
	comp=Z,2.8nm,0.5s							
SONM	Songino Array	27.67	305	P		P	08 25 07.3	-1.1
H11N2	WAKE ISLAND Hy	28.33	119	T		T	08 55 17.5	
	baz=312,slow=75,SNR=72							
H11N1	WAKE ISLAND Hy	28.33	119	T		T	08 55 15.6	
	baz=312,slow=75,SNR=89							
H11N3	WAKE ISLAND Hy	28.34	119	T		T	08 55 18.8	
	baz=312,slow=75,SNR=102							
H11S1	WAKE ISLAND Hy	29.01	121	T		T	08 56 03.0	
	baz=314,slow=76,SNR=220							
H11S3	WAKE ISLAND Hy	29.01	121	T		T	08 56 04.9	
	baz=314,slow=76,SNR=158							
H11S2	WAKE ISLAND Hy	29.02	121	T		T	08 56 06.1	
	baz=314,slow=76,SNR=178							
LZH	Lanzhou	29.63	280	*e*P		P	08 25 24.9	-1.0
LZH				pmax		pmax		
	comp=Z,13nm,1.1s							
BILL	Bilibino	34.77	17	*e*P		P	08 26 10.6	+0.3
BILL				pmax		pmax		
	comp=Z,2.0nm,1.3s							
TIXI	Tiksi	35.83	354	P		P	08 26 19.0	-0.4
	comp=Z,3.2nm,0.5s,baz=90,slow=24,SNR=12							
	comp=Z,3.2nm,0.5s							
TIXI	Tiksi	35.83	354	P		P	08 26 18.4	-0.9
TIXI				IAmb		IAmb	08 26 19.6	
	comp=Z,4.0nm,0.8s							
TIXI	Tiksi	35.83	354	*ce*P		P	08 26 18.5	-0.9
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.8s							
TNCH	TengChong	37.75	265	*e*P		P	08 26 37.5	+1.0
TNCH				pP		pP	08 26 52.9	+1.8
CRAI	Chiangrai	38.70	257	P		P	08 26 44.2	-0.2
CRAI				IAmb		IAmb	08 26 47.4	
	comp=Z,3.5nm,0.6s							
FAKI	Fak Fak	39.93	193	P		P	08 26 54.6	+0.1
DGZ	Jazzator, Alta	40.30	306	*i* P		P	08 26 57.6	+0.1
DGZ				pmax		pmax		
	comp=Z,20nm,0.6s							
WMQ	Urumqi	40.62	297	*e*P		P	08 27 02.4

MDM					IAmb	IAmb	08 28 14.7		
	comp=Z,5.5nm,0.8s								
WRH	**Wood River Hil**	**49.80**	**32**	P		**P**	**08 28 13.3**	**+0.9**
WRH					IAmb	IAmb	08 28 18.3		
	comp=Z,5.8nm,1.4s								
H24K	**Noodor Dome**	**49.86**	**31**	P		**P**	**08 28 14.3**	**+1.4**
CCB	**Clear Creek Bu**	**49.91**	**32**	P		**P**	**08 28 14.4**	**+1.1**
POKR	**Poker Plat Res**	**50.06**	**32**	P		**P**	**08 28 16.8**	**+2.4**
POKR					IAmb	IAmb	08 28 17.3		
	comp=Z,5.9nm,0.8s								
KSH	**Kashi**	**50.15**	**294**	P		**P**	**08 28 20.1**	**+4.5**
KSH				pmax	pmax				
	comp=Z,5.0nm,0.8s								
COEN	**Coen**	**50.16**	**177**	P		**P**	**08 28 16.5**	**+0.8**
COEN					IAmb	IAmb	08 28 21.4		
	comp=Z,6.7nm,1.2s								
HDA	**Harding Lake**	**50.29**	**33**	P		**P**	**08 28 16.1**	**0.0**
HDA					IAmb	IAmb	08 28 17.8		
	comp=Z,4.4nm,0.8s								
IL31		**50.30**	**32**	P		**P**	**08 28 16.8**	**+0.6**
IL31					IAmb	IAmb	08 28 18.6		
	comp=Z,3.2nm,0.8s								
ILAR	**Eielson Array**	**50.30**	**32**	P		**P**	**08 28 17.2**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=267,slow=5.8,SNR=41								
	comp=Z,2.3nm,0.7s								
ILAR	**Eielson Array**	**50.30**	**32**	P		**P**	**08 28 16.9**	**+0.7**
BRVK	**Borovoye**	**50.63**	**313**	*i* P		**P**	**08 28 16.6**	**-2.3**
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.9s								
M24K	**Tolsona, Glenn**	**50.80**	**35**	P		**P**	**08 28 21.8**	**+1.7**
BMAR	**Burnt Mountain**	**51.13**	**29**	P		**P**	**08 28 24.0**	**+1.5**
RIDG	**Independent Ri**	**51.26**	**33**	P		**P**	**08 28 23.7**	**+0.2**
RIDG					IAmb	IAmb	08 28 45.2		
	comp=Z,5.3nm,1.3s								
DOT	**Dot Lake**	**51.62**	**33**	P		**P**	**08 28 26.9**	**+0.7**
DOT					IAmb	IAmb	08 28 28.0		
	comp=Z,3.2nm,0.9s								
SCRK	**Sand Creek**	**51.62**	**33**	P		**P**	**08 28 26.8**	**+0.5**
J26L	**Joseph Creek**	**51.75**	**32**	P		**P**	**08 28 26.8**	**-0.4**
MCARA	**McCarthy VSAT**	**52.38**	**36**	P		**P**	**08 28 32.0**	**+0.2**
L27K	**Beaver Creek,**	**52.69**	**34**	P		**P**	**08 28 36.2**	**+2.1**
L27K					IAmb	IAmb	08 29 01.8		
	comp=Z,5.1nm,1.4s								
BCAR	**Beaver Creek A**	**52.71**	**34**	P		**P**	**08 28 36.4**	**+2.1**
EGAK	**Eagle**	**52.75**	**32**	P		**P**	**08 28 35.4**	**+0.9**
EGAK					IAmb	IAmb	08 29 07.3		
	comp=Z,7.5nm,1.4s								
M27K	**Edge Creek, AK**	**52.77**	**35**	P		**P**	**08 28 37.1**	**+2.3**
M27K					IAmb	IAmb	08 28 38.8		
	comp=Z,6.9nm,1.4s								
KK31	**Karatay Array**	**52.95**	**300**	P		**P**	**08 28 36.1**	**-0.2**
KK31					IAmb	IAmb	08 28 41.5		
	comp=Z,4.8nm,1.3s								
KK31	**Karatay Array**	**52.95**	**300**	P		**P**	**08 28 36.1**	**-0.2**
KK31				pmax	pmax				
	comp=Z,5.0nm,1.3s								
KKAR	**Karatay Array**	**52.95**	**300**	P		**P**	**08 28 36.1**	**-0.2**
KKAR	**Karatay Array**	**52.95**	**300**	P		**P**	**08 28 35.7**	**-0.6**
KKAR					IAmb	IAmb	08 28 41.5		
	comp=Z,4.8nm,1.3s								
KKAR	**Karatay Array**	**52.95**	**300**	P		**P**	**08 28 36.1**	**-0.2**
GSI	**Gunungsitoli**	**53.01**	**239**	P		**P**	**08 28 38.0**	**+1.0**
KNRA	**Kununurra**	**53.04**	**194**	P		**P**	**08 28 37.8**	**+0.7**
EPYK	**Eagle Plains**	**54.33**	**29**	P		**P**	**08 28 47.9**	**+1.8**
GAR	**Garm**	**54.46**	**296**	P		**P**	**08 28 47.6**	**0.0**
M30M	**Minto, Yukon**	**55.05**	**34**	P		**P**	**08 28 52.6**	**+1.3**
INK	**Inuvik**	**55.18**	**27**	P		**P**	**08 28 53.6**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=304,slow=6.5,SNR=16								
	comp=Z,2.0nm,0.6s								
INK	**Inuvik**	**55.18**	**27**	P		**P**	**08 28 53.2**	**+1.1**
CHGR	**Chuyangaron**	**55.43**	**296**	P		**P**	**08 28 54.3**	**-0.2**
CHGR	**Chuyangaron**	**55.43**	**296**	P		**P**	**08 28 54.3**	**-0.2**
CHGR				pmax	pmax				
	comp=Z,18nm,0.6s								
WB0	**Warramunga Arr**	**56.21**	**187**	P		**P**	**08 28 59.3**	**-0.7**
WB0					IAmb	IAmb	08 29 00.5		
	comp=Z,5.0nm,0.6s								
WR0	**Warramunga Arr**	**56.38**	**187**	P		**P**	**08 29 00.2**	**-1.1**
WR0					IAmb	IAmb	08 29 01.8		
	comp=Z,5.1nm,0.6s								
WB2	**Warramunga Arr**	**56.38**	**187**	P		**P**	**08 29 01.4**	**+0.1**
WB2					IAmb	IAmb	08 29 01.9		
	comp=Z,4.7nm,0.6s								
WRA	**Warramunga Arr**	**56.38**	**187**	P		**P**	**08 29 01.0**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=1.8,slow=7.5,SNR=62								
	comp=Z,3.9nm,0.6s								
WRA	**Warramunga Arr**	**56.38**	**187**	P		**P**	**08 29 01.0**	**-0.3**
ARU	**Arti**	**56.45**	**319**	*d* P		**P**	**08 29 02.2**	**+0.8**
ARU							08 31 04.9		
ARU				S		**S**	**08 36 46.1**	**-1.9**
ARU				pmax	pmax				
	comp=Z,18nm,1.4s								
FARO	**Faro, Yukon**	**56.69**	**34**	P		**P**	**08 29 04.2**	**+1.1**
A36M	**Sachs Harbour**	**57.03**	**22**	P		**P**	**08 29 06.6**	**+1.3**
A36M					IAmb	IAmb	08 29 07.7		
	comp=Z,4.3nm,0.8s								
ABKAR	**Akbulak array**	**57.91**	**310**	P		**P**	**08 29 11.4**	**-0.4**
ABKAR	**Akbulak array**	**57.91**	**310**	P		**P**	**08 29 11.3**	**-0.5**
ABKAR					IAmb	IAmb	08 29 12.4		
	comp=Z,6.2nm,0.9s								
C36M	**Paulatuk**	**58.21**	**25**	P		**P**	**08 29 13.4**	**-0.2**
C36M					IAmb	IAmb	08 29 15.6		
	comp=Z,3.0nm,0.8s								
ASAR	**Alice Springs**	**60.11**	**187**	P		**P**	**08 29 27.6**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=15,slow=6.6,SNR=24								
	comp=Z,2.2nm,0.8s								
ASAR	**Alice Springs**	**60.11**	**187**	P		**P**	**08 29 27.0**	**-0.3**
KIRV	**Kirov**	**60.40**	**323**	LR		LR	09 00 13.2		
	comp=Z,87nm,18.6s,baz=2.9,slow=40								
KIRV	**Kirov**	**60.40**	**323**	*ce* P		**P**	**08 29 27.5**	**-1.3**
MBWA	**Marble Bar**	**60.61**	**203**	P		**P**	**08 29 30.8**	**+0.1**
EUNU	**Eureka**	**60.87**	**8**	P		**P**	**08 29 31.5**	**-0.4**
EUNU					IAmb	IAmb	08 29 40.9		
	comp=Z,3.6nm,1.1s								
RES	**Resolute Bay**	**63.33**	**14**	P		**P**	**08 29 48.4**	**+0.1**
RES					IAmb	IAmb	08 29 49.2		
	comp=Z,4.1nm,1.1s								
RES	**Resolute Bay**	**63.33**	**14**	P		**P**	**08 29 48.4**	**+0.1**
RES				pmax	pmax				
	comp=Z,4.0nm,1.2s								
ARCES	**ARCESS Array B**	**64.37**	**339**	P		**P**	**08 29 55.5**	**+0.3**
	comp=Z,6.1nm,0.8s,baz=46,slow=6.9,SNR=9.1								
	comp=Z,6.1nm,0.8s								
YKA	**Yellowknife Ar**	**64.61**	**30**	P		**P**	**08 29 57.2**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=302,slow=7.0,SNR=11								
	comp=Z,0.6nm,0.7s								
VRH	**Novokhopyorsk**	**67.66**	**318**	*e* P		**P**	**08 30 14.3**	**-2.3**
VRH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
FORT	**Forrest**	**67.90**	**192**	P		**P**	**08 30 19.0**	**+0.8**
STKA	**Stephens Creek**	**67.95**	**179**	P		**P**	**08 30 18.4**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=2.8,slow=9.9,SNR=2.9								
	comp=Z,1.5nm,0.9s								
LPSR	**Galich'ya Gora**	**68.41**	**320**	*e* P		**P**	**08 30 19.0**	**-2.3**
LPSR				pmax	pmax				
	comp=Z,8.0nm,0.6s								
VSR	**Storozhevoye**	**69.02**	**319**	*e* P		**P**	**08 30 23.5**	**-1.6**
VSR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
FIA1	**FINESS Array S**	**69.09**	**332**	P		**P**	**08 30 24.3**	**-1.1**
FINES	**FINESS Array B**	**69.09**	**332**	P		**P**	**08 30 25.3**	**0.0**
	comp=Z,4.4nm,0.6s,baz=59,slow=7.5,SNR=19								
	comp=Z,4.4nm,0.6s								
FINES	**FINESS Array B**	**69.09**	**332**	P		**P**	**08 30 24.4**	**-0.9**
FINES	**FINESS Array B**	**69.09**	**332**	*i* P		**P**	**08 30 25.2**	**-0.2**
FINES				pmax	pmax				
	comp=Z,4.0nm,0.6s								
KBZ	**Khabaz**	**70.88**	**311**	P		**P**	**08 30 36.8**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=19,slow=5.4,SNR=8.6								
	comp=Z,2.8nm,0.7s								
KBZ	**Khabaz**	**70.88**	**311**	*ce* P		**P**	**08 30 35.2**	**-1.4**
KBZ				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KIV	**Kislovodsk**	**70.89**	**311**	*e* P		**P**	**08 30 35.7**	**-1.1**
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
GNI	**Garni**	**71.62**	**307**	LR		LR	09 03 42.6		
	comp=Z,40nm,18.5s,baz=334,slow=37								
SCO	**Scoresbysund**	**72.66**	**354**	P		**P**	**08 30 47.5**	**+0.7**
SCO					IAmb	IAmb	08 31 00.3		
	comp=Z,7.5nm,1.3s								
SCO	**Scoresbysund**	**72.66**	**354**	P		**P**	**08 30 47.5**	**+0.7**
SCO				pmax	pmax				
	comp=Z,7.0nm,1.3s								
NACGM	**Naroch**	**72.93**	**326**	*e* P		**P**	**08 30 48.7**	**0.0**
	comp=Z,19nm,0.9s,baz=50								
NC405	**NORSAR Array S**	**74.32**	**337**	P		**P**	**08 30 55.7**	**-1.1**
AKASG	**Malin Array Be**	**74.44**	**322**	P		**P**	**08 30 57.1**	**-0.5**
	comp=Z,3.7nm,0.6s,baz=46,slow=6.1,SNR=21								
	comp=Z,3.7nm,0.6s								
AKASG	**Malin Array Be**	**74.44**	**322**	*i* P		**P**	**08 30 57.0**	**-0.6**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.4s								
AKBB	**Malin Array Si**	**74.44**	**322**	*ce* P		**P**	**08 30 55.3**	**-2.3**
AKBB				pmax	pmax				
	comp=Z,6.0nm,0.9s								
NB201	**NORSAR Array S**	**74.50**	**337**	P		**P**	**08 30 57.6**	**-0.3**
NB2	**NORSAR Subarra**	**74.53**	**337**	P		**P**	**08 30 58.3**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=40,slow=5.9								
NOA	**NORSAR Array B**	**74.53**	**337**	P		**P**	**08 30 58.1**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=39,slow=5.8,SNR=12								
	comp=Z,5.0nm,0.8s								
LRM	**Limekiln Ridge**	**74.97**	**44**	P		**P**	**08 31 02.6**	**+1.4**
KVN	**Kaiserville**	**75.57**	**52**	P		**P**	**08 31 06.4**	**+1.7**
KVN	**Kaiserville**	**75.57**	**52**	P		**P**	**08 31 06.4**	**+1.7**
KVN				pmax	pmax				
	comp=Z,1.0nm,0.8s								
NVAR	**Mina Array Bea**	**75.80**	**53**	P		**P**	**08 31 07.8**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=292,slow=4.4,SNR=6.2								
	comp=Z,0.8nm,0.6s								
PDAR	**Pinedale Array**	**78.49**	**45**	P		**P**	**08 31 21.9**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=276,slow=2.0,SNR=10								
	comp=Z,0.6nm,0.6s								
PDAR	**Pinedale Array**	**78.49**	**45**	P		**P**	**08 31 21.6**	**+0.6**
BRTR	**Keskin Array B**	**78.84**	**311**	P		**P**	**08 31 23.6**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=79,slow=6.7,SNR=6.3								
	comp=Z,1.4nm,0.8s								
MTPU	**Mount Pierson**	**79.89**	**50**	P		**P**	**08 31 30.4**	**+1.5**
VYHS	**Vyhne**	**80.91**	**325**	*eP*		**P**	**08 31 34.9**	**+1.1**
VYHS	**Vyhne**	**80.91**	**325**	*eP*		**P**	**08 31 34.9**	**+1.1**
VYHS				*e*			09 09 53.6		
CLL	**Collm**	**81.35**	**330**	*i* P		**P**	**08 31 36.1**	**+0.1**
	comp=Z,5.0nm,0.8s								
CLL				*ep* P		**pP**	**08 31 54.0**	**+1.9**
CLL	**Collm**	**81.35**	**330**	*i* P		**P**	**08 31 34.5**	**-1.5**
CLL				*e** PP		**pP**	**08 31 54.0**	**+1.9**
CLL				pmax	pmax				
	comp=Z,5.0nm,0.8s								
CKRC	**Cesky Krumlov**	**82.69**	**328**	*eP*		**P**	**08 31 43.3**	**+0.2**
KHC	**Kasperske Hory**	**82.77**	**328**	*eP*		**P**	**08 31 43.7**	**+0.1**
KHC	**Kasperske Hory**	**82.77**	**328**	*eP*		**P**	**08 31 43.7**	**+0.1**
GERES	**GERESS Array B**	**82.93**	**328**	P		**P**	**08 31 44.5**	**0.0**
	comp=Z,0.9nm,0.4s,baz=43,slow=7.2,SNR=9.0								
	comp=Z,0.9nm,0.4s								
TXAR	**Lajitas Array**	**90.93**	**52**	P		**P**	**08 32 25.0**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=297,slow=3.1,SNR=8.0								
	comp=Z,0.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**117.36**	**314**	PKP		**PKPdf**	**08 38 05.0**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=61,slow=1.6,SNR=0.4								
LPAZ	**La Paz**	**147.48**	**60**	PKPbc		**PKPbc**	**08 39 04.3**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=359,slow=1.7,SNR=6.6								
H03N2	**Juan Fernandez**	**147.51**	**97**	T		T	11 24 15.7		
	baz=291,slow=76,SNR=18								
H03N3	**Juan Fernandez**	**147.52**	**97**	T		T	11 24 16.8		
	baz=291,slow=76,SNR=26								
H03N1	**Juan Fernandez**	**147.52**	**97**	T		T	11 24 16.9		
	baz=291,slow=76,SNR=19								

GUC ***18*** *08:26:48.5±0.9, 22.°82S×70.°50W, h40km±2km, ML3.6*
IDC ***18*** *08:26:50.9±2.6, 23.°13S×68.°76W, h0km, mb4.3/1, mbtmp3.9/3, ML3.6/2, MS2.8/1, Error ellipse: s-maj=110.9km s-min=36.0km az=95.0*

ISC 18 08:26:47.8±1.6, 22.°78S±0.°07×70.°52W±0.°09, h10km±19km, n19, σ1s94/20, 1C-10D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**IPOC Station P**	**0.57**	**38**	↓*iP*	**Pb**	**08 27 00.9**	**+1.0**
PB04				*eS*	**Sb**	**08 27 09.5**	**+1.4**
PB04				IAML		08 27 11.1	
	comp=E,8μm,0.4s						
PB10	**IPOC Station P**	**0.73**	**182**	↑*iP*	**Pg**	**08 27 02.0**	**+0.1**
PB10				*i* S	**Sg**	**08 27 11.3**	**-0.1**
PB10				IAML		08 27 13.0	
	comp=N,3μm,0.5s						
PB06	**IPOC Station P**	**0.88**	**85**	↓*iP*	**Pb**	**08 27 05.2**	**-0.1**
PB06				*i* S	**Sb**	**08 27 17.0**	**-0.2**
PB06				IAML		08 27 17.6	
	comp=N,3μm,0.2s						
PB03	**IPOC Station P**	**1.02**	**44**	↓*iP*	**Pb**	**08 27 07.6**	**-0.1**
PB03				*i* S	**Sb**	**08 27 21.2**	**0.0**
PB03				IAML		08 27 22.8	
	comp=N,3μm,0.4s						
PB07	**IPOC Station P**	**1.21**	**29**	↓*iP*	**Pn**	**08 27 10.1**	**-0.7**
PB07				*i* S	**Sb**	**08 27 26.3**	**-0.3**
PB07				IAML		08 27 27.5	
	comp=E,1μm,0.2s						
LVC	**Limon Verde**	**1.50**	**84**	↓*iP*	**Pn**	**08 27 15.1**	**0.0**
LVC				*eS*	**Sn**	**08 27 34.0**	**-0.9**
PB09	**IPOC Station P**	**1.54**	**51**	↓*iP*	**Pn**	**08 27 15.6**	**+0.2**
PB09				*i* S	**Sn**	**08 27 35.8**	**+0.2**
PB09				IAML		08 27 46.9	
	comp=E,845nm,0.4s						
PB02	**IPOC Station P**	**1.57**	**22**	↓*iP*	**Pn**	**08 27 15.0**	**-0.8**
PB02				*eS*	**Sn**	**08 27 34.6**	**-1.7**
PB01	**IPOC Station P**	**1.98**	**29**	↓*eP*	**Pn**	**08 27 21.1**	**-0.3**
PB01				IAML		08 27 59.3	
	comp=E,560nm,0.2s						
PATCX	**Punta Patache**	**1.98**	**10**	↓*eP*	**Pn**	**08 27 20.1**	**-1.4**
AF01	**San Pedro de A**	**2.17**	**95**	↓*iP*	**Pb**	**08 27 26.6**	**-0.7**
AF01				IAML		08 28 09.1	
	comp=E,3μm,0.5s						
TA01	**Diego Aracena**	**2.23**	**8**	IAML		08 28 09.0	
	comp=E,286nm,0.6s						
TA02	**Huaiquique**	**2.53**	**8**	IAML		08 28 21.1	
	comp=E,210nm,0.3s						
HMBC	**Humberstone**	**2.56**	**13**	IAML		08 28 17.2	
	comp=N,311nm,0.3s						
LPAZ	**La Paz**	**6.84**	**20**	Pn	Pn	08 28 30.9	+2.1
	comp=N,0.6nm,0.3s,baz=216,slow=7.2,SNR=11						
	comp=N,1.5nm,0.3s						
CFA	**Coronel Fontan**	**9.02**	**167**	LR	LR	08 32 28.0	
	comp=N,58nm,18.1s,baz=334,slow=40						
PLCA	**Paso Flores**	**17.89**	**180**	P	Pn	08 30 56.2	-0.7
	comp=N,0.1nm,0.3s,baz=18,slow=12,SNR=3.4						
	comp=N,2.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**79.19**	**71**	P	P	08 38 50.1	-3.4
	comp=N,1.4nm,0.5s,baz=247,slow=5.7,SNR=2.3						
	comp=N,1.4nm,0.5s						
MKAR	**Makanchi Array**	**147.55**	**36**	PKPbc	**PKPab**	**08 46 36.2**	**+1.9**
	comp=N,0.3nm,0.6s,baz=282,slow=2.4,SNR=3.6						

IDC 18 08:35:45.0±473.0, 56.°03N×95.°80E, h0km, Error ellipse: s-maj=175.0km s-min=122.9km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**6.65**	**256**	I	I	09 12 40.0	
	baz=67,slow=338,SNR=2.3						
I34MN	**SONGINO INFRAS**	**10.52**	**137**	I	I	09 43 30.0	
	baz=328,slow=346,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**23.08**	**272**	I	I	10 59 00.0	
	baz=66,slow=335,SNR=1.5						

IDC 18 08:38:26.8±2.8, 53.°92N×86.°62E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=22.6km s-min=13.1km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**272**	I	I	08 44 20.0	
	baz=89,slow=350,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.07**	**272**	Pg	Pg	08 38 46.3	-1.0
	0.6nm,0.3s,baz=90,slow=16,SNR=7.5						
ZALV				Lg	Lg	08 39 02.6	
	1.9nm,0.3s,baz=94,slow=30,SNR=18						
KURBB	**Kurchatov Arra**	**5.96**	**240**	Pn	Pn	08 39 57.0	+0.7
	0.1nm,0.3s,baz=56,slow=14,SNR=2.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.65**	**203**	Pn	Pn	08 40 20.9	+1.4
	0.1nm,0.3s,baz=24,slow=13,SNR=5.6						
MKAR				Lg	Lg	08 42 29.0	
	baz=24,slow=25,SNR=1.7						
	0.2nm,0.3s						

IDC ***18*** *08:50:14.0±0.6, 15.°19S×173.°52W, h0km, mb4.4/14,*
mbtmp4.4/15, ML4.5/1, MS3.9/19, Error ellipse: s-maj=27.7km s-min=13.4km az=133.0
NEIC ***18*** *08:50:17.1±1.7, 15.°11S±0.°07×173.°43W±0.°07, h24km±5km, mb4.7/60, Error ellipse: s-maj=11.2km s-min=7.8km az=140.0*

ISC 18 08:50:17.5±0.4, 15.°15S±0.°06×173.°44W±0.°06, h30km, n118, σ1s55/86, mb4.6/41, MS3.9/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.03**	**53**	Pn	**Pn**	**08 50 48.8**	**-0.9**
	150nm,0.3s,baz=192,slow=3.9,SNR=219						
AFI				Sn	**Sn**	**08 51 08.8**	**-5.3**
	943nm,0.3s,baz=192,slow=22,SNR=26						
	577nm,0.3s						
NIUE	**Niue**	**5.15**	**140**	Pn	**Pn**	**08 51 32.0**	**-0.5**
NIUE				Sn	**Sn**	**08 52 24.6**	**-6.3**
MSVF	**Nonsavu**	**8.56**	**251**	LR	LR	08 55 21.6	
	comp=Z,1μm,21.8s,baz=76,slow=36						
MSVF	**Nonsavu**	**8.56**	**251**	Pn	**Pn**	**08 52 18.6**	**-0.9**
FUNA	**Funafuti**	**9.76**	**312**	Sn	**Sn**	**08 54 19.1**	**-5.5**
MARNC	**Mare, Loyalty**	**18.68**	**248**	P	**Pn**	**08 54 33.3**	**-0.5**
PINNC	**Pines Island,**	**19.54**	**245**	P	**P**	**08 54 41.1**	**-1.6**
PINNC				IAmb	IAmb	08 55 05.8	
	comp=Z,96nm,1.4s						
DZM	**Mont Dzumac**	**20.26**	**247**	P	Pn	08 54 52.0	-0.8
	comp=Z,10.0nm,0.8s,baz=92,slow=18,SNR=7.9						
DZM				LR	LR	09 01 35.4	
	comp=Z,356nm,20.0s,baz=36,slow=34						
	comp=Z,10.0nm,0.8s						
DZM	**Mont Dzumac**	**20.26**	**247**	*e* LR	LR	08 59 54.5	
	comp=Z,759nm,26.2s						
DZM	**Mont Dzumac**	**20.26**	**247**	P	**P**	**08 54 49.5**	**-1.2**
PPT2	**Papeete2**	**23.02**	**99**	*e* LR	LR	09 00 49.6	
	comp=Z,165nm,26.2s						
PPT2				*e* LR	LR	09 00 49.8	
	comp=Z,154nm,25.0s						
TBI	**Tubuai**	**24.04**	**114**	*e* LR	LR	09 01 18.5	
	comp=Z,3μm,24.2s						
TBI				*e* LR	LR	09 01 18.9	
	comp=Z,885nm,26.0s						
TBI	**Tubuai**	**24.04**	**114**	*e* T	T	09 20 06.3	
	comp=Z,5.0nm,0.3s						
URZ	**Urewera**	**24.48**	**198**	P	**P**	**08 55 33.8**	**-0.2**
	comp=Z,5.6nm,0.4s,baz=77,slow=12,SNR=7.7						
URZ				LR	LR	09 03 54.2	
	comp=Z,225nm,19.9s,baz=108,slow=34						
	comp=Z,5.6nm,0.4s						
RTZ	**Ruatahuna**	**24.85**	**198**	P	**P**	**08 55 37.7**	**+0.2**
RTZ				IAmb	IAmb	08 56 01.6	
	comp=Z,26nm,1.5s						
BKZ	**Black Stump Fm**	**25.51**	**198**	P	**P**	**08 55 43.3**	**0.0**
BKZ				IAmb	IAmb	08 55 54.5	
	comp=Z,19nm,1.1s						
HNR	**Honiara**	**26.60**	**279**	LR	LR	09 03 46.9	
	comp=Z,2μm,21.6s,baz=101,slow=31						
RPZ	**Rata Peaks**	**31.39**	**202**	P	**P**	**08 56 36.0**	**+0.2**
	comp=Z,17nm,1.0s,baz=178,slow=22,SNR=2.2						
RPZ				LR	LR	09 08 58.4	
	comp=Z,244nm,20.8s,baz=20,slow=36						
	comp=Z,17nm,1.0s						
WHZ	**Wether Hill Ro**	**34.40**	**203**	P	**P**	**08 57 02.6**	**+0.5**
ARMA	**Armidale**	**35.44**	**239**	P	**P**	**08 57 11.2**	**-0.2**
ARMA				IAmb	IAmb	08 57 13.2	
	comp=Z,17nm,1.1s						
CTA	**Charters Tower**	**38.66**	**257**	LR	LR	09 11 05.4	
	comp=Z,91nm,22.0s,baz=90,slow=32						
PMG	**Port Moresby**	**38.88**	**274**	LR	LR	09 11 40.6	
	comp=Z,49nm,18.6s,baz=56,slow=33						
H11N3	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	09 39 34.2	
	baz=147,slow=76,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	09 39 31.4	
	baz=147,slow=76,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	09 39 30.8	
	baz=147,slow=76,SNR=6.4						
COEN	**Coen**	**41.96**	**266**	P	**P**	**08 58 06.7**	**+0.6**
STKA	**Stephens Creek**	**44.13**	**240**	P	**P**	**08 58 23.6**	**+0.2**
	comp=Z,6.4nm,0.8s,baz=66,slow=8.7,SNR=9.4						
STKA				LR	LR	09 17 28.5	
	comp=Z,82nm,18.0s,baz=26,slow=37						
	comp=Z,6.4nm,0.8s						
STKA	**Stephens Creek**	**44.13**	**240**	P	**P**	**08 58 23.5**	**0.0**
MCQ	**Macquarie Isla**	**44.75**	**203**	P	**P**	**08 58 28.0**	**0.0**
BBOO	**Buckleboo**	**48.90**	**240**	P	**P**	**08 58 59.9**	**-1.0**
WB0	**Warramunga Arr

WRH	**Wood River Hil**	**81.72**	**11**	P	**P**	**09 02 34.1**	**+1.4**
WRH				IAmb	IAmb	09 02 35.5	
	comp=Z,12nm,1.1s						
DOT	**Dot Lake**	**81.77**	**13**	IAmb	IAmb	09 02 36.1	
	comp=Z,5.5nm,1.0s						
MLY	**Manley**	**81.78**	**10**	IAmb	IAmb	09 02 36.0	
	comp=Z,10.0nm,1.4s						
IMW	**Indian Meadow**	**81.79**	**40**	IAmb	IAmb	09 02 37.0	
	comp=Z,5.2nm,1.0s						
MOOW	**Moose Ponds**	**81.83**	**41**	P	**P**	**09 02 34.4**	**+0.3**
LOHW	**Long Hollow**	**81.86**	**41**	P	**P**	**09 02 33.7**	**-0.5**
HDA	**Harding Lake**	**81.87**	**11**	IAmb	IAmb	09 02 36.2	
	comp=Z,5.7nm,0.9s						
CCB	**Clear Creek Bu**	**81.93**	**11**	P	**P**	**09 02 34.8**	**+1.0**
CCB				IAmb	IAmb	09 02 36.2	
	comp=Z,5.1nm,0.8s						
FLWY	**Flagg Ranch**	**82.03**	**40**	IAmb	IAmb	09 02 39.0	
	comp=Z,7.2nm,0.9s						
PD31	**Pinedale Array**	**82.11**	**42**	P	**P**	**09 02 36.0**	**+0.5**
PDAR	**Pinedale Array**	**82.11**	**42**	P	**P**	**09 02 37.2**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=231,slow=3.0,SNR=22						
	comp=Z,2.8nm,0.9s						
I23K	**Minto, Yukon-K**	**82.12**	**10**	P	**P**	**09 02 35.3**	**+0.5**
I23K				IAmb	IAmb	09 02 37.0	
	comp=Z,4.6nm,0.7s						
COLA	**College**	**82.13**	**11**	P	**P**	**09 02 35.3**	**+0.5**
COLA				IAmb	IAmb	09 02 36.9	
	comp=Z,9.0nm,0.8s						
MDM	**Murphy Dome**	**82.14**	**11**	IAmb	IAmb	09 02 49.3	
	comp=Z,9.6nm,1.4s						
SMCO	**Snowmass**	**82.17**	**46**	P	**P**	**09 02 37.1**	**+0.9**
SMCO				IAmb	IAmb	09 02 39.3	
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**82.21**	**11**	P	**P**	**09 02 36.5**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=231,slow=7.1,SNR=15						
	comp=Z,1.2nm,0.9s						
J26L	**Joseph Creek**	**82.63**	**13**	IAmb	IAmb	09 03 02.7	
	comp=Z,3.9nm,0.9s						
RLMT	**Red Lodge**	**83.43**	**40**	IAmb	IAmb	09 02 46.1	
	comp=Z,6.9nm,1.1s						
N23A	**Red Feather La**	**83.64**	**45**	IAmb	IAmb	09 02 47.1	
	comp=Z,7.3nm,1.0s						
BELA	**Belgrano 2**	**84.25**	**172**	P	**P**	**09 02 46.5**	**+0.6**
ABTX	**Abilene, Hawle**	**84.95**	**54**	P	**P**	**09 02 49.2**	**-1.0**
BMAR	**Burnt Mountain**	**85.02**	**11**	P	**P**	**09 02 50.2**	**+0.5**
MAW	**Mawson**	**88.01**	**199**	LR	LR	09 39 45.3	
	comp=Z,82nm,19.4s,baz=115,slow=34						
YKA	**Yellowknife Ar**	**89.89**	**23**	P	**P**	**09 03 14.5**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=238,slow=4.8,SNR=14						
	comp=Z,0.9nm,0.8s						
TROLL	**Troll, Antarti**	**93.01**	**179**	P	P	09 03 33.0	+5.1
VNA3	**Neumayer Olymp**	**93.10**	**175**	P	**P**	**09 03 29.5**	**+1.3**
VNA2	**Neumayer--Watz**	**93.60**	**175**	P	**P**	**09 03 32.0**	**+1.5**
	baz=167,slow=2.0						
SONM	**Songino Array**	**94.64**	**318**	P	**P**	**09 03 37.0**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=106,slow=5.1,SNR=21						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**124.36**	**352**	PKP	**PKiKP**	**09 09 14.3**	**+1.0**
	comp=Z,4.1nm,0.9s,baz=310,slow=3.4,SNR=5.1						
AKASG	**Malin Array Be**	**140.10**	**338**	PKP	**PKPdf**	**09 09 44.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=17,slow=2.1,SNR=4.9						
CLL	**Collm**	**143.57**	**353**	*e*PKPdf	**PKPdf**	**09 09 49.0**	**-0.3**
CLL				*e*(PKiKP)		09 09 55.0	
DPC	**Dobruska-Polom**	**144.01**	**349**	*e*PKP	**PKPdf**	**09 09 49.2**	**-1.0**
KRLC	**Kraliky**	**144.19**	**349**	*e*PKP	**PKPdf**	**09 09 50.2**	**-0.3**
MORC	**Moravsky Berou**	**144.33**	**348**	*e*PKP	**PKPdf**	**09 09 51.3**	**+0.6**
PRU	**Pruhonice**	**144.66**	**351**	*e*PKP	**PKPdf**	**09 09 51.7**	**+0.5**
MAUC	**Maruska**	**144.66**	**347**	*e*PKP	**PKPdf**	**09 09 52.0**	**+0.7**
VRAC	**Vranov**	**144.96**	**349**	*e*PKP	**PKPdf**	**09 09 52.5**	**+0.7**
JAVC	**Velka Javorina**	**145.17**	**347**	*e*PKP	**PKiKP**	**09 09 54.2**	**-1.9**
KRUC	**Moravsky**	**145.24**	**349**	*e*PKP	**PKPdf**	**09 09 53.0**	**+0.7**
KHC	**Kasperske Hory**	**145.63**	**352**	*e*PKP	**PKPab**	**09 09 54.6**	**+1.1**
CKRC	**Cesky Krumlov**	**145.83**	**351**	*e*PKP	**PKPab**	**09 09 55.1**	**+0.8**
GERES	**GERESS Array B**	**145.89**	**352**	PKPbc	**PKPab**	**09 09 55.8**	**+1.2**
	comp=Z,4.1nm,0.9s,baz=9.1,slow=3.4,SNR=8.5						
BRTR	**Keskin Array B**	**145.94**	**321**	PKPbc	**PKPab**	**09 09 56.1**	**+0.9**
	comp=Z,6.1nm,0.8s,baz=100,slow=2.9,SNR=29						
CONA	**Conrad Observa**	**146.42**	**349**	*e*PKP	**PKPab**	**09 09 57.2**	**+0.6**
	comp=Z,12nm,1.0s						
RONA	**Rosalia, Austr**	**146.56**	**348**	*e*PKiKP	**PKiKP**	**09 09 58.4**	**-0.6**
	comp=Z,18nm,1.0s						
RETA	**Reutte**	**147.57**	**355**	*i* PKP	**PKPab**	**09 10 00.1**	**-1.0**
	comp=Z,7.8nm,1.0s						
MOTA	**Moosalm**	**147.68**	**354**	*e*PKP	**PKPbc**	**09 09 59.9**	**+0.5**
	comp=Z,13nm,1.1s						
DAVA	**Damuels**	**147.84**	**356**	*e*PKP	**PKPbc**	**09 10 00.6**	**+0.7**
	comp=Z,14nm,1.0s						
FETA	**Feichten**	**148.04**	**355**	*e*PKiKP	**PKiKP**	**09 10 01.6**	**-0.6**
	comp=Z,11nm,1.0s						
MYKA	**Terra Mystica**	**148.06**	**351**	*e*PKP	**PKPbc**	**09 10 00.5**	**+0.2**
	comp=Z,8.3nm,0.9s						
ABTA	**Abfaltersbach**	**148.11**	**352**	*e*PKP	**PKPbc**	**09 10 01.1**	**+0.6**
	comp=Z,18nm,1.0s						

NNC 18 09:01:06.8±5.9, 53°.84N×90°.50E, h0km, mb3.6, mpv3.3, 6C-2D, Error ellipse: s-maj=46.6km s-min=34.3km az=19.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**7.93**	**252**	⇑Sn	Sn	09 04 35.0	+1.5
	5.6nm,1.1s						
KURK				⇑Lg	Lg	09 05 20.6	
	6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**8.02**	**251**	⇑Pn	Pn	09 03 02.4	-2.1
	2.2nm,0.8s						
KURBB				⇑Sn	Sn	09 04 37.4	+1.5
	9.8nm,0.7s						
KURBB				⇓Lg	Lg	09 05 23.8	
	14nm,0.8s						
MK31	**Makanchi Array**	**8.79**	**220**	⇓Pn	Pn	09 03 17.8	+2.8
	0.3nm,0.5s,baz=34,slow=12,SNR=10						
MK31				⇑Sn	Sn	09 04 54.1	-0.6
	1.0nm,0.8s,baz=39,slow=28,SNR=3.8						
MK31				⇑Lg	Lg	09 05 48.0	
	3.8nm,1.1s,baz=34,slow=30						

IDC 18 09:06:31.8±3.6, 55°.52N×86°.45E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=27.7km s-min=27.2km az=26.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**212**	I	I	09 19 00.0	
	baz=28,slow=304,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.83**	**212**	Pg	Pn	09 07 03.9	-0.6
	4.0nm,0.3s,baz=27,slow=15,SNR=36						
ZALV				Lg	Lg	09 07 30.1	
	1.8nm,0.3s,baz=34,slow=29,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.84**	**227**	Pn	Pn	09 08 13.3	0.0
	baz=45,slow=14,SNR=1.4						
KURBB				Lg	Lg	09 10 10.5	
	baz=45,slow=32,SNR=4.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**9.12**	**198**	Pn	Pn	09 08 45.2	+0.7
	0.1nm,0.3s,baz=17,slow=13,SNR=2.3						
MKAR				Lg	Lg	09 11 20.7	
	baz=28,slow=32,SNR=1.8						
	0.3nm,0.7s						

IDC 18 09:22:55.4±2.5, 53°.71N×86°.86E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=22.5km s-min=13.6km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**282**	I	I	09 29 50.0	
	baz=100,slow=348,SNR=8.7						
ZALV	**Zalesovo Beam**	**1.23**	**282**	Pg	Pg	09 23 17.7	-1.3
	0.9nm,0.3s,baz=103,slow=17,SNR=11						
ZALV				Lg	Lg	09 23 35.9	
	0.9nm,0.3s,baz=104,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**5.98**	**242**	Pn	Pn	09 24 25.4	+0.4
	0.1nm,0.3s,baz=57,slow=13,SNR=5.6						
KURBB				Lg	Lg	09 26 07.3	
	baz=68,slow=33						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.51**	**205**	Pn	Pn	09 24 47.7	+1.6
	0.1nm,0.3s,baz=24,slow=13,SNR=7.5						
MKAR				Lg	Lg	09 26 54.2	
	baz=23,slow=28,SNR=5.1						
	0.2nm,0.2s						

BGR ***18*** *09:25:37.2±0.6, 42°.12N×13°.75E, h10km, ML5.8/3, Error ellipse: s-maj=10.0km s-min=7.8km az=45.0*

PDG ***18*** *09:25:40.9±0.5, 42°.60N×13°.31E, h13km, MD5.4/12, ML5.3/12, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*

PRU ***18*** *09:25:40.4±0.0, 42°.52N×13°.15E, h10km, ML5.3*

BEO ***18*** *09:25:40.6±0.5, 42°.51N×13°.21E, h0km, ML5.2/16*

MED_RC ***18*** *09:25:40.0±0.2, 42°.48N×13°.21E, h11km, MW5.3/39, Moment Tensor Solution. Body waves: s10,c11;Mantle waves: s39,c71; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.20±.03; $M_{\theta\theta}$0.29±.02; $M_{\phi\phi}$0.91±.02; $M_{r\theta}$-0.14±.07; $M_{\theta\phi}$-0.54±.02; $M_{\phi r}$-0.26±.06; Best double couple: $M_0$1.25000×10^{17} NP1:ϕ_s341.00000°, δ50.00000°, λ-75.00000°. NP2:ϕ_s138.00000°, δ43.00000°, λ-107.00000°. Principal axes: T 1.2300, Plg4.0000°, Azm60.0000°; N 0.0300, Plg12.0000°, Azm151.0000°; P -1.2600, Plg78.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

ROM ***18*** *09:25:40.4±0.0, 42°.545N±0°.002×13°.277E±0°.002, h10km, ML5.4/139, Mw5.1 Error ellipse: s-maj=0.2km s-min=0.0km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-5.41; $M_{\theta\theta}$0.86; $M_{\phi\phi}$4.55; $M_{r\theta}$1.44; $M_{\theta\phi}$-2.75; $M_{\phi r}$-2.46; Fault plane solution: $M_0$6.38513×10^{16} NP1:ϕ_s153.00000°, δ32.00000°, λ-88.00000°. NP2:ϕ_s331.00000°, δ58.00000°, λ-91.00000°.*

MOS ***18*** *09:25:40.6±0.9, 42°.74N×13°.22E, h10km, mb5.4/64, MS4.8/36 Error ellipse: s-maj=4.7km s-min=2.9km az=72.6*

IDC ***18*** *09:25:40.6±0.4, 42°.70N×13°.15E, h0km, mb4.8/37, mbtmp4.8/49, ML4.4/12, MS4.6/81, Error ellipse: s-maj=8.5km s-min=7.4km az=119.0*

TIR ***18*** *09:25:41.2, 42°.32N×13°.26E, h4km±4km, Md5.5, Ml5.5*

GCMT ***18*** *09:25:41.7±0.1, 42°.45N±0°.01×13°.27E±0°.01, h12km, MW5.4/147, Moment Tensor Solution. s123,c203; s147,c282; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.25±.01; $M_{\theta\theta}$0.22±.02; $M_{\phi\phi}$1.03±.01; $M_{r\theta}$0.00±.04; $M_{\theta\phi}$-0.47±.01; $M_{\phi r}$-0.69±.04; Best double couple: $M_0$1.42300×10^{17} NP1:ϕ_s346.00000°, δ59.00000°, λ-79.00000°. NP2:ϕ_s145.00000°, δ33.00000°, λ-108.00000°. Principal axes: T 1.3970, Plg14.0000°, Azm68.0000°; N 0.0570, Plg10.0000°, Azm161.0000°; P -1.4500, Plg73.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

LDG ***18*** *09:25:41.4±0.1, 42°.52N×13°.19E, h9km, Md4.8/4, Ml5.2/43 Error ellipse: s-maj=4.8km s-min=3.0km az=38.0*

NEIC ***18*** *09:25:41.6±1.7, 42°.66N±0°.05×13°.21E±0°.06, h10km±1km, mb5.3/431, Mwr5.3/44, Mww5.3, Mwr5.1(VIE), Mwr5.1(ROM), Error ellipse: s-maj=9.4km s-min=6.4km az=199.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97; $M_{\theta\theta}$0.29; $M_{\phi\phi}$0.68; $M_{r\theta}$0.06; $M_{\theta\phi}$-0.34; $M_{\phi r}$0.85; Fault plane solution: $M_0$1.26000×10^{17} NP1:ϕ_s170.96000°, δ66.57000°, λ-75.28000°. NP2: ϕ_s317.51000°, δ27.45000°, λ-120.38000°. Principal axes: T 1.1382, Plg20.0000°, Azm250.0000°; N 0.2108, Plg13.0000°, Azm345.0000°; P -1.3490, Plg65.0000°, Azm106.0000°;*

BGS ***18*** *09:25:42.1±4.4, 42°.68N×13°.20E, h10km, MW5.3(NEIC)*

STR ***18*** *09:25:43.1±0.6, 43°.N±5°.×1°.3E±°, h10km, MLv5.4/53, Error ellipse: s-maj=0.0km s-min=0.0km az=157.6, preliminary*

BUG ***18*** *09:25:44.5±0.6, 42°.76N×13°.36E, h9km, ML6.4/5*

BNS ***18*** *09:25:44.6±0.5, 42°.75N×13°.29E, h10km, ML5.4*

NEIC ***18*** *09:25:46, 42°.56N×13°.22E, h12km, Moment Tensor Solution. Duration: 10s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.18; $M_{\theta\theta}$0.31; $M_{\phi\phi}$0.87; $M_{r\theta}$-0.17; $M_{\theta\phi}$-0.54; $M_{\phi r}$0.03; Fault plane solution: $M_0$1.20000×10^{17} NP1: ϕ_s335.00000°, δ43.00000°, λ-80.00000°. NP2: ϕ_s142.00000°, δ48.00000°, λ-98.00000°. Principal axes: T 1.2026, Plg3.0000°, Azm238.0000°; N -0.0058, Plg6.0000°, Azm148.0000°; P -1.1968, Plg83.0000°, Azm351.0000°;*

ISC 18 09:25:41.6±0.5, 42°.56N±0°.01×13°.27E±0°.01, h9km±2km, n1966, σ1s61/2062, mb5.3/317, MS4.9/107, 113C-70D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.08**	**37**	⇑P	**Pg**	**09 25 43.3**	**-0.8**
SMA1				S	**Sg**	**09 25 45.1**	**-0.7**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
CAMP	**Campotosto**	**0.11**	**105**	⇓P	**Pg**	**09 25 43.2**	**-1.2**
T1247	**Pizzolo (AQ)**	**0.12**	**169**	⇑P	**Pg**	**09 25 43.8**	**-0.8**
T1247				S	**Sg**	**09 25 46.2**	**-0.4**
T1202	**Accumoli, Fraz**	**0.14**	**347**	⇓P	**Pg**	**09 25 44.6**	**-0.4**
T1202				S	**Sg**	**09 25 47.7**	**+0.5**
T1218	**Civita (PG)**	**0.15**	**314**	⇑P	**Pg**	**09 25 44.6**	**-0.5**
T1218				S	**Sg**	**09 25 47.6**	**+0.1**
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
LNSS	**Leonessa**	**0.17**	**283**	⇑P	**Pg**	**09 25 45.1**	**-0.3**
LNSS				S	**Sg**	**09 25 48.7**	**+0.7**
AQU	**L'Aquila**	**0.23**	**154**	⇑P	**Pg**	**09 25 45.4**	**-1.0**
AQU				S	**Sg**	**09 25 49.6**	**0.0**
GIGS	**Gran Sasso**	**0.25**	**117**	⇑P	**Pg**	**09 25 45.4**	**-1.4**
GIGS				S	**Sg**	**09 25 49.2**	**-1.0**
GIGS				AML	AML		
GIGS				AML	AML		
T1217	**Poggiodomo (PG**	**0.29**	**301**	⇑P	**Pg**	**09 25 46.9**	**-0.6**
T1217				S	**Sg**	**09 25 51.8**	**+0.4**
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
FIAM	**Fiamignano**	**0.32**	**201**	⇑P	**Pg**	**09 25 47.0**	**-0.9**
FIAM				S	**Sg**	**09 25 51.8**	**-0.4**
FIAM				AML	AML		
FIAM				AML	AML		
FIAM				AML	AML		
FIAM				AML	AML		
ARRO	**Arrone**	**0.37**	**273**	⇑P	**Pg**	**09 25 48.3**	**-0.6**
ARRO				S	**Sg**	**09 25 54.5**	**+0.6**
ARRO				AML	AML		
ARRO				AML	AML		
ARRO				AML	AML		
FAGN	**Fagnano**	**0.38**	**142**	⇑P	**Pg**	**09 25 48.2**	**-0.9**
FAGN				S	**Sg**	**09 25 53.5**	**-0.6**
FEMA	**Monte Fema**	**0.43**	**338**	P	**Pg**	**09 25 49.5**	**-0.6**
FEMA				S	**Sg**	**09 25 56.5**	**+0.7**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
T0110	**Collepietro**	**0.51**	**131**	⇑P	**Pg**	**09 25 50.3**	**-1.2**
T0110				S	**Sg**	**09 25 58.3**	**+0.1**
T0110				AML	AML		
T0110				AML	AML		
T0110				AML	AML		
T0110				AML	AML		
CESX	**Cesi**	**0.51**	**275**	Pg	**Pg**	**09 25 50.4**	**-1.1**
CESX	**Cesi**	**0.51**	**275**	⇑P	**Pg**	**09 25 50.5**	**-1.0**
CESX				S	**Sg**	**09 25 58.3**	**0.0**
CESX				AML	AML		
CESX				AML	AML		
CESX				AML	AML		
CESX				AML	AML		
CSP1	**Cessapalombo**	**0.53**	**355**	⇑P	**Pg**	**09 25 50.9**	**-1.1**
CSP1				S	**Sg**	**09 25 59.3**	**+0.3**
CSP1				AML	AML		
CSP1				AML	AML		
CSP1				AML	AML		
TRTR	**Tortoreto Alta**	**0.54**	**63**	⇑P	**Pg**	**09 25 51.7**	**-0.3**
PTQR	**Pietraquaria**	**0.55**	**170**	P	**Pg**	**09 25 50.6**	**-1.7**
PTQR				S	**Sg**	**09 25 59.8**	**+0.2**
PTQR				AML	AML		
	comp=E,64900μm,0.6s						
PTQR				AML	AML		
	comp=N,67800μm,0.4s						
T1220	**Camerino, Fraz**	**0.56**	**347**	⇑P	**Pg**	**09 25 51.7**	**-0.8**
T1220				S	**Sg**	**09 26 00.5**	**+0.5**
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
MOMA	**Monte Martano**	**0.57**	**295**	⇑P	**Pg**	**09 25 51.8**	**-0.9**
MOMA				S	**Sb**	**09 26 01.2**	**-0.8**
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MNTP	**Montappone**	**0.59**	**14**	⇑P	**Pg**	**09 25 52.2**	**-0.9**
MNTP				S	**Sb**	**09 26 02.5**	**-0.2**
MNTP				AML	AML		
MNTP				AML	AML		
SEF1	**Sefro**	**0.63**	**338**	P	**Pg**	**09 25 53.0**	**-0.9**
SEF1				S	**Sg**	**09 26 02.8**	**+0.7**
SEF1				AML	AML		
SEF1				AML	AML		
SEF1				AML	AML		
MDAR	**Monte D'Aria**	**0.64**	**352**	P	**Pg**	**09 25 53.0**	**-1.0**
MDAR				S	**Sg**	**09 26 02.5**	**+0.2**
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
CERT	**Cerreto**	**0.65**	**199**	⇑P	**Pg**	**09 25 52.5**	**-1.7**
CERT				AML	AML		
CERT				AML	AML		
CERT				AML	AML		
CERT				AML	AML		
CERT				AML	AML		
PIO1	**Pioraco**	**0.65**	**341**	P	**Pg**	**09 25 53.2**	**-1.0**
PIO1				S	**Sg**	**09 26 03.2**	**+0.5**
SRES	**S.Oreste - Sor**	**0.65**	**240**	⇑P	**Pg**	**09 25 52.8**	**-1.4**
SRES				AML	AML		
SRES				AML	AML		
ASSB	**Assisi San Ben**	**0.66**	**317**	⇑P	**Pg**	**09 25 53.1**	**-1.2**
ASSB				S	**Sg**	**09 26 03.5**	**+0.5**
MTCE	**Montecelio**	**0.67**	**216**	⇑P	**Pg**	**09 25 52.9**	**-1.6**
MTCE				AML	AML		
MTCE				AML	AML		
FIU1	**Fiuminata**	**0.67**	**339**	P	**Pg**	**09 25 53.7**	**-1.0**
FIU1				S	**Sg**	**09 26 04.2**	**+0.7**
GAG1	**Gagliole**	**0.69**	**348**	P	**Pg**	**09 25 54.1**	**-0.9**
GAG1				S	**Sg**	**09 26 04.6**	**+0.6**
GAG1				AML	AML		
GAG1				AML	AML		
GAG1				AML	AML		
GAG1				AML	AML		
GAG1				AML	AML		
MTL1	**Matelica**	**0.72**	**345**	P	**Pg**	**09 25 54.5**	**-1.0**
MTL1				S	**Sb**	**09 26 06.3**	**0.0**
CADA	**Capodarco di F**	**0.73**	**30**	P	**Pg**	**09 25 55.5**	**-0.2**
SNTG	**Esanatoglia**	**0.73**	**341**	⇑P	**Pg**	**09 25 54.7**	**-1.1**
SNTG				S	**Sg**	**09 26 05.9**	**+0.6**
SNTG				AML	AML		
SNTG				AML	AML		
SNTG				AML	AML		
SNTG				AML	AML		
VVLD	**Villa Vallelon**	**0.74**	**159**	⇑P	**Pg**	**09 25 54.5**	**-1.4**
VVLD				AML	AML		
	comp=E,71050μm,0.5s						
VVLD				AML	AML		
	comp=N,80650μm,0.6s						
VVLD				AML	AML		
	comp=N,80650μm,1.4s						
RCAV	**Rocca di Cave**	**0.76**	**199**	P	**Pg**	**09 25 54.7**	**-1.5**
RCAV				AML	AML		
RCAV				AML	AML		
RCAV				AML	AML		
RCAV				AML	AML		
RCAV				AML	AML		
GUAR	**Guarcino**	**0.77**	**177**	⇑P	**Pg**	**09 25 54.8**	**-1.7**
GUAR				AML	AML		
GUAR				AML	AML		
	comp=E,69850μm,0.8s						
ATCC	**AVT- Casa Cast**	**0.77**	**324**	⇑P	**Pg**	**09 25 55.4**	**-1.2**
ATCC				S	**Sb**	**09 26 07.7**	**-0.2**
ATCC				AML	AML		
ATCC				AML	AML		
ATCC				AML	AML		
ATCC				AML	AML		
EL6	**Elcito**	**0.78**	**351**	P	**Pg**	**09 25 55.2**	**-1.4**
EL6				AML	AML		
EL6				AML	AML		
EL6				AML	AML		
EL6				AML	AML		
EL6				AML	AML		
CIMA	**Civitanova Mar**	**0.80**	**22**	P	**Pg**	**09 25 56.8**	**-0.2**
CIMA				AML	AML		
CIMA				AML	AML		
CIMA				AML	AML		
CIMA				AML	AML		
CIMA				AML	AML		
CIMA				AML	AML		
FOSV	**Fossato di Vic**	**0.82**	**333**	⇑P	**Pg**	**09 25 56.1**	**-1.3**
FOSV				S	**Sg**	**09 26 08.5**	**+0.3**
FOSV				AML	AML		
FOSV				AML	AML		
FOSV				AML	AML		
PP3	**Marolino**	**0.85**	**17**	P	**Pg**	**09 25 57.3**	**-0.8**
PP3				AML	AML		
PP3				AML	AML		
PP3				AML	AML		
PP3				AML	AML		
PP3				AML	AML		
PP3				AML	AML		
LPEL	**Lama dei Pelig**	**0.85**	**127**	⇑P	**Pg**	**09 25 55.5**	**-2.6**
LPEL				AML	AML		
LPEL				AML	AML		
LPEL				AML	AML		
RMP	**Rome, Mte Porz**	**0.86**	**209**	P	**Pg**	**09 25 56.4**	**-1.8**
RMP				AML	AML		
RMP				AML	AML		
RMP				AML	AML		
RMP				AML	AML		
MURB	**Monte Urbino**	**0.89**	**322**		**Pg**	**09 25 57.4**	**-1.3**
MURB	**Monte Urbino**	**0.89**	**322**	P	**Pg**	**09 25 58.0**	**-0.7**
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
VIVA	**Pratoni del Vi**	**0.89**	**205**	P	**Pg**	**09 25 57.1**	**-1.7**
VIVA				AML	AML		
VIVA				AML	AML		
VIVA				AML	AML		
RDP	**Rocca di Papa**	**0.90**	**207**	AML	AML		
RDP				AML	AML		
POFI	**Posta Fibreno**	**0.91**	**158**	⇑P	**Pg**	**09 25 57.5**	**-1.7**
POFI				AML	AML		
	comp=E,59200μm,1.5s						
POFI				AML	AML		
	comp=E,62700μm,1.5s						
POFI				AML	AML		
	comp=E,71650μm,1.1s						
POFI				AML	AML		
	comp=N,47000μm,0.8s						
POFI				AML	AML		
	comp=E,70550μm,1.1s						
POFI				AML	AML		
	comp=N,47000μm,1.2s						
POFI				AML	AML		
	comp=N,42650μm,0.8s						
POFI				AML	AML		
	comp=E,70550μm,0.9s						

POFI				AML	AML				
	comp=E,71650µm,0.9s								
MA9	**Marino**	**0.91 210**		P	**Pg**	**09 25 57.6**	**-1.5**		
MA9				AML	AML				
MA9				AML	AML				
MA9				AML	AML				
MGAB	**Montegabbione**	**0.92 293**	⇑	P	**Pg**	**09 25 58.1**	**-1.2**		
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
SAMA	**S.Maria delle**	**0.93 213**		P	**Pg**	**09 25 57.9**	**-1.6**		
SAMA				AML	AML				
SAMA				AML	AML				
SSFR	**Montelago di S**	**0.94 338**		P	**Pg**	**09 25 58.8**	**-1.0**		
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
LRP	**Arpino**	**0.95 165**		AML	AML				
	comp=E,46850µm,1.0s								
LRP				AML	AML				
	comp=N,64200µm,1.0s								
ATFO	**Monte Foce - G**	**0.95 328**	⇑	P	**Pg**	**09 25 58.6**	**-1.3**		
LAV9	**Lanuvio**	**0.98 206**		P	**Pg**	**09 25 59.4**	**-1.1**		
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
GIUL	**Giuliano Di Ro**	**1.00 181**		P	**Pg**	**09 25 59.2**	**-1.8**		
GIUL				AML	AML				
	comp=N,50400µm,1.0s								
GIUL				AML	AML				
	comp=N,50400µm,1.0s								
GIUL				AML	AML				
	comp=E,63400µm,1.3s								
ATVA	**AVT- Monte Val**	**1.01 315**	⇑	P	**Pg**	**09 25 59.6**	**-1.5**		
AOI	**Ancona**	**1.02 14**	⇑	P	**Pg**	**09 25 59.6**	**-1.6**		
AOI				AML	AML				
AOI				AML	AML				
AOI				AML	AML				
FRON	**Frontone**	**1.03 338**		P	**Pg**	**09 26 00.1**	**-1.5**		
FRON				AML	AML				
FRON				AML	AML				
ATVO	**AVT- Monte Val**	**1.03 323**		P	**Pg**	**09 25 60.0**	**-1.5**		
ATVO				AML	AML				
ATVO				AML	AML				
SACS	**San Casciano d**	**1.04 286**		P	**Pg**	**09 26 00.4**	**-1.2**		
SACS				AML	AML				
SACS				AML	AML				
SACS				AML	AML				
SACS				AML	AML				
SACS				AML	AML				
PCRO	**Pietralacroce**	**1.06 10**		P	**Pg**	**09 26 01.1**	**-1.0**		
PCRO				AML	AML				
PCRO				AML	AML				
PCRO				AML	AML				
ATMI	**Monte Miggiano**	**1.06 317**		P	**Pg**	**09 26 01.6**	**-0.5**		
ATMI				AML	AML				
ATMI				AML	AML				
LATE	**Laterza**	**1.08 273**			**Pg**	**09 26 01.0**	**-1.4**		
LATE	**Laterza**	**1.08 273**	⇑	P	**Pg**	**09 26 00.8**	**-1.6**		
RNI2	**Rionero Sannit**	**1.08 142**		P	**Pg**	**09 26 01.5**	**-1.0**		
RNI2				AML	AML				
	comp=E,88200µm,1.6s								
RNI2				AML	AML				
	comp=N,92800µm,1.0s								
RNI2				AML	AML				
	comp=N,92050µm,1.0s								
RNI2				AML	AML				
	comp=E,87750µm,0.9s								
RNI2				AML	AML				
	comp=N,92800µm,1.0s								
COR1	**Corinaldo**	**1.09 350**		P	**Pg**	**09 26 01.7**	**-0.8**		
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
ATPI	**Pietralunga -**	**1.09 325**		P	**Pg**	**09 26 01.2**	**-1.4**		
ATPI				AML	AML				
ATPI				AML	AML				
ATPI				AML	AML				
LATB	**Latina**	**1.09 192**		P	**Pg**	**09 25 59.9**	**-2.7**		
LATB				AML	AML				
	comp=E,20600µm,1.4s								
LATB				AML	AML				
	comp=N,14200µm,1.6s								
LATB				AML	AML				
	comp=E,20600µm,0.6s								
LATB				AML	AML				
	comp=N,14200µm,0.4s								
PIEI	**Pieia**	**1.11 331**		P	**Pg**	**09 26 01.8**	**-1.2**		
PIEI				AML	AML				
PIEI				AML	AML				
PIEI				AML	AML				
CERA	**Filignano**	**1.11 150**		P	**Pg**	**09 26 01.1**	**-2.0**		
CERA				AML	AML				
	comp=N,66950µm,1.2s								
CERA				AML	AML				
	comp=N,68500µm,1.2s								
CERA				AML	AML				
	comp=N,68500µm,0.8s								
CERA				AML	AML				
	comp=N,66950µm,0.8s								
CERA				AML	AML				
	comp=E,82500µm,0.7s								
CERA				AML	AML				
	comp=E,81950µm,0.7s								
MPAG	**Monte Paganucc**	**1.13 341**		P	**Pg**	**09 26 02.0**	**-1.4**		
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
SENI	**Senigallia**	**1.14 359**		P	**Pb**	**09 26 02.9**	**-0.6**		
SENI				AML	AML				
SENI				AML	AML				
SENI				AML	AML				
SENI				AML	AML				
SENI				AML	AML				
APEC	**Apecchio**	**1.17 328**	⇑	P	**Pb**	**09 26 02.6**	**-1.5**		
APEC				AML	AML				
APEC				AML	AML				
APEC				AML	AML				
APEC				AML	AML				
APEC				AML	AML				
APEC				AML	AML				
MIDA	**Miranda**	**1.18 141**		P	**Pb**	**09 26 01.9**	**-2.3**		
MIDA				AML	AML				
	comp=N,50300µm,0.9s								
MIDA				AML	AML				
	comp=N,49350µm,0.9s								
MIDA				AML	AML				
	comp=N,50300µm,1.1s								
MIDA				AML	AML				
	comp=E,79550µm,0.9s								
MIDA				AML	AML				
	comp=E,81900µm,0.9s								
MIDA				AML	AML				
	comp=N,49350µm,1.1s								
BADI	**Badiali**	**1.21 322**		P	**Pb**	**09 26 03.9**	**-0.7**		
BADI				AML	AML				
BADI				AML	AML				
	comp=E,10635µm,0.6s								
SF04	**Casetta**	**1.22 283**		P	**Pb**	**09 26 03.8**	**-1.0**		
SF04				AML	AML				
	comp=E,92750µm,1.5s								
SF04				AML	AML				
	comp=E,92750µm,0.5s								
SF04				AML	AML				
CAFI	**Castiglion Fio**	**1.22 309**	⇑	P	**Pn**	**09 26 03.5**	**-1.4**		
CAFI				AML	AML				
CAFI				AML	AML				
CAFI				AML	AML				
CAFI				AML	AML				

TRIV	**Trivento**	**1.24 129**		P	**Pn**	**09 26 04.0**	**-1.1**		
TRIV				AML	AML				
	comp=E,81750µm,0.8s								
TRIV				AML	AML				
	comp=N,95800µm,1.1s								
TRIV				AML	AML				
	comp=N,95800µm,0.9s								
SF01	**Poggio Pratacc**	**1.28 282**		P	**Pn**	**09 26 05.1**	**-0.7**		
SF01				AML	AML				
SF01				AML	AML				
SSP9	**Sansepolcro**	**1.31 321**		P	**Pn**	**09 26 05.6**	**-0.5**		
SSP9				AML	AML				
SSP9				AML	AML				
SSP9				AML	AML				
ARCI	**Arcidosso**	**1.35 283**		P	**Pn**	**09 26 06.5**	**-0.2**		
ARCI				AML	AML				
	comp=E,45750µm,1.3s								
ARCI				AML	AML				
	comp=N,49100µm,1.0s								
PESA	**Pesaro**	**1.41 347**		P	**Pn**	**09 26 07.6**	**+0.1**		
PESA				AML	AML				
PESA				AML	AML				
PESA				AML	AML				
CPGN	**Carpegna, Ital**	**1.42 331**		P	**Pb**	**09 26 08.0**	**-0.3**		
CPGN				AML	AML				
CPGN				AML	AML				
CPGN				AML	AML				
CPGN				AML	AML				
CPGN				AML	AML				
CRE	**Caprese Michel**	**1.43 318**		P	**Pn**	**09 26 06.7**	**-1.1**		
CRE				AML	AML				
	comp=E,86400µm,0.6s								
CRE				AML	AML				
CRE				AML	AML				
	comp=E,86400µm,1.4s								
MODR	**Mondragone**	**1.49 162**	⇓	P	**Pn**	**09 26 07.9**	**-0.6**		
MODR				AML	AML				
	comp=E,20750µm,1.4s								
MODR				AML	AML				
	comp=N,28400µm,1.6s								
MODR				AML	AML				
	comp=E,20750µm,0.6s								
MODR				AML	AML				
	comp=N,28400µm,0.4s								
PIGN	**Pignataro Magg**	**1.52 153**	⇓	P	**Pn**	**09 26 08.7**	**-0.3**		
PIGN				AML	AML				
	comp=N,21250µm,1.6s								
PIGN				AML	AML				
	comp=N,20750µm,1.6s								
PIGN				AML	AML				
	comp=E,20000µm,1.3s								
PIGN				AML	AML				
	comp=N,21250µm,0.4s								
PIGN				AML	AML				
	comp=E,18800µm,1.3s								
PIGN				AML	AML				
	comp=N,20750µm,0.4s								
SACR	**S. Croce Del S**	**1.58 137**		P	**Pn**	**09 26 10.1**	**+0.2**		
SACR				AML	AML				
	comp=E,28300µm,1.1s								
SACR				AML	AML				
	comp=N,20100µm,1.2s								
SACR				AML	AML				
	comp=N,18650µm,1.2s								
SACR				AML	AML				
	comp=N,18650µm,0.8s								
SACR				AML	AML				
	comp=N,20100µm,0.8s								
SACR				AML	AML				
	comp=E,26400µm,1.1s								
MAON	**Monte Argentar**	**1.59 266**	⇑	P	**Pn**	**09 26 08.8**	**-1.1**		
MAON				AML	AML				
	comp=E,29300µm,1.4s								
MAON				AML	AML				
	comp=N,27000µm,1.0s								
MAON				AML	AML				
	comp=N,27000µm,1.0s								
MAON				AML	AML				
	comp=E,29300µm,0.6s								
GATE	**Gambatesa**	**1.61 130**		P	**Pn**	**09 26 10.8**	**+0.5**		
MELA	**Melanico ??? S**	**1.63 121**		P	**Pn**	**09 26 10.2**	**-0.2**		
MELA				AML	AML				
	comp=N,61650µm,0.8s								
MELA				AML	AML				
	comp=N,63150µm,0.8s								
MELA				AML	AML				
	comp=N,61650µm,1.2s								
MELA				AML	AML				
	comp=N,63150µm,1.2s								
MELA				AML	AML				
	comp=E,57200µm,0.6s								
MELA				AML	AML				
	comp=E,55800µm,0.6s								
SFI	**Santa Sofia**	**1.70 323**		P	**Pn**	**09 26 11.8**	**+0.3**		
SFI				AML	AML				
	comp=E,75600µm,0.9s								
SFI				AML	AML				
SFI				AML	AML				
	comp=E,75700µm,0.9s								
SFI				AML	AML				
	comp=E,75600µm,1.1s								
SFI				AML	AML				
SFI				AML	AML				
	comp=E,75700µm,1.1s								
SFI				AML	AML				
TREM	**Isole Tremiti**	**1.72 104**		P	**Pn**	**09 26 11.6**	**-0.1**		
TREM				AML	AML				
	comp=E,53300µm,1.0s								
TREM				AML	AML				
	comp=N,54950µm,1.4s								
TREM				AML	AML				
	comp=N,54950µm,0.6s								
OSSC	**Osservatorio P**	**1.77 304**			**Pn**	**09 26 11.6**	**-0.8**		
OSSC	**Osservatorio P**	**1.77 304**	⇓	P	**Pn**	**09 26 11.8**	**-0.6**		
OSSC				AML	AML				
	comp=E,43000µm,1.0s								
OSSC				AML	AML				
	comp=N,43050µm,0.8s								
OSSC				AML	AML				
	comp=E,42900µm,0.8s								
OSSC				AML	AML				
	comp=N,42000µm,1.0s								
OSSC				AML	AML				
	comp=N,42000µm,1.0s								
OSSC				AML	AML				
	comp=N,43050µm,1.2s								
OSSC				AML	AML				
	comp=E,42900µm,1.2s								
OSSC				AML	AML				
	comp=E,43000µm,1.0s								
VENT	**Ventotene**	**1.77 176**		P	**Pn**	**09 26 12.8**	**+0.4**		
CASP	**Castiglione de**	**1.79 278**			**Pn**	**09 26 11.9**	**-0.8**		
CASP	**Castiglione de**	**1.79 278**		P	**Pn**	**09 26 11.9**	**-0.8**		
CASP				AML	AML				
	comp=E,16950µm,1.2s								
CASP				AML	AML				
	comp=N,13525µm,1.1s								
CASP				AML	AML				
	comp=N,13525µm,0.9s								
RUFI	**Rufina**	**1.81 315**		P	**Pn**	**09 26 12.9**	**-0.1**		
RUFI				AML	AML				
	comp=E,65750µm,0.7s								
RUFI				AML	AML				
	comp=E,65750µm,1.3s								
RUFI				AML	AML				
	comp=N,67100µm,0.9s								
TRIF	**Trifonti**	**1.82 288**		P	**Pn**	**09 26 12.8**	**-0.3**		
TRIF				AML	AML				
	comp=N,24100µm,0.8s								
TRIF				AML	AML				
	comp=E,25800µm,0.8s								
TRIF				AML	AML				
	comp=N,24100µm,1.2s								
APRC	**Apricena**	**1.87 115**		P	**Pn**	**09 26 13.9**	**0.0**		
APRC				AML	AML				
	comp=N,18850µm,0.6s								
APRC				AML	AML				
	comp=N,49250µm,0.6s								
APRC				AML	AML				
	comp=E,24350µm,1.0s								
APRC				AML	AML				
	comp=E,25350µm,1.0s								
LMD	**Lutirano**	**1.89 324**		P	**Pn**	**09 26 14.2**	**+0.1**		
LMD				AML	AML				
	comp=E,58850µm,0.8s								
LMD				AML	AML				

	comp=N,67150µm,1.5s								
LMD				AML	AML				
	comp=N,67150µm,0.5s								
LMD				AML	AML				
	comp=E,58850µm,1.2s								
MRB1	**Monte Rocchett**	**1.92 138**		AML	AML				
	comp=E,31450µm,0.7s								
MRB1				AML	AML				
	comp=N,29650µm,1.2s								
MRB1				AML	AML				
	comp=E,31700µm,0.7s								
MRB1				AML	AML				
	comp=N,29950µm,1.2s								
MRB1				AML	AML				
	comp=N,29950µm,0.8s								
MRB1				AML	AML				
	comp=N,29650µm,0.8s								
VVDG	**Vesuvio Valle**	**1.93 153**		P	**Pn**	**09 26 13.7**	**-1.0**		
VVDG				AML	AML				
VVDG				AML	AML				
VVDG				AML	AML				
BIOG	**Biogem**	**1.95 134**		P	**Pb**	**09 26 17.1**	**-0.2**		
BRIS	**BRISIGHELLA**	**2.04 322**		P	**Pn**	**09 26 15.5**	**-0.6**		
BRIS				AML	AML				
BRIS				AML	AML				
	comp=N,82850µm,0.8s								
BRIS				AML	AML				
BRIS				AML	AML				
	comp=N,84450µm,0.8s								
SEI	**Scarperia**	**2.04 318**		P	**Pn**	**09 26 16.6**	**+0.4**		
SEI				AML	AML				
	comp=N,76550µm,0.6s								
SEI				AML	AML				
	comp=E,50600µm,0.5s								
CRMI	**Carmignano**	**2.08 307**		P	**Pn**	**09 26 16.8**	**+0.1**		
CRMI				AML	AML				
	comp=E,20900µm,1.5s								
CRMI				AML	AML				
	comp=N,23700µm,1.0s								
CRMI				AML	AML				
	comp=E,21200µm,1.1s								
CRMI				AML	AML				
	comp=N,24100µm,1.0s								
CRMI				AML	AML				
	comp=N,23700µm,1.0s								
CRMI				AML	AML				
	comp=N,24100µm,1.0s								
CRMI				AML	AML				
	comp=E,21200µm,0.9s								
CRMI				AML	AML				
	comp=E,20900µm,0.5s								
CAFE	**Carife**	**2.13 136**		AML	AML				
	comp=N,17150µm,0.4s								
CAFE				AML	AML				
	comp=E,21650µm,1.6s								
CAFE				AML	AML				
	comp=N,17150µm,1.6s								
CAFE				AML	AML				
	comp=E,21800µm,1.6s								
CAFE				AML	AML				
	comp=N,17300µm,1.6s								
CAFE				AML	AML				
	comp=E,21650µm,0.4s								
CAFE				AML	AML				
	comp=E,21800µm,0.4s								
CAFE				AML	AML				
	comp=N,17300µm,0.4s								
MSAG	**Monte S. Angel**	**2.14 113**		P	**Pn**	**09 26 17.5**	**-0.1**		
MSAG				AML	AML				
	comp=E,38800µm,0.9s								
MSAG				AML	AML				
	comp=E,36650µm,0.9s								
MSAG				AML	AML				
	comp=N,44250µm,0.5s								
MSAG				AML	AML				
	comp=N,44350µm,0.5s								
PII	**Pisa**	**2.32 301**		P	**Pn**	**09 26 20.3**	**+0.4**		
PII				AML	AML				
	comp=E,22150µm,0.8s								
PII				AML	AML				
	comp=N,16700µm,0.8s								
PII				AML	AML				
	comp=E,22150µm,1.2s								
PII				AML	AML				
	comp=N,16700µm,1.2s								
CAPA	**Cerignola FG**	**2.37 126**		P	**Pn**	**09 26 21.0**	**+0.4**		
CAPA				AML	AML				
	comp=N,38950µm,1.2s								
CAPA				AML	AML				
	comp=E,28400µm,1.2s								
CAPA				AML	AML				
	comp=N,38950µm,0.8s								
BRJN	**Brijuni**	**2.37 8**		P	**Pn**	**09 26 19.7**	**-0.9**		
MAIM	**Mastiano**	**2.44 305**		P	**Pn**	**09 26 21.4**	**-0.2**		
MAIM				AML	AML				
	comp=E,15750µm,0.8s								
MAIM				AML	AML				
	comp=E,15750µm,1.2s								
MAIM				AML	AML				
	comp=N,17000µm,0.7s								
ZCCA	**Zocca**	**2.44 318**			**Pn**	**09 26 20.9**	**-0.9**		
ZCCA	**Zocca**	**2.44 318**		AML	AML				
	comp=N,31850µm,1.6s								
ZCCA				AML	AML				
	comp=N,34650µm,1.6s								
ZCCA				AML	AML				
	comp=E,36600µm,1.0s								
ZCCA				AML	AML				
	comp=N,31850µm,0.4s								
ZCCA				AML	AML				
	comp=N,34650µm,0.4s								
ZCCA				AML	AML				
	comp=E,35350µm,0.9s								
MRLC	**Muro Lucano**	**2.46 137**		P	**Pn**	**09 26 23.3**	**+1.4**		
CARD	**Cardoso**	**2.50 307**		P	**Pn**	**09 26 22.0**	**-0.5**		
CARD				AML	AML				
	comp=E,16450µm,0.9s								
CARD				AML	AML				
	comp=N,14350µm,1.0s								
CARD				AML	AML				
	comp=E,16450µm,1.1s								
CDRU	**Civita di Ruta**	**2.58 143**		P	**Pn**	**09 26 23.6**	**0.0**		
CDRU				AML	AML				
	comp=E,3095µm,0.9s								
CDRU				AML	AML				
	comp=N,2640µm,1.6s								
CDRU				AML	AML				
	comp=N,2640µm,0.4s								
CDRU				AML	AML				
	comp=E,3095µm,1.1s								
PALZ	**Palazzo San Ge**	**2.58 128**		P	**Pn**	**09 26 23.8**	**+0.2**		
PALZ				AML	AML				
	comp=E,23150µm,1.4s								
PALZ				AML	AML				
	comp=E,23150µm,0.6s								
PALZ				AML	AML				
	comp=N,24650µm,1.4s								
VLC	**Villacollemand**	**2.64 308**		Pn	**Pn**	**09 26 23.1**	**-1.3**		
VLC	**Villacollemand**	**2.64 308**		AML	AML				
	comp=N,15150µm,1.0s								
VLC				AML	AML				
	comp=E,12300µm,1.2s								
VLC				AML	AML				
	comp=N,15450µm,1.0s								
VLC				AML	AML				
	comp=E,12500µm,1.2s								
VLC				AML	AML				
	comp=N,15450µm,1.0s								
VLC				AML	AML				
	comp=E,12300µm,0.8s								
VLC				AML	AML				
	comp=E,12500µm,0.8s								
SARO	**Sassorosso**	**2.64 309**		P	**Pn**	**09 26 24.1**	**-0.4**		
SARO				AML	AML				
	comp=E,31100µm,0.6s								
SARO				AML	AML				
	comp=N,34350µm,0.9s								
SARO				AML	AML				
	comp=E,31100µm,1.4s								
GSCL	**Gusciola**	**2.65 313**		P	**Pn**	**09 26 24.8**	**+0.3**		
GSCL				AML	AML				
	comp=E,24250µm,1.3s								
GSCL				AML	AML				
	comp=N,30450µm,1.2s								
GSCL				AML	AML				
	comp=E,24250µm,0.7s								
GSCL				AML	AML				

	comp=N,30450µm,0.8s						
MRVN	**Minervino Murg**	**2.65**	**123**	P	**Pn**	**09 26 24.0**	**-0.6**
MRVN				AML	AML		
	comp=E,5550µm,1.2s						
MRVN				AML	AML		
	comp=N,5705µm,0.9s						
MRVN				AML	AML		
	comp=N,5705µm,1.1s						
MRVN				AML	AML		
	comp=E,5550µm,0.8s						
ACER	**Acerenza**	**2.68**	**131**	P	**Pn**	**09 26 25.5**	**+0.6**
ACER				AML	AML		
	comp=E,11550µm,1.6s						
ACER				AML	AML		
	comp=N,13550µm,0.7s						
ACER				AML	AML		
	comp=N,14000µm,0.7s						
ACER				AML	AML		
	comp=E,11700µm,1.6s						
CMPR	**Campora**	**2.72**	**145**	P	**Pn**	**09 26 25.4**	**0.0**
CMPR				AML	AML		
	comp=E,3460µm,1.3s						
CMPR				AML	AML		
	comp=N,2855µm,0.7s						
CMPR				AML	AML		
	comp=N,2855µm,1.3s						
EQUI	**Equi**	**2.78**	**306**	P	**Pn**	**09 26 25.4**	**-0.9**
EQUI				AML	AML		
	comp=E,8290µm,0.7s						
EQUI				AML	AML		
	comp=N,16050µm,1.1s						
SLCN	**Sala Consilina**	**2.81**	**140**	AML	AML		
	comp=E,6720µm,0.9s						
SLCN				AML	AML		
	comp=N,8180µm,1.6s						
SLCN				AML	AML		
	comp=E,7245µm,1.6s						
SLCN				AML	AML		
	comp=N,8535µm,1.6s						
SLCN				AML	AML		
	comp=N,8535µm,0.4s						
SLCN				AML	AML		
	comp=E,7245µm,0.4s						
SLCN				AML	AML		
	comp=N,8180µm,0.4s						
SERM	**Sermide**	**2.83**	**330**	P	**Pn**	**09 26 28.3**	**+1.3**
SERM				AML	AML		
	comp=E,23850µm,0.7s						
SERM				AML	AML		
	comp=N,17100µm,0.5s						
SERM				AML	AML		
	comp=N,31600µm,0.7s						
SERM				AML	AML		
	comp=E,55400µm,0.8s						
FIVI	**Fivizzano**	**2.84**	**307**	AML	AML		
	comp=E,17000µm,0.6s						
FIVI				AML	AML		
	comp=N,13950µm,0.8s						
NDIM	**Novi di Modena**	**2.89**	**324**	AML	AML		
	comp=N,78550µm,1.6s						
NDIM				AML	AML		
	comp=E,35450µm,1.2s						
NDIM				AML	AML		
	comp=N,76550µm,1.6s						
NDIM				AML	AML		
	comp=E,38150µm,1.5s						
MORSI	**Morsiglia**	**2.90**	**279**	P	**Pn**	**09 26 28.3**	**+0.4**
MORSI				S	**Sn**	**09 27 04.5**	**+1.6**
PLMA	**Palmaria, Port**	**2.90**	**302**	AML	AML		
	comp=E,7140µm,1.0s						
PLMA				AML	AML		
	comp=N,9175µm,0.6s						
PLMA				AML	AML		
	comp=N,9175µm,1.4s						
PLMA				AML	AML		
	comp=E,7140µm,1.0s						
MCEL	**Monticello**	**2.94**	**139**	AML	AML		
	comp=N,7250µm,0.5s						
MCEL				AML	AML		
	comp=E,5325µm,1.3s						
MCEL				AML	AML		
	comp=N,7250µm,1.5s						
MCEL				AML	AML		
	comp=E,5315µm,1.3s						
MCEL				AML	AML		
	comp=N,7315µm,1.5s						
MCEL				AML	AML		
	comp=E,5325µm,0.7s						
MCEL				AML	AML		
	comp=E,5315µm,0.7s						
MCEL				AML	AML		
	comp=N,7315µm,0.5s						
SMPL	**Sampolo**	**2.99**	**262**	P	**Pn**	**09 26 28.5**	**-0.7**
SMPL				AML	AML		
	comp=E,1680µm,0.9s						
SMPL				AML	AML		
	comp=N,1510µm,1.6s						
SMPL				AML	AML		
	comp=N,1510µm,0.4s						
SMPL				AML	AML		
	comp=E,1680µm,1.1s						
SMPL	**Sampolo**	**2.99**	**262**	P	**Pn**	**09 26 28.4**	**-0.7**
AMUR	**Altamura**	**3.00**	**122**	P	**Pn**	**09 26 29.7**	**+0.4**
AMUR				AML	AML		
	comp=E,8210µm,0.4s						
AMUR				AML	AML		
	comp=N,7310µm,0.5s						
GRAM	**Graiana**	**3.02**	**311**	P	**Pn**	**09 26 30.0**	**+0.3**
GRAM				AML	AML		
	comp=E,29900µm,1.1s						
GRAM				AML	AML		
	comp=N,20900µm,1.0s						
TEOL	**Teolo**	**3.02**	**338**		**Pn**	**09 26 28.0**	**-1.7**
TEOL	**Teolo**	**3.02**	**338**	P	**Pn**	**09 26 29.8**	**+0.1**
TEOL				AML	AML		
	comp=E,67250µm,0.7s						
TEOL				AML	AML		
	comp=E,67250µm,1.3s						
TEOL				AML	AML		
	comp=N,65550µm,0.8s						
SKDS	**Skadanscina**	**3.03**	**10**	*e*Pn	**Pn**	**09 26 28.8**	**-1.0**
SKDS				*e*Sn	**Sn**	**09 27 05.0**	**-1.1**
SKDS				IAML		09 27 09.3	
	comp=Z,13µm,0.8s						
SKDS	**Skadanscina**	**3.03**	**10**	⇑*i*Pn	**Pn**	**09 26 28.7**	**-1.0**
A050A	**Klekovaca**	**3.05**	**50**	⇑*i*Pn	**Pn**	**09 26 30.7**	**+0.6**
CORF	**Corte**	**3.06**	**266**	P	**Pn**	**09 26 29.8**	**-0.3**
KNDS	**Knezji Dol**	**3.07**	**15**	*i* Pn	**Pn**	**09 26 29.8**	**-0.6**
PRMA	**PARMA**	**3.07**	**317**		**Pn**	**09 26 28.1**	**-2.2**
SIRI	**Monte Sirino -**	**3.08**	**140**	AML	AML		
	comp=N,3220µm,1.0s						
SIRI				AML	AML		
	comp=E,2750µm,1.4s						
SIRI				AML	AML		
	comp=N,3215µm,0.9s						
SIRI				AML	AML		
	comp=E,2740µm,1.4s						
OPPE	**Oppeano**	**3.13**	**332**	P	**Pn**	**09 26 31.0**	**-0.1**
OPPE				AML	AML		
	comp=E,50350µm,1.6s						
OPPE				AML	AML		
	comp=N,60950µm,1.2s						
OPPE				AML	AML		
	comp=E,50350µm,0.4s						
OPPE				AML	AML		
	comp=N,60950µm,0.8s						
PGF	**Pioggiola**	**3.15**	**271**	*e*Pn	**Pn**	**09 26 31.0**	**-0.5**
PGF				*e*Sn	**Sn**	**09 27 04.9**	**-4.4**
	comp=N,5µm,1.3s						
PGF	**Pioggiola**	**3.15**	**271**	AML	AML		
	comp=E,2355µm,0.6s						
PGF				AML	AML		
	comp=E,2355µm,1.4s						
PGF				AML	AML		
	comp=N,2550µm,1.4s						
PGF	**Pioggiola**	**3.15**	**271**	P	**Pn**	**09 26 31.4**	**-0.1**
GBRS	**Gornja Briga**	**3.17**	**20**	*i* Pn	**Pn**	**09 26 31.3**	**-0.4**
GBRS				*e*Sn	**Sn**	**09 27 07.8**	**-1.8**
GBRS				IAML		09 27 46.5	
	comp=Z,25µm,1.8s						
SCHR	**S. Chirico Rap**	**3.17**	**137**	AML	AML		
	comp=N,2190µm,0.4s						
SCHR				AML	AML		
	comp=E,1840µm,0.8s						
SCHR				AML	AML		
	comp=N,2190µm,1.6s						
CUC	**Castrocucco**	**3.21**	**142**		**Pn**	**09 26 33.8**	**+1.6**

MATE	**Matera**	**3.21**	**125**	⇓P	**Pn**	**09 26 33.3**	**+1.2**
MATE				⇑S	**Sn**	**09 27 13.3**	**+2.8**
MATE	**Matera**	**3.21**	**125**	P	**Pn**	**09 26 32.2**	**0.0**
MATE				AML	AML		
	comp=N,6700µm,0.7s						
MATE				AML	AML		
	comp=N,6700µm,1.3s						
MATE				AML	AML		
	comp=E,5405µm,0.9s						
SRKY	**Kupres RS**	**3.22**	**61**	⇑*i*Pn	**Pn**	**09 26 33.2**	**+0.8**
MSSA	**Maissana**	**3.24**	**304**		**Pn**	**09 26 32.2**	**-0.6**
MSSA	**Maissana**	**3.24**	**304**	P	**Pn**	**09 26 32.9**	**+0.2**
BOJS	**Bojanci**	**3.27**	**25**	*i* Pn	**Pn**	**09 26 32.7**	**-0.3**
BOJS	**Bojanci**	**3.27**	**25**	AML	AML		
	comp=E,52350µm,1.2s						
BOJS				AML	AML		
	comp=N,36300µm,1.0s						
BOJS				AML	AML		
	comp=E,52350µm,0.8s						
BOJS	**Bojanci**	**3.27**	**25**	⇑*i*Pn	**Pn**	**09 26 32.5**	**-0.5**
STON	**Ston**	**3.28**	**83**	AML	AML		
	comp=N,4605µm,0.6s						
STON				AML	AML		
	comp=E,5490µm,0.5s						
STON	**Ston**	**3.28**	**83**	*e*Pn	**Pn**	**09 26 32.7**	**-0.4**
STON				*e*Sn	**Sn**	**09 27 12.9**	**+0.7**
STON	**Ston**	**3.28**	**83**	⇑*i*Pn	**Pn**	**09 26 32.6**	**-0.5**
CEY	**Cerknica**	**3.28**	**14**	⇑*i*Pn	**Pn**	**09 26 32.5**	**-0.7**
LTRZ	**Laterza**	**3.31**	**125**	P	**Pn**	**09 26 33.8**	**+0.3**
LTRZ				AML	AML		
	comp=N,5685µm,1.2s						
LTRZ				AML	AML		
	comp=E,5370µm,0.5s						
LTRZ				AML	AML		
	comp=N,5685µm,0.8s						
MGRS	**Mrkonjic Grad**	**3.34**	**55**	⇑*i*Pn	**Pn**	**09 26 34.9**	**+0.9**
NOCI	**Noci**	**3.35**	**121**	P	**Pn**	**09 26 34.5**	**+0.3**
NOCI				AML	AML		
	comp=N,6065µm,0.5s						
NOCI				AML	AML		
	comp=N,6065µm,1.5s						
NOCI				AML	AML		
	comp=E,4685µm,0.6s						
AJAC	**Base Areonaval**	**3.40**	**261**	P	**Pn**	**09 26 34.6**	**-0.2**
AJAC				AML	AML		
	comp=N,3125µm,1.4s						
AJAC				AML	AML		
	comp=E,2825µm,1.1s						
AJAC	**Base Areonaval**	**3.40**	**261**	P	**Pn**	**09 26 35.1**	**+0.3**
AJAC				S	**Sn**	**09 27 16.1**	**+0.8**
SABO	**M.te Sabotino**	**3.42**	**4**		**Pn**	**09 26 34.5**	**-0.7**
SABO	**M.te Sabotino**	**3.42**	**4**	AML	AML		
	comp=E,33050µm,0.7s						
SABO				AML	AML		
SABO				AML	AML		
SABO				AML	AML		
	comp=N,48500µm,0.9s						
SABO				AML	AML		
	comp=E,33050µm,1.3s						
ROVR	**Rover Verones**	**3.46**	**334**	P	**Pn**	**09 26 35.3**	**-0.5**
ROVR				AML	AML		
	comp=E,16800µm,0.6s						
ROVR				AML	AML		
	comp=N,27750µm,0.7s						
ROVR				AML	AML		
	comp=E,6940µm,1.0s						
ROVR				AML	AML		
	comp=N,10500µm,0.7s						
ROVR				AML	AML		
	comp=N,10500µm,1.3s						
ROVR				AML	AML		
	comp=E,6940µm,1.0s						
ROVR				AML	AML		
	comp=N,27750µm,1.3s						
ROVR				AML	AML		
	comp=E,16800µm,1.4s						
PRIJ	**Prijedor**	**3.47**	**45**	*e*Pn	**Pn**	**09 26 35.8**	**0.0**
VARN	**Col Varnada, M**	**3.53**	**347**	P	**Pn**	**09 26 36.4**	**-0.3**
VARN				AML	AML		
	comp=N,37000µm,0.6s						
VARN				AML	AML		
	comp=N,36350µm,0.6s						
VARN				AML	AML		
	comp=E,42000µm,0.6s						
VARN				AML	AML		
	comp=E,41500µm,0.6s						
GORR	**Gorreto**	**3.54**	**307**	P	**Pn**	**09 26 37.3**	**+0.6**
GORR				AML	AML		
	comp=E,8525µm,0.9s						
GORR				AML	AML		
	comp=N,8160µm,1.1s						
GORR				AML	AML		
	comp=E,8525µm,1.1s						
BLY	**Banja Luka**	**3.58**	**51**	AML	AML		
	comp=E,18400µm,1.0s						
BLY				AML	AML		
	comp=E,18350µm,1.0s						
BLY				AML	AML		
	comp=E,18400µm,1.0s						
BLY				AML	AML		
	comp=N,14500µm,0.8s						
BLY				AML	AML		
	comp=N,14150µm,0.8s						
BLY				AML	AML		
	comp=E,18350µm,1.0s						
BLY	**Banja Luka**	**3.58**	**51**	*e*Pn	**Pn**	**09 26 37.5**	**+0.2**
BLY	**Banja Luka**	**3.58**	**51**	⇑*i*Pn	**Pn**	**09 26 37.6**	**+0.2**
LJU	**Ljubljana**	**3.59**	**14**	*i* Pn	**Pn**	**09 26 37.5**	**-0.1**
LJU				*i*		09 26 42.4	
LJU				*e*Sn	**Sn**	**09 27 18.0**	**-2.1**
LJU	**Ljubljana**	**3.59**	**14**	AML	AML		
	comp=E,94650µm,0.9s						
LJU				AML	AML		
A051A	**Mrakovica**	**3.60**	**46**	⇑*i*Pn	**Pn**	**09 26 37.5**	**-0.1**
CRES	**Cresnjev**	**3.62**	**25**	⇑*i*Pn	**Pn**	**09 26 37.6**	**-0.3**
SALO	**Salr**	**3.64**	**328**		**Pn**	**09 26 38.1**	**0.0**
SALO	**Salr**	**3.64**	**328**	P	**Pn**	**09 26 38.4**	**+0.3**
SALO				AML	AML		
	comp=N,31200µm,1.2s						
SALO				AML	AML		
	comp=N,29150µm,1.3s						
SALO				AML	AML		
	comp=N,31200µm,0.8s						
SALO				AML	AML		
	comp=E,25100µm,0.7s						
SALO				AML	AML		
	comp=N,29150µm,0.7s						
SALO				AML	AML		
	comp=E,22850µm,0.6s						
DOSS	**Dosso del Somm**	**3.64**	**336**	P	**Pn**	**09 26 38.0**	**-0.3**
DOSS				AML	AML		
	comp=E,17700µm,0.8s						
DOSS				AML	AML		
	comp=E,19200µm,0.7s						
DOSS				AML	AML		
	comp=N,17550µm,0.8s						
DOSS				AML	AML		
	comp=E,17700µm,1.2s						
DOSS				AML	AML		
	comp=N,18350µm,0.7s						
DOSS				AML	AML		
	comp=N,17550µm,1.2s						
TAR1	**Taranto**	**3.64**	**123**	P	**Pn**	**09 26 38.2**	**+0.2**
TAR1				AML	AML		
	comp=E,6475µm,1.6s						
TAR1				AML	AML		
	comp=N,5925µm,1.5s						
TAR1				AML	AML		
	comp=E,6475µm,0.4s						
TAR1				AML	AML		
	comp=N,5925µm,0.5s						
CET2	**Cetraro**	**3.65**	**145**	AML	AML		
	comp=E,3005µm,1.1s						
CET2				AML	AML		
	comp=N,2590µm,0.9s						
CET2				AML	AML		
	comp=E,3005µm,0.9s						
CTI	**Castel Tesino**	**3.67**	**342**		**Pn**	**09 26 38.6**	**0.0**
CTI	**Castel Tesino**	**3.67**	**342**	⇑P	**Pn**	**09 26 38.7**	**0.0**
CTI	**Castel Tesino**	**3.67**	**342**	P	**Pn**	**09 26 38.6**	**0.0**
RNCA	**Ronca, Sant'Ol**	**3.67**	**303**	P	**Pn**	**09 26 39.4**	**+0.8**
RNCA				AML	AML		
	comp=E,1875µm,0.8s						
RNCA				AML	AML		
	comp=E,1875µm,1.2s						
RNCA				AML	AML		

	comp=N,2115µm,1.5s						
CADS	**Cadrg**	**3.68**	**5**	*i* Pn	**Pn**	**09 26 37.5**	**-1.2**
CADS				*e*Sn	**Sn**	**09 27 20.5**	**-1.7**
CADS				IAML		09 27 57.5	
	comp=Z,20µm,1.7s						
VARA	**Varagna**	**3.68**	**333**	P	**Pn**	**09 26 38.7**	**-0.1**
VARA				AML	AML		
	comp=E,19850µm,0.7s						
VARA				AML	AML		
	comp=N,26500µm,1.1s						
VARA				AML	AML		
	comp=N,26500µm,0.9s						
VARA				AML	AML		
	comp=E,19850µm,1.3s						
MPRI	**Monte Prat**	**3.68**	**357**	P	**Pn**	**09 26 38.2**	**-0.5**
MPRI				AML	AML		
	comp=E,18850µm,0.6s						
MPRI				AML	AML		
	comp=E,24300µm,0.6s						
MPRI				AML	AML		
	comp=N,35200µm,0.5s						
MPRI				AML	AML		
	comp=N,27300µm,0.5s						
ROBS	**Robic**	**3.69**	**3**	*e*Pn	**Pn**	**09 26 37.7**	**-1.1**
ROBS				*e*Sn	**Sn**	**09 27 20.4**	**-1.9**
ROBS				IAML		09 27 54.4	
	comp=Z,13µm,1.5s						
STAL	**STALIGIAL**	**3.72**	**354**		**Pn**	**09 26 38.6**	**-0.6**
STAL	**STALIGIAL**	**3.72**	**354**	P	**Pn**	**09 26 38.4**	**-0.8**
STAL				AML	AML		
	comp=N,16600µm,0.8s						
STAL				AML	AML		
	comp=E,27800µm,0.8s						
STAL				AML	AML		
	comp=N,18300µm,0.7s						
STAL				AML	AML		
	comp=E,20250µm,0.8s						
STAL				AML	AML		
	comp=N,16600µm,1.2s						
TREB	**Trebinje**	**3.75**	**86**	*e*Pn	**Pn**	**09 26 40.0**	**+0.3**
TREB				*e*Sn	**Sn**	**09 27 23.8**	**-0.1**
TREB	**Trebinje**	**3.75**	**86**	*e*Pn	**Pn**	**09 26 39.4**	**-0.3**
LUSI	**Trento, Gardas**	**3.78**	**335**	P	**Pn**	**09 26 39.9**	**-0.2**
LUSI				AML	AML		
	comp=E,14150µm,0.7s						
LUSI				AML	AML		
	comp=N,19300µm,0.6s						
LUSI				AML	AML		
	comp=E,14150µm,1.3s						
CIMO	**Cimolais**	**3.79**	**351**		**Pn**	**09 26 39.6**	**-0.6**
CIMO	**Cimolais**	**3.79**	**351**	P	**Pn**	**09 26 39.5**	**-0.7**
CIMO				AML	AML		
	comp=E,6990µm,0.8s						
CIMO				AML	AML		
	comp=N,8250µm,0.9s						
CIMO				AML	AML		
	comp=E,6925µm,0.8s						
CIMO				AML	AML		
	comp=N,8040µm,0.9s						
AGOR	**Agordo**	**3.82**	**347**	P	**Pn**	**09 26 40.3**	**-0.4**
AGOR				AML	AML		
	comp=E,9190µm,0.8s						
AGOR				AML	AML		
	comp=E,11490µm,0.8s						
AGOR				AML	AML		
	comp=N,6430µm,1.0s						
AGOR				AML	AML		
	comp=N,8150µm,1.0s						
PTCC	**Patocco-Chiusa**	**3.84**	**1**	P	**Pn**	**09 26 39.8**	**-1.2**
PTCC				AML	AML		
	comp=E,10665µm,0.6s						
PTCC				AML	AML		
	comp=N,9615µm,0.9s						
PTCC				AML	AML		
	comp=E,10665µm,1.4s						
HCY	**Herceg Novi**	**3.87**	**90**	⇑*i*Pn	**Pn**	**09 26 41.1**	**-0.1**
HCY	**Herceg Novi**	**3.87**	**90**	⇓*i*Pn	**Pn**	**09 26 41.1**	**-0.1**
HCY				*i* Sn	**Sn**	**09 27 26.6**	**-0.1**
PRED	**Cave del Predi**	**3.88**	**3**	Pn	**Pn**	**09 26 39.8**	**-1.8**
GAGG	**Gaggia**	**3.89**	**336**	P	**Pn**	**09 26 41.8**	**+0.1**
GAGG				AML	AML		
	comp=E,25050µm,0.9s						
GAGG				AML	AML		
	comp=N,25000µm,0.9s						
GAGG				AML	AML		
	comp=N,28000µm,0.8s						
GAGG				AML	AML		
	comp=N,25000µm,1.1s						
GAGG				AML	AML		
	comp=E,25050µm,1.1s						
GAGG				AML	AML		
	comp=E,28950µm,0.8s						
BRY	**Bratogost**	**3.90**	**83**	⇑*i*Pn	**Pn**	**09 26 41.8**	**0.0**
BRY	**Bratogost**	**3.90**	**83**	⇑*i*Pn	**Pn**	**09 26 41.8**	**0.0**
BRY				*i* Sn	**Sn**	**09 27 27.7**	**0.0**
CLUD	**Cludinico**	**3.90**	**356**		**Pn**	**09 26 41.1**	**-0.6**
CLUD	**Cludinico**	**3.90**	**356**	⇑P	**Pn**	**09 26 41.0**	**-0.8**
CLUD				AML	AML		
	comp=E,19450µm,0.9s						
CLUD				AML	AML		
	comp=N,19050µm,1.0s						
CLUD				AML	AML		
	comp=N,19000µm,1.0s						
CLUD				AML	AML		
	comp=E,20000µm,0.9s						
ZONE	**Zone**	**3.92**	**326**	P	**Pn**	**09 26 41.9**	**-0.1**
ZONE				AML	AML		
	comp=N,11700µm,1.1s						
ZONE				AML	AML		
	comp=N,11700µm,0.9s						
ZONE				AML	AML		
	comp=E,8735µm,0.9s						
ZONE				AML	AML		
	comp=E,2130µm,0.9s						
ZONE				AML	AML		
	comp=N,2845µm,1.1s						
PCP	**Piancastagn**	**3.96**	**302**	P	**Pn**	**09 26 43.0**	**+0.4**
PCP				AML	AML		
	comp=E,2510µm,1.3s						
PCP				AML	AML		
	comp=N,2175µm,1.0s						
PCP				AML	AML		
	comp=E,2510µm,0.7s						
PCP				AML	AML		
	comp=N,2175µm,1.0s						
A052A	**Srbac**	**3.98**	**49**	⇑*i*Pn	**Pn**	**09 26 42.1**	**-0.7**
ACOM	**Acomizza, Ital**	**3.99**	**2**	P	**Pn**	**09 26 42.5**	**-0.6**
ACOM				AML	AML		
	comp=E,24100µm,1.3s						
ACOM				AML	AML		
	comp=N,23000µm,0.8s						
ACOM				AML	AML		
	comp=N,22800µm,0.8s						
ACOM				AML	AML		
	comp=N,23000µm,1.2s						
ACOM				AML	AML		
	comp=E,23850µm,1.3s						
ACOM				AML	AML		
	comp=N,22800µm,1.2s						
ZOU	**Zoufplan**	**4.00**	**357**	P	**Pn**	**09 26 42.6**	**-0.6**
ZOU				AML	AML		
	comp=E,25600µm,0.8s						
ZOU				AML	AML		
	comp=N,20750µm,1.0s						
ZOU				AML	AML		
	comp=E,25150µm,0.8s						
ZOU				AML	AML		
	comp=N,20300µm,1.1s						
ZOU				AML	AML		
	comp=E,25150µm,1.2s						
ZOU				AML	AML		
	comp=E,25600µm,1.2s						
CELI	**Celico**	**4.00**	**141**	AML	AML		
	comp=E,2210µm,0.9s						
CELI				AML	AML		
	comp=N,2485µm,1.0s						
MABI	**Malga Bissina**	**4.01**	**331**	P	**Pn**	**09 26 43.1**	**-0.3**
MABI				AML	AML		
	comp=E,4785µm,0.9s						
MABI				AML	AML		
	comp=N,6445µm,0.5s						
MABI				AML	AML		
	comp=E,4785µm,1.1s						
FVI	**Forni Avoltri**	**4.05**	**355**	P	**Pn**	**09 26 43.2**	**-0.6**
FVI				AML	AML		
	comp=E,12700µm,0.7s						
FVI				AML	AML		

comp=N,9010µm,0.8s
OBKA Obir 4.05 13 *i* Pn **Pn 09 26 43.0 -0.8**
comp=N,50nm,0.2s,SNR=33
OBKA Obir 4.05 13 *e*Pn **Pn 09 26 42.9 -0.9**
SNR=88
OBKA Obir 4.05 13⇑ *i* Pn **Pn 09 26 42.5 -1.3**
OBKA Obir 4.05 13 *e*Pn **Pn 09 26 42.9 -0.9**
SNR=88
MYKA Terra Mystica 4.08 4 *e*Pn **Pn 09 26 43.8 -0.4**
comp=N,396nm,0.6s,SNR=116
MYKA *e*Sn **Sn 09 27 31.1 -0.9**
comp=N,1µm,0.5s
BOSI Bolzano 4.17 341 P **Pn 09 26 46.1 +0.8**
BOSI AML AML
comp=E,49050µm,0.8s
BOSI AML AML
comp=N,46350µm,0.7s
CEME Cevo 4.17 88⇑ *i* Pn **Pn 09 26 45.5 0.0**
CEME *i* Sn **Sn 09 27 34.2 -0.2**
APPI Appiano 4.18 340 P **Pn 09 26 45.8 +0.2**
APPI AML AML
comp=E,12255µm,0.5s
APPI AML AML
comp=E,12255µm,1.5s
APPI AML AML
comp=N,16750µm,0.4s
UPM Unac-Piva 4.19 79 *e*Pn **Pn 09 26 46.2 +0.3**
UPM Unac-Piva 4.19 79⇓ *i* Pn **Pn 09 26 45.3 -0.6**
UPM *i* Sn **Sn 09 27 34.6 -0.4**
NKME Niksic 4.20 85⇑ *i* Pn **Pn 09 26 46.0 +0.2**
NKME *i* Sn **Sn 09 27 34.9 -0.1**
ABTA Abfaltersbach 4.22 353 *i* Pn **Pn 09 26 46.3 +0.1**
comp=N,1µm,0.7s,SNR=446
ABTA *e*Sn **Sn 09 27 36.6 +1.1**
comp=N,4µm,0.6s
MGRO Montegrosso 4.25 292 P **Pn 09 26 46.5 -0.1**
PERS Pernice 4.28 17 *e*Pn **Pn 09 26 46.5 -0.4**
PERS *e*Sn **Sn 09 27 36.1 -0.9**
TIP Timpagrande 4.29 141 ⇑P **Pn 09 26 49.3 +2.2**
TIP ⇓S **Sn 09 27 41.6 +4.2**
TIP Timpagrande 4.29 141 **Pn 09 26 49.9 +2.7**
SOKA Soboth 4.30 16 *e*Pn **Pn 09 26 46.5 -0.8**
comp=N,24nm,0.2s,SNR=25
SOKA *e*Sn **Sn 09 27 38.1 +0.4**
comp=N,538nm,0.5s
DRME Dracevica, Mon 4.40 93⇑ *i* Pn **Pn 09 26 49.0 +0.4**
DRME Dracevica, Mon 4.40 93⇑ *i* Pn **Pn 09 26 48.8 +0.2**
DRME *i* Sn **Sn 09 27 39.6 -0.3**
SAOF Saorge 4.41 291 P **Pn 09 26 49.2 +0.5**
HAPS Han Pijesak,Bl 4.42 68⇑ *i* Pn **Pn 09 26 49.5 +0.6**
BRMO Bormio 4.42 333 P **Pn 09 26 49.6 +0.5**
BRMO AML AML
comp=E,5215µm,1.0s
BRMO AML AML
comp=N,6545µm,0.8s
PDG Podgorica 4.43 90⇑P **Pn 09 26 49.6 +0.6**
PDG Podgorica 4.43 90 **Pn 09 26 47.8 -1.1**
PDG Podgorica 4.43 90 AML AML
comp=E,4060µm,1.0s
PDG AML AML
comp=E,5160µm,1.0s
PDG AML AML
comp=N,6195µm,1.4s
PDG AML AML
comp=N,4830µm,1.4s
PDG AML AML
comp=N,4830µm,0.6s
PDG AML AML
comp=N,6195µm,0.6s
PDG AML AML
comp=E,5160µm,1.0s
PDG AML AML
comp=E,4060µm,1.0s
PDG Podgorica 4.43 90 *e*Pn **Pn 09 26 49.1 +0.2**
PDG *e*Sn **Sn 09 27 41.2 +0.6**
PDG Podgorica 4.43 90⇓ *i* Pn **Pn 09 26 49.2 +0.3**
PDG *i* Sn **Sn 09 27 40.6 0.0**
KOGS Kog 4.43 28 AML AML
comp=N,51750µm,1.0s
KOGS AML AML
comp=E,46650µm,0.9s
SBF Sospel 4.46 289 *e*Pn **Pn 09 26 49.4 0.0**
SBF *e*Sn **Sn 09 27 37.9 -3.5**
comp=E,1µm,0.5s
RISI Rein 4.46 349⇑P **Pn 09 26 50.2 +0.6**
RISI AML AML
comp=N,27600µm,0.5s
RISI AML AML
comp=E,24550µm,0.5s
ULC Ulcinj 4.48 96⇑ *i* Pn **Pn 09 26 49.9 +0.3**
ULC *i* Sn **Sn 09 27 41.2 -0.6**
ESCA l'Escarene 4.49 288 P **Pn 09 26 50.2 +0.3**
MOSI Grossmontoni 4.49 335 P **Pn 09 26 50.9 +0.9**
MOSI AML AML
comp=E,18250µm,0.9s
MOSI AML AML
comp=N,31400µm,0.7s
MOSI AML AML
comp=E,18250µm,1.1s
MOSI AML AML
comp=N,31400µm,1.3s
BERNI Berninapass 4.50 330 P **Pn 09 26 50.6 +0.5**
BERNI AML AML
comp=E,5290µm,0.6s
BERNI AML AML
comp=N,5775µm,0.7s
KBA Koelnbreinsper 4.51 1 *i* Pn **Pn 09 26 50.0 -0.3**
comp=N,943nm,0.9s,SNR=287
KBA *e*Sn **Sn 09 27 42.2 -0.8**
comp=N,582nm,0.3s
KBA Koelnbreinsper 4.51 1 *e*Pn **Pn 09 26 50.3 0.0**
SNR=208
KBA *e*Sn **Sn 09 27 42.5 -0.5**
SNR=2.1
KBA Koelnbreinsper 4.51 1 *e*Pn **Pn 09 26 50.3 0.0**
SNR=208
KBA *e*Sn **Sn 09 27 42.5 -0.5**
SNR=2.1
TURF col de Turini 4.52 290 P **Pn 09 26 50.8 +0.5**
MUGIO Muggio 4.53 319 P **Pn 09 26 49.4 -0.9**
PLE Pljevlja 4.56 78⇑ *i* Pn **Pn 09 26 51.7 +0.8**
PLE *i* Sn **Sn 09 27 43.8 -0.2**
ROSI Rosskopf 4.56 344 P **Pn 09 26 51.4 +0.5**
ROSI AML AML
comp=E,22450µm,0.9s
ROSI AML AML
comp=N,26100µm,0.5s
ROSI AML AML
comp=N,26100µm,1.5s
ENR Entracque 4.57 293 P **Pn 09 26 50.9 -0.1**
FUORN Ofenpass-Fuorn 4.59 333 **Pn 09 26 51.9 +0.5**
RUDO Rudo 4.59 75 *e*Pn **Pn 09 26 50.8 -0.4**
EILF Villa Eilenroc 4.60 284 P **Pn 09 26 51.0 -0.3**
MONC Moncucco Torin 4.61 305 AML AML
comp=N,5215µm,1.3s
MONC AML AML
comp=N,5215µm,0.7s
MONC AML AML
comp=E,7920µm,1.0s
KOME Kolasin 4.61 84⇑ *i* Pn **Pn 09 26 52.5 +0.9**
KOME *i* Sn **Sn 09 27 44.9 -0.4**
VARE Varese 4.62 317 P **Pn 09 26 51.2 -0.5**
VARE AML AML
comp=E,7365µm,0.9s
VARE AML AML
comp=E,7365µm,1.1s
VARE AML AML
comp=N,7785µm,0.7s
SCTE Santa Cesarea 4.64 121 **Pn 09 26 53.3 +1.4**
STV Sant Anna di V 4.64 293 P **Pn 09 26 52.7 +0.7**
STV AML AML
comp=N,1435µm,1.4s
STV AML AML
comp=E,1575µm,1.1s
STV AML AML
comp=N,1435µm,0.6s
SPIF crte de Spivo 4.65 291 P **Pn 09 26 53.2 +1.1**
MVIF Mont Vial 4.66 289 P **Pn 09 26 53.0 +0.7**
BBLS Lazići 4.67 72 *e*Pn **Pn 09 26 52.7 +0.3**
CEL Celeste 4.74 154 **Pn 09 26 54.7 +1.4**
CALF Calern 4.79 287 P **Pn 09 26 54.2 +0.2**
FETA Feichten 4.81 339 *e*Pn **Pn 09 26 54.9 +0.6**
comp=N,949nm,0.9s,SNR=427
FETA *e*Sn **Sn 09 27 52.4 +2.2**
comp=N,2µm,0.6s
TUE Stuetta 4.81 326 **Pn 09 26 54.7 +0.4**
ISO Isola 4.81 292 P **Pn 09 26 56.0 +1.7**
WTTA Wattenberg 4.84 347 *e*Pn **Pn 09 26 55.0 +0.2**
comp=N,682nm,0.6s,SNR=203
WTTA *e*Sn **Sn 09 27 51.5 +0.5**
comp=N,4µm,0.4s
WTTA Wattenberg 4.84 347 *e*Pn **Pn 09 26 56.1 +1.3**
SNR=193
WTTA *e*Sn **Sn 09 27 53.2 +2.2**
SNR=3.8
WTTA Wattenberg 4.84 347 P **Pn 09 26 56.0 +1.2**
WTTA Wattenberg 4.84 347 *e*Pn **Pn 09 26 56.1 +1.3**
SNR=193
WTTA *e*Sn **Sn 09 27 53.2 +2.2**
SNR=3.8
DAVOX Davos/Dischmat 4.86 331 Pn **Pn 09 26 56.0 +0.9**
comp=N,96nm,0.3s,baz=146,slow=8.9,SNR=199
DAVOX Sn **Sn 09 27 48.5 -3.0**
DAVOX Davos/Dischmat 4.86 331 P **Pn 09 26 56.0 +0.9**
PZZ Stroppo 4.88 296 P **Pn 09 26 55.1 -0.1**
PZZ AML AML
comp=E,1955µm,0.7s
PZZ AML AML
comp=N,1625µm,0.8s
SQTA Sankt Quirin 4.88 343 **Pn 09 26 56.2 +1.0**
SQTA **Sn 09 27 53.1 +1.2**
SQTA Sankt Quirin 4.88 343 *e*Pn **Pn 09 26 56.2 +1.0**
comp=N,652nm,0.7s,SNR=274
SQTA *e*Sn **Sn 09 27 53.1 +1.2**
comp=N,2µm,0.4s
BLJ Bijeljina 4.88 61 *e*Pn **Pn 09 26 53.5 -1.7**
IVA Berane 4.89 84⇑ *i* Pn **Pn 09 26 56.7 +1.3**
IVA *i* Sn **Sn 09 27 51.6 -0.5**
WATA Walderalm 4.92 346 **Pn 09 26 56.9 +1.1**
WATA **Sn 09 27 54.1 +1.2**
WATA Walderalm 4.92 346 *i* Pn **Pn 09 26 56.9 +1.1**
comp=N,362nm,0.5s,SNR=212
WATA *e*Sn **Sn 09 27 54.1 +1.2**
comp=N,4µm,0.7s
PVY Plav 4.94 87⇓ *i* Pn **Pn 09 26 57.5 +1.4**
PVY *i* Sn **Sn 09 27 52.8 -0.6**
TRAV Traversella 4.95 308 P **Pn 09 26 55.1 -1.1**
TRAV AML AML
comp=E,2195µm,0.8s
TRAV AML AML
comp=N,2200µm,0.7s
TRAV AML AML
comp=E,2195µm,1.2s
TRAV AML AML
comp=N,2200µm,1.3s
ARSA Arzberg 4.95 18 *i* Pn **Pn 09 26 55.2 -1.0**
comp=N,166nm,0.6s,SNR=111
ARSA *e*Sn **Sn 09 27 51.9 -1.7**
comp=N,587nm,0.5s
ARSA Arzberg 4.95 18 *e*Pn **Pn 09 26 55.5 -0.7**
SNR=172
ARSA Arzberg 4.95 18 *e*Pn **Pn 09 26 55.5 -0.7**
SNR=172
TEKS Tekeris 4.96 64 *e*Pn **Pn 09 26 55.7 -0.6**
TEKS Tekeris 4.96 64 *e*Pn **Pn 09 26 54.6 -1.7**
SJES Sjenica 4.97 80 *e*Pn **Pn 09 26 57.3 +0.7**
ENAUX Enaux 4.98 290 P **Pn 09 26 58.4 +1.8**
LMR La Mourre 5.02 281 *e*Pn **Pn 09 26 55.7 -1.4**
LMR *e*Sn **Sn 09 27 49.2 -6.0**
comp=N,454nm,0.7s
MOTA Moosalm 5.02 343 **Pn 09 26 58.8 +1.5**
MOTA **Sn 09 27 56.9 +1.5**
MOTA Moosalm 5.02 343 *e*Pn **Pn 09 26 58.8 +1.5**
comp=N,1µm,1.1s,SNR=288
MOTA *e*Sn **Sn 09 27 56.9 +1.5**
comp=N,2µm,0.7s
MOTA Moosalm 5.02 343 P **Pn 09 26 58.8 +1.5**
MOTA 09 27 56.9
BCI Bajram Curri 5.03 90 P **Pn 09 26 57.6 +0.3**
baz=87
BCI S **Sn 09 27 56.0 +0.4**
baz=87
BCI AMP
comp=N,22nm,1.3s,baz=87
TIR Tirane 5.07 102⇓P **Pn 09 26 58.4 +0.7**
TIR Tirane 5.07 102 **Pn 09 26 58.1 +0.4**
TIR Tirane 5.07 102 P **Pn 09 26 57.7 -0.1**
baz=98
TIR S **Sn 09 27 54.1 -2.2**
baz=98
TIR AMP
comp=E,4.8nm,0.8s,baz=98
TIR Tirane 5.07 102 P **Pn 09 26 58.1 +0.4**
TIR Tirane 5.07 102 *e*Pn **Pn 09 26 57.9 +0.2**
TIR *e*Sn **Sn 09 27 55.2 -1.1**
SURF Saint Ours 5.07 294 P **Pn 09 26 59.2 +1.3**
JAUF Jausiers 5.09 294 P **Pn 09 26 58.7 +0.5**
BIOA Bad Ischl, Aus 5.13 3 **Pn 09 26 58.5 -0.2**
BIOA **Sn 09 27 60.0 +1.9**
BIOA Bad Ischl, Aus 5.13 3 *e*Pn **Pn 09 26 58.5 -0.2**
comp=E,246nm,0.5s,SNR=127
BIOA *e*Sn **Sn 09 27 60.0 +1.9**
comp=E,3µm,0.9s
DIVS Divibare 5.14 70 **Pn 09 26 57.8 -1.0**
DIVS Divibare 5.14 70 *e*Pn **Pn 09 26 58.5 -0.3**
DIVS *e*Sn **Sn 09 27 57.6 -0.6**
DIVS Divibare 5.14 70⇑ *i* Pn **Pn 09 26 58.2 -0.6**
IVAS Ivanjica 5.14 76 *e*Pn **Pn 09 26 58.8 0.0**
IVAS *e*Sn **Sn 09 27 58.0 -0.3**
VAE Valguarnera 5.15 170 Pn Pn 09 27 04.0 +5.0
comp=E,1.8nm,0.3s,baz=20,slow=6.7,SNR=6.0
TRIGF Trigance 5.16 286 P **Pn 09 26 59.8 +0.8**
MBDF Montbardon 5.19 297 *e*Pn **Pn 09 27 00.0 +0.5**
MBDF *e*Sn **Sn 09 27 53.0 -6.5**
comp=E,3µm,1.1s
FLAF Flassans-sur-I 5.21 281 P **Pn 09 26 59.8 +0.1**
CREF Crivoux 5.22 295 P **Pn 09 27 01.7 +1.7**
RETA Reutte 5.23 341 *e*Pn **Pn 09 27 01.3 +1.2**
comp=E,412nm,0.5s,SNR=163
RETA *e*Sn **Sn 09 28 02.4 +1.8**
comp=E,1µm,0.7s
ASEAF Site Antares, 5.24 275 P **Pn 09 27 02.0 +2.2**
OGAG Argentiere 5.24 293 P **Pn 09 27 02.4 +2.1**
PLONS Plons/SG 5.27 330 *e*Pn **Pn 09 27 01.9 +1.3**
SNR=193
PLONS *e*Sn **Sn 09 28 02.6 +1.1**
SNR=8.9
PLONS Plons/SG 5.27 330 *e*Pn **Pn 09 27 01.9 +1.3**
SNR=193
PLONS *e*Sn **Sn 09 28 02.6 +1.1**
SNR=8.9
DAVA Damuels 5.30 334 *i* Pn **Pn 09 27 02.1 +1.1**
comp=E,560nm,0.5s,SNR=168
DAVA *e*Sn **Sn 09 28 04.2 +2.0**
comp=E,4µm,0.7s
DAVA Damuels 5.30 334 *e*Pn **Pn 09 27 02.5 +1.4**
SNR=192
DAVA *e*Sn **Sn 09 28 04.9 +2.6**
SNR=4.4
DAVA Damuels 5.30 334 *e*Pn **Pn 09 27 02.5 +1.4**
SNR=192
DAVA *e*Sn **Sn 09 28 04.9 +2.6**
SNR=4.4
MORH Mrgy, Hungar 5.31 45 *e*Pn **Pn 09 26 59.7 -1.3**
OGDI Digne 5.31 289 P **Pn 09 27 03.6 +2.5**
MOA Molln 5.33 7 *i* Pn **Pn 09 27 00.5 -0.9**
comp=E,196nm,0.4s,SNR=119
MOA *e*Sn **Sn 09 28 02.0 -0.9**
comp=E,1µm,0.6s
MOA Molln 5.33 7 *e*Pn **Pn 09 27 01.3 -0.1**
SNR=167
MOA *e*Sn **Sn 09 28 02.3 -0.6**
SNR=4.7
MOA Molln 5.33 7 *e*Pn **Pn 09 27 01.3 -0.1**
MOA *e*Sn **Sn 09 28 03.5 +0.6**
MOA Molln 5.33 7 *e*Pn **Pn 09 27 01.3 -0.1**
SNR=167
MOA *e*Sn **Sn 09 28 02.3 -0.6**
SNR=4.7
EMBD Embd, Matterta 5.34 315 P **Pn 09 27 01.2 -0.3**
BNI Bardonecchia 5.38 300 **Pn 09 27 02.5 +0.4**
BNI Bardonecchia 5.38 300 P **Pn 09 27 02.5 +0.4**
FRGS Fruska Gora 5.39 59 *e*Pn **Pn 09 27 02.2 0.0**
FRGS Fruska Gora 5.39 59⇑ *i* Pn **Pn 09 27 02.2 0.0**
RAFF Raffo Rosso 5.40 171 **Pn 09 27 04.5 +2.1**
OGMO Fort Saint-Gob 5.44 301 P **Pn 09 27 04.2 +1.3**
BLAF les Blancs 5.45 287 P **Pn 09 27 04.4 +1.3**
TRUS Trudelj 5.46 70 *e*Pn **Pn 09 27 02.9 -0.2**
TRUS *e*Sn **Sn 09 28 06.9 +0.9**
LPL La Plagne 5.56 304 *e*Pn **Pn 09 27 04.8 +0.1**
LPL *e*Sn **Sn 09 28 01.1 -7.7**
comp=E,2µm,0.9s
ARTF Artigues 5.56 283 P **Pn 09 27 05.0 +0.5**
RONA Rosalia, Austr 5.56 22 **Pn 09 27 03.7 -0.9**
RONA **Sn 09 28 07.4 -1.3**
RONA Rosalia, Austr 5.56 22 *e*Pn **Pn 09 27 03.7 -0.9**
comp=E,192nm,0.5s,SNR=82
RONA *e*Sn **Sn 09 28 07.4 -1.3**
comp=E,374nm,0.7s
UBR Ueberruh 5.58 337 *e*Pn **Pn 09 27 05.6 +0.7**
SNR=89
UBR *e*Sn **Sn 09 28 11.6 +2.5**
SNR=5.7
UBR Ueberruh 5.58 337 *e*Pn **Pn 09 27 05.6 +0.7**
SNR=89
UBR *e*Sn **Sn 09 28 11.6 +2.5**
SNR=5.7
GRUS Gruza 5.60 74 *e*Pn **Pn 09 27 04.8 -0.3**
GRUS *e*Sn **Sn 09 28 09.4 -0.1**
LEPF PUYLOUBIER 5.63 282 P **Pn 09 27 06.0 +0.6**
MLYF Mely 5.66 287 P **Pn 09 27 07.2 +1.3**
CONA Conrad Observa 5.67 18 *i* Pn **Pn 09 27 05.0 -1.1**
comp=E,201nm,0.5s,SNR=184
CONA *e*Sn **Sn 09 28 09.5 -1.8**
comp=E,859nm,0.7s
KEK Kerkira 5.69 118 **Pn 09 27 08.2 +1.8**
RSL Roselend 5.71 305 P **Pn 09 27 08.0 +1.3**
SENIN Lac Senin/Sane 5.71 314 Pn **Pn 09 27 07.0 +0.2**
BSTF la Bastide-des 5.72 286 P **Pn 09 27 07.5 +0.7**
SRN Sarande 5.74 116 P **Pn 09 27 05.8 -1.2**
baz=113
SRN S **Sn 09 28 17.9 +5.0**
baz=113
WILA Wila 5.75 329 *e*Pn **Pn 09 27 07.7 +0.5**
SNR=11
WILA *e*Sn **Sn 09 28 15.1 +1.9**
SNR=4.7
WILA Wila 5.75 329 *e*Pn **Pn 09 27 07.7 +0.5**
SNR=11
WILA *e*Sn **Sn 09 28 15.1 +1.9**
SNR=4.7
FUR Furstenfeldbru 5.78 347 *e*Pn **Pn 09 27 08.4 +1.0**
SNR=7.2
FUR Furstenfeldbru 5.78 347 *e*Pn **Pn 09 27 08.4 +1.0**
SNR=7.2
SMRF Simiane la Rot 5.79 287 *e*Pn **Pn 09 27 08.6 +0.9**
SMRF *e*Sn **Sn 09 28 05.8 -8.4**
comp=E,2µm,1.4s
GDM Grand'Maison 5.80 299 P **Pn 09 27 11.3 +3.3**
SELS Selova 5.80 81 *e*Pn **Pn 09 27 07.6 -0.3**
SELS *e*Sn **Sn 09 28 14.6 0.0**
OHR Ohrid 5.81 102 *e*Pn **Pn 09 27 09.2 +1.2**
OHR *e*Sn **Sn 09 28 12.7 -2.0**
OHR Ohrid 5.81 102 *i* Pn **Pn 09 27 09.2 +1.2**
OHR *i* Sn **Sn 09 28 12.3 -2.4**
OGSI Sixt 5.84 309 P **Pn 09 27 09.5 +1.1**
ZUR Degenried 5.84 327 P **Pn 09 27 08.9 +0.5**
ORIF Oris-en-Rattie 5.85 296 *e*Pn **Pn 09 27 10.6 +2.1**
ORIF *e*Sn **Sn 09 28 10.7 -5.0**
comp=E,2µm,1.1s
ORIF Oris-en-Rattie 5.85 296 P **Pn 09 27 11.2 +2.7**
RUSF Rustrel 5.85 286 P **Pn 09 27 09.3 +0.8**
ARBF Arbois 5.89 282 P **Pn 09 27 09.6 +0.6**
KBN Korca 5.96 106 **Pn 09 27 11.5 +1.4**
KBN Korca 5.96 106 P **Pn 09 27 12.2 +2.1**
KBN Korca 5.96 106 P **Pn 09 27 11.3 +1.2**
baz=104
KBN S **Sn 09 28 18.3 -0.2**
baz=104
KBN Korca 5.96 106 P **Pn 09 27 11.5 +1.4**
LSK Leskovik 6.02 111 P **Pn 09 27 12.8 +1.9**
LSK Leskovik 6.02 111 P **Pn 09 27 09.5 -1.5**
baz=108
LSK S **Sn 09 28 16.6 -3.4**
baz=108
SVIS Svilajnac 6.03 71 *e*Pn **Pn 09 27 11.8 +0.8**
SVIS *e*Sn **Sn 09 28 20.0 -0.1**
SKO Skopje 6.09 93 *e*Pn **Pn 09 27 12.2 +0.4**
SKO *e*Sn **Sn 09 28 21.1 -0.5**
SKO Skopje 6.09 93 *i* Pn **Pn 09 27 12.6 +0.8**
SKO *i* Sn **Sn 09 28 17.0 -4.6**
SAUF chteau de Sau 6.12 286 P **Pn 09 27 13.2 +1.1**
IGT Igoumenitsa 6.14 117 P **Pn 09 27 13.3 +0.8**
TORNY Torny/Romont 6.16 315 P **Pn 09 27 13.3 +0.6**
SULZ Cheisacher 6.16 325 *e*Pn **Pn 09 27 12.3 -0.4**
SNR=52
SULZ *e*Sn **Sn 09 28 24.1 +0.8**
SNR=5.0
SULZ Cheisacher 6.16 325 P **Pn 09 27 12.5 -0.2**
SULZ Cheisacher 6.16 325 *e*Pn **Pn 09 27 12.3 -0.4**
SNR=52
SULZ *e*Sn **Sn 09 28 24.1 +0.8**
SNR=5.0
BALST Balsthal 6.20 322 *e*Pn **Pn 09 27 12.9 -0.4**
SNR=91
BALST *e*Sn **Sn 09 28 24.8 +0.5**
SNR=5.3
BALST Balsthal 6.20 322 P **Pn 09 27 13.1 -0.2**
BALST Balsthal 6.20 322 S **Sn 09 28 25.1 +0.8**
BALST Balsthal 6.20 322 *e*Pn **Pn 09 27 12.9 -0.4**
SNR=91
BALST *e*Sn **Sn 09 28 24.8 +0.5**
SNR=5.3
SLE Schleitheim 6.20 329 *e*Pn **Pn 09 27 12.8 -0.5**
SNR=52
SLE Schleitheim 6.20 329 P **Pn 09 27 12.9 -0.4**
SLE Schleitheim 6.20 329 S **Sn 09 28 23.0 -1.2**
SLE Schleitheim 6.20 329 *e*Pn **Pn 09 27 12.8 -0.5**
SNR=52
NEST Nestorio 6.22 108 P **Pn 09 27 14.5 +0.8**
OGSM Saint Maurice 6.24 302 P **Pn 09 27 14.9 +1.0**
ZST Bratislava 6.25 24 *e*P **Pn 09 27 13.0 -0.9**
ZST *e* 09 28 25.9
ZST MLR MLR
comp=Z,22µm,9.3s
ZST Bratislava 6.25 24 *e*PN **Pn 09 27 13.0 -0.9**
ZST *e*SN **Sn 09 28 25.9 +0.6**
ZST *e*L L 09 30 13.6
BOVS Bovan 6.27 77 *e*Pn **Pn 09 27 13.4 -0.8**
BOVS *e*Sn **Sn 09 28 23.0 -3.0**
GEC2 GERESS Array S 6.29 3 **Pn 09 27 13.4 -1.1**
GEC2 GERESS Array S 6.29 3 *e*Pn **Pn 09 27 13.4 -1.1**
SNR=42
GEC2 *e*Sn **Sn 09 28 23.8 -2.8**
SNR=5.1
GEC2 GERESS Array S 6.29 3 *e*Pn **Pn 09 27 13.4 -1.1**
SNR=42
GEC2 *e*Sn **Sn 09 28 23.8 -2.8**
SNR=5.1
GERES GERESS Array B 6.29 3 Pn **Pn 09 27 11.4 -3.2**
comp=Z,8.8nm,0.3s,baz=168,slow=12,SNR=97
GERES Sn **Sn 09 28 23.4 -3.2**
comp=Z,186nm,0.3s,baz=166,slow=25,SNR=27
GERES Lg Lg 09 29 00.0
baz=188,slow=28
comp=Z,53nm,0.6s
GERES GERESS Array B 6.29 3 **Pn 09 27 13.3 -1.3**
GERES GERESS Array B 6.29 3 P **Pn 09 27 13.3 -1.3**
CKRC Cesky Krumlov 6.30 6 *e*PN **Pn 09 27 13.3 -1.4**
CKRC *e*SN **Sn 09 28 23.6 -3.1**
BARS Barje 6.30 85 *e*Pn **Pn 09 27 14.6 -0.1**
BARS *e*Sn **Sn 09 28 24.8 -2.1**
FNA Florina 6.33 104 Pn **Pn 09 27 15.3 +0.2**
FNA Florina 6.33 104 P **Pn 09 27 15.0 -0.1**
FNA Florina 6.33 104 P **Pn 09 27 14.7 -0.4**
baz=101
FNA Florina 6.33 104 P **Pn 09 27 15.3 +0.2**
FNA Florina 6.33 104 *e*Pn **Pn 09 27 16.4 +1.3**
FNA *e*Sn **Sn 09 28 24.6 -2.9**
PENT Pentalofos 6.38 109 P **Pn 09 27 16.7 +0.9**
GIMEL St. Georges / 6.38 311 P **Pn 09 27 15.9 0.0**
KUBS Kucevo 6.39 70 *e*Pn **Pn 09 27 14.3 -1.6**
JAN Janina 6.42 114 P **Pn 09 27 17.0 +0.6**
BOURR Bourrignon 6.45 321 P **Pn 09 27 16.4 -0.4**
MODS Modra-Piesok 6.46 24 *e*P **Pn 09 27 15.8 -1.0**
MODS *e* 09 28 31.3
MODS MLR MLR
comp=Z,21µm,16.6s
MODS Modra-Piesok 6.46 24 *e*PN **Pn 09 27 15.8 -1.0**
MODS *e*SN **Sn 09 28 31.2 +0.6**
MODS *e*SG **Sg 09 29 08.0 -0.8**
MODS *e*L L 09 29 58.4
FELD Feldberg im Sc 6.48 327 P **Pn 09 27 16.8 -0.5**
FELD Feldberg im Sc 6.48 327 S **Sn 09 28 28.7 -2.7**

PRVS	**Prvonek**	6.51	88	*e*Pn		**Pn**	**09 27 17.7**	**+0.1**
PRVS				*e*Sn		**Sn**	**09 28 31.1**	**-0.8**
MDVR	**Moldovita**	6.51	67	⇓P		**Pn**	**09 27 18.2**	**+0.6**
BRANT	**Les Verrieres**	6.52	314	P		**Pn**	**09 27 17.8**	**0.0**
OG35	**Corcelles**	6.53	305	P		**Pn**	**09 27 18.1**	**+0.3**
CABF	**La Chapelle**	6.53	311	*e*Pn		**Pn**	**09 27 16.4**	**-1.5**
CABF				*e*Sn		Sn	09 28 23.2	-9.3
	comp=Z,2µm,1.2s							
KHC	**Kasperske Hory**	6.57	2			**Pn**	**09 27 17.1**	**-1.3**
KHC	**Kasperske Hory**	6.57	2	*e*PN		**Pn**	**09 27 17.2**	**-1.2**
KHC				*e*SN		**Sn**	**09 28 29.2**	**-4.2**
KHC				AMS		AMS	09 30 00.0	
	comp=Z,12µm,13.5s							
KHC	**Kasperske Hory**	6.57	2*c*	*i*P		**Pn**	**09 27 16.7**	**-1.7**
KIZ	**Kirchzarten**	6.58	327	P		**Pn**	**09 27 17.8**	**-0.8**
SMOL	**Smolenice**	6.63	25	*e*P		**Pn**	**09 27 20.5**	**+1.3**
SMOL				*e*			09 28 35.9	
CHMF	**Charmoille**	6.63	317	P		**Pn**	**09 27 18.9**	**-0.3**
KPRO	**Kipourio**	6.63	110	P		**Pn**	**09 27 20.4**	**+1.1**
VIVF	**Saint-Julien-l**	6.64	293	*e*Pn		**Pn**	**09 27 19.3**	**0.0**
VIVF				*e*Sn		**Sn**	**09 28 26.2**	**-8.8**
	comp=Z,848nm,1.4s							
ZAGS	**Zajecar**	6.67	76	*e*Pn		**Pn**	**09 27 19.3**	**-0.4**
ZAGS				*e*Sn		**Sn**	**09 28 33.6**	**-2.2**
STIP	**Stip**	6.69	94	*i* Pn		**Pn**	**09 27 21.9**	**+1.9**
STIP				*i* Sn		**Sn**	**09 28 39.3**	**+3.0**
RIVEL	**MONT RIVEL**	6.71	311	P		**Pn**	**09 27 20.3**	**0.0**
BFO	**Black Forest**	6.73	331	Pn		**Pn**	**09 27 20.0**	**-0.6**
BFO	**Black Forest**	6.73	331	*e*Pn		**Pn**	**09 27 20.3**	**-0.2**
	SNR=63							
BFO	**Black Forest**	6.73	331	P		**Pn**	**09 27 20.0**	**-0.6**
BFO	**Black Forest**	6.73	331	P		**Pn**	**09 27 19.4**	**-1.2**
BFO	**Black Forest**	6.73	331	*e*Pn		**Pn**	**09 27 20.3**	**-0.2**
	SNR=63							
BZS	**Buzias**	6.74	60	⇓P		**Pn**	**09 27 20.9**	**+0.2**
BZS	**Buzias**	6.74	60	*e*Pn		**Pn**	**09 27 20.2**	**-0.5**
TSLK	**Tsoukalades, L**	6.74	121	P		**Pn**	**09 27 22.3**	**+1.6**
LKD2	**Lefkada island**	6.76	121	P		**Pn**	**09 27 22.8**	**+1.7**
DRAG	**Dragano-Lefkad**	6.78	122	P		**Pn**	**09 27 22.8**	**+1.6**
KZN	**Kozani**	6.78	107	P		**Pn**	**09 27 22.0**	**+0.7**
VOGT	**Vogtsburg - To**	6.78	326	P		**Pn**	**09 27 20.9**	**-0.4**
STU	**Stuttgart**	6.83	337			**Pn**	**09 27 20.8**	**-1.2**
STU	**Stuttgart**	6.83	337	*e*Pn		**Pn**	**09 27 23.1**	**+1.2**
	SNR=3.3							
STU	**Stuttgart**	6.83	337	P		**Pn**	**09 27 20.8**	**-1.2**
STU	**Stuttgart**	6.83	337	*e*Pn		**Pn**	**09 27 23.1**	**+1.2**
	SNR=3.3							
NYDR	**Nydri-Lefkada**	6.83	122	P		**Pn**	**09 27 23.4**	**+1.4**
KRUC	**Moravsky**	6.86	17	*e*PN		**Pn**	**09 27 20.6**	**-1.7**
KRUC				*e*SN		**Sn**	**09 28 36.0**	**-4.4**
SSB	**Saint Sauveur**	6.86	296	Pn		**Pn**	**09 27 23.0**	**+0.6**
SSB	**Saint Sauveur**	6.86	296	P		**Pn**	**09 27 23.0**	**+0.6**
SSB	**Saint Sauveur**	6.86	296	P		**Pn**	**09 27 23.4**	**+1.0**
EVGI	**Lefkada island**	6.86	123	P		**Pn**	**09 27 23.8**	**+1.4**
TREC	**Trest**	6.91	12	*e*PN		**Pn**	**09 27 21.4**	**-1.6**
TREC				*e*SN		**Sn**	**09 28 38.5**	**-3.2**
TREC				AMS		AMS	09 29 40.0	
	comp=Z,18µm,5.4s							
TREC	**Trest**	6.91	12	*e*P		**Pn**	**09 27 21.4**	**-1.6**
TREC				*e*			09 28 38.5	
TREC				MLR		MLR		
	comp=Z,18µm,5.4s							
ZAPS	**Zavoj**	6.91	81	*e*Pn		**Pn**	**09 27 23.5**	**+0.4**
ZAPS				*e*Sn		**Sn**	**09 28 41.5**	**-0.4**
DMLN	**Damoulianata-K**	6.93	126	P		**Pn**	**09 27 25.0**	**+1.6**
HINF	**Hinteralfeld**	6.94	321	*e*Pn		**Pn**	**09 27 21.6**	**-1.8**
HINF				*e*Sn		**Sn**	**09 28 34.5**	**-7.9**
	comp=Z,2µm,0.6s							
RONF	**Ronchamp**	6.96	320	P		**Pn**	**09 27 23.0**	**-0.6**
JAVC	**Velka Javorina**	7.01	25	*e*PN		**Pn**	**09 27 23.3**	**-1.1**
GRG	**Griva**	7.02	100	P		**Pn**	**09 27 24.1**	**-0.4**
HERR	**Herculane**	7.02	68	⇑P		**Pn**	**09 27 24.8**	**+0.3**
LASF	**Ste Croix**	7.03	286	*e*Pn		**Pn**	**09 27 24.3**	**-0.4**
LASF				*e*Sn		**Sn**	**09 28 39.6**	**-5.1**
	comp=Z,639nm,1.6s							
DJES	**Djerdap**	7.04	69	⇓P		**Pn**	**09 27 24.9**	**+0.1**
DJES	**Djerdap**	7.04	69			**Pn**	**09 27 24.7**	**-0.1**
DJES	**Djerdap**	7.04	69	*e*Pn		**Pn**	**09 27 26.1**	**+1.3**
DJES				*e*Sn		**Sn**	**09 28 41.8**	**-3.1**
VAY	**Valandovo**	7.05	97	*e*Pn		**Pn**	**09 27 23.5**	**-1.4**
VAY				*e*Sn		**Sn**	**09 28 41.6**	**-3.5**
VAY	**Valandovo**	7.05	97	*i* Pn		**Pn**	**09 27 24.8**	**-0.1**
VAY				*i* Sn		**Sn**	**09 28 41.5**	**-3.5**
SIRR	**Siria**	7.06	55	⇓P		**Pn**	**09 27 25.8**	**+0.8**
ECH	**Echery**	7.10	325			**Pn**	**09 27 24.1**	**-1.6**
ECH	**Echery**	7.10	325	P		**Pn**	**09 27 24.1**	**-1.6**
ECH	**Echery**	7.10	325	P		**Pn**	**09 27 25.1**	**-0.5**
ECH				S		**Sn**	**09 28 42.1**	**-4.4**
ECH	**Echery**	7.10	325	P		**Pn**	**09 27 25.0**	**-0.7**
ECH				S		**Sn**	**09 28 42.8**	**-3.7**
VLS	**Valsamata**	7.10	126	P		**Pn**	**09 27 26.6**	**+0.9**
VYHS	**Vyhne**	7.10	31	*e*P		**Pn**	**09 27 25.3**	**-0.4**
VYHS				*e*			09 28 39.8	
VYHS				MLR		MLR		
	comp=Z,25µm,12.5s							
VYHS	**Vyhne**	7.10	31	*e*PN		**Pn**	**09 27 25.3**	**-0.4**
VYHS				*e*SN		**Sn**	**09 28 39.8**	**-6.7**
VYHS				*e*SG		**Sg**	**09 29 30.3**	**+0.8**
VYHS				eL			09 30 59.3	
PSZ	**Piszkesteto**	7.11	39	Pn		**Pn**	**09 27 21.5**	**-4.3**
PSZ	**Piszkesteto**	7.11	39	P		**Pn**	**09 27 21.5**	**-4.3**
SURR	**Surduc**	7.12	60	⇑P		**Pn**	**09 27 26.7**	**+0.7**
VRAC	**Vranov**	7.13	18	Pn		**Pn**	**09 27 25.7**	**-0.4**
	comp=Z,6.1nm,0.3s,baz=204,slow=13,SNR=38							
VRAC				Sn		**Sn**	**09 28 47.2**	**0.0**
	comp=Z,18nm,0.3s,baz=313,slow=17,SNR=4.8							
VRAC				Lg		Lg	09 29 25.6	
	comp=Z,11nm,0.3s,baz=321,slow=22,SNR=1.8							
VRAC				LR		LR	09 30 16.8	
	comp=Z,5µm,20.3s,baz=214,slow=39							
	comp=Z,50nm,0.6s							
VRAC	**Vranov**	7.13	18	⇓P		**Pn**	**09 27 26.2**	**+0.2**
VRAC	**Vranov**	7.13	18	*e*PN		**Pn**	**09 27 24.1**	**-2.0**
VRAC				*e*SN		Sn	09 28 38.1	-9.1
WLS	**Welschbruch**	7.17	327	P		**Pn**	**09 27 26.1**	**-0.5**
CDF	**Champ du Feu**	7.20	326	*e*Pn		**Pn**	**09 27 25.2**	**-1.9**
CDF				*e*Sn		**Sn**	**09 28 40.3**	**-8.8**
	comp=Z,4µm,0.9s							
PUNG	**Punghina**	7.24	73	⇑P		**Pn**	**09 27 29.0**	**+1.4**
ROTZ	**Rotzenmuhle**	7.24	355	*e*Pn		**Pn**	**09 27 26.3**	**-1.3**
	SNR=24							
ROTZ				*e*Sn		**Sn**	**09 28 45.5**	**-4.4**
	SNR=5.5							
ROTZ	**Rotzenmuhle**	7.24	355	*e*Pn		**Pn**	**09 27 26.3**	**-1.3**
	SNR=24							
ROTZ				*e*Sn		**Sn**	**09 28 45.5**	**-4.4**
	SNR=5.5							
THL	**Klokotos Trika**	7.26	111	P		**Pn**	**09 27 29.9**	**+2.1**
GRFO	**Grafenberg**	7.27	349			**Pn**	**09 27 26.3**	**-1.6**
GRFO	**Grafenberg**	7.27	349	P		**Pn**	**09 27 26.3**	**-1.6**
GRA1	**Grafenberg Arr**	7.27	349	Pn		**Pn**	**09 27 26.2**	**-1.8**
GRF	**Grafenberg Arr**	7.27	349	*e*Pn		**Pn**	**09 27 26.1**	**-1.8**
	SNR=8.1							
GRF	**Grafenberg Arr**	7.27	349	P		**Pn**	**09 27 26.2**	**-1.8**
GRF	**Grafenberg Arr**	7.27	349	*e*Pn		**Pn**	**09 27 26.1**	**-1.8**
	SNR=8.1							
MAHO	**Mahon**	7.29	252			**Pn**	**09 27 28.6**	**+0.4**
MAHO	**Mahon**	7.29	252	S		Sn	09 28 40.8	-10
MAHO				P		**Pn**	**09 27 29.3**	**+1.1**
HAU	**Haudompre**	7.31	321	*e*Pn		**Pn**	**09 27 26.2**	**-2.3**
HAU				*e*Sn		Sn	09 28 41.8	-10
	comp=Z,3µm,0.7s							
KNT	**Kendrikon**	7.33	98	P		**Pn**	**09 27 28.1**	**-0.6**
VTS	**Vitosha**	7.36	86	*e*Pn		**Pn**	**09 27 29.1**	**-0.2**
VTS				*e*Sn		**Sn**	**09 28 50.7**	**-2.2**
LIT	**Litokhoron**	7.36	106	Pn		**Pn**	**09 27 29.7**	**+0.4**
LIT	**Litokhoron**	7.36	106	P		**Pn**	**09 27 29.7**	**+0.4**
LIT	**Litokhoron**	7.36	106	P		**Pn**	**09 27 29.7**	**+0.4**
SUBF	**Surbourg**	7.40	331	P		**Pn**	**09 27 29.9**	**+0.2**
SZBH	**soultz borehol**	7.41	331	P		**Pn**	**09 27 30.4**	**+0.6**
PVO	**Paravola**	7.42	119	P		**Pn**	**09 27 31.0**	**+1.0**
GZR	**Gura Zlata**	7.42	64	⇑P		**Pn**	**09 27 30.3**	**+0.2**
GOPC	**GO Pecny, Ondr**	7.43	8	*e*PN		**Pn**	**09 27 28.8**	**-1.3**
GOPC				*e*SN		**Sn**	**09 28 50.6**	**-3.9**
GOPC				AMS		AMS	09 30 30.0	
	comp=Z,14µm,7.2s							
GOPC	**GO Pecny, Ondr**	7.43	8	*e*P		**Pn**	**09 27 28.8**	**-1.3**
GOPC				*e*			09 28 50.6	
GOPC				MLR		MLR		
	comp=Z,14µm,7.2s							
EVR	**Evrytania**	7.44	116	P		**Pn**	**09 27 33.4**	**+3.0**
MANZ	**Manzenberg**	7.47	354	*e*Pn		**Pn**	**09 27 29.7**	**-1.0**
	SNR=28							
MANZ				*e*Sn		**Sn**	**09 28 50.5**	**-4.9**
	SNR=3.4							
MANZ	**Manzenberg**	7.47	354	*e*Pn		**Pn**	**09 27 29.7**	**-1.0**
	SNR=28							
MANZ				*e*Sn		**Sn**	**09 28 50.5**	**-4.9**
	SNR=3.4							
KEST	**Kesra**	7.47	205	Pn		**Pn**	**09 27 34.1**	**+3.3**
	comp=Z,14nm,0.3s,baz=313,slow=4.8,SNR=58							
KEST				Sn		**Sn**	**09 28 58.5**	**+2.8**
	comp=Z,1.6nm,0.3s,baz=210,slow=17,SNR=1.0							
KEST				LR		LR	09 30 24.2	
	comp=Z,10µm,19.3s,baz=340,slow=38							
	comp=Z,44nm,0.4s							
PRU	**Pruhonice**	7.48	6	*e*PN		**Pn**	**09 27 29.5**	**-1.3**
PRU				*e*SN		**Sn**	**09 28 51.1**	**-4.6**
PRU				AMS		AMS	09 30 50.0	
	comp=Z,8µm,11.0s							
PRU	**Pruhonice**	7.48	6	*e*P		**Pn**	**09 27 29.5**	**-1.3**
PRU				*e*			09 28 51.1	
PRU				MLR		MLR		
	comp=Z,8µm,11.0s							
PLYF	**Puligny Montra**	7.49	309	P		**Pn**	**09 27 30.5**	**-0.4**
CLAF	**Gruissan**	7.50	278	P		**Pn**	**09 27 31.0**	**-0.1**
CIEL	**Dossenheim-sur**	7.51	329	P		**Pn**	**09 27 30.9**	**-0.3**
MAUC	**Maruska**	7.51	23	AMS		AMS	09 31 20.0	
	comp=Z,30µm,10.0s							
SRE	**Strehaia**	7.51	70	⇓P		**Pn**	**09 27 31.9**	**+0.7**
MAKR	**Makrakomi, Fth**	7.60	115	P		**Pn**	**09 27 35.3**	**+2.7**
KTD	**Kalmit**	7.66	334	P		**Pn**	**09 27 33.9**	**+0.6**
SJAF	**Saint Jean de**	7.67	273	P		**Pn**	**09 27 32.2**	**-1.3**
DEV	**Deva**	7.67	61	⇓P		**Pn**	**09 27 33.9**	**+0.3**
ANX	**Ano Chora**	7.69	118	P		**Pn**	**09 27 34.9**	**+1.1**
NKC	**Novy Kostel**	7.69	356	*e*PN		**Pn**	**09 27 31.0**	**-2.8**
NKC				*e*SN		**Sn**	**09 28 56.3**	**-4.7**
NKC				AMS		AMS	09 30 50.0	
	comp=Z,8µm,10.0s							
NKC	**Novy Kostel**	7.69	356	*e*P		**Pn**	**09 27 31.0**	**-2.8**
NKC				*e*			09 28 56.3	
NKC				MLR		MLR		
	comp=Z,8µm,10.0s							
AGG	**Agios Georgios**	7.73	114	P		**Pn**	**09 27 35.8**	**+1.5**
WERN	**Wernitzgruen**	7.75	356	*e*Pn		**Pn**	**09 27 33.5**	**-1.0**
	SNR=34							
WERN	**Wernitzgruen**	7.75	356	*e*Pn		**Pn**	**09 27 33.5**	**-1.0**
	SNR=34							
EFP	**Efpalio**	7.77	119	P		**Pn**	**09 27 37.2**	**+2.4**
MORC	**Moravsky Berou**	7.80	21	⇑P		**Pn**	**09 27 36.0**	**+0.8**
MORC	**Moravsky Berou**	7.80	21			**Pn**	**09 27 32.8**	**-2.5**
MORC	**Moravsky Berou**	7.80	21	*e*PN		**Pn**	**09 27 34.2**	**-1.1**
MORC	**Moravsky Berou**	7.80	21	P		**Pn**	**09 27 32.8**	**-2.5**
GUNZ	**Gunzen**	7.83	356	*e*Pn		**Pn**	**09 27 35.4**	**-0.3**
	SNR=49							
GUNZ	**Gunzen**	7.83	356	*e*Pn		**Pn**	**09 27 35.4**	**-0.3**
	SNR=49							
SRS	**Serrai**	7.84	97	P		**Pn**	**09 27 36.8**	**+0.9**
SRS	**Serrai**	7.84	97	*e*Pn		**Pn**	**09 27 35.5**	**-0.4**
SRS				*e*Sn		**Sn**	**09 29 01.2**	**-3.5**
SMF	**Signal de Mont**	7.87	304	*e*Pn		**Pn**	**09 27 34.0**	**-2.1**
SMF				*e*Sn		**Sn**	**09 28 58.2**	**-7.0**
	comp=Z,639nm,0.7s							
TANN	**Tannenbergstha**	7.87	356	*e*Pn		**Pn**	**09 27 34.5**	**-1.8**
	SNR=32							
TANN	**Tannenbergstha**	7.87	356	*e*Pn		**Pn**	**09 27 34.5**	**-1.8**
	SNR=32							
SERG	**Sergoula**	7.88	119	P		**Pn**	**09 27 38.6**	**+2.3**
LANS	**Liptovska Anna**	7.88	31	*e*P		**Pn**	**09 27 37.0**	**+0.6**
LANS	**Liptovska Anna**	7.88	31	*e*PN		**Pn**	**09 27 37.0**	**+0.6**
KRLC	**Kraliky**	7.90	17	*e*PN		**Pn**	**09 27 35.6**	**-1.0**
KRLC				*e*SN		**Sn**	**09 29 01.2**	**-4.8**
KRLC				AMS		AMS	09 30 40.0	
	comp=Z,11µm,11.5s							
KRLC	**Kraliky**	7.90	17	*e*P		**Pn**	**09 27 35.6**	**-1.0**
KRLC				*e*			09 29 01.2	
KRLC				MLR		MLR		
	comp=Z,11µm,11.5s							
FILF	**Fillols**	7.91	274	P		**Pn**	**09 27 37.2**	**+0.5**
WERD	**Werda**	7.91	356	*e*Pn		**Pn**	**09 27 36.3**	**-0.6**
	SNR=37							
WERD	**Werda**	7.91	356	*e*Pn		**Pn**	**09 27 36.3**	**-0.6**
	SNR=37							
LAKA	**Lakka**	7.92	120	P		**Pn**	**09 27 38.7**	**+1.7**
DRO	**Drossia**	7.93	123	P		**Pn**	**09 27 39.1**	**+2.1**
DRGR		7.95	55	⇓P		**Pn**	**09 27 37.6**	**+0.3**
DRGR		7.95	55	*e*Pn		**Pn**	**09 27 37.8**	**+0.5**
NVR	**Nevrokopi**	7.99	95	P		**Pn**	**09 27 38.9**	**+1.0**
PAGF	**Fort de Pagny**	7.99	321	*e*Pn		**Pn**	**09 27 36.3**	**-1.6**
	baz=140							
PAGF				*e*Sn		Sn	09 28 56.2	-12
	comp=Z,3µm,1.2s							
PVCC	**Panska Ves**	8.02	6	*e*PN		**Pn**	**09 27 36.3**	**-1.9**
PVCC				*e*SN		**Sn**	**09 29 04.7**	**-4.2**
PVCC				AMS		AMS	09 31 20.0	
	comp=Z,7µm,9.4s							
PVCC	**Panska Ves**	8.02	6	*e*P		**Pn**	**09 27 36.3**	**-1.9**
PVCC				*e*			09 29 04.7	
PVCC				MLR		MLR		
	comp=Z,7µm,9.4s							
OKC	**Ostrava-Krasne**	8.02	23	*e*PN		**Pn**	**09 27 37.1**	**-1.2**
OKC				*e*SN		**Sn**	**09 29 04.4**	**-4.6**
OKC				AMS		AMS	09 31 40.0	
	comp=Z,11µm,10.4s							
OKC	**Ostrava-Krasne**	8.02	23	*e*P		**Pn**	**09 27 37.1**	**-1.2**
OKC				*e*			09 29 04.4	
OKC				MLR		MLR		
	comp=Z,11µm,10.4s							
DPC	**Dobruska-Polom**	8.07	14	*e*PN		**Pn**	**09 27 37.2**	**-1.7**
DPC				AMS		AMS	09 30 50.0	
	comp=Z,10µm,13.8s							
DPC	**Dobruska-Polom**	8.07	14	*e*P		**Pn**	**09 27 37.2**	**-1.7**
DPC				MLR		MLR		
	comp=Z,10µm,13.8s							
SFTF	**Sexfontaines**	8.08	317	*e*Pn		**Pn**	**09 27 37.2**	**-1.9**
	baz=140							
SFTF				*e*Sn		**Sn**	**09 29 02.0**	**-8.5**
	comp=Z,2µm,1.1s							
MARR	**Marisel-Cluj**	8.14	56	⇓P		**Pn**	**09 27 41.6**	**+1.6**
MTLF	**Montolieu**	8.14	279	*e*Pn		**Pn**	**09 27 38.4**	**-1.6**
MTLF				*e*Sn		**Sn**	**09 29 05.4**	**-6.7**
	comp=Z,465nm,1.5s							
MTLF	**Montolieu**	8.14	279	P		**Pn**	**09 27 40.2**	**+0.2**
KLV	**Kalavryta, Ach**	8.15	121	P		**Pn**	**09 27 41.8**	**+1.7**
MOX	**Moxa**	8.16	353	*e*Pn		**Pn**	**09 27 38.3**	**-2.0**
	SNR=57							
MOX	**Moxa**	8.16	353	*e*Pn		**Pn**	**09 27 38.3**	**-2.0**
	SNR=57							
LOR	**Lormes**	8.16	308	*e*Pn		Pn	09 27 35.3	-5.0
	baz=106							
LOR				*e*Sn		**Sn**	**09 29 06.0**	**-6.6**
	comp=Z,265nm,0.4s							
LOR	**Lormes**	8.16	308	P		**Pn**	**09 27 39.5**	**-0.7**
UPC	**Upice**	8.17	12	*e*PN		**Pn**	**09 27 38.6**	**-1.7**
UPC				*e*SN		**Sn**	**09 29 07.5**	**-5.1**
UPC				AMS		AMS	09 31 00.0	
	comp=Z,12µm,11.6s							
UPC	**Upice**	8.17	12	*e*P		**Pn**	**09 27 38.6**	**-1.7**
UPC				*e*			09 29 07.5	
UPC				MLR		MLR		
	comp=Z,12µm,11.6s							
AVF	**Avril sur Loir**	8.23	304	*e*Pn		Pn	09 27 35.3	-5.8
AVF				*e*Sn		**Sn**	**09 29 06.2**	**-8.0**
	comp=Z,972nm,1.3s							
OSTC	**Ostas**	8.25	13	*e*PN		**Pn**	**09 27 40.2**	**-1.2**
OSTC				AMS		AMS	09 31 00.0	
	comp=Z,11µm,8.5s							
RAC	**Raciborz**	8.26	23	*e*PN		**Pn**	**09 27 43.7**	**+2.2**
RAC	**Raciborz**	8.26	23	*e*SG		**Sg**	**09 30 04.0**	**-2.4**
RAC				LMZ		LR	09 31 55.1	
	comp=Z,8.0nm,14.3s							
RAC	**Raciborz**	8.26	23	*e*P		**Pn**	**09 27 43.7**	**+2.2**
RAC				MLR		MLR		
	comp=Z,8µm,14.3s							
MESR	**Meseseni**	8.26	53	⇑P		**Pn**	**09 27 43.0**	**+1.4**
MESR				⇓P		**Pn**	**09 27 43.1**	**+1.5**
SSF	**Saint Saulge**	8.27	306	*e*Pn		**Pn**	**09 27 39.2**	**-2.4**
SSF				*e*Sn		**Sn**	**09 29 07.2**	**-7.9**
	comp=Z,640nm,1.0s							
MEZF	**Maizieres J'vi**	8.27	319	*e*Pn		**Pn**	**09 27 39.2**	**-2.5**
	baz=139							
MEZF				*e*Sn		**Sn**	**09 29 07.0**	**-8.2**
	comp=Z,1µm,1.0s							
SAVF	**Savonnieres en**	8.32	319	*e*Pn		**Pn**	**09 27 40.2**	**-2.1**
	baz=141							
SAVF				*e*Sn		Sn	09 29 06.5	-10
	comp=Z,827nm,0.8s							
ABH	**Alteburg**	8.32	334	P		**Pn**	**09 27 42.3**	**-0.1**
BRG	**Berggiesshubel**	8.33	3	*e*P		**Pn**	**09 27 40.9**	**-1.5**
BRG				Amp			09 27 44.3	
	comp=Z,23nm,0.7s							
BRG				r			09 28 01.6	
BRG				r			09 28 21.2	
BRG				r			09 29 10.7	
BRG				r			09 30 05.0	
BRG				Amp			09 30 30.4	
	comp=Z,694nm,1.1s							
BRG				Amp			09 31 24.0	
	comp=N,7.9nm,10.6s							
BRG				Amp			09 31 25.0	
	comp=E,5.3nm,6.4s							
BRG				Amp			09 31 26.0	
	comp=Z,9.6nm,7.7s							
BRG	**Berggiesshubel**	8.33	3	*e*Pn		**Pn**	**09 27 41.0**	**-1.5**
	SNR=9.2							
BRG	**Berggiesshubel**	8.33	3	*e*P		**Pn**	**09 27 40.9**	**-1.5**
BRG				*i*			09 29 10.7	
BRG				pmax		pmax		
	comp=Z,23nm,0.7s							
BRG				pmax		pmax		
	comp=Z,694nm,1.1s							
BRG				MLR		MLR		
	comp=N,8µm,10.6s							
BRG				MLR		MLR		
	comp=E,5µm,6.4s							
BRG				MLR		MLR		
	comp=Z,10µm,7.7s							
BRG	**Berggiesshubel**	8.33	3	*e*Pn		**Pn**	**09 27 41.0**	**-1.5**
	SNR=9.2							
GUR	**Goura**	8.34	121	P		**Pn**	**09 27 43.8**	**+1.1**
TNS	**Taunus Mts**	8.35	338	*e*Pn		**Pn**	**09 27 42.2**	**-0.7**
	SNR=33							
TNS				Sn		**Sn**	**09 29 16.7**	**-0.5**
	comp=Z,331nm,0.7s							
TNS	**Taunus Mts**	8.35	338	*e*Pn		**Pn**	**09 27 42.2**	**-0.7**
	SNR=33							
FBE	**Freiberg**	8.36	0	*e*Pn		**Pn**	**09 27 41.5**	**-1.4**
	SNR=4.8							
FBE	**Freiberg**	8.36	0	*e*Pn		**Pn**	**09 27 41.5**	**-1.4**
	SNR=4.8							
ETOS	**Mallorca**	8.37	254	P		**Pn**	**09 27 44.7**	**+1.6**
PLVB	**Pleven**	8.37	81	⇑P		**Pn**	**09 27 43.6**	**+0.6**
NIE	**Niedzica**	8.42	33	*e*P		**Pn**	**09 27 47.4**	**+3.6**
BGF	**Bois d'Agland**	8.44	302	*e*Pn		**Pn**	**09 27 40.8**	**-3.3**
BGF				*e*Sn		**Sn**	**09 29 11.8**	**-7.6**
	comp=Z,465nm,0.7s							
CAF	**Calviac**	8.45	290	*e*Pn		**Pn**	**09 27 43.1**	**-1.1**
CAF				*e*Sn		**Sn**	**09 29 13.5**	**-6.1**
	comp=Z,239nm,1.2s							
CJR	**Cluj-Napoca**	8.45	57	⇓P		**Pn**	**09 27 45.8**	**+1.6**
THAL	**Thalero**	8.48	119	P		**Pn**	**09 27 46.2**	**+1.6**
KSP	**Ksiaz**	8.54	13	*e*P		**Pn**	**09 27 44.3**	**-1.0**
KAVA	**Kavala**	8.55	97	P		**Pn**	**09 27 44.3**	**-1.2**
ITM	**Ithomi**	8.55	126			**Pn**	**09 27 48.0**	**+2.3**
UBBA	**Un

VLI	**Veliai**	**9.47**	**125**	P		**Pn**	**09 28 00.5**	**+2.4**
MEM	**Membach**	**9.47**	**331**	*d*P		**Pn**	**09 27 57.9**	**-0.2**
MEM				*d*PP		**PnPn**	**09 28 04.5**	**-1.2**
MEM				*d*S		**Sn**	**09 29 42.9**	**-1.7**
CLF	**Chambon-Foret**	**9.48**	**309**			**Pn**	**09 27 55.7**	**-2.6**
CLF	**Chambon-Foret**	**9.48**	**309**	P		**Pn**	**09 28 00.8**	**+2.5**
CLZ	**Clausthal**	**9.49**	**349**	Pn		**Pn**	**09 27 57.9**	**-0.5**
CLZ				Sn		**Sn**	**09 29 44.7**	**-0.4**
	comp=Z,175nm,0.8s							
EPF	**Esparros**	**9.52**	**277**	*e*Sn		**Sn**	**09 29 39.1**	**-6.8**
	comp=Z,138nm,1.2s							
GIVF	**Givet**	**9.53**	**325**	*e*Pn		**Pn**	**09 27 59.7**	**+0.8**
GIVF				*e*Sn		Sn	09 29 33.6	-13
	comp=Z,541nm,0.8s							
BCLA	**Clavier**	**9.58**	**328**	*d*P		**Pn**	**09 28 00.6**	**+1.0**
	comp=Z,106nm,0.8s							
BCLA				*d*S		**Sn**	**09 29 43.9**	**-3.5**
MLR	**Muntele Rosu**	**9.59**	**68**	Pn		**Pn**	**09 28 01.4**	**+1.5**
	comp=Z,3.0nm,0.3s,baz=256,slow=7.0,SNR=26							
MLR				Sn		**Sn**	**09 29 48.8**	**+1.1**
	baz=210,slow=18							
MLR				Lg		Lg	09 30 43.8	
	comp=Z,0.6nm,0.3s,baz=23,slow=20,SNR=1.2							
	comp=Z,30nm,0.6s							
MLR	**Muntele Rosu**	**9.59**	**68**	⇑P		**Pn**	**09 28 01.1**	**+1.2**
BSTI	**Sart Tilman**	**9.61**	**329**	*d*P		**Pn**	**09 28 01.3**	**+1.2**
DOU	**Dourbes**	**9.62**	**324**	*d*P		**Pn**	**09 27 59.3**	**-0.9**
DOU				*d*S		**Sn**	**09 29 46.5**	**-1.9**
DOU	**Dourbes**	**9.62**	**324**	P		**Pn**	**09 28 01.0**	**+0.8**
BGES	**Gesves**	**9.64**	**327**	*d*P		**Pn**	**09 28 01.0**	**+0.5**
BGES				*d*S		**Sn**	**09 29 46.4**	**-2.4**
ECHI	**Chisagues Biel**	**9.64**	**275**	P		**Pn**	**09 28 02.8**	**+2.2**
OZUR		**9.64**	**64**	⇓P		**Pn**	**09 28 01.7**	**+1.2**
BMRD	**Maredsous**	**9.71**	**326**	*d*P		**Pn**	**09 28 01.1**	**-0.3**
BMRD				*d*S		**Sn**	**09 29 47.8**	**-2.6**
EIBI	**Ibiza**	**9.71**	**253**	P		**Pn**	**09 28 03.4**	**+2.0**
ASSE	**Asse, Remlinge**	**9.73**	**350**	*e*Pn		**Pn**	**09 28 01.3**	**-0.3**
	SNR=4.9							
ASSE	**Asse, Remlinge**	**9.73**	**350**	*e*Pn		**Pn**	**09 28 01.3**	**-0.3**
	SNR=4.9							
BEBN	**Eben Emael**	**9.74**	**330**	*d*P		**Pn**	**09 28 03.8**	**+1.9**
BEBN				*d*S		**Sn**	**09 29 50.0**	**-1.2**
VIEF	**Viey**	**9.75**	**276**	P		**Pn**	**09 28 04.7**	**+2.6**
BAIF	**Baives**	**9.77**	**323**	*e*Pn		**Pn**	**09 27 58.1**	**-4.0**
BAIF				*e*Sn		Sn	09 29 40.2	-12
	comp=Z,610nm,1.0s							
BKLB	**Ruhr-Universit**	**9.78**	**337**	Pn		**Pn**	**09 28 03.1**	**+0.8**
BUG	**Bochum--Univer**	**9.78**	**337**	*e*Pn		**Pn**	**09 28 04.0**	**+1.7**
	SNR=3.3							
BUG				Sn		**Sn**	**09 29 54.4**	**+2.3**
	comp=Z,160nm,0.8s							
BUG	**Bochum--Univer**	**9.78**	**337**	*e*Pn		**Pn**	**09 28 04.0**	**+1.7**
	SNR=3.3							
BTEZ	**Ruhr-Universit**	**9.78**	**337**	Pn		**Pn**	**09 28 03.2**	**+0.9**
BULI	**Ruhr-Universit**	**9.79**	**337**	Pn		**Pn**	**09 28 03.8**	**+1.3**
BULI				Sn		**Sn**	**09 29 55.9**	**+3.5**
	comp=Z,168nm,0.7s							
NEHR	**Nehoiu**	**9.82**	**69**	⇑P		**Pn**	**09 28 04.4**	**+1.5**
BURAR	**Bucovina Array**	**9.84**	**55**	⇑P		**Pn**	**09 28 04.9**	**+1.6**
BURAR	**Bucovina Array**	**9.84**	**55**			**Pn**	**09 28 05.4**	**+2.1**
BUR08	**Bucovina Ar. S**	**9.85**	**55**			**Pn**	**09 28 05.4**	**+2.0**
COVR	**Voineasa-Covas**	**9.85**	**66**	⇓P		**Pn**	**09 28 04.7**	**+1.3**
FLTG	**Flechtingen**	**9.87**	**353**	*e*Pn		**Pn**	**09 28 02.2**	**-1.4**
	SNR=2.4							
FLTG	**Flechtingen**	**9.87**	**353**	*e*Pn		**Pn**	**09 28 02.2**	**-1.4**
	SNR=2.4							
LEHL	**Lehliu**	**10.03**	**74**	⇓P		**Pn**	**09 28 06.1**	**+0.3**
SNF	**Seneffe**	**10.07**	**325**	*d*P		**Pn**	**09 28 06.6**	**+0.4**
SNF				*d*PP		**PnPn**	**09 28 13.2**	**-0.6**
PLOR	**Plostina**	**10.15**	**67**	⇓P		**Pn**	**09 28 08.1**	**+0.6**
CANF	**Canfranc**	**10.16**	**276**	P		**Pn**	**09 28 10.1**	**+2.5**
NRDL	**Niedersach Rie**	**10.16**	**349**	*e*Pn		**Pn**	**09 28 08.2**	**+0.7**
	SNR=7.3							
NRDL				Sn		**Sn**	**09 30 01.3**	**-0.1**
	comp=Z,109nm,1.1s							
NRDL	**Niedersach Rie**	**10.16**	**349**	*e*Pn		**Pn**	**09 28 08.2**	**+0.7**
	SNR=7.3							
ETSF	**Etsaut**	**10.18**	**277**	*e*Pn		**Pn**	**09 28 09.0**	**+1.0**
ETSF				*e*Sn		**Sn**	**09 29 54.1**	**-8.1**
	comp=Z,201nm,1.3s							
VRI	**Vrincioaia**	**10.21**	**67**	⇑P		**Pn**	**09 28 09.7**	**+1.4**
ATE	**Arette**	**10.28**	**278**	P		**Pn**	**09 28 13.8**	**+4.6**
MFF	**Saint Martin d**	**10.38**	**297**	*e*Pn		**Pn**	**09 28 08.1**	**-2.5**
MFF				*e*Sn		**Sn**	**09 30 00.3**	**-6.7**
	comp=Z,105nm,0.8s							
MFF	**Saint Martin d**	**10.38**	**297**	P		**Pn**	**09 28 10.8**	**+0.2**
LVV	**L'vov**	**10.40**	**42**	*e*P		**Pn**	**09 28 11.0**	**+0.1**
LVV				*e*S		**Sn**	**09 30 07.4**	**0.0**
LVV				MLR		MLR		
	comp=Z,3μm,11.3s							
IBBS	**Ibbenbueren So**	**10.41**	**341**	Pn		**Pn**	**09 28 11.3**	**+0.3**
IBBS				Sn		**Sn**	**09 30 08.6**	**+0.9**
	comp=Z,99nm,0.9s							
IBBE	**Ibbenbueren Ea**	**10.42**	**341**	Pn		**Pn**	**09 28 12.3**	**+1.2**
IBBE				Sn		**Sn**	**09 30 09.0**	**+1.2**
	comp=Z,176nm,0.7s							
CHIF	**Chize**	**10.42**	**295**	P		**Pn**	**09 28 13.1**	**+1.9**
IBBN	**Ibbenburen**	**10.44**	**341**	*e*Pn		**Pn**	**09 28 13.3**	**+2.0**
	SNR=1.4							
IBBN				Sn		**Sn**	**09 30 09.7**	**+1.5**
	comp=Z,102nm,1.1s							
IBBN	**Ibbenburen**	**10.44**	**341**	*e*Pn		**Pn**	**09 28 13.3**	**+2.0**
	SNR=1.4							
RETH	**Rethem/Aller,**	**10.51**	**347**	*e*Pn		**Pn**	**09 28 12.5**	**+0.1**
	SNR=31							
RETH	**Rethem/Aller,**	**10.51**	**347**	*e*Pn		**Pn**	**09 28 12.5**	**+0.1**
	SNR=31							
TERF	**Tercis-les-Bai**	**10.57**	**281**	P		**Pn**	**09 28 16.8**	**+3.6**
BEL	**Belsk**	**10.59**	**26**	*e*P		**Pn**	**09 28 17.4**	**+4.1**
SJPF	**Ste Jean**	**10.66**	**278**	*e*Pn		**Pn**	**09 28 15.4**	**+0.9**
SJPF				*e*Sn		**Sn**	**09 30 07.2**	**-6.7**
	comp=Z,163nm,1.4s							
OSSF	**Osses**	**10.68**	**279**	P		Pn	09 28 19.5	+4.8
ICOR	**Ion Corvin**	**10.70**	**77**	⇓P		**Pn**	**09 28 15.8**	**+0.8**
CFR	**Carcaliu**	**11.05**	**71**	⇑P		**Pn**	**09 28 19.7**	**0.0**
LDF	**La Druitiere**	**11.15**	**307**	*e*Pn		**Pn**	**09 28 17.7**	**-3.4**
LDF				*e*Sn		Sn	09 30 14.3	-11
	comp=Z,266nm,1.0s							
ECHE	**Chera**	**11.15**	**259**	P		**Pn**	**09 28 22.5**	**+1.3**
TIRR	**Tirgusor**	**11.16**	**75**	Pn		**Pn**	**09 28 17.8**	**-3.5**
TIRR	**Tirgusor**	**11.16**	**75**	P		**Pn**	**09 28 17.8**	**-3.5**
THR3	**Thira Island,**	**11.21**	**119**	P		**Pn**	**09 28 23.3**	**+1.4**
TPGR	**Topolog**	**11.21**	**73**	⇑P		**Pn**	**09 28 22.5**	**+0.5**
BALB	**Balikesir**	**11.41**	**100**			**Pn**	**09 28 23.9**	**-0.7**
FLN	**La Foliniere**	**11.44**	**308**	*e*Pn		**Pn**	**09 28 20.9**	**-4.1**
	baz=152							
FLN				*e*Sn		Sn	09 30 23.1	-10
	comp=Z,183nm,0.9s							
GRR	**Gorron**	**11.49**	**305**	*e*Pn		**Pn**	**09 28 22.7**	**-3.1**
GRR				*e*Sn		Sn	09 30 23.3	-11
	comp=Z,231nm,1.0s							
TLCR		**11.53**	**72**	⇑P		**Pn**	**09 28 26.6**	**+0.4**
BSEG	**Bad Segeberg**	**11.55**	**351**	*e*Pn		**Pn**	**09 28 26.0**	**-0.5**
	SNR=3.9							
BSEG	**Bad Segeberg**	**11.55**	**351**	*e*Pn		**Pn**	**09 28 26.0**	**-0.5**
	SNR=3.9							
IDI	**Anoyia**	**11.60**	**125**	Pn		**Pn**	**09 28 28.1**	**+0.7**
	comp=Z,2.2nm,0.3s,baz=321,slow=13,SNR=14							
IDI				Sn		**Sn**	**09 30 36.1**	**-0.9**
	comp=Z,5.0nm,0.3s,baz=245,slow=22,SNR=7.0							
IDI				LR		LR	09 34 19.1	
	comp=Z,1μm,18.6s,baz=312,slow=44							
	comp=Z,17nm,0.6s							
IDI	**Anoyia**	**11.60**	**125**	⇓P		**Pn**	**09 28 29.0**	**+1.6**
IDI	**Anoyia**	**11.60**	**125**			**Pn**	**09 28 27.7**	**+0.3**
MILM	**Milestii Mici**	**11.88**	**63**	⇑*i*P		**Pn**	**09 28 32.0**	**+0.9**
	comp=Z,2μm,2.3s							
MILM	**Milestii Mici**	**11.88**	**63**	*e*PP		**PnPn**	**09 28 40.0**	**+1.3**
MILM				*e*S		**Sn**	**09 30 45.0**	**+1.4**
MILM				*e*L		L	09 31 36.0	
MILM				*e*LR		LR	09 33 41.0	
	comp=Z,10μm,12.0s							
MILM	**Milestii Mici**	**11.88**	**63**	⇑P		**Pn**	**09 28 32.4**	**+1.4**
MILM	**Milestii Mici**	**11.88**	**63**	*c i*P		**Pn**	**09 28 32.0**	**+0.9**
MILM				*e*S		**Sn**	**09 30 45.0**	**+1.4**
MILM				pmax		pmax		
	comp=Z,2μm,2.3s							
MILM				MLR		MLR		
	comp=Z,10μm,12.0s							
MILM				MLR		MLR		
	comp=N,6μm,11.0s							
MILM				MLR		MLR		
	comp=E,6μm,14.0s							
KIS	**Kishinev**	**11.90**	**63**	⇑*i*P		**Pn**	**09 28 31.6**	**+0.2**
	comp=E,620nm,2.4s							
KIS	**Kishinev**	**11.90**	**63**	*e*PP		**PnPn**	**09 28 44.0**	**+5.0**
KIS				*e*S		**Sn**	**09 30 44.0**	**-0.2**
KIS				*e*Lq		LQ	09 31 46.0	
KIS				*e*LR		LR	09 33 44.0	
	comp=E,4μm,12.8s							
KIS	**Kishinev**	**11.90**	**63**	*i* P		**Pn**	**09 28 31.6**	**+0.2**
KIS				*e*S		**Sn**	**09 30 44.0**	**-0.2**
KIS				pmax		pmax		
	comp=Z,600nm,2.4s							
KIS				MLR		MLR		
	comp=Z,5μm,11.7s							
KIS				MLR		MLR		
	comp=N,4μm,12.8s							
KIS				MLR		MLR		
	comp=E,4μm,11.0s							
ETOB	**Tobarra**	**11.92**	**256**	P		**Pn**	**09 28 32.9**	**+1.2**
SORM	**Soroca**	**11.98**	**57**	⇓P		**Pn**	**09 28 33.3**	**+0.8**
CART	**Cartagena**	**12.00**	**250**	P		**Pn**	**09 28 34.9**	**+2.1**
EMUR	**La Murta**	**12.05**	**252**	P		**Pn**	**09 28 36.4**	**+2.9**
MANT	**Manisa**	**12.32**	**104**			**Pn**	**09 28 36.9**	**-0.6**
SGMF	**Saint Gilles**	**12.48**	**303**	*e*Pn		Pn	09 28 32.7	-6.6
SGMF				*e*Sn		Sn	09 30 45.9	-13
	comp=E,166nm,1.1s							
QUIF	**Quistinic**	**12.75**	**300**	*e*Pn		**Pn**	**09 28 38.5**	**-4.5**
QUIF				*e*Sn		**Sn**	**09 30 56.1**	**-8.8**
	comp=E,232nm,1.4s							
ROSF	**Rostrenen**	**12.96**	**302**	*e*Pn		**Pn**	**09 28 46.0**	**+0.2**
WOL	**Wolverton**	**13.19**	**317**	*e*P		**Pn**	**09 28 47.8**	**-1.2**
BORA	**Eskisehir**	**13.21**	**96**			**Pn**	**09 28 49.3**	**-0.1**
ESBB	**Sonseca Array**	**13.31**	**263**			**Pn**	**09 28 52.3**	**+1.6**
ESDC	**Sonseca Array**	**13.31**	**263**	Pn		**Pn**	**09 28 50.2**	**-0.5**
	comp=E,0.3nm,0.3s,baz=67,slow=13,SNR=21							
ESDC				LR		LR	09 33 39.0	
	comp=E,5μm,21.1s,baz=70,slow=36							
	comp=E,8.2nm,0.8s							
ESDC	**Sonseca Array**	**13.31**	**263**			**Pn**	**09 28 48.9**	**-1.8**
MDUB	**Mudurnu**	**13.60**	**93**			**Pn**	**09 28 52.7**	**-2.0**
SWN1	**Swindon**	**13.61**	**316**	*e*P		**Pn**	**09 28 53.7**	**-0.9**
PAB	**San Pablo**	**13.63**	**263**			**Pn**	**09 28 57.1**	**+2.0**
PAB	**San Pablo**	**13.63**	**263**	P		**Pn**	**09 28 57.1**	**+2.0**
AKASG	**Malin Array Be**	**13.63**	**48**	Pn		**Pn**	**09 28 54.3**	**-0.7**
	comp=E,0.5nm,0.3s,baz=239,slow=13,SNR=22							
AKASG				LR		LR	09 34 36.0	
	comp=E,2μm,20.9s,baz=246,slow=39							
	comp=E,20nm,1.1s							
AKASG	**Malin Array Be**	**13.63**	**48**			**Pn**	**09 28 51.7**	**-3.3**
AKASG	**Malin Array Be**	**13.63**	**48**	*i* P		**Pn**	**09 28 54.2**	**-0.8**
AKASG				pmax		pmax		
	comp=Z,20nm,1.1s							
AKBB	**Malin Array Si**	**13.63**	**48**			**Pn**	**09 28 52.8**	**-2.2**
AKBB	**Malin Array Si**	**13.63**	**48**	*c e*P		**Pn**	**09 28 54.4**	**-0.6**
CWF	**Charnwood Fore**	**14.12**	**321**	*e*P		**Pn**	**09 29 02.3**	**+0.7**
ELGU	**Los Guajares,**	**14.19**	**252**	P		**Pn**	**09 29 05.3**	**+2.6**
EADA	**Adamuz**	**14.29**	**258**	P		**Pn**	**09 29 03.4**	**-0.7**
EGOR	**Sierra Gorda,**	**14.41**	**254**	P		**Pn**	**09 29 06.1**	**+0.2**
MCH1	**Michaelchurch**	**14.49**	**316**	*e*P		**Pn**	**09 29 03.1**	**-3.7**
MCH1				IAmb		IAmb	09 29 04.1	
	comp=Z,56nm,1.0s							
PBUR	**Paburge**	**14.59**	**20**	*e*P		**Pn**	**09 29 09.2**	**+1.2**
PABE	**Paberze**	**14.71**	**25**	Pn		**Pn**	**09 29 09.0**	**-0.6**
PABE	**Paberze**	**14.71**	**25**	*e*P		**Pn**	**09 29 09.2**	**-0.4**
HLM1	**Long Mynd**	**14.73**	**318**	*e*P		**Pn**	**09 29 05.9**	**-4.2**
LBWR	**Ladybower, Pea**	**14.74**	**323**	*e*P		**Pn**	**09 29 08.2**	**-1.9**
LBWR				IAmb		IAmb	09 29 17.9	
	comp=Z,86nm,0.8s							
CCA1	**Carnmenellis**	**14.84**	**307**	*e*P		**Pn**	**09 29 09.0**	**-2.5**
PBRG	**Braganca**	**14.86**	**274**	*e*P		**Pn**	**09 29 11.4**	**-0.4**
	comp=Z,142nm,1.5s							
PBRG				*i* LQ		LQ	09 29 22.4	
ANTO	**Ankara**	**14.94**	**94**	Pn		**Pn**	**09 29 13.3**	**+0.3**
ANTO	**Ankara**	**14.94**	**94**	P		**Pn**	**09 29 13.3**	**+0.3**
ANTO	**Ankara**	**14.94**	**94**	P		**P**	**09 29 16.6**	**-2.1**
GDLE	**Glaisdale, N Y**	**15.06**	**327**	*e*P		**Pn**	**09 29 14.9**	**+0.5**
HPK	**Haverah Park**	**15.07**	**324**	*e*P		**Pn**	**09 29 12.6**	**-2.0**
SBD1	**Bryn Du**	**15.15**	**319**	*e*P		Pn	09 29 05.5	-10
MVO	**Moncorvo**	**15.19**	**272**	*e*P		**Pn**	**09 29 16.3**	**0.0**
	comp=Z,146nm,1.7s							
MVO				*ep*P		**pP**	**09 29 23.3**	**-1.0**
MVO				*e*S		**S**	**09 32 29.9**	**+8.2**
MVO				*e*LR		LR	09 33 42.0	
	comp=Z,3μm,18.0s							
NACGM	**Naroch**	**15.20**	**31**	⇓*i*P		**Pn**	**09 29 15.1**	**-1.1**
	comp=Z,157nm,1.1s,baz=222							
SIM	**Simferopol'**	**15.25**	**74**	*e*P		**P**	**09 29 23.1**	**+1.1**
SIM				*e*S		**S**	**09 32 15.6**	**-7.2**
SIM				pmax		pmax		
	comp=Z,70nm,1.0s							
SIM				smax		smax		
	comp=E,201nm,17.7s							
SIM				MLR		MLR		
	comp=Z,2μm,18.5s							
ILGA	**Ilgaz**	**15.32**	**89**	Pn		**Pn**	**09 29 19.4**	**+1.1**
IIGN	**Ignalina**	**15.33**	**29**	*e*P		Pn	09 29 02.8	-15
MNK	**Minsk**	**15.34**	**34**	*i* P		**Pn**	**09 29 15.8**	**-2.2**
	comp=E,8.0nm,0.8s							
MNK				*i* P		**Pn**	**09 29 15.8**	**-2.2**
	comp=N,37nm,0.8s							
MNK				*i* P		**Pn**	**09 29 15.8**	**-2.2**
	comp=Z,41nm,0.8s,baz=225							
MNK				*i* PP		**P**	**09 29 23.9**	**+1.1**
MNK				*i* S		**Sn**	**09 32 05.5**	**-2.4**
MNK				*i* SS		**SnSn**	**09 32 19.5**	**-1.0**
MNK				*i* LQ		LQ	09 33 52.1	
MNK				*i* LR		LR	09 35 12.7	
MNK				*i* LRM		MLR	09 36 19.7	
	comp=N,2μm,13.5s							
MNK				*i* LRM		MLR	09 36 22.2	
	comp=Z,3μm,13.5s							
MNK				*i* LRM		MLR	09 36 25.5	
	comp=E,316nm,13.5s							
MNK	**Minsk**	**15.34**	**34**	*i* P		**Pn**	**09 29 15.8**	**-2.2**
MNK				*i* S		**Sn**	**09 32 05.5**	**-2.4**
MNK				pmax		pmax		
	comp=N,37nm,0.9s							
MNK				pmax		pmax		
	comp=E,8.0nm,0.9s							
MNK				pmax		pmax		
	comp=Z,41nm,0.9s							
MNK				MLR		MLR		
	comp=N,2μm,14.0s							
MNK				MLR		MLR		
	comp=Z,3μm,14.0s							
MNK				MLR		MLR		
	comp=E,316nm,14.0s							
RSBS	**Rosebush, Pemb**	**15.38**	**314**	*e*P		**Pn**	**09 29 17.5**	**-1.2**
ISAL	**Salakas**	**15.47**	**28**	*e*P		**Pn**	**09 29 21.2**	**+1.4**
IDID	**Didziasalis**	**15.49**	**30**	*e*P		Pn	09 29 10.5	-10
BR131	**Keskin Array S**	**15.61**	**94**	*i* P		**Pn**	**09 29 22.7**	**+0.9**
BR131	**Keskin Array S**	**15.61**	**94**	P		**Pn**	**09 29 23.1**	**+1.2**
	SNR=17							
BRTR	**Keskin Array B**	**15.61**	**94**	Pn		**Pn**	**09 29 23.1**	**+1.2**
	comp=E,0.2nm,0.3s,baz=280,slow=11,SNR=12							
BRTR				LR		LR	09 35 15.0	
	comp=E,4μm,21.6s,baz=302,slow=37							
	comp=E,5.1nm,0.9s							
BRTR	**Keskin Array B**	**15.61**	**94**			**Pn**	**09 29 19.9**	**-1.9**
YLL	**Llanberis**	**15.73**	**318**	*e*P		**Pn**	**09 29 18.7**	**-4.5**
MTE	**Manteigas**	**15.74**	**269**	*e*P		**Pn**	**09 29 21.7**	**-1.9**
	comp=E,156nm,1.5s							
MTE				*i* LQ		LQ	09 29 32.0	
MTE				*e*S		**S**	**09 32 33.9**	**+0.8**
MTE				*e*LR		LR	09 34 00.8	
	comp=E,6μm,16.0s							
EDMD	**Edmundbyers**	**15.82**	**326**	*e*P		**Pn**	**09 29 22.6**	**-1.8**
PCBR	**Castelo Branco**	**15.85**	**267**	*ep*P		**P**	**09 29 29.8**	**+1.2**
PCBR				A		A	09 29 36.0	
	comp=E,83nm,1.6s							
PMRV	**Marv??o**	**15.91**	**266**	*ep*P		**pP**	**09 29 31.2**	**-1.0**
PMRV				A		A	09 29 51.3	
	comp=E,68nm,1.5s							
PMRV				*e*S		**S**	**09 32 39.1**	**+2.8**
PMRV				*e*LR		LR	09 33 49.1	
	comp=E,4μm,16.0s							
PVIS	**Viseu**	**15.93**	**270**	*i* LQ		LQ	09 29 33.8	
WLF1	**Llynfaes**	**15.93**	**318**	*e*P		**Pn**	**09 29 27.2**	**+1.4**
WLF1				IAmb		IAmb	09 29 36.9	
	comp=Z,452nm,1.3s							
WME	**Mynedd Eilian**	**15.95**	**319**	*e*P		**P**	**09 29 28.2**	**-1.4**
PGAV	**Gavieira, Arco**	**15.96**	**275**	*e*P		**Pn**	**09 29 25.1**	**-1.2**
	comp=Z,163nm,1.5s							
PGAV				*ep*P		**pP**	**09 29 32.0**	**-0.8**
PGAV				*e*S		**S**	**09 32 40.3**	**+2.9**
PGAV				*e*LR		LR	09 34 00.7	
	comp=Z,7μm,18.0s							
WPS	**Cemaes, Angles**	**16.05**	**319**	*e*P		**Pn**	**09 29 27.6**	**+0.3**
WPS				IAmb		IAmb	09 29 37.0	
	comp=Z,527nm,1.5s							
PBAR	**Barrancos**	**16.08**	**261**	*e*P		**Pn**	**09 29 27.3**	**-0.5**
	comp=Z,132nm,2.2s							
PBAR				*ep*P		**pP**	**09 29 32.9**	**-1.2**
SLIT	**Slitere, Latvi**	**16.13**	**18**	*e*P		**P**	**09 29 30.8**	**-0.8**
KESW	**Keswick, Cumbr**	**16.14**	**324**	*e*P		**Pn**	**09 29 26.4**	**-2.1**
PESTR	**Estremoz**	**16.23**	**264**	*i* LQ		LQ	09 29 36.4	
PESTR	**Estremoz**	**16.23**	**264**	Pn		**Pn**	**09 29 28.7**	**-1.1**
COI	**Coimbra**	**16.44**	**269**	*i* LQ		LQ	09 29 42.0	
PCAS	**Casmilo, Conde**	**16.54**	**269**	*ep*P		**pP**	**09 29 37.8**	**-1.4**
PCAS				A		A	09 29 42.0	
	comp=Z,197nm,1.9s							
IOMK	**Kirk Michael**	**16.59**	**321**	*e*P		**Pn**	**09 29 33.4**	**-0.8**
IOMK				IAmb		IAmb	09 29 43.2	
	comp=Z,392nm,1.2s							
PMTG	**Montargil**	**16.63**	**265**	*ep*P		**P**	**09 29 38.7**	**+1.4**
PMTG				A		A	09 29 43.0	
	comp=Z,128nm,2.6s							
EVO	**Evora**	**16.66**	**263**	*i* LQ		LQ	09 29 42.7	
EKA	**Eskdalemuir Ar**	**16.67**	**326**	Pn		**Pn**	**09 29 33.2**	**-1.9**
	baz=140,slow=14							
EKA				Sn		**Sn**	**09 32 36.6**	**-3.6**
	baz=140,slow=25							
EKA				LR		LR	09 37 02.5	
	comp=Z,3μm,18.9s,baz=138,slow=41							
	comp=Z,1.9nm,0.3s							
ESK	**Eskdalemuir**	**16.67**	**326**	Pn		**Pn**	**09 29 33.0**	**-2.3**
ESK	**Eskdalemuir**	**16.67**	**326**	*e*P		**Pn**	**09 29 35.8**	**+0.5**
ESK	**Eskdalemuir**	**16.67**	**326**	P		**Pn**	**09 29 33.0**	**-2.3**
ESK				pmax		pmax		
	comp=Z,65nm,1.1s							
ESK	**Eskdalemuir**	**16.67**	**326**	P		**Pn**	**09 29 36.2**	**+0.9**
PBEJ	**Beja**	**16.74**	**261**	*i* LQ		LQ	09 29 41.9	
ESY	**Stoneypath**	**16.86**	**328**	*e*P		**P**	**09 29 39.9**	**+0.2**
PVAQ	**Vaqueiros**	**16.88**	**259**	*ep*P		**pP**	**09 29 42.0**	**-0.9**
PVAQ				A		A	09 30 04.8	
	comp=Z,127nm,1.6s							
PVAQ				*e*S		**S**	**09 32 57.8**	**+1.7**
PVAQ				*e*LR		LR	09 34 07.6	
	comp=Z,2μm,20.0s							
PVAQ	**Vaqueiros**	**16.88**	**259**	Pn		**Pn**	**09 29 37.4**	**-0.5**
DSB	**Dublin**	**16.90**	**316**			**Pn**	**09 29 37.6**	**-0.6**
PSBE	**So Bento**	**16.91**	**267**	*e*P		**Pn**	**09 29 38.7**	**+0.2**
	comp=Z,250nm,1.5s							
NEWG	**New Galloway**	**16.98**	**324**	*e*P		**Pn**	**09 29 38.7**	**-0.4**
NEWG				IAmb		IAmb	09 29 50.5	
	comp=Z,104nm,1.2s							
PCVE	**Castro Verde**	**17.02**	**260**	*i* LQ		LQ	09 29 45.3	
GAL1	**Galloway**	**17.03**	**322**	*e*P		**Pn**	**09 29 39.6**	**-0.2**
MESJ	**Messejana**	**17.07**	**261**	*e*P		**P**	**09 29 41.5**	**-0.7**
MESJ				*e*S		**Sn**	**09 32 52.7**	**+2.5**
MESJ				IAMs_20		IAMs_20	09 37 22.9	
	comp=N,5μm,11.4s							
MESJ	**Messejana**	**17.07**	**261**	*ep*P		**P**	**09 29 42.9**	**+0.7**
MESJ				A		A	09 29 46.5	
	comp=N,69nm,1.9s							
MDT	**Midelt**	**17.14**	**241**	P		**P**	**09 29 44.9**	**+1.8**
	comp=N,9.1nm,1.2s,baz=71,slow=12,SNR=12							
MDT				S		**Sn**	**09 32 50.7**	**-1.5**
	comp=N,3.2nm,1.0s,baz=198,slow=19,SNR=1.3							
MDT				LR

comp=Z,152nm,1.2s
OBN Obninsk 19.70 42 ⇓*i* P **P 09 30 09.3 -1.7**
OBN *e*S **S 09 33 49.6 -3.4**
OBN pmax pmax
comp=Z,274nm,2.5s
OBN MLR MLR
comp=Z,3μm,20.0s
VORR Voronezh 19.78 54 P **P 09 30 11.3 -0.5**
VORR S **S 09 33 47.6 -6.9**
VORR pmax pmax
comp=Z,140nm,0.8s
VORR MLR MLR
comp=Z,2μm,12.0s
KTUT Trabzon 19.80 86 ⇓P **Pn 09 30 14.0 +0.2**
MMAI Mount Meron Ar 19.87 111 P **Pn 09 30 15.6 +0.8**
comp=Z,16nm,0.8s,baz=316,slow=10,SNR=11
MMAI S **Sn 09 34 00.8 +2.7**
comp=Z,0.5nm,0.3s,baz=192,slow=26,SNR=1.6
MMAI LR LR 09 40 59.3
comp=Z,1μm,18.8s,baz=200,slow=46
comp=Z,16nm,0.8s
BLGI Bet Lehem HaGe 19.89 112 P **Pn 09 30 17.2 +2.3**
LPSR Galich'ya Gora 19.91 51 *e*P **P 09 30 12.1 -1.2**
LPSR *e*S **S 09 33 54.4 -2.8**
LPSR pmax pmax
comp=Z,40nm,0.7s
LPSR smax smax
comp=E,510nm,7.4s
LPSR MLR MLR
comp=Z,3μm,12.0s
GEM Giv'at Ha'Em 19.94 111 P **Pn 09 30 18.4 +2.9**
AKN Aaknes 20.00 351 *e* **P 09 30 14.1 -0.1**
PUL Pulkovo 20.17 25*ce*P **P 09 30 15.8 -0.2**
PUL pmax pmax
comp=Z,125nm,0.5s
HMDT Nahal Hemdat 20.40 113 P Pn 09 30 20.0 -0.9
FINES FINESS Array B 20.41 18 P **P 09 30 18.1 -0.6**
comp=Z,64nm,0.8s,baz=193,slow=7.8,SNR=53
FINES LR LR 09 40 06.8
comp=Z,430nm,18.1s,baz=206,slow=43
comp=Z,64nm,0.8s
FINES FINESS Array B 20.41 18 P **P 09 30 17.9 -0.8**
FIA1 FINESS Array S 20.42 18 P **P 09 30 17.8 -0.9**
MOS Moscow 20.54 42 *e*P **P 09 30 17.2 -2.9**
MOS *e* 09 30 34.8
MOS *e*S **S 09 34 05.9 -3.8**
MOS pmax pmax
comp=Z,200nm,1.6s
MOS MLR MLR
comp=Z,4μm,10.0s
UJAP Al Uja 20.54 114 P Pn 09 30 25.5 +3.0
YTIR Yattir 20.67 116 P Pn 09 30 26.2 +2.1
TBLU Trondheim 20.80 356 *e*P Pn 09 30 25.4 +0.1
TBLU IAmb IAmb 09 30 27.0
comp=Z,177nm,1.0s
HSUJ Al Zarqa 20.95 112 P P 09 30 14.1 -11
LISJ El Lisan 20.99 115 P Pn 09 30 30.7 +3.0
WALJ Wala 21.01 114 P **P 09 30 30.4 +5.0**
VRH Novokhopyorsk 21.17 56 *e*P **P 09 30 26.8 -0.2**
VRH *e*S **S 09 34 20.0 -2.3**
VRH pmax pmax
comp=Z,190nm,1.1s
VRH smax smax
comp=N,1μm,13.3s
VRH MLR MLR
comp=Z,4μm,13.0s
KARJ KARJ 21.18 115 P **P 09 30 24.6 -2.6**
ZFRI Zfri 21.23 117 P **P 09 30 31.9 +4.2**
PRNI Paran 21.24 118 P **P 09 30 29.2 +1.3**
SWQJ Swaqa 21.38 114 P **P 09 30 33.7 +4.3**
ASF Jabal al Asfar 21.39 111 P **P 09 30 31.8 +2.3**
comp=Z,14nm,1.0s,baz=300,slow=5.9,SNR=11
ASF S Sn 09 34 32.6 -2.1
comp=Z,2.2nm,0.3s,baz=208,slow=18,SNR=2.1
comp=Z,14nm,1.0s
ASF Jabal al Asfar 21.39 111 P **P 09 30 33.4 +3.8**
KIV Kislovodsk 21.42 76 P **P 09 30 30.6 +0.7**
KIV Kislovodsk 21.42 76 *e*P **P 09 30 30.3 +0.4**
KIV *e*S **S 09 34 29.2 +1.6**
KIV pmax pmax
comp=Z,98nm,1.0s
KIV MLR MLR
comp=Z,545nm,14.0s
KIV Kislovodsk 21.42 76 *i* P **P 09 30 30.6 +0.7**
SNR=17
KIV Kislovodsk 21.42 76 P **P 09 30 30.6 +0.7**
KIV P **P 09 30 30.6 +0.7**
SHA1 Shidzhatmaz 21.43 77*c i*P **P 09 30 30.7 +0.6**
KVAR Kislovodsk Arr 21.43 76 LR LR 09 42 28.0
comp=Z,622nm,18.4s,baz=240,slow=47
NEY Neytrino 21.54 78 *i* P **P 09 30 31.7 +0.5**
NEY pmax pmax
comp=Z,16nm,0.9s
MBRI Mt Berech 21.55 119 P **P 09 30 33.8 +2.5**
KBZ Khabaz 21.60 77 P **P 09 30 32.6 +1.0**
comp=Z,63nm,0.8s,baz=289,slow=9.0,SNR=56
KBZ S **S 09 34 34.0 +3.1**
comp=Z,1.6nm,0.8s,baz=287,slow=12,SNR=0.7
KBZ LR LR 09 40 39.3
comp=Z,608nm,21.5s,baz=286,slow=42
comp=Z,63nm,0.8s
KBZ Khabaz 21.60 77*ce*P **P 09 30 32.3 +0.7**
KBZ pmax pmax
comp=Z,257nm,2.6s
EIL Elat 21.66 119 P **P 09 30 33.4 +1.0**
comp=Z,27nm,1.1s,baz=299,slow=7.6,SNR=9.7
EIL LR LR 09 41 35.1
comp=Z,988nm,21.9s,baz=314,slow=44
comp=Z,27nm,1.1s
EIL Elat 21.66 119 P **P 09 30 34.6 +2.2**
MARD Mardin 21.69 95 P **P 09 30 35.0 +2.2**
MARD IAmb IAmb 09 30 37.6
comp=Z,205nm,1.4s
HSNJ Maan 21.75 117 P P 09 30 23.6 -10
NSS Namsos 22.02 359 *e*P **P 09 30 36.1 +0.1**
NSS IAmb IAmb 09 30 42.4
comp=Z,287nm,1.6s
GURO Guroymak-BITLI 22.17 91 P **P 09 30 38.0 +0.1**
ONI Oni 22.18 80 P **P 09 30 38.2 +0.3**
ONI Oni 22.18 80 P **P 09 30 38.3 +0.3**
ONI pmax pmax
comp=Z,77nm,1.2s
KARS Kars 22.33 85 P **P 09 30 39.8 +0.1**
KARS Kars 22.33 85 P **P 09 30 39.8 +0.1**
KARS pmax pmax
comp=Z,1μm,1.9s
AKH Akhalkalaki 22.45 83 P **P 09 30 41.0 +0.1**
AKH Akhalkalaki 22.45 83 P **P 09 30 41.0 +0.1**
AKH pmax pmax
comp=Z,215nm,1.2s
ZEI Tsey 22.47 79 *e*P **P 09 30 42.0 +0.8**
ZEI pmax pmax
comp=Z,33nm,1.0s
GEVA Gevas 23.01 91 P **P 09 30 47.1 +0.2**
MOR8 Moi Rana 23.67 1 *e*P **P 09 30 54.4 +1.4**
MOR8 IAmb IAmb 09 31 10.2
comp=Z,307nm,1.7s
GNI Garni 23.68 85 P **P 09 30 54.9 +1.3**
comp=Z,23nm,0.8s,baz=290,slow=3.5,SNR=14
GNI S **S 09 35 10.5 +1.8**
comp=Z,1.6nm,0.3s,baz=267,slow=23,SNR=1.0
comp=Z,23nm,0.8s
GNI Garni 23.68 85 P **P 09 30 53.7 0.0**
GNI IAmb IAmb 09 31 04.1
comp=Z,150nm,1.4s
GNI Garni 23.68 85 P **P 09 30 55.9 +2.3**
GNI Garni 23.68 85 P **P 09 30 54.1 +0.4**
GNI P **P 09 30 54.1 +0.4**
GNI P **P 09 30 54.1 +0.4**
GROC Groznyy 23.77 77 *e*P **P 09 30 56.3 +2.1**
GROC *e* 09 31 22.1
GROC *e* 09 34 38.1
GROC *e*S **S 09 35 11.6 +2.0**
GROC pmax pmax
comp=Z,56nm,1.0s
GROC MLR MLR
comp=Z,382nm,9.0s
FAUS Fauske 24.90 2 *e*P **P 09 31 05.5 +1.1**
FAUS IAmb IAmb 09 31 11.2
comp=Z,99nm,1.1s
MAK Makhachkala 25.04 77 *e*P **P 09 31 09.0 +3.1**
MAK *e* 09 31 38.4
MAK pmax pmax
comp=Z,375nm,1.5s
MAK MLR MLR

comp=Z,3μm,13.0s
PMPST Porto Santo, M 25.12 258 *e*P **P 09 31 05.2 -1.6**
comp=Z,215nm,2.4s
PMPS Porto Santo 25.13 258 *e*P **P 09 31 07.6 +0.8**
comp=Z,213nm,1.5s
STEI Steigen 25.45 2 *e* **P 09 31 09.6 +0.2**
AKT Akhty 25.52 81 *e*P **P 09 31 11.8 +1.3**
AKT *e* 09 31 49.0
AKT pmax pmax
comp=Z,73nm,0.8s
PMAR Madeira 25.72 258 *e*P **P 09 31 14.3 +1.9**
comp=Z,405nm,1.6s
ADZR Andozero 25.79 25 *e*P **P 09 31 12.0 -0.5**
ADZR pmax pmax
comp=Z,151nm,1.1s
PMOZ Porto Moniz, M 25.87 258 *e*P **P 09 31 15.6 +1.9**
comp=Z,218nm,1.4s
PMOZ *e*S S 09 36 11.2 +28
PMOZ *e*LR LR 09 38 31.6
comp=Z,880nm,18.0s
PMOZ Porto Moniz, M 25.87 258 P **P 09 31 12.7 -1.1**
KTK1 Kautokeino 27.02 8 *e*P **P 09 31 23.6 -0.1**
KTK1 IAmb IAmb 09 31 31.3
comp=Z,47nm,1.0s
TRO Tromso 27.29 4 *e*P **P 09 31 26.3 +0.3**
JETT Jettan, Norway 27.31 5 *e* **P 09 31 26.4 +0.2**
APA Apatity 27.31 17 *i* P P 09 31 36.8 +11
APA *i* 09 32 21.3
APA *i* 09 34 44.0
APA pmax pmax
comp=Z,25nm,1.7s
APA MLR MLR
comp=Z,5μm,12.0s
KIRV Kirov 27.55 42 P **P 09 31 28.1 -0.3**
comp=Z,16nm,0.6s,baz=256,slow=3.7,SNR=11
KIRV LR LR 09 42 53.3
comp=Z,2μm,18.3s,baz=238,slow=38
comp=Z,16nm,0.6s
KIRV Kirov 27.55 42*ce*P **P 09 31 27.7 -0.8**
ARA0 ARCESS Array S 27.77 9 *e* **P 09 31 30.5 +0.1**
ARCES ARCESS Array B 27.77 9 P **P 09 31 29.5 -0.8**
comp=Z,14nm,1.0s,baz=188,slow=6.4,SNR=10
ARCES LR LR 09 43 07.0
comp=Z,1μm,19.5s,baz=200,slow=38
comp=Z,14nm,1.0s
ARCES ARCESS Array B 27.77 9 P **P 09 31 29.5 -0.8**
ARCES ARCESS Array B 27.77 9 P **P 09 31 29.5 -0.8**
ARCES pmax pmax
comp=Z,163nm,1.7s
LVZ Lovozero 27.85 17 P **P 09 31 28.8 -2.3**
LVZ Lovozero 27.85 17 P **P 09 31 28.8 -2.3**
LVZ pmax pmax
comp=Z,101nm,1.1s
BORG Borgarnes 29.58 330 LR LR 09 44 39.8
comp=Z,1μm,20.1s,baz=132,slow=39
JMIC Jan Mayen 30.51 346 LR LR 09 44 22.4
comp=Z,484nm,19.6s,baz=118,slow=37
TORD Torodi Ar. Bea 30.98 202 P **P 09 32 00.5 +1.2**
comp=Z,17nm,0.8s,baz=17,slow=9.1,SNR=13
comp=Z,17nm,0.8s
TORD Torodi Ar. Bea 30.98 202 P **P 09 31 58.2 -1.0**
AKTO Aktyubinsk 31.39 60 P **P 09 32 02.6 0.0**
comp=Z,4.2nm,0.7s,baz=274,slow=12,SNR=10
AKTO LR LR 09 46 48.9
comp=Z,953nm,18.6s,baz=268,slow=40
comp=Z,4.2nm,0.7s
AKTO Aktyubinsk 31.39 60 P **P 09 32 02.9 +0.3**
ARU Arti 31.89 48 P **P 09 32 06.0 -0.9**
comp=Z,70nm,0.8s,baz=254,slow=7.8,SNR=36
ARU LR LR 09 45 36.0
comp=Z,2μm,19.7s,baz=250,slow=38
comp=Z,70nm,0.8s
ARU Arti 31.89 48 P **P 09 32 06.6 -0.3**
ARU Arti 31.89 48*c i*P **P 09 32 06.3 -0.6**
ARU 09 33 08.1
ARU S **S 09 37 17.5 0.0**
ARU SS **SnSn 09 39 01.0 -4.3**
ARU pmax pmax
comp=Z,92nm,1.1s
ARU MLR MLR
comp=Z,3μm,13.0s
AB31 Akbulak array 32.73 62 *i* P **P 09 32 13.9 -0.5**
ABKAR Akbulak array 32.73 62 P **P 09 32 13.8 -0.5**
ABKAR Akbulak array 32.73 62 P **P 09 32 13.4 -1.0**
RAYN Ar Rayn 32.75 115 P **P 09 32 13.1 -1.8**
RAYN Ar Rayn 32.75 115 P **P 09 32 13.1 -1.8**
RAYN pmax pmax
comp=Z,32nm,1.8s
SVE Sverdlovsk 33.07 48⇑ *e*P **P 09 32 17.7 +0.5**
SVE *e*S **S 09 37 35.8 -0.1**
SVE pmax pmax
comp=Z,179nm,1.3s
SVE MLR MLR
comp=Z,4μm,12.0s
SCO Scoresbysund 33.11 339 P **P 09 32 15.4 -2.1**
SCO IAmb IAmb 09 32 23.3
comp=Z,53nm,1.2s
SCO Scoresbysund 33.11 339 *e*P **P 09 32 18.6 +1.1**
SCO IAmb IAmb 09 32 23.5
comp=Z,9.1nm,0.8s
SCO Scoresbysund 33.11 339 P **P 09 32 15.4 -2.1**
SCO pmax pmax
comp=Z,53nm,1.2s
GEYT Alibeck 34.24 82 P **P 09 32 28.9 +1.2**
comp=Z,14nm,0.8s,baz=280,slow=8.9,SNR=13
GEYT LR LR 09 51 43.9
comp=Z,351nm,18.8s,baz=302,slow=46
comp=Z,14nm,0.8s
GEYT Alibeck 34.24 82 P **P 09 32 28.2 +0.5**
GYA0 ALIBECK ARRAY 34.24 82 P **P 09 32 29.5 +1.8**
GYA0B ALIBECK ARRAY 34.24 82 P **P 09 32 26.9 -0.8**
GYA0B IAmb IAmb 09 32 58.0
comp=Z,26nm,0.9s
SAKB Bahrain 34.63 106 P **P 09 32 31.1 -0.1**
SHMA Al-Shehemyia 35.01 106 P **P 09 32 34.9 +0.5**
DBG Tonedorp 35.29 345 *e*P **P 09 32 37.5 +1.2**
SMRA Abu-Samra 35.60 108 P **P 09 32 40.7 +1.2**
SPA0 Spitsbergen Ar 35.75 1 *e* **P 09 32 40.6 +0.3**
SPITS Spitsbergen Ar 35.75 1 LR LR 09 47 10.1
comp=Z,992nm,21.1s,baz=154,slow=36
SLWR Sila 36.64 108 P **P 09 32 48.8 +0.4**
JRN Qarnain Island 36.91 106 P **P 09 32 52.6 +1.9**
GHWR Ruwais 37.54 107 P **P 09 32 56.8 +0.7**
BBTS Babate 37.81 232 LR LR 09 49 27.3
comp=Z,2μm,18.1s,baz=46,slow=38
ICESG Greenland Ices 37.91 332 *e*P **P 09 32 59.2 0.0**
MZWR Madinat Zayed 38.38 106 P **P 09 33 04.0 +0.9**
UMQ Umm Al-Quwin 38.58 102 P **P 09 33 07.0 +2.2**
MZR Muzera 38.58 107 P **P 09 33 07.2 +2.3**
SHME Shamm 38.61 101 P **P 09 33 04.5 -0.6**
SHME P **P 09 33 04.5 -0.6**
AJN Ajban 38.67 104 P **P 09 33 08.2 +2.6**
SUMG Summit 38.69 338 *i* P **P 09 33 05.8 0.0**
SUMG IAmb IAmb 09 33 11.1
comp=Z,13nm,0.9s
BRVK Borovoye 38.73 54 P **P 09 33 05.8 0.0**
BRVK IAmb IAmb 09 33 20.1
comp=Z,71nm,0.9s
BRVK Borovoye 38.73 54*ce*P **P 09 33 06.7 +0.9**
BRVK pmax pmax
comp=Z,103nm,1.7s
BRVK MLR MLR
comp=Z,2μm,15.0s
BRVK Borovoye 38.73 54 P **P 09 33 07.0 +1.2**
BRVK Borovoye 38.73 54 P **P 09 33 07.4 +1.6**
HRA Herat 38.75 85 P **P 09 33 06.4 0.0**
BVA0 Borovoye Array 38.80 54 *i* P **P 09 33 07.2 +0.8**
BVAR Borovoye Array 38.80 54 P **P 09 33 07.3 +0.9**
comp=Z,47nm,1.1s,baz=245,slow=8.3,SNR=35
BVAR LR LR 09 49 27.0
comp=Z,1μm,18.5s,baz=287,slow=37
comp=Z,47nm,1.1s
BANOM Banah 38.80 101 P **P 09 33 07.0 +0.3**
BANOM Banah 38.80 101 P **P 09 33 09.0 +2.3**
NAZ Nazwa, Dubai 38.90 103 *i* P **P 09 33 07.8 +0.3**
SNR=5.7
NAZ Nazwa, Dubai 38.90 103 P **P 09 33 09.7 +2.2**
SNR=9.5
NAZ P **P**
SNR=9.5
NAZ P **P 09 33 09.7 +2.2**
SNR=9.5
FAQ Al Faqa, Dubai 39.00 103 P **P 09 33 09.0 +0.7**
MASF Masafi 39.03 102 P **P 09 33 10.2 +1.6**
SNR=8.4

MASF P **P 09 33 10.2 +1.6**
SNR=8.4
MSFE Esma-Masafi 39.03 102 *i* P **P 09 33 09.0 +0.3**
SNR=7.3
MDH Madha 39.17 102 *i* P **P 09 33 09.9 +0.1**
SNR=8.7
MDH Madha 39.17 102 P **P 09 33 10.6 +0.8**
SNR=8.1
DBIC Dimbokro 39.18 209 P **P 09 33 10.7 +0.8**
comp=Z,8.9nm,0.9s,baz=29,slow=9.4,SNR=6.4
DBIC LR LR 09 49 53.5
comp=Z,1μm,18.8s,baz=24,slow=37
comp=Z,8.9nm,0.9s
DBIC Dimbokro 39.18 209 P **P 09 33 09.9 0.0**
TIC Toumodi 39.26 210⇑ *e*PKP2 **P 09 33 14.1 +3.5**
comp=Z,26nm,1.1s
UOSS Minazif 39.32 103 P **P 09 33 10.3 -0.7**
UOSS IAmb IAmb 09 33 16.0
comp=Z,66nm,1.1s
UOSS Minazif 39.32 103 *i* P **P 09 33 10.7 -0.3**
SNR=11
UOSS Minazif 39.32 103 P **P 09 33 10.7 -0.3**
UOSS P **P 09 33 10.7 -0.3**
UOSS Minazif 39.32 103 P **P 09 33 12.1 +1.1**
HATD Hatta, Dubai 39.34 103 *i* P **P 09 33 11.0 -0.2**
SNR=14
HATD Hatta, Dubai 39.34 103 P **P 09 33 11.1 -0.2**
SNR=11
HATD P **P 09 33 11.1 -0.2**
SNR=11
ASHO Ashiyiah 39.37 103 *i* P **P 09 33 10.9 -0.6**
SNR=20
ASHO Ashiyiah 39.37 103 P **P 09 33 11.3 -0.2**
SNR=12
ASHO P **P 09 33 11.3 -0.2**
SNR=12
KIC Kosan Boka 39.42 209⇑ *e*PKP2 **P 09 33 12.6 +0.7**
comp=Z,10.0nm,0.7s
ALNE Al Ain 39.53 104 *i* P **P 09 33 13.4 +0.6**
SNR=8.4
ALNE Al Ain 39.53 104 P **P 09 33 13.2 +0.3**
SNR=17
LIC Lamto 39.65 209⇑ *e*PKP2 **P 09 33 13.2 -0.6**
comp=Z,28nm,0.5s
DY2G Dye2 39.86 327 *e*P **P 09 33 14.5 -0.9**
UMZA Um Al Zommool 39.96 106 P **P 09 33 17.0 +0.6**
SOHO SOHO 40.05 103 *i* P **P 09 33 17.3 +0.2**
SNR=14
SOHO SOHO 40.05 103 P **P 09 33 16.8 -0.3**
SOHO P **P 09 33 16.8 -0.3**
ARQ Araqi 40.53 104 P **P 09 33 22.0 +0.8**
SNR=16
HOQ Hoqain 40.95 103 P **P 09 33 24.4 -0.2**
SNR=12
HOQ P **P 09 33 24.4 -0.2**
SNR=12
IUG Iuzhnay 41.26 71 ⇓*i* P **P 09 33 28.3 +1.1**
baz=71
IUG *e*S **S 09 39 43.1 +2.0**
baz=71
IUG Iuzhnay 41.26 71*d i*P **P 09 33 28.2 +1.1**
IUG *e*S **S 09 39 43.1 +2.0**
KK31 Karatay Array 41.27 69 P **P 09 33 26.9 -0.1**
KK31 Karatay Array 41.27 69 *i* P **P 09 33 28.6 +1.6**
KKAR Karatay Array 41.27 69 P **P 09 33 27.4 +0.3**
KKAR Karatay Array 41.27 69 P **P 09 33 26.6 -0.4**
KKAR IAmb IAmb 09 33 36.4
comp=Z,29nm,0.9s
KKAR Karatay Array 41.27 69 P **P 09 33 27.4 +0.3**
BSY Bisya 41.39 104 P **P 09 33 27.9 -0.3**
SNR=10.0
SFJD Kangerlussuaq 41.63 328 LR LR 09 50 41.8
comp=Z,712nm,18.8s,baz=94,slow=36
SFJD Kangerlussuaq 41.63 328 P **P 09 33 27.7 -1.9**
SFJD IAmb IAmb 09 33 36.8
comp=Z,57nm,1.0s
SFJD Kangerlussuaq 41.63 328 *e*P **P 09 33 29.0 -0.6**
SFJD Kangerlussuaq 41.63 328 P **P 09 33 27.7 -1.9**
SFJD pmax pmax
comp=Z,57nm,1.0s
SFJD Kangerlussuaq 41.63 328 P **P 09 33 29.3 -0.3**
SMDO Samad 41.80 103 P **P 09 33 31.5 -0.2**
SNR=26
SMDO P **P 09 33 31.5 -0.2**
SNR=26
DOK Doka 41.95 112 P **P 09 33 32.5 -0.3**
SNR=6.7
CHGR Chuyangaron 41.96 76 P **P 09 33 32.2 -0.7**
CHGR IAmb IAmb 09 34 04.3
comp=Z,42nm,0.9s
CHGR Chuyangaron 41.96 76 P **P 09 33 32.2 -0.7**
CHGR pmax pmax
comp=Z,42nm,0.9s
ILULI Ilulissat 41.96 331 P **P 09 33 30.3 -2.0**
ILULI IAmb IAmb 09 33 36.6
comp=Z,67nm,0.9s
ILULI Ilulissat 41.96 331 *i* P **P 09 33 31.4 -0.9**
ILULI IAmb IAmb 09 33 36.8
comp=Z,30nm,0.7s
ILULI Ilulissat 41.96 331 P **P 09 33 30.3 -2.0**
ILULI pmax pmax
comp=Z,67nm,0.9s
WSAR Wadi Sarin 42.11 103 LR LR 09 55 41.1
comp=Z,560nm,18.9s,baz=329,slow=43
WSAR Wadi Sarin 42.11 103 P **P 09 33 34.1 -0.1**
SNR=11
WHFO Wadi Hawf 42.19 113 P **P 09 33 34.5 -0.3**
ABTO Aybut 42.26 114 P **P 09 33 34.9 -0.6**
SNR=8.3
ABTO P **P 09 33 34.9 -0.6**
SNR=8.3
JMDO Jabal Madar 42.27 104 P **P 09 33 35.4 -0.1**
SNR=17
JMDO P **P 09 33 35.4 -0.1**
SNR=17
GAR Garm 42.65 75 P **P 09 33 38.7 +0.2**
WBK Wadi Bani Khal 42.74 103 P **P 09 33 39.0 -0.3**
SNR=11
WBK P **P 09 33 39.0 -0.3**
SNR=11
WBK P **P 09 33 39.0 -0.3**
SNR=11
RBK Rabkut 42.77 113 P **P 09 33 39.4 -0.2**
SNR=9.2
BTLS Baital 43.03 65⇓ *i*P **P 09 33 42.4 +1.0**
baz=65
BTLS Baital 43.03 65*d i*P **P 09 33 42.3 +1.0**
MHTO MHTO 43.06 106 P **P 09 33 41.8 0.0**
SNR=19
MHTO P **P 09 33 41.8 0.0**
SNR=19
DMTO DMTO 43.13 112 P **P 09 33 42.0 -0.5**
NEEM North Greenlan 43.31 343 *i* P **P 09 33 44.1 +0.5**
NEEM IAmb IAmb 09 33 48.7
comp=Z,38nm,0.8s
JLN Jalan Bani Buh 43.35 103 P **P 09 33 43.7 -0.4**
SNR=16
JLN P **P 09 33 43.7 -0.4**
SNR=16
DQM DQM 43.44 107 P **P 09 33 43.9 -1.0**
SNR=10
KBL Kabul 43.67 81 P **P 09 33 46.5 -0.4**
KBL Kabul 43.67 81 P **P 09 33 46.5 -0.4**
KBL pmax pmax
comp=Z,11nm,1.2s
LODK Lodwar 43.67 147 P **P 09 33 46.0 -0.9**
SNR=5.8
SGDS Sogindy 43.97 67 *e*P **P 09 33 49.8 +0.8**
comp=Z,33nm,2.1s,baz=67
SGDS Sogindy 43.97 67 *e*P **P 09 33 49.8 +0.8**
SGDS pmax pmax
comp=Z,33nm,2.1s
AAK Ala-Archa 44.17 68 P **P 09 33 52.7 +2.0**
comp=Z,8.9nm,1.0s,baz=263,slow=4.8,SNR=17
AAK LR LR 09 53 33.1
comp=Z,679nm,21.4s,baz=316,slow=38
comp=Z,8.9nm,1.0s
AAK Ala-Archa 44.17 68 P **P 09 33 49.8 -1.0**
AAK Ala-Archa 44.17 68*ce*P **P 09 33 52.5 +1.7**
AAK pmax pmax
comp=Z,66nm,2.5s
AAK Ala-Archa 44.17 68 *i* P **P 09 33 51.3 +0.5**
SNR=13
AAK Ala-Archa 44.17 68 P **P 09 33 53.6 +2.8**
AAK P **P 09 33 53.6 +2.8**
AAK Ala-Archa 44.17 68 P **P 09 33 52.8 +2.0**

KURBB **Kurchatov Arra** 44.24 56 LR LR 09 52 50.3
comp=Z,937nm,20.1s,baz=248,slow=37
KURBB **Kurchatov Arra** 44.24 56 P **P** **09 33 50.2 -0.8**
KURK Kurchatov 44.27 56 P **P** **09 33 49.6 -1.6**
KURK IAmb IAmb 09 33 58.1
comp=Z,56nm,1.3s
KURK Kurchatov 44.27 56*ce*P **P** **09 33 51.7 +0.5**
KURK pmax pmax
comp=Z,38nm,1.7s
KURK MLR MLR
comp=Z,1μm,15.0s
KURK Kurchatov 44.27 56 P **P** **09 33 52.1 +0.9**
KUU Kurty 44.97 66 *jd i*P **P** **09 33 58.0 +1.1**
comp=Z,82nm,1.8s,baz=66
KUU Kurty 44.97 66*d i*P **P** **09 33 58.0 +1.1**
KUU pmax pmax
comp=Z,82nm,1.8s
NRIK Noril'sk 45.49 29 P **P** **09 34 01.8 +1.1**
comp=Z,16nm,0.8s,baz=267,slow=5.4,SNR=25
NRIK LR LR 09 54 53.1
comp=Z,2μm,19.0s,baz=275,slow=39
comp=Z,16nm,0.8s
NRIK Noril'sk 45.49 29 P **P** **09 34 00.6 -0.1**
NRIK IAmb IAmb 09 34 08.0
comp=Z,55nm,1.3s
NRIK Noril'sk 45.49 29*ce*P **P** **09 34 02.1 +1.4**
NRIK pmax pmax
comp=Z,50nm,1.3s
AAA Alma-Ata 45.61 66 *e*P **P** **09 34 03.5 +1.4**
baz=67
AAA Alma-Ata 45.61 66 *e*P **P** **09 34 03.5 +1.4**
TNSS Tian-Shan 45.70 67 *e*P **P** **09 34 04.9 +1.7**
baz=67
TNSS Tian-Shan 45.70 67 *e*P **P** **09 34 04.9 +1.7**
MBAR Mbarara 45.76 155*ce*P P 09 34 08.5 +4.9
MBAR pmax pmax
comp=Z,23nm,2.5s
MBAR Mbarara 45.76 155 P **P** **09 34 03.4 -0.2**
MBAR P **P** **09 34 03.4 -0.2**
KSH Kashi 46.44 72 P **P** **09 34 10.1 +1.3**
KSH sP sP 09 34 17.9 +4.6
KSH PcP **PcP** **09 35 48.3 +4.9**
KSH S **S** **09 40 57.8 +1.1**
KSH pmax pmax
comp=Z,21nm,1.1s
KSH LR LR
comp=Z,790nm,16.1s
KSH LR LR
comp=Z,1μm,16.2s
KSH LR LR
comp=Z,1μm,15.2s
ZHN Zhinishke 46.65 66 *e*P **P** **09 34 11.5 +1.1**
baz=66
ZHN Zhinishke 46.65 66 *e*P **P** **09 34 11.5 +1.1**
SATY Saty 46.67 66 *e*P **P** **09 34 11.3 +0.7**
comp=Z,45nm,2.7s,baz=66
SATY Saty 46.67 66 *e*P **P** **09 34 11.3 +0.7**
SATY pmax pmax
comp=Z,45nm,2.7s
KPKS Kokpek 46.70 65 *e*P **P** **09 34 11.8 +1.0**
comp=Z,41nm,2.4s,baz=66
KPKS Kokpek 46.70 65 *e*P **P** **09 34 11.8 +1.0**
KPKS pmax pmax
comp=Z,41nm,2.4s
ZAA0 Zalesovo Array 47.02 50 P **P** **09 34 13.3 +0.4**
ZAA0 IAmb IAmb 09 34 19.3
comp=Z,26nm,1.1s
ZALV Zalesovo Beam 47.02 50 P **P** **09 34 13.7 +0.8**
comp=Z,9.8nm,0.8s,baz=291,slow=9.2,SNR=14
ZALV PP **PP** **09 36 03.0 -0.2**
comp=Z,8.0nm,0.9s,baz=302,slow=8.5,SNR=2.3
ZALV LR LR 09 54 45.6
comp=Z,928nm,18.0s,baz=278,slow=37
comp=Z,9.8nm,0.8s
UZB Uzynbulak 47.06 66 *e*P **P** **09 34 14.6 +0.9**
baz=66
UZB Uzynbulak 47.06 66 *e*P **P** **09 34 14.5 +0.9**
NIL Nilore 47.16 80 P **P** **09 34 14.5 +0.1**
NIL Nilore 47.16 80 P **P** **09 34 14.5 +0.1**
NIL pmax pmax
comp=Z,45nm,1.1s
NIL Nilore 47.16 80 P **P** **09 34 16.2 +1.8**
NIL P **P** **09 34 16.2 +1.8**
TULEG Thule 47.23 342 *i* P **P** **09 34 14.2 -0.1**
TULEG IAmb IAmb 09 34 21.7
comp=Z,18nm,0.9s
MAKZ Makanchi 47.62 60 P **P** **09 34 16.7 -1.1**
MAKZ IAmb IAmb 09 34 41.8
comp=Z,46nm,1.8s
MAKZ Makanchi 47.62 60 P **P** **09 34 16.7 -1.1**
MAKZ pmax pmax
comp=Z,47nm,1.8s
MAKZ Makanchi 47.62 60 P **P** **09 34 18.7 +1.0**
MK31 Makanchi Array 47.83 60 P **P** **09 34 18.8 -0.6**
MK31 Makanchi Array 47.83 60 *i* P **P** **09 34 20.1 +0.7**
MKAR Makanchi Array 47.83 60 P **P** **09 34 19.6 +0.2**
comp=Z,9.1nm,0.6s,baz=284,slow=6.8,SNR=41
MKAR LR LR 09 58 54.6
comp=Z,794nm,18.2s,baz=305,slow=42
comp=Z,9.1nm,0.6s
MKAR Makanchi Array 47.83 60 P **P** **09 34 18.6 -0.8**
MKAR Makanchi Array 47.83 60 P **P** **09 34 18.6 -0.8**
KMBO Kilima Mbogo 48.57 147 P **P** **09 34 24.9 -0.7**
KMBO Kilima Mbogo 48.57 147 P **P** **09 34 25.0 -0.7**
KMBO pmax pmax
comp=Z,17nm,1.5s
ZSN Zaisan 49.21 58 *e*P **P** **09 34 31.3 +1.3**
comp=Z,47nm,1.8s,baz=58
ZSN Zaisan 49.21 58 *e*P **P** **09 34 31.3 +1.3**
ZSN pmax pmax
comp=Z,47nm,1.8s
DGZ Jazzator, Alta 49.95 55*d i*P **P** **09 34 36.8 +1.0**
DGZ pmax pmax
comp=Z,25nm,0.8s
EUNU Eureka 50.05 347 P **P** **09 34 34.7 -1.4**
SCHQ Schefferville 51.45 313 P **P** **09 34 45.0 -1.9**
comp=Z,18nm,1.0s,baz=56,slow=8.0,SNR=9.3
SCHQ LR LR 09 55 51.5
comp=Z,640nm,18.4s,baz=66,slow=35
comp=Z,18nm,1.0s
SCHQ Schefferville 51.45 313 P **P** **09 34 45.6 -1.3**
SCHQ IAmb IAmb 09 34 53.6
comp=Z,38nm,1.1s
WMQ Urumqi 52.51 61 *e*P **P** **09 34 57.0 +2.0**
WMQ sP sP 09 35 04.1 +4.5
WMQ S **S** **09 42 19.1 -2.5**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,300nm,4.9s
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,3μm,12.7s
WMQ LR LR
comp=Z,670nm,18.9s
RES Resolute Bay 53.95 342 LR LR 09 59 23.2
comp=Z,431nm,19.0s,baz=32,slow=38
RES Resolute Bay 53.95 342 P **P** **09 35 03.6 -1.4**
RES Resolute Bay 53.95 342 P **P** **09 35 03.6 -1.4**
RES pmax pmax
comp=Z,16nm,1.2s
MOY Mondy 56.94 48 *e*P **P** **09 35 28.2 +1.2**
MOY pmax pmax
comp=Z,65nm,3.1s
PYUN Piuthan 57.18 80 *e*P **P** **09 35 29.2 0.0**
comp=Z,114nm,1.0s
TIXI Tiksi 57.44 20 P **P** **09 35 30.6 +0.5**
comp=Z,8.3nm,0.6s,baz=270,slow=23,SNR=30
TIXI LR LR 10 04 03.1
comp=Z,604nm,18.8s,baz=182,slow=40
comp=Z,8.3nm,0.6s
TIXI Tiksi 57.44 20 P **P** **09 35 29.3 -0.8**
TIXI IAmb IAmb 09 35 39.6
comp=Z,22nm,1.0s
TIXI Tiksi 57.44 20*ce*P **P** **09 35 30.8 +0.7**
TIXI pmax pmax
comp=Z,42nm,1.7s
TIXI MLR MLR
comp=Z,693nm,15.0s
DANN Dangsing 57.60 80 *e*P **P** **09 35 32.3 0.0**
comp=Z,32nm,0.6s
KOLN Koldanda 57.81 80 *e*P **P** **09 35 33.7 0.0**
LATQ La Tuque 58.06 307 P **P** **09 35 32.9 -1.9**
IRK Irkutsk 58.43 46 *e*P **P** **09 35 37.5 +0.1**
IRK pmax pmax
comp=Z,89nm,2.5s
GKN Gorkha 58.44 80 *e*P **P** **09 35 37.4 -0.6**
ZAK Zakamensk 58.83 48 *e*P **P** **09 35 41.6 +1.3**
ZAK *e* 09 37 47.7
ZAK pmax pmax
comp=Z,15nm,1.3s
ZAK pmax pmax
comp=Z,9.0nm,1.4s
DMN Daman 59.00 80 *e*P **P** **09 35 41.9 -0.1**
KKN Kakani 59.02 79 *e*P **P** **09 35 41.3 -0.8**
PKIN Phulchoki 59.23 79 *e*P **P** **09 35 43.2 -0.4**
PKI Pulchoki 59.24 79 *e*P **P** **09 35 43.2 -0.6**
JIRN Jiri 59.76 79 *e*P **P** **09 35 47.2 -0.2**
BOD Bodaibo 60.29 37 *e*P **P** **09 35 49.2 -0.9**
BOD pmax pmax
comp=Z,54nm,1.7s
RAMN Ramite 60.47 79 *e*P **P** **09 35 51.5 -0.6**
comp=Z,95nm,0.8s
L61B Northampton 60.54 302 P **P** **09 35 51.6 -0.4**
baz=58
LONY Lake Ozonia 60.56 305 P **P** **09 35 51.9 -0.3**
baz=58
TAPN Taplejung 61.04 78 *e*P **P** **09 35 55.8 -0.3**
GOMU GeErMu 61.05 66 P **P** **09 36 00.3 +4.2**
GOMU sP sP 09 36 07.6 +6.9
GOMU S **S** **09 44 19.9 +4.7**
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,170nm,3.5s
GOMU LR LR
comp=Z,640nm,15.9s
GOMU LR LR
comp=Z,500nm,15.4s
GOMU LR LR
comp=Z,520nm,15.8s
ODAN Odare 61.09 79 *e*P **P** **09 35 55.5 -0.9**
TSUM Tsumeb 61.58 175 LR LR 10 02 48.7
comp=Z,786nm,21.2s,baz=336,slow=36
SONM Songino Array 61.91 50 P **P** **09 36 02.3 +0.8**
comp=Z,16nm,0.8s,baz=290,slow=6.8,SNR=40
SONM LR LR 10 03 30.7
comp=Z,864nm,18.2s,baz=310,slow=37
comp=Z,16nm,0.8s
SONM Songino Array 61.91 50 P **P** **09 36 01.2 -0.3**
A36M Sachs Harbour 62.08 347 P **P** **09 36 00.9 -1.1**
A36M Sachs Harbour 62.08 347 P **P** **09 36 01.8 -0.2**
baz=34,SNR=32
LSA Lhasa 62.15 74 P **P** **09 36 03.0 -0.8**
LSA IAmb IAmb 09 36 15.7
comp=Z,22nm,1.0s
LSA Lhasa 62.15 74 P **P** **09 36 03.4 -0.4**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 62.15 74 P **P** **09 36 03.0 -0.8**
LSA pmax pmax
comp=Z,22nm,1.0s
LSA Lhasa 62.15 74 P **P** **09 36 04.0 +0.3**
LSA P **P** **09 36 04.0 +0.3**
LSA P **P** **09 36 04.0 +0.3**
ULN Ulaanbaatar 62.26 49 P **P** **09 36 03.4 -0.5**
ULN IAmb IAmb 09 36 14.2
comp=Z,29nm,1.2s
ULN Ulaanbaatar 62.26 49 *i* P **P** **09 36 04.8 +0.9**
ULN pmax pmax
comp=Z,29nm,1.2s
ULN Ulaanbaatar 62.26 49 P **P** **09 36 05.4 +1.6**
GTA Gaotai 62.57 61 *e*P **P** **09 36 06.8 +0.8**
GTA S **S** **09 44 34.8 +0.8**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,350nm,4.7s
GTA LR LR
comp=Z,820nm,19.6s
GTA LR LR
comp=Z,840nm,19.6s
GTA LR LR
comp=Z,660nm,20.4s
FCC Fort Churchill 62.59 326 P **P** **09 36 04.9 -0.7**
FCC Fort Churchill 62.59 326 P **P** **09 36 04.9 -0.7**
FCC pmax pmax
comp=Z,31nm,0.9s
SADO Sadowa 63.20 307 LR LR 10 02 38.8
comp=Z,820nm,19.2s,baz=93,slow=35
CIT Chita 63.36 43 *e*P **P** **09 36 11.2 +0.2**
CIT *e* 09 36 18.4
CIT pmax pmax
comp=Z,80nm,3.1s
WUPA West Chester U 63.77 301 P **P** **09 36 12.9 -0.8**
GEDE Greenville 63.85 301 P **P** **09 36 13.9 -0.4**
baz=55
M57A Sunshine Farm, 63.92 303 P **P** **09 36 13.6 -1.2**
M57A IAmb IAmb 09 36 54.9
comp=Z,38nm,1.4s
M57A Sunshine Farm, 63.92 303 P **P** **09 36 14.5 -0.3**
baz=55
M57A P **P** **09 36 14.5 -0.3**
baz=55
YAK Yakutsk 63.94 28 P **P** **09 36 15.9 +1.4**
comp=Z,12nm,0.5s,baz=309,slow=3.1,SNR=13
comp=Z,12nm,0.5s
YAK Yakutsk 63.94 28 P **P** **09 36 13.9 -0.6**
YAK Yakutsk 63.94 28 *e*P **P** **09 36 14.7 +0.2**
YAK *e* 09 38 33.2
YAK *e*S **S** **09 44 49.0 -0.9**
YAK *e**SS sS 09 45 06.2 +11
YAK pmax pmax
comp=Z,64nm,0.9s
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=E,33nm,1.0s
YAK pmax pmax
comp=Z,172nm,3.7s
YAK pmax pmax
comp=N,78nm,3.5s
YAK smax smax
comp=E,50nm,3.2s
YAK smax smax
comp=N,90nm,4.2s
YAK MLR MLR
comp=Z,608nm,17.0s
N58A Sunbury 63.95 302 P **P** **09 36 15.1 +0.2**
baz=55
N58A P **P** **09 36 15.1 +0.2**
baz=55
C36M Paulatuk 64.06 344 P **P** **09 36 14.2 -1.0**
C36M Paulatuk 64.06 344 P **P** **09 36 15.1 -0.1**
baz=34,SNR=28
WVNY West Valley, N 64.22 305 P **P** **09 36 16.6 -0.1**
WVNY IAmb IAmb 09 36 18.8
comp=Z,34nm,1.1s
WVNY West Valley, N 64.22 305 P **P** **09 36 16.5 -0.2**
baz=55
SSPA Standing Stone 64.79 303 P **P** **09 36 18.6 -1.9**
SSPA IAmb IAmb 09 36 27.5
comp=Z,15nm,0.9s
SSPA Standing Stone 64.79 303 P **P** **09 36 20.2 -0.3**
baz=54
SSPA Standing Stone 64.79 303 P **P** **09 36 20.1 -0.4**
baz=54
SSPA Standing Stone 64.79 303 P **P** **09 36 20.9 +0.4**
M55A Ridgway 64.86 304 P **P** **09 36 20.7 -0.2**
baz=54
M55A P **P** **09 36 20.7 -0.2**
baz=54
PSDB Penn State Uni 65.05 304 P **P** **09 36 22.0 -0.2**
baz=54
S61A Accomac 65.10 299 P **P** **09 36 23.8 +1.3**
baz=54
S61A P **P** **09 36 23.8 +1.3**
baz=54
SHL Shillong 65.10 77 P **P** **09 36 21.6 -1.4**
SHL Shillong 65.10 77 P **P** **09 36 21.6 -1.4**
SHL pmax pmax
comp=Z,41nm,1.1s
SHL Shillong 65.10 77 P **P** **09 36 21.9 -1.1**
SNR=10
ERPA Erie 65.22 305 P **P** **09 36 23.6 +0.3**
baz=54
ERPA Erie 65.22 305 P **P** **09 36 22.6 -0.7**
baz=54
E46A Sault Ste Mari 65.24 311 P **P** **09 36 22.4 -0.9**
E46A IAmb IAmb 09 36 27.9
comp=Z,36nm,1.2s
E46A Sault Ste Mari 65.24 311 P **P** **09 36 22.8 -0.5**
baz=54
P57A Homestead Farm 65.54 302 IAmb IAmb 09 36 31.5
comp=Z,29nm,1.3s
P57A Homestead Farm 65.54 302 P **P** **09 36 25.4 +0.1**
baz=54
P57A P **P** **09 36 25.4 +0.1**
baz=54
ALLY Alegheny Colle 65.59 305 P **P** **09 36 25.0 -0.6**
baz=54
RCBR Riachuelo 65.63 236 LR LR 10 03 34.3
comp=Z,427nm,20.0s,baz=185,slow=35
RCBR Riachuelo 65.63 236 *e*P **P** **09 36 27.0 +0.7**
I49A Point Hope 65.83 308 P **P** **09 36 26.2 -1.0**
baz=54
I49A P **P** **09 36 26.2 -1.0**
baz=54
PAMR Moraine State 65.98 304 P **P** **09 36 27.9 -0.3**
baz=54
M53A WI Miller and 66.04 305 P **P** **09 36 27.8 -0.8**
baz=54
A21K Barrow 66.19 356 P **P** **09 36 29.3 +0.3**
baz=8.2
UPAO U. Pittsburgh 66.20 304 P **P** **09 36 29.2 -0.4**
baz=54
GLMI Grayling 66.34 310 P **P** **09 36 29.4 -1.0**
baz=53
GLMI Grayling 66.34 310 P **P** **09 36 29.8 -0.6**
baz=53
R58B Mineral 66.35 300 IAmb IAmb 09 36 35.3
comp=Z,28nm,1.2s
R58B Mineral 66.35 300 P **P** **09 36 28.5 -2.0**
baz=54
R58B P **P** **09 36 28.5 -2.0**
baz=54
M52A Chesterland 66.39 305 P **P** **09 36 29.4 -1.4**
baz=53
M52A P **P** **09 36 29.4 -1.4**
baz=53
K50A Casco 66.41 307 P **P** **09 36 30.9 0.0**
baz=53
K50A P **P** **09 36 30.9 0.0**
baz=53
N53A Lisbon 66.51 304 IAmb IAmb 09 36 32.4
comp=Z,19nm,0.9s
N53A Lisbon 66.51 304 P **P** **09 36 31.5 -0.1**
baz=53,SNR=6.4
N53A P **P** **09 36 31.5 -0.1**
baz=53,SNR=6.4
Q56A Snyder Ridge, 66.54 302 IAmb IAmb 09 36 32.7
comp=Z,35nm,1.1s
Q56A Snyder Ridge, 66.54 302 P **P** **09 36 31.1 -0.7**
baz=53
Q56A P **P** **09 36 31.1 -0.7**
baz=53
MCWV Mont Chateau 66.58 303 P **P** **09 36 31.5 -0.6**
baz=53
MCWV Mont Chateau 66.58 303 P **P** **09 36 32.1 +0.1**
baz=53
O54A Avella 66.60 304 P **P** **09 36 31.7 -0.4**
baz=53
O54A P **P** **09 36 31.7 -0.4**
baz=53
BRDH Bariadhala 66.68 80 LR LR 10 14 01.4
comp=Z,591nm,19.1s,baz=271,slow=44
INK Inuvik 66.68 347 LR LR 10 08 49.9
comp=Z,387nm,18.5s,baz=42,slow=39
INK Inuvik 66.68 347 IAmb IAmb 09 36 35.7
comp=Z,31nm,1.2s
INK Inuvik 66.68 347 P **P** **09 36 31.6 -0.6**
baz=26,SNR=17
C26K Camden Bay 66.70 352 P **P** **09 36 32.7 +0.5**
baz=17
E43A Lone Tree Farm 66.72 312 IAmb IAmb 09 36 37.2
comp=Z,28nm,1.1s
E43A Lone Tree Farm 66.72 312 P **P** **09 36 31.4 -1.5**
baz=52
G45A Suttons Bay 66.80 310 P **P** **09 36 32.2 -1.1**
baz=52
G45A P **P** **09 36 32.2 -1.1**
baz=52
C27K Jago River 66.85 351 P **P** **09 36 33.9 +0.6**
baz=18
O53A New Philadelph 67.07 304 P **P** **09 36 34.2 -1.0**
baz=53,SNR=6.7
LZH Lanzhou 67.10 62 *e*P **P** **09 36 36.8 +1.2**
LZH sP sP 09 36 42.4 +2.2
LZH S **S** **09 45 30.6 +0.8**
LZH pmax pmax
comp=Z,34nm,1.1s
LZH pmax pmax
comp=Z,350nm,4.8s
LZH LR LR
comp=Z,1μm,13.2s
LZH LR LR
comp=Z,510nm,14.1s
LZH LR LR
comp=Z,940nm,15.6s
D41A Chassel 67.15 313 P **P** **09 36 35.5 -0.1**
baz=52
C24K Franklin Bluff 67.25 353 P **P** **09 36 36.4 +0.6**
baz=14
U59A Littleton 67.25 299 P **P** **09 36 36.3 0.0**
baz=53
U59A P **P** **09 36 36.3 0.0**
baz=53
YKA Yellowknife Ar 67.28 337 P **P** **09 36 35.5 -0.5**
comp=Z,18nm,0.8s,baz=40,slow=5.9,SNR=242
comp=Z,18nm,0.8s
AAM Ann Arbor 67.30 307 P **P** **09 36 36.1 -0.5**
baz=52
AAM Ann Arbor 67.30 307 P **P** **09 36 36.0 -0.5**
baz=52
N51A Ashland 67.38 305 P **P** **09 36 36.5 -0.6**
baz=53
N51A P **P** **09 36 36.5 -0.6**
baz=53
J47A Sunmer 67.42 308 P **P** **09 36 37.1 -0.2**
baz=52
J47A P **P** **09 36 37.1 -0.2**
baz=52
M50A Fremont 67.48 306 P **P** **09 36 36.8 -0.9**
baz=52
M50A P **P** **09 36 36.8 -0.9**
baz=52
F31M Tsiigehtchic 67.50 347 P **P** **09 36 37.3 -0.1**
baz=26,SNR=32
O52A Adamsville 67.53 304 IAmb IAmb 09 36 38.8
comp=Z,21nm,0.8s
O52A Adamsville 67.53 304 P **P** **09 36 38.6 +0.5**
baz=53,SNR=5.1
O52A P **P** **09 36 38.6 +0.5**
baz=53,SNR=5.1
R55A Marlinton 67.58 302 IAmb IAmb 09 37 19.5
comp=Z,41nm,1.4s
R55A Marlinton 67.58 302 P **P** **09 36 38.2 -0.3**
baz=53
R55A P **P** **09 36 38.2 -0.3**
baz=53
Q54A Coxs Mills 67.60 303 IAmb IAmb 09 36 42.5
comp=Z,31nm,1.4s
Q54A Coxs Mills 67.60 303 P **P** **09 36 38.0 -0.6**
baz=53
Q54A P **P** **09 36 38.0 -0.6**
baz=53
P53A Whipple 67.64 303 IAmb IAmb 09 36 47.2
comp=Z,37nm,1.2s
P53A Whipple 67.64 303 P **P** **09 36 37.9 -0.9**
baz=53
P53A P **P** **09 36 37.9 -0.9**
baz=53
T57A Hurt 67.80 300 P **P** **09 36 39.3 -0.5**
baz=53
T57A P **P** **09 36 39.3 -0.5**
baz=53
BILL Bilibino 67.86 11 P **P** **09 36 38.3 -1.4**
BILL Bilibino 67.86 11*c i*P **P** **09 36 39.9 +0.2**
BILL *i* 09 39 09.9
BILL *i* S **S** **09 45 35.3 -2.4**
BILL *e*SS **SS** **09 49 56.8 -1.3**
BILL pmax pmax
comp=Z,45nm,1.1s
BILL MLR MLR
comp=Z,417nm,20.0s
E27K Coleen River 67.97 350 P **P** **09 36 41.0 +0.6**
baz=20,SNR=33
L48A N Adams 67.98 307 P **P** **09 36 39.6 -1.3**
L48A N Adams 67.98 307 P **P** **09 36 40.9 0.0**

L48A P **P** **09 36 40.9 0.0**
baz=52
P52A Corning **68.01 304** IAmb IAmb 09 36 41.5
comp=Z,26nm,0.9s
P52A Corning **68.01 304** P **P** **09 36 39.8 -1.3**
baz=52,SNR=7.9
EYMN Ely **68.14 316** P **P** **09 36 40.9 -0.9**
baz=50
EYMN Ely **68.14 316** P **P** **09 36 41.2 -0.6**
baz=50
D23K Nanushuk River **68.15 354** P **P** **09 36 41.8 +0.3**
baz=13,SNR=34
ACSO Alum Creek Sta **68.16 305** IAmb IAmb 09 36 46.9
comp=Z,34nm,1.1s
ACSO Alum Creek Sta **68.16 305** P **P** **09 36 42.3 +0.2**
baz=52,SNR=7.5
ACSO Alum Creek Sta **68.16 305** P **P** **09 36 42.3 +0.2**
baz=52,SNR=7.5
HIA Hailar **68.16 43** P **P** **09 36 46.4 +4.4**
comp=Z,30nm,1.4s
LBTB Lobatse **68.20 168** LR LR 10 08 04.2
comp=Z,524nm,20.6s,baz=347,slow=37
BTO Baotou **68.24 54** *e*P **P** **09 36 41.8 -0.9**
BTO LR LR
comp=Z,3μm,16.9s
BTO LR LR
comp=Z,4μm,19.8s
G30M tAoh Zraii Nji **68.33 348** P **P** **09 36 42.7 0.0**
baz=24
H43A Windswept, Lux **68.33 311** P **P** **09 36 41.6 -1.4**
baz=51
BLA Blacksburg **68.41 301** P **P** **09 36 43.0 -0.7**
baz=52
V58A Windy Hill, Pi **68.44 299** IAmb IAmb 09 36 44.7
comp=Z,24nm,1.2s
V58A Windy Hill, Pi **68.44 299** P **P** **09 36 43.9 0.0**
baz=52
V58A P **P** **09 36 43.9 0.0**
baz=52
N49A Columbus Grove **68.46 306** IAmb IAmb 09 36 48.7
comp=Z,28nm,0.9s
N49A Columbus Grove **68.46 306** P **P** **09 36 44.0 +0.2**
baz=52,SNR=7.8
N49A P **P** **09 36 44.0 +0.2**
baz=52,SNR=7.8
E25K Arctic Village **68.50 352** P **P** **09 36 44.3 +0.6**
baz=17,SNR=21
Q52A Bidwell **68.50 303** P **P** **09 36 40.7 -3.5**
Q52A IAmb IAmb 09 36 50.4
comp=Z,30nm,1.1s
Q52A Bidwell **68.50 303** P **P** **09 36 43.9 -0.3**
baz=52,SNR=8.4
Q52A P **P** **09 36 43.9 -0.3**
baz=52,SNR=8.4
FFC Flin Flon **68.52 326** P **P** **09 36 41.9 -2.2**
FFC Flin Flon **68.52 326** P **P** **09 36 41.9 -2.2**
FFC pmax pmax
comp=Z,43nm,1.3s
FFC Flin Flon **68.52 326** P **P** **09 36 45.5 +1.5**
P51A Williamsport **68.67 304** IAmb IAmb 09 36 49.7
comp=Z,18nm,0.8s
P51A Williamsport **68.67 304** P **P** **09 36 44.5 -0.7**
baz=52
P51A P **P** **09 36 44.5 -0.7**
baz=52
ROSB Rosrio **68.67 245** *e*P **P** **09 36 46.0 +0.5**
ZEA Zeya **68.67 36** *e*P **P** **09 36 45.3 +0.3**
ZEA *e*S **S** **09 45 50.5 +2.8**
ZEA pmax pmax
comp=E,100nm,4.2s
ZEA pmax pmax
comp=N,100nm,5.2s
ZEA pmax pmax
comp=Z,200nm,4.9s
ZEA pmax pmax
comp=Z,10.0nm,1.6s
ZEA smax smax
comp=N,100nm,3.8s
ZEA smax smax
comp=E,100nm,8.2s
ZEA MLR MLR
comp=E,700nm,15.0s
ZEA MLR MLR
comp=N,400nm,12.0s
ZEA MLR MLR
comp=Z,900nm,14.0s
R53A Hurricane **68.69 303** IAmb IAmb 09 36 46.1
comp=Z,21nm,0.8s
R53A Hurricane **68.69 303** P **P** **09 36 45.1 -0.3**
baz=52,SNR=5.1
R53A P **P** **09 36 45.1 -0.3**
baz=52,SNR=5.1
F26K Sheenjek River **68.75 351** P **P** **09 36 46.0 +0.7**
baz=18
ULM Lac du Bonnet **68.83 319** P **P** **09 36 45.7 -0.3**
comp=Z,21nm,0.9s,baz=43,slow=7.2,SNR=11
ULM LR LR 10 05 51.4
comp=Z,737nm,19.1s,baz=58,slow=35
comp=Z,21nm,0.9s
E24K Your Creek **68.83 353** P **P** **09 36 46.2 +0.3**
baz=14
MDP Montagnes des **68.91 257** LR LR 10 03 56.0
comp=Z,258nm,19.8s,baz=26,slow=33
U56A King **68.92 300** IAmb IAmb 09 37 26.9
comp=Z,48nm,1.6s
U56A King **68.92 300** P **P** **09 36 46.6 -0.2**
baz=52
U56A P **P** **09 36 46.6 -0.2**
baz=52
E23K Chandalar **68.95 353** P **P** **09 36 47.5 +0.9**
baz=14
EPYK Eagle Plains **68.97 348** P **P** **09 36 46.0 -0.7**
baz=23,SNR=8.6
O49A Covington **69.00 306** P **P** **09 36 47.1 -0.2**
baz=52,SNR=6.3
O49A P **P** **09 36 47.1 -0.2**
baz=52,SNR=6.3
HHC Hu-ho-hao-te **69.01 54** *e*P **P** **09 36 46.1 -1.4**
HHC S **S** **09 45 48.3 -4.1**
HHC pmax pmax
comp=Z,32nm,0.9s
HHC pmax pmax
comp=Z,750nm,6.0s
HHC LR LR
comp=Z,2μm,14.0s
HHC LR LR
comp=Z,1μm,14.6s
HHC LR LR
comp=Z,3μm,14.0s
F25K Christian Rive **69.01 352** P **P** **09 36 47.7 +0.7**
baz=17
B35A Bob, Littlefor **69.01 317** IAmb IAmb 09 36 51.6
comp=Z,29nm,1.1s
B35A Bob, Littlefor **69.01 317** P **P** **09 36 46.8 -0.4**
baz=49
BMAR Burnt Mountain **69.05 351** P **P** **09 36 46.9 -0.3**
E22K Anaktuvuk Pass **69.06 354** P **P** **09 36 47.6 +0.4**
baz=12
WRGLY Wrigley **69.07 341** P **P** **09 36 48.0 +0.8**
baz=33,SNR=6.2
Q51A Peebles **69.12 304** P **P** **09 36 47.0 -1.1**
Q51A IAmb IAmb 09 36 58.9
comp=Z,25nm,0.8s
Q51A Peebles **69.12 304** P **P** **09 36 48.1 0.0**
baz=52,SNR=9.3
Q51A P **P** **09 36 48.1 0.0**
baz=52,SNR=9.3
G40A Rib Lake **69.17 313** P **P** **09 36 47.0 -1.3**
G40A IAmb IAmb 09 36 52.1
comp=Z,19nm,1.0s
G40A Rib Lake **69.17 313** P **P** **09 36 47.7 -0.6**
baz=50
G27K Doyon Strip **69.28 350** P **P** **09 36 48.9 +0.2**
baz=20
F24K Squaw Lake **69.32 352** P **P** **09 36 49.5 +0.7**
baz=15
I42A Draeger Farm, **69.33 311** IAmb IAmb 09 36 53.3
comp=Z,22nm,1.1s
I42A Draeger Farm, **69.33 311** P **P** **09 36 49.1 -0.2**
baz=50
X58A Rowland **69.34 298** P **P** **09 36 50.1 +0.6**
baz=52
X58A P **P** **09 36 50.1 +0.6**
baz=52
N47A Urbana **69.38 307** IAmb IAmb 09 36 58.8
comp=Z,26nm,0.9s
N47A Urbana **69.38 307** P **P** **09 36 49.2 -0.5**
baz=51
N47A P **P** **09 36 49.2 -0.5**
baz=51
W57A Gilead **69.40 299** IAmb IAmb 09 36 50.2
comp=Z,17nm,1.1s
W57A Gilead **69.40 299** P **P** **09 36 48.6 -1.2**
baz=52
W57A P **P** **09 36 48.6 -1.2**
baz=52
O48B Farmland **69.45 306** P **P** **09 36 49.3 -0.8**
baz=51
O48B Farmland **69.45 306** P **P** **09 36 49.6 -0.5**
baz=51
P49A Miami Univ. Ec **69.64 305** P **P** **09 36 50.1 -1.2**
baz=51
P49A Miami Univ. Ec **69.64 305** P **P** **09 36 48.2 -3.0**
baz=51
XLT XiLinHaoTe **69.68 49**⇑ *i*P **P** **09 36 52.6 +1.0**
XLT S **S** **09 46 04.6 +4.4**
XLT ScS **ScS** **09 46 54.1 +0.7**
XLT pmax pmax
comp=Z,14nm,2.1s
XLT LR LR
comp=Z,160nm,16.8s
XLT LR LR
comp=Z,1μm,17.2s
XLT LR LR
comp=Z,1μm,18.3s
F22K John River **69.70 354** P **P** **09 36 51.7 +0.5**
baz=11
U54A Nelsons Funny **69.72 301** IAmb IAmb 09 37 02.4
comp=Z,27nm,1.1s
U54A Nelsons Funny **69.72 301** P **P** **09 36 51.2 -0.8**
baz=52
U54A P **P** **09 36 51.2 -0.8**
baz=52
V55A Taylorsville **69.75 300** IAmb IAmb 09 36 52.8
comp=Z,16nm,0.9s
V55A Taylorsville **69.75 300** P **P** **09 36 51.9 -0.1**
baz=52,SNR=5.3
V55A P **P** **09 36 51.9 -0.1**
baz=52,SNR=5.3
H27K Steamboat Moun **69.81 349** P **P** **09 36 52.5 +0.6**
baz=20
COLD Coldfoot **69.81 353** IAmb IAmb 09 36 56.4
comp=Z,27nm,1.1s
COLD Coldfoot **69.81 353** P **P** **09 36 52.4 +0.5**
baz=13,SNR=16
L44A Lake County Fo **69.86 309** P **P** **09 36 51.4 -1.1**
baz=50
G25K Bearman Lake **69.86 351** P **P** **09 36 53.0 +0.9**
baz=16
SEY Seymchan **69.89 19** *i*P **P** **09 36 53.1 +0.7**
SEY pmax pmax
comp=Z,26nm,1.0s
BIRD Birdtown, Kers **70.02 299** IAmb IAmb 09 36 54.2
comp=Z,25nm,1.1s
BIRD Birdtown, Kers **70.02 299** P **P** **09 36 53.5 -0.1**
baz=52
G24K Hadweenzic Riv **70.07 352** P **P** **09 36 54.8 +1.3**
baz=15
F21K Alatna River **70.08 355** P **P** **09 36 54.7 +1.2**
baz=10,SNR=39
P48A Milroy **70.11 306** P **P** **09 36 51.6 -2.5**
P48A IAmb IAmb 09 36 58.1
comp=Z,23nm,1.1s
P48A Milroy **70.11 306** P **P** **09 36 53.6 -0.6**
baz=51
P48A P **P** **09 36 53.6 -0.6**
baz=51
AGMN Agassiz Nation **70.12 318** P **P** **09 36 53.0 -1.0**
AGMN Agassiz Nation **70.12 318** P **P** **09 36 53.8 -0.3**
baz=48
AGMN Agassiz Nation **70.12 318** P **P** **09 36 53.1 -1.0**
baz=48
S51A Beattyville **70.14 303** P **P** **09 36 53.7 -0.7**
baz=51
S51A P **P** **09 36 53.7 -0.7**
baz=51
I29M Ogilvie Camp, **70.15 348** IAmb IAmb 09 36 55.2
comp=Z,31nm,1.1s
I29M Ogilvie Camp, **70.15 348** P **P** **09 36 54.0 0.0**
baz=22,SNR=16
CD2 Chengdu **70.18 66** P **P** **09 36 55.4 +0.6**
CD2 S **S** **09 46 04.9 -1.5**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,210nm,4.9s
CD2 LR LR
comp=Z,250nm,12.8s
CD2 LR LR
comp=Z,370nm,10.8s
CD2 LR LR
comp=Z,510nm,14.2s
TNCH TengChong **70.18 74** *e*P **P** **09 36 54.3 -0.7**
TNCH S **S** **09 46 03.9 -2.9**
TNCH pmax pmax
comp=Z,490nm,3.8s
TNCH LR LR
comp=Z,890nm,14.7s
TNCH LR LR
comp=Z,660nm,14.1s
TNCH LR LR
comp=Z,430nm,16.5s
R50A Paris **70.19 304** P **P** **09 36 53.8 -0.9**
baz=51
R50A P **P** **09 36 53.8 -0.9**
baz=51
KMSC Kings Mountain **70.27 300** IAmb IAmb 09 36 55.8
comp=Z,18nm,1.1s
KMSC Kings Mountain **70.27 300** P **P** **09 36 55.5 +0.3**
baz=51
KMSC Kings Mountain **70.27 300** P **P** **09 36 54.5 -0.7**
baz=51
I40A Norwalk **70.28 312** P **P** **09 36 54.8 -0.4**
baz=50
SJG San Juan **70.29 277** LR LR 10 02 22.6
comp=Z,459nm,21.8s,baz=75,slow=31
G23K Bananza Creek **70.31 353** P **P** **09 36 55.4 +0.5**
baz=13
Y57A Sumter **70.36 298** P **P** **09 36 56.2 +0.5**
baz=51
Y57A P **P** **09 36 56.2 +0.5**
baz=51
I27K Kandik River **70.42 349** P **P** **09 36 55.9 +0.2**
baz=19
M44A Midewin, Midew **70.44 308** P **P** **09 36 55.2 -0.9**
baz=50
SFIN Lafayette **70.53 307** P **P** **09 36 55.3 -1.3**
baz=50
SFIN Lafayette **70.53 307** P **P** **09 36 55.6 -1.1**
baz=50
F36A Milaca **70.55 315** IAmb IAmb 09 37 01.0
comp=Z,16nm,1.0s
F36A Milaca **70.55 315** P **P** **09 36 56.5 -0.2**
baz=48,SNR=10
SPMN Marine on St. **70.59 314** IAmb IAmb 09 37 01.5
comp=Z,19nm,1.1s
SPMN Marine on St. **70.59 314** P **P** **09 36 56.3 -0.7**
baz=49
SPMN Marine on St. **70.59 314** P **P** **09 36 56.5 -0.5**
baz=49
R49A Shelbyville **70.70 304** P **P** **09 36 56.8 -1.0**
baz=51
R49A P **P** **09 36 56.8 -1.0**
baz=51
JFWS Jewell Farm **70.71 311** P **P** **09 36 56.8 -1.0**
baz=49
JFWS Jewell Farm **70.71 311** P **P** **09 36 56.6 -1.2**
baz=49
JSC Jenkinsville **70.76 299** P **P** **09 36 58.2 0.0**
baz=51
PAULI Pauline **70.78 300** IAmb IAmb 09 36 58.9
comp=Z,21nm,0.9s
PAULI Pauline **70.78 300** P **P** **09 36 58.1 -0.2**
baz=51
G21K Allakaket **70.78 354** P **P** **09 36 58.0 +0.2**
baz=10
NHSC New Hope **70.78 297** P **P** **09 36 58.6 +0.2**
baz=51
NHSC New Hope **70.78 297** P **P** **09 36 58.2 -0.2**
baz=51
TZTN Tazewell **70.80 302** P **P** **09 36 57.7 -0.7**
baz=51
TZTN Tazewell **70.80 302** P **P** **09 36 58.3 -0.1**
baz=51
V53A Saluda **70.88 301** IAmb IAmb 09 37 23.3
comp=Z,25nm,1.4s
V53A Saluda **70.88 301** P **P** **09 36 58.1 -0.9**
baz=51
V53A P **P** **09 36 58.1 -0.9**
baz=51
H24K Noodor Dome **70.95 352** IAmb IAmb 09 37 03.7
comp=Z,20nm,1.1s
H24K Noodor Dome **70.95 352** P **P** **09 36 59.1 +0.2**
baz=15
BLO Bloomington **70.95 306** IAmb IAmb 09 36 58.7
comp=Z,49nm,1.5s
TMAB Tom-Au,PA,Br **70.97 248** *e*P **P** **09 37 00.8 +1.1**
L42A Oliver, Polo **70.97 310** IAmb IAmb 09 37 02.9
comp=Z,23nm,1.0s
L42A Oliver, Polo **70.97 310** P **P** **09 36 58.7 -0.6**
baz=50
P46A Rosedale **71.08 307** P **P** **09 36 59.2 -0.9**
baz=50
EGAK Eagle **71.13 349** IAmb IAmb 09 37 00.8
comp=Z,50nm,1.9s
EGAK Eagle **71.13 349** P **P** **09 37 00.4 +0.5**
baz=20,SNR=6.6
HEH HeiHe **71.17 38** *e*P **P** **09 37 00.4 0.0**
HEH S **S** **09 46 14.9 -2.3**
HEH pmax pmax
comp=Z,20nm,1.4s
HEH pmax pmax
comp=Z,490nm,4.8s
HEH LR LR
comp=Z,2μm,16.9s
HEH LR LR
comp=Z,2μm,16.7s
HEH LR LR
comp=Z,4μm,13.3s
V52A Sevierville **71.27 302** P **P** **09 37 00.0 -1.3**
baz=51
T50A Nancy **71.30 303** IAmb IAmb 09 37 00.9
comp=Z,64nm,1.9s
T50A Nancy **71.30 303** P **P** **09 37 00.3 -1.1**
baz=50
T50A P **P** **09 37 00.3 -1.1**
baz=50
BG3 Lake Jocassee **71.38 301** IAmb IAmb 09 37 02.5
comp=Z,26nm,1.3s
CASEE Lake Jocassee **71.38 301** P **P** **09 37 02.0 0.0**
baz=51
MAYO Mayo, Yukon **71.38 346** P **P** **09 37 01.4 -0.1**
baz=24,SNR=7.0
WCI Wyandotte Cave **71.42 305** P **P** **09 37 00.2 -1.9**
WCI IAmb IAmb 09 37 02.2
comp=Z,19nm,0.8s
WCI Wyandotte Cave **71.42 305** P **P** **09 37 01.4 -0.7**
baz=50,SNR=7.3
WCI Wyandotte Cave **71.42 305** P **P** **09 37 00.9 -1.3**
baz=50
WCI Wyandotte Cave **71.42 305** P **P** **09 37 00.2 -1.9**
WCI pmax pmax
comp=Z,19nm,0.9s
HODGE Hodges **71.43 300** P **P** **09 37 01.7 -0.6**
baz=51
K29M Barlow Dome **71.44 347** P **P** **09 37 02.0 0.0**
baz=22
O44A Mansfield **71.48 308** IAmb IAmb 09 37 12.0
comp=Z,37nm,1.2s
O44A Mansfield **71.48 308** P **P** **09 37 01.9 -0.6**
baz=50
TKL Tuckaleechee C **71.50 302** LR LR 10 08 34.0
comp=Z,547nm,18.1s,baz=67,slow=36
TKL Tuckaleechee C **71.50 302** P **P** **09 37 01.3 -1.3**
TKL Tuckaleechee C **71.50 302** P **P** **09 37 01.4 -1.3**
baz=50
TKL Tuckaleechee C **71.50 302** P **P** **09 37 01.3 -1.3**
TKL pmax pmax
comp=Z,16nm,1.1s
TIY Taiyuan **71.51 56** P **P** **09 37 03.1 +0.3**
TIY S **S** **09 46 21.3 -0.4**
TIY pmax pmax
comp=Z,210nm,3.9s
TIY LR LR
comp=Z,1μm,17.9s
TIY LR LR
comp=Z,960nm,19.9s
TIY LR LR
comp=Z,1μm,14.4s
PZH PanZhiHua **71.53 71** P **P** **09 37 03.3 +0.1**
PZH pmax pmax
comp=Z,8.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
DAWY Dawson **71.53 348** IAmb IAmb 09 37 04.4
comp=Z,39nm,1.2s
DAWY Dawson **71.53 348** P **P** **09 37 02.8 +0.3**
baz=21,SNR=18
HAW Hawthorne Fire **71.56 298** P **P** **09 37 03.0 -0.1**
baz=51,SNR=6.6
H21K Melozitna Rive **71.57 354** P **P** **09 37 03.8 +1.2**
baz=11
POKR Poker Plat Res **71.60 352** P **P** **09 37 03.6 +0.8**
baz=15,SNR=13
XAN Xi'an **71.64 61**⇑ P **P** **09 37 04.1 +0.5**
XAN sP sP 09 37 11.3 +3.1
XAN PP **PP** **09 39 45.4 +3.2**
XAN S **S** **09 46 25.5 +2.3**
XAN sS sS 09 46 35.3 +6.2
XAN SKS **SKSac** **09 47 02.1 -5.3**
XAN ScS **SKSac** **09 47 07.1 -0.4**
XAN pmax pmax
comp=Z,21nm,0.9s
XAN pmax pmax
comp=Z,330nm,5.0s
XAN LR LR
comp=Z,670nm,13.7s
XAN LR LR
comp=Z,720nm,16.7s
XAN LR LR
comp=Z,960nm,16.2s
BOSA Boshof **71.68 169** P **P** **09 37 06.7 +2.9**
comp=Z,10nm,1.1s,baz=348,slow=5.1,SNR=5.4
BOSA LR LR 10 10 09.7
comp=Z,469nm,20.1s,baz=350,slow=37
comp=Z,10nm,1.1s
HDIL Hopedale **71.70 308** P **P** **09 37 03.2 -0.6**
baz=49
HDIL Hopedale **71.70 308** P **P** **09 37 04.3 +0.5**
baz=49
I37A Lemond, Waseca **71.71 313** IAmb IAmb 09 37 15.0
comp=Z,42nm,1.2s
I37B Waseca **71.71 313** P **P** **09 37 03.4 -0.4**
baz=48
J26L Joseph Creek **71.73 350** IAmb IAmb 09 37 08.2
comp=Z,40nm,1.2s
J26L Joseph Creek **71.73 350** P **P** **09 37 03.8 +0.2**
baz=18
V51A Loudon **71.77 302** IAmb IAmb 09 37 04.7
comp=Z,21nm,1.1s
V51A Loudon **71.77 302** P **P** **09 37 03.6 -0.6**
baz=50,SNR=5.2
I23K Minto, Yukon-K **71.77 352** IAmb IAmb 09 37 08.6
comp=Z,30nm,1.2s
I23K Minto, Yukon-K **71.77 352** P **P** **09 37 04.2 +0.4**
baz=13,SNR=15
L40A Anamosa **71.81 311** IAmb IAmb 09 37 07.2
comp=Z,18nm,0.9s
L40A Anamosa **71.81 311** P **P** **09 37 02.9 -1.6**
baz=49
MDM Murphy Dome **71.84 352** IAmb IAmb 09 37 08.9
comp=Z,41nm,1.2s
KOTAN Kotaneelee Air **71.85 339** P **P** **09 37 05.3 +0.9**
baz=32
ILAR Eielson Array **71.88 351** P **P** **09 37 04.5 0.0**
comp=Z,8.6nm,0.9s,baz=12,slow=4.6,SNR=38
comp=Z,8.6nm,0.9s
COLA College **71.88 352** P **P** **09 37 04.0 -0.4**
COLA College **71.88 352** P **P** **09 37 05.0 +0.6**
baz=15
COLA College **71.88 352** P **P** **09 37 05.9 +1.5**
comp=Z,19nm,1.4s
COLA College **71.88 352** *i*P **P** **09 37 04.4 0.0**
COLA pmax pmax
comp=Z,24nm,1.3s
TCOL CIGO, UAF Yank **71.88 352** P **P** **09 37 04.8 +0.3**
baz=15
W52A Murphy **71.95 301** P **P** **09 37 04.3 -1.1**
baz=50
I21K Tanana **71.98 354** P **P** **09 37 06.0 +1.0**
baz=11
F33A 5 Mile Ranch, **72.00 316** IAmb IAmb 09 37 09.7
comp=Z,22nm,1.0s

F33A 5 Mile Ranch, 72.00 316 P P 09 37 04.4 -1.2
baz=47
MLY Manley 72.02 353 IAmb IAmb 09 37 10.3
comp=Z,28nm,1.1s
MLY Manley 72.02 353 P P 09 37 06.1 +0.8
baz=12,SNR=19
FARO Faro, Yukon 72.15 344 IAmb IAmb 09 37 12.3
comp=Z,52nm,1.3s
FARO Faro, Yukon 72.15 344 P P 09 37 07.6 +1.4
baz=25,SNR=17
OLIL Olney 72.18 306 IAmb IAmb 09 37 16.9
comp=Z,40nm,1.2s
OLIL Olney 72.18 306 P P 09 37 05.2 -1.5
baz=49
U49A Red Boiling Sp 72.20 303 P P 09 37 05.7 -1.2
U49A Red Boiling Sp 72.20 303 P P 09 37 06.0 -0.9
baz=50,SNR=6.3
TNA Tin City 72.21 1 IAmb IAmb 09 37 11.1
comp=Z,32nm,1.1s
TNA Tin City 72.21 1 P P 09 37 06.5 +0.1
baz=359,SNR=13
L29M L29M 72.22 347 P P 09 37 07.4 +0.8
baz=22
BJI Beijing 72.23 52 P P 09 37 07.9 +0.9
BJI PcP PcP 09 37 28.4 +3.3
BJI S S 09 46 30.0 +0.3
BJI pmax pmax
comp=Z,8.0nm,1.8s
BJI pmax pmax
comp=Z,150nm,4.7s
BJI LR LR
comp=Z,730nm,19.7s
BJI LR LR
comp=Z,590nm,19.1s
BJI LR LR
comp=Z,480nm,18.5s
HDA Harding Lake 72.23 351 IAmb IAmb 09 37 10.8
comp=Z,45nm,1.2s
HDA Harding Lake 72.23 351 P P 09 37 06.6 0.0
baz=15,SNR=19
BJT Baijiatuau 72.24 52 P P 09 37 13.6 +6.5
comp=Z,18nm,1.9s
MDND Maddock 72.26 319 P P 09 37 06.2 -0.8
baz=46
K38A Parkersburg 72.28 312 P P 09 37 04.9 -2.3
baz=48
NEA2 Nenana 72.28 352 P P 09 37 04.8 -2.1
NEA2 IAmb IAmb 09 37 11.2
comp=Z,33nm,1.2s
NEA2 Nenana 72.28 352 P P 09 37 06.6 -0.3
baz=14,SNR=15
SCRK Sand Creek 72.28 350 IAmb IAmb 09 37 12.0
comp=Z,31nm,1.3s
SCRK Sand Creek 72.28 350 P P 09 37 07.5 +0.5
baz=17,SNR=13
MCPB Macapa, AP 72.29 253 eP P 09 37 08.4 +0.7
WRH Wood River Hil 72.30 352 IAmb IAmb 09 37 11.1
comp=Z,30nm,1.2s
MA2 Magadan 72.37 21 P P 09 37 07.2 -0.3
MA2 IAmb IAmb 09 37 14.3
comp=Z,26nm,0.9s
MA2 Magadan 72.37 21 P P 09 37 07.2 -0.3
MA2 pmax pmax
comp=Z,27nm,0.9s
M31M Drury Creek, Y 72.38 345 P P 09 37 08.6 +1.0
baz=24,SNR=8.6
USIN University of 72.42 306 P P 09 37 06.7 -1.4
USIN IAmb IAmb 09 37 07.7
comp=Z,34nm,0.9s
M30M Minto, Yukon 72.49 346 P P 09 37 07.9 -0.2
baz=23
N41A Harden Midland 72.49 309 IAmb IAmb 09 37 12.3
comp=Z,37nm,1.1s
N41A Harden Midland 72.49 309 P P 09 37 07.4 -1.2
baz=48,SNR=7.4
RIDG Independent Ri 72.62 350 P P 09 37 09.7 +0.7
baz=17,SNR=30
K24K Donnelly Dome 72.68 350 P P 09 37 10.2 +0.9
baz=16,SNR=9.3
T47A Sharon Grove 72.71 304 P P 09 37 09.1 -0.8
baz=49,SNR=24
GCSA Galena City Sc 72.75 356 P P 09 37 10.8 +1.1
baz=7.6,SNR=15
W50A Signal Mountai 72.75 302 IAmb IAmb 09 37 10.6
comp=Z,20nm,1.0s
W50A Signal Mountai 72.75 302 P P 09 37 09.7 -0.6
baz=50,SNR=7.4
CLTN Cedars of Leba 72.81 303 IAmb IAmb 09 37 14.4
comp=Z,22nm,1.1s
Y52A Lilburn 72.82 300 IAmb IAmb 09 37 11.0
comp=Z,15nm,0.8s
Y52A Lilburn 72.82 300 P P 09 37 10.3 -0.3
baz=50,SNR=5.7
Y52A P P 09 37 10.3 -0.3
baz=50,SNR=5.7
L27K Beaver Creek, 72.86 348 IAmb IAmb 09 37 15.5
comp=Z,38nm,1.3s
L27K Beaver Creek, 72.86 348 P P 09 37 11.5 +1.1
baz=19
X51A Calhoun 72.88 301 P P 09 37 10.2 -0.8
baz=50
X51A P P 09 37 10.2 -0.8
baz=50
M29M Somme Creek 72.90 347 P P 09 37 11.7 +0.9
baz=22
BPAW Bear Paw Mtn. 72.95 353 P P 09 37 09.7 -1.2
BPAW IAmb IAmb 09 37 14.9
comp=Z,25nm,1.0s
BPAW Bear Paw Mtn. 72.95 353 P P 09 37 10.6 -0.3
baz=12,SNR=13
LIRD Liard River Hi 73.00 340 P P 09 37 11.6 +0.4
baz=30,SNR=8.1
154A Montrose 73.01 299 IAmb IAmb 09 37 12.3
comp=Z,40nm,1.1s
154A Montrose 73.01 299 P P 09 37 11.2 -0.6
baz=50
SCIA State Center 73.02 312 P P 09 37 08.8 -2.9
baz=48
255A Hazlehurst 73.03 298 P P 09 37 10.4 -1.4
255A Hazlehurst 73.03 298 P P 09 37 11.7 -0.2
baz=50
WTLY Watson Lake, Y 73.05 341 IAmb IAmb 09 37 13.8
comp=Z,30nm,1.1s
WTLY Watson Lake, Y 73.05 341 P P 09 37 12.1 +0.6
baz=28,SNR=8.8
HNS HongShan 73.09 55 ⇑P P 09 37 14.6 +2.5
HNS S S 09 46 41.4 +1.8
HNS pmax pmax
comp=Z,10.0nm,0.7s
HNS pmax pmax
comp=Z,340nm,6.3s
HNS LR LR
comp=Z,730nm,19.1s
HNS LR LR
comp=Z,1μm,20.7s
HNS LR LR
comp=Z,930nm,17.6s
KMI Kunming 73.10 71 ⇓P P 09 37 12.6 -0.1
KMI S S 09 46 39.4 -1.2
KMI ScS SKKSac 09 47 19.4 +0.2
KMI pmax pmax
comp=Z,24nm,1.8s
KMI pmax pmax
comp=Z,320nm,4.7s
KMI LR LR
comp=Z,180nm,10.2s
KMI LR LR
comp=Z,380nm,16.5s
KMI LR LR
comp=Z,700nm,27.9s
L26K Log Cabin Wild 73.11 349 IAmb IAmb 09 37 17.0
comp=Z,29nm,1.0s
L26K Log Cabin Wild 73.11 349 P P 09 37 12.4 +0.6
baz=18,SNR=19
MCK McKinley 73.11 352 P P 09 37 11.9 0.0
baz=14,SNR=27
ANM Nome 73.21 359 P P 09 37 12.7 +0.3
baz=1.1,SNR=6.8
CHUM Lake Minchumin 73.28 353 P P 09 37 13.1 +0.3
baz=11,SNR=12
N31M Braeburn, Yuko 73.31 345 IAmb IAmb 09 37 17.4
comp=Z,22nm,1.1s
N31M Braeburn, Yuko 73.31 345 P P 09 37 13.5 +0.4
baz=23
V48A Smith Brothers 73.34 303 IAmb IAmb 09 37 13.6
comp=Z,27nm,1.1s
V48A Smith Brothers 73.34 303 P P 09 37 11.8 -1.9
baz=49,SNR=7.4

PAX Paxson 73.45 350 P P 09 37 14.1 +0.2
baz=16,SNR=7.7
TRF Thorofare Moun 73.52 352 IAmb IAmb 09 37 18.5
comp=Z,42nm,1.2s
TRF Thorofare Moun 73.52 352 P P 09 37 14.6 +0.2
baz=13,SNR=14
M27K Edge Creek, AK 73.53 348 P P 09 37 15.4 +0.9
baz=19
LYN LuoYang 73.56 58 ⇓P P 09 37 17.4 +2.4
LYN S S 09 46 43.8 -1.3
LYN sS sS 09 46 57.3 +6.3
LYN SKS SKKSac 09 47 22.1 +0.1
LYN pmax pmax
comp=Z,200nm,4.4s
LYN LR LR
comp=Z,520nm,15.9s
LYN LR LR
comp=Z,630nm,17.5s
LYN LR LR
comp=Z,630nm,15.5s
DHY Denali Highway 73.58 351 P P 09 37 15.1 +0.3
baz=15,SNR=33
ECSD EROS Data Cent 73.61 315 IAmb IAmb 09 37 19.5
comp=Z,22nm,1.0s
ECSD EROS Data Cent 73.61 315 P P 09 37 14.8 -0.4
baz=46,SNR=27
ECSD EROS Data Cent 73.61 315 P P 09 37 14.3 -0.9
baz=46,SNR=27
M26K Nabesna, AK 73.66 349 IAmb IAmb 09 37 20.2
comp=Z,36nm,1.2s
M26K Nabesna, AK 73.66 349 P P 09 37 15.9 +0.8
baz=18,SNR=18
E28A Huff 73.68 319 P P 09 37 15.6 +0.1
baz=45,SNR=16
WVT Waverly 73.71 304 P P 09 37 12.9 -2.9
WVT IAmb IAmb 09 37 15.3
comp=Z,25nm,1.1s
WVT Waverly 73.71 304 P P 09 37 13.9 -1.8
baz=49,SNR=12
WVT Waverly 73.71 304 P P 09 37 14.0 -1.8
baz=49
WVT Waverly 73.71 304 P P 09 37 12.9 -2.9
WVT pmax pmax
comp=Z,25nm,1.2s
WVT Waverly 73.71 304 P P 09 37 13.7 -2.1
CAST Castle Rocks 73.72 353 P P 09 37 15.7 +0.2
baz=11,SNR=16
N38A Joes South For 73.78 311 P P 09 37 15.1 -1.1
baz=47
YUK3 Moose Creek 73.86 347 P P 09 37 17.3 +0.8
baz=20
KLR Kul'dur 73.86 37 P P 09 37 16.8 +0.3
comp=Z,9.1nm,1.1s,baz=325,slow=7.3,SNR=9.4
KLR LR LR 10 11 17.8
comp=Z,625nm,19.1s,baz=323,slow=37
comp=Z,9.1nm,1.1s
KLR Kul'dur 73.86 37 iP P 09 37 15.9 -0.6
KLR pmax pmax
comp=Z,29nm,1.2s
P33M Teslin, Yukon 73.87 343 P P 09 37 17.2 +0.7
baz=25,SNR=8.4
Z51A Franklin 73.88 300 P P 09 37 16.1 -0.8
baz=49
WHY Whitehorse 73.89 344 IAmb IAmb 09 37 21.0
comp=Z,39nm,1.6s
WHY Whitehorse 73.89 344 P P 09 37 16.8 +0.2
baz=24
K20K Telida 73.94 354 IAmb IAmb 09 37 21.4
comp=Z,26nm,1.0s
K20K Telida 73.94 354 P P 09 37 17.7 +1.0
baz=9.7,SNR=16
WAT1 Susitna Watana 73.95 351 P P 09 37 16.5 -0.3
baz=14
HARP HAARP 73.95 350 P P 09 37 17.4 +0.6
baz=16
P40A Paris 73.96 309 P P 09 37 16.0 -1.2
baz=48
YUK4 Talbot Arm 73.96 346 P P 09 37 16.8 -0.4
baz=21
DGMT Dagmar 73.96 322 P P 09 37 17.2 +0.1
baz=43
DGMT Dagmar 73.96 322 P P 09 37 17.3 +0.1
baz=43
152A Waverly Hall 74.01 300 IAmb IAmb 09 37 18.0
comp=Z,24nm,1.1s
152A Waverly Hall 74.01 300 P P 09 37 17.0 -0.6
baz=49,SNR=5.6
O30N Mendenhall 74.03 345 P P 09 37 17.6 +0.2
baz=23,SNR=7.4
GDU01 Guandu, BA 74.05 234 eP P 09 37 18.3 +0.4
TIGA Tifton 74.07 298 IAmb IAmb 09 37 20.1
comp=Z,47nm,1.3s
TIGA Tifton 74.07 298 P P 09 37 17.8 -0.2
baz=50
TIGA Tifton 74.07 298 P P 09 37 17.9 -0.1
baz=50
WAT6 Susitna Watana 74.10 351 P P 09 37 18.5 +0.7
baz=14,SNR=18
R33M Jennings River 74.20 342 P P 09 37 19.5 +1.0
baz=27
YUK8 Steele Glacier 74.21 347 P P 09 37 17.0 -1.7
baz=20
HYT Haines Junctio 74.24 346 P P 09 37 20.2 +1.5
baz=22,SNR=6.7
PPLA Purkeypile 74.24 353 IAmb IAmb 09 37 26.8
comp=Z,28nm,1.0s
PPLA Purkeypile 74.24 353 P P 09 37 20.0 +1.3
baz=11,SNR=11
YUK6 Outpost Mounta 74.29 346 P P 09 37 20.9 +1.9
baz=21,SNR=11
Y49A Blount Mountai 74.31 302 P P 09 37 18.8 -0.6
baz=49
X48A Hartselle 74.32 302 IAmb IAmb 09 37 19.6
comp=Z,42nm,1.0s
X48A Hartselle 74.32 302 P P 09 37 18.7 -0.7
baz=49,SNR=15
M24K Tolsona, Glenn 74.37 350 IAmb IAmb 09 37 58.7
comp=Z,42nm,1.2s
M24K Tolsona, Glenn 74.37 350 P P 09 37 19.7 +0.4
baz=16
CHTO Chiang Mai 74.41 79 P P 09 37 18.7 -1.5
CHTO Chiang Mai 74.41 79 P P 09 37 18.7 -1.5
CHTO pmax pmax
comp=Z,22nm,1.2s
ENH Enshi 74.41 63 P P 09 37 19.4 -0.7
ENH IAmb IAmb 09 37 28.9
comp=Z,27nm,1.0s
CCM Cathedral Cave 74.48 308 P P 09 37 19.3 -1.0
CCM Cathedral Cave 74.48 308 P P 09 37 19.3 -1.0
baz=48,SNR=11
CCM Cathedral Cave 74.48 308 P P 09 37 19.5 -0.8
baz=48
CCM Cathedral Cave 74.48 308 P P 09 37 19.3 -1.0
CCM pmax pmax
comp=Z,14nm,0.9s
TTA Tatalina 74.50 355 IAmb IAmb 09 37 26.1
comp=Z,47nm,1.5s
TTA Tatalina 74.50 355 P P 09 37 21.6 +1.5
baz=8.2,SNR=9.5
PARMO Parma 74.52 306 P P 09 37 18.9 -1.7
PARMO IAmb IAmb 09 38 31.9
comp=Z,20nm,0.8s
CRAI Chiangrai 74.53 77 IAmb IAmb 09 37 27.7
comp=Z,44nm,1.7s
WAPA Wapiti River 74.59 334 P P 09 37 20.5 -0.2
PLAL Pickwick Lake 74.61 303 IAmb IAmb 09 37 20.8
comp=Z,36nm,1.1s
P32M Atlin 74.63 343 P P 09 37 21.2 +0.3
baz=25
MCARA McCarthy VSAT 74.63 348 P P 09 37 21.5 +0.7
baz=18
CMAR Chiang Mai Arr 74.64 79 P P 09 37 21.1 -0.5
comp=Z,3.2nm,0.7s,baz=309,slow=7.0,SNR=12
CMAR LR LR 10 18 58.8
comp=Z,174nm,19.3s,baz=310,slow=43
comp=Z,3.2nm,0.7s
CMAR Chiang Mai Arr 74.64 79 P P 09 37 21.0 -0.5
N25K Chitina, Valde 74.64 349 IAmb IAmb 09 37 26.1
comp=Z,30nm,1.3s
N25K Chitina, Valde 74.64 349 P P 09 37 22.1 +1.1
baz=17,SNR=7.2
GRNR Gornyy 74.69 33 ⇓iP P 09 37 21.1 -0.2
GRNR pmax pmax
comp=Z,10.0nm,1.4s
656A Willston 74.71 296 P P 09 37 21.9 +0.2
baz=49
P38A Dawn 74.74 310 IAmb IAmb 09 37 25.8
comp=Z,35nm,1.2s

P38A Dawn 74.74 310 P P 09 37 21.1 -0.6
baz=47,SNR=8.7
CN2 Changchun 74.76 44 eP P 09 37 20.3 -1.5
CN2 ePP PP 09 40 09.0 +0.6
CN2 S S 09 46 54.8 -3.4
CN2 SS SS 09 51 42.8 -2.0
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,440nm,4.5s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
O28M Mount Upton 74.76 347 P P 09 37 22.9 +1.0
baz=20
SCM Sheep Creek Mo 74.78 351 P P 09 37 21.6 -0.1
SCM Sheep Creek Mo 74.78 351 P P 09 37 23.0 +1.3
baz=15,SNR=12
SCM Sheep Creek Mo 74.78 351 P P 09 37 21.6 -0.1
SCM pmax pmax
comp=Z,118nm,1.3s
P30M Million Dollar 74.79 345 P P 09 37 22.9 +1.1
baz=22
DLBC Dease Lake 74.83 341 LR LR 10 11 58.7
comp=Z,607nm,19.0s,baz=26,slow=37
DLBC Dease Lake 74.83 341 IAmb IAmb 09 37 25.0
comp=Z,67nm,1.7s
DLBC Dease Lake 74.83 341 P P 09 37 23.3 +1.2
baz=27
M23K Glacier View 74.86 351 P P 09 37 23.8 +1.6
baz=14,SNR=7.2
Q32M Nakina River 74.88 342 P P 09 37 23.4 +0.9
baz=26
MALB Monte Alegre 74.90 253 eP P 09 37 23.9 +0.9
PRPB Parauapebas 74.90 247 eP P 09 37 23.8 +0.8
SUR Sutherland 74.90 173 LR LR 10 11 60.0
comp=Z,500nm,19.5s,baz=348,slow=37
352A Blakely 74.92 299 P P 09 37 21.5 -1.4
baz=49
R40A Maddies Statio 74.92 308 IAmb IAmb 09 37 26.9
comp=Z,23nm,1.1s
R40A Maddies Statio 74.92 308 P P 09 37 21.4 -1.4
baz=47,SNR=9.6
SML Sawmill 74.92 351 P P 09 37 23.2 +0.7
baz=14,SNR=14
O29M Mount Kennedy 74.92 346 P P 09 37 23.5 +0.9
baz=21
KLU Klutina 74.93 350 IAmb IAmb 09 37 27.1
comp=Z,60nm,1.4s
KLU Klutina 74.93 350 P P 09 37 23.2 +0.6
baz=16
GYA Guiyang 74.96 68 ⇑P P 09 37 24.3 +0.9
GYA S S 09 47 01.3 0.0
GYA pmax pmax
comp=Z,18nm,2.1s
GYA LR LR
comp=Z,280nm,16.2s
GYA LR LR
comp=Z,450nm,14.1s
GYA LR LR
comp=Z,440nm,16.0s
GHO Glory Hole Cre 75.02 351 P P 09 37 20.5 -2.6
GHO IAmb IAmb 09 37 28.1
comp=Z,23nm,1.0s
N35A Tabor 75.07 312 P P 09 37 22.9 -0.8
N35A IAmb IAmb 09 37 29.0
comp=Z,26nm,1.0s
SKAG Skagway 75.08 344 P P 09 37 24.2 +0.9
baz=24
SKT Skwentna 75.09 353 P P 09 37 21.8 -1.6
SKT Skwentna 75.09 353 P P 09 37 23.2 -0.2
baz=12,SNR=11
SNY Shenyang 75.16 46 ⇑P P 09 37 20.6 -3.5
SNY S S 09 47 04.8 +2.1
SNY pmax pmax
comp=Z,10.0nm,0.5s
SNY pmax pmax
comp=Z,400nm,5.2s
SNY LR LR
comp=Z,2μm,16.2s
SNY LR LR
comp=Z,2μm,16.4s
SNY LR LR
comp=Z,2μm,14.9s
L19K White Mountain 75.17 354 IAmb IAmb 09 37 28.7
comp=Z,34nm,1.2s
L19K White Mountain 75.17 354 P P 09 37 24.8 +0.9
baz=9.1
M22K Willow 75.17 352 P P 09 37 23.8 0.0
baz=13
PMR Palmer 75.22 351 P P 09 37 24.2 +0.1
baz=13
LRAL Lakeview Retre 75.22 301 IAmb IAmb 09 37 24.8
comp=Z,21nm,0.8s
LRAL Lakeview Retre 75.22 301 P P 09 37 23.7 -0.9
baz=48,SNR=12
LRAL Lakeview Retre 75.22 301 P P 09 37 23.6 -1.1
baz=48,SNR=12
BMRM Bremner River 75.26 349 P P 09 37 25.8 +1.3
baz=17,SNR=7.9
DIV Divide 75.26 350 IAmb IAmb 09 37 28.8
comp=Z,31nm,1.1s
PLBC Pleasant Camp 75.29 345 P P 09 37 25.4 +0.8
baz=23
CMC01 Camacan, BA 75.31 233 eP P 09 37 26.6 +1.4
KNK Knik Glacier 75.32 351 IAmb IAmb 09 37 30.1
comp=Z,50nm,1.3s
KNK Knik Glacier 75.32 351 P P 09 37 25.1 +0.4
baz=14,SNR=7.7
M20K Styx River 75.33 353 IAmb IAmb 09 37 25.9
comp=Z,32nm,1.3s
M20K Styx River 75.33 353 P P 09 37 24.0 -0.9
baz=10
TIA Tai'an 75.33 54 ⇑P P 09 37 25.3 +0.1
TIA pmax pmax
comp=Z,7.0nm,1.1s
TIA pmax pmax
comp=Z,250nm,4.8s
TIA LR LR
comp=Z,620nm,15.5s
TIA LR LR
comp=Z,740nm,14.5s
TIA LR LR
comp=Z,970nm,15.7s
SMTB Santa Maria do 75.38 243 eP P 09 37 27.0 +1.3
PINM Pinnacle 75.41 347 P P 09 37 26.1 +0.7
baz=20
553A Crawfordville 75.43 298 P P 09 37 25.9 0.0
baz=49
250A Grady 75.45 300 P P 09 37 25.1 -0.9
baz=49
S34M Telegraph Cree 75.57 341 P P 09 37 26.8 +0.6
baz=26
PNL Peninsula 75.66 346 P P 09 37 27.6 +0.8
baz=20
OXF Oxford 75.75 304 P P 09 37 26.1 -1.5
baz=48
OXF Oxford 75.75 304 P P 09 37 25.5 -2.1
baz=48
LCAR Lake Charles 75.76 306 IAmb IAmb 09 37 28.0
comp=Z,49nm,2.0s
RC01 Rabbit Creek A 75.78 352 IAmb IAmb 09 37 31.7
comp=Z,41nm,1.2s
RC01 Rabbit Creek A 75.78 352 P P 09 37 27.6 +0.3
baz=13,SNR=7.8
Z47A Carrollton 75.79 302 IAmb IAmb 09 37 27.5
comp=Z,21nm,0.9s
Z47A Carrollton 75.79 302 P P 09 37 26.3 -1.6
baz=48
EYAK Cordova Ski Ar 75.82 349 P P 09 37 28.7 +1.1
baz=16
PWL Port Wells 75.84 351 P P 09 37 27.8 0.0
baz=14
SPCR Spurr Chakacha 75.92 353 P P 09 37 28.1 -0.2
baz=11
BGNE Belgrade 76.05 314 P P 09 37 29.2 -0.1
baz=45
BGNE Belgrade 76.05 314 P P 09 37 28.3 -1.0
baz=45
T35M Bob Quinn 76.19 340 P P 09 37 30.7 +0.9
baz=27
LAO LASA Array 76.20 322 P P 09 37 31.2 +1.1
baz=41,SNR=16
LAO LASA Array 76.20 322 P P 09 37 30.3 +0.1

baz=41,SNR=16
CAPN Captain Cook N 76.24 352 P **P** **09 37 29.5 -0.5**
baz=12
SDBA SAO DESIDERIO 76.31 239 *e*P **P** **09 37 31.6 +0.6**
GUA01 Guaratinga, BA 76.44 232 *e*P **P** **09 37 32.4 +0.8**
FCAR Ozark Folk Cen 76.46 306 IAmb IAmb 09 37 32.2
comp=Z,51nm,1.5s
BOAV Boa Vista 76.47 261 IAmb IAmb 09 37 33.8
comp=Z,62nm,1.9s
BOAV Boa Vista 76.47 261 *e*P **P** **09 37 32.8 +0.8**
BRAL Brewton 76.49 300 P **P** **09 37 30.7 -1.2**
baz=48
N19K Bonanza Creek 76.49 354 IAmb IAmb 09 37 36.0
comp=Z,23nm,1.1s
N19K Bonanza Creek 76.49 354 P **P** **09 37 32.3 +0.7**
baz=9.3
P23K Montague Islan 76.57 350 P **P** **09 37 32.5 +0.6**
baz=15
U40A Yellville 76.57 307 P **P** **09 37 31.3 -1.0**
baz=47,SNR=12
U40A P **P** **09 37 31.3 -1.0**
baz=47,SNR=12
S31K Pelican 76.65 344 P **P** **09 37 32.2 -0.1**
baz=23
SEW Seward 76.71 351 P **P** **09 37 33.0 +0.3**
baz=13
EGMT Eagleton 76.75 325 P **P** **09 37 33.8 +0.5**
baz=39,SNR=29
146A Union 76.78 302 IAmb IAmb 09 37 38.9
comp=Z,42nm,1.1s
146A Union 76.78 302 P **P** **09 37 33.3 -0.3**
baz=48
KSU1 Kansas State U 76.83 311 P **P** **09 37 33.4 -0.4**
baz=45,SNR=9.7
KSU1 Kansas State U 76.83 311 P **P** **09 37 32.2 -1.6**
baz=45,SNR=9.7
T33K Petersburg 76.99 342 P **P** **09 37 35.0 +0.8**
baz=25
RSSD Black Hills 77.09 319 P **P** **09 37 34.6 -0.8**
RSSD IAmb IAmb 09 37 45.7
comp=Z,26nm,1.4s
RSSD Black Hills 77.09 319 P **P** **09 37 35.7 +0.3**
baz=42,SNR=5.2
RSSD Black Hills 77.09 319 P **P** **09 37 35.5 +0.1**
baz=42
RSSD Black Hills 77.09 319 P **P** **09 37 34.6 -0.8**
RSSD pmax pmax
comp=Z,26nm,1.5s
RSSD Black Hills 77.09 319 P **P** **09 37 36.7 +1.4**
N16K Nishlik Lake 77.11 356 P **P** **09 37 36.0 +1.1**
baz=6.0
WRAK Wrangell Islan 77.20 341 P **P** **09 37 36.5 +1.0**
baz=25
BRSE Bradley Lake S 77.20 352 P **P** **09 37 35.1 -0.4**
baz=12
HHAR Hobbs 77.26 308 P **P** **09 37 34.5 -1.8**
UALR University of 77.35 306 IAmb IAmb 09 37 46.5
comp=Z,40nm,1.5s
U38A Gravette 77.41 308 P **P** **09 37 36.2 -0.9**
baz=46,SNR=15
CCAR Cane Creek 77.59 305 IAmb IAmb 09 37 40.8
comp=Z,42nm,1.2s
NAN01 Guarapari, ES 77.62 232 *e*P **P** **09 37 40.3 +2.0**
WALA Waterton Lakes 77.65 328 IAmb IAmb 09 37 46.5
comp=Z,35nm,0.9s
ITTB Itaituba 77.70 252 *e*P **P** **09 37 39.7 +0.8**
USRK Ussuriysk Ar. 77.71 40 P **P** **09 37 39.3 +0.8**
comp=Z,6.6nm,0.9s,baz=298,slow=4.1,SNR=9.6
USRK LR LR 10 14 18.1
comp=Z,443nm,18.5s,baz=314,slow=38
comp=Z,6.6nm,0.9s
O17K Koliganek Bris 77.71 355 P **P** **09 37 39.5 +1.2**
baz=7.3
X40A Basin Creek Fa 77.84 306 IAmb IAmb 09 37 39.9
comp=Z,21nm,1.2s
X40A Basin Creek Fa 77.84 306 P **P** **09 37 39.1 -0.4**
baz=46,SNR=11
X40A P **P** **09 37 39.1 -0.4**
baz=46,SNR=11
346A Big Creek Wild 77.88 301 P **P** **09 37 39.8 +0.1**
baz=47
O16K Kokwok River B 77.95 356 P **P** **09 37 40.5 +0.9**
baz=6.5
JANB Januaria 77.95 236 *e*P **P** **09 37 40.2 -0.1**
VBMS Vicksburg 77.97 303 IAmb IAmb 09 37 40.8
comp=Z,32nm,1.1s
VBMS Vicksburg 77.97 303 P **P** **09 37 40.0 -0.2**
baz=47
VBMS Vicksburg 77.97 303 P **P** **09 37 39.7 -0.6**
baz=47
143A Socs Landing, 78.19 304 P **P** **09 37 41.3 -0.1**
baz=47
MIAR Mount Ida 78.25 306 P **P** **09 37 40.5 -1.2**
MIAR IAmb IAmb 09 37 42.7
comp=Z,40nm,1.2s
MIAR Mount Ida 78.25 306 P **P** **09 37 41.5 -0.2**
baz=46,SNR=17
MIAR Mount Ida 78.25 306 P **P** **09 37 41.1 -0.7**
baz=46,SNR=17
MIAR Mount Ida 78.25 306 P **P** **09 37 40.6 -1.2**
MIAR pmax pmax
comp=Z,40nm,1.2s
T35A Sooner Cattle 78.31 310 P **P** **09 37 40.0 -2.0**
T35A IAmb IAmb 09 37 52.7
comp=Z,38nm,1.0s
T35B Sooner Cattle 78.31 310 P **P** **09 37 42.0 0.0**
baz=45,SNR=16
OGNE Ogallala 78.42 316 P **P** **09 37 43.1 +0.4**
baz=43
OGNE Ogallala 78.42 316 P **P** **09 37 42.3 -0.4**
baz=43
R32A Long Quarter, 78.47 312 P **P** **09 37 42.8 -0.2**
baz=44,SNR=9.9
P16K Nushagak River 78.51 355 P **P** **09 37 43.1 +0.5**
baz=6.6
WLAR White Oak Lake 78.56 305 IAmb IAmb 09 37 44.3
comp=Z,41nm,1.4s
TUL1 Leonard 78.60 308 **P** **09 37 41.8 -1.9**
TUL1 Leonard 78.60 308 P **P** **09 37 43.3 -0.3**
baz=45,SNR=10
TUL1 Leonard 78.60 308 P **P** **09 37 42.7 -0.9**
baz=45,SNR=10
344A Westbrook Farm 78.63 302 P **P** **09 37 43.9 +0.1**
baz=47
CBKS Cedar Bluff 78.75 313 IAmb IAmb 09 37 45.4
comp=Z,42nm,1.1s
CBKS Cedar Bluff 78.75 313 P **P** **09 37 44.3 -0.2**
baz=44
CBKS Cedar Bluff 78.75 313 P **P** **09 37 43.8 -0.7**
baz=44
RLMT Red Lodge 78.78 323 IAmb IAmb 09 37 46.9
comp=Z,46nm,1.6s
RLMT Red Lodge 78.78 323 P **P** **09 37 45.4 +0.6**
baz=39,SNR=10
KAN13 South Haven SW 78.78 310 IAmb IAmb 09 37 53.8
comp=Z,41nm,1.0s
BSFB Barra de Sao F 78.82 231 *e*P **P** **09 37 45.6 +0.7**
KAN01 Argonia South 78.84 311 **P** **09 37 43.9 -1.1**
OK048 Pawnee Station 78.90 310 IAmb IAmb 09 37 50.4
comp=Z,39nm,0.9s
SJMB Sao Joao De Ma 78.91 232 *e*P **P** **09 37 45.6 +0.2**
QUOK Quay 78.94 309 P **P** **09 37 44.9 -0.7**
KAN14 Manchester OK 79.10 311 IAmb IAmb 09 37 57.1
comp=Z,25nm,0.8s
Q17K Contact Creek 79.13 354 P **P** **09 37 46.3 0.0**
baz=8.2
NJ2 Nanjing 79.20 56 *e*P **P** **09 37 45.8 -1.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KDAK Kodiak Island 79.32 352 LR LR 10 11 58.5
comp=Z,220nm,22.0s,baz=25,slow=35
KDAK Kodiak Island 79.32 352 P **P** **09 37 47.1 -0.1**
KDAK Kodiak Island 79.32 352 P **P** **09 37 47.6 +0.4**
baz=11
KDAK Kodiak Island 79.32 352 *i* P **P** **09 37 47.5 +0.3**
KDAK pmax pmax
comp=Z,57nm,1.1s
NPGB Novo Progresso 79.33 250 *e*P **P** **09 37 47.5 -0.4**
OK032 Salt Plains WL 79.34 311 **P** **09 37 46.5 -1.2**
OK032 IAmb IAmb 09 37 48.6
comp=Z,53nm,1.5s
K22A Casper 79.39 319 P **P** **09 37 46.5 -1.6**
K22A Casper 79.39 319 P **P** **09 37 47.2 -0.9**
baz=41
K22A Casper 79.39 319 P **P** **09 37 47.3 -0.9**
baz=41
MSO Missoula 79.44 326 IAmb IAmb 09 37 57.4
comp=Z,38nm,1.4s
MSO Missoula 79.44 326 P **P** **09 37 48.3 +0.1**
baz=37,SNR=11
BOZ Bozeman (W) 79.45 324 IAmb IAmb 09 37 57.7
comp=Z,34nm,1.1s
BOZ Bozeman (W) 79.45 324 P **P** **09 37 48.7 +0.4**
baz=38,SNR=15
NEW Newport 79.54 329 LR LR 10 13 47.8
comp=Z,503nm,18.5s,baz=42,slow=36
NEW Newport 79.54 329 IAmb IAmb 09 37 50.4
comp=Z,44nm,1.4s
NEW Newport 79.54 329 P **P** **09 37 49.1 +0.5**
baz=35,SNR=11
SDV Santo Domingo 79.57 272 LR LR 10 08 08.9
comp=Z,365nm,22.0s,baz=62,slow=32
SDV Santo Domingo 79.57 272 P **P** **09 37 47.6 -1.9**
SDV IAmb IAmb 09 37 50.4
comp=Z,46nm,1.1s
OK029 Liberty Lake 79.63 309 **P** **09 37 48.8 -0.5**
342A Flagon Creek P 79.67 303 IAmb IAmb 09 37 51.0
comp=Z,53nm,1.3s
342B Flagon Creek P 79.67 303 P **P** **09 37 49.9 +0.4**
baz=46
OK025 Westminster Rd 79.72 309 IAmb IAmb 09 37 54.8
comp=Z,41nm,1.2s
BCOK Bluff Creek, N 79.82 309 IAmb IAmb 09 37 51.6
comp=Z,64nm,1.8s
OK038 West end E0370 79.88 311 IAmb IAmb 09 37 59.3
comp=Z,49nm,1.3s
BBB Bella Bella 79.88 337 LR LR 10 14 16.0
comp=Z,312nm,19.5s,baz=54,slow=37
PEA0B Petropavlovsk- 79.90 21 P **P** **09 37 48.8 -1.6**
PEA0B IAmb IAmb 09 38 01.0
comp=Z,44nm,1.1s
PEA0B Petropavlovsk- 79.90 21 P **P** **09 37 48.8 -1.6**
PEA0B pmax pmax
comp=Z,44nm,1.1s
PETK Petropavlovsk- 79.90 21 P **P** **09 37 51.8 +1.3**
comp=Z,15nm,1.0s,baz=306,slow=4.8,SNR=10
PETK LR LR 10 17 03.2
comp=Z,409nm,18.7s,baz=332,slow=39
comp=Z,15nm,1.0s
H17A Grant Village 79.93 323 P **P** **09 37 53.2 +2.1**
baz=38,SNR=16
DIAM Diamantina, MG 80.06 234 *e*P **P** **09 37 53.1 +1.3**
SNDB Serra Nova Dou 80.12 244 *e*P **P** **09 37 52.5 +0.3**
KSCO Kaye Shedlock' 80.15 315 IAmb IAmb 09 37 58.2
comp=Z,50nm,1.1s
KSCO Kaye Shedlock' 80.15 315 P **P** **09 37 53.2 +1.0**
baz=42,SNR=10
KSCO Kaye Shedlock' 80.15 315 P **P** **09 37 52.5 +0.3**
baz=42,SNR=10
PET Petropavlovsk 80.22 20 *e*P **P** **09 37 56.8 +4.6**
PET *e*S **S** **09 47 58.9 +1.8**
PET pmax pmax
comp=Z,100nm,14.6s
PET MLR MLR
comp=Z,700nm,18.0s
PET MLR MLR
comp=Z,700nm,19.0s
YSS Yuzh-Sakhalins 80.26 32 P **P** **09 37 50.5 -1.9**
YSS Yuzh-Sakhalins 80.26 32 P **P** **09 37 53.4 +0.9**
comp=Z,124nm,1.0s
YSS Yuzh-Sakhalins 80.26 32 *e*P **P** **09 37 53.2 +0.7**
YSS *e* 09 37 58.2
YSS *e*S **S** **09 47 57.0 -0.7**
YSS pmax pmax
comp=Z,600nm,4.7s
YSS pmax pmax
comp=Z,90nm,0.9s
YSS smax smax
comp=E,300nm,6.8s
YSS MLR MLR
comp=Z,700nm,14.0s
YSS MLR MLR
comp=N,800nm,15.0s
YSS MLR MLR
comp=E,1μm,16.0s
C09A Chrisman Ranch 80.36 329 IAmb IAmb 09 37 54.8
comp=Z,34nm,0.9s
MACA Manacapuru-AM 80.39 257 IAmb IAmb 09 37 55.5
comp=Z,60nm,1.5s
MACA Manacapuru-AM 80.39 257 *e*P **P** **09 37 54.6 +1.0**
N23A Red Feather La 80.43 318 IAmb IAmb 09 38 03.9
comp=Z,49nm,1.4s
N23A Red Feather La 80.43 318 P **P** **09 37 54.3 +0.4**
baz=41,SNR=10
IMW Indian Meadow 80.48 323 IAmb IAmb 09 38 04.2
comp=Z,42nm,1.5s
MOOW Moose Ponds 80.51 322 IAmb IAmb 09 38 03.7
comp=Z,36nm,1.4s
KSRS Korea Array 80.63 47 P **P** **09 37 55.1 +0.5**
comp=Z,9.0nm,1.1s,baz=316,slow=4.8,SNR=9.7
KSRS LR LR 10 17 25.5
comp=Z,306nm,18.0s,baz=320,slow=38
comp=Z,9.0nm,1.1s
SII Sitkinak Islan 80.68 353 P **P** **09 37 53.2 -1.4**
baz=9.4
BDFB Brasilia 80.71 239 P **P** **09 37 56.0 +0.6**
BDFB comp=Z,17nm,0.8s,baz=60,slow=4.8,SNR=17 LR LR 10 12 31.6
comp=Z,267nm,19.5s,baz=56,slow=35
comp=Z,17nm,0.8s
BDFB Brasilia 80.71 239 P **P** **09 37 55.9 +0.5**
BDFB IAmb IAmb 09 37 57.2
comp=Z,45nm,1.2s
BDFB Brasilia 80.71 239 P **P** **09 37 55.9 +0.5**
BDFB pmax pmax
comp=Z,45nm,1.2s
PDAR Pinedale Array 80.73 321 P **P** **09 37 55.2 -0.3**
comp=Z,2.4nm,0.9s,baz=44,slow=4.5,SNR=14
PDAR LR LR 10 12 58.4
comp=Z,697nm,19.4s,baz=45,slow=35
comp=Z,2.4nm,0.9s
BW06 Boulder Array 80.73 321 P **P** **09 37 54.5 -1.0**
baz=39,SNR=6.2
SNOW Snow King Moun 80.74 322 IAmb IAmb 09 37 58.1
comp=Z,47nm,1.8s
NATX Nacogdoches 80.83 305 P **P** **09 37 55.4 -0.5**
baz=45
REDW Red Top Meadow 80.86 322 P **P** **09 37 55.9 -0.2**
REDW IAmb IAmb 09 38 05.6
comp=Z,30nm,1.2s
ISCO Idaho Springs 81.10 317 P **P** **09 37 56.4 -1.1**
ISCO IAmb IAmb 09 38 06.7
comp=Z,37nm,1.4s
ISCO Idaho Springs 81.10 317 P **P** **09 37 58.4 +0.9**
baz=41,SNR=16
ISCO Idaho Springs 81.10 317 P **P** **09 37 57.7 +0.1**
baz=41,SNR=16
ISCO Idaho Springs 81.10 317 P **P** **09 37 56.4 -1.1**
ISCO pmax pmax
comp=Z,37nm,1.4s
TJN Taejon 81.11 48 P P 09 38 03.6 +6.4
comp=Z,103nm,1.5s
WMOK Wichita Mounta 81.15 309 P **P** **09 37 57.6 0.0**
baz=44,SNR=19
WMOK Wichita Mounta 81.15 309 P **P** **09 37 57.1 -0.4**
baz=44,SNR=19
Z35A Perchaven, San 81.27 308 IAmb IAmb 09 38 06.3
comp=Z,29nm,1.1s
Z35A Perchaven, San 81.27 308 P **P** **09 37 57.7 -0.5**
baz=44
E09A Wood Farm, Sta 81.38 328 IAmb IAmb 09 37 59.9
comp=Z,33nm,1.2s
AHID Auburn Hatcher 81.44 322 IAmb IAmb 09 38 08.2
comp=Z,45nm,1.4s
F10A Beach Ranch, E 81.47 328 IAmb IAmb 09 38 00.4
comp=Z,60nm,1.5s
Q24A Divide 81.49 316 IAmb IAmb 09 38 01.2
comp=Z,29nm,1.4s
Q24A Divide 81.49 316 P **P** **09 37 59.8 +0.1**
baz=41,SNR=5.2
HAWA Hanford 82.01 329 IAmb IAmb 09 38 07.3
comp=Z,41nm,1.4s
QIZ Qiongzhong 82.05 72 P **P** **09 38 01.1 -1.4**
QIZ S **S** **09 48 17.5 +0.3**
QIZ LR LR
comp=Z,430nm,10.9s
QIZ LR LR
comp=Z,450nm,13.7s
QIZ LR LR
comp=Z,380nm,18.6s
O20A White River Ci 82.14 319 IAmb IAmb 09 38 11.1
comp=Z,26nm,1.1s
O20A White River Ci 82.14 319 P **P** **09 38 02.6 -0.3**
baz=39,SNR=11
SJCC San Jacinto, C 82.25 276 *e*P **P** **09 38 05.0 +1.4**
SMCO Snowmass 82.25 317 IAmb IAmb 09 38 05.4
comp=Z,32nm,1.6s
HLID Hailey 82.27 325 P **P** **09 38 04.0 +0.5**
baz=36,SNR=8.1
WHTX Lake Whitney, 82.35 307 P **P** **09 38 04.1 +0.3**
baz=44
WHTX Lake Whitney, 82.35 307 P **P** **09 38 03.1 -0.7**
baz=44
CLDB Colider 82.36 248 *e*P **P** **09 38 04.6 +0.5**
T25A Trinidad 82.48 314 IAmb IAmb 09 38 06.7
comp=Z,51nm,1.6s
T25A Trinidad 82.48 314 P **P** **09 38 04.8 +0.1**
baz=41,SNR=11
ASAJ Asahikawa 82.52 34 LR LR 10 19 40.7
comp=Z,486nm,18.4s,baz=335,slow=39
JKA Kamikawa-asahi 82.52 34 IAmb IAmb 09 38 18.4
comp=Z,44nm,1.4s
SDCO Great Sand Dun 82.59 316 P **P** **09 38 05.5 +0.1**
baz=41,SNR=17
SDCO Great Sand Dun 82.59 316 P **P** **09 38 04.6 -0.8**
baz=41,SNR=17
IPMB Ipameri, GO 82.59 237 *e*P **P** **09 38 05.8 +0.6**
AMTX Amarillo 82.67 311 P **P** **09 38 05.3 -0.4**
baz=42
AMTX Amarillo 82.67 311 P **P** **09 38 05.5 -0.2**
baz=42
HKT Hockley 82.82 304 P **P** **09 38 04.8 -1.4**
HKT Hockley 82.82 304 P **P** **09 38 06.7 +0.4**
baz=44
HKT Hockley 82.82 304 P **P** **09 38 04.9 -1.4**
HKT pmax pmax
comp=Z,23nm,1.6s
SGCB S£o Gabriel d 82.93 263 *e*P **P** **09 38 07.4 +0.3**
ABTX Abilene, Hawle 83.17 308 IAmb IAmb 09 38 17.4
comp=Z,17nm,1.1s
ABTX Abilene, Hawle 83.17 308 P **P** **09 38 07.9 -0.2**
baz=43
ABTX Abilene, Hawle 83.17 308 P **P** **09 38 07.8 -0.4**
baz=43
SPUT South Promonto 83.21 322 IAmb IAmb 09 38 30.5
comp=Z,44nm,1.9s
S22A 4UR Ranch, Cre 83.27 316 IAmb IAmb 09 38 18.2
comp=Z,19nm,1.1s
S22A 4UR Ranch, Cre 83.27 316 P **P** **09 38 09.0 +0.1**
baz=40,SNR=15
435B Jarrell 83.29 306 P **P** **09 38 08.2 -0.6**
baz=44
RUSC La Rusia 83.37 272 *e*P **P** **09 38 09.9 -0.1**
TEFE Tefe 83.48 259 *e*P **P** **09 38 10.3 +0.4**
P18A Preston Nutter 83.51 320 IAmb IAmb 09 38 20.5
comp=Z,15nm,1.0s
PDRB Porto dos Gac 83.52 248 *e*P **P** **09 38 10.2 +0.1**
ZARC Zaragoza, Cauc 83.61 274 *e*P **P** **09 38 09.8 -0.8**
SHEM Shemya Is, Ala 83.65 12 LR LR 10 18 09.3
comp=Z,199nm,19.9s,baz=334,slow=38
PTBC PUERTO BERRIO, 83.95 273 *e*P **P** **09 38 11.8 -0.6**
MSTX Muleshoe 83.96 311 P **P** **09 38 11.9 -0.4**
baz=42
MSTX Muleshoe 83.96 311 P **P** **09 38 11.6 -0.8**
baz=42
SRU San Rafael Swe 84.05 319 IAmb IAmb 09 38 23.4
comp=Z,22nm,0.9s
NLU North Lily Min 84.11 321 IAmb IAmb 09 38 20.1
comp=Z,46nm,1.8s
J08A Circle Bar Ran 84.13 327 IAmb IAmb 09 38 31.0
comp=Z,26nm,1.5s
TMUT Trail Mountain 84.23 320 IAmb IAmb 09 38 21.4
comp=Z,14nm,1.0s
DUG Dugway, Tooele 84.26 322 IAmb IAmb 09 38 24.6
comp=Z,13nm,1.0s
DUG Dugway, Tooele 84.26 322 P **P** **09 38 13.7 -0.1**
baz=37,SNR=11
Q16A Castle Valley 84.51 320 IAmb IAmb 09 38 16.2
comp=Z,38nm,1.5s
MVCO Mesa Verde 84.53 317 IAmb IAmb 09 38 24.3
comp=Z,34nm,1.4s
MVCO Mesa Verde 84.53 317 P **P** **09 38 15.5 +0.2**
baz=39,SNR=10
JCT Junction City 84.82 307 IAmb IAmb 09 38 25.6
comp=Z,21nm,1.1s
JCT Junction City 84.82 307 P **P** **09 38 17.0 +0.3**
baz=43,SNR=7.1
JCT Junction City 84.82 307 P **P** **09 38 16.5 -0.1**
baz=43,SNR=7.1
NORC Norcasia 84.90 273 *e*P **P** **09 38 16.0 -1.3**
ELK Elko 84.91 323 LR LR 10 16 20.3
comp=Z,370nm,19.6s,baz=38,slow=36
PSI Prapat 84.92 91 LR LR 10 20 26.3
comp=Z,195nm,18.8s,baz=324,slow=39
WVOR Wild Horse Val 84.96 326 IAmb IAmb 09 38 19.0
comp=Z,49nm,1.8s
ROSC El Rosal 84.98 272 LR LR 10 11 31.5
comp=Z,1μm,22.0s,baz=27,slow=32
PARB Paraibuna 85.10 232 *e*P **P** **09 38 20.0 +2.1**
ANMO Albuquerque 85.22 314 LR LR 10 14 43.3
comp=Z,785nm,20.2s,baz=138,slow=35
ANMO Albuquerque 85.22 314 P **P** **09 38 17.0 -1.8**
ANMO Albuquerque 85.22 314 P **P** **09 38 19.3 +0.5**
baz=40,SNR=8.4
ANMO Albuquerque 85.22 314 P **P** **09 38 19.1 +0.3**
baz=40
ANMO Albuquerque 85.22 314 *i* P **P** **09 38 18.4 -0.4**
ANMO pmax pmax
comp=Z,14nm,1.8s
ANMO Albuquerque 85.22 314 P **P** **09 38 19.9 +1.1**
ITRB Iturama 85.22 238 *e*P **P** **09 38 20.1 +1.6**
MVU Marysvale 85.33 320 P **P** **09 38 18.8 -0.5**
TCRU Three Creeks R 85.36 320 IAmb IAmb 09 38 21.2
comp=Z,32nm,1.2s
RCLB Rio Claro- Sao 85.53 234 *e*P **P** **09 38 21.7 +1.6**
VAO Valinhos 85.64 233 *e*P **P** **09 38 21.7 +1.0**
MTPU Mount Pierson 85.69 320 IAmb IAmb 09 38 23.2
comp=Z,30nm,1.4s
SALV Santo Antonio 85.89 244 *e*P **P** **09 38 22.1 +0.2**
SPR3 Spring Creek 3 85.92 322 IAmb IAmb 09 38 25.1
comp=Z,39nm,1.8s
BMN Battle Mountai 86.03 324 IAmb IAmb 09 38 24.6
comp=Z,30nm,2.0s
MOD Modoc Plateau 86.08 327 IAmb IAmb 09 39 15.3
comp=Z,35nm,1.4s
C2SB Chapadao do Su 86.10 240 *e*P **P** **09 38 24.5 +1.6**
Y22F Passcal Instru 86.13 314 P **P** **09 38 23.0 -0.3**
baz=40
Y22D IRIS PASSCAL I 86.13 314 P **P** **09 38 22.6 -0.7**
baz=40
833A Chaparral WMA, 86.15 305 P **P** **09 38 23.0 -0.3**
baz=43
833A Chaparral WMA, 86.15 305 P **P** **09 38 23.7 +0.4**
baz=43
PKCU Pink Cliffs 86.22 320 IAmb IAmb 09 39 09.9
comp=Z,20nm,1.1s
Y22A Socorro 86.26 314 P **P** **09 38 23.1 -0.8**
baz=40
ORTC Ortega, Tolima 86.29 272 *e*P **P** **09 38 24.4 +0.3**
PLMC San Jos del P 86.39 273 *e*P **P** **09 38 24.2 -0.5**
PP1B Ponte de Pedra 86.58 242 *e*P **P** **09 38 26.5 +1.1**
MAJO Matsushiro 86.63 41 P **P** **09 38 23.6 -1.9**
MAJO Matsushiro 86.63 41 P P 09 38 31.8 +6.3
comp=Z,13nm,1.5s
MAJO Matsushiro 86.63 41 *i* P **P** **09 38 24.9 -0.6**
MAJO pmax pmax
comp=Z,14nm,1.2s
MJAR Matsushiro Arr 86.63 41 P **P** **09 38 25.7 +0.2**
comp=Z,2.6nm,0.7s,baz=322,slow=4.4,SNR=8.6
MJAR LR LR 10 20 21.1
comp=Z,820nm,18.6s,baz=318,slow=38
comp=Z,2.6nm,0.7s
W18A Petrified Fore 86.79 316 P **P** **09 38 25.6 -0.9**
baz=38
VILB Vilhena 86.86 249 IAmb IAmb 09 38 28.7
comp=Z,72nm,1.3s
VILB Vilhena 86.86 249 *e*P **P** **09 38 27.4 +0.6**
R11A Troy Canyon, C 87.02 322 P **P** **09 38 27.0 -0.6**
baz=35
U15A North Rim 87.02 319 IAmb IAmb 09 38 28.8
comp=Z,38nm,1.9s
YOTC Yotoco, Valle 87.05 273 *e*P **P** **09 38 25.8 -2.2**
MNTX Cornudas Mount 87.11 311 IAmb IAmb 09 38 29.2
comp=Z,28nm,1.8s
MNTX Cornudas Mount 87.11 311 P **P** **09 38 27.9 0.0**
baz=40,SNR=7.4
MNTX Cornudas Mount 87.11 311 P **P** **09 38 27.2 -0.7**
baz=40,SNR=7.4
YBH Yreka Blue Hor 87.17 329 LR LR 10 17 08.4
comp=Z,629nm,19.5s,baz=32,slow=36
PCMB Pacaembu 87.19 237 *e*P **P** **09 38 29.9 +1.7**
WUAZ Wupatki 87.30 318 IAmb IAmb 09 38 30.6

comp=Z,30nm,1.6s
WUAZ Wupatki 87.30 318 P **P** 09 38 28.3 -0.7
baz=37
FRTB Fartura 87.45 235 *e*P **P** 09 38 28.6 -0.9
TBTG Tabatinga, AM 87.78 262 IAmb IAmb 09 38 32.0
comp=Z,17nm,1.0s
TBTG Tabatinga, AM 87.78 262 *e*P **P** 09 38 31.3 -0.1
PTLB Pontes e Lacer 87.88 247 IAmb IAmb 09 38 33.1
comp=Z,47nm,1.4s
PTLB Pontes e Lacer 87.88 247 *e*P **P** 09 38 32.4 +0.8
TXAR Lajitas Array 87.92 309 P **P** 09 38 32.1 +0.1
comp=Z,1.8nm,0.8s,baz=67,slow=4.2,SNR=19
TXAR LR LR 10 18 14.0
comp=Z,457nm,18.5s,baz=47,slow=36
comp=Z,1.8nm,0.8s
TX31 Lajitas Ar. Si 87.92 309 P **P** 09 38 32.7 +0.7
baz=41,SNR=12
TX32 Lajitas Array 87.92 309 IAmb IAmb 09 39 02.5
comp=Z,19nm,1.4s
YERR Yerington 88.10 325 IAmb IAmb 09 38 34.1
comp=Z,22nm,1.4s
NVAR Mina Array Bea 88.16 324 P **P** 09 38 33.2 0.0
comp=Z,1.6nm,0.9s,baz=54,slow=3.9,SNR=6.6
NVAR PP **PP** 09 41 59.9 +0.7
comp=Z,0.8nm,0.8s,baz=27,slow=3.0,SNR=3.8
comp=Z,1.6nm,0.9s
TPNV Topopah Spring 88.47 322 P **P** 09 38 34.0 -0.5
baz=35
ETMB Extrema 88.92 256 IAmb IAmb 09 38 37.3
comp=Z,15nm,1.2s
ETMB Extrema 88.92 256 *e*P **P** 09 38 35.6 -1.0
TRCB Terra Rica 88.93 237 *e*P **P** 09 38 38.2 +1.7
GRAC Grapevine Rang 88.93 323 IAmb IAmb 09 38 37.2
comp=Z,32nm,1.6s
JTS Las Juntas de 89.10 283 LR LR 10 13 40.1
comp=Z,507nm,20.5s,baz=326,slow=32
FURC Furnace Creek, 89.14 322 P **P** 09 38 37.0 -0.4
baz=34
AQDB Aquidauana 89.18 241 *e*P **P** 09 38 39.1 +1.4
SHOC Shoshone, Teco 89.34 321 P **P** 09 38 38.1 -0.4
baz=35
MTO3 Montecristo 89.42 289 IAmb IAmb 09 38 39.9
comp=Z,33nm,1.4s
NEE2 Needles Airpor 89.48 319 P **P** 09 38 39.0 -0.1
baz=36
TUC Tucson 89.53 315 P **P** 09 38 38.0 -1.5
TUC IAmb IAmb 09 38 48.5
comp=Z,15nm,1.2s
TUC Tucson 89.53 315 P **P** 09 38 39.1 -0.4
baz=38
TUC Tucson 89.53 315 P **P** 09 38 38.0 -1.5
TUC pmax pmax
comp=Z,15nm,1.2s
TUQ Turquoise Moun 89.56 321 P **P** 09 38 38.6 -1.0
baz=35
CWC Cottonwood Cre 89.71 323 P **P** 09 38 39.7 -0.7
baz=34
MPMC Manual Prospec 89.76 322 P **P** 09 38 39.8 -0.9
baz=34
GMRC Granite Mounta 89.96 320 P **P** 09 38 41.5 -0.1
baz=35
PTGB Pitanga 89.99 236 *e*P **P** 09 38 43.5 +2.0
GSC Goldstone, Bar 90.08 321 P **P** 09 38 42.2 +0.2
baz=34
JHJ Hachijo jima 2 90.14 42 LR LR 10 21 49.5
comp=Z,425nm,19.1s,baz=354,slow=37
IRM Iron Mountain 90.23 319 P **P** 09 38 42.5 -0.2
baz=35,SNR=5.2
HEC Hector,Ludlow 90.24 321 P **P** 09 38 42.0 -0.8
baz=34
BLYC Blythe 90.26 319 IAmb IAmb 09 38 44.4
comp=Z,28nm,1.7s
RRX Edison Barstow 90.51 321 P **P** 09 38 44.0 +0.1
baz=34
ISA Isabella, Lake 90.54 323 P **P** 09 38 43.9 -0.3
baz=33
VES Vestal, Richgr 90.66 323 P **P** 09 38 44.4 -0.2
baz=33
113A Mohawk Valley, 90.68 318 IAmb IAmb 09 38 46.0
comp=Z,27nm,1.9s
BELC Belle Mtn. Jos 90.76 320 P **P** 09 38 45.3 0.0
baz=35
BC3 Big Chuckawall 90.79 319 P **P** 09 38 45.1 -0.3
baz=35
214A Organ Pipe Nat 90.85 317 P **P** 09 38 44.9 -0.7
baz=36
EDW2 Edwards Air Fo 90.97 322 P **P** 09 38 45.4 -0.7
baz=34
GLA Glamis 90.97 319 P **P** 09 38 45.8 -0.4
baz=35
OTAV Otavalo 91.11 271 P **P** 09 38 45.5 -2.0
OTAV IAmb IAmb 09 38 49.4
comp=Z,22nm,1.4s
OTAV Otavalo 91.11 271 P **P** 09 38 45.5 -2.0
OTAV pmax pmax
comp=Z,22nm,1.4s
OTAV Otavalo 91.11 271 *e*P **P** 09 38 47.7 +0.1
PMD Palm Desert 91.23 320 P **P** 09 38 44.5 -2.9
PFO Pinyon Flats O 91.30 320 LR LR 10 20 38.1
comp=Z,456nm,18.8s,baz=34,slow=36
PFO Pinyon Flats O 91.30 320 P **P** 09 38 45.9 -1.9
PFO Pinyon Flats O 91.30 320 P **P** 09 38 48.0 +0.3
baz=34
PFO Pinyon Flats O 91.30 320 P **P** 09 38 45.9 -1.9
PFO pmax pmax
comp=Z,13nm,1.3s
TPFO Pinon Flats 91.30 320 P **P** 09 38 47.8 0.0
baz=34
CMIG Matias Romero 91.33 295 LR LR 10 19 41.8
comp=Z,122nm,18.7s,baz=34,slow=36
MURC Murrieta 91.66 321 P **P** 09 38 48.9 -0.4
baz=34
PKM Mcpherson Peak 91.78 323 P **P** 09 38 50.2 +0.1
baz=32
MONP2 Monument Peak 91.87 320 P **P** 09 38 50.8 +0.3
baz=34
ITAB Concordia 91.89 234 *e*P **P** 09 38 51.7 +1.5
IKP In-Ko-Pah, Jac 91.92 319 P **P** 09 38 50.8 +0.2
baz=35
CZSB Cruzeiro do Su 92.21 262 IAmb IAmb 09 38 51.3
comp=Z,25nm,1.4s
CZSB Cruzeiro do Su 92.21 262 *e*P **P** 09 38 51.2 -0.8
CNLB Canela 92.67 232 *e*P **P** 09 38 55.3 +1.5
CPUP Villa Florida 94.42 238 LR LR 10 19 20.4
comp=Z,221nm,21.6s,baz=5,slow=34
LPAZ La Paz 94.69 252 P **P** 09 39 02.6 -1.5
comp=Z,3.9nm,1.2s,baz=38,slow=6.6,SNR=8.3
LPAZ LR LR 10 18 24.1
comp=Z,301nm,21.7s,baz=353,slow=33
comp=Z,3.9nm,1.2s
CPSB Cacapava Do Su 94.99 233 *e*P **P** 09 39 06.0 +1.6
LPIG La Paz 95.72 310 LR LR 10 22 24.7
comp=Z,348nm,19.2s,baz=44,slow=36
ATAH Atahualpa 95.99 266 LR LR 10 21 02.2
comp=Z,366nm,20.3s,baz=353,slow=35
PLTB Pedras Altas 96.08 232 *e*P **P** 09 39 10.9 +1.6
ITQB Itaqui 96.37 235 *e*P **P** 09 39 12.0 +1.3
PB16 IPOC Station P 97.03 252 IAmb IAmb 09 39 19.2
comp=Z,9.5nm,1.0s
NNA Nana 98.07 261 LR LR 10 22 21.2
comp=Z,197nm,19.6s,baz=354,slow=35
LVC Limon Verde 99.48 248 LR LR 10 23 10.4
comp=Z,159nm,19.7s,baz=36,slow=35
BELA Belgrano 2 123.64 191 PKPdf **PKPdf** 09 44 37.4 -0.7
WRA Warramunga Arr 125.96 85 PKP **PKPdf** 09 44 42.6 -1.6
comp=Z,2.0nm,1.0s,baz=309,slow=2.5,SNR=7.7
ASAR Alice Springs 127.89 89 PKP **PKPdf** 09 44 46.9 -1.0
comp=Z,1.9nm,0.7s,baz=308,slow=1.6,SNR=15
ASAR Alice Springs 127.89 89 PKPdf **PKPdf** 09 44 47.4 -0.5
ASAR Alice Springs 127.89 89 PKIKP **PKPdf** 09 44 47.4 -0.5
CTA Charters Tower 134.71 75 PKP **PKiKP** 09 45 02.3 0.0
comp=Z,3.1nm,0.7s,baz=335,slow=11,SNR=5.6
TAOE Nuku Hiva Isla 139.11 317 *e*LR LR 10 30 05.5
comp=Z,296nm,23.6s
DZM Mont Dzumac 149.69 56 PKPbc **PKiKP** 09 45 33.5 +0.5
comp=Z,14nm,0.9s,baz=58,slow=3.7,SNR=5.0
DZM Mont Dzumac 149.69 56 **PKiKP** 09 45 33.5 +0.5
PPT2 Papeete2 151.13 324 *e*LR LR 10 35 39.6
comp=Z,332nm,26.5s
PPT2 *e*LR LR 10 35 39.6
comp=Z,234nm,27.5s
TBI Tubuai 156.06 318 *e*LR LR 10 37 56.5
comp=Z,1μm,25.2s

ROM 18 09:30:20.1±0.3, 42°.64N±0°.02×13°.31E±0°.02, h15km±2km, ML3.2/9, 8C-4D, Error ellipse: s-maj=1.5km

s-min=1.5km az=40.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.02**	**114**	P	Pg	09 30 22.9	+0.1
SMA1				S	Sg	09 30 25.0	+0.3
SMA1				AML	AML		
	comp=N,43921μm,0.2s						
SMA1				AML	AML		
	comp=E,47762μm,0.2s						
T1218	**Civita (PG)**	**0.15**	**282**	P	Pg	09 30 24.3	+0.3
T1218				S	Sb	09 30 27.4	-0.3
T1218				AML	AML		
	comp=E,11485μm,0.4s						
T1218				AML	AML		
	comp=N,24600μm,0.2s						
T1218				AML	AML		
	comp=E,11205μm,0.4s						
T1218				AML	AML		
	comp=E,11480μm,0.4s						
T1218				AML	AML		
	comp=E,11195μm,0.4s						
T1218				AML	AML		
	comp=N,24700μm,0.3s						
T1218				AML	AML		
	comp=E,2184μm,0.1s						
T1218				AML	AML		
	comp=N,12323μm,0.3s						
T1218				AML	AML		
	comp=N,12529μm,0.3s						
T1218				AML	AML		
	comp=E,2051μm,0.1s						
T1247	**Pizzolo (AQ)**	**0.20**	**183**	⇑P	Pg	09 30 23.7	-1.0
T1247				S	Sb	09 30 28.8	-0.2
T1247				AML	AML		
	comp=N,54750μm,0.3s						
T1247				AML	AML		
	comp=E,23650μm,1.2s						
T1247				AML	AML		
	comp=N,11233μm,0.2s						
T1247				AML	AML		
	comp=E,5886μm,0.1s						
LNSS	**Leonessa**	**0.20**	**260**	⇑P	Pg	09 30 24.9	0.0
LNSS				S	Sg	09 30 28.4	+0.3
LNSS				AML	AML		
	comp=E,32000μm,0.2s						
LNSS				AML	AML		
	comp=N,33600μm,0.2s						
LNSS				AML	AML		
	comp=E,10014μm,0.1s						
LNSS				AML	AML		
	comp=N,12046μm,0.2s						
GIGS	**Gran Sasso**	**0.27**	**135**	P	Pg	09 30 25.2	-0.6
GIGS				S	Sb	09 30 31.4	+0.4
GIGS				AML	AML		
	comp=E,3725μm,0.1s						
GIGS				AML	AML		
	comp=N,3390μm,0.2s						
GIGS				AML	AML		
	comp=E,973μm,0.1s						
GIGS				AML	AML		
	comp=N,801μm,0.2s						
T1217	**Poggiodomo (PG**	**0.29**	**285**	⇑P	Pb	09 30 26.7	-0.4
T1217				S	Sb	09 30 32.1	+0.3
T1217				AML	AML		
	comp=E,3250μm,0.3s						
T1217				AML	AML		
	comp=N,2565μm,1.3s						
T1217				AML	AML		
	comp=N,2520μm,1.5s						
T1217				AML	AML		
	comp=N,2570μm,1.3s						
T1217				AML	AML		
	comp=N,2515μm,1.5s						
T1217				AML	AML		
	comp=N,2515μm,0.5s						
T1217				AML	AML		
	comp=E,3130μm,0.3s						
T1217				AML	AML		
	comp=E,670μm,0.1s						
T1217				AML	AML		
	comp=N,1818μm,0.1s						
FIAM	**Fiamignano**	**0.40**	**202**	⇑P	Pg	09 30 27.3	-0.9
FIAM				S	Sb	09 30 34.5	-0.3
FIAM				AML	AML		
	comp=E,3985μm,1.5s						
FIAM				AML	AML		
	comp=N,4795μm,1.0s						
FIAM				AML	AML		
	comp=E,3985μm,0.5s						
FIAM				AML	AML		
	comp=N,1121μm,0.4s						
ARRO	**Arrone**	**0.41**	**262**	⇑P	Pg	09 30 28.2	-0.1
FAGN	**Fagnano**	**0.42**	**152**	⇓P	Pn	09 30 30.9	-0.8
FAGN				AML	AML		
	comp=N,7110μm,0.3s						
FAGN				AML	AML		
	comp=E,5865μm,0.6s						
FAGN				AML	AML		
	comp=N,1188μm,0.2s						
TRTR	**Tortoreto Alta**	**0.47**	**69**	⇓P	Pn	09 30 34.0	+1.7
CESI	**CESI - Serrava**	**0.47**	**321**	⇓P	Pn	09 30 33.0	+0.5
T0110	**Collepietro**	**0.54**	**140**	⇑P	Pg	09 30 30.2	-0.4
T0110				S	Sn	09 30 41.1	-1.0
T0110				AML	AML		
	comp=E,3950μm,1.6s						
T0110				AML	AML		
	comp=N,3570μm,1.6s						
T0110				AML	AML		
	comp=N,3570μm,0.4s						
T0110				AML	AML		
	comp=E,3950μm,0.4s						
T0110				AML	AML		
	comp=E,908μm,0.5s						
SEF1	**Sefro**	**0.58**	**332**	P	Pn	09 30 33.4	-0.4
SEF1				AML	AML		
	comp=N,2290μm,1.1s						
SEF1				AML	AML		
	comp=E,2006μm,0.3s						
EL6	**Elcito**	**0.71**	**347**	⇑P	Pn	09 30 38.7	+3.0
SRES	**S.Oreste - Sor**	**0.72**	**236**	⇓P	Pn	09 30 36.4	+0.7
CERT	**Cerreto**	**0.73**	**200**	⇑P	Pn	09 30 35.7	-0.2
MA9	**Marino**	**0.99**	**210**	P	Pb	09 30 38.4	-0.6
MCIV	**Monte Civitell**	**1.22**	**277**	S	Sg	09 31 01.4	+2.1

ROM 18 09:31:05.8±0.1, 42°.583N±0°.004×13°.267E±0°.006, h9km, ML2.6/6, 1C-3D, Error ellipse: s-maj=0.6km s-min=0.4km az=42.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.07**	**46**	P	Pg	09 31 08.1	+0.1
SMA1				S	Sg	09 31 09.8	+0.1
SMA1				AML	AML		
SMA1				AML	AML		
	comp=N,78450μm,0.4s						
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
	comp=N,78424μm,0.4s						
T1218	**Civita (PG)**	**0.14**	**308**	P	Pg	09 31 09.6	+0.5
T1218				S	Sg	09 31 12.4	+1.0
T1218				AML	AML		
	comp=E,10170μm,1.5s						
T1218				AML	AML		
	comp=N,20400μm,0.2s						
T1218				AML	AML		
	comp=E,9300μm,1.5s						
T1218				AML	AML		
	comp=N,20500μm,0.2s						
T1218				AML	AML		
	comp=E,9850μm,0.2s						
T1218				AML	AML		
	comp=N,20400μm,0.2s						
T1218				AML	AML		
	comp=E,9290μm,0.2s						
T1218				AML	AML		
	comp=N,20550μm,0.2s						
T1218				AML	AML		
	comp=E,9287μm,0.2s						
T1218				AML	AML		
	comp=N,20532μm,0.2s						
T1218				AML	AML		
	comp=N,20407μm,0.2s						
T1218				AML	AML		
	comp=E,9867μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.14**	**171**	P	Pg	09 31 09.3	+0.3
T1247				S	Sg	09 31 12.2	+1.0
T1247				AML	AML		
	comp=N,5385μm,0.8s						
T1247				AML	AML		
	comp=E,5755μm,0.2s						
T1247				AML	AML		
	comp=E,5754μm,0.2s						
T1247				AML	AML		
	comp=N,4538μm,0.3s						
LNSS	**Leonessa**	**0.17**	**277**	P	Pg	09 31 10.1	+0.6
LNSS				S	Sg	09 31 13.5	+1.5
LNSS				AML	AML		
	comp=E,11382μm,0.5s						
LNSS				AML	AML		
	comp=N,8612μm,0.2s						
LNSS				AML	AML		
	comp=E,8550μm,0.2s						
T1217	**Poggiodomo (PG**	**0.28**	**298**	P	Pg	09 31 12.0	+0.5
T1217				S	Sb	09 31 16.7	-1.3
T1217				AML	AML		
	comp=N,2027μm,0.5s						
T1217				AML	AML		
	comp=E,2076μm,0.3s						
T1217				AML	AML		
	comp=E,1664μm,0.2s						
T1217				AML	AML		
	comp=N,1971μm,0.2s						
T1217				AML	AML		
	comp=N,2046μm,0.2s						
T1217				AML	AML		
	comp=E,1650μm,0.2s						
ARRO	**Arrone**	**0.37**	**270**	P	Pg	09 31 13.6	+0.5
ARRO				S	Sb	09 31 19.6	-0.9
ARRO				AML	AML		
	comp=N,899μm,0.2s						
ARRO				AML	AML		
	comp=E,865μm,1.0s						
ARRO				AML	AML		
	comp=E,969μm,0.3s						
ARRO				AML	AML		
	comp=N,1307μm,0.2s						
CESI	**CESI - Serrava**	**0.50**	**328**	P	Pg	09 31 15.9	+0.3
CESI				S	Sb	09 31 23.9	-0.4
CESI				AML	AML		
	comp=N,845μm,1.0s						
CESI				AML	AML		
	comp=N,919μm,0.3s						
CESI				AML	AML		
	comp=E,570μm,0.3s						
CESX	**Cesi**	**0.51**	**273**	⇓P	Pg	09 31 15.9	+0.2
CESX				S	Sb	09 31 23.8	-0.6
CESX				AML	AML		
	comp=N,981μm,0.2s						
CESX				AML	AML		
	comp=N,1060μm,0.2s						
T0110	**Collepietro**	**0.52**	**133**	⇓P	Pg	09 31 16.3	+0.3
T0110				S	Sb	09 31 24.5	-0.3
T0110				AML	AML		
	comp=N,824μm,0.2s						
T0110				AML	AML		
	comp=E,858μm,0.2s						
T1220	**Camerino, Fraz**	**0.54**	**346**	P	Pb	09 31 17.2	-0.3
T1220				AML	AML		
	comp=N,2524μm,0.3s						
T1220				AML	AML		
	comp=N,2523μm,0.3s						
T1220				AML	AML		
	comp=E,2681μm,0.3s						
T1220				AML	AML		
	comp=E,2651μm,0.3s						
ASSB	**Assisi San Ben**	**0.64**	**316**	⇑P	Pg	09 31 18.5	+0.2
ASSB				AML	AML		
	comp=E,640μm,0.4s						
ASSB				AML	AML		
	comp=N,993μm,0.2s						
SRES	**S.Oreste - Sor**	**0.66**	**239**	⇓P	Pg	09 31 19.0	+0.5
EL6	**Elcito**	**0.76**	**351**	S	Sb	09 31 32.1	+0.5
EL6				AML	AML		
	comp=N,783μm,0.4s						
EL6				AML	AML		
	comp=E,786μm,0.3s						
MCIV	**Monte Civitell**	**1.19**	**280**	S	Sb	09 31 38.9	-5.2

NOU 18 09:38:33.2, 21°.94S×170°.08E, h0km, MLv4.8/12, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.96**	**283**	P	Pn	09 39 07.3	-0.4
PINNC	**Pines Island,**	**2.53**	**254**	P	Pn	09 39 14.8	-0.7
LIFNC	**LIFOU**	**2.89**	**293**	P	Pn	09 39 19.3	-1.2
OUENC	**Ouen Island, N**	**3.04**	**260**	P	Pn	09 39 22.2	-0.4
DZM	**Mont Dzumac**	**3.38**	**267**	P	Pn	09 39 27.4	+0.1
ONTNC	**Ouen Toro**	**3.38**	**263**	P	Pn	09 39 27.5	+0.2
NOUC	**Port Laguerre**	**3.51**	**267**	P	Pn	09 39 29.3	+0.3
RTV	**Rentapao**	**4.41**	**339**	P	Pn	09 39 41.8	+0.4
DVP	**Devils Point**	**4.56**	**337**	P	Pn	09 39 43.6	+0.2
KOUNC	**Koumac, New Ca**	**5.58**	**283**	P	Pn	09 39 58.4	+0.9

NNC 18 09:43:20.9±11.0, 37°.79N×70°.93E, h0km, mb4.0, mpv3.6, 4C-1D, Error ellipse: s-maj=90.6km s-min=75.0km az=36.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.32**	**357**	⇑Pn	Pn	09 44 43.7	+2.1
	0.9nm,0.3s,baz=179,slow=13,SNR=12						
KK31				⇑Sn	Sn	09 45 45.7	+2.1
	4.0nm,0.5s,baz=185,slow=22,SNR=7.9						
KK31				⇑Lg	Lg	09 46 11.1	
	7.9nm,0.7s,baz=159,slow=27,SNR=4.1						
CHMS	**Chumysh**	**5.96**	**28**	⇓Pn	Pn	09 44 50.4	-0.1
	8.6nm,0.6s						
CHMS				⇑Sn	Sn	09 45 58.2	-1.3
	3.1nm,0.7s						
TKM2	**Tokmak 2**	**6.24**	**33**	Pn	Pn	09 44 53.3	-1.1
	3.9nm,0.6s						

*IDC **18** 09:51:13.8±6.8, 30°.95N×140°.32E, h94km±79km, mb3.1/3, mbtmp3.4/5, ML2.7/2, Error ellipse: s-maj=147.5km s-min=24.7km az=107.0*
*JMA **18** 09:51:13.5±0.2, 31°.1×141°.1E±°, h136km, MV3.3/7, NEAR TORISHIMA IS*
ISC 18 09:51:14.9±1.3, 31°.1N±0°.1×140°.5E±0°.2, h110km, n11, σ0°.96/11, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.08**	**345**	*e*P	**Pn**	**09 51 48.0**	**-0.9**
JHCJ				S	**Sn**	**09 52 14.8**	**-0.2**
JHJ2	**Mitsune**	**2.12**	**345**	P	**Pn**	**09 51 48.7**	**-0.7**
JHJ2				*e*S	**Sn**	**09 52 15.3**	**-0.4**
JHJ	**Hachijo jima 2**	**2.13**	**345**	P	**Pn**	**09 51 49.0**	**-0.6**
	19nm,0.3s,baz=82,slow=21,SNR=1.7						
JHJ				S	**Sn**	**09 52 15.8**	**-0.3**
	112nm,0.3s,baz=263,slow=23,SNR=2.7						
	105nm,0.5s						
BSO1	**Boso 1**	**3.61**	**7**	P	**Pn**	**09 52 07.2**	**-1.2**
MJAR	**Matsushiro Arr**	**5.78**	**342**	P	**Pn**	**09 52 39.0**	**+0.8**
	0.1nm,0.3s,baz=154,slow=13,SNR=1.0						
	0.5nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**26.82**	**112**	T	T	10 24 09.8	
	baz=304,slow=76,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**26.83**	**112**	T	T	10 24 17.0	
	baz=304,slow=76,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**26.84**	**112**	T	T	10 24 17.3	
	baz=304,slow=76,SNR=6.5						
WRA	**Warramunga Arr**	**51.05**	**187**	P	**P**	**10 00 05.5**	**-0.4**
	0.3nm,0.3s,baz=4.7,slow=7.6,SNR=12						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**54.77**	**187**	P	**P**	**10 00 32.8**	**-0.6**
	0.2nm,0.4s,baz=7.9,slow=6.7,SNR=8.8						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**55.01**	**30**	P	**P**	**10 00 36.2**	**+1.7**
	0.4nm,0.7s,baz=273,slow=6.8,SNR=4.5						
	0.4nm,0.7s						

*KRNET **18** 09:51:45.0±0.1, 43°.85N×69°.97E, mb3.1*
*SOME **18** 09:51:45.6, 43°.65N×69°.72E*

*NNC **18** 09:51:46.3±0.8, 43.67N×69.73E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=5.0km s-min=3.3km az=86.0, Suspected Mining explosion.*

ISC 18 09:51:45.5±2.2, 43.87N±0.08×69.95E±0.09, h0km, n23, σ1s11/29, 12C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.87**	**151**	⇑P	**Pg**	**09 52 01.4**	**-0.7**
	1.9nm,0.4s,baz=318,slow=17,SNR=264						
KK31				S	**Sg**	**09 52 13.2**	**-0.2**
	22nm,0.5s,baz=316,slow=28,SNR=150						
KKAR	**Karatay Array**	**0.87**	**151**	⇑*i*P	**Pg**	**09 52 01.0**	**-1.1**
	baz=52						
KKAR				⇑*i*S	**Sg**	**09 52 13.0**	**-0.4**
	baz=52						
TRKS	**Terek-Say**	**2.50**	**159**	⇑*e*P	**Pb**	**09 52 29.6**	**-1.7**
	baz=59						
TRKS				⇑*i*S	**Sb**	**09 53 02.2**	**-0.5**
	baz=59						
ARK	**Arkit**	**2.55**	**144**	⇑*e*P	**Pn**	**09 52 29.3**	**+1.1**
	baz=44						
ARK				⇑*i*S	**Sn**	**09 53 01.5**	**+1.6**
	baz=44						
TAS	**Tashkent**	**2.59**	**191**	⇑*i*P	**Pn**	**09 52 30.0**	**+1.4**
	baz=91						
TAS				⇑*i*S	**Sn**	**09 53 02.2**	**+1.4**
	baz=91						
MRKS	**Merke**	**2.65**	**114**	Pg	**Pg**	**09 52 36.8**	**+0.6**
	3.7nm,0.2s						
MRKS				Lg	Lg	09 53 13.7	
	17nm,0.4s						
EKS2	**Erkin-Say**	**3.05**	**112**	⇓*e*P	**Pn**	**09 52 36.0**	**+0.9**
	baz=12						
EKS2				⇓*i*S	**Sn**	**09 53 13.5**	**+1.2**
	baz=12						
SGDS	**Sogindy**	**3.42**	**95**	Pg	**Pg**	**09 52 51.7**	**+0.5**
	3.0nm,0.2s						
SGDS				Lg	Lg	09 53 39.7	
	6.7nm,0.2s						
CHMS	**Chumysh**	**3.61**	**102**	⇑Pg	**Pg**	**09 52 54.1**	**-0.5**
	3.0nm,0.5s						
CHMS				⇓Lg	Lg	09 53 44.8	
	5.6nm,0.5s						
KRBS	**Karabastau**	**4.15**	**90**	Pg	**Pg**	**09 53 05.1**	**0.0**
	3.9nm,0.5s						
KRBS				Lg	Lg	09 54 02.8	
	5.1nm,0.4s						
TKM2	**Tokmak 2**	**4.23**	**101**	⇑Pg	**Pg**	**09 53 05.4**	**-1.1**
	2.4nm,0.7s						
TKM2				⇑Lg	Lg	09 54 03.5	
	7.5nm,0.7s						
DGS	**Degeres**	**4.28**	**96**	Pg	**Pg**	**09 53 08.9**	**+1.4**
	3.2nm,0.4s						
DGS				Lg	Lg	09 54 08.4	
	18nm,0.7s						
KST	**Kastek**	**4.46**	**99**	Pg	**Pg**	**09 53 11.5**	**+0.6**
	4.0nm,0.7s						
KST				Lg	Lg	09 54 13.1	
	8.6nm,0.5s						
KUU	**Kurty**	**4.62**	**87**	Pg	**Pg**	**09 53 13.3**	**-0.8**
	1.7nm,0.5s						
KUU				Lg	Lg	09 54 16.1	
	12nm,0.5s						
MTBS	**Maitube**	**4.78**	**97**	Pg	**Pg**	**09 53 17.4**	**+0.4**
	1.1nm,0.3s						
MTBS				Lg	Lg	09 54 22.9	
	5.5nm,0.4s						
KTBS	**Karatobe**	**4.88**	**90**	Pg	**Pg**	**09 53 18.9**	**-0.1**
	2.4nm,0.5s						
KTBS				Lg	Lg	09 54 26.6	
	18nm,0.5s						
IZV	**Izvestkoviy**	**4.92**	**97**	Pg	**Pg**	**09 53 19.7**	**-0.2**
	1.3nm,0.6s						
IZV				Lg	Lg	09 54 27.0	
	12nm,0.5s						
TNSS	**Tian-Shan**	**5.17**	**97**	Pg	**Pg**	**09 53 23.9**	**-0.6**
	2.6nm,0.9s						
TNSS				Lg	Lg	09 54 34.8	
	3.0nm,0.5s						
MDOK	**Medeo**	**5.21**	**95**	Pg	**Pg**	**09 53 25.4**	**0.0**
	1.4nm,0.2s						
MDOK				Lg	Lg	09 54 36.6	
	3.2nm,0.5s						
KOTS	**Kotyrbulak**	**5.25**	**94**	Pg	**Pg**	**09 53 26.1**	**0.0**
	1.2nm,0.3s						
KOTS				Lg	Lg	09 54 37.9	
	5.3nm,0.4s						
BLB	**Baldybastay**	**6.16**	**85**	Pg	**Pg**	**09 53 40.9**	**-2.6**
	1.1nm,0.4s						
BLB				Lg	Lg	09 55 03.2	
	2.4nm,0.4s						
KPKS	**Kokpek**	**6.35**	**91**	Pg	**Pg**	**09 53 47.5**	**+0.3**
	1.6nm,0.3s						
KPKS				Lg	Lg	09 55 14.4	
	4.5nm,0.7s						
UZB	**Uzynbulak**	**6.64**	**93**	Pg	**Pg**	**09 53 50.5**	**-2.2**
	3.6nm,0.3s						
UZB				Lg	Lg	09 55 19.7	
	1.4nm,0.3s						

ROM 18 09:51:54.3±0.1, 42.587N±0.005×13.299E±0.009, h12km±1km, ML2.3/6, 1C-1D, Error ellipse: s-maj=0.6km s-min=0.5km az=61.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.05**	**32**	P	Pg	09 51 57.1	+0.3
SMA1				S	Sg	09 51 58.8	+0.1
SMA1				AML	AML		
	comp=N,6390μm,0.3s						
SMA1				AML	AML		
	comp=E,12150μm,0.4s						
SMA1				AML	AML		
	comp=E,12150μm,1.6s						
SMA1				AML	AML		
	comp=N,6387μm,0.3s						
SMA1				AML	AML		
	comp=E,9938μm,0.2s						
CAMP	**Campotosto**	**0.10**	**122**	P	Pg	09 51 57.6	+0.3
CAMP				AML	AML		
	comp=E,456μm,1.3s						
CAMP				AML	AML		
	comp=E,456μm,1.3s						
CAMP				AML	AML		
	comp=N,434μm,0.5s						
CAMP				AML	AML		
	comp=E,361μm,0.3s						
CAMP				AML	AML		
	comp=N,433μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.14**	**180**	P	Pg	09 51 58.3	+0.4
T1247				S	Sg	09 52 01.1	+0.7
T1247				AML	AML		
	comp=E,956μm,1.3s						
T1247				AML	AML		
	comp=N,854μm,0.2s						
T1247				AML	AML		
	comp=N,855μm,0.2s						
T1247				AML	AML		
	comp=E,956μm,0.7s						
T1247				AML	AML		
	comp=N,855μm,0.2s						
T1247				AML	AML		
	comp=E,711μm,0.1s						
T1218	**Civita (PG)**	**0.16**	**302**	P	Pg	09 51 58.2	+0.1
T1218				S	Sg	09 52 01.4	+0.6
T1218				AML	AML		
	comp=E,666μm,0.1s						
T1218				AML	AML		
	comp=N,1302μm,0.2s						
T1218				AML	AML		
	comp=N,1301μm,0.2s						
T1218				AML	AML		
	comp=E,646μm,0.1s						
LNSS	**Leonessa**	**0.19**	**275**	P	Pg	09 51 59.2	+0.5
LNSS				S	Sg	09 52 02.5	+0.9
LNSS				AML	AML		
	comp=E,983μm,0.5s						
LNSS				AML	AML		
	comp=N,954μm,0.3s						
LNSS				AML	AML		
	comp=N,867μm,0.2s						
LNSS				AML	AML		
	comp=E,883μm,0.2s						
GIGS	**Gran Sasso**	**0.24**	**124**	P	Pb	09 52 00.1	-0.6
GIGS				S	Sg	09 52 03.6	+0.6
GIGS				AML	AML		
	comp=N,61μm,0.1s						
GIGS				AML	AML		
	comp=E,105μm,0.1s						
T1217	**Poggiodomo (PG**	**0.30**	**295**	⇓P	Pg	09 52 00.9	+0.4
T1217				AML	AML		
	comp=N,984μm,0.8s						
T1217				AML	AML		
	comp=E,890μm,0.4s						
T1217				AML	AML		
	comp=N,1034μm,0.8s						
T1217				AML	AML		
	comp=E,918μm,0.4s						
T1217				AML	AML		
	comp=N,912μm,0.2s						
T1217				AML	AML		
	comp=N,864μm,0.2s						
T1217				AML	AML		
	comp=E,894μm,0.4s						
FIAM	**Fiamignano**	**0.35**	**203**	⇑P	Pg	09 52 01.7	+0.4
MA9	**Marino**	**0.94**	**210**	P	Pn	09 52 14.6	+1.2
ATMI	**Monte Miggiano**	**1.06**	**315**	AML	AML		
	comp=E,3590μm,0.9s						
ATMI				AML	AML		
	comp=N,3470μm,0.5s						
MCIV	**Monte Civitell**	**1.21**	**280**	S	Sn	09 52 36.2	+2.7

IDC 18 09:52:01.2±2.9, 53.53N×87.71E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=25.2km s-min=14.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**285**	I	I	10 01 40.0	
	0.1nm,1.0s,baz=101,slow=347,SNR=11						
ZALV	**Zalesovo Beam**	**1.77**	**285**	Pg	Pn	09 52 32.1	-0.8
	1.4nm,0.3s,baz=106,slow=17,SNR=14						
ZALV				Lg	Lg	09 52 58.0	
	2.9nm,0.3s,baz=105,slow=25,SNR=13						
KURBB	**Kurchatov Arra**	**6.36**	**246**	Pn	Pn	09 53 37.0	+0.8
	0.1nm,0.3s,baz=62,slow=15,SNR=4.8						
KURBB				Lg	Lg	09 55 21.3	
	0.1nm,0.3s,baz=64,slow=32,SNR=5.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.59**	**209**	Pn	Pn	09 53 54.0	+1.1
	0.3nm,0.3s,baz=28,slow=13,SNR=12						
MKAR				Sn	Sn	09 55 20.3	+0.7
	0.1nm,0.3s,baz=32,slow=27,SNR=1.9						
MKAR				Lg	Lg	09 56 00.7	
	0.1nm,0.3s,baz=28,slow=20,SNR=7.4						
	0.5nm,0.4s						

*ROM **18** 09:52:11.8±0.1, 42.910N±0.005×13.13E±0.01, h8km, ML3.2/54, Error ellipse: s-maj=1.0km s-min=0.4km az=256.0*
*BEO **18** 09:52:13.4±0.8, 42.84N×13.01E, h10km±4km, ML3.5/4*
*PRU **18** 09:52:13.3±0.0, 42.88N×13.51E, h10km*

ISC 18 09:52:13.0±0.8, 42.91N±0.02×13.10E±0.02, h9km±5km, n96, σ1s15/125, 15C-33D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.06**	**325**	⇓P	**Pg**	**09 52 14.3**	**-0.8**
FEMA				S	**Sg**	**09 52 15.9**	**-0.8**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
CESI	**CESI - Serrava**	**0.17**	**303**	⇓P	**Pg**	**09 52 16.4**	**-0.2**
CESI				S	**Sg**	**09 52 19.8**	**+0.6**
CESI				AML	AML		
	comp=E,14750μm,0.4s						
CESI				AML	AML		
	comp=N,29900μm,0.5s						
T1220	**Camerino, Fraz**	**0.20**	**358**	P	**Pg**	**09 52 16.5**	**-0.7**
T1220				S	**Sg**	**09 52 21.7**	**+1.7**
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1217	**Poggiodomo (PG**	**0.23**	**212**	⇑P	**Pg**	**09 52 17.6**	**-0.3**
T1217				S	**Sg**	**09 52 21.9**	**+0.9**
T1217				AML	AML		
	comp=N,9395μm,1.5s						
T1217				AML	AML		
	comp=E,9390μm,0.5s						
T1217				AML	AML		
	comp=N,9385μm,0.8s						
T1217				AML	AML		
	comp=N,9395μm,0.5s						
T1217				AML	AML		
	comp=E,9520μm,0.6s						
T1217				AML	AML		
	comp=E,9410μm,0.6s						
T1218	**Civita (PG)**	**0.24**	**177**	P	**Pg**	**09 52 17.2**	**-0.7**
T1218				S	**Sg**	**09 52 22.2**	**+1.0**
T1218				AML	AML		
	comp=N,11200μm,0.5s						
T1218				AML	AML		
	comp=E,8835μm,1.3s						
T1218				AML	AML		
	comp=E,9310μm,1.3s						
T1218				AML	AML		
	comp=E,8840μm,1.3s						
T1218				AML	AML		
	comp=E,8850μm,1.3s						
T1218				AML	AML		
	comp=E,8850μm,0.7s						
T1218				AML	AML		
	comp=N,11050μm,0.5s						
T1218				AML	AML		
	comp=E,9310μm,0.7s						
SEF1	**Sefro**	**0.26**	**335**	P	**Pg**	**09 52 17.8**	**-0.5**
SEF1				S	**Sg**	**09 52 22.6**	**+0.8**
SEF1				AML	AML		
	comp=N,21200μm,1.6s						
SEF1				AML	AML		
	comp=E,25600μm,0.8s						
SEF1				AML	AML		
	comp=E,25600μm,1.2s						
SEF1				AML	AML		
	comp=N,21200μm,1.6s						
LNSS	**Leonessa**	**0.31**	**188**	P	**Pg**	**09 52 18.6**	**-0.7**
LNSS				S	**Sg**	**09 52 24.5**	**+1.1**
LNSS				AML	AML		
	comp=E,9125μm,0.2s						
LNSS				AML	AML		
	comp=N,8145μm,1.3s						
LNSS				AML	AML		
	comp=N,8145μm,0.7s						
LNSS				AML	AML		
	comp=E,9125μm,1.8s						
GAG1	**Gagliole**	**0.33**	**356**	⇓P	**Pg**	**09 52 19.5**	**0.0**
GAG1				AML	AML		
	comp=E,28150μm,0.8s						
GAG1				AML	AML		
	comp=N,23400μm,0.7s						
GAG1				AML	AML		
	comp=E,28150μm,0.8s						
GAG1				AML	AML		
	comp=E,28150μm,1.2s						
GAG1				AML	AML		
	comp=N,23400μm,0.8s						
ASSB	**Assisi San Ben**	**0.35**	**292**	⇑P	**Pg**	**09 52 19.5**	**-0.5**
ASSB				S	**Sg**	**09 52 25.8**	**+1.2**
ASSB				AML	AML		
	comp=E,4255μm,0.2s						
ASSB				AML	AML		
	comp=N,5380μm,0.3s						
MNTP	**Montappone**	**0.35**	**50**	⇑P	**Pg**	**09 52 20.2**	**+0.2**
MNTP				S	**Sb**	**09 52 26.6**	**-0.6**
MNTP				AML	AML		
	comp=E,15800μm,0.6s						
MNTP				AML	AML		
	comp=N,15350μm,0.4s						
SNTG	**Esanatoglia**	**0.36**	**341**	⇓P	**Pg**	**09 52 19.8**	**-0.4**
SNTG				AML	AML		
	comp=N,4685μm,0.8s						
SNTG				AML	AML		
	comp=N,4330μm,0.7s						
SNTG				AML	AML		
	comp=E,4585μm,0.6s						
SNTG				AML	AML		
	comp=E,4615μm,0.7s						
SNTG				AML	AML		
	comp=N,4685μm,1.2s						
SNTG				AML	AML		
	comp=N,4330μm,1.3s						
MOMA	**Monte Martano**	**0.40**	**255**	⇑P	**Pg**	**09 52 20.8**	**-0.1**
MOMA				AML	AML		
	comp=N,6490μm,0.2s						
MOMA				AML	AML		
	comp=E,5805μm,0.7s						
MOMA				AML	AML		
	comp=N,6690μm,0.2s						
MOMA				AML	AML		
	comp=E,5675μm,0.7s						
MOMA				AML	AML		
	comp=N,6495μm,0.2s						
ARRO	**Arrone**	**0.41**	**217**	P	**Pg**	**09 52 20.8**	**-0.3**
ARRO				S	**Sb**	**09 52 28.5**	**-0.3**
ARRO				AML	AML		
	comp=N,2765μm,0.3s						
ARRO				AML	AML		
	comp=E,3350μm,0.2s						
ARRO				AML	AML		
	comp=N,2770μm,0.3s						
EL6	**Elcito**	**0.42**	**0**	⇓P	**Pg**	**09 52 20.5**	**-0.7**
EL6				AML	AML		
	comp=N,12300μm,0.3s						
EL6				AML	AML		
	comp=E,11700μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.43**	**309**	⇓P	**Pg**	**09 52 21.2**	**-0.3**
ATCC				S	**Sb**	**09 52 29.0**	**-0.5**
ATCC				AML	AML		
	comp=E,7190μm,1.5s						
ATCC				AML	AML		
	comp=N,8765μm,1.4s						
ATCC				AML	AML		
	comp=N,8755μm,1.4s						
CAMP	**Campotosto**	**0.44**	**149**	⇑P	**Pg**	**09 52 20.5**	**-1.1**
CAMP				S	**Sg**	**09 52 27.6**	**+0.2**
CAMP				AML	AML		
	comp=N,2585μm,0.3s						
CAMP				AML	AML		
	comp=E,2670μm,0.5s						
FOSV	**Fossato di Vic**	**0.46**	**327**	⇓P	**Pg**	**09 52 21.4**	**-0.5**
FOSV				AML	AML		
	comp=N,7820μm,0.3s						
FOSV				AML	AML		
	comp=E,4600μm,0.3s						
CESX	**Cesi**	**0.49**	**232**	⇓P	**Pg**	**09 52 21.9**	**-0.5**
CESX				AML	AML		
	comp=E,4225μm,0.4s						
CESX				AML	AML		
	comp=N,4620μm,0.3s						
CESX				AML	AML		
	comp=E,4225μm,1.6s						
T1247	**Pizzolo (AQ)**	**0.49**	**163**	P	**Pg**	**09 52 21.5**	**-1.1**
T1247				S	**Sb**	**09 52 30.7**	**-0.5**
T1247				AML	AML		
	comp=N,4535μm,1.1s						
T1247				AML	AML		
	comp=E,5410μm,0.6s						
T1247				AML	AML		
	comp=N,4535μm,0.9s						
MURB	**Monte Urbino**	**0.55**	**310**	⇓P	**Pg**	**09 52 23.2**	**-0.5**
MURB				AML	AML		
	comp=N,5715μm,0.3s						
MURB				AML	AML		
	comp=E,9680μm,0.3s						
MURB				AML	AML		
	comp=N,5200μm,0.4s						
MURB				AML	AML		
	comp=E,8630μm,0.3s						
SSFR	**Montelago di S**	**0.57**	**336**	⇓P	**Pg**	**09 52 23.4**	**-0.7**
SSFR				AML	AML		
	comp=E,5675μm,1.1s						
SSFR				AML	AML		
	comp=E,5565μm,0.2s						
SSFR				AML	AML		
	comp=N,5865μm,0.3s						
SSFR				AML	AML		
	comp=N,5865μm,1.7s						
SSFR				AML	AML		
	comp=N,6330μm,0.8s						
GIGS	**Gran Sasso**	**0.58**	**143**	⇑P	**Pg**	**09 52 22.8**	**-1.4**
GIGS				S	**Sg**	**09 52 32.0**	**+0.2**
GIGS				AML	AML		
	comp=E,682μm,0.2s						
GIGS				AML	AML		
	comp=N,825μm,0.5s						
ATFO	**Monte Foce - G**	**0.60**	**320**	P	**Pg**	**09 52 22.5**	**-2.1**
ATFO				AML	AML		
	comp=E,2210μm,1.1s						
ATFO				AML	AML		
	comp=N,2400μm,0.5s						
ATFO				AML	AML		
	comp=E,2210μm,0.9s						
ATFO				AML	AML		
	comp=N,2400μm,1.5s						
PP3	**Marolino**	**0.60**	**39**	⇓P	**Pg**	**09 52 24.6**	**0.0**
PP3				AML	AML		
	comp=N,8175μm,1.2s						
PP3				AML	AML		
	comp=N,7765μm,1.2s						
PP3				AML	AML		
	comp=E,7585μm,0.7s						
PP3				AML	AML		
	comp=E,8060μm,0.7s						
PP3				AML	AML		
	comp=N,8175μm,0.8s						
PP3				AML	AML		
	comp=N,7765μm,0.8s						
TRTR	**Tortoreto Alta**	**0.61**	**100**	⇑P	**Pg**	**09 52 24.9**	**+0.1**
TRTR				AML	AML		
	comp=E,7215μm,0.4s						
TRTR				AML	AML		
	comp=N,7065μm,1.0s						
FIAM	**Fiamignano**	**0.64**	**179**	⇑P	**Pg**	**09 52 24.2**	**-1.3**
FIAM				S	**Sg**	**09 52 34.3**	**+0.4**
FIAM				AML	AML		
	comp=E,1670μm,1.0s						
FIAM				AML	AML		
	comp=N,1264μm,0.8s						
FIAM				AML	AML		
	comp=N,1264μm,1.2s						
FIAM				AML	AML		
	comp=E,1670μm,1.0s						
FRON	**Frontone**	**0.67**	**336**	⇓P	**Pg**	**09 52 24.9**	**-1.0**
FRON				AML	AML		
	comp=N,3785μm,0.6s						
FRON				AML	AML		
	comp=N,3785μm,1.4s						
FRON				AML	AML		
	comp=E,2130μm,0.8s						
ATVO	**AVT- Monte Val**	**0.69**	**313**	⇓P	**Pg**	**09 52 25.6**	**-0.8**
ATVO				AML	AML		
	comp=N,1233μm,1.4s						
ATVO				AML	AML		
	comp=E,1520μm,0.3s						
ATVO				AML	AML		
	comp=E,1520μm,1.7s						
COR1	**Corinaldo**	**0.72**	**354**	⇓P	**Pg**	**09 52 27.1**	**+0.1**
COR1				AML	AML		
	comp=N,3185μm,0.5s						
COR1				AML	AML		
	comp=E,2330μm,0.7s						
COR1				AML	AML		
	comp=N,3190μm,0.5s						
MGAB	**Montegabbione**	**0.72**	**270**	⇑P	**Pg**	**09 52 26.6**	**-0.4**
MGAB				AML	AML		
	comp=E,2250μm,0.5s						
MGAB				AML	AML		
	comp=N,2625μm,0.5s						
MGAB				AML	AML		
	comp=N,2730μm,0.4s						
MGAB				AML	AML		
	comp=N,2625μm,1.5s						
MGAB				AML	AML		
	comp=E,2500μm,0.6s						
AOI	**Ancona**	**0.74**	**30**	P	**Pg**	**09 52 26.7**	**-0.5**
AOI				S	**Sn**	**09 52 39.8**	**-1.2**
AOI				AML	AML		
	comp=E,2240μm,0.3s						
AOI				AML	AML		
	comp=N,1940μm,1.1s						
FAGN	**Fagnano**	**0.74**	**151**	⇑P	**Pg**	**09 52 26.0**	**-1.2**
FAGN				AML	AML		
	comp=E,3195μm,0.6s						
FAGN				AML	AML		
	comp=E,3195μm,1.4s						

FAGN				AML	AML			
	comp=N,3765µm,0.4s							
ATPI	**Pietralunga -**	**0.74**	**317**	⇓P	**Pg**	**09 52 26.5**	**-0.8**	
ATPI				AML	AML			
	comp=E,1745µm,0.6s							
ATPI				AML	AML			
	comp=N,1235µm,0.8s							
ATPI				AML	AML			
	comp=E,1745µm,1.4s							
ATPI				AML	AML			
	comp=N,1230µm,0.8s							
PIEI	**Pieia**	**0.75**	**327**	⇓P	**Pg**	**09 52 26.4**	**-1.1**	
PIEI				AML	AML			
	comp=N,1080µm,1.6s							
PIEI				AML	AML			
	comp=E,1205µm,0.8s							
PIEI				AML	AML			
	comp=N,1080µm,0.4s							
MPAG	**Monte Paganucc**	**0.76**	**341**	⇓P	**Pg**	**09 52 26.8**	**-0.9**	
MPAG				AML	AML			
	comp=E,1770µm,1.3s							
MPAG				AML	AML			
	comp=N,1660µm,1.1s							
MPAG				AML	AML			
	comp=N,1660µm,1.1s							
MPAG				AML	AML			
	comp=E,1770µm,1.2s							
MPAG				AML	AML			
	comp=E,1650µm,1.3s							
MPAG				AML	AML			
	comp=N,1635µm,1.1s							
NARO	**Abbazia di Nar**	**0.80**	**332**	P	**Pg**	**09 52 26.6**	**-1.8**	
NARO				AML	AML			
	comp=E,868µm,0.6s							
NARO				AML	AML			
	comp=N,1018µm,1.0s							
NARO				AML	AML			
	comp=E,868µm,1.4s							
T0110	**Collepietro**	**0.85**	**143**	⇓P	**Pg**	**09 52 27.0**	**-2.3**	
T0110				AML	AML			
	comp=E,2425µm,1.6s							
T0110				AML	AML			
	comp=N,2340µm,1.0s							
T0110				AML	AML			
	comp=E,2425µm,0.4s							
T0110				AML	AML			
	comp=N,2340µm,1.0s							
BADI	**Badiali**	**0.86**	**314**	⇑P	**Pg**	**09 52 29.0**	**-0.7**	
SACS	**San Casciano d**	**0.88**	**266**	⇑P	**Pn**	**09 52 31.2**	**-0.4**	
SACS				AML	AML			
	comp=E,662µm,0.8s							
SACS				AML	AML			
	comp=N,776µm,0.5s							
SACS				AML	AML			
	comp=E,654µm,0.6s							
SACS				AML	AML			
	comp=N,714µm,0.5s							
SACS				AML	AML			
	comp=N,714µm,1.5s							
SACS				AML	AML			
	comp=N,776µm,1.5s							
SACS				AML	AML			
	comp=E,654µm,1.4s							
SACS				AML	AML			
	comp=E,662µm,1.2s							
PE3	**Peglio**	**0.90**	**331**	P	**Pg**	**09 52 29.2**	**-1.1**	
PE3				AML	AML			
	comp=E,3580µm,0.4s							
PE3				AML	AML			
	comp=N,5µm,1.0s							
CAFI	**Castiglion Fio**	**0.93**	**297**	P	**Pg**	**09 52 30.7**	**-0.1**	
CAFI				AML	AML			
	comp=N,626µm,0.7s							
CAFI				AML	AML			
	comp=N,643µm,0.7s							
CAFI				AML	AML			
	comp=E,687µm,0.8s							
CAFI				AML	AML			
	comp=E,684µm,0.8s							
CERT	**Cerreto**	**0.97**	**185**	⇑P	**Pg**	**09 52 31.8**	**+0.2**	
CERT				AML	AML			
	comp=E,1545µm,0.4s							
CERT				AML	AML			
	comp=N,708µm,1.2s							
SSP9	**Sansepolcro**	**0.97**	**313**	⇑P	**Pg**	**09 52 31.3**	**-0.4**	
SSP9				AML	AML			
	comp=E,668µm,0.6s							
SSP9				AML	AML			
	comp=N,842µm,0.7s							
PESA	**Pesaro**	**1.05**	**350**	⇓P	**Pg**	**09 52 33.1**	**-0.1**	
PESA				AML	AML			
	comp=E,2000µm,0.3s							
PESA				AML	AML			
	comp=N,1655µm,0.6s							
PESA				AML	AML			
	comp=N,1655µm,1.4s							
GUAR	**Guarcino**	**1.13**	**172**	⇓P	**Pn**	**09 52 36.0**	**+1.0**	
GUAR				AML	AML			
	comp=E,563µm,0.9s							
GUAR				AML	AML			
	comp=N,742µm,0.4s							
GUAR				AML	AML			
	comp=E,563µm,1.1s							
POFI	**Posta Fibreno**	**1.28**	**159**	⇓P	**Pg**	**09 52 38.5**	**+0.9**	
POFI				AML	AML			
	comp=N,294µm,1.3s							
POFI				AML	AML			
	comp=N,316µm,1.3s							
POFI				AML	AML			
	comp=N,316µm,0.7s							
POFI				AML	AML			
	comp=N,294µm,0.7s							
POFI				AML	AML			
	comp=E,437µm,0.6s							
POFI				AML	AML			
	comp=E,436µm,0.6s							
SFI	**Santa Sofia**	**1.35**	**318**	⇓P	**Pg**	**09 52 39.7**	**+0.8**	
SFI				AML	AML			
	comp=E,280µm,1.2s							
SFI				AML	AML			
	comp=E,234µm,0.8s							
SFI				AML	AML			
	comp=N,304µm,0.7s							
SFI				AML	AML			
	comp=E,280µm,0.8s							
SFI				AML	AML			
	comp=N,336µm,0.8s							
GIUL	**Giuliano Di Ro**	**1.36**	**175**	⇓P	**Pg**	**09 52 39.4**	**+0.4**	
GIUL				AML	AML			
	comp=E,352µm,0.8s							
GIUL				AML	AML			
	comp=N,332µm,0.6s							
GIUL				AML	AML			
	comp=E,352µm,1.2s							
GIUL				AML	AML			
	comp=N,332µm,1.4s							
RUFI	**Rufina**	**1.48**	**309**	⇓P	**Pn**	**09 52 39.4**	**-0.5**	
RUFI				AML	AML			
	comp=N,260µm,0.5s							
RUFI				AML	AML			
	comp=E,325µm,0.6s							
RUFI				AML	AML			
	comp=N,260µm,1.5s							
MIDA	**Miranda**	**1.53**	**146**	⇓P	**Pb**	**09 52 41.7**	**+0.1**	
MIDA				AML	AML			
	comp=E,375µm,1.4s							
MIDA				AML	AML			
	comp=E,375µm,0.6s							
MIDA				AML	AML			
	comp=N,316µm,0.5s							
SEI	**Scarperia**	**1.71**	**313**	P	**Pg**	**09 52 46.0**	**+0.3**	
MODR	**Mondragone**	**1.86**	**162**	P	**Pn**	**09 52 46.0**	**+0.9**	
MODR				AML	AML			
	comp=E,104µm,1.6s							
MODR				AML	AML			
	comp=N,115µm,1.3s							
MODR				AML	AML			
	comp=E,104µm,0.4s							
MODR				AML	AML			
	comp=N,115µm,0.7s							
CRND	**Cornuda**	**3.01**	**346**	S	**Sn**	**09 53 34.6**	**-2.5**	
CTI	**Castel Tesino**	**3.30**	**342**	⇓P	**Pn**	**09 53 05.5**	**+0.5**	
CTI				AML	AML			
	comp=E,105µm,0.4s							
CTI				AML	AML			
	comp=N,120µm,0.8s							
CTI				AML	AML			
	comp=N,120µm,1.2s							
CTI				AML	AML			
	comp=E,105µm,1.6s							
STAL	**STALIGIAL**	**3.36**	**355**	P	**Pn**	**09 53 05.6**	**-0.1**	
STAL				AML	AML			
	comp=E,160µm,0.6s							
STAL				AML	AML			
	comp=E,160µm,1.4s							
STAL				AML	AML			
	comp=N,113µm,0.9s							
STON	**Ston**	**3.38**	**89**	*e*Pn	**Pn**	**09 53 06.4**	**+0.5**	
STON				*e*Sn	**Sn**	**09 53 46.6**	**+0.5**	
LUSI	**Trento, Gardas**	**3.42**	**334**	⇓P	**Pn**	**09 53 08.0**	**+1.5**	
CIMO	**Cimolais**	**3.43**	**352**	⇓P	**Pn**	**09 53 06.3**	**-0.4**	
BLY	**Banja Luka**	**3.48**	**57**	*e*Pn	**Pn**	**09 53 10.2**	**+2.9**	
GAGG	**Gaggia**	**3.52**	**335**	⇑P	**Pn**	**09 53 10.0**	**+1.9**	
CRAC	**Craco**	**3.57**	**134**	S	**Sb**	**09 54 02.3**	**+2.6**	
ZAG	**Zagreb**	**3.58**	**34**	S	**Sn**	**09 53 50.6**	**-0.3**	
SARZ	**Sarezzano**	**3.60**	**304**	⇓P	**Pn**	**09 53 11.6**	**+2.5**	
SARZ				S	**Sg**	**09 54 08.1**	**-0.6**	
ACOM	**Acomizza, Ital**	**3.65**	**4**	⇓P	**Pn**	**09 53 10.0**	**+0.2**	
ACOM				AML	AML			
	comp=N,120µm,0.8s							
ACOM				AML	AML			
	comp=E,111µm,0.9s							
MYKA	**Terra Mystica**	**3.74**	**6**	Pn	**Pn**	**09 53 11.0**	**0.0**	
	comp=E,9.5nm,0.4s,SNR=6.6							
OBKA	**Obir**	**3.74**	**16**	Pn	**Pn**	**09 53 10.9**	**-0.2**	
	comp=E,1.1nm,0.2s							
BOSI	**Bolzano**	**3.80**	**341**	S	**Sb**	**09 54 08.9**	**+2.5**	
ABTA	**Abfaltersbach**	**3.86**	**354**	Pn	**Pn**	**09 53 13.3**	**+0.7**	
	comp=E,48nm,0.5s,SNR=9.2							
TREB	**Trebinje**	**3.87**	**91**	*e*Pn	**Pn**	**09 53 13.1**	**+0.4**	
TREB				*e*Sn	**Sn**	**09 53 58.8**	**+0.6**	
RISI	**Rein**	**4.10**	**350**	⇓P	**Pn**	**09 53 17.2**	**+1.1**	
RISI				AML	AML			
	comp=E,199µm,0.5s							
RISI				AML	AML			
	comp=E,199µm,1.5s							
RISI				AML	AML			
	comp=N,185µm,0.4s							
KBA	**Koelnbreinsper**	**4.17**	**2**	*i* Pn	**Pn**	**09 53 17.2**	**+0.2**	
	comp=N,7.6nm,0.3s,SNR=11							
ROSI	**Rosskopf**	**4.19**	**344**	⇓P	**Pn**	**09 53 18.7**	**+1.4**	
SPS2	**Spezzano della**	**4.36**	**145**	P	**Pg**	**09 53 33.7**	**-2.9**	
FETA	**Feichten**	**4.44**	**339**	*e*Pn	**Pn**	**09 53 22.3**	**+1.6**	
	comp=N,4.6nm,0.4s,SNR=7.2							
WTTA	**Wattenberg**	**4.47**	**347**	*e*Pn	**Pn**	**09 53 22.4**	**+1.2**	
	comp=N,3.5nm,0.2s,SNR=6.9							
WTTA	**Wattenberg**	**4.47**	**347**	⇓P	**Pn**	**09 53 22.3**	**+1.2**	
SQTA	**Sankt Quirin**	**4.51**	**343**	*e*Pn	**Pn**	**09 53 23.0**	**+1.4**	
	comp=N,3.6nm,0.2s,SNR=8.5							
WATA	**Walderalm**	**4.55**	**347**	*e*Pn	**Pn**	**09 53 23.7**	**+1.5**	
	comp=N,7.1nm,0.4s							
PDG	**Podgorica**	**4.56**	**94**	*e*Pn	**Pn**	**09 53 22.6**	**+0.4**	
PDG				*e*Sn	**Sn**	**09 54 16.5**	**+1.1**	
MOTA	**Moosalm**	**4.65**	**343**	*e*Pn	**Pn**	**09 53 25.3**	**+1.7**	
	comp=N,2.0nm,0.2s							
BIOA	**Bad Ischl, Aus**	**4.79**	**4**	*e*Pn	**Pn**	**09 53 25.7**	**+0.2**	
	comp=N,16nm,0.3s,SNR=10							
RETA	**Reutte**	**4.86**	**341**	*e*Pn	**Pn**	**09 53 28.2**	**+1.8**	
	comp=N,4.7nm,0.3s,SNR=7.6							
MOA	**Molln**	**5.01**	**9**	*i* Pn	**Pn**	**09 53 28.9**	**+0.6**	
	comp=N,3.0nm,0.3s,SNR=7.7							
MOA	**Molln**	**5.01**	**9**	*e*Pn	**Pn**	**09 53 28.9**	**+0.6**	
MOA				*e*Sn	**Sn**	**09 54 26.4**	**+0.1**	
SJES	**Sjenica**	**5.05**	**84**	*e*Pn	**Pn**	**09 53 30.0**	**+1.0**	
SJES				*e*Sn	**Sn**	**09 54 27.7**	**+0.3**	
IVAS	**Ivanjica**	**5.20**	**80**	*e*Pn	**Pn**	**09 53 31.5**	**+0.5**	
IVAS				*e*Sn	**Sn**	**09 54 29.8**	**-1.2**	
CONA	**Conrad Observa**	**5.38**	**20**	*i* Pn	**Pn**	**09 53 33.3**	**-0.2**	
	comp=N,1.5nm,0.2s,SNR=6.2							
TRUS	**Trudelj**	**5.47**	**74**	*e*Pn	**Pn**	**09 53 35.1**	**+0.4**	
GRUS	**Gruza**	**5.63**	**77**	*e*Pn	**Pn**	**09 53 38.5**	**+1.6**	
GRUS				*e*Sn	**Sn**	**09 54 39.9**	**-1.8**	
SELS	**Selova**	**5.88**	**84**	*e*Pn	**Pn**	**09 53 41.1**	**+0.7**	
CKRC	**Cesky Krumlov**	**5.97**	**8**	*e*PN	**Pn**	**09 53 40.6**	**-0.9**	
CKRC				*e*SN	**Sn**	**09 54 47.6**	**-2.4**	
KHC	**Kasperske Hory**	**6.23**	**3**	*e*PN	**Pn**	**09 53 44.3**	**-0.8**	
KHC				*e*SN	**Sn**	**09 54 53.6**	**-2.8**	
BARS	**Barje**	**6.41**	**88**	*e*Pn	**Pn**	**09 53 48.0**	**+0.5**	
FNA	**Florina**	**6.54**	**106**	*e*Pn	**Pn**	**09 53 50.8**	**+1.4**	
FNA				*e*Sn	**Sn**	**09 55 01.0**	**-3.1**	
PRVS	**Prvonek**	**6.63**	**90**	*e*Pn	**Pn**	**09 53 49.9**	**-0.7**	
PRVS				*e*Sn	**Sn**	**09 55 05.4**	**-0.8**	
ZAPS	**Zavoj**	**6.99**	**84**	*e*Pn	**Pn**	**09 53 55.4**	**-0.2**	
ZAPS				*e*Sn	**Sn**	**09 55 14.0**	**-1.2**	

ROM 18 09:55:43.7±0.1, 42°.567N±0°.004×13°.283E±0°.006, h14km, ML2.3/11, 3C-8D, Error ellipse: s-maj=0.5km s-min=0.4km az=52.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.10**	**109**	P	Pg	09 55 47.4	+0.4
CAMP				S	Sg	09 55 49.5	+0.4
CAMP				AML	AML		
	comp=E,1255µm,0.2s						
CAMP				AML	AML		
	comp=N,1520µm,0.4s						
CAMP				AML	AML		
	comp=E,1251µm,0.2s						
CAMP				AML	AML		
	comp=N,1518µm,0.4s						
T1247	**Pizzolo (AQ)**	**0.13**	**175**	⇓P	Pb	09 55 47.7	-0.3
T1247				S	Sg	09 55 50.2	+0.6
T1247				AML	AML		
	comp=E,3805µm,0.1s						
T1247				AML	AML		
	comp=E,3805µm,1.9s						
T1247				AML	AML		
	comp=N,5115µm,0.4s						
T1247				AML	AML		
	comp=E,3807µm,0.1s						
T1247				AML	AML		
	comp=N,5004µm,0.1s						
T1218	**Civita (PG)**	**0.16**	**310**	⇓P	Pg	09 55 48.1	+0.3
T1218				S	Sg	09 55 50.8	+0.3
T1218				AML	AML		
	comp=E,3555µm,0.1s						
T1218				AML	AML		
	comp=N,4870µm,0.2s						
T1218				AML	AML		
	comp=E,3500µm,0.2s						
T1218				AML	AML		
	comp=N,4845µm,0.2s						
T1218				AML	AML		
	comp=E,3555µm,0.1s						
T1218				AML	AML		
	comp=E,3500µm,0.1s						
T1218				AML	AML		
	comp=E,3500µm,1.9s						
T1218				AML	AML		
	comp=E,3555µm,1.9s						
T1218				AML	AML		
	comp=N,4845µm,0.2s						
T1218				AML	AML		
	comp=N,4871µm,0.2s						
T1218				AML	AML		
	comp=E,3498µm,0.1s						
T1218				AML	AML		
	comp=E,3556µm,0.1s						
LNSS	**Leonessa**	**0.18**	**281**	⇓P	Pg	09 55 48.5	+0.4
LNSS				S	Sb	09 55 51.8	-0.7
LNSS				AML	AML		
	comp=E,6205µm,0.4s						
LNSS				AML	AML		
	comp=N,8385µm,0.1s						
LNSS				AML	AML		
	comp=E,6205µm,1.6s						
LNSS				AML	AML		
	comp=E,6104µm,0.2s						
LNSS				AML	AML		
	comp=N,8388µm,0.1s						
GIGS	**Gran Sasso**	**0.24**	**119**	⇑P	Pg	09 55 49.4	+0.3
GIGS				S	Sg	09 55 53.3	+0.7
GIGS				AML	AML		
	comp=E,306µm,0.5s						
GIGS				AML	AML		
	comp=N,194µm,1.0s						
GIGS				AML	AML		
	comp=N,194µm,1.0s						
GIGS				AML	AML		
	comp=E,296µm,0.1s						
GIGS				AML	AML		
	comp=N,187µm,0.2s						
T1217	**Poggiodomo (PG**	**0.30**	**299**	⇑P	Pg	09 55 50.3	+0.3
T1217				S	Sg	09 55 54.9	+0.7
T1217				AML	AML		
	comp=E,829µm,1.0s						
T1217				AML	AML		
	comp=N,732µm,0.8s						
T1217				AML	AML		
	comp=E,790µm,1.0s						
T1217				AML	AML		
	comp=N,745µm,0.8s						
T1217				AML	AML		
	comp=N,732µm,0.7s						
T1217				AML	AML		
	comp=E,791µm,1.0s						
T1217				AML	AML		
	comp=N,746µm,0.7s						
T1217				AML	AML		
	comp=E,830µm,1.0s						
T1217				AML	AML		
	comp=E,577µm,0.1s						
T1217				AML	AML		
	comp=E,604µm,0.2s						
T1217				AML	AML		
	comp=N,591µm,0.1s						
T1217				AML	AML		
	comp=N,626µm,0.1s						
FIAM	**Fiamignano**	**0.32**	**202**	⇑P	Pg	09 55 50.7	+0.3
FIAM				S	Sg	09 55 55.6	+0.7
FIAM				AML	AML		
	comp=E,877µm,0.4s						
FIAM				AML	AML		
	comp=N,616µm,0.3s						
FIAM				AML	AML		
	comp=E,877µm,1.6s						
FIAM				AML	AML		
	comp=N,616µm,1.7s						
FIAM				AML	AML		
	comp=N,616µm,0.3s						
FIAM				AML	AML		
	comp=E,875µm,0.4s						
FAGN	**Fagnano**	**0.38**	**143**	S	Sb	09 55 58.8	+0.9
FAGN				AML	AML		
	comp=E,623µm,0.6s						
FAGN				AML	AML		
	comp=N,510µm,0.3s						
FAGN				AML	AML		
	comp=N,510µm,0.3s						
FAGN				AML	AML		
	comp=E,623µm,0.6s						
ARRO	**Arrone**	**0.38**	**272**	P	Pg	09 55 51.6	+0.2
ARRO				AML	AML		
	comp=E,538µm,0.6s						
ARRO				AML	AML		
	comp=N,569µm,0.9s						
ARRO				AML	AML		
	comp=E,538µm,0.6s						
ARRO				AML	AML		
	comp=N,569µm,1.1s						
ARRO				AML	AML		
	comp=E,506µm,0.1s						
ARRO				AML	AML		
	comp=N,554µm,0.1s						
T0110	**Collepietro**	**0.50**	**133**	⇓P	Pg	09 55 54.0	+0.3
T0110				AML	AML		
	comp=E,348µm,0.5s						
T0110				AML	AML		
	comp=N,314µm,0.5s						
CESI	**CESI - Serrava**	**0.52**	**328**	P	Pb	09 55 54.6	-0.1
CESI				AML	AML		
	comp=N,267µm,1.2s						
CESI				AML	AML		
	comp=E,230µm,1.2s						
CESI				AML	AML		
	comp=E,230µm,0.8s						
CESI				AML	AML		
	comp=E,186µm,0.4s						
CESI				AML	AML		
	comp=N,234µm,0.2s						
CESX	**Cesi**	**0.52**	**275**	P	Pg	09 55 54.2	+0.2
CESX				AML	AML		
	comp=E,326µm,0.3s						
CESX				AML	AML		
	comp=N,421µm,0.2s						
CESX				AML	AML		
	comp=N,421µm,0.2s						
CESX				AML	AML		
	comp=E,325µm,0.3s						
MNTP	**Montappone**	**0.59**	**13**	⇓P	Pn	09 55 57.7	0.0
ASSB	**Assisi San Ben**	**0.66**	**316**	P	Pb	09 55 57.2	+0.1
ASSB				AML	AML		
	comp=N,202µm,0.2s						
ASSB				AML	AML		
	comp=E,132µm,0.3s						
SRES	**S.Oreste - Sor**	**0.66**	**240**	⇓P	Pg	09 55 56.8	+0.2
SRES				AML	AML		
	comp=N,97µm,0.5s						
SRES				AML	AML		
	comp=E,132µm,0.2s						
EL6	**Elcito**	**0.77**	**350**	⇓P	Pg	09 55 58.6	-0.2
EL6				AML	AML		
	comp=E,244µm,0.2s						
MGAB	**Montegabbione**	**0.93**	**292**	⇓P	Pn	09 56 03.7	+1.3
ATTE	**AVT- Monte Tez**	**0.93**	**313**	S	Sn	09 56 16.9	+1.2
MODR	**Mondragone**	**1.49**	**162**	S	Sn	09 56 29.5	+0.2

ROM 18 09:56:34.9±0.2, 42°.60N±0°.01×13°.270E±0°.009, h15km±1km, ML2.5/6, 1C, Error ellipse: s-maj=1.0km s-min=1.0km az=199.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.13**	**301**	P	Pb	09 56 39.0	-0.2
T1218				S	Sg	09 56 41.5	+0.3
T1218				AML	AML		
	comp=E,3815µm,0.1s						
T1218				AML	AML		
	comp=N,3850µm,1.5s						
T1218				AML	AML		
	comp=N,3900µm,1.5s						
T1218				AML	AML		
	comp=N,3900µm,0.5s						
T1218				AML	AML		
	comp=N,3850µm,0.5s						
T1218				AML	AML		
	comp=E,3710µm,0.1s						
T1218				AML	AML		
	comp=E,3814µm,0.1s						
T1218				AML	AML		
	comp=N,3461µm,0.1s						
T1218				AML	AML		
	comp=E,3708µm,0.1s						
T1218				AML	AML		
	comp=N,3416µm,0.1s						
T1247	**Pizzolo (AQ)**	**0.16**	**173**	⇑P	Pb	09 56 41.6	+1.9
LNSS	**Leonessa**	**0.17**	**270**	P	Pg	09 56 39.5	+0.2
LNSS				S	Sg	09 56 42.4	+0.3
LNSS				AML	AML		
	comp=E,3150µm,0.3s						
LNSS				AML	AML		
	comp=N,3645µm,0.6s						
LNSS				AML	AML		
	comp=E,3092µm,0.1s						
LNSS				AML	AML		
	comp=N,3440µm,0.2s						
GIGS	**Gran Sasso**	**0.27**	**125**	P	Pg	09 56 41.0	+0.3
GIGS				S	Sg	09 56 45.2	+0.5
GIGS				AML	AML		
	comp=E,110µm,0.3s						
GIGS				AML	AML		
	comp=N,105µm,0.2s						
T1217	**Poggiodomo (PG**	**0.27**	**294**	P	Pg	09 56 41.2	+0.4
T1217				S	Sb	09 56 45.5	-0.6
T1217				AML	AML		
	comp=E,613µm,1.6s						
T1217				AML	AML		
	comp=N,747µm,0.5s						
T1217				AML	AML		
	comp=E,594µm,1.0s						
T1217				AML	AML		
	comp=N,662µm,0.5s						
T1217				AML	AML		
	comp=E,612µm,1.6s						
T1217				AML	AML		
	comp=N,746µm,0.5s						

T1217			AML	AML	
	comp=N,662μm,1.5s				
T1217			AML	AML	
	comp=N,746μm,1.5s				
T1217			AML	AML	
	comp=E,594μm,1.0s				
T1217			AML	AML	
	comp=N,676μm,0.1s				
T1217			AML	AML	
	comp=N,605μm,0.1s				
T1217			AML	AML	
	comp=E,477μm,0.1s				
T1217			AML	AML	
	comp=E,572μm,0.1s				
ARRO	**Arrone**	**0.37 267**	P	Pg	09 56 42.7 +0.2
ARRO			S	Sg	09 56 48.3 +0.6
ARRO			AML	AML	
	comp=N,573μm,0.1s				
ARRO			AML	AML	
	comp=E,482μm,0.8s				
ARRO			AML	AML	
	comp=N,574μm,0.1s				
ARRO			AML	AML	
	comp=E,419μm,0.1s				
ARRO			AML	AML	
	comp=N,573μm,0.1s				
CESX	**Cesi**	**0.51 271**	P	Pg	09 56 45.3 +0.3
CESX			S	Sb	09 56 53.0 +0.1
CESX			AML	AML	
	comp=N,150μm,0.2s				
CESX			AML	AML	
	comp=E,150μm,0.2s				
MURB	**Monte Urbino**	**0.86 321**	P	Pn	09 56 54.6 +2.0
MURB			AML	AML	
	comp=E,1390μm,1.1s				
MURB			AML	AML	
	comp=N,1320μm,0.7s				
MURB			AML	AML	
	comp=E,289μm,1.5s				
MURB			AML	AML	
	comp=N,232μm,1.0s				
MURB			AML	AML	
	comp=N,1320μm,0.7s				
MURB			AML	AML	
	comp=E,289μm,0.5s				
MURB			AML	AML	
	comp=N,232μm,1.0s				
MURB			AML	AML	
	comp=N,199μm,0.2s				
MURB			AML	AML	
	comp=N,763μm,0.2s				
MURB			AML	AML	
	comp=E,183μm,0.2s				
MURB			AML	AML	
	comp=E,1241μm,0.2s				
RMP	**Rome, Mte Porz**	**0.90 208**	S	Sn	09 57 06.7 +0.9
RMP			AML	AML	
	comp=E,676μm,0.7s				
RMP			AML	AML	
	comp=N,523μm,1.0s				
RMP			AML	AML	
	comp=E,676μm,1.3s				

ROM 18 10:09:01.7±0.1, 42°.538N±0'.004×13°.260E±0'.005, h11km, ML2.5/13, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.3km az=35.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.11**	**31**	P	Pg	10 09 05.2	+0.6
SMA1				S	Sg	10 09 07.5	+0.7
SMA1				AML	AML		
	comp=E,41000μm,0.5s						
SMA1				AML	AML		
	comp=N,20400μm,0.2s						
SMA1				AML	AML		
	comp=N,20400μm,1.8s						
CAMP	**Campotosto**	**0.11**	**91**	P	Pg	10 09 05.2	+0.5
CAMP				S	Sg	10 09 07.4	+0.6
CAMP				AML	AML		
	comp=N,3000μm,1.6s						
CAMP				AML	AML		
	comp=N,3000μm,0.4s						
CAMP				AML	AML		
	comp=E,3170μm,0.3s						
T1218	**Civita (PG)**	**0.17**	**321**	P	Pg	10 09 06.0	+0.4
T1218				S	Sg	10 09 08.8	+0.6
T1218				AML	AML		
	comp=E,4185μm,0.1s						
T1218				AML	AML		
	comp=N,5320μm,0.2s						
T1218				AML	AML		
	comp=E,4245μm,0.1s						
T1218				AML	AML		
	comp=N,5310μm,0.2s						
T1218				AML	AML		
	comp=E,4180μm,0.1s						
T1218				AML	AML		
	comp=E,4245μm,1.9s						
T1218				AML	AML		
	comp=E,4180μm,1.9s						
T1218				AML	AML		
	comp=N,5315μm,0.2s						
LNSS	**Leonessa**	**0.17**	**292**	P	Pg	10 09 06.2	+0.6
LNSS				S	Sg	10 09 09.3	+0.9
LNSS				AML	AML		
	comp=E,7470μm,0.2s						
LNSS				AML	AML		
	comp=N,9160μm,0.1s						
GIGS	**Gran Sasso**	**0.24**	**111**	P	Pg	10 09 07.2	+0.3
GIGS				S	Sg	10 09 11.1	+0.8
GIGS				AML	AML		
	comp=N,290μm,1.0s						
GIGS				AML	AML		
	comp=E,350μm,1.4s						
GIGS				AML	AML		
	comp=N,290μm,1.0s						
FIAM	**Fiamignano**	**0.29**	**202**	P	Pg	10 09 08.2	+0.5
FIAM				S	Sb	10 09 13.0	-0.8
T1217	**Poggiodomo (PG**	**0.30**	**306**	P	Pg	10 09 08.1	+0.3
T1217				S	Sg	10 09 12.7	+0.8
T1217				AML	AML		
	comp=E,954μm,0.3s						
T1217				AML	AML		
	comp=E,900μm,0.3s						
T1217				AML	AML		
	comp=N,880μm,1.3s						
T1217				AML	AML		
	comp=E,954μm,0.3s						
T1217				AML	AML		
	comp=E,900μm,0.3s						
T1217				AML	AML		
	comp=N,880μm,1.3s						
T1217				AML	AML		
	comp=N,880μm,0.7s						
T1217				AML	AML		
	comp=E,954μm,1.7s						
T1217				AML	AML		
	comp=N,830μm,0.7s						
T1217				AML	AML		
	comp=E,900μm,1.7s						
FAGN	**Fagnano**	**0.36**	**138**	P	Pg	10 09 09.6	+0.6
FAGN				AML	AML		
	comp=E,938μm,0.5s						
FAGN				AML	AML		
	comp=N,998μm,1.4s						
ARRO	**Arrone**	**0.37**	**277**	P	Pg	10 09 09.3	+0.2
ARRO				S	Sb	10 09 15.1	-1.0
ARRO				AML	AML		
	comp=E,726μm,0.2s						
ARRO				AML	AML		
	comp=N,1040μm,0.2s						
T0110	**Collepietro**	**0.49**	**129**	P	Pg	10 09 11.7	+0.3
CESX	**Cesi**	**0.51**	**278**	P	Pg	10 09 11.6	-0.1
CESX				S	Sb	10 09 19.7	-0.4
CESX				AML	AML		
	comp=E,286μm,1.5s						
CESX				AML	AML		
	comp=N,300μm,0.3s						
CESX				AML	AML		
	comp=E,286μm,0.5s						
CESI	**CESI - Serrava**	**0.54**	**331**	P	Pg	10 09 12.2	0.0
CESI				S	Sb	10 09 20.6	-0.3
CSP1	**Cessapalombo**	**0.56**	**356**	P	Pg	10 09 12.4	-0.1
CSP1				S	Sb	10 09 20.9	-0.7
CSP1				AML	AML		
	comp=E,564μm,1.6s						
CSP1				AML	AML		
	comp=N,446μm,1.6s						
CSP1				AML	AML		
	comp=N,446μm,0.4s						
CSP1				AML	AML		
	comp=E,564μm,0.4s						
MOMA	**Monte Martano**	**0.57**	**298**	S	Sb	10 09 22.3	+0.2
MOMA				AML	AML		
	comp=N,686μm,0.2s						
MOMA				AML	AML		
	comp=N,711μm,0.2s						
MOMA				AML	AML		
	comp=E,692μm,0.9s						
MOMA				AML	AML		
	comp=E,761μm,0.9s						
T1220	**Camerino, Fraz**	**0.59**	**348**	P	Pg	10 09 12.9	-0.2
T1220				S	Sb	10 09 21.9	-0.5
T1220				AML	AML		
	comp=E,998μm,1.5s						
T1220				AML	AML		
	comp=N,985μm,1.2s						
T1220				AML	AML		
	comp=N,985μm,0.8s						
T1220				AML	AML		
	comp=E,998μm,0.5s						
CERT	**Cerreto**	**0.62**	**199**	⇑P	Pg	10 09 13.7	-0.1
CERT				AML	AML		
	comp=E,293μm,1.6s						
CERT				AML	AML		
	comp=N,194μm,1.6s						
CERT				AML	AML		
	comp=E,293μm,0.4s						
CERT				AML	AML		
	comp=N,194μm,0.4s						
SRES	**S.Oreste - Sor**	**0.63**	**242**	P	Pg	10 09 14.3	+0.3
MTCE	**Montecelio**	**0.64**	**217**	⇓P	Pg	10 09 14.0	-0.2
SEF1	**Sefro**	**0.65**	**339**	S	Sb	10 09 25.3	+1.0
ASSB	**Assisi San Ben**	**0.67**	**319**	P	Pg	10 09 14.6	-0.1
SNTG	**Esanatoglia**	**0.75**	**342**	P	Pg	10 09 15.9	-0.4
EL6	**Elcito**	**0.80**	**352**	P	Pg	10 09 17.4	+0.2
SAMA	**S.Maria delle**	**0.91**	**214**	P	Pg	10 09 16.4	-2.8
LATB	**Latina**	**1.07**	**192**	P	Pn	10 09 22.8	+0.2
MCIV	**Monte Civitell**	**1.19**	**282**	P	Pg	10 09 25.3	+0.7

ROM 18 10:09:59.2±0.2, 42°.587N±0'.010×13°.31E±0'.01, h9km, ML2.4/15, 4C-7D, Error ellipse: s-maj=1.5km s-min=0.2km az=230.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.15**	**183**	P	Pg	10 10 03.0	+0.6
T1247				S	Sg	10 10 05.8	+1.1
T1247				AML	AML		
	comp=N,3360μm,0.2s						
T1247				AML	AML		
	comp=E,2595μm,0.4s						
T1247				AML	AML		
	comp=E,2595μm,1.6s						
T1218	**Civita (PG)**	**0.17**	**300**	P	Pg	10 10 03.3	+0.5
T1218				S	Sg	10 10 06.4	+1.1
T1218				AML	AML		
	comp=E,2350μm,1.0s						
T1218				AML	AML		
	comp=N,3530μm,0.2s						
T1218				AML	AML		
	comp=E,2230μm,1.0s						
T1218				AML	AML		
	comp=E,2350μm,1.0s						
T1218				AML	AML		
	comp=E,2230μm,1.0s						
T1218				AML	AML		
	comp=E,2350μm,1.0s						
T1218				AML	AML		
	comp=N,3590μm,0.2s						
T1218				AML	AML		
	comp=E,2230μm,1.0s						
LNSS	**Leonessa**	**0.20**	**275**	⇑P	Pg	10 10 04.0	+0.6
LNSS				S	Sg	10 10 07.4	+1.2
LNSS				AML	AML		
	comp=E,3290μm,0.5s						
LNSS				AML	AML		
	comp=N,4730μm,0.2s						
GIGS	**Gran Sasso**	**0.24**	**125**	P	Pg	10 10 04.5	+0.4
GIGS				AML	AML		
	comp=N,156μm,1.6s						
GIGS				AML	AML		
	comp=E,285μm,0.5s						
GIGS				AML	AML		
	comp=N,156μm,0.4s						
NRCA	**Norcia**	**0.28**	**330**	⇓P	Pg	10 10 05.5	+0.6
NRCA				AML	AML		
	comp=E,2505μm,0.6s						
NRCA				AML	AML		
	comp=N,2510μm,1.4s						
T1217	**Poggiodomo (PG**	**0.30**	**294**	P	Pg	10 10 05.6	+0.3
T1217				S	Sg	10 10 10.7	+1.3
T1217				AML	AML		
	comp=E,1180μm,1.1s						
T1217				AML	AML		
	comp=N,784μm,1.5s						
T1217				AML	AML		
	comp=E,1230μm,1.1s						
T1217				AML	AML		
	comp=N,866μm,0.9s						
T1217				AML	AML		
	comp=N,786μm,1.5s						
T1217				AML	AML		
	comp=N,786μm,0.5s						
T1217				AML	AML		
	comp=E,1185μm,1.1s						
FIAM	**Fiamignano**	**0.35**	**204**	⇓P	Pg	10 10 06.5	+0.4
FIAM				S	Sb	10 10 12.4	-0.8
FIAM				AML	AML		
	comp=N,258μm,0.7s						
FIAM				AML	AML		
	comp=E,262μm,0.3s						
FAGN	**Fagnano**	**0.38**	**148**	P	Pg	10 10 06.9	+0.2
FAGN				S	Sb	10 10 15.0	+0.9
FAGN				AML	AML		
	comp=N,894μm,1.5s						
FAGN				AML	AML		
	comp=E,792μm,1.6s						
FAGN				AML	AML		
	comp=N,894μm,0.5s						
ARRO	**Arrone**	**0.40**	**269**	⇑P	Pg	10 10 07.3	+0.3
ARRO				AML	AML		
	comp=E,448μm,1.1s						
ARRO				AML	AML		
	comp=N,584μm,0.2s						
ARRO				AML	AML		
	comp=E,448μm,1.1s						
T0110	**Collepietro**	**0.50**	**136**	⇓P	Pg	10 10 09.3	+0.4
T0110				AML	AML		
	comp=E,486μm,0.6s						
T0110				AML	AML		
	comp=N,638μm,0.4s						
CSP1	**Cessapalombo**	**0.51**	**351**	⇑P	Pg	10 10 09.5	+0.3
CSP1				S	Sb	10 10 17.9	0.0
CSP1				AML	AML		
	comp=N,286μm,0.2s						
CESI	**CESI - Serrava**	**0.51**	**325**	P	Pg	10 10 09.5	+0.3
CESI				S	Sb	10 10 18.1	+0.1
CESI				AML	AML		
	comp=N,315μm,0.3s						
CESI				AML	AML		
	comp=E,230μm,1.1s						
CESX	**Cesi**	**0.54**	**273**	⇑P	Pg	10 10 09.6	0.0
CESX				S	Sb	10 10 18.1	-0.6
CESX				AML	AML		
	comp=E,322μm,1.6s						
CESX				AML	AML		
	comp=N,374μm,0.2s						
CESX				AML	AML		
	comp=E,322μm,0.4s						
T1220	**Camerino, Fraz**	**0.55**	**343**	P	Pg	10 10 08.1	-1.7
T1220				AML	AML		
	comp=E,730μm,1.5s						
T1220				AML	AML		
	comp=N,586μm,0.5s						
MOMA	**Monte Martano**	**0.59**	**292**	⇓P	Pg	10 10 10.7	+0.2
MOMA				AML	AML		
	comp=E,609μm,1.6s						
MOMA				AML	AML		
	comp=N,812μm,1.6s						
MOMA				AML	AML		
	comp=E,605μm,0.3s						
MOMA				AML	AML		
	comp=E,609μm,0.4s						
MOMA				AML	AML		
	comp=N,812μm,0.4s						
MOMA				AML	AML		
	comp=N,570μm,0.2s						
ASSB	**Assisi San Ben**	**0.66**	**314**	⇓P	Pg	10 10 12.1	+0.1
ASSB				AML	AML		
	comp=E,226μm,0.7s						
ASSB				AML	AML		
	comp=N,300μm,1.1s						
ASSB				AML	AML		
	comp=N,300μm,0.9s						
SNTG	**Esanatoglia**	**0.72**	**338**	P	Pg	10 10 13.4	+0.3
EL6	**Elcito**	**0.76**	**348**	⇓P	Pb	10 10 14.3	-0.3
LPEL	**Lama dei Pelig**	**0.84**	**129**	S	Sg	10 10 26.7	+0.3
SAMA	**S.Maria delle**	**0.97**	**214**	⇓P	Pg	10 10 16.8	-0.9
SAMA				AML	AML		
	comp=N,860μm,0.9s						
SAMA				AML	AML		
	comp=E,879μm,0.1s						
SAMA				AML	AML		
	comp=N,860μm,1.1s						
MCIV	**Monte Civitell**	**1.22**	**280**	S	Sg	10 10 38.7	+0.3

ROM 18 10:13:54.8±0.1, 42°.578N±0'.004×13°.270E±0'.005, h11km, ML2.5/4, 4D, Error ellipse: s-maj=0.5km s-min=0.3km az=44.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.07**	**43**	P	Pg	10 13 57.8	+0.4
SMA1				S	Sg	10 13 59.6	+0.4
CAMP	**Campotosto**	**0.11**	**112**	P	Pg	10 13 58.2	+0.4
CAMP				S	Sg	10 14 00.5	+0.5
CAMP				AML	AML		
	comp=E,2695μm,1.1s						
CAMP				AML	AML		
	comp=N,3040μm,0.4s						
CAMP				AML	AML		
	comp=E,2698μm,1.1s						
T1247	**Pizzolo (AQ)**	**0.14**	**171**	P	Pb	10 13 58.8	-0.6
T1247				S	Sg	10 14 01.4	+0.9
T1218	**Civita (PG)**	**0.15**	**309**	P	Pg	10 13 58.6	+0.3
T1218				S	Sg	10 14 01.1	+0.3
T1218				AML	AML		
	comp=E,15950μm,0.3s						
T1218				AML	AML		
	comp=N,14000μm,0.2s						
T1218				AML	AML		
	comp=N,14050μm,0.2s						
T1218				AML	AML		
	comp=E,15850μm,0.4s						
T1218				AML	AML		
T1218				AML	AML		
	comp=E,71912μm,1.3s						
LNSS	**Leonessa**	**0.17**	**278**	P	Pg	10 13 59.2	+0.5
LNSS				S	Sg	10 14 02.2	+0.8
GIGS	**Gran Sasso**	**0.26**	**120**	P	Pg	10 14 00.4	+0.3
GIGS				S	Sg	10 14 04.4	+0.7
GIGS				AML	AML		
	comp=E,40900μm,0.6s						
GIGS				AML	AML		
	comp=N,72300μm,0.8s						
GIGS				AML	AML		
	comp=E,59550μm,0.5s						
GIGS				AML	AML		
GIGS				AML	AML		
	comp=E,890μm,0.2s						
GIGS				AML	AML		
	comp=N,488μm,0.3s						
T1217	**Poggiodomo (PG**	**0.28**	**298**	P	Pg	10 14 01.0	+0.3
T1217				S	Sg	10 14 05.1	+0.6
T1217				AML	AML		
	comp=E,69800μm,0.6s						
T1217				AML	AML		
	comp=N,66600μm,0.6s						
T1217				AML	AML		
	comp=E,66650μm,0.6s						
T1217				AML	AML		
	comp=N,58800μm,0.3s						
T1217				AML	AML		
	comp=E,34400μm,0.3s						
T1217				AML	AML		
	comp=N,31850μm,0.3s						
T1217				AML	AML		
	comp=N,2637μm,1.5s						
T1217				AML	AML		
	comp=N,2370μm,1.5s						
T1217				AML	AML		
	comp=N,2637μm,0.5s						
T1217				AML	AML		
	comp=N,2370μm,0.5s						
T1217				AML	AML		
	comp=E,1086μm,0.2s						
T1217				AML	AML		
	comp=E,2115μm,0.6s						
FIAM	**Fiamignano**	**0.33**	**200**	P	Pg	10 14 01.8	+0.3
FIAM				AML	AML		
FIAM				AML	AML		
FIAM				AML	AML		
FIAM				AML	AML		
	comp=N,72350μm,1.4s						
ARRO	**Arrone**	**0.37**	**270**	P	Pg	10 14 02.4	+0.2
ARRO				S	Sb	10 14 08.3	-0.9
ARRO				AML	AML		
ARRO				AML	AML		
ARRO				AML	AML		
ARRO				AML	AML		
CESI	**CESI - Serrava**	**0.50**	**328**	P	Pg	10 14 05.1	+0.4
CESI				AML	AML		
	comp=E,83750μm,0.9s						
CESI				AML	AML		
CESX	**Cesi**	**0.51**	**274**	P	Pg	10 14 05.2	+0.4
CESX				AML	AML		
CESX				AML	AML		
CESX				AML	AML		
CESX				AML	AML		
CSP1	**Cessapalombo**	**0.52**	**355**	P	Pg	10 14 04.9	0.0
CSP1				AML	AML		
CSP1				AML	AML		
T0110	**Collepietro**	**0.52**	**133**	S	Sb	10 14 14.8	+1.5
T0110				AML	AML		
T0110				AML	AML		
T1220	**Camerino, Fraz**	**0.55**	**346**	⇓P	Pg	10 14 05.3	-0.2
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
MOMA	**Monte Martano**	**0.56**	**294**	⇓P	Pg	10 14 05.9	+0.1
MOMA				S	Sb	10 14 14.2	-0.6
MOMA				AML	AML		
MOMA				AML	AML		
ASSB	**Assisi San Ben**	**0.65**	**316**	P	Pg	10 14 07.4	+0.1
ASSB				S	Sb	10 14 17.2	+0.1
EL6	**Elcito**	**0.76**	**351**	S	Sn	10 14 22.3	-0.8
EL6				AML	AML		
EL6				AML	AML		
MGAB	**Montegabbione**	**0.92**	**292**	⇓P	Pn	10 14 14.6	+1.0
CAFI	**Castiglion Fio**	**1.22**	**309**	⇓P	Pg	10 14 19.3	+1.2
MODR	**Mondragone**	**1.50**	**162**	P	Pn	10 14 22.1	+0.5
MODR				AML	AML		
	comp=E,33500μm,1.5s						
MODR				AML	AML		
	comp=N,39950μm,1.6s						
BLLA	**Bellaria**	**1.67**	**340**	S	Sn	10 14 45.4	+0.2
BLLA				AML	AML		
BLLA				AML	AML		

*TIR **18** 10:14:00.9, 43°.50N×12°.74E, h9km±6km, Md5.8, Ml5.9*
*BGR **18** 10:14:05.3±0.7, 42°.00N×13°.61E, h10km, ML6.0/6, Error ellipse: s-maj=11.1km s-min=10.0km az=94.0*
*LDG **18** 10:14:08.6±0.2, 42°.59N×13°.40E, h9km, Md4.9/3, Ml5.4/43, Error ellipse: s-maj=5.8km s-min=3.4km az=60.0*
*ROM **18** 10:14:09.9±0.0, 42°.531N±0°.002×13°.284E±0°.002, h10km, ML5.4/148, Mw5.5, Error ellipse: s-maj=0.2km s-min=0.1km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.05; $M_{\theta\theta}$0.21; $M_{\phi\phi}$ 1.83; $M_{r\theta}$-0.07; $M_{\theta\phi}$-0.78; $M_{\phi r}$0.48; Fault plane solution:*

$M_0$2.14980×10^{17} NP1:ϕ_s335.00000°,δ39.00000°, λ-95.00000°. NP2:ϕ_s161.00000°,δ51.00000°, λ-86.00000°.

IDC ***18*** *10:14:09.4±0.4,42˚.61N×13˚.18E,h0km,mb5.1/38, mbtmp5.1/50,ML4.8/12,MS5.3/93 Error ellipse: s-maj=8.4km s-min=7.5km az=124.0*

MOS ***18*** *10:14:09.4±0.9,42˚.63N×13˚.24E,h9km,mb5.8/68, MS5.4/63,Error ellipse: s-maj=4.4km s-min=2.8km az=73.0*

PRU ***18*** *10:14:09.5±0.0,42˚.46N×13˚.14E,h10km,M5.7*

BGS ***18*** *10:14:10.8±4.3,42˚.60N×13˚.23E,h7km,MW5.7(NEIC)*

MED_RC ***18*** *10:14:10.0±0.1,42˚.52N×13˚.26E,h10km,MW5.7/44, Moment Tensor Solution. Body waves: s16,c21;Mantle waves: s44,c83; Duration: 1$\leq$6 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.04±.05; $M_{\theta\theta}$0.72±.05; $M_{\phi\phi}$3.32±.05; $M_{r\theta}$0.07±.22; $M_{\theta\phi}$-1.66±.04; $M_{\phi r}$-0.12±.21; Best double couple: $M_0$4.09000×10^{17} NP1:ϕ_s334.00000°,δ46.00000°, λ-90.00000°. NP2:ϕ_s154.00000°,δ44.00000°, λ-90.00000°. Principal axes: T 4.1300, Plg1.0000°, Azm64.0000°; N -0.0900, Plg0.0000°, Azm334.0000°; P -4.0400, Plg89.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=30s. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***18*** *10:14:11.0±1.1,42˚.60N±0˚.05×13˚.23E±0˚.06,h7km±1km, mb5.7/511,Ms_20 5.4/275,Mwb5.6/53,Mwr5.7/60,Mww5.7, Mwr5.5(VIE),Mwr5.8(ROM) Error ellipse: s-maj=9.1km s-min=6.9km az=204.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-4.39; $M_{\theta\theta}$1.10; $M_{\phi\phi}$3.29; $M_{r\theta}$-0.41; $M_{\theta\phi}$-1.51; $M_{\phi r}$1.37; Fault plane solution: $M_0$4.47000×10^{17} NP1:ϕ_s155.99000°,δ54.28000°, λ-86.61000°. NP2:ϕ_s330.19000°,δ35.86000°, λ-94.70000°. Principal axes: T 4.2840, Plg9.0000°, Azm244.0000°; N 0.3446, Plg3.0000°, Azm334.0000°; P -4.6286, Plg80.0000°, Azm80.0000°; Moment Tensor Solution. Moment tensor: Scale 10^{17} Nm; M_{rr}-2.67; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$2.84; $M_{r\theta}$0.59; $M_{\theta\phi}$-0.82; $M_{\phi r}$-0.37; Fault plane solution: $M_0$2.96000×10^{17} NP1:ϕ_s334.85000°, δ51.01000°,λ-104.25000°. NP2:ϕ_s176.83000°, δ41.12000°,λ-73.08000°. Principal axes: T 3.0915, Plg5.0000°, Azm75.0000°; N -0.2815, Plg11.0000°, Azm344.0000°; P -2.8101, Plg78.0000°, Azm189.0000°;*

BEO ***18*** *10:14:10.2±0.5,42˚.51N×13˚.21E,h0km,ML5.6/20*

PDG ***18*** *10:14:10.2±0.3,42˚.55N×13˚.32E,h11km±4km,MD5.7/10, ML5.6/11,Error ellipse: s-maj=2.8km s-min=7.1km az=0.0*

GCMT ***18*** *10:14:12.0±0.1,42˚.47N±0˚.01×13˚.29E±0˚.01,h12km, MW5.7/170,Moment Tensor Solution. s131,c257; s170,c375; Duration: 1$\leq$8 Moment tensor: Scale 10^{17} Nm; M_{rr}-4.57±.04; $M_{\theta\theta}$0.65±.05; $M_{\phi\phi}$3.91±.04; $M_{r\theta}$0.07±.13; $M_{\theta\phi}$-1.63±.04; $M_{\phi r}$-1.49±.11; Best double couple: $M_0$4.81500×10^{17} NP1:ϕ_s343.00000°,δ54.00000°, λ-83.00000°. NP2:ϕ_s152.00000°,δ37.00000°, λ-100.00000°. Principal axes: T 4.7970, Plg9.0000°, Azm68.0000°; N 0.0270, Plg6.0000°, Azm159.0000°; P -4.8320, Plg80.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

STR ***18*** *10:14:14.0±1.1,43˚N±6˚×1˚3E±˚,h10km,MLv5.5/51 Error ellipse: s-maj=0.0km s-min=0.0km az=119.1,preliminary*

BUG ***18*** *10:14:14.4±0.6,42˚.70N×13˚.23E,h9km,ML6.6/5*

BNS ***18*** *10:14:14.5±0.5,42˚.74N×13˚.33E,h10km,ML5.4*

NEIC ***18*** *10:14:15,42˚.60N×13˚.24E,h12km,Moment Tensor Solution. Duration: 8$\leq$0 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.83; $M_{\theta\theta}$1.03; $M_{\phi\phi}$3.80; $M_{r\theta}$0.01; $M_{\theta\phi}$-1.73; $M_{\phi r}$1.85; Fault plane solution: $M_0$5.09000×10^{17} NP1: ϕ_s326.00000°,δ36.00000°,λ-103.00000°. NP2: ϕ_s163.00000°,δ55.00000°,λ-80.00000°. Principal axes: T 4.9210, Plg10.0000°, Azm246.0000°; N 0.3140, Plg8.0000°, Azm337.0000°; P -5.2349, Plg77.0000°, Azm106.0000°;*

ISC **18 10:14:11.3**±0.4,**42˚.54N**±0˚.01×**13˚.27E**±0˚.01,**h10**km±2km, **n2328**,σ1$\leq$**74**/2286,**mb5.6**/400,**MS5.4**/272,**122C-65D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.10**	**29**	⇑P		**Pg**	**10 14 13.0**	**-1.1**
SMA1				S		**Sg**	**10 14 14.9**	**-1.1**
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
T1247	**Pizzolo (AQ)**	**0.10**	**168**	P		**Pg**	**10 14 13.3**	**-0.7**
CAMP	**Campotosto**	**0.10**	**93**	Pg		**Pg**	**10 14 12.9**	**-1.1**
CAMP						**Sg**	**10 14 15.2**	**-0.9**
CAMP	**Campotosto**	**0.10**	**93**	⇓P		**Pg**	**10 14 13.0**	**-1.1**
CAMP				S		**Sg**	**10 14 14.4**	**-1.7**
T1202	**Accumoli, Fraz**	**0.17**	**349**	⇑P		**Pg**	**10 14 14.4**	**-0.6**
T1202				S		**Sg**	**10 14 18.1**	**+0.5**
T1218	**Civita (PG)**	**0.17**	**319**	P		**Pg**	**10 14 14.2**	**-0.9**
T1218				S		**Sg**	**10 14 17.8**	**+0.1**
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
LNSS	**Leonessa**	**0.18**	**290**	⇑P		**Pg**	**10 14 14.6**	**-0.6**
LNSS				S		**Sg**	**10 14 18.1**	**+0.2**
AQU	**L'Aquila**	**0.21**	**152**	⇑P		**Pg**	**10 14 15.0**	**-0.7**
AQU				S		**Sg**	**10 14 18.7**	**0.0**
GIGS	**Gran Sasso**	**0.24**	**112**	⇑P		**Pg**	**10 14 15.1**	**-1.2**
GIGS				S		**Sg**	**10 14 18.7**	**-0.9**
GIGS				AML		AML		
GIGS				AML		AML		
GIGS				AML		AML		
FIAM	**Fiamignano**	**0.30**	**202**	⇑P		**Pg**	**10 14 16.6**	**-0.7**
FIAM				S		**Sg**	**10 14 21.5**	**+0.2**
FIAM				AML		AML		
FIAM				AML		AML		
FIAM				AML		AML		
FIAM				AML		AML		
T1217	**Poggiodomo (PG**	**0.30**	**304**	⇑P		**Pg**	**10 14 16.4**	**-1.0**
T1217				S		**Sg**	**10 14 21.9**	**+0.4**
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
FAGN	**Fagnano**	**0.36**	**140**	⇑P		**Pg**	**10 14 17.5**	**-1.0**
ARRO	**Arrone**	**0.37**	**276**	⇑P		**Pg**	**10 14 17.8**	**-0.9**
ARRO				S		**Sg**	**10 14 24.6**	**+0.9**
ARRO				AML		AML		
ARRO				AML		AML		
ARRO				AML		AML		
ARRO				AML		AML		
FEMA	**Monte Fema**	**0.45**	**339**	P		**Pg**	**10 14 19.2**	**-1.0**
FEMA				S		**Sg**	**10 14 26.6**	**+0.5**
FEMA				AML		AML		
FEMA				AML		AML		
FEMA				AML		AML		
FEMA				AML		AML		
FEMA				AML		AML		
FEMA				AML		AML		
T0110	**Collepietro**	**0.49**	**130**	⇑P		**Pg**	**10 14 19.5**	**-1.4**
CESX	**Cesi**	**0.51**	**278**	Pg		**Pg**	**10 14 20.1**	**-1.2**
CESX				Sg		**Sg**	**10 14 25.8**	**-2.3**
CESX	**Cesi**	**0.51**	**278**	P		**Pg**	**10 14 20.1**	**-1.2**
CESX				AML		AML		
CESX				AML		AML		
PTQR	**Pietraquaria**	**0.53**	**169**	⇑P		**Pg**	**10 14 20.2**	**-1.4**
PTQR				AML		AML		
PTQR				AML		AML		
CESI	**CESI - Serrava**	**0.54**	**330**	P		**Pg**	**10 14 20.6**	**-1.2**
CESI				S		**Sg**	**10 14 29.0**	**+0.2**
CESI				AML		AML		
CESI				AML		AML		
TRTR	**Tortoreto Alta**	**0.55**	**61**	⇑P		**Pg**	**10 14 21.4**	**-0.5**
CSP1	**Cessapalombo**	**0.55**	**355**	⇑P		**Pg**	**10 14 20.6**	**-1.5**
CSP1				S		**Sg**	**10 14 29.5**	**+0.1**
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
MOMA	**Monte Martano**	**0.58**	**297**	P		**Pg**	**10 14 21.4**	**-1.2**
MOMA				S		**Sg**	**10 14 30.7**	**+0.5**
MOMA				AML		AML		
MOMA				AML		AML		
MOMA				AML		AML		
MOMA				AML		AML		
T1220	**Camerino, Fraz**	**0.58**	**347**	P		**Pg**	**10 14 21.4**	**-1.3**
T1220				S		**Sg**	**10 14 30.6**	**+0.3**
T1220				AML		AML		
T1220				AML		AML		
T1220				AML		AML		
T1220				AML		AML		
T1220				AML		AML		
MNTP	**Montappone**	**0.61**	**14**	⇑P		**Pg**	**10 14 22.2**	**-1.0**
MNTP				AML		AML		
MNTP				AML		AML		
MNTP				AML		AML		
CERT	**Cerreto**	**0.63**	**200**	⇑P		**Pg**	**10 14 22.1**	**-1.4**
CERT				AML		AML		
CERT				AML		AML		
SRES	**S.Oreste - Sor**	**0.64**	**242**	⇑P		**Pg**	**10 14 22.3**	**-1.4**
SRES				AML		AML		
SRES				AML		AML		
SRES				AML		AML		
MTCE	**Montecelio**	**0.65**	**217**	⇑P		**Pg**	**10 14 22.4**	**-1.5**
MTCE				AML		AML		
MTCE				AML		AML		
MTCE				AML		AML		
SEF1	**Sefro**	**0.65**	**339**	P		**Pg**	**10 14 22.8**	**-1.1**
SEF1				S		**Sb**	**10 14 33.3**	**-0.6**
SEF1				AML		AML		
SEF1				AML		AML		
SEF1				AML		AML		
SEF1				AML		AML		
MDAR	**Monte D'Aria**	**0.66**	**352**	P		**Pg**	**10 14 22.7**	**-1.4**
MDAR				S		**Sg**	**10 14 32.9**	**+0.2**
MDAR				AML		AML		
MDAR				AML		AML		
MDAR				AML		AML		
MDAR				AML		AML		
PIO1	**Pioraco**	**0.67**	**342**	P		**Pg**	**10 14 22.8**	**-1.5**
PIO1				S		**Sb**	**10 14 33.8**	**-0.6**
ASSB	**Assisi San Ben**	**0.67**	**318**	⇑P		**Pg**	**10 14 23.1**	**-1.3**
SSM1	**San Severino M**	**0.69**	**354**	P		**Pg**	**10 14 23.2**	**-1.5**
SSM1				S		**Sg**	**10 14 34.1**	**+0.4**
FIU1	**Fiuminata**	**0.69**	**339**	P		**Pg**	**10 14 23.5**	**-1.2**
FIU1				S		**Sb**	**10 14 34.5**	**-0.6**
GAG1	**Gagliole**	**0.71**	**348**	P		**Pg**	**10 14 23.8**	**-1.2**
GAG1				S		**Sg**	**10 14 35.0**	**+0.6**
GAG1				AML		AML		
GAG1				AML		AML		
GAG1				AML		AML		
RCAV	**Rocca di Cave**	**0.73**	**199**	⇑P		**Pg**	**10 14 23.9**	**-1.6**
RCAV				AML		AML		
RCAV				AML		AML		
RCAV				AML		AML		
MTCL	**Matelica**	**0.74**	**345**	P		**Pg**	**10 14 24.4**	**-1.2**
MTCL1				AML		AML		
MTCL1				AML		AML		
MTCL1				AML		AML		
MTCL1				AML		AML		
CADA	**Capodarco di F**	**0.75**	**29**	P		**Pg**	**10 14 24.9**	**-0.8**
CADA				AML		AML		
CADA				AML		AML		
CADA				AML		AML		
GUAR	**Guarcino**	**0.75**	**178**	⇑P		**Pg**	**10 14 24.4**	**-1.3**
GUAR				AML		AML		
GUAR				AML		AML		
SNTG	**Esanatoglia**	**0.75**	**341**	⇑P		**Pg**	**10 14 24.9**	**-0.9**
SNTG				AML		AML		
SNTG				AML		AML		
SNTG				AML		AML		
SNTG				AML		AML		
SNTG				AML		AML		
SNTG				AML		AML		
ATCC	**AVT- Casa Cast**	**0.79**	**324**	P		**Pg**	**10 14 25.5**	**-1.1**
ATCC				AML		AML		
ATCC				AML		AML		
ATCC				AML		AML		
ATCC				AML		AML		
EL6	**Elcito**	**0.80**	**351**	P		**Pg**	**10 14 24.9**	**-1.8**
CIMA	**Civitanova Mar**	**0.82**	**21**	P		**Pg**	**10 14 26.4**	**-0.7**
CIMA				AML		AML		
CIMA				AML		AML		
CIMA				AML		AML		
CIMA				AML		AML		
CIMA				AML		AML		
LPEL	**Lama dei Pelig**	**0.84**	**126**	⇑P		**Pg**	**10 14 25.4**	**-2.1**
LPEL				AML		AML		
LPEL				AML		AML		
FOSV	**Fossato di Vic**	**0.84**	**334**	P		**Pg**	**10 14 26.3**	**-1.2**
FOSV				AML		AML		
FOSV				AML		AML		
FOSV				AML		AML		
FOSV				AML		AML		
RMP	**Rome, Mte Porz**	**0.84**	**210**	⇑P		**Pg**	**10 14 25.8**	**-1.7**
RMP				AML		AML		
RMP				AML		AML		
RMP				AML		AML		
RMP				AML		AML		
PP3	**Marolino**	**0.87**	**17**	⇑P		**Pg**	**10 14 26.9**	**-1.2**
PP3				AML		AML		
PP3				AML		AML		
PP3				AML		AML		
PP3				AML		AML		
PP3				AML		AML		
PP3				AML		AML		
PP3				AML		AML		
PP3				AML		AML		
VIVA	**Pratoni del Vi**	**0.87**	**205**	P		**Pg**	**10 14 26.3**	**-1.8**
VIVA				AML		AML		
VIVA				AML		AML		
VIVA				AML		AML		
RDP	**Rocca di Papa**	**0.88**	**208**	AML		AML		
RDP				AML		AML		
POFI	**Posta Fibreno**	**0.89**	**158**	P		**Pg**	**10 14 26.9**	**-1.5**
POFI				AML		AML		
POFI				AML		AML		
MA9	**Marino**	**0.89**	**211**	P		**Pg**	**10 14 27.2**	**-1.3**
MA9				AML		AML		
MA9				AML		AML		
MURB	**Monte Urbino**	**0.91**	**323**			**Pg**	**10 14 26.8**	**-2.0**
MURB	**Monte Urbino**	**0.91**	**323**	P		**Pg**	**10 14 27.5**	**-1.3**
MURB				AML		AML		
MURB				AML		AML		
MURB				AML		AML		
MURB				AML		AML		
MURB				AML		AML		
MURB				AML		AML		
MURB				AML		AML		
SAMA	**S.Maria delle**	**0.91**	**214**	P		**Pg**	**10 14 27.0**	**-1.8**
SAMA				AML		AML		
SAMA				AML		AML		
SAMA				AML		AML		
LRP	**Arpino**	**0.93**	**165**	AML		AML		
LRP				AML		AML		
LRP				AML		AML		
MGAB	**Montegabbione**	**0.93**	**294**	P		**Pg**	**10 14 28.1**	**-1.1**
MGAB				AML		AML		
MGAB				AML		AML		
MGAB				AML		AML		
MGAB				AML		AML		
MGAB				AML		AML		
MGAB				AML		AML		
MGAB				AML		AML		
ATTE	**AVT- Monte Tez**	**0.94**	**315**	⇑P		**Pg**	**10 14 27.9**	**-1.5**
LAV9	**Lanuvio**	**0.96**	**206**	P		**Pg**	**10 14 28.0**	**-1.8**
LAV9				AML		AML		
LAV9				AML		AML		
LAV9				AML		AML		
LAV9				AML		AML		
LAV9				AML		AML		
LAV9				AML		AML		
SSFR	**Montelago di S**	**0.96**	**338**	P		**Pg**	**10 14 28.0**	**-1.8**
SSFR				AML		AML		
SSFR				AML		AML		
SSFR				AML		AML		
SSFR				AML		AML		
SSFR				AML		AML		
SSFR				AML		AML		
ATFO	**Monte Foce - G**	**0.97**	**328**	P		**Pg**	**10 14 28.8**	**-1.2**
ATFO				AML		AML		
ATFO				AML		AML		
ATFO				AML		AML		
GIUL	**Giuliano Di Ro**	**0.98**	**181**	P		**Pg**	**10 14 28.3**	**-1.9**
GIUL				AML		AML		
GIUL				AML		AML		
GIUL				AML		AML		
GIUL				AML		AML		
ATLO	**AVT- Montelove**	**1.00**	**321**	P		**Pg**	**10 14 28.2**	**-2.3**
ATVA	**AVT- Monte Val**	**1.03**	**316**	P		**Pg**	**10 14 29.6**	**-1.6**
AOI	**Ancona**	**1.04**	**14**	P		**Pg**	**10 14 29.5**	**-1.7**
AOI				AML		AML		
AOI				AML		AML		
AOI				AML		AML		
SACS	**San Casciano d**	**1.05**	**288**	⇑P		**Pg**	**10 14 29.8**	**-1.7**
SACS				AML		AML		
SACS				AML		AML		
SACS				AML		AML		
SACS				AML		AML		
SACS				AML		AML		
SACS				AML		AML		
ATVO	**AVT- Monte Val**	**1.05**	**323**	P		**Pg**	**10 14 29.8**	**-1.8**
ATVO				AML		AML		
ATVO				AML		AML		
FRON	**Frontone**	**1.05**	**338**	P		**Pg**	**10 14 30.2**	**-1.4**
FRON				AML		AML		
FRON				AML		AML		
TOLF	**Tolfa**	**1.05**	**244**	P		**Pg**	**10 14 29.8**	**-1.8**
TOLF				AML		AML		
TOLF				AML		AML		
TOLF				AML		AML		
TOLF				AML		AML		
LIK	**San Giovanni I**	**1.06**	**168**	P		**Pg**	**10 14 30.9**	**-0.8**
LIK				AML		AML		
LIK				AML		AML		
LIK				AML		AML		
RNI2	**Rionero Sannit**	**1.06**	**142**	P		**Pg**	**10 14 29.8**	**-1.9**
RNI2				AML		AML		
RNI2				AML		AML		
RNI2				AML		AML		
RNI2				AML		AML		
RNI2				AML		AML		
LATB	**Latina**	**1.07**	**192**	⇓P		**Pg**	**10 14 29.3**	**-2.6**
LATB	comp=E,40500μm,0.9s					AML		
LATB	comp=N,38750μm,0.9s					AML		
LATB	comp=N,38750μm,1.1s					AML		
LATB	comp=E,40500μm,1.1s					AML		
ATMI	**Monte Miggiano**	**1.08**	**317**	P		**Pg**	**10 14 31.1**	**-0.9**
ATMI				AML		AML		
ATMI				AML		AML		
PCRO	**Pietralacroce**	**1.08**	**10**	P		**Pg**	**10 14 31.3**	**-0.8**
PCRO				AML		AML		
PCRO				AML		AML		
PCRO				AML		AML		
LATE	**Laterza**	**1.08**	**274**			**Pg**	**10 14 30.6**	**-1.6**
LATE	**Laterza**	**1.08**	**274**	P		**Pg**	**10 14 30.6**	**-1.6**
CERA	**Filignano**	**1.10**	**149**	P		**Pg**	**10 14 29.9**	**-2.5**
CERA				AML		AML		
CERA				AML		AML		
CERA				AML		AML		
CERA				AML		AML		
CERA				AML		AML		
COR1	**Corinaldo**	**1.11**	**350**	⇑P		**Pb**	**10 14 31.4**	**-1.2**
COR1				AML		AML		
COR1				AML		AML		
COR1				AML		AML		
COR1				AML		AML		
ATPI	**Pietralunga -**	**1.11**	**325**	P		**Pb**	**10 14 31.2**	**-1.4**
ATPI				AML		AML		
ATPI				AML		AML		
PIEI	**Pieia**	**1.13**	**332**	⇑P		**Pb**	**10 14 31.1**	**-1.9**
PIEI				AML		AML		
PIEI				AML		AML		
PIEI				AML		AML		
MPAG	**Monte Paganucc**	**1.15**	**341**	P		**Pb**	**10 14 31.4**	**-1.9**
MPAG				AML		AML		
MPAG				AML		AML		
MPAG				AML		AML		
MPAG				AML		AML		
MPAG				AML		AML		
MPAG				AML		AML		
MPAG				AML		AML		
MPAG				AML		AML		
MIDA	**Miranda**	**1.16**	**140**	P		**Pb**	**10 14 30.8**	**-2.7**
MIDA				AML		AML		
MIDA				AML		AML		
MIDA				AML		AML		
MIDA				AML		AML		
SENI	**Senigallia**	**1.16**	**359**	P		**Pb**	**10 14 32.7**	**-0.8**
SENI				AML		AML		
SENI				AML		AML		
SENI				AML		AML		
SENI				AML		AML		
SENI				AML		AML		
SENI				AML		AML		
SENI				AML		AML		
NARO	**Abbazia di Nar**	**1.18**	**335**	P		**Pb**	**10 14 31.9**	**-1.9**
NARO	comp=E,23000μm,1.6s					AML		
NARO	comp=N,35550μm,0.9s					AML		
NARO	comp=E,23000μm,0.4s					AML		
NARO	comp=N,35550μm,1.1s					AML		
APEC	**Apecchio**	**1.19**	**329**	P		**Pb**	**10 14 33.0**	**-0.9**
APEC				AML		AML		
APEC				AML		AML		
APEC				AML		AML		
APEC				AML		AML		
APEC				AML		AML		
APEC				AML		AML		
SF04	**Casetta**	**1.22**	**284**	P		**Pn**	**10 14 33.1**	**-1.4**
SF04				AML		AML		
SF04				AML		AML		
SF04				AML		AML		
BADI	**Badiali**	**1.23**	**323**	P		**Pn**	**10 14 33.0**	**-1.5**
BADI				AML		AML		
BADI				AML		AML		
TRIV	**Trivento**	**1.23**	**129**	P		**Pn**	**10 14 33.8**	**-0.8**
TRIV	comp=E,7990μm,1.0s					AML		
TRIV				AML		AML		
CAFI	**Castiglion Fio**	**1.24**	**310**	P		**Pn**	**10 14 33.5**	**-1.3**
CAFI				AML		AML		
CAFI				AML		AML		
CAFI				AML		AML		
CAFI				AML		AML		
CAFI				AML		AML		
CAFI				AML		AML		
PE3	**Peglio**	**1.28**	**334**	P		**Pn**	**10 14 34.2**	**-1.1**
PE3				AML		AML		
PE3				AML		AML		
PE3	comp=N,461μm,0.2s					AML		
SF01	**Poggio Pratacc**	**1.29**	**283**	P		**Pn**	**10 14 34.5**	**-0.9**
SF01				AML		AML		
SF01				AML		AML		
SF01				AML		AML		
SF01				AML		AML		
SSP9	**Sansepolcro**	**1.33**	**321**	P		**Pn**	**10 14 34.6**	**-1.3**
SSP9				AML		AML		

SSP9 AML AML
SSP9 AML AML
ARCI Arcidosso 1.36 284 P **Pn** 10 14 35.3 -1.1
ARCI AML AML
comp=N,48200µm,1.2s
ARCI AML AML
comp=E,49150µm,1.1s
PESA Pesaro 1.43 348 P **Pn** 10 14 36.9 -0.5
PESA AML AML
PESA AML AML
PESA AML AML
CPGN Carpegna, Ital 1.44 331 P **Pg** 10 14 38.8 -0.1
CPGN AML AML
CPGN AML AML
CPGN AML AML
CPGN AML AML
CRE Caprese Michel 1.45 319 P **Pn** 10 14 37.0 -0.7
CRE AML AML
comp=E,92450µm,1.6s
CRE AML AML
comp=N,97500µm,1.6s
CRE AML AML
comp=N,97500µm,0.4s
CRE AML AML
comp=E,92450µm,0.4s
MODR Mondragone 1.47 162 P **Pn** 10 14 36.5 -1.3
MODR AML AML
comp=N,41350µm,1.1s
MODR AML AML
comp=E,35850µm,0.9s
MODR AML AML
comp=N,41350µm,0.9s
PIGN Pignataro Magg 1.50 153 P **Pn** 10 14 37.6 -0.7
PIGN AML AML
comp=E,34850µm,1.4s
PIGN AML AML
comp=E,36350µm,1.3s
PIGN AML AML
comp=N,32800µm,1.6s
PIGN AML AML
comp=N,37000µm,0.8s
PIGN AML AML
comp=E,34850µm,0.6s
PIGN AML AML
comp=N,32800µm,0.4s
PIGN AML AML
comp=E,36350µm,0.7s
SACR S. Croce Del S 1.57 136 P **Pn** 10 14 39.1 -0.2
SACR AML AML
comp=E,52700µm,1.6s
SACR AML AML
comp=N,59300µm,1.1s
SACR AML AML
comp=N,59300µm,0.9s
SACR AML AML
comp=E,52700µm,0.4s
MAON Monte Argentar 1.58 267 ⇑P **Pn** 10 14 38.2 -1.2
MAON AML AML
comp=N,36600µm,1.1s
MAON AML AML
comp=N,36600µm,0.9s
MAON AML AML
comp=E,35400µm,1.2s
GATE Gambatesa 1.60 129 P **Pb** 10 14 40.5 -0.4
GATE AML AML
comp=E,45450µm,1.3s
GATE AML AML
comp=N,54650µm,1.6s
GATE AML AML
comp=E,30350µm,1.6s
GATE AML AML
comp=N,53950µm,1.6s
GATE AML AML
comp=N,53950µm,0.4s
GATE AML AML
comp=N,54650µm,0.4s
GATE AML AML
comp=E,30350µm,0.4s
MELA Melanico ??? S 1.61 121 P **Pn** 10 14 38.8 -1.0
MELA AML AML
MELA AML AML
MELA AML AML
MELA AML AML
ASQU Asqua 1.66 320 P **Pn** 10 14 40.5 0.0
ASQU AML AML
ASQU AML AML
comp=N,84800µm,1.2s
ASQU AML AML
ASQU AML AML
comp=N,84800µm,0.8s
FROS Frosini 1.69 294 P **Pn** 10 14 40.6 -0.3
FROS AML AML
comp=N,53250µm,1.5s
FROS AML AML
comp=E,71700µm,1.5s
BLLA Bellaria 1.70 340 P **Pb** 10 14 42.7 +0.1
SFI Santa Sofia 1.71 323 P **Pn** 10 14 41.3 0.0
SFI AML AML
SFI AML AML
SFI AML AML
SFI AML AML
SFI AML AML
SFI AML AML
SFI AML AML
SFI AML AML
PSB1 Pescosannita 1.75 138 P **Pn** 10 14 42.2 +0.5
PSB1 AML AML
comp=E,70750µm,1.4s
PSB1 AML AML
comp=E,70750µm,0.6s
PSB1 AML AML
comp=N,43700µm,1.0s
OSSC Osservatorio P 1.78 304 Pn **Pn** 10 14 41.0 -1.1
OSSC Osservatorio P 1.78 304 P **Pn** 10 14 41.9 -0.2
OSSC AML AML
comp=E,39550µm,1.4s
OSSC AML AML
comp=N,55150µm,1.4s
OSSC AML AML
comp=E,54050µm,1.4s
OSSC AML AML
comp=N,38800µm,1.4s
OSSC AML AML
comp=E,54050µm,0.6s
OSSC AML AML
comp=E,39550µm,0.6s
OSSC AML AML
comp=N,55150µm,0.6s
OSSC AML AML
comp=N,38800µm,0.6s
CASP Castiglione de 1.79 279 Pn **Pn** 10 14 41.6 -0.6
CASP Castiglione de 1.79 279 P **Pn** 10 14 41.2 -1.0
CASP AML AML
comp=E,20000µm,1.6s
CASP AML AML
comp=N,14800µm,0.9s
CASP AML AML
comp=E,20000µm,0.4s
A309A Martorano (FC) 1.79 336 P **Pb** 10 14 44.4 +0.2
RUFI Rufina 1.83 316 P **Pn** 10 14 41.9 -0.8
RUFI AML AML
comp=E,52800µm,1.6s
RUFI AML AML
comp=N,67800µm,1.6s
RUFI AML AML
comp=E,52800µm,0.4s
RUFI AML AML
comp=N,67800µm,0.4s
TRIF Trifonti 1.83 289 P **Pn** 10 14 42.1 -0.8
TRIF AML AML
comp=N,25550µm,0.9s
TRIF AML AML
comp=E,31550µm,0.8s
TRIF AML AML
comp=N,25550µm,1.1s
APRC Apricena 1.86 114 P **Pn** 10 14 42.8 -0.5
APRC AML AML
comp=E,67700µm,1.6s
APRC AML AML
comp=N,72300µm,1.6s
APRC AML AML
comp=N,72300µm,0.4s
APRC AML AML
comp=E,67700µm,0.4s
MRB1 Monte Rocchett 1.90 137 AML AML
comp=E,68750µm,1.2s
MRB1 AML AML
comp=N,61200µm,1.0s
MRB1 AML AML
comp=N,61950µm,1.0s
MRB1 AML AML
comp=E,69150µm,1.2s
LMD Lutirano 1.91 324 P **Pn** 10 14 43.9 0.0
LMD AML AML
comp=E,74900µm,1.6s
LMD AML AML
comp=N,50650µm,1.1s
LMD AML AML
comp=E,74900µm,0.4s
VVDG Vesuvio Valle 1.91 153 AML AML
VVDG AML AML
VVDG AML AML
BRSN Barisano 1.95 334 AML AML
BRSN AML AML
DUGI Dugi Otok 1.95 41 *e*Pn **Pn** 10 14 43.2 -1.3
BRIS BRISIGHELLA 2.06 322 AML AML
comp=N,97150µm,1.4s
BRIS AML AML
BRIS AML AML
comp=N,88850µm,1.4s
BRIS AML AML
BRIS AML AML
BRIS AML AML
comp=N,88850µm,0.6s
BRIS AML AML
comp=N,97150µm,0.6s
BRIS AML AML
SEI Scarperia 2.06 318 P **Pn** 10 14 45.6 -0.4
SEI AML AML
comp=N,75050µm,0.5s
SEI AML AML
comp=E,46400µm,1.4s
ZIRJ Zirje 2.06 57 *e*Pn **Pn** 10 14 44.8 -1.2
CRMI Carmignano 2.09 307 P **Pn** 10 14 46.6 +0.2
CRMI AML AML
comp=E,31600µm,1.1s
CRMI AML AML
comp=N,27450µm,1.6s
CRMI AML AML
comp=E,31950µm,1.1s
CRMI AML AML
comp=N,27850µm,1.6s
CAFE Carife 2.11 135 AML AML
comp=N,33950µm,1.3s
CAFE AML AML
comp=E,43550µm,1.6s
CAFE AML AML
comp=E,43550µm,1.6s
CAFE AML AML
comp=N,34150µm,1.3s
CAFE AML AML
comp=N,33950µm,0.7s
CAFE AML AML
comp=E,43550µm,0.4s
CAFE AML AML
comp=N,34150µm,0.7s
CAFE AML AML
comp=E,43550µm,0.4s
IMOL Imola, Italy 2.13 329 AML AML
IMOL AML AML
MPPT Montemurlo 2.13 312 P **Pn** 10 14 46.5 -0.5
MPPT AML AML
comp=E,47700µm,1.1s
MPPT AML AML
comp=N,41900µm,1.6s
MPPT AML AML
comp=E,47700µm,0.9s
MSAG Monte S. Angel 2.13 112 P **Pn** 10 14 46.5 -0.5
MSAG AML AML
comp=E,63500µm,1.1s
MSAG AML AML
comp=E,59800µm,1.0s
MSAG AML AML
MSAG AML AML
SNAL S. Angelo Dei 2.17 137 P **Pb** 10 14 49.2 -1.5
SNAL AML AML
comp=E,52400µm,1.0s
SNAL AML AML
comp=N,45900µm,1.6s
SNAL AML AML
comp=E,51950µm,1.1s
SNAL AML AML
comp=N,44900µm,1.6s
SNAL AML AML
comp=N,45900µm,0.4s
SNAL AML AML
comp=N,44900µm,0.4s
SNAL AML AML
comp=E,52400µm,1.0s
VIRC Vir 2.18 36 *e*Pn **Pn** 10 14 46.3 -1.3
MORI Morici 2.22 53 *e*Pn **Pn** 10 14 47.2 -0.9
MORI Sn **Sn** 10 15 15.5 -0.2
MTCR Monte La Croce 2.23 313 P **Pn** 10 14 47.8 -0.6
MTCR AML AML
comp=E,35400µm,1.2s
MTCR AML AML
comp=N,51700µm,1.6s
MTCR AML AML
comp=E,35400µm,0.8s
PII Pisa 2.33 301 P **Pn** 10 14 49.1 -0.6
PII AML AML
comp=E,19700µm,1.6s
PII AML AML
comp=N,19850µm,0.6s
NVLJ Novalja 2.33 29 *e*Pn **Pn** 10 14 48.5 -1.1
CAPA Cerignola FG 2.35 125 P **Pn** 10 14 48.9 -1.1
CAPA AML AML
comp=E,81350µm,1.3s
CAPA AML AML
comp=N,84050µm,1.1s
CAPA AML AML
comp=E,81350µm,0.7s
VULT Monte Vulture 2.37 131 P **Pn** 10 14 50.4 +0.1
VULT AML AML
comp=E,28850µm,0.9s
VULT AML AML
comp=N,41600µm,1.6s
VULT AML AML
comp=E,29450µm,0.9s
VULT AML AML
comp=N,42600µm,1.6s
VULT AML AML
comp=E,29450µm,1.1s
VULT AML AML
comp=E,28850µm,1.1s
VULT AML AML
comp=N,41600µm,0.4s
VULT AML AML
comp=N,42600µm,0.4s
BRJN Brijuni 2.39 8 P **Pn** 10 14 49.8 -0.6
MRLC Muro Lucano 2.44 136 P **Pn** 10 14 52.4 +1.2
MRLC AML AML
comp=E,15450µm,1.2s
MRLC AML AML
comp=N,12200µm,1.5s
MRLC AML AML
comp=N,11500µm,1.5s
MRLC AML AML
comp=E,14900µm,1.3s
MAIM Mastiano 2.45 305 P **Pn** 10 14 51.5 +0.1
MAIM AML AML
comp=N,17200µm,0.8s
MAIM AML AML
comp=N,17200µm,1.2s
MAIM AML AML
comp=E,17600µm,1.0s
ZCCA Zocca 2.46 318 **Pn** 10 14 52.8 +1.2
ZCCA Zocca 2.46 318 AML AML
comp=N,59250µm,1.5s
ZCCA AML AML
comp=E,41200µm,1.3s
ZCCA AML AML
comp=E,44800µm,1.5s
ZCCA AML AML
comp=N,61950µm,1.5s
ZCCA AML AML
comp=E,41200µm,0.7s
ZCCA AML AML
comp=N,61950µm,0.5s
ZCCA AML AML
comp=N,59250µm,0.5s
ZCCA AML AML
comp=E,44800µm,0.5s
A305A Porto Tolle (R 2.49 346 P **Pn** 10 14 51.4 -0.5
CARD Cardoso 2.52 307 P **Pn** 10 14 52.0 -0.3
CARD AML AML
comp=N,21450µm,1.1s
CARD AML AML
comp=E,20500µm,0.9s
CDRU Civita di Ruta 2.56 143 P **Pn** 10 14 52.2 -0.7
CDRU AML AML
comp=E,6850µm,1.1s
CDRU AML AML
comp=N,5305µm,1.3s
CDRU AML AML
comp=N,5305µm,0.7s
PALZ Palazzo San Ge 2.57 128 P **Pn** 10 14 53.1 +0.1
PALZ AML AML
comp=E,44500µm,1.0s
PALZ AML AML
comp=N,62050µm,1.1s
PALZ AML AML
comp=E,44500µm,1.0s
PALZ AML AML
comp=N,62050µm,0.9s
MRVN Minervino Murg 2.64 123 P **Pn** 10 14 53.4 -0.6
MRVN AML AML
comp=E,17200µm,1.1s
MRVN AML AML
comp=N,12100µm,1.3s
MRVN AML AML
comp=E,17200µm,0.9s
MRVN AML AML
comp=N,12100µm,0.7s
VLC Villacollemand 2.65 309 **Pn** 10 14 53.5 -0.7
VLC Villacollemand 2.65 309 AML AML
comp=N,22200µm,0.7s
VLC AML AML
comp=E,17995µm,1.6s
VLC AML AML
comp=N,22200µm,1.3s
VLC AML AML
comp=E,18190µm,1.6s
VLC AML AML
comp=N,21400µm,1.5s
VLC AML AML
comp=E,17995µm,0.4s
VLC AML AML
comp=E,18190µm,0.4s
VLC AML AML
comp=N,21400µm,0.5s
SARO Sassorosso 2.66 309 P **Pn** 10 14 53.8 -0.5
SARO AML AML
comp=E,27200µm,1.6s
SARO AML AML
comp=N,38350µm,0.7s
SARO AML AML
comp=N,38350µm,1.3s
SARO AML AML
comp=E,27200µm,0.4s
GSCL Gusciola 2.66 314 P **Pn** 10 14 54.4 +0.1
GSCL AML AML
comp=E,36800µm,1.2s
GSCL AML AML
comp=N,28350µm,1.1s
GSCL AML AML
comp=E,36800µm,0.8s
GSCL AML AML
comp=N,28350µm,0.9s
ACER Acerenza 2.66 130 P **Pn** 10 14 54.8 +0.5
ACER AML AML
comp=E,23950µm,1.6s
ACER AML AML
comp=N,24600µm,1.1s
ACER AML AML
comp=E,24350µm,1.6s
ACER AML AML
comp=N,25300µm,1.1s
ACER AML AML
comp=E,24350µm,0.4s
ACER AML AML
comp=N,24600µm,0.9s
ACER AML AML
comp=E,23950µm,0.4s
ACER AML AML
comp=N,25300µm,0.9s
LSTV Lastovo 2.68 84 *e*Pn **Pn** 10 14 53.5 -0.9
CMPR Campora 2.70 145 AML AML
comp=N,6310µm,0.4s
CMPR AML AML
comp=E,5410µm,1.5s
CMPR AML AML
comp=N,6310µm,1.6s
CMPR AML AML
comp=E,5410µm,0.5s
KIJV Kijevo 2.72 56 *e*Pn **Pn** 10 14 54.9 -0.1
SLCN Sala Consilina 2.79 140 P **Pn** 10 14 57.3 +1.2
SLCN AML AML
comp=E,14550µm,1.6s
SLCN AML AML
comp=N,11500µm,1.6s
SLCN AML AML
comp=E,14900µm,1.6s
SLCN AML AML
comp=N,12000µm,1.6s
SLCN AML AML
comp=N,12000µm,0.4s
SLCN AML AML
comp=E,14900µm,0.4s
SLCN AML AML
comp=E,14550µm,0.4s
SLCN AML AML
comp=N,11500µm,0.4s
EQUI Equi 2.79 307 P **Pn** 10 14 56.0 -0.1
EQUI AML AML
comp=E,12125µm,1.6s
EQUI AML AML
comp=N,11070µm,0.8s
EQUI AML AML
comp=N,11070µm,1.2s
EQUI AML AML
comp=E,12125µm,0.4s
SERM Sermide 2.85 331 P **Pn** 10 14 57.1 +0.3
SERM AML AML
comp=E,68900µm,1.6s
SERM AML AML
comp=N,59950µm,1.6s
SERM AML AML
comp=E,68900µm,0.4s
SERM AML AML
comp=N,59950µm,0.4s
MAKA Makarska 2.85 74 *e*Pn **Pn** 10 14 56.1 -0.7
PLIT Plitvice 2.89 35 *i* Pn **Pn** 10 14 57.2 -0.3
PLIT Sn **Sn** 10 15 30.4 -1.9
MORSI Morsiglia 2.91 279 P **Pn** 10 14 57.8 +0.2
MORSI S **Sn** 10 15 33.9 +1.4
PLMA Palmaria, Port 2.92 302 AML AML
comp=E,6385µm,1.6s
PLMA AML AML
comp=N,8550µm,1.2s
RIY Rijeka 2.92 17 *e*Pn **Pn** 10 14 56.9 -0.9
MCEL Monticello 2.92 138 AML AML
comp=E,14150µm,1.6s
MCEL AML AML
comp=E,14200µm,1.6s
MCEL AML AML
comp=N,9110µm,1.1s
MCEL AML AML
comp=N,9160µm,1.1s
MCEL AML AML
comp=N,9160µm,0.9s
MCEL AML AML
comp=E,14200µm,0.4s
MCEL AML AML
comp=E,14150µm,0.4s
MCEL AML AML
comp=N,9110µm,0.9s
MTSN Montesano sull 2.94 140 P **Pn** 10 14 58.2 0.0
MTSN AML AML
comp=E,6830µm,1.1s
MTSN AML AML
comp=N,6860µm,1.6s
MTSN AML AML
comp=E,6830µm,0.9s
MTSN AML AML
comp=N,6860µm,0.4s
MGR Morigerati 2.95 144 AML AML
comp=N,6080µm,1.2s
MGR AML AML
comp=E,5695µm,1.3s

MGR AML AML
comp=N,6350µm,1.3s
MGR AML AML
comp=E,5320µm,1.4s
MGR AML AML
comp=N,6350µm,0.7s
MGR AML AML
comp=E,5320µm,0.6s
MGR AML AML
comp=N,6080µm,0.8s
MGR AML AML
comp=E,5695µm,0.7s
AMUR Altamura 2.98 122 P Pn 10 14 58.3 -0.3
AMUR AML AML
comp=E,14500µm,1.6s
AMUR AML AML
comp=E,14500µm,0.4s
AMUR AML AML
comp=N,13700µm,1.1s
SMPL Sampolo 2.99 263 P Pn 10 14 57.8 -0.9
SMPL Sampolo 2.99 263 P Pn 10 14 57.9 -0.9
RICI Ricice 2.99 70 *i* Pn Pn 10 14 58.2 -0.5
SBPO S.Benedetto Po 3.03 327 AML AML
comp=E,64600µm,1.6s
SBPO AML AML
comp=E,64600µm,0.4s
SBPO AML AML
comp=N,68300µm,1.6s
GRAM Graiana 3.04 311 P Pn 10 15 00.2 +0.7
GRAM AML AML
comp=E,33750µm,1.5s
GRAM AML AML
comp=N,32850µm,1.5s
GRAM AML AML
comp=E,33750µm,0.5s
GRAM AML AML
comp=N,32850µm,0.5s
TEOL Teolo 3.04 338 Pn Pn 10 14 59.2 -0.3
TEOL Teolo 3.04 338 P Pn 10 14 59.6 +0.1
TEOL AML AML
comp=N,67850µm,1.3s
TEOL AML AML
comp=E,75900µm,1.0s
TEOL AML AML
comp=N,67850µm,0.7s
SKDS Skadanscina 3.05 10 *e*Pn Pn 10 14 58.3 -1.3
SKDS *e*Sn **Sn 10 15 34.3 -1.9**
SKDS Skadanscina 3.05 10⇑*i*Pn Pn 10 14 58.1 -1.5
CORF Corte 3.06 267 P Pn 10 14 59.6 -0.1
CORF AML AML
comp=E,3020µm,1.2s
CORF AML AML
comp=E,3020µm,0.8s
CORF AML AML
comp=N,2020µm,1.0s
CORF Corte 3.06 267 P Pn 10 14 59.5 -0.2
SIRI Monte Sirino - 3.06 139 P Pn 10 15 00.3 +0.5
SIRI AML AML
comp=N,8215µm,1.2s
SIRI AML AML
comp=N,8220µm,1.2s
SIRI AML AML
comp=N,8220µm,0.8s
SIRI AML AML
comp=N,8215µm,0.8s
SIRI AML AML
comp=E,8320µm,1.4s
SIRI AML AML
comp=E,8240µm,1.4s
A050A Klekovaca 3.06 50⇑*i*Pn Pn 10 15 00.0 +0.2
PRMA PARMA 3.09 317 Pn 10 14 59.4 -0.7
KNDS Knezji Dol 3.09 15 *i* Pn Pn 10 14 59.5 -0.8
OPPE Oppeano 3.15 332 P Pn 10 15 01.0 +0.1
OPPE AML AML
comp=E,46200µm,1.1s
OPPE AML AML
comp=N,55150µm,1.2s
OPPE AML AML
comp=N,55150µm,0.8s
OPPE AML AML
comp=E,46200µm,0.9s
SCHR S. Chirico Rap 3.15 137 P Pn 10 15 02.0 +1.0
SCHR AML AML
comp=E,5500µm,1.1s
SCHR AML AML
comp=N,4595µm,1.3s
PGF Pioggiola 3.15 272 *e*P Pn 10 15 01.5 +0.4
PGF *e*Sn **Sn 10 15 33.7 -5.2**
comp=N,5µm,1.2s
PGF Pioggiola 3.15 272 AML AML
comp=N,3810µm,1.3s
PGF AML AML
comp=E,3810µm,1.1s
PGF AML AML
comp=E,3810µm,0.9s
PGF Pioggiola 3.15 272 P Pn 10 15 01.2 +0.1
CUC Castrocucco 3.19 142 Pn 10 15 02.3 +0.8
GBRS Gornja Briga 3.19 20 *i* Pn Pn 10 15 00.9 -0.6
GBRS *e*Sn **Sn 10 15 40.0 +0.4**
GBRS IAML 10 16 13.6
comp=Z,111µm,3.4s
MATE Matera 3.20 125 P Pn 10 15 00.6 -0.9
MATE AML AML
comp=E,11250µm,1.2s
MATE AML AML
comp=N,13900µm,1.5s
MATE AML AML
comp=E,11250µm,0.8s
MATE AML AML
comp=N,13900µm,0.5s
CRAC Craco 3.22 131 AML AML
comp=E,24200µm,1.0s
CRAC AML AML
comp=N,27500µm,1.0s
CRAC AML AML
comp=E,24200µm,1.0s
SRKY Kupres RS 3.23 60⇑*i*Pn Pn 10 15 02.3 +0.2
MSSA Maissana 3.26 304 Pn Pn 10 15 01.8 -0.7
MSSA Maissana 3.26 304 P Pn 10 15 02.5 0.0
MSSA AML AML
comp=E,9725µm,1.6s
MSSA AML AML
comp=E,9725µm,0.4s
MSSA AML AML
comp=N,10400µm,1.3s
STON Ston 3.28 83 *e*Pn Pn 10 15 02.0 -0.7
STON Ston 3.28 83 AML AML
comp=N,9915µm,0.8s
STON AML AML
comp=E,12800µm,0.6s
STON Ston 3.28 83 *e*Pn Pn 10 15 02.0 -0.7
STON *e*Sn **Sn 10 15 42.6 +0.8**
STON Ston 3.28 83⇑*i*Pn Pn 10 15 02.0 -0.7
BOJS Bojanci 3.29 25 AML AML
comp=N,45650µm,1.3s
BOJS AML AML
comp=E,51300µm,1.4s
BOJS AML AML
comp=E,51300µm,0.6s
BOJS AML AML
comp=N,45650µm,0.7s
BOJS Bojanci 3.29 25⇑*i*Pn Pn 10 15 02.2 -0.6
LTRZ Laterza 3.29 125 P Pn 10 15 03.0 +0.1
LTRZ AML AML
comp=E,15100µm,0.8s
LTRZ AML AML
comp=N,135µm,1.6s
LTRZ AML AML
comp=N,12850µm,0.6s
LTRZ AML AML
comp=E,13700µm,0.8s
LTRZ AML AML
comp=N,135µm,0.4s
CEY Cerknica 3.30 14⇑*i*Pn Pn 10 15 02.6 -0.5
NOCI Noci 3.34 120 P Pn 10 15 03.0 -0.5
NOCI AML AML
comp=E,10475µm,0.7s
NOCI AML AML
comp=N,14900µm,1.0s
MGRS Mrkonjic Grad 3.35 55⇑*i*Pn Pn 10 15 04.2 +0.5
AJAC Base Areonaval 3.40 261 P Pn 10 15 04.6 +0.3
AJAC Base Areonaval 3.40 261 P Pn 10 15 04.7 +0.3
AJAC S **Sn 10 15 46.4 +1.7**
SABO M.te Sabotino 3.45 4 Pn 10 15 03.7 -1.3
SABO M.te Sabotino 3.45 4 P Pn 10 15 03.9 -1.1
SABO AML AML
comp=N,40900µm,0.6s
SABO AML AML
SABO AML AML
SABO AML AML
comp=E,28900µm,0.6s
SABO AML AML
comp=N,40900µm,1.4s
OZLJ Ozalj 3.46 27 *i* Pn Pn 10 15 04.7 -0.4
OZLJ Sn **Sn 10 15 44.5 -1.6**
ROVR Rover Verones 3.48 334 P Pn 10 15 05.0 -0.6
ROVR AML AML
comp=N,23550µm,0.7s
ROVR AML AML
comp=N,9385µm,0.7s
ROVR AML AML
comp=N,23550µm,1.3s
ROVR AML AML
comp=E,11600µm,0.6s
ROVR AML AML
comp=N,9385µm,1.3s
ROVR AML AML
comp=E,4575µm,0.6s
PRIJ Prijedor 3.49 45 *e*Pn Pn 10 15 04.7 -0.8
GORR Gorreto 3.55 307 AML AML
comp=N,9795µm,1.4s
GORR AML AML
comp=E,11325µm,1.1s
GORR AML AML
comp=N,9795µm,0.6s
GORR AML AML
comp=E,11325µm,0.9s
VARN Col Varnada, M 3.55 347 P Pn 10 15 05.8 -0.7
VARN AML AML
comp=N,24450µm,1.3s
VARN AML AML
comp=N,24050µm,1.3s
VARN AML AML
comp=E,47600µm,0.5s
VARN AML AML
comp=E,48050µm,0.5s
BLY Banja Luka 3.60 51 *e*Pn Pn 10 15 07.2 +0.1
BLY Banja Luka 3.60 51⇑*i*Pn Pn 10 15 06.9 -0.2
DBRK Dubrovnik 3.60 86 *e*Pn Pn 10 15 06.6 -0.5
A051A Mrakovica 3.61 46⇑*i*Pn Pn 10 15 06.5 -0.8
LJU Ljubljana 3.62 14 *e*Pn Pn 10 15 06.9 -0.4
LJU Ljubljana 3.62 14 AML AML
LJU AML AML
TAR1 Taranto 3.62 122 P Pn 10 15 06.1 -1.3
TAR1 AML AML
comp=N,11700µm,1.5s
TAR1 AML AML
comp=N,11700µm,0.5s
TAR1 AML AML
comp=E,9580µm,1.1s
CRES Cresnjev 3.64 25⇑*i*Pn Pn 10 15 06.9 -0.8
SALO Salr 3.66 328 Pn Pn 10 15 07.9 0.0
SALO Salr 3.66 328 P Pn 10 15 07.9 0.0
SALO AML AML
comp=E,22650µm,0.8s
SALO AML AML
comp=N,29650µm,0.9s
SALO AML AML
comp=N,29400µm,0.9s
SALO AML AML
comp=E,25900µm,0.8s
DOSS Dosso del Somm 3.66 337 P Pn 10 15 07.9 -0.2
DOSS AML AML
comp=E,15850µm,0.6s
DOSS AML AML
comp=N,14405µm,0.9s
DOSS AML AML
comp=N,16400µm,0.6s
DOSS AML AML
comp=N,16400µm,1.4s
DOSS AML AML
comp=E,15850µm,1.4s
DOSS AML AML
comp=E,14670µm,0.9s
CTI Castel Tesino 3.69 342 Pn 10 15 08.6 +0.1
CTI Castel Tesino 3.69 342 P Pn 10 15 08.1 -0.5
CTI AML AML
comp=E,24850µm,1.6s
CTI AML AML
comp=N,18700µm,0.5s
CTI AML AML
comp=E,24850µm,0.4s
CTI Castel Tesino 3.69 342 P Pn 10 15 08.6 +0.1
VARA Varagna 3.70 333 P Pn 10 15 08.0 -0.6
VARA AML AML
comp=E,23100µm,0.3s
VARA AML AML
comp=N,28850µm,0.4s
CADS Cadrg 3.70 5 *e*Pn Pn 10 15 07.2 -1.3
CADS *e*Sn **Sn 10 15 51.0 -1.3**
MPRI Monte Prat 3.71 357 P Pn 10 15 07.9 -0.7
MPRI AML AML
comp=N,23900µm,0.4s
MPRI AML AML
comp=E,29450µm,0.9s
MPRI AML AML
comp=N,30900µm,0.4s
MPRI AML AML
comp=E,22950µm,0.9s
STAL STALIGIAL 3.74 354 Pn 10 15 07.9 -1.2
STAL STALIGIAL 3.74 354 P Pn 10 15 08.1 -1.0
STAL AML AML
comp=E,19250µm,0.9s
STAL AML AML
comp=N,15750µm,0.8s
STAL AML AML
comp=N,15750µm,1.2s
TREB Trebinje 3.75 86 *e*Pn Pn 10 15 09.0 -0.2
TREB *e*Sn **Sn 10 15 53.3 -0.2**
TREB Trebinje 3.75 86⇑*i*Pn Pn 10 15 09.2 0.0
LUSI Trento, Gardas 3.80 335 P Pn 10 15 09.4 -0.6
LUSI AML AML
comp=E,14500µm,1.2s
LUSI AML AML
comp=N,17050µm,0.3s
LUSI AML AML
comp=E,14500µm,0.8s
CIMO Cimolais 3.81 351 Pn 10 15 09.2 -0.9
CIMO Cimolais 3.81 351 P Pn 10 15 09.0 -1.1
CIMO AML AML
comp=N,6050µm,1.6s
CIMO AML AML
comp=E,5585µm,0.5s
CIMO AML AML
comp=E,5605µm,0.5s
CIMO AML AML
comp=N,5915µm,1.6s
ZAG Zagreb 3.82 30 *e*Pn Pn 10 15 10.2 +0.1
AGOR Agordo 3.84 347 P Pn 10 15 09.7 -0.8
AGOR AML AML
comp=E,11250µm,1.6s
AGOR AML AML
comp=E,8850µm,1.5s
AGOR AML AML
comp=N,7225µm,1.0s
AGOR AML AML
comp=E,8850µm,0.5s
AGOR AML AML
comp=N,9325µm,1.0s
AGOR AML AML
comp=E,11250µm,0.4s
PTCC Patocco-Chiusa 3.86 1 P Pn 10 15 10.0 -0.8
PTCC AML AML
comp=E,10400µm,0.4s
PTCC AML AML
comp=N,8595µm,1.1s
HCY Herceg Novi 3.87 90⇑*i*Pn Pn 10 15 10.3 -0.5
HCY Herceg Novi 3.87 90⇓*i*Pn Pn 10 15 10.1 -0.7
HCY *i* Sn **Sn 10 15 56.3 +0.1**
PTJ Puntijarka 3.88 29 *e*Pn Pn 10 15 10.6 -0.6
BRY Bratogost 3.90 83⇑*i*Pn Pn 10 15 10.9 -0.5
BRY Bratogost 3.90 83⇑*i*Pn Pn 10 15 10.9 -0.5
BRY *i* Sn **Sn 10 15 57.1 -0.2**
PRED Cave del Predi 3.91 3 Pn 10 15 10.1 -1.3
GAGG Gaggia 3.91 336 P Pn 10 15 11.1 -0.5
GAGG AML AML
comp=N,18250µm,1.0s
GAGG AML AML
comp=E,18800µm,1.0s
GAGG AML AML
comp=N,15700µm,0.8s
GAGG AML AML
comp=E,15600µm,0.8s
GAGG AML AML
comp=E,18800µm,1.0s
GAGG AML AML
comp=N,18250µm,1.0s
CLUD Cludinico 3.92 356 Pn 10 15 10.6 -1.0
CLUD Cludinico 3.92 356 P Pn 10 15 10.6 -1.0
CLUD AML AML
comp=E,12900µm,1.6s
CLUD AML AML
comp=N,12380µm,1.1s
CLUD AML AML
comp=E,13450µm,1.6s
CLUD AML AML
comp=N,12035µm,1.1s
CLUD AML AML
comp=N,12380µm,0.9s
CLUD AML AML
comp=E,12900µm,0.4s
CLUD AML AML
comp=N,12035µm,0.9s
CLUD AML AML
comp=E,13450µm,0.4s
ZONE Zone 3.94 326 P Pn 10 15 11.7 -0.2
ZONE AML AML
comp=E,3480µm,0.7s
ZONE AML AML
comp=N,3910µm,1.3s
ZONE AML AML
comp=E,14350µm,0.7s
ZONE AML AML
comp=N,15600µm,1.3s
ZONE AML AML
comp=E,3480µm,1.3s
ZONE AML AML
comp=E,14350µm,1.3s
ZONE AML AML
comp=N,3910µm,0.7s
ZONE AML AML
comp=N,15600µm,0.7s
CAR1 CAROLEI 3.97 145 P Pn 10 15 11.6 -0.7
PCP Piancastagn 3.97 302 P Pn 10 15 11.9 -0.4
PCP AML AML
comp=E,2615µm,1.6s
PCP AML AML
comp=E,2615µm,0.4s
PCP AML AML
comp=N,3455µm,1.2s
CELI Celico 3.98 141 P Pn 10 15 14.1 +1.6
CELI AML AML
comp=E,2470µm,1.4s
CELI AML AML
comp=N,2050µm,1.5s
CELI AML AML
comp=E,6035µm,1.0s
CELI AML AML
comp=N,4965µm,1.5s
CELI AML AML
comp=N,4965µm,0.5s
CELI AML AML
comp=E,2470µm,0.6s
CELI AML AML
comp=N,2050µm,0.5s
CELI AML AML
comp=E,6035µm,1.0s
A052A Srbac 4.00 49⇑*i*Pn Pn 10 15 11.7 -0.9
QLNO Quiliano 4.00 298 P Pn 10 15 11.9 -0.8
ACOM Acomizza, Ital 4.01 2 P Pn 10 15 12.5 -0.5
ACOM AML AML
comp=E,30450µm,1.2s
ACOM AML AML
comp=N,15700µm,1.1s
ACOM AML AML
comp=E,29400µm,1.2s
ACOM AML AML
comp=N,15450µm,1.5s
ACOM AML AML
comp=N,15700µm,0.9s
ACOM AML AML
comp=E,30450µm,0.8s
ACOM AML AML
comp=N,15450µm,0.5s
ACOM AML AML
comp=E,29400µm,0.8s
ZOU Zoufplan 4.02 357 P Pn 10 15 12.2 -0.9
ZOU AML AML
comp=E,15150µm,1.3s
ZOU AML AML
comp=N,17400µm,1.4s
ZOU AML AML
comp=E,14700µm,1.3s
ZOU AML AML
comp=N,17100µm,1.4s
ZOU AML AML
comp=N,17100µm,0.6s
ZOU AML AML
comp=E,15150µm,0.7s
ZOU AML AML
comp=N,17400µm,0.6s
ZOU AML AML
comp=E,14700µm,0.7s
MABI Malga Bissina 4.03 332 P Pn 10 15 12.9 -0.3
FVI Forni Avoltri 4.07 355 P Pn 10 15 12.9 -0.8
FVI AML AML
comp=N,9905µm,0.7s
FVI AML AML
comp=E,8445µm,0.7s
OBKA Obir 4.07 13 *i* Pn Pn 10 15 12.6 -1.1
comp=E,257nm,0.5s,SNR=40
OBKA *e*Sn **Sn 10 16 03.1 +1.7**
comp=E,3µm,0.6s
OBKA Obir 4.07 13 *e*Pn Pn 10 15 12.8 -0.8
SNR=112
OBKA Obir 4.07 13⇑*i*Pn Pn 10 15 13.0 -0.7
OBKA Obir 4.07 13 *e*Pn Pn 10 15 12.8 -0.8
SNR=112
MYKA Terra Mystica 4.10 4 *i* Pn Pn 10 15 12.9 -1.1
comp=E,681nm,0.5s,SNR=156
MYKA *e*Sn **Sn 10 16 03.5 +1.5**
comp=E,2µm,0.5s
LOBO Lobor 4.13 28 *i* Pn Pn 10 15 13.2 -1.3
CEME Cevo 4.17 88⇓*i*Pn Pn 10 15 14.7 -0.4
CEME *i* Sn **Sn 10 16 03.9 0.0**
MERA Merate 4.18 320 AML AML
comp=N,13350µm,1.3s
MERA AML AML
comp=N,13350µm,0.7s
MERA AML AML
comp=E,13700µm,0.5s
BOSI Bolzano 4.19 341 P Pn 10 15 15.5 +0.2
BOSI AML AML
comp=E,33050µm,0.9s
BOSI AML AML
comp=N,36150µm,1.6s
BOSI AML AML
comp=E,33050µm,1.1s
BOSI AML AML
comp=N,36150µm,0.4s
APPI Appiano 4.20 340 P Pn 10 15 15.4 0.0
APPI AML AML
comp=N,14550µm,1.4s
APPI AML AML
comp=N,14550µm,0.6s
APPI AML AML
comp=E,10900µm,1.4s
NKME Niksic 4.20 85⇑*i*Pn Pn 10 15 15.4 0.0
NKME *i* Sn **Sn 10 16 03.8 -0.7**
GROS Grobnik 4.23 21 *i* Pn Pn 10 15 14.8 -1.1
GROS IAML 10 16 51.3
comp=Z,79µm,4.2s
VSL Villasalto 4.23 225 AML AML
comp=N,1990µm,1.6s
VSL AML AML
comp=E,2825µm,0.9s
VSL AML AML
comp=N,1990µm,0.4s
VSL AML AML
comp=E,2825µm,1.1s
ABTA Abfaltersbach 4.24 353 *i* Pn Pn 10 15 15.7 -0.3
comp=E,1µm,0.6s,SNR=540
ABTA *e*Sn **Sn 10 16 06.4 +0.8**
comp=E,3µm,0.8s
ROTM Rocchetta Tana 4.25 305 P Pn 10 15 16.2 +0.2
ROTM AML AML
comp=E,15950µm,1.1s
ROTM AML AML

comp=N,21950µm,1.6s
ROTM AML AML
comp=E,15950µm,0.9s
ROTM AML AML
comp=N,21950µm,0.4s
KALN Kalnik 4.25 31 *e*Pn **Pn 10 15 14.9 -1.3**
MGRO Montegrosso 4.26 292 P **Pn 10 15 16.1 -0.3**
TIP Timpagrande 4.28 141 ⇓P **Pn 10 15 20.5 +4.0**
TIP Timpagrande 4.28 141 Pn **Pn 10 15 18.8 +2.3**
BRES Bressanone 4.30 346 AML AML
comp=N,13800µm,0.3s
BRES AML AML
comp=E,16600µm,0.3s
SOKA Soboth 4.32 16 *i* Pn **Pn 10 15 16.1 -1.0**
comp=E,89nm,0.2s,SNR=47
BURY Giardini Botan 4.36 288 P **Pn 10 15 17.1 -0.4**
BURY AML AML
comp=E,1170µm,1.6s
BURY AML AML
comp=N,1850µm,1.3s
BURY AML AML
comp=E,1170µm,0.4s
BURY AML AML
comp=N,1850µm,0.7s
DRME Dracevica, Mon 4.40 93⇑ *i*Pn **Pn 10 15 18.4 +0.3**
DRME Dracevica, Mon 4.40 93⇓ *i*Pn **Pn 10 15 18.2 +0.1**
DRME *i* Sn **Sn 10 16 09.3 0.0**
SAOF Saorge 4.42 291 P **Pn 10 15 19.1 +0.7**
SAOF Saorge 4.42 291 P **Pn 10 15 19.3 +1.0**
HAPS Han Pijesak,Bl 4.42 68⇑ *i*Pn **Pn 10 15 18.7 +0.1**
PDG Podgorica 4.43 89 ⇓P **Pn 10 15 19.0 +0.5**
PDG ⇓S **Sn 10 16 10.6 +0.5**
PDG Podgorica 4.43 89 Pn **Pn 10 15 18.2 -0.3**
PDG Podgorica 4.43 89 AML AML
comp=N,19100µm,0.5s
PDG AML AML
comp=E,13760µm,1.6s
PDG AML AML
comp=E,10840µm,1.6s
PDG AML AML
comp=N,14700µm,0.5s
PDG AML AML
comp=E,10840µm,0.4s
PDG AML AML
comp=E,13760µm,0.4s
PDG Podgorica 4.43 89 *e*Pn **Pn 10 15 18.9 +0.4**
PDG *e*Sn **Sn 10 16 10.8 +0.7**
PDG Podgorica 4.43 89⇓ *i*Pn **Pn 10 15 18.4 -0.1**
PDG *i* Sn **Sn 10 16 09.9 -0.2**
BRMO Bormio 4.45 333 P **Pn 10 15 19.0 +0.1**
BRMO AML AML
comp=E,5270µm,0.8s
BRMO AML AML
comp=N,6295µm,0.7s
BRMO AML AML
comp=N,6295µm,1.3s
KOGS Kog 4.45 28 AML AML
comp=E,55150µm,1.5s
KOGS AML AML
comp=N,56750µm,1.1s
KOGS AML AML
comp=E,55150µm,0.5s
KOGS AML AML
comp=N,56750µm,0.9s
SBF Sospel 4.46 289 *e*P **Pn 10 15 19.4 +0.3**
SBF *e*Sn **Sn 10 16 07.0 -4.1**
comp=N,1µm,0.5s
ULC Ulcinj 4.47 95⇑ *i*Pn **Pn 10 15 18.9 -0.3**
ULC *i* Sn **Sn 10 16 10.1 -1.1**
RISI Rein 4.49 350 AML AML
comp=E,25700µm,0.5s
RISI AML AML
comp=N,29000µm,0.4s
ESCA l'Escarene 4.50 289 P **Pn 10 15 19.9 +0.4**
MOSI Grossmontoni 4.51 335 AML AML
comp=E,23150µm,0.9s
MOSI AML AML
comp=E,23150µm,1.1s
MOSI AML AML
comp=N,35900µm,0.9s
BERNI Berninapass 4.51 330 AML AML
comp=N,4555µm,1.1s
BERNI AML AML
comp=E,5395µm,0.6s
BERNI AML AML
comp=N,4555µm,0.9s
BERNI AML AML
comp=E,5395µm,1.4s
TURF col de Turini 4.53 290 P **Pn 10 15 20.1 +0.1**
KBA Koelnbreinsper 4.54 1 *e*Pn **Pn 10 15 19.7 -0.5**
comp=E,1µm,0.7s,SNR=347
KBA *e*Sn **Sn 10 16 12.7 -0.3**
comp=E,2µm,0.5s
KBA Koelnbreinsper 4.54 1 *e*Pn **Pn 10 15 20.4 +0.2**
SNR=391
KBA *e*Sn **Sn 10 16 12.9 -0.1**
SNR=3.9
KBA Koelnbreinsper 4.54 1 *e*Pn **Pn 10 15 20.4 +0.2**
SNR=391
KBA *e*Sn **Sn 10 16 12.9 -0.1**
SNR=3.9
MUGIO Muggio 4.54 319 AML AML
comp=E,4035µm,0.4s
MUGIO AML AML
comp=E,4035µm,1.6s
MUGIO AML AML
comp=N,3905µm,1.0s
PLE Pljevlja 4.56 78⇓ *i*Pn **Pn 10 15 21.3 +0.8**
PLE *e*Sn **Sn 10 16 12.9 -0.7**
ROSI Rosskopf 4.58 344 AML AML
comp=N,23550µm,0.5s
ROSI AML AML
comp=N,23550µm,1.5s
ROSI AML AML
comp=E,19450µm,0.4s
ENR Entracque 4.58 294 AML AML
comp=E,2310µm,1.0s
ENR AML AML
comp=N,2495µm,0.9s
RUDO Rudo 4.60 74⇑ *i*Pn **Pn 10 15 20.8 0.0**
FUORN Ofenpass-Fuorn 4.61 333 **Pn 10 15 21.9 +0.7**
EILF Villa Eilenroc 4.61 285 P **Pn 10 15 20.6 -0.4**
KOME Kolasin 4.61 84⇑ *i*Pn **Pn 10 15 22.1 +0.9**
KOME *i* Sn **Sn 10 16 14.2 -0.6**
SCTE Santa Cesarea 4.63 120 Pn **Pn 10 15 21.8 +0.5**
VARE Varese 4.64 317 AML AML
comp=E,7435µm,0.8s
VARE AML AML
comp=N,5835µm,0.6s
VARE AML AML
comp=N,5835µm,1.4s
STV Sant Anna di V 4.65 293 AML AML
comp=E,2755µm,0.7s
STV AML AML
comp=N,1555µm,1.5s
STV AML AML
comp=N,1555µm,0.5s
SPIF crte de Spivo 4.66 291 P **Pn 10 15 23.2 +1.5**
MVIF Mont Vial 4.67 289 P **Pn 10 15 22.8 +0.8**
BBLS Lazići 4.68 71 *e*Pn **Pn 10 15 22.4 +0.4**
CEL Celeste 4.72 154 **Pn 10 15 23.6 +0.9**
PLAC Placanica 4.75 148 AML AML
comp=N,1815µm,0.4s
PLAC AML AML
comp=E,1755µm,1.6s
PLAC AML AML
comp=N,1815µm,1.6s
PLAC AML AML
comp=E,1755µm,0.4s
PLAC AML AML
comp=E,1720µm,1.0s
PLAC AML AML
comp=N,1700µm,1.0s
CALF Calern 4.80 287 P **Pn 10 15 23.8 +0.1**
ISO Isola 4.82 292 P **Pn 10 15 26.3 +2.3**
ISO S **Sn 10 16 24.3 +4.4**
TUE Stuetta 4.83 326 Pn **Pn 10 15 24.2 0.0**
FETA Feichten 4.83 339 *e*Pn **Pn 10 15 24.2 +0.1**
comp=N,485nm,0.5s,SNR=322
FETA *e*Sn **Sn 10 16 21.0 +0.8**
comp=N,1µm,0.5s
WTTA Wattenberg 4.86 347 *i* Pn **Pn 10 15 25.0 +0.3**
comp=N,159nm,0.2s,SNR=181
WTTA *e*Sn **Sn 10 16 22.4 +1.3**
comp=N,3µm,0.5s
WTTA Wattenberg 4.86 347 *e*Pn **Pn 10 15 25.6 +1.0**
SNR=290
WTTA Wattenberg 4.86 347 AML AML
comp=E,12250µm,1.0s
WTTA AML AML
comp=E,12250µm,1.0s
WTTA AML AML
comp=N,13245µm,0.7s
WTTA AML AML
comp=N,13245µm,1.3s
WTTA Wattenberg 4.86 347 *e*Pn **Pn 10 15 25.6 +1.0**
SNR=290
DAVOX Davos/Dischmat 4.88 331 Pn **Pn 10 15 24.9 0.0**
comp=N,99nm,0.3s,baz=148,slow=16,SNR=202
DAVOX Sn **Sn 10 16 21.6 +0.1**
comp=N,65nm,0.3s,baz=162,slow=19,SNR=2.5
DAVOX Davos/Dischmat 4.88 331 AML AML
comp=N,7765µm,1.1s
DAVOX AML AML
comp=E,9085µm,1.4s
DAVOX AML AML
comp=N,7765µm,0.9s
PZZ Stroppo 4.89 296 AML AML
comp=N,2445µm,1.2s
PZZ AML AML
comp=E,1825µm,1.4s
PZZ AML AML
comp=N,2445µm,0.8s
PZZ AML AML
comp=E,1825µm,0.6s
IVA Berane 4.89 84⇓ *i*Pn **Pn 10 15 25.9 +0.9**
IVA *i* Sn **Sn 10 16 20.4 -1.3**
BLJ Bijeljina 4.89 61 *e*Pn **Pn 10 15 24.3 -0.6**
SQTA Sankt Quirin 4.90 343 **Pn 10 15 25.4 +0.3**
SQTA **Sn 10 16 23.3 +1.3**
SQTA Sankt Quirin 4.90 343 *e*Pn **Pn 10 15 25.4 +0.3**
comp=E,1µm,0.6s,SNR=314
SQTA *e*Sn **Sn 10 16 23.3 +1.3**
comp=E,3µm,0.7s
SQTA Sankt Quirin 4.90 343 P **Pn 10 15 25.4 +0.3**
SQTA 10 16 23.3
PVY Plav 4.94 87⇑ *i*Pn **Pn 10 15 26.5 +0.8**
PVY *i* Sn **Sn 10 16 21.8 -1.1**
WATA Walderalm 4.94 347 **Pn 10 15 26.3 +0.6**
WATA **Sn 10 16 24.3 +1.3**
WATA Walderalm 4.94 347 *e*Pn **Pn 10 15 26.3 +0.6**
comp=E,374nm,0.3s,SNR=278
WATA *e*Sn **Sn 10 16 24.3 +1.3**
comp=E,2µm,0.4s
WATA Walderalm 4.94 347 P **Pn 10 15 26.3 +0.6**
WATA 10 16 24.3
TRAV Traversella 4.97 309 AML AML
comp=E,2630µm,1.4s
TRAV AML AML
comp=N,2220µm,0.8s
ARSA Arzberg 4.97 18 *i* Pn **Pn 10 15 24.7 -1.3**
comp=N,168nm,0.5s,SNR=66
ARSA *e*Sn **Sn 10 16 22.0 -1.6**
comp=N,381nm,0.5s
ARSA Arzberg 4.97 18 *e*Pn **Pn 10 15 25.5 -0.6**
SNR=80
ARSA Arzberg 4.97 18 *e*Pn **Pn 10 15 25.5 -0.6**
SNR=80
TEKS Tekeris 4.97 64 *e*Pn **Pn 10 15 25.3 -0.7**
TEKS Tekeris 4.97 64⇑ *i*Pn **Pn 10 15 24.3 -1.7**
SJES Sjenica 4.98 79 *e*Pn **Pn 10 15 26.9 +0.7**
SJES *e*Sn **Sn 10 16 25.1 +1.3**
ENAUX Enaux 4.99 291 P **Pn 10 15 28.5 +2.2**
LMR La Mourre 5.03 281 *e*P **Pn 10 15 25.1 -1.6**
LMR *e*Sn **Sn 10 16 19.7 -5.1**
comp=N,668nm,0.8s
BCI Bajram Curri 5.03 90 P **Pn 10 15 27.9 +1.1**
baz=99
BCI S **Sn 10 16 26.8 +1.7**
baz=99
BCI AMP
comp=N,41nm,0.7s,baz=99
MOTA Moosalm 5.04 343 **Pn 10 15 28.2 +1.1**
MOTA **Sn 10 16 27.2 +1.8**
MOTA Moosalm 5.04 343 *e*Pn **Pn 10 15 28.2 +1.1**
comp=N,577nm,0.5s,SNR=190
MOTA *e*Sn **Sn 10 16 27.2 +1.8**
comp=N,2µm,0.7s
TIR Tirane 5.06 101⇑ P **Pn 10 15 28.1 +0.9**
TIR Tirane 5.06 101 **Pn 10 15 26.6 -0.6**
TIR Tirane 5.06 101 P **Pn 10 15 25.0 -2.2**
baz=109
TIR S Sg 10 17 19.8 +26
baz=109
TIR Tirane 5.06 101 P **Pn 10 15 26.6 -0.6**
TIR Tirane 5.06 101 *e*Pn **Pn 10 15 27.4 +0.2**
TIR *e*Sn **Sn 10 16 23.9 -1.8**
SURF Saint Ours 5.08 295 P **Pn 10 15 28.6 +1.0**
JAUF Jausiers 5.10 294 P **Pn 10 15 29.9 +1.9**
VAE Valguarnera 5.13 170 Pn **Pn 10 15 33.0 +4.8**
comp=N,3.8nm,0.3s,baz=92,slow=4.6,SNR=14
VAE Lg Lg 10 16 50.1
baz=45,slow=15
DIVS Divibare 5.15 70 **Pn 10 15 27.8 -0.7**
DIVS Divibare 5.15 70 AML AML
comp=E,3520µm,0.5s
DIVS AML AML
comp=E,3520µm,1.5s
DIVS AML AML
comp=N,3085µm,1.5s
DIVS Divibare 5.15 70 *e*Pn **Pn 10 15 28.0 -0.4**
DIVS Divibare 5.15 70⇑ *i*Pn **Pn 10 15 28.0 -0.4**
IVAS Ivanjica 5.15 76 *e*Pn **Pn 10 15 28.1 -0.4**
IVAS *e*Sn **Sn 10 16 27.1 -0.8**
BIOA Bad Ischl, Aus 5.16 3 **Pn 10 15 28.1 -0.5**
BIOA **Sn 10 16 28.8 +0.7**
BIOA Bad Ischl, Aus 5.16 3 *e*Pn **Pn 10 15 28.1 -0.5**
comp=N,205nm,0.3s,SNR=224
BIOA *e*Sn **Sn 10 16 28.8 +0.7**
comp=N,3µm,0.5s
TRIGF Trigance 5.16 286 P **Pn 10 15 29.6 +1.0**
MBDF Montbardon 5.20 297 *e*P **Pn 10 15 30.3 +1.1**
MBDF *e*Sn **Sn 10 16 23.1 -6.2**
comp=N,2µm,1.1s
FLAF Flassans-sur-I 5.21 282 P **Pn 10 15 30.0 +0.7**
CREF Crivoux 5.23 295 P **Pn 10 15 31.8 +2.1**
ASEAF Site Antares, 5.25 275 P **Pn 10 15 30.7 +1.3**
OGAG Argentiere 5.25 294 P **Pn 10 15 33.7 +3.7**
RETA Reutte 5.25 341 *e*Pn **Pn 10 15 30.6 +0.6**
comp=N,398nm,0.5s,SNR=217
RETA *e*Sn **Sn 10 16 32.7 +2.1**
comp=N,2µm,0.9s
PLONS Plons/SG 5.29 330 *e*Pn **Pn 10 15 31.4 +1.0**
SNR=208
PLONS Plons/SG 5.29 330 *e*Pn **Pn 10 15 31.4 +1.0**
SNR=208
DAVA Damuels 5.32 334 *i* Pn **Pn 10 15 31.8 +0.9**
comp=N,567nm,0.6s,SNR=423
DAVA *e*Sn **Sn 10 16 33.0 +0.7**
comp=N,2µm,0.6s
DAVA Damuels 5.32 334 *e*Pn **Pn 10 15 31.9 +0.9**
SNR=279
DAVA Damuels 5.32 334 *e*Pn **Pn 10 15 31.9 +0.9**
SNR=279
OGDI Digne 5.32 289 P **Pn 10 15 33.8 +3.0**
MORH Mrgy, Hungar 5.32 45 *e*Pn **Pn 10 15 29.3 -1.4**
MOA Molln 5.35 7 *e*Pn **Pn 10 15 30.5 -0.8**
comp=N,263nm,0.4s,SNR=127
MOA *e*Sn **Sn 10 16 32.7 -0.2**
comp=N,906nm,0.5s
MOA Molln 5.35 7 *e*Pn **Pn 10 15 31.0 -0.3**
SNR=293
MOA *e*Sn **Sn 10 16 33.2 +0.3**
SNR=6.5
MOA Molln 5.35 7 *e*Pn **Pn 10 15 31.2 -0.1**
MOA *e*Sn **Sn 10 16 33.6 +0.6**
MOA Molln 5.35 7 *e*Pn **Pn 10 15 31.0 -0.3**
SNR=293
MOA *e*Sn **Sn 10 16 33.2 +0.3**
SNR=6.5
EMBD Embd, Matterta 5.36 315 P **Pn 10 15 32.2 +0.8**
RAFF Raffo Rosso 5.38 171 Pn **Pn 10 15 32.6 +1.0**
BNI Bardonecchia 5.39 300 Pn **Pn 10 15 32.9 +1.0**
BNI Bardonecchia 5.39 300 P **Pn 10 15 32.9 +1.0**
FRGS Fruska Gora 5.41 59 *e*Pn **Pn 10 15 31.8 -0.1**
FRGS Fruska Gora 5.41 59⇑ *i*Pn **Pn 10 15 31.5 -0.4**
OGMO Fort Saint-Gob 5.45 301 P **Pn 10 15 34.4 +1.7**
BLAF les Blancs 5.46 287 P **Pn 10 15 34.4 +1.6**
TRUS Trudelj 5.47 70 *e*Pn **Pn 10 15 32.4 -0.4**
ARTF Artigues 5.57 283 P **Pn 10 15 34.7 +0.5**
LPL La Plagne 5.57 304 *e*P **Pn 10 15 35.7 +1.3**
LPL *e*Sn **Sn 10 16 35.2 -3.4**
comp=N,1µm,0.8s
RONA Rosalia, Austr 5.58 22 **Pn 10 15 33.4 -1.0**
RONA **Sn 10 16 36.3 -2.4**
RONA Rosalia, Austr 5.58 22 *i* Pn **Pn 10 15 33.4 -1.0**
comp=N,79nm,0.2s,SNR=136
RONA *e*Sn **Sn 10 16 36.3 -2.4**
comp=N,215nm,0.4s
UBR Ueberruh 5.60 338 *e*Sn **Sn 10 16 42.0 +2.8**
SNR=3.1
UBR Ueberruh 5.60 338 *e*Sn **Sn 10 16 42.0 +2.8**
SNR=3.1
GRUS Gruza 5.61 74 *e*Pn **Pn 10 15 34.4 -0.3**
GRUS *e*Sn **Sn 10 16 38.3 -0.8**
LEPF PUYLOUBIER 5.63 283 P **Pn 10 15 35.7 +0.7**
MLYF Mely 5.67 287 P **Pn 10 15 37.1 +1.5**
KEK Kerkira 5.68 118 **Pn 10 15 37.3 +1.5**
KEK Kerkira 5.68 118 P **Pn 10 15 36.9 +1.2**
CONA Conrad Observa 5.69 18 *i* Pn **Pn 10 15 34.8 -1.1**
comp=N,399nm,0.6s,SNR=154
CONA *e*Sn **Sn 10 16 39.2 -2.1**
comp=N,447nm,0.5s
BEO Beograd 5.69 64 *e*Pn **Pn 10 15 34.8 -1.1**
RSL Roselend 5.72 306 P **Pn 10 15 37.9 +1.5**
BSTF la Bastide-des 5.73 286 P **Pn 10 15 37.6 +1.1**
SRN Sarande 5.73 115 P **Pn 10 15 37.7 +1.3**
baz=121
SRN S **Sb 10 16 51.9 -8.2**
baz=121
SRN AMP
comp=N,7.6nm,1.4s,baz=121
SENIN Lac Senin/Sane 5.73 314 **Pn 10 15 37.5 +0.9**
WILA Wila 5.77 329 *e*Pn **Pn 10 15 37.1 +0.1**
SNR=25
WILA *e*Sn **Sn 10 16 43.5 +0.2**
SNR=3.1
WILA Wila 5.77 329 *e*Pn **Pn 10 15 37.1 +0.1**
SNR=25
WILA *e*Sn **Sn 10 16 43.5 +0.2**
SNR=3.1
FUR Furstenfeldbru 5.80 347 *e*Pn **Pn 10 15 38.1 +0.8**
SNR=12
FUR Furstenfeldbru 5.80 347 *e*Pn **Pn 10 15 38.1 +0.8**
SNR=12
SMRF Simiane la Rot 5.80 287 *e*P **Pn 10 15 39.2 +1.8**
SMRF *e*Sn **Sn 10 16 39.6 -4.3**
comp=N,4µm,1.7s
OHR Ohrid 5.80 102 *e*Pn **Pn 10 15 38.3 +0.9**
OHR *e*Sn **Sn 10 16 42.7 -1.4**
OHR Ohrid 5.80 102 *i* Pn **Pn 10 15 38.4 +0.9**
OHR *i* Sn **Sn 10 16 46.1 +2.0**
SELS Selova 5.81 81 *e*Pn **Pn 10 15 36.9 -0.6**
SELS *e*Sn **Sn 10 15 43.2 -0.9**
GDM Grand'Maison 5.81 300 P **Pn 10 15 40.9 +3.2**
OGSI Sixt 5.85 309 P **Pn 10 15 39.5 +1.4**
RUSF Rustrel 5.86 286 P **Pn 10 15 39.6 +1.5**
ORIF Oris-en-Rattie 5.86 296 *e*P **Pn 10 15 39.6 +1.4**
ORIF *e*Sn **Sn 10 16 41.1 -4.3**
comp=N,2µm,1.0s
ORIF Oris-en-Rattie 5.86 296 P **Pn 10 15 41.5 +3.2**
ZUR Degenried 5.86 327 P **Pn 10 15 38.8 +0.5**
ZUR Degenried 5.86 327 S **Sn 10 16 45.8 +0.3**
ARBF Arbois 5.89 282 P **Pn 10 15 40.0 +1.3**
KBN Korca 5.96 106 **Pn 10 15 39.6 +0.1**
KBN Korca 5.96 106 P **Pn 10 15 37.6 -2.0**
KBN Korca 5.96 106 P **Pn 10 15 39.7 +0.1**
LSK Leskovik 6.01 111 P **Pn 10 15 43.5 +3.1**
baz=117
LSK S **Sn 10 16 57.6 +8.4**
baz=117
SVIS Svilajnac 6.04 71 *e*Pn **Pn 10 15 40.7 +0.1**
SVIS *e*Sn **Sn 10 16 49.1 -0.7**
SKO Skopje 6.09 93 *e*Pn **Pn 10 15 42.0 +0.7**
SKO *e*Sn **Sn 10 16 49.9 -1.2**
SKO Skopje 6.09 93 *i* Pn **Pn 10 15 41.8 +0.5**
SKO *i* Sn **Sn 10 16 52.1 +1.0**
SAUF chteau de Sau 6.12 286 P **Pn 10 15 43.3 +1.5**
IGT Igoumenitsa 6.13 117 P **Pn 10 15 42.5 +0.6**
IGT Igoumenitsa 6.13 117 P **Pn 10 15 44.3 +2.4**
baz=122
IGT S **Sb 10 17 03.4 -8.0**
baz=122
TORNY Torny/Romont 6.18 315 P **Pn 10 15 43.3 +0.7**
TORNY Torny/Romont 6.18 315 S **Sn 10 16 52.3 -0.9**
SULZ Cheisacher 6.18 326 *e*Pn **Pn 10 15 42.4 -0.2**
SNR=77
SULZ Cheisacher 6.18 326 P **Pn 10 15 42.5 -0.1**
SULZ Cheisacher 6.18 326 S **Sn 10 16 53.3 0.0**
SULZ Cheisacher 6.18 326 *e*Pn **Pn 10 15 42.4 -0.2**
SNR=77
BALST Balsthal 6.21 322 *e*Pn **Pn 10 15 42.6 -0.5**
SNR=84
BALST Balsthal 6.21 322 P **Pn 10 15 42.7 -0.4**
BALST Balsthal 6.21 322 *e*Pn **Pn 10 15 42.6 -0.5**
SNR=84
NEST Nestorio 6.22 107 P **Pn 10 15 45.2 +2.0**
SLE Schleitheim 6.22 329 *e*Pn **Pn 10 15 41.9 -1.2**
SNR=132
SLE Schleitheim 6.22 329 P **Pn 10 15 42.6 -0.5**
SLE Schleitheim 6.22 329 *e*Pn **Pn 10 15 41.9 -1.2**
SNR=132
OGSM Saint Maurice 6.26 302 P **Pn 10 15 44.6 +0.9**
ZST Bratislava 6.26 24 *e*P **Pn 10 15 43.1 -0.6**
ZST *e* 10 16 51.9
ZST Bratislava 6.26 24 *e*PN **Pn 10 15 43.1 -0.6**
ZST *e*SN **Sn 10 16 51.9 -3.4**
ZST *e*SG **Sg 10 17 30.0 -2.3**
BOVS Bovan 6.27 77 *e*Pn **Pn 10 15 42.9 -0.9**
BOVS *e*Sn **Sn 10 16 55.2 -0.4**
BARS Barje 6.31 85 *e*Pn **Pn 10 15 44.4 +0.1**
BARS *e*Sn **Sn 10 16 55.7 -0.7**
GEC2 GERESS Array S 6.31 3 **Pn 10 15 43.3 -1.2**
GEC2 GERESS Array S 6.31 3 *e*Pn **Pn 10 15 42.7 -1.7**
SNR=119
GEC2 *e*Sn **Sn 10 16 55.4 -1.2**
SNR=6.7
GEC2 GERESS Array S 6.31 3 *e*Pn **Pn 10 15 42.7 -1.7**
SNR=119
GEC2 *e*Sn **Sn 10 16 55.4 -1.2**
SNR=6.7
GERES GERESS Array B 6.31 3 Pn **Pn 10 15 44.0 -0.5**
comp=N,22nm,0.3s,baz=175,slow=12,SNR=144
GERES Sn **Sn 10 16 54.1 -2.5**
comp=N,236nm,0.3s,baz=186,slow=26,SNR=22
GERES Lg Lg 10 17 29.1
baz=185,slow=27
GERES LR LR 10 18 45.6
comp=N,21µm,20.5s,baz=185,slow=44
comp=N,72nm,0.4s
GERES GERESS Array B 6.31 3 **Pn 10 15 43.4 -1.1**
GERES GERESS Array B 6.31 3 P **Pn 10 15 44.0 -0.5**
CKRC Cesky Krumlov 6.32 6 *e*PN **Pn 10 15 42.8 -1.7**
CKRC *e*SN **Sn 10 16 53.6 -3.1**
FNA Florina 6.32 103 **Pn 10 15 44.3 -0.3**
FNA Florina 6.32 103 P **Pn 10 15 46.0 +1.4**
FNA Florina 6.32 103 P **Pn 10 15 42.4 -2.2**
baz=109
FNA S Sg 10 17 59.4 +25
baz=109
FNA Florina 6.32 103 P **Pn 10 15 44.3 -0.3**
FNA Florina 6.32 103 *e*Pn **Pn 10 15 44.7 +0.1**
FNA *e*Sn **Sn 10 16 56.1 -0.7**
PENT Pentalofos 6.37 109 P **Pn 10 15 47.5 +2.3**
KUBS Kucevo 6.39 70 *e*Pn **Pn 10 15 45.0 -0.5**
GIMEL St. Georges / 6.40 311 P **Pn 10 15 46.4 +0.7**
JAN Janina 6.41 114 P **Pn 10 15 46.2 +0.4**
BOURR Bourrignon 6.47 321 P **Pn 10 15 47.2 +0.6**
BOURR Bourrignon 6.47 321 S **Sn 10 16 59.3 -1.2**
MODS Modra-Piesok 6.48 24 *e*P **Pn 10 15 45.5 -1.1**
MODS *e* 10 17 00.4
MODS MLR MLR
comp=Z,105µm,16.9s
MODS Modra-Piesok 6.48 24 *e*PN **Pn 10 15 45.5 -1.1**
MODS *e*SN **Sn 10 17 00.4 -0.2**
MODS *e*SG **Sg 10 17 38.8 -0.3**
MODS *e*L L 10 18 33.5
FELD Feldberg im Sc 6.50 327 P **Pn 10 15 46.4 -0.7**
FELD Feldberg im Sc 6.50 327 S **Sn 10 16 58.3 -3.1**
PRVS Prvonek 6.51 87 *e*Pn **Pn 10 15 47.0 -0.1**
PRVS *e*Sn **Sn 10 16 58.0 -3.4**
MDVR Moldovita 6.52 67⇓P **Pn 10 15 47.4 +0.1**
BRANT Les Verrieres 6.54 315 P **Pn 10 15 47.7 +0.1**
OG35 Corcelles 6.54 305 P **Pn 10 15 47.3 -0.3**

CABF La Chapelle 6.54 311 *e*P Pn 10 15 49.5 +1.8
CABF *e*Sn Sn 10 16 58.6 -3.8
comp=Z,8µm,1.8s
KHC Kasperske Hory 6.59 2 Pn 10 15 47.1 -1.1
KHC Kasperske Hory 6.59 2 *e*PN Pn 10 15 46.4 -1.9
KHC *e*SN Sn 10 16 59.9 -3.6
KHC AMS AMS 10 18 30.0
comp=Z,34µm,14.8s
KHC Kasperske Hory 6.59 2 *e*P Pn 10 15 46.4 -1.9
KHC *e* 10 16 59.9
KHC MLR MLR
comp=Z,34µm,14.8s
KIZ Kirchzarten 6.60 327 P Pn 10 15 47.7 -0.6
KIZ Kirchzarten 6.60 327 S Sn 10 16 59.1 -4.5
KPRO Kipourio 6.62 110 P Pn 10 15 49.6 +0.9
VIVF Saint-Julien-l 6.65 293 *e*P Pn 10 15 50.6 +1.6
VIVF *e*Sn Sn 10 16 58.2 -6.6
comp=Z,485nm,0.9s
SMOL Smolenice 6.65 25 *e*P Pn 10 15 48.6 -0.4
CHMF Charmoille 6.65 317 P Pn 10 15 49.1 +0.1
CHMF S Sn 10 17 01.2 -3.7
ZAGS Zajecar 6.68 76 *e*Pn Pn 10 15 48.7 -0.7
ZAGS *e*Sn Sn 10 17 03.7 -1.8
RIVEL MONT RIVEL 6.72 311 P Pn 10 15 49.6 -0.5
BFO Black Forest 6.75 331 Pn 10 15 49.0 -1.4
BFO Black Forest 6.75 331 *e*Pn Pn 10 15 49.1 -1.3
SNR=110
BFO *e*Sn Sn 10 17 05.9 -1.4
SNR=2.2
BFO Black Forest 6.75 331 P Pn 10 15 49.0 -1.4
BFO Black Forest 6.75 331 P Pn 10 15 49.7 -0.7
BFO Black Forest 6.75 331 *e*Pn Pn 10 15 49.1 -1.3
SNR=110
BFO *e*Sn Sn 10 17 05.9 -1.4
SNR=2.2
BZS Buzias 6.75 60 ⇓P Pn 10 15 50.7 +0.3
BZS Buzias 6.75 60 *e*Pn Pn 10 15 49.6 -0.8
LKD2 Lefkada island 6.75 121 P Pn 10 15 50.5 0.0
KZN Kozani 6.77 106 P Pn 10 15 51.6 +0.9
VOGT Vogtsburg - To 6.80 326 P Pn 10 15 50.6 -0.5
STU Stuttgart 6.85 337 Pn 10 15 52.0 +0.3
STU Stuttgart 6.85 337 P Pn 10 15 52.1 +0.3
SSB Saint Sauveur 6.87 296 Pn 10 15 52.5 +0.4
SSB Saint Sauveur 6.87 296 P Pn 10 15 52.5 +0.4
SSB Saint Sauveur 6.87 296 P Pn 10 15 53.5 +1.4
KRUC Moravsky 6.88 17 *e*PN Pn 10 15 50.3 -1.8
KRUC *e*SN Sn 10 17 06.1 -4.3
ZAPS Zavoj 6.92 81 *e*Pn Pn 10 15 53.9 +1.2
ZAPS *e*Sn Sn 10 17 09.9 -1.5
KEF3 Kipouria, Keph 6.93 126 P Pn 10 15 54.2 +1.4
TREC Trest 6.93 12 *e*PN Pn 10 15 51.7 -1.2
TREC *e*SN Sn 10 17 08.4 -3.3
TREC AMS AMS 10 18 10.0
comp=Z,62µm,5.2s
TREC Trest 6.93 12 *e*P Pn 10 15 51.7 -1.2
TREC *e* 10 17 08.4
TREC MLR MLR
comp=Z,62µm,5.2s
KEF4 Livadi, Kephal 6.94 126 P Pn 10 15 54.2 +1.3
HINF Hinteralfeld 6.95 322 *e*P Pn 10 15 52.3 -0.9
HINF *e*Sn Sn 10 17 04.8 -7.5
comp=Z,2µm,0.6s
RONF Ronchamp 6.97 320 P Pn 10 15 53.0 -0.4
RONF S Sn 10 17 10.9 -1.9
GRG Griva 7.01 100 P Pn 10 15 52.9 -1.1
HERR Herculane 7.03 67 ⇓P Pn 10 15 54.6 +0.4
JAVC Velka Javorina 7.03 24 *e*PN Pn 10 15 53.4 -0.9
LASF Ste Croix 7.04 286 *e*P Pn 10 15 55.4 +1.1
LASF *e*Sn Sn 10 17 08.5 -5.9
comp=Z,1µm,1.5s
DJES Djerdap 7.04 69 ⇑P Pn 10 15 55.1 +0.7
DJES Djerdap 7.04 69 Pn 10 15 54.1 -0.3
DJES Djerdap 7.04 69 *e*Pn Pn 10 15 55.2 +0.7
DJES *e*Sn Sn 10 17 11.0 -3.5
VAY Valandovo 7.04 97 *e*Pn Pn 10 15 54.3 -0.1
VAY *e*Sn Sn 10 17 12.8 -1.7
VAY Valandovo 7.04 97 *i* Pn Pn 10 15 53.9 -0.6
VAY *i* Sn Sn 10 17 10.1 -4.4
SIRR Siria 7.07 55 ⇓P Pn 10 15 55.2 +0.4
VLS Valsamata 7.09 126 P Pn 10 15 56.1 +1.0
ECH Echery 7.12 325 Pn 10 15 54.6 -0.9
ECH Echery 7.12 325 P Pn 10 15 54.8 -0.7
ECH Echery 7.12 325 P Pn 10 15 54.5 -0.9
ECH S Sn 10 17 13.2 -3.2
VYHS Vyhne 7.12 31 *e*P Pn 10 15 54.7 -0.8
VYHS *e* 10 17 14.5
VYHS MLR MLR
comp=Z,46µm,16.7s
VYHS Vyhne 7.12 31 *e*PN Pn 10 15 54.7 -0.8
VYHS *e*SN Sn 10 17 14.5 -1.9
VYHS *e*SG Sg 10 18 00.5 +0.8
VYHS *e*L L 10 19 10.3
PSZ Piszkesteto 7.12 39 ⇓P Pn 10 15 56.4 +0.8
PSZ Piszkesteto 7.12 39 Pn 10 15 55.3 -0.3
PSZ Piszkesteto 7.12 39 P Pn 10 15 55.3 -0.3
SURR Surduc 7.13 60 ⇑P Pn 10 15 56.0 +0.4
VRAC Vranov 7.15 18 Pn Pn 10 15 54.9 -1.1
comp=Z,18nm,0.3s,baz=207,slow=14,SNR=32
VRAC Sn Sn 10 17 15.5 -1.7
comp=Z,20nm,0.3s,baz=274,slow=19,SNR=1.6
VRAC Lg Lg 10 17 56.8
comp=Z,11nm,0.3s,baz=164,slow=19,SNR=1.6
VRAC LR LR 10 18 56.1
comp=Z,25µm,19.2s,baz=206,slow=40
comp=Z,65nm,0.4s
VRAC Vranov 7.15 18 *e*PN Pn 10 15 54.4 -1.5
VRAC *e*SN Sn 10 17 13.7 -3.5
WLS Welschbruch 7.19 327 P Pn 10 15 55.3 -1.2
WLS S Sn 10 17 15.5 -2.8
CDF Champ du Feu 7.22 326 *e*P Pn 10 15 56.3 -0.7
CDF *e*Sn Sn 10 17 12.0 -7.0
comp=Z,3µm,0.9s
THL Klokotos Trika 7.25 111 P Pn 10 15 58.8 +1.6
PUNG Punghina 7.25 73 ⇑P Pn 10 15 57.7 +0.5
ROTZ Rotzenmuhle 7.26 355 *e*Pn Pn 10 15 55.7 -1.8
SNR=34
ROTZ *e*Sn Sn 10 17 15.6 -4.3
SNR=4.0
ROTZ Rotzenmuhle 7.26 355 *e*Pn Pn 10 15 55.7 -1.8
SNR=34
ROTZ *e*Sn Sn 10 17 15.6 -4.3
SNR=4.0
MAHO Mahon 7.28 252 Pn 10 15 57.9 +0.2
MAHO Mahon 7.28 252 P Pn 10 15 58.2 +0.5
MAHO S Sn 10 17 15.1 -5.3
GRFO Grafenberg 7.29 349 Pn 10 15 57.8 0.0
GRFO Grafenberg 7.29 349 P Pn 10 15 57.8 0.0
GRA1 Grafenberg Arr 7.29 349 Pn 10 15 56.7 -1.1
GRF Grafenberg Arr 7.29 349 *e*Pn Pn 10 15 55.8 -2.0
SNR=30
GRF Grafenberg Arr 7.29 349 P Pn 10 15 56.7 -1.1
GRF Grafenberg Arr 7.29 349 *e*Pn Pn 10 15 55.8 -2.0
SNR=30
KNT Kendrikon 7.32 98 P Pn 10 15 58.1 -0.1
HAU Haudompre 7.33 321 *e*P Pn 10 15 58.0 -0.3
HAU *e*Sn Sn 10 17 14.6 -6.9
comp=Z,3µm,0.8s
LIT Litokhoron 7.36 106 Pn 10 15 58.3 -0.4
LIT Litokhoron 7.36 106 P Pn 10 16 00.5 +1.7
LIT Litokhoron 7.36 106 P Pn 10 15 58.3 -0.4
VTS Vitosha 7.36 86 *e*Pn Pn 10 15 59.3 +0.1
VTS *e*Sn Sn 10 17 20.7 -1.8
SZBH soultz borehol 7.42 331 P Pn 10 16 00.2 +0.5
EVR Evrytania 7.43 116 P Pn 10 16 02.2 +2.4
GZR Gura Zlata 7.43 64 ⇓P Pn 10 15 60.0 +0.2
GOPC GO Pecny, Ondr 7.45 8 *e*PN Pn 10 15 58.2 -1.8
GOPC *e*SN Sn 10 17 21.3 -3.2
GOPC AMS AMS 10 19 00.0
comp=Z,33µm,9.5s
GOPC GO Pecny, Ondr 7.45 8 *e*P Pn 10 15 58.2 -1.8
GOPC *e* 10 17 21.3
GOPC MLR MLR
comp=Z,33µm,9.5s
KEST Kesra 7.45 205 Pn Pn 10 16 03.5 +3.4
comp=Z,20nm,0.3s,baz=351,slow=2.1,SNR=66
KEST Sn Sn 10 17 27.6 +2.9
comp=Z,9.0nm,0.3s,baz=347,slow=17,SNR=1.2
KEST LR LR 10 19 11.3
comp=Z,26µm,18.6s,baz=350,slow=40
MANZ Manzenberg 7.49 354 *e*Pn Pn 10 15 59.2 -1.4
SNR=59
MANZ Manzenberg 7.49 354 *e*Pn Pn 10 15 59.2 -1.4
SNR=59
PRU Pruhonice 7.50 6 *e*PN Pn 10 15 58.9 -1.8
PRU *e*SN Sn 10 17 22.1 -3.6
PRU AMS AMS 10 19 20.0
comp=Z,28µm,11.2s
PRU Pruhonice 7.50 6 *e*P Pn 10 15 58.9 -1.8
PRU *e* 10 17 22.1
PRU MLR MLR
comp=Z,28µm,11.2s
PLYF Puligny Montra 7.50 309 P Pn 10 16 00.4 -0.3
CLAF Gruissan 7.51 278 P Pn 10 16 00.4 -0.4
THE Thessaloniki 7.51 101 P Pn 10 15 59.8 -1.1
SRE Strehaia 7.52 70 ⇑P Pn 10 16 01.3 +0.4
CIEL Dossenheim-sur 7.53 329 P Pn 10 16 00.0 -1.0
MAUC Maruska 7.53 23 *e*PN Pn 10 16 00.5 -0.6
MAUC AMS AMS 10 20 40.0
comp=Z,101µm,7.1s
HORT Hortiatis 7.62 101 P Pn 10 16 01.5 -1.0
SJAF Saint Jean de 7.67 273 P Pn 10 16 01.8 -1.4
DEV Deva 7.69 61 ⇑P Pn 10 16 03.9 +0.7
RLS Riolos of Patr 7.70 123 P Pn 10 16 04.7 +1.3
NKC Novy Kostel 7.71 356 *e*PN Pn 10 16 01.9 -1.7
NKC *e*SN Sn 10 17 26.2 -4.8
NKC AMS AMS 10 19 00.0
comp=Z,22µm,15.7s
NKC Novy Kostel 7.71 356 *e*P Pn 10 16 01.9 -1.7
NKC *e* 10 17 26.2
NKC MLR MLR
comp=Z,22µm,15.7s
AGG Agios Georgios 7.72 114 P Pn 10 16 05.0 +1.2
SOH Sokhos 7.74 99 P Pn 10 16 03.1 -1.0
WERN Wernitzgruen 7.77 356 *e*P Pn 10 16 03.5 -0.9
WERN Wernitzgruen 7.77 356 *e*P Pn 10 16 03.5 -0.9
MORC Moravsky Berou 7.82 21 ⇓P Pn 10 16 05.2 +0.2
MORC Moravsky Berou 7.82 21 Pn 10 16 04.5 -0.6
MORC Moravsky Berou 7.82 21 *e*PN Pn 10 16 03.4 -1.7
MORC Moravsky Berou 7.82 21 P Pn 10 16 04.5 -0.6
SRS Serrai 7.84 97 P Pn 10 16 05.8 +0.4
SRS Serrai 7.84 97 *e*Pn Pn 10 16 04.8 -0.6
SRS *e*Sn Sn 10 17 30.5 -3.7
GUNZ Gunzen 7.85 356 *e*Pn Pn 10 16 05.4 -0.1
SNR=96
GUNZ Gunzen 7.85 356 *e*Pn Pn 10 16 05.4 -0.1
SNR=96
SMF Signal de Mont 7.88 305 *e*P Pn 10 16 04.9 -1.0
SMF *e*Sn Sn 10 17 30.5 -4.6
comp=Z,899nm,0.9s
TANN Tannenbergstha 7.89 356 *e*Pn Pn 10 16 04.8 -1.4
SNR=56
TANN Tannenbergstha 7.89 356 *e*Pn Pn 10 16 04.8 -1.4
SNR=56
LANS Liptovska Anna 7.90 31 *e*P Pn 10 16 06.3 +0.1
LANS Liptovska Anna 7.90 31 *e*PN Pn 10 16 06.3 +0.1
KRLC Kraliky 7.92 17 *e*PN Pn 10 16 05.1 -1.3
KRLC AMS AMS 10 18 40.0
comp=Z,22µm,9.9s
KRLC Kraliky 7.92 17 *e*P Pn 10 16 05.1 -1.3
KRLC MLR MLR
comp=Z,22µm,9.9s
WERD Werda 7.94 356 *e*Pn Pn 10 16 05.3 -1.4
SNR=66
WERD Werda 7.94 356 *e*Pn Pn 10 16 05.3 -1.4
SNR=66
DRGR 7.96 55 ⇓P Pn 10 16 07.8 +0.8
DRGR 7.96 55 *e*Pn Pn 10 16 07.5 +0.5
NVR Nevrokopi 7.99 95 P Pn 10 16 07.8 +0.4
PAGF Fort de Pagny 8.01 321 *e*P Pn 10 16 08.9 +1.2
baz=143
PAGF *e*Sn Sn 10 17 28.3 -10
comp=Z,6µm,1.6s
PVCC Panska Ves 8.04 6 *e*PN Pn 10 16 06.9 -1.2
PVCC *e*SN Sn 10 17 35.2 -3.8
PVCC AMS AMS 10 19 50.0
comp=Z,23µm,9.9s
PVCC Panska Ves 8.04 6 *e*P Pn 10 16 06.9 -1.2
PVCC *e* 10 17 35.2
PVCC MLR MLR
comp=Z,23µm,9.9s
OKC Ostrava-Krasne 8.04 23 *e*PN Pn 10 16 06.5 -1.6
OKC *e*SN Sn 10 17 35.0 -4.0
OKC AMS AMS 10 19 30.0
comp=Z,27µm,14.2s
OKC Ostrava-Krasne 8.04 23 *e*P Pn 10 16 06.5 -1.6
OKC *e* 10 17 35.0
OKC MLR MLR
comp=Z,27µm,14.2s
PYM Petit Puy Mans 8.05 297 P Pn 10 16 09.9 +1.7
DPC Dobruska-Polom 8.09 14 *e*PN Pn 10 16 06.9 -1.9
DPC *e*SN Sn 10 17 36.7 -3.6
DPC AMS AMS 10 19 20.0
comp=Z,31µm,15.4s
DPC Dobruska-Polom 8.09 14 *e*P Pn 10 16 06.9 -1.9
DPC *e* 10 17 36.7
DPC MLR MLR
comp=Z,31µm,15.4s
SFTF Sexfontaines 8.10 317 *e*P Pn 10 16 07.8 -1.1
baz=138
SFTF *e*Sn Sn 10 17 34.4 -6.1
comp=Z,1µm,1.0s
KLV Kalavryta, Ach 8.14 121 P Pn 10 16 10.2 +0.7
MTLF Montolieu 8.15 279 *e*P Pn 10 16 10.4 +0.8
MTLF *e*Sn Sn 10 17 31.7 -10
comp=Z,344nm,1.2s
MARR Marisel-Cluj 8.15 56 ⇑P Pn 10 16 10.7 +1.0
XOR Xorichti 8.15 110 P Pn 10 16 09.1 -0.6
LOR Lormes 8.18 309 *e*P Pn 10 16 08.9 -1.1
baz=129
LOR *e*Sn Sn 10 17 34.5 -8.0
comp=Z,386nm,0.7s
LOR Lormes 8.18 309 P Pn 10 16 09.2 -0.8
MOX Moxa 8.19 353 *e*Pn Pn 10 16 08.3 -1.7
SNR=69
MOX Moxa 8.19 353 *e*Pn Pn 10 16 08.3 -1.7
SNR=69
UPC Upice 8.19 12 *e*PN Pn 10 16 08.8 -1.3
UPC AMS AMS 10 19 00.0
comp=Z,40µm,6.0s
UPC Upice 8.19 12 *e*P Pn 10 16 08.8 -1.3
UPC MLR MLR
comp=Z,40µm,6.0s
AVF Avril sur Loir 8.24 304 *e*P Pn 10 16 09.4 -1.5
AVF *e*Sn Sn 10 17 30.3 -14
comp=Z,1µm,1.6s
VLAD Vladila 8.26 76 ⇑P Pn 10 16 12.4 +1.3
OSTC Ostas 8.27 13 *e*PN Pn 10 16 09.8 -1.4
OSTC *e*SN Sn 10 17 39.6 -5.1
OSTC AMS AMS 10 18 30.0
comp=Z,32µm,5.7s
MESR Meseseni 8.28 53 ⇑P Pn 10 16 12.9 +1.6
RAC Raciborz 8.28 23 *e*PN Pn 10 16 13.8 +2.5
RAC Raciborz 8.28 23 *e*SG Sg 10 18 33.9 -2.8
RAC LMZ LR 10 19 51.2
comp=Z,31nm,18.0s
RAC Raciborz 8.28 23 *e*P Pn 10 16 13.8 +2.5
RAC MLR MLR
comp=Z,31µm,18.0s
SSF Saint Saulge 8.28 306 *e*P Pn 10 16 09.3 -2.1
SSF *e*Sn Sn 10 17 35.8 -9.1
comp=Z,776nm,1.1s
MEZF Maizieres J'vi 8.29 319 *e*P Pn 10 16 12.3 +0.8
baz=138
MEZF *e*Sn Sn 10 17 37.2 -8.0
comp=Z,1µm,0.9s
SAVF Savonnieres en 8.34 320 *e*P Pn 10 16 13.5 +1.4
baz=142
SAVF *e*Sn Sn 10 17 38.3 -7.9
comp=Z,1µm,1.1s
ABH Alteburg 8.34 334 P Pn 10 16 12.7 +0.4
BRG Berggiesshubel 8.35 3 *e*P Pn 10 16 10.0 -2.3
BRG Amp 10 16 14.2
comp=Z,30nm,0.7s
BRG r 10 16 22.6
BRG r 10 16 36.1
BRG r 10 17 36.8
BRG r 10 18 34.9
BRG Amp 10 19 06.3
comp=Z,4µm,1.7s
BRG Amp 10 19 49.0
comp=E,20nm,15.5s
BRG Amp 10 19 55.0
comp=Z,27nm,14.7s
BRG Amp 10 20 00.0
comp=N,18nm,13.5s
BRG Berggiesshubel 8.35 3 *e*Pn Pn 10 16 10.0 -2.3
SNR=12
BRG pmax pmax
comp=Z,31nm,0.7s
BRG MLR MLR
comp=E,20µm,15.5s
BRG MLR MLR
comp=Z,27µm,14.7s
BRG MLR MLR
comp=N,18µm,13.5s
BRG Berggiesshubel 8.35 3 *e*Pn Pn 10 16 10.0 -2.3
SNR=12
ETOS Mallorca 8.36 254 P Pn 10 16 13.7 +1.2
PLVB Pleven 8.37 80 ⇑P Pn 10 16 13.4 +0.8
TNS Taunus Mts 8.37 338 *e*Pn Pn 10 16 11.0 -1.7
SNR=32
TNS Sn Sn 10 17 45.3 -1.9
comp=N,417nm,0.8s
TNS Taunus Mts 8.37 338 *e*Pn Pn 10 16 11.0 -1.7
SNR=32
FBE Freiberg 8.38 0 *e*Pn Pn 10 16 11.2 -1.5
SNR=14
FBE Freiberg 8.38 0 *e*Pn Pn 10 16 11.2 -1.5
SNR=14
NIE Niedzica 8.44 33 *e*P Pn 10 16 15.3 +1.7
NIE *e*S Sn 10 17 58.3 +9.5
BGF Bois d'Agland 8.46 302 *e*P Pn 10 16 16.0 +2.2
BGF *e*Sn Sn 10 17 41.5 -7.7
comp=N,629nm,0.9s
CAF Calviac 8.46 290 *e*P Pn 10 16 15.6 +1.8
CAF *e*Sn Sn 10 17 41.5 -7.8
comp=N,730nm,1.6s
CJR Cluj-Napoca 8.46 57 ⇑P Pn 10 16 14.9 +0.9
ITM Ithomi 8.54 126 Pn 10 16 15.6 +0.6
ITM Ithomi 8.54 126 P Pn 10 16 18.3 +3.3
KAVA Kavala 8.55 97 P Pn 10 16 13.6 -1.4
KSP Ksiaz 8.56 13 *e*P Pn 10 16 14.9 -0.3
KSP *e*S Sn 10 17 56.4 +4.6
UBBA Unterbreizbach 8.58 346 *e*Pn Pn 10 16 14.6 -0.8
SNR=18
UBBA Unterbreizbach 8.58 346 *e*Pn Pn 10 16 14.6 -0.8
SNR=18
TRPA Tarpa 8.59 46 ⇑P Pn 10 16 15.6 0.0
WLF Walferdange 8.67 328 Pn 10 16 16.4 -0.3
WLF Walferdange 8.67 328 *e*Pn Pn 10 16 17.2 +0.5
SNR=16
WLF Sn Sn 10 17 53.6 -0.8
comp=N,388nm,0.8s
WLF Walferdange 8.67 328 P Pn 10 16 16.4 -0.3
WLF Walferdange 8.67 328 *d*P Pn 10 16 16.7 +0.1
WLF *d*S Sn 10 17 53.6 -0.8
WLF Walferdange 8.67 328 P Pn 10 16 17.1 +0.5
WLF Walferdange 8.67 328 *e*Pn Pn 10 16 17.2 +0.5
SNR=16
ARR Arges 8.67 67 ⇓P Pn 10 16 18.4 +1.6
BGG Burgeitz 8.69 334 *e*Pn Pn 10 16 17.3 +0.3
NEUB Neuenburg 8.73 354 *e*Pn Pn 10 16 16.6 -0.9
SNR=12
NEUB Neuenburg 8.73 354 *e*Pn Pn 10 16 16.6 -0.9
SNR=12
HUMR Humele 8.74 73 ⇓P Pn 10 16 18.6 +0.9
TCF Toulx Ste Croi 8.76 299 *e*P Pn 10 16 17.3 -0.6
TCF *e*Sn Sn 10 17 49.7 -6.9
comp=N,317nm,0.9s
KOE Koeppel 8.76 336 *e*Pn Pn 10 16 18.6 +0.6
CLL Collm 8.77 359 Pn 10 16 16.4 -1.6
CLL Collm 8.77 359 *e*Pn Pn 10 16 17.0 -1.1
CLL *ex* x 10 16 35.0
CLL *e*Pg Pg 10 16 58.0 -1.1
CLL *e*Sn Sn 10 17 41.0 -16
CLL *i* Sb Sn 10 18 10.8 +14
CLL *ex* x 10 18 35.0
CLL *e*Sg Sg 10 18 52.0 -0.6
comp=Z,6µm,2.0s
CLL LmV 10 20 00.0
comp=Z,16µm,21.7s
CLL Lmax 10 20 00.0
CLL Collm 8.77 359 *e*Pn Pn 10 16 16.5 -1.6
SNR=38
CLL Collm 8.77 359 *e*P Pn 10 16 17.0 -1.1
CLL MLR MLR
comp=Z,16µm,21.7s
CLL Collm 8.77 359 *e*Pn Pn 10 16 16.5 -1.6
SNR=38
UZH Uzhgorod 8.78 43 ⇑*e*P Pn 10 16 21.1 +2.9
UZH *i* S Sn 10 18 01.2 +4.1
UZH MLR MLR
comp=N,9µm,9.0s
UZH MLR MLR
comp=E,10µm,9.0s
UZH MLR MLR
comp=Z,4µm,9.0s
STFAR Stefanesti-Arg 8.78 71 ⇑P Pn 10 16 20.2 +1.9
BMR Baia Mare 8.86 51 ⇑P Pn 10 16 20.3 +0.9
HYF Humbligny 8.90 306 *e*P Pn 10 16 21.9 +2.0
HYF *e*Sn Sn 10 17 54.2 -5.9
OJC Ojcow 8.90 28 *e*P Pn 10 16 20.2 +0.3
OJC Ojcow 8.90 28 Pn 10 16 20.0 +0.1
OJC Ojcow 8.90 28 P Pn 10 16 20.0 +0.1
RJF Les Rejaudoux 8.92 292 *e*P Pn 10 16 20.9 +0.7
RJF *e*Sn Sn 10 17 53.4 -7.3
comp=Z,2µm,2.2s
MTUR Matau 8.93 69 ⇓P Pn 10 16 21.7 +1.3
TGMR Targu Mures 8.97 60 ⇑P Pn 10 16 22.5 +1.7
HILG Hillesheim 8.99 332 *e*Pn Pn 10 16 20.8 -0.2
HILG *e*Sn Sn 10 17 57.8 -4.4
comp=Z,191nm,1.7s
AHRW Bad Neuenahr-A 9.06 334 Pn Pn 10 16 24.4 +2.3
AHRW Sn Sn 10 18 06.0 +1.9
comp=Z,437nm,1.0s
ARCR ARCALIA 9.09 56 ⇓P Pn 10 16 23.9 +1.4
KYMI Kymi, Euboea I 9.12 112 P Pn 10 16 22.3 -0.6
KRND KRANIDI 9.17 121 P Pn 10 16 24.5 +0.9
STB Steinbach 9.19 333 *e*Pn Pn 10 16 23.7 -0.1
PTL Penteli 9.25 115 P Pn 10 16 24.9 +0.1
RDO Rodhopi 9.26 95 Pn 10 16 24.6 -0.2
RDO Rodhopi 9.26 95 P Pn 10 16 24.2 -0.7
KASTN Kahler Asten 9.28 341 *e*Pn Pn 10 16 24.2 -0.8
SNR=26
KASTN Kahler Asten 9.28 341 *e*Pn Pn 10 16 24.2 -0.8
SNR=26
BHOU Houvegnez 9.28 330 *d*P Pn 10 16 25.6 +0.5
BHOU *d*PP PbPb 10 16 55.7 +0.8
BHOU *d*S Sn 10 18 09.1 -0.3
DION Dionisos Attik 9.28 115 P Pn 10 16 25.1 -0.1
GTTG Gottingen 9.28 347 *e*Pn Pn 10 16 24.3 -0.8
SNR=9.5
GTTG Gottingen 9.28 347 *e*Pn Pn 10 16 24.3 -0.8
SNR=9.5
VLY Voula,Athens 9.31 117 P Pn 10 16 24.6 -1.0
DOPR Dopca 9.35 64 ⇓P Pn 10 16 27.3 +1.3
HOBG Hohbusch 9.37 336 *e*Pn Pn 10 16 26.0 -0.3
LFF La Frestale 9.38 289 *e*P Pn 10 16 28.6 +2.1
LFF *e*Sn Sn 10 18 03.5 -8.4
comp=Z,1µm,1.9s
KLL Kalltalsperre 9.41 332 *e*Pn Pn 10 16 27.3 +0.4
RCHB Rochefort 9.42 327 *d*P Pn 10 16 28.0 +1.0
RCHB *d*S Sn 10 18 11.3 -1.6
BTNL Ternell 9.43 331 *d*P Pn 10 16 26.9 -0.2
DREG Dreilaegerbach 9.45 332 *e*Pn Pn 10 16 27.9 +0.5
VLI Veliai 9.45 125 P Pn 10 16 28.4 +0.9
MEM Membach 9.49 331 *d*P Pn 10 16 28.4 +0.4
MEM *d*S Sn 10 18 13.0 -1.5
MEM *d*sS 10 18 16.8
CLF Chambon-Foret 9.50 309 Pn 10 16 27.0 -1.0
CLZ Clausthal 9.51 349 *e*Pn Pn 10 16 27.3 -0.9
SNR=18
CLZ Sn Sn 10 18 15.4 +0.3
comp=Z,206nm,0.7s
CLZ Clausthal 9.51 349 *e*Pn Pn 10 16 27.3 -0.9
SNR=18
EPF Esparros 9.52 277 *e*P Pn 10 16 28.3 -0.1
EPF *e*Sn Sn 10 18 13.6 -1.9
comp=Z,281nm,1.4s
GIVF Givet 9.55 325 *e*P Pn 10 16 31.1 +2.3
GIVF *e*Sn Sn 10 18 07.5 -8.6
comp=Z,4µm,1.7s
SECR 9.59 71 ⇑P Pn 10 16 30.9 +1.6
MLR Muntele Rosu 9.60 68 Pn Pn 10 16 30.9 +1.3
comp=Z,3.2nm,0.3s,baz=249,slow=6.2,SNR=74
MLR LR LR 10 21 44.0
comp=Z,47µm,18.1s,baz=236,slow=47
comp=Z,149nm,0.9s
MLR Muntele Rosu 9.60 68 ⇑P Pn 10 16 31.1 +1.5

MLR Muntele Rosu 9.60 68 Pn 10 16 30.7 +1.1
BCLA Clavier 9.60 328 *dP* **Pn 10 16 30.1 +0.6**
BCLA *dS* **Sn 10 18 15.1 -2.2**
BSTI Sart Tilman 9.63 329 *dP* **Pn 10 16 30.6 +0.7**
DOU Dourbes 9.64 325 *dP* **Pn 10 16 30.1 0.0**
DOU *dS* **Sn 10 18 18.0 -0.3**
OZUR 9.65 64 ⇑P **Pn 10 16 31.6 +1.4**
SULR 9.66 73 ⇑P **Pn 10 16 31.1 +0.8**
ALN Alexandroupoli 9.70 95 Pn 10 16 31.6 +0.8
ALN Alexandroupoli 9.70 95 P **Pn 10 16 31.2 +0.4**
ALN Alexandroupoli 9.70 95 P **Pn 10 16 31.6 +0.8**
EIBI Ibiza 9.70 253 P **Pn 10 16 33.0 +2.1**
BMRD Maredsous 9.73 326 *dP* **Pn 10 16 31.6 +0.5**
BMRD *dS* **Sn 10 18 18.4 -2.0**
BMRD *dsS* 10 18 22.8
RAZG Razgrad 9.75 79 ⇓P **Pn 10 16 31.6 0.0**
BEBN Eben Emael 9.76 330 *dP* **Pn 10 16 34.1 +2.5**
BEBN *dS* **Sn 10 18 20.0 -1.3**
BEBN *dsS* 10 18 23.2
BAIF Baives 9.78 323 *eP* **Pn 10 16 34.8 +2.8**
BAIF *eSn* **Sn 10 18 14.9 -6.9**
comp=Z,5µm,2.2s
BKLB Ruhr-Universit 9.80 337 Pn **Pn 10 16 33.7 +1.6**
BUG Bochum--Univer 9.80 337 Pn **Pn 10 16 34.1 +2.0**
BUG Sn **Sn 10 18 22.0 -0.1**
comp=Z,215nm,1.1s
BTEZ Ruhr-Universit 9.80 337 Pn **Pn 10 16 33.9 +1.7**
BULI Ruhr-Universit 9.81 337 Pn **Pn 10 16 34.0 +1.7**
BULI Sn **Sn 10 18 23.1 +0.7**
comp=Z,178nm,0.6s
LAUG Laupendahl 9.81 336 *eP* **Pn 10 16 32.6 +0.3**
NEHR Nehoiu 9.82 68 ⇓P **Pn 10 16 34.0 +1.4**
BURAR Bucovina Array 9.85 55 ⇑P **Pn 10 16 34.3 +1.2**
BURAR Bucovina Array 9.85 55 Pn 10 16 33.9 +0.9
BUR08 Bucovina Ar. S 9.86 55 Pn 10 16 34.2 +1.1
LEHL Lehliu 10.03 74 ⇑P **Pn 10 16 37.1 +1.7**
SNF Seneffe 10.08 325 *dP* **Pn 10 16 35.9 -0.2**
SNF *dPP* **PbPb 10 17 08.6 0.0**
SNF *dS* **Sn 10 18 27.8 -1.4**
PLOR Plostina 10.16 66 ⇑P **Pn 10 16 38.1 +0.9**
NRDL Niedersach Rie 10.18 349 Pn **Pn 10 16 37.9 +0.6**
NRDL Sn **Sn 10 18 33.5 +2.0**
comp=Z,149nm,0.9s
ETSF Etsaut 10.19 277 *eP* **Pn 10 16 41.0 +3.4**
ETSF *eSn* **Sn 10 18 23.3 -8.5**
comp=Z,226nm,1.2s
VRI Vrincioaia 10.22 66 ⇑P **Pn 10 16 38.9 +0.9**
TESR Tescani 10.34 63 ⇑P **Pn 10 16 41.0 +1.3**
LVV L'vov 10.42 42 *eP* **Pn 10 16 41.7 +1.1**
LVV *eS* **Sn 10 18 39.0 +1.7**
LVV MLR MLR
comp=Z,20µm,9.0s
ODBI Odobesti 10.42 67 ⇓P **Pn 10 16 41.6 +1.0**
IBBS Ibbenbueren So 10.44 341 Pn **Pn 10 16 41.8 +0.9**
IBBS Sn **Sn 10 18 38.6 +0.8**
comp=Z,143nm,0.7s
IBBE Ibbenbueren Ea 10.44 341 Pn **Pn 10 16 42.3 +1.4**
IBBE Sn **Sn 10 18 39.8 +2.0**
comp=Z,212nm,0.7s
IBBN Ibbenburen 10.46 341 Pn **Pn 10 16 42.9 +1.8**
IBBN Sn **Sn 10 18 39.4 +1.2**
comp=Z,163nm,0.9s
RETH Rethem/Aller, 10.54 347 *ePn* **Pn 10 16 42.4 +0.2**
SNR=22
RETH Rethem/Aller, 10.54 347 *ePn* **Pn 10 16 42.4 +0.2**
SNR=22
BEL Belsk 10.61 26 *eP* Pn 10 16 50.3 +7.1
SJPF Ste Jean 10.66 278 *eP* **Pn 10 16 46.5 +2.4**
SJPF *eSn* Sn 10 18 34.1 -9.4
comp=Z,594nm,1.9s
ICOR Ion Corvin 10.71 77 ⇓P **Pn 10 16 45.6 +1.0**
GHRR 10.73 66 ⇑P **Pn 10 16 46.5 +1.6**
TLBR Topalu 10.91 74 ⇑P **Pn 10 16 47.7 +0.3**
IMMV Iera Moni Meta 10.92 127 P **Pn 10 16 48.4 +0.8**
CFR Carcaliu 11.05 71 ⇑P **Pn 10 16 49.4 0.0**
VASR Vaslui 11.14 63 ⇓P **Pn 10 16 52.0 +1.6**
ECHE Chera 11.15 259 P **Pn 10 16 52.1 +1.4**
LDF La Druitiere 11.16 307 *eSn* Sn 10 18 42.5 -13
comp=Z,315nm,1.0s
TIRR Tirgusor 11.17 75 ⇑P **Pn 10 16 50.9 0.0**
TIRR Tirgusor 11.17 75 ⇑P **Pn 10 16 50.9 0.0**
TIRR Tirgusor 11.17 75 Pn 10 16 50.6 -0.3
TIRR Tirgusor 11.17 75 P **Pn 10 16 50.6 -0.3**
TPGR Topolog 11.21 73 ⇑P **Pn 10 16 52.8 +1.3**
FLN La Foliniere 11.45 308 *eP* **Pn 10 16 54.5 -0.3**
baz=129
FLN *eSn* **Sn 10 18 57.5 -5.2**
comp=Z,354nm,1.0s
GRR Gorron 11.51 305 *eP* **Pn 10 16 54.1 -1.4**
GRR *eSn* Sn 10 18 53.4 -11
comp=Z,1µm,1.8s
TLCR 11.53 71 ⇑P **Pn 10 16 56.1 +0.2**
IDI Anoyia 11.59 125 Pn Pn 10 16 57.1 +0.4
comp=Z,9.9nm,0.3s,baz=322,slow=16,SNR=25
IDI Sn **Sn 10 19 01.2 -5.0**
comp=Z,5.9nm,0.3s,baz=279,slow=17,SNR=2.9
IDI LR LR 10 22 59.9
comp=Z,6µm,19.1s,baz=310,slow=45
comp=Z,18nm,0.4s
IDI Anoyia 11.59 125 Pn 10 16 56.6 -0.2
MILM Milestii Mici 11.89 63 *eP* **Pn 10 17 02.0 +1.2**
comp=Z,8µm,2.8s
MILM Milestii Mici 11.89 63 ⇑P **Pn 10 17 01.9 +1.2**
MILM Milestii Mici 11.89 63 *eP* **Pn 10 17 02.0 +1.2**
MILM *eS* **Sn 10 19 14.0 +0.7**
MILM pmax pmax
comp=Z,8µm,2.8s
MILM pmax pmax
comp=N,10µm,2.9s
MILM pmax pmax
comp=E,20µm,2.6s
MILM MLR MLR
comp=Z,41µm,11.5s
MILM MLR MLR
comp=E,22µm,10.6s
KIS Kishinev 11.91 63 *eP* **Pn 10 17 03.0 +1.9**
comp=E,3µm,3.1s
KIS Kishinev 11.91 63 *eP* **Pn 10 17 03.0 +1.9**
KIS *eS* **Sn 10 19 14.0 0.0**
KIS pmax pmax
comp=Z,3µm,3.1s
KIS MLR MLR
comp=E,15µm,11.0s
KIS MLR MLR
comp=Z,19µm,11.0s
ETOB Tobarra 11.92 256 P **Pn 10 17 01.9 +0.6**
ELSH Elham, Standar 11.95 320 *eP* **Pn 10 17 04.4 +2.8**
SORM Soroca 11.99 57 ⇓P **Pn 10 17 02.7 +0.6**
CART Cartagena 12.00 250 P **Pn 10 17 03.4 +1.2**
EMUR La Murta 12.04 252 P **Pn 10 17 05.3 +2.3**
MANT Manisa 12.32 104 Pn 10 17 07.5 +0.6
SGMF Saint Gilles 12.50 303 *eP* **Pn 10 17 10.2 +1.1**
SGMF *eSn* Sn 10 19 14.3 -14
comp=Z,1µm,2.0s
PURM Purcari 12.50 66 ⇑P **Pn 10 17 08.8 -0.3**
UCM Universidad Co 12.60 265 P **Pn 10 17 10.2 -0.4**
BSD Bornholm Skovb 12.63 4 IAmb IAmb 10 17 20.2
comp=Z,81nm,1.1s
ELMS Elmsett, Ipswi 12.66 323 *eP* **Pn 10 17 12.0 +0.8**
QUIF Quistinic 12.76 301 *eP* **Pn 10 17 12.8 +0.1**
QUIF *eSn* **Sn 10 19 28.5 -6.2**
comp=Z,1µm,1.9s
LLD Lille Linde 12.82 357 IAmb IAmb 10 17 18.8
comp=Z,131nm,1.0s
LLD IVmB_BB 10 17 24.6
comp=Z,3µm,2.9s
KLNR Kaliningrad 12.91 18 *i*P **Pn 10 17 14.0 -0.6**
ROSF Rostrenen 12.97 302 *eP* **Pn 10 17 13.9 -1.7**
ROSF *eSn* Sn 10 19 28.9 -11
comp=Z,863nm,1.8s
ENIJ Nijar 13.14 250 P **Pn 10 17 19.4 +1.5**
COP Copenhagen 13.17 358 *eP* **Pn 10 17 19.8 +1.7**
COP IAmb IAmb 10 17 20.9
comp=Z,185nm,1.0s
COP IVmB_BB 10 17 25.7
comp=Z,4µm,2.6s
WOL Wolverton 13.21 317 *eP* **Pn 10 17 16.9 -1.9**
BORA Eskisehir 13.21 96 Pn 10 17 19.6 +0.7
ESBB Sonseca Array 13.31 263 Pn 10 17 20.2 0.0
ESDC Sonseca Array 13.31 263 Pn **Pn 10 17 18.3 -2.0**
comp=Z,0.7nm,0.3s,baz=67,slow=14,SNR=44
ESDC LR LR 10 22 34.2
comp=Z,14µm,18.4s,baz=70,slow=38
comp=Z,14nm,0.8s

ESDC Sonseca Array 13.31 263 Pn 10 17 19.1 -1.2
MDUB Mudurnu 13.60 93 Pn 10 17 25.4 +1.2
SWN1 Swindon 13.62 316 *eP* **Pn 10 17 20.9 -3.5**
PAB San Pablo 13.63 263 Pn 10 17 23.7 -1.0
PAB San Pablo 13.63 263 P **Pn 10 17 23.7 -1.0**
AKASG Malin Array Be 13.65 48 Pn **Pn 10 17 23.5 -1.3**
comp=Z,0.8nm,0.3s,baz=242,slow=12,SNR=43
AKASG LR LR 10 23 22.5
comp=Z,20µm,18.2s,baz=240,slow=40
comp=Z,6.9nm,0.7s
AKASG Malin Array Be 13.65 48 Pn 10 17 23.9 -0.9
AKASG Malin Array Be 13.65 48 *i* P **Pn 10 17 24.7 0.0**
AKASG pmax pmax
comp=Z,16nm,1.0s
AKBB Malin Array Si 13.65 48 Pn 10 17 24.0 -0.7
AKBB Malin Array Si 13.65 48 *ceP* **Pn 10 17 24.4 -0.3**
STRD Stroud 13.96 317 *eP* **Pn 10 17 28.9 -0.1**
ISP Isparta 14.00 104 *i* P **Pn 10 17 31.4 +1.6**
OLDB Oldbury-Upon-S 14.09 316 *eP* **Pn 10 17 28.4 -2.3**
ELGU Los Guajares, 14.18 252 P **Pn 10 17 35.0 +2.8**
EADA Adamuz 14.29 258 P **Pn 10 17 34.4 +0.8**
EGOR Sierra Gorda, 14.41 254 P **Pn 10 17 35.7 +0.3**
MCH1 Michaelchurch 14.51 316 *eP* **Pn 10 17 33.0 -3.6**
MCH1 IAmb IAmb 10 17 39.2
comp=Z,119nm,0.8s
PBUR Paburge 14.61 20 *eP* **Pn 10 17 37.0 -0.9**
PABE Paberze 14.72 25 Pn 10 17 38.3 -1.2
PABE Paberze 14.72 25 *eP* **Pn 10 17 39.2 -0.2**
HLM1 Long Mynd 14.75 318 *eP* **Pn 10 17 37.2 -2.7**
HLM1 IAmb IAmb 10 17 49.5
comp=Z,91nm,0.7s
LBWR Ladybower, Pea 14.76 323 *eP* **Pn 10 17 37.9 -2.1**
LBWR IAmb IAmb 10 17 51.3
comp=Z,86nm,0.7s
EMAL Malaga-Limoner 14.80 253 P **Pn 10 17 43.0 +2.5**
PBRG Braganca 14.86 274 *eP* **Pn 10 17 42.4 +1.0**
comp=Z,238nm,1.4s
PBRG *i* LQ LQ 10 17 51.7
ECAB El Cabril 14.94 259 P **Pn 10 17 41.3 -1.1**
ANTO Ankara 14.94 94 Pn **Pn 10 17 43.2 +0.8**
ANTO Ankara 14.94 94 P **Pn 10 17 43.3 +0.8**
ANTO Ankara 14.94 94 P **P 10 17 45.6 -2.5**
HPK Haverah Park 15.09 324 *eP* **Pn 10 17 43.5 -0.9**
HPK IAmb IAmb 10 17 57.9
comp=Z,236nm,1.0s
VSVD Vaisvydziai 15.12 23 *eP* **Pn 10 17 44.1 -0.6**
FOEL Foel Wylfa 15.13 319 *eP* **Pn 10 17 42.8 -2.1**
FOEL IAmb IAmb 10 17 55.5
comp=Z,1µm,2.2s
MVO Moncorvo 15.19 272 *eP* **Pn 10 17 45.0 -0.9**
comp=Z,275nm,1.8s
MVO *i* LQ LQ 10 17 54.6
MVO *eS* **S 10 20 55.6 +4.4**
NACGM Naroch 15.21 31 ⇓*i*P **Pn 10 17 45.5 -0.5**
comp=Z,321nm,1.4s,baz=222
SIM Simferopol' 15.26 74 *eP* **Pn 10 17 46.2 -0.4**
SIM *eS* **Sn 10 20 34.9 -0.7**
SIM pmax pmax
comp=Z,71nm,0.8s
SIM smax smax
comp=E,627nm,15.2s
SIM MLR MLR
comp=Z,26µm,25.3s
ILGA Ilgaz 15.32 89 Pn **Pn 10 17 47.9 +0.1**
LLW Llanuwychllyn 15.33 318 *eP* **Pn 10 17 43.9 -3.7**
MNK Minsk 15.35 34 *i* P **Pn 10 17 44.1 -3.8**
comp=E,5.0nm,0.8s
MNK *i* P **Pn 10 17 44.1 -3.8**
comp=N,36nm,0.8s
MNK *i* P **Pn 10 17 44.1 -3.8**
comp=Z,50nm,0.8s,baz=225
MNK *i* PP **P 10 17 52.8 +0.2**
MNK *i* S **Sn 10 20 33.1 -4.8**
MNK *i* SS **SnSn 10 20 47.0 -3.4**
MNK *i* LQ LQ 10 22 11.5
MNK *i* LR LR 10 23 20.7
MNK *i* LRM MLR 10 24 16.9
comp=Z,16µm,17.7s
MNK *i* LRM MLR 10 24 20.4
comp=N,10µm,17.7s
MNK *i* LRM MLR 10 24 21.0
comp=E,1µm,17.7s
MNK Minsk 15.35 34 *i* P **Pn 10 17 44.0 -3.8**
MNK *i* S **Sn 10 20 33.0 -4.8**
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=Z,50nm,0.8s
MNK pmax pmax
comp=N,36nm,0.8s
MNK MLR MLR
comp=Z,16µm,18.0s
MNK MLR MLR
comp=N,10µm,18.0s
ISAL Salakas 15.49 28 *eP* **Pn 10 17 51.4 +1.8**
ISAL IAmb IAmb 10 18 03.8
comp=Z,129nm,1.2s
IDID Didziasalis 15.51 30 *eP* Pn 10 17 40.0 -10
BR131 Keskin Array S 15.60 94 *i* P **Pn 10 17 51.3 -0.1**
BR131 Keskin Array S 15.60 94 P **P 10 17 54.1 -1.5**
SNR=46
BR131 P **P 10 17 54.1 -1.5**
SNR=46
BRTR Keskin Array B 15.60 94 Pn **Pn 10 17 51.9 +0.5**
comp=Z,15nm,1.1s,baz=285,slow=10.0,SNR=19
BRTR LR LR 10 24 57.7
comp=Z,33µm,18.2s,baz=295,slow=41
BRTR Keskin Array B 15.60 94 *i* P **Pn 10 17 51.5 +0.1**
BRTR pmax pmax
comp=Z,15nm,1.1s
PVRL Vila Real 15.68 272 *eP* **Pn 10 17 52.0 -0.2**
comp=Z,267nm,1.4s
PVRL *i* LQ LQ 10 17 59.9
POLO Lamas de Olo 15.71 273 *eP* **Pn 10 17 52.5 -0.2**
comp=Z,124nm,1.5s
POLO *i* LQ LQ 10 18 04.5
MTE Manteigas 15.75 269 *eP* **Pn 10 17 53.0 -0.1**
comp=Z,237nm,2.0s
MTE *i* LQ LQ 10 17 58.0
MTE *eS* **S 10 21 05.9 +3.3**
MTE Manteigas 15.75 269 Pn 10 17 51.8 -1.3
PCAB Cabril 15.82 274 *i* LQ LQ 10 18 05.3
EDMD Edmundbyers 15.84 326 *eP* **Pn 10 17 52.6 -1.6**
EDMD IAmb IAmb 10 18 01.5
comp=Z,380nm,1.3s
PCBR Castelo Branco 15.85 267 *eP* **Pn 10 17 54.4 0.0**
comp=Z,163nm,1.9s
PCBR *i* LQ LQ 10 18 04.3
PMRV Marv??o 15.91 266 *eP* **Pn 10 17 53.8 -1.4**
comp=Z,135nm,1.4s
PMRV *eS* **S 10 21 10.4 +4.6**
PVIS Viseu 15.93 271 *eP* **Pn 10 17 54.5 -1.0**
comp=Z,223nm,1.3s
PVIS *i* LQ LQ 10 18 02.1
WLF1 Llynfaes 15.95 318 *eP* **Pn 10 17 54.1 -1.5**
WLF1 IAmb IAmb 10 18 05.6
comp=Z,1µm,1.9s
PGAV Gavieira, Arco 15.96 275 *eP* **Pn 10 17 57.1 +1.2**
comp=Z,378nm,1.5s
PGAV *i* LQ LQ 10 18 01.9
PGAV *eS* **S 10 21 10.4 +3.4**
WME Myndd Eilian 15.96 319 *eP* **Pn 10 17 54.1 -1.7**
WPS Cemaes, Angles 16.06 319 *eP* **Pn 10 17 54.0 -3.0**
WPS IAmb IAmb 10 18 07.1
comp=Z,1µm,1.7s
PBAR Barrancos 16.07 261 *eP* **Pn 10 17 57.0 -0.3**
comp=Z,183nm,1.6s
PBAR *i* LQ LQ 10 18 04.4
SLIT Slitere, Latvi 16.15 18 *eP* **Pn 10 17 58.0 -0.2**
KESW Keswick, Cumbr 16.16 324 *eP* **Pn 10 17 55.8 -2.5**
PESTR Estremoz 16.23 264 *eP* **Pn 10 18 00.0 +0.6**
comp=Z,223nm,1.6s
PESTR *i* LQ LQ 10 18 04.9
PESTR Estremoz 16.23 264 Pn 10 17 59.1 -0.3
SNART Snartemo 16.27 349 *eP* **P 10 18 02.7 0.0**
SNART IAmb IAmb 10 18 07.5
comp=Z,897nm,1.5s
COI Coimbra 16.44 269 *eP* **Pn 10 18 02.6 +0.7**
comp=Z,304nm,1.4s
COI *i* LQ LQ 10 18 12.8
PCAS Casmilo, Conde 16.54 269 *eP* **Pn 10 18 03.2 -0.1**
comp=Z,260nm,1.7s
PCAS *i* LQ LQ 10 18 10.3
WIM Isle of Man 16.59 321 *eP* **P 10 18 07.7 +1.4**

IOMK Kirk Michael 16.61 321 *eP* **Pn 10 18 02.7 -1.3**
PMTG Montargil 16.63 265 *eP* **Pn 10 18 04.9 +0.5**
comp=Z,285nm,2.0s
PMTG *i* LQ LQ 10 18 09.0
EVO Evora 16.66 263 *eP* **Pn 10 18 05.7 +0.9**
comp=Z,98nm,1.4s
EVO *i* LQ LQ 10 18 11.8
EKA Eskdalemuir Ar 16.68 326 Pn **Pn 10 18 04.7 -0.3**
baz=132,slow=14
EKA Sn **Sn 10 21 03.8 -6.4**
baz=133,slow=32
EKA LR LR 10 25 32.6
comp=Z,9µm,18.2s,baz=138,slow=41
comp=Z,16nm,0.7s
ESK Eskdalemuir 16.69 326 Pn 10 18 04.0 -1.0
ESK Eskdalemuir 16.69 326 *eP* **Pn 10 18 04.9 -0.2**
ESK Eskdalemuir 16.69 326 P **Pn 10 18 04.1 -1.0**
ESK pmax pmax
comp=Z,60nm,0.9s
PBEJ Beja 16.74 261 *eP* **P 10 18 07.2 -0.8**
comp=Z,64nm,1.4s
PBEJ *i* LQ LQ 10 18 11.1
PVAQ Vaqueiros 16.87 259 *i* LQ LQ 10 18 13.1
PVAQ *eS* **S 10 21 27.5 +2.0**
ESY Stoneypath 16.88 328 *eP* **Pn 10 18 07.8 +0.4**
PSBE So Bento 16.91 267 *eP* **Pn 10 18 08.0 0.0**
comp=Z,406nm,2.0s
PSBE *i* LQ LQ 10 18 16.5
EBL Broad Law 16.94 327 *eP* **P 10 18 09.3 -0.9**
NEWG New Galloway 17.00 324 *eP* **Pn 10 18 09.7 +0.8**
PCVE Castro Verde 17.02 260 *eP* **Pn 10 18 09.3 0.0**
comp=Z,110nm,1.9s
PCVE *i* LQ LQ 10 18 12.8
GAL1 Galloway 17.05 323 *eP* **Pn 10 18 09.3 -0.2**
GAL1 IAmb IAmb 10 18 17.1
comp=Z,341nm,1.6s
MESJ Messejana 17.07 261 *eP* **Pn 10 18 10.2 +0.3**
MESJ *eS* **Sn 10 21 21.0 +1.4**
MESJ IAMs_20 IAMs_20 10 28 08.2
comp=Z,14µm,11.5s
MESJ Messejana 17.07 261 *i* LQ LQ 10 18 16.8
EDI Edinburgh 17.11 327 *eP* **Pn 10 18 11.0 +0.7**
EDI IAmb IAmb 10 18 18.0
comp=Z,1µm,1.7s
MDT Midelt 17.13 241 P **Pn 10 18 11.5 +0.6**
comp=Z,4.1nm,0.9s,baz=74,slow=12,SNR=3.9
MDT LR LR 10 24 32.5
comp=Z,3µm,18.6s,baz=40,slow=36
PNCL Nicolau / Gran 17.19 262 *eP* **Pn 10 18 11.2 -0.2**
comp=Z,110nm,1.4s
PNCL *i* LQ LQ 10 18 19.2
KONO Kongsberg 17.28 354 P **Pn 10 18 12.6 +0.2**
KONO Kongsberg 17.28 354 P **Pn 10 18 12.6 +0.2**
KONO pmax pmax
comp=Z,194nm,1.3s
KONO Kongsberg 17.28 354 *eP* **P 10 18 13.8 -0.1**
KONO IAmb IAmb 10 18 18.6
comp=Z,152nm,1.1s
CSS Mathiatis 17.36 109 P **Pn 10 18 14.0 +0.4**
CSS IAmb IAmb 10 18 22.9
comp=Z,1µm,1.8s
CSS Mathiatis 17.36 109 P **P 10 18 14.6 -0.4**
KMY Karmoy 17.42 346 *eP* **P 10 18 15.3 -0.1**
KMY IAmb IAmb 10 18 17.7
comp=Z,142nm,1.2s
BLS5 Blasjo 17.42 348 *eP* **P 10 18 15.4 -0.1**
BLS5 IAmb IAmb 10 18 19.8
comp=Z,248nm,1.5s
LIS Lisbon 17.43 265 *eP* **Pn 10 18 14.6 +0.2**
LIS *eS* **Sn 10 21 29.8 +1.4**
LIS IAMs_20 IAMs_20 10 25 56.6
comp=E,22µm,11.1s
PMAFR Mafra 17.45 266 *i* LQ LQ 10 18 17.9
MTSE Matsula 17.48 19 *eP* **Pn 10 18 13.7 -1.2**
MTSE IAmb IAmb 10 18 22.8
comp=Z,1µm,1.2s
OSL Oslo 17.49 356 *eP* **P 10 18 18.0 +1.8**
OSL IAmb IAmb 10 18 19.6
comp=Z,184nm,1.1s
PTEO Sao Teotonio 17.55 261 *i* LQ LQ 10 18 21.8
DRUM Mains of Drumt 17.56 330 *eP* **P 10 18 16.5 -0.5**
DRUM IAmb IAmb 10 18 21.3
comp=Z,424nm,1.7s
MORF Marmelete 17.59 260 *eP* **Pn 10 18 16.9 +0.3**
MORF *eS* **Sn 10 21 33.6 +1.2**
MORF IAMs_20 IAMs_20 10 24 34.7
comp=E,14µm,20.7s
MORF Marmelete 17.59 260 *i* LQ LQ 10 18 22.8
ANN Anapa 17.61 74 *i* P **Pn 10 18 15.5 -1.2**
ANN *eS* **Sn 10 21 32.4 -0.4**
ANN pmax pmax
comp=Z,845nm,1.9s
HFS Hagfors 17.62 1 P **Pn 10 18 15.2 -1.4**
comp=Z,1.8nm,0.3s,baz=183,slow=8.9,SNR=26
HFS LR LR 10 25 11.2
comp=Z,9µm,21.8s,baz=183,slow=38
comp=Z,23nm,0.8s
PFVI Vila Bisbo 17.79 260 *i* LQ LQ 10 18 25.3
INVG Invergeldie, C 17.80 327 *eP* **Pn 10 18 18.8 -0.2**
ODD1 Odda 17.87 349 *eP* **P 10 18 21.2 +0.8**
ODD1 IAmb IAmb 10 18 29.6
comp=Z,258nm,1.4s
VSU Vasula 18.04 23 *i* P **Pn 10 18 20.3 -1.5**
VSU Vasula 18.04 23 *eP* **P 10 18 22.7 +0.5**
NC602 NORSAR Array S 18.25 357 *eP* **Pn 10 18 23.9 -0.5**
NC602 IAmb IAmb 10 18 28.6
comp=Z,77nm,0.7s
MCD Coleburn Disti 18.34 331 *eP* **P 10 18 26.2 +0.6**
SKAR Skarslia 18.41 352 *eP* **Pn 10 18 26.7 +0.2**
NB2 NORSAR Subarra 18.57 357 P **P 10 18 27.6 -0.5**
comp=Z,206nm,1.4s,baz=175,slow=12
NB2 NORSAR Subarra 18.57 357 P **P 10 18 27.6 -0.5**
slow=12
NOA NORSAR Array B 18.57 357 P **P 10 18 27.4 -0.7**
comp=Z,0.3nm,0.3s,baz=173,slow=12,SNR=44
NOA LR LR 10 26 24.7
comp=Z,8µm,18.1s,baz=175,slow=40
comp=Z,21nm,0.8s
ASK Askoy 18.63 347 *eP* **Pn 10 18 30.1 +1.1**
NC204 NORSAR Array S 18.82 356 P 10 18 29.8 -1.2
MLA1 Latheron 18.92 332 *eP* **Pn 10 18 32.7 +0.1**
MEF Metsahovi 18.96 17 *eP* **P 10 18 32.0 -0.4**
KPL Plockton 19.07 327 *eP* **P 10 18 31.8 -1.8**
GAZ Gaziantep 19.12 98 P **Pn 10 18 35.9 +0.7**
HYA Hoyanger 19.14 349 *eP* **Pn 10 18 36.9 +1.7**
HYA IAmb IAmb 10 18 38.6
comp=Z,176nm,1.2s
SUE Sulen 19.24 347 *eP* **Pn 10 18 38.0 +1.6**
SOC Sochi 19.33 78 *eP* **P 10 18 36.0 -0.6**
SOC *e* 10 22 09.4
SOC pmax pmax
comp=Z,81nm,0.8s
SOC MLR MLR
comp=Z,5µm,19.0s
LINV Loch Inver, As 19.46 330 *eP* **Pn 10 18 39.4 +0.3**
LINV IAmb IAmb 10 18 47.9
comp=Z,223nm,1.2s
BHL Bhannes 19.55 109 *eP* **Pn 10 18 40.1 -0.3**
HWQ Hawqa 19.55 107 *eP* **Pn 10 18 41.0 +0.5**
BEIL Beino 19.58 106 *eP* **Pn 10 18 41.4 +0.6**
VSR Storozhevoye 19.63 55 *eP* **P 10 18 39.5 -0.3**
VSR *eS* **S 10 22 15.4 -5.7**
VSR pmax pmax
comp=Z,270nm,1.0s
VSR smax smax
comp=E,4µm,10.8s
VSR MLR MLR
comp=Z,19µm,13.0s
HNTI Hanita 19.67 111 P **Pn 10 18 43.2 +1.4**
DOMB Dombas 19.69 354 *eP* **P 10 18 40.6 +0.2**
DOMB IAmb IAmb 10 18 44.6
comp=Z,191nm,1.5s
OBN Obninsk 19.72 42 P **P 10 18 39.5 -1.2**
comp=Z,2.4nm,0.3s,baz=240,slow=8.1,SNR=19
OBN S **S 10 22 19.2 -3.6**
comp=Z,1.9nm,0.3s,baz=298,slow=22,SNR=1.0
OBN LR LR 10 27 08.0
comp=Z,5µm,20.1s,baz=236,slow=40
OBN Obninsk 19.72 42 P **P 10 18 38.8 -1.9**
OBN IAmb IAmb 10 18 46.5
comp=Z,488nm,1.3s
OBN Obninsk 19.72 42*d* *i*P **P 10 18 39.7 -1.0**
OBN *i* S **S 10 22 22.0 -0.8**
OBN pmax pmax
comp=Z,692nm,2.5s

OBN MLR MLR
comp=Z,20µm,20.0s
VORR Voronezh 19.79 54 P **P** **10 18 41.1 -0.4**
VORR S **S** **10 22 23.4 -0.9**
VORR pmax pmax
comp=Z,1µm,1.9s
VORR MLR MLR
comp=Z,12µm,14.0s
OFRI Ofer 19.81 113 P **Pn** **10 18 46.6 +3.1**
MMAI Mount Meron Ar 19.86 111 P **Pn** **10 18 44.1 0.0**
comp=Z,3.0nm,0.3s,baz=297,slow=8.3,SNR=26
MMAI S **S** **10 22 24.3 -1.9**
comp=Z,0.8nm,0.3s,baz=279,slow=28,SNR=1.0
MMAI LR LR 10 28 18.0
comp=Z,6µm,19.9s,baz=190,slow=42
comp=Z,87nm,1.1s
BLGI Bet Lehem HaGe 19.88 112 P **Pn** **10 18 48.1 +3.8**
RCY Rachaya 19.89 110 *eP* **Pn** **10 18 44.3 -0.3**
LPSR Galich'ya Gora 19.92 51 *eP* **P** **10 18 42.4 -0.6**
LPSR *eS* **S** **10 22 23.0 -3.9**
LPSR pmax pmax
comp=Z,390nm,1.1s
LPSR smax smax
comp=N,3µm,13.1s
LPSR MLR MLR
comp=Z,5µm,11.0s
GEM Giv'at Ha'Em 19.93 110 P **Pn** **10 18 45.5 +0.6**
PUL Pulkovo 20.19 25*ce*P Pn 10 18 47.5 -0.2
PUL pmax pmax
comp=Z,351nm,1.0s
PUL MLR MLR
comp=Z,11µm,16.0s
MOL Molde 20.34 352 *e* Pn 10 18 49.6 +0.1
HMDT Nahal Hemdat 20.39 113 P Pn 10 18 50.2 -0.1
FINES FINESS Array B 20.43 18 P **P** **10 18 48.1 -0.4**
comp=Z,127nm,0.8s,baz=191,slow=9.1,SNR=67
FINES S **S** **10 22 34.0 -2.9**
comp=Z,9.6nm,0.9s,baz=203,slow=21,SNR=1.6
FINES LR LR 10 27 48.9
comp=Z,9µm,19.5s,baz=206,slow=40
comp=Z,127nm,0.8s
FINES FINESS Array B 20.43 18 P **P** **10 18 48.5 0.0**
FIA1 FINESS Array S 20.44 18 P **P** **10 18 47.8 -0.7**
UJAP Al Uja 20.53 114 P Pn 10 18 54.3 +2.4
MOS Moscow 20.55 42 *eP* **P** **10 18 48.8 -1.0**
MOS *e* 10 19 05.7
MOS *eS* **S** **10 22 39.3 -0.1**
MOS pmax pmax
comp=Z,841nm,1.5s
MOS pmax pmax
comp=Z,6µm,3.6s
MOS pmax pmax
comp=E,6µm,3.9s
MOS pmax pmax
comp=N,4µm,3.8s
MOS MLR MLR
comp=Z,12µm,9.0s
YTIR Yattir 20.66 116 P Pn 10 18 57.1 +3.6
DSI Dead Sea 20.71 115 P Pn 10 18 58.0 +4.0
DSI P sP 10 18 58.1 +1.6
TBLU Trondheim 20.82 356 *eP* Pn 10 18 55.0 0.0
TBLU IAmb IAmb 10 18 57.9
comp=Z,190nm,0.9s
MDBI Mazsada 20.85 115 P Pn 10 19 00.4 +4.8
HSUJ Al Zarqa 20.94 112 P Pn 10 19 00.7 +4.0
LISJ El Lisan 20.98 115 P Pn 10 19 01.4 +4.3
GHAJ Ghor Haditha 21.00 115 P Pn 10 19 01.7 +4.3
WALJ Wala 21.00 114 P **P** **10 18 56.9 +2.1**
KARJ KARJ 21.17 115 P **P** **10 18 53.9 -2.7**
VRH Novokhopyorsk 21.18 56 *eP* **P** **10 18 57.6 +1.0**
VRH *eS* **S** **10 22 48.7 -3.3**
VRH pmax pmax
comp=Z,390nm,0.8s
VRH smax smax
comp=N,8µm,16.5s
VRH MLR MLR
comp=Z,17µm,13.0s
ZFRI Zfri 21.21 117 P **P** **10 18 58.5 +1.4**
ZFRI P **P** **10 18 58.5 +1.4**
PRNI Paran 21.23 118 P **P** **10 18 58.5 +1.1**
SWQJ Swaqa 21.37 114 P **P** **10 19 03.1 +4.2**
ASF Jabal al Asfar 21.38 111 P **P** **10 19 01.0 +2.0**
comp=Z,32nm,1.0s,baz=301,slow=2.7,SNR=14
comp=Z,32nm,1.0s
ASF Jabal al Asfar 21.38 111 P **P** **10 19 01.0 +2.0**
ASF Jabal al Asfar 21.38 111 P **P** **10 19 01.5 +2.5**
KIV Kislovodsk 21.43 76 P **P** **10 18 59.6 +0.1**
KIV IAmb IAmb 10 19 04.8
comp=Z,574nm,1.3s
KIV Kislovodsk 21.43 76 *eP* **P** **10 19 00.0 +0.5**
KIV *eS* **S** **10 22 58.2 +1.0**
KIV pmax pmax
comp=Z,450nm,4.2s
KIV pmax pmax
comp=Z,341nm,1.1s
KIV MLR MLR
comp=Z,2µm,14.0s
KIV Kislovodsk 21.43 76 P **P** **10 19 01.6 +2.2**
KIV P **P** **10 19 01.6 +2.2**
SHA1 Shidzhatmaz 21.43 77*c iP* **P** **10 19 00.1 +0.4**
KVAR Kislovodsk Arr 21.43 76 P **P** **10 19 00.7 +1.1**
comp=Z,41nm,1.0s,baz=321,slow=6.5,SNR=8.0
KVAR S Sn 10 23 06.7 +1.6
comp=Z,4.5nm,0.7s,baz=270,slow=17,SNR=0.8
KVAR LR LR 10 29 27.9
comp=Z,7µm,19.1s,baz=222,slow=43
comp=Z,41nm,1.0s
MBRI Mt Berech 21.54 119 P **P** **10 19 02.2 +1.4**
NEY Neytrino 21.55 78 *i* P **P** **10 19 01.9 +1.1**
NEY pmax pmax
comp=Z,119nm,2.0s
NEY MLR MLR
comp=Z,2µm,15.0s
KBZ Khabaz 21.61 77 P **P** **10 19 01.9 +0.7**
comp=Z,174nm,0.9s,baz=294,slow=7.8,SNR=120
KBZ LR LR 10 30 07.9
comp=Z,6µm,19.6s,baz=295,slow=44
comp=Z,174nm,0.9s
KBZ Khabaz 21.61 77*ce*P **P** **10 19 02.1 +0.9**
KBZ pmax pmax
comp=Z,343nm,1.1s
KBZ MLR MLR
comp=Z,8µm,23.0s
EIL Elat 21.65 119 P **P** **10 19 03.0 +1.2**
comp=Z,62nm,1.1s,baz=314,slow=3.9,SNR=19
EIL S **S** **10 22 58.0 -3.5**
comp=Z,12nm,0.9s,baz=324,slow=19,SNR=2.5
EIL LR LR 10 30 16.3
comp=Z,3µm,21.8s,baz=310,slow=44
comp=Z,62nm,1.1s
EIL Elat 21.65 119 P **P** **10 19 02.8 +1.0**
AQBJ Aqaba 21.67 119 P **P** **10 19 05.3 +3.2**
MARD Mardin 21.68 95 P **P** **10 19 03.0 +0.7**
MARD IAmb IAmb 10 19 09.4
comp=Z,515nm,1.1s
HSNJ Maan 21.74 117 P **P** **10 19 07.7 +4.8**
NSS Namsos 22.04 358 *eP* **P** **10 19 05.5 -0.2**
NSS IAmb IAmb 10 19 10.3
comp=Z,60nm,0.9s
GURO Guroymak-BITLI 22.17 91 P **P** **10 19 08.4 +0.9**
ONI Oni 22.18 80 P **P** **10 19 07.4 -0.1**
ONI IAmb IAmb 10 19 13.9
comp=Z,420nm,1.5s
ONI Oni 22.18 80 P **P** **10 19 07.4 -0.1**
ONI pmax pmax
comp=Z,420nm,1.5s
AKH Akhalkalaki 22.45 83 P **P** **10 19 10.9 +0.4**
AKH Akhalkalaki 22.45 83 P **P** **10 19 10.9 +0.4**
AKH pmax pmax
comp=Z,445nm,1.1s
ZEI Tsey 22.47 79 *eP* **P** **10 19 11.0 +0.2**
ZEI pmax pmax
comp=Z,223nm,1.7s
GEVA Gevas 23.01 91 P **P** **10 19 17.2 +0.7**
GNI Garni 23.68 85 P **P** **10 19 24.0 +0.8**
comp=Z,78nm,0.9s,baz=229,slow=3.1,SNR=50
GNI S **S** **10 23 40.6 +2.5**
comp=Z,3.2nm,0.5s,baz=347,slow=18,SNR=1.0
GNI LR LR 10 30 55.7
comp=Z,3µm,20.6s,baz=298,slow=42
comp=Z,78nm,0.9s
GNI Garni 23.68 85 P **P** **10 19 22.1 -1.1**
GNI IAmb IAmb 10 19 45.5
comp=Z,292nm,1.4s
GNI Garni 23.68 85 P **P** **10 19 22.1 -1.1**
GNI pmax pmax
comp=Z,292nm,1.4s
GNI Garni 23.68 85 P **P** **10 19 26.3 +3.1**
GNI P **P** **10 19 26.3 +3.1**
GNI P **P** **10 19 26.3 +3.1**
MOR8 Moi Rana 23.69 1 *eP* **P** **10 19 24.1 +1.3**
MOR8 IAmb IAmb 10 19 28.2
comp=Z,100nm,0.8s
GROC Groznyy 23.77 77 *eP* **P** **10 19 25.8 +2.0**
GROC *e* 10 19 53.5
GROC pmax pmax
comp=Z,343nm,1.2s
KONS Konsvik 24.01 360 *eP* **P** **10 19 27.4 +1.5**
FAUS Fauske 24.92 2 *eP* **P** **10 19 34.3 +0.2**
FAUS IAmb IAmb 10 19 44.0
comp=Z,94nm,1.0s
BELG Belogornoye 25.01 55 P **P** **10 19 35.4 +0.3**
comp=Z,189nm,0.8s,baz=265,slow=5.7
comp=Z,189nm,0.8s
MAK Makhachkala 25.05 77 *eP* **P** **10 19 36.3 +0.8**
MAK *e* 10 20 08.8
MAK *eS* **S** **10 24 02.0 +2.4**
MAK *eSS* **SnSn** **10 24 52.1 +3.8**
MAK pmax pmax
comp=Z,1µm,1.7s
PMPST Porto Santo, M 25.12 258 *eP* **P** **10 19 34.5 -1.8**
comp=Z,264nm,1.5s
AKT Akhty 25.53 81 *eP* **P** **10 19 43.8 +3.7**
AKT *e* 10 20 20.5
AKT pmax pmax
comp=Z,136nm,0.8s
PMAR Madeira 25.72 258 *eP* **P** **10 19 41.1 -0.8**
comp=Z,575nm,1.6s
FUL Funchal 25.74 257 *eP* **P** **10 19 42.3 +0.4**
comp=Z,279nm,1.1s
ADZR Andozero 25.81 25 *eP* **P** **10 19 41.5 -0.7**
ADZR pmax pmax
comp=Z,155nm,0.8s
PMOZ Porto Moniz, M 25.87 258 *eP* **P** **10 19 42.4 -0.8**
comp=Z,450nm,1.4s
PMOZ Porto Moniz, M 25.87 258 P **P** **10 19 44.1 +0.9**
KTK1 Kautokeino 27.04 8 *eP* **P** **10 19 53.7 +0.4**
KTK1 IAmb IAmb 10 19 54.8
comp=Z,36nm,1.0s
TRO Tromso 27.32 4 *eP* **P** **10 19 56.2 +0.4**
APA Apatity 27.33 17⇓ *iP* **P** **10 19 58.1 +2.2**
APA *i* 10 20 38.0
APA *i* 10 23 11.0
APA *i* S **S** **10 24 35.0 -0.3**
APA pmax pmax
comp=Z,51nm,0.8s
APA MLR MLR
comp=Z,11µm,17.0s
KIRV Kirov 27.57 42 P **P** **10 19 57.6 -0.6**
comp=Z,71nm,0.8s,baz=315,slow=2.9,SNR=18
KIRV S **S** **10 24 37.2 -2.0**
comp=Z,8.5nm,0.5s,baz=205,slow=17,SNR=1.7
KIRV LR LR 10 31 52.6
comp=Z,17µm,19.3s,baz=251,slow=39
comp=Z,71nm,0.8s
KIRV Kirov 27.57 42*ce*P **P** **10 19 57.7 -0.4**
ARA0 ARCESS Array S 27.79 9 *e* **P** **10 19 59.8 -0.3**
ARCES ARCESS Array B 27.79 9 P **P** **10 19 59.1 -1.0**
comp=Z,15nm,0.9s,baz=186,slow=3.5,SNR=13
ARCES PcP **PcP** **10 23 15.5 -0.4**
comp=Z,9.5nm,1.0s,baz=180,slow=2.1,SNR=3.9
ARCES LR LR 10 30 16.9
comp=Z,4µm,19.3s,baz=200,slow=35
comp=Z,15nm,0.9s
ARCES ARCESS Array B 27.79 9 P **P** **10 19 59.6 -0.5**
ARCES ARCESS Array B 27.79 9 P **P** **10 19 59.6 -0.5**
ARCES pmax pmax
comp=Z,112nm,1.5s
LVZ Lovozero 27.87 17 IAMs_20 IAMs_20 10 31 24.3
comp=Z,10µm,21.0s
LVZ Lovozero 27.87 17 *i* P **P** **10 20 00.5 -0.3**
LVZ pmax pmax
comp=Z,58nm,1.1s
LVZ MLR MLR
comp=Z,8µm,17.0s
MACI Morro de la Ar 27.98 249 P **P** **10 20 04.6 +2.3**
MACI IAmb IAmb 10 20 06.2
comp=Z,148nm,1.4s
KEV Kevo 28.19 10 IAMs_20 IAMs_20 10 31 55.4
comp=Z,9µm,19.0s
BORG Borgarnes 29.60 330 P **P** **10 20 16.8 +0.7**
comp=Z,46nm,1.2s,baz=112,slow=5.4,SNR=2.8
BORG S **S** **10 25 06.7 -4.3**
comp=Z,24nm,0.9s,baz=26,slow=14,SNR=2.5
BORG LR LR 10 33 36.9
comp=Z,2µm,19.3s,baz=132,slow=40
comp=Z,46nm,1.2s
CMLA Cha da Macela 29.85 274 IAMs_20 IAMs_20 10 30 29.7
comp=Z,8µm,21.0s
JMIC Jan Mayen 30.53 346 LR LR 10 34 29.7
comp=Z,2µm,18.2s,baz=130,slow=40
TORD Torodi Ar. Bea 30.96 202 P **P** **10 20 28.7 +0.1**
comp=Z,28nm,0.8s,baz=21,slow=8.5,SNR=26
comp=Z,28nm,0.8s
TORD Torodi Ar. Bea 30.96 202 P **P** **10 20 28.3 -0.3**
TORD IAmb IAmb 10 20 34.7
comp=Z,150nm,1.9s
AKTO Aktyubinsk 31.40 60 LR LR 10 35 02.2
comp=Z,11µm,18.5s,baz=294,slow=40
AKTO Aktyubinsk 31.40 60 P **P** **10 20 32.1 -0.1**
ROSA Rosais 31.51 277 P **P** **10 20 32.7 -0.6**
ARU Arti 31.90 48 LR LR 10 34 58.4
comp=Z,9µm,19.3s,baz=256,slow=39
ARU Arti 31.90 48 P **P** **10 20 35.8 -0.8**
ARU Arti 31.90 48*d iP* **P** **10 20 35.9 -0.7**
ARU 10 21 35.2
ARU 10 23 27.8
ARU S **S** **10 25 46.5 -0.7**
ARU pmax pmax
comp=Z,311nm,0.9s
AB31 Akbulak array 32.74 62 *i* P **P** **10 20 43.6 -0.4**
ABKAR Akbulak array 32.74 62 P **P** **10 20 43.8 -0.2**
ABKAR Akbulak array 32.74 62 P **P** **10 20 43.5 -0.5**
ABKAR IAmb IAmb 10 21 50.3
comp=Z,158nm,2.0s
RAYN Ar Rayn 32.74 115 P **P** **10 20 44.6 +0.3**
RAYN Ar Rayn 32.74 115 P **P** **10 20 44.6 +0.3**
RAYN pmax pmax
comp=Z,64nm,1.6s
SVE Sverdlovsk 33.08 48*ce*P **P** **10 20 46.9 0.0**
SVE *eS* **S** **10 26 04.4 -1.2**
SVE pmax pmax
comp=Z,262nm,1.0s
SVE pmax pmax
comp=Z,601nm,7.2s
SVE MLR MLR
comp=Z,9µm,13.0s
SCO Scoresbysund 33.13 339 P **P** **10 20 47.4 +0.2**
SCO IAmb IAmb 10 20 55.8
comp=Z,209nm,1.8s
SCO Scoresbysund 33.13 339 *i* P **P** **10 20 48.5 +1.3**
SCO IVmB_BB 10 20 53.6
comp=Z,2µm,2.6s
SCO IAmb IAmb 10 20 54.1
comp=Z,705nm,2.7s
SCO Scoresbysund 33.13 339 P **P** **10 20 47.4 +0.2**
SCO pmax pmax
comp=Z,209nm,1.8s
SCO MLR MLR
comp=Z,4µm,22.0s
GEYT Alibeck 34.24 82 P **P** **10 20 58.2 +0.9**
comp=Z,24nm,0.8s,baz=292,slow=7.8,SNR=28
GEYT LR LR 10 38 42.9
comp=Z,3µm,21.1s,baz=314,slow=43
comp=Z,24nm,0.8s
GEYT Alibeck 34.24 82 IAmb IAmb 10 21 06.9
comp=Z,71nm,1.1s
GYA0 ALIBECK ARRAY 34.24 82 P **P** **10 20 58.4 +1.1**
GYA0B ALIBECK ARRAY 34.24 82 P **P** **10 20 57.1 -0.1**
SAKB Bahrain 34.63 106 P **P** **10 21 01.6 +1.0**
SHMA Al-Shehemyia 35.00 106 P **P** **10 21 04.8 +0.9**
DBG Daneborg 35.31 345 *i* P **P** **10 21 08.2 +2.2**
DBG IAmb IAmb 10 21 15.1
comp=Z,185nm,2.0s
SMRA Abu-Samra 35.60 108 P **P** **10 21 10.3 +1.3**
SPA0 Spitsbergen Ar 35.77 1 *eP* **P** **10 21 10.2 +0.3**
SPITS Spitsbergen Ar 35.77 1 P **P** **10 21 10.6 +0.6**
comp=Z,57nm,1.1s,baz=159,slow=9.6,SNR=16
SPITS LR LR 10 35 40.6
comp=Z,5µm,21.3s,baz=152,slow=36
comp=Z,57nm,1.1s
SLWR Sila 36.63 108 P **P** **10 21 19.2 +1.3**
SLWR P **P** **10 21 19.2 +1.3**
GHWR Ruwais 37.54 107 P **P** **10 21 26.4 +0.9**
GHWR P **P** **10 21 26.4 +0.9**
BBTS Babate 37.80 232 P **P** **10 21 28.4 +0.6**
comp=Z,54nm,0.7s,baz=321,slow=5.0,SNR=8.2
BBTS LR LR 10 37 13.0
comp=Z,6µm,19.3s,baz=38,slow=37
comp=Z,54nm,0.7s
ICESG Greenland Ices 37.93 332 *i* P **P** **10 21 31.4 +2.6**
ICESG IVmB_BB 10 21 34.4
comp=Z,3µm,2.2s
ICESG IAmb IAmb 10 21 34.8
comp=Z,2µm,2.7s
MBO M'Bour 38.26 232 IAMs_20 IAMs_20 10 36 55.3
comp=Z,7µm,21.0s
MZWR Madinat Zayed 38.38 106 P **P** **10 21 32.9 +0.3**
MZWR P **P** **10 21 32.9 +0.3**
MZWR P **P** **10 21 32.9 +0.3**
UMQ Umm Al-Quwin 38.57 102 P **P** **10 21 36.1 +1.8**
SNR=7.2
UMQ P **P** **10 21 36.1 +1.8**
SNR=7.2
MZR Muzera 38.58 107 P **P** **10 21 36.2 +1.8**
SNR=10
MZR P **P** **10 21 36.2 +1.8**
SNR=10
SHME Shamm 38.60 101 P **P** **10 21 35.2 +0.6**
SNR=6.8
SHME P **P** **10 21 35.2 +0.6**
SNR=6.8
AJN Ajban 38.67 104 P **P** **10 21 36.6 +1.5**
SNR=11
AJN P **P** **10 21 36.6 +1.5**
SNR=11
SUMG Summit 38.71 338 *i* P **P** **10 21 36.0 +0.6**
SUMG IAmb IAmb 10 21 41.9
comp=Z,1µm,2.8s
BRVK Borovoye 38.74 54 P **P** **10 21 35.3 -0.2**
BRVK IAmb IAmb 10 21 41.0
comp=Z,114nm,0.9s
BRVK Borovoye 38.74 54 *i* P **P** **10 21 35.9 +0.5**
BRVK pmax pmax
comp=Z,128nm,1.0s
BRVK MLR MLR
comp=Z,13µm,18.0s
BRVK Borovoye 38.74 54 P **P** **10 21 37.6 +2.1**
BRVK P **P** **10 21 37.6 +2.1**
HRA Herat 38.75 85 P **P** **10 21 35.9 -0.1**
BANOM Banah 38.80 101 P **P** **10 21 37.3 +1.1**
SNR=9.3
BANOM P **P** **10 21 37.3 +1.1**
SNR=9.3
BVA0 Borovoye Array 38.81 54 *i* P **P** **10 21 38.4 +2.4**
BVAR Borovoye Array 38.81 54 LR LR 10 38 43.6
comp=Z,14µm,19.7s,baz=281,slow=38
DESE Dese 38.83 136 *eP* **P** **10 21 32.9 -4.1**
DESE *eS* **S** **10 27 34.3 -0.7**
NAZ Nazwa, Dubai 38.89 103 P **P** **10 21 37.6 +0.6**
SNR=27
NAZ P **P** **10 21 37.6 +0.6**
SNR=27
FAQ Al Faqa, Dubai 38.99 103 P **P** **10 21 38.6 +0.7**
SNR=17
FAQ P **P** **10 21 38.6 +0.7**
SNR=17
FAQ P **P** **10 21 38.6 +0.7**
SNR=17
MASF Masafi 39.02 102 P **P** **10 21 38.3 +0.1**
SNR=25
MASF P **P** **10 21 38.3 +0.1**
SNR=25
DBIC Dimbokro 39.16 209 P **P** **10 21 38.2 -1.1**
comp=Z,25nm,0.9s,baz=30,slow=9.0,SNR=20
DBIC LR LR 10 38 17.3
comp=Z,5µm,20.5s,baz=18,slow=37
comp=Z,25nm,0.9s
DBIC Dimbokro 39.16 209 P **P** **10 21 38.6 -0.6**
DBIC Dimbokro 39.16 209 P **P** **10 21 38.6 -0.6**
DBIC pmax pmax
comp=Z,88nm,1.4s
NRS Narsarsuaq 39.16 319 IAmb IAmb 10 21 43.1
comp=Z,80nm,1.4s
MDH Madha 39.16 102 P **P** **10 21 39.3 0.0**
SNR=29
MDH P **P** **10 21 39.3 0.0**
SNR=29
MDH P **P** **10 21 39.3 0.0**
SNR=29
TIC Toumodi 39.24 210⇑ *eP* **P** **10 21 40.2 +0.2**
comp=Z,25nm,1.0s
UOSS Minazif 39.31 103 P **P** **10 21 39.7 -0.8**
UOSS IAmb IAmb 10 21 46.3
comp=Z,217nm,1.2s
UOSS Minazif 39.31 103 P **P** **10 21 40.4 -0.1**
UOSS P **P** **10 21 40.4 -0.1**
UOSS P **P** **10 21 40.4 -0.1**
HATD Hatta, Dubai 39.33 103 P **P** **10 21 40.4 -0.3**
SNR=39
HATD P **P** **10 21 40.4 -0.3**
SNR=39
HATD P **P** **10 21 40.4 -0.3**
SNR=39
ASHO Ashiyiah 39.36 103 P **P** **10 21 40.9 -0.1**
SNR=39
ASHO P **P** **10 21 40.9 -0.1**
SNR=39
KIC Kosan Boka 39.40 209⇑ *eP* **P** **10 21 41.6 +0.3**
comp=Z,9.8nm,0.5s
ALNE Al Ain 39.53 104 P **P** **10 21 42.9 +0.6**
SNR=33
ALNE P **P** **10 21 42.9 +0.6**
SNR=33
LIC Lamto 39.63 209⇑ *eP* **P** **10 21 42.6 -0.6**
comp=Z,117nm,1.0s
DY2G Dye2 39.88 327 *i* P **P** **10 21 46.4 +1.4**
DY2G IAmb IAmb 10 21 51.0
comp=Z,894nm,1.8s
UMZA Um Al Zommool 39.95 106 P **P** **10 21 46.6 +0.8**
UMZA P **P** **10 21 46.6 +0.8**
UMZA P **P** **10 21 46.6 +0.8**
JASK Jask - Hormozg 39.97 100 P **P** **10 21 47.3 +1.3**
SNR=11
SOHO SOHO 40.04 103 P **P** **10 21 47.1 +0.5**
SOHO P **P** **10 21 47.1 +0.5**
ANKE Ethiopia-Afar 40.18 137 *eP* P 10 21 41.7 -6.5
AAE Adis Abeba 40.19 139 *eP* P 10 21 39.9 -8.3
AAE *eS* S 10 27 45.5 -10
ATD Arta Tunnel 40.21 131 *eP* **P** **10 21 46.4 -1.7**
ATD *eS* **S** **10 27 59.9 +4.8**
ATD Arta Tunnel 40.21 131 P **P** **10 21 48.4 +0.4**
FURI Furi 40.26 139 *eP* P 10 21 40.3 -8.5
FURI *eS* S 10 27 45.0 -11
NOR Nord 40.49 354 *i* P **P** **10 21 48.4 -1.3**
NOR IAmb IAmb 10 21 54.7
comp=Z,149nm,1.7s
ARQ Araqi 40.53 104 P **P** **10 21 50.5 -0.1**
SNR=46
ARQ P **P** **10 21 50.5 -0.1**
SNR=46
HOQ Hoqain 40.94 103 P **P** **10 21 53.3 -0.8**
SNR=31
HOQ P **P** **10 21 53.3 -0.8**
SNR=31
HOQ P **P** **10 21 53.3 -0.8**
SNR=31
IUG Iuzhnay 41.27 71⇑ *iP* **P** **10 21 57.3 +0.5**
baz=71
IUG *eS* **S** **10 28 11.8 +1.1**
baz=71
IUG Iuzhnay 41.27 71*c iP* **P** **10 21 57.2 +0.5**
IUG *eS* **S** **10 28 11.8 +1.1**
KK31 Karatay Array 41.27 69 P **P** **10 21 56.8 +0.2**
KK31 Karatay Array 41.27 69 *i* P **P** **10 21 57.7 +1.1**
KKAR Karatay Array 41.27 69 P **P** **10 21 57.0 +0.4**
KKAR Karatay Array 41.27 69 IAmb IAmb 10 22 03.5
comp=Z,83nm,1.1s
KKAR Karatay Array 41.27 69 P **P** **10 21 57.0 +0.4**
BSY Bisya 41.38 104 P **P** **10 21 57.7 0.0**
SNR=35
BSY P **P** **10 21 57.7 0.0**
SNR=35
SFJD Kangerlussuaq 41.65 328 P **P** **10 21 58.2 -1.1**
comp=Z,53nm,0.8s,baz=88,slow=8.2,SNR=20
SFJD LR LR 10 40 17.2
comp=Z,3µm,18.4s,baz=90,slow=38

comp=Z,53nm,0.8s
SFJD Kangerlussuaq 41.65 328 P **P** **10 21 58.7 -0.6**
SFJD Kangerlussuaq 41.65 328 IAMs_20 IAMs_20 10 40 04.9
comp=Z,3µm,18.0s
SFJD Kangerlussuaq 41.65 328 IAmb IAmb 10 22 04.6
comp=Z,484nm,1.9s
SMDO Samad 41.80 103 P **P** **10 22 00.4 -0.8**
SNR=79
SMDO P **P** **10 22 00.4 -0.8**
SNR=79
DZA Taraz 41.91 69 *e*P **P** **10 22 02.3 +0.4**
baz=69
DZA Taraz 41.91 69 *e*P **P** **10 22 02.2 +0.4**
DOK Doka 41.94 112 P **P** **10 22 02.2 -0.1**
SNR=27
DOK P **P** **10 22 02.2 -0.1**
SNR=27
DOK P **P** **10 22 02.2 -0.1**
SNR=27
CHGR Chuyangaron 41.96 76 P **P** **10 22 02.0 -0.4**
CHGR IAmb IAmb 10 22 36.2
comp=Z,308nm,1.6s
CHGR Chuyangaron 41.96 76 P **P** **10 22 02.0 -0.4**
CHGR pmax pmax
comp=Z,308nm,1.6s
ILULI Ilulissat 41.98 331 P **P** **10 22 02.1 +0.2**
ILULI IAMs_20 IAMs_20 10 40 50.7
comp=Z,4µm,18.0s
ILULI Ilulissat 41.98 331 *i* P **P** **10 22 01.7 -0.3**
ILULI IAmb IAmb 10 22 05.4
comp=Z,90nm,0.8s
ILULI Ilulissat 41.98 331 P **P** **10 22 02.2 +0.2**
ILULI pmax pmax
comp=Z,340nm,1.5s
ILULI MLR MLR
comp=Z,4µm,18.0s
NUUK Nuuk 42.06 324 IAmb IAmb 10 22 06.1
comp=Z,1µm,2.9s
WSAR Wadi Sarin 42.10 103 P **P** **10 22 03.7 +0.1**
comp=Z,27nm,0.9s,baz=328,slow=8.5,SNR=27
WSAR LR LR 10 43 44.5
comp=Z,3µm,20.7s,baz=335,slow=42
comp=Z,27nm,0.9s
WSAR Wadi Sarin 42.10 103 P **P** **10 22 03.9 +0.3**
SNR=37
WHFO Wadi Hawf 42.18 113 P **P** **10 22 04.4 +0.1**
SNR=13
WHFO P **P** **10 22 04.4 +0.1**
SNR=13
DILA Dilla 42.22 141 *e*P P 10 21 51.6 -13
ABTO Aybut 42.25 114 P **P** **10 22 05.2 +0.3**
SNR=24
JMDO Jabal Madar 42.27 104 P **P** **10 22 04.4 -0.5**
SNR=38
JMDO P **P** **10 22 04.4 -0.5**
SNR=38
GAR Garm 42.65 75 P **P** **10 22 08.6 +0.5**
GAR IAmb IAmb 10 22 16.3
comp=Z,131nm,1.0s
WBK Wadi Bani Khal 42.74 103 P **P** **10 22 09.3 +0.5**
SNR=35
WBK P **P** **10 22 09.3 +0.5**
SNR=35
RBK Rabkut 42.76 113 P **P** **10 22 08.9 -0.1**
SNR=32
RBK P **P** **10 22 08.9 -0.1**
SNR=32
NUUG Nuugaatsiaq 42.90 335 IAmb IAmb 10 22 13.7
comp=Z,227nm,2.1s
BTLS Baital 43.04 65 *e*P **P** **10 22 11.9 +0.9**
comp=Z,143nm,2.8s,baz=65
BTLS Baital 43.04 65 *e*P **P** **10 22 11.9 +0.9**
BTLS pmax pmax
comp=Z,143nm,2.8s
MHTO MHTO 43.05 106 P **P** **10 22 11.4 +0.1**
SNR=51
MHTO P **P** **10 22 11.4 +0.1**
SNR=51
MHTO P **P** **10 22 11.4 +0.1**
SNR=51
DMTO DMTO 43.12 112 P **P** **10 22 11.4 -0.5**
SNR=18
NEEM North Greenlan 43.33 343 *i* P **P** **10 22 12.8 -0.5**
NEEM IAmb IAmb 10 22 19.3
comp=Z,221nm,1.2s
JLN Jalan Bani Buh 43.34 103 P **P** **10 22 13.3 -0.4**
SNR=54
JLN P **P** **10 22 13.3 -0.4**
SNR=54
DQM DQM 43.44 107 P **P** **10 22 13.8 -0.6**
SNR=38
DQM P **P** **10 22 13.8 -0.6**
SNR=38
DQM P **P** **10 22 13.8 -0.6**
SNR=38
LODK Lodwar 43.65 147 P **P** **10 22 16.2 0.0**
LODK Lodwar 43.65 147 P **P** **10 22 17.4 +1.2**
SNR=36
KBL Kabul 43.67 81 P **P** **10 22 15.8 -0.6**
KBL Kabul 43.67 81 P **P** **10 22 15.8 -0.6**
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 43.67 81 P **P** **10 22 17.2 +0.8**
SNR=15
KBL P **P** **10 22 17.2 +0.8**
SNR=15
EKS2 Erkin-Say 43.68 68 P **P** **10 22 17.6 +1.2**
SNR=59
AML Almayashu 43.82 69 P **P** **10 22 18.7 +1.0**
SNR=25
UPNV Upernavik 43.90 336 *i* P **P** **10 22 18.3 +0.7**
UPNV IAmb IAmb 10 22 22.1
comp=Z,849nm,2.8s
USP Ospenovka 43.95 67 P **P** **10 22 19.6 +1.1**
SNR=18
SGDS Sogindy 43.98 67 *e*P **P** **10 22 19.0 +0.4**
comp=Z,161nm,3.1s,baz=67
SGDS Sogindy 43.98 67 *e*P **P** **10 22 19.0 +0.4**
SGDS pmax pmax
comp=Z,161nm,3.1s
AAK Ala-Archa 44.18 68 P **P** **10 22 21.7 +1.3**
SNR=33
AAK Ala-Archa 44.18 68 LR LR 10 44 08.0
comp=Z,9µm,20.5s,baz=310,slow=41
AAK Ala-Archa 44.18 68 P **P** **10 22 20.7 +0.3**
AAK IAmb IAmb 10 22 31.3
comp=Z,107nm,1.2s
AAK Ala-Archa 44.18 68*ce*P **P** **10 22 21.2 +0.8**
AAK pmax pmax
comp=Z,126nm,1.7s
AAK MLR MLR
comp=Z,9µm,19.0s
AAK Ala-Archa 44.18 68 P **P** **10 22 21.9 +1.6**
AAK P **P** **10 22 21.9 +1.6**
CHMS Chumysh 44.22 68 P **P** **10 22 21.4 +0.8**
SNR=87
KURBB Kurchatov Arra 44.25 56 LR LR 10 41 56.8
comp=Z,10µm,18.9s,baz=272,slow=38
KURBB Kurchatov Arra 44.25 56 P **P** **10 22 20.6 0.0**
KURK Kurchatov 44.28 56 P **P** **10 22 20.0 -0.8**
KURK Kurchatov 44.28 56*ce*P **P** **10 22 21.1 +0.2**
KURK pmax pmax
comp=Z,117nm,1.7s
KURK MLR MLR
comp=Z,10µm,18.0s
KURK Kurchatov 44.28 56 P **P** **10 22 21.1 +0.2**
KURK P **P** **10 22 21.1 +0.2**
KULLO Kullorsuaq 44.34 339 *i* P **P** **10 22 22.3 +1.2**
KULLO IAmb IAmb 10 22 26.7
comp=Z,354nm,2.2s
UCH Uchtor 44.34 69 P **P** **10 22 25.6 +3.6**
SNR=19
KBK Karagaybulak 44.48 68 P **P** **10 22 26.2 +3.4**
SNR=8.2
TKM2 Tokmak 2 44.83 67 P **P** **10 22 25.5 -0.1**
SNR=11
KUU Kurty 44.98 66*ĩi* P **P** **10 22 26.8 +0.2**
comp=Z,219nm,1.7s,baz=66
KUU *e*S **S** **10 29 06.0 +1.1**
baz=66
KUU LR LR 10 42 26.4
comp=Z,4µm,17.5s,baz=66
KUU Kurty 44.98 66*c i* P **P** **10 22 26.7 +0.2**
KUU *e*S **S** **10 29 05.9 +1.1**
KUU pmax pmax
comp=Z,219nm,1.7s
KUU MLR MLR
comp=Z,4µm,17.0s
CHKK Chushkaly 45.43 66 *e*P **P** **10 22 30.6 +0.4**
baz=66
CHKK Chushkaly 45.43 66 *e*P **P** **10 22 30.5 +0.4**
NRIK Noril'sk 45.51 29 P **P** **10 22 30.8 +0.5**
comp=Z,47nm,0.9s,baz=265,slow=5.6,SNR=34
NRIK LR LR 10 44 32.9
comp=Z,8µm,18.2s,baz=274,slow=40
comp=Z,47nm,0.9s
NRIK Noril'sk 45.51 29 P **P** **10 22 30.6 +0.2**
NRIK IAmb IAmb 10 22 36.2
comp=Z,88nm,1.1s
NRIK Noril'sk 45.51 29*ce*P **P** **10 22 30.9 +0.5**
NRIK pmax pmax
comp=Z,98nm,1.0s
NRIK MLR MLR
comp=Z,7µm,17.0s
ULHL Ulahol 45.52 68 P **P** **10 22 34.4 +3.2**
SNR=8.4
AAA Alma-Ata 45.62 66 *e*P **P** **10 22 32.6 +0.9**
comp=Z,131nm,1.4s,baz=67
AAA Alma-Ata 45.62 66 *e*P **P** **10 22 32.6 +0.9**
AAA pmax pmax
comp=Z,131nm,1.4s
TNSS Tian-Shan 45.70 67 *e*P **P** **10 22 33.2 +0.3**
baz=67
TNSS Tian-Shan 45.70 67 *e*P **P** **10 22 33.1 +0.3**
MDOK Medeo 45.73 66 *e*P **P** **10 22 32.8 +0.1**
baz=67
MDOK *e*S **S** **10 29 17.8 +1.8**
baz=67
MDOK LR LR 10 42 49.4
comp=Z,3µm,19.6s,baz=67
MDOK Medeo 45.73 66 *e*P **P** **10 22 32.7 +0.1**
MDOK *e*S **S** **10 29 17.7 +1.8**
MDOK MLR MLR
comp=Z,3µm,20.0s
MBAR Mbarara 45.74 155 P **P** **10 22 33.2 +0.2**
MBAR Mbarara 45.74 155 *i* P **P** **10 22 33.8 +0.8**
MBAR pmax pmax
comp=Z,57nm,1.6s
MBAR Mbarara 45.74 155 P **P** **10 22 34.1 +1.1**
MBAR P **P** **10 22 34.1 +1.1**
KSH Kashi 46.44 72 P **P** **10 22 38.4 +0.1**
KSH pP sP 10 22 43.3 +0.1
KSH sP pP 10 22 47.3 +5.5
KSH S **S** **10 29 18.4 -7.8**
KSH pmax pmax
comp=Z,57nm,1.1s
KSH pmax pmax
comp=Z,2µm,5.7s
KSH LR LR
comp=Z,3µm,16.2s
KSH LR LR
comp=Z,3µm,20.6s
KSH LR LR
comp=Z,4µm,22.8s
ZHN Zhinishke 46.66 66 *e*P **P** **10 22 40.7 +0.6**
comp=Z,136nm,2.8s,baz=66
ZHN Zhinishke 46.66 66 *e*P **P** **10 22 40.6 +0.6**
ZHN pmax pmax
comp=Z,136nm,2.8s
SATY Saty 46.68 66 *e*P **P** **10 22 41.3 +1.1**
comp=Z,196nm,3.1s,baz=66
SATY Saty 46.68 66 *e*P **P** **10 22 41.3 +1.1**
SATY pmax pmax
comp=Z,196nm,3.1s
KPKS Kokpek 46.71 65 *e*P **P** **10 22 40.9 +0.5**
comp=Z,157nm,2.9s,baz=66
KPKS Kokpek 46.71 65 *e*P **P** **10 22 40.8 +0.5**
KPKS pmax pmax
comp=Z,157nm,2.9s
ZAA0 Zalesovo Array 47.03 50 P **P** **10 22 41.9 -0.7**
ZAA0 IAmb IAmb 10 22 47.5
comp=Z,72nm,1.1s
ZALV Zalesovo Beam 47.03 50 P **P** **10 22 42.8 +0.2**
comp=Z,31nm,0.7s,baz=280,slow=8.8,SNR=65
ZALV PP **PP** **10 24 32.4 -0.5**
comp=Z,21nm,0.8s,baz=287,slow=9.6,SNR=5.9
ZALV LR LR 10 44 09.7
comp=Z,10µm,18.9s,baz=278,slow=38
comp=Z,31nm,0.7s
ZALV Zalesovo Beam 47.03 50 P **P** **10 22 42.4 -0.2**
UZB Uzynbulak 47.06 66 *e*P **P** **10 22 44.1 +0.9**
comp=Z,153nm,2.7s,baz=66
UZB Uzynbulak 47.06 66 *e*P **P** **10 22 44.1 +0.9**
UZB pmax pmax
comp=Z,153nm,2.7s
NIL Nilore 47.16 80 P **P** **10 22 43.8 -0.1**
NIL IAmb IAmb 10 22 47.4
comp=Z,113nm,1.2s
NIL Nilore 47.16 80 IAMs_20 IAMs_20 10 46 00.5
comp=Z,3µm,20.0s
NIL Nilore 47.16 80 P **P** **10 22 43.8 -0.1**
NIL pmax pmax
comp=Z,113nm,1.2s
NIL MLR MLR
comp=Z,3µm,20.0s
NIL Nilore 47.16 80 P **P** **10 22 45.2 +1.3**
NIL P **P** **10 22 45.2 +1.3**
TULEG Thule 47.26 342 P **P** **10 22 43.7 -0.4**
TULEG IAMs_20 IAMs_20 10 44 11.0
comp=Z,4µm,19.0s
TULEG Thule 47.26 342 *i* P **P** **10 22 45.2 +1.2**
TULEG IAmb IAmb 10 22 50.3
comp=Z,183nm,1.5s
SHLS Shalkode 47.36 66 *e*P **P** **10 22 48.0 +2.6**
comp=Z,126nm,2.6s,baz=66
SHLS Shalkode 47.36 66 *e*P **P** **10 22 48.0 +2.6**
SHLS pmax pmax
comp=Z,126nm,2.6s
MAKZ Makanchi 47.63 60 P **P** **10 22 47.0 -0.4**
MAKZ IAmb IAmb 10 22 52.5
comp=Z,168nm,1.9s
MAKZ Makanchi 47.63 60 P **P** **10 22 47.0 -0.4**
MAKZ pmax pmax
comp=Z,167nm,1.9s
MAKZ MLR MLR
comp=Z,6µm,21.0s
MK31 Makanchi Array 47.84 60 P **P** **10 22 48.5 -0.5**
MK31 Makanchi Array 47.84 60 *i* P **P** **10 22 48.9 -0.1**
MKAR Makanchi Array 47.84 60 P **P** **10 22 49.5 +0.6**
comp=Z,39nm,0.9s,baz=287,slow=5.3,SNR=96
MKAR LR LR 10 47 10.8
comp=Z,6µm,18.8s,baz=297,slow=41
comp=Z,39nm,0.9s
MKAR Makanchi Array 47.84 60 P **P** **10 22 48.5 -0.5**
MKAR Makanchi Array 47.84 60 P **P** **10 22 48.5 -0.5**
KMBO Kilima Mbogo 48.55 147 P **P** **10 22 54.8 -0.3**
comp=Z,0.1nm,0.6s,baz=330,slow=23,SNR=9.5
KMBO LR LR 10 45 40.1
comp=Z,23nm,20.0s,baz=304,slow=39
KMBO Kilima Mbogo 48.55 147 P **P** **10 22 55.6 +0.5**
KMBO Kilima Mbogo 48.55 147 P **P** **10 22 55.6 +0.5**
KMBO pmax pmax
comp=Z,39nm,1.4s
KMBO Kilima Mbogo 48.55 147 P **P** **10 22 56.7 +1.6**
KMBO P **P** **10 22 56.7 +1.6**
JMU Jammu 48.82 80 *e*P **P** **10 22 57.5 +0.8**
ZSN Zaisan 49.23 58 *e*P **P** **10 23 00.6 +1.0**
comp=Z,220nm,2.4s,baz=58
ZSN *e*S **S** **10 30 06.5 +1.1**
baz=58
ZSN Zaisan 49.23 58 *e*P **P** **10 23 00.6 +1.0**
ZSN *e*S **S** **10 30 06.4 +1.1**
ZSN pmax pmax
comp=Z,220nm,2.4s
FRB Frobisher Bay 49.45 325 LR LR 10 44 44.1
comp=Z,5µm,18.3s,baz=75,slow=37
THN Thein Dam 49.56 80 *e*P **P** **10 23 03.4 +1.0**
THN *i* PCP **PP** **10 25 01.4 +4.9**
DGZ Jazzator, Alta 49.96 55*d i*P **P** **10 23 05.5 +0.1**
DGZ pmax pmax
comp=Z,136nm,1.9s
DGZ MLR MLR
comp=Z,9µm,20.0s
KIBK Kibwezi 49.97 147 P **P** **10 23 05.7 0.0**
KIBK Kibwezi 49.97 147 P **P** **10 23 07.6 +1.9**
SNR=11
EUNU Eureka 50.08 347 P **P** **10 23 05.0 -0.7**
BHUJ Bhuj 50.15 94 *e*P **P** **10 23 07.2 +0.3**
BHUJ IAmb IAmb 10 23 09.7
comp=Z,85nm,1.1s
BHK Bhakra 50.59 81 *e*P **P** **10 23 09.2 -1.1**
BHK IAmb IAmb 10 23 12.7
comp=Z,202nm,1.5s
SMLA Simla 51.29 81 *e*P **P** **10 23 14.5 -1.0**
SMLA IAmb IAmb 10 23 17.6
comp=Z,87nm,1.1s
SCHQ Schefferville 51.47 313 P **P** **10 23 14.9 -1.6**
comp=Z,9.0nm,0.6s,baz=69,slow=8.2,SNR=16
SCHQ LR LR 10 42 49.1
comp=Z,3µm,19.7s,baz=66,slow=34
comp=Z,9.0nm,0.6s
SCHQ Schefferville 51.47 313 P **P** **10 23 15.6 -1.0**
SCHQ IAmb IAmb 10 23 20.4
comp=Z,174nm,1.9s
AJM Ajmer 51.97 87 *e*P **P** **10 23 19.9 -0.7**
AJM IAmb IAmb 10 23 23.2
comp=Z,127nm,1.5s
AJM *i* PP **PP** **10 25 23.4 +4.9**
AJM *ex* x 10 30 46.2
DDI Dehra Dun 52.37 81 *e*P **P** **10 23 24.6 +1.0**
WMQ Urumqi 52.52 61 *e*P **P** **10 23 25.8 +1.2**
WMQ pP sP 10 23 29.8 +0.3
WMQ sP pP 10 23 33.6 +5.4
WMQ PcP **PcP** **10 24 37.4 +2.4**
WMQ PP **PP** **10 25 27.4 +4.1**
WMQ S **S** **10 30 50.3 -0.9**
WMQ sS sS 10 30 58.4 +1.1
WMQ SS **SS** **10 34 33.0 +4.1**
WMQ pmax pmax
comp=Z,42nm,1.3s
WMQ pmax pmax
comp=Z,1µm,4.1s
WMQ LR LR
comp=Z,12µm,18.7s
WMQ LR LR
comp=Z,8µm,17.7s
WMQ LR LR
comp=Z,4µm,19.9s
RES Resolute Bay 53.97 342 LR LR 10 47 18.7
comp=Z,1µm,20.2s,baz=57,slow=37
RES Resolute Bay 53.97 342 P **P** **10 23 34.2 -0.4**
RES IAmb IAmb 10 23 41.5
comp=Z,144nm,2.0s
RES Resolute Bay 53.97 342 P **P** **10 23 34.3 -0.4**
BATG Bathurst New B 54.09 304 P **P** **10 23 35.8 -0.2**
PTH Pithoragarh 54.36 81 *e*P **P** **10 23 36.6 -1.8**
LGTI Lohaghat 54.44 81 *e*P **P** **10 23 38.1 -0.6**
JHNI Jhansi 55.42 86 *e*P **P** **10 23 43.6 -2.3**
PQI Presque Isle 55.56 304 IAMs_20 IAMs_20 10 47 19.7
comp=Z,2µm,18.0s
BHPL Bhopal 55.90 89 *e*P **P** **10 23 49.2 -0.3**
BHPL *i* x x 10 24 19.0
BHPL *ex* x 10 26 00.9
D62A Allapoint, All 55.99 305 P **P** **10 23 49.6 -0.1**
D62A Allapoint, All 55.99 305 P **P** **10 23 48.4 -1.3**
baz=62
D62A P **P** **10 23 48.4 -1.3**
baz=62
EMMW East Machias 56.14 302 IAMs_20 IAMs_20 10 46 37.1
comp=Z,3µm,19.0s
E62A Clayton Lake 56.50 305 P **P** **10 23 52.3 -1.0**
E62A IAmb IAmb 10 23 58.6
comp=Z,126nm,1.8s
E62A Clayton Lake 56.50 305 P **P** **10 23 52.8 -0.6**
baz=61
E62A P **P** **10 23 52.8 -0.6**
baz=61
MOY Mondy 56.95 48 *e*P **P** **10 23 57.2 +0.5**
MOY pmax pmax
comp=Z,168nm,2.2s
PKME Peaks-Kenny Pk 57.01 303 IAMs_20 IAMs_20 10 48 27.1
comp=Z,3µm,19.0s
PKME Peaks-Kenny Pk 57.01 303 P **P** **10 23 52.6 -4.4**
baz=61
AKL Akola 57.12 91 *e*P **P** **10 23 58.0 -0.2**
AKL IAmb IAmb 10 23 59.5
comp=Z,118nm,1.6s
PYUN Piuthan 57.19 80 *e*P **P** **10 23 58.9 +0.1**
comp=Z,468nm,1.1s
TIXI Tiksi 57.46 20 P **P** **10 24 00.7 +0.9**
TIXI IAmb IAmb 10 24 05.1
comp=Z,96nm,1.1s
TIXI Tiksi 57.46 20*ce*P **P** **10 24 00.2 +0.4**
TIXI pmax pmax
comp=Z,168nm,1.7s
TIXI MLR MLR
comp=Z,4µm,16.0s
WVL Waterville 57.58 303 IAMs_20 IAMs_20 10 48 05.2
comp=Z,3µm,20.0s
DANN Dangsing 57.60 80 *e*P **P** **10 24 01.7 -0.1**
KOLN Koldanda 57.82 80 *e*P **P** **10 24 03.1 -0.1**
comp=Z,105nm,2.1s
ALBI Allahabad 57.92 84 *e*P **P** **10 24 01.3 -2.4**
LATQ La Tuque 58.08 307 P **P** **10 24 04.0 -0.4**
LATQ IAmb IAmb 10 24 09.5
comp=Z,86nm,1.5s
VLK Valmikinagar 58.27 81 *e*P **P** **10 24 06.4 +0.3**
GKN Gorkha 58.44 80 *e*P **P** **10 24 07.1 -0.4**
IRK Irkutsk 58.45 46 *e*P **P** **10 24 06.3 -0.7**
IRK *e* 10 26 17.8
IRK *e*S **S** **10 32 08.1 -1.8**
IRK pmax pmax
comp=Z,312nm,2.4s
VAR Varanasi 58.81 83 *e*P **P** **10 24 08.8 -1.1**
ZAK Zakamensk 58.84 48 *e*P **P** **10 24 09.4 -0.5**
ZAK pmax pmax
comp=Z,35nm,1.9s
DMN Daman 59.00 80 *e*P **P** **10 24 11.9 +0.3**
KKN Kakani 59.03 79 *e*P **P** **10 24 11.4 -0.3**
LBNH Lisbon 59.15 303 IAMs_20 IAMs_20 10 49 03.7
comp=Z,3µm,20.0s
LBNH Lisbon 59.15 303 P **P** **10 24 08.7 -3.3**
baz=59
PKIN Phulchoki 59.23 79 *e*P **P** **10 24 12.8 -0.4**
PKI Pulchoki 59.24 79 *e*P **P** **10 24 12.9 -0.4**
comp=Z,154nm,1.1s
FFD Franklin Falls 59.37 303 IAMs_20 IAMs_20 10 48 34.7
comp=Z,2µm,20.0s
VT1 Waterbury 59.61 304 IAMs_20 IAMs_20 10 48 58.9
comp=Z,2µm,20.0s
HNH Hanover 59.64 303 IAMs_20 IAMs_20 10 49 54.9
comp=Z,3µm,18.0s
BCX Boston College 59.66 301 IAMs_20 IAMs_20 10 48 34.4
comp=Z,2µm,20.0s
TRQ Mont Tremblant 59.71 307 P **P** **10 24 15.6 -0.4**
TRQ IAmb IAmb 10 24 20.1
comp=Z,100nm,1.7s
WES Weston 59.73 301 IAMs_20 IAMs_20 10 49 01.2
comp=Z,2µm,20.0s
M65A Busby, Falmout 59.73 300 P **P** **10 24 11.9 -4.2**
baz=58
JIRN Jiri 59.76 79 *e*P **P** **10 24 16.9 0.0**
HRV Adam Dziewonsk 59.82 302 P **P** **10 24 12.8 -3.8**
baz=58
FRNY Flat Rock 59.85 305 P **P** **10 24 16.3 -0.5**
baz=58
BRYW Bryant College 60.11 301 IAMs_20 IAMs_20 10 48 48.4
comp=Z,2µm,20.0s
HYB Hyderabad 60.30 93 *e*P **P** **10 24 19.1 -1.2**
HYB IVmB_BB 10 24 20.6
comp=Z,474nm,5.4s
HYB IVmBBB 10 24 23.3
comp=Z,457nm,2.7s
HYB IVMs_BB IVMs_BB 10 52 24.3
comp=Z,387nm,23.9s
HYB Hyderabad 60.30 93 *e*P **P** **10 24 18.1 -2.2**
BOD Bodaibo 60.30 37 *e*P **P** **10 24 19.4 -0.3**
BOD pmax pmax
comp=Z,150nm,1.8s
QUA2 Belchertown 60.44 302 IAMs_20 IAMs_20 10 49 31.9
comp=Z,2µm,20.0s
RAMN Ramite 60.47 79 *e*P **P** **10 24 21.1 -0.6**
comp=Z,128nm,0.7s
L61B Northampton 60.55 302 IAMs_20 IAMs_20 10 49 34.9
comp=Z,3µm,19.0s
L61B Northampton 60.55 302 P **P** **10 24 17.8 -3.9**
baz=58
LONY Lake Ozonia 60.57 305 P **P** **10 24 21.3 -0.5**
LONY IAmb IAmb 10 24 26.4
comp=Z,56nm,1.6s
LONY Lake Ozonia 60.57 305 P **P** **10 24 18.5 -3.3**
baz=58
ACCN Adirondack Com 60.67 303 P **P** **10 24 21.3 -1.2**
baz=58
NCB Newcomb 60.70 304 P **P** **10 24 22.4 -0.3**
baz=58
SHEL Horse Pasture 60.79 201 IAMs_20 IAMs_20 10 47 31.2
comp=Z,4µm,22.0s
TAPN Taplejung 61.04 78 *e*P **P** **10 24 25.5 -0.1**

GOMU GeErMu 61.05 66 P **P** **10 24 26.6 +0.9**
GOMU pP pP 10 24 29.9 +0.6
GOMU sP sP 10 24 34.0 +3.4
GOMU S **S** **10 32 47.9 +3.2**
GOMU pmax pmax
comp=Z,450nm,3.9s
GOMU LR LR
comp=Z,2µm,18.2s
GOMU LR LR
comp=Z,3µm,18.6s
GOMU LR LR
comp=Z,3µm,18.4s
ODAN Odare 61.09 79 *e*P **P** **10 24 25.5 -0.4**
YLE Yale 61.32 301 P **P** **10 24 26.4 -0.5**
YLE IAMs_20 IAMs_20 10 50 31.0
comp=Z,2µm,20.0s
JHSG JHARSUGUGA 61.47 86 *e*P **P** **10 24 27.1 -1.1**
HCNY Howe Caverns 61.49 303 P **P** **10 24 26.8 -1.3**
baz=57
TSUM Tsumeb 61.56 175 LR LR 10 53 20.6
comp=Z,2µm,18.7s,baz=344,slow=38
TSUM Tsumeb 61.56 175 P **P** **10 24 29.8 +1.0**
TSUM Tsumeb 61.56 175 IAMs_20 IAMs_20 10 50 48.2
comp=Z,2µm,20.0s
WCNY West Carthage 61.56 305 P **P** **10 24 27.8 -0.7**
baz=57
WSPT Westport, CT 61.65 301 IAMs_20 IAMs_20 10 50 39.0
comp=Z,2µm,20.0s
J58A Remsen 61.67 304 P **P** **10 24 28.8 -0.5**
J58A IAmb IAmb 10 24 37.2
comp=Z,43nm,1.3s
J58A Remsen 61.67 304 P **P** **10 24 27.5 -1.8**
baz=57
J58A P **P** **10 24 27.5 -1.8**
baz=57
BOK Bokaro 61.80 83 *e*P **P** **10 24 29.5 -1.0**
BOK IAmb IAmb 10 24 32.3
comp=Z,50nm,0.9s
NPNY Mohonk Preserv 61.84 302 P **P** **10 24 30.4 0.0**
baz=57
SONM Songino Array 61.92 50 P **P** **10 24 31.3 +0.2**
comp=Z,47nm,0.9s,baz=287,slow=6.5,SNR=87
SONM LR LR 10 53 22.7
comp=Z,9µm,19.9s,baz=308,slow=38
comp=Z,47nm,0.9s
SONM Songino Array 61.92 50 P **P** **10 24 30.6 -0.5**
BRNY Black Rk. Fore 61.95 302 P **P** **10 24 31.1 0.0**
baz=57
A36M Sachs Harbour 62.10 347 P **P** **10 24 31.6 -0.1**
A36M IAMs_20 IAMs_20 10 51 48.1
comp=Z,2µm,22.0s
A36M Sachs Harbour 62.10 347 P **P** **10 24 29.0 -2.6**
baz=34,SNR=36
PAL Palisades 62.10 301 P **P** **10 24 28.8 -3.4**
baz=56
LSA Lhasa 62.16 74 P **P** **10 24 32.5 -0.8**
LSA IAMs_20 IAMs_20 10 56 31.4
comp=Z,3µm,21.0s
LSA Lhasa 62.16 74 P **P** **10 24 32.5 -0.8**
LSA pmax pmax
comp=Z,152nm,1.5s
LSA MLR MLR
comp=Z,3µm,21.0s
LSA Lhasa 62.16 74 P **P** **10 24 33.1 -0.2**
L59A Walton 62.16 303 P **P** **10 24 32.4 -0.3**
baz=56
L59A P **P** **10 24 32.4 -0.3**
baz=56
ULN Ulaanbaatar 62.28 49 P **P** **10 24 33.2 -0.3**
ULN IAmb IAmb 10 24 39.1
comp=Z,104nm,1.4s
ULN Ulaanbaatar 62.28 49*ce*P **P** **10 24 33.5 0.0**
ULN pmax pmax
comp=Z,113nm,1.7s
ULN MLR MLR
comp=Z,7µm,18.0s
ULN Ulaanbaatar 62.28 49 P **P** **10 24 34.0 +0.5**
ULN P **P** **10 24 34.0 +0.5**
ODNJ Ogdensburg 62.50 302 P **P** **10 24 33.9 -0.9**
baz=56
GTA Gaotai 62.58 61 *e*P **P** **10 24 35.4 -0.2**
GTA pP sP 10 24 40.0 -0.6
GTA sP pP 10 24 43.6 +4.4
GTA PP **PP** **10 26 56.4 +3.5**
GTA S **S** **10 33 05.1 +1.6**
GTA SS **SS** **10 37 06.6 -0.6**
GTA pmax pmax
comp=Z,17nm,1.2s
GTA pmax pmax
comp=Z,990nm,5.5s
GTA LR LR
comp=Z,3µm,20.0s
GTA LR LR
comp=Z,2µm,20.0s
GTA LR LR
comp=Z,4µm,19.6s
FCC Fort Churchill 62.61 326 P **P** **10 24 34.4 -0.9**
FCC IAmb IAmb 10 24 39.2
comp=Z,44nm,0.9s
FCC Fort Churchill 62.61 326 P **P** **10 24 34.4 -0.9**
FCC pmax pmax
comp=Z,44nm,0.9s
BINY Binghamton 62.74 303 IAMs_20 IAMs_20 10 50 35.9
comp=Z,2µm,20.0s
BINY Binghamton 62.74 303 P **P** **10 24 33.7 -2.8**
baz=56
K57A Scipio Center 62.77 304 P **P** **10 24 35.9 -0.9**
baz=56
SADO Sadowa 63.21 307 LR LR 10 49 39.5
comp=Z,2µm,21.4s,baz=76,slow=34
SADO Sadowa 63.21 307 IAmb IAmb 10 24 45.3
comp=Z,108nm,1.6s
CIT Chita 63.38 43 *e*P **P** **10 24 40.8 +0.2**
CIT *e* 10 25 18.6
CIT pmax pmax
comp=Z,256nm,2.8s
VIS Vishakhapatnam 63.64 90 *e*P **P** **10 24 41.5 -1.2**
L56A Greenwood 63.75 304 P **P** **10 24 42.3 -0.9**
baz=55
L56A P **P** **10 24 42.3 -0.9**
baz=55
J54A Appleton 63.76 306 P **P** **10 24 42.5 -0.7**
J54A IAmb IAmb 10 24 44.5
comp=Z,43nm,0.8s
J54A Appleton 63.76 306 P **P** **10 24 43.3 +0.1**
baz=55
J54A P **P** **10 24 43.3 +0.1**
baz=55
SALM Salem 63.77 98 *e*P **P** **10 24 41.7 -1.9**
M57A Sunshine Farm, 63.93 303 P **P** **10 24 43.3 -1.1**
baz=55
M57A P **P** **10 24 43.3 -1.1**
baz=55
YAK Yakutsk 63.95 28 LR LR 10 55 22.0
comp=Z,3µm,18.3s,baz=310,slow=39
YAK Yakutsk 63.95 28 P **P** **10 24 43.2 -0.9**
YAK IAMs_20 IAMs_20 10 56 13.2
comp=Z,3µm,19.0s
YAK Yakutsk 63.95 28 *e*P **P** **10 24 45.0 +0.9**
YAK *e* 10 27 01.3
YAK *e*S **S** **10 33 19.9 +0.3**
YAK *e* 10 34 42.0
YAK pmax pmax
comp=Z,207nm,1.0s
YAK pmax pmax
comp=N,61nm,1.1s
YAK pmax pmax
comp=E,66nm,1.1s
YAK pmax pmax
comp=Z,136nm,3.0s
YAK pmax pmax
comp=N,113nm,3.2s
YAK pmax pmax
comp=E,104nm,3.0s
YAK smax smax
comp=N,388nm,4.4s
YAK smax smax
comp=E,309nm,4.8s
YAK MLR MLR
comp=Z,3µm,18.0s
C36M Paulatuk 64.09 344 IAmb IAmb 10 24 51.2
comp=Z,82nm,1.3s
C36M IAMs_20 IAMs_20 10 54 47.7
comp=Z,2µm,18.0s
C36M Paulatuk 64.09 344 P **P** **10 24 42.5 -2.4**
baz=34,SNR=32

KOD Kodaikanal 64.18 100 *e*P **P** **10 24 43.7 -3.0**
KOD *i* x x 10 27 11.1
MVL Millersville 64.21 301 P **P** **10 24 45.4 -0.8**
MVL IAmb IAmb 10 24 52.4
comp=Z,67nm,1.5s
WVNY West Valley, N 64.23 305 IAmb IAmb 10 24 54.1
comp=Z,84nm,1.4s
WVNY West Valley, N 64.23 305 P **P** **10 24 46.0 -0.4**
baz=55
GUWA GUWAHATI 64.59 77 *e*P **P** **10 24 47.7 -1.2**
SSPA Standing Stone 64.81 303 P **P** **10 24 49.7 -0.4**
SSPA Standing Stone 64.81 303 IAMs_20 IAMs_20 10 52 35.5
comp=Z,2µm,20.0s
SSPA Standing Stone 64.81 303 P **P** **10 24 49.3 -0.8**
baz=55
SSPA Standing Stone 64.81 303 P **P** **10 24 47.9 -2.2**
baz=55
M55A Ridgway 64.87 304 P **P** **10 24 50.0 -0.5**
baz=54
M55A P **P** **10 24 50.0 -0.5**
baz=54
PSDB Penn State Uni 65.06 304 P **P** **10 24 51.5 -0.2**
baz=54
SBV Sambava 65.10 140 P **P** **10 24 52.9 +0.8**
SHL Shillong 65.11 77 *e*P **P** **10 24 52.1 -0.4**
SHL Shillong 65.11 77 P **P** **10 24 51.7 -0.8**
SNR=43
S61A Accomac 65.11 299 P **P** **10 24 51.9 -0.2**
baz=54
S61A P **P** **10 24 51.9 -0.2**
baz=54
TEZP TEZPUR 65.14 76 *e*P **P** **10 24 52.0 -0.5**
ERPA Erie 65.24 305 IAMs_20 IAMs_20 10 52 20.7
comp=Z,3µm,21.0s
ERPA Erie 65.24 305 P **P** **10 24 52.1 -0.8**
baz=54
ERPA Erie 65.24 305 P **P** **10 24 50.8 -2.1**
baz=54
E46A Sault Ste Mari 65.26 311 IAmb IAmb 10 24 58.8
comp=Z,67nm,1.2s
E46A Sault Ste Mari 65.26 311 P **P** **10 24 53.6 +0.7**
baz=54,SNR=8.0
ZIRO ZIRO 65.35 75 *e*P **P** **10 24 53.3 -0.8**
PAOC Oil Creek Stat 65.40 304 P **P** **10 24 53.3 -0.7**
baz=54
PABK Blue Knob Stat 65.45 303 P **P** **10 24 53.1 -1.3**
baz=54
P57A Homestead Farm 65.55 302 P **P** **10 24 54.2 -0.8**
baz=54
P57A P **P** **10 24 54.2 -0.8**
baz=54
ALLY Alegheny Colle 65.61 305 IAmb IAmb 10 24 57.5
comp=Z,34nm,0.8s
RCBR Riachuelo 65.62 236 LR LR 10 50 35.9
comp=Z,2µm,20.4s,baz=200,slow=33
RCBR Riachuelo 65.62 236 P **P** **10 24 55.1 -0.6**
RCBR IAmb IAmb 10 25 02.1
comp=Z,29nm,0.8s
RCBR Riachuelo 65.62 236 IAMs_20 IAMs_20 10 53 09.2
comp=Z,2µm,20.0s
RCBR Riachuelo 65.62 236 P **P** **10 24 55.1 -0.6**
RCBR pmax pmax
comp=Z,29nm,0.8s
RCBR MLR MLR
comp=Z,2µm,20.0s
RCBR Riachuelo 65.62 236 *e*P **P** **10 24 56.8 +1.1**
I49A Point Hope 65.85 308 P **P** **10 24 57.0 +0.2**
baz=54
I49A P **P** **10 24 57.0 +0.2**
baz=54
CBN Corbin Frederi 65.90 300 IAMs_20 IAMs_20 10 52 41.5
comp=Z,2µm,19.0s
CBN Corbin Frederi 65.90 300 P **P** **10 24 55.6 -1.6**
baz=54
PAMR Moraine State 65.99 304 P **P** **10 24 57.4 -0.4**
baz=54
M53A WI Miller and 66.05 305 IAMs_20 IAMs_20 10 52 45.3
comp=Z,2µm,20.0s
M53A WI Miller and 66.05 305 P **P** **10 24 55.6 -2.6**
baz=54
A21K Barrow 66.21 356 IAMs_20 IAMs_20 10 56 45.8
comp=Z,2µm,18.0s
A21K Barrow 66.21 356 P **P** **10 24 57.3 -1.4**
baz=8.2,SNR=10
UPAO U. Pittsburgh 66.22 304 P **P** **10 24 59.2 0.0**
baz=54
GLMI Grayling 66.35 310 IAmb IAmb 10 25 08.4
comp=Z,76nm,1.1s
GLMI IAMs_20 IAMs_20 10 51 17.0
comp=Z,2µm,22.0s
GLMI Grayling 66.35 310 P **P** **10 24 59.5 -0.6**
baz=53
GLMI Grayling 66.35 310 P **P** **10 24 57.9 -2.1**
baz=53
R58B Mineral 66.36 300 IAmb IAmb 10 25 06.2
comp=Z,50nm,1.1s
R58B Mineral 66.36 300 P **P** **10 25 00.8 +0.6**
baz=54,SNR=15
R58B P **P** **10 25 00.8 +0.6**
baz=54,SNR=15
M52A Chesterland 66.40 305 P **P** **10 25 00.3 -0.1**
baz=53,SNR=6.4
M52A P **P** **10 25 00.3 -0.1**
baz=53,SNR=6.4
K50A Casco 66.42 307 P **P** **10 25 00.3 -0.2**
baz=53
K50A P **P** **10 25 00.3 -0.2**
baz=53
N53A Lisbon 66.52 304 IAmb IAmb 10 25 06.3
comp=Z,44nm,1.1s
N53A Lisbon 66.52 304 P **P** **10 25 01.6 +0.4**
baz=53,SNR=8.1
N53A P **P** **10 25 01.6 +0.4**
baz=53,SNR=8.1
MOKO MOKOCHONG 66.55 75 *e*P **P** **10 25 02.9 +1.2**
Q56A Snyder Ridge, 66.55 302 P **P** **10 25 01.5 0.0**
baz=54,SNR=11
Q56A P **P** **10 25 01.5 0.0**
baz=54,SNR=11
MCWV Mont Chateau 66.59 303 IAMs_20 IAMs_20 10 53 04.8
comp=Z,2µm,19.0s
MCWV Mont Chateau 66.59 303 P **P** **10 25 01.4 -0.3**
baz=53
MCWV Mont Chateau 66.59 303 P **P** **10 25 00.7 -1.0**
baz=53
O54A Avella 66.61 304 P **P** **10 25 02.1 +0.3**
baz=53
O54A P **P** **10 25 02.1 +0.3**
baz=53
BRDH Bariadhala 66.68 80 LR LR 11 02 25.5
comp=Z,4µm,18.3s,baz=293,slow=43
INK Inuvik 66.70 347 LR LR 10 57 10.7
comp=Z,1µm,18.2s,baz=24,slow=39
INK Inuvik 66.70 347 P **P** **10 25 00.8 -1.1**
baz=26,SNR=16
C26K Camden Bay 66.72 352 P **P** **10 25 00.5 -1.4**
baz=17,SNR=37
E43A Lone Tree Farm 66.74 312 IAmb IAmb 10 25 08.1
comp=Z,68nm,1.2s
E43A Lone Tree Farm 66.74 312 P **P** **10 25 02.5 0.0**
baz=52,SNR=9.6
T59A Double "B" Far 66.74 299 IAmb IAmb 10 25 08.7
comp=Z,58nm,1.4s
G45A Suttons Bay 66.81 310 P **P** **10 25 02.8 -0.1**
baz=52
G45A P **P** **10 25 02.8 -0.1**
baz=52
C27K Jago River 66.87 351 P **P** **10 25 01.0 -1.9**
baz=18,SNR=75
LKP Lekhapani 66.88 74 *e*P **P** **10 25 05.3 +1.6**
IMP Imphal 67.04 77 *e*P **P** **10 25 05.0 +0.2**
IMP *i* x x 10 36 19.1
O53A New Philadelph 67.09 304 IAmb IAmb 10 25 06.3
comp=Z,43nm,0.8s
O53A IAMs_20 IAMs_20 10 53 31.8
comp=Z,3µm,19.0s
O53A New Philadelph 67.09 304 P **P** **10 25 02.2 -2.6**
baz=53,SNR=10.0
LZH Lanzhou 67.11 62 *e*P **P** **10 25 06.4 +1.2**
LZH sP sP 10 25 14.0 +3.8
LZH S **S** **10 34 02.1 +2.7**
LZH sS sS 10 34 12.0 +6.5
LZH pmax pmax
comp=Z,54nm,1.0s
LZH pmax pmax
comp=Z,1µm,4.5s
LZH LR LR
comp=Z,6µm,16.8s
LZH LR LR
comp=Z,3µm,16.3s
LZH LR LR
comp=Z,6µm,17.5s
S57A Dark Hollow, R 67.17 301 IAmb IAmb 10 25 13.0
comp=Z,47nm,1.4s
S57A Dark Hollow, R 67.17 301 P **P** **10 25 04.7 -0.6**
baz=53
S57A P **P** **10 25 04.7 -0.6**
baz=53
D41A Chassel 67.17 313 P **P** **10 25 04.6 -0.6**
baz=52
U59A Littleton 67.26 299 IAmb IAmb 10 25 12.1
comp=Z,77nm,1.3s
U59A Littleton 67.26 299 P **P** **10 25 05.8 -0.1**
baz=53,SNR=9.0
U59A P **P** **10 25 05.8 -0.1**
baz=53,SNR=9.0
C24K Franklin Bluff 67.27 353 P **P** **10 25 04.1 -1.3**
baz=14
YKA Yellowknife Ar 67.30 337 P **P** **10 25 05.3 -0.4**
comp=Z,27nm,0.8s,baz=36,slow=5.5,SNR=7.5
YKA PKPPKP P'P'df 10 53 29.9 -9.0
comp=Z,0.3nm,0.9s,baz=206,slow=3.4,SNR=3.9
comp=Z,27nm,0.8s
AAM Ann Arbor 67.32 307 IAmb IAmb 10 25 13.5
comp=Z,32nm,1.1s
AAM Ann Arbor 67.32 307 P **P** **10 25 05.6 -0.7**
baz=52
AAM Ann Arbor 67.32 307 P **P** **10 25 04.9 -1.3**
baz=52
ANWB Willy Bob 67.36 274 IAMs_20 IAMs_20 10 48 48.1
comp=Z,2µm,22.0s
N51A Ashland 67.39 305 P **P** **10 25 05.7 -1.0**
baz=53,SNR=5.9
N51A P **P** **10 25 05.7 -1.0**
baz=53,SNR=5.9
J47A Sunmer 67.43 308 IAmb IAmb 10 25 15.6
comp=Z,65nm,0.9s
J47A Sunmer 67.43 308 P **P** **10 25 07.2 +0.2**
baz=52,SNR=6.9
J47A P **P** **10 25 07.2 +0.2**
baz=52,SNR=6.9
M50A Fremont 67.50 306 P **P** **10 25 06.3 -1.1**
baz=52
M50A P **P** **10 25 06.3 -1.1**
baz=52
F31M Tsiigehtchic 67.52 347 P **P** **10 25 05.3 -1.8**
baz=26,SNR=57
O52A Adamsville 67.55 304 IAmb IAmb 10 25 14.3
comp=Z,43nm,0.9s
O52A Adamsville 67.55 304 P **P** **10 25 06.8 -0.9**
baz=53,SNR=9.8
O52A P **P** **10 25 06.8 -0.9**
baz=53,SNR=9.8
R55A Marlinton 67.59 302 IAmb IAmb 10 25 14.2
comp=Z,62nm,1.2s
R55A Marlinton 67.59 302 P **P** **10 25 07.9 -0.2**
baz=53
R55A P **P** **10 25 07.9 -0.2**
baz=53
Q54A Coxs Mills 67.61 303 P **P** **10 25 07.5 -0.6**
baz=53
Q54A P **P** **10 25 07.5 -0.6**
baz=53
P53A Whipple 67.65 303 P **P** **10 25 08.6 +0.2**
baz=53,SNR=16
P53A P **P** **10 25 08.6 +0.2**
baz=53,SNR=16
I45A Fountain 67.75 310 P **P** **10 25 08.5 -0.4**
baz=52
I45A P **P** **10 25 08.5 -0.4**
baz=52
SAIH SAIHA 67.78 79 *e*P **P** **10 25 08.4 -1.2**
SAIH IAmb IAmb 10 25 16.2
comp=Z,896nm,2.8s
T57A Hurt 67.81 300 IAmb IAmb 10 25 15.6
comp=Z,70nm,1.3s
T57A Hurt 67.81 300 P **P** **10 25 09.3 -0.2**
baz=53,SNR=12
T57A P **P** **10 25 09.3 -0.2**
baz=53,SNR=12
BILL Bilibino 67.88 11 P **P** **10 25 09.2 -0.2**
BILL IAMs_20 IAMs_20 10 54 51.2
comp=Z,2µm,20.0s
BILL Bilibino 67.88 11⇑ *i*P **P** **10 25 08.8 -0.6**
BILL *e* 10 27 41.6
BILL pmax pmax
comp=Z,138nm,1.7s
BILL MLR MLR
comp=Z,2µm,16.0s
ABD La Joyeuse, An 67.90 272 IAMs_20 IAMs_20 10 49 32.4
comp=Z,2µm,21.0s
E27K Coleen River 67.99 350 P **P** **10 25 08.0 -2.1**
baz=20
CNNC Cliffs of the 67.99 298 IAMs_20 IAMs_20 10 56 28.2
comp=Z,2µm,18.0s
CNNC Cliffs of the 67.99 298 P **P** **10 25 09.9 -0.7**
baz=53
L48A N Adams 67.99 307 P **P** **10 25 10.3 -0.2**
baz=52,SNR=6.7
L48A P **P** **10 25 10.3 -0.2**
baz=52,SNR=6.7
P52A Corning 68.02 304 P **P** **10 25 10.2 -0.5**
P52A IAMs_20 IAMs_20 10 54 00.5
comp=Z,3µm,19.0s
P52A Corning 68.02 304 P **P** **10 25 09.8 -1.0**
baz=52,SNR=13
EYMN Ely 68.16 316 IAmb IAmb 10 25 17.1
comp=Z,87nm,1.4s
EYMN Ely 68.16 316 P **P** **10 25 10.4 -1.1**
baz=50
EYMN Ely 68.16 316 P **P** **10 25 09.5 -1.9**
baz=50
D23K Nanushuk River 68.17 354 P **P** **10 25 09.7 -1.5**
baz=13
ACSO Alum Creek Sta 68.17 305 IAMs_20 IAMs_20 10 52 28.5
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 68.17 305 P **P** **10 25 11.0 -0.7**
baz=52,SNR=7.5
ACSO Alum Creek Sta 68.17 305 P **P** **10 25 10.4 -1.2**
baz=52,SNR=7.5
LBTB Lobatse 68.17 168 LR LR 10 56 42.6
comp=Z,1µm,18.1s,baz=352,slow=37
LBTB Lobatse 68.17 168 IAmb IAmb 10 25 15.9
comp=Z,33nm,1.1s
HIA Hailar 68.18 43 P **P** **10 25 14.7 +3.1**
comp=Z,56nm,2.2s
BTO Baotou 68.25 54 *e*P **P** **10 25 11.8 -0.5**
BTO S **S** **10 34 11.8 -1.0**
BTO SS **SS** **10 38 39.6 +4.5**
BTO LR LR
comp=Z,10µm,14.2s
BTO LR LR
comp=Z,8µm,17.9s
H43A Windswept, Lux 68.35 311 P **P** **10 25 12.0 -0.7**
H43A IAmb IAmb 10 25 18.6
comp=Z,79nm,1.1s
H43A Windswept, Lux 68.35 311 P **P** **10 25 12.4 -0.2**
baz=51
G30M tAoh Zraii Nji 68.35 348 P **P** **10 25 10.8 -1.6**
baz=24,SNR=18
OPO Ambohidratompo 68.38 145 LR LR 10 56 59.0
comp=Z,376nm,19.9s,baz=168,slow=38
BLA Blacksburg 68.43 301 IAMs_20 IAMs_20 10 54 19.4
comp=Z,2µm,19.0s
BLA Blacksburg 68.43 301 P **P** **10 25 11.3 -2.0**
baz=52
V58A Windy Hill, Pi 68.45 299 P **P** **10 25 12.9 -0.5**
V58A IAmb IAmb 10 25 19.4
comp=Z,66nm,1.2s
V58A Windy Hill, Pi 68.45 299 P **P** **10 25 12.9 -0.5**
baz=52
V58A P **P** **10 25 12.9 -0.5**
baz=52
N49A Columbus Grove 68.47 306 P **P** **10 25 12.8 -0.8**
baz=52,SNR=12
N49A P **P** **10 25 12.8 -0.8**
baz=52,SNR=12
Q52A Bidwell 68.51 303 P **P** **10 25 13.8 0.0**
baz=52,SNR=11
Q52A P **P** **10 25 13.8 0.0**
baz=52,SNR=11
E25K Arctic Village 68.52 352 P **P** **10 25 11.7 -1.7**
baz=17,SNR=24
PALK Pallekele 68.53 100 P **P** **10 25 13.6 -0.6**
PALK IAmb IAmb 10 25 16.5

	comp=Z,99nm,1.7s							
PALK	**Pallekele**	**68.53**	**100**	P	**P**	**10**	**25**	**13.6 -0.6**
PALK	comp=Z,99nm,1.7s			pmax	pmax			
PALK	comp=Z,2μm,22.0s			MLR	MLR			
PALK	**Pallekele**	**68.53**	**100**	P	**P**	**10**	**25**	**13.5 -0.8**
PALK				P	**P**	**10**	**25**	**13.5 -0.8**
PALK				P	**P**	**10**	**25**	**13.5 -0.8**
FFC	**Flin Flon**	**68.54**	**326**	P	**P**	**10**	**25**	**12.9 -0.8**
FFC	comp=Z,36nm,1.0s			IAmb	IAmb	10	25	17.9
FFC	**Flin Flon**	**68.54**	**326**	P	**P**	**10**	**25**	**12.9 -0.8**
FFC	comp=Z,36nm,1.0s			pmax	pmax			
ROSB	**Rosrio**	**68.66**	**245**	*e*P	**P**	**10**	**25**	**16.0 +1.1**
P51A	**Williamsport**	**68.68**	**304**	P	**P**	**10**	**25**	**13.6 -1.2**
P51A	baz=52,SNR=7.1			P	**P**	**10**	**25**	**13.6 -1.2**
	baz=52,SNR=7.1							
ZEA	**Zeya**	**68.69**	**36**	*e*P	**P**	**10**	**25**	**15.2 +0.6**
ZEA				*e*		10	29	26.8
ZEA				*e*S	**S**	**10**	**34**	**20.0 +2.6**
ZEA				*e*SS	**SS**	**10**	**38**	**36.5 -4.4**
ZEA	comp=E,10.0nm,1.0s			pmax	pmax			
ZEA	comp=Z,20nm,1.2s			pmax	pmax			
ZEA	comp=N,100nm,4.9s			pmax	pmax			
ZEA	comp=E,200nm,4.9s			pmax	pmax			
ZEA	comp=Z,600nm,5.7s			pmax	pmax			
ZEA	comp=N,200nm,10.0s			smax	smax			
ZEA	comp=E,400nm,8.1s			smax	smax			
ZEA	comp=E,3μm,15.0s			MLR	MLR			
ZEA	comp=N,3μm,17.0s			MLR	MLR			
ZEA	comp=Z,5μm,17.0s			MLR	MLR			
R53A	**Hurricane**	**68.70**	**303**	P	**P**	**10**	**25**	**14.8 -0.2**
R53A	baz=52,SNR=12			P	**P**	**10**	**25**	**14.8 -0.2**
	baz=52,SNR=12							
F26K	**Sheenjek River**	**68.77**	**351**	P	**P**	**10**	**25**	**13.1 -1.9**
	baz=18							
ABPO	**Ambohimpanom**	**68.79**	**145**	P	**P**	**10**	**25**	**15.8 0.0**
ABPO	comp=Z,92nm,2.0s			IAmb	IAmb	10	25	19.9
ABPO	**Ambohimpanom**	**68.79**	**145**	P	**P**	**10**	**25**	**15.8 0.0**
ABPO	comp=Z,92nm,2.0s			pmax	pmax			
ULM	**Lac du Bonnet**	**68.84**	**319**	P	**P**	**10**	**25**	**14.7 -0.9**
ULM	comp=Z,13nm,0.7s,baz=49,slow=5.6,SNR=14 comp=Z,2μm,20.8s,baz=56,slow=34 comp=Z,13nm,0.7s			LR	LR	10	53	39.1
ULM	**Lac du Bonnet**	**68.84**	**319**	P	**P**	**10**	**25**	**14.5 -1.1**
E24K	**Your Creek**	**68.85**	**353**	P	**P**	**10**	**25**	**13.8 -1.7**
	baz=14							
U56A	**King**	**68.93**	**300**	P	**P**	**10**	**25**	**16.8 +0.3**
U56A	comp=Z,88nm,1.4s			IAmb	IAmb	10	25	22.4
U56A	**King**	**68.93**	**300**	P	**P**	**10**	**25**	**15.9 -0.6**
	baz=52							
U56A	baz=52			P	**P**	**10**	**25**	**15.9 -0.6**
E23K	**Chandalar**	**68.97**	**353**	P	**P**	**10**	**25**	**15.3 -1.0**
	baz=14							
EPYK	**Eagle Plains**	**68.99**	**348**	P	**P**	**10**	**25**	**15.0 -1.4**
	baz=23,SNR=10.0							
O49A	**Covington**	**69.02**	**306**	IAmb	IAmb	10	25	21.3
	comp=Z,40nm,0.8s							
O49A	**Covington**	**69.02**	**306**	P	**P**	**10**	**25**	**16.2 -0.7**
	baz=52,SNR=8.7							
O49A	baz=52,SNR=8.7			P	**P**	**10**	**25**	**16.2 -0.7**
HHC	**Hu-ho-hao-te**	**69.02**	**54**	*e*P	**P**	**10**	**25**	**18.9 +1.8**
HHC				S	**S**	**10**	**34**	**20.6 -1.4**
HHC				SS	**SS**	**10**	**38**	**45.4 -1.6**
HHC	comp=Z,51nm,1.2s			pmax	pmax			
HHC	comp=Z,2μm,5.7s			pmax	pmax			
HHC	comp=Z,12μm,16.5s			LR	LR			
HHC	comp=Z,8μm,18.4s			LR	LR			
HHC	comp=Z,20μm,17.8s			LR	LR			
B35A	**Bob, Littlefor**	**69.03**	**317**	IAmb	IAmb	10	25	22.5
	comp=Z,56nm,1.1s							
B35A	**Bob, Littlefor**	**69.03**	**317**	P	**P**	**10**	**25**	**16.3 -0.6**
	baz=49,SNR=6.4							
F25K	**Christian Rive**	**69.03**	**352**	P	**P**	**10**	**25**	**16.2 -0.4**
	baz=17							
L46A	**Eue Claire**	**69.04**	**308**	P	**P**	**10**	**25**	**16.5 -0.5**
L46A	baz=51			P	**P**	**10**	**25**	**16.5 -0.5**
	baz=51							
E38A	**The Farm, Brul**	**69.05**	**314**	P	**P**	**10**	**25**	**16.4 -0.6**
	baz=50							
E22K	**Anaktuvuk Pass**	**69.08**	**354**	P	**P**	**10**	**25**	**15.3 -1.6**
	baz=12							
WRGLY	**Wrigley**	**69.09**	**341**	P	**P**	**10**	**25**	**16.1 -0.8**
	baz=33,SNR=35							
Q51A	**Peebles**	**69.14**	**304**	P	**P**	**10**	**25**	**16.5 -1.2**
	baz=52,SNR=16							
Q51A	baz=52,SNR=16			P	**P**	**10**	**25**	**16.5 -1.2**
G40A	**Rib Lake**	**69.18**	**313**	IAmb	IAmb	10	25	22.9
	comp=Z,46nm,1.1s							
G40A	**Rib Lake**	**69.18**	**313**	P	**P**	**10**	**25**	**17.8 -0.1**
	baz=50,SNR=11							
G27K	**Doyon Strip**	**69.30**	**350**	P	**P**	**10**	**25**	**15.8 -2.5**
	baz=20							
F24K	**Squaw Lake**	**69.34**	**352**	P	**P**	**10**	**25**	**16.0 -2.5**
	baz=15							
I42A	**Draeger Farm,**	**69.35**	**311**	IAmb	IAmb	10	25	26.4
	comp=Z,47nm,1.2s							
I42A	**Draeger Farm,**	**69.35**	**311**	P	**P**	**10**	**25**	**18.5 -0.4**
	baz=50							
X58A	**Rowland**	**69.35**	**298**	P	**P**	**10**	**25**	**18.6 -0.5**
X58A	**Rowland**	**69.35**	**298**	P	**P**	**10**	**25**	**18.1 -1.0**
X58A	baz=52			P	**P**	**10**	**25**	**18.1 -1.0**
	baz=52							
N47A	**Urbana**	**69.40**	**307**	IAmb	IAmb	10	25	19.6
	comp=Z,42nm,0.8s							
N47A	**Urbana**	**69.40**	**307**	P	**P**	**10**	**25**	**17.9 -1.4**
	baz=51,SNR=9.5							
N47A	baz=51,SNR=9.5			P	**P**	**10**	**25**	**17.9 -1.4**
W57A	**Gilead**	**69.41**	**299**	IAmb	IAmb	10	25	25.1
	comp=Z,49nm,1.2s							
W57A	**Gilead**	**69.41**	**299**	P	**P**	**10**	**25**	**18.9 -0.5**
	baz=52							
W57A	baz=52			P	**P**	**10**	**25**	**18.9 -0.5**
O48B	**Farmland**	**69.47**	**306**	P	**P**	**10**	**25**	**18.6 -1.1**
	baz=51							
O48B	**Farmland**	**69.47**	**306**	P	**P**	**10**	**25**	**16.8 -2.9**
	baz=51							
P49A	**Miami Univ. Ec**	**69.65**	**305**	IAMs_20	IAMs_20	11	00	56.7
	comp=Z,2μm,22.0s							
P49A	**Miami Univ. Ec**	**69.65**	**305**	P	**P**	**10**	**25**	**19.3 -1.6**
	baz=51							
P49A	**Miami Univ. Ec**	**69.65**	**305**	P	**P**	**10**	**25**	**18.1 -2.8**
	baz=51							
RDOG	**Red Dog Mine**	**69.69**	**358**	P	**P**	**10**	**25**	**18.4 -2.2**
	baz=3.0							
XLT	**XiLinHaoTe**	**69.69**	**49**	⇓*i*P	**P**	**10**	**25**	**22.8 +1.6**
XLT				sP	sP	10	25	30.1 +3.9
XLT				PP	**PP**	**10**	**27**	**53.8 -1.0**
XLT				S	**S**	**10**	**34**	**33.0 +3.2**
XLT				ScS	**ScS**	**10**	**35**	**23.9 +0.9**
XLT				SS	**SS**	**10**	**39**	**03.9 +6.8**
XLT	comp=Z,37nm,1.2s			pmax	pmax			
XLT	comp=Z,680nm,17.0s			LR	LR			
XLT	comp=Z,7μm,18.2s			LR	LR			
XLT	comp=Z,6μm,19.6s			LR	LR			
F22K	**John River**	**69.72**	**354**	P	**P**	**10**	**25**	**18.8 -2.1**
	baz=11							
U54A	**Nelsons Funny**	**69.74**	**301**	IAmb	IAmb	10	25	27.2
	comp=Z,81nm,1.2s							
U54A	**Nelsons Funny**	**69.74**	**301**	P	**P**	**10**	**25**	**20.9 -0.7**
	baz=52							
U54A	baz=52			P	**P**	**10**	**25**	**20.9 -0.7**
V55A	**Taylorsville**	**69.77**	**300**	P	**P**	**10**	**25**	**21.1 -0.5**
V55A	comp=Z,88nm,1.4s			IAmb	IAmb	10	25	27.5
V55A	**Taylorsville**	**69.77**	**300**	P	**P**	**10**	**25**	**20.8 -0.8**
	baz=52,SNR=10							
V55A	baz=52,SNR=10			P	**P**	**10**	**25**	**20.8 -0.8**
K43A	**Burlington**	**69.78**	**310**	IAmb	IAmb	10	25	29.7
	comp=Z,84nm,1.1s							
K43A	**Burlington**	**69.78**	**310**	P	**P**	**10**	**25**	**21.4 -0.2**
	baz=50							
H27K	**Steamboat Moun**	**69.83**	**349**	P	**P**	**10**	**25**	**20.4 -1.2**
	baz=20							
COLD	**Coldfoot**	**69.84**	**353**	IAmb	IAmb	10	25	27.2
	comp=Z,36nm,1.0s							
COLD	**Coldfoot**	**69.84**	**353**	P	**P**	**10**	**25**	**18.3 -3.3**
	baz=13,SNR=20							
L44A	**Lake County Fo**	**69.87**	**309**	IAMs_20	IAMs_20	10	54	25.2
	comp=Z,2μm,21.0s							
L44A	**Lake County Fo**	**69.87**	**309**	P	**P**	**10**	**25**	**19.6 -2.6**
	baz=50							
G25K	**Bearman Lake**	**69.88**	**351**	P	**P**	**10**	**25**	**19.4 -2.4**
	baz=16							
BIRD	**Birdtown, Kers**	**70.03**	**299**	IAmb	IAmb	10	25	29.0
	comp=Z,82nm,1.4s							
BIRD	**Birdtown, Kers**	**70.03**	**299**	P	**P**	**10**	**25**	**22.7 -0.5**
	baz=52							
G24K	**Hadweenzic Riv**	**70.09**	**352**	P	**P**	**10**	**25**	**21.7 -1.4**
	baz=15							
F21K	**Alatna River**	**70.10**	**355**	P	**P**	**10**	**25**	**22.0 -1.2**
	baz=10							
P48A	**Milroy**	**70.13**	**306**	IAmb	IAmb	10	25	28.6
	comp=Z,128nm,1.9s							
P48A	**Milroy**	**70.13**	**306**	P	**P**	**10**	**25**	**21.9 -1.9**
	baz=51							
P48A	baz=51			P	**P**	**10**	**25**	**21.9 -1.9**
AGMN	**Agassiz Nation**	**70.14**	**318**	IAmb	IAmb	10	25	29.4
	comp=Z,46nm,1.1s							
AGMN	**Agassiz Nation**	**70.14**	**318**	P	**P**	**10**	**25**	**23.3 -0.5**
	baz=48,SNR=14							
AGMN	**Agassiz Nation**	**70.14**	**318**	P	**P**	**10**	**25**	**20.8 -3.0**
	baz=48,SNR=14							
S51A	**Beattyville**	**70.15**	**303**	P	**P**	**10**	**25**	**22.7 -1.2**
	baz=51							
S51A	baz=51			P	**P**	**10**	**25**	**22.7 -1.2**
I29M	**Ogilvie Camp,**	**70.18**	**348**	IAmb	IAmb	10	25	28.6
	comp=Z,87nm,1.4s							
I29M	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	11	00	42.6
I29M	**Ogilvie Camp,**	**70.18**	**348**	P	**P**	**10**	**25**	**20.1 -3.6**
	baz=22,SNR=28							
TNCH	**TengChong**	**70.19**	**74**	P	**P**	**10**	**25**	**26.3 +1.7**
TNCH				pP	sP	10	25	29.4 -0.2
TNCH				PcP	**PcP**	**10**	**25**	**48.5 +2.0**
TNCH				PP	**PP**	**10**	**28**	**03.0 +3.3**
TNCH				S	**S**	**10**	**34**	**35.8 -0.5**
TNCH	comp=Z,120nm,0.6s			pmax	pmax			
TNCH	comp=Z,1μm,4.2s			pmax	pmax			
TNCH	comp=Z,1μm,18.6s			LR	LR			
TNCH	comp=Z,1μm,23.9s			LR	LR			
TNCH	comp=Z,3μm,19.8s			LR	LR			
CD2	**Chengdu**	**70.19**	**66**	P	**P**	**10**	**25**	**25.3 +0.9**
CD2				S	**S**	**10**	**34**	**34.3 -1.6**
CD2				SS	**SS**	**10**	**39**	**06.9 +1.6**
CD2	comp=Z,50nm,1.3s			pmax	pmax			
CD2	comp=Z,840nm,5.7s			pmax	pmax			
CD2	comp=Z,710nm,11.8s			LR	LR			
CD2	comp=Z,1μm,15.7s			LR	LR			
CD2	comp=Z,2μm,19.6s			LR	LR			
R50A	**Paris**	**70.20**	**304**	IAmb	IAmb	10	25	29.6
	comp=Z,106nm,1.7s							
R50A	**Paris**	**70.20**	**304**	P	**P**	**10**	**25**	**23.8 -0.5**
	baz=51,SNR=9.2							
R50A	baz=51,SNR=9.2			P	**P**	**10**	**25**	**23.8 -0.5**
KMSC	**Kings Mountain**	**70.28**	**300**	IAmb	IAmb	10	25	30.6
	comp=Z,117nm,1.6s							
KMSC	**Kings Mountain**	**70.28**	**300**	P	**P**	**10**	**25**	**24.6 -0.2**
	baz=51,SNR=8.7							
KMSC	**Kings Mountain**	**70.28**	**300**	P	**P**	**10**	**25**	**22.1 -2.7**
	baz=51,SNR=8.7							
SJG	**San Juan**	**70.29**	**277**	LR	LR	10	51	30.9
	comp=Z,1μm,21.7s,baz=76,slow=32							
SJG	**San Juan**	**70.29**	**277**	IAMs_20	IAMs_20	10	50	32.7
	comp=Z,2μm,22.0s							
I40A	**Norwalk**	**70.30**	**312**	P	**P**	**10**	**25**	**23.7 -1.0**
	baz=50							
G23K	**Bananza Creek**	**70.33**	**353**	P	**P**	**10**	**25**	**21.5 -3.1**
	baz=13							
MND	**Mandalay**	**70.34**	**78**	P	**P**	**10**	**25**	**25.1 -0.2**
	comp=Z,39nm,1.8s							
Y57A	**Sumter**	**70.37**	**298**	IAmb	IAmb	10	25	31.2
	comp=Z,74nm,1.3s							
Y57A	**Sumter**	**70.37**	**298**	P	**P**	**10**	**25**	**24.9 -0.5**
	baz=51							
Y57A	baz=51			P	**P**	**10**	**25**	**24.9 -0.5**
I27K	**Kandik River**	**70.44**	**349**	P	**P**	**10**	**25**	**22.8 -2.5**
	baz=19							
M44A	**Midewin, Midew**	**70.45**	**308**	P	**P**	**10**	**25**	**24.5 -1.3**
	baz=50							
SFIN	**Lafayette**	**70.54**	**307**	P	**P**	**10**	**25**	**25.0 -1.2**
	baz=50							
SFIN	**Lafayette**	**70.54**	**307**	P	**P**	**10**	**25**	**24.6 -1.7**
	baz=50							
F36A	**Milaca**	**70.57**	**315**	IAmb	IAmb	10	25	31.9
	comp=Z,46nm,1.1s							
F36A	**Milaca**	**70.57**	**315**	P	**P**	**10**	**25**	**26.1 -0.3**
	baz=48,SNR=18							
SPMN	**Marine on St.**	**70.61**	**314**	IAmb	IAmb	10	25	32.3
	comp=Z,37nm,0.9s							
SPMN	**Marine on St.**	**70.61**	**314**	P	**P**	**10**	**25**	**25.4 -1.2**
	baz=49							
SPMN	**Marine on St.**	**70.61**	**314**	P	**P**	**10**	**25**	**24.3 -2.3**
	baz=49							
R49A	**Shelbyville**	**70.71**	**304**	IAmb	IAmb	10	25	32.5
	comp=Z,123nm,1.6s							
R49A	**Shelbyville**	**70.71**	**304**	P	**P**	**10**	**25**	**26.3 -1.1**
	baz=51							
R49A	baz=51			P	**P**	**10**	**25**	**26.3 -1.1**
JFWS	**Jewell Farm**	**70.72**	**311**	IAmb	IAmb	10	25	32.6
	comp=Z,128nm,1.7s							
JFWS	**Jewell Farm**	**70.72**	**311**	IAMs_20	IAMs_20	10	54	01.6
	comp=Z,3μm,22.0s							
JFWS	**Jewell Farm**	**70.72**	**311**	P	**P**	**10**	**25**	**26.8 -0.6**
	baz=50							
JFWS	**Jewell Farm**	**70.72**	**311**	P	**P**	**10**	**25**	**25.1 -2.3**
	baz=50							
JSC	**Jenkinsville**	**70.77**	**299**	P	**P**	**10**	**25**	**26.8 -1.0**
	baz=51							
PAULI	**Pauline**	**70.79**	**300**	P	**P**	**10**	**25**	**27.4 -0.5**
	baz=51,SNR=7.8							
NHSC	**New Hope**	**70.80**	**297**	IAMs_20	IAMs_20	10	54	53.5
	comp=Z,2μm,20.0s							
NHSC	**New Hope**	**70.80**	**297**	P	**P**	**10**	**25**	**27.6 -0.3**
	baz=51							
NHSC	**New Hope**	**70.80**	**297**	P	**P**	**10**	**25**	**26.6 -1.3**
	baz=51							
G21K	**Allakaket**	**70.80**	**354**	P	**P**	**10**	**25**	**24.7 -2.8**
	baz=10							
TZTN	**Tazewell**	**70.81**	**302**	IAmb	IAmb	10	25	33.6
TZTN	comp=Z,80nm,1.5s			IAMs_20	IAMs_20	10	56	25.5
TZTN	comp=Z,2μm,19.0s **Tazewell**	**70.81**	**302**	P	**P**	**10**	**25**	**27.1 -0.9**
	baz=51							
TZTN	**Tazewell**	**70.81**	**302**	P	**P**	**10**	**25**	**26.3 -1.7**
	baz=51							
V53A	**Saluda**	**70.89**	**301**	IAmb	IAmb	10	25	34.2
	comp=Z,79nm,1.6s							
V53A	**Saluda**	**70.89**	**301**	P	**P**	**10**	**25**	**27.7 -0.9**
	baz=51							
V53A	baz=51			P	**P**	**10**	**25**	**27.7 -0.9**
H24K	**Noodor Dome**	**70.97**	**352**	IAmb	IAmb	10	25	35.9
	comp=Z,123nm,1.9s							
H24K	**Noodor Dome**	**70.97**	**352**	P	**P**	**10**	**25**	**26.0 -2.5**
	baz=15							
L42A	**Oliver, Polo**	**70.98**	**310**	IAmb	IAmb	10	25	36.8
	comp=Z,44nm,1.0s							
L42A	**Oliver, Polo**	**70.98**	**310**	P	**P**	**10**	**25**	**27.7 -1.3**
	baz=50							
J29M	**Klondike Camp**	**71.01**	**347**	IAMs_20	IAMs_20	10	59	39.6
	comp=Z,2μm,18.0s							
J29M	**Klondike Camp**	**71.01**	**347**	P	**P**	**10**	**25**	**27.0 -1.8**
	baz=22							
P46A	**Rosedale**	**71.09**	**307**	P	**P**	**10**	**25**	**28.2 -1.5**
	baz=50,SNR=9.2							
EGAK	**Eagle**	**71.15**	**349**	IAmb	IAmb	10	25	34.9
	comp=Z,136nm,2.0s							
EGAK	**Eagle**	**71.15**	**349**	P	**P**	**10**	**25**	**28.5 -1.1**
	baz=20,SNR=12							
HEH	**HeiHe**	**71.19**	**38**	*e*P	**P**	**10**	**25**	**29.9 -0.1**
HEH				PP	**PP**	**10**	**28**	**11.8 +4.5**
HEH				S	**S**	**10**	**34**	**48.8 +2.0**
HEH	comp=Z,50nm,1.6s			pmax	pmax			
HEH	comp=Z,1μm,3.9s			pmax	pmax			
HEH	comp=Z,8μm,16.1s			LR	LR			
HEH	comp=Z,8μm,17.1s			LR	LR			
HEH	comp=Z,6μm,17.3s			LR	LR			
VOI	**Vohitsoka**	**71.20**	**147**	IAmb	IAmb	10	25	33.8
	comp=Z,53nm,1.3s							
VOI	**Vohitsoka**	**71.20**	**147**	P	**P**	**10**	**25**	**33.4 +2.9**
VOI	**Vohitsoka**	**71.20**	**147**	P	**P**	**10**	**25**	**31.6 +1.1**
	SNR=5.1							
V52A	**Sevierville**	**71.28**	**302**	P	**P**	**10**	**25**	**30.3 -0.6**
	baz=51							
T50A	**Nancy**	**71.31**	**303**	IAmb	IAmb	10	25	36.5
	comp=Z,78nm,1.4s							
T50A	**Nancy**	**71.31**	**303**	P	**P**	**10**	**25**	**29.8 -1.2**
	baz=50							
T50A	baz=50			P	**P**	**10**	**25**	**29.8 -1.2**
BG3	**Lake Jocassee**	**71.39**	**301**	IAmb	IAmb	10	25	37.3
	comp=Z,112nm,1.7s							
CASEE	**Lake Jocassee**	**71.39**	**301**	P	**P**	**10**	**25**	**31.2 -0.4**
	baz=51							
MAYO	**Mayo, Yukon**	**71.41**	**346**	IAmb	IAmb	10	25	33.6
	comp=Z,44nm,0.9s							
MAYO	**Mayo, Yukon**	**71.41**	**346**	P	**P**	**10**	**25**	**30.0 -1.2**
	baz=24,SNR=10							
WCI	**Wyandotte Cave**	**71.43**	**305**	P	**P**	**10**	**25**	**30.3 -1.5**
WCI	**Wyandotte Cave**	**71.43**	**305**	IAMs_20	IAMs_20	10	57	07.7
	comp=Z,2μm,18.0s							
WCI	**Wyandotte Cave**	**71.43**	**305**	P	**P**	**10**	**25**	**30.5 -1.2**
	baz=50,SNR=12							
WCI	**Wyandotte Cave**	**71.43**	**305**	P	**P**	**10**	**25**	**30.5 -1.2**
	baz=50							
WCI	**Wyandotte Cave**	**71.43**	**305**	P	**P**	**10**	**25**	**30.3 -1.5**
WCI	comp=Z,266nm,1.9s			pmax	pmax			
WCI	comp=Z,2μm,18.0s			MLR	MLR			
HODGE	**Hodges**	**71.44**	**300**	IAmb	IAmb	10	25	37.5
	comp=Z,79nm,1.7s							
HODGE	**Hodges**	**71.44**	**300**	P	**P**	**10**	**25**	**31.4 -0.5**
	baz=51							
K29M	**Barlow Dome**	**71.46**	**347**	P	**P**	**10**	**25**	**31.1 -0.5**
	baz=22,SNR=20							
O44A	**Mansfield**	**71.49**	**308**	P	**P**	**10**	**25**	**30.3 -1.7**
	baz=50							
TKL	**Tuckaleechee C**	**71.51**	**302**	LR	LR	10	55	57.8
	comp=Z,1μm,19.4s,baz=62,slow=35							
TKL	**Tuckaleechee C**	**71.51**	**302**	IAmb	IAmb	10	25	37.6
	comp=Z,100nm,1.8s							
TKL	**Tuckaleechee C**	**71.51**	**302**	P	**P**	**10**	**25**	**31.1 -1.2**
	baz=50							
TIY	**Taiyuan**	**71.52**	**56**	P	**P**	**10**	**25**	**36.3 +3.9**
TIY				S	**S**	**10**	**34**	**52.3 +1.1**
TIY				SS	**SS**	**10**	**39**	**32.3 +6.9**
TIY	comp=Z,790nm,6.9s			pmax	pmax			
TIY	comp=Z,2μm,18.5s			LR	LR			
TIY	comp=Z,4μm,17.9s			LR	LR			
TIY	comp=Z,5μm,16.5s			LR	LR			
PZH	**PanZhiHua**	**71.54**	**71**	⇑P	**P**	**10**	**25**	**32.8 +0.1**
PZH				pP	**pP**	**10**	**25**	**36.8 +0.4**
PZH				PP	**PP**	**10**	**28**	**12.3 +1.1**
PZH				S	**S**	**10**	**34**	**51.3 -0.6**
PZH				sS	**sS**	**10**	**34**	**57.4 -0.7**
PZH				SS	**SS**	**10**	**39**	**28.6 +2.2**
PZH	comp=Z,40nm,1.4s			pmax	pmax			
PZH	comp=Z,890nm,4.9s			pmax	pmax			
PZH	comp=Z,3μm,19.0s			LR	LR			
PZH	comp=Z,2μm,19.8s			LR	LR			
PZH	comp=Z,3μm,18.7s			LR	LR			
DAWY	**Dawson**	**71.56**	**348**	IAmb	IAmb	10	25	37.8
	comp=Z,131nm,1.6s							
DAWY	**Dawson**	**71.56**	**348**	P	**P**	**10**	**25**	**30.0 -2.1**
	baz=21,SNR=36							
HAW	**Hawthorne Fire**	**71.57**	**298**	P	**P**	**10**	**25**	**31.7 -0.9**
	baz=51,SNR=11							
H21K	**Melozitna Rive**	**71.59**	**354**	P	**P**	**10**	**25**	**30.9 -1.4**
	baz=11							
POKR	**Poker Plat Res**	**71.62**	**352**	P	**P**	**10**	**25**	**31.3 -1.2**
	baz=15,SNR=11							
XAN	**Xi'an**	**71.64**	**61**	⇑P	**P**	**10**	**25**	**33.3 +0.1**
XAN				pP	sP	10	25	37.5 -0.7
XAN				sP	pP	10	25	40.3 +3.5
XAN				PP	**PP**	**10**	**28**	**15.6 +3.8**
XAN				S	**S**	**10**	**34**	**54.0 +1.2**
XAN				sS	sS	10	35	01.4 +2.5
XAN				ScS	**SKSac**	**10**	**35**	**36.0 -0.9**
XAN				SS	**SS**	**10**	**39**	**27.6 +0.1**
XAN	comp=Z,89nm,1.3s			pmax	pmax			
XAN	comp=Z,2μm,4.3s			pmax	pmax			
XAN	comp=Z,2μm,15.6s			LR	LR			
XAN	comp=Z,3μm,17.2s			LR	LR			
XAN	comp=Z,4μm,19.1s			LR	LR			
BOSA	**Boshof**	**71.66**	**169**	P	**P**	**10**	**25**	**32.1 -1.1**
BOSA	comp=Z,28nm,1.1s,baz=3.8,slow=6.7,SNR=12 comp=Z,2μm,18.1s,baz=354,slow=38 comp=Z,28nm,1.1s			LR	LR	11	00	02.7
BOSA	**Boshof**	**71.66**	**169**	IAmb	IAmb	10	25	39.5
	comp=Z,99nm,1.6s							
HDIL	**Hopedale**	**71.71**	**308**	IAmb	IAmb	10	25	37.8
	comp=Z,33nm,0.7s							
HDIL	comp=Z,3μm,21.0s			IAMs_20	IAMs_20	10	55	19.8
HDIL	**Hopedale**	**71.71**	**308**	P	**P**	**10**	**25**	**32.3 -1.1**
	baz=49							
HDIL	**Hopedale**	**71.71**	**308**	P	**P**	**10**	**25**	**31.3 -2.0**
	baz=49							
I37A	**Lemond, Waseca**	**71.73**	**313**	IAmb	IAmb	10	25	39.2
	comp=Z,84nm,1.1s							
I37B	**Waseca**	**71.73**	**313**	P	**P**	**10**	**25**	**32.4 -1.0**
	baz=48							
J26L	**Joseph Creek**	**71.75**	**350**	P	**P**	**10**	**25**	**31.8 -1.5**
	baz=18							
GRTK	**Grand Turk**	**71.78**	**283**	IAMs_20	IAMs_20	10	52	34.5
	comp=Z,2μm,21.0s							
V51A	**Loudon**	**71.78**	**302**	IAmb	IAmb	10	25	39.6
	comp=Z,87nm,1.4s							

V51A	**Loudon**	**71.78**	**302**	P	**P**	**10 25 33.0**	**-0.9**	
	baz=50,SNR=10							
I23K	**Minto, Yukon-K**	**71.79**	**352**	IAmb	IAmb	10 25 39.3		
	comp=Z,140nm,2.0s							
I23K				IAMs_20	IAMs_20	11 01 45.3		
	comp=Z,2µm,22.0s							
I23K	**Minto, Yukon-K**	**71.79**	**352**	P	**P**	**10 25 32.6**	**-0.8**	
	baz=13,SNR=13							
L40A	**Anamosa**	**71.82**	**311**	P	**P**	**10 25 32.6**	**-1.4**	
	baz=49							
MDM	**Murphy Dome**	**71.86**	**352**	IAmb	IAmb	10 25 37.9		
	comp=Z,58nm,1.3s							
KOTAN	**Kotaneelee Air**	**71.87**	**339**	P	**P**	**10 25 33.0**	**-1.0**	
	baz=32							
IL31		**71.90**	**351**	IAmb	IAmb	10 25 36.9		
	comp=Z,105nm,2.0s							
ILAR	**Eielson Array**	**71.90**	**351**	P	**P**	**10 25 33.8**	**-0.4**	
	comp=Z,6.8nm,0.9s,baz=5.4,slow=5.8,SNR=75							
ILAR				LR	LR	10 57 37.6		
	comp=Z,695nm,21.1s,baz=357,slow=36							
	comp=Z,6.8nm,0.9s							
COLA	**College**	**71.90**	**352**	P	**P**	**10 25 34.1**	**+0.1**	
COLA				IAmb	IAmb	10 25 37.1		
	comp=Z,105nm,1.9s							
COLA	**College**	**71.90**	**352**	P	**P**	**10 25 33.3**	**-0.7**	
	baz=15							
COLA	**College**	**71.90**	**352**	P	**P**	**10 25 35.7**	**+1.6**	
	comp=Z,34nm,2.4s							
COLA	**College**	**71.90**	**352**	*c i* P	**P**	**10 25 35.1**	**+1.0**	
COLA				pmax	pmax			
	comp=Z,85nm,2.8s							
COLA				MLR	MLR			
	comp=Z,684nm,19.0s							
TCOL	**CIGO, UAF Yank**	**71.91**	**352**	P	**P**	**10 25 31.9**	**-2.2**	
	baz=15							
W52A	**Murphy**	**71.96**	**301**	IAmb	IAmb	10 25 40.4		
	comp=Z,85nm,1.9s							
W52A	**Murphy**	**71.96**	**301**	P	**P**	**10 25 33.5**	**-1.5**	
	baz=50							
I21K	**Tanana**	**72.00**	**354**	IAmb	IAmb	10 25 41.2		
	comp=Z,81nm,1.1s							
I21K	**Tanana**	**72.00**	**354**	P	**P**	**10 25 31.8**	**-2.9**	
	baz=11							
F33A	**5 Mile Ranch,**	**72.02**	**316**	IAmb	IAmb	10 25 40.6		
	comp=Z,55nm,1.1s							
F33A	**5 Mile Ranch,**	**72.02**	**316**	P	**P**	**10 25 34.7**	**-0.4**	
	baz=47,SNR=15							
MLY	**Manley**	**72.04**	**353**	IAmb	IAmb	10 25 41.0		
	comp=Z,71nm,1.2s							
MLY	**Manley**	**72.04**	**353**	P	**P**	**10 25 33.8**	**-1.2**	
	baz=12,SNR=35							
CPCT	**Cooper Cave**	**72.11**	**302**	IAmb	IAmb	10 25 41.5		
	comp=Z,71nm,1.5s							
FARO	**Faro, Yukon**	**72.17**	**344**	IAmb	IAmb	10 25 42.4		
	comp=Z,127nm,1.7s							
FARO	**Faro, Yukon**	**72.17**	**344**	P	**P**	**10 25 34.3**	**-1.6**	
	baz=25,SNR=24							
OLIL	**Olney**	**72.19**	**306**	P	**P**	**10 25 35.1**	**-1.2**	
	baz=49							
U49A	**Red Boiling Sp**	**72.22**	**303**	P	**P**	**10 25 35.3**	**-1.2**	
	baz=50,SNR=17							
TNA	**Tin City**	**72.23**	**1**	IAmb	IAmb	10 25 41.9		
	comp=Z,46nm,1.1s							
TNA	**Tin City**	**72.23**	**1**	P	**P**	**10 25 34.4**	**-1.6**	
	baz=359,SNR=17							
BJI	**Beijing**	**72.25**	**52**	P	**P**	**10 25 37.4**	**+0.8**	
BJI				S	**S**	**10 34 58.9**	**-0.4**	
BJI				pmax	pmax			
	comp=Z,28nm,2.0s							
BJI				pmax	pmax			
	comp=Z,540nm,4.2s							
BJI				LR	LR			
	comp=Z,3µm,15.5s							
BJI				LR	LR			
	comp=Z,3µm,16.1s							
BJI				LR	LR			
	comp=Z,4µm,16.8s							
L29M	**L29M**	**72.25**	**347**	P	**P**	**10 25 34.5**	**-1.8**	
	baz=22							
BJT	**Baijiatuau**	**72.25**	**52**	P	**P**	**10 25 38.8**	**+2.1**	
	comp=Z,65nm,2.0s							
HDA	**Harding Lake**	**72.25**	**351**	IAmb	IAmb	10 25 39.8		
	comp=Z,63nm,1.2s							
HDA	**Harding Lake**	**72.25**	**351**	P	**P**	**10 25 34.8**	**-1.4**	
	baz=15,SNR=27							
MDND	**Maddock**	**72.28**	**319**	P	**P**	**10 25 36.3**	**-0.4**	
MDND	**Maddock**	**72.28**	**319**	P	**P**	**10 25 36.4**	**-0.4**	
	baz=46							
MDND	**Maddock**	**72.28**	**319**	P	**P**	**10 25 35.4**	**-1.3**	
	baz=46							
MCPB	**Macapa, AP**	**72.28**	**253**	*e* P	**P**	**10 25 38.1**	**+0.9**	
K38A	**Parkersburg**	**72.30**	**312**	IAmb	IAmb	10 25 40.9		
	comp=Z,91nm,1.6s							
K38A	**Parkersburg**	**72.30**	**312**	P	**P**	**10 25 35.4**	**-1.5**	
	baz=48							
NEA2	**Nenana**	**72.31**	**352**	P	**P**	**10 25 34.9**	**-1.7**	
	baz=14,SNR=21							
SCRK	**Sand Creek**	**72.31**	**350**	IAmb	IAmb	10 25 45.2		
	comp=Z,154nm,2.0s							
SCRK	**Sand Creek**	**72.31**	**350**	P	**P**	**10 25 35.0**	**-1.7**	
	baz=17,SNR=17							
WRH	**Wood River Hil**	**72.32**	**352**	IAmb	IAmb	10 25 41.9		
	comp=Z,65nm,1.4s							
MA2	**Magadan**	**72.39**	**21**	LR	LR	11 01 30.1		
	comp=Z,4µm,19.1s,baz=332,slow=39							
MA2	**Magadan**	**72.39**	**21**	P	**P**	**10 25 37.3**	**+0.2**	
MA2	**Magadan**	**72.39**	**21**	P	**P**	**10 25 38.5**	**+1.4**	
	comp=Z,95nm,1.4s							
MA2	**Magadan**	**72.39**	**21**	*ce* P	**P**	**10 25 37.8**	**+0.7**	
MA2				pmax	pmax			
	comp=Z,196nm,1.7s							
MA2				MLR	MLR			
	comp=Z,4µm,18.0s							
M31M	**Drury Creek, Y**	**72.40**	**345**	P	**P**	**10 25 37.5**	**+0.2**	
M31M				IAmb	IAmb	10 25 43.5		
	comp=Z,155nm,2.0s							
M31M				IAMs_20	IAMs_20	10 58 51.5		
	comp=Z,2µm,20.0s							
M31M	**Drury Creek, Y**	**72.40**	**345**	P	**P**	**10 25 36.0**	**-1.2**	
	baz=24,SNR=15							
M30M	**Minto, Yukon**	**72.51**	**346**	IAMs_20	IAMs_20	11 00 10.2		
	comp=Z,2µm,19.0s							
M30M	**Minto, Yukon**	**72.51**	**346**	P	**P**	**10 25 36.1**	**-1.8**	
	baz=23							
N41A	**Harden Midland**	**72.51**	**309**	IAmb	IAmb	10 25 45.5		
	comp=Z,81nm,1.1s							
N41A	**Harden Midland**	**72.51**	**309**	P	**P**	**10 25 36.7**	**-1.4**	
	baz=49,SNR=7.0							
RIDG	**Independent Ri**	**72.65**	**350**	IAmb	IAmb	10 25 43.8		
	comp=Z,98nm,1.1s							
RIDG				IAMs_20	IAMs_20	11 01 46.4		
	comp=Z,2µm,21.0s							
RIDG	**Independent Ri**	**72.65**	**350**	P	**P**	**10 25 37.6**	**-1.1**	
	baz=17,SNR=39							
K24K	**Donnelly Dome**	**72.70**	**350**	P	**P**	**10 25 36.7**	**-2.3**	
	baz=16,SNR=12							
T47A	**Sharon Grove**	**72.72**	**304**	P	**P**	**10 25 38.5**	**-1.0**	
	baz=49,SNR=39							
W50A	**Signal Mountai**	**72.77**	**302**	IAmb	IAmb	10 25 45.3		
	comp=Z,91nm,1.4s							
W50A	**Signal Mountai**	**72.77**	**302**	P	**P**	**10 25 39.0**	**-0.8**	
	baz=50,SNR=12							
GCSA	**Galena City Sc**	**72.77**	**356**	P	**P**	**10 25 38.2**	**-1.1**	
	baz=7.6,SNR=16							
CLTN	**Cedars of Leba**	**72.83**	**303**	IAmb	IAmb	10 25 45.4		
	comp=Z,127nm,1.7s							
Y52A	**Lilburn**	**72.83**	**300**	IAmb	IAmb	10 25 45.8		
	comp=Z,113nm,1.6s							
Y52A	**Lilburn**	**72.83**	**300**	P	**P**	**10 25 39.5**	**-0.7**	
	baz=50,SNR=10							
Y52A				P	**P**	**10 25 39.5**	**-0.7**	
	baz=50,SNR=10							
L27K	**Beaver Creek,**	**72.88**	**348**	IAmb	IAmb	10 25 46.3		
	comp=Z,99nm,1.6s							
L27K				IAMs_20	IAMs_20	11 01 03.5		
	comp=Z,1µm,19.0s							
L27K	**Beaver Creek,**	**72.88**	**348**	P	**P**	**10 25 37.9**	**-2.1**	
	baz=19,SNR=23							
X51A	**Calhoun**	**72.89**	**301**	IAmb	IAmb	10 25 46.0		
	comp=Z,110nm,1.7s							
X51A	**Calhoun**	**72.89**	**301**	P	**P**	**10 25 39.4**	**-1.2**	
	baz=50							
X51A				P	**P**	**10 25 39.4**	**-1.2**	
	baz=50							
M29M	**Somme Creek**	**72.92**	**347**	P	**P**	**10 25 37.8**	**-2.6**	
	baz=22,SNR=17							
BPAW	**Bear Paw Mtn.**	**72.97**	**353**	IAmb	IAmb	10 25 44.5		
	comp=Z,48nm,1.2s							
BPAW	**Bear Paw Mtn.**	**72.97**	**353**	P	**P**	**10 25 38.3**	**-2.3**	
	baz=12,SNR=32							
154A	**Montrose**	**73.02**	**299**	IAmb	IAmb	10 25 47.0		
	comp=Z,135nm,1.4s							
154A	**Montrose**	**73.02**	**299**	P	**P**	**10 25 40.5**	**-0.8**	
	baz=50							
LIRD	**Liard River Hi**	**73.02**	**340**	P	**P**	**10 25 38.6**	**-2.2**	
	baz=30,SNR=7.8							
SCIA	**State Center**	**73.04**	**312**	IAmb	IAmb	10 25 46.4		
	comp=Z,125nm,1.7s							
SCIA	**State Center**	**73.04**	**312**	P	**P**	**10 25 40.3**	**-1.0**	
	baz=48							
SCIA	**State Center**	**73.04**	**312**	P	**P**	**10 25 39.0**	**-2.3**	
	baz=48							
255A	**Hazlehurst**	**73.05**	**298**	P	**P**	**10 25 41.0**	**-0.4**	
	baz=50							
WTLY	**Watson Lake, Y**	**73.07**	**341**	P	**P**	**10 25 39.5**	**-1.8**	
	baz=28,SNR=11							
HNS	**HongShan**	**73.10**	**55** ⇓	P	**P**	**10 25 40.8**	**-0.9**	
HNS				PP	**PP**	**10 28 23.8**	**-0.2**	
HNS				S	**S**	**10 35 07.8**	**-1.4**	
HNS				SKS	**SKSac**	**10 35 41.8**	**-5.8**	
HNS				SS	**SS**	**10 39 53.4**	**+4.0**	
HNS				pmax	pmax			
	comp=Z,26nm,1.8s							
HNS				pmax	pmax			
	comp=Z,800nm,5.7s							
HNS				LR	LR			
	comp=Z,2µm,20.7s							
HNS				LR	LR			
	comp=Z,7µm,18.0s							
HNS				LR	LR			
	comp=Z,8µm,20.2s							
KMI	**Kunming**	**73.11**	**71** ⇓	P	**P**	**10 25 43.1**	**+0.9**	
KMI				PP	**PP**	**10 28 22.8**	**-1.9**	
KMI				S	**S**	**10 35 06.6**	**-3.5**	
KMI				pmax	pmax			
	comp=Z,38nm,2.3s							
KMI				pmax	pmax			
	comp=Z,810nm,4.1s							
KMI				LR	LR			
	comp=Z,2µm,21.6s							
KMI				LR	LR			
	comp=Z,2µm,20.9s							
KMI				LR	LR			
	comp=Z,3µm,26.5s							
L26K	**Log Cabin Wild**	**73.13**	**349**	IAmb	IAmb	10 25 44.5		
	comp=Z,37nm,0.9s							
L26K				IAMs_20	IAMs_20	11 03 24.7		
	comp=Z,2µm,22.0s							
L26K	**Log Cabin Wild**	**73.13**	**349**	P	**P**	**10 25 38.5**	**-3.0**	
	baz=18,SNR=33							
MCK	**McKinley**	**73.13**	**352**	P	**P**	**10 25 39.2**	**-2.3**	
	baz=14,SNR=28							
ANM	**Nome**	**73.23**	**359**	P	**P**	**10 25 39.5**	**-2.6**	
	baz=1.1,SNR=14							
MENT	**Mentasta**	**73.27**	**349**	IAmb	IAmb	10 25 48.5		
	comp=Z,114nm,1.8s							
CHUM	**Lake Minchumin**	**73.31**	**353**	P	**P**	**10 25 39.7**	**-2.7**	
	baz=11,SNR=35							
N31M	**Braeburn, Yuko**	**73.33**	**345**	IAMs_20	IAMs_20	10 59 20.9		
	comp=Z,2µm,21.0s							
N31M	**Braeburn, Yuko**	**73.33**	**345**	P	**P**	**10 25 40.4**	**-2.3**	
	baz=23,SNR=8.6							
BVCY	**Beaver Creek**	**73.34**	**348**	P	**P**	**10 25 40.0**	**-2.8**	
	baz=20,SNR=9.7							
V48A	**Smith Brothers**	**73.36**	**303**	P	**P**	**10 25 42.0**	**-1.3**	
	baz=49,SNR=17							
FPAL	**Fort Paine**	**73.38**	**302**	IAmb	IAmb	10 25 48.8		
	comp=Z,123nm,1.8s							
PAX	**Paxson**	**73.47**	**350**	P	**P**	**10 25 41.4**	**-2.2**	
	baz=16,SNR=10							
SDDR	**Presa de Saban**	**73.49**	**281**	IAmb	IAmb	10 25 50.4		
	comp=Z,106nm,1.1s							
SDDR				IAMs_20	IAMs_20	11 00 18.2		
	comp=Z,2µm,22.0s							
TRF	**Thorofare Moun**	**73.54**	**352**	IAmb	IAmb	10 25 49.2		
	comp=Z,69nm,1.2s							
TRF				IAMs_20	IAMs_20	11 02 23.6		
	comp=Z,1µm,21.0s							
TRF	**Thorofare Moun**	**73.54**	**352**	P	**P**	**10 25 41.9**	**-2.2**	
	baz=13,SNR=22							
M27K	**Edge Creek, AK**	**73.55**	**348**	IAMs_20	IAMs_20	11 01 23.8		
	comp=Z,2µm,19.0s							
M27K	**Edge Creek, AK**	**73.55**	**348**	P	**P**	**10 25 41.2**	**-3.0**	
	baz=19							
LYN	**LuoYang**	**73.57**	**58** ⇑	*i* P	**P**	**10 25 46.4**	**+1.8**	
LYN				pP	sP	10 25 51.8	+2.2	
LYN				PP	**PP**	**10 28 32.8**	**+4.7**	
LYN				S	**SKiKP**	**10 35 15.6**	**+0.8**	
LYN				pmax	pmax			
	comp=Z,30nm,2.3s							
LYN				pmax	pmax			
	comp=Z,950nm,4.6s							
LYN				LR	LR			
	comp=Z,2µm,15.6s							
LYN				LR	LR			
	comp=Z,3µm,17.6s							
LYN				LR	LR			
	comp=Z,3µm,19.8s							
DHY	**Denali Highway**	**73.60**	**351**	IAmb	IAmb	10 25 46.8		
	comp=Z,80nm,0.9s							
DHY	**Denali Highway**	**73.60**	**351**	P	**P**	**10 25 42.5**	**-1.9**	
	baz=15,SNR=53							
ECSD	**EROS Data Cent**	**73.63**	**315**	IAmb	IAmb	10 25 50.3		
	comp=Z,59nm,1.1s							
ECSD	**EROS Data Cent**	**73.63**	**315**	P	**P**	**10 25 44.1**	**-0.7**	
	baz=46,SNR=47							
ECSD	**EROS Data Cent**	**73.63**	**315**	P	**P**	**10 25 42.6**	**-2.1**	
	baz=46,SNR=47							
M26K	**Nabesna, AK**	**73.68**	**349**	P	**P**	**10 25 42.3**	**-2.5**	
	baz=18							
E28A	**Huff**	**73.70**	**319**	P	**P**	**10 25 44.7**	**-0.5**	
	baz=45,SNR=41							
WVT	**Waverly**	**73.72**	**304**	P	**P**	**10 25 43.2**	**-2.2**	
WVT				IAmb	IAmb	10 25 50.0		
	comp=Z,91nm,1.4s							
WVT	**Waverly**	**73.72**	**304**	P	**P**	**10 25 43.5**	**-2.0**	
	baz=49,SNR=19							
WVT	**Waverly**	**73.72**	**304**	P	**P**	**10 25 42.1**	**-3.3**	
	baz=49							
WVT	**Waverly**	**73.72**	**304**	P	**P**	**10 25 43.2**	**-2.2**	
WVT				pmax	pmax			
	comp=Z,91nm,1.4s							
CAST	**Castle Rocks**	**73.74**	**353**	P	**P**	**10 25 43.1**	**-2.0**	
	baz=11,SNR=18							
N38A	**Joes South For**	**73.80**	**311**	IAmb	IAmb	10 25 50.7		
	comp=Z,100nm,1.4s							
N38A	**Joes South For**	**73.80**	**311**	P	**P**	**10 25 44.4**	**-1.4**	
	baz=47							
KLR	**Kul'dur**	**73.88**	**37**	LR	LR	11 01 55.0		
	comp=Z,6µm,18.6s,baz=321,slow=39							
YUK3	**Moose Creek**	**73.88**	**347**	P	**P**	**10 25 44.7**	**-1.5**	
	baz=20,SNR=23							
P33M	**Teslin, Yukon**	**73.89**	**343**	P	**P**	**10 25 44.1**	**-2.0**	
	baz=25,SNR=18							
Z51A	**Franklin**	**73.89**	**300**	IAmb	IAmb	10 25 52.1		
	comp=Z,76nm,1.6s							
Z51A	**Franklin**	**73.89**	**300**	P	**P**	**10 25 46.1**	**-0.4**	
	baz=49							
WHY	**Whitehorse**	**73.91**	**344**	P	**P**	**10 25 44.2**	**-2.0**	
	baz=24,SNR=8.9							
GAMB	**Gambell**	**73.95**	**2**	P	**P**	**10 25 44.4**	**-1.8**	
	baz=356							
K20K	**Telida**	**73.97**	**354**	IAmb	IAmb	10 25 52.3		
	comp=Z,54nm,1.1s							
K20K	**Telida**	**73.97**	**354**	P	**P**	**10 25 44.9**	**-1.5**	
	baz=9.7,SNR=30							
WAT1	**Susitna Watana**	**73.97**	**351**	P	**P**	**10 25 44.2**	**-2.3**	
	baz=14							
P40A	**Paris**	**73.97**	**309**	P	**P**	**10 25 45.3**	**-1.5**	
	baz=48,SNR=9.1							
HARP	**HAARP**	**73.98**	**350**	P	**P**	**10 25 44.5**	**-2.0**	
	baz=16							
DGMT	**Dagmar**	**73.98**	**322**	IAMs_20	IAMs_20	10 59 47.1		
	comp=Z,2µm,18.0s							
DGMT	**Dagmar**	**73.98**	**322**	P	**P**	**10 25 48.1**	**+1.3**	
	baz=43,SNR=9.0							
DGMT	**Dagmar**	**73.98**	**322**	P	**P**	**10 25 44.6**	**-2.2**	
	baz=43,SNR=9.0							
YUK4	**Talbot Arm**	**73.98**	**346**	P	**P**	**10 25 44.2**	**-2.6**	
	baz=21,SNR=16							
152A	**Waverly Hall**	**74.02**	**300**	IAmb	IAmb	10 25 52.7		
	comp=Z,132nm,1.6s							
152A	**Waverly Hall**	**74.02**	**300**	P	**P**	**10 25 46.8**	**-0.4**	
	baz=49,SNR=12							
O30N	**Mendenhall**	**74.05**	**345**	P	**P**	**10 25 44.9**	**-2.0**	
	baz=23,SNR=8.7							
CGM3	**Cape Girardeau**	**74.06**	**306**	IAmb	IAmb	10 25 52.1		
	comp=Z,131nm,1.7s							
TIGA	**Tifton**	**74.08**	**298**	P	**P**	**10 25 45.9**	**-1.7**	
	baz=50							
WAT6	**Susitna Watana**	**74.12**	**351**	P	**P**	**10 25 44.7**	**-2.8**	
	baz=14,SNR=21							
R33M	**Jennings River**	**74.22**	**342**	P	**P**	**10 25 46.2**	**-1.9**	
	baz=27							
YUK8	**Steele Glacier**	**74.23**	**347**	P	**P**	**10 25 45.5**	**-2.8**	
	baz=20,SNR=6.2							
HYT	**Haines Junctio**	**74.26**	**346**	IAmb	IAmb	10 25 54.3		
	comp=Z,115nm,1.6s							
HYT	**Haines Junctio**	**74.26**	**346**	P	**P**	**10 25 46.1**	**-2.2**	
	baz=22,SNR=15							
PPLA	**Purkeypile**	**74.27**	**353**	IAmb	IAmb	10 25 53.3		
	comp=Z,187nm,1.8s							
PPLA	**Purkeypile**	**74.27**	**353**	P	**P**	**10 25 46.1**	**-2.2**	
	baz=11,SNR=12							
YUK6	**Outpost Mounta**	**74.31**	**346**	P	**P**	**10 25 46.2**	**-2.5**	
	baz=21,SNR=31							
Y49A	**Blount Mountai**	**74.33**	**302**	P	**P**	**10 25 47.7**	**-1.3**	
	baz=49,SNR=9.4							
X48A	**Hartselle**	**74.33**	**302**	P	**P**	**10 25 47.8**	**-1.2**	
	baz=49,SNR=34							
SUSD	**Miller**	**74.34**	**316**	P	**P**	**10 25 47.1**	**-1.8**	
	baz=45							
BNX	**BinXian**	**74.38**	**42**	P	**P**	**10 25 48.8**	**-0.3**	
BNX				S	**S**	**10 35 23.6**	**+0.2**	
BNX				pmax	pmax			
	comp=Z,15nm,1.4s							
BNX				pmax	pmax			
	comp=Z,1µm,3.9s							
BNX				LR	LR			
	comp=Z,6µm,19.2s							
BNX				LR	LR			
	comp=Z,6µm,19.4s							
BNX				LR	LR			
	comp=Z,10µm,19.4s							
M24K	**Tolsona, Glenn**	**74.39**	**350**	IAmb	IAmb	10 25 53.9		
	comp=Z,203nm,1.9s							
M24K	**Tolsona, Glenn**	**74.39**	**350**	P	**P**	**10 25 46.5**	**-2.5**	
	baz=16							
CHTO	**Chiang Mai**	**74.41**	**79**	P	**P**	**10 25 48.7**	**-1.0**	
CHTO	**Chiang Mai**	**74.41**	**79**	P	**P**	**10 25 48.7**	**-1.0**	
CHTO				MLR	MLR			
	comp=Z,1µm,18.0s							
ENH	**Enshi**	**74.42**	**63**	IAmb	IAmb	10 25 55.7		
	comp=Z,80nm,1.2s							
ENH	**Enshi**	**74.42**	**63**	P	**P**	**10 25 50.2**	**+0.6**	
	comp=Z,56nm,2.3s							
NKL	**Nikolayevsk**	**74.49**	**30**	*e* P	**P**	**10 25 47.7**	**-1.9**	
NKL				*e* S	**S**	**10 35 23.7**	**-0.6**	
NKL				pmax	pmax			
	comp=E,49nm,1.1s							
NKL				pmax	pmax			
	comp=N,79nm,1.3s							
NKL				pmax	pmax			
	comp=Z,221nm,1.2s							
NKL				smax	smax			
	comp=E,334nm,4.6s							
NKL				smax	smax			
	comp=N,104nm,2.3s							
NKL				MLR	MLR			
	comp=E,6µm,12.0s							
NKL				MLR	MLR			
	comp=N,9µm,15.0s							
NKL				MLR	MLR			
	comp=Z,15µm,17.0s							
CCM	**Cathedral Cave**	**74.50**	**308**	P	**P**	**10 25 48.4**	**-1.5**	
CCM				IAmb	IAmb	10 25 54.9		
	comp=Z,133nm,1.7s							
CCM	**Cathedral Cave**	**74.50**	**308**	IAMs_20	IAMs_20	10 56 48.7		
	comp=Z,2µm,20.0s							
CCM	**Cathedral Cave**	**74.50**	**308**	P	**P**	**10 25 48.5**	**-1.5**	
	baz=48,SNR=20							
CCM	**Cathedral Cave**	**74.50**	**308**	P	**P**	**10 25 47.1**	**-2.8**	
	baz=48							
CCM	**Cathedral Cave**	**74.50**	**308**	P	**P**	**10 25 48.4**	**-1.5**	
CCM				pmax	pmax			
	comp=Z,133nm,1.7s							
TTA	**Tatalina**	**74.53**	**355**	IAmb	IAmb	10 25 56.0		
	comp=Z,88nm,1.5s							
TTA	**Tatalina**	**74.53**	**355**	P	**P**	**10 25 48.2**	**-1.5**	
	baz=8.2,SNR=21							
CRAI	**Chiangrai**	**74.54**	**77**	IAmb	IAmb	10 25 55.2		
	comp=Z,89nm,1.4s							
CUT	**Chulitna**	**74.57**	**352**	IAmb	IAmb	10 26 26.6		
	comp=Z,147nm,1.6s							
CUT	**Chulitna**	**74.57**	**352**	P	**P**	**10 25 48.5**	**-1.4**	
	baz=13							
WAPA	**Wapiti River**	**74.61**	**334**	IAmb	IAmb	10 25 52.8		
	comp=Z,84nm,1.0s							
PLAL	**Pickwick Lake**	**74.63**	**303**	IAmb	IAmb	10 25 55.5		
	comp=Z,149nm,1.4s							
PLAL				IAMs_20	IAMs_20	10 56 27.4		
	comp=Z,2µm,21.0s							
CM31	**Chiang Mai Arr**	**74.64**	**79**	P	**P**	**10 25 51.5**	**+0.4**	
	SNR=10							
CMAR	**Chiang Mai Arr**	**74.64**	**79**	P	**P**	**10 25 49.9**	**-1.2**	
	comp=Z,12nm,0.8s,baz=306,slow=7.1,SNR=38							
CMAR				LR	LR	11 06 30.4		
	comp=Z,1µm,20.0s,baz=315,slow=42							
	comp=Z,12nm,0.8s							
CMAR	**Chiang Mai Arr**	**74.64**	**79**	*i* P	**P**	**10 25 51.2**	**+0.2**	
CMAR				pmax	pmax			
	comp=Z,9.0nm,0.7s							
P32M	**Atlin**	**74.65**	**343**	P	**P**	**10 25 47.3**	**-3.2**	
	baz=25							
MCARA	**McCarthy VSAT**	**74.65**	**348**	IAMs_20	IAMs_20	11 01 40.9		
	comp=Z,2µm,20.0s							
MCARA	**McCarthy VSAT**	**74.65**	**348**	P	**P**	**10 25 48.2**	**-2.2**	
	baz=18,SNR=8.7							
N25K	**Chitina, Valde**	**74.66**	**349**	IAmb	IAmb	10 25 54.5		
	comp=Z,70nm,1.5s							
N25K	**Chitina, Valde**	**74.66**	**349**	P	**P**	**10 25 47.9**	**-2.7**	
	baz=17,SNR=8.5							
GRNR	**Gornyy**	**74.71**	**33** ⇑	*i* P	**P**	**10 25 50.6**	**-0.3**	
GRNR				pmax	pmax			
	comp=E,3.0nm,1.0s							
GRNR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GRNR				MLR	MLR			
	comp=N,2µm,17.0s							
GRNR				MLR	MLR			
	comp=E,2µm,16.0s							
GRNR				MLR	MLR			
	comp=Z,3µm,16.0s							
656A	**Willston**	**74.72**	**296**	P	**P**	**10 25 51.0**	**-0.4**	
	baz=50							
BARN	**Barnard Glacie**	**74.75**	**348**	IAmb	IAmb	10 25 57.1		
	comp=Z,167nm,1.9s							
BARN				IAMs_20	IAMs_20	11 01 59.5

baz=27,SNR=7.4
VRDI Verde Repeater 74.86 349 IAMs_20 IAMs_20 11 01 59.5
comp=Z,2µm,20.0s
SUR Sutherland 74.88 173 LR LR 11 01 44.4
comp=Z,3µm,18.0s,baz=352,slow=38
M23K Glacier View 74.89 351 P **P** **10 25 48.6 -3.2**
baz=14,SNR=12
PRPB Parauapebas 74.89 247 *eP* **P** **10 25 52.6 +0.1**
BRLDA Berland Lookou 74.89 332 IAmb IAmb 10 25 59.9
comp=Z,83nm,1.3s
MALB Monte Alegre 74.89 253 *eP* **P** **10 25 53.5 +1.0**
Q32M Nakina River 74.91 342 P **P** **10 25 49.0 -3.2**
baz=26
352A Blakely 74.93 299 IAmb IAmb 10 25 57.8
comp=Z,120nm,1.6s
352A Blakely 74.93 299 P **P** **10 25 51.6 -0.9**
baz=49
R40A Maddies Statio 74.93 308 IAmb IAmb 10 25 57.6
comp=Z,169nm,1.8s
R40A Maddies Statio 74.93 308 P **P** **10 25 51.3 -1.1**
baz=47,SNR=18
SML Sawmill 74.94 351 IAmb IAmb 10 25 57.6
comp=Z,86nm,1.2s
SML Sawmill 74.94 351 P **P** **10 25 49.5 -2.7**
baz=14,SNR=14
O29M Mount Kennedy 74.94 346 P **P** **10 25 49.0 -3.3**
baz=21,SNR=8.2
KLU Klutina 74.95 350 IAmb IAmb 10 25 57.8
comp=Z,116nm,1.6s
KLU Klutina 74.95 350 P **P** **10 25 49.2 -3.1**
baz=16,SNR=12
GYA Guiyang 74.97 68 ⇑P **P** **10 25 54.1 +1.1**
GYA sP sP 10 26 01.5 +3.5
GYA PP **PP** **10 28 44.6 +4.2**
GYA S **S** **10 35 29.9 -0.9**
GYA SS **SS** **10 40 23.5 +4.7**
GYA pmax pmax
comp=Z,43nm,1.3s
GYA pmax pmax
comp=Z,1µm,4.7s
GYA LR LR
comp=Z,1µm,18.8s
GYA LR LR
comp=Z,2µm,17.2s
GHO Glory Hole Cre 75.04 351 IAmb IAmb 10 25 58.2
comp=Z,100nm,1.2s
N35A Tabor 75.09 312 P **P** **10 25 52.3 -1.0**
baz=46
SKAG Skagway 75.10 344 P **P** **10 25 50.0 -3.0**
baz=24,SNR=9.5
SKT Skwentna 75.11 353 IAmb IAmb 10 25 59.2
comp=Z,172nm,2.0s
SKT IAMs_20 IAMs_20 11 04 27.9
comp=Z,1µm,20.0s
SKT Skwentna 75.11 353 P **P** **10 25 50.0 -3.1**
baz=12,SNR=14
SNY Shenyang 75.17 46 ⇑P **P** **10 25 54.4 +0.7**
SNY S **S** **10 35 31.3 -1.0**
SNY pmax pmax
comp=Z,69nm,1.2s
SNY pmax pmax
comp=Z,1µm,5.0s
SNY LR LR
comp=Z,6µm,16.6s
SNY LR LR
comp=Z,8µm,17.0s
SNY LR LR
comp=Z,4µm,13.3s
L19K White Mountain 75.19 354 P **P** **10 25 50.2 -3.3**
baz=9.1,SNR=13
M22K Willow 75.19 352 IAmb IAmb 10 25 57.0
comp=Z,100nm,1.1s
M22K Willow 75.19 352 P **P** **10 25 50.5 -3.0**
baz=13,SNR=10
LRAL Lakeview Retre 75.23 301 IAmb IAmb 10 25 58.8
comp=Z,45nm,0.8s
LRAL Lakeview Retre 75.23 301 P **P** **10 25 53.2 -1.0**
baz=49,SNR=26
LRAL Lakeview Retre 75.23 301 P **P** **10 25 51.3 -3.0**
baz=49,SNR=26
PMR Palmer 75.24 351 P **P** **10 25 51.0 -2.7**
baz=13,SNR=10
BMRM Bremner River 75.28 349 P **P** **10 25 50.7 -3.4**
baz=17,SNR=13
DIV Divide 75.28 350 IAmb IAmb 10 26 04.4
comp=Z,65nm,1.4s
PLBC Pleasant Camp 75.31 345 P **P** **10 25 51.0 -3.3**
baz=23,SNR=7.4
TIA Tai'an 75.34 54 ⇓P **P** **10 25 55.8 +1.0**
TIA S **S** **10 35 34.0 -0.4**
TIA pmax pmax
comp=Z,31nm,1.2s
TIA pmax pmax
comp=Z,830nm,5.1s
TIA LR LR
comp=Z,2µm,21.2s
TIA LR LR
comp=Z,3µm,19.0s
TIA LR LR
comp=Z,2µm,24.5s
KNK Knik Glacier 75.34 351 IAmb IAmb 10 26 02.4
comp=Z,104nm,1.5s
KNK IAMs_20 IAMs_20 11 03 25.1
comp=Z,1µm,19.0s
KNK Knik Glacier 75.34 351 P **P** **10 25 51.3 -3.2**
baz=14,SNR=10
M20K Styx River 75.35 353 IAmb IAmb 10 26 01.7
comp=Z,173nm,1.9s
M20K IAMs_20 IAMs_20 11 03 50.2
comp=Z,1µm,21.0s
M20K Styx River 75.35 353 P **P** **10 25 50.9 -3.6**
baz=10
SMTB Santa Maria do 75.37 243 *eP* **P** **10 25 55.8 +0.6**
PCA Pinnacle 75.43 347 IAmb IAmb 10 26 03.4
comp=Z,59nm,0.8s
PINM Pinnacle 75.43 347 P **P** **10 25 50.3 -4.7**
baz=20,SNR=11
553A Crawfordville 75.44 298 IAmb IAmb 10 25 56.7
comp=Z,44nm,0.8s
553A Crawfordville 75.44 298 P **P** **10 25 54.7 -0.8**
baz=49,SNR=6.5
250A Grady 75.46 300 P **P** **10 25 53.6 -2.0**
baz=49,SNR=14
K31A O'Neill 75.52 315 P **P** **10 25 54.6 -1.2**
baz=45
S34M Telegraph Cree 75.59 341 P **P** **10 25 52.0 -3.8**
baz=26
GTBY Guantanamo Bay 75.65 284 IAMs_20 IAMs_20 11 05 23.0
comp=Z,2µm,19.0s
PNL Peninsula 75.69 346 P **P** **10 25 52.2 -4.2**
baz=20
PNL Peninsula 75.69 346 P **P** **10 25 58.4 +2.0**
comp=Z,110nm,1.3s
OXF Oxford 75.76 304 IAMs_20 IAMs_20 10 58 48.4
comp=Z,2µm,19.0s
OXF Oxford 75.76 304 P **P** **10 25 55.8 -1.4**
baz=48,SNR=26
OXF Oxford 75.76 304 P **P** **10 25 54.0 -3.2**
baz=48,SNR=26
LCAR Lake Charles 75.77 306 IAmb IAmb 10 26 02.8
comp=Z,55nm,1.4s
LCAR Lake Charles 75.77 306 P **P** **10 25 56.9 -0.4**
baz=47,SNR=16
RC01 Rabbit Creek A 75.80 352 IAmb IAmb 10 26 00.7
comp=Z,135nm,1.6s
RC01 Rabbit Creek A 75.80 352 P **P** **10 25 54.3 -2.8**
baz=13,SNR=12
Z47A Carrollton 75.80 302 P **P** **10 25 56.3 -1.2**
baz=48,SNR=12
EYAK Cordova Ski Ar 75.84 349 P **P** **10 25 54.0 -3.3**
baz=16
EYAK Cordova Ski Ar 75.84 349 P **P** **10 26 01.4 +4.2**
comp=Z,42nm,1.4s
PWL Port Wells 75.86 351 IAmb IAmb 10 26 01.2
comp=Z,110nm,1.5s
PWL IAMs_20 IAMs_20 11 03 54.0
comp=Z,1µm,21.0s
PWL Port Wells 75.86 351 P **P** **10 25 54.4 -3.0**
baz=14
BGLC Bering Glacier 75.90 348 P **P** **10 25 54.6 -3.0**
baz=18
SPCR Spurr Chakacha 75.94 353 P **P** **10 25 54.0 -3.9**
baz=11
R32K Eaglecrest 76.02 343 P P 10 25 53.3 -5.1
baz=24
BGNE Belgrade 76.06 314 P **P** **10 25 58.2 -0.7**
baz=45
BGNE Belgrade 76.06 314 P **P** **10 25 54.1 -4.8**
baz=45
DL2 Dalian 76.13 50 P **P** **10 26 01.0 +1.7**
DL2 PP **PP** **10 28 52.6 +3.0**
DL2 S **S** **10 35 46.1 +3.1**
DL2 pmax pmax
comp=Z,40nm,1.3s
DL2 pmax pmax
comp=Z,930nm,5.5s
DL2 LR LR
comp=Z,6µm,18.2s
DL2 LR LR
comp=Z,6µm,17.8s
DL2 LR LR
comp=Z,5µm,17.1s
R31K City Hall, Gus 76.15 344 P P 10 25 53.7 -5.4
baz=23
T35M Bob Quinn 76.21 340 P P 10 25 54.5 -4.9
baz=27
LAO LASA Array 76.22 322 P **P** **10 26 00.1 +0.3**
baz=41,SNR=19
LAO LASA Array 76.22 322 P P 10 25 54.3 -5.4
baz=41,SNR=19
CAPN Captain Cook N 76.26 352 P P 10 25 54.8 -4.8
baz=12
MDJ Mudanjiang 76.26 41 IAmb IAmb 10 26 03.7
comp=Z,91nm,1.6s
MDJ Mudanjiang 76.26 41 P **P** **10 26 01.3 +1.4**
MDJ pP sP 10 26 04.3 -0.7
MDJ sP pP 10 26 05.8 +2.2
MDJ S **S** **10 35 43.1 -1.2**
MDJ pmax pmax
comp=Z,27nm,1.5s
MDJ pmax pmax
comp=Z,1µm,11.6s
MDJ LR LR
comp=Z,1µm,18.3s
MDJ LR LR
comp=Z,1µm,19.3s
MDJ LR LR
comp=Z,1µm,19.9s
MDJ Mudanjiang 76.26 41 P **P** **10 26 02.8 +2.9**
comp=Z,39nm,1.8s
SDBA SÃO DESIDERIO 76.29 239 *eP* **P** **10 26 01.4 +0.9**
BOAV Boa Vista 76.46 261 IAmb IAmb 10 26 04.8
comp=Z,47nm,1.6s
BOAV Boa Vista 76.46 261 *eP* **P** **10 26 02.3 +0.8**
FCAR Ozark Folk Cen 76.47 306 IAmb IAmb 10 26 07.0
comp=Z,132nm,1.5s
BRAL Brewton 76.50 300 IAMs_20 IAMs_20 11 00 27.3
comp=Z,1µm,18.0s
BRAL Brewton 76.50 300 P P 10 25 55.1 -6.4
baz=48
N19K Bonanza Creek 76.52 354 P P 10 25 55.4 -5.8
baz=9.3
P23K Montague Islan 76.59 350 P P 10 25 55.9 -5.6
baz=15
U40A Yellville 76.59 307 P **P** **10 26 01.4 -0.6**
baz=47,SNR=22
U40A P **P** **10 26 01.4 -0.6**
baz=47,SNR=22
S31K Pelican 76.67 344 P P 10 25 57.1 -4.8
baz=23
SEW Seward 76.73 351 P P 10 25 56.9 -5.4
baz=13
EGMT Eagleton 76.77 325 IAMs_20 IAMs_20 10 58 05.6
comp=Z,2µm,21.0s
EGMT Eagleton 76.77 325 P **P** **10 25 58.8 -4.1**
baz=39,SNR=66
146A Union 76.79 302 IAmb IAmb 10 26 08.5
comp=Z,115nm,1.2s
146A Union 76.79 302 P **P** **10 26 02.8 -0.3**
baz=48
KSU1 Kansas State U 76.84 311 IAMs_20 IAMs_20 10 58 03.5
comp=Z,2µm,19.0s
KSU1 Kansas State U 76.84 311 P **P** **10 26 02.5 -0.8**
baz=45,SNR=38
KSU1 Kansas State U 76.84 311 P P 10 25 57.6 -5.8
baz=45,SNR=38
SUJ Sinuiju 76.88 47 P **P** **10 26 04.5 +1.0**
SUJ S **S** **10 35 47.1 -4.0**
SUJ AmB
comp=Z,603nm,2.6s
SUJ AMS AMS
comp=Z,3µm,14.4s
Q23K Middleton Isla 77.00 349 P P 10 25 58.8 -5.0
baz=15
T33K Petersburg 77.01 342 P P 10 25 57.3 -6.6
baz=25
TYV Tymovskoe 77.06 30 *eP* **P** **10 26 05.7 +1.4**
TYV *eS* **S** **10 35 56.4 +3.6**
TYV pmax pmax
comp=Z,24nm,1.4s
TYV pmax pmax
comp=Z,1µm,4.4s
TYV smax smax
comp=E,500nm,6.2s
O20K Slope Mountain 77.08 353 P P 10 25 59.0 -5.3
baz=11
RSSD Black Hills 77.10 319 P **P** **10 26 04.6 -0.4**
RSSD Black Hills 77.10 319 IAMs_20 IAMs_20 10 57 57.9
comp=Z,2µm,21.0s
RSSD Black Hills 77.10 319 P **P** **10 26 05.4 +0.4**
baz=42,SNR=20
RSSD Black Hills 77.10 319 P **P** **10 26 01.2 -3.8**
baz=42
RSSD Black Hills 77.10 319 P **P** **10 26 04.6 -0.4**
RSSD pmax pmax
comp=Z,24nm,0.9s
O19K Port Alsworth 77.11 354 IAMs_20 IAMs_20 11 04 45.0
comp=Z,1µm,22.0s
O19K Port Alsworth 77.11 354 P **P** **10 26 00.1 -4.3**
baz=9.4
N16K Nishlik Lake 77.13 356 P **P** **10 26 00.2 -4.4**
baz=6.0
WRAK Wrangell Islan 77.22 341 P **P** **10 26 01.1 -4.0**
baz=25
BRSE Bradley Lake S 77.23 352 P P 10 25 60.0 -5.2
baz=12
HHAR Hobbs 77.28 308 IAmb IAmb 10 26 11.2
comp=Z,150nm,1.7s
HOM Homer 77.40 352 P **P** **10 26 02.1 -4.0**
baz=11
WHN Wuhan 77.40 60 ⇑P **P** **10 26 08.3 +1.7**
WHN sP **PcP** **10 26 14.5 -2.6**
WHN S **S** **10 36 00.3 +3.1**
WHN LR LR
comp=Z,5µm,14.9s
WHN LR LR
comp=Z,4µm,14.5s
WHN LR LR
comp=Z,10µm,18.3s
U38A Gravette 77.43 308 P **P** **10 26 05.7 -1.0**
baz=46,SNR=28
CNPM China Poot 77.49 352 IAmb IAmb 10 26 11.9
comp=Z,107nm,1.5s
P19K Oil Pt 77.56 353 P P 10 25 58.8 -8.2
baz=10
BAUV El Baul 77.62 271 IAmb IAmb 10 26 09.3
comp=Z,97nm,1.1s
U33K Whale Pass 77.68 341 P P 10 25 59.2 -8.5
baz=25
ITTB Itaituba 77.70 252 *eP* **P** **10 26 09.4 +1.0**
USA0B Ussuriysk Arra 77.72 40 IAmb IAmb 10 26 11.4
comp=Z,95nm,1.4s
USA0B Ussuriysk Ar. 77.72 40 *i* P **P** **10 26 09.2 +1.0**
USRK Ussuriysk Ar. 77.72 40 P **P** **10 26 08.4 +0.2**
comp=Z,22nm,0.8s,baz=300,slow=5.0,SNR=32
USRK LR LR 11 04 12.7
comp=Z,4µm,19.2s,baz=323,slow=39
comp=Z,22nm,0.8s
O17K Koliganek Bris 77.73 355 P P 10 25 58.7 -9.3
baz=7.3
X40A Basin Creek Fa 77.86 306 IAmb IAmb 10 26 14.6
comp=Z,98nm,1.4s
X40A Basin Creek Fa 77.86 306 P **P** **10 26 08.2 -0.9**
baz=46,SNR=24
X40A P **P** **10 26 08.2 -0.9**
baz=46,SNR=24
346A Big Creek Wild 77.89 301 P **P** **10 26 08.3 -1.0**
baz=47,SNR=5.8
JANB Januaria 77.94 237 *eP* **P** **10 26 10.7 +1.0**
O16K Kokwok River B 77.97 356 P P 10 26 01.2 -8.1
baz=6.5
P18K Big Mountain, 77.98 354 P P 10 26 01.5 -7.9
baz=8.7
VBMS Vicksburg 77.99 303 IAMs_20 IAMs_20 10 57 24.5
comp=Z,2µm,22.0s
VBMS Vicksburg 77.99 303 P **P** **10 26 09.0 -0.8**
baz=47
VBMS Vicksburg 77.99 303 P **P** **10 26 05.6 -4.3**
baz=47
V35K Ketchikan 78.03 340 P P 10 26 03.0 -6.7
baz=26
CNSH ChangSha 78.05 63 ⇑P **P** **10 26 10.4 +0.1**
CNSH S **S** **10 36 05.8 +1.5**
CNSH pmax pmax
comp=Z,48nm,1.7s
CNSH LR LR
comp=Z,1µm,16.8s
CNSH LR LR
comp=Z,2µm,14.3s
CNSH LR LR
comp=Z,3µm,18.9s
143A Socs Landing, 78.20 304 P **P** **10 26 10.2 -0.8**
baz=47
MIAR Mount Ida 78.26 306 IAmb IAmb 10 26 17.4
comp=Z,95nm,1.2s
MIAR Mount Ida 78.26 306 P **P** **10 26 10.5 -0.9**
baz=46,SNR=49
MIAR Mount Ida 78.26 306 P P 10 26 06.4 -4.9
baz=46,SNR=49
UGL Uglegorsk 78.28 32 *eP* **P** **10 26 12.7 +1.5**
UGL *eS* S 10 35 56.5 -10
UGL pmax pmax
comp=Z,100nm,1.3s
UGL pmax pmax
comp=Z,1µm,4.1s
UGL smax smax
comp=E,1µm,15.0s
UGL smax smax
comp=N,1µm,16.0s
UGL MLR MLR
comp=E,5µm,14.0s
UGL MLR MLR
comp=N,6µm,16.0s
UGL MLR MLR
comp=Z,6µm,18.0s
PYAG Pyongyang 78.31 47 P **P** **10 26 12.8 +1.3**
PYAG S **S** **10 36 03.3 -3.4**
PYAG AmB
comp=Z,501nm,2.9s
PYAG AMS AMS
comp=Z,3µm,16.6s
T35B Sooner Cattle 78.32 310 P **P** **10 26 11.1 -0.6**
baz=45,SNR=26
OGNE Ogallala 78.43 316 IAMs_20 IAMs_20 11 02 27.3
comp=Z,1µm,18.0s
OGNE Ogallala 78.43 316 P **P** **10 26 12.0 -0.4**
baz=43
OGNE Ogallala 78.43 316 P P 10 26 06.1 -6.2
baz=43
R32A Long Quarter, 78.48 312 IAmb IAmb 10 26 18.1
comp=Z,94nm,1.2s
R32A Long Quarter, 78.48 312 P **P** **10 26 11.4 -1.1**
baz=44,SNR=16
MTDJ Mount Denham 78.49 284 IAMs_20 IAMs_20 11 06 48.3
comp=Z,2µm,20.0s
Q20K Shuyak Island 78.51 352 P P 10 26 06.3 -5.9
baz=11
P16K Nushagak River 78.53 355 P P 10 26 07.2 -5.1
baz=6.6
WLAR White Oak Lake 78.57 305 IAmb IAmb 10 26 19.1
comp=Z,101nm,1.5s
TUL1 Leonard 78.61 308 P **P** **10 26 12.4 -0.8**
baz=45,SNR=12
TUL1 Leonard 78.61 308 P P 10 26 08.3 -5.0
baz=45,SNR=12
344A Westbrook Farm 78.64 302 P **P** **10 26 14.6 +1.2**
baz=47,SNR=12
CBKS Cedar Bluff 78.76 313 IAmb IAmb 10 26 20.0
comp=Z,112nm,1.3s
CBKS Cedar Bluff 78.76 313 P **P** **10 26 14.2 +0.1**
baz=44,SNR=9.0
CBKS Cedar Bluff 78.76 313 P P 10 26 07.2 -6.9
baz=44,SNR=9.0
RLMT Red Lodge 78.79 323 P P 10 26 07.6 -6.8
baz=39,SNR=26
Q16K King Salmon 78.80 355 P P 10 26 07.3 -6.5
baz=7.6
SJMB Sao Joao De Ma 78.90 232 *eP* **P** **10 26 16.2 +1.3**
OK046 Pawnee Station 78.91 309 IAMs_20 IAMs_20 11 00 54.4
comp=Z,2µm,19.0s
OK048 Pawnee Station 78.92 310 IAMs_20 IAMs_20 11 00 55.6
comp=Z,2µm,19.0s
KAN08 Anthony NE Sta 78.92 311 IAmb IAmb 10 26 20.9
comp=Z,64nm,1.1s
OK050 Pawnee Station 78.95 310 IAMs_20 IAMs_20 11 00 56.6
comp=Z,2µm,19.0s
KAN14 Manchester OK 79.11 311 IAmb IAmb 10 26 22.0
comp=Z,107nm,1.3s
Q17K Contact Creek 79.15 354 P P 10 26 09.3 -6.6
baz=8.2
OK030 Cody Creek RV 79.17 309 IAMs_20 IAMs_20 11 02 22.3
comp=Z,1µm,18.0s
OK033 Mehan 79.18 309 IAMs_20 IAMs_20 10 58 02.5
comp=Z,2µm,22.0s
OK031 S. Brethren Rd 79.19 309 IAMs_20 IAMs_20 11 02 21.7
comp=Z,1µm,18.0s
NJ2 Nanjing 79.21 56 ⇑P **P** **10 26 18.5 +1.9**
NJ2 pP **pP** **10 26 20.8 +0.5**
NJ2 sP **sP** **10 26 22.3 +0.7**
NJ2 S **S** **10 36 18.8 +2.2**
NJ2 SKS **SKSac** **10 36 28.3 -4.5**
NJ2 pmax pmax
comp=Z,41nm,1.1s
NJ2 pmax pmax
comp=Z,520nm,5.7s
NJ2 LR LR
comp=Z,2µm,18.9s
NJ2 LR LR
comp=Z,3µm,17.1s
NJ2 LR LR
comp=Z,2µm,18.9s
TEY Ternei 79.22 37 *eP* **P** **10 26 15.1 -1.3**
LLLB Lillooet 79.32 333 IAmb IAmb 10 26 22.3
comp=Z,169nm,2.0s
NPGB Novo Progresso 79.32 250 *eP* **P** **10 26 16.6 -0.8**
KDAK Kodiak Island 79.34 352 LR LR 11 00 39.6
comp=Z,697nm,21.9s,baz=39,slow=35
KDAK Kodiak Island 79.34 352 P **P** **10 26 16.1 -0.7**
KDAK Kodiak Island 79.34 352 *i* P **P** **10 26 15.2 -1.6**
KDAK pmax pmax
comp=Z,184nm,1.8s
OK032 Salt Plains WL 79.36 311 IAmb IAmb 10 26 23.3
comp=Z,120nm,1.5s
OK032 IAMs_20 IAMs_20 11 02 57.2
comp=Z,1µm,18.0s
K22A Casper 79.41 319 IAmb IAmb 10 26 23.3
comp=Z,192nm,1.9s
K22A Casper 79.41 319 P **P** **10 26 18.6 +0.9**
baz=41,SNR=13
K22A Casper 79.41 319 P P 10 26 11.0 -6.7
baz=41,SNR=13
MSO Missoula 79.46 326 P P 10 26 10.4 -7.5
baz=37,SNR=22
BOZ Bozeman (W) 79.47 324 IAmb IAmb 10 26 25.0
comp=Z,71nm,1.1s
BOZ IAMs_20 IAMs_20 10 59 18.1
comp=Z,2µm,20.0s
BOZ Bozeman (W) 79.47 324 P P 10 26 11.3 -6.7
baz=38,SNR=32
NEW Newport 79.56 329 LR LR 11 02 48.5
comp=Z,2µm,18.4s,baz=40,slow=37
NEW Newport 79.56 329 P P 10 26 11.7 -6.6
baz=35,SNR=14
SDV Santo Domingo 79.58 272 LR LR 10 57 50.9
comp=Z,647nm,20.6s,baz=52,slow=33
SDV Santo Domingo 79.58 272 P **P** **10 26 18.4 -0.7**
SDV IAmb IAmb 10 26 20.6
comp=Z,51nm,0.9s
SDV Santo Domingo 79.58 272 *eP* **P** **10 26 18.1 -1.0**
OK029 Liberty Lake 79.65 309 IAmb IAmb 10 26 25.2
comp=Z,158nm,1.4s
OK029 IAMs_20 IAMs_20 11 01 42.0
comp=Z,1µm,18.0s
342B Flagon Creek P 79.68 303 P **P** **10 26 18.4 -0.8**
baz=46
OK025 Westminster Rd 79.73 309 IAmb IAmb 10 26 25.6
comp=Z,153nm,1.4s
OK025 IAMs_20 IAMs_20 10 58 19.2
comp=Z,2µm,22.0s
YHL Hebgen Lake 79.86 323 IAmb IAmb 10 26 27.7
comp=Z,68nm,1.2s
BRIGG Briggsdale 79.87 317 IAmb IAmb 10 26 27.1

	comp=Z,101nm,1.1s									
BRIGG						IAMs_20	IAMs_20	10 59 37.3		
	comp=Z,2µm,20.0s									
OK038	**West end E0370**	**79.89**	**311**		IAmb	IAmb		10 26 26.6		
	comp=Z,80nm,1.2s									
BBB	**Bella Bella**	**79.90**	**337**		LR	LR		11 02 55.6		
	comp=Z,1µm,20.1s,baz=48,slow=37									
PHWY	**Pilot Hill**	**79.90**	**318**		IAMs_20	IAMs_20		10 59 34.1		
	comp=Z,2µm,20.0s									
YMR	**Madison River**	**79.90**	**323**		IAmb	IAmb		10 26 26.1		
	comp=Z,107nm,1.5s									
INCN	**Inchon**	**79.92**	**48**		P	**P**		**10 26 22.3**	**+1.9**	
INCN					P	**P**		**10 26 22.3**	**+1.9**	
PEA0B	**Petropavlovsk-**	**79.92**	**21**		IAmb	IAmb		10 26 23.6		
	comp=Z,86nm,1.1s									
PEA0B	**Petropavlovsk-**	**79.92**	**21**	*ce*	P	**P**		**10 26 21.9**	**+1.8**	
PETK	**Petropavlovsk-**	**79.92**	**21**		P	**P**		**10 26 19.1**	**-1.0**	
	comp=Z,34nm,1.1s,baz=26,slow=3.8,SNR=21									
PETK					LR	LR		11 06 22.4		
	comp=Z,3µm,18.4s,baz=332,slow=39									
	comp=Z,34nm,1.1s									
H17A	**Grant Village**	**79.94**	**323**		P	P		10 26 14.6	-6.1	
	baz=38,SNR=33									
OHAK	**Old Harbor**	**79.96**	**353**		IAmb	IAmb		10 26 24.4		
	comp=Z,230nm,1.9s									
OHAK	**Old Harbor**	**79.96**	**353**		P	P		10 26 13.0	-7.2	
	baz=10									
Z38A	**Mt. Pleasant**	**79.99**	**306**		IAmb	IAmb		10 26 27.4		
	comp=Z,80nm,1.5s									
Z38A	**Mt. Pleasant**	**79.99**	**306**		P	**P**		**10 26 20.9**	**+0.1**	
	baz=45									
DIAM	**Diamantina, MG**	**80.05**	**234**	*eP*		**P**		**10 26 22.3**	**+1.0**	
SNDB	**Serra Nova Dou**	**80.11**	**244**	*eP*		**P**		**10 26 22.7**	**+1.1**	
KSCO	**Kaye Shedlock'**	**80.16**	**315**		P	**P**		**10 26 22.3**	**+0.5**	
	baz=42,SNR=28									
KSCO	**Kaye Shedlock'**	**80.16**	**315**		P	**P**		**10 26 17.9**	**-3.9**	
	baz=42,SNR=28									
PET	**Petropavlovsk**	**80.24**	**20**		IAMs_20	IAMs_20		11 06 44.4		
	comp=Z,2µm,19.0s									
PET	**Petropavlovsk**	**80.24**	**20**	*eP*		**P**		**10 26 19.3**	**-2.5**	
PET				*e*				10 29 20.1		
PET				*eS*		**S**		**10 36 20.6**	**-6.1**	
PET				*ePS*		**PnS**		**10 37 13.2**	**+2.3**	
PET				*ePPS*		PPS		10 37 32.7		
PET				*eSS*		**SS**		**10 41 36.6**	**+0.4**	
PET					pmax	pmax				
	comp=Z,1µm,6.5s									
PET					pmax	pmax				
	comp=Z,63nm,1.3s									
PET					MLR	MLR				
	comp=Z,2µm,18.0s									
PET					MLR	MLR				
	comp=Z,2µm,18.0s									
FLWY	**Flagg Ranch**	**80.24**	**323**		IAMs_20	IAMs_20		11 03 28.8		
	comp=Z,2µm,19.0s									
YSS	**Yuzh-Sakhalins**	**80.28**	**32**		P	**P**		**10 26 21.7**	**-0.4**	
YSS	**Yuzh-Sakhalins**	**80.28**	**32**		P	**P**		**10 26 23.0**	**+0.9**	
	comp=Z,320nm,1.0s									
YSS	**Yuzh-Sakhalins**	**80.28**	**32**	*eP*		**P**		**10 26 21.9**	**-0.2**	
YSS				*e*				10 26 28.5		
YSS				*e*				10 29 23.8		
YSS				*eS*		**S**		**10 36 26.6**	**-0.7**	
YSS					pmax	pmax				
	comp=Z,300nm,1.0s									
YSS					pmax	pmax				
	comp=Z,1µm,4.3s									
YSS					pmax	pmax				
	comp=N,400nm,3.2s									
YSS					pmax	pmax				
	comp=E,400nm,2.8s									
YSS					smax	smax				
	comp=N,700nm,5.6s									
YSS					MLR	MLR				
	comp=Z,3µm,16.0s									
YSS					MLR	MLR				
	comp=N,4µm,15.0s									
YSS					MLR	MLR				
	comp=E,5µm,17.0s									
C09A	**Chrisman Ranch**	**80.38**	**329**		P	**P**		**10 26 22.3**	**-0.4**	
C09A					IAmb	IAmb		10 26 25.0		
	comp=Z,47nm,0.9s									
MACA	**Manacapuru-AM**	**80.38**	**257**		IAmb	IAmb		10 26 25.5		
	comp=Z,94nm,1.6s									
MACA	**Manacapuru-AM**	**80.38**	**257**	*eP*		**P**		**10 26 24.1**	**+0.9**	
N23A	**Red Feather La**	**80.45**	**318**		P	**P**		**10 26 20.8**	**-2.8**	
	baz=41,SNR=18									
RWWY	**Rawlins**	**80.47**	**319**		IAMs_20	IAMs_20		11 00 06.9		
	comp=Z,2µm,21.0s									
IMW	**Indian Meadow**	**80.50**	**323**		IAMs_20	IAMs_20		11 02 30.6		
	comp=Z,2µm,22.0s									
LOHW	**Long Hollow**	**80.57**	**322**		IAMs_20	IAMs_20		11 02 14.4		
	comp=Z,2µm,20.0s									
SPIA	**Saint Paul Isl**	**80.61**	**2**		P	P		10 26 18.5	-5.2	
	baz=357									
KSRS	**Korea Array**	**80.64**	**47**		P	**P**		**10 26 23.8**	**-0.4**	
	comp=Z,24nm,1.0s,baz=324,slow=3.9,SNR=43									
KSRS					PP	**PP**		**10 29 27.1**	**-0.2**	
	comp=Z,2.7nm,0.8s,baz=326,slow=7.9,SNR=4.8									
KSRS					LR	LR		11 05 04.5		
	comp=Z,2µm,18.4s,baz=310,slow=38									
	comp=Z,24nm,1.0s									
BDFB	**Brasilia**	**80.70**	**239**		P	**P**		**10 26 24.4**	**-0.5**	
	comp=Z,42nm,0.8s,baz=109,slow=2.3,SNR=46									
BDFB					LR	LR		11 02 21.2		
	comp=Z,883nm,18.1s,baz=55,slow=36									
	comp=Z,42nm,0.8s									
BDFB	**Brasilia**	**80.70**	**239**		IAmb	IAmb		10 26 27.2		
	comp=Z,51nm,0.9s									
BDFB	**Brasilia**	**80.70**	**239**	*eP*		**P**		**10 26 25.5**	**+0.6**	
SII	**Sitkinak Islan**	**80.70**	**353**		P	P		10 26 19.0	-5.2	
	baz=9.4									
FXWY	**Fox Creek**	**80.74**	**323**		IAmb	IAmb		10 26 31.6		
	comp=Z,86nm,1.6s									
FXWY					IAMs_20	IAMs_20		11 03 43.3		
	comp=Z,2µm,18.0s									
BW06	**Boulder Array**	**80.75**	**321**		IAMs_20	IAMs_20		11 00 33.3		
	comp=Z,2µm,20.0s									
BW06	**Boulder Array**	**80.75**	**321**		P	**P**		**10 26 21.0**	**-4.1**	
	baz=39,SNR=12									
PDAR	**Pinedale Array**	**80.75**	**321**		P	**P**		**10 26 24.2**	**-0.9**	
	comp=Z,3.0nm,0.6s,baz=60,slow=5.4,SNR=23									
PDAR					LR	LR		11 02 15.9		
	comp=Z,1µm,18.3s,baz=43,slow=36									
	comp=Z,3.0nm,0.6s									
NATX	**Nacogdoches**	**80.85**	**305**		P	**P**		**10 26 24.8**	**-0.7**	
	baz=45									
NATX	**Nacogdoches**	**80.85**	**305**		P	P		10 26 19.9	-5.5	
	baz=45									
REDW	**Red Top Meadow**	**80.88**	**322**		IAmb	IAmb		10 26 31.8		
	comp=Z,162nm,1.8s									
ISCO	**Idaho Springs**	**81.11**	**317**		P	**P**		**10 26 27.3**	**+0.2**	
	baz=41,SNR=45									
ISCO	**Idaho Springs**	**81.11**	**317**		P	**P**		**10 26 23.7**	**-3.5**	
	baz=41,SNR=45									
TJN	**Taejon**	**81.12**	**48**		P	**P**		**10 26 29.2**	**+2.4**	
	comp=Z,277nm,1.4s									
TJN	**Taejon**	**81.12**	**48**	*ce*	P	**P**		**10 26 27.4**	**+0.6**	
WMOK	**Wichita Mounta**	**81.16**	**309**		IAmb	IAmb		10 26 33.4		
	comp=Z,84nm,1.4s									
WMOK	**Wichita Mounta**	**81.16**	**309**		P	**P**		**10 26 26.8**	**-0.4**	
	baz=44,SNR=47									
WMOK	**Wichita Mounta**	**81.16**	**309**		P	**P**		**10 26 22.8**	**-4.3**	
	baz=44,SNR=47									
Z35A	**Perchaven, San**	**81.28**	**308**		IAmb	IAmb		10 26 33.5		
	comp=Z,95nm,1.4s									
Z35A	**Perchaven, San**	**81.28**	**308**		P	**P**		**10 26 27.4**	**-0.4**	
	baz=44									
SSE	**Sheshan**	**81.31**	**56**		P	**P**		**10 26 28.5**	**+0.6**	
SSE					S	**S**		**10 36 36.1**	**-2.5**	
SSE					pmax	pmax				
	comp=Z,20nm,1.1s									
SSE					pmax	pmax				
	comp=Z,380nm,5.7s									
SSE					LR	LR				
	comp=Z,1µm,19.2s									
SSE					LR	LR				
	comp=Z,1µm,19.2s									
E09A	**Wood Farm, Sta**	**81.40**	**328**		IAmb	IAmb		10 26 33.7		
	comp=Z,52nm,0.9s									
F10A	**Beach Ranch, E**	**81.48**	**328**		IAmb	IAmb		10 26 34.1		
	comp=Z,48nm,1.0s									
Q24A	**Divide**	**81.51**	**316**		P	P		10 26 23.9	-5.3	
	baz=41,SNR=17									
CHIR	**Chirikof Islan**	**81.56**	**354**		P	P		10 26 23.3	-5.4	
	baz=8.3									
SKR	**Severo-Kuril's**	**81.66**	**23**	*eP*		P		10 26 17.8	-12	
SKR					pmax	pmax				
	comp=Z,300nm,6.9s									
SKR					MLR	MLR				
	comp=Z,1µm,20.0s									
LTY	**Liberty**	**81.73**	**330**		IAmb	IAmb		10 26 35.1		
	comp=Z,97nm,1.9s									
LHMI	**Lhok Sumawe**	**81.83**	**90**		IAMs_20	IAMs_20		11 06 08.5		
	comp=Z,1µm,18.0s									
HAWA	**Hanford**	**82.03**	**329**		IAmb	IAmb		10 26 38.5		
	comp=Z,191nm,2.0s									
QIZ	**Qiongzhong**	**82.05**	**72**		P	**P**		**10 26 32.0**	**0.0**	
QIZ					PP	**PP**		**10 29 37.8**	**-1.8**	
QIZ					S	**S**		**10 36 45.6**	**-1.1**	
QIZ					SS	**SS**		**10 42 04.3**	**-0.9**	
QIZ					pmax	pmax				
	comp=Z,49nm,1.8s									
QIZ					pmax	pmax				
	comp=Z,700nm,5.0s									
QIZ					LR	LR				
	comp=Z,1µm,17.1s									
QIZ					LR	LR				
	comp=Z,1µm,19.8s									
QIZ					LR	LR				
	comp=Z,3µm,21.0s									
PAMC	**Pamplona, Colo**	**82.12**	**273**	*eP*		**P**		**10 26 34.0**	**+1.0**	
O20A	**White River Ci**	**82.16**	**319**		IAmb	IAmb		10 26 37.0		
	comp=Z,32nm,0.8s									
O20A	**White River Ci**	**82.16**	**319**		P	P		10 26 26.6	-6.0	
	baz=39,SNR=22									
SJCC	**San Jacinto, C**	**82.26**	**276**	*eP*		**P**		**10 26 34.9**	**+1.7**	
SMCO	**Snowmass**	**82.27**	**317**		IAmb	IAmb		10 26 54.4		
	comp=Z,103nm,2.0s									
HLID	**Hailey**	**82.29**	**325**		IAMs_20	IAMs_20		11 02 42.7		
	comp=Z,2µm,19.0s									
HLID	**Hailey**	**82.29**	**325**		P	P		10 26 24.4	-8.7	
	baz=36,SNR=25									
SDPT	**Sand Point**	**82.34**	**356**		P	P		10 26 23.0	-10	
	baz=4.7									
CLDB	**Colider**	**82.35**	**248**	*eP*		**P**		**10 26 33.8**	**+0.3**	
WHTX	**Lake Whitney,**	**82.36**	**307**		P	**P**		**10 26 33.2**	**-0.2**	
	baz=44									
WHTX	**Lake Whitney,**	**82.36**	**307**		P	P		10 26 25.2	-8.2	
	baz=44									
T25A	**Trinidad**	**82.49**	**314**		IAmb	IAmb		10 26 41.3		
	comp=Z,86nm,1.6s									
T25A	**Trinidad**	**82.49**	**314**		P	P		10 26 29.0	-5.3	
	baz=41,SNR=17									
ASAJ	**Asahikawa**	**82.53**	**34**		LR	LR		11 07 28.7		
	comp=Z,5µm,18.7s,baz=338,slow=39									
JKA	**Kamikawa-asahi**	**82.53**	**34**		IAmb	IAmb		10 26 41.1		
	comp=Z,78nm,1.2s									
IPMB	**Ipameri, GO**	**82.58**	**237**	*eP*		**P**		**10 26 35.8**	**+1.1**	
SDCO	**Great Sand Dun**	**82.61**	**316**		IAmb	IAmb		10 26 41.4		
	comp=Z,104nm,1.7s									
SDCO					IAMs_20	IAMs_20		11 00 10.8		
	comp=Z,2µm,22.0s									
SDCO	**Great Sand Dun**	**82.61**	**316**		P	**P**		**10 26 35.0**	**0.0**	
	baz=41,SNR=34									
SDCO	**Great Sand Dun**	**82.61**	**316**		P	**P**		**10 26 32.3**	**-2.8**	
	baz=41,SNR=34									
AMTX	**Amarillo**	**82.69**	**311**		IAMs_20	IAMs_20		11 03 14.3		
	comp=Z,2µm,19.0s									
AMTX	**Amarillo**	**82.69**	**311**		P	**P**		**10 26 35.0**	**-0.3**	
	baz=42									
AMTX	**Amarillo**	**82.69**	**311**		P	P		10 26 28.1	-7.1	
	baz=42									
HKPS	**Hong Kong Po S**	**82.83**	**66**		IAMs_20	IAMs_20		11 10 45.9		
	comp=Z,2µm,18.0s									
HKT	**Hockley**	**82.84**	**304**		P	**P**		**10 26 35.3**	**-0.6**	
HKT					IAmb	IAmb		10 26 41.6		
	comp=Z,56nm,1.6s									
HKT	**Hockley**	**82.84**	**304**		IAMs_20	IAMs_20		11 03 48.6		
	comp=Z,2µm,20.0s									
HKT	**Hockley**	**82.84**	**304**		P	**P**		**10 26 34.8**	**-1.0**	
	baz=45									
HKT	**Hockley**	**82.84**	**304**		P	**P**		**10 26 35.3**	**-0.6**	
HKT					pmax	pmax				
	comp=Z,57nm,1.7s									
HKT					MLR	MLR				
	comp=Z,2µm,20.0s									
SGCB	**SÉo Gabriel d**	**82.93**	**263**	*eP*		**P**		**10 26 37.5**	**+0.9**	
MFID	**Camas Ranch**	**83.01**	**325**		IAmb	IAmb		10 26 41.7		
	comp=Z,44nm,1.1s									
MFID					IAMs_20	IAMs_20		11 01 33.8		
	comp=Z,2µm,21.0s									
ABTX	**Abilene, Hawle**	**83.19**	**308**		IAmb	IAmb		10 26 44.2		
	comp=Z,55nm,1.4s									
ABTX	**Abilene, Hawle**	**83.19**	**308**		P	**P**		**10 26 36.7**	**-1.1**	
	baz=43,SNR=13									
ABTX	**Abilene, Hawle**	**83.19**	**308**		P	P		10 26 31.5	-6.3	
	baz=43,SNR=13									
SPUT	**South Promonto**	**83.22**	**322**		IAmb	IAmb		10 26 43.7		
	comp=Z,51nm,1.5s									
S22A	**4UR Ranch, Cre**	**83.29**	**316**		IAmb	IAmb		10 26 45.3		
	comp=Z,43nm,0.9s									
S22A	**4UR Ranch, Cre**	**83.29**	**316**		P	P		10 26 32.5	-6.1	
	baz=40									
435B	**Jarrell**	**83.30**	**306**		IAmb	IAmb		10 26 44.6		
	comp=Z,144nm,1.9s									
435B	**Jarrell**	**83.30**	**306**		P	P		10 26 32.5	-5.9	
	baz=44									
JLU	**Jordanelle**	**83.33**	**321**		IAmb	IAmb		10 26 44.3		
	comp=Z,31nm,0.9s									
RUSC	**La Rusia**	**83.37**	**272**	*eP*		**P**		**10 26 40.7**	**+1.2**	
CTU	**Camp Tracy**	**83.39**	**321**		IAmb	IAmb		10 26 44.4		
	comp=Z,40nm,1.2s									
TEFE	**Tefe**	**83.47**	**259**	*eP*		**P**		**10 26 40.4**	**+1.0**	
PDRB	**Porto dos Gac**	**83.52**	**248**	*eP*		**P**		**10 26 40.7**	**+1.1**	
P18A	**Preston Nutter**	**83.52**	**320**		IAmb	IAmb		10 26 45.2		
	comp=Z,31nm,1.0s									
KCSI	**Kotacane, Aceh**	**83.58**	**91**		P	**P**		**10 26 39.8**	**-0.2**	
	comp=Z,29nm,1.1s,comp=Z,3µm									
ZARC	**Zaragoza, Cauc**	**83.61**	**274**	*eP*		**P**		**10 26 39.8**	**-0.4**	
SHEM	**Shemya Is, Ala**	**83.67**	**12**		LR	LR		11 08 44.8		
	comp=Z,646nm,18.7s,baz=333,slow=39									
UREC	**San Jos de Ur**	**83.94**	**275**	*eP*		**P**		**10 26 43.6**	**+1.7**	
PTBC	**PUERTO BERRIO,**	**83.95**	**273**	*eP*		**P**		**10 26 41.7**	**-0.3**	
MSTX	**Muleshoe**	**83.97**	**311**		P	**P**		**10 26 41.3**	**-0.6**	
	baz=42									
MSTX	**Muleshoe**	**83.97**	**311**		P	P		10 26 36.1	-5.8	
	baz=42									
UNV	**Unalaska Valle**	**83.99**	**360**		P	P		10 26 34.9	-6.5	
	baz=0.2									
SRU	**San Rafael Swe**	**84.06**	**319**		IAmb	IAmb		10 26 48.1		
	comp=Z,68nm,1.0s									
TMUT	**Trail Mountain**	**84.24**	**320**		IAmb	IAmb		10 26 50.1		
	comp=Z,23nm,0.8s									
DUG	**Dugway, Tooele**	**84.28**	**322**		IAmb	IAmb		10 26 49.8		
	comp=Z,34nm,1.1s									
DUG					IAMs_20	IAMs_20		11 05 09.7		
	comp=Z,2µm,19.0s									
DUG	**Dugway, Tooele**	**84.28**	**322**		P	P		10 26 36.8	-6.6	
	baz=37,SNR=26									
JEM	**Erimo**	**84.49**	**35**		P	**P**		**10 26 47.4**	**+3.2**	
ERM	**Erimo**	**84.49**	**35**		P	**P**		**10 26 43.7**	**-0.5**	
ERM	**Erimo**	**84.49**	**35**		P	**P**		**10 26 47.4**	**+3.2**	
	comp=Z,114nm,1.7s									
ERM	**Erimo**	**84.49**	**35**	*ce*	P	**P**		**10 26 45.3**	**+1.1**	
ERM					pmax	pmax				
	comp=Z,118nm,1.3s									
ERM					MLR	MLR				
	comp=Z,5µm,19.0s									
KULM	**Kulim**	**84.53**	**88**		IAmb	IAmb		10 26 49.1		
	comp=Z,134nm,1.9s									
KULM					IAMs_20	IAMs_20		11 11 07.7		
	comp=Z,1µm,21.0s									
MVCO	**Mesa Verde**	**84.55**	**317**		P	**P**		**10 26 41.6**	**-3.4**	
	baz=39,SNR=21									
APAC	**Apartado, Choc**	**84.61**	**276**	*eP*		**P**		**10 26 46.4**	**+1.2**	
TEIG	**Tepich**	**84.69**	**292**		IAMs_20	IAMs_20		11 06 06.8		
	comp=Z,1µm,20.0s									
JCT	**Junction City**	**84.84**	**307**		IAMs_20	IAMs_20		11 05 10.5		
	comp=Z,2µm,19.0s									
JCT	**Junction City**	**84.84**	**307**		P	**P**		**10 26 47.1**	**+0.9**	
	baz=43,SNR=15									
JCT	**Junction City**	**84.84**	**307**		P	**P**		**10 26 43.8**	**-2.5**	
	baz=43,SNR=15									
NORC	**Norcasia**	**84.91**	**273**	*eP*		**P**		**10 26 46.5**	**-0.4**	
PSI	**Prapat**	**84.92**	**91**		LR	LR		11 08 31.8		
	comp=Z,1µm,21.7s,baz=306,slow=38									
PSI	**Prapat**	**84.92**	**91**		P	**P**		**10 26 47.7**	**+0.8**	
	comp=Z,36nm,1.5s									
GSI	**Gunungsitoli**	**84.92**	**93**		P	**P**		**10 26 48.4**	**+1.6**	
	comp=Z,51nm,1.6s									
DBBC	**Dabeiba**	**84.93**	**275**	*eP*		**P**		**10 26 47.4**	**+0.4**	
ELK	**Elko**	**84.93**	**323**		LR	LR		11 05 37.5		
	comp=Z,2µm,18.8s,baz=40,slow=36									
ROSC	**El Rosal**	**84.98**	**272**		P	**P**		**10 26 47.3**	**-0.3**	
	comp=Z,14nm,0.7s,baz=162,slow=3.9,SNR=6.7									
ROSC					LR	LR		11 00 50.5		
	comp=Z,3µm,21.8s,baz=40,slow=33									
	comp=Z,14nm,0.7s									
RPSI	**Rantau Prapat**	**84.99**	**91**		IAmb	IAmb		10 26 55.3		
	comp=Z,118nm,1.7s									
RPSI					IAMs_20	IAMs_20		11 07 58.1		
	comp=Z,1µm,21.0s									
PARB	**Paraibuna**	**85.09**	**232**	*eP*		**P**		**10 26 48.5**	**+1.1**	
ANMO	**Albuquerque**	**85.23**	**314**		LR	LR		11 03 07.8		
	comp=Z,3µm,21.1s,baz=137,slow=34									
ANMO	**Albuquerque**	**85.23**	**314**		P	**P**		**10 26 47.9**	**-0.5**	
ANMO	**Albuquerque**	**85.23**	**314**		P	**P**		**10 26 48.4**	**0.0**	
	baz=40,SNR=18									
ANMO	**Albuquerque**	**85.23**	**314**		P	**P**		**10 26 45.2**	**-3.2**	
	baz=40									
ANMO	**Albuquerque**	**85.23**	**314**	*i*	P	**P**		**10 26 48.6**	**+0.2**	
ANMO					pmax	pmax				
	comp=Z,40nm,2.0s									
ANMO					MLR	MLR				
	comp=Z,3µm,18.0s									
IPM	**Ipoh**	**85.35**	**88**		IAmb	IAmb		10 26 51.1		
	comp=Z,67nm,1.6s									
IPM					IAMs_20	IAMs_20		11 12 24.4		
	comp=Z,1µm,22.0s									
IPM	**Ipoh**	**85.35**	**88**		P	**P**		**10 26 50.7**	**+1.7**	
	comp=Z,24nm,1.6s									
JNU	**Nakatsue**	**85.47**	**48**		LR	LR		11 08 23.3		
	comp=Z,3µm,18.9s,baz=322,slow=38									
JNU	**Nakatsue**	**85.47**	**48**		P	**P**		**10 26 51.7**	**+2.3**	
	comp=Z,62nm,1.6s									
GUY2C	**Guyana, Caldas**	**85.50**	**273**	*eP*		**P**		**10 26 49.3**	**-1.0**	
RCLB	**Rio Claro- Sao**	**85.52**	**234**	*eP*		**P**		**10 26 50.5**	**+0.9**	
CBOC	**Ciudad Bolivar**	**85.55**	**274**	*eP*		**P**		**10 26 51.2**	**+1.0**	
VAO	**Valinhos**	**85.62**	**233**	*eP*		**P**		**10 26 51.2**	**+1.1**	
SALV	**Santo Antonio**	**85.88**	**244**	*eP*		**P**		**10 26 51.9**	**+0.5**	
SPR3	**Spring Creek 3**	**85.94**	**322**		IAmb	IAmb		10 26 59.7		
	comp=Z,117nm,1.8s									
YHNB	**Yeheng**	**85.95**	**60**		P	**P**		**10 26 55.5**	**+3.6**	
	comp=Z,82nm,1.5s									
C2SB	**Chapadao do Su**	**86.09**	**240**	*eP*		**P**		**10 26 53.6**	**+1.2**	
Y22F	**Passcal Instru**	**86.15**	**314**		P	P		10 26 47.0	-5.8	
	baz=40									
Y22D	**IRIS PASSCAL I**	**86.15**	**314**		P	P		10 26 47.0	-5.8	
	baz=40									
833A	**Chaparral WMA,**	**86.16**	**305**		P	**P**		**10 26 52.5**	**-0.3**	
	baz=43									
833A	**Chaparral WMA,**	**86.16**	**305**		P	**P**		**10 26 52.0**	**-0.9**	
	baz=43									
PKCU	**Pink Cliffs**	**86.24**	**320**		IAmb	IAmb		10 27 06.7		
	comp=Z,74nm,1.6s									
Y22A	**Socorro**	**86.28**	**314**		P	**P**		**10 26 52.5**	**-1.0**	
	baz=40									
ORTC	**Ortega, Tolima**	**86.29**	**272**	*eP*		**P**		**10 26 52.5**	**-1.2**	
SSLB	**Suanglung**	**86.30**	**61**		P	**P**		**10 26 57.5**	**+3.9**	
	comp=Z,50nm,1.6s									
SPB	**Sao Paulo**	**86.35**	**233**		IAMs_20	IAMs_20		11 08 20.5		
	comp=Z,2µm,21.0s									
PLMC	**San Jos del P**	**86.39**	**273**	*eP*		**P**		**10 26 55.0**	**+0.8**	
MACC	**Macarena, Meta**	**86.43**	**270**	*eP*		**P**		**10 26 54.1**	**-0.3**	
PP1B	**Ponte de Pedra**	**86.57**	**242**	*eP*		**P**		**10 26 56.1**	**+1.3**	
JMN	**Monobe**	**86.64**	**46**		P	**P**		**10 26 59.6**	**+4.5**	
	comp=Z,44nm,1.7s									
MAJO	**Matsushiro**	**86.64**	**41**		P	**P**		**10 26 54.7**	**-0.4**	
MAJO					IAmb	IAmb		10 27 01.8		
	comp=Z,41nm,1.3s									
MAJO	**Matsushiro**	**86.64**	**41**		P	**P**		**10 26 57.3**	**+2.2**	
	comp=Z,34nm,2.6s									
MAJO	**Matsushiro**	**86.64**	**41**	*d*	P	**P**		**10 26 55.2**	**+0.1**	
MAJO					pmax	pmax				
	comp=Z,76nm,1.9s									
MAJO					MLR	MLR				
	comp=Z,4µm,18.0s									
MJAR	**Matsushiro Arr**	**86.65**	**41**		P	**P**		**10 26 54.1**	**-1.0**	
	comp=Z,17nm,1.1s,baz=324,slow=4.5,SNR=20									
MJAR					LR	LR		11 09 29.9		
	comp=Z,7µm,18.4s,baz=328,slow=38									
	comp=Z,17nm,1.1s									
MNSI	**Mandailing Nat**	**86.74**	**92**

baz=34
AQDB Aquidauana 89.17 241 eP P 10 27 08.2 +1.0
MYKOM Kota Tinggi 89.23 88 IAMs_20 IAMs_20 10 57 22.3
comp=Z,1µm,20.0s
SDSI Sungai Dareh 89.26 92 P **P 10 27 06.1 -1.8**
comp=Z,19nm,1.6s
SHOC Shoshone, Teco 89.36 321 P **P 10 27 07.3 -0.8**
baz=35
MTO3 Montecristo 89.43 289 IAmb IAmb 10 27 14.6
comp=Z,54nm,1.6s
TUC Tucson 89.55 315 P **P 10 27 07.2 -1.9**
TUC IAmb IAmb 10 27 13.7
comp=Z,58nm,1.8s
TUC Tucson 89.55 315 P **P 10 27 07.7 -1.4**
baz=38
TUC Tucson 89.55 315 P **P 10 27 07.2 -1.9**
TUC pmax pmax
comp=Z,58nm,1.8s
TUC MLR MLR
comp=Z,4µm,22.0s
TUQ Turquoise Moun 89.57 321 P **P 10 27 05.7 -3.6**
baz=35
SIV San Ignacio 89.58 248 LR LR 11 04 34.7
comp=Z,883nm,20.8s,baz=80,slow=34
CWC Cottonwood Cre 89.73 323 P **P 10 27 08.7 -1.3**
baz=34
GDXM Geysers 89.73 327 IAmb IAmb 10 27 17.2
comp=Z,49nm,1.3s
MPMC Manual Prospec 89.78 322 P **P 10 27 06.6 -3.7**
baz=34
SNET Serv Nac Est T 89.83 288 IAMs_20 IAMs_20 11 10 21.5
comp=Z,1µm,21.0s
PTGB Pitanga 89.98 236 eP P 10 27 11.9 +0.9
GMRC Granite Mounta 89.98 320 P **P 10 27 10.4 -0.7**
baz=35,SNR=8.1
GSC Goldstone, Bar 90.09 321 P **P 10 27 11.1 -0.5**
baz=34
BBSD Serra de San D 90.10 247 eP P 10 27 10.2 -1.4
JHJ Hachijo jima 2 90.16 42 LR LR 11 11 01.8
comp=Z,3µm,20.4s,baz=350,slow=38
IRM Iron Mountain 90.25 319 P **P 10 27 11.3 -1.0**
baz=35,SNR=9.4
HEC Hector,Ludlow 90.26 321 P **P 10 27 11.8 -0.6**
baz=35
TULM Tulcn-Chalpat 90.30 271 IAmb IAmb 10 27 19.7
comp=Z,36nm,1.3s
TPRI Tanjung Pinang 90.31 88 P **P 10 27 16.8 +4.0**
BBRB Robore, Boliv 90.32 245 eP P 10 27 13.1 +0.4
LRMC Laurel Mtn Rad 90.35 322 P **P 10 27 12.2 -0.6**
baz=34
AMBA Amambai (Brazi 90.49 239 eP P 10 27 15.5 +2.2
ISA Isabella, Lake 90.55 323 P **P 10 27 13.1 -0.7**
baz=33,SNR=8.5
VES Vestal, Richgr 90.68 323 P **P 10 27 13.1 -1.1**
baz=33
BELC Belle Mtn. Jos 90.78 320 P **P 10 27 14.2 -0.7**
baz=35
BC3 Big Chuckawall 90.80 319 P **P 10 27 14.1 -0.9**
baz=35,SNR=7.8
214A Organ Pipe Nat 90.87 317 P **P 10 27 13.3 -1.9**
baz=36
EDW2 Edwards Air Fo 90.99 322 P **P 10 27 13.1 -2.6**
baz=34
BBRC Big Bear Solar 91.00 321 P **P 10 27 16.0 -0.1**
baz=34
MCR1 Marechal Candi 91.00 237 eP P 10 27 15.8 +0.1
OTAV Otavalo 91.11 271 P **P 10 27 16.5 -0.6**
OTAV IAmb IAmb 10 27 19.6
comp=Z,48nm,1.6s
OTAV Otavalo 91.11 271 P **P 10 27 16.5 -0.6**
OTAV pmax pmax
comp=Z,48nm,1.6s
OTAV Otavalo 91.11 271 eP P 10 27 17.7 +0.6
DSRI Dabo 91.29 89 P **P 10 27 19.3 +2.0**
PFO Pinyon Flats O 91.32 320 LR LR 11 10 24.6
comp=Z,1µm,18.5s,baz=36,slow=37
PFO Pinyon Flats O 91.32 320 P **P 10 27 15.8 -1.6**
PFO Pinyon Flats O 91.32 320 P **P 10 27 16.5 -0.9**
baz=34,SNR=8.0
PFO Pinyon Flats O 91.32 320 P **P 10 27 15.8 -1.6**
PFO pmax pmax
comp=Z,11nm,0.9s
PFO MLR MLR
comp=Z,2µm,18.0s
TPFO Pinon Flats 91.32 320 P **P 10 27 16.7 -0.7**
baz=34,SNR=8.5
CMIG Matias Romero 91.34 295 LR LR 11 08 13.3
comp=Z,670nm,19.0s,baz=32,slow=36
BFSC Mount Baldy Ra 91.36 321 P **P 10 27 15.7 -1.9**
baz=34
SMMC Simmler 91.52 323 P **P 10 27 15.9 -2.3**
baz=32
SWSC Sam W. Stewart 91.55 319 P **P 10 27 17.2 -1.1**
baz=35
MURC Murrieta 91.68 321 P **P 10 27 18.7 -0.2**
baz=34
PKM Mcpherson Peak 91.80 323 P **P 10 27 18.7 -1.0**
baz=33
MONP2 Monument Peak 91.89 320 P **P 10 27 19.4 -0.8**
baz=34,SNR=7.0
IKP In-Ko-Pah, Jac 91.94 319 P **P 10 27 19.4 -0.8**
baz=35
BAR Barrett 92.19 320 IAmb IAmb 10 27 56.7
comp=Z,45nm,1.9s
CZSB Cruzeiro do Su 92.21 262 IAmb IAmb 10 27 26.0
comp=Z,43nm,1.5s
CZSB Cruzeiro do Su 92.21 262 eP P 10 27 20.7 -0.8
109C Camp Elliot, M 92.22 320 P **P 10 27 20.9 -0.5**
baz=34
PORT Chimborazo Vol 92.49 270 IAmb IAmb 10 27 26.1
comp=Z,36nm,1.2s
CNLB Canela 92.66 232 eP P 10 27 24.2 +0.9
CPUP Villa Florida 94.41 238 P **P 10 27 30.5 -0.9**
comp=Z,1.6nm,0.6s,baz=54,slow=6.8,SNR=4.9
CPUP LR LR 11 09 27.6
comp=Z,918nm,19.0s,baz=53,slow=35
comp=Z,1.6nm,0.6s
LPAZ La Paz 94.68 252 P **P 10 27 32.2 -1.3**
comp=Z,3.7nm,1.0s,baz=39,slow=7.0,SNR=10
LPAZ PP **PP 10 31 21.4 -0.7**
comp=Z,1.6nm,0.8s,baz=34,slow=9.0,SNR=3.8
LPAZ LR LR 11 08 05.7
comp=Z,409nm,20.8s,baz=18,slow=34
comp=Z,3.7nm,1.0s
LPAZ La Paz 94.68 252 IAmb IAmb 10 31 00.4
comp=Z,14nm,0.6s
LPAZ La Paz 94.68 252 eP P 10 27 32.8 -0.8
SBUM Sibu 94.95 82 IAMs_20 IAMs_20 10 59 08.3
comp=Z,1µm,19.0s
CPSB Cacapava Do Su 94.98 233 eP P 10 27 35.0 +1.2
MCRA Macar, Loja 95.30 269 IAmb IAmb 10 27 40.2
comp=Z,34nm,1.9s
KKM Kota Kinabalu 95.41 77 IAMs_20 IAMs_20 11 18 33.6
comp=Z,2µm,22.0s
LPIG La Paz 95.74 310 LR LR 11 09 24.7
comp=Z,2µm,21.8s,baz=36,slow=35
ATAH Atahualpa 95.99 266 LR LR 11 09 56.7
comp=Z,782nm,19.6s,baz=28,slow=35
PLTB Pedras Altas 96.06 232 eP P 10 27 39.4 +0.6
JCJ Chichijima 96.24 44 LR LR 11 15 09.7
comp=Z,2µm,19.6s,baz=332,slow=38
ITQB Itaqui 96.35 235 eP P 10 27 41.0 +0.9
PB16 IPOC Station P 97.03 252 IAmb IAmb 10 27 45.4
comp=Z,21nm,1.0s
GO01 Chusmiza 97.70 251 IAmb IAmb 10 28 30.2
comp=Z,29nm,1.9s
LEM Lembang 97.77 92 LR LR 11 16 49.2
comp=Z,386nm,19.8s,baz=332,slow=38
NNA Nana 98.07 261 LR LR 11 10 54.2
comp=Z,545nm,19.9s,baz=14,slow=35
NNA Nana 98.07 261 IAMs_20 IAMs_20 11 10 20.9
comp=Z,1µm,22.0s
PB01 IPOC Station P 98.83 250 IAmb IAmb 10 27 57.5
comp=Z,38nm,1.9s
PB09 IPOC Station P 99.16 249 IAmb IAmb 10 27 56.2
comp=Z,30nm,1.3s
PB02 IPOC Station P 99.29 250 IAmb IAmb 10 27 55.3
comp=Z,19nm,1.2s
LVC Limon Verde 99.47 248 LR LR 11 13 27.5
comp=Z,598nm,18.5s,baz=22,slow=36
LVC Limon Verde 99.47 248 Pdif Pdif 10 27 53.7 -1.1
LVC IAmb IAmb 10 27 57.2
comp=Z,19nm,1.1s
LVC Limon Verde 99.47 248 P **Pdif 10 27 53.7 -1.1**
LVC pmax pmax
comp=Z,19nm,1.1s
LVC MLR MLR
comp=Z,800nm,20.0s
LVC Limon Verde 99.47 248 eP Pdif 10 27 55.8 +0.9
TBJI Tambak Boyo 100.89 89 P **Pdif 10 28 04.2 +3.3**
LUWI Luwuk 105.00 77 IAMs_20 IAMs_20 11 25 16.5
comp=Z,846nm,21.0s
TRQA Tornquist 105.37 232 IAMs_20 IAMs_20 11 16 22.2
comp=Z,1µm,21.0s
PEL Peldehue 107.53 241 IAMs_20 IAMs_20 11 25 55.3
comp=Z,1µm,20.0s
SOEI Soe 111.99 83 IAMs_20 IAMs_20 11 22 03.1
comp=Z,711nm,20.0s
WRKA Warakurna 124.55 94 P **PKiKP 10 33 13.5 +2.2**
WRA Warramunga Arr 125.96 85 PKP **PKPdf 10 33 12.9 -0.9**
comp=Z,5.7nm,1.1s,baz=306,slow=2.6,SNR=16
WRA PP **PP 10 35 09.8 +2.5**
comp=Z,2.9nm,1.1s,baz=318,slow=6.2,SNR=5.4
WRAB Tennant Creek 125.96 85 P **PKiKP 10 33 16.0 +1.8**
WB1 Warramunga Ar. 125.98 85 P **PKiKP 10 33 15.9 +1.7**
ASAR Alice Springs 127.89 89 PKP **PKPdf 10 33 16.9 -0.5**
comp=Z,6.5nm,0.9s,baz=308,slow=1.7,SNR=33
ASAR PP PP 10 35 11.0 -9.1
comp=Z,0.7nm,0.9s,baz=317,slow=5.3,SNR=4.1
ASAR Alice Springs 127.89 89 PKPdf **PKPdf 10 33 16.5 -0.9**
ASAR Alice Springs 127.89 89 PKIKP **PKPdf 10 33 16.5 -0.9**
AS01 Alice Springs 127.93 89 P **PKiKP 10 33 20.1 +2.0**
PMG Port Moresby 127.95 64 IAMs_20 IAMs_20 11 32 33.3
comp=Z,812nm,22.0s
PMG Port Moresby 127.95 64 P **PKiKP 10 33 21.2 +2.9**
COEN Coen 128.44 72 P **PKiKP 10 33 21.2 +1.9**
QIS Mount Isa 130.21 81 P **PKiKP 10 33 23.0 +0.3**
MTSU Mount Surprise 132.06 75 P **PKiKP 10 33 29.4 +2.9**
CTA Charters Tower 134.72 75 PKP **PKPdf 10 33 30.9 +0.5**
comp=Z,10nm,0.8s,baz=298,slow=4.8,SNR=9.7
CTA Charters Tower 134.72 75 P **PKiKP 10 33 33.6 +1.8**
CTAO Charters Tower 134.72 75 P **PKiKP 10 33 34.2 +2.4**
INKA Innaminka 135.27 88 P **PKiKP 10 33 35.2 +2.5**
QLP Quilpie 137.20 84 P **PKiKP 10 33 38.8 +2.2**
STKA Stephens Creek 138.07 93 PKhKP PKPpre 10 33 30.9
comp=Z,0.9nm,0.3s,baz=335,slow=10.0,SNR=3.8
STKA PKP **PKiKP 10 33 38.0 -0.3**
comp=Z,4.8nm,0.7s,baz=325,slow=2.0,SNR=5.2
STKA Stephens Creek 138.07 93 P **PKiKP 10 33 39.5 +1.2**
STKA Stephens Creek 138.07 93 PKIKP **PKiKP 10 33 38.0 -0.3**
TAOE Nuku Hiva Isla 139.13 317 eLR LR 11 18 36.9
comp=Z,1µm,22.9s
RMQ Roma 140.46 81 P **PKiKP 10 33 43.8 +0.5**
VNDA Vanda 142.63 169 PKP **PKPdf 10 33 42.0 -1.1**
comp=Z,1.2nm,0.9s,baz=266,slow=1.5,SNR=2.3
ARMA Armidale 144.73 84 P **PKiKP 10 33 50.7 -1.4**
GC1S Gold Coast 1 S 144.88 79 P **PKiKP 10 33 52.3 0.0**
MILA Mila 145.96 96 P **PKiKP 10 33 54.5 +0.1**
DZM Mont Dzumac 149.70 56 eLR LR 11 23 31.3
comp=Z,2µm,22.9s
PPT2 Papeete2 151.15 324 eLR LR 11 24 10.5
comp=Z,1µm,26.0s
PPT2 eLR LR 11 24 10.5
comp=Z,941nm,27.5s
RTZ Ruatahuna 167.01 78 PKPab **PKPab 10 35 21.5 +0.4**

*INET **18** 10:15:02.9±0.8, 12°.83N×88°.91W, h22km±10km, ML3.6*
*SNET **18** 10:15:02.8±1.0, 12°.84N×88°.93W, h34km, ML3.9*
ISC 18 10:15:01.8±1.8, **12°.80N**±0°.07×**88°.95W**±0°.05, **h26**km±14km, **n38**, σ0°**34**/48, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ALJI	**Alcalda de J**	**0.64**	**35**	*eP*	**Pb**	**10 15 15.0**	**+0.6**
ALJI				*eS*	**Sn**	**10 15 24.7**	**+0.1**
TECO	**Alcaldia de Te**	**0.75**	**12**	*eP*	**Pb**	**10 15 16.4**	**+0.1**
COEB	**Comit de Eme**	**0.81**	**30**	*eP*	**Pb**	**10 15 17.3**	**+0.1**
COEB				*eS*	**Sn**	**10 15 28.1**	**-0.6**
SJTE	**Alcalda de S**	**0.81**	**356**	*eP*	**Pb**	**10 15 17.0**	**-0.4**
COEG	**Centro de Oper**	**0.82**	**4**	*eP*	**Pb**	**10 15 17.2**	**-0.3**
RANC	**El Ranchito**	**0.90**	**45**	*eP*	**Pn**	**10 15 18.7**	**-0.2**
PACA	**Pacayal**	**0.90**	**42**	*eP*	**Pn**	**10 15 19.1**	**+0.2**
PACA	**Pacayal**	**0.90**	**42**	*eP*	**Pn**	**10 15 18.8**	**-0.1**
PQSS	**Presa 15 de Se**	**0.91**	**24**	*eP*	**Pb**	**10 15 19.2**	**+0.3**
PAVA	**Las Pavas**	**0.91**	**1**	*eP*	**Pn**	**10 15 18.9**	**-0.2**
PAVA				*eS*	**Sn**	**10 15 31.2**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.93**	**13**	*eP*	**Pn**	**10 15 19.2**	**+0.1**
SCLA				*eS*	**Sn**	**10 15 31.9**	**+0.3**
SNET	**Serv Nac Est T**	**0.93**	**343**	*eP*	**Pn**	**10 15 18.9**	**-0.3**
SNET	**Serv Nac Est T**	**0.93**	**343**	*eP*	**Pn**	**10 15 18.9**	**-0.3**
ITCA	**Escuela Especi**	**0.93**	**340**	*eP*	**Pn**	**10 15 19.2**	**0.0**
ITCA				*eS*	**Sb**	**10 15 31.4**	**+0.1**
IGN	**Direccin Gen**	**0.94**	**347**	*eP*	**Pn**	**10 15 19.2**	**-0.1**
IGN				*eS*	**Sb**	**10 15 31.1**	**-0.5**
UEES	**Universidad Ev**	**0.96**	**343**	*eP*	**Pn**	**10 15 19.5**	**-0.1**
LFU	**La Fuente**	**0.96**	**350**	*eP*	**Pn**	**10 15 19.6**	**0.0**
PMON	**Piamonte**	**0.98**	**339**	*i* P	**Pn**	**10 15 19.9**	**0.0**
JAYA	**Jayaque - finc**	**0.98**	**330**	*eP*	**Pn**	**10 15 20.0**	**0.0**
BOQS	**Boqueron**	**0.99**	**341**	*eP*	**Pn**	**10 15 20.2**	**+0.1**
LCND	**La Caada**	**1.15**	**64**	*eP*	**Pn**	**10 15 22.0**	**-0.1**
LCND				*eS*	**Sn**	**10 15 36.5**	**-0.6**
CNCH	**Conchagua**	**1.18**	**66**	*eP*	**Pn**	**10 15 22.6**	**-0.2**
P5NO	**Presa 5 de nov**	**1.20**	**9**	*eP*	**Pn**	**10 15 23.1**	**+0.3**
CAHU	**Cacacuatique**	**1.20**	**36**	*eP*	**Pn**	**10 15 23.4**	**+0.3**
CEVE	**Cerro Verde**	**1.22**	**327**	*eP*	**Pn**	**10 15 23.8**	**+0.4**
RTR	**El Retiro**	**1.29**	**328**	*eP*	**Pn**	**10 15 24.8**	**+0.6**
LLGN	**La Laguna**	**1.36**	**0**	*eP*	**Pn**	**10 15 25.6**	**+0.5**
NUBE	**Las Nubes**	**1.37**	**324**	*eP*	**Pn**	**10 15 25.4**	**+0.1**
NUBE				*eS*	**Sn**	**10 15 42.3**	**-0.4**
SLOZ	**Alcaldia de Sa**	**1.47**	**326**	*eP*	**Pn**	**10 15 27.3**	**+0.7**
MTO3	**Montecristo**	**1.64**	**346**	*eP*	**Pn**	**10 15 29.5**	**+0.3**
MTO3	**Montecristo**	**1.64**	**346**	*eP*	**Pn**	**10 15 29.5**	**+0.3**
ESQI	**Esquipulas**	**1.79**	**348**	*eP*	**Pn**	**10 15 31.9**	**+0.8**
CRIN	**San Cristobal**	**1.85**	**93**	*eP*	**Pn**	**10 15 32.4**	**+0.5**
CRIN				*eS*	**Sn**	**10 15 54.4**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.05**	**52**	*eP*	**Pn**	**10 15 35.2**	**+0.5**
CNGN	**Cerro Negro**	**2.21**	**97**	*eP*	**Pn**	**10 15 36.8**	**0.0**
CNGN				*eS*	**Sn**	**10 16 03.8**	**+0.4**
CNGN				IAML		10 16 12.3	
	comp=E,401nm,0.3s						
COPN	**Copaltepe**	**2.38**	**105**	*eP*	**Pn**	**10 15 39.0**	**-0.1**
MOMN	**Momotombo**	**2.38**	**99**	*eP*	**Pn**	**10 15 39.1**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.22**	**96**	*eP*	**Pn**	**10 15 50.4**	**-0.3**

*ROM **18** 10:15:33.4±0.1, 42°.528N±0°.004×13°.285E±0°.006, h9km, ML4.7/20, Error ellipse: s-maj=0.5km s-min=0.2km az=71.0*
*NEIC **18** 10:15:33.0±2.0, 42°.58N±0°.06×13°.32E±0°.04, h10km±1km, mb4.7/19, ML4.7(ROM), Error ellipse: s-maj=11.6km s-min=3.6km az=200.0*
ISC 18 10:15:33.4±0.7, **42°.53N**±0°.02×**13°.29E**±0°.02, **h13**km±4km, **n114**, σ0°**63**/132, **mb4.8**/7, **2C, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
T1247	**Pizzolo (AQ)**	**0.09**	**174**	P	**Pg**	**10 15 36.5**	**+0.1**
T1247				S	**Sg**	**10 15 38.4**	**-0.1**
SMA1	**SAN MARTINO**	**0.10**	**21**	⇑P	**Pg**	**10 15 36.4**	**-0.2**
SMA1				S	**Sg**	**10 15 38.7**	**-0.2**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
T1202	**Accumoli, Fraz**	**0.18**	**346**	P	**Pg**	**10 15 37.8**	**+0.2**
T1202				S	**Sg**	**10 15 41.0**	**+0.4**
T1218	**Civita (PG)**	**0.19**	**318**	P	**Pg**	**10 15 37.8**	**0.0**
T1218				S	**Sg**	**10 15 40.9**	**+0.2**
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
LNSS	**Leonessa**	**0.19**	**291**	⇑P	**Pg**	**10 15 38.0**	**+0.2**
LNSS				S	**Sg**	**10 15 41.7**	**+0.7**
AQU	**L'Aquila**	**0.20**	**154**	P	**Pg**	**10 15 38.1**	**+0.2**
AQU				S	**Sg**	**10 15 41.6**	**+0.6**
GIGS	**Gran Sasso**	**0.23**	**111**	P	**Pg**	**10 15 38.0**	**-0.3**
GIGS				S	**Sg**	**10 15 41.6**	**-0.1**
GIGS				AML	AML		
	comp=E,73200µm,1.6s						
GIGS				AML	AML		
	comp=N,57000µm,1.3s						
GIGS				AML	AML		
	comp=E,73200µm,0.4s						
GIGS				AML	AML		
	comp=N,57000µm,0.7s						
FIAM	**Fiamignano**	**0.29**	**205**	P	**Pg**	**10 15 39.6**	**+0.1**
FIAM				S	**Sg**	**10 15 44.3**	**+0.7**
FIAM				AML	AML		
FIAM				AML	AML		
FIAM				AML	AML		
T1217	**Poggiodomo (PG**	**0.32**	**305**	P	**Pg**	**10 15 40.1**	**+0.1**
T1217				S	**Sg**	**10 15 45.2**	**+0.8**
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
FAGN	**Fagnano**	**0.35**	**140**	P	**Pg**	**10 15 40.9**	**+0.4**
FAGN				AML	AML		
FAGN				AML	AML		
FAGN				AML	AML		
FAGN				AML	AML		
ARRO	**Arrone**	**0.39**	**277**	P	**Pg**	**10 15 41.2**	**0.0**
ARRO				S	**Sb**	**10 15 47.3**	**-0.6**
FEMA	**Monte Fema**	**0.46**	**338**	P	**Pg**	**10 15 42.6**	**0.0**
FEMA				S	**Sb**	**10 15 50.0**	**-0.3**
FEMA				AML	AML		
	comp=E,67468µm,0.5s						
FEMA				AML	AML		
	comp=E,72519µm,0.4s						
FEMA				AML	AML		
	comp=N,79275µm,0.6s						
T0110	**Collepietro**	**0.48**	**130**	P	**Pg**	**10 15 42.8**	**0.0**
T0110				S	**Sb**	**10 15 50.3**	**-0.3**
T0110				AML	AML		
	comp=N,78609µm,0.3s						
T0110				AML	AML		
	comp=E,78652µm,0.5s						
T0110				AML	AML		
	comp=N,95062µm,0.4s						
PTQR	**Pietraquaria**	**0.52**	**170**	P	**Pg**	**10 15 43.5**	**-0.1**
CESX	**Cesi**	**0.53**	**279**	Pg	**Pg**	**10 15 43.7**	**0.0**
CESX				Sg	**Sg**	**10 15 51.1**	**+0.3**
CESX	**Cesi**	**0.53**	**279**	P	**Pg**	**10 15 43.5**	**-0.3**
CESX				S	**Sb**	**10 15 51.5**	**-0.4**
CESX				AML	AML		
	comp=N,71551µm,0.3s						
CESX				AML	AML		
	comp=E,64027µm,0.4s						
TRTR	**Tortoreto Alta**	**0.54**	**59**	P	**Pb**	**10 15 44.8**	**+0.1**
CESI	**CESI - Serrava**	**0.55**	**329**	P	**Pg**	**10 15 43.9**	**-0.3**
CSP1	**Cessapalombo**	**0.56**	**354**	P	**Pg**	**10 15 44.2**	**-0.2**
CSP1				S	**Sb**	**10 15 52.8**	**-0.3**
CSP1				AML	AML		
	comp=E,57874µm,0.3s						
CSP1				AML	AML		
	comp=N,56913µm,0.4s						
MOMA	**Monte Martano**	**0.59**	**297**	P	**Pg**	**10 15 45.1**	**+0.1**
MOMA				S	**Sb**	**10 15 54.1**	**+0.1**
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
T1220	**Camerino, Fraz**	**0.59**	**346**	P	**Pg**	**10 15 44.8**	**-0.2**
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
MNTP	**Montappone**	**0.62**	**13**	P	**Pb**	**10 15 45.7**	**-0.3**
CERT	**Cerreto**	**0.62**	**201**	P	**Pg**	**10 15 45.2**	**-0.4**
SRES	**S.Oreste - Sor**	**0.65**	**243**	P	**Pg**	**10 15 45.9**	**-0.1**
SRES				AML	AML		
	comp=N,38616µm,0.6s						
SRES				AML	AML		
	comp=E,51872µm,0.6s						
MTCE	**Montecelio**	**0.65**	**218**	P	**Pg**	**10 15 45.5**	**-0.5**
SEF1	**Sefro**	**0.66**	**338**	P	**Pg**	**10 15 46.1**	**-0.2**
SEF1				AML	AML		
	comp=N,61350µm,0.9s						
SEF1				AML	AML		
SEF1				AML	AML		
	comp=N,61350µm,0.9s						
SEF1				AML	AML		
	comp=N,52387µm,1.6s						
SEF1				AML	AML		
	comp=E,55016µm,0.3s						
SEF1				AML	AML		
	comp=N,55465µm,0.2s						
SEF1				AML	AML		
MDAR	**Monte D'Aria**	**0.67**	**351**	P	**Pg**	**10 15 46.1**	**-0.3**
MDAR				S	**Sb**	**10 15 56.5**	**+0.4**
MDAR				AML	AML		
	comp=E,28445µm,0.3s						
MDAR				AML	AML		
	comp=N,54529µm,0.6s						
PIO1	**Pioraco**	**0.68**	**341**	P	**Pg**	**10 15 46.3**	**-0.4**
ASSB	**Assisi San Ben**	**0.69**	**318**	P	**Pg**	**10 15 46.8**	**0.0**
SSM1	**San Severino M**	**0.70**	**354**	P	**Pg**	**10 15 46.8**	**-0.2**
SSM1				S	**Sb**	**10 15 58.0**	**+1.0**
GAG1	**Gagliole**	**0.72**	**347**	P	**Pg**	**10 15 47.3**	**-0.2**
GAG1				AML	AML		
RCAV	**Rocca di Cave**	**0.73**	**200**	P	**Pg**	**10 15 47.2**	**-0.4**
GUAR	**Guarcino**	**0.74**	**178**	P	**Pb**	**10 15 48.9**	**+0.8**
CADA	**Capodarco di F**	**0.75**	**28**	P	**Pb**	**10 15 48.6**	**+0.4**
MTL1	**Matelica**	**0.75**	**344**	P	**Pg**	**10 15 47.7**	**-0.3**
MTL1				AML	AML		
	comp=E,86053µm,0.8s						
MTL1				AML	AML		
	comp=N,99349µm,0.7s						
SNTG	**Esanatoglia**	**0.77**	**341**	P	**Pg**	**10 15 48.1**	**-0.2**
SNTG				AML	AML		
	comp=N,21550µm,0.5s						
SNTG				AML	AML		
	comp=E,32155µm,0.7s						
SNTG				AML	AML		
	comp=N,23010µm,0.4s						
SNTG				AML	AML		
	comp=E,33125µm,0.7s						
ATCC	**AVT- Casa Cast**	**0.81**	**324**	P	**Pg**	**10 15 49.1**	**+0.1**
EL6	**Elcito**	**0.81**	**350**	P	**Pb**	**10 15 49.1**	**-0.2**
CIMA	**Civitanova Mar**	**0.82**	**20**	P	**Pn**	**10 15 50.2**	**-0.4**
LPEL	**Lama dei Pelig**	**0.82**	**126**	P	**Pg**	**10 15 48.5**	**-0.9**
RMP	**Rome, Mte Porz**	**0.84**	**211**	P	**Pg**	**10 15 49.3**	**-0.3**
FOSV	**Fossato di Vic**	**0.85**	**333**	P	**Pb**	**10 15 50.0**	**0.0**
VIVA	**Pratoni del Vi**	**0.87**	**206**	P	**Pb**	**10 15 50.6**	**+0.3**
POFI	**Posta Fibreno**	**0.87**	**159**	P	**Pn**	**10 15 51.2**	**-0.2**
PP3	**Marolino**	**0.88**	**16**	P	**Pb**	**10 15 50.8**	**+0.3**
RDP	**Rocca di Papa**	**0.88**	**209**	P	**Pg**	**10 15 50.3**	**-0.1**
MA9	**Marino**	**0.89**	**212**	P	**Pb**	**10 15 51.1**	**+0.4**
ROM9	**Roma**	**0.91**	**219**	P	**Pb**	**10 15 50.6**	**-0.3**
SAMA	**S.Maria delle**	**0.91**	**215**	P	**Pb**	**10 15 50.3**	**-0.7**
MURB	**Monte Urbino**	**0.92**	**323**	Pg	**Pg**	**10 15 51.0**	**-0.2**
MURB	**Monte Urbino**	**0.92**	**323**	P	**Pn**	**10 15 51.9**	**-0.1**
MGAB	**Montegabbione**	**0.94**	**294**	P	**Pb**	**10 15 51.5**	**-0.1**
MGAB				AML	AML		
	comp=E,64952µm,0.7s						
MGAB				AML	AML		
	comp=N,64667µm,0.4s						
MGAB				AML	AML		
	comp=E,65238µm,0.8s						
MGAB				AML	AML		
	comp=N,62259µm,0.4s						
LAV9	**Lanuvio**	**0.96**	**207**	P	**Pg**	**10 15 52.3**	**+0.4**
LAV9				AML	AML		
	comp=N,71591µm,0.5s						
LAV9				AML	AML		
LAV9				AML	AML		

LAV9				AML	AML	
LAV9				AML	AML	
GIUL	**Giuliano Di Ro**	**0.97**	**181**	P	**Pb**	**10 15 52.3 +0.2**
ATFO	**Monte Foce - G**	**0.98**	**328**	P	**Pb**	**10 15 52.2 -0.1**
ATLO	**AVT- Montelove**	**1.01**	**321**	P	**Pb**	**10 15 52.6 -0.1**
ATVA	**AVT- Monte Val**	**1.05**	**316**	P	**Pn**	**10 15 53.8 0.0**
TB01	**Gubbio**	**1.05**	**324**	P	**Pb**	**10 15 53.2 -0.2**
SACS	**San Casciano d**	**1.06**	**288**	P	**Pb**	**10 15 53.7 +0.1**
TOLF	**Tolfa**	**1.06**	**244**	P	**Pb**	**10 15 53.2 -0.4**
ATVO	**AVT- Monte Val**	**1.07**	**323**	P	**Pn**	**10 15 55.5 +1.5**
FRON	**Frontone**	**1.07**	**338**	P	**Pb**	**10 15 53.6 -0.1**
CERA	**Filignano**	**1.08**	**149**	P	**Pg**	**10 15 55.5 +1.3**
ATMI	**Monte Miggiano**	**1.09**	**317**	P	**Pg**	**10 15 55.8 +1.3**
LATE	**Laterza**	**1.10**	**275**		**Pb**	**10 15 53.8 -0.4**
LATE	**Laterza**	**1.10**	**275**	P	**Pb**	**10 15 54.3 +0.1**
ATPI	**Pietralunga -**	**1.12**	**325**	P	**Pg**	**10 15 55.5 +0.4**
ATPC	**Poggio Castell**	**1.13**	**328**	P	**Pg**	**10 15 56.2 +1.1**
MIDA	**Miranda**	**1.15**	**141**	P	**Pg**	**10 15 55.8 +0.3**
SF03	**Valle Cupa**	**1.21**	**283**	P	**Pb**	**10 15 56.4 +0.3**
MCIV	**Monte Civitell**	**1.21**	**282**	P	**Pg**	**10 15 56.7 0.0**
SF04	**Casetta**	**1.23**	**285**	P	**Pn**	**10 15 56.2 -0.2**
BADI	**Badiali**	**1.24**	**322**	P	**Pg**	**10 15 58.3 +1.1**
CAFI	**Castiglion Fio**	**1.25**	**310**	P	**Pg**	**10 15 57.6 +0.1**
SF13	**Bagnolo**	**1.26**	**284**	P	**Pb**	**10 15 57.2 +0.2**
ASQU	**Asqua**	**1.67**	**320**	P	**Pb**	**10 16 04.7 +0.7**
FROS	**Frosini**	**1.71**	**294**	P	**Pb**	**10 16 03.9 -0.6**
OSSC	**Osservatorio P**	**1.79**	**304**	Pn	**Pn**	**10 16 03.1 -0.9**
CASP	**Castiglione de**	**1.80**	**279**	Pn	**Pn**	**10 16 04.4 +0.3**
RUFI	**Rufina**	**1.84**	**316**	P	**Pb**	**10 16 06.3 -0.6**
TRIF	**Trifonti**	**1.85**	**289**	P	**Pn**	**10 16 05.6 +0.9**
CUC	**Castrocucco**	**3.17**	**142**	Pn	**Pn**	**10 16 23.4 +0.4**
MSSA	**Maissana**	**3.27**	**304**	Pn	**Pn**	**10 16 23.6 -0.8**
TIP	**Timpagrande**	**4.26**	**141**	Pn	**Pn**	**10 16 38.5 +0.6**
PDG	**Podgorica**	**4.42**	**89**	Pn	**Pn**	**10 16 39.3 -0.7**
DJES	**Djerdap**	**7.04**	**69**	Pn	**Pn**	**10 17 15.1 -0.9**
ECH	**Echery**	**7.13**	**325**	Pn	**Pn**	**10 17 15.7 -1.6**
LIT	**Litokhoron**	**7.34**	**106**	Pn	**Pn**	**10 17 19.2 -1.1**
DSB	**Dublin**	**16.93**	**316**	P	**Pn**	**10 19 30.5 +0.7**
TOKA	**Tokat**	**17.52**	**89**	P	**Pn**	**10 19 37.8 +0.5**
TOKA				IAmb	IAmb	10 19 56.9
	comp=Z,41nm,1.1s					
MORF	**Marmelete**	**17.60**	**260**	P	**Pn**	**10 19 37.1 -1.2**
NAO01	**NORSAR Array S**	**18.40**	**356**	P	**P**	**10 19 47.1 -0.7**
NAO01				IAmb	IAmb	10 19 57.5
	comp=Z,74nm,1.0s					
NB201	**NORSAR Array S**	**18.58**	**357**	P	**P**	**10 19 49.9 -0.1**
NB201				IAmb	IAmb	10 19 55.2
	comp=Z,74nm,1.1s					
NBO00	**NORSAR Array S**	**18.59**	**356**	P	**P**	**10 19 49.0 -0.9**
NC303	**NORSAR Array S**	**18.76**	**357**	P	**P**	**10 19 50.2 -1.6**
FINES	**FINESS Array B**	**20.44**	**18**	P	**P**	**10 20 10.3 +0.2**
FIA1	**FINESS Array S**	**20.44**	**18**	P	**P**	**10 20 09.4 -0.7**
FIA1				IAmb	IAmb	10 20 17.9
	comp=Z,77nm,1.1s					
KIV	**Kislovodsk**	**21.42**	**76**	P	**P**	**10 20 20.2 -0.7**
KIV				IAmb	IAmb	10 20 38.3
	comp=Z,38nm,1.0s					
AKH	**Akhalkalaki**	**22.44**	**83**	P	**P**	**10 20 30.9 -1.1**
GNI	**Garni**	**23.67**	**85**	P	**P**	**10 20 44.2 -0.4**
PMOZ	**Porto Moniz, M**	**25.88**	**258**	P	**P**	**10 21 04.0 -0.9**
BORG	**Borgarnes**	**29.61**	**330**	P	**P**	**10 21 37.6 -0.2**
BORG				IAmb	IAmb	10 22 00.3
	comp=Z,14nm,1.0s					
TORD	**Torodi Ar. Bea**	**30.95**	**202**	P	**P**	**10 21 49.8 -0.3**
TORD				IAmb	IAmb	10 22 02.6
	comp=Z,6.4nm,0.9s					
ABKAR	**Akbulak array**	**32.73**	**62**	P	**P**	**10 22 05.5 0.0**
DBIC	**Dimbokro**	**39.16**	**209**	P	**P**	**10 22 59.6 -1.2**
DBIC				IAmb	IAmb	10 23 17.9
	comp=Z,23nm,1.1s					
UOSS	**Minazif**	**39.30**	**103**	P	**P**	**10 23 01.9 0.0**
UOSS				IAmb	IAmb	10 23 10.2
	comp=Z,35nm,1.1s					
KKAR	**Karatay Array**	**41.27**	**69**	P	**P**	**10 23 19.1 +0.9**
CHGR	**Chuyangaron**	**41.95**	**76**	P	**P**	**10 23 24.1 +0.2**
MKAR	**Makanchi Array**	**47.83**	**60**	P	**P**	**10 24 11.1 +0.6**
FCC	**Fort Churchill**	**62.62**	**326**	P	**P**	**10 25 58.3 +1.4**
FCC				IAmb	IAmb	10 26 05.4
	comp=Z,8.1nm,1.1s					
E43A	**Lone Tree Farm**	**66.75**	**312**	P	**P**	**10 26 22.7 -1.4**
LBTB	**Lobatse**	**68.16**	**168**	P	**P**	**10 26 33.5 +0.3**
LBTB				IAmb	IAmb	10 26 34.0
	comp=Z,5.0nm,1.0s					
BMAR	**Burnt Mountain**	**69.08**	**351**	P	**P**	**10 26 40.2 +1.7**
BCAR	**Beaver Creek A**	**72.88**	**348**	P	**P**	**10 27 03.5 +1.9**

NEIC ***18*** *10:16:37.8±1.9, 42°.53N±0°.06×13°.23E±0°.02, h10km±2km, mb4.6/10, ML4.6(ROM), Error ellipse: s-maj=10.2km s-min=3.0km az=172.0*

ROM ***18*** *10:16:39.6±0.1, 42°.538N±0°.004×13°.268E±0°.006, h8km, ML4.6/26, Error ellipse: s-maj=0.5km s-min=0.2km az=71.0*

ISC 18 10:16:39.0±0.7, 42°.53N±0°.02×13°.25E±0°.02, h18km±4km, n123, σ0.78/142, 7C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.10**	**158**	⇓P		**Pg**	**10 16 42.9**	**+0.2**
T1247				S		**Sg**	**10 16 45.0**	**-0.1**
SMA1	**SAN MARTINO**	**0.12**	**34**	⇓P		**Pg**	**10 16 42.7**	**-0.2**
SMA1				S		**Sg**	**10 16 44.7**	**-0.9**
SMA1				AML	AML			
SMA1				AML	AML			
SMA1				AML	AML			
SMA1				AML	AML			
T1218	**Civita (PG)**	**0.17**	**324**	⇑P		**Pg**	**10 16 43.8**	**+0.2**
T1218				S		**Sg**	**10 16 46.6**	**0.0**
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
LNSS	**Leonessa**	**0.17**	**294**	⇑P		**Pg**	**10 16 44.1**	**+0.5**
LNSS				S		**Sg**	**10 16 47.5**	**+0.9**
LNSS				AML	AML			
LNSS				AML	AML			
LNSS				AML	AML			
T1202	**Accumoli, Fraz**	**0.17**	**354**	⇓P		**Pg**	**10 16 43.8**	**+0.2**
T1202				S		**Sg**	**10 16 46.7**	**0.0**
AQU	**L'Aquila**	**0.21**	**147**	P		**Pg**	**10 16 44.6**	**+0.4**
AQU				S		**Sg**	**10 16 48.1**	**+0.5**
GIGS	**Gran Sasso**	**0.25**	**109**	⇑P		**Pg**	**10 16 44.6**	**-0.2**
GIGS				S		**Sg**	**10 16 48.2**	**-0.5**
GIGS				AML	AML			
GIGS				AML	AML			
FIAM	**Fiamignano**	**0.28**	**200**	⇑P		**Pb**	**10 16 46.0**	**+0.4**
FIAM				S		**Sb**	**10 16 50.8**	**+0.8**
FIAM				AML	AML			
FIAM				AML	AML			
FIAM				AML	AML			
T1217	**Poggiodomo (PG**	**0.29**	**307**	⇑P		**Pb**	**10 16 45.9**	**+0.1**
T1217				S		**Sb**	**10 16 51.4**	**+1.0**
T1217				AML	AML			
	comp=E,43650μm,0.4s							
T1217				AML	AML			
	comp=E,48100μm,0.5s							
T1217				AML	AML			
	comp=N,47350μm,0.8s							
T1217				AML	AML			
	comp=E,43650μm,0.4s							
T1217				AML	AML			
	comp=N,45500μm,0.4s							
T1217				AML	AML			
	comp=N,45450μm,0.4s							
T1217				AML	AML			
	comp=E,43600μm,0.4s							
T1217				AML	AML			
	comp=E,48100μm,0.5s							
T1217				AML	AML			
	comp=N,47350μm,0.9s							
ARRO	**Arrone**	**0.36**	**277**	⇑P		**Pb**	**10 16 47.3**	**+0.4**
ARRO				S		**Sb**	**10 16 53.2**	**+1.0**
ARRO				AML	AML			
	comp=E,36950μm,0.2s							
ARRO				AML	AML			
	comp=E,36900μm,0.2s							
ARRO				AML	AML			
	comp=N,45500μm,0.7s							
ARRO				AML	AML			
	comp=E,36900μm,1.8s							
FAGN	**Fagnano**	**0.37**	**137**	P		**Pb**	**10 16 47.5**	**+0.5**
FAGN				AML	AML			
FAGN				AML	AML			
FAGN				AML	AML			
FEMA	**Monte Fema**	**0.45**	**341**	P		**Pb**	**10 16 48.7**	**+0.2**
FEMA				S		**Sb**	**10 16 56.0**	**+0.9**
FEMA				AML	AML			
	comp=E,60200μm,0.6s							
FEMA				AML	AML			
	comp=N,70300μm,0.5s							
FEMA				AML	AML			
	comp=N,70300μm,1.5s							
FEMA				AML	AML			
	comp=E,60200μm,1.4s							
CESX	**Cesi**	**0.50**	**279**	Pg		**Pg**	**10 16 47.3**	**-1.8**
CESX	**Cesi**	**0.50**	**279**	P		**Pb**	**10 16 49.4**	**+0.2**
CESX				AML	AML			
	comp=E,32650μm,1.0s							
CESX				AML	AML			
	comp=N,29500μm,0.7s							
T0110	**Collepietro**	**0.50**	**128**	⇑P		**Pb**	**10 16 49.2**	**-0.1**
T0110				S		**Sb**	**10 16 56.9**	**+0.6**
T0110				AML	AML			
T0110				AML	AML			
PTQR	**Pietraquaria**	**0.52**	**167**	P		**Pb**	**10 16 50.0**	**+0.2**
PTQR				AML	AML			
	comp=N,28550μm,1.2s							
PTQR				AML	AML			
	comp=E,25550μm,0.7s							
CESI	**CESI - Serrava**	**0.53**	**332**	P		**Pb**	**10 16 50.0**	**+0.1**
CSP1	**Cessapalombo**	**0.56**	**357**	P		**Pg**	**10 16 50.0**	**-0.2**
CSP1				S		**Sb**	**10 16 58.7**	**+0.6**
CSP1				AML	AML			
	comp=E,42550μm,0.5s							
CSP1				AML	AML			
	comp=N,68850μm,1.1s							
CSP1				AML	AML			
	comp=N,68800μm,1.1s							
CSP1				AML	AML			
	comp=N,68800μm,0.9s							
TRTR	**Tortoreto Alta**	**0.56**	**61**	P		**Pb**	**10 16 51.2**	**+0.9**
TRTR				AML	AML			
TRTR				AML	AML			
MOMA	**Monte Martano**	**0.57**	**299**	P		**Pb**	**10 16 50.8**	**+0.3**
MOMA				S		**Sb**	**10 17 00.1**	**+1.8**
MOMA				AML	AML			
	comp=E,35200μm,1.6s							
MOMA				AML	AML			
	comp=E,36300μm,1.6s							
MOMA				AML	AML			
	comp=N,40100μm,1.2s							
MOMA				AML	AML			
	comp=N,42900μm,1.2s							
MOMA				AML	AML			
	comp=N,42900μm,0.8s							
MOMA				AML	AML			
	comp=E,35200μm,0.4s							
MOMA				AML	AML			
	comp=E,36300μm,0.4s							
MOMA				AML	AML			
	comp=N,40100μm,0.8s							
T1220	**Camerino, Fraz**	**0.59**	**349**	P		**Pb**	**10 16 50.9**	**+0.1**
T1220				S		**Sb**	**10 16 59.6**	**+0.8**
T1220				AML	AML			
	comp=E,98650μm,0.4s							
T1220				AML	AML			
T1220				AML	AML			
	comp=E,96500μm,0.3s							
T1220				AML	AML			
T1220				AML	AML			
	comp=E,98650μm,0.3s							
T1220				AML	AML			
T1220				AML	AML			
	comp=E,96950μm,0.3s							
CERT	**Cerreto**	**0.62**	**199**	P		**Pb**	**10 16 51.5**	**+0.2**
CERT				AML	AML			
	comp=N,22900μm,1.0s							
CERT				AML	AML			
	comp=E,58800μm,0.4s							
CERT				AML	AML			
	comp=E,58800μm,1.6s							
SRES	**S.Oreste - Sor**	**0.62**	**242**	P		**Pb**	**10 16 51.8**	**+0.5**
MNTP	**Montappone**	**0.62**	**15**	P		**Pb**	**10 16 51.7**	**+0.3**
MTCE	**Montecelio**	**0.63**	**216**	P		**Pb**	**10 16 51.5**	**-0.1**
SEF1	**Sefro**	**0.65**	**340**	P		**Pb**	**10 16 52.2**	**+0.4**
SEF1				S		**Sb**	**10 17 02.2**	**+1.6**
SEF1				AML	AML			
	comp=N,38200μm,0.7s							
SEF1				AML	AML			
	comp=E,33950μm,1.3s							
SEF1				AML	AML			
	comp=N,38200μm,1.3s							
MDAR	**Monte D'Aria**	**0.66**	**353**	P		**Pg**	**10 16 51.8**	**-0.3**
MDAR				S		**Sb**	**10 17 02.1**	**+1.1**
ASSB	**Assisi San Ben**	**0.67**	**320**	P		**Pb**	**10 16 52.5**	**+0.4**
PIO1	**Pioraco**	**0.67**	**343**	P		**Pb**	**10 16 52.3**	**+0.1**
FIU1	**Fiuminata**	**0.69**	**341**	P		**Pb**	**10 16 53.2**	**+0.6**
FIU1				S		**Sb**	**10 17 03.4**	**+1.5**
SSM1	**San Severino M**	**0.70**	**356**	P		**Pb**	**10 16 52.7**	**0.0**
SSM1				S		**Sb**	**10 17 03.6**	**+1.7**
GAG1	**Gagliole**	**0.72**	**349**	P		**Pb**	**10 16 53.2**	**+0.2**
GAG1				AML	AML			
	comp=E,63050μm,0.6s							
GAG1				AML	AML			
	comp=N,64300μm,0.7s							
GAG1				AML	AML			
	comp=E,63100μm,0.6s							
GAG1				AML	AML			
	comp=N,64300μm,0.7s							
GAG1				AML	AML			
	comp=N,64300μm,1.3s							
GAG1				AML	AML			
	comp=E,63100μm,1.4s							
VVLD	**Villa Vallelon**	**0.72**	**157**	P		**Pb**	**10 16 53.9**	**+0.8**
VVLD				AML	AML			
	comp=E,39800μm,0.5s							
VVLD				AML	AML			
	comp=N,46250μm,0.7s							
VVLD				AML	AML			
	comp=E,39800μm,1.5s							
VVLD				AML	AML			
	comp=N,46250μm,1.3s							
RCAV	**Rocca di Cave**	**0.72**	**198**	P		**Pb**	**10 16 53.5**	**+0.4**
RCAV				AML	AML			
	comp=E,54900μm,0.5s							
RCAV				AML	AML			
	comp=E,54900μm,1.5s							
RCAV				AML	AML			
	comp=N,64800μm,0.7s							
GUAR	**Guarcino**	**0.74**	**176**	P		**Pn**	**10 16 55.0**	**+0.4**
MTL1	**Matelica**	**0.74**	**346**	P		**Pb**	**10 16 53.6**	**+0.2**
SNTG	**Esanatoglia**	**0.76**	**343**	P		**Pb**	**10 16 53.8**	**+0.1**
CADA	**Capodarco di F**	**0.76**	**30**	P		**Pb**	**10 16 54.7**	**+1.0**
ATCC	**AVT- Casa Cast**	**0.79**	**326**	P		**Pb**	**10 16 54.8**	**+0.5**
EL6	**Elcito**	**0.80**	**352**	P		**Pb**	**10 16 54.8**	**+0.3**
RMP	**Rome, Mte Porz**	**0.83**	**209**	P		**Pn**	**10 16 56.3**	**+0.5**
CIMA	**Civitanova Mar**	**0.83**	**22**	P		**Pn**	**10 16 56.2**	**+0.4**
FOSV	**Fossato di Vic**	**0.84**	**335**	P		**Pb**	**10 16 55.4**	**+0.3**
LPEL	**Lama dei Pelig**	**0.85**	**125**	P		**Pg**	**10 16 55.0**	**-0.5**
LPEL				AML	AML			
	comp=E,70350μm,0.3s							
LPEL				AML	AML			
	comp=N,49300μm,1.5s							
LPEL				AML	AML			
	comp=N,49300μm,0.5s							
VIVA	**Pratoni del Vi**	**0.86**	**205**	P		**Pn**	**10 16 56.9**	**+0.6**
VIVA				AML	AML			
	comp=E,61500μm,1.3s							
VIVA				AML	AML			
	comp=N,68550μm,0.5s							
VIVA				AML	AML			
	comp=E,61500μm,0.7s							
MA9	**Marino**	**0.88**	**210**	P		**Pn**	**10 16 57.4**	**+0.9**
MA9				AML	AML			
	comp=N,47650μm,0.9s							
MA9				AML	AML			
	comp=E,57750μm,0.8s							
MA9				AML	AML			
	comp=N,47650μm,1.1s							
PP3	**Marolino**	**0.88**	**17**	P		**Pn**	**10 16 56.8**	**+0.3**
POFI	**Posta Fibreno**	**0.89**	**157**	P		**Pn**	**10 16 57.5**	**+0.8**
SAMA	**S.Maria delle**	**0.90**	**213**	P		**Pb**	**10 16 56.7**	**+0.7**
MURB	**Monte Urbino**	**0.90**	**324**	Pg		**Pg**	**10 16 55.0**	**-1.5**
MURB	**Monte Urbino**	**0.90**	**324**	P		**Pn**	**10 16 57.1**	**+0.2**
MGAB	**Montegabbione**	**0.92**	**295**	P		**Pn**	**10 16 57.5**	**+0.4**
LAV9	**Lanuvio**	**0.95**	**206**	P		**Pn**	**10 16 58.4**	**+1.0**
LAV9				AML	AML			
	comp=N,65800μm,0.5s							
LAV9				AML	AML			
	comp=E,61150μm,0.4s							
LAV9				AML	AML			
	comp=N,66000μm,0.5s							
LAV9				AML	AML			
	comp=N,65800μm,1.5s							
LAV9				AML	AML			
	comp=N,66000μm,1.5s							
LAV9				AML	AML			
	comp=E,60200μm,0.4s							
SSFR	**Montelago di S**	**0.96**	**339**	P		**Pb**	**10 16 58.0**	**+0.8**
SSFR				AML	AML			
	comp=N,26200μm,0.3s							
SSFR				AML	AML			
	comp=N,25350μm,0.3s							
SSFR				AML	AML			
	comp=E,35250μm,0.3s							
SSFR				AML	AML			
	comp=N,26200μm,1.7s							
SSFR				AML	AML			
	comp=E,29950μm,0.3s							
SSFR				AML	AML			
	comp=N,25350μm,1.7s							
ATFO	**Monte Foce - G**	**0.97**	**329**	P		**Pn**	**10 16 58.3**	**+0.4**
GIUL	**Giuliano Di Ro**	**0.97**	**180**	P		**Pn**	**10 16 58.5**	**+0.6**
ATLO	**AVT- Montelove**	**0.99**	**322**	P		**Pn**	**10 16 58.6**	**+0.4**
ATVA	**AVT- Monte Val**	**1.03**	**317**	P		**Pb**	**10 16 59.0**	**+0.7**
SACS	**San Casciano d**	**1.03**	**288**	P		**Pn**	**10 16 59.8**	**+1.1**
TB01	**Gubbio**	**1.04**	**325**	P		**Pn**	**10 16 60.0**	**+1.2**
TB02	**Pietralunga**	**1.04**	**324**	P		**Pn**	**10 16 59.6**	**+0.9**
TOLF	**Tolfa**	**1.04**	**244**	P		**Pn**	**10 16 59.3**	**+0.6**
AOI	**Ancona**	**1.05**	**14**	P		**Pb**	**10 16 59.1**	**+0.4**
ATVO	**AVT- Monte Val**	**1.05**	**324**	P		**Pn**	**10 16 60.0**	**+1.1**
LIK	**San Giovanni I**	**1.05**	**167**	P		**Pn**	**10 17 01.2**	**+2.3**
FRON	**Frontone**	**1.05**	**339**	P		**Pb**	**10 16 59.3**	**+0.5**
LATB	**Latina**	**1.06**	**192**	P		**Pb**	**10 16 59.1**	**+0.3**
LATE	**Laterza**	**1.07**	**275**	Pg		**Pg**	**10 16 58.1**	**-1.6**
LATE	**Laterza**	**1.07**	**275**	P		**Pn**	**10 17 00.3**	**+1.1**
ATBU	**Serra di Buran**	**1.07**	**332**	P		**Pn**	**10 17 00.7**	**+1.5**
PCRO	**Pietralacroce**	**1.09**	**11**	P		**Pn**	**10 17 00.8**	**+1.3**
CERA	**Filignano**	**1.10**	**148**	P		**Pn**	**10 17 00.4**	**+0.9**
ATPI	**Pietralunga -**	**1.11**	**326**	P		**Pn**	**10 17 00.5**	**+0.8**
ATPC	**Poggio Castell**	**1.11**	**329**	P		**Pb**	**10 17 00.2**	**+0.5**
COR1	**Corinaldo**	**1.11**	**351**	P		**Pn**	**10 17 01.2**	**+1.4**
PIEI	**Pieia**	**1.13**	**333**	P		**Pn**	**10 17 01.4**	**+1.4**
MIDA	**Miranda**	**1.16**	**140**	P		**Pb**	**10 17 00.9**	**+0.2**
APEC	**Apecchio**	**1.19**	**330**	P		**Pg**	**10 17 03.2**	**+1.2**
FRES	**Fresagrandinar**	**1.20**	**117**	P		**Pg**	**10 17 01.8**	**-0.3**
SF11	**Podere del Sol**	**1.20**	**287**	P		**Pb**	**10 17 01.2**	**-0.1**
SF04	**Casetta**	**1.21**	**285**	P		**Pg**	**10 17 03.2**	**+0.8**
CAFI	**Castiglion Fio**	**1.23**	**311**	P		**Pg**	**10 17 03.5**	**+0.8**
SF13	**Bagnolo**	**1.23**	**284**	P		**Pg**	**10 17 03.4**	**+0.5**
TRIV	**Trivento**	**1.23**	**128**	P		**Pg**	**10 17 04.1**	**+1.3**
SF01	**Poggio Pratacc**	**1.27**	**283**	P		**Pg**	**10 17 04.2**	**+0.6**
PE3	**Peglio**	**1.28**	**335**	P		**Pg**	**10 17 05.0**	**+1.2**
ARCI	**Arcidosso**	**1.34**	**284**	P		**Pg**	**10 17 05.1**	**+0.2**
CRE	**Caprese Michel**	**1.44**	**319**	P		**Pg**	**10 17 07.0**	**+0.2**
PIGN	**Pignataro Magg**	**1.50**	**152**	P		**Pg**	**10 17 08.0**	**0.0**
MAON	**Monte Argentar**	**1.57**	**267**	P		**Pb**	**10 17 07.6**	**+0.1**
MELA	**Melanico ??? S**	**1.62**	**120**	P		**Pg**	**10 17 09.9**	**-0.3**
ASQU	**Asqua**	**1.65**	**320**	P		**Pg**	**10 17 11.2**	**+0.4**
FROS	**Frosini**	**1.68**	**294**	P		**Pb**	**10 17 10.1**	**+0.7**
SFI	**Santa Sofia**	**1.71**	**324**	P		**Pg**	**10 17 11.3**	**-0.5**
OSSC	**Osservatorio P**	**1.77**	**305**	Pn		**Pn**	**10 17 08.5**	**-0.3**
OSSC	**Osservatorio P**	**1.77**	**305**	P		**Pg**	**10 17 12.3**	**-0.7**
CASP	**Castiglione de**	**1.78**	**279**	Pn		**Pn**	**10 17 08.6**	**-0.3**
TRIF	**Trifonti**	**1.82**	**289**	P		**Pb**	**10 17 11.7**	**-0.1**
RUFI	**Rufina**	**1.82**	**316**	P		**Pb**	**10 17 12.7**	**+0.9**
ZCCA	**Zocca**	**2.46**	**318**	Pn		**Pn**	**10 17 17.4**	**-0.8**
VLC	**Villacollemand**	**2.65**	**309**	Pn		**Pn**	**10 17 20.6**	**-0.2**
TEOL	**Teolo**	**3.05**	**339**	Pn		**Pn**	**10 17 25.4**	**-0.9**
CEL	**Celeste**	**4.72**	**154**	Pn		**Pn**	**10 17 48.8**	**-0.6**
TIR	**Tirane**	**5.08**	**101**	Pn		**Pn**	**10 17 52.9**	**-1.3**
STU	**Stuttgart**	**6.85**	**337**	Pn		**Pn**	**10 18 18.8**	**+0.2**
DJES	**Djerdap**	**7.06**	**69**	Pn		**Pn**	**10 18 20.8**	**-0.7**
GRFO	**Grafenberg**	**7.30**	**350**	Pn		**Pn**	**10 18 24.9**	**+0.3**
MORC	**Moravsky Berou**	**7.83**	**21**	Pn		**Pn**	**10 18 32.0**	**-0.1**
ARG	**Arkhangelos**	**13.12**	**114**	Pn		**Pn**	**10 19 44.5**	**+0.1**
AKAS	**Kas**	**14.12**	**111**	Pn		**Pn**	**10 19 56.6**	**-1.6**
PABE	**Paberze**	**14.74**	**25**	Pn		**Pn**	**10 20 06.6**	**+0.2**
SFS	**San Fernando**	**16.18**	**254**	Pn		**Pn**	**10 20 25.3**	**-0.1**
DSB	**Dublin**	**16.91**	**316**			**Pn**	**10 20 35.0**	**+0.5**
TOKA	**Tokat**	**17.55**	**89**	P		**Pn**	**10 20 41.5**	**-1.2**
TOKA				IAmb	IAmb		10 21 09.3	
	comp=Z,18nm,0.4s							
NC602	**NORSAR Array S**	**18.26**	**357**	P		**Pn**	**10 20 50.2**	**-1.0**
NAO01	**NORSAR Array S**	**18.39**	**356**	P		**Pn**	**10 20 51.7**	**-1.1**
NAO01				IAmb	IAmb		10 21 00.3	
	comp=Z,30nm,1.0s							
NC303	**NORSAR Array S**	**18.75**	**357**	P		**P**	**10 20 55.7**	**-1.1**
NC303				IAmb	IAmb		10 20 58.3	
	comp=Z,26nm,1.1s							
FINES	**FINESS Array B**	**20.45**	**18**	P		**P**	**10 21 14.9**	**-0.2**
FIA1	**FINESS Array S**	**20.45**	**18**	P		**P**	**10 21 14.7**	**-0.5**
FIA1				IAmb	IAmb		10 21 22.0	
	comp=Z,47nm,1.1s							
KIV	**Kislovodsk**	**21.45**	**76**	P		**P**	**10 21 26.5**	**+0.3**
KIV				IAmb	IAmb		10 21 30.5	
	comp=Z,30nm,1.0s							
PMOZ	**Porto Moniz, M**	**25.85**	**258**	P		**P**	**10 22 10.4**	**+0.8**
ABKAR	**Akbulak array**	**32.75**	**62**	P		**P**	**10 23 11.0**	**+0.3**
ABKAR				IAmb	IAmb		10 23 33.7	
	comp=Z,16nm,0.9s							
KKAR	**Karatay Array**	**41.29**	**69**	P		**P**	**10 24 22.2**	**-1.1**

ROM 18 10:19:21.2±0.1, 42°.534N±0°.006×13°.277E±0°.007, h11km, ML3.2/7, 2C-1D, Error ellipse: s-maj=0.7km s-min=0.4km az=36.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
**T1247

	comp=E,7993µm,0.1s							
T1218				AML	AML			
	comp=E,7939µm,0.1s							
T1218				AML	AML			
	comp=N,24756µm,0.3s							
LNSS	**Leonessa**	**0.19**	**292**	⇑P	Pg	10 19 25.8	+0.5	
LNSS				S	Sg	10 19 29.2	+1.1	
LNSS				AML	AML			
	comp=N,17050µm,0.2s							
LNSS				AML	AML			
	comp=E,17900µm,0.5s							
LNSS				AML	AML			
	comp=E,17889µm,0.5s							
LNSS				AML	AML			
	comp=N,17050µm,0.2s							
GIGS	**Gran Sasso**	**0.23**	**111**	⇑P	Pg	10 19 26.2	+0.2	
GIGS				S	Sg	10 19 29.8	+0.5	
GIGS				AML	AML			
	comp=N,2167µm,0.1s							
GIGS				AML	AML			
	comp=E,1558µm,0.1s							
GIGS				AML	AML			
	comp=N,2167µm,1.9s							
FIAM	**Fiamignano**	**0.29**	**204**	P	Pg	10 19 27.7	+0.6	
FIAM				S	Sb	10 19 32.5	-0.9	
FIAM				AML	AML			
	comp=N,2399µm,0.2s							
FIAM				AML	AML			
	comp=E,2257µm,0.3s							
T1217	**Poggiodomo (PG**	**0.31**	**305**	P	Pg	10 19 27.7	+0.2	
T1217				S	Sg	10 19 32.7	+1.0	
FAGN	**Fagnano**	**0.35**	**140**	P	Pb	10 19 29.2	-0.3	
FAGN				AML	AML			
	comp=N,2873µm,0.3s							
FAGN				AML	AML			
	comp=E,3297µm,0.3s							
ARRO	**Arrone**	**0.38**	**277**	P	Pg	10 19 29.0	+0.2	
ARRO				S	Sb	10 19 35.0	-0.9	
T0110	**Collepietro**	**0.48**	**129**	⇓P	Pg	10 19 30.8	+0.2	
T0110				AML	AML			
	comp=N,1183µm,0.2s							
T0110				AML	AML			
	comp=N,1928µm,0.4s							
CESX	**Cesi**	**0.52**	**279**	P	Pg	10 19 31.2	-0.1	
CESX				S	Sb	10 19 39.2	-0.7	
TRTR	**Tortoreto Alta**	**0.54**	**60**	P	Pb	10 19 32.9	+0.1	
CESI	**CESI - Serrava**	**0.55**	**330**	P	Pg	10 19 32.3	+0.5	
CESI				S	Sb	10 19 40.7	0.0	
MOMA	**Monte Martano**	**0.59**	**298**	P	Pg	10 19 32.1	-0.5	
MOMA				S	Sb	10 19 42.0	0.0	
MOMA				AML	AML			
	comp=E,2030µm,1.1s							
MOMA				AML	AML			
	comp=N,2325µm,0.7s							
MOMA				AML	AML			
	comp=N,2010µm,0.3s							
MOMA				AML	AML			
	comp=E,1894µm,0.2s							
MOMA				AML	AML			
	comp=N,1899µm,0.2s							
MOMA				AML	AML			
	comp=E,1946µm,0.2s							

IDC ***18*** *10:24:13.0±0.8, 42°.66N×13°.21E, h0km, mb3.8/11, mbtmp3.8/23, ML3.6/9, Error ellipse: s-maj=15.0km s-min=13.1km az=76.0*

LDG ***18*** *10:24:13.3±0.2, 42°.60N×13°.33E, h10km, Ml2.9/3, Error ellipse: s-maj=5.2km s-min=3.4km az=47.0*

ROM ***18*** *10:24:14.2±0.1, 42°.581N±0°.004×13°.311E±0°.006, h9km, ML4.0/53, Error ellipse: s-maj=0.5km s-min=0.2km az=68.0*

NEIC ***18*** *10:24:16.2±2.3, 42°.62N±0°.07×13°.20E±0°.07, h10km±1km, mb4.3/9, ML4.0(VIE), ML4.0(ROM), Error ellipse: s-maj=12.2km s-min=7.4km az=207.0*

ISC 18 10:24:14.8±0.7, 42°.58N±0°.01×13°.28E±0°.02, h10km±4km, n235, σ1°.37/260, mb4.2/16, 13C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.06**	**37**	⇑P		**Pg**		**10 24 16.3**	**-0.7**
SMA1				S		**Sg**		**10 24 17.8**	**-0.8**
SMA1				AML		AML			
SMA1				AML		AML			
SMA1				AML		AML			
CAMP	**Campotosto**	**0.10**	**115**			**Pg**		**10 24 16.8**	**-0.7**
CAMP	**Campotosto**	**0.10**	**115**	⇑P		**Pg**		**10 24 16.8**	**-0.7**
CAMP				S		**Sg**		**10 24 18.5**	**-0.9**
CAMP				AML		AML			
	comp=N,95500µm,0.7s								
CAMP				AML		AML			
CAMP				AML		AML			
	comp=N,95500µm,1.3s								
T1202	**Accumoli, Fraz**	**0.13**	**341**	⇓P		**Pg**		**10 24 17.9**	**0.0**
T1202				S		**Sg**		**10 24 20.5**	**+0.4**
T1247	**Pizzolo (AQ)**	**0.14**	**175**	⇑P		**Pg**		**10 24 18.1**	**+0.1**
T1247				S		**Sg**		**10 24 20.9**	**+0.7**
T1218	**Civita (PG)**	**0.15**	**306**	⇑P		**Pg**		**10 24 18.3**	**0.0**
T1218				S		**Sg**		**10 24 21.1**	**+0.5**
T1218				AML		AML			
T1218				AML		AML			
T1218				AML		AML			
T1218				AML		AML			
T1218				AML		AML			
T1218				AML		AML			
LNSS	**Leonessa**	**0.18**	**277**	⇑P		**Pg**		**10 24 19.0**	**+0.3**
LNSS				S		**Sg**		**10 24 22.6**	**+1.3**
LNSS				AML		AML			
LNSS				AML		AML			
AQU	**L'Aquila**	**0.24**	**159**	⇑P		**Pg**		**10 24 19.7**	**0.0**
AQU				S		**Sg**		**10 24 23.3**	**+0.2**
GIGS	**Gran Sasso**	**0.25**	**121**	P		**Pg**		**10 24 19.1**	**-0.8**
GIGS				S		**Sg**		**10 24 22.9**	**-0.4**
GIGS				AML		AML			
	comp=E,15550µm,0.3s								
GIGS				AML		AML			
	comp=N,11500µm,1.3s								
GIGS				AML		AML			
	comp=N,11500µm,0.7s								
GIGS				AML		AML			
	comp=E,15550µm,1.7s								
T1217	**Poggiodomo (PG**	**0.29**	**297**	⇑P		**Pg**		**10 24 20.7**	**0.0**
T1217				S		**Sg**		**10 24 25.5**	**+0.9**
T1217				AML		AML			
	comp=N,78050µm,0.5s								
T1217				AML		AML			
	comp=E,39200µm,0.6s								
T1217				AML		AML			
	comp=N,77150µm,0.4s								
T1217				AML		AML			
	comp=N,78050µm,1.5s								
T1217				AML		AML			
	comp=E,40200µm,0.9s								
T1217				AML		AML			
	comp=N,77150µm,1.6s								
FIAM	**Fiamignano**	**0.34**	**202**	⇑P		**Pg**		**10 24 21.4**	**0.0**
FIAM				S		**Sg**		**10 24 27.0**	**+1.1**
FIAM				AML		AML			
	comp=E,15450µm,0.7s								
FIAM				AML		AML			
	comp=N,14100µm,0.5s								
ARRO	**Arrone**	**0.38**	**270**	⇑P		**Pg**		**10 24 22.4**	**+0.1**
ARRO				S		**Sg**		**10 24 28.6**	**+1.2**
ARRO				AML		AML			
	comp=N,22050µm,1.2s								
ARRO				AML		AML			
	comp=E,16150µm,0.8s								
ARRO				AML		AML			
	comp=E,16150µm,1.2s								
ARRO				AML		AML			
	comp=N,22050µm,0.8s								
FAGN	**Fagnano**	**0.39**	**144**	P		**Pg**		**10 24 21.9**	**-0.5**
FAGN				AML		AML			
	comp=E,74700µm,1.2s								
FAGN				AML		AML			
	comp=N,60050µm,1.4s								
FAGN				AML		AML			
	comp=E,74700µm,0.8s								
FEMA	**Monte Fema**	**0.42**	**336**	P		**Pg**		**10 24 22.8**	**-0.3**
FEMA				S		**Sg**		**10 24 29.3**	**+0.7**
FEMA				AML		AML			
	comp=N,42750µm,0.5s								
FEMA				AML		AML			
	comp=E,65050µm,1.4s								
FEMA				AML		AML			
	comp=E,65050µm,0.6s								
CESI	**CESI - Serrava**	**0.51**	**327**	⇑P		**Pg**		**10 24 24.3**	**-0.4**
CESI				S		**Sg**		**10 24 32.2**	**+0.8**
CESI				AML		AML			
	comp=E,18700µm,1.0s								
CESI				AML		AML			
	comp=N,32550µm,0.3s								
T0110	**Collepietro**	**0.51**	**134**	⇓P		**Pg**		**10 24 24.1**	**-0.6**
T0110				S		**Sg**		**10 24 31.6**	**+0.2**
T0110				AML		AML			
	comp=N,56800µm,0.4s								
T0110				AML		AML			
	comp=E,49450µm,1.0s								
T0110				AML		AML			
	comp=E,49450µm,1.0s								
CSP1	**Cessapalombo**	**0.52**	**354**	⇑P		**Pg**		**10 24 24.1**	**-0.7**
CSP1				S		**Sg**		**10 24 32.0**	**+0.4**
CSP1				AML		AML			
	comp=E,29900µm,1.6s								
CSP1				AML		AML			
	comp=N,44900µm,1.1s								
CSP1				AML		AML			
	comp=N,44900µm,0.9s								
CSP1				AML		AML			
	comp=E,29900µm,0.4s								
TRTR	**Tortoreto Alta**	**0.52**	**64**	⇑P		**Pg**		**10 24 25.1**	**+0.2**
TRTR				AML		AML			
	comp=N,48300µm,1.0s								
TRTR				AML		AML			
	comp=E,55150µm,0.7s								
TRTR				AML		AML			
	comp=N,48300µm,1.0s								
CESX	**Cesi**	**0.52**	**274**			**Pg**		**10 24 24.2**	**-0.7**
CESX	**Cesi**	**0.52**	**274**	⇑P		**Pg**		**10 24 24.5**	**-0.4**
CESX				S		**Sb**		**10 24 32.8**	**-0.9**
CESX				AML		AML			
	comp=E,14700µm,0.8s								
CESX				AML		AML			
	comp=N,19350µm,0.3s								
T1220	**Camerino, Fraz**	**0.55**	**345**	⇓P		**Pg**		**10 24 24.9**	**-0.5**
T1220				S		**Sg**		**10 24 33.2**	**+0.5**
T1220				AML		AML			
	comp=E,95650µm,0.6s								
T1220				AML		AML			
	comp=N,77100µm,0.3s								
T1220				AML		AML			
	comp=E,96350µm,0.4s								
T1220				AML		AML			
	comp=E,95650µm,0.6s								
T1220				AML		AML			
	comp=N,77000µm,0.3s								
PTQR	**Pietraquaria**	**0.56**	**171**	P		**Pg**		**10 24 24.9**	**-0.9**
PTQR				AML		AML			
	comp=N,4300µm,0.5s								
PTQR				AML		AML			
	comp=N,4295µm,0.5s								
PTQR				AML		AML			
	comp=E,5165µm,0.3s								
MOMA	**Monte Martano**	**0.57**	**293**	P		**Pg**		**10 24 25.5**	**-0.4**
MOMA				S		**Sb**		**10 24 34.4**	**-0.9**
MNTP	**Montappone**	**0.57**	**14**	P		**Pg**		**10 24 25.7**	**-0.2**
MNTP				S		**Sb**		**10 24 35.0**	**-0.3**
SEF1	**Sefro**	**0.62**	**337**	P		**Pg**		**10 24 26.1**	**-0.6**
SEF1				S		**Sg**		**10 24 35.6**	**+0.7**
SEF1				AML		AML			
	comp=N,21800µm,1.2s								
SEF1				AML		AML			
	comp=E,28400µm,1.1s								
SEF1				AML		AML			
	comp=N,21800µm,0.8s								
MDAR	**Monte D'Aria**	**0.62**	**350**	P		**Pg**		**10 24 25.9**	**-0.9**
MDAR				S		**Sg**		**10 24 35.3**	**+0.3**
PIO1	**Pioraco**	**0.64**	**340**	P		**Pg**		**10 24 26.6**	**-0.5**
ASSB	**Assisi San Ben**	**0.65**	**315**	P		**Pg**		**10 24 26.7**	**-0.7**
ASSB				S		**Sb**		**10 24 36.9**	**-0.6**
ASSB				AML		AML			
	comp=N,17550µm,0.3s								
ASSB				AML		AML			
	comp=E,17800µm,0.5s								
SSM1	**San Severino M**	**0.65**	**353**	P		**Pg**		**10 24 26.6**	**-0.8**
SSM1				S		**Sg**		**10 24 36.5**	**+0.5**
FIU1	**Fiuminata**	**0.66**	**337**	P		**Pg**		**10 24 27.0**	**-0.6**
SRES	**S.Oreste - Sor**	**0.67**	**239**	P		**Pg**		**10 24 27.2**	**-0.5**
SRES				AML		AML			
	comp=N,12300µm,0.5s								
SRES				AML		AML			
	comp=E,7110µm,0.8s								
CERT	**Cerreto**	**0.67**	**200**	P		**Pg**		**10 24 28.1**	**+0.4**
CERT				AML		AML			
	comp=N,8515µm,1.5s								
CERT				AML		AML			
	comp=E,9110µm,0.6s								
GAG1	**Gagliole**	**0.68**	**347**	P		**Pg**		**10 24 27.3**	**-0.6**
GAG1				S		**Sb**		**10 24 37.8**	**-0.4**
GAG1				AML		AML			
	comp=E,27200µm,0.3s								
GAG1				AML		AML			
	comp=N,29700µm,0.2s								
GAG1				AML		AML			
	comp=N,29700µm,1.8s								
MTCE	**Montecelio**	**0.69**	**216**	P		**Pb**		**10 24 28.7**	**-0.2**
MTCE				AML		AML			
	comp=E,11280µm,0.5s								
MTCE				AML		AML			
	comp=N,7555µm,0.6s								
MTCE				AML		AML			
	comp=N,7555µm,1.4s								
MTL1	**Matelica**	**0.71**	**344**	P		**Pg**		**10 24 28.0**	**-0.4**
CADA	**Capodarco di F**	**0.71**	**30**	P		**Pg**		**10 24 28.7**	**+0.2**
SNTG	**Esanatoglia**	**0.72**	**340**	P		**Pg**		**10 24 27.8**	**-0.9**
SNTG				S		**Sb**		**10 24 38.9**	**-0.6**
SNTG				AML		AML			
	comp=E,7420µm,0.5s								
SNTG				AML		AML			
	comp=N,6865µm,0.4s								
SNTG				AML		AML			
	comp=E,7315µm,0.5s								
SNTG				AML		AML			
	comp=N,7220µm,0.4s								
SNTG				AML		AML			
	comp=E,7420µm,1.5s								
SNTG				AML		AML			
	comp=E,7315µm,1.5s								
SNTG				AML		AML			
	comp=N,6865µm,0.4s								
VVLD	**Villa Vallelon**	**0.75**	**160**	P		**Pg**		**10 24 28.6**	**-0.7**
EL6	**Elcito**	**0.76**	**350**	P		**Pg**		**10 24 28.4**	**-1.1**
EL6				AML		AML			
	comp=N,20600µm,1.1s								
EL6				AML		AML			
	comp=E,19800µm,0.5s								
EL6				AML		AML			
	comp=N,20600µm,0.9s								
ATCC	**AVT- Casa Cast**	**0.77**	**322**	P		**Pg**		**10 24 29.1**	**-0.5**
ATCC				S		**Sb**		**10 24 41.3**	**+0.4**
ATCC				AML		AML			
	comp=N,16200µm,0.7s								
ATCC				AML		AML			
	comp=N,16150µm,0.7s								
ATCC				AML		AML			
	comp=E,15600µm,0.7s								
ATCC				AML		AML			
	comp=N,16150µm,1.3s								
RCAV	**Rocca di Cave**	**0.77**	**199**	P		**Pg**		**10 24 29.7**	**0.0**
RCAV				AML		AML			
	comp=N,9485µm,0.5s								
RCAV				AML		AML			
	comp=E,11175µm,0.5s								
CIMA	**Civitanova Mar**	**0.78**	**21**	P		**Pg**		**10 24 30.0**	**+0.2**
GUAR	**Guarcino**	**0.79**	**178**	P		**Pg**		**10 24 30.2**	**+0.3**
GUAR				AML		AML			
	comp=E,8690µm,1.1s								
GUAR				AML		AML			
	comp=N,6425µm,0.8s								
GUAR				AML		AML			
	comp=E,8690µm,0.9s								
FOSV	**Fossato di Vic**	**0.81**	**332**	P		**Pg**		**10 24 29.5**	**-0.9**
FOSV				S		**Sb**		**10 24 41.8**	**-0.3**
FOSV				AML		AML			
	comp=E,8855µm,1.1s								
FOSV				AML		AML			
	comp=E,8855µm,0.9s								
FOSV				AML		AML			
	comp=N,8715µm,0.4s								
PP3	**Marolino**	**0.83**	**17**	P		**Pg**		**10 24 30.6**	**-0.2**
PP3				AML		AML			
	comp=E,50000µm,0.6s								
PP3				AML		AML			
	comp=E,48800µm,0.7s								
PP3				AML		AML			
	comp=N,26400µm,1.5s								
PP3				AML		AML			
	comp=N,30250µm,1.5s								
PP3				AML		AML			
	comp=E,50050µm,0.6s								
PP3				AML		AML			
	comp=E,48800µm,1.3s								
PP3				AML		AML			
	comp=N,30250µm,0.5s								
PP3				AML		AML			
	comp=N,26400µm,0.5s								
LPEL	**Lama dei Pelig**	**0.85**	**128**	P		**Pg**		**10 24 29.4**	**-1.8**
LPEL				AML		AML			
	comp=N,10490µm,0.2s								
LPEL				AML		AML			
	comp=E,13150µm,0.3s								
MURB	**Monte Urbino**	**0.88**	**321**			**Pg**		**10 24 31.1**	**-0.7**
MURB	**Monte Urbino**	**0.88**	**321**	P		**Pg**		**10 24 31.4**	**-0.4**
MURB				AML		AML			
	comp=E,35050µm,0.3s								
MURB				AML		AML			
	comp=N,33250µm,0.3s								
MURB				AML		AML			
	comp=N,33550µm,0.3s								
MURB				AML		AML			
	comp=E,35050µm,1.7s								
MURB				AML		AML			
	comp=E,33050µm,0.3s								
RMP	**Rome, Mte Porz**	**0.88**	**210**	P		**Pb**		**10 24 32.0**	**-0.2**
RMP				AML		AML			
	comp=E,9920µm,1.3s								
RMP				AML		AML			
	comp=N,12550µm,0.8s								
RMP				AML		AML			
	comp=E,9920µm,0.7s								
VIVA	**Pratoni del Vi**	**0.91**	**205**	P		**Pg**		**10 24 32.3**	**-0.1**
POFI	**Posta Fibreno**	**0.92**	**160**	P		**Pg**		**10 24 32.1**	**-0.4**
POFI				AML		AML			
	comp=N,4510µm,1.0s								
POFI				AML		AML			
	comp=E,6350µm,1.0s								
MGAB	**Montegabbione**	**0.92**	**291**	P		**Pg**		**10 24 32.1**	**-0.5**
MGAB				AML		AML			
	comp=E,13050µm,0.4s								
MGAB				AML		AML			
	comp=E,14150µm,0.4s								
MGAB				AML		AML			
	comp=N,24200µm,0.4s								
MGAB				AML		AML			
	comp=N,24200µm,1.6s								
MGAB				AML		AML			
	comp=N,21850µm,0.9s								
MGAB				AML		AML			
	comp=E,13050µm,1.6s								
MA9	**Marino**	**0.93**	**210**	P		**Pb**		**10 24 33.0**	**0.0**
SSFR	**Montelago di S**	**0.93**	**337**	P		**Pg**		**10 24 31.8**	**-1.0**
SSFR				AML		AML			
	comp=E,13150µm,1.2s								
SSFR				AML		AML			
	comp=E,14350µm,1.2s								
SSFR				AML		AML			
	comp=N,13050µm,0.2s								
SSFR				AML		AML			
	comp=E,14350µm,0.8s								
SSFR				AML		AML			
	comp=N,13450µm,1.5s								
SSFR				AML		AML			
	comp=E,13150µm,0.8s								
ATFO	**Monte Foce - G**	**0.94**	**327**	P		**Pg**		**10 24 32.0**	**-0.9**
ATFO				AML		AML			
	comp=N,8530µm,1.0s								
ATFO				AML		AML			
	comp=E,6505µm,0.5s								
ATFO				AML		AML			
	comp=E,6505µm,1.5s								
SAMA	**S.Maria delle**	**0.95**	**213**	P		**Pb**		**10 24 33.3**	**0.0**
ATLO	**AVT- Montelove**	**0.98**	**319**	⇓P		**Pg**		**10 24 32.8**	**-0.8**
AOI	**Ancona**	**1.00**	**13**	P		**Pg**		**10 24 32.9**	**-1.1**
AOI				AML		AML			
	comp=E,8675µm,0.4s								
AOI				AML		AML			
	comp=N,8040µm,1.0s								
AOI				AML		AML			
	comp=N,8040µm,1.0s								
LAV9	**Lanuvio**	**1.00**	**206**	P		**Pg**		**10 24 33.5**	**-0.5**
ATVA	**AVT- Monte Val**	**1.01**	**314**	P		**Pg**		**10 24 33.5**	**-0.7**
TB01	**Gubbio**	**1.01**	**322**	P		**Pg**		**10 24 33.5**	**-0.8**
GIUL	**Giuliano Di Ro**	**1.02**	**181**	P		**Pg**		**10 24 34.2**	**-0.2**
GIUL				AML		AML			
	comp=N,4150µm,1.2s								
GIUL				AML		AML			
	comp=E,3285µm,0.9s								
GIUL				AML		AML			
	comp=N,4150µm,0.8s								
FRON	**Frontone**	**1.02**	**337**	P		**Pg**		**10 24 33.5**	**-1.0**
FRON				AML		AML			
	comp=N,8315µm,0.6s								
FRON				AML		AML			
	comp=E,7050µm,0.4s								
FRON				AML		AML			
	comp=N,8315µm,1.4s								
ATVO	**AVT- Monte Val**	**1.03**	**322**	P		**Pg**		**10 24 33.4**	**-1.1**
ATVO				AML		AML			
	comp=E,5910µm,0.4s								
ATVO				AML		AML			
	comp=N,5000µm,0.8s								
ATVO				AML		AML			
	comp=E,5910µm,1.6s								
PCRO	**Pietralacroce**	**1.04**	**10**	P		**Pg**		**10 24 34.5**	**-0.4**
ATBU	**Serra di Buran**	**1.04**	**329**	P		**Pg**		**10 24 34.4**	**-0.5**
SACS	**San Casciano d**	**1.05**	**285**	P		**Pg**		**10 24 34.4**	**-0.5**
SACS				AML		AML			
	comp=E,5920µm,0.5s								
SACS				AML		AML			
	comp=N,6155µm,0.6s								
SACS				AML		AML			
	comp=E,5770µm,0.5s								
SACS				AML		AML			
	comp=N,5925µm,0.6s								
SACS				AML		AML			
	comp=E,5920µm,1.5s								
SACS				AML		AML			
	comp=N,5925µm,1.4s								
SACS				AML		AML			
	comp=N,6155µm,1.4s								
SACS				AML		AML			
	comp=E,5770µm,1.5s								
ATMI	**Monte Miggiano**	**1.06**	**316**	P		**Pg**		**10 24 34.7**	**-0.5**
ATMI				AML		AML			
	comp=E,18100µm,0.7s								
ATMI				AML		AML			
	comp=N,15750µm,0.4s								
ATMI				AML		AML			
	comp=E,18100µm,1.3s								
COR1	**Corinaldo**	**1.07**	**349**	P		**Pg**		**10 24 35.1**	**-0.3**
COR1				AML		AML			
	comp=E,10875µm,0.9s								
COR1				AML		AML			
	comp=E,10875µm,1.1s								
COR1				AML		AML			
	comp=N,17000µm,0.4s								
TOLF	**Tolfa**	**1.08**	**242**	P		**Pg**		**10 24 34.8**	**-0.8**
TOLF				AML		AML			
	comp=E,7795µm,0.7s								
TOLF				AML		AML			
	comp=N,7625µm,1.0s								
TOLF				AML		AML			
	comp=E,7795µm,1.3s								
TOLF				AML		AML			
	comp=N,7625µm,1.0s								
ATPI	**Pietralunga -**	**1.08**	**324**	P		**Pg**		**10 24 34.7**	**-1.0**
ATPI				AML		AML			
	comp=E,9980µm,0.7s								
ATPI				AML		AML			
	comp=N,5315µm,0.6s								
ATPI				AML		AML			
	comp=E,9980µm,1.3s								
ATPI				AML		AML			
	comp=N,5315µm,1.4s								
ATPC	**Poggio Castell**	**1.08**	**326**	P		**Pg**		**10 24 34.8**	**-0.9**
LATE	**Laterza**	**1.09**	**272**			**Pg**		**10 24 34.8**	**-1.0**

LATE	**Laterza**	**1.09 272**	P	**Pg**	**10 24 35.8**	**0.0**		
PIEI	**Pieia**	**1.10 330**	P	**Pg**	**10 24 35.2**	**-0.8**		
PIEI			AML	AML				
	comp=N,5110µm,0.5s							
PIEI			AML	AML				
	comp=E,4480µm,0.4s							
LATB	**Latina**	**1.11 193**	P	**Pb**	**10 24 34.9**	**-1.2**		
MPAG	**Monte Paganucc**	**1.12 340**	P	**Pg**	**10 24 35.2**	**-1.0**		
MPAG			AML	AML				
	comp=E,6675µm,0.4s							
MPAG			AML	AML				
	comp=E,6485µm,0.4s							
MPAG			AML	AML				
	comp=N,6020µm,0.4s							
MPAG			AML	AML				
	comp=E,6485µm,1.6s							
MPAG			AML	AML				
	comp=E,6675µm,1.6s							
MPAG			AML	AML				
	comp=N,6440µm,0.4s							
CERA	**Filignano**	**1.12 151**	P	**Pb**	**10 24 34.4**	**-2.0**		
SENI	**Senigallia**	**1.13 358**	P	**Pb**	**10 24 36.0**	**-0.3**		
SENI			AML	AML				
	comp=N,36250µm,0.3s							
SENI			AML	AML				
	comp=N,7260µm,0.9s							
SENI			AML	AML				
	comp=E,8105µm,1.3s							
SENI			AML	AML				
	comp=N,7260µm,1.1s							
SENI			AML	AML				
	comp=E,28300µm,0.3s							
APEC	**Apecchio**	**1.17 327**	P	**Pn**	**10 24 37.2**	**0.0**		
APEC			AML	AML				
	comp=E,8460µm,0.5s							
APEC			AML	AML				
	comp=N,7615µm,0.4s							
APEC			AML	AML				
	comp=N,6665µm,0.5s							
APEC			AML	AML				
	comp=E,8010µm,0.5s							
ATMC	**Monte Cedrone**	**1.18 318**	P	**Pb**	**10 24 36.7**	**-0.6**		
MIDA	**Miranda**	**1.18 142**	P	**Pb**	**10 24 35.3**	**-2.1**		
SF03	**Valle Cupa**	**1.20 281**	P	**Pb**	**10 24 36.7**	**-0.9**		
MCIV	**Monte Civitell**	**1.20 280**	P	**Pb**	**10 24 37.4**	**-0.3**		
BADI	**Badiali**	**1.20 321**	P	**Pb**	**10 24 37.5**	**-0.2**		
SF11	**Podere del Sol**	**1.22 284**	P	**Pn**	**10 24 38.0**	**0.0**		
CAFI	**Castiglion Fio**	**1.22 308**	P	**Pn**	**10 24 37.7**	**-0.3**		
CAFI			AML	AML				
	comp=E,3980µm,1.4s							
CAFI			AML	AML				
	comp=N,3880µm,1.6s							
CAFI			AML	AML				
	comp=E,4120µm,1.5s							
CAFI			AML	AML				
	comp=N,3835µm,1.6s							
CAFI			AML	AML				
	comp=N,3880µm,0.4s							
CAFI			AML	AML				
	comp=E,3980µm,0.6s							
CAFI			AML	AML				
	comp=N,3835µm,0.4s							
CAFI			AML	AML				
	comp=E,4120µm,0.5s							
SF04	**Casetta**	**1.22 283**	P	**Pn**	**10 24 37.9**	**-0.2**		
SF04			AML	AML				
	comp=E,3080µm,0.3s							
SF04			AML	AML				
	comp=N,3545µm,0.8s							
SF04			AML	AML				
	comp=E,3080µm,1.7s							
TRIV	**Trivento**	**1.24 130**	P	**Pg**	**10 24 39.0**	**+0.4**		
TRIV			AML	AML				
	comp=E,2575µm,1.1s							
TRIV			AML	AML				
	comp=N,3045µm,1.0s							
TRIV			AML	AML				
	comp=E,2575µm,0.9s							
TRIV			AML	AML				
	comp=N,3045µm,1.0s							
SF13	**Bagnolo**	**1.25 282**	P	**Pn**	**10 24 38.3**	**-0.1**		
PE3	**Peglio**	**1.26 333**	P	**Pn**	**10 24 38.2**	**-0.3**		
SF01	**Poggio Pratacc**	**1.29 281**	P	**Pn**	**10 24 39.0**	**0.0**		
SSP9	**Sansepolcro**	**1.30 320**	P	**Pb**	**10 24 39.3**	**-0.2**		
ARCI	**Arcidosso**	**1.36 282**	P	**Pb**	**10 24 40.4**	**0.0**		
ARCI			AML	AML				
	comp=E,975µm,0.8s							
ARCI			AML	AML				
	comp=N,1032µm,0.9s							
PESA	**Pesaro**	**1.40 347**	AML	AML				
	comp=N,7030µm,0.3s							
PESA			AML	AML				
	comp=E,7550µm,0.3s							
CRE	**Caprese Michel**	**1.43 317**	P	**Pb**	**10 24 41.5**	**-0.1**		
MAON	**Monte Argentar**	**1.60 265**	P	**Pn**	**10 24 43.0**	**-0.1**		
MELA	**Melanico ??? S**	**1.63 122**	P	**Pb**	**10 24 44.3**	**-0.6**		
MELA			AML	AML				
	comp=E,2855µm,1.5s							
MELA			AML	AML				
	comp=E,3270µm,1.5s							
MELA			AML	AML				
	comp=N,3915µm,0.6s							
MELA			AML	AML				
	comp=E,2855µm,0.5s							
MELA			AML	AML				
	comp=N,3930µm,0.6s							
MELA			AML	AML				
	comp=E,3270µm,0.5s							
ASQU	**Asqua**	**1.64 319**	P	**Pb**	**10 24 44.8**	**-0.3**		
FROS	**Frosini**	**1.69 293**	P	**Pn**	**10 24 44.6**	**+0.2**		
SFI	**Santa Sofia**	**1.69 322**	P	**Pb**	**10 24 45.7**	**-0.3**		
OSSC	**Osservatorio P**	**1.77 303**	Pn	**Pn**	**10 24 46.2**	**+0.7**		
OSSC	**Osservatorio P**	**1.77 303**	P	**Pn**	**10 24 45.4**	**-0.1**		
CASP	**Castiglione de**	**1.79 278**	Pn	**Pn**	**10 24 45.5**	**-0.4**		
CASP	**Castiglione de**	**1.79 278**	P	**Pn**	**10 24 45.5**	**-0.4**		
CASP			AML	AML				
	comp=E,382µm,1.3s							
CASP			AML	AML				
	comp=N,562µm,0.9s							
CASP			AML	AML				
	comp=E,382µm,0.7s							
CASP			AML	AML				
	comp=N,562µm,1.1s							
RUFI	**Rufina**	**1.81 315**	P	**Pn**	**10 24 46.3**	**+0.3**		
RUFI			AML	AML				
	comp=N,1575µm,1.5s							
RUFI			AML	AML				
	comp=E,1595µm,0.7s							
RUFI			AML	AML				
	comp=N,1575µm,0.5s							
TRIF	**Trifonti**	**1.83 288**	P	**Pn**	**10 24 46.5**	**+0.1**		
APRC	**Apricena**	**1.87 115**	P	**Pb**	**10 24 48.2**	**-0.9**		
APRC			AML	AML				
	comp=E,1945µm,0.7s							
APRC			AML	AML				
	comp=N,2165µm,1.1s							
CRMI	**Carmignano**	**2.08 306**	P	**Pn**	**10 24 50.6**	**+0.8**		
ZCCA	**Zocca**	**2.44 317**		**Pb**	**10 24 56.9**	**-1.9**		
VLC	**Villacollemand**	**2.64 308**		**Pn**	**10 24 57.9**	**+0.4**		
TEOL	**Teolo**	**3.01 338**	Pn	**Pn**	**10 25 03.9**	**+1.3**		
PGF	**Pioggiola**	**3.16 271**	*e*P	**Pn**	**10 25 05.5**	**+0.7**		
PGF			*e*Sn	**Sn**	**10 25 38.1**	**-4.6**		
	comp=N,6.4nm,0.4s							
CUC	**Castrocucco**	**3.21 143**		**Pn**	**10 25 07.6**	**+2.2**		
MSSA	**Maissana**	**3.25 304**		**Pn**	**10 25 06.9**	**+1.0**		
SABO	**M.te Sabotino**	**3.41 4**		**Pn**	**10 25 08.5**	**+0.4**		
DOSS	**Dosso del Somm**	**3.63 336**	AML	AML				
	comp=N,3225µm,0.7s							
DOSS			AML	AML				
	comp=E,3150µm,0.7s							
DOSS			AML	AML				
	comp=N,2210µm,0.9s							
DOSS			AML	AML				
	comp=E,2280µm,0.9s							
DOSS			AML	AML				
	comp=E,3150µm,1.3s							
DOSS			AML	AML				
	comp=N,3225µm,1.3s							
DOSS			AML	AML				
	comp=E,387µm,1.7s							
SALO	**Salr**	**3.63 328**	Pn	**Pn**	**10 25 12.5**	**+1.3**		
CTI	**Castel Tesino**	**3.66 342**		**Pn**	**10 25 12.5**	**+0.9**		
STAL	**STALIGIAL**	**3.70 354**		**Pn**	**10 25 12.3**	**+0.2**		
LUSI	**Trento, Gardas**	**3.77 334**	AML	AML				
	comp=E,3115µm,1.4s							
LUSI			AML	AML				
	comp=N,5000µm,1.2s							
LUSI			AML	AML				
	comp=N,5000µm,0.8s							
LUSI			AML	AML				
	comp=E,3115µm,0.6s							
CIMO	**Cimolais**	**3.78 351**	Pn	**Pn**	**10 25 13.4**	**+0.2**		
CIMO	**Cimolais**	**3.78 351**	AML	AML				
	comp=N,1810µm,0.5s							
CIMO			AML	AML				
	comp=E,1435µm,1.2s							
CIMO			AML	AML				
	comp=E,1400µm,1.2s							
CIMO			AML	AML				
	comp=N,1845µm,0.5s							
PRED	**Cave del Predi**	**3.87 3**	Pn	**Pn**	**10 25 14.6**	**+0.2**		
CLUD	**Cludinico**	**3.89 356**		**Pn**	**10 25 15.2**	**+0.5**		
OBKA	**Obir**	**4.03 13**	*e*Pn	**Pn**	**10 25 17.3**	**+0.6**		
	comp=N,7.1nm,0.3s							
MYKA	**Terra Mystica**	**4.06 3**	*e*Pn	**Pn**	**10 25 17.4**	**+0.4**		
	comp=N,20nm,0.5s							
ABTA	**Abfaltersbach**	**4.20 353**	*e*Pn	**Pn**	**10 25 19.8**	**+0.7**		
	comp=N,63nm,0.4s,SNR=13							
SOKA	**Soboth**	**4.28 16**	*e*Pn	**Pn**	**10 25 23.2**	**+3.1**		
	comp=N,8.5nm,0.4s							
TIP	**Timpagrande**	**4.30 141**	Pn	**Pn**	**10 25 22.5**	**+2.1**		
PDG	**Podgorica**	**4.42 90**		**Pn**	**10 25 23.5**	**+1.6**		
SBF	**Sospel**	**4.46 289**	*e*P	**Pn**	**10 25 23.1**	**+0.5**		
SBF			*e*Sn	**Sn**	**10 26 11.2**	**-3.4**		
	comp=N,16nm,0.4s							
KBA	**Koelnbreinsper**	**4.50 1**	*e*Pn	**Pn**	**10 25 24.4**	**+1.2**		
	comp=N,31nm,0.4s							
FUORN	**Ofenpass-Fuorn**	**4.58 333**		**Pn**	**10 25 26.1**	**+1.7**		
FETA	**Feichten**	**4.80 339**	*e*Pn	**Pn**	**10 25 30.1**	**+2.8**		
	comp=N,16nm,0.6s							
TUE	**Stuetta**	**4.80 325**	Pn	**Pn**	**10 25 28.4**	**+1.0**		
WTTA	**Wattenberg**	**4.83 347**	*e*Pn	**Pn**	**10 25 29.6**	**+1.9**		
	comp=N,20nm,0.4s							
DAVOX	**Davos/Dischmat**	**4.85 331**	Pn	**Pn**	**10 25 30.3**	**+2.3**		
	comp=N,6.9nm,0.3s,baz=132,slow=8.0,SNR=15							
DAVOX			Sn	**Sn**	**10 26 23.2**	**-1.2**		
	comp=N,3.7nm,0.3s,baz=312,slow=23,SNR=1.3							
SQTA	**Sankt Quirin**	**4.87 343**		**Pn**	**10 25 30.7**	**+2.5**		
SQTA	**Sankt Quirin**	**4.87 343**	*e*Pn	**Pn**	**10 25 30.7**	**+2.5**		
	comp=N,15nm,0.3s,SNR=7.1							
WATA	**Walderalm**	**4.91 346**		**Pn**	**10 25 31.6**	**+2.8**		
WATA	**Walderalm**	**4.91 346**	*e*Pn	**Pn**	**10 25 31.6**	**+2.8**		
	comp=N,36nm,0.5s,SNR=9.3							
ARSA	**Arzberg**	**4.93 18**	*e*Pn	**Pn**	**10 25 28.4**	**-0.6**		
	comp=N,16nm,0.6s							
MOTA	**Moosalm**	**5.01 343**		**Pn**	**10 25 32.9**	**+2.8**		
MOTA	**Moosalm**	**5.01 343**	*e*Pn	**Pn**	**10 25 32.9**	**+2.8**		
	comp=N,18nm,0.5s							
LMR	**La Mourre**	**5.03 281**	*e*P	**Pn**	**10 25 30.3**	**0.0**		
LMR			*e*Sn	**Sn**	**10 26 23.5**	**-5.0**		
	comp=N,0.5nm,0.2s							
TIR	**Tirane**	**5.06 102**	Pn	**Pn**	**10 25 33.3**	**+2.6**		
BIOA	**Bad Ischl, Aus**	**5.12 3**		**Pn**	**10 25 31.8**	**+0.2**		
BIOA	**Bad Ischl, Aus**	**5.12 3**	*e*Pn	**Pn**	**10 25 31.8**	**+0.2**		
	comp=N,20nm,0.4s							
VAE	**Valguarnera**	**5.17 170**	Pn	**Pn**	**10 25 34.6**	**+2.3**		
	comp=N,7.0nm,0.8s,baz=160,slow=23,SNR=1.3							
MBDF	**Montbardon**	**5.19 297**	*e*P	**Pn**	**10 25 32.8**	**+0.1**		
RETA	**Reutte**	**5.22 341**	*e*Pn	**Pn**	**10 25 34.4**	**+1.4**		
	comp=N,16nm,0.4s							
DAVA	**Damuels**	**5.29 334**	*e*Pn	**Pn**	**10 25 36.1**	**+2.0**		
	comp=N,24nm,0.5s,SNR=4.6							
MOA	**Molln**	**5.32 7**	*e*Pn	**Pn**	**10 25 33.5**	**-0.8**		
	comp=N,11nm,0.4s							
BNI	**Bardonecchia**	**5.38 300**	Pn	**Pn**	**10 25 36.9**	**+1.7**		
RONA	**Rosalia, Austr**	**5.54 22**		**Pn**	**10 25 37.3**	**-0.2**		
RONA	**Rosalia, Austr**	**5.54 22**	*e*Pn	**Pn**	**10 25 37.3**	**-0.2**		
	comp=N,2.1nm,0.2s							
LPL	**La Plagne**	**5.56 304**	*e*P	**Pn**	**10 25 40.1**	**+2.3**		
CONA	**Conrad Observa**	**5.65 18**	*e*Pn	**Pn**	**10 25 38.8**	**-0.1**		
	comp=N,8.0nm,0.5s							
KEK	**Kerkira**	**5.69 118**	Pn	**Pn**	**10 25 42.0**	**+2.6**		
SENIN	**Lac Senin/Sane**	**5.71 314**	Pn	**Pn**	**10 25 41.2**	**+1.3**		
SMRF	**Simiane la Rot**	**5.80 287**	*e*P	**Pn**	**10 25 42.6**	**+1.7**		
ORIF	**Oris-en-Rattie**	**5.85 296**	*e*P	**Pn**	**10 25 44.6**	**+2.9**		
KBN	**Korca**	**5.96 107**		**Pn**	**10 25 46.4**	**+3.3**		
GEC2	**GERESS Array S**	**6.27 3**	Pn	**Pn**	**10 25 49.5**	**+2.0**		
GERES	**GERESS Array B**	**6.27 3**	Pn	**Pn**	**10 25 46.5**	**-1.0**		
	comp=N,1.6nm,0.3s,baz=165,slow=11,SNR=11							
GERES	**GERESS Array B**	**6.27 3**	Pn	**Pn**	**10 25 47.6**	**+0.1**		
FNA	**Florina**	**6.32 104**	Pn	**Pn**	**10 25 51.1**	**+3.0**		
CABF	**La Chapelle**	**6.53 311**	*e*P	**Pn**	**10 25 53.4**	**+2.4**		
VIVF	**Saint-Julien-l**	**6.64 293**	*e*P	**Pn**	**10 25 54.7**	**+2.2**		
HINF	**Hinteralfeld**	**6.93 321**	*e*P	**Pn**	**10 25 56.4**	**0.0**		
LASF	**Ste Croix**	**7.04 285**	*e*P	**Pn**	**10 25 58.8**	**+0.9**		
ECH	**Echery**	**7.09 325**		**Pn**	**10 25 58.8**	**+0.2**		
VRAC	**Vranov**	**7.11 18**	Pn	**Pn**	**10 25 58.1**	**-0.8**		
	comp=N,0.9nm,0.3s,baz=204,slow=15,SNR=2.1							
	comp=N,3.3nm,0.5s							
CDF	**Champ du Feu**	**7.20 326**	*e*P	**Pn**	**10 26 00.0**	**-0.2**		
HAU	**Haudompre**	**7.30 320**	*e*P	**Pn**	**10 26 01.8**	**+0.3**		
LIT	**Litokhoron**	**7.36 107**	Pn	**Pn**	**10 26 03.9**	**+1.6**		
KEST	**Kesra**	**7.49 205**	Pn	**Pn**	**10 26 03.7**	**-0.5**		
	comp=N,0.5nm,0.3s,baz=40,slow=17,SNR=1.6							
	comp=N,6.8nm,0.9s							
SMF	**Signal de Mont**	**7.87 304**	*e*P	**Pn**	**10 26 09.1**	**-0.2**		
PAGF	**Fort de Pagny**	**7.99 321**	*e*P	**Pn**	**10 26 13.0**	**+2.1**		
	baz=139							
SFTF	**Sexfontaines**	**8.08 317**	*e*P	**Pn**	**10 26 11.8**	**-0.4**		
MTLF	**Montolieu**	**8.15 279**	*e*P	**Pn**	**10 26 14.6**	**+1.4**		
LOR	**Lormes**	**8.16 308**	*e*P	**Pn**	**10 26 13.5**	**+0.1**		
	baz=127							
AVF	**Avril sur Loir**	**8.23 304**	*e*P	**Pn**	**10 26 13.0**	**-1.2**		
SSF	**Saint Saulge**	**8.27 306**	*e*P	**Pn**	**10 26 12.8**	**-1.9**		
MEZF	**Maizieres J'vi**	**8.27 319**	*e*P	**Pn**	**10 26 15.8**	**+1.0**		
	baz=140							
SAVF	**Savonnieres en**	**8.31 319**	*e*P	**Pn**	**10 26 17.4**	**+2.1**		
CAF	**Calviac**	**8.45 290**	*e*P	**Pn**	**10 26 19.2**	**+1.9**		
CLL	**Collm**	**8.73 359**	*e*Sg	Sg	10 29 04.0	+9.1		
TCF	**Toulx Ste Croi**	**8.75 299**	*e*P	**Pn**	**10 26 22.3**	**+1.0**		
HYF	**Humbligny**	**8.88 305**	*e*P	**Pn**	**10 26 25.4**	**+2.2**		
RJF	**Les Rejaudoux**	**8.92 292**	*e*P	**Pn**	**10 26 25.3**	**+1.6**		
EPF	**Esparros**	**9.53 277**	*e*P	**Pn**	**10 26 32.4**	**+0.3**		
MLR	**Muntele Rosu**	**9.57 68**	Pn	**Pn**	**10 26 33.4**	**+0.6**		
	comp=N,2.2nm,0.3s,baz=294,slow=20,SNR=2.9							
	comp=N,5.0nm,0.9s							
ETSF	**Etsaut**	**10.19 276**	*e*P	**Pn**	**10 26 45.2**	**+4.0**		
MFF	**Saint Martin d**	**10.39 297**	*e*Pg	**Sn**	**10 28 33.4**	**-6.8**		
SJPF	**Ste Jean**	**10.67 278**	*e*P	**Pn**	**10 26 50.2**	**+2.5**		
VAM	**Vamos**	**11.11 127**	P	Pn	10 27 07.2	+14		
IDI	**Anoyia**	**11.60 125**	Pn	**Pn**	**10 27 00.7**	**+0.2**		
	comp=N,0.2nm,0.3s,baz=340,slow=8.7,SNR=1.9							
	comp=N,2.3nm,0.6s							
ESDC	**Sonseca Array**	**13.32 263**	Pn	**Pn**	**10 27 20.7**	**-3.3**		
	comp=N,0.7nm,0.8s,baz=68,slow=14,SNR=1.6							
BRTR	**Keskin Array B**	**15.60 94**	Pn	**Pn**	**10 27 56.3**	**+1.5**		
	comp=N,0.1nm,0.3s,baz=298,slow=14,SNR=2.1							
	comp=N,0.9nm,0.9s							
EKA	**Eskdalemuir Ar**	**16.66 326**	Pn	**Pn**	**10 28 06.6**	**-1.6**		
	baz=136,slow=14							
	comp=N,0.2nm,0.3s							
HFS	**Hagfors**	**17.58 1**	P	**Pn**	**10 28 19.7**	**-0.1**		
	comp=N,1.1nm,0.3s,baz=218,slow=16,SNR=2.8							
	comp=N,4.4nm,0.9s							
NC602	**NORSAR Array S**	**18.21 357**	P	**Pn**	**10 28 27.9**	**+0.2**		
NC602			IAmb	IAmb	10 28 29.6			
	comp=Z,24nm,1.3s							
NB2	**NORSAR Subarra**	**18.53 357**	P	**Pn**	**10 28 32.0**	**+0.6**		
	comp=Z,2.7nm,0.8s,baz=176,slow=11							
NB2	**NORSAR Subarra**	**18.53 357**	*e*	**Pn**	**10 28 32.0**	**+0.6**		
	slow=11							
NOA	**NORSAR Array B**	**18.53 357**	P	**P**	**10 28 30.4**	**-0.9**		
	baz=175,slow=11,SNR=4.7							
	comp=Z,1.5nm,0.7s							
MMAI	**Mount Meron Ar**	**19.87 111**	P	**P**	**10 28 45.4**	**-0.8**		
	comp=Z,0.7nm,0.3s,baz=284,slow=12,SNR=1.2							
FINES	**FINESS Array B**	**20.39 18**	P	**P**	**10 28 50.5**	**-1.1**		
	comp=Z,2.4nm,0.7s,baz=193,slow=7.6,SNR=2.2							
	comp=Z,2.4nm,0.7s							
FINES	**FINESS Array B**	**20.39 18**	P	**P**	**10 28 51.5**	**-0.1**		
FIA1	**FINESS Array S**	**20.40 18**	P	**P**	**10 28 51.8**	**+0.2**		
KBZ	**Khabaz**	**21.59 77**	P	**P**	**10 29 03.1**	**-1.4**		
	comp=Z,3.9nm,1.0s,baz=304,slow=8.4,SNR=8.3							
	comp=Z,3.9nm,1.0s							
MARD	**Mardin**	**21.68 95**	P	**P**	**10 29 07.7**	**+1.9**		
MARD			IAmb	IAmb	10 29 09.9			
	comp=Z,12nm,1.1s							
ONI	**Oni**	**22.16 80**	P	**P**	**10 29 13.6**	**+2.7**		
TORD	**Torodi Ar. Bea**	**31.00 202**	P	**P**	**10 30 33.2**	**+0.7**		
	comp=Z,1.0nm,0.4s,baz=15,slow=8.5,SNR=1.9							
	comp=Z,1.0nm,0.4s							
ARU	**Arti**	**31.87 48**	P	**P**	**10 30 39.9**	**+0.1**		
SCO	**Scoresbysund**	**33.10 339**	P	**P**	**10 30 53.2**	**+2.7**		
ZALV	**Zalesovo Beam**	**47.00 50**	P	**P**	**10 32 45.8**	**-0.1**		
	comp=Z,0.7nm,0.5s,baz=303,slow=7.9,SNR=3.8							
	comp=Z,0.7nm,0.5s							
MKAR	**Makanchi Array**	**47.81 60**	P	**P**	**10 32 52.7**	**+0.4**		
	comp=Z,0.7nm,0.6s,baz=284,slow=7.2,SNR=7.3							
	comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**47.81 60**	P	**P**	**10 32 52.5**	**+0.2**		
SCHQ	**Schefferville**	**51.45 313**	P	**P**	**10 33 17.6**	**-2.3**		
	comp=Z,5.5nm,1.1s,baz=94,slow=13,SNR=2.7							
	comp=Z,5.5nm,1.1s							
WMQ	**Urumqi**	**52.50 62**	*e*P	**P**	**10 33 32.3**	**+4.3**		
SONM	**Songino Array**	**61.89 50**	P	**P**	**10 34 34.4**	**-0.1**		
	comp=Z,1.1nm,0.8s,baz=285,slow=8.5,SNR=7.7							
	comp=Z,1.1nm,0.8s							
SONM	**Songino Array**	**61.89 50**	P	**P**	**10 34 36.1**	**+1.6**		
SONM			IAmb	IAmb	10 34 36.3			
	comp=Z,5.9nm,1.5s							
A36M	**Sachs Harbour**	**62.06 347**	P	**P**	**10 34 36.4**	**+1.4**		
A36M			IAmb	IAmb	10 34 46.5			
	comp=Z,2.4nm,0.9s							
FCC	**Fort Churchill**	**62.58 326**	P	**P**	**10 34 38.5**	**-0.2**		
FCC			IAmb	IAmb	10 34 44.5			
	comp=Z,2.4nm,1.0s							
YKA	**Yellowknife Ar**	**67.26 337**	P	**P**	**10 35 08.3**	**-0.8**		
	comp=Z,0.7nm,0.7s,baz=37,slow=5.8							
	comp=Z,0.7nm,0.7s							
HHC	**Hu-ho-hao-te**	**68.99 54**	*e*P	**P**	**10 35 21.9**	**+1.4**		
HHC			pmax	pmax				
	comp=Z,32nm,0.9s							
HHC			pmax	pmax				
	comp=Z,470nm,6.8s							
PZH	**PanZhiHua**	**71.52 71**	P	**P**	**10 35 38.4**	**+2.2**		
PZH			pmax	pmax				
	comp=Z,8.0nm,0.8s							
PZH			pmax	pmax				
	comp=Z,100nm,4.3s							
ILAR	**Eielson Array**	**71.86 351**	P	**P**	**10 35 36.9**	**-0.6**		
	comp=Z,0.5nm,0.9s,baz=7.7,slow=7.4,SNR=4.1							
	comp=Z,0.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**74.62 79**	P	**P**	**10 35 54.1**	**-0.4**		
	comp=Z,0.6nm,0.3s,baz=314,slow=9.4,SNR=4.6							
	comp=Z,0.6nm,0.3s							
NJ2	**Nanjing**	**79.18 56**	*e*P	**P**	**10 36 19.9**	**-0.1**		
NJ2			pmax	pmax				
	comp=Z,10.0nm,1.0s							
TXAR	**Lajitas Array**	**87.92 309**	P	**P**	**10 37 04.8**	**-0.3**		
	comp=Z,0.2nm,0.8s,baz=60,slow=6.3,SNR=1.7							
	comp=Z,0.2nm,0.8s							
WRA	**Warramunga Arr**	**125.95 85**	PKP	**PKPdf**	**10 43 16.9**	**-0.4**		
	comp=Z,0.3nm,0.8s,baz=311,slow=5.4,SNR=2.5							
ASAR	**Alice Springs**	**127.88 89**	PKP	**PKPdf**	**10 43 20.4**	**-0.6**		
	comp=Z,0.2nm,0.6s,baz=298,slow=2.0,SNR=1.9							

BGR ***18*** *10:25:19.4±0.6, 41°.95N×13°.80E, h10km, ML5.9/12, Error ellipse: s-maj=12.2km s-min=8.9km az=32.0*
BJI ***18*** *10:25:22.8±0.0, 42°.60N×13°.33E, h5km, mb5.0/73, mB5.7/55, Ms5.9/57, Ms7 5.6/54*
PRU ***18*** *10:25:22.4±0.0, 42°.34N×13°.23E, h10km, M5.3*
IDC ***18*** *10:25:23.3±0.4, 42°.60N×13°.16E, h0km, mb5.0/38, mbtmp4.9/51, ML4.6/10, MS5.0/23, Error ellipse: s-maj=8.7km s-min=7.7km az=110.0*
ROM ***18*** *10:25:23.7±0.0, 42°.503N±0°.002×13°.277E±0°.004, h9km, ML5.3/135, Mw5.4, Error ellipse: s-maj=0.2km s-min=0.1km az=62.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-1.25; Mθθ0.50; Mφφ0.75; Mrθ0.31; Mθφ-0.79; Mφr-0.35; Fault plane solution: M0 1.41669×10^17 NP1:φs140.00000°, δ35.00000°, λ-89.00000°. NP2:φs319.00000°, δ55.00000°, λ-91.00000°.*
MOS ***18*** *10:25:24.3±1.0, 42°.66N×13°.28E, h13km, mb5.5/63, MS5.0/29 Error ellipse: s-maj=4.5km s-min=2.8km az=71.5*
PDG ***18*** *10:25:24.5±0.6, 42°.55N×13°.35E, h11km, MD5.6/10, ML5.5/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
BEO ***18*** *10:25:24.3±0.5, 42°.45N×13°.23E, h0km, ML5.6/15*
LDG ***18*** *10:25:25.0±0.1, 42°.48N×13°.18E, h9km, Md4.7/3, Ml5.1/42, Error ellipse: s-maj=4.1km s-min=2.6km az=40.0*
MED_RC ***18*** *10:25:25.0±0.2, 42°.47N×13°.23E, h13km, MW5.6/44, Moment Tensor Solution. Body waves: s7,c7;Mantle waves: s44,c86; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr-3.32±.10; Mθθ1.48±.06; Mφφ1.84±.06; Mrθ-0.07±.15; Mθφ-1.69±.04; Mφr-0.40±.16; Best double couple: M0 3.36000×10^17 NP1:φs324.00000°, δ47.00000°, λ-82.00000°. NP2:φs133.00000°, δ43.00000°, λ-98.00000°. Principal axes: T 3.3700, Plg2.0000°, Azm48.0000°; N -0.0100, Plg6.0000°, Azm138.0000°; P -3.3600, Plg84.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
TIR ***18*** *10:25:26.0, 42°.31N×13°.23E, h9km, 6km, Md5.6, Ml5.9*
NEIC ***18*** *10:25:25.5±1.1, 42°.59N±0°.05×13°.19E±0°.06, h10km±1km, mb5.3/369, Mwr5.6/54, Mww5.6, ML5.4(ROM), Mwr5.4(VIE), Error ellipse: s-maj=9.2km s-min=6.8km az=192.0, Moment Tensor Solution. Moment tens

T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1218				AML	AML				
T1202	**Accumoli, Fraz**	**0.20 352**		P	**Pg**	**10 25 28.5**	**-1.4**		
T1202				S	**Sg**	**10 25 32.2**	**-0.7**		
GIGS	**Gran Sasso**	**0.24 104**	⇑	P	**Pg**	**10 25 28.6**	**-1.9**		
GIGS				S	**Sg**	**10 25 32.2**	**-1.7**		
GIGS				AML	AML				
GIGS				AML	AML				
GIGS				AML	AML				
FIAM	**Fiamignano**	**0.26 204**	⇑	P	**Pg**	**10 25 29.9**	**-1.0**		
FIAM				S	**Sg**	**10 25 34.6**	**-0.1**		
FIAM				AML	AML				
FIAM				AML	AML				
T1217	**Poggiodomo (PG**	**0.32 310**		P	**Pg**	**10 25 30.6**	**-1.3**		
T1217				S	**Sg**	**10 25 36.6**	**+0.3**		
T1217				AML	AML				
T1217				AML	AML				
T1217				AML	AML				
T1217				AML	AML				
T1217				AML	AML				
T1217				AML	AML				
T1217				AML	AML				
T1217				AML	AML				
FAGN	**Fagnano**	**0.34 135**		P	**Pg**	**10 25 31.0**	**-1.4**		
FAGN				S	**Sg**	**10 25 36.9**	**0.0**		
ARRO	**Arrone**	**0.37 281**		P	**Pg**	**10 25 31.7**	**-1.2**		
ARRO				S	**Sg**	**10 25 38.3**	**+0.4**		
T0110	**Collepietro**	**0.48 126**		P	**Pg**	**10 25 32.8**	**-2.0**		
T0110				S	**Sg**	**10 25 40.5**	**-0.6**		
T0110				AML	AML				
T0110				AML	AML				
T0110				AML	AML				
FEMA	**Monte Fema**	**0.48 341**		P	**Pg**	**10 25 34.1**	**-0.8**		
FEMA				S	**Sb**	**10 25 42.3**	**-0.6**		
FEMA				AML	AML				
FEMA				AML	AML				
FEMA				AML	AML				
FEMA				AML	AML				
PTQR	**Pietraquaria**	**0.50 168**	⇑	P	**Pg**	**10 25 33.6**	**-1.6**		
PTQR				AML	AML				
PTQR				AML	AML				
PTQR				AML	AML				
PTQR				AML	AML				
CESX	**Cesi**	**0.51 282**		Pg	**Pg**	**10 25 34.4**	**-1.1**		
CESX	**Cesi**	**0.51 282**		P	**Pg**	**10 25 34.2**	**-1.3**		
CESX				AML	AML				
CESX				AML	AML				
CESI	**CESI - Serrava**	**0.56 332**		P	**Pg**	**10 25 35.2**	**-1.2**		
CESI				S	**Sg**	**10 25 44.3**	**+0.4**		
CESI				AML	AML				
CESI				AML	AML				
TRTR	**Tortoreto Alta**	**0.57 58**	⇑	P	**Pg**	**10 25 35.3**	**-1.2**		
CSP1	**Cessapalombo**	**0.58 356**		P	**Pg**	**10 25 35.0**	**-1.8**		
CSP1				S	**Sb**	**10 25 45.5**	**-0.4**		
CSP1				AML	AML				
CSP1				AML	AML				
CSP1				AML	AML				
CSP1				AML	AML				
MOMA	**Monte Martano**	**0.59 300**		P	**Pg**	**10 25 34.1**	**-2.8**		
MOMA				AML	AML				
MOMA				AML	AML				
MOMA				AML	AML				
MOMA				AML	AML				
CERT	**Cerreto**	**0.60 200**		P	**Pg**	**10 25 35.5**	**-1.6**		
CERT				AML	AML				
CERT				AML	AML				
CERT				AML	AML				
T1220	**Camerino, Fraz**	**0.61 348**		P	**Pg**	**10 25 35.8**	**-1.6**		
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
SRES	**S.Oreste - Sor**	**0.62 244**		P	**Pg**	**10 25 35.9**	**-1.6**		
SRES				AML	AML				
SRES				AML	AML				
SRES				AML	AML				
MTCE	**Montecelio**	**0.62 219**	⇑	P	**Pg**	**10 25 35.7**	**-1.8**		
MTCE				AML	AML				
MTCE				AML	AML				
MTCE				AML	AML				
MNTP	**Montappone**	**0.65 14**		P	**Pg**	**10 25 36.4**	**-1.6**		
MNTP				AML	AML				
MNTP				AML	AML				
SEF1	**Sefro**	**0.68 340**		P	**Pg**	**10 25 36.7**	**-1.9**		
SEF1				AML	AML				
SEF1				AML	AML				
SEF1				AML	AML				
MDAR	**Monte D'Aria**	**0.69 353**		P	**Pg**	**10 25 36.9**	**-2.0**		
MDAR				AML	AML				
MDAR				AML	AML				
VVLD	**Villa Vallelon**	**0.69 157**		P	**Pg**	**10 25 37.2**	**-1.7**		
VVLD				AML	AML				
VVLD				AML	AML				
VVLD				AML	AML				
ASSB	**Assisi San Ben**	**0.69 320**		P	**Pg**	**10 25 37.3**	**-1.6**		
PIO1	**Pioraco**	**0.70 343**		P	**Pg**	**10 25 37.1**	**-1.9**		
RCAV	**Rocca di Cave**	**0.70 200**		P	**Pg**	**10 25 37.5**	**-1.6**		
RCAV				AML	AML				
RCAV				AML	AML				
GUAR	**Guarcino**	**0.71 177**		P	**Pg**	**10 25 37.8**	**-1.5**		
GUAR				AML	AML				
GUAR				AML	AML				
GUAR				AML	AML				
GUAR				AML	AML				
FIU1	**Fiuminata**	**0.72 340**		P	**Pg**	**10 25 37.7**	**-1.7**		
SSM1	**San Severino M**	**0.72 355**		P	**Pg**	**10 25 37.5**	**-1.9**		
GAG1	**Gagliole**	**0.74 349**		P	**Pg**	**10 25 37.9**	**-2.0**		
GAG1				AML	AML				
GAG1				AML	AML				
GAG1				AML	AML				
MTL1	**Matelica**	**0.77 346**		P	**Pg**	**10 25 38.5**	**-1.8**		
CADA	**Capodarco di F**	**0.78 28**		P	**Pg**	**10 25 39.5**	**-1.0**		
CADA				AML	AML				
CADA				AML	AML				
CADA				AML	AML				
CADA				AML	AML				
SNTG	**Esanatoglia**	**0.78 343**		P	**Pg**	**10 25 38.7**	**-1.9**		
SNTG				AML	AML				
SNTG				AML	AML				
SNTG				AML	AML				
SNTG				AML	AML				
SNTG				AML	AML				
SNTG				AML	AML				
SNTG				AML	AML				
RMP	**Rome, Mte Porz**	**0.81 211**	⇑	P	**Pg**	**10 25 39.4**	**-1.7**		
RMP				AML	AML				
RMP				AML	AML				
RMP				AML	AML				
ATCC	**AVT- Casa Cast**	**0.81 326**		P	**Pg**	**10 25 39.8**	**-1.4**		
ATCC				AML	AML				
ATCC				AML	AML				
ATCC				AML	AML				
LPEL	**Lama dei Pelig**	**0.83 124**	⇑	P	**Pg**	**10 25 38.6**	**-2.8**		
LPEL				S	**Sg**	**10 25 50.8**	**-1.4**		
LPEL				AML	AML				
LPEL				AML	AML				
EL6	**Elcito**	**0.83 352**		P	**Pg**	**10 25 39.7**	**-1.8**		
EL6				AML	AML				
EL6				AML	AML				
EL6				AML	AML				
VIVA	**Pratoni del Vi**	**0.84 206**		P	**Pg**	**10 25 40.2**	**-1.5**		
VIVA				AML	AML				
VIVA				AML	AML				
VIVA				AML	AML				
VIVA				AML	AML				
CIMA	**Civitanova Mar**	**0.85 21**		P	**Pg**	**10 25 40.7**	**-1.2**		
CIMA				AML	AML				
CIMA				AML	AML				
CIMA				AML	AML				
CIMA				AML	AML				
RDP	**Rocca di Papa**	**0.85 209**		AML	AML				
RDP				AML	AML				
RDP				AML	AML				
POFI	**Posta Fibreno**	**0.86 157**		P	**Pg**	**10 25 40.8**	**-1.3**		
POFI				AML	AML				
POFI				AML	AML				
POFI				AML	AML				
POFI				AML	AML				
POFI				AML	AML				
MA9	**Marino**	**0.86 211**		P	**Pg**	**10 25 40.6**	**-1.5**		
MA9				AML	AML				
MA9				AML	AML				
MA9				AML	AML				
FOSV	**Fossato di Vic**	**0.87 335**		P	**Pg**	**10 25 40.5**	**-1.7**		
FOSV				AML	AML				
FOSV				AML	AML				
FOSV				AML	AML				
ROM9	**Roma**	**0.88 219**		P	**Pg**	**10 25 42.1**	**-0.3**		
ROM9				AML	AML				
ROM9				AML	AML				
SAMA	**S.Maria delle**	**0.88 215**		P	**Pg**	**10 25 40.6**	**-1.8**		
SAMA				AML	AML				
SAMA				AML	AML				
SAMA				AML	AML				
SAMA				AML	AML				
LRP	**Arpino**	**0.90 164**		P	**Pg**	**10 25 42.1**	**-0.6**		
PP3	**Marolino**	**0.91 16**	⇓	P	**Pg**	**10 25 41.4**	**-1.5**		
PP3				AML	AML				
PP3				AML	AML				
PP3				AML	AML				
PP3				AML	AML				
MURB	**Monte Urbino**	**0.93 325**		Pn	**Pg**	**10 25 42.5**	**-0.9**		
MURB	**Monte Urbino**	**0.93 325**		P	**Pg**	**10 25 41.9**	**-1.5**		
MURB				AML	AML				
MURB				AML	AML				
MURB				AML	AML				
MURB				AML	AML				
MURB				AML	AML				
MURB				AML	AML				
MURB				AML	AML				
MURB				AML	AML				
LAV9	**Lanuvio**	**0.93 207**		P	**Pg**	**10 25 42.6**	**-0.7**		
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
MGAB	**Montegabbione**	**0.94 296**	⇓	P	**Pg**	**10 25 42.0**	**-1.5**		
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
GIUL	**Giuliano Di Ro**	**0.95 180**	⇑	P	**Pg**	**10 25 42.6**	**-1.1**		
GIUL				AML	AML				
GIUL				AML	AML				
GIUL				AML	AML				
SSFR	**Montelago di S**	**0.99 339**		P	**Pg**	**10 25 43.0**	**-1.6**		
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
ATFO	**Monte Foce - G**	**0.99 330**		P	**Pg**	**10 25 43.6**	**-1.1**		
ATFO				AML	AML				
ATFO				AML	AML				
ATLO	**AVT- Montelove**	**1.02 322**		P	**Pb**	**10 25 43.9**	**-1.2**		
LIK	**San Giovanni I**	**1.03 167**		P	**Pb**	**10 25 42.4**	**-2.7**		
TOLF	**Tolfa**	**1.04 245**		P	**Pb**	**10 25 43.9**	**-1.4**		
TOLF				AML	AML				
	comp=N,76900µm,1.1s								
TOLF				AML	AML				
TOLF				AML	AML				
	comp=N,76900µm,0.9s								
LATB	**Latina**	**1.04 192**		P	**Pb**	**10 25 42.2**	**-3.0**		
LATB				AML	AML				
	comp=N,48000µm,1.0s								
LATB				AML	AML				
	comp=E,49600µm,1.1s								
LATB				AML	AML				
	comp=N,47950µm,1.0s								
LATB				AML	AML				
	comp=E,49600µm,0.9s								
LATB				AML	AML				
	comp=N,47950µm,1.0s								
RNI2	**Rionero Sannit**	**1.04 140**		P	**Pb**	**10 25 44.9**	**-0.5**		
RNI2				AML	AML				
RNI2				AML	AML				
RNI2				AML	AML				
RNI2				AML	AML				
RNI2				AML	AML				
RNI2				AML	AML				
ATVA	**AVT- Monte Val**	**1.05 317**		P	**Pb**	**10 25 44.4**	**-1.2**		
SACS	**San Casciano d**	**1.05 289**		P	**Pb**	**10 25 44.8**	**-0.8**		
SACS				AML	AML				
SACS				AML	AML				
	comp=N,93400µm,1.2s								
SACS				AML	AML				
	comp=N,90200µm,1.2s								
SACS				AML	AML				
SACS				AML	AML				
	comp=N,93400µm,0.8s								
SACS				AML	AML				
	comp=N,90200µm,0.8s								
TB01	**Gubbio**	**1.06 325**		P	**Pb**	**10 25 44.4**	**-1.3**		
AOI	**Ancona**	**1.07 13**		P	**Pb**	**10 25 43.8**	**-2.0**		
AOI				AML	AML				
AOI				AML	AML				
CERA	**Filignano**	**1.07 148**		P	**Pb**	**10 25 44.5**	**-1.4**		
CERA				AML	AML				
CERA				AML	AML				
CERA				AML	AML				
CERA				AML	AML				
ATVO	**AVT- Monte Val**	**1.07 325**		P	**Pb**	**10 25 44.8**	**-1.2**		
ATVO				AML	AML				
ATVO				AML	AML				
	comp=N,87300µm,0.5s								
ATVO				AML	AML				
ATVO				AML	AML				
	comp=N,87300µm,1.5s								
LATE	**Laterza**	**1.08 276**			**Pb**	**10 25 45.5**	**-0.6**		
LATE	**Laterza**	**1.08 276**		P	**Pb**	**10 25 44.8**	**-1.3**		
FRON	**Frontone**	**1.08 339**		P	**Pb**	**10 25 44.4**	**-1.7**		
FRON				AML	AML				
FRON				AML	AML				
FRON				AML	AML				
FRON				AML	AML				
ATBU	**Serra di Buran**	**1.10 332**		P	**Pb**	**10 25 45.2**	**-1.2**		
ATMI	**Monte Miggiano**	**1.10 319**		P	**Pn**	**10 25 47.0**	**+0.3**		
ATMI				AML	AML				
ATMI				AML	AML				
ATMI				AML	AML				
PCRO	**Pietralacroce**	**1.12 10**		P	**Pb**	**10 25 45.6**	**-1.1**		
PCRO				AML	AML				
PCRO				AML	AML				
PCRO				AML	AML				
ATPI	**Pietralunga -**	**1.13 326**		P	**Pb**	**10 25 46.2**	**-0.8**		
ATPI				AML	AML				
ATPI				AML	AML				
ATPI				AML	AML				
ATPI				AML	AML				
ATPC	**Poggio Castell**	**1.14 329**		P	**Pb**	**10 25 45.9**	**-1.1**		
COR1	**Corinaldo**	**1.14 350**		P	**Pb**	**10 25 46.0**	**-1.0**		
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
MIDA	**Miranda**	**1.14 139**		P	**Pb**	**10 25 44.6**	**-2.5**		
MIDA				AML	AML				
MIDA				AML	AML				
MIDA				AML	AML				
MIDA				AML	AML				
MIDA				AML	AML				
MIDA				AML	AML				
MIDA				AML	AML				
PIEI	**Pieia**	**1.16 333**		P	**Pb**	**10 25 46.1**	**-1.2**		
PIEI				AML	AML				
	comp=E,98200µm,1.5s								
PIEI				AML	AML				
	comp=E,98200µm,0.5s								
PIEI				AML	AML				
FRES	**Fresagrandinar**	**1.18 117**		P	**Pb**	**10 25 47.4**	**-0.3**		
MPAG	**Monte Paganucc**	**1.18 342**		P	**Pb**	**10 25 46.0**	**-1.8**		
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
SENI	**Senigallia**	**1.20 359**		P	**Pn**	**10 25 47.2**	**-0.7**		
SENI				AML	AML				
SENI				AML	AML				
SENI				AML	AML				
MCIV	**Monte Civitell**	**1.20 283**		P	**Pn**	**10 25 47.4**	**-0.6**		
MCIV				AML	AML				
	comp=E,49650µm,1.5s								
MCIV				AML	AML				
	comp=N,49300µm,1.2s								
MCIV				AML	AML				
	comp=N,49300µm,0.8s								
TRIV	**Trivento**	**1.21 127**		P	**Pb**	**10 25 48.3**	**0.0**		
TRIV				AML	AML				
TRIV				AML	AML				
TRIV				AML	AML				
APEC	**Apecchio**	**1.22 330**		P	**Pn**	**10 25 47.8**	**-0.5**		
APEC				AML	AML				
APEC				AML	AML				
SF11	**Podere del Sol**	**1.22 288**		P	**Pn**	**10 25 47.8**	**-0.5**		
ATMC	**Monte Cedrone**	**1.22 320**		P	**Pb**	**10 25 48.6**	**+0.1**		
SF04	**Casetta**	**1.22 286**		P	**Pn**	**10 25 47.6**	**-0.8**		
SF04				AML	AML				
	comp=E,45700µm,0.9s								
SF04				AML	AML				
	comp=N,58500µm,1.5s								
SF04				AML	AML				
	comp=E,45750µm,0.9s								
SF04				AML	AML				
	comp=N,58500µm,0.5s								
BADI	**Badiali**	**1.25 324**		P	**Pg**	**10 25 49.5**	**+0.1**		
BADI				AML	AML				
	comp=E,5875µm,0.8s								
BADI				AML	AML				
BADI				AML	AML				
	comp=E,5870µm,0.8s								
BADI				AML	AML				
BADI				AML	AML				
	comp=E,5870µm,1.2s								
SF13	**Bagnolo**	**1.25 285**		P	**Pn**	**10 25 47.9**	**-0.8**		
CAFI	**Castiglion Fio**	**1.25 311**		P	**Pn**	**10 25 47.9**	**-0.9**		
CAFI				AML	AML				
	comp=E,76900µm,0.8s								
CAFI				AML	AML				
	comp=E,78250µm,0.8s								
CAFI				AML	AML				
	comp=N,61500µm,1.5s								
CAFI				AML	AML				
	comp=N,60250µm,1.5s								
CAFI				AML	AML				
	comp=E,78250µm,1.2s								
CAFI				AML	AML				
	comp=E,76900µm,1.2s								
SF01	**Poggio Pratacc**	**1.29 284**		P	**Pn**	**10 25 48.8**	**-0.5**		
SF01				AML	AML				
	comp=E,90150µm,0.6s								
SF01				AML	AML				
	comp=N,86400µm,1.0s								
SF01				AML	AML				
	comp=N,86350µm,1.0s								
SF01				AML	AML				
	comp=E,90200µm,0.6s								
SF01				AML	AML				
	comp=N,86350µm,1.0s								
PE3	**Peglio**	**1.31 335**		P	**Pn**	**10 25 49.8**	**+0.2**		
PE3				AML	AML				
	comp=N,424µm,0.4s								
PE3				AML	AML				
SSP9	**Sansepolcro**	**1.35 322**		P	**Pg**	**10 25 51.3**	**-0.1**		
ARCI	**Arcidosso**	**1.36 285**		P	**Pn**	**10 25 50.1**	**-0.2**		
ARCI				AML	AML				
	comp=E,19500µm,1.1s								
ARCI				AML	AML				
	comp=N,22400µm,1.2s								
MODR	**Mondragone**	**1.44 161**		P	**Pn**	**10 25 51.3**	**0.0**		
CPGN	**Carpegna, Ital**	**1.46 332**		P	**Pb**	**10 25 52.9**	**+0.3**		
CPGN				AML	AML				
CPGN				AML	AML				
CPGN				AML	AML				
CPGN				AML	AML				
CPGN				AML	AML				
PESA	**Pesaro**	**1.46 348**		P	**Pn**	**10 25 51.9**	**+0.3**		
PESA				AML	AML				
PESA				AML	AML				
PESA				AML	AML				
CRE	**Caprese Michel**	**1.47 320**		P	**Pn**	**10 25 51.4**	**-0.4**		
PIGN	**Pignataro Magg**	**1.48 152**		P	**Pn**	**10 25 51.7**	**-0.1**		
PIGN				AML	AML				
	comp=E,56400µm,1.2s								
PIGN				AML	AML				
	comp=N,57950µm,0.9s								
PIGN				AML	AML				
	comp=E,58400µm,1.1s								
PIGN				AML	AML				
	comp=N,48400µm,0.9s								
PIGN				AML	AML				
	comp=N,48400µm,1.1s								
PIGN				AML	AML				
	comp=E,56400µm,0.8s								
PIGN				AML	AML				
	comp=N,57950µm,1.1s								
PIGN				AML	AML				
	comp=E,58400µm,0.9s								
SACR	**S. Croce Del S**	**1.55 135**		P	**Pn**	**10 25 51.9**	**-1.0**		
MAON	**Monte Argentar**	**1.58 268**		P	**Pn**	**10 25 52.0**	**-1.2**		
MAON				AML	AML				
	comp=N,21150µm,1.2s								
MAON				AML	AML				
	comp=E,18850µm,0.9s								
GATE	**Gambatesa**	**1.58 128**		AML	AML				
	comp=N,62200µm,0.7s								
GATE				AML	AML				
	comp=E,46750µm,1.0s								
GATE				AML	AML				
	comp=N,61150µm,1.6s								
GATE				AML	AML				
	comp=E,32600µm,0.8s								
GATE				AML	AML				
	comp=E,46750µm,1.0s								
GATE				AML	AML				
	comp=N,62200µm,1.3s								
GATE				AML	AML				
	comp=N,61150µm,0.4s								
MELA	**Melanico ??? S**	**1.60 119**		P	**Pn**	**10 25 54.2**	**+0.7**		
MELA				AML	AML				
MELA				AML	AML				
MELA				AML	AML				
MELA				AML	AML				
MELA				AML	AML				
MELA				AML	AML				
ASQU	**Asqua**	**1.68 321**		P	**Pn**	**10 25 55.4**	**+0.7**		
ASQU				AML	AML				
	comp=E,55850µm,1.0s								
ASQU				AML	AML				
	comp=N,56100µm,0.9s								
ASQU				AML	AML				
	comp=E,55850µm,1.0s								
FROS	**Frosini**	**1.70 295**		P	**Pn**	**10 25 54.6**	**-0.3**		
FROS				AML	AML				
	comp=E,34350µm,1.6s								
FROS				AML	AML				
	comp=N,33200µm,0.9s								
FROS				AML	AML				
	comp=E,34350µm,0.4s								
TREM	**Isole Tremiti**	**1.71 102**		P	**Pn**	**10 25 55.5**	**+0.5**		
TREM				AML	AML				
TREM				AML	AML				
TREM				AML	AML				
VENT	**Ventotene**	**1.72 176**		P	**Pn**	**10 25 55.0**	**0.0**		
VENT				AML	AML				

comp=E,55050µm,1.6s
VENT AML AML
comp=N,66450µm,1.0s
VENT AML AML
comp=N,66450µm,1.0s
VENT AML AML
comp=E,55050µm,0.4s
PSB1 Pescosannita 1.73 137 P **Pb 10 25 56.9 -0.2**
PSB1 AML AML
comp=E,83400µm,1.5s
PSB1 AML AML
comp=N,74850µm,1.3s
PSB1 AML AML
comp=N,72650µm,1.3s
PSB1 AML AML
comp=N,74850µm,0.7s
PSB1 AML AML
comp=E,83400µm,0.5s
PSB1 AML AML
comp=E,87350µm,1.4s
PSB1 AML AML
comp=N,72650µm,0.7s
SFI Santa Sofia 1.74 324 P **Pb 10 25 56.6 -0.6**
CASP Castiglione de 1.79 280 Pn 10 25 55.9 -0.2
CASP Castiglione de 1.79 280 P **Pn 10 25 55.5 -0.6**
CASP AML AML
comp=E,9045µm,1.3s
CASP AML AML
comp=N,10100µm,0.6s
CASP AML AML
comp=E,9045µm,0.7s
OSSC Osservatorio P 1.79 305 Pn **Pn 10 25 56.7 +0.5**
OSSC Osservatorio P 1.79 305 P **Pn 10 25 56.2 +0.1**
OSSC AML AML
comp=E,27850µm,1.6s
OSSC AML AML
comp=N,38400µm,1.3s
OSSC AML AML
comp=E,39250µm,1.3s
OSSC AML AML
comp=N,28100µm,1.6s
TRIF Trifonti 1.84 290 P **Pn 10 25 56.4 -0.4**
TRIF AML AML
comp=N,16050µm,1.6s
TRIF AML AML
comp=E,14150µm,1.3s
TRIF AML AML
comp=N,16050µm,0.4s
RUFI Rufina 1.85 317 P **Pn 10 25 57.0 +0.1**
RUFI AML AML
comp=N,40650µm,1.0s
RUFI AML AML
comp=E,31700µm,1.6s
RUFI AML AML
comp=N,40650µm,1.0s
APRC Apricena 1.86 113 P **Pn 10 25 57.1 0.0**
APRC AML AML
comp=E,69750µm,0.8s
APRC AML AML
comp=N,86400µm,0.7s
MRB1 Monte Rocchett 1.88 137 P **Pn 10 25 58.3 +0.9**
MRB1 AML AML
comp=E,61550µm,1.2s
MRB1 AML AML
comp=E,62600µm,1.2s
MRB1 AML AML
comp=N,78950µm,0.8s
MRB1 AML AML
comp=E,61550µm,0.8s
MRB1 AML AML
comp=N,78000µm,0.8s
MRB1 AML AML
comp=E,62600µm,0.8s
VVDG Vesuvio Valle 1.89 152 ⇓P **Pn 10 25 58.2 +0.7**
VVDG AML AML
VVDG AML AML
VVDG AML AML
VVDG AML AML
CRTO Cratere Ovest, 1.90 152 P **Pn 10 25 58.4 +0.7**
CRTO AML AML
CRTO AML AML
CRTO AML AML
LMD Lutirano 1.94 325 P **Pn 10 25 59.3 +1.2**
LMD AML AML
comp=E,35100µm,1.1s
LMD AML AML
comp=N,42700µm,1.4s
LMD AML AML
comp=N,42700µm,0.6s
FIR Firenze 1.94 311 P **Pn 10 25 59.3 +1.2**
BRSN Barisano 1.97 334 P **Pb 10 26 01.9 +0.7**
BRSN AML AML
BRSN AML AML
BRSN AML AML
BRSN AML AML
BRSN AML AML
BRSN AML AML
CAFE Carife 2.09 134 P **Pb 10 26 02.2 -1.1**
CAFE AML AML
comp=N,40150µm,1.6s
CAFE AML AML
comp=E,57350µm,1.6s
CAFE AML AML
comp=N,40450µm,1.6s
CAFE AML AML
comp=E,57450µm,1.6s
CAFE AML AML
comp=N,40450µm,0.4s
CAFE AML AML
comp=N,40150µm,0.4s
CRMI Carmignano 2.11 308 P **Pn 10 26 00.8 +0.2**
MSAG Monte S. Angel 2.13 111 P **Pn 10 26 02.0 +1.2**
MSAG AML AML
comp=E,86150µm,0.5s
MSAG AML AML
comp=E,88800µm,0.5s
MSAG AML AML
MSAG AML AML
comp=E,88800µm,1.5s
MSAG AML AML
MSAG AML AML
comp=E,86150µm,1.5s
MPPT Montemurlo 2.15 313 P **Pn 10 26 01.9 +0.9**
IMOL Imola, Italy 2.15 330 P **Pb 10 26 05.2 +0.8**
IMOL AML AML
comp=E,80050µm,1.1s
IMOL AML AML
comp=N,76050µm,1.1s
CAPA Cerignola FG 2.34 124 AML AML
comp=E,88900µm,1.0s
CAPA AML AML
comp=N,82600µm,0.9s
CAPA AML AML
comp=N,82600µm,1.1s
PII Pisa 2.34 302 P **Pn 10 26 04.8 +1.1**
PII AML AML
comp=E,14100µm,1.0s
PII AML AML
comp=N,13300µm,1.5s
PII AML AML
comp=N,13300µm,0.5s
PII AML AML
comp=E,14100µm,1.0s
VULT Monte Vulture 2.35 131 P **Pn 10 26 04.6 +0.7**
VULT AML AML
comp=E,34000µm,1.6s
VULT AML AML
comp=N,43650µm,0.7s
VULT AML AML
comp=N,44800µm,0.7s
VULT AML AML
comp=E,34750µm,1.6s
BRJN Brijuni 2.42 8 P **Pn 10 26 03.8 -1.0**
MAIM Mastiano 2.46 306 P **Pn 10 26 05.9 +0.5**
MAIM AML AML
comp=E,12565µm,1.6s
MAIM AML AML
comp=N,9350µm,0.6s
MAIM AML AML
comp=E,12565µm,0.4s
ZCCA Zocca 2.48 319 Pn **Pn 10 26 05.3 -0.3**
CARD Cardoso 2.53 308 P **Pn 10 26 06.6 +0.3**
CARD AML AML
comp=E,13250µm,1.6s
CARD AML AML
comp=N,13850µm,0.9s
CARD AML AML
comp=E,13250µm,0.4s
CDRU Civita di Ruta 2.54 142 P **Pn 10 26 06.9 +0.4**
CDRU AML AML
comp=N,7635µm,1.6s
CDRU AML AML
comp=E,6945µm,1.0s
CDRU AML AML
comp=N,7635µm,0.4s
MRVN Minervino Murg 2.63 122 P **Pn 10 26 07.8 +0.2**
MRVN AML AML
comp=E,15200µm,0.8s
MRVN AML AML
comp=E,15200µm,1.2s
MRVN AML AML
comp=N,14250µm,0.9s
ACER Acerenza 2.65 130 P **Pn 10 26 09.8 +1.8**
VLC Villacollemand 2.67 309 Pn **Pn 10 26 07.3 -0.9**
VLC Villacollemand 2.67 309 AML AML
comp=E,9630µm,1.2s
VLC AML AML
comp=E,9895µm,1.3s
VLC AML AML
comp=N,15200µm,1.1s
VLC AML AML
comp=N,14850µm,1.1s
VLC AML AML
comp=E,9630µm,0.8s
VLC AML AML
comp=N,14850µm,0.9s
VLC AML AML
comp=E,9895µm,0.7s
VLC AML AML
comp=N,15200µm,0.9s
SARO Sassorosso 2.67 310 AML AML
comp=E,18550µm,0.7s
SARO AML AML
comp=N,20900µm,1.5s
SARO AML AML
comp=E,18550µm,1.3s
GSCL Gusciola 2.68 314 AML AML
comp=N,20500µm,1.2s
GSCL AML AML
comp=E,16600µm,0.8s
GSCL AML AML
comp=N,20500µm,0.8s
RAVA Ravarino 2.73 326 AML AML
comp=E,56750µm,0.6s
RAVA AML AML
comp=E,56750µm,1.4s
RAVA AML AML
comp=N,83700µm,1.1s
SLCN Sala Consilina 2.77 139 P **Pn 10 26 11.1 +1.4**
SLCN AML AML
comp=E,16450µm,1.6s
SLCN AML AML
comp=N,17450µm,1.6s
SLCN AML AML
comp=E,16900µm,1.6s
SLCN AML AML
comp=N,19750µm,1.6s
SLCN AML AML
comp=E,16450µm,0.4s
SLCN AML AML
comp=N,17450µm,0.4s
SLCN AML AML
comp=N,19750µm,0.4s
SLCN AML AML
comp=E,16900µm,0.4s
SERM Sermide 2.88 331 AML AML
comp=N,17350µm,1.1s
SERM AML AML
comp=E,32700µm,1.6s
SERM AML AML
comp=N,25300µm,0.6s
SERM AML AML
comp=E,32700µm,0.4s
SERM AML AML
comp=N,17350µm,0.9s
SERM AML AML
comp=E,17100µm,0.7s
MORSI Morsiglia 2.91 280 P **Pn 10 26 12.0 +0.6**
MTSN Montesano sull 2.92 139 P **Pn 10 26 13.1 +1.4**
MTSN AML AML
comp=E,9605µm,0.7s
MTSN AML AML
comp=N,10060µm,1.4s
MTSN AML AML
comp=E,9605µm,1.3s
MTSN AML AML
comp=N,10060µm,0.6s
PLMA Palmaria, Port 2.93 303 AML AML
comp=N,5515µm,1.2s
PLMA AML AML
comp=E,4565µm,1.5s
PLMA AML AML
comp=N,5515µm,0.8s
PLMA AML AML
comp=E,4565µm,0.5s
NDIM Novi di Modena 2.93 325 AML AML
comp=E,36450µm,0.5s
NDIM AML AML
comp=E,36450µm,1.5s
NDIM AML AML
comp=N,38850µm,1.2s
NDIM AML AML
comp=N,38850µm,0.8s
AMUR Altamura 2.97 121 P **Pn 10 26 12.7 +0.4**
AMUR AML AML
comp=E,24700µm,0.6s
AMUR AML AML
comp=N,14700µm,0.7s
AMUR AML AML
comp=E,24700µm,1.4s
SMPL Sampolo 2.98 263 P **Pn 10 26 12.1 -0.4**
SMPL Sampolo 2.98 263 P **Pn 10 26 12.3 -0.1**
SIRI Monte Sirino - 3.04 139 P **Pn 10 26 15.2 +1.8**
SIRI AML AML
comp=E,7675µm,0.9s
SIRI AML AML
comp=N,7040µm,1.6s
SIRI AML AML
comp=E,7675µm,0.9s
SIRI AML AML
comp=N,7060µm,1.6s
SIRI AML AML
comp=N,7060µm,0.4s
SIRI AML AML
comp=E,7675µm,1.1s
SIRI AML AML
comp=E,7675µm,1.1s
SIRI AML AML
comp=N,7040µm,0.4s
CORF Corte 3.05 267 P **Pn 10 26 13.2 -0.2**
CORF AML AML
comp=E,2400µm,0.9s
CORF AML AML
comp=N,1685µm,0.5s
CORF Corte 3.05 267 P **Pn 10 26 13.3 -0.2**
GRAM Graiana 3.05 312 P **Pn 10 26 16.1 +2.6**
GRAM AML AML
comp=E,15600µm,1.3s
GRAM AML AML
comp=N,20400µm,1.2s
GRAM AML AML
comp=N,20400µm,0.8s
GRAM AML AML
comp=E,15600µm,0.7s
TEOL Teolo 3.07 339 P **Pn 10 26 14.1 +0.3**
TEOL AML AML
comp=E,45800µm,0.8s
TEOL AML AML
comp=N,63700µm,1.0s
SKDS Skadanscina 3.08 10 *e*Pn **Pn 10 26 13.6 -0.4**
SKDS *e*Sn **Sn 10 26 50.4 -0.3**
SKDS Skadanscina 3.08 10 ⇑*i*Pn **Pn 10 26 13.5 -0.4**
A050A Klekovaca 3.09 49 ⇑*i*Pn **Pn 10 26 13.6 -0.5**
PGF Pioggiola 3.15 272 *e*P **Pn 10 26 14.9 0.0**
PGF *e*Sn **Sn 10 26 47.1 -5.3**
comp=N,2µm,0.8s
PGF Pioggiola 3.15 272 AML AML
comp=N,1875µm,1.2s
PGF AML AML
comp=E,1720µm,1.5s
PGF AML AML
comp=N,1875µm,0.8s
PGF AML AML
comp=E,1720µm,0.5s
PGF Pioggiola 3.15 272 P **Pn 10 26 15.4 +0.5**
CUC Castrocucco 3.17 142 Pn **Pn 10 26 17.5 +2.4**
OPPE Oppeano 3.18 332 P **Pn 10 26 17.0 +1.8**
OPPE AML AML
comp=E,35300µm,0.8s
OPPE AML AML
comp=N,32550µm,1.5s
OPPE AML AML
comp=E,35300µm,1.2s
OPPE AML AML
comp=N,32550µm,0.5s
MATE Matera 3.18 125 P **Pn 10 26 15.7 +0.5**
MATE AML AML
comp=E,12750µm,1.0s
MATE AML AML
comp=N,12225µm,0.7s
MATE AML AML
comp=N,12225µm,1.3s
ZOVE Zovencedo 3.21 337 P **Pn 10 26 15.7 +0.1**
ZOVE AML AML
comp=E,25350µm,1.1s
ZOVE AML AML
comp=N,18150µm,0.7s
ZOVE AML AML
comp=N,18150µm,1.3s
ZOVE AML AML
comp=E,25350µm,0.9s
GBRS Gornja Briga 3.22 20 *i*Pn **Pn 10 26 15.9 +0.1**
SRKY Kupres RS 3.25 60 ⇑*i*Pn **Pn 10 26 16.2 -0.1**
MSSA Maissana 3.27 305 Pn **Pn 10 26 17.2 +0.7**
LTRZ Laterza 3.28 124 P **Pn 10 26 16.7 +0.1**
LTRZ AML AML
comp=E,10210µm,0.6s
LTRZ AML AML
comp=N,11250µm,0.7s
STON Ston 3.29 82 AML AML
comp=N,10400µm,1.0s
STON AML AML
comp=E,6520µm,0.8s
STON AML AML
comp=N,10400µm,1.0s
STON Ston 3.29 82 *e*Pn **Pn 10 26 16.1 -0.6**
STON *e*Sn **Sn 10 26 55.9 +0.1**
STON Ston 3.29 82 ⇑*i*Pn **Pn 10 26 15.8 -0.9**
BOJS Bojanci 3.32 25 AML AML
comp=N,23500µm,0.5s
BOJS AML AML
comp=E,52050µm,1.1s
BOJS AML AML
comp=N,23500µm,1.5s
BOJS AML AML
comp=E,52050µm,0.9s
BOJS Bojanci 3.32 25 *e*Pn **Pn 10 26 17.3 +0.2**
NOCI Noci 3.33 120 P **Pn 10 26 16.9 -0.4**
NOCI AML AML
comp=E,16300µm,0.7s
NOCI AML AML
comp=N,16350µm,0.9s
NOCI AML AML
comp=E,16300µm,1.3s
NOCI AML AML
comp=N,16350µm,1.1s
CEY Cerknica 3.34 14 *e*Pn **Pn 10 26 17.6 +0.2**
TREG Tregnago 3.37 334 P **Pn 10 26 18.4 +0.6**
TREG AML AML
comp=E,13150µm,0.6s
TREG AML AML
comp=N,16600µm,0.9s
TREG AML AML
comp=E,13150µm,1.4s
MGRS Mrkonjic Grad 3.37 54 *e*Pn **Pn 10 26 17.9 0.0**
AJAC Base Areonaval 3.39 262 P **Pn 10 26 18.4 +0.3**
AJAC Base Areonaval 3.39 262 P **Pn 10 26 18.4 +0.3**
SABO M.te Sabotino 3.48 4 Pn 10 26 17.6 -1.8
SABO M.te Sabotino 3.48 4 P **Pn 10 26 17.9 -1.5**
SABO AML AML
comp=E,91050µm,1.6s
SABO AML AML
comp=N,90500µm,1.1s
SABO AML AML
comp=N,22000µm,1.1s
SABO AML AML
comp=N,90500µm,0.9s
SABO AML AML
comp=N,22000µm,0.9s
SABO AML AML
comp=E,23850µm,1.6s
ROVR Rover Verones 3.51 334 P **Pn 10 26 20.1 +0.3**
ROVR AML AML
comp=E,9930µm,1.5s
ROVR AML AML
comp=E,3955µm,1.5s
ROVR AML AML
comp=E,3955µm,0.5s
ROVR AML AML
comp=N,12850µm,0.7s
ROVR AML AML
comp=N,5025µm,0.7s
ROVR AML AML
comp=E,9930µm,0.5s
PRIJ Prijedor 3.51 44 *e*Pn **Pn 10 26 22.6 +2.8**
GORR Gorreto 3.56 307 P **Pn 10 26 22.3 +1.7**
GORR AML AML
comp=N,7340µm,1.0s
GORR AML AML
comp=E,4950µm,0.9s
VARN Col Varnada, M 3.58 347 P **Pn 10 26 21.1 +0.3**
VARN AML AML
comp=E,20950µm,0.7s
VARN AML AML
comp=N,19700µm,1.0s
VARN AML AML
comp=E,20700µm,0.7s
VARN AML AML
comp=N,19350µm,1.0s
VARN AML AML
comp=E,20950µm,1.3s
VARN AML AML
comp=N,19350µm,1.0s
VARN AML AML
comp=N,19700µm,1.0s
VARN AML AML
comp=E,20700µm,1.3s
CET2 Cetraro 3.61 145 P **Pn 10 26 22.3 +1.1**
CET2 AML AML
comp=N,7630µm,0.8s
CET2 AML AML
comp=E,9590µm,1.0s
TAR1 Taranto 3.61 122 P **Pn 10 26 21.6 +0.5**
TAR1 AML AML
comp=N,18150µm,0.7s
TAR1 AML AML
comp=E,11300µm,0.7s
TAR1 AML AML
comp=N,18150µm,1.3s
BLY Banja Luka 3.62 51 *e*Pn **Pn 10 26 22.4 +1.1**
BLY Banja Luka 3.62 51 *e*Pn **Pn 10 26 22.3 +1.0**
A051A Mrakovica 3.64 45 *e*Pn **Pn 10 26 21.1 -0.5**
LJU Ljubljana 3.65 14 *i*Pn **Pn 10 26 22.1 +0.4**
LJU IAML 10 27 41.2
comp=Z,36µm,1.9s
LJU Ljubljana 3.65 14 AML AML
LJU AML AML
comp=N,80350µm,1.4s
LJU AML AML
comp=N,80350µm,0.6s
CRES Cresnjev 3.67 25 *e*Pn **Pn 10 26 22.0 0.0**
SALO Salr 3.68 329 Pn **Pn 10 26 22.3 +0.1**
SALO Salr 3.68 329 P **Pn 10 26 21.9 -0.2**
SALO AML AML
comp=E,16900µm,0.6s
SALO AML AML
comp=N,26650µm,1.3s
SALO AML AML
comp=E,15950µm,0.6s
SALO AML AML
comp=N,27600µm,1.3s
SALO AML AML
comp=E,15950µm,1.4s
SALO AML AML
comp=N,27600µm,0.7s
SALO AML AML
comp=N,26650µm,0.7s
SALO AML AML
comp=E,16900µm,1.4s

DOSS	**Dosso del Somm**	**3.69**	**337**	P	**Pn**	**10 26 22.5**	**+0.2**
DOSS				AML	AML		
	comp=E,12050µm,0.8s						
DOSS				AML	AML		
	comp=N,11650µm,0.8s						
DOSS				AML	AML		
	comp=E,11350µm,1.2s						
DOSS				AML	AML		
	comp=N,11500µm,1.3s						
CTI	**Castel Tesino**	**3.72**	**342**		**Pn**	**10 26 22.1**	**-0.7**
CTI	**Castel Tesino**	**3.72**	**342**	P	**Pn**	**10 26 22.8**	**+0.1**
CTI				AML	AML		
	comp=E,12250µm,0.5s						
CTI				AML	AML		
	comp=N,11325µm,0.5s						
CTI				AML	AML		
	comp=E,12250µm,1.5s						
CTI	**Castel Tesino**	**3.72**	**342**	P	**Pn**	**10 26 22.1**	**-0.7**
CADS	**Cadrg**	**3.73**	**5**	*i* Pn	**Pn**	**10 26 22.6**	**-0.3**
CADS				*e*Sn	**Sn**	**10 27 06.9**	**+0.2**
CADS				IAML		10 27 39.7	
	comp=Z,26µm,2.2s						
MPRI	**Monte Prat**	**3.74**	**357**	P	**Pn**	**10 26 22.3**	**-0.6**
MPRI				AML	AML		
	comp=E,13800µm,1.1s						
MPRI				AML	AML		
	comp=N,18550µm,0.5s						
MPRI				AML	AML		
	comp=N,23950µm,0.6s						
MPRI				AML	AML		
	comp=N,18550µm,1.5s						
MPRI				AML	AML		
	comp=N,23950µm,1.4s						
MPRI				AML	AML		
	comp=E,17900µm,1.1s						
ROBS	**Robic**	**3.74**	**3**	*e*Pn	**Pn**	**10 26 21.6**	**-1.3**
ROBS				*e*Sn	**Sn**	**10 27 05.9**	**-0.9**
TREB	**Trebinje**	**3.76**	**85**	*e*Pn	**Pn**	**10 26 23.2**	**0.0**
TREB				*e*Sn	**Sn**	**10 27 08.2**	**+0.8**
TREB	**Trebinje**	**3.76**	**85**	*e*Pn	**Pn**	**10 26 22.6**	**-0.6**
STAL	**STALIGIAL**	**3.77**	**354**	Pn	**Pn**	**10 26 22.3**	**-1.1**
STAL	**STALIGIAL**	**3.77**	**354**	P	**Pn**	**10 26 22.5**	**-0.8**
STAL				AML	AML		
	comp=E,13325µm,0.9s						
STAL				AML	AML		
	comp=N,11850µm,0.8s						
LUSI	**Trento, Gardas**	**3.83**	**335**	P	**Pn**	**10 26 24.0**	**-0.2**
LUSI				AML	AML		
	comp=N,13600µm,1.0s						
LUSI				AML	AML		
	comp=N,13600µm,1.0s						
LUSI				AML	AML		
	comp=E,11400µm,0.8s						
CIMO	**Cimolais**	**3.84**	**351**	Pn	**Pn**	**10 26 23.6**	**-0.7**
CIMO	**Cimolais**	**3.84**	**351**	P	**Pn**	**10 26 23.7**	**-0.7**
CIMO				AML	AML		
	comp=E,3570µm,0.9s						
CIMO				AML	AML		
	comp=N,4930µm,1.2s						
CIMO				AML	AML		
	comp=E,3545µm,0.9s						
CIMO				AML	AML		
	comp=N,4845µm,1.3s						
CIMO				AML	AML		
	comp=E,3570µm,1.1s						
CIMO				AML	AML		
	comp=N,4930µm,0.8s						
CIMO				AML	AML		
	comp=E,3545µm,1.1s						
CIMO				AML	AML		
	comp=N,4845µm,0.7s						
HCY	**Herceg Novi**	**3.87**	**89**	⇑*i* Pn	**Pn**	**10 26 24.3**	**-0.4**
HCY	**Herceg Novi**	**3.87**	**89**	*e*Pn	**Pn**	**10 26 24.4**	**-0.3**
HCY				*i* Sn	**Sn**	**10 27 10.0**	**-0.1**
AGOR	**Agordo**	**3.87**	**347**	P	**Pn**	**10 26 24.6**	**-0.1**
AGOR				AML	AML		
	comp=E,7570µm,1.1s						
AGOR				AML	AML		
	comp=N,5560µm,1.5s						
AGOR				AML	AML		
	comp=E,5910µm,1.1s						
AGOR				AML	AML		
	comp=N,4315µm,1.4s						
AGOR				AML	AML		
	comp=E,7570µm,0.9s						
AGOR				AML	AML		
	comp=E,5910µm,0.9s						
AGOR				AML	AML		
	comp=N,5560µm,0.5s						
AGOR				AML	AML		
	comp=N,4315µm,0.6s						
PTCC	**Patocco-Chiusa**	**3.90**	**1**	P	**Pn**	**10 26 24.6**	**-0.5**
PTCC				AML	AML		
	comp=E,6275µm,1.6s						
PTCC				AML	AML		
	comp=N,6750µm,1.0s						
PTCC				AML	AML		
	comp=E,6275µm,0.4s						
BRY	**Bratogost**	**3.91**	**82**	*e*Pn	**Pn**	**10 26 25.1**	**-0.3**
BRY	**Bratogost**	**3.91**	**82**	⇓*i* Pn	**Pn**	**10 26 25.2**	**-0.2**
BRY				*i* Sn	**Sn**	**10 27 11.0**	**-0.2**
GAGG	**Gaggia**	**3.94**	**336**	P	**Pn**	**10 26 25.6**	**-0.1**
GAGG				AML	AML		
	comp=E,17250µm,0.9s						
GAGG				AML	AML		
	comp=N,15250µm,0.9s						
GAGG				AML	AML		
	comp=E,15600µm,0.9s						
GAGG				AML	AML		
	comp=N,16500µm,0.9s						
PRED	**Cave del Predi**	**3.94**	**3**	Pn	**Pn**	**10 26 23.6**	**-2.1**
CLUD	**Cludinico**	**3.96**	**356**	Pn	**Pn**	**10 26 24.5**	**-1.5**
CLUD	**Cludinico**	**3.96**	**356**	P	**Pn**	**10 26 24.1**	**-1.8**
ZONE	**Zone**	**3.96**	**326**	P	**Pn**	**10 26 26.0**	**0.0**
SPS2	**Spezzano della**	**3.97**	**143**	P	**Pn**	**10 26 27.4**	**+1.3**
SPS2				AML	AML		
	comp=N,926µm,1.6s						
SPS2				AML	AML		
	comp=E,817µm,1.0s						
SPS2				AML	AML		
	comp=N,926µm,0.4s						
PCP	**Piancastagn**	**3.98**	**302**	P	**Pn**	**10 26 26.8**	**+0.5**
PCP				AML	AML		
	comp=N,1840µm,1.4s						
PCP				AML	AML		
	comp=N,1840µm,0.6s						
PCP				AML	AML		
	comp=E,1975µm,1.1s						
QLNO	**Quiliano**	**4.01**	**299**	P	**Pn**	**10 26 27.2**	**+0.5**
A052A	**Srbac**	**4.02**	**48**	*e*Pn	**Pn**	**10 26 26.2**	**-0.6**
ACOM	**Acomizza, Ital**	**4.04**	**2**	P	**Pn**	**10 26 27.1**	**-0.2**
ACOM				AML	AML		
	comp=N,9980µm,1.2s						
ACOM				AML	AML		
	comp=N,9655µm,1.2s						
ACOM				AML	AML		
	comp=E,19850µm,1.0s						
ACOM				AML	AML		
	comp=E,20150µm,0.9s						
ZOU	**Zoufplan**	**4.05**	**357**	P	**Pn**	**10 26 26.6**	**-0.8**
ZOU				AML	AML		
	comp=N,15800µm,1.3s						
ZOU				AML	AML		
	comp=N,16100µm,1.3s						
ZOU				AML	AML		
	comp=E,9500µm,1.1s						
ZOU				AML	AML		
	comp=E,9700µm,1.1s						
MABI	**Malga Bissina**	**4.06**	**332**	P	**Pn**	**10 26 27.3**	**-0.1**
MABI				AML	AML		
	comp=E,3665µm,0.8s						
MABI				AML	AML		
	comp=N,3955µm,0.4s						
FVI	**Forni Avoltri**	**4.10**	**355**	P	**Pn**	**10 26 27.4**	**-0.5**
FVI				AML	AML		
	comp=E,6665µm,1.4s						
FVI				AML	AML		
	comp=N,7605µm,0.7s						
FVI				AML	AML		
	comp=E,6665µm,0.6s						
OBKA	**Obir**	**4.10**	**13**	*e*Pn	**Pn**	**10 26 27.6**	**-0.4**
	comp=E,499nm,0.6s,SNR=8.4						
OBKA				*e*Sn	**Sn**	**10 27 17.7**	**+1.7**
	comp=E,2µm,0.5s						
OBKA	**Obir**	**4.10**	**13**	*e*Pn	**Pn**	**10 26 27.4**	**-0.6**
	SNR=8.8						
OBKA	**Obir**	**4.10**	**13**	*e*Pn	**Pn**	**10 26 26.7**	**-1.3**
OBKA	**Obir**	**4.10**	**13**	*e*Pn	**Pn**	**10 26 27.4**	**-0.6**
	SNR=8.8						
MYKA	**Terra Mystica**	**4.13**	**4**	*e*Pn	**Pn**	**10 26 27.9**	**-0.4**
	comp=E,332nm,0.4s,SNR=14						
MYKA				*e*Sn	**Sn**	**10 27 18.4**	**+1.8**
	comp=E,924nm,0.5s						
CEME	**Cevo**	**4.18**	**88**	⇑*i* Pn	**Pn**	**10 26 28.9**	**-0.1**
CEME				*i* Sn	**Sn**	**10 27 17.5**	**-0.3**
VSL	**Villasalto**	**4.21**	**226**	AML	AML		
	comp=N,1450µm,0.8s						
VSL				AML	AML		
	comp=E,1420µm,0.9s						
VSL				AML	AML		
	comp=E,1420µm,1.1s						
NKME	**Niksic**	**4.21**	**85**	*e*Pn	**Pn**	**10 26 29.3**	**-0.1**
NKME				*i* Sn	**Sn**	**10 27 18.3**	**-0.2**
APPI	**Appiano**	**4.23**	**341**	P	**Pn**	**10 26 30.0**	**+0.3**
APPI				AML	AML		
	comp=N,8195µm,1.1s						
APPI				AML	AML		
	comp=E,8935µm,0.4s						
TIP	**Timpagrande**	**4.25**	**140**	⇓P	**Pn**	**10 26 33.9**	**+3.9**
TIP	**Timpagrande**	**4.25**	**140**	Pn	**Pn**	**10 26 34.0**	**+3.9**
ABTA	**Abfaltersbach**	**4.27**	**353**	*i* Pn	**Pn**	**10 26 30.3**	**0.0**
	comp=E,1µm,0.5s,SNR=22						
ABTA				*e*Sn	**Sn**	**10 27 21.2**	**+1.1**
	comp=E,2µm,0.5s						
PERS	**Pernice**	**4.33**	**17**	*e*Pn	**Pn**	**10 26 30.8**	**-0.3**
PERS				IAML		10 28 06.6	
	comp=Z,23µm,2.5s						
SOKA	**Soboth**	**4.36**	**16**	*e*Pn	**Pn**	**10 26 31.1**	**-0.3**
	comp=Z,87nm,0.2s						
DRME	**Dracevica, Mon**	**4.40**	**92**	⇑*i* Pn	**Pn**	**10 26 32.0**	**0.0**
DRME	**Dracevica, Mon**	**4.40**	**92**	*e*Pn	**Pn**	**10 26 32.1**	**0.0**
DRME				*i* Sn	**Sn**	**10 27 23.0**	**-0.2**
SAOF	**Saorge**	**4.42**	**291**	P	**Pn**	**10 26 33.5**	**+1.2**
PDG	**Podgorica**	**4.43**	**89**	⇑P	**Pn**	**10 26 33.5**	**+1.1**
PDG				⇓S	**Sn**	**10 27 23.8**	**-0.1**
PDG	**Podgorica**	**4.43**	**89**	Pn	**Pn**	**10 26 32.4**	**0.0**
PDG	**Podgorica**	**4.43**	**89**	AML	AML		
	comp=N,11150µm,1.5s						
PDG				AML	AML		
	comp=E,9660µm,1.1s						
PDG				AML	AML		
	comp=N,14500µm,1.5s						
PDG				AML	AML		
	comp=N,14500µm,0.5s						
PDG				AML	AML		
	comp=E,7645µm,1.1s						
PDG				AML	AML		
	comp=N,11150µm,0.5s						
PDG	**Podgorica**	**4.43**	**89**	*e*Pn	**Pn**	**10 26 32.7**	**+0.3**
PDG				*e*Sn	**Sn**	**10 27 24.7**	**+0.7**
PDG	**Podgorica**	**4.43**	**89**	⇑*i* Pn	**Pn**	**10 26 32.6**	**+0.2**
PDG				*e*Sn	**Sn**	**10 27 23.8**	**-0.1**
HAPS	**Han Pijesak,Bl**	**4.44**	**67**	⇑*i* Pn	**Pn**	**10 26 32.1**	**-0.6**
SBF	**Sospel**	**4.47**	**290**	*e*P	**Pn**	**10 26 33.7**	**+0.7**
SBF				*e*Sn	**Sn**	**10 27 22.3**	**-2.6**
	comp=N,1µm,0.7s						
BRMO	**Bormio**	**4.47**	**333**	P	**Pn**	**10 26 33.9**	**+0.8**
ULC	**Ulcinj**	**4.48**	**95**	⇓*i* Pn	**Pn**	**10 26 33.1**	**0.0**
ULC				*i* Sn	**Sn**	**10 27 24.5**	**-0.5**
KOGS	**Kog**	**4.48**	**27**	AML	AML		
	comp=E,50400µm,1.5s						
KOGS				AML	AML		
	comp=E,50400µm,0.5s						
KOGS				AML	AML		
	comp=N,45400µm,0.8s						
ESCA	**l'Escarene**	**4.50**	**289**	P	**Pn**	**10 26 34.7**	**+1.3**
RISI	**Rein**	**4.52**	**350**	P	**Pn**	**10 26 34.3**	**+0.5**
RISI				AML	AML		
	comp=E,23250µm,0.4s						
RISI				AML	AML		
	comp=N,25450µm,0.5s						
TURF	**col de Turini**	**4.53**	**291**	P	**Pn**	**10 26 33.5**	**-0.4**
BERNI	**Berninapass**	**4.54**	**330**	P	**Pn**	**10 26 34.6**	**+0.5**
BERNI				AML	AML		
	comp=E,3545µm,1.1s						
BERNI				AML	AML		
	comp=E,3545µm,0.9s						
BERNI				AML	AML		
	comp=N,3815µm,1.6s						
MOSI	**Grossmontoni**	**4.54**	**336**	P	**Pn**	**10 26 35.5**	**+1.4**
MOSI				AML	AML		
	comp=E,15350µm,1.1s						
MOSI				AML	AML		
	comp=N,19750µm,0.7s						
MOSI				AML	AML		
	comp=E,15350µm,0.9s						
KBA	**Koelnbreinsper**	**4.57**	**1**	*e*Pn	**Pn**	**10 26 34.5**	**+0.1**
	comp=E,532nm,0.6s,SNR=11						
KBA				*e*Sn	**Sn**	**10 27 26.1**	**-1.5**
	comp=E,892nm,0.5s						
KBA	**Koelnbreinsper**	**4.57**	**1**	*e*Pn	**Pn**	**10 26 34.8**	**+0.4**
	SNR=5.7						
KBA				*e*Sn	**Sn**	**10 27 27.1**	**-0.5**
	SNR=3.9						
KBA	**Koelnbreinsper**	**4.57**	**1**	*e*Pn	**Pn**	**10 26 34.8**	**+0.4**
	SNR=5.7						
KBA				*e*Sn	**Sn**	**10 27 27.1**	**-0.5**
	SNR=3.9						
PLE	**Pljevlja**	**4.58**	**78**	*e*Pn	**Pn**	**10 26 35.2**	**+0.7**
PLE				*i* Sn	**Sn**	**10 27 27.1**	**-0.5**
ROSI	**Rosskopf**	**4.61**	**344**	P	**Pn**	**10 26 34.6**	**-0.5**
RUDO	**Rudo**	**4.61**	**74**	⇑*i* Pn	**Pn**	**10 26 35.0**	**+0.1**
EILF	**Villa Eilenroc**	**4.61**	**285**	P	**Pn**	**10 26 35.7**	**+0.8**
SCTE	**Santa Cesarea**	**4.62**	**120**	Pn	**Pn**	**10 26 35.7**	**+0.7**
SCTE	**Santa Cesarea**	**4.62**	**120**	P	**Pn**	**10 26 36.3**	**+1.4**
	baz=117						
SCTE				S	**Sn**	**10 27 30.7**	**+2.2**
	baz=117						
KOME	**Kolasin**	**4.62**	**84**	⇓*i* Pn	**Pn**	**10 26 34.9**	**-0.2**
KOME				*i* Sn	**Sn**	**10 27 28.1**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**4.63**	**334**	Pn	**Pn**	**10 26 36.4**	**+1.0**
SPIF	**crte de Spivo**	**4.66**	**291**	P	**Pn**	**10 26 39.1**	**+3.4**
MVIF	**Mont Vial**	**4.67**	**289**	P	**Pn**	**10 26 37.0**	**+1.1**
BBLS	**Lazići**	**4.69**	**71**	*e*Pn	**Pn**	**10 26 36.3**	**+0.2**
CEL	**Celeste**	**4.70**	**154**		**Pn**	**10 26 37.7**	**+1.5**
MNO	**Monte Soro**	**4.70**	**166**	AML	AML		
	comp=E,1136µm,1.0s						
MNO				AML	AML		
	comp=N,1530µm,0.8s						
PLAC	**Placanica**	**4.72**	**148**	P	**Pn**	**10 26 37.8**	**+1.3**
CALF	**Calern**	**4.80**	**287**	P	**Pn**	**10 26 37.9**	**+0.3**
ISO	**Isola**	**4.83**	**292**	P	**Pn**	**10 26 40.0**	**+2.1**
TUE	**Stuetta**	**4.85**	**326**	Pn	**Pn**	**10 26 39.1**	**+0.7**
FETA	**Feichten**	**4.86**	**339**	*e*Pn	**Pn**	**10 26 39.7**	**+1.2**
	comp=N,336nm,0.5s,SNR=20						
WTTA	**Wattenberg**	**4.89**	**347**	*e*Pn	**Pn**	**10 26 41.0**	**+2.1**
	comp=N,266nm,0.3s,SNR=8.3						
WTTA	**Wattenberg**	**4.89**	**347**	*e*Pn	**Pn**	**10 26 41.2**	**+2.3**
	SNR=11						
WTTA				*e*Sn	**Sn**	**10 27 40.4**	**+4.9**
	SNR=2.7						
WTTA	**Wattenberg**	**4.89**	**347**	P	**Pn**	**10 26 40.8**	**+1.9**
WTTA	**Wattenberg**	**4.89**	**347**	*e*Pn	**Pn**	**10 26 41.2**	**+2.3**
	SNR=11						
WTTA				*e*Sn	**Sn**	**10 27 40.4**	**+4.9**
	SNR=2.7						
IVA	**Berane**	**4.90**	**84**	⇑*i* Pn	**Pn**	**10 26 39.0**	**0.0**
IVA				*i* Sn	**Sn**	**10 27 35.1**	**-0.5**
DAVOX	**Davos/Dischmat**	**4.90**	**332**	Pn	**Pn**	**10 26 41.4**	**+2.3**
	comp=N,65nm,0.3s,baz=151,slow=17,SNR=35						
DAVOX				Sn	**Sn**	**10 27 34.2**	**-1.6**
	comp=N,63nm,0.3s,baz=166,slow=20,SNR=1.9						
BLJ	**Bijeljina**	**4.92**	**60**	*e*Pn	**Pn**	**10 26 37.6**	**-1.4**
SOI	**Samo**	**4.92**	**153**	P	**Pn**	**10 26 40.9**	**+1.8**
SQTA	**Sankt Quirin**	**4.93**	**344**		**Pn**	**10 26 41.0**	**+1.6**
SQTA					**Sn**	**10 27 38.7**	**+2.3**
SQTA	**Sankt Quirin**	**4.93**	**344**	*e*Pn	**Pn**	**10 26 41.0**	**+1.6**
	comp=N,338nm,0.3s,SNR=18						
SQTA				*e*Sn	**Sn**	**10 27 38.7**	**+2.3**
	comp=N,591nm,0.4s						
SQTA	**Sankt Quirin**	**4.93**	**344**	P	**Pn**	**10 26 41.0**	**+1.6**
SQTA						10 27 38.7	
PVY	**Plav**	**4.95**	**87**	⇑*i* Pn	**Pn**	**10 26 39.1**	**-0.5**
PVY				*i* Sn	**Sn**	**10 27 35.8**	**-1.0**
WATA	**Walderalm**	**4.97**	**347**		**Pn**	**10 26 41.2**	**+1.3**
WATA	**Walderalm**	**4.97**	**347**	*e*Pn	**Pn**	**10 26 41.2**	**+1.3**
	comp=N,225nm,0.5s,SNR=18						
WATA	**Walderalm**	**4.97**	**347**	P	**Pn**	**10 26 41.2**	**+1.3**
SJES	**Sjenica**	**4.99**	**79**	*e*Pn	**Pn**	**10 26 40.9**	**+0.7**
SJES				*e*Sn	**Sn**	**10 27 39.3**	**+1.5**
TEKS	**Tekeris**	**4.99**	**64**	*e*Pn	**Pn**	**10 26 38.7**	**-1.4**
TEKS	**Tekeris**	**4.99**	**64**	*e*Pn	**Pn**	**10 26 38.4**	**-1.7**
ENAUX	**Enaux**	**5.00**	**291**	P	**Pn**	**10 26 42.1**	**+1.8**
ARSA	**Arzberg**	**5.01**	**18**	*e*Pn	**Pn**	**10 26 39.1**	**-1.2**
	comp=N,114nm,0.4s,SNR=11						
ARSA				*e*Sn	**Sn**	**10 27 37.1**	**-1.0**
	comp=N,138nm,0.3s						
ARSA	**Arzberg**	**5.01**	**18**	*e*Pn	**Pn**	**10 26 39.3**	**-1.0**
	SNR=7.5						
ARSA				*e*Sn	**Sn**	**10 27 37.2**	**-0.8**
	SNR=3.5						
ARSA	**Arzberg**	**5.01**	**18**	P	**Pn**	**10 26 39.1**	**-1.2**
ARSA	**Arzberg**	**5.01**	**18**	*e*Pn	**Pn**	**10 26 39.3**	**-1.0**
	SNR=7.5						
ARSA				*e*Sn	**Sn**	**10 27 37.2**	**-0.8**
	SNR=3.5						
LMR	**La Mourre**	**5.03**	**282**	*e*P	**Pn**	**10 26 40.6**	**0.0**
LMR				*e*Sn	**Sn**	**10 27 34.7**	**-3.8**
	comp=N,371nm,0.9s						
BCI	**Bajram Curri**	**5.04**	**89**	P	**Pn**	**10 26 41.8**	**+1.0**
	baz=87						
BCI				S	**Sn**	**10 27 42.0**	**+3.1**
	baz=87						
BCI				AMP			
	comp=N,39nm,1.1s,baz=87						
TIR	**Tirane**	**5.06**	**101**	⇓P	**Pn**	**10 26 41.5**	**+0.4**
TIR	**Tirane**	**5.06**	**101**	Pn	**Pn**	**10 26 41.4**	**+0.4**
TIR	**Tirane**	**5.06**	**101**	P	**Pn**	**10 26 40.9**	**-0.2**
TIR	**Tirane**	**5.06**	**101**	P	**Pn**	**10 26 37.5**	**-3.5**
	baz=98						
TIR				S	Sg	10 28 28.5	+21
	baz=98						
TIR	**Tirane**	**5.06**	**101**	P	**Pn**	**10 26 41.4**	**+0.4**
TIR	**Tirane**	**5.06**	**101**	*e*Pn	**Pn**	**10 26 41.1**	**0.0**
TIR				*e*Sn	**Sn**	**10 27 38.3**	**-1.1**
MOTA	**Moosalm**	**5.07**	**343**		**Pn**	**10 26 43.5**	**+2.1**
MOTA					**Sn**	**10 27 42.2**	**+2.3**
MOTA	**Moosalm**	**5.07**	**343**	*e*Pn	**Pn**	**10 26 43.5**	**+2.1**
	comp=N,460nm,0.6s,SNR=32						
MOTA				*e*Sn	**Sn**	**10 27 42.2**	**+2.3**
	comp=N,968nm,0.5s						
SURF	**Saint Ours**	**5.09**	**295**	P	**Pn**	**10 26 43.3**	**+1.7**
VAE	**Valguarnera**	**5.10**	**170**	Pn	Pn	10 26 47.3	+5.6
	comp=N,2.3nm,0.3s,baz=170,slow=2.9,SNR=15						
VLO	**Vlora**	**5.11**	**111**		**Pn**	**10 26 42.4**	**+0.7**
VLO	**Vlora**	**5.11**	**111**	P	**Pn**	**10 26 44.5**	**+2.8**
VLO	**Vlora**	**5.11**	**111**	P	**Pn**	**10 26 42.4**	**+0.7**
JAUF	**Jausiers**	**5.11**	**294**	P	**Pn**	**10 26 44.5**	**+2.6**
FUSIO	**Fusio**	**5.13**	**322**	P	**Pn**	**10 26 44.6**	**+2.4**
DIVS	**Divibare**	**5.16**	**70**	Pn	**Pn**	**10 26 41.7**	**-0.8**
DIVS	**Divibare**	**5.16**	**70**	*e*Pn	**Pn**	**10 26 42.2**	**-0.3**
DIVS				*e*Sn	**Sn**	**10 27 43.1**	**+1.1**
DIVS	**Divibare**	**5.16**	**70**	*e*Pn	**Pn**	**10 26 41.9**	**-0.6**
IVAS	**Ivanjica**	**5.16**	**76**	*e*Pn	**Pn**	**10 26 42.5**	**0.0**
IVAS				*e*Sn	**Sn**	**10 27 40.5**	**-1.5**
TRIGF	**Trigance**	**5.17**	**286**	P	**Pn**	**10 26 43.6**	**+1.0**
BIOA	**Bad Ischl, Aus**	**5.19**	**3**		**Pn**	**10 26 43.7**	**+0.9**
BIOA					**Sn**	**10 27 43.6**	**+1.0**
BIOA	**Bad Ischl, Aus**	**5.19**	**3**	*e*Pn	**Pn**	**10 26 43.7**	**+0.9**
	comp=N,228nm,0.3s,SNR=16						
BIOA				*e*Sn	**Sn**	**10 27 43.6**	**+1.0**
	comp=N,1µm,0.4s						
MBDF	**Montbardon**	**5.21**	**297**	*e*P	**Pn**	**10 26 44.7**	**+1.5**
MBDF				*e*Sn	**Sn**	**10 27 39.6**	**-3.6**
	comp=N,2µm,1.1s						
FLAF	**Flassans-sur-I**	**5.22**	**282**	P	**Pn**	**10 26 43.9**	**+0.7**
CREF	**Crivoux**	**5.24**	**295**	P	**Pn**	**10 26 47.6**	**+3.9**
OGAG	**Argentiere**	**5.26**	**294**	P	Pn	10 26 49.5	+5.6
RETA	**Reutte**	**5.28**	**341**	*e*Pn	**Pn**	**10 26 46.7**	**+2.6**
	comp=N,385nm,0.6s,SNR=15						
RETA				*e*Sn	**Sn**	**10 27 47.4**	**+2.4**
	comp=N,1µm,0.6s						
LSD	**Lago del Serru**	**5.31**	**306**	P	**Pn**	**10 26 44.9**	**+0.1**
PLONS	**Plons/SG**	**5.31**	**330**	*e*Pn	**Pn**	**10 26 47.2**	**+2.6**
	SNR=12						
PLONS				*e*Sn	**Sn**	**10 27 50.1**	**+4.3**
	SNR=5.3						
PLONS	**Plons/SG**	**5.31**	**330**	P	**Pn**	**10 26 47.2**	**+2.6**
PLONS	**Plons/SG**	**5.31**	**330**	*e*Pn	**Pn**	**10 26 47.2**	**+2.6**
	SNR=12						
PLONS				*e*Sn	**Sn**	**10 27 50.1**	**+4.3**
	SNR=5.3						
OGDI	**Digne**	**5.33**	**290**	P	**Pn**	**10 26 47.9**	**+3.1**
DAVA	**Damuels**	**5.35**	**334**	*e*Pn	**Pn**	**10 26 47.4**	**+2.3**
	comp=N,452nm,0.5s,SNR=26						
DAVA				*e*Sn	**Sn**	**10 27 49.1**	**+2.4**
	comp=N,669nm,0.4s						
DAVA	**Damuels**	**5.35**	**334**	*e*Pn	**Pn**	**10 26 47.7**	**+2.6**
	SNR=27						
DAVA				*e*Sn	**Sn**	**10 27 52.6**	**+5.9**
	SNR=3.1						
DAVA	**Damuels**	**5.35**	**334**	*e*Pn	**Pn**	**10 26 47.7**	**+2.6**
	SNR=27						
DAVA				*e*Sn	**Sn**	**10 27 52.6**	**+5.9**
	SNR=3.1						
MORH	**Mrgy, Hungar**	**5.35**	**44**	⇓P	**Pn**	**10 26 45.0**	**0.0**
MORH	**Mrgy, Hungar**	**5.35**	**44**	*e*Pn	**Pn**	**10 26 45.0**	**0.0**
EMBD	**Embd, Matterta**	**5.37**	**315**	P	Pn	10 26 50.3	+4.8
MOA	**Molln**	**5.39**	**7**	*e*Pn	**Pn**	**10 26 46.2**	**+0.7**
	comp=N,151nm,0.5s,SNR=13						
MOA				*e*Sn	**Sn**	**10 27 48.2**	**+0.7**
	comp=N,675nm,0.5s						
MOA	**Molln**	**5.39**	**7**	*e*Pn	**Pn**	**10 26 46.4**	**+0.8**
	SNR=10						
MOA	**Molln**	**5.39**	**7**	*e*Pn	**Pn**	**10 26 46.3**	**+0.7**
MOA				*e*Sn	**Sn**	**10 27 48.6**	**+1.1**
MOA	**Molln**	**5.39**	**7**	*e*Pn	**Pn**	**10 26 46.4**	**+0.8**
	SNR=10						
BNI	**Bardonecchia**	**5.40**	**300**		**Pn**	**10 26 47.3**	**+1.4**
BNI	**Bardonecchia**	**5.40**	**300**	P	**Pn**	**10 26 47.3**	**+1.4**
FRGS	**Fruska Gora**	**5.43**	**59**	⇑P	**Pn**	**10 26 46.7**	**+0.6**
FRGS	**Fruska Gora**	**5.43**	**59**	*e*Pn	**Pn**	**10 26 46.7**	**+0.6**
FRGS	**Fruska Gora**	**5.43**	**59**	*e*Pn	**Pn**	**10 26 45.5**	**-0.6**
BLAF	**les Blancs**	**5.46**	**288**	P	**Pn**	**10 26 47.7**	**+1.1**
OGMO	**Fort Saint-Gob**	**5.47**	**302**	P	**Pn**	**10 26 50.0**	**+3.3**
TRUS	**Trudelj**	**5.48**	**69**	*e*Pn	**Pn**	**10 26 46.4**	**-0.5**
TRUS				*e*Sn	**Sn**	**10 27 49.1**	**-0.7**
ARTF	**Artigues**	**5.57**	**284**	P	**Pn**	**10 26 48.8**	**+0.8**
LPL	**La Plagne**	**5.58**	**305**	*e*P	**Pn**	**10 26 49.7**	**+1.2**
LPL				*e*Sn	**S

SELS	**Selova**	**5.82**	**80**	*e*Pn		**Pn**	**10 26 51.3**	**-0.2**
SELS				*e*Sn		**Sn**	**10 27 58.1**	**0.0**
GDM	**Grand'Maison**	**5.83**	**300**	P		**Pn**	**10 26 55.1**	**+3.4**
FUR	**Furstenfeldbru**	**5.83**	**347**	*e*Pn		**Pn**	**10 26 53.6**	**+2.0**
	SNR=10							
FUR	**Furstenfeldbru**	**5.83**	**347**	*e*Pn		**Pn**	**10 26 53.6**	**+2.0**
	SNR=10							
RUSF	**Rustrel**	**5.86**	**287**	P		**Pn**	**10 26 54.1**	**+2.1**
ORIF	**Oris-en-Rattie**	**5.87**	**297**	*e*P		**Pn**	**10 26 54.5**	**+2.3**
ORIF				*e*Sn		**Sn**	**10 27 56.8**	**-2.6**
	comp=N,1µm,1.0s							
ORIF	**Oris-en-Rattie**	**5.87**	**297**	P		**Pn**	**10 26 55.3**	**+3.1**
OGSI	**Sixt**	**5.87**	**310**	P		**Pn**	**10 26 54.1**	**+1.9**
ZUR	**Degenried**	**5.88**	**327**	P		**Pn**	**10 26 54.5**	**+2.0**
ARBF	**Arbois**	**5.90**	**282**	P		**Pn**	**10 26 54.1**	**+1.6**
KBN	**Korca**	**5.95**	**106**			**Pn**	**10 26 53.7**	**+0.3**
KBN	**Korca**	**5.95**	**106**	P		**Pn**	**10 26 55.4**	**+2.0**
KBN	**Korca**	**5.95**	**106**	P		**Pn**	**10 26 57.2**	**+3.9**
	baz=104							
KBN				S		**Sn**	**10 28 02.8**	**+1.3**
	baz=104							
KBN	**Korca**	**5.95**	**106**	P		**Pn**	**10 26 53.7**	**+0.3**
LSK	**Leskovik**	**6.01**	**111**	P		**Pn**	**10 26 53.3**	**-0.8**
LSK	**Leskovik**	**6.01**	**111**	P		**Pn**	**10 26 55.1**	**+1.0**
	baz=108							
LSK				S		**Sn**	**10 28 02.8**	**-0.1**
	baz=108							
SVIS	**Svilajnac**	**6.06**	**70**	*e*Pn		**Pn**	**10 26 54.8**	**+0.1**
SVIS				*e*Sn		**Sn**	**10 28 02.1**	**-1.8**
SKO	**Skopje**	**6.09**	**92**	*e*Pn		**Pn**	**10 26 55.5**	**+0.2**
SKO				*e*Sn		**Sn**	**10 28 03.6**	**-1.3**
SKO	**Skopje**	**6.09**	**92**	*i* Pn		**Pn**	**10 26 55.5**	**+0.2**
SKO				*i* Sn		**Sn**	**10 28 06.0**	**+1.1**
IGT	**Igoumenitsa**	**6.12**	**117**	P		**Pn**	**10 26 56.0**	**+0.4**
SAUF	**chteau de Sau**	**6.13**	**286**	P		**Pn**	**10 26 57.3**	**+1.7**
TORNY	**Torny/Romont**	**6.20**	**316**	P		**Pn**	**10 26 58.6**	**+1.9**
SULZ	**Cheisacher**	**6.20**	**326**	*e*Sn		**Sn**	**10 28 08.6**	**+1.0**
	SNR=4.1							
SULZ	**Cheisacher**	**6.20**	**326**	P		**Pn**	**10 26 56.4**	**-0.4**
SULZ	**Cheisacher**	**6.20**	**326**	*e*Sn		**Sn**	**10 28 08.6**	**+1.0**
	SNR=4.1							
NEST	**Nestorio**	**6.21**	**107**	P		**Pn**	**10 26 58.1**	**+1.1**
BALST	**Balsthal**	**6.24**	**323**	*e*Sn		**Sn**	**10 28 10.0**	**+1.6**
	SNR=6.5							
BALST	**Balsthal**	**6.24**	**323**	P		**Pn**	**10 26 57.2**	**-0.1**
BALST	**Balsthal**	**6.24**	**323**	*e*Sn		**Sn**	**10 28 10.0**	**+1.6**
	SNR=6.5							
SLE	**Schleitheim**	**6.24**	**329**	*e*Pn		**Pn**	**10 26 57.8**	**+0.5**
	SNR=18							
SLE				*e*Sn		**Sn**	**10 28 09.7**	**+1.2**
	SNR=3.3							
SLE	**Schleitheim**	**6.24**	**329**	P		**Pn**	**10 26 57.3**	**0.0**
SLE	**Schleitheim**	**6.24**	**329**	*e*Pn		**Pn**	**10 26 57.8**	**+0.5**
	SNR=18							
SLE				*e*Sn		**Sn**	**10 28 09.7**	**+1.2**
	SNR=3.3							
OGSM	**Saint Maurice**	**6.27**	**302**	P		**Pn**	**10 27 00.2**	**+2.5**
BOVS	**Bovan**	**6.29**	**77**	*e*Pn		**Pn**	**10 26 56.9**	**-1.0**
BOVS				*e*Sn		**Sn**	**10 28 06.5**	**-3.1**
ZST	**Bratislava**	**6.30**	**24**	*e*P		**Pn**	**10 26 56.3**	**-1.7**
ZST				*e*			10 28 10.9	
ZST	**Bratislava**	**6.30**	**24**	*e*PN		**Pn**	**10 26 56.3**	**-1.7**
ZST				*e*SN		**Sn**	**10 28 10.9**	**+1.1**
BARS	**Barje**	**6.32**	**84**	*e*Pn		**Pn**	**10 26 58.6**	**+0.3**
BARS				*e*Sn		**Sn**	**10 28 09.4**	**-0.9**
FNA	**Florina**	**6.32**	**103**	Pn		**Pn**	**10 26 58.5**	**+0.1**
FNA	**Florina**	**6.32**	**103**	P		**Pn**	**10 26 57.7**	**-0.7**
FNA	**Florina**	**6.32**	**103**	P		**Pn**	**10 26 58.5**	**+0.1**
FNA	**Florina**	**6.32**	**103**	*e*Pn		**Pn**	**10 26 59.6**	**+1.2**
FNA				*e*Sn		**Sn**	**10 28 07.9**	**-2.6**
GEC2	**GERESS Array S**	**6.34**	**3**			**Pn**	**10 26 57.5**	**-1.3**
GEC2	**GERESS Array S**	**6.34**	**3**	*e*Pn		**Pn**	**10 26 57.5**	**-1.3**
	SNR=15							
GEC2				*e*Sn		**Sn**	**10 28 10.6**	**-0.5**
	SNR=3.0							
GEC2	**GERESS Array S**	**6.34**	**3**	*e*Pn		**Pn**	**10 26 57.5**	**-1.3**
	SNR=15							
GEC2				*e*Sn		**Sn**	**10 28 10.6**	**-0.5**
	SNR=3.0							
GERES	**GERESS Array B**	**6.34**	**3**	Pn		**Pn**	**10 26 57.5**	**-1.3**
	comp=N,19nm,0.3s,baz=172,slow=12,SNR=33							
GERES				Sn		**Sn**	**10 28 09.2**	**-1.9**
	comp=N,96nm,0.3s,baz=171,slow=25,SNR=10							
GERES				Lg		Lg	10 28 42.0	
	baz=182,slow=29							
GERES				LR		LR	10 29 53.3	
	comp=N,9µm,21.2s,baz=187,slow=43							
	comp=N,88nm,0.7s							
GERES	**GERESS Array B**	**6.34**	**3**			**Pn**	**10 26 57.6**	**-1.1**
CKRC	**Cesky Krumlov**	**6.35**	**6**	*e*PN		**Pn**	**10 26 57.6**	**-1.2**
CKRC				*e*SN		**Sn**	**10 28 09.1**	**-2.2**
PENT	**Pentalofos**	**6.36**	**109**	P		**Pn**	**10 27 00.1**	**+1.1**
BANR	**Banloc**	**6.37**	**61**	⇓P		**Pn**	**10 26 58.8**	**+0.9**
KUBS	**Kucevo**	**6.41**	**70**	*e*Pn		**Pn**	**10 26 58.1**	**-1.5**
KUBS				*e*Sn		**Sn**	**10 28 12.2**	**-0.5**
GIMEL	**St. Georges /**	**6.42**	**311**	P		**Pn**	**10 27 00.6**	**+0.9**
BOURR	**Bourrignon**	**6.49**	**321**	P		**Pn**	**10 27 01.5**	**+0.7**
MODS	**Modra-Piesok**	**6.51**	**24**	*e*P		**Pn**	**10 26 59.5**	**-1.4**
MODS				*e*			10 28 19.3	
MODS				MLR		MLR		
	comp=Z,55µm,17.8s							
MODS	**Modra-Piesok**	**6.51**	**24**	*e*PN		**Pn**	**10 26 59.5**	**-1.4**
MODS				*e*SN		**Sn**	**10 28 19.3**	**+4.2**
MODS				*e*SG		**Sg**	**10 28 53.4**	**-0.8**
MODS				*e*L		L	10 29 45.0	
PRVS	**Prvonek**	**6.51**	**87**	*e*Pn		**Pn**	**10 27 01.2**	**+0.1**
PRVS				*e*Sn		**Sn**	**10 28 15.2**	**-0.1**
FELD	**Feldberg im Sc**	**6.53**	**327**	P		**Pn**	**10 27 01.7**	**+0.4**
MDVR	**Moldovita**	**6.54**	**67**	⇑P		**Pn**	**10 27 01.2**	**-0.2**
OG35	**Corcelles**	**6.55**	**305**	P		**Pn**	**10 27 02.5**	**+0.9**
BRANT	**Les Verrieres**	**6.55**	**315**	P		**Pn**	**10 27 03.3**	**+1.7**
CABF	**La Chapelle**	**6.56**	**311**	*e*P		**Pn**	**10 27 03.7**	**+2.0**
CABF				*e*Sn		**Sn**	**10 28 13.1**	**-3.4**
	comp=Z,4µm,1.5s							
KPRO	**Kipourio**	**6.62**	**110**	P		**Pn**	**10 27 04.2**	**+1.7**
KIZ	**Kirchzarten**	**6.62**	**327**	P		**Pn**	**10 27 01.0**	**-1.5**
KHC	**Kasperske Hory**	**6.63**	**2**	Pn		**Pn**	**10 27 01.1**	**-1.5**
KHC	**Kasperske Hory**	**6.63**	**2**	*e*PN		**Pn**	**10 27 01.1**	**-1.5**
KHC				*e*SN		**Sn**	**10 28 16.6**	**-1.4**
KHC				AMS		AMS	10 29 50.0	
	comp=Z,23µm,16.0s							
KHC	**Kasperske Hory**	**6.63**	**2**	*c i*P		**Pn**	**10 27 01.8**	**-0.8**
VIVF	**Saint-Julien-l**	**6.65**	**294**	*e*P		**Pn**	**10 27 04.9**	**+1.9**
VIVF				*e*Sn		**Sn**	**10 28 13.2**	**-5.5**
	comp=Z,542nm,1.2s							
CHMF	**Charmoille**	**6.67**	**318**	P		**Pn**	**10 27 03.1**	**-0.1**
SMOL	**Smolenice**	**6.68**	**25**	*e*P		**Pn**	**10 27 02.1**	**-1.2**
SMOL				*e*			10 28 19.5	
ZAGS	**Zajecar**	**6.69**	**76**	*e*Pn		**Pn**	**10 27 02.9**	**-0.5**
ZAGS				*e*Sn		**Sn**	**10 28 16.4**	**-3.1**
TSLK	**Tsoukalades, L**	**6.72**	**121**	P		**Pn**	**10 27 05.1**	**+1.3**
LKD2	**Lefkada island**	**6.74**	**121**	P		**Pn**	**10 27 03.9**	**-0.3**
RIVEL	**MONT RIVEL**	**6.74**	**312**	P		**Pn**	**10 27 04.1**	**-0.1**
DRAG	**Dragano-Lefkad**	**6.75**	**122**	P		**Pn**	**10 27 04.8**	**+0.5**
KZN	**Kozani**	**6.77**	**106**	P		**Pn**	**10 27 05.3**	**+0.7**
BZS	**Buzias**	**6.77**	**60**	⇓P		**Pn**	**10 27 04.5**	**-0.1**
BZS	**Buzias**	**6.77**	**60**	*e*Pn		**Pn**	**10 27 03.8**	**-0.8**
BFO	**Black Forest**	**6.78**	**331**	Pn		**Pn**	**10 27 04.7**	**+0.1**
BFO	**Black Forest**	**6.78**	**331**	*e*Pn		**Pn**	**10 27 04.9**	**+0.3**
	SNR=18							
BFO				*e*Sn		**Sn**	**10 28 21.5**	**-0.1**
BFO	**Black Forest**	**6.78**	**331**	P		**Pn**	**10 27 04.7**	**+0.1**
BFO	**Black Forest**	**6.78**	**331**	P		**Pn**	**10 27 05.3**	**+0.7**
BFO				S		**Sn**	**10 28 22.1**	**+0.5**
BFO	**Black Forest**	**6.78**	**331**	*e*Pn		**Pn**	**10 27 04.9**	**+0.3**
	SNR=18							
BFO				*e*Sn		**Sn**	**10 28 21.5**	**-0.1**
NYDR	**Nydri-Lefkada**	**6.81**	**121**	P		**Pn**	**10 27 05.2**	**+0.1**
VOGT	**Vogtsburg - To**	**6.82**	**327**	P		**Pn**	**10 27 04.9**	**-0.4**
EVGI	**Lefkada island**	**6.84**	**122**	P		**Pn**	**10 27 06.8**	**+1.3**
FSK	**Fiskardo**	**6.88**	**124**	P		**Pn**	**10 27 06.5**	**+0.5**
SSB	**Saint Sauveur**	**6.88**	**297**	Pn		**Pn**	**10 27 07.3**	**+1.2**
SSB	**Saint Sauveur**	**6.88**	**297**	P		**Pn**	**10 27 07.3**	**+1.2**
SSB	**Saint Sauveur**	**6.88**	**297**	P		**Pn**	**10 27 07.3**	**+1.2**
STU	**Stuttgart**	**6.88**	**337**			**Pn**	**10 27 06.2**	**+0.2**
STU	**Stuttgart**	**6.88**	**337**	P		**Pn**	**10 27 06.2**	**+0.2**
DMLN	**Damoulianata-K**	**6.90**	**126**	P		**Pn**	**10 27 07.4**	**+1.0**
KRUC	**Moravsky**	**6.91**	**17**	*e*PN		**Pn**	**10 27 05.2**	**-1.2**
KRUC				*e*SN		**Sn**	**10 28 21.5**	**-3.4**
KEF3	**Kipouria, Keph**	**6.91**	**126**	P		**Pn**	**10 27 08.5**	**+2.0**
KEF4	**Livadi, Kephal**	**6.92**	**125**	P		**Pn**	**10 27 07.3**	**+0.7**
ZAPS	**Zavoj**	**6.93**	**81**	*e*Pn		**Pn**	**10 27 07.3**	**+0.6**
ZAPS				*e*Sn		**Sn**	**10 28 24.0**	**-1.4**
TREC	**Trest**	**6.96**	**12**	*e*PN		**Pn**	**10 27 05.6**	**-1.6**
TREC				*e*SN		**Sn**	**10 28 23.7**	**-2.5**
TREC				AMS		AMS	10 29 20.0	
	comp=Z,47µm,5.5s							
TREC	**Trest**	**6.96**	**12**	*e*P		**Pn**	**10 27 05.6**	**-1.6**
TREC				*e*			10 28 23.7	
TREC				MLR		MLR		
	comp=Z,47µm,5.5s							
HINF	**Hinteralfeld**	**6.97**	**322**	*e*Pn		**Pn**	**10 27 05.3**	**-2.1**
HINF				*e*Sn		**Sn**	**10 28 19.6**	**-7.0**
	comp=Z,2µm,0.9s							
RONF	**Ronchamp**	**6.99**	**320**	P		**Pn**	**10 27 07.1**	**-0.5**
GRG	**Griva**	**7.01**	**100**	P		**Pn**	**10 27 06.8**	**-1.1**
LASF	**Ste Croix**	**7.04**	**286**	*e*P		**Pn**	**10 27 09.1**	**+0.9**
LASF				*e*Sn		**Sn**	**10 28 23.6**	**-4.5**
	comp=Z,438nm,1.3s							
VAY	**Valandovo**	**7.04**	**97**	*e*Pn		**Pn**	**10 27 07.8**	**-0.5**
VAY				*e*Sn		**Sn**	**10 28 24.3**	**-4.0**
VAY	**Valandovo**	**7.04**	**97**	*i* Pn		**Pn**	**10 27 08.0**	**-0.3**
VAY				*i* Sn		**Sn**	**10 28 24.9**	**-3.4**
HERR	**Herculane**	**7.05**	**67**	⇑P		**Pn**	**10 27 08.4**	**+0.1**
DJES	**Djerdap**	**7.06**	**69**	⇓P		**Pn**	**10 27 08.5**	**-0.1**
DJES	**Djerdap**	**7.06**	**69**			**Pn**	**10 27 08.0**	**-0.5**
DJES	**Djerdap**	**7.06**	**69**	*e*Pn		**Pn**	**10 27 08.4**	**-0.1**
DJES				*e*Sn		**Sn**	**10 28 27.4**	**-1.3**
JAVC	**Velka Javorina**	**7.06**	**24**	*e*PN		**Pn**	**10 27 07.7**	**-0.8**
VLS	**Valsamata**	**7.07**	**125**	P		**Pn**	**10 27 08.5**	**-0.2**
PSDA	**Pessada-Kefalo**	**7.11**	**126**	P		**Pn**	**10 27 09.9**	**+0.7**
ECH	**Echery**	**7.14**	**325**			**Pn**	**10 27 10.1**	**+0.5**
ECH	**Echery**	**7.14**	**325**	P		**Pn**	**10 27 10.1**	**+0.5**
ECH	**Echery**	**7.14**	**325**	P		**Pn**	**10 27 08.9**	**-0.8**
ECH	**Echery**	**7.14**	**325**	P		**Pn**	**10 27 09.5**	**-0.1**
VYHS	**Vyhne**	**7.15**	**31**	*e*P		**Pn**	**10 27 09.6**	**-0.2**
VYHS				*e*			10 28 31.5	
VYHS				MLR		MLR		
	comp=Z,29µm,13.3s							
VYHS	**Vyhne**	**7.15**	**31**	*e*PN		**Pn**	**10 27 09.6**	**-0.2**
VYHS				*e*SN		**Sn**	**10 28 31.5**	**+0.6**
VYHS				*e*L		L	10 30 18.1	
PSZ	**Piszkesteto**	**7.15**	**39**	⇑P		**Pn**	**10 27 10.3**	**+0.5**
PSZ	**Piszkesteto**	**7.15**	**39**			**Pn**	**10 27 09.3**	**-0.6**
PSZ	**Piszkesteto**	**7.15**	**39**	P		**Pn**	**10 27 09.3**	**-0.6**
RMGR	**Halanga-Turnu**	**7.18**	**69**	⇑P		**Pn**	**10 27 11.5**	**+1.4**
VRAC	**Vranov**	**7.18**	**18**	Pn		**Pn**	**10 27 09.5**	**-0.7**
	comp=Z,6.5nm,0.3s,baz=201,slow=12,SNR=23							
VRAC				Sn		**Sn**	**10 28 28.5**	**-3.2**
	comp=Z,12nm,0.3s,baz=280,slow=17,SNR=2.2							
VRAC				Lg		Lg	10 29 11.6	
	comp=Z,4.9nm,0.3s,baz=319,slow=19,SNR=2.1							
VRAC				LR		LR	10 30 12.3	
	comp=Z,16µm,19.5s,baz=210,slow=40							
	comp=Z,75nm,0.7s							
VRAC	**Vranov**	**7.18**	**18**	⇓P		**Pn**	**10 27 10.5**	**+0.3**
VRAC	**Vranov**	**7.18**	**18**	*e*PN		**Pn**	**10 27 08.8**	**-1.4**
VRAC				*e*SN		**Sn**	**10 28 27.5**	**-4.2**
WLS	**Welschbruch**	**7.22**	**327**	P		**Pn**	**10 27 10.2**	**-0.5**
WLS				S		**Sn**	**10 28 31.9**	**-0.7**
THL	**Klokotos Trika**	**7.24**	**111**	P		**Pn**	**10 27 11.7**	**+0.7**
CDF	**Champ du Feu**	**7.25**	**327**	*e*P		**Pn**	**10 27 10.1**	**-1.0**
CDF				*e*Sn		**Sn**	**10 28 26.9**	**-6.4**
	comp=Z,3µm,1.1s							
PUNG	**Punghina**	**7.26**	**73**	⇑P		**Pn**	**10 27 11.8**	**+0.6**
MAHO	**Mahon**	**7.27**	**252**	Pn		**Pn**	**10 27 12.5**	**+1.2**
MAHO	**Mahon**	**7.27**	**252**	S		**Sn**	**10 28 30.7**	**-4.8**
MAHO				P		**Pn**	**10 27 12.6**	**+1.2**
ROTZ	**Rotzenmuhle**	**7.30**	**355**	*e*Pn		**Pn**	**10 27 10.9**	**-0.8**
	SNR=10							
ROTZ	**Rotzenmuhle**	**7.30**	**355**	*e*Pn		**Pn**	**10 27 10.9**	**-0.8**
	SNR=10							
GRFO	**Grafenberg**	**7.32**	**350**	Pn		**Pn**	**10 27 11.5**	**-0.6**
GRFO	**Grafenberg**	**7.32**	**350**	P		**Pn**	**10 27 11.5**	**-0.6**
GRA1	**Grafenberg Arr**	**7.32**	**350**			**Pn**	**10 27 11.3**	**-0.7**
GRF	**Grafenberg Arr**	**7.32**	**350**	*e*Pn		**Pn**	**10 27 12.1**	**0.0**
	SNR=5.5							
GRF	**Grafenberg Arr**	**7.32**	**350**	P		**Pn**	**10 27 11.4**	**-0.7**
GRF	**Grafenberg Arr**	**7.32**	**350**	*e*Pn		**Pn**	**10 27 12.1**	**0.0**
	SNR=5.5							
KNT	**Kendrikon**	**7.32**	**97**	P		**Pn**	**10 27 10.9**	**-1.2**
HAU	**Haudompre**	**7.35**	**321**	*e*Pn		**Pn**	**10 27 10.6**	**-1.8**
HAU				*e*Sn		**Sn**	**10 28 29.6**	**-6.1**
	comp=Z,2µm,0.6s							
LIT	**Litokhoron**	**7.35**	**106**			**Pn**	**10 27 12.1**	**-0.5**
LIT	**Litokhoron**	**7.35**	**106**	P		**Pn**	**10 27 11.2**	**-1.4**
LIT	**Litokhoron**	**7.35**	**106**	P		**Pn**	**10 27 12.1**	**-0.5**
VTS	**Vitosha**	**7.37**	**86**	*e*Pn		**Pn**	**10 27 12.6**	**-0.2**
VTS	**Vitosha**	**7.37**	**86**	*e*Pn		**Pn**	**10 27 12.7**	**-0.1**
VTS				*e*Sn		**Sn**	**10 28 33.9**	**-2.5**
VTS				*e*Sn		**Sn**	**10 28 33.9**	**-2.5**
PVO	**Paravola**	**7.40**	**119**	P		**Pn**	**10 27 13.9**	**+0.8**
EVR	**Evrytania**	**7.42**	**116**	P		**Pn**	**10 27 16.1**	**+2.6**
KEST	**Kesa**	**7.42**	**205**	Pn		**Pn**	**10 27 17.6**	**+4.0**
	comp=Z,15nm,0.3s,baz=296,slow=2.1,SNR=66							
KEST				Sn		**Sn**	**10 28 39.0**	**+1.4**
	baz=351,slow=19							
KEST				LR		LR	10 30 16.3	
	comp=Z,20µm,18.2s,baz=344,slow=39							
SUBF	**Surbourg**	**7.44**	**331**	P		**Pn**	**10 27 15.4**	**+1.8**
GZR	**Gura Zlata**	**7.45**	**64**	⇑P		**Pn**	**10 27 14.6**	**+0.7**
SZBH	**soultz borehol**	**7.45**	**331**	P		**Pn**	**10 27 15.4**	**+1.6**
GOPC	**GO Pecny, Ondr**	**7.48**	**8**	*e*PN		**Pn**	**10 27 12.1**	**-2.2**
GOPC				*e*SN		**Sn**	**10 28 35.9**	**-3.1**
GOPC				AMS		AMS	10 30 20.0	
	comp=Z,21µm,8.1s							
GOPC	**GO Pecny, Ondr**	**7.48**	**8**	*e*P		**Pn**	**10 27 12.1**	**-2.2**
GOPC				*e*			10 28 35.9	
GOPC				MLR		MLR		
	comp=Z,21µm,8.1s							
CLAF	**Gruissan**	**7.50**	**278**	P		**Pn**	**10 27 13.7**	**-0.9**
BAIL	**Bailesti**	**7.51**	**75**	⇑P		**Pn**	**10 27 16.4**	**+1.6**
THE	**Thessaloniki**	**7.51**	**101**	P		**Pn**	**10 27 15.1**	**+0.4**
PLYF	**Puligny Montra**	**7.52**	**309**	P		**Pn**	**10 27 15.8**	**+1.0**
MANZ	**Manzenberg**	**7.52**	**354**	*e*Pn		**Pn**	**10 27 14.2**	**-0.7**
	SNR=13							
MANZ	**Manzenberg**	**7.52**	**354**	*e*Pn		**Pn**	**10 27 14.2**	**-0.7**
	SNR=13							
PRU	**Pruhonice**	**7.53**	**6**	*e*PN		**Pn**	**10 27 13.5**	**-1.5**
PRU				*e*SN		**Sn**	**10 28 37.2**	**-3.0**
PRU				AMS		AMS	10 30 40.0	
	comp=Z,18µm,8.0s							
PRU	**Pruhonice**	**7.53**	**6**	*e*P		**Pn**	**10 27 13.5**	**-1.5**
PRU				*e*			10 28 37.2	
PRU				MLR		MLR		
	comp=Z,18µm,8.0s							
SRE	**Strehaia**	**7.53**	**70**	⇑P		**Pn**	**10 27 15.3**	**+0.3**
CIEL	**Dossenheim-sur**	**7.55**	**329**	P		**Pn**	**10 27 15.3**	**+0.1**
MAUC	**Maruska**	**7.56**	**23**	*e*PN		**Pn**	**10 27 14.7**	**-0.7**
MAUC				AMS		AMS	10 29 00.0	
	comp=Z,43µm,8.8s							
MAKR	**Makrakomi, Fth**	**7.58**	**114**	P		**Pn**	**10 27 17.2**	**+1.4**
BORR	**Bors**	**7.60**	**50**	⇓P		**Pn**	**10 27 16.6**	**+0.7**
HORT	**Hortiatis**	**7.62**	**101**	P		**Pn**	**10 27 16.2**	**-0.1**
ANX	**Ano Chora**	**7.67**	**118**	P		**Pn**	**10 27 17.3**	**+0.4**
SJAF	**Saint Jean de**	**7.67**	**273**	P		**Pn**	**10 27 15.9**	**-1.0**
RLS	**Riolos of Patr**	**7.69**	**123**	P		**Pn**	**10 27 17.9**	**+0.8**
DEV	**Deva**	**7.71**	**61**	⇓P		**Pn**	**10 27 17.4**	**+0.1**
AGG	**Agios Georgios**	**7.71**	**114**	P		**Pn**	**10 27 18.5**	**+1.0**
SOH	**Sokhos**	**7.74**	**99**	P		**Pn**	**10 27 16.4**	**-1.5**
NKC	**Novy Kostel**	**7.75**	**356**	*e*PN		**Pn**	**10 27 16.9**	**-1.0**
NKC				*e*SN		**Sn**	**10 28 42.8**	**-2.7**
NKC				AMS		AMS	10 30 20.0	
	comp=Z,17µm,20.6s							
NKC	**Novy Kostel**	**7.75**	**356**	*e*P		**Pn**	**10 27 16.9**	**-1.0**
NKC				*e*			10 28 42.8	
NKC				MLR		MLR		
	comp=Z,17µm,20.6s							
EFP	**Efpalio**	**7.75**	**119**	P		**Pn**	**10 27 18.9**	**+0.9**
SRS	**Serrai**	**7.84**	**97**	P		**Pn**	**10 27 18.1**	**-1.2**
SRS	**Serrai**	**7.84**	**97**	*e*Pn		**Pn**	**10 27 18.8**	**-0.5**
SRS				*e*Sn		**Sn**	**10 28 43.5**	**-4.4**
MORC	**Moravsky Berou**	**7.85**	**21**	⇓P		**Pn**	**10 27 19.6**	**+0.1**
MORC	**Moravsky Berou**	**7.85**	**21**	Pn		**Pn**	**10 27 18.9**	**-0.5**
MORC	**Moravsky Berou**	**7.85**	**21**	*e*PN		**Pn**	**10 27 19.5**	**+0.1**
MORC	**Moravsky Berou**	**7.85**	**21**	P		**Pn**	**10 27 18.9**	**-0.5**
SERG	**Sergoula**	**7.85**	**118**	P		**Pn**	**10 27 21.3**	**+1.9**
GUNZ	**Gunzen**	**7.88**	**356**	*e*Pn		**Pn**	**10 27 19.2**	**-0.6**
	SNR=11							
GUNZ	**Gunzen**	**7.88**	**356**	*e*Pn		**Pn**	**10 27 19.2**	**-0.6**
	SNR=11							
SMF	**Signal de Mont**	**7.89**	**305**	*e*Pn		**Pn**	**10 27 17.3**	**-2.6**
SMF	**Signal de Mont**	**7.89**	**305**	*e*P		**Pn**	**10 27 21.8**	**+1.9**
SMF				*e*Sn		**Sn**	**10 28 43.3**	**-5.8**
	comp=Z,467nm,0.8s							
LAKA	**Lakka**	**7.90**	**120**	P		**Pn**	**10 27 21.2**	**+1.1**
DRO	**Drossia**	**7.90**	**122**	P		**Pn**	**10 27 21.5**	**+1.4**
FILF	**Fillols**	**7.90**	**274**	P		**Pn**	**10 27 20.7**	**+0.6**
TANN	**Tannenbergstha**	**7.93**	**356**	*e*Pn		**Pn**	**10 27 20.2**	**-0.2**
	SNR=14							
TANN	**Tannenbergstha**	**7.93**	**356**	*e*Pn		**Pn**	**10 27 20.2**	**-0.2**
	SNR=14							
LANS	**Liptovska Anna**	**7.93**	**31**	*e*P		**Pn**	**10 27 20.6**	**+0.2**
LANS				*e*			10 28 44.4	
LANS	**Liptovska Anna**	**7.93**	**31**	*e*PN		**Pn**	**10 27 20.6**	**+0.2**
LANS				*e*SN		**Sn**	**10 28 44.4**	**-5.6**
KRLC	**Kraliky**	**7.95**	**17**	*e*PN		**Pn**	**10 27 19.7**	**-1.0**
KRLC				AMS		AMS	10 29 40.0	
	comp=Z,20µm,6.7s							
KRLC	**Kraliky**	**7.95**	**17**	*e*P		**Pn**	**10 27 19.7**	**-1.0**
KRLC				MLR		MLR		
	comp=Z,20µm,6.7s							
WERD	**Werda**	**7.97**	**356**	*e*Pn		**Pn**	**10 27 20.7**	**-0.3**
	SNR=11							
WERD	**Werda**	**7.97**	**356**	*e*Pn		**Pn**	**10 27 20.7**	**-0.3**
	SNR=11							
DRGR		**7.98**	**54**	⇑P		**Pn**	**10 27 22.4**	**+1.2**
DRGR		**7.98**	**54**	*e*Pn		**Pn**	**10 27 21.8**	**+0.6**
NVR	**Nevrokopi**	**7.99**	**95**	P		**Pn**	**10 27 21.8**	**+0.5**
PAGF	**Fort de Pagny**	**8.03**	**321**	*e*Pn		**Pn**	**10 27 19.7**	**-2.1**
	baz=142							
PAGF				*e*Sn		**Sn**	**10 28 43.5**	**-9.0**
	comp=Z,1µm,0.9s							
PYM	**Petit Puy Mans**	**8.05**	**297**	P		**Pn**	**10 27 25.5**	**+3.3**
AXAR	**Agios Charalam**	**8.06**	**114**	P		**Pn**	**10 27 25.4**	**+3.1**
PVCC	**Panska Ves**	**8.07**	**6**	*e*PN		**Pn**	**10 27 20.9**	**-1.5**
PVCC				*e*SN		**Sn**	**10 28 51.2**	**-2.3**
PVCC				AMS		AMS	10 31 00.0	
	comp=Z,14µm,10.1s							
PVCC	**Panska Ves**	**8

ARR	Arges	8.69	67	⇑P		Pn	10 27 32.5	+1.6
LOUT	Loutraki	8.69	118	P		Pn	10 27 32.1	+1.2
WLF	Walferdange	8.69	328	Pn		Pn	10 27 31.1	+0.2
WLF	Walferdange	8.69	328	*e*Pn		Pn	10 27 32.6	+1.7
	SNR=15							
WLF	Walferdange	8.69	328	P		Pn	10 27 31.1	+0.2
WLF	Walferdange	8.69	328	*d*P		Pn	10 27 31.0	+0.2
WLF				*d*S		Sn	10 29 11.2	+2.5
WLF	Walferdange	8.69	328	P		Pn	10 27 33.1	+2.2
WLF	Walferdange	8.69	328	*e*Pn		Pn	10 27 32.6	+1.7
	SNR=15							
BGG	Burgeitz	8.72	334	*e*Pn		Pn	10 27 32.8	+1.6
HUMR	Humele	8.75	73	⇑P		Pn	10 27 32.1	+0.3
MDB	Medias	8.76	62	⇑P		Pn	10 27 32.9	+1.1
NEUB	Neuenburg	8.76	354	*e*Pn		Pn	10 27 31.0	-0.8
	SNR=6.9							
NEUB	Neuenburg	8.76	354	*e*Pn		Pn	10 27 31.0	-0.8
	SNR=6.9							
TCF	Toulx Ste Croi	8.77	299	*e*Pn		Pn	10 27 29.3	-2.6
TCF	Toulx Ste Croi	8.77	299	*e*P		Pn	10 27 34.5	+2.6
TCF				*e*Sn		Sn	10 29 02.3	-8.3
	comp=N,165nm,0.8s							
KOE	Koeppel	8.79	336	*e*Pn		Pn	10 27 34.0	+1.8
STFAR	Stefanesti-Arg	8.80	71	⇑P		Pn	10 27 33.8	+1.4
CLL	Collm	8.80	359	Pn		Pn	10 27 31.3	-1.1
CLL	Collm	8.80	359	*e*Pn		Pn	10 27 31.0	-1.4
CLL				*ex*		x	10 27 41.0	
CLL				*e*Pg		Pg	10 28 11.0	-2.8
CLL				*e*Sn		Sn	10 28 59.0	-12
CLL				*ex*		x	10 29 09.0	
CLL				*e*Sb		Sg	10 29 45.0	-23
CLL				*e*Sg		Sg	10 30 14.0	+6.3
	comp=Z,963nm,1.2s							
CLL				LmV			10 31 00.0	
	comp=N,12μm,19.1s							
CLL				LmV			10 31 00.0	
	comp=E,14μm,20.0s							
CLL				LmV			10 31 00.0	
	comp=Z,15μm,19.4s							
CLL				Lmax			10 32 00.0	
CLL	Collm	8.80	359	*e*Pn		Pn	10 27 31.7	-0.7
	SNR=13							
CLL	Collm	8.80	359	*e*P		Pn	10 27 31.0	-1.4
CLL				MLR		MLR		
	comp=Z,15μm,19.4s							
CLL	Collm	8.80	359	*e*Pn		Pn	10 27 31.7	-0.7
	SNR=13							
UZH	Uzhgorod	8.80	43	*e*P		Pn	10 27 34.7	+2.3
UZH				*e*S		Sn	10 29 15.1	+3.6
UZH				MLR		MLR		
	comp=N,5μm,10.0s							
UZH				MLR		MLR		
	comp=E,5μm,10.0s							
UZH				MLR		MLR		
	comp=Z,2μm,10.0s							
VILL	Villia	8.82	116	P		Pn	10 27 32.8	+0.1
COPA	Copaceanca	8.87	75	⇓P		Pn	10 27 33.4	+0.1
BMR	Baia Mare	8.89	51	⇓P		Pn	10 27 34.2	+0.6
HYF	Humbligny	8.91	306	*e*P		Pn	10 27 37.2	+3.3
HYF				*e*Sn		Sn	10 29 07.3	-6.9
RJF	Les Rejaudoux	8.93	292	*e*P		Pn	10 27 35.6	+1.5
RJF				*e*Sn		Sn	10 29 06.7	-7.8
	comp=Z,391nm,1.5s							
OJC	Ojcow	8.94	28	*e*P		Pn	10 27 38.3	+4.1
OJC	Ojcow	8.94	28	Pn		Pn	10 27 34.1	-0.1
OJC	Ojcow	8.94	28	P		Pn	10 27 34.1	-0.1
MTUR	Matau	8.95	68	⇑P		Pn	10 27 36.0	+1.5
MLS	Moulis	8.97	277	P		Pn	10 27 35.3	+0.6
MONQ	Montcuq	8.97	286	P		Pn	10 27 36.1	+1.4
HILG	Hillesheim	9.01	332	*e*Pn		Pn	10 27 36.8	+1.5
HILG				*e*Sn		Sn	10 29 12.9	-3.7
	comp=Z,181nm,0.6s							
AHRW	Bad Neuenahr-A	9.09	334	*e*Pn		Pn	10 27 38.9	+2.6
	SNR=13							
AHRW	Bad Neuenahr-A	9.09	334	*e*Pn		Pn	10 27 38.9	+2.6
	SNR=13							
EREA	Eretria	9.10	113	P		Pn	10 27 36.2	-0.3
KYMI	Kymi, Euboea I	9.11	112	P		Pn	10 27 36.0	-0.6
ARCR	ARCALIA	9.12	56	⇑P		Pn	10 27 36.9	+0.2
KRND	KRANIDI	9.16	121	P		Pn	10 27 37.8	+0.5
STB	Steinbach	9.21	334	*e*Pn		Pn	10 27 39.8	+1.8
PTL	Penteli	9.25	115	P		Pn	10 27 40.2	+1.7
RDO	Rodhopi	9.27	94	Pn		Pn	10 27 39.0	+0.2
RDO	Rodhopi	9.27	94	P		Pn	10 27 38.5	-0.3
DION	Dionisos Attik	9.28	115	P		Pn	10 27 40.8	+1.9
BHOU	Houvegnez	9.30	330	*d*P		Pn	10 27 39.1	-0.1
BHOU				*d*S		Sn	10 29 24.4	+0.6
KASTN	Kahler Asten	9.30	341	*e*Pn		Pn	10 27 39.3	0.0
	SNR=12							
KASTN	Kahler Asten	9.30	341	*e*Pn		Pn	10 27 39.3	0.0
	SNR=12							
VLY	Voula,Athens	9.30	116	P		Pn	10 27 39.3	0.0
DOPR	Dopca	9.37	64	⇓P		Pn	10 27 41.8	+1.6
LFF	La Frestale	9.39	289	*e*P		Pn	10 27 42.1	+1.7
LFF				*e*Sn		Sn	10 29 18.5	-7.3
	comp=Z,221nm,1.2s							
HOBG	Hohbusch	9.40	336	*e*Pn		Pn	10 27 42.0	+1.5
KLL	Kalltalsperre	9.44	332	*e*Pn		Pn	10 27 42.5	+1.4
VLI	Veliai	9.44	125	P		Pn	10 27 42.3	+1.1
RCHB	Rochefort	9.45	327	*d*P		Pn	10 27 42.3	+1.1
BTNL	Ternell	9.45	331	*d*P		Pn	10 27 42.2	+0.9
BTNL				*d*S		Sn	10 29 28.8	+1.4
DREG	Dreilaegerbach	9.48	332	*e*Pn		Pn	10 27 42.9	+1.3
MEM	Membach	9.51	331	*d*P		Pn	10 27 43.3	+1.2
MEM				*d*S		Sn	10 29 30.5	+1.6
EPF	Esparros	9.52	278	*e*P		Pn	10 27 44.8	+2.5
EPF				*e*Sn		Sn	10 29 28.0	-1.2
	comp=Z,161nm,1.4s							
CLZ	Clausthal	9.54	349	*e*Pn		Pn	10 27 42.2	-0.4
	SNR=9.7							
CLZ	Clausthal	9.54	349	*e*Pn		Pn	10 27 42.2	-0.4
	SNR=9.7							
GIVF	Givet	9.57	325	*e*P		Pn	10 27 45.7	+2.8
GIVF				*e*Sn		Sn	10 29 22.9	-7.5
	comp=Z,591nm,1.0s							
SECR		9.60	70	⇑P		Pn	10 27 44.6	+1.2
MLR	Muntele Rosu	9.62	68	Pn		Pn	10 27 45.1	+1.5
	comp=Z,4.8nm,0.3s,baz=189,slow=5.9,SNR=59							
MLR				Lg		Lg	10 30 15.2	
	comp=Z,0.8nm,0.3s,baz=270,slow=20,SNR=1.3							
MLR				LR		LR	10 32 32.4	
	comp=Z,22μm,19.0s,baz=255,slow=44							
	comp=Z,152nm,0.8s							
MLR	Muntele Rosu	9.62	68	⇑P		Pn	10 27 45.4	+1.7
MLR	Muntele Rosu	9.62	68	Pn		Pn	10 27 44.3	+0.6
BCLA	Clavier	9.62	328	*d*P		Pn	10 27 45.2	+1.6
BCLA				*d*S		Sn	10 29 30.2	-1.4
ECHI	Chisagues Biel	9.64	275	P		Pn	10 27 47.2	+3.1
BSTI	Sart Tilman	9.65	329	*d*P		Pn	10 27 46.8	+2.8
DOU	Dourbes	9.66	325	*d*P		Pn	10 27 46.8	+2.6
DOU				*d*S		Sn	10 29 34.0	+1.4
OZUR		9.67	64	⇓P		Pn	10 27 45.6	+1.3
SULR		9.68	73	⇓P		Pn	10 27 45.5	+1.1
BGES	Gesves	9.68	327	*d*P		Pn	10 27 45.5	+1.1
BGES				*d*S		Sn	10 29 32.2	-0.8
EIBI	Ibiza	9.69	253	S		Sn	10 29 22.5	-11
EIBI				P		Pn	10 27 47.1	+2.5
ALN	Alexandroupoli	9.70	95			Pn	10 27 44.7	0.0
ALN	Alexandroupoli	9.70	95	P		Pn	10 27 44.7	0.0
BMRD	Maredsous	9.75	326	*d*P		Pn	10 27 46.1	+0.7
VIEF	Viey	9.76	277	P		Pn	10 27 48.0	+2.4
RAZG	Razgrad	9.76	79	⇓P		Pn	10 27 45.3	-0.2
BAIF	Baives	9.81	323	*e*P		Pn	10 27 48.5	+2.4
BAIF				*e*Sn		Sn	10 29 27.8	-8.3
	comp=Z,901nm,1.4s							
LAUG	Laupendahl	9.84	336	*e*Pn		Pn	10 27 48.1	+1.5
NEHR	Nehoiu	9.84	68	⇑P		Pn	10 27 48.0	+1.4
BURAR	Bucovina Array	9.88	55	⇑P		Pn	10 27 48.7	+1.5
BURAR	Bucovina Array	9.88	55			Pn	10 27 48.4	+1.2
COVR	Voineasa-Covas	9.88	66	⇓P		Pn	10 27 48.6	+1.4
BUR08	Bucovina Ar. S	9.88	55	Pn		Pn	10 27 48.0	+0.7
ISR	Istrita	9.95	70	⇓P		Pn	10 27 49.2	+1.1
EDRB	Edirne	10.03	89	P		Pn	10 27 48.8	-0.5
LEHL	Lehliu	10.05	74	⇑P		Pn	10 27 50.4	+0.9
SNF	Seneffe	10.11	325	*d*P		Pn	10 27 52.9	+2.7
SNF				*d*S		Sn	10 29 42.0	-1.4
PLOR	Plostina	10.18	66	⇓P		Pn	10 27 52.0	+0.7
ETSF	Etsaut	10.18	277	*e*P		Pn	10 27 53.2	+1.8
ETSF				*e*Sn		Sn	10 29 36.7	-8.8
	comp=Z,149nm,1.2s							
VRI	Vrincioaia	10.24	66	⇓P		Pn	10 27 52.8	+0.8
RASA	Rasa	10.26	76	⇑P		Pn	10 27 52.4	0.0
TESR	Tescani	10.36	63	⇓P		Pn	10 27 55.3	+1.5
MFF	Saint Martin d	10.40	298	*e*Pn		Pn	10 27 52.4	-1.9
AMRR	Amara	10.43	74	⇑P		Pn	10 27 55.3	+0.6
ODBI	Odobesti	10.44	67	⇑P		Pn	10 27 56.0	+1.2
LVV	L'vov	10.44	42	*e*P		Pn	10 27 56.5	+1.6
LVV				*e*S		Sn	10 29 53.8	+2.1
LVV				MLR		MLR		
	comp=Z,13μm,10.0s							
RETH	Rethem/Aller,	10.56	347	*e*Pn		Pn	10 27 57.1	+0.6
	SNR=15							
RETH	Rethem/Aller,	10.56	347	*e*Pn		Pn	10 27 57.1	+0.6
	SNR=15							
BEL	Belsk	10.64	26	*e*P		Pn	10 28 00.9	+3.4
SJPF	Ste Jean	10.66	278	*e*P		Pn	10 28 00.7	+2.8
SJPF				*e*Sn		Sn	10 29 48.5	-8.7
	comp=Z,119nm,1.2s							
RODP	Rodopos	10.71	127	P		Pn	10 28 00.8	+2.2
ICOR	Ion Corvin	10.72	76	⇓P		Pn	10 27 58.6	-0.1
GHRR		10.75	66	⇑P		Pn	10 27 59.1	+0.1
HARR	Harsova	10.86	73	⇑P		Pn	10 28 01.2	+0.6
TLBR	Topalu	10.93	74	⇑P		Pn	10 28 01.7	+0.2
DRBR	Darabani	10.98	54	⇑P		Pn	10 28 02.8	+0.6
CFR	Carcaliu	11.07	71	⇑P		Pn	10 28 02.8	-0.6
ECHE	Chera	11.13	260	P		Pn	10 28 05.9	+1.5
VASR	Vaslui	11.15	63	⇑P		Pn	10 28 06.1	+1.5
MFTR	Murfatlar	11.17	76	⇑P		Pn	10 28 04.9	+0.1
GIUM	Giurgiulesti	11.17	69	⇓P		Pn	10 28 05.6	+0.7
LDF	La Druitiere	11.18	308	*e*P		Pn	10 28 08.3	+3.4
LDF				*e*Sn		Sn	10 30 00.2	-9.5
	comp=Z,158nm,0.9s							
THR3	Thira Island,	11.18	119	P		Pn	10 28 04.0	-1.0
TIRR	Tirgusor	11.18	75	⇑P		Pn	10 28 05.0	0.0
TIRR	Tirgusor	11.18	75	⇑P		Pn	10 28 05.0	0.0
TIRR	Tirgusor	11.18	75	Pn		Pn	10 28 04.7	-0.3
TIRR	Tirgusor	11.18	75	P		Pn	10 28 04.7	-0.3
TPGR	Topolog	11.23	73	⇑P		Pn	10 28 06.4	+0.7
BALB	Balikesir	11.40	100			Pn	10 28 07.7	-0.3
LEOM	Leova	11.41	65	⇓P		Pn	10 28 08.5	+0.4
FLN	La Foliniere	11.47	308	*e*P		Pn	10 28 11.0	+2.2
	baz=126							
FLN				*e*Sn		Sn	10 30 07.2	-10
	comp=Z,184nm,0.9s							
GRR	Gorron	11.52	306	*e*P		Pn	10 28 08.5	-1.1
GRR				*e*Sn		Sn	10 30 07.5	-11
	comp=Z,299nm,1.4s							
JURR	Jurilovca	11.54	73	⇑P		Pn	10 28 10.4	+0.5
TLCR		11.55	71	⇑P		Pn	10 28 10.2	+0.2
IDI	Anoyia	11.57	125	Pn		Pn	10 28 11.3	+0.8
	comp=Z,6.0nm,0.3s,baz=322,slow=12,SNR=27							
IDI				Sn		Sn	10 30 13.0	-6.6
	comp=Z,4.9nm,0.3s,baz=282,slow=18,SNR=4.0							
IDI				LR		LR	10 33 32.6	
	comp=Z,3μm,19.0s,baz=310,slow=42							
	comp=Z,34nm,0.7s							
IDI	Anoyia	11.57	125	⇓P		Pn	10 28 11.6	+1.2
IDI	Anoyia	11.57	125	Pn		Pn	10 28 11.0	+0.6
ETOB	Tobarra	11.90	256	P		Pn	10 28 17.7	+2.8
MILM	Milestii Mici	11.91	63	*e*P		Pn	10 28 17.0	+2.1
	comp=Z,430nm,0.9s							
MILM	Milestii Mici	11.91	63	⇑P		Pn	10 28 15.1	+0.3
MILM	Milestii Mici	11.91	63	*e*P		Pn	10 28 17.0	+2.1
MILM				pmax		pmax		
	comp=Z,6μm,3.2s							
MILM				MLR		MLR		
	comp=Z,21μm,12.0s							
MILM				MLR		MLR		
	comp=N,14μm,11.0s							
MILM				MLR		MLR		
	comp=E,13μm,10.0s							
KIS	Kishinev	11.93	63	*e*P		Pn	10 28 19.0	+3.8
KIS				*e*S		Sn	10 30 41.0	+13
KIS				*e*Lq		LQ	10 32 00.0	
KIS				LRM		MLR	10 33 43.0	
	comp=E,5μm,11.0s							
KIS	Kishinev	11.93	63	⇓P		Pn	10 28 15.9	+0.6
KIS	Kishinev	11.93	63	*e*P		Pn	10 28 19.0	+3.8
KIS				MLR		MLR		
	comp=N,5μm,11.0s							
KIS				MLR		MLR		
	comp=E,7μm,11.0s							
KIS				MLR		MLR		
	comp=Z,10μm,11.0s							
SORM	Soroca	12.01	57	⇓P		Pn	10 28 16.6	+0.3
EMUR	La Murta	12.03	252	P		Pn	10 28 20.3	+3.6
MANT	Manisa	12.31	104			Pn	10 28 21.6	+0.9
SGMF	Saint Gilles	12.51	303	*e*P		Pn	10 28 23.4	+0.3
SGMF				*e*Sn		Sn	10 30 27.9	-14
	comp=Z,644nm,1.8s							
PURM	Purcari	12.52	66	⇑P		Pn	10 28 22.9	-0.2
ELMS	Elmsett, Ipswi	12.68	323	*e*P		Pn	10 28 27.2	+1.8
QUIF	Quistinic	12.77	301	*e*P		Pn	10 28 27.8	+1.1
QUIF				*e*Sn		Sn	10 30 38.5	-10
	comp=Z,898nm,2.0s							
KLNR	Kaliningrad	12.94	18	*c i*P		Pn	10 28 30.2	+1.3
ROSF	Rostrenen	12.98	302	*e*P		Pn	10 28 27.9	-1.7
ROSF				*e*Sn		Sn	10 30 44.7	-9.2
	comp=Z,552nm,1.6s							
BORA	Eskisehir	13.21	96			Pn	10 28 32.8	-0.1
WOL	Wolverton	13.23	317	*e*P		Pn	10 28 31.5	-1.4
ESBB	Sonseca Array	13.30	263			Pn	10 28 34.1	+0.1
ESDC	Sonseca Array	13.30	263	Pn		Pn	10 28 32.9	-1.1
	comp=Z,0.5nm,0.3s,baz=68,slow=14,SNR=33							
ESDC				Sn		Sn	10 30 59.0	-2.7
	comp=Z,0.2nm,0.3s,baz=70,slow=24,SNR=2.2							
ESDC				LR		LR	10 33 24.2	
	comp=Z,12μm,20.4s,baz=82,slow=36							
	comp=Z,14nm,0.7s							
ESDC	Sonseca Array	13.30	263	Pn		Pn	10 28 33.8	-0.1
PAB	San Pablo	13.62	263	Pn		Pn	10 28 38.0	-0.4
PAB	San Pablo	13.62	263	P		Pn	10 28 38.0	-0.4
SWN1	Swindon	13.64	316	*e*P		Pn	10 28 38.0	-0.5
AKASG	Malin Array Be	13.67	48	Pn		Pn	10 28 38.3	-0.7
	comp=Z,26nm,0.9s,baz=242,slow=11							
STRD	Stroud	13.98	317	*e*P		Pn	10 28 42.7	-0.4
OLDB	Oldbury-Upon-S	14.11	316	*e*P		Pn	10 28 45.3	+0.4
CWF	Charnwood Fore	14.16	321	*e*P		Pn	10 28 45.1	-0.4
MONM	Monmouth	14.34	316	*e*P		Pn	10 28 46.1	-2.0
MCH1	Michaelchurch	14.53	316	*e*P		Pn	10 28 48.4	-2.3
PABE	Paberze	14.76	25	Pn		Pn	10 28 52.7	-1.0
PABE	Paberze	14.76	25	*e*P		Pn	10 28 53.3	-0.5
HLM1	Long Mynd	14.77	318	*e*P		Pn	10 28 51.5	-2.5
LBWR	Ladybower, Pea	14.78	323	*e*P		Pn	10 28 53.4	-0.7
HTL	Hartland	14.80	311	*e*P		Pn	10 28 52.9	-1.4
PBRG	Braganca	14.86	274	*e*P		Pn	10 28 56.1	+0.9
	comp=Z,118nm,1.5s							
PBRG				*i* LQ		LQ	10 29 06.5	
ANTO	Ankara	14.94	94	Pn		Pn	10 28 57.1	+0.7
ANTO	Ankara	14.94	94	P		Pn	10 28 57.1	+0.7
HPK	Haverah Park	15.11	324	*e*P		Pn	10 28 57.6	-0.9
FOEL	Foel Wylfa	15.15	319	*e*P		Pn	10 28 57.9	-1.2
VSVD	Vaisvydziai	15.15	23	*e*P		Pn	10 28 58.0	-1.0
VSVD				IAmb		IAmb	10 29 15.2	
	comp=Z,50nm,0.9s							
MVO	Moncorvo	15.19	272	*e*P		Pn	10 28 59.1	-0.6
	comp=Z,111nm,1.7s							
MVO				*i* LQ		LQ	10 29 11.6	
NACGM	Naroch	15.24	31	⇑ *i*P		Pn	10 29 00.2	-0.1
	comp=Z,218nm,0.8s,baz=222							
SIM	Simferopol'	15.27	74	*e*P		Pn	10 29 00.4	-0.3
SIM				pmax		pmax		
	comp=Z,146nm,0.8s							
SIM				MLR		MLR		
	comp=Z,5μm,20.2s							
ILGA	Ilgaz	15.33	89	Pn		Pn	10 29 02.1	+0.3
LLW	Llanuwychllyn	15.35	318	*e*P		Pn	10 28 58.2	-3.5
IIGN	Ignalina	15.38	29	*e*P		Pn	10 28 47.2	-15
MNK	Minsk	15.38	34	*i* P		Pn	10 28 59.0	-3.1
	comp=E,15nm,0.8s							
MNK				*i* P		Pn	10 28 59.0	-3.1
	comp=N,89nm,0.8s							
MNK				*i* P		Pn	10 28 59.0	-3.1
	comp=Z,95nm,0.8s,baz=225							
MNK				*i* PP		P	10 29 07.0	+0.3
MNK				*i* S		Sn	10 31 47.9	-4.4
MNK				*i* SS		SnSn	10 32 01.8	-3.1
MNK				*i* LQ		LQ	10 33 26.2	
MNK				*i* LR		LR	10 34 35.4	
MNK				*i* LRM		MLR	10 35 19.1	
	comp=N,5μm,16.7s							
MNK				*i* LRM		MLR	10 35 23.0	
	comp=Z,5μm,16.7s							
MNK				*i* LRM		MLR	10 35 31.5	
	comp=E,462nm,16.1s							
MNK	Minsk	15.38	34	*i* P		Pn	10 28 58.9	-3.1
MNK				*i* S		Sn	10 31 47.8	-4.4
MNK				pmax		pmax		
	comp=N,89nm,0.8s							
MNK				pmax		pmax		
	comp=E,15nm,0.8s							
MNK				pmax		pmax		
	comp=Z,95nm,0.8s							
MNK				MLR		MLR		
	comp=N,5μm,17.0s							
MNK				MLR		MLR		
	comp=Z,5μm,17.0s							
RSBS	Rosebush, Pemb	15.41	314	*e*P		Pn	10 29 03.5	+1.0
ISAL	Salakas	15.52	28	*e*P		Pn	10 29 04.4	+0.5
ISAL				IAmb		IAmb	10 29 13.1	
	comp=Z,88nm,1.0s							
IDID	Didziasalis	15.54	30	*e*P		Pn	10 28 55.1	-9.0
BR131	Keskin Array S	15.61	93	*d i*P		Pn	10 29 05.9	+0.6
BR131	Keskin Array S	15.61	93	P		Pn	10 29 05.9	+0.6
	SNR=23							
BRTR	Keskin Array B	15.61	93	Pn		Pn	10 29 06.2	+0.9
	comp=Z,0.3nm,0.3s,baz=287,slow=11,SNR=16							
BRTR				LR		LR	10 35 26.8	
	comp=Z,8μm,18.3s,baz=310,slow=38							
	comp=Z,7.9nm,0.8s							
BRTR	Keskin Array B	15.61	93	Pn		Pn	10 29 05.9	+0.6
BRTR	Keskin Array B	15.61	93	P		Pn	10 29 05.9	+0.6
PVRL	Vila Real	15.67	273	*i* LQ		LQ	10 29 16.2	
POLO	Lamas de Olo	15.71	273	*i* LQ		LQ	10 29 17.1	
MTE	Manteigas	15.74	269	*e*P		Pn	10 29 08.6	+1.7
	comp=Z,110nm,1.2s							
MTE	Manteigas	15.74	269	Pn		Pn	10 29 06.4	-0.5
PCAB	Cabril	15.82	274	*i* LQ		LQ	10 29 14.9	
PCBR	Castelo Branco	15.84	267	*i* LQ		LQ	10 29 16.4	
EDMD	Edmundbyers	15.86	326	*e*P		Pn	10 29 04.8	-3.5
PMRV	Marv??o	15.90	266	*e*P		Pn	10 29 07.5	-1.4
	comp=Z,72nm,1.6s							
PMRV				*i* LQ		LQ	10 29 18.0	
PVIS	Viseu	15.92	271	*e*P		Pn	10 29 10.0	+0.7
	comp=Z,78nm,1.2s							
PGAV	Gavieira, Arco	15.96	275	*i* LQ		LQ	10 29 19.0	
WLF1	Llynfaes	15.97	319	*e*P		Pn	10 29 10.4	+0.7
WME	Myndd Eilian	15.98	319	*e*P		Pn	10 29 06.1	-3.8
PBAR	Barrancos	16.06	261	*e*P		Pn	10 29 12.7	+1.7
	comp=Z,125nm,1.5s							
WPS	Cemaes, Angles	16.08	319	*e*P		Pn	10 29 09.0	-2.2
KESW	Keswick, Cumbr	16.18	324	*e*P		Pn	10 29 11.8	-0.6
PESTR	Estremoz	16.22	264	*e*P		Pn	10 29 13.7	+0.6
	comp=Z,173nm,1.5s							
SNART	Snartemo	16.30	349	*e*		P	10 29 17.5	+0.6
COI	Coimbra	16.43	269	*i* LQ		LQ	10 29 20.9	
PCAS	Casmilo, Conde	16.54	269	*e*P		Pn	10 29 17.7	+0.6
	comp=Z,234nm,1.5s							
IOMK	Kirk Michael	16.63	321	*e*P		P	10 29 21.2	+0.7
EVO	Evora	16.65	263	*e*P		Pn	10 29 18.4	-0.1
	comp=Z,65nm,2.5s							
EKA	Eskdalemuir Ar	16.71	326	Pn		Pn	10 29 19.0	-0.1
	baz=136,slow=13							
EKA				Sn		Sn	10 32 19.1	-5.3
	baz=136,slow=25							
EKA				LR		LR	10 36 57.9	
	comp=Z,6μm,19.0s,baz=138,slow=42							
	comp=Z,14nm,0.7s							
EKA	Eskdalemuir Ar	16.71	326	P		Pn	10 29 19.0	-0.1
ESK	Eskdalemuir	16.72	326	Pn		Pn	10 29 17.3	-1.9
ESK	Eskdalemuir	16.72	326	P		Pn	10 29 17.3	-1.9
ESK				pmax		pmax		
	comp=Z,30nm,0.9s							
PVAQ	Vaqueiros	16.86	259	*i* LQ		LQ	10 29 26.1	
PVAQ	Vaqueiros	16.86	259	Pn		Pn	10 29 20.5	-0.7
ESY	Stoneypath	16.90	328	*e*P		P	10 29 24.1	+0.6
PSBE	So Bento	16.91	267	*i* LQ		LQ	10 29 25.9	
EBL	Broad Law	16.97	327	*e*P		P	10 29 23.8	-0.5
PCVE	Castro Verde	17.00	260	*i* LQ		LQ	10 29 29.6	
NEWG	New Galloway	17.02	324	*e*P		P	10 29 24.3	-0.5
MDT	Midelt	17.11	241	P		Pn	10 29 24.6	+0.2
	comp=Z,6.1nm,0.9s,baz=76,slow=14,SNR=2.6							
MDT				LR		LR	10 35 39.0	
	comp=Z,2μm,19.3s,baz=48,slow=36					

OBN eS S 10 33 35.6 -1.4
OBN pmax pmax
comp=Z,77nm,0.9s
OBN MLR MLR
comp=Z,7µm,18.0s
VORR Voronezh 19.81 54 eP P 10 29 54.8 -0.8
VORR S Sn 10 33 39.8 +0.3
VORR pmax pmax
comp=Z,350nm,1.8s
VORR MLR MLR
comp=Z,3µm,12.0s
MMAI Mount Meron Ar 19.86 111 P Pn 10 29 57.5 -0.5
comp=Z,2.4nm,0.3s,baz=319,slow=11,SNR=22
MMAI S S 10 33 33.6 -6.1
comp=Z,0.8nm,0.3s,baz=289,slow=22,SNR=2.5
MMAI LR LR 10 40 43.5
comp=Z,2µm,19.1s,baz=300,slow=46
comp=Z,38nm,0.8s
GEM Giv'at Ha'Em 19.93 110 P Pn 10 29 58.8 +0.1
LPSR Galich'ya Gora 19.95 51 eP P 10 29 56.1 -0.9
LPSR pmax pmax
comp=Z,140nm,0.7s
PUL Pulkovo 20.22 25 eP P 10 29 59.1 -0.9
PUL pmax pmax
comp=Z,201nm,0.6s
HMDT Nahal Hemdat 20.39 113 P Pn 10 30 05.4 +1.3
FINES FINESS Array B 20.47 18 P P 10 30 01.6 -1.0
comp=Z,40nm,0.9s,baz=196,slow=9.6,SNR=29
FINES S S 10 33 51.7 +0.5
comp=Z,9.3nm,1.0s,baz=183,slow=21,SNR=2.1
FINES LR LR 10 38 09.4
comp=Z,3µm,21.8s,baz=208,slow=38
comp=Z,40nm,0.9s
FIA1 FINESS Array S 20.47 18 P P 10 30 02.0 -0.6
FIA1 IAmb IAmb 10 30 15.0
comp=Z,199nm,0.9s
MOS Moscow 20.58 42 eP P 10 30 03.0 -0.9
MOS e 10 30 21.4
MOS eS S 10 33 51.2 -2.4
MOS pmax pmax
comp=Z,139nm,0.8s
MOS MLR MLR
comp=Z,6µm,9.0s
YTIR Yattir 20.65 115 P Pn 10 30 08.4 +1.1
DSI Dead Sea 20.70 115 P Pn 10 30 13.7 +6.0
TBLU Trondheim 20.85 356 eP Pn 10 30 09.1 -0.2
TBLU IAmb IAmb 10 30 11.5
comp=Z,107nm,0.8s
HSUJ Al Zarqa 20.93 112 P P 10 30 08.1 +0.2
LISJ El Lisan 20.97 115 P Pn 10 30 12.8 +1.9
GHAJ Ghor Haditha 20.99 115 P Pn 10 30 12.8 +1.7
WALJ Wala 21.00 114 P Pn 10 30 11.0 -0.2
KARJ KARJ 21.16 115 P P 10 30 06.1 -4.3
ZFRI Zfri 21.20 117 P P 10 30 13.3 +2.5
VRH Novokhopyorsk 21.21 56 eP P 10 30 11.0 +0.3
VRH pmax pmax
comp=Z,320nm,0.8s
PRNI Paran 21.22 118 P P 10 30 12.5 +1.4
ASF Jabal al Asfar 21.37 111 P P 10 30 15.3 +2.6
comp=Z,25nm,0.8s,baz=290,slow=11,SNR=4.9
comp=Z,25nm,0.8s
ASF Jabal al Asfar 21.37 111 P P 10 30 14.5 +1.7
KIV Kislovodsk 21.44 76 P P 10 30 13.7 +0.3
KIV Kislovodsk 21.44 76 eP P 10 30 13.6 +0.2
KIV eS S 10 34 10.8 -0.3
KIV pmax pmax
comp=Z,114nm,3.7s
KIV pmax pmax
comp=Z,355nm,1.1s
KIV MLR MLR
comp=Z,2µm,14.0s
KIV Kislovodsk 21.44 76 P P 10 30 13.7 +0.2
KIV Kislovodsk 21.44 76 P P 10 30 14.3 +0.9
SHA1 Shidzhatmaz 21.45 77*c iP* P 10 30 14.3 +0.7
KVAR Kislovodsk Arr 21.45 76 P P 10 30 14.8 +1.3
comp=Z,74nm,1.0s,baz=257,slow=22,SNR=13
comp=Z,74nm,1.0s
MBRI Mt Berech 21.53 119 P P 10 30 16.2 +1.7
NEY Neytrino 21.56 78*d iP* P 10 30 16.3 +1.5
NEY pmax pmax
comp=Z,31nm,0.8s
KBZ Khabaz 21.62 77 P P 10 30 16.4 +1.2
comp=Z,313nm,1.1s,baz=288,slow=9.3,SNR=109
KBZ LR LR 10 40 06.4
comp=Z,4µm,20.9s,baz=288,slow=41
KBZ Khabaz 21.62 77*c iP* P 10 30 15.9 +0.7
KBZ pmax pmax
comp=Z,173nm,0.9s
EIL Elat 21.64 119 P P 10 30 17.2 +1.7
comp=Z,29nm,1.1s,baz=322,slow=5.0,SNR=12
EIL S S 10 34 06.5 -8.4
comp=Z,5.6nm,0.6s,baz=290,slow=18,SNR=2.0
EIL LR LR 10 41 18.8
comp=Z,2µm,20.5s,baz=306,slow=44
comp=Z,29nm,1.1s
EIL Elat 21.64 119 P P 10 30 16.8 +1.3
VALR Valaam 21.65 23 eP P 10 30 13.5 -1.8
VALR pmax pmax
comp=Z,218nm,0.9s
AQBJ Aqaba 21.66 119 P P 10 30 17.7 +1.9
MARD Mardin 21.69 95 P P 10 30 16.8 +0.7
HSNJ Maan 21.73 117 P P 10 30 21.1 +4.4
NSS Namsos 22.07 359 eP P 10 30 20.4 +0.6
NSS IAmb IAmb 10 30 30.4
comp=Z,139nm,1.1s
GURO Guroymak-BITLI 22.17 91 P P 10 30 22.1 +0.7
GURO IAmb IAmb 10 30 29.7
comp=Z,141nm,0.9s
ONI Oni 22.19 79 P P 10 30 22.4 +0.9
ONI IAmb IAmb 10 30 42.1
comp=Z,124nm,0.8s
ONI Oni 22.19 79 P P 10 30 22.4 +0.9
ONI pmax pmax
comp=Z,124nm,0.8s
KARS Kars 22.34 85 P P 10 30 23.8 +0.6
KARS Kars 22.34 85 P P 10 30 23.8 +0.6
KARS pmax pmax
comp=Z,715nm,1.1s
AKH Akhalkalaki 22.46 83 P P 10 30 24.7 +0.3
AKH Akhalkalaki 22.46 83 P P 10 30 24.7 +0.3
AKH pmax pmax
comp=Z,437nm,1.1s
ZEI Tsey 22.48 79 eP P 10 30 25.4 +0.7
ZEI pmax pmax
comp=Z,88nm,1.0s
GEVA Gevas 23.01 90 P P 10 30 30.6 +0.3
GEVA IAmb IAmb 10 30 51.9
comp=Z,93nm,1.0s
GNI Garni 23.69 85 P P 10 30 36.4 -0.6
comp=Z,60nm,0.8s,baz=214,slow=23,SNR=4.0
GNI S S 10 34 57.0 +5.2
comp=Z,6.3nm,0.5s,baz=270,slow=16,SNR=0.9
comp=Z,60nm,0.8s
GNI Garni 23.69 85 P P 10 30 35.7 -1.4
GNI Garni 23.69 85 P P 10 30 38.5 +1.4
GNI P P 10 30 38.5 +1.4
MOR8 Moi Rana 23.72 1 eP P 10 30 38.6 +1.7
MOR8 IAmb IAmb 10 30 41.4
comp=Z,83nm,1.0s
GROC Groznyy 23.78 77 eP P 10 30 39.2 +1.5
GROC e 10 31 09.5
GROC e 10 34 21.4
GROC pmax pmax
comp=Z,251nm,1.0s
FAUS Fauske 24.95 2 eP P 10 30 48.3 +0.1
FAUS IAmb IAmb 10 30 59.5
comp=Z,363nm,1.7s
MAK Makhachkala 25.06 77 eP P 10 30 48.1 -1.3
MAK e 10 31 19.6
MAK eS S 10 35 13.3 -0.1
MAK pmax pmax
comp=Z,335nm,1.0s
MAK MLR MLR
comp=Z,6µm,13.0s
PMPS Porto Santo 25.11 258 eP P 10 30 50.7 +0.7
comp=Z,231nm,1.5s
AKT Akhty 25.54 81 eP P 10 30 55.0 +1.0
AKT e 10 31 30.8
AKT pmax pmax
comp=Z,218nm,1.1s
PMAR Madeira 25.70 258 eP P 10 30 58.4 +2.8
comp=Z,283nm,1.6s
ADZR Andozero 25.84 25 eP P 10 30 55.3 -1.0
ADZR pmax pmax
comp=Z,162nm,0.9s

PMOZ Porto Moniz, M 25.86 258 eP P 10 31 00.4 +3.5
comp=Z,260nm,1.7s
PMOZ eS S 10 35 53.0 +27
PMOZ eLR LR 10 38 13.2
comp=Z,2µm,18.0s
KTK1 Kautokeino 27.08 8 eP P 10 31 07.3 -0.2
APA Apatity 27.36 17 ||P P 10 31 14.8 +4.8
APA pmax pmax
comp=Z,33nm,1.0s
APA MLR MLR
comp=Z,10µm,17.0s
KIRV Kirov 27.60 42 P P 10 31 10.2 -2.0
comp=Z,66nm,0.8s,baz=203,slow=1.5,SNR=11
KIRV LR LR 10 42 48.0
comp=Z,6µm,20.1s,baz=266,slow=38
comp=Z,66nm,0.8s
KIRV Kirov 27.60 42 eP P 10 31 11.2 -1.0
ARCES ARCESS Array B 27.83 9 P P 10 31 11.5 -2.7
comp=Z,8.8nm,0.8s,baz=58,slow=3.0,SNR=1.3
ARCES PcP PcP 10 34 29.4 -0.4
comp=Z,11nm,1.0s,baz=196,slow=1.7,SNR=4.4
ARCES LR LR 10 41 10.2
comp=Z,4µm,21.9s,baz=207,slow=34
comp=Z,8.8nm,0.8s
BORG Borgarnes 29.62 330 LR LR 10 44 34.3
comp=Z,4µm,18.2s,baz=117,slow=39
JMIC Jan Mayen 30.56 346 LR LR 10 44 08.8
comp=Z,2µm,20.1s,baz=118,slow=37
TORD Torodi Ar. Bea 30.93 202 P P 10 31 42.0 -0.1
comp=Z,29nm,0.9s,baz=8.0,slow=7.2,SNR=14
TORD PcP PcP 10 34 38.5 0.0
comp=Z,4.3nm,0.9s,baz=24,slow=4.1,SNR=1.5
comp=Z,29nm,0.9s
TORD Torodi Ar. Bea 30.93 202 P P 10 31 42.3 +0.2
AKTO Aktyubinsk 31.42 60 P P 10 31 45.6 -0.6
ARU Arti 31.93 48 LR LR 10 44 39.0
comp=Z,4µm,18.5s,baz=254,slow=36
ARU Arti 31.93 48 P P 10 31 50.1 -0.5
ARU Arti 31.93 48*c iP* P 10 31 49.8 -0.8
ARU 10 32 50.4
ARU S S 10 37 00.4 -0.8
ARU pmax pmax
comp=Z,242nm,0.9s
ARU MLR MLR
comp=Z,6µm,13.0s
AB31 Akbulak array 32.76 62 *i* P P 10 31 57.4 -0.5
ABKAR Akbulak array 32.76 62 P P 10 31 57.4 -0.5
SVE Sverdlovsk 33.11 48||*eP* P 10 32 01.1 +0.2
SVE pmax pmax
comp=Z,146nm,0.9s
SVE MLR MLR
comp=Z,10µm,13.0s
SCO Scoresbysund 33.16 339 P P 10 32 01.2 0.0
SCO IAmb IAmb 10 32 08.6
comp=Z,50nm,1.1s
SCO Scoresbysund 33.16 339 eP P 10 32 02.6 +1.3
SCO IAmb IAmb 10 32 08.3
comp=Z,49nm,1.1s
SCO Scoresbysund 33.16 339 P P 10 32 01.2 0.0
SCO pmax pmax
comp=Z,50nm,1.1s
GEYT Alibeck 34.25 82 P P 10 32 11.9 +0.8
comp=Z,44nm,0.8s,baz=289,slow=9.0,SNR=52
comp=Z,44nm,0.8s
GEYT Alibeck 34.25 82 IAmb IAmb 10 32 13.3
comp=Z,47nm,0.8s
GEYT Alibeck 34.25 82 P P 10 32 12.0 +0.8
GYA0 ALIBECK ARRAY 34.25 82 P P 10 32 12.0 +0.9
GYA0B ALIBECK ARRAY 34.25 82 IAmb IAmb 10 32 13.3
comp=Z,48nm,0.8s
SAKB Bahrain 34.62 106 P P 10 32 15.0 +0.6
SHMA Al-Shehemyia 35.00 106 P P 10 32 19.4 +1.7
DBG Daneborg 35.34 345 eP P 10 32 22.5 +2.4
DBG IAmb IAmb 10 32 26.8
comp=Z,23nm,1.2s
SMRA Abu-Samra 35.59 108 P P 10 32 24.8 +2.0
SPA0 Spitsbergen Ar 35.80 1 eP P 10 32 24.6 +0.6
SPA0 IAmb IAmb 10 32 31.6
comp=Z,69nm,0.9s
SPITS Spitsbergen Ar 35.80 1 P P 10 32 23.7 -0.3
comp=Z,27nm,1.1s,baz=163,slow=8.7,SNR=7.2
SPITS LR LR 10 46 56.3
comp=Z,4µm,21.2s,baz=150,slow=36
comp=Z,27nm,1.1s
SLWR Sila 36.63 108 P P 10 32 33.5 +1.9
GHWR Ruwais 37.53 107 P P 10 32 40.7 +1.4
GHWR P P 10 32 40.7 +1.4
BBTS Babate 37.78 232 P P 10 32 42.5 +1.1
comp=Z,18nm,0.4s,baz=343,slow=9.3,SNR=4.4
comp=Z,18nm,0.4s
ICESG Greenland Ices 37.96 332 eP P 10 32 42.4 -0.4
ICESG IAmb IAmb 10 32 49.0
comp=Z,145nm,1.3s
MZWR Madinat Zayed 38.37 106 P P 10 32 47.6 +1.2
MZWR P P 10 32 47.6 +1.2
UMQ Umm Al-Quwin 38.57 102 P P 10 32 49.7 +1.6
UMQ P P 10 32 49.7 +1.6
MZR Muzera 38.57 107 P P 10 32 50.1 +2.0
MZR P P 10 32 50.1 +2.0
SHME Shamm 38.60 101 P P 10 32 48.1 -0.2
SNR=6.9
SHME P P 10 32 48.1 -0.2
SNR=6.9
AJN Ajban 38.67 104 P P 10 32 50.3 +1.4
SNR=5.1
AJN P P 10 32 50.3 +1.4
SNR=5.1
AJN P P 10 32 50.3 +1.4
SNR=5.1
SUMG Summit 38.74 338 *i* P P 10 32 49.0 -0.4
SUMG IAmb IAmb 10 32 55.0
comp=Z,288nm,2.0s
BRVK Borovoye 38.77 54 P P 10 32 49.5 +0.2
BRVK IAmb IAmb 10 32 53.4
comp=Z,84nm,0.8s
BRVK Borovoye 38.77 54 P P 10 32 49.6 +0.2
BRVK pmax pmax
comp=Z,84nm,0.8s
BRVK Borovoye 38.77 54 P P 10 32 50.3 +0.9
BANOM Banah 38.79 101 *i* P P 10 32 49.9 -0.1
SNR=19
BANOM Banah 38.79 101 P P 10 32 51.1 +1.1
BANOM P P 10 32 51.1 +1.1
BVA0 Borovoye Array 38.83 54 *i* P P 10 32 50.8 +0.8
NAZ Nazwa, Dubai 38.89 103 *i* P P 10 32 50.4 -0.4
SNR=21
NAZ Nazwa, Dubai 38.89 103 P P 10 32 50.8 0.0
SNR=11
NAZ P P 10 32 50.8 0.0
SNR=11
FAQ Al Faqa, Dubai 38.99 103 *i* P P 10 32 51.0 -0.6
SNR=9.7
FAQ Al Faqa, Dubai 38.99 103 P P 10 32 51.7 +0.1
SNR=6.0
FAQ P P 10 32 51.7 +0.1
SNR=6.0
MASF Masafi 39.02 102 P P 10 32 52.0 +0.1
SNR=8.8
MASF P P 10 32 52.0 +0.1
SNR=8.8
MSFE Esma-Masafi 39.03 102 *i* P P 10 32 51.6 -0.3
SNR=19
DBIC Dimbokro 39.13 209 P P 10 32 52.5 -0.3
comp=Z,27nm,0.9s,baz=36,slow=7.4,SNR=9.6
comp=Z,27nm,0.9s
DBIC Dimbokro 39.13 209 P P 10 32 52.3 -0.4
MDH Madha 39.16 102 *i* P P 10 32 52.6 -0.4
SNR=27
MDH Madha 39.16 102 P P 10 32 53.1 0.0
SNR=17
MDH P P 10 32 53.1 0.0
SNR=17
UOSS Minazif 39.31 103 P P 10 32 53.6 -0.6
UOSS Minazif 39.31 103 *i* P P 10 32 53.5 -0.7
SNR=7.4
UOSS Minazif 39.31 103 P P 10 32 54.1 -0.1
UOSS P P 10 32 54.1 -0.1
HATD Hatta, Dubai 39.33 103 *i* P P 10 32 54.0 -0.4
SNR=46
HATD Hatta, Dubai 39.33 103 P P 10 32 54.3 -0.1
SNR=24
HATD P P 10 32 54.3 -0.1
SNR=24
ASHO Ashiyiah 39.36 103 *i* P P 10 32 53.9 -0.9
SNR=48
ASHO Ashiyiah 39.36 103 P P 10 32 54.5 -0.3
SNR=21
ASHO P P 10 32 54.5 -0.3
SNR=21
ALNE Al Ain 39.53 104 *i* P P 10 32 55.8 -0.3
SNR=21
ALNE Al Ain 39.53 104 P P 10 32 56.3 +0.2
SNR=18
DY2G Dye2 39.90 327 eP P 10 32 58.4 -0.6
DY2G IAmb IAmb 10 33 05.2
comp=Z,200nm,1.5s
UMZA Um Al Zommool 39.95 106 P P 10 33 00.5 +0.9
UMZA P P 10 33 00.5 +0.9
JASK Jask - Hormozg 39.97 100 P P 10 33 01.3 +1.6
SNR=5.9
SOHO SOHO 40.04 103 *i* P P 10 32 59.6 -0.7
SNR=32
SOHO SOHO 40.04 103 P P 10 33 00.7 +0.3
SOHO P P 10 33 00.7 +0.3
SOHO P P 10 33 00.7 +0.3
ATD Arta Tunnel 40.19 131 P P 10 33 05.0 +3.3
NOR Nord 40.52 354 eP P 10 33 04.4 +0.6
NOR IAmb IAmb 10 33 09.1
comp=Z,202nm,2.2s
ARQ Araqi 40.52 104 P P 10 33 04.4 0.0
SNR=16
ARQ P P 10 33 04.4 0.0
SNR=16
HOQ Hoqain 40.94 103 P P 10 33 08.0 +0.1
SNR=16
HOQ P P 10 33 08.0 +0.1
SNR=16
IUG Iuzhnay 41.29 71 eP P 10 33 11.2 +0.5
baz=71
IUG Iuzhnay 41.29 71 eP P 10 33 11.1 +0.5
KK31 Karatay Array 41.29 69 P P 10 33 11.0 +0.4
KK31 IAmb IAmb 10 33 14.0
comp=Z,78nm,0.9s
KK31 Karatay Array 41.29 69 *i* P P 10 33 11.5 +0.9
KKAR Karatay Array 41.29 69 P P 10 33 10.9 +0.3
KKAR Karatay Array 41.29 69 P P 10 33 11.0 +0.4
KKAR IAmb IAmb 10 33 14.0
comp=Z,78nm,0.9s
KKAR Karatay Array 41.29 69 P P 10 33 10.9 +0.4
KKAR 10 33 11.0
BSY Bisya 41.38 104 P P 10 33 12.0 +0.5
SNR=12
BSY P P 10 33 12.0 +0.5
SNR=12
SFJD Kangerlussuaq 41.67 328 P P 10 33 13.4 +0.1
comp=Z,35nm,0.9s,baz=92,slow=8.9,SNR=9.2
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 41.67 328 P P 10 33 12.9 -0.4
SFJD Kangerlussuaq 41.67 328 eP P 10 33 14.3 +1.1
SFJD IAmb IAmb 10 33 14.8
comp=Z,48nm,1.0s
SFJD Kangerlussuaq 41.67 328 P P 10 33 12.9 -0.4
SFJD pmax pmax
comp=Z,40nm,0.9s
SMDO Samad 41.80 103 P P 10 33 14.8 -0.1
SNR=26
SMDO P P 10 33 14.8 -0.1
SNR=26
DZA Taraz 41.93 69 eP P 10 33 16.3 +0.5
baz=69
DZA Taraz 41.93 69 eP P 10 33 16.3 +0.5
DOK Doka 41.94 112 P P 10 33 16.6 +0.6
SNR=11
DOK P P 10 33 16.6 +0.6
SNR=11
CHGR Chuyangaron 41.98 76 P P 10 33 16.4 +0.2
CHGR IAmb IAmb 10 33 18.2
comp=Z,50nm,0.8s
CHGR Chuyangaron 41.98 76 P P 10 33 16.5 +0.2
CHGR pmax pmax
comp=Z,50nm,0.8s
ILULI Ilulissat 42.01 331 P P 10 33 15.2 -0.8
ILULI Ilulissat 42.01 331 eP P 10 33 15.3 -0.7
ILULI IAmb IAmb 10 33 21.4
comp=Z,160nm,1.4s
ILULI Ilulissat 42.01 331 P P 10 33 15.2 -0.8
ILULI pmax pmax
comp=Z,167nm,1.4s
WSAR Wadi Sarin 42.10 102 P P 10 33 18.0 +0.7
SNR=12
WHFO Wadi Hawf 42.17 113 P P 10 33 18.4 +0.4
SNR=5.9
WHFO P P 10 33 18.4 +0.4
SNR=5.9
WHFO P P 10 33 18.4 +0.4
SNR=5.9
ABTO Aybut 42.25 114 P P 10 33 19.7 +1.0
SNR=7.2
JMDO Jabal Madar 42.26 104 P P 10 33 18.1 -0.6
SNR=17
JMDO P P 10 33 18.1 -0.6
SNR=17
GAR Garm 42.67 75 P P 10 33 22.6 +0.6
WBK Wadi Bani Khal 42.74 103 P P 10 33 24.0 +1.4
SNR=16
WBK P P 10 33 24.0 +1.4
SNR=16
RBK Rabkut 42.76 113 P P 10 33 23.7 +1.0
SNR=12
MHTO MHTO 43.05 106 P P 10 33 25.1 +0.1
SNR=19
MHTO P P 10 33 25.1 +0.1
SNR=19
BTLS Baital 43.06 65 eP P 10 33 25.6 +0.6
baz=65
BTLS Baital 43.06 65 eP P 10 33 25.5 +0.6
DMTO DMTO 43.12 112 P P 10 33 25.3 -0.4
SNR=8.9
JLN Jalan Bani Buh 43.34 103 P P 10 33 27.6 +0.2
SNR=18
JLN P P 10 33 27.6 +0.2
SNR=18
NEEM North Greenlan 43.36 343 eP P 10 33 26.3 -1.0
NEEM IAmb IAmb 10 33 32.9
comp=Z,120nm,1.0s
DQM DQM 43.43 107 P P 10 33 27.6 -0.6
SNR=19
DQM P P 10 33 27.6 -0.6
SNR=19
LODK Lodwar 43.63 147 P P 10 33 30.6 +0.7
LODK Lodwar 43.63 147 P P 10 33 32.1 +2.2
SNR=16
KBL Kabul 43.68 81 P P 10 33 31.2 +0.9
KBL Kabul 43.68 81 P P 10 33 31.2 +0.9
KBL pmax pmax
comp=Z,15nm,1.1s
KBL Kabul 43.68 81 P P 10 33 31.5 +1.2
SNR=5.1
KBL P P 10 33 31.5 +1.2
SNR=5.1
EKS2 Erkin-Say 43.70 68 P P 10 33 31.4 +1.1
SNR=62
AML Almayashu 43.83 69 P P 10 33 34.0 +2.3
SNR=19
USP Ospenovka 43.97 67 P P 10 33 32.8 +0.4
SNR=10
SGDS Sogindy 43.99 67 eP P 10 33 33.2 +0.7
baz=67
SGDS Sogindy 43.99 67 eP P 10 33 33.2 +0.7
AAK Ala-Archa 44.20 68 P P 10 33 36.0 +1.6
SNR=15
AAK Ala-Archa 44.20 68 P P 10 33 35.0 +0.7
AAK IAmb IAmb 10 33 44.5
comp=Z,53nm,1.1s
AAK Ala-Archa 44.20 68||*iP* P 10 33 35.8 +1.5
AAK pmax pmax
comp=Z,94nm,2.7s
AAK Ala-Archa 44.20 68 *i* P P 10 33 34.7 +0.4
SNR=5.9
AAK Ala-Archa 44.20 68 P P 10 33 35.8 +1.5
CHMS Chumysh 44.24 68 P P 10 33 35.9 +1.4
SNR=7.8
KURK Kurchatov 44.30 56 P P 10 33 34.4 -0.4
KURK IAmb IAmb 10 33 42.2
comp=Z,36nm,1.0s
KURK Kurchatov 44.30 56||*iP* P 10 33 34.2 -0.6
KURK pmax pmax
comp=Z,21nm,0.9s
KURK Kurchatov 44.30 56 P P 10 33 34.7 -0.1
KURK P P 10 33 34.7 -0.1
UCH Uchtor 44.36 69 P P 10 33 37.3 +1.3
SNR=22

KULLO Kullorsuaq 44.37 339 *e*P **P** **10 33 35.3 +0.2**
KULLO IAmb IAmb 10 33 40.8
comp=Z,62nm,1.2s

TKM2 Tokmak 2 44.85 67 P **P** **10 33 40.4 +0.9**
SNR=7.0

KUU Kurty 44.99 66 *i* P **P** **10 33 41.2 +0.7**
comp=Z,31nm,0.9s,baz=66

KUU Kurty 44.99 66 *i* P **P** **10 33 41.1 +0.7**
KUU pmax pmax
comp=Z,31nm,0.9s

CHKK Chushkaly 45.45 66 *e*P **P** **10 33 44.4 +0.3**
baz=66

CHKK Chushkaly 45.45 66 *e*P **P** **10 33 44.4 +0.3**

NRIK Noril'sk 45.54 29 P **P** **10 33 45.2 +0.8**
comp=Z,36nm,0.9s,baz=263,slow=7.7,SNR=28
comp=Z,36nm,0.9s

NRIK Noril'sk 45.54 29 P **P** **10 33 45.5 +1.1**
NRIK IAmb IAmb 10 33 48.4
comp=Z,47nm,0.9s

NRIK Noril'sk 45.54 29 *e*P **P** **10 33 45.8 +1.4**
NRIK pmax pmax
comp=Z,49nm,0.9s

AAA Alma-Ata 45.64 66 *e*P **P** **10 33 47.1 +1.5**
comp=Z,24nm,0.5s,baz=67

AAA Alma-Ata 45.64 66 *e*P **P** **10 33 47.1 +1.5**
AAA pmax pmax
comp=Z,24nm,0.5s

MBAR Mbarara 45.72 155 *i* P **P** **10 33 49.1 +2.5**
MBAR pmax pmax
comp=Z,37nm,1.8s

MBAR Mbarara 45.72 155 P **P** **10 33 48.6 +2.0**
MBAR P **P** **10 33 48.6 +2.0**

TNSS Tian-Shan 45.72 67 *e*P **P** **10 33 48.0 +1.3**
baz=67

TNSS Tian-Shan 45.72 67 *e*P **P** **10 33 48.0 +1.3**

MDOK Medeo 45.74 66 *e*P **P** **10 33 47.9 +1.3**
baz=67

MDOK Medeo 45.74 66 *e*P **P** **10 33 47.9 +1.3**

KSH Kashi 46.46 72 P **P** **10 33 53.8 +1.6**
KSH sP sP 10 34 00.4 +2.3
KSH pmax pmax
comp=Z,49nm,1.0s
KSH LR LR
comp=Z,3μm,14.1s
KSH LR LR
comp=Z,4μm,14.7s
KSH LR LR
comp=Z,4μm,15.1s

ZHN Zhinishke 46.68 66 *e*P **P** **10 33 54.4 +0.4**
baz=66

ZHN Zhinishke 46.68 66 *e*P **P** **10 33 54.3 +0.4**

SATY Saty 46.70 66 *e*P **P** **10 33 55.0 +0.8**
baz=66

SATY Saty 46.70 66 *e*P **P** **10 33 54.9 +0.8**

KPKS Kokpek 46.73 65 *e*P **P** **10 33 55.0 +0.6**
baz=66

KPKS Kokpek 46.73 65 *e*P **P** **10 33 54.9 +0.6**

TARG Taragay, Kyrgy 46.82 68 P **P** **10 33 56.6 +1.2**

TARG Taragay, Kyrgy 46.82 68 P **P** **10 33 56.6 +1.2**
TARG pmax pmax
comp=Z,78nm,0.9s

ZAA0 Zalesovo Array 47.05 50 P **P** **10 33 56.4 -0.1**
ZAA0 IAmb IAmb 10 33 59.4
comp=Z,32nm,1.0s

ZALV Zalesovo Beam 47.05 50 P **P** **10 33 56.5 0.0**
comp=Z,22nm,0.8s,baz=285,slow=8.1,SNR=48
ZALV PP **PP** **10 35 44.1 -2.8**
comp=Z,14nm,0.7s,baz=290,slow=10.0,SNR=5.6
comp=Z,22nm,0.8s

UZB Uzynbulak 47.08 66 *e*P **P** **10 33 58.1 +0.9**
baz=66

UZB Uzynbulak 47.08 66 *e*P **P** **10 33 58.0 +0.9**

NIL Nilore 47.17 80 P **P** **10 33 58.6 +0.9**

NIL Nilore 47.17 80 P **P** **10 33 58.7 +0.9**
NIL pmax pmax
comp=Z,70nm,1.1s

NIL Nilore 47.17 80 P **P** **10 33 59.0 +1.3**
NIL P **P** **10 33 59.0 +1.3**

TULEG Thule 47.28 342 P **P** **10 33 57.5 -0.5**

TULEG Thule 47.28 342 *e*P **P** **10 33 59.2 +1.2**
TULEG IAmb IAmb 10 34 03.2
comp=Z,82nm,1.1s

SHLS Shalkode 47.38 65 *e*P **P** **10 34 02.8 +3.4**
comp=Z,19nm,1.0s,baz=66

SHLS Shalkode 47.38 65 *e*P **P** **10 34 02.8 +3.4**
SHLS pmax pmax
comp=Z,19nm,1.0s

MAKZ Makanchi 47.65 60 P **P** **10 34 01.3 0.0**
MAKZ IAmb IAmb 10 34 09.2
comp=Z,30nm,1.1s

MAKZ Makanchi 47.65 60 P **P** **10 34 01.3 0.0**
MAKZ pmax pmax
comp=Z,30nm,1.2s

MK31 Makanchi Array 47.86 60 P **P** **10 34 02.5 -0.4**
MK31 IAmb IAmb 10 34 10.6
comp=Z,26nm,0.9s

MK31 Makanchi Array 47.86 60 *i* P **P** **10 34 02.6 -0.4**

MKAR Makanchi Array 47.86 60 P **P** **10 34 02.6 -0.3**
comp=Z,22nm,0.7s,baz=288,slow=6.0,SNR=100
comp=Z,22nm,0.7s

MKAR Makanchi Array 47.86 60 P **P** **10 34 02.5 -0.4**

KMBO Kilima Mbogo 48.53 147 P **P** **10 34 10.6 +1.9**
comp=Z,0.2nm,0.8s,baz=346,slow=24,SNR=0.8

ZSN Zaisan 49.25 58 *e*P **P** **10 34 14.8 +1.1**
comp=Z,26nm,1.3s,baz=58

ZSN Zaisan 49.25 58 *e*P **P** **10 34 14.7 +1.1**
ZSN pmax pmax
comp=Z,26nm,1.3s

DGZ Jazzator, Alta 49.99 55⇑ *i*P **P** **10 34 19.8 +0.4**
DGZ pmax pmax
comp=Z,21nm,0.7s

SCHQ Schefferville 51.48 313 P **P** **10 34 28.9 -1.6**
comp=Z,10nm,0.7s,baz=77,slow=8.3,SNR=10
comp=Z,10nm,0.7s

SCHQ Schefferville 51.48 313 P **P** **10 34 29.4 -1.0**
SCHQ IAmb IAmb 10 34 36.3
comp=Z,30nm,1.0s

WMQ Urumqi 52.54 61 *e*P **P** **10 34 39.8 +1.2**
WMQ pP sP 10 34 44.3 -0.2
WMQ PcP **PcP** **10 35 54.6 +5.8**
WMQ PP **PP** **10 36 42.6 +5.3**
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,460nm,6.3s
WMQ LR LR
comp=Z,6μm,16.5s
WMQ LR LR
comp=Z,5μm,16.5s
WMQ LR LR
comp=Z,3μm,23.5s

RES Resolute Bay 54.00 342 P **P** **10 34 47.8 -0.9**
comp=Z,5.5nm,0.9s,baz=24,slow=9.5,SNR=9.8
comp=Z,5.5nm,0.9s

RES Resolute Bay 54.00 342 P **P** **10 34 48.8 +0.1**

RES Resolute Bay 54.00 342 P **P** **10 34 48.8 +0.1**
RES pmax pmax
comp=Z,23nm,1.2s

E62A Clayton Lake 56.51 305 P **P** **10 35 08.7 +1.5**

MOY Mondy 56.98 48 *e*P **P** **10 35 11.9 +1.3**
MOY pmax pmax
comp=Z,74nm,3.0s

PKME Peaks-Kenny Pk 57.02 303 P **P** **10 35 09.5 -1.4**
baz=61

PYUN Piuthan 57.20 80 *e*P **P** **10 35 12.1 -0.5**
comp=Z,270nm,1.0s

TIXI Tiksi 57.50 20 P **P** **10 35 14.2 +0.4**

TIXI Tiksi 57.50 20*c* *i*P **P** **10 35 14.7 +0.9**
TIXI pmax pmax
comp=Z,68nm,1.5s

DANN Dangsing 57.62 80 *e*P **P** **10 35 15.1 -0.6**
comp=Z,90nm,0.7s

KOLN Koldanda 57.83 80 *e*P **P** **10 35 16.3 -0.8**

GKN Gorkha 58.45 80 *e*P **P** **10 35 20.4 -1.0**

IRK Irkutsk 58.47 46 *e*P **P** **10 35 20.8 -0.2**
IRK pmax pmax
comp=Z,139nm,2.3s

ZAK Zakamensk 58.87 48 *e*P **P** **10 35 24.4 +0.5**
ZAK pmax pmax
comp=Z,21nm,1.2s

DMN Daman 59.02 80 *e*P **P** **10 35 24.8 -0.6**

KKN Kakani 59.04 79 *e*P **P** **10 35 24.8 -0.7**

LBNH Lisbon 59.16 303 P **P** **10 35 24.5 -1.4**
baz=59

PKIN Phulchoki 59.24 79 *e*P **P** **10 35 26.7 -0.3**

PKI Pulchoki 59.26 79 *e*P **P** **10 35 26.0 -1.2**

JIRN Jiri 59.77 79 *e*P **P** **10 35 29.9 -0.9**

HYB Hyderabad 60.31 93 *e*P **P** **10 35 34.0 -0.2**

BOD Bodaibo 60.33 37 *e*P **P** **10 35 33.0 -0.7**
BOD pmax pmax
comp=Z,83nm,1.3s

RAMN Ramite 60.48 79 *e*P **P** **10 35 34.1 -1.4**
comp=Z,137nm,0.8s

L61B Northampton 60.56 302 P **P** **10 35 34.5 -1.0**
baz=58

LONY Lake Ozonia 60.58 305 P **P** **10 35 34.4 -1.3**
baz=58

TAPN Taplejung 61.05 78 *e*P **P** **10 35 38.8 -0.7**
comp=Z,274nm,1.1s

GOMU GeErMu 61.07 66 P **P** **10 35 39.4 -0.2**
GOMU sP sP 10 35 47.1 +1.5
GOMU S **S** **10 44 04.6 +6.1**
GOMU pmax pmax
comp=Z,7.0nm,1.2s
GOMU LR LR
comp=Z,2μm,16.9s
GOMU LR LR
comp=Z,2μm,16.3s
GOMU LR LR
comp=Z,1μm,16.3s

ODAN Odare 61.11 79 *e*P **P** **10 35 38.9 -0.9**

TSUM Tsumeb 61.53 175 P **P** **10 35 42.4 +0.1**

SONM Songino Array 61.95 50 P **P** **10 35 45.4 +0.4**
comp=Z,26nm,0.9s,baz=288,slow=7.7,SNR=71
comp=Z,26nm,0.9s

PAL Palisades 62.12 301 P **P** **10 35 44.3 -1.8**
baz=56

A36M Sachs Harbour 62.13 347 P **P** **10 35 43.9 -1.7**
baz=34,SNR=24

LSA Lhasa 62.17 74 P **P** **10 35 46.8 -0.4**
LSA pmax pmax
comp=Z,16nm,0.7s

LSA Lhasa 62.17 74 P **P** **10 35 47.3 +0.1**

ULN Ulaanbaatar 62.30 49 P **P** **10 35 47.9 +0.5**
ULN IAmb IAmb 10 35 51.0
comp=Z,34nm,1.2s

ULN Ulaanbaatar 62.30 49 P **P** **10 35 47.9 +0.5**
ULN pmax pmax
comp=Z,34nm,1.3s

ULN Ulaanbaatar 62.30 49 P **P** **10 35 48.2 +0.8**
ULN P **P** **10 35 48.2 +0.8**

GTA Gaotai 62.60 61 *e*P **P** **10 35 49.8 +0.3**
GTA pmax pmax
comp=Z,11nm,0.8s
GTA pmax pmax
comp=Z,550nm,6.2s
GTA LR LR
comp=Z,1μm,21.1s
GTA LR LR
comp=Z,2μm,18.9s
GTA LR LR
comp=Z,3μm,20.4s

FCC Fort Churchill 62.63 326 P **P** **10 35 48.7 -0.5**

FCC Fort Churchill 62.63 326 P **P** **10 35 48.7 -0.5**
FCC pmax pmax
comp=Z,41nm,1.0s

BINY Binghamton 62.76 303 P **P** **10 35 48.6 -1.7**
baz=56

SADO Sadowa 63.23 307 IAmb IAmb 10 35 56.5
comp=Z,25nm,1.1s

CIT Chita 63.40 43 *e*P **P** **10 35 55.8 +1.2**
CIT *e* 10 36 33.8
CIT pmax pmax
comp=Z,108nm,3.1s

HMDM Hanimaadhoo 63.45 106 P **P** **10 35 57.1 +1.8**

PSUB Penn St. - Bra 63.69 301 P **P** **10 35 56.0 -0.5**
baz=55

L56A Greenwood 63.76 304 P **P** **10 35 56.8 -0.3**
baz=55
L56A P **P** **10 35 56.8 -0.3**
baz=55

M57A Sunshine Farm, 63.95 303 P **P** **10 35 57.8 -0.4**
baz=55
M57A P **P** **10 35 57.8 -0.4**
baz=55

YAK Yakutsk 63.98 28 P **P** **10 35 58.0 -0.1**

YAK Yakutsk 63.98 28 *e*P **P** **10 35 58.6 +0.5**
YAK pmax pmax
comp=Z,116nm,0.9s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,32nm,1.0s

C36M Paulatuk 64.11 344 P **P** **10 35 58.7 -0.1**

C36M Paulatuk 64.11 344 P **P** **10 35 57.1 -1.7**
baz=34,SNR=28

WVNY West Valley, N 64.24 305 P **P** **10 35 59.2 -1.0**
baz=55

SSPA Standing Stone 64.82 303 P **P** **10 36 03.6 -0.4**

SSPA Standing Stone 64.82 303 P **P** **10 36 03.4 -0.6**
baz=55

SSPA Standing Stone 64.82 303 P **P** **10 36 02.2 -1.8**
baz=55

M55A Ridgway 64.88 304 P **P** **10 36 03.6 -0.8**
baz=54
M55A P **P** **10 36 03.6 -0.8**
baz=54

PSDB Penn State Uni 65.07 304 P **P** **10 36 05.0 -0.6**
baz=54

SHL Shillong 65.12 77 P **P** **10 36 05.8 -0.5**
SNR=18

ERPA Erie 65.25 305 P **P** **10 36 05.4 -1.4**
baz=54

E46A Sault Ste Mari 65.27 311 IAmb IAmb 10 36 13.2
comp=Z,28nm,1.0s

E46A Sault Ste Mari 65.27 311 P **P** **10 36 06.0 -0.8**
baz=54

ALLY Allegheny Colle 65.62 305 P **P** **10 36 09.2 +0.1**
baz=54

CBN Corbin Frederi 65.91 300 P **P** **10 36 08.7 -2.3**
baz=54

PAMR Moraine State 66.00 304 P **P** **10 36 11.8 +0.1**
baz=54

M53A WI Miller and 66.06 305 P **P** **10 36 10.5 -1.5**
baz=54

UPAO U. Pittsburgh 66.23 304 P **P** **10 36 13.0 0.0**
baz=54

A21K Barrow 66.25 356 P **P** **10 36 12.9 +0.3**

A21K Barrow 66.25 356 P **P** **10 36 11.7 -0.9**
baz=8.2

GLMI Grayling 66.37 310 P **P** **10 36 12.4 -1.6**
baz=53

R58B Mineral 66.37 300 P **P** **10 36 13.4 -0.6**
R58B IAmb IAmb 10 36 47.9
comp=Z,23nm,1.1s

R58B Mineral 66.37 300 P **P** **10 36 13.5 -0.5**
baz=54
R58B P **P** **10 36 13.5 -0.5**
baz=54

M52A Chesterland 66.42 305 P **P** **10 36 14.0 -0.3**
baz=53
M52A P **P** **10 36 14.0 -0.3**
baz=53

N53A Lisbon 66.54 304 P **P** **10 36 14.9 -0.1**
N53A IAmb IAmb 10 36 20.4
comp=Z,39nm,1.1s

N53A Lisbon 66.54 304 P **P** **10 36 14.8 -0.2**
baz=53
N53A P **P** **10 36 14.8 -0.2**
baz=53

Q56A Snyder Ridge, 66.56 302 IAmb IAmb 10 36 22.0
comp=Z,30nm,1.1s

Q56A Snyder Ridge, 66.56 302 P **P** **10 36 15.2 0.0**
baz=54
Q56A P **P** **10 36 15.2 0.0**
baz=54

MCWV Mont Chateau 66.61 303 P **P** **10 36 15.1 -0.4**
baz=53

MCWV Mont Chateau 66.61 303 P **P** **10 36 14.5 -1.0**
baz=53

INK Inuvik 66.73 347 P **P** **10 36 14.5 -1.3**
comp=Z,5.3nm,0.9s,baz=11,slow=8.2,SNR=13
comp=Z,5.3nm,0.9s

INK Inuvik 66.73 347 P **P** **10 36 15.4 -0.4**
INK IAmb IAmb 10 36 23.1
comp=Z,23nm,1.1s

INK Inuvik 66.73 347 P **P** **10 36 15.3 -0.5**
baz=26,SNR=12

INK Inuvik 66.73 347 P **P** **10 36 15.4 -0.4**
INK pmax pmax
comp=Z,23nm,1.1s

C26K Camden Bay 66.75 352 P **P** **10 36 15.5 -0.4**
baz=17

E43A Lone Tree Farm 66.76 312 P **P** **10 36 15.7 -0.7**
E43A IAmb IAmb 10 36 22.5
comp=Z,26nm,1.0s

E43A Lone Tree Farm 66.76 312 P **P** **10 36 16.0 -0.3**
baz=52

C27K Jago River 66.90 351 P **P** **10 36 16.8 -0.1**
baz=18

O53A New Philadelph 67.10 304 P **P** **10 36 18.4 -0.2**

O53A New Philadelph 67.10 304 P **P** **10 36 18.1 -0.5**
baz=53

LZH Lanzhou 67.13 62 *e*P **P** **10 36 19.4 +0.3**
LZH sP sP 10 36 24.9 -0.2
LZH pmax pmax
comp=Z,35nm,1.2s
LZH pmax pmax
comp=Z,590nm,4.8s
LZH LR LR
comp=Z,6μm,16.3s
LZH LR LR
comp=Z,3μm,16.3s
LZH LR LR
comp=Z,6μm,18.0s

S57A Dark Hollow, R 67.18 301 P **P** **10 36 19.9 +0.7**
baz=53
S57A P **P** **10 36 19.9 +0.7**
baz=53

U59A Littleton 67.27 299 P **P** **10 36 19.6 -0.2**
U59A IAmb IAmb 10 36 31.5
comp=Z,20nm,1.1s

U59A Littleton 67.27 299 P **P** **10 36 18.8 -1.0**
baz=53
U59A P **P** **10 36 18.8 -1.0**
baz=53

C24K Franklin Bluff 67.30 353 P **P** **10 36 19.2 -0.2**
baz=14

YKA Yellowknife Ar 67.32 337 P **P** **10 36 19.5 -0.2**
comp=Z,15nm,0.8s,baz=39,slow=4.6,SNR=41
comp=Z,15nm,0.8s

AAM Ann Arbor 67.33 307 P **P** **10 36 17.5 -2.6**
baz=53

N51A Ashland 67.40 305 P **P** **10 36 19.5 -1.1**
N51A IAmb IAmb 10 36 27.0
comp=Z,37nm,1.1s

N51A Ashland 67.40 305 P **P** **10 36 19.6 -0.9**
baz=53
N51A P **P** **10 36 19.6 -0.9**
baz=53

J47A Sunmer 67.44 308 P **P** **10 36 20.3 -0.4**
baz=52
J47A P **P** **10 36 20.3 -0.4**
baz=52

F31M Tsiigehtchic 67.55 347 P **P** **10 36 20.1 -1.0**
baz=26,SNR=29

O52A Adamsville 67.56 304 P **P** **10 36 20.6 -1.0**
O52A IAmb IAmb 10 36 26.7
comp=Z,28nm,0.9s

O52A Adamsville 67.56 304 P **P** **10 36 20.8 -0.7**
baz=53
O52A P **P** **10 36 20.8 -0.7**
baz=53

R55A Marlinton 67.60 302 P **P** **10 36 21.2 -0.7**
R55A IAmb IAmb 10 36 34.2
comp=Z,26nm,1.1s

R55A Marlinton 67.60 302 P **P** **10 36 21.7 -0.3**
baz=53
R55A P **P** **10 36 21.7 -0.3**
baz=53

Q54A Coxs Mills 67.62 303 P **P** **10 36 21.2 -0.7**

Q54A Coxs Mills 67.62 303 P **P** **10 36 21.3 -0.7**
baz=53
Q54A P **P** **10 36 21.3 -0.7**
baz=53

P53A Whipple 67.67 304 IAmb IAmb 10 36 29.7
comp=Z,33nm,1.0s

P53A Whipple 67.67 304 P **P** **10 36 22.2 0.0**
baz=53
P53A P **P** **10 36 22.2 0.0**
baz=53

T57A Hurt 67.82 300 IAmb IAmb 10 36 30.1
comp=Z,19nm,1.1s

T57A Hurt 67.82 300 P **P** **10 36 22.6 -0.7**
baz=53
T57A P **P** **10 36 22.6 -0.7**
baz=53

BILL Bilibino 67.92 11 P **P** **10 36 23.1 -0.2**

BILL Bilibino 67.92 11*c* *i*P **P** **10 36 24.5 +1.2**
BILL *e* 10 38 48.5
BILL pmax pmax
comp=Z,68nm,1.1s
BILL MLR MLR
comp=Z,2μm,19.0s

CNNC Cliffs of the 68.00 298 P **P** **10 36 24.1 -0.3**
baz=53

L48A N Adams 68.01 307 P **P** **10 36 23.9 -0.4**
baz=52
L48A P **P** **10 36 23.9 -0.4**
baz=52

E27K Coleen River 68.02 350 P **P** **10 36 23.2 -0.8**
baz=20

P52A Corning 68.03 304 IAmb IAmb 10 36 29.9
comp=Z,31nm,0.9s

P52A Corning 68.03 304 P **P** **10 36 24.1 -0.5**
baz=52

LBTB Lobatse 68.14 168 IAmb IAmb 10 36 30.2
comp=Z,24nm,0.8s

EYMN Ely 68.17 316 P **P** **10 36 24.4 -0.9**
baz=50

ACSO Alum Creek Sta 68.19 305 P **P** **10 36 25.0 -0.5**

ACSO Alum Creek Sta 68.19 305 P **P** **10 36 24.6 -0.9**
baz=52

ACSO Alum Creek Sta 68.19 305 P **P** **10 36 24.1 -1.4**
baz=52

D23K Nanushuk River 68.20 354 P **P** **10 36 24.7 -0.4**
baz=13

HIA Hailar 68.21 43 IAmb IAmb 10 36 35.1
comp=Z,31nm,1.0s

HIA Hailar 68.21 43 P **P** **10 36 27.6 +2.1**
comp=Z,32nm,1.3s

BTO Baotou 68.27 54 *e*P **P** **10 36 24.9 -1.3**

G30M tAoh Zraii Nji 68.38 348 P **P** **10 36 26.4 +0.1**
baz=24

BLA Blacksburg 68.44 301 P **P** **10 36 27.7 +0.5**
baz=52

V58A Windy Hill, Pi 68.46 299 P **P** **10 36 25.4 -1.8**
V58A IAmb IAmb 10 36 34.0
comp=Z,23nm,1.1s

V58A Windy Hill, Pi 68.46 299 P **P** **10 36 26.9 -0.4**
baz=52
V58A P **P** **10 36 26.9 -0.4**
baz=52

N49A Columbus Grove 68.49 306 IAmb IAmb 10 36 32.1
comp=Z,32nm,1.0s

N49A Columbus Grove 68.49 306 P **P** **10 36 26.3 -1.1**
baz=52
N49A P **P** **10 36 26.3 -1.1**
baz=52

Q52A Bidwell 68.53 304 P **P** **10 36 26.7 -1.0**
Q52A IAmb IAmb 10 36 33.1
comp=Z,31nm,0.9s

Q52A Bidwell 68.53 304 P **P** **10 36 27.1 -0.5**
baz=52
Q52A P **P** **10 36 27.1 -0.5**
baz=52

PALK Pallekele 68.53 100 P **P** **10 36 27.6 -0.4**
PALK IAmb IAmb 10 36 31.0
comp=Z,28nm,1.0s

PALK Pallekele 68.53 100 P **P** **10 36 27.6 -0.4**
PALK pmax pmax
comp=Z,28nm,1.0s

PALK Pallekele 68.53 100 P **P** **10 36 27.2 -0.8**
PALK P **P** **10 36 27.2 -0.8**

E25K Arctic Village 68.55 352 P **P** **10 36 27.0 -0.4**
baz=17,SNR=15

FFC Flin Flon 68.56 326 P **P** **10 36 27.6 0.0**
FFC IAmb IAmb 10 36 35.2
comp=Z,24nm,1.1s

FFC Flin Flon 68.56 326 P **P** **10 36 27.6 0.0**
FFC pmax pmax
comp=Z,24nm,1.1s

P51A Williamsport 68.69 304 IAmb IAmb 10 36 33.0
comp=Z,22nm,1.1s

P51A Williamsport 68.69 304 P **P** **10 36 27.8 -0.9**
baz=52
P51A P **P** **10 36 27.8 -0.9**
baz=52

R53A Hurricane 68.72 303 IAmb IAmb 10 36 34.0
comp=Z,30nm,1.0s

R53A	**Hurricane**	**68.72**	**303**	P	**P**	**10 36 28.7**	**-0.2**
	baz=52								
R53A				P	**P**	**10 36 28.7**	**-0.2**
	baz=52								
ZEA	**Zeya**	**68.72**	**36**	*e*P	**P**	**10 36 29.9**	**+1.3**
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
F26K	**Sheenjek River**	**68.80**	**351**	P	**P**	**10 36 28.9**	**0.0**
	baz=18						
BIM	**Bigot**	**68.83**	**270**	P	**P**	**10 36 30.1**	**+0.3**
ULM	**Lac du Bonnet**	**68.86**	**319**	P	**P**	**10 36 28.6**	**-1.0**
	comp=Z,8.6nm,0.7s,baz=56,slow=5.5,SNR=10.0						
	comp=Z,8.6nm,0.7s						
E24K	**Your Creek**	**68.89**	**353**	P	**P**	**10 36 29.0**	**-0.5**
	baz=14						
U56A	**King**	**68.94**	**300**	IAmb	IAmb	10 36 37.1	
	comp=Z,25nm,1.3s						
U56A	**King**	**68.94**	**300**	P	**P**	**10 36 30.2**	**-0.1**
	baz=52						
U56A				P	**P**	**10 36 30.2**	**-0.1**
	baz=52						
E23K	**Chandalar**	**69.00**	**353**	P	**P**	**10 36 28.8**	**-1.5**
	baz=14						
EPYK	**Eagle Plains**	**69.02**	**348**	IAmb	IAmb	10 36 52.0	
	comp=Z,23nm,1.1s						
EPYK	**Eagle Plains**	**69.02**	**348**	P	**P**	**10 36 29.5**	**-0.8**
	baz=23						
O49A	**Covington**	**69.03**	**306**	IAmb	IAmb	10 36 35.2	
	comp=Z,29nm,1.0s						
O49A	**Covington**	**69.03**	**306**	P	**P**	**10 36 28.8**	**-2.0**
	baz=52						
O49A				P	**P**	**10 36 28.8**	**-2.0**
	baz=52						
HHC	**Hu-ho-hao-te**	**69.04**	**53**	*e*P	**P**	**10 36 31.4**	**+0.4**
HHC				S	**S**	**10 45 36.8**	**+1.0**
HHC				SS	**SS**	**10 50 00.6**	**-0.3**
HHC				pmax	pmax		
	comp=Z,37nm,1.0s						
HHC				pmax	pmax		
	comp=Z,910nm,6.2s						
HHC				LR	LR		
	comp=Z,12µm,16.5s						
HHC				LR	LR		
	comp=Z,8µm,17.1s						
HHC				LR	LR		
	comp=Z,20µm,18.4s						
B35A	**Bob, Littlefor**	**69.05**	**317**	P	**P**	**10 36 30.0**	**-0.7**
	baz=49						
F25K	**Christian Rive**	**69.06**	**352**	P	**P**	**10 36 30.9**	**+0.3**
	baz=17						
E38A	**The Farm, Brul**	**69.06**	**314**	P	**P**	**10 36 30.0**	**-0.9**
	baz=50						
E22K	**Anaktuvuk Pass**	**69.11**	**354**	P	**P**	**10 36 30.7**	**-0.2**
	baz=12						
WRGLY	**Wrigley**	**69.12**	**341**	P	**P**	**10 36 30.3**	**-0.5**
	baz=33,SNR=16						
Q51A	**Peebles**	**69.15**	**304**	IAmb	IAmb	10 36 49.1	
	comp=Z,34nm,1.1s						
Q51A	**Peebles**	**69.15**	**304**	P	**P**	**10 36 30.5**	**-1.1**
	baz=52						
Q51A				P	**P**	**10 36 30.5**	**-1.1**
	baz=52						
G40A	**Rib Lake**	**69.20**	**313**	IAmb	IAmb	10 36 38.0	
	comp=Z,20nm,1.0s						
G40A	**Rib Lake**	**69.20**	**313**	P	**P**	**10 36 30.9**	**-0.9**
	baz=50						
G27K	**Doyon Strip**	**69.33**	**350**	P	**P**	**10 36 30.6**	**-1.7**
	baz=20						
X58A	**Rowland**	**69.36**	**298**	P	**P**	**10 36 33.2**	**+0.3**
	baz=52						
X58A				P	**P**	**10 36 33.2**	**+0.3**
	baz=52						
I42A	**Draeger Farm,**	**69.37**	**311**	P	**P**	**10 36 32.5**	**-0.3**
	baz=50						
F24K	**Squaw Lake**	**69.37**	**352**	P	**P**	**10 36 32.3**	**-0.2**
	baz=15						
N47A	**Urbana**	**69.41**	**307**	IAmb	IAmb	10 36 38.7	
	comp=Z,31nm,0.8s						
N47A	**Urbana**	**69.41**	**307**	P	**P**	**10 36 31.5**	**-1.6**
	baz=51						
N47A				P	**P**	**10 36 31.5**	**-1.6**
	baz=51						
W57A	**Gilead**	**69.42**	**299**	P	**P**	**10 36 32.5**	**-0.8**
	baz=52						
W57A				P	**P**	**10 36 32.5**	**-0.8**
	baz=52						
O48B	**Farmland**	**69.48**	**306**	P	**P**	**10 36 32.8**	**-0.8**
	baz=51						
O48B	**Farmland**	**69.48**	**306**	P	**P**	**10 36 33.1**	**-0.4**
	baz=51						
P49A	**Miami Univ. Ec**	**69.67**	**305**	IAmb	IAmb	10 36 40.0	
	comp=Z,33nm,1.4s						
P49A	**Miami Univ. Ec**	**69.67**	**305**	P	**P**	**10 36 32.9**	**-1.8**
	baz=51						
P49A	**Miami Univ. Ec**	**69.67**	**305**	P	**P**	**10 36 32.9**	**-1.8**
	baz=51						
XLT	**XiLinHaoTe**	**69.72**	**49**	⇓*i*P	**P**	**10 36 36.8**	**+1.7**
XLT				pP	sP	10 36 40.8	-0.4
XLT				pmax	pmax		
	comp=Z,22nm,1.1s						
XLT				pmax	pmax		
	comp=Z,490nm,5.1s						
RDOG	**Red Dog Mine**	**69.72**	**358**	P	**P**	**10 36 31.7**	**-2.9**
	baz=3.1						
U54A	**Nelsons Funny**	**69.75**	**301**	IAmb	IAmb	10 36 46.1	
	comp=Z,23nm,0.8s						
U54A	**Nelsons Funny**	**69.75**	**301**	P	**P**	**10 36 34.1**	**-1.3**
	baz=52						
U54A				P	**P**	**10 36 34.1**	**-1.3**
	baz=52						
F22K	**John River**	**69.75**	**354**	P	**P**	**10 36 31.4**	**-3.4**
	baz=12						
V55A	**Taylorsville**	**69.78**	**300**	P	**P**	**10 36 35.1**	**-0.4**
V55A				IAmb	IAmb	10 36 44.1	
	comp=Z,21nm,1.0s						
V55A	**Taylorsville**	**69.78**	**300**	P	**P**	**10 36 35.0**	**-0.5**
	baz=52						
V55A				P	**P**	**10 36 35.0**	**-0.5**
	baz=52						
H27K	**Steamboat Moun**	**69.86**	**349**	P	**P**	**10 36 35.0**	**-0.5**
	baz=20						
COLD	**Coldfoot**	**69.87**	**353**	P	**P**	**10 36 35.9**	**+0.4**
COLD				IAmb	IAmb	10 36 42.2	
	comp=Z,29nm,1.2s						
COLD	**Coldfoot**	**69.87**	**353**	P	**P**	**10 36 34.6**	**-0.9**
	baz=13,SNR=18						
L44A	**Lake County Fo**	**69.89**	**309**	P	**P**	**10 36 34.1**	**-1.9**
	baz=50						
G25K	**Bearman Lake**	**69.91**	**351**	P	**P**	**10 36 32.5**	**-3.3**
	baz=16						
BIRD	**Birdtown, Kers**	**70.04**	**299**	P	**P**	**10 36 36.8**	**-0.2**
	baz=52						
G24K	**Hadweenzic Riv**	**70.12**	**352**	P	**P**	**10 36 35.8**	**-1.3**
	baz=15						
F21K	**Alatna River**	**70.13**	**355**	P	**P**	**10 36 37.6**	**+0.4**
	baz=10						
P48A	**Milroy**	**70.14**	**306**	IAmb	IAmb	10 36 42.8	
	comp=Z,22nm,1.1s						
AGMN	**Agassiz Nation**	**70.16**	**318**	IAmb	IAmb	10 36 43.7	
	comp=Z,27nm,1.2s						
AGMN	**Agassiz Nation**	**70.16**	**318**	P	**P**	**10 36 36.7**	**-0.9**
	baz=48						
AGMN	**Agassiz Nation**	**70.16**	**318**	P	**P**	**10 36 37.0**	**-0.6**
	baz=48						
S51A	**Beattyville**	**70.16**	**303**	P	**P**	**10 36 36.2**	**-1.6**
	baz=51						
S51A				P	**P**	**10 36 36.2**	**-1.6**
	baz=51						
TNCH	**TengChong**	**70.20**	**74**	P	**P**	**10 36 39.3**	**+0.8**
TNCH				pP	pP	10 36 42.0	-0.8
TNCH				PcP	**PcP**	**10 37 01.8**	**+1.5**
TNCH				S	**S**	**10 45 48.8**	**-1.2**
TNCH				pmax	pmax		
	comp=Z,49nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,520nm,4.2s						
TNCH				LR	LR		
	comp=Z,790nm,16.9s						
TNCH				LR	LR		
	comp=Z,620nm,15.7s						
TNCH				LR	LR		
	comp=Z,1µm,22.0s						
I29M	**Ogilvie Camp,**	**70.21**	**348**	IAmb	IAmb	10 36 43.7	
	comp=Z,46nm,1.2s						
I29M	**Ogilvie Camp,**	**70.21**	**348**	P	**P**	**10 36 36.3**	**-1.3**
	baz=22,SNR=21						
CD2	**Chengdu**	**70.21**	**66**	P	**P**	**10 36 39.6**	**+1.3**
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
R50A	**Paris**	**70.21**	**304**	IAmb	IAmb	10 36 44.0	
	comp=Z,26nm,1.2s						
R50A	**Paris**	**70.21**	**304**	P	**P**	**10 36 36.9**	**-1.2**
	baz=51						
R50A				P	**P**	**10 36 36.9**	**-1.2**
	baz=51						
SJG	**San Juan**	**70.29**	**277**	LR	LR	11 02 19.0	
	comp=Z,1µm,21.4s,baz=78,slow=32						
I40A	**Norwalk**	**70.31**	**312**	IAmb	IAmb	10 36 44.8	
	comp=Z,39nm,1.4s						
I40A	**Norwalk**	**70.31**	**312**	P	**P**	**10 36 37.8**	**-0.8**
	baz=50						
MND	**Mandalay**	**70.35**	**78**	P	**P**	**10 36 41.5**	**+2.3**
	comp=Z,19nm,1.7s						
G23K	**Bananza Creek**	**70.36**	**353**	P	**P**	**10 36 36.9**	**-1.7**
	baz=13						
I27K	**Kandik River**	**70.47**	**349**	P	**P**	**10 36 36.7**	**-2.6**
	baz=20						
SFIN	**Lafayette**	**70.56**	**307**	P	**P**	**10 36 37.1**	**-3.1**
	baz=50						
F36A	**Milaca**	**70.59**	**315**	P	**P**	**10 36 39.1**	**-1.2**
	baz=48						
SPMN	**Marine on St.**	**70.63**	**314**	P	**P**	**10 36 39.5**	**-1.0**
	baz=49						
SPMN	**Marine on St.**	**70.63**	**314**	P	**P**	**10 36 39.4**	**-1.1**
	baz=49						
JFWS	**Jewell Farm**	**70.74**	**311**	IAmb	IAmb	10 36 47.4	
	comp=Z,33nm,1.4s						
JFWS	**Jewell Farm**	**70.74**	**311**	P	**P**	**10 36 40.1**	**-1.1**
	baz=50						
PAULI	**Pauline**	**70.80**	**300**	IAmb	IAmb	10 36 48.1	
	comp=Z,20nm,0.9s						
PAULI	**Pauline**	**70.80**	**300**	P	**P**	**10 36 41.2**	**-0.6**
	baz=51,SNR=7.1						
NHSC	**New Hope**	**70.81**	**297**	P	**P**	**10 36 41.9**	**+0.2**
	baz=51						
NHSC	**New Hope**	**70.81**	**297**	P	**P**	**10 36 38.5**	**-3.3**
	baz=51						
TZTN	**Tazewell**	**70.82**	**302**	P	**P**	**10 36 40.5**	**-1.4**
	baz=51						
TZTN	**Tazewell**	**70.82**	**302**	P	**P**	**10 36 38.8**	**-3.0**
	baz=51						
G21K	**Allakaket**	**70.83**	**354**	P	**P**	**10 36 40.5**	**-0.9**
	baz=10						
V53A	**Saluda**	**70.91**	**301**	P	**P**	**10 36 40.7**	**-1.8**
	baz=51						
V53A				P	**P**	**10 36 40.7**	**-1.8**
	baz=51						
BLO	**Bloomington**	**70.98**	**306**	IAmb	IAmb	10 36 48.5	
	comp=Z,28nm,1.1s						
L42A	**Oliver, Polo**	**71.00**	**310**	IAmb	IAmb	10 36 47.3	
	comp=Z,19nm,0.8s						
L42A	**Oliver, Polo**	**71.00**	**310**	P	**P**	**10 36 41.0**	**-1.8**
	baz=50						
H24K	**Noodor Dome**	**71.00**	**352**	P	**P**	**10 36 41.7**	**-0.8**
	baz=15						
J29M	**Klondike Camp**	**71.04**	**347**	P	**P**	**10 36 40.6**	**-2.2**
	baz=22						
P46A	**Rosedale**	**71.11**	**307**	IAmb	IAmb	10 36 48.9	
	comp=Z,27nm,1.1s						
P46A	**Rosedale**	**71.11**	**307**	P	**P**	**10 36 42.4**	**-1.1**
	baz=50						
VOI	**Vohitsoka**	**71.18**	**147**	P	**P**	**10 36 45.1**	**+1.0**
VOI				IAmb	IAmb	10 36 50.3	
	comp=Z,24nm,1.1s						
VOI	**Vohitsoka**	**71.18**	**147**	P	P	10 36 50.0	+5.9
EGAK	**Eagle**	**71.18**	**349**	IAmb	IAmb	10 36 50.1	
	comp=Z,23nm,1.2s						
EGAK	**Eagle**	**71.18**	**349**	P	**P**	**10 36 43.5**	**0.0**
	baz=20,SNR=9.0						
HEH	**HeiHe**	**71.22**	**38**	*e*P	**P**	**10 36 44.3**	**+0.3**
HEH				pP	**pP**	**10 36 46.6**	**-1.8**
HEH				S	**S**	**10 46 02.1**	**+1.4**
HEH				SS	**SS**	**10 50 35.6**	**+2.1**
HEH				pmax	pmax		
	comp=Z,20nm,1.1s						
HEH				pmax	pmax		
	comp=Z,640nm,5.2s						
HEH				LR	LR		
	comp=Z,5µm,16.5s						
HEH				LR	LR		
	comp=Z,5µm,17.3s						
HEH				LR	LR		
	comp=Z,7µm,18.8s						
V52A	**Sevierville**	**71.29**	**302**	P	**P**	**10 36 44.2**	**-0.5**
	baz=51						
T50A	**Nancy**	**71.32**	**303**	P	**P**	**10 36 44.5**	**-0.3**
	baz=50						
T50A				P	**P**	**10 36 44.5**	**-0.3**
	baz=50						
CASEE	**Lake Jocassee**	**71.41**	**301**	P	**P**	**10 36 45.0**	**-0.5**
	baz=51						
MAYO	**Mayo, Yukon**	**71.44**	**346**	P	**P**	**10 36 43.0**	**-2.1**
	baz=24,SNR=8.7						
WCI	**Wyandotte Cave**	**71.44**	**305**	P	**P**	**10 36 44.9**	**-0.7**
WCI				IAmb	IAmb	10 36 51.3	
	comp=Z,24nm,0.8s						
WCI	**Wyandotte Cave**	**71.44**	**305**	P	**P**	**10 36 44.9**	**-0.7**
	baz=50						
WCI	**Wyandotte Cave**	**71.44**	**305**	P	**P**	**10 36 44.3**	**-1.3**
	baz=50						
WCI	**Wyandotte Cave**	**71.44**	**305**	P	**P**	**10 36 44.9**	**-0.7**
WCI				pmax	pmax		
	comp=Z,24nm,0.9s						
HODGE	**Hodges**	**71.45**	**300**	P	**P**	**10 36 44.2**	**-1.5**
	baz=51						
K29M	**Barlow Dome**	**71.49**	**347**	P	**P**	**10 36 44.1**	**-1.4**
	baz=22,SNR=9.5						
O44A	**Mansfield**	**71.50**	**308**	P	**P**	**10 36 45.3**	**-0.6**
	baz=50						
TKL	**Tuckaleechee C**	**71.52**	**302**	P	**P**	**10 36 44.6**	**-1.5**
	baz=50						
TIY	**Taiyuan**	**71.54**	**56**	P	**P**	**10 36 48.4**	**+2.1**
TIY				S	**S**	**10 46 04.8**	**-0.2**
TIY				pmax	pmax		
	comp=Z,380nm,4.7s						
TIY				LR	LR		
	comp=Z,2µm,18.5s						
TIY				LR	LR		
	comp=Z,2µm,20.6s						
TIY				LR	LR		
	comp=Z,2µm,24.7s						
PZH	**PanZhiHua**	**71.56**	**71**	P	**P**	**10 36 46.3**	**-0.3**
PZH				pmax	pmax		
	comp=Z,11nm,1.2s						
PZH				pmax	pmax		
	comp=Z,230nm,4.8s						
HAW	**Hawthorne Fire**	**71.58**	**298**	P	**P**	**10 36 45.4**	**-1.1**
	baz=51,SNR=6.1						
DAWY	**Dawson**	**71.59**	**348**	P	**P**	**10 36 44.3**	**-1.8**
	baz=21,SNR=24						
H21K	**Melozitna Rive**	**71.63**	**354**	P	**P**	**10 36 45.0**	**-1.2**
	baz=11						
BOSA	**Boshof**	**71.63**	**169**	P	**P**	**10 36 46.4**	**-0.4**
	comp=Z,33nm,0.9s,baz=5.1,slow=6.6,SNR=22						
	comp=Z,33nm,0.9s						
BOSA	**Boshof**	**71.63**	**169**	P	**P**	**10 36 46.2**	**-0.5**
BOSA				IAmb	IAmb	10 36 51.2	
	comp=Z,32nm,0.8s						
POKR	**Poker Plat Res**	**71.65**	**352**	IAmb	IAmb	10 36 53.5	
	comp=Z,49nm,1.2s						
POKR	**Poker Plat Res**	**71.65**	**352**	P	**P**	**10 36 45.1**	**-1.3**
	baz=15						
XAN	**Xi'an**	**71.67**	**61**	P	**P**	**10 36 47.0**	**-0.1**
XAN				pP	pP	10 36 51.4	-0.1
XAN				sP	sP	10 36 54.3	+1.2
XAN				S	**S**	**10 46 07.4**	**+0.9**
XAN				pmax	pmax		
	comp=Z,55nm,1.0s						
XAN				pmax	pmax		
	comp=Z,910nm,5.2s						
XAN				LR	LR		
	comp=Z,2µm,14.3s						
XAN				LR	LR		
	comp=Z,2µm,16.3s						
XAN				LR	LR		
	comp=Z,2µm,16.7s						
HDIL	**Hopedale**	**71.72**	**308**	P	**P**	**10 36 46.1**	**-1.1**
	baz=49						
HDIL	**Hopedale**	**71.72**	**308**	P	**P**	**10 36 46.6**	**-0.6**
	baz=49						
I37B	**Waseca**	**71.75**	**313**	P	**P**	**10 36 46.7**	**-0.7**
	baz=48						
J26L	**Joseph Creek**	**71.78**	**350**	P	**P**	**10 36 46.9**	**-0.4**
	baz=18						
V51A	**Loudon**	**71.79**	**302**	P	**P**	**10 36 46.9**	**-0.8**
	baz=50						
I23K	**Minto, Yukon-K**	**71.82**	**352**	IAmb	IAmb	10 36 54.4	
	comp=Z,31nm,1.2s						
I23K	**Minto, Yukon-K**	**71.82**	**352**	P	**P**	**10 36 46.5**	**-0.8**
	baz=14						
L40A	**Anamosa**	**71.84**	**311**	IAmb	IAmb	10 36 54.1	
	comp=Z,24nm,1.0s						
L40A	**Anamosa**	**71.84**	**311**	P	**P**	**10 36 46.6**	**-1.3**
	baz=49						
MDM	**Murphy Dome**	**71.89**	**352**	P	**P**	**10 36 48.2**	**+0.4**
MDM				IAmb	IAmb	10 37 05.7	
	comp=Z,48nm,1.3s						
KOTAN	**Kotaneelee Air**	**71.89**	**339**	P	**P**	**10 36 45.4**	**-2.5**
	baz=32						
ILAR	**Eielson Array**	**71.93**	**351**	P	**P**	**10 36 47.6**	**-0.4**
	comp=Z,6.0nm,1.0s,baz=6.9,slow=5.5,SNR=35						
	comp=Z,6.0nm,1.0s						
COLA	**College**	**71.94**	**352**	P	**P**	**10 36 48.6**	**+0.6**
COLA	**College**	**71.94**	**352**	P	**P**	**10 36 45.6**	**-2.5**
	baz=15						
COLA	**College**	**71.94**	**352**	P	**P**	**10 36 50.6**	**+2.6**
	comp=Z,24nm,1.2s						
COLA	**College**	**71.94**	**352**	P	**P**	**10 36 48.6**	**+0.6**
COLA				pmax	pmax		
	comp=Z,17nm,1.0s						
TCOL	**CIGO, UAF Yank**	**71.94**	**352**	P	**P**	**10 36 46.4**	**-1.7**
	baz=15						
W52A	**Murphy**	**71.97**	**301**	P	**P**	**10 36 46.8**	**-2.1**
	baz=50						
I21K	**Tanana**	**72.03**	**354**	P	**P**	**10 36 46.1**	**-2.5**
	baz=11						
F33A	**5 Mile Ranch,**	**72.04**	**316**	IAmb	IAmb	10 36 55.5	
	comp=Z,24nm,1.1s						
F33A	**5 Mile Ranch,**	**72.04**	**316**	P	**P**	**10 36 48.3**	**-0.7**
	baz=47						
MLY	**Manley**	**72.07**	**353**	IAmb	IAmb	10 36 55.4	
	comp=Z,41nm,1.1s						
MLY	**Manley**	**72.07**	**353**	P	**P**	**10 36 46.8**	**-2.2**
	baz=12,SNR=32						
CCB	**Clear Creek Bu**	**72.15**	**352**	IAmb	IAmb	10 36 54.9	
	comp=Z,58nm,1.9s						
FARO	**Faro, Yukon**	**72.20**	**344**	P	**P**	**10 36 48.0**	**-1.8**
	baz=25,SNR=19						
OLIL	**Olney**	**72.20**	**306**	IAmb	IAmb	10 36 54.3	
	comp=Z,40nm,1.2s						
OLIL	**Olney**	**72.20**	**306**	P	**P**	**10 36 49.3**	**-0.9**
	baz=49						
U49A	**Red Boiling Sp**	**72.23**	**303**	IAmb	IAmb	10 36 54.8	
	comp=Z,21nm,1.0s						
U49A	**Red Boiling Sp**	**72.23**	**303**	P	**P**	**10 36 49.0**	**-1.4**
	baz=50						
TNA	**Tin City**	**72.26**	**1**	IAmb	IAmb	10 36 56.8	
	comp=Z,45nm,1.2s						
TNA	**Tin City**	**72.26**	**1**	P	**P**	**10 36 47.1**	**-2.9**
	baz=359,SNR=14						
BJI	**Beijing**	**72.27**	**52**	P	**P**	**10 36 51.8**	**+1.3**
BJI				sP	**sP**	**10 37 00.4**	**+3.9**
BJI				pmax	pmax		
	comp=Z,13nm,1.3s						
BJI				LR	LR		
	comp=Z,2µm,15.7s						
BJI				LR	LR		
	comp=Z,2µm,17.2s						
BJI				LR	LR		
	comp=Z,1µm,17.9s						
L29M	**L29M**	**72.28**	**347**	P	**P**	**10 36 48.9**	**-1.4**
	baz=22						
BJT	**Baijiatuau**	**72.28**	**52**	P	**P**	**10 36 50.1**	**-0.5**
BJT				IAmb	IAmb	10 36 53.8	
	comp=Z,58nm,1.5s						
BJT	**Baijiatuau**	**72.28**	**52**	P	**P**	**10 36 53.6**	**+3.0**
	comp=Z,13nm,0.8s						
BJT	**Baijiatuau**	**72.28**	**52**	P	**P**	**10 36 50.1**	**-0.5**
BJT				pmax	pmax		
	comp=Z,58nm,1.5s						
HDA	**Harding Lake**	**72.29**	**351**	P	**P**	**10 36 48.1**	**-2.1**
	baz=15,SNR=16						
MDND	**Maddock**	**72.30**	**319**	P	**P**	**10 36 48.1**	**-2.4**
	baz=46						
K38A	**Parkersburg**	**72.31**	**312**	P	**P**	**10 36 49.8**	**-1.0**
	baz=48						
NEA2	**Nenana**	**72.34**	**352**	IAmb	IAmb	10 36 57.1	
	comp=Z,33nm,1.2s						
NEA2	**Nenana**	**72.34**	**352**	P	**P**	**10 36 50.6**	**+0.1**
	baz=14						
SCRK	**Sand Creek**	**72.34**	**350**	IAmb	IAmb	10 36 57.1	
	comp=Z,39nm,1.3s						
SCRK	**Sand Creek**	**72.34**	**350**	P	**P**	**10 36 48.8**	**-1.9**
	baz=18,SNR=14						
WRH	**Wood River Hil**	**72.35**	**352**	IAmb	IAmb	10 36 57.0	
	comp=Z,35nm,1.2s						
MA2	**Magadan**	**72.42**	**21**	P	**P**	**10 36 51.0**	**-0.1**
MA2	**Magadan**	**72.42**	**21**	P	**P**	**10 36 52.7**	**+1.6**
	comp=Z,80nm,1.3s						
MA2	**Magadan**	**72.42**	**21**	*d*P	**P**	**10 36 53.0**	**+1.9**
MA2				pmax	pmax		
	comp=Z,63nm,1.0s						
M31M	**Drury Creek, Y**	**72.43**	**345**	P	**P**	**10 36 50.2**	**-0.9**
	baz=24						
USIN	**University of**	**72.44**	**306**	IAmb	IAmb	10 36 57.0	
	comp=Z,27nm,0.8s						
N41A	**Harden Midland**	**72.52**	**309**	IAmb	IAmb	10 36 57.5	
	comp=Z,35nm,0.9s						
N41A	**Harden Midland**	**72.52**	**309**	P	**P**	**10 36 51.1**	**-0.9**
	baz=49						
M30M	**Minto, Yukon**	**72.54**	**346**	P	**P**	**10 36 49.6**	**-2.2**
	baz=23						
DOT	**Dot Lake**	**72.66**	**350**	IAmb	IAmb	10 36 59.0	
	comp=Z,57nm,1.3s						
RIDG	**Independent Ri**	**72.68**	**350**	P	**P**	**10 36 51.2**	**-1.4**
	baz=17,SNR=38						
K24K	**Donnelly Dome**	**72.73**	**350**	P	**P**	**10 36 51.2**	**-1.8**
	baz=16,SNR=14						
T47A	**Sharon Grove**	**72.73**	**304**	P	**P**	**10 36 52.4**	**-0.9**
	baz=49,SNR=16						
W50A	**Signal Mountai**	**72.78**	**302**	IAmb	IAmb	10 36 59.8	
	comp=Z,22nm,0.9s						
W50A	**Signal Mountai**	**72.78**	**302**	P	**P**	**10 36 52.8**	**-0.9**
	baz=50,SNR=10						
GCSA	**Galena City Sc**	**72.80**	**356**	P	**P**	**10 36 51.6**	**-1.6**
	baz=7.7						
CLTN	**Cedars of Leba**	**72.84**	**303**	IAmb	IAmb	10 36 59.7	
	comp=Z,25nm,1.1s						
Y52A	**Lilburn**	**72.84**	**300**	IAmb	IAmb	10 37 00.2	
	comp=Z,20nm,0.8s						
Y52A	**Lilburn**	**72.84**	**300**	P	**P**	**10 36 53.5**	**-0.5**
	baz=50,SNR=8.2						
Y52A				P	**P**	**10 36 53.5**	**-0.5**
	baz=50,SNR=8.2						
X51A	**Calhoun**	**72.90**	**301**	P	**P**	**10 36 53.7**	**-0.6**
	baz=50						
X51A				P	**P**	**10 36 53.7**	**-0.6**
	baz=50						
L27K	**Beaver Creek,**	**72.91**	**348**	IAmb	IAmb	10 37 00.6	
	comp=Z,44nm,1.2s						
L27K	**Beaver Creek,**	**72.91**	**348**	P	**P**	**10 36 52.2**	**-1.8**
	baz=19						
M29M	**Somme Creek**	**72.95**	**347**	P	**P**	**10 36 52.9**	**-1.4**
	baz=22						
BPAW	**Bear Paw Mtn.**	**73.00**	**353**	IAmb	IAmb	10 37 01.2	
	comp=Z,37nm,1.1s						
BPAW	**Bear Paw Mtn.**	**73.00**	**353**	P	**P**	**10 36 52.8**	**-1.7**
	baz=12,SNR=23						
154A	**Montrose**	**73.03**	**299**	IAmb	IAmb	10 36 58.3	
	comp=Z,29nm,1.0s						
154A	**Montrose**	**73.03**	**299**	P	**P**	**10 36 54.4**	**-0.7**
	baz=50						
LIRD	**Liard River Hi**	**73.05**	**340**	P	**P**	**10 36 53.1**	**-1.7**
	baz=30						
255A	**Hazlehurst**	**73.05**	**298**	P	**P**	**10 36 54.4**	**-0.9**
	baz=50						
SCIA	**State Center**	**73.06**	**312**	P	**P**	**10 36 52.0**	**-3.1**
	baz=48						
WTLY	**Watson Lake, Y**	**73.10**	**341**	IAmb	IAmb	10 37 03.0	
	comp=Z,33nm,1.1s						
WTLY	**Watson Lake, Y**	**73.10**	**341**	P	**P**	**10 36 52.6**	**-2.6**
	baz=28						
KMI	**Kunming**	**73.12**	**71**	⇓P	**P**	**10 36 56.8**	**+0.7**
KMI		

comp=Z,2µm,29.7s
HNS HongShan 73.12 55 ⇑P P 10 36 57.8 +2.2
HNS S S 10 46 24.4 +1.4
HNS pmax pmax
comp=Z,20nm,1.3s
HNS pmax pmax
comp=Z,590nm,7.2s
HNS LR LR
comp=Z,2µm,15.5s
HNS LR LR
comp=Z,2µm,15.9s
HNS LR LR
comp=Z,3µm,18.2s
L26K Log Cabin Wild 73.16 349 P P 10 36 52.9 -2.6
baz=18,SNR=24
MCK McKinley 73.16 352 P P 10 36 52.5 -3.0
baz=14,SNR=21
ANM Nome 73.26 359 P P 10 36 53.9 -2.1
baz=1.1
CHUM Lake Minchumin 73.34 353 P P 10 36 54.7 -1.7
baz=11,SNR=36
N31M Braeburn, Yuko 73.36 345 IAmb IAmb 10 37 03.2
comp=Z,30nm,1.1s
N31M Braeburn, Yuko 73.36 345 P P 10 36 56.1 -0.5
baz=23
V48A Smith Brothers 73.37 303 IAmb IAmb 10 37 01.4
comp=Z,20nm,0.9s
V48A Smith Brothers 73.37 303 P P 10 36 55.6 -1.5
baz=49
PAX Paxson 73.50 350 P P 10 36 56.1 -1.4
baz=16
KTH Kantishna Hill 73.53 353 IAmb IAmb 10 37 04.1
comp=Z,25nm,0.9s
TRF Thorofare Moun 73.58 352 IAmb IAmb 10 37 04.2
comp=Z,48nm,1.1s
TRF Thorofare Moun 73.58 352 P P 10 36 55.7 -2.3
baz=13,SNR=13
M27K Edge Creek, AK 73.58 348 P P 10 36 57.8 -0.3
baz=19
LYN LuoYang 73.59 58 ⇑*i*P P 10 37 00.3 +1.8
LYN pP sP 10 37 04.5 0.0
LYN sP pP 10 37 08.1 +5.2
LYN S S 10 46 28.9 +0.5
LYN pmax pmax
comp=Z,30nm,2.2s
LYN pmax pmax
comp=Z,410nm,4.1s
LYN LR LR
comp=Z,2µm,15.3s
LYN LR LR
comp=Z,3µm,17.1s
LYN LR LR
comp=Z,3µm,18.9s
DHY Denali Highway 73.63 351 P P 10 36 58.4 +0.1
DHY Denali Highway 73.63 351 P P 10 36 57.3 -1.1
baz=15,SNR=50
ECSD EROS Data Cent 73.65 315 P P 10 36 57.9 -0.7
ECSD IAmb IAmb 10 37 05.2
comp=Z,27nm,1.0s
ECSD EROS Data Cent 73.65 315 P P 10 36 58.2 -0.5
baz=46,SNR=19
ECSD EROS Data Cent 73.65 315 P P 10 36 58.2 -0.5
baz=46,SNR=19
M26K Nabesna, AK 73.71 349 IAmb IAmb 10 37 05.3
comp=Z,31nm,1.1s
M26K Nabesna, AK 73.71 349 P P 10 36 57.9 -0.8
baz=18
E28A Huff 73.72 319 P P 10 36 58.6 -0.4
E28A Huff 73.72 319 P P 10 36 57.8 -1.3
baz=45
WVT Waverly 73.74 304 P P 10 36 57.6 -1.6
baz=49,SNR=8.8
WVT Waverly 73.74 304 P P 10 36 57.5 -1.8
baz=49
CAST Castle Rocks 73.77 353 P P 10 36 59.2 +0.1
CAST IAmb IAmb 10 37 05.7
comp=Z,34nm,1.1s
CAST Castle Rocks 73.77 353 P P 10 36 59.5 +0.5
baz=11,SNR=18
Z51A Franklin 73.91 300 P P 10 36 59.2 -1.1
baz=49
KLR Kul'dur 73.91 37 P P 10 36 59.2 -0.8
comp=Z,16nm,1.0s,baz=323,slow=7.8,SNR=17
comp=Z,16nm,1.0s
KLR Kul'dur 73.91 37 *c i*P P 10 37 00.1 +0.1
KLR pmax pmax
comp=Z,47nm,1.5s
YUK3 Moose Creek 73.91 347 P P 10 36 58.2 -1.9
baz=20,SNR=8.6
P33M Teslin, Yukon 73.92 343 P P 10 37 00.3 +0.3
P33M Teslin, Yukon 73.92 343 P P 10 36 59.2 -0.9
baz=25,SNR=7.4
WHY Whitehorse 73.94 344 P P 10 36 59.3 -0.9
baz=24
GAMB Gambell 73.99 2 P P 10 36 59.0 -1.2
baz=356
P40A Paris 73.99 309 P P 10 36 60.0 -0.7
P40A Paris 73.99 309 P P 10 36 59.2 -1.4
baz=48
K20K Telida 74.00 354 P P 10 37 00.8 +0.4
K20K IAmb IAmb 10 37 06.6
comp=Z,39nm,0.9s
K20K Telida 74.00 354 P P 10 36 58.1 -2.2
baz=9.7,SNR=23
DGMT Dagmar 74.00 322 P P 10 37 00.6 -0.1
DGMT Dagmar 74.00 322 P P 10 37 00.6 -0.1
baz=43
DGMT Dagmar 74.00 322 P P 10 36 58.6 -2.1
baz=43
WAT1 Susitna Watana 74.00 351 P P 10 36 59.2 -1.2
baz=14
HARP HAARP 74.01 350 P P 10 36 59.9 -0.5
baz=16
YUK4 Talbot Arm 74.01 346 P P 10 37 00.2 -0.5
baz=21,SNR=13
152A Waverly Hall 74.03 300 P P 10 37 00.3 -0.8
152A Waverly Hall 74.03 300 P P 10 37 00.4 -0.7
baz=49,SNR=6.8
CGM3 Cape Girardeau 74.07 306 P P 10 36 59.9 -1.3
O30N Mendenhall 74.08 345 P P 10 36 58.0 -2.9
baz=23,SNR=7.2
TIGA Tifton 74.09 298 P P 10 37 00.2 -1.2
baz=50
TIGA Tifton 74.09 298 P P 10 37 00.7 -0.7
baz=50
WAT6 Susitna Watana 74.15 351 P P 10 36 59.9 -1.6
baz=14,SNR=12
R33M Jennings River 74.25 342 P P 10 37 00.6 -1.5
baz=27
YUK8 Steele Glacier 74.26 347 P P 10 36 59.7 -2.6
baz=20
HYT Haines Junctio 74.29 346 P P 10 37 01.9 -0.3
HYT IAmb IAmb 10 37 09.4
comp=Z,42nm,1.2s
HYT Haines Junctio 74.29 346 P P 10 37 00.9 -1.4
baz=22
PPLA Purkeypile 74.30 353 P P 10 37 02.4 +0.1
PPLA IAmb IAmb 10 37 09.1
comp=Z,26nm,0.9s
PPLA Purkeypile 74.30 353 P P 10 37 00.4 -1.9
baz=11
YUK6 Outpost Mounta 74.34 346 P P 10 37 00.1 -2.5
baz=21,SNR=25
Y49A Blount Mountai 74.34 302 P P 10 37 01.5 -1.3
baz=49
X48A Hartselle 74.35 302 P P 10 37 01.6 -1.3
X48A IAmb IAmb 10 37 08.8
comp=Z,30nm,0.9s
X48A Hartselle 74.35 302 P P 10 37 01.9 -1.0
baz=49,SNR=11
SUSD Miller 74.36 316 P P 10 37 02.2 -0.6
baz=45
BNX BinXian 74.41 42 ⇓P P 10 37 03.8 +0.8
BNX pP **sP 10 37 08.5 -0.6**
BNX sP **pP 10 37 10.4 +3.0**
BNX PP **PP 10 39 50.6 +1.9**
BNX S **SKiKP 10 46 30.6 +1.4**
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,540nm,5.5s
BNX LR LR
comp=Z,6µm,19.0s
BNX LR LR
comp=Z,6µm,18.8s
BNX LR LR
comp=Z,10µm,19.2s

M24K Tolsona, Glenn 74.42 350 P P 10 37 00.7 -2.2
baz=16
CHTO Chiang Mai 74.42 79 P P 10 37 03.5 -0.1
CHTO Chiang Mai 74.42 79 P P 10 37 03.5 -0.1
ENH Enshi 74.44 63 P P 10 37 03.1 -0.4
ENH IAmb IAmb 10 37 12.1
comp=Z,37nm,0.8s
ENH Enshi 74.44 63 P P 10 37 04.0 +0.5
comp=Z,49nm,1.3s
CCM Cathedral Cave 74.51 308 P P 10 37 02.5 -1.3
CCM Cathedral Cave 74.51 308 P P 10 37 02.2 -1.6
baz=48
CCM Cathedral Cave 74.51 308 P P 10 37 02.8 -0.9
baz=48
CCM Cathedral Cave 74.51 308 P P 10 37 02.5 -1.3
CCM pmax pmax
comp=Z,16nm,0.9s
CRAI Chiangrai 74.55 77 P P 10 37 03.9 -0.4
TTA Tatalina 74.56 355 P P 10 37 03.0 -0.6
TTA IAmb IAmb 10 37 10.2
comp=Z,40nm,1.2s
TTA Tatalina 74.56 355 P P 10 37 01.9 -1.8
baz=8.2,SNR=9.6
TTA Tatalina 74.56 355 P P 10 37 03.1 -0.6
TTA pmax pmax
comp=Z,40nm,1.2s
WAPA Wapiti River 74.64 334 P P 10 37 04.4 +0.1
CM31 Chiang Mai Arr 74.65 79 P P 10 37 05.1 +0.2
SNR=9.6
CM31 P P 10 37 05.1 +0.2
SNR=9.6
CMAR Chiang Mai Arr 74.65 79 P P 10 37 03.8 -1.1
comp=Z,17nm,0.8s,baz=306,slow=7.2,SNR=48
CMAR PKP2ab 11 04 20.8
comp=Z,0.5nm,0.3s,baz=195,slow=6.2,SNR=4.8
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 74.65 79 P P 10 37 03.7 -1.2
CMAR Chiang Mai Arr 74.65 79 *e*P P 10 37 07.0 +2.1
CMAR pmax pmax
comp=Z,18nm,0.9s
P32M Atlin 74.68 343 P P 10 37 03.6 -0.8
baz=25
MCARA McCarthy VSAT 74.68 348 P P 10 37 03.1 -1.3
baz=18,SNR=5.9
N25K Chitina, Valde 74.69 349 P P 10 37 05.1 +0.6
N25K Chitina, Valde 74.69 349 P P 10 37 03.1 -1.4
baz=17
656A Willston 74.73 296 P P 10 37 04.7 -0.5
baz=50
GRNR Gornyy 74.74 33 ⇓*i*P P 10 37 04.1 -0.8
GRNR pmax pmax
comp=E,3.0nm,1.2s
GRNR pmax pmax
comp=Z,5.0nm,0.8s
GRNR MLR MLR
comp=E,1µm,17.0s
GRNR MLR MLR
comp=N,1µm,14.0s
GRNR MLR MLR
comp=Z,1µm,14.0s
P38A Dawn 74.77 310 P P 10 37 04.5 -0.7
P38A IAmb IAmb 10 37 11.5
comp=Z,41nm,1.1s
P38A Dawn 74.77 310 P P 10 37 04.0 -1.3
baz=47,SNR=6.3
CN2 Changchun 74.80 44 *e*P P 10 37 04.5 -0.8
CN2 PP **PP 10 39 52.8 +0.7**
CN2 S **S 10 46 38.9 -2.8**
CN2 SS **SS 10 51 27.1 -1.4**
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 pmax pmax
comp=Z,710nm,4.5s
CN2 LR LR
comp=Z,4µm,18.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,3µm,19.0s
O28M Mount Upton 74.81 347 P P 10 37 04.2 -1.3
baz=20
SCM Sheep Creek Mo 74.83 351 P P 10 37 05.9 +0.6
SCM Sheep Creek Mo 74.83 351 P P 10 37 05.1 -0.2
baz=15,SNR=22
SCM Sheep Creek Mo 74.83 351 P P 10 37 05.9 +0.6
SCM pmax pmax
comp=Z,123nm,1.2s
P30M Million Dollar 74.84 345 P P 10 37 04.4 -1.0
baz=22
DLBC Dease Lake 74.88 341 P P 10 37 02.7 -2.9
baz=27
M23K Glacier View 74.92 351 P P 10 37 02.3 -3.4
baz=14,SNR=11
BRLDA Berland Lookou 74.92 332 P P 10 37 06.2 +0.2
Q32M Nakina River 74.93 342 P P 10 37 03.3 -2.8
baz=26
352A Blakely 74.94 299 P P 10 37 06.0 -0.3
352A Blakely 74.94 299 P P 10 37 05.4 -0.9
baz=49
R40A Maddies Statio 74.95 308 P P 10 37 05.4 -0.9
R40A Maddies Statio 74.95 308 P P 10 37 05.3 -1.0
baz=47,SNR=15
SML Sawmill 74.97 351 P P 10 37 06.0 -0.1
SML Sawmill 74.97 351 P P 10 37 04.7 -1.4
baz=14,SNR=13
O29M Mount Kennedy 74.97 346 P P 10 37 04.1 -2.1
baz=21
KLU Klutina 74.98 350 P P 10 37 07.1 +0.9
KLU IAmb IAmb 10 37 12.9
comp=Z,49nm,1.2s
KLU Klutina 74.98 350 P P 10 37 05.2 -1.0
baz=16
GYA Guiyang 74.99 68 ⇑P P 10 37 08.5 +1.6
GYA pP pP 10 37 11.4 +0.1
GYA S **S 10 46 47.0 +2.4**
GYA pmax pmax
comp=Z,26nm,1.5s
GYA pmax pmax
comp=Z,640nm,4.2s
GYA LR LR
comp=Z,2µm,20.1s
GYA LR LR
comp=Z,1µm,23.7s
GYA LR LR
comp=Z,3µm,22.2s
GHO Glory Hole Cre 75.07 351 P P 10 37 06.8 0.0
GHO IAmb IAmb 10 37 12.6
comp=Z,42nm,1.1s
N35A Tabor 75.10 312 P P 10 37 05.8 -1.3
baz=46
SKAG Skagway 75.13 344 P P 10 37 05.3 -1.7
baz=24
SKT Skwentna 75.14 353 IAmb IAmb 10 37 13.5
comp=Z,27nm,1.1s
SKT Skwentna 75.14 353 P P 10 37 04.9 -2.1
baz=12,SNR=6.7
SNY Shenyang 75.20 46 ⇓P P 10 37 08.6 +0.9
SNY S **S 10 46 44.8 -1.4**
SNY pmax pmax
comp=Z,52nm,0.9s
SNY pmax pmax
comp=Z,760nm,5.1s
SNY LR LR
comp=Z,3µm,17.4s
SNY LR LR
comp=Z,6µm,16.8s
SNY LR LR
comp=Z,4µm,16.1s
L19K White Mountain 75.22 354 P P 10 37 04.9 -2.6
baz=9.1
M22K Willow 75.22 352 P P 10 37 06.7 -0.7
baz=13
LRAL Lakeview Retre 75.25 301 IAmb IAmb 10 37 14.0
comp=Z,19nm,0.8s
LRAL Lakeview Retre 75.25 301 P P 10 37 07.3 -0.7
baz=49,SNR=12
LRAL Lakeview Retre 75.25 301 P P 10 37 06.3 -1.8
baz=49,SNR=12
PMR Palmer 75.27 351 IAmb IAmb 10 37 14.1
comp=Z,32nm,1.2s
PMR Palmer 75.27 351 P P 10 37 06.0 -1.7
baz=13
BMRM Bremner River 75.31 349 P P 10 37 06.7 -1.4
baz=17,SNR=5.2
PLBC Pleasant Camp 75.34 345 P P 10 37 07.2 -1.0
baz=23
TIA Tai'an 75.36 54 ⇓P P 10 37 11.3 +2.6

TIA pmax pmax
comp=Z,22nm,1.1s
TIA pmax pmax
comp=Z,510nm,4.3s
TIA LR LR
comp=Z,4µm,15.3s
TIA LR LR
comp=Z,3µm,20.0s
TIA LR LR
comp=Z,7µm,18.3s
KNK Knik Glacier 75.37 351 IAmb IAmb 10 37 18.3
comp=Z,74nm,1.4s
KNK Knik Glacier 75.37 351 P P 10 37 07.0 -1.3
baz=14
M20K Styx River 75.38 353 IAmb IAmb 10 37 17.4
comp=Z,32nm,1.1s
M20K Styx River 75.38 353 P P 10 37 06.7 -1.8
baz=10
553A Crawfordville 75.45 298 P P 10 37 08.7 -0.7
baz=49
PINM Pinnacle 75.46 347 P P 10 37 08.4 -0.6
baz=20,SNR=6.1
250A Grady 75.47 300 IAmb IAmb 10 37 14.1
comp=Z,46nm,1.2s
250A Grady 75.47 300 P P 10 37 08.9 -0.6
baz=49
S34M Telegraph Cree 75.61 341 P P 10 37 08.9 -0.9
baz=26
PNL Peninsula 75.72 346 P P 10 37 09.5 -0.9
baz=20
PNL Peninsula 75.72 346 P P 10 37 14.8 +4.4
comp=Z,111nm,1.1s
OXF Oxford 75.77 304 P P 10 37 09.6 -1.5
baz=48,SNR=7.1
OXF Oxford 75.77 304 P P 10 37 10.3 -0.8
baz=48,SNR=7.1
Z47A Carrollton 75.81 302 IAmb IAmb 10 37 16.6
comp=Z,19nm,0.8s
RC01 Rabbit Creek A 75.83 352 P P 10 37 09.3 -1.7
baz=13,SNR=16
HBAR Harrisburg 75.83 305 IAmb IAmb 10 37 25.5
comp=Z,43nm,0.9s
EYAK Cordova Ski Ar 75.87 349 P P 10 37 08.7 -2.5
baz=16
PWL Port Wells 75.90 351 P P 10 37 09.6 -1.7
baz=14
SPCR Spurr Chakacha 75.97 353 P P 10 37 09.2 -2.6
baz=11
R32K Eaglecrest 76.05 343 P P 10 37 11.0 -1.3
baz=24
BGNE Belgrade 76.08 314 P P 10 37 12.5 -0.3
baz=45
DL2 Dalian 76.15 50 *e*P P 10 37 15.8 +2.6
DL2 S **S 10 47 01.0 +4.2**
DL2 pmax pmax
comp=Z,34nm,0.9s
DL2 pmax pmax
comp=Z,370nm,5.1s
DL2 LR LR
comp=Z,6µm,18.4s
DL2 LR LR
comp=Z,6µm,17.9s
DL2 LR LR
comp=Z,5µm,17.1s
T35M Bob Quinn 76.24 340 P P 10 37 11.7 -1.7
baz=27
LAO LASA Array 76.24 322 P P 10 37 14.2 +0.5
baz=41,SNR=17
LAO LASA Array 76.24 322 P P 10 37 12.0 -1.7
baz=41,SNR=17
MDJ Mudanjiang 76.29 41 P P 10 37 16.8 +2.9
MDJ pmax pmax
comp=Z,19nm,1.9s
MDJ pmax pmax
comp=Z,570nm,4.8s
MDJ Mudanjiang 76.29 41 P P 10 37 19.8 +5.9
comp=Z,12nm,1.2s
FCAR Ozark Folk Cen 76.49 306 IAmb IAmb 10 37 33.4
comp=Z,25nm,1.1s
BRAL Brewton 76.51 300 P P 10 37 13.9 -1.5
baz=48
N19K Bonanza Creek 76.55 354 IAmb IAmb 10 37 22.9
comp=Z,22nm,0.9s
N19K Bonanza Creek 76.55 354 P P 10 37 14.2 -1.0
baz=9.3
U40A Yellville 76.60 307 P P 10 37 15.3 -0.5
baz=47,SNR=15
U40A P P 10 37 15.3 -0.5
baz=47,SNR=15
P23K Montague Islan 76.62 350 P P 10 37 13.8 -1.7
baz=15
S31K Pelican 76.70 344 P P 10 37 15.1 -0.8
baz=23
SEW Seward 76.76 351 P P 10 37 14.6 -1.6
baz=13
EGMT Eagleton 76.79 325 P P 10 37 13.8 -3.0
baz=40,SNR=49
KSU1 Kansas State U 76.86 311 P P 10 37 16.0 -1.2
baz=45,SNR=16
KSU1 Kansas State U 76.86 311 P P 10 37 16.8 -0.4
baz=45,SNR=16
WHAR Wooly Hollow 76.99 306 IAmb IAmb 10 37 24.9
comp=Z,23nm,0.9s
TYV Tymovskoe 77.09 30 *e*P P 10 37 20.6 +2.3
TYV *e*S **S 10 47 11.0 +4.3**
TYV pmax pmax
comp=Z,400nm,3.4s
TYV pmax pmax
comp=Z,21nm,1.2s
TYV smax smax
comp=N,700nm,6.5s
TYV smax smax
comp=E,800nm,6.5s
O20K Slope Mountain 77.11 353 P P 10 37 16.9 -1.4
baz=11
RSSD Black Hills 77.12 319 P P 10 37 18.1 -0.7
RSSD Black Hills 77.12 319 P P 10 37 18.3 -0.7
baz=42
RSSD Black Hills 77.12 319 P P 10 37 17.0 -1.9
baz=42
RSSD Black Hills 77.12 319 P P 10 37 18.2 -0.7
RSSD pmax pmax
comp=Z,10.0nm,0.9s
O19K Port Alsworth 77.15 354 P P 10 37 15.9 -2.5
baz=9.4
N16K Nishlik Lake 77.17 356 P P 10 37 16.8 -1.7
baz=6.1
BRSE Bradley Lake S 77.26 352 P P 10 37 17.8 -1.3
baz=12
WHN Wuhan 77.42 60 P P 10 37 22.9 +2.4
WHN sP **PcP 10 37 31.4 +0.5**
U38A Gravette 77.44 308 P P 10 37 19.7 -0.8
baz=46,SNR=17
P19K Oil Pt 77.59 353 P P 10 37 17.8 -3.1
baz=10
U33K Whale Pass 77.71 341 P P 10 37 18.6 -3.0
baz=25
USRK Ussuriysk Ar. 77.75 40 P P 10 37 22.1 0.0
comp=Z,19nm,0.9s,baz=266,slow=4.6,SNR=19
USRK PP PP 10 40 25.1 +8.3
comp=Z,3.7nm,0.9s,baz=331,slow=8.6,SNR=4.2
comp=Z,19nm,0.9s
USRK Ussuriysk Ar. 77.75 40 P P 10 37 21.9 -0.2
USRK Ussuriysk Ar. 77.75 40 P P 10 37 21.9 -0.2
O17K Koliganek Bris 77.77 355 P P 10 37 18.2 -3.7
baz=7.3
X40A Basin Creek Fa 77.87 306 P P 10 37 21.6 -1.3
baz=46,SNR=13
X40A P P 10 37 21.6 -1.3
baz=46,SNR=13
346A Big Creek Wild 77.90 301 P P 10 37 23.1 0.0
baz=47
JANB Januaria 77.92 237 *e*P P 10 37 24.7 +1.3
VBMS Vicksburg 78.00 303 IAmb IAmb 10 37 34.2
comp=Z,43nm,1.2s
VBMS Vicksburg 78.00 303 P P 10 37 22.7 -0.9
baz=47
VBMS Vicksburg 78.00 303 P P 10 37 23.3 -0.3
baz=47
O16K Kokwok River B 78.01 356 P P 10 37 20.7 -2.5
baz=6.6
P18K Big Mountain, 78.01 354 P P 10 37 22.0 -1.3
baz=8.7
MIAR Mount Ida 78.27 306 IAmb IAmb 10 37 32.8
comp=Z,25nm,0.9s
MIAR Mount Ida 78.27 306 P P 10 37 25.1 -0.1
baz=46,SNR=16
MIAR Mount Ida 78.27 306 P P 10 37 23.0 -2.2

baz=46,SNR=16
T35B **Sooner Cattle** 78.34 310 P P 10 37 25.1 -0.4
baz=45,SNR=18
OGNE **Ogallala** 78.45 316 P P 10 37 25.2 -1.0
baz=43
R32A **Long Quarter,** 78.50 312 IAmb IAmb 10 37 33.6
comp=Z,39nm,1.1s
R32A **Long Quarter,** 78.50 312 P P 10 37 25.6 -0.8
baz=44
Q20K **Shuyak Island** 78.54 352 P P 10 37 25.5 -0.7
baz=11
TUL1 **Leonard** 78.63 308 P P 10 37 26.2 -0.9
baz=45
TUL1 **Leonard** 78.63 308 P P 10 37 26.7 -0.4
baz=45
344A **Westbrook Farm** 78.65 302 P P 10 37 28.5 +1.2
baz=47
KS20 **Mayfield South** 78.70 310 IAmb IAmb 10 37 34.7
comp=Z,45nm,1.2s
Q18K **Katmai Hardscr** 78.73 354 P P 10 37 24.8 -2.7
baz=8.8
CBKS **Cedar Bluff** 78.78 313 IAmb IAmb 10 37 35.5
comp=Z,42nm,1.0s
CBKS **Cedar Bluff** 78.78 313 P P 10 37 27.3 -0.7
baz=44
CBKS **Cedar Bluff** 78.78 313 P P 10 37 26.8 -1.1
baz=44
RLMT **Red Lodge** 78.81 323 P P 10 37 27.2 -1.1
baz=39
Q16K **King Salmon** 78.83 355 P P 10 37 26.1 -1.6
baz=7.6
KAN06 **Argonia West S** 78.86 311 IAmb IAmb 10 37 35.6
comp=Z,36nm,1.0s
KAN01 **Argonia South** 78.87 311 IAmb IAmb 10 37 35.7
comp=Z,49nm,1.1s
OK034 **N. Norfolk Rd.** 79.09 309 IAmb IAmb 10 37 36.8
comp=Z,49nm,1.1s
KAN14 **Manchester OK** 79.13 311 IAmb IAmb 10 37 37.9
comp=Z,41nm,1.0s
Q17K **Contact Creek** 79.18 354 P P 10 37 28.0 -1.8
baz=8.2
NJ2 **Nanjing** 79.24 56 ⇓P P 10 37 33.1 +2.6
NJ2 pP pP 10 37 35.1 +0.2
NJ2 sP sP 10 37 36.3 -0.3
NJ2 pmax pmax
comp=Z,32nm,0.7s
NJ2 pmax pmax
comp=Z,540nm,4.0s
NJ2 LR LR
comp=Z,3μm,19.9s
NJ2 LR LR
comp=Z,3μm,14.2s
NJ2 LR LR
comp=Z,5μm,20.1s
KDAK **Kodiak Island** 79.37 352 P P 10 37 29.1 -1.7
baz=11
K22A **Casper** 79.43 319 IAmb IAmb 10 37 38.2
comp=Z,29nm,1.1s
K22A **Casper** 79.43 319 P P 10 37 30.7 -0.9
baz=41
K22A **Casper** 79.43 319 P P 10 37 30.8 -0.9
baz=41
MSO **Missoula** 79.48 326 IAmb IAmb 10 37 38.8
comp=Z,30nm,1.2s
MSO **Missoula** 79.48 326 P P 10 37 30.4 -1.4
baz=37
BOZ **Bozeman (W)** 79.49 324 IAmb IAmb 10 37 39.8
comp=Z,41nm,1.1s
BOZ **Bozeman (W)** 79.49 324 P P 10 37 30.9 -1.0
baz=38,SNR=18
SDV **Santo Domingo** 79.57 272 P P 10 37 31.8 -1.0
SDV IAmb IAmb 10 37 39.5
comp=Z,25nm,0.8s
NEW **Newport** 79.58 329 IAmb IAmb 10 37 39.0
comp=Z,36nm,1.3s
NEW **Newport** 79.58 329 P P 10 37 31.4 -0.8
baz=35
OK029 **Liberty Lake** 79.66 309 IAmb IAmb 10 37 39.6
comp=Z,46nm,1.2s
342B **Flagon Creek P** 79.70 303 P P 10 37 33.3 +0.3
baz=46
OK025 **Westminster Rd** 79.75 309 IAmb IAmb 10 37 42.0
comp=Z,36nm,1.1s
R17K **Ugashik Creek** 79.84 354 P P 10 37 30.5 -2.8
baz=7.8
BRIGG **Briggsdale** 79.89 317 IAmb IAmb 10 37 42.0
comp=Z,48nm,0.9s
OK038 **West end E0370** 79.91 311 IAmb IAmb 10 37 41.0
comp=Z,32nm,1.1s
INCN **Inchon** 79.94 48 P P 10 37 38.0 +3.7
comp=Z,65nm,1.0s
PEA0B **Petropavlovsk-** 79.95 21 *i*P P 10 37 34.8 +0.8
PETK **Petropavlovsk-** 79.95 21 P P 10 37 34.3 +0.3
comp=Z,16nm,1.0s,baz=31,slow=6.1,SNR=11
comp=Z,16nm,1.0s
H17A **Grant Village** 79.97 323 P P 10 37 33.1 -1.5
baz=38,SNR=25
OHAK **Old Harbor** 79.99 353 P P 10 37 32.9 -1.2
baz=10
KSCO **Kaye Shedlock'** 80.18 315 P P 10 37 36.3 +0.6
baz=42,SNR=22
KSCO **Kaye Shedlock'** 80.18 315 P P 10 37 32.4 -3.3
baz=42,SNR=22
FLWY **Flagg Ranch** 80.27 323 IAmb IAmb 10 37 44.4
comp=Z,64nm,1.2s
PET **Petropavlovsk** 80.28 20 *e*P P 10 37 39.1 +3.4
PET pmax pmax
comp=Z,22nm,1.0s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,16.0s
YSS **Yuzh-Sakhalins** 80.31 32 P P 10 37 36.2 +0.2
YSS **Yuzh-Sakhalins** 80.31 32 P P 10 37 36.9 +0.9
comp=Z,211nm,1.1s
YSS **Yuzh-Sakhalins** 80.31 32 *e*P P 10 37 36.2 +0.2
YSS *e* 10 37 42.5
YSS *e*S S 10 47 41.2 0.0
YSS pmax pmax
comp=Z,900nm,4.0s
YSS pmax pmax
comp=Z,170nm,1.1s
YSS smax smax
comp=N,600nm,6.4s
YSS MLR MLR
comp=N,3μm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=E,2μm,17.0s
C09A **Chrisman Ranch** 80.41 329 IAmb IAmb 10 37 44.1
comp=Z,41nm,1.0s
N23A **Red Feather La** 80.47 318 IAmb IAmb 10 37 46.4
comp=Z,32nm,1.2s
N23A **Red Feather La** 80.47 318 P P 10 37 35.9 -1.5
baz=41,SNR=10
IMW **Indian Meadow** 80.52 323 IAmb IAmb 10 37 45.8
comp=Z,39nm,1.2s
ELIS **Ellis County** 80.58 311 IAmb IAmb 10 37 52.2
comp=Z,32nm,1.0s
SPIA **Saint Paul Isl** 80.64 2 P P 10 37 35.7 -1.9
baz=357
KSRS **Korea Array** 80.67 47 P P 10 37 38.2 +0.1
comp=Z,17nm,0.9s,baz=326,slow=4.8,SNR=38
KSRS PP PP 10 40 47.5 +6.1
comp=Z,2.0nm,0.9s,baz=313,slow=6.8,SNR=4.9
comp=Z,17nm,0.9s
KSRS **Korea Array** 80.67 47 *e*P P 10 37 41.1 +3.0
KSRS pmax pmax
comp=Z,21nm,1.0s
BDFB **Brasilia** 80.68 239 P P 10 37 38.3 -0.2
comp=Z,14nm,0.9s,baz=58,slow=5.2,SNR=16
comp=Z,14nm,0.9s
BDFB **Brasilia** 80.68 239 P P 10 37 38.5 0.0
BDFB IAmb IAmb 10 37 46.6
comp=Z,27nm,1.0s
PDAR **Pinedale Array** 80.77 321 P P 10 37 38.2 -0.7
comp=Z,2.4nm,0.6s,baz=50,slow=5.1,SNR=16
comp=Z,2.4nm,0.6s
BW06 **Boulder Array** 80.77 321 P P 10 37 37.9 -1.1
baz=39
NATX **Nacogdoches** 80.86 305 P P 10 37 38.6 -0.7
baz=45
REDW **Red Top Meadow** 80.90 322 IAmb IAmb 10 37 46.1
comp=Z,96nm,1.9s
ISCO **Idaho Springs** 81.13 317 P P 10 37 41.6 +0.6
baz=41,SNR=22
ISCO **Idaho Springs** 81.13 317 P P 10 37 39.9 -1.1
baz=41,SNR=22
TJN **Taejon** 81.15 48 P P 10 37 43.8 +3.1
comp=Z,182nm,1.1s
WMOK **Wichita Mounta** 81.18 309 P P 10 37 41.1 +0.1
baz=44,SNR=26
WMOK **Wichita Mounta** 81.18 309 P P 10 37 41.1 +0.1
baz=44,SNR=26
CHGN **Chignik** 81.31 355 P P 10 37 40.8 -0.4
baz=6.2
E09A **Wood Farm, Sta** 81.42 328 IAmb IAmb 10 37 49.1
comp=Z,31nm,0.9s
F10A **Beach Ranch, E** 81.51 328 IAmb IAmb 10 37 50.5
comp=Z,49nm,1.3s
Q24A **Divide** 81.53 316 IAmb IAmb 10 37 50.1
comp=Z,23nm,0.9s
Q24A **Divide** 81.53 316 P P 10 37 41.6 -1.5
baz=41,SNR=6.4
HAWA **Hanford** 82.05 329 IAmb IAmb 10 37 53.0
comp=Z,25nm,1.1s
O20A **White River Ci** 82.18 319 IAmb IAmb 10 38 06.3
comp=Z,31nm,1.1s
O20A **White River Ci** 82.18 319 P P 10 37 43.8 -2.6
baz=39,SNR=8.4
SJCC **San Jacinto, C** 82.25 276 *e*P P 10 37 46.9 0.0
SMCO **Snowmass** 82.29 317 IAmb IAmb 10 38 12.2
comp=Z,34nm,1.7s
HLID **Hailey** 82.31 325 P P 10 37 45.2 -1.8
baz=36,SNR=8.6
WHTX **Lake Whitney,** 82.38 307 P P 10 37 45.1 -2.2
baz=44
T25A **Trinidad** 82.51 314 IAmb IAmb 10 37 57.2
comp=Z,27nm,1.1s
T25A **Trinidad** 82.51 314 P P 10 37 45.0 -3.2
baz=41
ASAJ **Asahikawa** 82.56 34 P P 10 37 46.9 -1.1
comp=Z,19nm,1.1s,baz=293,slow=8.8,SNR=9.6
comp=Z,19nm,1.1s
SDCO **Great Sand Dun** 82.62 316 IAmb IAmb 10 37 57.3
comp=Z,19nm,1.1s
SDCO **Great Sand Dun** 82.62 316 P P 10 37 48.4 -0.5
baz=41
SDCO **Great Sand Dun** 82.62 316 P P 10 37 45.6 -3.3
baz=41,SNR=15
AMTX **Amarillo** 82.71 311 P P 10 37 48.2 -0.9
baz=42
HVU **Hansel Valley** 83.02 322 IAmb IAmb 10 37 57.7
comp=Z,26nm,1.2s
MFID **Camas Ranch** 83.03 325 IAmb IAmb 10 37 57.8
comp=Z,41nm,1.1s
ABTX **Abilene, Hawle** 83.20 308 IAmb IAmb 10 38 00.5
comp=Z,18nm,1.1s
ABTX **Abilene, Hawle** 83.20 308 P P 10 37 51.6 0.0
baz=43
ABTX **Abilene, Hawle** 83.20 308 P P 10 37 49.8 -1.8
baz=43
S22A **4UR Ranch, Cre** 83.31 316 IAmb IAmb 10 37 59.7
comp=Z,26nm,1.1s
S22A **4UR Ranch, Cre** 83.31 316 P P 10 37 51.0 -1.5
baz=40
JLU **Jordanelle** 83.35 321 IAmb IAmb 10 37 59.3
comp=Z,24nm,1.1s
CTU **Camp Tracy** 83.42 321 IAmb IAmb 10 37 59.4
comp=Z,29nm,1.0s
P18A **Preston Nutter** 83.54 320 IAmb IAmb 10 38 01.1
comp=Z,23nm,0.9s
ZARC **Zaragoza, Cauc** 83.61 274 *e*P P 10 37 52.1 -1.8
BGU **Big Grassy Mou** 83.82 322 IAmb IAmb 10 38 01.9
comp=Z,20nm,1.1s
UREC **San Jos de Ur** 83.94 275 *e*P P 10 37 51.1 -4.5
MSTX **Muleshoe** 83.99 311 IAmb IAmb 10 38 02.3
comp=Z,18nm,1.0s
MSTX **Muleshoe** 83.99 311 P P 10 37 54.9 -0.9
baz=42
MSTX **Muleshoe** 83.99 311 P P 10 37 53.8 -2.0
baz=42,SNR=5.9
NLU **North Lily Min** 84.15 321 IAmb IAmb 10 38 21.5
comp=Z,39nm,1.6s
TMUT **Trail Mountain** 84.26 320 IAmb IAmb 10 38 04.7
comp=Z,23nm,1.0s
DUG **Dugway, Tooele** 84.30 322 IAmb IAmb 10 38 04.7
comp=Z,14nm,0.9s
DUG **Dugway, Tooele** 84.30 322 P P 10 37 54.3 -3.0
baz=37,SNR=14
ERM **Erimo** 84.52 35 P P 10 37 58.1 0.0
ERM **Erimo** 84.52 35 P P 10 38 04.0 +5.9
comp=Z,73nm,1.1s
ERM **Erimo** 84.52 35 P P 10 37 58.1 0.0
ERM pmax pmax
comp=Z,64nm,1.2s
Q16A **Castle Valley** 84.55 320 IAmb IAmb 10 38 23.0
comp=Z,22nm,1.1s
MVCO **Mesa Verde** 84.57 317 IAmb IAmb 10 38 07.4
comp=Z,34nm,1.1s
MVCO **Mesa Verde** 84.57 317 P P 10 37 55.4 -3.4
baz=39,SNR=8.3
JCT **Junction City** 84.85 307 IAmb IAmb 10 38 07.1
comp=Z,25nm,1.2s
JCT **Junction City** 84.85 307 P P 10 37 59.4 -0.7
baz=43
JCT **Junction City** 84.85 307 P P 10 37 59.1 -1.0
baz=43
NORC **Norcasia** 84.90 273 *e*P P 10 37 58.4 -2.2
PSI **Prapat** 84.92 91 P P 10 38 02.1 +1.4
comp=Z,24nm,0.8s
DBBC **Dabeiba** 84.92 275 *e*P P 10 38 01.5 +0.8
ROSC **El Rosal** 84.98 272 P P 10 38 01.8 +0.4
comp=Z,8.7nm,0.4s,baz=94,slow=21,SNR=4.1
comp=Z,8.7nm,0.4s
RPSI **Rantau Prapat** 84.99 91 IAmb IAmb 10 38 13.4
comp=Z,16nm,0.8s
ANMO **Albuquerque** 85.25 314 P P 10 38 01.4 -0.9
ANMO **Albuquerque** 85.25 314 P P 10 38 02.1 -0.2
baz=40
ANMO **Albuquerque** 85.25 314 P P 10 37 60.0 -2.2
baz=40
ANMO **Albuquerque** 85.25 314 P P 10 38 01.4 -0.9
ANMO pmax pmax
comp=Z,13nm,1.2s
TCRU **Three Creeks R** 85.40 320 IAmb IAmb 10 38 11.7
comp=Z,32nm,1.3s
GUY2C **Guyana, Caldas** 85.50 273 *e*P P 10 38 05.7 +1.6
JNU **Nakatsue** 85.50 48 P P 10 38 04.4 +1.1
comp=Z,28nm,0.9s,baz=26,slow=3.1,SNR=9.8
comp=Z,28nm,0.9s
CBOC **Ciudad Bolivar** 85.55 274 *e*P P 10 38 04.6 +0.7
MTPU **Mount Pierson** 85.72 320 IAmb IAmb 10 38 13.6
comp=Z,20nm,1.1s
SALV **Santo Antonio** 85.86 244 *e*P P 10 38 06.4 +1.3
SPR3 **Spring Creek 3** 85.96 322 IAmb IAmb 10 38 12.7
comp=Z,26nm,1.4s
Y22F **Passcal Instru** 86.16 314 P P 10 38 05.1 -1.6
baz=40
Y22D **IRIS PASSCAL I** 86.17 314 P P 10 38 04.5 -2.2
baz=40
833A **Chaparral WMA,** 86.18 305 P P 10 38 05.9 -0.8
baz=43
833A **Chaparral WMA,** 86.18 305 P P 10 38 04.2 -2.5
baz=43
PKCU **Pink Cliffs** 86.26 320 IAmb IAmb 10 38 15.8
comp=Z,22nm,1.2s
ORTC **Ortega, Tolima** 86.28 272 *e*P P 10 38 08.8 +1.3
Y22A **Socorro** 86.29 314 P P 10 38 06.1 -1.3
baz=40
PLMC **San Jos del P** 86.39 273 *e*P P 10 38 04.6 -3.3
PP1B **Ponte de Pedra** 86.55 242 *e*P P 10 38 09.8 +1.4
JMN **Monobe** 86.66 46 IAmb IAmb 10 38 16.2
comp=Z,35nm,1.0s
MAJO **Matsushiro** 86.67 41 P P 10 38 08.8 -0.2
MAJO IAmb IAmb 10 38 13.4
comp=Z,47nm,1.4s
MAJO **Matsushiro** 86.67 41 P P 10 38 08.8 -0.2
MAJO pmax pmax
comp=Z,47nm,1.4s
MJAR **Matsushiro Arr** 86.67 41 P P 10 38 08.5 -0.5
comp=Z,9.6nm,1.0s,baz=317,slow=4.8,SNR=15
comp=Z,9.6nm,1.0s
MJA0 **Matsu Arr-Jizo** 86.69 41 *e*P P 10 38 11.0 +1.9
MJA0 pmax pmax
comp=Z,9.0nm,1.0s
VILB **Vilhena** 86.83 249 IAmb IAmb 10 38 16.4
comp=Z,37nm,1.0s
YOTC **Yotoco, Valle** 87.05 273 *e*P P 10 38 09.8 -1.4
R11A **Troy Canyon, C** 87.06 322 P P 10 38 07.6 -3.4
baz=35
MNTX **Cornudas Mount** 87.14 311 P P 10 38 10.6 -0.7
baz=40
MNTX **Cornudas Mount** 87.14 311 P P 10 38 10.9 -0.5
baz=40
WUAZ **Wupatki** 87.33 318 P P 10 38 10.3 -2.1
baz=37
121A **Cookes Peak, D** 87.81 314 P P 10 38 14.0 -0.8
baz=39
121A **Cookes Peak, D** 87.81 314 P P 10 38 13.9 -0.8
baz=39
PTLB **Pontes e Lacer** 87.86 247 IAmb IAmb 10 38 20.8
comp=Z,26nm,1.2s
TXAR **Lajitas Array** 87.95 309 P P 10 38 15.1 -0.3
comp=Z,1.2nm,0.6s,baz=74,slow=3.7,SNR=18
comp=Z,1.2nm,0.6s
TX31 **Lajitas Ar. Si** 87.95 309 P P 10 38 15.7 +0.3
baz=41
TX32 **Lajitas Array** 87.95 309 IAmb IAmb 10 38 22.8
comp=Z,14nm,1.1s
YERR **Yerington** 88.14 325 IAmb IAmb 10 38 24.0
comp=Z,18nm,1.0s
NVAR **Mina Array Bea** 88.20 324 P P 10 38 15.7 -0.9
comp=Z,0.9nm,0.7s,baz=49,slow=4.5,SNR=7.7
comp=Z,0.9nm,0.7s
TPNV **Topopah Spring** 88.50 322 P P 10 38 16.6 -1.4
baz=35
V12A **Nelson** 88.85 320 IAmb IAmb 10 38 27.6
comp=Z,18nm,1.1s
ETMB **Extrema** 88.91 256 IAmb IAmb 10 38 23.8
comp=Z,13nm,1.1s
ETMB **Extrema** 88.91 256 *e*P P 10 38 21.2 +1.3
FURC **Furnace Creek,** 89.18 322 P P 10 38 18.2 -2.7
baz=34
SHOC **Shoshone, Teco** 89.38 321 P P 10 38 19.8 -2.1
baz=35
TUC **Tucson** 89.57 315 P P 10 38 22.3 -0.7
TUC **Tucson** 89.57 315 P P 10 38 21.4 -1.6
baz=38
TUC **Tucson** 89.57 315 P P 10 38 22.3 -0.7
TUC pmax pmax
comp=Z,15nm,1.1s
TUQ **Turquoise Moun** 89.59 321 P P 10 38 21.9 -1.2
baz=35
CWC **Cottonwood Cre** 89.75 323 P P 10 38 21.7 -2.2
baz=34
MPMC **Manual Prospec** 89.80 322 P P 10 38 20.9 -3.2
baz=34
GMRC **Granite Mounta** 90.00 320 P P 10 38 21.7 -3.3
baz=35
GSC **Goldstone, Bar** 90.11 321 P P 10 38 23.0 -2.5
baz=34
IRM **Iron Mountain** 90.27 319 P P 10 38 23.7 -2.4
baz=35
ISA **Isabella, Lake** 90.58 323 P P 10 38 24.7 -2.9
baz=33
BELC **Belle Mtn. Jos** 90.80 320 P P 10 38 25.0 -3.8
baz=35
BC3 **Big Chuckawall** 90.82 319 P P 10 38 25.1 -3.7
baz=35
214A **Organ Pipe Nat** 90.89 317 P P 10 38 27.1 -1.9
baz=37
EDW2 **Edwards Air Fo** 91.01 322 P P 10 38 25.9 -3.7
baz=34
GLA **Glamis** 91.01 319 P P 10 38 26.4 -3.2
baz=36
BBRC **Big Bear Solar** 91.02 321 P P 10 38 28.1 -1.8
baz=34
OTAV **Otavalo** 91.11 271 P P 10 38 30.3 -0.5
OTAV IAmb IAmb 10 38 35.4
comp=Z,18nm,1.1s
OTAV **Otavalo** 91.11 271 P P 10 38 30.3 -0.5
OTAV pmax pmax
comp=Z,18nm,1.2s
PMD **Palm Desert** 91.27 320 P P 10 38 30.1 -0.7
PFO **Pinyon Flats O** 91.34 320 P P 10 38 30.8 -0.4
PFO **Pinyon Flats O** 91.34 320 P P 10 38 29.1 -2.1
baz=34
PFO **Pinyon Flats O** 91.34 320 P P 10 38 30.8 -0.4
PFO pmax pmax
comp=Z,13nm,1.1s
TPFO **Pinon Flats** 91.34 320 P P 10 38 29.1 -2.1
baz=34
BFSC **Mount Baldy Ra** 91.39 321 P P 10 38 28.9 -2.5
baz=34
SWSC **Sam W. Stewart** 91.57 319 P P 10 38 31.6 -0.6
baz=35
MURC **Murrieta** 91.70 321 P P 10 38 30.0 -2.8
baz=34
PKM **Mcpherson Peak** 91.82 323 P P 10 38 30.9 -2.6
baz=33
MONP2 **Monument Peak** 91.91 320 P P 10 38 32.9 -1.2
baz=35
IKP **In-Ko-Pah, Jac** 91.96 319 P P 10 38 33.7 -0.4
baz=35
CZSB **Cruzeiro do Su** 92.20 262 IAmb IAmb 10 38 37.3
comp=Z,41nm,1.7s
CZSB **Cruzeiro do Su** 92.20 262 *e*P P 10 38 36.4 +1.1
LPAZ **La Paz** 94.67 252 P P 10 38 45.5 -1.8
comp=Z,2.4nm,1.1s,baz=15,slow=9.0,SNR=5.7
comp=Z,2.4nm,1.1s
WRA **Warramunga Arr** 125.97 85 PKhKP PKPpre 10 44 21.6
comp=Z,1.7nm,0.9s,baz=329,slow=1.7,SNR=9.0
WRA PKP **PKPdf** 10 44 27.4 -0.1
comp=Z,1.7nm,0.9s,baz=318,slow=1.7,SNR=8.9
WRA PP **PP** 10 46 20.6 -0.4
comp=Z,2.1nm,0.9s,baz=321,slow=6.2,SNR=5.4
ASAR **Alice Springs** 127.90 89 PKP **PKPdf** 10 44 30.0 -1.2
comp=Z,1.7nm,0.5s,baz=310,slow=1.6,SNR=11
ASAR PP **PP** 10 46 35.6 +1.8
comp=Z,1.7nm,0.9s,baz=315,slow=6.0,SNR=6.9
ASAR **Alice Springs** 127.90 89 PKPdf **PKPdf** 10 44 30.8 -0.3
ASAR **Alice Springs** 127.90 89 PKIKP **PKPdf** 10 44 30.0 -1.2
STKA **Stephens Creek** 138.07 93 PKP **PKPdf** 10 44 49.5 -0.5
comp=Z,2.9nm,0.8s,baz=342,slow=7.0,SNR=4.1
DZM **Mont Dzumac** 149.73 56 PKPbc **PKPbc** 10 45 15.5 +0.1
comp=Z,23nm,1.0s,baz=53,slow=5.0,SNR=8.1
ONTNC **Ouen Toro** 149.91 56 **PKPdf** 10 45 08.9 -1.9
ONTNC PKPbc **sPKPdf** 10 45 18.1 +1.0
AFI **Afiamalu** 151.17 10 PKPbc **PKPbc** 10 45 17.0 -1.9
comp=Z,33nm,0.9s,baz=109,slow=4.6,SNR=6.7
MSVF **Nonsavu** 152.11 32 PKPbc **PKiKP** 10 45 21.4 +0.1
comp=Z,9.2nm,0.9s,baz=179,slow=9.1,SNR=5.3

ROM 18 10:29:38.1±0.1, 42.503N±0.004×13.288E±0.007, h10km, ML3.6/10, 1C-2D, Error ellipse: s-maj=0.6km s-min=0.2km az=62.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.06**	**173**	*e*P	Pg	10 29 41.1	+0.7
T1247				S	Sg	10 29 43.0	+1.0
T1247				AML	AML		
T1247				AML	AML		
	comp=N,68750μm,0.2s						
T1247				AML	AML		
	comp=N,68750μm,1.8s						
T1247				AML	AML		
T1247				AML	AML		
	comp=N,68720μm,0.2s						
SMA1	**SAN MARTINO**	**0.13**	**15**	⇓*e*P	Pg	10 29 42.0	+0.6
SMA1				S	Sg	10 29 44.6	+1.0
SMA1				AML	AML		
SMA1				AML	AML		
AQU	**L'Aquila**	**0.17**	**150**	P	Pg	10 29 42.6	+0.7
AQU				S	Sg	10 29 45.8	+1.3
T1202	**Accumoli, Fraz**	**0.21**	**347**	⇓*i*P	Pg	10 29 43.1	+0.6
T1202				S	Sg	10 29 46.7	+1.1
LNSS	**Leonessa**	**0.21**	**299**	*e*P	Pg	10 29 43.0	+0.5
LNSS				S	Sg	10 29 46.6	+1.0
LNSS				AML	AML		
	comp=E,97250μm,0.2s						
LNSS				AML	AML		
LNSS				AML	AML		
	comp=E,97250μm,1.8s						
LNSS				AML	AML		
LNSS				AML	AML		
	comp=E,97474μm,0.2s						
LNSS				AML	AML		
T1218	**Civita (PG)**	**0.21**	**323**	P	Pg	10 29 43.0	+0.4
T1218				S	Sg	10 29 46.4	+0.8
T1218				AML	AML		
	comp=N,46388μm,0.3s						
T1218				AML	AML		
	comp=N,46152μm,0.3s						
T1218				AML	AML		
	comp=E,15455μm,0.3s						
T1218				AML	AML		
	comp=E,14658μm,0.3s						
GIGS	**Gran Sasso**	**0.21**	**104**	P	Pg	10 29 43.1	+0.4
GIGS				S	Sg	10 29 46.5	+0.8

GIGS				AML	AML			
	comp=E,4045µm,0.3s							
GIGS				AML	AML			
	comp=N,6135µm,0.5s							
GIGS				AML	AML			
	comp=E,4044µm,0.3s							
GIGS				AML	AML			
	comp=N,6134µm,0.5s							
FIAM	**Fiamignano**	**0.27**	**208**	P	Pg	10 29 44.1	+0.5	
FIAM				S	Sg	10 29 48.4	+1.1	
FIAM				AML	AML			
	comp=E,18900µm,0.6s							
FIAM				AML	AML			
	comp=N,26100µm,0.3s							
FIAM				AML	AML			
	comp=E,18900µm,1.4s							
FIAM				AML	AML			
	comp=N,26118µm,0.3s							
FIAM				AML	AML			
	comp=E,18878µm,0.6s							
FAGN	**Fagnano**	**0.32**	**137**	P	Pg	10 29 44.4	-0.2	
FAGN				S	Sg	10 29 49.8	+0.9	
T1217	**Poggiodomo (PG**	**0.34**	**309**	P	Pg	10 29 45.1	+0.2	
T1217				S	Sg	10 29 50.1	+0.8	
T1217				AML	AML			
	comp=N,13250µm,0.3s							
T1217				AML	AML			
	comp=E,12000µm,0.3s							
T1217				AML	AML			
	comp=E,10800µm,1.5s							
T1217				AML	AML			
	comp=N,13300µm,0.3s							
T1217				AML	AML			
	comp=N,12650µm,0.3s							
T1217				AML	AML			
	comp=E,10800µm,0.5s							
T1217				AML	AML			
	comp=N,12605µm,0.3s							
T1217				AML	AML			
	comp=N,13271µm,0.3s							
T1217				AML	AML			
	comp=E,10626µm,0.3s							
T1217				AML	AML			
	comp=E,11996µm,0.3s							
NRCA	**Norcia**	**0.35**	**339**	P	Pg	10 29 45.3	+0.1	
NRCA				S	Sg	10 29 50.8	+0.8	
ARRO	**Arrone**	**0.39**	**281**	⇑*i*P	Pg	10 29 46.0	+0.1	
ARRO				S	Sg	10 29 51.9	+0.8	
T0110	**Collepietro**	**0.46**	**127**	P	Pg	10 29 47.7	+0.6	
T0110				S	Sb	10 29 54.6	-0.6	
PTQR	**Pietraquaria**	**0.49**	**170**	*e*P	Pg	10 29 47.9	+0.2	
PTQR				S	Sb	10 29 55.6	-0.5	
FEMA	**Monte Fema**	**0.49**	**339**	P	Pg	10 29 47.8	0.0	
FEMA				S	Sb	10 29 55.6	-0.7	
FEMA				AML	AML			
	comp=N,4842µm,0.4s							
OFFI	**Offida**	**0.52**	**34**	P	Pg	10 29 47.8	-0.5	
CESX	**Cesi**	**0.53**	**282**	P	Pg	10 29 48.4	-0.1	
CESX				S	Sb	10 29 56.9	-0.5	
TRTR	**Tortoreto Alta**	**0.55**	**56**	P	Pb	10 29 50.2	+0.3	
GUMA	**Gualdo di Mace**	**0.56**	**4**	P	Pg	10 29 49.4	+0.4	
GUMA				S	Sb	10 29 58.5	+0.3	
CESI	**CESI - Serrava**	**0.58**	**331**	P	Pg	10 29 49.4	0.0	
CESI				S	Sg	10 29 57.5	+0.6	
CSP1	**Cessapalombo**	**0.59**	**354**	P	Pb	10 29 50.4	-0.3	
CSP1				AML	AML			
	comp=N,3566µm,0.3s							
CSP1				AML	AML			
	comp=E,2633µm,0.4s							
CSP1				AML	AML			
	comp=N,3794µm,0.5s							
MOMA	**Monte Martano**	**0.61**	**300**	P	Pg	10 29 50.2	+0.2	
MOMA				S	Sb	10 29 59.3	-0.3	
MOMA				AML	AML			
	comp=E,6680µm,1.5s							
MOMA				AML	AML			
	comp=N,8565µm,0.3s							
MOMA				AML	AML			
	comp=E,6880µm,1.5s							
MOMA				AML	AML			
	comp=N,8835µm,0.2s							
MOMA				AML	AML			
	comp=E,6880µm,0.5s							
MOMA				AML	AML			
	comp=E,6680µm,0.5s							
MOMA				AML	AML			
	comp=E,6558µm,0.2s							
MOMA				AML	AML			
	comp=E,6314µm,0.2s							
MOMA				AML	AML			
	comp=N,8833µm,0.2s							
MOMA				AML	AML			
	comp=N,8568µm,0.2s							
T1220	**Camerino, Fraz**	**0.62**	**347**	P	Pg	10 29 50.1	-0.2	
T1220				S	Sb	10 29 59.7	-0.3	
T1220				AML	AML			
	comp=N,9982µm,0.4s							
T1220				AML	AML			
	comp=N,10110µm,0.5s							
T1220				AML	AML			
	comp=E,9120µm,0.4s							
T1220				AML	AML			
	comp=E,9032µm,0.4s							
MTCE	**Montecelio**	**0.63**	**220**	P	Pg	10 29 50.0	-0.3	
SRES	**S.Oreste - Sor**	**0.64**	**246**	*e*P	Pg	10 29 50.4	-0.1	
SRES				S	Sb	10 30 00.4	+0.2	
GUAR	**Guarcino**	**0.71**	**179**	P	Pg	10 29 52.0	+0.1	
ASSB	**Assisi San Ben**	**0.71**	**320**	P	Pb	10 29 53.0	+0.4	
ASSB				S	Sb	10 30 02.6	+0.1	
ATCC	**AVT- Casa Cast**	**0.83**	**325**	P	Pg	10 29 53.8	-0.4	
MGAB	**Montegabbione**	**0.96**	**296**	P	Pb	10 29 56.9	+0.1	
SACS	**San Casciano d**	**1.07**	**289**	P	Pg	10 29 58.6	-0.1	

*ROM **18** 10:30:33.5±0.1, 42°.535N±0°.004×13°.249E±0°.006, h9km, ML3.8/18, Error ellipse: s-maj=0.4km s-min=0.3km az=78.0*

*BEO **18** 10:30:36.4±0.7, 42°.61N×13°.28E, h8km±1km, ML3.8/10*

ISC 18 10:30:34.0±0.8, **42°.54N**±0°.02×**13°.23E**±0°.02, **h11**km±5km, **n68**, σ=**98**/104, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.11**	**154**	P	**Pg**	**10 30 36.2**	**-0.7**
T1247				S	**Sg**	**10 30 38.3**	**-0.8**
T1247				AML	AML		
	comp=N,44300µm,0.4s						
T1247				AML	AML		
	comp=E,42700µm,0.7s						
SMA1	**SAN MARTINO**	**0.12**	**40**	P	**Pg**	**10 30 36.7**	**-0.5**
SMA1				S	**Sg**	**10 30 39.2**	**-0.2**
SMA1				AML	AML		
SMA1				AML	AML		
LNSS	**Leonessa**	**0.15**	**294**	P	**Pg**	**10 30 37.7**	**+0.1**
LNSS				S	**Sg**	**10 30 41.5**	**+1.2**
LNSS				AML	AML		
LNSS				AML	AML		
	comp=E,97750µm,0.7s						
LNSS				AML	AML		
	comp=E,97750µm,1.3s						
T1218	**Civita (PG)**	**0.16**	**326**	P	**Pg**	**10 30 37.5**	**-0.2**
T1218				S	**Sg**	**10 30 40.5**	**+0.2**
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
	comp=E,97150µm,0.2s						
T1218				AML	AML		
T1218				AML	AML		
	comp=E,97250µm,0.2s						
T1202	**Accumoli, Fraz**	**0.16**	**358**	P	**Pg**	**10 30 38.1**	**+0.2**
T1202				S	**Sg**	**10 30 40.6**	**+0.1**
AQU	**L'Aquila**	**0.22**	**146**	P	**Pg**	**10 30 38.4**	**-0.4**
AQU				S	**Sg**	**10 30 41.5**	**-0.5**
GIGS	**Gran Sasso**	**0.27**	**110**	P	**Pg**	**10 30 39.7**	**+0.2**
GIGS				S	**Sg**	**10 30 43.9**	**+0.7**
GIGS				AML	AML		
	comp=E,5610µm,0.5s						
GIGS				AML	AML		
	comp=N,4275µm,0.6s						
GIGS				AML	AML		
	comp=E,5610µm,1.5s						
T1217	**Poggiodomo (PG**	**0.28**	**308**	P	**Pg**	**10 30 39.7**	**-0.1**
T1217				S	**Sg**	**10 30 44.7**	**+0.9**
T1217				AML	AML		
	comp=N,22050µm,0.6s						
T1217				AML	AML		
	comp=E,18950µm,0.4s						
T1217				AML	AML		
	comp=N,22150µm,0.6s						
T1217				AML	AML		
	comp=E,16400µm,0.2s						
T1217				AML	AML		
	comp=E,18950µm,0.4s						
T1217				AML	AML		
	comp=N,22150µm,0.5s						
T1217				AML	AML		
	comp=E,16350µm,0.2s						
FIAM	**Fiamignano**	**0.28**	**197**	P	**Pg**	**10 30 40.2**	**+0.3**
FIAM				S	**Sb**	**10 30 45.8**	**-0.2**
NRCA	**Norcia**	**0.31**	**344**	P	**Pg**	**10 30 40.5**	**+0.2**
NRCA				S	**Sg**	**10 30 44.6**	**+0.1**
ARRO	**Arrone**	**0.35**	**277**	P	**Pg**	**10 30 41.4**	**+0.4**
ARRO				S	**Sb**	**10 30 47.3**	**-0.4**
ARRO				AML	AML		
	comp=E,10950µm,1.2s						
ARRO				AML	AML		
	comp=N,11500µm,0.2s						
ARRO				AML	AML		
	comp=E,10950µm,0.8s						
FAGN	**Fagnano**	**0.38**	**136**	P	**Pg**	**10 30 41.0**	**-0.6**
FEMA	**Monte Fema**	**0.44**	**342**	P	**Pg**	**10 30 43.0**	**+0.2**
FEMA				S	**Sg**	**10 30 49.4**	**+0.7**
FEMA				AML	AML		
	comp=E,20750µm,0.4s						
FEMA				AML	AML		
	comp=N,12350µm,0.2s						
CESX	**Cesi**	**0.49**	**279**	P	**Pg**	**10 30 43.3**	**-0.3**
CESX				S	**Sb**	**10 30 51.3**	**-0.4**
CESX				AML	AML		
	comp=N,9980µm,1.6s						
CESX				AML	AML		
	comp=E,8715µm,0.6s						
CESX				AML	AML		
	comp=E,8715µm,1.4s						
CESX				AML	AML		
	comp=N,9980µm,0.4s						
T0110	**Collepietro**	**0.51**	**128**	P	**Pg**	**10 30 42.6**	**-1.4**
CESI	**CESI - Serrava**	**0.52**	**333**	P	**Pg**	**10 30 43.7**	**-0.6**
CESI				S	**Sg**	**10 30 51.9**	**+0.6**
GUMA	**Gualdo di Mace**	**0.53**	**8**	P	**Pg**	**10 30 44.3**	**-0.1**
GUMA				S	**Sb**	**10 30 52.2**	**-0.8**
PTQR	**Pietraquaria**	**0.53**	**166**	P	**Pg**	**10 30 44.2**	**-0.2**
CSP1	**Cessapalombo**	**0.55**	**358**	P	**Pg**	**10 30 44.4**	**-0.4**
CSP1				S	**Sg**	**10 30 52.3**	**+0.1**
CSP1				AML	AML		
	comp=E,9140µm,0.7s						
CSP1				AML	AML		
	comp=N,12900µm,0.4s						
MOMA	**Monte Martano**	**0.56**	**299**	P	**Pg**	**10 30 44.6**	**-0.3**
MOMA				S	**Sb**	**10 30 53.5**	**-0.3**
MOMA				AML	AML		
	comp=N,18050µm,0.2s						
MOMA				AML	AML		
	comp=E,15700µm,0.8s						
MOMA				AML	AML		
	comp=E,15950µm,0.8s						
MOMA				AML	AML		
	comp=N,18250µm,0.2s						
MOMA				AML	AML		
	comp=N,18050µm,0.2s						
TRTR	**Tortoreto Alta**	**0.57**	**62**	P	**Pg**	**10 30 45.0**	**-0.1**
T1220	**Camerino, Fraz**	**0.58**	**350**	P	**Pg**	**10 30 44.8**	**-0.5**
T1220				S	**Sg**	**10 30 53.3**	**+0.3**
SRES	**S.Oreste - Sor**	**0.61**	**241**	P	**Pg**	**10 30 45.2**	**-0.8**
CERT	**Cerreto**	**0.62**	**198**	P	**Pg**	**10 30 45.6**	**-0.5**
MNTP	**Montappone**	**0.62**	**16**	P	**Pg**	**10 30 46.1**	**0.0**
MNTP				S	**Sb**	**10 30 55.7**	**0.0**
MTCE	**Montecelio**	**0.63**	**215**	P	**Pg**	**10 30 46.7**	**+0.4**
SEF1	**Sefro**	**0.64**	**341**	P	**Pg**	**10 30 46.3**	**-0.2**
SEF1				S	**Sb**	**10 30 55.9**	**-0.3**
SEF1				AML	AML		
	comp=N,11050µm,1.1s						
SEF1				AML	AML		
	comp=E,10750µm,0.2s						
SEF1				AML	AML		
	comp=N,11050µm,0.9s						
MDAR	**Monte D'Aria**	**0.66**	**354**	P	**Pg**	**10 30 46.1**	**-0.7**
ASSB	**Assisi San Ben**	**0.66**	**320**	P	**Pg**	**10 30 46.3**	**-0.5**
ASSB				S	**Sb**	**10 30 56.4**	**-0.3**
ASSB				AML	AML		
	comp=E,5835µm,0.5s						
ASSB				AML	AML		
	comp=N,5685µm,0.9s						
ASSB				AML	AML		
	comp=E,5835µm,1.5s						
PIO1	**Pioraco**	**0.66**	**344**	P	**Pg**	**10 30 46.8**	**-0.2**
PIO1				S	**Sb**	**10 30 56.7**	**-0.2**
FIU1	**Fiuminata**	**0.69**	**341**	P	**Pg**	**10 30 46.9**	**-0.5**
SSM1	**San Severino M**	**0.69**	**357**	P	**Pg**	**10 30 47.2**	**-0.2**
SSM1				S	**Sg**	**10 30 56.8**	**+0.3**
GAG1	**Gagliole**	**0.71**	**350**	P	**Pg**	**10 30 47.7**	**-0.1**
MTL1	**Matelica**	**0.73**	**347**	P	**Pg**	**10 30 48.2**	**-0.1**
SNTG	**Esanatoglia**	**0.75**	**343**	P	**Pg**	**10 30 47.9**	**-0.6**
SNTG				S	**Sb**	**10 30 58.9**	**-0.3**
SNTG				AML	AML		
	comp=E,2830µm,0.4s						
SNTG				AML	AML		
	comp=E,2670µm,0.4s						
SNTG				AML	AML		
	comp=E,2830µm,0.5s						
SNTG				AML	AML		
	comp=N,3300µm,0.6s						
SNTG				AML	AML		
	comp=E,2670µm,1.6s						
SNTG				AML	AML		
	comp=N,3505µm,0.6s						
SNTG				AML	AML		
	comp=E,2830µm,1.5s						
EL6	**Elcito**	**0.80**	**353**	P	**Pg**	**10 30 49.0**	**-0.5**
EL6				AML	AML		
	comp=N,8640µm,0.9s						
EL6				AML	AML		
	comp=E,7775µm,0.3s						
EL6				AML	AML		
	comp=N,8640µm,1.1s						
EL6				AML	AML		
	comp=E,7775µm,1.7s						
FOSV	**Fossato di Vic**	**0.83**	**336**	P	**Pg**	**10 30 49.9**	**-0.2**
PP3	**Marolino**	**0.88**	**18**	P	**Pg**	**10 30 51.2**	**+0.1**
PP3				AML	AML		
	comp=E,13990µm,0.6s						
PP3				AML	AML		
	comp=E,14100µm,0.6s						
PP3				AML	AML		
	comp=N,16835µm,0.5s						
PP3				AML	AML		
	comp=E,13990µm,1.4s						
PP3				AML	AML		
	comp=E,14100µm,1.4s						
PP3				AML	AML		
	comp=N,16505µm,0.5s						
MURB	**Monte Urbino**	**0.89**	**325**	P	**Pg**	**10 30 50.4**	**-0.8**
MURB				AML	AML		
	comp=N,6300µm,0.3s						
MURB				AML	AML		
	comp=N,6400µm,0.7s						
MURB				AML	AML		
	comp=E,11150µm,0.3s						
MURB				AML	AML		
	comp=E,10300µm,0.4s						
MURB				AML	AML		
	comp=N,6300µm,1.7s						
MURB				AML	AML		
	comp=N,6400µm,1.3s						
MGAB	**Montegabbione**	**0.91**	**295**	P	**Pg**	**10 30 51.3**	**-0.2**
MGAB				AML	AML		
	comp=E,7100µm,0.4s						
MGAB				AML	AML		
	comp=N,7305µm,0.5s						
MGAB				AML	AML		
	comp=E,7955µm,0.5s						
MGAB				AML	AML		
	comp=N,7910µm,0.5s						
ATLO	**AVT- Montelove**	**0.98**	**322**	P	**Pg**	**10 30 51.9**	**-1.1**
ATVA	**AVT- Monte Val**	**1.01**	**317**	P	**Pg**	**10 30 52.4**	**-1.2**
SACS	**San Casciano d**	**1.02**	**288**	P	**Pg**	**10 30 52.7**	**-1.0**
TOLF	**Tolfa**	**1.03**	**243**	P	**Pg**	**10 30 53.5**	**-0.4**
ATVO	**AVT- Monte Val**	**1.04**	**325**	P	**Pg**	**10 30 54.0**	**0.0**
AOI	**Ancona**	**1.05**	**15**	P	**Pg**	**10 30 53.6**	**-0.5**
AOI				AML	AML		
	comp=E,3065µm,1.5s						
AOI				AML	AML		
	comp=N,4485µm,0.3s						
AOI				AML	AML		
	comp=E,3065µm,0.5s						
AOI				AML	AML		
	comp=N,4485µm,1.7s						
MPAG	**Monte Paganucc**	**1.14**	**343**	P	**Pb**	**10 30 54.7**	**-1.1**
MCIV	**Monte Civitell**	**1.17**	**282**	P	**Pb**	**10 30 55.5**	**-0.8**
STON	**Ston**	**3.31**	**83**	*e*Pn	**Pn**	**10 31 26.8**	**+1.1**
STON				*e*Sn	**Sn**	**10 32 05.1**	**+0.2**
PDG	**Podgorica**	**4.46**	**89**	*e*Pn	**Pn**	**10 31 44.0**	**+2.6**
	comp=N,25nm,0.3s						
PDG				*e*Sn	**Sn**	**10 32 34.3**	**+1.1**
TIR	**Tirane**	**5.09**	**101**	*e*Pn	**Pn**	**10 31 52.2**	**+2.1**
	comp=N,33nm,0.3s						
DIVS	**Divibare**	**5.17**	**70**	*e*Pn	**Pn**	**10 31 51.1**	**-0.3**
DIVS				*e*Sn	**Sn**	**10 32 50.8**	**-0.2**
IVAS	**Ivanjica**	**5.17**	**76**	*e*Pn	**Pn**	**10 31 51.8**	**+0.4**
IVAS				*e*Sn	**Sn**	**10 32 50.2**	**-0.9**
MOA	**Molln**	**5.36**	**7**	*e*Pn	**Pn**	**10 31 54.0**	**+0.1**
MOA				*e*Sn	**Sn**	**10 32 55.1**	**-0.5**
FRGS	**Fruska Gora**	**5.43**	**59**	*e*Pn	**Pn**	**10 31 57.0**	**+2.2**
TRUS	**Trudelj**	**5.49**	**70**	*e*Pn	**Pn**	**10 31 57.1**	**+1.4**
TRUS				*e*Sn	**Sn**	**10 32 58.2**	**-0.6**
GRUS	**Gruza**	**5.63**	**74**	*e*Pn	**Pn**	**10 31 59.3**	**+1.7**
OHR	**Ohrid**	**5.83**	**102**	*e*Pn	**Pn**	**10 32 03.4**	**+3.0**
OHR				*e*Sn	**Sn**	**10 33 06.7**	**-0.5**
SELS	**Selova**	**5.83**	**81**	*e*Pn	**Pn**	**10 32 01.5**	**+1.1**
SELS				*e*Sn	**Sn**	**10 33 07.4**	**+0.1**
SKO	**Skopje**	**6.12**	**93**	*e*Pn	**Pn**	**10 32 06.3**	**+2.0**
BOVS	**Bovan**	**6.30**	**77**	*e*Pn	**Pn**	**10 32 07.7**	**+0.9**
	comp=N,5.9nm,0.5s						
BARS	**Barje**	**6.33**	**85**	*e*Pn	**Pn**	**10 32 08.9**	**+1.7**
BARS				*e*Sn	**Sn**	**10 33 18.2**	**-1.3**
FNA	**Florina**	**6.35**	**103**	*e*Pn	**Pn**	**10 32 08.7**	**+1.2**
FNA				*e*Sn	**Sn**	**10 33 18.6**	**-1.3**
PRVS	**Prvonek**	**6.54**	**87**	*e*Pn	**Pn**	**10 32 11.9**	**+1.9**
PRVS				*e*Sn	**Sn**	**10 33 23.3**	**-1.2**
ZAGS	**Zajecar**	**6.70**	**76**	*e*Pn	**Pn**	**10 32 14.5**	**+2.2**
VAY	**Valandovo**	**7.07**	**97**	*e*Pn	**Pn**	**10 32 20.0**	**+2.7**
	comp=N,5.4nm,0.4s						
VTS	**Vitosha**	**7.38**	**86**	*e*Pn	**Pn**	**10 32 23.7**	**+2.0**
VTS	**Vitosha**	**7.38**	**86**	*e*Pn	**Pn**	**10 32 23.8**	**+2.0**
	comp=N,4.6nm,0.3s						
VTS				*e*Sn	**Sn**	**10 33 43.7**	**-1.9**

ROM 18 10:33:37.5±0.1, **42°.527N**±0°.007×**13°.291E**±0°.009, **h12**km±2km, **ML3.1**/15, **5C-4D**, **Error ellipse: s-maj=0.8km s-min=0.6km az=35.0**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.09**	**84**	P	Pg	10 33 40.8	+0.4
CAMP				S	Sg	10 33 42.7	+0.3
CAMP				AML	AML		
	comp=E,47150µm,0.4s						
CAMP				AML	AML		
	comp=N,78300µm,0.4s						
CAMP				AML	AML		
	comp=N,78300µm,1.6s						
SMA1	**SAN MARTINO**	**0.11**	**18**	P	Pg	10 33 40.9	+0.3
SMA1				S	Sg	10 33 43.5	+0.7
SMA1				AML	AML		
	comp=E,67150µm,0.4s						
SMA1				AML	AML		
SMA1				AML	AML		
	comp=E,67100µm,0.4s						
SMA1				AML	AML		
T1218	**Civita (PG)**	**0.19**	**318**	P	Pg	10 33 42.2	+0.4
T1218				S	Sg	10 33 45.4	+0.6
T1218				AML	AML		
	comp=E,9010µm,0.3s						
T1218				AML	AML		
	comp=N,15000µm,0.2s						
T1218				AML	AML		
	comp=E,8610µm,0.3s						
T1218				AML	AML		
	comp=N,15000µm,0.2s						
T1218				AML	AML		
	comp=E,8600µm,0.4s						
T1218				AML	AML		
	comp=E,9010µm,0.4s						
T1218				AML	AML		
	comp=N,14950µm,0.2s						
LNSS	**Leonessa**	**0.20**	**292**	P	Pg	10 33 42.5	+0.6
LNSS				S	Sg	10 33 46.0	+1.0
LNSS				AML	AML		
	comp=E,13550µm,0.4s						
LNSS				AML	AML		
	comp=N,16050µm,0.6s						
GIGS	**Gran Sasso**	**0.22**	**110**	P	Pg	10 33 42.5	+0.2
GIGS				S	Sg	10 33 46.1	+0.6
GIGS				AML	AML		
	comp=E,5175µm,0.5s						
GIGS				AML	AML		
	comp=N,4580µm,0.5s						
FIAM	**Fiamignano**	**0.29**	**206**	⇑P	Pg	10 33 43.9	+0.4
FIAM				S	Sg	10 33 48.5	+1.0
FIAM				AML	AML		
	comp=E,9385µm,0.3s						
FIAM				AML	AML		
	comp=N,5850µm,0.4s						
T1217	**Poggiodomo (PG**	**0.32**	**305**	P	Pg	10 33 44.4	+0.3
T1217				S	Sg	10 33 49.5	+1.0
T1217				AML	AML		
	comp=E,2475µm,0.8s						
T1217				AML	AML		
	comp=N,2335µm,0.4s						
T1217				AML	AML		
	comp=N,2385µm,0.6s						
T1217				AML	AML		
	comp=N,2335µm,0.4s						
T1217				AML	AML		
	comp=E,2290µm,0.7s						
T1217				AML	AML		
	comp=E,2475µm,0.7s						
FAGN	**Fagnano**	**0.34**	**140**	P	Pb	10 33 45.9	+0.3
ARRO	**Arrone**	**0.39**	**278**	⇓P	Pg	10 33 45.4	+0.1
ARRO				AML	AML		
	comp=N,2690µm,0.7s						
ARRO				AML	AML		
	comp=N,2690µm,1.3s						
ARRO				AML	AML		
	comp=E,2215µm,0.2s						
T0110	**Collepietro**	**0.47**	**130**	⇑P	Pg	10 33 47.1	+0.3
T0110				AML	AML		
	comp=E,4545µm,0.8s						
T0110				AML	AML		
	comp=N,4665µm,0.5s						
T0110				AML	AML		
	comp=E,4545µm,1.2s						
PTQR	**Pietraquaria**	**0.51**	**171**	P	Pg	10 33 47.5	-0.1
PTQR				S	Sb	10 33 55.5	-0.5
PTQR				AML	AML		
	comp=E,1058µm,0.3s						
PTQR				AML	AML		
	comp=N,1132µm,0.6s						
PTQR				AML	AML		
	comp=E,1058µm,1.7s						
PTQR				AML	AML		
	comp=N,1132µm,1.4s						
CESX	**Cesi**	**0.53**	**279**	⇑P	Pg	10 33 48.3	+0.4
CESX				AML	AML		
	comp=E,1465µm,1.5s						
CESX				AML	AML		
	comp=N,1330µm,0.4s						
CESX				AML	AML		
	comp=E,1465µm,0.5s						
CESI	**CESI - Serrava**	**0.56**	**329**	⇓P	Pg	10 33 48.4	0.0
CSP1	**Cessapalombo**	**0.57**	**354**	⇓P	Pg	10 33 48.9	+0.2
MOMA	**Monte Martano**	**0.60**	**298**	S	Sb	10 33 59.0	+0.5
MOMA				AML	AML		
	comp=E,1545µm,1.3s						
MOMA				AML	AML		
	comp=E,1545µm,0.7s						
MOMA				AML	AML		
	comp=N,1475µm,0.3s						
T1220	**Camerino, Fraz**	**0.60**	**346**	P	Pg	10 33 49.4	+0.1
T1220				AML	AML		
	comp=E,5075µm,0.5s						
T1220				AML	AML		
	comp=N,5665µm,0.5s						

CERT	**Cerreto**	**0.62**	**202**	⇑P		Pg	10 33 49.4	-0.3
SRES	**S.Oreste - Sor**	**0.65**	**244**	P		Pg	10 33 50.3	+0.1
SRES				S		Sb	10 34 00.9	+1.1
SRES				AML		AML		
	comp=N,974μm,0.4s							
SRES				AML		AML		
	comp=E,988μm,0.3s							
GUAR	**Guarcino**	**0.73**	**179**	⇓P		Pb	10 33 52.8	+0.6
GUAR				AML		AML		
	comp=N,1820μm,0.3s							
GUAR				AML		AML		
	comp=N,1820μm,1.7s							
GUAR				AML		AML		
	comp=E,1214μm,0.5s							
LAV9	**Lanuvio**	**0.96**	**208**	⇑P		Pg	10 33 55.5	-0.5

ROM 18 10:34:09.7±0.3, 42°57'2"N±0'0"09×13°26'26"E±0'0"01, h10km, ML3.2/11, 2D, Error ellipse: s-maj=1.3km s-min=0.8km az=309.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.13**	**168**	⇓P	Pg	10 34 16.8	+4.0
T1247				AML	AML		
	comp=E,9939μm,0.6s						
T1247				AML	AML		
	comp=N,8348μm,0.3s						
T1218	**Civita (PG)**	**0.14**	**313**	P	Pg	10 34 13.6	+0.6
T1218				S	Sg	10 34 16.0	+0.6
T1218				AML	AML		
	comp=N,66850μm,0.2s						
T1218				AML	AML		
	comp=E,29700μm,0.4s						
T1218				AML	AML		
	comp=N,66850μm,0.2s						
T1218				AML	AML		
	comp=E,27750μm,0.4s						
T1218				AML	AML		
	comp=N,66900μm,0.2s						
T1218				AML	AML		
	comp=N,66848μm,0.2s						
T1218				AML	AML		
	comp=E,28559μm,0.2s						
T1218				AML	AML		
	comp=N,66868μm,0.2s						
T1218				AML	AML		
	comp=E,26789μm,0.2s						
LNSS	**Leonessa**	**0.17**	**281**	P	Pg	10 34 14.1	+0.7
LNSS				S	Sg	10 34 17.0	+1.1
LNSS				AML	AML		
	comp=E,26950μm,1.4s						
LNSS				AML	AML		
	comp=N,35900μm,0.2s						
LNSS				AML	AML		
	comp=N,35886μm,0.2s						
LNSS				AML	AML		
	comp=E,26810μm,0.3s						
GIGS	**Gran Sasso**	**0.26**	**118**	⇓P	Pn	10 34 20.0	+0.3
GIGS				AML	AML		
	comp=N,967μm,0.6s						
GIGS				AML	AML		
	comp=E,1004μm,0.2s						
GIGS				AML	AML		
	comp=N,709μm,0.2s						
T1217	**Poggiodomo (PG**	**0.28**	**300**	P	Pg	10 34 15.8	+0.4
T1217				S	Sg	10 34 20.2	+1.0
T1217				AML	AML		
	comp=E,3800μm,0.8s						
T1217				AML	AML		
	comp=N,5425μm,0.2s						
T1217				AML	AML		
	comp=E,3800μm,0.8s						
T1217				AML	AML		
	comp=N,5425μm,0.2s						
T1217				AML	AML		
	comp=N,5468μm,0.2s						
T1217				AML	AML		
	comp=N,5428μm,0.2s						
T1217				AML	AML		
	comp=E,3624μm,0.1s						
T1217				AML	AML		
	comp=E,3768μm,0.1s						
FIAM	**Fiamignano**	**0.32**	**199**	S	Sb	10 34 22.1	-0.7
ARRO	**Arrone**	**0.36**	**271**	P	Pg	10 34 17.3	+0.4
ARRO				S	Sg	10 34 22.8	+1.0
ARRO				AML	AML		
	comp=N,4300μm,0.2s						
ARRO				AML	AML		
	comp=E,3155μm,1.6s						
ARRO				AML	AML		
	comp=E,2842μm,0.2s						
ARRO				AML	AML		
	comp=N,4303μm,0.2s						
CESX	**Cesi**	**0.50**	**275**	P	Pg	10 34 19.8	+0.3
CESX				S	Sb	10 34 27.4	-0.6
CESX				AML	AML		
	comp=E,2041μm,0.2s						
CESX				AML	AML		
	comp=N,2668μm,0.2s						
CESI	**CESI - Serrava**	**0.51**	**329**	P	Pg	10 34 19.8	+0.3
CESI				S	Sb	10 34 27.4	-0.8
CESI				AML	AML		
	comp=N,2532μm,0.3s						
CESI				AML	AML		
	comp=E,1167μm,0.2s						
CESI				AML	AML		
	comp=N,2532μm,1.6s						
CSP1	**Cessapalombo**	**0.52**	**356**	S	Sb	10 34 28.0	-0.7
CSP1				AML	AML		
	comp=E,2700μm,0.2s						
CSP1				AML	AML		
	comp=N,3160μm,0.3s						
T1220	**Camerino, Fraz**	**0.55**	**347**	P	Pg	10 34 20.5	+0.1
T1220				S	Sb	10 34 29.0	-0.5
T1220				AML	AML		
	comp=N,7389μm,0.3s						
T1220				AML	AML		
	comp=E,6155μm,0.3s						
T1220				AML	AML		
	comp=E,6079μm,0.2s						
T1220				AML	AML		
	comp=N,7436μm,0.4s						
T1220				AML	AML		
	comp=E,6155μm,1.7s						
T1220				AML	AML		
	comp=E,6079μm,1.8s						
MOMA	**Monte Martano**	**0.56**	**295**	P	Pg	10 34 20.9	+0.3
MOMA				S	Sb	10 34 29.5	-0.3
MOMA				AML	AML		
	comp=E,4175μm,0.2s						
MOMA				AML	AML		
	comp=N,5260μm,0.2s						
MOMA				AML	AML		
	comp=E,4175μm,0.1s						
MOMA				AML	AML		
	comp=N,5260μm,0.2s						
MOMA				AML	AML		
	comp=E,4440μm,0.2s						
MOMA				AML	AML		
	comp=N,5350μm,0.2s						
MOMA				AML	AML		
	comp=E,4173μm,0.1s						
MOMA				AML	AML		
	comp=N,5263μm,0.2s						
MOMA				AML	AML		
	comp=N,5349μm,0.2s						
MOMA				AML	AML		
	comp=E,4437μm,0.2s						
ASSB	**Assisi San Ben**	**0.65**	**317**	S	Sb	10 34 32.7	+0.5
SRES	**S.Oreste - Sor**	**0.65**	**239**	S	Sb	10 34 33.3	+1.1
SRES				AML	AML		
	comp=E,516μm,0.4s						
SRES				AML	AML		
	comp=N,545μm,0.3s						
SNTG	**Esanatoglia**	**0.72**	**341**	S	Sb	10 34 34.6	+0.2
SNTG				AML	AML		
	comp=E,539μm,0.9s						
SNTG				AML	AML		
	comp=E,527μm,0.1s						
SNTG				AML	AML		
	comp=N,688μm,0.1s						
SNTG				AML	AML		
	comp=N,663μm,0.6s						

*IDC **18** 10:37:41.8±1.5, 42°.16N×13°.03E, h0km, mb3.5/7, mbtmp3.6/15, ML3.8/7, Error ellipse: s-maj=24.4km s-min=16.8km az=25.0*
*ROM **18** 10:37:46.1±0.1, 42°.507N±0°.003×13°.265E±0°.005, h12km, ML3.7/58, Error ellipse: s-maj=0.4km s-min=0.1km az=53.0*
*BEO **18** 10:37:47.5±0.6, 42°.49N×13°.31E, h0km, ML4.1/16*
ISC 18 10:37:46.4±0.7, 42°51'N±0'02×13°25'E±0'02, h16km±4km, n121, σ1ş50/143, mb3.5/6, 6C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.07**	**153**	⇓P	Pg	10 37 49.3	-0.4
T1247				S	Sg	10 37 51.1	-0.8
T1247				AML	AML		
T1247				AML	AML		
T1247				AML	AML		
T1247				AML	AML		
T1247				AML	AML		
CAMP	**Campotosto**	**0.12**	**75**	⇑P	Pb	10 37 49.5	-0.9
CAMP				S	Sb	10 37 51.7	-1.3
CAMP				AML	AML		
CAMP				AML	AML		
CAMP				AML	AML		
CAMP				AML	AML		
CAMP				AML	AML		
CAMP				AML	AML		
LNSS	**Leonessa**	**0.18**	**302**	⇑P	Pg	10 37 50.9	-0.2
LNSS				S	Sg	10 37 54.2	0.0
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
AQU	**L'Aquila**	**0.19**	**144**	⇑P	Pg	10 37 50.8	-0.2
AQU				S	Sg	10 37 54.0	-0.1
T1218	**Civita (PG)**	**0.19**	**328**	P	Pg	10 37 50.8	-0.4
T1218				S	Sg	10 37 54.0	-0.5
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1202	**Accumoli, Fraz**	**0.20**	**354**	P	Pg	10 37 51.0	-0.3
T1202				S	Sg	10 37 54.5	-0.1
GIGS	**Gran Sasso**	**0.24**	**103**	⇑P	Pg	10 37 51.2	-0.6
GIGS				S	Sg	10 37 54.9	-0.7
GIGS				AML	AML		
	comp=N,17450μm,0.6s						
GIGS				AML	AML		
	comp=N,17450μm,1.4s						
GIGS				AML	AML		
	comp=E,17050μm,0.7s						
GIGS				AML	AML		
	comp=N,17466μm,0.6s						
GIGS				AML	AML		
	comp=E,16761μm,0.3s						
FIAM	**Fiamignano**	**0.26**	**203**	⇑P	Pg	10 37 52.3	+0.1
FIAM				S	Sg	10 37 56.5	+0.4
FIAM				AML	AML		
	comp=N,28200μm,0.6s						
FIAM				AML	AML		
	comp=E,38650μm,0.4s						
FIAM				AML	AML		
	comp=N,28200μm,1.4s						
FIAM				AML	AML		
	comp=E,38631μm,0.4s						
FIAM				AML	AML		
	comp=N,28211μm,0.6s						
T1217	**Poggiodomo (PG**	**0.32**	**311**	P	Pg	10 37 52.8	-0.4
T1217				S	Sg	10 37 57.8	0.0
T1217				AML	AML		
	comp=E,34350μm,0.3s						
T1217				AML	AML		
	comp=N,30750μm,0.6s						
T1217				AML	AML		
	comp=E,31500μm,0.3s						
T1217				AML	AML		
	comp=N,32050μm,0.6s						
T1217				AML	AML		
	comp=E,31500μm,1.7s						
T1217				AML	AML		
	comp=E,34350μm,1.7s						
T1217				AML	AML		
	comp=N,28475μm,0.3s						
T1217				AML	AML		
	comp=N,28065μm,0.3s						
T1217				AML	AML		
	comp=E,31494μm,0.3s						
T1217				AML	AML		
	comp=E,29579μm,0.2s						
FAGN	**Fagnano**	**0.34**	**134**	P	Pg	10 37 53.3	-0.3
FAGN				AML	AML		
	comp=E,59050μm,0.5s						
FAGN				AML	AML		
	comp=N,42250μm,1.5s						
FAGN				AML	AML		
	comp=E,59014μm,0.5s						
FAGN				AML	AML		
	comp=N,41910μm,0.3s						
ARRO	**Arrone**	**0.37**	**282**	⇑P	Pg	10 37 53.9	-0.1
ARRO				S	Sg	10 37 59.8	+0.6
ARRO				AML	AML		
	comp=E,13750μm,0.2s						
ARRO				AML	AML		
	comp=N,19650μm,0.8s						
ARRO				AML	AML		
	comp=E,13764μm,0.2s						
T0110	**Collepietro**	**0.48**	**125**	P	Pg	10 37 55.6	-0.5
T0110				S	Sb	10 38 03.1	-0.2
T0110				AML	AML		
	comp=N,29250μm,0.4s						
T0110				AML	AML		
	comp=E,26100μm,0.5s						
T0110				AML	AML		
	comp=N,29250μm,1.6s						
T0110				AML	AML		
	comp=N,29251μm,0.4s						
T0110				AML	AML		
	comp=E,26139μm,0.5s						
FEMA	**Monte Fema**	**0.48**	**342**	P	Pg	10 37 55.7	-0.4
FEMA				AML	AML		
	comp=E,32450μm,1.0s						
FEMA				AML	AML		
	comp=E,32450μm,1.0s						
FEMA				AML	AML		
	comp=N,17200μm,0.3s						
FEMA				AML	AML		
	comp=E,23960μm,0.2s						
FEMA				AML	AML		
	comp=N,17172μm,0.3s						
PTQR	**Pietraquaria**	**0.50**	**167**	P	Pg	10 37 55.6	-0.7
PTQR				AML	AML		
	comp=E,3510μm,0.4s						
PTQR				AML	AML		
	comp=N,3880μm,0.7s						
PTQR				AML	AML		
	comp=N,3880μm,1.3s						
PTQR				AML	AML		
	comp=N,3879μm,0.7s						
PTQR				AML	AML		
	comp=E,3512μm,0.4s						
CESX	**Cesi**	**0.51**	**282**	P	Pg	10 37 56.0	-0.6
CESX				AML	AML		
	comp=N,8560μm,1.1s						
CESX				AML	AML		
	comp=E,8340μm,0.7s						
CESX				AML	AML		
	comp=N,7073μm,0.3s						
CESX				AML	AML		
	comp=E,6691μm,0.4s						
CESI	**CESI - Serrava**	**0.56**	**333**	P	Pg	10 37 57.0	-0.5
CESI				S	Sb	10 38 05.7	0.0
CESI				AML	AML		
	comp=E,10230μm,1.1s						
CESI				AML	AML		
	comp=N,12000μm,0.6s						
CESI				AML	AML		
	comp=E,10230μm,0.9s						
CESI				AML	AML		
	comp=E,9756μm,0.1s						
CESI				AML	AML		
	comp=N,12026μm,0.6s						

TRTR	**Tortoreto Alta**	**0.57**	**58**	P		Pg	10 37 57.9	+0.2
TRTR				AML		AML		
	comp=N,37350μm,0.7s							
TRTR				AML		AML		
	comp=E,30750μm,0.5s							
TRTR				AML		AML		
	comp=E,30741μm,0.5s							
TRTR				AML		AML		
	comp=N,37355μm,0.7s							
MOMA	**Monte Martano**	**0.59**	**301**	P		Pg	10 37 57.3	-0.7
MOMA				S		Sb	10 38 06.9	+0.5
MOMA				AML		AML		
	comp=E,17600μm,0.2s							
MOMA				AML		AML		
	comp=N,20200μm,0.2s							
MOMA				AML		AML		
	comp=N,20850μm,0.2s							
MOMA				AML		AML		
	comp=E,17900μm,0.2s							
MOMA				AML		AML		
	comp=N,20842μm,0.2s							
MOMA				AML		AML		
	comp=E,17898μm,0.2s							
MOMA				AML		AML		
	comp=E,17616μm,0.2s							
MOMA				AML		AML		
	comp=N,20168μm,0.2s							
CSP1	**Cessapalombo**	**0.59**	**356**	P		Pg	10 37 56.7	-1.3
CSP1				AML		AML		
	comp=E,10290μm,1.5s							
CSP1				AML		AML		
	comp=E,10290μm,0.5s							
CSP1				AML		AML		
	comp=N,12900μm,0.6s							
CSP1				AML		AML		
	comp=E,9226μm,0.7s							
CSP1				AML		AML		
	comp=N,11442μm,0.4s							
CERT	**Cerreto**	**0.59**	**200**	P		Pg	10 37 57.5	-0.6
CERT				AML		AML		
	comp=E,6725μm,0.6s							
CERT				AML		AML		
	comp=N,5980μm,0.7s							
CERT				AML		AML		
	comp=E,6725μm,1.4s							
CERT				AML		AML		
	comp=N,5978μm,0.7s							
CERT				AML		AML		
	comp=E,6728μm,0.6s							
SRES	**S.Oreste - Sor**	**0.61**	**244**	P		Pg	10 37 58.3	-0.2
SRES				AML		AML		
	comp=E,4775μm,1.1s							
SRES				AML		AML		
	comp=N,4575μm,1.0s							
SRES				AML		AML		
	comp=N,4575μm,1.0s							
SRES				AML		AML		
	comp=N,4527μm,0.7s							
SRES				AML		AML		
	comp=E,4577μm,0.7s							
T1220	**Camerino, Fraz**	**0.62**	**349**	P		Pg	10 37 57.8	-0.8
T1220				AML		AML		
	comp=E,34000μm,0.3s							
T1220				AML		AML		
	comp=N,40100μm,0.5s							
T1220				AML		AML		
	comp=E,34000μm,0.3s							
T1220				AML		AML		
	comp=N,39850μm,0.5s							
T1220				AML		AML		
	comp=E,34800μm,0.3s							
T1220				AML		AML		
	comp=N,39844μm,0.5s							
T1220				AML		AML		
	comp=E,34779μm,0.3s							
T1220				AML		AML		
	comp=E,34014μm,0.3s							
T1220				AML		AML		
	comp=N,40122μm,0.5s							
MNTP	**Montappone**	**0.65**	**14**	P		Pg	10 37 59.0	-0.2
MNTP				S		Sn	10 38 09.6	-1.3
ASSB	**Assisi San Ben**	**0.69**	**321**	P		Pg	10 37 59.2	-0.8
ASSB				AML		AML		
	comp=E,7400μm,0.6s							
ASSB				AML		AML		
	comp=N,10860μm,0.9s							
ASSB				AML		AML		
	comp=E,6635μm,0.4s							
ASSB				AML		AML		
	comp=N,10470μm,0.2s							
RCAV	**Rocca di Cave**	**0.70**	**199**	P		Pg	10 37 59.6	-0.5
RCAV				AML		AML		
	comp=E,8140μm,0.7s							
RCAV				AML		AML		
	comp=N,10175μm,0.6s							
RCAV				AML		AML		
	comp=E,8141μm,0.7s							
RCAV				AML		AML		
	comp=N,10072μm,0.5s							
GUAR	**Guarcino**	**0.71**	**176**	AML		AML		
	comp=E,4785μm,1.3s							
GUAR				AML		AML		
	comp=E,4785μm,0.7s							
GUAR				AML		AML		
	comp=N,5515μm,1.5s							
GUAR				AML		AML		
	comp=N,5515μm,0.5s							
SNTG	**Esanatoglia**	**0.78**	**343**	P		Pb	10 38 00.8	-0.9
SNTG				AML		AML		
	comp=N,3740μm,0.4s							
SNTG				AML		AML		
	comp=E,3485μm,0.8s							
SNTG				AML		AML		
	comp=N,3615μm,0.4s							
SNTG				AML		AML		
	comp=N,3740μm,1.6s							
SNTG				AML		AML		
	comp=E,3645μm,0.8s							
SNTG				AML		AML		
	comp=E,2955μm,0.6s							
SNTG				AML		AML		
	comp=N,3740μm,0.4s							
SNTG				AML		AML		
	comp=N,3612μm,0.4s							
SNTG				AML		AML		
	comp=E,2879μm,0.6s							
RMP	**Rome, Mte Porz**	**0.81**	**211**	AML		AML		
	comp=E,6385μm,0.7s							
RMP				AML		AML		
	comp=N,10140μm,0.8s							
ATCC	**AVT- Casa Cast**	**0.81**	**327**	P		Pb	10 38 01.4	-0.8
ATCC				AML		AML		
	comp=E,9425μm,0.5s							
ATCC				AML		AML		
	comp=N,7810μm,0.9s							
ATCC				AML		AML		
	comp=N,7025μm,0.7s							
ATCC				AML		AML		
	comp=E,9447μm,0.5s							
LPEL	**Lama dei Pelig**	**0.83**	**123**	P		Pb	10 38 01.0	-1.5
LPEL				S		Sb	10 38 13.0	-0.3
LPEL				AML		AML		
	comp=E,6625μm,1.1s							
LPEL				AML		AML		
	comp=N,6025μm,0.5s							
LPEL				AML		AML		
	comp=E,6625μm,0.9s							
LPEL				AML		AML		
	comp=N,6025μm,0.5s							
LPEL				AML		AML		
	comp=E,5666μm,0.6s							
RDP	**Rocca di Papa**	**0.85**	**208**	P		Pb	10 38 02.6	-0.2
RDP				AML		AML		
	comp=E,15750μm,0.8s							
RDP				AML		AML		
	comp=N,12800μm,0.9s							
RDP				AML		AML		
	comp=E,15750μm,1.2s							
RDP				AML		AML		
	comp=N,12773μm,0.9s							
FOSV	**Fossato di Vic**	**0.87**	**336**	P		Pb	10 38 02.2	-0.9
FOSV				AML		AML		
	comp=N,4955μm,0.7s							
FOSV				AML		AML		
	comp=E,4195μm,0.7s							
FOSV				AML		AML		
	comp=E,4198μm,0.7s							

FOSV AML AML
comp=N,4929µm,0.6s
PP3 Marolino 0.91 17 P **Pb 10 38 03.8 0.0**
PP3 AML AML
comp=E,17800µm,0.5s
PP3 AML AML
comp=N,12650µm,0.7s
PP3 AML AML
comp=N,12500µm,0.7s
PP3 AML AML
comp=E,17650µm,0.5s
PP3 AML AML
comp=E,17800µm,0.5s
PP3 AML AML
comp=N,12673µm,0.7s
PP3 AML AML
comp=E,17816µm,0.5s
PP3 AML AML
comp=E,17644µm,0.5s
PP3 AML AML
comp=N,12513µm,0.7s
LAV9 Lanuvio 0.93 207 AML AML
comp=E,9550µm,1.4s
LAV9 AML AML
comp=E,9355µm,1.4s
LAV9 AML AML
comp=N,13350µm,0.7s
LAV9 AML AML
comp=N,12750µm,0.7s
LAV9 AML AML
comp=E,9550µm,0.6s
LAV9 AML AML
comp=E,9355µm,0.6s
MURB Monte Urbino 0.93 325 P **Pb 10 38 03.2 -1.0**
MURB AML AML
comp=N,17100µm,1.0s
MURB AML AML
comp=E,16300µm,1.1s
MURB AML AML
comp=N,17450µm,1.1s
MURB AML AML
comp=E,16850µm,1.0s
MURB AML AML
comp=N,17100µm,1.0s
MURB AML AML
comp=N,17450µm,0.9s
MURB AML AML
comp=E,15505µm,0.4s
MURB AML AML
comp=N,15094µm,0.4s
MURB AML AML
comp=N,14230µm,0.4s
MURB AML AML
comp=E,13892µm,0.4s
GIUL Giuliano Di Ro 0.95 180 P **Pb 10 38 04.1 -0.3**
GIUL AML AML
comp=N,3140µm,0.7s
GIUL AML AML
comp=N,3140µm,1.3s
GIUL AML AML
comp=E,2435µm,0.8s
GIUL AML AML
comp=N,3139µm,0.7s
GIUL AML AML
comp=E,2436µm,0.8s
SSFR Montelago di S 0.99 340 P **Pb 10 38 04.9 -0.4**
SSFR AML AML
comp=E,6300µm,0.3s
SSFR AML AML
comp=E,6100µm,1.1s
SSFR AML AML
comp=N,7060µm,0.3s
SSFR AML AML
comp=E,6100µm,0.9s
SSFR AML AML
comp=N,8140µm,0.3s
SSFR AML AML
comp=N,8141µm,0.3s
SSFR AML AML
comp=E,6297µm,0.3s
SSFR AML AML
comp=N,7058µm,0.3s
SSFR AML AML
comp=E,5851µm,0.3s
TOLF Tolfa 1.03 245 P **Pb 10 38 05.0 -0.8**
TOLF AML AML
comp=E,2825µm,0.7s
TOLF AML AML
comp=N,3130µm,1.0s
TOLF AML AML
comp=N,3130µm,1.0s
TOLF AML AML
comp=N,3134µm,1.0s
TOLF AML AML
comp=E,2828µm,0.7s
SACS San Casciano d 1.05 290 P **Pb 10 38 05.4 -0.8**
SACS AML AML
comp=E,3020µm,0.8s
SACS AML AML
comp=N,3405µm,1.1s
SACS AML AML
comp=E,3060µm,0.7s
SACS AML AML
comp=E,3020µm,1.2s
SACS AML AML
comp=N,3225µm,1.0s
SACS AML AML
comp=E,3060µm,1.3s
SACS AML AML
comp=E,3061µm,0.7s
SACS AML AML
comp=E,3022µm,0.8s
SACS AML AML
comp=N,3403µm,1.1s
CERA Filignano 1.07 148 P **Pb 10 38 06.3 -0.3**
CERA AML AML
comp=N,4100µm,1.6s
CERA AML AML
comp=N,4215µm,1.6s
CERA AML AML
comp=E,3595µm,1.0s
CERA AML AML
comp=N,4215µm,0.4s
CERA AML AML
comp=N,4100µm,0.4s
CERA AML AML
comp=E,3620µm,1.0s
CERA AML AML
comp=N,3795µm,0.6s
CERA AML AML
comp=E,3621µm,1.0s
CERA AML AML
comp=N,3705µm,0.6s
CERA AML AML
comp=E,3599µm,1.0s
AOI Ancona 1.07 14 P **Pb 10 38 06.1 -0.5**
AOI AML AML
comp=N,4025µm,1.1s
AOI AML AML
comp=E,4110µm,0.8s
AOI AML AML
comp=N,3507µm,0.5s
AOI AML AML
comp=E,3930µm,0.5s
ATVO AVT- Monte Val 1.07 325 P **Pb 10 38 05.9 -0.8**
ATVO AML AML
comp=E,3330µm,0.7s
ATVO AML AML
comp=N,3780µm,0.6s
ATVO AML AML
comp=E,3330µm,0.7s
ATVO AML AML
comp=N,3782µm,0.6s
ATMI Monte Miggiano 1.10 319 P **Pn 10 38 07.3 +0.1**
ATMI AML AML
comp=E,8155µm,0.8s
ATMI AML AML
comp=N,7330µm,1.1s
ATMI AML AML
comp=N,7330µm,0.9s
ATMI AML AML
comp=E,7954µm,0.6s
ATMI AML AML
comp=N,6531µm,0.7s
ATPI Pietralunga - 1.13 327 P **Pn 10 38 06.6 -1.0**
ATPI AML AML
comp=E,3510µm,0.6s
ATPI AML AML
comp=N,2940µm,1.4s
ATPI AML AML
comp=N,2940µm,0.6s
ATPI AML AML
comp=E,3510µm,1.4s
ATPI AML AML
comp=E,3511µm,0.6s
ATPI AML AML
comp=N,2833µm,0.6s
MIDA Miranda 1.14 139 P **Pn 10 38 06.2 -1.5**
MIDA AML AML
comp=N,2345µm,1.2s
MIDA AML AML
comp=E,3415µm,0.9s
MIDA AML AML
comp=N,2273µm,0.6s
MIDA AML AML
comp=E,3366µm,0.9s
PIEI Pieia 1.16 333 P **Pn 10 38 07.2 -0.7**
PIEI AML AML
comp=N,1965µm,0.6s
PIEI AML AML
comp=E,2455µm,0.4s
PIEI AML AML
comp=N,1965µm,1.4s
PIEI AML AML
comp=N,1967µm,0.6s
PIEI AML AML
comp=E,2456µm,0.4s
MCIV Monte Civitell 1.20 284 P **Pb 10 38 08.9 +0.2**
MCIV AML AML
comp=E,1270µm,0.9s
MCIV AML AML
comp=E,1270µm,1.1s
MCIV AML AML
comp=N,1317µm,1.3s
MCIV AML AML
comp=N,1237µm,0.8s
MCIV AML AML
comp=E,1221µm,0.3s
TRIV Trivento 1.22 127 AML AML
TRIV AML AML
TRIV AML AML
TRIV AML AML
comp=E,3630µm,0.8s
TRIV AML AML
comp=N,2360µm,1.0s
TRIV AML AML
BADI Badiali 1.25 324 P **Pb 10 38 09.7 +0.2**
BADI AML AML
comp=E,122µm,0.6s
BADI AML AML
comp=N,2705µm,0.8s
BADI AML AML
comp=N,2705µm,1.2s
BADI AML AML
comp=N,2705µm,0.8s
BADI AML AML
comp=E,118µm,0.7s
CAFI Castiglion Fio 1.25 311 P **Pn 10 38 09.1 -0.1**
CAFI AML AML
comp=N,2250µm,0.7s
CAFI AML AML
comp=E,2140µm,0.6s
CAFI AML AML
comp=E,2145µm,0.5s
CAFI AML AML
comp=N,2275µm,0.7s
CAFI AML AML
comp=E,2142µm,0.5s
CAFI AML AML
comp=E,2137µm,0.6s
CAFI AML AML
comp=N,2250µm,0.7s
CAFI AML AML
comp=N,2277µm,0.7s
PE3 Peglio 1.31 335 P **Pb 10 38 10.6 -0.1**
PE3 AML AML
comp=E,6905µm,0.5s
PE3 AML AML
comp=N,10µm,1.5s
PE3 AML AML
comp=N,10µm,0.5s
PE3 AML AML
comp=E,6905µm,0.5s
SSP9 Sansepolcro 1.35 323 P **Pb 10 38 11.7 +0.5**
SSP9 AML AML
comp=E,2670µm,1.3s
SSP9 AML AML
comp=N,3500µm,1.5s
SSP9 AML AML
comp=N,3500µm,0.5s
SSP9 AML AML
comp=E,2670µm,0.7s
SSP9 AML AML
comp=E,2670µm,1.3s
SSP9 AML AML
comp=N,3504µm,1.5s
ARCI Arcidosso 1.36 285 P **Pb 10 38 11.8 +0.4**
ARCI AML AML
comp=N,590µm,1.6s
ARCI AML AML
comp=E,524µm,1.0s
ARCI AML AML
comp=N,590µm,0.4s
ARCI AML AML
comp=E,524µm,1.0s
ARCI AML AML
comp=N,443µm,0.7s
CPGN Carpegna, Ital 1.46 332 AML AML
comp=E,2755µm,0.9s
CPGN AML AML
comp=N,2655µm,0.9s
CPGN AML AML
comp=E,2660µm,1.0s
CPGN AML AML
comp=N,2920µm,0.6s
CPGN AML AML
comp=N,2923µm,0.6s
CPGN AML AML
comp=E,2658µm,1.0s
CPGN AML AML
comp=E,2753µm,0.9s
CPGN AML AML
comp=N,2655µm,0.9s
MAON Monte Argentar 1.57 268 P **Pn 10 38 14.1 +0.4**
MAON AML AML
comp=N,431µm,1.2s
MAON AML AML
comp=N,431µm,0.8s
MAON AML AML
comp=E,714µm,0.6s
MAON AML AML
comp=E,714µm,0.6s
MAON AML AML
comp=N,431µm,1.2s
FROS Frosini 1.69 295 P **Pn 10 38 16.1 +0.7**
FROS AML AML
comp=E,1087µm,0.7s
FROS AML AML
comp=N,702µm,0.7s
FROS AML AML
comp=E,1087µm,1.3s
FROS AML AML
comp=E,1089µm,0.7s
FROS AML AML
comp=N,702µm,0.7s
CASP Castiglione de 1.79 280 P **Pn 10 38 17.2 +0.6**
CASP AML AML
comp=E,260µm,0.9s
CASP AML AML
comp=N,348µm,1.0s
CASP AML AML
comp=E,260µm,1.1s
CASP AML AML
comp=E,260µm,0.9s
CASP AML AML
comp=N,349µm,1.0s
TRIF Trifonti 1.83 290 P **Pn 10 38 18.2 +1.0**
TRIF AML AML
comp=E,428µm,0.3s
TRIF AML AML
comp=N,431µm,0.8s
TRIF AML AML
comp=N,431µm,0.8s
RUFI Rufina 1.84 317 P **Pn 10 38 18.1 +0.7**
RUFI AML AML
comp=E,894µm,0.7s
RUFI AML AML
comp=N,1180µm,1.6s
RUFI AML AML
comp=N,1180µm,0.4s
RUFI AML AML
comp=N,1155µm,0.6s
RUFI AML AML
comp=E,893µm,0.7s
NDIM Novi di Modena 2.93 325 AML AML
comp=E,6975µm,0.2s
NDIM AML AML
comp=E,6440µm,0.2s
NDIM AML AML
comp=N,5940µm,0.8s
NDIM AML AML
comp=N,5970µm,0.2s
NDIM AML AML
comp=N,5940µm,1.2s
AMUR Altamura 2.97 121 AML AML
comp=E,452µm,0.6s
AMUR AML AML
comp=E,452µm,0.6s
AMUR AML AML
comp=N,344µm,0.5s
AMUR AML AML
comp=N,344µm,0.5s
STON Ston 3.30 82 AML AML
comp=E,198µm,1.5s
STON AML AML
comp=N,245µm,1.0s
STON AML AML
comp=N,208µm,0.8s
STON AML AML
comp=E,183µm,0.8s
STON Ston 3.30 82 *e*Pn **Pn 10 38 38.6 +1.3**
STON *e*Sn **Sn 10 39 17.0 +0.9**
BLY Banja Luka 3.63 51 *e*Pn **Pn 10 38 44.7 +2.8**
BLY *e*Sn **Sn 10 39 27.9 +3.6**
TREB Trebinje 3.77 85 *e*Pn **Pn 10 38 45.7 +1.9**
TREB *e*Sn **Sn 10 39 28.5 +0.7**
LUSI Trento, Gardas 3.83 335 AML AML
comp=E,254µm,0.6s
LUSI AML AML
comp=E,254µm,1.4s
LUSI AML AML
comp=N,298µm,0.7s
LUSI AML AML
comp=N,298µm,1.3s
LUSI AML AML
comp=N,270µm,0.6s
LUSI AML AML
comp=E,224µm,0.8s
CIMO Cimolais 3.85 352 AML AML
comp=N,91µm,0.8s
CIMO AML AML
comp=E,114µm,1.6s
CIMO AML AML
comp=N,87µm,0.6s
CIMO AML AML
comp=E,112µm,1.6s
CIMO AML AML
comp=N,87µm,0.6s
CIMO AML AML
comp=N,90µm,0.6s
CIMO AML AML
comp=E,91µm,0.5s
CIMO AML AML
comp=E,94µm,0.5s
OBKA Obir 4.11 13 *e*Pn **Pn 10 38 50.2 +1.6**
comp=E,3.6nm,0.2s
MYKA Terra Mystica 4.13 4 *e*Pn **Pn 10 38 49.4 +0.5**
comp=E,27nm,0.6s
APPI Appiano 4.23 341 AML AML
comp=E,169µm,0.3s
APPI AML AML
comp=E,206µm,1.2s
APPI AML AML
comp=N,220µm,0.6s
APPI AML AML
comp=E,206µm,0.8s
APPI AML AML
comp=N,198µm,0.3s
ABTA Abfaltersbach 4.27 353 *e*Pn **Pn 10 38 51.4 +0.6**
comp=N,12nm,0.2s
SOKA Soboth 4.36 16 *e*Pn **Pn 10 38 52.9 +0.9**
comp=N,1.8nm,0.2s
PDG Podgorica 4.44 89 *e*Sn **Sn 10 39 45.4 +1.1**
KBA Koelnbreinsper 4.57 1 *e*Pn **Pn 10 38 58.2 +3.2**
comp=N,29nm,0.5s
ROSI Rosskopf 4.61 344 AML AML
comp=N,302µm,0.5s
ROSI AML AML
comp=E,264µm,1.1s
ROSI AML AML
comp=E,264µm,0.9s
ROSI AML AML
comp=N,302µm,1.5s
ROSI AML AML
comp=N,302µm,0.5s
ROSI AML AML
comp=E,265µm,1.1s
BBLS Lazići 4.70 71 *e*Pn **Pn 10 38 58.8 +2.1**
BBLS *e*Sn **Sn 10 39 53.7 +2.9**
FETA Feichten 4.86 339 *e*Pn **Pn 10 39 02.3 +3.4**
comp=E,5.5nm,0.3s
WTTA Wattenberg 4.89 347 *e*Pn **Pn 10 39 02.7 +3.2**
DAVOX Davos/Dischmat 4.91 332 Pn **Pn 10 39 01.8 +2.2**
comp=E,3.1nm,0.3s,baz=167,slow=18,SNR=5.8
DAVOX Sn **Sn 10 39 57.6 +1.6**
comp=E,1.3nm,0.3s,baz=304,slow=20,SNR=2.1
comp=E,9.6nm,0.3s
SJES Sjenica 5.00 79 *e*Pn **Pn 10 39 03.3 +2.5**
SJES *e*Sn **Sn 10 39 59.4 +1.2**
ARSA Arzberg 5.01 18 *e*Pn **Pn 10 39 01.9 +1.0**
comp=E,5.7nm,0.4s
TIR Tirane 5.07 101 *e*Sn **Sn 10 40 00.9 +1.1**
MOTA Moosalm 5.07 343 *e*Pn **Pn 10 39 03.7 +1.8**
comp=E,6.1nm,0.4s
DIVS Divibare 5.17 70 *e*Pn **Pn 10 39 04.5 +1.4**
DIVS *e*Sn **Sn 10 40 03.2 +0.8**
IVAS Ivanjica 5.17 76 *e*Pn **Pn 10 39 04.8 +1.7**
IVAS *e*Sn **Sn 10 40 01.8 -0.6**
RETA Reutte 5.29 341 *e*Pn **Pn 10 39 08.2 +3.5**
comp=E,7.4nm,0.4s
DAVA Damueis 5.35 335 *e*Pn **Pn 10 39 09.7 +4.1**
comp=E,12nm,0.5s
FRGS Fruska Gora 5.43 59 *e*Pn **Pn 10 39 08.1 +1.4**
FRGS *e*Sn **Sn 10 40 10.4 +1.6**
TRUS Trudelj 5.49 69 *e*Pn **Pn 10 39 08.8 +1.3**
RONA Rosalia, Austr 5.62 21 *i* Pn **Pn 10 39 09.4 +0.1**
comp=E,2.8nm,0.2s
GRUS Gruza 5.63 73 *e*Pn **Pn 10 39 11.1 +1.8**
GRUS *e*Sn **Sn 10 40 14.6 +1.0**
OHR Ohrid 5.81 101 *e*Pn **Pn 10 39 14.9 +3.0**
OHR *e*Sn **Sn 10 40 18.4 +0.2**
SELS Selova 5.83 80 *e*Pn **Pn 10 39 13.4 +1.3**
SELS *e*Sn **Sn 10 40 19.1 +0.6**
SKO Skopje 6.10 92 *e*Pn **Pn 10 39 18.3 +2.5**
BOVS Bovan 6.29 77 *e*Pn **Pn 10 39 19.3 +0.8**
BARS Barje 6.32 84 *e*Pn **Pn 10 39 20.7 +1.8**
BARS *e*Sn **Sn 10 40 31.1 +0.4**
FNA Florina 6.32 103 *e*Pn **Pn 10 39 20.5 +1.5**
FNA *e*Sn **Sn 10 40 29.6 -1.3**
GERES GERESS Array B 6.35 3 Pn **Pn 10 39 22.0 +2.7**
comp=E,1.8nm,0.3s,baz=170,slow=13,SNR=4.5
GERES Sn **Sn 10 40 28.7 -2.8**
comp=E,3.2nm,0.3s,baz=168,slow=22,SNR=7.7
comp=E,3.0nm,0.4s
PRVS Prvonek 6.52 87 *e*Pn **Pn 10 39 23.4 +1.7**
PRVS *e*Sn **Sn 10 40 36.3 +0.6**
ZAGS Zajecar 6.70 76 *e*Pn **Pn 10 39 25.1 +1.1**
BZS Buzias 6.78 60 *e*Pn **Pn 10 39 26.5 +1.4**
ZAPS Zavoj 6.93 80 *e*Sn **Sn 10 40 44.9 -0.9**
VAY Valandovo 7.05 97 *e*Pn **Pn 10 39 31.7 +2.8**
VAY *e*Sn **Sn 10 40 46.8 -1.8**
VRAC Vranov 7.19 18 Pn **Pn 10 39 33.7 +2.9**
comp=E,0.2nm,0.3s,baz=141,slow=8.5,SNR=1.3
VRAC Sn **Sn 10 40 50.0 -2.1**
comp=E,0.5nm,0.3s,baz=261,slow=13,SNR=1.6
comp=E,1.3nm,0.3s
VTS Vitosha 7.37 86 *e*Pn **Pn 10 39 35.3 +1.9**
VTS Vitosha 7.37 86 *e*Pn **Pn 10 39 35.4 +2.0**
VTS *e*Sn **Sn 10 40 56.3 -0.5**
VTS *e*Sn **Sn 10 40 56.8 0.0**
SRS Serrai 7.85 97 *e*Pn **Pn 10 39 41.0 +1.2**
DRGR 7.99 54 *e*Pn **Pn 10 39 43.4 +1.6**

CLL	**Collm**	**8.81**	**359**	*e*(Sn)	**Sn**	**10 41 27.0**	**-4.8**
CLL				*e*Sg		10 42 26.0	
MLR	**Muntele Rosu**	**9.62**	**68**	Pn	**Pn**	**10 40 05.5**	**+1.3**
	comp=E,0.5nm,0.3s,baz=213,slow=20,SNR=2.3						
	comp=E,2.5nm,0.5s						
IDI	**Anoyia**	**11.57**	**125**	Pn	**Pn**	**10 40 28.8**	**-2.2**
	comp=E,0.2nm,0.3s,baz=309,slow=24,SNR=0.9						
	comp=E,3.1nm,0.9s						
AKASG	**Malin Array Be**	**13.68**	**48**	Pn	**Pn**	**10 41 03.2**	**+3.6**
	comp=E,0.6nm,0.3s,baz=240,slow=11,SNR=1.6						
	comp=E,0.3nm,0.3s						
BRTR	**Keskin Array B**	**15.61**	**93**	Pn	**Pn**	**10 41 27.8**	**+1.9**
	comp=E,0.1nm,0.3s,baz=286,slow=8.4,SNR=2.5						
	comp=E,0.4nm,0.7s						
NOA	**NORSAR Array B**	**18.60**	**357**	P	**Pn**	**10 42 06.0**	**+2.9**
	comp=E,0.8nm,0.7s,baz=183,slow=11,SNR=2.1						
FINES	**FINESS Array B**	**20.47**	**18**	P	Pn	10 42 25.9	+0.6
	comp=E,3.4nm,0.8s,baz=199,slow=8.2,SNR=8.8						
	comp=E,3.4nm,0.8s						
KBZ	**Khabaz**	**21.63**	**77**	P	**P**	**10 42 35.9**	**+0.3**
	comp=E,1.4nm,0.7s,baz=92,slow=23,SNR=2.8						
	comp=E,1.4nm,0.7s						
MKAR	**Makanchi Array**	**47.86**	**60**	P	**P**	**10 46 22.4**	**-1.0**
	comp=E,0.5nm,0.7s,baz=285,slow=6.7,SNR=5.9						
	comp=E,0.5nm,0.7s						
SONM	**Songino Array**	**61.95**	**50**	P	**P**	**10 48 05.1**	**-0.3**
	comp=E,0.2nm,0.5s,baz=270,slow=7.2,SNR=2.1						
	comp=E,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**67.32**	**337**	P	**P**	**10 48 39.3**	**-0.7**
	comp=E,0.7nm,0.7s,baz=39,slow=5.9,SNR=12						
	comp=E,0.7nm,0.7s						
PDAR	**Pinedale Array**	**80.77**	**321**	P	**P**	**10 49 58.9**	**-0.3**
	comp=E,0.2nm,0.6s,baz=15,slow=4.8,SNR=1.8						
	comp=E,0.2nm,0.6s						
TXAR	**Lajitas Array**	**87.95**	**309**	P	**P**	**10 50 33.7**	**-2.0**
	comp=E,0.1nm,0.8s,baz=106,slow=4.8,SNR=1.8						
	comp=E,0.1nm,0.8s						

STR ***18*** *10:39:18.2±3.4, 42°N±20″×1°4E±2°3, h10km, MLv4.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=130.9, preliminary*

IDC ***18*** *10:39:22.7±0.9, 42°57N×13°15E, h0km, mb3.9/12, mbtmp3.9/23, ML3.7/10, MS4.6/1, Error ellipse: s-maj=16.5km s-min=13.5km az=12.0*

ROM ***18*** *10:39:24.7±0.0, 42°533N±0°002×13°271E±0°002, h10km, ML4.1/81, Error ellipse: s-maj=0.3km s-min=0.1km az=58.0*

NEIC ***18*** *10:39:24.7±1.4, 42°55N±0°03×13°23E±0°05, h10km±1km, mb4.3/17, ML4.1(VIE), ML4.1(ROM), Error ellipse: s-maj=6.4km s-min=5.4km az=129.0*

LDG ***18*** *10:39:25.0±0.2, 42°48N×13°21E, h11km, Ml3.4/25, Error ellipse: s-maj=5.6km s-min=3.2km az=40.0*

BEO ***18*** *10:39:27.0±0.5, 42°51N×13°28E, h10km±9km, ML4.3/19*

PRU ***18*** *10:39:29.1±0.0, 42°70N×13°35E, h10km, M4.3*

ISC 18 10:39:25.0±0.7, **42°52N**±0°02×**13°24E**±0°02, **h16**km±4km, **n368**, σ≥**10**/430, **mb4.2**/19, **16C-3D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.09**	**151**	P	**Pg**	**10 39 27.7**	**-0.7**
T1247				S	**Sg**	**10 39 30.1**	**-0.5**
CAMP	**Campotosto**	**0.13**	**83**		**Pg**	**10 39 27.4**	**-1.5**
CAMP				Sg	**Sg**	**10 39 29.7**	**-1.6**
CAMP	**Campotosto**	**0.13**	**83**	P	**Pg**	**10 39 27.9**	**-0.9**
CAMP				S	**Sg**	**10 39 29.9**	**-1.5**
CAMP				AML	AML		
CAMP				AML	AML		
LNSS	**Leonessa**	**0.17**	**299**	⇑P	**Pg**	**10 39 29.4**	**0.0**
LNSS				S	**Sb**	**10 39 32.8**	**-0.3**
LNSS				AML	AML		
LNSS				AML	AML		
T1218	**Civita (PG)**	**0.17**	**329**	P	**Pg**	**10 39 29.1**	**-0.4**
T1218				S	**Sg**	**10 39 32.1**	**-0.3**
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1202	**Accumoli, Fraz**	**0.18**	**357**	P	**Pg**	**10 39 29.2**	**-0.4**
T1202				S	**Sg**	**10 39 32.0**	**-0.6**
AQU	**L'Aquila**	**0.21**	**144**	P	**Pg**	**10 39 29.8**	**-0.1**
AQU				S	**Sg**	**10 39 33.2**	**+0.1**
GIGS	**Gran Sasso**	**0.26**	**106**	P	**Pg**	**10 39 29.8**	**-0.9**
GIGS				S	**Sg**	**10 39 33.4**	**-1.1**
GIGS				AML	AML		
	comp=E,47050μm,1.3s						
GIGS				AML	AML		
	comp=E,47050μm,0.7s						
GIGS				AML	AML		
	comp=N,56200μm,0.4s						
FIAM	**Fiamignano**	**0.27**	**200**	P	**Pg**	**10 39 31.1**	**+0.3**
FIAM				S	**Sb**	**10 39 35.9**	**0.0**
FIAM				AML	AML		
	comp=N,92000μm,0.7s						
FIAM				AML	AML		
	comp=E,88850μm,0.7s						
T1217	**Poggiodomo (PG**	**0.30**	**310**	P	**Pg**	**10 39 31.3**	**-0.1**
T1217				S	**Sg**	**10 39 36.2**	**+0.5**
T1217				AML	AML		
	comp=E,41450μm,0.5s						
T1217				AML	AML		
	comp=E,47450μm,0.5s						
T1217				AML	AML		
	comp=E,41450μm,0.5s						
T1217				AML	AML		
	comp=N,57800μm,0.6s						
T1217				AML	AML		
	comp=E,47450μm,0.6s						
T1217				AML	AML		
	comp=N,57800μm,0.6s						
T1217				AML	AML		
	comp=N,54050μm,0.6s						
T1217				AML	AML		
	comp=E,41500μm,0.5s						
ARRO	**Arrone**	**0.35**	**280**	P	**Pg**	**10 39 32.5**	**+0.2**
ARRO				S	**Sb**	**10 39 38.3**	**0.0**
ARRO				AML	AML		
	comp=E,24200μm,1.1s						
ARRO				AML	AML		
	comp=N,30600μm,0.9s						
FAGN	**Fagnano**	**0.36**	**135**	P	**Pg**	**10 39 32.6**	**+0.1**
FAGN				AML	AML		
FAGN				AML	AML		
	comp=N,90600μm,0.4s						
FAGN				AML	AML		
	comp=N,90600μm,1.6s						
FAGN				AML	AML		
FEMA	**Monte Fema**	**0.46**	**343**	P	**Pg**	**10 39 34.0**	**-0.3**
FEMA				S	**Sg**	**10 39 41.1**	**+0.5**
FEMA				AML	AML		
	comp=E,34750μm,1.1s						
FEMA				AML	AML		
	comp=N,27400μm,0.7s						
CESX	**Cesi**	**0.49**	**281**		**Pg**	**10 39 34.4**	**-0.4**
CESX	**Cesi**	**0.49**	**281**	P	**Pg**	**10 39 34.7**	**-0.1**
CESX				AML	AML		
	comp=E,19600μm,0.4s						
CESX				AML	AML		
	comp=N,20050μm,1.1s						
CESX				AML	AML		
	comp=N,20050μm,0.9s						
T0110	**Collepietro**	**0.50**	**126**	P	**Pg**	**10 39 34.3**	**-0.6**
T0110				S	**Sg**	**10 39 42.0**	**+0.4**
T0110				AML	AML		
	comp=N,55350μm,1.5s						
T0110				AML	AML		
	comp=E,51550μm,0.4s						
T0110				AML	AML		
	comp=E,51550μm,1.6s						
T0110				AML	AML		
	comp=N,55350μm,0.5s						
PTQR	**Pietraquaria**	**0.51**	**166**	P	**Pg**	**10 39 35.2**	**0.0**
PTQR				AML	AML		
	comp=E,10400μm,1.5s						
PTQR				AML	AML		
	comp=N,8775μm,1.0s						
PTQR				AML	AML		
	comp=E,10400μm,0.5s						
CESI	**CESI - Serrava**	**0.54**	**333**	P	**Pg**	**10 39 35.4**	**-0.4**
CESI				S	**Sb**	**10 39 43.5**	**-0.3**
CESI				AML	AML		
	comp=N,20850μm,0.4s						
CESI				AML	AML		
	comp=E,16100μm,0.4s						
MOMA	**Monte Martano**	**0.57**	**300**	P	**Pb**	**10 39 36.5**	**-0.2**
MOMA				S	**Sb**	**10 39 45.3**	**+0.7**
MOMA				AML	AML		
	comp=E,24150μm,0.2s						
MOMA				AML	AML		
	comp=N,33750μm,0.6s						
MOMA				AML	AML		
	comp=E,24300μm,0.2s						
MOMA				AML	AML		
	comp=N,35400μm,0.6s						
MOMA				AML	AML		
	comp=E,24150μm,0.2s						
CSP1	**Cessapalombo**	**0.57**	**358**	P	**Pg**	**10 39 35.8**	**-0.5**
CSP1				S	**Sg**	**10 39 44.0**	**0.0**
CSP1				AML	AML		
	comp=E,21500μm,0.9s						
CSP1				AML	AML		
	comp=E,21500μm,1.1s						
CSP1				AML	AML		
	comp=N,31600μm,1.0s						
TRTR	**Tortoreto Alta**	**0.57**	**60**	P	**Pg**	**10 39 36.2**	**-0.2**
TRTR				AML	AML		
	comp=E,61650μm,0.5s						
TRTR				AML	AML		
	comp=N,71000μm,1.4s						
TRTR				AML	AML		
	comp=N,72400μm,0.7s						
T1220	**Camerino, Fraz**	**0.60**	**349**	P	**Pg**	**10 39 36.4**	**-0.4**
T1220				AML	AML		
	comp=N,66200μm,0.8s						
T1220				AML	AML		
	comp=E,73300μm,0.5s						
T1220				AML	AML		
	comp=N,64650μm,1.0s						
T1220				AML	AML		
	comp=N,64650μm,1.1s						
T1220				AML	AML		
	comp=E,73350μm,0.5s						
T1220				AML	AML		
	comp=E,74600μm,0.5s						
T1220				AML	AML		
	comp=N,64650μm,0.9s						
T1220				AML	AML		
	comp=N,66200μm,0.8s						
CERT	**Cerreto**	**0.60**	**198**	P	**Pg**	**10 39 36.6**	**-0.2**
CERT				AML	AML		
	comp=E,28750μm,0.4s						
CERT				AML	AML		
	comp=N,11900μm,0.6s						
SRES	**S.Oreste - Sor**	**0.61**	**242**	P	**Pg**	**10 39 36.7**	**-0.3**
SRES				AML	AML		
	comp=E,13300μm,1.6s						
SRES				AML	AML		
	comp=N,16250μm,0.5s						
SRES				AML	AML		
	comp=E,13300μm,0.4s						
MTCE	**Montecelio**	**0.62**	**217**	P	**Pg**	**10 39 36.8**	**-0.4**
MTCE				AML	AML		
	comp=N,18150μm,0.6s						
MTCE				AML	AML		
	comp=E,26150μm,0.5s						
MTCE				AML	AML		
	comp=N,18150μm,1.4s						
MNTP	**Montappone**	**0.64**	**15**	P	**Pg**	**10 39 36.9**	**-0.7**
MNTP				S	**Sb**	**10 39 47.2**	**+0.7**
MNTP				AML	AML		
	comp=E,41650μm,0.8s						
MNTP				AML	AML		
	comp=N,39650μm,0.2s						
MNTP				AML	AML		
	comp=E,41650μm,1.2s						
SEF1	**Sefro**	**0.66**	**341**	P	**Pg**	**10 39 37.5**	**-0.5**
SEF1				AML	AML		
	comp=E,20650μm,0.9s						
SEF1				AML	AML		
	comp=N,17650μm,0.8s						
SEF1				AML	AML		
	comp=N,17600μm,0.7s						
SEF1				AML	AML		
	comp=E,20650μm,0.9s						
ASSB	**Assisi San Ben**	**0.67**	**321**	P	**Pg**	**10 39 37.9**	**-0.3**
ASSB				AML	AML		
	comp=N,12750μm,0.5s						
ASSB				AML	AML		
	comp=E,16250μm,0.6s						
ASSB				AML	AML		
	comp=N,12750μm,1.5s						
MDAR	**Monte D'Aria**	**0.68**	**354**	P	**Pg**	**10 39 37.2**	**-1.1**
PIO1	**Pioraco**	**0.68**	**344**	P	**Pg**	**10 39 37.6**	**-0.8**
FIU1	**Fiuminata**	**0.70**	**341**	P	**Pg**	**10 39 38.2**	**-0.6**
RCAV	**Rocca di Cave**	**0.71**	**198**	P	**Pb**	**10 39 39.5**	**+0.5**
RCAV				AML	AML		
	comp=E,27100μm,0.5s						
RCAV				AML	AML		
	comp=E,27100μm,1.5s						
RCAV				AML	AML		
	comp=N,33500μm,0.8s						
SSM1	**San Severino M**	**0.71**	**356**	P	**Pg**	**10 39 38.1**	**-0.8**
VVLD	**Villa Vallelon**	**0.71**	**156**	P	**Pg**	**10 39 38.9**	**0.0**
GAG1	**Gagliole**	**0.73**	**350**	P	**Pg**	**10 39 38.7**	**-0.5**
GUAR	**Guarcino**	**0.73**	**176**	P	**Pg**	**10 39 39.4**	**+0.2**
GUAR				AML	AML		
	comp=E,10445μm,0.5s						
GUAR				AML	AML		
	comp=N,14100μm,1.3s						
GUAR				AML	AML		
	comp=E,10445μm,1.5s						
GUAR				AML	AML		
	comp=N,14100μm,0.7s						
MTL1	**Matelica**	**0.75**	**347**	P	**Pg**	**10 39 39.0**	**-0.7**
SNTG	**Esanatoglia**	**0.77**	**343**	P	**Pg**	**10 39 39.4**	**-0.6**
SNTG				AML	AML		
	comp=E,9655μm,1.6s						
SNTG				AML	AML		
	comp=E,9195μm,1.6s						
SNTG				AML	AML		
	comp=E,9655μm,1.6s						
SNTG				AML	AML		
	comp=N,7665μm,0.5s						
SNTG				AML	AML		
	comp=N,7695μm,0.5s						
SNTG				AML	AML		
	comp=E,9655μm,0.4s						
SNTG				AML	AML		
	comp=E,9195μm,0.4s						
CADA	**Capodarco di F**	**0.78**	**30**	P	**Pb**	**10 39 40.2**	**0.0**
ATCC	**AVT- Casa Cast**	**0.80**	**327**	P	**Pb**	**10 39 40.1**	**-0.4**
ATCC				AML	AML		
	comp=N,17800μm,1.0s						
ATCC				AML	AML		
	comp=E,14750μm,0.9s						
EL6	**Elcito**	**0.81**	**353**	P	**Pb**	**10 39 40.1**	**-0.8**
EL6				AML	AML		
	comp=E,25200μm,0.5s						
EL6				AML	AML		
	comp=N,30900μm,0.5s						
RMP	**Rome, Mte Porz**	**0.81**	**209**	P	**Pb**	**10 39 40.3**	**-0.5**
RMP				AML	AML		
	comp=E,16750μm,0.6s						
RMP				AML	AML		
	comp=N,24450μm,0.6s						
CIMA	**Civitanova Mar**	**0.85**	**22**	P	**Pb**	**10 39 41.1**	**-0.3**
LPEL	**Lama dei Pelig**	**0.85**	**124**	P	**Pb**	**10 39 40.2**	**-1.2**
LPEL				AML	AML		
	comp=N,19650μm,0.2s						
LPEL				AML	AML		
	comp=E,17250μm,0.2s						
FOSV	**Fossato di Vic**	**0.85**	**336**	P	**Pb**	**10 39 40.9**	**-0.6**
FOSV				AML	AML		
	comp=E,7855μm,1.0s						
FOSV				AML	AML		
	comp=N,10900μm,0.6s						
FOSV				AML	AML		
	comp=N,10900μm,1.4s						
FOSV				AML	AML		
	comp=E,7855μm,1.0s						
RDP	**Rocca di Papa**	**0.86**	**207**	AML	AML		
	comp=N,57850μm,0.6s						
RDP				AML	AML		
	comp=E,36800μm,0.8s						
RDP				AML	AML		
	comp=N,57850μm,1.4s						
POFI	**Posta Fibreno**	**0.88**	**156**	P	**Pb**	**10 39 41.2**	**-0.7**
POFI				AML	AML		
	comp=N,7945μm,1.1s						
POFI				AML	AML		
	comp=N,7975μm,1.0s						
POFI				AML	AML		
	comp=E,8285μm,0.4s						
POFI				AML	AML		
	comp=E,8115μm,0.4s						
SAMA	**S.Maria delle**	**0.88**	**213**	P	**Pb**	**10 39 41.4**	**-0.5**
PP3	**Marolino**	**0.90**	**18**	P	**Pb**	**10 39 41.3**	**-0.9**
PP3				AML	AML		
	comp=N,31250μm,0.5s						
PP3				AML	AML		
	comp=E,39450μm,0.7s						
PP3				AML	AML		
	comp=E,41500μm,0.7s						
PP3				AML	AML		
	comp=N,31150μm,0.5s						
MURB	**Monte Urbino**	**0.91**	**325**		**Pb**	**10 39 41.5**	**-1.0**
MURB	**Monte Urbino**	**0.91**	**325**	P	**Pb**	**10 39 41.4**	**-1.0**
MURB				AML	AML		
	comp=N,21550μm,1.0s						
MURB				AML	AML		
	comp=N,21900μm,1.0s						
MURB				AML	AML		
	comp=N,21900μm,1.0s						
MURB				AML	AML		
	comp=E,22250μm,1.2s						
MURB				AML	AML		
	comp=E,23600μm,1.2s						
MURB				AML	AML		
	comp=N,21550μm,1.0s						
LRP	**Arpino**	**0.91**	**163**	P	**Pn**	**10 39 43.5**	**+0.4**
MGAB	**Montegabbione**	**0.92**	**296**	P	**Pb**	**10 39 41.8**	**-0.8**
MGAB				AML	AML		
	comp=N,16800μm,0.6s						
MGAB				AML	AML		
	comp=E,19200μm,0.7s						
MGAB				AML	AML		
	comp=N,19650μm,0.6s						
MGAB				AML	AML		
	comp=E,17150μm,0.6s						
GIUL	**Giuliano Di Ro**	**0.96**	**179**	P	**Pb**	**10 39 43.2**	**-0.2**
GIUL				AML	AML		
	comp=E,7170μm,0.6s						
GIUL				AML	AML		
	comp=N,7205μm,0.8s						
GIUL				AML	AML		
	comp=N,7205μm,1.2s						
GIUL				AML	AML		
	comp=E,7170μm,1.4s						
SSFR	**Montelago di S**	**0.97**	**340**	P	**Pb**	**10 39 43.7**	**+0.1**
ATFO	**Monte Foce - G**	**0.98**	**330**	P	**Pb**	**10 39 43.4**	**-0.2**
ATLO	**AVT- Montelove**	**1.00**	**323**	P	**Pb**	**10 39 42.8**	**-1.2**
TOLF	**Tolfa**	**1.03**	**244**	P	**Pb**	**10 39 43.9**	**-0.5**
TOLF				AML	AML		
	comp=E,12550μm,0.6s						
TOLF				AML	AML		
	comp=N,11500μm,0.8s						
TOLF				AML	AML		
	comp=N,11500μm,1.2s						
ATVA	**AVT- Monte Val**	**1.03**	**318**	P	**Pb**	**10 39 43.6**	**-0.9**
SACS	**San Casciano d**	**1.03**	**289**	P	**Pb**	**10 39 44.5**	**-0.1**
SACS				AML	AML		
	comp=N,7105μm,1.5s						
SACS				AML	AML		
	comp=E,7115μm,0.9s						
SACS				AML	AML		
	comp=N,7105μm,0.5s						
SACS				AML	AML		
	comp=E,7240μm,0.9s						
SACS				AML	AML		
	comp=N,7145μm,1.3s						
TB01	**Gubbio**	**1.04**	**326**	P	**Pb**	**10 39 43.5**	**-1.2**
LATB	**Latina**	**1.05**	**191**	P	**Pb**	**10 39 44.4**	**-0.4**
LATB				AML	AML		
	comp=E,1915μm,1.3s						
LATB				AML	AML		
	comp=N,1850μm,1.2s						
LATB				AML	AML		
	comp=E,1915μm,0.7s						
LATB				AML	AML		
	comp=N,1850μm,0.8s						
ATVO	**AVT- Monte Val**	**1.05**	**325**	P	**Pb**	**10 39 43.7**	**-1.3**
ATVO				AML	AML		
	comp=N,7355μm,0.5s						
ATVO				AML	AML		
	comp=E,6200μm,0.7s						
ATVO				AML	AML		
	comp=N,7355μm,1.5s						
AOI	**Ancona**	**1.06**	**14**	P	**Pb**	**10 39 43.8**	**-1.3**
AOI				AML	AML		
	comp=E,12400μm,0.7s						
AOI				AML	AML		
	comp=N,10675μm,1.3s						
AOI				AML	AML		
	comp=N,10675μm,0.7s						
AOI				AML	AML		
	comp=E,12400μm,1.3s						
LATE	**Laterza**	**1.06**	**275**		**Pb**	**10 39 44.8**	**-0.3**
RNI2	**Rionero Sannit**	**1.06**	**140**	P	**Pn**	**10 39 45.5**	**+0.1**
RNI2				AML	AML		
	comp=N,9685μm,1.4s						
RNI2				AML	AML		
	comp=E,10385μm,0.5s						
RNI2				AML	AML		
	comp=N,9930μm,1.3s						
RNI2				AML	AML		
	comp=N,9685μm,0.6s						
RNI2				AML	AML		
	comp=E,10185μm,0.8s						
RNI2				AML	AML		
	comp=N,9930μm,0.7s						
ATMI	**Monte Miggiano**	**1.08**	**319**	P	**Pb**	**10 39 44.7**	**-0.6**
ATMI				AML	AML		
	comp=E,13750μm,0.6s						
ATMI				AML	AML		
	comp=E,13750μm,1.4s						
ATMI				AML	AML		
	comp=N,15050μm,0.5s						
CERA	**Filignano**	**1.09**	**148**	P	**Pb**	**10 39 44.7**	**-0.9**
CERA				AML	AML		
	comp=E,11360μm,0.6s						
CERA				AML	AML		
	comp=E,11525μm,0.6s						
CERA				AML	AML		
	comp=N,6765μm,0.7s						
CERA				AML	AML		
	comp=N,6670μm,0.7s						
ATPI	**Pietralunga -**	**1.11**	**327**	P	**Pb**	**10 39 45.6**	**-0.3**
ATPI				AML	AML		
	comp=N,6790μm,0.7s						
ATPI				AML	AML		
	comp=E,10790μm,0.9s						
ATPI				AML	AML		
	comp=N,6790μm,1.3s						
COR1	**Corinaldo**	**1.12**	**351**	P	**Pb**	**10 39 45.8**	**-0.3**
COR1				AML	AML		
	comp=E,13000μm,0.8s						
COR1				AML	AML		
	comp=N,23850μm,1.6s						
COR1				AML	AML		
	comp=E,13000μm,1.2s						
COR1				AML	AML		
	comp=N,23850μm,0.4s						
PIEI	**Pieia**	**1.14**	**333**	P	**Pb**	**10 39 45.4**	**-1.0**
PIEI				AML	AML		
	comp=E,4935μm,1.0s						
PIEI				AML	AML		
	comp=N,5745μm,1.1s						
PIEI				AML	AML		
	comp=E,4935μm,1.0s						
MIDA	**Miranda**	**1.16**	**139**	P	**Pn**	**10 39 45.4**	**-1.3**
MIDA				AML	AML		
	comp=N,7665μm,0.5s						
MIDA				AML	AML		
	comp=E,6430μm,0.4s						
MIDA				AML	AML		
	comp=E,6535μm,0.4s						
MIDA				AML	AML		
	comp=N,7545μm,0.6s						
MPAG	**Monte Paganucc**	**1.16**	**343**	P	**Pn**	**10 39 46.1**	**-0.6**
MPAG				AML	AML		
	comp=E,13350μm,0.8s						
MPAG				AML	AML		
	comp=N,9890μm,1.2s						
MPAG				AML	AML		

comp=E,13550µm,0.7s
MPAG AML AML
comp=N,10010µm,1.2s
SENI Senigallia 1.18 360 P **Pb 10 39 47.3 +0.2**
SENI AML AML
comp=N,30700µm,0.5s
SENI AML AML
comp=E,32700µm,0.7s
SF04 Casetta 1.21 286 P **Pb 10 39 47.4 -0.1**
SF04 AML AML
comp=E,3735µm,1.4s
SF04 AML AML
comp=N,3300µm,0.7s
BADI Badiali 1.23 324 P **Pn 10 39 47.7 +0.2**
BADI AML AML
comp=N,5425µm,0.9s
BADI AML AML
comp=E,238µm,0.5s
TRIV Trivento 1.23 127 P **Pb 10 39 48.1 +0.2**
TRIV AML AML
TRIV AML AML
TRIV AML AML
comp=E,6645µm,1.0s
TRIV AML AML
comp=N,8935µm,1.2s
TRIV AML AML
TRIV AML AML
CAFI Castiglion Fio 1.23 311 P **Pn 10 39 47.4 -0.3**
CAFI AML AML
comp=E,5175µm,0.5s
CAFI AML AML
comp=E,5170µm,0.6s
CAFI AML AML
comp=N,5365µm,1.1s
CAFI AML AML
comp=N,5295µm,1.1s
CAFI AML AML
comp=E,5170µm,1.4s
CAFI AML AML
comp=E,5175µm,1.5s
ARCI Arcidosso 1.34 285 P **Pb 10 39 49.9 +0.1**
ARCI AML AML
comp=E,1370µm,1.0s
ARCI AML AML
comp=N,1565µm,0.8s
PESA Pesaro 1.45 349 P **Pb 10 39 51.4 -0.2**
PESA AML AML
comp=N,6325µm,0.9s
PESA AML AML
comp=N,6325µm,1.1s
PESA AML AML
comp=E,7875µm,0.5s
MODR Mondragone 1.46 161 P **Pb 10 39 51.5 -0.2**
MODR AML AML
comp=E,2035µm,1.0s
MODR AML AML
comp=N,1426µm,0.6s
MODR AML AML
comp=E,2035µm,1.0s
MAON Monte Argentar 1.56 267 P **Pb 10 39 52.9 -0.7**
MAON AML AML
comp=E,2000µm,0.7s
MAON AML AML
comp=N,1255µm,0.9s
SACR S. Croce Del S 1.57 135 P **Pb 10 39 54.5 +0.8**
SACR AML AML
comp=E,1925µm,0.9s
SACR AML AML
comp=N,2640µm,1.2s
SACR AML AML
comp=N,2670µm,1.2s
SACR AML AML
comp=N,2640µm,0.8s
SACR AML AML
comp=E,1960µm,0.9s
SACR AML AML
comp=N,2670µm,0.8s
SACR AML AML
comp=E,1925µm,1.1s
GATE Gambatesa 1.60 128 P **Pb 10 39 54.9 +0.7**
GATE AML AML
comp=N,2085µm,0.9s
GATE AML AML
comp=E,2540µm,0.7s
GATE AML AML
comp=N,2085µm,1.1s
GATE AML AML
comp=E,1695µm,0.9s
GATE AML AML
comp=N,2075µm,0.7s
MELA Melanico ??? S 1.62 119 P **Pn 10 39 53.8 +0.8**
MELA AML AML
comp=E,8175µm,0.7s
MELA AML AML
comp=N,11455µm,0.7s
MELA AML AML
comp=E,8030µm,0.7s
MELA AML AML
comp=N,11110µm,0.7s
FROS Frosini 1.68 295 P **Pb 10 39 54.8 -0.7**
FROS AML AML
comp=E,1715µm,1.0s
FROS AML AML
comp=N,1750µm,0.8s
SFI Santa Sofia 1.72 324 P **Pb 10 39 55.8 -0.4**
VENT Ventotene 1.73 175 AML AML
comp=N,1780µm,1.6s
VENT AML AML
comp=E,2295µm,1.4s
VENT AML AML
comp=N,1780µm,0.4s
PSB1 Pescosannita 1.75 137 P **Pb 10 39 57.1 +0.3**
CASP Castiglione de 1.77 280 **Pn 10 39 54.9 -0.1**
CASP Castiglione de 1.77 280 P **Pn 10 39 55.8 +0.8**
CASP AML AML
comp=E,694µm,0.7s
CASP AML AML
comp=N,923µm,0.8s
OSSC Osservatorio P 1.77 305 **Pn 10 39 54.5 -0.5**
OSSC Osservatorio P 1.77 305 P **Pn 10 39 55.4 +0.4**
TRIF Trifonti 1.82 290 P **Pn 10 39 56.4 +0.7**
CSFT Campi Flegrei 1.82 158 AML AML
CSFT AML AML
CSFT AML AML
CSFT AML AML
RUFI Rufina 1.83 317 P **Pn 10 39 56.4 +0.6**
RUFI AML AML
comp=N,1785µm,0.9s
RUFI AML AML
comp=E,1695µm,0.6s
APRC Apricena 1.88 113 P **Pb 10 39 58.1 -0.8**
APRC AML AML
comp=E,3535µm,1.2s
APRC AML AML
comp=N,4250µm,0.5s
CRMI Carmignano 2.09 308 P **Pn 10 40 00.7 +1.3**
CAFE Carife 2.11 134 P **Pb 10 40 02.6 -0.4**
MSAG Monte S. Angel 2.15 111 P **Pb 10 40 02.2 -1.4**
MSAG AML AML
comp=E,4500µm,0.4s
MSAG AML AML
comp=N,7975µm,0.4s
MSAG AML AML
comp=N,7975µm,0.4s
MSAG AML AML
comp=E,4815µm,0.4s
MSAG AML AML
comp=N,7975µm,1.6s
MSAG AML AML
comp=N,7975µm,1.6s
SNAL S. Angelo Dei 2.17 137 AML AML
comp=E,2040µm,1.1s
SNAL AML AML
comp=E,1910µm,1.5s
SNAL AML AML
comp=N,2180µm,0.9s
SNAL AML AML
comp=E,1910µm,0.5s
SNAL AML AML
comp=N,2135µm,0.9s
SNAL AML AML
comp=E,2040µm,0.9s
MTCR Monte La Croce 2.22 313 AML AML
comp=E,986µm,0.6s
MTCR AML AML
comp=N,1575µm,0.7s
MTCR AML AML

comp=E,986µm,1.4s
CAPA Cerignola FG 2.36 124 AML AML
comp=N,2600µm,0.9s
CAPA AML AML
comp=E,3250µm,0.9s
MRLC Muro Lucano 2.44 136 P **Pb 10 40 06.6 -1.9**
MAIM Mastiano 2.44 306 P **Pn 10 40 05.4 +1.2**
MAIM AML AML
comp=E,639µm,0.6s
MAIM AML AML
comp=N,565µm,0.9s
MAIM AML AML
comp=N,565µm,1.1s
CDRU Civita di Ruta 2.56 142 P **Pn 10 40 06.9 +1.0**
CDRU AML AML
comp=E,282µm,0.7s
CDRU AML AML
comp=E,282µm,1.3s
CDRU AML AML
comp=N,245µm,0.6s
PALZ Palazzo San Ge 2.58 127 P **Pn 10 40 07.7 +1.6**
PALZ AML AML
comp=E,2335µm,0.9s
PALZ AML AML
comp=N,2150µm,0.9s
PALZ AML AML
comp=N,2150µm,1.1s
VLC Villacollemand 2.65 309 Pn **Pn 10 40 06.2 -0.9**
MRVN Minervino Murg 2.65 122 P **Pn 10 40 08.2 +1.1**
MRVN AML AML
comp=E,597µm,1.2s
MRVN AML AML
comp=N,719µm,0.7s
MRVN AML AML
comp=E,597µm,0.8s
CMPR Campora 2.69 144 P **Pn 10 40 09.3 +1.5**
MORSI Morsiglia 2.89 280 P **Pn 10 40 12.1 +1.7**
MCEL Monticello 2.92 138 P **Pn 10 40 13.7 +2.8**
SMPL Sampolo 2.96 263 P **Pn 10 40 12.7 +1.3**
AMUR Altamura 2.99 121 P **Pn 10 40 13.0 +1.2**
AMUR AML AML
comp=N,1110µm,0.6s
AMUR AML AML
comp=N,1110µm,1.4s
AMUR AML AML
comp=E,1335µm,0.4s
CORF Corte 3.03 267 P **Pn 10 40 13.6 +1.3**
SIRI Monte Sirino - 3.06 139 P **Pn 10 40 15.8 +3.0**
SKDS Skadanscina 3.08 10 *e*Pn **Pn 10 40 12.5 -0.5**
A050A Klekovaca 3.10 50 *e*Pn **Pn 10 40 14.6 +1.3**
PGF Pioggiola 3.13 272 *e*P **Pn 10 40 14.8 +1.0**
PGF *e*Sn **Sn 10 40 47.8 -3.2**
comp=E,23nm,0.5s
PGF Pioggiola 3.13 272 P **Pn 10 40 14.9 +1.0**
MATE Matera 3.20 125 P **Pn 10 40 16.2 +1.5**
MATE AML AML
comp=E,593µm,0.4s
MATE AML AML
comp=N,922µm,0.6s
MATE AML AML
comp=N,922µm,1.4s
MSSA Maissana 3.25 305 Pn **Pn 10 40 14.8 -0.6**
SRKY Kupres RS 3.26 60 *e*Pn **Pn 10 40 16.8 +1.3**
STON Ston 3.31 82 *e*Pn **Pn 10 40 17.0 +0.9**
STON *e*Sn **Sn 10 40 55.8 +0.7**
STON Ston 3.31 82 *e*Pn **Pn 10 40 16.7 +0.6**
BOJS Bojanci 3.32 25 *e*Pn **Pn 10 40 16.1 -0.1**
CEY Cerknica 3.33 14 *e*Pn **Pn 10 40 16.9 +0.5**
NOCI Noci 3.35 120 P **Pn 10 40 17.8 +1.1**
NOCI AML AML
comp=E,1035µm,0.6s
NOCI AML AML
comp=N,930µm,0.9s
NOCI AML AML
comp=N,930µm,1.1s
NOCI AML AML
comp=E,1035µm,1.4s
AJAC Base Areonaval 3.38 261 P **Pn 10 40 19.1 +2.0**
AJAC S **Sn 10 41 00.5 +3.8**
MGRS Mrkonjic Grad 3.38 55 *e*Pn **Pn 10 40 19.4 +2.2**
SABO M.te Sabotino 3.47 4 Pn **Pn 10 40 16.8 -1.6**
ROVR Rover Verones 3.49 334 P **Pn 10 40 18.8 0.0**
ROVR AML AML
comp=N,1146µm,0.7s
ROVR AML AML
comp=E,209µm,0.7s
ROVR AML AML
comp=N,461µm,0.6s
ROVR AML AML
comp=E,548µm,0.7s
PRIJ Prijedor 3.52 45 *e*Pn **Pb 10 40 29.5 +2.7**
VARN Col Varnada, M 3.56 347 P **Pn 10 40 20.1 +0.4**
VARN AML AML
comp=N,1400µm,0.6s
VARN AML AML
comp=E,3535µm,0.4s
VARN AML AML
comp=N,1375µm,0.6s
VARN AML AML
comp=E,3565µm,0.4s
VARN AML AML
comp=N,1400µm,1.4s
VARN AML AML
comp=N,1375µm,1.4s
BLY Banja Luka 3.63 51 *e*Pn **Pn 10 40 23.0 +2.5**
BLY *e*Sn **Sn 10 41 04.9 +1.9**
BLY Banja Luka 3.63 51 *e*Pn **Pn 10 40 22.4 +1.9**
TAR1 Taranto 3.63 122 AML AML
comp=N,772µm,1.0s
TAR1 AML AML
comp=E,641µm,0.7s
TAR1 AML AML
comp=E,641µm,1.3s
A051A Mrakovica 3.64 46 *e*Pn **Pn 10 40 21.8 +1.0**
SALO Salr 3.66 329 **Pn 10 40 20.9 -0.1**
DOSS Dosso del Somm 3.67 337 P **Pn 10 40 21.7 +0.5**
DOSS AML AML
comp=N,594µm,0.5s
DOSS AML AML
comp=E,596µm,0.5s
DOSS AML AML
comp=E,681µm,0.5s
DOSS AML AML
comp=E,596µm,1.5s
DOSS AML AML
comp=N,594µm,1.5s
DOSS AML AML
comp=N,668µm,0.5s
CRES Cresnjev 3.67 25 *e*Pn **Pn 10 40 22.2 +1.1**
CTI Castel Tesino 3.71 343 Pn **Pn 10 40 21.0 -0.7**
STAL STALIGIAL 3.76 354 Pn **Pn 10 40 22.6 +0.2**
STAL STALIGIAL 3.76 354 P **Pn 10 40 23.4 +1.0**
TREB Trebinje 3.78 85 *e*Pn **Pn 10 40 23.7 +1.1**
TREB *e*Sn **Sn 10 41 07.3 +0.6**
TREB Trebinje 3.78 85 *e*Pn **Pn 10 40 23.3 +0.7**
LUSI Trento, Gardas 3.81 335 P **Pn 10 40 24.0 +0.9**
LUSI AML AML
comp=E,640µm,1.4s
LUSI AML AML
comp=N,829µm,1.4s
LUSI AML AML
comp=E,640µm,0.6s
LUSI AML AML
comp=N,829µm,0.6s
CIMO Cimolais 3.83 352 Pn **Pn 10 40 23.1 -0.3**
CIMO Cimolais 3.83 352 P **Pn 10 40 23.6 +0.3**
CIMO AML AML
comp=E,309µm,0.6s
CIMO AML AML
comp=N,261µm,0.3s
CIMO AML AML
comp=E,316µm,0.6s
CIMO AML AML
comp=N,260µm,0.3s
CIMO AML AML
comp=N,261µm,1.7s
CIMO AML AML
comp=N,260µm,1.7s
CIMO AML AML
comp=E,309µm,1.4s
CIMO AML AML
comp=E,316µm,1.4s
PTCC Patocco-Chiusa 3.88 1 AML AML
comp=N,602µm,0.4s
PTCC AML AML
comp=E,618µm,0.3s

HCY Herceg Novi 3.89 89 *e*Pn **Pn 10 40 25.1 +1.0**
BRY Bratogost 3.92 83 *e*Pn **Pn 10 40 25.6 +0.9**
PRED Cave del Predi 3.93 3 Pn **Pn 10 40 23.0 -1.7**
CLUD Cludinico 3.94 356 AML AML
comp=E,752µm,1.3s
CLUD AML AML
comp=E,752µm,0.7s
CLUD AML AML
comp=N,498µm,0.8s
ZONE Zone 3.94 326 AML AML
comp=N,731µm,1.4s
ZONE AML AML
comp=E,454µm,0.6s
ZONE AML AML
comp=N,731µm,0.6s
A052A Srbac 4.03 49 *e*Pn **Pn 10 40 24.2 -1.8**
ZOU Zoufplan 4.04 357 P **Pn 10 40 27.0 +0.6**
ZOU AML AML
comp=N,376µm,1.1s
ZOU AML AML
comp=E,528µm,0.4s
ZOU AML AML
comp=N,388µm,1.1s
ZOU AML AML
comp=N,376µm,0.9s
ZOU AML AML
comp=E,536µm,0.4s
ZOU AML AML
comp=N,388µm,0.9s
OBKA Obir 4.10 13 *e*Pn **Pn 10 40 28.0 +0.9**
comp=N,21nm,0.3s
OBKA Obir 4.10 13 *e*Pn **Pb 10 40 38.1 +1.3**
OBKA Obir 4.10 13 *e*Pn **Pb 10 40 39.2 +2.5**
SNR=1.5
MYKA Terra Mystica 4.12 4 *e*Pn **Pn 10 40 27.6 +0.2**
comp=N,55nm,0.6s
APPI Appiano 4.21 341 P **Pn 10 40 29.2 +0.6**
APPI AML AML
comp=E,651µm,1.4s
APPI AML AML
comp=N,630µm,0.4s
ABTA Abfaltersbach 4.26 353 *e*Pn **Pn 10 40 30.8 +1.6**
comp=N,85nm,0.6s
TIP Timpagrande 4.28 140 ⇓P **Pb 10 40 36.2 -3.6**
SOKA Soboth 4.35 17 *e*Pn **Pn 10 40 29.5 -1.0**
comp=N,8.3nm,0.2s
SAOF Saorge 4.40 291 P **Pn 10 40 33.5 +2.3**
DRME Dracevica, Mon 4.42 92 *e*Pn **Pn 10 40 33.1 +1.7**
SBF Sospel 4.45 290 *e*P **Pn 10 40 33.6 +1.7**
SBF *e*Sn **Sn 10 41 18.5 -4.9**
comp=N,23nm,0.4s
PDG Podgorica 4.45 89 Pn **Pn 10 40 32.5 +0.7**
PDG Podgorica 4.45 89 AML AML
comp=E,458µm,1.6s
PDG AML AML
comp=E,571µm,1.6s
PDG AML AML
comp=N,730µm,0.9s
PDG AML AML
comp=N,558µm,0.9s
PDG AML AML
comp=N,558µm,1.1s
PDG AML AML
comp=E,571µm,0.4s
PDG AML AML
comp=N,730µm,1.1s
PDG AML AML
comp=E,458µm,0.4s
PDG Podgorica 4.45 89 *e*Pn **Pn 10 40 34.1 +2.3**
PDG *e*Sn **Sn 10 41 24.9 +1.6**
HAPS Han Pijesak,Bl 4.45 68 *e*Pn **Pn 10 40 33.2 +1.2**
RISI Rein 4.50 350 P **Pn 10 40 34.4 +1.7**
TURF col de Turini 4.51 291 P **Pn 10 40 34.7 +1.9**
KBA Koelnbreinsper 4.56 1 *e*Pn **Pn 10 40 36.0 +2.6**
comp=E,41nm,0.4s
KBA Koelnbreinsper 4.56 1 *e*Pn Pb 10 40 39.4 -5.3
SNR=2.4
KBA *e*Sn **Sn 10 41 26.0 -0.1**
SNR=9.0
ROSI Rosskopf 4.59 344 P **Pn 10 40 35.0 +1.0**
ROSI AML AML
comp=E,1155µm,0.4s
ROSI AML AML
comp=N,1365µm,1.0s
FUORN Ofenpass-Fuorn 4.62 334 **Pn 10 40 33.0 -1.3**
RUDO Rudo 4.62 74 *e*Pn **Pn 10 40 34.3 +0.1**
BBLS Lazići 4.71 71 *e*Pn **Pn 10 40 37.5 +2.1**
BBLS *e*Sn **Sn 10 41 31.8 +2.1**
CALF Calern 4.78 287 P **Pn 10 40 38.3 +1.8**
ISO Isola 4.81 292 P **Pn 10 40 39.9 +3.1**
FETA Feichten 4.84 339 *e*Pn **Pn 10 40 39.8 +2.4**
comp=N,20nm,0.4s
WTTA Wattenberg 4.88 347 *e*Pn **Pn 10 40 39.7 +1.8**
comp=N,21nm,0.4s
WTTA Wattenberg 4.88 347 *e*Sn **Sn 10 41 36.2 +2.2**
SNR=4.8
DAVOX Davos/Dischmat 4.89 332 Pn **Pn 10 40 39.9 +1.9**
comp=N,9.6nm,0.3s,baz=151,slow=10,SNR=8.9
DAVOX Sn **Sn 10 41 36.0 +1.7**
comp=N,6.5nm,0.3s,baz=116,slow=21,SNR=5.0
SQTA Sankt Quirin 4.92 344 **Pn 10 40 40.1 +1.8**
SQTA Sankt Quirin 4.92 344 *e*Pn **Pn 10 40 40.1 +1.8**
comp=N,25nm,0.3s
WATA Walderalm 4.96 347 **Pn 10 40 40.3 +1.4**
WATA Walderalm 4.96 347 *e*Pn **Pn 10 40 40.3 +1.4**
comp=N,8.7nm,0.2s
ENAUX Enaux 4.97 291 P **Pn 10 40 42.2 +3.1**
ARSA Arzberg 5.00 18 *e*Pn **Pn 10 40 39.3 -0.1**
comp=N,6.9nm,0.3s
ARSA Arzberg 5.00 18 *e*Sn **Sn 10 41 35.1 -1.8**
SNR=3.3
TEKS Tekeris 5.00 64 *e*Pn **Pn 10 40 39.1 -0.3**
SJES Sjenica 5.00 79 *e*Pn **Pn 10 40 41.9 +2.4**
SJES *e*Sn **Sn 10 41 38.9 +1.8**
LMR La Mourre 5.01 282 *e*P **Pn 10 40 40.6 +1.1**
LMR *e*Sn **Sn 10 41 32.7 -4.3**
comp=N,2.9nm,0.1s
MOTA Moosalm 5.05 343 **Pn 10 40 42.2 +1.9**
MOTA Moosalm 5.05 343 *e*Pn **Pn 10 40 42.2 +1.9**
comp=N,36nm,0.5s
SURF Saint Ours 5.07 295 P **Pn 10 40 43.5 +3.0**
TIR Tirane 5.08 101 ⇑P **Pn 10 40 42.5 +2.0**
TIR Tirane 5.08 101 **Pn 10 40 39.6 -0.9**
TIR Tirane 5.08 101 *e*Pn **Pn 10 40 42.4 +1.9**
TIR *e*Sn **Sn 10 41 37.6 -1.2**
JAUF Jausiers 5.09 294 P **Pn 10 40 44.8 +4.0**
TRIGF Trigance 5.15 286 P **Pn 10 40 44.1 +2.6**
DIVS Divibare 5.17 70 *e*Pn **Pn 10 40 43.1 +1.3**
DIVS *e*Sn **Sn 10 41 42.1 +0.9**
DIVS Divibare 5.17 70 *e*Pn **Pn 10 40 42.3 +0.5**
IVAS Ivanjica 5.17 76 *e*Pn **Pn 10 40 43.1 +1.3**
IVAS *e*Sn **Sn 10 41 41.3 0.0**
BIOA Bad Ischl, Aus 5.18 3 **Pn 10 40 42.2 +0.3**
BIOA Bad Ischl, Aus 5.18 3 *e*Pn **Pn 10 40 42.2 +0.3**
comp=N,23nm,0.4s
MBDF Montbardon 5.19 297 *e*P **Pn 10 40 45.3 +3.2**
MBDF *e*Sn **Sn 10 41 37.3 -4.3**
comp=N,7.7nm,0.4s
CREF Crivoux 5.22 295 P Pn 10 40 47.9 +5.3
OGAG Argentiere 5.24 294 P Pb 10 40 50.2 -6.1
RETA Reutte 5.27 341 *e*Pn **Pn 10 40 45.2 +2.1**
comp=N,11nm,0.3s
PLONS Plons/SG 5.29 330 *e*Pn **Pn 10 40 47.8 +4.3**
SNR=2.7
PLONS *e*Sn **Sn 10 41 46.3 +2.2**
SNR=3.7
DAVA Damuels 5.33 335 *e*Pn **Pn 10 40 46.9 +2.9**
comp=N,29nm,0.5s
DAVA Damuels 5.33 335 *e*Pn **Pn 10 40 48.0 +4.0**
SNR=3.7
DAVA *e*Sn **Sn 10 41 49.1 +4.0**
SNR=3.5
MOA Molln 5.38 7 *e*Pn **Pn 10 40 45.9 +1.3**
comp=N,13nm,0.2s
MOA Molln 5.38 7 *e*Pn **Pn 10 40 47.9 +3.3**
MOA *e*Sn **Sn 10 41 46.8 +0.6**
MOA Molln 5.38 7 *e*Pn **Pn 10 40 47.5 +2.9**
SNR=4.2
MOA *e*Sn **Sn 10 41 47.5 +1.4**
SNR=4.8
FRGS Fruska Gora 5.43 59 *e*Pn **Pn 10 40 46.7 +1.3**
FRGS Fruska Gora 5.43 59 *e*Pn **Pn 10 40 45.9 +0.5**
TRUS Trudelj 5.50 70 *e*Pn **Pn 10 40 47.1 +0.9**
TRUS *e*Sn **Sn 10 41 49.5 +0.5**
LPL La Plagne 5.56 305 *e*P **Pn 10 40 50.9 +3.6**

LPL eSn Sn 10 41 47.4 -3.7
comp=N,11nm,0.4s
RONA Rosalia, Austr 5.61 22 Pn Pn 10 40 47.6 -0.2
RONA Rosalia, Austr 5.61 22 *i* Pn Pn 10 40 47.6 -0.2
comp=N,6.9nm,0.2s
UBR Ueberruh 5.61 338 eSn Sn 10 41 54.5 +2.5
SNR=4.6
GRUS Gruza 5.63 73 ePn Pn 10 40 49.2 +1.1
GRUS eSn Sn 10 41 53.1 +0.7
MLYF Mely 5.65 288 P Pn 10 40 51.5 +3.1
CONA Conrad Observa 5.71 18 ePn Pn 10 40 49.3 0.0
comp=N,9.1nm,0.4s
RSL Roselend 5.72 306 P Pn 10 40 51.2 +1.8
WILA Wila 5.78 329 eSn Sn 10 41 58.9 +2.8
SNR=3.0
SMRF Simiane la Rot 5.78 287 eP Pn 10 40 52.8 +2.6
SMRF eSn Sn 10 41 51.0 -5.2
comp=N,2.2nm,0.3s
OHR Ohrid 5.82 101 ePn Pn 10 40 53.7 +3.0
OHR eSn Sn 10 41 55.7 -1.5
SELS Selova 5.83 80 ePn Pn 10 40 51.9 +1.0
SELS eSn Sn 10 41 56.9 -0.5
ORIF Oris-en-Rattie 5.84 297 eP Pn 10 40 54.9 +3.8
ORIF eSn Sn 10 41 52.9 -4.9
comp=N,6.3nm,0.5s
ORIF Oris-en-Rattie 5.84 297 P Pn 10 40 55.1 +4.0
OGSI Sixt 5.85 310 P Pn 10 40 54.9 +3.8
KBN Korca 5.97 106 Pn 10 40 53.5 +0.7
SKO Skopje 6.11 92 ePn Pn 10 40 56.9 +2.2
SKO eSn Sn 10 42 03.8 -0.4
SLE Schleitheim 6.22 329 P Pn 10 40 57.5 +1.3
ZST Bratislava 6.29 24 eSN Sn 10 42 02.6 -6.0
BOVS Bovan 6.30 77 ePn Pn 10 40 57.8 +0.6
BOVS eSn Sn 10 42 07.1 -1.8
BARS Barje 6.33 84 ePn Pn 10 40 59.0 +1.3
BARS eSn Sn 10 42 10.0 +0.4
GEC2 GERESS Array S 6.33 3 eSn Sn 10 42 08.2 -1.6
SNR=8.0
GERES GERESS Array B 6.33 3 Pn Pn 10 40 57.4 -0.4
comp=N,2.3nm,0.3s,baz=168,slow=14,SNR=2.0
GERES Sn Sn 10 42 07.6 -2.2
comp=N,16nm,0.3s,baz=197,slow=40,SNR=7.2
comp=N,3.4nm,0.3s
GERES GERESS Array B 6.33 3 Pn Pn 10 40 57.8 0.0
FNA Florina 6.34 103 Pn Pn 10 40 59.2 +1.4
FNA Florina 6.34 103 ePn Pn 10 41 00.1 +2.3
FNA eSn Sn 10 42 08.1 -1.8
CKRC Cesky Krumlov 6.34 6 eSN Sn 10 42 07.5 -2.4
GIMEL St. Georges / 6.40 311 P Pn 10 40 56.3 -2.4
MODS Modra-Piesok 6.50 24 ePN Pn 10 41 00.0 0.0
MODS eSN Sn 10 42 09.3 -4.6
PRVS Prvonek 6.53 87 ePn Pn 10 41 01.9 +1.5
PRVS eSn Sn 10 42 13.9 -0.7
CABF La Chapelle 6.54 311 ePn Pn 10 40 59.0 -1.6
CABF La Chapelle 6.54 311 eP Pn 10 41 04.3 +3.7
CABF eSn Sn 10 42 10.1 -4.8
comp=N,5.5nm,0.4s
KIZ Kirchzarten 6.60 327 P Pn 10 41 02.2 +0.8
KHC Kasperske Hory 6.62 2 ePN Pn 10 41 03.8 +2.2
KHC eSN Sn 10 42 13.0 -3.6
VIVF Saint-Julien-l 6.63 294 eP Pn 10 41 04.7 +2.9
VIVF eSn Sn 10 42 11.9 -5.2
comp=N,2.1nm,0.4s
ZAGS Zajecar 6.70 76 ePn Pn 10 41 03.6 +0.9
ZAGS eSn Sn 10 42 18.1 -0.7
BFO Black Forest 6.76 331 eSn Sn 10 42 19.4 -0.7
SNR=3.0
BZS Buzias 6.78 60 ⇑P Pn 10 41 05.5 +1.7
BZS Buzias 6.78 60 ePn Pn 10 41 04.7 +0.9
BZS eSn Sn 10 42 18.7 -2.0
KRUC Moravsky 6.90 18 ePN Pn 10 41 05.3 -0.2
KRUC eSN Sn 10 42 20.7 -3.0
ZAPS Zavoj 6.94 81 ePn Pn 10 41 08.0 +1.9
ZAPS eSn Sn 10 42 21.9 -2.8
HINF Hinteralfeld 6.96 322 eP Pn 10 41 08.8 +2.5
HINF eSn Sn 10 42 20.3 -4.7
comp=N,24nm,0.4s
LASF Ste Croix 7.02 286 eP Pn 10 41 08.9 +1.8
LASF eSn Sn 10 42 20.6 -6.0
comp=N,2.9nm,0.4s
JAVC Velka Javorina 7.06 25 ePN Pn 10 41 08.1 +0.5
VAY Valandovo 7.06 97 ePn Pn 10 41 09.8 +2.1
VAY eSn Sn 10 42 24.8 -2.8
DJES Djerdap 7.07 69 ⇑P Pn 10 41 09.3 +1.4
DJES Djerdap 7.07 69 Pn Pn 10 41 08.9 +1.1
SIRR Siria 7.10 55 ⇑P Pn 10 41 10.3 +2.1
VYHS Vyhne 7.15 31 ePN Pn 10 41 10.0 +1.1
VYHS eSN Sn 10 42 25.1 -4.7
SURR Surduc 7.16 60 ⇑P Pn 10 41 11.0 +2.0
VRAC Vranov 7.18 18 Pn Pn 10 41 08.8 -0.5
comp=N,0.9nm,0.3s,baz=194,slow=11,SNR=2.0
VRAC Sn Sn 10 42 25.8 -4.7
comp=N,1.4nm,0.3s,baz=163,slow=19,SNR=2.3
comp=N,2.5nm,0.3s
CDF Champ du Feu 7.23 327 ePn Pn 10 41 08.7 -1.3
CDF eSn Sn 10 42 27.0 -4.8
ROTZ Rotzenmuhle 7.28 355 eSn Sn 10 42 30.1 -2.9
SNR=5.6
GRF Grafenberg Arr 7.31 350 eSn Sn 10 42 30.1 -3.5
SNR=1.6
HAU Haudompre 7.33 321 ePn Pn 10 41 11.9 +0.6
HAU eSn Sn 10 42 28.4 -5.7
comp=N,38nm,0.4s
VTS Vitosha 7.38 86 Pn Pn 10 41 12.7 +0.4
VTS Vitosha 7.38 86 ePn Pn 10 41 13.6 +1.4
VTS Vitosha 7.38 86 ePn Pn 10 41 13.6 +1.4
VTS eSn Sn 10 42 34.4 -1.2
VTS eSn Sn 10 42 34.5 -1.2
KEST Kesra 7.42 205 Pn Pn 10 41 17.8 +5.1
comp=N,4.0nm,0.3s,baz=307,slow=6.2,SNR=15
KEST Sn Sn 10 42 39.1 +2.4
baz=119,slow=16
GZR Gura Zlata 7.46 64 ⇑P Pn 10 41 14.9 +1.7
GOPC GO Pecny, Ondr 7.47 8 eSN Sn 10 42 34.8 -2.9
MANZ Manzenberg 7.51 354 eSn Sn 10 42 34.8 -3.8
SNR=4.2
PRU Pruhonice 7.52 6 eSN Sn 10 42 35.0 -3.9
MAUC Maruska 7.55 23 ePN Pn 10 41 16.2 +1.7
NKC Novy Kostel 7.73 356 eSN Sn 10 42 40.6 -3.5
WERN Wernitzgruen 7.79 356 eSn Sn 10 42 42.4 -3.1
SNR=1.7
SRS Serrai 7.86 97 ePn Pn 10 41 20.2 +1.5
SMF Signal de Mont 7.87 305 eP Pn 10 41 20.4 +1.6
SMF eSn Sn 10 42 42.5 -5.0
comp=N,7.0nm,0.4s
DRGR 7.99 54 ePn Pn 10 41 22.3 +1.9
DRGR eSn Sn 10 42 47.7 -2.8
PAGF Fort de Pagny 8.01 321 eP Pn 10 41 24.6 +3.9
baz=144
PAGF eSn Sn 10 42 44.7 -6.2
comp=N,12nm,0.4s
SFTF Sexfontaines 8.10 317 eP Pn 10 41 24.0 +2.1
baz=136
SFTF eSn Sn 10 42 47.5 -5.6
comp=N,9.5nm,0.4s
DPC Dobruska-Polom 8.12 14 ePN Pn 10 41 22.4 +0.3
MTLF Montolieu 8.13 280 eP Pn 10 41 24.9 +2.6
MTLF eSn Sn 10 42 46.9 -7.0
comp=N,1.0nm,0.3s
LOR Lormes 8.18 309 eP Pn 10 41 27.3 +4.3
baz=129
LOR eSn Sn 10 42 48.9 -6.1
comp=N,6.2nm,0.5s
MARR Marisel-Cluj 8.18 56 ⇑P Pn 10 41 25.4 +2.3
AVF Avril sur Loir 8.24 305 eP Pn 10 41 27.7 +3.9
AVF eSn Sn 10 42 49.6 -6.9
comp=N,2.2nm,0.2s
SSF Saint Saulge 8.28 307 eP Pn 10 41 29.1 +4.8
SSF eSn Sn 10 42 51.4 -6.0
comp=N,4.2nm,0.4s
MEZF Maizieres J'vi 8.29 319 eP Pn 10 41 28.1 +3.6
OSTC Ostas 8.29 13 ePN Pn 10 41 24.7 +0.1
MESR Meseseni 8.31 53 ⇑P Pn 10 41 27.8 +3.0
SAVF Savonnieres en 8.34 320 eP Pn 10 41 28.9 +3.8
baz=140
SAVF eSn Sn 10 42 53.1 -5.8
comp=N,5.3nm,0.4s
BRG Berggiesshubel 8.37 3 eP Pn 10 41 15.9 -10
BRG Amp 10 41 18.4
comp=Z,6.6nm,0.7s
BRG r 10 42 53.4
BRG Amp 10 43 25.4
comp=Z,16nm,0.6s
PLVB Pleven 8.39 80 ⇑P Pn 10 41 28.1 +2.2

CAF Calviac 8.44 290 eP Pn 10 41 29.9 +3.2
CAF eSn Sn 10 42 54.5 -7.1
comp=Z,1.7nm,0.1s
PLD Plovdiv 8.51 89 ePn Pn 10 41 29.8 +2.3
ARR Arges 8.70 67 ⇑P Pn 10 41 32.2 +2.0
CLL Collm 8.79 359 Pn Pn 10 41 30.7 -0.6
CLL Collm 8.79 359 e(Pn) Pn 10 41 30.0 -1.4
CLL eSn Sn 10 42 57.0 -13
CLL eSg 10 44 09.0
comp=Z,30nm,1.0s
RJF Les Rejaudoux 8.91 292 eP Pn 10 41 36.3 +3.3
DOPR Dopca 9.38 64 ⇓P Pn 10 41 42.1 +2.7
GIVF Givet 9.55 325 ePn Pn 10 41 40.5 -1.3
MLR Muntele Rosu 9.62 68 Pn Pn 10 41 45.0 +2.1
comp=Z,0.6nm,0.3s,baz=270,slow=10,SNR=8.9
comp=Z,15nm,0.8s
MLR Muntele Rosu 9.62 68 ⇑P Pn 10 41 45.2 +2.2
RAZG Razgrad 9.77 79 ⇑P Pn 10 41 46.4 +1.6
BAIF Baives 9.79 323 ePn Pn 10 41 43.8 -1.2
BURAR Bucovina Array 9.88 55 ⇑P Pn 10 41 49.7 +3.2
BURAR Bucovina Array 9.88 55 Pn Pn 10 41 48.0 +1.5
BUR08 Bucovina Ar. S 9.89 55 Pn Pn 10 41 48.7 +2.2
COVR Voineasa-Covas 9.89 66 ⇑P Pn 10 41 49.3 +2.8
PLOR Plostina 10.19 66 ⇑P Pn 10 41 53.2 +2.6
VRI Vrincioaia 10.25 66 ⇓P Pn 10 41 53.8 +2.4
IDI Arnyia 11.59 125 Pn Pn 10 42 11.8 +1.9
comp=Z,1.0nm,0.3s,baz=339,slow=8.4,SNR=5.6
IDI Sn Sn 10 44 13.0 -6.0
comp=Z,0.4nm,0.3s,baz=285,slow=20,SNR=1.5
comp=Z,2.6nm,0.4s
ESDC Sonseca Array 13.28 263 Pn Pn 10 42 31.8 -1.2
comp=Z,0.1nm,0.3s,baz=67,slow=13,SNR=4.4
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 13.68 48 Pn Pn 10 42 38.3 +0.1
comp=Z,0.2nm,0.3s,baz=241,slow=12,SNR=1.4
comp=Z,0.3nm,0.3s
BR131 Keskin Array S 15.62 93 Pn 10 43 04.4 -0.2
BRTR Keskin Array B 15.62 93 Pn Pn 10 43 05.5 +0.9
baz=342,slow=12,SNR=3.1
comp=Z,1.5nm,1.0s
BRTR Keskin Array B 15.62 93 Pn Pn 10 43 04.4 -0.2
EKA Eskdalemuir Ar 16.69 326 Pn Pn 10 43 19.0 +1.0
baz=132,slow=12
comp=Z,0.6nm,0.4s
HFS Hagfors 17.64 1 P P 10 43 30.7 0.0
comp=Z,0.2nm,0.3s,baz=195,slow=15,SNR=2.3
comp=Z,1.8nm,0.8s
NAO01 NORSAR Array S 18.41 356 P P 10 43 38.5 -0.7
NB2 NORSAR Subarra 18.59 357 P Pn 10 43 42.7 +1.2
comp=Z,2.7nm,0.8s,baz=175,slow=11
NOA NORSAR Array B 18.59 357 P P 10 43 41.0 -0.2
baz=174,slow=11,SNR=4.4
comp=Z,1.1nm,0.7s
NC405 NORSAR Array S 18.64 358 P P 10 43 40.5 -1.4
NC405 IAmb IAmb 10 43 45.7
comp=Z,15nm,1.0s
GAZ Gaziantep 19.14 98 P Pn 10 43 48.2 -0.2
GAZ IAmb IAmb 10 43 52.0
comp=Z,14nm,0.7s
MMAI Mount Meron Ar 19.88 111 P P 10 43 55.1 -0.5
comp=Z,1.1nm,0.2s,baz=312,slow=15,SNR=3.3
FINES FINESS Array B 20.46 18 P P 10 44 01.6 0.0
comp=Z,6.9nm,0.8s,baz=207,slow=8.6,SNR=9.6
comp=Z,6.9nm,0.8s
FINES FINESS Array B 20.46 18 P P 10 44 01.8 +0.1
FIA1 FINESS Array S 20.46 18 P P 10 44 00.5 -1.1
FIA1 IAmb IAmb 10 44 08.5
comp=Z,16nm,1.0s
ASF Jabal al Asfar 21.39 111 LR LR 10 54 11.2
comp=Z,2µm,21.6s,baz=308,slow=41
KIV Kislovodsk 21.45 76 P P 10 44 13.2 +0.6
KIV IAmb IAmb 10 44 16.1
comp=Z,18nm,1.2s
KBZ Khabaz 21.63 77 P P 10 44 16.9 +2.5
comp=Z,7.6nm,0.8s,baz=314,slow=8.2,SNR=12
comp=Z,7.6nm,0.8s
MARD Mardin 21.71 95 P P 10 44 16.1 +0.6
MARD IAmb IAmb 10 44 19.8
comp=Z,14nm,0.8s
GURO Guroymak-BITLI 22.19 91 P P 10 44 20.8 +0.2
GURO IAmb IAmb 10 44 44.1
comp=Z,8.9nm,1.2s
TORD Torodi Ar. Bea 30.93 202 P P 10 45 41.7 +0.5
comp=Z,1.8nm,0.4s,baz=19,slow=7.9,SNR=3.2
comp=Z,1.8nm,0.4s
ARU Arti 31.93 48 P P 10 45 50.0 +0.3
BRVK Borovoye 38.77 54 P P 10 46 49.5 +0.9
BRVK IAmb IAmb 10 47 02.9
comp=Z,5.7nm,1.1s
NRS Narsarsuaq 39.16 319 P P 10 46 52.5 +0.9
UOSS Minazif 39.33 103 P P 10 46 54.4 +0.9
UOSS IAmb IAmb 10 46 57.8
comp=Z,7.5nm,0.8s
KK31 Karatay Array 41.30 69 P P 10 47 09.9 +0.2
KKAR Karatay Array 41.30 69 P P 10 47 08.9 -0.8
TARG Taragay, Kyrgy 46.83 68 P P 10 47 54.7 +0.3
ZAA0 Zalesovo Array 47.06 50 P P 10 47 55.7 +0.1
ZAA0 IAmb IAmb 10 48 11.4
comp=Z,1.6nm,0.7s
ZALV Zalesovo Beam 47.06 50 P P 10 47 55.5 -0.1
comp=Z,0.6nm,0.4s,baz=286,slow=5.8,SNR=1.5
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 47.06 50 P P 10 47 56.0 +0.4
MKAR Makanchi Array 47.87 60 P P 10 48 00.9 -1.1
comp=Z,0.9nm,0.8s,baz=284,slow=7.0,SNR=9.0
comp=Z,0.9nm,0.6s
MKAR Makanchi Array 47.87 60 P P 10 48 03.2 +1.2
WMQ Urumqi 52.55 61 eP P 10 48 40.4 +2.8
SONM Songino Array 61.95 50 P P 10 49 44.8 +0.8
comp=Z,1.3nm,1.0s,baz=284,slow=9.0,SNR=5.6
comp=Z,1.3nm,1.0s
INK Inalık 66.72 347 P P 10 50 14.0 -0.7
comp=Z,0.6nm,0.8s,baz=21,slow=4.6,SNR=2.3
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 67.31 337 P P 10 50 18.6 +0.1
comp=Z,1.9nm,0.8s,baz=38,slow=5.7,SNR=25
comp=Z,1.9nm,0.8s
HHC Hu-ho-hao-te 69.05 53 eP P 10 50 29.4 -0.6
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,460nm,6.0s
PZH PanZhiHua 71.57 71 P P 10 50 46.8 +1.1
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.2s
ILAR Eielson Array 71.91 351 P P 10 50 46.4 -0.6
comp=Z,0.7nm,0.9s,baz=2.9,slow=5.5,SNR=7.2
comp=Z,0.7nm,0.9s
CMAR Chiang Mai Arr 74.67 79 P P 10 51 04.1 +0.2
comp=Z,0.8nm,0.3s,baz=320,slow=7.2,SNR=4.4
comp=Z,0.8nm,0.3s
PDAR Pinedale Array 80.75 321 P P 10 51 38.1 +0.3
comp=Z,0.2nm,0.5s,baz=60,slow=3.6,SNR=4.2
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 87.93 309 P P 10 52 14.8 +0.5
comp=Z,0.4nm,0.8s,baz=83,slow=3.3,SNR=5.2
comp=Z,0.4nm,0.8s

*IDC **18** 10:41:42.0±1.2,42°.61N×12°.77E,h0km,mb3.7/7,*
mbtmp3.7/12,ML3.4/3,Error ellipse: s-maj=19.6km
s-min=16.7km az=85.0
*ROM **18** 10:41:42.5±0.0,42°.482N±0°.002×13°.277E±0°.004,*
h10km,ML3.8/52,Error ellipse: s-maj=0.3km s-min=0.2km
az=66.0
*BEO **18** 10:41:46.0±0.6,42°.58N×13°.45E,h0km,ML4.0/8*
ISC 18 10:41:43.2±0.7,42.48N±0°.02×13°.26E±0°.02,h12km±4km,
n154,σ1°43/194,mb3.6/6,3C-1D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.05**	**147**	⇓P		**Pg**	**10 41 45.3**	**-0.3**
T1247				S		**Sg**	**10 41 46.9**	**-0.3**
T1247				AML		AML		
T1247				AML		AML		
T1247				AML		AML		
CAMP	**Campotosto**	**0.12**	**63**	⇑P		**Pg**	**10 41 45.8**	**-0.6**
CAMP				S		**Sg**	**10 41 47.9**	**-0.8**
SMA1	**SAN MARTINO**	**0.16**	**20**	P		**Pg**	**10 41 46.7**	**-0.3**
SMA1				S		**Sg**	**10 41 49.5**	**-0.1**
SMA1				AML		AML		
SMA1				AML		AML		
AQU	**L'Aquila**	**0.16**	**141**	P		**Pg**	**10 41 46.8**	**-0.2**
AQU				S		**Sg**	**10 41 49.9**	**+0.3**
LNSS	**Leonessa**	**0.20**	**307**	P		**Pg**	**10 41 47.7**	**0.0**
LNSS				S		**Sg**	**10 41 51.0**	**+0.2**
LNSS				AML		AML		
LNSS				AML		AML		
LNSS				AML		AML		
LNSS				AML		AML		
T1218	**Civita (PG)**	**0.22**	**330**	P		**Pg**	**10 41 47.7**	**-0.2**
T1218				S		**Sg**	**10 41 51.5**	**+0.3**
T1218				AML		AML		
comp=E,91000µm,0.3s								
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
comp=E,85850µm,0.3s								
T1218				AML		AML		
comp=E,85850µm,0.3s								
T1218				AML		AML		
comp=E,91000µm,0.3s								
T1202	**Accumoli, Fraz**	**0.22**	**353**	P		**Pg**	**10 41 47.9**	**-0.1**
T1202				S		**Sg**	**10 41 51.9**	**+0.6**
GIGS	**Gran Sasso**	**0.23**	**98**	⇑P		**Pg**	**10 41 47.3**	**-0.8**
GIGS				S		**Sg**	**10 41 50.7**	**-0.7**
GIGS				AML		AML		
comp=E,13550µm,0.9s								
GIGS				AML		AML		
comp=N,10900µm,0.8s								
GIGS				AML		AML		
comp=N,10900µm,1.2s								
GIGS				AML		AML		
comp=E,13550µm,1.1s								
FIAM	**Fiamignano**	**0.24**	**207**	⇑P		**Pg**	**10 41 48.2**	**-0.1**
FIAM				S		**Sg**	**10 41 52.4**	**+0.7**
FIAM				AML		AML		
comp=E,35000µm,0.5s								
FIAM				AML		AML		
comp=N,33950µm,1.0s								
FAGN	**Fagnano**	**0.32**	**132**	P		**Pg**	**10 41 49.8**	**+0.1**
FAGN				AML		AML		
comp=E,45400µm,1.1s								
FAGN				AML		AML		
comp=E,45400µm,0.9s								
FAGN				AML		AML		
comp=N,38400µm,0.3s								
T1217	**Poggiodomo (PG**	**0.34**	**313**	P		**Pg**	**10 41 49.8**	**-0.2**
T1217				S		**Sg**	**10 41 55.1**	**+0.5**
T1217				AML		AML		
comp=N,40750µm,0.3s								
T1217				AML		AML		
comp=E,34750µm,0.5s								
T1217				AML		AML		
comp=E,34800µm,0.5s								
T1217				AML		AML		
comp=E,34750µm,0.5s								
T1217				AML		AML		
comp=N,44200µm,0.3s								
T1217				AML		AML		
comp=E,39000µm,0.3s								
ARRO	**Arrone**	**0.38**	**285**	P		**Pg**	**10 41 50.6**	**-0.2**
ARRO				S		**Sg**	**10 41 56.8**	**+0.9**
ARRO				AML		AML		
comp=N,28850µm,0.2s								
ARRO				AML		AML		
comp=E,35700µm,0.2s								
T0110	**Collepietro**	**0.46**	**123**	P		**Pg**	**10 41 51.4**	**-0.9**
T0110				S		**Sg**	**10 41 58.4**	**+0.1**
T0110				AML		AML		
comp=E,13600µm,1.0s								
T0110				AML		AML		
comp=N,13330µm,0.8s								
T0110				AML		AML		
comp=E,13600µm,1.0s								
PTQR	**Pietraquaria**	**0.47**	**167**	P		**Pg**	**10 41 51.7**	**-0.8**
PTQR				AML		AML		
comp=E,2625µm,0.3s								
PTQR				AML		AML		
comp=N,2140µm,0.2s								
PTQR				AML		AML		
comp=E,2730µm,0.7s								
PTQR				AML		AML		
comp=E,2730µm,1.3s								
PTQR				AML		AML		
comp=N,2425µm,0.6s								
FEMA	**Monte Fema**	**0.51**	**342**	P		**Pg**	**10 41 52.7**	**-0.5**
FEMA				S		**Sb**	**10 42 00.8**	**-0.8**
FEMA				AML		AML		
comp=E,24600µm,0.6s								
FEMA				AML		AML		
comp=E,24600µm,0.6s								
FEMA				AML		AML		
comp=N,17450µm,0.5s								
FEMA				AML		AML		
comp=E,24600µm,1.4s								
CESX	**Cesi**	**0.52**	**285**	P		**Pg**	**10 41 52.9**	**-0.6**
CESX				AML		AML		
comp=N,14750µm,0.6s								
CESX				AML		AML		
comp=E,10190µm,1.1s								
CESX				AML		AML		
comp=N,14750µm,1.4s								
CERT	**Cerreto**	**0.57**	**202**	P		**Pg**	**10 41 53.6**	**-0.7**
CERT				AML		AML		
comp=N,6860µm,0.5s								
CERT				AML		AML		
comp=E,8635µm,0.5s								
TRTR	**Tortoreto Alta**	**0.58**	**56**	P		**Pg**	**10 41 54.6**	**+0.1**
TRTR				AML		AML		
comp=E,17450µm,0.7s								
TRTR				AML		AML		
comp=N,17300µm,0.6s								
TRTR				AML		AML		
comp=E,20250µm,0.6s								
TRTR				AML		AML		
comp=N,17300µm,1.4s								
CESI	**CESI - Serrava**	**0.59**	**333**	P		**Pg**	**10 41 54.1**	**-0.6**
CESI				S		**Sg**	**10 42 03.1**	**+0.6**
CESI				AML		AML		
comp=E,7195µm,0.8s								
CESI				AML		AML		
comp=N,12150µm,1.3s								
CESI				AML		AML		
comp=N,12150µm,0.7s								
CESI				AML		AML		
comp=E,7195µm,1.2s								
MTCE	**Montecelio**	**0.60**	**220**	P		**Pg**	**10 41 54.1**	**-0.8**
MTCE				AML		AML		
comp=E,13850µm,0.5s								
MTCE				AML		AML		
comp=N,4505µm,1.4s								
MTCE				AML		AML		
comp=N,4505µm,0.6s								
MOMA	**Monte Martano**	**0.60**	**302**	P		**Pg**	**10 41 54.8**	**-0.2**
MOMA				S		**Sb**	**10 42 03.8**	**-0.6**
MOMA				AML		AML		
comp=E,22750µm,0.3s								
MOMA				AML		AML		
comp=N,21950µm,0.3s								
MOMA				AML		AML		
comp=E,22750µm,0.3s								
MOMA				AML		AML		
comp=E,22300µm,0.2s								
MOMA				AML		AML		
comp=N,22150µm,0.3s								
MOMA				AML		AML		
comp=N,21950µm,0.3s								
SRES	**S.Oreste - Sor**	**0.61**	**247**	P		**Pg**	**10 41 54.7**	**-0.4**
SRES				AML		AML		
comp=N,7450µm,0.5s								
SRES				AML		AML		
comp=E,5890µm,0.7s								
CSP1	**Cessapalombo**	**0.61**	**356**	P		**Pg**	**10 41 54.2**	**-0.9**
CSP1				S		**Sg**	**10 42 03.6**	**+0.3**
CSP1				AML		AML		
comp=E,12450µm,1.5s								
CSP1				AML		AML		
comp=N,13250µm,0.5s								
T1220	**Camerino, Fraz**	**0.64**	**349**	P		**Pg**	**10 41 54.9**	**-0.8**
T1220				S		**Sg**	**10 42 04.6**	**+0.4**
T1220				AML		AML		
comp=N,32650µm,0.4s								
T1220				AML		AML		
comp=E,45450µm,0.4s								
T1220				AML		AML		
comp=N,32150µm,0.4s								
T1220				AML		AML		
comp=E,45450µm,0.4s								

T1220					AML	AML		
	comp=N,32200µm,0.4s							
T1220					AML	AML		
	comp=N,32650µm,0.4s							
T1220					AML	AML		
	comp=E,45600µm,0.4s							
VVLD	**Villa Vallelon**	**0.67**	**156**	P	**Pg**		**10 41 56.3**	**+0.1**
MNTP	**Montappone**	**0.67**	**13**	P	**Pg**		**10 41 55.9**	**-0.4**
RCAV	**Rocca di Cave**	**0.68**	**201**	P	**Pg**		**10 41 56.0**	**-0.4**
RCAV					AML	AML		
	comp=N,6375µm,0.7s							
RCAV					AML	AML		
	comp=E,6310µm,1.3s							
RCAV					AML	AML		
	comp=N,6375µm,1.3s							
RCAV					AML	AML		
	comp=E,6310µm,0.7s							
GUAR	**Guarcino**	**0.69**	**177**	P	**Pg**		**10 41 56.7**	**+0.2**
GUAR					AML	AML		
	comp=N,5005µm,0.5s							
GUAR					AML	AML		
	comp=E,4820µm,0.5s							
GUAR					AML	AML		
	comp=N,5005µm,1.5s							
SEF1	**Sefro**	**0.70**	**341**	P	**Pg**		**10 41 56.2**	**-0.7**
SEF1					AML	AML		
	comp=E,20600µm,0.9s							
SEF1					AML	AML		
	comp=N,16700µm,0.3s							
ASSB	**Assisi San Ben**	**0.72**	**322**	P	**Pg**		**10 41 56.4**	**-0.7**
ASSB					AML	AML		
	comp=N,9155µm,0.5s							
ASSB					AML	AML		
	comp=E,8965µm,1.2s							
PIO1	**Pioraco**	**0.73**	**344**	P	**Pg**		**10 41 56.0**	**-1.3**
FIU1	**Fiuminata**	**0.75**	**341**	P	**Pg**		**10 41 57.0**	**-0.7**
GAG1	**Gagliole**	**0.77**	**349**	P	**Pg**		**10 41 57.3**	**-0.9**
RMP	**Rome, Mte Porz**	**0.79**	**212**	P	**Pg**		**10 41 57.5**	**-0.9**
RMP					AML	AML		
	comp=N,8065µm,1.5s							
RMP					AML	AML		
	comp=E,5750µm,0.6s							
LPEL	**Lama dei Pelig**	**0.81**	**122**	P	**Pg**		**10 41 57.1**	**-1.8**
LPEL				S	**Sg**		**10 42 08.5**	**-0.9**
LPEL					AML	AML		
	comp=E,4405µm,0.7s							
LPEL					AML	AML		
	comp=N,3965µm,1.0s							
LPEL					AML	AML		
	comp=N,3965µm,1.0s							
SNTG	**Esanatoglia**	**0.81**	**343**	P	**Pg**		**10 41 57.7**	**-1.2**
SNTG					AML	AML		
	comp=E,3320µm,0.9s							
SNTG					AML	AML		
	comp=N,4665µm,0.5s							
SNTG					AML	AML		
	comp=E,3320µm,0.9s							
SNTG					AML	AML		
	comp=E,3115µm,0.9s							
SNTG					AML	AML		
	comp=N,4815µm,0.5s							
POFI	**Posta Fibreno**	**0.83**	**156**	P	**Pg**		**10 41 59.1**	**-0.3**
POFI					AML	AML		
	comp=N,2205µm,0.5s							
POFI					AML	AML		
	comp=N,2205µm,1.5s							
POFI					AML	AML		
	comp=E,2865µm,0.6s							
POFI					AML	AML		
	comp=N,2085µm,0.8s							
POFI					AML	AML		
	comp=E,2805µm,0.7s							
ATCC	**AVT- Casa Cast**	**0.84**	**327**	P	**Pg**		**10 41 58.5**	**-1.0**
ATCC					AML	AML		
	comp=E,7810µm,0.7s							
ATCC					AML	AML		
	comp=N,7135µm,1.6s							
ATCC					AML	AML		
	comp=N,7135µm,0.4s							
MA9	**Marino**	**0.84**	**212**	P	**Pb**		**10 42 00.0**	**+0.2**
EL6	**Elcito**	**0.86**	**352**	P	**Pg**		**10 41 58.6**	**-1.2**
EL6					AML	AML		
	comp=N,12350µm,0.3s							
EL6					AML	AML		
	comp=E,13700µm,0.5s							
SAMA	**S.Maria delle**	**0.86**	**216**	P	**Pg**		**10 41 59.1**	**-0.7**
LRP	**Arpino**	**0.87**	**164**	P	**Pn**		**10 42 00.8**	**-0.5**
LRP					AML	AML		
	comp=E,1470µm,0.6s							
LRP					AML	AML		
	comp=N,2035µm,0.7s							
LRP					AML	AML		
	comp=E,1470µm,1.4s							
FOSV	**Fossato di Vic**	**0.89**	**336**	P	**Pg**		**10 41 59.3**	**-1.1**
FOSV					AML	AML		
	comp=E,3645µm,1.3s							
FOSV					AML	AML		
	comp=N,4325µm,0.6s							
FOSV					AML	AML		
	comp=E,3645µm,0.7s							
GIUL	**Giuliano Di Ro**	**0.92**	**180**	P	**Pg**		**10 42 00.5**	**-0.5**
GIUL					AML	AML		
	comp=N,2690µm,0.7s							
GIUL					AML	AML		
	comp=E,2435µm,0.6s							
PP3	**Marolino**	**0.93**	**16**	P	**Pg**		**10 42 00.6**	**-0.6**
PP3					AML	AML		
	comp=E,13200µm,0.6s							
PP3					AML	AML		
	comp=N,15500µm,0.5s							
PP3					AML	AML		
	comp=N,16700µm,0.5s							
PP3					AML	AML		
	comp=E,13200µm,0.6s							
PP3					AML	AML		
	comp=N,15500µm,1.5s							
PP3					AML	AML		
	comp=N,16700µm,1.5s							
MURB	**Monte Urbino**	**0.95**	**325**	P	**Pg**		**10 42 01.3**	**-0.3**
MGAB	**Montegabbione**	**0.95**	**297**	P	**Pg**		**10 42 01.0**	**-0.5**
MGAB					AML	AML		
	comp=N,14750µm,0.4s							
MGAB					AML	AML		
	comp=E,9230µm,0.4s							
MGAB					AML	AML		
	comp=E,8725µm,1.5s							
MGAB					AML	AML		
	comp=N,15600µm,0.4s							
LIK	**San Giovanni I**	**1.00**	**167**	P	**Pg**		**10 42 02.3**	**-0.2**
LIK					AML	AML		
	comp=E,4075µm,0.7s							
LIK					AML	AML		
	comp=N,3395µm,0.6s							
LIK					AML	AML		
	comp=E,4080µm,0.7s							
LIK					AML	AML		
	comp=N,3690µm,0.8s							
LIK					AML	AML		
	comp=N,3690µm,1.2s							
LATB	**Latina**	**1.01**	**193**	P	**Pb**		**10 42 01.4**	**-1.3**
LATB					AML	AML		
	comp=N,688µm,0.8s							
LATB					AML	AML		
	comp=E,772µm,1.0s							
SSFR	**Montelago di S**	**1.02**	**340**	P	**Pg**		**10 42 01.9**	**-0.9**
SSFR					AML	AML		
	comp=N,6060µm,0.2s							
SSFR					AML	AML		
	comp=E,6365µm,0.9s							
SSFR					AML	AML		
	comp=E,6365µm,1.1s							
SSFR					AML	AML		
	comp=E,6755µm,1.1s							
SSFR					AML	AML		
	comp=N,6900µm,0.6s							
ATFO	**Monte Foce - G**	**1.02**	**330**	P	**Pg**		**10 42 02.8**	**-0.1**
RNI2	**Rionero Sannit**	**1.02**	**139**	P	**Pg**		**10 42 02.4**	**-0.5**
TOLF	**Tolfa**	**1.03**	**246**	P	**Pb**		**10 42 02.3**	**-0.7**
TOLF					AML	AML		
	comp=N,2835µm,0.5s							
TOLF					AML	AML		
	comp=E,3950µm,0.6s							
TOLF					AML	AML		
	comp=N,2835µm,1.5s							
ATSC	**Scheggia e Pas**	**1.03**	**336**	P	**Pg**		**10 42 02.5**	**-0.7**
ATLO	**AVT- Montelove**	**1.04**	**323**	P	**Pb**		**10 42 02.7**	**-0.6**
CERA	**Filignano**	**1.05**	**147**	P	**Pb**		**10 42 01.6**	**-1.7**
CERA					AML	AML		
	comp=E,3755µm,0.7s							
CERA					AML	AML		
	comp=E,3805µm,0.7s							
CERA					AML	AML		
	comp=N,2435µm,0.7s							
CERA					AML	AML		
	comp=E,3755µm,1.3s							
CERA					AML	AML		
	comp=E,3805µm,1.3s							
CERA					AML	AML		
	comp=N,2385µm,0.7s							
SACS	**San Casciano d**	**1.06**	**291**	P	**Pg**		**10 42 03.9**	**+0.1**
ATVA	**AVT- Monte Val**	**1.07**	**318**	P	**Pb**		**10 42 03.7**	**-0.1**
TB01	**Gubbio**	**1.09**	**326**	P	**Pb**		**10 42 03.4**	**-0.6**
TB02	**Pietralunga**	**1.09**	**325**	P	**Pg**		**10 42 04.1**	**0.0**
AOI	**Ancona**	**1.10**	**13**	P	**Pb**		**10 42 03.4**	**-0.8**
AOI					AML	AML		
	comp=N,4095µm,0.5s							
AOI					AML	AML		
	comp=N,4095µm,1.5s							
AOI					AML	AML		
	comp=E,4490µm,0.7s							
ATVO	**AVT- Monte Val**	**1.10**	**325**	P	**Pb**		**10 42 03.1**	**-1.1**
ATVO					AML	AML		
	comp=E,3090µm,0.6s							
ATVO					AML	AML		
	comp=N,2900µm,0.8s							
ATVO					AML	AML		
	comp=E,3090µm,1.4s							
MIDA	**Miranda**	**1.12**	**138**	P	**Pb**		**10 42 02.9**	**-1.7**
ATMI	**Monte Miggiano**	**1.12**	**320**	P	**Pb**		**10 42 04.7**	**+0.1**
ATBU	**Serra di Buran**	**1.12**	**332**	P	**Pb**		**10 42 04.1**	**-0.6**
ATPI	**Pietralunga -**	**1.16**	**327**	P	**Pg**		**10 42 05.5**	**0.0**
ATPC	**Poggio Castell**	**1.16**	**330**	P	**Pb**		**10 42 04.5**	**-0.8**
COR1	**Corinaldo**	**1.17**	**351**	P	**Pb**		**10 42 04.9**	**-0.4**
COR1					AML	AML		
	comp=E,13150µm,0.6s							
COR1					AML	AML		
	comp=N,9410µm,0.5s							
COR1					AML	AML		
	comp=E,7125µm,0.6s							
COR1					AML	AML		
	comp=N,9215µm,0.6s							
COR1					AML	AML		
	comp=E,7125µm,1.4s							
COR1					AML	AML		
	comp=E,13150µm,1.4s							
COR1					AML	AML		
	comp=N,9410µm,1.5s							
COR1					AML	AML		
	comp=N,9215µm,1.4s							
PIEI	**Pieia**	**1.18**	**333**	P	**Pb**		**10 42 04.9**	**-0.7**
TRIV	**Trivento**	**1.20**	**126**	P	**Pn**		**10 42 05.7**	**-0.2**
MPAG	**Monte Paganucc**	**1.21**	**342**	P	**Pn**		**10 42 05.2**	**-0.9**
MPAG					AML	AML		
	comp=E,3060µm,1.4s							
MPAG					AML	AML		
	comp=N,4820µm,0.5s							
MPAG					AML	AML		
	comp=E,2995µm,1.4s							
MPAG					AML	AML		
	comp=E,3060µm,0.6s							
MPAG					AML	AML		
	comp=E,2995µm,0.6s							
MPAG					AML	AML		
	comp=N,4765µm,0.5s							
SENI	**Senigallia**	**1.22**	**359**	P	**Pn**		**10 42 06.2**	**0.0**
SF11	**Podere del Sol**	**1.23**	**289**	P	**Pn**		**10 42 06.4**	**0.0**
SF04	**Casetta**	**1.23**	**287**	P	**Pn**		**10 42 06.3**	**-0.1**
APEC	**Apecchio**	**1.24**	**330**	P	**Pn**		**10 42 06.1**	**-0.4**
ATMC	**Monte Cedrone**	**1.24**	**321**	P	**Pn**		**10 42 06.5**	**0.0**
SF13	**Bagnolo**	**1.26**	**286**	P	**Pn**		**10 42 06.4**	**-0.3**
BADI	**Badiali**	**1.27**	**324**	P	**Pn**		**10 42 06.7**	**-0.2**
CAFI	**Castiglion Fio**	**1.27**	**312**	P	**Pn**		**10 42 06.8**	**-0.2**
CAFI					AML	AML		
	comp=E,2575µm,0.6s							
CAFI					AML	AML		
	comp=N,2320µm,0.4s							
CAFI					AML	AML		
	comp=E,2560µm,0.6s							
CAFI					AML	AML		
	comp=E,2560µm,1.4s							
CAFI					AML	AML		
	comp=E,2575µm,1.4s							
CAFI					AML	AML		
	comp=N,2305µm,0.4s							
SF01	**Poggio Pratacc**	**1.30**	**285**	P	**Pn**		**10 42 06.2**	**-1.1**
BSSO	**Busso**	**1.36**	**133**	P	**Pb**		**10 42 09.0**	**+0.3**
ARCI	**Arcidosso**	**1.37**	**286**	P	**Pn**		**10 42 08.2**	**-0.1**
SSP9	**Sansepolcro**	**1.37**	**323**	P	**Pg**		**10 42 09.6**	**0.0**
MODR	**Mondragone**	**1.41**	**161**	P	**Pb**		**10 42 09.2**	**-0.4**
MODR					AML	AML		
	comp=E,616µm,1.6s							
MODR					AML	AML		
	comp=N,772µm,0.9s							
MODR					AML	AML		
	comp=N,772µm,1.1s							
MODR					AML	AML		
	comp=E,616µm,0.4s							
PIGN	**Pignataro Magg**	**1.45**	**152**	P	**Pb**		**10 42 10.0**	**-0.2**
CPGN	**Carpegna, Ital**	**1.49**	**333**	P	**Pb**		**10 42 10.9**	**-0.1**
PESA	**Pesaro**	**1.49**	**348**	P	**Pn**		**10 42 09.7**	**-0.2**
SACR	**S. Croce Del S**	**1.53**	**135**	P	**Pb**		**10 42 11.9**	**+0.4**
MAON	**Monte Argentar**	**1.58**	**269**	P	**Pn**		**10 42 10.6**	**-0.4**
MAON					AML	AML		
	comp=N,516µm,1.4s							
MAON					AML	AML		
	comp=N,516µm,0.6s							
MAON					AML	AML		
	comp=E,1200µm,0.5s							
MELA	**Melanico ??? S**	**1.59**	**119**	P	**Pb**		**10 42 12.3**	**-0.2**
ASQU	**Asqua**	**1.70**	**321**	P	**Pb**		**10 42 14.6**	**+0.1**
FROS	**Frosini**	**1.71**	**296**	P	**Pn**		**10 42 13.1**	**+0.1**
SFI	**Santa Sofia**	**1.76**	**324**	P	**Pb**		**10 42 14.9**	**-0.6**
CASP	**Castiglione de**	**1.80**	**281**	P	**Pn**		**10 42 13.9**	**-0.2**
CASP					AML	AML		
	comp=N,372µm,1.0s							
CASP					AML	AML		
	comp=E,264µm,0.9s							
OSSC	**Osservatorio P**	**1.81**	**306**	P	**Pn**		**10 42 14.8**	**+0.6**
TRIF	**Trifonti**	**1.85**	**291**	P	**Pn**		**10 42 15.2**	**+0.4**
RUFI	**Rufina**	**1.87**	**317**	P	**Pn**		**10 42 15.3**	**+0.2**
RUFI					AML	AML		
	comp=E,860µm,0.6s							
RUFI					AML	AML		
	comp=N,808µm,0.7s							
LMD	**Lutirano**	**1.96**	**325**	P	**Pn**		**10 42 16.8**	**+0.4**
SEI	**Scarperia**	**2.10**	**319**	P	**Pn**		**10 42 19.2**	**+0.9**
SEI					AML	AML		
	comp=E,728µm,0.5s							
SEI					AML	AML		
	comp=N,1370µm,0.6s							
SEI					AML	AML		
	comp=E,728µm,1.5s							
STON	**Ston**	**3.29**	**82**	*e*Pn	**Pn**		**10 42 35.8**	**+1.2**
STON				*e*Sn	**Sn**		**10 43 13.1**	**-0.7**
STON	**Ston**	**3.29**	**82**	*e*Pn	**Pn**		**10 42 36.6**	**+2.0**
STON				*e*Sn	**Sn**		**10 43 13.2**	**-0.6**
CTI	**Castel Tesino**	**3.75**	**343**	P	**Pn**		**10 42 41.6**	**+0.5**
CTI					AML	AML		
	comp=E,346µm,0.3s							
CTI					AML	AML		
	comp=N,402µm,1.2s							
TREB	**Trebinje**	**3.76**	**85**	*e*Pn	**Pn**		**10 42 42.4**	**+1.3**
TREB				*e*Sn	**Sn**		**10 43 25.7**	**+0.3**
TREB	**Trebinje**	**3.76**	**85**	*e*Sn	**Sn**		**10 43 24.1**	**-1.3**
MYKA	**Terra Mystica**	**4.16**	**4**	*e*Pn	**Pn**		**10 42 47.9**	**+1.3**
	comp=N,16nm,0.5s							
APPI	**Appiano**	**4.25**	**341**	P	**Pn**		**10 42 49.2**	**+1.2**
PDG	**Podgorica**	**4.43**	**89**	*e*Pn	**Pn**		**10 42 52.2**	**+1.9**
PDG				*e*Sn	**Sn**		**10 43 42.7**	**+0.8**
PDG	**Podgorica**	**4.43**	**89**	*e*Pn	**Pn**		**10 42 52.3**	**+1.9**
PDG				*e*Sn	**Sn**		**10 43 42.9**	**+1.0**
DAVOX	**Davos/Dischmat**	**4.93**	**332**	Pn	**Pn**		**10 42 58.7**	**+1.4**
	comp=N,0.8nm,0.3s,baz=142,slow=23,SNR=1.1							
DAVOX				Sn	**Sn**		**10 43 55.6**	**+1.2**
	comp=N,2.8nm,0.3s,baz=107,slow=17,SNR=2.3							
TIR	**Tirane**	**5.05**	**101**	*e*Pn	**Pn**		**10 43 00.5**	**+1.6**
TIR				*e*Sn	**Sn**		**10 43 57.8**	**+0.6**
TIR	**Tirane**	**5.05**	**101**	*e*Pn	**Pn**		**10 43 00.7**	**+1.8**
TIR				*e*Sn	**Sn**		**10 43 56.2**	**-1.0**
VAE	**Valguarnera**	**5.07**	**170**	Sn	**Sn**		**10 44 03.8**	**+6.0**
	comp=N,1.7nm,0.3s,baz=7.3,slow=21,SNR=1.2							
IVAS	**Ivanjica**	**5.17**	**75**	*e*Pn	**Pn**		**10 43 01.2**	**+0.7**
IVAS				*e*Sn	**Sn**		**10 43 59.5**	**-0.6**
IVAS	**Ivanjica**	**5.17**	**75**	*e*Pn	**Pn**		**10 43 02.7**	**+2.2**
IVAS				*e*Sn	**Sn**		**10 43 59.3**	**-0.8**
MOA	**Molln**	**5.42**	**7**	*e*Sn	**Sn**		**10 44 06.2**	**+0.1**
MOA	**Molln**	**5.42**	**7**	*e*Pn	Pn		10 43 08.8	+5.0
MOA				*e*Sn	**Sn**		**10 44 05.7**	**-0.4**
RONA	**Rosalia, Austr**	**5.64**	**21**	*e*Pn	**Pn**		**10 43 07.3**	**+0.3**
	comp=N,1.7nm,0.2s							
OHR	**Ohrid**	**5.80**	**101**	*e*Pn	**Pn**		**10 43 11.7**	**+2.6**
OHR				*e*Sn	**Sn**		**10 44 14.7**	**-0.9**
SELS	**Selova**	**5.82**	**80**	*e*Pn	**Pn**		**10 43 10.5**	**+1.1**
SELS				*e*Sn	**Sn**		**10 44 15.3**	**-0.8**
SELS	**Selova**	**5.82**	**80**	*e*Pn	**Pn**		**10 43 10.7**	**+1.3**
SELS				*e*Sn	**Sn**		**10 44 15.5**	**-0.6**
SKO	**Skopje**	**6.09**	**92**	*e*Pn	**Pn**		**10 43 15.1**	**+2.0**
SKO	**Skopje**	**6.09**	**92**	*e*Pn	**Pn**		**10 43 15.3**	**+2.2**
BOVS	**Bovan**	**6.29**	**77**	*e*Pn	**Pn**		**10 43 16.4**	**+0.6**
FNA	**Florina**	**6.31**	**103**	*e*Pn	**Pn**		**10 43 18.7**	**+2.5**
FNA				*e*Sn	**Sn**		**10 44 27.4**	**-0.8**
FNA	**Florina**	**6.31**	**103**	*e*Sn	**Sn**		**10 44 27.4**	**-0.8**
BARS	**Barje**	**6.32**	**84**	*e*Pn	**Pn**		**10 43 17.1**	**+0.9**
BARS				*e*Sn	**Sn**		**10 44 26.2**	**-2.1**
BARS	**Barje**	**6.32**	**84**	*e*Pn	**Pn**		**10 43 17.1**	**+0.9**
BARS				*e*Sn	**Sn**		**10 44 26.6**	**-1.7**
GERES	**GERESS Array B**	**6.37**	**3**	Pn	**Pn**		**10 43 16.6**	**-0.5**
	comp=N,4.8nm,0.7s,baz=171,slow=13,SNR=0.8							
GERES				Sn	**Sn**		**10 44 27.6**	**-2.2**
	comp=N,3.3nm,0.3s,baz=200,slow=43,SNR=1.9							
PRVS	**Prvonek**	**6.51**	**87**	*e*Pn	**Pn**		**10 43 20.3**	**+1.3**
PRVS				*e*Sn	**Sn**		**10 44 30.5**	**-2.7**
PRVS	**Prvonek**	**6.51**	**87**	*e*Pn	**Pn**		**10 43 20.5**	**+1.5**
PRVS				*e*Sn	**Sn**		**10 44 30.7**	**-2.5**
ZAGS	**Zajecar**	**6.70**	**76**	*e*Pn	**Pn**		**10 43 22.2**	**+0.9**
ZAGS	**Zajecar**	**6.70**	**76**	*e*Pn	**Pn**		**10 43 22.3**	**+0.9**
ZAPS	**Zavoj**	**6.93**	**80**	*e*Sn	**Sn**		**10 44 39.6**	**-3.8**
ZAPS	**Zavoj**	**6.93**	**80**	*e*Sn	**Sn**		**10 44 40.7**	**-2.7**
VAY	**Valandovo**	**7.04**	**96**	*e*Pn	**Pn**		**10 43 27.9**	**+1.8**
VAY				*e*Sn	**Sn**		**10 44 43.3**	**-2.8**
VAY	**Valandovo**	**7.04**	**96**	*e*Pn	**Pn**		**10 43 27.7**	**+1.6**
VTS	**Vitosha**	**7.37**	**86**	*e*Pn	**Pn**		**10 43 32.1**	**+1.4**
VTS	**Vitosha**	**7.37**	**86**	*e*Pn	**Pn**		**10 43 32.3**	**+1.5**
VTS				*e*Sn	**Sn**		**10 44 52.4**	**-1.9**
VTS				*e*Sn	**Sn**		**10 44 52.4**	**-1.9**
VTS	**Vitosha**	**7.37**	**86**	*e*Pn	**Pn**		**10 43 32.1**	**+1.4**
VTS	**Vitosha**	**7.37**	**86**	*e*Pn	**Pn**		**10 43 32.2**	**+1.5**
VTS				*e*Sn	**Sn**		**10 44 49.5**	**-4.8**
VTS				*e*Sn	**Sn**		**10 44 51.5**	**-2.8**
KEST	**Kesra**	**7.39**	**206**	Pn	**Pn**		**10 43 34.5**	**+3.5**
	comp=N,1.4nm,0.3s,baz=28,slow=17,SNR=4.6							
SRS	**Serrai**	**7.84**	**97**	*e*Pn	**Pn**		**10 43 40.2**	**+3.1**
CLL	**Collm**	**8.83**	**359**	*ex*	x		10 46 21.0	
CLL				*e*Sg	**Sg**		**10 46 34.0**	**+7.6**
MLR	**Muntele Rosu**	**9.62**	**67**	Pn	Pn		10 44 08.0	+6.3
	comp=N,0.5nm,0.3s,baz=255,slow=19,SNR=2.0							
	comp=N,3.8nm,0.6s							
ESDC	**Sonseca Array**	**13.30**	**264**	Pn	**Pn**		**10 44 47.8**	**-4.1**
	comp=N,1.0nm,0.7s,baz=66,slow=15,SNR=2.3							
BRTR	**Keskin Array B**	**15.60**	**93**	Pn	**P**		**10 45 29.1**	**+1.8**
	baz=289,slow=9.0,SNR=3.9							
	comp=N,1.3nm,0.9s							
NOA	**NORSAR Array B**	**18.63**	**357**	P	**P**		**10 45 59.8**	**-0.7**
	baz=178,slow=11,SNR=1.8							
	comp=N,0.9nm,1.0s							
FINES	**FINESS Array B**	**20.49**	**18**	P	Pn		10 46 22.3	-0.7
	comp=N,3.7nm,1.0s,baz=181,slow=10,SNR=2.4							
	comp=N,3.7nm,1.0s							
KBZ	**Khabaz**	**21.62**	**77**	P	**P**		**10 46 37.1**	**+3.9**
	comp=N,2.4nm,0.9s,baz=264,slow=10,SNR=3.4							
	comp=N,2.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**30.90**	**202**	P	**P**		**10 48 00.8**	**+1.0**
	comp=N,2.3nm,0.3s,baz=7.4,slow=9.6,SNR=2.7							
	comp=N,2.3nm,0.3s							
ZALV	**Zalesovo Beam**	**47.07**	**50**	P	**P**		**10 50 15.8**	**+1.2**
	comp=N,0.4nm,0.4s,baz=303,slow=8.0,SNR=1.7							
	comp=N,0.4nm,0.4s							
MKAR	**Makanchi Array**	**47.87**	**60**	P	**P**		**10 50 22.1**	**+1.2**
	comp=N,0.4nm,0.6s,baz=284,slow=5.8,SNR=3.1							
	comp=N,0.4nm,0.6s							
SONM	**Songino Array**	**61.97**	**50**	P	**P**		**10 52 04.0**	**+0.9**
	comp=N,0.2nm,0.6s,baz=282,slow=7.2,SNR=2.2							
	comp=N,0.2nm,0.6s							
YKA	**Yellowknife Ar**	**67.35**	**337**	P	**P**		**10 52 36.5**	**-1.2**
	comp=N,0.3nm,0.7s,baz=38,slow=5.5,SNR=4.9							
	comp=N,0.3nm,0.7s							

PRU ***18*** *10:51:07.8±0.0,42°.13N×12°.24E,h10km*
ROM ***18*** *10:51:16.1±0.1,42°.488N±0°.003×13°.275E±0°.005, h9km,ML3.5/32,Error ellipse: s-maj=0.4km s-min=0.2km az=69.0*
BEO ***18*** *10:51:19.0±0.7,42°.54N×13°.38E,h3km±1km,ML3.6/9*

ISC 18 10:51:16.4±0.8**,42°49N**±0°.02×**13°26E**±0°.02,**h13**km±4km, **n108,**σ1**s00**/142**,5C-4D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.06**	**149**	⇑P		**Pg**	**10 51 18.9**	**-0.2**
T1247				S		**Sg**	**10 51 20.5**	**-0.4**
T1247				AML		AML		
T1247				AML		AML		
T1247				AML		AML		
CAMP	**Campotosto**	**0.12**	**69**	⇓P		**Pg**	**10 51 19.3**	**-0.5**
CAMP				S		**Sg**	**10 51 21.3**	**-0.8**
CAMP				AML		AML		
	comp=E,62200µm,0.3s							
CAMP				AML		AML		
SMA1	**SAN MARTINO**	**0.15**	**23**	⇓P		**Pg**	**10 51 19.9**	**-0.2**
SMA1				S		**Sg**	**10 51 22.7**	**-0.1**
SMA1				AML		AML		
SMA1				AML		AML		
LNSS	**Leonessa**	**0.19**	**304**	⇑P		**Pg**	**10 51 21.0**	**+0.2**
LNSS				S		**Sg**	**10 51 24.9**	**+1.0**
LNSS				AML		AML		
	comp=N,73550µm,1.0s							
LNSS				AML		AML		
	comp=E,61000µm,1.0s							
T1218	**Civita (PG)**	**0.20**	**329**	⇓P		**Pg**	**10 51 21.0**	**0.0**
T1218				S		**Sg**	**10 51 24.6**	**+0.3**
T1218				AML		AML		
	comp=E,28450µm,0.5s							
T1218				AML		AML		
	comp=N,63200µm,0.3s							
T1218				AML		AML		
	comp=E,28450µm,0.4s							
T1218				AML		AML		
	comp=N,63400µm,0.2s							
T1218				AML		AML		
	comp=E,26600µm,0.4s							
T1218				AML		AML		
	comp=E,26650µm,0.4s							
T1218				AML		AML		
	comp=N,63150µm,0.3s							
T1202	**Accumoli, Fraz**	**0.21**	**354**	⇓P		**Pg**	**10 51 21.2**	**+0.1**
T1202				S		**Sg**	**10 51 24.9**	**+0.5**
GIGS	**Gran Sasso**	**0.23**	**100**	⇑P		**Pg**	**10 51 20.9**	**-0.6**
GIGS				S		**Sg**	**10 51 24.3**	**-0.7**
GIGS				AML		AML		
	comp=E,10650µm,1.4s							
GIGS				AML		AML		
	comp=N,11080µm,0.8s							
GIGS				AML		AML		
	comp=E,10650µm,0.6s							
GI

T1217 AML AML
comp=N,8400μm,0.4s
T1217 AML AML
comp=N,9060μm,0.4s
T1217 AML AML
comp=E,7985μm,1.4s
T1217 AML AML
comp=E,9635μm,1.4s
FAGN Fagnano 0.33 133 P **Pg 10 51 23.1 -0.1**
FAGN S **Sg 10 51 28.4 +0.6**
FAGN AML AML
comp=N,20150μm,0.4s
FAGN AML AML
comp=E,24900μm,0.4s
ARRO Arrone 0.37 283 ⇑P **Pg 10 51 24.1 +0.2**
ARRO S **Sb 10 51 30.2 -0.4**
ARRO AML AML
comp=N,5390μm,0.3s
ARRO AML AML
comp=E,7390μm,0.2s
T0110 Collepietro 0.47 124 P **Pg 10 51 25.2 -0.5**
T0110 S **Sg 10 51 32.2 +0.2**
T0110 AML AML
comp=E,11090μm,0.4s
T0110 AML AML
comp=N,13050μm,0.3s
PTQR Pietraquaria 0.48 167 P **Pg 10 51 25.4 -0.6**
PTQR S **Sg 10 51 32.8 +0.4**
PTQR AML AML
comp=N,1705μm,0.5s
PTQR AML AML
comp=E,1930μm,0.5s
FEMA Monte Fema 0.49 342 P **Pg 10 51 26.1 -0.1**
FEMA S **Sb 10 51 33.8 -0.4**
FEMA AML AML
comp=E,10005μm,1.0s
FEMA AML AML
comp=E,10005μm,1.0s
FEMA AML AML
comp=N,7335μm,0.4s
CESX Cesi 0.51 283 P **Pg 10 51 26.2 -0.3**
CESX S **Sb 10 51 34.6 -0.1**
CESX AML AML
comp=E,2410μm,0.7s
CESX AML AML
comp=N,3235μm,0.3s
CESX AML AML
comp=E,2410μm,1.3s
GUMA Gualdo di Mace 0.57 6 P **Pg 10 51 27.4 -0.3**
GUMA S **Sb 10 51 36.6 +0.2**
GUMA AML AML
comp=E,31050μm,0.3s
GUMA AML AML
comp=N,41500μm,0.6s
GUMA AML AML
comp=N,41500μm,0.6s
GUMA AML AML
comp=E,46300μm,0.3s
GUMA AML AML
comp=N,34450μm,0.5s
GUMA AML AML
comp=E,31050μm,1.7s
GUMA AML AML
comp=N,41500μm,1.4s
GUMA AML AML
comp=N,34450μm,1.5s
GUMA AML AML
comp=E,46300μm,1.7s
CESI CESI - Serrava 0.57 333 P **Pg 10 51 27.3 -0.4**
CESI S **Sg 10 51 36.0 +0.6**
CESI AML AML
comp=N,4725μm,0.4s
CESI AML AML
comp=E,2330μm,0.6s
TRTR Tortoreto Alta 0.58 57 P **Pg 10 51 27.8 0.0**
TRTR AML AML
comp=E,16150μm,1.5s
TRTR AML AML
comp=N,14110μm,0.9s
CERT Cerreto 0.58 201 P **Pg 10 51 27.3 -0.5**
CERT AML AML
comp=N,3515μm,0.6s
CERT AML AML
comp=N,3515μm,1.4s
CERT AML AML
comp=E,5200μm,0.5s
MOMA Monte Martano 0.59 302 P **Pg 10 51 28.4 +0.4**
MOMA S **Sb 10 51 37.4 +0.3**
MOMA AML AML
comp=E,4375μm,1.4s
MOMA AML AML
comp=E,4470μm,1.4s
MOMA AML AML
comp=N,4670μm,0.2s
MOMA AML AML
comp=E,4375μm,0.6s
MOMA AML AML
comp=N,4565μm,0.2s
MOMA AML AML
comp=E,4470μm,0.6s
CSP1 Cessapalombo 0.60 356 P **Pg 10 51 27.6 -0.5**
CSP1 S **Sg 10 51 36.7 +0.6**
CSP1 AML AML
comp=N,7595μm,0.9s
CSP1 AML AML
comp=E,9380μm,0.5s
MTCE Montecelio 0.61 219 P **Pg 10 51 27.7 -0.5**
SRES S.Oreste - Sor 0.61 245 P **Pg 10 51 28.3 0.0**
SRES AML AML
comp=E,1930μm,0.5s
SRES AML AML
comp=N,1825μm,0.4s
T1220 Camerino, Fraz 0.63 349 P **Pg 10 51 28.2 -0.5**
T1220 S **Sb 10 51 38.0 -0.1**
T1220 AML AML
comp=N,18250μm,0.3s
T1220 AML AML
comp=E,20150μm,1.5s
T1220 AML AML
comp=N,18450μm,0.3s
T1220 AML AML
comp=E,20100μm,1.5s
T1220 AML AML
comp=E,20200μm,1.5s
T1220 AML AML
comp=E,20200μm,0.5s
T1220 AML AML
comp=E,20100μm,0.5s
T1220 AML AML
comp=N,18450μm,0.3s
MNTP Montappone 0.66 14 P **Pg 10 51 29.2 -0.1**
MNTP S **Sb 10 51 40.2 +1.2**
RCAV Rocca di Cave 0.69 200 P **Pg 10 51 29.7 0.0**
SEF1 Sefro 0.69 341 P **Pg 10 51 28.7 -1.2**
SEF1 S **Sb 10 51 40.4 +0.5**
GUAR Guarcino 0.70 177 P **Pb 10 51 30.4 -0.1**
ASSB Assisi San Ben 0.70 321 AML AML
comp=N,2405μm,0.5s
ASSB AML AML
comp=E,2005μm,0.5s
ASSB AML AML
comp=N,2405μm,1.5s
ASSB AML AML
comp=E,2005μm,1.5s
MDAR Monte D'Aria 0.70 353 P **Pg 10 51 29.5 -0.7**
FIU1 Fiuminata 0.73 341 P **Pg 10 51 29.9 -0.8**
SSM1 San Severino M 0.74 355 P **Pg 10 51 30.3 -0.4**
GAG1 Gagliole 0.76 349 P **Pg 10 51 30.7 -0.4**
GAG1 S **Sb 10 51 42.6 +0.9**
CADA Capodarco di F 0.79 28 P **Pb 10 51 32.4 +0.3**
SNTG Esanatoglia 0.80 343 P **Pg 10 51 31.2 -0.7**
SNTG AML AML
comp=N,1620μm,0.2s
SNTG AML AML
comp=E,1265μm,0.7s
SNTG AML AML
comp=E,1340μm,0.7s
SNTG AML AML
comp=N,1620μm,0.2s
SNTG AML AML
comp=N,1650μm,1.4s
RMP Rome, Mte Porz 0.80 211 P **Pg 10 51 31.5 -0.3**
RMP AML AML
comp=E,2245μm,0.9s
RMP AML AML
comp=N,2410μm,0.5s
RMP AML AML
comp=E,2245μm,1.1s
LPEL Lama dei Pelig 0.82 123 P **Pg 10 51 30.9 -1.4**
LPEL AML AML
comp=N,2910μm,1.6s
LPEL AML AML
comp=N,2910μm,0.4s
LPEL AML AML
comp=E,3355μm,0.3s
ATCC AVT- Casa Cast 0.83 327 P **Pg 10 51 31.6 -0.8**
EL6 Elcito 0.84 352 P **Pg 10 51 31.9 -0.8**
EL6 AML AML
comp=E,3865μm,0.3s
EL6 AML AML
comp=N,5485μm,0.4s
POFI Posta Fibreno 0.85 156 P **Pg 10 51 31.7 -1.1**
FOSV Fossato di Vic 0.88 336 P **Pg 10 51 32.8 -0.7**
LRP Arpino 0.88 164 P **Pb 10 51 33.6 +0.1**
PP3 Marolino 0.92 16 P **Pb 10 51 34.0 -0.2**
PP3 AML AML
comp=N,5445μm,0.3s
PP3 AML AML
comp=N,5635μm,0.3s
PP3 AML AML
comp=E,5480μm,0.5s
PP3 AML AML
comp=E,5425μm,0.5s
GIUL Giuliano Di Ro 0.93 180 P **Pb 10 51 34.2 -0.3**
GIUL AML AML
comp=E,1105μm,0.5s
GIUL AML AML
comp=N,1165μm,1.0s
GIUL AML AML
comp=N,1165μm,1.0s
MURB Monte Urbino 0.94 325 P **Pn 10 51 35.7 +0.3**
MGAB Montegabbione 0.94 297 P **Pb 10 51 34.3 -0.4**
MGAB AML AML
comp=N,2555μm,0.4s
MGAB AML AML
comp=E,1780μm,0.5s
MGAB AML AML
comp=N,2170μm,0.4s
MGAB AML AML
comp=E,1885μm,0.5s
SSFR Montelago di S 1.00 340 P **Pb 10 51 34.9 -0.8**
ATFO Monte Foce - G 1.01 330 P **Pb 10 51 34.4 -1.4**
ATFO AML AML
comp=E,1325μm,0.4s
ATFO AML AML
comp=N,1320μm,1.1s
ATFO AML AML
comp=E,1325μm,1.6s
LATB Latina 1.02 192 P **Pb 10 51 35.4 -0.5**
LATB AML AML
comp=E,295μm,1.1s
LATB AML AML
comp=E,295μm,0.9s
LATB AML AML
comp=N,312μm,0.6s
TOLF Tolfa 1.03 246 P **Pb 10 51 35.5 -0.5**
TOLF AML AML
comp=N,1195μm,1.0s
TOLF AML AML
comp=E,1088μm,0.5s
TOLF AML AML
comp=N,1195μm,1.0s
RNI2 Rionero Sannit 1.03 140 P **Pb 10 51 36.0 -0.3**
SACS San Casciano d 1.05 290 P **Pb 10 51 36.5 -0.1**
CERA Filignano 1.06 147 P **Pb 10 51 35.7 -1.0**
ATVA AVT- Monte Val 1.06 318 P **Pb 10 51 35.7 -1.0**
AOI Ancona 1.09 13 P **Pb 10 51 36.8 -0.3**
AOI AML AML
comp=E,2375μm,0.4s
AOI AML AML
comp=N,1585μm,0.3s
ATBU Serra di Buran 1.11 332 P **Pb 10 51 36.9 -0.7**
MIDA Miranda 1.13 139 P **Pb 10 51 36.5 -1.4**
MIDA AML AML
comp=E,968μm,1.2s
MIDA AML AML
comp=N,696μm,1.0s
MIDA AML AML
comp=N,696μm,1.0s
MIDA AML AML
comp=E,968μm,0.8s
PCRO Pietralacroce 1.13 10 P **Pg 10 51 38.2 0.0**
PIEI Pieia 1.17 333 P **Pn 10 51 38.1 -0.5**
MPAG Monte Paganucc 1.19 342 P **Pn 10 51 38.8 -0.2**
SF04 Casetta 1.23 287 P **Pb 10 51 39.8 +0.3**
SF13 Bagnolo 1.25 286 P **Pn 10 51 39.0 -0.7**
BADI Badiali 1.26 324 P **Pn 10 51 39.0 -0.7**
CAFI Castiglion Fio 1.26 312 P **Pg 10 51 41.1 +0.4**
SF01 Poggio Pratacc 1.29 285 P **Pn 10 51 39.8 -0.4**
ARCI Arcidosso 1.36 286 P **Pn 10 51 41.1 -0.2**
MODR Mondragone 1.42 161 P **Pb 10 51 42.4 -0.4**
PESA Pesaro 1.48 348 P **Pb 10 51 43.4 -0.3**
MAON Monte Argentar 1.57 268 P **Pn 10 51 44.3 +0.3**
MELA Melanico ??? S 1.60 119 P **Pb 10 51 45.2 -0.6**
FROS Frosini 1.70 296 P **Pn 10 51 45.9 0.0**
CASP Castiglione de 1.79 280 P **Pn 10 51 47.7 +0.6**
OSSC Osservatorio P 1.80 306 P **Pn 10 51 48.2 +1.0**
TRIF Trifonti 1.84 291 P **Pn 10 51 48.8 +1.0**
APRC Apricena 1.85 113 P **Pn 10 51 48.4 +0.4**
RUFI Rufina 1.86 317 P **Pb 10 51 49.1 -1.1**
LMD Lutirano 1.95 325 P **Pn 10 51 50.1 +0.9**
CRMI Carmignano 2.12 309 P **Pn 10 51 52.5 +0.9**
STON Ston 3.30 82 *e*Pn **Pn 10 52 08.6 +0.9**
STON *e*Sn **Sn 10 52 47.3 +0.5**
TREB Trebinje 3.77 85 *e*Pn **Pn 10 52 17.4 +3.2**
TREB *e*Sn **Sn 10 52 58.2 -0.2**
OBKA Obir 4.12 13 *e*Pn **Pn 10 52 19.3 +0.1**
comp=E,9.2nm,0.5s
PDG Podgorica 4.44 89 *e*Pn **Pn 10 52 25.6 +2.2**
PDG *e*Sn **Sn 10 53 15.9 +1.0**
BBLS Lazići 4.70 71 *e*Pn **Pn 10 52 29.0 +1.9**
FETA Feichten 4.87 339 *e*Pn **Pn 10 52 28.7 -0.8**
comp=E,3.0nm,0.5s
TIR Tirane 5.06 101 *e*Pn **Pn 10 52 34.8 +2.8**
MOTA Moosalm 5.09 343 *e*Pn **Pn 10 52 31.5 -1.0**
comp=E,4.4nm,0.5s
IVAS Ivanjica 5.17 76 *e*Pn **Pn 10 52 34.5 +1.0**
IVAS *e*Sn **Sn 10 53 32.9 -0.2**
BIOA Bad Ischl, Aus 5.21 3 *e*Pn **Pn 10 52 34.2 +0.2**
comp=E,3.7nm,0.2s
DAVA Damuels 5.36 335 *e*Pn **Pn 10 52 35.4 -0.8**
comp=E,1.3nm,0.2s
MOA Molln 5.40 7 *e*Pn **Pn 10 52 38.5 +1.8**
MOA *e*Sn **Sn 10 53 39.7 +0.9**
FRGS Fruska Gora 5.44 58 *e*Pn **Pn 10 52 38.5 +1.3**
TRUS Trudelj 5.49 69 *e*Pn **Pn 10 52 38.5 +0.6**
GRUS Gruza 5.63 73 *e*Pn **Pn 10 52 41.0 +1.2**
RONA Rosalia, Austr 5.63 21 *i* Pn **Pn 10 52 39.3 -0.6**
comp=E,1.4nm,0.2s
CONA Conrad Observa 5.74 18 *e*Pn **Pn 10 52 40.8 -0.5**
comp=E,1.5nm,0.2s
OHR Ohrid 5.80 101 *e*Pn **Pn 10 52 45.1 +2.9**
OHR *e*Sn **Sn 10 53 48.1 -0.6**
SELS Selova 5.83 80 *e*Pn **Pn 10 52 43.7 +1.2**
SELS *e*Sn **Sn 10 53 49.3 +0.1**
BOVS Bovan 6.29 77 *e*Pn **Pn 10 52 51.9 +3.0**
FNA Florina 6.32 103 *e*Pn **Pn 10 52 52.1 +2.8**
FNA *e*Sn **Sn 10 53 59.2 -2.2**
BARS Barje 6.32 84 *e*Pn **Pn 10 52 50.8 +1.5**
BARS *e*Sn **Sn 10 54 00.8 -0.5**
CKRC Cesky Krumlov 6.37 6 *e*SN **Sn 10 54 01.8 -0.8**
PRVS Prvonek 6.52 87 *e*Pn **Pn 10 52 54.0 +1.9**
PRVS *e*Sn **Sn 10 54 05.8 -0.5**
KHC Kasperske Hory 6.64 2 *e*SN **Sn 10 54 08.5 -0.8**
ZAGS Zajecar 6.70 76 *e*Pn **Pn 10 52 54.6 +0.2**
ZAPS Zavoj 6.93 80 *e*Sn **Sn 10 54 14.6 -1.9**
VTS Vitosha 7.37 86 *e*Pn **Pn 10 53 05.4 +1.6**
VTS Vitosha 7.37 86 *e*Pn **Pn 10 53 06.0 +2.2**
VTS *e*Sn **Sn 10 54 25.7 -1.7**
VTS *e*Sn **Sn 10 54 25.9 -1.5**
DRGR 7.99 54 *e*Pn **Pn 10 53 14.8 +2.5**

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*NEIC **18** 10:51:43.9±1.4, 6°.86S±0°.07×105°.47E±0°.07, h65km±6km, mb4.9/56, Error ellipse: s-maj=12.1km s-min=8.2km az=216.0*
*DJA **18** 10:51:43.5±0.2, 7°S±3°×10°5E±°, h67km±3km, M5.1/42, mB5.6/14, mb4.9/42, MLv5.1/28, Mw(mB)5.1/14*
*BJI **18** 10:51:44.0±0.0, 6°.90S×105°.40E, h70km, mb4.7/30, mB5.5/9*
*IDC **18** 10:51:47.7±1.2, 6°.72S×105°.65E, h97km±9km, mb4.3/27, mbtmp4.6/29, MS4.3/3, Error ellipse: s-maj=13.7km s-min=6.9km az=37.0*
ISC 18 10:51:42.6±0.3**, 6°.92S**±0°.05×**105°.43E**±0°.04**, h56km, n219, σ1s.43**/226**, mb4.8**/55**, MS4.1**/3**, 1C, Sunda Strait**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
SBJI Serang 1.06 41 P **Pn 10 52 01.6 +0.3**
SKJI Sukabumi 1.13 94 P **Pn 10 52 01.1 -1.1**
TNG Tangerang 1.42 58 P **Pn 10 52 06.3 +0.1**
CBJI Citeko 1.50 71 P **Pn 10 52 07.7 +0.5**
BLSI Bandar Lampung 1.56 353 P **Pn 10 52 09.3 +1.3**
KASI Kota Agung 1.67 326 P **Pn 10 52 10.8 +1.3**
CNJI Cibinong 1.73 103 P **Pn 10 52 09.3 -1.1**
KLI Kotabumi 2.12 345 P **Pn 10 52 18.0 +2.3**
LEM Lembang 2.18 88 P **Pn 10 52 18.4 +1.8**
1μm,0.4s,baz=263,slow=19,SNR=81
LEM S **Sn 10 52 44.9 +2.3**
3μm,0.6s,baz=253,slow=20,SNR=6.0
LEM Lembang 2.18 88 P **Pn 10 52 18.0 +1.4**
BBJI Bungbulang 2.27 104 P **Pn 10 52 17.7 -0.1**
LWLI Liwa 2.33 324 P **Pn 10 52 21.2 +2.5**
MDSI Maura Dua 2.72 333 P **Pn 10 52 26.4 +2.5**
JCJI Jatiwangi 2.86 82 P **Pn 10 52 26.6 +0.8**
CMJI Cimerak 3.12 106 P **Pn 10 52 29.0 -0.4**
KPJI Karang Pucung 3.50 97 P **Pn 10 52 35.8 +1.2**
XMI Christmas Isla 3.52 176 P **Pn 10 52 30.6 -4.2**
MNAI Manna 3.54 316 **Pn 10 52 37.2 +2.0**
MNAI Sn **Sn 10 53 17.4 +1.7**
MNAI Manna 3.54 316 P **Pn 10 52 37.5 +2.4**
MNAI Manna 3.54 316 P **Pn 10 52 37.0 +1.9**
PMBI Palembang 4.02 351 Pn **Pn 10 52 42.5 +0.8**
KSI Kapahiang 4.30 319 P **Pn 10 52 45.1 -0.6**
PPBI Pangkal Pinang 4.78 9 P **Pn 10 52 54.4 +2.2**
YOGI Yogyakarta 4.91 101 P **Pn 10 52 54.7 +0.7**
MASI Maura Aman, Be 4.92 320 P **Pn 10 52 56.1 +2.0**
SMRI Semarang 4.98 92 Pn **Pn 10 52 56.9 +2.0**
SMRI Semarang 4.98 92 P **Pn 10 52 59.3 +4.4**
SMRI Semarang 4.98 92 P **Pn 10 52 56.3 +1.4**
UGM Wanagama 5.15 101 **Pn 10 52 57.3 0.0**
UGM Wanagama 5.15 101 P **Pn 10 52 58.3 +1.0**
UGM Wanagama 5.15 101 P **Pn 10 52 57.6 +0.3**
326nm,0.9s,2.8nm
UWJI Ujung Watu 5.51 85 P **Pn 10 53 01.7 -0.4**
169nm,1.0s,12μm1.3nm
JMBI JAMBI 5.55 341 P **Pn 10 53 02.7 0.0**
NGJI Ngawi 6.01 95 P **Pn 10 53 10.5 +1.5**
187nm,0.9s,1.0nm
PWJI Pagerwojo 6.42 100 P **Pn 10 53 15.6 +1.0**
257nm,0.7s,4μm2.0nm
DSRI Dabo 6.46 352 P **Pn 10 53 18.0 +2.9**
62nm,0.5s,0.4nm
PPSI Pulau Pagai 6.80 307 P **Pn 10 53 20.0 +0.2**
248nm,0.6s,4μm3.6nm
GRJI Gresik 7.00 90 P **Pn 10 53 25.5 +2.9**
135nm,1.0s,0.4nm
SDSI Sungai Dareh 7.16 326 P **Pn 10 53 25.4 +0.6**
16nm,0.4s,0.2nm
PDSI Padang 7.76 320 P **Pn 10 53 31.6 -1.4**
GMJI Gumukmas 8.06 100 P **Pn 10 53 37.8 +0.7**
67nm,1.0s
BLJI Banyuglugur 8.14 96 P **Pn 10 53 38.9 +0.6**
BTDF Bukit Timah Da 8.39 349 P Pn 10 53 47.2 +5.5
ABJI Asem Bagus 8.78 96 P **Pn 10 53 50.1 +3.1**
1μm,0.7s,10μm
JAGI Jajag, Banyuwa 8.78 101 Pn **Pn 10 53 49.0 +1.9**
JAGI Jajag, Banyuwa 8.78 101 P **Pn 10 53 49.6 +2.5**
JAGI Jajag, Banyuwa 8.78 101 P **Pn 10 53 48.5 +1.4**
124nm,0.7s,5μm
MYKOM Kota Tinggi 8.80 350 **Pn 10 53 47.4 +0.2**
SRBI Singaraja 9.77 97 P **Pn 10 54 00.7 +0.1**
159nm,0.6s,3μm
IGBI Denpasar 9.81 102 P **Pn 10 54 01.4 +0.3**
127nm,0.7s,3μm
PBSI Pulau Batu 9.87 313 P **Pn 10 54 00.2 -1.7**
97nm,0.6s
COCO West Island 9.96 238 Pn **Pn 10 54 03.8 +0.7**
GSI Gunungsitoli 11.32 316 Pn **Pn 10 54 18.9 -2.8**
GSI Gunungsitoli 11.32 316 P **Pn 10 54 19.4 -2.4**
SBUM Sibu 11.52 36 Pn **Pn 10 54 24.1 -0.4**
PLAI Plampang 12.38 100 P **Pn 10 54 35.1 -1.1**
KULM Kulim 13.03 338 Pn **Pn 10 54 44.0 -1.2**
KAPI Kappang 14.37 83 P **Pn 10 55 02.4 -0.9**
5.0nm,0.6s,baz=64,slow=8.2,SNR=1.4
MPSI Mapaga 16.14 64 P **P 10 55 27.6 -0.7**
12nm,0.6s,4μm
MMRI Maumere 16.75 97 Pn **Pn 10 55 33.4 -0.2**
KKM Kota Kinabalu 16.79 40 P **Pn 10 55 33.9 -0.3**
TOLI2 Tolitoli 17.28 63 **Pn 10 55 39.4 -0.8**
TOLI2 Tolitoli 17.28 63 P **P 10 55 41.9 +0.9**
MYLDM Lahad Datu 17.74 48 P **Pn 10 55 45.4 -0.5**
GIRL Giralia 17.79 152 P **Pn 10 55 44.3 -2.0**
GIRL Giralia 17.79 152 P **Pn 10 55 44.4 -2.0**
MRSI Marisa 18.04 67 P **Pn 10 55 51.6 +2.0**
28nm,0.6s
BATI Baumata 18.33 102 P **P 10 55 51.7 -0.9**
80nm,0.6s,baz=290,slow=6.6,SNR=7.6
BATI S **Sn 10 59 17.1 -0.1**
68nm,0.5s,baz=288,slow=20,SNR=5.0
BATI Baumata 18.33 102 P **P 10 55 52.3 -0.3**
125nm,0.9s,2μm
SOEI Soe 18.85 100 P **P 10 55 57.6 -0.9**
SOEI IAmb IAmb 10 56 12.2
comp=Z,55nm,0.6s
SOEI Soe 18.85 100 P **Pn 10 56 01.0 +1.5**
GTOI Gorontalo 19.09 68 P **P 10 55 59.8 -1.0**
comp=Z,8.8nm,0.8s
MBWA Marble Bar 19.80 137 P **P 10 56 09.3 +0.8**
MBWA Marble Bar 19.80 137 P **P 10 56 09.6 +1.1**
PSA00 Pilbara Seismi 20.16 138 P **P 10 56 12.4 -0.1**
PSA00 IAmb IAmb 10 56 16.0
comp=Z,125nm,1.6s
PSA00 Pilbara Seismi 20.16 138 P **P 10 56 12.9 +0.4**
FITZ Fitzroy Crossi 22.62 121 P **P 10 56 39.0 0.0**
TNTI Ternate 23.19 72 P **P 10 56 41.8 -3.1**
TNTI IAmb IAmb 10 56 48.4
comp=Z,27nm,0.9s
MEEK Meekatharra 23.28 149 P **P 10 56 46.4 +0.8**
MORW Morawa 24.20 157 P **P 10 56 56.3 +2.2**
KNRA Kununurra 24.46 113 P **P 10 56 56.0 -0.6**
KNRA IAmb IAmb 10 56 57.6
comp=Z,61nm,1.1s
KNRA Kununurra 24.46 113 P **P 10 56 56.4 -0.1**
PHRA Phrae 25.77 349 P **P 10 57 08.5 +0.1**
MTN Manton Dam 25.99 105 P **P 10 57 09.7 -0.7**
MTN IAmb IAmb 10 57 28.5
comp=Z,23nm,0.9s
CMAR Chiang Mai Arr 26.02 346 P **P 10 57 10.3 -0.3**
comp=Z,1.3nm,0.4s,baz=181,slow=9.1,SNR=8.6
comp=Z,1.3nm,0.4s
CMAR Chiang Mai Arr 26.02 346 P **P 10 57 08.7 -2.0**
SIJI Sorong 26.46 78 P **P 10 57 14.5 -0.3**
comp=Z,11nm,0.7s,baz=264,slow=8.9,SNR=4.1
comp=Z,11nm,0.7s
FAKI Fak Fak 27.01 83 P **P 10 57 22.4 +2.7**
FAKI Fak Fak 27.01 83 P **P 10 57 20.4 +0.7**
comp=Z,18nm,1.1s,comp=Z,793nm
KDU Kakadu 27.25 104 P **P 10 57 24.3 +2.5**
NWAO Narrogin (SRO) 28.11 159 P **P 10 57 32.1 +2.8**
comp=Z,10.0nm,1.0s
NWAO LR LR 11 08 01.1
comp=Z,514nm,21.5s,slow=34
comp=Z,10.0nm,1.0s
WRKA Warakurna 28.34 132 P **P 10 57 32.2 +0.7**
KMBL Kambalda 28.78 150 P **P 10 57 35.6 +0.3**
H01W3 Cape Leeuwin H 28.96 165 T T 11 27 55.3
baz=344,slow=76,SNR=459
H01W1 Cape Leeuwin H 28.98 165 T T 11 27 56.1
baz=344,slow=76,SNR=473
H01W2 Cape Leeuwin H 28.98 165 T T 11 27 56.3
baz=344,slow=76,SNR=451
WB0 Warramunga Arr 30.87 117 P **P 10 57 54.0 0.0**
WB0 IAmb IAmb 10 57 54.8
comp=Z,15nm,0.8s
WRA Warramunga Arr 30.89 118 P **P 10 57 53.9 -0.3**
comp=Z,14nm,1.0s,baz=290,slow=11,SNR=68
WRA PcP **PcP 11 00 50.7 +0.7**
comp=Z,0.4nm,0.3s,baz=307,slow=1.9,SNR=1.9
WRA S **S 11 02 50.7 -3.8**
comp=Z,1.5nm,0.9s,baz=293,slow=17,SNR=5.0
comp=Z,14nm,1.0s
WRA Warramunga Arr 30.89 118 P **P 10 57 54.0 -0.1**

WRAB Tennant Creek 30.89 118 P P 10 57 54.2 0.0
WRAB IAmb IAmb 10 57 55.1
comp=Z,16nm,0.7s
WRAB Tennant Creek 30.89 118 P P 10 57 55.8 +1.6
WRAB Tennant Creek 30.89 118 P P 10 57 54.1 0.0
WB2 Warramunga Arr 30.90 118 P P 10 57 54.0 -0.2
WB2 IAmb IAmb 10 57 55.1
comp=Z,15nm,0.7s
WB1 Warramunga Ar. 30.90 118 P P 10 57 54.4 +0.2
WR0 Warramunga Arr 31.07 118 P P 10 57 55.9 +0.2
WR0 IAmb IAmb 10 57 56.8
comp=Z,18nm,0.8s
FORT Forrest 31.83 141 P P 10 58 02.5 +0.2
FORT IAmb IAmb 10 58 55.7
comp=Z,48nm,1.3s
FORT Forrest 31.83 141 P P 10 58 02.4 +0.2
AS31 Alice Springs 32.01 124 P P 10 58 03.6 -0.4
ASAR Alice Springs 32.01 124 P P 10 58 04.0 0.0
comp=Z,3.6nm,0.5s,baz=303,slow=8.2,SNR=91
ASAR PcP **PcP 11 00 52.6 -0.3**
comp=Z,0.5nm,0.6s,baz=297,slow=2.8,SNR=3.0
ASAR S **S 11 03 08.6 -3.4**
comp=Z,3.4nm,1.0s,baz=298,slow=16,SNR=10
comp=Z,3.6nm,0.5s
ASAR Alice Springs 32.01 124 P P 10 58 03.9 -0.1
AS01 Alice Springs 32.05 124 P P 10 58 04.4 0.0
H08S2 Diego Garcia H 32.67 267 T T 11 32 32.8
baz=91,slow=76,SNR=195
H08S3 Diego Garcia H 32.68 267 T T 11 32 30.2
baz=91,slow=76,SNR=221
H08S1 Diego Garcia H 32.69 267 T T 11 32 35.3
baz=91,slow=76,SNR=219
PZH PanZhiHua 33.42 354 P P 10 58 19.8 +3.5
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s
SHL Shillong 34.88 338 P P 10 58 28.8 -0.2
SHL IAmb IAmb 10 58 29.6
comp=Z,9.2nm,0.4s
OOD Oodnadatta 35.39 130 P P 10 58 33.6 +0.3
MULG Mulgathing 35.53 134 P P 10 58 35.0 +0.6
QIS Mount Isa 35.76 116 P P 10 58 37.4 +0.8
ENH Enshi 37.19 6 P P 10 58 47.7 -0.8
ENH pP **pP 10 59 02.7 -0.1**
COEN Coen 37.74 104 P P 10 58 53.5 +0.1
COEN IAmb IAmb 10 59 07.6
comp=Z,7.8nm,0.8s
COEN Coen 37.74 104 P P 10 58 56.6 +3.2
BBOO Buckleboo 38.38 136 P P 10 58 58.3 -0.3
BBOO IAmb IAmb 10 59 30.3
comp=Z,46nm,1.6s
BBOO Buckleboo 38.38 136 P P 10 58 58.6 0.0
LCRK Leigh Creek 38.64 131 P P 10 59 01.7 +0.9
LSA Lhasa 38.91 340 P P 10 59 02.9 -0.7
LSA IAmb IAmb 10 59 07.4
comp=Z,8.1nm,0.4s
INKA Innaminka 39.34 126 P P 10 59 08.0 +1.3
MTSU Mount Surprise 39.48 110 P P 10 59 09.3 +1.3
HTT Hallett 40.71 135 P P 10 59 18.5 +0.4
NJ2 Nanjing 40.82 18 eP P 10 59 21.1 +2.3
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
XAN Xi'an 40.87 4 P P 10 59 17.9 -1.4
XAN pmax pmax
comp=Z,5.0nm,0.9s
PMG Port Moresby 41.37 96 P P 10 59 22.5 -1.2
comp=Z,9.5nm,0.4s,baz=278,slow=5.6,SNR=3.9
PMG S **S 11 05 30.0 -4.7**
comp=Z,6.2nm,0.4s,baz=273,slow=13,SNR=2.3
comp=Z,9.5nm,0.4s
PMG Port Moresby 41.37 96 P P 10 59 22.2 -1.4
PMG pP **pP 10 59 37.3 -0.8**
CTA Charters Tower 41.67 112 P P 10 59 25.9 -0.2
comp=Z,3.1nm,0.8s,baz=294,slow=8.8,SNR=3.2
comp=Z,3.1nm,0.8s
CTAO Charters Tower 41.67 112 P P 10 59 26.6 +0.5
CTAO sP **sP 10 59 48.0 +1.3**
STKA Stephens Creek 41.86 131 P P 10 59 28.3 +0.9
comp=Z,10nm,0.3s,baz=310,slow=8.0,SNR=41
comp=Z,10nm,0.3s
STKA Stephens Creek 41.86 131 P P 10 59 28.4 +0.9
STKA Stephens Creek 41.86 131 P P 10 59 28.4 +0.9
ARPS Mount Arapiles 44.53 137 P P 10 59 50.2 +1.3
CMSA Cobar Meteorol 44.83 128 P P 10 59 55.6 +4.2
BJT Baijiatuau 47.75 11 P P 11 00 14.1 0.0
HHC Hu-ho-hao-te 47.87 6 eP P 11 00 17.1 +1.9
HHC pmax pmax
comp=Z,43nm,0.9s
JMN Monobe 48.60 32 P P 11 00 19.9 -0.9
KSRS Korea Array 48.89 24 P P 11 00 21.9 -1.0
comp=Z,1.9nm,0.6s,baz=213,slow=6.7,SNR=11
KSRS PcP **PcP 11 01 46.2 -0.5**
comp=Z,1.0nm,0.7s,baz=183,slow=2.5,SNR=4.7
comp=Z,1.9nm,0.6s
JHS Saijyo 49.20 30 P P 11 00 24.5 -0.9
NIL Nilore 50.58 325 P P 11 00 35.3 -0.7
NIL IAmb IAmb 11 00 36.6
comp=Z,32nm,1.5s
NIL Nilore 50.58 325 P P 11 00 36.5 +0.6
XLT XiLinHaoTe 51.50 10⇑iP P 11 00 42.6 -0.1
XLT pmax pmax
comp=Z,9.0nm,0.5s
WMQ Urumqi 53.00 344 eP P 11 00 55.9 +2.1
MJAR Matsushiro Arr 53.04 33 P P 11 00 51.6 -2.6
comp=Z,1.9nm,0.4s,baz=208,slow=7.6,SNR=11
comp=Z,1.9nm,0.4s
WUS Wushi 53.59 336 P P 11 00 57.5 -0.8
KSH Kashi 53.64 332 P P 11 00 57.3 -1.4
KSH pP sP 11 01 20.1 0.0
KSH pmax pmax
comp=Z,6.0nm,0.5s
CN2 Changchun 53.64 18 eP P 11 00 56.5 -1.9
CN2 pmax pmax
comp=Z,20nm,0.8s
KBL Kabul 53.68 323 P P 11 00 58.9 -0.3
SONM Songino Array 54.53 1 P P 11 01 04.5 -0.5
comp=Z,2.1nm,0.4s,baz=180,slow=10.0,SNR=34
SONM PcP **PcP 11 02 07.4 -0.2**
comp=Z,2.4nm,0.4s,baz=184,slow=4.6,SNR=16
SONM ScP **ScP 11 05 57.4 -4.0**
comp=Z,0.2nm,0.4s,baz=187,slow=5.3,SNR=4.7
comp=Z,2.1nm,0.4s
SONM Songino Array 54.53 1 P P 11 01 04.5 -0.5
SONM PcP **PcP 11 02 07.5 -0.2**
ULN Ulaanbaatar 54.57 1 P P 11 01 04.7 -0.6
ULN Ulaanbaatar 54.57 1 P P 11 01 04.7 -0.6
JMM Marumori 55.42 34 P P 11 01 09.7 -1.7
GAR Garm 56.09 327 P P 11 01 15.5 -0.9
USA0B Ussuriysk Arra 56.25 23 P P 11 01 16.5 -0.8
USA0B IAmb IAmb 11 01 22.3
comp=Z,42nm,1.9s
USRK Ussuriysk Ar. 56.25 23 P P 11 01 16.2 -1.1
comp=Z,4.1nm,0.5s,baz=200,slow=4.8,SNR=23
comp=Z,4.1nm,0.5s
USRK Ussuriysk Ar. 56.25 23 P P 11 01 16.5 -0.8
CHGR Chuyangaron 56.48 326 P P 11 01 18.2 -0.9
AAK Ala-Archa 56.80 333 P P 11 01 22.1 +0.7
AAK Ala-Archa 56.80 333 P P 11 01 22.2 +0.8
MK31 Makanchi Array 57.30 341 P P 11 01 23.7 -1.0
MKAR Makanchi Array 57.30 341 P P 11 01 23.6 -1.1
comp=Z,3.5nm,0.4s,baz=153,slow=8.1,SNR=74
comp=Z,3.5nm,0.4s
MKAR Makanchi Array 57.30 341 P P 11 01 24.0 -0.7
MAKZ Makanchi 57.41 341 P P 11 01 25.2 -0.3
MAKZ IAmb IAmb 11 03 13.6
comp=Z,11nm,1.9s
MAKZ Makanchi 57.41 341 P P 11 01 25.2 -0.3
KK31 Karatay Array 59.02 331 P P 11 01 36.0 -0.8
KKAR Karatay Array 59.02 331 P P 11 01 36.3 -0.5
KKAR Karatay Array 59.02 331 P P 11 01 35.9 -0.9
CASY Casey 59.37 178 P P 11 01 38.3 -0.5
HEH HeiHe 60.06 16 eP P 11 01 42.5 -1.2
DZM Mont Dzumac 60.60 111 P P 11 01 47.8 -0.3
comp=Z,6.6nm,1.0s,baz=332,slow=5.7,SNR=3.1
comp=Z,6.6nm,1.0s
KURK Kurchatov 61.91 341 P P 11 01 55.6 -0.7
KURK IAmb IAmb 11 01 57.8
comp=Z,11nm,1.2s
KURK Kurchatov 61.91 341 P P 11 01 56.1 -0.2
GEYT Alibeck 62.67 319 P P 11 02 02.3 +0.5
comp=Z,5.9nm,0.5s,baz=183,slow=3.0,SNR=8.9
comp=Z,5.9nm,0.5s
GEYT Alibeck 62.67 319 IAmb IAmb 11 02 03.7
comp=Z,7.8nm,0.6s

ZAA0 Zalesovo Array 63.08 347 P P 11 02 02.8 -1.3
ZAA0 IAmb IAmb 11 02 05.0
comp=Z,15nm,1.3s
ZALV Zalesovo Beam 63.08 347 P P 11 02 02.4 -1.6
comp=Z,6.6nm,0.4s,baz=158,slow=5.7,SNR=32
comp=Z,6.6nm,0.4s
ZALV Zalesovo Beam 63.08 347 P P 11 02 02.6 -1.4
DRV Dumont d'Urvil 64.19 165 P P 11 02 11.7 +0.5
RAYN Ar Rayn 65.85 299 P P 11 02 22.0 -0.8
RAYN IAmb IAmb 11 02 25.6
comp=Z,32nm,1.9s
RAYN Ar Rayn 65.85 299 P P 11 02 24.0 +1.2
BRVK Borovoye 66.76 338 P P 11 02 28.1 +0.1
BRVK IAmb IAmb 11 02 28.9
comp=Z,5.7nm,0.6s
BRVK Borovoye 66.76 338 P P 11 02 27.9 -0.1
MAW Mawson 66.99 196 P P 11 02 30.8 +1.6
comp=Z,32nm,1.1s,baz=41,slow=9.3,SNR=2.3
comp=Z,32nm,1.1s
MAW Mawson 66.99 196 P P 11 02 29.2 -0.1
MAW IAmb IAmb 11 04 06.0
comp=Z,37nm,1.4s
MRNZ Matariki Terra 68.49 132 P P 11 02 40.1 +0.9
ABKAR Akbulak array 68.55 330 P P 11 02 39.4 0.0
CCD Concordia, Ant 68.90 175 P P 11 02 43.7 +2.0
CCD pP **sP 11 03 00.2 -2.8**
ARU Arti 73.89 335 P P 11 03 11.7 +0.2
PEA0B Petropavlovsk- 74.29 30 P P 11 03 13.4 -0.5
PETK Petropavlovsk- 74.29 30 P P 11 03 12.8 -1.1
comp=Z,5.4nm,0.9s,baz=182,slow=3.1,SNR=7.0
comp=Z,5.4nm,0.9s
PET Petropavlovsk 74.72 30 P P 11 03 15.2 -1.1
MA2 Magadan 75.40 22 P P 11 03 19.9 -0.2
KBZ Khabaz 75.55 318 P P 11 03 22.4 +1.1
comp=Z,2.4nm,0.7s,baz=181,slow=3.9,SNR=6.2
comp=Z,2.4nm,0.7s
VNDA Vanda 76.33 169 P P 11 03 26.6 +1.4
comp=Z,1.4nm,0.6s,baz=325,slow=6.4,SNR=8.6
comp=Z,1.4nm,0.6s
VNDA Vanda 76.33 169 P P 11 03 26.6 +1.4
VNDA IAmb IAmb 11 04 53.0
comp=Z,18nm,1.8s
EIL Elat 76.71 303 LR LR 11 37 28.9
comp=Z,99nm,20.2s,baz=54,slow=36
NRIK Noril'sk 77.09 354 P P 11 03 28.9 -0.6
comp=Z,5.4nm,0.3s,baz=86,slow=3.0,SNR=9.0
NRIK LR LR 11 40 50.5
comp=Z,300nm,18.5s,baz=80,slow=38
comp=Z,5.4nm,0.3s
NRIK Noril'sk 77.09 354 P P 11 03 29.0 -0.6
NRIK IAmb IAmb 11 03 30.1
comp=Z,26nm,1.4s
BOSA Boshof 78.11 242 P P 11 03 38.6 +2.2
comp=Z,2.3nm,1.0s,baz=72,slow=6.4,SNR=1.5
comp=Z,2.3nm,1.0s
TIXI Tiksi 79.92 7 P P 11 03 44.1 -1.0
TIXI IAmb IAmb 11 03 45.0
comp=Z,6.9nm,0.6s
BR131 Keskin Array S 80.61 312 P P 11 03 49.9 +0.1
BR131 IAmb IAmb 11 03 51.3
comp=Z,17nm,1.5s
BRTR Keskin Array B 80.61 312 P P 11 03 49.5 -0.2
comp=Z,1.9nm,0.6s,baz=135,slow=6.1,SNR=9.3
comp=Z,1.9nm,0.6s
BRTR Keskin Array B 80.61 312 P P 11 03 49.9 +0.1
KLMR Klimovskoe 84.61 333 eP P 11 04 09.6 -0.2
KLMR AMP 11 04 13.2
comp=Z,29nm,1.2s
AKASG Malin Array Be 86.67 322 P P 11 04 19.9 -0.4
comp=Z,0.3nm,0.2s,baz=83,slow=4.2,SNR=7.6
comp=Z,0.3nm,0.2s
MLR Muntele Rosu 87.57 316 P P 11 04 25.8 +0.9
comp=Z,5.8nm,0.5s,baz=68,slow=5.4,SNR=4.3
comp=Z,5.8nm,0.5s
BUR08 Bucovina Ar. S 88.52 318 P P 11 04 31.5 +2.1
FINES FINESS Array B 90.96 332 P P 11 04 41.0 +0.7
comp=Z,3.4nm,0.5s,baz=110,slow=5.5,SNR=26
comp=Z,3.4nm,0.5s
ARCES ARCESS Array B 92.92 340 P P 11 04 49.1 -0.1
comp=Z,1.6nm,0.5s,baz=90,slow=7.3,SNR=12
comp=Z,1.6nm,0.5s
YKA Yellowknife Ar 117.32 20 PKP PKPdf 11 10 20.2 -1.3
comp=Z,0.1nm,0.4s,baz=299,slow=3.1,SNR=2.3
PDAR Pinedale Array 132.84 35 PKP PKPdf 11 10 51.6 -0.5
comp=Z,0.2nm,0.6s,baz=45,slow=4.0,SNR=2.2
TXAR Lajitas Array 144.68 47 PKP PKPdf 11 11 13.7 -0.3
comp=Z,1.0nm,0.3s,baz=326,slow=0.6,SNR=64

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*ROM **18** 11:00:53.8±0.0, 42°.507N±0°.002×13°.342E±0°.004, h9km, ML3.5/53, Error ellipse: s-maj=0.3km s-min=0.1km az=58.0*
*BEO **18** 11:00:56.1±0.7, 42°.56N×13°.26E, h13km±1km, ML3.7/14*
*PRU **18** 11:00:57.5±0.0, 42°.58N×13°.58E, h10km*
ISC 18 11:00:54.1±0.8, **42°.49N**±0°.02×**13°.28E**±0°.02, **h13**km±4km, **n154**, σ1.5**29**/191, **7C-1D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.05**	**160**	⇑P	**Pg**	**11 00 56.9**	**+0.1**
T1247				S	**Sg**	**11 00 58.7**	**+0.2**
T1247				AML	AML		
T1247				AML	AML		
T1247				AML	AML		
T1247				AML	AML		
CAMP	**Campotosto**	**0.11**	**64**	⇑P	**Pg**	**11 00 56.3**	**-1.1**
CAMP				S	**Sg**	**11 00 57.5**	**-2.1**
CAMP				AML	AML		
CAMP				AML	AML		
SMA1	**SAN MARTINO**	**0.15**	**17**	⇑P	**Pg**	**11 00 57.2**	**-0.7**
SMA1				S	**Sg**	**11 00 59.6**	**-1.0**
SMA1				AML	AML		
	comp=N,59100μm,1.2s						
SMA1				AML	AML		
	comp=N,59100μm,0.8s						
SMA1				AML	AML		
	comp=E,67050μm,0.9s						
LNSS	**Leonessa**	**0.21**	**304**	P	**Pg**	**11 00 59.3**	**+0.5**
LNSS				S	**Sg**	**11 01 03.7**	**+1.6**
LNSS				AML	AML		
	comp=E,27600μm,0.5s						
LNSS				AML	AML		
	comp=N,27150μm,1.4s						
T1218	**Civita (PG)**	**0.22**	**327**	P	**Pg**	**11 00 59.1**	**+0.1**
T1218				S	**Sg**	**11 01 02.9**	**+0.7**
T1218				AML	AML		
	comp=N,40600μm,0.3s						
T1218				AML	AML		
	comp=E,13850μm,1.6s						
T1218				AML	AML		
	comp=N,39900μm,0.3s						
T1218				AML	AML		
	comp=E,14950μm,1.6s						
T1218				AML	AML		
	comp=E,13900μm,1.6s						
T1218				AML	AML		
	comp=N,39900μm,0.3s						
T1218				AML	AML		
	comp=E,13900μm,0.4s						
T1218				AML	AML		
	comp=N,40600μm,0.3s						
T1218				AML	AML		
	comp=E,14950μm,0.4s						
T1202	**Accumoli, Fraz**	**0.22**	**350**	P	**Pg**	**11 00 59.0**	**0.0**
T1202				S	**Sg**	**11 01 02.8**	**+0.5**
GIGS	**Gran Sasso**	**0.22**	**100**	⇑P	**Pg**	**11 00 58.0**	**-1.0**
GIGS				S	**Sg**	**11 01 00.8**	**-1.5**
GIGS				AML	AML		
	comp=N,10035μm,0.2s						
GIGS				AML	AML		
	comp=E,13955μm,0.6s						
GIGS				AML	AML		
	comp=E,13955μm,1.4s						
FIAM	**Fiamignano**	**0.25**	**208**	⇑P	**Pg**	**11 01 00.3**	**+0.9**
FIAM				S	**Sg**	**11 01 05.3**	**+2.2**
FIAM				AML	AML		
	comp=N,13800μm,0.8s						
FIAM				AML	AML		
	comp=E,10470μm,0.5s						
FIAM				AML	AML		
	comp=N,13800μm,1.2s						
FAGN	**Fagnano**	**0.32**	**134**	P	**Pg**	**11 01 00.4**	**-0.2**
FAGN				S	**Sg**	**11 01 05.3**	**+0.3**
FAGN				AML	AML		
	comp=N,20750μm,0.3s						
FAGN				AML	AML		
	comp=E,39250μm,0.4s						
T1217	**Poggiodomo (PG**	**0.34**	**312**	P	**Pb**	**11 01 01.4**	**-0.7**
T1217				S	**Sb**	**11 01 07.2**	**-0.1**
T1217				AML	AML		
	comp=E,4945μm,0.4s						
T1217				AML	AML		
	comp=N,8415μm,0.4s						
T1217				AML	AML		
	comp=E,4945μm,0.4s						
T1217				AML	AML		
	comp=N,8415μm,0.4s						
T1217				AML	AML		
	comp=E,5075μm,0.4s						
T1217				AML	AML		
	comp=N,8550μm,0.3s						
T1217				AML	AML		
	comp=N,8555μm,0.3s						
T1217				AML	AML		
	comp=E,5075μm,0.4s						
ARRO	**Arrone**	**0.39**	**284**	P	**Pb**	**11 01 02.5**	**-0.3**
ARRO				AML	AML		
	comp=E,6055μm,0.2s						
ARRO				AML	AML		
	comp=N,8800μm,0.2s						
ARRO				AML	AML		
	comp=N,8800μm,1.8s						
T0110	**Collepietro**	**0.46**	**125**	P	**Pg**	**11 01 02.5**	**-0.6**
T0110				S	**Sg**	**11 01 09.8**	**+0.5**
T0110				AML	AML		
	comp=E,16500μm,0.3s						
T0110				AML	AML		
	comp=N,20550μm,0.3s						
T0110				AML	AML		
	comp=N,20550μm,1.7s						
PTQR	**Pietraquaria**	**0.47**	**169**	P	**Pb**	**11 01 03.4**	**-0.9**
PTQR				S	**Sb**	**11 01 11.1**	**-0.1**
PTQR				AML	AML		
	comp=N,1960μm,1.4s						
PTQR				AML	AML		
	comp=N,1960μm,0.6s						
PTQR				AML	AML		
	comp=E,2750μm,0.3s						
FEMA	**Monte Fema**	**0.50**	**341**	P	**Pg**	**11 01 04.0**	**-0.1**
FEMA				S	**Sb**	**11 01 12.0**	**-0.2**
FEMA				AML	AML		
	comp=E,14300μm,0.3s						
FEMA				AML	AML		
	comp=N,12150μm,1.1s						
FEMA				AML	AML		
	comp=E,14300μm,0.3s						
FEMA				AML	AML		
	comp=N,12150μm,0.9s						
CESX	**Cesi**	**0.53**	**284**	P	**Pb**	**11 01 04.8**	**-0.4**
CESX				S	**Sb**	**11 01 13.4**	**+0.7**
CESX				AML	AML		
	comp=N,4010μm,0.3s						
CESX				AML	AML		
	comp=E,4095μm,0.6s						
TRTR	**Tortoreto Alta**	**0.57**	**56**	P	**Pg**	**11 01 05.0**	**-0.3**
TRTR				AML	AML		
	comp=E,19050μm,0.4s						
TRTR				AML	AML		
	comp=N,19600μm,0.4s						
GUMA	**Gualdo di Mace**	**0.58**	**4**	⇑P	**Pg**	**11 01 04.8**	**-0.6**
GUMA				S	**Sg**	**11 01 13.9**	**+0.9**
GUMA				AML	AML		
	comp=N,22300μm,0.6s						
GUMA				AML	AML		
	comp=N,19050μm,0.4s						
GUMA				AML	AML		
	comp=E,24650μm,0.8s						
GUMA				AML	AML		
	comp=E,28050μm,0.7s						
CERT	**Cerreto**	**0.58**	**202**	P	**Pb**	**11 01 05.8**	**-0.3**
CERT				AML	AML		
	comp=N,2525μm,0.7s						
CERT				AML	AML		
	comp=E,4430μm,0.6s						
CESI	**CESI - Serrava**	**0.58**	**332**	P	**Pg**	**11 01 05.2**	**-0.4**
CESI				AML	AML		
	comp=N,5850μm,0.7s						
CESI				AML	AML		
	comp=E,4500μm,0.3s						
CSP1	**Cessapalombo**	**0.61**	**355**	⇑P	**Pg**	**11 01 05.2**	**-0.8**
CSP1				S	**Sg**	**11 01 14.1**	**0.0**
CSP1				AML	AML		
	comp=E,8950μm,0.4s						
CSP1				AML	AML		
	comp=N,14100μm,0.3s						
CSP1				AML	AML		
	comp=E,8945μm,0.4s						
MOMA	**Monte Martano**	**0.61**	**302**	P	**Pb**	**11 01 05.9**	**-0.7**
MOMA				S	**Sb**	**11 01 16.3**	**+1.1**
MOMA				AML	AML		
	comp=N,6445μm,0.3s						
MOMA				AML	AML		
	comp=N,6915μm,0.3s						
MOMA				AML	AML		
	comp=E,5790μm,0.2s						
MOMA				AML	AML		
	comp=N,6445μm,1.7s						
MOMA				AML	AML		
	comp=N,6915μm,1.7s						
MOMA				AML	AML		
	comp=E,5970μm,0.2s						
MTCE	**Montecelio**	**0.61**	**221**	P	**Pb**	**11 01 06.3**	**-0.3**
MTCE				AML	AML		
	comp=E,2240μm,1.3s						
MTCE				AML	AML		
	comp=N,1214μm,1.6s						
MTCE				AML	AML		
	comp=N,1214μm,0.4s						
MTCE				AML	AML		
	comp=E,2240μm,0.7s						
SRES	**S.Oreste - Sor**	**0.62**	**246**	P	**Pn**	**11 01 07.2**	**-1.4**
SRES				AML	AML		
	comp=E,2105μm,1.1s						
SRES				AML	AML		
	comp=N,2075μm,1.4s						
SRES				AML	AML		
	comp=N,2075μm,0.6s						
SRES				AML	AML		
	comp=E,2105μm,0.9s						
T1220	**Camerino, Fraz**	**0.64**	**348**	P	**Pg**	**11 01 05.7**	**-0.9**
T1220				S	**Sg**	**11 01 15.6**	**+0.6**
T1220				AML	AML		
	comp=E,33400μm,0.4s						
T1220				AML	AML		
	comp=E,32750μm,0.4s						
T1220				AML	AML		
	comp=N,29450μm,0.5s						
T1220				AML	AML		
	comp=E,33400μm,0.4s						
T1220				AML	AML		
	comp=E,32750μm,0.4s						
T1220				AML	AML		
	comp=N,28600μm,0.5s						
MNTP	**Montappone**	**0.67**	**12**	P	**Pg**	**11 01 06.5**	**-0.5**
MNTP				AML	AML		
	comp=E,31600μm,0.4s						
MNTP				AML	AML		
	comp=N,19700μm,1.2s						
MNTP				AML	AML		
	comp=N,19700μm,0.8s						
RCAV	**Rocca di Cave**	**0.69**	**201**	P	**Pn**	**11 01 08.0**	**-1.5**
RCAV				AML	AML		
	comp=E,4370μm,1.6s						
RCAV				AML	AML		
	comp=N,4950μm,0.4s						
RCAV				AML	AML		
	comp=E,4365μm,1.6s						
RCAV				AML	AML		
	comp=N,4936μm,0.4s						
RCAV				AML	AML		
	comp=N,4936μm,1.6s						
RCAV				AML	AML		
	comp=E,4365μm,0.4s						
GUAR	**Guarcino**	**0.69**	**178**	P	**Pb**	**11 01 08.0**	**0.0**
GUAR				AML	AML		
	comp=N,2175μm,0.8s						
GUAR				AML	AML		
	comp=E,2955μm,0.6s						
GUAR				AML	AML		
	comp=N,2175μm,1.2s						
SEF1	**Sefro**	**0.70**	**340**	P	**Pg**	**11 01 07.2**	**-0.5**
SEF1				AML	AML		
	comp=N,9150μm,0.3s						

SEF1 AML AML
comp=E,9550µm,0.3s
MDAR Monte D'Aria 0.71 352 P **Pg** 11 01 07.0 -1.0
MDAR S **Sg** 11 01 17.7 +0.3
ASSB Assisi San Ben 0.72 321 AML AML
comp=E,3495µm,0.5s
ASSB AML AML
comp=N,3270µm,0.3s
PIO1 Pioraco 0.72 343 P **Pg** 11 01 06.6 -1.6
PIO1 S **Sb** 11 01 18.3 -0.1
FIU1 Fiuminata 0.74 340 P **Pb** 11 01 09.2 +0.3
FIU1 S **Sb** 11 01 19.4 +0.4
SSM1 San Severino M 0.74 354 P **Pg** 11 01 07.7 -0.9
SSM1 S **Sg** 11 01 18.8 +0.4
MTL1 Matelica 0.79 346 P **Pb** 11 01 09.8 +0.1
MTL1 S **Sb** 11 01 21.4 +1.0
RMP Rome, Mte Porz 0.80 212 P **Pn** 11 01 10.3 -0.7
LPEL Lama dei Pelig 0.80 123 P **Pg** 11 01 08.2 -1.5
LPEL S **Sg** 11 01 19.8 -0.5
LPEL AML AML
comp=E,3525µm,0.3s
LPEL AML AML
comp=N,3150µm,0.8s
SNTG Esanatoglia 0.81 342 P **Pg** 11 01 08.6 -1.1
SNTG AML AML
comp=N,2075µm,0.6s
SNTG AML AML
comp=E,1785µm,0.7s
SNTG AML AML
comp=N,2200µm,0.6s
SNTG AML AML
comp=N,2075µm,1.4s
SNTG AML AML
comp=E,1670µm,0.6s
SNTG AML AML
comp=N,2200µm,1.4s
VIVA Pratoni del Vi 0.83 207 P **Pn** 11 01 11.1 -0.3
POFI Posta Fibreno 0.83 157 P **Pb** 11 01 09.9 -0.5
POFI AML AML
comp=E,1140µm,1.4s
POFI AML AML
comp=N,1290µm,1.5s
POFI AML AML
comp=N,1290µm,0.5s
POFI AML AML
comp=E,1140µm,0.6s
RDP Rocca di Papa 0.84 210 AML AML
comp=E,4725µm,0.4s
RDP AML AML
comp=N,5705µm,0.4s
ATCC AVT- Casa Cast 0.84 326 P **Pb** 11 01 10.0 -0.5
EL6 Elcito 0.85 351 P **Pg** 11 01 09.6 -1.0
EL6 AML AML
comp=N,4590µm,0.4s
EL6 AML AML
comp=E,4995µm,0.2s
FOSV Fossato di Vic 0.89 335 P **Pg** 11 01 10.6 -0.8
FOSV AML AML
comp=N,3070µm,0.3s
FOSV AML AML
comp=E,1865µm,0.8s
FOSV AML AML
comp=E,1865µm,1.2s
PP3 Marolino 0.92 15 P **Pg** 11 01 11.0 -0.9
PP3 AML AML
comp=E,10725µm,0.5s
PP3 AML AML
comp=N,6800µm,0.8s
PP3 AML AML
comp=N,7145µm,0.6s
PP3 AML AML
comp=N,6800µm,1.2s
PP3 AML AML
comp=E,10815µm,0.5s
GIUL Giuliano Di Ro 0.93 181 P **Pn** 11 01 12.2 -0.6
GIUL AML AML
comp=N,920µm,0.7s
GIUL AML AML
comp=E,1445µm,0.5s
MURB Monte Urbino 0.95 325 P **Pn** 11 01 12.8 -0.4
MGAB Montegabbione 0.96 297 P **Pn** 11 01 12.6 -0.7
MGAB AML AML
comp=E,4960µm,0.5s
MGAB AML AML
comp=N,3220µm,0.4s
MGAB AML AML
comp=E,5230µm,0.5s
MGAB AML AML
comp=E,4960µm,1.5s
MGAB AML AML
comp=N,3345µm,0.4s
MGAB AML AML
comp=E,5230µm,1.5s
SSFR Montelago di S 1.01 339 P **Pg** 11 01 13.1 -0.6
SSFR AML AML
comp=E,4540µm,1.6s
SSFR AML AML
comp=N,4975µm,0.3s
SSFR AML AML
comp=E,4145µm,1.6s
SSFR AML AML
comp=N,4155µm,0.2s
SSFR AML AML
comp=E,4145µm,0.4s
SSFR AML AML
comp=N,4975µm,1.7s
SSFR AML AML
comp=E,4540µm,0.4s
ATFO Monte Foce - G 1.02 330 P **Pb** 11 01 13.3 -0.3
LATB Latina 1.02 193 P **Pn** 11 01 13.2 -0.8
LATB AML AML
comp=E,424µm,1.2s
LATB AML AML
comp=N,354µm,1.0s
LATB AML AML
comp=E,424µm,0.8s
RNI2 Rionero Sannit 1.02 140 P **Pg** 11 01 12.7 -1.0
TOLF Tolfa 1.04 246 P **Pn** 11 01 15.1 +0.8
TOLF AML AML
comp=E,1685µm,0.5s
TOLF AML AML
comp=N,1222µm,0.9s
TOLF AML AML
comp=E,1685µm,1.5s
ARVD Arcevia 1.04 346 P **Pg** 11 01 12.9 -1.3
ARVD AML AML
comp=E,1715µm,0.6s
ARVD AML AML
comp=N,1595µm,0.8s
ARVD AML AML
comp=N,1595µm,1.2s
ATLO AVT- Montelove 1.04 323 P **Pb** 11 01 13.7 -0.3
CERA Filignano 1.05 148 P **Pg** 11 01 13.1 -1.2
SACS San Casciano d 1.07 290 P **Pn** 11 01 15.0 +0.2
ATVA AVT- Monte Val 1.07 318 P **Pn** 11 01 15.1 +0.3
AOI Ancona 1.09 13 P **Pg** 11 01 14.0 -1.1
AOI AML AML
comp=E,2870µm,1.1s
AOI AML AML
comp=N,2345µm,0.3s
AOI AML AML
comp=E,2870µm,0.9s
ATVO AVT- Monte Val 1.10 325 P **Pb** 11 01 14.6 -0.3
FRON Frontone 1.11 339 ⇓P **Pg** 11 01 14.4 -1.0
FRON AML AML
comp=N,2320µm,0.6s
FRON AML AML
comp=N,2320µm,1.4s
FRON AML AML
comp=E,1500µm,0.9s
MIDA Miranda 1.11 139 P **Pg** 11 01 13.8 -1.8
ATMI Monte Miggiano 1.12 319 P **Pn** 11 01 17.0 +1.5
COR1 Corinaldo 1.16 350 P **Pn** 11 01 16.4 +0.4
COR1 AML AML
comp=N,3820µm,0.5s
COR1 AML AML
comp=E,2045µm,0.4s
COR1 AML AML
comp=N,3820µm,1.5s
PIEI Pieia 1.18 333 P **Pn** 11 01 16.5 +0.2
PIEI AML AML
comp=N,1098µm,1.6s
PIEI AML AML
comp=E,1295µm,1.0s
PIEI AML AML
comp=N,1098µm,0.4s

TRIV Trivento 1.19 127 P **Pn** 11 01 17.7 +1.3
MPAG Monte Paganucc 1.20 342 P **Pg** 11 01 16.5 -0.7
MPAG AML AML
comp=N,1780µm,0.7s
MPAG AML AML
comp=E,1470µm,0.5s
MCIV Monte Civitell 1.22 284 P **Pn** 11 01 17.8 +1.0
MCIV AML AML
comp=E,546µm,1.1s
MCIV AML AML
comp=N,589µm,0.8s
MCIV AML AML
comp=E,546µm,0.9s
CAFI Castiglion Fio 1.28 312 P **Pg** 11 01 18.5 -0.2
CAFI AML AML
comp=E,940µm,0.5s
CAFI AML AML
comp=N,648µm,1.0s
CAFI AML AML
comp=N,640µm,0.5s
CAFI AML AML
comp=E,946µm,0.5s
CAFI AML AML
comp=N,648µm,1.0s
PESA Pesaro 1.49 348 P **Pg** 11 01 22.3 -0.4
PESA AML AML
comp=E,2885µm,0.3s
PESA AML AML
comp=N,2215µm,0.7s
PESA AML AML
comp=E,2885µm,1.7s
CRE Caprese Michel 1.49 320 P **Pb** 11 01 21.0 -0.7
SACR S. Croce Del S 1.52 135 P **Pg** 11 01 24.6 +1.2
MELA Melanico ??? S 1.58 119 P **Pb** 11 01 22.8 -0.4
MAON Monte Argentar 1.59 269 P **Pg** 11 01 23.0 -1.6
MAON AML AML
comp=N,272µm,1.1s
MAON AML AML
comp=E,521µm,0.5s
MAON AML AML
comp=N,272µm,0.9s
ASQU Asqua 1.70 321 P **Pb** 11 01 24.3 -1.0
PSB1 Pescosannita 1.71 137 P **Pg** 11 01 27.3 +0.5
FROS Frosini 1.72 296 P **Pb** 11 01 25.0 -0.4
SFI Santa Sofia 1.76 324 P **Pb** 11 01 25.4 -0.8
OSSC Osservatorio P 1.81 306 P **Pb** 11 01 26.4 -0.7
TRIF Trifonti 1.86 291 P **Pb** 11 01 26.5 -1.3
RUFI Rufina 1.87 317 P **Pb** 11 01 26.9 -1.2
CRMI Carmignano 2.13 308 P **Pb** 11 01 30.8 -1.7
A050A Klekovaca 3.10 49 *e*Pn **Pn** 11 01 43.3 +0.6
SKDS Skadanscina 3.10 10 *e*Pn **Pn** 11 01 42.2 -0.5
SRKY Kupres RS 3.25 60 *e*Pn **Pn** 11 01 47.2 +2.4
STON Ston 3.28 82 *e*Pn **Pn** 11 01 46.2 +1.1
STON *e*Sn **Sn** 11 02 24.4 +0.4
STON Ston 3.28 82 *e*Pn **Pn** 11 01 44.4 -0.7
BOJS Bojanci 3.34 25 *e*Pn **Pn** 11 01 46.8 +0.9
CEY Cerknica 3.35 14 *e*Pn **Pn** 11 01 46.9 +0.7
MGRS Mrkonjic Grad 3.38 54 *e*Pn **Pn** 11 01 48.9 +2.4
ROVR Rover Verones 3.54 334 P **Pn** 11 01 49.9 +1.1
BLY Banja Luka 3.63 50 *e*Pn **Pn** 11 01 51.9 +2.0
BLY Banja Luka 3.63 50 *e*Pn **Pn** 11 01 54.6 +4.7
A051A Mrakovica 3.65 45 *e*Pn **Pn** 11 01 51.3 +1.1
CRES Cresnjev 3.69 24 *e*Pn **Pn** 11 01 51.2 +0.5
CTI Castel Tesino 3.75 342 P **Pn** 11 01 52.9 +1.3
CTI AML AML
comp=E,210µm,0.6s
CTI AML AML
comp=N,214µm,0.2s
TREB Trebinje 3.75 85 *e*Pn **Pn** 11 01 52.8 +1.2
TREB *e*Sn **Sn** 11 02 36.9 +1.3
TREB Trebinje 3.75 85 *e*Pn **Pn** 11 01 52.3 +0.7
CNCS Concesio 3.82 326 AML AML
comp=E,4055µm,0.4s
CNCS AML AML
comp=E,4055µm,1.6s
CNCS AML AML
comp=N,9975µm,0.9s
LUSI Trento, Gardas 3.85 335 P **Pn** 11 01 54.5 +1.4
HCY Herceg Novi 3.86 89 *e*Pn **Pn** 11 01 53.2 +0.1
CIMO Cimolais 3.87 351 P **Pn** 11 01 53.4 +0.2
CIMO AML AML
comp=E,47µm,1.5s
CIMO AML AML
comp=N,52µm,1.6s
CIMO AML AML
comp=E,46µm,1.5s
CIMO AML AML
comp=N,48µm,1.5s
CIMO AML AML
comp=E,47µm,0.5s
CIMO AML AML
comp=E,46µm,0.5s
CIMO AML AML
comp=N,48µm,0.5s
CIMO AML AML
comp=N,52µm,0.4s
AGOR Agordo 3.90 347 P **Pn** 11 01 53.0 -0.6
AGOR AML AML
comp=E,68µm,0.4s
AGOR AML AML
comp=N,71µm,1.1s
AGOR AML AML
comp=N,71µm,0.9s
BRY Bratogost 3.90 82 *e*Pn **Pn** 11 01 55.3 +1.5
PTCC Patocco-Chiusa 3.92 1 P **Pn** 11 01 54.5 +0.6
GAGG Gaggia 3.96 336 P **Pn** 11 01 55.7 +1.1
A052A Srbac 4.03 48 *e*Pn **Pn** 11 01 54.6 -0.8
ZOU Zoufplan 4.08 357 P **Pn** 11 01 56.6 +0.4
OBKA Obir 4.12 12 *i* Pn **Pn** 11 01 58.3 +1.5
comp=N,1.0nm,0.1s
OBKA Obir 4.12 12 *e*Pn **Pn** 11 01 57.8 +1.0
MYKA Terra Mystica 4.15 3 *i* Pn **Pn** 11 01 57.8 +0.7
comp=N,0.9nm,0.2s
APPI Appiano 4.25 341 P **Pn** 11 02 00.2 +1.7
APPI AML AML
comp=N,166µm,1.3s
APPI AML AML
comp=E,177µm,0.4s
ABTA Abfaltersbach 4.29 353 *i* Pn **Pn** 11 02 00.0 +0.9
comp=E,6.0nm,0.5s
SOKA Soboth 4.37 16 *i* Pn **Pn** 11 02 01.7 +1.5
comp=E,2.5nm,0.3s
DRME Dracevica, Mon 4.39 92 *e*Pn **Pn** 11 02 01.3 +0.9
PDG Podgorica 4.42 89 *e*Pn **Pn** 11 02 03.4 +2.6
PDG *e*Sn **Sn** 11 02 53.8 +1.7
HAPS Han Pijesak,Bl 4.44 67 *e*Pn **Pn** 11 02 02.8 +1.6
RISI Rein 4.54 350 P **Pn** 11 02 04.2 +1.6
KBA Koelnbreinsper 4.59 1 *i* Pn **Pn** 11 02 06.4 +3.1
comp=E,1.5nm,0.2s
RUDO Rudo 4.61 74 *e*Pn **Pn** 11 02 03.5 +0.2
ROSI Rosskopf 4.63 344 P **Pn** 11 02 05.6 +1.7
BBLS Lazići 4.69 71 *e*Pn **Pn** 11 02 06.4 +1.9
BBLS *e*Sn **Sn** 11 03 00.0 +1.2
FETA Feichten 4.88 339 *i* Pn **Pn** 11 02 10.0 +2.7
comp=E,2.8nm,0.4s
WTTA Wattenberg 4.92 347 *i* Pn **Pn** 11 02 10.4 +2.6
comp=E,1.7nm,0.3s
SQTA Sankt Quirin 4.96 343 *i* Pn **Pn** 11 02 10.4 +2.1
comp=E,2.7nm,0.2s,SNR=6.9
SJES Sjenica 4.98 79 *e*Pn **Pn** 11 02 11.2 +2.6
SJES *e*Sn **Sn** 11 03 06.4 +0.3
WATA Walderalm 5.00 347 *i* Pn **Pn** 11 02 11.1 +2.2
comp=E,5.6nm,0.3s,SNR=7.8
ARSA Arzberg 5.02 18 *i* Pn **Pn** 11 02 10.3 +1.2
comp=E,2.2nm,0.5s
MOTA Moosalm 5.10 343 *e*Pn **Pn** 11 02 13.3 +3.1
comp=E,1.0nm,0.2s
IVAS Ivanjica 5.16 75 *e*Pn **Pn** 11 02 11.9 +0.9
IVAS *e*Sn **Sn** 11 03 09.5 -0.8
DIVS Divibare 5.16 70 *e*Pn **Pn** 11 02 13.7 +2.7
DIVS *e*Sn **Sn** 11 03 10.3 -0.1
DIVS Divibare 5.16 70 *e*Pn **Pn** 11 02 10.1 -0.9
BIOA Bad Ischl, Aus 5.21 3 *e*Pn **Pn** 11 02 13.2 +1.6
comp=E,3.4nm,0.3s
RETA Reutte 5.31 341 *e*Pn **Pn** 11 02 14.4 +1.3
comp=E,1.8nm,0.3s
MORH Mrgy, Hungar 5.36 44 *e*Sn **Sn** 11 03 13.7 -1.4
DAVA Damuels 5.37 334 *e*Pn **Pn** 11 02 16.8 +2.9
comp=E,1.0nm,0.2s
MOA Molln 5.41 7 *i* Pn **Pn** 11 02 16.8 +2.5
comp=E,0.4nm,0.1s
MOA Molln 5.41 7 *e*Pn **Pn** 11 02 15.1 +0.7
MOA *e*Sn **Sn** 11 03 14.4 -2.0
FRGS Fruska Gora 5.43 58 *e*Pn **Pn** 11 02 16.4 +1.8
FRGS Fruska Gora 5.43 58 *e*Pn **Pn** 11 02 15.4 +0.8

TRUS Trudelj 5.48 69 *e*Pn **Pn** 11 02 16.5 +1.2
TRUS *e*Sn **Sn** 11 03 17.6 -0.6
GRUS Gruza 5.62 73 *e*Pn **Pn** 11 02 18.2 +1.0
GRUS *e*Sn **Sn** 11 03 21.7 +0.2
RONA Rosalia, Austr 5.63 21 *e*Pn **Pn** 11 02 17.9 +0.5
comp=E,0.6nm,0.1s
CONA Conrad Observa 5.74 18 *i* Pn **Pn** 11 02 19.5 +0.5
comp=E,0.5nm,0.2s
OHR Ohrid 5.79 101 *e*Pn **Pn** 11 02 22.8 +3.2
OHR *e*Sn **Sn** 11 03 26.4 +0.5
FNA Florina 6.30 103 *e*Pn **Pn** 11 02 29.3 +2.6
FNA *e*Sn **Sn** 11 03 37.5 -1.0
BARS Barje 6.31 84 *e*Pn **Pn** 11 02 28.1 +1.4
BARS *e*Sn **Sn** 11 03 36.8 -1.7
CKRC Cesky Krumlov 6.38 6 *e*SN **Sn** 11 03 37.7 -2.5
PRVS Prvonek 6.50 87 *e*Pn **Pn** 11 02 30.6 +1.2
PRVS *e*Sn **Sn** 11 03 43.5 0.0
KHC Kasperske Hory 6.65 2 *e*PN **Pn** 11 02 32.4 +1.0
KHC *e*SN **Sn** 11 03 45.2 -1.8
ZAGS Zajecar 6.68 76 *e*Pn **Pn** 11 02 32.6 +0.8
ZAPS Zavoj 6.92 80 *e*Sn **Sn** 11 03 52.7 -1.0
VTS Vitosha 7.36 86 *e*Pn **Pn** 11 02 41.0 -0.2
VTS Vitosha 7.36 86 *e*Pn **Pn** 11 02 42.0 +0.8
VTS *e*Sn **Sn** 11 04 01.2 -3.4
NACGM Naroch 15.26 31 *e*P **P** 11 04 34.6 +0.8
comp=Z,18nm,1.0s,baz=102

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*ROM **18** 11:04:43.3±0.1, 42°.529N±0°.009×13°.27E±0°.01, h12km±1km, ML3.4/54, Error ellipse: s-maj=1.0km s-min=0.7km az=46.0*
*BEO **18** 11:04:45.0±0.7, 42°.53N×13°.27E, h6km±2km, ML3.6/8*
*PRU **18** 11:04:47.1±0.0, 42°.68N×13°.70E, h10km*
ISC 18 11:04:44.1±0.8, **42°.53N**±0°.02×**13°.29E**±0°.02, **h12**km±4km, **n102**,σ1§**40**/127, **29C-14D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.08**	**176**	P	**Pg**	**ISC**	**11 04 46.2**	**-0.6**
T1247				S	**Sg**		**11 04 48.7**	**-0.1**
T1247					AML	AML		
	comp=E,70700µm,0.5s							
T1247					AML	AML		
	comp=N,64550µm,0.4s							
CAMP	**Campotosto**	**0.09**	**83**	P	**Pg**		**11 04 46.6**	**-0.4**
CAMP				S	**Sg**		**11 04 48.7**	**-0.3**
CAMP					AML	AML		
	comp=E,35750µm,0.5s							
CAMP					AML	AML		
	comp=N,48550µm,0.5s							
CAMP					AML	AML		
	comp=N,48550µm,1.5s							
CAMP					AML	AML		
	comp=E,35750µm,1.5s							
SMA1	**SAN MARTINO**	**0.11**	**18**	⇑P	**Pg**		**11 04 46.8**	**-0.4**
SMA1				S	**Sg**		**11 04 49.1**	**-0.4**
SMA1					AML	AML		
SMA1					AML	AML		
T1218	**Civita (PG)**	**0.19**	**318**	⇑P	**Pg**		**11 04 47.8**	**-0.6**
T1218				S	**Sg**		**11 04 51.0**	**-0.5**
T1218					AML	AML		
	comp=E,46300µm,1.0s							
T1218					AML	AML		
	comp=N,88800µm,0.3s							
T1218					AML	AML		
	comp=N,88150µm,0.3s							
T1218					AML	AML		
	comp=E,42500µm,1.0s							
T1218					AML	AML		
	comp=N,88200µm,0.3s							
T1218					AML	AML		
	comp=E,42450µm,1.0s							
T1218					AML	AML		
	comp=N,88800µm,0.3s							
LNSS	**Leonessa**	**0.20**	**293**	P	**Pg**		**11 04 48.0**	**-0.5**
LNSS				S	**Sg**		**11 04 51.5**	**-0.1**
LNSS					AML	AML		
LNSS					AML	AML		
LNSS					AML	AML		
	comp=E,95750µm,0.2s							
GIGS	**Gran Sasso**	**0.22**	**110**	P	**Pg**		**11 04 48.4**	**-0.5**
GIGS				S	**Sg**		**11 04 52.0**	**-0.1**
GIGS					AML	AML		
	comp=N,3885µm,0.9s							
GIGS					AML	AML		
	comp=E,3790µm,0.6s							
GIGS					AML	AML		
	comp=N,3885µm,1.1s							
FIAM	**Fiamignano**	**0.29**	**207**		AML	AML		
	comp=E,14250µm,0.4s							
FIAM					AML	AML		
	comp=N,7980µm,0.5s							
T1217	**Poggiodomo (PG**	**0.32**	**305**	P	**Pg**		**11 04 49.9**	**-0.8**
T1217				S	**Sg**		**11 04 54.9**	**-0.2**
T1217					AML	AML		
	comp=E,12600µm,1.5s							
T1217					AML	AML		
	comp=N,19500µm,0.7s							
T1217					AML	AML		
	comp=E,15400µm,0.2s							
T1217					AML	AML		
	comp=N,19500µm,0.7s							
T1217					AML	AML		
	comp=E,15400µm,0.2s							
T1217					AML	AML		
	comp=N,18100µm,0.1s							
T1217					AML	AML		
	comp=E,12600µm,0.5s							
FAGN	**Fagnano**	**0.34**	**140**	P	**Pg**		**11 04 49.7**	**-1.2**
FAGN					AML	AML		
	comp=N,6845µm,0.3s							
FAGN					AML	AML		
	comp=E,11800µm,0.5s							
FAGN					AML	AML		
	comp=N,6845µm,1.7s							
ARRO	**Arrone**	**0.39**	**278**	⇑P	**Pg**		**11 04 51.2**	**-0.7**
ARRO					AML	AML		
	comp=E,7765µm,1.1s							
ARRO					AML	AML		
	comp=N,9260µm,0.2s							
T0110	**Collepietro**	**0.47**	**129**	P	**Pg**		**11 04 52.8**	**-0.5**
T0110				S	**Sb**		**11 05 00.6**	**-0.6**
T0110					AML	AML		
	comp=E,4315µm,0.4s							
T0110					AML	AML		
	comp=N,4695µm,0.8s							
FEMA	**Monte Fema**	**0.47**	**338**	⇓P	**Pg**		**11 04 53.4**	**0.0**
FEMA					AML	AML		
	comp=E,6605µm,0.3s							
FEMA					AML	AML		
	comp=E,6605µm,1.7s							
FEMA					AML	AML		
	comp=N,5760µm,1.5s							
PTQR	**Pietraquaria**	**0.51**	**171**	P	**Pg**		**11 04 53.5**	**-0.6**
PTQR					AML	AML		
	comp=N,913µm,0.7s							
PTQR					AML	AML		
	comp=E,936µm,0.9s							
CESX	**Cesi**	**0.53**	**279**	⇑P	**Pg**		**11 04 53.4**	**-1.1**
CESX				S	**Sg**		**11 05 01.6**	**+0.1**
CESX					AML	AML		
	comp=N,4080µm,0.3s							
CESX					AML	AML		
	comp=N,4080µm,1.7s							
CESX					AML	AML		
	comp=E,3660µm,1.3s							
GUMA	**Gualdo di Mace**	**0.54**	**4**	⇑P	**Pg**		**11 04 54.1**	**-0.6**
GUMA					AML	AML		
	comp=E,22500µm,0.3s							
GUMA					AML	AML		
	comp=N,25450µm,0.3s							
GUMA					AML	AML		
	comp=N,25450µm,0.3s							
GUMA					AML	AML		
	comp=E,30150µm,0.4s							
GUMA					AML	AML		
	comp=N,20950µm,0.6s							
GUMA					AML	AML		
	comp=E,22500µm,1.7s							
GUMA					AML	AML		
	comp=E,30150µm,1.6s							
TRTR	**Tortoreto Alta**	**0.54**	**58**	⇓P	**Pb**		**11 04 55.0**	**-0.5**
TRTR					AML	AML		
	comp=E,8020µm,1.5s							
TRTR					AML	AML		

	comp=E,8025µm,1.5s							
TRTR					AML	AML		
	comp=N,8450µm,0.6s							
CESI	**CESI - Serrava**	**0.56**	**330**	⇓P		**Pg**	**11 04 54.1**	**-0.9**
CESI					AML	AML		
	comp=E,3050µm,1.2s							
CESI					AML	AML		
	comp=E,3050µm,0.8s							
CESI					AML	AML		
	comp=N,4220µm,1.2s							
CSP1	**Cessapalombo**	**0.57**	**354**	⇓P		**Pg**	**11 04 52.1**	**-3.1**
CSP1					AML	AML		
	comp=N,5560µm,0.4s							
CSP1					AML	AML		
	comp=E,5525µm,0.3s							
CSP1					AML	AML		
	comp=N,5560µm,1.6s							
MOMA	**Monte Martano**	**0.60**	**298**	⇑P		**Pg**	**11 04 54.8**	**-1.0**
MOMA				S		**Sg**	**11 05 04.3**	**+0.6**
MOMA					AML	AML		
	comp=E,7270µm,0.2s							
MOMA					AML	AML		
	comp=N,9560µm,0.3s							
MOMA					AML	AML		
	comp=E,7500µm,0.2s							
MOMA					AML	AML		
	comp=N,10195µm,0.3s							
T1220	**Camerino, Fraz**	**0.60**	**346**	⇑P		**Pg**	**11 04 54.9**	**-1.0**
T1220					AML	AML		
	comp=N,16550µm,0.5s							
T1220					AML	AML		
	comp=E,16950µm,0.3s							
T1220					AML	AML		
	comp=N,16450µm,0.5s							
T1220					AML	AML		
	comp=E,16950µm,0.3s							
T1220					AML	AML		
	comp=E,17000µm,0.3s							
CERT	**Cerreto**	**0.62**	**202**	P		**Pg**	**11 04 55.0**	**-1.1**
CERT					AML	AML		
	comp=E,3205µm,0.5s							
CERT					AML	AML		
	comp=N,1720µm,0.4s							
SRES	**S.Oreste - Sor**	**0.65**	**244**	⇑P		**Pg**	**11 04 55.4**	**-1.3**
SRES				S		**Sg**	**11 05 05.8**	**+0.6**
SRES					AML	AML		
	comp=N,2275µm,0.4s							
SRES					AML	AML		
	comp=E,2395µm,0.4s							
MTCE	**Montecelio**	**0.65**	**219**	⇑P		**Pg**	**11 04 55.5**	**-1.2**
MTCE					AML	AML		
	comp=E,2450µm,0.5s							
MTCE					AML	AML		
	comp=N,1975µm,0.5s							
MTCE					AML	AML		
	comp=N,1975µm,1.5s							
SEF1	**Sefro**	**0.67**	**338**	S		**Sg**	**11 05 06.4**	**+0.4**
SEF1					AML	AML		
	comp=E,6145µm,0.2s							
SEF1					AML	AML		
	comp=N,5825µm,0.7s							
ASSB	**Assisi San Ben**	**0.69**	**318**	⇑P		**Pg**	**11 04 56.5**	**-1.1**
ASSB					AML	AML		
	comp=E,3115µm,0.6s							
ASSB					AML	AML		
	comp=N,3060µm,0.6s							
ASSB					AML	AML		
	comp=N,3060µm,1.4s							
VVLD	**Villa Vallelon**	**0.70**	**159**	P		**Pb**	**11 04 58.0**	**-0.2**
VVLD					AML	AML		
	comp=E,900µm,0.7s							
VVLD					AML	AML		
	comp=N,914µm,0.6s							
RCAV	**Rocca di Cave**	**0.72**	**201**	⇑P		**Pg**	**11 04 56.9**	**-1.3**
RCAV				S		**Sn**	**11 05 12.2**	**+1.0**
GUAR	**Guarcino**	**0.73**	**179**	P		**Pb**	**11 04 58.4**	**-0.3**
GUAR					AML	AML		
	comp=E,1420µm,0.4s							
GUAR					AML	AML		
	comp=N,1414µm,0.6s							
SNTG	**Esanatoglia**	**0.77**	**341**	⇑P		**Pg**	**11 04 58.0**	**-1.0**
SNTG					AML	AML		
	comp=E,1370µm,0.4s							
SNTG					AML	AML		
	comp=E,1360µm,0.3s							
SNTG					AML	AML		
	comp=N,1875µm,0.5s							
SNTG					AML	AML		
	comp=N,1900µm,0.6s							
SNTG					AML	AML		
	comp=N,1900µm,1.4s							
SNTG					AML	AML		
	comp=N,1875µm,1.5s							
ATCC	**AVT- Casa Cast**	**0.81**	**324**	⇑P		**Pg**	**11 04 59.6**	**-0.3**
ATCC					AML	AML		
	comp=E,3160µm,0.4s							
ATCC					AML	AML		
	comp=N,2595µm,0.6s							
EL6	**Elcito**	**0.82**	**350**	⇑P		**Pg**	**11 04 56.4**	**-3.5**
EL6				S		**Sb**	**11 05 12.1**	**+0.8**
LPEL	**Lama dei Pelig**	**0.82**	**125**	S		**Sb**	**11 05 11.0**	**-0.3**
LPEL					AML	AML		
	comp=N,1150µm,0.8s							
LPEL					AML	AML		
	comp=N,1150µm,1.2s							
LPEL					AML	AML		
	comp=E,1285µm,0.5s							
RMP	**Rome, Mte Porz**	**0.84**	**212**	P		**Pb**	**11 05 01.0**	**+0.4**
RMP					AML	AML		
	comp=E,2400µm,1.5s							
RMP					AML	AML		
	comp=N,2895µm,0.4s							
RMP					AML	AML		
	comp=E,2400µm,0.5s							
FOSV	**Fossato di Vic**	**0.86**	**333**	⇑P		**Pg**	**11 04 60.0**	**-0.8**
FOSV					AML	AML		
	comp=E,1350µm,0.6s							
FOSV					AML	AML		
	comp=N,2130µm,1.4s							
FOSV					AML	AML		
	comp=E,1350µm,1.4s							
FOSV					AML	AML		
	comp=N,2130µm,0.6s							
PP3	**Marolino**	**0.88**	**15**	⇓P		**Pb**	**11 05 00.9**	**-0.4**
PP3					AML	AML		
	comp=N,4885µm,1.3s							
PP3					AML	AML		
	comp=E,6215µm,0.6s							
PP3					AML	AML		
	comp=N,4885µm,1.3s							
PP3					AML	AML		
	comp=E,6285µm,0.6s							
PP3					AML	AML		
	comp=N,4885µm,1.3s							
PP3					AML	AML		
	comp=N,4880µm,1.3s							
PP3					AML	AML		
	comp=N,4885µm,0.7s							
PP3					AML	AML		
	comp=E,6210µm,0.6s							
PP3					AML	AML		
	comp=N,4880µm,0.7s							
MGAB	**Montegabbione**	**0.95**	**294**	⇑P		**Pg**	**11 05 01.1**	**-1.4**
MGAB					AML	AML		
	comp=N,3690µm,0.4s							
MGAB					AML	AML		
	comp=N,3600µm,0.4s							
MGAB					AML	AML		
	comp=E,2690µm,0.6s							
MGAB					AML	AML		
	comp=E,2975µm,0.6s							
LAV9	**Lanuvio**	**0.95**	**208**	P		**Pb**	**11 05 03.1**	**+0.6**
LAV9					AML	AML		
	comp=N,4550µm,1.3s							
LAV9					AML	AML		
	comp=E,3445µm,1.0s							
LAV9					AML	AML		
	comp=N,4560µm,1.3s							
LAV9					AML	AML		
	comp=E,3355µm,1.0s							
LAV9					AML	AML		
	comp=N,4550µm,0.7s							
LAV9					AML	AML		
	comp=N,4560µm,0.7s							
GIUL	**Giuliano Di Ro**	**0.97**	**182**	⇑P		**Pg**	**11 05 01.6**	**-1.1**
GIUL					AML	AML		
	comp=E,838µm,0.5s							
GIUL					AML	AML		
	comp=N,788µm,0.9s							
GIUL					AML	AML		
	comp=E,838µm,1.5s							
GIUL					AML	AML		
	comp=N,788µm,1.1s							
ARVD	**Arcevia**	**1.00**	**345**	⇑P		**Pg**	**11 05 02.0**	**-1.5**
ARVD				S		**Sn**	**11 05 18.7**	**+0.5**
ARVD					AML	AML		
	comp=E,1965µm,0.6s							
ARVD					AML	AML		
	comp=N,1136µm,0.6s							
AOI	**Ancona**	**1.05**	**12**	⇑P		**Pg**	**11 05 03.3**	**-1.0**
AOI					AML	AML		
	comp=E,2055µm,0.5s							
AOI					AML	AML		
	comp=N,2030µm,1.0s							
TOLF	**Tolfa**	**1.06**	**245**	⇓P		**Pg**	**11 05 03.0**	**-1.5**
TOLF					AML	AML		
	comp=E,1249µm,0.6s							
TOLF					AML	AML		
	comp=N,1095µm,0.6s							
SACS	**San Casciano d**	**1.07**	**288**	⇓P		**Pb**	**11 05 05.0**	**+0.4**
SACS					AML	AML		
	comp=E,786µm,1.1s							
SACS					AML	AML		
	comp=N,1116µm,0.7s							
SACS					AML	AML		
	comp=N,1140µm,0.7s							
SACS					AML	AML		
	comp=E,818µm,1.1s							
ATVO	**AVT- Monte Val**	**1.07**	**323**	⇑P		**Pg**	**11 05 03.3**	**-1.5**
ATVO					AML	AML		
	comp=E,1103µm,0.9s							
ATVO					AML	AML		
	comp=N,870µm,0.8s							
ATVO					AML	AML		
	comp=E,1103µm,1.1s							
ATMI	**Monte Miggiano**	**1.10**	**317**	⇓P		**Pn**	**11 05 06.0**	**+0.6**
ATMI					AML	AML		
	comp=E,2540µm,0.4s							
ATMI					AML	AML		
	comp=N,2620µm,0.7s							
PIEI	**Pieia**	**1.15**	**332**	S		**Sn**	**11 05 23.6**	**+1.8**
PIEI					AML	AML		
	comp=E,1007µm,1.0s							
PIEI					AML	AML		
	comp=N,984µm,1.1s							
PIEI					AML	AML		
	comp=N,984µm,0.9s							
MCIV	**Monte Civitell**	**1.22**	**283**	⇑P		**Pn**	**11 05 08.1**	**+1.2**
MCIV					AML	AML		
	comp=E,556µm,0.3s							
MCIV					AML	AML		
	comp=N,496µm,0.9s							
CAFI	**Castiglion Fio**	**1.26**	**310**	⇑P		**Pg**	**11 05 07.1**	**-1.2**
CAFI					AML	AML		
	comp=N,839µm,1.1s							
CAFI					AML	AML		
	comp=N,804µm,1.1s							
CAFI					AML	AML		
	comp=E,834µm,0.6s							
CAFI					AML	AML		
	comp=E,854µm,0.6s							
SSP9	**Sansepolcro**	**1.35**	**321**	⇓P		**Pb**	**11 05 10.5**	**+1.2**
SSP9					AML	AML		
	comp=E,870µm,1.6s							
SSP9					AML	AML		
	comp=E,870µm,0.4s							
SSP9					AML	AML		
	comp=N,912µm,1.2s							
ARCI	**Arcidosso**	**1.38**	**284**	P		**Pn**	**11 05 08.6**	**-0.6**
ARCI					AML	AML		
	comp=N,199µm,1.5s							
ARCI					AML	AML		
	comp=E,214µm,0.8s							
ARCI					AML	AML		
	comp=N,199µm,0.5s							
MELA	**Melanico ??? S**	**1.59**	**120**	⇑P		**Pg**	**11 05 14.2**	**-0.5**
MAON	**Monte Argentar**	**1.60**	**267**	⇑P		**Pn**	**11 05 11.5**	**-0.6**
MAON					AML	AML		
	comp=E,252µm,0.4s							
MAON					AML	AML		
	comp=N,242µm,0.9s							
FROS	**Frosini**	**1.71**	**294**	⇓P		**Pn**	**11 05 14.0**	**+0.2**
FROS					AML	AML		
	comp=E,274µm,0.6s							
FROS					AML	AML		
	comp=E,274µm,1.4s							
FROS					AML	AML		
	comp=N,208µm,0.8s							
RUFI	**Rufina**	**1.85**	**316**	⇓P		**Pn**	**11 05 15.8**	**+0.2**
RUFI					AML	AML		
	comp=N,238µm,1.6s							
RUFI					AML	AML		
	comp=E,235µm,0.6s							
RUFI					AML	AML		
	comp=N,238µm,0.4s							
TRIF	**Trifonti**	**1.85**	**289**	S		**Sb**	**11 05 41.6**	**+0.5**
TRIF					AML	AML		
	comp=E,153µm,1.6s							
TRIF					AML	AML		
	comp=N,148µm,0.6s							
TRIF					AML	AML		
	comp=E,153µm,0.4s							
HVAR	**Hvar**	**2.41**	**73**	⇓P		**Pn**	**11 05 21.9**	**-1.4**
NDIM	**Novi di Modena**	**2.93**	**325**	⇑P		**Pg**	**11 05 39.2**	**-1.0**
STON	**Ston**	**3.27**	**82**	*e*Pn		**Pn**	**11 05 35.4**	**+0.3**
STON				*e*Sn		**Sn**	**11 06 14.5**	**+0.6**
ROVR	**Rover Verones**	**3.51**	**334**	⇓P		**Pn**	**11 05 38.6**	**+0.1**
ROVR					AML	AML		
	comp=E,42µm,0.4s							
ROVR					AML	AML		
	comp=N,77µm,0.9s							
BLY	**Banja Luka**	**3.60**	**50**	*e*Sn		**Sn**	**11 06 25.1**	**+3.1**
LJU	**Ljubljana**	**3.63**	**14**	S		**Sn**	**11 06 24.0**	**+1.2**
LJU					AML	AML		
	comp=E,800µm,1.5s							
LJU					AML	AML		
	comp=N,1004µm,1.4s							
LJU					AML	AML		
	comp=E,800µm,0.5s							
LJU					AML	AML		
	comp=N,1004µm,0.6s							
DOSS	**Dosso del Somm**	**3.68**	**336**	⇑P		**Pn**	**11 05 42.8**	**+1.9**
CTI	**Castel Tesino**	**3.71**	**342**	⇑P		**Pn**	**11 05 42.2**	**+0.9**
CTI					AML	AML		
	comp=E,222µm,1.0s							
CTI					AML	AML		
	comp=N,238µm,0.3s							
LEOD	**Capriano del C**	**3.72**	**323**	S		**Sb**	**11 06 35.8**	**+1.2**
TREB	**Trebinje**	**3.74**	**85**	*e*Pn		**Pn**	**11 05 42.4**	**+0.8**
TREB				*e*Sn		**Sn**	**11 06 27.1**	**+1.6**
STAL	**STALIGIAL**	**3.76**	**354**	⇑P		**Pn**	**11 05 42.6**	**+0.7**
STAL					AML	AML		
	comp=N,182µm,1.3s							
STAL					AML	AML		
	comp=E,222µm,0.2s							
CANO	**Canova, Maglio**	**4.05**	**296**	S		**Sb**	**11 06 41.4**	**-2.8**
OBKA	**Obir**	**4.08**	**12**	*i* Pn		**Pn**	**11 05 46.8**	**+0.4**
	comp=E,1.8nm,0.3s							
MYKA	**Terra Mystica**	**4.11**	**3**	*i* Pn		**Pn**	**11 05 47.3**	**+0.6**
	comp=E,3.9nm,0.4s							
BOSI	**Bolzano**	**4.21**	**341**	S		**Sn**	**11 06 37.9**	**+0.7**
ABTA	**Abfaltersbach**	**4.26**	**353**	*i* Pn		**Pn**	**11 05 49.6**	**+0.8**
	comp=E,15nm,0.6s							
SOKA	**Soboth**	**4.33**	**16**	*i* Pn		**Pn**	**11 05 51.7**	**+1.8**
PDG	**Podgorica**	**4.41**	**89**	*e*Pn		**Pn**	**11 05 52.4**	**+1.6**
PDG				*e*Sn		**Sn**	**11 06 43.1**	**+1.0**
RISI	**Rein**	**4.51**	**349**	⇑P		**Pn**	**11 05 54.6**	**+2.3**
KBA	**Koelnbreinsper**	**4.55**	**0**	*i* Pn		**Pn**	**11 05 53.5**	**+0.6**
	comp=E,2.7nm,0.4s							
ROSI	**Rosskopf**	**4.60**	**344**	⇓P		**Pn**	**11 05 55.0**	**+1.3**
ROSI					AML	AML		
	comp=E,188µm,0.3s							
ROSI					AML	AML		
	comp=N,218µm,0.9s							
ROSI					AML	AML		
	comp=N,218µm,1.1s							
BBLS	**Lazići**	**4.67**	**71**	*e*Pn		**Pn**	**11 05 55.7**	**+1.3**
BBLS				*e*Sn		**Sn**	**11 06 49.7**	**+1.2**
FETA	**Feichten**	**4.85**	**339**	*e*Pn		**Pn**	**11 06 00.5**	**+3.4**
	comp=N,0.4nm,0.2s							
WTTA	**Wattenberg**	**4.88**	**347**	*e*Pn		**Pn**	**11 05 59.6**	**+2.2**
	comp=N,1.9nm,0.2s							
SQTA	**Sankt Quirin**	**4.92**	**343**	*i* Pn		**Pn**	**11 06 00.5**	**+2.5**
	comp=N,1.4nm,0.2s							
WATA	**Walderalm**	**4.96**	**346**	*e*Pn		**Pn**	**11 06 01.5**	**+3.0**
	comp=N,1.3nm,0.2s							
SJES	**Sjenica**	**4.96**	**79**	*e*Pn		**Pn**	**11 06 00.6**	**+2.1**
ARSA	**Arzberg**	**4.98**	**18**	*i* Pn		**Pn**	**11 06 00.8**	**+2.1**
	comp=N,2.0nm,0.3s							
MOTA	**Moosalm**	**5.06**	**343**	*e*Pn		**Pn**	**11 06 02.6**	**+2.7**
	comp=N,5.2nm,0.6s							
DIVS	**Divibare**	**5.14**	**70**	*e*Pn		**Pn**	**11 06 01.5**	**+0.6**
IVAS	**Ivanjica**	**5.14**	**76**	*e*Pn		**Pn**	**11 06 01.9**	**+1.0**
IVAS				*e*Sn		**Sn**	**11 06 58.4**	**-1.7**
BIOA	**Bad Ischl, Aus**	**5.17**	**3**	*e*Pn		**Pn**	**11 06 01.7**	**+0.4**
	comp=N,0.9nm,0.2s							
RETA	**Reutte**	**5.28**	**341**	*e*Pn		**Pn**	**11 06 04.7**	**+1.9**
	comp=N,4.7nm,0.4s							
DAVA	**Damuels**	**5.34**	**334**	*e*Pn		**Pn**	**11 06 05.9**	**+2.1**
	comp=N,0.2nm,0.0s							
MOA	**Molln**	**5.37**	**7**	*i* Pn		**Pn**	**11 06 05.8**	**+1.8**
	comp=N,0.6nm,0.2s							
MOA	**Molln**	**5.37**	**7**	*e*Pn		**Pn**	**11 06 05.5**	**+1.5**
MOA				*e*Sn		**Sn**	**11 07 04.7**	**-1.0**
TRUS	**Trudelj**	**5.46**	**69**	*e*Pn		**Pn**	**11 06 06.0**	**+0.8**
RONA	**Rosalia, Austr**	**5.59**	**21**	*e*Pn		**Pn**	**11 06 06.9**	**-0.2**
	comp=N,0.3nm,0.1s							
GRUS	**Gruza**	**5.60**	**73**	*e*Pn		**Pn**	**11 06 07.7**	**+0.6**
GRUS				*e*Sn		**Sn**	**11 07 12.0**	**+0.7**
CONA	**Conrad Observa**	**5.70**	**18**	*i* Pn		**Pn**	**11 06 08.5**	**-0.1**
	comp=N,0.8nm,0.3s							
OHR	**Ohrid**	**5.79**	**102**	*e*Pn		**Pn**	**11 06 12.3**	**+2.5**
OHR				*e*Sn		**Sn**	**11 07 16.1**	**0.0**
BARS	**Barje**	**6.29**	**84**	*e*Pn		**Pn**	**11 06 18.0**	**+1.3**
BARS				*e*Sn		**Sn**	**11 07 27.7**	**-0.8**
FNA	**Florina**	**6.30**	**103**	*e*Pn		**Pn**	**11 06 19.6**	**+2.7**
FNA				*e*Sn		**Sn**	**11 07 26.3**	**-2.5**
CKRC	**Cesky Krumlov**	**6.34**	**6**	*e*SN		**Sn**	**11 07 25.6**	**-3.9**
PRVS	**Prvonek**	**6.49**	**87**	*e*Pn		**Pn**	**11 06 20.6**	**+1.1**
PRVS				*e*Sn		**Sn**	**11 07 33.9**	**+0.4**
KHC	**Kasperske Hory**	**6.61**	**2**	*e*PN		**Pn**	**11 06 21.0**	**0.0**
KHC				*e*SN		**Sn**	**11 07 32.1**	**-4.2**
ZAGS	**Zajecar**	**6.67**	**76**	*e*Pn		**Pn**	**11 06 22.3**	**+0.5**
ZAPS	**Zavoj**	**6.90**	**81**	*e*Sn		**Sn**	**11 07 42.4**	**-1.1**

ROM 18 11:07:01.6±0.1, 42°.523N±0°.004×13°.274E±0°.007, h14$^{km}_{\pm 1km}$, ML2.9/7, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=207.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
T1247	**Pizzolo (AQ)**	**0.08**	**168**	P		Pg	11	07	05.0	+0.4
T1247				S		Sg	11	07	07.3	+0.7
T1247				AML		AML				
	comp=E,32400µm,0.3s									
T1247				AML		AML				
	comp=N,20150µm,0.1s									
T1247				AML		AML				
	comp=E,13011µm,0.1s									
T1247				AML		AML				
	comp=N,20161µm,0.1s									
CAMP	**Campotosto**	**0.10**	**83**	⇑P		Pg	11	07	05.0	+0.2
CAMP				S		Sg	11	07	07.3	+0.3
CAMP				AML		AML				
	comp=E,5005µm,0.6s									
CAMP				AML		AML				
	comp=N,7495µm,0.4s									
CAMP				AML		AML				
	comp=E,3523µm,0.4s									
CAMP				AML		AML				
	comp=N,5858µm,0.3s									
SMA1	**SAN MARTINO**	**0.12**	**23**	P		Pg	11	07	05.2	+0.2
SMA1				S		Sg	11	07	07.9	+0.5
SMA1				AML		AML				
	comp=E,57450µm,0.3s									
SMA1				AML		AML				
	comp=N,30200µm,1.6s									
SMA1				AML		AML				
	comp=E,57550µm,0.3s									
SMA1				AML		AML				
	comp=N,30350µm,1.6s									
SMA1				AML		AML				
	comp=E,57519µm,0.3s									
SMA1				AML		AML				
	comp=N,22358µm,0.1s									
T1218	**Civita (PG)**	**0.19**	**321**	P		Pg	11	07	06.2	+0.1
T1218				S		Sg	11	07	09.4	+0.3
T1218				AML		AML				
T1218				AML		AML				
T1218				AML		AML				
T1218				AML		AML				
T1218				AML		AML				
	comp=E,5118µm,0.2s									
T1218				AML		AML				
	comp=N,7487µm,0.2s									
T1218				AML		AML				
	comp=N,7807µm,0.2s									
T1218				AML		AML				
	comp=E,5064µm,0.1s									
LNSS	**Leonessa**	**0.19**	**295**	⇓P		Pg	11	07	06.4	+0.3
LNSS				S		Sg	11	07	09.8	+0.7
GIGS	**Gran Sasso**	**0.23**	**108**	P		Pg	11	07	06.7	0.0
GIGS				S		Sg	11	07	10.5	+0.4
GIGS				AML		AML				
	comp=N,716µm,0.2s									
GIGS				AML		AML				
	comp=E,548µm,0.1s									
FIAM	**Fiamignano**	**0.28**	**205**	P		Pg	11	07	07.9	+0.4
FIAM				S		Sb	11	07	12.6	-0.6
T1217	**Poggiodomo (PG**	**0.32**	**307**	P		Pg	11	07	08.2	+0.1
T1217				S		Sg	11	07	13.3	+0.7
T1217				AML		AML				
T1217				AML		AML				
T1217				AML		AML				
T1217				AML		AML				
T1217				AML		AML				
	comp=E,2085µm,0.3s									
T1217				AML		AML				
	comp=E,1894µm,0.1s									
T1217				AML		AML				
	comp=N,2632µm,0.2s									
T1217				AML		AML				
	comp=E,1810µm,0.2s									
T1217				AML		AML				
	comp=N,2587µm,0.2s									
ARRO	**Arrone**	**0.38**	**279**	P		Pg	11	07	09.4	+0.1
ARRO				AML		AML				
	comp=E,44700µm,0.3s									
ARRO				AML		AML				
	comp=N,70950µm,0.3s									
ARRO				AML		AML				
	comp=N,2443µm,0.2s									
ARRO				AML		AML				
	comp=E,1001µm,0.2s									
T0110	**Collepietro**	**0.48**	**128**	P		Pb	11	07	11.6	-0.3
GUMA	**Gualdo di Mace**	**0.54**	**5**	P		Pg	11	07	12.4	+0.1
GUMA				S		Sb	11	07	21.0	+0.4

*BGR **18** 11:07:33.9±0.6, 42°.19N×13°.64E, h10^{km}, ML4.7/14, Error ellipse: s-maj=10.0km s-min=8.9km az=27.0*
*BJI **18** 11:07:34.5±0.0, 42°.83N×12°.92E, h4^{km}, mb4.5/21, mB5.3/4, Ms4.9/2, Ms7 4.8/3*
*IDC **18** 11:07:36.5±0.6, 42°.72N×13°.16E, h0^{km}, mb4.1/26, mbtmp4.1/37, ML3.9/9, MS3.7/1, Error ellipse: s-maj=10.6km s-min=10.1km az=91.0*
*PRU **18** 11:07:36.5±0.0, 42°.58N×13°.02E, h10^{km}, M4.7*
*ROM **18** 11:07:37.2±0.0, 42°.620N±0°.002×13°.256E±0°.002, h11^{km}, ML4.3/110, Mw4.1, Error ellipse: s-maj=0.2km s-min=0.1km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.67; $M_{\theta\theta}$0.57; $M_{\phi\phi}$1.09; $M_{r\theta}$0.43; $M_{\theta\phi}$-1.05; $M_{\phi r}$-0.38; Fault plane solution: $M_0$1.87850×10^{15} NP1:ϕ_s146.00000°, δ36.00000°, λ-84.00000°. NP2:ϕ_s318.00000°, δ54.00000°, λ-94.00000°.*
*MOS **18** 11:07:37.2±1.1, 42°.76N×13°.26E, h13^{km}, mb4.7/26 Error ellipse: s-maj=5.7km s-min=3.6km az=79.5*
*MED_RC **18** 11:07:37.0±1.8, 42°.62N×13°.24E, h10^{km}, MW4.4/7, Moment Tensor Solution. Mantle waves: s7,c7; Duration: 1^{s}1 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.58±.46; $M_{\theta\theta}$1.81±.52; $M_{\phi\phi}$1.76±.37; $M_{r\theta}$-2.05±2.43; $M_{\theta\phi}$-1.73±.34; $M_{\phi r}$2.36±1.95; Best double couple: $M_0$4.73000×10^{15} NP1:ϕ_s137.00000°, δ66.00000°, λ-88.00000°. NP2:*

ϕ_E312.00000°, δ24.00000°, λ-95.00000°. Principal axes: T 4.6900, Plg21.0000°, Azm226.0000°; N 0.0600, Plg2.0000°, Azm317.0000°; P -4.7700, Plg69.0000°, Azm52.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

PDG ***18*** *11:07:37.4±0.2, 42.63N×13.22E, h19km±3km, MD4.6/1, ML4.5/11 Error ellipse: s-maj=2.2km s-min=5.7km az=0.0*

BEO ***18*** *11:07:38.3±0.5, 42.69N×13.27E, h0km, ML4.4/26*

LDG ***18*** *11:07:38.8±0.1, 42.52N×13.11E, h10km, Ml3.9/34, Error ellipse: s-maj=3.9km s-min=2.6km az=35.0*

NEIC ***18*** *11:07:39.1±1.8, 42.76N±0.05×13.21E±0.06, h10km±1km, mb4.6/34, ML4.3(ROM), Mwr4.1(VIE), Error ellipse: s-maj=9.6km s-min=6.2km az=201.0*

STR ***18*** *11:07:43.6±2.1, 43°N±15°×1°3E±1°6, h10km, MLv4.4/24, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7, preliminary*

ISC 18 11:07:38.1±0.6, 42.62N±0.01×13.22E±0.02, h13km±3km, n687, σ1§89/843, mb4.5/63, 63C-30D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.08**	**81**	⇓P		**Pg**	**11 07 39.8**	**-1.2**
SMA1				S		**Sg**	**11 07 41.4**	**-1.7**
SMA1				AML		AML		
SMA1				AML		AML		
T1202	**Accumoli, Fraz**	**0.09**	**1**	⇓P		**Pg**	**11 07 40.2**	**-0.8**
T1202				S		**Sg**	**11 07 42.2**	**-1.0**
T1218	**Civita (PG)**	**0.10**	**303**	P		**Pg**	**11 07 40.4**	**-0.8**
T1218				S		**Sg**	**11 07 42.8**	**-0.5**
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
LNSS	**Leonessa**	**0.14**	**264**	⇑P		**Pg**	**11 07 41.4**	**-0.2**
LNSS				S		**Sg**	**11 07 44.8**	**+0.6**
CAMP	**Campotosto**	**0.16**	**121**	P		**Pg**	**11 07 41.1**	**-0.9**
CAMP				S		**Sg**	**11 07 43.5**	**-1.2**
T1247	**Pizzolo (AQ)**	**0.18**	**162**	⇑P		**Pg**	**11 07 41.9**	**-0.5**
T1247				S		**Sg**	**11 07 45.3**	**0.0**
T1247				AML		AML		
T1247				AML		AML		
T1217	**Poggiodomo (PG**	**0.23**	**294**	⇑P		**Pg**	**11 07 42.8**	**-0.4**
T1217				S		**Sg**	**11 07 47.2**	**+0.6**
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
AQU	**L'Aquila**	**0.29**	**153**	⇑P		**Pg**	**11 07 43.6**	**-0.7**
AQU				S		**Sg**	**11 07 48.5**	**+0.1**
GIGS	**Gran Sasso**	**0.31**	**123**	P		**Pg**	**11 07 43.2**	**-1.2**
GIGS				S		**Sg**	**11 07 47.6**	**-1.1**
GIGS				AML		AML		
	comp=E,19850μm,0.8s							
GIGS				AML		AML		
	comp=N,21400μm,0.8s							
GIGS				AML		AML		
	comp=E,19850μm,1.2s							
ARRO	**Arrone**	**0.34**	**264**	⇑P		**Pg**	**11 07 44.8**	**-0.3**
ARRO				S		**Sb**	**11 07 50.7**	**-0.7**
ARRO				AML		AML		
	comp=N,71000μm,0.3s							
ARRO				AML		AML		
	comp=N,70950μm,0.3s							
ARRO				AML		AML		
	comp=N,70950μm,1.7s							
ARRO				AML		AML		
	comp=E,51300μm,0.8s							
FIAM	**Fiamignano**	**0.36**	**193**	⇑P		**Pg**	**11 07 44.8**	**-0.6**
FIAM				S		**Sg**	**11 07 50.8**	**+0.6**
FIAM				AML		AML		
	comp=N,56750μm,1.2s							
FIAM				AML		AML		
	comp=E,73650μm,0.6s							
FEMA	**Monte Fema**	**0.37**	**340**	P		**Pg**	**11 07 44.8**	**-0.8**
FEMA				S		**Sg**	**11 07 50.5**	**-0.1**
FEMA				AML		AML		
	comp=N,97350μm,1.1s							
FEMA				AML		AML		
FAGN	**Fagnano**	**0.44**	**143**	P		**Pg**	**11 07 46.0**	**-0.9**
CESI	**CESI - Serrava**	**0.45**	**329**	⇑P		**Pg**	**11 07 46.4**	**-0.7**
CESI				S		**Sg**	**11 07 53.4**	**+0.2**
CESI				AML		AML		
	comp=E,42350μm,0.6s							
CESI				AML		AML		
	comp=N,79400μm,0.4s							
CESI				AML		AML		
	comp=E,42350μm,1.4s							
GUMA	**Gualdo di Mace**	**0.45**	**11**			**Pg**	**11 07 46.2**	**-0.9**
GUMA				Sg		**Sg**	**11 07 53.3**	**+0.1**
GUMA	**Gualdo di Mace**	**0.45**	**11**	⇑P		**Pg**	**11 07 46.2**	**-0.9**
GUMA				S		**Sg**	**11 07 53.3**	**+0.1**
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
CESX	**Cesi**	**0.47**	**269**			**Pg**	**11 07 47.0**	**-0.5**
CESX				Sg		**Sb**	**11 07 54.8**	**-0.5**
CESX	**Cesi**	**0.47**	**269**	⇑P		**Pg**	**11 07 47.0**	**-0.5**
CESX				S		**Sb**	**11 07 54.9**	**-0.5**
CESX				AML		AML		
	comp=N,54700μm,0.6s							
CESX				AML		AML		
	comp=E,42000μm,0.6s							
CSP1	**Cessapalombo**	**0.47**	**358**	⇑P		**Pg**	**11 07 46.4**	**-1.1**
CSP1				S		**Sg**	**11 07 53.6**	**-0.3**
CSP1				AML		AML		
	comp=E,70050μm,0.8s							
CSP1				AML		AML		
	comp=N,85000μm,1.2s							
CSP1				AML		AML		
	comp=N,85000μm,0.8s							
CSP1				AML		AML		
	comp=E,70000μm,0.8s							
T1220	**Camerino, Fraz**	**0.50**	**349**	⇑P		**Pg**	**11 07 46.9**	**-1.1**
T1220				S		**Sg**	**11 07 54.6**	**-0.1**
T1220				AML		AML		
T1220				AML		AML		
T1220				AML		AML		
T1220				AML		AML		
T1220				AML		AML		
T1220				AML		AML		
T1220				AML		AML		
MOMA	**Monte Martano**	**0.52**	**291**	⇑P		**Pg**	**11 07 47.7**	**-0.6**
MOMA				S		**Sb**	**11 07 56.1**	**-0.5**
MOMA				AML		AML		
	comp=E,67750μm,0.3s							
MOMA				AML		AML		
	comp=E,67750μm,0.3s							
MOMA				AML		AML		
	comp=N,55400μm,0.7s							
MOMA				AML		AML		
	comp=N,57350μm,0.7s							
MOMA				AML		AML		
	comp=E,67900μm,0.3s							
TRTR	**Tortoreto Alta**	**0.54**	**69**	⇑P		**Pg**	**11 07 48.4**	**-0.4**
TRTR				AML		AML		
TRTR				AML		AML		
MNTP	**Montappone**	**0.55**	**19**	⇑P		**Pg**	**11 07 48.0**	**-0.9**
MNTP				S		**Sg**	**11 07 56.8**	**+0.6**
MNTP				AML		AML		
MNTP				AML		AML		
	comp=N,82400μm,1.0s							
MNTP				AML		AML		
SEF1	**Sefro**	**0.57**	**339**	P		**Pg**	**11 07 48.2**	**-1.1**
SEF1				S		**Sg**	**11 07 56.7**	**-0.1**
SEF1				AML		AML		
	comp=E,51700μm,0.3s							
SEF1				AML		AML		
	comp=E,51650μm,0.3s							
SEF1				AML		AML		
	comp=N,49550μm,0.3s							
T0110	**Collepietro**	**0.57**	**133**	P		**Pg**	**11 07 47.9**	**-1.4**
T0110				S		**Sg**	**11 07 56.2**	**-0.6**
T0110				AML		AML		
	comp=N,40400μm,1.6s							
T0110				AML		AML		
	comp=E,43550μm,0.4s							
T0110				AML		AML		
	comp=N,40400μm,0.4s							
MDAR	**Monte D'Aria**	**0.58**	**354**	P		**Pg**	**11 07 48.2**	**-1.3**
MDAR				S		**Sg**	**11 07 56.9**	**-0.3**
MDAR				AML		AML		
	comp=E,38100μm,0.7s							
MDAR				AML		AML		
	comp=N,36250μm,0.9s							
PIO1	**Pioraco**	**0.59**	**343**	P		**Pg**	**11 07 48.3**	**-1.3**
ASSB	**Assisi San Ben**	**0.59**	**316**	⇑P		**Pg**	**11 07 48.8**	**-1.0**
ASSB				S		**Sg**	**11 07 58.0**	**+0.4**
ASSB				AML		AML		
	comp=E,34250μm,0.5s							
ASSB				AML		AML		
	comp=N,40100μm,1.3s							
FIU1	**Fiuminata**	**0.61**	**340**	P		**Pg**	**11 07 48.9**	**-1.1**
PTQR	**Pietraquaria**	**0.61**	**167**	P		**Pg**	**11 07 48.7**	**-1.3**
SSM1	**San Severino M**	**0.61**	**357**	P		**Pg**	**11 07 48.8**	**-1.3**
GAG1	**Gagliole**	**0.63**	**350**	P		**Pg**	**11 07 49.3**	**-1.1**
GAG1				S		**Sg**	**11 07 58.9**	**+0.1**
GAG1				AML		AML		
	comp=E,67100μm,1.0s							
GAG1				AML		AML		
	comp=N,92150μm,0.5s							
GAG1				AML		AML		
	comp=E,67050μm,1.0s							
GAG1				AML		AML		
	comp=N,92150μm,0.5s							
SRES	**S.Oreste - Sor**	**0.65**	**234**	⇑P		**Pg**	**11 07 50.0**	**-0.8**
SRES				AML		AML		
	comp=N,18450μm,0.7s							
SRES				AML		AML		
	comp=E,20850μm,0.8s							
MTL1	**Matelica**	**0.66**	**346**	P		**Pg**	**11 07 49.9**	**-1.1**
MTL1				AML		AML		
	comp=E,67050μm,0.5s							
MTL1				AML		AML		
	comp=N,60150μm,0.8s							
MTL1				AML		AML		
	comp=N,60100μm,0.8s							
MTL1				AML		AML		
	comp=N,60100μm,1.2s							
MTL1				AML		AML		
	comp=E,67000μm,0.5s							
SNTG	**Esanatoglia**	**0.67**	**342**	P		**Pg**	**11 07 49.8**	**-1.4**
SNTG				S		**Sg**	**11 07 59.9**	**-0.1**
SNTG				AML		AML		
	comp=E,16450μm,0.6s							
SNTG				AML		AML		
	comp=N,20000μm,0.6s							
SNTG				AML		AML		
	comp=E,15800μm,0.6s							
SNTG				AML		AML		
	comp=E,15800μm,1.4s							
SNTG				AML		AML		
	comp=E,16450μm,1.4s							
SNTG				AML		AML		
	comp=N,21100μm,0.3s							
SNTG				AML		AML		
	comp=N,20000μm,1.4s							
CERT	**Cerreto**	**0.69**	**195**	P		**Pg**	**11 07 50.2**	**-1.4**
CERT				AML		AML		
	comp=N,42250μm,0.9s							
CERT				AML		AML		
	comp=E,42750μm,0.4s							
MTCE	**Montecelio**	**0.69**	**211**	⇑P		**Pg**	**11 07 50.5**	**-1.1**
MTCE				AML		AML		
	comp=N,24300μm,0.5s							
MTCE				AML		AML		
	comp=E,46300μm,0.5s							
MTCE				AML		AML		
	comp=E,46300μm,1.5s							
MTCE				AML		AML		
	comp=N,24300μm,1.5s							
CADA	**Capodarco di F**	**0.70**	**34**	P		**Pg**	**11 07 51.4**	**-0.3**
CADA				AML		AML		
CADA				AML		AML		
CADA				AML		AML		
ATCC	**AVT- Casa Cast**	**0.71**	**323**	P		**Pg**	**11 07 50.8**	**-1.1**
ATCC				AML		AML		
	comp=E,40950μm,0.4s							
ATCC				AML		AML		
	comp=E,40950μm,1.6s							
ATCC				AML		AML		
	comp=N,31700μm,0.7s							
EL6	**Elcito**	**0.72**	**353**	P		**Pg**	**11 07 50.4**	**-1.6**
EL6				S		**Sg**	**11 08 01.9**	**+0.4**
EL6				AML		AML		
	comp=N,58850μm,0.5s							
EL6				AML		AML		
	comp=E,48400μm,0.7s							
EL6				AML		AML		
	comp=N,58850μm,1.5s							
EL6				AML		AML		
	comp=E,48400μm,1.3s							
FOSV	**Fossato di Vic**	**0.76**	**334**	⇑P		**Pg**	**11 07 51.4**	**-1.4**
FOSV				S		**Sb**	**11 08 03.7**	**+0.2**
FOSV				AML		AML		
	comp=N,27150μm,0.4s							
FOSV				AML		AML		
	comp=E,20150μm,0.5s							
CIMA	**Civitanova Mar**	**0.76**	**25**	P		**Pg**	**11 07 52.5**	**-0.4**
RCAV	**Rocca di Cave**	**0.80**	**195**	P		**Pg**	**11 07 52.2**	**-1.4**
RCAV				AML		AML		
	comp=N,37500μm,0.7s							
RCAV				AML		AML		
	comp=E,38500μm,0.6s							
RCAV				AML		AML		
	comp=N,37450μm,0.7s							
RCAV				AML		AML		
	comp=E,38500μm,1.4s							
RCAV				AML		AML		
	comp=N,37450μm,1.3s							
VVLD	**Villa Vallelon**	**0.80**	**158**	P		**Pg**	**11 07 53.4**	**-0.3**
PP3	**Marolino**	**0.81**	**20**	⇑P		**Pg**	**11 07 52.9**	**-1.0**
PP3				AML		AML		
	comp=E,98100μm,0.7s							
PP3				AML		AML		
	comp=N,90400μm,0.6s							
PP3				AML		AML		
	comp=N,84600μm,0.6s							
PP3				AML		AML		
PP3				AML		AML		
	comp=E,98100μm,0.7s							
MURB	**Monte Urbino**	**0.82**	**322**			**Pg**	**11 07 53.3**	**-0.8**
MURB	**Monte Urbino**	**0.82**	**322**	P		**Pg**	**11 07 53.1**	**-1.0**
MURB				AML		AML		
	comp=E,48150μm,0.4s							
MURB				AML		AML		
	comp=E,51050μm,0.4s							
MURB				AML		AML		
	comp=N,46900μm,0.9s							
MURB				AML		AML		
	comp=N,47950μm,0.9s							
MURB				AML		AML		
	comp=N,46900μm,1.1s							
MURB				AML		AML		
	comp=N,47950μm,1.1s							
MURB				AML		AML		
	comp=E,48150μm,1.6s							
MURB				AML		AML		
	comp=E,51050μm,1.6s							
GUAR	**Guarcino**	**0.83**	**175**	P		**Pg**	**11 07 53.3**	**-0.8**
GUAR				AML		AML		
	comp=N,19800μm,1.3s							
GUAR				AML		AML		
	comp=N,19800μm,0.7s							
GUAR				AML		AML		
	comp=E,15200μm,1.3s							
MGAB	**Montegabbione**	**0.87**	**290**	P		**Pg**	**11 07 54.1**	**-0.9**
SSFR	**Montelago di S**	**0.88**	**339**	P		**Pg**	**11 07 54.0**	**-1.2**
SSFR				AML		AML		
	comp=E,35800μm,0.3s							
SSFR				AML		AML		
	comp=N,40350μm,0.2s							
SSFR				AML		AML		
	comp=N,41550μm,0.3s							
SSFR				AML		AML		
	comp=E,36800μm,0.3s							
ATFO	**Monte Foce - G**	**0.89**	**328**	P		**Pg**	**11 07 54.2**	**-1.1**
ATFO				AML		AML		
	comp=N,16750μm,0.6s							
ATFO				AML		AML		
	comp=E,16800μm,1.2s							
ATFO				AML		AML		
	comp=E,16800μm,0.8s							
RMP	**Rome, Mte Porz**	**0.89**	**206**	P		**Pg**	**11 07 53.9**	**-1.5**
RMP				AML		AML		
	comp=E,30800μm,1.6s							
RMP				AML		AML		
	comp=N,41250μm,0.7s							
RMP				AML		AML		
	comp=E,30800μm,0.4s							
ATSC	**Scheggia e Pas**	**0.90**	**334**	P		**Pg**	**11 07 54.4**	**-1.1**
ARVD	**Arcevia**	**0.90**	**347**	P		**Pg**	**11 07 53.8**	**-1.8**
ARVD				S		**Sg**	**11 08 07.4**	**0.0**
ARVD				AML		AML		
	comp=E,17950μm,1.5s							
ARVD				AML		AML		
	comp=E,17950μm,0.5s							
ARVD				AML		AML		
	comp=N,14800μm,0.4s							
LPEL	**Lama dei Peligi**	**0.91**	**128**	P		**Pg**	**11 07 53.5**	**-2.2**
ATLO	**AVT- Montelove**	**0.92**	**320**	P		**Pg**	**11 07 54.6**	**-1.3**
VIVA	**Pratoni del Vi**	**0.93**	**201**	P		**Pg**	**11 07 54.9**	**-1.2**
VIVA				AML		AML		
	comp=N,52050μm,0.4s							
VIVA				AML		AML		
	comp=E,61300μm,0.5s							
RDP	**Rocca di Papa**	**0.94**	**204**	AML		AML		
	comp=N,79350μm,0.6s							
RDP				AML		AML		
	comp=E,72150μm,0.6s							
RDP				AML		AML		
	comp=E,72150μm,1.4s							
MA9	**Marino**	**0.94**	**206**	P		**Pg**	**11 07 55.8**	**-0.6**
ATVA	**AVT- Monte Val**	**0.95**	**314**	P		**Pg**	**11 07 55.2**	**-1.4**
TB01	**Gubbio**	**0.96**	**323**	P		**Pg**	**11 07 55.5**	**-1.1**
SAMA	**S.Maria delle**	**0.96**	**209**	P		**Pb**	**11 07 54.8**	**-1.8**
TB02	**Pietralunga**	**0.96**	**322**	P		**Pg**	**11 07 55.4**	**-1.3**
ATVO	**AVT- Monte Val**	**0.97**	**322**	P		**Pg**	**11 07 55.6**	**-1.3**
ATVO				AML		AML		
	comp=E,14850μm,0.6s							
ATVO				AML		AML		
	comp=N,13050μm,0.8s							
ATVO				AML		AML		
	comp=N,13050μm,1.2s							
FRON	**Frontone**	**0.97**	**338**	P		**Pg**	**11 07 55.3**	**-1.6**
FRON				AML		AML		
	comp=E,24700μm,1.4s							
FRON				AML		AML		
	comp=N,23000μm,0.5s							
FRON				AML		AML		
	comp=E,24700μm,0.6s							
POFI	**Posta Fibreno**	**0.97**	**158**	P		**Pg**	**11 07 56.1**	**-0.8**
AOI	**Ancona**	**0.97**	**16**	P		**Pb**	**11 07 54.6**	**-2.3**
AOI				AML		AML		
	comp=N,22950μm,0.9s							
AOI				AML		AML		
	comp=E,19850μm,0.7s							
AOI				AML		AML		
	comp=N,22950μm,1.1s							
ATBU	**Serra di Buran**	**0.99**	**330**	P		**Pb**	**11 07 56.2**	**-1.1**
SACS	**San Casciano d**	**0.99**	**284**	⇑P		**Pb**	**11 07 56.4**	**-0.9**
SACS				AML		AML		
	comp=E,20200μm,0.8s							
SACS				AML		AML		
	comp=N,23600μm,0.4s							
SACS				AML		AML		
	comp=E,18950μm,0.8s							
SACS				AML		AML		
	comp=N,23450μm,0.4s							
ATMI	**Monte Miggiano**	**1.00**	**316**	P		**Pb**	**11 07 56.6**	**-0.8**
ATMI				AML		AML		
	comp=N,29300μm,0.9s							
ATMI				AML		AML		
	comp=E,37600μm,0.4s							
ATMI				AML		AML		
	comp=N,29300μm,1.1s							
LRP	**Arpino**	**1.01**	**164**	P		**Pn**	**11 07 58.0**	**0.0**
LRP				AML		AML		
	comp=E,5410μm,0.5s							
LRP				AML		AML		
	comp=N,8825μm,0.4s							
LAV9	**Lanuvio**	**1.02**	**203**	P		**Pb**	**11 07 56.9**	**-0.7**
LAV9				AML		AML		
	comp=E,43050μm,1.6s							
LAV9				AML		AML		
	comp=N,43950μm,0.5s							
LAV9				AML		AML		
	comp=N,44350μm,0.5s							
LAV9				AML		AML		
	comp=E,43050μm,0.4s							
LAV9				AML		AML		
	comp=E,45200μm,1.6s							
COR1	**Corinaldo**	**1.03**	**351**	P		**Pb**	**11 07 56.7**	**-1.1**
COR1				AML		AML		
	comp=N,52200μm,1.1s							
COR1				AML		AML		
	comp=E,29000μm,1.0s							
COR1				AML		AML		
	comp=E,55350μm,1.0s							
COR1				AML		AML		
	comp=N,48300μm,0.5s							
ATPI	**Pietralunga -**	**1.03**	**324**	P		**Pb**	**11 07 56.5**	**-1.4**
ATPI				AML		AML		
	comp=N,27800μm,0.5s							
ATPI				AML		AML		
	comp=E,26250μm,0.6s							
ATPC	**Poggio Castell**	**1.03**	**327**	P		**Pb**	**11 07 56.6**	**-1.3**
LATE	**Laterza**	**1.05**	**270**			**Pb**	**11 07 57.4**	**-0.7**
LATE	**Laterza**	**1.05**	**270**	P		**Pb**	**11 07 57.2**	**-1.0**
PIEI	**Pieia**	**1.05**	**331**	P		**Pb**	**11 07 56.8**	**-1.4**
PIEI				AML		AML		
	comp=N,15700μm,0.7s							
PIEI				AML		AML		
	comp=N,15700μm,1.3s							
PIEI				AML		AML		
	comp=E,13600μm,0.5s							
GIUL	**Giuliano Di Ro**	**1.06**	**179**	P		**Pb**	**11 07 57.2**	**-1.2**
GIUL				AML		AML		
	comp=E,9240μm,1.1s							
GIUL				AML		AML		
	comp=N,17200μm,0.7s							
TOLF	**Tolfa**	**1.06**	**239**	P		**Pb**	**11 07 57.2**	**-1.2**
TOLF				AML		AML		
	comp=E,12250μm,0.6s							
TOLF				AML		AML		
	comp=N,15100μm,0.5s							
TOLF				AML		AML		
	comp=N,15100μm,1.5s							
MPAG	**Monte Paganucc**	**1.07**	**342**	P		**Pb**	**11 07 56.9**	**-1.7**
MPAG				AML		AML		
	comp=N,15450μm,1.0s							
MPAG				AML		AML		
	comp=N,15450μm,1.0s							
MPAG				AML		AML		
	comp=N,15350μm,1.0s							
MPAG				AML		AML		
	comp=E,25500μm,0.8s							
MPAG				AML		AML		
	comp=E,25500μm,0.8s							
SENI	**Senigallia**	**1.09**	**0**	P		**Pb**	**11 07 57.8**	**-1.0**
SENI				AML		AML		
	comp=E,65700μm,0.4s							
SENI				AML		AML		
	comp=E,26400μm,0.9s							
SENI				AML		AML		
	comp=N,20700μm,0.8s							
SENI				AML		AML		
	comp=N,20700μm,1.2s							
SENI				AML		AML		
	comp=E,26400μm,1.1s							
SENI				AML		AML		
	comp=N,63150μm,0.4s							
NARO	**Abbazia di Nar**	**1.10**	**335**	P		**Pb**	**11 07 57.6**	**-1.4**
NARO				AML		AML		
	comp=N,16700μm,0.8s							
NARO				AML		AML		
	comp=N,16700μm,1.2s							
NARO				AML		AML		
	comp=E,13850μm,0.6s							
APEC	**Apecchio**	**1.11**	**328**	P		**Pb**	**11 07 58.5**	**-0.8**
APEC				AML		AML		
	comp=N,20600μm,0.7s							
APEC				AML		AML		
	comp=E,23250μm,0.7s							
APEC				AML		AML		
	comp=E,27300μm,0.8s							
APEC				AML		AML		

comp=N,25450µm,0.8s
ATMC Monte Cedrone 1.12 318 P Pb 11 07 58.9 -0.6
LATB Latina 1.14 190 P Pb 11 07 57.6 -2.1
LATB AML AML
comp=N,3645µm,1.1s
LATB AML AML
comp=N,3645µm,0.9s
LATB AML AML
comp=E,6050µm,0.8s
LIK San Giovanni I 1.14 167 P Pb 11 07 59.5 -0.2
LIK AML AML
comp=E,14400µm,0.6s
LIK AML AML
comp=N,12200µm,0.7s
LIK AML AML
comp=E,14400µm,1.4s
BADI Badiali 1.14 322 P Pb 11 07 59.1 -0.8
BADI AML AML
comp=E,533µm,1.3s
BADI AML AML
comp=N,11800µm,0.7s
BADI AML AML
comp=E,533µm,0.7s
RNI2 Rionero Sannit 1.15 143 P Pn 11 07 60.0 0.0
RNI2 AML AML
comp=E,12100µm,0.8s
RNI2 AML AML
comp=N,13300µm,1.0s
RNI2 AML AML
comp=E,12050µm,0.8s
RNI2 AML AML
comp=N,13400µm,1.0s
RNI2 AML AML
comp=E,12100µm,1.2s
RNI2 AML AML
comp=E,12050µm,1.2s
RNI2 AML AML
comp=N,13300µm,1.0s
RNI2 AML AML
comp=N,13400µm,1.0s
SF03 Valle Cupa 1.15 280 P Pb 11 07 59.4 -0.5
MCIV Monte Civitell 1.15 279 P Pb 11 07 59.2 -0.8
MCIV AML AML
comp=E,9905µm,1.0s
MCIV AML AML
comp=N,6265µm,0.6s
MCIV AML AML
comp=N,6265µm,1.4s
CAFI Castiglion Fio 1.16 308 P Pb 11 07 59.2 -1.0
CAFI AML AML
comp=E,9365µm,0.5s
CAFI AML AML
comp=E,9575µm,0.5s
CAFI AML AML
comp=N,7220µm,0.6s
CAFI AML AML
comp=N,7440µm,0.6s
SF11 Podere del Sol 1.16 283 P Pb 11 07 59.4 -0.8
SF04 Casetta 1.17 281 P Pb 11 07 59.8 -0.5
SF04 AML AML
comp=N,9600µm,0.4s
SF04 AML AML
comp=E,16200µm,0.4s
CERA Filignano 1.18 150 P Pb 11 07 59.2 -1.2
CERA AML AML
comp=E,10730µm,0.9s
CERA AML AML
comp=N,10970µm,0.7s
CERA AML AML
comp=N,11195µm,0.7s
CERA AML AML
comp=E,10865µm,0.9s
CERA AML AML
comp=N,11195µm,1.3s
CERA AML AML
comp=N,10970µm,1.3s
SF14 Selvena 1.19 277 P Pn 11 07 59.4 -1.2
SF13 Bagnolo 1.20 280 P Pn 11 08 00.3 -0.4
PE3 Peglio 1.20 334 P Pn 11 08 00.0 -0.7
PE3 AML AML
comp=N,72µm,0.3s
PE3 AML AML
comp=E,61800µm,0.6s
PE3 AML AML
comp=N,72µm,1.7s
SF01 Poggio Pratacc 1.24 280 P Pn 11 08 01.1 -0.2
SF01 AML AML
comp=N,12650µm,0.4s
SF01 AML AML
comp=E,13500µm,0.7s
SSP9 Sansepolcro 1.25 320 P Pn 11 08 01.0 -0.3
SSP9 AML AML
comp=N,11200µm,0.9s
SSP9 AML AML
comp=N,11200µm,1.1s
SSP9 AML AML
comp=E,9345µm,0.7s
TRIV Trivento 1.30 130 P Pb 11 08 02.6 +0.1
ARCI Arcidosso 1.31 281 P Pn 11 08 02.0 -0.2
ARCI AML AML
comp=N,2660µm,0.4s
ARCI AML AML
comp=E,3005µm,1.0s
PESA Pesaro 1.35 348 P Pn 11 08 02.5 -0.2
PESA AML AML
comp=N,19550µm,0.8s
PESA AML AML
comp=E,20400µm,0.7s
PESA AML AML
comp=N,19550µm,1.2s
CPGN Carpegna, Ital 1.35 331 P Pb 11 08 03.4 -0.1
CPGN AML AML
comp=N,18550µm,1.6s
CPGN AML AML
comp=N,20400µm,0.6s
CPGN AML AML
comp=N,20400µm,1.4s
CPGN AML AML
comp=E,22600µm,1.0s
CPGN AML AML
comp=E,18900µm,0.9s
CRE Caprese Michel 1.37 318 P Pb 11 08 03.8 +0.1
MODR Mondragone 1.55 161 P Pn 11 08 05.5 0.0
MODR AML AML
comp=E,1955µm,1.6s
MODR AML AML
comp=N,2195µm,1.2s
MAON Monte Argentar 1.56 264 ⇑P Pn 11 08 05.2 -0.4
MAON AML AML
comp=E,2430µm,0.7s
MAON AML AML
comp=N,2050µm,1.4s
MAON AML AML
comp=N,2050µm,0.6s
ASQU Asqua 1.58 319 P Pn 11 08 06.5 +0.5
PIGN Pignataro Magg 1.59 153 P Pn 11 08 06.4 +0.4
FROS Frosini 1.63 292 P Pn 11 08 06.4 -0.2
FROS AML AML
comp=E,5820µm,1.3s
FROS AML AML
comp=N,3435µm,1.1s
FROS AML AML
comp=N,3435µm,0.9s
FROS AML AML
comp=E,5820µm,0.7s
SFI Santa Sofia 1.63 322 P Pn 11 08 07.0 +0.4
SFI AML AML
comp=E,4625µm,1.0s
SFI AML AML
comp=N,5700µm,0.7s
SFI AML AML
comp=E,4620µm,1.0s
SFI AML AML
comp=E,4620µm,1.0s
SFI AML AML
comp=E,4625µm,1.0s
SFI AML AML
comp=N,5695µm,0.7s
SACR S. Croce Del S 1.65 137 P Pb 11 08 08.5 +0.1
GATE Gambatesa 1.67 131 P Pb 11 08 09.1 +0.3
MELA Melanico ??? S 1.68 122 P Pn 11 08 08.1 +0.8
MELA AML AML
comp=N,9640µm,0.6s
MELA AML AML
comp=N,9500µm,0.6s
MELA AML AML
comp=E,8560µm,1.0s
MELA AML AML
comp=E,8730µm,1.0s
OSSC Osservatorio P 1.71 303 Pn Pn 11 08 08.2 +0.5
OSSC Osservatorio P 1.71 303 P Pn 11 08 07.6 -0.1
OSSC AML AML
comp=E,3020µm,0.8s
OSSC AML AML
comp=N,2340µm,0.9s
OSSC AML AML
comp=E,2470µm,0.9s
OSSC AML AML
comp=N,2995µm,0.8s
OSSC AML AML
comp=N,2995µm,1.2s
OSSC AML AML
comp=E,2470µm,1.1s
OSSC AML AML
comp=E,3020µm,1.2s
OSSC AML AML
comp=N,2340µm,1.1s
CASP Castiglione de 1.75 276 Pn Pn 11 08 08.2 0.0
CASP Castiglione de 1.75 276 ⇑P Pn 11 08 08.0 -0.2
CASP AML AML
comp=E,1155µm,0.4s
CASP AML AML
comp=N,1345µm,1.2s
CASP AML AML
comp=N,1345µm,0.8s
RUFI Rufina 1.75 315 P Pn 11 08 08.2 -0.1
RUFI AML AML
comp=E,3900µm,0.7s
RUFI AML AML
comp=N,4920µm,0.8s
RUFI AML AML
comp=E,3900µm,1.3s
RUFI AML AML
comp=N,4920µm,1.2s
TREM Isole Tremiti 1.77 105 AML AML
comp=N,8430µm,0.7s
TREM AML AML
comp=E,9660µm,0.8s
TREM AML AML
comp=E,9660µm,1.2s
TRIF Trifonti 1.78 287 P Pn 11 08 08.6 0.0
TRIF AML AML
comp=E,2185µm,0.8s
TRIF AML AML
comp=N,2565µm,0.5s
TRIF AML AML
comp=E,2185µm,1.2s
PSB1 Pescosannita 1.83 139 P Pb 11 08 11.0 -0.5
LMD Lutirano 1.83 323 P Pn 11 08 09.9 +0.5
APRC Apricena 1.93 116 P Pn 11 08 10.7 0.0
APRC AML AML
comp=E,3220µm,1.4s
APRC AML AML
comp=N,4345µm,1.5s
APRC AML AML
comp=E,3220µm,0.6s
BRIS BRISIGHELLA 1.98 321 P Pb 11 08 13.4 -0.6
SEI Scarperia 1.98 317 P Pb 11 08 12.9 -1.2
VVDG Vesuvio Valle 2.00 153 P Pn 11 08 12.0 +0.3
BIOG Biogem 2.01 134 P Pb 11 08 14.1 -0.5
A318A Donoratico (LI 2.01 285 P Pn 11 08 11.9 +0.1
CRMI Carmignano 2.02 306 P Pn 11 08 12.4 +0.4
MPPT Montemurlo 2.05 311 P Pn 11 08 13.2 +0.7
MTCR Monte La Croce 2.15 312 P Pn 11 08 14.1 +0.3
SGTA Sant Agata di 2.18 132 P Pn 11 08 15.8 +1.5
SGTA AML AML
comp=E,2445µm,1.1s
SGTA AML AML
comp=N,1615µm,1.0s
SGTA AML AML
comp=E,2425µm,1.1s
SGTA AML AML
comp=N,1575µm,1.0s
SGTA AML AML
comp=E,2425µm,0.9s
SGTA AML AML
comp=N,1575µm,1.0s
SGTA AML AML
comp=N,1615µm,1.0s
SGTA AML AML
comp=E,2445µm,0.9s
CAFE Carife 2.19 136 P Pb 11 08 16.3 -1.4
MSAG Monte S. Angel 2.19 113 P Pn 11 08 14.8 +0.4
MSAG AML AML
comp=E,5165µm,0.7s
MSAG AML AML
comp=N,6620µm,0.6s
MSAG AML AML
comp=E,5455µm,0.7s
MSAG AML AML
comp=N,6530µm,0.5s
MSAG AML AML
comp=N,6620µm,1.4s
MSAG AML AML
comp=E,5165µm,1.3s
MSAG AML AML
comp=E,5455µm,1.3s
MSAG AML AML
comp=N,6530µm,1.5s
SNAL S. Angelo Dei 2.25 138 P Pb 11 08 17.1 -1.6
SNAL AML AML
comp=E,1515µm,0.8s
SNAL AML AML
comp=N,2125µm,1.3s
SNAL AML AML
comp=E,1605µm,1.1s
SNAL AML AML
comp=N,2105µm,1.3s
SNAL AML AML
comp=N,2125µm,0.7s
SNAL AML AML
comp=E,1515µm,1.2s
SNAL AML AML
comp=N,2105µm,0.7s
SNAL AML AML
comp=E,1605µm,0.9s
LIO3 Lioni 2.26 139 P Pb 11 08 17.3 -1.6
PII Pisa 2.26 300 P Pn 11 08 15.3 +0.1
BRJN Brijuni 2.32 9 P Pn 11 08 15.1 -0.9
MAIM Mastiano 2.38 304 P Pn 11 08 17.2 +0.3
MAIM AML AML
comp=N,1610µm,0.9s
MAIM AML AML
comp=N,1610µm,1.1s
MAIM AML AML
comp=E,1635µm,0.6s
ZCCA Zocca 2.38 317 Pn 11 08 17.8 +0.8
ZCCA Zocca 2.38 317 P Pb 11 08 19.8 -1.2
CAPA Cerignola FG 2.42 126 P Pn 11 08 17.6 +0.1
CAPA AML AML
comp=E,4020µm,1.1s
CAPA AML AML
comp=N,3360µm,1.4s
CAPA AML AML
comp=E,4020µm,0.9s
CAPA AML AML
comp=N,3360µm,0.6s
MRLC Muro Lucano 2.52 137 P Pn 11 08 20.9 +2.0
VLC Villacollemand 2.58 308 Pn 11 08 20.0 +0.3
VLC Villacollemand 2.58 308 AML AML
comp=N,840µm,0.9s
VLC AML AML
comp=E,866µm,1.2s
VLC AML AML
comp=N,830µm,0.9s
VLC AML AML
comp=E,860µm,1.2s
VLC AML AML
comp=N,840µm,1.1s
VLC AML AML
comp=N,830µm,1.1s
GSCL Gusciola 2.58 313 P Pn 11 08 20.4 +0.6
GSCL AML AML
comp=E,2295µm,0.9s
GSCL AML AML
comp=N,2240µm,0.9s
GSCL AML AML
comp=E,2295µm,1.1s
GSCL AML AML
comp=N,2240µm,1.1s
SARO Sassorosso 2.58 308 P Pn 11 08 19.4 -0.4
SARO AML AML
comp=E,2345µm,0.7s
SARO AML AML
comp=N,3285µm,0.6s
CDRU Civita di Ruta 2.64 143 P Pn 11 08 21.3 +0.7
PALZ Palazzo San Ge 2.64 128 P Pn 11 08 19.5 -1.0
MRVN Minervino Murg 2.71 124 P Pn 11 08 22.0 +0.5
EQUI Equi 2.72 306 P Pn 11 08 21.7 +0.1
EQUI AML AML
comp=E,917µm,0.6s
EQUI AML AML
comp=N,1010µm,0.8s
EQUI AML AML
comp=E,917µm,1.4s
ACER Acerenza 2.74 131 P Pn 11 08 23.2 +1.4
ACER AML AML
comp=N,1223µm,0.7s
ACER AML AML
comp=N,1204µm,0.7s
ACER AML AML
comp=E,1845µm,0.7s
ACER AML AML
comp=N,1204µm,1.3s
ACER AML AML
comp=N,1223µm,1.3s
ACER AML AML
comp=E,1895µm,0.6s
SERM Sermide 2.77 330 AML AML
comp=E,2305µm,1.2s
SERM AML AML
comp=E,1216µm,1.4s
SERM AML AML
comp=N,1355µm,0.7s
SERM AML AML
comp=N,1355µm,1.3s
SERM AML AML
comp=E,1216µm,0.6s
SERM AML AML
comp=N,2285µm,0.7s
CMPR Campora 2.78 145 P Pn 11 08 23.6 +1.2
MORSI Morsiglia 2.86 278 P Pn 11 08 24.3 +0.8
MORSI S Sn 11 08 59.7 +1.9
TEOL Teolo 2.96 338 Pn Pn 11 08 25.0 +0.1
GRAM Graiana 2.96 310 P Pn 11 08 26.1 +1.1
SMPL Sampolo 2.96 261 P Pn 11 08 24.9 0.0
SKDS Skadanscina 2.98 11 eP Pn 11 08 23.9 -1.3
MCEL Monticello 3.00 139 P Pn 11 08 27.5 +2.0
MCEL AML AML
comp=N,428µm,0.7s
MCEL AML AML
comp=E,463µm,1.0s
MCEL AML AML
comp=N,442µm,0.7s
MCEL AML AML
comp=N,428µm,1.3s
MCEL AML AML
comp=E,456µm,1.0s
MCEL AML AML
comp=N,442µm,1.3s
MTSN Montesano sull 3.02 140 P Pn 11 08 27.7 +1.8
KNDS Knezji Dol 3.03 16 i Pn Pn 11 08 25.2 -0.6
CORF Corte 3.03 265 P Pn 11 08 26.5 +0.6
A050A Klekovaca 3.04 51 ⇑i Pn Pn 11 08 26.4 +0.3
AMUR Altamura 3.05 123 P Pn 11 08 26.9 +0.7
PGF Pioggiola 3.12 270 eP Pn 11 08 28.2 +1.0
PGF eSn Sn 11 09 00.2 -4.2
comp=N,158nm,0.7s
PGF Pioggiola 3.12 270 AML AML
comp=N,210µm,0.8s
PGF AML AML
comp=E,264µm,1.5s
PGF AML AML
comp=E,264µm,0.5s
GBRS Gornja Briga 3.13 21 i Pn Pn 11 08 26.8 -0.4
MSSA Maissana 3.19 303 Pn 11 08 28.7 +0.7
MSSA Maissana 3.19 303 P Pn 11 08 28.9 +0.8
SRKY Kupres RS 3.22 62 eP Pn 11 08 29.5 +0.9
SCHR S. Chirico Rap 3.23 137 P Pn 11 08 30.6 +1.9
BOJS Bojanci 3.23 26 AML AML
comp=E,3200µm,1.4s
BOJS AML AML
comp=E,3200µm,0.6s
BOJS AML AML
comp=N,2450µm,0.5s
BOJS Bojanci 3.23 26 eP Pn 11 08 28.8 +0.2
CEY Cerknica 3.24 15 eP Pn 11 08 27.7 -1.0
MATE Matera 3.27 126 ⇑P Pn 11 08 29.8 +0.8
MATE ⇓S Sn 11 09 09.5 +1.7
CUC Castrocucco 3.27 142 Pn 11 08 31.6 +2.4
STON Ston 3.31 84 AML AML
comp=E,864µm,1.2s
STON AML AML
comp=N,1132µm,0.6s
STON AML AML
comp=E,864µm,0.8s
STON AML AML
comp=N,1132µm,1.4s
STON Ston 3.31 84 eP Pn 11 08 29.5 -0.1
STON eSn Sn 11 09 08.0 -0.8
STON Ston 3.31 84 ⇑i Pn Pn 11 08 29.0 -0.6
MGRS Mrkonjic Grad 3.33 56 eP Pn 11 08 30.7 +0.6
LTRZ Laterza 3.37 126 P Pn 11 08 31.3 +0.8
LTRZ AML AML
comp=E,774µm,0.6s
LTRZ AML AML
comp=N,118µm,1.6s
LTRZ AML AML
comp=E,868µm,0.6s
LTRZ AML AML
comp=N,750µm,0.5s
SABO M.te Sabotino 3.37 4 Pn 11 08 29.7 -0.9
SABO M.te Sabotino 3.37 4 P Pn 11 08 29.7 -0.9
SABO AML AML
comp=N,10800µm,0.9s
SABO AML AML
comp=E,2000µm,0.5s
SABO AML AML
comp=N,2665µm,0.9s
SABO AML AML
comp=N,10800µm,1.1s
SABO AML AML
comp=N,2665µm,1.1s
SABO AML AML
comp=E,9230µm,0.5s
AJAC Base Areonaval 3.38 260 P Pn 11 08 31.7 +1.1
AJAC AML AML
comp=N,716µm,0.4s
AJAC AML AML
comp=N,716µm,1.6s
AJAC AML AML
comp=E,1220µm,0.3s
AJAC Base Areonaval 3.38 260 P Pn 11 08 31.8 +1.1
ROVR Rover Verones 3.40 334 P Pn 11 08 31.6 +0.5
ROVR AML AML
comp=E,1180µm,1.3s
ROVR AML AML
comp=N,1860µm,1.0s
ROVR AML AML
comp=N,733µm,1.0s
ROVR AML AML
comp=N,733µm,1.0s
ROVR AML AML
comp=E,468µm,0.4s
ROVR AML AML
comp=E,1180µm,0.7s
ROVR AML AML
comp=N,1860µm,1.0s
NOCI Noci 3.41 121 P Pn 11 08 31.7 +0.7
NOCI AML AML
comp=N,952µm,1.0s
NOCI AML AML
comp=N,952µm,1.0s
NOCI AML AML
comp=E,885µm,1.0s
PRIJ Prijedor 3.46 46 eP Pb 11 08 39.2 0.0
VARN Col Varnada, M 3.47 347 P Pn 11 08 31.8 -0.2
VARN AML AML
comp=N,1890µm,0.6s
VARN AML AML
comp=E,3230µm,1.2s
VARN AML AML
comp=E,3235µm,1.2s
VARN AML AML
comp=N,1860µm,0.6s
LJU Ljubljana 3.55 15 i Pn Pn 11 08 33.0 0.0
LJU eSn Sn 11 09 13.9 -0.9
DOSS Dosso del Somm 3.57 337 P Pn 11 08 34.3 +0.8
DOSS AML AML
comp=E,1235µm,0.6s

DOSS AML AML
comp=N,1405µm,0.5s
DOSS AML AML
comp=N,1235µm,0.6s
DOSS AML AML
comp=E,1365µm,0.5s
SALO Salr 3.57 328 Pn **Pn 11 08 34.1 +0.7**
SALO Salr 3.57 328 P **Pn 11 08 34.4 +1.1**
BLY Banja Luka 3.58 52 *e*Pn **Pn 11 08 34.3 +1.0**
BLY Banja Luka 3.58 52 *e*Pn **Pn 11 08 33.5 +0.2**
A051A Mrakovica 3.58 47⇑*i*Pn **Pn 11 08 33.5 0.0**
CRES Cresnjev 3.59 26 *e*Pn **Pn 11 08 32.8 -0.7**
CTI Castel Tesino 3.61 342 **Pn 11 08 33.4 -0.5**
CTI Castel Tesino 3.61 342 P **Pn 11 08 34.3 +0.4**
CTI Castel Tesino 3.61 342 P **Pn 11 08 33.4 -0.5**
LEOD Capriano del C 3.61 323 AML AML
comp=N,1675µm,0.7s
LEOD AML AML
comp=E,1995µm,0.5s
CADS Cadrg 3.63 6 *i*Pn **Pn 11 08 33.1 -1.0**
CADS *e*Sn **Sn 11 09 14.4 -2.4**
CADS IAML 11 09 20.5
comp=Z,359nm,0.5s
STAL STALIGIAL 3.66 354 **Pn 11 08 34.0 -0.5**
STAL STALIGIAL 3.66 354 P **Pn 11 08 33.9 -0.6**
STAL AML AML
comp=E,1840µm,0.7s
STAL AML AML
comp=E,2305µm,0.7s
STAL AML AML
comp=N,1890µm,0.3s
STAL AML AML
comp=N,1930µm,0.3s
STAL AML AML
comp=E,2305µm,1.3s
STAL AML AML
comp=E,1840µm,1.3s
TAR1 Taranto 3.69 123 AML AML
comp=E,766µm,0.6s
TAR1 AML AML
comp=N,848µm,1.0s
TAR1 AML AML
comp=N,848µm,1.0s
LUSI Trento, Gardas 3.72 335 P **Pn 11 08 36.0 +0.6**
LUSI AML AML
comp=N,1660µm,1.6s
LUSI AML AML
comp=E,1235µm,0.5s
LUSI AML AML
comp=N,1660µm,0.4s
CIMO Cimolais 3.73 352 **Pn 11 08 34.9 -0.7**
CIMO Cimolais 3.73 352 P **Pn 11 08 34.9 -0.7**
CIMO AML AML
comp=N,536µm,0.4s
CIMO AML AML
comp=N,540µm,0.4s
CIMO AML AML
comp=E,477µm,0.4s
CIMO AML AML
comp=E,474µm,0.4s
AGOR Agordo 3.76 347 P **Pn 11 08 35.7 -0.2**
AGOR AML AML
comp=N,672µm,0.4s
AGOR AML AML
comp=E,686µm,0.6s
AGOR AML AML
comp=E,884µm,0.6s
AGOR AML AML
comp=N,531µm,0.4s
TREB Trebinje 3.78 87 *e*Pn **Pn 11 08 36.4 +0.2**
TREB *e*Sn **Sn 11 09 20.5 -0.1**
TREB Trebinje 3.78 87 *e*Pn **Pn 11 08 36.3 +0.1**
PTCC Patocco-Chiusa 3.79 1 P **Pn 11 08 35.3 -1.0**
PTCC AML AML
comp=E,638µm,0.7s
PTCC AML AML
comp=N,593µm,1.0s
PTCC AML AML
comp=N,593µm,1.0s
PTCC AML AML
comp=E,638µm,1.3s
GAGG Gaggia 3.83 336 P **Pn 11 08 37.7 +0.8**
GAGG AML AML
comp=E,1365µm,0.8s
GAGG AML AML
comp=N,1295µm,1.1s
GAGG AML AML
comp=E,1290µm,1.1s
GAGG AML AML
comp=N,1365µm,0.8s
GAGG AML AML
comp=N,1295µm,0.9s
GAGG AML AML
comp=N,1365µm,1.2s
GAGG AML AML
comp=E,1365µm,1.2s
GAGG AML AML
comp=E,1290µm,0.9s
PRED Cave del Predi 3.83 4 **Pn 11 08 36.6 -0.3**
CLUD Cludinico 3.85 356 **Pn 11 08 36.3 -0.7**
CLUD Cludinico 3.85 356 P **Pn 11 08 36.4 -0.7**
CLUD AML AML
comp=N,1000µm,0.7s
CLUD AML AML
comp=N,985µm,0.7s
CLUD AML AML
comp=E,731µm,0.6s
CLUD AML AML
comp=N,985µm,1.3s
CLUD AML AML
comp=N,1000µm,1.3s
CLUD AML AML
comp=E,758µm,0.6s
HCY Herceg Novi 3.90 91 *e*Pn **Pn 11 08 37.4 -0.4**
HCY Herceg Novi 3.90 91⇓*i*Pn **Pn 11 08 37.8 0.0**
HCY *i*Sn **Sn 11 09 23.3 -0.1**
BRY Bratogost 3.92 84 *e*Pn **Pn 11 08 38.2 -0.1**
BRY Bratogost 3.92 84⇓*i*Pn **Pn 11 08 38.2 -0.1**
BRY *i*Sn **Sn 11 09 24.2 -0.1**
ACOM Acomizza, Ital 3.94 3 P **Pn 11 08 37.9 -0.5**
ACOM AML AML
comp=E,1300µm,0.6s
ACOM AML AML
comp=E,1210µm,0.6s
ACOM AML AML
comp=N,1046µm,0.7s
ACOM AML AML
comp=E,1210µm,1.4s
ACOM AML AML
comp=E,1300µm,1.4s
ACOM AML AML
comp=N,1055µm,0.7s
ZOU Zoufplan 3.94 357 P **Pn 11 08 38.0 -0.6**
ZOU AML AML
comp=N,715µm,0.9s
ZOU AML AML
comp=N,688µm,0.9s
ZOU AML AML
comp=N,688µm,1.1s
ZOU AML AML
comp=N,715µm,1.1s
ZOU AML AML
comp=E,1160µm,1.1s
ZOU AML AML
comp=E,1115µm,1.1s
A052A Srbac 3.98 50 *e*Pn **Pn 11 08 37.5 -1.3**
FVI Forni Avoltri 3.99 356 P **Pn 11 08 38.7 -0.4**
FVI AML AML
comp=N,842µm,1.4s
FVI AML AML
comp=E,726µm,0.6s
OBKA Obir 4.00 13 *i*Pn **Pn 11 08 39.0 -0.3**
OBKA *e*Sn **Sn 11 09 29.2 +3.0**
comp=E,1.3nm,0.1s
comp=E,168nm,0.4s
OBKA Obir 4.00 13 *e*Pn **Pn 11 08 38.6 -0.7**
SNR=14
OBKA Obir 4.00 13 *e*Pn **Pn 11 08 38.4 -0.9**
OBKA Obir 4.00 13 *e*Pn **Pn 11 08 38.6 -0.7**
SNR=14
MYKA Terra Mystica 4.02 4 *i*Pn **Pn 11 08 39.5 0.0**
comp=E,36nm,0.6s,SNR=12
MYKA *e*Sn **Sn 11 09 28.0 +1.4**
comp=E,80nm,0.4s
APPI Appiano 4.12 340 P **Pn 11 08 41.6 +0.7**
ABTA Abfaltersbach 4.16 353 *i*Pn **Pn 11 08 41.6 +0.2**
comp=E,93nm,0.4s,SNR=65
ABTA *e*Sn **Sn 11 09 31.7 +1.7**
comp=E,192nm,0.7s
CEME Cevo 4.21 89⇑*i*Pn **Pn 11 08 41.7 -0.4**
CEME *i*Sn **Sn 11 09 31.2 +0.1**
NKME Niksic 4.23 86⇑*i*Pn **Pn 11 08 42.6 +0.3**
NKME *i*Sn **Sn 11 09 31.1 -0.5**
SOKA Soboth 4.26 17 *i*Pn **Pn 11 08 43.5 +0.7**
comp=E,21nm,0.3s,SNR=6.5
SOKA *e*Sn **Sn 11 09 31.5 -1.0**
comp=E,36nm,0.4s
VSL Villasalto 4.26 224 AML AML
comp=E,260µm,0.8s
VSL AML AML
comp=N,253µm,1.0s
VSL AML AML
comp=E,260µm,1.2s
BURY Giardini Botan 4.30 288 AML AML
comp=E,102µm,1.6s
BURY AML AML
comp=N,162µm,1.4s
BURY AML AML
comp=E,102µm,0.4s
SAOF Saorge 4.36 290 P **Pn 11 08 45.2 +1.1**
SAOF S **Sn 11 09 39.0 +4.3**
TIP Timpagrande 4.36 141⇑P **Pn 11 08 46.5 +2.3**
TIP Timpagrande 4.36 141 Pn **Pn 11 08 46.3 +2.2**
BRMO Bormio 4.36 333 P **Pn 11 08 45.6 +1.4**
RISI Rein 4.41 350 P **Pn 11 08 45.6 +0.7**
RISI AML AML
comp=E,2895µm,0.6s
RISI AML AML
comp=N,3090µm,0.4s
SBF Sospel 4.41 288 *e*P **Pn 11 08 45.3 +0.5**
SBF *e*Sn **Sn 11 09 32.4 -3.7**
comp=N,175nm,0.5s
HAPS Han Pijesak,Bl 4.43 69 *e*Pn **Pn 11 08 45.7 +0.6**
BERNI Berninapass 4.43 330 P **Pn 11 08 46.4 +1.1**
DRME Dracevica, Mon 4.44 94⇑*i*Pn **Pn 11 08 45.7 +0.5**
DRME Dracevica, Mon 4.44 94⇑*i*Pn **Pn 11 08 45.6 +0.4**
DRME *i*Sn **Sn 11 09 36.4 -0.3**
KBA Koelnbreinsper 4.46 1 *i*Pn **Pn 11 08 45.9 +0.2**
comp=N,44nm,0.4s,SNR=18
KBA *e*Sn **Sn 11 09 36.5 -1.0**
comp=N,95nm,0.4s
KBA Koelnbreinsper 4.46 1 *e*Pn **Pn 11 08 45.8 +0.1**
SNR=16
KBA *e*Sn **Sn 11 09 36.7 -0.8**
SNR=2.5
KBA Koelnbreinsper 4.46 1 *e*Pn **Pn 11 08 45.8 +0.1**
SNR=16
KBA *e*Sn **Sn 11 09 36.7 -0.8**
SNR=2.5
MUGIO Muggio 4.46 319 P **Pn 11 08 45.7 +0.1**
MUGIO AML AML
comp=E,416µm,0.5s
MUGIO AML AML
comp=E,416µm,1.5s
MUGIO AML AML
comp=N,418µm,0.8s
PDG Podgorica 4.46 90⇑P **Pn 11 08 46.3 +0.7**
PDG Podgorica 4.46 90 Pn **Pn 11 08 46.4 +0.9**
PDG Podgorica 4.46 90 AML AML
comp=N,1195µm,0.5s
PDG AML AML
comp=N,1535µm,1.5s
PDG AML AML
comp=N,1195µm,1.5s
PDG AML AML
comp=N,1535µm,0.5s
PDG AML AML
comp=E,658µm,0.5s
PDG AML AML
comp=E,860µm,0.5s
PDG Podgorica 4.46 90 *e*Pn **Pn 11 08 46.2 +0.7**
PDG *e*Sn **Sn 11 09 37.1 -0.2**
PDG Podgorica 4.46 90 *e*Pn **Pn 11 08 45.7 +0.2**
PDG *i*Sn **Sn 11 09 37.0 -0.2**
TURF col de Turini 4.47 290 P **Pn 11 08 46.6 +0.9**
ROSI Rosskopf 4.50 344 P **Pn 11 08 47.1 +0.9**
ROSI AML AML
comp=E,2425µm,0.3s
ROSI AML AML
comp=N,2400µm,0.7s
ULC Ulcinj 4.51 96⇑*i*Pn **Pn 11 08 46.2 -0.1**
ULC *i*Sn **Sn 11 09 38.2 -0.5**
ENR Entracque 4.52 293 P **Pn 11 08 47.9 +1.5**
FUORN Ofenpass-Fuorn 4.53 333 **Pn 11 08 48.4 +1.8**
VARE Varese 4.56 317 P **Pn 11 08 47.5 +0.6**
VARE AML AML
comp=E,681µm,0.5s
VARE AML AML
comp=N,548µm,0.8s
PLE Pljevlja 4.58 79 *e*Pn **Pn 11 08 47.3 0.0**
PLE *i*Sn **Sn 11 09 39.7 -0.7**
RUDO Rudo 4.61 75 *e*Pn **Pn 11 08 47.8 +0.2**
KOME Kolasin 4.64 85⇓*i*Pn **Pn 11 08 48.3 +0.2**
KOME *i*Sn **Sn 11 09 41.1 -0.8**
BBLS Lazići 4.69 72 *e*Pn **Pn 11 08 49.5 +0.8**
BBLS *e*Sn **Sn 11 09 43.1 +0.2**
SCTE Santa Cesarea 4.70 121 Pn **Pn 11 08 50.1 +1.4**
CALF Calern 4.75 286 P **Pn 11 08 50.3 +0.8**
TUE Stuetta 4.75 326 Pn **Pn 11 08 49.7 +0.1**
FETA Feichten 4.75 339 *i*Pn **Pn 11 08 51.0 +1.4**
comp=N,38nm,0.8s,SNR=22
FETA *e*Sn **Sn 11 09 47.6 +3.0**
comp=N,35nm,0.4s
ISO Isola 4.76 291 P **Pn 11 08 52.4 +2.7**
WTTA Wattenberg 4.78 347 *i*Pn **Pn 11 08 51.8 +1.7**
comp=N,40nm,0.5s,SNR=15
WTTA *i*Sn **Sn 11 09 49.5 +4.1**
comp=N,416nm,0.6s
WTTA Wattenberg 4.78 347 *e*Pn **Pn 11 08 51.6 +1.5**
SNR=13
WTTA *e*Sn **Sn 11 09 49.0 +3.6**
SNR=2.2
WTTA Wattenberg 4.78 347 P **Pn 11 08 51.6 +1.5**
WTTA Wattenberg 4.78 347 *e*Pn **Pn 11 08 51.6 +1.5**
SNR=13
WTTA *e*Sn **Sn 11 09 49.0 +3.6**
SNR=2.2
DAVOX Davos/Dischmat 4.80 331 Pn **Pn 11 08 52.1 +1.8**
comp=N,16nm,0.3s,baz=152,slow=18,SNR=47
DAVOX Sn **Sn 11 09 45.5 -0.3**
comp=N,17nm,0.3s,baz=103,slow=24,SNR=4.6
DAVOX Davos/Dischmat 4.80 331 P **Pn 11 08 52.4 +2.1**
CEL Celeste 4.81 154 Pn **Pn 11 08 52.4 +2.1**
SQTA Sankt Quirin 4.82 343 **Pn 11 08 52.0 +1.5**
SQTA **Sn 11 09 48.8 +2.5**
SQTA Sankt Quirin 4.82 343 *i*Pn **Pn 11 08 52.0 +1.5**
comp=N,43nm,0.5s,SNR=19
SQTA *i*Sn **Sn 11 09 48.8 +2.5**
WATA Walderalm 4.86 347 **Pn 11 08 52.9 +1.8**
WATA **Sn 11 09 50.1 +2.8**
WATA Walderalm 4.86 347 *i*Pn **Pn 11 08 52.9 +1.8**
comp=N,58nm,0.4s,SNR=29
WATA *i*Sn **Sn 11 09 50.2 +2.8**
TRAV Traversella 4.89 308 P **Pn 11 08 51.7 +0.2**
ARSA Arzberg 4.91 19 *i*Pn **Pn 11 08 51.0 -0.7**
comp=N,25nm,0.5s,SNR=11
ARSA *e*Sn **Sn 11 09 43.5 -5.0**
comp=N,26nm,0.4s
ARSA Arzberg 4.91 19 *e*Pn **Pn 11 08 51.0 -0.7**
SNR=18
ARSA *e*Sn **Sn 11 09 45.0 -3.4**
SNR=2.9
ARSA Arzberg 4.91 19 P **Pn 11 08 50.8 -0.9**
ARSA AML AML
comp=N,166µm,1.0s
ARSA AML AML
comp=E,200µm,1.5s
ARSA Arzberg 4.91 19 *e*Pn **Pn 11 08 51.0 -0.7**
SNR=18
ARSA *e*Sn **Sn 11 09 45.0 -3.4**
SNR=2.9
IVA Berane 4.92 85⇓*i*Pn **Pn 11 08 52.1 +0.2**
IVA *i*Sn **Sn 11 09 48.3 -0.4**
ENAUX Enaux 4.93 290 P **Pn 11 08 54.6 +2.5**
MOTA Moosalm 4.96 343 **Pn 11 08 54.8 +2.3**
MOTA **Sn 11 09 54.2 +4.4**
MOTA Moosalm 4.96 343 *i*Pn **Pn 11 08 54.8 +2.3**
comp=E,47nm,0.5s,SNR=19
MOTA *i*Sn **Sn 11 09 54.2 +4.4**
MOTA Moosalm 4.96 343 P **Pn 11 08 54.8 +2.3**
MOTA 11 09 54.2
TEKS Tekeris 4.97 65 *e*Pn **Pn 11 08 52.0 -0.5**
TEKS Tekeris 4.97 65 *e*Pn **Pn 11 08 51.3 -1.2**
PVY Plav 4.97 88⇑*i*Pn **Pn 11 08 53.8 +1.2**
PVY *i*Sn **Sn 11 09 49.5 -0.6**
LMR La Mourre 4.98 281 *e*P **Pn 11 08 52.7 +0.1**
LMR *e*Sn **Sn 11 09 45.3 -4.7**
comp=E,506nm,1.9s
SJES Sjenica 5.00 80 *e*Pn **Pn 11 08 54.2 +1.2**
SJES *e*Sn **Sn 11 09 51.0 +0.3**
SURF Saint Ours 5.02 294 P **Pn 11 08 54.9 +1.6**
FUSIO Fusio 5.03 321 P **Pn 11 08 53.7 +0.2**
JAUF Jausiers 5.04 293 P **Pn 11 08 55.9 +2.3**
BIOA Bad Ischl, Aus 5.08 3 **Pn 11 08 53.9 -0.1**
BIOA **Sn 11 09 52.6 -0.1**
BIOA Bad Ischl, Aus 5.08 3 *i*Pn **Pn 11 08 53.9 -0.1**
comp=E,48nm,0.5s,SNR=20
BIOA *e*Sn **Sn 11 09 52.6 -0.1**
comp=E,160nm,0.5s
TRIGF Trigance 5.11 285 P **Pn 11 08 55.8 +1.3**
TIR Tirane 5.11 102⇑P **Pn 11 08 55.1 +0.7**
TIR Tirane 5.11 102 **Pn 11 08 55.4 +1.0**
TIR Tirane 5.11 102 P **Pn 11 08 54.9 +0.5**
TIR Tirane 5.11 102 P **Pn 11 08 55.4 +1.0**
TIR Tirane 5.11 102 *e*Pn **Pn 11 08 54.9 +0.5**
TIR *e*Sn **Sn 11 09 53.0 -0.3**
MBDF Montbardon 5.13 296 *e*P **Pn 11 08 56.3 +1.4**
MBDF *e*Sn **Sn 11 09 48.1 -5.9**
comp=E,124nm,0.7s
DIVS Divibare 5.15 71 Pn **Pn 11 08 54.9 -0.2**
DIVS Divibare 5.15 71 *e*Pn **Pn 11 08 55.1 0.0**
DIVS *e*Sn **Sn 11 09 54.6 +0.1**
DIVS Divibare 5.15 71 *e*Pn **Pn 11 08 54.7 -0.4**
IVAS Ivanjica 5.16 77 *e*Pn **Pn 11 08 55.6 +0.4**
IVAS *e*Sn **Sn 11 09 52.4 -2.3**
CREF Crivoux 5.17 294 P **Pn 11 08 59.5 +4.1**
RETA Reutte 5.17 341 *i*Pn **Pn 11 08 57.1 +1.7**
comp=E,11nm,0.3s,SNR=14
RETA *e*Sn **Sn 11 09 56.2 +1.3**
comp=E,88nm,0.5s
VLO Vlora 5.17 112 **Pn 11 08 56.9 +1.6**
VLO Vlora 5.17 112 P **Pn 11 08 55.1 -0.2**
VLO Vlora 5.17 112 P **Pn 11 08 56.9 +1.6**
OGAG Argentiere 5.19 293 P **Pn 11 09 00.3 +4.6**
PLONS Plons/SG 5.21 330 *e*Pn **Pn 11 08 58.3 +2.5**
SNR=18
PLONS *e*Sn **Sn 11 09 58.8 +3.1**
SNR=4.2
PLONS Plons/SG 5.21 330 P **Pn 11 08 57.8 +2.0**
PLONS Plons/SG 5.21 330 *e*Pn **Pn 11 08 58.3 +2.5**
SNR=18
PLONS *e*Sn **Sn 11 09 58.8 +3.1**
SNR=4.2
VAE Valguarnera 5.21 170 Pn Pn 11 09 02.0 +6.1
baz=322,slow=19
DAVA Damuels 5.24 334 *i*Pn **Pn 11 08 58.4 +2.1**
comp=E,43nm,0.4s,SNR=20
DAVA *i*Sn **Sn 11 10 01.4 +4.8**
comp=E,67nm,0.4s
DAVA Damuels 5.24 334 *e*Pn **Pn 11 08 58.2 +1.9**
SNR=22
DAVA *e*Sn **Sn 11 09 59.6 +3.0**
SNR=3.0
DAVA Damuels 5.24 334 *e*Pn **Pn 11 08 58.2 +1.9**
SNR=22
DAVA *e*Sn **Sn 11 09 59.6 +3.0**
SNR=3.0
MOA Molln 5.28 8 *i*Pn **Pn 11 08 56.8 0.0**
comp=E,24nm,0.3s,SNR=8.1
MOA *e*Sn **Sn 11 09 57.1 -0.5**
comp=E,29nm,0.3s
MOA Molln 5.28 8 *e*Pn **Pn 11 08 56.8 0.0**
SNR=8.0
MOA *e*Sn **Sn 11 09 56.9 -0.7**
SNR=3.6
MOA Molln 5.28 8 *e*Pn **Pn 11 08 57.0 +0.2**
MOA *e*Sn **Sn 11 09 56.2 -1.4**
MOA Molln 5.28 8 *e*Pn **Pn 11 08 56.8 0.0**
SNR=8.0
MOA *e*Sn **Sn 11 09 56.9 -0.7**
SNR=3.6
MORH Mrgy, Hungar 5.29 45⇑P **Pn 11 08 56.2 -0.7**
MORH Mrgy, Hungar 5.29 45 *e*Pn **Pn 11 08 55.9 -1.0**
BNI Bardonecchia 5.32 299 Pn **Pn 11 08 58.7 +1.2**
BNI Bardonecchia 5.32 299 P **Pn 11 08 58.7 +1.2**
FRGS Fruska Gora 5.39 60⇑P **Pn 11 08 58.5 +0.1**
FRGS Fruska Gora 5.39 60 *e*Pn **Pn 11 08 58.5 +0.1**
FRGS *e*Sn **Sn 11 09 59.7 -0.6**
FRGS Fruska Gora 5.39 60⇑*i*Pn **Pn 11 08 58.3 -0.1**
BLAF les Blancs 5.41 287 P **Pn 11 09 00.8 +2.3**
DIX Grande Dixence 5.42 312 P **Pn 11 09 00.7 +1.8**
RAFF Raffo Rosso 5.46 170 Pn **Pn 11 09 03.0 +3.8**
TRUS Trudelj 5.47 71 *e*Pn **Pn 11 08 59.4 0.0**
TRUS *e*Sn **Sn 11 10 01.6 -0.6**
LPL La Plagne 5.50 304 *e*P **Pn 11 09 02.6 +2.6**
LPL *e*Sn **Sn 11 09 58.8 -4.4**
comp=E,62nm,0.5s
ARTF Artigues 5.52 283 P **Pn 11 09 01.3 +1.3**
UBR Ueberruh 5.52 338 *e*Sn **Sn 11 10 05.6 +2.1**
SNR=3.1
UBR Ueberruh 5.52 338 *e*Sn **Sn 11 10 05.6 +2.1**
SNR=3.1
RONA Rosalia, Austr 5.53 22 **Pn 11 08 59.8 -0.3**
RONA **Sn 11 10 02.5 -1.1**
RONA Rosalia, Austr 5.53 22 *i*Pn **Pn 11 08 59.8 -0.3**
comp=E,28nm,0.3s,SNR=14
RONA *e*Sn **Sn 11 10 02.5 -1.1**
comp=E,16nm,0.4s
MLYF Mely 5.61 287 P **Pn 11 09 03.9 +2.5**
GRUS Gruza 5.62 74 *e*Pn **Pn 11 09 01.5 +0.1**
GRUS *e*Sn **Sn 11 10 06.1 +0.3**
CONA Conrad Observa 5.63 18 *i*Pn **Pn 11 09 01.1 -0.5**
comp=E,20nm,0.4s,SNR=16
CONA *e*Sn **Sn 11 10 01.7 -4.4**
comp=E,17nm,0.4s
RSL Roselend 5.65 305 P **Pn 11 09 04.2 +2.2**
SENIN Lac Senin/Sane 5.65 313 **Pn 11 09 04.3 +2.2**
BSTF la Bastide-des 5.68 285 P **Pn 11 09 03.6 +1.4**
WILA Wila 5.69 329 *e*Pn **Pn 11 09 03.3 +0.9**
SNR=8.5
WILA *e*Sn **Sn 11 10 08.5 +0.8**
SNR=2.9
WILA Wila 5.69 329 *e*Pn **Pn 11 09 03.3 +0.9**
SNR=8.5
WILA *e*Sn **Sn 11 10 08.5 +0.8**
SNR=2.9
FUR Furstenfeldbru 5.71 347 *e*Sn **Sn 11 10 08.6 +0.4**
SNR=1.1
FUR Furstenfeldbru 5.71 347 *e*Sn **Sn 11 10 08.6 +0.4**
SNR=1.1
SMRF Simiane la Rot 5.74 286 *e*P **Pn 11 09 05.3 +2.1**
SMRF *e*Sn **Sn 11 10 03.8 -5.2**
comp=E,183nm,1.5s
GDM Grand'Maison 5.75 299 P **Pn 11 09 07.1 +3.8**
KEK Kerkira 5.75 118 Pn **Pn 11 09 05.3 +2.1**
KEK Kerkira 5.75 118 P **Pn 11 09 05.3 +2.1**
ORIF Oris-en-Rattie 5.79 296 *e*P **Pn 11 09 07.0 +3.1**
ORIF *e*Sn **Sn 11 10 05.3 -4.9**
comp=E,70nm,0.6s
ORIF Oris-en-Rattie 5.79 296 P **Pn 11 09 07.5 +3.6**
SRN Sarande 5.79 116 P **Pn 11 09 04.0 +0.2**
RUSF Rustrel 5.80 286 P **Pn 11 09 06.5 +2.6**
AIGLE Aigle 5.83 312 P **Pn 11 09 05.9 +1.6**
SELS Selova 5.83 81 *e*Pn **Pn 11 09 04.3 0.0**
SELS *e*Sn **Sn 11 10 09.2 -1.9**
OHR Ohrid 5.85 102 *e*Pn **Pn 11 09 06.1 +1.4**
OHR *e*Sn **Sn 11 10 12.3 +0.6**
OHR Ohrid 5.85 102 *i*Pn **Pn 11 09 06.0 +1.4**
OHR *i*Sn **Sn 11 10 11.4 -0.3**
KBN Korca 6.01 107 **Pn 11 09 07.1 +0.3**
KBN Korca 6.01 107 P **Pn 11 09 06.2 -0.6**
KBN Korca 6.01 107 P **Pn 11 09 07.1 +0.3**
LSK Leskovik 6.07 111 P **Pn 11 09 08.8 +1.1**
SULZ Cheisacher 6.10 325 *e*Pn **Pn 11 09 08.4 +0.4**
SNR=7.8
SULZ *e*Sn **Sn 11 10 17.3 -0.4**
SNR=5.6
SULZ Cheisacher 6.10 325 P **Pn 11 09 08.1 +0.1**
SULZ Cheisacher 6.10 325 S **Sn 11 10 16.7 -1.0**
SULZ Cheisacher 6.10 325 *e*Pn **Pn 11 09 08.4 +0.4**
SNR=7.8
SULZ *e*Sn **Sn 11 10 17.3 -0.4**
SNR=5.6
SKO Skopje 6.13 93 *e*Pn **Pn 11 09 09.2 +0.8**
SKO *e*Sn **Sn 11 10 18.0 -0.4**

SKO	**Skopje**	6.13	93	*i* Pn	Pn	11 09 09.2	+0.8		
SKO				*i* Sn	Sn	11 10 17.9	-0.4		
BALST	**Balsthal**	6.13	322	*e*Pn	Pn	11 09 09.0	+0.5		
	SNR=12								
BALST	**Balsthal**	6.13	322	P	Pn	11 09 09.3	+0.7		
BALST	**Balsthal**	6.13	322	*e*Pn	Pn	11 09 09.0	+0.5		
	SNR=12								
SLE	**Schleitheim**	6.13	329	*e*Pn	Pn	11 09 08.4	-0.1		
	SNR=13								
SLE				*e*Sn	Sn	11 10 16.9	-1.7		
	SNR=2.0								
SLE	**Schleitheim**	6.13	329	P	Pn	11 09 08.9	+0.4		
SLE	**Schleitheim**	6.13	329	*e*Pn	Pn	11 09 08.4	-0.1		
	SNR=13								
SLE				*e*Sn	Sn	11 10 16.9	-1.7		
	SNR=2.0								
OGSM	**Saint Maurice**	6.19	301	P	Pn	11 09 11.7	+2.4		
IGT	**Igoumenitsa**	6.19	117	P	Pn	11 09 10.4	+1.1		
ZST	**Bratislava**	6.21	25	*e*P	Pn	11 09 09.6	+0.1		
ZST				*e*		11 10 20.7			
ZST	**Bratislava**	6.21	25	*e*PN	Pn	11 09 09.6	+0.1		
ZST				*e*SN	Sn	11 10 20.7	+0.4		
GEC2	**GERESS Array S**	6.24	3	*e*Sn	Sn	11 10 18.6	-2.5		
	SNR=5.5								
GEC2	**GERESS Array S**	6.24	3	*e*Sn	Sn	11 10 18.6	-2.5		
	SNR=5.5								
GERES	**GERESS Array B**	6.24	3	Pn	Pn	11 09 08.9	-1.0		
	comp=E,3.6nm,0.3s,baz=174,slow=13,SNR=30								
GERES				Sn	Sn	11 10 17.5	-3.7		
	comp=E,15nm,0.3s,baz=177,slow=23,SNR=12								
	comp=E,12nm,0.5s								
GERES	**GERESS Array B**	6.24	3		Pn	11 09 08.5	-1.5		
CKRC	**Cesky Krumlov**	6.25	7	*e*PN	Pn	11 09 08.7	-1.4		
CKRC				*e*SN	Sn	11 10 18.9	-2.5		
BOVS	**Bovan**	6.29	78	*e*Pn	Pn	11 09 10.2	-0.4		
BOVS				*e*Sn	Sn	11 10 19.5	-2.8		
GIMEL	**St. Georges /**	6.33	311	P	Pn	11 09 13.4	+2.2		
BARS	**Barje**	6.33	85	*e*Pn	Pn	11 09 11.5	+0.3		
BARS				*e*Sn	Sn	11 10 22.5	-0.9		
FNA	**Florina**	6.37	104	Pn	Pn	11 09 12.2	+0.4		
FNA	**Florina**	6.37	104	P	Pn	11 09 12.4	+0.6		
FNA	**Florina**	6.37	104	P	Pn	11 09 12.2	+0.4		
FNA	**Florina**	6.37	104	*e*Pn	Pn	11 09 12.4	+0.6		
FNA				*e*Sn	Sn	11 10 21.9	-2.6		
MODS	**Modra-Piesok**	6.42	25	*e*P	Pn	11 09 11.4	-1.0		
MODS				*e*		11 10 24.0			
MODS	**Modra-Piesok**	6.42	25	*e*PN	Pn	11 09 11.4	-1.0		
MODS				*e*SN	Sn	11 10 24.0	-1.6		
OG35	**Corcelles**	6.47	305	P	Pn	11 09 14.6	+1.4		
OG35				S	Sn	11 10 26.4	-0.4		
CABF	**La Chapelle**	6.47	311	*e*P	Pn	11 09 14.2	+1.0		
CABF				*e*Sn	Sn	11 10 22.8	-4.1		
	comp=E,16nm,0.4s								
KHC	**Kasperske Hory**	6.52	2	Pn	Pn	11 09 12.2	-1.5		
KHC	**Kasperske Hory**	6.52	2	*e*PN	Pn	11 09 12.3	-1.5		
KHC				*e*SN	Sn	11 10 24.4	-3.6		
KHC	**Kasperske Hory**	6.52	2	*i* P	Pn	11 09 12.5	-1.3		
MDVR	**Moldovita**	6.52	68	⇑P	Pn	11 09 13.8	-0.1		
PRVS	**Prvonek**	6.54	88	*e*Pn	Pn	11 09 14.5	+0.4		
PRVS				*e*Sn	Sn	11 10 26.3	-2.2		
VIVF	**Saint-Julien-l**	6.58	293	*e*P	Pn	11 09 16.8	+2.1		
VIVF				*e*Sn	Sn	11 10 24.6	-5.1		
	comp=E,24nm,0.8s								
SMOL	**Smolenice**	6.59	25	*e*P	Pn	11 09 18.3	+3.5		
BFO	**Black Forest**	6.67	331	Pn	Pn	11 09 15.9	+0.1		
BFO	**Black Forest**	6.67	331	*e*Pn	Pn	11 09 16.1	+0.3		
	SNR=7.7								
BFO				*e*Sn	Sn	11 10 30.6	-1.0		
	SNR=3.6								
BFO	**Black Forest**	6.67	331	P	Pn	11 09 15.9	+0.1		
BFO	**Black Forest**	6.67	331	*e*Pn	Pn	11 09 16.1	+0.3		
	SNR=7.7								
BFO				*e*Sn	Sn	11 10 30.6	-1.0		
	SNR=3.6								
ZAGS	**Zajecar**	6.69	77	*e*Pn	Pn	11 09 15.9	-0.2		
ZAGS				*e*Sn	Sn	11 10 29.0	-3.2		
STIP	**Stip**	6.72	95	*i* Pn	Pn	11 09 18.9	+2.3		
BZS	**Buzias**	6.74	61	⇑P	Pn	11 09 16.8	-0.1		
BZS	**Buzias**	6.74	61	*e*Pn	Pn	11 09 16.3	-0.5		
BZS				*e*Sn	Sn	11 10 29.2	-4.3		
SSB	**Saint Sauveur**	6.81	296		Pn	11 09 19.1	+1.4		
SSB	**Saint Sauveur**	6.81	296	P	Pn	11 09 19.1	+1.4		
KRUC	**Moravsky**	6.81	18	*e*PN	Pn	11 09 16.5	-1.3		
KRUC				*e*SN	Sn	11 10 30.9	-4.3		
TREC	**Trest**	6.86	13	*e*SN	Sn	11 10 33.4	-3.0		
HINF	**Hinteralfeld**	6.87	321	*e*Pn	Pn	11 09 17.8	-0.8		
HINF				*e*Sn	Sn	11 10 32.2	-4.5		
	comp=E,75nm,0.3s								
ZAPS	**Zavoj**	6.94	81	*e*Sn	Sn	11 10 35.5	-2.9		
JAVC	**Velka Javorina**	6.97	25	*e*PN	Pn	11 09 19.7	-0.3		
LASF	**Ste Croix**	6.98	285	*e*P	Pn	11 09 21.0	+0.9		
LASF				*e*Sn	Sn	11 10 33.2	-6.2		
	comp=E,405nm,2.3s								
HERR	**Herculane**	7.03	68	⇑P	Pn	11 09 20.7	-0.1		
ECH	**Echery**	7.04	325		Pn	11 09 20.9	0.0		
ECH	**Echery**	7.04	325	P	Pn	11 09 20.9	0.0		
DJES	**Djerdap**	7.05	70	⇓P	Pn	11 09 21.3	+0.2		
DJES	**Djerdap**	7.05	70		Pn	11 09 21.2	+0.2		
SIRR	**Siria**	7.05	56	⇓P	Pn	11 09 21.7	+0.6		
VYHS	**Vyhne**	7.07	32	*e*P	Pn	11 09 21.6	+0.2		
VYHS				*e*		11 10 37.5			
VYHS	**Vyhne**	7.07	32	*e*PN	Pn	11 09 21.5	+0.2		
VYHS				*e*SN	Sn	11 10 37.4	-4.2		
PSZ	**Piszkesteto**	7.09	39	⇓P	Pn	11 09 22.8	+1.2		
PSZ	**Piszkesteto**	7.09	39	Pn	Pn	11 09 21.1	-0.5		
PSZ	**Piszkesteto**	7.09	39	P	Pn	11 09 21.1	-0.5		
VAY	**Valandovo**	7.09	97	*e*Pn	Pn	11 09 22.3	+0.8		
VAY				*e*Sn	Sn	11 10 38.5	-3.4		
VAY	**Valandovo**	7.09	97	*i* Pn	Pn	11 09 21.9	+0.4		
VRAC	**Vranov**	7.09	18	Pn	Pn	11 09 20.7	-0.9		
	comp=E,2.6nm,0.3s,baz=203,slow=15,SNR=10.0								
VRAC				Sn	Sn	11 10 38.0	-4.0		
	comp=E,1.9nm,0.3s,baz=108,slow=20,SNR=1.6								
	comp=E,9.6nm,0.5s								
VRAC	**Vranov**	7.09	18	⇑P	Pn	11 09 20.9	-0.7		
VRAC	**Vranov**	7.09	18	*e*PN	Pn	11 09 20.4	-1.2		
VRAC				*e*SN	Sn	11 10 34.2	-7.9		
SURR	**Surduc**	7.12	61	⇑P	Pn	11 09 23.0	+1.0		
CDF	**Champ du Feu**	7.14	326	*e*Pn	Pn	11 09 21.4	-1.0		
CDF				*e*Sn	Sn	11 10 38.8	-4.6		
	comp=E,42nm,0.4s								
ROTZ	**Rotzenmuhle**	7.18	355	*e*Pn	Pn	11 09 22.2	-0.7		
	SNR=5.0								
ROTZ	**Rotzenmuhle**	7.18	355	*e*Pn	Pn	11 09 22.2	-0.7		
	SNR=5.0								
GRA1	**Grafenberg Arr**	7.21	350		Pn	11 09 21.6	-1.6		
GRF	**Grafenberg Arr**	7.21	350	P	Pn	11 09 21.6	-1.6		
GRFO	**Grafenberg**	7.21	350		Pn	11 09 21.4	-1.8		
GRFO	**Grafenberg**	7.21	350	P	Pn	11 09 21.4	-1.8		
HAU	**Haudompre**	7.24	320	*e*Pn	Pn	11 09 23.9	+0.2		
HAU				*e*Sn	Sn	11 10 40.5	-5.3		
	comp=E,118nm,0.5s								
GOPC	**GO Pecny, Ondr**	7.38	8	*e*PN	Pn	11 09 23.8	-1.8		
GOPC				*e*SN	Sn	11 10 45.9	-3.2		
GOPC	**GO Pecny, Ondr**	7.38	8	*e*P	Pn	11 09 23.8	-1.8		
GOPC				*e*		11 10 45.9			
VTS	**Vitosha**	7.39	87	Pn	Pn	11 09 26.2	+0.4		
VTS	**Vitosha**	7.39	87	P	Pn	11 09 26.2	+0.4		
VTS	**Vitosha**	7.39	87	*e*Pn	Pn	11 09 26.2	+0.4		
VTS	**Vitosha**	7.39	87	*e*Pn	Pn	11 09 26.2	+0.4		
VTS				*e*Sn	Sn	11 10 47.1	-2.5		
VTS				*e*Sn	Sn	11 10 47.2	-2.4		
MANZ	**Manzenberg**	7.41	354	*e*Pn	Pn	11 09 25.6	-0.4		
	SNR=4.0								
MANZ	**Manzenberg**	7.41	354	*e*Pn	Pn	11 09 25.6	-0.4		
	SNR=4.0								
LIT	**Litokhoron**	7.41	107	Pn	Pn	11 09 26.3	+0.3		
LIT	**Litokhoron**	7.41	107	P	Pn	11 09 26.3	+0.3		
GZR	**Gura Zlata**	7.43	65	⇑P	Pn	11 09 26.1	-0.1		
PRU	**Pruhonice**	7.43	7	*e*PN	Pn	11 09 24.7	-1.5		
PRU				*e*SN	Sn	11 10 45.6	-4.7		
PRU	**Pruhonice**	7.43	7	*e*P	Pn	11 09 24.7	-1.5		
PRU				*e*		11 10 45.6			
MAUC	**Maruska**	7.47	24	*e*PN	Pn	11 09 25.2	-1.6		
MAUC				*e*SN	Sn	11 10 47.9	-3.5		
EVR	**Evrytania**	7.49	117	P	Pn	11 09 30.4	+3.2		
KEST	**Kesra**	7.51	205	Pn	Pn	11 09 31.2	+3.8		
	comp=E,4.5nm,0.3s,baz=312,slow=4.1,SNR=28								
KEST				Sn	Sn	11 10 55.0	+2.5		
	baz=330,slow=22								
KEST	**Kesra**	7.51	205	Pn	Pn	11 09 31.5	+4.1		
SRE	**Strehaia**	7.52	71	⇓P	Pn	11 09 28.7	+1.1		
NKC	**Novy Kostel**	7.64	356	*e*PN	Pn	11 09 27.3	-1.8		
NKC				*e*SN	Sn	11 10 50.4	-5.1		
NKC	**Novy Kostel**	7.64	356	*e*P	Pn	11 09 27.3	-1.8		
NKC				*e*		11 10 50.4			
WERN	**Wernitzgruen**	7.69	356	*e*Pn	Pn	11 09 29.0	-0.9		
	SNR=3.6								
WERN	**Wernitzgruen**	7.69	356	*e*Pn	Pn	11 09 29.0	-0.9		
	SNR=3.6								
ANX	**Ano Chora**	7.74	118	P	Pn	11 09 33.1	+2.5		
MORC	**Moravsky Berou**	7.76	21	⇑P	Pn	11 09 30.6	-0.2		
MORC	**Moravsky Berou**	7.76	21		Pn	11 09 30.4	-0.5		
MORC	**Moravsky Berou**	7.76	21	*e*PN	Pn	11 09 30.2	-0.6		
MORC	**Moravsky Berou**	7.76	21	P	Pn	11 09 30.4	-0.5		
GUNZ	**Gunzen**	7.77	356	*e*Pn	Pn	11 09 30.9	-0.1		
	SNR=5.7								
GUNZ	**Gunzen**	7.77	356	*e*Pn	Pn	11 09 30.9	-0.1		
	SNR=5.7								
AGG	**Agios Georgios**	7.78	114	Pn	Pn	11 09 32.9	+1.7		
AGG	**Agios Georgios**	7.78	114	P	Pn	11 09 32.3	+1.1		
AGG	**Agios Georgios**	7.78	114	P	Pn	11 09 32.9	+1.7		
SMF	**Signal de Mont**	7.81	304	*e*Pn	Pn	11 09 31.6	+0.1		
SMF				*e*Sn	Sn	11 10 53.5	-6.2		
	comp=E,21nm,0.4s								
TANN	**Tannenbergstha**	7.82	356	*e*Pn	Pn	11 09 30.8	-0.8		
	SNR=4.8								
TANN	**Tannenbergstha**	7.82	356	*e*Pn	Pn	11 09 30.8	-0.8		
	SNR=4.8								
LANS	**Liptovska Anna**	7.85	32	*e*P	Pn	11 09 34.2	+2.1		
LANS	**Liptovska Anna**	7.85	32	*e*PN	Pn	11 09 34.2	+2.1		
KRLC	**Kraliky**	7.85	17	*e*PN	Pn	11 09 30.7	-1.4		
KRLC	**Kraliky**	7.85	17	*e*P	Pn	11 09 30.7	-1.4		
WERD	**Werda**	7.86	356	*e*Pn	Pn	11 09 32.3	+0.2		
	SNR=4.4								
WERD	**Werda**	7.86	356	*e*Pn	Pn	11 09 32.3	+0.2		
	SNR=4.4								
SRS	**Serrai**	7.88	97	*e*Pn	Pn	11 09 32.5	0.0		
SRS				*e*Sn	Sn	11 11 00.0	-1.6		
PAGF	**Fort de Pagny**	7.93	321	*e*Pn	Pn	11 09 32.6	-0.5		
PAGF				*e*Sn	Sn	11 10 56.8	-5.8		
	comp=E,26nm,0.5s								
DRGR		7.94	55	⇓P	Pn	11 09 34.0	+0.7		
DRGR		7.94	55	*e*Pn	Pn	11 09 33.8	+0.5		
SFTF	**Sexfontaines**	8.02	317	*e*Pn	Pn	11 09 33.4	-0.9		
	baz=136								
SFTF				*e*Sn	Sn	11 10 59.0	-5.9		
	comp=E,19nm,0.3s								
DPC	**Dobruska-Polom**	8.02	14	*e*PN	Pn	11 09 32.9	-1.5		
DPC				*e*SN	Sn	11 10 59.8	-5.2		
DPC	**Dobruska-Polom**	8.02	14	*e*P	Pn	11 09 32.9	-1.5		
DPC				*e*		11 10 59.8			
NVR	**Nevrokopi**	8.03	95	P	Pn	11 09 35.8	+1.3		
MTLF	**Montolieu**	8.10	279	*e*P	Pn	11 09 37.7	+2.2		
MTLF				*e*Sn	Sn	11 10 59.1	-7.9		
	comp=E,364nm,2.2s								
MOX	**Moxa**	8.11	353	*e*Pn	Pn	11 09 34.4	-1.1		
	SNR=4.9								
MOX	**Moxa**	8.11	353	*e*Pn	Pn	11 09 34.4	-1.1		
	SNR=4.9								
LOR	**Lormes**	8.11	308	*e*Pn	Pn	11 09 33.7	-1.8		
	baz=128								
LOR				*e*Sn	Sn	11 11 01.1	-5.9		
	comp=E,23nm,0.3s								
UPC	**Upice**	8.12	13	*e*PN	Pn	11 09 34.3	-1.4		
UPC	**Upice**	8.12	13	*e*P	Pn	11 09 34.3	-1.4		
MARR	**Marisel-Cluj**	8.14	57	⇑P	Pn	11 09 37.3	+1.2		
AVF	**Avril sur Loir**	8.17	304	*e*P	Pn	11 09 36.8	+0.4		
AVF				*e*Sn	Sn	11 11 02.2	-6.4		
	comp=E,5.2nm,0.4s								
OSTC	**Ostas**	8.20	13	*e*PN	Pn	11 09 35.5	-1.4		
SSF	**Saint Saulge**	8.21	306	*e*P	Pn	11 09 37.6	+0.7		
SSF				*e*Sn	Sn	11 11 03.8	-5.7		
	comp=E,9.5nm,0.4s								
MEZF	**Maizieres J'vi**	8.21	319	*e*P	Pn	11 09 38.7	+1.7		
	baz=137								
MEZF				*e*Sn	Sn	11 11 04.3	-5.3		
	comp=E,14nm,0.3s								
SAVF	**Savonnieres en**	8.25	319	*e*P	Pn	11 09 41.6	+4.1		
	baz=140								
SAVF				*e*Sn	Sn	11 11 04.6	-6.0		
	comp=E,20nm,0.4s								
BRG	**Berggiesshubel**	8.27	3	*e*P	Pn	11 09 36.2	-1.6		
BRG				Amp		11 09 37.2			
	comp=Z,4.6nm,0.4s								
BRG				r		11 11 06.3			
BRG				r		11 12 13.7			
BRG				Amp		11 12 22.2			
	comp=Z,23nm,0.8s								
BRG	**Berggiesshubel**	8.27	3	*e*P	Pn	11 09 36.2	-1.6		
BRG				*i*		11 11 06.2			
BRG				pmax	pmax				
	comp=Z,5.0nm,0.4s								
BRG				pmax	pmax				
	comp=Z,23nm,0.8s								
TNS	**Taunus Mts**	8.29	338	*e*Pn	Pn	11 09 38.8	+0.8		
	SNR=5.4								
TNS	**Taunus Mts**	8.29	338	*e*Pn	Pn	11 09 38.8	+0.8		
	SNR=5.4								
BGF	**Bois d'Agland**	8.39	302	*e*P	Pn	11 09 37.5	-1.9		
BGF				*e*Sn	Sn	11 11 07.2	-6.7		
	comp=Z,12nm,0.4s								
PLVB	**Pleven**	8.39	81	⇑P	Pn	11 09 40.5	+1.1		
CAF	**Calviac**	8.40	290	*e*P	Pn	11 09 41.4	+1.8		
CAF				*e*Sn	Sn	11 11 07.2	-7.1		
	comp=Z,1.5nm,0.3s								
PLD	**Plovdiv**	8.52	90	*e*Pn	Pn	11 09 42.5	+1.3		
TRPA	**Tarpa**	8.56	47	⇓P	Pn	11 09 43.1	+1.3		
WLF	**Walferdange**	8.59	328		Pn	11 09 41.8	-0.3		
WLF	**Walferdange**	8.59	328	*e*Pn	Pn	11 09 43.7	+1.6		
	SNR=4.6								
WLF	**Walferdange**	8.59	328	P	Pn	11 09 41.8	-0.3		
WLF	**Walferdange**	8.59	328	*d*P	Pn	11 09 43.6	+1.5		
WLF				*d*S	Sn	11 11 19.7	+0.9		
WLF	**Walferdange**	8.59	328	*e*Pn	Pn	11 09 43.7	+1.6		
	SNR=4.6								
ITM	**Ithomi**	8.61	126	Pn	Pn	11 09 45.0	+2.5		
ARR	**Arges**	8.67	68	⇑P	Pn	11 09 43.8	+0.4		
TCF	**Toulx Ste Croi**	8.69	299	*e*P	Pn	11 09 46.8	+3.2		
CLL	**Collm**	8.70	359		Pn	11 09 42.9	-0.6		
CLL	**Collm**	8.70	359	*e*Pn	Pn	11 09 43.0	-0.6		
CLL				*ex*	x	11 09 58.0			
CLL				*e*Sn	Sn	11 11 01.0	-20		
CLL				*ex*	x	11 11 17.0			
CLL				*e*Sg	Sg	11 12 14.0	-2.9		
	comp=Z,70nm,1.1s								
CLL	**Collm**	8.70	359	*e*P	Pn	11 09 43.0	-0.6		
UZH	**Uzhgorod**	8.75	43	*e*P	Pn	11 09 47.3	+3.0		
HYF	**Humbligny**	8.83	305	*e*P	Pn	11 09 50.1	+4.7		
HYF				*e*Sn	Sn	11 11 17.4	-7.3		
RJF	**Les Rejaudoux**	8.86	292	*e*P	Pn	11 09 48.7	+2.8		
RJF				*e*Sn	Sn	11 11 17.8	-7.8		
	comp=Z,1.8nm,0.2s								
MTUR	**Matau**	8.94	69	⇑P	Pn	11 09 48.5	+1.5		
RDO	**Rodhopi**	9.30	95		Pn	11 09 52.3	+0.3		
LFF	**La Frestale**	9.32	289	*e*P	Pn	11 09 56.0	+3.8		
RCHB	**Rochefort**	9.34	327	*d*P	Pn	11 09 53.8	+1.3		
RCHB				*d*PP	PgPg	11 10 35.7	-1.4		
RCHB				*d*S	Sn	11 11 35.7	-1.6		
MEM	**Membach**	9.40	331	*d*P	Pn	11 09 54.5	+1.2		
MEM				*d*S	Sn	11 11 38.3	-0.5		
GIVF	**Givet**	9.47	325	*e*Pn	Pn	11 09 54.0	-0.2		
GIVF				*e*Sn	Sn	11 11 33.5	-6.9		
	comp=Z,6.8nm,0.4s								
EPF	**Esparros**	9.48	277	*e*P	Pn	11 09 58.7	+4.3		
EPF				*e*Sn	Sn	11 11 33.2	-7.6		
	comp=Z,1.7nm,0.4s								
BCLA	**Clavier**	9.52	328	*d*P	Pn	11 09 56.1	+1.3		
BCLA				*d*S	Sn	11 11 37.6	-4.1		
DOU	**Dourbes**	9.56	324	*d*P	Pn	11 09 57.6	+2.1		
DOU				*d*S	Sn	11 11 39.6	-3.1		
BGES	**Gesves**	9.58	327	*d*P	Pn	11 09 56.8	+1.2		
MLR	**Muntele Rosu**	9.60	68	Pn	Pn	11 09 56.5	+0.4		
	comp=Z,0.9nm,0.3s,baz=290,slow=15,SNR=11								
MLR				LR	LR	11 14 27.2			
	comp=Z,434nm,18.4s,baz=198,slow=43								
	comp=Z,13nm,0.8s								
MLR	**Muntele Rosu**	9.60	68	⇑P	Pn	11 09 57.8	+1.6		
MLR	**Muntele Rosu**	9.60	68	Pn	Pn	11 09 55.1	-1.1		
BMRD	**Maredsous**	9.64	326	*d*P	Pn	11 10 00.1	+3.6		
BMRD				*d*S	Sn	11 11 45.9	+1.1		
BAIF	**Baives**	9.70	323	*e*Pn	Pn	11 09 57.3	-0.1		
BAIF				*e*Sn	Sn	11 11 38.9	-7.3		
	comp=Z,1.7nm,0.4s								
ALN	**Alexandroupoli**	9.74	96	Pn	Pn	11 09 58.7	+0.8		
ALN	**Alexandroupoli**	9.74	96	P	Pn	11 09 58.7	+0.8		
RAZG	**Razgrad**	9.77	80	⇑P	Pn	11 09 58.9	+0.5		
BURAR	**Bucovina Array**	9.84	55	⇑P	Pn	11 10 00.2	+0.8		
SNF	**Seneffe**	10.00	325	*d*P	Pn	11 10 03.9	+2.4		
SNF				*d*S	Sn	11 11 50.8	-2.7		
ETSF	**Etsaut**	10.14	276	*e*P	Pn	11 10 07.3	+3.8		
ETSF	**Etsaut**	10.14	276	*e*Sn	Sn	11 11 48.3	-8.9		
	comp=Z,0.6nm,0.1s								
PLOR	**Plostina**	10.16	67	⇑P	Pn	11 10 05.2	+1.5		
VRI	**Vrincioaia**	10.22	67	⇓P	Pn	11 10 05.6	+1.1		
RETH	**Rethem/Aller,**	10.45	347	*e*Pn	Pn	11 10 08.3	+0.7		
	SNR=4.0								
RETH	**Rethem/Aller,**	10.45	347	*e*Pn	Pn	11 10 08.3	+0.7		
	SNR=4.0								
GRR	**Gorron**	11.44	305	*e*Pn	Pn	11 10 19.3	-1.8		
GRR				*e*Sn	Sn	11 12 19.5	-9.2		
	comp=Z,3.4nm,0.4s								
IDI	**Anoyia**	11.66	125	Pn	Pn	11 10 25.2	+1.0		
	comp=Z,0.7nm,0.3s,baz=328,slow=21,SNR=1.4								
IDI				Sn	Sn	11 12 26.3	-8.0		
	comp=Z,0.5nm,0.3s,baz=68,slow=22,SNR=2.0								
	comp=Z,2.3nm,0.4s								
ESDC	**Sonseca Array**	13.28	263	Pn	Pn	11 10 45.2	-1.2		
	comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=8.7								
	comp=Z,2.1nm,0.7s								
AKASG	**Malin Array Be**	13.62	48	Pn	Pn	11 10 50.6	-0.3		
	comp=Z,0.3nm,0.3s,baz=245,slow=11,SNR=1.5								
AKBB	**Malin Array Si**	13.62	48	*i* P	Pn	11 10 50.2	-0.7		
PABE	**Paberze**	14.67	25	Pn	Pn	11 11 03.4	-1.8		
NACGM	**Naroch**	15.16	31	*e*P	Pn	11 11 11.2	-0.7		
	comp=Z,1nm,1.1s,baz=221								
BR131	**Keskin Array S**	15.64	94	*i* P	Pn	11 11 16.8	-1.6		
BRTR	**Keskin Array B**	15.64	94	Pn	Pn	11 11 18.7	+0.3		
	comp=Z,0.1nm,0.3s,baz=325,slow=11,SNR=4.3								
	comp=Z,1.2nm,0.7s								
EKA	**Eskdalemuir Ar**	16.60	326	Pn	Pn	11 11 30.6	+0.1		
	baz=140,slow=14								
	comp=Z,1.8nm,0.5s								
HFS	**Hagfors**	17.54	1	P	Pn	11 11 42.7	+0.5		
	comp=Z,0.3nm,0.3s,baz=168,slow=10,SNR=6.2								
	comp=Z,6.4nm,0.8s								
VSU	**Vasula**	17.98	23	*i* P	P	11 11 48.6	+0.5		
VSU				pmax	pmax				
	comp=Z,46nm,0.7s								
NC602	**NORSAR Array S**	18.17	357	P	Pn	11 11 48.9	-1.0		
NB2	**NORSAR Subarra**	18.49	357	P	Pn	11 11 54.4	+0.5		
	comp=Z,6.2nm,0.8s,baz=175,slow=12								
NOA	**NORSAR Array B**	18.49	357	P	Pn	11 11 54.4	+0.5		
	baz=176,slow=11,SNR=9.6								
	comp=Z,3.1nm,0.7s								
SOC	**Sochi**	19.35	78	*e*P	P	11 12 03.7	+0.4		
SOC				*e*		11 15 41.7			
SOC				pmax	pmax				
	comp=Z,7.

comp=Z,3.0nm,0.8s
NRIK Noril'sk 45.45 29 P **P 11 15 55.6 -0.8**
comp=Z,2.2nm,0.6s,baz=257,slow=7.7,SNR=2.3
comp=Z,2.2nm,0.6s
NRIK Noril'sk 45.45 29 *i* P **P 11 15 57.7 +1.3**
NRIK pmax pmax
comp=Z,9.0nm,1.5s
KSH Kashi 46.45 72 P **P 11 16 08.3 +3.5**
KSH pP sP 11 16 13.6 +2.7
KSH pmax pmax
comp=Z,6.0nm,1.0s
ZAA0 Zalesovo Array 47.01 50 P **P 11 16 09.3 +0.5**
ZAA0 IAmb IAmb 11 16 19.2
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 47.01 50 P **P 11 16 08.8 0.0**
comp=Z,2.8nm,0.8s,baz=285,slow=7.5,SNR=7.4
ZALV PP **PP 11 18 02.0 +2.9**
comp=Z,0.6nm,0.5s,baz=305,slow=5.2,SNR=3.9
comp=Z,2.8nm,0.8s
ZALV Zalesovo Beam 47.01 50 P **P 11 16 09.4 +0.6**
ZALV Zalesovo Beam 47.01 50 *i* P **P 11 16 11.6 +2.8**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
TULEG Thule 47.17 342 P **P 11 16 10.0 +0.1**
NIL Nilore 47.18 80 P **P 11 16 11.3 +0.8**
NIL IAmb IAmb 11 16 15.2
comp=Z,4.0nm,0.6s
NIL Nilore 47.18 80 P **P 11 16 11.3 +0.8**
NIL pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 47.83 60 P **P 11 16 15.6 +0.2**
MK31 Makanchi Array 47.83 60 *i* P **P 11 16 16.1 +0.7**
MKAR Makanchi Array 47.83 60 P **P 11 16 15.4 +0.1**
comp=Z,3.1nm,0.7s,baz=288,slow=5.9,SNR=27
comp=Z,3.1nm,0.7s
MKAR Makanchi Array 47.83 60 P **P 11 16 15.6 +0.2**
MKAR Makanchi Array 47.83 60 *i* P **P 11 16 16.0 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
DGZ Jazzator, Alta 49.95 55 *i* P **P 11 16 32.3 +0.6**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
EUNU Eureka 49.99 347 P **P 11 16 32.3 +0.8**
EUNU IAmb IAmb 11 16 36.0
comp=Z,7.8nm,0.9s
SCHQ Schefferville 51.39 313 P **P 11 16 40.9 -1.5**
comp=Z,2.7nm,0.7s,baz=80,slow=7.2,SNR=5.8
comp=Z,2.7nm,0.7s
SCHQ Schefferville 51.39 313 P **P 11 16 41.7 -0.7**
SCHQ IAmb IAmb 11 16 54.2
comp=Z,11nm,1.1s
WMQ Urumqi 52.52 62 *eP* **P 11 16 50.6 -0.4**
WMQ pP pP 11 16 56.1 +0.7
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ LR LR
comp=Z,250nm,16.7s
TIXI Tiksi 57.40 20 P **P 11 17 26.6 +0.8**
TIXI Tiksi 57.40 20 *ceP* **P 11 17 27.0 +1.2**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
SONM Songino Array 61.90 50 P **P 11 17 57.9 +0.6**
comp=Z,2.1nm,0.8s,baz=287,slow=7.9,SNR=16
comp=Z,2.1nm,0.8s
SONM Songino Array 61.90 50 P **P 11 17 58.4 +1.0**
SONM IAmb IAmb 11 18 14.4
comp=Z,3.1nm,1.1s
A36M Sachs Harbour 62.02 346 P **P 11 17 58.2 +0.7**
ULN Ulaanbaatar 62.25 49 *ceP* **P 11 17 58.9 -0.9**
ULN pmax pmax
comp=Z,6.0nm,1.7s
FCC Fort Churchill 62.53 326 P **P 11 18 01.6 +0.5**
FCC IAmb IAmb 11 18 05.3
comp=Z,4.1nm,0.7s
FCC Fort Churchill 62.53 326 P **P 11 18 01.6 +0.5**
FCC pmax pmax
comp=Z,4.0nm,0.7s
C36M Paulatuk 64.00 344 IAmb IAmb 11 18 15.0
comp=Z,5.0nm,1.1s
INK Inuvik 66.62 347 P **P 11 18 26.1 -1.7**
comp=Z,1.7nm,0.9s,baz=40,slow=3.8,SNR=4.3
comp=Z,1.7nm,0.9s
LZH Lanzhou 67.10 62 *eP* P 11 18 24.3 -7.3
LZH pmax pmax
comp=Z,11nm,1.1s
YKA Yellowknife Ar 67.21 337 P **P 11 18 31.9 +0.2**
comp=Z,1.8nm,0.7s,baz=38,slow=5.6,SNR=34
comp=Z,1.8nm,0.7s
BILL Bilibino 67.81 11 **P 11 18 35.5 +0.1**
BILL IAmb IAmb 11 18 41.6
comp=Z,3.8nm,0.8s
BILL Bilibino 67.81 11 *eP* **P 11 18 35.7 +0.3**
BILL pmax pmax
comp=Z,6.0nm,1.3s
FFC Flin Flon 68.46 326 P **P 11 18 39.9 +0.3**
FFC IAmb IAmb 11 18 44.0
comp=Z,3.3nm,0.9s
FFC Flin Flon 68.46 326 P **P 11 18 39.9 +0.3**
FFC pmax pmax
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 69.00 54 *eP* **P 11 18 43.6 +0.2**
HHC pmax pmax
comp=Z,49nm,0.8s
HEH HeiHe 71.15 38 *eP* **P 11 18 56.8 +0.6**
PZH PanZhiHua 71.55 71 P **P 11 19 00.3 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.3s
XAN Xi'an 71.64 61 P **P 11 18 59.6 0.0**
XAN pP pP 11 19 03.5 -0.6
XAN pmax pmax
comp=Z,9.0nm,0.8s
J26L Joseph Creek 71.67 350 IAmb IAmb 11 19 04.6
comp=Z,4.7nm,0.9s
ILAR Eielson Array 71.82 351 P **P 11 19 00.8 +0.8**
comp=Z,1.2nm,0.9s,baz=10,slow=5.2,SNR=8.4
comp=Z,1.2nm,0.9s
MA2 Magadan 72.33 21 P **P 11 19 03.8 +0.6**
comp=Z,2.1nm,0.5s,baz=6.4,slow=5.9,SNR=4.3
comp=Z,2.1nm,0.5s
MA2 Magadan 72.33 21 *ceP* **P 11 19 02.3 -0.9**
MA2 pmax pmax
comp=Z,4.0nm,0.8s
T47A Sharon Grove 72.65 304 IAmb IAmb 11 19 09.5
comp=Z,5.8nm,0.7s
L26K Log Cabin Wild 73.05 349 IAmb IAmb 11 19 14.5
comp=Z,7.7nm,1.1s
DHY Denali Highway 73.52 351 P **P 11 19 11.4 +1.0**
KLR Kul'dur 73.84 37 *i* P **P 11 19 12.7 +0.4**
KLR pmax pmax
comp=Z,7.0nm,1.9s
CMAR Chiang Mai Arr 74.66 79 P **P 11 19 17.2 -0.3**
comp=Z,1.0nm,0.3s,baz=307,slow=6.9,SNR=8.2
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 74.66 79 *i* P **P 11 19 18.0 +0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KSU1 Kansas State U 76.77 311 P **P 11 19 28.9 -0.5**
MIAR Mount Ida 78.19 306 P **P 11 19 36.9 -0.4**
MIAR IAmb IAmb 11 19 39.9
comp=Z,6.3nm,1.1s
MIAR Mount Ida 78.19 306 P **P 11 19 36.9 -0.4**
MIAR pmax pmax
comp=Z,6.0nm,1.1s
NJ2 Nanjing 79.20 56 *eP* **P 11 19 42.9 0.0**
NJ2 pmax pmax
comp=Z,14nm,0.6s
YSS Yuzh-Sakhalins 80.23 32 *eP* **P 11 19 48.5 +0.2**
YSS pmax pmax
comp=Z,30nm,0.9s
KSRS Korea Array 80.61 47 P **P 11 19 51.3 +0.8**
comp=Z,1.9nm,0.8s,baz=337,slow=5.1,SNR=5.6
comp=Z,1.9nm,0.8s
PDAR Pinedale Array 80.67 321 P **P 11 19 51.0 -0.1**
comp=Z,0.6nm,0.7s,baz=74,slow=6.3,SNR=5.2
comp=Z,0.6nm,0.7s
BDFB Brasilia 80.71 239 P **P 11 19 51.9 +0.6**
comp=Z,5.7nm,0.7s,baz=79,slow=7.6,SNR=7.3
comp=Z,5.7nm,0.7s
WMOK Wichita Mounta 81.09 309 P **P 11 19 53.4 +0.2**
WMOK Wichita Mounta 81.09 309 P **P 11 19 53.4 +0.2**
WMOK pmax pmax
comp=Z,3.0nm,1.0s
S22A 4UR Ranch, Cre 83.21 316 **P 11 20 05.9 +1.3**
S22A IAmb IAmb 11 20 10.2
comp=Z,2.1nm,0.8s

SRU San Rafael Swe 83.98 319 IAmb IAmb 11 20 13.2
comp=Z,4.5nm,0.9s
ERM Erimo 84.45 35 *ceP* **P 11 20 11.0 +0.6**
ERM pmax pmax
comp=Z,30nm,1.3s
ANMO Albuquerque 85.16 314 *ceP* **P 11 20 15.0 +0.6**
ANMO pmax pmax
comp=Z,2.0nm,1.3s
TXAR Lajitas Array 87.86 309 P **P 11 20 28.1 +0.5**
comp=Z,0.3nm,0.6s,baz=54,slow=6.4,SNR=5.6
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 88.09 324 P **P 11 20 27.6 -1.2**
comp=Z,0.2nm,0.6s,baz=354,slow=0.9,SNR=2.1
comp=Z,0.2nm,0.6s
ASAR Alice Springs 127.92 88 PKP **PKPdf 11 26 42.8 -1.1**
comp=Z,0.4nm,0.7s,baz=313,slow=1.7,SNR=5.6
QSPA South Pole Qui 132.47 180 PKP **PKPdf 11 26 50.6 -0.6**
comp=Z,0.7nm,0.8s,baz=296,slow=4.2,SNR=1.9

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*ROM **18** 11:12:40.6±0.1, 42.593°N×0.006°×13.250E±0.007, h11km, ML3.2/35, Error ellipse: s-maj=0.8km s-min=0.5km az=35.0*
*PRU **18** 11:12:41.9±0.0, 42.54°N×13.63°E, h10km*
*BEO **18** 11:12:42.5±0.8, 42.50°N×13.37°E, h0km, ML3.5/7*
ISC 18 11:12:41.4±0.8, **42.60°N**±0.02°×**13.26°E**±0.02, **h10**km±5km, **n70**, σ1§13/92, **17C-7D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.10**	**201**	⇑P		**Pg**		**11 12 43.8**	**-0.2**
RM33				S		**Sg**		**11 12 45.9**	**0.0**
RM33					AML	AML			
	comp=N,65600μm,0.6s								
RM33					AML	AML			
RM33					AML	AML			
	comp=N,68950μm,0.8s								
RM33					AML	AML			
RM33					AML	AML			
	comp=N,65650μm,0.6s								
RM33					AML	AML			
CAMP	**Campotosto**	**0.12**	**119**	⇓P		**Pg**		**11 12 44.3**	**-0.1**
CAMP				S		**Sg**		**11 12 46.8**	**+0.1**
CAMP					AML	AML			
	comp=N,17800μm,0.5s								
CAMP					AML	AML			
	comp=E,18200μm,0.7s								
T1218	**Civita (PG)**	**0.13**	**304**	⇑P		**Pg**		**11 12 44.2**	**-0.4**
T1218				S		**Sg**		**11 12 46.5**	**-0.2**
T1218					AML	AML			
	comp=E,26500μm,0.4s								
T1218					AML	AML			
	comp=E,26550μm,0.4s								
T1218					AML	AML			
	comp=E,26500μm,0.4s								
T1218					AML	AML			
	comp=N,45200μm,0.4s								
T1218					AML	AML			
	comp=E,26550μm,0.4s								
T1218					AML	AML			
	comp=N,46850μm,0.4s								
T1247	**Pizzolo (AQ)**	**0.16**	**170**	P		**Pg**		**11 12 44.8**	**-0.1**
T1247				S		**Sg**		**11 12 47.8**	**+0.5**
LNSS	**Leonessa**	**0.16**	**272**	⇑P		**Pg**		**11 12 44.8**	**-0.3**
LNSS				S		**Sg**		**11 12 47.7**	**+0.1**
LNSS					AML	AML			
	comp=N,20650μm,1.6s								
LNSS					AML	AML			
	comp=E,27250μm,0.7s								
T1217	**Poggiodomo (PG**	**0.27**	**295**	P		**Pg**		**11 12 46.5**	**-0.5**
T1217				S		**Sg**		**11 12 50.9**	**+0.3**
T1217					AML	AML			
	comp=E,4220μm,0.5s								
T1217					AML	AML			
	comp=E,3855μm,0.5s								
T1217					AML	AML			
	comp=N,4555μm,0.6s								
T1217					AML	AML			
	comp=N,4560μm,0.6s								
T1217					AML	AML			
	comp=E,4225μm,0.5s								
T1217					AML	AML			
	comp=E,3860μm,0.5s								
T1217					AML	AML			
	comp=E,3860μm,1.5s								
T1217					AML	AML			
	comp=N,4555μm,0.6s								
T1217					AML	AML			
	comp=N,4985μm,0.6s								
T1217					AML	AML			
	comp=E,4225μm,1.5s								
GIGS	**Gran Sasso**	**0.27**	**123**	P		**Pg**		**11 12 46.5**	**-0.5**
GIGS				S		**Sg**		**11 12 50.8**	**+0.1**
GIGS					AML	AML			
	comp=E,3880μm,1.3s								
GIGS					AML	AML			
	comp=N,4190μm,1.0s								
GIGS					AML	AML			
	comp=E,3880μm,0.7s								
FIAM	**Fiamignano**	**0.35**	**198**	P		**Pg**		**11 12 47.8**	**-0.5**
FIAM				S		**Sg**		**11 12 53.1**	**+0.2**
FIAM					AML	AML			
	comp=E,4675μm,0.6s								
FIAM					AML	AML			
	comp=N,4815μm,1.0s								
GUMA	**Gualdo di Mace**	**0.47**	**7**	⇑P		**Pg**		**11 12 50.4**	**-0.2**
GUMA					AML	AML			
	comp=E,8785μm,0.3s								
GUMA					AML	AML			
	comp=N,15350μm,0.6s								
GUMA					AML	AML			
	comp=E,16100μm,0.3s								
GUMA					AML	AML			
	comp=E,8790μm,0.3s								
GUMA					AML	AML			
	comp=N,11950μm,0.4s								
GUMA					AML	AML			
	comp=N,15350μm,0.5s								
CESI	**CESI - Serrava**	**0.48**	**327**	⇑P		**Pg**		**11 12 50.5**	**-0.4**
CESI					AML	AML			
	comp=E,1560μm,1.0s								
CESI					AML	AML			
	comp=E,1560μm,1.0s								
CESI					AML	AML			
	comp=N,2355μm,0.4s								
CSP1	**Cessapalombo**	**0.50**	**355**	⇑P		**Pg**		**11 12 49.2**	**-1.9**
CSP1					AML	AML			
	comp=E,3150μm,0.3s								
CSP1					AML	AML			
	comp=N,2930μm,0.3s								
CESX	**Cesi**	**0.50**	**272**	S		**Sg**		**11 12 58.0**	**+0.1**
CESX					AML	AML			
	comp=E,2000μm,0.3s								
CESX					AML	AML			
	comp=E,2000μm,1.7s								
CESX					AML	AML			
	comp=N,2780μm,0.4s								
TRTR	**Tortoreto Alta**	**0.53**	**66**	⇑P		**Pg**		**11 12 52.2**	**+0.6**
TRTR				S		**Sb**		**11 13 02.0**	**+1.6**
TRTR					AML	AML			
	comp=N,10280μm,0.4s								
TRTR					AML	AML			
	comp=E,9980μm,0.5s								
T1220	**Camerino, Fraz**	**0.53**	**346**	⇓P		**Pg**		**11 12 50.3**	**-1.5**
T1220					AML	AML			
	comp=N,11550μm,0.3s								
T1220					AML	AML			
	comp=E,9315μm,0.4s								
T1220					AML	AML			
	comp=N,11600μm,0.3s								
T1220					AML	AML			
	comp=E,9510μm,0.4s								
T1220					AML	AML			
	comp=N,11550μm,0.3s								
T1220					AML	AML			
	comp=E,9360μm,0.4s								
T1220					AML	AML			
	comp=E,9510μm,0.5s								
T1220					AML	AML			
	comp=E,9355μm,0.4s								
T1220					AML	AML			
	comp=N,11600μm,0.3s								
T1220					AML	AML			
	comp=E,9355μm,1.6s								
T1220					AML	AML			
	comp=N,11600μm,1.7s								
T1220					AML	AML			
	comp=E,9510μm,1.5s								
T1220					AML	AML			
	comp=N,11550μm,1.7s								
T0110	**Collepietro**	**0.53**	**134**	S		**Sb**		**11 13 01.1**	**+0.3**
T0110					AML	AML			
	comp=N,5820μm,1.4s								
T0110					AML	AML			
	comp=N,5820μm,0.6s								
T0110					AML	AML			
	comp=E,5635μm,0.3s								
MOMA	**Monte Martano**	**0.55**	**292**	⇑P		**Pg**		**11 12 50.6**	**-1.6**
MOMA				S		**Sg**		**11 12 59.6**	**+0.2**
MOMA					AML	AML			
	comp=N,1970μm,0.3s								
MOMA					AML	AML			
	comp=E,2265μm,0.8s								
MOMA					AML	AML			
	comp=E,2175μm,0.9s								
MOMA					AML	AML			
	comp=N,1970μm,0.3s								
MOMA					AML	AML			
	comp=E,2175μm,0.8s								
MOMA					AML	AML			
	comp=N,2115μm,0.3s								
MOMA					AML	AML			
	comp=N,1975μm,0.3s								
MOMA					AML	AML			
	comp=E,2265μm,1.2s								
MOMA					AML	AML			
	comp=E,2175μm,1.2s								
ASSB	**Assisi San Ben**	**0.63**	**315**	P		**Pg**		**11 12 53.1**	**-0.5**
ASSB					AML	AML			
	comp=E,1335μm,0.6s								
ASSB					AML	AML			
	comp=N,1105μm,0.3s								
CERT	**Cerreto**	**0.68**	**198**	⇓P		**Pn**		**11 12 56.6**	**-0.6**
CERT					AML	AML			
	comp=N,1960μm,0.4s								
CERT					AML	AML			
	comp=E,2180μm,0.4s								
SNTG	**Esanatoglia**	**0.70**	**340**	P		**Pg**		**11 12 54.1**	**-0.8**
SNTG				S		**Sg**		**11 13 05.3**	**+1.2**
SNTG					AML	AML			
	comp=E,789μm,0.5s								
SNTG					AML	AML			
	comp=N,703μm,1.3s								
SNTG					AML	AML			
	comp=E,694μm,0.5s								
SNTG					AML	AML			
	comp=N,743μm,0.5s								
EL6	**Elcito**	**0.74**	**351**	⇓P		**Pg**		**11 12 54.8**	**-1.0**
EL6				S		**Sg**		**11 13 06.0**	**+0.5**
EL6					AML	AML			
	comp=E,1675μm,0.3s								
EL6					AML	AML			
	comp=N,2065μm,1.2s								
EL6					AML	AML			
	comp=E,1670μm,0.3s								
EL6					AML	AML			
	comp=N,2060μm,1.2s								
EL6					AML	AML			
	comp=E,1670μm,1.7s								
EL6					AML	AML			
	comp=N,2060μm,0.8s								
FOSV	**Fossato di Vic**	**0.79**	**332**	⇑P		**Pg**		**11 12 57.0**	**+0.4**
FOSV					AML	AML			
	comp=E,764μm,0.6s								
FOSV					AML	AML			
	comp=N,890μm,0.5s								
FOSV					AML	AML			
	comp=E,764μm,1.4s								
GUAR	**Guarcino**	**0.80**	**177**	⇑P		**Pn**		**11 12 59.8**	**+0.8**
GUAR					AML	AML			
	comp=E,1164μm,0.5s								
GUAR					AML	AML			
	comp=N,1415μm,0.4s								
PP3	**Marolino**	**0.82**	**18**	⇑P		**Pg**		**11 12 57.5**	**+0.2**
PP3					AML	AML			
	comp=E,3265μm,1.3s								
PP3					AML	AML			
	comp=N,4845μm,0.5s								
PP3					AML	AML			
	comp=N,4845μm,0.5s								
PP3					AML	AML			
	comp=E,3335μm,1.3s								
PP3					AML	AML			
	comp=N,5005μm,0.5s								
PP3					AML	AML			
	comp=E,3265μm,1.3s								
LPEL	**Lama dei Pelig**	**0.88**	**129**	S		**Sb**		**11 13 10.4**	**-0.3**
LPEL					AML	AML			
	comp=E,1430μm,0.3s								
LPEL					AML	AML			
	comp=N,1115μm,0.2s								
LPEL					AML	AML			
	comp=E,1430μm,1.7s								
MGAB	**Montegabbione**	**0.90**	**291**	⇓P		**Pb**		**11 13 00.1**	**+0.9**
MGAB					AML	AML			
	comp=N,1410μm,0.5s								
MGAB					AML	AML			
	comp=E,1935μm,1.0s								
MGAB					AML	AML			
	comp=N,1410μm,1.5s								
MGAB					AML	AML			
	comp=N,1505μm,0.4s								
MGAB					AML	AML			
	comp=E,1645μm,1.0s								
ARVD	**Arcevia**	**0.93**	**346**	⇓P		**Pg**		**11 12 58.4**	**-1.0**
ARVD					AML	AML			
	comp=E,1096μm,1.2s								
ARVD					AML	AML			
	comp=N,778μm,0.6s								
RDP	**Rocca di Papa**	**0.93**	**206**	P		**Pg**		**11 12 59.3**	**0.0**
RDP					AML	AML			
	comp=E,2835μm,0.5s								
RDP					AML	AML			
	comp=N,3485μm,1.5s								
RDP					AML	AML			
	comp=N,3485μm,0.5s								
SAMA	**S.Maria delle**	**0.96**	**212**	S		**Sn**		**11 13 15.6**	**+1.0**
SAMA					AML	AML			
	comp=E,2010μm,0.5s								
SAMA					AML	AML			
	comp=N,1465μm,0.8s								
AOI	**Ancona**	**0.98**	**15**	⇑P		**Pg**		**11 12 59.7**	**-0.7**
AOI				S		**Sn**		**11 13 15.8**	**+0.4**
AOI					AML	AML			
	comp=E,1028μm,1.1s								
AOI					AML	AML			
	comp=N,1195μm,0.4s								
AOI					AML	AML			
	comp=N,1195μm,1.6s								
TOLF	**Tolfa**	**1.08**	**241**	P		**Pb**		**11 13 01.4**	**-0.8**
TOLF					AML	AML			
	comp=N,770μm,1.2s								
TOLF					AML	AML			
	comp=N,770μm,0.8s								
TOLF					AML	AML			
	comp=E,490μm,0.4s								
PIEI	**Pieia**	**1.08**	**331**	S		**Sn**		**11 13 19.0**	**+1.2**
PIEI					AML	AML			
	comp=N,595μm,0.5s								
PIEI					AML	AML			
	comp=E,616μm,0.4s								
NARO	**Abbazia di Nar**	**1.13**	**334**	⇑P		**Pb**		**11 13 02.0**	**-1.1**
NARO					AML	AML			
	comp=E,713μm,1.4s								
NARO					AML	AML			
	comp=N,454μm,0.5s								
NARO					AML	AML			
	comp=E,713μm,0.6s								
MCIV	**Monte Civitell**	**1.18**	**279**	⇑P		**Pb**		**11 13 03.5**	**-0.5**
MCIV					AML	AML			
	comp=E,250μm,1.1s								
MCIV					AML	AML			
	comp=N,214μm,1.5s								
MCIV					AML	AML			
	comp=E,250μm,1.1s								
MCIV					AML	AML			
	comp=N,214μm,1.5s								
MCIV					AML	AML			
	comp=E,250μm,0.9s								
TRIF	**Trifonti**	**1.81**	**287**	S		**Sn**		**11 13 36.9**	**+1.1**
COLB	**Campi Flegrei**	**1.90**	**159**	S		**Sb**		**11 13 39.4**	**-0.5**
NDIM	**Novi di Modena**	**2.86**	**324**	⇑P		**Pb**		**11 13 30.9**	**-1.6**
STON	**Ston**	**3.28**	**84**	*ePn*		**Pn**		**11 13 33.2**	**+0.3**

STON				*e*Sn		**Sn**	**11 14 11.2**	**-0.8**
CRND	**Cornuda**	**3.35**	**346**	P		**Pg**	**11 13 45.4**	**-0.2**
CTI	**Castel Tesino**	**3.64**	**342**	P		**Pn**	**11 13 38.5**	**+0.6**
CTI				AML	AML			
	comp=N,82μm,1.6s							
CTI				AML	AML			
	comp=E,95μm,1.0s							
CTI				AML	AML			
	comp=N,82μm,0.4s							
LEOD	**Capriano del C**	**3.65**	**323**	⇑P		**Pn**	**11 13 39.1**	**+1.2**
LUSI	**Trento, Gardas**	**3.75**	**334**	⇑P		**Pn**	**11 13 40.1**	**+0.6**
TREB	**Trebinje**	**3.75**	**86**	*e*Pn		**Pn**	**11 13 40.7**	**+1.3**
TREB				*e*Sn		**Sn**	**11 14 22.6**	**-1.1**
ACOM	**Acomizza, Ital**	**3.95**	**3**	⇓P		**Pn**	**11 13 42.6**	**+0.3**
ACOM				AML	AML			
	comp=E,98μm,1.2s							
ACOM				AML	AML			
	comp=N,103μm,1.4s							
ACOM				AML	AML			
	comp=N,103μm,0.6s							
OBKA	**Obir**	**4.02**	**13**	*e*Pn		**Pn**	**11 13 43.7**	**+0.5**
	comp=N,0.8nm,0.2s							
CAR1	**CAROLEI**	**4.02**	**145**	S		**Sb**	**11 14 40.7**	**-0.3**
MYKA	**Terra Mystica**	**4.04**	**4**	*i* Pn		**Pn**	**11 13 43.8**	**+0.4**
	comp=N,0.9nm,0.2s							
ABTA	**Abfaltersbach**	**4.18**	**353**	*e*Pn		**Pn**	**11 13 46.2**	**+0.8**
	comp=N,12nm,0.7s							
ROTM	**Rocchetta Tana**	**4.21**	**304**	P		**Pn**	**11 13 45.1**	**-0.5**
ROTM				AML	AML			
	comp=E,612μm,1.3s							
ROTM				AML	AML			
	comp=N,893μm,1.0s							
ROTM				AML	AML			
	comp=N,893μm,1.0s							
ROTM				AML	AML			
	comp=E,612μm,0.7s							
SOKA	**Soboth**	**4.27**	**17**	*i* Pn		**Pn**	**11 13 48.6**	**+2.0**
	comp=E,1.4nm,0.2s							
PDG	**Podgorica**	**4.43**	**90**	*e*Pn		**Pn**	**11 13 50.2**	**+1.5**
PDG				*e*Sn		**Sn**	**11 14 41.3**	**+0.9**
KBA	**Koelnbreinsper**	**4.48**	**1**	*e*Pn		**Pn**	**11 13 51.5**	**+1.9**
	comp=E,4.1nm,0.4s							
BBLS	**Lazići**	**4.67**	**72**	*e*Pn		**Pn**	**11 13 53.8**	**+1.8**
BBLS				*e*Sn		**Sn**	**11 14 47.4**	**+1.2**
FETA	**Feichten**	**4.78**	**339**	*i* Pn		**Pn**	**11 13 56.6**	**+3.0**
	comp=E,0.9nm,0.4s							
WTTA	**Wattenberg**	**4.81**	**347**	*e*Pn		**Pn**	**11 13 55.8**	**+1.7**
	comp=E,0.6nm,0.2s							
SQTA	**Sankt Quirin**	**4.85**	**343**	*i* Pn		**Pn**	**11 13 57.1**	**+2.6**
	comp=E,1.4nm,0.2s							
WATA	**Walderalm**	**4.89**	**346**	*e*Pn		**Pn**	**11 13 57.5**	**+2.4**
	comp=E,1.2nm,0.2s							
ARSA	**Arzberg**	**4.92**	**18**	*e*Pn		**Pn**	**11 13 55.0**	**-0.5**
	comp=E,1.3nm,0.4s							
SJES	**Sjenica**	**4.97**	**80**	*e*Pn		**Pn**	**11 13 57.8**	**+1.5**
SJES				*e*Sn		**Sn**	**11 14 54.0**	**+0.1**
MOTA	**Moosalm**	**4.99**	**343**	*e*Pn		**Pn**	**11 14 00.9**	**+4.3**
	comp=E,1.5nm,0.3s							
BIOA	**Bad Ischl, Aus**	**5.10**	**3**	*e*Pn		**Pn**	**11 13 58.8**	**+0.8**
	comp=E,3.2nm,0.2s							
DIVS	**Divibare**	**5.13**	**71**	*e*Pn		**Pn**	**11 13 58.6**	**+0.2**
DIVS				*e*Sn		**Sn**	**11 14 57.5**	**-0.3**
IVAS	**Ivanjica**	**5.14**	**77**	*e*Pn		**Pn**	**11 13 59.4**	**+0.9**
IVAS				*e*Sn		**Sn**	**11 14 56.4**	**-1.6**
MOA	**Molln**	**5.30**	**7**	*e*Pn		**Pn**	**11 14 01.1**	**+0.4**
	comp=E,6.0nm,0.3s							
RONA	**Rosalia, Austr**	**5.54**	**22**	*e*Pn		**Pn**	**11 14 04.0**	**+0.1**
	comp=E,1.0nm,0.2s							
CONA	**Conrad Observa**	**5.64**	**18**	*e*Pn		**Pn**	**11 14 05.0**	**-0.4**
	comp=E,1.7nm,0.4s							
SELS	**Selova**	**5.80**	**81**	*e*Pn		**Pn**	**11 14 08.3**	**+0.7**
BARS	**Barje**	**6.31**	**85**	*e*Pn		**Pn**	**11 14 14.4**	**-0.1**
BARS				*e*Sn		**Sn**	**11 15 24.5**	**-2.1**
PRVS	**Prvonek**	**6.51**	**88**	*e*Pn		**Pn**	**11 14 18.0**	**+0.7**
PRVS				*e*Sn		**Sn**	**11 15 29.9**	**-1.8**
KHC	**Kasperske Hory**	**6.54**	**2**	*e*SN		**Sn**	**11 15 30.6**	**-1.7**
ZAGS	**Zajecar**	**6.67**	**76**	*e*Pn		**Pn**	**11 14 19.8**	**+0.4**

ROM 18 11:13:34.0±0.1, 42°502N±0°006×13°311E±0°006, h11km±1km, ML2.8/6, 5C-5D, Error ellipse: s-maj=0.6km s-min=0.5km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.06**	**189**	⇓P	Pg	11 13 36.9	+0.5
T1247				S	Sg	11 13 38.7	+0.5
T1247				AML	AML		
	comp=E,40250μm,0.4s						
T1247				AML	AML		
	comp=N,26500μm,0.2s						
T1247				AML	AML		
	comp=E,25960μm,0.2s						
T1247				AML	AML		
	comp=N,26510μm,0.2s						
RM33	**Pellescritta (**	**0.07**	**275**	P	Pg	11 13 36.8	+0.3
RM33				S	Sg	11 13 38.5	+0.2
RM33				AML	AML		
	comp=E,17650μm,0.3s						
RM33				AML	AML		
	comp=E,17250μm,0.3s						
RM33				AML	AML		
	comp=E,17650μm,0.3s						
RM33				AML	AML		
	comp=N,10600μm,1.2s						
RM33				AML	AML		
	comp=N,10880μm,1.2s						
RM33				AML	AML		
	comp=N,10600μm,0.8s						
RM33				AML	AML		
	comp=N,10880μm,0.8s						
RM33				AML	AML		
	comp=E,14443μm,0.1s						
RM33				AML	AML		
	comp=E,14285μm,0.1s						
RM33				AML	AML		
	comp=N,9032μm,0.2s						
RM33				AML	AML		
	comp=N,8795μm,0.2s						
CAMP	**Campotosto**	**0.08**	**65**	⇑P	Pg	11 13 36.9	+0.3
CAMP				S	Sg	11 13 38.8	+0.2
CAMP				AML	AML		
	comp=N,13600μm,0.4s						
CAMP				AML	AML		
	comp=N,13600μm,1.6s						
CAMP				AML	AML		
	comp=E,7110μm,1.5s						
CAMP				AML	AML		
	comp=E,6975μm,0.3s						
CAMP				AML	AML		
	comp=N,13607μm,0.4s						
GIGS	**Gran Sasso**	**0.20**	**105**	⇑P	Pg	11 13 38.6	+0.3
GIGS				S	Sg	11 13 41.9	+0.6
GIGS				AML	AML		
	comp=E,1064μm,0.2s						
GIGS				AML	AML		
	comp=N,1085μm,0.5s						
GIGS				AML	AML		
	comp=E,1064μm,1.8s						
GIGS				AML	AML		
	comp=E,1065μm,0.2s						
GIGS				AML	AML		
	comp=N,797μm,0.2s						
T1218	**Civita (PG)**	**0.22**	**319**	P	Pb	11 13 39.5	-0.6
T1218				S	Sg	11 13 42.6	+0.6
T1218				AML	AML		
	comp=E,1720μm,1.2s						
T1218				AML	AML		
	comp=N,2815μm,1.4s						
T1218				AML	AML		
	comp=E,1725μm,1.2s						
T1218				AML	AML		
	comp=N,2815μm,0.6s						
T1218				AML	AML		
	comp=E,1725μm,0.8s						
T1218				AML	AML		
	comp=N,2616μm,0.4s						
T1218				AML	AML		
	comp=N,2538μm,0.2s						
T1218				AML	AML		
	comp=E,1668μm,0.1s						
T1218				AML	AML		
	comp=N,2534μm,0.2s						
T1218				AML	AML		
	comp=E,1742μm,0.1s						
LNSS	**Leonessa**	**0.22**	**297**	⇑P	Pg	11 13 39.1	+0.3
LNSS				S	Sg	11 13 43.0	+1.0
LNSS				AML	AML		
	comp=E,4795μm,0.5s						
LNSS				AML	AML		
	comp=N,7645μm,0.2s						
LNSS				AML	AML		
	comp=N,7645μm,0.2s						
LNSS				AML	AML		
	comp=E,4709μm,0.2s						
FIAM	**Fiamignano**	**0.28**	**212**	⇑P	Pg	11 13 40.1	+0.4
FIAM				S	Sb	11 13 44.9	-0.8
FIAM				AML	AML		
	comp=E,1477μm,0.5s						
FIAM				AML	AML		
	comp=N,1152μm,0.4s						
T1217	**Poggiodomo (PG**	**0.35**	**307**	⇓P	Pg	11 13 41.1	+0.1
T1217				S	Sg	11 13 46.6	+0.9
T1217				AML	AML		
	comp=N,731μm,0.5s						
T1217				AML	AML		
	comp=N,839μm,1.5s						
T1217				AML	AML		
	comp=E,591μm,0.2s						
T1217				AML	AML		
	comp=E,621μm,0.2s						
T1217				AML	AML		
	comp=N,763μm,0.2s						
T1217				AML	AML		
	comp=N,724μm,0.2s						
ARRO	**Arrone**	**0.41**	**281**	⇑P	Pg	11 13 42.2	+0.1
ARRO				AML	AML		
	comp=N,549μm,0.2s						
ARRO				AML	AML		
	comp=E,547μm,0.2s						
T0110	**Collepietro**	**0.44**	**128**	⇓P	Pg	11 13 43.1	+0.3
T0110				AML	AML		
	comp=N,1068μm,0.4s						
T0110				AML	AML		
	comp=E,1286μm,0.5s						
CESX	**Cesi**	**0.55**	**282**	⇓P	Pg	11 13 44.5	-0.3
CESX				AML	AML		
	comp=E,318μm,0.4s						
CESX				AML	AML		
	comp=N,372μm,0.3s						
CESI	**CESI - Serrava**	**0.58**	**329**	⇓P	Pg	11 13 45.5	+0.1
CESI				AML	AML		
	comp=N,356μm,0.2s						
CESI				AML	AML		
	comp=E,234μm,0.6s						
CSP1	**Cessapalombo**	**0.59**	**352**	P	Pb	11 13 46.2	-0.3
CSP1				AML	AML		
	comp=N,564μm,0.6s						
CSP1				AML	AML		
	comp=E,342μm,0.2s						

BJI ***18*** *11:18:13.0±0.0, 51°.31N×179°.43W, h54km, mb4.8/40, mB5.3/15, Ms4.6/6, Ms7 4.5/7*
AEIC ***18*** *11:18:15.9±2.2, 51°.1N±0°.1×179°.56W±0°.07, h51km±6km, Error ellipse: s-maj=17.3km s-min=6.4km az=186.0*
MOS ***18*** *11:18:15.5±0.9, 51°.52N×179°.51W, h56km, mb5.2/51, Error ellipse: s-maj=8.7km s-min=5.5km az=109.3*
NEIC ***18*** *11:18:15.4±2.1, 51°.1N±0°.1×179°.58W±0°.07, h52km±8km, mb5.1/370, ML4.6(AEIC), Error ellipse: s-maj=18.0km s-min=6.5km az=186.0*
IDC ***18*** *11:18:16.8±1.9, 51°.47N×179°.59W, h56km±15km, mb4.3/30, mbtmp4.6/32, MS4.0/5, Error ellipse: s-maj=18.5km s-min=8.8km az=177.0*
BGR ***18*** *11:18:24.7, 52°.75N×177°.63E, h33km, mb5.3, Ms4.4*
ISC 18 11:18:16.9±0.5, 51°.34N±0°.07×179°.62W±0°.03, h60km±2km, h59km: pP-P, n1003, s1306/931, mb5.1/293, MS4.2/5, 29C-22D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.68**	**274**		**Pn**	**11 18 30.2**	**-0.6**
KIWB	**Kanaga Island**	**1.62**	**71**		**Pn**	**11 18 42.5**	**-0.6**
ADK	**Adak**	**1.91**	**72**		**Pn**	**11 18 46.8**	**-0.2**
ADK	**Adak**	**1.91**	**72**	P	**Pn**	**11 18 46.8**	**-0.2**
SHEM	**Shemya Is, Ala**	**4.12**	**292**	P	**Pn**	**11 19 17.5**	**+0.2**
	90nm,0.3s,baz=73,slow=20,SNR=23						
SHEM				S	**Sn**	**11 20 03.4**	**-0.7**
	111nm,0.3s,baz=285,slow=18,SNR=6.8						
SHEM				LR	LR	11 20 08.1	
	comp=Z,376nm,18.9s,baz=77,slow=27						
SMY	**Shemya**	**4.12**	**292**	Pn	**Pn**	**11 19 18.9**	**+1.7**
SMY	**Shemya**	**4.12**	**292**	P	**Pn**	**11 19 18.9**	**+1.7**
NIKH	**Nikolski High**	**6.82**	**72**	Pn	**Pn**	**11 19 55.4**	**+1.2**
NIKH	**Nikolski High**	**6.82**	**72**	P	**Pn**	**11 19 55.3**	**+1.1**
	baz=258,SNR=11						
SPIA	**Saint Paul Isl**	**8.01**	**40**		**Pn**	**11 20 13.4**	**+3.0**
SPIA	**Saint Paul Isl**	**8.01**	**40**	P	**Pn**	**11 20 13.5**	**+3.1**
	baz=226						
UNV	**Unalaska Valle**	**8.37**	**67**		**Pn**	**11 20 15.7**	**+0.3**
UNV	**Unalaska Valle**	**8.37**	**67**	P	**Pn**	**11 20 16.1**	**+0.8**
	baz=256						
AKUT	**Akutan**	**8.86**	**66**	Pn	**Pn**	**11 20 23.0**	**+1.0**
S12K	**Black Hills**	**11.32**	**60**	P	**Pn**	**11 20 57.6**	**+1.9**
	baz=253						
SDPT	**Sand Point**	**12.11**	**63**	Pn	**Pn**	**11 21 05.3**	**-1.1**
SDPT	**Sand Point**	**12.11**	**63**	P	**Pn**	**11 21 05.5**	**-0.9**
	baz=257						
GAMB	**Gambell**	**13.15**	**16**	Pn	**Pn**	**11 21 22.6**	**+2.0**
GAMB	**Gambell**	**13.15**	**16**	P	**Pn**	**11 21 22.4**	**+1.8**
	baz=202,SNR=5.2						
CHGN	**Chignik**	**13.45**	**60**	P	**Pn**	**11 21 25.2**	**+0.6**
	baz=256						
PEA0B	**Petropavlovsk-**	**14.01**	**286**	Pn	**Pn**	**11 21 35.0**	**+2.9**
PEA0B	**Petropavlovsk-**	**14.01**	**286**	P	**Pn**	**11 21 35.0**	**+2.9**
PETK	**Petropavlovsk-**	**14.01**	**286**	P	**Pn**	**11 21 33.7**	**+1.6**
	8.0nm,0.7s,baz=104,slow=15,SNR=73						
PETK				S	**Sn**	**11 24 03.6**	**-2.2**
	1.1nm,0.5s,baz=93,slow=19,SNR=1.2						
R16K	**Pilot Point**	**14.22**	**55**	P	**Pn**	**11 21 35.7**	**+0.8**
	baz=252						
P16K	**Nushagak River**	**14.50**	**50**	P	**Pn**	**11 21 39.7**	**+1.1**
	baz=246,SNR=12						
O16K	**Kokwok River B**	**14.68**	**47**	P	**Pn**	**11 21 41.6**	**+0.7**
	baz=244						
N16K	**Nishlik Lake**	**14.78**	**44**	P	**Pn**	**11 21 43.6**	**+1.4**
	baz=240						
R17K	**Ugashik Creek**	**14.85**	**56**	P	**Pn**	**11 21 42.9**	**-0.2**
	baz=254						
CHIR	**Chirikof Islan**	**14.91**	**63**	Pn	**Pn**	**11 21 41.2**	**-2.7**
CHIR	**Chirikof Islan**	**14.91**	**63**	P	**Pn**	**11 21 41.8**	**-2.0**
	baz=262						
Q16K	**King Salmon**	**15.03**	**52**	P	**Pn**	**11 21 45.4**	**+0.1**
	baz=250						
ANM	**Nome**	**15.20**	**24**	P	**Pn**	**11 21 48.3**	**+0.7**
	baz=216,SNR=12						
O17K	**Koliganek Bris**	**15.22**	**48**	P	**Pn**	**11 21 47.9**	**+0.1**
	baz=245,SNR=9.6						
Q17K	**Contact Creek**	**15.28**	**54**	P	**Pn**	**11 21 48.4**	**-0.4**
	baz=252						
TNA	**Tin City**	**15.47**	**18**	P	**P**	**11 21 53.5**	**-0.9**
	baz=208,SNR=22						
SII	**Sitkinak Islan**	**15.81**	**61**	P	**Pn**	**11 21 53.9**	**-1.6**
	baz=260						
Q18K	**Katmai Hardscr**	**15.84**	**53**	P	**Pn**	**11 21 55.6**	**-0.2**
	baz=252						
P18K	**Big Mountain,**	**15.96**	**50**	P	**Pn**	**11 21 58.1**	**+0.8**
	baz=250,SNR=10						
OHAK	**Old Harbor**	**16.40**	**59**	P	**Pn**	**11 21 59.8**	**-3.1**
	baz=259,SNR=7.5						
Q19K	**Cape Douglas,**	**16.59**	**53**	Pn	**Pn**	**11 22 04.9**	**-0.4**
Q19K				IAmb	IAmb	11 22 14.0	
	comp=Z,262nm,1.9s						
Q19K	**Cape Douglas,**	**16.59**	**53**	P	**Pn**	**11 22 04.6**	**-0.7**
	baz=253						
O19K	**Port Alsworth**	**16.67**	**48**	P	**Pn**	**11 22 06.1**	**-0.1**
	baz=248,SNR=9.4						
N19K	**Bonanza Creek**	**16.83**	**46**	P	**P**	**11 22 10.6**	**+1.1**
N19K				IAmb	IAmb	11 22 13.4	
	comp=Z,115nm,0.8s						
N19K	**Bonanza Creek**	**16.83**	**46**	P	**Pn**	**11 22 09.2**	**+0.9**
	baz=246,SNR=38						
KDAK	**Kodiak Island**	**16.87**	**57**	P	**Pn**	**11 22 05.4**	**-3.4**
	comp=Z,18nm,0.3s,baz=257,slow=4.3,SNR=127						
KDAK				S	Sn	11 25 03.7	-11
	comp=Z,7.2nm,0.8s,baz=275,slow=19,SNR=1.6						
KDAK	**Kodiak Island**	**16.87**	**57**	P	**Pn**	**11 22 06.1**	**-2.7**
	baz=258						
KDAK	**Kodiak Island**	**16.87**	**57**	*i* P	**Pn**	**11 22 07.1**	**-1.7**
P19K	**Oil Pt**	**17.01**	**50**	P	**P**	**11 22 11.7**	**+0.2**
	baz=252						
Q20K	**Shuyak Island**	**17.14**	**54**	P	**Pn**	**11 22 11.3**	**-0.8**
	baz=256						
ILSW	**Iliamna Southw**	**17.15**	**49**	P	**P**	**11 22 14.1**	**+0.9**
TTA	**Tatalina**	**17.16**	**38**	P	**P**	**11 22 14.3**	**+1.1**
TTA	**Tatalina**	**17.16**	**38**	P	**P**	**11 22 13.8**	**+0.6**
	baz=238,SNR=37						
TTA	**Tatalina**	**17.16**	**38**	P	**P**	**11 22 14.3**	**+1.1**
TTA				pmax	pmax		
	comp=Z,50nm,0.9s						
L19K	**White Mountain**	**17.25**	**41**	IAmb	IAmb	11 22 17.3	
	comp=Z,100nm,1.1s						
L19K	**White Mountain**	**17.25**	**41**	P	**P**	**11 22 15.2**	**+1.0**
	baz=242,SNR=46						
O20K	**Slope Mountain**	**17.43**	**49**	P	**P**	**11 22 17.4**	**+1.2**
	baz=251						
RSO	**Redoubt South**	**17.49**	**48**	P	**P**	**11 22 18.6**	**+1.6**
HOM	**Homer**	**17.78**	**51**	P	**Pn**	**11 22 21.5**	**+1.6**
	baz=254						
M20K	**Styx River**	**17.85**	**44**	P	**Pn**	**11 22 22.2**	**+1.4**
	baz=245						
GCSA	**Galena City Sc**	**17.88**	**33**	P	**Pn**	**11 22 22.3**	**+1.2**
	baz=232,SNR=43						
CNPM	**China Poot**	**17.95**	**52**	P	**Pn**	**11 22 22.3**	**+0.4**
SPCR	**Spurr Chakacha**	**18.00**	**46**	P	**Pn**	**11 22 24.8**	**+2.2**
	baz=248,SNR=50						
SPU	**Mount Spurr**	**18.06**	**46**	P	**Pn**	**11 22 23.7**	**+0.3**
BILL	**Bilibino**	**18.11**	**343**	P	**Pn**	**11 22 26.5**	**+2.6**
BILL	**Bilibino**	**18.11**	**343**	*ce*P	**Pn**	**11 22 25.5**	**+1.6**
BILL				pmax	pmax		
	comp=Z,62nm,1.3s						
BILL				MLR	MLR		
	comp=Z,264nm,15.0s						
K20K	**Telida**	**18.14**	**39**	P	**Pn**	**11 22 24.9**	**+0.6**
	baz=240,SNR=16						
BRSE	**Bradley Lake S**	**18.25**	**51**	P	**P**	**11 22 25.5**	**+0.4**
	baz=255						
CAPN	**Captain Cook N**	**18.34**	**48**	P	**P**	**11 22 26.4**	**+0.4**
	baz=251						
MA2	**Magadan**	**18.57**	**308**	*i* P	**P**	**11 22 28.8**	**+0.2**
SKT	**Skwentna**	**18.59**	**44**	P	**Pn**	**11 22 30.9**	**+1.2**
SKT				IAmb	IAmb	11 22 32.1	
	comp=Z,148nm,0.9s						
SKT	**Skwentna**	**18.59**	**44**	P	**Pn**	**11 22 30.4**	**+0.7**
	baz=247,SNR=84						
PPLA	**Purkeypile**	**18.68**	**41**	Pn	**Pn**	**11 22 31.9**	**+1.0**
PPLA	**Purkeypile**	**18.68**	**41**	P	**Pn**	**11 22 31.8**	**+0.9**
	baz=244,SNR=25						
CAST	**Castle Rocks**	**18.95**	**40**		**Pn**	**11 22 34.7**	**+0.7**
CAST	**Castle Rocks**	**18.95**	**40**	P	**Pn**	**11 22 33.9**	**-0.2**
	baz=243,SNR=126						
SEW	**Seward**	**18.96**	**51**	P	**P**	**11 22 33.3**	**+0.4**
SEW	**Seward**	**18.96**	**51**	P	**P**	**11 22 33.1**	**+0.1**
	baz=255,SNR=6.1						
CHUM	**Lake Minchumin**	**19.08**	**38**	P	**Pn**	**11 22 36.0**	**+0.5**
	baz=241,SNR=45						
RC01	**Rabbit Creek A**	**19.10**	**48**	P	**P**	**11 22 34.2**	**-0.2**
RC01	**Rabbit Creek A**	**19.10**	**48**	P	**P**	**11 22 34.5**	**+0.1**
	baz=252,SNR=5.2						
M22K	**Willow**	**19.13**	**46**	P	**P**	**11 22 34.3**	**-0.4**
	baz=250						
CUT	**Chulitna**	**19.30**	**44**	P	**P**	**11 22 36.5**	**-0.1**
CUT				IAmb	IAmb	11 22 41.4	
	comp=Z,166nm,1.0s						
CUT	**Chulitna**	**19.30**	**44**	P	**P**	**11 22 36.9**	**+0.4**
	baz=248,SNR=25						
PMR	**Palmer**	**19.53**	**47**	P	**P**	**11 22 38.3**	**-0.8**
PMR				IAmb	IAmb	11 22 44.1	
	comp=Z,31nm,0.5s						
PMR	**Palmer**	**19.53**	**47**	P	**P**	**11 22 38.4**	**-0.6**
	baz=252,SNR=15						
PMR	**Palmer**	**19.53**	**47**	P	**P**	**11 22 38.3**	**-0.8**
PMR				pmax	pmax		
	comp=Z,31nm,0.5s						
PWL	**Port Wells**	**19.69**	**49**		**P**	**11 22 39.8**	**-1.1**
PWL	**Port Wells**	**19.69**	**49**	P	**P**	**11 22 39.7**	**-1.2**
	baz=254						
TRF	**Thorofare Moun**	**19.70**	**41**	P	**P**	**11 22 41.8**	**+0.7**
TRF				IAmb	IAmb	11 22 51.4	
	comp=Z,53nm,1.0s						
TRF	**Thorofare Moun**	**19.70**	**41**	P	**P**	**11 22 41.6**	**+0.5**
	baz=245,SNR=26						
BPAW	**Bear Paw Mtn.**	**19.70**	**39**	P	**P**	**11 22 41.8**	**+0.9**
BPAW				IAmb	IAmb	11 22 46.7	
	comp=Z,86nm,0.8s						
BPAW	**Bear Paw Mtn.**	**19.70**	**39**	P	**P**	**11 22 41.9**	**+0.9**
	baz=242,SNR=66						
KNK	**Knik Glacier**	**19.78**	**47**	IAmb	IAmb	11 22 45.9	
	comp=Z,35nm,0.5s						
KNK	**Knik Glacier**	**19.78**	**47**	P	**P**	**11 22 41.1**	**-0.8**
	baz=253,SNR=13						
H21K	**Melozitna Rive**	**19.81**	**33**	IAmb	IAmb	11 22 48.1	
	comp=Z,79nm,0.9s						
H21K	**Melozitna Rive**	**19.81**	**33**	P	**P**	**11 22 43.6**	**+1.4**
	baz=236						
I21K	**Tanana**	**19.85**	**35**	IAmb	IAmb	11 22 45.2	
	comp=Z,78nm,0.9s						
I21K	**Tanana**	**19.85**	**35**	P	**P**	**11 22 43.9**	**+1.3**
	baz=238						
P23K	**Montague Islan**	**19.94**	**52**	P	**P**	**11 22 44.3**	**+0.7**
	baz=258						
SML	**Sawmill**	**19.95**	**46**	P	**P**	**11 22 43.5**	**-0.3**
	baz=252,SNR=14						
G21K	**Allakaket**	**20.07**	**31**	P	**P**	**11 22 45.9**	**+1.0**
	baz=233						
WAT1	**Susitna Watana**	**20.19**	**43**	P	**P**	**11 22 45.3**	**-1.0**
	baz=249						
M23K	**Glacier View**	**20.23**	**47**	P	**P**	**11 22 45.2**	**-1.5**
	baz=253,SNR=32						
MLY	**Manley**	**20.23**	**36**	P	**P**	**11 22 46.8**	**0.0**
MLY	**Manley**	**20.23**	**36**	P	**P**	**11 22 48.0**	**+1.3**
	baz=241,SNR=44						
RND	**Reindeer**	**20.27**	**42**	P	**P**	**11 22 47.3**	**+0.1**
RND	**Reindeer**	**20.27**	**42**	P	**P**	**11 22 47.3**	**+0.1**
RND				pmax	pmax		
	comp=Z,22nm,0.8s						
BWN	**Browne**	**20.33**	**39**	IAmb	IAmb	11 22 55.1	
	comp=Z,147nm,1.1s						
MCK	**McKinley**	**20.36**	**41**	P	**P**	**11 22 47.8**	**-0.4**
MCK	**McKinley**	**20.36**	**41**	P	**P**	**11 22 47.7**	**-0.4**
	baz=246,SNR=24						
MCK	**McKinley**	**20.36**	**41**	P	**P**	**11 22 47.8**	**-0.4**
MCK				pmax	pmax		
	comp=Z,40nm,0.9s						
SCM	**Sheep Creek Mo**	**20.42**	**47**	IAmb	IAmb	11 22 49.7	
	comp=Z,52nm,0.8s						
SCM	**Sheep Creek Mo**	**20.42**	**47**	P	**P**	**11 22 47.7**	**-1.1**
	baz=253,SNR=18						
WAT6	**Susitna Watana**	**20.46**	**44**	P	**P**	**11 22 48.4**	**-1.0**
	baz=251,SNR=50						
F21K	**Alatna River**	**20.51**	**29**	P	**P**	**11 22 50.9**	**+1.1**
	baz=232						
NEA2	**Nenana**	**20.66**	**38**	IAmb	IAmb	11 22 53.3	
	comp=Z,177nm,1.6s						
NEA2	**Nenana**	**20.66**	**38**	P	**P**	**11 22 51.4**	**0.0**
	baz=244,SNR=44						
DHY	**Denali Highway**	**20.78**	**43**	P	**P**	**11 22 52.6**	**-0.2**
DHY	**Denali Highway**	**20.78**	**43**	P	**P**	**11 22 52.3**	**-0.5**
	baz=250,SNR=141						
I23K	**Minto, Yukon-K**	**20.80**	**37**	P	**P**	**11 22 52.9**	**+0.1**
	baz=242,SNR=26						
EYAK	**Cordova Ski Ar**	**20.86**	**51**	P	**P**	**11 22 52.9**	**-0.6**
	baz=258						
DIV	**Divide

BMRM	**Bremner River**	21.49	50	IAmb	IAmb	11 23 02.8	
	comp=Z,52nm,0.7s						
BMRM	**Bremner River**	21.49	50	P	**P**	**11 22 59.4**	**-0.9**
	baz=259,SNR=6.1						
POKR	**Poker Plat Res**	21.52	38	IAmb	IAmb	11 23 02.9	
	comp=Z,47nm,0.9s						
POKR	**Poker Plat Res**	21.52	38	P	**P**	**11 23 00.2**	**-0.4**
	baz=245,SNR=16						
COLD	**Coldfoot**	21.55	31	P	**P**	**11 23 01.2**	**+0.3**
	baz=236,SNR=22						
HARP	**HAARP**	21.55	46	P	**P**	**11 23 01.0**	**0.0**
	baz=254,SNR=24						
PAX	**Paxson**	21.57	44	IAmb	IAmb	11 23 03.0	
	comp=Z,40nm,0.7s						
PAX	**Paxson**	21.57	44	P	**P**	**11 23 00.8**	**-0.4**
	baz=253,SNR=43						
E22K	**Anaktuvuk Pass**	21.57	28	P	**P**	**11 23 01.2**	**0.0**
	baz=232						
IL31		21.59	39	P	**P**	**11 22 59.1**	**-2.1**
ILAR	**Eielson Array**	21.59	39	P	**P**	**11 22 58.8**	**-2.6**
	comp=Z,3.9nm,0.4s,baz=244,slow=9.9,SNR=77						
ILAR				PcP	**PcP**	**11 27 00.2**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=232,slow=4.4,SNR=3.4						
ILAR				ScP	**ScP**	**11 30 32.7**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=293,slow=3.3,SNR=2.1						
	comp=Z,3.9nm,0.4s						
ILAR	**Eielson Array**	21.59	39	P	**P**	**11 22 59.6**	**-1.8**
ILAR	**Eielson Array**	21.59	39	P	**P**	**11 22 59.6**	**-1.8**
N25K	**Chitina, Valde**	21.62	48	IAmb	IAmb	11 23 04.4	
	comp=Z,61nm,0.7s						
N25K	**Chitina, Valde**	21.62	48	P	**P**	**11 23 02.1**	**+0.3**
	baz=257,SNR=29						
H24K	**Noodor Dome**	21.66	36	IAmb	IAmb	11 23 06.0	
	comp=Z,50nm,0.9s						
H24K	**Noodor Dome**	21.66	36	P	**P**	**11 23 02.2**	**+0.1**
	baz=243,SNR=55						
K24K	**Donnelly Dome**	21.70	42	P	**P**	**11 23 01.5**	**-1.0**
	baz=250,SNR=26						
GLB	**Gilahina Butte**	21.96	49	IAmb	IAmb	11 23 07.5	
	comp=Z,89nm,0.8s						
RIDG	**Independent Ri**	22.07	42	P	**P**	**11 23 05.4**	**-1.1**
	baz=252,SNR=21						
VRDI	**Verde Repeater**	22.09	49	IAmb	IAmb	11 23 08.7	
	comp=Z,52nm,0.8s						
E23K	**Chandalar**	22.20	30	P	**P**	**11 23 07.7**	**-0.2**
	baz=236						
G24K	**Hadweenzic Riv**	22.21	34	P	**P**	**11 23 08.6**	**+0.6**
	baz=242						
MCARA	**McCarthy VSAT**	22.32	49	IAmb	IAmb	11 23 18.4	
	comp=Z,34nm,0.7s						
MCARA	**McCarthy VSAT**	22.32	49	P	**P**	**11 23 09.3**	**+0.1**
	baz=259,SNR=13						
MENT	**Mentasta**	22.33	45	IAmb	IAmb	11 23 20.2	
	comp=Z,35nm,0.8s						
DOT	**Dot Lake**	22.38	43	IAmb	IAmb	11 23 11.4	
	comp=Z,74nm,0.8s						
D23K	**Nanushuk River**	22.41	27	P	**P**	**11 23 10.2**	**+0.1**
	baz=232						
F24K	**Squaw Lake**	22.47	32	P	**P**	**11 23 10.9**	**+0.2**
	baz=239,SNR=114						
SCRK	**Sand Creek**	22.51	42	P	**P**	**11 23 09.3**	**-2.0**
	baz=252,SNR=28						
L26K	**Log Cabin Wild**	22.52	45	IAmb	IAmb	11 23 12.7	
	comp=Z,50nm,0.8s						
L26K	**Log Cabin Wild**	22.52	45	P	**P**	**11 23 10.8**	**-0.5**
	baz=255,SNR=47						
M26K	**Nabesna, AK**	22.53	46	P	**P**	**11 23 10.2**	**-1.3**
	baz=257						
E24K	**Your Creek**	22.56	30	P	**P**	**11 23 11.3**	**-0.5**
	baz=237						
A21K	**Barrow**	22.58	19	P	**P**	**11 23 12.1**	**+0.2**
	baz=219,SNR=24						
G25K	**Bearman Lake**	22.72	35	P	**P**	**11 23 12.5**	**-0.9**
	baz=243						
J26L	**Joseph Creek**	22.84	41	IAmb	IAmb	11 23 15.3	
	comp=Z,47nm,0.9s						
J26L	**Joseph Creek**	22.84	41	P	**P**	**11 23 13.2**	**-1.6**
	baz=252						
FYU	**Fort Yukon**	22.95	35	IAmb	IAmb	11 23 16.7	
	comp=Z,87nm,1.2s						
M27K	**Edge Creek, AK**	23.03	47	IAmb	IAmb	11 23 18.6	
	comp=Z,51nm,0.8s						
M27K	**Edge Creek, AK**	23.03	47	P	**P**	**11 23 15.7**	**-1.0**
	baz=259						
L27K	**Beaver Creek,**	23.20	45	IAmb	IAmb	11 23 19.3	
	comp=Z,33nm,0.8s						
L27K	**Beaver Creek,**	23.20	45	P	**P**	**11 23 17.4**	**-0.9**
	baz=257,SNR=37						
F25K	**Christian Rive**	23.26	33	P	**P**	**11 23 18.7**	**-0.2**
	baz=242						
C24K	**Franklin Bluff**	23.43	27	P	**P**	**11 23 20.1**	**-0.2**
	baz=234						
PCA	**Pinnacle**	23.51	53	IAmb	IAmb	11 23 21.6	
	comp=Z,52nm,0.6s						
PINM	**Pinnacle**	23.51	53	P	**P**	**11 23 20.0**	**-1.2**
	baz=265,SNR=8.7						
TYV	**Tymovskoe**	23.53	284	*e*P	**P**	**11 23 23.2**	**+1.8**
TYV				pmax	pmax		
	comp=Z,200nm,3.6s						
TYV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
E25K	**Arctic Village**	23.53	32	P	**P**	**11 23 21.3**	**0.0**
	baz=241,SNR=77						
YUK3	**Moose Creek**	23.59	49	P	**P**	**11 23 21.0**	**-1.2**
	baz=261,SNR=66						
O28M	**Mount Upton**	23.60	51	P	**P**	**11 23 21.0**	**-1.4**
	baz=264						
G26K	**Porcupine Rive**	23.63	35	P	**P**	**11 23 22.0**	**-0.2**
	baz=246						
F26K	**Sheenjek River**	23.82	33	P	**P**	**11 23 24.1**	**+0.2**
	baz=244						
YUK8	**Steele Glacier**	23.86	50	P	**P**	**11 23 23.8**	**-0.9**
	baz=263,SNR=25						
EGAK	**Eagle**	23.91	41	P	**P**	**11 23 24.3**	**-0.5**
EGAK	**Eagle**	23.91	41	P	**P**	**11 23 24.1**	**-0.7**
	baz=254,SNR=76						
PNL	**Peninsula**	23.92	54	P	**P**	**11 23 24.3**	**-0.7**
	baz=267						
I27K	**Kandik River**	23.97	39	P	**P**	**11 23 24.4**	**-1.0**
	baz=251						
G27K	**Doyon Strip**	24.36	36	P	**P**	**11 23 27.7**	**-1.1**
	baz=249						
O29M	**Mount Kennedy**	24.36	52	P	**P**	**11 23 27.8**	**-1.3**
	baz=266						
YUK4	**Talbot Arm**	24.40	50	P	**P**	**11 23 28.9**	**-0.6**
	baz=264,SNR=41						
DAWY	**Dawson**	24.48	43	P	**P**	**11 23 29.3**	**-0.8**
DAWY				IAmb	IAmb	11 23 34.8	
	comp=Z,37nm,1.1s						
DAWY	**Dawson**	24.48	43	P	**P**	**11 23 29.1**	**-0.9**
	baz=257,SNR=31						
YUK6	**Outpost Mounta**	24.51	51	P	**P**	**11 23 28.9**	**-1.6**
	baz=265						
M29M	**Somme Creek**	24.62	47	P	**P**	**11 23 30.5**	**-0.8**
	baz=262						
C26K	**Camden Bay**	24.63	28	P	**P**	**11 23 32.1**	**+0.9**
	baz=239,SNR=54						
YSS	**Yuzh-Sakhalins**	24.81	275	*ce*P	**P**	**11 23 34.7**	**+1.6**
YSS				pmax	pmax		
	comp=Z,18nm,1.3s						
C27K	**Jago River**	24.85	29	P	**P**	**11 23 33.0**	**-0.3**
	baz=241,SNR=24						
L29M	**L29M**	24.86	46	P	**P**	**11 23 32.6**	**-1.0**
	baz=261						
HYT	**Haines Junctio**	24.92	51	P	**P**	**11 23 33.1**	**-1.1**
	baz=266,SNR=9.9						
P30M	**Million Dollar**	25.16	53	P	**P**	**11 23 35.4**	**-0.9**
	baz=268						
I29M	**Ogilvie Camp,**	25.23	40	P	**P**	**11 23 35.6**	**-1.2**
	baz=256,SNR=20						
K29M	**Barlow Dome**	25.25	44	P	**P**	**11 23 36.3**	**-0.8**
	baz=260						
M30M	**Minto, Yukon**	25.40	47	P	**P**	**11 23 38.0**	**-0.4**
	baz=263,SNR=16						
PLBC	**Pleasant Camp**	25.46	55	P	**P**	**11 23 38.5**	**-0.4**
	baz=270						
O30N	**Mendenhall**	25.61	51	P	**P**	**11 23 39.1**	**-1.2**
	baz=268						
N31M	**Braeburn, Yuko**	25.79	50	P	**P**	**11 23 41.6**	**-0.3**
	baz=266						
MAYO	**Mayo, Yukon**	25.93	45	IAmb	IAmb	11 24 04.2	
	comp=Z,39nm,0.9s						
MAYO	**Mayo, Yukon**	25.93	45	P	**P**	**11 23 42.7**	**-0.4**
	baz=262						
SKAG	**Skagway**	25.99	54	P	**P**	**11 23 42.9**	**-0.7**
	baz=271						
EPYK	**Eagle Plains**	26.11	39	P	**P**	**11 23 43.9**	**-0.8**
	baz=256,SNR=7.6						
ASAJ	**Asahikawa**	26.19	269	P	**P**	**11 23 46.9**	**+1.2**
	comp=Z,7.8nm,1.1s,baz=49,slow=12,SNR=2.9						
	comp=Z,7.8nm,1.1s						
WHY	**Whitehorse**	26.20	52	P	**P**	**11 23 44.9**	**-0.8**
	baz=269						
G30M	**tAoh Zraii Nji**	26.45	37	P	**P**	**11 23 46.7**	**-1.2**
	baz=255						
M31M	**Drury Creek, Y**	26.49	48	P	**P**	**11 23 47.5**	**-0.7**
	baz=266						
P32M	**Atlin**	26.80	54	P	**P**	**11 23 50.4**	**-0.7**
	baz=272						
FARO	**Faro, Yukon**	26.98	48	P	**P**	**11 23 51.7**	**-0.9**
	baz=267						
P33M	**Teslin, Yukon**	27.23	53	P	**P**	**11 23 55.0**	**+0.1**
	baz=272,SNR=7.6						
F31M	**Tsiigehtchic**	27.50	37	P	**P**	**11 23 56.5**	**-0.7**
	baz=257,SNR=12						
Q32M	**Nakina River**	27.59	55	P	**P**	**11 23 58.1**	**-0.1**
	baz=274						
INK	**Inuvik**	27.78	35	P	**P**	**11 23 59.2**	**-0.5**
	comp=Z,4.4nm,0.4s,baz=220,slow=7.3,SNR=30						
INK				PcP	**PcP**	**11 27 13.9**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=213,slow=1.9,SNR=3.3						
	comp=Z,4.4nm,0.4s						
INK	**Inuvik**	27.78	35	P	**P**	**11 23 59.3**	**-0.4**
	baz=255,SNR=14						
WRAK	**Wrangell Islan**	27.87	61	P	**P**	**11 24 00.5**	**0.0**
	baz=279						
R33M	**Jennings River**	28.21	54	P	**P**	**11 24 02.8**	**-1.1**
	baz=275						
DLBC	**Dease Lake**	28.81	56	P	**P**	**11 24 09.2**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=222,slow=7.3,SNR=6.8						
DLBC				LR	LR	11 34 40.6	
	comp=Z,252nm,20.8s,baz=8.0,slow=34						
	comp=Z,1.6nm,0.6s						
YAK	**Yakutsk**	29.06	311	P	**P**	**11 24 10.1**	**-0.9**
	comp=Z,7.9nm,0.4s,baz=177,slow=1.3,SNR=4.4						
	comp=Z,7.9nm,0.4s						
YAK	**Yakutsk**	29.06	311	*e*P	**P**	**11 24 10.4**	**-0.6**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
WTLY	**Watson Lake, Y**	29.24	53	P	**P**	**11 24 12.4**	**-0.4**
	baz=275						
KLR	**Kul'dur**	30.70	285	P	**P**	**11 24 25.9**	**+0.2**
	comp=E,15nm,0.8s,baz=64,slow=8.1,SNR=52						
	comp=E,15nm,0.8s						
KLR	**Kul'dur**	30.70	285	*ce*P	**P**	**11 24 25.4**	**-0.3**
KLR				pmax	pmax		
	comp=Z,29nm,1.3s						
C36M	**Paulatuk**	31.34	34	P	**P**	**11 24 31.0**	**-0.2**
	baz=255,SNR=12						
A36M	**Sachs Harbour**	31.37	29	IAmb	IAmb	11 24 33.6	
	comp=Z,34nm,0.8s						
A36M	**Sachs Harbour**	31.37	29	P	**P**	**11 24 32.0**	**+0.7**
	baz=258,SNR=37						
WRGLY	**Wrigley**	31.51	46	P	**P**	**11 24 32.6**	**0.0**
	baz=274,SNR=5.7						
KOTAN	**Kotaneelee Air**	31.59	52	P	**P**	**11 24 33.2**	**-0.3**
	baz=279						
ZEA	**Zeya**	31.78	296	*e*P	**P**	**11 24 34.8**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
HEH	**HeiHe**	32.90	289	*e*P	**P**	**11 24 44.4**	**-0.6**
HEH				pmax	pmax		
	comp=Z,12nm,1.2s						
H11N2	**WAKE ISLAND Hy**	33.28	204	T	T	12 00 17.1	
	baz=16,slow=76,SNR=120						
H11N3	**WAKE ISLAND Hy**	33.30	204	T	T	12 00 15.7	
	baz=16,slow=76,SNR=133						
H11N1	**WAKE ISLAND Hy**	33.30	204	T	T	12 00 18.5	
	baz=16,slow=76,SNR=134						
H11S1	**WAKE ISLAND Hy**	34.51	203	T	T	12 01 48.8	
	baz=15,slow=76,SNR=207						
H11S2	**WAKE ISLAND Hy**	34.52	203	T	T	12 01 50.1	
	baz=15,slow=76,SNR=120						
H11S3	**WAKE ISLAND Hy**	34.52	203	T	T	12 01 51.1	
	baz=15,slow=76,SNR=140						
CN2	**Changchun**	37.05	280	*e*P	**P**	**11 25 19.9**	**-0.9**
CN2				pP	pP	11 25 35.1	-0.1
CN2				S	**S**	**11 31 00.5**	**-1.7**
COR	**Corvallis**	37.49	78	P	**P**	**11 25 26.9**	**+2.4**
COR				pP	**pP**	**11 25 41.0**	**+1.6**
BOD	**Bodaibo**	37.59	307	*e*P	**P**	**11 25 24.7**	**-0.5**
BOD				pmax	pmax		
	comp=Z,48nm,0.9s						
B08A	**Colville Reser**	38.03	70	IAmb	IAmb	11 25 30.6	
	comp=Z,25nm,1.1s						
H04A	**Detroit Lake**	38.12	77	IAmb	IAmb	11 25 33.7	
	comp=Z,28nm,0.8s						
HAWA	**Hanford**	38.86	73	IAmb	IAmb	11 25 38.0	
	comp=Z,70nm,1.7s						
D08A	**Wolman Farm,**	38.90	72	IAmb	IAmb	11 25 37.6	
	comp=Z,38nm,1.3s						
C09A	**Chrisman Ranch**	38.92	70	IAmb	IAmb	11 25 37.8	
	comp=Z,19nm,1.0s						
KSRS	**Korea Array**	39.12	270	P	**P**	**11 25 39.2**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=61,slow=10,SNR=5.0						
	comp=Z,1.6nm,0.8s						
EDM	**Edmonton**	39.28	60	IAmb	IAmb	11 25 40.7	
	comp=Z,18nm,0.9s						
NEW	**Newport**	39.38	69	P	**P**	**11 25 40.4**	**0.0**
	comp=Z,15nm,0.7s,baz=299,slow=7.2,SNR=33						
	comp=Z,15nm,0.7s						
NEW	**Newport**	39.38	69	IAmb	IAmb	11 25 41.4	
	comp=Z,17nm,0.8s						
NEW	**Newport**	39.38	69	P	**P**	**11 25 40.6**	**+0.2**
	baz=298,SNR=15						
YBH	**Yreka Blue Hor**	39.39	81	P	**P**	**11 25 42.9**	**+2.2**
	comp=Z,16nm,0.9s,baz=314,slow=6.7,SNR=16						
YBH	**Yreka Blue Hor**	39.39	81	P	**P**	**11 25 40.7**	**+0.1**
YBH				IAmb	IAmb	11 25 45.6	
	comp=Z,19nm,1.0s						
YBH	**Yreka Blue Hor**	39.39	81	P	**P**	**11 25 40.7**	**+0.1**
YBH				pmax	pmax		
	comp=Z,19nm,1.0s						
E09A	**Wood Farm, Sta**	39.63	72	IAmb	IAmb	11 25 44.5	
	comp=Z,46nm,1.5s						
RES	**Resolute Bay**	39.99	24	P	**P**	**11 25 45.0**	**0.0**
	comp=Z,2.8nm,0.3s,baz=260,slow=6.9,SNR=25						
RES				PcP	**PcP**	**11 27 48.5**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=284,slow=4.2,SNR=2.4						
	comp=Z,2.8nm,0.3s						
RES	**Resolute Bay**	39.99	24	P	**P**	**11 25 44.1**	**-0.9**
F10A	**Beach Ranch, E**	40.46	72	IAmb	IAmb	11 26 38.4	
	comp=Z,46nm,1.8s						
MOD	**Modoc Plateau**	40.78	79	P	**P**	**11 25 53.8**	**+1.5**
MOD				IAmb	IAmb	11 25 56.6	
	comp=Z,41nm,1.6s						
WALA	**Waterton Lakes**	40.86	66	IAmb	IAmb	11 25 53.8	
	comp=Z,21nm,0.9s						
MSO	**Missoula**	41.96	69	IAmb	IAmb	11 26 02.7	
	comp=Z,29nm,1.1s						
MSO	**Missoula**	41.96	69	P	**P**	**11 26 01.7**	**-0.1**
	baz=301,SNR=19						
XLT	**XiLinHaoTe**	42.71	286	*i*P	**P**	**11 26 09.0**	**+1.1**
XLT				S	**S**	**11 32 26.4**	**-0.6**
XLT				sS	sS	11 32 54.3	+2.0
XLT				ScS	**ScS**	**11 35 56.6**	**-6.5**
XLT				pmax	pmax		
	comp=Z,11nm,1.0s						
XLT				pmax	pmax		
	comp=Z,270nm,6.0s						
XLT				LR	LR		
	comp=Z,210nm,17.9s						
XLT				LR	LR		
	comp=Z,220nm,15.9s						
ALE	**Alert**	42.75	10	P	**P**	**11 26 07.9**	**+0.3**
ALE				pP	**pP**	**11 26 21.9**	**-0.6**
ALE				sP	**sP**	**11 26 27.8**	**-1.6**
HLID	**Hailey**	43.44	74	P	**P**	**11 26 14.4**	**+0.5**
	baz=304,SNR=22						
EGMT	**Eagleton**	43.76	66	IAmb	IAmb	11 26 17.9	
	comp=Z,27nm,0.8s						
EGMT	**Eagleton**	43.76	66	P	**P**	**11 26 15.5**	**-0.8**
	baz=301,SNR=16						
BOZ	**Bozeman (W)**	43.98	70	IAmb	IAmb	11 26 19.1	
	comp=Z,39nm,0.8s						
BOZ	**Bozeman (W)**	43.98	70	P	**P**	**11 26 18.2**	**+0.1**
	baz=303,SNR=51						
NVAR	**Mina Array Bea**	44.06	82	P	**P**	**11 26 20.2**	**+1.2**
	comp=Z,9.5nm,0.8s,baz=300,slow=5.8,SNR=34						
	comp=Z,9.5nm,0.8s						
NVAR	**Mina Array Bea**	44.06	82	P	**P**	**11 26 19.9**	**+0.9**
MDPB	**Devils Postpil**	44.07	84	P	**P**	**11 26 21.2**	**+2.1**
NRIK	**Noril'sk**	44.18	329	P	**P**	**11 26 19.4**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=75,slow=8.5,SNR=6.3						
	comp=Z,4.4nm,0.8s						
NRIK	**Noril'sk**	44.18	329	P	**P**	**11 26 19.4**	**+0.2**
NRIK	**Noril'sk**	44.18	329	*ce*P	**P**	**11 26 17.5**	**-1.7**
NRIK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MLAC	**Mammoth, Mammo**	44.23	83	P	**P**	**11 26 21.6**	**+1.3**
	baz=308						
QLMT	**Earthquake Lak**	44.52	70	P	**P**	**11 26 22.4**	**-0.1**
FFC	**Flin Flon**	44.58	54	*i*P	**P**	**11 26 19.2**	**-3.4**
FFC	**Flin Flon**	44.58	54	P	**P**	**11 26 21.5**	**-1.1**
VOG	**Valley Oaks Go**	44.70	85	P	**P**	**11 26 27.3**	**+3.5**
	baz=309						
YMR	**Madison River**	44.88	70	IAmb	IAmb	11 26 26.7	
	comp=Z,42nm,1.0s						
DSP	**Deep Springs**	44.93	83	P	**P**	**11 26 27.0**	**+1.4**
TIN	**Tinemaha, Big**	44.96	84	P	**P**	**11 26 29.1**	**+3.1**
	baz=308						
YNR	**Norris Junctio**	45.02	70	IAmb	IAmb	11 26 28.9	
	comp=Z,41nm,1.0s						
VES	**Vestal, Richgr**	45.19	86	P	**P**	**11 26 31.3**	**+3.6**
	baz=309,SNR=7.6						
H17A	**Grant Village**	45.27	70	IAmb	IAmb	11 26 31.7	
	comp=Z,42nm,1.0s						
H17A	**Grant Village**	45.27	70	P	**P**	**11 26 30.2**	**+1.7**
	baz=304,SNR=34						
LKWY	**Lake**	45.27	70	IAmb	IAmb	11 26 31.0	
	comp=Z,24nm,0.8s						
YMP	**Mirror Lake Pl**	45.32	70	IAmb	IAmb	11 26 30.4	
	comp=Z,25nm,1.0s						
IMW	**Indian Meadow**	45.33	71	IAmb	IAmb	11 26 31.3	
	comp=Z,18nm,1.1s						
PKM	**Mcpherson Peak**	45.35	87	P	**P**	**11 26 32.2**	**+3.0**
	baz=310						
FLWY	**Flagg Ranch**	45.37	71	IAmb	IAmb	11 26 31.7	
	comp=Z,30nm,0.9s						
CWC	**Cottonwood Cre**	45.44	84	P	**P**	**11 26 32.8**	**+2.9**
	baz=309						
HVU	**Hansel Valley**	45.46	75	IAmb	IAmb	11 26 32.8	
	comp=Z,16nm,0.7s						
RLMT	**Red Lodge**	45.62	69	P	**P**	**11 26 31.8**	**+0.5**
	baz=304,SNR=41						
ISA	**Isabella, Lake**	45.69	85	P	**P**	**11 26 33.4**	**+1.6**
	baz=310						
R11A	**Troy Canyon, C**	45.80	80	IAmb	IAmb	11 26 36.7	
	comp=Z,13nm,0.9s						
R11A	**Troy Canyon, C**	45.80	80	P	**P**	**11 26 33.4**	**+0.6**
	baz=308,SNR=25						
ULN	**Ulaanbaatar**	45.82	296	P	**P**	**11 26 32.9**	**+0.2**
ULN	**Ulaanbaatar**	45.82	296	*ce*P	**P**	**11 26 33.5**	**+0.8**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ULN	**Ulaanbaatar**	45.82	296	P	**P**	**11 26 33.5**	**+0.8**
AHID	**Auburn Hatcher**	45.89	73	IAmb	IAmb	11 26 35.0	
	comp=Z,41nm,1.8s						
MPMC	**Manual Prospec**	46.05	84	P	**P**	**11 26 35.4**	**+0.7**
	baz=309,SNR=12						
FURC	**Furnace Creek,**	46.18	83	P	**P**	**11 26 39.1**	**+3.6**
	baz=309,SNR=14						
SONM	**Songino Array**	46.20	296	P	**P**	**11 26 36.5**	**+0.8**
	comp=Z,3.4nm,0.4s,baz=67,slow=8.1,SNR=41						
SONM				PcP	**PcP**	**11 28 10.2**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=89,slow=2.1,SNR=2.1						
SONM				ScP	**ScP**	**11 31 59.2**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=354,slow=1.4,SNR=4.3						
	comp=Z,3.4nm,0.4s						
SONM	**Songino Array**	46.20	296	P	**P**	**11 26 36.2**	**+0.5**
TPNV	**Topopah Spring**	46.26	82	IAmb	IAmb	11 26 41.5	
	comp=Z,28nm,0.9s						
TPNV	**Topopah Spring**	46.26	82	P	**P**	**11 26 39.5**	**+3.1**
	baz=309,SNR=23						
FCC	**Fort Churchill**	46.36	46	IAmb	IAmb	11 26 36.6	
	comp=Z,13nm,0.8s						
DUG	**Dugway, Tooele**	46.38	77	IAmb	IAmb	11 26 40.6	
	comp=Z,34nm,1.1s						
DUG	**Dugway, Tooele**	46.38	77	P	**P**	**11 26 37.8**	**+0.6**
	baz=307,SNR=39						
EDW2	**Edwards Air Fo**	46.49	86	P	**P**	**11 26 40.0**	**+2.0**
	baz=310						
LAO	**LASA Array**	46.50	65	IAmb	IAmb	11 26 39.1	
	comp=Z,25nm,0.7s						
LAO	**LASA Array**	46.50	65	P	**P**	**11 26 38.3**	**+0.3**
	baz=304,SNR=11						
LAO	**LASA Array**	46.50	65	P	**P**	**11 26 37.8**	**-0.2**
	baz=304,SNR=11						
ZAK	**Zakamensk**	46.53	301	*e*P	**P**	**11 26 38.9**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,25nm,1.2s						
TCUT	**Toone Canyon**	46.68	75	IAmb	IAmb	11 26 42.5	
	comp=Z,11nm,0.7s						
PRN	**Pahroc Range**	46.72	81	IAmb	IAmb	11 26 44.4	
	comp=Z,27nm,1.0s						
BW06	**Boulder Array**	46.81	72	IAmb	IAmb	11 26 43.0	
	comp=Z,18nm,0.8s						
BW06	**Boulder Array**	46.81	72	P	**P**	**11 26 40.8**	**+0.2**
	baz=306,SNR=34						
PD31	**Pinedale Array**	46.81	72	IAmb	IAmb	11 26 43.0	
	comp=Z,17nm,0.8s						
PDAR	**Pinedale Array**	46.81	72	P	**P**	**11 26 40.6**	**0.0**
	comp=Z,16nm,0.8s,baz=301,slow=3.5,SNR=106						
	comp=Z,16nm,0.8s						
SHOC	**Shoshone, Teco**	46.91	84	P	**P**	**11 26 43.9**	**+2.7**
	baz=310,SNR=6.6						
GSC	**Goldstone, Bar**	46.96	85	P	**P**	**11 26 43.3**	**+1.6**
GSC				IAmb	IAmb	11 26 47.3	
	comp=Z,17nm,0.8s						
GSC	**Goldstone, Bar**	46.96	85	P	**P**	**11 26 44.4**	**+2.6**
	baz=310,SNR=18						
GSC	**Goldstone, Bar**	46.96	85	P	**P**	**11 26 43.3**	**+1.6**
GSC				pmax	pmax		
	comp=Z,17nm,0.8s						
MOY	**Mondy**	47.06	303	*e*P	**P**	**11 26 43.2**	**+0.9**
MOY				pmax	pmax		
	comp=Z,23nm,1.1s						
BFSC	**Mount Baldy Ra**	47.12	86	P	**P**	**11 26 46.4**	**+3.4**
	baz=311						
HHC	**Hu-ho-hao-te**	47.20	285	*e*P	**P**	**11 26 45.8**	**+2.2**

MONP2 **Monument Peak** 48.78 87 P P 11 26 59.3 +3.3
baz=312
RWWY **Rawlins** 48.85 71 IAmb IAmb 11 26 57.9
comp=Z,26nm,1.4s
BC3 **Big Chuckawall** 48.88 85 P P 11 26 59.2 +2.5
baz=311
U15A **North Rim** 49.05 80 IAmb IAmb 11 27 02.4
comp=Z,19nm,0.7s
SWSC **Sam W. Stewart** 49.14 86 P P 11 26 59.5 +1.0
baz=312
IKP **In-Ko-Pah, Jac** 49.14 87 P P 11 26 59.7 +1.1
baz=312
O20A **White River Ci** 49.19 74 IAmb IAmb 11 27 01.1
comp=Z,25nm,0.8s
O20A **White River Ci** 49.19 74 P P 11 26 57.8 -1.1
baz=308,SNR=19
RSSD **Black Hills** 49.25 67 P P 11 26 58.7 -0.8
RSSD IAmb IAmb 11 26 59.7
comp=Z,10nm,0.9s
RSSD **Black Hills** 49.25 67 P P 11 26 58.8 -0.6
baz=307,SNR=7.8
RSSD **Black Hills** 49.25 67 P P 11 26 58.6 -0.8
baz=306
RSSD **Black Hills** 49.25 67 P P 11 26 58.7 -0.8
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD **Black Hills** 49.25 67 P P 11 26 58.8 -0.6
RSSD pP **pP** 11 27 12.8 -1.6
BLYC **Blythe** 49.40 84 P P 11 27 01.3 +0.9
MDND **Maddock** 49.54 61 P P 11 27 00.1 -1.2
baz=306,SNR=5.7
MDND **Maddock** 49.54 61 P P 11 27 00.9 -0.5
baz=306,SNR=5.7
GLA **Glamis** 49.67 85 P P 11 27 03.7 +1.2
baz=312
E28A **Huff** 49.69 63 IAmb IAmb 11 27 02.9
comp=Z,14nm,0.9s
E28A **Huff** 49.69 63 P P 11 27 02.3 -0.2
baz=306
KBS **Kingsbay** 49.81 357 *ce*P P 11 27 03.0 0.0
KBS pmax pmax
comp=Z,153nm,2.5s
KBS **Kingsbay** 49.81 357 *e*P P 11 27 03.8 +0.8
KBS IAmb IAmb 11 27 05.0
comp=Z,47nm,1.0s
KBS **Kingsbay** 49.81 357 P P 11 27 04.1 +1.1
N23A **Red Feather La** 50.09 72 IAmb IAmb 11 27 07.4
comp=Z,28nm,1.4s
N23A **Red Feather La** 50.09 72 P P 11 27 05.7 -0.2
baz=308,SNR=7.6
ULM **Lac du Bonnet** 50.13 56 P P 11 27 04.4 -1.4
comp=Z,1.8nm,0.3s,baz=276,slow=7.0,SNR=4.0
ULM PcP **PcP** 11 28 23.5 -0.9
comp=Z,0.9nm,0.3s,baz=321,slow=6.0,SNR=3.2
WUAZ **Wupatki** 50.20 80 IAmb IAmb 11 27 11.1
comp=Z,1.8nm,0.3s
WUAZ **Wupatki** 50.20 80 P P 11 27 08.5 +1.8
comp=Z,10nm,0.8s
baz=310,SNR=7.7
SPA0 **Spitsbergen Ar** 50.38 356 *e*P P 11 27 07.2 0.0
SPA0 IAmb IAmb 11 27 07.7
comp=Z,37nm,0.8s
SPITS **Spitsbergen Ar** 50.38 356 LR LR 11 50 37.2
comp=Z,135nm,18.4s,baz=42,slow=39
SPB2 **Spitsbergen Ar** 50.38 356 P P 11 27 07.5 +0.2
MVCO **Mesa Verde** 50.87 77 IAmb IAmb 11 27 28.3
comp=Z,8.9nm,0.8s
MVCO **Mesa Verde** 50.87 77 P P 11 27 12.3 +0.4
baz=310,SNR=6.8
ISCO **Idaho Springs** 50.97 72 P P 11 27 13.5 +0.8
baz=309
BRIGG **Briggsdale** 51.25 71 IAmb IAmb 11 27 16.2
comp=Z,20nm,1.0s
AGMN **Agassiz Nation** 51.30 58 IAmb IAmb 11 27 14.2
comp=Z,14nm,1.1s
AGMN **Agassiz Nation** 51.30 58 P P 11 27 13.4 -1.2
baz=307
AGMN **Agassiz Nation** 51.30 58 P P 11 27 12.7 -1.9
baz=307
W18A **Petrified Fore** 51.47 80 IAmb IAmb 11 27 20.5
comp=Z,14nm,0.8s
W18A **Petrified Fore** 51.47 80 P P 11 27 15.7 -0.6
baz=311,SNR=9.0
S22A **4UR Ranch, Cre** 51.55 75 P P 11 27 18.1 +1.1
baz=310,SNR=12
214A **Organ Pipe Nat** 51.67 85 P P 11 27 21.3 +3.7
baz=312
Q24A **Divide** 51.78 73 P P 11 27 19.8 +1.1
baz=310
SUSD **Miller** 51.95 64 P P 11 27 18.1 -1.4
baz=308
SDCO **Great Sand Dun** 52.35 74 P P 11 27 21.6 -1.3
baz=310,SNR=14
SDCO **Great Sand Dun** 52.35 74 P P 11 27 22.3 -0.6
baz=310,SNR=14
OGNE **Ogallala** 52.37 69 P P 11 27 23.8 +1.1
baz=309
B35A **Bob, Littlefor** 52.39 57 IAmb IAmb 11 27 22.2
comp=Z,10nm,0.8s
B35A **Bob, Littlefor** 52.39 57 P P 11 27 21.5 -1.2
baz=308
F33A **5 Mile Ranch,** 52.56 61 P P 11 27 22.5 -1.6
baz=308
TUC **Tucson** 52.69 83 P P 11 27 26.8 +1.5
baz=312
TUC **Tucson** 52.69 83 P P 11 27 28.8 +3.5
K31A **O'Neill** 53.20 66 P P 11 27 28.4 -0.4
baz=309
KSCO **Kaye Shedlock'** 53.25 71 IAmb IAmb 11 27 31.1
comp=Z,33nm,1.2s
KSCO **Kaye Shedlock'** 53.25 71 P P 11 27 30.1 +0.7
baz=310,SNR=6.1
KSCO **Kaye Shedlock'** 53.25 71 P P 11 27 28.9 -0.4
baz=310,SNR=6.1
T25A **Trinidad** 53.40 74 IAmb IAmb 11 27 33.8
comp=Z,20nm,1.2s
T25A **Trinidad** 53.40 74 P P 11 27 31.1 +0.5
baz=311,SNR=11
SUMG **Summit** 53.46 14 *i* P P 11 27 30.0 -0.7
SUMG IAmb IAmb 11 27 31.5
comp=Z,17nm,0.9s
ANMO **Albuquerque** 53.60 78 P P 11 27 31.3 -0.8
ANMO **Albuquerque** 53.60 78 P P 11 27 32.3 +0.2
baz=312
ANMO **Albuquerque** 53.60 78 *ce*P P 11 27 32.2 +0.2
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO **Albuquerque** 53.60 78 P P 11 27 32.4 +0.4
ANMO sP **sP** 11 27 53.6 -0.4
ZAA0 **Zalesovo Array** 53.68 313 P P 11 27 32.1 0.0
ZALV **Zalesovo Beam** 53.68 313 P P 11 27 31.6 -0.5
comp=Z,1.4nm,0.3s,baz=54,slow=6.6,SNR=9.8
ZALV PcP **PcP** 11 28 37.2 -0.4
comp=Z,7.0nm,0.8s,baz=33,slow=4.2,SNR=17
comp=Z,1.4nm,0.3s
ZALV **Zalesovo Beam** 53.68 313 P P 11 27 32.2 +0.1
ECSD **EROS Data Cent** 53.71 63 P P 11 27 31.4 -1.1
baz=310,SNR=7.5
ECSD **EROS Data Cent** 53.71 63 P P 11 27 31.4 -1.1
baz=309,SNR=7.5
EYMN **Ely** 53.82 56 P P 11 27 32.4 -0.8
baz=309
EYMN **Ely** 53.82 56 P P 11 27 31.8 -1.5
baz=309
DBG **Daneborg** 53.87 7 *i* P P 11 27 31.7 -1.5
DBG IAmb IAmb 11 27 32.6
comp=Z,7.5nm,0.8s
Y22A **Socorro** 53.97 79 P P 11 27 35.7 +1.0
baz=312,SNR=7.2
F36A **Milaca** 54.06 59 P P 11 27 33.9 -1.1
baz=309
CRNM **Carthage** 54.10 79 P P 11 27 36.0 +0.4
BGNE **Belgrade** 54.33 66 P P 11 27 36.7 -0.3
BGNE **Belgrade** 54.33 66 P P 11 27 36.2 -0.8
baz=310
BGNE **Belgrade** 54.33 66 P P 11 27 36.0 -1.0
baz=310
121A **Cookes Peak, D** 54.41 81 P P 11 27 38.0 +0.1
121A IAmb IAmb 11 27 42.2
comp=Z,21nm,1.6s
121A **Cookes Peak, D** 54.41 81 P P 11 27 38.4 +0.5
baz=313,SNR=5.3
121A **Cookes Peak, D** 54.41 81 P P 11 27 40.2 +2.2
baz=313,SNR=5.3
E38A **The Farm, Brul** 54.64 58 P P 11 27 38.5 -0.7
baz=310,SNR=5.2
SPMN **Marine on St.** 54.85 60 P P 11 27 40.1 -0.7
baz=310
SPMN **Marine on St.** 54.85 60 P P 11 27 39.6 -1.2
baz=310
LZH **Lanzhou** 54.90 286 *e*P P 11 27 42.3 +0.9
LZH pmax pmax
comp=Z,19nm,1.1s
L34A **Svendsen Farm,** 54.98 65 P P 11 27 41.1 -0.6
baz=311
CBKS **Cedar Bluff** 55.09 70 P P 11 27 43.6 +1.0
baz=311,SNR=13
CBKS **Cedar Bluff** 55.09 70 P P 11 27 43.6 +1.0
baz=311,SNR=13
GTA **Gaotai** 55.10 291 *e*P P 11 27 43.5 +0.7
GTA pmax pmax
comp=Z,12nm,1.1s
DGZ **Jazzator, Alta** 55.16 308 *c i*P P 11 27 44.1 +1.0
DGZ pmax pmax
comp=Z,27nm,1.1s
I37A **Lemond, Waseca** 55.31 61 IAmb IAmb 11 27 44.8
comp=Z,27nm,1.1s
I37B **Waseca** 55.31 61 P P 11 27 43.8 -0.3
baz=310
D41A **Chassel** 55.91 56 P P 11 27 48.0 -0.3
baz=311
R32A **Long Quarter,** 55.95 69 P P 11 27 48.5 -0.3
baz=312,SNR=10
N35A **Tabor** 56.12 65 P P 11 27 49.9 0.0
baz=311,SNR=15
G40A **Rib Lake** 56.22 58 P P 11 27 49.8 -0.8
baz=311
ICESG **Greenland Ices** 56.32 16 *i* P P 11 27 50.2 -1.1
ICESG IAmb IAmb 11 27 51.6
comp=Z,17nm,0.7s
MNTX **Cornudas Mount** 56.46 80 P P 11 27 52.8 +0.3
MNTX **Cornudas Mount** 56.46 80 P P 11 27 53.5 +1.1
baz=314,SNR=10.0
MNTX **Cornudas Mount** 56.46 80 P P 11 27 53.5 +1.1
baz=313,SNR=10.0
MSTX **Muleshoe** 56.51 76 P P 11 27 52.9 0.0
MSTX **Muleshoe** 56.51 76 P P 11 27 52.6 -0.3
baz=313
MSTX **Muleshoe** 56.51 76 P P 11 27 52.2 -0.7
baz=313
K38A **Parkersburg** 56.55 62 P P 11 27 51.9 -1.0
baz=311
AMTX **Amarillo** 56.55 74 P P 11 27 53.1 -0.1
AMTX IAmb IAmb 11 28 08.9
comp=Z,9.0nm,0.8s
AMTX **Amarillo** 56.55 74 P P 11 27 52.9 -0.3
baz=313
AMTX **Amarillo** 56.55 74 P P 11 27 53.1 -0.1
baz=312
KSU1 **Kansas State U** 56.73 67 P P 11 27 53.4 -0.9
KSU1 **Kansas State U** 56.73 67 P P 11 27 53.6 -0.7
baz=312,SNR=13
KSU1 **Kansas State U** 56.73 67 P P 11 27 53.6 -0.7
baz=312,SNR=13
SCIA **State Center** 56.80 63 P P 11 27 54.1 -0.5
SCIA IAmb IAmb 11 27 55.1
comp=Z,12nm,0.7s
SCIA **State Center** 56.80 63 P P 11 27 54.5 -0.2
baz=312
SCIA **State Center** 56.80 63 P P 11 27 54.2 -0.5
baz=311
I40A **Norwalk** 56.91 60 P P 11 27 54.7 -0.8
I40A IAmb IAmb 11 27 55.5
comp=Z,14nm,0.8s
I40A **Norwalk** 56.91 60 P P 11 27 54.4 -1.1
baz=312
E43A **Lone Tree Farm** 57.17 55 P P 11 27 56.8 -0.5
baz=312
KAN01 **Argonia South** 57.36 70 P 11 27 58.3 -0.5
KAN01 IAmb IAmb 11 28 04.5
comp=Z,14nm,0.8s
KS20 **Mayfield South** 57.43 70 P P 11 27 58.0 -1.2
N38A **Joes South For** 57.53 64 P P 11 27 59.4 -0.5
baz=312,SNR=6.5
JFWS **Jewell Farm** 57.76 60 IAmb IAmb 11 28 01.5
comp=Z,18nm,0.9s
JFWS **Jewell Farm** 57.76 60 P P 11 28 00.6 -0.9
baz=312
JFWS **Jewell Farm** 57.76 60 P P 11 27 59.2 -2.3
baz=312
L40A **Anamosa** 57.80 62 P P 11 28 00.6 -1.1
baz=312
I42A **Draeger Farm,** 57.83 59 P P 11 28 01.0 -0.9
baz=312
ZSN **Zaisan** 57.92 307 *e*P P 11 28 03.1 +0.5
comp=Z,6.0nm,0.6s,baz=307
ZSN *i* S S 11 35 59.4 +1.5
baz=307
ZSN **Zaisan** 57.92 307 *e*P P 11 28 03.1 +0.5
ZSN *i* S S 11 35 59.4 +1.5
ZSN pmax pmax
comp=Z,6.0nm,0.6s
ARA0 **ARCESS Array S** 58.04 350 *e*P P 11 28 02.7 -0.4
ARA0 IAmb IAmb 11 28 05.3
comp=Z,91nm,1.6s
ARCES **ARCESS Array B** 58.04 350 P P 11 28 02.5 -0.6
comp=Z,2.7nm,0.4s,baz=22,slow=7.8,SNR=37
comp=Z,2.7nm,0.4s
H43A **Windswept, Lux** 58.05 58 P P 11 28 02.8 -0.7
baz=312
P38A **Dawn** 58.14 65 P P 11 28 03.2 -1.0
baz=313,SNR=22
T35A **Sooner Cattle** 58.26 69 P P 11 28 04.9 -0.2
T35A IAmb IAmb 11 28 05.2
comp=Z,15nm,1.0s
T35B **Sooner Cattle** 58.26 69 P P 11 28 04.3 -0.7
baz=313,SNR=5.3
OK050 **Pawnee Station** 58.33 70 P 11 28 05.5 -0.1
OK050 IAmb IAmb 11 28 06.0
comp=Z,16nm,1.0s
LVZ **Lovozero** 58.35 346 P P 11 28 05.1 -0.1
LVZ **Lovozero** 58.35 346 *ce*P P 11 28 04.5 -0.8
LVZ pmax pmax
comp=Z,139nm,2.5s
LVZ **Lovozero** 58.35 346 P P 11 28 04.5 -0.8
LVZ pP **pP** 11 28 18.7 -2.1
OK046 **Pawnee Station** 58.38 70 IAmb IAmb 11 28 06.3
comp=Z,9.5nm,0.8s
WMOK **Wichita Mounta** 58.40 73 IAmb IAmb 11 28 12.9
comp=Z,7.6nm,0.8s
WMOK **Wichita Mounta** 58.40 73 P P 11 28 06.1 0.0
baz=314,SNR=12
WMOK **Wichita Mounta** 58.40 73 P P 11 28 06.1 0.0
baz=313,SNR=12
OK029 **Liberty Lake** 58.46 71 P P 11 28 06.2 -0.3
JETT **Jettan, Norway** 58.53 352 *e*P P 11 28 06.6 +0.1
JETT IAmb IAmb 11 28 07.3
comp=Z,24nm,0.6s
E46A **Sault Ste Mari** 58.55 54 P P 11 28 06.5 -0.4
baz=313,SNR=6.6
TRO **Tromso** 58.58 353 *e*P P 11 28 06.7 0.0
TRO IAmb IAmb 11 28 07.6
comp=Z,20nm,0.5s
OK033 **Mehan** 58.60 70 IAmb IAmb 11 28 08.0
comp=Z,14nm,0.7s
KURK **Kurchatov** 58.67 313 P P 11 28 08.1 +0.4
KURK IAmb IAmb 11 28 09.1
comp=Z,14nm,0.7s
KURK **Kurchatov** 58.67 313 *ce*P P 11 28 07.8 +0.1
KURK pmax pmax
comp=Z,16nm,0.8s
KURK **Kurchatov** 58.67 313 P P 11 28 07.8 +0.1
KURK pP **pP** 11 28 22.3 -0.8
L42A **Oliver, Polo** 58.69 61 IAmb IAmb 11 28 08.0
comp=Z,22nm,0.9s
L42A **Oliver, Polo** 58.69 61 P P 11 28 06.3 -1.7
baz=313
OK052 **Battle Ridge R** 58.71 70 IAmb IAmb 11 28 14.3
comp=Z,13nm,0.6s
OK031 **S. Brethren Rd** 58.72 70 IAmb IAmb 11 28 14.4
comp=Z,16nm,0.6s
OK030 **Cody Creek RV** 58.77 70 IAmb IAmb 11 28 09.3
comp=Z,13nm,0.9s
KURBB **Kurchatov Arra** 58.78 313 P P 11 28 08.8 +0.4
KTK1 **Kautokeino** 58.78 351 *e*P P 11 28 08.3 +0.1
KTK1 IAmb IAmb 11 28 10.0
comp=Z,19nm,0.8s
N41A **Harden Midland** 58.92 63 P P 11 28 08.8 -0.8
baz=313,SNR=9.8
WMQ **Urumqi** 58.93 302 *e*P P 11 28 10.3 +0.6
WMQ PcP **PcP** 11 29 00.3 +2.0
WMQ pmax pmax
comp=Z,42nm,0.9s
WMQ pmax pmax
comp=Z,360nm,5.7s
WMQ **Urumqi** 58.93 302 P P 11 28 10.8 +1.1
K43A **Burlington** 58.94 59 P P 11 28 09.3 -0.4
baz=313
P40A **Paris** 59.05 64 P P 11 28 09.7 -0.8
baz=313,SNR=19
TX31 **Lajitas Ar. Si** 59.16 81 P P 11 28 12.2 +0.6
baz=315,SNR=20
TX32 **Lajitas Array** 59.17 81 IAmb IAmb 11 28 15.5
comp=Z,20nm,1.6s
TXAR **Lajitas Array** 59.17 81 P P 11 28 11.4 -0.1
comp=Z,2.9nm,0.6s,baz=306,slow=6.0,SNR=32
comp=Z,2.9nm,0.6s
ABTX **Abilene, Hawle** 59.34 75 IAmb IAmb 11 28 15.7
comp=Z,12nm,0.8s
ABTX **Abilene, Hawle** 59.34 75 P P 11 28 12.8 +0.2
baz=314,SNR=9.7
ABTX **Abilene, Hawle** 59.34 75 P P 11 28 12.8 +0.2
baz=314,SNR=9.7
TUL1 **Leonard** 59.37 70 P P 11 28 12.8 0.0
baz=314,SNR=5.1
TUL1 **Leonard** 59.37 70 P P 11 28 12.8 0.0
baz=313,SNR=5.1
GLMI **Grayling** 59.45 55 P P 11 28 12.8 -0.4
baz=314
GLMI **Grayling** 59.45 55 P P 11 28 12.8 -0.4
baz=313
L44A **Lake County Fo** 59.53 60 P P 11 28 13.0 -0.7
baz=313
L44A **Lake County Fo** 59.53 60 P P 11 28 12.4 -1.4
baz=313
MK31 **Makanchi Array** 59.65 308 P P 11 28 14.8 +0.1
MK31 IAmb IAmb 11 28 15.3
comp=Z,10.0nm,0.8s
MK31 **Makanchi Array** 59.65 308 *i* P P 11 28 14.5 -0.1
MK31 pmax pmax
comp=Z,12nm,0.7s
MKAR **Makanchi Array** 59.65 308 P P 11 28 14.6 0.0
comp=Z,8.4nm,0.5s,baz=54,slow=6.9,SNR=99
MKAR PcP **PcP** 11 29 01.3 +0.2
comp=Z,2.5nm,0.7s,baz=31,slow=3.9,SNR=4.0
comp=Z,8.4nm,0.5s
MKAR **Makanchi Array** 59.65 308 P P 11 28 15.0 +0.4
MKAR **Makanchi Array** 59.65 308 *i* P P 11 28 14.6 0.0
MKAR pmax pmax
comp=Z,9.0nm,0.5s
R40A **Maddies Statio** 59.77 65 P P 11 28 13.9 -1.6
baz=314,SNR=19
MAKZ **Makanchi** 59.80 308 P P 11 28 15.9 +0.3
MAKZ IAmb IAmb 11 28 16.4
comp=Z,14nm,0.8s
MAKZ **Makanchi** 59.80 308 P P 11 28 15.9 +0.3
MAKZ pmax pmax
comp=Z,14nm,0.9s
MAKZ **Makanchi** 59.80 308 P P 11 28 15.5 -0.1
U38A **Gravette** 59.83 68 IAmb IAmb 11 28 15.3
comp=Z,12nm,0.9s
U38A **Gravette** 59.83 68 P P 11 28 14.8 -1.2
baz=314,SNR=7.0
HDIL **Hopedale** 59.89 62 P P 11 28 14.7 -1.6
baz=314,SNR=7.2
HDIL **Hopedale** 59.89 62 P P 11 28 15.6 -0.7
baz=313,SNR=7.2
M44A **Midewin, Midew** 60.00 60 P P 11 28 16.4 -0.6
baz=314
HHAR **Hobbs** 60.20 68 IAmb IAmb 11 28 18.1
comp=Z,28nm,1.5s
SCHQ **Schefferville** 60.35 38 P P 11 28 18.5 -0.8
comp=Z,20nm,0.8s,baz=330,slow=5.2,SNR=34
comp=Z,20nm,0.8s
SCHQ **Schefferville** 60.35 38 P P 11 28 18.9 -0.3
J47A **Sunmer** 60.44 57 P P 11 28 19.9 -0.1
baz=314
J47A P P 11 28 19.9 -0.1
baz=314
CCM **Cathedral Cave** 60.52 65 P P 11 28 19.3 -1.3
CCM IAmb IAmb 11 28 20.2
comp=Z,28nm,1.4s
CCM **Cathedral Cave** 60.52 65 P P 11 28 19.6 -1.0
baz=314,SNR=6.4
CCM **Cathedral Cave** 60.52 65 P P 11 28 19.7 -0.9
baz=314
CCM **Cathedral Cave** 60.52 65 P P 11 28 19.3 -1.3
CCM pmax pmax
comp=Z,28nm,1.4s
CCM **Cathedral Cave** 60.52 65 P P 11 28 19.2 -1.3
MGMO **Mountain Grove** 60.56 66 IAmb IAmb 11 28 20.2
comp=Z,17nm,0.9s
BVA0 **Borovoye Array** 60.58 319 *i* P P 11 28 20.5 -0.3
BRVK **Borovoye** 60.60 319 P P 11 28 21.6 +0.7
BRVK IAmb IAmb 11 28 23.8
comp=Z,7.6nm,0.8s
BRVK **Borovoye** 60.60 319 *ce*P P 11 28 21.0 0.0
BRVK pmax pmax
comp=Z,13nm,1.3s
BRVK **Borovoye** 60.60 319 P P 11 28 21.1 +0.2
O44A **Mansfield** 60.62 62 IAmb IAmb 11 28 21.4
comp=Z,24nm,1.1s
O44A **Mansfield** 60.62 62 P P 11 28 19.9 -1.4
baz=314
JCT **Junction City** 60.74 77 P P 11 28 22.0 -0.3
baz=315
JCT **Junction City** 60.74 77 P P 11 28 22.4 +0.1
baz=315
U40A **Yellville** 60.77 67 P P 11 28 21.3 -1.1
baz=314,SNR=17
U40A P P 11 28 21.3 -1.1
baz=314,SNR=17
FAUS **Fauske** 61.07 353 *e*P P 11 28 23.8 0.0
WHTX **Lake Whitney,** 61.10 74 IAmb IAmb 11 28 41.2
comp=Z,7.9nm,0.7s
WHTX **Lake Whitney,** 61.10 74 P P 11 28 25.2 +0.5
baz=315
SFIN **Lafayette** 61.22 61 P P 11 28 25.1 -0.2
baz=314,SNR=5.8
SFIN **Lafayette** 61.22 61 P P 11 28 25.4 +0.1
baz=314,SNR=5.8
L48A **N Adams** 61.55 58 P P 11 28 26.9 -0.6
baz=315
L48A P P 11 28 26.9 -0.6
baz=315
MIAR **Mount Ida** 61.62 69 IAmb IAmb 11 28 34.6
comp=Z,12nm,0.8s
MIAR **Mount Ida** 61.62 69 P P 11 28 28.1 0.0
baz=315
MIAR **Mount Ida** 61.62 69 P P 11 28 28.6 +0.5
baz=314
N47A **Urbana** 61.63 59 P P 11 28 27.2 -0.9
baz=315
N47A P P 11 28 27.2 -0.9
baz=315
Z38A **Mt. Pleasant** 61.69 71 IAmb IAmb 11 28 35.5
comp=Z,9.6nm,0.7s
Z38A **Mt. Pleasant** 61.69 71 P P 11 28 27.9 -0.7
baz=315
P46A **Rosedale** 61.69 61 P P 11 28 28.6 +0.1
baz=315
OLIL **Olney** 61.81 62 P P 11 28 29.0 -0.3
baz=315,SNR=7.9
WHAR **Wooly Hollow** 61.85 68 IAmb IAmb 11 28 29.8
comp=Z,27nm,1.1s
PBMO **Poplar Bluff** 61.87 66 P P 11 28 29.1 -0.6
baz=315
CGM3 **Cape Girardeau** 61.95 65 IAmb IAmb 11 28 30.0
comp=Z,18nm,1.5s
LCAR **Lake Charles** 61.95 67 IAmb IAmb 11 28 29.9
comp=Z,20nm,1.2s
LCAR **Lake Charles** 61.95 67 P P 11 28 29.1 -1.2
baz=315,SNR=7.9
X40A **Basin Creek Fa** 62.09 69 IAmb IAmb 11 28 31.9
comp=Z,11nm,1.0s
X40A **Basin Creek Fa** 62.09 69 P P 11 28 31.1 -0.2
baz=315,SNR=8.7
X40A P P 11 28 31.1 -0.2
baz=315,SNR=8.7
MOR8 **Moi Rana** 62.33 354 *e*P P 11 28 31.1 -1.3
MOR8 IAmb IAmb 11 28 31.3
comp=Z,16nm,0.6s
O48B **Farmland** 62.36 59 P P 11 28 32.4 -0.6
baz=315,SNR=5.9
O48B **Farmland** 62.36 59 P P 11 28 32.4 -0.6
baz=315,SNR=5.9
ARU **Arti** 62.36 328 *c i*P P 11 28 32.5 -0.3
ARU 11 29 08.9
ARU 11 30 47.6
ARU S S 11 36 56.4 +2.0
ARU SS SS 11 40 52.9 -4.9

ARU pmax pmax
comp=Z,53nm,3.3s
N49A Columbus Grove 62.41 58 IAmb IAmb 11 28 33.6
comp=Z,18nm,0.8s
N49A Columbus Grove 62.41 58 P **P 11 28 33.0 -0.3**
baz=315
N49A P **P 11 28 33.0 -0.3**
baz=315
833A Chaparral WMA, 62.52 78 P **P 11 28 35.7 +1.5**
baz=316
P48A Milroy 62.77 60 P **P 11 28 35.1 -0.6**
baz=315,SNR=6.3
P48A P **P 11 28 35.1 -0.6**
baz=315,SNR=6.3
PZH PanZhiHua 62.84 279 P P 11 28 28.4 -8.2
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
BORG Borgarnes 63.03 10 P **P 11 28 40.2 +3.2**
P49A Miami Univ. Ec 63.11 60 IAmb IAmb 11 28 38.5
comp=Z,22nm,1.1s
P49A Miami Univ. Ec 63.11 60 P **P 11 28 37.4 -0.6**
baz=316
P49A Miami Univ. Ec 63.11 60 P **P 11 28 36.9 -1.1**
baz=315
WCI Wyandotte Cave 63.17 62 P **P 11 28 37.8 -0.6**
WCI IAmb IAmb 11 28 38.9
comp=Z,22nm,1.1s
WCI Wyandotte Cave 63.17 62 P **P 11 28 38.1 -0.3**
baz=316
WCI Wyandotte Cave 63.17 62 P **P 11 28 38.0 -0.5**
baz=315
WCI Wyandotte Cave 63.17 62 P **P 11 28 37.8 -0.6**
WCI pmax pmax
comp=Z,22nm,1.1s
WCI Wyandotte Cave 63.17 62 P **P 11 28 38.3 -0.2**
N51A Ashland 63.37 57 P **P 11 28 39.2 -0.5**
baz=316
N51A P **P 11 28 39.2 -0.5**
baz=316
M52A Chesterland 63.46 56 P **P 11 28 39.8 -0.5**
baz=316
M52A P **P 11 28 39.8 -0.5**
baz=316
ACSO Alum Creek Sta 63.54 58 P **P 11 28 40.1 -0.7**
baz=316
ACSO Alum Creek Sta 63.54 58 P **P 11 28 38.9 -2.0**
baz=316
T47A Sharon Grove 63.60 63 P **P 11 28 41.3 0.0**
baz=316,SNR=23
SHLS Shalkode 63.65 307 *e*P **P 11 28 41.0 -0.7**
comp=Z,10.0nm,0.5s,baz=306
SHLS Shalkode 63.65 307 *e*P **P 11 28 40.9 -0.7**
SHLS pmax pmax
comp=Z,10.0nm,0.5s
ERPA Erie 63.75 55 P **P 11 28 41.8 -0.4**
baz=316
ERPA Erie 63.75 55 P **P 11 28 40.8 -1.4**
baz=316
WVT Waverly 63.81 64 P **P 11 28 41.9 -0.8**
WVT IAmb IAmb 11 28 43.3
comp=Z,21nm,1.1s
WVT Waverly 63.81 64 P **P 11 28 42.8 +0.1**
baz=316,SNR=11
WVT Waverly 63.81 64 P **P 11 28 41.8 -0.8**
baz=316
WVT Waverly 63.81 64 P **P 11 28 41.9 -0.8**
WVT pmax pmax
comp=Z,21nm,1.1s
WVT Waverly 63.81 64 P **P 11 28 42.1 -0.6**
WVT pP **pP 11 28 57.2 -1.1**
KPKS Kokpek 63.81 307 *e*P **P 11 28 43.3 +0.5**
comp=Z,10nm,0.8s,baz=308
KPKS Kokpek 63.81 307 *e*P **P 11 28 43.2 +0.5**
KPKS pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 63.84 340 *e*P **P 11 28 40.8 -1.6**
KLMR AMP 11 28 43.1
comp=Z,32nm,1.0s
KLMR Klimovskoe 63.84 340 *e*P **P 11 28 40.8 -1.6**
KLMR pmax pmax
comp=Z,32nm,1.0s
UZB Uzynbulak 63.88 307 *e*P **P 11 28 43.8 +0.5**
comp=Z,5.5nm,0.5s,baz=307
UZB Uzynbulak 63.88 307 *e*P **P 11 28 43.7 +0.5**
UZB pmax pmax
comp=Z,5.0nm,0.5s
M53A WI Miller and 63.88 56 P **P 11 28 41.9 -1.2**
baz=316
ALLY Alegheny Colle 64.01 55 P **P 11 28 44.1 +0.2**
baz=317
J55A Hilton 64.01 53 P **P 11 28 43.1 -0.7**
J55A P **P 11 28 43.1 -0.7**
baz=317
P51A Williamsport 64.04 59 P **P 11 28 44.1 0.0**
baz=316
P51A P **P 11 28 44.1 0.0**
baz=316
OXF Oxford 64.06 67 P **P 11 28 44.0 -0.4**
baz=316,SNR=20
OXF Oxford 64.06 67 P **P 11 28 43.1 -1.2**
baz=316,SNR=20
ZHN Zhinishke 64.16 307 *e*P **P 11 28 45.4 +0.4**
baz=307
ZHN Zhinishke 64.16 307 *e*P **P 11 28 45.4 +0.4**
143A Socs Landing, 64.20 69 P **P 11 28 46.1 +0.9**
baz=316
Q51A Peebles 64.21 59 P **P 11 28 44.5 -0.8**
baz=316,SNR=8.9
Q51A P **P 11 28 44.5 -0.8**
baz=316,SNR=8.9
R50A Paris 64.22 60 IAmb IAmb 11 28 46.2
comp=Z,19nm,1.1s
R50A Paris 64.22 60 P **P 11 28 45.0 -0.3**
baz=316
R50A P **P 11 28 45.0 -0.3**
baz=316
O52A Adamsville 64.23 58 P **P 11 28 45.1 -0.3**
baz=316,SNR=12
O52A P **P 11 28 45.1 -0.3**
baz=316,SNR=12
WVNY West Valley, N 64.24 54 P **P 11 28 44.9 -0.5**
baz=317
SATY Saty 64.25 307 *e*P **P 11 28 46.4 +0.8**
comp=Z,13nm,1.2s,baz=307
SATY Saty 64.25 307 *e*P **P 11 28 46.4 +0.8**
SATY pmax pmax
comp=Z,13nm,1.2s
CHKK Chushkaly 64.37 309 *e*P **P 11 28 46.2 0.0**
baz=309
CHKK Chushkaly 64.37 309 *e*P **P 11 28 46.2 0.0**
P52A Corning 64.42 58 IAmb IAmb 11 28 47.1
comp=Z,14nm,0.8s
P52A Corning 64.42 58 P **P 11 28 45.3 -1.3**
baz=316
O53A New Philadelph 64.47 57 IAmb IAmb 11 28 47.5
comp=Z,18nm,0.8s
O53A New Philadelph 64.47 57 P **P 11 28 45.3 -1.6**
baz=316,SNR=5.8
BMNY Brushton-Moira 64.47 50 P **P 11 28 45.7 -1.1**
baz=318
J56A Wolcott 64.48 52 P **P 11 28 46.9 -0.1**
baz=317
J56A P **P 11 28 46.9 -0.1**
baz=317
PAMR Moraine State 64.55 56 P **P 11 28 47.2 -0.2**
baz=317
LONY Lake Ozonia 64.60 50 P **P 11 28 45.9 -1.8**
baz=318
KUU Kurty 64.66 309 *e*P **P 11 28 48.4 +0.3**
baz=309
KUU Kurty 64.66 309 *e*P **P 11 28 48.4 +0.3**
V48A Smith Brothers 64.66 64 P **P 11 28 47.7 -0.5**
baz=316,SNR=7.6
U49A Red Boiling Sp 64.69 63 IAmb IAmb 11 28 49.2
comp=Z,27nm,1.2s
U49A Red Boiling Sp 64.69 63 P **P 11 28 48.1 -0.3**
baz=316,SNR=8.3
Q52A Bidwell 64.84 59 IAmb IAmb 11 28 50.0
comp=Z,12nm,0.7s
Q52A Bidwell 64.84 59 P **P 11 28 49.0 -0.3**
baz=317
Q52A P **P 11 28 49.0 -0.3**
baz=317
T50A Nancy 64.84 62 P **P 11 28 48.9 -0.5**
baz=316
T50A P **P 11 28 48.9 -0.5**
baz=316
M55A Ridgway 64.85 55 IAmb IAmb 11 28 50.5
comp=Z,17nm,0.9s
M55A Ridgway 64.85 55 P **P 11 28 48.8 -0.6**
baz=317
M55A P **P 11 28 48.8 -0.6**
baz=317
MDOK Medeo 64.85 308 P **P 11 28 50.5 +0.9**
BTLS Baital 64.90 311 *e*P **P 11 28 50.3 +0.6**
baz=311
BTLS Baital 64.90 311 *e*P **P 11 28 50.2 +0.6**
UPAO U. Pittsburgh 64.92 56 P **P 11 28 49.1 -0.7**
baz=317
P53A Whipple 64.92 58 IAmb IAmb 11 28 50.2
comp=Z,20nm,1.1s
P53A Whipple 64.92 58 P **P 11 28 49.7 -0.2**
baz=317
P53A P **P 11 28 49.7 -0.2**
baz=317
O54A Avella 64.95 57 IAmb IAmb 11 28 50.8
comp=Z,13nm,0.8s
O54A Avella 64.95 57 P **P 11 28 49.9 -0.2**
baz=317
O54A P **P 11 28 49.9 -0.2**
baz=317
L56A Greenwood 64.97 53 P **P 11 28 50.2 0.0**
baz=317,SNR=14
L56A P **P 11 28 50.2 0.0**
baz=317,SNR=14
TNSS Tian-Shan 64.99 308 *e*P **P 11 28 51.7 +0.9**
baz=308
TNSS Tian-Shan 64.99 308 *e*P **P 11 28 51.7 +0.9**
K57A Scipio Center 65.05 52 P **P 11 28 50.3 -0.4**
baz=318
VBMS Vicksburg 65.06 69 IAmb IAmb 11 28 52.1
comp=Z,22nm,0.8s
VBMS Vicksburg 65.06 69 P **P 11 28 51.3 +0.4**
baz=316
VBMS Vicksburg 65.06 69 P **P 11 28 50.6 -0.3**
baz=316
S51A Beattyville 65.08 61 P **P 11 28 51.1 +0.1**
baz=317
S51A P **P 11 28 51.1 +0.1**
baz=317
PSDB Penn State Uni 65.10 55 P **P 11 28 51.0 -0.1**
baz=317
J58A Remsen 65.19 51 P **P 11 28 51.1 -0.5**
baz=318
J58A P **P 11 28 51.1 -0.5**
baz=318
WUS Wushi 65.20 305 P **P 11 28 52.8 +0.9**
WUS pP **pP 11 29 08.4 +0.8**
NCB Newcomb 65.25 50 P **P 11 28 51.2 -0.8**
baz=318
D62A Allapoint, All 65.29 45 IAmb IAmb 11 28 52.6
comp=Z,18nm,0.8s
D62A Allapoint, All 65.29 45 P **P 11 28 51.5 -0.6**
baz=320
D62A P **P 11 28 51.5 -0.6**
baz=320
E62A Clayton Lake 65.44 45 P **P 11 28 52.2 -0.9**
baz=320
E62A P **P 11 28 52.2 -0.9**
baz=320
X48A Hartselle 65.46 65 P **P 11 28 52.6 -0.9**
baz=317,SNR=8.8
R53A Hurricane 65.47 59 P **P 11 28 53.5 +0.1**
baz=317,SNR=7.2
R53A P **P 11 28 53.5 +0.1**
baz=317,SNR=7.2
344A Westbrook Farm 65.49 70 IAmb IAmb 11 28 56.5
comp=Z,13nm,0.7s
344A Westbrook Farm 65.49 70 P **P 11 28 54.1 +0.4**
baz=316
J59A Piesco 65.49 51 P **P 11 28 52.9 -0.7**
baz=318
J59A P **P 11 28 52.9 -0.7**
baz=318
TARG Taragay, Kyrgy 65.53 307 IAmb IAmb 11 28 57.2
comp=Z,6.6nm,0.6s
SWET Sewanee 65.54 64 IAmb IAmb 11 28 54.8
comp=Z,15nm,0.8s
Q54A Coxs Mills 65.59 58 P **P 11 28 54.2 0.0**
baz=317
Q54A P **P 11 28 54.2 0.0**
baz=317
MCWV Mont Chateau 65.61 57 P **P 11 28 54.6 +0.2**
baz=317
MCWV Mont Chateau 65.61 57 P **P 11 28 53.2 -1.1**
baz=317
146A Union 65.62 68 P **P 11 28 55.1 +0.7**
baz=317,SNR=6.0
FIA1 FINESS Array S 65.70 347 P **P 11 28 53.9 -0.6**
FINES FINESS Array B 65.70 347 P **P 11 28 53.6 -0.9**
comp=Z,20nm,0.7s,baz=32,slow=7.6,SNR=38
comp=Z,20nm,0.7s
FINES FINESS Array B 65.70 347 P **P 11 28 53.9 -0.6**
FINES FINESS Array B 65.70 347 P **P 11 28 53.9 -0.6**
BINY Binghamton 65.71 52 P **P 11 28 54.8 -0.1**
baz=318
BINY Binghamton 65.71 52 P **P 11 28 54.4 -0.5**
baz=318
TKM2 Tokmak 2 65.74 309 P **P 11 28 57.2 +1.8**
SNR=9.2
TKM2 Tokmak 2 65.74 309 *i* P **P 11 28 56.1 +0.7**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
M57A Sunshine Farm, 65.78 54 P **P 11 28 55.4 +0.1**
baz=318
M57A P **P 11 28 55.4 +0.1**
baz=318
Z47A Carrollton 65.78 67 P **P 11 28 55.3 -0.2**
baz=317,SNR=16
F62A Pittston Farm, 65.79 46 P **P 11 28 54.7 -0.6**
baz=320
F62A P **P 11 28 54.7 -0.6**
baz=320
SGDS Sogindy 65.81 310 *e*P **P 11 28 56.0 +0.3**
baz=310
SGDS Sogindy 65.81 310 *e*P **P 11 28 56.0 +0.3**
MCVT Middlebury Col 65.85 49 P **P 11 28 54.4 -1.4**
baz=319
W50A Signal Mountai 65.90 63 P **P 11 28 56.2 -0.1**
baz=317,SNR=9.3
TZTN Tazewell 65.90 61 P **P 11 28 56.3 0.0**
baz=317
TZTN Tazewell 65.90 61 P **P 11 28 56.2 0.0**
baz=317
TNCH TengChong 65.91 280 *e*P **P 11 28 57.8 +1.1**
TNCH pP pwP 11 29 14.6 +0.2
TNCH pmax pmax
comp=Z,20nm,0.6s
SSPA Standing Stone 65.91 55 P **P 11 28 55.5 -0.7**
SSPA IAmb IAmb 11 28 57.1
comp=Z,18nm,0.9s
SSPA Standing Stone 65.91 55 P **P 11 28 56.3 +0.1**
baz=318
SSPA Standing Stone 65.91 55 P **P 11 28 54.9 -1.3**
baz=318
ULHL Ulahol 65.93 308 P **P 11 28 58.0 +1.3**
SNR=6.5
ACCN Adirondack Com 65.96 50 P **P 11 28 56.0 -0.5**
baz=319
V51A Loudon 66.00 62 IAmb IAmb 11 28 57.5
comp=Z,29nm,1.2s
V51A Loudon 66.00 62 P **P 11 28 56.7 -0.1**
baz=317,SNR=8.1
G62A West of Eustis 66.05 47 P **P 11 28 56.7 -0.4**
baz=320
G62A P **P 11 28 56.7 -0.4**
baz=320
E63A Oxbow 66.08 45 P **P 11 28 56.2 -1.0**
baz=320
E63A P **P 11 28 56.2 -1.0**
baz=320
HCNY Howe Caverns 66.12 51 P **P 11 28 57.3 -0.2**
baz=319
CPCT Cooper Cave 66.16 63 IAmb IAmb 11 28 59.1
comp=Z,31nm,1.4s
L59A Walton 66.18 52 P **P 11 28 57.9 -0.1**
baz=318
L59A P **P 11 28 57.9 -0.1**
baz=318
H62A Milan 66.25 48 P **P 11 28 57.7 -0.6**
baz=320
H62A P **P 11 28 57.7 -0.6**
baz=320
Y49A Blount Mountai 66.25 65 P **P 11 28 58.1 -0.5**
baz=317,SNR=7.8
KBK Karagaybulak 66.25 309 P **P 11 29 00.7 +2.0**
SNR=5.6
F63A Nahmakanta, Br 66.33 46 P **P 11 28 57.9 -0.9**
baz=320
F63A P **P 11 28 57.9 -0.9**
baz=320
N58A Sunbury 66.35 54 P **P 11 28 58.8 -0.3**
baz=318
N58A P **P 11 28 58.8 -0.3**
baz=318
V52A Sevierville 66.39 62 IAmb IAmb 11 29 00.2
comp=Z,18nm,1.1s
V52A Sevierville 66.39 62 P **P 11 28 59.1 -0.3**
baz=317
Q56A Snyder Ridge, 66.41 57 P **P 11 28 58.8 -0.7**
baz=318
Q56A P **P 11 28 58.8 -0.7**
baz=318
TKL Tuckaleechee C 66.42 62 IAmb IAmb 11 29 00.8
comp=Z,15nm,0.9s
TKL Tuckaleechee C 66.42 62 P **P 11 28 59.6 -0.1**
baz=317,SNR=6.1
R55A Marlinton 66.48 58 P **P 11 29 00.0 0.0**
baz=318
R55A P **P 11 29 00.0 0.0**
baz=318
AAK Ala-Archa 66.49 309 P **P 11 29 01.0 +0.9**
SNR=7.3
AAK Ala-Archa 66.49 309 P **P 11 29 00.8 +0.6**
AAK Ala-Archa 66.49 309 *ce*P **P 11 29 00.6 +0.5**
AAK pmax pmax
comp=Z,20nm,1.7s
AAK Ala-Archa 66.49 309 P **P 11 29 01.1 +0.9**
LRAL Lakeview Retre 66.52 66 IAmb IAmb 11 29 00.2
comp=Z,11nm,0.8s
LRAL Lakeview Retre 66.52 66 P **P 11 28 59.4 -0.8**
baz=317,SNR=6.8
LRAL Lakeview Retre 66.52 66 P **P 11 28 59.4 -0.8**
baz=317,SNR=6.8
J61A Chester 66.52 49 P **P 11 28 59.4 -0.7**
baz=319
J61A P **P 11 28 59.4 -0.7**
baz=319
F64A Sherman 66.54 45 P **P 11 28 59.2 -1.0**
baz=320
F64A P **P 11 28 59.2 -1.0**
baz=320
PKME Peaks-Kenny Pk 66.58 46 P **P 11 28 59.7 -0.7**
baz=320
X51A Calhoun 66.62 64 P **P 11 29 00.8 -0.1**
baz=317
X51A P **P 11 29 00.8 -0.1**
baz=317
RAF Rauma 66.68 349 *e*P **P 11 29 00.6 -0.2**
P57A Homestead Farm 66.70 56 P **P 11 29 01.0 -0.3**
baz=318
P57A P **P 11 29 01.0 -0.3**
baz=318
W52A Murphy 66.75 63 IAmb IAmb 11 29 03.0
comp=Z,18nm,1.0s
W52A Murphy 66.75 63 P **P 11 29 01.2 -0.6**
baz=317,SNR=6.3
DOMB Dombas 66.75 356 *e*P **P 11 29 01.1 -0.2**
DOMB IAmb IAmb 11 29 01.6
comp=Z,8.1nm,0.6s
UCH Uchtor 66.79 309 P **P 11 29 03.4 +0.9**
SNR=5.3
EKS2 Erkin-Say 66.82 310 P **P 11 29 03.5 +1.3**
SNR=9.2
U54A Nelsons Funny 66.86 60 P **P 11 29 02.8 +0.3**
baz=318
U54A P **P 11 29 02.8 +0.3**
baz=318
V53A Saluda 66.95 61 IAmb IAmb 11 29 04.4
comp=Z,7.3nm,0.6s
V53A Saluda 66.95 61 P **P 11 29 03.1 +0.1**
baz=318
V53A P **P 11 29 03.1 +0.1**
baz=318
LSA Lhasa 66.97 289 IAmb IAmb 11 29 08.3
comp=Z,10nm,0.7s
BLA Blacksburg 67.11 59 P **P 11 29 04.2 +0.2**
baz=318
BLA Blacksburg 67.11 59 P **P 11 29 03.5 -0.5**
baz=318
MEF Metsahovi 67.12 347 *e*P **P 11 29 03.3 -0.3**
L61B Northampton 67.14 50 P **P 11 29 03.7 -0.3**
baz=319
AML Almayashu 67.26 309 P **P 11 29 06.4 +1.0**
SNR=14
Z51A Franklin 67.35 65 P **P 11 29 04.6 -1.0**
baz=317
BG3 Lake Jocassee 67.38 62 IAmb IAmb 11 29 07.2
comp=Z,26nm,1.0s
CASEE Lake Jocassee 67.38 62 P **P 11 29 06.2 +0.5**
baz=318
AKTO Aktyubinsk 67.42 324 LR LR 12 00 08.9
comp=Z,237nm,19.1s,baz=26,slow=37
AKTO Aktyubinsk 67.42 324 P **P 11 29 05.4 -0.3**
S57A Dark Hollow, R 67.48 57 P **P 11 29 06.0 -0.3**
baz=318
S57A P **P 11 29 06.0 -0.3**
baz=318
NC405 NORSAR Array S 67.53 354 IAmb IAmb 11 29 05.8
comp=Z,27nm,0.9s
Y52A Lilburn 67.58 64 IAmb IAmb 11 29 08.2
comp=Z,10nm,0.8s
Y52A Lilburn 67.58 64 P **P 11 29 06.8 -0.2**
baz=318
Y52A P **P 11 29 06.8 -0.2**
baz=318
HRV Adam Dziewonsk 67.63 49 P **P 11 29 06.9 -0.3**
baz=320
NB2 NORSAR Subarra 67.63 354 P **P 11 29 06.8 -0.1**
comp=Z,3.8nm,0.5s,baz=7.4,slow=6.9
NB2 NORSAR Subarra 67.63 354 P **P 11 29 06.8 -0.1**
slow=6.9
NOA NORSAR Array B 67.63 354 P **P 11 29 06.3 -0.7**
comp=Z,10.0nm,0.7s,baz=125,slow=5.4,SNR=44
comp=Z,10.0nm,0.7s
PAL Palisades 67.63 52 P **P 11 29 06.6 -0.6**
baz=319
PAL Palisades 67.63 52 P **P 11 29 06.9 -0.3**
baz=319
AB31 Akbulak array 67.66 322 *e*P **P 11 29 06.9 -0.3**
ABKAR Akbulak array 67.66 322 P **P 11 29 07.3 +0.1**
V55A Taylorsville 67.69 60 P **P 11 29 07.9 +0.3**
baz=318
V55A P **P 11 29 07.9 +0.3**
baz=318
250A Grady 67.71 66 P **P 11 29 07.2 -0.6**
baz=318,SNR=9.7
HYA Hoyanger 67.75 357 *e*P **P 11 29 09.5 +2.0**
BRAL Brewton 67.85 68 P **P 11 29 09.2 +0.5**
baz=317
T57A Hurt 67.89 58 P **P 11 29 08.4 -0.5**
baz=318
T57A P **P 11 29 08.4 -0.5**
baz=318
NC602 NORSAR Array S 67.92 354 *e*P **P 11 29 08.6 0.0**
KK31 Karatay Array 68.03 312 IAmb IAmb 11 29 11.6
comp=Z,12nm,0.8s
KK31 Karatay Array 68.03 312 *i* P **P 11 29 10.0 +0.3**
KKAR Karatay Array 68.03 312 P **P 11 29 10.0 +0.3**
KKAR IAmb IAmb 11 29 11.6
comp=Z,12nm,0.8s
KKAR Karatay Array 68.03 312 P **P 11 29 10.0 +0.3**
KKAR Karatay Array 68.03 312 P **P 11 29 10.0 +0.3**
KKAR pmax pmax
comp=Z,13nm,0.8s
152A Waverly Hall 68.09 65 IAmb IAmb 11 29 09.9
comp=Z,43nm,1.8s
152A Waverly Hall 68.09 65 P **P 11 29 09.1 -1.1**
baz=318
KSH Kashi 68.11 306 P P 11 29 15.1 +4.7
KSH pP pP 11 29 28.3 +2.1
KSH pmax pmax
comp=Z,41nm,1.0s
PAULI Pauline 68.12 61 P **P 11 29 10.7 +0.3**
baz=318
KMSC Kings Mountain 68.15 61 IAmb IAmb 11 29 11.9
comp=Z,26nm,0.9s
KMSC Kings Mountain 68.15 61 P **P 11 29 10.1 -0.4**
baz=318,SNR=7.4
KMSC Kings Mountain 68.15 61 P **P 11 29 10.4 -0.1**

baz=318
SKAR Skarslia 68.15 356 *e*P **P 11 29 10.1 -0.1**
SKAR IAmb IAmb 11 29 10.6
comp=Z,16nm,0.8s
HODGE Hodges 68.31 62 IAmb IAmb 11 29 12.9
comp=Z,20nm,0.6s
HODGE Hodges 68.31 62 P **P 11 29 11.3 -0.2**
baz=318,SNR=10
VSU Vasula 68.46 345 *e*P **P 11 29 11.9 -0.2**
MTSE Matsula 68.65 347 *e*P **P 11 29 13.2 0.0**
T59A Double "B" Far 68.81 57 IAmb IAmb 11 29 15.4
comp=Z,14nm,1.1s
T59A Double "B" Far 68.81 57 P **P 11 29 14.0 -0.6**
baz=319
T59A P **P 11 29 14.0 -0.6**
baz=319
352A Blakely 68.84 66 P **P 11 29 14.5 -0.4**
baz=318
W57A Gilead 68.87 60 P **P 11 29 14.5 -0.5**
baz=319
W57A P **P 11 29 14.5 -0.5**
baz=319
ODD1 Odda 68.99 357 *e* **P 11 29 16.3 +0.9**
IUG luzhnay 68.99 312 *e*P **P 11 29 16.6 +0.7**
baz=312
IUG luzhnay 68.99 312 *e*P **P 11 29 16.5 +0.7**
BIRD Birdtown, Kers 69.00 61 P **P 11 29 15.6 -0.2**
baz=318
KONO Kongsberg 69.11 355 P **P 11 29 16.2 +0.1**
KONO IAmb IAmb 11 29 17.8
comp=Z,27nm,0.9s
KONO Kongsberg 69.11 355 P **P 11 29 16.2 +0.1**
KONO pmax pmax
comp=Z,27nm,0.9s
KONO Kongsberg 69.11 355 *e*P **P 11 29 16.4 +0.4**
KONO Kongsberg 69.11 355 P **P 11 29 16.5 +0.4**
HAW Hawthorne Fire 69.32 62 P **P 11 29 17.7 -0.1**
baz=318,SNR=6.2
BLS5 Blasjo 69.48 357 *e*P **P 11 29 19.0 +0.6**
SHL Shillong 69.57 286 IAmb IAmb 11 29 20.4
comp=Z,21nm,1.0s
X58A Rowland 69.67 60 P **P 11 29 19.4 -0.6**
baz=319
X58A P **P 11 29 19.4 -0.6**
baz=319
OBN Obninsk 69.72 339⇓ *i*P **P 11 29 19.8 -0.1**
OBN *e* 11 31 52.5
OBN pmax pmax
comp=Z,39nm,1.3s
255A Hazlehurst 69.91 64 P **P 11 29 21.3 -0.1**
baz=319
SLIT Slitere, Latvi 69.91 348 *e*P **P 11 29 21.2 +0.1**
553A Crawfordville 70.09 67 P **P 11 29 22.9 +0.3**
baz=318
NHSC New Hope 70.30 62 P **P 11 29 24.0 +0.1**
baz=319
NHSC New Hope 70.30 62 P **P 11 29 24.1 +0.2**
baz=319
CMAR Chiang Mai Arr 70.50 275 P **P 11 29 25.6 +0.3**
comp=Z,0.5nm,0.3s,baz=32,slow=7.1,SNR=6.8
comp=Z,0.5nm,0.3s
SNART Snartemo 70.54 356 *i*P **P 11 29 25.7 +0.8**
HOMB Homborsund 70.55 355 *i*P **P 11 29 25.7 +0.8**
TJOU Tjoern 70.60 354 *i*P **P 11 29 25.8 +0.6**
BORU Boraas 70.91 353 *i*P **P 11 29 27.3 +0.1**
ONAU Onsala 71.21 353 *i*P **P 11 29 28.8 -0.1**
LPSR Galich'ya Gora 71.46 336 *e*P **P 11 29 28.6 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
IDID Didziasalis 71.47 344 *e*P P 11 29 22.3 -8.3
FABU Falkenberg 71.54 353 *i*P **P 11 29 31.3 +0.4**
FABU IAmb IAmb 11 29 31.8
comp=Z,70nm,0.8s
PABE Paberze 71.73 346 P **P 11 29 31.8 -0.3**
PABE Paberze 71.73 346 *e*P **P 11 29 32.4 +0.3**
656A Willston 71.79 66 P **P 11 29 33.6 +0.7**
baz=319
NACGM Naroch 71.86 344 *e*P **P 11 29 32.5 -0.4**
comp=Z,52nm,1.1s,baz=17
BLEU Blekinge 71.96 351 *i*P **P 11 29 33.0 -0.5**
DEL Delary 71.98 352 *i*P **P 11 29 33.0 -0.6**
VRH Novokhopyorsk 71.99 334 *e*P **P 11 29 31.1 -2.7**
VRH pmax pmax
comp=Z,30nm,1.2s
MNK Minsk 72.05 344 *i*P **P 11 29 32.3 -1.8**
comp=E,1.0nm,0.9s
MNK *i*P **P 11 29 32.3 -1.8**
comp=N,44nm,0.9s
MNK *i*P **P 11 29 32.3 -1.8**
comp=Z,41nm,0.9s,baz=18
MNK *i*pP **pP 11 29 48.7 -1.5**
MNK *i*sP **sP 11 29 55.7 -1.1**
MNK *i*PP **PP 11 32 12.5 -1.5**
MNK *i*PPP PPP 11 33 56.5
MNK *i*S **S 11 38 49.6 -1.3**
MNK *i*sS **sS 11 39 18.0 +0.4**
MNK *i*SS **SS 11 43 30.0 +2.5**
MNK *i*SSS SSS 11 47 31.7
MNK Minsk 72.05 344 *i*P **P 11 29 32.2 -1.8**
MNK *i* *PP **pP 11 29 48.7 -1.5**
MNK *i* 11 29 50.3
MNK *i* *SP **sP 11 29 55.7 -1.1**
MNK *i* 11 32 12.5
MNK *i*PPP PPP 11 33 56.5
MNK *i*S **S 11 38 49.6 -1.3**
MNK *i* *sS **sS 11 39 18.0 +0.4**
MNK *i*SS **SS 11 43 30.0 +2.5**
MNK pmax pmax
comp=Z,41nm,0.9s
MNK pmax pmax
comp=N,44nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
CHGR Chuyangaron 72.14 310 P **P 11 29 35.1 +0.1**
CHGR Chuyangaron 72.14 310 P **P 11 29 35.1 +0.1**
CHGR pmax pmax
comp=Z,49nm,0.7s
MUD Monsted U'grnd 72.32 355 *i*P **P 11 29 36.8 +1.2**
MUD IAmb IAmb 11 29 37.4
comp=Z,31nm,0.9s
BJUU Bjuv 72.44 353 *i*P **P 11 29 36.8 +0.5**
LUNU Lund 72.84 352 *i*P **P 11 29 39.1 +0.4**
COP Copenhagen 72.87 353 IAmb IAmb 11 29 40.2
comp=Z,111nm,0.6s
BSD Bornholm Skovb 73.22 351 *i*P **P 11 29 40.9 -0.1**
BSD IAmb IAmb 11 29 42.4
comp=Z,56nm,1.0s
BSD Bornholm Skovb 73.22 351 *e*P **P 11 29 39.0 -2.0**
LLD Lille Linde 73.24 353 *i*P **P 11 29 42.8 +1.7**
LLD IAmb IAmb 11 29 43.3
comp=Z,92nm,0.5s
DWPF Disney Wildern 73.37 66 P **P 11 29 42.8 +0.5**
baz=320
NIL Nilore 74.01 304 P **P 11 29 47.2 +1.1**
NIL Nilore 74.01 304 P **P 11 29 47.2 +1.1**
NIL pmax pmax
comp=Z,50nm,0.8s
BSEG Bad Segeberg 74.77 354 *e*P **P 11 29 50.7 +0.7**
comp=Z,52nm,0.8s,baz=8.4,slow=5.6
AKASG Malin Array Be 75.42 342 P **P 11 29 53.5 -0.4**
comp=Z,13nm,0.4s,baz=23,slow=6.1,SNR=85
comp=Z,13nm,0.4s
AKBB Malin Array Si 75.42 342 *i*P **P 11 29 52.3 -1.6**
AKBB pmax pmax
comp=Z,52nm,1.0s
KBL Kabul 75.45 307 P **P 11 29 54.4 -0.2**
KBL Kabul 75.45 307 P **P 11 29 54.4 -0.2**
KBL pmax pmax
comp=Z,28nm,0.7s
DSB Dublin 75.63 4 P **P 11 29 55.2 +0.2**
DSB IAmb IAmb 11 29 56.3
comp=Z,22nm,0.8s
RETH Rethem/Aller, 76.02 354 *e*P **P 11 29 57.8 +0.6**
comp=Z,44nm,1.0s,baz=8.4,slow=5.6
NRDL Niedersach Rie 76.21 354 *e*P **P 11 29 58.5 +0.2**
comp=Z,33nm,1.1s,baz=8.4,slow=5.6
ASSE Asse, Remlinge 76.54 353 *e*P **P 11 30 00.4 +0.3**
comp=Z,25nm,1.4s,baz=8.4,slow=5.6
IBBN Ibbenburen 76.54 355 *e*P **P 11 30 01.0 +0.9**
comp=Z,92nm,1.0s,baz=8.4,slow=5.6
CLZ Clausthal 76.84 354 *e*P **P 11 30 02.5 +0.5**
comp=Z,39nm,0.8s,baz=8.4,slow=5.6
CTA Charters Tower 77.17 213 P **P 11 30 04.5 +0.4**
comp=Z,1.7nm,0.7s,baz=162,slow=3.2,SNR=2.1
comp=Z,1.7nm,0.7s

CLL Collm 77.17 352 IAmb IAmb 11 30 04.3
comp=Z,14nm,0.7s
CLL Collm 77.17 352 *i*P **P 11 30 03.4 -0.4**
comp=Z,17nm,1.0s
CLL Collm 77.17 352 *i*P **P 11 30 03.4 -0.4**
CLL pmax pmax
comp=Z,17nm,1.0s
CLL Collm 77.17 352 *e*P **P 11 30 03.4 -0.3**
comp=Z,17nm,1.0s,baz=8.4,slow=5.6
LVV L'vov 77.22 345 *e*P **P 11 30 03.8 -0.3**
BUG Bochum--Univer 77.43 356 *e*P **P 11 30 05.4 +0.3**
comp=Z,31nm,1.0s,baz=8.4,slow=5.6
OJC Ojcow 77.47 347 *e*P **P 11 30 05.5 0.0**
OJC Ojcow 77.47 347 IAmb IAmb 11 30 07.1
comp=Z,32nm,1.1s
BRG Berggiesshubel 77.51 351 *i*P **P 11 30 05.8 0.0**
BRG Amp 11 30 06.5
comp=Z,15nm,0.7s
BRG Berggiesshubel 77.51 351 *i*P **P 11 30 05.7 0.0**
BRG pmax pmax
comp=Z,15nm,0.7s
BRG Berggiesshubel 77.51 351 *e*P **P 11 30 05.5 -0.2**
comp=Z,15nm,0.7s,baz=8.4,slow=5.6
OSTC Ostas 77.59 350 *e*P P 11 30 00.8 -5.4
UPC Upice 77.66 350 *e*P P 11 29 57.7 -8.8
UPC Upice 77.66 350 *e*P P 11 29 57.7 -8.8
GEYT Alibeck 77.76 317 P **P 11 30 07.3 -0.1**
comp=Z,5.5nm,0.8s,baz=348,slow=2.1,SNR=6.6
GEYT LR LR 12 06 48.3
comp=Z,137nm,19.6s,baz=38,slow=38
comp=Z,5.5nm,0.8s
DPC Dobruska-Polom 77.78 350 *e*P **P 11 30 07.4 +0.1**
DPC Dobruska-Polom 77.78 350 *e*P **P 11 30 07.4 +0.1**
MOX Moxa 77.94 353 *e*P **P 11 30 08.1 0.0**
comp=Z,20nm,1.0s,baz=8.4,slow=5.6
MOX *e*L L 12 01 19.1
comp=Z,177nm,18.3s
KRLC Kraliky 78.00 349 *e*P **P 11 30 07.8 -0.7**
KRLC Kraliky 78.00 349 *e*P **P 11 30 07.8 -0.7**
SORM Soroca 78.04 341 ⇑P **P 11 30 08.5 -0.2**
PLN Plauen 78.06 352 *e*P **P 11 30 08.6 -0.1**
comp=Z,13nm,0.9s,baz=8.4,slow=5.6
OKC Ostrava-Krasne 78.07 348 *e*P **P 11 30 08.7 -0.1**
OKC Ostrava-Krasne 78.07 348 *e*P **P 11 30 08.7 -0.1**
WERD Werda 78.08 352 *e*P **P 11 30 09.1 +0.2**
comp=Z,17nm,1.1s,baz=8.4,slow=5.6
GUNZ Gunzen 78.16 352 *e*P **P 11 30 09.5 +0.1**
comp=Z,14nm,1.0s,baz=8.4,slow=5.6
MORC Moravsky Berou 78.20 349⇓P **P 11 30 09.2 -0.4**
MORC Moravsky Berou 78.20 349 IAmb IAmb 11 30 10.7
comp=Z,11nm,0.9s
MORC Moravsky Berou 78.20 349 *e*P **P 11 30 09.7 +0.1**
WERN Wernitzgruen 78.23 352 *e*P **P 11 30 10.1 +0.3**
comp=Z,35nm,0.9s,baz=8.4,slow=5.6
KIV Kislovodsk 78.25 330 *e*P **P 11 30 08.8 -1.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
NKC Novy Kostel 78.28 352 *e*P **P 11 30 10.1 +0.1**
NKC Novy Kostel 78.28 352 *e*P **P 11 30 10.1 +0.1**
MEM Membach 78.31 356 *d*P **P 11 30 10.3 +0.2**
comp=Z,33nm,0.9s
PRU Pruhonice 78.33 351 *e*P **P 11 30 09.6 -0.6**
PRU Pruhonice 78.33 351 *e*P **P 11 30 09.6 -0.6**
BTNL Ternell 78.33 356 *d*P **P 11 30 10.8 +0.6**
comp=Z,30nm,0.8s
AHRW Bad Neuenahr-A 78.33 356 *e*P **P 11 30 10.7 +0.5**
comp=Z,39nm,0.7s,baz=8.4,slow=5.6
BSTI Sart Tilman 78.36 357 *d*P **P 11 30 10.8 +0.5**
comp=Z,12nm,0.6s
GOPC GO Pecny, Ondr 78.38 351 *e*P **P 11 30 10.9 +0.3**
GOPC GO Pecny, Ondr 78.38 351 *e*P **P 11 30 10.9 +0.3**
KBZ Khabaz 78.39 330 P **P 11 30 10.8 +0.2**
comp=Z,5.1nm,0.9s,baz=58,slow=2.9,SNR=8.7
comp=Z,5.1nm,0.9s
KBZ Khabaz 78.39 330 *i*P **P 11 30 11.1 +0.5**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
SHA1 Shidzhatmaz 78.45 330 *i*P **P 11 30 09.9 -1.4**
SNF Seneffe 78.47 357 *d*P **P 11 30 11.6 +0.6**
comp=Z,28nm,0.8s
BCLA Clavier 78.53 357 *d*P **P 11 30 11.6 +0.2**
comp=Z,23nm,0.8s
LANS Liptovska Anna 78.57 347 *e*P **P 11 30 12.8 +1.2**
LANS pmax pmax
comp=Z,23nm,0.9s
LANS Liptovska Anna 78.57 347 *e*P **P 11 30 12.8 +1.2**
BGES Gesves 78.57 357 *d*P **P 11 30 11.4 -0.1**
comp=Z,17nm,0.9s
TNS Taunus Mts 78.58 355 *e*P **P 11 30 12.0 +0.3**
comp=Z,26nm,0.8s,baz=8.4,slow=5.6
UZH Uzhgorod 78.66 345⇑ *i*P **P 11 30 12.5 +0.5**
UZH *e* 11 30 22.5
BMRD Maredsous 78.67 357 *d*P **P 11 30 12.4 +0.4**
comp=Z,32nm,0.9s
VRAC Vranov 78.78 349⇑P **P 11 30 13.1 +0.3**
VRAC Vranov 78.78 349 *e*P **P 11 30 12.8 +0.1**
DOU Dourbes 78.88 357 *d*P **P 11 30 13.6 +0.4**
ZEI Tsey 78.91 329 *e*P **P 11 30 13.0 -0.9**
ZEI pmax pmax
comp=Z,13nm,1.0s
GRF Grafenberg Arr 78.92 353 *e*P **P 11 30 14.2 +0.7**
comp=Z,40nm,0.9s,baz=8.4,slow=5.6
GRF *e*L L 12 03 48.4
comp=Z,193nm,18.7s
KRUC Moravsky 79.04 349 *e*P **P 11 30 14.1 -0.1**
JAVC Velka Javorina 79.09 348 *e*P **P 11 30 15.7 +1.2**
TRPA Tarpa 79.10 345⇓P **P 11 30 15.3 +0.9**
BURAR Bucovina Array 79.14 343⇑P **P 11 30 15.5 +0.6**
WLF Walferdange 79.25 356 IAmb IAmb 11 30 16.8
comp=Z,22nm,0.8s
WLF Walferdange 79.25 356 *d*P **P 11 30 16.2 +0.9**
comp=Z,17nm,1.0s
WLF Walferdange 79.25 356 *e*P **P 11 30 16.0 +0.7**
comp=Z,32nm,1.0s,baz=8.4,slow=5.6
KHC Kasperske Hory 79.27 351 IAmb IAmb 11 30 16.8
comp=Z,14nm,0.7s
KHC Kasperske Hory 79.27 351 *e*P **P 11 30 14.5 -1.0**
KHC Kasperske Hory 79.27 351 *d* *i*P **P 11 30 15.2 -0.3**
KHC pmax pmax
comp=Z,35nm,1.0s
VYHS Vyhne 79.30 348 *e*P **P 11 30 15.9 +0.3**
VYHS pmax pmax
comp=Z,20nm,1.0s
VYHS Vyhne 79.30 348 *e*P **P 11 30 15.9 +0.3**
SMOL Smolenice 79.46 349 *e*P **P 11 30 17.5 +1.0**
SMOL pmax pmax
comp=Z,12nm,0.7s
CKRC Cesky Krumlov 79.51 351 *e*P **P 11 30 16.4 -0.4**
GEC2 GERESS Array S 79.54 351 IAmb IAmb 11 30 17.9
comp=Z,11nm,0.7s
GEC2 GERESS Array S 79.54 351 *e*P **P 11 30 17.0 0.0**
comp=Z,15nm,0.9s,baz=8.4,slow=5.6
GERES GERESS Array B 79.54 351 P **P 11 30 16.9 -0.2**
comp=Z,7.7nm,0.7s,baz=25,slow=5.7,SNR=26
comp=Z,7.7nm,0.7s
MODS Modra-Piesok 79.61 349 *e*P **P 11 30 18.2 +0.9**
MODS pmax pmax
comp=Z,46nm,0.9s
MODS Modra-Piesok 79.61 349 *e*P **P 11 30 18.2 +0.9**
PSZ Piszkesteto 79.71 347 ⇑P **P 11 30 18.3 +0.4**
PSZ Piszkesteto 79.71 347 IAmb IAmb 11 30 20.4
comp=Z,24nm,1.0s
ARCR ARCALIA 79.81 344⇑P **P 11 30 19.9 +1.5**
ZST Bratislava 79.81 349 *e*P **P 11 30 19.4 +1.0**
ZST pmax pmax
comp=Z,60nm,0.9s
ZST Bratislava 79.81 349 *e*P **P 11 30 19.4 +1.0**
TESR Tescani 79.93 342⇓P **P 11 30 19.0 -0.1**
CONA Conrad Observa 80.22 350 *i*P **P 11 30 21.5 +0.8**
comp=Z,16nm,0.7s,SNR=5.8
AKH Akhalkalaki 80.28 329 IAmb IAmb 11 30 23.0
comp=Z,24nm,0.9s
DRGR 80.37 345⇑P **P 11 30 21.9 +0.4**
RONA Rosalia, Austr 80.40 349 *i*P **P 11 30 22.2 +0.6**
comp=Z,7.8nm,0.7s
MARR Marisel-Cluj 80.42 344⇑P **P 11 30 22.2 +0.4**
MOA Molln 80.47 351 *e*P **P 11 30 21.9 -0.1**
comp=Z,4.0nm,0.7s
VRI Vrincioaia 80.54 342⇑P **P 11 30 22.9 +0.5**
PLOR Plostina 80.57 342⇑P **P 11 30 22.9 +0.3**
COVR Voineasa-Covas 80.66 342⇓P **P 11 30 24.6 +1.6**
BIOA Bad Ischl, Aus 80.69 351 *i*P **P 11 30 23.4 +0.2**
comp=Z,13nm,0.7s
DOPR Dopca 80.70 343⇓P **P 11 30 24.5 +1.3**
ARSA Arzberg 80.93 350 *e*P **P 11 30 25.2 +0.8**
comp=Z,12nm,0.7s
MLR Muntele Rosu 81.05 342⇑P **P 11 30 26.3 +1.1**
MLR Muntele Rosu 81.05 342 IAmb IAmb 11 30 27.7
comp=Z,18nm,0.6s
SIRR Siria 81.06 345⇑P **P 11 30 25.4 +0.3**
RETA Reutte 81.15 353 *e*P **P 11 30 26.0 +0.4**
comp=Z,11nm,1.1s
WATA Walderalm 81.23 352 *i*P **P 11 30 26.7 +0.5**
comp=Z,42nm,1.1s,SNR=5.4
MOTA Moosalm 81.26 353 *i*P **P 11 30 26.4 0.0**
comp=Z,22nm,1.3s
WTTA Wattenberg 81.30 352 *i*P **P 11 30 27.2 +0.6**
comp=Z,26nm,0.6s,SNR=5.3
KBA Koelnbreinsper 81.33 351 *i*P **P 11 30 27.8 +1.0**
comp=Z,64nm,0.8s,SNR=14
SQTA Sankt Quirin 81.38 353 *i*P **P 11 30 27.3 +0.4**
comp=Z,15nm,0.7s
DAVA Damuels 81.41 353 *e*P **P 11 30 26.6 -0.5**
comp=Z,9.6nm,1.1s
SOKA Soboth 81.55 350 *i*P **P 11 30 28.5 +0.7**
comp=Z,43nm,1.3s,SNR=6.1
MORH Mrgy, Hungar 81.56 347⇓P **P 11 30 27.0 -0.7**
FETA Feichten 81.61 353 *i*P **P 11 30 28.7 +0.5**
comp=Z,27nm,1.1s,SNR=6.7
WRA Warramunga Arr 81.63 223 P **P 11 30 26.8 -1.5**
comp=Z,0.4nm,0.5s,baz=32,slow=6.0,SNR=2.7
BZS Buzias 81.69 345⇓P **P 11 30 28.6 +0.2**
GZR Gura Zlata 81.72 344⇑P **P 11 30 29.0 +0.3**
ABTA Abfaltersbach 81.73 352 *i*P **P 11 30 29.2 +0.5**
comp=Z,25nm,0.9s
MYKA Terra Mystica 81.74 351 *e*P **P 11 30 29.8 +1.0**
comp=Z,9.6nm,0.9s
OBKA Obir 81.77 350 *e*P **P 11 30 29.3 +0.3**
comp=Z,13nm,0.5s
PRED Cave del Predi 81.94 351 IAmb IAmb 11 30 30.9
comp=Z,22nm,0.8s
FUORN Ofenpass-Fuorn 82.05 353 IAmb IAmb 11 30 32.2
comp=Z,11nm,0.7s
HERR Herculane 82.28 344⇓P **P 11 30 31.1 -0.4**
FRGS Fruska Gora 82.42 346⇓P **P 11 30 33.5 +1.2**
DJES Djerdap 82.47 344⇑P **P 11 30 32.0 -0.6**
MDVR Moldovita 82.49 345⇓P **P 11 30 32.9 +0.2**
GEVA Gevas 83.22 328 IAmb IAmb 11 33 36.2
comp=Z,5.7nm,0.5s
PLVB Pleven 83.33 342⇓P **P 11 30 37.7 +0.7**
DIVS Divibare 83.43 346 IAmb IAmb 11 30 38.8
comp=Z,30nm,1.0s
BOVS Bovan 83.61 345 P **P 11 30 37.7 -0.7**
BNI Bardonecchia 83.83 356 IAmb IAmb 11 30 42.0
comp=Z,17nm,0.9s
VTS Vitosha 84.33 343⇑P **P 11 30 42.1 -0.3**
BR131 Keskin Array S 84.76 335 IAmb IAmb 11 30 45.9
comp=Z,13nm,0.8s
BR131 Keskin Array S 84.76 335 *i*P **P 11 30 43.3 -1.3**
BRTR Keskin Array B 84.76 335 P **P 11 30 44.8 +0.2**
comp=Z,7.5nm,0.8s,baz=61,slow=3.4,SNR=31
comp=Z,7.5nm,0.8s
ASAR Alice Springs 85.11 222 P **P 11 30 46.0 -0.2**
comp=Z,0.6nm,0.5s,baz=24,slow=5.1,SNR=2.2
comp=Z,0.6nm,0.5s
BORA Eskisehir 85.43 337 IAmb IAmb 11 30 48.7
comp=Z,17nm,0.8s
ESDC Sonseca Array 89.28 3 P **P 11 31 05.1 -1.3**
comp=Z,4.0nm,1.1s,baz=354,slow=5.1,SNR=9.8
comp=Z,4.0nm,1.1s
ESDC Sonseca Array 89.28 3 P **P 11 31 06.2 -0.1**
H03N2 Juan Fernandez 121.63 105 T T 13 50 19.8
baz=317,slow=77,SNR=14
H03N1 Juan Fernandez 121.64 105 T T 13 50 25.7
baz=317,slow=77,SNR=18
H03N3 Juan Fernandez 121.64 105 T T 13 50 23.6
baz=317,slow=77,SNR=27
DBIC Dimbokro 122.05 6 PKP **PKPdf 11 37 03.9 -0.9**
comp=Z,1.7nm,0.2s,baz=38,slow=2.5,SNR=18
PLCA Paso Flores 131.45 107 PKhKP PKPpre 11 37 15.9
comp=Z,1.9nm,1.0s,baz=45,slow=4.3,SNR=3.0
PLCA PKP **PKPdf 11 37 21.6 -0.4**
comp=Z,2.9nm,0.9s,baz=352,slow=1.8,SNR=5.6
QSPA South Pole Qui 141.09 180 PKhKP PKPpre 11 37 32.2
comp=Z,1.0nm,0.8s,baz=350,slow=3.6,SNR=2.0
BOSA Boshof 150.62 311 PKPbc **PKiKP 11 38 02.4 -0.2**
comp=Z,4.8nm,0.7s,baz=30,slow=1.6,SNR=12
BOSA PKPab **PKPab 11 38 08.8 -0.1**
comp=Z,6.5nm,0.7s,baz=58,slow=3.0,SNR=9.9

ROM 18 11:19:30.3±0.1,**42°.564N**±0'.004×**13°.256E**±0'.006,
h11km,**ML2.5**/13,**1C-1D,Error ellipse: s-maj=0.5km**
s-min=0.4km az=38.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.06**	**209**	P	Pg	11 19 33.2	+0.5
RM33				S	Sg	11 19 34.9	+0.5
RM33				AML	AML		
	comp=N,20600μm,1.0s						
RM33				AML	AML		
	comp=E,31550μm,0.7s						
RM33				AML	AML		
	comp=E,32450μm,0.3s						
RM33				AML	AML		
	comp=E,31500μm,0.7s						
RM33				AML	AML		
	comp=N,20550μm,1.0s						
RM33				AML	AML		
	comp=N,20950μm,1.0s						
SMA1	**SAN MARTINO**	**0.09**	**41**	P	Pg	11 19 33.5	+0.5
SMA1				S	Sg	11 19 35.6	+0.6
SMA1				AML	AML		
	comp=N,24850μm,0.2s						
SMA1				AML	AML		
	comp=E,45200μm,0.2s						
SMA1				AML	AML		
	comp=N,24850μm,1.8s						
SMA1				AML	AML		
	comp=E,45200μm,1.8s						
CAMP	**Campotosto**	**0.12**	**104**	P	Pg	11 19 33.9	+0.5
CAMP				S	Sg	11 19 36.1	+0.5
CAMP				AML	AML		
	comp=N,1990μm,1.6s						
CAMP				AML	AML		
	comp=N,1990μm,0.4s						
CAMP				AML	AML		
	comp=E,2145μm,1.3s						
T1247	**Pizzolo (AQ)**	**0.13**	**166**	P	Pb	11 19 34.1	-0.6
T1247				AML	AML		
	comp=E,5075μm,0.3s						
T1247				AML	AML		
	comp=N,5460μm,0.1s						
T1247				AML	AML		
	comp=E,5075μm,1.7s						
T1218	**Civita (PG)**	**0.15**	**316**	P	Pg	11 19 34.1	+0.2
T1218				S	Sg	11 19 36.6	+0.2
T1218				AML	AML		
	comp=E,4300μm,0.4s						
T1218				AML	AML		
	comp=N,7970μm,0.2s						
T1218				AML	AML		
	comp=N,7960μm,0.2s						
T1218				AML	AML		
	comp=N,7965μm,0.2s						
T1218				AML	AML		
	comp=N,7965μm,0.2s						
T1218				AML	AML		
	comp=E,3970μm,0.4s						
T1218				AML	AML		
	comp=N,7965μm,1.8s						
T1218				AML	AML		
	comp=E,4305μm,0.4s						
T1218				AML	AML		
	comp=N,7965μm,1.8s						
LNSS	**Leonessa**	**0.16**	**284**	P	Pg	11 19 34.4	+0.4
LNSS				S	Sg	11 19 37.4	+0.7
LNSS				AML	AML		
	comp=E,7815μm,0.3s						
LNSS				AML	AML		
	comp=N,5860μm,1.3s						
LNSS				AML	AML		
	comp=N,5860μm,0.7s						
GIGS	**Gran Sasso**	**0.26**	**116**	P	Pg	11 19 35.8	+0.2
GIGS				S	Sg	11 19 40.0	+0.7
GIGS				AML	AML		
	comp=N,506μm,0.1s						
GIGS				AML	AML		
	comp=E,520μm,0.6s						
T1217	**Poggiodomo (PG**	**0.28**	**302**	P	Pg	11 19 36.2	+0.1
T1217				S	Sg	11 19 40.8	+0.8

T1217				AML	AML			
	comp=E,717μm,0.2s							
T1217				AML	AML			
	comp=N,832μm,0.2s							
T1217				AML	AML			
	comp=E,621μm,0.6s							
T1217				AML	AML			
	comp=N,832μm,0.2s							
T1217				AML	AML			
	comp=N,817μm,0.2s							
T1217				AML	AML			
	comp=E,622μm,0.6s							
T1217				AML	AML			
	comp=N,672μm,0.5s							
T1217				AML	AML			
	comp=N,634μm,0.3s							
FIAM	**Fiamignano**	**0.31**	**199**	P	Pg	11 19 36.9	+0.3	
FIAM				AML	AML			
	comp=E,780μm,0.4s							
FIAM				AML	AML			
	comp=N,572μm,0.7s							
ARRO	**Arrone**	**0.36**	**273**	P	Pg	11 19 37.6	+0.1	
ARRO				S	Sg	11 19 43.3	+0.9	
ARRO				AML	AML			
	comp=E,590μm,1.3s							
ARRO				AML	AML			
	comp=N,656μm,1.0s							
ARRO				AML	AML			
	comp=N,656μm,1.0s							
ARRO				AML	AML			
	comp=E,590μm,0.7s							
ARRO				AML	AML			
	comp=N,589μm,0.2s							
CESX	**Cesi**	**0.50**	**275**	⇑P	Pg	11 19 39.8	-0.3	
CESX				S	Sb	11 19 48.1	-0.3	
GUMA	**Gualdo di Mace**	**0.50**	**7**	P	Pg	11 19 40.4	+0.3	
GUMA				S	Sb	11 19 48.6	+0.1	
GUMA				AML	AML			
	comp=N,1515μm,0.7s							
GUMA				AML	AML			
	comp=N,1515μm,1.3s							
GUMA				AML	AML			
	comp=E,1300μm,0.3s							
GUMA				AML	AML			
	comp=E,1980μm,0.3s							
GUMA				AML	AML			
	comp=N,1260μm,0.7s							
T0110	**Collepietro**	**0.51**	**131**	⇓P	Pg	11 19 40.6	+0.2	
T0110				AML	AML			
	comp=E,472μm,1.5s							
T0110				AML	AML			
	comp=N,538μm,1.4s							
T0110				AML	AML			
	comp=N,538μm,0.6s							
CSP1	**Cessapalombo**	**0.53**	**356**	P	Pg	11 19 40.4	-0.2	
CSP1				S	Sb	11 19 48.8	-0.6	
T1220	**Camerino, Fraz**	**0.56**	**347**	P	Pg	11 19 41.0	-0.2	
T1220				S	Sb	11 19 49.7	-0.5	
T1220				AML	AML			
	comp=E,973μm,0.3s							
T1220				AML	AML			
	comp=N,990μm,1.1s							
T1220				AML	AML			
	comp=E,959μm,0.3s							
T1220				AML	AML			
	comp=N,908μm,0.2s							
T1220				AML	AML			
	comp=E,973μm,1.7s							
T1220				AML	AML			
	comp=E,959μm,1.7s							
T1220				AML	AML			
	comp=N,990μm,0.9s							
SRES	**S.Oreste - Sor**	**0.64**	**240**	P	Pb	11 19 43.2	-0.3	
CERT	**Cerreto**	**0.65**	**198**	P	Pg	11 19 42.5	-0.4	
CERT				AML	AML			
	comp=N,208μm,0.4s							
CERT				AML	AML			
	comp=E,338μm,0.4s							
CERT				AML	AML			
	comp=N,208μm,1.6s							
CAFI	**Castiglion Fio**	**1.22**	**309**	AML	AML			
	comp=E,103μm,0.4s							
CAFI				AML	AML			
	comp=E,103μm,1.6s							
CAFI				AML	AML			
	comp=N,70μm,1.6s							
CAFI				AML	AML			
	comp=N,70μm,0.4s							

*ROM **18** 11:20:18.9±0.2,42°524N±0°010×13°268E±0°010, h7km±1km,ML2.7/13,Error ellipse: s-maj=0.9km s-min=0.7km az=29.0*

ISC 18 11:20:19.3±1.0,42°51N±0°03×13°24E±0°03,h14km±9km, n21,σ0°52/24,4C-4D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.08**	**146**	AML	AML		
	comp=N,35100μm,0.2s						
T1247				AML	AML		
	comp=E,19400μm,0.5s						
LNSS	**Leonessa**	**0.17**	**303**	AML	AML		
	comp=E,15050μm,0.2s						
LNSS				AML	AML		
	comp=N,13250μm,0.2s						
LNSS				AML	AML		
	comp=E,15050μm,1.8s						
T1218	**Civita (PG)**	**0.18**	**331**	AML	AML		
	comp=E,6325μm,0.3s						
T1218				AML	AML		
	comp=N,9145μm,0.2s						
T1218				AML	AML		
	comp=E,5885μm,0.3s						
T1218				AML	AML		
	comp=N,9195μm,0.2s						
GIGS	**Gran Sasso**	**0.25**	**103**	P	**Pg**	**11 20 24.5**	**-0.2**
GIGS				S	**Sg**	**11 20 28.1**	**-0.3**
GIGS				AML	AML		
	comp=E,758μm,0.5s						
GIGS				AML	AML		
	comp=N,916μm,0.6s						
GIGS				AML	AML		
	comp=N,916μm,1.4s						
FIAM	**Fiamignano**	**0.26**	**200**	⇑P	**Pb**	**11 20 25.4**	**-0.4**
FIAM				S	**Sb**	**11 20 29.8**	**-0.3**
FIAM				AML	AML		
	comp=N,2285μm,0.4s						
FIAM				AML	AML		
	comp=N,2285μm,1.6s						
FIAM				AML	AML		
	comp=E,4545μm,0.5s						
T1217	**Poggiodomo (PG**	**0.30**	**312**	P	**Pg**	**11 20 26.0**	**+0.4**
T1217				S	**Sb**	**11 20 31.2**	**-0.3**
T1217				AML	AML		
	comp=E,2555μm,0.9s						
T1217				AML	AML		
	comp=N,1960μm,0.2s						
T1217				AML	AML		
	comp=E,2185μm,0.9s						
T1217				AML	AML		
	comp=N,1750μm,0.2s						
T1217				AML	AML		
	comp=E,2555μm,0.9s						
T1217				AML	AML		
	comp=N,1965μm,0.2s						
ARRO	**Arrone**	**0.36**	**282**	⇑P	**Pb**	**11 20 27.2**	**-0.2**
ARRO				S	**Sb**	**11 20 33.1**	**+0.2**
ARRO				AML	AML		
	comp=N,1980μm,0.9s						
ARRO				AML	AML		
	comp=E,2245μm,0.2s						
T0110	**Collepietro**	**0.49**	**125**	P	**Pg**	**11 20 28.9**	**-0.1**
T0110				S	**Sb**	**11 20 36.3**	**-0.6**
T0110				AML	AML		
	comp=N,1340μm,1.2s						
T0110				AML	AML		
	comp=E,1300μm,0.8s						
T0110				AML	AML		
	comp=N,1340μm,0.8s						
CESX	**Cesi**	**0.50**	**282**	⇓P	**Pb**	**11 20 29.5**	**-0.3**
CESX				AML	AML		
	comp=E,576μm,0.2s						
CESX				AML	AML		
	comp=N,862μm,0.2s						
PTQR	**Pietraquaria**	**0.50**	**166**	P	**Pb**	**11 20 30.9**	**+0.9**
PTQR				AML	AML		
	comp=N,207μm,1.4s						
PTQR				AML	AML		
	comp=E,298μm,1.0s						
PTQR				AML	AML		
	comp=N,207μm,0.6s						
CESI	**CESI - Serrava**	**0.55**	**334**	⇑P	**Pb**	**11 20 30.7**	**-0.1**
CESI				S	**Sb**	**11 20 39.2**	**+0.5**
CESI				AML	AML		
	comp=E,558μm,0.4s						
CESI				AML	AML		
	comp=N,908μm,0.4s						
MOMA	**Monte Martano**	**0.57**	**301**	⇓P	**Pb**	**11 20 31.2**	**0.0**
MOMA				AML	AML		
	comp=E,999μm,0.2s						
MOMA				AML	AML		
	comp=N,1012μm,0.3s						
MOMA				AML	AML		
	comp=E,1039μm,1.2s						
MOMA				AML	AML		
	comp=N,1010μm,0.3s						
MOMA				AML	AML		
	comp=E,998μm,0.2s						
MOMA				AML	AML		
	comp=N,1085μm,0.2s						
TRTR	**Tortoreto Alta**	**0.58**	**59**	⇓P	**Pb**	**11 20 31.5**	**+0.3**
TRTR				AML	AML		
	comp=E,2715μm,1.0s						
TRTR				AML	AML		
	comp=E,2715μm,1.0s						
TRTR				AML	AML		
	comp=N,3030μm,1.0s						
CSP1	**Cessapalombo**	**0.58**	**358**	S	**Sb**	**11 20 40.6**	**+1.0**
CERT	**Cerreto**	**0.59**	**199**	P	**Pg**	**11 20 30.9**	**0.0**
CERT				AML	AML		
	comp=E,580μm,0.6s						
CERT				AML	AML		
	comp=N,432μm,1.0s						
CERT				AML	AML		
	comp=E,580μm,1.4s						
SRES	**S.Oreste - Sor**	**0.60**	**244**	⇑P	**Pb**	**11 20 31.6**	**0.0**
SRES				AML	AML		
	comp=E,348μm,0.3s						
SRES				AML	AML		
	comp=N,294μm,1.3s						
SRES				AML	AML		
	comp=E,348μm,1.7s						
T1220	**Camerino, Fraz**	**0.61**	**350**	⇓P	**Pg**	**11 20 31.3**	**0.0**
T1220				AML	AML		
	comp=N,2720μm,0.4s						
T1220				AML	AML		
	comp=E,2225μm,1.5s						
T1220				AML	AML		
	comp=E,2225μm,1.5s						
T1220				AML	AML		
	comp=N,2695μm,0.5s						
SNTG	**Esanatoglia**	**0.78**	**344**	S	**Sn**	**11 20 47.0**	**-0.5**
LPEL	**Lama del Pelig**	**0.84**	**123**	S	**Sg**	**11 20 46.4**	**-0.2**
OBKA	**Obir**	**4.11**	**13**	*e*Pn	**Pg**	**11 21 36.7**	**-1.2**
	comp=N,2.0nm,0.4s						
ABTA	**Abfaltersbach**	**4.27**	**353**	*i* Pn	**Pn**	**11 21 24.7**	**+0.7**
	comp=N,3.4nm,0.5s						

ROM 18 11:22:46.4±0.1,42°511N±0°005×13°322E±0°006, h12km,ML2.9/20,8C-4D,Error ellipse: s-maj=0.5km s-min=0.4km az=44.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.07**	**194**	⇓P	Pg	11 22 49.4	+0.4
T1247				S	Sg	11 22 51.3	+0.5
T1247				AML	AML		
	comp=E,22100μm,0.4s						
T1247				AML	AML		
	comp=N,15500μm,0.4s						
RM33	**Pellescritta (**	**0.08**	**269**	⇑P	Pg	11 22 49.4	+0.3
RM33				S	Sg	11 22 51.2	+0.1
RM33				AML	AML		
	comp=E,21400μm,0.3s						
RM33				AML	AML		
	comp=N,13700μm,0.2s						
RM33				AML	AML		
	comp=N,13550μm,0.2s						
RM33				AML	AML		
	comp=N,13700μm,0.2s						
RM33				AML	AML		
	comp=E,21250μm,0.3s						
GIGS	**Gran Sasso**	**0.19**	**108**	⇓P	Pg	11 22 51.0	+0.3
GIGS				S	Sg	11 22 54.1	+0.5
GIGS				AML	AML		
	comp=N,911μm,0.4s						
GIGS				AML	AML		
	comp=E,1160μm,1.0s						
T1218	**Civita (PG)**	**0.22**	**316**	⇑P	Pg	11 22 51.5	+0.3
T1218				S	Sg	11 22 55.0	+0.6
T1218				AML	AML		
	comp=E,3070μm,0.7s						
T1218				AML	AML		
	comp=N,4340μm,0.4s						
T1218				AML	AML		
	comp=E,2915μm,0.7s						
T1218				AML	AML		
	comp=E,3070μm,0.7s						
T1218				AML	AML		
	comp=N,4415μm,0.4s						
T1218				AML	AML		
	comp=E,2915μm,0.7s						
LNSS	**Leonessa**	**0.23**	**294**	⇑P	Pg	11 22 51.6	+0.3
LNSS				S	Sg	11 22 55.6	+0.9
LNSS				AML	AML		
	comp=E,7745μm,0.9s						
LNSS				AML	AML		
	comp=N,13000μm,0.2s						
LNSS				AML	AML		
	comp=E,7745μm,1.1s						
FIAM	**Fiamignano**	**0.29**	**212**	⇑P	Pg	11 22 52.6	+0.3
FIAM				S	Sg	11 22 57.1	+0.8
FIAM				AML	AML		
	comp=E,2955μm,0.5s						
FIAM				AML	AML		
	comp=N,1620μm,0.5s						
FAGN	**Fagnano**	**0.31**	**141**	P	Pg	11 22 53.3	+0.5
FAGN				AML	AML		
	comp=E,3440μm,0.4s						
FAGN				AML	AML		
	comp=N,2780μm,0.4s						
T1217	**Poggiodomo (PG**	**0.35**	**305**	⇓P	Pg	11 22 53.7	+0.2
T1217				S	Sg	11 22 59.1	+0.8
T1217				AML	AML		
	comp=E,1580μm,1.5s						
T1217				AML	AML		
	comp=N,2350μm,0.2s						
T1217				AML	AML		
	comp=E,1580μm,0.5s						
T1217				AML	AML		
	comp=E,1895μm,0.2s						
T1217				AML	AML		
	comp=N,2215μm,0.2s						
ARRO	**Arrone**	**0.42**	**280**	P	Pg	11 22 54.8	+0.1
ARRO				S	Sg	11 23 01.1	+0.9
ARRO				AML	AML		
	comp=E,1205μm,0.2s						
ARRO				AML	AML		
	comp=N,1760μm,0.2s						
T0110	**Collepietro**	**0.44**	**130**	P	Pg	11 22 55.5	+0.3
T0110				S	Sg	11 23 01.4	+0.4
T0110				AML	AML		
	comp=E,991μm,0.8s						
T0110				AML	AML		
	comp=N,1036μm,0.5s						
GUMA	**Gualdo di Mace**	**0.55**	**1**	P	Pg	11 22 57.6	+0.4
GUMA				AML	AML		
	comp=N,2705μm,0.4s						
GUMA				AML	AML		
	comp=N,2250μm,0.5s						
GUMA				AML	AML		
	comp=E,1980μm,0.7s						
GUMA				AML	AML		
	comp=E,2520μm,0.6s						
CESX	**Cesi**	**0.56**	**281**	P	Pg	11 22 57.2	-0.1
CESX				S	Sb	11 23 05.4	-0.7
CESX				AML	AML		
	comp=N,644μm,0.2s						
CESX				AML	AML		
	comp=E,574μm,0.4s						
CESI	**CESI - Serrava**	**0.58**	**328**	⇑P	Pg	11 22 57.9	+0.1
CESI				AML	AML		
	comp=E,726μm,0.3s						
CESI				AML	AML		
	comp=N,964μm,0.7s						
CESI				AML	AML		
	comp=E,726μm,1.7s						
CSP1	**Cessapalombo**	**0.59**	**352**	⇑P	Pg	11 22 57.7	-0.2
CSP1				AML	AML		
	comp=N,1655μm,0.4s						
CSP1				AML	AML		
	comp=N,1655μm,1.6s						
CSP1				AML	AML		
	comp=E,914μm,0.5s						
CERT	**Cerreto**	**0.61**	**204**	⇓P	Pb	11 22 59.2	0.0
T1220	**Camerino, Fraz**	**0.62**	**344**	⇑P	Pg	11 22 58.2	-0.4
T1220				AML	AML		
	comp=E,2700μm,0.5s						
T1220				AML	AML		
	comp=N,2965μm,0.5s						
T1220				AML	AML		
	comp=E,2675μm,0.5s						
T1220				AML	AML		
	comp=N,2935μm,0.5s						
T1220				AML	AML		
	comp=N,2935μm,1.5s						
T1220				AML	AML		
	comp=N,2965μm,1.5s						
T1220				AML	AML		
	comp=E,2700μm,1.5s						
T1220				AML	AML		
	comp=E,2675μm,1.5s						
MOMA	**Monte Martano**	**0.63**	**298**	P	Pg	11 22 58.9	+0.3
MOMA				AML	AML		
	comp=E,1365μm,0.6s						
MOMA				AML	AML		
	comp=N,1715μm,0.2s						
MOMA				AML	AML		
	comp=N,1675μm,0.2s						
MOMA				AML	AML		
	comp=E,1395μm,0.4s						
ASSB	**Assisi San Ben**	**0.72**	**318**	P	Pg	11 23 00.2	-0.3
ASSB				AML	AML		
	comp=N,544μm,0.9s						
ASSB				AML	AML		
	comp=N,544μm,1.1s						
ASSB				AML	AML		
	comp=E,590μm,0.1s						
EL6	**Elcito**	**0.83**	**349**	⇑P	Pg	11 23 02.7	+0.2
EL6				AML	AML		
	comp=E,834μm,1.5s						
EL6				AML	AML		
	comp=N,809μm,0.4s						
EL6				AML	AML		
	comp=E,834μm,0.5s						
FOSV	**Fossato di Vic**	**0.89**	**332**	P	Pg	11 23 03.1	-0.5
MGAB	**Montegabbione**	**0.98**	**295**	S	Sn	11 23 20.3	+0.4
MGAB				AML	AML		
	comp=E,478μm,0.4s						
MGAB				AML	AML		
	comp=E,508μm,0.4s						
MGAB				AML	AML		
	comp=N,626μm,0.5s						
MGAB				AML	AML		
	comp=N,627μm,0.4s						
MGAB				AML	AML		
	comp=E,478μm,1.6s						
MGAB				AML	AML		
	comp=E,508μm,1.6s						
LIK	**San Giovanni I**	**1.02**	**170**	S	Sn	11 23 21.6	+0.7
ARVD	**Arcevia**	**1.03**	**344**	S	Sn	11 23 21.9	+0.8
ARVD				AML	AML		
	comp=E,297μm,0.6s						
ARVD				AML	AML		
	comp=N,282μm,0.8s						
ABTA	**Abfaltersbach**	**4.28**	**353**	*e*Pn	Pn	11 23 52.6	+1.2
	comp=N,2.7nm,0.5s						

*DJA **18** 11:23:25.1±0.7,3°S±8°×13°9E±°,h12km±11km,M4.5/6, mB5.4/1,mb4.5/6,MLv4.4/5,Mw(mB)4.8/1*
*IDC **18** 11:23:32.1±2.8,2°72S×139°26E,h78km±25km,mb3.6/10, mbtmp4.1/13,Error ellipse: s-maj=26.0km s-min=12.7km az=91.0*

ISC 18 11:23:25.7±0.7,2°75S±0°07×139°48E±0°08,h27km,n21, σ2s52/23,mb4.0/9,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.70**	**78**	P	**Pn**	**11 23 39.5**	**-0.4**
SMPI	**Sarmi**	**1.07**	**314**	P	**Pn**	**11 23 42.5**	**-2.5**
WAMI	**Wamena**	**1.37**	**214**	P	**Pb**	**11 23 54.8**	**+4.1**
SRPI	**Serui, Papua**	**3.35**	**285**	P	**Pn**	**11 24 16.2**	**-0.2**
RKPI	**Ransiki, Papua**	**5.44**	**283**	P	**Pn**	**11 24 44.7**	**-0.4**
	75nm,0.7s,0.4nm						
FAKI	**Fak Fak**	**7.22**	**268**	P	**Pn**	**11 25 10.0**	**+0.3**
	33nm,0.6s,0.1nm						
SIJI	**Sorong**	**8.42**	**283**	P	**Pn**	**11 25 28.0**	**+1.9**
	12nm,0.4s,baz=12,slow=23,SNR=15						
SIJI				S	**Sn**	**11 26 57.0**	**-3.3**
	3.2nm,0.4s,baz=295,slow=23,SNR=1.3						
PMG	**Port Moresby**	**10.10**	**131**	P	Pn	11 25 57.7	+8.6
	8.1nm,0.7s,baz=331,slow=11,SNR=3.3						
SANI	**Sanana**	**13.50**	**273**	P	**Pn**	**11 26 34.6**	**-1.0**
	41nm,0.8s						
BATI	**Baumata**	**17.37**	**244**	P	**P**	**11 27 28.0**	**+0.4**
	23nm,0.6s,baz=76,slow=8.3,SNR=1.3						
WRA	**Warramunga Arr**	**17.82**	**196**	P	**Pn**	**11 27 31.2**	**-0.7**
	3.1nm,0.6s,baz=16,slow=12,SNR=14						
WRA				S	**Sn**	**11 30 40.9**	**-9.0**
	1.8nm,0.7s,baz=13,slow=21,SNR=6.8						
ASAR	**Alice Springs**	**21.49**	**194**	P	**P**	**11 28 13.2**	**+0.7**
	1.3nm,0.7s,baz=20,slow=10,SNR=11						
ASAR				S	**S**	**11 32 08.9**	**-0.8**
	1.1nm,0.9s,baz=15,slow=25,SNR=2.5 1.3nm,0.7s						
KLR	**Kul'dur**	**52.20**	**354**	P	**P**	**11 32 34.5**	**+0.4**
	1.2nm,0.6s,baz=183,slow=5.1,SNR=5.3 1.2nm,0.6s						
PETK	**Petropavlovsk-**	**57.72**	**13**	P	**P**	**11 33 14.6**	**+0.6**
	1.7nm,0.8s,baz=161,slow=6.1,SNR=1.7 1.7nm,0.8s						
SONM	**Songino Array**	**58.08**	**334**	P	**P**	**11 33 17.1**	**+0.3**
	0.5nm,0.6s,baz=157,slow=7.8,SNR=5.0 0.5nm,0.6s						
MKAR	**Makanchi Array**	**70.29**	**322**	P	**P**	**11 34 36.9**	**0.0**
	0.9nm,0.6s,baz=122,slow=7.6,SNR=9.1 0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**72.35**	**330**	P	**P**	**11 34 48.2**	**-0.9**
	0.6nm,0.5s,baz=111,slow=5.9,SNR=2.7 0.6nm,0.5s						
VNDA	**Vanda**	**75.68**	**175**	P	**P**	**11 35 09.6**	**+1.5**
	2.0nm,0.8s,baz=323,slow=8.0,SNR=7.3 2.0nm,0.8s						
ILAR	**Eielson Array**	**85.55**	**24**	P	**P**	**11 36 00.7**	**-0.6**
	1.8nm,0.8s,baz=263,slow=5.2,SNR=16 1.8nm,0.8s						
QSPA	**South Pole Qui**	**87.20**	**180**	P	**P**	**11 36 09.9**	**+0.4**
	0.7nm,0.7s,baz=278,slow=3.6,SNR=2.1 0.7nm,0.7s						
YKA	**Yellowknife Ar**	**99.75**	**27**	P	**Pdif**	**11 37 08.1**	**+1.0**
	0.2nm,0.8s,baz=284,slow=5.0,SNR=2.2 0.2nm,0.8s						

ROM 18 11:23:34.2±0.1,42°539N±0°004×13°269E±0°005, h12km,ML2.3/5,6C,Error ellipse: s-maj=0.4km s-min=0.3km az=201.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**233**	⇑P	Pg	11 23 37.0	+0.3
RM33				S	Sg	11 23 38.7	+0.2
RM33				AML	AML		
	comp=E,12550μm,0.2s						
RM33				AML	AML		
	comp=N,5515μm,0.6s						
RM33				AML	AML		
	comp=N,5825μm,0.6s						
RM33				AML	AML		
	comp=E,12200μm,0.2s						
RM33				AML	AML		
	comp=N,5825μm,1.4s						
RM33				AML	AML		
	comp=E,12200μm,1.8s						
RM33				AML	AML		
	comp=N,5515μm,1.4s						
RM33				AML	AML		
	comp=E,12550μm,1.8s						

T1247	**Pizzolo (AQ)**	**0.10**	**167**	S	Sg	11 23 39.5	+0.2
T1247				AML	AML		
	comp=N,2450μm,0.5s						
T1247				AML	AML		
	comp=E,2165μm,0.5s						
T1247				AML	AML		
	comp=N,2450μm,1.5s						
T1247				AML	AML		
	comp=E,2165μm,1.5s						
CAMP	**Campotosto**	**0.10**	**92**	P	Pg	11 23 37.5	+0.3
CAMP				S	Sg	11 23 39.8	+0.3
CAMP				AML	AML		
	comp=N,1910μm,0.4s						
CAMP				AML	AML		
	comp=E,1870μm,0.3s						
T1218	**Civita (PG)**	**0.17**	**319**	⇑P	Pg	11 23 38.6	+0.3
T1218				S	Sg	11 23 41.7	+0.6
T1218				AML	AML		
	comp=E,1724μm,1.2s						
T1218				AML	AML		
	comp=E,1551μm,0.1s						
T1218				AML	AML		
	comp=N,2540μm,1.5s						
T1218				AML	AML		
	comp=E,1724μm,1.3s						
T1218				AML	AML		
	comp=N,2430μm,1.5s						
T1218				AML	AML		
	comp=N,2535μm,1.5s						
T1218				AML	AML		
	comp=N,2430μm,0.5s						
T1218				AML	AML		
	comp=E,1552μm,0.1s						
T1218				AML	AML		
	comp=N,2535μm,0.5s						
LNSS	**Leonessa**	**0.18**	**291**	⇑P	Pg	11 23 38.8	+0.4
LNSS				S	Sg	11 23 42.1	+0.9
LNSS				AML	AML		
	comp=N,4750μm,0.1s						
LNSS				AML	AML		
	comp=E,3105μm,0.5s						
GIGS	**Gran Sasso**	**0.24**	**112**	P	Pg	11 23 39.6	+0.3
FIAM	**Fiamignano**	**0.29**	**203**	⇑P	Pg	11 23 40.6	+0.3
FIAM				S	Sg	11 23 45.3	+0.9
T1217	**Poggiodomo (PG**	**0.30**	**305**	P	Pg	11 23 40.7	+0.2
T1217				S	Sg	11 23 45.6	+1.0
T1217				AML	AML		
	comp=N,608μm,0.7s						
T1217				AML	AML		
	comp=E,444μm,1.0s						
T1217				AML	AML		
	comp=N,640μm,0.7s						
T1217				AML	AML		
	comp=N,640μm,0.7s						
T1217				AML	AML		
	comp=E,530μm,0.2s						
T1217				AML	AML		
	comp=N,608μm,1.3s						
T1217				AML	AML		
	comp=N,640μm,1.3s						
ARRO	**Arrone**	**0.37**	**276**	P	Pg	11 23 41.9	+0.2
ARRO				S	Sb	11 23 47.7	-0.8
CESX	**Cesi**	**0.51**	**278**	⇑P	Pg	11 23 44.4	+0.1
GUMA	**Gualdo di Mace**	**0.53**	**5**	P	Pg	11 23 45.0	+0.4
SRES	**S.Oreste - Sor**	**0.64**	**242**	⇑P	Pb	11 23 47.0	-0.3

DNK 18 11:24:11.1±0.7, 56°55N×13°92E, h0km, ML1.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEL	**Delary**	**0.08**	**197**	*i* P	Pg	11 24 12.0	-0.7
DEL				*e*S	Sg	11 24 14.2	+0.5
VXJU	**Vaexsjoe**	**0.68**	**56**	P	Pg	11 24 23.4	-0.7
VXJU				S	Sg	11 24 32.5	-0.3
BJUU	**Bjuv**	**0.69**	**227**	*e*P	Pg	11 24 23.8	-0.5
BJUU				*e*S	Sg	11 24 32.8	-0.4
BJUU	**Bjuv**	**0.69**	**227**	P	Pg	11 24 23.7	-0.6
BJUU				S	Sg	11 24 32.7	-0.5
GNOU	**Gnosjoe**	**0.75**	**353**	P	Pg	11 24 24.8	-0.6
FABU	**Falkenberg**	**0.80**	**305**	*e*S	Sg	11 24 36.1	-0.6
LUNU	**Lund**	**0.96**	**196**	P	Pg	11 24 29.2	-0.2
BLEU	**Blekinge**	**1.08**	**102**	*e*P	Pg	11 24 30.8	-1.1
BLEU				*e*S	Sg	11 24 45.3	-0.6
BLEU	**Blekinge**	**1.08**	**102**	P	Pg	11 24 30.7	-1.2
BORU	**Boraas**	**1.25**	**331**	P	Pg	11 24 33.8	-1.3
EKSU	**Eksjoe**	**1.27**	**36**	P	Pg	11 24 35.1	-0.4
OSKU	**Oskarshamn**	**1.36**	**61**	P	Pg	11 24 35.7	-1.5
ONAU	**Onsala**	**1.38**	**309**	P	Pg	11 24 36.4	-1.2
BSD	**Bornholm Skovb**	**1.55**	**158**	*e*S	Sn	11 24 59.9	-0.7

*TAP **18** 11:29:22.4,24°11N×122°27E,h23km,ML2.6,D*
*JMA **18** 11:29:22.5±0.1,24°1N±1°0×122°3E±0°3,h28km±2km, MV2.1/10,TAIWAN REGION*
ISC 18 11:29:22.0±1.1, 24°06N±0°02×122°27E±0°02, h24km±12km, n74, σ08°72/137, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.55**	**297**	*e*P	**Pn**	**11 29 34.0**	**-0.3**
	baz=300						
EWUT	**Wuta**	**0.59**	**310**	*i* P	**Pb**	**11 29 33.9**	**+0.1**
	baz=314						
EWUT				S	**Sb**	**11 29 42.0**	**+0.2**
	baz=314						
ETL	**Fush Village**	**0.60**	**279**	P	**Pb**	**11 29 34.5**	**+0.5**
	baz=259						
ETL				S	**Sn**	**11 29 43.9**	**-0.2**
	baz=259						
ENA	**Nanau**	**0.61**	**307**	P	**Pb**	**11 29 34.1**	**+0.1**
	baz=311						
ENA				*i* S	**Sb**	**11 29 42.1**	**-0.1**
	baz=311						
TWD	**Chiawan**	**0.62**	**272**	*e*P	**Pn**	**11 29 35.5**	**+0.2**
	baz=253						
TWD				*i* S	**Sb**	**11 29 43.5**	**+1.0**
	baz=253						
NACB	**Ninganchiao**	**0.63**	**280**	P	**Pb**	**11 29 34.1**	**-0.3**
	baz=259						
NACB				S	**Sn**	**11 29 44.5**	**-0.3**
	baz=259						
TEYL	**Yanliau Villag**	**0.65**	**253**	P	**Pb**	**11 29 35.7**	**+1.0**
	baz=240						
TEYL				S	**Sn**	**11 29 45.3**	**+0.2**
	baz=240						
TWC	**Suao**	**0.67**	**325**	*i* P	**Pb**	**11 29 34.0**	**-1.0**
	baz=322						
TWC				*i* S	**Sb**	**11 29 41.8**	**-2.1**
	baz=322						
ETM	**Tongmen**	**0.72**	**262**	P	**Pb**	**11 29 35.5**	**-0.4**
	baz=248						
ETM				S	**Sn**	**11 29 46.8**	**-0.2**
	baz=248						
JYNG	**Yonagunijimaku**	**0.73**	**58**	P	**Pn**	**11 29 36.5**	**-0.3**
JYNG				*e*S	**Sb**	**11 29 45.9**	**+0.3**
ETLH	**Xiulin Townshi**	**0.74**	**281**	P	**Pb**	**11 29 36.1**	**-0.2**
	baz=264						
ETLH				S	**Sn**	**11 29 47.2**	**-0.3**
	baz=264						
NDS	**Dongshan**	**0.76**	**318**	*i* P	**Pb**	**11 29 35.8**	**-0.9**
	baz=319						
NDS				*i* S	**Sb**	**11 29 46.3**	**-0.4**
	baz=319						
YOJ	**Yonaguni jima**	**0.78**	**59**	*e*P	**Pb**	**11 29 37.3**	**+0.3**
YOJ				*e*S	**Sb**	**11 29 47.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.78**	**59**	P	**Pn**	**11 29 37.5**	**-0.1**
	baz=61						
YOJ				S	**Sb**	**11 29 47.2**	**0.0**
	baz=61						
ESL	**Shilin**	**0.81**	**252**	P	**Pb**	**11 29 37.0**	**-0.4**
	baz=239						
ESL				S	**Sb**	**11 29 48.8**	**+0.8**
	baz=239						
LATG	**Datong**	**0.83**	**305**	P	**Pb**	**11 29 37.8**	**-0.1**
	baz=301						
LATG				S	**Sb**	**11 29 48.7**	**0.0**
	baz=301						
EGS		**0.84**	**338**	*i* P	**Pn**	**11 29 38.8**	**+0.4**
	baz=328						
EGS				*i* S	**Sn**	**11 29 49.0**	**-0.9**
	baz=328						
TWE	**Neicheng**	**0.86**	**320**	*i* P	**Pb**	**11 29 38.2**	**-0.1**
	baz=318						
TWE				*i* S	**Sn**	**11 29 49.9**	**-0.4**
	baz=318						
ENTT	**Nioudou**	**0.86**	**312**	*i* P	**Pb**	**11 29 38.4**	**0.0**
	baz=320						
ENTT				*i* S	**Sn**	**11 29 50.2**	**-0.3**
	baz=320						
EGFH	**Guangfu**	**0.87**	**243**	*e*P	**Pb**	**11 29 37.9**	**-0.5**
	baz=230						
EGFH				*e*S	**Sb**	**11 29 50.2**	**+0.5**
	baz=230						
NNSB	**Datong**	**0.89**	**294**	P	**Pb**	**11 29 38.8**	**-0.1**
	baz=291						
NNSB				S	**Sb**	**11 29 49.8**	**-0.7**
	baz=291						
NNS	**Nan Shan**	**0.90**	**295**	*i* P	**Pn**	**11 29 40.0**	**+0.7**
	baz=292						
NNS				*i* S	**Sn**	**11 29 52.1**	**+0.4**
	baz=292						
WHF	**Hehuan Shan**	**0.93**	**275**	P	**Pb**	**11 29 39.2**	**-0.4**
	baz=261						
WHF				S	**Sn**	**11 29 52.4**	**-0.2**
	baz=261						
FUSB	**Fushanzhiwuyua**	**0.93**	**318**	P	**Pn**	**11 29 39.6**	**-0.2**
	baz=315						
FUSB				S	**Sn**	**11 29 51.6**	**-0.8**
	baz=315						
HGSD	**Ruisui**	**0.96**	**234**	*e*P	**Pb**	**11 29 40.5**	**+0.4**
	baz=233						
HGSD				*e*S	**Sb**	**11 29 51.8**	**-0.6**
	baz=233						
TWB1	**Santiao Chiao**	**0.98**	**345**	*i* P	**Pn**	**11 29 40.3**	**0.0**
	baz=329						
TWB1				S	**Sn**	**11 29 52.6**	**-0.7**
	baz=329						
TIPB	**Shuangxi**	**0.99**	**336**	*i* P	**Pn**	**11 29 40.3**	**-0.2**
	baz=333						
TIPB				*i* S	**Sb**	**11 29 52.3**	**-1.0**
	baz=333						
NWLT	**Wulai**	**1.00**	**316**	*i* P	**Pn**	**11 29 41.4**	**+0.8**
	baz=322						
NWLT				*i* S	**Sb**	**11 29 52.8**	**-0.7**
	baz=322						
CHGB	**Renai**	**1.00**	**270**	P	**Pb**	**11 29 40.4**	**-0.5**
	baz=255						
CHGB				*e*S	**Sn**	**11 29 55.4**	**+1.1**
	baz=255						
OWD	**Renai**	**1.01**	**264**	*e*P	**Pn**	**11 29 40.1**	**-0.7**
	baz=262						
OWD				*e*S	**Sb**	**11 29 53.2**	**-0.6**
	baz=262						
YHNB	**Yeheng**	**1.02**	**307**	P	**Pb**	**11 29 40.7**	**-0.3**
	baz=303						
YHNB				S	**Sn**	**11 29 53.9**	**-0.5**
	baz=303						
TWT	**Tachien**	**1.02**	**281**	*e*P	**Pn**	**11 29 41.4**	**+0.4**
	baz=266						
TWT				S	**Sb**	**11 29 54.1**	**-0.1**
	baz=266						
EHY	**Hungye**	**1.03**	**238**	*e*P	**Pb**	**11 29 42.0**	**+0.7**
	baz=228						
EHY				*e*S	**Sb**	**11 29 53.4**	**-1.0**
	baz=228						
NSK	**Sanguang**	**1.03**	**306**	*i* P	**Pn**	**11 29 41.0**	**-0.1**
	baz=303						
NSK				S	**Sn**	**11 29 54.9**	**+0.1**
	baz=303						
TDCB	**Techi**	**1.04**	**281**	P	**Pn**	**11 29 41.1**	**-0.1**
	baz=264						
WUSB	**Renai**	**1.06**	**266**	P	**Pn**	**11 29 41.0**	**-0.4**
	baz=264						
WUSB				S	**Sn**	**11 29 55.9**	**+0.4**
	baz=264						
VWDT	**VWDT**	**1.08**	**254**	P	**Pn**	**11 29 41.4**	**-0.2**
	baz=240						
VWDT				*e*S	**Sb**	**11 29 55.9**	**+0.2**
	baz=240						
SXI1	**Grass Mountain**	**1.09**	**341**	P	**Pn**	**11 29 41.4**	**-0.4**
	baz=338						
SXI1				S	**Sn**	**11 29 55.7**	**-0.5**
	baz=338						
NWF	**Wu-fen Shan**	**1.10**	**336**	*e*P	**Pn**	**11 29 40.5**	**-1.5**
	baz=333						
NWF				S	**Sn**	**11 29 55.9**	**-0.6**
	baz=333						
TWA	**Mucha**	**1.11**	**326**	P	**Pb**	**11 29 42.2**	**-0.3**
	baz=323						
TWA				S	**Sn**	**11 29 57.0**	**+0.4**
	baz=323						
YULB	**Yu-li**	**1.11**	**233**	P	**Pn**	**11 29 41.2**	**-1.0**
	baz=248						
YULB				S	**Sb**	**11 29 55.5**	**-1.3**
	baz=248						
NHDH	**Xindian Distri**	**1.13**	**323**	P	**Pb**	**11 29 44.2**	**+1.4**
	baz=320						
NHDH				S	**Sn**	**11 29 57.8**	**+0.8**
	baz=320						
EYUL	**Yuli**	**1.13**	**231**	*e*P	**Pn**	**11 29 43.1**	**+0.8**
	baz=218						
EYUL				*e*S	**Sb**	**11 29 58.1**	**+1.0**
	baz=218						
NFF	**Wufeng Townshi**	**1.20**	**299**	*e*P	**Pb**	**11 29 44.5**	**+0.4**
	baz=296						
WHP	**Taichung City**	**1.23**	**280**	P	**Pb**	**11 29 46.0**	**+1.3**
	baz=266						
SSLB	**Suanglung**	**1.24**	**257**	*e*P	**Pn**	**11 29 44.0**	**+0.1**
	baz=244						
FULB	**Fuli**	**1.24**	**226**	*e*P	**Pn**	**11 29 43.8**	**-0.2**
	baz=213						
FULB				*e*S	**Sn**	**11 29 58.9**	**-1.0**
	baz=213						
WCS	**Beigang Elemen**	**1.24**	**270**	*e*P	**Pn**	**11 29 43.9**	**0.0**
	baz=268						
YM01	**YM01**	**1.25**	**329**	P	**Pb**	**11 29 45.6**	**+0.5**
	baz=342						
YM01				S	**Sb**	**11 30 00.8**	**0.0**
	baz=342						
SMLT	**Sun Moon Lake**	**1.27**	**262**	*e*P	**Pn**	**11 29 44.6**	**+0.2**
	baz=260						
SMLT				*e*S	**Sn**	**11 29 59.3**	**-1.4**
	baz=260						
LIOB	**Emei**	**1.28**	**297**	P	**Pb**	**11 29 45.6**	**0.0**
	baz=295						
NSTT	**Nanjuang**	**1.29**	**296**	P	**Pb**	**11 29 45.7**	**+0.1**
	baz=294						
NSTT				S	**Sb**	**11 30 03.9**	**+2.1**
	baz=294						
TWS1	**Kuangyinshan**	**1.29**	**323**	P	**Pb**	**11 29 47.1**	**+1.4**
	baz=332						
TWS1				S	**Sb**	**11 30 04.0**	**+2.1**
	baz=332						
TYC	**Yuchr**	**1.30**	**263**	*e*P	**Pn**	**11 29 44.8**	**+0.1**
	baz=262						
TYC				*e*S	**Sn**	**11 30 00.9**	**-0.5**
	baz=262						
ANP	**Anpu**	**1.31**	**329**	*e*P	**Pb**	**11 29 47.0**	**+1.0**
	baz=326						
EHD	**Haiduan**	**1.34**	**227**	*e*P	**Pn**	**11 29 45.0**	**-0.3**
	baz=243						
EHD				*e*S	**Sn**	**11 30 02.7**	**+0.5**
	baz=243						
TWY	**Chenhua**	**1.35**	**333**	*e*P	**Pn**	**11 29 44.7**	**-0.7**
	baz=330						
TWY				S	**Sb**	**11 30 03.7**	**0.0**
	baz=330						
IRIF	**Iriomote-Funau**	**1.36**	**78**	P	**Pn**	**11 29 46.4**	**+0.9**
IRIF				S	**Sb**	**11 30 04.0**	**+0.3**
HATJ	**Hateruma jima**	**1.40**	**90**	P	**Pb**	**11 29 47.2**	**-0.3**
HATJ				S	**Sb**	**11 30 05.1**	**+0.2**
EDH	**Donghe**	**1.40**	**220**	*e*P	**Pn**	**11 29 45.7**	**-0.4**
	baz=210						
EDH				*e*S	**Sn**	**11 30 02.5**	**-1.3**
	baz=210						
ELDTW	**Lidau**	**1.44**	**233**	*e*S	**Sn**	**11 30 03.7**	**-1.3**
	baz=220						
ALS	**Alishan**	**1.45**	**248**	*e*P	**Pn**	**11 29 48.2**	**+1.2**
	baz=247						
ALS				*e*S	**Sn**	**11 30 05.8**	**+0.3**
	baz=247						
CHN5	**Tsauling**	**1.53**	**253**	*e*P	**Pb**	**11 29 49.8**	**0.0**
	baz=242						
CHN5				*e*S	**Sb**	**11 30 09.4**	**+0.6**
	baz=242						
LONT	**Longtian**	**1.56**	**223**	*e*S	**Sn**	**11 30 08.1**	**+0.4**
	baz=214						
LDUT	**Ludao**	**1.57**	**208**	*e*S	**Sn**	**11 30 05.8**	**-2.1**
	baz=209						
JKRS	**Kuro-shima**	**1.60**	**83**	P	**Pb**	**11 29 50.2**	**-0.6**
JKRS				S	**Sb**	**11 30 10.4**	**-0.1**
STYH	**Taoyuan**	**1.64**	**237**	*e*P	**Pn**	**11 29 50.0**	**+0.7**
	baz=237						
STYH				*e*S	**Sn**	**11 30 09.5**	**0.0**
	baz=237						
WCKO	**Fanlu**	**1.65**	**248**	*e*P	**Pb**	**11 29 51.8**	**0.0**
	baz=237						
WCKO				*e*S	**Sb**	**11 30 12.4**	**+0.2**
	baz=237						
TPUB	**Ta-pu**	**1.69**	**244**	*e*P	**Pb**	**11 29 52.0**	**-0.4**
	baz=243						
TPUB				*e*S	**Sb**	**11 30 13.8**	**+0.6**
	baz=243						
WTP	**Ta-pu**	**1.73**	**242**	*e*P	**Pb**	**11 29 52.7**	**-0.4**
	baz=242						
WTP				*e*S	**Sb**	**11 30 14.6**	**+0.2**
	baz=242						
JIJ	**Ishigaki jima**	**1.73**	**80**	P	**Pn**	**11 29 51.0**	**+0.3**
JIJ				S	**Sn**	**11 30 12.5**	**+0.5**
TWK	**Hsinying**	**1.82**	**245**	*e*P	**Pb**	**11 29 54.1**	**-0.6**
	baz=244						
TWK				*e*S	**Sb**	**11 30 17.7**	**+0.7**
	baz=244						
CHN1	**Nanshi**	**1.82**	**242**	*e*P	**Pb**	**11 29 54.1**	**-0.6**
	baz=242						
CHN1				*e*S	**Sn**	**11 30 16.1**	**+1.9**
	baz=242						
JISG	**Ishigakijimahi**	**1.93**	**74**	P	**Pn**	**11 29 53.6**	**+0.2**
JISG				*e*S	**Sn**	**11 30 17.3**	**+0.4**

ROM 18 11:34:12.7±0.1, 42°575N±0°004×13°260E±0°005, h13km, ML2.8/13, 5C-4D, Error ellipse: s-maj=0.5km s-min=0.2km az=202.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.07**	**207**	⇓P	Pg	11 34 15.8	+0.3
RM33				S	Sg	11 34 17.6	+0.1
RM33				AML	AML		
	comp=N,8665μm,1.3s						
RM33				AML	AML		
	comp=N,8335μm,1.3s						
RM33				AML	AML		
	comp=N,8660μm,1.3s						
RM33				AML	AML		
	comp=N,8330μm,1.3s						
RM33				AML	AML		
	comp=N,8330μm,0.7s						
RM33				AML	AML		
	comp=N,8660μm,0.7s						
RM33				AML	AML		
	comp=E,16150μm,0.3s						
RM33				AML	AML		
	comp=E,16350μm,0.3s						
SMA1	**SAN MARTINO**	**0.08**	**45**	⇑P	Pg	11 34 15.9	+0.3
SMA1				S	Sg	11 34 17.9	+0.3
SMA1				AML	AML		
	comp=E,22400μm,0.2s						
SMA1				AML	AML		
	comp=N,9660μm,0.2s						
CAMP	**Campotosto**	**0.12**	**110**	⇓P	Pg	11 34 16.4	+0.4
CAMP				S	Sg	11 34 18.7	+0.3
CAMP				AML	AML		
	comp=E,791μm,0.7s						
CAMP				AML	AML		
	comp=N,888μm,0.4s						
CAMP				AML	AML		
	comp=N,888μm,1.6s						
CAMP				AML	AML		
	comp=E,791μm,1.3s						
T1247	**Pizzolo (AQ)**	**0.14**	**168**	AML	AML		
	comp=E,3650μm,0.7s						
T1247				AML	AML		
	comp=N,6155μm,0.4s						
T1218	**Civita (PG)**	**0.14**	**312**	P	Pg	11 34 16.6	+0.2
T1218				S	Sg	11 34 19.1	+0.2
T1218				AML	AML		
	comp=E,1680μm,0.6s						
T1218				AML	AML		
	comp=N,2350μm,0.2s						
T1218				AML	AML		
	comp=N,2345μm,0.2s						
T1218				AML	AML		
	comp=E,1680μm,0.6s						
LNSS	**Leonessa**	**0.16**	**280**	P	Pg	11 34 17.1	+0.4
LNSS				S	Sg	11 34 20.2	+0.7
LNSS				AML	AML		
	comp=E,3350μm,0.5s						
LNSS				AML	AML		
	comp=N,3335μm,0.1s						
GIGS	**Gran Sasso**	**0.26**	**119**	P	Pg	11 34 18.5	+0.3
GIGS				S	Sg	11 34 22.5	+0.5
GIGS				AML	AML		
	comp=E,832μm,1.5s						
GIGS				AML	AML		
	comp=N,912μm,1.1s						
GIGS				AML	AML		
	comp=N,912μm,0.9s						
GIGS				AML	AML		
	comp=E,832μm,0.5s						
T1217	**Poggiodomo (PG**	**0.28**	**300**	⇑P	Pg	11 34 18.9	+0.4
T1217				S	Sg	11 34 23.2	+0.7
T1217				AML	AML		
	comp=N,473μm,0.3s						
T1217				AML	AML		
	comp=E,246μm,0.6s						
T1217				AML	AML		
	comp=E,550μm,0.3s						
FIAM	**Fiamignano**	**0.33**	**199**	⇓P	Pg	11 34 19.8	+0.5
FIAM				AML	AML		
	comp=E,2515μm,1.1s						
FIAM				AML	AML		
	comp=N,2760μm,1.2s						
FIAM				AML	AML		
	comp=E,2515μm,0.9s						
FIAM				AML	AML		
	comp=N,2760μm,0.8s						
ARRO	**Arrone**	**0.36**	**271**	⇑P	Pg	11 34 20.3	+0.3
ARRO				AML	AML		
	comp=N,802μm,0.8s						
ARRO				AML	AML		
	comp=E,750μm,0.2s						
CESI	**CESI - Serrava**	**0.50**	**329**	S	Sg	11 34 28.2	-1.2
CERT	**Cerreto**	**0.66**	**198**	⇑P	Pg	11 34 25.4	-0.1
CERT				AML	AML		
	comp=E,2085μm,1.0s						
CERT				AML	AML		
	comp=N,1345μm,1.0s						
EL6	**Elcito**	**0.76**	**351**	AML	AML		
	comp=E,2055μm,0.5s						
EL6				AML	AML		
	comp=N,1895μm,0.2s						
LIK	**San Giovanni I**	**1.09**	**168**	⇑P	Pb	11 34 32.7	-0.7
LIK				AML	AML		
	comp=E,1130μm,1.0s						
LIK				AML	AML		
	comp=N,1300μm,1.0s						
LIK				AML	AML		
	comp=E,1130μm,1.0s						
LIK				AML	AML		
	comp=N,1300μm,1.0s						
MCIV	**Monte Civitell**	**1.19**	**280**	⇓P	Pn	11 34 33.6	-1.3
MCIV				AML	AML		
	comp=N,366μm,0.7s						
MCIV				AML	AML		
	comp=E,521μm,0.4s						
MCIV				AML	AML		
	comp=N,366μm,1.3s						

*ROM **18** 11:34:29.2±0.1, 42°510N±0°005×13°300E±0°006, h11km, ML3.3/45, Error ellipse: s-maj=0.6km s-min=0.5km az=338.0*
*PRU **18** 11:34:30.4±0.0, 42°48N×13°48E, h10km*
*BEO **18** 11:34:32.1±0.8, 42°52N×13°46E, h1km±4km, ML3.5/7*
ISC 18 11:34:29.4±0.8, 42°48N±0°02×13°28E±0°02, h14km±4km, n79, σ1°23/106, 18C-17D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.04**	**159**	⇓P	**Pg**	**11 34 32.1**	**+0.1**
T1247				S	**Sg**	**11 34 34.0**	**+0.2**
T1247				AML	AML		
T1247				AML	AML		
T1247				AML	AML		
T1247				AML	AML		
RM33	**Pellescritta (**	**0.06**	**302**	P	**Pg**	**11 34 32.0**	**-0.2**

RM33 S **Sg** 11 34 33.8 -0.4
RM33 AML AML
comp=E,57550µm,0.3s
RM33 AML AML
comp=E,57550µm,0.3s
RM33 AML AML
comp=N,48350µm,0.9s
RM33 AML AML
comp=E,54650µm,0.3s
RM33 AML AML
comp=N,49750µm,0.9s
RM33 AML AML
comp=N,48300µm,0.9s
RM33 AML AML
comp=N,48300µm,1.1s
RM33 AML AML
comp=E,57550µm,1.7s
RM33 AML AML
comp=N,49750µm,1.1s
RM33 AML AML
comp=E,54650µm,1.7s
RM33 AML AML
comp=E,57526µm,0.3s
RM33 AML AML
comp=E,54689µm,0.3s
RM33 AML AML
comp=N,48425µm,0.2s
RM33 AML AML
comp=N,46706µm,0.2s
CAMP Campotosto 0.11 59 P **Pg** 11 34 32.3 -0.5
CAMP S **Sg** 11 34 34.3 -0.8
CAMP AML AML
comp=E,43950µm,0.4s
CAMP AML AML
comp=N,89550µm,0.4s
CAMP AML AML
comp=E,43959µm,0.4s
CAMP AML AML
comp=N,89314µm,0.4s
SMA1 SAN MARTINO 0.16 15 AML AML
SMA1 AML AML
SMA1 AML AML
SMA1 AML AML
SMA1 AML AML
GIGS Gran Sasso 0.22 98 ⇓P **Pg** 11 34 33.9 -0.3
GIGS S **Sg** 11 34 37.3 -0.3
GIGS AML AML
comp=E,6320µm,0.5s
GIGS AML AML
comp=N,6010µm,0.7s
GIGS AML AML
comp=E,5105µm,0.2s
GIGS AML AML
comp=N,3823µm,0.2s
LNSS Leonessa 0.22 305 ⇓P **Pg** 11 34 34.3 0.0
LNSS S **Sg** 11 34 37.8 +0.2
LNSS AML AML
comp=N,30850µm,1.5s
LNSS AML AML
comp=E,24300µm,0.7s
LNSS AML AML
comp=N,28295µm,0.1s
LNSS AML AML
comp=E,21345µm,0.2s
T1218 Civita (PG) 0.23 328 P **Pg** 11 34 34.1 -0.3
T1218 S **Sg** 11 34 37.6 -0.3
T1218 AML AML
comp=E,11770µm,0.4s
T1218 AML AML
comp=N,26450µm,0.3s
T1218 AML AML
comp=E,10510µm,0.3s
T1218 AML AML
comp=N,26750µm,0.3s
T1218 AML AML
comp=E,10495µm,0.3s
T1218 AML AML
comp=N,26700µm,0.3s
T1218 AML AML
comp=E,11770µm,0.4s
T1218 AML AML
comp=N,26450µm,0.3s
T1218 AML AML
comp=E,10535µm,0.3s
T1218 AML AML
comp=N,26750µm,0.3s
T1218 AML AML
comp=E,11770µm,1.6s
T1218 AML AML
comp=N,26750µm,1.7s
T1218 AML AML
comp=N,26450µm,1.7s
T1218 AML AML
comp=N,26720µm,0.3s
T1218 AML AML
comp=E,11790µm,0.4s
T1218 AML AML
comp=N,26441µm,0.3s
T1218 AML AML
comp=E,9477µm,0.3s
FIAM Fiamignano 0.24 210 ⇑P **Pb** 11 34 35.1 -0.5
FIAM S **Sb** 11 34 39.4 -0.4
FIAM AML AML
comp=E,10355µm,0.5s
FIAM AML AML
comp=N,5920µm,0.7s
FIAM AML AML
comp=E,10333µm,0.5s
FIAM AML AML
comp=N,5637µm,0.6s
FAGN Fagnano 0.31 133 P **Pg** 11 34 35.9 +0.1
FAGN S **Sb** 11 34 42.8 +1.1
FAGN AML AML
comp=N,16200µm,0.4s
FAGN AML AML
comp=E,18650µm,0.4s
FAGN AML AML
comp=N,16200µm,1.6s
FAGN AML AML
comp=E,18667µm,0.4s
FAGN AML AML
comp=N,16214µm,0.4s
T1217 Poggiodomo (PG 0.35 312 ⇑P **Pg** 11 34 36.3 -0.2
T1217 AML AML
comp=E,5490µm,0.3s
T1217 AML AML
comp=E,5490µm,0.3s
T1217 AML AML
comp=N,5740µm,0.5s
T1217 AML AML
comp=E,5540µm,1.4s
T1217 AML AML
comp=N,5170µm,0.5s
T1217 AML AML
comp=N,5740µm,0.5s
T1217 AML AML
comp=E,5540µm,1.3s
T1217 AML AML
comp=N,5175µm,0.5s
T1217 AML AML
comp=E,5540µm,0.7s
T1217 AML AML
comp=E,5336µm,0.2s
T1217 AML AML
comp=N,4545µm,0.2s
T1217 AML AML
comp=E,4985µm,0.2s
T1217 AML AML
comp=N,4289µm,0.3s
ARRO Arrone 0.39 285 ⇓P **Pg** 11 34 36.2 -1.1
ARRO AML AML
comp=E,9765µm,0.2s
ARRO AML AML
comp=N,8810µm,0.3s
ARRO AML AML
comp=E,9765µm,1.8s
ARRO AML AML
comp=N,8831µm,0.3s
ARRO AML AML
comp=E,9772µm,0.2s
T0110 Collepietro 0.45 124 P **Pg** 11 34 38.2 -0.2
T0110 S **Sb** 11 34 45.7 0.0
T0110 AML AML
comp=N,6490µm,1.0s
T0110 AML AML
comp=E,7935µm,0.3s
T0110 AML AML
comp=N,6334µm,0.3s
T0110 AML AML
comp=E,7932µm,0.3s
PTQR Pietraquaria 0.47 169 P **Pg** 11 34 38.7 +0.1
PTQR AML AML
comp=N,1470µm,0.5s
PTQR AML AML
comp=E,1630µm,1.4s
PTQR AML AML
comp=N,1470µm,1.5s
PTQR AML AML
comp=E,1630µm,0.6s
PTQR AML AML
comp=N,1474µm,0.5s
PTQR AML AML
comp=E,1411µm,0.3s
CESX Cesi 0.53 284 ⇑P **Pg** 11 34 39.9 0.0
CESX AML AML
comp=N,3595µm,0.3s
CESX AML AML
comp=E,2320µm,0.4s
CESX AML AML
comp=N,3596µm,0.3s
CESX AML AML
comp=E,2321µm,0.4s
TRTR Tortoreto Alta 0.57 55 P **Pb** 11 34 40.9 -0.3
TRTR AML AML
comp=E,7450µm,0.8s
TRTR AML AML
comp=E,7455µm,0.8s
TRTR AML AML
comp=N,10280µm,1.5s
TRTR AML AML
comp=N,10280µm,0.5s
TRTR AML AML
comp=N,8345µm,0.5s
TRTR AML AML
comp=E,7452µm,0.8s
CERT Cerreto 0.57 203 ⇑P **Pg** 11 34 40.6 -0.1
CERT AML AML
comp=E,3180µm,0.4s
CERT AML AML
comp=N,1810µm,1.5s
CERT AML AML
comp=N,1810µm,0.5s
CERT AML AML
comp=E,3180µm,1.6s
CERT AML AML
comp=E,3181µm,0.4s
CERT AML AML
comp=N,1770µm,0.3s
GUMA Gualdo di Mace 0.58 4 ⇑P **Pg** 11 34 40.3 -0.6
GUMA AML AML
comp=N,7770µm,0.3s
GUMA AML AML
comp=E,9710µm,0.4s
GUMA AML AML
comp=N,9410µm,0.3s
GUMA AML AML
comp=N,7773µm,0.3s
GUMA AML AML
comp=E,9706µm,0.4s
GUMA AML AML
comp=E,8530µm,0.6s
CESI CESI - Serrava 0.59 332 ⇑P **Pg** 11 34 40.2 -0.9
CESI AML AML
comp=E,3315µm,0.4s
CESI AML AML
comp=N,5650µm,0.3s
CESI AML AML
comp=N,5650µm,1.7s
CESI AML AML
comp=E,3054µm,0.2s
CESI AML AML
comp=N,5650µm,0.3s
MTCE Montecelio 0.60 221 ⇑P **Pg** 11 34 41.0 -0.3
MTCE AML AML
comp=E,2260µm,1.3s
MTCE AML AML
comp=N,1725µm,0.7s
MTCE AML AML
comp=E,2260µm,0.7s
MTCE AML AML
comp=N,1577µm,0.7s
MTCE AML AML
comp=E,2233µm,0.4s
CSP1 Cessapalombo 0.61 355 ⇑P **Pg** 11 34 40.5 -1.0
CSP1 S **Sg** 11 34 49.9 +0.3
CSP1 AML AML
comp=N,5055µm,1.2s
CSP1 AML AML
comp=E,3790µm,1.4s
CSP1 AML AML
comp=E,3790µm,0.6s
CSP1 AML AML
comp=N,5055µm,0.8s
CSP1 AML AML
comp=E,3379µm,0.3s
CSP1 AML AML
comp=N,4174µm,0.4s
MOMA Monte Martano 0.62 302 ⇑P **Pg** 11 34 41.4 0.0
MOMA S **Sb** 11 34 50.8 +0.2
MOMA AML AML
comp=E,5095µm,0.3s
MOMA AML AML
comp=N,3985µm,0.3s
MOMA AML AML
comp=E,5260µm,0.3s
MOMA AML AML
comp=N,4140µm,0.3s
MOMA AML AML
comp=N,3985µm,0.2s
MOMA AML AML
comp=E,5095µm,0.3s
MOMA AML AML
comp=E,5093µm,0.3s
MOMA AML AML
comp=N,3984µm,0.2s
MOMA AML AML
comp=E,5259µm,0.3s
MOMA AML AML
comp=N,4144µm,0.3s
SRES S.Oreste - Sor 0.62 247 ⇓P **Pg** 11 34 41.3 -0.2
SRES AML AML
comp=N,2090µm,0.4s
SRES AML AML
comp=N,2090µm,1.6s
SRES AML AML
comp=E,2255µm,0.3s
SRES AML AML
comp=N,2089µm,0.4s
SRES AML AML
comp=E,2258µm,0.3s
T1220 Camerino, Fraz 0.65 348 ⇓P **Pg** 11 34 41.2 -0.9
T1220 S **Sb** 11 34 51.1 -0.3
T1220 AML AML
comp=E,9955µm,0.3s
T1220 AML AML
comp=E,9705µm,0.3s
T1220 AML AML
comp=N,11385µm,0.5s
T1220 AML AML
comp=E,9955µm,0.4s
T1220 AML AML
comp=N,11270µm,0.5s
T1220 AML AML
comp=E,9705µm,0.3s
T1220 AML AML
comp=E,9705µm,0.3s
T1220 AML AML
comp=N,10995µm,0.5s
T1220 AML AML
comp=E,9969µm,0.3s
T1220 AML AML
comp=N,11072µm,0.5s
MNTP Montappone 0.67 12 ⇓P **Pg** 11 34 42.2 -0.4
MNTP AML AML
comp=E,5185µm,0.3s
MNTP AML AML
comp=N,3560µm,0.3s
MNTP AML AML
comp=E,5185µm,1.7s
MNTP AML AML
comp=N,3564µm,0.3s
MNTP AML AML
comp=E,5181µm,0.3s
RCAV Rocca di Cave 0.68 202 P **Pg** 11 34 42.3 -0.4
RCAV AML AML
comp=E,2335µm,0.4s
RCAV AML AML
comp=N,1875µm,0.4s
RCAV AML AML
comp=N,1874µm,0.4s
GUAR Guarcino 0.68 178 P **Pn** 11 34 43.9 -0.9
GUAR AML AML
comp=E,1995µm,0.7s
GUAR AML AML
comp=N,2100µm,1.3s
GUAR AML AML
comp=N,2100µm,0.7s
GUAR AML AML
comp=E,1975µm,0.4s
GUAR AML AML
comp=N,2063µm,0.4s
ASSB Assisi San Ben 0.72 321 ⇑P **Pg** 11 34 42.5 -1.1
ASSB S **Sg** 11 34 53.2 +0.1
ASSB AML AML
comp=N,3515µm,0.4s
ASSB AML AML
comp=E,2905µm,0.3s
LPEL Lama dei Pelig 0.80 122 ⇑P **Pg** 11 34 43.9 -1.0
LPEL S **Sb** 11 34 55.6 -0.2
LPEL AML AML
comp=N,1565µm,0.5s
LPEL AML AML
comp=E,1815µm,0.2s
LPEL AML AML
comp=N,1565µm,1.5s
LPEL AML AML
comp=E,1815µm,1.8s
SNTG Esanatoglia 0.81 342 ⇑P **Pg** 11 34 44.2 -1.0
SNTG S **Sb** 11 34 56.2 -0.1
SNTG AML AML
comp=E,1160µm,1.2s
SNTG AML AML
comp=E,1070µm,1.2s
SNTG AML AML
comp=N,1198µm,0.6s
SNTG AML AML
comp=N,1156µm,0.6s
SNTG AML AML
comp=N,1198µm,1.4s
SNTG AML AML
comp=N,1156µm,1.4s
SNTG AML AML
comp=E,1160µm,0.8s
SNTG AML AML
comp=E,1070µm,0.8s
SNTG AML AML
comp=N,992µm,0.3s
SNTG AML AML
comp=N,1019µm,0.3s
SNTG AML AML
comp=E,904µm,0.4s
SNTG AML AML
comp=E,973µm,0.4s
VIVA Pratoni del Vi 0.82 208 ⇑P **Pn** 11 34 47.3 +0.7
VIVA AML AML
comp=E,3085µm,0.4s
VIVA AML AML
comp=N,3035µm,0.3s
POFI Posta Fibreno 0.83 157 ⇓P **Pn** 11 34 46.1 -0.6
POFI AML AML
comp=E,858µm,0.9s
POFI AML AML
comp=N,698µm,0.6s
POFI AML AML
comp=E,858µm,1.1s
POFI AML AML
comp=E,747µm,0.6s
POFI AML AML
comp=N,698µm,0.6s
RDP Rocca di Papa 0.83 210 ⇓P **Pg** 11 34 45.3 -0.2
RDP AML AML
comp=E,3705µm,0.5s
RDP AML AML
comp=E,3705µm,1.5s
RDP AML AML
comp=N,3835µm,0.5s
SAMA S.Maria delle 0.86 216 P **Pb** 11 34 45.7 -0.5
SAMA AML AML
comp=E,1353µm,0.7s
SAMA AML AML
comp=N,1150µm,1.4s
SAMA AML AML
comp=N,1150µm,0.6s
SAMA AML AML
comp=E,1022µm,0.3s
SAMA AML AML
comp=N,875µm,0.3s
FOSV Fossato di Vic 0.90 335 ⇑P **Pb** 11 34 46.4 -0.5
FOSV S **Sg** 11 34 59.2 +0.5
FOSV AML AML
comp=N,1640µm,0.8s
FOSV AML AML
comp=E,1320µm,1.6s
FOSV AML AML
comp=N,1640µm,1.2s
FOSV AML AML
comp=E,1320µm,0.4s
FOSV AML AML
comp=E,1154µm,0.6s
FOSV AML AML
comp=N,1640µm,0.8s
GIUL Giuliano Di Ro 0.92 181 ⇓P **Pn** 11 34 47.6 -0.4
GIUL AML AML
comp=N,708µm,1.2s
GIUL AML AML
comp=N,708µm,0.8s
GIUL AML AML
comp=E,688µm,1.6s
GIUL AML AML
comp=E,669µm,0.6s
GIUL AML AML
comp=N,661µm,0.5s
PP3 Marolino 0.93 15 ⇓P **Pb** 11 34 47.1 -0.2
PP3 AML AML
comp=E,3935µm,0.8s
PP3 AML AML
comp=N,4350µm,0.7s
PP3 AML AML
comp=E,3550µm,1.6s
PP3 AML AML
comp=N,4765µm,0.7s
PP3 AML AML
comp=E,3935µm,1.2s
PP3 AML AML
comp=N,4350µm,1.3s
PP3 AML AML
comp=E,3550µm,0.4s
PP3 AML AML
comp=N,4765µm,1.3s
PP3 AML AML
comp=E,3273µm,0.6s
PP3 AML AML
comp=E,3567µm,0.6s
PP3 AML AML
comp=N,4761µm,0.7s
PP3 AML AML
comp=N,4351µm,0.7s
MURB Monte Urbino 0.96 325 S **Sn** 11 35 01.7 -0.4
MURB AML AML
comp=E,3935µm,0.3s
MURB AML AML
comp=N,4760µm,0.4s
MURB AML AML
comp=E,3665µm,0.3s
MURB AML AML
comp=N,5255µm,0.4s
MURB AML AML
comp=E,3665µm,1.7s
MURB AML AML
comp=E,3935µm,1.7s
MURB AML AML
comp=N,4760µm,1.6s
MURB AML AML
comp=E,3668µm,0.3s
MURB AML AML
comp=E,3931µm,0.3s
MURB AML AML
comp=N,5255µm,1.6s
MGAB Montegabbione 0.96 297 ⇑P **Pn** 11 34 49.6 +1.0
MGAB AML AML
comp=N,1820µm,0.5s
MGAB AML AML
comp=E,1935µm,1.1s

MGAB				AML	AML		
	comp=N,1820µm,0.5s						
MGAB				AML	AML		
	comp=E,1640µm,1.1s						
MGAB				AML	AML		
	comp=N,1820µm,1.5s						
MGAB				AML	AML		
	comp=N,1820µm,1.5s						
MGAB				AML	AML		
	comp=E,1597µm,0.4s						
MGAB				AML	AML		
	comp=N,1818µm,0.5s						
MGAB				AML	AML		
	comp=E,1656µm,0.3s						
SSFR	**Montelago di S**	**1.02**	**339**	⇓P	**Pb**	**11 34 48.3**	**-0.7**
SSFR				AML	AML		
	comp=E,1745µm,1.0s						
SSFR				AML	AML		
	comp=N,2000µm,1.5s						
SSFR				AML	AML		
	comp=E,1620µm,1.6s						
SSFR				AML	AML		
	comp=N,1785µm,0.4s						
SSFR				AML	AML		
	comp=N,2000µm,0.5s						
SSFR				AML	AML		
	comp=E,1620µm,0.4s						
SSFR				AML	AML		
	comp=E,1591µm,0.2s						
SSFR				AML	AML		
	comp=E,1691µm,0.4s						
SSFR				AML	AML		
	comp=N,1675µm,0.3s						
SSFR				AML	AML		
	comp=N,1786µm,0.4s						
TOLF	**Tolfa**	**1.04**	**247**	⇓P	**Pb**	**11 34 48.8**	**-0.4**
TOLF				AML	AML		
	comp=E,1315µm,0.7s						
TOLF				AML	AML		
	comp=N,946µm,1.2s						
TOLF				AML	AML		
	comp=N,946µm,0.8s						
TOLF				AML	AML		
	comp=E,1315µm,1.3s						
TOLF				AML	AML		
	comp=N,827µm,0.3s						
TOLF				AML	AML		
	comp=E,1318µm,0.7s						
ARVD	**Arcevia**	**1.05**	**346**	⇓P	**Pb**	**11 34 48.5**	**-0.9**
ARVD				S	**Sn**	**11 35 05.2**	**+1.0**
ARVD				AML	AML		
	comp=N,996µm,1.3s						
ARVD				AML	AML		
	comp=E,1192µm,0.9s						
ARVD				AML	AML		
	comp=E,1183µm,0.6s						
ARVD				AML	AML		
	comp=N,912µm,0.4s						
AOI	**Ancona**	**1.10**	**12**	⇓P	**Pb**	**11 34 49.5**	**-0.7**
AOI				AML	AML		
	comp=E,1370µm,0.5s						
AOI				AML	AML		
	comp=N,1160µm,1.0s						
AOI				AML	AML		
	comp=E,1370µm,0.5s						
AOI				AML	AML		
	comp=N,940µm,0.5s						
FRON	**Frontone**	**1.11**	**339**	⇑P	**Pb**	**11 34 50.0**	**-0.5**
FRON				AML	AML		
	comp=E,856µm,0.4s						
FRON				AML	AML		
	comp=N,1610µm,0.7s						
FRON				AML	AML		
	comp=E,858µm,0.4s						
FRON				AML	AML		
	comp=N,1327µm,0.5s						
MPAG	**Monte Paganucc**	**1.21**	**342**	⇓P	**Pn**	**11 34 51.4**	**-0.6**
MPAG				AML	AML		
	comp=E,1180µm,0.5s						
MPAG				AML	AML		
	comp=N,986µm,0.6s						
MPAG				AML	AML		
	comp=N,1058µm,0.4s						
MPAG				AML	AML		
	comp=E,1505µm,0.6s						
MPAG				AML	AML		
	comp=E,1181µm,0.5s						
MPAG				AML	AML		
	comp=N,988µm,0.6s						
NARO	**Abbazia di Nar**	**1.24**	**336**	⇑P	**Pn**	**11 34 52.0**	**-0.4**
NARO				AML	AML		
	comp=E,716µm,1.1s						
NARO				AML	AML		
	comp=N,568µm,0.9s						
NARO				AML	AML		
	comp=E,663µm,0.6s						
NARO				AML	AML		
	comp=N,524µm,0.5s						
ARCI	**Arcidosso**	**1.38**	**286**	P	**Pg**	**11 34 55.8**	**-0.2**
RUFI	**Rufina**	**1.88**	**317**	⇓P	**Pn**	**11 35 01.9**	**+0.8**
RUFI				AML	AML		
	comp=N,211µm,0.6s						
RUFI				AML	AML		
	comp=N,211µm,1.4s						
RUFI				AML	AML		
	comp=E,226µm,0.7s						
RUFI				AML	AML		
	comp=N,211µm,0.6s						
RUFI				AML	AML		
	comp=E,226µm,0.7s						
FIU	**Minerbio Fiu**	**2.52**	**330**	S	**Sg**	**11 35 49.5**	**-0.9**
EQUI	**Equi**	**2.84**	**308**	⇑P	**Pn**	**11 35 15.7**	**+1.4**
STON	**Ston**	**3.28**	**82**	*e*Pn	**Pn**	**11 35 21.4**	**+1.0**
STON				*e*Sn	**Sn**	**11 35 59.4**	**+0.2**
TREB	**Trebinje**	**3.75**	**85**	*e*Pn	**Pn**	**11 35 28.5**	**+1.6**
TREB				*e*Sn	**Sn**	**11 36 11.2**	**+0.4**
OBKA	**Obir**	**4.13**	**12**	*i* Pn	**Pn**	**11 35 33.1**	**+1.0**
	comp=E,1.6nm,0.3s						
MYKA	**Terra Mystica**	**4.16**	**3**	*i* Pn	**Pn**	**11 35 33.5**	**+0.9**
	comp=E,1.5nm,0.4s						
ABTA	**Abfaltersbach**	**4.30**	**353**	*i* Pn	**Pn**	**11 35 35.7**	**+1.2**
	comp=E,6.4nm,0.3s						
SOKA	**Soboth**	**4.38**	**16**	*i* Pn	**Pn**	**11 35 37.2**	**+1.6**
	comp=E,1.0nm,0.2s						
PDG	**Podgorica**	**4.42**	**89**	*e*Pn	**Pn**	**11 35 38.6**	**+2.5**
PDG				*e*Sn	**Sn**	**11 36 27.9**	**+0.6**
KBA	**Koelnbreinsper**	**4.60**	**1**	*e*Pn	**Pn**	**11 35 40.2**	**+1.5**
	comp=E,0.1nm,0.0s						
BBLS	**Lazići**	**4.69**	**71**	*e*Pn	**Pn**	**11 35 41.9**	**+2.1**
FETA	**Feichten**	**4.89**	**339**	*e*Pn	**Pn**	**11 35 46.4**	**+3.8**
	comp=E,1.7nm,0.3s						
WTTA	**Wattenberg**	**4.92**	**347**	*e*Pn	**Pn**	**11 35 45.4**	**+2.3**
	comp=E,2.4nm,0.3s						
SQTA	**Sankt Quirin**	**4.96**	**343**	*e*Pn	**Pn**	**11 35 46.0**	**+2.4**
	comp=E,2.8nm,0.2s						
SJES	**Sjenica**	**4.98**	**79**	*e*Pn	**Pn**	**11 35 46.5**	**+2.6**
SJES				*e*Sn	**Sn**	**11 36 42.4**	**+1.1**
WATA	**Walderalm**	**5.00**	**347**	*e*Pn	**Pn**	**11 35 46.6**	**+2.3**
	comp=E,1.6nm,0.2s						
ARSA	**Arzberg**	**5.03**	**18**	*e*Pn	**Pn**	**11 35 44.7**	**+0.2**
	comp=E,0.9nm,0.2s						
MOTA	**Moosalm**	**5.11**	**343**	*e*Pn	**Pn**	**11 35 49.8**	**+4.1**
	comp=E,2.0nm,0.3s						
IVAS	**Ivanjica**	**5.16**	**75**	*e*Pn	**Pn**	**11 35 47.5**	**+1.3**
IVAS				*e*Sn	**Sn**	**11 36 43.9**	**-1.7**
RETA	**Reutte**	**5.32**	**341**	*e*Pn	**Pn**	**11 35 47.4**	**-1.1**
	comp=E,0.9nm,0.2s						
MOA	**Molln**	**5.42**	**7**	*e*Pn	**Pn**	**11 35 51.4**	**+1.6**
	comp=E,6.7nm,0.3s						
MOA	**Molln**	**5.42**	**7**	*e*Pn	**Pn**	**11 35 52.9**	**+3.1**
MOA				*e*Sn	**Sn**	**11 36 52.9**	**+1.0**
TRUS	**Trudelj**	**5.48**	**69**	*e*Pn	**Pn**	**11 35 51.8**	**+1.2**
GRUS	**Gruza**	**5.62**	**73**	*e*Pn	**Pn**	**11 35 53.2**	**+0.7**
GRUS				*e*Sn	**Sn**	**11 36 56.9**	**+0.1**
RONA	**Rosalia, Austr**	**5.64**	**21**	*i* Pn	**Pn**	**11 35 53.2**	**+0.3**
	comp=E,1.4nm,0.3s						
CONA	**Conrad Observa**	**5.75**	**18**	*e*Pn	**Pn**	**11 35 54.6**	**+0.3**
	comp=E,1.2nm,0.3s						
FNA	**Florina**	**6.30**	**103**	*e*Pn	**Pn**	**11 36 05.2**	**+3.3**
FNA				*e*Sn	**Sn**	**11 37 11.6**	**-2.1**
BARS	**Barje**	**6.30**	**84**	*e*Pn	**Pn**	**11 36 03.6**	**+1.7**
BARS				*e*Sn	**Sn**	**11 37 12.5**	**-1.3**
PRVS	**Prvonek**	**6.50**	**87**	*e*Pn	**Pn**	**11 36 06.8**	**+2.1**
PRVS				*e*Sn	**Sn**	**11 37 17.4**	**-1.3**
KHC	**Kasperske Hory**	**6.66**	**2**	*e*PN	**Pn**	**11 36 06.5**	**-0.3**
KHC				*e*SN	**Sn**	**11 37 20.4**	**-2.0**
ZAGS	**Zajecar**	**6.68**	**75**	*e*Pn	**Pn**	**11 36 07.9**	**+0.8**
ZAPS	**Zavoj**	**6.92**	**80**	*e*Sn	**Sn**	**11 37 27.3**	**-1.6**

*NOU **18** 11:35:04.9, 42.°80S×172.°81E, h1km, MLv3.8/9, South Island, New Zealand*

*WEL **18** 11:35:05.8±0.3, 43°S±3°×17°3E±°, h13km±3km, M3.3/19, ML3.5/24, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=123.3, confirmed*

ISC 18 11:35:05.3±1.3**, 42.°71S**±0.°03×**172.°80E**±0.°03**, h11**km±12km**, n55,** σ**1.°50**/59**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.30**	**146**	P	**Pb**	**11 35 13.5**	**+0.6**
GVZ				S	**Sb**	**11 35 19.2**	**+1.4**
LTZ	**Lake Taylor**	**0.40**	**260**	P	**Pb**	**11 35 14.5**	**+0.1**
LTZ				S	**Sb**	**11 35 20.7**	**+0.2**
AMCZ	**Amberley**	**0.47**	**193**	P	**Pn**	**11 35 17.2**	**-0.9**
KHZ	**Kahutara**	**0.62**	**62**	P	**Pg**	**11 35 17.6**	**+0.2**
KHZ	**Kahutara**	**0.62**	**62**	P	**Pg**	**11 35 17.8**	**+0.4**
KHZ				S	**Sg**	**11 35 26.8**	**+1.2**
OXZ	**Oxford**	**0.83**	**222**	P	**Pn**	**11 35 22.7**	**-0.3**
THZ	**Tophouse**	**0.95**	**5**	P	**Pg**	**11 35 23.0**	**-0.7**
MQZ	**McQueen's Vall**	**1.00**	**186**	P	**Pn**	**11 35 24.9**	**-0.4**
MQZ				S	**Sn**	**11 35 38.9**	**-0.5**
OKCZ	**Okains Bay**	**1.03**	**170**	P	**Pn**	**11 35 25.9**	**+0.2**
RACZ	**Rakaia**	**1.12**	**205**	P	**Pb**	**11 35 26.6**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.16**	**176**	P	**Pb**	**11 35 27.2**	**-0.2**
AKCZ				S	**Sn**	**11 35 43.0**	**-0.4**
MHCZ	**Mount Hutt**	**1.22**	**227**	P	**Pg**	**11 35 28.2**	**-0.6**
DSZ	**Denniston Nort**	**1.22**	**322**	P	**Pn**	**11 35 28.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**1.28**	**39**	P	**Pn**	**11 35 29.2**	**+0.1**
MRNZ	**Matariki Terra**	**1.31**	**359**	P	**Pn**	**11 35 29.4**	**-0.2**
WACZ	**Wakanui South**	**1.42**	**209**	P	**Pn**	**11 35 30.6**	**-0.4**
CMWZ	**Cape Campbell**	**1.43**	**48**	P	**Pn**	**11 35 31.9**	**+0.8**
TUWZ	**Tuamarina**	**1.54**	**34**	P	**Pn**	**11 35 33.1**	**+0.4**
NNZ	**Nelson**	**1.56**	**16**	P	**Pn**	**11 35 33.3**	**+0.4**
WVZ	**Waitaha Valley**	**1.56**	**256**	P	**Pn**	**11 35 33.9**	**+0.9**
RPZ	**Rata Peaks**	**1.62**	**231**	P	**Pn**	**11 35 33.8**	**-0.1**
RPZ	**Rata Peaks**	**1.62**	**231**	P	**Pn**	**11 35 33.7**	**-0.1**
TKNZ	**Takaka Hill**	**1.68**	**4**	P	**Pn**	**11 35 35.2**	**+0.5**
ARCZ	**Arundel**	**1.71**	**223**	P	**Pn**	**11 35 34.8**	**-0.3**
TCW	**Tory Channel**	**1.86**	**37**	P	**Pn**	**11 35 36.9**	**-0.2**
QRZ	**Quartz Range**	**1.90**	**354**	P	**Pn**	**11 35 39.0**	**+1.3**
QRZ	**Quartz Range**	**1.90**	**354**	P	**Pn**	**11 35 38.4**	**+0.8**
GCSZ	**Gaunt Creek Bo**	**1.91**	**251**	P	**Pn**	**11 35 39.1**	**+1.2**
SNZO	**South Karori**	**2.00**	**46**	P	**Pn**	**11 35 40.4**	**+1.5**
TMZ	**Timaru**	**2.12**	**217**	P	**Pn**	**11 35 40.3**	**-0.4**
CAW	**Cannon Point**	**2.33**	**47**	P	**Pn**	**11 35 42.6**	**-1.0**
FOZ	**Fox Glacier**	**2.33**	**248**	P	**Pn**	**11 35 45.6**	**+1.9**
KIW	**Kapiti Island**	**2.43**	**41**	P	**Pn**	**11 35 44.8**	**-0.2**
LBZ	**Lake Benmore**	**2.53**	**228**	P	**Pn**	**11 35 46.3**	**-0.1**
OGWZ	**Otaki Gorge**	**2.59**	**44**	P	**Pn**	**11 35 46.3**	**-0.9**
ODZ	**Otahua Downs**	**2.80**	**213**	P	**Pn**	**11 35 49.4**	**-0.7**
ODZ	**Otahua Downs**	**2.80**	**213**	P	**Pn**	**11 35 49.5**	**-0.6**
HHSZ	**Highcliff Hill**	**3.54**	**206**	P	**Pn**	**11 35 59.5**	**-0.8**
EAZ	**Earnscleugh**	**3.56**	**224**	P	**Pn**	**11 35 59.8**	**-0.7**
TSZ	**Takapari Road**	**3.56**	**43**	P	**Pn**	**11 36 00.2**	**-0.4**
PKE	**Pukeiti**	**3.63**	**15**	P	**Pn**	**11 36 04.6**	**+3.1**
VRZ	**Vera Road**	**3.88**	**23**	P	**Pn**	**11 36 07.6**	**+2.7**
WNVZ	**Wahianoa**	**3.99**	**33**	P	**Pb**	**11 36 12.4**	**-3.3**
NGZ	**Ngauruhoe**	**4.12**	**32**	P	Pn	11 36 13.7	+5.4
OTVZ	**Oturere**	**4.16**	**32**	P	**Pb**	**11 36 14.9**	**-3.7**
NNVZ	**North Ngauruho**	**4.17**	**32**	P	**Pn**	**11 36 13.7**	**+4.8**
WTVZ	**West Tongariro**	**4.17**	**31**	P	**Pb**	**11 36 15.9**	**-2.9**
HIZ	**Hauiti**	**4.48**	**21**	P	**Pn**	**11 36 15.9**	**+2.8**
HIZ	**Hauiti**	**4.48**	**21**	P	**Pn**	**11 36 15.9**	**+2.8**
BKZ	**Black Stump Fm**	**4.51**	**39**	P	**Pn**	**11 36 15.5**	**+1.8**
SYZ	**Scrubby Hill**	**4.63**	**213**	P	**Pn**	**11 36 14.8**	**-0.4**
SYZ	**Scrubby Hill**	**4.63**	**213**	P	**Pn**	**11 36 14.7**	**-0.4**
TOZ	**Tahuroa Road**	**5.39**	**23**	P	**Pn**	**11 36 27.6**	**+2.0**
MKAZ	**Moumakai**	**5.89**	**19**	P	**Pn**	**11 36 34.1**	**+1.6**
KUZ	**Kuaotunu**	**6.37**	**22**	P	**Pn**	**11 36 40.4**	**+1.3**

HEL 18 12:00:03.4±0.1**, 63.°97N**×**28.°22E, h0**km**, ML1.2, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.80**	**71**	PG	Pg	12 00 18.2	-0.4
RMF				MSG		12 00 28.0	
	comp=Z,1.5nm,0.2s						
RMF				SG	Sg	12 00 28.7	-0.2
OUL	**Oulu**	**1.51**	**319**	PG	Pn	12 00 31.0	-0.6
	baz=134						
OUF	**Merijarvi**	**1.58**	**286**	PG	Pn	12 00 31.7	-0.9
OUF				MSG		12 00 50.6	
	comp=Z,1.6nm,0.2s						
OUF				SN	Sn	12 00 53.0	-0.7
OBF4	**Vikkela, Lumij**	**1.60**	**304**	PN	Pn	12 00 33.0	+0.1
	baz=120						
OBF4				MSG		12 00 51.4	
	comp=Z,1.2nm,0.2s						
OBF4				SN	Sg	12 00 55.9	+1.2
JOF	**Joensuu**	**1.74**	**126**	PG	Pn	12 00 34.6	-0.3
JOF				SN	Sn	12 00 57.1	-0.7
OBF0	**Syolatti, Pyha**	**1.82**	**289**	PG	Pn	12 00 36.1	+0.2
OBF0				MSG		12 00 57.6	
	comp=Z,2.4nm,0.2s						
OBF0				SN	Sn	12 01 00.0	+0.4
MSF	**Maaselka**	**1.99**	**10**	PG	Pn	12 00 39.0	+0.8
	baz=192						
MSF				SG	Sb	12 01 04.7	-0.9
KAF	**Kangasniemi**	**2.05**	**206**	PG	Pb	12 00 40.5	-1.0
KAF				MSG		12 01 04.3	
	comp=Z,1.9nm,0.2s						
KAF				SG	Sb	12 01 07.2	-0.4
KU6	**Riekki**	**2.19**	**18**	PG	Pn	12 00 42.1	+1.1
KU6				MSG		12 01 08.2	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sb	12 01 10.5	-0.9
KEF	**Keuruu**	**2.36**	**222**	PG	Pb	12 00 45.1	-1.7
KEF				MSG		12 01 13.4	
	comp=Z,1.2nm,0.2s						
KEF				SG	Sb	12 01 15.5	-0.9
OLKF	**Oulanka, Finla**	**2.42**	**11**	PG	Pb	12 00 46.9	-0.8
OLKF				MSG		12 01 14.9	
	comp=Z,0.6nm,0.2s						
OLKF				SG	Sb	12 01 18.2	+0.2
RUF	**Ruokolahti**	**2.57**	**172**	PG	Pb	12 00 48.8	-1.5
	baz=357						
RUF				MSG		12 01 19.3	
	comp=Z,1.1nm,0.2s						
RUF				SG	Sb	12 01 22.5	+0.1
VAF	**Ylistaro**	**2.65**	**252**	MSG		12 01 21.7	
	comp=Z,0.6nm,0.2s						
VAF				SG	Sb	12 01 23.9	-0.9
FIA0	**FINESS Array S**	**2.72**	**202**	MSG		12 01 23.5	
	comp=Z,0.9nm,0.2s						
FIA0				SG	Sb	12 01 25.6	-1.0

ROM 18 12:01:17.4±0.1**, 42.°536N**±0.°003×**13.°272E**±0.°005**, h14**km**, ML3.4**/16**, 19C-7D, Error ellipse: s-maj=0.4km s-min=0.1km az=238.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.05**	**238**	⇓P	Pg	12 01 20.3	+0.2
RM33				S	Sg	12 01 22.1	+0.1
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
	comp=N,59150µm,0.2s						
RM33				AML	AML		
	comp=N,61200µm,0.2s						
RM33				AML	AML		
	comp=N,59159µm,0.2s						
RM33				AML	AML		
	comp=N,61188µm,0.2s						
RM33				AML	AML		
RM33				AML	AML		
T1247	**Pizzolo (AQ)**	**0.10**	**168**	P	Pg	12 01 20.8	+0.3
T1247				AML	AML		
	comp=E,36000µm,1.2s						
T1247				AML	AML		
	comp=N,42900µm,0.3s						
T1247				AML	AML		
	comp=E,30551µm,0.1s						
T1247				AML	AML		
	comp=N,38160µm,0.1s						
CAMP	**Campotosto**	**0.10**	**90**	⇑P	Pg	12 01 20.8	+0.2
CAMP				S	Sg	12 01 23.1	+0.3
CAMP				AML	AML		
	comp=N,18550µm,0.3s						
CAMP				AML	AML		
	comp=N,18550µm,1.7s						
CAMP				AML	AML		
	comp=E,14750µm,0.3s						
CAMP				AML	AML		
	comp=E,14754µm,0.3s						
CAMP				AML	AML		
	comp=N,18557µm,0.3s						
SMA1	**SAN MARTINO**	**0.11**	**26**	⇑P	Pg	12 01 21.0	+0.3
SMA1				S	Sg	12 01 23.4	+0.5
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
T1218	**Civita (PG)**	**0.18**	**319**	P	Pg	12 01 21.8	+0.2
T1218				S	Sg	12 01 24.9	+0.4
T1218				AML	AML		
	comp=E,12650µm,0.2s						
T1218				AML	AML		
	comp=E,12700µm,0.2s						
T1218				AML	AML		
	comp=N,17400µm,0.2s						
T1218				AML	AML		
	comp=N,17600µm,0.2s						
T1218				AML	AML		
	comp=E,12665µm,0.2s						
T1218				AML	AML		
	comp=E,12650µm,0.1s						
T1218				AML	AML		
	comp=N,17550µm,0.2s						
T1218				AML	AML		
	comp=N,17350µm,0.2s						
T1218				AML	AML		
	comp=E,12650µm,0.2s						
T1218				AML	AML		
	comp=E,12669µm,0.2s						
T1218				AML	AML		
	comp=E,12665µm,0.1s						
T1218				AML	AML		
	comp=N,17557µm,0.2s						
T1218				AML	AML		
	comp=N,17378µm,0.2s						
LNSS	**Leonessa**	**0.18**	**292**	⇓P	Pg	12 01 22.1	+0.4
LNSS				S	Sb	12 01 25.5	-0.7
LNSS				AML	AML		
	comp=E,29350µm,0.3s						
LNSS				AML	AML		
	comp=N,32000µm,0.2s						
LNSS				AML	AML		
	comp=N,32000µm,0.2s						
LNSS				AML	AML		
	comp=E,29390µm,0.3s						
GIGS	**Gran Sasso**	**0.24**	**111**	⇑P	Pg	12 01 22.7	+0.1
GIGS				S	Sg	12 01 26.6	+0.6
GIGS				AML	AML		
	comp=E,1346µm,0.7s						
GIGS				AML	AML		
	comp=N,1255µm,0.8s						
GIGS				AML	AML		
	comp=N,1255µm,1.2s						
GIGS				AML	AML		
	comp=E,1125µm,0.2s						
GIGS				AML	AML		
	comp=N,1073µm,0.2s						
FIAM	**Fiamignano**	**0.29**	**203**	⇑P	Pg	12 01 23.8	+0.3
FIAM				S	Sb	12 01 28.6	-0.7
FIAM				AML	AML		
	comp=E,8740µm,0.5s						
FIAM				AML	AML		
	comp=N,3955µm,0.4s						
FIAM				AML	AML		
	comp=E,8740µm,1.5s						
FIAM				AML	AML		
	comp=E,8447µm,0.3s						
FIAM				AML	AML		
	comp=N,3957µm,0.4s						
T1217	**Poggiodomo (PG**	**0.31**	**305**	P	Pg	12 01 23.9	+0.1
T1217				S	Sb	12 01 29.1	-0.6
T1217				AML	AML		
	comp=E,3185µm,0.6s						
T1217				AML	AML		
	comp=N,3655µm,0.8s						
T1217				AML	AML		
	comp=E,2895µm,1.6s						
T1217				AML	AML		
	comp=N,3400µm,0.8s						
T1217				AML	AML		
	comp=E,3190µm,0.6s						
T1217				AML	AML		
	comp=N,3655µm,0.8s						
T1217				AML	AML		
	comp=E,2885µm,1.6s						
T1217				AML	AML		
	comp=N,3395µm,0.8s						
T1217				AML	AML		
	comp=E,3190µm,1.4s						
T1217				AML	AML		
	comp=E,2885µm,0.4s						
T1217				AML	AML		
	comp=N,3498µm,0.1s						
T1217				AML	AML		
	comp=N,3278µm,0.1s						
T1217				AML	AML		
	comp=E,2478µm,0.3s						
T1217				AML	AML		
	comp=E,2587µm,0.3s						
NRCA	**Norcia**	**0.32**	**339**	⇑P	Pg	12 01 24.2	+0.2
NRCA				AML	AML		
	comp=N,10750µm,0.2s						
NRCA				AML	AML		
	comp=E,10685µm,1.5s						
NRCA				AML	AML		
	comp=N,10800µm,0.2s						
NRCA				AML	AML		
	comp=N,10800µm,0.2s						
NRCA				AML	AML		
	comp=E,10640µm,0.2s						
NRCA				AML	AML		
	comp=E,10634µm,0.2s						
NRCA				AML	AML		
	comp=N,10776µm,0.2s						
FAGN	**Fagnano**	**0.35**	**139**	⇑P	Pb	12 01 25.5	0.0
FAGN				AML	AML		
	comp=N,3135µm,0.3s						
FAGN				AML	AML		
	comp=E,4065µm,1.1s						
FAGN				AML	AML		
	comp=E,4065µm,0.9s						
FAGN				AML	AML		
	comp=E,3985µm,0.4s						
FAGN				AML	AML		
	comp=N,3138µm,0.3s						
ARRO	**Arrone**	**0.38**	**277**	⇑P	Pg	12 01 25.2	+0.2
ARRO				AML	AML		
	comp=E,3550µm,0.2s						
ARRO				AML	AML		
	comp=N,7105µm,0.2s						
ARRO				AML	AML		
	comp=E,3550µm,0.2s						
ARRO				AML	AML		
	comp=N,7107µm,0.2s						
T0110	**Collepietro**	**0.49**	**129**	⇓P	Pg	12 01 27.1	+0.1
T0110				AML	AML		
	comp=E,3310µm,0.7s						
T0110				AML	AML		
	comp=N,3885µm,0.3s						
T0110				AML	AML		
	comp=E,4080µm,0.8s						
T0110				AML	AML		
	comp=N,4000µm,1.0s						
CESX	**Cesi**	**0.52**	**279**	S	Sb	12 01 35.4	-0.3
CESX				AML	AML		
	comp=E,2430µm,0.7s						
CESX				AML	AML		
	comp=N,2365µm,1.3s						
CESX				AML	AML		
	comp=N,1869µm,0.2s						
GUMA	**Gualdo di Mace**	**0.53**	**5**	⇑P	Pg	12 01 28.1	+0.3
GUMA				AML	AML		
	comp=N,8675µm,0.6s						
GUMA				AML	AML		
	comp=E,7575µm,0.3s						

GUMA				AML	AML			
	comp=N,9405μm,0.4s							
GUMA				AML	AML			
	comp=E,10940μm,0.4s							
GUMA				AML	AML			
	comp=E,10940μm,1.6s							
GUMA				AML	AML			
	comp=E,10937μm,0.4s							
GUMA				AML	AML			
	comp=E,7574μm,0.3s							
GUMA				AML	AML			
	comp=N,8438μm,0.3s							
CESI	**CESI - Serrava**	**0.54**	**330**	⇑P	Pg	12 01 28.1	0.0	
CESI				S	Sb	12 01 36.6	+0.2	
CESI				AML	AML			
	comp=E,1400μm,1.2s							
CESI				AML	AML			
	comp=N,2770μm,0.5s							
CESI				AML	AML			
	comp=E,1205μm,0.1s							
TRTR	**Tortoreto Alta**	**0.55**	**60**	⇓P	Pb	12 01 29.2	+0.5	
TRTR				AML	AML			
	comp=E,21850μm,0.5s							
TRTR				AML	AML			
	comp=N,12150μm,0.4s							
MOMA	**Monte Martano**	**0.58**	**298**	S	Sb	12 01 38.1	+0.5	
MOMA				AML	AML			
	comp=E,3140μm,0.3s							
MOMA				AML	AML			
	comp=N,3390μm,0.2s							
MOMA				AML	AML			
	comp=E,3140μm,0.3s							
MOMA				AML	AML			
	comp=N,3385μm,0.2s							
MOMA				AML	AML			
	comp=E,3105μm,1.1s							
MOMA				AML	AML			
	comp=N,3485μm,0.8s							
MOMA				AML	AML			
	comp=N,3485μm,1.2s							
MOMA				AML	AML			
	comp=N,3388μm,0.2s							
MOMA				AML	AML			
	comp=N,3455μm,0.2s							
T1220	**Camerino, Fraz**	**0.59**	**347**	P	Pg	12 01 29.0	0.0	
T1220				AML	AML			
	comp=N,9815μm,0.5s							
T1220				AML	AML			
	comp=E,7815μm,1.4s							
T1220				AML	AML			
	comp=N,9595μm,0.5s							
T1220				AML	AML			
	comp=E,8020μm,1.4s							
T1220				AML	AML			
	comp=N,9815μm,0.5s							
T1220				AML	AML			
	comp=E,7810μm,1.4s							
T1220				AML	AML			
	comp=N,9605μm,0.5s							
T1220				AML	AML			
	comp=E,6819μm,0.3s							
CERT	**Cerreto**	**0.62**	**200**	⇑P	Pg	12 01 29.3	-0.3	
CERT				AML	AML			
	comp=E,2645μm,0.4s							
CERT				AML	AML			
	comp=N,3495μm,0.9s							
CERT				AML	AML			
	comp=E,3685μm,0.8s							
CERT				AML	AML			
	comp=N,3500μm,0.9s							
SRES	**S.Oreste - Sor**	**0.64**	**242**	⇑P	Pb	12 01 30.2	-0.2	
SRES				AML	AML			
	comp=E,3940μm,0.7s							
SRES				AML	AML			
	comp=N,2195μm,0.6s							
MTCE	**Montecelio**	**0.65**	**218**	⇑P	Pg	12 01 29.4	-0.6	
MTCE				AML	AML			
	comp=E,4045μm,0.4s							
MTCE				AML	AML			
	comp=N,2715μm,0.3s							
ASSB	**Assisi San Ben**	**0.68**	**319**	⇑P	Pg	12 01 28.0	-2.6	
ASSB				S	Sb	12 01 41.1	+0.8	
ASSB				AML	AML			
	comp=E,1855μm,0.2s							
ASSB				AML	AML			
	comp=N,2235μm,0.2s							
SNTG	**Esanatoglia**	**0.76**	**341**	⇑P	Pb	12 01 32.3	-0.1	
SNTG				AML	AML			
	comp=N,2205μm,1.6s							
SNTG				AML	AML			
	comp=E,2175μm,0.7s							
SNTG				AML	AML			
	comp=E,2365μm,0.7s							
SNTG				AML	AML			
	comp=N,2205μm,1.6s							
SNTG				AML	AML			
	comp=N,2430μm,1.6s							
ATCC	**AVT- Casa Cast**	**0.80**	**325**	P	Pb	12 01 33.0	-0.1	
ATCC				AML	AML			
	comp=N,2900μm,0.4s							
ATCC				AML	AML			
	comp=E,2545μm,0.5s							
ATCC				AML	AML			
	comp=N,2905μm,0.4s							
EL6	**Elcito**	**0.80**	**351**	⇑P	Pg	12 01 31.8	-1.2	
EL6				S	Sn	12 01 46.5	+0.3	
EL6				AML	AML			
	comp=E,4230μm,1.1s							
EL6				AML	AML			
	comp=N,5705μm,1.2s							
LPEL	**Lama dei Pelig**	**0.83**	**126**	⇑P	Pg	12 01 32.8	-0.8	
LPEL				S	Sb	12 01 44.8	0.0	
LPEL				AML	AML			
	comp=E,13000μm,0.2s							
LPEL				AML	AML			
	comp=N,8420μm,1.3s							
FOSV	**Fossato di Vic**	**0.85**	**334**	⇓P	Pg	12 01 31.8	-2.0	
MGAB	**Montegabbione**	**0.93**	**294**	⇓P	Pn	12 01 35.9	-0.3	
MGAB				AML	AML			
	comp=E,4210μm,0.6s							
MGAB				AML	AML			
	comp=E,4370μm,0.4s							
MGAB				AML	AML			
	comp=N,4775μm,0.4s							
MGAB				AML	AML			
	comp=N,4800μm,0.4s							
GIUL	**Giuliano Di Ro**	**0.98**	**181**	⇑P	Pn	12 01 37.6	+0.9	
GIUL				AML	AML			
	comp=E,3455μm,0.6s							
GIUL				AML	AML			
	comp=N,3705μm,0.6s							
ARVD	**Arcevia**	**0.99**	**346**	⇑P	Pg	12 01 36.5	0.0	
ARVD				AML	AML			
	comp=E,3345μm,0.6s							
ARVD				AML	AML			
	comp=N,2185μm,0.5s							
TOLF	**Tolfa**	**1.05**	**244**	P	Pb	12 01 36.7	-0.7	
TOLF				AML	AML			
	comp=E,5565μm,0.7s							
TOLF				AML	AML			
	comp=N,7410μm,0.8s							
ATVO	**AVT- Monte Val**	**1.06**	**323**	S	Sn	12 01 54.8	+2.3	
ATVO				AML	AML			
	comp=E,1940μm,0.6s							
ATVO				AML	AML			
	comp=N,2000μm,0.7s							
LATB	**Latina**	**1.07**	**193**	⇑P	Pg	12 01 38.8	+0.8	
LATB				AML	AML			
	comp=E,1495μm,1.5s							
LATB				AML	AML			
	comp=N,1660μm,0.7s							
PIEI	**Pieia**	**1.14**	**332**	S	Sn	12 01 56.3	+1.9	
PIEI				AML	AML			
	comp=E,1475μm,0.9s							
PIEI				AML	AML			
	comp=N,1257μm,0.8s							
PIEI				AML	AML			
	comp=N,1257μm,1.2s							
MELA	**Melanico ??? S**	**1.61**	**120**	⇓P	Pb	12 01 47.2	+0.4	

BGR ***18*** *12:01:36.1±0.7, 42°.20N×13°.64E, h10km, ML4.3, Error ellipse: s-maj=11.1km s-min=11.1km az=158.0*
PRU ***18*** *12:01:38.9±0.0, 42°.51N×13°.25E, h10km, M4.1*
PDG ***18*** *12:01:39.6±0.5, 42°.55N×13°.27E, h15km, ML4.1/10, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

ROM ***18*** *12:01:39.1±0.0, 42°.544N±0°.002×13°.292E±0°.001, h11km, ML4.0/91, Mw3.9, Error ellipse: s-maj=0.6km s-min=0.2km az=298.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=7.25; $M_{\theta\theta}$1.64; $M_{\phi\phi}$5.61; $M_{r\theta}$1.34; $M_{\theta\phi}$-4.57; $M_{\phi r}$-0.94; Fault plane solution: M_o8.10517×10^{14} NP1:ϕ_s153.00000°,δ40.00000°,λ-81.00000°. NP2: ϕ_s321.00000°,δ51.00000°,λ-97.00000°.*
IDC ***18*** *12:01:39.1±0.8, 42°.70N×13°.11E, h0km, mb3.8/13, mbtmp3.9/23, ML3.7/10 Error ellipse: s-maj=13.4km s-min=11.2km az=95.0*
LDG ***18*** *12:01:40.3±0.2, 42°.50N×13°.18E, h11km, Ml3.3/28, Error ellipse: s-maj=5.1km s-min=3.2km az=44.0*
BEO ***18*** *12:01:41.8±0.6, 42°.59N×13°.41E, h4km±9km, ML4.1/10*
NEIC ***18*** *12:01:41.0±2.0, 42°.66N±0°.06×13°.21E±0°.07, h10km±1km, mb4.1/15, Error ellipse: s-maj=11.2km s-min=7.1km az=210.0*
STR ***18*** *12:01:42.6±2.4, 43°N±10°×1°3E±2°1, h10km, MLv4.0/20, Error ellipse: s-maj=0.0km s-min=0.0km az=105.0, preliminary*

ISC 18 12:01:40.1±0.6, **42°.54N**±0°.01×**13°.26E**±0°.02, **h13**km±3km, **n405, σ2°07**/526, **mb4.0**/17, **23C-15D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.04**	**232**	⇑P	**Pg**	**12 01 42.0**	**-0.6**
RM33				S	**Sg**	**12 01 43.8**	**-0.6**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
T1247	**Pizzolo (AQ)**	**0.10**	**163**	P	**Pg**	**12 01 42.6**	**-0.5**
T1247				S	**Sg**	**12 01 44.6**	**-0.6**
CAMP	**Campotosto**	**0.11**	**89**	Pg	**Pg**	**12 01 42.5**	**-0.8**
CAMP	**Campotosto**	**0.11**	**89**	P	**Pg**	**12 01 42.2**	**-1.1**
CAMP				S	**Sg**	**12 01 44.0**	**-1.6**
CAMP				AML	AML		
CAMP				AML	AML		
SMA1	**SAN MARTINO**	**0.11**	**30**	⇑P	**Pg**	**12 01 42.4**	**-1.0**
SMA1				S	**Sg**	**12 01 44.4**	**-1.2**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
T1202	**Accumoli, Fraz**	**0.17**	**351**	P	**Pg**	**12 01 43.5**	**-0.6**
T1202				S	**Sg**	**12 01 46.7**	**-0.3**
T1218	**Civita (PG)**	**0.17**	**322**	⇑P	**Pg**	**12 01 43.5**	**-0.7**
T1218				S	**Sg**	**12 01 46.6**	**-0.4**
T1218				AML	AML		
T1218				AML	AML		
	comp=E,77500μm,0.5s						
T1218				AML	AML		
	comp=E,77450μm,0.5s						
T1218				AML	AML		
T1218				AML	AML		
	comp=E,77450μm,0.6s						
T1218				AML	AML		
	comp=E,81400μm,0.3s						
T1218				AML	AML		
LNSS	**Leonessa**	**0.18**	**293**	⇑P	**Pg**	**12 01 43.8**	**-0.4**
LNSS				S	**Sg**	**12 01 47.1**	**+0.1**
LNSS				AML	AML		
LNSS				AML	AML		
AQU	**L'Aquila**	**0.21**	**150**	P	**Pg**	**12 01 44.0**	**-0.7**
AQU				S	**Sg**	**12 01 47.7**	**-0.2**
GIGS	**Gran Sasso**	**0.24**	**110**	⇑P	**Pg**	**12 01 44.1**	**-1.2**
GIGS				S	**Sg**	**12 01 47.8**	**-1.1**
GIGS				AML	AML		
	comp=E,54850μm,0.6s						
GIGS				AML	AML		
	comp=E,54850μm,1.4s						
GIGS				AML	AML		
	comp=N,49050μm,0.1s						
FIAM	**Fiamignano**	**0.29**	**202**	⇑P	**Pg**	**12 01 45.7**	**-0.4**
FIAM				S	**Sg**	**12 01 50.5**	**+0.5**
FIAM				AML	AML		
FIAM				AML	AML		
	comp=N,63150μm,0.5s						
T1217	**Poggiodomo (PG**	**0.30**	**306**	⇑P	**Pg**	**12 01 45.7**	**-0.6**
T1217				S	**Sg**	**12 01 50.7**	**+0.2**
T1217				AML	AML		
	comp=E,23300μm,0.7s						
T1217				AML	AML		
	comp=E,21050μm,0.7s						
T1217				AML	AML		
	comp=E,23300μm,0.8s						
T1217				AML	AML		
	comp=N,29900μm,0.8s						
T1217				AML	AML		
	comp=E,21100μm,0.7s						
T1217				AML	AML		
	comp=N,30600μm,0.8s						
T1217				AML	AML		
	comp=N,29900μm,0.8s						
T1217				AML	AML		
	comp=E,21050μm,0.7s						
T1217				AML	AML		
	comp=N,30600μm,0.8s						
T1217				AML	AML		
	comp=E,21050μm,1.3s						
T1217				AML	AML		
	comp=E,23300μm,1.3s						
T1217				AML	AML		
	comp=N,29900μm,1.2s						
T1217				AML	AML		
	comp=N,30600μm,1.2s						
NRCA	**Norcia**	**0.32**	**340**	P	**Pg**	**12 01 45.9**	**-0.7**
NRCA				S	**Sg**	**12 01 50.9**	**-0.1**
NRCA				AML	AML		
	comp=N,36800μm,0.1s						
NRCA				AML	AML		
	comp=E,58450μm,0.2s						
FAGN	**Fagnano**	**0.36**	**138**	P	**Pg**	**12 01 46.6**	**-0.7**
FAGN				S	**Sg**	**12 01 52.2**	**-0.1**
FAGN				AML	AML		
	comp=E,93150μm,1.0s						
FAGN				AML	AML		
	comp=E,96500μm,0.5s						
FAGN				AML	AML		
	comp=N,81600μm,0.3s						
FAGN				AML	AML		
	comp=E,96500μm,1.5s						
ARRO	**Arrone**	**0.37**	**277**	P	**Pg**	**12 01 47.0**	**-0.5**
ARRO				S	**Sg**	**12 01 53.1**	**+0.7**
ARRO				AML	AML		
	comp=E,17400μm,0.6s						
ARRO				AML	AML		
	comp=E,17400μm,1.4s						
ARRO				AML	AML		
	comp=N,27900μm,0.7s						
FEMA	**Monte Fema**	**0.45**	**340**	P	**Pg**	**12 01 48.4**	**-0.7**
FEMA				S	**Sg**	**12 01 55.6**	**+0.3**
FEMA				AML	AML		
	comp=E,21650μm,0.5s						
FEMA				AML	AML		
	comp=N,16850μm,0.9s						
T0110	**Collepietro**	**0.49**	**128**	P	**Pg**	**12 01 48.7**	**-1.1**
T0110				S	**Sg**	**12 01 56.0**	**-0.3**
T0110				AML	AML		
	comp=N,69300μm,0.4s						
T0110				AML	AML		
	comp=E,60100μm,1.1s						
CESX	**Cesi**	**0.51**	**279**	Pg	**Pg**	**12 01 49.2**	**-0.9**
CESX	**Cesi**	**0.51**	**279**	⇑P	**Pg**	**12 01 49.2**	**-0.9**
CESX				S	**Sg**	**12 01 57.1**	**+0.3**
CESX				AML	AML		
	comp=E,11700μm,0.5s						
CESX				AML	AML		
	comp=N,14500μm,0.4s						
CESX				AML	AML		
	comp=N,14500μm,1.6s						
CESX				AML	AML		
	comp=E,11700μm,1.5s						
PTQR	**Pietraquaria**	**0.52**	**168**	P	**Pg**	**12 01 49.2**	**-1.2**
PTQR				S	**Sg**	**12 01 57.3**	**0.0**
PTQR				AML	AML		
	comp=N,8400μm,0.4s						
PTQR				AML	AML		
	comp=E,8665μm,0.9s						
PTQR				AML	AML		
	comp=E,8665μm,1.1s						
GUMA	**Gualdo di Mace**	**0.53**	**6**	Pg	**Pg**	**12 01 49.3**	**-1.2**
GUMA	**Gualdo di Mace**	**0.53**	**6**	⇑P	**Pg**	**12 01 49.6**	**-0.9**
GUMA				S	**Sg**	**12 01 57.9**	**+0.4**
GUMA				AML	AML		
	comp=N,73300μm,0.4s						
GUMA				AML	AML		
	comp=N,59300μm,0.4s						
GUMA				AML	AML		
	comp=E,73150μm,0.7s						
GUMA				AML	AML		
	comp=N,73300μm,1.6s						
GUMA				AML	AML		
	comp=N,59300μm,1.6s						
GUMA				AML	AML		
	comp=E,73550μm,0.4s						
CESI	**CESI - Serrava**	**0.54**	**331**	P	**Pg**	**12 01 49.8**	**-0.9**
CESI				S	**Sg**	**12 01 58.2**	**+0.4**
CESI				AML	AML		
	comp=E,10270μm,0.5s						
CESI				AML	AML		
	comp=N,12800μm,1.3s						
CESI				AML	AML		
	comp=E,10270μm,1.5s						
CESI				AML	AML		
	comp=N,12800μm,0.7s						
TRTR	**Tortoreto Alta**	**0.56**	**60**	P	**Pg**	**12 01 50.4**	**-0.5**
TRTR				AML	AML		
	comp=N,59800μm,0.5s						
TRTR				AML	AML		
	comp=E,76500μm,0.5s						
CSP1	**Cessapalombo**	**0.56**	**356**	P	**Pg**	**12 01 49.8**	**-1.2**
CSP1				S	**Sg**	**12 01 58.3**	**-0.2**
CSP1				AML	AML		
	comp=N,22250μm,1.0s						
CSP1				AML	AML		
	comp=E,17400μm,0.7s						
MOMA	**Monte Martano**	**0.57**	**298**	P	**Pg**	**12 01 50.4**	**-0.9**
MOMA				S	**Sb**	**12 01 60.0**	**-0.2**
MOMA				AML	AML		
	comp=E,13750μm,0.3s						
MOMA				AML	AML		
	comp=E,13350μm,0.3s						
MOMA				AML	AML		
	comp=N,18400μm,0.7s						
MOMA				AML	AML		
	comp=N,17250μm,0.7s						
T1220	**Camerino, Fraz**	**0.59**	**348**	P	**Pg**	**12 01 50.5**	**-1.1**
T1220				AML	AML		
	comp=N,48100μm,0.5s						
T1220				AML	AML		
	comp=N,49650μm,0.5s						
T1220				AML	AML		
	comp=N,48100μm,0.5s						
T1220				AML	AML		
	comp=E,71900μm,0.6s						
T1220				AML	AML		
	comp=E,70900μm,0.6s						
CERT	**Cerreto**	**0.62**	**199**	P	**Pg**	**12 01 51.0**	**-1.2**
CERT				AML	AML		
	comp=N,17300μm,0.5s						
CERT				AML	AML		
	comp=E,16300μm,0.6s						
CERT				AML	AML		
	comp=E,16300μm,1.4s						
MNTP	**Montappone**	**0.62**	**14**	P	**Pg**	**12 01 51.5**	**-0.7**
MNTP				AML	AML		
	comp=E,37450μm,0.6s						
MNTP				AML	AML		
	comp=N,33850μm,0.7s						
MNTP				AML	AML		
	comp=E,37450μm,0.6s						
SRES	**S.Oreste - Sor**	**0.63**	**242**	P	**Pg**	**12 01 51.2**	**-1.1**
SRES				AML	AML		
	comp=E,8845μm,0.7s						
SRES				AML	AML		
	comp=N,7440μm,0.6s						
SRES				AML	AML		
	comp=N,7440μm,1.4s						
MTCE	**Montecelio**	**0.64**	**217**	⇑P	**Pg**	**12 01 51.5**	**-1.1**
MTCE				AML	AML		
	comp=E,20050μm,0.6s						
MTCE				AML	AML		
	comp=E,20050μm,1.4s						
MTCE				AML	AML		
	comp=N,9740μm,0.6s						
SEF1	**Sefro**	**0.65**	**340**	P	**Pg**	**12 01 52.0**	**-0.8**
SEF1				AML	AML		
	comp=N,13100μm,0.3s						
SEF1				AML	AML		
	comp=N,13100μm,0.3s						
SEF1				AML	AML		
	comp=E,15300μm,0.6s						
MDAR	**Monte D'Aria**	**0.66**	**353**	P	**Pg**	**12 01 51.8**	**-1.2**
MDAR				S	**Sg**	**12 02 01.9**	**+0.2**
ASSB	**Assisi San Ben**	**0.67**	**319**	P	**Pg**	**12 01 52.2**	**-1.0**
ASSB				AML	AML		
	comp=E,9910μm,0.5s						
ASSB				AML	AML		
	comp=N,9990μm,0.6s						
VVLD	**Villa Vallelon**	**0.72**	**158**	P	**Pg**	**12 01 53.9**	**-0.1**
VVLD				AML	AML		
	comp=E,8640μm,0.4s						
VVLD				AML	AML		
	comp=N,13350μm,0.6s						
VVLD				AML	AML		
	comp=E,8640μm,1.6s						
GAG1	**Gagliole**	**0.72**	**349**	P	**Pg**	**12 01 52.1**	**-1.9**
GAG1				AML	AML		
	comp=E,24500μm,0.5s						
GAG1				AML	AML		
	comp=N,25700μm,0.8s						
GAG1				AML	AML		
	comp=E,24450μm,0.5s						
GAG1				AML	AML		
	comp=N,25650μm,0.8s						
GAG1				AML	AML		
	comp=E,24450μm,1.5s						
GAG1				AML	AML		
	comp=N,25650μm,1.2s						
RCAV	**Rocca di Cave**	**0.73**	**199**	P	**Pg**	**12 01 52.3**	**-1.8**
GUAR	**Guarcino**	**0.74**	**177**	P	**Pg**	**12 01 54.1**	**-0.3**
MTL1	**Matelica**	**0.74**	**346**	P	**Pg**	**12 01 53.4**	**-1.2**
CADA	**Capodarco di F**	**0.76**	**29**	P	**Pg**	**12 01 54.4**	**-0.4**
CADA				AML	AML		
	comp=N,32550μm,0.5s						
CADA				AML	AML		
	comp=N,32550μm,1.5s						
CADA				AML	AML		
	comp=E,38700μm,0.7s						
SNTG	**Esanatoglia**	**0.76**	**342**	P	**Pg**	**12 01 53.7**	**-1.1**
SNTG				AML	AML		
	comp=N,5025μm,0.4s						
SNTG				AML	AML		
	comp=N,5400μm,0.4s						
SNTG				AML	AML		
	comp=E,5990μm,0.5s						
SNTG				AML	AML		
	comp=E,5655μm,0.5s						
ATCC	**AVT- Casa Cast**	**0.79**	**325**	P	**Pg**	**12 01 54.3**	**-1.2**
EL6	**Elcito**	**0.80**	**352**	P	**Pg**	**12 01 54.4**	**-1.2**
EL6				AML	AML		
	comp=N,22300μm,1.5s						
EL6				AML	AML		
	comp=E,16600μm,1.1s						
EL6				AML	AML		
	comp=N,22300μm,0.5s						
CIMA	**Civitanova Mar**	**0.83**	**21**	P	**Pg**	**12 01 55.8**	**-0.3**
RMP	**Rome, Mte Porz**	**0.83**	**210**	P	**Pg**	**12 01 55.7**	**-0.5**
RMP				AML	AML		
	comp=E,14000μm,0.7s						
RMP				AML	AML		
	comp=N,22150μm,0.9s						
LPEL	**Lama dei Pelig**	**0.84**	**125**	P	**Pg**	**12 01 54.4**	**-2.0**
LPEL				S	**Sg**	**12 02 05.9**	**-1.5**
LPEL				AML	AML		
	comp=N,11800μm,0.7s						
LPEL				AML	AML		
	comp=E,14600μm,0.8s						
LPEL				AML	AML		
	comp=N,11800μm,1.3s						
FOSV	**Fossato di Vic**	**0.84**	**334**	P	**Pg**	**12 01 55.6**	**-0.8**
FOSV				AML	AML		
	comp=N,6720μm,0.6s						
FOSV				AML	AML		
	comp=N,6720μm,1.4s						
FOSV				AML	AML		
	comp=E,6525μm,0.5s						
VIVA	**Pratoni del Vi**	**0.86**	**205**	P	**Pg**	**12 01 54.7**	**-2.1**
RDP	**Rocca di Papa**	**0.88**	**208**	P	**Pg**	**12 01 56.0**	**-1.0**

RDP AML AML
comp=E,38500µm,0.6s
RDP AML AML
comp=N,47500µm,0.5s
PP3 Marolino 0.88 17 P Pg 12 01 56.2 -0.9
PP3 AML AML
comp=E,42150µm,0.6s
PP3 AML AML
comp=N,19950µm,0.7s
PP3 AML AML
comp=N,18800µm,1.1s
PP3 AML AML
comp=E,42800µm,0.6s
PP3 AML AML
comp=N,18800µm,0.9s
PP3 AML AML
comp=N,19950µm,1.3s
POFI Posta Fibreno 0.88 157 P Pg 12 01 57.1 0.0
POFI AML AML
comp=E,6430µm,0.7s
POFI AML AML
comp=N,6615µm,1.3s
POFI AML AML
comp=E,6415µm,0.7s
POFI AML AML
comp=E,6415µm,1.3s
POFI AML AML
comp=N,6615µm,0.7s
POFI AML AML
comp=E,6430µm,1.3s
POFI AML AML
comp=N,6495µm,0.5s
MA9 Marino 0.89 210 P Pg 12 01 56.8 -0.4
MA9 AML AML
comp=E,28150µm,0.6s
MA9 AML AML
comp=N,26950µm,0.5s
MA9 AML AML
comp=E,28150µm,1.4s
SAMA S.Maria delle 0.90 214 AML AML
comp=N,17250µm,0.7s
SAMA AML AML
comp=E,11450µm,0.8s
MGAB Montegabbione 0.93 294 P Pg 12 01 57.3 -0.7
MGAB AML AML
comp=E,8200µm,0.9s
MGAB AML AML
comp=N,7700µm,0.7s
MGAB AML AML
comp=E,7515µm,1.2s
MGAB AML AML
comp=N,8405µm,0.7s
MGAB AML AML
comp=N,7700µm,1.3s
MGAB AML AML
comp=E,8200µm,1.1s
LAV9 Lanuvio 0.95 206 P Pb 12 01 57.1 -1.4
LAV9 AML AML
comp=E,21500µm,0.5s
LAV9 AML AML
comp=E,20850µm,0.5s
LAV9 AML AML
comp=N,31850µm,1.5s
LAV9 AML AML
comp=N,31450µm,1.4s
ATFO Monte Foce - G 0.97 329 P Pg 12 01 59.0 +0.1
GIUL Giuliano Di Ro 0.98 180 P Pb 12 01 58.4 -0.5
GIUL AML AML
comp=E,6270µm,0.7s
GIUL AML AML
comp=N,6970µm,0.7s
ARVD Arcevia 0.99 346 P Pb 12 01 57.8 -1.3
ARVD AML AML
comp=E,7045µm,0.9s
ARVD AML AML
comp=N,7070µm,0.7s
ARVD AML AML
comp=E,7045µm,1.1s
SACS San Casciano d 1.04 288 P Pb 12 01 59.0 -1.0
SACS AML AML
comp=N,6370µm,1.1s
SACS AML AML
comp=E,6105µm,1.3s
AOI Ancona 1.04 14 P Pb 12 01 57.1 -2.9
AOI AML AML
comp=N,7690µm,0.9s
AOI AML AML
comp=E,10210µm,1.1s
AOI AML AML
comp=E,10210µm,0.9s
TOLF Tolfa 1.05 244 P Pb 12 01 58.3 -1.7
TOLF AML AML
comp=E,7925µm,0.6s
TOLF AML AML
comp=N,7410µm,0.8s
ATVO AVT- Monte Val 1.05 324 P Pb 12 01 59.9 -0.3
LIK San Giovanni I 1.05 168 P Pb 12 01 59.4 -0.8
LIK AML AML
comp=E,12300µm,0.5s
LIK AML AML
comp=N,10750µm,0.5s
FRON Frontone 1.06 338 P Pb 12 02 00.2 -0.1
LATB Latina 1.06 192 P Pb 12 01 58.6 -1.7
LATB AML AML
comp=N,1660µm,0.7s
LATB AML AML
comp=E,2285µm,0.7s
RNI2 Rionero Sannit 1.06 141 P Pb 12 02 00.2 -0.2
LATE Laterza 1.08 275 Pg Pb 12 02 00.2 -0.4
CERA Filignano 1.09 149 P Pb 12 02 00.2 -0.6
ATPI Pietralunga - 1.11 326 P Pb 12 02 00.3 -0.9
COR1 Corinaldo 1.11 350 P Pb 12 01 58.2 -3.0
ATPC Poggio Castell 1.11 328 P Pg 12 02 01.7 +0.2
PIEI Pieia 1.13 332 P Pb 12 02 00.7 -0.8
MPAG Monte Paganucc 1.15 342 AML AML
comp=N,6475µm,0.7s
MPAG AML AML
comp=N,6530µm,1.4s
MPAG AML AML
comp=N,6530µm,0.6s
MPAG AML AML
comp=E,7995µm,0.6s
MPAG AML AML
comp=E,7675µm,0.6s
SENI Senigallia 1.17 359 P Pn 12 02 01.4 -0.7
NARO Abbazia di Nar 1.19 335 P Pn 12 02 00.9 -1.4
NARO AML AML
comp=E,5885µm,0.9s
NARO AML AML
comp=N,3455µm,0.7s
NARO AML AML
comp=N,3455µm,1.3s
NARO AML AML
comp=E,5885µm,1.1s
FRES Fresagrandinar 1.19 118 P Pg 12 02 03.1 +0.2
FRES AML AML
comp=E,5360µm,0.6s
FRES AML AML
comp=N,4155µm,1.0s
ATMC Monte Cedrone 1.20 320 P Pn 12 02 02.3 -0.3
SF11 Podere del Sol 1.21 287 P Pn 12 02 02.7 -0.1
SF04 Casetta 1.22 285 P Pn 12 02 02.6 -0.2
TRIV Trivento 1.23 128 P Pg 12 02 04.1 +0.4
TRIV AML AML
TRIV AML AML
TRIV AML AML
comp=N,6060µm,1.4s
TRIV AML AML
comp=E,5285µm,1.2s
TRIV AML AML
TRIV AML AML
CAFI Castiglion Fio 1.24 310 P Pn 12 02 01.4 -1.7
CAFI AML AML
comp=N,3695µm,0.8s
CAFI AML AML
comp=E,2600µm,0.6s
CAFI AML AML
comp=N,3690µm,0.8s
CAFI AML AML
comp=N,3690µm,1.2s
CAFI AML AML
comp=N,3695µm,1.2s
CAFI AML AML
comp=E,2570µm,0.6s
SF13 Bagnolo 1.24 284 P Pn 12 02 02.8 -0.4
ARCI Arcidosso 1.35 284 P Pn 12 02 04.7 -0.1

ARCI AML AML
comp=N,1005µm,1.0s
ARCI AML AML
comp=E,990µm,1.0s
BSSO Busso 1.40 134 P Pb 12 02 06.1 0.0
SGG Gregorio Mates 1.42 144 P Pb 12 02 06.6 +0.1
SGG AML AML
comp=E,18nm,0.7s
SGG AML AML
comp=E,5760µm,0.7s
SGG AML AML
comp=E,5760µm,1.3s
SGG AML AML
comp=N,9.5nm,1.0s
SGG AML AML
comp=N,2845µm,1.0s
SGG AML AML
comp=E,18nm,1.3s
PESA Pesaro 1.44 348 P Pb 12 02 06.5 -0.2
PESA AML AML
comp=N,5680µm,0.5s
PESA AML AML
comp=N,5680µm,1.5s
PESA AML AML
comp=E,6230µm,1.0s
MODR Mondragone 1.46 161 P Pn 12 02 06.5 +0.4
MODR AML AML
comp=E,1352µm,1.6s
MODR AML AML
comp=N,2255µm,0.6s
MODR AML AML
comp=E,1352µm,0.4s
SACR S. Croce Del S 1.57 136 P Pb 12 02 09.3 +0.4
SACR AML AML
comp=E,2095µm,1.2s
SACR AML AML
comp=N,1920µm,1.2s
SACR AML AML
comp=E,2145µm,1.2s
SACR AML AML
comp=N,2030µm,1.2s
SACR AML AML
comp=E,2095µm,0.8s
SACR AML AML
comp=N,1920µm,0.8s
SACR AML AML
comp=N,2030µm,0.8s
SACR AML AML
comp=E,2145µm,0.8s
MAON Monte Argentar 1.58 267 P Pn 12 02 07.3 -0.4
MAON AML AML
comp=E,908µm,0.6s
MAON AML AML
comp=N,698µm,1.5s
MELA Melanico ??? S 1.62 120 P Pn 12 02 09.0 +0.7
MELA AML AML
comp=E,8715µm,0.6s
MELA AML AML
comp=E,8845µm,0.6s
MELA AML AML
comp=N,10340µm,0.6s
MELA AML AML
comp=N,10030µm,0.6s
MELA AML AML
comp=E,8845µm,1.4s
MELA AML AML
comp=E,8715µm,1.4s
ASQU Asqua 1.66 320 P Pb 12 02 10.5 0.0
ASQU AML AML
comp=N,1825µm,0.8s
ASQU AML AML
comp=E,1575µm,0.5s
FROS Frosini 1.69 294 P Pn 12 02 09.5 +0.3
OSSC Osservatorio P 1.78 304 Pn 12 02 11.1 +0.6
OSSC Osservatorio P 1.78 304 P Pn 12 02 11.0 +0.6
CASP Castiglione de 1.78 279 Pn 12 02 10.3 -0.3
CASP Castiglione de 1.78 279 P Pn 12 02 10.2 -0.3
CASP AML AML
comp=E,333µm,1.1s
CASP AML AML
comp=N,463µm,1.6s
CASP AML AML
comp=E,333µm,0.9s
CASP AML AML
comp=N,463µm,0.4s
RUFI Rufina 1.83 316 P Pn 12 02 11.5 +0.3
RUFI AML AML
comp=E,1410µm,1.6s
RUFI AML AML
comp=N,1930µm,0.7s
RUFI AML AML
comp=E,1410µm,0.4s
TRIF Trifonti 1.83 289 P Pn 12 02 11.3 +0.1
TRIF AML AML
comp=E,824µm,0.8s
TRIF AML AML
comp=N,713µm,0.8s
APRC Apricena 1.87 114 P Pn 12 02 11.8 +0.1
APRC AML AML
comp=E,3400µm,0.5s
APRC AML AML
comp=N,4565µm,0.7s
SEI Scarperia 2.06 318 P Pb 12 02 16.2 -1.1
CRMI Carmignano 2.09 308 P Pn 12 02 15.5 +0.7
MPPT Montemurlo 2.13 313 AML AML
comp=E,1105µm,1.2s
MPPT AML AML
comp=N,676µm,1.6s
MPPT AML AML
comp=E,1105µm,0.8s
MPPT AML AML
comp=N,676µm,0.4s
IMOL Imola, Italy 2.13 329 AML AML
comp=N,2375µm,0.5s
IMOL AML AML
comp=E,2865µm,0.4s
IMOL AML AML
comp=N,2375µm,1.5s
IMOL AML AML
comp=E,2865µm,1.6s
MSAG Monte S. Angel 2.14 112 P Pn 12 02 16.8 +1.3
MSAG AML AML
comp=E,3215µm,0.8s
MSAG AML AML
comp=E,3350µm,0.7s
MSAG AML AML
comp=E,3215µm,1.2s
MSAG AML AML
comp=N,6670µm,0.5s
MSAG AML AML
comp=N,6670µm,0.5s
CAPA Cerignola FG 2.35 125 P Pn 12 02 19.0 +0.6
CAPA AML AML
comp=N,2240µm,1.1s
CAPA AML AML
comp=E,2500µm,0.8s
HVAR Hvar 2.43 74 P Pn 12 02 19.2 -0.2
MAIM Mastiano 2.45 305 P Pn 12 02 20.1 +0.5
MAIM AML AML
comp=E,380µm,0.6s
MAIM AML AML
comp=E,380µm,1.4s
MAIM AML AML
comp=N,368µm,0.6s
ZCCA Zocca 2.46 318 Pn 12 02 20.5 +0.5
CARD Cardoso 2.52 307 P Pn 12 02 21.1 +0.4
PALZ Palazzo San Ge 2.57 127 P Pn 12 02 22.3 +0.9
MRVN Minervino Murg 2.64 123 P Pn 12 02 23.1 +0.7
MRVN AML AML
comp=E,509µm,0.8s
MRVN AML AML
comp=N,570µm,1.6s
MRVN AML AML
comp=E,509µm,1.2s
MRVN AML AML
comp=N,570µm,0.4s
VLC Villacollemand 2.65 309 Pn 12 02 22.7 +0.1
ACER Acerenza 2.66 130 P Pn 12 02 24.2 +1.5
ACER AML AML
comp=E,1059µm,0.8s
ACER AML AML
comp=N,1117µm,0.7s
ACER AML AML
comp=E,1111µm,0.8s
ACER AML AML
comp=E,1059µm,1.2s
ACER AML AML
comp=E,1111µm,1.2s
ACER AML AML
comp=N,1132µm,0.7s
MORSI Morsiglia 2.90 280 P Pn 12 02 26.7 +0.8
SMPL Sampolo 2.98 263 P Pn 12 02 27.6 +0.6
AMUR Altamura 2.98 122 P Pn 12 02 27.9 +0.8
AMUR AML AML
comp=N,714µm,0.6s
AMUR AML AML
comp=E,882µm,0.6s
AMUR AML AML
comp=N,714µm,1.4s
TEOL Teolo 3.05 338 Pn Pn 12 02 28.1 +0.1
CORF Corte 3.05 267 P Pn 12 02 27.3 -0.7
CORF S Sn 12 03 07.4 +3.0
SKDS Skadanscina 3.06 10 ePn Pn 12 02 26.5 -1.6
A050A Klekovaca 3.07 50 ePn Pn 12 02 28.9 +0.5
PGF Pioggiola 3.15 272 eP Pn 12 02 30.2 +0.8
PGF eSn Sn 12 03 03.9 -3.0
comp=N,11nm,0.4s
PGF Pioggiola 3.15 272 P Pn 12 02 29.7 +0.3
CUC Castrocucco 3.19 142 Pb 12 02 33.5 -3.1
MATE Matera 3.20 125 P Pn 12 02 30.7 +0.7
MATE AML AML
comp=E,770µm,0.9s
MATE AML AML
comp=E,770µm,1.1s
MATE AML AML
comp=N,724µm,0.6s
SRKY Kupres RS 3.24 60 ePn Pn 12 02 31.2 +0.6
MSSA Maissana 3.26 304 Pn 12 02 31.3 +0.4
STON Ston 3.29 83 ePn Pn 12 02 31.1 -0.1
STON eSn Sn 12 03 09.3 -0.9
STON Ston 3.29 83 ePn Pn 12 02 30.7 -0.5
LTRZ Laterza 3.29 125 P Pn 12 02 32.4 +1.1
BOJS Bojanci 3.30 25 AML AML
comp=E,1096µm,1.1s
BOJS AML AML
comp=E,1096µm,0.9s
BOJS AML AML
comp=N,1046µm,1.3s
BOJS Bojanci 3.30 25 ePn Pn 12 02 31.5 +0.1
CEY Cerknica 3.31 14 ePn Pn 12 02 29.6 -2.0
NOCI Noci 3.34 120 P Pn 12 02 32.8 +0.8
NOCI AML AML
comp=N,710µm,1.6s
NOCI AML AML
comp=E,645µm,0.5s
NOCI AML AML
comp=N,710µm,0.4s
MGRS Mrkonjic Grad 3.36 55 ePn Pn 12 02 33.4 +1.1
AJAC Base Areonaval 3.39 261 P Pn 12 02 33.7 +1.0
AJAC AML AML
comp=E,279µm,1.3s
AJAC AML AML
comp=N,344µm,0.7s
AJAC AML AML
comp=E,279µm,0.7s
AJAC AML AML
comp=N,344µm,1.3s
AJAC Base Areonaval 3.39 261 P Pn 12 02 34.1 +1.5
AJAC S Sn 12 03 13.8 +1.0
SABO M.te Sabotino 3.45 4 Pn 12 02 32.6 -1.0
ROVR Rover Verones 3.49 334 P Pn 12 02 34.1 0.0
ROVR AML AML
comp=E,414µm,1.1s
ROVR AML AML
comp=N,686µm,0.7s
ROVR AML AML
comp=E,155µm,1.1s
ROVR AML AML
comp=N,276µm,0.7s
CGRP Cima Grappa 3.50 343 P Pn 12 02 34.7 +0.3
CGRP AML AML
comp=N,1300µm,0.6s
CGRP AML AML
comp=N,1300µm,1.4s
CGRP AML AML
comp=E,1265µm,0.6s
CGRP AML AML
comp=E,1260µm,0.6s
CGRP AML AML
comp=N,1295µm,0.4s
BLY Banja Luka 3.61 51 ePn Pn 12 02 36.1 +0.5
CRES Cresnjev 3.65 25 ePn Pn 12 02 34.3 -1.9
SALO Salr 3.66 328 Pn Pn 12 02 37.1 +0.7
CTI Castel Tesino 3.70 342 Pn 12 02 37.2 +0.2
CTI Castel Tesino 3.70 342 P Pn 12 02 37.5 +0.6
CTI AML AML
comp=E,688µm,1.5s
CTI AML AML
comp=N,992µm,0.3s
CTI AML AML
comp=E,688µm,0.5s
STAL STALIGIAL 3.75 354 Pn 12 02 37.0 -0.5
STAL STALIGIAL 3.75 354 P Pn 12 02 37.1 -0.5
STAL AML AML
comp=E,649µm,0.3s
STAL AML AML
comp=N,608µm,0.9s
STAL AML AML
comp=N,608µm,1.1s
STAL AML AML
comp=E,801µm,0.3s
STAL AML AML
comp=N,636µm,0.4s
TREB Trebinje 3.76 86 ePn Pn 12 02 38.2 +0.5
TREB eSn Sn 12 03 21.2 -0.7
TREB Trebinje 3.76 86 ePn Pn 12 02 38.0 +0.3
LUSI Trento, Gardas 3.81 335 P Pn 12 02 38.7 +0.2
LUSI AML AML
comp=E,424µm,1.3s
LUSI AML AML
comp=N,654µm,1.6s
LUSI AML AML
comp=N,654µm,0.4s
LUSI AML AML
comp=E,424µm,0.7s
CIMO Cimolais 3.82 351 Pn 12 02 38.0 -0.6
CIMO Cimolais 3.82 351 P Pn 12 02 38.2 -0.4
CIMO AML AML
comp=E,313µm,0.7s
CIMO AML AML
comp=N,228µm,1.4s
CIMO AML AML
comp=N,215µm,1.4s
CIMO AML AML
comp=E,318µm,0.7s
AGOR Agordo 3.85 347 P Pn 12 02 39.0 +0.1
AGOR AML AML
comp=N,349µm,0.8s
AGOR AML AML
comp=E,300µm,0.4s
AGOR AML AML
comp=N,304µm,0.5s
AGOR AML AML
comp=E,358µm,0.4s
AGOR AML AML
comp=E,300µm,1.6s
PTCC Patocco-Chiusa 3.87 1 P Pn 12 02 38.1 -1.2
PTCC AML AML
comp=E,294µm,0.4s
PTCC AML AML
comp=N,312µm,0.3s
PTCC AML AML
comp=N,312µm,1.7s
HCY Herceg Novi 3.87 90 ePn Pn 12 02 38.9 -0.4
HCY Herceg Novi 3.87 90 ⇑iPn Pn 12 02 39.2 -0.1
HCY *i* Sn Sn 12 03 23.7 -0.9
BRY Bratogost 3.91 83 ePn Pn 12 02 40.2 +0.3
BRY Bratogost 3.91 83 ⇓iPn Pn 12 02 40.5 +0.6
BRY *i* Sn Sn 12 03 26.4 +0.7
GAGG Gaggia 3.91 336 P Pn 12 02 40.4 +0.5
GAGG AML AML
comp=E,382µm,0.6s
GAGG AML AML
comp=E,501µm,0.7s
GAGG AML AML
comp=N,430µm,0.7s
GAGG AML AML
comp=E,382µm,1.4s
GAGG AML AML
comp=N,430µm,1.3s
GAGG AML AML
comp=N,503µm,0.8s
PRED Cave del Predi 3.91 3 Pn 12 02 39.3 -0.6

SARZ Sarezzano 3.92 308 AML AML
comp=N,473µm,0.6s
SARZ AML AML
comp=E,520µm,1.6s
SARZ AML AML
comp=N,473µm,1.4s
SARZ AML AML
comp=E,520µm,0.4s
CLUD Cludinico 3.93 356 Pn 12 02 39.6 -0.5
ACOM Acomizza, Ital 4.02 2 P **Pn 12 02 41.5 +0.1**
ACOM AML AML
comp=N,764µm,0.5s
ACOM AML AML
comp=E,562µm,0.9s
ACOM AML AML
comp=N,731µm,0.5s
ACOM AML AML
comp=N,731µm,1.5s
ACOM AML AML
comp=N,764µm,1.5s
ACOM AML AML
comp=E,565µm,1.0s
ZOU Zoufplan 4.03 357 P **Pn 12 02 41.2 -0.3**
ZOU AML AML
comp=N,325µm,0.6s
ZOU AML AML
comp=N,317µm,0.6s
ZOU AML AML
comp=E,394µm,0.3s
ZOU AML AML
comp=N,317µm,1.4s
ZOU AML AML
comp=N,325µm,1.4s
ZOU AML AML
comp=E,400µm,0.3s
MABI Malga Bissina 4.03 332 AML AML
comp=E,194µm,0.5s
MABI AML AML
comp=N,168µm,1.0s
MABI AML AML
comp=N,168µm,1.0s
OBKA Obir 4.08 13 *e*Pn **Pn 12 02 42.3 +0.1**
comp=N,2.2nm,0.2s,SNR=6.3
OBKA *e*Sn **Sn 12 03 30.2 +0.4**
comp=N,70nm,0.5s
OBKA Obir 4.08 13 *e*Pn **Pn 12 02 41.0 -1.2**
OBKA Obir 4.08 13 *e*Pn **Pn 12 02 41.7 -0.5**
SNR=6.1
MYKA Terra Mystica 4.10 4 *i* Pn **Pn 12 02 42.5 0.0**
comp=N,16nm,0.4s,SNR=8.4
MYKA *e*Sn **Sn 12 03 30.0 -0.4**
comp=N,31nm,0.3s
CEME Cevo 4.18 88⇑ *i* Pn **Pn 12 02 44.0 +0.4**
CEME *i* Sn **Sn 12 03 32.8 +0.5**
APPI Appiano 4.20 340 P **Pn 12 02 44.7 +0.8**
APPI AML AML
comp=N,535µm,0.5s
APPI AML AML
comp=N,535µm,1.5s
APPI AML AML
comp=E,372µm,0.4s
NKME Niksic 4.21 85⇑ *i* Pn **Pn 12 02 44.7 +0.8**
NKME *i* Sn **Sn 12 03 33.6 +0.7**
VSL Villasalto 4.22 225 P **Pn 12 02 45.3 +1.2**
ABTA Abfaltersbach 4.25 353 *e*Pn **Pn 12 02 45.0 +0.6**
comp=E,70nm,0.6s,SNR=14
ABTA *e*Sn **Sn 12 03 34.0 +0.1**
comp=E,137nm,0.5s
TIP Timpagrande 4.28 140 Pn 12 02 48.5 +3.7
SOKA Soboth 4.33 16 *i* Pn **Pn 12 02 47.1 +1.4**
comp=E,3.2nm,0.3s
SOKA *e*Sn **Sn 12 03 36.0 0.0**
comp=E,28nm,0.5s
DRME Dracevica, Mon 4.40 93 *e*Pn **Pn 12 02 47.4 +0.8**
DRME Dracevica, Mon 4.40 93⇓ *i* Pn **Pn 12 02 47.7 +1.1**
DRME *i* Sn **Sn 12 03 37.8 +0.1**
HAPS Han Pijesak,BI 4.43 68 *e*Pn **Pn 12 02 47.2 +0.1**
PDG Podgorica 4.44 89 Pn **Pn 12 02 47.9 +1.0**
PDG Podgorica 4.44 89 *e*Pn **Pn 12 02 48.0 +1.0**
PDG *e*Sn **Sn 12 03 38.8 +0.3**
PDG Podgorica 4.44 89⇑ *i* Pn **Pn 12 02 47.6 +0.6**
PDG *i* Sn **Sn 12 03 38.9 +0.4**
SBF Sospel 4.46 289 *e*P **Pn 12 02 48.2 +0.8**
SBF *e*Sn **Sn 12 03 35.0 -4.2**
comp=E,12nm,0.3s
ULC Ulcinj 4.48 95⇑ *i* Pn **Pn 12 02 48.5 +0.9**
RISI Rein 4.49 350 P **Pn 12 02 48.8 +0.8**
RISI AML AML
comp=E,1585µm,0.5s
RISI AML AML
comp=N,1310µm,1.6s
RISI AML AML
comp=N,1310µm,0.4s
KBA Koelnbreinsper 4.54 1 *e*Pn **Pn 12 02 49.0 +0.4**
comp=N,12nm,0.4s,SNR=7.2
KBA *e*Sn **Sn 12 03 40.7 -0.7**
comp=N,44nm,0.4s
KBA Koelnbreinsper 4.54 1 *e*Pn **Pn 12 02 48.7 0.0**
SNR=9.0
KBA *e*Sn **Sn 12 03 39.4 -2.1**
SNR=6.0
PLE Pljevlja 4.57 78⇓ *i* Pn **Pn 12 02 49.7 +0.7**
PLE *i* Sn **Sn 12 03 42.6 +0.6**
ROSI Rosskopf 4.59 344 P **Pn 12 02 50.3 +1.1**
ROSI AML AML
comp=N,935µm,0.6s
ROSI AML AML
comp=E,676µm,0.8s
RUDO Rudo 4.61 74 *e*Pn **Pn 12 02 49.0 -0.4**
FUORN Ofenpass-Fuorn 4.61 333 Pn 12 02 50.8 +1.1
KOME Kolasin 4.62 84⇓ *i* Pn **Pn 12 02 50.9 +1.2**
KOME *i* Sn **Sn 12 03 43.9 +0.7**
BBLS Lazići 4.69 71 *e*Pn **Pn 12 02 51.5 +1.0**
CALF Calern 4.79 287 P **Pn 12 02 53.0 +1.0**
TUE Stuetta 4.83 326 Pn **Pn 12 02 53.5 +0.9**
FETA Feichten 4.83 339 *i* Pn **Pn 12 02 53.9 +1.3**
comp=E,13nm,0.7s,SNR=11
FETA *e*Sn **Sn 12 03 52.3 +3.8**
comp=E,50nm,0.6s
WTTA Wattenberg 4.87 347 *i* Pn **Pn 12 02 54.7 +1.6**
comp=E,11nm,0.3s,SNR=9.1
WTTA *i* Sn **Sn 12 03 50.5 +1.1**
comp=E,46nm,0.4s
WTTA Wattenberg 4.87 347 *e*Pn **Pn 12 02 54.3 +1.2**
SNR=7.1
WTTA *e*Sn **Sn 12 03 51.8 +2.5**
SNR=3.4
DAVOX Davos/Dischmat 4.88 332 Pn **Pn 12 02 54.3 +1.0**
comp=E,5.1nm,0.3s,baz=159,slow=18,SNR=26
DAVOX Sn **Sn 12 03 48.1 -1.6**
comp=E,2.2nm,0.3s,baz=158,slow=19,SNR=1.6
IVA Berane 4.90 84⇓ *i* Pn **Pn 12 02 54.8 +1.3**
IVA *i* Sn **Sn 12 03 50.5 +0.4**
SQTA Sankt Quirin 4.91 343 *e*Pn **Pn 12 02 55.7 +2.1**
SNR=12
SQTA *e*Sn **Sn 12 03 51.9 +1.7**
comp=E,123nm,0.5s
WATA Walderalm 4.95 347 *e*Pn **Pn 12 02 55.9 +1.7**
comp=E,16nm,0.4s,SNR=11
WATA *e*Sn **Sn 12 03 53.7 +2.4**
comp=E,38nm,0.3s
PVY Plav 4.95 87⇑ *i* Pn **Pn 12 02 55.9 +1.7**
PVY *i* Sn **Sn 12 03 51.9 +0.6**
ARSA Arzberg 4.98 18 *i* Pn **Pn 12 02 53.6 -1.0**
comp=E,7.8nm,0.7s,SNR=8.4
ARSA *i* Sn **Sn 12 03 49.1 -2.8**
comp=E,17nm,0.6s
ARSA Arzberg 4.98 18 *e*Pn **Pn 12 02 53.3 -1.2**
SNR=5.0
ARSA *e*Sn **Sn 12 03 48.7 -3.3**
SNR=2.1
TEKS Tekeris 4.98 64 *e*Pn **Pn 12 02 52.4 -2.1**
ENAUX Enaux 4.99 291 P **Pn 12 02 57.0 +2.3**
SJES Sjenica 4.99 79 *e*Pn **Pn 12 02 56.1 +1.4**
SJES *e*Sn **Sn 12 03 50.8 -1.4**
LMR La Mourre 5.02 281 *e*P **Pn 12 02 55.3 +0.3**
LMR *e*Sn **Sn 12 03 47.9 -5.0**
comp=E,4.3nm,0.4s
MOTA Moosalm 5.05 343 *i* Pn **Pn 12 02 57.9 +2.3**
comp=E,26nm,0.5s,SNR=10
MOTA *e*Sn **Sn 12 03 55.5 +1.8**
comp=E,104nm,0.7s
TIR Tirane 5.07 101⇑ P **Pn 12 02 56.0 +0.3**
TIR Tirane 5.07 101 Pn 12 02 56.8 +1.1
TIR Tirane 5.07 101 *e*Pn **Pn 12 02 56.3 +0.6**
TIR *e*Sn **Sn 12 03 52.0 -2.1**

SURF Saint Ours 5.08 295 P **Pn 12 02 59.8 +3.8**
JAUF Jausiers 5.10 294 P **Pn 12 02 60.0 +3.7**
DIVS Divibare 5.15 70 Pn 12 02 57.4 +0.4
DIVS Divibare 5.15 70 *e*Pn **Pn 12 02 57.0 0.0**
DIVS *e*Sn **Sn 12 03 53.0 -3.3**
DIVS Divibare 5.15 70 *e*Pn **Pn 12 02 56.7 -0.3**
IVAS Ivanjica 5.16 76 *e*Pn **Pn 12 02 57.5 +0.5**
IVAS *e*Sn **Sn 12 03 55.1 -1.3**
TRIGF Trigance 5.16 286 P **Pn 12 02 58.7 +1.7**
BIOA Bad Ischl, Aus 5.16 3 *i* Pn **Pn 12 02 57.7 +0.7**
comp=E,7.7nm,0.4s,SNR=7.6
BIOA *i* Sn **Sn 12 03 57.2 +0.7**
comp=E,114nm,0.6s
MBDF Montbardon 5.19 297 *e*P **Pn 12 02 59.4 +1.8**
MBDF *e*Sn **Sn 12 03 52.7 -4.7**
comp=E,5.3nm,0.4s
FLAF Flassans-sur-I 5.21 282 P **Pn 12 02 57.5 -0.2**
CREF Crivoux 5.23 295 P Pn 12 03 02.8 +4.8
RETA Reutte 5.26 341 *i* Pn **Pn 12 03 00.3 +1.9**
comp=E,4.6nm,0.4s
RETA *i* Sn **Sn 12 03 59.2 +0.4**
comp=E,39nm,0.6s
PLONS Plons/SG 5.29 330 *e*Pn **Pn 12 03 00.8 +1.9**
SNR=8.2
PLONS *e*Sn **Sn 12 04 01.3 +1.6**
SNR=2.7
DAVA Damuels 5.32 334 *e*Pn **Pn 12 03 01.3 +1.9**
comp=E,6.9nm,0.4s,SNR=8.1
DAVA *i* Sn **Sn 12 04 02.5 +1.9**
comp=E,21nm,0.5s
DAVA Damuels 5.32 334 *e*Pn **Pn 12 03 00.8 +1.5**
SNR=7.0
DAVA *e*Sn **Sn 12 04 03.3 +2.8**
SNR=2.4
MORH Mrgy, Hungar 5.33 45 *e*Pn **Pn 12 03 00.3 +1.0**
MOA Molln 5.36 7 *i* Pn **Pn 12 03 00.0 +0.2**
comp=E,3.7nm,0.4s,SNR=8.9
MOA *e*Sn **Sn 12 04 01.5 +0.1**
comp=E,26nm,0.3s
MOA Molln 5.36 7 *e*Pn **Pn 12 03 00.0 +0.2**
MOA *e*Sn **Sn 12 04 01.3 -0.1**
MOA Molln 5.36 7 *e*Pn **Pn 12 02 60.0 +0.2**
SNR=11
MOA *e*Sn **Sn 12 04 01.7 +0.3**
SNR=3.1
BNI Bardonecchia 5.39 300 Pn 12 03 00.8 +0.6
FRGS Fruska Gora 5.41 59 *e*Pn **Pn 12 03 00.9 +0.4**
FRGS Fruska Gora 5.41 59 *e*Pn **Pn 12 03 00.5 0.0**
TRUS Trudelj 5.47 70 *e*Pn **Pn 12 03 01.5 +0.2**
TRUS *e*Sn **Sn 12 04 03.5 -0.6**
LPL La Plagne 5.57 305 *e*P **Pn 12 03 06.4 +3.6**
LPL *e*Sn **Sn 12 04 01.9 -4.9**
comp=E,7.9nm,0.3s
RONA Rosalia, Austr 5.59 22 *i* Pn **Pn 12 03 02.4 -0.5**
comp=E,2.5nm,0.2s,SNR=9.2
RONA *i* Sn **Sn 12 04 06.3 -0.8**
comp=E,8.1nm,0.4s
UBR Ueberruh 5.61 338 *e*Sn **Sn 12 04 08.5 +1.0**
SNR=2.2
GRUS Gruza 5.61 74 *e*Pn **Pn 12 03 03.7 +0.5**
GRUS *e*Sn **Sn 12 04 06.0 -1.5**
KEK Kerkira 5.69 118 Pn 12 03 06.5 +2.2
KEK Kerkira 5.69 118 P **Pn 12 03 06.4 +2.2**
CONA Conrad Observa 5.70 18 *i* Pn **Pn 12 03 04.1 -0.4**
comp=E,2.1nm,0.2s,SNR=9.2
CONA *i* Sn **Sn 12 04 09.5 -0.2**
comp=E,8.7nm,0.3s
RSL Roselend 5.72 306 P **Pn 12 03 07.4 +2.5**
SENIN Lac Senin/Sane 5.73 314 Pn 12 03 05.1 +0.1
WILA Wila 5.77 329 *e*Sn **Sn 12 04 12.8 +1.3**
SNR=1.0
SMRF Simiane la Rot 5.79 287 *e*P **Pn 12 03 07.4 +1.7**
SMRF *e*Sn **Sn 12 04 06.6 -5.4**
comp=E,2.1nm,0.3s
OHR Ohrid 5.81 102 *e*Pn **Pn 12 03 07.7 +1.8**
OHR *e*Sn **Sn 12 04 10.3 -2.1**
OHR Ohrid 5.81 102 *i* Pn **Pn 12 03 07.7 +1.8**
OHR *i* Sn **Sn 12 04 10.7 -1.7**
GDM Grand'Maison 5.81 300 P **Pn 12 03 10.1 +4.0**
SELS Selova 5.82 81 *e*Pn **Pn 12 03 06.0 0.0**
SELS *e*Sn **Sn 12 04 10.6 -1.9**
ORIF Oris-en-Rattie 5.85 297 *e*P **Pn 12 03 09.3 +2.7**
ORIF *e*Sn **Sn 12 04 07.9 -5.7**
comp=E,3.8nm,0.4s
ORIF Oris-en-Rattie 5.85 297 P **Pn 12 03 10.1 +3.5**
KBN Korca 5.96 106 Pn 12 03 09.1 +1.1
SKO Skopje 6.10 93 *e*Pn **Pn 12 03 10.7 +0.9**
SKO *e*Sn **Sn 12 04 17.8 -1.6**
SKO Skopje 6.10 93 *i* Pn **Pn 12 03 11.1 +1.2**
IGT Igoumenitsa 6.13 117 P **Pn 12 03 11.9 +1.6**
SULZ Cheisacher 6.18 326 P **Pn 12 03 10.7 -0.3**
SULZ Cheisacher 6.18 326 *e*Pn **Pn 12 03 10.5 -0.5**
SNR=2.6
SULZ *e*Sn **Sn 12 04 20.6 -1.0**
SNR=1.9
BALST Balsthal 6.21 322 P **Pn 12 03 11.8 +0.4**
BALST Balsthal 6.21 322 *e*Pn **Pn 12 03 11.9 +0.4**
SNR=5.8
SLE Schleitheim 6.22 329 P **Pn 12 03 11.0 -0.5**
SLE Schleitheim 6.22 329 *e*Pn **Pn 12 03 11.2 -0.4**
SNR=3.8
SLE *e*Sn **Sn 12 04 19.9 -2.6**
SNR=2.1
NEST Nestorio 6.22 107 P **Pn 12 03 14.1 +2.5**
BOVS Bovan 6.28 77 *e*Pn **Pn 12 03 12.0 -0.4**
BOVS *e*Sn **Sn 12 04 20.6 -3.4**
BARS Barje 6.31 85 *e*Pn **Pn 12 03 13.3 +0.5**
BARS *e*Sn **Sn 12 04 22.3 -2.5**
GEC2 GERESS Array S 6.32 3 Pn 12 03 12.2 -0.8
GEC2 GERESS Array S 6.32 3 *e*Pn **Pn 12 03 11.8 -1.2**
SNR=4.2
GEC2 *e*Sn **Sn 12 04 22.2 -2.8**
SNR=6.4
GERES GERESS Array B 6.32 3 Pn **Pn 12 03 12.2 -0.8**
comp=E,1.2nm,0.3s,baz=172,slow=13,SNR=17
GERES Sn **Sn 12 04 21.5 -3.5**
comp=E,13nm,0.3s,baz=180,slow=25,SNR=4.1
comp=E,4.2nm,0.6s
FNA Florina 6.33 103 Pn 12 03 14.2 +1.2
FNA Florina 6.33 103 P **Pn 12 03 15.7 +2.7**
FNA Florina 6.33 103 *e*Pn **Pn 12 03 14.9 +1.9**
FNA *e*Sn **Sn 12 04 22.3 -2.9**
CKRC Cesky Krumlov 6.33 6 *e*PN **Pn 12 03 11.8 -1.2**
CKRC *e*SN **Sn 12 04 21.9 -3.2**
PENT Pentalofos 6.37 109 P **Pn 12 03 15.7 +2.0**
JAN Janina 6.41 114 P **Pn 12 03 16.0 +1.8**
BOURR Bourrignon 6.47 321 P **Pn 12 03 14.6 -0.5**
BOURR Bourrignon 6.47 321 S **Sn 12 04 30.8 +2.1**
MODS Modra-Piesok 6.49 24 *e*PN **Pn 12 03 15.6 +0.4**
PRVS Prvonek 6.51 87 *e*Pn **Pn 12 03 16.1 +0.5**
PRVS *e*Sn **Sn 12 04 26.2 -3.6**
CABF La Chapelle 6.54 311 *e*Pn **Pn 12 03 15.0 -1.1**
CABF *e*Sn **Sn 12 04 25.5 -5.1**
comp=E,3.1nm,0.4s
KHC Kasperske Hory 6.60 2 Pn 12 03 14.8 -1.9
KHC Kasperske Hory 6.60 2 *e*PN **Pn 12 03 15.6 -1.2**
KHC *e*SN **Sn 12 04 28.2 -3.7**
KIZ Kirchzarten 6.60 327 P **Pn 12 03 16.3 -0.4**
KIZ S **Sn 12 04 29.0 -2.8**
VIVF Saint-Julien-I 6.64 293 *e*P **Pn 12 03 19.1 +1.7**
VIVF *e*Sn **Sn 12 04 26.1 -6.8**
comp=E,1.5nm,0.4s
ZAGS Zajecar 6.68 76 *e*Pn **Pn 12 03 17.8 -0.1**
STIP Stip 6.69 94 *i* Pn **Pn 12 03 20.6 +2.6**
BFO Black Forest 6.75 331 Pn 12 03 18.7 -0.1
BFO Black Forest 6.75 331 P **Pn 12 03 20.2 +1.3**
BFO Black Forest 6.75 331 *e*Pn **Pn 12 03 19.3 +0.4**
SNR=4.3
BFO *e*Sn **Sn 12 04 33.8 -1.8**
SNR=1.9
LKD2 Lefkada island 6.75 121 P **Pn 12 03 19.3 +0.4**
BZS Buzias 6.76 60⇑ P **Pn 12 03 19.2 +0.3**
BZS Buzias 6.76 60 *e*Pn **Pn 12 03 18.9 0.0**
BZS *e*Sn **Sn 12 04 31.0 -4.8**
KRUC Moravsky 6.88 17 *e*PN **Pn 12 03 19.4 -1.2**
ZAPS Zavoj 6.92 81 *e*Sn **Sn 12 04 37.0 -2.8**
HINF Hinteralfeld 6.95 322 *e*Pn **Pn 12 03 20.7 -0.9**
HINF *e*Sn **Sn 12 04 35.1 -5.5**
comp=E,7.7nm,0.2s
RONF Ronchamp 6.97 320 P **Pn 12 03 21.5 -0.4**
LASF Ste Croix 7.03 286 *e*P **Pn 12 03 24.0 +1.3**
LASF *e*Sn **Sn 12 04 36.3 -6.1**
comp=E,0.6nm,0.1s
HERR Herculane 7.04 67⇓ P **Pn 12 03 23.3 +0.5**

JAVC Velka Javorina 7.04 24 *e*PN **Pn 12 03 21.6 -1.2**
VAY Valandovo 7.05 97 *e*Pn **Pn 12 03 23.8 +0.9**
VAY *e*Sn **Sn 12 04 39.3 -3.6**
VAY Valandovo 7.05 97 *i* Pn **Pn 12 03 24.1 +1.2**
VAY *i* Sn **Sn 12 04 38.9 -3.9**
DJES Djerdap 7.05 69⇑ P **Pn 12 03 23.2 +0.3**
SIRR Siria 7.08 55⇓ P **Pn 12 03 24.4 +1.1**
ECH Echery 7.12 325 Pn 12 03 22.2 -1.6
ECH Echery 7.12 325 P **Pn 12 03 24.0 +0.1**
ECH S **Sn 12 04 43.1 -1.5**
VYHS Vyhne 7.13 31 *e*PN **Pn 12 03 24.4 +0.4**
VYHS *e*SN **Sn 12 04 40.6 -4.2**
SURR Surduc 7.14 60⇓ P **Pn 12 03 24.3 +0.2**
VRAC Vranov 7.16 18 Pn **Pn 12 03 23.5 -0.9**
comp=E,0.7nm,0.3s,baz=209,slow=14,SNR=3.8
VRAC Sn **Sn 12 04 44.1 -1.5**
comp=E,0.6nm,0.3s,baz=187,slow=15,SNR=1.5
comp=E,2.8nm,0.4s
VRAC Vranov 7.16 18 *e*PN **Pn 12 03 22.6 -1.8**
WLS Welschbruch 7.20 327 P **Pn 12 03 25.1 +0.2**
CDF Champ du Feu 7.22 326 *e*Pn **Pn 12 03 24.6 -0.8**
CDF *e*Sn **Sn 12 04 41.3 -6.0**
comp=E,9.7nm,0.4s
ROTZ Rotzenmuhle 7.27 355 *e*Sn **Sn 12 04 41.9 -6.4**
SNR=5.3
HAU Haudompre 7.33 321 *e*Pn **Pn 12 03 25.8 -0.9**
HAU *e*Sn **Sn 12 04 44.6 -5.1**
comp=E,22nm,0.3s
LIT Litokhoron 7.36 106 Pn **Pn 12 03 28.5 +1.3**
VTS Vitosha 7.37 86⇓ P **Pn 12 03 28.2 +0.8**
VTS Vitosha 7.37 86 Pn 12 03 28.1 +0.8
VTS Vitosha 7.37 86 *e*Pn **Pn 12 03 27.9 +0.5**
VTS Vitosha 7.37 86 *e*Pn **Pn 12 03 27.9 +0.5**
VTS *e*Sn **Sn 12 04 48.4 -2.4**
VTS *e*Sn **Sn 12 04 48.5 -2.4**
EVR Evrytania 7.43 116 P **Pn 12 03 31.9 +3.7**
GZR Gura Zlata 7.44 64⇓ P **Pn 12 03 28.7 +0.4**
KEST Kesra 7.44 205 Pn **Pn 12 03 32.3 +3.9**
comp=E,3.2nm,0.3s,baz=286,slow=5.8,SNR=12
comp=E,12nm,0.6s
GOPC GO Pecny, Ondr 7.46 8 *e*PN **Pn 12 03 27.7 -0.8**
GOPC *e*SN **Sn 12 04 48.9 -4.0**
MANZ Manzenberg 7.50 354 *e*Sn **Sn 12 04 48.2 -5.7**
SNR=5.8
PRU Pruhonice 7.51 6 *e*PN **Pn 12 03 27.9 -1.3**
PRU *e*SN **Sn 12 04 49.5 -4.6**
NKC Novy Kostel 7.72 356 *e*PN **Pn 12 03 31.0 -1.1**
NKC *e*SN **Sn 12 04 55.2 -4.2**
AGG Agios Georgios 7.72 114 P **Pn 12 03 34.9 +2.7**
WERN Wernitzgruen 7.78 356 *e*Pn **Pn 12 03 33.4 +0.5**
SNR=3.0
MORC Moravsky Berou 7.83 21⇑ P **Pn 12 03 36.3 +2.6**
SRS Serrai 7.85 97 *e*Pn **Pn 12 03 34.3 +0.4**
SRS *e*Sn **Sn 12 04 59.0 -3.5**
SMF Signal de Mont 7.88 305 *e*Pn **Pn 12 03 32.5 -1.8**
SMF *e*Sn **Sn 12 04 56.7 -6.5**
comp=E,3.1nm,0.4s
TANN Tannenbergstha 7.90 356 *e*Sn **Sn 12 04 59.8 -4.1**
SNR=3.6
KRLC Kraliky 7.93 17 *e*PN **Pn 12 03 33.2 -1.8**
WERD Werda 7.94 356 *e*Sn **Sn 12 05 00.5 -4.3**
SNR=2.2
DRGR 7.97 54 *e*Pn **Pn 12 03 36.6 +1.0**
PAGF Fort de Pagny 8.01 321 *e*P **Pn 12 03 39.5 +3.4**
PAGF *e*Sn **Sn 12 05 00.9 -5.6**
comp=E,6.8nm,0.4s
DPC Dobruska-Polom 8.10 14 *e*PN **Pn 12 03 35.1 -2.2**
SFTF Sexfontaines 8.10 317 *e*P **Pn 12 03 40.2 +2.9**
baz=140
SFTF *e*Sn **Sn 12 05 02.5 -6.2**
comp=E,4.7nm,0.4s
MTLF Montolieu 8.14 279 *e*P **Pn 12 03 41.6 +3.7**
MTLF *e*Sn **Sn 12 05 02.7 -7.1**
comp=E,1.1nm,0.4s
MARR Marisel-Cluj 8.16 56⇓ P **Pn 12 03 39.5 +1.3**
LOR Lormes 8.18 309 *e*P **Pn 12 03 39.8 +1.4**
baz=129
LOR *e*Sn **Sn 12 05 03.9 -6.8**
comp=E,4.1nm,0.3s
MOX Moxa 8.19 353 *e*Pn **Pn 12 03 38.8 +0.2**
SNR=2.7
MOX *e*Sn **Sn 12 05 04.4 -6.5**
SNR=10
AVF Avril sur Loir 8.24 304 *e*Pn **Pn 12 03 37.6 -1.6**
AVF Avril sur Loir 8.24 304 *e*P **Pn 12 03 41.8 +2.6**
AVF *e*Sn **Sn 12 05 05.3 -6.9**
comp=E,1.1nm,0.3s
SSF Saint Saulge 8.28 306 *e*Pn **Pn 12 03 37.8 -2.0**
SSF *e*Sn **Sn 12 05 05.9 -7.2**
comp=E,2.2nm,0.3s
MEZF Maizieres J'vi 8.29 319 *e*P **Pn 12 03 43.0 +3.1**
baz=142
MEZF *e*Sn **Sn 12 05 07.3 -6.1**
comp=E,7.0nm,0.3s
SAVF Savonnieres en 8.34 320 *e*P **Pn 12 03 43.7 +3.2**
baz=143
SAVF *e*Sn **Sn 12 05 08.5 -5.9**
comp=E,7.9nm,0.4s
BRG Berggiesshubel 8.36 3 *e*P Pn 12 03 48.5 +7.8
BRG Amp 12 03 50.4
comp=Z,3.9nm,0.6s
BRG r 12 05 08.7
BRG r 12 06 14.6
BRG Amp 12 06 32.1
comp=Z,14nm,1.1s
TNS Taunus Mts 8.38 338 *e*Pn **Pn 12 03 42.2 +1.0**
SNR=2.6
TNS *e*Sn **Sn 12 05 13.4 -2.2**
SNR=2.7
FBE Freiberg 8.39 0 *e*Sn **Sn 12 05 09.9 -5.8**
SNR=3.6
CAF Calviac 8.45 290 *e*P **Pn 12 03 43.7 +1.5**
CAF *e*Sn **Sn 12 05 10.2 -7.2**
comp=Z,0.7nm,0.2s
BGF Bois d'Agland 8.45 302 *e*P **Pn 12 03 44.7 +2.5**
BGF *e*Sn **Sn 12 05 10.4 -7.0**
comp=Z,3.1nm,0.3s
ARR Arges 8.68 67⇓ P **Pn 12 03 45.9 +0.6**
TCF Toulx Ste Croi 8.75 299 *e*Pn **Pn 12 03 45.2 -1.1**
TCF *e*Sn **Sn 12 05 17.4 -7.4**
comp=Z,0.7nm,0.2s
CLL Collm 8.78 359 *e*Pn **Pn 12 03 46.0 -0.6**
CLL *e*Sn **Sn 12 05 20.0 -5.3**
CLL *e*Sb Sg 12 05 54.0 -28
comp=Z,51nm,1.5s
CLL *e*Sg **Sg 12 06 25.0 +3.5**
comp=N,200nm,17.5s
CLL *e*Sg **Sg 12 06 25.0 +3.5**
comp=E,300nm,18.5s
CLL *e*Sg **Sg 12 06 25.0 +3.5**
comp=Z,200nm,19.4s
HYF Humbligny 8.90 306 *e*P **Pn 12 03 51.0 +2.8**
RJF Les Rejaudoux 8.92 292 *e*P **Pn 12 03 50.4 +1.9**
GIVF Givet 9.55 325 *e*Pn **Pn 12 03 55.9 -1.3**
MLR Muntele Rosu 9.61 68 Pn **Pn 12 04 01.0 +3.0**
comp=Z,0.7nm,0.3s,baz=239,slow=5.9,SNR=9.9
comp=Z,14nm,1.0s
MLR Muntele Rosu 9.61 68⇓ P **Pn 12 03 59.0 +0.9**
MLR Muntele Rosu 9.61 68 Pn 12 03 59.6 +1.5
OZUR 9.66 64⇓ P **Pn 12 04 00.9 +2.2**
BAIF Baives 9.79 323 *e*Pn **Pn 12 03 57.6 -2.8**
NEHR Nehoiu 9.83 68⇓ P **Pn 12 04 01.4 +0.3**
BURAR Bucovina Array 9.86 55⇑ P **Pn 12 04 04.4 +2.8**
PLOR Plostina 10.17 66⇑ P **Pn 12 04 07.0 +1.3**
VRI Vrincioaia 10.23 66⇑ P **Pn 12 04 05.8 -0.7**
IDI Anoyia 11.59 125 Pn **Pn 12 04 29.9 +4.7**
comp=Z,1.5nm,0.3s,baz=232,slow=9.9,SNR=13
IDI Sn **Sn 12 06 30.4 -4.0**
comp=Z,0.6nm,0.3s,baz=108,slow=20,SNR=1.7
comp=Z,3.8nm,0.3s
ESDC Sonseca Array 13.30 263 Pn **Pn 12 04 48.1 -0.5**
comp=Z,0.2nm,0.3s,baz=63,slow=13,SNR=4.5
comp=Z,0.8nm,0.8s
AKASG Malin Array Be 13.66 48 Pn **Pn 12 04 53.9 +0.6**
comp=Z,0.3nm,0.3s,baz=238,slow=14,SNR=1.1
comp=Z,0.2nm,0.3s
BR131 Keskin Array S 15.61 94 Pn 12 05 21.7 +1.9
BR131 IAmb IAmb 12 05 46.6
comp=Z,12nm,1.4s
BRTR Keskin Array B 15.61 94 Pn **P 12 05 22.6 -1.4**
comp=Z,0.1nm,0.3s,baz=287,slow=14,SNR=1.6
comp=Z,1.7nm,0.7s
BRTR Keskin Array B 15.61 94 Pn Pn 12 05 21.6 +1.8
MTE Manteigas 15.74 269 Pn Pn 12 05 21.5 0.0
MTE IAmb IAmb 12 05 53.3

comp=Z,23nm,1.1s
PESTR Estremoz 16.23 264 Pn **Pn** **12 05 27.7 +0.1**
EKA Eskdalemuir Ar 16.69 326 Pn **P** **12 05 34.7 -1.0**
baz=131,slow=12
PVAQ Vaqueiros 16.86 259 Pn **Pn** **12 05 35.9 +0.2**
PVAQ IAmb IAmb 12 06 16.1
comp=Z,19nm,1.2s
DSB Dublin 16.92 316 Pn **Pn** **12 05 35.5 -0.8**
HFS Hagfors 17.63 1 P **Pn** **12 05 45.0 -0.1**
comp=Z,0.1nm,0.3s,baz=185,slow=14,SNR=1.9
comp=Z,2.6nm,0.9s
NOA NORSAR Array B 18.57 357 P **Pn** **12 05 56.8 0.0**
baz=176,slow=11,SNR=4.5
comp=Z,1.1nm,0.8s
MMAI Mount Meron Ar 19.87 111 P **Pn** **12 06 13.7 +1.1**
comp=Z,0.8nm,0.4s,baz=321,slow=11,SNR=1.4
comp=Z,0.8nm,0.4s
FINES FINESS Array B 20.44 18 P **P** **12 06 17.9 +1.0**
comp=Z,5.2nm,0.7s,baz=226,slow=12,SNR=5.3
comp=Z,5.2nm,0.7s
FINES FINESS Array B 20.44 18 P **P** **12 06 15.8 -1.1**
KIV Kislovodsk 21.44 76 P **P** **12 06 28.8 +0.9**
KIV IAmb IAmb 12 06 47.0
comp=Z,5.4nm,0.6s
KBZ Khabaz 21.61 77 P **P** **12 06 31.4 +1.7**
comp=Z,5.7nm,0.9s,baz=291,slow=10,SNR=8.5
comp=Z,5.7nm,0.9s
MARD Mardin 21.69 95 P **P** **12 06 33.2 +2.5**
MARD IAmb IAmb 12 06 46.6
comp=Z,7.8nm,0.5s
GURO Guroymak-BITLI 22.18 91 P **P** **12 06 37.7 +1.8**
GURO IAmb IAmb 12 06 57.8
comp=Z,8.1nm,1.3s
BELG Belogornoye 25.02 55 P **P** **12 07 04.8 +1.3**
comp=Z,13nm,0.8s,baz=358,slow=3.7
comp=Z,13nm,0.8s
TORD Torodi Ar. Bea 30.95 202 P **P** **12 07 57.5 +0.7**
comp=Z,2.1nm,0.4s,baz=19,slow=9.1,SNR=2.7
comp=Z,2.1nm,0.4s
BRVK Borovoye 38.75 54 P **P** **12 09 05.5 +1.6**
BRVK IAmb IAmb 12 09 10.8
comp=Z,3.3nm,0.9s
KK31 Karatay Array 41.28 69 P **P** **12 09 26.8 +1.8**
KKAR Karatay Array 41.28 69 P **P** **12 09 26.7 +1.7**
NRIK Noril'sk 45.52 29 P **P** **12 09 57.7 -1.0**
comp=Z,2.4nm,0.8s,baz=280,slow=11,SNR=2.0
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 47.04 50 P **P** **12 10 12.5 +1.6**
MK31 Makanchi Array 47.84 60 P **P** **12 10 17.9 +0.5**
MK31 IAmb IAmb 12 10 33.0
comp=Z,0.9nm,0.8s
MKAR Makanchi Array 47.84 60 P **P** **12 10 17.6 +0.2**
comp=Z,0.7nm,0.6s,baz=285,slow=5.9,SNR=8.6
comp=Z,0.7nm,0.6s
MKAR Makanchi Array 47.84 60 P **P** **12 10 17.7 +0.4**
WMQ Urumqi 52.53 61 *e*P **P** **12 10 56.4 +3.4**
FFD Franklin Falls 59.37 303 P **P** **12 11 42.2 +0.4**
SONM Songino Array 61.93 50 P **P** **12 12 00.1 +0.6**
comp=Z,0.9nm,0.8s,baz=287,slow=8.4,SNR=8.6
comp=Z,0.9nm,0.8s
INK Inuvik 66.71 347 P **P** **12 12 29.8 -0.4**
comp=Z,0.4nm,0.7s,baz=65,slow=3.2,SNR=1.6
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 67.30 337 P **P** **12 12 34.4 +0.4**
comp=Z,1.3nm,0.7s,baz=39,slow=5.9,SNR=19
comp=Z,1.3nm,0.7s
HHC Hu-ho-hao-te 69.03 54 *e*P **P** **12 12 45.3 -0.1**
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.5s
ILAR Eielson Array 71.90 351 P **P** **12 13 03.0 +0.6**
comp=Z,0.4nm,0.9s,baz=360,slow=5.9,SNR=5.7
comp=Z,0.4nm,0.9s
PDAR Pinedale Array 80.75 321 P **P** **12 13 53.5 +0.1**
comp=Z,0.2nm,0.5s,baz=60,slow=8.9,SNR=2.3
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 87.94 309 P **P** **12 14 30.6 +0.8**
comp=Z,0.3nm,0.7s,baz=103,slow=3.2,SNR=4.3
comp=Z,0.3nm,0.7s
ASAR Alice Springs 127.90 89 PKP **PKPdf** **12 20 45.3 -0.4**
comp=Z,0.5nm,1.0s,baz=328,slow=1.8,SNR=2.2

HEL 18 12:02:57.6±0.2, 62.84N×27.52E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAF	**Kangasniemi**	**0.92**	**218**	PG	Pg	12 03 14.2	-1.0
	baz=38						
KAF				MSG		12 03 25.9	
	comp=Z,3.0nm,0.2s						
KEF	**Keuruu**	**1.40**	**242**	PN	Pn	12 03 23.2	-1.2
KEF				MSG		12 03 39.9	
	comp=Z,1.8nm,0.2s						
FIA0	**FINESS Array S**	**1.56**	**206**	PG	Pn	12 03 25.3	-1.2
FIA0				MSG		12 03 44.3	
	comp=Z,1.2nm,0.2s						
FIA0				SG	Sn	12 03 45.1	-2.2
RUF	**Ruokolahti**	**1.57**	**154**	PG	Pn	12 03 25.8	-0.9
	baz=331						
RUF				MSG		12 03 44.8	
	comp=Z,1.9nm,0.2s						
JOF	**Joensuu**	**1.74**	**86**	PG	Pn	12 03 28.7	-0.3
JOF				SN	Sg	12 03 53.9	+0.4
RMF	**Romuvaara**	**1.76**	**37**	PG	Pn	12 03 28.6	-0.6
RMF				MSG		12 03 50.0	
	comp=Z,1.3nm,0.2s						
OUF	**Merijarvi**	**1.98**	**322**	PG	Pn	12 03 33.2	+0.9
OUF				MSG		12 03 56.4	
	comp=Z,2.2nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.21**	**320**	MSG		12 04 03.2	
	comp=Z,1.6nm,0.2s						
OBF0				SG	Sb	12 04 06.9	+0.5
VAF	**Ylistaro**	**2.22**	**277**	PG	Pb	12 03 37.4	-1.2
VAF				MSG		12 04 03.7	
	comp=Z,3.5nm,0.2s						
VAF				SG	Sb	12 04 06.4	-0.2
VJF	**Virojoki**	**2.31**	**180**	MSG		12 04 05.8	
	comp=Z,1.8nm,0.2s						
VJF				SG	Sb	12 04 09.0	-0.1
OUL	**Oulu**	**2.37**	**343**	SG	Sb	12 04 10.5	-0.2
ERTU	**Ertsjaerv**	**4.37**	**331**	SG	Sg	12 05 14.6	-3.3
AAL	**Aland**	**4.48**	**237**	SN	Sn	12 04 57.9	-1.5

ROM 18 12:07:34.4±0.2, 42.55N±0.01×13.31E±0.02, h10km, ML2.5/6, 2D, Error ellipse: s-maj=1.8km s-min=0.6km az=225.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.08**	**240**	P	Pg	12 07 37.3	+0.5
RM33				S	Sg	12 07 39.0	+0.3
RM33				AML	AML		
	comp=E,7225μm,0.3s						
RM33				AML	AML		
	comp=N,6145μm,0.5s						
RM33				AML	AML		
	comp=E,7175μm,0.3s						
RM33				AML	AML		
	comp=N,6255μm,0.5s						
RM33				AML	AML		
	comp=E,7220μm,0.3s						
RM33				AML	AML		
	comp=E,7222μm,0.3s						
RM33				AML	AML		
	comp=E,7178μm,0.3s						
RM33				AML	AML		
	comp=N,5403μm,0.1s						
RM33				AML	AML		
	comp=N,5383μm,0.1s						
SMA1	**SAN MARTINO**	**0.08**	**13**	P	Pg	12 07 45.1	+8.2
SMA1				S	Sg	12 07 47.1	+8.4
SMA1				AML	AML		
SMA1				AML	AML		
T1247	**Pizzolo (AQ)**	**0.11**	**184**	P	Pg	12 07 37.7	+0.5
T1247				S	Sg	12 07 39.8	+0.6
T1247				AML	AML		
	comp=E,3275μm,1.2s						
T1247				AML	AML		
	comp=N,3520μm,0.3s						
T1247				AML	AML		
	comp=E,3275μm,0.8s						
T1247				AML	AML		
	comp=E,2493μm,0.2s						
T1247				AML	AML		
	comp=E,2884μm,0.2s						
LNSS	**Leonessa**	**0.21**	**285**	P	Pg	12 07 39.4	+0.7
LNSS				S	Sg	12 07 43.0	+1.2
LNSS				AML	AML		
	comp=E,1555μm,0.9s						
LNSS				AML	AML		
	comp=N,2850μm,0.6s						
LNSS				AML	AML		
	comp=N,2846μm,0.1s						
LNSS				AML	AML		
	comp=E,1246μm,0.1s						
T1217	**Poggiodomo (PG**	**0.32**	**300**	P	Pg	12 07 41.3	+0.5
T1217				S	Sb	12 07 46.6	-1.0
T1217				AML	AML		
	comp=E,670μm,0.6s						
T1217				AML	AML		
	comp=N,502μm,0.3s						
T1217				AML	AML		
	comp=E,595μm,0.6s						
T1217				AML	AML		
	comp=N,524μm,0.6s						
T1217				AML	AML		
	comp=E,670μm,0.6s						
T1217				AML	AML		
	comp=E,594μm,0.6s						
T1217				AML	AML		
	comp=N,524μm,0.6s						
T1217				AML	AML		
	comp=N,524μm,1.4s						
T1217				AML	AML		
	comp=E,670μm,1.4s						
T1217				AML	AML		
	comp=E,594μm,1.4s						
T1217				AML	AML		
	comp=N,502μm,0.2s						
T1217				AML	AML		
	comp=E,509μm,0.1s						
T1217				AML	AML		
	comp=E,510μm,0.1s						
T1217				AML	AML		
	comp=N,499μm,0.1s						
T1217				AML	AML		
	comp=N,451μm,0.1s						
ARRO	**Arrone**	**0.40**	**274**	P	Pg	12 07 42.5	+0.2
ARRO				AML	AML		
	comp=E,303μm,0.2s						
CESX	**Cesi**	**0.54**	**277**	P	Pg	12 07 44.9	0.0
CESX				S	Sb	12 07 53.3	-0.4
CESX				AML	AML		
	comp=E,121μm,0.4s						
CESX				AML	AML		
	comp=N,124μm,0.3s						
CESI	**CESI - Serrava**	**0.54**	**327**	⇓P	Pb	12 07 45.7	-0.3
CESI				AML	AML		
	comp=E,169μm,0.2s						
CESI				AML	AML		
	comp=N,322μm,0.2s						
T1220	**Camerino, Fraz**	**0.58**	**344**	⇓P	Pb	12 07 46.4	-0.2
T1220				AML	AML		
	comp=E,540μm,1.4s						
T1220				AML	AML		
	comp=N,603μm,1.4s						
T1220				AML	AML		
	comp=N,633μm,1.4s						
T1220				AML	AML		
	comp=E,564μm,1.4s						
T1220				AML	AML		
	comp=E,522μm,0.2s						
T1220				AML	AML		
	comp=E,514μm,0.2s						
T1220				AML	AML		
	comp=N,546μm,0.1s						
T1220				AML	AML		
	comp=N,556μm,0.2s						
ASSB	**Assisi San Ben**	**0.69**	**316**	S	Sb	12 07 58.8	+0.8
VVLD	**Villa Vallelon**	**0.72**	**161**	P	Pg	12 07 44.5	-3.8
SNTG	**Esanatoglia**	**0.76**	**339**	P	Pb	12 07 49.9	+0.3
GIUL	**Giuliano Di Ro**	**0.99**	**182**	P	Pg	12 07 45.5	-7.9
MCIV	**Monte Civitell**	**1.23**	**281**	S	Sn	12 08 15.5	+1.3

ROM 18 12:08:26.5±0.1, 42.522N±0.003×13.277E±0.004, h12km, ML2.8/21, 4C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=34.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**254**	P	Pg	12 08 29.3	+0.3
RM33				S	Sg	12 08 30.9	+0.1
RM33				AML	AML		
	comp=E,35150μm,0.3s						
RM33				AML	AML		
	comp=E,33750μm,0.3s						
RM33				AML	AML		
	comp=N,25000μm,0.3s						
RM33				AML	AML		
	comp=N,23550μm,0.3s						
RM33				AML	AML		
	comp=E,35155μm,0.3s						
RM33				AML	AML		
	comp=E,33739μm,0.3s						
RM33				AML	AML		
	comp=N,24985μm,0.3s						
RM33				AML	AML		
	comp=N,23556μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.08**	**169**	P	Pg	12 08 29.7	+0.5
T1247				S	Sg	12 08 31.8	+0.5
T1247				AML	AML		
	comp=N,9400μm,1.1s						
T1247				AML	AML		
	comp=E,13100μm,0.3s						
T1247				AML	AML		
	comp=E,8017μm,0.1s						
T1247				AML	AML		
	comp=N,7552μm,0.2s						
CAMP	**Campotosto**	**0.10**	**82**	P	Pg	12 08 29.8	+0.3
CAMP				S	Sg	12 08 31.9	+0.2
CAMP				AML	AML		
	comp=E,8740μm,0.4s						
CAMP				AML	AML		
	comp=N,12400μm,0.3s						
CAMP				AML	AML		
	comp=E,8740μm,0.4s						
CAMP				AML	AML		
	comp=N,12376μm,0.3s						
SMA1	**SAN MARTINO**	**0.12**	**22**	⇓P	Pg	12 08 30.2	+0.4
SMA1				S	Sg	12 08 32.5	+0.4
SMA1				AML	AML		
	comp=N,41050μm,0.3s						
SMA1				AML	AML		
	comp=E,52450μm,0.2s						
SMA1				AML	AML		
	comp=E,52450μm,1.8s						
SMA1				AML	AML		
	comp=N,41050μm,1.7s						
SMA1				AML	AML		
	comp=N,41040μm,0.3s						
SMA1				AML	AML		
	comp=E,52444μm,0.2s						
T1218	**Civita (PG)**	**0.19**	**321**	P	Pg	12 08 31.1	+0.2
T1218				S	Sg	12 08 34.4	+0.6
T1218				AML	AML		
	comp=E,3800μm,0.3s						
T1218				AML	AML		
	comp=N,10265μm,0.2s						
T1218				AML	AML		
	comp=E,3555μm,0.2s						
T1218				AML	AML		
	comp=N,10265μm,0.3s						
T1218				AML	AML		
	comp=N,10260μm,0.2s						
T1218				AML	AML		
	comp=E,3765μm,0.2s						
T1218				AML	AML		
	comp=E,3554μm,0.2s						
T1218				AML	AML		
	comp=N,10241μm,0.3s						
T1218				AML	AML		
	comp=N,10260μm,0.2s						
LNSS	**Leonessa**	**0.19**	**295**	⇑P	Pg	12 08 31.3	+0.4
LNSS				S	Sg	12 08 34.8	+1.0
LNSS				AML	AML		
	comp=E,11050μm,0.2s						
LNSS				AML	AML		
	comp=N,14200μm,0.2s						
LNSS				AML	AML		
	comp=N,14200μm,1.8s						
LNSS				AML	AML		
	comp=E,11050μm,1.8s						
LNSS				AML	AML		
	comp=N,14175μm,0.2s						
LNSS				AML	AML		
	comp=E,11046μm,0.2s						
GIGS	**Gran Sasso**	**0.23**	**108**	P	Pg	12 08 31.6	+0.1
GIGS				S	Sg	12 08 35.3	+0.5
GIGS				AML	AML		
	comp=N,624μm,1.6s						
GIGS				AML	AML		
	comp=E,738μm,0.3s						
GIGS				AML	AML		
	comp=N,624μm,0.4s						
GIGS				AML	AML		
	comp=N,609μm,0.3s						
GIGS				AML	AML		
	comp=E,739μm,0.3s						
FIAM	**Fiamignano**	**0.28**	**205**	⇑P	Pg	12 08 32.8	+0.4
FIAM				S	Sb	12 08 37.3	-0.9
FIAM				AML	AML		
	comp=E,2255μm,0.3s						
FIAM				AML	AML		
	comp=N,1145μm,0.6s						
FIAM				AML	AML		
	comp=N,1145μm,1.4s						
FIAM				AML	AML		
	comp=E,2251μm,0.3s						
FIAM				AML	AML		
	comp=N,857μm,0.3s						
T1217	**Poggiodomo (PG**	**0.32**	**307**	⇑P	Pg	12 08 33.2	+0.2
T1217				S	Sg	12 08 38.3	+0.9
T1217				AML	AML		
	comp=E,1985μm,0.7s						
T1217				AML	AML		
	comp=N,1825μm,0.2s						
T1217				AML	AML		
	comp=E,1730μm,0.7s						
T1217				AML	AML		
	comp=N,2015μm,0.2s						
T1217				AML	AML		
	comp=E,1985μm,0.6s						
T1217				AML	AML		
	comp=N,1825μm,0.2s						
T1217				AML	AML		
	comp=E,1730μm,0.6s						
T1217				AML	AML		
	comp=E,1985μm,1.4s						
T1217				AML	AML		
	comp=E,1730μm,1.4s						
T1217				AML	AML		
	comp=E,1396μm,0.2s						
T1217				AML	AML		
	comp=E,1719μm,0.2s						
T1217				AML	AML		
	comp=N,2013μm,0.2s						
T1217				AML	AML		
	comp=N,1824μm,0.2s						
NRCA	**Norcia**	**0.33**	**339**	P	Pg	12 08 33.4	+0.1
NRCA				S	Sg	12 08 38.6	+0.7
NRCA				AML	AML		
	comp=N,2315μm,0.1s						
NRCA				AML	AML		
	comp=E,2390μm,1.2s						
NRCA				AML	AML		
	comp=N,2315μm,0.1s						
NRCA				AML	AML		
	comp=N,2313μm,0.1s						
NRCA				AML	AML		
	comp=E,2344μm,0.1s						
ARRO	**Arrone**	**0.38**	**279**	⇑P	Pg	12 08 34.4	+0.2
ARRO				S	Sg	12 08 40.1	+0.9
ARRO				AML	AML		
	comp=E,1110μm,0.2s						
ARRO				AML	AML		
	comp=N,1370μm,0.2s						
ARRO				AML	AML		
	comp=E,1108μm,0.2s						
ARRO				AML	AML		
	comp=N,1369μm,0.2s						
T0110	**Collepietro**	**0.47**	**128**	P	Pg	12 08 36.0	+0.1
T0110				AML	AML		
	comp=N,1090μm,0.4s						
T0110				AML	AML		
	comp=E,846μm,0.4s						
T0110				AML	AML		
	comp=N,1091μm,0.4s						
T0110				AML	AML		
	comp=E,845μm,0.4s						
CESX	**Cesi**	**0.52**	**280**	P	Pg	12 08 36.5	-0.3
CESX				AML	AML		
	comp=E,504μm,0.3s						
CESX				AML	AML		
	comp=N,428μm,1.2s						
CESX				AML	AML		
	comp=N,428μm,0.8s						
CESX				AML	AML		
	comp=N,416μm,0.4s						
CESX				AML	AML		
	comp=E,503μm,0.3s						
GUMA	**Gualdo di Mace**	**0.54**	**5**	P	Pg	12 08 37.5	+0.3
GUMA				AML	AML		
	comp=E,1860μm,0.5s						
GUMA				AML	AML		
	comp=N,1525μm,0.3s						
GUMA				AML	AML		
	comp=E,1550μm,0.3s						
GUMA				AML	AML		
	comp=N,1484μm,0.3s						
GUMA				AML	AML		
	comp=E,1861μm,0.5s						
GUMA				AML	AML		
	comp=N,1486μm,0.3s						
GUMA				AML	AML		
	comp=N,1524μm,0.3s						
GUMA				AML	AML		
	comp=E,1552μm,0.3s						
CESI	**CESI - Serrava**	**0.56**	**331**	P	Pg	12 08 37.3	-0.1
CESI				AML	AML		
	comp=E,486μm,1.2s						
CESI				AML	AML		
	comp=N,932μm,1.1s						
CESI				AML	AML		
	comp=E,486μm,0.8s						
CESI				AML	AML		
	comp=N,932μm,0.9s						
CESI				AML	AML		
	comp=E,462μm,0.2s						
CESI				AML	AML		
	comp=N,909μm,0.2s						
CSP1	**Cessapalombo**	**0.57**	**355**	P	Pg	12 08 37.8	+0.1
CSP1				AML	AML		
	comp=E,433μm,1.5s						
CSP1				AML	AML		
	comp=E,433μm,0.5s						
CSP1				AML	AML		
	comp=N,562μm,1.0s						
CSP1				AML	AML		
	comp=E,430μm,0.4s						
CSP1				AML	AML		
	comp=N,540μm,0.3s						
MOMA	**Monte Martano**	**0.59**	**299**	P	Pg	12 08 38.0	-0.1
MOMA				AML	AML		
	comp=N,936μm,1.0s						
MOMA				AML	AML		
	comp=E,1285μm,0.2s						
MOMA				AML	AML		
	comp=N,982μm,0.2s						
MOMA				AML	AML		
	comp=E,1230μm,0.2s						
MOMA				AML	AML		
	comp=N,936μm,1.0s						
MOMA				AML	AML		
	comp=E,1230μm,0.2s						
MOMA				AML	AML		
	comp=N,925μm,0.2s						
MOMA				AML	AML		
	comp=N,983μm,0.2s						
MOMA				AML	AML		
	comp=E,1282μm,0.2s						
T1220	**Camerino, Fraz**	**0.60**	**347**	P	Pg	12 08 38.2	-0.1
T1220				AML	AML		
	comp=E,1840μm,1.2s						
T1220				AML	AML		
	comp=N,1430μm,0.3s						
T1220				AML	AML		
	comp=E,1810μm,1.2s						

T1220				AML	AML			
	comp=E,1810µm,0.8s							
T1220				AML	AML			
	comp=E,1840µm,0.8s							
T1220				AML	AML			
	comp=N,1410µm,0.3s							
T1220				AML	AML			
	comp=E,1669µm,0.2s							
T1220				AML	AML			
	comp=E,1670µm,0.2s							
T1220				AML	AML			
	comp=N,1407µm,0.3s							
T1220				AML	AML			
	comp=N,1429µm,0.3s							
SRES	**S.Oreste - Sor**	**0.64**	**244**	P	Pg	12 08 38.7	-0.2	
SRES				AML	AML			
	comp=E,314µm,0.8s							
SRES				AML	AML			
	comp=N,198µm,0.4s							
SRES				AML	AML			
	comp=N,199µm,0.4s							
SRES				AML	AML			
	comp=E,284µm,0.3s							
ASSB	**Assisi San Ben**	**0.69**	**319**	P	Pg	12 08 39.5	-0.4	
ASSB				AML	AML			
	comp=E,448µm,0.7s							
ASSB				AML	AML			
	comp=N,509µm,0.5s							
ASSB				AML	AML			
	comp=E,448µm,1.3s							
ASSB				AML	AML			
	comp=E,443µm,0.2s							
ASSB				AML	AML			
	comp=N,509µm,0.5s							
EL6	**Elcito**	**0.82**	**351**	P	Pg	12 08 42.5	+0.2	
MGAB	**Montegabbione**	**0.94**	**295**	P	Pg	12 08 44.5	-0.2	
MGAB				AML	AML			
	comp=N,444µm,0.5s							
MGAB				AML	AML			
	comp=N,451µm,0.5s							
MGAB				AML	AML			
	comp=E,381µm,0.5s							
MGAB				AML	AML			
	comp=E,408µm,0.5s							
MGAB				AML	AML			
	comp=E,408µm,0.5s							
MGAB				AML	AML			
	comp=N,451µm,0.5s							
MGAB				AML	AML			
	comp=E,381µm,0.5s							
MGAB				AML	AML			
	comp=N,443µm,0.5s							
TOLF	**Tolfa**	**1.05**	**245**	P	Pb	12 08 46.1	-0.5	
TOLF				AML	AML			
	comp=N,146µm,0.6s							
TOLF				AML	AML			
	comp=E,150µm,0.8s							

ROM 18 12:13:52.8±0.1, 42°510N±0″004×13°382E±0″005, h10km, ML2.0/5, 4C-5D, Error ellipse: s-maj=0.4km s-min=0.4km az=176.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.03**	**38**	↑P	Pg	12 13 55.1	+0.3
CAMP				S	Sg	12 13 56.3	+0.1
CAMP				AML	AML		
	comp=E,1565µm,0.3s						
CAMP				AML	AML		
	comp=N,2970µm,0.4s						
CAMP				AML	AML		
	comp=E,1227µm,0.3s						
CAMP				AML	AML		
	comp=N,2972µm,0.4s						
T1247	**Pizzolo (AQ)**	**0.09**	**222**	↑P	Pg	12 13 55.8	+0.5
T1247				S	Sg	12 13 57.6	+0.4
T1247				AML	AML		
	comp=N,6115µm,0.3s						
T1247				AML	AML		
	comp=E,8805µm,1.6s						
T1247				AML	AML		
	comp=E,8805µm,0.4s						
T1247				AML	AML		
	comp=N,6115µm,1.7s						
T1247				AML	AML		
	comp=N,5273µm,0.1s						
T1247				AML	AML		
	comp=E,7945µm,0.1s						
RM33	**Pellescritta (**	**0.12**	**270**	↓P	Pg	12 13 56.3	+0.5
RM33				S	Sg	12 13 58.5	+0.6
RM33				AML	AML		
	comp=E,2040µm,0.2s						
RM33				AML	AML		
	comp=N,1710µm,0.1s						
RM33				AML	AML		
	comp=E,2115µm,0.2s						
RM33				AML	AML		
	comp=N,1725µm,0.4s						
RM33				AML	AML		
	comp=E,2114µm,0.2s						
RM33				AML	AML		
	comp=E,2040µm,0.2s						
SMA1	**SAN MARTINO**	**0.12**	**344**	↑P	Pg	12 13 56.4	+0.6
SMA1				AML	AML		
	comp=E,7625µm,0.2s						
SMA1				AML	AML		
	comp=N,4505µm,0.3s						
SMA1				AML	AML		
	comp=E,7630µm,0.2s						
GIGS	**Gran Sasso**	**0.15**	**113**	P	Pg	12 13 56.7	+0.5
GIGS				S	Sg	12 13 59.2	+0.6
GIGS				AML	AML		
	comp=N,246µm,0.1s						
GIGS				AML	AML		
	comp=E,338µm,0.2s						
GIGS				AML	AML		
	comp=E,339µm,0.2s						
GIGS				AML	AML		
	comp=N,245µm,0.1s						
LNSS	**Leonessa**	**0.27**	**290**	↑P	Pg	12 13 58.9	+0.6
LNSS				AML	AML		
	comp=E,1460µm,0.9s						
LNSS				AML	AML		
	comp=N,2370µm,0.1s						
LNSS				AML	AML		
	comp=N,2369µm,0.1s						
LNSS				AML	AML		
	comp=E,1415µm,0.2s						
FIAM	**Fiamignano**	**0.31**	**219**	↓P	Pg	12 13 59.5	+0.4
FIAM				AML	AML		
	comp=E,280µm,0.4s						
FIAM				AML	AML		
	comp=N,278µm,1.0s						
FIAM				AML	AML		
	comp=N,278µm,1.0s						
FIAM				AML	AML		
	comp=E,280µm,0.4s						
FIAM				AML	AML		
	comp=N,201µm,0.5s						
NRCA	**Norcia**	**0.38**	**329**	S	Sb	12 14 06.8	-0.9
NRCA				AML	AML		
	comp=E,1530µm,0.1s						
NRCA				AML	AML		
	comp=N,1070µm,0.8s						
NRCA				AML	AML		
	comp=E,1283µm,0.2s						
T1217	**Poggiodomo (PG**	**0.39**	**301**	P	Pg	12 14 00.8	+0.3
T1217				AML	AML		
	comp=E,345µm,0.1s						
T1217				AML	AML		
	comp=N,358µm,0.3s						
T1217				AML	AML		
	comp=E,313µm,0.1s						
T1217				AML	AML		
	comp=N,358µm,0.3s						
T0110	**Collepietro**	**0.41**	**134**	↓P	Pb	12 14 01.6	-0.5
ARRO	**Arrone**	**0.46**	**279**	↓P	Pg	12 14 02.3	+0.5
ARRO				AML	AML		
	comp=E,237µm,1.2s						
ARRO				AML	AML		
	comp=E,237µm,0.8s						
ARRO				AML	AML		
	comp=N,250µm,0.3s						
ARRO				AML	AML		
	comp=N,250µm,0.3s						
ARRO				AML	AML		

	comp=E,189µm,0.2s							
GUMA	**Gualdo di Mace**	**0.55**	**356**	P	Pg	12 14 03.8	+0.2	
GUMA				AML	AML			
	comp=N,755µm,0.4s							
GUMA				AML	AML			
	comp=N,731µm,0.4s							
GUMA				AML	AML			
	comp=E,544µm,0.4s							
GUMA				AML	AML			
	comp=E,622µm,0.4s							
CSP1	**Cessapalombo**	**0.60**	**347**	↓P	Pg	12 14 04.5	+0.1	
CSP1				S	Sb	12 14 13.2	-0.7	
CSP1				AML	AML			
	comp=E,107µm,0.6s							
CSP1				AML	AML			
	comp=N,249µm,2.7s							
CSP1				AML	AML			
	comp=E,223µm,0.3s							
CSP1				AML	AML			
	comp=N,408µm,0.5s							

*ROM **18** 12:14:49.3±0.1, 42°549N±0″005×13°279E±0″007, h11km, ML3.3/30, Error ellipse: s-maj=0.7km s-min=0.4km az=223.0*
*PRU **18** 12:14:50.1±0.0, 42°52N×13°75E, h10km*
*BEO **18** 12:14:51.2±0.7, 42°53N×13°32E, h0km, ML3.6/7*
ISC 18 12:14:50.1±0.8, 42°54N±0″02×13°27E±0″02, h11km±4km, n77, σ1§36/105, 19C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.05**	**239**	P	Pg	**12 14 52.1**	**-0.3**
RM33				S	Sg	**12 14 53.8**	**-0.1**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
	comp=N,97100µm,0.6s						
RM33				AML	AML		
	comp=N,82502µm,0.2s						
RM33				AML	AML		
RM33				AML	AML		
	comp=N,87133µm,0.2s						
RM33				AML	AML		
T1247	**Pizzolo (AQ)**	**0.10**	**169**	P	Pg	**12 14 52.6**	**-0.1**
T1247				S	Sg	**12 14 55.0**	**+0.3**
T1247				AML	AML		
	comp=N,65500µm,1.2s						
T1247				AML	AML		
	comp=E,83300µm,0.2s						
T1247				AML	AML		
	comp=N,52881µm,0.2s						
T1247				AML	AML		
	comp=E,83311µm,0.2s						
CAMP	**Campotosto**	**0.10**	**90**	P	Pg	**12 14 52.1**	**-0.8**
CAMP				S	Sg	**12 14 54.1**	**-0.8**
CAMP				AML	AML		
	comp=E,26900µm,1.0s						
CAMP				AML	AML		
	comp=N,36000µm,0.5s						
CAMP				AML	AML		
	comp=N,36002µm,0.5s						
CAMP				AML	AML		
	comp=E,21908µm,0.5s						
T1218	**Civita (PG)**	**0.18**	**319**	P	Pg	**12 14 53.6**	**-0.4**
T1218				S	Sg	**12 14 56.6**	**-0.2**
T1218				AML	AML		
	comp=E,36350µm,0.4s						
T1218				AML	AML		
	comp=N,57300µm,0.4s						
T1218				AML	AML		
	comp=N,56050µm,0.4s						
T1218				AML	AML		
	comp=N,57300µm,0.4s						
T1218				AML	AML		
	comp=E,33550µm,0.2s						
T1218				AML	AML		
	comp=N,56000µm,0.4s						
T1218				AML	AML		
	comp=N,57300µm,1.6s						
T1218				AML	AML		
	comp=N,56000µm,1.6s						
T1218				AML	AML		
	comp=E,33600µm,0.2s						
T1218				AML	AML		
	comp=E,36350µm,0.4s						
T1218				AML	AML		
	comp=E,35884µm,0.2s						
T1218				AML	AML		
	comp=E,33571µm,0.2s						
T1218				AML	AML		
	comp=N,53946µm,0.2s						
T1218				AML	AML		
	comp=N,57285µm,0.4s						
LNSS	**Leonessa**	**0.18**	**292**	↑P	Pg	**12 14 53.9**	**-0.3**
LNSS				S	Sg	**12 14 57.3**	**+0.4**
LNSS				AML	AML		
	comp=E,87250µm,0.2s						
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
	comp=E,87352µm,0.2s						
GIGS	**Gran Sasso**	**0.23**	**111**	P	Pg	**12 14 54.3**	**-0.8**
GIGS				S	Sg	**12 14 57.8**	**-0.5**
GIGS				AML	AML		
	comp=E,6060µm,0.6s						
GIGS				AML	AML		
	comp=N,4440µm,1.2s						
GIGS				AML	AML		
	comp=N,4069µm,0.1s						
GIGS				AML	AML		
	comp=E,4513µm,0.2s						
FIAM	**Fiamignano**	**0.29**	**203**	↑P	Pg	**12 14 55.9**	**-0.2**
FIAM				S	Sg	**12 15 00.8**	**+0.8**
FIAM				AML	AML		
	comp=N,6195µm,0.9s						
FIAM				AML	AML		
	comp=N,6195µm,1.1s						
FIAM				AML	AML		
	comp=E,8640µm,0.5s						
FIAM				AML	AML		
	comp=E,6413µm,0.3s						
FIAM				AML	AML		
	comp=N,6193µm,0.9s						
T1217	**Poggiodomo (PG**	**0.31**	**305**	↑P	Pg	**12 14 55.7**	**-0.7**
T1217				S	Sg	**12 15 00.6**	**0.0**
T1217				AML	AML		
	comp=N,8810µm,1.6s						
T1217				AML	AML		
	comp=E,6620µm,0.2s						
T1217				AML	AML		
	comp=E,7430µm,0.2s						
T1217				AML	AML		
	comp=N,8810µm,1.5s						
T1217				AML	AML		
	comp=E,6615µm,0.2s						
T1217				AML	AML		
	comp=N,9010µm,1.4s						
T1217				AML	AML		
	comp=E,6615µm,0.2s						
T1217				AML	AML		
	comp=N,9010µm,1.5s						
T1217				AML	AML		
	comp=N,9010µm,0.5s						
T1217				AML	AML		
	comp=E,7425µm,0.2s						
T1217				AML	AML		
	comp=N,8810µm,0.4s						
T1217				AML	AML		
	comp=E,6540µm,0.1s						
T1217				AML	AML		
	comp=N,7178µm,0.1s						
T1217				AML	AML		
	comp=N,7706µm,0.1s						
T1217				AML	AML		
	comp=E,5499µm,0.1s						
NRCA	**Norcia**	**0.32**	**339**	↓P	Pg	**12 14 55.9**	**-0.7**
NRCA				AML	AML		
	comp=E,20850µm,0.7s						
NRCA				AML	AML		
	comp=N,11650µm,0.8s						
NRCA				AML	AML		
	comp=E,20850µm,1.3s						
NRCA				AML	AML		
	comp=E,18889µm,0.2s						
NRCA				AML	AML		
	comp=N,11063µm,0.1s						
FAGN	**Fagnano**	**0.35**	**139**	↑P	Pg	**12 14 56.8**	**-0.4**
FAGN				AML	AML		
	comp=E,14250µm,0.5s						
FAGN				AML	AML		
	comp=N,8415µm,0.3s						
FAGN				AML	AML		
	comp=N,8414µm,0.3s						
FAGN				AML	AML		
	comp=E,14223µm,0.5s						
ARRO	**Arrone**	**0.38**	**277**	↑P	Pg	**12 14 57.1**	**-0.5**
ARRO				S	Sg	**12 15 03.2**	**+0.6**
ARRO				AML	AML		
	comp=E,9295µm,0.2s						
ARRO				AML	AML		
	comp=N,12550µm,0.7s						
ARRO				AML	AML		
	comp=E,9290µm,0.2s						
ARRO				AML	AML		
	comp=N,11468µm,0.2s						
ARRO				AML	AML		
	comp=E,9293µm,0.2s						
T0110	**Collepietro**	**0.48**	**129**	P	Pg	**12 14 58.9**	**-0.7**
T0110				S	Sb	**12 15 07.2**	**-0.8**
T0110				AML	AML		
	comp=N,5830µm,0.5s						
T0110				AML	AML		
	comp=E,5780µm,1.6s						
T0110				AML	AML		
	comp=E,5780µm,0.4s						
T0110				AML	AML		
	comp=E,5494µm,0.4s						
T0110				AML	AML		
	comp=N,5829µm,0.5s						
CESX	**Cesi**	**0.52**	**279**	↑P	Pg	**12 14 59.3**	**-0.9**
CESX				AML	AML		
	comp=N,5460µm,0.5s						
CESX				AML	AML		
	comp=E,4955µm,0.4s						
CESX				AML	AML		
	comp=N,5461µm,0.5s						
CESX				AML	AML		
	comp=E,4956µm,0.4s						
PTQR	**Pietraquaria**	**0.52**	**170**	↑P	Pg	**12 14 59.5**	**-0.8**
PTQR				AML	AML		
	comp=E,1011µm,1.0s						
PTQR				AML	AML		
	comp=N,1320µm,0.6s						
PTQR				AML	AML		
	comp=N,1319µm,0.6s						
PTQR				AML	AML		
	comp=E,1011µm,0.9s						
GUMA	**Gualdo di Mace**	**0.53**	**5**	↑P	Pg	**12 14 59.6**	**-0.8**
GUMA				AML	AML		
	comp=N,20700µm,0.5s						
GUMA				AML	AML		
	comp=E,21150µm,0.8s						
GUMA				AML	AML		
	comp=E,26200µm,0.3s						
GUMA				AML	AML		
	comp=N,24300µm,0.5s						
GUMA				AML	AML		
	comp=E,21150µm,1.2s						
GUMA				AML	AML		
	comp=E,26242µm,0.3s						
GUMA				AML	AML		
	comp=E,19155µm,0.3s						
GUMA				AML	AML		
	comp=N,20713µm,0.5s						
GUMA				AML	AML		
	comp=N,24318µm,0.5s						
CESI	**CESI - Serrava**	**0.54**	**330**	↑P	Pg	**12 14 59.8**	**-0.9**
CESI				AML	AML		
	comp=E,2970µm,0.3s						
CESI				AML	AML		
	comp=N,4775µm,1.1s						
CESI				AML	AML		
	comp=N,4733µm,0.3s						
CESI				AML	AML		
	comp=E,2969µm,0.3s						
TRTR	**Tortoreto Alta**	**0.55**	**60**	↓P	Pg	**12 15 00.7**	**-0.1**
TRTR				AML	AML		
	comp=N,7610µm,1.2s						
TRTR				AML	AML		
	comp=E,8880µm,1.5s						
TRTR				AML	AML		
	comp=E,8773µm,0.5s						
TRTR				AML	AML		
	comp=N,6470µm,0.6s						
CSP1	**Cessapalombo**	**0.56**	**355**	↑P	Pg	**12 14 59.8**	**-1.2**
CSP1				S	Sg	**12 15 08.8**	**+0.3**
CSP1				AML	AML		
	comp=N,5185µm,1.4s						
CSP1				AML	AML		
	comp=E,4845µm,1.6s						
CSP1				AML	AML		
	comp=N,5190µm,1.4s						
CSP1				AML	AML		
	comp=E,4845µm,0.4s						
CSP1				AML	AML		
	comp=N,5190µm,0.6s						
CSP1				AML	AML		
	comp=N,5044µm,0.4s						
CSP1				AML	AML		
	comp=E,4589µm,0.3s						
MOMA	**Monte Martano**	**0.58**	**298**	↑P	Pg	**12 15 00.9**	**-0.6**
MOMA				S	Sg	**12 15 09.8**	**+0.6**
MOMA				AML	AML		
	comp=E,13400µm,0.2s						
MOMA				AML	AML		
	comp=E,13750µm,0.2s						
MOMA				AML	AML		
	comp=N,8875µm,0.2s						
MOMA				AML	AML		
	comp=N,8715µm,0.2s						
MOMA				AML	AML		
	comp=E,13740µm,0.2s						
MOMA				AML	AML		
	comp=E,13390µm,0.2s						
MOMA				AML	AML		
	comp=N,8874µm,0.2s						
MOMA				AML	AML		
	comp=N,8711µm,0.2s						
T1220	**Camerino, Fraz**	**0.59**	**347**	↓P	Pg	**12 15 00.5**	**-1.2**
T1220				AML	AML		
	comp=N,14600µm,0.3s						
T1220				AML	AML		
	comp=E,13750µm,0.3s						
T1220				AML	AML		
	comp=N,14250µm,0.3s						
T1220				AML	AML		
	comp=E,13750µm,0.3s						
T1220				AML	AML		
	comp=E,13750µm,0.3s						
T1220				AML	AML		
	comp=N,14300µm,0.3s						
T1220				AML	AML		
	comp=E,13750µm,1.7s						
T1220				AML	AML		
	comp=E,13750µm,1.7s						
T1220				AML	AML		
	comp=E,13741µm,0.3s						
T1220				AML	AML		
	comp=E,13738µm,0.3s						
T1220				AML	AML		
	comp=N,14288µm,0.3s						
T1220				AML	AML		
	comp=N,14567µm,0.3s						
MNTP	**Montappone**	**0.62**	**13**	↑P	Pg	**12 15 01.5**	**-0.7**
MNTP				AML	AML		
	comp=N,8175µm,1.2s						
MNTP				AML	AML		
	comp=E,9545µm,0.3s						
MNTP				AML	AML		
	comp=N,8175µm,0.8s						
MNTP				AML	AML		
	comp=E,9541µm,0.3s						
MNTP				AML	AML		
	comp=N,7632µm,0.2s						
CERT	**Cerreto**	**0.62**	**200**	↑P	Pg	**12 15 01.4**	**-0.9**
CERT				AML	AML		
	comp=E,2255µm,0.4s						
CERT				AML	AML		
	comp=N,1965µm,0.4s						
CERT				AML	AML		
	comp=N,1965µm,1.6s						

CERT				AML	AML				
	comp=E,2255µm,1.6s								
CERT				AML	AML				
	comp=N,1964µm,0.4s								
CERT				AML	AML				
	comp=E,2253µm,0.4s								
SRES	**S.Oreste - Sor**	**0.64**	**242**	⇑P	**Pg**	**12**	**15**	**01.0**	**-1.5**
SRES				AML	AML				
	comp=E,1695µm,0.8s								
SRES				AML	AML				
	comp=N,1935µm,0.4s								
SRES				AML	AML				
	comp=N,1935µm,1.6s								
SRES				AML	AML				
	comp=E,1695µm,1.2s								
SRES				AML	AML				
	comp=N,1933µm,0.4s								
SRES				AML	AML				
	comp=E,1426µm,0.5s								
MTCE	**Montecelio**	**0.65**	**218**	⇑P	**Pg**	**12**	**15**	**01.7**	**-1.0**
MTCE				AML	AML				
	comp=N,1900µm,0.5s								
MTCE				AML	AML				
	comp=E,3030µm,0.6s								
MTCE				AML	AML				
	comp=E,3033µm,0.6s								
MTCE				AML	AML				
	comp=N,1901µm,0.5s								
ASSB	**Assisi San Ben**	**0.68**	**318**	⇑P	**Pg**	**12**	**15**	**02.0**	**-1.3**
ASSB				S	**Sb**	**12**	**15**	**13.0**	**-0.5**
ASSB				AML	AML				
	comp=N,2860µm,0.4s								
ASSB				AML	AML				
	comp=E,2850µm,0.7s								
ASSB				AML	AML				
	comp=E,2850µm,1.3s								
ASSB				AML	AML				
	comp=N,2860µm,1.6s								
ASSB				AML	AML				
	comp=N,2860µm,0.4s								
ASSB				AML	AML				
	comp=E,2829µm,0.5s								
VVLD	**Villa Vallelon**	**0.71**	**159**	P	**Pg**	**12**	**15**	**02.0**	**-1.9**
VVLD				AML	AML				
	comp=E,1175µm,0.7s								
VVLD				AML	AML				
	comp=N,1385µm,0.9s								
VVLD				AML	AML				
	comp=E,1175µm,1.3s								
VVLD				AML	AML				
	comp=E,1177µm,0.7s								
VVLD				AML	AML				
	comp=N,1383µm,0.9s								
GUAR	**Guarcino**	**0.74**	**178**	⇓P	**Pb**	**12**	**15**	**04.8**	**-0.3**
GUAR				AML	AML				
	comp=N,1930µm,0.4s								
GUAR				AML	AML				
	comp=E,1465µm,0.4s								
GUAR				AML	AML				
	comp=E,1468µm,0.4s								
GUAR				AML	AML				
	comp=N,1928µm,0.4s								
CADA	**Capodarco di F**	**0.75**	**28**	⇓P	**Pg**	**12**	**15**	**04.6**	**0.0**
CADA				AML	AML				
	comp=E,6790µm,0.5s								
CADA				AML	AML				
	comp=N,5425µm,1.1s								
CADA				AML	AML				
	comp=E,6790µm,0.5s								
CADA				AML	AML				
	comp=N,5425µm,1.1s								
CADA				AML	AML				
	comp=N,5425µm,0.9s								
CADA				AML	AML				
	comp=E,6790µm,1.5s								
CADA				AML	AML				
	comp=N,5258µm,0.4s								
CADA				AML	AML				
	comp=E,6790µm,0.5s								
SNTG	**Esanatoglia**	**0.76**	**341**	P	**Pg**	**12**	**15**	**03.8**	**-1.0**
SNTG				AML	AML				
	comp=E,1360µm,0.5s								
SNTG				AML	AML				
	comp=N,1615µm,0.3s								
SNTG				AML	AML				
	comp=N,1590µm,0.3s								
SNTG				AML	AML				
	comp=E,1335µm,0.4s								
SNTG				AML	AML				
	comp=E,1333µm,0.4s								
SNTG				AML	AML				
	comp=E,1362µm,0.5s								
SNTG				AML	AML				
	comp=N,1590µm,0.3s								
SNTG				AML	AML				
	comp=N,1614µm,0.3s								
EL6	**Elcito**	**0.80**	**351**	⇓P	**Pg**	**12**	**15**	**04.2**	**-1.4**
EL6				S	**Sb**	**12**	**15**	**17.0**	**-0.2**
EL6				AML	AML				
	comp=E,3445µm,1.5s								
EL6				AML	AML				
	comp=N,4650µm,0.3s								
EL6				AML	AML				
	comp=E,3445µm,0.5s								
EL6				AML	AML				
	comp=N,4645µm,0.3s								
EL6				AML	AML				
	comp=N,4646µm,0.3s								
EL6				AML	AML				
	comp=E,3233µm,0.3s								
LPEL	**Lama dei Pelig**	**0.83**	**126**	S	**Sg**	**12**	**15**	**17.1**	**0.0**
LPEL				AML	AML				
	comp=E,1415µm,1.0s								
LPEL				AML	AML				
	comp=N,1490µm,0.7s								
LPEL				AML	AML				
	comp=E,1415µm,1.0s								
LPEL				AML	AML				
	comp=N,1493µm,0.7s								
LPEL				AML	AML				
	comp=E,1253µm,0.7s								
FOSV	**Fossato di Vic**	**0.85**	**334**	⇓P	**Pg**	**12**	**15**	**05.0**	**-1.5**
FOSV				S	**Sb**	**12**	**15**	**18.7**	**+0.4**
FOSV				AML	AML				
	comp=E,1365µm,0.3s								
FOSV				AML	AML				
	comp=N,2140µm,0.3s								
FOSV				AML	AML				
	comp=N,2140µm,0.3s								
FOSV				AML	AML				
	comp=E,1364µm,0.3s								
MGAB	**Montegabbione**	**0.94**	**294**	⇑P	**Pn**	**12**	**15**	**09.6**	**+0.2**
MGAB				AML	AML				
	comp=N,3210µm,0.4s								
MGAB				AML	AML				
	comp=E,3020µm,0.6s								
MGAB				AML	AML				
	comp=N,3440µm,0.4s								
MGAB				AML	AML				
	comp=E,2660µm,1.4s								
MGAB				AML	AML				
	comp=N,3441µm,0.4s								
MGAB				AML	AML				
	comp=N,3208µm,0.4s								
MGAB				AML	AML				
	comp=E,2386µm,0.5s								
MGAB				AML	AML				
	comp=E,2806µm,0.4s								
ARVD	**Arcevia**	**0.99**	**346**	⇑P	**Pg**	**12**	**15**	**08.1**	**-1.1**
ARVD				S	**Sn**	**12**	**15**	**23.4**	**-0.7**
ARVD				AML	AML				
	comp=E,1320µm,1.3s								
ARVD				AML	AML				
	comp=N,1540µm,0.8s								
ARVD				AML	AML				
	comp=E,1320µm,0.7s								
ARVD				AML	AML				
	comp=N,1540µm,1.2s								
ARVD				AML	AML				
	comp=E,1193µm,0.6s								
ARVD				AML	AML				
	comp=N,1540µm,0.8s								
SACS	**San Casciano d**	**1.05**	**288**	⇓P	**Pg**	**12**	**15**	**10.5**	**+0.1**
SACS				AML	AML				
	comp=N,1215µm,0.6s								
SACS				AML	AML				
	comp=E,1055µm,1.1s								
SACS				AML	AML				
	comp=N,1096µm,0.6s								
SACS				AML	AML				
	comp=E,1131µm,1.1s								
SACS				AML	AML				
	comp=E,908µm,0.5s								
SACS				AML	AML				
	comp=E,952µm,0.7s								
SACS				AML	AML				
	comp=N,1097µm,0.6s								
SACS				AML	AML				
	comp=N,1214µm,0.6s								
TOLF	**Tolfa**	**1.05**	**244**	⇓P	**Pg**	**12**	**15**	**09.2**	**-1.2**
TOLF				AML	AML				
	comp=E,1184µm,0.5s								
TOLF				AML	AML				
	comp=N,1240µm,0.9s								
TOLF				AML	AML				
	comp=E,1184µm,1.5s								
TOLF				AML	AML				
	comp=N,1240µm,1.1s								
TOLF				AML	AML				
	comp=N,1218µm,0.5s								
TOLF				AML	AML				
	comp=E,1184µm,0.5s								
FRON	**Frontone**	**1.06**	**338**	⇑P	**Pg**	**12**	**15**	**09.1**	**-1.5**
FRON				AML	AML				
	comp=E,1380µm,0.5s								
FRON				AML	AML				
	comp=N,2145µm,0.6s								
FRON				AML	AML				
	comp=E,1380µm,1.5s								
FRON				AML	AML				
	comp=N,2145µm,1.4s								
FRON				AML	AML				
	comp=E,1376µm,0.5s								
FRON				AML	AML				
	comp=N,1980µm,0.4s								
LATB	**Latina**	**1.07**	**193**	⇓P	**Pg**	**12**	**15**	**09.8**	**-0.8**
LATB				AML	AML				
	comp=N,230µm,0.7s								
LATB				AML	AML				
	comp=E,196µm,1.2s								
LATB				AML	AML				
	comp=N,230µm,1.3s								
LATB				AML	AML				
	comp=N,229µm,0.7s								
LATB				AML	AML				
	comp=E,177µm,1.1s								
COR1	**Corinaldo**	**1.11**	**350**	P	**Pb**	**12**	**15**	**11.0**	**-0.5**
COR1				AML	AML				
	comp=E,2105µm,0.4s								
COR1				AML	AML				
	comp=N,3000µm,1.1s								
COR1				AML	AML				
	comp=N,3000µm,0.9s								
COR1				AML	AML				
	comp=E,2106µm,0.4s								
COR1				AML	AML				
	comp=N,2739µm,0.5s								
PIEI	**Pieia**	**1.14**	**332**	P	**Pb**	**12**	**15**	**11.5**	**-0.4**
PIEI				AML	AML				
	comp=E,1109µm,0.9s								
PIEI				AML	AML				
	comp=N,842µm,1.5s								
PIEI				AML	AML				
	comp=E,1109µm,1.1s								
PIEI				AML	AML				
	comp=N,842µm,0.5s								
PIEI				AML	AML				
	comp=N,743µm,0.2s								
PIEI				AML	AML				
	comp=E,1068µm,0.3s								
TRIF	**Trifonti**	**1.84**	**289**	⇓P	**Pn**	**12**	**15**	**21.8**	**+0.1**
TRIF				AML	AML				
	comp=N,124µm,0.6s								
TRIF				AML	AML				
	comp=E,155µm,0.6s								
SEI	**Scarperia**	**2.06**	**318**	P	**Pn**	**12**	**15**	**25.6**	**+0.7**
SEI				S	**Sn**	**12**	**15**	**52.0**	**+1.4**
SEI				AML	AML				
	comp=E,292µm,1.0s								
SEI				AML	AML				
	comp=N,418µm,0.5s								
SEI				AML	AML				
	comp=E,283µm,0.5s								
SEI				AML	AML				
	comp=N,418µm,0.5s								
CARD	**Cardoso**	**2.52**	**307**	P	**Pg**	**12**	**15**	**39.7**	**+1.2**
CARD				S	**Sg**	**12**	**16**	**11.8**	**+0.6**
STON	**Ston**	**3.28**	**83**	*e*Pn	**Pn**	**12**	**15**	**41.9**	**+0.4**
STON				*e*Sn	**Sn**	**12**	**16**	**21.2**	**+0.7**
BLY	**Banja Luka**	**3.60**	**51**	*e*Pn	**Pn**	**12**	**15**	**48.5**	**+2.6**
TREB	**Trebinje**	**3.75**	**86**	*e*Pn	**Pn**	**12**	**15**	**47.9**	**-0.1**
TREB				*e*Sn	**Sn**	**12**	**16**	**32.5**	**+0.4**
OBKA	**Obir**	**4.08**	**12**	*i* Pn	**Pn**	**12**	**15**	**53.7**	**+1.2**
	comp=N,0.8nm,0.2s								
MYKA	**Terra Mystica**	**4.10**	**4**	*e*Pn	**Pn**	**12**	**15**	**53.0**	**+0.1**
	comp=N,2.3nm,0.5s								
ABTA	**Abfaltersbach**	**4.25**	**353**	*i* Pn	**Pn**	**12**	**15**	**55.5**	**+0.6**
	comp=N,3.3nm,0.2s								
SOKA	**Soboth**	**4.33**	**16**	*i* Pn	**Pn**	**12**	**15**	**59.7**	**+3.8**
	comp=N,1.3nm,0.2s								
PDG	**Podgorica**	**4.42**	**89**	*e*Pn	**Pn**	**12**	**15**	**59.4**	**+2.2**
PDG				*e*Sn	**Sn**	**12**	**16**	**50.7**	**+2.0**
KBA	**Koelnbreinsper**	**4.54**	**1**	*i* Pn	**Pn**	**12**	**16**	**00.8**	**+1.8**
	comp=N,2.9nm,0.3s								
BBLS	**Lazići**	**4.68**	**71**	*e*Pn	**Pn**	**12**	**16**	**01.8**	**+1.1**
BBLS				*e*Sn	**Sn**	**12**	**16**	**56.6**	**+1.6**
FETA	**Feichten**	**4.84**	**339**	*i* Pn	**Pn**	**12**	**16**	**04.7**	**+1.6**
	comp=N,1.7nm,0.3s								
WTTA	**Wattenberg**	**4.87**	**347**	*i* Pn	**Pn**	**12**	**16**	**04.9**	**+1.4**
	comp=N,1.4nm,0.2s								
SQTA	**Sankt Quirin**	**4.91**	**343**	*i* Pn	**Pn**	**12**	**16**	**07.1**	**+3.1**
	comp=N,3.0nm,0.2s								
WATA	**Walderalm**	**4.95**	**346**	*e*Pn	**Pn**	**12**	**16**	**07.0**	**+2.5**
	comp=N,1.4nm,0.2s								
SJES	**Sjenica**	**4.97**	**79**	*e*Pn	**Pn**	**12**	**16**	**06.7**	**+1.8**
MOTA	**Moosalm**	**5.05**	**343**	*e*Pn	**Pn**	**12**	**16**	**07.7**	**+1.7**
	comp=N,0.7nm,0.1s								
TIR	**Tirane**	**5.06**	**101**	*e*Pn	**Pn**	**12**	**16**	**08.1**	**+2.2**
DIVS	**Divibare**	**5.14**	**70**	*e*Pn	**Pn**	**12**	**16**	**07.8**	**+0.6**
DIVS				*e*Sn	**Sn**	**12**	**17**	**06.1**	**-0.5**
IVAS	**Ivanjica**	**5.15**	**76**	*e*Pn	**Pn**	**12**	**16**	**07.6**	**+0.4**
IVAS				*e*Sn	**Sn**	**12**	**17**	**07.2**	**+0.6**
BIOA	**Bad Ischl, Aus**	**5.16**	**3**	*e*Pn	**Pn**	**12**	**16**	**12.0**	**+4.6**
	comp=N,6.3nm,0.4s								
RETA	**Reutte**	**5.26**	**341**	*e*Pn	**Pn**	**12**	**16**	**08.9**	**+0.1**
	comp=N,0.8nm,0.2s								
DAVA	**Damuels**	**5.33**	**334**	*i* Pn	**Pn**	**12**	**16**	**12.1**	**+2.4**
	comp=N,1.8nm,0.3s								
FRGS	**Fruska Gora**	**5.41**	**59**	*e*Pn	**Pn**	**12**	**16**	**12.2**	**+1.5**
TRUS	**Trudelj**	**5.46**	**70**	*e*Pn	**Pn**	**12**	**16**	**13.7**	**+2.2**
RONA	**Rosalia, Austr**	**5.59**	**21**	*i* Pn	**Pn**	**12**	**16**	**13.4**	**+0.1**
	comp=N,0.9nm,0.2s								
CONA	**Conrad Observa**	**5.69**	**18**	*e*Pn	**Pn**	**12**	**16**	**14.4**	**-0.3**
	comp=N,0.7nm,0.3s								
OHR	**Ohrid**	**5.80**	**102**	*e*Pn	**Pn**	**12**	**16**	**18.7**	**+2.5**
OHR				*e*Sn	**Sn**	**12**	**17**	**21.4**	**-1.3**
SELS	**Selova**	**5.80**	**81**	*e*Pn	**Pn**	**12**	**16**	**17.1**	**+0.9**
BARS	**Barje**	**6.30**	**85**	*e*Pn	**Pn**	**12**	**16**	**23.9**	**+0.9**
BARS				*e*Sn	**Sn**	**12**	**17**	**34.7**	**-0.4**
CKRC	**Cesky Krumlov**	**6.33**	**6**	*e*SN	**Sn**	**12**	**17**	**33.1**	**-2.5**
PRVS	**Prvonek**	**6.50**	**87**	*e*Pn	**Pn**	**12**	**16**	**27.7**	**+1.9**
PRVS				*e*Sn	**Sn**	**12**	**17**	**38.8**	**-1.3**
KHC	**Kasperske Hory**	**6.60**	**2**	*e*PN	**Pn**	**12**	**16**	**25.8**	**-1.3**
KHC				*e*SN	**Sn**	**12**	**17**	**38.4**	**-4.0**
ZAGS	**Zajecar**	**6.67**	**76**	*e*Pn	**Pn**	**12**	**16**	**29.3**	**+1.2**
ZAPS	**Zavoj**	**6.91**	**81**	*e*Sn	**Sn**	**12**	**17**	**48.8**	**-1.3**

ROM 18 12:26:38.8±0.1, 42°545N±0'003×13°256E±0'005, h14^{km}, ML2.5/14, 6C-5D, Error ellipse: s-maj=0.4km s-min=0.0km az=236.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
RM33	**Pellescritta (**	**0.05**	**221**	⇓P	Pg	12	26	41.8	+0.2
RM33				S	Sg	12	26	43.4	+0.1
RM33				AML	AML				
	comp=E,14900µm,0.7s								
RM33				AML	AML				
	comp=E,14700µm,0.7s								
RM33				AML	AML				
	comp=N,7530µm,0.3s								
RM33				AML	AML				
	comp=N,7615µm,0.3s								
RM33				AML	AML				
	comp=E,13610µm,0.2s								
RM33				AML	AML				
	comp=E,13586µm,0.2s								
RM33				AML	AML				
	comp=N,5345µm,0.1s								
RM33				AML	AML				
	comp=N,5412µm,0.1s								
SMA1	**SAN MARTINO**	**0.10**	**34**	P	Pb	12	26	42.5	-0.3
SMA1				S	Sg	12	26	44.8	+0.5
SMA1				AML	AML				
	comp=E,30400µm,0.5s								
SMA1				AML	AML				
	comp=N,11315µm,0.3s								
SMA1				AML	AML				
	comp=N,11285µm,0.3s								
SMA1				AML	AML				
	comp=E,30400µm,1.5s								
SMA1				AML	AML				
	comp=N,11306µm,0.3s								
SMA1				AML	AML				
	comp=E,29512µm,0.2s								
T1247	**Pizzolo (AQ)**	**0.11**	**163**	⇓P	Pb	12	26	42.5	-0.2
T1247				S	Sb	12	26	44.8	-0.5
T1247				AML	AML				
	comp=E,4010µm,0.2s								
T1247				AML	AML				
	comp=N,4325µm,1.2s								
T1247				AML	AML				
	comp=N,4325µm,0.8s								
T1247				AML	AML				
	comp=N,3392µm,0.1s								
T1247				AML	AML				
	comp=E,4009µm,0.2s								
CAMP	**Campotosto**	**0.11**	**95**	P	Pg	12	26	42.5	+0.3
CAMP				S	Sg	12	26	44.9	+0.4
CAMP				AML	AML				
	comp=N,2335µm,0.7s								
CAMP				AML	AML				
	comp=E,2290µm,0.4s								
CAMP				AML	AML				
	comp=E,2290µm,0.4s								
CAMP				AML	AML				
	comp=N,2235µm,0.6s								
T1218	**Civita (PG)**	**0.16**	**320**	P	Pg	12	26	43.1	+0.2
T1218				S	Sg	12	26	45.9	+0.3
LNSS	**Leonessa**	**0.17**	**290**	⇑P	Pg	12	26	43.3	+0.4
LNSS				S	Sg	12	26	46.4	+0.6
LNSS				AML	AML				
	comp=E,6820µm,0.2s								
LNSS				AML	AML				
	comp=N,4460µm,1.2s								
LNSS				AML	AML				
	comp=N,4181µm,0.4s								
LNSS				AML	AML				
	comp=E,6818µm,0.2s								
GIGS	**Gran Sasso**	**0.25**	**112**	P	Pg	12	26	44.4	+0.2
GIGS				S	Sg	12	26	48.4	+0.6
GIGS				AML	AML				
	comp=N,320µm,1.5s								
GIGS				AML	AML				
	comp=E,283µm,0.6s								
GIGS				AML	AML				
	comp=N,320µm,0.5s								
GIGS				AML	AML				
	comp=E,221µm,0.1s								
GIGS				AML	AML				
	comp=N,297µm,0.4s								
T1217	**Poggiodomo (PG**	**0.29**	**305**	⇑P	Pg	12	26	45.2	+0.3
T1217				S	Sg	12	26	49.9	+0.8
T1217				AML	AML				
	comp=N,904µm,0.7s								
T1217				AML	AML				
	comp=E,915µm,0.6s								
T1217				AML	AML				
	comp=N,884µm,0.7s								
T1217				AML	AML				
	comp=E,1070µm,0.6s								
T1217				AML	AML				
	comp=N,904µm,0.7s								
T1217				AML	AML				
	comp=E,914µm,0.6s								
T1217				AML	AML				
	comp=N,884µm,0.7s								
T1217				AML	AML				
	comp=N,709µm,0.1s								
T1217				AML	AML				
	comp=E,828µm,0.1s								
T1217				AML	AML				
	comp=E,747µm,0.1s								
T1217				AML	AML				
	comp=N,691µm,0.3s								
FIAM	**Fiamignano**	**0.29**	**200**	⇑P	Pg	12	26	45.4	+0.4
FIAM				S	Sb	12	26	50.1	-0.6
FIAM				AML	AML				
	comp=E,930µm,0.3s								
FIAM				AML	AML				
	comp=N,346µm,0.3s								
FIAM				AML	AML				
	comp=E,929µm,0.3s								
FIAM				AML	AML				
	comp=N,346µm,0.3s								
ARRO	**Arrone**	**0.36**	**276**	⇑P	Pg	12	26	46.4	+0.3
ARRO				AML	AML				
	comp=E,488µm,0.8s								
ARRO				AML	AML				
	comp=N,719µm,1.3s								
ARRO				AML	AML				
	comp=N,719µm,0.7s								
ARRO				AML	AML				
	comp=E,469µm,0.2s								
ARRO				AML	AML				
	comp=N,696µm,0.3s								
T0110	**Collepietro**	**0.50**	**129**	P	Pg	12	26	48.9	+0.2
T0110				AML	AML				
	comp=N,316µm,0.4s								
T0110				AML	AML				
	comp=E,378µm,0.3s								
CESX	**Cesi**	**0.50**	**278**	⇓P	Pg	12	26	48.7	0.0
CESX				AML	AML				
	comp=E,202µm,1.5s								
CESX				AML	AML				
	comp=N,268µm,1.1s								
CESX				AML	AML				
	comp=N,268µm,0.9s								
CESX				AML	AML				
	comp=E,202µm,0.5s								
CESX				AML	AML				
	comp=N,232µm,0.2s								
CESX				AML	AML				
	comp=E,185µm,0.3s								
GUMA	**Gualdo di Mace**	**0.52**	**6**	P	Pb	12	26	49.6	-0.2
GUMA				AML	AML				
	comp=E,578µm,1.5s								
GUMA				AML	AML				
	comp=E,752µm,1.4s								
GUMA				AML	AML				
	comp=N,720µm,0.5s								
GUMA				AML	AML				
	comp=N,718µm,0.5s								
GUMA				AML	AML				
	comp=E,578µm,0.5s								
GUMA				AML	AML				
	comp=E,749µm,0.3s								
GUMA				AML	AML				
	comp=N,695µm,0.4s								
GUMA				AML	AML				
	comp=N,626µm,0.3s								
GUMA				AML	AML				
	comp=E,552µm,0.4s								
CESI	**CESI - Serrava**	**0.53**	**331**	P	Pb	12	26	49.6	-0.3
CESI				AML	AML				
	comp=N,302µm,0.1s								
CESI				AML	AML				
	comp=E,228µm,1.1s								
CESI				AML	AML				
	comp=E,183µm,0.3s								
CESI				AML	AML				
	comp=N,302µm,0.1s								
CSP1	**Cessapalombo**	**0.55**	**356**	⇑P	Pg	12	26	49.8	+0.2
CSP1				AML	AML				
	comp=N,204µm,0.5s								
CSP1				AML	AML				
	comp=E,188µm,0.2s								
MOMA	**Monte Martano**	**0.57**	**297**	⇓P	Pb	12	26	50.3	-0.3
MOMA				AML	AML				

	comp=N,599μm,0.3s							
MOMA				AML	AML			
	comp=E,715μm,0.2s							
MOMA				AML	AML			
	comp=N,648μm,1.4s							
MOMA				AML	AML			
	comp=E,790μm,1.3s							
MOMA				AML	AML			
	comp=N,562μm,0.3s							
MOMA				AML	AML			
	comp=E,715μm,0.2s							
MOMA				AML	AML			
	comp=N,599μm,0.3s							
MOMA				AML	AML			
	comp=E,737μm,0.2s							
T1220	**Camerino, Fraz**	**0.58**	**348**	⇓P	Pg	12 26 50.4	+0.3	
T1220				AML	AML			
	comp=E,696μm,1.2s							
T1220				AML	AML			
	comp=E,675μm,0.3s							
T1220				AML	AML			
	comp=N,714μm,0.2s							
T1220				AML	AML			
	comp=E,696μm,0.8s							
T1220				AML	AML			
	comp=N,712μm,0.2s							
T1220				AML	AML			
	comp=E,678μm,0.3s							
T1220				AML	AML			
	comp=N,714μm,0.2s							
T1220				AML	AML			
	comp=E,675μm,0.3s							
T1220				AML	AML			
	comp=N,712μm,0.2s							
SRES	**S.Oreste - Sor**	**0.63**	**241**	⇑P	Pb	12 26 51.5	-0.2	
SRES				AML	AML			
	comp=N,125μm,0.3s							
SRES				AML	AML			
	comp=E,104μm,0.5s							
SNTG	**Esanatoglia**	**0.75**	**342**	P	Pg	12 26 53.2	-0.1	
CAFI	**Castiglion Fio**	**1.23**	**310**	S	Sg	12 27 18.5	0.0	

ROM 18 12:27:34.5±0.2, 42°525N±0'.010×13°354E±0'.007, h9km, ML2.4/3, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.04**	**75**	P	Pg	12 27 36.8	+0.4
CAMP				S	Sg	12 27 38.2	+0.4
CAMP				AML	AML		
	comp=E,3260μm,0.4s						
CAMP				AML	AML		
	comp=N,5905μm,0.4s						
CAMP				AML	AML		
	comp=E,3260μm,1.6s						
CAMP				AML	AML		
	comp=E,3261μm,0.4s						
CAMP				AML	AML		
	comp=N,5903μm,0.4s						
T1247	**Pizzolo (AQ)**	**0.09**	**206**	P	Pg	12 27 37.4	+0.4
T1247				S	Sg	12 27 39.2	+0.6
T1247				AML	AML		
	comp=N,11250μm,1.2s						
T1247				AML	AML		
	comp=E,17500μm,0.2s						
T1247				AML	AML		
	comp=N,11250μm,0.8s						
T1247				AML	AML		
	comp=N,10728μm,0.1s						
T1247				AML	AML		
	comp=E,17472μm,0.2s						
RM33	**Pellescritta (**	**0.10**	**261**	P	Pg	12 27 37.5	+0.4
RM33				S	Sg	12 27 39.5	+0.5
RM33				AML	AML		
	comp=N,4395μm,1.2s						
RM33				AML	AML		
	comp=N,4175μm,1.2s						
RM33				AML	AML		
	comp=E,5530μm,0.4s						
RM33				AML	AML		
	comp=E,5405μm,0.4s						
RM33				AML	AML		
	comp=N,3395μm,0.2s						
RM33				AML	AML		
	comp=E,5529μm,0.4s						
RM33				AML	AML		
	comp=E,5406μm,0.4s						
RM33				AML	AML		
	comp=N,3373μm,0.3s						
GIGS	**Gran Sasso**	**0.18**	**115**	P	Pg	12 27 38.5	+0.3
GIGS				S	Sg	12 27 41.5	+0.7
GIGS				AML	AML		
	comp=E,668μm,0.1s						
GIGS				AML	AML		
	comp=N,526μm,0.1s						
GIGS				AML	AML		
	comp=E,668μm,0.1s						
GIGS				AML	AML		
	comp=N,525μm,0.1s						
LNSS	**Leonessa**	**0.24**	**289**	P	Pg	12 27 39.8	+0.3
LNSS				AML	AML		
	comp=N,1078μm,0.2s						
LNSS				AML	AML		
	comp=E,770μm,0.1s						
T0110	**Collepietro**	**0.43**	**133**	P	Pg	12 27 43.4	+0.5
T0110				S	Sb	12 27 50.5	-0.4
T0110				AML	AML		
	comp=N,771μm,0.3s						
T0110				AML	AML		
	comp=E,649μm,0.4s						
CESX	**Cesi**	**0.58**	**279**	S	Sb	12 27 54.7	-0.4
CESX				AML	AML		
	comp=E,171μm,0.3s						
CESX				AML	AML		
	comp=N,157μm,0.5s						

NOU 18 12:28:09.6, 21°71S×169°68E, h0km, ML4.1/11, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.55**	**278**	P	Pn	12 28 37.5	-1.0
PINNC	**Pines Island,**	**2.26**	**246**	P	Pn	12 28 47.7	-0.5
LIFNC	**LIFOU**	**2.46**	**292**	P	Pn	12 28 50.5	-0.5
OUENC	**Ouen Island, N**	**2.73**	**254**	P	Pn	12 28 54.7	0.0
DZM	**Mont Dzumac**	**3.03**	**263**	P	Pn	12 28 59.1	+0.2
ONTNC	**Ouen Toro**	**3.05**	**258**	P	Pn	12 28 59.1	0.0
NOUC	**Port Laguerre**	**3.16**	**262**	P	Pn	12 29 00.4	-0.2
RTV	**Rentapao**	**4.07**	**343**	P	Pn	12 29 14.1	+0.9
DVP	**Devils Point**	**4.21**	**340**	P	Pn	12 29 14.6	-0.4
KOUNC	**Koumac, New Ca**	**5.17**	**282**	P	Pn	12 29 28.8	+0.6

*ROM **18** 12:30:49.2±0.1, 42°.505N±0°.004×13°.272E±0°.006, h10km, ML3.5/49, Error ellipse: s-maj=0.5km s-min=0.2km az=62.0*
*PRU **18** 12:30:49.0±0.0, 42°.39N×13°.85E, h10km*
*IDC **18** 12:30:50.9±2.0, 42°.69N×13°.52E, h0km, mb3.2/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=38.9km s-min=19.6km az=89.0*
*BEO **18** 12:30:51.3±0.7, 42°.52N×13°.34E, h3km±2km, ML3.6/9*

ISC 18 12:30:49.7±0.7, 42°51N±0°.02×13°27E±0°.02, h12km±4km, n115, σ1s34/146, 5C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.04**	**270**	⇑P	**Pg**	**12 30 51.8**	**-0.3**
RM33				S	**Sg**	**12 30 53.4**	**-0.4**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
T1247	**Pizzolo (AQ)**	**0.07**	**162**	⇑P	**Pg**	**12 30 52.0**	**-0.3**
T1247				S	**Sg**	**12 30 53.9**	**-0.3**
T1247				AML	AML		
	comp=N,80900μm,0.4s						
T1247				AML	AML		
CAMP	**Campotosto**	**0.11**	**76**	⇓P	**Pg**	**12 30 52.3**	**-0.5**
CAMP				S	**Sg**	**12 30 54.5**	**-0.6**
CAMP				AML	AML		
	comp=E,28400μm,0.5s						
CAMP				AML	AML		
	comp=N,35400μm,0.4s						
LNSS	**Leonessa**	**0.19**	**299**	P	**Pg**	**12 30 54.0**	**0.0**
LNSS				S	**Sg**	**12 30 57.8**	**+0.7**
LNSS				AML	AML		
	comp=E,98000μm,0.9s						
LNSS				AML	AML		
T1202	**Accumoli, Fraz**	**0.20**	**350**	P	**Pg**	**12 30 54.1**	**-0.1**
T1202				S	**Sg**	**12 30 58.0**	**+0.8**
T1218	**Civita (PG)**	**0.20**	**325**	P	**Pg**	**12 30 53.9**	**-0.2**
T1218				S	**Sg**	**12 30 57.5**	**+0.3**
T1218				AML	AML		
	comp=N,86400μm,0.3s						
T1218				AML	AML		
	comp=E,32400μm,0.5s						
T1218				AML	AML		
	comp=N,86900μm,0.3s						
T1218				AML	AML		
	comp=N,86950μm,0.3s						
T1218				AML	AML		
	comp=N,86900μm,0.2s						
T1218				AML	AML		
	comp=E,32800μm,0.5s						
GIGS	**Gran Sasso**	**0.23**	**105**	P	**Pg**	**12 30 54.0**	**-0.7**
GIGS				S	**Sg**	**12 30 57.6**	**-0.4**
GIGS				AML	AML		
	comp=E,4630μm,0.6s						
GIGS				AML	AML		
	comp=E,4630μm,1.4s						
GIGS				AML	AML		
	comp=N,5085μm,0.6s						
FIAM	**Fiamignano**	**0.27**	**205**	⇑P	**Pg**	**12 30 55.1**	**-0.2**
FIAM				S	**Sg**	**12 30 59.5**	**+0.4**
FIAM				AML	AML		
	comp=N,20850μm,0.4s						
FIAM				AML	AML		
	comp=E,13450μm,0.6s						
T1217	**Poggiodomo (PG**	**0.32**	**309**	⇑P	**Pg**	**12 30 56.0**	**-0.3**
T1217				S	**Sb**	**12 31 01.4**	**-1.3**
T1217				AML	AML		
	comp=E,15150μm,1.6s						
T1217				AML	AML		
	comp=N,17350μm,1.4s						
T1217				AML	AML		
	comp=E,13200μm,0.4s						
T1217				AML	AML		
	comp=N,18800μm,1.4s						
T1217				AML	AML		
	comp=E,15150μm,1.5s						
T1217				AML	AML		
	comp=N,17350μm,1.4s						
T1217				AML	AML		
	comp=E,15150μm,0.5s						
T1217				AML	AML		
	comp=E,13200μm,0.4s						
T1217				AML	AML		
	comp=N,17350μm,0.6s						
T1217				AML	AML		
	comp=N,18800μm,0.6s						
FAGN	**Fagnano**	**0.34**	**136**	P	**Pg**	**12 30 56.0**	**-0.5**
FAGN				AML	AML		
	comp=E,15700μm,0.6s						
FAGN				AML	AML		
	comp=N,13550μm,0.7s						
FAGN				AML	AML		
	comp=E,15700μm,1.4s						
NRCA	**Norcia**	**0.34**	**341**	P	**Pg**	**12 30 56.3**	**-0.4**
NRCA				S	**Sg**	**12 31 01.8**	**+0.4**
NRCA				AML	AML		
	comp=N,18650μm,1.1s						
NRCA				AML	AML		
	comp=N,18650μm,0.9s						
NRCA				AML	AML		
	comp=E,32500μm,0.2s						
ARRO	**Arrone**	**0.38**	**281**	P	**Pg**	**12 30 57.0**	**-0.3**
ARRO				S	**Sb**	**12 31 03.2**	**-1.1**
ARRO				AML	AML		
	comp=E,7000μm,1.2s						
ARRO				AML	AML		
	comp=E,7000μm,0.8s						
ARRO				AML	AML		
	comp=N,6720μm,0.8s						
T0110	**Collepietro**	**0.47**	**127**	P	**Pg**	**12 30 58.4**	**-0.7**
T0110				S	**Sb**	**12 31 05.6**	**-1.4**
T0110				AML	AML		
	comp=N,7910μm,0.4s						
T0110				AML	AML		
	comp=E,7915μm,0.5s						
FEMA	**Monte Fema**	**0.48**	**340**	P	**Pg**	**12 30 58.8**	**-0.5**
FEMA				S	**Sb**	**12 31 06.3**	**-1.1**
FEMA				AML	AML		
	comp=E,11685μm,1.0s						
FEMA				AML	AML		
	comp=N,11000μm,1.1s						
FEMA				AML	AML		
	comp=E,11685μm,1.0s						
FEMA				AML	AML		
	comp=N,11000μm,1.1s						
FEMA				AML	AML		
	comp=E,11685μm,1.0s						
PTQR	**Pietraquaria**	**0.50**	**169**	P	**Pg**	**12 30 58.7**	**-0.8**
PTQR				S	**Sb**	**12 31 06.6**	**-1.2**
PTQR				AML	AML		
	comp=E,1415μm,0.4s						
PTQR				AML	AML		
	comp=N,1195μm,0.7s						
CESX	**Cesi**	**0.52**	**281**	P	**Pg**	**12 30 59.3**	**-0.6**
CESX				S	**Sb**	**12 31 07.9**	**-0.4**
CESX				AML	AML		
	comp=E,3080μm,1.4s						
CESX				AML	AML		
	comp=N,4170μm,0.3s						
CESX				AML	AML		
	comp=E,3080μm,0.6s						
GUMA	**Gualdo di Mace**	**0.56**	**5**	P	**Pg**	**12 31 00.2**	**-0.4**
GUMA				S	**Sb**	**12 31 09.5**	**+0.1**
GUMA				AML	AML		
	comp=E,31750μm,0.3s						
GUMA				AML	AML		
	comp=N,46450μm,0.3s						
GUMA				AML	AML		
	comp=E,53800μm,0.3s						
GUMA				AML	AML		
	comp=N,35250μm,0.6s						
GUMA				AML	AML		
	comp=N,46450μm,1.7s						
GUMA				AML	AML		
	comp=N,35250μm,1.4s						
GUMA				AML	AML		
	comp=E,31750μm,1.7s						
GUMA				AML	AML		
	comp=E,53800μm,1.7s						
TRTR	**Tortoreto Alta**	**0.56**	**58**	P	**Pb**	**12 31 01.0**	**-0.6**
TRTR				AML	AML		
	comp=N,8430μm,1.5s						
TRTR				AML	AML		
	comp=E,11550μm,0.8s						
TRTR				AML	AML		
	comp=N,8950μm,0.8s						
CESI	**CESI - Serrava**	**0.56**	**332**	P	**Pg**	**12 31 00.3**	**-0.5**
CESI				S	**Sb**	**12 31 09.0**	**-0.6**
CESI				AML	AML		
	comp=E,4990μm,0.9s						
CESI				AML	AML		
	comp=N,7010μm,0.3s						
CSP1	**Cessapalombo**	**0.58**	**355**	P	**Pg**	**12 31 00.5**	**-0.7**
CSP1				S	**Sb**	**12 31 09.8**	**-0.5**
CSP1				AML	AML		
	comp=E,7005μm,0.4s						
CSP1				AML	AML		
	comp=N,8435μm,0.3s						
CSP1				AML	AML		
	comp=E,7000μm,0.4s						
CSP1				AML	AML		
	comp=N,8445μm,0.3s						
CSP1				AML	AML		
	comp=N,8445μm,1.7s						
MOMA	**Monte Martano**	**0.59**	**300**	P	**Pg**	**12 31 00.7**	**-0.6**
MOMA				S	**Sb**	**12 31 10.1**	**-0.5**
MOMA				AML	AML		
	comp=E,5985μm,0.2s						
MOMA				AML	AML		
	comp=N,8025μm,1.3s						
MOMA				AML	AML		
	comp=E,6065μm,0.2s						
MOMA				AML	AML		
	comp=N,8025μm,1.3s						
MOMA				AML	AML		
	comp=N,8130μm,0.8s						
MOMA				AML	AML		
	comp=E,5985μm,0.2s						
MOMA				AML	AML		
	comp=N,8025μm,0.7s						
MOMA				AML	AML		
	comp=N,8130μm,1.2s						
CERT	**Cerreto**	**0.60**	**201**	⇑P	**Pg**	**12 31 00.6**	**-0.9**
CERT				S	**Sb**	**12 31 09.7**	**-1.0**
CERT				AML	AML		
	comp=E,4735μm,0.5s						
CERT				AML	AML		
	comp=N,2800μm,0.5s						
T1220	**Camerino, Fraz**	**0.61**	**348**	P	**Pg**	**12 31 00.8**	**-0.9**
T1220				AML	AML		
	comp=E,18450μm,0.4s						
T1220				AML	AML		
	comp=E,18000μm,0.4s						
T1220				AML	AML		
	comp=N,16400μm,0.5s						
T1220				AML	AML		
	comp=E,18450μm,0.4s						
T1220				AML	AML		
	comp=N,17000μm,0.4s						
T1220				AML	AML		
	comp=N,16400μm,0.4s						
T1220				AML	AML		
	comp=E,18000μm,0.4s						
T1220				AML	AML		
	comp=N,17000μm,1.6s						
T1220				AML	AML		
	comp=N,16400μm,1.6s						
MTCE	**Montecelio**	**0.62**	**219**	P	**Pg**	**12 31 00.9**	**-1.0**
MTCE				AML	AML		
	comp=E,3070μm,0.6s						
MTCE				AML	AML		
	comp=N,1970μm,1.5s						
MTCE				AML	AML		
	comp=N,1970μm,0.5s						
MTCE				AML	AML		
	comp=E,3070μm,1.4s						
SRES	**S.Oreste - Sor**	**0.62**	**244**	P	**Pg**	**12 31 01.0**	**-0.9**
SRES				AML	AML		
	comp=E,3025μm,0.3s						
SRES				AML	AML		
	comp=N,2100μm,0.5s						
MNTP	**Montappone**	**0.65**	**13**	P	**Pg**	**12 31 02.1**	**-0.2**
MNTP				AML	AML		
	comp=E,11850μm,1.3s						
MNTP				AML	AML		
	comp=N,11500μm,1.6s						
MNTP				AML	AML		
	comp=E,11850μm,1.3s						
MNTP				AML	AML		
	comp=N,11500μm,1.6s						
MNTP				AML	AML		
	comp=E,11850μm,0.7s						
SEF1	**Sefro**	**0.68**	**340**	P	**Pg**	**12 31 02.0**	**-0.9**
SEF1				AML	AML		
	comp=E,8075μm,0.2s						
SEF1				AML	AML		
	comp=N,7400μm,0.2s						
MDAR	**Monte D'Aria**	**0.69**	**352**	P	**Pg**	**12 31 02.4**	**-0.8**
MDAR				S	**Sb**	**12 31 13.4**	**+0.1**
VVLD	**Villa Vallelon**	**0.69**	**158**	P	**Pb**	**12 31 03.1**	**-0.6**
VVLD				AML	AML		
	comp=E,1565μm,0.7s						
VVLD				AML	AML		
	comp=N,1630μm,0.6s						
VVLD				AML	AML		
	comp=N,1630μm,1.4s						
ASSB	**Assisi San Ben**	**0.70**	**320**	AML	AML		
	comp=N,4400μm,0.2s						
ASSB				AML	AML		
	comp=E,3585μm,0.8s						
GUAR	**Guarcino**	**0.71**	**177**	P	**Pg**	**12 31 03.1**	**-0.5**
GUAR				AML	AML		
	comp=N,2180μm,0.8s						
GUAR				AML	AML		
	comp=E,1970μm,0.7s						
GUAR				AML	AML		
	comp=N,2180μm,1.2s						
FIU1	**Fiuminata**	**0.72**	**340**	P	**Pg**	**12 31 03.0**	**-0.7**
GAG1	**Gagliole**	**0.74**	**349**	P	**Pg**	**12 31 03.4**	**-0.7**
GAG1				S	**Sb**	**12 31 15.2**	**+0.4**
SNTG	**Esanatoglia**	**0.78**	**342**	P	**Pg**	**12 31 03.9**	**-1.0**
SNTG				AML	AML		
	comp=E,1610μm,1.3s						
SNTG				AML	AML		
	comp=N,1675μm,0.6s						
SNTG				AML	AML		
	comp=N,1720μm,0.7s						
SNTG				AML	AML		
	comp=E,1615μm,1.3s						
SNTG				AML	AML		
	comp=N,1675μm,0.7s						
SNTG				AML	AML		
	comp=E,1560μm,1.3s						
SNTG				AML	AML		
	comp=N,1720μm,1.3s						
SNTG				AML	AML		
	comp=E,1615μm,0.7s						
SNTG				AML	AML		
	comp=N,1675μm,1.3s						
SNTG				AML	AML		
	comp=E,1560μm,0.7s						
LPEL	**Lama dei Pelig**	**0.82**	**124**	P	**Pg**	**12 31 03.9**	**-1.7**
LPEL				AML	AML		
	comp=N,1715μm,0.8s						
LPEL				AML	AML		
	comp=E,2195μm,0.3s						
LPEL				AML	AML		
	comp=N,1715μm,1.2s						
EL6	**Elcito**	**0.83**	**352**	P	**Pg**	**12 31 04.7**	**-1.1**
EL6				AML	AML		
	comp=N,5225μm,1.4s						
EL6				AML	AML		
	comp=E,4510μm,1.6s						
EL6				AML	AML		
	comp=E,4510μm,0.4s						
EL6				AML	AML		
	comp=N,5225μm,0.6s						
CIMA	**Civitanova Mar**	**0.85**	**20**	P	**Pb**	**12 31 06.5**	**0.0**
POFI	**Posta Fibreno**	**0.86**	**157**	P	**Pg**	**12 31 05.5**	**-0.8**
POFI				AML	AML		
	comp=E,1374μm,0.6s						
POFI				AML	AML		
	comp=E,1439μm,0.6s						
POFI				AML	AML		
	comp=N,846μm,0.7s						
POFI				AML	AML		
	comp=N,796μm,0.7s						
CING	**Cingoli**	**0.87**	**356**	P	**Pg**	**12 31 05.5**	**-1.1**
FOSV	**Fossato di Vic**	**0.87**	**335**	P	**Pg**	**12 31 05.6**	**-0.9**
FOSV				AML	AML		
	comp=E,1395μm,1.3s						
FOSV				AML	AML		
	comp=N,1875μm,1.4s						
FOSV				AML	AML		
	comp=E,1395μm,0.7s						
FOSV				AML	AML		
	comp=N,1875μm,0.6s						
LRP	**Arpino**	**0.89**	**165**	P	**Pn**	**12 31 08.0**	**-0.1**
PP3	**Marolino**	**0.90**	**16**	P	**Pb**	**12 31 07.0**	**-0.3**
PP3				AML	AML		
	comp=N,6340μm,1.5s						
PP3				AML	AML		
	comp=N,6165μm,1.6s						
PP3				AML	AML		
	comp=E,6420μm,0.4s						
PP3				AML	AML		
	comp=N,6165μm,0.4s						
PP3				AML	AML		
	comp=E,6405μm,0.4s						
PP3				AML	AML		
	comp=N,6340μm,0.5s						
MGAB	**Montegabbione**	**0.94**	**296**	P	**Pg**	**12 31 07.2**	**-0.8**
MGAB				AML	AML		
	comp=N,3705μm,0.4s						
MGAB				AML	AML		
	comp=E,3725μm,0.4s						
MGAB				AML	AML		

comp=E,3655µm,0.4s
MGAB AML AML
comp=N,3495µm,0.4s
GIUL Giuliano Di Ro 0.95 181 P Pg 12 31 07.5 -0.6
GIUL AML AML
comp=E,1194µm,0.5s
GIUL AML AML
comp=N,1233µm,1.1s
SSFR Montelago di S 0.99 339 P Pg 12 31 07.7 -1.2
SSFR AML AML
comp=E,3925µm,0.2s
SSFR AML AML
comp=N,3920µm,0.8s
SSFR AML AML
comp=E,3560µm,0.2s
SSFR AML AML
comp=N,3380µm,0.2s
ATSC Scheggia e Pas 1.01 335 P Pg 12 31 07.9 -1.3
ARVD Arcevia 1.02 346 P Pg 12 31 08.1 -1.2
ARVD AML AML
comp=N,1102µm,0.6s
ARVD AML AML
comp=E,1475µm,0.8s
ARVD AML AML
comp=N,1102µm,1.4s
LATB Latina 1.04 193 P Pg 12 31 08.7 -1.1
LATB AML AML
comp=E,303µm,1.0s
LATB AML AML
comp=N,332µm,1.2s
LATB AML AML
comp=N,332µm,0.8s
TOLF Tolfa 1.04 245 P Pg 12 31 08.3 -1.4
TOLF AML AML
comp=E,1049µm,0.4s
TOLF AML AML
comp=N,1310µm,0.5s
SACS San Casciano d 1.06 289 P Pg 12 31 09.4 -0.8
TB02 Pietralunga 1.07 324 P Pg 12 31 09.2 -1.1
CERA Filignano 1.07 148 P Pb 12 31 09.9 -0.3
AOI Ancona 1.07 13 P Pg 12 31 09.5 -0.9
AOI AML AML
comp=N,2085µm,1.6s
AOI AML AML
comp=E,3510µm,0.4s
FRON Frontone 1.08 339 P Pg 12 31 09.9 -0.7
FRON AML AML
comp=E,1500µm,0.4s
FRON AML AML
comp=N,1870µm,0.7s
FRON AML AML
comp=N,1870µm,1.3s
FRON AML AML
comp=E,1500µm,1.6s
MIDA Miranda 1.14 139 P Pb 12 31 09.7 -1.6
PIEI Pieia 1.16 333 P Pb 12 31 10.6 -1.2
PIEI AML AML
comp=N,795µm,0.3s
PIEI AML AML
comp=E,794µm,0.5s
FRES Fresagrandinar 1.17 117 P Pn 12 31 12.2 +0.2
MPAG Monte Paganucc 1.18 342 P Pb 12 31 11.0 -1.2
MPAG AML AML
comp=E,1320µm,0.8s
MPAG AML AML
comp=N,1180µm,0.6s
MCIV Monte Civitell 1.21 283 AML AML
comp=N,553µm,0.9s
MCIV AML AML
comp=E,747µm,0.3s
MCIV AML AML
comp=N,553µm,1.1s
TRIV Trivento 1.21 127 P Pg 12 31 13.3 +0.3
NARO Abbazia di Nar 1.21 336 P Pn 12 31 11.6 -1.0
NARO AML AML
comp=E,1022µm,0.8s
NARO AML AML
comp=N,1144µm,0.7s
SF04 Casetta 1.23 286 P Pg 12 31 12.9 -0.5
SF04 AML AML
comp=N,604µm,1.0s
SF04 AML AML
comp=E,750µm,0.4s
SF04 AML AML
comp=N,604µm,1.0s
CAFI Castiglion Fio 1.26 311 P Pb 12 31 13.1 -0.3
VAGA Valle Agricola 1.31 146 P Pg 12 31 14.6 -0.3
SSP9 Sansepolcro 1.35 322 P Pg 12 31 15.6 -0.1
SGG Gregorio Mates 1.39 143 P Pg 12 31 16.3 -0.2
MODR Mondragone 1.44 161 P Pb 12 31 15.9 -0.5
SACR S. Croce Del S 1.54 136 P Pg 12 31 19.4 0.0
MELA Melanico ??? S 1.60 120 P Pb 12 31 19.1 -0.1
FROS Frosini 1.70 295 P Pn 12 31 19.7 +0.4
CASP Castiglione de 1.80 280 P Pn 12 31 20.4 -0.1
OSSC Osservatorio P 1.80 305 P Pn 12 31 21.1 +0.5
TRIF Trifonti 1.84 290 P Pn 12 31 21.6 +0.3
RUFI Rufina 1.85 317 P Pn 12 31 22.0 +0.7
STON Ston 3.29 82 *e*Pn **Pn 12 31 41.7 +0.7**
STON *e*Sn **Sn 12 32 19.7 -0.3**
ROVR Rover Verones 3.51 334 AML AML
comp=N,56µm,0.7s
ROVR AML AML
comp=E,37µm,1.6s
ROVR AML AML
comp=E,37µm,0.4s
TREB Trebinje 3.76 85 *e*Pn **Pn 12 31 48.7 +1.2**
TREB *e*Sn **Sn 12 32 31.4 -0.2**
OBKA Obir 4.10 12 *e*Pn **Pn 12 31 55.3 +3.0**
comp=E,0.8nm,0.2s
MYKA Terra Mystica 4.13 4 *i* Pn **Pn 12 31 53.6 +0.9**
comp=E,3.4nm,0.4s
ABTA Abfaltersbach 4.27 353 *i* Pn **Pn 12 31 55.8 +1.1**
comp=E,3.0nm,0.2s
SOKA Soboth 4.35 16 *e*Pn **Pn 12 31 56.3 +0.5**
comp=E,3.3nm,0.6s
PDG Podgorica 4.43 89 *e*Pn **Pn 12 31 59.2 +2.5**
PDG *e*Sn **Sn 12 32 49.1 +0.9**
KBA Koelnbreinsper 4.57 1 *e*Pn **Pn 12 31 59.7 +0.8**
comp=E,2.4nm,0.5s
BBLS Lazići 4.69 71 *e*Pn **Pn 12 32 02.1 +1.7**
FETA Feichten 4.86 339 *i* Pn **Pn 12 32 05.3 +2.5**
comp=E,4.9nm,0.8s
WTTA Wattenberg 4.89 347 *e*Pn **Pn 12 32 05.4 +2.1**
comp=E,0.6nm,0.2s
DAVOX Davos/Dischmat 4.91 332 Pn **Pn 12 32 06.6 +3.1**
comp=E,1.3nm,0.3s,baz=148,slow=19,SNR=9.4
DAVOX Sn **Sn 12 33 03.9 +3.6**
comp=E,1.0nm,0.3s,baz=322,slow=20,SNR=3.5
comp=E,4.4nm,0.4s
WATA Walderalm 4.97 347 *e*Pn Pn 12 32 10.2 +5.8
comp=E,2.2nm,0.2s
SJES Sjenica 4.98 79 *e*Pn **Pn 12 32 06.4 +1.9**
ARSA Arzberg 5.00 18 *e*Pn **Pn 12 32 04.8 +0.2**
comp=E,0.4nm,0.2s
TIR Tirane 5.05 101 *e*Pn **Pn 12 32 07.5 +2.1**
MOTA Moosalm 5.07 343 *e*Pn **Pn 12 32 08.0 +2.2**
comp=E,1.4nm,0.2s
IVAS Ivanjica 5.16 76 *e*Pn **Pn 12 32 07.4 +0.6**
IVAS *e*Sn **Sn 12 33 06.5 +0.2**
DIVS Divibare 5.16 70 *e*Pn **Pn 12 32 08.8 +2.0**
BIOA Bad Ischl, Aus 5.19 3 *e*Pn **Pn 12 32 08.8 +1.6**
comp=E,3.2nm,0.3s
DAVA Damuels 5.35 334 *e*Pn **Pn 12 32 11.9 +2.3**
comp=E,3.5nm,0.3s
MOA Molln 5.39 7 *e*Pn **Pn 12 32 10.8 +0.9**
comp=E,0.7nm,0.3s
MOA Molln 5.39 7 *e*Pn **Pn 12 32 10.8 +0.9**
MOA *e*Sn **Sn 12 33 12.6 +0.7**
TRUS Trudelj 5.48 69 *e*Pn **Pn 12 32 12.0 +0.8**
GRUS Gruza 5.62 73 *e*Pn **Pn 12 32 14.2 +1.2**
GRUS *e*Sn **Sn 12 33 17.1 -0.4**
RONA Rosalia, Austr 5.62 21 *e*Pn **Pn 12 32 13.7 +0.6**
comp=E,0.7nm,0.3s
CONA Conrad Observa 5.72 18 *e*Pn **Pn 12 32 14.8 +0.2**
comp=E,1.8nm,0.4s
OHR Ohrid 5.80 101 *e*Sn **Sn 12 33 21.7 -0.4**
SELS Selova 5.81 80 *e*Pn **Pn 12 32 16.9 +1.1**
SELS *e*Sn **Sn 12 33 21.8 -0.6**
BARS Barje 6.31 84 *e*Pn **Pn 12 32 24.0 +1.4**
BARS *e*Sn **Sn 12 33 34.1 -0.5**
FNA Florina 6.31 103 *e*Pn **Pn 12 32 24.4 +1.7**
FNA *e*Sn **Sn 12 33 32.6 -2.2**
GERES GERESS Array B 6.34 3 Pn **Pn 12 32 23.4 +0.2**
comp=E,0.2nm,0.3s,baz=186,slow=14,SNR=3.3
GERES Sn **Sn 12 33 33.4 -2.1**

comp=E,1.6nm,0.3s,baz=180,slow=24,SNR=7.0
comp=E,0.9nm,0.5s
MODS Modra-Piesok 6.51 24 *e*SN **Sn 12 33 34.6 -4.8**
PRVS Prvonek 6.51 87 *e*Pn **Pn 12 32 25.9 +0.5**
PRVS *e*Sn **Sn 12 33 38.6 -0.9**
KHC Kasperske Hory 6.63 2 *e*PN **Pn 12 32 26.5 -0.5**
KHC *e*SN **Sn 12 33 41.2 -1.2**
ZAGS Zajecar 6.68 76 *e*Pn **Pn 12 32 28.7 +1.0**
ZAPS Zavoj 6.92 80 *e*Sn **Sn 12 33 47.7 -2.0**
KEST Kesra 7.42 206 Pn Pn 12 32 43.0 +5.0
comp=E,0.9nm,0.3s,baz=348,slow=9.3,SNR=6.3
KEST Sn **Sn 12 34 07.9 +5.8**
comp=E,0.4nm,0.3s,baz=336,slow=24,SNR=1.5
comp=E,4.1nm,0.5s
CLL Collm 8.80 359 *e*(Sn) **Sn 12 34 30.0 -5.8**
CLL *ex* x 12 34 56.0
CLL *ex* x 12 35 26.0
CLL *e*Sg Sg 12 35 47.0 +15
MKAR Makanchi Array 47.85 60 P **P 12 39 28.7 +1.4**
comp=E,0.2nm,0.7s,baz=300,slow=5.8,SNR=2.5
comp=E,0.2nm,0.7s

ROM 18 12:38:58.1±0.1, 42°503N±0°005×13°277E±0°007, h14km, ML2.8/15, 4C-5D, Error ellipse: s-maj=0.7km s-min=0.3km az=55.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**277**	P	Pg	12 39 01.0	+0.2
RM33				S	Sg	12 39 02.9	+0.1
T1247	**Pizzolo (AQ)**	**0.06**	**165**	P	Pg	12 39 01.3	+0.4
T1247				S	Sg	12 39 03.2	+0.3
T1247				AML	AML		
	comp=E,11070µm,0.7s						
T1247				AML	AML		
	comp=N,23700µm,0.2s						
T1247				AML	AML		
	comp=E,11074µm,0.7s						
T1247				AML	AML		
	comp=N,23700µm,0.2s						
T1247				AML	AML		
	comp=E,8826µm,0.2s						
CAMP	**Campotosto**	**0.10**	**71**	P	Pg	12 39 01.6	+0.2
CAMP				S	Sg	12 39 03.9	+0.3
LNSS	**Leonessa**	**0.20**	**300**	P	Pg	12 39 03.0	+0.3
LNSS				S	Sb	12 39 06.6	-0.7
LNSS				AML	AML		
	comp=E,18200µm,0.5s						
LNSS				AML	AML		
	comp=N,17300µm,0.1s						
LNSS				AML	AML		
	comp=E,18200µm,1.5s						
LNSS				AML	AML		
	comp=E,16675µm,0.1s						
LNSS				AML	AML		
	comp=N,17342µm,0.1s						
T1218	**Civita (PG)**	**0.20**	**324**	P	Pg	12 39 03.0	+0.1
T1218				S	Sg	12 39 06.5	+0.4
T1218				AML	AML		
	comp=E,7455µm,0.4s						
T1218				AML	AML		
	comp=N,8515µm,0.2s						
T1218				AML	AML		
	comp=E,7610µm,0.4s						
T1218				AML	AML		
	comp=E,7450µm,0.4s						
T1218				AML	AML		
	comp=N,8715µm,0.2s						
T1218				AML	AML		
	comp=E,6829µm,0.1s						
T1218				AML	AML		
	comp=E,7069µm,0.1s						
T1218				AML	AML		
	comp=N,8513µm,0.2s						
T1218				AML	AML		
	comp=N,8695µm,0.2s						
GIGS	**Gran Sasso**	**0.22**	**104**	P	Pg	12 39 03.1	+0.1
GIGS				AML	AML		
	comp=E,339µm,0.4s						
GIGS				AML	AML		
	comp=E,322µm,0.2s						
GIGS				AML	AML		
	comp=N,444µm,0.2s						
FIAM	**Fiamignano**	**0.26**	**207**	P	Pg	12 39 04.0	+0.3
FIAM				S	Sb	12 39 08.4	-0.6
FIAM				AML	AML		
	comp=N,893µm,1.1s						
FIAM				AML	AML		
	comp=E,1448µm,0.4s						
FIAM				AML	AML		
	comp=N,894µm,1.1s						
FIAM				AML	AML		
	comp=N,894µm,0.9s						
FIAM				AML	AML		
	comp=N,882µm,0.5s						
FIAM				AML	AML		
	comp=E,1448µm,0.4s						
FAGN	**Fagnano**	**0.33**	**136**	P	Pb	12 39 05.5	-0.2
FAGN				AML	AML		
	comp=E,2660µm,0.5s						
FAGN				AML	AML		
	comp=N,1665µm,0.3s						
FAGN				AML	AML		
	comp=E,2660µm,1.5s						
FAGN				AML	AML		
	comp=N,1666µm,0.3s						
FAGN				AML	AML		
	comp=E,2662µm,0.5s						
T1217	**Poggiodomo (PG**	**0.33**	**309**	P	Pg	12 39 05.1	+0.2
T1217				S	Sg	12 39 10.2	+0.7
T1217				AML	AML		
	comp=E,2440µm,0.3s						
T1217				AML	AML		
	comp=N,2435µm,1.0s						
T1217				AML	AML		
	comp=E,2505µm,0.3s						
T1217				AML	AML		
	comp=N,2415µm,1.0s						
T1217				AML	AML		
	comp=N,2280µm,0.2s						
T1217				AML	AML		
	comp=E,2443µm,0.3s						
T1217				AML	AML		
	comp=E,2506µm,0.3s						
T1217				AML	AML		
	comp=N,2321µm,0.2s						
NRCA	**Norcia**	**0.35**	**340**	⇓P	Pg	12 39 05.3	0.0
NRCA				AML	AML		
	comp=E,4680µm,0.2s						
NRCA				AML	AML		
	comp=N,2895µm,0.1s						
NRCA				AML	AML		
	comp=N,2896µm,0.1s						
NRCA				AML	AML		
	comp=E,4679µm,0.2s						
T0110	**Collepietro**	**0.46**	**126**	AML	AML		
	comp=N,1028µm,0.3s						
T0110				AML	AML		
	comp=E,982µm,0.3s						
T0110				AML	AML		
	comp=N,1027µm,0.3s						
T0110				AML	AML		
	comp=E,982µm,0.3s						
PTQR	**Pietraquaria**	**0.49**	**169**	P	Pb	12 39 08.2	-0.3
PTQR				AML	AML		
	comp=E,144µm,0.9s						
PTQR				AML	AML		
	comp=N,140µm,1.4s						
PTQR				AML	AML		
	comp=N,127µm,0.2s						
PTQR				AML	AML		
	comp=E,143µm,0.4s						
CESX	**Cesi**	**0.53**	**282**	⇑P	Pg	12 39 08.3	-0.2
CESX				AML	AML		
	comp=E,432µm,1.5s						
CESX				AML	AML		
	comp=N,464µm,1.5s						
CESX				AML	AML		
	comp=E,432µm,0.5s						
CESX				AML	AML		
	comp=N,464µm,0.5s						
CESX				AML	AML		
	comp=E,429µm,0.3s						
CESX				AML	AML		
	comp=N,448µm,0.3s						
GUMA	**Gualdo di Mace**	**0.56**	**4**	⇓P	Pg	12 39 05.8	-3.3
GUMA				AML	AML		
	comp=E,1685µm,1.1s						
GUMA				AML	AML		
	comp=E,2115µm,0.3s						
GUMA				AML	AML		
	comp=N,1665µm,0.3s						
GUMA				AML	AML		
	comp=N,1910µm,0.4s						
GUMA				AML	AML		
	comp=E,1466µm,0.2s						
GUMA				AML	AML		
	comp=N,1909µm,0.4s						
GUMA				AML	AML		
	comp=E,2118µm,0.3s						
GUMA				AML	AML		
	comp=N,1665µm,0.3s						
CESI	**CESI - Serrava**	**0.57**	**331**	⇑P	Pg	12 39 09.1	-0.3
CESI				AML	AML		
	comp=N,1150µm,1.4s						
CESI				AML	AML		
	comp=E,833µm,0.2s						
CESI				AML	AML		
	comp=N,1150µm,0.6s						
CESI				AML	AML		
	comp=N,1039µm,0.3s						
CESI				AML	AML		
	comp=E,833µm,0.2s						
CSP1	**Cessapalombo**	**0.59**	**355**	P	Pb	12 39 10.2	0.0
CSP1				S	Sb	12 39 19.5	+1.0
MOMA	**Monte Martano**	**0.60**	**300**	S	Sb	12 39 19.3	+0.5
MOMA				AML	AML		
	comp=E,699µm,0.4s						
MOMA				AML	AML		
	comp=N,670µm,0.2s						
MOMA				AML	AML		
	comp=E,625µm,0.1s						
MOMA				AML	AML		
	comp=E,684µm,0.4s						
MOMA				AML	AML		
	comp=N,639µm,0.2s						
T1220	**Camerino, Fraz**	**0.62**	**347**	⇓P	Pg	12 39 10.1	-0.2
T1220				AML	AML		
	comp=E,1075µm,1.4s						
T1220				AML	AML		
	comp=N,1470µm,0.2s						
T1220				AML	AML		
	comp=E,1070µm,1.5s						
T1220				AML	AML		
	comp=N,1490µm,0.3s						
T1220				AML	AML		
	comp=E,1075µm,0.6s						
T1220				AML	AML		
	comp=E,1070µm,0.5s						
T1220				AML	AML		
	comp=N,1472µm,0.3s						
T1220				AML	AML		
	comp=E,959µm,0.2s						
T1220				AML	AML		
	comp=E,984µm,0.2s						
T1220				AML	AML		
	comp=N,1490µm,0.3s						
MNTP	**Montappone**	**0.65**	**13**	S	Sb	12 39 21.0	+0.9
EL6	**Elcito**	**0.84**	**351**	S	Sn	12 39 28.1	+0.5
VIVA	**Pratoni del Vi**	**0.84**	**207**	P	Pg	12 39 14.0	-0.4
VIVA				AML	AML		
	comp=N,611µm,0.4s						
VIVA				AML	AML		
	comp=E,556µm,1.5s						
VIVA				AML	AML		
	comp=N,611µm,0.4s						
VIVA				AML	AML		
	comp=E,542µm,0.4s						
MGAB	**Montegabbione**	**0.95**	**296**	⇓P	Pn	12 39 18.3	+1.2
MGAB				AML	AML		
	comp=E,374µm,0.4s						
MGAB				AML	AML		
	comp=E,365µm,0.3s						
MGAB				AML	AML		
	comp=N,362µm,0.3s						
MGAB				AML	AML		
	comp=N,317µm,0.3s						
MGAB				AML	AML		
	comp=E,375µm,0.4s						
MGAB				AML	AML		
	comp=N,362µm,0.3s						
MGAB				AML	AML		
	comp=N,317µm,0.3s						
MGAB				AML	AML		
	comp=E,365µm,0.3s						
ARVD	**Arcevia**	**1.02**	**346**	S	Sn	12 39 33.3	+1.1
PIEI	**Pieia**	**1.17**	**332**	S	Sg	12 39 39.0	+3.2
PIEI				AML	AML		
	comp=E,130µm,1.6s						
PIEI				AML	AML		
	comp=N,148µm,1.3s						
PIEI				AML	AML		
	comp=N,148µm,0.7s						
PIEI				AML	AML		
	comp=E,130µm,0.4s						
MCIV	**Monte Civitell**	**1.21**	**284**	P	Pg	12 39 24.5	+3.1
MCIV				S	Sg	12 39 41.7	+4.5
BRSN	**Barisano**	**1.98**	**334**	⇓P	Pn	12 39 31.6	+0.4
VULT	**Monte Vulture**	**2.34**	**131**	S	Sn	12 40 03.0	-1.7
CET2	**Cetraro**	**3.60**	**145**	S	Sb	12 40 42.8	-2.1
LEOD	**Capriano del C**	**3.73**	**323**	S	Sb	12 40 50.6	+1.9
ORZI	**Orzinuovi**	**3.78**	**321**	⇑P	Pb	12 40 02.4	-2.1
ZAG	**Zagreb**	**3.85**	**29**	S	Sb	12 40 53.2	+0.9
MSRU	**Castanea**	**4.56**	**157**	S	Sn	12 40 53.7	-5.8
MSFR	**San Fratello**	**4.58**	**167**	P	Pn	12 40 03.1	-3.8
KBN	**Korca**	**5.94**	**106**	⇑P	Pn	12 40 24.9	-0.7

ROM 18 12:39:37.6±0.1, 42°566N±0°007×13°342E±0°006, h9km, ML2.4/7, 2C-4D, Error ellipse: s-maj=0.8km s-min=0.2km az=26.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.06**	**121**	⇑P	Pg	12 39 40.0	+0.3
CAMP				S	Sg	12 39 41.2	0.0
CAMP				AML	AML		
	comp=E,17300µm,0.4s						
CAMP				AML	AML		
	comp=N,16710µm,0.6s						
RM33	**Pellescritta (**	**0.11**	**239**	P	Pg	12 39 40.9	+0.5
RM33				S	Sg	12 39 42.8	+0.5
RM33				AML	AML		
	comp=E,19750µm,1.1s						
RM33				AML	AML		
	comp=N,11065µm,0.4s						
RM33				AML	AML		
	comp=E,19700µm,1.1s						
RM33				AML	AML		
	comp=N,10655µm,0.4s						
RM33				AML	AML		
	comp=N,11090µm,0.4s						
RM33				AML	AML		
	comp=N,11090µm,1.6s						
RM33				AML	AML		
	comp=N,10655µm,1.6s						
RM33				AML	AML		
	comp=E,18422µm,0.2s						
RM33				AML	AML		
	comp=N,10644µm,0.4s						
RM33				AML	AML		
	comp=N,11064µm,0.4s						
RM33				AML	AML		
	comp=E,18717µm,0.2s						
T1247	**Pizzolo (AQ)**	**0.13**	**194**	⇑P	Pg	12 39 41.3	+0.7
T1247				S	Sg	12 39 43.5	+0.9
T1247				AML	AML		
	comp=N,8882µm,0.3s						
T1247				AML	AML		
	comp=E,11615µm,0.2s						
T1218	**Civita (PG)**	**0.20**	**302**	P	Pg	12 39 42.4	+0.6
GIGS	**Gran Sasso**	**0.20**	**124**	P	Pg	12 39 42.5	+0.6
GIGS				S	Sg	12 39 45.3	+0.6
GIGS				AML	AML		
	comp=E,1545µm,0.1s						
GIGS				AML	AML		
	comp=N,1225µm,0.4s						
GIGS				AML	AML		
	comp=E,1545µm,0.1s						
GIGS				AML	AML		
	comp=N,983µm,0.9s						
LNSS	**Leonessa**	**0.23**	**280**	P	Pg	12 39 43.0	+0.7
LNSS				S	Sg	12 39 46.8	+1.3

LNSS				AML	AML		
	comp=N,3710μm,0.4s						
LNSS				AML	AML		
	comp=N,3705μm,0.4s						
LNSS				AML	AML		
	comp=E,4545μm,0.5s						
LNSS				AML	AML		
	comp=N,3707μm,0.4s						
LNSS				AML	AML		
	comp=E,4543μm,0.5s						
NRCA	**Norcia**	**0.32**	**328**	⇓P	Pb	12 39 44.8	-0.7
NRCA				AML	AML		
	comp=E,1673μm,0.3s						
NRCA				AML	AML		
	comp=N,1815μm,0.1s						
T1217	**Poggiodomo (PG**	**0.34**	**296**	P	Pg	12 39 44.9	+0.7
T1217				AML	AML		
	comp=E,789μm,1.6s						
T1217				AML	AML		
	comp=N,766μm,0.6s						
T1217				AML	AML		
	comp=E,705μm,1.6s						
T1217				AML	AML		
	comp=N,743μm,0.8s						
T1217				AML	AML		
	comp=N,766μm,0.6s						
T1217				AML	AML		
	comp=E,704μm,1.6s						
T1217				AML	AML		
	comp=N,742μm,0.8s						
T1217				AML	AML		
	comp=N,766μm,1.4s						
T1217				AML	AML		
	comp=N,621μm,0.3s						
T1217				AML	AML		
	comp=E,576μm,0.4s						
T1217				AML	AML		
	comp=N,650μm,0.7s						
T1217				AML	AML		
	comp=E,650μm,0.5s						
FIAM	**Fiamignano**	**0.34**	**209**	P	Pg	12 39 45.1	+0.7
FIAM				S	Sg	12 39 50.1	+1.2
FIAM				AML	AML		
	comp=E,1305μm,0.7s						
FIAM				AML	AML		
	comp=N,1079μm,0.8s						
FIAM				AML	AML		
	comp=N,1079μm,1.2s						
FIAM				AML	AML		
	comp=N,998μm,0.7s						
FIAM				AML	AML		
	comp=E,1304μm,0.7s						
FAGN	**Fagnano**	**0.35**	**149**	P	Pg	12 39 45.1	+0.6
FAGN				S	Sb	12 39 50.6	-1.0
FAGN				AML	AML		
	comp=E,6810μm,0.4s						
FAGN				AML	AML		
	comp=N,4345μm,0.3s						
FAGN				AML	AML		
	comp=E,6811μm,0.4s						
FAGN				AML	AML		
	comp=N,4344μm,0.3s						
ARRO	**Arrone**	**0.43**	**272**	P	Pg	12 39 46.2	+0.3
ARRO				AML	AML		
	comp=N,450μm,0.5s						
ARRO				AML	AML		
	comp=E,392μm,0.3s						
T0110	**Collepietro**	**0.47**	**136**	P	Pb	12 39 47.5	-0.6
T0110				S	Sb	12 39 55.0	0.0
T0110				AML	AML		
	comp=E,1860μm,0.5s						
T0110				AML	AML		
	comp=N,2015μm,1.1s						
T0110				AML	AML		
	comp=N,2015μm,0.9s						
T0110				AML	AML		
	comp=N,1918μm,0.4s						
T0110				AML	AML		
	comp=E,1860μm,0.5s						
PTQR	**Pietraquaria**	**0.55**	**175**	⇓P	Pg	12 39 48.4	+0.2
PTQR				AML	AML		
	comp=N,190μm,1.5s						
PTQR				AML	AML		
	comp=E,252μm,0.3s						
PTQR				AML	AML		
	comp=N,190μm,0.5s						
PTQR				AML	AML		
	comp=N,182μm,0.8s						
PTQR				AML	AML		
	comp=E,252μm,0.3s						
VVLD	**Villa Vallelon**	**0.72**	**163**	P	Pb	12 39 53.1	+0.7
VVLD				AML	AML		
	comp=E,372μm,0.6s						
VVLD				AML	AML		
	comp=N,315μm,0.5s						
VVLD				AML	AML		
	comp=E,372μm,1.4s						
VVLD				AML	AML		
	comp=E,372μm,0.6s						
VVLD				AML	AML		
	comp=N,315μm,0.5s						
LPEL	**Lama dei Pelig**	**0.81**	**129**	⇓P	Pg	12 39 53.5	+0.3
LPEL				S	Sb	12 40 05.9	+0.9
LPEL				AML	AML		
	comp=E,365μm,0.2s						
LPEL				AML	AML		
	comp=N,293μm,0.3s						
COLB	**Campi Flegrei**	**1.85**	**161**	⇓P	Pb	12 40 12.0	+0.6

*IDC **18** 13:08:16.7±2.0,35°.60N×140°.07E,h53^{km}±19^{km},mb3.3/5, mbtmp3.6/7,ML3.1/2,Error ellipse: s-maj=24.8km s-min=7.6km az=65.0*

*JMA **18** 13:08:17.7±0.2,35°.8N±0°.5×140°.0E±0°.7,h60^{km}±1^{km}, MV3.2/40,NORTHERN CHIBA PREF*

JMA Felt I J1 at NORTHERN CHIBA PREF .

ISC 18 13:08:17.9±0.8,35°.67N±0°.04×139°.97E±0°.04,h67^{km}±7^{km}, n27,σ1^{s}03/35,mb3.5/5,6D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.17**	**276**	P	**Pn**	**13 08 27.9**	**-0.1**
TOK				S	**Sn**	**13 08 35.7**	**+0.4**
JCN	**Nagara**	**0.31**	**143**	*i* P	**Pn**	**13 08 28.9**	**+0.1**
JSMT	**Sammumatsuo**	**0.39**	**94**	P	**Pn**	**13 08 29.3**	**-0.2**
JSMT				*e*S	**Sn**	**13 08 37.9**	**0.0**
JOD2	**Odawara 2**	**0.83**	**241**	⇓*i*P	**Pn**	**13 08 33.8**	**-0.3**
JOD2				⇓S	**Sn**	**13 08 45.0**	**-1.2**
JAG	**Ashikaga**	**0.86**	**331**	*i* P	**Pn**	**13 08 33.6**	**-1.0**
JAG				S	**Sn**	**13 08 45.0**	**-1.8**
JRY	**Ryogami san**	**0.94**	**292**	⇓*i*P	**Pn**	**13 08 35.3**	**-0.2**
JRY				⇓S	**Sn**	**13 08 48.4**	**-0.1**
BSO3	**Boso 3**	**0.97**	**153**	*i* P	**Pn**	**13 08 35.2**	**-0.4**
BSO3				*e*S	**Sn**	**13 08 49.9**	**+1.1**
JIM2	**Oshima 3**	**1.05**	**205**	P	**Pn**	**13 08 36.5**	**-0.4**
JIM2				S	**Sn**	**13 08 49.9**	**-1.1**
JFNN	**Fujinakano**	**1.15**	**246**	P	**Pn**	**13 08 38.2**	**0.0**
JFNN				S	**Sn**	**13 08 53.2**	**-0.1**
JYN	**Shimob**	**1.18**	**262**	⇓*i*P	**Pn**	**13 08 38.5**	**-0.1**
JYN				⇓S	**Sn**	**13 08 54.1**	**+0.1**
JKT	**Katashina**	**1.24**	**332**	*i* P	**Pn**	**13 08 38.4**	**-1.1**
JKT				S	**Sn**	**13 08 54.1**	**-1.5**
JIZS	**Izushimoda**	**1.30**	**224**	P	**Pn**	**13 08 40.2**	**0.0**
JIZS				S	**Sn**	**13 08 56.0**	**-0.9**
BSO1	**Boso 1**	**1.31**	**141**	P	**Pn**	**13 08 38.9**	**-0.8**
BSO1				S	**Sn**	**13 08 56.2**	**+0.1**
MJAR	**Matsushiro Arr**	**1.67**	**302**	P	**Pn**	**13 08 44.7**	**-0.4**
	8.5nm,0.4s,baz=150,slow=14,SNR=52						
MJAR				S	**Sn**	**13 09 06.1**	**+0.4**
	29nm,0.4s,baz=153,slow=27,SNR=6.4						
JHJ	**Hachijo jima 2**	**2.55**	**184**	P	**Pn**	**13 08 54.4**	**-2.5**
	21nm,0.3s,baz=35,slow=16,SNR=7.4						
JHJ				S	**Sn**	**13 09 24.5**	**-2.4**
	135nm,0.3s,baz=127,slow=23,SNR=6.5						
	56nm,0.3s						
ASAJ	**Asahikawa**	**8.67**	**13**	P	**Pn**	**13 10 18.5**	**-2.0**
	0.2nm,0.3s,baz=218,slow=14,SNR=1.6						
	3.7nm,1.0s						
SONM	**Songino Array**	**27.62**	**307**	P	**P**	**13 13 59.6**	**+0.5**
	0.3nm,0.7s,baz=98,slow=10,SNR=2.6						
	0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.52**	**117**	T	T	13 43 50.0	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**28.52**	**117**	T	T	13 43 49.2	
	baz=309,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.53**	**117**	T	T	13 43 47.5	
	baz=309,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.16**	**119**	T	T	13 44 39.7	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**29.16**	**119**	T	T	13 44 40.8	
	baz=310						
H11S2	**WAKE ISLAND Hy**	**29.18**	**119**	T	T	13 44 40.8	
	baz=310						
ZALV	**Zalesovo Beam**	**41.99**	**314**	P	**P**	**13 16 02.9**	**+0.7**
	1.8nm,0.5s,baz=88,slow=7.8,SNR=7.4						
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**43.87**	**303**	P	**P**	**13 16 18.4**	**+0.8**
	0.7nm,0.9s,baz=96,slow=9.7,SNR=5.4						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**51.27**	**32**	P	**P**	**13 17 15.8**	**+1.3**
	0.5nm,0.9s,baz=255,slow=6.4,SNR=4.3						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**55.56**	**186**	P	**P**	**13 17 46.1**	**-0.3**
	0.2nm,0.6s,baz=358,slow=7.3,SNR=6.7						
	0.2nm,0.6s						

IDC 18 13:15:47.6±1.8,9°.78S×160°.39E,h0^{km},mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=41.3km s-min=22.2km az=32.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.56**	**308**	Pn	Pn	13 16 03.5	+0.6
	464nm,0.3s,baz=154,slow=7.7,SNR=12						
HNR				Sn	Sn	13 16 12.4	-0.5
	1μm,0.3s,baz=230,slow=16,SNR=13						
WRA	**Warramunga Arr**	**27.09**	**245**	P	P	13 21 32.1	-0.3
	0.4nm,1.0s,baz=76,slow=8.9,SNR=1.9						
	0.4nm,1.0s						
SONM	**Songino Array**	**74.60**	**326**	P	P	13 27 28.9	+0.2
	0.2nm,0.6s,baz=140,slow=4.9,SNR=2.0						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**84.07**	**20**	P	P	13 28 19.6	-0.3
	0.2nm,0.5s,baz=236,slow=4.2,SNR=6.3						
	0.2nm,0.5s						

IDC 18 13:19:50.0±3.4,49°.20S×114°.84E,h0^{km},mb3.6/2, mbtmp3.6/2,Error ellipse: s-maj=342.9km s-min=64.2km az=122.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.30**	**358**	T	T	13 38 42.1	
	baz=175,slow=74,SNR=22						
H01W1	**Cape Leeuwin H**	**14.31**	**358**	T	T	13 38 42.7	
	baz=175,slow=74,SNR=18						
H01W3	**Cape Leeuwin H**	**14.32**	**358**	T	T	13 38 44.3	
	baz=175,slow=74,SNR=22						
ASAR	**Alice Springs**	**29.58**	**37**	P	P	13 25 56.4	-0.2
	0.5nm,0.8s,baz=201,slow=8.3,SNR=7.1						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**33.12**	**35**	P	P	13 26 28.0	+0.2
	0.6nm,0.7s,baz=206,slow=9.6,SNR=5.2						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**150.06**	**45**	PKPbc	PKPbc	13 39 40.6	-0.7
	0.5nm,0.7s,baz=279,slow=2.0,SNR=6.8						
YKA				PKPab	PKPab	13 39 47.0	-0.2
	0.3nm,0.7s,baz=276,slow=2.4,SNR=3.1						

*ROM **18** 13:19:52.7±0.0,42°.485N±0°.002×13°.273E±0°.002, h12^{km},ML3.8/62,Mw3.7,Error ellipse: s-maj=0.2km s-min=0.0km az=67.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-2.81; $M_{\theta\theta}$0.12; $M_{\phi\phi}$2.69; $M_{r\theta}$1.74; $M_{\theta\phi}$-1.81; $M_{\phi r}$-0.93; Fault plane solution: M_o3.82346×10^{14} NP1:ϕ_s175.00000°,δ36.00000°, λ-54.00000°. NP2:ϕ_s313.00000°,δ62.00000°, λ-113.00000°.*

*IDC **18** 13:19:52.4±1.2,42°.57N×13°.39E,h0^{km},mb3.6/6, mbtmp3.7/14,ML3.5/7,MS3.3/1 Error ellipse: s-maj=18.9km s-min=12.6km az=74.0*

*LDG **18** 13:19:53.0±0.1,42°.42N×13°.25E,h12^{km},Ml3.2/21,Error ellipse: s-maj=5.4km s-min=3.1km az=36.0*

*PRU **18** 13:19:53.7±0.0,42°.54N×12°.94E,h10^{km}*

*STR **18** 13:19:54.1±2.9,42°N±19°×1°3E±2°,0,h10^{km},MLv3.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=134.7, preliminary*

*BEO **18** 13:19:55.3±0.6,42°.47N×13°.33E,h7^{km},ML4.0/12*

ISC 18 13:19:53.1±0.6,42°.48N±0°.01×13°.24E±0°.02,h16^{km}±3^{km}, n281,σ1^{s}93/346,mb3.7/5,20C-9D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.04**	**325**	⇓P	**Pg**	**13 19 55.5**	**-0.6**
RM33				S	**Sg**	**13 19 57.1**	**-0.9**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
T1247	**Pizzolo (AQ)**	**0.06**	**133**	⇓P	**Pg**	**13 19 55.7**	**-0.5**
T1247				S	**Sg**	**13 19 57.4**	**-0.8**
T1247				AML	AML		
CAMP	**Campotosto**	**0.14**	**66**	⇑P	**Pg**	**13 19 56.2**	**-0.8**
CAMP				S	**Sg**	**13 19 58.3**	**-1.3**
SMA1	**SAN MARTINO**	**0.17**	**25**	P	**Pg**	**13 19 56.8**	**-0.6**
SMA1				S	**Sg**	**13 19 59.6**	**-0.6**
AQU	**L'Aquila**	**0.17**	**137**	⇑P	**Pg**	**13 19 57.1**	**-0.3**
AQU				S	**Sg**	**13 20 00.1**	**-0.2**
LNSS	**Leonessa**	**0.19**	**310**	⇑P	**Pg**	**13 19 57.7**	**0.0**
LNSS				S	**Sg**	**13 20 01.2**	**+0.3**
LNSS				AML	AML		
LNSS				AML	AML		
T1204	**Amatrice, Fraz**	**0.20**	**16**	P	**Pg**	**13 19 57.3**	**-0.6**
T1204				S	**Sg**	**13 20 00.5**	**-0.7**
T1218	**Civita (PG)**	**0.21**	**334**	⇓P	**Pg**	**13 19 57.7**	**-0.4**
T1218				S	**Sg**	**13 20 01.3**	**-0.2**
T1218				AML	AML		
	comp=E,61900μm,0.4s						
T1218				AML	AML		
T1218				AML	AML		
	comp=E,59250μm,1.2s						
T1218				AML	AML		
	comp=E,61900μm,0.4s						
T1218				AML	AML		
T1218				AML	AML		
	comp=E,59250μm,0.8s						
T1202	**Accumoli, Fraz**	**0.22**	**357**	⇓P	**Pg**	**13 19 57.9**	**-0.3**
T1202				S	**Sg**	**13 20 01.5**	**-0.3**
FIAM	**Fiamignano**	**0.23**	**204**	⇑P	**Pg**	**13 19 58.5**	**+0.2**
FIAM				S	**Sb**	**13 20 02.6**	**-0.3**
FIAM				AML	AML		
	comp=N,54250μm,0.7s						
FIAM				AML	AML		
	comp=E,91250μm,0.5s						
GIGS	**Gran Sasso**	**0.24**	**97**	⇑P	**Pg**	**13 19 57.7**	**-0.8**
GIGS				S	**Sg**	**13 20 01.3**	**-1.0**
GIGS				AML	AML		
	comp=E,23150μm,0.5s						
GIGS				AML	AML		
	comp=E,23150μm,1.5s						
GIGS				AML	AML		
	comp=N,29400μm,0.7s						
T1217	**Poggiodomo (PG**	**0.33**	**315**	⇑P	**Pg**	**13 19 59.8**	**-0.2**
T1217				S	**Sg**	**13 20 04.9**	**+0.3**
T1217				AML	AML		
	comp=E,43450μm,0.8s						
T1217				AML	AML		
	comp=N,46550μm,1.6s						
T1217				AML	AML		
	comp=E,36100μm,0.8s						
T1217				AML	AML		
	comp=E,36100μm,0.8s						
T1217				AML	AML		
	comp=N,46550μm,0.4s						
T1217				AML	AML		
	comp=E,36150μm,0.8s						
T1217				AML	AML		
	comp=N,49300μm,0.3s						
T1217				AML	AML		
	comp=E,43450μm,0.8s						
FAGN	**Fagnano**	**0.33**	**130**	P	**Pg**	**13 19 59.3**	**-0.7**
FAGN				S	**Sg**	**13 20 04.4**	**-0.3**
FAGN				AML	AML		
	comp=N,86000μm,1.6s						
FAGN				AML	AML		
FAGN				AML	AML		
	comp=N,62750μm,0.3s						
FAGN				AML	AML		
ARRO	**Arrone**	**0.37**	**286**	⇑P	**Pg**	**13 20 00.6**	**+0.1**
ARRO				S	**Sb**	**13 20 06.6**	**-0.1**
ARRO				AML	AML		
	comp=E,28600μm,0.2s						
ARRO				AML	AML		
	comp=N,26650μm,0.2s						
T0110	**Collepietro**	**0.47**	**122**	⇑P	**Pg**	**13 20 02.0**	**-0.5**
T0110				S	**Sg**	**13 20 08.9**	**0.0**
T0110				AML	AML		
	comp=N,61000μm,0.4s						
T0110				AML	AML		
	comp=E,50250μm,0.4s						
T0110				AML	AML		
	comp=N,61000μm,1.6s						
PTQR	**Pietraquaria**	**0.47**	**166**	⇑P	**Pg**	**13 20 02.1**	**-0.4**
PTQR				S	**Sg**	**13 20 09.4**	**+0.5**
PTQR				AML	AML		
	comp=E,7920μm,0.5s						
PTQR				AML	AML		
	comp=N,5330μm,0.7s						
PTQR				AML	AML		
	comp=N,4161μm,0.3s						
FEMA	**Monte Fema**	**0.50**	**344**	P	**Pg**	**13 20 02.7**	**-0.4**
FEMA				S	**Sg**	**13 20 10.2**	**+0.3**
FEMA				AML	AML		
	comp=E,24350μm,0.3s						
FEMA				AML	AML		
	comp=N,24350μm,1.0s						
CESX	**Cesi**	**0.51**	**285**	P	**Pg**	**13 20 02.8**	**-0.4**
CESX				S	**Sb**	**13 20 10.8**	**0.0**
CESX				AML	AML		
	comp=E,8945μm,1.1s						
CESX				AML	AML		
	comp=E,8945μm,0.9s						
CESX				AML	AML		
	comp=N,10165μm,0.8s						
CERT	**Cerreto**	**0.56**	**200**	⇑P	**Pg**	**13 20 04.0**	**-0.2**
CERT				S	**Sg**	**13 20 12.2**	**+0.4**
CERT				AML	AML		
	comp=E,12800μm,0.4s						
CERT				AML	AML		
	comp=N,11290μm,0.3s						
CESI	**CESI - Serrava**	**0.58**	**335**	P	**Pg**	**13 20 04.1**	**-0.4**
CESI				S	**Sb**	**13 20 12.9**	**-0.1**
CESI				AML	AML		
	comp=N,18800μm,0.4s						
CESI				AML	AML		
	comp=E,8470μm,0.3s						
GUMA	**Gualdo di Mace**	**0.59**	**7**	P	**Pg**	**13 20 04.2**	**-0.4**
GUMA				S	**Sb**	**13 20 13.4**	**+0.3**
GUMA				AML	AML		
	comp=E,40800μm,0.4s						
GUMA				AML	AML		
	comp=N,63400μm,0.6s						
GUMA				AML	AML		
	comp=E,41450μm,0.7s						
GUMA				AML	AML		
	comp=N,56200μm,0.5s						
GUMA				AML	AML		
	comp=E,40750μm,0.4s						
GUMA				AML	AML		
	comp=N,56200μm,1.5s						
GUMA				AML	AML		
	comp=E,41450μm,1.3s						
GUMA				AML	AML		
	comp=N,63400μm,1.4s						
MTCE	**Montecelio**	**0.59**	**219**	⇑P	**Pg**	**13 20 04.3**	**-0.4**
MTCE				AML	AML		
	comp=N,6625μm,0.6s						
MTCE				AML	AML		
	comp=E,13250μm,0.5s						
MOMA	**Monte Martano**	**0.59**	**303**	P	**Pg**	**13 20 04.2**	**-0.5**
MOMA				S	**Sb**	**13 20 13.9**	**+0.5**
MOMA				AML	AML		
	comp=N,18650μm,1.4s						
MOMA				AML	AML		
	comp=E,19250μm,0.3s						
MOMA				AML	AML		
	comp=N,19000μm,1.4s						
MOMA				AML	AML		
	comp=N,18650μm,0.6s						
MOMA				AML	AML		
	comp=N,19000μm,0.6s						
MOMA				AML	AML		
	comp=E,19650μm,0.3s						
SRES	**S.Oreste - Sor**	**0.59**	**246**	⇑P	**Pg**	**13 20 04.4**	**-0.3**
SRES				AML	AML		
	comp=E,6995μm,0.4s						
SRES				AML	AML		
	comp=N,8415μm,0.4s						
SRES				AML	AML		
	comp=E,6995μm,1.6s						
TRTR	**Tortoreto Alta**	**0.59**	**56**	P	**Pg**	**13 20 04.7**	**-0.1**
TRTR				AML	AML		
	comp=N,27850μm,0.7s						
TRTR				AML	AML		
	comp=E,32850μm,0.4s						
CSP1	**Cessapalombo**	**0.61**	**357**	P	**Pg**	**13 20 04.5**	**-0.7**
CSP1				S	**Sb**	**13 20 13.7**	**-0.3**
CSP1				AML	AML		
	comp=E,15200μm,0.3s						
CSP1				AML	AML		
	comp=E,15150μm,0.3s						
CSP1				AML	AML		
	comp=N,17500μm,0.5s						
CSP1				AML	AML		
	comp=E,15150μm,1.7s						
T1220	**Camerino, Fraz**	**0.64**	**350**	P	**Pg**	**13 20 04.7**	**-1.0**
T1220				S	**Sb**	**13 20 14.8**	**+0.1**
T1220				AML	AML		
	comp=E,46100μm,0.4s						
T1220				AML	AML		
	comp=N,34600μm,0.9s						
T1220				AML	AML		
	comp=N,34650μm,0.9s						
T1220				AML	AML		
	comp=N,34700μm,0.9s						
T1220				AML	AML		
	comp=E,45500μm,0.4s						
T1220				AML	AML		
	comp=E,46100μm,0.4s						
T1220				AML	AML		
	comp=N,34700μm,1.1s						
T1220				AML	AML		
	comp=N,34600μm,1.1s						
RCAV	**Rocca di Cave**	**0.67**	**199**	P	**Pg**	**13 20 05.8**	**-0.4**
VVLD	**Villa Vallelon**	**0.67**	**155**	P	**Pg**	**13 20 05.7**	**-0.5**
VVLD				AML	AML		
	comp=E,6560μm,0.9s						
VVLD				AML	AML		
	comp=N,6420μm,0.5s						
VVLD				AML	AML		
	comp=N,6420μm,1.5s						
VVLD				AML	AML		
	comp=E,6560μm,1.1s						
MNTP	**Montappone**	**0.68**	**14**	P	**Pg**	**13 20 06.0**	**-0.3**
MNTP				AML	AML		
	comp=N,15400μm,0.5s						
MNTP				AML	AML		
	comp=E,14000μm,0.4s						
GUAR	**Guarcino**	**0.69**	**176**	P	**Pg**	**13 20 06.6**	**+0.1**
GUAR				AML	AML		
	comp=N,11850μm,0.7s						
GUAR				AML	AML		
	comp=N,11850μm,1.3s						
GUAR				AML	AML		
	comp=E,6915μm,0.4s						
SEF1	**Sefro**	**0.70**	**342**	P	**Pg**	**13 20 06.1**	**-0.7**
SEF1				S	**Sb**	**13 20 16.9**	**+0.5**
SEF1				AML	AML		
	comp=N,12100μm,1.3s						
SEF1				AML	AML		
	comp=N,12100μm,0.7s						
SEF1				AML	AML		
	comp=E,21300μm,0.3s						
ASSB	**Assisi San Ben**	**0.71**	**323**	P	**Pg**	**13 20 06.3**	**-0.7**
ASSB				S	**Sb**	**13 20 17.0**	**+0.4**
ASSB				AML	AML		
	comp=E,7315μm,0.6s						
ASSB				AML	AML		

comp=N,9660µm,0.4s
MDAR Monte D'Aria 0.72 354 P **Pg** 13 20 06.0 -1.1
FIU1 Fiuminata 0.74 342 P **Pg** 13 20 07.2 -0.4
GAG1 Gagliole 0.77 350 P **Pg** 13 20 07.5 -0.6
GAG1 AML AML
comp=E,14600µm,0.4s
GAG1 AML AML
comp=N,16600µm,0.4s
GAG1 AML AML
comp=E,11976µm,1.6s
RMP Rome, Mte Porz 0.78 211 P **Pg** 13 20 07.9 -0.3
RMP AML AML
comp=E,10900µm,0.5s
RMP AML AML
comp=N,12090µm,0.6s
MTL1 Matelica 0.80 348 P **Pg** 13 20 07.8 -0.7
SNTG Esanatoglia 0.81 344 ⇓P **Pg** 13 20 07.7 -1.1
SNTG AML AML
comp=E,4320µm,0.7s
SNTG AML AML
comp=N,3450µm,0.8s
SNTG AML AML
comp=E,4135µm,0.7s
SNTG AML AML
comp=N,3520µm,0.8s
SNTG AML AML
comp=N,3450µm,1.2s
SNTG AML AML
comp=E,4135µm,1.3s
SNTG AML AML
comp=E,4320µm,1.3s
SNTG AML AML
comp=N,3520µm,1.2s
VIVA Pratoni del Vi 0.81 206 P **Pg** 13 20 08.4 -0.4
VIVA AML AML
comp=E,16100µm,1.2s
VIVA AML AML
comp=N,21000µm,0.5s
CADA Capodarco di F 0.81 28 P **Pb** 13 20 09.2 +0.5
RDP Rocca di Papa 0.82 209 P **Pg** 13 20 08.4 -0.6
RDP AML AML
comp=E,17200µm,0.6s
RDP AML AML
comp=N,20800µm,0.9s
LPEL Lama dei Pelig 0.82 121 P **Pg** 13 20 07.4 -1.7
LPEL S **Sg** 13 20 19.2 -0.7
LPEL AML AML
comp=N,14900µm,1.4s
LPEL AML AML
comp=E,14400µm,0.2s
ATCC AVT- Casa Cast 0.83 328 P **Pg** 13 20 08.5 -0.7
ATCC AML AML
comp=E,9900µm,0.4s
ATCC AML AML
comp=N,8295µm,1.5s
POFI Posta Fibreno 0.84 155 P **Pg** 13 20 08.8 -0.6
POFI AML AML
comp=E,8675µm,0.6s
POFI AML AML
comp=N,4130µm,0.5s
POFI AML AML
comp=E,8540µm,0.6s
POFI AML AML
comp=N,4205µm,0.5s
SAMA S.Maria delle 0.85 215 P **Pg** 13 20 09.0 -0.5
EL6 Elcito 0.85 353 P **Pg** 13 20 08.6 -1.1
EL6 AML AML
comp=E,8305µm,0.6s
EL6 AML AML
comp=N,8635µm,0.4s
EL6 AML AML
comp=E,4213µm,0.8s
LRP Arpino 0.87 163 P **Pn** 13 20 11.6 +0.9
CIMA Civitanova Mar 0.88 21 P **Pb** 13 20 10.4 +0.4
FOSV Fossato di Vic 0.89 337 ⇑P **Pg** 13 20 09.4 -0.9
FOSV AML AML
comp=E,4255µm,0.8s
FOSV AML AML
comp=N,5855µm,0.6s
FOSV AML AML
comp=E,4255µm,1.2s
FOSV AML AML
comp=N,5855µm,1.4s
CING Cingoli 0.90 358 P **Pg** 13 20 09.4 -1.1
LAV9 Lanuvio 0.90 207 P **Pb** 13 20 10.7 +0.4
GIUL Giuliano Di Ro 0.92 179 P **Pb** 13 20 10.7 0.0
GIUL AML AML
comp=E,4910µm,0.6s
GIUL AML AML
comp=E,4910µm,1.4s
GIUL AML AML
comp=N,4155µm,1.0s
PP3 Marolino 0.94 17 P **Pb** 13 20 11.0 0.0
PP3 AML AML
comp=N,13900µm,0.8s
PP3 AML AML
comp=E,11290µm,0.6s
PP3 AML AML
comp=N,12800µm,0.8s
PP3 AML AML
comp=E,11820µm,0.6s
MGAB Montegabbione 0.94 298 P **Pb** 13 20 10.8 -0.2
MGAB AML AML
comp=E,7645µm,0.5s
MGAB AML AML
comp=E,6420µm,0.6s
MGAB AML AML
comp=N,11450µm,0.4s
MGAB AML AML
comp=N,10830µm,0.4s
MGAB AML AML
comp=N,11450µm,1.6s
MURB Monte Urbino 0.94 326 P **Pb** 13 20 10.8 -0.3
MURB AML AML
comp=E,16300µm,1.3s
MURB AML AML
comp=N,16100µm,1.2s
MURB AML AML
comp=E,17550µm,1.4s
MURB AML AML
comp=N,16700µm,1.2s
MURB AML AML
comp=E,17550µm,0.6s
MURB AML AML
comp=N,16100µm,0.8s
MURB AML AML
comp=E,16300µm,0.7s
MURB AML AML
comp=N,16700µm,0.8s
LIK San Giovanni I 1.00 166 P **Pb** 13 20 11.0 -1.1
LIK San Giovanni I 1.00 166 AML AML
comp=E,6825µm,0.5s
LIK AML AML
comp=E,6820µm,0.5s
LIK AML AML
comp=N,6775µm,0.8s
LATB Latina 1.01 192 P **Pb** 13 20 10.9 -1.2
LATB AML AML
comp=E,962µm,1.4s
LATB AML AML
comp=E,962µm,1.4s
LATB AML AML
comp=E,962µm,0.6s
LATB AML AML
comp=N,1218µm,0.8s
TOLF Tolfa 1.01 246 ⇑P **Pb** 13 20 11.8 -0.4
TOLF AML AML
comp=E,3305µm,1.0s
TOLF AML AML
comp=N,2995µm,0.5s
SSFR Montelago di S 1.01 341 P **Pb** 13 20 11.4 -0.9
SSFR AML AML
comp=N,5975µm,1.2s
SSFR AML AML
comp=E,5500µm,1.2s
SSFR AML AML
comp=N,5525µm,0.3s
SSFR AML AML
comp=E,6000µm,0.9s
SSFR AML AML
comp=E,5500µm,0.8s
RNI2 Rionero Sannit 1.03 139 P **Pb** 13 20 12.0 -0.6
RNI2 AML AML
comp=E,6945µm,1.0s
RNI2 AML AML
comp=N,5070µm,1.3s
RNI2 AML AML
comp=E,6945µm,1.0s
RNI2 AML AML
comp=N,5155µm,1.3s
RNI2 AML AML
comp=N,5070µm,0.7s
RNI2 AML AML
comp=N,5155µm,0.7s
ATLO AVT- Montelove 1.04 324 P **Pb** 13 20 12.1 -0.6
ARVD Arcevia 1.04 348 P **Pb** 13 20 11.9 -0.8
ARVD AML AML
comp=N,2525µm,0.4s
ARVD AML AML
comp=E,4005µm,1.1s
SACS San Casciano d 1.05 291 P **Pb** 13 20 12.9 0.0
SACS AML AML
comp=E,2550µm,1.3s
SACS AML AML
comp=N,3290µm,0.9s
SACS AML AML
comp=N,3190µm,1.3s
SACS AML AML
comp=E,2405µm,1.2s
SACS AML AML
comp=E,2550µm,0.7s
SACS AML AML
comp=N,3190µm,0.7s
CERA Filignano 1.05 146 P **Pb** 13 20 12.3 -0.7
CERA AML AML
comp=N,4660µm,0.8s
CERA AML AML
comp=N,4775µm,0.6s
CERA AML AML
comp=N,4660µm,1.2s
CERA AML AML
comp=N,4775µm,1.4s
CERA AML AML
comp=E,6935µm,0.9s
CERA AML AML
comp=E,6990µm,0.9s
ATVA AVT- Monte Val 1.06 319 P **Pb** 13 20 12.9 -0.2
LATE Laterza 1.07 278 P **Pb** 13 20 13.1 -0.2
ATVO AVT- Monte Val 1.09 326 P **Pb** 13 20 13.0 -0.6
ATVO AML AML
comp=E,3370µm,0.5s
ATVO AML AML
comp=N,2970µm,0.4s
AOI Ancona 1.10 14 P **Pb** 13 20 13.1 -0.7
AOI AML AML
comp=E,4185µm,0.7s
AOI AML AML
comp=N,3805µm,1.0s
FRON Frontone 1.10 340 P **Pb** 13 20 13.0 -0.8
FRON AML AML
comp=E,3375µm,0.6s
FRON AML AML
comp=N,3770µm,0.6s
ATMI Monte Miggiano 1.11 320 P **Pb** 13 20 14.1 +0.1
ATBU Serra di Buran 1.12 333 P **Pb** 13 20 13.8 -0.3
MIDA Miranda 1.13 138 P **Pb** 13 20 13.2 -1.1
MIDA AML AML
comp=E,3635µm,0.6s
MIDA AML AML
comp=E,3545µm,0.6s
MIDA AML AML
comp=N,3350µm,0.6s
MIDA AML AML
comp=N,3355µm,0.6s
ATPI Pietralunga - 1.15 328 P **Pb** 13 20 13.8 -0.8
ATPI AML AML
comp=N,4170µm,0.7s
ATPI AML AML
comp=E,3960µm,0.8s
ATPI AML AML
comp=E,3960µm,1.2s
ATPC Poggio Castell 1.15 330 P **Pb** 13 20 14.4 -0.3
COR1 Corinaldo 1.17 351 P **Pn** 13 20 14.8 +0.1
COR1 AML AML
comp=E,3935µm,0.8s
COR1 AML AML
comp=N,10550µm,0.8s
COR1 AML AML
comp=E,3940µm,0.8s
FRES Fresagrandinar 1.18 115 P **Pn** 13 20 13.8 -1.0
FRES AML AML
comp=E,2825µm,0.6s
FRES AML AML
comp=N,2195µm,0.7s
FRES AML AML
comp=E,2825µm,1.4s
PIEI Pieia 1.18 334 P **Pn** 13 20 14.3 -0.6
PIEI AML AML
comp=E,2270µm,1.0s
PIEI AML AML
comp=N,1865µm,0.7s
PIEI AML AML
comp=E,2270µm,1.0s
PIEI AML AML
comp=N,1865µm,1.3s
MCIV Monte Civitell 1.19 285 P **Pn** 13 20 15.4 +0.3
MCIV AML AML
comp=E,1120µm,1.1s
MCIV AML AML
comp=N,1185µm,1.6s
MCIV AML AML
comp=N,1185µm,0.4s
MPAG Monte Paganucc 1.20 343 P **Pn** 13 20 14.9 -0.5
MPAG AML AML
comp=E,3855µm,0.7s
MPAG AML AML
comp=N,3455µm,1.0s
MPAG AML AML
comp=E,3790µm,0.7s
MPAG AML AML
comp=N,3590µm,1.0s
MPAG AML AML
comp=E,3855µm,1.3s
MPAG AML AML
comp=N,3455µm,1.0s
MPAG AML AML
comp=N,3590µm,1.0s
MPAG AML AML
comp=E,3790µm,1.3s
TRIV Trivento 1.21 126 P **Pn** 13 20 14.6 -0.8
TRIV AML AML
TRIV AML AML
TRIV AML AML
comp=E,3010µm,0.8s
TRIV AML AML
comp=N,2325µm,0.7s
TRIV AML AML
TRIV AML AML
comp=E,3010µm,1.2s
TRIV AML AML
comp=N,2325µm,1.3s
TRIV AML AML
SF04 Casetta 1.22 287 P **Pb** 13 20 16.2 +0.4
SF04 AML AML
comp=E,1960µm,0.4s
SF04 AML AML
comp=N,2150µm,1.2s
SF04 AML AML
comp=N,2150µm,0.8s
APEC Apecchio 1.23 331 P **Pn** 13 20 16.0 +0.3
ATMC Monte Cedrone 1.24 322 P **Pn** 13 20 15.8 +0.1
BADI Badiali 1.26 325 P **Pn** 13 20 16.5 +0.4
BADI AML AML
comp=N,2580µm,0.8s
BADI AML AML
comp=E,108µm,0.6s
BADI AML AML
comp=N,2580µm,1.2s
CAFI Castiglion Fio 1.26 313 P **Pb** 13 20 16.6 +0.1
CAFI AML AML
comp=E,3100µm,0.6s
CAFI AML AML
comp=E,3100µm,0.6s
CAFI AML AML
comp=N,2855µm,0.6s
CAFI AML AML
comp=E,3100µm,1.4s
CAFI AML AML
comp=E,3100µm,1.4s
CAFI AML AML
comp=N,2840µm,0.6s
VAGA Valle Agricola 1.30 145 P **Pn** 13 20 16.7 +0.1
VAGA AML AML
comp=E,1214µm,1.0s
VAGA AML AML
comp=N,2125µm,1.0s
VAGA AML AML
comp=E,1246µm,1.0s
VAGA AML AML
comp=N,2170µm,0.9s
VAGA AML AML
comp=N,2170µm,1.1s
VAGA AML AML
comp=E,1246µm,1.0s
VAGA AML AML
comp=N,2125µm,1.0s
VAGA AML AML
comp=E,1214µm,1.0s
ARCI Arcidosso 1.35 287 P **Pb** 13 20 18.4 +0.2
ARCI AML AML
comp=N,539µm,1.4s
ARCI AML AML
comp=E,654µm,0.8s
SSP9 Sansepolcro 1.36 324 P **Pn** 13 20 17.9 +0.4
BSSO Busso 1.37 132 P **Pn** 13 20 17.7 0.0
BSSO AML AML
comp=E,2105µm,1.6s
BSSO AML AML
comp=N,1860µm,1.4s
BSSO AML AML
comp=E,828µm,1.6s
BSSO AML AML
comp=N,774µm,1.5s
BSSO AML AML
comp=E,2105µm,0.4s
BSSO AML AML
comp=E,828µm,0.4s
BSSO AML AML
comp=N,774µm,0.5s
BSSO AML AML
comp=N,1860µm,0.6s
SGG Gregorio Mates 1.38 142 P **Pb** 13 20 18.7 +0.1
T1101 Santa Maria De 1.39 136 P **Pg** 13 20 20.6 +0.8
MODR Mondragone 1.42 160 P **Pb** 13 20 19.0 -0.1
MODR AML AML
comp=N,1110µm,0.9s
MODR AML AML
comp=E,862µm,1.6s
PIGN Pignataro Magg 1.46 151 P **Pb** 13 20 20.0 +0.2
CPGN Carpegna, Ital 1.48 333 P **Pb** 13 20 20.8 +0.5
SACR S. Croce Del S 1.54 134 P **Pg** 13 20 22.3 -0.3
MAON Monte Argentar 1.56 269 P **Pn** 13 20 20.7 +0.5
MAON AML AML
comp=E,570µm,0.6s
MAON AML AML
comp=N,512µm,1.5s
GATE Gambatesa 1.57 127 P **Pg** 13 20 23.9 +0.6
MELA Melanico ??? S 1.60 118 P **Pn** 13 20 20.4 -0.3
MELA AML AML
comp=E,3550µm,1.4s
MELA AML AML
comp=E,3540µm,1.3s
MELA AML AML
comp=N,3035µm,0.7s
MELA AML AML
comp=N,2830µm,0.7s
MELA AML AML
comp=E,3540µm,0.7s
MELA AML AML
comp=E,3550µm,0.6s
VITU Vitulano (BN) 1.66 141 P **Pb** 13 20 23.3 0.0
VITU AML AML
comp=E,1092µm,0.6s
VITU AML AML
comp=N,1405µm,0.5s
VITU AML AML
comp=E,1092µm,1.4s
ASQU Asqua 1.69 322 P **Pn** 13 20 22.8 +0.8
FROS Frosini 1.70 296 P **Pn** 13 20 23.2 +1.1
FROS AML AML
comp=N,646µm,1.2s
FROS AML AML
comp=E,794µm,0.8s
FROS AML AML
comp=N,646µm,0.8s
PSB1 Pescosannita 1.72 136 P **Pb** 13 20 24.4 +0.1
SFI Santa Sofia 1.75 325 P **Pn** 13 20 23.1 +0.3
OSSC Osservatorio P 1.80 306 P **Pn** 13 20 24.6 +1.1
OSSC AML AML
comp=E,642µm,1.6s
OSSC AML AML
comp=N,614µm,1.6s
OSSC AML AML
comp=E,468µm,0.9s
OSSC AML AML
comp=N,494µm,0.9s
TRIF Trifonti 1.83 291 P **Pn** 13 20 25.1 +1.2
TRIF AML AML
comp=E,326µm,1.0s
TRIF AML AML
comp=N,440µm,0.8s
TRIF AML AML
comp=E,326µm,1.0s
TRIF AML AML
comp=N,440µm,1.2s
APRC Apricena 1.86 112 P **Pn** 13 20 25.5 +1.1
APRC AML AML
comp=N,2250µm,0.6s
APRC AML AML
comp=E,1985µm,0.4s
RUFI Rufina 1.86 318 P **Pn** 13 20 25.3 +1.0
RUFI AML AML
comp=N,888µm,0.6s
RUFI AML AML
comp=E,904µm,0.7s
RUFI AML AML
comp=N,888µm,1.4s
VVDG Vesuvio Valle 1.87 151 P **Pn** 13 20 25.4 +1.0
VVDG AML AML
VVDG AML AML
VVDG AML AML
MRB1 Monte Rocchett 1.87 136 P **Pb** 13 20 26.8 -0.2
LMD Lutirano 1.95 325 P **Pn** 13 20 26.2 +0.6
SGRT San Giovanni R 2.00 110 P **Pn** 13 20 27.8 +1.5
CAFE Carife 2.08 134 P **Pn** 13 20 29.0 +1.6
SEI Scarperia 2.09 319 P **Pb** 13 20 29.3 -1.4
BRIS BRISIGHELLA 2.09 323 P **Pb** 13 20 29.8 -0.9
CRMI Carmignano 2.12 309 P **Pn** 13 20 29.1 +1.2
MSAG Monte S. Angel 2.13 110 P **Pb** 13 20 29.9 -1.4
MSAG AML AML
comp=E,1675µm,0.6s
MSAG AML AML
comp=N,3470µm,0.5s
MSAG AML AML
comp=E,1610µm,0.6s
MSAG AML AML
comp=N,3485µm,0.5s
SNAL S. Angelo Dei 2.14 136 AML AML
comp=E,984µm,1.1s
SNAL AML AML
comp=E,984µm,0.9s
SNAL AML AML
comp=E,1044µm,0.9s
SNAL AML AML
comp=N,990µm,0.9s
SNAL AML AML
comp=N,994µm,0.9s
SNAL AML AML
comp=E,1044µm,1.1s
MPPT Montemurlo 2.16 314 P **Pn** 13 20 29.8 +1.4
CAPA Cerignola FG 2.33 124 P **Pn** 13 20 32.1 +1.3
CAPA AML AML
comp=E,1548µm,1.0s
CAPA AML AML
comp=N,1585µm,0.8s
CAPA AML AML
comp=N,1585µm,1.2s
MORSI Morsiglia 2.90 281 P **Pn** 13 20 41.1 +2.6
SMPL Sampolo 2.96 264 P **Pn** 13 20 40.4 +0.9
SMPL S **Sn** 13 21 17.2 +2.5
AMUR Altamura 2.97 121 AML AML
comp=N,448µm,0.8s
AMUR AML AML
comp=E,406µm,0.5s
CORF Corte 3.03 268 P **Pn** 13 20 41.8 +1.3
SKDS Skadanscina 3.12 10 *e*Pn **Pn** 13 20 41.8 +0.2
A050A Klekovaca 3.12 49 *e*Pn **Pn** 13 20 43.4 +1.7
PGF Pioggiola 3.14 273 *e*P **Pn** 13 20 43.4 +1.4
PGF *e*Sn **Sn** 13 21 16.6 -2.5
comp=E,7.9nm,0.3s

PGF	Pioggiola	3.14	273		P	Pn	13 20 43.5	+1.6
MATE	Matera	3.18	124		⇓P	Pn	13 20 44.3	+2.0
LTRZ	Laterza	3.27	124		AML	AML		
	comp=E,256µm,1.6s							
LTRZ					AML	AML		
	comp=N,135µm,1.3s							
LTRZ					AML	AML		
	comp=E,256µm,0.4s							
SRKY	Kupres RS	3.27	60		*e*Pn	Pn	13 20 46.1	+2.3
STON	Ston	3.31	82		*e*Pn	Pn	13 20 45.4	+1.2
STON	Ston	3.31	82		*e*Pn	Pn	13 20 44.9	+0.7
BOJS	Bojanci	3.35	25		AML	AML		
	comp=E,546µm,1.0s							
BOJS					AML	AML		
	comp=N,407µm,1.5s							
BOJS					AML	AML		
	comp=N,407µm,0.5s							
BOJS	Bojanci	3.35	25		*e*Pn	Pn	13 20 46.0	+1.2
CEY	Cerknica	3.37	14		*e*Pn	Pn	13 20 45.3	+0.2
AJAC	Base Areonaval	3.37	262		P	Pn	13 20 47.4	+2.3
MGRS	Mrkonjic Grad	3.40	54		*e*Pn	Pn	13 20 48.0	+2.5
SABO	M.te Sabotino	3.51	4		AML	AML		
	comp=N,494µm,0.8s							
SABO					AML	AML		
	comp=E,2135µm,0.5s							
SABO					AML	AML		
	comp=N,1950µm,0.8s							
SABO					AML	AML		
	comp=E,516µm,0.5s							
ROVR	Rover Verones	3.53	334		AML	AML		
	comp=E,81µm,0.6s							
ROVR					AML	AML		
	comp=N,130µm,0.7s							
CGRP	Cima Grappa	3.55	344		AML	AML		
	comp=N,452µm,0.4s							
CGRP					AML	AML		
	comp=N,465µm,0.8s							
CGRP					AML	AML		
	comp=E,472µm,0.9s							
CGRP					AML	AML		
	comp=E,454µm,0.8s							
CGRP					AML	AML		
	comp=N,465µm,1.2s							
CET2	Cetraro	3.59	144		AML	AML		
	comp=N,162µm,0.9s							
CET2					AML	AML		
	comp=E,186µm,0.7s							
CET2					AML	AML		
	comp=N,162µm,1.1s							
CET2					AML	AML		
	comp=E,186µm,1.3s							
BLY	Banja Luka	3.65	50		*e*Pn	Pn	13 20 51.2	+2.3
BLY	Banja Luka	3.65	50		*e*Pn	Pn	13 20 50.6	+1.7
A051A	Mrakovica	3.67	45		*e*Pn	Pn	13 20 50.4	+1.2
CRES	Cresnjev	3.71	25		*e*Pn	Pn	13 20 49.4	-0.3
DOSS	Dosso del Somm	3.71	337		AML	AML		
	comp=N,241µm,0.6s							
DOSS					AML	AML		
	comp=E,241µm,1.1s							
DOSS					AML	AML		
	comp=N,249µm,1.0s							
DOSS					AML	AML		
	comp=E,241µm,0.9s							
DOSS					AML	AML		
	comp=E,261µm,0.6s							
DOSS					AML	AML		
	comp=N,249µm,1.0s							
CTI	Castel Tesino	3.75	343		AML	AML		
	comp=E,295µm,0.8s							
CTI					AML	AML		
	comp=N,332µm,0.6s							
TREB	Trebinje	3.78	85		*e*Pn	Pn	13 20 52.3	+1.6
TREB					*e*Sn	Sn	13 21 35.0	+0.2
TREB	Trebinje	3.78	85		*e*Pn	Pn	13 20 51.8	+1.1
STAL	STALIGIAL	3.80	354		AML	AML		
	comp=N,278µm,1.2s							
STAL					AML	AML		
	comp=E,345µm,1.6s							
STAL					AML	AML		
	comp=E,345µm,0.4s							
LUSI	Trento, Gardas	3.85	335		AML	AML		
	comp=E,232µm,1.4s							
LUSI					AML	AML		
	comp=E,232µm,0.6s							
LUSI					AML	AML		
	comp=N,330µm,0.7s							
LUSI					AML	AML		
	comp=N,330µm,1.3s							
CIMO	Cimolais	3.87	352		AML	AML		
	comp=N,99µm,0.3s							
CIMO					AML	AML		
	comp=E,92µm,0.8s							
CIMO					AML	AML		
	comp=E,86µm,0.9s							
CIMO					AML	AML		
	comp=E,86µm,1.1s							
CIMO					AML	AML		
	comp=E,92µm,1.2s							
CIMO					AML	AML		
	comp=N,97µm,0.3s							
HCY	Herceg Novi	3.89	89		*e*Pn	Pn	13 20 53.2	+1.1
PTCC	Patocco-Chiusa	3.92	1		AML	AML		
	comp=N,112µm,1.2s							
PTCC					AML	AML		
	comp=E,99µm,0.7s							
PTCC					AML	AML		
	comp=N,112µm,0.8s							
PTCC					AML	AML		
	comp=E,99µm,1.3s							
BRY	Bratogost	3.93	82		*e*Pn	Pn	13 20 54.5	+1.7
ACOM	Acomizza, Ital	4.07	3		AML	AML		
	comp=N,269µm,0.7s							
ACOM					AML	AML		
	comp=E,313µm,0.8s							
ACOM					AML	AML		
	comp=N,294µm,0.7s							
ACOM					AML	AML		
	comp=E,288µm,0.8s							
ACOM					AML	AML		
	comp=E,288µm,1.2s							
ACOM					AML	AML		
	comp=E,313µm,1.2s							
OBKA	Obir	4.14	13		*e*Pn	Pn	13 20 56.8	+1.2
	comp=E,3.0nm,0.4s							
OBKA					*e*Sn	Sn	13 21 44.9	+1.1
	comp=E,22nm,0.3s							
OBKA	Obir	4.14	13		*e*Pn	Pn	13 20 56.3	+0.6
MYKA	Terra Mystica	4.16	4		*e*Pn	Pn	13 20 57.3	+1.3
	comp=E,2.2nm,0.2s,SNR=8.7							
MYKA					*e*Sn	Sn	13 21 46.6	+2.3
	comp=E,11nm,0.4s							
APPI	Appiano	4.25	341		AML	AML		
	comp=N,169µm,0.5s							
APPI					AML	AML		
	comp=E,170µm,0.5s							
ABTA	Abfaltersbach	4.30	353		*e*Pn	Pn	13 20 59.7	+1.8
	comp=E,30nm,0.3s							
ABTA					*i* Sn	Sn	13 21 51.7	+3.9
	comp=E,20nm,0.3s							
SOKA	Soboth	4.39	16		*e*Pn	Pn	13 21 02.3	+3.1
	comp=E,3.4nm,0.3s							
SOKA					*i* Sn	Sn	13 21 51.2	+1.2
	comp=E,6.5nm,0.5s							
DRME	Dracevica, Mon	4.42	92		*e*Pn	Pn	13 21 01.2	+1.8
SAOF	Saorge	4.42	292		P	Pn	13 21 01.5	+2.0
PDG	Podgorica	4.45	89		⇑P	Pn	13 21 02.4	+2.6
PDG					⇑S	Sn	13 21 53.2	+1.9
PDG	Podgorica	4.45	89		AML	AML		
	comp=N,357µm,0.9s							
PDG					AML	AML		
	comp=E,407µm,1.1s							
PDG					AML	AML		
	comp=E,326µm,0.6s							
PDG					AML	AML		
	comp=E,407µm,0.9s							
PDG					AML	AML		
	comp=N,451µm,0.9s							
PDG	Podgorica	4.45	89		*e*Pn	Pn	13 21 02.5	+2.6
PDG					*e*Sn	Sn	13 21 52.4	+1.1
HAPS	Han Pijesak,BI	4.47	67		*e*Pn	Pn	13 21 02.0	+1.8
SBF	Sospel	4.47	290		*e*P	Pn	13 21 01.4	+1.2
SBF					*e*Sn	Sn	13 21 48.9	-3.0
	comp=N,12nm,0.4s							
TURF	col de Turini	4.53	291		P	Pn	13 21 03.4	+2.3
KBA	Koelnbreinsper	4.60	1		*e*Pn	Pn	13 21 03.4	+1.3
	comp=N,32nm,0.6s,SNR=5.6							
KBA					*e*Sn	Sn	13 21 55.2	0.0
	comp=N,28nm,0.5s							
RUDO	Rudo	4.63	74		*e*Pn	Pn	13 21 04.0	+1.6
BBLS	Lazići	4.72	71		*e*Pn	Pn	13 21 05.5	+1.9
CALF	Calern	4.80	288		P	Pn	13 21 06.6	+1.8
FETA	Feichten	4.88	339		*i* Pn	Pn	13 21 08.6	+2.7
	comp=N,3.9nm,0.4s							
FETA					*e*Sn	Sn	13 22 04.8	+2.6
	comp=N,13nm,0.6s							
WTTA	Wattenberg	4.92	347		*i* Pn	Pn	13 21 09.9	+3.4
	comp=N,2.8nm,0.2s,SNR=9.2							
WTTA					*e*Sn	Sn	13 22 06.3	+3.2
	comp=N,69nm,0.7s							
DAVOX	Davos/Dischmat	4.92	332		Pn	Pn	13 21 09.5	+2.9
	comp=N,4.0nm,0.3s,baz=154,slow=20,SNR=25							
DAVOX					Sn	Sn	13 22 04.4	+1.1
	comp=N,1.9nm,0.3s,baz=315,slow=19,SNR=1.6							
	comp=N,31nm,0.7s							
SQTA	Sankt Quirin	4.96	344		*i* Pn	Pn	13 21 09.5	+2.6
	comp=N,7.6nm,0.3s,SNR=8.9							
SQTA					*i* Sn	Sn	13 22 04.7	+0.7
	comp=N,17nm,0.5s							
ENAUX	Enaux	4.99	291		P	Pn	13 21 10.7	+3.2
WATA	Walderalm	5.00	347		*i* Pn	Pn	13 21 10.5	+3.0
	comp=N,5.8nm,0.2s,SNR=6.7							
WATA					*e*Sn	Sn	13 22 08.9	+3.9
	comp=N,21nm,0.3s							
SJES	Sjenica	5.01	79		*e*Pn	Pn	13 21 10.1	+2.4
SJES					*e*Sn	Sn	13 22 06.7	+1.4
LMR	La Mourre	5.02	282		*e*P	Pn	13 21 08.0	+0.3
LMR					*e*Sn	Sn	13 22 01.1	-4.3
	comp=N,2.8nm,0.4s							
TEKS	Tekeris	5.02	64		*e*Pn	Pn	13 21 06.3	-1.4
ARSA	Arzberg	5.04	18		*e*Pn	Pn	13 21 08.5	+0.5
	comp=N,1.7nm,0.2s							
ARSA					*i* Sn	Sn	13 22 04.7	-1.2
	comp=N,5.6nm,0.4s							
TIR	Tirane	5.07	101		⇓P	Pn	13 21 10.3	+1.9
TIR	Tirane	5.07	101		*e*Pn	Pn	13 21 10.3	+1.9
TIR					*e*Sn	Sn	13 22 06.0	-0.6
MOTA	Moosalm	5.10	343		*i* Pn	Pn	13 21 09.0	+0.1
	comp=N,1.4nm,0.3s,SNR=5.6							
MOTA					*e*Sn	Sn	13 22 09.0	+1.5
	comp=N,2.6nm,0.3s							
JAUF	Jausiers	5.11	295		P	Pn	13 21 12.0	+2.9
TRIGF	Trigance	5.16	287		P	Pn	13 21 12.4	+2.7
IVAS	Ivanjica	5.18	75		*e*Pn	Pn	13 21 11.6	+1.6
IVAS					*e*Sn	Sn	13 22 10.3	+0.8
DIVS	Divibare	5.19	70		*e*Pn	Pn	13 21 11.4	+1.3
DIVS	Divibare	5.19	70		*e*Pn	Pn	13 21 10.7	+0.6
MBDF	Montbardon	5.21	298		*e*P	Pn	13 21 13.3	+2.9
MBDF					*e*Sn	Sn	13 22 06.5	-3.7
	comp=N,2.8nm,0.4s							
BIOA	Bad Ischl, Aus	5.22	3		*e*Pn	Pn	13 21 12.2	+1.7
	comp=N,4.1nm,0.3s							
BIOA					*e*Sn	Sn	13 22 12.8	+2.5
	comp=N,30nm,0.4s							
CREF	Crivoux	5.24	295		P	Pn	13 21 16.1	+5.2
RETA	Reutte	5.31	342		*e*Pn	Pn	13 21 12.1	+0.4
	comp=N,3.7nm,0.3s							
RETA					*i* Sn	Sn	13 22 16.3	+3.7
	comp=N,5.2nm,0.3s							
DAVA	Damuels	5.37	335		*e*Pn	Pn	13 21 15.9	+3.3
	comp=N,0.1nm,0.1s,SNR=4.8							
DAVA					*i* Sn	Sn	13 22 17.5	+3.3
	comp=N,16nm,0.5s							
MOA	Molln	5.42	7		*e*Pn	Pn	13 21 14.5	+1.3
	comp=N,10nm,0.4s							
MOA					*e*Sn	Sn	13 22 16.5	+1.3
	comp=N,7.3nm,0.2s							
MOA	Molln	5.42	7		*e*Pn	Pn	13 21 14.9	+1.7
MOA					*e*Sn	Sn	13 22 17.3	+2.1
FRGS	Fruska Gora	5.45	58		⇑P	Pn	13 21 15.2	+1.5
FRGS	Fruska Gora	5.45	58		*e*Pn	Pn	13 21 15.3	+1.6
FRGS	Fruska Gora	5.45	58		*e*Pn	Pn	13 21 14.2	+0.5
TRUS	Trudelj	5.51	69		*e*Pn	Pn	13 21 15.5	+1.1
LPL	La Plagne	5.59	305		*e*P	Pn	13 21 20.0	+4.2
LPL					*e*Sn	Sn	13 22 16.6	-3.2
	comp=N,5.1nm,0.3s							
GRUS	Gruza	5.64	73		*e*Pn	Pn	13 21 17.9	+1.6
GRUS					*e*Sn	Sn	13 22 21.2	+0.5
RONA	Rosalia, Austr	5.65	21		*e*Pn	Pn	13 21 17.3	+0.9
	comp=N,3.4nm,0.3s							
CONA	Conrad Observa	5.75	18		*i* Pn	Pn	13 21 17.4	-0.5
	comp=N,2.1nm,0.3s							
CONA					*e*Sn	Sn	13 22 22.5	-1.1
	comp=N,9.1nm,0.6s							
SMRF	Simiane la Rot	5.80	288		*e*P	Pn	13 21 21.1	+2.7
SMRF					*e*Sn	Sn	13 22 20.1	-4.5
	comp=N,1.5nm,0.3s							
OHR	Ohrid	5.81	101		*e*Pn	Pn	13 21 21.4	+2.7
OHR					*e*Sn	Sn	13 22 24.7	-0.3
OHR	Ohrid	5.81	101		*i* Pn	Pn	13 21 21.4	+2.7
SELS	Selova	5.84	80		*e*Pn	Pn	13 21 20.3	+1.3
SELS					*e*Sn	Sn	13 22 27.1	+1.5
ORIF	Oris-en-Rattie	5.87	297		*e*P	Pn	13 21 23.6	+4.2
ORIF					*e*Sn	Sn	13 22 22.0	-4.4
	comp=N,2.4nm,0.4s							
ORIF	Oris-en-Rattie	5.87	297		P	Pn	13 21 23.8	+4.3
SKO	Skopje	6.11	92		*e*Pn	Pn	13 21 25.2	+2.5
SKO	Skopje	6.11	92		*i* Pn	Pn	13 21 23.7	+1.1
IGT	Igoumenitsa	6.12	116		P	Pn	13 21 25.4	+2.6
FNA	Florina	6.33	103		P	Pn	13 21 28.6	+2.9
FNA	Florina	6.33	103		*e*Pn	Pn	13 21 28.7	+3.0
FNA					*e*Sn	Sn	13 22 36.0	-1.7
BARS	Barje	6.33	84		*e*Pn	Pn	13 21 27.6	+1.8
BARS					*e*Sn	Sn	13 22 35.7	-2.0
PENT	Pentalofos	6.37	108		P	Pn	13 21 29.4	+3.1
GERES	GERESS Array B	6.37	3		Pn	Pn	13 21 27.2	+0.8
	comp=N,0.7nm,0.3s,baz=174,slow=13,SNR=7.0							
GERES					Sn	Sn	13 22 38.3	-0.6
	comp=N,2.9nm,0.3s,baz=185,slow=27,SNR=7.2							
	comp=N,2.0nm,0.5s							
CKRC	Cesky Krumlov	6.38	6		*e*PN	Pn	13 21 26.2	-0.3
CKRC					*e*SN	Sn	13 22 36.8	-2.2
PRVS	Prvonek	6.53	87		*e*Pn	Pn	13 21 30.2	+1.7
PRVS					*e*Sn	Sn	13 22 41.1	-1.6
CABF	La Chapelle	6.57	311		*e*Pn	Pn	13 21 28.8	-0.3
CABF					*e*Sn	Sn	13 22 39.7	-4.0
	comp=N,2.5nm,0.4s							
VIVF	Saint-Julien-l	6.65	294		*e*P	Pn	13 21 33.4	+3.2
VIVF					*e*Sn	Sn	13 22 40.9	-4.8
	comp=N,1.3nm,0.3s							
KHC	Kasperske Hory	6.66	2		*e*PN	Pn	13 21 30.1	-0.1
KHC					*e*SN	Sn	13 22 42.0	-3.7
STIP	Stip	6.70	94		*i* Pn	Pn	13 21 34.5	+3.6
ZAGS	Zajecar	6.71	76		*e*Pn	Pn	13 21 31.9	+1.0
LKD2	Lefkada island	6.74	121		P	Pn	13 21 32.9	+1.6
BFO	Black Forest	6.79	331		P	Pn	13 21 35.0	+2.9
BFO					S	Sn	13 22 47.8	-1.3
BZS	Buzias	6.80	60		⇓P	Pn	13 21 33.3	+1.1
BZS	Buzias	6.80	60		*e*Pn	Pn	13 21 33.2	+1.1
KRUC	Moravsky	6.94	17		*e*PN	Pn	13 21 34.1	0.0
ZAPS	Zavoj	6.95	80		*e*Sn	Sn	13 22 50.5	-2.4
HINF	Hinteralfeld	6.99	322		*e*Pn	Pn	13 21 34.2	-0.6
HINF	Hinteralfeld	6.99	322		*e*P	Pn	13 21 38.1	+3.3
HINF					*e*Sn	Sn	13 22 50.1	-3.9
	comp=N,5.8nm,0.3s							
GRG	Griva	7.02	99		P	Pn	13 21 36.0	+0.8
LASF	Ste Croix	7.03	286		*e*P	Pn	13 21 39.4	+4.0
LASF					*e*Sn	Sn	13 22 49.2	-5.8
	comp=N,1.1nm,0.3s							
VAY	Valandovo	7.06	96		*e*Pn	Pn	13 21 37.9	+2.2
VAY					*e*Sn	Sn	13 22 52.7	-2.8
VAY	Valandovo	7.06	96		*i* Pn	Pn	13 21 37.8	+2.1
SIRR	Siria	7.12	55		P	Pn	13 21 38.4	+1.9
ECH	Echery	7.16	325		P	Pn	13 21 37.9	+0.8
ECH					S	Sn	13 22 57.0	-1.1
VYHS	Vyhne	7.18	31		*e*PN	Pn	13 21 39.5	+2.1
VRAC	Vranov	7.22	18		Pn	Pn	13 21 38.2	+0.3
	comp=N,0.2nm,0.3s,baz=129,slow=6.0,SNR=3.5							
VRAC					Sn	Sn	13 22 57.3	-2.2
	comp=N,0.7nm,0.3s,baz=270,slow=20,SNR=2.3							
	comp=N,2.3nm,0.5s							
CDF	Champ du Feu	7.26	327		*e*Pn	Pn	13 21 38.4	-0.2
CDF					*e*Sn	Sn	13 22 56.1	-4.7
	comp=N,6.2nm,0.3s							
HAU	Haudompre	7.36	321		*e*Pn	Pn	13 21 40.0	+0.1
HAU					*e*Sn	Sn	13 22 58.9	-4.1
	comp=N,10.0nm,0.3s							
VTS	Vitosha	7.38	86		⇑P	Pn	13 21 42.4	+2.1
VTS	Vitosha	7.38	86		*e*Pn	Pn	13 21 42.0	+1.8
VTS	Vitosha	7.38	86		*e*Pn	Pn	13 21 42.1	+1.8
VTS					*e*Sn	Sn	13 23 01.2	-2.6
VTS					*e*Sn	Sn	13 23 01.4	-2.4
KEST	Kesra	7.39	205		Pn	Pn	13 21 47.1	+6.8
	comp=N,2.6nm,0.3s,baz=335,slow=3.9,SNR=17							
KEST					Sn	Sn	13 23 04.5	+0.6
	comp=N,0.3nm,0.3s,baz=174,slow=23,SNR=1.1							
GZR	Gura Zlata	7.47	64		⇑P	Pn	13 21 42.6	+1.2
SRS	Serrai	7.85	97		*e*Pn	Pn	13 21 48.2	+1.6
SRS					*e*Sn	Sn	13 23 12.2	-3.0
SMF	Signal de Mont	7.90	305		*e*P	Pn	13 21 51.5	+4.3
SMF					*e*Sn	Sn	13 23 11.4	-4.9
	comp=N,3.0nm,0.4s							
PAGF	Fort de Pagny	8.04	322		*e*Sn	Sn	13 23 14.9	-4.9
	comp=N,3.7nm,0.1s							
SFTF	Sexfontaines	8.13	318		*e*Pn	Pn	13 21 50.4	0.0
MTLF	Montolieu	8.14	280		*e*P	Pn	13 21 52.1	+1.6
MARR	Marisel-Cluj	8.20	56		⇓P	Pn	13 21 53.9	+2.4
LOR	Lormes	8.20	309		*e*P	Pn	13 21 54.6	+3.2
	baz=130							
LOR					*e*Sn	Sn	13 23 18.4	-5.4
	comp=N,3.1nm,0.4s							
AVF	Avril sur Loir	8.26	305		*e*P	Pn	13 21 56.7	+4.5
SSF	Saint Saulge	8.30	307		*e*Pn	Pn	13 21 51.0	-1.8
PLVB	Pleven	8.40	80		P	Pn	13 21 55.5	+1.4
BRG	Berggiesshubel	8.41	3		*e*P	Pb	13 22 15.5	-2.7
BRG					Amp		13 22 19.9	
	comp=Z,3.5nm,0.8s							
BRG					r		13 23 23.9	
BRG					r		13 24 34.5	
BRG					Amp		13 25 14.1	
	comp=Z,8.1nm,1.0s							
CAF	Calviac	8.46	291		*e*P	Pn	13 21 57.4	+2.4
BGF	Bois d'Agland	8.47	302		*e*P	Pn	13 21 57.6	+2.5
BGF					*e*Sn	Sn	13 23 25.0	-5.3
	comp=Z,3.4nm,0.4s							
TCF	Toulx Ste Croi	8.77	299		*e*Sn	Sn	13 23 30.9	-6.8
	comp=Z,1.3nm,0.3s							
CLL	Collm	8.83	359		*e*Pn	Pn	13 22 06.0	+6.0
CLL					*e*Pg		13 22 39.0	
CLL					*e*Sn	Sn	13 23 21.0	-18
CLL					*ex*	x	13 23 36.0	
CLL					*ex*	x	13 23 59.0	
CLL					*e*Sg		13 24 35.0	
	comp=Z,19nm,1.3s							
MLR	Muntele Rosu	9.64	67		Pn	Pn	13 22 12.4	+1.2
	comp=Z,0.7nm,0.3s,baz=226,slow=10,SNR=3.1							
MLR					LR	LR	13 25 51.1	
	comp=Z,164nm,18.8s,baz=325,slow=38							
	comp=Z,4.2nm,0.6s							
MLR	Muntele Rosu	9.64	67		⇑P	Pn	13 22 13.5	+2.3
CFR	Carcaliu	11.09	71		P	Pn	13 22 32.2	+1.2
IDI	Anoyia	11.57	125		Pn	Pn	13 22 39.1	+1.5
	comp=Z,0.2nm,0.3s,baz=356,slow=14,SNR=1.5							
IDI					Sn	Sn	13 24 38.1	-8.4
	comp=Z,0.2nm,0.3s,baz=110,slow=20,SNR=1.5							
	comp=Z,7.9nm,1.0s							
BRTR	Keskin Array B	15.62	93		Pn	Pn	13 23 32.4	-0.2
	comp=Z,1.1nm,1.0s,baz=302,slow=15,SNR=1.4							
EKA	Eskdalemuir Ar	16.72	326		Pn	Pn	13 23 47.2	+0.6
	baz=140,slow=13							
	comp=Z,0.6nm,0.5s							
NOA	NORSAR Array B	18.63	357		P	P	13 24 09.3	-0.4
	baz=184,slow=11,SNR=1.7							
	comp=Z,0.6nm,0.8s							
FINES	FINESS Array B	20.50	18		P	P	13 24 31.1	+1.0
	comp=Z,1.6nm,0.7s,baz=192,slow=13,SNR=6.7							
	comp=Z,1.6nm,0.7s							
KBZ	Khabaz	21.64	77		P	P	13 24 41.3	-1.2
	comp=Z,3.2nm,0.9s,baz=271,slow=8.2,SNR=5.9							
	comp=Z,3.2nm,0.9s							
TORD	Torodi Ar. Bea	30.89	202		P	P	13 26 10.8	+1.8
	comp=Z,1.2nm,0.3s,baz=5.6,slow=7.5,SNR=1.6							
	comp=Z,1.2nm,0.3s							
MKAR	Makanchi Array	47.88	60		P	P	13 28 31.6	+1.4
	comp=Z,0.3nm,0.6s,baz=282,slow=7.3,SNR=4.9							
	comp=Z,0.3nm,0.6s							
SONM	Songino Array	61.98	50		P	P	13 30 14.5	+2.2
	comp=Z,0.5nm,0.8s,baz=292,slow=9.4,SNR=4.2							
	comp=Z,0.5nm,0.8s							
YKA	Yellowknife Ar	67.34	337		P	P	13 30 48.0	+1.1
	comp=Z,0.4nm,0.7s,baz=39,slow=5.7,SNR=5.4							
	comp=Z,0.4nm,0.7s							

WEL 18 13:23:38.0±0.3, 42°S±2', 174°4E±', h8km±3km, M3.5/19, ML3.7/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=119.0, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.25	199	P	Pb	13 23 44.1	-0.7
KHZ				S	Sb	13 23 48.6	-0.7
BSWZ	Blackbirch Sta	0.49	20	P	Pg	13 23 48.1	+0.5
BSWZ				S	Sb	13 23 55.8	-0.5
CMWZ	Cape Campbell	0.60	44	P	Pg	13 23 45.8	-3.8
THZ	Tophouse	0.70	307	P	Pg	13 23 51.0	-0.4
THZ				S	Sg	13 24 00.1	-0.4
TUWZ	Tuamarina	0.78	16	P	Pg	13 23 53.4	+0.3
TUWZ				S	Sb	13 24 04.7	+0.2
GVZ	Greta Valley S	0.91	210	P	Pn	13 23 56.6	-0.5
NNZ	Nelson	0.98	348	P	Pg	13 23 56.4	-0.5
MRNZ	Matariki Terra	1.03	319	P	Pg	13 23 57.3	-0.5
MRNZ				S	Sb	13 24 11.9	+0.2
TCW	Tory Channel	1.08	26	P	Pg	13 23 58.4	-0.2
TCW				S	Sb	13 24 13.1	+0.1
LTZ	Lake Taylor	1.19	239	P	Pb	13 23 59.9	-0.9
WEL	Wellington	1.22	43	P	Pb	13 24 01.3	-0.1
WEL				S	Sn	13 24 18.3	+0.2
AMCZ	Amberley	1.24	216	P	Pg	13 24 01.9	0.0
TKNZ	Takaka Hill	1.26	335	P	Pn	13 24 01.4	-0.5
TKNZ				S	Sb	13 24 17.6	-0.7
PLWZ	Palliser	1.34	64	P	Pn	13 24 02.3	-0.8
DUWZ	D'Urville Isla	1.39	8	P	Pn	13 24 03.7	0.0
DSZ	Denniston Nort	1.44	287	P	Pb	13 24 04.9	-0.2
DSZ				S	Sg	13 24 25.0	+0.5
CAW	Cannon Point	1.51	45	P	Pn	13 24 04.9	-0.4
PAWZ	Paruw

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.49**	**360**	T	T	13 43 22.3	
	baz=175,slow=74						
H01W1	**Cape Leeuwin H**	**14.50**	**360**	T	T	13 43 23.7	
	baz=175,slow=74						
H01W3	**Cape Leeuwin H**	**14.51**	**360**	T	T	13 43 19.3	
	baz=175,slow=74						
ASAR	**Alice Springs**	**30.00**	**38**	P	P	13 30 36.9	-0.7
	0.6nm,0.8s,baz=205,slow=8.7,SNR=5.4						
	0.6nm,0.8s						
MAW	**Mawson**	**31.15**	**215**	P	P	13 30 46.6	-0.7
	31nm,0.9s,baz=59,slow=5.9,SNR=3.0						
WRA	**Warramunga Arr**	**33.52**	**36**	P	P	13 31 08.1	-0.5
	0.4nm,0.7s,baz=206,slow=7.6,SNR=3.1						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**150.50**	**45**	PKPbc	PKiKP	13 44 20.6	+0.3
	0.2nm,0.4s,baz=272,slow=2.2,SNR=4.8						

*VAO **18** 13:31:37.0±1.5, 43.˚88S×74.˚23W, h10km, mb4.8*
*IDC **18** 13:31:39.3±0.8, 43.˚32S×73.˚93W, h0km, mb4.4/13, mbtmp4.4/14, ML4.0/1, MS3.9/13, Error ellipse: s-maj=28.4km s-min=16.4km az=91.0*
*GUC **18** 13:31:42.9±0.8, 43.˚38S×74.˚42W, h10km±3km, ML4.9*
*NEIC **18** 13:31:44.0±2.2, 43.˚27S±0.˚03×74.˚23W±0.˚09, h26km±5km, mb4.6/23, Mwr4.5/32, Mwr4.8(GUC), Error ellipse: s-maj=9.3km s-min=4.8km az=92.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.50; Mθθ 1.35; Mφφ-2.84; Mrθ-0.39; Mθφ 1.08; Mφr-7.54; Fault plane solution: M₀8.01000×10¹⁵ NP1:φ≅312.05000°, δ 12.25000°, λ 38.77000°. NP2:φ≅183.93000°, δ 82.36000°, λ 99.61000°. Principal axes: T 7.3277, Plg52.0000°, Azm105.0000°; N 1.2303, Plg10.0000°, Azm3.0000°; P -8.5580, Plg37.0000°, Azm265.0000°;*

ISC 18 13:31:44.0±1.0, 43.˚28S±0.˚03×74.˚17W±0.˚06, h32km±3km, n173, σ1°30/174, mb4.6/25, MS4.0/11, 8C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.40**	**66**		**Pn**	**13 31 54.1**	**+0.5**
GO07					**Sn**	**13 32 02.2**	**+2.2**
GO07	**Milladeo Hill,**	**0.40**	**66**	⇓*i* P	**Pn**	**13 31 54.3**	**+0.7**
GO07				*i* S	**Sn**	**13 32 02.5**	**+2.5**
GO07				IAML		13 32 03.8	
	comp=E,231µm,0.5s						
LL07	**Hotel Espejo d**	**0.68**	**49**		**Pn**	**13 31 58.5**	**+1.2**
LL07				Sn	**Sn**	**13 32 10.2**	**+3.5**
LL07	**Hotel Espejo d**	**0.68**	**49**	⇑*i* P	**Pn**	**13 31 58.3**	**+1.0**
LL07				*i* S	**Sn**	**13 32 10.2**	**+3.5**
LL06	**Loncomilla**	**1.14**	**21**		**Pb**	**13 32 04.5**	**-0.6**
LL06				Sn	**Sb**	**13 32 22.1**	**+2.6**
LL06	**Loncomilla**	**1.14**	**21**	⇑*i* P	**Pb**	**13 32 04.7**	**-0.4**
LL06				*i* S	**Sb**	**13 32 22.1**	**+2.6**
LL06				IAML		13 32 28.4	
	comp=E,38µm,0.5s						
LL01	**San Ignacio de**	**1.57**	**56**		**Pb**	**13 32 11.4**	**-1.0**
LL01	**San Ignacio de**	**1.57**	**56**	⇑*i* P	**Pb**	**13 32 11.6**	**-0.9**
LL01				*i* S	**Sb**	**13 32 35.0**	**+3.0**
AY01	**Puyuhuapi**	**1.58**	**137**		**Pn**	**13 32 11.0**	**+1.3**
AY01				Sn	**Sn**	**13 32 32.6**	**+0.4**
AY01	**Puyuhuapi**	**1.58**	**137**	⇑*i* P	**Pn**	**13 32 10.2**	**+0.5**
AY01				*i* S	**Sb**	**13 32 31.9**	**-0.3**
AY01				IAML		13 32 37.0	
	comp=N,11µm,0.3s						
LL05	**Los Muermos**	**1.94**	**16**		**Pn**	**13 32 15.1**	**+0.4**
LL05	**Los Muermos**	**1.94**	**16**	*e*P	**Pb**	**13 32 18.0**	**-0.7**
LL05				*i* S	**Sb**	**13 32 44.6**	**+2.0**
LL05				IAML		13 32 56.5	
	comp=E,11µm,0.7s						
LL03	**Petrohue**	**2.51**	**32**		**Pn**	**13 32 23.9**	**+1.4**
LL03	**Petrohue**	**2.51**	**32**	*e*P	**Pb**	**13 32 26.0**	**-2.3**
LL03				*e*S	**Sb**	**13 32 59.6**	**+0.8**
LL03				IAML		13 33 04.3	
	comp=N,9µm,0.6s						
LL04	**Puerto Octay**	**2.71**	**29**		**Pn**	**13 32 26.6**	**+1.3**
LL04	**Puerto Octay**	**2.71**	**29**	⇑*i* P	**Pn**	**13 32 26.4**	**+1.2**
LL04				*i* S	**Sb**	**13 33 00.3**	**-4.2**
LL04				IAML		13 33 04.8	
	comp=N,4µm,0.2s						
COYC	**Coyhaique**	**2.73**	**148**	Pn	**Pn**	**13 32 28.2**	**+2.6**
LR04	**Corral**	**3.44**	**10**		**Pn**	**13 32 36.1**	**+0.8**
PLCA	**Paso Flores**	**3.71**	**48**	Pn	**Pn**	**13 32 41.8**	**+2.7**
	comp=N,4.5nm,0.3s,baz=226,slow=11,SNR=186						
PLCA				LR	LR	13 33 27.1	
	comp=N,254nm,19.5s,baz=254,slow=30						
PLCA				Lg	Lg	13 33 37.9	
	comp=N,19nm,0.3s,baz=262,slow=19,SNR=3.2						
PLCA	**Paso Flores**	**3.71**	**48**	Pn	**Pn**	**13 32 42.0**	**+2.9**
PLCA	**Paso Flores**	**3.71**	**48**	*e*P	**Pn**	**13 32 42.4**	**+3.4**
LR03	**Panguipulli**	**3.90**	**21**		**Pn**	**13 32 43.5**	**+1.9**
GO06	**Curarrehue**	**4.21**	**30**	Pn	**Pn**	**13 32 47.4**	**+1.3**
GO08	**Villa O'Higgin**	**5.30**	**168**		**Pn**	**13 33 02.6**	**+1.7**
ML02	**Panimavida**	**7.80**	**17**		**Pn**	**13 33 35.8**	**+0.6**
BO02	**Sierra Bellavi**	**8.88**	**18**	Pn	**Pn**	**13 33 51.6**	**+1.6**
BO01	**Tunca**	**9.20**	**16**	Pn	**Pn**	**13 33 54.4**	**0.0**
MT01	**Popeta**	**9.68**	**15**		**Pn**	**13 34 00.4**	**-0.5**
BO04	**La Punta**	**9.69**	**18**		**Pn**	**13 34 00.7**	**-0.4**
MT09	**Talagante**	**9.81**	**16**		**Pn**	**13 34 02.8**	**-0.1**
LMEL	**Las Melosas**	**9.92**	**20**		**Pn**	**13 34 03.3**	**-1.1**
H03S1	**Juan Fernandez**	**10.12**	**337**	T	T	13 44 12.9	
	baz=160,slow=75,SNR=116						
H03S2	**Juan Fernandez**	**10.14**	**337**	T	T	13 44 08.7	
	baz=160,slow=75,SNR=157						
H03S3	**Juan Fernandez**	**10.14**	**337**	T	T	13 44 10.0	
	baz=160,slow=75,SNR=221						
MT02	**Curacav**	**10.29**	**14**	Pn	**Pn**	**13 34 07.9**	**-1.4**
VA04	**Juan Fernndez**	**10.29**	**338**	Pn	**Pn**	**13 34 10.0**	**+0.7**
ROC1	**El Roble**	**10.58**	**15**		**Pn**	**13 34 12.1**	**-1.5**
TRQA	**Tornquist**	**10.62**	**65**	Pn	**Pn**	**13 34 14.7**	**+0.8**
CO02	**Combarbal**	**12.32**	**13**	Pn	**Pn**	**13 34 38.8**	**+1.7**
CFA	**Coronel Fontan**	**12.57**	**24**	Pn	**Pn**	**13 34 37.6**	**-2.9**
	comp=N,0.9nm,0.3s,baz=173,slow=9.9,SNR=4.2						
CFA				Sn	**Sn**	**13 36 56.2**	**-3.1**
	comp=N,0.6nm,0.3s,baz=295,slow=16,SNR=2.7						
CFA				LR	LR	13 40 01.7	
	comp=N,770nm,18.1s,baz=220,slow=40						
	comp=N,2.4nm,0.4s						
GO04	**Tololo Observa**	**13.36**	**13**	Pn	**Pn**	**13 34 50.1**	**-1.4**
PB14	**IPOC Station P**	**18.86**	**11**	P	**P**	**13 36 01.1**	**-0.7**
ITQB	**Itaqui**	**19.53**	**52**	P	**P**	**13 36 07.9**	**-0.7**
ITQB				IAmb	IAmb	13 36 12.7	
	comp=Z,24nm,0.8s						
RODS	**Rosario do Sul**	**19.87**	**56**	*e*P	**P**	**13 36 12.0**	**-0.4**
PLTB	**Pedras Altas**	**19.90**	**62**	*e*P	**P**	**13 36 09.7**	**-3.0**
PB10	**IPOC Station P**	**19.94**	**10**	P	**Pn**	**13 36 14.4**	**-0.6**
PB10				IAmb	IAmb	13 36 15.5	
	comp=Z,22nm,0.9s						
PB06	**IPOC Station P**	**20.87**	**12**	P	**P**	**13 36 23.6**	**+0.2**
PB06				IAmb	IAmb	13 36 24.7	
	comp=Z,23nm,0.8s						
AF01	**San Pedro de A**	**20.87**	**16**	P	Pn	13 36 24.8	-1.4
CPSB	**Cacapava Do Su**	**20.91**	**59**	*e*P	**P**	**13 36 24.3**	**+0.5**
LVC	**Limon Verde**	**21.07**	**14**	P	**P**	**13 36 26.0**	**+0.2**
	comp=Z,11nm,0.8s,baz=209,slow=10,SNR=8.1						
LVC				LR	LR	13 45 03.7	
	comp=Z,231nm,18.2s,baz=198,slow=38						
	comp=Z,11nm,0.8s						
LVC	**Limon Verde**	**21.07**	**14**	P	**P**	**13 36 26.0**	**+0.2**
LVC				IAmb	IAmb	13 36 39.6	
	comp=Z,33nm,1.2s						
LVC	**Limon Verde**	**21.07**	**14**	*e*P	**P**	**13 36 26.9**	**+1.1**
PB04	**IPOC Station P**	**21.16**	**10**		**P**	**13 36 26.4**	**-0.1**
PB04				IAmb	IAmb	13 36 39.2	
	comp=Z,38nm,1.0s						
PB03	**IPOC Station P**	**21.49**	**11**	P	**P**	**13 36 30.4**	**+0.3**
PB03				IAmb	IAmb	13 36 42.8	
	comp=Z,36nm,1.0s						
CPUP	**Villa Florida**	**21.77**	**44**	P	**P**	**13 36 32.5**	**-0.5**
	comp=Z,27nm,0.8s,baz=230,slow=9.1,SNR=37						
CPUP				LR	LR	13 46 03.3	
	comp=Z,595nm,18.4s,baz=216,slow=40						
	comp=Z,27nm,0.8s						
CPUP	**Villa Florida**	**21.77**	**44**		**P**	**13 36 33.1**	**+0.1**
CPUP				IAmb	IAmb	13 36 35.7	
	comp=Z,35nm,1.0s						
CPUP	**Villa Florida**	**21.77**	**44**	*e*P	**P**	**13 36 32.1**	**-0.8**
PB09	**IPOC Station P**	**21.82**	**12**	P	**P**	**13 36 33.7**	**+0.1**
PB09				IAmb	IAmb	13 37 04.7	
	comp=Z,30nm,1.2s						
PB02	**IPOC Station P**	**22.19**	**11**	P	**P**	**13 36 37.9**	**+0.4**
PB02				IAmb	IAmb	13 36 48.5	
	comp=Z,25nm,0.9s						
PMSA	**Palmer Station**	**22.28**	**169**	LR	LR	13 44 47.3	
	comp=Z,366nm,19.1s,baz=334,slow=36						
ALGR	**Alto Alegre (B**	**22.30**	**57**	*e*P	**P**	**13 36 40.0**	**+1.3**
ESFA	**Espinillo Form**	**22.35**	**40**	*e*P	**P**	**13 36 39.8**	**+0.7**
PB01	**IPOC Station P**	**22.52**	**11**	P	**P**	**13 36 41.1**	**0.0**
PATCX	**Punta Patache**	**22.65**	**10**	P	**P**	**13 36 42.4**	**-0.1**
PATCX				IAmb	IAmb	13 37 02.1	
	comp=Z,20nm,0.9s						
CRSM	**Crissiumal (Br**	**22.66**	**53**	*e*P	**P**	**13 36 43.6**	**+1.2**
PSGCX	**Pisagua**	**23.86**	**9**	P	**P**	**13 36 54.5**	**0.0**
PSGCX				IAmb	IAmb	13 37 37.8	
	comp=Z,17nm,1.1s						
GO01	**Chusmiza**	**23.91**	**12**	P	**P**	**13 36 55.1**	**-0.3**
MNMC	**Minye Minye**	**24.38**	**11**	P	**P**	**13 36 59.4**	**-0.1**
MNMC				IAmb	IAmb	13 37 14.0	
	comp=Z,14nm,0.8s						
MURT	**Porto Murtinho**	**25.60**	**38**	*e*P	**P**	**13 37 09.2**	**-1.0**
AMBA	**Amambai (Brazi**	**25.77**	**44**	*e*P	**P**	**13 37 11.2**	**-0.7**
PTGB	**Pitanga**	**25.92**	**52**	*e*P	**P**	**13 37 12.9**	**-0.4**
ANTJ	**Antonio Joao (**	**26.05**	**41**	*e*P	**P**	**13 37 13.6**	**-0.8**
BDQN	**Bodoquena, MS**	**27.04**	**38**	*e*P	**P**	**13 37 24.4**	**+1.1**
LPAZ	**La Paz**	**27.39**	**13**	P	**P**	**13 37 26.6**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=140,slow=6.4,SNR=8.5						
	comp=Z,2.9nm,0.6s						
LPAZ	**La Paz**	**27.39**	**13**		**P**	**13 37 27.3**	**+0.1**
LPAZ	**La Paz**	**27.39**	**13**	*e*P	**P**	**13 37 27.8**	**+0.7**
AQDB	**Aquidauana**	**27.50**	**40**	*e*P	**P**	**13 37 26.6**	**-0.8**
BBRB	**Robore, Bolivi**	**27.73**	**30**	*e*P	**P**	**13 37 28.7**	**-0.8**
BBLB	**La Banda, Boli**	**27.76**	**33**	*e*P	**P**	**13 37 29.8**	**+0.1**
PANT	**Pantanal (Braz**	**28.38**	**37**	*e*P	**P**	**13 37 33.6**	**-1.6**
FRTB	**Fartura**	**28.43**	**54**	*e*P	**P**	**13 37 34.9**	**-0.9**
BBSD	**Serra de San D**	**28.45**	**28**	*e*P	**P**	**13 37 35.2**	**-0.7**
RPRD	**Ribas do Rio P**	**28.47**	**43**	*e*P	**P**	**13 37 36.3**	**+0.2**
PCMB	**Pacaembu**	**28.82**	**49**	*e*P	**P**	**13 37 38.5**	**-0.7**
RVDE	**Rio Verde (Bra**	**29.11**	**40**	*e*P	**P**	**13 37 41.3**	**-0.5**
SIV	**San Ignacio**	**29.41**	**26**	P	**P**	**13 37 44.1**	**-0.4**
	comp=Z,7.1nm,0.9s,baz=212,slow=8.8,SNR=22						
SIV				LR	LR	13 52 15.4	
	comp=Z,286nm,19.6s,baz=267,slow=42						
	comp=Z,7.1nm,0.9s						
PP1B	**Ponte de Pedra**	**30.37**	**39**	*e*P	**P**	**13 37 52.7**	**-0.3**
POCN	**Pocone**	**30.43**	**35**	*e*P	**P**	**13 37 53.8**	**+0.3**
PTLB	**Pontes e Lacer**	**30.57**	**29**		**P**	**13 37 54.8**	**0.0**
PTLB				IAmb	IAmb	13 38 04.0	
	comp=Z,24nm,0.8s						
PTLB	**Pontes e Lacer**	**30.57**	**29**	*e*P	**P**	**13 37 54.9**	**+0.2**
BB19B	**Bebedouro**	**30.79**	**52**	*e*P	**P**	**13 37 55.6**	**-1.1**
PARB	**Paraibuna**	**30.82**	**59**	*e*P	**P**	**13 37 54.1**	**-2.9**
ITRB	**Iturama**	**30.86**	**48**	*e*P	**P**	**13 37 57.0**	**-0.3**
VBST	**Vila Bela da S**	**31.12**	**27**	*e*P	**P**	**13 37 59.6**	**+0.1**
NNA	**Nana**	**31.27**	**355**	LR	LR	13 48 33.3	
	comp=Z,66nm,18.8s,baz=156,slow=32						
PTET	**Porto Estrela**	**31.38**	**33**	*e*P	**P**	**13 38 02.3**	**+0.5**
SALV	**Santo Antonio**	**31.52**	**36**	*e*P	**P**	**13 38 03.1**	**+0.1**
MAN01	**Angra dos Reis**	**32.21**	**61**	*e*P	**P**	**13 38 06.3**	**-2.9**
DVLD	**Doverlandia**	**32.49**	**42**	*e*P	**P**	**13 38 11.3**	**-0.4**
VILB	**Vilhena**	**32.54**	**26**	*e*P	**P**	**13 38 11.8**	**-0.3**
RPN	**Rapa Nui**	**32.66**	**288**	LR	LR	13 47 48.0	
	comp=Z,262nm,18.5s,baz=172,slow=30						
NBRS	**Nobres**	**32.90**	**34**	*e*P	**P**	**13 38 15.5**	**+0.3**
VAS01	**Vassouras-RJ**	**32.97**	**60**	*e*P	**P**	**13 38 15.0**	**-0.8**
BSCB	**Bom Sucesso**	**33.08**	**57**	*e*P	**P**	**13 38 16.1**	**-0.8**
IPMB	**Ipameri, GO**	**33.43**	**49**	*e*P	**P**	**13 38 17.4**	**-2.5**
PMNB	**Patos De Minas**	**33.99**	**52**	*e*P	**P**	**13 38 23.2**	**-1.5**
ETMB	**Extrema**	**34.05**	**14**	*e*P	**P**	**13 38 25.1**	**-0.2**
PDRB	**Porto dos Gac**	**34.99**	**31**	*e*P	**P**	**13 38 33.1**	**-0.2**
CZSB	**Cruzeiro do Su**	**35.43**	**2**	*e*P	**P**	**13 38 38.4**	**+1.2**
BDFB	**Brasilia**	**35.45**	**47**	P	**P**	**13 38 35.4**	**-2.0**
	comp=Z,3.1nm,0.6s,baz=178,slow=6.6,SNR=4.4						
BDFB				LR	LR	13 54 47.2	
	comp=Z,913nm,18.4s,baz=204,slow=39						
	comp=Z,3.1nm,0.6s						
BDFB	**Brasilia**	**35.45**	**47**	*e*P	**P**	**13 38 36.2**	**-1.2**
DIAM	**Diamantina, MG**	**35.80**	**55**	*e*P	**P**	**13 38 39.6**	**-1.0**
ALF01	**Guarapari-ES**	**35.91**	**62**	*e*P	**P**	**13 38 40.0**	**-1.2**
CLDB	**Colider**	**36.02**	**32**	*e*P	**P**	**13 38 42.0**	**-0.2**
MC01	**Montes Claros**	**36.88**	**53**	*e*P	**P**	**13 38 48.8**	**-0.8**
SNDB	**Serra Nova Dou**	**36.94**	**39**	*e*P	**P**	**13 38 49.9**	**-0.2**
SJMB	**Sao Joao De Ma**	**37.02**	**59**	*e*P	**P**	**13 38 49.7**	**-1.0**
RIB01	**Linhares ES**	**37.07**	**61**	*e*P	**P**	**13 38 50.0**	**-1.1**
BSFB	**Barra de Sao F**	**37.14**	**60**	*e*P	**P**	**13 38 50.8**	**-1.0**
JANB	**Januaria**	**37.98**	**51**	*e*P	**P**	**13 38 58.2**	**-0.7**
NAN01	**Guarapari, ES**	**38.33**	**59**	*e*P	**P**	**13 39 00.2**	**-1.6**
TBTG	**Tabatinga, AM**	**39.11**	**7**	*e*P	**P**	**13 39 09.4**	**+1.1**
ABR01	**Abrolhos, BA**	**39.15**	**61**	*e*P	**P**	**13 39 07.4**	**-1.2**
GUA01	**Guaratinga, BA**	**39.48**	**58**	*e*P	**P**	**13 39 10.3**	**-1.1**
NPGB	**Novo Progresso**	**39.70**	**30**	*e*P	**P**	**13 39 12.8**	**-0.4**
SDBA	**SAO DESIDERIO**	**39.80**	**49**	*e*P	**P**	**13 39 13.8**	**-0.4**
CMC01	**Camacan, BA**	**40.59**	**57**	*e*P	**P**	**13 39 19.8**	**-0.8**
SMTB	**Santa Maria do**	**41.41**	**42**	*e*P	**P**	**13 39 27.4**	**-0.1**
VNA3	**Neumayer Olymp**	**41.57**	**154**	P	**P**	**13 39 28.0**	**-0.1**
MACA	**Manacapuru-AM**	**41.71**	**20**	*e*P	**P**	**13 39 30.5**	**+0.7**
GDU01	**Guandu, BA**	**41.82**	**56**	*e*P	**P**	**13 39 29.9**	**-0.9**
ITTB	**Itaituba**	**42.05**	**28**	*e*P	**P**	**13 39 32.6**	**0.0**
VNA2	**Neumayer--Watz**	**42.28**	**153**	P	**P**	**13 39 34.3**	**+0.4**
	baz=279,slow=9.0						
PRPB	**Parauapebas**	**42.74**	**37**	*e*P	**P**	**13 39 37.3**	**-0.9**
SGCB	**São Gabriel d**	**43.44**	**10**	*e*P	**P**	**13 39 44.1**	**+0.2**
SNAA	**Sanae**	**43.78**	**154**	P	**P**	**13 39 46.0**	**-0.1**
	comp=Z,6.4nm,0.9s,baz=263,slow=7.1,SNR=13						
	comp=Z,6.4nm,0.9s						
MALB	**Monte Alegre**	**44.91**	**29**	*e*P	**P**	**13 39 54.9**	**-0.7**
TROLL	**Troll, Antarti**	**45.45**	**155**	P	**P**	**13 40 00.3**	**+0.8**
QSPA	**South Pole Qui**	**46.97**	**180**	P	**P**	**13 40 12.0**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=127,slow=2.2,SNR=6.1						
	comp=Z,2.3nm,0.9s						
MCPB	**Macapa, AP**	**47.09**	**31**	*e*P	**P**	**13 40 13.1**	**+0.3**
BOAV	**Boa Vista**	**47.10**	**19**	P	**P**	**13 40 12.4**	**-0.5**
BOAV				IAmb	IAmb	13 40 22.2	
	comp=Z,8.1nm,0.9s						
BOAV	**Boa Vista**	**47.10**	**19**	*e*P	**P**	**13 40 12.5**	**-0.4**
ROSB	**Rosrio**	**48.27**	**42**	*e*P	**P**	**13 40 21.8**	**-0.2**
NBCL	**Cascavel-CE**	**50.28**	**50**	*e*P	**P**	**13 40 36.8**	**0.0**
RCBR	**Riachuelo**	**50.26**	**53**	*e*P	**P**	**13 40 35.6**	**-1.6**
ELIB	**Princess Elisa**	**51.73**	**157**	*d*P	**P**	**13 40 48.2**	**+0.4**
	comp=Z,9.7nm,0.9s						
SDV	**Santo Domingo**	**52.02**	**4**	*e*P	**P**	**13 40 49.6**	**-0.9**
BAUV	**El Baul**	**52.27**	**8**	P	**P**	**13 40 52.3**	**+0.1**
VNDA	**Vanda**	**54.69**	**193**	LR	LR	14 02 14.1	
	comp=Z,36nm,18.3s,baz=142,slow=34						
VNDA	**Vanda**	**54.69**	**193**	P	**P**	**13 41 11.7**	**+2.4**
MAW	**Mawson**	**64.77**	**163**	LR	LR	14 11 46.8	
	comp=Z,124nm,18.9s,baz=219,slow=37						
RAR	**Rarotonga**	**72.67**	**257**	LR	LR	14 07 37.2	
	comp=Z,84nm,18.2s,baz=198,slow=30						
URZ	**Urewera**	**76.31**	**230**	LR	LR	14 09 06.6	
	comp=Z,88nm,18.6s,baz=244,slow=29						
TXAR	**Lajitas Array**	**77.17**	**334**	P	**P**	**13 43 35.8**	**+1.3**
	comp=Z,1.7nm,1.0s,baz=146,slow=8.1,SNR=11						
	comp=Z,1.7nm,1.0s						
TXAR	**Lajitas Array**	**77.17**	**334**	P	**P**	**13 43 36.3**	**+1.9**
BOSA	**Boshof**	**77.27**	**117**	P	**P**	**13 43 34.5**	**-0.8**
	comp=Z,9.6nm,0.8s,baz=234,slow=4.2,SNR=12						
	comp=Z,9.6nm,0.8s						
BOSA	**Boshof**	**77.27**	**117**	P	**P**	**13 43 35.1**	**-0.2**
LIC	**Lamto**	**79.34**	**71**	⇑*e*P	**P**	**13 43 46.7**	**0.0**
	comp=Z,58nm,1.1s						
KIC	**Kosan Boka**	**79.64**	**71**	⇑*e*P	**P**	**13 43 49.5**	**+1.2**
	comp=Z,4.6nm,0.7s						
TIC	**Toumodi**	**79.65**	**71**	⇑*e*P	**P**	**13 43 50.7**	**+2.3**
	comp=Z,29nm,0.6s						
DBIC	**Dimbokro**	**79.78**	**71**	P	**P**	**13 43 49.4**	**+0.3**
	comp=Z,15nm,1.0s,baz=217,slow=7.9,SNR=5.0						
	comp=Z,15nm,1.0s						
LBTB	**Lobatse**	**79.93**	**115**	P	**P**	**13 43 49.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**88.89**	**71**	P	**P**	**13 44 34.7**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=224,slow=4.3,SNR=3.5						
	comp=Z,2.1nm,0.5s						
NVAR	**Mina Array Bea**	**90.64**	**327**	P	**P**	**13 44 45.0**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=164,slow=7.5,SNR=1.8						
	comp=Z,0.1nm,0.4s						
PDAR	**Pinedale Array**	**91.36**	**335**	P	**P**	**13 44 47.3**	**+0.9**
	comp=Z,0.5nm,1.0s,baz=180,slow=2.7,SNR=2.3						
	comp=Z,0.5nm,1.0s						
ILAR	**Eielson Array**	**121.62**	**331**	PKP	**PKPdf**	**13 50 32.1**	**-1.0**
	comp=Z,0.7nm,1.1s,baz=158,slow=1.0,SNR=2.7						
H11N3	**WAKE ISLAND Hyl**	**24.18**	**265**	T	T	16 06 26.9	
	baz=131,slow=76,SNR=4.1						
H11N1	**WAKE ISLAND Hyl**	**24.19**	**265**	T	T	16 06 21.1	
	baz=131,slow=76,SNR=8.2						
H11N2	**WAKE ISLAND Hyl**	**24.20**	**265**	T	T	16 06 25.7	
	baz=131,slow=76,SNR=4.9						
CMAR	**Chiang Mai Arr**	**154.58**	**165**	PKPbc	**PKPbc**	**13 51 40.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=235,slow=3.2,SNR=1.7						
ZALV	**Zalesovo Beam**	**162.55**	**45**	PKP	**PKPdf**	**13 51 41.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=257,slow=2.6,SNR=4.3						
ZALV				PKPab	**PKPab**	**13 52 29.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=305,slow=5.1,SNR=1.9						
PZH	**PanZhiHua**	**162.93**	**167**	PKP	**PKPdf**	**13 51 42.6**	**-0.4**
MKAR	**Makanchi Array**	**163.01**	**70**	PKPab	**PKPab**	**13 52 32.2**	**0.0**
	comp=Z,4.4nm,0.9s,baz=278,slow=3.6,SNR=28						
MKAR				PP	**PP**	**13 56 17.0**	**-0.8**
	comp=Z,1.5nm,1.1s,baz=290,slow=4.9,SNR=5.8						

*BGR **18** 13:33:34.5±0.6, 42.˚13N×13.˚71E, h10km, ML5.7/17, Error ellipse: s-maj=8.9km s-min=7.8km az=42.0*
*BJI **18** 13:33:35.8±0.0, 42.˚87N×13.˚07E, h8km, mb4.8/65, mB5.4/42, Ms5.4/55, Ms7 5.1/54*
*ROM **18** 13:33:36.7±0.0, 42.˚473N±0.˚002×13.˚275E±0.˚002, h10km, ML5.1/143, Mw5.0, Error ellipse: s-maj=0.2km s-min=0.1km az=66.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-2.18; Mθθ-0.49; Mφφ2.67; Mrθ2.43; Mθφ-1.50; Mφr-1.74; Fault plane solution: M₀4.14481×10¹⁶ NP1:φ≅188.00000°, δ30.00000°, λ-39.00000°. NP2:φ≅313.00000°, δ71.00000°, λ-115.00000°.*
*IDC **18** 13:33:36.6±0.4, 42.˚61N×13.˚17E, h0km, mb4.6/40, mbtmp4.6/52, ML4.3/13, MS4.6/81 Error ellipse: s-maj=8.6km s-min=8.2km az=98.0*
*MOS **18** 13:33:36.7±1.0, 42.˚64N×13.˚30E, h10km, mb5.3/54, MS4.7/32, Error ellipse: s-maj=4.4km s-min=2.7km az=72.2*
*LDG **18** 13:33:37.3±0.1, 42.˚45N×13.˚20E, h10km, Ml4.3/42, Error ellipse: s-maj=5.5km s-min=2.9km az=40.0*
*MED_RC **18** 13:33:37.0±0.2, 42.˚47N×13.˚32E, h15km, MW5.2/31, Moment Tensor Solution. Body waves: s4,c4;Mantle waves: s31,c54; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm; Mrr-0.68±.04; Mθθ-0.02±.02; Mφφ0.71±.03; Mrθ0.16±.06; Mθφ-0.31±.02; Mφr-0.17±.03; Best double couple: M₀0.79000×10¹⁷ NP1:φ≅332.00000°, δ54.00000°, λ-100.00000°. NP2:φ≅169.00000°, δ38.00000°, λ-76.00000°. Principal axes: T 0.8500, Plg8.0000°, Azm69.0000°; N -0.1200, Plg8.0000°, Azm338.0000°; P -0.7300, Plg78.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*BGS **18** 13:33:37.7±3.2, 42.˚56N×13.˚25E, h7km, MW5.2(NEIC)*
*PDG **18** 13:33:37.0±0.3, 42.˚48N×13.˚27E, h14km±4km, MD5.2/10, ML5.1/11, Error ellipse: s-maj=2.5km s-min=6.4km az=0.0*
*NEIC **18** 13:33:38±1.2, 42.˚56N±0.˚05×13.˚25E±0.˚06, h7km±3km, mb5.2/111, Mwr5.1/42, Mww5.2, Mwr5.0(VIE), Error ellipse: s-maj=8.0km s-min=5.7km az=224.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-5.03;

T0110				S	**Sg**	**13 33 53.3**	**-0.4**		
T0110				AML	AML				
T0110				AML	AML				
PTQR	**Pietraquaria**	**0.48**	**168**	P	**Pg**	**13 33 45.9**	**-1.9**		
PTQR				AML	AML				
	comp=E,64450µm,0.6s								
PTQR				AML	AML				
	comp=N,65300µm,1.4s								
FEMA	**Monte Fema**	**0.49**	**341**	P	**Pg**	**13 33 46.8**	**-1.1**		
FEMA				S	**Sg**	**13 33 54.7**	**+0.2**		
FEMA				AML	AML				
FEMA				AML	AML				
FEMA				AML	AML				
CESX	**Cesi**	**0.52**	**283**		**Pg**	**13 33 46.9**	**-1.4**		
CESX				Sg	**Sg**	**13 33 54.2**	**-1.0**		
CESX	**Cesi**	**0.52**	**283**	⇑P	**Pg**	**13 33 46.9**	**-1.4**		
CESX				S	**Sg**	**13 33 55.6**	**+0.4**		
CESX				AML	AML				
CESX				AML	AML				
CESX				AML	AML				
FDMO	**Fiordimonte**	**0.56**	**347**	P	**Pg**	**13 33 47.8**	**-1.3**		
GUMA	**Gualdo di Mace**	**0.57**	**5**		**Pg**	**13 33 48.1**	**-1.3**		
GUMA				Sg	**Sg**	**13 33 53.9**	**-3.0**		
GUMA	**Gualdo di Mace**	**0.57**	**5**	P	**Pg**	**13 33 48.5**	**-0.9**		
GUMA				S	**Sb**	**13 33 57.8**	**-0.4**		
GUMA				AML	AML				
GUMA				AML	AML				
CESI	**CESI - Serrava**	**0.57**	**333**	P	**Pg**	**13 33 48.4**	**-1.0**		
CESI				S	**Sg**	**13 33 57.5**	**+0.4**		
CESI				AML	AML				
CESI				AML	AML				
CESI				AML	AML				
TRTR	**Tortoreto Alta**	**0.57**	**57**	⇑P	**Pg**	**13 33 48.7**	**-0.7**		
CERT	**Cerreto**	**0.58**	**201**	⇑P	**Pg**	**13 33 48.0**	**-1.7**		
CERT				AML	AML				
CERT				AML	AML				
CERT				AML	AML				
CERT				AML	AML				
MOMA	**Monte Martano**	**0.60**	**301**	P	**Pg**	**13 33 48.6**	**-1.3**		
MOMA				S	**Sb**	**13 33 58.8**	**-0.2**		
MOMA				AML	AML				
MOMA				AML	AML				
MOMA				AML	AML				
MOMA				AML	AML				
MOMA				AML	AML				
MOMA				AML	AML				
MOMA				AML	AML				
CSP1	**Cessapalombo**	**0.60**	**356**	P	**Pg**	**13 33 48.8**	**-1.1**		
CSP1				S	**Sg**	**13 33 57.9**	**0.0**		
CSP1				AML	AML				
CSP1				AML	AML				
MTCE	**Montecelio**	**0.61**	**219**	⇑P	**Pg**	**13 33 48.3**	**-1.8**		
MTCE				AML	AML				
	comp=N,69750µm,1.1s								
MTCE				AML	AML				
MTCE				AML	AML				
	comp=N,69700µm,1.1s								
MTCE				AML	AML				
MTCE				AML	AML				
	comp=N,69700µm,0.9s								
SRES	**S.Oreste - Sor**	**0.61**	**245**	⇑P	**Pg**	**13 33 48.5**	**-1.7**		
SRES				AML	AML				
SRES				AML	AML				
	comp=E,77250µm,1.2s								
T1220	**Camerino, Fraz**	**0.63**	**348**	P	**Pg**	**13 33 49.3**	**-1.2**		
T1220				S	**Sg**	**13 33 59.2**	**+0.4**		
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
MNTP	**Montappone**	**0.66**	**13**	⇑P	**Pg**	**13 33 50.2**	**-0.9**		
MNTP				S	**Sb**	**13 34 00.9**	**+0.2**		
MNTP				AML	AML				
MNTP				AML	AML				
MNTP				AML	AML				
VVLD	**Villa Vallelon**	**0.68**	**157**	P	**Pg**	**13 33 49.8**	**-1.6**		
VVLD				AML	AML				
	comp=E,82250µm,0.4s								
VVLD				AML	AML				
	comp=E,82250µm,1.6s								
VVLD				AML	AML				
	comp=N,71950µm,0.5s								
RCAV	**Rocca di Cave**	**0.69**	**200**	P	**Pg**	**13 33 49.7**	**-1.9**		
RCAV				AML	AML				
RCAV				AML	AML				
RCAV				AML	AML				
RCAV				AML	AML				
SEF1	**Sefro**	**0.69**	**341**	P	**Pg**	**13 33 50.6**	**-1.0**		
SEF1				S	**Sb**	**13 34 01.5**	**-0.1**		
SEF1				AML	AML				
SEF1				AML	AML				
SEF1				AML	AML				
GUAR	**Guarcino**	**0.70**	**177**	⇑P	**Pg**	**13 33 49.9**	**-1.9**		
GUAR				AML	AML				
	comp=E,84350µm,0.6s								
GUAR				AML	AML				
MDAR	**Monte D'Aria**	**0.70**	**353**	P	**Pg**	**13 33 50.5**	**-1.4**		
MDAR				S	**Sg**	**13 34 01.6**	**+0.5**		
MDAR				AML	AML				
MDAR				AML	AML				
ASSB	**Assisi San Ben**	**0.70**	**321**	⇑P	**Pg**	**13 33 50.7**	**-1.2**		
ASSB				S	**Sb**	**13 34 01.7**	**-0.3**		
PIO1	**Pioraco**	**0.71**	**343**	P	**Pg**	**13 33 50.9**	**-1.2**		
PIO1				S	**Sb**	**13 34 02.2**	**-0.1**		
FIU1	**Fiuminata**	**0.73**	**341**	P	**Pg**	**13 33 51.3**	**-1.1**		
FIU1				S	**Sb**	**13 34 03.0**	**+0.1**		
SSM1	**San Severino M**	**0.73**	**355**	P	**Pg**	**13 33 51.2**	**-1.2**		
SSM1				S	**Sb**	**13 34 02.8**	**-0.1**		
GAG1	**Gagliole**	**0.76**	**349**	P	**Pg**	**13 33 51.7**	**-1.2**		
GAG1				S	**Sb**	**13 34 03.8**	**+0.3**		
GAG1				AML	AML				
GAG1				AML	AML				
GAG1				AML	AML				
MTL1	**Matelica**	**0.78**	**346**	P	**Pg**	**13 33 52.2**	**-1.2**		
MTL1				S	**Sb**	**13 34 04.6**	**+0.3**		
MTL1				AML	AML				
MTL1				AML	AML				
CADA	**Capodarco di F**	**0.79**	**28**	P	**Pg**	**13 33 53.2**	**-0.3**		
CADA				AML	AML				
CADA				AML	AML				
CADA				AML	AML				
CADA				AML	AML				
SNTG	**Esanatoglia**	**0.80**	**343**	P	**Pg**	**13 33 52.5**	**-1.2**		
SNTG				S	**Sb**	**13 34 04.5**	**-0.2**		
SNTG				AML	AML				
SNTG				AML	AML				
SNTG				AML	AML				
SNTG				AML	AML				
SNTG				AML	AML				
RMP	**Rome, Mte Porz**	**0.80**	**212**	P	**Pg**	**13 33 51.7**	**-2.0**		
RMP				AML	AML				
RMP				AML	AML				
RMP				AML	AML				
LPEL	**Lama dei Pelig**	**0.82**	**123**	P	**Pg**	**13 33 51.4**	**-2.7**		
LPEL				S	**Sg**	**13 34 03.2**	**-1.6**		
LPEL				AML	AML				
LPEL				AML	AML				
LPEL				AML	AML				
ATCC	**AVT- Casa Cast**	**0.83**	**327**	P	**Pg**	**13 33 52.9**	**-1.3**		
ATCC				S	**Sb**	**13 34 06.1**	**+0.5**		
ATCC				AML	AML				
ATCC				AML	AML				
ATCC				AML	AML				
VIVA	**Pratoni del Vi**	**0.83**	**206**	⇑P	**Pg**	**13 33 52.5**	**-1.8**		
VIVA				AML	AML				
VIVA				AML	AML				
EL6	**Elcito**	**0.84**	**352**	P	**Pg**	**13 33 52.8**	**-1.7**		
EL6				AML	AML				
EL6				AML	AML				
RDP	**Rocca di Papa**	**0.84**	**209**	AML	AML				
RDP				AML	AML				
RDP				AML	AML				
POFI	**Posta Fibreno**	**0.85**	**157**	P	**Pg**	**13 33 53.2**	**-1.4**		
POFI				AML	AML				
	comp=N,49300µm,1.4s								
POFI				AML	AML				
	comp=N,46400µm,1.4s								
POFI				AML	AML				
	comp=N,49350µm,1.4s								
POFI				AML	AML				
	comp=E,69050µm,0.6s								
POFI				AML	AML				
	comp=N,49350µm,0.6s								
POFI				AML	AML				
	comp=E,66650µm,0.6s								
POFI				AML	AML				
	comp=N,46400µm,0.6s								
MA9	**Marino**	**0.85**	**212**	AML	AML				
MA9				AML	AML				
CIMA	**Civitanova Mar**	**0.86**	**20**	P	**Pg**	**13 33 54.6**	**-0.3**		
CIMA				AML	AML				
CIMA				AML	AML				
FOSV	**Fossato di Vic**	**0.88**	**335**	⇓P	**Pg**	**13 33 54.0**	**-1.2**		
FOSV				AML	AML				
FOSV				AML	AML				
FOSV				AML	AML				
FOSV				AML	AML				
CING	**Cingoli**	**0.88**	**357**	P	**Pg**	**13 33 53.7**	**-1.6**		
LRP	**Arpino**	**0.88**	**164**	P	**Pg**	**13 33 54.7**	**-0.6**		
LRP				AML	AML				
	comp=E,42350µm,0.4s								
LRP				AML	AML				
	comp=N,49450µm,0.5s								
PP3	**Marolino**	**0.92**	**16**	⇑P	**Pg**	**13 33 54.8**	**-1.1**		
PP3				AML	AML				
PP3				AML	AML				
PP3				AML	AML				
PP3				AML	AML				
LAV9	**Lanuvio**	**0.92**	**207**	P	**Pg**	**13 33 54.3**	**-1.6**		
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
LAV9				AML	AML				
GIUL	**Giuliano Di Ro**	**0.94**	**180**	P	**Pg**	**13 33 54.7**	**-1.6**		
GIUL				AML	AML				
	comp=E,39450µm,0.6s								
GIUL				AML	AML				
	comp=N,43950µm,1.4s								
MURB	**Monte Urbino**	**0.94**	**325**		**Pg**	**13 33 55.2**	**-1.1**		
MURB	**Monte Urbino**	**0.94**	**325**	P	**Pg**	**13 33 55.1**	**-1.2**		
MURB				AML	AML				
MURB				AML	AML				
MURB				AML	AML				
MURB				AML	AML				
MGAB	**Montegabbione**	**0.94**	**297**	⇑P	**Pg**	**13 33 54.8**	**-1.6**		
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
MGAB				AML	AML				
SSFR	**Montelago di S**	**1.00**	**340**	P	**Pb**	**13 33 56.2**	**-1.4**		
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
SSFR				AML	AML				
LIK	**San Giovanni I**	**1.01**	**167**	P	**Pb**	**13 33 56.9**	**-0.8**		
LIK				AML	AML				
LIK				AML	AML				
	comp=E,80950µm,0.6s								
ATSC	**Scheggia e Pas**	**1.02**	**336**	P	**Pb**	**13 33 56.1**	**-1.7**		
LATB	**Latina**	**1.03**	**193**	P	**Pb**	**13 33 55.4**	**-2.4**		
ARVD	**Arcevia**	**1.03**	**347**	P	**Pb**	**13 33 56.5**	**-1.5**		
ARVD				S	**Sn**	**13 34 12.3**	**-0.4**		
ARVD				AML	AML				
ARVD				AML	AML				
TOLF	**Tolfa**	**1.03**	**246**	⇑P	**Pb**	**13 33 55.9**	**-2.1**		
ATLO	**AVT- Montelove**	**1.03**	**323**	⇑P	**Pb**	**13 33 57.0**	**-0.9**		
RNI2	**Rionero Sannit**	**1.03**	**140**	P	**Pb**	**13 33 56.7**	**-1.3**		
SACS	**San Casciano d**	**1.06**	**290**	P	**Pb**	**13 33 57.0**	**-1.4**		
SACS				AML	AML				
SACS				AML	AML				
	comp=E,90500µm,1.2s								
SACS				AML	AML				
SACS				AML	AML				
	comp=E,95700µm,1.2s								
SACS				AML	AML				
CERA	**Filignano**	**1.06**	**148**	P	**Pb**	**13 33 56.2**	**-2.3**		
ATVA	**AVT- Monte Val**	**1.06**	**318**	P	**Pb**	**13 33 57.4**	**-1.1**		
ATVA				S	**Sn**	**13 34 13.5**	**-0.1**		
AOI	**Ancona**	**1.08**	**13**	⇑P	**Pb**	**13 33 57.2**	**-1.7**		
AOI				AML	AML				
AOI				AML	AML				
LATE	**Laterza**	**1.08**	**277**		**Pb**	**13 33 57.4**	**-1.4**		
LATE	**Laterza**	**1.08**	**277**	P	**Pb**	**13 33 57.7**	**-1.2**		
ATVO	**AVT- Monte Val**	**1.09**	**325**	P	**Pb**	**13 33 57.5**	**-1.5**		
ATVO				AML	AML				
ATVO				AML	AML				
ATVO				AML	AML				
ATVO				AML	AML				
FRON	**Frontone**	**1.09**	**339**	P	**Pb**	**13 33 57.7**	**-1.4**		
FRON				AML	AML				
FRON				AML	AML				
ATBU	**Serra di Buran**	**1.11**	**332**	P	**Pb**	**13 33 58.7**	**-0.7**		
ATMI	**Monte Miggiano**	**1.11**	**319**	P	**Pb**	**13 33 58.2**	**-1.1**		
ATMI				AML	AML				
ATMI				AML	AML				
ATMI				AML	AML				
ATMI				AML	AML				
MIDA	**Miranda**	**1.13**	**139**	P	**Pb**	**13 33 57.4**	**-2.3**		
MIDA				AML	AML				
	comp=E,45850µm,0.5s								
MIDA				AML	AML				
	comp=N,46200µm,1.6s								
MIDA				AML	AML				
	comp=N,46200µm,0.4s								
PCRO	**Pietralacroce**	**1.13**	**10**	P	**Pb**	**13 33 58.8**	**-0.8**		
PCRO				AML	AML				
PCRO				AML	AML				
PCRO				AML	AML				
ATPI	**Pietralunga -**	**1.14**	**327**	P	**Pb**	**13 33 58.6**	**-1.3**		
ATPC	**Poggio Castell**	**1.15**	**329**	P	**Pb**	**13 33 59.0**	**-1.0**		
COR1	**Corinaldo**	**1.15**	**350**	P	**Pb**	**13 33 59.3**	**-0.7**		
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
COR1				AML	AML				
FRES	**Fresagrandinar**	**1.17**	**116**	P	**Pb**	**13 33 58.2**	**-2.1**		
FRES				AML	AML				
	comp=N,41750µm,1.6s								
FRES				AML	AML				
	comp=N,41750µm,0.4s								
FRES				AML	AML				
	comp=E,48350µm,0.5s								
PIEI	**Pieia**	**1.17**	**333**	P	**Pb**	**13 33 59.0**	**-1.3**		
PIEI				AML	AML				
	comp=E,75350µm,1.0s								
PIEI				AML	AML				
	comp=N,77150µm,1.3s								
MPAG	**Monte Paganucc**	**1.19**	**342**	P	**Pn**	**13 33 59.6**	**-1.1**		
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
MPAG				AML	AML				
TRIV	**Trivento**	**1.20**	**127**	P	**Pn**	**13 33 59.8**	**-1.0**		
SENI	**Senigallia**	**1.21**	**359**	P	**Pn**	**13 34 00.6**	**-0.3**		
SENI				AML	AML				
SENI				AML	AML				
SENI				AML	AML				
SENI				AML	AML				
APEC	**Apecchio**	**1.23**	**330**	P	**Pn**	**13 34 00.6**	**-0.5**		
APEC				AML	AML				
APEC				AML	AML				
APEC				AML	AML				
APEC				AML	AML				
APEC				AML	AML				
SF04	**Casetta**	**1.23**	**287**	P	**Pn**	**13 34 00.7**	**-0.5**		
SF04				AML	AML				
	comp=E,42850µm,1.4s								
SF04				AML	AML				
	comp=N,55050µm,1.3s								
SF04				AML	AML				
	comp=N,55050µm,0.7s								
ATMC	**Monte Cedrone**	**1.23**	**321**	P	**Pn**	**13 34 00.6**	**-0.7**		
BADI	**Badiali**	**1.26**	**324**	P	**Pn**	**13 34 01.2**	**-0.4**		
BADI				AML	AML				
	comp=E,4385µm,1.2s								
BADI				AML	AML				
BADI				AML	AML				
BADI				AML	AML				
	comp=E,4385µm,0.8s								
CAFI	**Castiglion Fio**	**1.27**	**312**	P	**Pn**	**13 34 00.8**	**-0.8**		
CAFI				AML	AML				
CAFI				AML	AML				
	comp=N,77400µm,0.8s								
CAFI				AML	AML				
CAFI				AML	AML				
	comp=N,80300µm,0.8s								
SF01	**Poggio Pratacc**	**1.29**	**285**	P	**Pn**	**13 34 01.8**	**-0.3**		
SF01				AML	AML				
	comp=E,44650µm,0.7s								
SF01				AML	AML				
	comp=N,63050µm,1.2s								
VAGA	**Valle Agricola**	**1.30**	**146**	P	**Pn**	**13 34 01.7**	**-0.5**		
VAGA				AML	AML				
	comp=E,21100µm,0.7s								
VAGA				AML	AML				
	comp=E,21400µm,0.7s								
VAGA				AML	AML				
	comp=E,21400µm,1.3s								
VAGA				AML	AML				
	comp=E,21100µm,1.3s								
VAGA				AML	AML				
	comp=N,31750µm,0.6s								
VAGA				AML	AML				
	comp=N,31250µm,0.6s								
PE3	**Peglio**	**1.32**	**335**	P	**Pn**	**13 34 02.2**	**-0.3**		
PE3				AML	AML				
	comp=N,378µm,0.4s								
PE3				AML	AML				
	comp=N,378µm,1.6s								
PE3				AML	AML				
SSP9	**Sansepolcro**	**1.36**	**323**	P	**Pn**	**13 34 02.7**	**-0.2**		
SSP9				AML	AML				
SSP9				AML	AML				
SSP9				AML	AML				
SSP9				AML	AML				
ARCI	**Arcidosso**	**1.36**	**286**	P	**Pn**	**13 34 03.0**	**-0.1**		
ARCI				AML	AML				
	comp=E,21750µm,1.3s								
ARCI				AML	AML				
	comp=N,20250µm,1.3s								
BSSO	**Busso**	**1.37**	**133**	P	**Pn**	**13 34 01.8**	**-1.4**		
BSSO				AML	AML				
	comp=N,29300µm,1.6s								
BSSO				AML	AML				
	comp=N,13100µm,1.6s								
BSSO				AML	AML				
	comp=N,13100µm,0.4s								
BSSO				AML	AML				
	comp=E,34200µm,0.9s								
BSSO				AML	AML				
	comp=E,13650µm,0.9s								
BSSO				AML	AML				
	comp=N,29300µm,0.4s								
SGG	**Gregorio Mates**	**1.39**	**143**	P	**Pn**	**13 34 02.5**	**-0.9**		
SGG				AML	AML				
	comp=E,127nm,0.8s								
SGG				AML	AML				
	comp=N,74nm,1.3s								
SGG				AML	AML				
	comp=N,23950µm,1.3s								
SGG				AML	AML				
	comp=N,23950µm,0.7s								
SGG				AML	AML				
	comp=N,74nm,0.7s								
SGG				AML	AML				
	comp=E,40450µm,0.8s								
MODR	**Mondragone**	**1.43**	**161**	P	**Pn**	**13 34 03.2**	**-0.6**		
MODR				AML	AML				
	comp=E,14950µm,1.4s								
MODR				AML	AML				
	comp=N,17850µm,1.3s								
MODR				AML	AML				
	comp=E,14950µm,0.6s								
MODR				AML	AML				
	comp=N,17850µm,0.7s								
PIGN	**Pignataro Magg**	**1.47**	**152**	P	**Pn**	**13 34 04.3**	**-0.1**		
PIGN				AML	AML				
	comp=E,13800µm,1.4s								
PIGN				AML	AML				
	comp=E,14150µm,1.3s								
PIGN				AML	AML				
	comp=N,11705µm,1.2s								
PIGN				AML	AML				
	comp=N,11750µm,1.4s								
PIGN				AML	AML				
	comp=N,11705µm,0.8s								
PIGN				AML	AML				
	comp=E,13800µm,0.6s								
PIGN				AML	AML				
	comp=E,14150µm,0.7s								
PTRJ	**Pietraroja**	**1.47**	**140**	P	**Pn**	**13 34 04.6**	**0.0**		
CPGN	**Carpegna, Ital**	**1.48**	**332**	P	**Pb**	**13 34 05.4**	**-0.2**		
CPGN				AML	AML				
CPGN				AML	AML				
CPGN				AML	AML				
PESA	**Pesaro**	**1.48**	**348**	P	**Pn**	**13 34 05.0**	**+0.4**		
PESA				AML	AML				
PESA				AML	AML				
PESA				AML	AML				
CRE	**Caprese Michel**	**1.48**	**320**	P	**Pn**	**13 34 04.8**	**+0.1**		
CRE				AML	AML				
	comp=E,46700µm,0.8s								
CRE				AML	AML				
	comp=N,54100µm,1.6s								
CRE				AML	AML				
	comp=N,54100µm,0.4s								
CRE				AML	AML				
	comp=E,46700µm,1.2s								
CIGN	**Sant'Elia a Pi**	**1.48**	**124**	P	**Pn**	**13 34 03.8**	**-0.8**		
SACR	**S. Croce Del S**	**1.54**	**135**	P	**Pb**	**13 34 06.1**	**-0.5**		
GATE	**Gambatesa**	**1.57**	**128**	P	**Pb**	**13 34 07.1**	**-0.1**		
MAON	**Monte Argentar**	**1.58**	**268**	P	**Pn**	**13 34 04.7**	**-1.2**		
MAON				AML	AML				
	comp=E,16000µm,1.3s								
MAON				AML	AML				
	comp=N,13300µm,1.6s								
MAON				AML	AML				
	comp=N,13300µm,0.4s								
MAON				AML	AML				
	comp=E,16000µm,0.7s								
MELA	**Melanico ??? S**	**1.60**	**119**	P	**Pn**	**13 34 06.2**	**+0.1**		
MELA				AML	AML				
	comp=E,54100µm,1.2s								
MELA				AML	AML				
	comp=N,60450µm,1.6s								
MELA				AML	AML				
	comp=E,55400µm,1.2s								
MELA				AML	AML				
	comp=N,61650µm,1.6s								
MELA				AML	AML				
	comp=N,60450µm,0.4s								
MELA				AML	AML				
	comp=E,55400µm,0.8s								
MELA				AML	AML				
	comp=E,54100µm,0.8s								
MELA				AML	AML				
	comp=N,61650µm,0.4s								
VITU	**Vitulano (BN)**	**1.66**	**142**	P	**Pn**	**13 34 07.0**	**-0.1**		
VITU				AML	AML				
	comp=E,7625µm,1.6s								
VITU				AML	AML				
	comp=N,21250µm,0.5s								
VITU				AML	AML				
	comp=E,21000µm,0.5s								
VITU				AML	AML				
	comp=E,7625µm,0.4s								
VITU				AML	AML				
	comp=N,21750µm,0.5s								
ASQU	**Asqua**	**1.69**	**321**	P	**Pn**	**13 34 07.5**	**0.0**		
VENT	**Ventotene**	**1.70**	**176**	P	**Pn**	**13 34 06.9**	**-0.7**		
VENT				AML	AML				
	comp=E,21700µm,1.4s								
VENT				AML	AML				
	comp=N,20700µm,1.3s								
VENT				AML	AML				

VENT AML AML
comp=E,21700µm,0.6s
comp=N,20700µm,0.7s
PSB1 Pescosannita 1.72 137 P **Pb** 13 34 09.1 -0.6
PSB1 AML AML
comp=E,24700µm,1.6s
PSB1 AML AML
comp=N,22700µm,1.6s
PSB1 AML AML
comp=E,24250µm,1.6s
PSB1 AML AML
comp=E,24250µm,0.4s
PSB1 AML AML
comp=E,24700µm,0.4s
PSB1 AML AML
comp=N,22450µm,1.6s
BLLA Bellaria 1.75 341 AML AML
BLLA AML AML
BLLA AML AML
BLLA AML AML
SFI Santa Sofia 1.75 324 P **Pn** 13 34 09.0 +0.7
SFI AML AML
comp=E,46550µm,1.0s
SFI AML AML
comp=N,50000µm,1.1s
SFI AML AML
comp=E,46550µm,1.0s
CSFT Campi Flegrei 1.79 158 P **Pn** 13 34 09.5 +0.7
CSFT AML AML
CSFT AML AML
CASP Castiglione de 1.79 280 Pn **Pn** 13 34 08.2 -0.7
CASP Castiglione de 1.79 280 P **Pn** 13 34 08.1 -0.8
CASP AML AML
comp=E,6695µm,1.4s
CASP AML AML
comp=N,9885µm,1.6s
CASP AML AML
comp=N,9885µm,0.4s
OSSC Osservatorio P 1.80 305 Pn **Pn** 13 34 09.0 0.0
OSSC Osservatorio P 1.80 305 P **Pn** 13 34 09.1 0.0
OSSC AML AML
comp=N,24950µm,1.0s
OSSC AML AML
comp=N,28200µm,1.0s
OSSC AML AML
comp=E,28900µm,1.0s
OSSC AML AML
comp=E,24950µm,1.0s
TRIF Trifonti 1.84 290 P **Pn** 13 34 09.3 -0.3
TRIF AML AML
comp=N,14900µm,0.8s
TRIF AML AML
comp=E,10965µm,0.9s
APRC Apricena 1.85 113 P **Pn** 13 34 09.7 -0.1
APRC AML AML
comp=E,21950µm,1.3s
APRC AML AML
comp=N,16800µm,0.5s
APRC AML AML
comp=E,22250µm,1.3s
APRC AML AML
comp=N,42600µm,0.5s
APRC AML AML
comp=E,21950µm,0.7s
APRC AML AML
comp=N,42600µm,1.5s
APRC AML AML
comp=E,22250µm,0.7s
APRC AML AML
comp=N,16800µm,1.5s
RUFI Rufina 1.86 317 P **Pn** 13 34 10.7 +0.9
RUFI AML AML
comp=E,38700µm,1.1s
RUFI AML AML
comp=N,44300µm,1.6s
OVO Vesuviano 1.87 153 P **Pn** 13 34 10.3 +0.3
OVO AML AML
comp=E,16950µm,1.0s
OVO AML AML
comp=E,16950µm,1.0s
OVO AML AML
comp=N,26100µm,0.7s
MRB1 Monte Rocchett 1.87 136 P **Pb** 13 34 11.3 -1.1
MRB1 AML AML
comp=N,31050µm,1.6s
MRB1 AML AML
comp=E,27450µm,1.6s
MRB1 AML AML
comp=N,31500µm,1.6s
MRB1 AML AML
comp=E,27500µm,1.6s
MRB1 AML AML
comp=N,31050µm,0.4s
MRB1 AML AML
comp=N,31500µm,0.4s
VVDG Vesuvio Valle 1.87 152 P **Pn** 13 34 10.0 -0.1
VVDG AML AML
VVDG AML AML
VVDG AML AML
VVDG AML AML
LMD Lutirano 1.95 325 P **Pn** 13 34 11.3 +0.3
LMD AML AML
comp=E,30150µm,0.9s
LMD AML AML
comp=N,31350µm,1.3s
BRSN Barisano 1.98 335 P **Pb** 13 34 14.2 0.0
BRSN AML AML
BRSN AML AML
comp=N,96450µm,1.0s
BRSN AML AML
comp=N,96450µm,1.0s
SGRT San Giovanni R 1.99 111 **Pn** 13 34 12.1 +0.5
SGRT San Giovanni R 1.99 111 P **Pn** 13 34 11.0 -0.7
SGTA Sant Agata di 2.08 130 P **Pb** 13 34 14.5 -1.3
SGTA AML AML
comp=E,19900µm,0.8s
SGTA AML AML
comp=N,15200µm,1.1s
SGTA AML AML
comp=N,15150µm,1.1s
SGTA AML AML
comp=E,20150µm,0.8s
CAFE Carife 2.08 134 P **Pn** 13 34 14.1 +1.2
CAFE AML AML
comp=N,13900µm,1.6s
CAFE AML AML
comp=E,13800µm,0.7s
CAFE AML AML
comp=N,14050µm,1.6s
CAFE AML AML
comp=N,13900µm,0.4s
CAFE AML AML
comp=E,13700µm,0.7s
CAFE AML AML
comp=N,14050µm,0.4s
BRIS BRISIGHELLA 2.09 323 P **Pn** 13 34 13.9 +1.0
BRIS AML AML
comp=E,52350µm,0.7s
BRIS AML AML
comp=N,46950µm,1.6s
BRIS AML AML
comp=E,53450µm,0.7s
BRIS AML AML
comp=N,47300µm,1.6s
BRIS AML AML
comp=N,47300µm,0.4s
BRIS AML AML
comp=N,46950µm,0.4s
CRMI Carmignano 2.12 308 P **Pn** 13 34 14.0 +0.6
CRMI AML AML
comp=E,18950µm,1.6s
CRMI AML AML
comp=N,15450µm,1.5s
CRMI AML AML
comp=E,19050µm,1.6s
CRMI AML AML
comp=N,15550µm,1.5s
CRMI AML AML
comp=N,15550µm,0.5s
CRMI AML AML
comp=N,15450µm,0.5s
MSAG Monte S. Angel 2.12 111 P **Pn** 13 34 14.0 +0.6
SNAL S. Angelo Dei 2.14 136 P **Pn** 13 34 14.8 +1.0
MPPT Montemurlo 2.16 313 P **Pn** 13 34 14.5 +0.6
MPPT AML AML
comp=E,30450µm,1.1s
MPPT AML AML
comp=N,21250µm,1.3s
MPPT AML AML
comp=E,30450µm,0.9s
IMOL Imola, Italy 2.17 330 P **Pb** 13 34 17.3 0.0
IMOL AML AML
comp=E,59650µm,1.5s
IMOL AML AML
comp=E,59650µm,0.5s
IMOL AML AML
comp=N,55150µm,0.9s
MTCR Monte La Croce 2.25 314 P **Pn** 13 34 15.8 +0.5
MTCR AML AML
comp=E,18350µm,0.9s
MTCR AML AML
comp=N,29200µm,1.0s
MTCR AML AML
comp=N,29200µm,1.0s
MTCR AML AML
comp=E,18350µm,1.1s
CAPA Cerignola FG 2.33 124 P **Pn** 13 34 16.8 +0.5
CAPA AML AML
comp=E,28500µm,1.6s
CAPA AML AML
comp=N,22650µm,0.9s
CAPA AML AML
comp=E,28500µm,0.4s
CAPA AML AML
comp=N,22650µm,1.1s
VULT Monte Vulture 2.34 130 P **Pn** 13 34 17.6 +1.1
VULT AML AML
comp=N,15900µm,1.5s
VULT AML AML
comp=E,12170µm,0.9s
VULT AML AML
comp=N,16300µm,1.5s
VULT AML AML
comp=N,15900µm,0.5s
VULT AML AML
comp=E,11845µm,0.9s
VULT AML AML
comp=N,16300µm,0.5s
PII Pisa 2.35 302 P **Pn** 13 34 17.6 +1.1
PII AML AML
comp=N,10170µm,0.9s
PII AML AML
comp=E,10600µm,1.0s
MRLC Muro Lucano 2.41 135 P **Pn** 13 34 18.4 +1.0
MRLC AML AML
comp=E,5215µm,1.5s
MRLC AML AML
comp=N,5095µm,1.3s
MRLC AML AML
comp=N,4960µm,1.3s
MRLC AML AML
comp=E,5730µm,1.5s
MRLC AML AML
comp=N,4960µm,0.7s
MRLC AML AML
comp=N,5095µm,0.7s
BRJN Brijuni 2.44 8 P **Pn** 13 34 17.7 0.0
MAIM Mastiano 2.47 306 P **Pn** 13 34 18.7 +0.5
MAIM AML AML
comp=E,10680µm,0.8s
MAIM AML AML
comp=N,11400µm,0.7s
ZCCA Zocca 2.49 319 AML AML
comp=E,20750µm,1.4s
ZCCA AML AML
comp=E,19650µm,1.4s
ZCCA AML AML
comp=N,14550µm,1.6s
ZCCA AML AML
comp=N,14550µm,0.4s
ZCCA AML AML
comp=E,19650µm,0.6s
ZCCA AML AML
comp=N,14000µm,0.7s
ZCCA AML AML
comp=E,20750µm,0.6s
PALZ Palazzo San Ge 2.55 127 P **Pn** 13 34 20.2 +0.9
PALZ AML AML
comp=E,17000µm,1.6s
PALZ AML AML
comp=N,18250µm,1.1s
PALZ AML AML
comp=E,17000µm,0.4s
PALZ AML AML
comp=N,18250µm,0.9s
MRVN Minervino Murg 2.62 122 P **Pn** 13 34 20.2 -0.1
MRVN AML AML
comp=E,6075µm,1.6s
MRVN AML AML
comp=N,5105µm,1.5s
MRVN AML AML
comp=E,6075µm,0.4s
ACER Acerenza 2.64 129 P **Pn** 13 34 21.7 +1.1
ACER AML AML
comp=E,10800µm,1.6s
ACER AML AML
comp=N,9295µm,1.4s
ACER AML AML
comp=E,11000µm,1.6s
ACER AML AML
comp=N,9550µm,1.4s
ACER AML AML
comp=E,11000µm,0.4s
ACER AML AML
comp=E,10800µm,0.4s
ACER AML AML
comp=N,9550µm,0.6s
ACER AML AML
comp=N,9295µm,0.6s
CMPR Campora 2.66 144 AML AML
comp=N,2840µm,0.4s
CMPR AML AML
comp=N,2840µm,1.6s
CMPR AML AML
comp=E,2865µm,1.1s
VLC Villacollemand 2.68 309 **Pn** 13 34 20.8 -0.3
VLC Villacollemand 2.68 309 AML AML
comp=N,9315µm,1.6s
VLC AML AML
comp=N,8830µm,1.6s
VLC AML AML
comp=N,9315µm,0.4s
VLC AML AML
comp=E,9255µm,1.2s
VLC AML AML
comp=N,8830µm,0.4s
VLC AML AML
comp=E,9440µm,1.2s
SARO Sassorosso 2.68 310 P **Pn** 13 34 20.4 -0.8
SARO AML AML
comp=E,15350µm,1.6s
SARO AML AML
comp=N,16600µm,0.8s
SARO AML AML
comp=E,15350µm,0.4s
GSCL Gusciola 2.69 314 P **Pn** 13 34 21.9 +0.7
GSCL AML AML
comp=N,16700µm,1.2s
GSCL AML AML
comp=E,16750µm,1.0s
GSCL AML AML
comp=N,16700µm,0.8s
SLCN Sala Consilina 2.76 139 AML AML
comp=E,7480µm,0.9s
SLCN AML AML
comp=N,4980µm,0.8s
SLCN AML AML
comp=N,5100µm,0.8s
SLCN AML AML
comp=E,8055µm,0.9s
SLCN AML AML
comp=N,5100µm,1.2s
SLCN AML AML
comp=N,4980µm,1.2s
EQUI Equi 2.82 307 P **Pn** 13 34 23.4 +0.5
EQUI AML AML
comp=E,5545µm,0.8s
EQUI AML AML
comp=N,7930µm,0.7s
SERM Sermide 2.89 331 P **Pn** 13 34 25.4 +1.5
SERM AML AML
comp=E,13315µm,1.3s
SERM AML AML
comp=N,17400µm,1.5s
SERM AML AML
comp=E,22000µm,0.9s
SERM AML AML
comp=N,23600µm,1.5s
SERM AML AML
comp=E,13315µm,0.7s
SERM AML AML
comp=N,23600µm,0.5s
SERM AML AML
comp=N,17400µm,0.5s
MCEL Monticello 2.89 138 P **Pn** 13 34 25.5 +1.4
MCEL AML AML
comp=E,3915µm,0.8s
MCEL AML AML
comp=N,4750µm,1.5s
MCEL AML AML
comp=E,3875µm,0.8s
MCEL AML AML
comp=N,4805µm,1.5s
MCEL AML AML
comp=E,3915µm,1.2s
MCEL AML AML
comp=N,4750µm,0.5s
MCEL AML AML
comp=N,4805µm,0.5s
MCEL AML AML
comp=E,3875µm,1.2s
MORSI Morsiglia 2.91 280 P **Pn** 13 34 24.4 +0.2
PLMA Palmaria, Port 2.94 303 AML AML
comp=E,3830µm,0.9s
PLMA AML AML
comp=N,4980µm,1.2s
PLMA AML AML
comp=N,4980µm,0.8s
AMUR Altamura 2.96 121 P **Pn** 13 34 25.4 +0.4
AMUR AML AML
comp=E,9785µm,1.1s
AMUR AML AML
comp=N,7585µm,0.5s
AMUR AML AML
comp=E,9785µm,0.9s
SMPL Sampolo 2.98 264 P **Pn** 13 34 25.0 -0.2
CORF Corte 3.05 268 AML AML
comp=N,836µm,1.2s
CORF AML AML
comp=E,1140µm,0.7s
CORF AML AML
comp=N,836µm,0.8s
CORF AML AML
comp=E,1140µm,1.3s
CORF Corte 3.05 268 P **Pn** 13 34 26.1 -0.1
CORF S **Sn** 13 35 04.8 +2.3
GRAM Graiana 3.06 312 P **Pn** 13 34 27.7 +1.3
GRAM AML AML
comp=N,13100µm,0.8s
GRAM AML AML
comp=E,11300µm,0.9s
TEOL Teolo 3.09 339 Pn **Pn** 13 34 26.6 -0.1
TEOL Teolo 3.09 339 P **Pn** 13 34 26.8 +0.2
TEOL AML AML
comp=E,53150µm,0.9s
TEOL AML AML
comp=N,53350µm,0.8s
A050A Klekovaca 3.10 49 ⇑*i*Pn **Pn** 13 34 27.7 +0.8
SKDS Skadanscina 3.10 10 *e*Pn **Pn** 13 34 25.5 -1.4
SKDS *e*Sn **Sn** 13 35 02.9 -0.9
SKDS IAML 13 35 21.5
comp=Z,3µm,0.5s
SKDS Skadanscina 3.10 10 ⇑*i*Pn **Pn** 13 34 25.2 -1.6
PRMA PARMA 3.12 318 **Pn** 13 34 29.2 +2.2
SCHR S. Chirico Rap 3.12 136 P **Pn** 13 34 29.0 +1.8
SCHR AML AML
comp=E,2180µm,1.5s
SCHR AML AML
comp=N,1855µm,1.1s
SCHR AML AML
comp=N,1855µm,0.9s
SCHR AML AML
comp=E,2180µm,0.5s
KNDS Knezji Dol 3.14 15 *i* Pn **Pn** 13 34 27.1 -0.4
KNDS *e*Sn **Sn** 13 35 04.6 -0.2
KNDS IAML 13 35 30.2
comp=Z,19µm,1.1s
PGF Pioggiola 3.15 272 *e*P **Pn** 13 34 27.1 -0.6
PGF *e*Sn **Sn** 13 35 00.7 -4.5
PGF Pioggiola 3.15 272 AML AML
comp=E,1400µm,1.6s
PGF AML AML
comp=E,1400µm,0.4s
PGF AML AML
comp=N,1750µm,1.6s
PGF Pioggiola 3.15 272 P **Pn** 13 34 28.0 +0.3
CUC Castrocucco 3.16 142 **Pn** 13 34 29.2 +1.5
MATE Matera 3.17 124 P **Pn** 13 34 28.6 +0.8
MATE AML AML
comp=E,6840µm,0.6s
MATE AML AML
comp=N,6565µm,0.9s
OPPE Oppeano 3.19 332 AML AML
comp=N,20850µm,0.6s
OPPE AML AML
comp=E,27850µm,1.3s
GBRS Gornja Briga 3.23 20 *i* Pn **Pn** 13 34 28.6 -0.1
SRKY Kupres RS 3.25 60 ⇑*i*Pn **Pn** 13 34 29.8 +0.7
LTRZ Laterza 3.27 124 P **Pn** 13 34 29.9 +0.6
LTRZ AML AML
comp=E,4355µm,1.2s
LTRZ AML AML
comp=N,5450µm,0.8s
LTRZ AML AML
comp=E,4355µm,0.8s
MSSA Maissana 3.28 305 Pn **Pn** 13 34 30.0 +0.6
STON Ston 3.29 82 AML AML
comp=E,3670µm,0.6s
STON AML AML
comp=E,3670µm,1.4s
STON AML AML
comp=N,3740µm,1.6s
STON AML AML
comp=N,3740µm,0.4s
STON Ston 3.29 82 *e*Pn **Pn** 13 34 29.5 0.0
STON *e*Sn **Sn** 13 35 08.4 -0.1
STON Ston 3.29 82 ⇑*i*Pn **Pn** 13 34 28.8 -0.7
NOCI Noci 3.32 120 P **Pn** 13 34 28.6 -1.3
baz=120
NOCI S **Sn** 13 35 07.3 -1.9
baz=120
NOCI Noci 3.32 120 P **Pn** 13 34 30.4 +0.5
NOCI AML AML
comp=E,5755µm,0.5s
NOCI AML AML
comp=N,7255µm,0.5s
NOCI AML AML
comp=E,5755µm,1.5s
BOJS Bojanci 3.33 25 AML AML
comp=E,30400µm,1.3s
BOJS AML AML
comp=N,21150µm,1.2s
BOJS AML AML
comp=N,21150µm,0.8s
BOJS Bojanci 3.33 25 ⇑*i*Pn **Pn** 13 34 29.5 -0.5
CEY Cerknica 3.35 14 ⇑*i*Pn **Pn** 13 34 29.4 -0.9
MGRS Mrkonjic Grad 3.38 54 ⇑*i*Pn **Pn** 13 34 31.6 +0.9
AJAC Base Áreonaval 3.39 262 AML AML
comp=N,3520µm,0.6s
AJAC AML AML
comp=E,3885µm,0.7s
AJAC AML AML
comp=E,3885µm,1.3s
AJAC AML AML
comp=N,3520µm,1.4s

AJAC Base Areonaval 3.39 262 P Pn 13 34 31.4 +0.6
AJAC S Sn 13 35 12.9 +2.0
ORI Oriolo Calabro 3.42 134 P Pn 13 34 34.4 +3.1
ORI AML AML
comp=E,5220µm,0.6s
ORI AML AML
comp=N,6525µm,0.5s
CRND Cornuda 3.44 346 AML AML
comp=E,15400µm,0.7s
CRND AML AML
comp=N,14750µm,0.7s
SABO M.te Sabotino 3.49 4 Pn 13 34 31.2 -1.1
SABO M.te Sabotino 3.49 4 P **Pn 13 34 31.6 -0.6**
SABO AML AML
comp=E,89300µm,1.6s
SABO AML AML
comp=E,23550µm,1.6s
SABO AML AML
SABO AML AML
comp=N,30700µm,0.8s
SABO AML AML
comp=E,23550µm,0.4s
SABO AML AML
comp=E,89300µm,0.4s
PRIJ Prijedor 3.52 44 *e*Pn **Pn 13 34 33.9 +1.3**
ROVR Rover Verones 3.52 334 P **Pn 13 34 32.7 0.0**
ROVR AML AML
comp=E,3480µm,1.0s
ROVR AML AML
comp=N,4375µm,0.9s
CGRP Cima Grappa 3.54 343 P **Pn 13 34 33.1 0.0**
CGRP AML AML
comp=E,15200µm,0.5s
CGRP AML AML
comp=N,15100µm,0.5s
CGRP AML AML
comp=N,15100µm,0.5s
CGRP AML AML
comp=E,15100µm,1.0s
VARN Col Varnada, M 3.59 347 P **Pn 13 34 33.5 -0.2**
VARN AML AML
comp=E,24000µm,0.7s
VARN AML AML
comp=N,18100µm,0.9s
VARN AML AML
comp=E,23750µm,0.7s
VARN AML AML
comp=N,17750µm,0.9s
CET2 Cetraro 3.60 145 P **Pn 13 34 34.9 +1.1**
CET2 AML AML
comp=E,2280µm,0.9s
CET2 AML AML
comp=N,2635µm,0.7s
CET2 AML AML
comp=N,2635µm,1.3s
TAR1 Taranto 3.60 122 P **Pn 13 34 34.5 +0.7**
TAR1 AML AML
comp=E,5515µm,0.6s
TAR1 AML AML
comp=N,5025µm,0.7s
BLY Banja Luka 3.63 50 *e*Pn **Pn 13 34 35.0 +0.9**
BLY Banja Luka 3.63 50 *i*Pn **Pn 13 34 34.4 +0.3**
A051A Mrakovica 3.65 45 ⇑*i*Pn **Pn 13 34 34.7 +0.3**
LJU Ljubljana 3.66 14 *i* Pn **Pn 13 34 34.6 0.0**
LJU *e*Sn **Sn 13 35 16.2 -1.5**
LJU IAML 13 35 56.3
comp=Z,10µm,1.3s
LJU Ljubljana 3.66 14 AML AML
comp=N,69000µm,0.7s
LJU AML AML
comp=E,57000µm,0.6s
LJU AML AML
comp=N,69000µm,1.3s
LJU AML AML
comp=E,57000µm,1.4s
TDS Terranova Siba 3.67 140 AML AML
comp=E,1128µm,1.5s
TDS AML AML
comp=N,946µm,1.6s
TDS AML AML
comp=N,946µm,0.4s
TDS AML AML
comp=E,1128µm,0.5s
CRES Cresnjev 3.69 25 ⇑*i*Pn **Pn 13 34 34.3 -0.6**
SALO Salr 3.69 329 Pn **Pn 13 34 35.4 +0.4**
SALO Salr 3.69 329 P **Pn 13 34 35.8 +0.8**
SALO AML AML
comp=E,16150µm,1.1s
SALO AML AML
comp=N,17700µm,1.1s
SALO AML AML
comp=N,16400µm,1.1s
SALO AML AML
comp=E,16750µm,0.9s
SALO AML AML
comp=N,17700µm,0.9s
SALO AML AML
comp=N,16400µm,0.9s
SALO AML AML
comp=E,16150µm,0.9s
DOSS Dosso del Somm 3.70 337 P **Pn 13 34 35.3 +0.1**
DOSS AML AML
comp=N,9165µm,0.6s
DOSS AML AML
comp=E,12350µm,0.7s
DOSS AML AML
comp=E,9445µm,0.6s
DOSS AML AML
comp=N,12600µm,0.7s
CTI Castel Tesino 3.73 342 Pn 13 34 35.5 -0.2
CTI Castel Tesino 3.73 342 ⇑P **Pn 13 34 35.9 +0.2**
CTI AML AML
comp=E,8485µm,0.6s
CTI AML AML
comp=N,9995µm,0.5s
CTI AML AML
comp=E,8485µm,1.4s
CTI Castel Tesino 3.73 342 P **Pn 13 34 35.5 -0.2**
VARA Varagna 3.74 334 P **Pn 13 34 35.7 -0.1**
VARA AML AML
comp=N,16050µm,0.5s
VARA AML AML
comp=E,10450µm,0.5s
MPRI Monte Prat 3.75 357 ⇑P **Pn 13 34 35.6 -0.2**
MPRI AML AML
comp=E,12030µm,1.4s
MPRI AML AML
comp=N,17850µm,1.0s
MPRI AML AML
comp=E,15550µm,1.4s
MPRI AML AML
comp=N,23050µm,1.1s
MPRI AML AML
comp=E,15550µm,0.6s
MPRI AML AML
comp=N,23050µm,0.9s
MPRI AML AML
comp=E,12030µm,0.6s
MPRI AML AML
comp=N,17850µm,1.0s
ROBS Robic 3.75 3 *e*Pn **Pn 13 34 35.0 -0.8**
ROBS *e*Sn **Sn 13 35 17.8 -2.0**
ROBS IAML 13 36 06.0
comp=Z,6µm,1.1s
TREB Trebinje 3.76 85 *e*Pn **Pn 13 34 36.4 +0.4**
TREB *e*Sn **Sn 13 35 20.6 +0.5**
TREB Trebinje 3.76 85 *e*Pn **Pn 13 34 36.2 +0.2**
STAL STALIGIAL 3.78 354 Pn 13 34 35.3 -1.0
STAL STALIGIAL 3.78 354 ⇑P **Pn 13 34 35.8 -0.5**
STAL AML AML
comp=E,9095µm,0.7s
STAL AML AML
comp=N,9055µm,1.4s
STAL AML AML
comp=E,11380µm,0.9s
STAL AML AML
comp=N,9540µm,1.4s
STAL AML AML
comp=E,11380µm,1.1s
LUSI Trento, Gardas 3.84 335 P **Pn 13 34 37.4 +0.3**
LUSI AML AML
comp=N,10225µm,0.5s
LUSI AML AML
comp=E,9625µm,0.8s
CIMO Cimolais 3.86 352 Pn 13 34 36.2 -1.1
CIMO Cimolais 3.86 352 ⇑P **Pn 13 34 36.8 -0.6**
CIMO AML AML
comp=N,3510µm,0.7s
CIMO AML AML
comp=N,3440µm,0.7s
CIMO AML AML
comp=E,4225µm,1.0s
CIMO AML AML
comp=N,3440µm,1.3s
CIMO AML AML
comp=N,3510µm,1.3s
CIMO AML AML
comp=E,4295µm,1.0s
HCY Herceg Novi 3.87 89 ⇑*i*Pn **Pn 13 34 37.1 -0.3**
HCY Herceg Novi 3.87 89 ⇑*i*Pn **Pn 13 34 37.5 +0.1**
HCY *i* Sn **Sn 13 35 23.2 +0.4**
AGOR Agordo 3.88 347 ⇑P **Pn 13 34 37.7 0.0**
AGOR AML AML
comp=E,6035µm,1.2s
AGOR AML AML
comp=N,5040µm,1.1s
AGOR AML AML
comp=E,4770µm,1.2s
AGOR AML AML
comp=N,3965µm,1.1s
AGOR AML AML
comp=E,4770µm,0.8s
AGOR AML AML
comp=E,6035µm,0.8s
PTCC Patocco-Chiusa 3.91 1 P **Pn 13 34 36.9 -1.1**
PTCC AML AML
comp=E,7185µm,0.7s
PTCC AML AML
comp=N,6495µm,0.9s
PTCC AML AML
comp=N,6495µm,1.1s
BRY Bratogost 3.91 82 ⇑*i*Pn **Pn 13 34 37.8 -0.3**
BRY Bratogost 3.91 82 ⇑*i*Pn **Pn 13 34 37.9 -0.2**
BRY *i* Sn **Sn 13 35 24.4 +0.4**
CAR1 CAROLEI 3.94 144 P **Pn 13 34 39.3 +0.9**
CAR1 AML AML
comp=N,1105µm,1.5s
CAR1 AML AML
comp=N,1105µm,0.5s
CAR1 AML AML
comp=E,1265µm,1.4s
CAR1 AML AML
comp=N,1220µm,0.8s
CAR1 AML AML
comp=E,1405µm,1.4s
GAGG Gaggia 3.95 336 P **Pn 13 34 38.9 +0.2**
GAGG AML AML
comp=E,9990µm,0.9s
GAGG AML AML
comp=E,20800µm,0.9s
GAGG AML AML
comp=N,9460µm,0.9s
GAGG AML AML
comp=N,9460µm,1.1s
GAGG AML AML
comp=E,9990µm,1.1s
GAGG AML AML
comp=N,20100µm,0.9s
SPS2 Spezzano della 3.96 143 P **Pn 13 34 40.3 +1.6**
SPS2 AML AML
comp=E,254µm,1.0s
SPS2 AML AML
comp=N,295µm,0.9s
CLUD Cludinico 3.97 356 Pn 13 34 37.5 -1.4
CLUD Cludinico 3.97 356 P **Pn 13 34 38.2 -0.6**
CLUD AML AML
comp=N,10950µm,0.9s
CLUD AML AML
comp=N,10950µm,1.0s
CLUD AML AML
comp=N,10950µm,1.0s
CLUD AML AML
comp=E,11450µm,1.2s
CLUD AML AML
comp=N,10950µm,1.1s
CLUD AML AML
comp=E,11850µm,1.2s
ZONE Zone 3.98 326 P **Pn 13 34 39.2 +0.3**
PCP Piancastagn 3.99 302 P **Pn 13 34 39.8 +0.6**
PCP AML AML
comp=E,1370µm,0.9s
PCP AML AML
comp=N,1452µm,1.6s
PCP AML AML
comp=N,1452µm,0.4s
PCP AML AML
comp=E,1370µm,1.1s
QLNO Quiliano 4.02 299 P **Pn 13 34 40.1 +0.5**
A052A Srbac 4.03 48 ⇑*i*Pn **Pn 13 34 39.2 -0.4**
ZOU Zoufplan 4.07 357 ⇑P **Pn 13 34 39.9 -0.5**
ZOU AML AML
comp=E,7875µm,1.2s
ZOU AML AML
comp=N,6745µm,0.8s
ZOU AML AML
comp=E,7690µm,1.2s
ZOU AML AML
comp=N,6590µm,0.8s
ZOU AML AML
comp=N,6745µm,1.2s
ZOU AML AML
comp=N,6590µm,1.2s
MABI Malga Bissina 4.07 332 P **Pn 13 34 40.4 +0.1**
MABI AML AML
comp=E,2855µm,1.2s
MABI AML AML
comp=N,3455µm,0.9s
MABI AML AML
comp=E,2855µm,0.8s
MABI AML AML
comp=N,3455µm,1.1s
FVI Forni Avoltri 4.12 355 ⇑P **Pn 13 34 40.6 -0.3**
FVI AML AML
comp=E,5360µm,0.7s
FVI AML AML
comp=N,6095µm,0.8s
FVI AML AML
comp=E,5360µm,1.3s
FVI AML AML
comp=N,6095µm,1.2s
OBKA Obir 4.12 12 *i* Pn **Pn 13 34 40.7 -0.2**
comp=N,108nm,0.5s,SNR=31
OBKA *i* Sn **Sn 13 35 28.9 -0.1**
comp=N,2µm,0.7s
OBKA Obir 4.12 12 *e*Pn **Pn 13 34 40.1 -0.8**
SNR=75
OBKA Obir 4.12 12 ⇑*i*Pn **Pn 13 34 40.0 -0.9**
OBKA Obir 4.12 12 *e*Pn **Pn 13 34 40.1 -0.8**
SNR=75
MYKA Terra Mystica 4.14 4 *i* Pn **Pn 13 34 41.3 +0.1**
comp=N,110nm,0.5s,SNR=65
MYKA *i* Sn **Sn 13 35 30.6 +1.0**
comp=N,731nm,0.4s
CEME Cevo 4.18 87 ⇑*i*Pn **Pn 13 34 42.4 +0.6**
CEME *i* Sn **Sn 13 35 30.7 +0.2**
VSL Villasalto 4.20 226 AML AML
comp=N,1078µm,1.4s
VSL AML AML
comp=E,1060µm,0.7s
NKME Niksic 4.21 84 ⇑*i*Pn **Pn 13 34 42.5 +0.4**
NKME *i* Sn **Sn 13 35 31.4 +0.2**
APPI Appiano 4.24 341 P **Pn 13 34 43.2 +0.6**
APPI AML AML
comp=N,7355µm,0.4s
APPI AML AML
comp=E,7055µm,0.5s
TIP Timpagrande 4.24 140 Pn **Pn 13 34 45.1 +2.5**
TIP Timpagrande 4.24 140 AML AML
comp=E,682µm,1.6s
TIP AML AML
comp=N,442µm,1.6s
TIP AML AML
comp=E,763µm,1.6s
TIP AML AML
comp=N,540µm,1.6s
TIP AML AML
comp=N,442µm,0.4s
TIP AML AML
comp=E,763µm,0.4s
TIP AML AML
comp=E,682µm,0.4s
TIP AML AML
comp=N,540µm,0.4s
MGRO Montegrosso 4.27 293 P **Pn 13 34 43.4 +0.3**
MGRO AML AML
comp=N,1640µm,1.0s
MGRO AML AML
comp=E,1220µm,0.9s
MGRO AML AML
comp=N,1640µm,1.0s
GROS Grobnik 4.28 21 *e*Pn **Pn 13 34 42.4 -0.7**
ABTA Abfaltersbach 4.29 353 *i* Pn **Pn 13 34 43.6 +0.4**
comp=N,325nm,0.6s,SNR=330
ABTA *i* Sn **Sn 13 35 33.4 +0.3**
comp=N,1µm,0.7s
PERS Pernice 4.35 17 *e*Pn **Pn 13 34 43.5 -0.5**
SOKA Soboth 4.37 16 *i* Pn **Pn 13 34 44.1 -0.3**
comp=N,20nm,0.2s,SNR=31
SOKA *i* Sn **Sn 13 35 34.1 -1.0**
comp=N,309nm,0.6s
JOPP Joppolo 4.37 152 AML AML
comp=N,415µm,0.5s
JOPP AML AML
comp=E,440µm,1.4s
JOPP AML AML
comp=N,415µm,1.5s
JOPP AML AML
comp=E,440µm,0.6s
DRME Dracevica, Mon 4.40 92 ⇑*i*Pn **Pn 13 34 44.9 +0.2**
DRME Dracevica, Mon 4.40 92 ⇓*i*Pn **Pn 13 34 45.1 +0.4**
DRME *i* Sn **Sn 13 35 35.7 -0.1**
SAOF Saorge 4.43 292 AML AML
comp=N,1960µm,0.5s
SAOF AML AML
comp=E,1375µm,0.8s
SAOF AML AML
comp=N,1960µm,1.5s
SAOF Saorge 4.43 292 P **Pn 13 34 45.9 +0.8**
PDG Podgorica 4.43 89 ⇑P **Pn 13 34 45.9 +0.8**
PDG ⇓S **Sn 13 35 38.6 +1.9**
PDG Podgorica 4.43 89 Pn **Pn 13 34 45.9 +0.8**
PDG Podgorica 4.43 89 AML AML
comp=E,4500µm,0.6s
PDG AML AML
comp=N,6960µm,1.1s
PDG AML AML
comp=E,5680µm,0.6s
PDG AML AML
comp=N,5365µm,1.1s
PDG Podgorica 4.43 89 *e*Pn **Pn 13 34 46.7 +1.5**
PDG *e*Sn **Sn 13 35 37.5 +0.9**
PDG Podgorica 4.43 89 ⇑*i*Pn **Pn 13 34 45.5 +0.3**
PDG *i* Sn **Sn 13 35 36.7 +0.1**
HAPS Han Pijesak,Bl 4.45 67 ⇑*i*Pn **Pn 13 34 46.0 +0.5**
ULC Ulcinj 4.47 95 ⇑*i*Pn **Pn 13 34 45.7 -0.1**
ULC *i* Sn **Sn 13 35 37.6 -0.1**
SBF Sospel 4.47 290 *e*P **Pn 13 34 45.9 +0.1**
SBF *e*Sn **Sn 13 35 31.5 -6.3**
comp=N,259nm,0.4s
BRMO Bormio 4.48 334 AML AML
comp=E,2680µm,1.2s
BRMO AML AML
comp=N,2550µm,1.5s
KOGS Kog 4.49 27 AML AML
comp=E,42500µm,0.5s
KOGS AML AML
comp=E,42500µm,1.5s
KOGS AML AML
comp=N,36350µm,0.7s
ESCA l'Escarene 4.51 289 P **Pn 13 34 46.4 +0.2**
RISI Rein 4.53 350 AML AML
comp=E,11250µm,0.7s
RISI AML AML
comp=N,13250µm,0.5s
TURF col de Turini 4.54 291 P **Pn 13 34 47.5 +0.8**
MOSI Grossmontoni 4.55 336 AML AML
comp=E,10200µm,1.2s
MOSI AML AML
comp=N,15500µm,1.1s
MSFR San Fratello 4.57 167 AML AML
comp=N,228µm,1.6s
MSFR AML AML
comp=E,252µm,1.6s
MSFR AML AML
comp=E,252µm,0.4s
MSFR AML AML
comp=N,228µm,0.4s
MUGIO Muggio 4.58 320 AML AML
comp=E,2200µm,0.8s
MUGIO AML AML
comp=N,2495µm,1.0s
PLE Pljevlja 4.58 77 ⇑*i*Pn **Pn 13 34 48.5 +1.2**
PLE *i* Sn **Sn 13 35 40.1 -0.3**
KBA Koelnbreinsper 4.58 1 *i* Pn **Pn 13 34 47.7 +0.3**
comp=N,159nm,0.6s,SNR=106
KBA *e*Sn **Sn 13 35 39.9 -0.6**
comp=N,914nm,0.4s
KBA Koelnbreinsper 4.58 1 *e*Pn **Pn 13 34 47.5 +0.1**
SNR=119
KBA *e*Sn **Sn 13 35 39.5 -1.0**
SNR=4.3
KBA Koelnbreinsper 4.58 1 *e*Pn **Pn 13 34 47.5 +0.1**
SNR=119
KBA *e*Sn **Sn 13 35 39.5 -1.0**
SNR=4.3
ENR Entracque 4.60 294 AML AML
comp=E,1140µm,0.4s
ENR AML AML
comp=E,1140µm,1.6s
ENR AML AML
comp=N,1530µm,1.4s
ENR AML AML
comp=N,1530µm,0.6s
SCTE Santa Cesarea 4.61 120 Pn 13 34 48.7 +1.1
RUDO Rudo 4.61 74 *e*Pn **Pn 13 34 47.7 0.0**
EILF Villa Eilenroc 4.62 285 P **Pn 13 34 47.1 -0.6**
EILF S **Sn 13 35 45.2 +4.1**
KOME Kolasin 4.62 83 ⇓*i*Pn **Pn 13 34 48.1 +0.2**
KOME *i* Sn **Sn 13 35 41.3 -0.2**
ROSI Rosskopf 4.62 344 AML AML
comp=N,16100µm,0.4s
ROSI AML AML
comp=N,16100µm,1.6s
ROSI AML AML
comp=E,12900µm,1.1s
FUORN Ofenpass-Fuorn 4.65 334 Pn 13 34 49.5 +1.2
STV Sant Anna di V 4.67 294 AML AML
comp=N,816µm,0.4s
STV AML AML
comp=N,816µm,1.6s
STV AML AML
comp=E,984µm,1.1s
SPIF crte de Spivo 4.67 292 P **Pn 13 34 49.4 +0.9**
VARE Varese 4.67 318 AML AML
comp=N,5270µm,0.7s
VARE AML AML
comp=E,3635µm,0.8s
VARE AML AML
comp=E,3635µm,1.2s
MVIF Mont Vial 4.68 289 P **Pn 13 34 49.0 +0.3**
CEL Celeste 4.69 154 Pn 13 34 49.7 +1.0
BBLS Lazići 4.70 71 *e*Pn **Pn 13 34 49.6 +0.7**
CALF Calern 4.81 287 P **Pn 13 34 50.8 +0.4**
ISO Isola 4.83 293 P **Pn 13 34 52.0 +1.3**
TUE Stuetta 4.86 326 Pn **Pn 13 34 52.6 +1.3**
FETA Feichten 4.87 339 *i* Pn **Pn 13 34 52.4 +1.1**
comp=E,112nm,0.7s,SNR=133
FETA *e*Sn **Sn 13 35 49.6 +2.0**
comp=E,479nm,0.6s
PZZ Stroppo 4.90 296 AML AML
comp=E,1090µm,1.3s
PZZ AML AML
comp=N,1315µm,0.7s
PZZ AML AML
comp=N,1315µm,1.3s
IVA Berane 4.90 83 ⇑*i*Pn **Pn 13 34 53.3 +1.6**
IVA *i* Sn **Sn 13 35 48.1 -0.2**
WTTA Wattenberg 4.91 347 *i* Pn **Pn 13 34 52.9 +1.1**
comp=N,49nm,0.6s,SNR=107
WTTA *i* Sn **Sn 13 35 51.9 +3.4**
comp=N,478nm,0.4s
WTTA Wattenberg 4.91 347 *e*Pn **Pn 13 34 52.9 +1.1**
SNR=110
WTTA *e*Sn **Sn 13 35 52.1 +3.6**
SNR=2.6
WTTA Wattenberg 4.91 347 *e*Pn **Pn 13 34 52.9 +1.1**
SNR=110
WTTA *e*Sn **Sn 13 35 52.1 +3.6**
SNR=2.6

DAVOX **Davos/Dischmat** 4.92 332 Pn **Pn** 13 34 53.5 +1.5
comp=N,80nm,0.3s,baz=161,slow=19,SNR=252
DAVOX Sn **Sn** 13 35 50.0 +1.1
comp=N,67nm,0.3s,baz=284,slow=23,SNR=6.6
BLJ Bijeljina 4.92 60 *e*Pn **Pn** 13 34 49.5 -2.3
SQTA Sankt Quirin 4.94 344 **Pn** 13 34 53.7 +1.4
SQTA **Sn** 13 35 52.1 +2.6
SQTA Sankt Quirin 4.94 344 *i* Pn **Pn** 13 34 53.7 +1.4
SNR=122
SQTA *e*Sn **Sn** 13 35 52.1 +2.6
comp=N,826nm,0.4s
PVY Plav 4.95 87⇑ *i*Pn **Pn** 13 34 53.8 +1.4
PVY *i* Sn **Sn** 13 35 50.0 +0.5
WATA Walderalm 4.99 347 **Pn** 13 34 54.0 +1.1
WATA **Sn** 13 35 53.6 +3.2
WATA Walderalm 4.99 347 *i* Pn **Pn** 13 34 54.0 +1.1
SNR=137
WATA *i* Sn **Sn** 13 35 53.6 +3.2
comp=N,563nm,0.3s
WATA Walderalm 4.99 347 P **Pn** 13 34 54.0 +1.1
WATA 13 35 53.7
SJES Sjenica 4.99 79 *e*Pn **Pn** 13 34 54.1 +1.2
SJES *e*Sn **Sn** 13 35 49.4 -1.2
TRAV Traversella 4.99 309 AML AML
comp=N,1068µm,0.6s
TRAV AML AML
comp=E,1680µm,1.2s
TRAV AML AML
comp=N,1068µm,1.4s
TRAV AML AML
comp=E,1680µm,0.8s
TEKS Tekeris 5.00 64 *e*Pn **Pn** 13 34 52.3 -0.6
TEKS Tekeris 5.00 64⇑ *i*Pn **Pn** 13 34 51.6 -1.3
ENAUX Enaux 5.00 291 P **Pn** 13 34 55.3 +2.2
ARSA Arzberg 5.02 18 *i* Pn **Pn** 13 34 52.7 -0.5
comp=E,35nm,0.3s,SNR=34
ARSA *i* Sn **Sn** 13 35 49.0 -2.1
comp=E,404nm,0.6s
ARSA Arzberg 5.02 18 *e*Pn **Pn** 13 34 52.6 -0.6
SNR=42
ARSA *e*Sn **Sn** 13 35 48.3 -2.8
SNR=4.4
ARSA Arzberg 5.02 18 AML AML
comp=E,1990µm,1.5s
ARSA AML AML
comp=N,1142µm,0.7s
ARSA AML AML
comp=E,1990µm,0.5s
ARSA Arzberg 5.02 18 *e*Pn **Pn** 13 34 52.6 -0.6
SNR=42
ARSA *e*Sn **Sn** 13 35 48.3 -2.8
SNR=4.4
LMR La Mourre 5.03 282 *e*P **Pn** 13 34 53.3 -0.1
LMR *e*Sn **Sn** 13 35 45.0 -6.3
comp=E,46nm,0.4s
BCI Bajram Curri 5.04 89 P **Pn** 13 34 51.5 -2.0
baz=87
BCI S **Sn** 13 35 50.3 -1.3
baz=87
BCI AMP
comp=N,27nm,1.2s,baz=87
TIR Tirane 5.06 101 ⇓P **Pn** 13 34 54.4 +0.7
TIR Tirane 5.06 101 **Pn** 13 34 54.3 +0.5
TIR Tirane 5.06 101 P **Pn** 13 34 54.3 +0.5
TIR Tirane 5.06 101 P **Pn** 13 34 54.0 +0.2
baz=100
TIR S **Sn** 13 35 46.7 -5.3
baz=100
TIR AMP
comp=N,7.2nm,0.7s,baz=100
TIR Tirane 5.06 101 P **Pn** 13 34 54.3 +0.5
TIR Tirane 5.06 101 *e*Pn **Pn** 13 34 54.3 +0.5
TIR *e*Sn **Sn** 13 35 50.8 -1.2
MOTA Moosalm 5.08 343 **Pn** 13 34 55.8 +1.5
MOTA **Sn** 13 35 56.5 +3.5
MOTA Moosalm 5.08 343 *i* Pn **Pn** 13 34 55.8 +1.5
SNR=205
MOTA *i* Sn **Sn** 13 35 56.4 +3.5
comp=N,2µm,0.9s
MOTA Moosalm 5.08 343 P **Pn** 13 34 55.8 +1.5
MOTA 13 35 56.5
VAE Valguarnera 5.09 170 Pn Pn 13 34 59.2 +5.0
comp=N,3.3nm,0.3s,baz=12,slow=6.5,SNR=7.3
VAE LR LR 13 36 56.6
comp=N,8µm,19.5s,baz=321,slow=38
SURF Saint Ours 5.09 295 P **Pn** 13 34 56.3 +1.8
VLO Vlora 5.10 111 **Pn** 13 34 55.2 +0.9
VLO Vlora 5.10 111 P **Pn** 13 34 55.9 +1.6
VLO Vlora 5.10 111 P **Pn** 13 34 55.2 +0.9
JAUF Jausiers 5.12 294 P **Pn** 13 34 57.2 +2.5
IVAS Ivanjica 5.16 76 *e*Pn **Pn** 13 34 55.7 +0.4
IVAS *e*Sn **Sn** 13 35 53.8 -1.0
DIVS Divibare 5.17 70 Pn **Pn** 13 34 54.7 -0.6
DIVS Divibare 5.17 70 *e*Pn **Pn** 13 34 55.4 +0.1
DIVS Divibare 5.17 70⇑ *i*Pn **Pn** 13 34 54.9 -0.4
TRIGF Trigance 5.17 286 P **Pn** 13 34 56.3 +0.9
BIOA Bad Ischl, Aus 5.20 3 **Pn** 13 34 55.9 +0.1
BIOA **Sn** 13 35 55.2 -0.5
BIOA Bad Ischl, Aus 5.20 3 *i* Pn **Pn** 13 34 55.9 +0.1
comp=N,80nm,0.3s,SNR=76
BIOA *i* Sn **Sn** 13 35 55.2 -0.5
comp=N,744nm,0.6s
MBDF Montbardon 5.21 298 *e*P **Pn** 13 34 57.1 +1.1
MBDF *e*Sn **Sn** 13 35 50.1 -6.0
comp=N,82nm,0.4s
FLAF Flassans-sur-I 5.22 282 P **Pn** 13 34 56.3 +0.3
CREF Crivoux 5.25 295 P **Pn** 13 34 58.7 +2.2
OGAG Argentiere 5.27 294 P **Pn** 13 35 01.0 +4.3
RETA Reutte 5.30 341 *i* Pn **Pn** 13 34 58.7 +1.6
comp=N,33nm,0.4s,SNR=82
RETA *i* Sn **Sn** 13 35 59.7 +1.7
comp=N,348nm,0.5s
PLONS Plons/SG 5.33 330 *e*Pn **Pn** 13 34 59.2 +1.7
SNR=90
PLONS *e*Sn **Sn** 13 36 00.6 +1.8
SNR=5.9
PLONS Plons/SG 5.33 330 *e*Pn **Pn** 13 34 59.2 +1.7
SNR=90
PLONS *e*Sn **Sn** 13 36 00.6 +1.8
SNR=5.9
OGDI Digne 5.33 290 P **Pn** 13 35 00.1 +2.5
MORH Mrgy, Hungar 5.36 44 *e*Pn **Pn** 13 34 56.8 -1.0
DAVA Damuels 5.36 335 *i* Pn **Pn** 13 34 59.8 +1.8
comp=N,96nm,0.6s,SNR=136
DAVA *i* Sn **Sn** 13 36 02.9 +3.2
comp=N,1µm,0.8s
DAVA Damuels 5.36 335 *e*Pn **Pn** 13 34 59.7 +1.7
SNR=123
DAVA *e*Sn **Sn** 13 36 02.0 +2.3
SNR=3.6
DAVA Damuels 5.36 335 *e*Pn **Pn** 13 34 59.7 +1.7
SNR=123
DAVA *e*Sn **Sn** 13 36 02.0 +2.3
SNR=3.6
EMBD Embd, Matterta 5.38 316 P **Pn** 13 35 00.3 +2.0
MOA Molln 5.40 7 *i* Pn **Pn** 13 34 58.5 0.0
comp=N,81nm,0.6s,SNR=71
MOA *i* Sn **Sn** 13 36 00.4 -0.1
comp=N,736nm,0.6s
MOA Molln 5.40 7 *e*Pn **Pn** 13 34 58.5 0.0
SNR=146
MOA *e*Sn **Sn** 13 36 00.4 -0.1
SNR=3.6
MOA Molln 5.40 7 *e*Pn **Pn** 13 34 58.7 +0.2
MOA *e*Sn **Sn** 13 35 58.6 -1.9
MOA Molln 5.40 7 *e*Pn **Pn** 13 34 58.5 0.0
SNR=146
MOA *e*Sn **Sn** 13 36 00.4 -0.1
SNR=3.6
BNI Bardonecchia 5.41 300 Pn **Pn** 13 34 59.7 +1.0
BNI Bardonecchia 5.41 300 P **Pn** 13 34 59.7 +1.0
FRGS Fruska Gora 5.43 58 ⇓P **Pn** 13 34 59.6 +0.6
FRGS Fruska Gora 5.43 58 *e*Pn **Pn** 13 34 59.3 +0.4
FRGS Fruska Gora 5.43 58⇑ *i*Pn **Pn** 13 34 58.9 0.0
BLAF les Blancs 5.47 288 P **Pn** 13 35 00.6 +1.2
OGMO Fort Saint-Gob 5.47 302 P **Pn** 13 35 01.8 +2.3
TRUS Trudelj 5.49 69 *e*Pn **Pn** 13 34 59.8 +0.1
TRUS *e*Sn **Sn** 13 36 02.0 -0.6
ARTF Artigues 5.57 284 P **Pn** 13 35 01.6 +0.7
LPL La Plagne 5.59 305 *e*P **Pn** 13 35 02.7 +1.4
LPL *e*Sn **Sn** 13 35 59.6 -6.0
comp=N,105nm,0.3s
GRUS Gruza 5.62 73 *e*Pn **Pn** 13 35 01.7 +0.2
GRUS *e*Sn **Sn** 13 36 05.5 -0.5
RONA Rosalia, Austr 5.63 21 **Pn** 13 35 01.2 -0.4
RONA **Sn** 13 36 03.3 -2.8
RONA Rosalia, Austr 5.63 21 *i* Pn **Pn** 13 35 01.2 -0.4
comp=N,57nm,0.3s,SNR=48
RONA *i* Sn **Sn** 13 36 03.3 -2.8
comp=N,170nm,0.6s
LEPF PUYLOUBIER 5.64 283 P **Pn** 13 35 02.3 +0.5
UBR Ueberruh 5.64 338 *e*Pn **Pn** 13 35 02.9 +1.0
SNR=70
UBR *e*Sn **Sn** 13 36 07.6 +1.1
SNR=3.3
UBR Ueberruh 5.64 338 *e*Pn **Pn** 13 35 02.9 +1.0
SNR=70
UBR *e*Sn **Sn** 13 36 07.6 +1.1
SNR=3.3
KEK Kerkira 5.67 117 **Pn** 13 35 04.2 +2.1
MLYF Mely 5.67 288 P **Pn** 13 35 03.6 +1.3
SRN Sarande 5.71 115 P **Pn** 13 35 02.9 +0.1
SRN Sarande 5.71 115 P **Pn** 13 35 04.3 +1.6
baz=115
SRN S **Sn** 13 36 11.4 +3.2
baz=115
SRN AMP
comp=N,2.2nm,0.7s,baz=115
BEO Beograd 5.72 64 *e*Pn **Pn** 13 35 02.8 0.0
CONA Conrad Observa 5.73 18 *i* Pn **Pn** 13 35 02.6 -0.5
comp=N,14nm,0.2s,SNR=82
CONA *e*Sn **Sn** 13 36 07.4 -1.4
comp=N,235nm,0.5s
BSTF la Bastide-des 5.74 287 P **Pn** 13 35 03.9 +0.8
RSL Roselend 5.75 306 P **Pn** 13 35 05.0 +1.6
SENIN Lac Senin/Sane 5.76 314 **Pn** 13 35 04.3 +0.7
OHR Ohrid 5.80 101 *e*Pn **Pn** 13 35 05.4 +1.4
OHR *e*Sn **Sn** 13 36 10.2 -0.2
OHR Ohrid 5.80 101 *i* Pn **Pn** 13 35 05.2 +1.2
OHR *i* Sn **Sn** 13 36 09.1 -1.3
SMRF Simiane la Rot 5.81 287 *e*P **Pn** 13 35 05.2 +1.1
SMRF *e*Sn **Sn** 13 36 03.9 -6.7
comp=N,25nm,0.4s
WILA Wila 5.81 329 *e*Pn **Pn** 13 35 04.7 +0.6
SNR=14
WILA *e*Sn **Sn** 13 36 13.2 +2.6
SNR=3.5
WILA Wila 5.81 329 *e*Pn **Pn** 13 35 04.7 +0.6
SNR=14
WILA *e*Sn **Sn** 13 36 13.2 +2.6
SNR=3.5
SELS Selova 5.82 80 *e*Pn **Pn** 13 35 04.7 +0.4
SELS *e*Sn **Sn** 13 36 10.1 -0.8
GDM Grand'Maison 5.83 300 P **Pn** 13 35 08.8 +4.3
RUSF Rustrel 5.86 287 P **Pn** 13 35 06.4 +1.5
ORIF Oris-en-Rattie 5.87 297 *e*P **Pn** 13 35 07.5 +2.5
ORIF *e*Sn **Sn** 13 36 06.1 -6.2
comp=N,54nm,0.4s
ORIF Oris-en-Rattie 5.87 297 P **Pn** 13 35 08.3 +3.2
OGSI Sixt 5.88 310 P **Pn** 13 35 06.9 +1.8
ZUR Degenried 5.90 327 P **Pn** 13 35 06.5 +1.2
ARBF Arbois 5.90 282 P **Pn** 13 35 06.1 +0.8
KBN Korca 5.95 106 **Pn** 13 35 06.9 +0.9
KBN Korca 5.95 106 P **Pn** 13 35 07.0 +0.9
KBN Korca 5.95 106 P **Pn** 13 35 09.1 +3.1
baz=105
KBN S **Sn** 13 36 12.1 -2.0
baz=105
KBN Korca 5.95 106 P **Pn** 13 35 06.9 +0.9
LSK Leskovik 6.00 111 P **Pn** 13 35 07.6 +0.8
LSK Leskovik 6.00 111 P **Pn** 13 35 09.3 +2.5
baz=110
LSK S **Sn** 13 36 13.1 -2.4
baz=110
SVIS Svilajnac 6.06 70 *e*Pn **Pn** 13 35 08.6 +1.1
SVIS *e*Sn **Sn** 13 36 13.8 -2.9
SKO Skopje 6.09 92 *e*Pn **Pn** 13 35 09.0 +1.0
SKO *e*Sn **Sn** 13 36 16.0 -1.6
SKO Skopje 6.09 92 *i* Pn **Pn** 13 35 08.8 +0.8
SKO *i* Sn **Sn** 13 36 16.5 -1.1
SAUF chteau de Sau 6.13 286 P **Pn** 13 35 09.6 +1.1
TORNY Torny/Romont 6.21 316 P **Pn** 13 35 10.4 +0.9
SULZ Cheisacher 6.21 326 *e*Pn **Pn** 13 35 10.1 +0.5
SNR=32
SULZ *e*Sn **Sn** 13 36 20.2 -0.4
SNR=3.9
SULZ Cheisacher 6.21 326 P **Pn** 13 35 10.3 +0.6
SULZ Cheisacher 6.21 326 S **Sn** 13 36 20.5 -0.1
SULZ Cheisacher 6.21 326 *e*Pn **Pn** 13 35 10.1 +0.5
SNR=32
SULZ *e*Sn **Sn** 13 36 20.2 -0.4
SNR=3.9
BALST Balsthal 6.25 323 *e*Pn **Pn** 13 35 10.6 +0.4
SNR=39
BALST *e*Sn **Sn** 13 36 21.3 -0.1
SNR=5.7
BALST Balsthal 6.25 323 P **Pn** 13 35 10.7 +0.6
BALST Balsthal 6.25 323 S **Sn** 13 36 21.4 0.0
BALST Balsthal 6.25 323 *e*Pn **Pn** 13 35 10.6 +0.4
SNR=39
BALST *e*Sn **Sn** 13 36 21.3 -0.1
SNR=5.7
SLE Schleitheim 6.25 329 *e*Pn **Pn** 13 35 09.8 -0.4
SNR=35
SLE *e*Sn **Sn** 13 36 21.3 -0.3
SNR=2.7
SLE Schleitheim 6.25 329 P **Pn** 13 35 09.8 -0.4
SLE Schleitheim 6.25 329 *e*Pn **Pn** 13 35 09.8 -0.4
SNR=35
SLE *e*Sn **Sn** 13 36 21.3 -0.3
SNR=2.7
BOVS Bovan 6.29 77 *e*Pn **Pn** 13 35 09.9 -0.7
BOVS *e*Sn **Sn** 13 36 21.7 -0.7
ZST Bratislava 6.31 24 *e*P **Pn** 13 35 10.0 -0.9
ZST *e* 13 36 21.7
ZST MLR MLR
comp=Z,15µm,11.0s
ZST Bratislava 6.31 24 *e*PN **Pn** 13 35 10.0 -0.9
ZST *e*SN **Sn** 13 36 21.7 -1.1
ZST *e*SG **Sg** 13 36 57.7 -2.9
ZST *e*L L 13 38 11.5
BARS Barje 6.32 84 *e*Pn **Pn** 13 35 11.5 +0.5
BARS *e*Sn **Sn** 13 36 21.3 -1.7
FNA Florina 6.32 103 **Pn** 13 35 12.1 +1.0
FNA Florina 6.32 103 P **Pn** 13 35 11.3 +0.2
baz=102
FNA S **Sn** 13 36 19.5 -3.6
baz=102
FNA Florina 6.32 103 P **Pn** 13 35 12.1 +1.0
FNA Florina 6.32 103 *e*Pn **Pn** 13 35 11.8 +0.7
GEC2 GERESS Array S 6.36 3 Pn **Pn** 13 35 10.5 -1.2
GEC2 GERESS Array S 6.36 3 *e*Pn **Pn** 13 35 10.8 -0.9
SNR=62
GEC2 *e*Sn **Sn** 13 36 20.8 -3.3
SNR=4.3
GEC2 GERESS Array S 6.36 3 *e*Pn **Pn** 13 35 10.8 -0.9
SNR=62
GEC2 *e*Sn **Sn** 13 36 20.8 -3.3
SNR=4.3
GERES GERESS Array B 6.36 3 Pn **Pn** 13 35 10.7 -0.9
comp=Z,7.6nm,0.3s,baz=198,slow=15,SNR=86
GERES Sn **Sn** 13 36 21.5 -2.6
comp=Z,77nm,0.3s,baz=194,slow=16,SNR=10
GERES LR LR 13 38 07.9
comp=Z,6µm,19.5s,baz=188,slow=44
comp=Z,31nm,0.4s
GERES GERESS Array B 6.36 3 **Pn** 13 35 10.3 -1.4
CKRC Cesky Krumlov 6.37 6 *e*PN **Pn** 13 35 10.6 -1.1
CKRC *e*SN **Sn** 13 36 18.9 -5.4
SRO Srobarova 6.40 32 *e*P **Pn** 13 35 11.3 -0.9
SRO *e* 13 36 23.8
SRO Srobarova 6.40 32 *e*PN **Pn** 13 35 11.3 -0.9
SRO *e*SN **Sn** 13 36 23.8 -1.3
KUBS Kucevo 6.42 70 *e*Pn **Pn** 13 35 12.2 -0.2
GIMEL St. Georges / 6.43 311 P **Pn** 13 35 14.3 +1.6
BOURR Bourrignon 6.50 321 P **Pn** 13 35 13.6 -0.1
BOURR Bourrignon 6.50 321 S **Sn** 13 36 26.9 -0.8
PRVS Prvonek 6.51 87 *e*Pn **Pn** 13 35 14.2 +0.4
PRVS *e*Sn **Sn** 13 36 26.3 -1.7
MODS Modra-Piesok 6.52 24 *e*P **Pn** 13 35 12.9 -0.9
MODS *e* 13 36 26.9
MODS MLR MLR
comp=Z,41µm,14.7s
MODS Modra-Piesok 6.52 24 *e*PN **Pn** 13 35 12.9 -0.9
MODS *e*SN **Sn** 13 36 26.9 -1.2
MODS *e*SG **Sg** 13 37 05.8 -1.6
MODS *e*L L 13 38 23.7
FELD Feldberg im Sc 6.54 327 P **Pn** 13 35 13.3 -0.9
FELD Feldberg im Sc 6.54 327 S **Sn** 13 36 27.7 -1.0
OG35 Corcelles 6.56 305 P **Pn** 13 35 15.4 +0.9
BRANT Les Verrieres 6.56 315 P **Pn** 13 35 15.5 +1.0
CABF La Chapelle 6.57 311 *e*P **Pn** 13 35 14.9 +0.3
CABF *e*Sn **Sn** 13 36 22.6 -6.8
comp=Z,65nm,0.4s
KIZ Kirchzarten 6.64 327 P **Pn** 13 35 14.7 -0.7
KHC Kasperske Hory 6.64 2 **Pn** 13 35 14.6 -0.9
KHC Kasperske Hory 6.64 2 *e*PN **Pn** 13 35 14.4 -1.1
KHC *e*SN **Sn** 13 36 26.0 -5.0
KHC AMS AMS 13 38 00.0
comp=Z,12µm,15.3s
KHC Kasperske Hory 6.64 2*c* *i*P **Pn** 13 35 14.0 -1.5
VIVF Saint-Julien-l 6.66 294 *e*P **Pn** 13 35 17.1 +1.3
VIVF *e*Sn **Sn** 13 36 24.1 -7.4
comp=Z,13nm,0.3s
CHMF Charmoille 6.68 318 P **Pn** 13 35 16.6 +0.5
STIP Stip 6.69 94 *i* Pn **Pn** 13 35 18.6 +2.5
SMOL Smolenice 6.69 24 *e*P **Pn** 13 35 15.7 -0.5
SMOL *e* 13 36 32.5
ZAGS Zajecar 6.69 76 *e*Pn **Pn** 13 35 16.0 -0.2
ZAGS *e*Sn **Sn** 13 36 29.6 -2.7
TSLK Tsoukalades, L 6.71 121 P **Pn** 13 35 18.2 +1.7
RIVEL MONT RIVEL 6.75 312 P **Pn** 13 35 17.7 +0.6
BZS Buzias 6.78 60 ⇑P **Pn** 13 35 18.4 +1.0
BZS Buzias 6.78 60 *e*Pn **Pn** 13 35 17.0 -0.4
BFO Black Forest 6.79 331 **Pn** 13 35 16.8 -0.7
BFO Black Forest 6.79 331 *e*Pn **Pn** 13 35 17.2 -0.4
SNR=32
BFO *e*Sn **Sn** 13 36 32.8 -1.8
SNR=3.6
BFO Black Forest 6.79 331 P **Pn** 13 35 16.8 -0.7
BFO Black Forest 6.79 331 P **Pn** 13 35 17.8 +0.3
BFO Black Forest 6.79 331 *e*Pn **Pn** 13 35 17.2 -0.4
SNR=32
BFO *e*Sn **Sn** 13 36 32.8 -1.8
SNR=3.6
NYDR Nydri-Lefkada 6.80 121 P **Pn** 13 35 19.6 +1.9
EVGI Lefkada island 6.83 122 P **Pn** 13 35 20.3 +2.2
VOGT Vogtsburg - To 6.84 327 P **Pn** 13 35 18.0 -0.2
VOGT Vogtsburg - To 6.84 327 S **Sn** 13 36 33.3 -2.6
SSB Saint Sauveur 6.89 297 **Pn** 13 35 19.7 +0.8
SSB Saint Sauveur 6.89 297 P **Pn** 13 35 19.7 +0.8
SSB Saint Sauveur 6.89 297 P **Pn** 13 35 20.5 +1.6
STU Stuttgart 6.89 337 **Pn** 13 35 18.6 -0.3
STU Stuttgart 6.89 337 P **Pn** 13 35 18.6 -0.3
KRUC Moravsky 6.92 17 *e*PN **Pn** 13 35 18.0 -1.3
KRUC *e*SN **Sn** 13 36 33.4 -4.5
ZAPS Zavoj 6.93 80 *e*Pn **Pn** 13 35 20.3 +0.8
ZAPS *e*Sn **Sn** 13 36 35.3 -2.9
TREC Trest 6.97 12 *e*PN **Pn** 13 35 18.3 -1.8
TREC *e*SN **Sn** 13 36 34.8 -4.5
TREC AMS AMS 13 38 10.0
comp=Z,13µm,17.4s
TREC Trest 6.97 12 *e*P **Pn** 13 35 18.3 -1.8
TREC *e* 13 36 34.8
TREC MLR MLR
comp=Z,13µm,17.4s
HINF Hinteralfeld 6.99 322 *e*Pn **Pn** 13 35 18.8 -1.5
HINF *e*Sn **Sn** 13 36 34.2 -5.4
comp=Z,262nm,0.4s
RONF Ronchamp 7.00 320 P **Pn** 13 35 20.3 -0.2
RONF S **Sn** 13 36 37.5 -2.5
VAY Valandovo 7.04 96 *e*Pn **Pn** 13 35 21.4 +0.4
VAY *e*Sn **Sn** 13 36 38.0 -2.9
VAY Valandovo 7.04 96 *i* Pn **Pn** 13 35 21.2 +0.2
VAY *i* Sn **Sn** 13 36 36.4 -4.5
LASF Ste Croix 7.04 286 *e*P **Pn** 13 35 20.4 -0.6
LASF *e*Sn **Sn** 13 36 34.6 -6.4
comp=Z,11nm,0.4s
DJES Djerdap 7.06 69 ⇑P **Pn** 13 35 21.9 +0.6
DJES Djerdap 7.06 69 **Pn** 13 35 21.0 -0.3
DJES Djerdap 7.06 69 *e*Pn **Pn** 13 35 21.6 +0.3
DJES *e*Sn **Sn** 13 36 36.9 -4.6
JAVC Velka Javorina 7.07 24 *e*PN **Pn** 13 35 20.1 -1.3
SIRR Siria 7.10 55 ⇑P **Pn** 13 35 22.9 +1.1
PSDA Pessada-Kefalo 7.10 126 P **Pn** 13 35 23.7 +1.9
ECH Echery 7.15 325 **Pn** 13 35 22.5 0.0
ECH Echery 7.15 325 P **Pn** 13 35 22.5 0.0
ECH Echery 7.15 325 P **Pn** 13 35 22.2 -0.4
ECH S **Sn** 13 36 40.3 -3.4
ECH Echery 7.15 325 P **Pn** 13 35 22.3 -0.2
ECH S **Sn** 13 36 40.1 -3.5
SURR Surduc 7.16 60 ⇑P **Pn** 13 35 23.3 +0.7
VYHS Vyhne 7.16 31 *e*P **Pn** 13 35 21.9 -0.7
VYHS *e* 13 36 40.4
VYHS MLR MLR
comp=Z,24µm,14.2s
VYHS Vyhne 7.16 31 *e*PN **Pn** 13 35 21.9 -0.7
VYHS *e*SN **Sn** 13 36 40.4 -3.4
VYHS *e*SG **Sg** 13 37 27.0 -0.9
VYHS *e*L L 13 38 54.0
VYHS *e* 13 46 51.1
PSZ Piszkesteto 7.16 39 **Pn** 13 35 23.1 +0.5
PSZ Piszkesteto 7.16 39 P **Pn** 13 35 23.2 +0.5
VRAC Vranov 7.20 18 Pn **Pn** 13 35 22.4 -0.7
comp=Z,5.9nm,0.3s,baz=207,slow=13,SNR=33
VRAC Sn **Sn** 13 36 39.5 -5.2
comp=Z,11nm,0.3s,baz=207,slow=17,SNR=6.3
VRAC LR LR 13 39 00.7
comp=Z,5µm,18.8s,baz=209,slow=46
comp=Z,16nm,0.3s
VRAC Vranov 7.20 18 *e*PN **Pn** 13 35 21.8 -1.3
VRAC *e*SN **Sn** 13 36 40.1 -4.6
WLS Welschbruch 7.23 327 P **Pn** 13 35 23.3 -0.3
CDF Champ du Feu 7.26 327 *e*Pn **Pn** 13 35 22.2 -1.8
CDF *e*Sn **Sn** 13 36 40.0 -6.3
comp=Z,161nm,0.4s
PUNG Punghina 7.27 73 ⇓P **Pn** 13 35 24.6 +0.6
ROTZ Rotzenmuhle 7.31 355 *e*Pn **Pn** 13 35 24.1 -0.6
SNR=17
ROTZ *e*Sn **Sn** 13 36 42.3 -5.1
SNR=2.3
ROTZ Rotzenmuhle 7.31 355 *e*Pn **Pn** 13 35 24.1 -0.6
SNR=17
ROTZ *e*Sn **Sn** 13 36 42.3 -5.1
SNR=2.3
GRFO Grafenberg 7.33 350 **Pn** 13 35 22.5 -2.5
GRFO Grafenberg 7.33 350 P **Pn** 13 35 22.5 -2.5
GRA1 Grafenberg Arr 7.34 350 **Pn** 13 35 23.9 -1.1
GRF Grafenberg Arr 7.34 350 *e*Sn **Sn** 13 36 44.2 -3.9
SNR=2.9
GRF Grafenberg Arr 7.34 350 P **Pn** 13 35 23.9 -1.1
GRF Grafenberg Arr 7.34 350 *e*Sn **Sn** 13 36 44.2 -3.9
SNR=2.9
LIT Litokhoron 7.35 106 **Pn** 13 35 25.2 0.0
LIT Litokhoron 7.35 106 P **Pn** 13 35 25.2 0.0
HAU Haudompre 7.36 321 *e*Pn **Pn** 13 35 23.5 -1.8
HAU *e*Sn **Sn** 13 36 41.8 -6.9
comp=Z,332nm,0.4s
VTS Vitosha 7.37 86 ⇓P **Pn** 13 35 26.5 +0.9
VTS Vitosha 7.37 86 *e*Pn **Pn** 13 35 26.2 +0.7
VTS Vitosha 7.37 86 *e*Pn **Pn** 13 35 26.3 +0.7
VTS *e*Sn **Sn** 13 36 46.9 -2.1
VTS *e*Sn **Sn** 13 36 47.0 -2.1
PVO Paravola 7.39 119 P **Pn** 13 35 26.5 +0.8
KEST Kesra 7.41 206 Pn **Pn** 13 35 29.8 +3.6
comp=Z,27nm,0.3s,baz=319,slow=4.7,SNR=132
KEST Sn **Sn** 13 36 50.7 +0.7
baz=128,slow=17
KEST LR LR 13 38 27.6
comp=Z,13µm,19.5s,baz=338,slow=39
GZR Gura Zlata 7.45 64 ⇓P **Pn** 13 35 27.6 +0.9
SZBH soultz borehol 7.46 331 P **Pn** 13 35 27.6 +0.9
GOPC GO Pecny, Ondr 7.50 8 *e*PN **Pn** 13 35 25.5 -1.7
GOPC *e*SN **Sn** 13 36 46.0 -6.0
GOPC AMS AMS 13 38 20.0
comp=Z,10µm,13.0s
GOPC GO Pecny, Ondr 7.50 8 *e*P **Pn** 13 35 25.5 -1.7
GOPC *e* 13 36 46.0
GOPC MLR MLR
comp=Z,10µm,13.0s
CLAF Gruissan 7.51 278 P **Pn** 13 35 27.0 -0.4
PLYF Puligny Montra 7.53 309 P **Pn** 13 35 28.5 +0.8
MANZ Manzenberg 7.54 354 *e*Pn **Pn** 13 35 27.2 -0.6
SNR=18
MANZ *e*Sn **Sn** 13 36 47.1 -5.9
SNR=3.6
MANZ Manzenberg 7.54 354 *e*Pn **Pn** 13 35 27.2 -0.6
SNR=18
MANZ *e*Sn **Sn** 13 36 47.1 -5.9
SNR=3.6
SRE Strehaia 7.54 70 ⇓P **Pn** 13 35 28.9 +1.1
PRU Pruhonice 7.55 6 *e*PN **Pn** 13 35 26.1 -1.8

PRU eSN Sn 13 36 47.0 -6.3
PRU AMS AMS 13 38 30.0
comp=Z,9µm,9.8s
PRU Pruhonice 7.55 6 eP Pn 13 35 26.1 -1.8
PRU e 13 36 47.0
PRU MLR MLR
comp=Z,9µm,9.8s
CIEL Dossenheim-sur 7.56 329 P Pn 13 35 28.2 +0.1
CIEL S Sn 13 36 51.2 -2.5
MAUC Maruska 7.57 23 ePN Pn 13 35 27.8 -0.5
MAKR Makrakomi, Fth 7.58 114 P Pn 13 35 27.4 -1.0
ANX Ano Chora 7.66 118 P Pn 13 35 32.2 +2.6
SJAF Saint Jean de 7.67 273 P Pn 13 35 28.3 -1.3
DEV Deva 7.71 61 ⇓P Pn 13 35 31.6 +1.5
EFP Efpalio 7.74 119 P Pn 13 35 32.2 +1.6
NKC Novy Kostel 7.76 356 ePN Pn 13 35 28.6 -2.2
NKC eSN Sn 13 36 51.6 -7.0
NKC AMS AMS 13 38 40.0
comp=Z,9µm,13.7s
NKC Novy Kostel 7.76 356 eP Pn 13 35 28.6 -2.2
NKC e 13 36 51.6
NKC MLR MLR
comp=Z,9µm,13.7s
WERN Wernitzgruen 7.82 356 ePn Pn 13 35 30.4 -1.2
SNR=24
WERN Wernitzgruen 7.82 356 ePn Pn 13 35 30.4 -1.2
SNR=24
SRS Serrai 7.84 97 ePn Pn 13 35 32.5 +0.5
KECS Kecovo 7.85 38 eP Pn 13 35 32.6 +0.6
KECS e 13 36 56.9
KECS Kecovo 7.85 38 ePN Pn 13 35 32.6 +0.6
KECS eSN Sn 13 36 56.9 -3.7
SERG Sergoula 7.85 118 P Pn 13 35 36.1 +4.0
MORC Moravsky Berou 7.86 21 ⇑P Pn 13 35 32.7 +0.4
MORC Moravsky Berou 7.86 21 Pn 13 35 32.2 -0.1
MORC Moravsky Berou 7.86 21 ePN Pn 13 35 29.6 -2.7
MORC Moravsky Berou 7.86 21 P Pn 13 35 32.2 -0.1
LAKA Lakka 7.89 120 P Pn 13 35 35.4 +2.7
DRO Drossia 7.89 122 P Pn 13 35 35.7 +3.0
GUNZ Gunzen 7.90 356 ePn Pn 13 35 31.8 -1.0
SNR=32
GUNZ Gunzen 7.90 356 ePn Pn 13 35 31.8 -1.0
SNR=32
SMF Signal de Mont 7.90 305 eP Pn 13 35 33.6 +0.8
SMF eSn Sn 13 36 55.2 -6.8
comp=Z,43nm,0.3s
FILF Fillols 7.91 274 P Pn 13 35 33.4 +0.5
LANS Liptovska Anna 7.94 31 eP Pn 13 35 36.1 +2.8
LANS Liptovska Anna 7.94 31 ePN Pn 13 35 36.1 +2.8
TANN Tannenbergstha 7.94 356 ePn Pn 13 35 32.7 -0.7
SNR=21
TANN Tannenbergstha 7.94 356 ePn Pn 13 35 32.7 -0.7
SNR=21
KRLC Kraliky 7.96 17 ePN Pn 13 35 32.9 -0.7
KRLC eSN Sn 13 36 59.1 -4.5
KRLC AMS AMS 13 38 50.0
comp=Z,14µm,12.0s
KRLC Kraliky 7.96 17 eP Pn 13 35 32.9 -0.7
KRLC e 13 36 59.1
KRLC MLR MLR
comp=Z,14µm,12.0s
WERD Werda 7.98 356 ePn Pn 13 35 33.2 -0.7
SNR=18
WERD Werda 7.98 356 ePn Pn 13 35 33.2 -0.7
SNR=18
DRGR 7.99 54 ⇓P Pn 13 35 35.1 +1.1
DRGR 7.99 54 ePn Pn 13 35 34.8 +0.8
PLN Plauen 8.03 355 ePn Pn 13 35 33.4 -1.1
SNR=12
PLN Plauen 8.03 355 ePn Pn 13 35 33.4 -1.1
SNR=12
PAGF Fort de Pagny 8.04 321 eP Pn 13 35 35.7 +1.0
baz=142
PAGF eSn Sn 13 36 58.0 -7.5
comp=Z,98nm,0.5s
AXAR Agios Charalam 8.06 114 P Pn 13 35 37.9 +2.9
PYM Petit Puy Mans 8.06 297 P Pn 13 35 37.5 +2.4
PVCC Panska Ves 8.09 6 ePN Pn 13 35 33.6 -1.7
PVCC eSN Sn 13 37 00.3 -6.2
PVCC AMS AMS 13 38 50.0
comp=Z,8µm,13.3s
PVCC Panska Ves 8.09 6 eP Pn 13 35 33.6 -1.7
PVCC e 13 37 00.3
PVCC MLR MLR
comp=Z,8µm,13.3s
OKC Ostrava-Krasne 8.09 23 ePN Pn 13 35 35.1 -0.2
OKC eSN Sn 13 37 01.5 -5.0
OKC AMS AMS 13 39 30.0
comp=Z,12µm,11.1s
OKC Ostrava-Krasne 8.09 23 eP Pn 13 35 35.1 -0.2
OKC e 13 37 01.5
OKC MLR MLR
comp=Z,12µm,11.1s
SFTF Sexfontaines 8.13 317 eP Pn 13 35 37.7 +1.8
baz=134
SFTF eSn Sn 13 36 59.9 -7.7
comp=Z,72nm,0.4s
DPC Dobruska-Polom 8.13 14 ePN Pn 13 35 34.4 -1.6
DPC AMS AMS 13 38 50.0
comp=Z,13µm,13.2s
DPC Dobruska-Polom 8.13 14 eP Pn 13 35 34.4 -1.6
DPC MLR MLR
comp=Z,13µm,13.2s
MTLF Montolieu 8.15 280 eP Pn 13 35 36.4 +0.2
MTLF eSn Sn 13 36 59.8 -8.4
comp=Z,6.5nm,0.3s
MTLF Montolieu 8.15 280 P Pn 13 35 36.5 +0.3
MARR Marisel-Cluj 8.18 56 ⇑P Pn 13 35 38.0 +1.2
LOR Lormes 8.20 309 ePn Pn 13 35 35.3 -1.6
baz=120
LOR eSn Sn 13 37 02.1 -7.4
comp=Z,62nm,0.3s
LOR Lormes 8.20 309 P Pn 13 35 36.9 0.0
MOX Moxa 8.23 353 ePn Pn 13 35 36.7 -0.6
SNR=30
MOX eSn Sn 13 37 04.8 -5.3
SNR=6.3
MOX Moxa 8.23 353 ePn Pn 13 35 36.7 -0.6
SNR=30
MOX eSn Sn 13 37 04.8 -5.3
SNR=6.3
UPC Upice 8.23 12 ePN Pn 13 35 36.4 -0.9
UPC eSN Sn 13 37 05.5 -4.7
UPC AMS AMS 13 39 00.0
comp=Z,16µm,10.1s
UPC Upice 8.23 12 eP Pn 13 35 36.4 -0.9
UPC e 13 37 05.5
UPC MLR MLR
comp=Z,16µm,10.1s
AVF Avril sur Loir 8.27 305 eP Pn 13 35 38.1 +0.3
AVF eSn Sn 13 37 03.2 -7.8
comp=Z,21nm,0.4s
VLAD Vladila 8.27 76 ⇑P Pn 13 35 38.6 +0.8
SSF Saint Saulge 8.30 307 eP Pn 13 35 38.4 +0.1
SSF Saint Saulge 8.30 307 ePg Pg 13 36 09.8 -7.3
SSF eSn Sn 13 37 04.5 -7.4
comp=Z,30nm,0.3s
MESR Meseseni 8.31 53 ⇓P Pn 13 35 40.2 +1.9
OSTC Ostas 8.31 13 AMS AMS 13 39 00.0
comp=Z,13µm,13.5s
RAC Raciborz 8.32 23 ePN Pn 13 35 40.7 +2.2
RAC Raciborz 8.32 23 eSG Sg 13 38 01.9 -3.1
RAC LMZ LR 13 39 34.3
comp=Z,8.0nm,16.5s
RAC Raciborz 8.32 23 eP Pn 13 35 40.7 +2.2
RAC MLR MLR
comp=Z,8µm,16.5s
MEZF Maizieres J'vi 8.32 319 eP Pn 13 35 40.8 +2.3
baz=136
MEZF eSn Sn 13 37 04.3 -8.1
comp=Z,62nm,0.4s
SAVF Savonnieres en 8.37 320 eP Pn 13 35 42.0 +2.9
baz=138
SAVF eSn Sn 13 37 06.0 -7.4
comp=Z,51nm,0.3s
ABH Alteburg 8.38 334 P Pn 13 35 40.2 +0.8
ABH Alteburg 8.38 334 S Sn 13 37 12.2 -1.6
PLVB Pleven 8.38 80 ⇓P Pn 13 35 40.8 +1.5
BRG Berggiesshubel 8.39 3 eP Pn 13 35 37.6 -2.0
BRG Amp 13 35 45.1
comp=Z,27nm,0.5s
BRG r 13 37 10.0
BRG r 13 38 12.5
BRG Amp 13 38 39.4
comp=Z,707nm,1.4s
BRG Amp 13 39 19.0
comp=Z,8.5nm,12.4s
BRG Amp 13 39 22.0
comp=N,7.0nm,14.0s
BRG Amp 13 39 22.0
comp=E,3.0nm,11.4s
BRG Berggiesshubel 8.39 3 ePn Pn 13 35 37.4 -2.1
SNR=7.4
BRG Berggiesshubel 8.39 3 eP Pn 13 35 37.5 -2.0
BRG *i* 13 37 10.0
BRG pmax pmax
comp=Z,27nm,0.5s
BRG pmax pmax
comp=Z,707nm,1.4s
BRG MLR MLR
comp=Z,9µm,12.4s
BRG MLR MLR
comp=N,7µm,14.0s
BRG MLR MLR
comp=E,3µm,11.4s
BRG Berggiesshubel 8.39 3 ePn Pn 13 35 37.4 -2.1
SNR=7.4
TNS Taunus Mts 8.41 338 ePn Pn 13 35 40.7 +0.8
SNR=19
TNS Taunus Mts 8.41 338 ePn Pn 13 35 40.7 +0.8
SNR=19
CAF Calviac 8.47 290 eP Pn 13 35 42.2 +1.6
CAF eSn Sn 13 37 07.6 -8.4
comp=E,4.5nm,0.3s
BGF Bois d'Agland 8.47 302 ePn Pn 13 35 39.0 -1.7
BGF eSn Sn 13 37 08.1 -8.1
comp=E,60nm,0.4s
NIE Niedzica 8.48 33 eP Pn 13 35 44.5 +3.8
PLD Plovdiv 8.49 89 ePn Pn 13 35 42.8 +1.9
CJR Cluj-Napoca 8.49 57 ⇓P Pn 13 35 42.7 +1.7
CRVS Cervenica-Dubn 8.60 39 eP Pn 13 35 43.5 +1.2
CRVS MLR MLR
comp=Z,22µm,13.2s
CRVS Cervenica-Dubn 8.60 39 ePN Pn 13 35 43.5 +1.2
CRVS Cervenica-Dubn 8.60 39 eSG Sg 13 38 10.5 -3.4
CRVS eL L 13 39 46.7
KSP Ksiaz 8.61 13 eP Pn 13 35 41.8 -0.6
UBBA Unterbreizbach 8.62 346 ePn Pn 13 35 42.6 +0.1
SNR=10
UBBA Unterbreizbach 8.62 346 ePn Pn 13 35 42.6 +0.1
SNR=10
TRPA Tarpa 8.63 46 ⇓P Pn 13 35 43.4 +0.7
PAND Andorre 8.66 274 P Pn 13 35 43.6 +0.3
ARR Arges 8.69 67 ⇓P Pn 13 35 45.7 +2.0
WLF Walferdange 8.70 328 Pn 13 35 44.8 +1.0
WLF Walferdange 8.70 328 ePn Pn 13 35 45.5 +1.7
SNR=9.0
WLF Walferdange 8.70 328 P Pn 13 35 44.8 +1.0
WLF Walferdange 8.70 328 *dP* Pn 13 35 45.4 +1.7
WLF *dS* Sn 13 37 22.5 +0.8
WLF Walferdange 8.70 328 P Pn 13 35 45.5 +1.7
WLF Walferdange 8.70 328 ePn Pn 13 35 45.5 +1.7
SNR=9.0
BGG Burgeitz 8.73 334 ePn Pn 13 35 45.3 +1.2
HUMR Humele 8.76 73 ⇓P Pn 13 35 45.2 +0.8
TCF Toulx Ste Croi 8.77 299 eP Pn 13 35 47.9 +3.1
TCF eSn Sn 13 37 15.1 -8.4
comp=Z,18nm,0.4s
KOE Koeppel 8.80 336 ePn Pn 13 35 46.3 +1.2
UZH Uzhgorod 8.81 43 ⇑*i*P Pn 13 35 47.0 +1.7
UZH eS Sn 13 37 27.4 +3.0
UZH MLR MLR
comp=N,2µm,10.0s
UZH MLR MLR
comp=E,2µm,10.0s
UZH MLR MLR
comp=Z,1µm,10.0s
CLL Collm 8.82 359 Pn Pn 13 35 43.9 -1.3
CLL Collm 8.82 359 ePn Pn 13 35 44.0 -1.3
CLL eSn Sn 13 37 04.0 -20
CLL *ex* x 13 37 18.0
CLL e(Sb) Sn 13 37 34.0 +10
CLL Lmax 13 38 00.0
CLL eSg Sg 13 38 13.0 -7.9
comp=Z,2µm,1.9s
CLL Collm 8.82 359 ePn Pn 13 35 43.6 -1.7
SNR=27
CLL Collm 8.82 359 eP Pn 13 35 44.0 -1.3
CLL *e* 13 37 34.0
CLL Collm 8.82 359 ePn Pn 13 35 43.6 -1.7
SNR=27
COPA Copaceanca 8.87 75 ⇓P Pn 13 35 46.5 +0.4
STHS Stebnicka Huta 8.87 36 eP Pn 13 35 46.8 +0.7
STHS *e* 13 37 23.3
STHS Stebnicka Huta 8.87 36 ePN Pn 13 35 46.8 +0.7
STHS eSN Sn 13 37 23.2 -2.7
SALF Salau 8.91 276 P Pn 13 35 46.8 +0.1
HYF Humbligny 8.92 306 ePn Pn 13 35 44.0 -2.8
HYF eSn Sn 13 37 18.8 -8.3
RJF Les Rejaudoux 8.93 292 eP Pn 13 35 48.4 +1.5
RJF eSn Sn 13 37 19.1 -8.3
comp=Z,6.2nm,0.4s
OJC Ojcow 8.95 28 eP Pn 13 35 49.2 +2.1
OJC Ojcow 8.95 28 Pn 13 35 48.6 +1.5
OJC Ojcow 8.95 28 P Pn 13 35 48.6 +1.5
MTUR Matau 8.95 68 ⇓P Pn 13 35 49.2 +1.9
MLS Moulis 8.97 277 P Pn 13 35 47.8 +0.4
MONQ Montcuq 8.98 286 P Pn 13 35 48.3 +0.7
HILG Hillesheim 9.02 332 ePn Pn 13 35 49.1 +0.9
HILG eSn Sn 13 37 26.1 -3.5
comp=Z,145nm,1.3s
AHRW Bad Neuenahr-A 9.10 334 ePn Pn 13 35 51.7 +2.5
SNR=9.8
AHRW Bad Neuenahr-A 9.10 334 ePn Pn 13 35 51.7 +2.5
SNR=9.8
ARCR ARCALIA 9.12 56 ⇓P Pn 13 35 50.6 +1.1
STB Steinbach 9.23 334 ePn Pn 13 35 52.0 +1.1
RDO Rodhopi 9.27 94 Pn 13 35 51.7 +0.3
BHOU Houvegnez 9.32 330 *dP* Pn 13 35 51.8 -0.4
BHOU *dS* Sn 13 37 34.8 -2.0
KASTN Kahler Asten 9.32 341 ePn Pn 13 35 51.6 -0.6
SNR=8.9
KASTN Kahler Asten 9.32 341 ePn Pn 13 35 51.6 -0.6
SNR=8.9
DOPR Dopca 9.37 64 ⇓P Pn 13 35 54.8 +1.9
LFF La Frestale 9.39 289 eP Pn 13 35 54.5 +1.3
LFF eSn Sn 13 37 30.0 -8.6
comp=Z,8.4nm,0.4s
HOBG Hohbusch 9.41 336 ePn Pn 13 35 54.2 +0.8
KLL Kalltalsperre 9.45 332 ePn Pn 13 35 55.1 +1.1
RCHB Rochefort 9.46 327 *dP* Pn 13 35 54.9 +0.8
RCHB dPP PgPg 13 36 38.9 -0.5
RCHB *dS* Sn 13 37 35.3 -5.0
BTNL Ternell 9.46 331 *dP* Pn 13 35 55.5 +1.4
BTNL *dS* Sn 13 37 36.9 -3.5
DREG Dreilaegerbach 9.49 332 ePn Pn 13 35 55.9 +1.4
EPF Esparros 9.52 278 eP Pn 13 35 58.2 +3.1
EPF eSn Sn 13 37 32.8 -9.1
comp=Z,4.6nm,0.4s
MEM Membach 9.53 331 *dP* Pn 13 35 54.8 -0.2
MEM *dS* Sn 13 37 38.7 -3.2
GIVF Givet 9.59 325 eP Pn 13 35 57.2 +1.4
GIVF eSn Sn 13 37 35.7 -7.6
comp=Z,37nm,0.5s
SECR 9.61 70 ⇑P Pn 13 35 58.2 +2.0
MLR Muntele Rosu 9.62 68 Pn Pn 13 35 58.2 +1.8
comp=Z,3.8nm,0.3s,baz=263,slow=5.4,SNR=71
MLR LR LR 13 40 37.9
comp=Z,7µm,19.6s,baz=262,slow=44
MLR Muntele Rosu 9.62 68 ⇑P Pn 13 35 58.2 +1.8
MLR Muntele Rosu 9.62 68 Pn 13 35 57.3 +0.8
BCLA Clavier 9.64 328 *dP* Pn 13 35 57.9 +1.3
BCLA *dS* Sn 13 37 39.0 -5.6
ECHI Chisagues Biel 9.64 275 P Pn 13 35 59.0 +2.2
OZUR 9.67 64 ⇓P Pn 13 35 59.0 +1.9
DOU Dourbes 9.68 325 *dP* Pn 13 35 57.5 +0.5
DOU *dS* Sn 13 37 44.8 -0.8
DOU Dourbes 9.68 325 P Pn 13 35 58.6 +1.5
DOU S Sn 13 37 44.7 -0.9
BGES Gesves 9.70 327 *dP* Pn 13 35 58.4 +1.1
BGES *dS* Sn 13 37 42.8 -3.2
ALN Alexandroupoli 9.70 95 Pn 13 35 57.8 +0.4
ALN Alexandroupoli 9.70 95 P Pn 13 35 57.8 +0.4
BMRD Maredsous 9.76 326 *dP* Pn 13 35 59.5 +1.3
BMRD *dS* Sn 13 37 44.4 -3.3
RAZG Razgrad 9.76 79 ⇓P Pn 13 35 58.8 +0.5
BAIF Baives 9.82 323 eP Pn 13 36 01.6 +2.6
BAIF eSn Sn 13 37 41.6 -7.4
comp=Z,15nm,0.4s
NEHR Nehoiu 9.84 68 ⇓P Pn 13 36 01.4 +1.9
LAUG Laupendahl 9.85 336 ePn Pn 13 36 00.7 +1.2
BURAR Bucovina Array 9.88 55 ⇑P Pn 13 36 01.4 +1.4
BURAR Bucovina Array 9.88 55 Pn 13 36 02.0 +2.0
COVR Voineasa-Covas 9.88 66 ⇓P Pn 13 36 01.5 +1.5
BUR08 Bucovina Ar. S 9.89 55 Pn 13 36 01.8 +1.7
EDRB Edirne 10.03 89 P Pn 13 36 01.9 -0.1
LEHL Lehliu 10.05 74 ⇑P Pn 13 36 03.7 +1.5
SNF Seneffe 10.12 325 *dP* Pn 13 36 04.7 +1.5
SNF dPP PbPb 13 36 34.5 -1.4
CANF Canfranc 10.16 276 P Pn 13 36 07.4 +3.5
ETSF Etsaut 10.19 277 eP Pn 13 36 07.4 +3.2
ETSF eSn Sn 13 37 47.4 -11
comp=Z,81nm,1.2s
PLOR Plostina 10.19 66 ⇑P Pn 13 36 06.1 +2.0
VRI Vrincioaia 10.24 66 ⇑P Pn 13 36 06.1 +1.2
GRER 10.30 69 ⇓P Pn 13 36 07.8 +2.1
TESR Tescani 10.37 63 ⇓P Pn 13 36 08.4 +1.8
MFF Saint Martin d 10.41 298 eP Pn 13 36 09.2 +2.0
MFF eSn Sn 13 37 54.0 -10
comp=Z,5.5nm,0.4s
MFF Saint Martin d 10.41 298 P Pn 13 36 10.4 +3.2
CHIF Chize 10.45 295 P Pn 13 36 10.6 +3.0
LVV L'vov 10.45 42 eP Pn 13 36 08.6 +0.9
LVV eS Sn 13 38 06.1 +1.4
LVV MLR MLR
comp=Z,6µm,11.0s
RETH Rethem/Aller, 10.58 347 ePn Pn 13 36 09.5 +0.1
SNR=14
RETH Rethem/Aller, 10.58 347 ePn Pn 13 36 09.5 +0.1
SNR=14
SJPF Ste Jean 10.67 278 eP Pn 13 36 12.8 +2.1
SJPF eSn Sn 13 37 59.0 -11
comp=Z,1.8nm,0.4s
ICOR Ion Corvin 10.72 76 ⇑P Pn 13 36 12.2 +0.8
APE Apeiranthos 10.88 116 *i* P Pn 13 36 15.4 +1.7
CFR Carcaliu 11.07 71 ⇑P Pn 13 36 16.3 +0.1
VASR Vaslui 11.16 63 ⇓P Pn 13 36 19.4 +2.0
LDF La Druitiere 11.19 308 eP Pn 13 36 20.3 +2.6
LDF eSn Sn 13 38 12.8 -10
comp=Z,9.4nm,0.4s
TIRR Tirgusor 11.19 75 Pn 13 36 17.4 -0.3
TIRR Tirgusor 11.19 75 P Pn 13 36 17.4 -0.3
TPGR Topolog 11.23 73 ⇑P Pn 13 36 19.5 +1.1
BALB Balikesir 11.40 100 Pn 13 36 21.0 +0.3
FLN La Foliniere 11.47 308 ePn Pn 13 36 18.7 -3.0
FLN eSn Sn 13 38 18.6 -11
GRR Gorron 11.53 306 ePn Pn 13 36 19.6 -2.8
GRR Gorron 11.53 306 eP Pn 13 36 25.4 +3.0
GRR eSn Sn 13 38 20.8 -10
comp=Z,52nm,0.8s
TLCR 11.55 71 ⇑P Pn 13 36 24.3 +1.5
IDI Anoyia 11.56 125 Pn Pn 13 36 23.6 +0.6
comp=Z,2.5nm,0.3s,baz=316,slow=15,SNR=14
IDI Sn Sn 13 38 22.7 -9.4
comp=Z,3.4nm,0.3s,baz=356,slow=15,SNR=2.6
comp=Z,10nm,0.5s
IDI Anoyia 11.56 125 Pn 13 36 24.1 +1.0
MILM Milestii Mici 11.91 63 eP Pn 13 36 28.0 +0.3
comp=Z,2µm,2.1s
MILM Milestii Mici 11.91 63 ePP Pn 13 36 41.0 +13
MILM eS Sn 13 38 40.0 -0.4
MILM eLq LQ 13 40 07.0
MILM eLR LR 13 41 36.0
comp=Z,4µm,10.0s
MILM Milestii Mici 11.91 63 ⇑P Pn 13 36 28.7 +1.1
MILM Milestii Mici 11.91 63 eP Pn 13 36 28.0 +0.3
MILM eS Sn 13 38 40.0 -0.4
MILM pmax pmax
comp=E,2µm,2.1s
MILM pmax pmax
comp=Z,2µm,2.1s
MILM MLR MLR
comp=Z,12µm,14.0s
MILM MLR MLR
comp=N,4µm,10.0s
MILM MLR MLR
comp=E,9µm,13.0s
KIS Kishinev 11.94 63 eP Pn 13 36 27.0 -1.0
KIS eS Sn 13 38 38.0 -3.0
KIS eLg Lg 13 39 57.0
KIS LRM MLR 13 41 56.0
comp=E,3µm,11.0s
KIS Kishinev 11.94 63 eP Pn 13 36 27.0 -1.0
KIS eS Sn 13 38 38.0 -3.0
KIS pmax pmax
comp=Z,600nm,2.2s
KIS pmax pmax
comp=E,1µm,2.4s
KIS MLR MLR
comp=Z,4µm,14.0s
KIS MLR MLR
comp=N,4µm,13.5s
KIS MLR MLR
comp=E,3µm,11.0s
SORM Soroca 12.02 57 ⇓P Pn 13 36 29.5 +0.4
MANT Manisa 12.31 104 Pn 13 36 34.6 +1.2
SGMF Saint Gilles 12.52 303 eP Pn 13 36 38.0 +2.1
SGMF eSn Sn 13 38 42.8 -12
comp=E,5.5nm,0.4s
QUIF Quistinic 12.78 301 eP Pn 13 36 40.5 +0.9
QUIF eSn Sn 13 38 49.5 -12
comp=E,24nm,0.6s
KLNR Kaliningrad 12.95 18 *i* P Pn 13 36 40.2 -1.6
ROSF Rostrenen 12.99 302 eSn Pn 13 36 38.4 -4.0
WOL Wolverton 13.24 317 eP Pn 13 36 46.4 +0.6
ESDC Sonseca Array 13.30 264 Pn Pn 13 36 45.5 -1.2
comp=E,0.3nm,0.3s,baz=66,slow=13,SNR=36
ESDC LR LR 13 41 43.8
comp=E,4µm,19.6s,baz=69,slow=37
comp=E,7.2nm,0.7s
ESDC Sonseca Array 13.30 264 Pn 13 36 46.2 -0.5
MDUB Mudurnu 13.60 93 Pn 13 36 52.4 +1.5
PAB San Pablo 13.62 263 Pn 13 36 51.0 -0.1
PAB San Pablo 13.62 263 P Pn 13 36 51.0 -0.1
AKASG Malin Array Be 13.68 48 Pn Pn 13 36 50.3 -1.5
comp=E,0.8nm,0.3s,baz=240,slow=12,SNR=32
AKASG LR LR 13 42 36.8
comp=E,2µm,21.4s,baz=239,slow=40
comp=E,6.4nm,0.9s
AKASG Malin Array Be 13.68 48 Pn 13 36 50.8 -1.0
AKASG Malin Array Be 13.68 48 *i* P Pn 13 36 51.2 -0.6
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 13.68 48 Pn 13 36 50.4 -1.4
AKBB Malin Array Si 13.68 48 *ce*P Pn 13 36 49.5 -2.3
AKBB pmax pmax
comp=Z,84nm,2.0s
STRD Stroud 13.99 317 eP Pn 13 36 57.2 +1.2
ISP Isparta 14.00 104 *i* P Pn 13 36 57.6 +1.3
CWF Charnwood Fore 14.17 321 eP Pn 13 36 58.5 +0.1
MONM Monmouth 14.35 316 eP Pn 13 36 58.8 -2.2
MCH1 Michaelchurch 14.54 316 eP Pn 13 37 01.6 -1.9
PABE Paberze 14.77 24 Pn 13 37 05.4 -1.2
PABE Paberze 14.77 24 eP Pn 13 37 06.2 -0.5
HLM1 Long Mynd 14.78 318 eP Pn 13 37 06.6 -0.2
LBWR Ladybower, Pea 14.79 323 eP Pn 13 37 07.3 +0.3
PBRG Braganca 14.86 274 eP Pn 13 37 06.2 -1.8
comp=Z,82nm,1.2s
PBRG *i* LQ LQ 13 37 20.4
ANTO Ankara 14.94 94 Pn Pn 13 37 09.2 +0.1
ANTO Ankara 14.94 94 P Pn 13 37 09.2 +0.1
HPK Haverah Park 15.12 324 eP Pn 13 37 10.8 -0.7
LPW Lampeter 15.15 315 eP Pn 13 37 09.8 -2.0
FOEL Foel Wylfa 15.16 319 eP Pn 13 37 12.6 +0.6
MVO Moncorvo 15.19 272 *i* LQ LQ 13 37 25.1
MVO eLR LR 13 41 34.5
comp=Z,2µm,20.0s
NACGM Naroch 15.26 31 ⇓*i*P Pn 13 37 12.0 -1.2
comp=Z,85nm,0.8s,baz=221
SIM Simferopol' 15.27 74 eP Pn 13 37 13.3 -0.2
SIM eS Sn 13 40 01.4 -1.0
SIM pmax pmax
comp=Z,156nm,1.3s
SIM smax smax
comp=N,202nm,13.6s
SIM MLR MLR
comp=Z,3µm,21.5s
LLW Llanuwchllyn 15.36 318 eP Pn 13 37 13.8 -0.8
MNK Minsk 15.39 34 *i* P Pn 13 37 11.7 -3.3
comp=E,4.0nm,0.8s
MNK *i* P Pn 13 37 11.7 -3.3

comp=N,20nm,0.8s
MNK *i* P **Pn** **13 37 11.7 -3.3**
comp=Z,33nm,0.8s,baz=225
MNK *i* PP **P** **13 37 19.9 +0.3**
MNK *i* S **Sn** **13 40 02.1 -3.2**
MNK *i* SS **SnSn** **13 40 16.1 -1.8**
MNK *i* LQ LQ 13 41 41.4
MNK *i* LR LR 13 42 51.2
MNK *i* LRM MLR 13 44 02.0
comp=Z,3µm,14.4s
MNK *i* LRM MLR 13 44 05.2
comp=E,254nm,14.4s
MNK *i* LRM MLR 13 44 06.0
comp=N,2µm,14.4s
MNK Minsk 15.39 34 *i* P **Pn** **13 37 11.7 -3.3**
MNK *i* S **Sn** **13 40 02.0 -3.2**
MNK pmax pmax
comp=N,20nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,33nm,0.9s
MNK MLR MLR
comp=Z,3µm,14.0s
MNK MLR MLR
comp=E,254nm,14.0s
MNK MLR MLR
comp=N,2µm,14.0s
RSBS Rosebush, Pemb 15.43 314 *e*P **Pn** **13 37 14.4 -1.0**
ISAL Salakas 15.53 28 *e*P **Pn** **13 37 18.3 +1.6**
ISAL IAmb IAmb 13 37 26.1
comp=Z,44nm,1.0s
IDID Didziasalis 15.55 30 *e*P Pn 13 37 08.8 -8.2
IDID IAmb IAmb 13 37 16.7
comp=Z,24nm,0.8s
BR131 Keskin Array S 15.61 93 **Pn** **13 37 17.8 -0.1**
BR131 IAmb IAmb 13 37 25.3
comp=Z,149nm,1.8s
BR131 Keskin Array S 15.61 93 *i* P **Pn** **13 37 16.5 -1.5**
BR131 Keskin Array S 15.61 93 P **Pn** **13 37 19.6 +1.7**
SNR=10
BRTR Keskin Array B 15.61 93 Pn **Pn** **13 37 19.4 +1.5**
comp=Z,0.2nm,0.3s,baz=290,slow=11,SNR=9.2
comp=Z,1.8nm,0.5s
BRTR Keskin Array B 15.61 93 **Pn** **13 37 17.6 -0.4**
BRTR Keskin Array B 15.61 93 *ce*P **Pn** **13 37 18.5 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
PVRL Vila Real 15.67 273 *i* LQ LQ 13 37 24.4
POLO Lamas de Olo 15.71 273 *i* LQ LQ 13 37 31.2
MTE Manteigas 15.74 269 *e*P **Pn** **13 37 19.8 +0.1**
comp=Z,95nm,1.5s
MTE *i* LQ LQ 13 37 28.6
MTE *e*LR LR 13 41 45.0
comp=Z,5µm,16.0s
PCBR Castelo Branco 15.84 267 *i* LQ LQ 13 37 34.2
EDMD Edmundbyers 15.88 326 *e*P **Pn** **13 37 19.1 -2.1**
PMRV Marv??o 15.90 266 *e*P **Pn** **13 37 21.2 -0.4**
comp=Z,58nm,1.3s
PMRV *i* LQ LQ 13 37 39.4
PMRV *e*LR LR 13 41 51.7
comp=Z,3µm,16.0s
PVIS Viseu 15.92 271 *e*P **Pn** **13 37 22.2 +0.2**
comp=Z,134nm,1.7s
PVIS *i* LQ LQ 13 37 32.4
PGAV Gavieira, Arco 15.96 275 *i* LQ LQ 13 37 37.3
PGAV *e*S **S** **13 40 34.3 +1.0**
PGAV *e*LR LR 13 41 53.0
comp=Z,5µm,18.0s
WLF1 Llynfaes 15.98 319 *e*P **Pn** **13 37 23.4 +0.9**
WME Myndd Eilian 16.00 319 *e*P **Pn** **13 37 23.3 +0.5**
PBAR Barrancos 16.06 261 *i* LQ LQ 13 37 30.8
WPS Cemaes, Angles 16.09 319 *e*P **Pn** **13 37 25.3 +1.3**
KESW Keswick, Cumbr 16.19 324 *e*P **Pn** **13 37 23.1 -2.2**
PESTR Estremoz 16.22 264 *e*P **Pn** **13 37 26.1 +0.3**
comp=Z,60nm,1.8s
PESTR *i* LQ LQ 13 37 35.4
PESTR Estremoz 16.22 264 **Pn** **13 37 25.4 -0.4**
PCAS Casmilo, Conde 16.54 269 *i* LQ LQ 13 37 34.3
PMTG Montargil 16.62 265 *e*P **P** **13 37 33.5 +0.2**
comp=Z,72nm,1.6s
PMTG *i* LQ LQ 13 37 47.0
EKA Eskdalemuir Ar 16.72 326 Pn **Pn** **13 37 31.8 -0.2**
baz=138,slow=14
EKA Sn **Sn** **13 40 32.6 -4.8**
baz=130,slow=23
EKA LR LR 13 44 59.0
comp=Z,2µm,18.7s,baz=136,slow=41
comp=Z,2.5nm,0.4s
PVAQ Vaqueiros 16.86 259 *e*P **Pn** **13 37 34.3 +0.4**
comp=Z,82nm,1.7s
PVAQ *i* LQ LQ 13 37 43.5
PVAQ *e*S **S** **13 40 53.7 +2.2**
PVAQ *e*LR LR 13 41 57.0
comp=Z,1µm,22.0s
PSBE So Bento 16.91 267 *i* LQ LQ 13 37 39.1
DSB Dublin 16.95 316 P **Pn** **13 37 35.2 +0.4**
DSB IAmb IAmb 13 37 42.1
comp=Z,157nm,1.2s
PCVE Castro Verde 17.00 261 *i* LQ LQ 13 37 39.6
MESJ Messejana 17.05 261 *e*P **Pn** **13 37 37.1 +0.8**
MESJ *e*S **Sn** **13 40 47.7 +2.0**
MESJ IAMs_20 IAMs_20 13 44 47.0
comp=E,3µm,14.0s
MESJ Messejana 17.05 261 *i* LQ LQ 13 37 42.0
MESJ Messejana 17.05 261 *e*P **Pn** **13 37 37.1 +0.8**
MESJ *e*S **Sn** **13 40 47.7 +2.0**
MDT Midelt 17.11 241 P **P** **13 37 38.8 -0.1**
comp=E,0.2nm,0.3s,baz=63,slow=11,SNR=8.0
MDT LR LR 13 43 20.1
comp=E,1µm,18.7s,baz=45,slow=34
comp=E,4.4nm,0.9s
EDI Edinburgh 17.14 327 *e*P **P** **13 37 38.2 -0.7**
KONO Kongsberg 17.32 354 P **Pn** **13 37 40.2 +0.7**
KONO IAmb IAmb 13 37 46.4
comp=Z,225nm,1.6s
KONO Kongsberg 17.32 354 P **Pn** **13 37 40.3 +0.7**
KONO pmax pmax
comp=Z,225nm,1.6s
KONO Kongsberg 17.32 354 *e*P **P** **13 37 41.7 +0.8**
CSS Mathiatis 17.35 109 P **P** **13 37 41.2 -0.2**
LIS Lisbon 17.42 265 *e*S **Sn** **13 40 56.5 +1.9**
LIS IAMs_20 IAMs_20 13 45 23.1
comp=E,5µm,13.5s
BLS5 Blasjo 17.47 348 *e*P **P** **13 37 45.0 +2.5**
BLS5 IAmb IAmb 13 37 49.9
comp=Z,104nm,1.3s
BNN Bunyan 17.50 94 P **P** **13 37 43.3 +0.1**
BNN IAmb IAmb 13 37 49.5
comp=Z,186nm,1.3s
MTSE Matsula 17.53 19 *e*P **Pn** **13 37 40.3 -1.7**
TOKA Tokat 17.54 89 P **P** **13 37 44.3 +0.8**
MORF Marmelete 17.58 260 *e*P **P** **13 37 43.5 -0.5**
MORF *e*S **Sn** **13 41 00.3 +1.7**
MORF IAMs_20 IAMs_20 13 45 54.0
comp=Z,2µm,10.8s
MORF Marmelete 17.58 260 *e*P **P** **13 37 43.5 -0.5**
MORF *e*S **Sn** **13 41 00.3 +1.7**
ANN Anapa 17.63 74 *i* P **Pn** **13 37 43.6 +0.2**
ANN *e*S **S** **13 41 03.6 -3.5**
ANN pmax pmax
comp=Z,308nm,1.8s
ANN MLR MLR
comp=Z,2µm,14.0s
HFS Hagfors 17.66 1 P **Pn** **13 37 43.3 -0.5**
comp=Z,0.5nm,0.3s,baz=166,slow=7.6,SNR=11
HFS LR LR 13 45 27.9
comp=Z,3µm,18.2s,baz=184,slow=40
comp=Z,11nm,0.7s
ODD1 Odda 17.91 349 *e*P **P** **13 37 47.4 0.0**
ODD1 IAmb IAmb 13 37 53.7
comp=Z,65nm,1.1s
VSU Vasula 18.08 23 *i* P **Pn** **13 37 45.9 -3.0**
VSU Vasula 18.08 23 *e*P **P** **13 37 50.7 +1.5**
NC602 NORSAR Array S 18.30 357 P **Pn** **13 37 50.8 -0.7**
NC602 NORSAR Array S 18.30 357 *e*P **Pn** **13 37 51.4 -0.1**
NC602 IAmb IAmb 13 37 53.4
comp=Z,77nm,0.8s
NAO01 NORSAR Array S 18.43 356 P **P** **13 37 52.1 -1.0**
NAO01 IAmb IAmb 13 37 55.2
comp=Z,88nm,0.9s
NOA NORSAR Array B 18.61 357 P **P** **13 37 54.9 -0.3**
comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=44
NOA LR LR 13 46 04.9
comp=Z,2µm,18.4s,baz=175,slow=40
comp=Z,25nm,0.8s
MEF Metsahovi 19.01 17 *e*P **P** **13 37 59.1 -0.3**
GAZ Gaziantep 19.12 98 P **Pn** **13 38 01.8 -0.1**
GAZ IAmb IAmb 13 38 04.8
comp=Z,118nm,1.2s
HYA Hoyanger 19.18 350 *e*P **Pn** **13 38 03.4 +1.2**
HYA IAmb IAmb 13 38 14.2
comp=Z,59nm,1.1s
RAF Rauma 19.25 13 *e*P **P** **13 38 01.2 -0.9**
SOC Sochi 19.34 78 *e*P **P** **13 38 02.6 -0.7**
SOC *e* 13 41 40.0
SOC pmax pmax
comp=Z,37nm,0.7s
SOC MLR MLR
comp=Z,2µm,17.0s
HNTI Hanita 19.66 111 P P 13 37 54.3 -12
VSR Storozhevoye 19.66 55 *e*P **P** **13 38 05.4 -1.3**
VSR pmax pmax
comp=Z,340nm,2.8s
DOMB Dombas 19.74 354 *e*P **Pn** **13 38 08.6 -0.4**
DOMB IAmb IAmb 13 38 16.2
comp=Z,58nm,1.1s
OBN Obninsk 19.76 42 P **P** **13 38 06.3 -1.4**
comp=Z,0.8nm,0.3s,baz=234,slow=15,SNR=12
OBN LR LR 13 46 08.4
comp=Z,610nm,20.9s,baz=235,slow=38
comp=Z,6.7nm,0.4s
OBN Obninsk 19.76 42 P **P** **13 38 05.9 -1.7**
OBN IAmb IAmb 13 38 09.9
comp=Z,139nm,1.2s
OBN Obninsk 19.76 42 ⇓*i* P **P** **13 38 06.3 -1.4**
OBN *e*S **S** **13 41 42.2 -7.7**
OBN pmax pmax
comp=Z,322nm,2.5s
OBN MLR MLR
comp=Z,2µm,12.0s
VORR Voronezh 19.82 53 *e*P **P** **13 38 07.0 -1.4**
VORR S **S** **13 41 48.3 -2.9**
VORR pmax pmax
comp=Z,600nm,2.0s
VORR MLR MLR
comp=Z,3µm,16.0s
MMAI Mount Meron Ar 19.85 111 P **Pn** **13 38 11.4 +0.9**
comp=Z,2.7nm,0.3s,baz=307,slow=12,SNR=10
comp=Z,15nm,0.9s
GEM Giv'at Ha'Em 19.92 110 P **Pn** **13 38 14.0 +2.7**
LPSR Galich'ya Gora 19.95 51 *e*P **P** **13 38 08.1 -1.7**
LPSR pmax pmax
comp=Z,300nm,2.2s
PUL Pulkovo 20.23 25 *i* P **P** **13 38 11.3 -1.5**
PUL pmax pmax
comp=Z,126nm,0.8s
HMDT Nahal Hemdat 20.38 113 P Pn 13 38 20.8 +4.1
FINES FINESS Array B 20.48 18 P **P** **13 38 14.9 -0.5**
comp=Z,46nm,0.9s,baz=200,slow=9.0,SNR=43
FINES LR LR 13 47 04.4
comp=Z,3µm,19.2s,baz=207,slow=40
comp=Z,46nm,0.9s
FINES FINESS Array B 20.48 18 P **P** **13 38 14.6 -0.9**
FIA1 FINESS Array S 20.48 18 P **P** **13 38 14.7 -0.8**
FIA1 IAmb IAmb 13 38 24.9
comp=Z,206nm,1.4s
MOS Moscow 20.59 42 *e*P **P** **13 38 13.9 -2.8**
MOS *e* 13 38 32.5
MOS *e*S **S** **13 42 07.2 +0.7**
MOS pmax pmax
comp=Z,600nm,1.8s
MOS pmax pmax
comp=Z,220nm,1.0s
MOS MLR MLR
comp=Z,4µm,10.0s
YTIR Yattir 20.64 115 P Pn 13 38 21.7 +1.8
TBLU Trondheim 20.87 356 *e*P Pn 13 38 22.1 0.0
TBLU IAmb IAmb 13 38 24.8
comp=Z,122nm,0.9s
HSUJ Al Zarqa 20.92 112 P P 13 38 11.3 -9.3
LISJ El Lisan 20.96 115 P Pn 13 38 25.0 +1.5
WALJ Wala 20.99 114 P Pn 13 38 27.5 +3.7
ZFRI Zfri 21.20 117 P **P** **13 38 25.4 +1.9**
VRH Novokhopyorsk 21.21 56 *e*P **P** **13 38 22.5 -1.0**
VRH pmax pmax
comp=Z,250nm,1.2s
SWQJ Swaqa 21.35 114 P P 13 38 36.7 +11
ASF Jabal al Asfar 21.37 111 P **P** **13 38 28.4 +3.0**
comp=Z,6.2nm,0.7s,baz=271,slow=3.4,SNR=11
comp=Z,6.2nm,0.7s
KIV Kislovodsk 21.44 76 P **P** **13 38 26.4 +0.3**
KIV Kislovodsk 21.44 76 *e*P **P** **13 38 27.0 +0.8**
KIV *e*S **S** **13 42 25.2 +1.4**
KIV pmax pmax
comp=Z,209nm,1.1s
KIV pmax pmax
comp=Z,14nm,2.5s
KIV MLR MLR
comp=Z,209nm,1.0s
KIV Kislovodsk 21.44 76 P **P** **13 38 27.0 +0.8**
SHA1 Shidzhatmaz 21.45 77 *c* *i*P **P** **13 38 27.0 +0.6**
KVAR Kislovodsk Arr 21.45 76 P **P** **13 38 27.9 +1.6**
comp=Z,32nm,1.0s,baz=287,slow=19,SNR=9.8
comp=Z,32nm,1.0s
MBRI Mt Berech 21.52 119 P **P** **13 38 29.7 +2.6**
NEY Neytrino 21.56 78 *i* P **P** **13 38 29.4 +1.9**
NEY pmax pmax
comp=Z,29nm,1.0s
KBZ Khabaz 21.62 77 P **P** **13 38 29.4 +1.5**
comp=Z,77nm,1.0s,baz=286,slow=9.7,SNR=106
KBZ LR LR 13 48 32.5
comp=Z,734nm,19.3s,baz=286,slow=41
comp=Z,77nm,1.0s
KBZ Khabaz 21.62 77 *ce*P **P** **13 38 29.4 +1.5**
KBZ pmax pmax
comp=Z,162nm,1.1s
EIL Elat 21.63 119 P **P** **13 38 31.4 +3.3**
comp=Z,3.8nm,0.5s,baz=302,slow=10,SNR=5.3
comp=Z,3.8nm,0.5s
EIL Elat 21.63 119 P **P** **13 38 30.6 +2.4**
AQBJ Aqaba 21.66 119 P **P** **13 38 33.6 +5.2**
MARD Mardin 21.69 95 P **P** **13 38 29.2 +0.4**
MARD IAmb IAmb 13 38 32.5
comp=Z,161nm,1.1s
NSS Namsos 22.09 359 *e*P **P** **13 38 32.6 -0.1**
NSS IAmb IAmb 13 38 37.1
comp=Z,101nm,1.2s
GURO Guroymak-BITLI 22.17 91 P **P** **13 38 34.6 +0.5**
GURO IAmb IAmb 13 38 43.2
comp=Z,149nm,1.4s
ONI Oni 22.19 79 P **P** **13 38 34.6 +0.5**
ONI IAmb IAmb 13 38 45.5
comp=Z,104nm,1.1s
ONI Oni 22.19 79 P **P** **13 38 34.7 +0.5**
ONI pmax pmax
comp=Z,104nm,1.1s
AKH Akhalkalaki 22.46 82 P **P** **13 38 38.1 +0.9**
AKH Akhalkalaki 22.46 82 P **P** **13 38 38.1 +0.9**
AKH pmax pmax
comp=Z,348nm,1.4s
ZEI Tsey 22.48 79 *e*P **P** **13 38 37.2 -0.3**
ZEI pmax pmax
comp=Z,47nm,0.9s
GEVA Gevas 23.01 90 P **P** **13 38 43.4 +0.3**
GEVA IAmb IAmb 13 38 54.7
comp=Z,80nm,1.4s
GNI Garni 23.69 85 P **P** **13 38 50.5 +0.7**
comp=Z,37nm,1.0s,baz=314,slow=4.4,SNR=30
comp=Z,37nm,1.0s
GNI Garni 23.69 85 P **P** **13 38 50.4 +0.6**
GNI Garni 23.69 85 P **P** **13 38 50.4 +0.7**
GNI pmax pmax
comp=Z,115nm,1.2s
GNI Garni 23.69 85 P **P** **13 38 50.6 +0.7**
GNI P **P** **13 38 50.6 +0.7**
MOR8 Moi Rana 23.73 1 *e*P **P** **13 38 51.1 +1.3**
MOR8 IAmb IAmb 13 38 55.8
comp=Z,111nm,1.4s
GROC Groznyy 23.79 77 *e*P **P** **13 38 50.0 -0.5**
GROC *e* 13 39 18.0
GROC *e* 13 42 32.6
GROC *e*S **S** **13 43 09.8 +4.2**
GROC pmax pmax
comp=Z,58nm,0.7s
KLMR Klimovskoe 24.27 32 *e*P **P** **13 38 51.8 -3.1**
KLMR *e*P **P** **13 38 51.8 -3.1**
KLMR *e*P **P** **13 38 51.8 -3.1**
comp=E,321nm,1.7s
KLMR AMP 13 38 56.3
KLMR S **S** **13 43 11.6 -1.5**
KLMR S **S** **13 43 11.6 -1.5**
KLMR LQ LQ 13 46 32.0
KLMR LQ LQ 13 46 32.0
KLMR LR LR 13 46 35.9
KLMR AMP 13 49 48.0
comp=Z,2µm,8.6s
KLMR Klimovskoe 24.27 32 *e*P **P** **13 38 51.8 -3.1**
KLMR S **S** **13 43 11.5 -1.5**
KLMR pmax pmax
comp=Z,321nm,1.7s
KLMR MLR MLR
comp=Z,2µm,9.0s
FAUS Fauske 24.96 2 *e*P **P** **13 39 01.3 +0.3**
FAUS IAmb IAmb 13 39 06.7
comp=Z,234nm,1.8s
MAK Makhachkala 25.06 77 *e*P **P** **13 39 01.2 -1.0**
MAK *e*S **S** **13 43 26.6 +0.5**
MAK pmax pmax
comp=Z,294nm,1.4s
MAK MLR MLR
comp=Z,4µm,14.0s
PMPST Porto Santo, M 25.10 258 *e*P **P** **13 39 03.2 +0.6**
comp=Z,229nm,1.8s
PMPS Porto Santo 25.11 258 *e*P **P** **13 39 03.1 +0.4**
comp=Z,182nm,1.7s
AKT Akhty 25.54 81 *e*P **P** **13 39 07.8 +1.1**
AKT *e* 13 39 43.9
AKT pmax pmax
comp=Z,136nm,1.3s
PMAR Madeira 25.70 258 *e*P **P** **13 39 10.1 +1.8**
comp=Z,245nm,1.8s
ADZR Andozero 25.85 25 *e*P **P** **13 39 08.8 -0.3**
ADZR pmax pmax
comp=Z,101nm,0.9s
PMOZ Porto Moniz, M 25.86 258 *e*P **P** **13 39 11.8 +2.2**
comp=Z,139nm,1.2s
PMOZ *e*LR LR 13 46 22.8
comp=Z,563nm,20.0s
APA Apatity 27.38 17 ⇓*i* P **P** **13 39 28.7 +5.8**
APA pmax pmax
comp=Z,21nm,1.1s
APA MLR MLR
comp=Z,7µm,12.0s
KIRV Kirov 27.61 42 P **P** **13 39 23.4 -1.5**
comp=Z,38nm,0.9s,baz=261,slow=9.3,SNR=16
KIRV LR LR 13 50 54.1
comp=Z,2µm,20.9s,baz=248,slow=38
comp=Z,38nm,0.9s
KIRV Kirov 27.61 42 *ce*P **P** **13 39 23.0 -2.0**
ARCES ARCESS Array B 27.84 9 P **P** **13 39 25.7 -1.3**
comp=Z,6.0nm,0.9s,baz=188,slow=5.5,SNR=5.9
ARCES PcP **PcP** **13 42 42.2 -0.3**
comp=Z,4.7nm,0.8s,baz=215,slow=1.1,SNR=1.9
ARCES LR LR 13 51 17.4
comp=Z,1µm,21.0s,baz=202,slow=38
comp=Z,6.0nm,0.9s
BORG Borgarnes 29.64 330 LR LR 13 52 45.6
comp=Z,1µm,18.6s,baz=138,slow=39
JMIC Jan Mayen 30.57 346 LR LR 13 54 34.4
comp=Z,664nm,18.1s,baz=126,slow=41
TORD Torodi Ar. Bea 30.91 202 P **P** **13 39 55.7 +1.0**
comp=Z,5.6nm,0.7s,baz=1.1,slow=6.5,SNR=8.3
TORD PcP **PcP** **13 42 54.5 +3.3**
comp=Z,1.4nm,0.3s,baz=29,slow=3.3,SNR=2.1
comp=Z,5.6nm,0.7s
TORD Torodi Ar. Bea 30.91 202 P **P** **13 39 54.5 -0.2**
AKTO Aktyubinsk 31.43 60 P **P** **13 39 58.5 -0.5**
comp=Z,7.5nm,0.9s,baz=274,slow=10,SNR=12
AKTO LR LR 13 54 47.1
comp=Z,1µm,19.3s,baz=266,slow=40
comp=Z,7.5nm,0.9s
ARU Arti 31.93 48 P **P** **13 40 03.0 -0.4**
comp=Z,92nm,0.9s,baz=250,slow=7.0,SNR=66
ARU LR LR 13 53 35.0
comp=Z,2µm,20.0s,baz=252,slow=38
ARU Arti 31.93 48 *c* *i*P **P** **13 40 02.8 -0.6**
ARU 13 41 06.9
ARU PPP PPP 13 41 19.5
ARU 13 42 52.2
ARU S **S** **13 45 15.0 +1.0**
ARU SS **SnSn** **13 47 02.6 +0.3**
ARU pmax pmax
comp=Z,160nm,1.1s
ARU MLR MLR
comp=Z,4µm,14.0s
AB31 Akbulak array 32.76 62 *i* P **P** **13 40 09.9 -0.8**
ABKAR Akbulak array 32.76 62 P **P** **13 40 10.2 -0.5**
ABKAR IAmb IAmb 13 41 22.8
comp=Z,21nm,1.2s
SVE Sverdlovsk 33.12 48 ⇓*e*P **P** **13 40 13.7 0.0**
SVE *e*S **S** **13 45 35.3 +2.9**
SVE pmax pmax
comp=Z,156nm,1.5s
SVE MLR MLR
comp=Z,5µm,14.0s
SCO Scoresbysund 33.18 339 P **P** **13 40 14.8 +0.8**
SCO Scoresbysund 33.18 339 P **P** **13 40 14.8 +0.8**
SCO pmax pmax
comp=Z,15nm,1.0s
GEYT Alibeck 34.25 82 P **P** **13 40 24.6 +0.7**
comp=Z,14nm,0.8s,baz=280,slow=8.6,SNR=18
GEYT LR LR 13 57 58.0
comp=Z,648nm,18.0s,baz=308,slow=43
comp=Z,14nm,0.8s
GEYT Alibeck 34.25 82 P **P** **13 40 24.1 +0.3**
GYA0B ALIBECK ARRAY 34.25 82 P **P** **13 40 24.2 +0.3**
GYA0B IAmb IAmb 13 40 43.8
comp=Z,22nm,0.8s
DBG Daneborg 35.36 345 *e*P **P** **13 40 33.5 +0.6**
SPITS Spitsbergen Ar 35.82 1 P **P** **13 40 37.2 +0.3**
comp=Z,25nm,1.0s,baz=179,slow=10,SNR=2.8
SPITS LR LR 13 55 10.7
comp=Z,547nm,21.3s,baz=152,slow=36
comp=Z,25nm,1.0s
GHWR Ruwais 37.53 107 P **P** **13 40 54.4 +2.4**
BBTS Babate 37.77 232 LR LR 13 56 07.9
comp=Z,2µm,19.5s,baz=46,slow=36
ICESG Greenland Ices 37.97 332 *e*P **P** **13 40 55.4 -0.2**
MZWR Madinat Zayed 38.37 106 P **P** **13 41 00.4 +1.3**
UMQ Umm Al-Quwin 38.56 102 P **P** **13 41 02.3 +1.6**
MZR Muzera 38.57 107 P **P** **13 41 01.9 +1.1**
SHME Shamm 38.60 101 P **P** **13 41 01.5 +0.4**
SHME P **P** **13 41 01.5 +0.4**
SUMG Summit 38.75 338 *i* P **P** **13 41 03.0 +0.7**
HRA Herat 38.76 85 P **P** **13 41 02.2 -0.3**
BRVK Borovoye 38.77 54 P **P** **13 41 02.4 +0.2**
BRVK IAmb IAmb 13 41 18.7
comp=Z,43nm,0.9s
BRVK Borovoye 38.77 54 *ce*P **P** **13 41 02.8 +0.6**
BRVK pmax pmax
comp=Z,54nm,1.3s
BRVK Borovoye 38.77 54 P **P** **13 41 02.8 +0.6**
BRVK P **P** **13 41 02.8 +0.6**
BANOM Banah 38.79 101 P **P** **13 41 03.4 +0.7**
BVAR Borovoye Array 38.84 54 P **P** **13 41 03.0 +0.2**
comp=Z,20nm,0.9s,baz=276,slow=6.9,SNR=43
BVAR LR LR 13 57 16.6
comp=Z,526nm,20.7s,baz=280,slow=37
comp=Z,20nm,0.9s
BVAR Borovoye Array 38.84 54 P **P** **13 41 03.0 +0.2**
NAZ Nazwa, Dubai 38.89 103 P **P** **13 41 03.8 +0.4**
NAZ P **P** **13 41 03.8 +0.4**
FAQ Al Faqa, Dubai 38.98 103 P **P** **13 41 04.6 +0.3**
MASF Masafi 39.02 102 P **P** **13 41 04.4 -0.2**
MASF P **P** **13 41 04.4 -0.2**
DBIC Dimbokro 39.12 209 P **P** **13 41 05.3 -0.1**
comp=Z,5.9nm,1.0s,baz=48,slow=6.3,SNR=6.1
DBIC LR LR 13 58 16.5
comp=Z,2µm,18.0s,baz=28,slow=38
comp=Z,5.9nm,1.0s
DBIC Dimbokro 39.12 209 P **P** **13 41 05.2 -0.1**
MDH Madha 39.16 102 P **P** **13 41 05.4 -0.3**
MDH P **P** **13 41 05.4 -0.3**
UOSS Minazif 39.30 102 P **P** **13 41 06.6 -0.4**
UOSS IAmb IAmb 13 41 18.1
comp=Z,28nm,0.8s
UOSS Minazif 39.30 102 P **P** **13 41 06.5 -0.4**
UOSS P **P** **13 41 06.5 -0.4**
HATD Hatta, Dubai 39.33 103 P **P** **13 41 07.1 -0.1**
HATD P **P** **13 41 07.1 -0.1**
ASHO Ashiyiah 39.36 103 P **P** **13 41 07.4 0.0**
ASHO P **P** **13 41 07.4 0.0**
ALNE Al Ain 39.52 104 P **P** **13 41 08.8 0.0**
SNR=7.7

DY2G Dye2 39.91 327 *i* P P 13 41 10.4 -1.4
UMZA Um Al Zommool 39.94 106 P P 13 41 12.0 -0.2
JASK Jask - Hormozg 39.96 100 P P 13 41 14.5 +2.0
SOHO SOHO 40.04 103 P P 13 41 12.8 -0.2
SOHO P P 13 41 12.8 -0.2
ATD Arta Tunnel 40.18 131 LR LR 13 59 39.9
comp=Z,147nm,18.5s,baz=28,slow=39
ARQ Araqi 40.52 104 P P 13 41 17.6 +0.5
ARQ P P 13 41 17.6 +0.5
HOQ Hoqain 40.94 103 P P 13 41 20.1 -0.4
HOQ P P 13 41 20.1 -0.4
IUG Iuzhnay 41.29 71 *e*P P 13 41 24.0 +0.7
comp=Z,59nm,2.0s,baz=71
IUG Iuzhnay 41.29 71 *e*P P 13 41 24.0 +0.7
IUG pmax pmax
comp=Z,59nm,2.0s
BSY Bisya 41.38 104 P P 13 41 24.2 +0.1
SFJD Kangerlussuaq 41.68 328 P P 13 41 24.4 -1.7
comp=Z,28nm,1.0s,baz=100,slow=12,SNR=6.2
SFJD LR LR 14 00 04.7
comp=Z,637nm,18.4s,baz=97,slow=38
comp=Z,28nm,1.0s
SMDO Samad 41.79 103 P P 13 41 26.8 -0.9
SNR=8.5
DOK Doka 41.93 112 P P 13 41 28.7 0.0
ILULI Ilulissat 42.02 331 P P 13 41 29.0 +0.2
ILULI Ilulissat 42.02 331 *e*P P 13 41 27.3 -1.5
ILULI Ilulissat 42.02 331 P P 13 41 29.0 +0.2
ILULI pmax pmax
comp=Z,93nm,1.3s
WSAR Wadi Sarin 42.10 102 P P 13 41 30.3 +0.2
comp=Z,4.9nm,0.9s,baz=319,slow=5.4,SNR=5.5
WSAR LR LR 14 03 38.4
comp=Z,359nm,19.1s,baz=330,slow=43
comp=Z,4.9nm,0.9s
WSAR Wadi Sarin 42.10 102 P P 13 41 30.1 +0.1
WHFO Wadi Hawf 42.17 113 P P 13 41 29.4 -1.3
ABTO Aybut 42.24 114 P P 13 41 31.7 +0.4
JMDO Jabal Madar 42.26 104 P P 13 41 30.4 -0.9
SNR=7.2
WBK Wadi Bani Khal 42.73 103 P P 13 41 35.5 +0.3
RBK Rabkut 42.75 113 P P 13 41 36.0 +0.5
MHTO MHTO 43.04 106 P P 13 41 37.5 -0.2
SNR=8.7
BTLS Baital 43.06 65 *e*P P 13 41 38.0 +0.3
baz=65
BTLS Baital 43.06 65 *e*P P 13 41 37.9 +0.3
DMTO DMTO 43.11 112 P P 13 41 37.3 -1.0
JLN Jalan Bani Buh 43.34 103 P P 13 41 40.1 -0.1
SNR=6.3
NEEM North Greenlan 43.38 343 *i* P P 13 41 39.3 -0.8
DQM DQM 43.43 107 P P 13 41 40.2 -0.6
LODK Lodwar 43.62 147 P P 13 41 42.1 -0.4
LODK Lodwar 43.62 147 P P 13 41 43.3 +0.8
SNR=6.7
SGDS Sogindy 44.00 67 *e*P P 13 41 46.0 +0.7
baz=67
SGDS Sogindy 44.00 67 *e*P P 13 41 46.0 +0.7
AAK Ala-Archa 44.20 68 P P 13 41 47.7 +0.7
comp=Z,7.0nm,0.6s,baz=279,slow=6.5,SNR=5.2
AAK PP PcP 13 43 31.1 -0.5
comp=Z,2.5nm,0.6s,baz=282,slow=8.8,SNR=3.6
AAK LR LR 14 04 59.3
comp=Z,1µm,19.9s,baz=310,slow=43
comp=Z,7.0nm,0.6s
AAK Ala-Archa 44.20 68*ce*P P 13 41 47.8 +0.7
AAK pmax pmax
comp=Z,31nm,1.3s
AAK Ala-Archa 44.20 68 P P 13 41 48.0 +1.0
KURBB Kurchatov Arra 44.28 56 P P 13 41 47.1 -0.2
comp=Z,6.6nm,1.1s,baz=290,slow=8.7,SNR=28
KURBB PP PP 13 43 29.3 -1.1
comp=Z,7.7nm,1.1s,baz=291,slow=10,SNR=5.5
KURBB LR LR 14 00 01.2
comp=Z,320nm,20.6s,baz=262,slow=36
comp=Z,6.6nm,1.1s
KURK Kurchatov 44.31 56 P P 13 41 47.3 -0.3
KURK IAmb IAmb 13 41 48.7
comp=Z,79nm,2.0s
KURK Kurchatov 44.31 56*ce*P P 13 41 45.9 -1.7
KURK pmax pmax
comp=Z,48nm,2.5s
KURK Kurchatov 44.31 56 P P 13 41 47.2 -0.4
KUU Kurty 45.00 66 *e*P P 13 41 53.5 +0.3
comp=Z,17nm,1.0s,baz=66
KUU Kurty 45.00 66 *e*P P 13 41 53.5 +0.3
KUU pmax pmax
comp=Z,17nm,1.0s
NRIK Noril'sk 45.55 29 P P 13 41 58.6 +1.4
comp=Z,24nm,1.0s,baz=262,slow=5.2,SNR=17
NRIK LR LR 14 03 57.2
comp=Z,2µm,18.1s,baz=274,slow=40
comp=Z,24nm,1.0s
NRIK Noril'sk 45.55 29 P P 13 41 57.9 +0.7
NRIK IAmb IAmb 13 42 02.4
comp=Z,35nm,1.1s
NRIK Noril'sk 45.55 29*ce*P P 13 41 58.4 +1.2
NRIK pmax pmax
comp=Z,34nm,1.0s
AAA Alma-Ata 45.64 66 *e*P P 13 41 59.6 +1.1
baz=66
AAA Alma-Ata 45.64 66 *e*P P 13 41 59.5 +1.1
MBAR Mbarara 45.70 155 P P 13 41 59.2 0.0
comp=Z,2.7nm,0.2s,baz=300,slow=5.9,SNR=7.3
comp=Z,2.7nm,0.2s
MBAR Mbarara 45.70 155 *i* P P 13 41 58.5 -0.7
MBAR pmax pmax
comp=Z,16nm,1.6s
KSH Kashi 46.46 72 P P 13 42 06.6 +1.6
KSH pmax pmax
comp=Z,29nm,1.2s
KSH LR LR
comp=Z,800nm,13.6s
KSH LR LR
comp=Z,1µm,16.4s
KSH LR LR
comp=Z,1µm,15.4s
SATY Saty 46.71 66 *e*P P 13 42 07.4 +0.5
baz=66
SATY Saty 46.71 66 *e*P P 13 42 07.4 +0.5
KPKS Kokpek 46.74 65 *e*P P 13 42 07.2 +0.2
baz=66
KPKS Kokpek 46.74 65 *e*P P 13 42 07.2 +0.2
ZALV Zalesovo Beam 47.06 50 P P 13 42 09.9 +0.6
comp=Z,10nm,0.8s,baz=282,slow=8.5,SNR=17
ZALV PP PP 13 43 59.7 0.0
comp=Z,9.4nm,1.0s,baz=297,slow=9.8,SNR=4.5
ZALV LR LR 14 02 45.0
comp=Z,1µm,18.6s,baz=282,slow=37
comp=Z,10nm,0.8s
UZB Uzynbulak 47.09 66 *e*P P 13 42 10.0 +0.1
baz=66
UZB Uzynbulak 47.09 66 *e*P P 13 42 10.0 +0.1
SHLS Shalkode 47.38 65 *e*P P 13 42 14.6 +2.5
baz=65
SHLS Shalkode 47.38 65 *e*P P 13 42 14.6 +2.5
MAKZ Makanchi 47.66 60 P P 13 42 13.8 -0.3
MAKZ IAmb IAmb 13 42 33.7
comp=Z,24nm,1.4s
MAKZ Makanchi 47.66 60 P P 13 42 13.8 -0.3
MAKZ pmax pmax
comp=Z,24nm,1.5s
MK31 Makanchi Array 47.86 60 *i* P P 13 42 14.2 -1.5
MKAR Makanchi Array 47.86 60 P P 13 42 15.8 +0.1
comp=Z,8.6nm,0.7s,baz=294,slow=6.0,SNR=19
MKAR LR LR 14 06 36.0
comp=Z,925nm,18.3s,baz=306,slow=41
comp=Z,8.6nm,0.7s
MKAR Makanchi Array 47.86 60 P P 13 42 15.6 -0.1
MKAR Makanchi Array 47.86 60 P P 13 42 15.6 -0.1
ZSN Zaisan 49.25 58 *e*P P 13 42 26.3 -0.1
baz=58
ZSN Zaisan 49.25 58 *e*P P 13 42 26.3 -0.1
DGZ Jazzator, Alta 49.99 55 *c* *i*P P 13 42 32.6 +0.5
DGZ pmax pmax
comp=Z,11nm,0.7s
EUNU Eureka 50.12 347 P P 13 42 32.5 0.0
EUNU IAmb IAmb 13 42 37.3
comp=Z,51nm,1.4s
SCHQ Schefferville 51.49 313 P P 13 42 41.8 -1.5
comp=Z,5.7nm,0.7s,baz=41,slow=6.9,SNR=4.4
SCHQ LR LR 14 03 48.1
comp=Z,626nm,18.4s,baz=65,slow=35
comp=Z,5.7nm,0.7s
WMQ Urumqi 52.55 61 *e*P P 13 42 52.1 +0.8
WMQ pP pP 13 42 55.0 -0.7
WMQ sP sP 13 43 04.0 +6.6
WMQ S **S** 13 50 12.6 -5.2
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ LR LR
comp=Z,2µm,14.1s
WMQ LR LR
comp=Z,2µm,16.1s
WMQ LR LR
comp=Z,780nm,20.5s
RES Resolute Bay 54.01 342 P P 13 43 00.8 -0.7
comp=Z,2.7nm,0.9s,baz=58,slow=4.1,SNR=7.6
RES LR LR 14 07 20.6
comp=Z,504nm,19.2s,baz=22,slow=38
comp=Z,2.7nm,0.9s
RES Resolute Bay 54.01 342 P P 13 43 01.7 +0.2
RES Resolute Bay 54.01 342 P P 13 43 01.7 +0.2
RES pmax pmax
comp=Z,19nm,1.5s
MOY Mondy 56.99 48 *e*P P 13 43 24.6 +1.2
MOY pmax pmax
comp=Z,48nm,3.0s
TIXI Tiksi 57.51 20 LR LR 14 12 03.6
comp=Z,744nm,18.5s,baz=275,slow=40
TIXI Tiksi 57.51 20 P P 13 43 27.0 +0.4
TIXI Tiksi 57.51 20 *ce*P P 13 43 27.5 +0.9
TIXI pmax pmax
comp=Z,51nm,1.3s
IRK Irkutsk 58.48 46 *e*P P 13 43 33.4 -0.4
IRK *e* 13 45 40.0
IRK pmax pmax
comp=Z,90nm,2.4s
ZAK Zakamensk 58.88 48 *e*P P 13 43 37.1 +0.4
ZAK *e* 13 45 45.5
ZAK pmax pmax
comp=Z,11nm,1.4s
ZAK pmax pmax
comp=Z,7.0nm,1.6s
LSZ Lusaka 59.10 163 LR LR 14 13 08.9
comp=Z,510nm,18.7s,baz=348,slow=40
LSZ Lusaka 59.10 163 P P 13 43 40.0 +1.5
LSZ Lusaka 59.10 163 P P 13 43 40.0 +1.5
LSZ pmax pmax
comp=Z,13nm,1.3s
LBNH Lisbon 59.17 303 P P 13 43 38.4 -0.2
baz=59
BOD Bodaibo 60.34 37 *e*P P 13 43 45.9 -0.6
BOD pmax pmax
comp=Z,42nm,1.5s
L61B Northampton 60.57 302 P P 13 43 49.4 +1.1
baz=58
GOMU GeErMu 61.08 66 P P 13 43 54.3 +2.0
GOMU pP sP 13 43 58.1 -0.4
GOMU sP pP 13 44 01.8 +5.0
GOMU S **S** 13 52 13.3 +2.0
GOMU pmax pmax
comp=Z,5.0nm,1.0s
GOMU pmax pmax
comp=Z,160nm,4.8s
GOMU LR LR
comp=Z,390nm,13.8s
GOMU LR LR
comp=Z,290nm,13.3s
GOMU LR LR
comp=Z,350nm,13.8s
TSUM Tsumeb 61.52 175 LR LR 14 10 42.4
comp=Z,774nm,21.0s,baz=334,slow=36
SONM Songino Array 61.96 50 P P 13 43 58.4 +0.6
comp=Z,13nm,0.9s,baz=292,slow=7.6,SNR=43
SONM LR LR 14 13 08.9
comp=Z,1µm,19.6s,baz=314,slow=38
comp=Z,13nm,0.9s
SONM Songino Array 61.96 50 P P 13 43 58.0 +0.2
A36M Sachs Harbour 62.14 347 P P 13 43 58.5 0.0
A36M IAmb IAmb 13 44 08.7
comp=Z,18nm,1.0s
A36M Sachs Harbour 62.14 347 P P 13 43 59.9 +1.5
baz=34
LSA Lhasa 62.17 74 P P 13 43 59.9 0.0
LSA Lhasa 62.17 74 P P 13 43 59.9 0.0
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 62.17 74 P P 13 43 59.9 0.0
LSA pmax pmax
comp=Z,39nm,1.3s
ULN Ulaanbaatar 62.31 49 P P 13 44 00.4 +0.2
ULN IAmb IAmb 13 44 05.1
comp=Z,22nm,1.2s
ULN Ulaanbaatar 62.31 49 *ce*P P 13 44 01.0 +0.8
ULN pmax pmax
comp=Z,22nm,1.3s
ULN Ulaanbaatar 62.31 49 P P 13 44 01.1 +0.8
GTA Gaotai 62.61 61 *e*P P 13 44 02.9 +0.6
GTA pP pP 13 44 06.0 -0.8
GTA S **S** 13 52 33.4 +3.3
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA pmax pmax
comp=Z,190nm,5.1s
GTA LR LR
comp=Z,440nm,19.3s
GTA LR LR
comp=Z,710nm,17.1s
GTA LR LR
comp=Z,910nm,18.5s
FCC Fort Churchill 62.65 326 P P 13 44 01.6 -0.4
FCC IAmb IAmb 13 44 08.6
comp=Z,17nm,0.9s
FCC Fort Churchill 62.65 326 P P 13 44 01.6 -0.4
FCC pmax pmax
comp=Z,17nm,1.0s
CIT Chita 63.41 43 *e*P P 13 44 11.1 +3.8
CIT *e* 13 44 47.2
CIT *e* 13 46 21.6
YAK Yakutsk 64.00 28 LR LR 14 14 35.2
comp=Z,476nm,19.6s,baz=310,slow=38
YAK Yakutsk 64.00 28 P P 13 44 10.5 -0.4
YAK Yakutsk 64.00 28 *e*P P 13 44 11.3 +0.4
YAK *e*S **S** 13 52 46.0 -0.4
YAK *e**SS **sS** 13 52 57.5 +3.7
YAK *e* 13 54 03.6
YAK *e*SS **SS** 13 56 54.8 +0.7
YAK pmax pmax
comp=Z,74nm,1.0s
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=E,28nm,1.0s
YAK pmax pmax
comp=Z,73nm,3.5s
YAK pmax pmax
comp=N,33nm,3.0s
YAK pmax pmax
comp=E,132nm,3.8s
YAK smax smax
comp=N,63nm,3.4s
YAK smax smax
comp=E,48nm,3.0s
YAK MLR MLR
comp=Z,494nm,18.0s
C36M Paulatuk 64.13 344 P P 13 44 11.6 0.0
C36M IAmb IAmb 13 44 17.5
comp=Z,17nm,1.2s
C36M Paulatuk 64.13 344 P P 13 44 11.9 +0.3
baz=34
SSPA Standing Stone 64.83 303 P P 13 44 17.3 +0.6
baz=55
SHL Shillong 65.12 77 P P 13 44 17.7 -1.4
SHL Shillong 65.12 77 P P 13 44 17.7 -1.4
SHL pmax pmax
comp=Z,29nm,0.5s
SHL Shillong 65.12 77 P P 13 44 19.7 +0.6
SNR=9.8
RCBR Riachuelo 65.59 236 LR LR 14 09 33.4
comp=Z,547nm,21.3s,baz=187,slow=33
RCBR Riachuelo 65.59 236 *e*P P 13 44 21.5 -0.5
M53A Wi Miller and 66.07 305 P P 13 44 25.9 +1.1
baz=54
A21K Barrow 66.26 356 P P 13 44 26.0 +0.5
baz=8.2
BRDH Bariadhala 66.70 80 LR LR 14 21 60.0
comp=Z,952nm,18.1s,baz=295,slow=44
INK Inuvik 66.75 347 P P 13 44 28.5 -0.1
comp=Z,2.1nm,0.5s,baz=12,slow=7.3,SNR=18
INK LR LR 14 16 47.4
comp=Z,362nm,18.4s,baz=5.0,slow=39
comp=Z,2.1nm,0.5s
INK Inuvik 66.75 347 P P 13 44 28.8 +0.2
baz=26
C26K Camden Bay 66.77 352 P P 13 44 29.6 +0.9
baz=17
C27K Jago River 66.92 351 P P 13 44 30.0 +0.3
baz=18
O53A New Philadelph 67.11 304 P P 13 44 32.3 +0.9
baz=53
LZH Lanzhou 67.13 62 *e*P P 13 44 32.9 +1.1
LZH pP pP 13 44 36.0 -0.3
LZH S **S** 13 53 28.8 +2.9
LZH pmax pmax
comp=Z,25nm,1.3s
LZH LR LR
comp=Z,730nm,16.1s
LZH LR LR
comp=Z,610nm,15.5s
LZH LR LR
comp=Z,1µm,17.5s
C24K Franklin Bluff 67.32 353 P P 13 44 32.9 +0.7
baz=14
YKA Yellowknife Ar 67.33 337 P P 13 44 32.4 0.0
comp=Z,4.1nm,0.8s,baz=37,slow=5.6,SNR=70
YKA PKP2bc P'P'df 14 13 01.5 -3.6
comp=Z,0.4nm,0.9s,baz=220,slow=2.6,SNR=4.0
comp=Z,4.1nm,0.8s
F31M Tsiigehtchic 67.57 347 P P 13 44 34.4 +0.6
baz=26
BILL Bilibino 67.93 11 P P 13 44 36.0 -0.1
BILL Bilibino 67.93 11⇑ *e*P P 13 44 34.8 -1.3
BILL *e* 13 47 03.7
BILL *e*S **S** 13 53 39.1 +4.9
BILL pmax pmax
comp=Z,41nm,1.3s
E27K Coleen River 68.03 350 P P 13 44 37.1 +0.3
baz=20
P52A Corning 68.04 304 P P 13 44 37.7 +0.4
baz=52
ACSO Alum Creek Sta 68.20 305 P P 13 44 38.8 +0.6
baz=52
D23K Nanushuk River 68.22 354 P P 13 44 38.8 +0.9
baz=13
BTO Baotou 68.28 54 *e*P P 13 44 28.5 -10
BTO S **S** 13 53 33.1 -6.3
BTO LR LR
comp=N,3µm,15.7s
BTO LR LR
comp=E,2µm,18.1s
G30M tAoh Zraii Nji 68.39 348 P P 13 44 38.8 -0.3
baz=24
BLA Blacksburg 68.45 301 P P 13 44 40.9 +0.9
baz=52
E25K Arctic Village 68.56 352 P P 13 44 40.4 +0.3
baz=17
FFC Flin Flon 68.57 326 P P 13 44 40.7 +0.3
FFC IAmb IAmb 13 44 51.5
comp=Z,14nm,1.1s
FFC Flin Flon 68.57 326 P P 13 44 40.7 +0.3
FFC pmax pmax
comp=Z,14nm,1.1s
ROSB Rosrio 68.63 245 *e*P P 13 44 40.8 -0.5
ZEA Zeya 68.73 36 *e*P P 13 44 42.8 +1.4
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA MLR MLR
comp=E,800nm,14.0s
ZEA MLR MLR
comp=N,800nm,16.0s
ZEA MLR MLR
comp=Z,2µm,17.0s
F26K Sheenjek River 68.81 351 P P 13 44 42.9 +1.2
baz=18
ULM Lac du Bonnet 68.88 319 P P 13 44 41.4 -0.9
comp=Z,4.7nm,0.8s,baz=35,slow=6.9,SNR=6.1
comp=Z,4.7nm,0.8s
ULM Lac du Bonnet 68.88 319 P P 13 44 42.0 -0.4
ULM IAmb IAmb 13 44 52.9
comp=Z,16nm,1.1s
ULM Lac du Bonnet 68.88 319 P P 13 44 42.0 -0.4
ULM pmax pmax
comp=Z,16nm,1.1s
MDP Montagnes des 68.89 257 LR LR 14 10 28.5
comp=Z,269nm,21.3s,baz=40,slow=32
E24K Your Creek 68.90 353 P P 13 44 42.6 +0.4
baz=14
E23K Chandalar 69.02 353 P P 13 44 44.0 +0.9
baz=14
EPYK Eagle Plains 69.03 348 P P 13 44 43.2 +0.1
baz=23
HHC Hu-ho-hao-te 69.05 53 *e*P P 13 44 46.0 +2.2
HHC S **S** 13 53 43.3 -5.3
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,440nm,4.8s
HHC LR LR
comp=Z,1µm,15.9s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,3µm,17.1s
F25K Christian Rive 69.08 352 P P 13 44 44.5 +1.1
baz=16
WRGLY Wrigley 69.13 341 P P 13 44 44.8 +1.1
baz=33,SNR=6.4
G27K Doyon Strip 69.34 350 P P 13 44 44.6 -0.5
baz=20
F24K Squaw Lake 69.38 352 P P 13 44 46.8 +1.5
baz=15
G26K Porcupine Rive 69.48 351 P P 13 44 46.8 +1.0
baz=18
O48B Farmland 69.49 306 P P 13 44 46.8 +0.4
baz=51
P49A Miami Univ. Ec 69.68 305 P P 13 44 48.0 +0.5
baz=51
XLT XiLinHaoTe 69.73 49⇓ *i*P P 13 44 49.4 +1.5
XLT S **S** 13 54 00.5 +4.1
XLT SS **SS** 13 58 27.0 +3.1
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,300nm,3.6s
XLT LR LR
comp=Z,150nm,17.4s
XLT LR LR
comp=Z,1µm,17.9s
XLT LR LR
comp=Z,940nm,17.4s
RDOG Red Dog Mine 69.74 358 P P 13 44 48.3 +0.8
baz=3.0
H27K Steamboat Moun 69.87 349 P P 13 44 49.6 +1.3
baz=20
COLD Coldfoot 69.88 353 P P 13 44 48.4 +0.1
COLD Coldfoot 69.88 353 P P 13 44 49.5 +1.2
baz=13
G25K Bearman Lake 69.93 351 P P 13 44 49.8 +1.2
baz=16
FYU Fort Yukon 70.02 351 P P 13 44 49.5 +0.4
G24K Hadweenzic Riv 70.14 352 P P 13 44 51.4 +1.5
baz=15
F21K Alatna River 70.14 355 P P 13 44 51.1 +1.2
baz=10
AGMN Agassiz Nation 70.17 318 P P 13 44 51.2 +0.8
baz=48
TNCH TengChong 70.20 74 P P 13 44 52.8 +1.6
TNCH pP pP 13 44 55.9 +0.2
TNCH sP sP 13 44 57.8 +0.5
TNCH PP **PP** 13 47 29.4 +3.1
TNCH S **S** 13 54 02.0 -0.7
TNCH pmax pmax
comp=Z,27nm,1.1s
TNCH pmax pmax
comp=Z,230nm,4.0s
TNCH LR LR
comp=Z,150nm,12.4s
TNCH LR LR
comp=Z,180nm,16.6s
TNCH LR LR
comp=Z,370nm,17.3s
CD2 Chengdu 70.21 66 P P 13 44 51.6 +0.6
CD2 pmax pmax
comp=Z,30nm,1.5s
I29M Ogilvie Camp, 70.22 348 P P 13 44 50.7 +0.3
baz=22
SJG San Juan 70.29 277 LR LR 14 10 38.9
comp=Z,369nm,21.7s,baz=52,slow=32

KMSC **Kings Mountain** 70.30 300 P P 13 44 51.7 +0.3
baz=51
G23K **Bananza Creek** 70.37 353 P P 13 44 52.0 +0.6
baz=13
I27K **Kandik River** 70.48 349 P P 13 44 51.6 -0.5
baz=19
SFIN **Lafayette** 70.56 307 P P 13 44 52.5 -0.5
baz=50
SPMN **Marine on St.** 70.64 314 P P 13 44 54.6 +1.3
baz=49
JFWS **Jewell Farm** 70.75 311 P P 13 44 53.8 -0.2
baz=50
TZTN **Tazewell** 70.83 302 P P 13 44 55.2 +0.6
baz=51
G21K **Allakaket** 70.84 354 P P 13 44 55.2 +1.0
baz=10
H24K **Noodor Dome** 71.02 352 P P 13 44 56.0 +0.7
H24K **Noodor Dome** 71.02 352 P P 13 44 56.8 +1.5
baz=15
EGAK **Eagle** 71.20 349 P P 13 44 56.8 +0.5
EGAK IAmb IAmb 13 45 01.3
comp=Z,30nm,1.5s
EGAK **Eagle** 71.20 349 P P 13 44 56.8 +0.5
baz=20
HEH **HeiHe** 71.23 38 *e*P P 13 44 57.3 +0.5
HEH pP pP 13 45 00.5 -0.8
HEH S S 13 54 11.1 -2.4
HEH pmax pmax
comp=Z,20nm,1.7s
HEH pmax pmax
comp=Z,220nm,4.1s
HEH LR LR
comp=Z,2µm,17.5s
HEH LR LR
comp=Z,2µm,17.5s
HEH LR LR
comp=Z,5µm,14.1s
IMAR **Indian Mountai** 71.39 354 P P 13 44 58.2 +0.8
MAYO **Mayo, Yukon** 71.45 346 P P 13 44 58.7 +0.8
baz=24
WCI **Wyandotte Cave** 71.45 305 P P 13 44 57.7 -0.7
baz=50
K29M **Barlow Dome** 71.50 347 P P 13 44 58.5 +0.1
baz=22
TIY **Taiyuan** 71.55 56 P P 13 45 02.6 +3.6
TIY S S 13 54 20.3 +2.5
TIY pmax pmax
comp=Z,180nm,4.5s
TIY LR LR
comp=Z,580nm,15.8s
TIY LR LR
comp=Z,1µm,14.4s
TIY LR LR
comp=Z,1µm,13.1s
PZH **PanZhiHua** 71.56 71 ⇑P P 13 44 59.1 -0.2
PZH S S 13 54 19.3 +1.0
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,180nm,5.7s
PZH LR LR
comp=Z,760nm,21.1s
PZH LR LR
comp=Z,740nm,21.3s
PZH LR LR
comp=Z,660nm,20.8s
DAWY **Dawson** 71.60 348 P P 13 44 59.3 +0.4
DAWY IAmb IAmb 13 45 09.9
comp=Z,13nm,0.9s
DAWY **Dawson** 71.60 348 P P 13 45 00.1 +1.3
baz=21,SNR=7.5
BOSA **Boshof** 71.62 169 P P 13 45 00.7 +1.3
comp=Z,15nm,1.2s,baz=3.2,slow=7.8,SNR=4.8
BOSA LR LR 14 17 54.4
comp=Z,541nm,19.9s,baz=356,slow=37
comp=Z,15nm,1.2s
BOSA **Boshof** 71.62 169 P P 13 44 59.4 +0.1
H21K **Melozitna Rive** 71.64 354 P P 13 44 60.0 +0.9
H21K **Melozitna Rive** 71.64 354 P P 13 45 00.4 +1.4
baz=11
POKR **Poker Plat Res** 71.67 352 P P 13 44 59.9 +0.6
baz=15
XAN **Xi'an** 71.67 61 ⇑P P 13 45 00.3 +0.5
XAN pP pP 13 45 03.4 -0.9
XAN PcP **PcP** 13 45 18.3 -0.7
XAN PP **PP** 13 47 43.1 +4.6
XAN S S 13 54 21.8 +2.5
XAN sS sS 13 54 28.6 +1.9
XAN ScS **SKSac** 13 55 02.9 -0.4
XAN pmax pmax
comp=Z,16nm,0.9s
XAN pmax pmax
comp=Z,280nm,4.1s
XAN LR LR
comp=Z,590nm,17.3s
XAN LR LR
comp=Z,750nm,15.6s
XAN LR LR
comp=Z,960nm,16.1s
I37A **Lemond, Waseca** 71.76 313 P P 13 45 00.2 +0.1
J26L **Joseph Creek** 71.79 350 P P 13 45 00.8 +0.7
J26L IAmb IAmb 13 45 06.6
comp=Z,11nm,0.9s
J26L **Joseph Creek** 71.79 350 P P 13 45 00.3 +0.2
baz=18
I23K **Minto, Yukon-K** 71.84 352 P P 13 45 01.4 +1.2
baz=13
ILAR **Eielson Array** 71.94 351 P P 13 45 00.8 -0.1
comp=Z,1.6nm,0.9s,baz=6.2,slow=6.2,SNR=19
ILAR LR LR 14 17 07.8
comp=Z,233nm,21.3s,baz=14,slow=36
comp=Z,1.6nm,0.9s
ILAR **Eielson Array** 71.94 351 P P 13 45 01.6 +0.7
COLA **College** 71.95 352 P P 13 45 02.1 +1.3
baz=15
COLA **College** 71.95 352 *i* P P 13 44 59.7 -1.1
COLA pmax pmax
comp=Z,26nm,3.4s
TCOL **CIGO, UAF Yank** 71.95 352 P P 13 45 02.3 +1.4
baz=15
I21K **Tanana** 72.04 354 P P 13 45 02.2 +0.7
I21K IAmb IAmb 13 45 08.7
comp=Z,20nm,0.9s
I21K **Tanana** 72.04 354 P P 13 45 03.4 +1.9
baz=11
MLY **Manley** 72.08 353 P P 13 45 02.0 +0.3
MLY IAmb IAmb 13 45 07.3
comp=Z,21nm,1.3s
MLY **Manley** 72.08 353 P P 13 45 03.1 +1.4
baz=12,SNR=5.2
FARO **Faro, Yukon** 72.22 344 P P 13 45 03.4 +0.8
baz=25
TNA **Tin City** 72.28 1 P P 13 45 04.0 +1.3
baz=359
BJI **Beijing** 72.28 52 P P 13 45 03.8 +0.6
BJI S S 13 54 28.8 +2.9
BJI pmax pmax
comp=Z,6.0nm,1.9s
BJI LR LR
comp=Z,630nm,20.2s
BJI LR LR
comp=Z,520nm,20.7s
BJI LR LR
comp=Z,790nm,17.2s
L29M **L29M** 72.29 347 P P 13 45 02.5 -0.5
baz=22
HDA **Harding Lake** 72.30 351 P P 13 45 03.2 +0.2
HDA IAmb IAmb 13 45 15.5
comp=Z,17nm,1.1s
HDA **Harding Lake** 72.30 351 P P 13 45 03.8 +0.8
baz=15,SNR=10.0
MDND **Maddock** 72.31 319 P P 13 45 04.3 +0.9
baz=46
NEA2 **Nenana** 72.35 352 P P 13 45 03.9 +0.6
baz=14
SCRK **Sand Creek** 72.35 350 P P 13 45 04.0 +0.5
baz=17
MA2 **Magadan** 72.43 21 LR LR 14 21 02.2
comp=Z,918nm,19.7s,baz=330,slow=39
MA2 **Magadan** 72.43 21 P P 13 45 04.1 +0.3
MA2 **Magadan** 72.43 21 *ce*P P 13 45 05.3 +1.4
MA2 pmax pmax
comp=Z,52nm,1.3s
M31M **Drury Creek, Y** 72.45 345 P P 13 45 04.9 +1.0
baz=24
M30M **Minto, Yukon** 72.55 346 P P 13 45 05.0 +0.4
baz=23

DOT **Dot Lake** 72.67 350 P P 13 45 05.7 +0.4
DOT IAmb IAmb 13 45 11.0
comp=Z,24nm,1.3s
RIDG **Independent Ri** 72.69 350 P P 13 45 06.0 +0.6
baz=17,SNR=13
K24K **Donnelly Dome** 72.75 350 P P 13 45 05.3 -0.4
baz=16
W50A **Signal Mountai** 72.79 302 P P 13 45 05.6 -0.9
W50A IAmb IAmb 13 45 17.0
comp=Z,19nm,1.1s
GCSA **Galena City Sc** 72.82 356 P P 13 45 07.3 +1.2
baz=7.6
L27K **Beaver Creek,** 72.92 348 P P 13 45 07.8 +1.1
L27K **Beaver Creek,** 72.92 348 P P 13 45 07.5 +0.8
baz=19
M29M **Somme Creek** 72.97 347 P P 13 45 07.6 +0.4
baz=22
BPAW **Bear Paw Mtn.** 73.02 353 P P 13 45 07.5 +0.2
BPAW IAmb IAmb 13 45 11.9
comp=Z,19nm,1.1s
BPAW **Bear Paw Mtn.** 73.02 353 P P 13 45 07.5 +0.2
baz=12,SNR=10.0
WTLY **Watson Lake, Y** 73.11 341 P P 13 45 08.2 +0.3
baz=28
KMI **Kunming** 73.12 71 ⇑P P 13 45 08.9 +0.1
KMI S S 13 54 35.1 -1.4
KMI SS SS 13 59 18.9 +1.7
KMI pmax pmax
comp=Z,11nm,1.1s
KMI pmax pmax
comp=Z,200nm,5.1s
KMI LR LR
comp=Z,210nm,20.6s
KMI LR LR
comp=Z,400nm,15.8s
KMI LR LR
comp=Z,440nm,20.9s
HNS **HongShan** 73.13 55 ⇓P P 13 45 07.0 -1.4
HNS PcP **PcP** 13 45 22.8 -2.2
HNS S S 13 54 32.3 -3.4
HNS pmax pmax
comp=Z,10.0nm,1.5s
HNS LR LR
comp=Z,880nm,14.7s
HNS LR LR
comp=Z,640nm,19.9s
HNS LR LR
comp=Z,900nm,15.7s
L26K **Log Cabin Wild** 73.17 349 P P 13 45 09.1 +0.8
baz=18,SNR=11
MCK **McKinley** 73.17 352 P P 13 45 08.7 +0.4
MCK IAmb IAmb 13 45 21.5
comp=Z,25nm,1.1s
MCK **McKinley** 73.17 352 P P 13 45 08.2 -0.1
baz=14
MCK **McKinley** 73.17 352 P P 13 45 08.7 +0.4
ANM **Nome** 73.28 359 P P 13 45 08.4 -0.4
baz=1.1
CHUM **Lake Minchumin** 73.35 353 P P 13 45 10.2 +1.0
baz=11,SNR=5.2
N31M **Braeburn, Yuko** 73.37 345 P P 13 45 08.7 -0.8
baz=23
RND **Reindeer** 73.48 352 P P 13 45 09.7 -0.5
RND **Reindeer** 73.48 352 P P 13 45 09.7 -0.5
RND pmax pmax
comp=Z,9.0nm,0.9s
PAX **Paxson** 73.51 350 P P 13 45 09.2 -1.2
baz=16
KTH **Kantishna Hill** 73.55 353 P P 13 45 10.2 -0.3
KTH IAmb IAmb 13 45 42.9
comp=Z,49nm,1.8s
TRF **Thorofare Moun** 73.59 352 P P 13 45 09.9 -0.9
baz=13
M27K **Edge Creek, AK** 73.60 348 P P 13 45 12.1 +1.2
M27K IAmb IAmb 13 45 17.0
comp=Z,34nm,1.6s
M27K **Edge Creek, AK** 73.60 348 P P 13 45 11.7 +0.8
baz=19
DHY **Denali Highway** 73.64 351 P P 13 45 11.7 +0.5
DHY IAmb IAmb 13 45 24.1
comp=Z,27nm,1.0s
DHY **Denali Highway** 73.64 351 P P 13 45 11.4 +0.2
baz=15,SNR=14
M26K **Nabesna, AK** 73.72 349 P P 13 45 12.3 +0.8
M26K **Nabesna, AK** 73.72 349 P P 13 45 11.5 0.0
baz=18
WVT **Waverly** 73.74 304 P P 13 45 10.7 -1.3
baz=49
CAST **Castle Rocks** 73.79 353 P P 13 45 12.1 +0.3
CAST **Castle Rocks** 73.79 353 P P 13 45 12.1 +0.3
baz=11
KLR **Kul'dur** 73.92 37 LR LR 14 22 05.9
comp=Z,768nm,21.2s,baz=316,slow=39
KLR **Kul'dur** 73.92 37 *ce*P P 13 45 13.1 +0.3
KLR pmax pmax
comp=Z,62nm,2.5s
YUK3 **Moose Creek** 73.92 347 P P 13 45 13.7 +0.7
baz=20
P33M **Teslin, Yukon** 73.94 343 P P 13 45 12.9 0.0
baz=25
WHY **Whitehorse** 73.95 344 P P 13 45 14.0 +1.0
baz=24
GAMB **Gambell** 74.00 2 P P 13 45 14.8 +1.8
baz=356
K20K **Telida** 74.01 354 P P 13 45 14.4 +1.2
baz=9.7,SNR=5.7
DGMT **Dagmar** 74.01 322 P P 13 45 13.4 0.0
DGMT IAmb IAmb 13 45 21.2
comp=Z,41nm,1.3s
DGMT **Dagmar** 74.01 322 P P 13 45 14.5 +1.1
baz=43
WAT1 **Susitna Watana** 74.01 351 P P 13 45 12.6 -0.7
baz=14
HARP **HAARP** 74.02 350 P P 13 45 13.1 -0.1
baz=16
YUK4 **Talbot Arm** 74.03 346 P P 13 45 13.7 +0.1
baz=21
O30N **Mendenhall** 74.09 345 P P 13 45 14.5 +0.8
baz=23
WAT6 **Susitna Watana** 74.17 351 P P 13 45 14.9 +0.6
baz=14
R33M **Jennings River** 74.26 342 P P 13 45 15.8 +1.0
baz=27
YUK8 **Steele Glacier** 74.27 347 P P 13 45 16.1 +1.0
baz=20
HYT **Haines Junctio** 74.31 346 P P 13 45 15.4 +0.3
baz=22
PPLA **Purkeypile** 74.31 353 P P 13 45 15.5 +0.5
baz=11
YUK6 **Outpost Mounta** 74.35 346 P P 13 45 16.3 +0.9
baz=21,SNR=6.9
BNX **BinXian** 74.42 42 ⇓P P 13 45 14.9 -0.9
BNX pmax pmax
comp=Z,8.0nm,0.6s
BNX pmax pmax
comp=Z,290nm,4.5s
BNX LR LR
comp=Z,3µm,15.3s
BNX LR LR
comp=Z,2µm,14.6s
BNX LR LR
comp=Z,3µm,14.3s
CHTO **Chiang Mai** 74.42 79 P P 13 45 16.1 -0.2
CHTO IAmb IAmb 13 45 19.9
comp=Z,21nm,1.1s
CHTO **Chiang Mai** 74.42 79 P P 13 45 16.1 -0.2
CHTO pmax pmax
comp=Z,21nm,1.1s
CRAI **Chiangrai** 74.55 77 P P 13 45 16.7 -0.3
TTA **Tatalina** 74.57 355 P P 13 45 16.9 +0.4
baz=8.2
CUT **Chulitna** 74.61 352 P P 13 45 16.6 0.0
baz=13
CM31 **Chiang Mai Arr** 74.65 79 P P 13 45 17.7 +0.1
CM31 IAmb IAmb 13 45 22.0
comp=Z,29nm,1.4s
CM31 **Chiang Mai Arr** 74.65 79 P P 13 45 18.4 +0.8
SNR=7.0
CMAR **Chiang Mai Arr** 74.65 79 P P 13 45 17.0 -0.6
comp=Z,7.7nm,1.0s,baz=308,slow=7.3,SNR=20
CMAR LR LR 14 25 45.0
comp=Z,183nm,19.2s,baz=305,slow=42
comp=Z,7.7nm,1.0s
CMAR **Chiang Mai Arr** 74.65 79 P P 13 45 16.9 -0.7
CMAR **Chiang Mai Arr** 74.65 79 *i* P P 13 45 18.7 +1.1
CMAR pmax pmax
comp=Z,6.0nm,0.9s

MCARA **McCarthy VSAT** 74.70 348 P P 13 45 17.8 +0.6
baz=18
N25K **Chitina, Valde** 74.71 349 P P 13 45 17.9 +0.5
baz=17
CN2 **Changchun** 74.81 44 *e*P P 13 45 15.8 -2.3
CN2 PP PP 13 48 04.5 -0.3
CN2 S S 13 54 50.1 -4.3
CN2 SS SS 13 59 38.3 -3.0
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,1µm,19.0s
O28M **Mount Upton** 74.83 347 P P 13 45 17.9 -0.4
baz=20
SUR **Sutherland** 74.83 173 LR LR 14 19 18.6
comp=Z,665nm,21.3s,baz=346,slow=37
SCM **Sheep Creek Mo** 74.84 351 P P 13 45 18.3 +0.2
SCM **Sheep Creek Mo** 74.84 351 P P 13 45 19.2 +1.1
baz=15
SCM **Sheep Creek Mo** 74.84 351 P P 13 45 18.3 +0.2
SCM pmax pmax
comp=Z,55nm,1.2s
PRPB **Parauapebas** 74.87 247 *e*P P 13 45 18.2 -0.6
MALB **Monte Alegre** 74.87 253 *e*P P 13 45 19.2 +0.3
DLBC **Dease Lake** 74.89 341 P P 13 45 20.3 +1.8
baz=27
M23K **Glacier View** 74.93 351 P P 13 45 19.7 +1.2
baz=14
SML **Sawmill** 74.99 351 P P 13 45 19.8 +0.9
baz=14
O29M **Mount Kennedy** 74.99 346 P P 13 45 19.5 +0.5
baz=21
GYA **Guiyang** 74.99 68 *e*P P 13 45 20.8 +1.2
GYA S S 13 54 56.9 -0.4
GYA pmax pmax
comp=Z,17nm,1.5s
GYA pmax pmax
comp=Z,210nm,3.7s
GYA LR LR
comp=Z,330nm,14.3s
GYA LR LR
comp=Z,440nm,9.5s
GYA LR LR
comp=Z,550nm,14.9s
KLU **Klutina** 75.00 350 P P 13 45 19.5 +0.5
baz=16
SKAG **Skagway** 75.15 344 P P 13 45 20.1 +0.3
baz=24
SKT **Skwentna** 75.15 353 P P 13 45 20.1 +0.3
baz=12
SNY **Shenyang** 75.21 46 ⇑P P 13 45 20.6 +0.2
SNY S S 13 55 00.4 +1.5
SNY pmax pmax
comp=Z,25nm,1.1s
SNY pmax pmax
comp=Z,220nm,6.4s
SNY LR LR
comp=Z,2µm,16.4s
SNY LR LR
comp=Z,2µm,16.4s
SNY LR LR
comp=Z,2µm,15.3s
L19K **White Mountain** 75.23 354 P P 13 45 21.6 +1.3
baz=9.1
LRAL **Lakeview Retre** 75.25 301 P P 13 45 20.4 -0.4
LRAL IAmb IAmb 13 45 20.6
comp=Z,11nm,0.7s
LRAL **Lakeview Retre** 75.25 301 P P 13 45 20.3 -0.6
baz=49
PMR **Palmer** 75.28 351 P P 13 45 21.2 +0.7
baz=13
BMRM **Bremner River** 75.32 349 P P 13 45 19.4 -1.4
baz=17
SMTB **Santa Maria do** 75.35 243 *e*P P 13 45 21.1 -0.4
PLBC **Pleasant Camp** 75.36 345 P P 13 45 20.3 -0.7
baz=23
TIA **Tai'an** 75.37 54 ⇓P P 13 45 25.0 +3.5
TIA pmax pmax
comp=Z,13nm,0.8s
TIA pmax pmax
comp=Z,120nm,4.3s
TIA LR LR
comp=Z,410nm,17.8s
TIA LR LR
comp=Z,890nm,15.2s
TIA LR LR
comp=Z,1µm,16.5s
KNK **Knik Glacier** 75.38 351 P P 13 45 19.1 -2.1
baz=14
M20K **Styx River** 75.39 353 P P 13 45 22.0 +0.8
M20K IAmb IAmb 13 45 25.5
comp=Z,27nm,1.4s
M20K **Styx River** 75.39 353 P P 13 45 19.8 -1.5
baz=10
PINM **Pinnacle** 75.48 347 P P 13 45 22.1 +0.4
baz=20
S34M **Telegraph Cree** 75.63 341 P P 13 45 23.2 +0.7
baz=26
PNL **Peninsula** 75.73 346 P P 13 45 23.6 +0.5
baz=20
OXF **Oxford** 75.78 304 P P 13 45 22.9 -1.0
baz=48
RC01 **Rabbit Creek A** 75.84 352 P P 13 45 24.6 +0.8
baz=13
R32K **Eaglecrest** 76.07 343 P P 13 45 27.0 +1.9
baz=24
LAO **LASA Array** 76.25 322 P P 13 45 26.8 +0.3
LAO **LASA Array** 76.25 322 P P 13 45 27.5 +1.0
baz=41
SDBA **SAO DESIDERIO** 76.27 239 *e*P P 13 45 26.6 -0.2
CAPN **Captain Cook N** 76.31 352 P P 13 45 27.4 +1.1
baz=12
GUA01 **Guaratinga, BA** 76.39 232 *e*P P 13 45 27.4 0.0
BOAV **Boa Vista** 76.45 261 *e*P P 13 45 27.4 -0.6
N19K **Bonanza Creek** 76.56 354 P P 13 45 28.8 +0.9
baz=9.3
S31K **Pelican** 76.71 344 P P 13 45 28.4 -0.3
baz=23
EGMT **Eagleton** 76.80 325 P P 13 45 29.9 +0.3
EGMT **Eagleton** 76.80 325 P P 13 45 29.6 +0.1
baz=40
ABR01 **Abrolhos, BA** 76.85 230 *e*P P 13 45 29.8 -0.1
KSU1 **Kansas State U** 76.87 311 P P 13 45 29.5 -0.5
KSU1 IAmb IAmb 13 45 36.8
comp=Z,25nm,0.9s
KSU1 **Kansas State U** 76.87 311 P P 13 45 30.1 +0.2
baz=45
WHAR **Wooly Hollow** 77.00 306 P P 13 45 30.3 -0.5
TYV **Tymovskoe** 77.10 30 *e*P P 13 45 33.2 +2.2
TYV *e*S S 13 55 26.1 +6.7
TYV pmax pmax
comp=Z,200nm,3.3s
TYV pmax pmax
comp=Z,11nm,1.5s
TYV smax smax
comp=N,600nm,5.9s
RSSD **Black Hills** 77.13 319 P P 13 45 31.6 -0.1
baz=42
N16K **Nishlik Lake** 77.18 356 P P 13 45 32.0 +0.6
baz=6.0
ITTB **Itaituba** 77.68 252 *e*P P 13 45 34.3 -0.5
USA0B **Ussuriysk Arra** 77.76 40 *i* P P 13 45 36.5 +1.6
USRK **Ussuriysk Ar.** 77.76 40 P P 13 45 34.0 -0.9
comp=N,4.1nm,1.0s,baz=354,slow=5.2,SNR=3.8
USRK LR LR 14 22 07.9
comp=N,588nm,20.1s,baz=313,slow=38
comp=N,4.1nm,1.0s
O17K **Koliganek Bris** 77.78 355 P P 13 45 34.9 +0.3
baz=7.3
JANB **Januaria** 77.92 237 *e*P P 13 45 35.8 -0.3
O16K **Kokwok River B** 78.02 356 P P 13 45 36.1 +0.1
baz=6.5
P18K **Big Mountain,** 78.03 354 P P 13 45 36.5 +0.4
baz=8.7
MIAR **Mount Ida** 78.28 306 P P 13 45 38.0 +0.1
baz=46
Q20K **Shuyak Island** 78.55 352 P P 13 45 38.8 -0.2
baz=11
TUL1 **Leonard** 78.64 308 P P 13 45 39.6 -0.3
baz=45
KS20 **Mayfield South** 78.72 310 P P 13 45 39.9 -0.4
KS20 IAmb IAmb 13 45 50.1
comp=Z,18nm,1.1s

CBKS	**Cedar Bluff**	**78.79 313**	P	**P**	**13 45 40.2 -0.6**		
CBKS			IAmb	IAmb	13 45 52.4		
	comp=Z,45nm,1.4s						
CBKS	**Cedar Bluff**	**78.79 313**	P	**P**	**13 45 40.8 +0.1**		
	baz=44						
CBKS	**Cedar Bluff**	**78.79 313**	P	**P**	**13 45 40.2 -0.6**		
CBKS			pmax	pmax			
	comp=Z,45nm,1.5s						
KAN13	**South Haven SW**	**78.83 310**	P	**P**	**13 45 40.2 -0.7**		
SJMB	**Sao Joao De Ma**	**78.87 232**	*e*P	**P**	**13 45 40.7 -0.5**		
RIB01	**Linhares ES**	**78.89 231**	*e*P	**P**	**13 45 41.0 -0.3**		
OK046	**Pawnee Station**	**78.94 309**	P	**P**	**13 45 41.7 +0.2**		
OK050	**Pawnee Station**	**78.98 310**		**P**	**13 45 41.5 -0.2**		
OK050			IAmb	IAmb	13 45 53.2		
	comp=Z,29nm,0.9s						
Q17K	**Contact Creek**	**79.20 354**	P	**P**	**13 45 42.3 -0.4**		
	baz=8.1						
OK033	**Mehan**	**79.20 309**		**P**	**13 45 42.9 -0.1**		
OK033			IAmb	IAmb	13 45 53.4		
	comp=Z,26nm,0.8s						
OK031	**S. Brethren Rd**	**79.21 309**		**P**	**13 45 43.2 +0.2**		
NJ2	**Nanjing**	**79.24 56**	*e*P	**P**	**13 45 46.0 +2.8**		
NJ2			pmax	pmax			
	comp=Z,22nm,1.2s						
NJ2			LR	LR			
	comp=Z,610nm,14.2s						
NJ2			LR	LR			
	comp=Z,630nm,11.8s						
NJ2			LR	LR			
	comp=Z,820nm,14.2s						
NPGB	**Novo Progresso**	**79.30 250**	*e*P	**P**	**13 45 43.5 -0.2**		
KDAK	**Kodiak Island**	**79.39 352**	LR	LR	14 21 10.8		
	comp=Z,179nm,21.6s,baz=23,slow=36						
K22A	**Casper**	**79.44 319**	P	**P**	**13 45 42.3 -2.1**		
	baz=41						
MSO	**Missoula**	**79.50 326**	P	**P**	**13 45 44.2 -0.3**		
	baz=37						
BOZ	**Bozeman (W)**	**79.50 324**	P	**P**	**13 45 44.8 +0.2**		
	baz=38						
SDV	**Santo Domingo**	**79.57 272**	LR	LR	14 16 14.9		
	comp=Z,234nm,20.8s,baz=54,slow=32						
SDV	**Santo Domingo**	**79.57 272**	P	**P**	**13 45 45.3 -0.2**		
SDV			IAmb	IAmb	13 45 54.4		
	comp=Z,17nm,0.8s						
SDV	**Santo Domingo**	**79.57 272**	*e*P	**P**	**13 45 44.9 -0.7**		
NEW	**Newport**	**79.60 329**	LR	LR	14 21 27.7		
	comp=Z,636nm,18.7s,baz=42,slow=36						
NEW	**Newport**	**79.60 329**	P	**P**	**13 45 43.6 -1.4**		
	baz=35						
PHWY	**Pilot Hill**	**79.93 318**	P	**P**	**13 45 46.7 -0.6**		
BBB	**Bella Bella**	**79.94 337**	LR	LR	14 24 08.8		
	comp=Z,423nm,18.3s,baz=15,slow=38						
PEA0B	**Petropavlovsk-**	**79.96 21**	*i* P	**P**	**13 45 47.2 +0.4**		
PETK	**Petropavlovsk-**	**79.96 21**	P	**P**	**13 45 47.1 +0.3**		
	comp=Z,14nm,1.1s,baz=28,slow=6.7,SNR=8.8						
PETK			LR	LR	14 26 18.5		
	comp=Z,591nm,18.8s,baz=330,slow=40						
	comp=Z,14nm,1.1s						
H17A	**Grant Village**	**79.98 323**	P	**P**	**13 45 47.7 +0.3**		
	baz=38						
OHAK	**Old Harbor**	**80.01 353**	P	**P**	**13 45 44.3 -2.6**		
	baz=10.0						
DIAM	**Diamantina, MG**	**80.02 234**	*e*P	**P**	**13 45 47.7 0.0**		
SNDB	**Serra Nova Dou**	**80.09 244**	*e*P	**P**	**13 45 47.6 -0.4**		
KSCO	**Kaye Shedlock'**	**80.19 315**	P	**P**	**13 45 48.6 +0.1**		
	baz=42						
YSS	**Yuzh-Sakhalins**	**80.32 32**	P	**P**	**13 45 49.5 +0.8**		
YSS	**Yuzh-Sakhalins**	**80.32 32**	*e*P	**P**	**13 45 49.6 +0.8**		
YSS			*e*S	**S**	**13 55 54.4 +0.4**		
YSS			pmax	pmax			
	comp=Z,500nm,4.1s						
YSS			pmax	pmax			
	comp=Z,80nm,1.3s						
YSS			MLR	MLR			
	comp=Z,900nm,16.0s						
N23A	**Red Feather La**	**80.48 318**	P	**P**	**13 45 49.6 -0.6**		
	baz=41						
MOOW	**Moose Ponds**	**80.56 322**	P	**P**	**13 45 51.1 +0.7**		
MCMT	**McKenzie Canyo**	**80.64 324**	P	**P**	**13 45 51.3 +0.4**		
SPIA	**Saint Paul Isl**	**80.65 2**	P	**P**	**13 45 50.9 +0.5**		
	baz=357						
BDFB	**Brasilia**	**80.67 239**	P	**P**	**13 45 52.0 +0.8**		
	comp=Z,9.8nm,0.8s,baz=56,slow=7.3,SNR=6.3						
BDFB			LR	LR	14 20 36.4		
	comp=Z,277nm,19.7s,baz=106,slow=35						
	comp=Z,9.8nm,0.8s						
BDFB	**Brasilia**	**80.67 239**	P	**P**	**13 45 52.0 +0.8**		
BDFB	**Brasilia**	**80.67 239**	*e*P	**P**	**13 45 50.8 -0.4**		
KSRS	**Korea Array**	**80.68 47**	P	**P**	**13 45 51.5 +0.6**		
	comp=Z,12nm,1.1s,baz=323,slow=4.8,SNR=20						
KSRS			LR	LR	14 25 24.3		
	comp=Z,393nm,19.5s,baz=310,slow=38						
	comp=Z,12nm,1.1s						
BW06	**Boulder Array**	**80.78 321**	P	**P**	**13 45 51.1 -0.6**		
	baz=39						
PDAR	**Pinedale Array**	**80.78 321**	P	**P**	**13 45 51.4 -0.3**		
	comp=Z,1.1nm,0.7s,baz=54,slow=4.9,SNR=9.4						
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**80.78 321**	P	**P**	**13 45 51.2 -0.5**		
ISCO	**Idaho Springs**	**81.14 317**	P	**P**	**13 45 54.6 +0.8**		
	baz=41						
WMOK	**Wichita Mounta**	**81.19 309**	P	**P**	**13 45 53.9 +0.1**		
WMOK	**Wichita Mounta**	**81.19 309**	P	**P**	**13 45 54.5 +0.7**		
	baz=44						
WMOK	**Wichita Mounta**	**81.19 309**	P	**P**	**13 45 53.9 +0.1**		
WMOK			pmax	pmax			
	comp=Z,14nm,1.1s						
BCYI	**Bear Canyon**	**81.29 324**	P	**P**	**13 45 54.7 +0.3**		
Q24A	**Divide**	**81.54 316**	P	**P**	**13 45 56.4 +0.5**		
Q24A	**Divide**	**81.54 316**	P	**P**	**13 45 55.8 -0.1**		
	baz=41						
QIZ	**Qiongzhong**	**82.07 72**	P	**P**	**13 45 59.3 +0.7**		
QIZ			S	**S**	**13 56 14.3 +1.3**		
QIZ			pmax	pmax			
	comp=Z,37nm,2.1s						
QIZ			LR	LR			
	comp=Z,390nm,14.2s						
QIZ			LR	LR			
	comp=Z,480nm,14.2s						
QIZ			LR	LR			
	comp=Z,380nm,17.9s						
S12K	**Black Hills**	**82.09 357**	P	**P**	**13 45 57.3 -0.8**		
	baz=3.5						
O20A	**White River Ci**	**82.19 319**	P	**P**	**13 45 59.4 +0.2**		
	baz=39						
DUB01	**Friburgo-RJ**	**82.20 231**	*e*P	**P**	**13 45 58.6 -0.5**		
HLID	**Hailey**	**82.32 325**	P	**P**	**13 46 00.5 +0.7**		
	baz=36						
CLDB	**Colider**	**82.33 248**	*e*P	**P**	**13 45 59.6 -0.3**		
BMO	**Blue Mountains**	**82.47 327**	P	**P**	**13 46 00.1 -0.3**		
BMO	**Blue Mountains**	**82.47 327**	P	**P**	**13 46 00.1 -0.3**		
BMO			pmax	pmax			
	comp=Z,29nm,1.0s						
T25A	**Trinidad**	**82.52 314**	P	**P**	**13 46 01.4 +0.4**		
	baz=41						
IPMB	**Ipameri, GO**	**82.55 237**	*e*P	**P**	**13 46 00.5 -0.5**		
ASAJ	**Asahikawa**	**82.57 34**	LR	LR	14 26 45.4		
	comp=Z,223nm,18.1s,baz=333,slow=39						
SDCO	**Great Sand Dun**	**82.64 316**	P	**P**	**13 46 02.0 +0.3**		
	baz=41						
SGCB	**SÉo Gabriel d**	**82.92 263**	*e*P	**P**	**13 46 02.4 -0.7**		
VAS01	**Vassouras-RJ**	**82.97 231**	*e*P	**P**	**13 46 03.0 -0.1**		
ABTX	**Abilene, Hawle**	**83.21 308**	P	**P**	**13 46 05.0 +0.6**		
	baz=43						
S22A	**4UR Ranch, Cre**	**83.32 316**	P	**P**	**13 46 05.2 -0.1**		
S22A			IAmb	IAmb	13 46 17.1		
	comp=Z,10nm,0.9s						
S22A	**4UR Ranch, Cre**	**83.32 316**	P	**P**	**13 46 05.5 +0.3**		
	baz=40						
JLU	**Jordanelle**	**83.36 321**	P	**P**	**13 46 05.3 0.0**		
TEFE	**Tefe**	**83.46 259**	*e*P	**P**	**13 46 05.2 -0.6**		
PDRB	**Porto dos Gac**	**83.49 248**	*e*P	**P**	**13 46 05.3 -0.6**		
P18A	**Preston Nutter**	**83.56 320**	P	**P**	**13 46 06.1 -0.3**		
P18A			IAmb	IAmb	13 46 17.6		
	comp=Z,17nm,1.1s						
SHEM	**Shemya Is, Ala**	**83.72 12**	LR	LR	14 29 08.1		
	comp=Z,173nm,18.2s,baz=326,slow=40						
MSTX	**Muleshoe**	**84.00 311**	P	**P**	**13 46 09.1 +0.6**		
	baz=42						
UNV	**Unalaska Valle**	**84.03 360**	P	**P**	**13 46 07.9 -0.2**		
	baz=0.2						
SRU	**San Rafael Swe**	**84.09 319**	P	**P**	**13 46 08.7 -0.3**		
SRU			IAmb	IAmb	13 46 19.0		
	comp=Z,19nm,0.9s						
SRU	**San Rafael Swe**	**84.09 319**	P	**P**	**13 46 08.7 -0.3**		
SRU			pmax	pmax			
	comp=Z,19nm,0.9s						
DUG	**Dugway, Tooele**	**84.31 322**	P	**P**	**13 46 09.9 -0.1**		
DUG			IAmb	IAmb	13 46 16.6		
	comp=Z,12nm,1.2s						
DUG	**Dugway, Tooele**	**84.31 322**	P	**P**	**13 46 10.3 +0.2**		
	baz=37						
DUG	**Dugway, Tooele**	**84.31 322**	P	**P**	**13 46 09.9 -0.1**		
DUG			pmax	pmax			
	comp=Z,12nm,1.2s						
ERM	**Erimo**	**84.53 35**	*i* P	**P**	**13 46 11.1 +0.2**		
ERM			pmax	pmax			
	comp=Z,30nm,1.1s						
MVCO	**Mesa Verde**	**84.58 317**	P	**P**	**13 46 11.6 0.0**		
	baz=39						
JCT	**Junction City**	**84.86 307**	P	**P**	**13 46 13.8 +0.9**		
	baz=43						
PSI	**Prapat**	**84.92 91**	LR	LR	14 26 58.9		
	comp=Z,190nm,21.3s,baz=304,slow=38						
ELK	**Elko**	**84.96 323**	LR	LR	14 24 06.5		
	comp=Z,361nm,19.4s,baz=42,slow=36						
ROSC	**El Rosal**	**84.98 272**	LR	LR	14 19 37.4		
	comp=Z,925nm,21.6s,baz=50,slow=32						
PARB	**Paraibuna**	**85.06 232**	*e*P	**P**	**13 46 13.5 -0.2**		
ANMO	**Albuquerque**	**85.26 314**	LR	LR	14 24 32.1		
	comp=Z,610nm,18.1s,baz=137,slow=36						
ANMO	**Albuquerque**	**85.26 314**	P	**P**	**13 46 15.2 +0.1**		
ANMO	**Albuquerque**	**85.26 314**	P	**P**	**13 46 16.2 +1.2**		
	baz=40						
ANMO	**Albuquerque**	**85.26 314**	*ce*P	**P**	**13 46 15.1 +0.1**		
ANMO			pmax	pmax			
	comp=Z,11nm,2.5s						
JNU	**Nakatsue**	**85.51 48**	LR	LR	14 26 05.3		
	comp=Z,332nm,19.1s,baz=326,slow=37						
SALV	**Santo Antonio**	**85.86 244**	*e*P	**P**	**13 46 17.1 -0.6**		
SPB	**Sao Paulo**	**86.32 233**	*e*P	**P**	**13 46 19.2 -0.7**		
PP1B	**Ponte de Pedra**	**86.54 242**	*e*P	**P**	**13 46 20.6 -0.6**		
MJAR	**Matsushiro Arr**	**86.68 41**	P	**P**	**13 46 21.9 +0.1**		
	comp=Z,8.4nm,1.2s,baz=318,slow=3.8,SNR=7.8						
MJAR			LR	LR	14 28 11.8		
	comp=Z,812nm,18.4s,baz=326,slow=38						
	comp=Z,8.4nm,1.2s						
PET01	**Itanhaem-SP**	**86.75 233**	*e*P	**P**	**13 46 21.3 -0.7**		
VILB	**Vilhena**	**86.83 249**	P	**P**	**13 46 23.1 +0.4**		
VILB			IAmb	IAmb	13 46 24.7		
	comp=Z,74nm,1.7s						
VILB	**Vilhena**	**86.83 249**	*e*P	**P**	**13 46 22.1 -0.6**		
R11A	**Troy Canyon, C**	**87.07 322**	P	**P**	**13 46 24.2 +0.4**		
	baz=35						
MNTX	**Cornudas Mount**	**87.15 311**	P	**P**	**13 46 24.3 +0.2**		
	baz=40						
PCMB	**Pacaembu**	**87.16 237**	*e*P	**P**	**13 46 23.4 -0.6**		
YBH	**Yreka Blue Hor**	**87.23 329**	LR	LR	14 25 07.1		
	comp=Z,468nm,20.2s,baz=32,slow=36						
WUAZ	**Wupatki**	**87.34 318**	P	**P**	**13 46 26.0 +0.8**		
	baz=37						
FRTB	**Fartura**	**87.41 235**	*e*P	**P**	**13 46 24.3 -1.0**		
121A	**Cookes Peak, D**	**87.82 314**	P	**P**	**13 46 28.6 +1.0**		
	baz=39						
PTLB	**Pontes e Lacer**	**87.85 247**	*e*P	**P**	**13 46 26.8 -0.7**		
TXAR	**Lajitas Array**	**87.96 309**	P	**P**	**13 46 28.8 +0.7**		
	comp=Z,1.2nm,0.8s,baz=74,slow=3.2,SNR=9.9						
TXAR			LR	LR	14 26 01.3		
	comp=Z,325nm,19.3s,baz=41,slow=36						
	comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**88.21 324**	P	**P**	**13 46 29.3 -0.1**		
	comp=Z,0.8nm,0.7s,baz=57,slow=4.8,SNR=6.1						
	comp=Z,0.8nm,0.7s						
TPNV	**Topopah Spring**	**88.52 322**	P	**P**	**13 46 31.2 +0.4**		
	baz=35						
TIJ01	**Guaruva-PR**	**88.56 233**	*e*P	**P**	**13 46 29.6 -1.2**		
JOW	**Kunigami**	**88.69 54**	LR	LR	14 30 19.1		
	comp=Z,638nm,19.6s,baz=48,slow=38						
ETMB	**Extrema**	**88.90 256**	*e*P	**P**	**13 46 32.1 -0.5**		
W13A	**Hualapai Mount**	**88.91 319**	P	**P**	**13 46 31.9 -0.8**		
JTS	**Las Juntas de**	**89.11 283**	LR	LR	14 21 36.5		
	comp=Z,374nm,20.5s,baz=42,slow=32						
GWY	**Greenwater Val**	**89.33 322**	P	**P**	**13 46 34.4 -0.2**		
SIV	**San Ignacio**	**89.55 248**	P	**P**	**13 46 35.6 0.0**		
	comp=Z,1.7nm,0.6s,baz=66,slow=5.4,SNR=11						
SIV			LR	LR	14 26 46.6		
	comp=Z,215nm,18.1s,baz=108,slow=36						
	comp=Z,1.7nm,0.6s						
TUC	**Tucson**	**89.58 315**	P	**P**	**13 46 35.8 +0.1**		
	baz=38						
TUQ	**Turquoise Moun**	**89.60 321**	P	**P**	**13 46 36.0 +0.1**		
	baz=35						
CWC	**Cottonwood Cre**	**89.77 323**	P	**P**	**13 46 36.5 -0.1**		
	baz=34						
BDQN	**Bodoquena, MS**	**89.81 242**	*e*P	**P**	**13 46 36.1 -0.5**		
MPMC	**Manual Prospec**	**89.81 322**	P	**P**	**13 46 34.9 -2.0**		
	baz=34						
GMRC	**Granite Mounta**	**90.01 320**	P	**P**	**13 46 38.2 +0.5**		
	baz=35						
BBSD	**Serra de San D**	**90.07 247**	*e*P	**P**	**13 46 37.4 -0.6**		
JHJ	**Hachijo jima 2**	**90.19 42**	LR	LR	14 30 55.7		
	comp=Z,578nm,18.7s,baz=12,slow=38						
IRM	**Iron Mountain**	**90.28 319**	P	**P**	**13 46 39.1 +0.2**		
	baz=35						
HEC	**Hector,Ludlow**	**90.29 321**	P	**P**	**13 46 39.0 0.0**		
	baz=35						
BBRB	**Robore, Bolivi**	**90.30 245**	*e*P	**P**	**13 46 38.2 -0.8**		
AMBA	**Amambai (Brazi**	**90.46 239**	*e*P	**P**	**13 46 39.1 -0.6**		
ISA	**Isabella, Lake**	**90.59 323**	P	**P**	**13 46 39.8 -0.6**		
	baz=33						
VES	**Vestal, Richgr**	**90.71 323**	P	**P**	**13 46 39.8 -1.0**		
	baz=33						
BELC	**Belle Mtn. Jos**	**90.81 320**	P	**P**	**13 46 42.0 +0.5**		
	baz=35						
BC3	**Big Chuckawall**	**90.83 319**	P	**P**	**13 46 41.4 -0.2**		
	baz=35						
214A	**Organ Pipe Nat**	**90.90 317**	P	**P**	**13 46 41.7 -0.1**		
	baz=36						
EDW2	**Edwards Air Fo**	**91.02 322**	P	**P**	**13 46 42.4 0.0**		
	baz=34						
GLA	**Glamis**	**91.02 319**	P	**P**	**13 46 42.6 +0.2**		
	baz=35						
OTAV	**Otavalo**	**91.11 271**	P	**P**	**13 46 43.6 0.0**		
OTAV			IAmb	IAmb	13 46 50.2		
	comp=Z,19nm,1.6s						
OTAV	**Otavalo**	**91.11 271**	P	**P**	**13 46 43.6 0.0**		
OTAV			pmax	pmax			
	comp=Z,19nm,1.6s						
OTAV	**Otavalo**	**91.11 271**	*e*P	**P**	**13 46 42.1 -1.5**		
MURT	**Porto Murtinho**	**91.23 242**	*e*P	**P**	**13 46 42.7 -0.6**		
PFO	**Pinyon Flats O**	**91.35 320**	P	**P**	**13 46 42.0 -2.0**		
	baz=34						
TPFO	**Pinon Flats**	**91.35 320**	P	**P**	**13 46 41.7 -2.3**		
	baz=34						
CMIG	**Matias Romero**	**91.36 295**	LR	LR	14 27 19.2		
	comp=Z,115nm,19.3s,baz=47,slow=35						
MONP2	**Monument Peak**	**91.92 320**	P	**P**	**13 46 46.3 -0.5**		
	baz=34						
IKP	**In-Ko-Pah, Jac**	**91.97 319**	P	**P**	**13 46 46.5 -0.3**		
	baz=35						
LPAZ	**La Paz**	**94.66 252**	LR	LR	14 26 30.8		
	comp=Z,222nm,21.3s,baz=48,slow=34						
LPAZ	**La Paz**	**94.66 252**	*e*P	**P**	**13 46 58.3 -1.7**		
AZCA	**Azaras, Argent**	**94.80 236**	*e*P	**P**	**13 46 58.6 -0.9**		
CPSB	**Cacapava Do Su**	**94.95 233**	*e*P	**P**	**13 46 59.5 -0.7**		
LPIG	**La Paz**	**95.76 310**	LR	LR	14 30 20.8		
	comp=Z,346nm,19.4s,baz=39,slow=36						
ATAH	**Atahualpa**	**95.98 266**	LR	LR	14 28 36.9		
	comp=Z,265nm,20.6s,baz=22,slow=34						
PLTB	**Pedras Altas**	**96.03 232**	*e*P	**P**	**13 47 04.5 -0.6**		
JCJ	**Chichijima**	**96.28 44**	LR	LR	14 34 20.7		
	comp=Z,419nm,18.5s,baz=330,slow=38						
ITQB	**Itaqui**	**96.32 235**	*e*P	**P**	**13 47 05.4 -1.1**		
LEM	**Lembang**	**97.77 92**	LR	LR	14 37 41.7		
	comp=Z,69nm,18.4s,baz=323,slow=39						
NNA	**Nana**	**98.06 261**	LR	LR	14 30 26.9		
	comp=Z,136nm,19.5s,baz=17,slow=35						
LVC	**Limon Verde**	**99.45 248**	LR	LR	14 31 05.1		
	comp=Z,139nm,19.1s,baz=28,slow=35						
WRA	**Warramunga Arr**	**125.97 85**	PKP	**PKiKP**	**13 52 41.2 +0.5**		
	comp=Z,2.1nm,1.1s,baz=314,slow=1.7,SNR=6.3						
ASAR	**Alice Springs**	**127.90 89**	PKP	**PKPdf**	**13 52 42.5 -1.4**		
	comp=Z,0.9nm,0.6s,baz=308,slow=1.6,SNR=8.6						
TAOE	**Nuku Hiva Isla**	**139.16 317**	*e*LR	LR	14 38 03.4		
	comp=Z,331nm,30.3s						
DZM	**Mont Dzumac**	**149.73 56**	*e*LR	LR	14 42 58.5		
	comp=Z,279nm,22.9s						
PPT2	**Papeete2**	**151.19 324**	*e*LR	LR	14 43 37.5		
	comp=Z,290nm,23.2s						
PPT2			*e*LR	LR	14 43 38.3		
	comp=Z,226nm,25.0s						
TBI	**Tubuai**	**156.11 318**	*e*LR	LR	14 45 54.9		
	comp=Z,994nm,27.5s						
TBI			*e*LR	LR	14 45 55.8		
	comp=Z,3μm,25.2s						

ROM 18 13:35:21.7±0.1, 42.526N±0.004×13.279E±0.006, h9km, ML3.6/7, 1C, Error ellipse: s-maj=0.5km s-min=0.2km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.05**	**250**	P		Pg	13 35 24.2	+0.5
RM33				S		Sg	13 35 25.9	+0.7
RM33				AML		AML		
RM33				AML		AML		
	comp=N,98700μm,0.3s							
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
	comp=N,94025μm,0.2s							
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
	comp=N,99967μm,0.3s							
T1247	**Pizzolo (AQ)**	**0.09**	**170**	P		Pg	13 35 24.6	+0.5
T1247				S		Sg	13 35 26.4	+0.7
T1247				AML		AML		
	comp=E,61850μm,0.3s							
T1247				AML		AML		
	comp=N,75050μm,1.2s							
T1247				AML		AML		
	comp=N,75050μm,0.8s							
T1247				AML		AML		
	comp=E,43746μm,0.4s							
T1247				AML		AML		
	comp=N,72995μm,0.1s							
SMA1	**SAN MARTINO**	**0.11**	**22**	P		Pg	13 35 25.0	+0.5
SMA1				S		Sg	13 35 27.3	+0.8
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
	comp=N,27556μm,0.2s							
T1218				AML		AML		
	comp=E,18344μm,1.0s							
T1218				AML		AML		
	comp=E,18304μm,1.0s							
T1218				AML		AML		
	comp=N,27485μm,0.2s							
LNSS	**Leonessa**	**0.19**	**294**	P		Pg	13 35 26.2	+0.5
LNSS				S		Sg	13 35 29.8	+1.2
LNSS				AML		AML		
	comp=E,40800μm,0.2s							
LNSS				AML		AML		
	comp=N,38750μm,0.1s							
LNSS				AML		AML		
	comp=E,40786μm,0.2s							
LNSS				AML		AML		
	comp=N,38748μm,0.1s							
AQU	**L'Aquila**	**0.20**	**152**	P		Pg	13 35 26.8	+1.1
AQU				S		Sg	13 35 29.7	+1.2
GIGS	**Gran Sasso**	**0.23**	**109**	P		Pg	13 35 26.4	+0.1
GIGS				S		Sg	13 35 30.2	+0.7
GIGS				AML		AML		
	comp=N,5327μm,0.4s							
GIGS				AML		AML		
	comp=E,3810μm,0.4s							
GIGS				AML		AML		
	comp=N,4733μm,0.2s							
FIAM	**Fiamignano**	**0.28**	**205**	P		Pg	13 35 28.0	+0.6
FIAM				S		Sb	13 35 32.6	-1.3
T1217	**Poggiodomo (PG**	**0.32**	**306**	P		Pg	13 35 28.2	+0.2
T1217				S		Sg	13 35 33.2	+0.9
T1217				AML		AML		
	comp=N,3691μm,0.2s							
FAGN	**Fagnano**	**0.34**	**139**	P		Pb	13 35 29.4	-0.6
ARRO	**Arrone**	**0.38**	**278**	P		Pg	13 35 29.3	+0.1
FEMA	**Monte Fema**	**0.47**	**339**	P		Pg	13 35 30.8	0.0
FEMA				S		Sb	13 35 38.3	-1.0
T0110	**Collepietro**	**0.48**	**129**	P		Pb	13 35 31.7	-0.5
PTQR	**Pietraquaria**	**0.51**	**170**	P		Pb	13 35 32.4	-0.5
PTQR				S		Sb	13 35 40.4	-0.1
CESX	**Cesi**	**0.52**	**279**	P		Pg	13 35 31.9	+0.1
GUMA	**Gualdo di Mace**	**0.54**	**4**	P		Pg	13 35 32.2	+0.1
GUMA				S		Sb	13 35 40.8	-0.4
TRTR	**Tortoreto Alta**	**0.55**	**59**	P		Pb	13 35 33.5	+0.1
CESI	**CESI - Serrava**	**0.55**	**330**	P		Pg	13 35 32.4	0.0
CESI				S		Sb	13 35 41.0	-0.6
CSP1	**Cessapalombo**	**0.57**	**355**	P		Pg	13 35 32.9	+0.2
CSP1				S		Sb	13 35 41.6	-0.5
MOMA	**Monte Martano**	**0.59**	**298**	P		Pg	13 35 33.6	+0.4
MOMA				S		Sb	13 35 42.5	-0.3
MOMA				AML		AML		
	comp=E,15000μm,1.6s							
MOMA				AML		AML		
	comp=N,12500μm,1.6s							
MOMA				AML		AML		
	comp=N,4456μm,0.3s							
T1220	**Camerino, Fraz**	**0.60**	**347**	P		Pg	13 35 33.4	+0.1
T1220				S		Sg	13 35 42.0	+0.8
CERT	**Cerreto**	**0.62**	**201**	P		Pb	13 35 34.4	-0.2
MNTP	**Montappone**	**0.63**	**13**	P		Pg	13 35 34.1	+0.3
MNTP				S		Sb	13 35 44.6	+0.9
SRES	**S.Oreste - Sor**	**0.64**	**243**	P		Pg	13 35 34.3	+0.2
MTCE	**Montecelio**	**0.64**	**219**	P		Pg	13 35 33.5	-0.6
ASSB	**Assisi San Ben**	**0.69**	**319**	P		Pb	13 35 36.0	+0.1
ASSB				S		Sb	13 35 46.6	+1.1

*SOME **18** 13:37:35.4, 37.77N×71.93E, h5km*
*IDC **18** 13:37:36.9±2.3, 36.39N×69.98E, h222km±23km, mb3.3/10, mbtmp4.0/16, Error ellipse: s-maj=19.1km s-min=15.9km az=144.0*
*NEIC **18** 13:37:37.7±0.9, 36.50N±0.08×70.06E±0.07, h227km±9km, mb4.0/2, Error ellipse: s-maj=12.2km s-min=7.8km az=160.0*
*NNC **18** 13:37:40.7±6.5, 37.18N×69.76E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=48.0km s-min=43.5km az=9.0*

ISC 18 13:37:36.8±0.6, 36.49N±0.05×70.12E±0.06, h213km, n65, σ1199/73, mb3.4/9, 5C-2D, Hindu Kush region

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

UCH	**Uchtor**	**6.66**	**29**	P	**Pn**	**13 39 14.2**	**+1.1**
	SNR=36							
MRKS	**Merke**	**6.69**	**20**	*e*Pg	**Pn**	**13 39 14.3**	**+1.3**
	comp=E,36nm,0.3s							
MRKS				*e*Lg	Lg	13 40 25.6		
	comp=E,72nm,0.6s							
HRA	**Herat**	**6.76**	**254**	Pn	**Pn**	**13 39 15.8**	**+1.7**
EKS2	**Erkin-Say**	**6.78**	**24**	P	**Pn**	**13 39 15.7**	**+1.5**
	SNR=47							
AAK	**Ala-Archa**	**7.01**	**28**	P	**Pn**	**13 39 18.9**	**+1.7**
	SNR=46							
AAK	**Ala-Archa**	**7.01**	**28**	P	**Pn**	**13 39 18.6**	**+1.4**
	comp=E,31nm,0.3s,baz=184,slow=5.0,SNR=125							
AAK				S	**S**	**13 40 36.2**	**-0.9**	
	comp=E,9.8nm,0.3s,baz=320,slow=23,SNR=14							
AAK	**Ala-Archa**	**7.01**	**28**	Pn	**Pn**	**13 39 18.4**	**+1.2**
KBK	**Karagaybulak**	**7.20**	**30**	P	**Pn**	**13 39 21.5**	**+1.8**
	SNR=8.5							
BHK	**Bhakra**	**7.28**	**132**	*e*P	**Pn**	**13 39 22.1**	**+1.4**
CHMS	**Chumysh**	**7.41**	**27**	P	**Pn**	**13 39 22.7**	**+0.4**
	SNR=9.1							
CHMS	**Chumysh**	**7.41**	**27**	⇓Pn	**Pn**	**13 39 22.8**	**+0.5**
	comp=E,7.7nm,0.6s							
CHMS				⇓Sn	**S**	**13 40 44.8**	**-1.7**	
	comp=E,16nm,0.6s							
ULHL	**Ulahol**	**7.45**	**38**	P	**Pn**	**13 39 24.4**	**+1.4**
	SNR=9.9							
USP	**Ospenovka**	**7.56**	**25**	P	**Pn**	**13 39 25.8**	**+1.6**
	SNR=14							
TKM2	**Tokmak 2**	**7.68**	**32**	P	**Pn**	**13 39 27.1**	**+1.1**
	SNR=19							
TKM2	**Tokmak 2**	**7.68**	**32**	⇑Pn	**Pn**	**13 39 26.9**	**+0.9**
	comp=E,12nm,0.9s							
TKM2				⇑Sn	**S**	**13 40 52.0**	**-1.2**	
	comp=E,17nm,0.9s							
SMLA	**Simla**	**7.94**	**130**	*e*P	**Pn**	**13 39 30.0**	**+0.8**
SMLA				*e*S	**S**	**13 40 55.8**	**-3.2**	
SMLA				IAML		13 40 58.3		
	comp=E,195nm,0.2s							
SMLA				IAML		13 40 59.0		
	comp=N,114nm,0.2s							
KST	**Kastek**	**7.94**	**33**	*e*Pg	**Pn**	**13 39 30.5**	**+1.2**
KST	comp=N,8.3nm,1.1s			*e*Lg	Lg	13 40 52.6		
	comp=N,30nm,0.9s							
TARG	**Taragay, Kyrgy**	**7.94**	**46**	Pn	**Pn**	**13 39 30.4**	**+0.8**
MTBS	**Maitube**	**8.22**	**34**	*e*Pg	**Pn**	**13 39 34.2**	**+1.4**
	comp=N,8.2nm,0.4s							
MTBS				*e*Lg	Lg	13 40 59.4		
	comp=N,19nm,0.9s							
KRBS	**Karabastau**	**8.36**	**29**	*e*Pg	**Pn**	**13 39 38.7**	**+4.1**
	comp=N,1.4nm,0.5s							
KRBS				*e*Lg	Lg	13 41 07.1		
	comp=N,12nm,0.9s							
TNSS	**Tian-Shan**	**8.39**	**37**	*e*Pg	**Pn**	**13 39 36.7**	**+1.5**
	comp=N,11nm,0.4s							
TNSS				*e*Lg	Lg	13 41 03.6		
	comp=N,4.1nm,0.7s							
MDOK	**Medeo**	**8.53**	**37**	*e*Pg	**Pn**	**13 39 38.8**	**+1.9**
	comp=N,10.0nm,0.4s							
MDOK				*e*Lg	Lg	13 41 07.5		
	comp=N,6.3nm,0.9s							
KTBS	**Karatobe**	**8.79**	**33**	*e*Pg	Pn	13 39 45.5	+5.4	
	comp=N,1.1nm,0.4s							
KTBS				*e*Lg	Lg	13 41 18.5		
	comp=N,16nm,0.5s							
GEYT	**Alibeck**	**9.68**	**282**	P	**Pn**	**13 39 51.2**	**-0.5**
	comp=N,6.9nm,0.7s,baz=102,slow=12,SNR=9.6							
GEYT	**Alibeck**	**9.68**	**282**		**Pn**	**13 39 51.4**	**-0.3**
GYA0B	**ALIBECK ARRAY**	**9.68**	**282**	Pn	**Pn**	**13 39 50.9**	**-0.7**
KUDL	**Kundal**	**9.91**	**145**	*e*P	**Pn**	**13 39 57.2**	**+2.5**
KUDL				*e*S	**S**	**13 41 38.3**	**-7.6**	
LGTI	**Lohaghat**	**11.03**	**127**	*e*P	**Pn**	**13 40 08.0**	**-1.0**
MAKZ	**Makanchi**	**13.58**	**37**		**Pn**	**13 40 41.3**	**+0.5**
MK31	**Makanchi Array**	**13.72**	**38**	P	**Pn**	**13 40 43.2**	**+0.6**
MKAR	**Makanchi Array**	**13.72**	**38**	P	**Pn**	**13 40 43.5**	**+0.8**
	comp=N,5.6nm,0.7s,baz=222,slow=15,SNR=48							
MKAR	**Makanchi Array**	**13.72**	**38**		**Pn**	**13 40 42.8**	**+0.1**
KURBB	**Kurchatov Arra**	**15.37**	**21**	P	**P**	**13 41 02.2**	**-0.4**
	comp=N,1.3nm,0.4s,baz=212,slow=10,SNR=19							
WSAR	**Wadi Sarin**	**16.52**	**220**	P	**P**	**13 41 14.3**	**-1.4**
	comp=N,6.0nm,0.9s,baz=353,slow=8.1,SNR=2.8							
BVAR	**Borovoye Array**	**16.53**	**1**	P	**Pn**	**13 41 17.4**	**+0.9**
	comp=N,6.0nm,0.4s,baz=168,slow=11,SNR=7.1							
ZAA0	**Zalesovo Array**	**20.22**	**26**	P	**P**	**13 41 55.0**	**-0.4**
ZAA0				IAmb	IAmb	13 42 17.8		
	comp=Z,17nm,1.0s							
ZALV	**Zalesovo Beam**	**20.22**	**26**	P	**P**	**13 41 55.8**	**+0.5**
	comp=Z,4.7nm,0.4s,baz=218,slow=11,SNR=32							
	comp=Z,4.7nm,0.4s							
ZALV	**Zalesovo Beam**	**20.22**	**26**	P	**P**	**13 41 54.3**	**-1.1**
SONM	**Songino Array**	**28.93**	**56**	P	**P**	**13 43 17.8**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=258,slow=8.7,SNR=12							
	comp=Z,1.2nm,0.7s							
SONM	**Songino Array**	**28.93**	**56**	P	**P**	**13 43 18.2**	**+2.1**
SONM				IAmb	IAmb	13 43 19.7		
	comp=Z,1.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**31.08**	**118**	P	**P**	**13 43 36.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=299,slow=8.0,SNR=5.4							
	comp=Z,0.3nm,0.3s							
FINES	**FINESS Array B**	**37.09**	**326**	P	**P**	**13 44 28.2**	**+1.9**
KSRS	**Korea Array**	**45.55**	**71**	P	**P**	**13 45 35.8**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=270,slow=6.6,SNR=4.2							
	comp=Z,0.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**65.00**	**268**	P	**P**	**13 47 52.6**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=42,slow=7.9,SNR=1.1							
	comp=Z,1.3nm,0.3s							
INK	**Inuvik**	**74.03**	**9**	P	**P**	**13 48 49.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=339,slow=5.2,SNR=1.3							
	comp=Z,0.5nm,0.6s							
ILAR	**Eielson Array**	**74.98**	**15**	P	**P**	**13 48 53.6**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=335,slow=4.1,SNR=2.7							
	comp=Z,0.4nm,0.9s							
YKA	**Yellowknife Ar**	**81.28**	**2**	P	**P**	**13 49 29.2**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=349,slow=5.8,SNR=3.4							
	comp=Z,0.2nm,0.6s							
WRA	**Warramunga Arr**	**82.59**	**121**	P	**P**	**13 49 34.2**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=325,slow=4.9,SNR=5.8							
	comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**84.84**	**124**	P	**P**	**13 49 46.0**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=312,slow=5.0,SNR=14							
	comp=Z,0.5nm,0.6s							

IDC 18 13:38:40.5±2.2, 6.96S×128.54E, h0km, mb3.4/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=122.5km s-min=34.3km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.08**	**157**	Pn	Pn	13 42 00.4	-1.0
	0.1nm,0.3s,baz=336,slow=13,SNR=2.2						
WRA				Sn	Sn	13 44 26.0	-13
	0.2nm,0.3s,baz=340,slow=22,SNR=7.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**17.39**	**163**	Pn	P	13 42 45.5	-0.7
	0.3nm,0.3s,baz=339,slow=9.9,SNR=53						
ASAR				Sn	Sn	13 45 46.3	-13
	0.1nm,0.3s,baz=315,slow=18,SNR=3.1						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**67.41**	**327**	P	P	13 49 37.9	0.0
	0.2nm,0.4s,baz=126,slow=7.3,SNR=1.8						
	0.2nm,0.4s						

ROM 18 13:41:09.7±0.1, 42.560N±0.004×13.280E±0.004, h13km, ML2.2/7, 3C-3D, Error ellipse: s-maj=0.4km s-min=0.2km az=210.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.07**	**224**	P	Pg	13 41 12.8	+0.3
RM33				S	Sg	13 41 14.7	+0.2
RM33				AML	AML		
	comp=E,13700μm,0.3s						
RM33				AML	AML		
	comp=N,6265μm,0.2s						
RM33				AML	AML		
	comp=N,6210μm,0.7s						
RM33				AML	AML		
	comp=N,6260μm,0.2s						
RM33				AML	AML		
	comp=E,13150μm,0.3s						
RM33				AML	AML		
	comp=E,10199μm,0.1s						
RM33				AML	AML		
	comp=E,10012μm,0.1s						
RM33				AML	AML		
	comp=N,6144μm,0.2s						
RM33				AML	AML		
	comp=N,6262μm,0.2s						
SMA1	**SAN MARTINO**	**0.08**	**30**	P	Pg	13 41 12.9	+0.3
SMA1				S	Sg	13 41 14.9	+0.1
SMA1				AML	AML		
	comp=E,27500μm,0.4s						
SMA1				AML	AML		
	comp=N,17200μm,0.4s						
SMA1				AML	AML		
	comp=E,25362μm,0.2s						
SMA1				AML	AML		
	comp=N,17231μm,0.4s						
CAMP	**Campotosto**	**0.10**	**104**	P	Pg	13 41 13.2	+0.4
CAMP				S	Sg	13 41 15.3	+0.3
CAMP				AML	AML		
	comp=E,1250μm,1.3s						
CAMP				AML	AML		
	comp=N,1158μm,1.1s						
CAMP				AML	AML		
	comp=E,1250μm,0.7s						
CAMP				AML	AML		
	comp=E,969μm,0.4s						
CAMP				AML	AML		
	comp=N,1156μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.12**	**174**	P	Pg	13 41 13.4	+0.4
T1247				AML	AML		
	comp=N,3815μm,0.2s						
T1247				AML	AML		
	comp=E,3457μm,0.4s						
T1218	**Civita (PG)**	**0.16**	**312**	⇑P	Pg	13 41 13.7	0.0
T1218				S	Sg	13 41 16.7	+0.2
T1218				AML	AML		
	comp=E,2835μm,0.1s						
T1218				AML	AML		
	comp=N,5485μm,0.2s						
T1218				AML	AML		
	comp=N,5515μm,0.2s						
T1218				AML	AML		
	comp=E,2630μm,0.2s						
T1218				AML	AML		
	comp=E,2835μm,0.2s						
T1218				AML	AML		
	comp=N,5485μm,0.2s						
T1218				AML	AML		
	comp=E,2834μm,0.1s						
T1218				AML	AML		
	comp=E,2628μm,0.2s						
T1218				AML	AML		
	comp=N,5486μm,0.2s						
T1218				AML	AML		
	comp=N,5513μm,0.2s						
LNSS	**Leonessa**	**0.18**	**284**	P	Pg	13 41 14.3	+0.4
LNSS				S	Sg	13 41 17.7	+0.8
LNSS				AML	AML		
	comp=E,3315μm,0.5s						
LNSS				AML	AML		
	comp=N,5785μm,0.3s						
LNSS				AML	AML		
	comp=N,5370μm,0.1s						
LNSS				AML	AML		
	comp=E,2686μm,0.3s						
GIGS	**Gran Sasso**	**0.24**	**117**	⇓P	Pg	13 41 15.2	+0.4
GIGS				S	Sg	13 41 19.1	+0.7
GIGS				AML	AML		
	comp=N,261μm,4.2s						
GIGS				AML	AML		
	comp=E,326μm,7.8s						
GIGS				AML	AML		
	comp=N,176μm,0.1s						
T1217	**Poggiodomo (PG**	**0.30**	**301**	⇓P	Pg	13 41 16.1	+0.2
T1217				S	Sb	13 41 21.0	-0.9
T1217				AML	AML		
	comp=N,541μm,1.4s						
T1217				AML	AML		
	comp=E,720μm,0.7s						
T1217				AML	AML		
	comp=N,541μm,1.3s						
T1217				AML	AML		
	comp=N,556μm,0.3s						
T1217				AML	AML		
	comp=N,541μm,0.7s						
T1217				AML	AML		
	comp=E,653μm,0.7s						
T1217				AML	AML		
	comp=N,426μm,0.1s						
T1217				AML	AML		
	comp=N,447μm,0.2s						
T1217				AML	AML		
	comp=E,571μm,0.1s						
T1217				AML	AML		
	comp=E,479μm,0.1s						
FIAM	**Fiamignano**	**0.32**	**203**	⇑P	Pg	13 41 16.7	+0.5
FIAM				S	Sb	13 41 21.7	-0.6
FIAM				AML	AML		
	comp=N,1270μm,1.1s						
FIAM				AML	AML		
	comp=E,1745μm,1.3s						
ARRO	**Arrone**	**0.38**	**273**	⇑P	Pg	13 41 17.6	+0.2
ARRO				S	Sb	13 41 23.4	-0.7
ARRO				AML	AML		
	comp=E,873μm,1.0s						
ARRO				AML	AML		
	comp=N,884μm,1.0s						
ARRO				AML	AML		
	comp=E,873μm,1.0s						
ARRO				AML	AML		
	comp=N,884μm,1.0s						
ARRO				AML	AML		
	comp=N,804μm,0.2s						
CESX	**Cesi**	**0.52**	**276**	P	Pg	13 41 19.7	-0.2
CESX				S	Sb	13 41 27.5	-0.6
CESX				AML	AML		
	comp=E,348μm,4.2s						
CESX				AML	AML		
	comp=N,339μm,0.2s						
CSP1	**Cessapalombo**	**0.54**	**354**	P	Pg	13 41 20.4	+0.1
CSP1				S	Sb	13 41 28.7	0.0
CSP1				AML	AML		
	comp=N,522μm,3.3s						
CSP1				AML	AML		
	comp=E,380μm,2.1s						
SNTG	**Esanatoglia**	**0.74**	**340**	S	Sb	13 41 35.2	+0.7
SNTG				AML	AML		
	comp=E,175μm,4.3s						
SNTG				AML	AML		
	comp=E,261μm,4.1s						
SNTG				AML	AML		
	comp=N,184μm,5.9s						
SNTG				AML	AML		
	comp=N,301μm,6.7s						
LPEL	**Lama dei Pelig**	**0.84**	**127**	S	Sb	13 41 38.0	+0.5
LPEL				AML	AML		
	comp=E,446μm,0.1s						
LPEL				AML	AML		
	comp=N,267μm,0.1s						
GIUL	**Giuliano Di Ro**	**1.00**	**181**	S	Sg	13 41 42.4	+0.3
PTRJ	**Pietraroja**	**1.52**	**142**	S	Sg	13 41 59.1	+0.7
TRIF	**Trifonti**	**1.83**	**288**	P	Pn	13 41 41.5	+0.5
VARP	**Vesuvio Array**	**1.94**	**154**	P	Pg	13 41 46.7	-0.1
NDIM	**Novi di Modena**	**2.90**	**324**	S	Sg	13 42 42.4	-0.3
STON	**Ston**	**3.27**	**83**	S	Sb	13 42 46.6	-0.7
ZONE	**Zone**	**3.93**	**326**	S	Sn	13 42 57.7	+2.0
MSRU	**Castanea**	**4.62**	**158**	⇓P	Pn	13 42 16.3	-2.9

ROM 18 13:41:23.8±0.1, 42.465N±0.004×13.265E±0.005, h12km, ML2.5/5, 2C-4D, Error ellipse: s-maj=0.4km s-min=0.0km az=46.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.03**	**133**	⇓P	Pg	13 41 26.4	+0.3
T1247				S	Sg	13 41 28.3	+0.4
T1247				AML	AML		
	comp=E,26950μm,0.4s						
T1247				AML	AML		
	comp=N,36450μm,0.3s						
T1247				AML	AML		
	comp=E,20925μm,0.2s						
T1247				AML	AML		
	comp=N,36469μm,0.3s						
RM33	**Pellescritta (**	**0.06**	**320**	⇓P	Pg	13 41 26.5	+0.2
RM33				S	Sg	13 41 28.5	+0.3
RM33				AML	AML		
	comp=N,3505μm,0.3s						
RM33				AML	AML		
	comp=N,3595μm,0.1s						
RM33				AML	AML		
	comp=E,4192μm,1.2s						
RM33				AML	AML		
	comp=E,4165μm,1.2s						
RM33				AML	AML		
	comp=E,3543μm,0.2s						
RM33				AML	AML		
	comp=E,3543μm,0.2s						
CAMP	**Campotosto**	**0.13**	**56**	P	Pg	13 41 27.3	+0.1
CAMP				S	Sg	13 41 29.9	+0.3
SMA1	**SAN MARTINO**	**0.17**	**18**	P	Pg	13 41 28.2	+0.4
SMA1				S	Sg	13 41 31.7	+1.0
LNSS	**Leonessa**	**0.22**	**310**	⇓P	Pg	13 41 28.8	+0.3
LNSS				S	Sg	13 41 32.9	+1.1
LNSS				AML	AML		
	comp=E,5409μm,0.4s						
LNSS				AML	AML		
	comp=N,4936μm,0.2s						
FIAM	**Fiamignano**	**0.23**	**209**	⇑P	Pg	13 41 28.9	+0.2
FIAM				S	Sg	13 41 32.8	+0.8
FIAM				AML	AML		
	comp=N,1270μm,1.1s						
FIAM				AML	AML		
	comp=E,1745μm,1.3s						
FIAM				AML	AML		
	comp=N,1127μm,0.6s						
FIAM				AML	AML		
	comp=E,1296μm,0.3s						
GIGS	**Gran Sasso**	**0.23**	**94**	P	Pg	13 41 28.6	-0.1
GIGS				S	Sg	13 41 33.0	+0.9
GIGS				AML	AML		
	comp=E,558μm,0.7s						
GIGS				AML	AML		
	comp=N,587μm,0.3s						
GIGS				AML	AML		
	comp=E,558μm,1.3s						
GIGS				AML	AML		
	comp=N,469μm,0.4s						
GIGS				AML	AML		
	comp=E,377μm,0.2s						
T1218	**Civita (PG)**	**0.23**	**332**	⇓P	Pg	13 41 29.0	+0.2
T1218				S	Sg	13 41 33.0	+0.8
T1218				AML	AML		
	comp=N,2804μm,0.2s						
T1218				AML	AML		
	comp=E,2526μm,0.2s						
T1218				AML	AML		
	comp=E,2661μm,0.2s						
T1218				AML	AML		
	comp=N,2809μm,0.2s						
FAGN	**Fagnano**	**0.31**	**130**	P	Pb	13 41 30.9	-0.4
FAGN				S	Sb	13 41 35.9	-0.4
FAGN				AML	AML		
	comp=E,2290μm,0.4s						
FAGN				AML	AML		
	comp=N,2040μm,0.3s						
FAGN				AML	AML		
	comp=N,2042μm,0.3s						
FAGN				AML	AML		
	comp=E,2291μm,0.4s						
T1217	**Poggiodomo (PG**	**0.35**	**315**	P	Pg	13 41 31.2	+0.3
T1217				S	Sb	13 41 36.6	-0.9
T1217				AML	AML		
	comp=N,727μm,0.3s						
T1217				AML	AML		
	comp=E,764μm,0.2s						
T1217				AML	AML		
	comp=N,737μm,0.2s						
T1217				AML	AML		
	comp=E,705μm,0.2s						
T0110	**Collepietro**	**0.45**	**122**	⇑P	Pg	13 41 32.6	0.0
T0110				S	Sb	13 41 39.6	-0.7
T0110				AML	AML		
	comp=N,1010μm,1.2s						
T0110				AML	AML		
	comp=E,1192μm,0.6s						
T0110				AML	AML		
	comp=N,976μm,0.4s						
T0110				AML	AML		
	comp=E,1139μm,0.5s						
CSP1	**Cessapalombo**	**0.63**	**356**	S	Sb	13 41 46.4	+0.8
LPEL	**Lama dei Pelig**	**0.80**	**121**	S	Sg	13 41 49.8	+0.1
LPEL				AML	AML		
	comp=E,454μm,1.4s						
LPEL				AML	AML		
	comp=N,346μm,1.3s						
LPEL				AML	AML		
	comp=N,346μm,0.7s						
LPEL				AML	AML		
	comp=E,454μm,0.6s						
LIK	**San Giovanni I**	**0.98**	**167**	S	Sg	13 41 55.5	-0.1

*ROM **18** 13:43:38.4±0.1, 42.484N±0.004×13.259E±0.006, h13km, ML3.0/27, Error ellipse: s-maj=0.5km s-min=0.3km az=236.0*

*BEO **18** 13:43:40.9±0.8, 42.60N×13.39E, h0km, ML3.5/6*

ISC 18 13:43:39.0±0.8, 42.49N±0.02×13.27E±0.02, h13km±4km, n61, σ1.15/81, 11C-8D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**302**	P	**Pg**	**13 43 41.2**	**-0.4**
RM33				S	**Sg**	**13 43 42.8**	**-0.5**
T1247	**Pizzolo (AQ)**	**0.05**	**152**	P	**Pg**	**13 43 41.2**	**-0.3**
T1247				S	**Sg**	**13 43 43.1**	**-0.2**
CAMP	**Campotosto**	**0.12**	**64**	P	**Pg**	**13 43 42.1**	**-0.2**
CAMP				S	**Sg**	**13 43 44.3**	**-0.4**
SMA1	**SAN MARTINO**	**0.15**	**19**	P	**Pg**	**13 43 42.7**	**-0.2**
SMA1				S	**Sg**	**13 43 45.6**	**+0.1**
LNSS	**Leonessa**	**0.20**	**305**	P	**Pg**	**13 43 43.3**	**-0.3**
LNSS				S	**Sg**	**13 43 46.5**	**-0.2**
T1218	**Civita (PG)**	**0.22**	**329**	P	**Pg**	**13 43 43.5**	**-0.3**
T1218				S	**Sg**	**13 43 47.1**	**0.0**
GIGS	**Gran Sasso**	**0.23**	**99**	P	**Pg**	**13 43 43.7**	**-0.2**
GIGS				AML	AML		
	comp=N,2550μm,0.4s						
GIGS				AML	AML		
	comp=N,2550μm,1.6s						
GIGS				AML	AML		
	comp=E,1765μm,0.5s						
GIGS				AML	AML		
	comp=E,1399μm,0.2s						
GIGS				AML	AML		
	comp=N,2549μm,0.4s						
FIAM	**Fiamignano**	**0.24**	**207**	P	**Pg**	**13 43 43.3**	**-0.9**
FIAM				S	**Sg**	**13 43 47.9**	**+0.2**
FIAM				AML	AML		
	comp=E,9490μm,0.5s						
FIAM				AML	AML		
	comp=N,8700μm,0.3s						
FIAM				AML	AML		
	comp=N,8679μm,0.3s						
FIAM				AML	AML		
	comp=E,9509μm,0.5s						
FAGN	**Fagnano**	**0.32**	**133**	P	**Pg**	**13 43 45.8**	**+0.2**
FAGN				AML	AML		
	comp=N,7295μm,0.4s						
FAGN				AML	AML		
	comp=E,8230μm,0.4s						
FAGN				AML	AML		
	comp=E,8233μm,0.4s						
FAGN				AML	AML		
	comp=N,7293μm,0.4s						
T1217	**Poggiodomo (PG**	**0.34**	**313**	P	**Pg**	**13 43 45.3**	**-0.6**
T1217				S	**Sg**	**13 43 50.8**	**+0.3**
T1217				AML	AML		
	comp=E,5930μm,0.3s						
T1217				AML	AML		
	comp=N,5080μm,1.5s						
T1217				AML	AML		
	comp=N,5040μm,1.5s						
T1217				AML	AML		
	comp=E,5930μm,0.3s						
T1217				AML	AML		
	comp=E,5870μm,0.3s						
T1217				AML	AML		
	comp=N,5040μm,1.5s						
T1217				AML	AML		
	comp=E,5930μm,1.7s						
T1217				AML	AML		
	comp=E,5870μm,1.7s						
T1217				AML	AML		
	comp=N,5080μm,1.5s						

T1217				AML	AML			
	comp=E,5871µm,0.3s							
T1217				AML	AML			
	comp=N,4221µm,0.1s							
T1217				AML	AML			
	comp=N,4266µm,0.2s							
T1217				AML	AML			
	comp=E,5928µm,0.3s							
T0110	**Collepietro**	**0.46**	**124**	P	**Pg**	**13 43 47.5**	**-0.6**	
T0110				AML	AML			
	comp=E,2810µm,0.4s							
T0110				AML	AML			
	comp=N,3310µm,0.3s							
T0110				AML	AML			
	comp=E,2810µm,1.6s							
T0110				AML	AML			
	comp=N,3307µm,0.3s							
T0110				AML	AML			
	comp=E,2813µm,0.4s							
PTQR	**Pietraquaria**	**0.47**	**168**	P	**Pg**	**13 43 47.5**	**-0.9**	
PTQR				AML	AML			
	comp=N,649µm,0.5s							
PTQR				AML	AML			
	comp=E,772µm,0.4s							
PTQR				AML	AML			
	comp=E,772µm,0.4s							
PTQR				AML	AML			
	comp=N,649µm,0.5s							
PTQR				AML	AML			
	comp=E,772µm,0.4s							
FEMA	**Monte Fema**	**0.50**	**342**	⇑P	**Pg**	**13 43 48.7**	**-0.3**	
FEMA				AML	AML			
	comp=N,4440µm,0.4s							
FEMA				AML	AML			
	comp=N,4440µm,0.4s							
FEMA				AML	AML			
	comp=E,4735µm,0.2s							
FEMA				AML	AML			
	comp=N,4440µm,1.6s							
FEMA				AML	AML			
	comp=E,4735µm,0.2s							
FEMA				AML	AML			
	comp=N,3264µm,0.2s							
CESX	**Cesi**	**0.52**	**284**	P	**Pg**	**13 43 48.5**	**-0.8**	
CESX				AML	AML			
	comp=E,1625µm,0.7s							
CESX				AML	AML			
	comp=N,1945µm,0.3s							
CESX				AML	AML			
	comp=E,1625µm,1.3s							
CESX				AML	AML			
	comp=N,1943µm,0.3s							
CESX				AML	AML			
	comp=E,1483µm,0.3s							
FDMO	**Fiordimonte**	**0.57**	**347**	⇑P	**Pg**	**13 43 49.4**	**-0.8**	
CERT	**Cerreto**	**0.58**	**202**	P	**Pg**	**13 43 49.4**	**-0.9**	
CERT				AML	AML			
	comp=E,1445µm,0.5s							
CERT				AML	AML			
	comp=N,1101µm,0.3s							
CERT				AML	AML			
	comp=E,1443µm,0.5s							
CERT				AML	AML			
	comp=N,1100µm,0.3s							
TRTR	**Tortoreto Alta**	**0.58**	**56**	P	**Pb**	**13 43 50.5**	**-0.5**	
TRTR				AML	AML			
	comp=E,3483µm,0.3s							
TRTR				AML	AML			
	comp=N,3391µm,0.7s							
GUMA	**Gualdo di Mace**	**0.58**	**5**	⇑P	**Pg**	**13 43 49.9**	**-0.5**	
GUMA				AML	AML			
	comp=E,4910µm,1.1s							
GUMA				AML	AML			
	comp=E,8925µm,0.2s							
GUMA				AML	AML			
	comp=E,4910µm,0.9s							
GUMA				AML	AML			
	comp=N,7145µm,0.5s							
GUMA				AML	AML			
	comp=N,8140µm,0.5s							
GUMA				AML	AML			
	comp=N,7146µm,0.5s							
GUMA				AML	AML			
	comp=E,4608µm,0.2s							
GUMA				AML	AML			
	comp=N,8122µm,0.5s							
GUMA				AML	AML			
	comp=E,8920µm,0.2s							
CESI	**CESI - Serrava**	**0.58**	**333**	⇑P	**Pg**	**13 43 49.8**	**-0.7**	
CESI				AML	AML			
	comp=N,2530µm,0.2s							
CESI				AML	AML			
	comp=E,1520µm,0.2s							
CESI				AML	AML			
	comp=E,1522µm,0.2s							
CESI				AML	AML			
	comp=N,2530µm,0.2s							
MTCE	**Montecelio**	**0.60**	**220**	P	**Pg**	**13 43 50.9**	**0.0**	
MTCE				AML	AML			
	comp=E,1170µm,0.5s							
MTCE				AML	AML			
	comp=N,734µm,0.4s							
MTCE				AML	AML			
	comp=N,734µm,0.4s							
MTCE				AML	AML			
	comp=E,1170µm,0.5s							
MOMA	**Monte Martano**	**0.60**	**302**	P	**Pg**	**13 43 50.4**	**-0.5**	
MOMA				S	**Sg**	**13 43 59.5**	**+0.6**	
MOMA				AML	AML			
	comp=N,1755µm,0.3s							
MOMA				AML	AML			
	comp=E,2040µm,0.2s							
MOMA				AML	AML			
	comp=N,1760µm,0.3s							
MOMA				AML	AML			
	comp=E,2065µm,0.2s							
MOMA				AML	AML			
	comp=N,1840µm,0.3s							
MOMA				AML	AML			
	comp=E,2067µm,0.2s							
MOMA				AML	AML			
	comp=N,1840µm,0.3s							
MOMA				AML	AML			
	comp=N,1758µm,0.3s							
MOMA				AML	AML			
	comp=E,2036µm,0.2s							
CSP1	**Cessapalombo**	**0.61**	**356**	⇑P	**Pg**	**13 43 50.1**	**-0.8**	
CSP1				S	**Sb**	**13 43 59.5**	**-0.7**	
CSP1				AML	AML			
	comp=E,1950µm,0.8s							
CSP1				AML	AML			
	comp=E,1945µm,0.8s							
CSP1				AML	AML			
	comp=N,2030µm,0.7s							
CSP1				AML	AML			
	comp=E,1945µm,1.2s							
CSP1				AML	AML			
	comp=E,1599µm,0.3s							
CSP1				AML	AML			
	comp=N,1790µm,0.5s							
SRES	**S.Oreste - Sor**	**0.61**	**246**	⇓P	**Pg**	**13 43 50.9**	**-0.1**	
SRES				AML	AML			
	comp=E,798µm,1.6s							
SRES				AML	AML			
	comp=E,798µm,0.4s							
SRES				AML	AML			
	comp=N,874µm,0.6s							
SRES				AML	AML			
	comp=N,875µm,0.6s							
SRES				AML	AML			
	comp=E,782µm,0.3s							
T1220	**Camerino, Fraz**	**0.64**	**348**	⇓P	**Pg**	**13 43 50.6**	**-0.9**	
T1220				S	**Sb**	**13 44 01.1**	**+0.1**	
T1220				AML	AML			
	comp=E,5315µm,0.6s							
T1220				AML	AML			
	comp=N,6395µm,1.2s							
T1220				AML	AML			
	comp=N,6430µm,1.2s							
T1220				AML	AML			
	comp=E,5265µm,0.6s							
T1220				AML	AML			
	comp=N,6395µm,1.2s							
T1220				AML	AML			
	comp=N,6435µm,1.2s							
T1220				AML	AML			
	comp=E,5315µm,0.5s							
T1220				AML	AML			
	comp=N,6395µm,0.8s							
T1220				AML	AML			
	comp=E,5270µm,0.6s							
T1220				AML	AML			
	comp=N,6435µm,0.8s							
T1220				AML	AML			
	comp=N,5872µm,0.3s							
T1220				AML	AML			
	comp=E,4881µm,0.3s							
T1220				AML	AML			
	comp=N,5942µm,0.5s							
T1220				AML	AML			
	comp=E,4847µm,0.2s							
MNTP	**Montappone**	**0.67**	**13**	⇓P	**Pg**	**13 43 52.0**	**-0.1**	
MNTP				AML	AML			
	comp=E,2815µm,0.7s							
MNTP				AML	AML			
	comp=N,1855µm,0.2s							
MNTP				AML	AML			
	comp=E,2815µm,1.3s							
MNTP				AML	AML			
	comp=E,2561µm,0.3s							
MNTP				AML	AML			
	comp=N,1856µm,0.2s							
ASSB	**Assisi San Ben**	**0.71**	**321**	⇓P	**Pg**	**13 43 52.4**	**-0.6**	
ASSB				AML	AML			
	comp=E,992µm,0.3s							
ASSB				AML	AML			
	comp=N,1108µm,1.2s							
ASSB				AML	AML			
	comp=N,1108µm,0.8s							
ASSB				AML	AML			
	comp=N,1062µm,0.2s							
ASSB				AML	AML			
	comp=E,991µm,0.3s							
SNTG	**Esanatoglia**	**0.81**	**343**	⇑P	**Pg**	**13 43 53.8**	**-0.9**	
SNTG				AML	AML			
	comp=N,797µm,0.8s							
SNTG				AML	AML			
	comp=E,600µm,0.2s							
SNTG				AML	AML			
	comp=N,640µm,0.3s							
SNTG				AML	AML			
	comp=E,656µm,1.0s							
SNTG				AML	AML			
	comp=E,656µm,1.0s							
SNTG				AML	AML			
	comp=N,634µm,0.3s							
SNTG				AML	AML			
	comp=E,630µm,0.2s							
SNTG				AML	AML			
	comp=N,640µm,0.3s							
SNTG				AML	AML			
	comp=E,600µm,0.2s							
LPEL	**Lama dei Peligno**	**0.81**	**122**	⇑P	**Pg**	**13 43 53.3**	**-1.4**	
LPEL				S	**Sg**	**13 44 04.8**	**-0.5**	
LPEL				AML	AML			
	comp=N,952µm,1.1s							
LPEL				AML	AML			
	comp=E,988µm,0.1s							
LPEL				AML	AML			
	comp=N,811µm,0.1s							
LPEL				AML	AML			
	comp=E,989µm,0.1s							
ATCC	**AVT- Casa Cast**	**0.84**	**327**	S	**Sb**	**13 44 08.4**	**+1.6**	
ATCC				AML	AML			
	comp=E,978µm,1.2s							
ATCC				AML	AML			
	comp=N,960µm,0.4s							
ATCC				AML	AML			
	comp=E,978µm,0.8s							
EL6	**Elcito**	**0.85**	**352**	⇑P	**Pg**	**13 43 55.1**	**-0.4**	
EL6				S	**Sb**	**13 44 08.4**	**+1.2**	
EL6				AML	AML			
	comp=E,1775µm,1.5s							
EL6				AML	AML			
	comp=N,1595µm,0.4s							
EL6				AML	AML			
	comp=E,1775µm,0.5s							
EL6				AML	AML			
	comp=E,1604µm,0.4s							
EL6				AML	AML			
	comp=N,1594µm,0.4s							
FOSV	**Fossato di Vic**	**0.89**	**336**	⇓P	**Pg**	**13 43 55.7**	**-0.6**	
FOSV				AML	AML			
	comp=E,601µm,0.3s							
FOSV				AML	AML			
	comp=N,602µm,0.4s							
FOSV				AML	AML			
	comp=E,601µm,0.3s							
FOSV				AML	AML			
	comp=N,602µm,0.4s							
MGAB	**Montegabbione**	**0.95**	**297**	⇑P	**Pg**	**13 43 57.1**	**-0.4**	
MGAB				AML	AML			
	comp=E,752µm,0.6s							
MGAB				AML	AML			
	comp=N,1032µm,0.4s							
MGAB				AML	AML			
	comp=E,860µm,0.4s							
MGAB				AML	AML			
	comp=N,1078µm,0.4s							
MGAB				AML	AML			
	comp=E,752µm,1.4s							
MGAB				AML	AML			
	comp=E,860µm,1.6s							
MGAB				AML	AML			
	comp=N,1034µm,0.4s							
MGAB				AML	AML			
	comp=E,860µm,0.4s							
MGAB				AML	AML			
	comp=N,1079µm,0.4s							
MGAB				AML	AML			
	comp=E,751µm,0.6s							
ARVD	**Arcevia**	**1.04**	**347**	⇓P	**Pg**	**13 43 58.0**	**-1.1**	
ARVD				S	**Sn**	**13 44 13.9**	**0.0**	
ARVD				AML	AML			
	comp=E,970µm,1.1s							
ARVD				AML	AML			
	comp=N,538µm,0.5s							
ARVD				AML	AML			
	comp=E,970µm,0.9s							
ARVD				AML	AML			
	comp=N,538µm,1.5s							
ARVD				AML	AML			
	comp=E,815µm,0.6s							
ARVD				AML	AML			
	comp=N,539µm,0.5s							
AOI	**Ancona**	**1.09**	**13**	⇑P	**Pg**	**13 43 59.1**	**-1.0**	
AOI				AML	AML			
	comp=N,591µm,0.3s							
AOI				AML	AML			
	comp=E,750µm,0.4s							
FRON	**Frontone**	**1.11**	**339**	⇓P	**Pg**	**13 43 59.0**	**-1.4**	
FRON				AML	AML			
	comp=E,426µm,0.7s							
FRON				AML	AML			
	comp=N,817µm,0.5s							
FRON				AML	AML			
	comp=E,426µm,1.3s							
FRON				AML	AML			
	comp=E,368µm,0.5s							
FRON				AML	AML			
	comp=N,817µm,0.5s							
PIEI	**Pieia**	**1.18**	**333**	S	**Sn**	**13 44 18.6**	**+1.2**	
PIEI				AML	AML			
	comp=E,492µm,0.4s							
PIEI				AML	AML			
	comp=E,492µm,1.6s							
PIEI				AML	AML			
	comp=N,360µm,0.5s							
PE3	**Peglio**	**1.34**	**335**	⇓P	**Pg**	**13 44 06.3**	**+1.6**	
PTRJ	**Metraroja**	**1.46**	**140**	S	**Sg**	**13 44 26.9**	**+0.7**	
MAON	**Monte Argentar**	**1.58**	**269**	⇑P	**Pn**	**13 44 05.8**	**-1.0**	
MRB1	**Monte Rocchett**	**1.86**	**136**	S	**Sg**	**13 44 39.2**	**+0.3**	
FIVI	**Fivizzano**	**2.88**	**309**	S	**Sg**	**13 45 09.7**	**-2.0**	
STON	**Ston**	**3.29**	**82**	*e*Pn	**Pn**	**13 44 31.1**	**+0.8**	
STON				*e*Sn	**Sn**	**13 45 09.4**	**+0.1**	
TREB	**Trebinje**	**3.76**	**85**	*e*Sn	**Sn**	**13 45 20.7**	**-0.2**	
OBKA	**Obir**	**4.13**	**12**	*i* Pn	**Pn**	**13 44 40.8**	**-1.1**	
	comp=N,1.2nm,0.2s							
OBKA				*e*Pn	**Pg**	**13 44 55.7**	**-2.4**	
	comp=N,4.4nm,0.5s							
MYKA	**Terra Mystica**	**4.15**	**4**	*e*Pn	**Pn**	**13 44 42.1**	**-0.1**	
	comp=N,0.7nm,0.1s							
ABTA	**Abfaltersbach**	**4.30**	**353**	*i* Pn	**Pn**	**13 44 45.8**	**+1.6**	
	comp=N,2.1nm,0.2s							
PDG	**Podgorica**	**4.43**	**89**	*e*Pn	**Pn**	**13 44 47.9**	**+1.9**	
PDG				*e*Sn	**Sn**	**13 45 38.4**	**+1.0**	
KBA	**Koelnbreinsper**	**4.59**	**1**	*e*Pn	**Pn**	**13 44 53.1**	**+4.7**	
	comp=N,1.7nm,0.3s							
BBLS	**Lazići**	**4.70**	**71**	*e*Pn	**Pn**	**13 44 51.1**	**+1.4**	
FETA	**Feichten**	**4.88**	**339**	*e*Pn	**Pn**	**13 44 50.7**	**-1.7**	
	comp=N,2.1nm,0.7s							
SQTA	**Sankt Quirin**	**4.96**	**344**	*i* Pn	**Pn**	**13 44 56.1**	**+2.8**	
	comp=N,0.8nm,0.2s							
SJES	**Sjenica**	**4.99**	**79**	*e*Pn	**Pn**	**13 44 55.7**	**+1.9**	
IVAS	**Ivanjica**	**5.16**	**75**	*e*Pn	**Pn**	**13 44 57.1**	**+1.0**	
IVAS				*e*Sn	**Sn**	**13 45 55.5**	**-0.1**	
FRGS	**Fruska Gora**	**5.43**	**58**	*e*Pn	**Pn**	**13 44 59.9**	**+0.1**	
SELS	**Selova**	**5.82**	**80**	*e*Pn	**Pn**	**13 45 06.3**	**+1.2**	
FNA	**Florina**	**6.31**	**103**	*e*Pn	**Pn**	**13 45 14.1**	**+2.2**	
FNA				*e*Sn	**Sn**	**13 46 22.8**	**-1.0**	
BARS	**Barje**	**6.31**	**84**	*e*Pn	**Pn**	**13 45 13.4**	**+1.5**	
BARS				*e*Sn	**Sn**	**13 46 22.9**	**-0.9**	
PRVS	**Prvonek**	**6.51**	**87**	*e*Pn	**Pn**	**13 45 15.9**	**+1.3**	
ZAGS	**Zajecar**	**6.69**	**76**	*e*Pn	**Pn**	**13 45 17.7**	**+0.7**	
ZAPS	**Zavoj**	**6.93**	**80**	*e*Sn	**Sn**	**13 46 37.2**	**-1.8**	
VTS	**Vitosha**	**7.36**	**86**	*e*Pn	**Pn**	**13 45 26.5**	**+0.1**	

*IDC **18** 13:51:34.7±0.6,32°.88N×39°.77W,h0km,mb4.1/17, mbtmp4.1/17,MS4.1/6,Error ellipse: s-maj=18.6km s-min=16.6km az=132.0*

*NEIC **18** 13:51:36.6±1.5,32°.80N±0°.06×39°.7W±0°.1,h10km±1km, mb4.8/40,Error ellipse: s-maj=18.4km s-min=8.7km az=111.0*

ISC 18 13:51:35.6±0.5,32°.88N±0°.09×39°.68W±0°.08,h8km,n70, σ0s84/60,mb4.6/36,MS4.2/6,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M**	**18.90**	**84**	P	**P**	**13 55 54.0**	**-2.8**
MACI	**Morro de la Ar**	**20.46**	**97**	P	**P**	**13 56 13.3**	**-0.6**
DRLN	**Deer Lake**	**21.15**	**326**	P	**P**	**13 56 20.8**	**-0.2**
DRLN				IAmb	IAmb	13 56 25.0	
	comp=Z,71nm,1.1s						
LMN	**Caledonia Moun**	**23.29**	**311**	P	**P**	**13 56 44.0**	**+0.2**
LMN				IAmb	IAmb	13 56 56.6	
	comp=Z,30nm,1.2s						
G65A	**Princeton**	**24.82**	**308**	P	**P**	**13 56 57.5**	**-0.7**
G65A				IAmb	IAmb	13 57 27.2	
	comp=Z,47nm,1.2s						
PFVI	**Vila Bisbo**	**25.59**	**72**	P	**P**	**13 57 05.8**	**+0.5**
SMRT	**St. Maarten**	**25.65**	**241**	P	**P**	**13 57 04.6**	**-1.3**
CBE	**Ff, Capester**	**25.91**	**235**	P	**P**	**13 57 09.0**	**+0.7**
F63A	**Nahmakanta, Br**	**26.01**	**308**	P	**P**	**13 57 09.9**	**+0.9**
F63A				IAmb	IAmb	13 57 35.3	
	comp=Z,32nm,1.4s						
D62A	**Allapoint, All**	**26.46**	**311**	P	**P**	**13 57 14.4**	**+1.3**
D62A				IAmb	IAmb	13 57 40.7	
	comp=Z,44nm,1.8s						
BCX	**Boston College**	**26.58**	**300**	P	**P**	**13 57 15.4**	**+1.2**
BBTS	**Babate**	**27.73**	**125**	LR	LR	14 06 11.1	
	comp=Z,586nm,18.6s,baz=38,slow=32						
AOPR	**Arecibo Observ**	**28.24**	**246**	P	**P**	**13 57 29.0**	**-0.3**
CPNY	**Central Park**	**28.45**	**296**	P	**P**	**13 57 31.2**	**+0.3**
SCHQ	**Schefferville**	**29.15**	**327**	P	**P**	**13 57 35.9**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=138,slow=8.6,SNR=4.0						
	comp=Z,1.6nm,0.7s						
MDT	**Midelt**	**29.40**	**80**	LR	LR	14 06 50.5	
	comp=Z,166nm,20.5s,baz=352,slow=31						
ESDC	**Sonseca Array**	**29.48**	**66**	LR	LR	14 06 19.3	
	comp=Z,123nm,21.2s,baz=93,slow=30						
BAUV	**El Baul**	**35.36**	**234**	P	**P**	**13 58 32.1**	**+0.2**
SDV	**Santo Domingo**	**37.20**	**237**	P	**P**	**13 58 48.0**	**+0.2**
SDV				IAmb	IAmb	13 58 50.8	
	comp=Z,19nm,1.0s						
TORD	**Torodi Ar. Bea**	**42.48**	**108**	P	**P**	**13 59 32.1**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=309,slow=6.2,SNR=4.7						
	comp=Z,5.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**42.48**	**108**	P	**P**	**13 59 31.9**	**+0.4**
NOA	**NORSAR Array B**	**43.16**	**34**	P	**P**	**13 59 36.2**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=255,slow=8.5,SNR=2.7						
	comp=Z,1.3nm,0.9s						
FCC	**Fort Churchill**	**44.31**	**323**	P	**P**	**13 59 45.7**	**0.0**
FCC				IAmb	IAmb	13 59 53.7	
	comp=Z,23nm,1.7s						
H10N2	**ASCENSION HYDR**	**46.99**	**145**	T	T	14 50 10.8	
	baz=329,slow=75						
H10N3	**ASCENSION HYDR**	**46.99**	**145**	T	T	14 50 11.4	
	baz=329,slow=75						
H10N1	**ASCENSION HYDR**	**47.01**	**145**	T	T	14 50 11.0	
	baz=329,slow=75						
H10S3	**ASCENSION HYDR**	**47.88**	**146**	T	T	14 51 29.4	
	baz=330,slow=74,SNR=112						
H10S2	**ASCENSION HYDR**	**47.90**	**146**	T	T	14 51 29.8	
	baz=250,slow=74,SNR=47						
WMOK	**Wichita Mounta**	**48.54**	**289**	P	**P**	**14 00 19.1**	**-0.3**
WMOK				IAmb	IAmb	14 01 52.8	
	comp=Z,6.9nm,1.3s						
BDFB	**Brasilia**	**48.82**	**191**	P	**P**	**14 00 21.2**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=24,slow=7.1,SNR=5.4						
	comp=Z,3.7nm,0.7s						
ETMB	**Extrema**	**49.36**	**215**	P	**P**	**14 00 25.9**	**+0.2**
ETMB				IAmb	IAmb	14 00 26.6	
	comp=Z,7.9nm,1.4s						
RES	**Resolute Bay**	**49.65**	**343**	P	**P**	**14 00 28.2**	**+1.0**
RES				IAmb	IAmb	14 01 36.6	
	comp=Z,9.4nm,0.5s						
FINES	**FINESS Array B**	**50.28**	**35**	P	**P**	**14 00 31.7**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=251,slow=5.8,SNR=8.4						
	comp=Z,3.2nm,0.7s						
CZSB	**Cruzeiro do Su**	**51.11**	**224**	P	**P**	**14 00 38.8**	**-0.3**
CZSB				IAmb	IAmb	14 00 39.9	
	comp=Z,11nm,0.8s						
AKASG	**Malin Array Be**	**52.49**	**48**	P	**P**	**14 00 48.6**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=278,slow=6.5,SNR=12						
	comp=Z,2.5nm,0.7s						
MCRA	**Macar, Loja**	**53.13**	**234**	P	**P**	**14 00 53.9**	**-0.3**
TX31	**Lajitas Ar. Si**	**54.17**	**285**	P	**P**	**14 01 01.6**	**-0.2**
TX31				IAmb	IAmb	14 01 02.8	
	comp=Z,5.9nm,0.9s						
TX32	**Lajitas Array**	**54.17**	**285**	P	**P**	**14 01 01.7**	**-0.1**
TXAR	**Lajitas Array**	**54.17**	**285**	P	**P**	**14 01 01.5**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=96,slow=7.6,SNR=16						
	comp=Z,1.5nm,0.8s						
YKA	**Yellowknife Ar**	**54.60**	**327**	P	**P**	**14 01 03.6**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=82,slow=7.4,SNR=5.8						
	comp=Z,0.8nm,0.8s						
YMP	**Mirror Lake Pl**	**54.63**	**305**	P	**P**	**14 01 05.3**	**+0.1**
YMP				IAmb	IAmb	14 01 06.5	
	comp=Z,10nm,1.0s						
PD31	**Pinedale Array**	**54.68**	**302**	P	**P**	**14 01 04.8**	**-0.7**
PDAR	**Pinedale Array**	**54.68**	**302**	P	**P**	**14 01 05.0**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=79,slow=8.3,SNR=25						
	comp=Z,3.4nm,0.9s						
PDAR	**Pinedale Array**	**54.68**	**302**	P	**P**	**14 01 04.5**	**-1.0**
IMW	**Indian Meadow**	**55.38**	**304**	P	**P**	**14 01 10.6**	**0.0**
LPAZ	**La Paz**	**55.88**	**214**	P	**P**	**14 01 15.9**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=36,slow=8.5,SNR=7.8						
	comp=Z,1.8nm,0.6s						
LPAZ	**La Paz**	**55.88**	**214**	P	**P**	**14 01 14.4**	**-0.3**
LPAZ				IAmb	IAmb	14 01 16.8	
	comp=Z,30nm,1.9s						
NLU	**North Lily Min**	**57.27**	**299**	P	**P**	**14 01 25.0**	**+1.0**
A36M	**Sachs Harbour**	**57.81**	**338**	P	**P**	**14 01 27.1**	**+0.1**
A36M				IAmb	IAmb	14 02 02.5	
	comp=Z,7.9nm,1.2s						
CCUT	**Cedar City**	**58.98**	**297**	P	**P**	**14 01 36.7**	**+0.6**
CCUT				IAmb	IAmb	14 01 38.0	
	comp=Z,6.3nm,1.3s						
MNMC	**Minye Minye**	**59.03**	**213**	P	**P**	**14 01 35.8**	**-0.8**
MNMC				IAmb	IAmb	14 01 37.2	
	comp=Z,11nm,0.9s						
PRN	**Pahroc Range**	**60.29**	**297**	P	**P**	**14 01 45.9**	**+0.9**
PRN				IAmb	IAmb	14 01 49.0	
	comp=Z,6.5nm,1.1s						
J08A	**Circle Bar Ran**	**60.77**	**305**	P	**P**	**14 01 48.6**	**+0.5**
INK	**Inuvik**	**61.35**	**335**	P	**P**	**14 01 50.2**	**-1.2**
	comp=Z,3.5nm,1.1s,baz=52,slow=5.9,SNR=7.1						
	comp=Z,3.5nm,1.1s						
INK	**Inuvik**	**61.35**	**335**	P	**P**	**14 01 51.5**	**0.0**
INK				IAmb	IAmb	14 01 54.9	
	comp=Z,11nm,1.4s						
KVN	**Kaiserville**	**61.97**	**300**	P	**P**	**14 01 55.9**	**-0.6**
KVN				IAmb	IAmb	14 01 57.3	
	comp=Z,3.6nm,0.9s						
NVAR	**Mina Array Bea**	**62.34**	**300**	P	**P**	**14 01 58.8**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=76,slow=5.9,SNR=11						
	comp=Z,1.2nm,0.8s						

ILAR	**Eielson Array**	**67.64**	**334**	P	**P**	**14 02 32.4**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=50,slow=5.5,SNR=6.1						
	comp=Z,0.6nm,0.9s						
CFA	**Coronel Fontan**	**69.51**	**206**	LR	LR	14 33 06.2	
	comp=Z,196nm,21.7s,baz=68,slow=36						
NRIK	**Noril'sk**	**71.14**	**17**	P	**P**	**14 02 55.9**	**+1.6**
	comp=Z,4.8nm,0.3s,baz=323,slow=5.1,SNR=10						
	comp=Z,4.8nm,0.3s						
ABKAR	**Akbulak array**	**71.64**	**43**	P	**P**	**14 02 58.5**	**+0.8**
BRVK	**Borovoye**	**75.15**	**36**	P	**P**	**14 03 19.3**	**+1.0**
TIXI	**Tiksi**	**75.53**	**4**	P	**P**	**14 03 21.0**	**+0.9**
ATD	**Arta Tunnel**	**77.62**	**84**	LR	LR	14 38 32.5	
	comp=Z,100nm,19.0s,baz=62,slow=36						
PLCA	**Paso Flores**	**78.53**	**203**	P	**P**	**14 03 38.3**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=63,slow=2.9,SNR=6.0						
PLCA				LR	LR	14 40 30.5	
	comp=Z,204nm,18.5s,baz=66,slow=37						
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**81.21**	**30**	P	**P**	**14 03 53.2**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=266,slow=5.9,SNR=3.6						
	comp=Z,0.9nm,0.7s						
MK31	**Makanchi Array**	**85.11**	**36**	P	**P**	**14 04 11.9**	**-0.3**
MKAR	**Makanchi Array**	**85.11**	**36**	P	**P**	**14 04 12.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=329,slow=4.8,SNR=8.3						
	comp=Z,0.8nm,0.7s						
WMQ	**Urumqi**	**89.89**	**35**	*e*P	**P**	**14 04 33.5**	**-1.9**
WMQ				sP	pwP	14 04 43.5	+2.8
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
ASAR	**Alice Springs**	**169.29**	**33**	PKPab	**PKPab**	**14 12 56.8**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=316,slow=2.6,SNR=2.1						

*JMA **18** 13:53:04.9±0.2,36.2N±0.4×142.5E±0.9,h69km,MV2.9/23, FAR E OFF KANTO*
*IDC **18** 13:53:09.0±1.7,36.71N×141.85E,h0km,mb3.4/4, mbtmp3.3/5,ML2.0/1,Error ellipse: s-maj=32.6km s-min=21.8km az=33.0*

ISC 18 13:53:05.3±2.3,36.25N±0.10×142.4E±0.1,h10km,n19, σ0.42/17,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.35**	**247**	P	**Pn**	**13 53 29.5**	**-0.7**
JHYU	**Hitachinakayam**	**1.45**	**274**	P	**Pn**	**13 53 31.4**	**-0.1**
JHYU				*e*S	**Sn**	**13 53 50.6**	**0.0**
JHO	**Hitachi**	**1.50**	**284**	P	**Pn**	**13 53 31.8**	**-0.5**
JHO				*e*S	**Sn**	**13 53 52.1**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.53**	**304**	P	**Pn**	**13 53 32.3**	**-0.4**
ONAJ				S	**Sn**	**13 53 52.9**	**+0.2**
JFK	**Kawauchi**	**1.64**	**313**	P	**Pn**	**13 53 33.5**	**-0.7**
JFK				S	**Sn**	**13 53 55.4**	**-0.1**
JAG	**Ashikaga**	**2.37**	**275**	P	**Pn**	**13 53 44.2**	**0.0**
JAG				*e*S	**Sn**	**13 54 13.1**	**-0.2**
JRY	**Ryogami san**	**2.82**	**266**	P	**Pn**	**13 53 50.3**	**-0.2**
JRY				*e*S	**Sn**	**13 54 24.5**	**-0.1**
JOD2	**Odawara 2**	**2.85**	**251**	P	**Pn**	**13 53 50.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.37**	**276**	Pn	**Pn**	**13 53 57.8**	**-0.3**
	0.2nm,0.3s,baz=90,slow=14,SNR=12						
MJAR				Lg	Lg	13 54 40.7	
	0.1nm,0.3s,baz=81,slow=30,SNR=1.8						
	1.7nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.08**	**121**	T	T	14 26 58.4	
	baz=312,slow=74,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**27.09**	**121**	T	T	14 26 59.5	
	baz=312,slow=74,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**27.10**	**121**	T	T	14 27 00.2	
	baz=312,slow=74,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**27.78**	**123**	T	T	14 27 47.3	
	baz=315,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.79**	**123**	T	T	14 27 49.4	
	baz=315,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.80**	**123**	T	T	14 27 47.8	
	baz=315						
SONM	**Songino Array**	**28.87**	**305**	P	**P**	**13 59 04.9**	**+0.8**
	0.6nm,0.8s,baz=115,slow=8.5,SNR=2.9						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**45.19**	**303**	P	**P**	**14 01 22.2**	**-0.2**
	0.4nm,0.7s,baz=97,slow=9.7,SNR=5.2						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**56.40**	**189**	P	P	14 02 53.7	+6.8
	0.4nm,0.8s,baz=0.6,slow=7.6,SNR=1.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**60.13**	**189**	P	P	14 03 21.4	+8.4
	0.2nm,0.7s,baz=9.5,slow=6.8,SNR=4.4						
	0.2nm,0.7s						

ROM 18 13:56:16.4±0.1,42.474N±0.004×13.261E±0.005, h13km,ML2.9/12,12C-11D,Error ellipse: s-maj=0.4km s-min=0.2km az=236.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.04**	**139**	P	Pg	13 56 19.3	+0.3
T1247				S	Sg	13 56 21.2	+0.5
T1247				AML	AML		
	comp=E,73900μm,0.3s						
T1247				AML	AML		
	comp=N,91900μm,0.2s						
T1247				AML	AML		
	comp=E,73892μm,0.3s						
T1247				AML	AML		
	comp=N,92085μm,0.2s						
RM33	**Pellescritta (**	**0.05**	**316**	⇓P	Pg	13 56 19.3	+0.2
RM33				S	Sg	13 56 21.1	+0.2
RM33				AML	AML		
	comp=N,16800μm,0.7s						
RM33				AML	AML		
	comp=E,21900μm,1.1s						
RM33				AML	AML		
	comp=E,22550μm,1.1s						
RM33				AML	AML		
	comp=N,16850μm,0.7s						
RM33				AML	AML		
	comp=N,16700μm,0.7s						
RM33				AML	AML		
	comp=E,19989μm,0.3s						
RM33				AML	AML		
	comp=E,20123μm,0.4s						
RM33				AML	AML		
	comp=E,19710μm,0.4s						
RM33				AML	AML		
	comp=N,12527μm,0.1s						
RM33				AML	AML		
	comp=N,12494μm,0.1s						
CAMP	**Campotosto**	**0.13**	**60**	P	Pg	13 56 20.0	+0.1
CAMP				S	Sg	13 56 22.6	+0.3
LNSS	**Leonessa**	**0.21**	**308**	⇑P	Pg	13 56 21.4	+0.3
LNSS				S	Sg	13 56 25.0	+0.7
LNSS				AML	AML		
	comp=E,15850μm,0.4s						
LNSS				AML	AML		
	comp=N,11650μm,0.8s						
LNSS				AML	AML		
	comp=N,9043μm,0.7s						
LNSS				AML	AML		
	comp=N,9482μm,0.2s						
T1218	**Civita (PG)**	**0.22**	**331**	⇓P	Pg	13 56 21.6	+0.3
T1218				S	Sg	13 56 25.5	+0.8
T1218				AML	AML		
	comp=E,8615μm,0.3s						
T1218				AML	AML		
	comp=E,8205μm,0.3s						
T1218				AML	AML		
	comp=N,13200μm,0.2s						
T1218				AML	AML		
	comp=E,8610μm,0.4s						
T1218				AML	AML		
	comp=N,13150μm,0.2s						
T1218				AML	AML		
	comp=E,8205μm,0.4s						
T1218				AML	AML		
	comp=N,13150μm,0.2s						
T1218				AML	AML		
	comp=N,13200μm,0.2s						
T1218				AML	AML		
	comp=E,7767μm,0.2s						
T1218				AML	AML		
	comp=N,13151μm,0.2s						
T1218				AML	AML		
	comp=E,6880μm,0.2s						
T1218				AML	AML		
	comp=N,13183μm,0.2s						
GIGS	**Gran Sasso**	**0.23**	**96**	P	Pg	13 56 21.4	0.0
GIGS				S	Sb	13 56 25.8	-0.7
GIGS				AML	AML		
	comp=N,2255μm,0.8s						
GIGS				AML	AML		
	comp=E,1630μm,0.4s						
GIGS				AML	AML		
	comp=N,2260μm,0.8s						
GIGS				AML	AML		
	comp=N,1165μm,0.2s						
GIGS				AML	AML		
	comp=N,1956μm,0.4s						
GIGS				AML	AML		
	comp=E,1626μm,0.4s						
FIAM	**Fiamignano**	**0.23**	**207**	⇑P	Pg	13 56 21.8	+0.4
FIAM				S	Sg	13 56 25.5	+0.6
FIAM				AML	AML		
	comp=E,7335μm,0.6s						
FIAM				AML	AML		
	comp=N,3855μm,0.9s						
FIAM				AML	AML		
	comp=N,3388μm,0.5s						
FIAM				AML	AML		
	comp=N,3676μm,0.4s						
FIAM				AML	AML		
	comp=E,6656μm,0.5s						
T1217	**Poggiodomo (PG**	**0.34**	**314**	⇓P	Pg	13 56 23.7	+0.4
T1217				S	Sb	13 56 29.0	-0.8
T1217				AML	AML		
	comp=E,15400μm,0.3s						
T1217				AML	AML		
	comp=N,23350μm,0.6s						
T1217				AML	AML		
	comp=E,16550μm,0.3s						
T1217				AML	AML		
	comp=N,21300μm,0.6s						
T1217				AML	AML		
	comp=E,4165μm,0.5s						
T1217				AML	AML		
	comp=N,2700μm,0.7s						
T1217				AML	AML		
	comp=E,3795μm,0.5s						
T1217				AML	AML		
	comp=N,2705μm,0.5s						
T1217				AML	AML		
	comp=E,14050μm,0.5s						
T1217				AML	AML		
	comp=N,19500μm,0.3s						
T1217				AML	AML		
	comp=E,16600μm,0.3s						
T1217				AML	AML		
	comp=N,17550μm,0.2s						
T1217				AML	AML		
	comp=E,3796μm,0.5s						
T1217				AML	AML		
	comp=N,2162μm,0.2s						
T1217				AML	AML		
	comp=E,2971μm,0.2s						
T1217				AML	AML		
	comp=E,3360μm,0.2s						
T1217				AML	AML		
	comp=N,2422μm,0.2s						
ARRO	**Arrone**	**0.38**	**286**	⇑P	Pg	13 56 24.2	+0.2
ARRO				AML	AML		
	comp=E,5220μm,0.2s						
ARRO				AML	AML		
	comp=N,2275μm,0.3s						
ARRO				AML	AML		
	comp=E,5840μm,0.7s						
ARRO				AML	AML		
	comp=N,4875μm,0.3s						
ARRO				AML	AML		
	comp=N,2272μm,0.3s						
T0110	**Collepietro**	**0.46**	**123**	⇓P	Pg	13 56 25.4	-0.1
T0110				S	Sb	13 56 32.5	-0.5
T0110				AML	AML		
	comp=N,4995μm,0.3s						
T0110				AML	AML		
	comp=E,4355μm,0.5s						
T0110				AML	AML		
	comp=E,2008μm,1.7s						
T0110				AML	AML		
	comp=E,4355μm,0.5s						
T0110				AML	AML		
	comp=N,4992μm,0.3s						
PTQR	**Pietraquaria**	**0.46**	**167**	P	Pg	13 56 25.8	+0.2
PTQR				AML	AML		
	comp=E,541μm,0.3s						
PTQR				AML	AML		
	comp=N,441μm,0.5s						
PTQR				AML	AML		
	comp=N,431μm,0.6s						
FEMA	**Monte Fema**	**0.51**	**342**	S	Sb	13 56 35.5	+0.8
FEMA				AML	AML		
	comp=E,14050μm,0.6s						
FEMA				AML	AML		
	comp=N,8075μm,0.4s						
FEMA				AML	AML		
	comp=N,8080μm,0.4s						
CESX	**Cesi**	**0.52**	**285**	⇑P	Pg	13 56 26.5	-0.2
CESX				AML	AML		
	comp=E,1465μm,0.6s						
CESX				AML	AML		
	comp=N,1930μm,0.6s						
CESX				AML	AML		
	comp=E,2590μm,0.5s						
CESX				AML	AML		
	comp=N,2675μm,0.5s						
CERT	**Cerreto**	**0.56**	**202**	⇑P	Pg	13 56 27.3	-0.2
CERT				AML	AML		
	comp=E,1065μm,1.4s						
CERT				AML	AML		
	comp=N,932μm,0.8s						
FDMO	**Fiordimonte**	**0.58**	**347**	S	Sb	13 56 37.1	+0.6
FDMO				AML	AML		
	comp=E,3575μm,1.5s						
FDMO				AML	AML		
	comp=N,2800μm,0.3s						
TRTR	**Tortoreto Alta**	**0.59**	**55**	⇑P	Pb	13 56 29.1	+0.6
TRTR				AML	AML		
	comp=E,5780μm,1.1s						
TRTR				AML	AML		
	comp=N,7205μm,0.4s						
TRTR				AML	AML		
	comp=E,5315μm,1.1s						
TRTR				AML	AML		
	comp=N,5345μm,1.0s						
GUMA	**Gualdo di Mace**	**0.59**	**5**	⇓P	Pg	13 56 28.3	+0.3
GUMA				AML	AML		
	comp=E,13750μm,0.3s						
GUMA				AML	AML		
	comp=E,17800μm,0.3s						
GUMA				AML	AML		
	comp=N,15200μm,0.6s						
GUMA				AML	AML		
	comp=N,12850μm,1.5s						
GUMA				AML	AML		
	comp=N,5458μm,0.6s						
GUMA				AML	AML		
	comp=N,6634μm,0.6s						
CESI	**CESI - Serrava**	**0.59**	**334**	⇑P	Pg	13 56 28.3	+0.3
CESI				S	Sb	13 56 37.6	+0.6
CESI				AML	AML		
	comp=E,5970μm,0.2s						
CESI				AML	AML		
	comp=N,9695μm,0.2s						
CESI				AML	AML		
	comp=E,1019μm,0.2s						
SRES	**S.Oreste - Sor**	**0.60**	**247**	P	Pb	13 56 28.7	-0.1
SRES				AML	AML		
	comp=E,503μm,0.5s						
SRES				AML	AML		
	comp=N,664μm,0.7s						
MOMA	**Monte Martano**	**0.61**	**303**	S	Sb	13 56 37.7	+0.3
MOMA				AML	AML		
	comp=E,7720μm,0.2s						
MOMA				AML	AML		
	comp=E,7790μm,0.2s						
MOMA				AML	AML		
	comp=N,4830μm,0.2s						
MOMA				AML	AML		
	comp=N,5360μm,0.2s						
MOMA				AML	AML		
	comp=N,832μm,0.3s						
MOMA				AML	AML		
	comp=N,760μm,0.3s						
CSP1	**Cessapalombo**	**0.62**	**356**	⇓P	Pg	13 56 28.3	-0.2
CSP1				AML	AML		
	comp=E,4090μm,1.0s						
CSP1				AML	AML		
	comp=N,5330μm,1.0s						
CSP1				AML	AML		
	comp=N,642μm,0.3s						
T1220	**Camerino, Fraz**	**0.65**	**349**	⇑P	Pg	13 56 28.9	-0.2
T1220				S	Sb	13 56 39.0	+0.5
T1220				AML	AML		
	comp=E,11950μm,0.6s						
T1220				AML	AML		
	comp=N,10695μm,1.2s						
T1220				AML	AML		
	comp=E,11785μm,0.6s						
T1220				AML	AML		
	comp=N,10850μm,1.2s						
T1220				AML	AML		
	comp=E,11800μm,0.6s						
T1220				AML	AML		
	comp=E,1408μm,0.4s						
RCAV	**Rocca di Cave**	**0.67**	**201**	⇓P	Pn	13 56 31.8	+0.2
RCAV				AML	AML		
	comp=E,1240μm,0.7s						
RCAV				AML	AML		
	comp=N,1560μm,0.4s						
RCAV				AML	AML		
	comp=E,1239μm,0.7s						
RCAV				AML	AML		
	comp=N,1560μm,0.4s						
ASSB	**Assisi San Ben**	**0.72**	**322**	⇓P	Pg	13 56 30.4	-0.1
ASSB				S	Sb	13 56 41.1	+0.4
ASSB				AML	AML		
	comp=E,6560μm,0.2s						
ASSB				AML	AML		
	comp=N,8285μm,0.2s						
RMP	**Rome, Mte Porz**	**0.78**	**212**	⇓P	Pg	13 56 30.0	-1.5
RMP				AML	AML		
	comp=E,1095μm,1.4s						
RMP				AML	AML		
	comp=N,1360μm,0.5s						
LPEL	**Lama dei Pelig**	**0.81**	**122**	⇑P	Pg	13 56 30.9	-1.1
LPEL				S	Sg	13 56 42.5	-0.1
LPEL				AML	AML		
	comp=E,1780μm,1.1s						
LPEL				AML	AML		
	comp=N,1470μm,0.5s						
LPEL				AML	AML		
	comp=E,1040μm,0.2s						
LPEL				AML	AML		
	comp=E,870μm,0.1s						
SNTG	**Esanatoglia**	**0.82**	**343**	S	Sn	13 56 44.9	-0.7
SNTG				AML	AML		
	comp=E,1410μm,0.2s						
SNTG				AML	AML		
	comp=N,1110μm,0.2s						
SNTG				AML	AML		
	comp=E,1340μm,0.3s						
SNTG				AML	AML		
	comp=N,1166μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.84**	**327**	AML	AML		
	comp=E,3735μm,0.3s						
ATCC				AML	AML		
	comp=N,4825μm,1.1s						
EL6	**Elcito**	**0.86**	**352**	⇑P	Pb	13 56 33.2	0.0
EL6				AML	AML		
	comp=E,2240μm,0.9s						
EL6				AML	AML		
	comp=N,2980μm,0.6s						
EL6				AML	AML		
	comp=E,2245μm,0.9s						
EL6				AML	AML		
	comp=N,2985μm,0.6s						
FOSV	**Fossato di Vic**	**0.90**	**336**	⇓P	Pg	13 56 33.5	-0.3
FOSV				AML	AML		
	comp=E,1080μm,1.3s						
FOSV				AML	AML		
	comp=N,1405μm,0.3s						
GIUL	**Giuliano Di Ro**	**0.92**	**180**	⇓P	Pn	13 56 35.7	+0.8
GIUL				AML	AML		
	comp=E,424μm,0.5s						
GIUL				AML	AML		
	comp=N,400μm,0.8s						
MGAB	**Montegabbione**	**0.95**	**298**	⇑P	Pn	13 56 36.4	+0.9
MGAB				S	Sn	13 56 51.8	+2.8
MGAB				AML	AML		
	comp=E,2370μm,1.5s						
MGAB				AML	AML		
	comp=N,2160μm,0.5s						
MGAB				AML	AML		
	comp=E,2460μm,1.5s						
MGAB				AML	AML		
	comp=N,2045μm,0.5s						
MGAB				AML	AML		
	comp=N,819μm,0.5s						
MURB	**Monte Urbino**	**0.96**	**326**	S	Sn	13 56 49.4	+0.3
MURB				AML	AML		
	comp=E,9735μm,0.3s						
MURB				AML	AML		
	comp=N,7905μm,0.3s						
MURB				AML	AML		
	comp=E,9985μm,0.3s						
MURB				AML	AML		
	comp=N,8600μm,0.3s						
ARVD	**Arcevia**	**1.05**	**347**	P	Pb	13 56 36.4	0.0
ARVD				AML	AML		
	comp=N,962μm,0.5s						
ARVD				AML	AML		
	comp=E,1022μm,1.4s						
ARVD				AML	AML		
	comp=E,83μm,2.7s						
SACS	**San Casciano d**	**1.06**	**291**	AML	AML		
	comp=E,576μm,1.2s						
SACS				AML	AML		
	comp=N,690μm,0.5s						
SACS				AML	AML		
	comp=E,551μm,1.2s						
SACS				AML	AML		
	comp=N,696μm,0.5s						
AOI	**Ancona**	**1.10**	**13**	S	Sg	13 56 52.0	-0.1
FRES	**Fresagrandinar**	**1.16**	**115**	S	Sn	13 56 55.7	+1.7
COR1	**Corinaldo**	**1.17**	**351**	S	Sn	13 56 57.3	+3.0
COR1				AML	AML		
	comp=E,1085μm,1.1s						
COR1				AML	AML		
	comp=N,13300μm,1.6s						
CAFI	**Castiglion Fio**	**1.28**	**312**	S	Sb	13 56 56.6	0.0
CAFI				AML	AML		
	comp=E,684μm,0.5s						
CAFI				AML	AML		
	comp=N,771μm,0.7s						
CAFI				AML	AML		
	comp=E,724μm,0.6s						
CAFI				AML	AML		
	comp=N,787μm,0.7s						
MODR	**Mondragone**	**1.41**	**161**	S	Sn	13 56 57.1	-2.9
GSCL	**Gusciola**	**2.70**	**315**	S	Sg	13 57 41.0	-2.3
MMN	**Mormanno**	**3.30**	**141**	S	Sb	13 57 55.0	+0.2
NOCI	**Noci**	**3.31**	**119**	⇑P	Pn	13 57 07.5	-0.4
RNCA	**Ronca, Sant'Ol**	**3.72**	**304**	S	Sn	13 57 57.7	+0.6
STAL	**STALIGIAL**	**3.81**	**354**	S	Sg	13 58 15.0	-3.6
SARZ	**Sarezzano**	**3.96**	**309**	S	Sn	13 58 07.7	+4.7

*ROM **18** 13:56:32.3±0.1,42.531N±0.004×13.277E±0.007, h9km,ML3.5/18,Error ellipse: s-maj=0.6km s-min=0.4km az=67.0*
*PRU **18** 13:56:40.3±0.0,42.85N×12.81E,h10km*

ISC 18 13:56:32.1±0.8,42.52N±0.02×13.26E±0.02,h15km±4km, n86,σ1.09/108,2C-4D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.04**	**252**	⇓P	**Pg**	**13 56 34.8**	**-0.1**
RM33				S	**Sg**	**13 56 36.7**	**-0.1**
RM33				AML	AML		
	comp=N,52250μm,0.3s						
RM33				AML	AML		
	comp=E,49600μm,0.2s						
RM33				AML	AML		
	comp=N,54950μm,0.3s						
RM33				AML	AML		
	comp=E,49750μm,0.2s						
RM33				AML	AML		
	comp=N,54950μm,0.3s						
RM33				AML	AML		
	comp=E,49576μm,0.2s						
RM33				AML	AML		
	comp=N,52223μm,0.3s						

RM33					AML	AML		
	comp=N,54951µm,0.3s							
RM33					AML	AML		
	comp=E,49774µm,0.2s							
T1247	**Pizzolo (AQ)**	**0.08**	**161**	P	**Pg**	**13 56 35.2**	**-0.1**	
T1247				S	**Sg**	**13 56 37.4**	**0.0**	
T1247				AML	AML			
	comp=E,51832µm,0.4s							
T1247				AML	AML			
	comp=E,50202µm,0.5s							
T1247				AML	AML			
	comp=N,44473µm,0.3s							
CAMP	**Campotosto**	**0.11**	**82**	⇑P	**Pg**	**13 56 35.2**	**-0.4**	
CAMP				S	**Sg**	**13 56 37.5**	**-0.5**	
CAMP				AML	AML			
	comp=E,16000µm,0.4s							
CAMP				AML	AML			
	comp=N,21000µm,0.6s							
CAMP				AML	AML			
	comp=N,16812µm,0.6s							
CAMP				AML	AML			
	comp=N,20995µm,0.6s							
CAMP				AML	AML			
	comp=E,15994µm,0.4s							
T1204	**Amatrice, Fraz**	**0.16**	**15**	P	**Pg**	**13 56 36.0**	**-0.3**	
T1204				S	**Sg**	**13 56 38.9**	**-0.2**	
LNSS	**Leonessa**	**0.18**	**297**	⇓P	**Pg**	**13 56 36.7**	**+0.1**	
LNSS				S	**Sb**	**13 56 40.2**	**-0.6**	
LNSS				AML	AML			
	comp=N,80800µm,0.2s							
LNSS				AML	AML			
	comp=E,89900µm,0.4s							
LNSS				AML	AML			
	comp=E,89903µm,0.4s							
LNSS				AML	AML			
	comp=N,80803µm,0.2s							
T1202	**Accumoli, Fraz**	**0.18**	**351**	P	**Pg**	**13 56 36.7**	**0.0**	
T1202				S	**Sb**	**13 56 40.1**	**-0.8**	
T1218	**Civita (PG)**	**0.18**	**324**	⇓P	**Pg**	**13 56 36.5**	**-0.1**	
T1218				S	**Sg**	**13 56 39.9**	**+0.2**	
T1218				AML	AML			
	comp=E,53750µm,0.2s							
T1218				AML	AML			
	comp=N,96650µm,0.2s							
T1218				AML	AML			
	comp=N,97150µm,0.2s							
T1218				AML	AML			
	comp=E,52950µm,0.2s							
T1218				AML	AML			
	comp=E,53750µm,0.2s							
T1218				AML	AML			
	comp=N,96650µm,0.2s							
T1218				AML	AML			
	comp=E,52950µm,0.2s							
T1218				AML	AML			
	comp=N,97150µm,0.2s							
T1218				AML	AML			
	comp=E,53707µm,0.2s							
T1218				AML	AML			
	comp=N,96722µm,0.2s							
T1218				AML	AML			
	comp=N,96940µm,0.2s							
T1218				AML	AML			
	comp=E,52944µm,0.2s							
AQU	**L'Aquila**	**0.20**	**148**	P	**Pg**	**13 56 36.6**	**-0.1**	
AQU				S	**Sg**	**13 56 40.2**	**+0.4**	
GIGS	**Gran Sasso**	**0.24**	**107**	⇑P	**Pg**	**13 56 36.9**	**-0.5**	
GIGS				S	**Sg**	**13 56 40.7**	**-0.3**	
GIGS				AML	AML			
	comp=N,1896µm,0.2s							
GIGS				AML	AML			
	comp=E,2040µm,0.3s							
GIGS				AML	AML			
	comp=N,2641µm,0.2s							
FIAM	**Fiamignano**	**0.27**	**203**	P	**Pb**	**13 56 38.6**	**-0.3**	
T1217	**Poggiodomo (PG**	**0.31**	**308**	⇓P	**Pg**	**13 56 38.6**	**-0.1**	
T1217				S	**Sg**	**13 56 43.6**	**+0.5**	
T1217				AML	AML			
	comp=E,18400µm,0.2s							
T1217				AML	AML			
	comp=N,21300µm,0.6s							
T1217				AML	AML			
	comp=N,23350µm,0.6s							
T1217				AML	AML			
	comp=N,19500µm,0.3s							
T1217				AML	AML			
	comp=E,17050µm,0.2s							
T1217				AML	AML			
	comp=N,17550µm,0.2s							
T1217				AML	AML			
	comp=E,14097µm,0.5s							
T1217				AML	AML			
	comp=N,19511µm,0.3s							
T1217				AML	AML			
	comp=E,18429µm,0.2s							
T1217				AML	AML			
	comp=E,17054µm,0.2s							
T1217				AML	AML			
	comp=N,17588µm,0.2s							
ARRO	**Arrone**	**0.37**	**279**	P	**Pg**	**13 56 39.7**	**0.0**	
ARRO				S	**Sb**	**13 56 45.8**	**-0.4**	
ARRO				AML	AML			
	comp=E,5840µm,0.7s							
ARRO				AML	AML			
	comp=N,9835µm,0.3s							
ARRO				AML	AML			
	comp=E,5846µm,1.8s							
ARRO				AML	AML			
	comp=E,5323µm,0.2s							
ARRO				AML	AML			
	comp=N,9821µm,0.3s							
FEMA	**Monte Fema**	**0.47**	**341**	P	**Pg**	**13 56 41.2**	**-0.3**	
FEMA				S	**Sb**	**13 56 48.5**	**-0.5**	
T0110	**Collepietro**	**0.48**	**127**	P	**Pg**	**13 56 41.9**	**+0.1**	
PTQR	**Pietraquaria**	**0.51**	**168**	P	**Pb**	**13 56 43.6**	**+0.7**	
CESX	**Cesi**	**0.51**	**280**	P	**Pg**	**13 56 42.5**	**+0.3**	
FDMO	**Fiordimonte**	**0.53**	**346**	P	**Pg**	**13 56 42.3**	**-0.3**	
FDMO				S	**Sb**	**13 56 50.5**	**-0.3**	
FDMO				AML	AML			
	comp=N,2795µm,0.3s							
FDMO				AML	AML			
	comp=E,3575µm,1.5s							
FDMO				AML	AML			
	comp=N,2800µm,0.3s							
GUMA	**Gualdo di Mace**	**0.54**	**6**	P	**Pg**	**13 56 42.7**	**-0.2**	
GUMA				S	**Sb**	**13 56 51.5**	**+0.4**	
CESI	**CESI - Serrava**	**0.55**	**332**	P	**Pg**	**13 56 42.6**	**-0.5**	
CESI				S	**Sb**	**13 56 51.2**	**-0.1**	
TRTR	**Tortoreto Alta**	**0.56**	**59**	P	**Pb**	**13 56 43.5**	**-0.2**	
TRTR				AML	AML			
	comp=E,8060µm,0.5s							
TRTR				AML	AML			
	comp=N,8175µm,0.6s							
TRTR				AML	AML			
	comp=E,3693µm,0.4s							
TRTR				AML	AML			
	comp=N,2700µm,0.4s							
CSP1	**Cessapalombo**	**0.57**	**356**	P	**Pg**	**13 56 43.0**	**-0.5**	
CSP1				S	**Sb**	**13 56 51.8**	**-0.3**	
CSP1				AML	AML			
	comp=N,5330µm,1.0s							
CSP1				AML	AML			
	comp=E,4090µm,1.0s							
CSP1				AML	AML			
	comp=E,3796µm,0.3s							
CSP1				AML	AML			
	comp=N,5319µm,0.3s							
MOMA	**Monte Martano**	**0.58**	**299**	P	**Pg**	**13 56 43.8**	**+0.1**	
MOMA				S	**Sb**	**13 56 52.8**	**+0.5**	
MOMA				AML	AML			
	comp=E,7720µm,0.2s							
MOMA				AML	AML			
	comp=N,5360µm,0.2s							
MOMA				AML	AML			
	comp=N,4830µm,0.2s							
MOMA				AML	AML			
	comp=E,7790µm,0.2s							
MOMA				AML	AML			
	comp=N,4829µm,0.2s							
MOMA				AML	AML			
	comp=N,5356µm,0.2s							
MOMA				AML	AML			
	comp=E,7792µm,0.2s							
MOMA				AML	AML			
	comp=E,7723µm,0.2s							
T1220	**Camerino, Fraz**	**0.60**	**348**	P	**Pg**	**13 56 43.5**	**-0.5**	
T1220				S	**Sb**	**13 56 53.0**	**+0.2**	
T1220				AML	AML			
	comp=E,11950µm,0.6s							
T1220				AML	AML			
	comp=N,10695µm,1.2s							
T1220				AML	AML			
	comp=E,11785µm,0.6s							
T1220				AML	AML			
	comp=E,11955µm,0.6s							
T1220				AML	AML			
	comp=E,11790µm,0.6s							
T1220				AML	AML			
	comp=N,10900µm,1.2s							
T1220				AML	AML			
	comp=N,10150µm,0.3s							
T1220				AML	AML			
	comp=N,10122µm,0.3s							
T1220				AML	AML			
	comp=E,11617µm,0.3s							
T1220				AML	AML			
	comp=E,11588µm,0.3s							
CERT	**Cerreto**	**0.61**	**200**	P	**Pb**	**13 56 45.1**	**+0.6**	
SRES	**S.Oreste - Sor**	**0.62**	**243**	P	**Pn**	**13 56 46.6**	**0.0**	
MTCE	**Montecelio**	**0.63**	**218**	P	**Pn**	**13 56 46.4**	**-0.2**	
MNTP	**Montappone**	**0.64**	**14**	P	**Pg**	**13 56 44.5**	**-0.1**	
MNTP				S	**Sn**	**13 56 55.1**	**-1.4**	
MNTP				AML	AML			
	comp=E,5175µm,1.1s							
MNTP				AML	AML			
	comp=N,4625µm,0.1s							
MNTP				AML	AML			
	comp=N,4629µm,0.1s							
MNTP				AML	AML			
	comp=E,4963µm,0.3s							
SEF1	**Sefro**	**0.67**	**340**	P	**Pg**	**13 56 44.9**	**-0.4**	
SEF1				S	**Sb**	**13 56 55.2**	**+0.5**	
MDAR	**Monte D'Aria**	**0.68**	**353**	P	**Pg**	**13 56 44.6**	**-0.8**	
MDAR				S	**Sb**	**13 56 55.2**	**+0.2**	
ASSB	**Assisi San Ben**	**0.69**	**320**	P	**Pg**	**13 56 45.2**	**-0.3**	
ASSB				S	**Sb**	**13 56 55.7**	**+0.5**	
VVLD	**Villa Vallelon**	**0.70**	**157**	AML	AML			
	comp=N,706µm,1.6s							
VVLD				AML	AML			
	comp=E,522µm,1.4s							
FIU1	**Fiuminata**	**0.71**	**340**	P	**Pg**	**13 56 45.7**	**-0.3**	
FIU1				S	**Sb**	**13 56 56.7**	**+0.8**	
GAG1	**Gagliole**	**0.73**	**349**	P	**Pg**	**13 56 46.1**	**-0.3**	
GAG1				S	**Sb**	**13 56 57.4**	**+0.9**	
CADA	**Capodarco di F**	**0.77**	**28**	P	**Pb**	**13 56 47.5**	**+0.2**	
SNTG	**Esanatoglia**	**0.77**	**342**	P	**Pg**	**13 56 46.4**	**-0.7**	
SNTG				S	**Sb**	**13 56 58.4**	**+0.7**	
ATCC	**AVT- Casa Cast**	**0.81**	**326**	P	**Pg**	**13 56 47.4**	**-0.5**	
ATCC				S	**Sn**	**13 57 00.0**	**-0.8**	
ATCC				AML	AML			
	comp=N,4830µm,1.1s							
ATCC				AML	AML			
	comp=E,3735µm,0.3s							
ATCC				AML	AML			
	comp=N,4825µm,1.1s							
ATCC				AML	AML			
	comp=N,4244µm,0.3s							
ATCC				AML	AML			
	comp=E,3733µm,0.3s							
EL6	**Elcito**	**0.82**	**352**	P	**Pg**	**13 56 47.1**	**-1.0**	
CING	**Cingoli**	**0.86**	**357**	P	**Pg**	**13 56 47.7**	**-1.0**	
FOSV	**Fossato di Vic**	**0.86**	**335**	P	**Pg**	**13 56 47.9**	**-0.9**	
FOSV				S	**Sn**	**13 57 01.1**	**-1.0**	
POFI	**Posta Fibreno**	**0.87**	**157**	P	**Pn**	**13 56 49.7**	**-0.3**	
POFI				AML	AML			
	comp=E,571µm,1.4s							
POFI				AML	AML			
	comp=N,446µm,0.3s							
PP3	**Marolino**	**0.89**	**16**	P	**Pg**	**13 56 49.6**	**+0.1**	
MURB	**Monte Urbino**	**0.92**	**324**	P	**Pb**	**13 56 48.9**	**-1.0**	
MURB				AML	AML			
	comp=E,9730µm,0.3s							
MURB				AML	AML			
	comp=N,7905µm,0.3s							
MURB				AML	AML			
	comp=E,9985µm,0.3s							
MURB				AML	AML			
	comp=E,9735µm,0.3s							
MURB				AML	AML			
	comp=N,7910µm,0.3s							
MURB				AML	AML			
	comp=N,8600µm,0.3s							
MURB				AML	AML			
	comp=E,1489µm,0.3s							
MGAB	**Montegabbione**	**0.93**	**295**	P	**Pb**	**13 56 49.1**	**-1.0**	
GIUL	**Giuliano Di Ro**	**0.96**	**180**	P	**Pn**	**13 56 51.3**	**+0.1**	
SSFR	**Montelago di S**	**0.98**	**339**	P	**Pb**	**13 56 50.5**	**-0.4**	
ATSC	**Scheggia e Pas**	**1.00**	**335**	P	**Pg**	**13 56 51.4**	**0.0**	
ARVD	**Arcevia**	**1.00**	**347**	P	**Pb**	**13 56 50.6**	**-0.7**	
ARVD				AML	AML			
	comp=N,962µm,0.5s							
ARVD				AML	AML			
	comp=E,1022µm,1.4s							
ARVD				AML	AML			
	comp=E,490µm,0.8s							
ATLO	**AVT- Montelove**	**1.01**	**322**	P	**Pb**	**13 56 51.0**	**-0.5**	
TOLF	**Tolfa**	**1.04**	**244**	P	**Pn**	**13 56 52.8**	**+0.5**	
ATVA	**AVT- Monte Val**	**1.04**	**317**	P	**Pn**	**13 56 52.3**	**0.0**	
SACS	**San Casciano d**	**1.05**	**289**	P	**Pg**	**13 56 52.3**	**-0.1**	
ATVO	**AVT- Monte Val**	**1.07**	**324**	P	**Pb**	**13 56 52.3**	**-0.1**	
CERA	**Filignano**	**1.08**	**148**	P	**Pg**	**13 56 53.4**	**+0.4**	
ATMI	**Monte Miggiano**	**1.09**	**318**	P	**Pg**	**13 56 54.0**	**+0.7**	
PIEI	**Pieia**	**1.15**	**333**	P	**Pb**	**13 56 53.6**	**-0.1**	
MIDA	**Miranda**	**1.15**	**140**	P	**Pb**	**13 56 53.8**	**0.0**	
CAFI	**Castiglion Fio**	**1.25**	**311**	P	**Pg**	**13 56 55.8**	**-0.4**	
CAFI				AML	AML			
	comp=E,685µm,0.5s							
CAFI				AML	AML			
	comp=N,787µm,0.7s							
CAFI				AML	AML			
	comp=E,684µm,0.5s							
CAFI				AML	AML			
	comp=N,771µm,0.7s							
CAFI				AML	AML			
	comp=E,724µm,0.6s							
CAFI				AML	AML			
	comp=E,245µm,0.8s							
VAGA	**Valle Agricola**	**1.32**	**146**	P	**Pg**	**13 56 57.8**	**+0.2**	
CRE	**Caprese Michel**	**1.46**	**319**	P	**Pn**	**13 56 58.5**	**+0.4**	
CRE				AML	AML			
	comp=E,356µm,1.5s							
CRE				AML	AML			
	comp=N,407µm,1.6s							
FROS	**Frosini**	**1.69**	**295**	P	**Pn**	**13 57 01.7**	**+0.5**	
RUFI	**Rufina**	**1.84**	**316**	P	**Pn**	**13 57 04.0**	**+0.8**	
RUFI				AML	AML			
	comp=E,170µm,1.6s							
RUFI				AML	AML			
	comp=N,214µm,0.5s							
RUFI				AML	AML			
	comp=E,123µm,0.5s							
MSAG	**Monte S. Angel**	**2.13**	**111**	P	**Pb**	**13 57 09.5**	**-1.0**	
NDIM	**Novi di Modena**	**2.92**	**325**	AML	AML			
	comp=N,11900µm,0.3s							
NDIM				AML	AML			
	comp=E,6745µm,0.1s							
CTI	**Castel Tesino**	**3.71**	**342**	P	**Pn**	**13 57 30.3**	**+1.2**	
CTI				AML	AML			
	comp=E,89µm,1.0s							
CTI				AML	AML			
	comp=N,107µm,1.1s							
STAL	**STALIGIAL**	**3.76**	**354**	P	**Pn**	**13 57 31.0**	**+1.3**	
STAL				AML	AML			
	comp=E,104µm,1.6s							
STAL				AML	AML			
	comp=N,92µm,1.4s							
CIMO	**Cimolais**	**3.83**	**351**	P	**Pn**	**13 57 31.7**	**+1.0**	
CIMO				AML	AML			
	comp=E,34µm,1.6s							
CIMO				AML	AML			
	comp=N,33µm,1.6s							
GAGG	**Gaggia**	**3.93**	**336**	P	**Pn**	**13 57 33.0**	**+1.0**	
GAGG				AML	AML			
	comp=E,90µm,1.3s							
GAGG				AML	AML			
	comp=N,62µm,1.5s							
OBKA	**Obir**	**4.09**	**13**	*e*Pn	**Pn**	**13 57 36.1**	**+1.8**	
	comp=N,0.9nm,0.2s							
MYKA	**Terra Mystica**	**4.12**	**4**	*i* Pn	**Pn**	**13 57 37.2**	**+2.6**	
	comp=N,0.9nm,0.2s							
ABTA	**Abfaltersbach**	**4.26**	**353**	*i* Pn	**Pn**	**13 57 38.6**	**+2.0**	
	comp=N,8.4nm,0.6s							
SOKA	**Soboth**	**4.34**	**16**	*e*Pn	**Pn**	**13 57 42.3**	**+4.5**	
	comp=N,1.1nm,0.3s							
KBA	**Koelnbreinsper**	**4.56**	**1**	*e*Pn	**Pb**	**13 57 52.9**	**+0.9**	
	comp=N,3.9nm,0.3s							
FETA	**Feichten**	**4.85**	**339**	*i* Pn	**Pn**	**13 57 47.7**	**+2.9**	
	comp=N,0.2nm,0.2s							
WTTA	**Wattenberg**	**4.88**	**347**	*e*Pn	**Pn**	**13 57 46.2**	**+1.0**	
	comp=N,1.0nm,0.2s							
SQTA	**Sankt Quirin**	**4.92**	**343**	*i* Pn	**Pn**	**13 57 44.1**	**-1.6**	
	comp=N,2.1nm,0.3s							
WATA	**Walderalm**	**4.96**	**347**	*i* Pn	**Pn**	**13 57 50.3**	**+4.0**	
	comp=N,1.3nm,0.2s							
ARSA	**Arzberg**	**5.00**	**18**	*e*Pn	**Pn**	**13 57 49.0**	**+2.4**	
	comp=N,0.6nm,0.4s							
MOTA	**Moosalm**	**5.06**	**343**	*i* Pn	**Pn**	**13 57 49.7**	**+2.1**	
	comp=N,1.0nm,0.2s							
BIOA	**Bad Ischl, Aus**	**5.18**	**3**	*i* Pn	Pn	13 57 53.9	+4.7	
	comp=N,2.3nm,0.2s							
RETA	**Reutte**	**5.27**	**341**	*e*Pn	Pn	13 57 55.8	+5.3	
	comp=N,1.9nm,0.2s							
DAVA	**Damuels**	**5.34**	**334**	*i* Pn	**Pn**	**13 57 54.3**	**+2.9**	
	comp=N,1.7nm,0.4s							
MOA	**Molln**	**5.38**	**7**	*i* Pn	**Pn**	**13 57 54.4**	**+2.5**	
	comp=N,5.5nm,0.4s							
RONA	**Rosalia, Austr**	**5.61**	**21**	*i* Pn	**Pn**	**13 57 54.0**	**-1.1**	
	comp=N,1.2nm,0.5s							
CONA	**Conrad Observa**	**5.71**	**18**	*e*Pn	**Pn**	**13 57 55.2**	**-1.3**	
	comp=N,1.2nm,0.3s							
KHC	**Kasperske Hory**	**6.62**	**2**	*e*SN	**Sn**	**13 59 21.8**	**-2.2**	
CLL	**Collm**	**8.79**	**359**	*e*(Sg)	Sg	14 01 10.0	-4.0	

*ROM **18** 14:00:11.2±0.1,42°.497N±0°.004×13°.289E±0°.006, h13km,ML3.2/26, Error ellipse: s-maj=0.5km s-min=0.1km az=234.0*

ISC 18 14:00:11.3±0.8, 42°.50N±0°.02×13°.29E±0°.02, h15km±4km, n41, σ0°55/62, 11C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.06**	**283**	⇓P	**Pg**		**14 00 14.2**	**-0.2**
RM33				S	**Sg**		**14 00 15.9**	**-0.4**
RM33				AML	AML			
	comp=N,50150µm,0.2s							
RM33				AML	AML			
	comp=N,49050µm,0.2s							
RM33				AML	AML			
	comp=N,50150µm,0.2s							
RM33				AML	AML			
	comp=E,36950µm,0.4s							
RM33				AML	AML			
	comp=E,36150µm,0.4s							
RM33				AML	AML			
	comp=E,34549µm,0.2s							
RM33				AML	AML			
	comp=E,36090µm,0.2s							
RM33				AML	AML			
	comp=N,50182µm,0.2s							
RM33				AML	AML			
	comp=N,49036µm,0.2s							
T1247	**Pizzolo (AQ)**	**0.06**	**172**	P	**Pg**		**14 00 14.3**	**0.0**
T1247				AML	AML			
	comp=E,36450µm,0.2s							
T1247				AML	AML			
	comp=N,34650µm,0.2s							
T1247				AML	AML			
	comp=E,36489µm,0.2s							
T1247				AML	AML			
	comp=N,34650µm,0.2s							
CAMP	**Campotosto**	**0.10**	**67**	⇑P	**Pg**		**14 00 14.5**	**-0.2**
CAMP				S	**Sg**		**14 00 16.6**	**-0.4**
CAMP				AML	AML			
	comp=E,18300µm,1.5s							
CAMP				AML	AML			
	comp=N,29650µm,0.4s							
CAMP				AML	AML			
	comp=N,29650µm,1.6s							
CAMP				AML	AML			
	comp=N,29664µm,0.4s							
CAMP				AML	AML			
	comp=E,17637µm,0.3s							
SMA1	**SAN MARTINO**	**0.14**	**15**	⇑P	**Pg**		**14 00 15.1**	**-0.1**
SMA1				S	**Sg**		**14 00 17.9**	**+0.1**
SMA1				AML	AML			
	comp=E,73500µm,0.4s							
SMA1				AML	AML			
	comp=N,40800µm,0.3s							
SMA1				AML	AML			
	comp=E,70717µm,0.2s							
SMA1				AML	AML			
	comp=N,40780µm,0.3s							
LNSS	**Leonessa**	**0.21**	**300**	P	**Pg**		**14 00 16.4**	**+0.1**
LNSS				S	**Sb**		**14 00 20.1**	**-0.6**
LNSS				AML	AML			
	comp=E,13400µm,0.2s							
LNSS				AML	AML			
	comp=N,13650µm,0.3s							
LNSS				AML	AML			
	comp=N,10386µm,0.2s							
LNSS				AML	AML			
	comp=E,13359µm,0.2s							
GIGS	**Gran Sasso**	**0.21**	**103**	P	**Pg**		**14 00 16.0**	**-0.2**
GIGS				S	**Sg**		**14 00 19.4**	**-0.2**
GIGS				AML	AML			
	comp=E,2760µm,0.5s							
GIGS				AML	AML			
	comp=N,2640µm,0.5s							
GIGS				AML	AML			
	comp=E,2309µm,0.2s							
GIGS				AML	AML			
	comp=N,2267µm,0.4s							
T1218	**Civita (PG)**	**0.21**	**324**	AML	AML			
	comp=N,13250µm,0.3s							
T1218				AML	AML			
	comp=E,5900µm,0.1s							
T1218				AML	AML			
	comp=N,13250µm,0.3s							
T1218				AML	AML			
	comp=E,5905µm,0.1s							
T1218				AML	AML			
	comp=E,5770µm,1.2s							
T1218				AML	AML			
	comp=N,13200µm,0.3s							
T1218				AML	AML			
	comp=E,5770µm,0.8s							
T1218				AML	AML			
	comp=N,13241µm,0.3s							
T1218				AML	AML			
	comp=N,13240µm,0.3s							
T1218				AML	AML			
	comp=E,5499µm,0.1s							
T1218				AML	AML			
	comp=E,5901µm,0.1s							
FIAM	**Fiamignano**	**0.26**	**209**	P	**Pg**		**14 00 17.2**	**+0.2**
FIAM				S	**Sb**		**14 00 21.5**	**-0.6**
FIAM				AML	AML			
	comp=N,6750µm,0.3s							
FIAM				AML	AML			
	comp=E,11220µm,0.5s							
FIAM				AML	AML			
	comp=E,11220µm,1.5s							
FIAM				AML	AML			
	comp=E,11202µm,0.5s							
FIAM				AML	AML			
	comp=N,6747µm,0.3s							
T1217	**Poggiodomo (PG**	**0.34**	**309**	P	**Pg**		**14 00 18.3**	**0.0**
T1217				S	**Sb**		**14 00 23.8**	**-0.6**
T1217				AML	AML			
	comp=E,4115µm,0.9s							
T1217				AML	AML			
	comp=N,3725µm,0.2s							
T1217				AML	AML			
	comp=E,3785µm,0.9s							
T1217				AML	AML			
	comp=E,3785µm,1.1s							
T1217				AML	AML			
	comp=N,3725µm,0.2s							
T1217				AML	AML			
	comp=E,4115µm,1.1s							
T1217				AML	AML			
	comp=N,3615µm,0.1s							
T1217				AML	AML			
	comp=N,3618µm,0.1s							
T1217				AML	AML			
	comp=E,4059µm,0.2s							
T1217				AML	AML			

	comp=E,3739µm,0.2s							
T1217				AML	AML			
	comp=N,3723µm,0.2s							
ARRO	**Arrone**	**0.40**	**282**	P	**Pg**	**14 00 19.3**	**0.0**	
ARRO				S	**Sg**	**14 00 25.2**	**+0.5**	
ARRO				AML	AML			
	comp=N,3955µm,0.8s							
ARRO				AML	AML			
	comp=E,4385µm,0.3s							
ARRO				AML	AML			
	comp=N,3955µm,1.2s							
ARRO				AML	AML			
	comp=E,4178µm,0.2s							
ARRO				AML	AML			
	comp=N,3770µm,0.2s							
T0110	**Collepietro**	**0.45**	**126**	P	**Pg**	**14 00 20.4**	**0.0**	
T0110				S	**Sb**	**14 00 27.6**	**0.0**	
T0110				AML	AML			
	comp=E,2560µm,0.5s							
T0110				AML	AML			
	comp=N,3015µm,0.4s							
T0110				AML	AML			
	comp=E,2495µm,0.4s							
T0110				AML	AML			
	comp=N,3012µm,0.4s							
PTQR	**Pietraquaria**	**0.48**	**170**	P	**Pg**	**14 00 20.6**	**-0.3**	
PTQR				S	**Sb**	**14 00 28.0**	**-0.4**	
PTQR				AML	AML			
	comp=E,784µm,0.3s							
PTQR				AML	AML			
	comp=E,784µm,1.7s							
PTQR				AML	AML			
	comp=N,972µm,0.5s							
PTQR				AML	AML			
	comp=E,783µm,0.3s							
PTQR				AML	AML			
	comp=N,970µm,0.5s							
CESX	**Cesi**	**0.54**	**282**	⇓P	**Pg**	**14 00 21.6**	**-0.3**	
CESX				S	**Sb**	**14 00 29.9**	**0.0**	
CESX				AML	AML			
	comp=N,2120µm,0.3s							
CESX				AML	AML			
	comp=E,1310µm,0.5s							
CESX				AML	AML			
	comp=E,1167µm,0.2s							
CESX				AML	AML			
	comp=N,2124µm,0.3s							
TRTR	**Tortoreto Alta**	**0.56**	**56**	P	**Pb**	**14 00 22.8**	**+0.1**	
TRTR				AML	AML			
	comp=E,2756µm,0.5s							
TRTR				AML	AML			
	comp=N,2773µm,0.6s							
FDMO	**Fiordimonte**	**0.56**	**345**	P	**Pg**	**14 00 21.9**	**-0.4**	
FDMO				S	**Sg**	**14 00 30.2**	**+0.4**	
FDMO				AML	AML			
	comp=N,2211µm,0.3s							
GUMA	**Gualdo di Mace**	**0.57**	**4**	P	**Pg**	**14 00 22.4**	**-0.1**	
GUMA				S	**Sb**	**14 00 31.3**	**+0.5**	
GUMA				AML	AML			
	comp=N,7380µm,0.4s							
GUMA				AML	AML			
	comp=E,8765µm,1.4s							
GUMA				AML	AML			
	comp=N,6565µm,0.4s							
GUMA				AML	AML			
	comp=N,7380µm,1.6s							
GUMA				AML	AML			
	comp=N,6565µm,1.6s							
GUMA				AML	AML			
	comp=E,8765µm,0.6s							
GUMA				AML	AML			
	comp=E,7180µm,0.5s							
GUMA				AML	AML			
	comp=E,8609µm,0.3s							
GUMA				AML	AML			
	comp=N,7380µm,0.4s							
GUMA				AML	AML			
	comp=N,6565µm,0.4s							
GUMA				AML	AML			
	comp=E,6479µm,0.3s							
CESI	**CESI - Serrava**	**0.58**	**331**	P	**Pg**	**14 00 22.4**	**-0.3**	
CESI				S	**Sb**	**14 00 31.3**	**0.0**	
CESI				AML	AML			
	comp=E,2620µm,0.3s							
CESI				AML	AML			
	comp=N,4440µm,0.3s							
CESI				AML	AML			
	comp=N,4440µm,0.3s							
CESI				AML	AML			
	comp=E,2621µm,0.3s							
CERT	**Cerreto**	**0.59**	**203**	⇑P	**Pg**	**14 00 22.7**	**-0.2**	
CERT				AML	AML			
	comp=N,1465µm,0.4s							
CERT				AML	AML			
	comp=E,1450µm,1.3s							
CERT				AML	AML			
	comp=N,1465µm,1.6s							
CERT				AML	AML			
	comp=N,1466µm,0.4s							
CERT				AML	AML			
	comp=E,1443µm,0.4s							
CSP1	**Cessapalombo**	**0.60**	**354**	P	**Pg**	**14 00 22.6**	**-0.5**	
CSP1				S	**Sb**	**14 00 31.6**	**-0.2**	
CSP1				AML	AML			
	comp=E,2940µm,0.4s							
CSP1				AML	AML			
	comp=N,3660µm,0.4s							
CSP1				AML	AML			
	comp=N,3655µm,0.4s							
CSP1				AML	AML			
	comp=E,2935µm,0.4s							
CSP1				AML	AML			
	comp=E,2938µm,0.4s							
CSP1				AML	AML			
	comp=N,3658µm,0.4s							
MOMA	**Monte Martano**	**0.61**	**300**	S	**Sb**	**14 00 32.8**	**+0.6**	
MOMA				AML	AML			
	comp=E,2675µm,1.0s							
MOMA				AML	AML			
	comp=N,2810µm,0.2s							
MOMA				AML	AML			
	comp=E,2825µm,1.0s							
MOMA				AML	AML			
	comp=N,2760µm,0.2s							
MOMA				AML	AML			
	comp=E,2675µm,1.0s							
MOMA				AML	AML			
	comp=E,2763µm,0.2s							
MOMA				AML	AML			
	comp=N,2759µm,0.2s							
MOMA				AML	AML			
	comp=N,2806µm,0.2s							
MOMA				AML	AML			
	comp=E,2577µm,0.2s							
MTCE	**Montecelio**	**0.62**	**221**	⇓P	**Pb**	**14 00 24.3**	**+0.4**	
MTCE				AML	AML			
	comp=N,583µm,1.4s							
MTCE				AML	AML			
	comp=E,1014µm,0.6s							
MTCE				AML	AML			
	comp=N,583µm,0.6s							
MTCE				AML	AML			
	comp=N,493µm,0.5s							
MTCE				AML	AML			
	comp=E,1016µm,0.6s							
T1220	**Camerino, Fraz**	**0.63**	**347**	P	**Pg**	**14 00 23.4**	**-0.3**	
T1220				S	**Sb**	**14 00 33.6**	**+0.9**	
T1220				AML	AML			
	comp=N,7280µm,0.2s							
T1220				AML	AML			
	comp=N,7225µm,0.2s							
T1220				AML	AML			
	comp=E,7855µm,0.3s							
T1220				AML	AML			
	comp=E,7990µm,0.3s							
T1220				AML	AML			
	comp=N,7278µm,0.2s							
T1220				AML	AML			
	comp=N,7226µm,0.2s							
T1220				AML	AML			
	comp=E,7987µm,0.3s							
T1220				AML	AML			
	comp=E,7857µm,0.3s							
SRES	**S.Oreste - Sor**	**0.63**	**246**	P	**Pg**	**14 00 23.6**	**-0.1**	
SRES				S	**Sb**	**14 00 33.6**	**+0.9**	
SRES				AML	AML			
	comp=E,652µm,0.2s							
SRES				AML	AML			
	comp=N,792µm,0.3s							
SRES				AML	AML			
	comp=E,652µm,0.2s							
SRES				AML	AML			
	comp=N,792µm,0.3s							
MNTP	**Montappone**	**0.65**	**12**	⇑P	**Pb**	**14 00 24.5**	**+0.1**	
MNTP				AML	AML			
	comp=E,4055µm,0.2s							
MNTP				AML	AML			
	comp=N,2795µm,1.6s							
MNTP				AML	AML			
	comp=E,4055µm,0.2s							
MNTP				AML	AML			
	comp=N,2795µm,1.6s							
MNTP				AML	AML			
	comp=N,2795µm,0.4s							
MNTP				AML	AML			
	comp=E,4052µm,0.2s							
MNTP				AML	AML			
	comp=N,2419µm,0.3s							
VVLD	**Villa Vallelon**	**0.67**	**158**	⇑P	**Pb**	**14 00 25.4**	**+0.6**	
VVLD				AML	AML			
	comp=N,878µm,0.5s							
VVLD				AML	AML			
	comp=E,832µm,0.6s							
VVLD				AML	AML			
	comp=E,832µm,1.4s							
VVLD				AML	AML			
	comp=N,877µm,0.5s							
VVLD				AML	AML			
	comp=E,831µm,0.6s							
GUAR	**Guarcino**	**0.70**	**178**	⇓P	**Pn**	**14 00 26.3**	**-0.4**	
GUAR				AML	AML			
	comp=E,854µm,0.4s							
GUAR				AML	AML			
	comp=N,1245µm,0.4s							
GUAR				AML	AML			
	comp=E,854µm,1.6s							
GUAR				AML	AML			
	comp=N,1246µm,0.4s							
GUAR				AML	AML			
	comp=E,852µm,0.4s							
ASSB	**Assisi San Ben**	**0.71**	**320**	⇑P	**Pg**	**14 00 24.9**	**-0.4**	
ASSB				AML	AML			
	comp=E,1570µm,0.2s							
ASSB				AML	AML			
	comp=N,2540µm,0.2s							
ASSB				AML	AML			
	comp=N,2540µm,0.2s							
ASSB				AML	AML			
	comp=E,1569µm,0.2s							
SNTG	**Esanatoglia**	**0.80**	**342**	⇓P	**Pg**	**14 00 26.3**	**-0.6**	
SNTG				AML	AML			
	comp=E,814µm,1.4s							
SNTG				AML	AML			
	comp=N,756µm,1.6s							
SNTG				AML	AML			
	comp=N,718µm,1.6s							
SNTG				AML	AML			
	comp=E,711µm,1.4s							
SNTG				AML	AML			
	comp=E,711µm,0.6s							
SNTG				AML	AML			
	comp=E,814µm,0.6s							
SNTG				AML	AML			
	comp=N,718µm,0.4s							
SNTG				AML	AML			
	comp=N,756µm,0.4s							
SNTG				AML	AML			
	comp=E,634µm,0.4s							
SNTG				AML	AML			
	comp=E,525µm,0.4s							
SNTG				AML	AML			
	comp=N,709µm,0.5s							
SNTG				AML	AML			
	comp=N,712µm,0.5s							
LPEL	**Lama dei Pelig**	**0.80**	**124**	P	**Pg**	**14 00 25.9**	**-1.0**	
LPEL				S	**Sb**	**14 00 37.8**	**+0.2**	
LPEL				AML	AML			
	comp=N,716µm,0.6s							
LPEL				AML	AML			
	comp=E,806µm,0.2s							
LPEL				AML	AML			
	comp=N,595µm,0.2s							
LPEL				AML	AML			
	comp=E,806µm,0.2s							
ATCC	**AVT- Casa Cast**	**0.84**	**326**	⇑P	**Pg**	**14 00 27.1**	**-0.4**	
ATCC				S	**Sn**	**14 00 40.8**	**+0.2**	
ATCC				AML	AML			
	comp=E,1325µm,1.3s							
ATCC				AML	AML			
	comp=N,1525µm,0.3s							
ATCC				AML	AML			
	comp=E,1197µm,0.3s							
ATCC				AML	AML			
	comp=N,1523µm,0.3s							
POFI	**Posta Fibreno**	**0.84**	**158**	⇓P	**Pn**	**14 00 29.0**	**+0.4**	
POFI				AML	AML			
	comp=N,340µm,0.5s							
POFI				AML	AML			
	comp=E,376µm,0.8s							
POFI				AML	AML			
	comp=N,340µm,0.5s							
POFI				AML	AML			
	comp=N,393µm,0.5s							
POFI				AML	AML			
	comp=E,374µm,0.8s							
POFI				AML	AML			
	comp=E,375µm,0.8s							
EL6	**Elcito**	**0.84**	**351**	⇓P	**Pg**	**14 00 27.0**	**-0.7**	
EL6				S	**Sn**	**14 00 40.7**	**-0.2**	
EL6				AML	AML			
	comp=E,1770µm,1.6s							
EL6				AML	AML			
	comp=N,1930µm,0.4s							
EL6				AML	AML			
	comp=E,1770µm,0.4s							
EL6				AML	AML			
	comp=E,1701µm,0.2s							
EL6				AML	AML			
	comp=N,1931µm,0.4s							
FOSV	**Fossato di Vic**	**0.89**	**334**	⇑P	**Pg**	**14 00 27.9**	**-0.6**	
FOSV				S	**Sn**	**14 00 42.0**	**+0.2**	
FOSV				AML	AML			
	comp=E,704µm,1.3s							
FOSV				AML	AML			
	comp=N,934µm,0.3s							
FOSV				AML	AML			
	comp=N,933µm,0.3s							
FOSV				AML	AML			
	comp=E,604µm,0.5s							
MURB	**Monte Urbino**	**0.95**	**324**	S	**Sn**	**14 00 43.8**	**+0.3**	
MURB				AML	AML			
	comp=E,2770µm,0.3s							
MURB				AML	AML			
	comp=N,2285µm,0.3s							
MURB				AML	AML			
	comp=E,2925µm,0.3s							
MURB				AML	AML			
	comp=N,2495µm,1.0s							
MURB				AML	AML			
	comp=E,2926µm,0.3s							
MURB				AML	AML			
	comp=E,2770µm,0.3s							
MURB				AML	AML			
	comp=N,2468µm,0.3s							
MURB				AML	AML			
	comp=N,2286µm,0.3s							
MGAB	**Montegabbione**	**0.96**	**296**	⇑P	**Pg**	**14 00 30.1**	**+0.2**	
MGAB				AML	AML			
	comp=N,1100µm,0.4s							
MGAB				AML	AML			
	comp=E,976µm,0.6s							
MGAB				AML	AML			
	comp=E,964µm,0.6s							
MGAB				AML	AML			
	comp=N,1250µm,0.4s							
MGAB				AML	AML			
	comp=N,1099µm,0.4s							
MGAB				AML	AML			
	comp=N,1249µm,0.4s							
MGAB				AML	AML			
	comp=E,886µm,0.5s							
MGAB				AML	AML			
	comp=E,886µm,0.4s							
SSFR	**Montelago di S**	**1.01**	**339**	⇑P	**Pb**	**14 00 30.4**	**-0.1**	
SSFR				AML	AML			
	comp=N,1495µm,0.2s							
SSFR				AML	AML			
	comp=N,1460µm,0.2s							
SSFR				AML	AML			
	comp=E,1420µm,0.2s							
SSFR				AML	AML			
	comp=E,1420µm,0.2s							
SSFR				AML	AML			
	comp=E,1420µm,0.2s							
SSFR				AML	AML			
	comp=E,1422µm,0.2s							
SSFR				AML	AML			
	comp=N,1460µm,0.2s							
SSFR				AML	AML			
	comp=N,1492µm,0.2s							
ARVD	**Arcevia**	**1.03**	**346**	⇑P	**Pb**	**14 00 30.4**	**-0.5**	
ARVD				S	**Sn**	**14 00 46.3**	**+0.9**	
ARVD				AML	AML			
	comp=N,613µm,0.6s							
ARVD				AML	AML			
	comp=N,613µm,1.4s							
ARVD				AML	AML			
	comp=E,752µm,0.8s							
ARVD				AML	AML			
	comp=N,613µm,0.6s							
ARVD				AML	AML			
	comp=E,546µm,0.5s							
AOI	**Ancona**	**1.08**	**12**	P	**Pg**	**14 00 32.0**	**-0.1**	
AOI				AML	AML			
	comp=N,856µm,1.1s							
AOI				AML	AML			
	comp=E,768µm,1.2s							
AOI				AML	AML			
	comp=N,856µm,0.9s							
AOI				AML	AML			
	comp=E,618µm,0.2s							
AOI				AML	AML			
	comp=N,744µm,0.3s							
MCIV	**Monte Civitell**	**1.22**	**284**	⇓P	**Pn**	**14 00 31.8**	**-2.1**	
PZUN	**Potenza**	**2.64**	**134**	⇓P	**Pg**	**14 01 01.2**	**-0.7**	
OBKA	**Obir**	**4.11**	**12**	*i* Pn	**Pn**	**14 01 15.2**	**+1.6**	
	comp=N,0.7nm,0.2s							

BGR ***18*** *14:01:06.3±0.7, 42.°12N×13.°61E, h10km, ML4.2, Error ellipse: s-maj=15.6km s-min=14.5km az=20.0*
LDG ***18*** *14:01:08.9±0.1, 42.°58N×13.°38E, h8km, Ml3.2/24, Error ellipse: s-maj=4.5km s-min=2.6km az=47.0*
IDC ***18*** *14:01:09.1±1.1, 42.°70N×13.°36E, h0km, mb3.8/8, mbtmp3.8/17, ML3.4/9, MS3.4/2, Error ellipse: s-maj=18.1km s-min=14.2km az=72.0*
ROM ***18*** *14:01:09.1±0.1, 42.°610N±0.°003×13.°310E±0.°005, h8km, ML3.8/61, Error ellipse: s-maj=0.5km s-min=0.2km az=242.0*
PRU ***18*** *14:01:09.6±0.0, 42.°61N×12.°71E, h10km*
BEO ***18*** *14:01:10.9±0.6, 42.°57N×13.°28E, h4km, 9km, ML4.0/18*
STR ***18*** *14:01:12.6±2.2, 42.°N±18.°×13.°E±17, h10km, MLv3.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=178.7, preliminary*

ISC 18 14:01:09.6±0.7, 42.°59N±0.°01×13.°29E±0.°02, h11km±4km, n267, σ2°10/367, mb4.0/7, 27C-6D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
					Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.05**	**39**	⇑P	**Pg**	**14 01 10.7**		**-1.2**
SMA1				S	**Sg**	**14 01 11.7**		**-1.9**
SMA1				AML	AML			
SMA1				AML	AML			
T1204	**Amatrice, Fraz**	**0.09**	**13**	⇑P	**Pg**	**14 01 11.2**		**-1.1**
T1204				S	**Sg**	**14 01 12.6**		**-1.7**
RM33	**Pellescritta (**	**0.10**	**215**	⇑P	**Pg**	**14 01 12.5**		**+0.2**
RM33				S	**Sg**	**14 01 14.9**		**+0.6**
CAMP	**Campotosto**	**0.10**	**121**	⇑P	**Pg**	**14 01 11.9**		**-0.6**
CAMP				S	**Sg**	**14 01 13.8**		**-0.7**
T1202	**Accumoli, Fraz**	**0.12**	**337**	⇑P	**Pg**	**14 01 12.5**		**-0.3**
T1202				S	**Sg**	**14 01 14.9**		**-0.1**
T1247	**Pizzolo (AQ)**	**0.15**	**178**	⇑P	**Pg**	**14 01 13.2**		**+0.2**
T1247				S	**Sg**	**14 01 16.4**		**+1.0**
T1218	**Civita (PG)**	**0.15**	**302**	⇑P	**Pg**	**14 01 13.0**		**-0.2**
T1218				S	**Sg**	**14 01 15.7**		**+0.1**
T1218				AML	AML			
	comp=E,59500µm,0.8s							
T1218				AML	AML			
T1218				AML	AML			
	comp=E,59450µm,0.8s							
T1218				AML	AML			
T1218				AML	AML			
	comp=E,54550µm,0.8s							
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
	comp=E,54600µm,0.8s							
T1218				AML	AML			
LNSS	**Leonessa**	**0.18**	**274**	⇑P	**Pg**	**14 01 13.8**		**+0.2**
LNSS				S	**Sg**	**14 01 17.4**		**+0.9**
LNSS				AML	AML			
	comp=N,58300µm,0.5s							
LNSS				AML	AML			
	comp=E,72800µm,0.8s							
LNSS				AML	AML			
	comp=E,72800µm,1.2s							
AQU	**L'Aquila**	**0.25**	**161**	⇑P	**Pg**	**14 01 14.9**		**+0.1**
AQU				S	**Sg**	**14 01 20.0**		**+1.8**
GIGS	**Gran Sasso**	**0.25**	**124**	⇑P	**Pg**	**14 01 14.3**		**-0.4**
GIGS				S	**Sg**	**14 01 18.1**		**-0.2**
GIGS				AML	AML			
	comp=E,25700µm,0.3s							
GIGS				AML	AML			
	comp=N,18650µm,0.6s							
GIGS				AML	AML			
	comp=E,25700µm,1.7s							
T1217	**Poggiodomo (PG**	**0.29**	**295**	⇑P	**Pg**	**14 01 15.4**		**-0.2**
T1217				S	**Sg**	**14 01 20.2**		**+0.7**
T1217				AML	AML			
	comp=N,26150µm,0.5s							
T1217				AML	AML			
	comp=E,26000µm,0.5s							
T1217				AML	AML			
	comp=N,27000µm,0.9s							
T1217				AML	AML			
	comp=E,25450µm,0.5s							
T1217				AML	AML			
	comp=N,26200µm,0.5s							
T1217				AML	AML			
	comp=E,26000µm,1.5s							
T1217				AML	AML			
	comp=E,25450µm,1.5s							
FIAM	**Fiamignano**	**0.34**	**202**	⇑P	**Pg**	**14 01 16.7**		**+0.1**
FIAM				S	**Sb**	**14 01 23.1**		**-0.3**
FIAM				AML	AML			
	comp=E,19050µm,1.0s							
FIAM				AML	AML			
	comp=N,17900µm,0.7s							
FIAM				AML	AML			
	comp=N,17900µm,1.3s							
ARRO	**Arrone**	**0.39**	**269**	⇑P	**Pg**	**14 01 17.2**		**0.0**
ARRO				AML	AML			
	comp=N,9040µm,1.4s							
ARRO				AML	AML			
	comp=E,14000µm,1.0s							
ARRO				AML	AML			
	comp=N,9040µm,0.6s							
FEMA	**Monte Fema**	**0.41**	**335**	P	**Pg**	**14 01 17.4**		**-0.4**
FEMA				S	**Sg**	**14 01 23.7**		**+0.4**
FEMA				AML	AML			
	comp=N,23650µm,0.9s							
FEMA				AML	AML			
	comp=N,23650µm,1.1s							
FEMA				AML	AML			
	comp=E,28050µm,0.4s							
FDMO	**Fiordimonte**	**0.47**	**342**	⇓P	**Pg**	**14 01 18.1**		**-0.7**
FDMO				S	**Sg**	**14 01 25.1**		**0.0**
FDMO				AML	AML			
	comp=E,10655µm,0.5s							
FDMO				AML	AML			
	comp=N,11480µm,0.7s							
GUMA	**Gualdo di Mace**	**0.47**	**4**	P	**Pg**	**14 01 18.5**		**-0.4**
GUMA				S	**Sg**	**14 01 25.9**		**+0.7**
GUMA				AML	AML			
	comp=E,55150µm,0.5s							
GUMA				AML	AML			
	comp=N,47450µm,0.5s							

GUMA AML AML
comp=E,59850µm,0.6s
GUMA AML AML
comp=N,47350µm,0.4s
GUMA AML AML
comp=N,47450µm,1.5s
GUMA AML AML
comp=E,59850µm,1.4s
CESI CESI - Serrava 0.50 326 ⇓P **Pg** **14 01 18.9 -0.5**
CESI S **Sg** **14 01 26.8 +0.7**
CESI AML AML
comp=E,16350µm,0.6s
CESI AML AML
comp=N,18650µm,0.6s
CESI AML AML
comp=N,18650µm,1.4s
CESI AML AML
comp=E,16350µm,1.4s
CSP1 Cessapalombo 0.51 353 ⇓P **Pg** **14 01 18.7 -0.8**
CSP1 S **Sg** **14 01 26.6 +0.4**
CSP1 AML AML
comp=E,16950µm,0.5s
CSP1 AML AML
comp=E,16900µm,0.5s
CSP1 AML AML
comp=E,16900µm,1.5s
CSP1 AML AML
comp=N,20200µm,0.6s
TRTR Tortoreto Alta 0.51 64 P **Pg** **14 01 19.9 +0.3**
TRTR S **Sb** **14 01 29.0 +1.0**
TRTR AML AML
comp=E,86200µm,0.4s
TRTR AML AML
comp=N,60800µm,0.5s
T0110 Collepietro 0.51 135 P **Pg** **14 01 19.5 -0.1**
T0110 S **Sb** **14 01 27.5 -0.7**
T0110 AML AML
comp=E,37350µm,0.4s
T0110 AML AML
comp=N,52000µm,0.4s
CESX Cesi 0.53 273 ⇑P **Pg** **14 01 19.4 -0.4**
CESX S **Sb** **14 01 28.9 +0.4**
CESX AML AML
comp=E,10865µm,0.6s
CESX AML AML
comp=N,9075µm,0.5s
CESX AML AML
comp=E,10865µm,1.4s
T1220 Camerino, Fraz 0.54 344 P **Pg** **14 01 19.4 -0.8**
T1220 S **Sg** **14 01 27.8 +0.5**
T1220 AML AML
comp=E,5595µm,0.4s
T1220 AML AML
comp=E,54950µm,0.6s
T1220 AML AML
comp=N,2625µm,0.2s
T1220 AML AML
comp=N,42250µm,0.5s
MNTP Montappone 0.56 13 P **Pg** **14 01 20.5 -0.1**
MNTP S **Sb** **14 01 30.0 +0.4**
MNTP AML AML
comp=E,51250µm,0.4s
MNTP AML AML
comp=N,16370µm,0.7s
MNTP AML AML
comp=N,27450µm,0.5s
MNTP AML AML
comp=N,27450µm,1.5s
MOMA Monte Martano 0.57 292 ⇑P **Pg** **14 01 20.3 -0.4**
MOMA S **Sb** **14 01 29.7 -0.2**
MOMA AML AML
comp=E,10950µm,0.5s
MOMA AML AML
comp=N,9690µm,1.0s
MOMA AML AML
comp=N,9215µm,0.4s
MOMA AML AML
comp=N,9690µm,1.0s
MOMA AML AML
comp=E,11000µm,0.5s
MOMA AML AML
comp=E,10950µm,0.5s
PTQR Pietraquaria 0.57 172 ⇑P **Pg** **14 01 20.1 -0.6**
PTQR AML AML
comp=E,4720µm,1.1s
PTQR AML AML
comp=N,4240µm,1.0s
SEF1 Sefro 0.61 336 P **Pg** **14 01 20.8 -0.7**
SEF1 S **Sb** **14 01 30.3 -0.7**
SEF1 AML AML
comp=E,13450µm,1.5s
SEF1 AML AML
comp=N,8365µm,0.9s
SEF1 AML AML
comp=E,13450µm,0.5s
MDAR Monte D'Aria 0.61 350 P **Pg** **14 01 20.8 -0.7**
MDAR S **Sg** **14 01 30.2 +0.6**
PIO1 Pioraco 0.63 339 P **Pg** **14 01 21.3 -0.5**
SSM1 San Severino M 0.65 353 P **Pg** **14 01 21.1 -1.0**
ASSB Assisi San Ben 0.65 315 P **Pg** **14 01 21.6 -0.6**
ASSB AML AML
comp=E,10190µm,0.5s
ASSB AML AML
comp=N,8995µm,0.7s
FIU1 Fiuminata 0.66 336 P **Pg** **14 01 22.1 -0.2**
GAG1 Gagliole 0.67 346 P **Pg** **14 01 21.9 -0.7**
SRES S.Oreste - Sor 0.68 239 P **Pg** **14 01 22.2 -0.5**
SRES AML AML
comp=N,4605µm,0.5s
SRES AML AML
comp=E,5470µm,1.1s
SRES AML AML
comp=N,4605µm,1.5s
SRES AML AML
comp=E,5470µm,0.9s
CERT Cerreto 0.68 200 P **Pb** **14 01 23.3 -0.2**
CERT AML AML
comp=N,9965µm,1.4s
CERT AML AML
comp=E,12250µm,0.4s
CERT AML AML
comp=N,9965µm,0.6s
CADA Capodarco di F 0.70 30 P **Pb** **14 01 23.7 -0.1**
CADA AML AML
comp=E,8205µm,1.0s
CADA AML AML
comp=N,9970µm,0.4s
MTCE Montecelio 0.70 216 P **Pg** **14 01 22.5 -0.6**
MTCE AML AML
comp=E,11000µm,1.6s
MTCE AML AML
comp=N,8080µm,0.8s
MTL1 Matelica 0.70 343 P **Pg** **14 01 22.3 -0.8**
SNTG Esanatoglia 0.71 339 ⇓P **Pg** **14 01 22.3 -1.1**
SNTG S **Sb** **14 01 33.6 -0.4**
SNTG AML AML
comp=E,4915µm,0.7s
SNTG AML AML
comp=N,4795µm,1.2s
SNTG AML AML
comp=N,5000µm,1.2s
SNTG AML AML
comp=N,4795µm,1.2s
SNTG AML AML
comp=N,5000µm,0.8s
SNTG AML AML
comp=E,4700µm,1.3s
SNTG AML AML
comp=N,4795µm,0.8s
EL6 Elcito 0.75 349 P **Pg** **14 01 23.0 -1.1**
EL6 AML AML
comp=E,8540µm,0.8s
EL6 AML AML
comp=N,13450µm,0.7s
EL6 AML AML
comp=E,8565µm,0.8s
EL6 AML AML
comp=N,13450µm,1.3s
VVLD Villa Vallelon 0.76 161 P **Pg** **14 01 24.2 -0.1**
VVLD AML AML
comp=E,5815µm,0.6s
VVLD AML AML
comp=E,5815µm,1.4s
VVLD AML AML
comp=N,6570µm,0.7s
ATCC AVT- Casa Cast 0.76 321 P **Pg** **14 01 23.6 -0.7**
ATCC AML AML
comp=E,14400µm,0.9s
ATCC AML AML
comp=N,11100µm,0.5s
ATCC AML AML
comp=E,14400µm,1.1s
RCAV Rocca di Cave 0.78 199 P **Pb** **14 01 25.1 -0.2**
RCAV AML AML
comp=N,10680µm,1.1s
RCAV AML AML
comp=E,10915µm,0.5s
CING Cingoli 0.79 355 P **Pg** **14 01 24.1 -0.8**
GUAR Guarcino 0.79 179 P **Pg** **14 01 25.1 +0.2**
GUAR AML AML
comp=E,7520µm,0.5s
GUAR AML AML
comp=N,7870µm,0.5s
GUAR AML AML
comp=E,7520µm,1.5s
FOSV Fossato di Vic 0.81 331 P **Pg** **14 01 23.6 -1.5**
FOSV AML AML
comp=E,4215µm,0.7s
FOSV AML AML
comp=E,4215µm,1.3s
FOSV AML AML
comp=N,4455µm,0.4s
LPEL Lama dei Pelig 0.86 129 P **Pg** **14 01 25.0 -1.1**
LPEL S **Sg** **14 01 37.0 -0.3**
LPEL AML AML
comp=N,7535µm,1.1s
LPEL AML AML
comp=N,7535µm,0.9s
LPEL AML AML
comp=E,9555µm,0.3s
MURB Monte Urbino 0.88 320 P **Pg** **14 01 25.8 -0.7**
MURB AML AML
comp=E,17200µm,1.3s
MURB AML AML
comp=E,17650µm,1.3s
MURB AML AML
comp=N,16550µm,1.0s
MURB AML AML
comp=E,17200µm,0.7s
MURB AML AML
comp=E,17650µm,0.7s
MURB AML AML
comp=N,17350µm,1.0s
RMP Rome, Mte Porz 0.89 210 P **Pb** **14 01 27.5 +0.4**
RMP AML AML
comp=E,10450µm,1.5s
RMP AML AML
comp=N,16200µm,1.0s
RMP AML AML
comp=N,16200µm,1.0s
RMP AML AML
comp=E,10450µm,0.5s
SSFR Montelago di S 0.93 336 ⇓P **Pg** **14 01 26.6 -0.8**
SSFR AML AML
comp=E,5275µm,0.7s
SSFR AML AML
comp=N,4690µm,0.2s
SSFR AML AML
comp=N,4880µm,0.2s
SSFR AML AML
comp=E,5010µm,0.3s
MGAB Montegabbione 0.93 291 P **Pg** **14 01 27.0 -0.4**
MGAB AML AML
comp=N,7685µm,1.3s
MGAB AML AML
comp=E,12850µm,0.5s
MGAB AML AML
comp=N,7185µm,1.2s
MGAB AML AML
comp=N,7685µm,0.7s
MGAB AML AML
comp=E,11450µm,0.6s
POFI Posta Fibreno 0.93 160 P **Pg** **14 01 27.1 -0.3**
POFI AML AML
comp=E,6990µm,0.6s
POFI AML AML
comp=N,4845µm,0.8s
POFI AML AML
comp=E,6910µm,0.6s
POFI AML AML
comp=N,4750µm,0.8s
RDP Rocca di Papa 0.93 207 P **Pg** **14 01 27.7 +0.1**
RDP AML AML
comp=N,25050µm,0.6s
RDP AML AML
comp=E,22550µm,0.6s
RDP AML AML
comp=N,25050µm,1.4s
MA9 Marino 0.94 210 P **Pb** **14 01 28.2 +0.2**
MA9 AML AML
comp=E,22450µm,0.7s
MA9 AML AML
comp=N,11795µm,0.7s
ARVD Arcevia 0.94 344 P **Pg** **14 01 26.6 -1.2**
ARVD AML AML
comp=E,4010µm,1.3s
ARVD AML AML
comp=N,2845µm,1.0s
ARVD AML AML
comp=E,4010µm,0.7s
ARVD AML AML
comp=N,2845µm,1.0s
ATLO AVT- Montelove 0.97 319 P **Pg** **14 01 27.6 -0.7**
AOI Ancona 0.99 13 P **Pg** **14 01 27.9 -0.7**
AOI AML AML
comp=E,4170µm,0.7s
AOI AML AML
comp=N,4845µm,1.0s
AOI AML AML
comp=E,4170µm,1.3s
AOI AML AML
comp=N,4845µm,1.0s
ATVA AVT- Monte Val 1.01 313 P **Pg** **14 01 28.2 -0.8**
FRON Frontone 1.02 336 P **Pg** **14 01 28.0 -1.1**
FRON AML AML
comp=N,7095µm,0.8s
FRON AML AML
comp=E,6595µm,1.0s
ATVO AVT- Monte Val 1.02 321 P **Pg** **14 01 28.6 -0.8**
ATVO AML AML
comp=E,5175µm,0.7s
ATVO AML AML
comp=E,5175µm,1.3s
ATVO AML AML
comp=N,3835µm,0.6s
GIUL Giuliano Di Ro 1.03 181 P **Pg** **14 01 29.2 -0.2**
GIUL AML AML
comp=E,3510µm,0.6s
GIUL AML AML
comp=N,3300µm,0.5s
GIUL AML AML
comp=E,3510µm,1.4s
SACS San Casciano d 1.05 285 P **Pg** **14 01 29.6 -0.2**
SACS AML AML
comp=E,4140µm,1.6s
SACS AML AML
comp=N,4720µm,0.9s
SACS AML AML
comp=E,3975µm,1.6s
SACS AML AML
comp=E,3975µm,0.4s
SACS AML AML
comp=N,4720µm,1.1s
SACS AML AML
comp=N,4750µm,0.9s
SACS AML AML
comp=E,4140µm,0.4s
ATMI Monte Miggiano 1.06 315 P **Pg** **14 01 29.8 -0.2**
ATMI AML AML
comp=N,13000µm,0.8s
ATMI AML AML
comp=E,10090µm,0.6s
RNI2 Rionero Sannit 1.09 144 P **Pb** **14 01 30.0 -0.6**
PIEI Pieia 1.10 330 P **Pb** **14 01 29.5 -1.1**
PIEI AML AML
comp=E,3290µm,1.0s
PIEI AML AML
comp=N,2445µm,0.9s
LIK San Giovanni I 1.10 169 P **Pb** **14 01 30.5 -0.2**
LIK San Giovanni I 1.10 169 AML AML
comp=E,5160µm,0.8s
LIK AML AML
comp=N,6075µm,1.4s
MPAG Monte Paganucc 1.11 340 P **Pb** **14 01 29.8 -1.1**
MPAG AML AML
comp=E,4910µm,0.9s
MPAG AML AML
comp=N,4485µm,0.6s
MPAG AML AML
comp=N,4395µm,0.7s
MPAG AML AML
comp=E,4530µm,0.9s
MPAG AML AML
comp=N,4485µm,1.4s
CERA Filignano 1.13 151 P **Pb** **14 01 30.1 -1.1**
ATMC Monte Cedrone 1.18 317 P **Pb** **14 01 31.8 -0.2**
MIDA Miranda 1.19 143 P **Pb** **14 01 30.7 -1.5**
MIDA AML AML
comp=E,4325µm,0.8s
MIDA AML AML
comp=N,3305µm,1.2s
MIDA AML AML
comp=E,4325µm,1.2s
MIDA AML AML
comp=N,3305µm,0.8s
BADI Badiali 1.20 321 P **Pb** **14 01 32.0 -0.4**
CAFI Castiglion Fio 1.22 308 P **Pn** **14 01 32.2 -0.5**
TRIV Trivento 1.25 131 P **Pn** **14 01 32.3 -0.7**
SSP9 Sansepolcro 1.30 320 P **Pn** **14 01 33.2 -0.5**
ARCI Arcidosso 1.36 282 P **Pb** **14 01 35.3 +0.1**
VAGA Valle Agricola 1.37 149 P **Pb** **14 01 35.1 -0.2**
PESA Pesaro 1.39 346 P **Pb** **14 01 35.7 +0.1**
PESA AML AML
comp=E,6105µm,0.6s
PESA AML AML
comp=N,6015µm,0.7s
BSSO Busso 1.42 137 P **Pb** **14 01 36.1 -0.2**
SGG Gregorio Mates 1.45 146 P **Pg** **14 01 37.4 -0.1**
SACR S. Croce Del S 1.59 138 P **Pb** **14 01 39.5 +0.5**
MAON Monte Argentar 1.60 265 P **Pn** **14 01 37.8 -0.1**
MAON AML AML
comp=N,545µm,0.8s
MAON AML AML
comp=E,701µm,1.1s
GATE Gambatesa 1.62 131 P **Pg** **14 01 40.5 -0.1**
MELA Melanico ??? S 1.63 122 P **Pb** **14 01 39.7 0.0**
ASQU Asqua 1.63 318 P **Pb** **14 01 39.9 +0.1**
FROS Frosini 1.69 292 P **Pn** **14 01 39.5 +0.4**
OSSC Osservatorio P 1.77 303 P **Pn** **14 01 40.7 +0.6**
CASP Castiglione de 1.80 277 P **Pn** **14 01 41.0 +0.4**
CASP AML AML
comp=E,293µm,0.9s
CASP AML AML
comp=N,361µm,0.9s
CASP AML AML
comp=E,293µm,1.1s
RUFI Rufina 1.81 314 P **Pn** **14 01 41.1 +0.4**
RUFI AML AML
comp=E,1128µm,0.6s
RUFI AML AML
comp=N,1370µm,1.3s
RUFI AML AML
comp=N,1370µm,0.7s
RUFI AML AML
comp=E,1128µm,1.4s
TRIF Trifonti 1.83 287 ⇑P **Pn** **14 01 41.7 +0.6**
TRIF AML AML
comp=N,615µm,0.9s
TRIF AML AML
comp=N,615µm,1.1s
TRIF AML AML
comp=E,682µm,0.7s
CRMI Carmignano 2.08 306 P **Pn** **14 01 44.8 +0.4**
MSAG Monte S. Angel 2.14 113 P **Pn** **14 01 46.8 +1.5**
CAPA Cerignola FG 2.37 126 P **Pn** **14 01 49.7 +1.3**
CAPA AML AML
comp=N,1695µm,1.5s
CAPA AML AML
comp=N,1695µm,0.5s
CAPA AML AML
comp=E,2255µm,1.2s
HVAR Hvar 2.40 75 P **Pn** **14 01 48.9 +0.1**
MAIM Mastiano 2.44 304 P **Pn** **14 01 50.2 +0.9**
MAIM AML AML
comp=N,366µm,0.5s
MAIM AML AML
comp=E,560µm,0.7s
MORSI Morsiglia 2.91 278 P **Pn** **14 01 57.1 +1.2**
MORSI Sg **Sn** **14 02 33.2 +2.3**
AMUR Altamura 3.00 123 P **Pn** **14 01 57.6 +0.5**
AMUR AML AML
comp=N,500µm,0.4s
AMUR AML AML
comp=E,534µm,0.3s
SKDS Skadanscina 3.00 10 *e*Pn **Pn** **14 01 56.3 -0.9**
SMPL Sampolo 3.01 262 P **Pn** **14 01 59.1 +1.8**
A050A Klekovaca 3.02 50 *e*Pn **Pn** **14 02 00.0 +2.5**
CORF Corte 3.08 266 P **Pn** **14 01 58.8 +0.6**
PGF Pioggiola 3.17 271 *e*P **Pn** **14 02 00.6 +1.1**
PGF *e*Sn **Sn** **14 02 33.9 -3.5**
comp=E,8.7nm,0.4s
PGF Pioggiola 3.17 271 P **Pn** **14 02 01.0 +1.5**
SRKY Kupres RS 3.19 61 *e*Pn **Pn** **14 02 01.1 +1.3**
MATE Matera 3.21 126 ⇓P **Pb** **14 02 03.5 -3.1**
BOJS Bojanci 3.24 25 AML AML
comp=N,736µm,1.2s
BOJS AML AML
comp=E,1265µm,0.9s
BOJS AML AML
comp=N,736µm,0.8s
BOJS AML AML
comp=E,1265µm,1.1s
BOJS Bojanci 3.24 25 *e*Pn **Pn** **14 02 01.7 +1.3**
CEY Cerknica 3.25 14 *e*Pn **Pb** **14 02 07.4 0.0**
STON Ston 3.26 84 *e*Pn **Pn** **14 02 01.7 +1.0**
STON *e*Sn **Sn** **14 02 40.2 +0.7**
STON Ston 3.26 84 *e*Pn **Pn** **14 02 00.6 -0.1**
LTRZ Laterza 3.31 126 P **Pn** **14 02 03.3 +1.9**
LTRZ AML AML
comp=N,193µm,1.6s
LTRZ AML AML
comp=E,294µm,0.6s
LTRZ AML AML
comp=N,193µm,0.4s
MGRS Mrkonjic Grad 3.31 55 *e*Pn **Pn** **14 02 03.8 +2.4**
AJAC Base Areonaval 3.42 260 P **Pn** **14 02 04.4 +1.5**
ROVR Rover Verones 3.45 333 P **Pn** **14 02 04.8 +1.4**
ROVR AML AML
comp=E,292µm,1.4s
ROVR AML AML
comp=N,482µm,0.6s
ROVR AML AML
comp=E,116µm,0.7s
ROVR AML AML
comp=N,185µm,0.6s
ROVR AML AML
comp=N,482µm,1.4s
ROVR AML AML
comp=E,116µm,1.3s
ROVR AML AML
comp=E,292µm,0.6s
ROVR AML AML
comp=N,185µm,1.4s
BLY Banja Luka 3.56 51 *e*Pn **Pn** **14 02 07.8 +3.1**
A051A Mrakovica 3.57 46 *e*Pn **Pn** **14 02 05.5 +0.5**
CRES Cresnjev 3.59 25 *e*Pn **Pn** **14 02 06.0 +0.8**
CTI Castel Tesino 3.65 342 P **Pn** **14 02 07.2 +1.1**
CTI AML AML
comp=E,360µm,1.6s
CTI AML AML
comp=E,360µm,0.4s
CTI AML AML
comp=N,315µm,0.6s
TREB Trebinje 3.73 86 *e*Pn **Pn** **14 02 08.9 +1.7**
TREB *e*Sn **Sn** **14 02 54.5 +3.3**
TREB Trebinje 3.73 86 *e*Pn **Pn** **14 02 08.3 +1.1**
HCY Herceg Novi 3.85 90 *e*Pn **Pn** **14 02 09.4 +0.6**
BRY Bratogost 3.88 84 *e*Pn **Pn** **14 02 11.2 +1.9**
ZONE Zone 3.91 325 P **Pn** **14 02 11.2 +1.5**
ZONE AML AML
comp=N,437µm,0.4s
ZONE AML AML
comp=E,232µm,1.6s
MABI Malga Bissina 4.00 331 P **Pn** **14 02 12.5 +1.6**
OBKA Obir 4.02 12 *i* Pn **Pn** **14 02 12.9 +1.7**
comp=E,5.1nm,0.4s
OBKA *e*Sn **Sn** **14 03 00.0 +1.6**
comp=E,41nm,0.5s

OBKA	**Obir**	4.02	12	*e*Pn		Pn	14 02 14.3	+3.1
OBKA	**Obir**	4.02	12	*e*Pn		Pn	14 02 11.9	+0.6
	SNR=3.0							
MYKA	**Terra Mystica**	4.05	3	*i* Pn		Pn	14 02 13.0	+1.4
	comp=E,4.2nm,0.4s							
MYKA				*e*Sn		Sn	14 03 01.1	+2.1
	comp=E,12nm,0.3s							
ABTA	**Abfaltersbach**	4.20	353	*i* Pn		Pn	14 02 14.5	+0.9
	comp=E,16nm,0.5s							
ABTA				*e*Sn		Sn	14 03 04.3	+1.7
	comp=E,86nm,0.8s							
SOKA	**Soboth**	4.27	16	*i* Pn		Pn	14 02 17.4	+2.7
	comp=E,2.0nm,0.3s							
SOKA				*e*Sn		Sn	14 03 05.0	+0.4
	comp=E,16nm,0.5s							
VSL	**Villasalto**	4.28	225	P		Pn	14 02 16.4	+1.7
TIP	**Timpagrande**	4.30	141	⇑P		Pn	14 02 20.0	+4.9
DRME	**Dracevica, Mon**	4.38	93	*e*Pn		Pn	14 02 18.0	+1.9
HAPS	**Han Pijesak,Bl**	4.39	68	*e*Pn		Pn	14 02 18.1	+1.8
PDG	**Podgorica**	4.41	90	⇑P		Pn	14 02 18.5	+2.0
PDG	**Podgorica**	4.41	90	*e*Pn		Pn	14 02 18.7	+2.2
PDG				*e*Sn		Sn	14 03 09.9	+2.0
SAOF	**Saorge**	4.41	290	P		Pn	14 02 17.8	+1.2
SBF	**Sospel**	4.46	289	*e*Pn		Pn	14 02 16.9	-0.4
SBF				*e*Sn		Sn	14 03 06.2	-3.1
	comp=E,19nm,0.4s							
KBA	**Koelnbreinsper**	4.49	0	*i* Pn		Pn	14 02 19.8	+2.1
	comp=E,15nm,0.5s,SNR=4.7							
KBA				*e*Sn		Sn	14 03 11.6	+1.6
	comp=E,53nm,0.5s							
KBA	**Koelnbreinsper**	4.49	0	*e*Pn		Pn	14 02 19.9	+2.1
	SNR=4.3							
KBA				*e*Sn		Sn	14 03 12.3	+2.3
	SNR=3.2							
RUDO	**Rudo**	4.57	75	*e*Pn		Pn	14 02 18.0	-0.7
BBLS	**Lazići**	4.65	72	*e*Pn		Pn	14 02 21.6	+1.8
BBLS				*e*Sn		Sn	14 03 15.6	+1.8
FETA	**Feichten**	4.79	339	*i* Pn		Pn	14 02 23.9	+2.1
	comp=E,8.6nm,0.7s,SNR=6.7							
FETA				*e*Sn		Sn	14 03 19.6	+2.2
	comp=E,11nm,0.5s							
CALF	**Calern**	4.80	286	P		Pn	14 02 23.3	+1.4
WTTA	**Wattenberg**	4.82	346	*i* Pn		Pn	14 02 24.3	+2.1
	comp=E,16nm,0.4s							
WTTA				*e*Sn		Sn	14 03 20.3	+2.1
	comp=E,118nm,0.9s							
WTTA	**Wattenberg**	4.82	346	*e*Pn		Pn	14 02 24.4	+2.1
	SNR=5.9							
WTTA				*e*Sn		Sn	14 03 23.6	+5.5
	SNR=2.1							
DAVOX	**Davos/Dischmat**	4.84	331	Pn		Pn	14 02 24.5	+1.8
	comp=E,2.4nm,0.3s,baz=160,slow=17,SNR=23							
DAVOX				Sn		Sn	14 03 20.6	+1.7
	comp=E,2.9nm,0.3s,baz=114,slow=20,SNR=1.7							
	comp=E,25nm,0.7s							
SQTA	**Sankt Quirin**	4.86	343	*i* Pn		Pn	14 02 24.9	+2.1
	comp=E,11nm,0.4s							
SQTA				*e*Sn		Sn	14 03 20.7	+1.5
	comp=E,56nm,0.8s							
WATA	**Walderalm**	4.90	346	*i* Pn		Pn	14 02 26.9	+3.6
	comp=E,3.0nm,0.2s							
WATA				*e*Sn		Sn	14 03 21.7	+1.6
	comp=E,58nm,0.6s							
ARSA	**Arzberg**	4.92	18	*i* Pn		Pn	14 02 24.0	+0.4
	comp=E,1.7nm,0.3s							
ARSA				*e*Sn		Sn	14 03 19.4	-1.2
	comp=E,12nm,0.5s							
ARSA	**Arzberg**	4.92	18	*e*Pn		Pn	14 02 23.6	0.0
	SNR=4.8							
ARSA				*e*Sn		Sn	14 03 19.3	-1.2
	SNR=2.3							
SJES	**Sjenica**	4.95	80	*e*Pn		Pn	14 02 26.3	+2.2
MOTA	**Moosalm**	5.00	343	*e*Pn		Pn	14 02 27.3	+2.5
	comp=E,4.6nm,0.3s,SNR=6.7							
MOTA				*e*Sn		Sn	14 03 23.8	+1.2
	comp=E,22nm,0.7s							
LMR	**La Mourre**	5.03	281	*e*P		Pn	14 02 25.4	+0.4
LMR				*e*Sn		Sn	14 03 18.4	-4.7
	comp=E,3.5nm,0.4s							
TIR	**Tirane**	5.06	102	⇑P		Pn	14 02 27.5	+2.2
TIR	**Tirane**	5.06	102	*e*Pn		Pn	14 02 27.3	+1.9
TIR				*e*Sn		Sn	14 03 23.2	-0.6
JAUF	**Jausiers**	5.10	293	P		Pn	14 02 29.2	+3.1
BIOA	**Bad Ischl, Aus**	5.11	3	*i* Pn		Pn	14 02 27.2	+1.1
	comp=E,4.0nm,0.3s							
BIOA				*e*Sn		Sn	14 03 27.6	+2.5
	comp=E,40nm,0.5s							
DIVS	**Divibare**	5.12	71	*e*Pn		Pn	14 02 28.9	+2.7
DIVS				*e*Sn		Sn	14 03 26.4	+1.1
DIVS	**Divibare**	5.12	71	*e*Pn		Pn	14 02 26.9	+0.7
IVAS	**Ivanjica**	5.12	77	*e*Pn		Pn	14 02 27.4	+1.1
IVAS				*e*Sn		Sn	14 03 26.2	+0.7
TRIGF	**Trigance**	5.17	285	P		Pn	14 02 29.1	+2.1
MBDF	**Montbardon**	5.19	297	*e*P		Pn	14 02 30.2	+2.9
MBDF				*e*Sn		Sn	14 03 23.9	-3.4
	comp=E,5.7nm,0.5s							
RETA	**Reutte**	5.21	341	*i* Pn		Pn	14 02 27.7	+0.1
	comp=E,1.2nm,0.2s							
RETA				*e*Sn		Sn	14 03 30.2	+2.5
	comp=E,15nm,0.4s							
CREF	**Crivoux**	5.22	294	P		Pn	14 02 32.7	+4.8
PLONS	**Plons/SG**	5.25	329	*e*Pn		Pn	14 02 31.5	+3.3
	SNR=4.3							
PLONS				*e*Sn		Sn	14 03 33.1	+4.4
	SNR=2.9							
MORH	**Mrgy, Hungar**	5.28	45	⇑P		Pn	14 02 31.9	+3.6
DAVA	**Damuels**	5.28	334	*i* Pn		Pn	14 02 31.1	+2.5
	comp=E,19nm,0.5s,SNR=12							
DAVA				*e*Sn		Sn	14 03 31.5	+1.9
	comp=E,22nm,0.5s							
DAVA	**Damuels**	5.28	334	*e*Pn		Pn	14 02 30.9	+2.2
	SNR=6.9							
DAVA				*e*Sn		Sn	14 03 36.9	+7.3
	SNR=2.9							
MOA	**Molln**	5.31	7	*i* Pn		Pn	14 02 30.7	+1.9
	comp=E,4.3nm,0.2s							
MOA				*e*Sn		Sn	14 03 30.9	+1.0
	comp=E,19nm,0.6s							
MOA	**Molln**	5.31	7	*e*Pn		Pn	14 02 30.3	+1.5
MOA				*e*Sn		Sn	14 03 30.9	+1.0
MOA	**Molln**	5.31	7	*e*Pn		Pn	14 02 30.0	+1.2
	SNR=7.9							
MOA				*e*Sn		Sn	14 03 31.6	+1.7
	SNR=2.6							
FRGS	**Fruska Gora**	5.37	59	⇑P		Pn	14 02 31.7	+2.1
FRGS	**Fruska Gora**	5.37	59	*e*Pn		Pn	14 02 31.1	+1.5
FRGS				*e*Sn		Sn	14 03 31.0	-0.4
FRGS	**Fruska Gora**	5.37	59	*e*Pn		Pn	14 02 30.9	+1.3
TRUS	**Trudelj**	5.44	70	*e*Pn		Pn	14 02 31.5	+0.9
TRUS				*e*Sn		Sn	14 03 35.2	+2.1
RONA	**Rosalia, Austr**	5.54	22	*i* Pn		Pn	14 02 32.4	+0.4
	comp=E,1.9nm,0.2s							
RONA				*e*Sn		Sn	14 03 35.9	+0.3
	comp=E,4.0nm,0.5s							
LPL	**La Plagne**	5.56	304	*e*P		Pn	14 02 34.6	+2.1
LPL				*e*Sn		Sn	14 03 31.0	-5.4
	comp=E,7.5nm,0.4s							
UBR	**Ueberruh**	5.57	337	*e*Sn		Sn	14 03 39.2	+2.8
	SNR=1.3							
GRUS	**Gruza**	5.58	74	*e*Pn		Pn	14 02 34.1	+1.6
GRUS				*e*Sn		Sn	14 03 37.8	+1.2
CONA	**Conrad Observa**	5.64	18	*i* Pn		Pn	14 02 33.3	-0.1
	comp=E,1.7nm,0.3s							
CONA				*e*Sn		Sn	14 03 37.5	-0.7
	comp=E,7.8nm,0.4s							
RSL	**Roselend**	5.71	305	P		Pn	14 02 37.9	+3.4
SELS	**Selova**	5.79	81	*e*Pn		Pn	14 02 36.5	+1.1
SELS				*e*Sn		Sn	14 03 40.9	-0.9
OHR	**Ohrid**	5.80	102	*e*Pn		Pn	14 02 37.7	+2.1
OHR				*e*Sn		Sn	14 03 42.5	+0.4
OHR	**Ohrid**	5.80	102	*i* Pn		Pn	14 02 37.9	+2.2
OHR				*i* Sn		Sn	14 03 42.5	+0.4
SMRF	**Simiane la Rot**	5.80	286	*e*P		Pn	14 02 37.8	+2.2
SMRF				*e*Sn		Sn	14 03 37.3	-4.8
	comp=E,2.1nm,0.3s							
GDM	**Grand'Maison**	5.80	299	P		Pn	14 02 40.7	+4.9
ORIF	**Oris-en-Rattie**	5.85	296	*e*P		Pn	14 02 39.8	+3.5
ORIF				*e*Sn		Sn	14 03 38.4	-5.0
	comp=E,3.3nm,0.4s							
ORIF	**Oris-en-Rattie**	5.85	296	P		Pn	14 02 40.2	+3.9
SKO	**Skopje**	6.08	93	*i* Pn		Pn	14 02 42.4	+3.0
SULZ	**Cheisacher**	6.15	325	*e*Pn		Pn	14 02 42.0	+1.6
	SNR=2.1							
SULZ				*e*Sn		Sn	14 03 50.6	-0.2
	SNR=3.8							
BALST	**Balsthal**	6.19	322	*e*Pn		Pn	14 02 41.7	+0.8
	SNR=3.4							
BALST				*e*Sn		Sn	14 03 51.7	0.0
	SNR=3.3							
SLE	**Schleitheim**	6.19	328	*e*Pn		Pn	14 02 43.3	+2.5
	SNR=1.8							
SLE				*e*Sn		Sn	14 03 48.5	-3.1
	SNR=3.0							
BOVS	**Bovan**	6.25	78	*e*Pn		Pn	14 02 42.6	+0.9
GEC2	**GERESS Array S**	6.26	2	*e*Pn		Pn	14 02 41.5	-0.5
	SNR=4.1							
GEC2				*e*Sn		Sn	14 03 52.9	-0.8
	SNR=3.5							
GERES	**GERESS Array B**	6.26	2	Pn		Pn	14 02 41.9	-0.2
	comp=E,1.3nm,0.3s,baz=165,slow=13,SNR=10							
GERES				Sn		Sn	14 03 50.5	-3.1
	comp=E,3.8nm,0.3s,baz=176,slow=23,SNR=5.5							
	comp=E,2.3nm,0.4s							
CKRC	**Cesky Krumlov**	6.27	6	*e*PN		Pn	14 02 42.3	+0.2
CKRC				*e*SN		Sn	14 03 51.4	-2.3
BARS	**Barje**	6.29	85	*e*Pn		Pn	14 02 43.8	+1.5
BARS				*e*Sn		Sn	14 03 54.5	+0.4
FNA	**Florina**	6.32	104	*e*Pn		Pn	14 02 45.7	+3.0
FNA				*e*Sn		Sn	14 03 54.0	-0.9
MODS	**Modra-Piesok**	6.43	24	*e*PN		Pn	14 02 46.7	+2.5
PRVS	**Prvonek**	6.49	88	*e*Pn		Pn	14 02 46.3	+1.2
PRVS				*e*Sn		Sn	14 03 58.4	-0.7
CABF	**La Chapelle**	6.53	310	*e*P		Pn	14 02 47.4	+1.8
CABF				*e*Sn		Sn	14 03 55.3	-4.8
	comp=E,2.5nm,0.3s							
KHC	**Kasperske Hory**	6.55	2	*e*PN		Pn	14 02 44.7	-1.1
KHC				*e*SN		Sn	14 03 56.7	-3.8
VIVF	**Saint-Julien-l**	6.64	293	*e*P		Pn	14 02 51.0	+3.8
VIVF				*e*Sn		Sn	14 03 57.6	-5.3
	comp=E,1.7nm,0.3s							
ZAGS	**Zajecar**	6.65	76	*e*Pn		Pn	14 02 48.5	+1.3
ZAGS				*e*Sn		Sn	14 04 01.7	-1.3
STIP	**Stip**	6.67	95	*i* Pn		Pn	14 02 51.0	+3.4
BZS	**Buzias**	6.71	60	⇑P		Pn	14 02 49.8	+1.7
BZS	**Buzias**	6.71	60	*e*Pn		Pn	14 02 49.5	+1.4
BFO	**Black Forest**	6.72	330	*e*Pn		Pn	14 02 47.9	-0.3
	SNR=3.4							
BFO				*e*Sn		Sn	14 04 03.9	-0.8
	SNR=1.9							
KRUC	**Moravsky**	6.83	17	*e*PN		Pn	14 02 47.5	-2.2
KRUC				*e*SN		Sn	14 04 05.4	-1.9
ZAPS	**Zavoj**	6.89	81	*e*Sn		Sn	14 04 07.6	-1.5
HINF	**Hinteralfeld**	6.93	321	*e*Pn		Pn	14 02 49.9	-1.2
HINF				*e*Sn		Sn	14 04 04.6	-5.3
	comp=E,6.9nm,0.3s							
HERR	**Herculane**	7.00	68	⇑P		Pn	14 02 54.1	+2.2
VAY	**Valandovo**	7.03	97	*i* Pn		Pn	14 02 53.7	+1.2
VAY				*i* Sn		Sn	14 04 09.8	-2.7
LASF	**Ste Croix**	7.04	285	*e*P		Pn	14 02 54.0	+1.4
LASF				*e*Sn		Sn	14 04 07.6	-5.0
	comp=E,1.2nm,0.3s							
VYHS	**Vyhne**	7.07	31	*e*PN		Pn	14 02 54.4	+1.4
VRAC	**Vranov**	7.10	18	Pn		Pn	14 02 52.9	-0.5
VRAC				Sn		Sn	14 04 12.1	-2.1
	comp=E,0.5nm,0.3s,baz=205,slow=12,SNR=4.5							
	comp=E,0.4nm,0.3s,baz=90,slow=20,SNR=2.2							
	comp=E,3.9nm,0.6s							
VRAC	**Vranov**	7.10	18	P		Pn	14 02 59.3	+5.8
CDF	**Champ du Feu**	7.19	326	*e*Pn		Pn	14 02 54.5	-0.3
CDF				*e*Sn		Sn	14 04 11.1	-5.4
	comp=E,6.7nm,0.4s							
ROTZ	**Rotenmuhle**	7.22	354	*e*Sn		Sn	14 04 14.9	-2.1
	SNR=3.3							
HAU	**Haudompre**	7.30	320	*e*Pn		Pn	14 02 55.4	-0.7
HAU				*e*Sn		Sn	14 04 13.4	-5.6
	comp=E,13nm,0.4s							
VTS	**Vitosha**	7.34	86	⇑P		Pn	14 02 58.5	+1.6
VTS	**Vitosha**	7.34	86	*e*Pn		Pn	14 02 58.2	+1.4
VTS	**Vitosha**	7.34	86	*e*Pn		Pn	14 02 58.3	+1.4
VTS				*e*Sn		Sn	14 04 18.6	-1.6
VTS				*e*Sn		Sn	14 04 18.7	-1.5
GZR	**Gura Zlata**	7.39	64	⇑P		Pn	14 02 59.0	+1.5
MANZ	**Manzenberg**	7.44	354	*e*Sn		Sn	14 04 18.7	-3.9
	SNR=2.4							
PRU	**Pruhonice**	7.45	6	*e*SN		Sn	14 04 19.7	-3.0
KEST	**Kesra**	7.50	205	Pn		Pn	14 03 02.1	+3.1
	comp=E,0.5nm,0.3s,baz=18,slow=6.4,SNR=3.1							
KEST				LR		LR	14 06 00.4	
	comp=E,218nm,20.5s,baz=160,slow=38							
	comp=E,4.8nm,0.7s							
NKC	**Novy Kostel**	7.67	356	*e*SN		Sn	14 04 23.3	-4.8
GUNZ	**Gunzen**	7.80	355	*e*Pn		Pn	14 03 05.6	+2.5
	SNR=2.5							
SRS	**Serrai**	7.83	97	*e*Pn		Pn	14 03 04.8	+1.3
SRS				*e*Sn		Sn	14 04 30.7	-1.4
TANN	**Tannenbergstha**	7.85	356	*e*Pn		Pn	14 03 04.6	+0.9
	SNR=2.1							
SMF	**Signal de Mont**	7.87	304	*e*P		Pn	14 03 06.8	+2.9
SMF				*e*Sn		Sn	14 04 27.0	-5.9
	comp=E,3.2nm,0.4s							
KRLC	**Kraliky**	7.87	17	*e*PN		Pn	14 03 05.1	+1.1
WERD	**Werda**	7.89	355	*e*Pn		Pn	14 03 05.9	+1.6
	SNR=1.8							
DRGR		7.92	55	⇑P		Pn	14 03 07.4	+2.7
DRGR		7.92	55	*e*Pn		Pn	14 03 06.6	+1.9
PAGF	**Fort de Pagny**	7.98	321	*e*P		Pn	14 03 08.5	+3.0
PAGF				*e*Sn		Sn	14 04 30.1	-5.7
	comp=E,6.0nm,0.4s							
DPC	**Dobruska-Polom**	8.04	14	*e*PN		Pn	14 03 06.9	+0.6
SFTF	**Sexfontaines**	8.07	317	*e*Pn		Pn	14 03 06.8	0.0
SFTF				*e*Sn		Sn	14 04 29.4	-8.7
	comp=E,7.4nm,0.4s							
MARR	**Marisel-Cluj**	8.11	56	P		Pn	14 03 09.8	+2.4
MOX	**Moxa**	8.14	352	*e*Pn		Pn	14 03 07.5	-0.2
	SNR=1.5							
MOX				*e*Sn		Sn	14 04 36.1	-3.5
	SNR=2.9							
MTLF	**Montolieu**	8.16	279	*e*P		Pn	14 03 12.1	+4.2
MTLF				*e*Sn		Sn	14 04 33.5	-6.6
	comp=E,1.3nm,0.3s							
LOR	**Lormes**	8.16	308	*e*Pn		Pn	14 03 07.4	-0.6
LOR				*e*Sn		Sn	14 04 34.3	-5.9
	comp=E,3.8nm,0.4s							
OSTC	**Ostas**	8.22	13	*e*PN		Pn	14 03 08.3	-0.5
SSF	**Saint Saulge**	8.27	306	*e*P		Pn	14 03 13.2	+3.8
SSF				*e*Sn		Sn	14 04 36.7	-6.0
	comp=E,2.5nm,0.4s							
BRG	**Berggiesshubel**	8.30	3	*e*P		Pn	14 03 19.3	+9.5
BRG				Amp			14 03 26.2	
	comp=Z,4.1nm,0.8s							
BRG				r			14 04 42.1	
BRG				r			14 05 46.3	
BRG				Amp			14 06 01.5	
	comp=Z,20nm,1.2s							
SAVF	**Savonnieres en**	8.31	319	*e*Pn		Pn	14 03 08.0	-2.0
CAF	**Calviac**	8.46	290	*e*Pn		Pn	14 03 11.0	-1.0
CLL	**Collm**	8.72	359	*e*Pn		Pn	14 03 18.0	+2.3
CLL				*ex*		x	14 03 29.0	
CLL				*e*Pg		Pg	14 03 56.0	-0.5
CLL				*e*Sn		Sn	14 04 39.0	-15
CLL				*ex*		x	14 05 02.0	
CLL				*ex*		x	14 05 09.0	
CLL				*e*Sg		Sg	14 05 56.0	+6.6
	comp=Z,34nm,1.5s							
TCF	**Toulx Ste Croi**	8.75	299	*e*P		Pn	14 03 19.2	+3.2
TCF				*e*Sn		Sn	14 04 48.3	-6.3
	comp=Z,1.2nm,0.4s							
MLR	**Muntele Rosu**	9.56	68	LR		LR	14 07 35.6	
	comp=Z,306nm,18.7s,baz=223,slow=41							
MLR	**Muntele Rosu**	9.56	68	P		Pn	14 03 28.7	+1.4
BURAR	**Bucovina Array**	9.81	55	P		Pn	14 03 33.3	+2.6
ETSF	**Etsaut**	10.20	276	*e*Pn		Pn	14 03 34.0	-1.9
IDI	**Anoyia**	11.60	125	Pn		Pn	14 03 56.8	+1.6
	comp=Z,0.4nm,0.3s,baz=265,slow=11,SNR=1.5							
IDI				Sn		Sn	14 06 00.2	-4.5
	comp=Z,0.4nm,0.3s,baz=138,slow=17,SNR=2.9							
	comp=Z,7.9nm,1.0s							
ESDC	**Sonseca Array**	13.33	263	Pn		Pn	14 04 19.3	+0.5
	baz=73,slow=13,SNR=4.1							
	comp=Z,0.6nm,0.7s							
AKASG	**Malin Array Be**	13.60	48	Pn		Pn	14 04 23.0	+0.6
	comp=Z,0.4nm,0.3s,baz=238,slow=11,SNR=1.6							
	comp=Z,0.2nm,0.3s							
BRTR	**Keskin Array B**	15.59	94	Pn		Pn	14 04 49.3	-0.1
	comp=Z,0.1nm,0.3s,baz=293,slow=9.3,SNR=2.3							
	comp=Z,0.2nm,0.3s							
NOA	**NORSAR Array B**	18.52	357	P		Pn	14 05 26.1	+0.1
	baz=172,slow=12,SNR=4.0							
	comp=Z,1.4nm,0.8s							
FINES	**FINESS Array B**	20.39	18	P		P	14 05 46.4	+0.2
	comp=Z,6.1nm,0.9s,baz=193,slow=7.8,SNR=6.4							
	comp=Z,6.1nm,0.9s							
KBZ	**Khabaz**	21.58	77	P		P	14 06 00.6	+1.4
	comp=Z,7.1nm,1.0s,baz=293,slow=6.7,SNR=9.4							
	comp=Z,7.1nm,1.0s							
ZALV	**Zalesovo Beam**	46.99	50	P		P	14 09 39.8	-0.6
	comp=Z,0.9nm,0.6s,baz=295,slow=5.5,SNR=3.7							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	47.80	60	P		P	14 09 47.4	+0.5
	comp=Z,0.9nm,0.7s,baz=286,slow=6.8,SNR=11							
	comp=Z,0.9nm,0.7s							
SONM	**Songino Array**	61.88	50	P		P	14 11 30.2	+1.2
	comp=Z,0.5nm,0.4s,baz=289,slow=8.1,SNR=7.0							
	comp=Z,0.5nm,0.4s							
YKA	**Yellowknife Ar**	67.26	337	P		P	14 12 04.2	+0.5
	comp=Z,1.2nm,1.0s,baz=39,slow=6.2,SNR=12							
	comp=Z,1.2nm,1.0s							
ILAR	**Eielson Array**	71.85	351	P		P	14 12 32.2	+0.2
	comp=Z,0.3nm,0.9s,baz=12,slow=4.6,SNR=2.1							
	comp=Z,0.3nm,0.9s							
CMAR	**Chiang Mai Arr**	74.61	79	P		P	14 12 49.3	+0.2
	comp=Z,0.7nm,0.6s,baz=309,slow=7.2,SNR=5.5							
	comp=Z,0.7nm,0.6s							

ROM 18 14:05:01.1±0.1,**42°557N**±0°004×**13°311E**±0°005,
h9km,ML2.5/8,5C-4D,Error ellipse: s-maj=0.5km
s-min=0.3km az=207.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
CAMP	**Campotosto**	0.07	106	P	Pg	14	05	03.8	+0.4
CAMP				S	Sg	14	05	05.5	+0.4
SMA1	**SAN MARTINO**	0.08	14	P	Pg	14	05	03.8	+0.4
SMA1				S	Sg	14	05	05.3	+0.3
SMA1				AML	AML				
	comp=E,15450µm,0.2s								
SMA1				AML	AML				
	comp=N,14750µm,0.3s								
SMA1				AML	AML				
	comp=E,15471µm,0.2s								
SMA1				AML	AML				
	comp=N,14719µm,0.3s								
RM33	**Pellescritta (**	0.09	236	⇑P	Pg	14	05	03.9	+0.4
RM33				S	Sg	14	05	05.5	+0.3
RM33				AML	AML				
	comp=E,11650µm,0.3s								
RM33				AML	AML				
	comp=N,6320µm,0.2s								
RM33				AML	AML				
	comp=E,11250µm,0.3s								
RM33				AML	AML				
	comp=N,6590µm,0.2s								
RM33				AML	AML				
	comp=N,6585µm,0.2s								
RM33				AML	AML				
	comp=E,11650µm,0.3s								
RM33				AML	AML				
	comp=E,11644µm,0.3s								
RM33				AML	AML				
	comp=E,11256µm,0.3s								
RM33				AML	AML				
	comp=N,6586µm,0.2s								
RM33				AML	AML				
	comp=N,6319µm,0.2s								
T1218	**Civita (PG)**	0.18	308	⇓P	Pg	14	05	05.6	+0.6
T1218				S	Sg	14	05	08.5	+0.8
T1218				AML	AML				
	comp=E,1370µm,1.0s								
T1218				AML	AML				
	comp=N,1385µm,0.2s								
T1218				AML	AML				
	comp=E,1255µm,0.1s								
T1218				AML	AML				
	comp=N,1415µm,0.2s								
T1218				AML	AML				
	comp=E,1260µm,0.1s								
T1218				AML	AML				
	comp=E,1375µm,1.0s								
T1218				AML	AML				
	comp=E,1325µm,0.1s								
T1218				AML	AML				
	comp=E,1258µm,0.1s								
T1218				AML	AML				
	comp=N,1364µm,0.2s								
T1218				AML	AML				
	comp=N,1383µm,0.2s								
LNSS	**Leonessa**	0.20	283	⇑P	Pg	14	05	06.1	+0.7
LNSS				S	Sg	14	05	09.7	+1.4
LNSS				AML	AML				
	comp=E,3320µm,0.2s								
LNSS				AML	AML				
	comp=N,4520µm,0.2s								
LNSS				AML	AML				
	comp=E,3320µm,1.8s								
LNSS				AML	AML				
	comp=E,3320µm,0.2s								
LNSS				AML	AML				
	comp=N,4516µm,0.2s								

	comp=N,1068μm,0.7s						
T1220				AML	AML		
	comp=N,1095μm,0.7s						
T1220				AML	AML		
	comp=N,957μm,0.2s						
T1220				AML	AML		
	comp=E,1109μm,0.3s						
T1220				AML	AML		
	comp=E,1087μm,0.3s						
T1220				AML	AML		
	comp=N,927μm,0.2s						
ASSB	**Assisi San Ben**	**0.68**	**316**	⇓P	Pg	14 05 14.4	+0.1
ASSB				AML	AML		
	comp=E,232μm,1.5s						
ASSB				AML	AML		
	comp=N,276μm,1.1s						
ASSB				AML	AML		
	comp=E,174μm,0.3s						
ASSB				AML	AML		
	comp=N,235μm,0.2s						
SNTG	**Esanatoglia**	**0.75**	**339**	P	Pg	14 05 15.5	0.0
SNTG				AML	AML		
	comp=N,106μm,0.4s						
SNTG				AML	AML		
	comp=E,106μm,0.4s						
MODR	**Mondragone**	**1.47**	**163**	P	Pn	14 05 23.5	-4.3
VULT	**Monte Vulture**	**2.35**	**132**	P	Pn	14 05 37.9	-2.0
PZUN	**Potenza**	**2.67**	**135**	⇑P	Pn	14 05 45.6	+1.4
CAVE	**Cavezzo**	**2.85**	**325**	S	Sg	14 06 31.3	-1.3
NDIM	**Novi di Modena**	**2.91**	**324**	⇓P	Pn	14 05 46.6	-0.9
NDIM				S	Sn	14 06 22.3	-0.3
STON	**Ston**	**3.25**	**83**	P	Pn	14 05 55.1	+3.0
IFIL	**Filicudi I Eol**	**4.10**	**166**	S	Sn	14 06 46.5	-5.5
VARE	**Varese**	**4.65**	**317**	⇑P	Pn	14 06 11.2	-0.4

*ROM **18** 14:05:30.3±0.1, **42°492N**±0°004×**13°267E**±0°005,*
*h12km±1km, **ML2.6**/12, **2C-4D**, Error ellipse: s-maj=0.5km*
s-min=0.1km az=15.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.04**	**294**	P	Pg	14 05 33.1	+0.4
RM33				S	Sg	14 05 34.7	+0.3
RM33				AML	AML		
	comp=N,7650μm,0.7s						
RM33				AML	AML		
	comp=E,10560μm,1.1s						
RM33				AML	AML		
	comp=E,10810μm,1.1s						
RM33				AML	AML		
	comp=N,7650μm,0.7s						
RM33				AML	AML		
	comp=E,10555μm,1.1s						
RM33				AML	AML		
	comp=N,7745μm,0.7s						
RM33				AML	AML		
	comp=N,7745μm,1.3s						
RM33				AML	AML		
	comp=E,10555μm,0.9s						
RM33				AML	AML		
	comp=E,10810μm,0.9s						
RM33				AML	AML		
	comp=E,9537μm,0.2s						
RM33				AML	AML		
	comp=E,9336μm,0.2s						
RM33				AML	AML		
	comp=N,6709μm,0.1s						
RM33				AML	AML		
	comp=N,6762μm,0.1s						
CAMP	**Campotosto**	**0.11**	**67**	P	Pg	14 05 33.8	+0.4
CAMP				S	Sg	14 05 36.1	+0.4
SMA1	**SAN MARTINO**	**0.15**	**20**	P	Pg	14 05 34.4	+0.5
SMA1				S	Sg	14 05 37.0	+0.6
SMA1				AML	AML		
	comp=E,10420μm,0.2s						
SMA1				AML	AML		
	comp=N,15650μm,0.3s						
LNSS	**Leonessa**	**0.20**	**304**	P	Pg	14 05 35.1	+0.4
LNSS				S	Sg	14 05 38.6	+0.8
LNSS				AML	AML		
	comp=E,4360μm,0.4s						
LNSS				AML	AML		
	comp=N,3950μm,0.3s						
LNSS				AML	AML		
	comp=E,4069μm,0.2s						
LNSS				AML	AML		
	comp=N,3864μm,0.2s						
T1218	**Civita (PG)**	**0.21**	**328**	P	Pg	14 05 35.2	+0.3
T1218				S	Sg	14 05 38.7	+0.6
T1218				AML	AML		
	comp=E,2615μm,0.6s						
T1218				AML	AML		
	comp=N,5215μm,0.2s						
T1218				AML	AML		
	comp=E,2320μm,0.6s						
T1218				AML	AML		
	comp=E,2620μm,0.6s						
T1218				AML	AML		
	comp=N,5215μm,0.2s						
T1218				AML	AML		
	comp=N,5275μm,0.2s						
T1218				AML	AML		
	comp=E,2620μm,1.4s						
T1218				AML	AML		
	comp=E,2320μm,1.4s						
T1218				AML	AML		
	comp=N,5274μm,0.2s						
T1218				AML	AML		
	comp=N,5217μm,0.2s						
T1218				AML	AML		
	comp=E,2270μm,0.1s						
T1218				AML	AML		
	comp=E,2097μm,0.1s						
GIGS	**Gran Sasso**	**0.23**	**100**	P	Pg	14 05 35.4	+0.3
GIGS				S	Sg	14 05 39.0	+0.6
GIGS				AML	AML		
	comp=E,282μm,1.1s						
GIGS				AML	AML		
	comp=N,398μm,0.5s						
GIGS				AML	AML		
	comp=N,398μm,1.5s						
GIGS				AML	AML		
	comp=E,267μm,0.2s						
GIGS				AML	AML		
	comp=N,338μm,0.2s						
FIAM	**Fiamignano**	**0.25**	**206**	P	Pg	14 05 36.2	+0.6
FIAM				AML	AML		
	comp=E,669μm,0.8s						
FIAM				AML	AML		
	comp=E,669μm,1.2s						
FIAM				AML	AML		
	comp=N,417μm,0.7s						
FIAM				AML	AML		
	comp=N,324μm,0.4s						
FIAM				AML	AML		
	comp=E,635μm,0.6s						
FAGN	**Fagnano**	**0.33**	**134**	P	Pb	14 05 38.0	-0.1
FAGN				AML	AML		
	comp=N,1431μm,0.3s						
FAGN				AML	AML		
	comp=E,1590μm,0.3s						
T1217	**Poggiodomo (PG**	**0.33**	**312**	P	Pg	14 05 37.1	+0.1
T1217				S	Sg	14 05 42.3	+0.7
T1217				AML	AML		
	comp=N,810μm,0.2s						
T1217				AML	AML		
	comp=E,1050μm,1.6s						
T1217				AML	AML		
	comp=N,848μm,0.9s						
T1217				AML	AML		
	comp=N,810μm,0.2s						
T1217				AML	AML		
	comp=N,848μm,0.9s						
T1217				AML	AML		
	comp=N,810μm,1.8s						
T1217				AML	AML		
	comp=E,1046μm,1.6s						
T1217				AML	AML		
	comp=E,1123μm,1.6s						
T1217				AML	AML		
	comp=N,848μm,1.1s						
T1217				AML	AML		
	comp=N,810μm,0.2s						
T1217				AML	AML		
	comp=E,978μm,0.1s						
T1217				AML	AML		
	comp=E,948μm,0.1s						
T1217				AML	AML		
	comp=N,846μm,0.2s						
ARRO	**Arrone**	**0.38**	**283**	P	Pg	14 05 38.1	+0.2
ARRO				S	Sb	14 05 44.0	-0.9
ARRO				AML	AML		
	comp=N,1046μm,0.2s						
ARRO				AML	AML		
	comp=E,886μm,0.9s						
ARRO				AML	AML		
	comp=N,1048μm,0.2s						
ARRO				AML	AML		
	comp=E,852μm,0.2s						
ARRO				AML	AML		
	comp=N,1046μm,0.2s						
T0110	**Collepietro**	**0.46**	**125**	P	Pg	14 05 39.7	+0.2
T0110				AML	AML		
	comp=E,574μm,0.4s						
T0110				AML	AML		
	comp=N,562μm,0.4s						
PTQR	**Pietraquaria**	**0.48**	**168**	⇓P	Pb	14 05 41.5	+0.7
PTQR				AML	AML		
	comp=E,136μm,0.3s						
PTQR				AML	AML		
	comp=N,120μm,0.3s						
CESX	**Cesi**	**0.52**	**283**	S	Sg	14 05 48.0	+0.6
CESX				AML	AML		
	comp=E,294μm,1.5s						
CESX				AML	AML		
	comp=N,448μm,0.4s						
CESX				AML	AML		
	comp=E,294μm,0.5s						
CESX				AML	AML		
	comp=N,449μm,0.4s						
CESX				AML	AML		
	comp=E,228μm,0.3s						
FDMO	**Fiordimonte**	**0.56**	**346**	P	Pg	14 05 41.0	-0.2
FDMO				S	Sb	14 05 49.5	-0.6
FDMO				AML	AML		
	comp=E,497μm,0.2s						
FDMO				AML	AML		
	comp=N,566μm,0.2s						
FDMO				AML	AML		
	comp=E,497μm,0.2s						
FDMO				AML	AML		
	comp=N,566μm,0.2s						
GUMA	**Gualdo di Mace**	**0.57**	**5**	P	Pg	14 05 41.5	0.0
GUMA				S	Sb	14 05 50.6	+0.1
GUMA				AML	AML		
	comp=E,1436μm,0.4s						
GUMA				AML	AML		
	comp=N,1337μm,0.6s						
GUMA				AML	AML		
	comp=E,1231μm,1.4s						
GUMA				AML	AML		
	comp=E,1127μm,0.2s						
GUMA				AML	AML		
	comp=E,1403μm,0.2s						
GUMA				AML	AML		
	comp=N,1100μm,0.2s						
GUMA				AML	AML		
	comp=N,1107μm,0.4s						
CESI	**CESI - Serrava**	**0.58**	**333**	P	Pg	14 05 41.5	-0.1
CESI				S	Sb	14 05 50.4	-0.2
CESI				AML	AML		
	comp=E,600μm,0.6s						
CESI				AML	AML		
	comp=N,1215μm,0.1s						
CESI				AML	AML		
	comp=N,1217μm,0.1s						
CESI				AML	AML		
	comp=E,537μm,0.1s						
CERT	**Cerreto**	**0.58**	**201**	P	Pg	14 05 41.7	0.0
CERT				AML	AML		
	comp=N,163μm,0.4s						
CERT				AML	AML		
	comp=E,209μm,0.4s						
CSP1	**Cessapalombo**	**0.60**	**356**	⇑P	Pg	14 05 41.8	-0.3
CSP1				AML	AML		
	comp=N,512μm,0.3s						
CSP1				AML	AML		
	comp=E,615μm,0.3s						
MOMA	**Monte Martano**	**0.60**	**301**	P	Pg	14 05 42.2	+0.2
MOMA				AML	AML		
	comp=E,466μm,0.2s						
MOMA				AML	AML		
	comp=N,625μm,0.2s						
T1220	**Camerino, Fraz**	**0.63**	**348**	⇓P	Pg	14 05 41.9	-0.7
T1220				AML	AML		
	comp=N,1980μm,1.6s						
T1220				AML	AML		
	comp=E,1830μm,0.7s						
T1220				AML	AML		
	comp=N,2000μm,1.6s						
T1220				AML	AML		
	comp=E,1830μm,1.3s						
T1220				AML	AML		
	comp=E,1810μm,0.3s						
T1220				AML	AML		
	comp=N,1984μm,0.2s						
T1220				AML	AML		
	comp=E,1766μm,0.3s						
T1220				AML	AML		
	comp=N,1977μm,0.2s						
T1220				AML	AML		
	comp=E,1811μm,0.3s						
ASSB	**Assisi San Ben**	**0.71**	**321**	⇓P	Pg	14 05 43.7	-0.4
ASSB				AML	AML		
	comp=E,376μm,0.2s						
ASSB				AML	AML		
	comp=N,342μm,0.1s						
SNTG	**Esanatoglia**	**0.80**	**343**	⇓P	Pg	14 05 45.2	-0.6
SNTG				S	Sb	14 05 57.5	+0.5
SNTG				AML	AML		
	comp=E,170μm,0.1s						
SNTG				AML	AML		
	comp=N,237μm,0.2s						
LPEL	**Lama dei Pelig**	**0.81**	**123**	S	Sb	14 05 57.2	-0.1
EL6	**Elcito**	**0.85**	**352**	S	Sn	14 05 60.0	-0.6
MGAB	**Montegabbione**	**0.95**	**297**	⇑P	Pn	14 05 50.5	+0.9
MGAB				AML	AML		
	comp=E,170μm,0.4s						
MGAB				AML	AML		
	comp=N,136μm,0.4s						
MGAB				AML	AML		
	comp=E,179μm,0.4s						
MGAB				AML	AML		
	comp=N,124μm,0.4s						
AOI	**Ancona**	**1.09**	**13**	P	Pb	14 05 50.8	-0.2
VULT	**Monte Vulture**	**2.33**	**130**	P	Pg	14 06 15.9	+0.9

*IDC **18** 14:05:49.6±2.8, 10°93S×161°71E, h71km±22km, mb3.3/5,*
mbtmp3.7/7, Error ellipse: s-maj=32.7km s-min=18.2km
az=64.0

ISC 18 14:05:45.3±1.1, 10°8S±0°1×161°7E±0°1, h28km, n8,
σ1§45/9, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.19**	**307**	P	**Pb**	**14 06 24.0**	**-0.3**
	2μm,0.4s,baz=159,slow=4.8,SNR=23						
HNR				S	**Sb**	**14 06 53.1**	**+2.0**
	4μm,0.4s,baz=168,slow=22,SNR=15						
DZM	**Mont Dzumac**	**12.12**	**159**	P	**Pn**	**14 08 37.8**	**+1.4**
	4.7nm,1.0s,baz=22,slow=9.0,SNR=20						
CTA	**Charters Tower**	**17.56**	**236**	P	**P**	**14 09 49.3**	**+0.2**
	3.3nm,0.8s,baz=85,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**27.91**	**248**	P	**P**	**14 11 32.6**	**-0.7**
	0.5nm,0.6s,baz=76,slow=8.9,SNR=2.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**29.45**	**241**	P	**P**	**14 11 45.5**	**-1.4**
	0.1nm,0.6s,baz=66,slow=10,SNR=1.9						
	0.1nm,0.6s						
SONM	**Songino Array**	**76.14**	**325**	P	**P**	**14 17 31.6**	**+0.7**
	0.6nm,0.7s,baz=129,slow=2.0,SNR=3.5						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**90.63**	**318**	P	**P**	**14 18 43.5**	**-1.8**
	0.3nm,0.6s,baz=113,slow=6.6,SNR=2.7						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**96.54**	**28**	P	**P**	**14 19 12.2**	**+0.2**
	0.1nm,0.6s,baz=254,slow=5.0,SNR=2.0						
	0.1nm,0.6s						

*IDC **18** 14:09:27.2±0.9, 24°21N×122°65E, h0km, mb3.7/8,*
mbtmp3.7/9, ML3.3/1, Error ellipse: s-maj=27.3km
s-min=19.6km az=70.0

*TAP **18** 14:09:32.2, 24°03N×122°78E, h57km, ML4.2, D*

*JMA **18** 14:09:33.0-0.1, 24°0N±0°9×122°6E±0°3, h28km±2km,*
MV3.5/15, NW OFF ISHIGAKUJIMA IS

ISC 18 14:09:32.0±1.0, 23°99N±0°02×122.70E±0°02, h35km±8km,
n162, σ1§53/280, mb3.6/8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.51**	**26**	*i* P	**Pn**	**14 09 43.1**	**+0.2**
JYNG				S	**Sn**	**14 09 50.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.55**	**31**	P	**Pn**	**14 09 43.9**	**+0.6**
YOJ	**Yonaguni jima**	**0.55**	**31**	P	**Pn**	**14 09 43.8**	**+0.5**
YOJ				S	**Sn**	**14 09 51.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.55**	**31**	P	**Pn**	**14 09 44.1**	**+0.7**
	baz=28						
YOJ				S	**Sn**	**14 09 52.6**	**+1.3**
	baz=28						
EHP	**Heping Village**	**0.93**	**290**	*e*P	**Pn**	**14 09 50.8**	**+2.1**
	baz=286						
EWUT	**Wuta**	**0.95**	**298**	P	**Pn**	**14 09 50.4**	**+1.5**
	baz=294						
EWUT				S	**Sn**	**14 10 03.6**	**+2.3**
	baz=294						
ENA	**Nanau**	**0.98**	**297**	*i* P	**Pn**	**14 09 50.1**	**+0.9**
	baz=292						
ENA				S	**Sn**	**14 10 03.6**	**+1.7**
	baz=292						
TWC	**Suao**	**0.99**	**309**	*i* P	**Pn**	**14 09 50.5**	**+1.0**
	baz=296						
TWC				*i* S	**Sn**	**14 10 03.5**	**+1.3**
	baz=296						
ETL	**Fush Village**	**1.00**	**280**	P	**Pn**	**14 09 50.5**	**+0.9**
	baz=266						
ETL				*e*S	**Sn**	**14 10 04.5**	**+2.1**
	baz=266						
HWA	**Hwalien**	**1.00**	**269**	P	**Pb**	**14 09 50.0**	**-0.9**
	baz=266						
HWA				*i* S	**Sn**	**14 10 05.7**	**+3.2**
	baz=266						
IRIF	**Iriomote-Funau**	**1.00**	**70**	P	**Pn**	**14 09 51.7**	**+2.1**
IRIF				*e*S	**Sn**	**14 10 05.7**	**+3.2**
TWD	**Chiawan**	**1.01**	**275**	*i* P	**Pn**	**14 09 49.6**	**-0.1**
	baz=272						
TWD				*i* S	**Sb**	**14 10 02.9**	**-1.3**
	baz=272						
HATJ	**Hateruma jima**	**1.01**	**86**	P	**Pn**	**14 09 52.4**	**+2.6**
HATJ				*e*S	**Sn**	**14 10 06.4**	**+3.6**
TEYL	**Yanliau Villag**	**1.01**	**263**	P	**Pb**	**14 09 51.1**	**0.0**
	baz=255						
TEYL				S	**Sn**	**14 10 04.8**	**+2.0**
	baz=255						
NACB	**Ninganchiao**	**1.02**	**280**	P	**Pb**	**14 09 50.4**	**-0.9**
NACB	**Ninganchiao**	**1.02**	**280**	*i* P	**Pb**	**14 09 51.0**	**-0.3**
	baz=267						
NACB				*i* S	**Sn**	**14 10 05.1**	**+2.0**
	baz=267						
EGS		**1.10**	**321**	P	**Pb**	**14 09 51.7**	**-0.8**
	baz=325						
EGS				S	**Sn**	**14 10 07.9**	**+2.9**
	baz=325						
NDS	**Dongshan**	**1.10**	**306**	P	**Pb**	**14 09 52.6**	**0.0**
	baz=294						
NDS				S	**Sn**	**14 10 08.7**	**+3.8**
	baz=294						
ETLH	**Xiulin Townshi**	**1.13**	**281**	*i* P	**Pn**	**14 09 51.8**	**+0.3**
	baz=277						
ETLH				*i* S	**Sn**	**14 10 08.1**	**+2.2**
	baz=277						
ILA	**Ilan**	**1.16**	**312**	*i* P	**Pb**	**14 09 53.6**	**+0.1**
	baz=307						
ILA				*i* S	**Sn**	**14 10 09.2**	**+2.8**
	baz=307						
ESL	**Shilin**	**1.17**	**261**	P	**Pn**	**14 09 52.5**	**+0.5**
	baz=259						
ESL				S	**Sn**	**14 10 06.8**	**+0.1**
	baz=259						
TWE	**Neicheng**	**1.19**	**308**	*i* P	**Pb**	**14 09 53.5**	**-0.6**
	baz=297						
TWE				S	**Sb**	**14 10 09.7**	**+0.5**
	baz=297						
LATG	**Datong**	**1.20**	**297**	P	**Pb**	**14 09 52.9**	**-1.4**
	baz=283						
LATG				S	**Sb**	**14 10 11.7**	**+2.1**
	baz=283						
TWB1	**Santiao Chiao**	**1.20**	**328**	*i* P	**Pb**	**14 09 52.7**	**-1.5**
	baz=323						
TWB1				*i* S	**Sb**	**14 10 09.1**	**-0.5**
	baz=323						
EGFH	**Guangfu**	**1.21**	**255**	P	**Pb**	**14 09 53.6**	**-0.8**
	baz=244						
EGFH				S	**Sn**	**14 10 08.5**	**+0.8**
	baz=244						
ENTT	**Nioudou**	**1.22**	**302**	*i* P	**Pb**	**14 09 55.0**	**+0.4**
	baz=298						
ENTT				*i* S	**Sb**	**14 10 10.8**	**+0.8**
	baz=298						
JKRS	**Kuro-shima**	**1.22**	**78**	P	**Pb**	**14 09 55.6**	**+1.0**
JKRS				S	**Sb**	**14 10 12.1**	**+2.0**
TIPB	**Shuangxi**	**1.26**	**321**	P	**Pb**	**14 09 55.0**	**-0.2**
	baz=317						
TIPB				S	**Sb**	**14 10 11.5**	**+0.3**
	baz=317						
FUSB	**Fushanzhiwuyua**	**1.27**	**307**	P	**Pb**	**14 09 55.2**	**-0.3**
	baz=303						
FUSB				S	**Sb**	**14 10 13.0**	**+1.4**
	baz=303						
HGSD	**Ruisui**	**1.27**	**247**	P	**Pn**	**14 09 53.4**	**+0.1**
	baz=246						
HGSD				S	**Sn**	**14 10 09.5**	**+0.4**
	baz=246						
NNSB	**Datong**	**1.28**	**290**	P	**Pb**	**14 09 54.2**	**-1.4**
	baz=286						
NNSB				S	**Sn**	**14 10 10.0**	**+0.5**
	baz=286						
NNS	**Nan Shan**	**1.29**	**290**	*i* P	**Pb**	**14 09 54.7**	**-1.2**
	baz=287						
NNS				*i* S	**Sb**	**14 10 12.0**	**-0.2**
	baz=287						
WHF	**Hehuan Shan**	**1.32**	**277**	*i* P	**Pb**	**14 09 55.5**	**-1.0**
	baz=274						
WHF				*i* S	**Sn**	**14 10 11.2**	**+0.2**
	baz=274						
SXI1	**Grass Mountain**	**1.33**	**326**	P	**Pb**	**14 09 55.2**	**-1.3**
	baz=330						
SXI1				S	**Sb**	**14 10 11.3**	**-1.9**
	baz=330						
NWLT	**Wulai**	**1.34**	**306**	P	**Pb**	**14 09 57.1**	**+0.5**
	baz=311						
NWLT				S	**Sb**	**14 10 13.3**	**-0.3**
	baz=311						
EHY	**Hungye**	**1.35**	**249**	*i* P	**Pb**	**14 09 55.8**	**-1.0**
	baz=241						
EHY				*i* S	**Sb**	**14 10 12.9**	**-0.9**
	baz=241						
FUSS	**Fushou**	**1.35**	**281**	*i* P	**Pb**	**14 09 56.0**	**-1.0**
	baz=278						
FUSS				S	**Sn**	**14 10 12.0**	**+0.4**
	baz=278						
NWF	**Wu-fen Shan**	**1.36**	**322**	*i* P	**Pb**	**14 09 55.4**	**-1.6**
	baz=308						
JIJ	**Ishigaki jima**	**1.37**	**74**	P	**Pb**	**14 09 57.1**	**0.0**
JIJ				*e*S	**Sb**	**14 10 15.2**	**+0.9**
YHNB	**Yeheng**	**1.38**	**299**	P	**Pb**	**14 09 56.4**	**-1.0**
YHNB	**Yeheng**	**1.38**	**299**	P	**Pb**	**14 09 56.8**	**-0.6**
	baz=287						
OWD	**Renai**	**1.39**	**269**	*e*P	**Pn**	**14 09 54.5**	**-0.6**
	baz=275						
OWD				*e*S	**Sn**	**14 10 12.0**	**-0.4**
	baz=275						
CHGB	**Renai**	**1.40**	**273**	*i* P	**Pb**	**14 09 56.1**	**-1.6**
	baz=270						
CHGB				*i* S	**Sn**	**14 10 13.0**	**+0.4**
	baz=270						
NSK	**Sanguang**	**1.40**	**299**	*i* P	**Pb**	**14 09 56.8**	**-0.8**
	baz=296						
NSK				*i* S	**Sb**	**14 10 15.2**	**0.0**
	baz=296						
TWA	**Mucha**	**1.41**	**314**	*i* P	**Pb**	**14 09 56.8**	**-1.1**
	baz=310						
TWA				S	**Sb**	**14 10 14.4**	**-1.2**
	baz=310						
TWT	**Tachien**	**1.42**	**281**	*i* P	**Pb**	**14 09 57.5**	**-0.5**
	baz=269						
TWT				*i* S	**Sb**	**14 10 16.6**	**+0.7**
	baz=269						

YULB	**Yu-li**	**1.42 245**	P	**Pn**	**14 09 56.3**	**+0.9**
YULB	**Yu-li**	**1.42 245**	P	**Pn**	**14 09 55.8**	**+0.5**
	baz=238					
YULB			S	**Sn**	**14 10 13.8**	**+1.0**
	baz=238					
EYUL	**Yuli**	**1.42 243**	P	**Pb**	**14 09 56.5**	**-1.5**
	baz=236					
EYUL			S	**Sb**	**14 10 14.9**	**-0.8**
	baz=236					
TDCB	**Techi**	**1.43 281**	P	**Pb**	**14 09 57.6**	**-0.6**
	baz=269					
TDCB			S	**Sn**	**14 10 13.8**	**+0.4**
	baz=269					
NHDH	**Xindian Distri**	**1.44 312**	P	**Pb**	**14 09 58.6**	**+0.3**
	baz=320					
NHDH			S	**Sb**	**14 10 15.9**	**-0.5**
	baz=320					
VWDT	**VWDT**	**1.45 261**	*i* P	**Pb**	**14 09 57.5**	**-0.9**
	baz=259					
VWDT			*i* S	**Sn**	**14 10 14.1**	**+0.6**
	baz=259					
WUSB	**Renai**	**1.45 270**	P	**Pb**	**14 09 57.5**	**-1.0**
	baz=276					
WUSB			S	**Sb**	**14 10 15.2**	**-1.4**
	baz=276					
TATO	**Taipei**	**1.47 312**	P	**Pb**	**14 09 57.7**	**-1.2**
FULB	**Fuli**	**1.51 239**	P	**Pn**	**14 09 56.8**	**+0.1**
	baz=230					
FULB			S	**Sn**	**14 10 15.8**	**+0.6**
	baz=230					
CHKT	**Chengkung**	**1.51 234**	*i* P	**Pn**	**14 09 57.1**	**+0.5**
	baz=226					
CHKT			*i* S	**Sn**	**14 10 15.8**	**+0.6**
	baz=226					
YM01	**YM01**	**1.54 318**	P	**Pb**	**14 09 58.6**	**-1.4**
	baz=315					
YM01			S	**Sb**	**14 10 17.2**	**-2.1**
	baz=315					
NFF	**Wufeng Townshi**	**1.58 294**	*i* P	**Pb**	**14 10 00.2**	**-0.4**
	baz=283					
NFF			S	**Sb**	**14 10 20.3**	**0.0**
	baz=283					
JISG	**Ishigakijimahi**	**1.58 68**	P	**Pb**	**14 09 59.8**	**-1.0**
JISG			*e*S	**Sb**	**14 10 20.0**	**-0.5**
ANP	**Anpu**	**1.60 318**	P	**Pb**	**14 09 59.0**	**-2.1**
	baz=315					
TWS1	**Kuangyinshan**	**1.60 314**	P	**Pn**	**14 09 58.1**	**+0.2**
	baz=320					
TWS1			S	**Sb**	**14 10 20.3**	**-0.7**
	baz=320					
EHD	**Haiduan**	**1.61 239**	P	**Pn**	**14 09 59.1**	**+1.1**
	baz=231					
EHD			S	**Sn**	**14 10 18.4**	**+0.8**
	baz=231					
SSLB	**Suanglung**	**1.61 263**	P	**Pb**	**14 09 59.7**	**-1.5**
SSLB	**Suanglung**	**1.61 263**	P	**Pb**	**14 10 00.1**	**-1.1**
	baz=261					
SSLB			S	**Sn**	**14 10 19.5**	**+1.9**
	baz=261					
TWY	**Chenhua**	**1.62 322**	*i* P	**Pb**	**14 09 59.3**	**-2.1**
	baz=309					
TWY			S	**Sb**	**14 10 19.3**	**-2.2**
	baz=309					
WHP	**Taichung City**	**1.63 280**	P	**Pb**	**14 10 01.1**	**-0.4**
	baz=277					
WHP			S	**Sb**	**14 10 22.1**	**+0.4**
	baz=277					
NTST	**Danshui**	**1.63 316**	*e*P	**Pn**	**14 09 58.8**	**+0.5**
	baz=312					
EDH	**Donghe**	**1.64 232**	P	**Pn**	**14 09 58.3**	**0.0**
	baz=225					
EDH			S	**Sn**	**14 10 18.2**	**0.0**
	baz=225					
WCS	**Beigang Elemen**	**1.64 273**	P	**Pb**	**14 10 00.1**	**-1.5**
	baz=270					
WCS			*e*S	**Sb**	**14 10 20.8**	**-1.1**
	baz=270					
SMLT	**Sun Moon Lake**	**1.65 267**	*i* P	**Pb**	**14 10 00.3**	**-1.6**
	baz=265					
SMLT			*i* S	**Sn**	**14 10 20.0**	**+1.3**
	baz=265					
LIOB	**Emei**	**1.67 293**	*i* P	**Pb**	**14 10 00.9**	**-1.3**
	baz=290					
LIOB			*e*S	**Sb**	**14 10 22.6**	**-0.3**
	baz=290					
NSTT	**Nanjuang**	**1.67 293**	*i* P	**Pb**	**14 10 00.4**	**-1.9**
	baz=289					
NSTT			*i* S	**Sb**	**14 10 21.6**	**-1.4**
	baz=289					
NCU	**National Centr**	**1.69 306**	P	**Pb**	**14 10 01.1**	**-1.4**
	baz=302					
NCU			S	**Sb**	**14 10 21.1**	**-2.2**
	baz=302					
NCUH	**Zhongli**	**1.69 305**	P	**Pb**	**14 10 00.7**	**-1.7**
	baz=302					
TYC	**Yuchr**	**1.69 267**	*i* P	**Pb**	**14 10 01.2**	**-1.3**
	baz=265					
TYC			S	**Sb**	**14 10 23.1**	**-0.3**
	baz=265					
LDUT	**Ludao**	**1.73 221**	S	**Sn**	**14 10 19.7**	**-0.9**
	baz=221					
ELDTW	**Lidau**	**1.74 243**	*i* P	**Pn**	**14 10 01.4**	**+1.5**
	baz=242					
ELDTW			*i* S	**Sn**	**14 10 22.3**	**+1.4**
	baz=242					
TWQ1	**Liyutan**	**1.79 282**	*i* P	**Pb**	**14 10 03.4**	**-1.0**
	baz=278					
TWQ1			*i* S	**Sb**	**14 10 26.0**	**-0.4**
	baz=278					
ALS	**Alishan**	**1.80 255**	*i* P	**Pb**	**14 10 03.8**	**-0.8**
	baz=254					
ALS			S	**Sn**	**14 10 24.1**	**+1.4**
	baz=254					
LONT	**Longtian**	**1.80 233**	P	**Pn**	**14 10 01.4**	**+0.7**
	baz=227					
LONT			S	**Sn**	**14 10 24.7**	**+2.4**
	baz=227					
WJS	**Zhushan**	**1.81 265**	P	**Pb**	**14 10 05.0**	**+0.4**
	baz=263					
WJS			S	**Sb**	**14 10 28.8**	**+1.8**
	baz=263					
NSY	**Sanyi**	**1.82 284**	P	**Pb**	**14 10 03.4**	**-1.4**
	baz=281					
NMLH	**Miaoli**	**1.82 288**	P	**Pb**	**14 10 05.5**	**+0.7**
	baz=284					
NMLH			*e*S	**Sb**	**14 10 27.3**	**0.0**
	baz=284					
WNT	**Mingjian**	**1.85 267**	*i* P	**Pb**	**14 10 03.8**	**-1.4**
	baz=265					
WNT			*i* S	**Sb**	**14 10 27.2**	**-0.8**
	baz=265					
TCU	**Taichung**	**1.85 275**	P	**Pb**	**14 10 03.8**	**-1.5**
	baz=272					
TCU			S	**Sb**	**14 10 27.6**	**-0.5**
	baz=272					
TWGBT	**Beinan**	**1.89 232**	P	**Pn**	**14 10 03.0**	**+1.1**
TWGBT	**Beinan**	**1.89 232**	P	**Pn**	**14 10 03.0**	**+1.1**
	baz=226					
TWGBT			S	**Sn**	**14 10 25.4**	**+0.8**
	baz=226					
CHN5	**Tsauling**	**1.89 258**	*i* P	**Pb**	**14 10 06.1**	**+0.1**
	baz=251					
CHN5			S	**Sb**	**14 10 28.8**	**-0.6**
	baz=251					
TWG	**Pinlang**	**1.90 232**	P	**Pb**	**14 10 04.0**	**-2.0**
	baz=226					
TWG			S	**Sn**	**14 10 26.0**	**+1.4**
	baz=226					
WDJ	**Dajia District**	**1.91 281**	S	**Sb**	**14 10 30.4**	**+0.6**
	baz=278					
JTJ	**Tarama**	**1.94 70**	P	**Pb**	**14 10 05.2**	**-1.5**
JTJ			*e*S	**Sb**	**14 10 29.4**	**-1.2**
STYH	**Taoyuan**	**1.94 245**	*e*P	**Pn**	**14 10 04.5**	**+1.9**
	baz=240					
STYH			*e*S	**Sb**	**14 10 29.0**	**-1.8**
	baz=240					
WCHH	**Zhanghua**	**1.96 273**	P	**Pb**	**14 10 05.1**	**-1.9**
	baz=270					
WCHH			S	**Sb**	**14 10 31.6**	**+0.4**
	baz=270					
WCKO	**Fanlu**	**2.00 254**	P	**Pb**	**14 10 07.4**	**-0.3**
	baz=253					
WCKO			S	**Sb**	**14 10 31.9**	**-0.4**
	baz=253					
WDLH	**Douliu**	**2.00 262**	*e*P	**Pb**	**14 10 06.0**	**-1.8**
	baz=260					
WDLH			S	**Sb**	**14 10 33.5**	**+1.2**
	baz=260					
TPUB	**Ta-pu**	**2.02 250**	P	**Pb**	**14 10 06.5**	**-1.6**
TPUB	**Ta-pu**	**2.02 250**	P	**Pb**	**14 10 07.8**	**-0.4**
	baz=249					
TPUB			S	**Sb**	**14 10 31.7**	**-1.2**
	baz=249					
CHN4	**Tsaushan**	**2.03 252**	*i* P	**Pb**	**14 10 07.1**	**-1.3**
	baz=251					
CHN4			*i* S	**Sb**	**14 10 33.7**	**+0.4**
	baz=251					
WTP	**Ta-pu**	**2.05 249**	P	**Pb**	**14 10 07.9**	**-0.8**
	baz=241					
WTP			S	**Sn**	**14 10 30.9**	**+2.4**
	baz=241					
CHN2	**Minshiung**	**2.09 258**	P	**Pb**	**14 10 09.2**	**-0.1**
	baz=256					
CHN2			S	**Sb**	**14 10 34.3**	**-0.5**
	baz=256					
ECL	**Taimali**	**2.12 229**	P	**Pn**	**14 10 06.3**	**+1.2**
	baz=238					
ECL			S	**Sn**	**14 10 31.2**	**+1.0**
	baz=238					
WRL	**Guolierlin Hig**	**2.13 268**	*e*P	**Pb**	**14 10 08.4**	**-1.5**
	baz=276					
WRL			*e*S	**Sb**	**14 10 33.9**	**-2.1**
	baz=276					
SLGT	**Liugui**	**2.13 243**	*e*P	**Pb**	**14 10 08.4**	**-1.6**
	baz=236					
WTK	**Tuku**	**2.14 262**	P	**Pb**	**14 10 08.2**	**-1.9**
	baz=261					
WTK			S	**Sb**	**14 10 36.6**	**+0.4**
	baz=261					
CHY	**Chiayi**	**2.14 257**	*e*P	**Pb**	**14 10 08.4**	**-1.8**
	baz=256					
CHY			*e*S	**Sb**	**14 10 35.3**	**-1.1**
	baz=256					
SGST	**Jiashian**	**2.14 245**	P	**Pb**	**14 10 09.2**	**-1.0**
	baz=237					
SGST			S	**Sb**	**14 10 35.8**	**-0.7**
	baz=237					
CHN1	**Nanshi**	**2.15 248**	P	**Pb**	**14 10 09.4**	**-0.9**
	baz=237					
CHN1			S	**Sb**	**14 10 36.3**	**-0.3**
	baz=237					
TWK	**Hsinying**	**2.15 251**	P	**Pb**	**14 10 09.7**	**-0.7**
	baz=249					
TWK			S	**Sb**	**14 10 34.2**	**-2.6**
	baz=249					
SNST	**Tainan City**	**2.16 250**	*e*P	**Pb**	**14 10 08.4**	**-2.1**
	baz=248					
LAY	**Lan-yu**	**2.21 209**	P	**Pn**	**14 10 06.8**	**+0.4**
	baz=208					
LAY			S	**Sn**	**14 10 32.9**	**+0.3**
	baz=208					
WTCT	**Ta-ch'eng**	**2.22 267**	P	**Pb**	**14 10 08.7**	**-2.7**
	baz=277					
WTCT			S	**Sb**	**14 10 36.6**	**-1.9**
	baz=277					
LYUB	**Lan-yu**	**2.23 208**	P	**Pn**	**14 10 06.5**	**-0.1**
	baz=207					
LYUB			S	**Sn**	**14 10 32.4**	**-0.5**
	baz=207					
TSMG	**Majia**	**2.28 236**	*e*P	**Pb**	**14 10 10.2**	**-2.4**
	baz=230					
WSF	**Szhu**	**2.30 262**	P	**Pb**	**14 10 10.5**	**-2.3**
	baz=260					
WSF			S	**Sb**	**14 10 38.7**	**-2.1**
	baz=260					
ICHU	**Yijhu**	**2.31 255**	P	**Pb**	**14 10 11.5**	**-1.5**
	baz=253					
ICHU			S	**Sb**	**14 10 38.7**	**-2.4**
	baz=253					
SCST	**Cishan**	**2.31 242**	*e*P	**Pn**	**14 10 10.0**	**+2.5**
	baz=232					
SCST			*e*S	**Sb**	**14 10 42.2**	**+1.1**
	baz=232					
WSL	**Shuilin Townsh**	**2.31 259**	P	**Pb**	**14 10 11.7**	**-1.4**
	baz=257					
WSL			S	**Sb**	**14 10 39.4**	**-1.9**
	baz=257					
TAW	**Tawu**	**2.32 226**	*e*P	**Pn**	**14 10 08.4**	**+0.6**
	baz=231					
TAW			*e*S	**Sn**	**14 10 36.1**	**+0.9**
	baz=231					
CHN3	**Shinhua**	**2.33 247**	*e*P	**Pb**	**14 10 11.0**	**-2.3**
	baz=246					
CHN3			*e*S	**Sb**	**14 10 40.7**	**-1.0**
	baz=246					
EAST	**Anshuo**	**2.34 227**	*e*P	**Pn**	**14 10 09.9**	**+1.8**
	baz=233					
TAWH	**Dawu Township**	**2.34 226**	*e*P	**Pn**	**14 10 10.2**	**+2.1**
	baz=231					
TAWH			*e*S	**Sn**	**14 10 36.1**	**+0.5**
	baz=231					
MASBT	**Mashibuluo**	**2.34 235**	P	**Pn**	**14 10 09.7**	**+1.6**
	baz=228					
SHHT	**Tainan City**	**2.37 246**	*e*P	**Pb**	**14 10 13.9**	**0.0**
	baz=245					
CHN8	**Yiju**	**2.37 255**	P	**Pb**	**14 10 11.5**	**-2.6**
	baz=253					
CHN8			S	**Sb**	**14 10 40.2**	**-2.7**
	baz=253					
SSHA	**Shanhua**	**2.37 249**	*e*S	**Sb**	**14 10 41.8**	**-1.1**
	baz=260					
SGLT	**Jiouru**	**2.39 239**	*e*P	**Pn**	**14 10 11.2**	**+2.5**
	baz=236					
TWM1	**Shoushan**	**2.39 241**	P	**Pb**	**14 10 13.1**	**-1.3**
	baz=240					
JIRB	**Irabujima**	**2.40 69**	*e*P	**Pb**	**14 10 12.6**	**-2.0**
JIRB			*e*S	**Sb**	**14 10 41.5**	**-2.4**
SCLT	**Jiali**	**2.44 251**	*e*S	**Sb**	**14 10 42.3**	**-2.5**
	baz=260					
SLIU	**Shizi**	**2.49 225**	*e*P	**Pn**	**14 10 11.5**	**+1.4**
	baz=224					
JIKM	**Ikemajima**	**2.50 68**	P	**Pb**	**14 10 13.4**	**-2.9**
JIKM			S	**Sb**	**14 10 43.8**	**-2.9**
SCZT	**Fangliau**	**2.50 230**	*e*P	**Pn**	**14 10 11.8**	**+1.6**
	baz=226					
SCZT			*e*S	**Sn**	**14 10 40.9**	**+1.3**
	baz=226					
JMJ2	**Miyako jima3**	**2.51 72**	P	**Pb**	**14 10 14.1**	**-2.3**
JMJ2			*e*S	**Sb**	**14 10 43.6**	**-3.4**
TSCK	**Chigu Township**	**2.54 251**	*e*P	**Pb**	**14 10 13.9**	**-3.0**
	baz=250					
TSCK			*e*S	**Sn**	**14 10 43.6**	**+3.1**
	baz=250					
JOGS	**Gusukube**	**2.58 72**	*e*P	**Pb**	**14 10 15.6**	**-2.1**
JOGS			S	**Sb**	**14 10 46.7**	**-2.4**
SMST	**Manzhou Townsh**	**2.61 222**	P	**Pn**	**14 10 14.3**	**+2.6**
	baz=210					
SMST			S	**Sn**	**14 10 44.8**	**+2.6**
	baz=210					
TSEB	**Hengchuen, Pin**	**2.66 219**	*e*S	**Sn**	**14 10 46.7**	**+3.2**
	baz=225					
HEN	**Hengchun**	**2.68 223**	*e*P	**Pn**	**14 10 14.9**	**+2.2**
	baz=222					
HEN			*e*S	**Sn**	**14 10 45.9**	**+2.0**
	baz=222					
TWKBT	**Hengchun**	**2.68 221**	P	**Pn**	**14 10 14.6**	**+1.9**
	baz=220					
TWKBT			*e*S	**Sn**	**14 10 46.7**	**+2.7**
	baz=220					
TWK1	**Hengchun**	**2.69 221**	P	**Pn**	**14 10 14.3**	**+1.5**
	baz=220					
TWK1			S	**Sn**	**14 10 47.7**	**+3.6**
	baz=220					
WDGT	**Dungji**	**2.88 256**	P	**Pn**	**14 10 18.0**	**+2.6**
	baz=254					
WDGT			*e*S	**Sn**	**14 10 52.5**	**+3.5**
	baz=254					
PHUB	**P'eng-hu**	**2.90 261**	P	**Pn**	**14 10 17.4**	**+1.6**
	baz=271					
PHUB			*e*S	**Sn**	**14 10 50.0**	**+0.5**
	baz=271					
PNG	**Penghu**	**2.91 262**	*e*P	**Pn**	**14 10 17.9**	**+2.0**
	baz=272					
PNG			*e*S	**Sn**	**14 10 51.6**	**+2.0**
	baz=272					
MATB	**Ma-tsu**	**3.29 311**	P	**Pn**	**14 10 21.5**	**+0.3**
	baz=307					
PTMZ	**Houxiangcun**	**3.42 288**	P	**Pn**	**14 10 24.2**	**+1.3**
	baz=276					
LYJJ	**Jianjiangzhen**	**3.68 314**	*e*P	**Pn**	**14 10 27.3**	**+0.8**
	baz=310					
XPSS	**Dashiqiu**	**3.70 323**	*e*P	**Pn**	**14 10 28.0**	**+1.2**
	baz=320					
KNM	**Kinmen**	**3.92 277**	*e*P	**Pn**	**14 10 33.5**	**+3.8**
	baz=274					
KNMB	**Chin-men Tao**	**3.96 278**	*e*P	**Pn**	**14 10 30.9**	**+0.6**
	baz=275					
KNMB			*e*S	**Sn**	**14 11 14.6**	**-1.0**
	baz=275					
AXDP	**Jialang**	**4.40 283**	*e*P	**Pn**	**14 10 37.3**	**+0.9**
	baz=272					
ZPLA	**Ao Xicun**	**4.53 270**	*e*P	**Pn**	**14 10 39.2**	**+1.1**
	baz=268					
DSXP	**Dongshan**	**4.84 268**	*e*P	**Pn**	**14 10 43.3**	**+0.9**
	baz=266					
JOW	**Kunigami**	**5.78 60**	Pn	**Pn**	**14 10 55.0**	**-0.4**
	1.9nm,0.3s,baz=185,slow=7.7,SNR=5.4					
JOW			Sn	**Sn**	**14 12 00.9**	**+0.5**
	0.7nm,0.3s,baz=81,slow=19,SNR=1.1					
	6.4nm,0.4s					
KSRS	**Korea Array**	**14.14 17**	Pn	**Pn**	**14 12 51.7**	**+1.8**
	0.3nm,0.3s,baz=196,slow=11,SNR=2.8					
ASAJ	**Asahikawa**	**25.85 34**	P	**P**	**14 14 58.0**	**-2.3**
	3.8nm,0.9s,baz=228,slow=15,SNR=2.1					
	3.8nm,0.9s					
SONM	**Songino Array**	**27.10 335**	P	**P**	**14 15 09.1**	**-2.5**
	0.6nm,0.4s,baz=155,slow=11,SNR=2.9					
	0.6nm,0.4s					
MKAR	**Makanchi Array**	**39.44 315**	P	**P**	**14 16 57.8**	**-1.0**
	0.3nm,0.4s,baz=102,slow=9.8,SNR=8.7					
MKAR			PcP	**PcP**	**14 19 05.9**	**-0.4**
	0.3nm,0.6s,baz=91,slow=6.9,SNR=3.2					
	0.3nm,0.4s					
ZALV	**Zalesovo Beam**	**41.16 327**	P	**P**	**14 17 11.8**	**-1.1**
	0.4nm,0.3s,baz=122,slow=5.4,SNR=2.6					
	0.4nm,0.3s					
WRA	**Warramunga Arr**	**45.12 164**	P	**P**	**14 17 46.8**	**+1.6**
	0.5nm,0.4s,baz=344,slow=8.8,SNR=3.4					
	0.5nm,0.4s					
ASAR	**Alice Springs**	**48.61 166**	P	**P**	**14 18 14.9**	**+2.5**
	0.2nm,0.6s,baz=346,slow=7.9,SNR=7.4					
ASAR			PcP	**PcP**	**14 19 38.3**	**+0.6**
	0.2nm,0.9s,baz=350,slow=4.0,SNR=1.3					
	0.2nm,0.6s					
FINES	**FINESS Array B**	**72.31 330**	P	**P**	**14 20 53.3**	**-0.5**
	2.9nm,1.0s,baz=57,slow=5.1,SNR=3.4					
	2.9nm,1.0s					
YKA	**Yellowknife Ar**	**82.60 23**	P	**P**	**14 21 51.2**	**-0.1**
	0.3nm,0.8s,baz=309,slow=5.2,SNR=4.0					
	0.3nm,0.8s					

REN ***18*** *14:15:12.9±1.1,38°.426N±0°.008×118°.90W±0°.02, h7km±7km, ML2.7/14, ML2.5/40(NEIC), Error ellipse: s-maj=2.0km s-min=1.1km az=104.0*

NEIC 18 14:15:13.2±1.4, 38°.43N±0°.01×118°.92W±0°.02, h11km±6km, Error ellipse: s-maj=2.4km s-min=1.4km az=129.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TVH1	**TV Hill, Hawth**	**0.12**	**78**			Pg	14 15 16.1	-0.5
TVH1						Sg	14 15 18.3	-0.6
RYN	**Ryan**	**0.36**	**58**			Pg	14 15 20.5	0.0
RYN						Sg	14 15 25.8	+0.4
RYN	**Ryan**	**0.36**	**58**	IAML			14 15 26.0	
	comp=N,786nm,0.6s							
RYN				IAML			14 15 26.6	
	comp=E,888nm,0.4s							
LHV	**Little Huntoon**	**0.37**	**119**			Pg	14 15 20.6	+0.1
LHV						Sg	14 15 26.1	+0.6
LHV	**Little Huntoon**	**0.37**	**119**	IAML			14 15 26.4	
	comp=N,2μm,0.5s							
LHV				IAML			14 15 27.5	
	comp=E,1μm,0.8s							
LUL	**Lundy Lake**	**0.43**	**209**			Pg	14 15 21.8	-0.1
NV09	**Mina Array Sit**	**0.46**	**90**			Pg	14 15 21.9	-0.3
NV08	**Mina Array Sit**	**0.47**	**93**			Pg	14 15 22.1	-0.4
NV08						Sg	14 15 28.8	+0.1
NVAR	**Mina Array Bea**	**0.48**	**90**			Pg	14 15 21.8	-0.9
NV11	**Mina Array Sit**	**0.60**	**90**			Pg	14 15 24.8	0.0
NV11				IAML			14 15 33.9	
	comp=N,214nm,0.6s							
NV11				IAML			14 15 33.9	
	comp=E,211nm,1.0s							
NV11	**Mina Array Sit**	**0.60**	**90**			Sg	14 15 33.5	+0.7
YERR	**Yerington**	**0.61**	**335**			Pg	14 15 25.1	+0.1
YERR	**Yerington**	**0.61**	**335**	IAML			14 15 39.4	
	comp=E,190nm,0.7s							
YERR				IAML			14 15 41.1	
	comp=N,192nm,0.5s							
BENR	**Benton**	**0.77**	**159**			Pg	14 15 27.6	-0.5
MDYM	**Dry Creek**	**0.78**	**186**			Pn	14 15 30.4	0.0
MDYM						Sb	14 15 39.1	-0.5
MCBM	**Casa Benchmark**	**0.79**	**179**			Pg	14 15 28.3	-0.2
MLAC	**Mammoth, Mammo**	**0.80**	**176**			Pn	14 15 30.4	-0.3
MDPB	**Devils Postpil**	**0.81**	**189**			Pg	14 15 28.4	-0.5
MDPB	**Devils Postpil**	**0.81**	**189**	IAML			14 15 39.5	
	comp=N,117nm,0.2s							
MDPB				IAML			14 15 39.6	
	comp=E,134nm,0.3s							
OMMB	**Old Mammoth Mi**	**0.82**	**185**			Pg	14 15 28.3	-0.8
PNTR	**Pine Nut**	**0.85**	**321**			Pg	14 15 29.5	0.0
PNTR						Sb	14 15 41.4	-0.1
PNTR	**Pine Nut**	**0.85**	**321**	IAML			14 15 42.2	
	comp=N,145nm,0.9s							
PNTR				IAML			14 15 47.5	
	comp=E,196nm,0.8s							
KVN	**Kaiserville**	**0.89**	**46**			Pg	14 15 29.9	-0.5
KVN						Sb	14 15 42.3	-0.4
KVN	**Kaiserville**	**0.89**	**46**	IAML			14 15 46.3	
	comp=E,136nm,0.8s							
VCNR	**Virginia City**	**1.03**	**327**			Pg	14 15 32.9	-0.2
VCNR						Sb	14 15 47.4	+0.5
VCNR	**Virginia City**	**1.03**	**327**	IAML			14 15 52.8	
	comp=N,191nm,0.5s							
VCNR				IAML			14 15 53.5	
	comp=E,146nm,1.2s							
CMB	**Columbia Colle**	**1.23**	**251**			Pn	14 15 36.0	-0.4
CMB	**Columbia Colle**	**1.23**	**251**	IAML			14 15 52.5	
	comp=E,105nm,0.3s							
DSP	**Deep Springs**	**1.30**	**145**			Pb	14 15 37.5	-0.1
TPH	**Tonopah**	**1.38**	**105**			Pn	14 15 38.3	-0.3
MZP	**Montezuma Peak**	**1.41**	**121**			Pb	14 15 39.7	0.0
MZP	**Montezuma Peak**	**1.41**	**121**	IAML			14 16 02.0	
	comp=E,50nm,0.5s							
MZP				IAML			14 16 02.7	
	comp=N,52nm,0.5s							
Q09A	**Carvers**	**1.42**	**73**			Pb	14 15 39.5	-0.2
DONR	**Donner Summit**	**1.43**	**310**			Pb	14 15 40.1	0.0
LCH	**Last Change Ra**	**1.56**	**140**			Pn	14 15 41.2	+0.1
LCH	**Last Change Ra**	**1.56**	**140**	IAML			14 16 06.5	
	comp=E,44nm,0.7s							
AFDM	**Forest Hills D**	**1.69**	**288**			Pb	14 15 44.1	-0.2
SGV	**South Grapevin**	**2.08**	**134**			Pn	14 15 48.6	+0.4
BMN	**Battle Mountai**	**2.39**	**33**			Pn	14 15 51.8	-0.6
TPNV	**Topopah Spring**	**2.58**	**124**			Pn	14 15 55.0	-0.1
PMPB	**Monarch Peak**	**2.68**	**215**			Pn	14 15 55.9	-0.4
ISA	**Isabella, Lake**	**2.79**	**173**			Pn	14 15 58.1	+0.3
ISA				IAML			14 16 50.1	
	comp=N,11nm,0.7s							
ISA				IAML			14 16 54.8	
	comp=E,18nm,3.0s							
AMDNV	**Amargosa**	**2.88**	**133**			Pn	14 16 00.8	+1.7
PRN	**Pahroc Range**	**3.22**	**107**			Pn	14 16 04.5	+0.6
ELK	**Elko**	**3.66**	**50**			Pn	14 16 09.4	-0.6

ROM 18 14:33:23.1±0.1, 42°.521N±0°.004×13°.270E±0°.004, h13km, ML3.0/29, 11C-3D, Error ellipse: s-maj=0.4km s-min=0.1km az=26.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RM33	**Pellescritta (**	**0.04**	**254**	P	P	Pg	14 33 25.9	+0.2
RM33				S	S	Sg	14 33 27.4	-0.1
RM33				AML	AML			
	comp=N,51900μm,0.3s							
RM33				AML	AML			
	comp=E,66300μm,1.2s							
RM33				AML	AML			
	comp=E,65000μm,1.2s							
RM33				AML	AML			
	comp=E,66300μm,1.2s							
RM33				AML	AML			
	comp=N,51900μm,0.3s							
RM33				AML	AML			
	comp=N,53500μm,0.3s							
RM33				AML	AML			
	comp=E,66300μm,0.8s							
RM33				AML	AML			
	comp=E,65000μm,0.8s							

RM33 AML AML
comp=E,61057µm,0.3s
RM33 AML AML
comp=E,58750µm,0.3s
RM33 AML AML
comp=N,53472µm,0.3s
RM33 AML AML
comp=N,50420µm,0.2s
T1247 Pizzolo (AQ) 0.08 165 P Pg 14 33 26.4 +0.5
T1247 S Sg 14 33 28.4 +0.4
T1247 AML AML
comp=N,20450µm,0.5s
T1247 AML AML
comp=E,21500µm,0.2s
T1247 AML AML
comp=E,21494µm,0.2s
T1247 AML AML
comp=N,17619µm,0.2s
CAMP Campotosto 0.10 82 P Pb 14 33 26.7 -0.4
CAMP S Sg 14 33 28.9 +0.4
LNSS Leonessa 0.19 296 P Pg 14 33 27.8 +0.4
LNSS S Sg 14 33 31.1 +0.6
LNSS AML AML
comp=N,19950µm,0.2s
LNSS AML AML
comp=E,16150µm,0.9s
LNSS AML AML
comp=E,16150µm,1.1s
LNSS AML AML
comp=E,12073µm,0.2s
LNSS AML AML
comp=N,19915µm,0.2s
T1218 Civita (PG) 0.19 323 P Pg 14 33 27.8 +0.3
T1218 S Sg 14 33 31.0 +0.5
T1218 AML AML
comp=N,13135µm,0.3s
T1218 AML AML
comp=E,9925µm,0.2s
T1218 AML AML
comp=N,12970µm,0.3s
T1218 AML AML
comp=N,12925µm,0.4s
T1218 AML AML
comp=E,9905µm,0.2s
T1218 AML AML
comp=N,13135µm,0.4s
T1218 AML AML
comp=N,12970µm,0.4s
T1218 AML AML
comp=N,11948µm,0.2s
T1218 AML AML
comp=E,9890µm,0.2s
T1218 AML AML
comp=E,9946µm,0.2s
T1218 AML AML
comp=N,11682µm,0.2s
GIGS Gran Sasso 0.23 108 P Pg 14 33 28.5 +0.3
GIGS S Sg 14 33 32.2 +0.6
GIGS AML AML
comp=E,1170µm,0.1s
GIGS AML AML
comp=N,1850µm,0.3s
GIGS AML AML
comp=E,1169µm,0.1s
GIGS AML AML
comp=N,1787µm,0.2s
FIAM Fiamignano 0.28 204 P Pg 14 33 29.4 +0.4
FIAM S Sb 14 33 33.8 -0.9
FIAM AML AML
comp=E,2710µm,0.6s
FIAM AML AML
comp=N,2535µm,0.7s
FIAM AML AML
comp=N,2526µm,0.3s
FIAM AML AML
comp=E,2712µm,0.6s
T1217 Poggiodomo (PG 0.31 307 ⇑P Pg 14 33 29.9 +0.2
T1217 S Sg 14 33 34.8 +0.8
T1217 AML AML
comp=E,3030µm,0.3s
T1217 AML AML
comp=N,3730µm,1.4s
T1217 AML AML
comp=E,2910µm,0.8s
T1217 AML AML
comp=N,3505µm,1.4s
T1217 AML AML
comp=E,2910µm,0.8s
T1217 AML AML
comp=N,3735µm,1.4s
T1217 AML AML
comp=E,3035µm,0.3s
T1217 AML AML
comp=N,2919µm,0.1s
T1217 AML AML
comp=E,2443µm,0.1s
T1217 AML AML
comp=E,2489µm,0.1s
T1217 AML AML
comp=N,2853µm,0.1s
FAGN Fagnano 0.34 137 P Pg 14 33 30.6 +0.5
FAGN AML AML
comp=E,6230µm,0.3s
FAGN AML AML
comp=N,5140µm,0.3s
FAGN AML AML
comp=N,5140µm,1.7s
FAGN AML AML
comp=N,5142µm,0.3s
FAGN AML AML
comp=E,6230µm,0.3s
ARRO Arrone 0.38 279 P Pg 14 33 30.9 +0.2
ARRO AML AML
comp=N,2435µm,0.2s
ARRO AML AML
comp=N,2430µm,0.2s
ARRO AML AML
comp=E,2405µm,0.8s
ARRO AML AML
comp=E,2322µm,0.2s
ARRO AML AML
comp=N,2430µm,0.2s
T0110 Collepietro 0.48 128 ⇑P Pg 14 33 32.9 +0.3
T0110 AML AML
comp=E,1810µm,1.5s
T0110 AML AML
comp=N,1475µm,1.6s
T0110 AML AML
comp=N,1475µm,0.4s
T0110 AML AML
comp=E,1810µm,0.5s
T0110 AML AML
comp=E,1768µm,0.5s
T0110 AML AML
comp=N,1469µm,0.4s
PTQR Pietraquaria 0.51 169 ⇑P Pb 14 33 34.8 +0.8
CESX Cesi 0.52 280 P Pg 14 33 33.1 -0.2
CESX AML AML
comp=E,1200µm,0.5s
CESX AML AML
comp=N,1125µm,0.3s
CESX AML AML
comp=N,1125µm,0.3s
CESX AML AML
comp=E,1196µm,0.5s
GUMA Gualdo di Mace 0.54 5 P Pb 14 33 34.2 -0.4
GUMA AML AML
comp=N,2300µm,1.6s
GUMA AML AML
comp=E,3340µm,0.5s
GUMA AML AML
comp=E,2995µm,0.3s
GUMA AML AML
comp=N,2305µm,1.6s
GUMA AML AML
comp=E,3335µm,0.5s
GUMA AML AML
comp=N,2420µm,1.5s
GUMA AML AML
comp=N,2305µm,0.4s
GUMA AML AML
comp=N,2420µm,0.5s
GUMA AML AML
comp=E,3335µm,1.5s
GUMA AML AML
comp=N,2258µm,0.3s
GUMA AML AML
comp=E,2998µm,0.3s
GUMA AML AML
comp=E,3336µm,0.5s
GUMA AML AML
comp=N,2129µm,0.4s
CESI CESI - Serrava 0.55 331 P Pg 14 33 34.0 -0.1
CESI AML AML
comp=N,1160µm,0.6s
CESI AML AML
comp=E,857µm,0.5s
CESI AML AML
comp=E,691µm,0.2s
CESI AML AML
comp=N,1128µm,0.2s
TRTR Tortoreto Alta 0.56 59 P Pb 14 33 35.5 +0.8
TRTR AML AML
comp=N,2715µm,1.4s
TRTR AML AML
comp=E,2820µm,1.6s
TRTR AML AML
comp=N,2715µm,0.6s
TRTR AML AML
comp=E,2478µm,0.6s
TRTR AML AML
comp=N,2027µm,0.6s
CSP1 Cessapalombo 0.57 355 P Pg 14 33 34.4 0.0
CSP1 S Sb 14 33 43.6 +0.3
CSP1 AML AML
comp=E,1180µm,0.1s
CSP1 AML AML
comp=N,930µm,1.1s
CSP1 AML AML
comp=E,1185µm,0.1s
CSP1 AML AML
comp=N,931µm,1.1s
CSP1 AML AML
comp=N,931µm,0.9s
CSP1 AML AML
comp=E,1184µm,0.1s
CSP1 AML AML
comp=N,864µm,0.2s
MOMA Monte Martano 0.59 299 P Pg 14 33 34.5 -0.2
MOMA S Sb 14 33 43.6 -0.1
MOMA AML AML
comp=N,2085µm,0.8s
MOMA AML AML
comp=N,2250µm,0.7s
MOMA AML AML
comp=E,2820µm,1.0s
MOMA AML AML
comp=E,2870µm,1.0s
MOMA AML AML
comp=N,2085µm,1.2s
MOMA AML AML
comp=N,1983µm,0.2s
MOMA AML AML
comp=E,2542µm,0.2s
MOMA AML AML
comp=E,2459µm,0.2s
MOMA AML AML
comp=N,1889µm,0.3s
T1220 Camerino, Fraz 0.60 347 P Pg 14 33 34.9 -0.1
T1220 AML AML
comp=E,3255µm,1.4s
T1220 AML AML
comp=N,3345µm,0.2s
T1220 AML AML
comp=E,3245µm,1.3s
T1220 AML AML
comp=N,3400µm,0.2s
T1220 AML AML
comp=E,3245µm,1.4s
T1220 AML AML
comp=N,3400µm,0.2s
T1220 AML AML
comp=N,3345µm,0.2s
T1220 AML AML
comp=E,3245µm,0.6s
T1220 AML AML
comp=E,3255µm,0.6s
T1220 AML AML
comp=E,2766µm,0.4s
T1220 AML AML
comp=E,2788µm,0.3s
T1220 AML AML
comp=N,3400µm,0.2s
T1220 AML AML
comp=N,3345µm,0.2s
CERT Cerreto 0.61 201 ⇑P Pg 14 33 34.9 -0.2
CERT AML AML
comp=E,602µm,0.4s
CERT AML AML
comp=N,494µm,1.2s
CERT AML AML
comp=E,602µm,1.6s
CERT AML AML
comp=N,494µm,0.8s
CERT AML AML
comp=E,601µm,0.4s
CERT AML AML
comp=N,451µm,0.5s
SRES S.Oreste - Sor 0.63 244 P Pg 14 33 35.7 +0.3
SRES AML AML
comp=E,546µm,0.8s
SRES AML AML
comp=N,378µm,0.6s
SRES AML AML
comp=E,546µm,1.2s
SRES AML AML
comp=E,535µm,0.3s
SRES AML AML
comp=N,377µm,0.6s
ASSB Assisi San Ben 0.69 319 ⇑P Pg 14 33 36.2 -0.3
ASSB AML AML
comp=N,1036µm,0.9s
ASSB AML AML
comp=N,1036µm,1.1s
ASSB AML AML
comp=E,964µm,0.6s
ASSB AML AML
comp=N,927µm,0.3s
ASSB AML AML
comp=E,930µm,0.3s
SNTG Esanatoglia 0.77 342 P Pg 14 33 37.9 -0.3
SNTG S Sn 14 33 50.7 -0.7
SNTG AML AML
comp=N,364µm,1.6s
SNTG AML AML
comp=E,313µm,1.1s
SNTG AML AML
comp=N,364µm,0.4s
SNTG AML AML
comp=N,326µm,0.2s
SNTG AML AML
comp=E,261µm,0.4s
SNTG AML AML
comp=N,362µm,0.4s
SNTG AML AML
comp=E,295µm,0.3s
EL6 Elcito 0.82 351 ⇓P Pg 14 33 38.7 -0.3
EL6 S Sn 14 33 52.3 -0.3
EL6 AML AML
comp=E,696µm,1.2s
EL6 AML AML
comp=N,1145µm,1.6s
EL6 AML AML
comp=N,1145µm,0.4s
EL6 AML AML
comp=N,1125µm,0.4s
EL6 AML AML
comp=E,629µm,0.3s
LPEL Lama dei Pelig 0.83 125 ⇑P Pg 14 33 38.5 -0.7
LPEL AML AML
comp=E,488µm,1.1s
LPEL AML AML
comp=N,424µm,1.4s
LPEL AML AML
comp=N,424µm,0.6s
LPEL AML AML
comp=E,488µm,0.9s
LPEL AML AML
comp=E,436µm,0.7s
LPEL AML AML
comp=N,345µm,0.3s
POFI Posta Fibreno 0.87 158 P Pn 14 33 41.0 -0.1
POFI AML AML
comp=E,232µm,0.9s
POFI AML AML
comp=N,192µm,1.4s
POFI AML AML
comp=N,192µm,0.6s
POFI AML AML
comp=N,139µm,0.5s
POFI AML AML
comp=E,232µm,0.9s
POFI AML AML
comp=E,234µm,0.9s
POFI AML AML
comp=N,162µm,0.8s
MURB Monte Urbino 0.92 324 ⇑P Pg 14 33 40.6 -0.3
MURB AML AML
comp=E,1690µm,0.3s
MURB AML AML
comp=N,1445µm,0.9s
MURB AML AML
comp=E,1820µm,0.3s
MURB AML AML
comp=N,987µm,0.4s
MURB AML AML
comp=N,1445µm,1.1s
MURB AML AML
comp=E,1818µm,0.3s
MURB AML AML
comp=N,987µm,0.4s
MURB AML AML
comp=N,1016µm,0.3s
MURB AML AML
comp=E,1690µm,0.3s
MGAB Montegabbione 0.94 295 ⇓P Pb 14 33 41.5 +0.2
MGAB AML AML
comp=E,1039µm,1.1s
MGAB AML AML
comp=E,1145µm,1.1s
MGAB AML AML
comp=N,754µm,1.1s
MGAB AML AML
comp=E,1145µm,0.9s
MGAB AML AML
comp=N,734µm,0.3s
MGAB AML AML
comp=N,754µm,0.9s
MGAB AML AML
comp=E,1039µm,0.9s
MGAB AML AML
comp=E,927µm,0.4s
MGAB AML AML
comp=N,734µm,0.3s
MGAB AML AML
comp=E,935µm,0.4s
MGAB AML AML
comp=N,744µm,0.4s
SSFR Montelago di S 0.98 339 ⇑P Pg 14 33 42.1 0.0
SSFR AML AML
comp=N,854µm,1.4s
SSFR AML AML
comp=N,752µm,1.4s
SSFR AML AML
comp=N,752µm,0.6s
SSFR AML AML
comp=N,854µm,0.6s
SSFR AML AML
comp=E,1405µm,0.2s
SSFR AML AML
comp=E,1275µm,0.2s
SSFR AML AML
comp=E,1407µm,0.2s
SSFR AML AML
comp=N,726µm,0.2s
SSFR AML AML
comp=E,1272µm,0.2s
SSFR AML AML
comp=N,711µm,0.2s
PIEI Pieia 1.15 332 ⇑P Pb 14 33 44.8 -0.1
PIEI AML AML
comp=E,216µm,1.6s
PIEI AML AML
comp=N,206µm,1.5s
PIEI AML AML
comp=E,216µm,0.4s
PIEI AML AML
comp=E,170µm,0.4s
PIEI AML AML
comp=N,171µm,0.5s
CAFI Castiglion Fio 1.25 311 P Pb 14 33 46.6 -0.1
NDIM Novi di Modena 2.92 325 ⇓P Pn 14 34 09.2 -0.1
NDIM S Sn 14 34 41.8 -2.5
NDIM AML AML
comp=E,7380µm,0.2s
NDIM AML AML
comp=N,10050µm,0.1s
NDIM AML AML
comp=E,7500µm,0.2s
NDIM AML AML
comp=N,10835µm,0.1s
CTI Castel Tesino 3.71 342 ⇑P Pn 14 34 22.2 +1.9
OBKA Obir 4.09 12 *e*Pn Pn 14 34 28.4 +2.9
OBKA *e*Sn Sn 14 35 13.9 +0.7
comp=N,2.5nm,0.5s
comp=N,3.4nm,0.5s
BOSI Bolzano 4.21 341 ⇑P Pn 14 34 25.3 -1.8
ABTA Abfaltersbach 4.26 353 *e*Pn Pn 14 34 30.6 +2.8
ABTA *e*Sn Sn 14 35 19.1 +1.7
comp=N,1.7nm,0.3s
comp=N,4.3nm,0.4s

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*IDC **18** 14:34:01.1±1.6,42.°54N×139.°30E,h196km±16km,mb3.2/7, mbtmp3.7/8,Error ellipse: s-maj=22.0km s-min=16.7km az=100.0*
*JMA **18** 14:34:02.4±0.2,42.°6N±0.°6×13°9E±°,h201km±1km, MV2.9/37,SW OFF HOKKAIDO*
ISC 18 14:34:02.1±0.8,42.°54N±0.°07×139.°40E±0.°08,h208km±6km, n26,σ0.°67/35,mb3.4/7,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHST	**Hiyamasetana**	**0.38**	**108**	*e*P		**Pn**	**14 34 29.7**	**0.0**
JHST				*e*S		**Sn**	**14 34 50.4**	**-0.6**
JOSM	**Okushiri--Mats**	**0.46**	**173**	*e*P		**Pn**	**14 34 29.8**	**-0.2**
JOSM				*e*S		**Sn**	**14 34 51.1**	**-0.5**
JSH	**Shimam**	**0.49**	**78**	*e*P		**Pn**	**14 34 29.8**	**-0.2**
JSH				*e*S		**Sn**	**14 34 51.1**	**-0.6**
JYM2	**Yakumo 2**	**0.84**	**120**	*e*P		**Pn**	**14 34 32.1**	**+0.4**
JYM2				*e*S		**Sn**	**14 34 54.9**	**+0.4**
JOMM	**Oshimamatsumae**	**1.11**	**156**	*e*S		**Sn**	**14 34 58.0**	**+0.3**
JNB	**Noboribetsu**	**1.22**	**93**	*e*P		**Pn**	**14 34 34.2**	**+0.1**
JSR	**Shiriuchi**	**1.27**	**143**	*e*P		**Pn**	**14 34 35.3**	**+0.7**
JSR				*e*S		**Sn**	**14 35 00.8**	**+1.1**
JKB	**Kayabe**	**1.38**	**118**	*e*P		**Pn**	**14 34 35.9**	**+0.4**
JEW	**Eniwo**	**1.54**	**78**	*e*P		**Pn**	**14 34 37.6**	**+0.8**
JISS	**Ishikarishitsu**	**1.66**	**63**	*e*P		**Pn**	**14 34 38.3**	**+0.5**
JOT	**Ohata**	**1.69**	**133**	*e*P		**Pn**	**14 34 38.5**	**+0.3**
JIAM	**Iburiatsuma**	**1.87**	**87**	*e*P		**Pn**	**14 34 40.8**	**+1.0**
JHR	**Hokuryu**	**2.09**	**54**	*e*P		**Pn**	**14 34 42.7**	**+0.7**
JNBK	**Urakawa-nobuka**	**2.50**	**95**	*e*P		**Pn**	**14 34 46.7**	**+0.3**
JSS	**Shosan**	**2.58**	**43**	*e*P		**Pn**	**14 34 47.9**	**+0.6**
JANG	**Nango**	**2.69**	**143**	*e*P		**Pn**	**14 34 48.6**	**0.0**
JANG				*e*S		**Sn**	**14 35 23.7**	**-1.1**
JKK2	**Kamakawa 2**	**2.79**	**60**	*e*P		**Pn**	**14 34 50.2**	**+0.6**
JKK2				*e*S		**Sn**	**14 35 26.9**	**-0.1**
ASAJ	**Asahikawa**	**2.82**	**55**	P		**Pn**	**14 34 50.1**	**+0.2**
	19nm,0.3s,baz=240,slow=11,SNR=122							
ASAJ				S		**Sn**	**14 35 26.4**	**-1.1**
	6.2nm,0.6s,baz=338,slow=32,SNR=6.0							
JCH	**Churui**	**2.93**	**87**	*e*P		**Pn**	**14 34 51.0**	**-0.3**
JCH				*e*S		**Sn**	**14 35 28.0**	**-1.8**
ZALV	**Zalesovo Beam**	**37.20**	**307**	P		**P**	**14 40 52.3**	**-0.8**
	0.8nm,0.3s,baz=87,slow=7.6,SNR=6.4							
	0.8nm,0.3s							
ILAR	**Eielson Array**	**45.78**	**35**	P		**P**	**14 42 03.0**	**+0.5**
	0.4nm,0.9s,baz=265,slow=9.0,SNR=4.6							
	0.4nm,0.9s							
BVAR	**Borovoye Array**	**45.83**	**308**	P		**P**	**14 42 02.8**	**-0.4**
	0.8nm,0.5s,baz=68,slow=9.5,SNR=4.8							
	0.8nm,0.5s							
INK	**Inuvik**	**50.26**	**29**	P		**P**	**14 42 37.2**	**+0.5**
	0.8nm,0.5s,baz=289,slow=6.7,SNR=11							
	0.8nm,0.5s							
WRA	**Warramunga Arr**	**62.34**	**185**	P		**P**	**14 44 02.2**	**-0.3**
	0.6nm,0.6s,baz=357,slow=6.9,SNR=8.3							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**66.07**	**186**	P		**P**	**14 44 27.2**	**+0.5**
	0.4nm,0.8s,baz=2.7,slow=6.5,SNR=7.3							
	0.4nm,0.8s							

PDAR **Pinedale Array** 74.91 45 P P 14 45 20.5 +0.1
0.3nm,0.6s,baz=338,slow=1.9,SNR=3.7
0.3nm,0.6s

BJI ***18*** *14:35:14.0±0.0,28.°10N×104.°76E,h10km,mb4.6/40, mB4.8/19,ML4.5/23,Ms4.4/39,Ms7 4.1/37*
IDC ***18*** *14:35:16.6±2.0,28.°13N×104.°85E,h26km±12km,mb4.4/45, mbtmp4.6/47,ML4.4/2,MS3.6/10,Error ellipse: s-maj=12.2km s-min=9.3km az=21.0*
MOS ***18*** *14:35:16.3±0.8,28.°08N×104.°88E,h41km,mb5.0/44,Error ellipse: s-maj=6.4km s-min=4.3km az=115.6*
NEIC ***18*** *14:35:19.8±1.1,28.°17N±0.°08×104.°87E±0.°09,h45km±6km, mb4.9/62,Error ellipse: s-maj=11.9km s-min=10.1km az=134.0*

ISC 18 14:35:17.2±0.4,28.°06N±0.°03×104.°78E±0.°03,h30km,2km, n316,σ1§44/353,mb4.8/104,MS3.6/11,21C-5D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
GYA	**Guiyang**	**2.31**	**133**	⇑*i*	Pn	**Pn**	**14 35 55.4**	**+2.0**
GYA					Sn	**Sb**	**14 36 26.3**	**-0.3**
GYA					Sg	Sn	14 36 31.0	+10
GYA					smax	smax		
	comp=N,4μm,0.8s							
GYA					smax	smax		
	comp=E,3μm,0.8s							
CD2	**Chengdu**	**2.97**	**343**		Pn	**Pn**	**14 36 02.8**	**+0.4**
CD2					Pg	**Pb**	**14 36 10.1**	**+0.6**
CD2					Sn	**Sn**	**14 36 38.3**	**+1.2**
CD2					Sg	**Sb**	**14 36 47.3**	**+1.9**
CD2					smax	smax		
	comp=N,3μm,0.8s							
CD2					smax	smax		
	comp=E,7μm,0.9s							
PZH	**PanZhiHua**	**3.12**	**241**		Pn	**Pn**	**14 36 06.8**	**+2.3**
PZH					Pg	**Pb**	**14 36 13.6**	**+1.6**
PZH					Sn	**Sb**	**14 36 44.8**	**-4.9**
PZH					Sg	Sn	14 36 55.3	+14
PZH					smax	smax		
	comp=N,850nm,1.2s							
PZH					smax	smax		
	comp=E,980nm,1.3s							
PZH					LR	LR		
	comp=N,4μm,6.4s							
PZH					LR	LR		
	comp=E,3μm,4.7s							
PZH					LR	LR		
	comp=Z,3μm,5.6s							
KMI	**Kunming**	**3.45**	**212**	⇑	Pn	**Pn**	**14 36 10.6**	**+1.5**
KMI					Sn	**Sb**	**14 36 58.5**	**-0.9**
KMI					smax	smax		
	comp=N,270nm,1.2s							
KMI					smax	smax		
	comp=E,220nm,0.9s							
KMI					LR	LR		
	comp=N,2μm,4.9s							
ENH	**Enshi**	**4.67**	**61**		Pn	**Pn**	**14 36 26.8**	**+1.1**
ENH	**Enshi**	**4.67**	**61**		P	**Pn**	**14 36 27.8**	**+2.2**
TNCH	**TengChong**	**6.37**	**243**	⇑	Pn	**Pn**	**14 36 52.0**	**+2.8**
TNCH					Sg	Sb	14 38 36.6	+13
TNCH					smax	smax		
	comp=N,360nm,1.7s							
TNCH					smax	smax		
	comp=E,220nm,1.3s							
TNCH					LR	LR		
	comp=N,2μm,6.5s							
TNCH					LR	LR		
	comp=E,1μm,7.1s							
TNCH					LR	LR		
	comp=Z,760nm,9.0s							
XAN	**Xi'an**	**6.93**	**30**		Pn	**Pn**	**14 36 56.4**	**-0.4**
XAN					Sn	**Sn**	**14 38 13.6**	**-1.1**
XAN					Sg	Sb	14 38 52.8	+14
XAN					smax	smax		
	comp=N,840nm,1.0s							
XAN					smax	smax		
	comp=E,710nm,1.0s							
XAN					LR	LR		
	comp=N,1μm,6.0s							
XAN					LR	LR		
	comp=E,1μm,4.5s							
XAN					LR	LR		
	comp=Z,1μm,7.9s							
CNSH	**ChangSha**	**7.20**	**87**	⇑	P	**Pn**	**14 36 56.3**	**-4.1**
CNSH					S	**Sn**	**14 38 17.5**	**-3.7**
CNSH					smax	smax		
	comp=N,480nm,1.0s							
CNSH					smax	smax		
	comp=E,320nm,0.8s							
CNSH	**ChangSha**	**7.20**	**87**	⇓	Pn	**Pn**	**14 37 01.9**	**+1.5**
CNSH					Sn	**Sn**	**14 38 21.5**	**+0.3**
CNSH					smax	smax		
	comp=E,430nm,1.1s							
CNSH					smax	smax		
	comp=E,320nm,1.1s							
LZH	**Lanzhou**	**8.04**	**355**		P	**Pn**	**14 37 12.4**	**+0.3**
LZH					smax	smax		
	comp=E,210nm,1.2s							
LZH					smax	smax		
	comp=E,190nm,1.2s							
LZH					LR	LR		
	comp=E,1μm,4.5s							
LZH					LR	LR		
	comp=E,750nm,3.8s							
LZH					LR	LR		
	comp=E,760nm,6.7s							
WHN	**Wuhan**	**8.71**	**71**	⇑	P	**Pn**	**14 37 22.1**	**+0.9**
WHN					pP		14 37 24.9	
WHN					S	**Sn**	**14 39 00.0**	**+1.6**
WHN					LR	LR		
	comp=E,5μm,9.1s							
WHN					LR	LR		
	comp=E,2μm,12.8s							
WHN					LR	LR		
	comp=E,3μm,11.3s							
CRAI	**Chiangrai**	**8.78**	**208**		Pn	**Pn**	**14 37 26.8**	**+4.7**
LYN	**LuoYang**	**9.22**	**44**	⇓*i*	P	**Pn**	**14 37 26.6**	**-1.5**
LYN					S	**Sn**	**14 39 06.3**	**-4.5**
LYN					pmax	pmax		
	comp=E,30nm,0.6s							
LYN					LR	LR		
	comp=E,2μm,8.2s							
LYN					LR	LR		
	comp=E,1μm,9.1s							
LYN					LR	LR		
	comp=E,970nm,9.6s							
MND	**Mandalay**	**9.90**	**234**		Pn	**Pn**	**14 37 40.7**	**+3.3**
MND	**Mandalay**	**9.90**	**234**		P	**Pn**	**14 37 41.6**	**+4.2**
NONG	**Nongkai**	**10.07**	**189**		P	**Pn**	**14 37 43.1**	**+3.3**
QIZ	**Qiongzhong**	**10.12**	**152**		P	**Pn**	**14 37 41.6**	**+1.1**
QIZ					S	**Sn**	**14 39 36.6**	**+3.6**
QIZ					LR	LR		
	comp=E,780nm,10.9s							
QIZ					LR	LR		
	comp=E,1μm,10.9s							
QIZ					LR	LR		
	comp=E,660nm,9.5s							
CHTO	**Chiang Mai**	**10.65**	**211**		Pn	**Pn**	**14 37 51.0**	**+3.3**
CHTO	**Chiang Mai**	**10.65**	**211**		P	**Pn**	**14 37 51.1**	**+3.3**
CM31	**Chiang Mai Arr**	**10.96**	**211**		Pn	**Pn**	**14 37 55.6**	**+3.5**
CMAR	**Chiang Mai Arr**	**10.96**	**211**		Pn	**Pn**	**14 37 52.5**	**+0.4**
	comp=E,0.7nm,0.3s,baz=26,slow=20,SNR=2.4							
CMAR					Lg	Lg	14 41 12.5	
	baz=9.6,slow=28							
CMAR					LR	LR	14 42 52.6	
	comp=E,48nm,19.2s,baz=100,slow=41							
	comp=E,2.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**10.96**	**211**		Pn	**Pn**	**14 37 54.9**	**+2.8**
CMAR	**Chiang Mai Arr**	**10.96**	**211**		P	**Pn**	**14 37 54.9**	**+2.8**
GOMU	**GeErMu**	**11.71**	**316**		P	**Pn**	**14 38 02.1**	**-0.4**
GOMU					pP		14 38 05.1	
GOMU					sP		14 38 10.0	
GOMU					pmax	pmax		
	comp=E,4.0nm,0.7s							
GOMU					pmax	pmax		
	comp=E,90nm,5.5s							
GOMU					LR	LR		
	comp=E,330nm,9.1s							
GOMU					LR	LR		
	comp=E,500nm,9.4s							
GOMU					LR	LR		
	comp=E,700nm,9.4s							
GTA	**Gaotai**	**12.05**	**341**	*e*P		**Pn**	**14 38 07.4**	**+0.5**
GTA					pmax	pmax		
	comp=E,8.0nm,1.0s							
GTA					pmax	pmax		
	comp=E,120nm,4.5s							
GTA					LR	LR		
	comp=E,520nm,15.3s							
GTA					LR	LR		
	comp=E,820nm,13.8s							
LSA	**Lhasa**	**12.06**	**281**			**Pn**	**14 38 08.6**	**+1.2**
LSA	**Lhasa**	**12.06**	**281**		P	**Pn**	**14 38 08.6**	**+1.2**
LSA					pmax	pmax		
	comp=E,14nm,0.6s							
LSA	**Lhasa**	**12.06**	**281**		P	**Pn**	**14 38 08.6**	**+1.2**
HNS	**HongShan**	**12.50**	**39**	⇓	P	**Pn**	**14 38 13.5**	**+0.5**
HNS					S	**Sn**	**14 40 38.5**	**+7.3**
HNS					LR	LR		
	comp=E,470nm,12.7s							
HNS					LR	LR		
	comp=E,670nm,21.5s							
HNS					LR	LR		
	comp=E,540nm,11.2s							
UBPT	**Khong Chiam**	**12.74**	**177**		P	**Pn**	**14 38 18.0**	**+1.7**
NJ2	**Nanjing**	**12.82**	**69**	*e*P		**Pn**	**14 38 18.4**	**+1.0**
NJ2					pmax	pmax		
	comp=E,13nm,1.0s							
NJ2					LR	LR		
	comp=E,2μm,7.1s							
NJ2					LR	LR		
	comp=E,590nm,6.2s							
NJ2					LR	LR		
	comp=E,1μm,7.7s							
BRDH	**Bariadhala**	**13.03**	**249**		LR	LR	14 44 28.2	
	comp=E,228nm,18.3s,baz=90,slow=42							
TIA	**Tai'an**	**13.23**	**49**	⇑	P	**Pn**	**14 38 23.8**	**+0.8**
TIA					pmax	pmax		
	comp=E,5.0nm,0.7s							
TIA					LR	LR		
	comp=E,570nm,12.2s							
TIA					LR	LR		
	comp=E,350nm,6.2s							
TIA					LR	LR		
	comp=E,210nm,7.9s							
BTO	**Baotou**	**13.23**	**18**	*e*P		**Pn**	**14 38 22.6**	**-0.5**
BTO					S	**Sn**	**14 40 52.6**	**+3.3**
BTO					LR	LR		
	comp=E,2μm,4.8s							
BTO					LR	LR		
	comp=E,1μm,4.0s							
TAPN	**Taplejung**	**15.14**	**271**	*e*P		**Pn**	**14 38 48.8**	**-0.5**
SSLB	**Suanglung**	**15.16**	**103**		Pn	**Pn**	**14 38 49.8**	**+0.5**
SSLB	**Suanglung**	**15.16**	**103**		P	**Pn**	**14 38 49.8**	**+0.5**
BJT	**Baijiatuao**	**15.19**	**35**			**Pn**	**14 38 48.5**	**-1.0**
BJT	**Baijiatuao**	**15.19**	**35**		P	**P**	**14 38 53.8**	**-0.5**
	comp=E,12nm,0.9s							
BJT	**Baijiatuao**	**15.19**	**35**		P	**Pn**	**14 38 48.5**	**-1.0**
BJT					pmax	pmax		
	comp=Z,47nm,1.9s							
RAMN	**Ramite**	**16.17**	**270**	*e*P		**Pn**	**14 39 00.9**	**-1.7**
	comp=E,31nm,0.6s							
JIRN	**Jiri**	**16.45**	**273**	*e*P		**Pn**	**14 39 05.0**	**-1.2**
	comp=E,16nm,0.4s							
PKI	**Pulchoki**	**17.15**	**273**	*e*P		**Pn**	**14 39 13.7**	**-1.3**
	comp=Z,46nm,0.5s							
PKIN	**Phulchoki**	**17.16**	**273**	*e*P		**Pn**	**14 39 13.7**	**-1.4**
DMN	**Daman**	**17.41**	**273**	*e*P		**Pn**	**14 39 16.7**	**-1.5**
	comp=Z,31nm,0.5s							
DL2	**Dalian**	**17.70**	**48**	*e*P		**P**	**14 39 22.6**	**+0.5**
DL2					pmax	pmax		
	comp=Z,25nm,1.0s							
GKN	**Gorkha**	**17.79**	**275**	*e*P		**Pn**	**14 39 20.5**	**-2.3**
XLT	**XiLinHaoTe**	**18.23**	**27**	⇑*i*	P	**P**	**14 39 29.3**	**+1.3**
XLT					pmax	pmax		
	comp=Z,10.0nm,1.2s							
XLT					pmax	pmax		
	comp=Z,130nm,5.4s							
DANN	**Dangsing**	**18.53**	**276**	*e*P		**P**	**14 39 29.5**	**-2.2**
	comp=Z,48nm,0.4s							
SONM	**Songino Array**	**19.78**	**3**		P	**P**	**14 39 45.1**	**+0.1**
	comp=E,1.8nm,0.3s,baz=186,slow=12,SNR=33							
	comp=Z,7.9nm,0.7s							
SONM	**Songino Array**	**19.78**	**3**		P	**P**	**14 39 44.8**	**-0.3**
ULN	**Ulaanbaatar**	**19.85**	**5**		P	**P**	**14 39 45.8**	**0.0**
ULN	**Ulaanbaatar**	**19.85**	**5**		P	**P**	**14 39 45.8**	**0.0**
ULN					pmax	pmax		
	comp=Z,27nm,1.3s							
SRIT	**Nakonsritamara**	**19.97**	**195**		P	**Pn**	**14 39 50.3**	**+1.3**
SNY	**Shenyang**	**20.58**	**43**	⇑	P	**P**	**14 39 54.4**	**+0.8**
SNY					S	Sn	14 43 46.4	-0.7
SNY					pmax	pmax		
	comp=Z,16nm,0.7s							
SNY					pmax	pmax		
	comp=Z,99nm,3.5s							
SNY					LR	LR		
	comp=Z,120nm,4.4s							
SNY					LR	LR		
	comp=Z,220nm,5.9s							
SNY					LR	LR		
	comp=Z,190nm,5.7s							
INCN	**Inchon**	**20.60**	**57**		P	**P**	**14 39 52.0**	**-1.9**
INCN					IAmb	IAmb	14 40 04.8	
	comp=Z,50nm,1.2s							
INCN	**Inchon**	**20.60**	**57**		P	**P**	**14 39 54.6**	**+0.7**
INCN	**Inchon**	**20.60**	**57**		P	**P**	**14 39 52.0**	**-1.9**
INCN					pmax	pmax		
	comp=Z,51nm,1.3s							
TJN	**Taejon**	**20.79**	**61**			**P**	**14 39 55.3**	**-0.6**
TJN	**Taejon**	**20.79**	**61**		P	Pn	14 39 59.3	+0.8
TJN	**Taejon**	**20.79**	**61**		P	**P**	**14 39 55.3**	**-0.6**
TJN					pmax	pmax		
	comp=Z,106nm,0.5s							
WMQ	**Urumqi**	**20.88**	**323**	*e*P		**P**	**14 39 56.9**	**0.0**
WMQ					pP	Pn	14 40 00.8	+1.3
WMQ					sP	pP	14 40 03.3	-1.8
WMQ					pmax	pmax		
	comp=Z,42nm,0.7s							
JOW	**Kunigami**	**20.88**	**88**		P	**P**	**14 39 56.9**	**-0.1**
	comp=Z,16nm,0.6s,baz=45,slow=21,SNR=2.2							
JOW					LR	LR	14 48 44.2	
	comp=Z,204nm,19.3s,baz=84,slow=39							
	comp=Z,16nm,0.6s							
KSAR	**Wonju Array Be**	**21.52**	**58**		P	**P**	**14 40 03.0**	**-0.7**
KSAR	**Wonju Array Be**	**21.52**	**58**		P	**P**	**14 40 03.0**	**-0.7**
KS19	**Wonju Array Si**	**21.52**	**58**		P	**P**	**14 40 03.4**	**-0.5**
KSRS	**Korea Array**	**21.55**	**58**		P	**P**	**14 40 03.1**	**-0.9**
	comp=Z,5.4nm,0.6s,baz=241,slow=12,SNR=31							
KSRS					LR	LR	14 48 06.2	
	comp=Z,136nm,18.0s,baz=230,slow=36							
	comp=Z,5.4nm,0.6s							
ZAK	**Zakamensk**	**22.32**	**357**	*e*P		**P**	**14 40 11.8**	**-0.5**
ZAK					pmax	pmax		
	comp=Z,24nm,1.2s							
CN2	**Changchun**	**22.86**	**41**	*e*P		**P**	**14 40 16.5**	**-1.5**
CN2					PP	**PnPn**	**14 40 45.9**	**+3.1**
CN2					S	**S**	**14 44 16.3**	**-9.2**
CN2					sS	pS	14 44 35.3	+0.7
CN2					pmax	pmax		
	comp=Z,20nm,0.8s							
CN2					LR	LR		
	comp=Z,180nm,13.0s							
CN2					LR	LR		
	comp=Z,190nm,13.0s							
CN2					LR	LR		
	comp=Z,150nm,14.0s							
JNU	**Nakatsue**	**23.00**	**71**		P	**P**	**14 40 19.1**	**-0.5**
	comp=Z,23nm,0.7s,baz=269,slow=3.6,SNR=35							
JNU					LR	LR	14 49 43.8	
	comp=Z,141nm,19.2s,baz=282,slow=38							
	comp=Z,23nm,0.7s							
JNU	**Nakatsue**	**23.00**	**71**		P	**P**	**14 40 18.7**	**-0.9**
JNU					IAmb	IAmb	14 40 20.2	
	comp=Z,28nm,0.7s							
JNU	**Nakatsue**	**23.00**	**71**		P	**P**	**14 40 20.0**	**+0.4**
MOY	**Mondy**	**23.75**	**354**	*e*P		**P**	**14 40 28.6**	**+1.7**
MOY					pmax	pmax		
	comp=Z,21nm,1.9s							
HIA	**Hailar**	**24.09**	**24**		P	**P**	**14 40 29.5**	**-0.6**
HIA	**Hailar**	**24.09**	**24**		P	**P**	**14 40 33.0**	**+2.9**
	comp=Z,12nm,0.7s							
HIA	**Hailar**	**24.09**	**24**		P	**P**	**14 40 29.5**	**-0.6**
HIA					pmax	pmax		
	comp=Z,9.0nm,0.5s							
IRK	**Irkutsk**	**24.16**	**359**	*e*P		**P**	**14 40 30.6**	**0.0**
IRK					pmax	pmax		
	comp=Z,31nm,1.4s							
KKM	**Kota Kinabalu**	**24.44**	**152**		P	**P**	**14 40 33.8**	**+0.2**
ZSN	**Zaisan**	**24.82**	**327**	*e*P		**P**	**14 40 37.4**	**+0.7**
	baz=326							
ZSN	**Zaisan**	**24.82**	**327**	*e*P		**P**	**14 40 37.4**	**+0.7**
DGZ	**Jazzator, Alta**	**25.36**	**333**	*d*P		**P**	**14 40 42.8**	**+1.1**
DGZ					pmax	pmax		
	comp=Z,61nm,1.0s							
SHLS	**Shalkode**	**25.38**	**313**	*e*P		**P**	**14 40 40.2**	**-1.7**
	baz=313							
SHLS	**Shalkode**	**25.38**	**313**	*e*P		**P**	**14 40 40.2**	**-1.7**
UZB	**Uzynbulak**	**25.66**	**313**	*e*P		**P**	**14 40 45.3**	**+0.8**
	baz=313							
UZB	**Uzynbulak**	**25.66**	**313**	*e*P		**P**	**14 40 45.2**	**+0.8**
MK31	**Makanchi Array**	**25.70**	**323**	P		**P**	**14 40 44.4**	**-0.4**
MK31					IAmb	IAmb	14 40 48.3	
	comp=Z,35nm,1.2s							
MK31	**Makanchi Array**	**25.70**	**323**	*c*P		**P**	**14 40 45.1**	**+0.4**
MKAR	**Makanchi Array**	**25.70**	**323**	P		**P**	**14 40 44.7**	**0.0**
	comp=Z,32nm,1.0s,baz=121,slow=11,SNR=67							
MKAR					PcP	**PcP**	**14 44 13.5**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=104,slow=4.6,SNR=3.7							
MKAR					ScP	**ScP**	**14 47 51.7**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=107,slow=4.2,SNR=14							
MKAR					LR	LR	14 51 54.2	
	comp=Z,170nm,18.1s,baz=135,slow=39							
	comp=Z,32nm,1.0s							
MKAR	**Makanchi Array**	**25.70**	**323**	*i*	P	**P**	**14 40 44.7**	**0.0**
MKAR					pmax	pmax		
	comp=Z,34nm,1.0s							
PSI	**Prapat**	**25.74**	**194**		P	**P**	**14 40 44.4**	**-1.0**
	comp=Z,6.7nm,0.6s,baz=3.1,slow=7.7,SNR=6.4							
PSI	**Prapat**	**25.74**	**194**		P	**P**	**14 40 46.9**	**+1.6**
RPSI	**Rantau Prapat**	**25.84**	**194**		P	**P**	**14 40 44.4**	**-1.7**
TARG	**Taragay, Kyrgy**	**25.86**	**309**		P	**P**	**14 40 47.3**	**+0.6**
TARG	**Taragay, Kyrgy**	**25.86**	**309**		P	**P**	**14 40 47.3**	**+0.6**
TARG					pmax	pmax		
	comp=Z,8.0nm,0.8s							
MAKZ	**Makanchi**	**25.88**	**322**		P	**P**	**14 40 46.0**	**-0.4**
MAKZ	**Makanchi**	**25.88**	**322**		P	**P**	**14 40 46.0**	**-0.4**
MAKZ					pmax	pmax		
	comp=Z,21nm,1.0s							
SATY	**Saty**	**26.02**	**312**	*e*P		**P**	**14 40 48.5**	**+0.7**
	baz=312							
SATY	**Saty**	**26.02**	**312**	*e*P		**P**	**14 40 48.4**	**+0.7**
KPKS	**Kokpek**	**26.02**	**313**	*e*P		**P**	**14 40 48.5**	**+0.7**
	baz=313							
KPKS	**Kokpek**	**26.02**	**313**	*e*P		**P**	**14 40 48.4**	**+0.7**
ZHN	**Zhinishke**	**26.05**	**312**	*e*P		**P**	**14 40 47.3**	**-0.7**
	baz=312							
ZHN	**Zhinishke**	**26.05**	**312**	*e*P		**P**	**14 40 47.3**	**-0.7**
MYLDM	**Lahad Datu**	**26.23**	**148**		P	**P**	**14 40 51.1**	**+1.5**
KSH	**Kashi**	**26.42**	**303**		P	**P**	**14 40 55.9**	**+4.5**
KSH					pmax	pmax		
	comp=Z,6.0nm,0.8s							
MDOK	**Medeo**	**26.96**	**311**	*e*P		**P**	**14 40 57.0**	**+0.7**
	baz=311							
MDOK	**Medeo**	**26.96**	**311**	*e*P		**P**	**14 40 56.9**	**+0.7**
TNSS	**Tian-Shan**	**26.97**	**311**	*e*P		**P**	**14 40 57.2**	**+0.5**
	baz=311							
TNSS	**Tian-Shan**	**26.97**	**311**	*e*P		**P**	**14 40 57.1**	**+0.5**
USA0B	**Ussuriysk Arra**	**27.07**	**46**		P	**P**	**14 40 56.3**	**-0.8**
USA0B					IAmb	IAmb	14 40 57.5	
	comp=Z,17nm,0.8s							
USA0B	**Ussuriysk Arra**	**27.07**	**46**	*i*	P	**P**	**14 40 56.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**27.07**	**46**	P		**P**	**14 40 56.9**	**-0.2**
	comp=Z,16nm,0.7s,baz=253,slow=8.8,SNR=21							
	comp=Z,16nm,0.7s							
USRK	**Ussuriysk Ar.**	**27.07**	**46**	P		**P**	**14 40 56.1**	**-0.9**
KUU	**Kurty**	**27.73**	**312**	*e*P		**P**	**14 41 03.3**	**+0.3**
	baz=312							
KUU	**Kurty**	**27.73**	**312**	*e*P		**P**	**14 41 03.3**	**+0.3**
HEH	**HeiHe**	**28.06**	**32**	*e*P		**P**	**14 41 05.8**	**0.0**
AAK	**Ala-Archa**	**28.48**	**309**	P		**P**	**14 41 09.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=96,slow=6.3,SNR=6.1							
AAK					LR	LR	14 53 33.4	
	comp=Z,99nm,18.6s,baz=61,slow=38							
	comp=Z,0.7nm,0.5s							
AAK	**Ala-Archa**	**28.48**	**309**	*i*	P	**P**	**14 41 09.0**	**-0.9**
AAK					pmax	pmax		
	comp=Z,18nm,4.4s							
MJAR	**Matsushiro Arr**	**29.38**	**65**		P	**P**	**14 41 17.0**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=327,slow=6.9,SNR=2.4							
MJAR					LR	LR	14 53 44.8	
	comp=Z,119nm,19.3s,baz=250,slow=38							
	comp=Z,1.8nm,0.9s							
KLR	**Kul'dur**	**29.57**	**37**		P	**P**	**14 41 17.6**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=255,slow=9.6,SNR=9.2							
KLR					ScP	**ScP**	**14 48 03.5**	**0.0**
	comp=Z,1.8nm,0.9s,baz=225,slow=4.9,SNR=3.9							
	comp=Z,2.2nm,0.7s							
KLR	**Kul'dur**	**29.57**	**37**	*ce*P		**P**	**14 41 17.4**	**-1.9**
KLR					pmax	pmax		
	comp=Z,5.0nm,1.3s							
BTLS	**Baital**	**29.71**	**313**	*e*P		**P**	**14 41 20.7**	**+0.2**
	baz=313							
BTLS	**Baital**	**29.71**	**313**	*e*P		**P**	**14 41 20.7**	**+0.2**
ZAA0	**Zalesovo Array**	**29.72**	**336**	P		**P**	**14 41 19.8**	**-0.7**
ZALV	**Zalesovo Beam**	**29.72**	**336**	P		**P**	**14 41 20.1**	**-0.4**
	comp=Z,5.7nm,0.5s,baz=136,slow=8.5,SNR=31							
ZALV					ScP	**ScP**	**14 48 04.6**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=102,slow=4.9,SNR=3.8							
	comp=Z,5.7nm,0.5s							
ZALV	**Zalesovo Beam**	**29.72**	**336**	P		**P**	**14 41 19.8**	**-0.7**
KURBB	**Kurchatov Arra**	**30.05**	**326**	P		**P**	**14 41 23.2**	**-0.2**
	comp=Z,16nm,0.7s,baz=132,slow=9.5,SNR=168							
KURBB					PcP	**PcP**	**14 44 24.8**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=113,slow=2.7,SNR=6.0							
KURBB					ScP	**ScP**	**14 48 05.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=134,slow=2.8,SNR=7.4							
	comp=Z,16nm,0.7s							
KURK	**Kurchatov**	**30.06**	**326**		P	**P**	**14 41 23.1**	**-0.5**
KURK					IAmb	IAmb	14 41 25.1	
	comp=Z,20nm,0.8s							
KURK	**Kurchatov**	**30.06**	**326**	*ce*P		**P**	**14 41 23.5**	**-0.1**
KURK					pmax	pmax		
	comp=Z,27nm,1.0s							
KURK	**Kurchatov**	**30.06**	**326**		P	**P**	**14 41 24.2**	**+0.6**
KURK					pP	**sP**	**14 41 35.2**	**-1.0**
ZEA	**Zeya**	**30.50**	**27**	*e*P		**P**	**14 41 28.0**	**+0.5**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.6s							
GAR	**Garm**	**30.56**	**300**		P	**P**	**14 41 28.9**	**+0.6**
GAR					IAmb	IAmb	14 41 34.3	
	comp=Z,25nm,1.5s							
PALK	**Pallekele**	**30.76**	**232**	*i*	P	**P**	**14 41 31.1**	**+0.9**
KK31	**Karatay Array**	**31.40**	**308**		P	**P**	**14 41 35.6**	**0.0**
KK31	**Karatay Array**	**31.40**	**308**		P	**P**	**14 41 35.6**	**0.0**
KK31					pmax	pmax		
	comp=Z,9.0nm,1.6s							
KKAR	**Karatay Array**	**31.40**	**308**		P	**P**	**14 41 35.6**	**0.0**
KKAR	**Karatay Array**	**31.40**	**308**		P	**P**	**14 41 35.3**	**-0.2**
KKAR	**Karatay Array**	**31.40**	**308**		P	**P**	**14 41 35.6**	**0.0**
KKAR					pmax	pmax		
	comp=Z,9.0nm,1.6s							
JCJ	**Chichijima**	**33.08**	**83**		LR	LR	14 55 44.7	
	comp=Z,115nm,18.9s,baz=281,slow=37							
LUWI	**Luwuk**	**33.70**	**146**		P	**P**	**14 41 55.8**	**-0.1**
LUWI	**Luwuk**	**33.70**	**146**

GEYT	**Alibeck**	**40.00**	**297**	P	**P**	**14 42 50.3**	**+1.0**
	comp=E,13nm,0.7s,baz=104,slow=6.3,SNR=24							
	comp=E,13nm,0.7s							
GEYT	**Alibeck**	**40.00**	**297**	P	**P**	**14 42 49.9**	**+0.5**
GEYT				IAmb	IAmb	14 42 52.7		
	comp=Z,16nm,0.8s							
GEYT	**Alibeck**	**40.00**	**297**	P	**P**	**14 42 49.9**	**+0.5**
GEYT				pmax	pmax			
	comp=Z,16nm,0.9s							
GYA0B	**ALIBECK ARRAY**	**40.00**	**297**	P	**P**	**14 42 50.3**	**+0.9**
GYA0B				IAmb	IAmb	14 42 52.7		
	comp=Z,16nm,0.9s							
ABKAR	**Akbulak array**	**40.17**	**314**	P	**P**	**14 42 51.2**	**+0.6**
AKTO	**Aktyubinsk**	**41.68**	**316**	P	**P**	**14 43 03.7**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=103,slow=8.9,SNR=11							
	comp=Z,3.3nm,0.7s							
WSAR	**Wadi Sarin**	**41.69**	**274**	P	**P**	**14 43 04.5**	**+1.1**
	comp=Z,3.0nm,0.6s,baz=104,slow=0.8,SNR=6.6							
	comp=Z,3.0nm,0.6s							
SVE	**Sverdlovsk**	**42.31**	**325**	*e*P	**P**	**14 43 09.0**	**+1.0**
SVE				pmax	pmax			
	comp=Z,21nm,1.3s							
NRIK	**Noril'sk**	**42.52**	**351**	P	**P**	**14 43 09.4**	**-0.1**
	comp=Z,16nm,0.6s,baz=134,slow=7.9,SNR=15							
	comp=Z,16nm,0.6s							
NRIK	**Noril'sk**	**42.52**	**351**	P	**P**	**14 43 09.1**	**-0.4**
NRIK				IAmb	IAmb	14 43 11.1		
	comp=Z,19nm,0.8s							
NRIK	**Noril'sk**	**42.52**	**351**	*ce*P	**P**	**14 43 09.3**	**-0.2**
NRIK				pmax	pmax			
	comp=Z,24nm,0.9s							
ARU	**Arti**	**43.21**	**324**	LR	LR	15 02 54.7		
	comp=Z,135nm,18.3s,baz=42,slow=38							
ARU	**Arti**	**43.21**	**324**	P	**P**	**14 43 15.4**	**+0.1**
ARU				IAmb	IAmb	14 43 18.2		
	comp=Z,15nm,1.0s							
ARU	**Arti**	**43.21**	**324**	*d i*P	**P**	**14 43 15.5**	**+0.1**
ARU						14 44 59.4		
ARU				S	**S**	**14 49 42.3**	**+2.1**
ARU				SS	**SS**	**14 52 51.8**	**-1.7**
ARU				pmax	pmax			
	comp=Z,18nm,1.0s							
ARU	**Arti**	**43.21**	**324**	P	**P**	**14 43 15.7**	**+0.3**
ARU				pP	**sP**	**14 43 27.9**	**-0.2**
MA2	**Magadan**	**44.33**	**32**	P	**P**	**14 43 23.6**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=260,slow=12,SNR=4.7							
	comp=Z,2.2nm,0.7s							
MA2	**Magadan**	**44.33**	**32**	*i* P	**P**	**14 43 22.7**	**-1.6**
MA2				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TIXI	**Tiksi**	**45.62**	**10**	P	**P**	**14 43 33.4**	**-1.0**
	comp=Z,14nm,0.7s,baz=270,slow=23,SNR=51							
	comp=Z,14nm,0.7s							
TIXI	**Tiksi**	**45.62**	**10**	P	**P**	**14 43 33.2**	**-1.2**
TIXI				IAmb	IAmb	14 43 34.9		
	comp=Z,14nm,0.7s							
TIXI	**Tiksi**	**45.62**	**10**	*ce*P	**P**	**14 43 33.3**	**-1.0**
TIXI				pmax	pmax			
	comp=Z,23nm,1.0s							
TIXI	**Tiksi**	**45.62**	**10**	P	**P**	**14 43 33.4**	**-1.0**
TIXI				sP	**sP**	**14 43 50.3**	**+3.2**
PETK	**Petropavlovsk-**	**46.00**	**42**	P	**P**	**14 43 37.2**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=250,slow=2.9,SNR=2.2							
	comp=Z,2.1nm,0.9s							
SEY	**Seymchan**	**46.47**	**28**	P	**P**	**14 43 40.4**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=251,slow=6.7,SNR=19							
SEY				PcP	**PcP**	**14 45 15.2**	**-0.1**
	comp=Z,5.3nm,1.1s,baz=250,slow=2.0,SNR=5.2							
	comp=Z,1.9nm,0.6s							
SEY	**Seymchan**	**46.47**	**28**	*ce*P	**P**	**14 43 39.6**	**-1.6**
SEY				pmax	pmax			
	comp=Z,5.0nm,1.7s							
AKT	**Akhty**	**47.94**	**302**	*e*P	**P**	**14 43 53.0**	**-0.1**
AKT				*e*		14 45 20.6		
AKT				pmax	pmax			
	comp=Z,9.0nm,0.6s							
KIRV	**Kirov**	**48.57**	**325**	P	**P**	**14 43 57.9**	**+0.3**
	comp=Z,17nm,0.6s,baz=31,slow=5.5,SNR=6.7							
	comp=Z,17nm,0.6s							
KIRV	**Kirov**	**48.57**	**325**	*ce*P	**P**	**14 43 57.4**	**-0.1**
GROC	**Groznyy**	**49.29**	**304**	*e*P	**P**	**14 44 04.2**	**+0.8**
GROC				*e*		14 45 26.1		
GROC				pmax	pmax			
	comp=Z,50nm,0.8s							
GNI	**Garni**	**50.30**	**300**	P	**P**	**14 44 12.7**	**+1.5**
	comp=Z,7.1nm,0.8s,baz=269,slow=1.0,SNR=5.2							
	comp=Z,7.1nm,0.8s							
GNI	**Garni**	**50.30**	**300**	P	**P**	**14 44 13.2**	**+2.0**
MANU	**Manus Island**	**50.68**	**119**	P	**P**	**14 44 16.3**	**+2.1**
ZEI	**Tsey**	**50.70**	**304**	*e*P	**P**	**14 44 14.5**	**+0.2**
ZEI				pmax	pmax			
	comp=Z,13nm,1.0s							
MBWA	**Marble Bar**	**51.02**	**162**	P	**P**	**14 44 16.4**	**-0.1**
MBWA	**Marble Bar**	**51.02**	**162**	P	**P**	**14 44 16.5**	**-0.1**
ONI	**Oni**	**51.05**	**304**	P	**P**	**14 44 18.0**	**+1.2**
ONI				IAmb	IAmb	14 44 19.7		
	comp=Z,12nm,0.7s							
ONI	**Oni**	**51.05**	**304**	P	**P**	**14 44 18.0**	**+1.2**
ONI				pmax	pmax			
	comp=Z,12nm,0.7s							
AKH	**Akhalkalaki**	**51.12**	**302**	P	**P**	**14 44 18.6**	**+1.1**
AKH	**Akhalkalaki**	**51.12**	**302**	P	**P**	**14 44 18.6**	**+1.1**
AKH				pmax	pmax			
	comp=Z,27nm,0.9s							
KBZ	**Khabaz**	**51.37**	**305**	P	**P**	**14 44 19.9**	**+0.8**
	comp=Z,6.0nm,0.9s,baz=115,slow=8.0,SNR=9.8							
	comp=Z,6.0nm,0.9s							
KBZ	**Khabaz**	**51.37**	**305**	*ce*P	**P**	**14 44 19.1**	**+0.1**
KBZ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KVAR	**Kislovodsk Arr**	**51.50**	**305**	P	**P**	**14 44 21.5**	**+1.3**
	comp=Z,5.5nm,0.7s,baz=23,slow=7.7,SNR=4.1							
	comp=Z,5.5nm,0.7s							
KIV	**Kislovodsk**	**51.51**	**305**	P	**P**	**14 44 21.3**	**+1.1**
KIV	**Kislovodsk**	**51.51**	**305**	*e*P	**P**	**14 44 20.5**	**+0.3**
KIV				pmax	pmax			
	comp=Z,31nm,1.0s							
KIV				MLR	MLR			
	comp=Z,60nm,17.0s							
KIV	**Kislovodsk**	**51.51**	**305**	P	**P**	**14 44 21.6**	**+1.3**
NEY	**Neytrino**	**51.53**	**304**	*i* P	**P**	**14 44 21.3**	**+0.8**
NEY				pmax	pmax			
	comp=Z,5.0nm,0.6s							
SHA1	**Shidzhatmaz**	**51.55**	**305**	*c i*P	**P**	**14 44 21.8**	**+1.1**
VRH	**Novokhopyorsk**	**52.00**	**315**	*e*P	**P**	**14 44 22.5**	**-1.1**
VRH				pmax	pmax			
	comp=Z,20nm,0.7s							
GURO	**Guroymak-BITLI**	**52.57**	**299**	P	**P**	**14 44 29.5**	**+1.2**
GURO				IAmb	IAmb	14 44 31.3		
	comp=Z,14nm,0.8s							
RAYN	**Ar Rayn**	**53.12**	**279**	P	**P**	**14 44 32.9**	**+0.4**
VORR	**Voronezh**	**53.58**	**315**	*e*P	**P**	**14 44 34.6**	**-0.7**
VORR				pmax	pmax			
	comp=Z,20nm,0.6s							
VSR	**Storozhevoye**	**53.61**	**315**	*e*P	**P**	**14 44 33.3**	**-2.2**
VSR				pmax	pmax			
	comp=Z,30nm,1.2s							
BILL	**Bilibino**	**53.68**	**24** ⇑	*i*P	**P**	**14 44 35.5**	**-0.3**
BILL				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BILL	**Bilibino**	**53.68**	**24**	P	**P**	**14 44 35.1**	**-0.6**
BILL				sP	**sP**	**14 44 51.0**	**+2.2**
LPSR	**Galich'ya Gora**	**53.75**	**316**	*e*P	**P**	**14 44 36.3**	**-0.2**
LPSR				pmax	pmax			
	comp=Z,30nm,0.9s							
MARD	**Mardin**	**53.75**	**297**	P	**P**	**14 44 37.7**	**+0.7**
MARD				IAmb	IAmb	14 44 39.9		
	comp=Z,9.8nm,0.8s							
KLMR	**Klimovskoe**	**53.91**	**327**	*e*P	**P**	**14 44 36.2**	**-1.3**
KLMR				AMP		14 44 39.1		
	comp=Z,58nm,1.4s							
KLMR	**Klimovskoe**	**53.91**	**327**	*e*P	**P**	**14 44 36.1**	**-1.4**
KLMR				pmax	pmax			
	comp=Z,58nm,1.4s							
MOS	**Moscow**	**54.55**	**320**	*e*P	**P**	**14 44 39.8**	**-2.5**
OBN	**Obninsk**	**55.15**	**319** ⇑	*e*P	**P**	**14 44 46.9**	**+0.3**
OBN				*e*		14 46 51.8		
OBN				pmax	pmax			
	comp=Z,50nm,1.7s							
PMG	**Port Moresby**	**55.38**	**126**	P	**P**	**14 44 49.0**	**+0.2**
PMG	**Port Moresby**	**55.38**	**126**	P	**P**	**14 44 49.9**	**+1.1**
PMG	**Port Moresby**	**55.38**	**126**	*ce*P	**P**	**14 44 48.8**	**0.0**
PMG				pmax	pmax			
	comp=Z,16nm,0.7s							
PMG	**Port Moresby**	**55.38**	**126**	P	**P**	**14 44 49.5**	**+0.7**
PMG				pP	**sP**	**14 45 01.5**	**-0.4**
WRAB	**Tennant Creek**	**55.63**	**146**	P	**P**	**14 44 50.4**	**-0.1**
WRAB	**Tennant Creek**	**55.63**	**146**	P	**P**	**14 44 51.0**	**+0.5**
WRAB	**Tennant Creek**	**55.63**	**146**	*ce*P	**P**	**14 44 49.5**	**-1.0**
WRAB				pmax	pmax			
	comp=Z,20nm,0.7s							
WRAB	**Tennant Creek**	**55.63**	**146**	P	**P**	**14 44 50.2**	**-0.3**
WRAB				pP	**sP**	**14 45 01.4**	**-2.2**
WRA	**Warramunga Arr**	**55.63**	**146**	P	**P**	**14 44 50.5**	**-0.1**
	comp=Z,13nm,0.8s,baz=318,slow=12,SNR=104							
	comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**55.63**	**146**	P	**P**	**14 44 50.0**	**-0.6**
WB1	**Warramunga Ar.**	**55.65**	**146**	P	**P**	**14 44 50.9**	**+0.2**
COEN	**Coen**	**55.92**	**133**	P	**P**	**14 44 52.9**	**+0.2**
COEN				IAmb	IAmb	14 44 53.9		
	comp=Z,11nm,0.9s							
COEN	**Coen**	**55.92**	**133**	P	**P**	**14 44 53.5**	**+0.8**
WRKA	**Warakurna**	**57.44**	**155**	P	**P**	**14 45 04.2**	**+0.8**
ASF	**Jabal al Asfar**	**57.98**	**292**	P	**P**	**14 45 07.7**	**+0.3**
	comp=Z,9.6nm,0.8s,baz=89,slow=6.7,SNR=10							
	comp=Z,9.6nm,0.8s							
AS31	**Alice Springs**	**58.60**	**148**	P	**P**	**14 45 11.4**	**-0.1**
ASAR	**Alice Springs**	**58.60**	**148**	P	**P**	**14 45 11.8**	**+0.4**
	comp=Z,12nm,0.7s,baz=326,slow=6.8,SNR=199							
	comp=Z,12nm,0.7s							
ASAR	**Alice Springs**	**58.60**	**148**	P	**P**	**14 45 11.2**	**-0.2**
AS01	**Alice Springs**	**58.62**	**148**	P	**P**	**14 45 12.3**	**+0.7**
BR131	**Keskin Array S**	**58.79**	**301**	P	**P**	**14 45 12.5**	**-0.4**
BR131				IAmb	IAmb	14 45 15.3		
	comp=Z,8.6nm,0.8s							
BR131	**Keskin Array S**	**58.79**	**301**	P	**P**	**14 45 12.5**	**-0.4**
BR131				pmax	pmax			
	comp=Z,9.0nm,0.9s							
BRTR	**Keskin Array B**	**58.79**	**301**	P	**P**	**14 45 12.8**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=107,slow=5.7,SNR=21							
	comp=Z,3.8nm,0.7s							
QIS	**Mount Isa**	**58.91**	**141**	P	**P**	**14 45 14.4**	**+0.7**
MMAI	**Mount Meron Ar**	**58.98**	**293**	P	**P**	**14 45 14.8**	**+0.5**
	comp=Z,0.4nm,0.2s,baz=116,slow=3.4,SNR=2.0							
	comp=Z,0.4nm,0.2s							
ANTO	**Ankara**	**59.40**	**302**	P	**P**	**14 45 17.2**	**+0.2**
ANTO				pP	**sP**	**14 45 29.0**	**-1.0**
MTSU	**Mount Surprise**	**59.78**	**136**	P	**P**	**14 45 20.8**	**+1.1**
AKASG	**Malin Array Be**	**59.91**	**315**	P	**P**	**14 45 19.2**	**-1.0**
	comp=Z,5.5nm,0.7s,baz=64,slow=6.6,SNR=7.6							
	comp=Z,5.5nm,0.7s							
MNK	**Minsk**	**60.20**	**319**	*i* P	**P**	**14 45 22.5**	**+0.3**
	comp=E,2.0nm,0.9s							
MNK				*i* P	**P**	**14 45 22.5**	**+0.3**
	comp=N,31nm,0.8s							
MNK				*i* P	**P**	**14 45 22.5**	**+0.3**
	comp=Z,12nm,0.9s,baz=83							
MNK				*i* PcP	**PcP**	**14 46 02.3**	**-5.2**
MNK				*i* PP	PP	14 47 43.3	+8.5
MNK				*i* PPP	PPP	14 48 58.5		
MNK				*i* S	**S**	**14 53 35.0**	**+1.1**
MNK				*i* ScS	SKKSac	14 54 52.7	-18
MNK				*i* SS	**SS**	**14 57 34.0**	**+3.1**
MNK				*i* SSS	SSS	15 00 18.4		
MNK				*i* LQ	LQ	15 06 58.7		
MNK				*i* LR	LR	15 10 34.5		
MNK				*i* LRM	MLR	15 14 20.1		
	comp=Z,98nm,19.7s							
MNK				*i* LRM	MLR	15 14 26.6		
	comp=N,339nm,19.4s							
MNK				*i* LRM	MLR	15 15 27.6		
	comp=E,21nm,19.4s							
MNK	**Minsk**	**60.20**	**319**	*i* P	**P**	**14 45 22.4**	**+0.3**
MNK				*i*		14 46 02.2		
MNK				*i*		14 47 43.2		
MNK				*i* PPP	PPP	14 48 58.5		
MNK				*i* S	**S**	**14 53 34.9**	**+1.1**
MNK				*i* SS	**SS**	**14 57 33.9**	**+3.1**
MNK				pmax	pmax			
	comp=E,2.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,12nm,0.9s							
MNK				pmax	pmax			
	comp=N,31nm,0.8s							
MNK				MLR	MLR			
	comp=Z,98nm,20.0s							
MNK				MLR	MLR			
	comp=N,339nm,19.0s							
MNK				MLR	MLR			
	comp=E,21nm,19.0s							
ARCES	**ARCESS Array B**	**60.27**	**337**	P	**P**	**14 45 21.2**	**-1.2**
	comp=E,3.4nm,0.8s,baz=88,slow=8.2,SNR=7.4							
	comp=E,3.4nm,0.8s							
EIL	**Elat**	**60.29**	**290**	P	**P**	**14 45 23.0**	**-0.2**
	comp=E,4.7nm,0.6s,baz=216,slow=1.8,SNR=3.7							
	comp=E,4.7nm,0.6s							
VSU	**Vasula**	**60.37**	**324**	*e*P	**P**	**14 45 23.6**	**+0.4**
FINES	**FINESS Array B**	**60.42**	**327**	P	**P**	**14 45 22.7**	**-0.9**
	comp=E,6.2nm,0.8s,baz=76,slow=6.7,SNR=10							
	comp=E,6.2nm,0.8s							
FINES	**FINESS Array B**	**60.42**	**327**	*i* P	**P**	**14 45 24.0**	**+0.4**
FINES				pmax	pmax			
	comp=Z,6.0nm,0.9s							
IDID	**Didziasalis**	**60.75**	**320**	*e*P	**P**	14 45 18.4	-7.5
NACGM	**Naroch**	**60.78**	**320**	*e*P	**P**	**14 45 26.9**	**+0.7**
	comp=Z,39nm,1.2s,baz=82							
IIGN	**Ignalina**	**61.04**	**320**	*e*P	**P**	14 45 15.4	-12
ISAL	**Salakas**	**61.06**	**320**	*e*P	**P**	**14 45 29.0**	**+1.0**
PABE	**Paberze**	**62.28**	**321**	*e*P	**P**	**14 45 36.7**	**+0.5**
ELL	**Elmali**	**62.35**	**299**	P	**P**	**14 45 36.8**	**-0.5**
ELL	**Elmali**	**62.35**	**299**	P	**P**	**14 45 36.8**	**-0.5**
ELL				pmax	pmax			
	comp=Z,57nm,0.6s							
CTAO	**Charters Tower**	**62.45**	**135**	P	**P**	**14 45 38.1**	**+0.3**
CTAO				IAmb	IAmb	14 45 39.2		
	comp=Z,17nm,1.4s							
CTAO	**Charters Tower**	**62.45**	**135**	P	**P**	**14 45 38.6**	**+0.8**
CTAO	**Charters Tower**	**62.45**	**135**	P	**P**	**14 45 38.1**	**+0.3**
CTAO				pmax	pmax			
	comp=Z,17nm,1.4s							
CTAO	**Charters Tower**	**62.45**	**135**	P	**P**	**14 45 38.1**	**+0.3**
CTAO				pP	**sP**	**14 45 49.1**	**-1.9**
MLR	**Muntele Rosu**	**63.06**	**309**	P	**P**	**14 45 41.2**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=151,slow=18,SNR=5.2							
	comp=Z,3.7nm,0.7s							
STHS	**Stebnicka Huta**	**65.21**	**314**	*e*P	**P**	**14 45 55.0**	**-0.7**
STHS	**Stebnicka Huta**	**65.21**	**314**	*e*P	**P**	**14 45 55.0**	**-0.7**
VTS	**Vitosha**	**65.69**	**307**	P	**P**	**14 46 00.2**	**+1.1**
VTS				IAmb	IAmb	14 46 01.0		
	comp=Z,9.0nm,0.8s							
VTS	**Vitosha**	**65.69**	**307**	P	**P**	**14 46 00.2**	**+1.1**
VTS				pmax	pmax			
	comp=Z,9.0nm,0.8s							
QLP	**Quilpie**	**66.25**	**142**	P	**P**	**14 46 03.9**	**+1.3**
HFS	**Hagfors**	**66.62**	**327**	P	**P**	**14 46 03.5**	**-1.1**
	comp=Z,4.4nm,0.6s,baz=74,slow=5.4,SNR=11							
	comp=Z,4.4nm,0.6s							
IDI	**Anoyia**	**66.67**	**299**	P	**P**	**14 46 04.6**	**-0.8**
	comp=Z,15nm,0.9s,baz=27,slow=14,SNR=6.4							
	comp=Z,15nm,0.9s							
VYHS	**Vyhne**	**66.98**	**314**	*e*P	**P**	**14 46 07.9**	**+0.8**
VYHS	**Vyhne**	**66.98**	**314**	*e*P	**P**	**14 46 07.9**	**+0.8**
OKC	**Ostrava-Krasne**	**67.03**	**315**	*e*P	**P**	**14 46 08.4**	**+1.0**
OKC	**Ostrava-Krasne**	**67.03**	**315**	*e*P	**P**	**14 46 08.4**	**+1.0**
MAUC	**Maruska**	**67.37**	**315**	*e*P	**P**	**14 46 10.1**	**+0.5**
MORC	**Moravsky Berou**	**67.42**	**315**	*e*P	**P**	**14 46 10.5**	**+0.6**
NB2	**NORSAR Subarra**	**67.54**	**328**	P	**P**	**14 46 09.2**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=72,slow=6.5							
NOA	**NORSAR Array B**	**67.54**	**328**	P	**P**	**14 46 09.2**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=77,slow=6.1,SNR=12							
	comp=Z,3.0nm,0.6s							
JAVC	**Velka Javorina**	**67.61**	**314**	*e*P	**P**	**14 46 12.4**	**+1.2**
KRLC	**Kraliky**	**67.80**	**316**	*e*P	**P**	**14 46 11.4**	**-0.9**
KRLC	**Kraliky**	**67.80**	**316**	*e*P	**P**	**14 46 11.4**	**-0.9**
DPC	**Dobruska-Polom**	**68.00**	**316**	*e*P	**P**	**14 46 14.1**	**+0.5**
DPC	**Dobruska-Polom**	**68.00**	**316**	*e*P	**P**	**14 46 14.1**	**+0.5**
UPC	**Upice**	**68.14**	**317**	*e*P	**P**	**14 46 14.0**	**-0.4**
UPC	**Upice**	**68.14**	**317**	*e*P	**P**	**14 46 14.0**	**-0.4**
VRAC	**Vranov**	**68.15**	**315**	P	**P**	**14 46 13.7**	**-0.8**
	comp=Z,5.7nm,0.7s,baz=78,slow=7.4,SNR=6.0							
	comp=Z,5.7nm,0.7s							
VRAC	**Vranov**	**68.15**	**315**	*e*P	**P**	**14 46 15.2**	**+0.7**
STKA	**Stephens Creek**	**69.15**	**147**	P	**P**	**14 46 20.1**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=322,slow=5.2,SNR=10							
	comp=Z,2.4nm,0.6s							
H21K	**Melozitna Rive**	**69.69**	**26**	P	**P**	**14 46 23.9**	**+0.2**
H21K				IAmb	IAmb	14 46 25.1		
	comp=Z,14nm,1.5s							
CLL	**Collm**	**69.69**	**318**	*e*P	**P**	**14 46 25.0**	**+1.0**
	comp=Z,7.0nm,1.1s							
CLL	**Collm**	**69.69**	**318**	*e*P	**P**	**14 46 25.0**	**+1.0**
CLL				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CKRC	**Cesky Krumlov**	**69.73**	**315**	*e*P	**P**	**14 46 25.0**	**+0.7**
COLD	**Coldfoot**	**70.00**	**24**	P	**P**	**14 46 25.7**	**+0.1**
KHC	**Kasperske Hory**	**70.08**	**316**	*e*P	**P**	**14 46 26.8**	**+0.3**
KHC	**Kasperske Hory**	**70.08**	**316**	*e*P	**P**	**14 46 26.8**	**+0.3**
GERES	**GERESS Array B**	**70.10**	**315**	P	**P**	**14 46 25.8**	**-0.9**
	comp=Z,2.5nm,0.5s,baz=63,slow=5.5,SNR=10							
	comp=Z,2.5nm,0.5s							
L19K	**White Mountain**	**70.20**	**29**	P	**P**	**14 46 27.3**	**+0.4**
MLY	**Manley**	**70.73**	**26**	P	**P**	**14 46 30.3**	**+0.1**
MLY				IAmb	IAmb	14 46 33.0		
	comp=Z,30nm,1.8s							
KMBO	**Kilima Mbogo**	**70.82**	**258**	P	**P**	**14 46 32.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**71.03**	**27**	P	**P**	**14 46 32.0**	**0.0**
BPAW				IAmb	IAmb	14 46 33.8		
	comp=Z,13nm,1.4s							
M20K	**Styx River**	**71.07**	**29**	P	**P**	**14 46 32.3**	**0.0**
M20K				IAmb	IAmb	14 46 46.9		
	comp=Z,18nm,1.4s							
NEA2	**Nenana**	**71.57**	**26**	P	**P**	**14 46 35.4**	**+0.2**
NEA2				IAmb	IAmb	14 46 37.5		
	comp=Z,9.3nm,0.8s							
SKT	**Skwentna**	**71.71**	**29**	P	**P**	**14 46 35.8**	**-0.3**
SKT				IAmb	IAmb	14 46 37.9		
	comp=Z,32nm,1.7s							
MDM	**Murphy Dome**	**71.72**	**25**	P	**P**	**14 46 36.3**	**+0.1**
BMAR	**Burnt Mountain**	**71.85**	**22**	P	**P**	**14 46 37.2**	**+0.3**
ILAR	**Eielson Array**	**72.32**	**25**	P	**P**	**14 46 38.5**	**-1.2**
	comp=Z,3.3nm,1.1s,baz=276,slow=4.3,SNR=12							
	comp=Z,3.3nm,1.1s							
RIDG	**Independent Ri**	**73.60**	**26**	P	**P**	**14 46 46.4**	**-1.0**
SCRK	**Sand Creek**	**73.81**	**25**	P	**P**	**14 46 48.0**	**-0.7**
SCRK				IAmb	IAmb	14 46 49.8		
	comp=Z,21nm,1.6s							
M24K	**Tolsona, Glenn**	**73.89**	**28**	P	**P**	**14 46 49.3**	**+0.2**
DOT	**Dot Lake**	**73.95**	**26**	P	**P**	**14 46 49.5**	**+0.1**
DOT				IAmb	IAmb	14 46 50.7		
	comp=Z,18nm,1.6s							
KLU	**Klutina**	**74.31**	**28**	P	**P**	**14 46 51.6**	**0.0**
KLU				IAmb	IAmb	14 46 53.5		
	comp=Z,33nm,1.5s							
A36M	**Sachs Harbour**	**74.45**	**14**	P	**P**	**14 46 52.2**	**+0.1**
A36M				IAmb	IAmb	14 46 53.7		
	comp=Z,26nm,1.6s							
INK	**Inuvik**	**74.82**	**19**	P	**P**	**14 46 53.4**	**-0.9**
	comp=Z,3.9nm,1.0s,baz=331,slow=6.7,SNR=11							
	comp=Z,3.9nm,1.0s							
BCAR	**Beaver Creek A**	**75.13**	**26**	P	**P**	**14 46 56.5**	**+0.2**
GLB	**Gilahina Butte**	**75.20**	**28**	P	**P**	**14 46 56.6**	**-0.1**
GLB				IAmb	IAmb	14 46 59.1		
	comp=Z,7.0nm,0.7s							
M27K	**Edge Creek, AK**	**75.48**	**26**	P	**P**	**14 46 59.0**	**+0.6**
M27K				IAmb	IAmb	14 47 10.9		
	comp=Z,10nm,1.1s							
TULEG	**Thule**	**75.57**	**358**	P	**P**	**14 46 58.2**	**-0.3**
SUMG	**Summit**	**76.53**	**349**	*i* P	**P**	**14 47 04.0**	**-0.5**
RES	**Resolute Bay**	**76.70**	**5**	P	**P**	**14 47 04.9**	**-0.1**
RES	**Resolute Bay**	**76.70**	**5**	P	**P**	**14 47 04.9**	**-0.1**
RES				pmax	pmax			
	comp=Z,6.0nm,1.0s							
EKA	**Eskdalemuir Ar**	**76.79**	**326**	P	**P**	**14 47 04.5**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=54,slow=7.3,SNR=5.9							
	comp=Z,1.9nm,0.6s							
YKA	**Yellowknife Ar**	**84.41**	**17**	P	**P**	**14 47 46.2**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=325,slow=5.4,SNR=56							
	comp=Z,2.6nm,0.6s							
YKA	**Yellowknife Ar**	**84.41**	**17**	*i* P	**P**	**14 47 46.7**	**+0.2**
YKA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TXAR	**Lajitas Array**	**116.77**	**28**	PKP	**PKPdf**	**14 53 58.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=140,slow=0.9,SNR=5.8							

STR 18 14:36:37.6±1.4, 45°N±7°×°±1°2, h2km, MLv0.3/3, Error ellipse: s-maj=0.0km s-min=0.0km az=116.2, preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDM	**Grand'Maison**	**0.27**	**204**	Sg	Sg	14 36 46.7	+0.3
RSL	**Roselend**	**0.34**	**46**	Pg	Pg	14 36 44.5	+0.3
RSL				Sg	Sg	14 36 48.9	+0.2

*STR **18** 14:37:13.5±0.7, 45°N±9°×°±1°5, h6km, MLv0.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=122.4, preliminary*
*

comp=E,10285µm,0.1s
T1204 Amatrice, Fraz 0.19 354 ⇑P **Pg 14 37 54.0 -0.3**
T1204 S **Sg 14 37 57.0 -0.3**
T1202 Accumoli, Fraz 0.23 338 ⇑P **Pg 14 37 55.3 +0.3**
T1202 S **Sg 14 37 59.0 +0.5**
T1218 Civita (PG) 0.25 317 P **Pg 14 37 55.5 +0.3**
T1218 S **Sg 14 37 59.5 +0.6**
T1218 AML AML
comp=E,13950µm,0.4s
T1218 AML AML
comp=E,13050µm,0.4s
T1218 AML AML
comp=N,19150µm,0.4s
T1218 AML AML
comp=N,19150µm,0.4s
T1218 AML AML
comp=E,13050µm,1.6s
T1218 AML AML
comp=E,13950µm,1.6s
T1218 AML AML
comp=N,19146µm,0.4s
T1218 AML AML
comp=N,19151µm,0.4s
T1218 AML AML
comp=E,13962µm,0.4s
T1218 AML AML
comp=E,13052µm,0.4s
LNSS Leonessa 0.25 297 P **Pb 14 37 55.7 -0.2**
LNSS S **Sb 14 38 00.4 +0.2**
LNSS AML AML
comp=N,23500µm,1.2s
LNSS AML AML
comp=E,25350µm,0.8s
LNSS AML AML
comp=N,23500µm,0.8s
LNSS AML AML
comp=E,25350µm,1.2s
LNSS AML AML
comp=E,23702µm,0.5s
LNSS AML AML
comp=N,22157µm,0.1s
FIAM Fiamignano 0.28 217 ⇑P **Pb 14 37 56.3 -0.1**
FIAM S **Sb 14 38 00.7 -0.2**
FIAM AML AML
comp=E,12900µm,0.6s
FIAM AML AML
comp=N,14600µm,0.8s
FIAM AML AML
comp=N,14600µm,1.2s
FIAM AML AML
comp=E,12900µm,1.4s
FIAM AML AML
comp=N,14555µm,0.8s
FIAM AML AML
comp=E,12921µm,0.6s
FAGN Fagnano 0.29 141 ⇑P **Pg 14 37 56.0 +0.2**
FAGN S **Sb 14 38 00.8 -0.3**
FAGN AML AML
comp=E,42250µm,0.7s
FAGN AML AML
comp=N,32950µm,0.3s
FAGN AML AML
comp=N,32921µm,0.3s
FAGN AML AML
comp=E,40796µm,0.4s
T1217 Poggiodomo (PG 0.38 306 P **Pg 14 37 57.7 +0.4**
T1217 S **Sb 14 38 03.8 0.0**
T1217 AML AML
comp=E,7290µm,1.0s
T1217 AML AML
comp=N,7105µm,0.6s
T1217 AML AML
comp=E,7080µm,0.4s
T1217 AML AML
comp=N,6485µm,0.6s
T1217 AML AML
comp=E,7290µm,1.0s
T1217 AML AML
comp=E,7075µm,0.4s
T1217 AML AML
comp=N,6485µm,0.5s
T1217 AML AML
comp=E,7290µm,1.0s
T1217 AML AML
comp=N,7105µm,0.5s
T1217 AML AML
comp=N,6171µm,0.2s
T1217 AML AML
comp=E,6894µm,0.3s
T1217 AML AML
comp=N,6794µm,0.2s
T1217 AML AML
comp=E,6971µm,0.3s
T0110 Collepietro 0.42 129 P **Pg 14 37 58.1 0.0**
T0110 S **Sb 14 38 05.3 +0.4**
T0110 AML AML
comp=E,12750µm,0.4s
T0110 AML AML
comp=E,12750µm,1.6s
T0110 AML AML
comp=N,13850µm,0.4s
T0110 AML AML
comp=E,12747µm,0.4s
T0110 AML AML
comp=N,13835µm,0.4s
ARRO Arrone 0.43 282 ⇑P **Pb 14 37 58.9 -0.1**
ARRO S **Sb 14 38 06.0 +0.6**
ARRO AML AML
comp=E,8160µm,0.2s
ARRO AML AML
comp=N,8290µm,0.8s
ARRO AML AML
comp=E,8162µm,0.2s
ARRO AML AML
comp=N,6334µm,0.2s
PTQR Pietraquaria 0.47 175 ⇑P **Pg 14 37 59.1 0.0**
PTQR AML AML
comp=E,2925µm,0.5s
PTQR AML AML
comp=E,2925µm,1.5s
PTQR AML AML
comp=N,3035µm,0.6s
FEMA Monte Fema 0.52 336 P **Pg 14 38 00.0 0.0**
FEMA S **Sb 14 38 08.2 +0.2**
FEMA AML AML
comp=E,18100µm,0.3s
FEMA AML AML
comp=N,19050µm,1.2s
FEMA AML AML
comp=N,19050µm,0.8s
FEMA AML AML
comp=N,18516µm,0.2s
FEMA AML AML
comp=E,18112µm,0.3s
TRTR Tortoreto Alta 0.53 53 P **Pb 14 38 00.9 +0.3**
TRTR AML AML
comp=N,20200µm,0.6s
TRTR AML AML
comp=E,29250µm,0.7s
TRTR AML AML
comp=E,29268µm,0.7s
TRTR AML AML
comp=N,20228µm,0.6s
GUMA Gualdo di Mace 0.57 360 ⇑P **Pg 14 38 01.0 0.0**
GUMA S **Sb 14 38 10.1 +0.7**
GUMA AML AML
comp=N,31650µm,0.3s
GUMA AML AML
comp=N,30500µm,0.3s
GUMA AML AML
comp=E,31150µm,0.2s
GUMA AML AML
comp=E,25250µm,0.6s
GUMA AML AML
comp=N,31650µm,1.7s
GUMA AML AML
comp=N,31605µm,0.3s
GUMA AML AML
comp=E,31174µm,0.2s
GUMA AML AML
comp=N,30502µm,0.3s
GUMA AML AML
comp=E,25099µm,0.5s
CESX Cesi 0.58 282 P **Pg 14 38 01.2 +0.2**
CESX AML AML
comp=N,6475µm,0.2s
CESX AML AML
comp=E,3820µm,0.2s
FDMO Fiordimonte 0.58 341 ⇑P **Pg 14 38 00.8 -0.2**
FDMO S **Sb 14 38 09.6 +0.1**
FDMO AML AML
comp=E,10530µm,0.2s
FDMO AML AML
comp=N,9645µm,0.5s
FDMO AML AML
comp=N,9645µm,1.5s
FDMO AML AML
comp=E,10536µm,0.2s
FDMO AML AML
comp=N,9615µm,0.2s
CERT Cerreto 0.60 206 ⇑P **Pg 14 38 01.6 +0.1**
CERT AML AML
comp=E,7389µm,0.4s
CESI CESI - Serrava 0.61 328 P **Pg 14 38 01.8 +0.1**
CESI S **Sb 14 38 11.0 +0.6**
CESI AML AML
comp=E,10465µm,0.2s
CESI AML AML
comp=N,16350µm,0.3s
CESI AML AML
comp=E,10487µm,0.2s
CESI AML AML
comp=N,16321µm,0.3s
CSP1 Cessapalombo 0.61 351 ⇑P **Pg 14 38 01.4 -0.3**
CSP1 S **Sb 14 38 10.6 +0.1**
CSP1 AML AML
comp=E,11695µm,0.5s
CSP1 AML AML
comp=N,19600µm,0.3s
CSP1 AML AML
comp=E,11690µm,0.5s
CSP1 AML AML
comp=N,19596µm,0.3s
CSP1 AML AML
comp=E,11689µm,0.5s
MTCE Montecelio 0.65 224 ⇑P **Pg 14 38 02.4 +0.1**
MTCE AML AML
comp=N,2475µm,0.9s
MTCE AML AML
comp=E,4110µm,1.1s
MTCE AML AML
comp=E,3640µm,0.4s
MTCE AML AML
comp=N,2370µm,0.3s
T1220 Camerino, Fraz 0.65 343 ⇑P **Pg 14 38 02.1 -0.3**
T1220 S **Sb 14 38 12.1 +0.6**
T1220 AML AML
comp=E,61150µm,0.3s
T1220 AML AML
comp=N,44650µm,1.3s
T1220 AML AML
comp=E,60250µm,0.3s
T1220 AML AML
comp=N,45700µm,1.3s
T1220 AML AML
comp=E,61150µm,0.3s
T1220 AML AML
comp=N,44650µm,1.4s
T1220 AML AML
comp=E,60300µm,0.3s
T1220 AML AML
comp=N,45700µm,1.3s
T1220 AML AML
comp=N,45700µm,0.7s
T1220 AML AML
comp=E,61150µm,1.7s
T1220 AML AML
comp=E,60300µm,1.7s
T1220 AML AML
comp=E,60281µm,0.3s
T1220 AML AML
comp=E,61111µm,0.3s
T1220 AML AML
comp=N,44650µm,0.6s
T1220 AML AML
comp=N,45132µm,0.4s
MOMA Monte Martano 0.65 299 P **Pg 14 38 02.7 +0.2**
MOMA S **Sb 14 38 13.1 +1.5**
MOMA AML AML
comp=E,6420µm,1.1s
MOMA AML AML
comp=E,5965µm,1.1s
MOMA AML AML
comp=E,5557µm,0.2s
MOMA AML AML
comp=N,8240µm,0.2s
MOMA AML AML
comp=E,5965µm,0.9s
MOMA AML AML
comp=E,6420µm,0.9s
MOMA AML AML
comp=N,8125µm,0.2s
VVLD Villa Vallelon 0.65 161 P **Pg 14 38 02.2 -0.3**
VVLD AML AML
comp=E,3140µm,0.5s
VVLD AML AML
comp=N,2970µm,0.4s
VVLD AML AML
comp=N,2970µm,0.4s
VVLD AML AML
comp=E,3142µm,0.5s
MNTP Montappone 0.65 8 P **Pg 14 38 02.5 +0.1**
MNTP S **Sb 14 38 13.3 +1.6**
MNTP AML AML
comp=E,40800µm,0.3s
MNTP AML AML
comp=N,24300µm,0.2s
SRES S.Oreste - Sor 0.67 248 P **Pg 14 38 02.7 0.0**
SRES AML AML
comp=E,3225µm,0.8s
SRES AML AML
comp=N,2925µm,0.4s
SRES AML AML
comp=N,2927µm,0.4s
SRES AML AML
comp=E,2891µm,0.3s
GUAR Guarcino 0.69 182 P **Pb 14 38 03.8 +0.3**
GUAR AML AML
comp=N,5395µm,0.4s
GUAR AML AML
comp=E,3395µm,0.6s
GUAR AML AML
comp=N,5397µm,0.4s
GUAR AML AML
comp=E,3395µm,0.6s
RCAV Rocca di Cave 0.71 205 P **Pg 14 38 03.6 +0.2**
RCAV AML AML
comp=E,4870µm,0.6s
RCAV AML AML
comp=N,7020µm,0.7s
RCAV AML AML
comp=E,4868µm,0.6s
RCAV AML AML
comp=N,7022µm,0.7s
MDAR Monte D'Aria 0.72 348 P **Pg 14 38 03.2 -0.5**
MDAR S **Sb 14 38 14.2 +0.6**
SEF1 Sefro 0.72 336 P **Pg 14 38 03.5 -0.2**
SEF1 S **Sb 14 38 14.3 +0.8**
SEF1 AML AML
comp=N,13900µm,0.2s
SEF1 AML AML
comp=E,15450µm,0.2s
SEF1 AML AML
comp=E,15448µm,0.2s
SEF1 AML AML
comp=N,13880µm,0.2s
ASSB Assisi San Ben 0.75 318 P **Pg 14 38 04.1 -0.1**
ASSB S **Sb 14 38 15.8 +1.3**
ASSB AML AML
comp=E,5125µm,0.8s
ASSB AML AML
comp=N,5735µm,1.6s
ASSB AML AML
comp=N,5735µm,0.4s
ASSB AML AML
comp=E,5125µm,1.2s
SSM1 San Severino M 0.75 351 P **Pg 14 38 03.9 -0.4**
FIU1 Fiuminata 0.76 337 P **Pg 14 38 04.4 -0.1**
LPEL Lama dei Pelig 0.77 125 P **Pg 14 38 04.0 -0.6**
LPEL AML AML
comp=E,3665µm,0.3s
LPEL AML AML
comp=N,2705µm,0.7s
LPEL AML AML
comp=N,2704µm,0.7s
LPEL AML AML
comp=E,3666µm,0.3s
CADA Capodarco di F 0.77 24 P **Pn 14 38 05.6 -0.4**
GAG1 Gagliole 0.77 345 P **Pg 14 38 04.3 -0.5**
MTL1 Matelica 0.80 342 P **Pg 14 38 04.9 -0.4**
POFI Posta Fibreno 0.82 160 P **Pg 14 38 04.9 -0.7**
POFI AML AML
comp=E,1835µm,0.6s
POFI AML AML
comp=N,1825µm,0.5s
POFI AML AML
comp=E,1830µm,0.6s
POFI AML AML
comp=E,1830µm,1.4s
POFI AML AML
comp=N,1827µm,0.5s
POFI AML AML
comp=E,1929µm,0.6s
POFI AML AML
comp=E,1834µm,0.6s
SNTG Esanatoglia 0.82 339 ⇑P **Pg 14 38 05.1 -0.6**
SNTG S **Sb 14 38 17.4 +0.9**
SNTG AML AML
comp=E,2555µm,0.5s
SNTG AML AML
comp=E,2550µm,0.5s
SNTG AML AML
comp=E,2385µm,0.5s
SNTG AML AML
comp=N,3110µm,1.1s
SNTG AML AML
comp=N,3250µm,1.2s
SNTG AML AML
comp=E,2550µm,1.5s
SNTG AML AML
comp=E,2385µm,1.5s
SNTG AML AML
comp=E,2553µm,0.5s
SNTG AML AML
comp=N,2803µm,0.3s
SNTG AML AML
comp=N,2991µm,0.3s
SNTG AML AML
comp=E,2386µm,0.5s
RMP Rome, Mte Porz 0.83 215 P **Pn 14 38 06.6 -0.2**
RMP AML AML
comp=N,4720µm,1.4s
RMP AML AML
comp=E,4190µm,0.5s
RMP AML AML
comp=E,4192µm,0.5s
RMP AML AML
comp=N,4683µm,0.4s
CIMA Civitanova Mar 0.85 16 P **Pb 14 38 06.7 +0.6**
EL6 Elcito 0.86 348 ⇑P **Pg 14 38 05.7 -0.6**
EL6 AML AML
comp=E,7960µm,1.3s
EL6 AML AML
comp=N,7090µm,0.3s
EL6 AML AML
comp=N,7085µm,0.3s
EL6 AML AML
comp=E,7960µm,0.7s
EL6 AML AML
comp=N,7086µm,0.3s
EL6 AML AML
comp=E,7521µm,0.5s
ATCC AVT- Casa Cast 0.87 324 P **Pg 14 38 06.3 -0.2**
ATCC S **Sn 14 38 19.5 -0.2**
ATCC AML AML
comp=E,6275µm,0.4s
ATCC AML AML
comp=N,5315µm,0.5s
ATCC AML AML
comp=N,5238µm,0.4s
ATCC AML AML
comp=E,6273µm,0.4s
RDP Rocca di Papa 0.87 213 AML AML
comp=N,9255µm,1.2s
RDP AML AML
comp=E,6510µm,0.4s
CING Cingoli 0.89 353 P **Pb 14 38 06.2 -0.7**
PP3 Marolino 0.91 12 P **Pb 14 38 07.2 +0.1**
PP3 AML AML
comp=N,8710µm,0.3s
PP3 AML AML
comp=N,8365µm,0.3s
PP3 AML AML
comp=E,9405µm,0.5s
PP3 AML AML
comp=E,9170µm,0.5s
PP3 AML AML
comp=N,8360µm,0.3s
PP3 AML AML
comp=N,8365µm,0.3s
PP3 AML AML
comp=N,8706µm,0.3s
PP3 AML AML
comp=E,9417µm,0.5s
PP3 AML AML
comp=E,9157µm,0.5s
FOSV Fossato di Vic 0.91 332 P **Pb 14 38 06.9 -0.3**
FOSV S **Sn 14 38 20.7 -0.1**
FOSV AML AML
comp=E,2985µm,0.3s
FOSV AML AML
comp=N,3505µm,0.3s
FOSV AML AML
comp=E,2986µm,0.3s
FOSV AML AML
comp=N,3508µm,0.3s
GIUL Giuliano Di Ro 0.93 184 P **Pg 14 38 07.7 0.0**
GIUL AML AML
comp=N,2335µm,0.6s
GIUL AML AML
comp=E,1900µm,0.5s
GIUL AML AML
comp=N,2335µm,1.4s
GIUL AML AML
comp=N,2337µm,0.6s
GIUL AML AML
comp=E,1904µm,0.5s
MURB Monte Urbino 0.98 322 P **Pb 14 38 08.6 +0.2**
MURB AML AML
comp=E,8260µm,0.3s
MURB AML AML
comp=N,12400µm,0.3s
MURB AML AML
comp=E,8255µm,0.4s
MURB AML AML
comp=N,12400µm,0.3s
MURB AML AML
comp=E,10225µm,0.3s
MURB AML AML
comp=N,12650µm,0.3s
MURB AML AML
comp=N,12677µm,0.3s
MURB AML AML
comp=N,12368µm,0.3s
MURB AML AML
comp=E,10205µm,0.3s
MURB AML AML
comp=E,8259µm,0.3s
RNI2 Rionero Sannit 0.99 142 P **Pb 14 38 08.5 -0.1**
MGAB Montegabbione 1.00 295 P **Pg 14 38 09.1 +0.1**
MGAB AML AML
comp=E,4005µm,0.6s
MGAB AML AML
comp=N,3770µm,0.4s
MGAB AML AML
comp=E,3900µm,0.6s
MGAB AML AML
comp=N,3590µm,0.4s
MGAB AML AML
comp=N,3774µm,0.4s
MGAB AML AML
comp=N,3594µm,0.4s
MGAB AML AML
comp=E,3900µm,0.6s
MGAB AML AML
comp=E,4001µm,0.6s
CERA Filignano 1.02 150 P **Pb 14 38 08.5 -0.6**
SSFR Montelago di S 1.03 337 P **Pb 14 38 09.1 -0.1**
SSFR AML AML
comp=E,8045µm,1.2s
SSFR AML AML

SSFR AML AML
comp=E,7500µm,1.2s
SSFR AML AML
comp=E,7500µm,0.8s
SSFR AML AML
comp=E,8045µm,0.8s
SSFR AML AML
comp=N,5910µm,0.3s
SSFR AML AML
comp=N,7250µm,0.3s
SSFR AML AML
comp=E,8009µm,0.2s
SSFR AML AML
comp=N,7250µm,0.3s
SSFR AML AML
comp=N,5910µm,0.3s
SSFR AML AML
comp=E,7313µm,0.2s
LATB Latina 1.03 196 P Pb 14 38 08.4 -0.8
LATB AML AML
comp=E,668µm,0.7s
LATB AML AML
comp=N,462µm,0.7s
LATB AML AML
comp=E,668µm,0.7s
LATB AML AML
comp=N,462µm,0.7s
ARVD Arcevia 1.05 344 P Pb 14 38 09.2 -0.4
ARVD AML AML
comp=E,2630µm,0.4s
ARVD AML AML
comp=N,2020µm,0.5s
ARVD AML AML
comp=E,2628µm,0.4s
ARVD AML AML
comp=N,2018µm,0.5s
ATLO AVT- Montelove 1.07 321 P Pb 14 38 10.0 +0.1
AOI Ancona 1.08 10 P Pb 14 38 09.8 -0.2
AOI AML AML
comp=E,3875µm,0.9s
AOI AML AML
comp=N,3680µm,0.8s
AOI AML AML
comp=N,3519µm,0.4s
AOI AML AML
comp=E,3789µm,0.4s
TOLF Tolfa 1.08 247 P Pb 14 38 10.2 +0.1
TOLF AML AML
comp=E,1920µm,0.6s
TOLF AML AML
comp=N,1210µm,1.1s
TOLF AML AML
comp=N,1057µm,0.7s
TOLF AML AML
comp=E,1918µm,0.6s
MIDA Miranda 1.09 141 P Pb 14 38 09.3 -0.9
MIDA AML AML
comp=E,1460µm,0.6s
MIDA AML AML
comp=N,1155µm,0.6s
MIDA AML AML
comp=E,1475µm,0.6s
MIDA AML AML
comp=N,1090µm,0.6s
MIDA AML AML
comp=E,1477µm,0.6s
MIDA AML AML
comp=N,1154µm,0.6s
MIDA AML AML
comp=N,1089µm,0.6s
MIDA AML AML
comp=E,1460µm,0.6s
ATVA AVT- Monte Val 1.11 316 P Pb 14 38 10.7 +0.2
SACS San Casciano d 1.12 289 P Pg 14 38 11.5 +0.3
FRON Frontone 1.12 336 P Pb 14 38 10.5 -0.3
FRON AML AML
comp=E,2485µm,0.4s
FRON AML AML
comp=N,3430µm,0.4s
FRON AML AML
comp=E,2487µm,0.4s
FRON AML AML
comp=N,3431µm,0.4s
ATVO AVT- Monte Val 1.13 323 P Pb 14 38 11.0 +0.1
ATVO AML AML
comp=E,1920µm,0.5s
ATVO AML AML
comp=N,1515µm,1.4s
ATVO AML AML
comp=N,1508µm,0.5s
ATVO AML AML
comp=E,1919µm,0.5s
TB03 Pietralunga 1.14 323 P Pn 14 38 11.3 +0.2
TRIV Trivento 1.15 128 P Pg 14 38 12.2 +0.2
ATMI Monte Miggiano 1.16 317 P Pg 14 38 11.9 -0.1
ATMI AML AML
comp=E,3625µm,0.4s
ATMI AML AML
comp=N,4870µm,0.3s
ATMI AML AML
comp=N,4868µm,0.3s
ATMI AML AML
comp=E,3622µm,0.4s
COR1 Corinaldo 1.17 348 P Pg 14 38 12.2 -0.1
COR1 AML AML
comp=E,6185µm,1.1s
COR1 AML AML
comp=N,7210µm,1.1s
COR1 AML AML
comp=E,2990µm,0.3s
COR1 AML AML
comp=N,5005µm,0.3s
COR1 AML AML
comp=E,6143µm,0.3s
COR1 AML AML
comp=E,2992µm,0.3s
COR1 AML AML
comp=N,5004µm,0.3s
COR1 AML AML
comp=N,5533µm,0.5s
ATPI Pietralunga - 1.18 325 P Pb 14 38 12.1 +0.2
ATPI AML AML
comp=E,2740µm,1.1s
ATPI AML AML
comp=N,1805µm,0.5s
ATPI AML AML
comp=E,2738µm,1.1s
ATPI AML AML
comp=N,1807µm,0.5s
ATPC Poggio Castell 1.18 327 P Pb 14 38 12.1 +0.2
PIEI Pieia 1.20 331 P Pn 14 38 12.0 0.0
PIEI AML AML
comp=N,1520µm,0.4s
PIEI AML AML
comp=E,1955µm,0.9s
PIEI AML AML
comp=E,1750µm,0.3s
PIEI AML AML
comp=N,1520µm,0.4s
MPAG Monte Paganucc 1.22 340 P Pn 14 38 12.4 +0.2
MPAG AML AML
comp=E,1895µm,0.5s
MPAG AML AML
comp=N,2055µm,0.8s
MPAG AML AML
comp=E,1935µm,0.5s
MPAG AML AML
comp=N,2175µm,0.5s
MPAG AML AML
comp=E,1939µm,0.5s
MPAG AML AML
comp=N,2175µm,0.5s
MPAG AML AML
comp=E,1893µm,0.5s
MPAG AML AML
comp=N,1997µm,0.5s
VAGA Valle Agricola 1.26 148 P Pg 14 38 13.8 -0.3
BADI Badiali 1.30 322 P Pb 14 38 14.2 +0.4
BADI AML AML
comp=E,116µm,0.7s
BADI AML AML
comp=N,1350µm,1.4s
BADI AML AML
comp=E,116µm,0.7s
BADI AML AML
comp=N,1293µm,0.5s
CAFI Castiglion Fio 1.31 310 P Pg 14 38 14.6 -0.3
CAFI AML AML
comp=E,789µm,1.6s
CAFI AML AML
comp=N,777µm,1.0s
CAFI AML AML
comp=E,796µm,1.5s
CAFI AML AML
comp=N,806µm,1.0s
CAFI AML AML
comp=E,735µm,0.4s
CAFI AML AML
comp=N,701µm,0.7s
CAFI AML AML
comp=N,718µm,0.7s
CAFI AML AML
comp=E,732µm,0.4s
BSSO Busso 1.33 135 P Pb 14 38 14.7 +0.4
SGG Gregorio Mates 1.35 145 P Pg 14 38 15.7 +0.1
PE3 Peglio 1.35 333 P Pg 14 38 15.4 -0.4
PE3 AML AML
comp=E,6910µm,0.5s
PE3 AML AML
comp=N,10µm,1.4s
PE3 AML AML
comp=E,6910µm,1.5s
PE3 AML AML
comp=E,6909µm,0.5s
PTRJ Pietraroja 1.43 141 AML AML
comp=E,1016µm,1.2s
PTRJ AML AML
comp=E,1016µm,0.8s
PTRJ AML AML
comp=E,944µm,0.8s
PTRJ AML AML
comp=N,872µm,1.0s
PTRJ AML AML
comp=N,910µm,1.0s
PTRJ AML AML
comp=E,944µm,1.2s
SACR S. Croce Del S 1.49 137 P Pg 14 38 19.5 +1.1
PESA Pesaro 1.50 346 AML AML
comp=N,2670µm,0.3s
PESA AML AML
comp=E,2820µm,0.4s
CPGN Carpegna, Ital 1.51 331 P Pg 14 38 19.2 +0.5
CRE Caprese Michel 1.52 318 P Pb 14 38 17.6 -0.1
MELA Melanico ??? S 1.54 120 P Pg 14 38 19.1 -0.2
MAON Monte Argentar 1.64 269 P Pb 14 38 19.2 -0.3
MAON AML AML
comp=E,517µm,1.3s
MAON AML AML
comp=N,243µm,1.6s
MAON AML AML
comp=N,213µm,0.4s
MAON AML AML
comp=E,455µm,0.4s
PSB1 Pescosannita 1.68 139 P Pg 14 38 22.4 +0.6
FROS Frosini 1.76 295 P Pb 14 38 21.3 -0.3
FROS AML AML
comp=E,324µm,1.4s
FROS AML AML
comp=N,274µm,1.6s
FROS AML AML
comp=N,226µm,0.5s
FROS AML AML
comp=E,306µm,0.8s
SFI Santa Sofia 1.79 323 P Pn 14 38 21.1 +1.1
OSSC Osservatorio P 1.85 305 P Pb 14 38 22.5 -0.8
TRIF Trifonti 1.90 290 P Pb 14 38 23.2 -0.8
TRIF AML AML
comp=E,232µm,0.4s
TRIF AML AML
comp=N,231µm,0.8s
TRIF AML AML
comp=E,233µm,0.3s
TRIF AML AML
comp=N,231µm,0.8s
RUFI Rufina 1.90 316 P Pb 14 38 23.0 -1.0
RUFI AML AML
comp=E,366µm,0.6s
RUFI AML AML
comp=N,455µm,1.6s
RUFI AML AML
comp=E,367µm,0.6s
RUFI AML AML
comp=N,432µm,0.5s
MSAG Monte S. Angel 2.06 111 P Pb 14 38 26.0 -0.8
CRMI Carmignano 2.17 308 P Pn 14 38 26.6 +1.4
MAIM Mastiano 2.52 305 P Pn 14 38 32.0 +1.9
MAIM AML AML
comp=E,198µm,1.5s
MAIM AML AML
comp=N,140µm,0.4s
MAIM AML AML
comp=E,183µm,0.8s
MAIM AML AML
comp=N,140µm,0.4s
A050A Klekovaca 3.06 48 ePn Pn 14 38 39.7 +2.2
SKDS Skadanscina 3.09 9 ePn Pn 14 38 38.9 +0.9
MATE Matera 3.12 125 ⇑P Pn 14 38 41.4 +3.1
SRKY Kupres RS 3.21 59 ePn Pb 14 38 44.0 -2.3
PGF Pioggiola 3.21 273 eP Pn 14 38 41.6 +2.0
PGF eSn Sn 14 39 15.1 -2.6
comp=N,6.2nm,0.3s
STON Ston 3.24 82 ePn Pb 14 38 44.2 -2.6
STON eSn Sn 14 39 19.6 +1.5
STON Ston 3.24 82 ePn Pn 14 38 41.0 +1.2
BOJS Bojanci 3.31 24 ePn Pn 14 38 42.9 +2.0
MGRS Mrkonjic Grad 3.34 53 ePn Pn 14 38 44.1 +2.8
CEY Cerknica 3.34 13 ePn Pn 14 38 42.6 +1.3
ROVR Rover Verones 3.56 333 P Pn 14 38 46.1 +1.8
ROVR AML AML
comp=E,73µm,0.6s
ROVR AML AML
comp=N,142µm,0.3s
ROVR AML AML
comp=E,73µm,0.6s
ROVR AML AML
comp=E,188µm,0.6s
ROVR AML AML
comp=N,141µm,0.3s
ROVR AML AML
comp=N,379µm,0.3s
CGRP Cima Grappa 3.57 342 P Pn 14 38 46.2 +1.6
CGRP AML AML
comp=E,410µm,1.3s
CGRP AML AML
comp=N,373µm,0.5s
CGRP AML AML
comp=N,373µm,0.5s
CGRP AML AML
comp=E,349µm,0.3s
CGRP AML AML
comp=E,383µm,0.4s
CGRP AML AML
comp=N,364µm,0.6s
BLY Banja Luka 3.59 50 ePn Pb 14 38 49.4 -3.4
BLY Banja Luka 3.59 50 ePn Pn 14 38 48.7 +4.0
A051A Mrakovica 3.61 44 ePn Pn 14 38 46.7 +1.6
CRES Cresnjev 3.67 24 ePn Pn 14 38 46.9 +1.1
TREB Trebinje 3.70 85 ePn Pn 14 38 48.7 +2.4
TREB eSn Sn 14 39 32.4 +2.7
TREB Trebinje 3.70 85 ePn Pn 14 38 48.1 +1.8
DOSS Dosso del Somm 3.73 336 P Pn 14 38 48.9 +2.1
DOSS AML AML
comp=E,178µm,0.6s
DOSS AML AML
comp=N,186µm,0.6s
DOSS AML AML
comp=E,161µm,0.9s
DOSS AML AML
comp=N,178µm,0.4s
DOSS AML AML
comp=E,172µm,0.4s
DOSS AML AML
comp=N,178µm,0.4s
DOSS AML AML
comp=N,186µm,0.6s
DOSS AML AML
comp=E,156µm,0.4s
CTI Castel Tesino 3.76 342 P Pn 14 38 49.0 +1.8
CTI AML AML
comp=E,278µm,1.5s
CTI AML AML
comp=N,314µm,0.2s
CTI AML AML
comp=E,244µm,0.2s
CTI AML AML
comp=N,314µm,0.2s
STAL STALIGIAL 3.80 353 P Pn 14 38 48.8 +1.2
STAL AML AML
comp=E,310µm,0.2s
STAL AML AML
comp=N,224µm,0.3s
STAL AML AML
comp=E,310µm,0.2s
STAL AML AML
comp=N,224µm,0.3s
STAL AML AML
comp=E,257µm,0.3s
STAL AML AML
comp=N,249µm,0.2s
HCY Herceg Novi 3.81 89 ePn Pn 14 38 49.2 +1.4
BRY Bratogost 3.85 82 ePn Pb 14 38 53.2 -4.2
LUSI Trento, Gardas 3.87 334 P Pn 14 38 50.8 +2.1
LUSI AML AML
comp=E,166µm,0.7s
LUSI AML AML
comp=N,242µm,0.2s
LUSI AML AML
comp=E,155µm,0.2s
LUSI AML AML
comp=N,241µm,0.2s
CIMO Cimolais 3.87 351 P Pn 14 38 49.5 +0.9
CIMO AML AML
comp=E,53µm,0.8s
CIMO AML AML
comp=N,48µm,1.2s
CIMO AML AML
comp=N,43µm,1.0s
CIMO AML AML
comp=N,37µm,0.4s
CIMO AML AML
comp=E,47µm,0.7s
CIMO AML AML
comp=E,54µm,0.7s
GAGG Gaggia 3.98 335 P Pn 14 38 51.9 +1.6
OBKA Obir 4.11 12 i Pn Pn 14 38 54.4 +2.4
comp=E,0.7nm,0.2s
OBKA Obir 4.11 12 ePn Pn 14 38 53.4 +1.4
FVI Forni Avoltri 4.13 355 AML AML
comp=N,73µm,1.6s
FVI AML AML
comp=E,86µm,1.6s
MYKA Terra Mystica 4.14 3 i Pn Pn 14 38 54.4 +2.0
comp=E,1.3nm,0.2s
TIP Timpagrande 4.20 141 ⇓P Pb 14 39 04.0 +0.7
APPI Appiano 4.26 340 P Pn 14 38 56.4 +2.3
APPI AML AML
comp=E,145µm,0.9s
APPI AML AML
comp=N,154µm,1.5s
APPI AML AML
comp=E,138µm,0.4s
APPI AML AML
comp=N,154µm,0.4s
ABTA Abfaltersbach 4.30 352 i Pn Pn 14 38 56.8 +2.3
comp=N,14nm,0.4s,SNR=13
DRME Dracevica, Mon 4.34 92 ePn Pn 14 38 57.8 +2.7
SOKA Soboth 4.36 16 i Pn Pn 14 38 58.6 +3.2
comp=N,1.6nm,0.2s
PDG Podgorica 4.38 89 ⇓P Pn 14 38 58.8 +3.3
PDG Podgorica 4.38 89 ePn Pn 14 38 58.8 +3.3
PDG eSn Sn 14 39 49.8 +3.6
HAPS Han Pijesak,Bl 4.39 67 ePn Pn 14 38 58.7 +2.8
SBF Sospel 4.53 290 eP Pn 14 38 59.8 +2.0
SBF eSn Sn 14 39 46.9 -3.3
comp=N,14nm,0.4s
RISI Rein 4.55 349 P Pn 14 39 00.4 +2.4
RUDO Rudo 4.56 74 ePn Pn 14 39 01.7 +3.6
KBA Koelnbreinsper 4.59 0 i Pn Pn 14 39 01.9 +3.2
comp=N,0.5nm,0.1s
BBLS Lazići 4.64 71 ePn Pn 14 39 02.4 +3.1
BBLS eSn Sn 14 39 56.1 +3.2
ROSI Rosskopf 4.65 343 P Pn 14 39 01.9 +2.5
FETA Feichten 4.90 339 i Pn Pn 14 39 06.3 +3.4
comp=N,0.8nm,0.3s
WTTA Wattenberg 4.92 346 i Pn Pn 14 39 06.4 +3.1
comp=N,1.5nm,0.2s
SJES Sjenica 4.93 79 ePn Pn 14 39 08.1 +4.8
SJES eSn Sn 14 40 01.9 +1.7
DAVOX Davos/Dischmat 4.95 331 Pn Pn 14 39 06.5 +2.9
comp=N,2.6nm,0.3s,baz=146,slow=14,SNR=13
DAVOX Sn Sn 14 40 04.2 +3.5
comp=N,2.6nm,0.3s,baz=162,slow=22,SNR=7.6
comp=N,8.6nm,0.4s
SQTA Sankt Quirin 4.97 343 i Pn Pn 14 39 07.7 +3.9
comp=N,4.0nm,0.2s
TIR Tirane 5.00 101 ePn Pn 14 39 07.4 +3.3
TIR eSn Sn 14 40 04.1 +2.5
WATA Walderalm 5.00 346 i Pn Pn 14 39 08.6 +4.2
comp=N,3.7nm,0.2s
ARSA Arzberg 5.01 17 ePn Pn 14 39 04.4 +0.2
comp=N,1.0nm,0.2s
LMR La Mourre 5.09 282 eP Pn 14 39 07.6 +2.3
LMR eSn Sn 14 39 59.8 -4.0
comp=N,2.2nm,0.3s
MOTA Moosalm 5.11 343 i Pn Pn 14 39 09.1 +3.3
comp=N,0.9nm,0.2s
IVAS Ivanjica 5.11 75 ePn Pn 14 39 07.9 +2.2
IVAS eSn Sn 14 40 05.0 +0.6
DIVS Divibare 5.11 69 ePn Pn 14 39 08.0 +2.3
DIVS eSn Sn 14 40 05.2 +0.7
DIVS Divibare 5.11 69 ePn Pn 14 39 07.1 +1.4
BIOA Bad Ischl, Aus 5.21 2 i Pn Pn 14 39 11.0 +4.1
comp=N,4.1nm,0.2s
MBDF Montbardon 5.27 297 eP Pn 14 39 10.7 +2.8
MBDF eSn Sn 14 40 05.1 -3.3
comp=N,2.1nm,0.3s
MORH Mrgy, Hungar 5.32 44 ⇑P Pb 14 39 16.1 -6.2
MORH Mrgy, Hungar 5.32 44 ePn Pn 14 39 11.9 +3.4
MORH eSn Sn 14 40 08.6 -0.9
RETA Reutte 5.32 341 i Pn Pn 14 39 12.4 +3.8
comp=N,2.1nm,0.2s
FRGS Fruska Gora 5.39 58 ePn Pn 14 39 11.4 +2.0
FRGS Fruska Gora 5.39 58 ePn Pn 14 39 11.2 +1.8
DAVA Damuels 5.39 334 i Pn Pn 14 39 12.8 +3.2
comp=N,1.7nm,0.3s
MOA Molln 5.40 7 i Pn Pn 14 39 11.9 +2.3
comp=N,0.2nm,0.1s
MOA Molln 5.40 7 ePn Pn 14 39 13.7 +4.1
MOA eSn Sn 14 40 12.9 +1.4
TRUS Trudelj 5.43 69 ePn Pn 14 39 12.4 +2.3
TRUS eSn Sn 14 40 12.2 -0.1
GRUS Gruza 5.57 73 ePn Pn 14 39 13.6 +1.7
GRUS eSn Sn 14 40 16.8 +1.2
RONA Rosalia, Austr 5.61 21 i Pn Pn 14 39 14.0 +1.4
comp=N,0.3nm,0.1s
LPL La Plagne 5.65 305 eP Pn 14 39 17.3 +4.1
LPL eSn Sn 14 40 14.5 -3.3
comp=N,5.3nm,0.4s
CONA Conrad Observa 5.72 17 i Pn Pn 14 39 15.5 +1.4
comp=N,0.5nm,0.1s
OHR Ohrid 5.74 101 ePn Pn 14 39 18.6 +4.2
OHR eSn Sn 14 40 20.4 +0.4
SELS Selova 5.76 80 ePn Pn 14 39 17.1 +2.5
SELS eSn Sn 14 40 21.6 +1.1
SMRF Simiane la Rot 5.87 287 eP Pn 14 39 19.2 +3.2
SMRF eSn Sn 14 40 19.0 -4.0
comp=N,1.5nm,0.3s
ORIF Oris-en-Rattie 5.93 297 eP Pn 14 39 21.6 +4.6
ORIF eSn Sn 14 40 21.2 -3.4
comp=N,1.9nm,0.3s
FNA Florina 6.26 103 ePn Pn 14 39 25.5 +4.1
FNA eSn Sn 14 40 32.3 -0.4
BARS Barje 6.26 84 ePn Pn 14 39 23.7 +2.3
BARS eSn Sn 14 40 33.1 +0.5
GERES GERESS Array B 6.36 2 Pn Pn 14 39 23.1 +0.2
comp=N,0.6nm,0.3s,baz=173,slow=13,SNR=10
GERES Sn Sn 14 40 34.3 -0.9
comp=N,2.5nm,0.3s,baz=163,slow=23,SNR=9.2
comp=N,0.9nm,0.3s
CKRC Cesky Krumlov 6.37 6 eSN Sn 14 40 34.3 -1.0
PRVS Prvonek 6.46 87 ePn Pn 14 39 26.6 +2.4
PRVS eSn Sn 14 40 39.4 +1.9
MODS Modra-Piesok 6.50 24 ePN Pn 14 39 30.2 +5.5
CABF La Chapelle 6.62 311 ePn Pn 14 39 26.7 +0.3
CABF eSn Sn 14 40 37.6 -4.0
comp=N,2.3nm,0.4s
ZAGS Zajecar 6.64 76 ePn Pn 14 39 29.7 +3.1
KHC Kasperske Hory 6.64 1 ePN Pn 14 39 28.0 +1.3
KHC eSN Sn 14 40 40.0 -2.1

VIVF	**Saint-Julien-l**	**6.72**	**294**	*e*P		**Pn**	**14 39 30.3**	**+2.6**
BZS	**Buzias**	**6.73**	**60**	*e*Pn		**Pn**	**14 39 29.7**	**+1.8**
ZAPS	**Zavoj**	**6.87**	**80**	*e*Sn		**Sn**	**14 40 48.2**	**+0.5**
HINF	**Hinteralfeld**	**7.03**	**321**	*e*Pn		**Pn**	**14 39 32.7**	**+0.7**
HINF				*e*Sn		**Sn**	**14 40 48.8**	**-2.8**
	comp=N,15nm,0.4s							
LASF	**Ste Croix**	**7.10**	**286**	*e*P		**Pn**	**14 39 36.0**	**+3.0**
VYHS	**Vyhne**	**7.14**	**31**	*e*PN		**Pn**	**14 39 34.5**	**+1.1**
CDF	**Champ du Feu**	**7.30**	**326**	*e*Pn		**Pn**	**14 39 36.4**	**+0.7**
CDF				*e*Sn		**Sn**	**14 40 55.7**	**-2.6**
	comp=N,9.5nm,0.3s							
VTS	**Vitosha**	**7.31**	**86**	⇑P		**Pn**	**14 39 39.5**	**+3.6**
VTS	**Vitosha**	**7.31**	**86**	*e*Pn		**Pn**	**14 39 39.6**	**+3.6**
VTS	**Vitosha**	**7.31**	**86**	*e*Pn		**Pn**	**14 39 39.6**	**+3.6**
VTS				*e*Sn		**Sn**	**14 40 58.8**	**+0.2**
VTS				*e*Sn		**Sn**	**14 40 58.9**	**+0.3**
HAU	**Haudompre**	**7.40**	**321**	*e*Pn		**Pn**	**14 39 37.8**	**+0.7**
HAU				*e*Sn		**Sn**	**14 40 57.9**	**-2.8**
	comp=N,15nm,0.3s							
GZR	**Gura Zlata**	**7.40**	**64**	⇑P		**Pn**	**14 39 40.3**	**+3.2**
KEST	**Kesra**	**7.43**	**206**	Pn		Pn	14 39 44.9	+7.3
	comp=N,1.0nm,0.3s,baz=323,slow=4.6,SNR=4.9							
	comp=N,4.8nm,0.5s							
SRS	**Serrai**	**7.78**	**97**	*e*Pn		**Pn**	**14 39 45.4**	**+3.1**
SMF	**Signal de Mont**	**7.95**	**305**	*e*Pn		**Pn**	**14 39 45.3**	**+0.6**
SMF				*e*Sn		**Sn**	**14 41 09.8**	**-4.5**
	comp=N,1.6nm,0.3s							
PAGF	**Fort de Pagny**	**8.08**	**321**	*e*P		Pn	14 39 52.5	+6.1
MTLF	**Montolieu**	**8.21**	**280**	*e*Pn		**Pn**	**14 39 47.4**	**-0.8**
MTLF				*e*Sn		**Sn**	**14 41 12.5**	**-8.2**
	comp=N,2.1nm,0.4s							
LOR	**Lormes**	**8.25**	**309**	*e*Pn		**Pn**	**14 39 49.2**	**+0.4**
	baz=131							
LOR				*e*Sn		**Sn**	**14 41 17.2**	**-4.5**
	comp=N,3.2nm,0.3s							
AVF	**Avril sur Loir**	**8.32**	**305**	*e*Pn		**Pn**	**14 39 49.8**	**+0.2**
AVF				*e*Sn		**Sn**	**14 41 17.9**	**-5.3**
	comp=N,0.8nm,0.4s							
SSF	**Saint Saulge**	**8.36**	**307**	*e*Pn		**Pn**	**14 39 48.3**	**-1.9**
SSF				*e*Sn		**Sn**	**14 41 19.6**	**-4.6**
	comp=N,2.0nm,0.4s							
CAF	**Calviac**	**8.53**	**290**	*e*P		**Pn**	**14 39 56.9**	**+4.4**
CAF				*e*Sn		**Sn**	**14 41 21.1**	**-7.3**
	comp=N,1.6nm,0.2s							
CLL	**Collm**	**8.82**	**359**	*e*Pn		Pn	14 40 05.0	+8.4
CLL				*ex*		x	14 40 21.0	
CLL				*e*Sn		**Sn**	**14 41 30.0**	**-5.6**
CLL				*ex*		x	14 42 22.0	
CLL				*e*(Sg)			14 42 28.0	
TCF	**Toulx Ste Croi**	**8.83**	**299**	*e*Pn		**Pn**	**14 39 58.4**	**+1.7**
SGMF	**Saint Gilles**	**12.57**	**303**	*e*P		Pn	14 40 53.4	+5.6
FINES	**FINESS Array B**	**20.47**	**18**	P		**P**	**14 42 27.6**	**+1.2**
	comp=N,2.9nm,1.0s,baz=213,slow=9.9,SNR=4.9							
	comp=N,2.9nm,1.0s							
MKAR	**Makanchi Array**	**47.81**	**60**	P		**P**	**14 46 28.1**	**+1.7**
	comp=N,0.3nm,0.6s,baz=288,slow=7.1,SNR=2.4							
	comp=N,0.3nm,0.6s							

ROM 18 14:40:36.1±0.1, 42°489N±0'003×13°298E±0'006, h13km, ML2.6/17, 4C-5D, Error ellipse: s-maj=0.5km s-min=0.2km az=243.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.05**	**180**	⇓P		Pg	14 40 39.1	+0.5
T1247				S		Sg	14 40 41.0	+0.6
T1247				AML		AML		
	comp=E,29350μm,0.4s							
T1247				AML		AML		
	comp=N,14200μm,0.4s							
T1247				AML		AML		
	comp=E,27613μm,0.2s							
T1247				AML		AML		
	comp=N,1241μm,0.3s							
RM33	**Pellescritta (**	**0.07**	**288**	P		Pg	14 40 39.1	+0.2
RM33				S		Sg	14 40 41.0	+0.2
RM33				AML		AML		
	comp=N,6665μm,0.2s							
RM33				AML		AML		
	comp=E,7815μm,0.4s							
RM33				AML		AML		
	comp=N,6660μm,0.2s							
RM33				AML		AML		
	comp=E,7810μm,0.4s							
RM33				AML		AML		
	comp=N,6940μm,0.2s							
RM33				AML		AML		
	comp=N,6935μm,0.2s							
RM33				AML		AML		
	comp=E,8055μm,0.4s							
RM33				AML		AML		
	comp=E,8055μm,0.4s							
RM33				AML		AML		
	comp=E,7812μm,0.4s							
RM33				AML		AML		
	comp=N,6937μm,0.2s							
RM33				AML		AML		
	comp=N,6664μm,0.2s							
CAMP	**Campotosto**	**0.09**	**60**	⇓P		Pg	14 40 39.4	+0.2
CAMP				S		Sg	14 40 41.4	+0.1
CAMP				AML		AML		
	comp=E,2900μm,1.4s							
CAMP				AML		AML		
	comp=N,5310μm,0.4s							
CAMP				AML		AML		
	comp=E,2594μm,0.3s							
CAMP				AML		AML		
	comp=N,5309μm,0.4s							
SMA1	**SAN MARTINO**	**0.14**	**11**	⇑P		Pg	14 40 40.1	+0.3
SMA1				S		Sg	14 40 42.8	+0.4
SMA1				AML		AML		
	comp=N,21550μm,0.4s							
SMA1				AML		AML		
	comp=E,13950μm,0.2s							
SMA1				AML		AML		
	comp=N,21543μm,0.4s							
SMA1				AML		AML		
	comp=E,13932μm,0.2s							
GIGS	**Gran Sasso**	**0.20**	**101**	P		Pg	14 40 40.8	+0.2
GIGS				S		Sg	14 40 44.2	+0.4
GIGS				AML		AML		
	comp=E,456μm,0.7s							
GIGS				AML		AML		
	comp=N,490μm,0.6s							
GIGS				AML		AML		
	comp=N,490μm,1.4s							
GIGS				AML		AML		
	comp=E,446μm,0.3s							
GIGS				AML		AML		
	comp=N,363μm,0.2s							
LNSS	**Leonessa**	**0.22**	**301**	P		Pg	14 40 41.2	+0.2
LNSS				S		Sg	14 40 45.2	+0.9
LNSS				AML		AML		
	comp=E,3395μm,0.9s							
LNSS				AML		AML		
	comp=N,5695μm,0.2s							
LNSS				AML		AML		
	comp=N,5698μm,0.2s							
LNSS				AML		AML		
	comp=E,3211μm,0.2s							
FIAM	**Fiamignano**	**0.26**	**211**	P		Pg	14 40 41.9	+0.3
FIAM				S		Sb	14 40 46.5	-0.6
FIAM				AML		AML		
	comp=E,916μm,0.5s							
FIAM				AML		AML		
	comp=N,624μm,0.4s							
FIAM				AML		AML		
	comp=E,915μm,0.5s							
FIAM				AML		AML		
	comp=N,625μm,0.4s							
FAGN	**Fagnano**	**0.31**	**136**	P		Pg	14 40 42.8	+0.4
FAGN				AML		AML		
	comp=N,1825μm,0.4s							
FAGN				AML		AML		
	comp=N,1825μm,1.6s							
FAGN				AML		AML		
	comp=E,1840μm,0.3s							
FAGN				AML		AML		
	comp=E,1838μm,0.3s							
FAGN				AML		AML		
	comp=N,1824μm,0.4s							
T1217	**Poggiodomo (PG**	**0.35**	**310**	P		Pg	14 40 43.3	+0.1
T1217				S		Sb	14 40 48.9	-0.8
T1217				AML		AML		
	comp=E,514μm,1.1s							
T1217				AML		AML		
	comp=E,480μm,0.5s							
T1217				AML		AML		
	comp=N,584μm,0.2s							
T1217				AML		AML		
	comp=E,514μm,1.1s							
T1217				AML		AML		
	comp=N,585μm,0.2s							
T1217				AML		AML		
	comp=N,688μm,1.3s							
T1217				AML		AML		
	comp=E,481μm,0.5s							
T1217				AML		AML		
	comp=E,450μm,0.3s							
T1217				AML		AML		
	comp=N,635μm,0.2s							
T1217				AML		AML		
	comp=E,428μm,0.3s							
T1217				AML		AML		
	comp=N,585μm,0.2s							
ARRO	**Arrone**	**0.40**	**283**	P		Pg	14 40 44.2	+0.1
ARRO				S		Sb	14 40 50.4	-0.8
T0110	**Collepietro**	**0.44**	**126**	P		Pg	14 40 45.1	+0.2
T0110				S		Sb	14 40 51.6	-0.7
T0110				AML		AML		
	comp=E,644μm,0.3s							
T0110				AML		AML		
	comp=N,734μm,0.6s							
T0110				AML		AML		
	comp=N,734μm,1.4s							
T0110				AML		AML		
	comp=N,646μm,0.3s							
T0110				AML		AML		
	comp=E,644μm,0.3s							
PTQR	**Pietraquaria**	**0.47**	**171**	P		Pg	14 40 45.5	0.0
PTQR				S		Sb	14 40 52.7	-0.5
PTQR				AML		AML		
	comp=N,160μm,1.6s							
PTQR				AML		AML		
	comp=E,293μm,0.3s							
PTQR				AML		AML		
	comp=N,150μm,0.2s							
PTQR				AML		AML		
	comp=E,293μm,0.3s							
CESX	**Cesi**	**0.54**	**283**	⇑P		Pb	14 40 47.6	+0.2
CESX				AML		AML		
	comp=E,276μm,0.4s							
CESX				AML		AML		
	comp=N,339μm,1.1s							
CESX				AML		AML		
	comp=N,339μm,0.9s							
CESX				AML		AML		
	comp=E,217μm,0.3s							
CESX				AML		AML		
	comp=N,338μm,0.2s							
FDMO	**Fiordimonte**	**0.57**	**344**	P		Pg	14 40 46.9	-0.3
FDMO				S		Sb	14 40 55.5	-0.4
FDMO				AML		AML		
	comp=E,323μm,0.8s							
FDMO				AML		AML		
	comp=N,290μm,0.8s							
FDMO				AML		AML		
	comp=E,323μm,1.2s							
FDMO				AML		AML		
	comp=E,279μm,0.2s							
FDMO				AML		AML		
	comp=N,289μm,0.2s							
GUMA	**Gualdo di Mace**	**0.57**	**3**	P		Pg	14 40 47.4	+0.1
GUMA				S		Sb	14 40 56.6	+0.5
GUMA				AML		AML		
	comp=N,1305μm,0.5s							
GUMA				AML		AML		
	comp=N,1250μm,1.4s							
GUMA				AML		AML		
	comp=E,1300μm,1.5s							
GUMA				AML		AML		
	comp=E,1595μm,0.3s							
GUMA				AML		AML		
	comp=N,1250μm,0.6s							
GUMA				AML		AML		
	comp=E,1300μm,0.5s							
GUMA				AML		AML		
	comp=E,1595μm,0.3s							
GUMA				AML		AML		
	comp=N,1301μm,0.5s							
GUMA				AML		AML		
	comp=N,1210μm,0.5s							
GUMA				AML		AML		
	comp=E,1213μm,0.4s							
CESI	**CESI - Serrava**	**0.59**	**331**	P		Pg	14 40 47.6	-0.1
CESI				S		Sb	14 40 56.1	-0.5
CESI				AML		AML		
	comp=E,272μm,0.2s							
CESI				AML		AML		
	comp=N,461μm,0.3s							
CESI				AML		AML		
	comp=E,317μm,1.4s							
CESI				AML		AML		
	comp=N,462μm,0.3s							
CESI				AML		AML		
	comp=E,272μm,0.2s							
CSP1	**Cessapalombo**	**0.61**	**354**	P		Pg	14 40 47.6	-0.4
CSP1				S		Sg	14 40 56.5	+0.4
CSP1				AML		AML		
	comp=E,580μm,1.1s							
CSP1				AML		AML		
	comp=N,540μm,1.6s							
CSP1				AML		AML		
	comp=E,580μm,1.1s							
CSP1				AML		AML		
	comp=E,580μm,0.9s							
CSP1				AML		AML		
	comp=N,540μm,0.4s							
CSP1				AML		AML		
	comp=N,494μm,0.3s							
CSP1				AML		AML		
	comp=E,370μm,0.2s							
MOMA	**Monte Martano**	**0.62**	**301**	S		Sb	14 40 58.0	+0.4
MOMA				AML		AML		
	comp=E,407μm,0.3s							
MOMA				AML		AML		
	comp=N,400μm,1.6s							
MOMA				AML		AML		
	comp=E,443μm,0.3s							
MOMA				AML		AML		
	comp=N,400μm,1.6s							
MOMA				AML		AML		
	comp=E,407μm,0.3s							
MOMA				AML		AML		
	comp=N,286μm,0.2s							
MOMA				AML		AML		
	comp=E,407μm,0.3s							
MOMA				AML		AML		
	comp=E,443μm,0.3s							
T1220	**Camerino, Fraz**	**0.64**	**346**	P		Pg	14 40 48.2	-0.4
T1220				S		Sb	14 40 58.0	0.0
T1220				AML		AML		
	comp=E,1170μm,1.0s							
T1220				AML		AML		
	comp=E,1170μm,1.1s							
T1220				AML		AML		
	comp=N,1235μm,1.2s							
T1220				AML		AML		
	comp=E,1135μm,1.0s							
T1220				AML		AML		
	comp=E,1135μm,1.0s							
T1220				AML		AML		
	comp=N,1235μm,0.8s							
T1220				AML		AML		
	comp=N,1185μm,0.3s							
T1220				AML		AML		
	comp=E,1170μm,0.9s							
T1220				AML		AML		
	comp=N,1181μm,0.3s							
T1220				AML		AML		
	comp=N,1137μm,0.3s							
T1220				AML		AML		
	comp=E,1078μm,0.3s							
T1220				AML		AML		
	comp=E,1070μm,0.3s							
ASSB	**Assisi San Ben**	**0.73**	**320**	⇓P		Pn	14 40 52.5	+0.4
ASSB				AML		AML		
	comp=N,252μm,1.5s							
ASSB				AML		AML		
	comp=E,275μm,1.2s							
ASSB				AML		AML		
	comp=N,252μm,0.5s							
ASSB				AML		AML		
	comp=E,275μm,0.8s							
ASSB				AML		AML		
	comp=N,234μm,0.3s							
ASSB				AML		AML		
	comp=E,254μm,0.3s							
LPEL	**Lama dei Pelig**	**0.79**	**124**	S		Sb	14 41 02.3	-0.1
LPEL				AML		AML		
	comp=E,288μm,1.6s							
LPEL				AML		AML		
	comp=N,241μm,1.5s							
LPEL				AML		AML		
	comp=N,241μm,0.5s							
LPEL				AML		AML		
	comp=E,288μm,0.4s							
SNTG	**Esanatoglia**	**0.81**	**341**	⇓P		Pg	14 40 51.4	-0.4
SNTG				AML		AML		
	comp=N,148μm,0.3s							
SNTG				AML		AML		
	comp=E,137μm,0.2s							
EL6	**Elcito**	**0.85**	**350**	⇑P		Pg	14 40 51.8	-0.8
EL6				AML		AML		
	comp=E,468μm,0.4s							
EL6				AML		AML		
	comp=N,517μm,0.4s							
EL6				AML		AML		
	comp=E,469μm,0.4s							
EL6				AML		AML		
	comp=N,517μm,0.4s							
SAMA	**S.Maria delle**	**0.88**	**217**	⇑P		Pn	14 40 53.8	-0.3
PP3	**Marolino**	**0.92**	**14**	S		Sg	14 41 03.7	-2.1
MGAB	**Montegabbione**	**0.97**	**296**	⇓P		Pn	14 40 57.0	+1.6
MGAB				AML		AML		
	comp=N,205μm,0.4s							
MGAB				AML		AML		
	comp=E,228μm,0.4s							
MGAB				AML		AML		
	comp=N,205μm,0.4s							
MGAB				AML		AML		
	comp=E,227μm,0.4s							
MGAB				AML		AML		
	comp=E,251μm,0.4s							
IMOL	**Imola, Italy**	**2.19**	**329**	S		Sb	14 41 41.2	-1.2
VULT	**Monte Vulture**	**2.31**	**131**	P		Pn	14 41 12.4	-1.6

ROM 18 14:40:54.1±0.1, 42°505N±0'004×13°292E±0'005, h14km, ML2.5/5, 2C-1D, Error ellipse: s-maj=0.4km s-min=0.1km az=190.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RM33	**Pellescritta (**	**0.06**	**274**	P		Pg	14 40 57.1	+0.1
RM33				S		Sg	14 40 59.0	0.0
RM33				AML		AML		
	comp=N,6463μm,0.2s							
RM33				AML		AML		
	comp=E,4418μm,0.2s							
RM33				AML		AML		
	comp=E,4388μm,0.2s							
RM33				AML		AML		
	comp=N,6664μm,0.2s							
T1247	**Pizzolo (AQ)**	**0.06**	**176**	P		Pg	14 40 57.4	+0.4
T1247				S		Sg	14 40 59.4	+0.5
T1247				AML		AML		
	comp=E,4881μm,0.1s							
T1247				AML		AML		
	comp=N,6455μm,0.2s							
T1247				AML		AML		
	comp=E,5068μm,0.2s							
CAMP	**Campotosto**	**0.09**	**71**	P		Pg	14 40 57.4	+0.1
CAMP				S		Sg	14 40 59.7	+0.2
SMA1	**SAN MARTINO**	**0.13**	**14**	P		Pg	14 40 58.0	+0.2
SMA1				S		Sg	14 41 00.7	+0.4
LNSS	**Leonessa**	**0.21**	**298**	⇓P		Pg	14 40 59.2	+0.3
LNSS				S		Sg	14 41 02.8	+0.7
LNSS				AML		AML		
	comp=N,5977μm,0.2s							
LNSS				AML		AML		
	comp=E,3848μm,0.1s							
T1218	**Civita (PG)**	**0.21**	**322**	P		Pg	14 40 59.0	0.0
T1218				S		Sg	14 41 02.5	+0.3
GIGS	**Gran Sasso**	**0.21**	**105**	P		Pg	14 40 59.2	+0.2
GIGS				S		Sg	14 41 02.5	+0.3
GIGS				AML		AML		
	comp=N,359μm,1.7s							
GIGS				AML		AML		
	comp=E,362μm,0.1s							
GIGS				AML		AML		
	comp=N,316μm,0.2s							
FIAM	**Fiamignano**	**0.27**	**209**	P		Pb	14 41 00.4	-0.4
FIAM				S		Sg	14 41 04.5	+0.7
T1217	**Poggiodomo (PG**	**0.34**	**308**	⇑P		Pg	14 41 01.1	+0.1
T1217				S		Sb	14 41 06.6	-0.6
T1217				AML		AML		
	comp=E,459μm,1.1s							
T1217				AML		AML		
	comp=N,591μm,0.9s							
T1217				AML		AML		
	comp=E,595μm,0.2s							
T1217				AML		AML		
	comp=N,652μm,0.9s							
T1217				AML		AML		
	comp=N,462μm,0.2s							
T1217				AML		AML		
	comp=E,586μm,0.2s							
T1217				AML		AML		
	comp=E,551μm,0.2s							
T1217				AML		AML		
	comp=N,538μm,0.2s							
ARRO	**Arrone**	**0.40**	**281**	P		Pg	14 41 02.2	+0.2
ARRO				AML		AML		
	comp=N,698μm,0.2s							
ARRO				AML		AML		
	comp=E,725μm,0.2s							
FEMA	**Monte Fema**	**0.49**	**339**	P		Pg	14 41 04.1	+0.2
FEMA				S		Sb	14 41 11.5	-0.2
CSP1	**Cessapalombo**	**0.59**	**354**	S		Sb	14 41 14.8	+0.2
CSP1				AML		AML		
	comp=E,370μm,0.2s							
CSP1				AML		AML		
	comp=N,494μm,0.3s							
T1220	**Camerino, Fraz**	**0.62**	**346**	S		Sb	14 41 15.1	-0.3
T1220				AML		AML		
	comp=E,1078μm,0.3s							
T1220				AML		AML		
	comp=E,1070μm,0.3s							
T1220				AML		AML		
	comp=N,1181μm,0.3s							
T1220				AML		AML		
	comp=N,1137μm,0.3s							
EL6	**Elcito**	**0.83**	**350**	S		Sn	14 41 23.6	-0.1
ARVD	**Arcevia**	**1.02**	**346**	⇑P		Pb	14 41 12.6	-1.0
ARVD				AML		AML		
	comp=N,90μm,0.7s							
ARVD				AML		AML		
	comp=E,160μm,1.4s							
APEC	**Apecchio**	**1.23**	**329**	S		Sg	14 41 33.8	-0.1
APEC				AML		AML		
	comp=N,146μm,1.3s							
APEC				AML		AML		
	comp=E,154μm,1.2s							

ROM 18 14:44:29.0±0.1, 42°495N±0'004×13°297E±0'006, h14km, ML2.3/11, 7C-7D, Error ellipse: s-maj=0.5km s-min=0.4km az=219.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.05**	**179**	⇓P		Pg	14 44 32.1	+0.3
T1247				S		Sg	14 44 34.1	+0.4
T1247				AML		AML		
	comp=E,16300μm,0.4s							
T1247				AML		AML		
	comp=N,12750μm,0.4s							
T1247				AML		AML		
	comp=E,15435μm,0.1s							
T1247				AML		AML		
	comp=N,11928μm,0.1s							
RM33	**Pellescritta (**	**0.06**	**283**	⇑P		Pg	14 44 32.1	+0.2
RM33				S		Sg	14 44 34.1	+0.2
RM33				AML		AML		
	comp=E,2175μm,0.3s							
RM33				AML		AML		
	comp=N,2180μm,0.1s							

RM33				AML	AML		
	comp=N,2135µm,0.1s						
RM33				AML	AML		
	comp=E,2050µm,0.1s						
RM33				AML	AML		
	comp=E,2180µm,0.3s						
RM33				AML	AML		
	comp=N,2133µm,0.1s						
RM33				AML	AML		
	comp=N,2178µm,0.1s						
RM33				AML	AML		
	comp=E,2055µm,0.1s						
RM33				AML	AML		
	comp=E,2051µm,0.1s						
GIGS	**Gran Sasso**	**0.21**	**102**	P	Pb	14 44 34.5	-0.2
GIGS				S	Sg	14 44 37.3	+0.4
GIGS				AML	AML		
	comp=E,278µm,0.3s						
GIGS				AML	AML		
	comp=N,296µm,0.6s						
GIGS				AML	AML		
	comp=E,278µm,0.3s						
GIGS				AML	AML		
	comp=N,231µm,0.2s						
LNSS	**Leonessa**	**0.22**	**300**	⇑P	Pg	14 44 34.4	+0.4
LNSS				S	Sb	14 44 38.1	-0.6
LNSS				AML	AML		
	comp=E,3885µm,0.9s						
LNSS				AML	AML		
	comp=N,6040µm,0.1s						
LNSS				AML	AML		
	comp=E,3109µm,0.2s						
LNSS				AML	AML		
	comp=N,6039µm,0.1s						
T1218	**Civita (PG)**	**0.22**	**323**	⇓P	Pg	14 44 34.2	+0.2
T1218				S	Sg	14 44 37.9	+0.5
T1218				AML	AML		
	comp=N,1975µm,0.2s						
T1218				AML	AML		
	comp=E,1480µm,0.1s						
T1218				AML	AML		
	comp=N,1975µm,0.2s						
T1218				AML	AML		
	comp=E,1350µm,0.1s						
T1218				AML	AML		
	comp=N,1975µm,1.8s						
T1218				AML	AML		
	comp=N,1975µm,1.8s						
T1218				AML	AML		
	comp=N,1979µm,0.2s						
T1218				AML	AML		
	comp=E,1480µm,0.1s						
T1218				AML	AML		
	comp=E,1348µm,0.1s						
T1218				AML	AML		
	comp=N,1976µm,0.2s						
FAGN	**Fagnano**	**0.31**	**137**	⇓P	Pb	14 44 36.0	-0.5
FAGN				AML	AML		
	comp=E,974µm,0.3s						
FAGN				AML	AML		
	comp=N,808µm,1.3s						
FAGN				AML	AML		
	comp=N,808µm,0.7s						
FAGN				AML	AML		
	comp=N,799µm,0.3s						
FAGN				AML	AML		
	comp=E,972µm,0.3s						
T1217	**Poggiodomo (PG**	**0.35**	**309**	⇑P	Pg	14 44 35.9	-0.3
T1217				S	Sb	14 44 41.7	-0.7
T1217				AML	AML		
	comp=N,588µm,0.5s						
T1217				AML	AML		
	comp=E,660µm,0.7s						
T1217				AML	AML		
	comp=E,650µm,0.7s						
T1217				AML	AML		
	comp=N,588µm,0.5s						
T1217				AML	AML		
	comp=N,564µm,0.7s						
T1217				AML	AML		
	comp=E,650µm,1.3s						
T1217				AML	AML		
	comp=E,660µm,1.3s						
T1217				AML	AML		
	comp=N,429µm,0.2s						
T1217				AML	AML		
	comp=E,643µm,0.2s						
T1217				AML	AML		
	comp=E,651µm,0.2s						
T1217				AML	AML		
	comp=N,465µm,0.3s						
ARRO	**Arrone**	**0.40**	**282**	⇓P	Pg	14 44 37.3	+0.2
ARRO				S	Sb	14 44 43.5	-0.5
ARRO				AML	AML		
	comp=E,576µm,0.2s						
ARRO				AML	AML		
	comp=N,648µm,0.2s						
ARRO				AML	AML		
	comp=N,649µm,0.2s						
ARRO				AML	AML		
	comp=E,576µm,0.2s						
T0110	**Collepietro**	**0.45**	**127**	⇓P	Pg	14 44 38.0	+0.1
T0110				S	Sb	14 44 44.8	-0.5
T0110				AML	AML		
	comp=E,476µm,1.5s						
T0110				AML	AML		
	comp=E,476µm,0.5s						
T0110				AML	AML		
	comp=N,411µm,0.5s						
T0110				AML	AML		
	comp=E,394µm,0.4s						
T0110				AML	AML		
	comp=N,346µm,0.3s						
CESX	**Cesi**	**0.54**	**283**	P	Pb	14 44 40.6	+0.3
CESX				AML	AML		
	comp=E,180µm,1.5s						
CESX				AML	AML		
	comp=N,222µm,1.1s						
CESX				AML	AML		
	comp=N,222µm,0.9s						
CESX				AML	AML		
	comp=E,180µm,0.5s						
CESX				AML	AML		
	comp=E,165µm,0.3s						
CESX				AML	AML		
	comp=N,198µm,0.2s						
FDMO	**Fiordimonte**	**0.56**	**344**	⇑P	Pg	14 44 40.0	-0.1
FDMO				S	Sb	14 44 48.6	-0.1
FDMO				AML	AML		
	comp=E,239µm,0.1s						
FDMO				AML	AML		
	comp=N,209µm,1.3s						
FDMO				AML	AML		
	comp=E,239µm,1.9s						
FDMO				AML	AML		
	comp=E,239µm,0.1s						
FDMO				AML	AML		
	comp=N,186µm,0.1s						
GUMA	**Gualdo di Mace**	**0.57**	**3**	⇑P	Pb	14 44 40.6	-0.2
GUMA				AML	AML		
	comp=N,619µm,0.2s						
GUMA				AML	AML		
	comp=E,644µm,0.2s						
GUMA				AML	AML		
	comp=E,678µm,0.3s						
GUMA				AML	AML		
	comp=N,511µm,0.2s						
CESI	**CESI - Serrava**	**0.59**	**331**	P	Pg	14 44 40.4	-0.2
CESI				AML	AML		
	comp=E,278µm,1.1s						
CESI				AML	AML		
	comp=N,274µm,1.1s						
CESI				AML	AML		
	comp=E,278µm,0.9s						
CESI				AML	AML		
	comp=E,184µm,0.2s						
CESI				AML	AML		
	comp=N,227µm,0.2s						
CERT	**Cerreto**	**0.59**	**203**	⇓P	Pg	14 44 40.5	-0.1
CERT				AML	AML		
	comp=E,166µm,0.5s						
CSP1	**Cessapalombo**	**0.60**	**354**	⇓P	Pg	14 44 40.8	-0.1
CSP1				AML	AML		
	comp=E,358µm,1.4s						
CSP1				AML	AML		
	comp=N,412µm,1.3s						
CSP1				AML	AML		
	comp=N,412µm,0.7s						
CSP1				AML	AML		
	comp=E,358µm,0.6s						
CSP1				AML	AML		
	comp=E,269µm,0.1s						
CSP1				AML	AML		
	comp=N,370µm,0.3s						
T1220	**Camerino, Fraz**	**0.63**	**346**	⇑P	Pg	14 44 41.1	-0.3
T1220				AML	AML		
	comp=E,588µm,1.1s						
T1220				AML	AML		
	comp=N,726µm,1.1s						
T1220				AML	AML		
	comp=E,572µm,1.0s						
T1220				AML	AML		
	comp=N,678µm,0.4s						
T1220				AML	AML		
	comp=E,572µm,1.0s						
T1220				AML	AML		
	comp=E,588µm,0.9s						
T1220				AML	AML		
	comp=N,642µm,0.2s						
T1220				AML	AML		
	comp=E,561µm,0.2s						
T1220				AML	AML		
	comp=E,569µm,0.2s						
T1220				AML	AML		
	comp=N,639µm,0.2s						
ASSB	**Assisi San Ben**	**0.72**	**320**	⇑P	Pg	14 44 42.8	-0.2
ASSB				AML	AML		
	comp=E,178µm,0.6s						
ASSB				AML	AML		
	comp=N,314µm,0.2s						
ASSB				AML	AML		
	comp=N,314µm,0.2s						
ASSB				AML	AML		
	comp=E,159µm,0.2s						

*WEL **18** 14:45:56.0±0.5,41˚S±4˚×17˚5E±˚, h50km±5km, M3.0/21, ML3.3/22, MLv3.0/21, Error ellipse: s-maj=0.0km s-min=0.0km az=150.7, confirmed*
*NOU **18** 14:45:55.4,40.92S×175.07E, h57km, ML3.9/8, North Island, New Zealand*

ISC 18 14:45:53.9±1.4, 40.90S±0.04×175.10E±0.04, h79km±7km, n105, σ1s14/114, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OGWZ	**Otaki Gorge**	**0.10**	**34**	P	**Pn**	**14 46 05.3**	**0.0**
OGWZ				S	**Sn**	**14 46 11.7**	**-2.0**
KIW	**Kapiti Island**	**0.15**	**284**	P	**Pn**	**14 46 05.3**	**-0.2**
KIW				S	**Sn**	**14 46 11.7**	**-2.3**
CAW	**Cannon Point**	**0.21**	**187**	P	**Pn**	**14 46 06.3**	**+0.6**
CAW				S	**Sn**	**14 46 13.6**	**-0.8**
HOWZ	**Holdsworth Sta**	**0.32**	**90**	P	**Pn**	**14 46 06.8**	**+0.5**
MTW	**Mount Morrison**	**0.40**	**131**	P	**Pn**	**14 46 08.0**	**+1.2**
MTW				S	**Sn**	**14 46 16.6**	**+0.2**
MRZ	**Mangatainoka R**	**0.43**	**57**	P	**Pn**	**14 46 07.4**	**+0.3**
MRZ				S	**Sn**	**14 46 15.7**	**-1.1**
WEL	**Wellington**	**0.46**	**213**	P	**Pn**	**14 46 08.2**	**+0.9**
SNZO	**South Karori**	**0.51**	**216**	P	**Pn**	**14 46 08.4**	**+0.7**
PAWZ	**Paruwai Farm**	**0.55**	**153**	P	**Pn**	**14 46 09.7**	**+1.7**
PAWZ				S	**Sn**	**14 46 19.4**	**+0.9**
TIWZ	**Tintock**	**0.61**	**79**	P	**Pn**	**14 46 09.7**	**+1.0**
TIWZ				S	**Sn**	**14 46 19.5**	**-0.1**
TMWZ	**Te Maipa**	**0.64**	**110**	P	**Pn**	**14 46 10.5**	**+1.6**
TMWZ				S	**Sn**	**14 46 20.8**	**+0.8**
TRWZ	**Traveller**	**0.67**	**139**	P	**Pn**	**14 46 11.0**	**+1.7**
PLWZ	**Palliser**	**0.68**	**170**	P	**Pn**	**14 46 11.0**	**+1.6**
TCW	**Tory Channel**	**0.70**	**243**	P	**Pn**	**14 46 10.2**	**+0.7**
TCW				S	**Sn**	**14 46 20.7**	**-0.4**
POWZ	**Post Office Ro**	**0.72**	**45**	P	**Pn**	**14 46 10.1**	**+0.4**
PRWZ	**Pori Road**	**0.74**	**63**	P	**Pn**	**14 46 11.1**	**+1.1**
CPWZ	**Castlepoint**	**0.84**	**91**	P	**Pn**	**14 46 13.1**	**+2.1**
BFZ	**Birch Farm**	**0.90**	**77**	P	**Pn**	**14 46 12.8**	**+1.1**
BFZ	**Birch Farm**	**0.90**	**77**	P	**Pn**	**14 46 12.9**	**+1.2**
DUWZ	**D'Urville Isla**	**0.90**	**276**	P	**Pn**	**14 46 12.2**	**+0.4**
DVHZ	**Dannevirke**	**1.01**	**54**	P	**Pn**	**14 46 13.6**	**+0.6**
TUWZ	**Tuamarina**	**1.02**	**238**	P	**Pn**	**14 46 14.1**	**+0.9**
TSZ	**Takapari Road**	**1.06**	**38**	P	**Pn**	**14 46 14.3**	**+0.6**
ANWZ	**Angora Road**	**1.13**	**68**	P	**Pn**	**14 46 15.6**	**+1.1**
WAZ	**Wanganui**	**1.14**	**356**	P	**Pn**	**14 46 16.2**	**+1.5**
BSWZ	**Blackbirch Sta**	**1.23**	**228**	P	**Pn**	**14 46 17.1**	**+1.3**
PNHZ	**Pukenui**	**1.29**	**41**	P	**Pn**	**14 46 17.0**	**+0.5**
WPHZ	**Waipukurau**	**1.32**	**51**	P	**Pn**	**14 46 17.5**	**+0.6**
PRHZ	**Porangahau**	**1.33**	**62**	P	**Pn**	**14 46 17.8**	**+0.8**
NNZ	**Nelson**	**1.34**	**256**	P	**Pn**	**14 46 18.2**	**+1.1**
MOVZ	**Moawhango**	**1.57**	**19**	P	**Pn**	**14 46 20.8**	**+0.6**
KRHZ	**Kereru**	**1.58**	**38**	P	**Pn**	**14 46 20.7**	**+0.4**
BHHZ	**Black Hill Sta**	**1.59**	**28**	P	**Pn**	**14 46 21.1**	**+0.7**
PXZ	**Pawanui**	**1.60**	**58**	P	**Pn**	**14 46 21.2**	**+0.7**
WNVZ	**Wahianoa**	**1.61**	**14**	P	**Pn**	**14 46 21.9**	**+1.1**
TKNZ	**Takaka Hill**	**1.63**	**264**	P	**Pn**	**14 46 22.4**	**+1.6**
WHVZ	**Whangaehu Hut**	**1.66**	**13**	P	**Pn**	**14 46 22.7**	**+1.3**
FWVZ	**Far West T-bar**	**1.68**	**12**	P	**Pn**	**14 46 22.8**	**+1.1**
TUVZ	**Tukino**	**1.68**	**15**	P	**Pn**	**14 46 23.1**	**+1.4**
KAHZ	**Kahuranaki**	**1.75**	**52**	P	**Pn**	**14 46 23.2**	**+0.7**
SNVZ	**South Ngauruho**	**1.76**	**14**	P	**Pn**	**14 46 24.1**	**+1.3**
NGZ	**Ngauruhoe**	**1.76**	**13**	P	**Pn**	**14 46 24.3**	**+1.5**
OTVZ	**Oturere**	**1.78**	**14**	P	**Pn**	**14 46 24.3**	**+1.3**
KWHZ	**Kaweka Forest**	**1.79**	**35**	P	**Pn**	**14 46 23.3**	**+0.3**
VRZ	**Vera Road**	**1.79**	**351**	P	**Pn**	**14 46 24.5**	**+1.6**
KHEZ	**Kahui Hut**	**1.80**	**332**	P	**Pn**	**14 46 25.4**	**+2.1**
KHEZ	**Kahui Hut**	**1.80**	**332**	P	**Pn**	**14 46 25.3**	**+2.0**
NNVZ	**North Ngauruho**	**1.81**	**13**	P	**Pn**	**14 46 24.7**	**+1.4**
WTVZ	**West Tongariro**	**1.82**	**12**	P	**Pn**	**14 46 24.8**	**+1.3**
ETVZ	**East Tongariro**	**1.82**	**15**	P	**Pn**	**14 46 24.6**	**+1.1**
MRNZ	**Matariki Terra**	**1.84**	**253**	P	**Pn**	**14 46 25.3**	**+1.7**
TMVZ	**Te Maari**	**1.84**	**15**	P	**Pn**	**14 46 24.9**	**+1.1**
TWVZ	**Taurewa**	**1.84**	**8**	P	**Pn**	**14 46 24.7**	**+1.0**
KRVZ	**Karewarewa**	**1.85**	**13**	P	**Pn**	**14 46 25.2**	**+1.3**
NTVZ	**North Tongarir**	**1.85**	**14**	P	**Pn**	**14 46 25.1**	**+1.2**
THZ	**Tophouse**	**1.86**	**242**	P	**Pn**	**14 46 24.9**	**+0.9**
NBEZ	**Newall Road No**	**1.88**	**329**	P	**Pn**	**14 46 26.0**	**+1.8**
PKE	**Pukeiti**	**1.90**	**333**	P	**Pn**	**14 46 26.7**	**+2.1**
KHZ	**Kahutara**	**1.92**	**217**	P	**Pn**	**14 46 23.6**	**-1.0**
QRZ	**Quartz Range**	**1.95**	**271**	P	**Pn**	**14 46 25.7**	**+0.6**
QRZ	**Quartz Range**	**1.95**	**271**	P	**Pn**	**14 46 25.8**	**+0.7**
KATZ	**Kakaramea**	**1.97**	**14**	P	**Pn**	**14 46 26.8**	**+1.2**
RITZ	**Rihia Road**	**2.00**	**17**	P	**Pn**	**14 46 26.8**	**+0.9**
BKZ	**Black Stump Fm**	**2.03**	**32**	P	**Pn**	**14 46 26.4**	**+0.1**
BKZ	**Black Stump Fm**	**2.03**	**32**	P	**Pn**	**14 46 26.4**	**+0.1**
ARHZ	**Aropaoanui**	**2.19**	**42**	P	**Pn**	**14 46 28.4**	**+0.1**
NMHZ	**Naumai**	**2.22**	**37**	P	**Pn**	**14 46 29.1**	**+0.3**
WATZ	**Wairara**	**2.24**	**13**	P	**Pn**	**14 46 29.8**	**+0.8**
MRHZ	**Matea Rd**	**2.30**	**27**	P	**Pn**	**14 46 29.7**	**-0.1**
HIZ	**Hauiti**	**2.39**	**355**	P	**Pn**	**14 46 32.4**	**+1.5**
HIZ	**Hauiti**	**2.39**	**355**	P	**Pn**	**14 46 32.5**	**+1.5**
MTHZ	**Maungataniwha**	**2.44**	**34**	P	**Pn**	**14 46 31.8**	**+0.1**
ALRZ	**Allen Road**	**2.52**	**23**	P	**Pn**	**14 46 32.7**	**-0.1**
GVZ	**Greta Valley S**	**2.58**	**216**	P	**Pn**	**14 46 34.6**	**+1.0**
KNZ	**Kokohu**	**2.72**	**47**	P	**Pn**	**14 46 35.0**	**-0.5**
MUGZ	**Murupara**	**2.74**	**29**	P	**Pn**	**14 46 34.8**	**-0.9**
MHGZ	**Mahia Peninsul**	**2.77**	**52**	P	**Pn**	**14 46 36.0**	**-0.2**
LTZ	**Lake Taylor**	**2.83**	**227**	P	**Pn**	**14 46 37.7**	**+0.7**
URZ	**Urewera**	**3.06**	**31**	P	**Pn**	**14 46 39.1**	**-0.9**
MWZ	**Matawai**	**3.17**	**37**	P	**Pn**	**14 46 40.3**	**-1.3**
TOZ	**Tahuroa Road**	**3.18**	**6**	P	**Pn**	**14 46 42.4**	**+0.8**
OKOZ	**Okains Bay**	**3.21**	**207**	P	**Pn**	**14 46 42.6**	**+0.5**
INZ	**Inchbonnie**	**3.29**	**235**	P	**Pn**	**14 46 41.8**	**-1.2**
OXZ	**Oxford**	**3.33**	**222**	P	**Pn**	**14 46 43.3**	**-0.3**
MQZ	**McQueen's Vall**	**3.34**	**212**	P	**Pn**	**14 46 43.4**	**-0.4**
AKCZ	**Akaroa Harbour**	**3.39**	**208**	P	**Pn**	**14 46 44.9**	**+0.5**
TWGZ	**Tauwhareparae**	**3.51**	**40**	P	**Pn**	**14 46 45.7**	**-0.5**
RUGZ	**Raukumara Rang**	**3.54**	**35**	P	**Pn**	**14 46 45.6**	**-1.1**
RACZ	**Rakaia**	**3.58**	**217**	P	**Pn**	**14 46 46.6**	**-0.5**
PUZ	**Puketiti**	**3.73**	**42**	P	**Pn**	**14 46 47.5**	**-1.7**
HAZ	**Te Kaha**	**3.76**	**34**	P	**Pn**	**14 46 47.8**	**-1.7**
MKAZ	**Moumakai**	**3.79**	**1**	P	**Pn**	**14 46 50.8**	**+0.9**
PKGZ	**Pakihiroa**	**3.79**	**38**	P	**Pn**	**14 46 49.4**	**-0.6**
AWAZ	**Awhitu Peninsu**	**3.84**	**355**	P	**Pn**	**14 46 52.3**	**+1.6**
WACZ	**Wakanui South**	**3.88**	**217**	P	**Pn**	**14 46 50.6**	**-0.6**
ETAZ	**East Tamaki Re**	**3.94**	**358**	P	**Pn**	**14 46 53.4**	**+1.4**
WMGZ	**Waiomatatini S**	**4.00**	**41**	P	**Pn**	**14 46 51.4**	**-1.5**
RVAZ	**Riverhead Bore**	**4.14**	**354**	P	**Pn**	**14 46 56.3**	**+1.6**
ARCZ	**Arundel**	**4.21**	**222**	P	**Pn**	**14 46 55.5**	**-0.2**
TMZ	**Timaru**	**4.61**	**220**	P	**Pn**	**14 47 01.1**	**0.0**
ODZ	**Otahua Downs**	**5.28**	**217**	P	**Pn**	**14 47 10.8**	**+0.6**
ODZ	**Otahua Downs**	**5.28**	**217**	P	**Pn**	**14 47 09.5**	**-0.6**
EAZ	**Earnscleugh**	**6.06**	**222**	P	**Pn**	**14 47 21.4**	**+0.5**
CTZ	**Chatham Island**	**6.76**	**118**	P	**Pn**	**14 47 32.8**	**+2.3**
CTZ	**Chatham Island**	**6.76**	**118**	P	**Pn**	**14 47 32.7**	**+2.3**

*ROM **18** 14:48:11.8±0.1, 42˚601N±0˙004×13˚314E±0˙006, h11km, ML3.3/38, Error ellipse: s-maj=0.5km s-min=0.4km az=218.0*
*BEO **18** 14:48:13.0±0.8, 42˚57N×13˚25E, h0km, ML3.6/7*
*PRU **18** 14:48:15.8±0.0, 42˚68N×13˚32E, h10km*

ISC 18 14:48:12.8±0.8, 42˚61N±0˙02×13˚28E±0˙02, h9km±5km, n80, σ1s76/105, 15C-12D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.11**	**206**	P	**Pg**	**14 48 15.4**	**-0.1**
RM33				S	**Sg**	**14 48 18.0**	**+0.4**
RM33				AML	AML		
	comp=E,53850µm,0.3s						
RM33				AML	AML		
	comp=N,56250µm,0.3s						
RM33				AML	AML		
	comp=E,53350µm,0.3s						
RM33				AML	AML		
	comp=N,54400µm,0.3s						
RM33				AML	AML		
	comp=E,53388µm,0.3s						
RM33				AML	AML		
	comp=N,54409µm,0.3s						
RM33				AML	AML		
	comp=N,56215µm,0.3s						
RM33				AML	AML		
	comp=E,53887µm,0.3s						
CAMP	**Campotosto**	**0.12**	**127**	P	**Pg**	**14 48 14.8**	**-0.9**
CAMP				S	**Sg**	**14 48 16.8**	**-1.0**
CAMP				AML	AML		
	comp=E,34000µm,0.7s						
CAMP				AML	AML		
	comp=N,25350µm,0.5s						
CAMP				AML	AML		
	comp=E,30985µm,0.3s						
CAMP				AML	AML		
	comp=N,25377µm,0.5s						
T1218	**Civita (PG)**	**0.14**	**297**	P	**Pg**	**14 48 15.8**	**-0.2**
T1218				S	**Sg**	**14 48 18.7**	**+0.5**
T1218				AML	AML		
	comp=E,29550µm,0.2s						
T1218				AML	AML		
	comp=N,43200µm,0.7s						
T1218				AML	AML		
	comp=N,41350µm,0.7s						
T1218				AML	AML		
	comp=E,28600µm,0.2s						
T1218				AML	AML		
	comp=N,43250µm,0.7s						
T1218				AML	AML		
	comp=E,28600µm,0.2s						
T1218				AML	AML		
	comp=N,43250µm,1.3s						
T1218				AML	AML		
	comp=N,41350µm,1.3s						
T1218				AML	AML		
	comp=E,28604µm,0.2s						
T1218				AML	AML		
	comp=N,39320µm,0.3s						
T1218				AML	AML		
	comp=N,39141µm,0.2s						
T1218				AML	AML		
	comp=E,29549µm,0.2s						
T1247	**Pizzolo (AQ)**	**0.17**	**175**	P	**Pg**	**14 48 16.2**	**-0.3**
T1247				S	**Sg**	**14 48 19.4**	**+0.4**
T1247				AML	AML		
	comp=N,41750µm,0.5s						
T1247				AML	AML		
	comp=E,34400µm,1.1s						
T1247				AML	AML		
	comp=N,41750µm,1.5s						
T1247				AML	AML		
	comp=E,28578µm,0.3s						
T1247				AML	AML		
	comp=N,39828µm,0.2s						
LNSS	**Leonessa**	**0.18**	**268**	P	**Pg**	**14 48 16.7**	**+0.1**
LNSS				S	**Sg**	**14 48 20.3**	**+1.0**
LNSS				AML	AML		
	comp=E,25450µm,0.8s						
LNSS				AML	AML		
	comp=N,18400µm,1.1s						
LNSS				AML	AML		
	comp=E,25450µm,1.2s						
LNSS				AML	AML		
	comp=N,18228µm,0.1s						
LNSS				AML	AML		
	comp=E,21513µm,0.3s						
GIGS	**Gran Sasso**	**0.27**	**126**	P	**Pg**	**14 48 17.2**	**-1.0**
GIGS				S	**Sg**	**14 48 21.1**	**-0.7**
GIGS				AML	AML		
	comp=E,4320µm,0.5s						
GIGS				AML	AML		
	comp=N,2710µm,0.4s						
GIGS				AML	AML		
	comp=N,2434µm,0.4s						
GIGS				AML	AML		
	comp=E,3884µm,0.3s						
T1217	**Poggiodomo (PG**	**0.28**	**292**	P	**Pg**	**14 48 18.2**	**-0.2**
T1217				S	**Sg**	**14 48 23.1**	**+0.9**
T1217				AML	AML		
	comp=E,7610µm,1.1s						
T1217				AML	AML		
	comp=N,7770µm,0.8s						
T1217				AML	AML		
	comp=E,7155µm,0.5s						
T1217				AML	AML		
	comp=E,7155µm,0.5s						
T1217				AML	AML		
	comp=N,7545µm,0.8s						
T1217				AML	AML		
	comp=E,7610µm,1.2s						
T1217				AML	AML		
	comp=N,7770µm,0.8s						
T1217				AML	AML		
	comp=N,7545µm,0.8s						
T1217				AML	AML		
	comp=N,7770µm,1.2s						
T1217				AML	AML		
	comp=E,7610µm,0.8s						
T1217				AML	AML		
	comp=N,7545µm,1.2s						
T1217				AML	AML		
	comp=N,5771µm,0.3s						
T1217				AML	AML		
	comp=E,6880µm,0.2s						
T1217				AML	AML		
	comp=E,6758µm,0.2s						
T1217				AML	AML		
	comp=N,6661µm,0.3s						
FIAM	**Fiamignano**	**0.36**	**199**	⇑P	**Pg**	**14 48 19.6**	**-0.4**
FIAM				AML	AML		
	comp=N,3505µm,0.6s						
FIAM				AML	AML		
	comp=E,3315µm,1.2s						
FIAM				AML	AML		
	comp=N,3510µm,0.6s						
FIAM				AML	AML		
	comp=N,3510µm,1.4s						
FIAM				AML	AML		
	comp=E,2962µm,0.4s						
FIAM				AML	AML		
	comp=N,3507µm,0.6s						
ARRO	**Arrone**	**0.38**	**266**	⇓P	**Pg**	**14 48 20.3**	**0.0**
ARRO				AML	AML		
	comp=E,4010µm,0.6s						
ARRO				AML	AML		
	comp=N,3130µm,1.4s						
ARRO				AML	AML		
	comp=N,3130µm,0.6s						
ARRO				AML	AML		
	comp=N,3043µm,0.2s						
ARRO				AML	AML		
	comp=E,3429µm,0.3s						
FEMA	**Monte Fema**	**0.39**	**335**	P	**Pg**	**14 48 20.2**	**-0.3**
FEMA				S	**Sg**	**14 48 26.7**	**+0.9**
FEMA				AML	AML		
	comp=N,7630µm,1.1s						
FEMA				AML	AML		
	comp=N,7635µm,1.1s						
FEMA				AML	AML		
	comp=E,8520µm,1.2s						
FEMA				AML	AML		

FEMA AML AML
comp=E,8266µm,0.3s
comp=N,6728µm,0.2s
FAGN Fagnano 0.41 147 P Pg 14 48 20.3 -0.6
FAGN AML AML
comp=E,20650µm,0.5s
FAGN AML AML
comp=N,10015µm,0.4s
FAGN AML AML
comp=N,10027µm,0.4s
FAGN AML AML
comp=E,20638µm,0.5s
FDMO Fiordimonte 0.45 342 P Pg 14 48 21.1 -0.6
FDMO S Sg 14 48 28.4 +0.7
FDMO AML AML
comp=E,3270µm,0.2s
FDMO AML AML
comp=E,3275µm,0.2s
FDMO AML AML
comp=N,2695µm,0.4s
FDMO AML AML
comp=N,2698µm,0.4s
FDMO AML AML
comp=E,3273µm,0.2s
GUMA Gualdo di Mace 0.46 5 P Pg 14 48 21.3 -0.5
GUMA S Sg 14 48 28.7 +0.9
GUMA AML AML
comp=E,8540µm,0.5s
GUMA AML AML
comp=N,10155µm,0.6s
GUMA AML AML
comp=E,11000µm,0.4s
GUMA AML AML
comp=N,6880µm,1.2s
GUMA AML AML
comp=E,13550µm,0.4s
GUMA AML AML
comp=E,11850µm,0.5s
GUMA AML AML
comp=N,12900µm,0.5s
GUMA AML AML
comp=E,13511µm,0.4s
GUMA AML AML
comp=N,12896µm,0.5s
GUMA AML AML
comp=E,15192µm,0.5s
GUMA AML AML
comp=N,12919µm,0.5s
CESI CESI - Serrava 0.48 325 P Pg 14 48 21.8 -0.5
CESI S Sg 14 48 29.6 +1.0
CESI AML AML
comp=E,3725µm,0.5s
CESI AML AML
comp=N,6145µm,0.4s
CESI AML AML
comp=E,3725µm,1.5s
CESI AML AML
comp=N,6145µm,0.4s
CESI AML AML
comp=E,3595µm,0.4s
CSP1 Cessapalombo 0.49 354 P Pg 14 48 21.7 -0.7
CSP1 S Sg 14 48 29.4 +0.6
CSP1 AML AML
comp=E,3370µm,1.5s
CSP1 AML AML
comp=N,4545µm,0.4s
CSP1 AML AML
comp=N,4550µm,0.4s
CSP1 AML AML
comp=E,3630µm,0.5s
CSP1 AML AML
comp=N,4547µm,0.4s
CSP1 AML AML
comp=E,3600µm,0.4s
TRTR Tortoreto Alta 0.51 67 P Pg 14 48 22.8 +0.1
TRTR S Sb 14 48 32.0 +0.6
TRTR AML AML
comp=N,9110µm,0.4s
TRTR AML AML
comp=N,11030µm,0.4s
TRTR AML AML
comp=E,12950µm,0.4s
TRTR AML AML
comp=N,11044µm,0.4s
TRTR AML AML
comp=E,12940µm,0.4s
CESX Cesi 0.52 270 ⇑P Pg 14 48 22.4 -0.5
CESX S Sb 14 48 31.7 +0.1
CESX AML AML
comp=E,2715µm,0.4s
CESX AML AML
comp=N,3325µm,0.3s
CESX AML AML
comp=E,2716µm,0.4s
CESX AML AML
comp=N,3323µm,0.3s
T1220 Camerino, Fraz 0.52 344 P Pg 14 48 22.3 -0.7
T1220 S Sg 14 48 30.7 +0.9
T1220 AML AML
comp=E,12250µm,0.5s
T1220 AML AML
comp=N,13500µm,0.3s
T1220 AML AML
comp=E,12200µm,0.5s
T1220 AML AML
comp=N,13550µm,0.3s
T1220 AML AML
comp=N,13500µm,0.3s
T1220 AML AML
comp=E,12150µm,0.5s
T1220 AML AML
comp=N,13600µm,0.2s
T1220 AML AML
comp=N,13599µm,0.3s
T1220 AML AML
comp=E,12168µm,0.5s
T1220 AML AML
comp=N,13493µm,0.3s
T1220 AML AML
comp=E,12258µm,0.5s
T0110 Collepietro 0.53 136 ⇑P Pg 14 48 22.4 -0.8
T0110 AML AML
comp=E,5915µm,0.3s
T0110 AML AML
comp=N,5730µm,0.4s
T0110 AML AML
comp=E,5916µm,0.3s
T0110 AML AML
comp=N,5730µm,0.4s
MOMA Monte Martano 0.56 291 ⇑P Pg 14 48 23.5 -0.2
MOMA AML AML
comp=E,4195µm,0.3s
MOMA AML AML
comp=N,4425µm,0.2s
MOMA AML AML
comp=E,17202µm,6.1s
MOMA AML AML
MOMA AML AML
comp=N,4424µm,0.2s
MOMA AML AML
comp=E,4195µm,0.3s
PTQR Pietraquaria 0.59 171 ⇓P Pg 14 48 23.3 -1.1
PTQR AML AML
comp=E,1011µm,0.3s
PTQR AML AML
comp=N,837µm,0.4s
PTQR AML AML
comp=E,1009µm,0.3s
PTQR AML AML
comp=N,837µm,0.4s
ASSB Assisi San Ben 0.63 314 ⇑P Pg 14 48 24.5 -0.6
ASSB AML AML
comp=N,2710µm,1.0s
ASSB AML AML
comp=E,2530µm,0.4s
ASSB AML AML
comp=N,2640µm,0.5s
SRES S.Oreste - Sor 0.68 237 ⇑P Pg 14 48 25.7 -0.2
SRES S Sb 14 48 37.4 +1.1
SRES AML AML
comp=E,1185µm,0.6s
SRES AML AML
comp=N,1084µm,0.9s
SRES AML AML
comp=N,1084µm,1.1s
SRES AML AML
comp=E,1183µm,0.6s
SRES AML AML
comp=N,1077µm,0.3s
SNTG Esanatoglia 0.69 339 S Pg 14 48 25.4 -0.9
SNTG AML AML
comp=E,1021µm,0.6s
SNTG AML AML
comp=N,1270µm,0.6s
SNTG AML AML
comp=E,967µm,0.5s
SNTG AML AML
comp=N,1235µm,0.6s
SNTG AML AML
comp=E,1022µm,0.6s
SNTG AML AML
comp=N,1270µm,0.6s
SNTG AML AML
comp=E,1022µm,1.4s
SNTG AML AML
comp=N,993µm,0.3s
SNTG AML AML
comp=E,904µm,0.3s
SNTG AML AML
comp=N,975µm,0.4s
SNTG AML AML
comp=E,1017µm,0.3s
CERT Cerreto 0.69 199 ⇑P Pg 14 48 26.3 0.0
CERT AML AML
comp=N,1757µm,0.5s
MTCE Montecelio 0.71 214 ⇑P Pb 14 48 28.0 +0.7
MTCE AML AML
comp=E,2455µm,0.5s
MTCE AML AML
comp=N,1415µm,0.4s
MTCE AML AML
comp=E,2454µm,0.5s
MTCE AML AML
comp=N,1412µm,0.4s
EL6 Elcito 0.73 350 S Pb 14 48 26.1 -1.7
EL6 AML AML
comp=N,3355µm,0.3s
EL6 AML AML
comp=E,2365µm,1.3s
EL6 AML AML
comp=N,3585µm,0.5s
EL6 AML AML
comp=N,3585µm,1.5s
EL6 AML AML
comp=N,3585µm,0.5s
EL6 AML AML
comp=E,2354µm,0.3s
FOSV Fossato di Vic 0.78 331 ⇑P Pg 14 48 27.1 -0.8
FOSV AML AML
comp=E,962µm,1.3s
FOSV AML AML
comp=N,1245µm,0.9s
FOSV AML AML
comp=E,927µm,0.3s
FOSV AML AML
comp=N,1192µm,0.3s
PP3 Marolino 0.81 17 S Pg 14 48 28.4 0.0
PP3 AML AML
comp=N,3835µm,0.7s
PP3 AML AML
comp=E,6240µm,0.8s
PP3 AML AML
comp=N,3760µm,0.7s
PP3 AML AML
comp=E,6145µm,0.8s
LPEL Lama dei Pelig 0.87 130 ⇑P Pg 14 48 27.8 -1.9
LPEL AML AML
comp=N,1055µm,0.6s
LPEL AML AML
comp=E,1240µm,0.5s
LPEL AML AML
comp=E,1238µm,0.5s
LPEL AML AML
comp=N,941µm,0.5s
MGAB Montegabbione 0.91 290 ⇓P Pg 14 48 30.4 0.0
MGAB AML AML
comp=N,1985µm,1.2s
MGAB AML AML
comp=E,3075µm,0.5s
MGAB AML AML
comp=N,1985µm,0.3s
MGAB AML AML
comp=N,1985µm,0.8s
MGAB AML AML
comp=N,1985µm,1.7s
MGAB AML AML
comp=E,2795µm,0.5s
MGAB AML AML
comp=N,1988µm,0.3s
MGAB AML AML
comp=N,1958µm,0.4s
MGAB AML AML
comp=E,3072µm,0.5s
MGAB AML AML
comp=E,2797µm,0.5s
VIVA Pratoni del Vi 0.94 204 ⇓P Pn 14 48 33.5 +1.3
VIVA AML AML
comp=E,3395µm,0.6s
VIVA AML AML
comp=E,3395µm,1.4s
VIVA AML AML
comp=N,6215µm,0.4s
VIVA AML AML
comp=E,3396µm,0.6s
VIVA AML AML
comp=N,6216µm,0.4s
AOI Ancona 0.97 14 S Pg 14 48 31.0 -0.5
TOLF Tolfa 1.09 241 ⇑P Pg 14 48 32.5 -1.4
TOLF AML AML
comp=E,1054µm,1.0s
TOLF AML AML
comp=N,1100µm,0.7s
TOLF AML AML
comp=E,1054µm,1.0s
TOLF AML AML
comp=E,1054µm,1.0s
TOLF AML AML
comp=N,1102µm,0.7s
LATB Latina 1.14 192 ⇑P Pb 14 48 34.7 +0.1
LATB AML AML
comp=N,194µm,0.6s
LATB AML AML
comp=E,266µm,0.6s
LATB AML AML
comp=N,194µm,0.6s
LATB AML AML
comp=E,266µm,0.6s
CAFI Castiglion Fio 1.20 307 ⇓P Pb 14 48 35.7 -0.1
CAFI AML AML
comp=E,662µm,0.8s
CAFI AML AML
comp=N,594µm,0.9s
CAFI AML AML
comp=E,664µm,0.6s
CAFI AML AML
comp=N,575µm,0.9s
CAFI AML AML
comp=N,575µm,1.1s
CAFI AML AML
comp=N,594µm,1.1s
CAFI AML AML
comp=E,664µm,1.4s
CAFI AML AML
comp=N,575µm,0.9s
CAFI AML AML
comp=N,594µm,0.9s
CAFI AML AML
comp=E,659µm,0.6s
CAFI AML AML
comp=E,664µm,0.6s
MIDA Miranda 1.21 143 ⇑P Pb 14 48 34.0 -1.9
MIDA AML AML
comp=E,704µm,0.7s
MIDA AML AML
comp=N,504µm,1.5s
MIDA AML AML
comp=E,704µm,1.3s
MIDA AML AML
comp=N,504µm,0.5s
MIDA AML AML
comp=N,500µm,0.7s
MIDA AML AML
comp=E,704µm,0.7s
MIDA AML AML
comp=E,704µm,0.8s
MIDA AML AML
comp=N,508µm,0.8s
VAGA Valle Agricola 1.39 149 ⇑P Pg 14 48 40.7 +1.3
VAGA AML AML
comp=N,410µm,0.9s
VAGA AML AML
comp=E,262µm,1.4s
VAGA AML AML
comp=N,416µm,0.9s
VAGA AML AML
comp=N,416µm,1.1s
VAGA AML AML
comp=N,410µm,1.1s
VAGA AML AML
comp=E,268µm,1.4s
VAGA AML AML
comp=N,361µm,0.5s
VAGA AML AML
comp=E,233µm,0.5s
VAGA AML AML
comp=N,411µm,0.9s
VAGA AML AML
comp=E,231µm,0.9s
MAON Monte Argentar 1.60 264 P Pn 14 48 39.2 -2.0
MAON AML AML
comp=N,124µm,0.9s
MAON AML AML
comp=E,146µm,1.3s
RUFI Rufina 1.79 314 P Pn 14 48 43.5 -0.3
RUFI AML AML
comp=E,222µm,1.6s
RUFI AML AML
comp=N,263µm,0.4s
RUFI AML AML
comp=E,222µm,0.4s
RUFI AML AML
comp=N,263µm,0.4s
RUFI AML AML
comp=E,212µm,0.6s
APRC Apricena 1.89 116 ⇓P Pn 14 48 46.3 +1.1
MAIM Mastiano 2.42 304 ⇓P Pn 14 48 53.6 +1.1
MAIM AML AML
comp=E,125µm,1.6s
MAIM AML AML
comp=N,121µm,1.6s
MAIM AML AML
comp=E,125µm,0.4s
MAIM AML AML
comp=N,121µm,0.4s
MAIM AML AML
comp=E,109µm,0.4s
MAIM AML AML
comp=N,120µm,0.5s
CAVE Cavezzo 2.79 325 S Sn 14 49 30.0 -1.5
STON Ston 3.27 84 *e*Pn Pn 14 49 04.3 +0.2
STON *e*Sn Sn 14 49 44.3 +1.2
ROVR Rover Verones 3.43 333 ⇓P Pn 14 49 07.9 +1.4
DOSS Dosso del Somm 3.60 336 ⇓P Pn 14 49 10.5 +1.6
CTI Castel Tesino 3.63 342 ⇓P Pn 14 49 10.8 +1.5
CTI S Sn 14 49 53.6 +1.3
MPRI Monte Prat 3.64 357 S Sb 14 49 57.9 -3.6
STAL STALIGIAL 3.67 354 ⇓P Pn 14 49 11.4 +1.6
TREB Trebinje 3.74 87 *e*Pn Pn 14 49 12.0 +1.3
TREB *e*Sn Sn 14 49 56.8 +2.0
LUSI Trento, Gardas 3.75 334 ⇑P Pn 14 49 12.2 +1.4
OBKA Obir 4.00 13 *i* Pn Pn 14 49 16.6 +2.2
comp=N,1.0nm,0.2s
MYKA Terra Mystica 4.03 4 *i* Pn Pn 14 49 17.0 +2.3
comp=N,1.9nm,0.2s
ABTA Abfaltersbach 4.17 353 *i* Pn Pn 14 49 19.4 +2.7
comp=N,3.8nm,0.2s
SOKA Soboth 4.26 16 *e*Pn Pn 14 49 21.2 +3.3
comp=N,0.9nm,0.2s
KOGS Kog 4.39 28 P Pn 14 49 23.3 +3.8
PDG Podgorica 4.42 90 *e*Pn Pn 14 49 20.9 +0.9
PDG *e*Sn Sn 14 50 12.9 +1.4
RISI Rein 4.42 349 ⇓P Pn 14 49 21.5 +1.3
KBA Koelnbreinsper 4.47 1 *i* Pn Pn 14 49 23.4 +2.6
comp=N,3.0nm,0.3s
VARE Varese 4.59 317 S Sn 14 50 07.7 -8.4
BBLS Lazići 4.65 72 *e*Pn Pn 14 49 24.7 +1.5
BBLS *e*Sn Sn 14 50 18.5 +1.2
FETA Feichten 4.77 339 *e*Pn Pn 14 49 29.4 +4.4
comp=N,0.1nm,0.1s
WTTA Wattenberg 4.80 347 *i* Pn Pn 14 49 27.6 +2.3
comp=N,1.4nm,0.2s
WATA Walderalm 4.88 346 *i* Pn Pn 14 49 29.8 +3.3
comp=N,1.3nm,0.2s
ARSA Arzberg 4.91 18 *i* Pn Pn 14 49 28.0 +1.3
comp=N,1.6nm,0.3s
MOTA Moosalm 4.98 343 *e*Pn Pn 14 49 31.3 +3.5
comp=N,3.7nm,0.3s
BIOA Bad Ischl, Aus 5.09 3 *e*Pn Pn 14 49 32.4 +3.2
comp=N,2.1nm,0.2s
IVAS Ivanjica 5.12 77 *e*Pn Pn 14 49 30.6 +0.8
IVAS *e*Sn Sn 14 50 28.6 -0.4
DAVA Damuels 5.26 334 *e*Pn Pn 14 49 35.5 +3.8
comp=N,2.3nm,0.3s
MOA Molln 5.29 7 *i* Pn Pn 14 49 34.1 +2.2
comp=N,0.8nm,0.2s
TRUS Trudelj 5.44 70 *e*Pn Pn 14 49 35.8 +1.8
RONA Rosalia, Austr 5.52 22 *i* Pn Pn 14 49 37.2 +2.0
comp=N,0.7nm,0.1s
CONA Conrad Observa 5.62 18 *i* Pn Pn 14 49 38.3 +1.7
comp=N,0.6nm,0.2s
SELS Selova 5.79 81 *e*Pn Pn 14 49 40.4 +1.6
OHR Ohrid 5.81 102 *e*Pn Pn 14 49 40.8 +1.6
BARS Barje 6.29 85 *e*Pn Pn 14 49 46.4 +0.7
BARS *e*Sn Sn 14 50 56.7 -1.0
PRVS Prvonek 6.50 88 *e*Pn Pn 14 49 47.8 -0.8
PRVS *e*Sn Sn 14 51 02.1 -0.7
KHC Kasperske Hory 6.53 2 *e*PN Pn 14 49 49.9 +0.9
KHC *e*SN Sn 14 51 01.2 -2.3
ZAGS Zajecar 6.65 77 *e*Pn Pn 14 49 51.9 +1.2
ZAPS Zavoj 6.90 81 *e*Sn Sn 14 51 11.5 -1.1

*ROM **18** 14:52:26.7±0.1, 42.527N±0.003×13.268E±0.004, h13km, ML3.4/45, Error ellipse: s-maj=0.4km s-min=0.0km az=223.0*
*IDC **18** 14:52:28.1±2.0, 42.475N×13.42E, h0km, mb3.3/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=51.1km s-min=19.6km az=92.0*
*BEO **18** 14:52:29.3±0.6, 42.57N×13.32E, h7km, ML3.7/14*
*PRU **18** 14:52:31.6±0.0, 42.470N×13.39E, h10km*
ISC 18 14:52:28.1±0.8, 42.55N±0.02×13.29E±0.02, h10km±5km, n110, σ1§61/107, 19C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RM33	**Pellescritta (**	**0.07**	**232**	⇑P		**Pg**	**14 52 29.4**	**-0.9**
RM33				S		**Sg**	**14 52 31.2**	**-0.9**
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
CAMP	**Campotosto**	**0.09**	**99**	P		**Pg**	**14 52 30.1**	**-0.6**
CAMP				S		**Sg**	**14 52 32.2**	**-0.5**
CAMP				AML		AML		
CAMP				AML		AML		
CAMP				AML		AML		
CAMP				AML		AML		
T1247	**Pizzolo (AQ)**	**0.11**	**175**	⇑P		**Pg**	**14 52 30.1**	**-0.8**
T1247				S		**Sg**	**14 52 32.1**	**-0.8**
T1247				AML		AML		
T1247				AML		AML		
T1247				AML		AML		
T1247				AML		AML		
T1218	**Civita (PG)**	**0.17**	**314**	P		**Pg**	**14 52 31.1**	**-0.8**
T1218				S		**Sg**	**14 52 34.2**	**-0.4**
T1218				AML		AML		
T1218	comp=E,31300µm,0.4s			AML		AML		
T1218	comp=N,70350µm,0.3s			AML		AML		
T1218	comp=N,71000µm,0.3s			AML		AML		
T1218	comp=E,31350µm,0.4s			AML		AML		
	comp=E,34150µm,0.4s							

T1218 AML AML
comp=E,27590µm,0.3s
T1218 AML AML
comp=N,70988µm,0.3s
T1218 AML AML
comp=E,30687µm,0.4s
T1218 AML AML
comp=N,70376µm,0.3s
LNSS Leonessa 0.19 286 ⇑P **Pg 14 52 31.3 -0.8**
LNSS S **Sg 14 52 34.7 -0.3**
LNSS AML AML
comp=N,90100µm,0.9s
LNSS AML AML
comp=E,95600µm,0.4s
LNSS AML AML
comp=E,95695µm,0.4s
LNSS AML AML
comp=N,65973µm,0.1s
GIGS Gran Sasso 0.23 115 ⇑P **Pg 14 52 31.9 -1.0**
GIGS S **Sg 14 52 35.7 -0.5**
GIGS AML AML
comp=E,14900µm,0.5s
GIGS AML AML
comp=N,12250µm,0.4s
GIGS AML AML
comp=E,14900µm,1.5s
GIGS AML AML
comp=N,12250µm,1.6s
GIGS AML AML
comp=N,10198µm,0.1s
GIGS AML AML
comp=E,9809µm,0.2s
FIAM Fiamignano 0.31 204 ⇑P **Pg 14 52 33.0 -1.3**
FIAM S **Sg 14 52 37.7 -0.7**
FIAM AML AML
comp=N,17750µm,0.6s
FIAM AML AML
comp=E,31300µm,0.6s
FIAM AML AML
comp=E,29266µm,0.3s
FIAM AML AML
comp=N,14743µm,0.3s
T1217 Poggiodomo (PG 0.31 302 P **Pg 14 52 33.2 -1.0**
T1217 S **Sg 14 52 38.2 -0.2**
T1217 AML AML
comp=E,8735µm,0.5s
T1217 AML AML
comp=E,8100µm,0.6s
T1217 AML AML
comp=E,8735µm,0.4s
T1217 AML AML
comp=E,8100µm,0.5s
T1217 AML AML
comp=N,10900µm,0.6s
T1217 AML AML
comp=N,9985µm,0.6s
T1217 AML AML
comp=N,9873µm,0.2s
T1217 AML AML
comp=N,10234µm,0.2s
T1217 AML AML
comp=E,8194µm,0.3s
T1217 AML AML
comp=E,7956µm,0.4s
FAGN Fagnano 0.36 142 ⇑P **Pg 14 52 34.1 -1.1**
FAGN AML AML
comp=N,37800µm,1.4s
FAGN AML AML
comp=E,35900µm,0.5s
FAGN AML AML
comp=N,37800µm,0.6s
FAGN AML AML
comp=N,30923µm,0.3s
FAGN AML AML
comp=E,35939µm,0.5s
ARRO Arrone 0.39 275 ⇑P **Pg 14 52 34.5 -1.2**
ARRO AML AML
comp=N,8350µm,0.2s
ARRO AML AML
comp=E,6765µm,0.3s
ARRO AML AML
comp=N,8346µm,0.2s
ARRO AML AML
comp=E,6763µm,0.3s
FEMA Monte Fema 0.45 337 AML AML
comp=N,5225µm,1.5s
FEMA AML AML
comp=E,7505µm,0.8s
FEMA AML AML
comp=N,5225µm,0.5s
FEMA AML AML
comp=E,7505µm,1.2s
FEMA AML AML
comp=E,6356µm,0.4s
FEMA AML AML
comp=N,5225µm,0.5s
T0110 Collepietro 0.49 131 P **Pg 14 52 36.2 -1.4**
T0110 AML AML
comp=E,13250µm,0.4s
T0110 AML AML
comp=N,18400µm,0.3s
T0110 AML AML
comp=E,13261µm,0.4s
T0110 AML AML
comp=N,18371µm,0.3s
GUMA Gualdo di Mace 0.51 4 ⇑P **Pg 14 52 37.6 -0.5**
GUMA AML AML
comp=E,18550µm,0.4s
GUMA AML AML
comp=N,30400µm,0.6s
GUMA AML AML
comp=E,22850µm,0.3s
GUMA AML AML
comp=N,24100µm,0.6s
GUMA AML AML
comp=E,18550µm,1.6s
GUMA AML AML
comp=E,22821µm,0.3s
GUMA AML AML
comp=N,30404µm,0.6s
GUMA AML AML
comp=N,24066µm,0.6s
GUMA AML AML
comp=E,18545µm,0.3s
CESX Cesi 0.53 277 ⇑P **Pg 14 52 36.7 -1.6**
CESX AML AML
comp=E,3290µm,0.4s
CESX AML AML
comp=N,3325µm,0.5s
CESX AML AML
comp=N,3325µm,1.5s
CESX AML AML
comp=E,3290µm,1.6s
CESX AML AML
comp=N,3324µm,0.5s
CESX AML AML
comp=E,3291µm,0.4s
TRTR Tortoreto Alta 0.53 61 P **Pg 14 52 38.1 -0.3**
TRTR AML AML
comp=N,17450µm,0.5s
TRTR AML AML
comp=E,18000µm,0.5s
TRTR AML AML
comp=N,17450µm,1.5s
TRTR AML AML
comp=E,17968µm,0.5s
TRTR AML AML
comp=N,17433µm,0.5s
CESI CESI - Serrava 0.53 328 ⇑P **Pg 14 52 37.5 -1.0**
CESI AML AML
comp=N,4265µm,0.4s
CESI AML AML
comp=E,3010µm,1.0s
CESI AML AML
comp=E,2477µm,0.5s
CESI AML AML
comp=N,4266µm,0.4s
PTQR Pietraquaria 0.54 171 ⇑P **Pg 14 52 36.8 -1.7**
PTQR AML AML
comp=E,2565µm,0.7s
PTQR AML AML
comp=N,1970µm,0.5s
PTQR AML AML
comp=E,2565µm,1.3s
PTQR AML AML
comp=N,1970µm,1.5s
PTQR AML AML
comp=E,2566µm,0.7s
PTQR AML AML
comp=N,1966µm,0.5s
CSP1 Cessapalombo 0.55 354 ⇑P **Pg 14 52 37.7 -1.0**
CSP1 AML AML
comp=E,4380µm,1.5s
CSP1 AML AML
comp=N,5775µm,1.5s
CSP1 AML AML
comp=E,4380µm,0.5s
CSP1 AML AML
comp=N,5775µm,0.5s
CSP1 AML AML
comp=N,5722µm,0.4s
CSP1 AML AML
comp=E,3373µm,0.5s
T1220 Camerino, Fraz 0.58 346 ⇓P **Pg 14 52 38.0 -1.3**
T1220 AML AML
comp=E,14300µm,0.4s
T1220 AML AML
comp=N,16250µm,0.5s
T1220 AML AML
comp=E,14400µm,0.4s
T1220 AML AML
comp=N,16000µm,0.5s
T1220 AML AML
comp=E,14450µm,0.4s
T1220 AML AML
comp=N,15950µm,0.5s
T1220 AML AML
comp=E,14314µm,0.4s
T1220 AML AML
comp=E,14434µm,0.4s
T1220 AML AML
comp=N,16249µm,0.5s
T1220 AML AML
comp=N,15965µm,0.5s
MOMA Monte Martano 0.59 296 ⇑P **Pg 14 52 38.1 -1.3**
MOMA AML AML
comp=E,3995µm,1.1s
MOMA AML AML
comp=N,6650µm,0.3s
MOMA AML AML
comp=E,3995µm,1.0s
MOMA AML AML
comp=N,6650µm,0.3s
MOMA AML AML
comp=E,4235µm,1.1s
MOMA AML AML
comp=N,6710µm,0.3s
MOMA AML AML
comp=N,6710µm,1.7s
MOMA AML AML
comp=N,6650µm,1.7s
MOMA AML AML
comp=E,4235µm,0.9s
MOMA AML AML
comp=E,3995µm,1.0s
MOMA AML AML
comp=N,6713µm,0.3s
MOMA AML AML
comp=N,6650µm,0.3s
MOMA AML AML
comp=E,3652µm,0.2s
MOMA AML AML
comp=E,3378µm,0.2s
CERT Cerreto 0.64 201 ⇑P **Pg 14 52 38.5 -2.0**
CERT AML AML
comp=N,3020µm,0.8s
SRES S.Oreste - Sor 0.65 242 ⇑P **Pg 14 52 38.8 -1.9**
SRES AML AML
comp=E,2315µm,0.6s
SRES AML AML
comp=N,2275µm,1.1s
SRES AML AML
comp=E,2312µm,0.6s
SRES AML AML
comp=N,2224µm,0.5s
MTCE Montecelio 0.66 218 ⇑P **Pg 14 52 38.8 -2.1**
MTCE AML AML
comp=E,4095µm,1.2s
MTCE AML AML
comp=N,2765µm,0.8s
MTCE AML AML
comp=E,4095µm,0.8s
MTCE AML AML
comp=N,2537µm,0.5s
MTCE AML AML
comp=E,3890µm,0.5s
ASSB Assisi San Ben 0.68 317 ⇑P **Pg 14 52 39.6 -1.5**
ASSB AML AML
comp=E,3200µm,0.5s
ASSB AML AML
comp=N,2895µm,0.8s
ASSB AML AML
comp=N,2895µm,1.2s
ASSB AML AML
comp=E,3201µm,0.5s
ASSB AML AML
comp=N,2899µm,0.8s
GAG1 Gagliole 0.71 347 P **Pg 14 52 40.9 -0.9**
GAG1 AML AML
comp=E,6155µm,0.6s
GAG1 AML AML
comp=N,8200µm,1.5s
GAG1 AML AML
comp=E,6155µm,0.6s
GAG1 AML AML
comp=N,8200µm,1.5s
GAG1 AML AML
comp=E,6155µm,1.4s
GAG1 AML AML
comp=N,7491µm,0.7s
GAG1 AML AML
comp=E,6155µm,0.6s
VVLD Villa Vallelon 0.72 160 ⇑P **Pg 14 52 41.0 -1.0**
VVLD AML AML
comp=N,2700µm,0.6s
VVLD AML AML
comp=E,2335µm,0.6s
VVLD AML AML
comp=N,2699µm,0.6s
VVLD AML AML
comp=E,2336µm,0.6s
RCAV Rocca di Cave 0.75 200 AML AML
comp=E,6837µm,0.5s
RCAV AML AML
comp=N,7280µm,0.7s
RCAV AML AML
comp=E,6840µm,0.5s
RCAV AML AML
comp=N,7282µm,0.7s
SNTG Esanatoglia 0.75 340 P **Pg 14 52 41.4 -1.2**
SNTG AML AML
comp=E,1335µm,0.4s
SNTG AML AML
comp=N,1510µm,1.0s
SNTG AML AML
comp=E,1310µm,0.4s
SNTG AML AML
comp=E,1335µm,1.6s
SNTG AML AML
comp=N,1530µm,1.0s
SNTG AML AML
comp=E,1311µm,0.4s
SNTG AML AML
comp=E,1335µm,0.4s
SNTG AML AML
comp=N,1382µm,0.5s
SNTG AML AML
comp=N,1351µm,0.5s
GUAR Guarcino 0.76 178 ⇓P **Pg 14 52 42.3 -0.4**
GUAR AML AML
comp=E,2735µm,0.5s
GUAR AML AML
comp=N,2735µm,1.0s
GUAR AML AML
comp=N,2735µm,1.0s
GUAR AML AML
comp=E,2735µm,1.5s
GUAR AML AML
comp=N,2519µm,0.5s
GUAR AML AML
comp=E,2737µm,0.5s
EL6 Elcito 0.79 350 P **Pg 14 52 42.1 -1.2**
EL6 AML AML
comp=E,3590µm,0.6s
EL6 AML AML
comp=N,5125µm,0.7s
EL6 AML AML
comp=E,3591µm,0.6s
EL6 AML AML
comp=N,4850µm,0.4s
CING Cingoli 0.83 355 P **Pg 14 52 42.9 -1.2**
LPEL Lama dei Pelig 0.83 127 ⇑P **Pg 14 52 42.4 -1.7**
LPEL S **Sg 14 52 54.0 -1.1**
LPEL AML AML
comp=E,5975µm,0.3s
LPEL AML AML
comp=N,4715µm,1.2s
LPEL AML AML
comp=N,4715µm,0.8s
LPEL AML AML
comp=E,5975µm,1.7s
LPEL AML AML
comp=N,4105µm,0.3s
LPEL AML AML
comp=E,5974µm,0.3s
FOSV Fossato di Vic 0.84 333 P **Pg 14 52 39.9 -4.4**
PP3 Marolino 0.86 16 AML AML
comp=N,5325µm,0.8s
PP3 AML AML
comp=E,8565µm,0.5s
PP3 AML AML
comp=E,8665µm,0.5s
PP3 AML AML
comp=N,5500µm,0.5s
PP3 AML AML
comp=N,5500µm,1.5s
PP3 AML AML
comp=E,8565µm,1.5s
PP3 AML AML
comp=E,8665µm,1.5s
PP3 AML AML
comp=N,5325µm,1.2s
VIVA Pratoni del Vi 0.89 206 AML AML
comp=N,9745µm,0.5s
VIVA AML AML
comp=E,7885µm,0.8s
VIVA AML AML
comp=E,7885µm,1.2s
SAMA S.Maria delle 0.93 214 AML AML
comp=N,3415µm,1.4s
SAMA AML AML
comp=E,2790µm,0.8s
SAMA AML AML
comp=N,3415µm,0.6s
MGAB Montegabbione 0.94 293 AML AML
comp=E,2905µm,0.4s
MGAB AML AML
comp=N,3490µm,0.4s
MGAB AML AML
comp=E,2775µm,0.4s
MGAB AML AML
comp=N,3830µm,0.5s
MGAB AML AML
comp=E,2775µm,0.4s
MGAB AML AML
comp=E,2902µm,0.4s
MGAB AML AML
comp=N,3830µm,0.5s
MGAB AML AML
comp=N,3492µm,0.4s
ARVD Arcevia 0.98 345 AML AML
comp=N,1350µm,0.8s
ARVD AML AML
comp=E,1507µm,1.3s
GIUL Giuliano Di Ro 0.99 181 AML AML
comp=E,1799µm,0.7s
GIUL AML AML
comp=N,1375µm,0.9s
GIUL AML AML
comp=E,1800µm,0.7s
GIUL AML AML
comp=N,1379µm,0.9s
AOI Ancona 1.03 13 AML AML
comp=E,1965µm,1.6s
AOI AML AML
comp=N,1755µm,0.5s
AOI AML AML
comp=E,1965µm,0.4s
AOI AML AML
comp=N,1755µm,1.5s
SACS San Casciano d 1.06 287 AML AML
comp=N,1283µm,0.9s
SACS AML AML
comp=E,904µm,1.1s
SACS AML AML
comp=N,1320µm,1.2s
SACS AML AML
comp=N,1330µm,1.2s
SACS AML AML
comp=N,1320µm,0.8s
SACS AML AML
comp=E,904µm,0.9s
SACS AML AML
comp=E,920µm,0.8s
SACS AML AML
comp=N,1330µm,0.8s
SACS AML AML
comp=N,1248µm,0.8s
SACS AML AML
comp=E,880µm,0.8s
SACS AML AML
comp=E,921µm,0.8s
TOLF Tolfa 1.07 243 AML AML
comp=E,1538µm,0.6s
TOLF AML AML
comp=E,1540µm,0.6s
TOLF AML AML
comp=N,1310µm,0.7s
TOLF AML AML
comp=E,1540µm,1.4s
TOLF AML AML
comp=N,1311µm,0.7s
LATB Latina 1.08 193 AML AML
comp=N,415µm,0.5s
LATB AML AML
comp=N,415µm,0.5s
LATB AML AML
comp=E,422µm,0.6s
LATB AML AML
comp=E,422µm,0.6s
CERA Filignano 1.10 150 AML AML
comp=N,1630µm,1.5s
CERA AML AML
comp=E,2370µm,0.6s
CERA AML AML
comp=E,2395µm,0.6s
CERA AML AML
comp=N,1670µm,1.5s
CERA AML AML
comp=E,2396µm,0.6s
CERA AML AML
comp=E,2372µm,0.6s
CERA AML AML
comp=N,1539µm,1.0s
CERA AML AML
comp=N,1518µm,1.0s
MPAG Monte Paganucc 1.15 341 AML AML
comp=N,1130µm,0.9s
MPAG AML AML
comp=E,1295µm,0.8s
MIDA Miranda 1.16 141 AML AML
comp=N,1170µm,0.5s
MIDA AML AML
comp=N,1275µm,0.5s
MIDA AML AML
comp=N,1170µm,1.5s
MIDA AML AML
comp=N,1275µm,1.5s
MIDA AML AML
comp=E,1425µm,0.5s
MIDA AML AML
comp=E,1410µm,0.5s
MIDA AML AML
comp=E,1429µm,0.5s
MIDA AML AML
comp=E,1411µm,0.5s
MIDA AML AML
comp=N,1173µm,0.5s
MIDA AML AML
comp=N,1273µm,0.5s
MCIV Monte Civitell 1.21 281 AML AML
comp=E,624µm,0.4s
MCIV AML AML
comp=N,485µm,1.0s

TRIV Trivento 1.22 129 AML AML
comp=E,1821µm,0.9s
TRIV AML AML
TRIV AML AML
comp=E,1820µm,0.9s
TRIV AML AML
comp=N,1745µm,1.3s
TRIV AML AML
comp=N,1745µm,0.7s
TRIV AML AML
TRIV AML AML
comp=E,1820µm,1.1s
TRIV AML AML
comp=N,1384µm,0.8s
SF04 Casetta 1.23 284 AML AML
comp=E,801µm,0.8s
SF04 AML AML
comp=E,801µm,1.2s
SF04 AML AML
comp=N,718µm,0.8s
VAGA Valle Agricola 1.34 148 AML AML
comp=E,646µm,0.8s
VAGA AML AML
comp=N,845µm,0.7s
VAGA AML AML
comp=E,670µm,0.8s
VAGA AML AML
comp=N,876µm,0.7s
VAGA AML AML
comp=N,845µm,0.7s
VAGA AML AML
comp=N,876µm,0.7s
VAGA AML AML
comp=E,646µm,0.8s
VAGA AML AML
comp=E,669µm,0.8s
SGG Gregorio Mates 1.42 145 AML AML
comp=N,601µm,0.6s
SGG AML AML
comp=N,601µm,0.6s
SGG AML AML
comp=E,3.5nm,0.7s
SGG AML AML
comp=E,1205µm,0.7s
SGG AML AML
comp=N,2.0nm,0.6s
SGG AML AML
comp=E,1201µm,0.7s
SGG AML AML
comp=E,3.7nm,0.7s
SGG AML AML
comp=N,2.3nm,0.6s
MODR Mondragone 1.47 162 AML AML
comp=E,512µm,0.9s
MODR AML AML
comp=N,357µm,0.8s
MELA Melanico ??? S 1.61 121 AML AML
comp=E,1775µm,0.9s
MELA AML AML
comp=E,1815µm,0.8s
MELA AML AML
comp=N,2690µm,0.5s
MELA AML AML
comp=E,1775µm,1.1s
MELA AML AML
comp=N,2645µm,0.6s
MELA AML AML
comp=N,2649µm,0.6s
MELA AML AML
comp=E,1812µm,0.8s
MELA AML AML
comp=E,1776µm,0.9s
TRIF Trifonti 1.84 289 AML AML
comp=E,176µm,0.3s
TRIF AML AML
comp=N,164µm,1.0s
TRIF AML AML
comp=N,164µm,1.0s
APRC Apricena 1.86 115 AML AML
comp=E,874µm,1.1s
APRC AML AML
comp=E,874µm,0.9s
APRC AML AML
comp=N,1235µm,1.5s
APRC AML AML
comp=N,1235µm,0.5s
AMUR Altamura 2.98 122 AML AML
comp=N,266µm,1.5s
AMUR AML AML
comp=E,311µm,0.7s
AMUR AML AML
comp=N,266µm,0.5s
AMUR AML AML
comp=E,311µm,1.3s
STON Ston 3.27 83 *e*Pn **Pn** **14 53 19.1 -0.2**
STON *e*Sn **Sn** **14 53 57.1 -1.1**
BOJS Bojanci 3.28 25 AML AML
comp=E,438µm,1.0s
BOJS AML AML
comp=N,320µm,1.5s
BOJS AML AML
comp=N,320µm,0.5s
CTI Castel Tesino 3.69 342 AML AML
comp=N,136µm,1.6s
CTI AML AML
comp=E,113µm,0.9s
CTI AML AML
comp=N,136µm,0.4s
CTI AML AML
comp=E,113µm,1.1s
TREB Trebinje 3.74 86 *e*Pn **Pn** **14 53 26.1 +0.3**
TREB *e*Sn **Sn** **14 54 09.3 -0.6**
OBKA Obir 4.06 12 *e*Pn **Pn** **14 53 30.5 +0.2**
comp=E,4.2nm,0.6s
MYKA Terra Mystica 4.09 3 *i* Pn **Pn** **14 53 30.9 +0.2**
comp=E,2.5nm,0.4s
ABTA Abfaltersbach 4.23 353 *i* Pn **Pn** **14 53 33.3 +0.6**
comp=E,3.2nm,0.2s
SOKA Soboth 4.31 16 *i* Pn **Pn** **14 53 36.1 +2.4**
comp=E,3.3nm,0.2s
PDG Podgorica 4.42 90 *e*Pn **Pn** **14 53 36.0 +0.9**
PDG *e*Sn **Sn** **14 54 27.1 +0.6**
KBA Koelnbreinsper 4.53 1 *i* Pn **Pn** **14 53 37.6 +0.8**
comp=E,6.5nm,0.3s
BBLS Lazići 4.66 72 *e*Pn **Pn** **14 53 39.3 +0.8**
FETA Feichten 4.83 339 *i* Pn Pn 14 53 46.2 +5.3
comp=E,2.1nm,0.3s
WTTA Wattenberg 4.86 347 *e*Pn **Pn** **14 53 43.5 +2.2**
comp=E,0.3nm,0.1s
SQTA Sankt Quirin 4.90 343 *i* Pn **Pn** **14 53 43.7 +1.9**
comp=E,2.0nm,0.2s
WATA Walderalm 4.94 346 *e*Pn **Pn** **14 53 45.0 +2.6**
comp=E,2.0nm,0.2s
ARSA Arzberg 4.96 18 *i* Pn **Pn** **14 53 42.0 -0.6**
comp=E,1.6nm,0.2s
SJES Sjenica 4.96 80 *e*Pn **Pn** **14 53 43.9 +1.2**
SJES *e*Sn **Sn** **14 54 39.8 -0.4**
MOTA Moosalm 5.04 343 *i* Pn **Pn** **14 53 47.2 +3.4**
comp=E,0.8nm,0.1s
TIR Tirane 5.05 102 *e*Pn **Pn** **14 53 44.8 +1.0**
TIR *e*Sn **Sn** **14 54 40.0 -2.2**
DIVS Divibare 5.13 70 *e*Pn **Pn** **14 53 45.0 0.0**
IVAS Ivanjica 5.13 76 *e*Pn **Pn** **14 53 45.4 +0.4**
IVAS *e*Sn **Sn** **14 54 42.0 -2.3**
BIOA Bad Ischl, Aus 5.15 3 *e*Pn **Pn** **14 53 46.7 +1.5**
comp=E,0.9nm,0.2s
RETA Reutte 5.25 341 *e*Pn **Pn** **14 53 46.0 -0.6**
comp=E,1.6nm,0.2s
DAVA Damuels 5.32 334 *i* Pn **Pn** **14 53 51.6 +4.0**
comp=E,2.4nm,0.3s
MOA Molln 5.34 7 *i* Pn **Pn** **14 53 48.7 +0.9**
comp=E,2.0nm,0.5s
MOA Molln 5.34 7 *e*Pn **Pn** **14 53 48.5 +0.6**
MOA *e*Sn **Sn** **14 54 48.6 -0.8**
FRGS Fruska Gora 5.39 59 *e*Pn **Pn** **14 53 48.8 +0.3**
TRUS Trudelj 5.45 70 *e*Pn **Pn** **14 53 49.2 -0.1**
RONA Rosalia, Austr 5.57 21 *i* Pn **Pn** **14 53 50.7 -0.3**
comp=E,0.9nm,0.2s
GRUS Gruza 5.59 74 *e*Pn **Pn** **14 53 51.5 +0.3**
GRUS *e*Sn **Sn** **14 54 55.6 +0.1**
CONA Conrad Observa 5.68 18 *i* Pn **Pn** **14 53 52.0 -0.5**
comp=E,1.3nm,0.3s
OHR Ohrid 5.79 102 *e*Pn **Pn** **14 53 55.9 +1.8**
OHR *e*Sn **Sn** **14 54 59.0 -1.6**
OHR Ohrid 5.79 102 *i* Pn **Pn** **14 53 55.9 +1.8**
SELS Selova 5.79 81 *e*Pn **Pn** **14 53 54.0 -0.1**
SKO Skopje 6.08 93 *e*Pn **Pn** **14 53 59.2 +1.3**

BARS Barje 6.29 85 *e*Pn **Pn** **14 54 01.5 +0.6**
BARS *e*Sn **Sn** **14 55 10.9 -1.9**
GERES GERESS Array B 6.30 3 Pn **Pn** **14 53 59.5 -1.6**
comp=E,0.4nm,0.3s,baz=181,slow=17,SNR=5.5
GERES Sn **Sn** **14 55 09.4 -3.7**
comp=E,1.9nm,0.3s,baz=176,slow=25,SNR=10
comp=E,0.5nm,0.3s
FNA Florina 6.31 104 *e*Pn **Pn** **14 54 03.6 +2.4**
FNA *e*Sn **Sn** **14 55 10.0 -3.3**
CKRC Cesky Krumlov 6.31 6 *e*SN **Sn** **14 55 10.0 -3.2**
PRVS Prvonek 6.50 87 *e*Pn **Pn** **14 54 04.1 +0.4**
PRVS *e*Sn **Sn** **14 55 16.8 -1.0**
KHC Kasperske Hory 6.58 2 *e*PN **Pn** **14 54 04.7 -0.2**
KHC *e*SN **Sn** **14 55 15.9 -4.1**
ZAGS Zajecar 6.66 76 *e*Pn **Pn** **14 54 05.7 -0.2**
STIP Stip 6.67 94 *i* Pn **Pn** **14 54 08.3 +2.2**
BZS Buzias 6.74 60 *e*Pn **Pn** **14 54 06.9 0.0**
ZAPS Zavoj 6.90 81 *e*Sn **Sn** **14 55 26.3 -1.5**
VAY Valandovo 7.03 97 *e*Pn **Pn** **14 54 12.4 +1.4**
VAY *e*Sn **Sn** **14 55 27.6 -3.4**
VYHS Vyhne 7.11 31 *e*PN **Pn** **14 54 12.2 +0.2**
VYHS *e* 15 13 34.0
VTS Vitosha 7.34 86 *e*Pn **Pn** **14 54 16.0 +0.6**
VTS Vitosha 7.34 86 *e*Pn **Pn** **14 54 16.0 +0.6**
VTS *e*Sn **Sn** **14 55 36.4 -2.5**
VTS *e*Sn **Sn** **14 55 36.4 -2.5**
KEST Kesra 7.46 205 Pn **Pn** **14 54 20.7 +3.7**
comp=E,0.9nm,0.3s,baz=2.2,slow=3.2,SNR=5.9
comp=E,5.6nm,0.6s
CLL Collm 8.76 359 *e*Sn Sn 14 55 59.0 -14
CLL *ex* x 14 56 30.0
CLL *e*Sg **Sg** **14 57 10.0 +0.9**
CLL Collm 8.76 359 *e* Sn 14 55 59.0 -14
FINES FINESS Array B 20.42 18 P **P** **14 57 05.8 +0.7**
comp=E,2.2nm,0.8s,baz=183,slow=12,SNR=1.2
comp=E,2.2nm,0.8s
MKAR Makanchi Array 47.82 60 P **P** **15 01 06.0 +0.4**
comp=E,0.1nm,0.4s,baz=287,slow=5.9,SNR=2.1
comp=E,0.1nm,0.4s

*NEIC **18** 14:52:56.8±1.2,57.5°S±0.1°×26.0°W±0.2,h57km±7km, mb5.0/49, Error ellipse: s-maj=17.9km s-min=14.9km az=76.0*
*IDC **18** 14:52:57.4±2.5,57.46°S×25.95°W,h64km±21km,mb4.5/16, mbtmp4.8/18,MS3.6/14, Error ellipse: s-maj=16.1km s-min=13.2km az=54.0*
ISC 18 14:52:55.9±0.3,57.51°S±0.06°×25.98°W±0.08,h50km,n278, σ0=0.78/280,mb4.9/34,MS3.6/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.19**	**157**	P		**Pn**	**14 56 27.4**	**+0.6**
VNA3	**Neumayer Olymp**	**15.39**	**160**	P		**Pn**	**14 56 29.4**	**0.0**
VNA3				S		Sn	14 59 05.6	-13
VNA2	**Neumayer--Watz**	**15.58**	**157**	P		**Pn**	**14 56 31.7**	**-0.2**
	baz=321,slow=13							
SNAA	**Sanae**	**17.13**	**155**	P		**Pn**	**14 56 52.3**	**+0.8**
	5.2nm,0.4s,baz=320,slow=15,SNR=27							
SNAA				S		Sn	14 59 48.6	-12
	0.9nm,0.6s,baz=284,slow=19,SNR=1.7							
SNAA				LR		LR	15 01 41.8	
	comp=Z,246nm,21.1s,baz=329,slow=30							
TROLL	**Troll, Antarti**	**18.64**	**152**	P		**P**	**14 57 09.5**	**+0.3**
PMSA	**Palmer Station**	**19.49**	**232**	P		**Pn**	**14 57 19.9**	**0.0**
	21nm,0.7s,baz=71,slow=7.9,SNR=13							
PMSA				LR		LR	15 03 43.4	
	comp=Z,210nm,20.7s,baz=74,slow=33							
PMSA	**Palmer Station**	**19.49**	**232**	P		**P**	**14 57 18.2**	**-0.1**
PMSA	**Palmer Station**	**19.49**	**232**	*e*P		**P**	**14 57 12.7**	**-5.6**
BELA	**Belgrano 2**	**20.67**	**185**	P		**P**	**14 57 30.8**	**-0.3**
BELA					IAmb	IAmb	14 57 35.6	
	comp=Z,32nm,0.4s							
SMAI	**San Martin Ant**	**21.12**	**223**	P		**P**	**14 57 37.6**	**+1.7**
USHA	**Ushuaia**	**23.50**	**258**	P		**P**	**14 58 01.7**	**+0.8**
	comp=Z,10.0nm,0.4s,baz=62,slow=0.3,SNR=1.4							
	comp=Z,10.0nm,0.4s							
MG02	**Cerro Sombrero**	**24.83**	**262**	P		**P**	**14 58 12.5**	**-0.6**
GO08	**Villa O'Higgin**	**28.93**	**268**	P		**P**	**14 58 50.7**	**+0.8**
GO08					IAmb	IAmb	14 59 52.9	
	comp=Z,80nm,1.7s							
TRQA	**Tornquist**	**30.52**	**294**	P		**P**	**14 59 03.9**	**-0.2**
TRQA					IAmb	IAmb	14 59 43.6	
	comp=Z,39nm,1.9s							
TRQA	**Tornquist**	**30.52**	**294**	*e*P		**P**	**14 59 05.1**	**+1.0**
PLTB	**Pedras Altas**	**31.97**	**312**	P		**P**	**14 59 17.3**	**+0.3**
PLTB	**Pedras Altas**	**31.97**	**312**	*e*P		**P**	**14 59 17.7**	**+0.8**
QSPA	**South Pole Qui**	**32.73**	**180**	P		**P**	**14 59 24.7**	**+1.2**
	comp=Z,19nm,0.6s,baz=213,slow=1.8,SNR=157							
QSPA				LR		LR	15 12 12.8	
	comp=Z,117nm,19.5s,baz=210,slow=35							
	comp=Z,19nm,0.6s							
PLCA	**Paso Flores**	**32.92**	**281**	P		**P**	**14 59 24.9**	**-0.4**
	comp=Z,4.8nm,0.8s,baz=139,slow=8.6,SNR=12							
PLCA				LR		LR	15 12 50.8	
	comp=Z,60nm,18.0s,baz=129,slow=36							
	comp=Z,4.8nm,0.8s							
PLCA	**Paso Flores**	**32.92**	**281**	P		**P**	**14 59 25.3**	**0.0**
PLCA	**Paso Flores**	**32.92**	**281**	*e*P		**P**	**14 59 25.5**	**+0.1**
PLCA	**Paso Flores**	**32.92**	**281**	P		**P**	**14 59 25.1**	**-0.3**
PLCA				pP		**pP**	**14 59 36.7**	**-1.0**
PLCA				sP		**sP**	**14 59 42.8**	**-0.6**
LL04	**Puerto Octay**	**33.78**	**279**	P		**P**	**14 59 32.0**	**-0.8**
ITQB	**Itaqui**	**35.04**	**309**	P		**P**	**14 59 43.4**	**-0.2**
ITQB					IAmb	IAmb	14 59 44.9	
	comp=Z,21nm,1.0s							
ITQB	**Itaqui**	**35.04**	**309**	*e*P		**P**	**14 59 44.0**	**+0.4**
ITAB	**Concordia**	**35.45**	**317**	P		**P**	**14 59 48.0**	**+0.7**
CRSM	**Crissiumal (Br**	**35.94**	**315**	*e*P		**P**	**14 59 51.7**	**+0.3**
AZCA	**Azaras, Argent**	**36.18**	**312**	*e*P		**P**	**14 59 53.9**	**+0.5**
DUB01	**Friburgo-RJ**	**37.36**	**334**	*e*P		**P**	**15 00 05.4**	**+1.9**
CPUP	**Villa Florida**	**38.28**	**311**	P		**P**	**15 00 11.0**	**-0.2**
	comp=Z,5.7nm,0.7s,baz=142,slow=7.6,SNR=12							
CPUP				LR		LR	15 13 45.3	
	comp=Z,30nm,21.3s,baz=187,slow=33							
	comp=Z,5.7nm,0.7s							
CPUP	**Villa Florida**	**38.28**	**311**	P		**P**	**15 00 11.0**	**-0.2**
CPUP	**Villa Florida**	**38.28**	**311**	P		**P**	**15 00 11.0**	**-0.2**
MT09	**Talagante**	**38.40**	**288**	P		**P**	**15 00 12.3**	**0.0**
MT09					IAmb	IAmb	15 00 13.9	
	comp=Z,28nm,1.1s							
ALF01	**Guarapari-ES**	**38.41**	**337**	*e*P		**P**	**15 00 14.4**	**+2.0**
MT01	**Popeta**	**38.47**	**288**	P		**P**	**15 00 13.9**	**+1.1**
MT01					IAmb	IAmb	15 00 44.1	
	comp=Z,21nm,1.1s							
MAW	**Mawson**	**38.58**	**142**	LR		LR	15 15 22.8	
	comp=Z,83nm,19.0s,baz=261,slow=35							
CFA	**Coronel Fontan**	**38.75**	**294**	P		**P**	**15 00 13.5**	**-1.8**
	comp=Z,3.7nm,0.5s,baz=185,slow=8.5,SNR=7.1							
CFA				LR		LR	15 15 02.2	
	comp=Z,73nm,21.9s,baz=100,slow=34							
	comp=Z,3.7nm,0.5s							
SJMB	**Sao Joao De Ma**	**40.36**	**337**	*e*P		**P**	**15 00 30.0**	**+1.4**
SUR	**Sutherland**	**40.42**	**72**	LR		LR	15 13 29.0	
	comp=Z,210nm,19.2s,baz=176,slow=30							
AMBA	**Amambai (Brazi**	**40.43**	**316**	*e*P		**P**	**15 00 28.8**	**-0.4**
CO02	**Combarbal**	**40.46**	**291**	P		**P**	**15 00 28.7**	**-0.8**
CO01	**Juntas del Tor**	**41.00**	**293**	P		**P**	**15 00 34.3**	**+0.2**
CO01					IAmb	IAmb	15 00 38.5	
	comp=Z,28nm,1.8s							
GO04	**Tololo Observa**	**41.19**	**292**	P		**P**	**15 00 35.0**	**-0.7**
GO04					IAmb	IAmb	15 01 31.3	
	comp=Z,26nm,1.3s							
DIAM	**Diamantina, MG**	**41.31**	**334**	*e*P		**P**	**15 00 38.0**	**+1.4**
GUA01	**Guaratinga, BA**	**42.16**	**340**	*e*P		**P**	**15 00 44.7**	**+1.3**
IPMB	**Ipameri, GO**	**42.79**	**328**	*e*P		**P**	**15 00 50.0**	**+1.4**
AQDB	**Aquidauana**	**42.93**	**317**	P		**P**	**15 00 49.0**	**-0.6**
AQDB					IAmb	IAmb	15 00 53.3	
	comp=Z,9.3nm,0.5s							
AQDB	**Aquidauana**	**42.93**	**317**	*e*P		**P**	**15 00 49.3**	**-0.3**
AC02	**Maricunga**	**43.13**	**297**	P		**P**	**15 00 51.4**	**-0.4**
BDQN	**Bodoquena, MS**	**43.34**	**316**	*e*P		**P**	**15 00 52.3**	**-0.6**
C2SB	**Chapadao do Su**	**43.49**	**322**	*e*P		**P**	**15 00 55.5**	**+1.3**
RVDE	**Rio Verde (Bra**	**43.98**	**319**	*e*P		**P**	**15 00 58.6**	**+0.5**
JANB	**Januaria**	**44.58**	**334**	*e*P		**P**	**15 01 04.1**	**+1.2**
SBA	**Scott Base**	**44.66**	**184**	P		**P**	**15 01 04.7**	**+1.7**
SBA				pP		**pP**	**15 01 16.3**	**+0.9**
BDFB	**Brasilia**	**44.96**	**329**	P		**P**	**15 01 07.2**	**+1.1**
	comp=Z,9.2nm,0.6s,baz=165,slow=4.4,SNR=16							
	comp=Z,9.2nm,0.6s							
BDFB	**Brasilia**	**44.96**	**329**	P		**P**	**15 01 07.1**	**+1.1**
BDFB					IAmb	IAmb	15 01 08.4	
	comp=Z,11nm,0.7s							

BDFB Brasilia 44.96 329 *e*P **P** **15 01 06.8 +0.8**
VNDA Vanda 45.14 182 P **P** **15 01 08.2 +1.5**
comp=Z,9.0nm,0.5s,baz=185,slow=7.0,SNR=84
comp=Z,9.0nm,0.5s
VNDA Vanda 45.14 182 P **P** **15 01 07.3 +0.6**
VNDA IAmb IAmb 15 01 09.0
comp=Z,31nm,1.4s
VNDA Vanda 45.14 182 P **P** **15 01 08.2 +1.5**
VNDA pP **pP** **15 01 20.1 +0.9**
VNDA sP **sP** **15 01 25.9 +1.2**
PP1B Ponte de Pedra 45.28 320 *e*P **P** **15 01 09.4 +1.0**
BOSA Boshof 45.72 73 P **P** **15 01 11.6 -0.4**
comp=Z,5.5nm,1.0s,baz=189,slow=6.1,SNR=3.8
BOSA LR LR 15 16 14.7
comp=Z,188nm,18.1s,baz=201,slow=31
comp=Z,5.5nm,1.0s
BOSA Boshof 45.72 73 P **P** **15 01 11.7 -0.4**
BOSA IAmb IAmb 15 02 23.1
comp=Z,62nm,1.9s
BOSA Boshof 45.72 73 P **P** **15 01 11.6 -0.4**
BOSA pP **pP** **15 01 24.0 -0.3**
ARAG Araguaiana, MT 46.03 324 *e*P **P** **15 01 16.0 +1.7**
CCD Concordia, Ant 46.12 169 P **P** **15 01 15.0 +0.1**
CCD pP **pP** **15 01 27.1 -0.3**
BBRB Robore, Bolivi 46.49 313 *e*P **P** **15 01 18.0 -0.1**
LVC Limon Verde 46.61 300 LR LR 15 22 28.8
comp=Z,39nm,19.5s,baz=207,slow=38
LVC Limon Verde 46.61 300 P **P** **15 01 18.8 -0.5**
LVC Limon Verde 46.61 300 *e*P **P** **15 01 19.3 -0.1**
SALV Santo Antonio 47.14 319 *e*P **P** **15 01 23.9 +0.9**
SDBA SAO DESIDERIO 47.27 334 *e*P **P** **15 01 25.1 +1.0**
PB09 IPOC Station P 47.47 300 P **P** **15 01 25.6 -0.2**
BBSD Serra de San D 47.80 313 *e*P **P** **15 01 28.0 -0.2**
PB07 IPOC Station P 47.83 300 P **P** **15 01 28.3 -0.3**
PB07 IAmb IAmb 15 01 39.9
comp=Z,23nm,1.4s
PB01 IPOC Station P 48.23 300 P **P** **15 01 30.6 -1.0**
PB01 IAmb IAmb 15 01 32.1
comp=Z,8.9nm,0.9s
PTLB Pontes e Lacer 48.81 316 P **P** **15 01 35.2 -0.7**
PTLB IAmb IAmb 15 01 39.8
comp=Z,7.8nm,0.6s
PTLB Pontes e Lacer 48.81 316 *e*P **P** **15 01 36.1 +0.1**
LBTB Lobatse 48.83 71 P **P** **15 01 35.5 -0.7**
comp=Z,3.8nm,0.8s,baz=213,slow=9.3,SNR=2.5
LBTB LR LR 15 19 03.9
comp=Z,111nm,18.8s,baz=193,slow=32
comp=Z,3.8nm,0.8s
LBTB Lobatse 48.83 71 P **P** **15 01 36.2 0.0**
LBTB IAmb IAmb 15 03 00.6
comp=Z,30nm,1.7s
GO01 Chusmiza 49.28 302 P **P** **15 01 39.8 -0.3**
GO01 IAmb IAmb 15 01 41.1
comp=Z,7.8nm,0.6s
SNDB Serra Nova Dou 49.39 327 *e*P **P** **15 01 41.4 +1.0**
PSGCX Pisagua 49.77 301 P **P** **15 01 43.2 -0.3**
PSGCX IAmb IAmb 15 03 29.2
comp=Z,35nm,1.7s
MNMC Minye Minye 49.93 302 P **P** **15 01 44.8 -0.1**
MNMC IAmb IAmb 15 01 47.6
comp=Z,16nm,0.7s
SMTB Santa Maria do 51.34 332 *e*P **P** **15 01 56.3 +1.1**
PDRB Porto dos Gac 51.48 320 *e*P **P** **15 01 56.2 0.0**
VILB Vilhena 51.50 316 P **P** **15 01 56.6 +0.3**
VILB IAmb IAmb 15 02 02.0
comp=Z,16nm,0.7s
VILB Vilhena 51.50 316 *e*P **P** **15 01 57.4 +1.0**
LPAZ La Paz 51.76 305 P **P** **15 01 59.2 +0.2**
comp=Z,17nm,0.5s,baz=152,slow=5.0,SNR=54
comp=Z,17nm,0.5s
LPAZ La Paz 51.76 305 P **P** **15 01 59.1 +0.1**
LPAZ La Paz 51.76 305 *e*P **P** **15 01 58.8 -0.2**
LPAZ La Paz 51.76 305 P **P** **15 01 59.2 +0.2**
CLDB Colider 51.85 322 *e*P **P** **15 01 59.0 0.0**
RCBR Riachuelo 52.13 347 *e*P **P** **15 02 02.1 +1.0**
CASY Casey 52.30 159 P **P** **15 02 02.0 +0.3**
CASY IAmb IAmb 15 03 44.2
comp=Z,39nm,1.6s
NBCL Cascavel-CE 54.02 345 *e*P **P** **15 02 16.1 +1.2**
PRPB Parauapebas 54.50 330 *e*P **P** **15 02 19.5 +1.0**
NPGB Novo Progresso 55.29 324 *e*P **P** **15 02 24.6 +0.4**
DRV Dumont d'Urvil 55.70 173 P **P** **15 02 26.5 +0.1**
SAML Samuel 56.30 314 P **P** **15 02 31.5 +0.1**
SAML Samuel 56.30 314 P **P** **15 02 31.3 -0.1**
ROSB Rosrio 56.33 338 *e*P **P** **15 02 32.6 +1.1**
ETMB Extrema 56.73 310 P **P** **15 02 34.0 -0.4**
ETMB IAmb IAmb 15 03 30.4
comp=Z,5.1nm,0.9s
ETMB Extrema 56.73 310 *e*P **P** **15 02 34.0 -0.4**
TMAB Tom-Au,PA,Br 57.71 334 *e*P **P** **15 02 42.0 +0.6**
ITTB Itaituba 57.94 324 *e*P **P** **15 02 43.4 +0.5**
NNA Nana 59.53 298 LR LR 15 27 28.2
comp=Z,41nm,21.4s,baz=198,slow=35
MALB Monte Alegre 59.86 327 *e*P **P** **15 02 57.1 +0.9**
MCPB Macapa, AP 60.66 330 *e*P **P** **15 03 02.8 +1.1**
MACA Manacapuru-AM 60.72 319 P **P** **15 03 01.6 -0.5**
MACA IAmb IAmb 15 03 02.2
comp=Z,37nm,0.7s
MACA Manacapuru-AM 60.72 319 *e*P **P** **15 03 02.6 +0.5**
CZSB Cruzeiro do Su 61.37 305 *e*P **P** **15 03 06.8 +0.2**
TEFE Tefe 61.84 315 *e*P **P** **15 03 10.1 +0.3**
TBTG Tabatinga, AM 63.34 309 *e*P **P** **15 03 19.8 0.0**
RPN Rapa Nui 64.06 260 LR LR 15 25 59.6
comp=Z,48nm,21.4s,baz=44,slow=31
BOAV Boa Vista 65.84 322 P **P** **15 03 35.8 -0.3**
BOAV IAmb IAmb 15 03 36.7
comp=Z,30nm,0.7s
BOAV Boa Vista 65.84 322 *e*P **P** **15 03 36.4 +0.4**
SGCB S&o Gabriel d 65.87 314 *e*P **P** **15 03 36.2 0.0**
MDP Montagnes des 66.04 331 P **P** **15 03 37.4 +0.2**
comp=Z,22nm,1.0s,baz=135,slow=7.1,SNR=1.9
comp=Z,22nm,1.0s
DBIC Dimbokro 66.24 23 P **P** **15 03 38.3 -0.2**
comp=Z,4.1nm,0.6s,baz=187,slow=6.6,SNR=6.7
comp=Z,4.1nm,0.6s
DBIC Dimbokro 66.24 23 P **P** **15 03 38.4 -0.1**
DBIC IAmb IAmb 15 03 44.0
comp=Z,51nm,1.9s
DBIC Dimbokro 66.24 23 P **P** **15 03 38.7 +0.2**
MCRA Macar, Loja 67.65 299 P **P** **15 03 46.5 -1.2**
RUSC La Rusia 73.76 311 P **P** **15 04 24.0 -1.3**
TORD Torodi Ar. Bea 74.02 28 P **P** **15 04 26.4 +0.3**
comp=Z,17nm,0.6s,baz=202,slow=7.6,SNR=12
comp=Z,17nm,0.6s
TORD Torodi Ar. Bea 74.02 28 P **P** **15 04 26.1 0.0**
TORD IAmb IAmb 15 04 27.5
comp=Z,17nm,0.7s
BAUV El Baul 74.58 317 P **P** **15 04 28.2 -1.2**
BAUV IAmb IAmb 15 04 30.6
comp=Z,24nm,0.9s
GRGR Grenville 75.35 324 P **P** **15 04 34.6 +0.8**
SDV Santo Domingo 75.51 314 P **P** **15 04 34.5 -0.5**
MCLT Moule a Chique 76.61 325 P **P** **15 04 41.4 +0.4**
GVZ Greta Valley S 78.63 194 P **P** **15 04 52.0 -0.1**
GDHS Morne Mazeau, 79.28 325 P **P** **15 04 55.6 -0.2**
RTZ Ruatahuna 82.30 198 P **P** **15 05 12.4 +0.5**
RTZ IAmb IAmb 15 05 14.7
comp=Z,13nm,0.9s
SJG San Juan 82.41 322 P **P** **15 05 11.4 -1.0**
comp=Z,8.7nm,0.3s,baz=354,slow=19,SNR=2.3
comp=Z,8.7nm,0.3s
STKA Stephens Creek 90.34 169 P **P** **15 05 51.4 0.0**
comp=Z,2.7nm,0.8s,baz=192,slow=5.6,SNR=3.5
comp=Z,2.7nm,0.8s
ASAR Alice Springs 97.39 161 P **P** **15 06 22.4 -1.5**
comp=Z,1.4nm,0.6s,baz=184,slow=3.8,SNR=33
ASAR PP **PP** **15 10 18.4 -1.8**
comp=Z,0.3nm,0.7s,baz=190,slow=6.6,SNR=4.7
ASAR PKiKP **PKiKP** **15 10 57.8 -0.8**
comp=Z,0.3nm,0.8s,baz=168,slow=1.5,SNR=4.5
ASAR PKKP **PKKPbc** **15 22 58.1 -0.5**
comp=Z,0.4nm,0.7s,baz=17,slow=2.3,SNR=6.0
comp=Z,1.4nm,0.6s
KEST Kesra 97.54 28 LR LR 15 44 29.4
comp=Z,51nm,19.0s,baz=246,slow=32
WRA Warramunga Arr 101.11 161 P **Pdif** **15 06 38.9 -1.6**
comp=Z,0.4nm,0.5s,baz=199,slow=4.3,SNR=7.0
SDCO Great Sand Dun 115.81 300 P **PKPdf** **15 11 33.0 +0.6**
baz=144
S22A 4UR Ranch, Cre 116.43 299 P **PKPdf** **15 11 34.3 +0.7**
baz=144
ECSD EROS Data Cent 116.76 310 P **PKPdf** **15 11 33.4 -0.3**
baz=145
SCHQ Schefferville 116.77 335 PKP **PKPdf** **15 11 32.4 -0.9**
comp=Z,3.0nm,0.9s,baz=48,slow=3.7,SNR=6.3

N23A	Red Feather La	118.54	302	P		PKPdf	15 11 37.8	+0.3
	baz=143							
O20A	White River Ci	119.00	300	P		PKPdf	15 11 38.5	+0.2
	baz=142							
EDW2	Edwards Air Fo	119.66	289	P		PKPdf	15 11 40.3	+0.7
	baz=142							
LRMC	Laurel Mtn Rad	119.97	290	P		PKPdf	15 11 41.0	+0.7
	baz=142							
K22A	Casper	120.19	303	P		PKPdf	15 11 40.3	-0.2
	baz=142							
RSSD	Black Hills	120.24	305	P		PKPdf	15 11 39.9	-0.7
	baz=142							
TPNV	Topopah Spring	120.39	292	P		PKiKP	15 11 42.1	+1.0
	baz=141							
CWC	Cottonwood Cre	120.92	290	P		PKiKP	15 11 43.1	+0.9
	baz=141							
R11A	Troy Canyon, C	121.15	293	P		PKPdf	15 11 43.3	+0.8
	baz=141							
DUG	Dugway, Tooele	121.22	297	P		PKPdf	15 11 43.3	+0.8
	baz=141							
HFS	Hagfors	121.39	22	PKP		PKPdf	15 11 40.3	-1.6
	comp=Z,1.7nm,0.7s,baz=187,slow=10,SNR=1.8							
BW06	Boulder Array	121.68	301	P		PKPdf	15 11 42.9	-0.5
	baz=141							
PDAR	Pinedale Array	121.68	301	PKP		PKPdf	15 11 42.5	-1.0
	comp=Z,1.1nm,0.5s,baz=132,slow=5.3,SNR=11							
NOA	NORSAR Array B	121.75	20	PKP		PKPdf	15 11 41.9	-0.8
	comp=Z,0.4nm,0.6s,baz=201,slow=1.9,SNR=1.4							
ULM	Lac du Bonnet	121.76	315	PKP		PKPdf	15 11 41.8	-1.2
	comp=Z,5.2nm,0.6s,baz=210,slow=1.0,SNR=6.6							
NVAR	Mina Array Bea	122.57	291	PKP		PKPdf	15 11 45.2	0.0
	comp=Z,1.2nm,0.6s,baz=141,slow=3.0,SNR=12							
CMAR	Chiang Mai Arr	123.93	110	PKP		PKPdf	15 11 47.6	-0.6
	comp=Z,0.4nm,0.3s,baz=219,slow=3.8,SNR=4.2							
FINES	FINESS Array B	125.37	28	PKP		PKPdf	15 11 48.8	-0.8
	comp=Z,5.8nm,0.5s,baz=153,slow=1.5,SNR=44							
EGMT	Eagleton	125.78	305	P		PKPdf	15 11 51.9	+0.9
	baz=139							
MSO	Missoula	126.79	301	P		PKPdf	15 11 53.8	+0.9
	baz=138							
ARCES	ARCESS Array B	132.06	22	PKP		PKPdf	15 12 01.2	-0.9
	comp=Z,3.0nm,0.6s,baz=219,slow=1.2,SNR=12							
MKAR	Makanchi Array	136.71	72	PKhKP		PKPpre	15 12 01.1	
	comp=Z,0.3nm,0.5s,baz=220,slow=1.8,SNR=4.9							
MKAR				PKP		PKPdf	15 12 10.3	-1.3
	comp=Z,0.8nm,0.6s,baz=272,slow=2.0,SNR=8.3							
YKA	Yellowknife Ar	137.70	316	PKhKP		PKPpre	15 11 59.5	
	comp=Z,0.4nm,0.7s,baz=133,slow=3.1,SNR=8.0							
YKA				PKP		PKPdf	15 12 12.3	-0.5
	comp=Z,8.9nm,0.8s,baz=131,slow=2.1,SNR=33							
YKA				PP		PP	15 15 02.2	+1.1
	comp=Z,0.3nm,0.7s,baz=110,slow=5.9,SNR=3.9							
YKA				SKPbc		SKPbc	15 15 40.0	-2.0
	comp=Z,0.4nm,0.8s,baz=132,slow=3.6,SNR=3.0							
YKA				SKPab		SKiKP	15 15 46.8	+0.5
	comp=Z,0.7nm,0.8s,baz=133,slow=2.0,SNR=6.2							
ZALV	Zalesovo Beam	142.40	65	PKhKP		PKPpre	15 12 15.1	
	comp=Z,1.6nm,0.5s,baz=244,slow=3.9,SNR=9.5							
P33M	Teslin, Yukon	143.85	306	P		PKPbc	15 12 22.8	+0.8
	baz=119							
C36M	Paulatuk	144.49	323	P		PKPab	15 12 23.1	-0.3
	baz=113							
SKAG	Skagway	144.60	304	P		PKPbc	15 12 25.2	+1.0
	baz=118							
WHY	Whitehorse	144.96	306	P		PKPbc	15 12 25.9	+0.4
	baz=117							
FARO	Faro, Yukon	145.01	309	P		PKPdf	15 12 26.7	+0.7
	baz=116							
M31M	Drury Creek, Y	145.44	308	P		PKPdf	15 12 27.0	+0.3
	baz=116							
O30N	Mendenhall	145.54	305	P		PKPbc	15 12 28.2	+0.9
	baz=116							
N31M	Braeburn, Yuko	145.72	307	P		PKPbc	15 12 28.8	+1.0
	baz=116							
A36M	Sachs Harbour	145.80	327	P		PKPbc	15 12 28.2	+0.6
	baz=109							
HYT	Haines Junctio	146.19	305	P		PKPbc	15 12 30.1	+0.7
	baz=116							
PNL	Peninsula	146.54	302	P		PKPbc	15 12 31.0	+0.7
	baz=116							
M30M	Minto, Yukon	146.61	308	P		PKPdf	15 12 30.2	+1.5
	baz=114,SNR=11							
MAYO	Mayo, Yukon	146.64	310	P		PKPbc	15 12 30.7	+0.3
	baz=113							
YUK4	Talbot Arm	146.91	305	P		PKPbc	15 12 31.7	+0.2
	baz=114,SNR=22							
PINM	Pinnacle	147.11	303	P		PKPbc	15 12 32.6	+0.6
	baz=115							
F31M	Tsiigehtchic	147.16	317	P		PKPbc	15 12 31.5	-0.2
	baz=109							
M29M	Somme Creek	147.27	307	P		PKPbc	15 12 32.7	+0.4
	baz=113							
INK	Inuvik	147.35	319	PKPbc		PKPbc	15 12 32.1	-0.1
	comp=Z,21nm,0.6s,baz=86,slow=3.2,SNR=92							
INK	Inuvik	147.35	319	P		PKPbc	15 12 32.2	-0.1
	baz=108							
O28M	Mount Upton	147.37	304	P		PKPbc	15 12 33.3	+0.4
	baz=114							
YUK8	Steele Glacier	147.38	305	P		PKPbc	15 12 33.2	+0.2
	baz=114,SNR=9.5							
L29M	L29M	147.39	309	P		PKPbc	15 12 32.9	+0.3
	baz=112							
K29M	Barlow Dome	147.40	310	P		PKPbc	15 12 32.7	0.0
	baz=111							
YUK3	Moose Creek	147.88	306	P		PKPbc	15 12 34.1	-0.1
	baz=112							
G30M	tAoh Zraii Nji	147.94	316	P		PKPbc	15 12 34.2	+0.2
	baz=108							
EPYK	Eagle Plains	147.94	315	P		PKPbc	15 12 33.9	-0.1
	baz=108							
I29M	Ogilvie Camp,	148.24	313	P		PKPbc	15 12 34.5	-0.2
	baz=108							
DAWY	Dawson	148.25	310	P		PKPbc	15 12 34.4	-0.5
	baz=110,SNR=7.3							
BVCY	Beaver Creek	148.30	307	P		PKPbc	15 12 35.2	+0.2
	baz=111							
M27K	Edge Creek, AK	148.72	306	P		PKPbc	15 12 36.4	+0.1
	baz=111							
MCARA	McCarthy VSAT	148.87	304	P		PKPbc	15 12 36.9	+0.4
	baz=112							
L27K	Beaver Creek,	148.94	307	P		PKPbc	15 12 36.9	+0.2
	baz=110							
EGAK	Eagle	149.21	311	P		PKPbc	15 12 36.8	-0.4
	baz=107							
M26K	Nabesna, AK	149.22	306	P		PKPbc	15 12 37.6	+0.2
	baz=110							
BMRM	Bremner River	149.43	303	P		PKPbc	15 12 39.2	+1.2
	baz=111							
L26K	Log Cabin Wild	149.58	307	P		PKPbc	15 12 38.6	+0.4
	baz=109							
I27K	Kandik River	149.63	312	P		PKPbc	15 12 38.6	+0.3
	baz=106							
N25K	Chitina, Valde	149.66	304	P		PKPbc	15 12 39.1	+0.6
	baz=110							
NRIK	Noril'sk	149.72	40	PKPbc		PKPbc	15 12 38.1	-0.2
	comp=Z,3.1nm,0.4s,baz=168,slow=0.7,SNR=7.4							
H27K	Steamboat Moun	149.76	313	P		PKPbc	15 12 39.0	+0.4
	baz=105							
G27K	Doyon Strip	149.96	315	P		PKPbc	15 12 39.2	+0.2
	baz=104							
J26L	Joseph Creek	150.12	310	P		PKPbc	15 12 40.2	+0.6
	baz=106							
SONM	Songino Array	150.13	88	PKPbc		PKPbc	15 12 39.5	-0.6
	comp=Z,9.3nm,0.5s,baz=223,slow=3.3,SNR=44							
SCRK	Sand Creek	150.15	309	P		PKPbc	15 12 40.3	+0.6
	baz=107,SNR=12							
HARP	HAARP	150.17	305	P		PKPbc	15 12 40.1	+0.4
	baz=109							
KLU	Klutina	150.21	303	P		PKPbc	15 12 40.6	+0.7
	baz=110,SNR=9.4							
E27K	Coleen River	150.23	317	P		PKPbc	15 12 39.9	+0.2
	baz=101							
P23K	Montague Islan	150.37	300	P		PKPbc	15 12 40.5	+0.4
	baz=111							
RIDG	Independent Ri	150.44	308	P		PKPbc	15 12 41.0	+0.7
	baz=107,SNR=31							
PAX	Paxson	150.49	306	P		PKPbc	15 12 40.6	+0.1
	baz=108,SNR=9.9							
M24K	Tolsona, Glenn	150.53	304	P		PKPbc	15 12 41.5	+0.9
	baz=108,SNR=7.2							
G26K	Porcupine Rive	150.81	314	P		PKPbc	15 12 41.3	+0.3
	baz=102							
K24K	Donnelly Dome	150.86	308	P		PKPbc	15 12 41.3	0.0
	baz=106,SNR=5.2							
SCM	Sheep Creek Mo	150.96	303	P		PKPbc	15 12 42.2	+0.6
	baz=108,SNR=8.6							
F26K	Sheenjek River	151.09	316	P		PKPbc	15 12 42.5	+0.9
	baz=100							
PWL	Port Wells	151.10	301	P		PKPbc	15 12 42.3	+0.4
	baz=109							
M23K	Glacier View	151.13	303	P		PKPbc	15 12 42.0	+0.1
	baz=108,SNR=11							
C27K	Jago River	151.22	320	P		PKPbc	15 12 42.5	+0.6
	baz=97							
KNK	Knik Glacier	151.34	302	P		PKPbc	15 12 42.8	+0.3
	baz=108,SNR=5.4							
DHY	Denali Highway	151.35	306	P		PKPbc	15 12 43.1	+0.5
	baz=106							
SEW	Seward	151.37	299	P		PKPbc	15 12 42.6	+0.2
	baz=110							
WAT6	Susitna Watana	151.37	305	P		PKPbc	15 12 43.0	+0.4
	baz=107							
SML	Sawmill	151.41	303	P		PKPbc	15 12 42.8	+0.2
	baz=108,SNR=11							
HDA	Harding Lake	151.51	309	P		PKPbc	15 12 42.7	-0.1
	baz=104,SNR=11							
ILAR	Eielson Array	151.57	309	PKPbc		PKPbc	15 12 42.8	-0.1
	comp=Z,26nm,0.8s,baz=144,slow=5.5,SNR=182							
F25K	Christian Rive	151.63	315	P		PKPbc	15 12 43.7	+0.7
	baz=99							
G25K	Bearman Lake	151.67	314	P		PKPbc	15 12 44.0	+1.1
	baz=100							
C26K	Camden Bay	151.67	320	P		PKPbc	15 12 43.6	+0.7
	baz=96							
E25K	Arctic Village	151.69	317	P		PKPbc	15 12 43.6	+0.5
	baz=98							
PMR	Palmer	151.70	302	P		PKPbc	15 12 43.6	+0.4
	baz=108							
WAT1	Susitna Watana	151.80	305	P		PKPbc	15 12 43.7	+0.2
	baz=106							
RC01	Rabbit Creek A	151.82	301	P		PKPbc	15 12 43.9	+0.4
	baz=108,SNR=6.8							
BRSE	Bradley Lake S	151.85	298	P		PKPbc	15 12 43.9	+0.2
	baz=110							
COLA	College	152.00	309	P		PKPbc	15 12 43.6	-0.1
	baz=102							
TCOL	CIGO, UAF Yank	152.00	309	P		PKPbc	15 12 43.5	-0.3
	baz=102							
KDAK	Kodiak Island	152.04	293	P		PKPbc	15 12 44.4	+0.3
	baz=112							
OHAK	Old Harbor	152.17	292	P		PKPbc	15 12 45.1	+0.7
	baz=113							
G24K	Hadweenzic Riv	152.20	313	P		PKPbc	15 12 44.9	+0.7
	baz=99							
MCK	McKinley	152.20	307	P		PKPbc	15 12 44.7	+0.4
	baz=104							
M22K	Willow	152.20	302	P		PKPbc	15 12 44.7	+0.4
	baz=107							
H24K	Noodor Dome	152.21	311	P		PKPbc	15 12 44.4	+0.1
	baz=101							
CUT	Chulitna	152.45	304	P		PKPbc	15 12 44.7	-0.2
	baz=106,SNR=8.1							
NEA2	Nenana	152.45	309	P		PKPbc	15 12 44.4	-0.5
	baz=102,SNR=13							
F24K	Squaw Lake	152.48	315	P		PKPbc	15 12 45.5	+0.6
	baz=98							
I23K	Minto, Yukon-K	152.68	310	P		PKPbc	15 12 45.0	-0.3
	baz=101							
TRF	Thorofare Moun	152.72	306	P		PKPbc	15 12 45.9	+0.2
	baz=104							
E24K	Your Creek	152.77	316	P		PKPbc	15 12 46.0	+0.5
	baz=96							
SKT	Skwentna	152.91	302	P		PKPbc	15 12 46.0	0.0
	baz=105,SNR=18							
C24K	Franklin Bluff	152.97	320	P		PKPbc	15 12 46.0	+0.2
	baz=92							
Q19K	Cape Douglas,	152.98	295	P		PKPbc	15 12 46.4	+0.2
	baz=110							
BPAW	Bear Paw Mtn.	153.16	307	P		PKPbc	15 12 46.5	+0.1
	baz=102,SNR=29							
E23K	Chandalar	153.19	316	P		PKPbc	15 12 46.7	+0.2
	baz=95							
G23K	Bananza Creek	153.20	313	P		PKPbc	15 12 47.4	+0.9
	baz=97							
MLY	Manley	153.24	309	P		PKPbc	15 12 46.8	+0.2
	baz=100,SNR=8.6							
COLD	Coldfoot	153.33	314	P		PKPbc	15 12 47.6	+0.9
	baz=96							
PPLA	Purkeypile	153.43	304	P		PKPbc	15 12 47.4	+0.2
	baz=103							
CAST	Castle Rocks	153.50	305	P		PKPbc	15 12 46.7	-0.5
	baz=102,SNR=11							
M20K	Styx River	153.61	302	P		PKPbc	15 12 47.2	-0.3
	baz=105							
D23K	Nanushuk River	153.64	318	P		PKPbc	15 12 48.0	+0.7
	baz=92							
CHUM	Lake Minchumin	153.69	306	P		PKPbc	15 12 46.8	-0.8
	baz=101,SNR=9.1							
O19K	Fort Ainsworth	153.71	298	P		PKPbc	15 12 47.4	-0.2
	baz=107							
I21K	Tanana	153.78	309	P		PKPbc	15 12 47.8	+0.1
	baz=99							
Q17K	Contact Creek	153.85	293	P		PKPbc	15 12 48.3	+0.1
	baz=110							
R17K	Ugashik Creek	153.88	292	P		PKPbc	15 12 48.6	+0.5
	baz=111							
P18K	Big Mountain,	153.90	296	P		PKPbc	15 12 47.7	-0.5
	baz=108							
N19K	Bonanza Creek	153.96	299	P		PKPbc	15 12 47.8	-0.6
	baz=106							
F22K	John River	154.12	315	P		PKPbc	15 12 49.1	+0.7
	baz=94							
H21K	Melozitna Rive	154.19	310	P		PKPbc	15 12 49.1	+0.5
	baz=97							
K20K	Telida	154.36	305	P		PKPbc	15 12 49.2	+0.1
	baz=101							
G21K	Kuskokwim	154.56	312	P		PKPbc	15 12 49.9	+0.5
	baz=95							
F21K	Alatna River	154.60	314	P		PKPbc	15 12 50.1	+0.6
	baz=93							
TTA	Tatalina	155.15	304	P		PKPdf	15 12 51.8	+10
	baz=100							

*JSN **18** 15:01:11.5±0.4, 19°.75N×76°.62W, h15km±409km, MD3.2*
*SSNC **18** 15:01:12.6±2.2, 19°.71N×76°.66W, h7km±15km, MD2.9, ML2.9*

ISC 18 15:01:10.4±2.1, 19°.72N±0°.05×76°.64W±0°.04, h15km±16km, n12, σ0°60/17, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.49	315	eP			Pb	15 01 20.9	+0.3
LMGC				eS			Sb	15 01 27.5	-0.1
LMGC				IAML				15 01 31.4	
	comp=N,597nm,0.1s								
LMGC				IAML				15 01 31.6	
	comp=E,310nm,0.1s								
RCC	Rio Carpintero	0.93	72	eP			Pb	15 01 28.4	+0.2
RCC				eS			Sg	15 01 40.1	-0.6
RCC				IAML				15 01 40.8	
	comp=E,21nm,0.2s								
RCC				IAML				15 01 40.8	
	comp=N,24nm,0.2s								
HLGC	Holguin	1.29	25	eP			Pn	15 01 34.0	+0.1
GTBY	Guantanamo Bay	1.46	81	eP			Pn	15 01 36.7	+0.5
GTBY				eS			Sn	15 01 54.6	-0.3
GTBY				IAML				15 02 01.1	
	comp=N,3μm,0.3s								
GTBY				IAML				15 02 01.5	
	comp=N,3μm,0.2s								
GWJ	Greenwich	1.63	183	*i* P			Pn	15 01 39.0	+0.3
STH	Stony Hill	1.64	186	*i* P			Pn	15 01 38.9	+0.2
MTDJ	Mount Denham	1.71	210	eP			Pn	15 01 39.9	+0.2
MTDJ				eS			Sn	15 01 59.8	-1.5
MTDJ				IAML				15 02 02.4	
	comp=N,2μm,0.1s								
MTDJ				IAML				15 02 02.6	
	comp=N,2μm,0.2s								
CVJ	Coleyville	1.71	210	*i* P			Pn	15 01 40.0	+0.3
MOAC	Moa	1.84	59	eP			Pn	15 01 42.0	+0.6
PCJ	Portland Cotta	2.02	194	*i* P			Pn	15 01 44.7	+0.8
MCJ	Malvern	2.04	209	*i* S			Sn	15 02 09.7	+0.3
MASC	Masc	2.31	78	eP			Pb	15 01 52.0	+0.3
MASC				eS			Sn	15 02 15.6	-0.5

*IDC **18** 15:04:04.9±1.3, 32°.87N×39°.56W, h0km, mb3.8/7, mbtmp3.8/7, MS3.8/30, Error ellipse: s-maj=39.4km s-min=26.1km az=156.0*

ISC 18 15:04:06.1±1.2, 32°.9N±0°.2×39°.6W±0°.2, h8km, n36, σ0s21/7, mb3.9/7, MS3.8/30, Northern Mid-Atlantic Ridge

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

BBTS	Babate	27.69	125	LR		LR		15 18 13.2
	comp=Z,329nm,19.8s,baz=304,slow=31							
SJG	San Juan	28.04	245	LR		LR		15 18 19.7
	comp=Z,52nm,21.2s,baz=130,slow=30							
SCHQ	Schefferville	29.16	327	LR		LR		15 20 36.6
	comp=Z,208nm,21.7s,baz=108,slow=34							
SADO	Sadowa	32.74	303	LR		LR		15 22 31.5
	comp=Z,85nm,20.2s,baz=102,slow=34							
FRB	Frobisher Bay	35.79	338	LR		LR		15 23 04.5
	comp=Z,81nm,21.5s,baz=191,slow=32							
TKL	Tuckaleechee C	36.42	287	LR		LR		15 23 07.9
	comp=Z,246nm,22.0s,baz=85,slow=31							
RCBR	Riachuelo	38.63	174	LR		LR		15 24 02.2
	comp=Z,76nm,18.2s,baz=134,slow=31							
ROSC	El Rosal	42.76	237	LR		LR		15 28 42.2
	comp=Z,98nm,19.2s,baz=131,slow=35							
ULM	Lac du Bonnet	44.46	310	LR		LR		15 31 06.3
	comp=Z,136nm,18.1s,baz=80,slow=36							
H10N2	ASCENSION HYDR	46.98	145	T		T		16 02 52.9
	baz=330,slow=75,SNR=325							
H10N3	ASCENSION HYDR	46.98	145	T		T		16 02 53.2
	baz=330,slow=75,SNR=163							
H10N1	ASCENSION HYDR	47.00	145	T		T		16 02 54.3
	baz=330,slow=75,SNR=388							
JTS	Las Juntas de	47.35	252	LR		LR		15 29 33.4
	comp=Z,44nm,21.7s,baz=42,slow=32							
CMIG	Matias Romero	52.00	267	LR		LR		15 32 06.1
	comp=Z,56nm,21.4s,baz=50,slow=32							
AKASG	Malin Array Be	52.38	48	P		P		15 13 18.4 -0.2
	2.8nm,0.9s,baz=276,slow=6.8,SNR=8.9							
	2.8nm,0.9s							
TXAR	Lajitas Array	54.26	285	P		P		15 13 32.9 0.0
	0.9nm,0.8s,baz=90,slow=7.5,SNR=9.1							
TXAR				LR		LR		15 34 57.5
	comp=Z,130nm,20.2s,baz=66,slow=34							
	0.9nm,0.8s							
ATAH	Atahualpa	54.27	230	LR		LR		15 39 01.5
	comp=Z,26nm,18.0s,baz=1.6,slow=39							
ANMO	Albuquerque	54.60	292	LR		LR		15 35 43.5
	comp=Z,97nm,18.5s,baz=154,slow=35							
PDAR	Pinedale Array	54.73	302	P		P		15 13 36.5 +0.1
	2.2nm,0.9s,baz=80,slow=9.2,SNR=12							
PDAR				LR		LR		15 35 59.1
	comp=Z,52nm,19.4s,baz=87,slow=35							
	2.2nm,0.9s							
LPAZ	La Paz	55.99	214	P		P		15 13 46.0 0.0
	0.8nm,0.5s,baz=28,slow=6.5,SNR=5.0							
LPAZ				LR		LR		15 36 01.0
	comp=Z,62nm,19.2s,baz=48,slow=34							
	0.8nm,0.5s							
NEW	Newport	58.47	310	LR		LR		15 37 41.2
	comp=Z,147nm,21.5s,baz=58,slow=34							
ELK	Elko	59.38	301	LR		LR		15 38 43.8
	comp=Z,63nm,19.0s,baz=80,slow=35							
INK	Inuvik	61.33	335	LR		LR		15 38 34.9
	comp=Z,110nm,21.9s,baz=330,slow=34							
LPIG	La Paz	61.78	282	LR		LR		15 41 28.6
	comp=Z,62nm,18.2s,baz=43,slow=36							
NVAR	Mina Array Bea	62.40	300	P		P		15 14 29.5 -0.3
	0.6nm,0.7s,baz=68,slow=7.2,SNR=4.8							
	0.6nm,0.7s							
PFO	Pinyon Flats O	62.82	294	LR		LR		15 41 45.5
	comp=Z,70nm,18.2s,baz=45,slow=36							
DLBC	Dease Lake	62.89	324	LR		LR		15 41 41.5
	comp=Z,228nm,19.1s,baz=72,slow=36							
BBB	Bella Bella	63.98	317	LR		LR		15 43 01.6
	comp=Z,100nm,18.4s,baz=158,slow=36							
YBH	Yreka Blue Hor	64.33	304	LR		LR		15 41 49.8
	comp=Z,56nm,21.5s,baz=66,slow=35							
ILAR	Eielson Array	67.63	334	P		P		15 15 03.2 +0.1
	0.5nm,0.9s,baz=67,slow=2.3,SNR=2.7							
ILAR				LR		LR		15 44 59.2
	comp=Z,50nm,18.3s,baz=64,slow=36							
	0.5nm,0.9s							
KDAK	Kodiak Island	73.76	329	LR		LR		15 49 35.9
	comp=Z,100nm,18.0s,baz=85,slow=37							
TSUM	Tsumeb	75.23	125	LR		LR		15 42 47.6
	comp=Z,55nm,20.3s,baz=346,slow=31							
LSZ	Lusaka	80.43	115	LR		LR		15 50 22.6
	comp=Z,62nm,19.7s,baz=292,slow=34							
LBTB	Lobatse	84.62	124	LR		LR		15 49 04.1
	comp=Z,67nm,20.1s,baz=358,slow=32							
MKAR	Makanchi Array	84.99	36	P		P		15 16 42.2 +0.2
	0.5nm,0.7s,baz=308,slow=5.4,SNR=4.5							
	0.5nm,0.7s							
BOSA	Boshof	86.70	127	LR		LR		15 48 23.7
	comp=Z,42nm,20.7s,baz=81,slow=31							

*LDG **18** 15:11:38.5±0.1, 42°.49N×13°.30E, h9km, Ml3.1/13, Error ellipse: s-maj=4.2km s-min=3.0km az=43.0*
*ROM **18** 15:11:38.9±0.0, 42°.489N±0°.002×13°.301E±0°.002, h13km, ML3.6/64, Error ellipse: s-maj=0.2km s-min=0.0km az=73.0*
*IDC **18** 15:11:39.3±1.7, 42°.71N×13°.28E, h0km, mb3.3/3, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=36.8km s-min=19.5km az=92.0*
*PRU **18** 15:11:40.6±0.0, 42°.52N×13°.59E, h10km*
*BEO **18** 15:11:41.6±0.6, 42°.59N×13°.45E, h0km, ML3.7/8*

ISC 18 15:11:38.9±0.7, 42°.49N±0°.01×13°.28E±0°.02, h18km±3km, n197, σ1s64/242, 17C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RM33	Pellescritta (	0.05	287	⇓P			Pg	15 11 41.9	-0.4
RM33				S			Sg	15 11 43.8	-0.8
RM33				AML			AML		
RM33				AML			AML		
	comp=N,74650μm,0.3s								
T1247	Pizzolo (AQ)	0.05	168	⇓P			Pg	15 11 42.0	-0.3
T1247				S			Sg	15 11 43.7	-0.8
T1247				AML			AML		
T1247				AML			AML		
CAMP	Campotosto	0.10	66	⇓P			Pg	15 11 42.3	-0.4
CAMP				S			Sg	15 11 44.2	-1.1
CAMP				AML			AML		
	comp=E,47250μm,1.4s								
CAMP				AML			AML		
CAMP				AML			AML		
	comp=E,47250μm,0.6s								
AQU	L'Aquila	0.17	148	⇓P			Pb	15 11 43.2	0.0
AQU				S			Sb	15 11 46.2	+0.2

T1217 AML AML
comp=E,12550µm,0.3s
T1217 AML AML
comp=N,12015µm,1.6s
T1217 AML AML
comp=E,13500µm,0.3s
T1217 AML AML
comp=N,12165µm,0.5s
T1217 AML AML
comp=E,12600µm,0.3s
T1217 AML AML
comp=N,12060µm,1.6s
T1217 AML AML
comp=N,12045µm,1.6s
T1217 AML AML
comp=E,12600µm,0.3s
T1217 AML AML
comp=E,13500µm,0.3s
T1217 AML AML
comp=N,12045µm,0.4s
ARRO Arrone 0.39 283 ⇑P **Pg 15 11 47.0 0.0**
ARRO AML AML
comp=E,10530µm,0.3s
ARRO AML AML
comp=N,12440µm,0.2s
ARRO AML AML
comp=E,10530µm,1.7s
T0110 Collepietro 0.45 126 ⇓P **Pg 15 11 47.8 -0.4**
T0110 S **Sg 15 11 54.3 -0.1**
T0110 AML AML
comp=E,9100µm,0.8s
T0110 AML AML
comp=N,12400µm,0.6s
T0110 AML AML
comp=E,9100µm,1.2s
T0110 AML AML
comp=N,12400µm,1.4s
PTQR Pietraquaria 0.48 170 ⇑P **Pg 15 11 48.3 -0.3**
PTQR S **Sg 15 11 55.3 +0.2**
PTQR AML AML
comp=E,1620µm,0.5s
PTQR AML AML
comp=N,1790µm,0.7s
PTQR AML AML
comp=E,1620µm,1.5s
FEMA Monte Fema 0.50 340 P **Pg 15 11 48.9 -0.1**
FEMA S **Sb 15 11 56.8 +0.5**
FEMA AML AML
comp=E,16200µm,1.1s
FEMA AML AML
comp=N,10800µm,1.3s
FEMA AML AML
comp=N,10800µm,0.7s
FEMA AML AML
comp=E,16200µm,0.9s
CESX Cesi 0.53 283 P **Pg 15 11 49.1 -0.4**
CESX S **Sb 15 11 57.5 +0.4**
CESX AML AML
comp=E,4685µm,1.0s
CESX AML AML
comp=N,7065µm,0.2s
CESX AML AML
comp=E,4685µm,1.0s
FDMO Fiordimonte 0.56 345 ⇑P **Pg 15 11 49.8 -0.4**
FDMO S **Sb 15 11 58.3 +0.4**
FDMO AML AML
comp=E,6140µm,0.8s
FDMO AML AML
comp=E,6140µm,1.2s
FDMO AML AML
comp=N,6865µm,0.7s
TRTR Tortoreto Alta 0.56 56 P **Pb 15 11 50.6 +0.4**
TRTR AML AML
comp=N,18650µm,1.6s
TRTR AML AML
comp=E,18150µm,0.5s
TRTR AML AML
comp=N,18650µm,0.4s
GUMA Gualdo di Mace 0.57 4 ⇑P **Pg 15 11 50.2 -0.1**
GUMA S **Sb 15 11 59.6 +1.4**
GUMA AML AML
comp=N,27100µm,0.4s
GUMA AML AML
comp=N,23900µm,1.5s
GUMA AML AML
comp=E,31600µm,0.3s
GUMA AML AML
comp=E,27600µm,0.4s
GUMA AML AML
comp=N,23900µm,0.5s
CESI CESI - Serrava 0.58 331 ⇑P **Pg 15 11 50.3 -0.2**
CESI S **Sb 15 11 59.3 +0.7**
CESI AML AML
comp=N,10105µm,0.4s
CESI AML AML
comp=E,8170µm,1.3s
CESI AML AML
comp=E,8170µm,0.7s
CESI AML AML
comp=N,10105µm,1.6s
CERT Cerreto 0.59 202 P **Pg 15 11 50.3 -0.3**
CSP1 Cessapalombo 0.60 354 ⇑P **Pg 15 11 50.5 -0.4**
CSP1 S **Sb 15 11 59.6 +0.5**
CSP1 AML AML
comp=E,8420µm,1.1s
CSP1 AML AML
comp=N,12500µm,0.5s
CSP1 AML AML
comp=E,8420µm,0.9s
MOMA Monte Martano 0.61 301 ⇑P **Pb 15 11 51.0 -0.1**
MOMA S **Sb 15 12 00.0 +0.6**
MOMA AML AML
comp=N,5830µm,0.6s
MOMA AML AML
comp=E,7435µm,0.4s
MOMA AML AML
comp=N,6125µm,0.6s
MOMA AML AML
comp=E,7145µm,0.4s
MTCE Montecelio 0.62 221 P **Pb 15 11 50.7 -0.4**
MTCE AML AML
comp=E,4050µm,0.5s
MTCE AML AML
comp=N,3465µm,0.6s
MTCE AML AML
comp=E,4050µm,1.5s
SRES S.Oreste - Sor 0.63 246 P **Pb 15 11 51.1 -0.3**
SRES AML AML
comp=E,2655µm,0.9s
SRES AML AML
comp=N,4195µm,0.5s
T1220 Camerino, Fraz 0.63 347 ⇑P **Pb 15 11 51.0 -0.5**
T1220 S **Sb 15 12 00.6 +0.6**
T1220 AML AML
comp=E,22750µm,0.5s
T1220 AML AML
comp=N,25700µm,1.3s
T1220 AML AML
comp=E,22450µm,0.3s
T1220 AML AML
comp=N,26500µm,1.3s
T1220 AML AML
comp=E,22450µm,0.4s
T1220 AML AML
comp=N,26550µm,1.3s
T1220 AML AML
comp=N,25700µm,1.3s
MNTP Montappone 0.66 12 P **Pg 15 11 52.0 +0.1**
MNTP AML AML
comp=E,10600µm,1.6s
MNTP AML AML
comp=N,9205µm,0.2s
MNTP AML AML
comp=E,10600µm,0.4s
VVLD Villa Vallelon 0.67 158 P **Pb 15 11 51.6 -0.5**
SEF1 Sefro 0.70 339 P **Pb 15 11 52.0 -0.6**
SEF1 S **Sg 15 12 02.3 +0.4**
SEF1 AML AML
comp=N,10950µm,1.1s
SEF1 AML AML
comp=N,10950µm,0.9s
SEF1 AML AML
comp=E,13650µm,0.3s
GUAR Guarcino 0.70 178 P **Pb 15 11 52.4 -0.2**
GUAR AML AML
comp=E,3415µm,0.7s

GUAR AML AML
comp=N,4535µm,1.1s
GUAR AML AML
comp=N,4535µm,0.9s
GUAR AML AML
comp=E,3415µm,1.3s
MDAR Monte D'Aria 0.71 352 P **Pb 15 11 52.2 -0.6**
MDAR S **Sg 15 12 02.4 +0.2**
ASSB Assisi San Ben 0.72 320 P **Pb 15 11 52.6 -0.2**
ASSB S **Sg 15 12 03.6 +1.1**
ASSB AML AML
comp=E,7540µm,0.4s
ASSB AML AML
comp=N,8280µm,0.2s
SSM1 San Severino M 0.74 354 P **Pb 15 11 52.8 -0.4**
FIU1 Fiuminata 0.74 340 P **Pb 15 11 53.1 -0.2**
GAG1 Gagliole 0.76 348 P **Pb 15 11 53.3 -0.3**
GAG1 S **Sn 15 12 05.0 -0.9**
CADA Capodarco di F 0.78 26 P **Pn 15 11 55.0 0.0**
MTL1 Matelica 0.79 345 P **Pb 15 11 53.7 -0.4**
SNTG Esanatoglia 0.80 342 P **Pb 15 11 53.9 -0.5**
SNTG AML AML
comp=N,3445µm,1.0s
SNTG AML AML
comp=N,3725µm,0.5s
SNTG AML AML
comp=N,3445µm,1.0s
SNTG AML AML
comp=E,3220µm,1.0s
SNTG AML AML
comp=E,3525µm,0.4s
SNTG AML AML
comp=N,3725µm,1.5s
LPEL Lama dei Pelig 0.80 123 P **Pb 15 11 53.7 -0.6**
RMP Rome, Mte Porz 0.81 213 P **Pb 15 11 54.1 -0.3**
ATCC AVT- Casa Cast 0.84 326 P **Pb 15 11 54.9 -0.1**
ATCC AML AML
comp=N,5360µm,0.9s
ATCC AML AML
comp=N,5355µm,0.9s
ATCC AML AML
comp=E,6450µm,1.3s
ATCC AML AML
comp=N,5355µm,1.1s
POFI Posta Fibreno 0.84 158 P **Pb 15 11 55.3 +0.3**
EL6 Elcito 0.85 351 ⇑P **Pb 15 11 54.8 -0.3**
MA9 Marino 0.86 213 P **Pb 15 11 55.3 0.0**
CIMA Civitanova Mar 0.86 19 P **Pn 15 11 56.2 +0.1**
SAMA S.Maria delle 0.88 216 P **Pg 15 11 56.3 +0.3**
CING Cingoli 0.88 356 P **Pb 15 11 55.4 -0.4**
FOSV Fossato di Vic 0.89 335 P **Pb 15 11 55.7 -0.1**
FOSV AML AML
comp=E,3610µm,0.4s
FOSV AML AML
comp=N,3945µm,0.7s
FOSV AML AML
comp=N,3945µm,1.3s
PP3 Marolino 0.92 15 P **Pb 15 11 56.4 +0.2**
PP3 AML AML
comp=E,8120µm,1.0s
PP3 AML AML
comp=N,9105µm,0.6s
PP3 AML AML
comp=N,8490µm,0.5s
PP3 AML AML
comp=E,7595µm,1.0s
PP3 AML AML
comp=E,8120µm,1.0s
PP3 AML AML
comp=E,7595µm,1.0s
GIUL Giuliano Di Ro 0.94 181 P **Pb 15 11 56.5 -0.1**
GIUL AML AML
comp=E,1860µm,0.8s
GIUL AML AML
comp=N,2360µm,0.6s
GIUL AML AML
comp=E,1860µm,1.2s
GIUL AML AML
comp=N,2360µm,1.4s
MURB Monte Urbino 0.95 324 P **Pb 15 11 57.0 +0.1**
MGAB Montegabbione 0.96 296 P **Pb 15 11 57.3 +0.3**
MGAB AML AML
comp=E,4320µm,0.4s
MGAB AML AML
comp=N,3190µm,0.4s
MGAB AML AML
comp=E,3710µm,0.4s
MGAB AML AML
comp=N,4035µm,0.5s
MGAB AML AML
comp=N,3190µm,1.6s
SSFR Montelago di S 1.01 339 P **Pb 15 11 57.8 -0.1**
SSFR AML AML
comp=N,5410µm,0.4s
SSFR AML AML
comp=E,4630µm,1.2s
SSFR AML AML
comp=E,4630µm,0.8s
SSFR AML AML
comp=N,4675µm,0.2s
SSFR AML AML
comp=E,5170µm,0.8s
ATFO Monte Foce - G 1.02 329 P **Pb 15 11 57.8 -0.2**
RNI2 Rionero Sannit 1.02 140 P **Pb 15 11 58.1 0.0**
ATSC Scheggia e Pas 1.03 335 P **Pb 15 11 58.0 -0.2**
LATB Latina 1.03 194 P **Pb 15 11 58.0 -0.2**
LATB AML AML
comp=E,694µm,1.1s
LATB AML AML
comp=N,498µm,0.7s
ARVD Arcevia 1.03 346 ⇑P **Pb 15 11 58.1 -0.2**
ARVD AML AML
comp=N,2620µm,0.6s
ARVD AML AML
comp=E,2895µm,0.9s
ATLO AVT- Montelove 1.04 322 P **Pb 15 11 58.1 -0.4**
TOLF Tolfa 1.04 246 P **Pb 15 11 58.1 -0.4**
CERA Filignano 1.05 148 P **Pb 15 11 58.1 -0.4**
ATVA AVT- Monte Val 1.07 317 P **Pb 15 11 59.1 +0.1**
SACS San Casciano d 1.07 290 P **Pg 15 11 59.9 +0.2**
AOI Ancona 1.08 12 P **Pb 15 11 59.1 0.0**
AOI AML AML
comp=N,3355µm,0.4s
AOI AML AML
comp=N,3355µm,1.6s
AOI AML AML
comp=E,3275µm,0.4s
TB01 Gubbio 1.08 325 P **Pb 15 11 59.0 -0.2**
TB02 Pietralunga 1.09 324 P **Pb 15 11 59.1 -0.1**
ATVO AVT- Monte Val 1.10 324 P **Pn 15 11 59.6 +0.2**
ATVO AML AML
comp=E,2065µm,1.5s
ATVO AML AML
comp=E,2065µm,0.5s
ATVO AML AML
comp=N,1755µm,0.5s
LATE Laterza 1.10 277 P **Pg 15 12 00.5 +0.3**
FRON Frontone 1.10 338 P **Pb 15 11 59.4 0.0**
FRON AML AML
comp=E,3045µm,0.8s
FRON AML AML
comp=N,4060µm,0.4s
FRON AML AML
comp=E,3045µm,1.2s
MIDA Miranda 1.12 139 P **Pn 15 11 59.0 -0.8**
ATBU Serra di Buran 1.12 331 P **Pb 15 12 00.2 +0.4**
ATMI Monte Miggiano 1.12 319 P **Pg 15 12 00.6 -0.1**
ATMI AML AML
comp=N,4560µm,1.0s
ATMI AML AML
comp=E,4200µm,0.5s
PCRO Pietralacroce 1.13 9 P **Pg 15 12 00.6 -0.2**
ATPI Pietralunga - 1.16 326 P **Pn 15 12 00.3 0.0**
ATPI AML AML
comp=E,3405µm,0.7s
ATPI AML AML
comp=N,3170µm,0.5s
ATPI AML AML
comp=E,3405µm,1.3s
COR1 Corinaldo 1.16 350 P **Pg 15 12 00.9 -0.4**
COR1 AML AML
comp=N,8810µm,0.7s
COR1 AML AML
comp=N,8435µm,0.8s
COR1 AML AML
comp=E,4830µm,0.6s

COR1 AML AML
comp=N,8810µm,1.3s
COR1 AML AML
comp=E,8755µm,0.6s
ATPC Poggio Castell 1.16 329 P **Pb 15 12 00.8 +0.3**
PIEI Pieia 1.18 332 P **Pb 15 12 00.8 0.0**
PIEI AML AML
comp=N,1630µm,0.5s
PIEI AML AML
comp=E,2645µm,0.8s
PIEI AML AML
comp=N,1630µm,1.5s
TRIV Trivento 1.19 127 P **Pn 15 12 01.0 +0.3**
TRIV AML AML
TRIV AML AML
TRIV AML AML
comp=E,1325µm,0.7s
TRIV AML AML
comp=N,1020µm,1.6s
TRIV AML AML
TRIV AML AML
comp=N,1020µm,0.4s
TRIV AML AML
TRIV AML AML
comp=E,1325µm,1.3s
MPAG Monte Paganucc 1.20 341 P **Pb 15 12 01.2 +0.1**
MPAG AML AML
comp=E,2185µm,0.3s
MPAG AML AML
comp=N,2230µm,0.7s
SENI Senigallia 1.21 358 P **Pb 15 12 01.9 +0.6**
SF03 Valle Cupa 1.22 285 P **Pg 15 12 02.3 -0.1**
MCIV Monte Civitell 1.22 284 AML AML
comp=N,640µm,0.9s
MCIV AML AML
comp=E,719µm,0.4s
ATMC Monte Cedrone 1.24 320 P **Pb 15 12 02.3 +0.4**
SF04 Casetta 1.25 286 P **Pb 15 12 02.0 +0.1**
SF04 AML AML
comp=N,830µm,0.7s
SF04 AML AML
comp=E,735µm,0.4s
BADI Badiali 1.27 323 P **Pb 15 12 02.8 +0.4**
SF13 Bagnolo 1.27 285 P **Pg 15 12 03.1 -0.3**
CAFI Castiglion Fio 1.28 311 P **Pb 15 12 02.6 +0.1**
CAFI AML AML
comp=N,857µm,0.5s
CAFI AML AML
comp=E,978µm,0.7s
CAFI AML AML
comp=N,864µm,0.5s
CAFI AML AML
comp=E,972µm,0.7s
VAGA Valle Agricola 1.29 146 P **Pg 15 12 04.0 +0.2**
VAGA AML AML
comp=E,548µm,1.2s
VAGA AML AML
comp=N,739µm,0.6s
VAGA AML AML
comp=E,548µm,1.2s
VAGA AML AML
comp=N,752µm,0.6s
VAGA AML AML
comp=N,739µm,1.4s
VAGA AML AML
comp=E,548µm,0.8s
VAGA AML AML
comp=E,548µm,0.8s
VAGA AML AML
comp=N,752µm,1.4s
PE3 Peglio 1.33 335 P **Pb 15 12 03.4 0.0**
PE3 AML AML
comp=E,7725µm,0.4s
PE3 AML AML
comp=N,14µm,0.3s
PE3 AML AML
comp=E,7725µm,1.6s
SSP9 Sansepolcro 1.37 322 P **Pn 15 12 03.5 +0.4**
SSP9 AML AML
comp=E,1279µm,1.6s
SSP9 AML AML
comp=N,1255µm,1.4s
SSP9 AML AML
comp=E,1279µm,0.4s
SSP9 AML AML
comp=N,1255µm,0.6s
SGG Gregorio Mates 1.38 143 P **Pg 15 12 05.5 +0.1**
ARCI Arcidosso 1.38 286 P **Pb 15 12 04.6 +0.3**
MODR Mondragone 1.42 162 P **Pb 15 12 05.0 +0.2**
PESA Pesaro 1.48 348 P **Pg 15 12 06.9 -0.6**
PESA AML AML
comp=E,3350µm,1.3s
PESA AML AML
comp=N,3575µm,0.8s
PESA AML AML
comp=N,3575µm,1.2s
PESA AML AML
comp=E,3350µm,0.7s
CRE Caprese Michel 1.49 319 P **Pb 15 12 05.8 -0.3**
SACR S. Croce Del S 1.52 135 P **Pb 15 12 06.4 -0.3**
MELA Melanico ??? S 1.58 119 P **Pb 15 12 07.2 -0.4**
MELA AML AML
comp=E,944µm,1.1s
MELA AML AML
comp=N,1205µm,1.0s
MELA AML AML
comp=N,1205µm,1.0s
MELA AML AML
comp=E,944µm,0.9s
MAON Monte Argentar 1.59 268 P **Pb 15 12 07.2 -0.6**
MAON AML AML
comp=E,402µm,1.0s
MAON AML AML
comp=N,329µm,1.2s
MAON AML AML
comp=N,329µm,0.8s
VITU Vitulano (BN) 1.65 142 P **Pb 15 12 08.3 -0.5**
PSB1 Pescosannita 1.71 138 P **Pb 15 12 09.3 -0.4**
SFI Santa Sofia 1.76 324 P **Pb 15 12 10.0 -0.7**
SFI AML AML
comp=N,386µm,0.7s
SFI AML AML
comp=N,524µm,0.7s
SFI AML AML
comp=E,656µm,0.6s
SFI AML AML
comp=E,724µm,0.8s
CASP Castiglione de 1.81 280 P **Pn 15 12 10.3 +1.1**
OSSC Osservatorio P 1.81 305 P **Pb 15 12 10.6 -1.0**
APRC Apricena 1.83 113 P **Pb 15 12 11.1 -0.8**
RUFI Rufina 1.87 317 P **Pn 15 12 11.1 +1.1**
RUFI AML AML
comp=E,352µm,0.9s
RUFI AML AML
comp=N,385µm,1.0s
RUFI AML AML
comp=N,385µm,1.0s
RUFI AML AML
comp=E,352µm,1.1s
SGTA Sant Agata di 2.06 130 P **Pb 15 12 15.7 -0.2**
BRIS BRISIGHELLA 2.10 323 P **Pb 15 12 15.8 -0.7**
SNAL S. Angelo Dei 2.13 137 P **Pb 15 12 15.8 -1.1**
EQUI Equi 2.83 307 P **Pn 15 12 24.7 +1.5**
NDIM Novi di Modena 2.95 325 AML AML
comp=E,11005µm,1.6s
NDIM AML AML
comp=N,4530µm,0.1s
NDIM AML AML
comp=E,10065µm,1.0s
NDIM AML AML
comp=N,5375µm,0.1s
NDIM AML AML
comp=E,11005µm,0.4s
PGF Pioggiola 3.17 272 *e*P **Pn 15 12 30.1 +2.1**
PGF *e*Sn **Sn 15 13 03.2 -2.1**
comp=E,4.3nm,0.3s
GBRS Gornja Briga 3.23 19 *i* Pn **Pn 15 12 30.2 +1.5**
STON Ston 3.28 82 *e*Pn **Pn 15 12 31.4 +2.1**
STON *e*Sn **Sn 15 13 09.1 +1.3**
BOJS Bojanci 3.33 25 *i* Pn **Pn 15 12 31.8 +1.7**
BOJS Bojanci 3.33 25 AML AML
comp=E,441µm,1.3s
BOJS AML AML
comp=N,298µm,1.2s
BLY Banja Luka 3.62 50 *e*Pn **Pn 15 12 36.2 +2.1**
DOSS Dosso del Somm 3.71 337 P **Pn 15 12 36.4 +1.0**

DOSS					AML	AML			
	comp=E,150µm,0.8s								
DOSS					AML	AML			
	comp=N,175µm,0.5s								
CTI	**Castel Tesino**	**3.74**	**342**		P	**Pn**	**15 12 37.2**	**+1.4**	
CTI					AML	AML			
	comp=E,136µm,0.6s								
CTI					AML	AML			
	comp=E,136µm,1.4s								
CTI					AML	AML			
	comp=N,145µm,0.3s								
TREB	**Trebinje**	**3.75**	**85**	*e*Pn		**Pn**	**15 12 38.4**	**+2.6**	
TREB				*e*Sn		**Sn**	**15 13 20.5**	**+1.0**	
CADS	**Cadrg**	**3.75**	**5**	*i* Pn		**Pn**	**15 12 36.5**	**+0.7**	
STAL	**STALIGIAL**	**3.79**	**354**	P		**Pn**	**15 12 37.7**	**+1.3**	
STAL				AML		AML			
	comp=E,406µm,1.3s								
STAL				AML		AML			
	comp=N,303µm,1.2s								
STAL				AML		AML			
	comp=E,398µm,0.3s								
STAL				AML		AML			
	comp=N,200µm,0.3s								
STAL				AML		AML			
	comp=N,200µm,1.7s								
STAL				AML		AML			
	comp=E,406µm,0.7s								
STAL				AML		AML			
	comp=N,303µm,0.8s								
STAL				AML		AML			
	comp=E,398µm,1.7s								
LUSI	**Trento, Gardas**	**3.85**	**335**	P		**Pn**	**15 12 38.8**	**+1.5**	
LUSI				AML		AML			
	comp=N,231µm,0.5s								
LUSI				AML		AML			
	comp=E,148µm,1.3s								
CIMO	**Cimolais**	**3.86**	**351**	P		**Pn**	**15 12 38.4**	**+1.0**	
CIMO				AML		AML			
	comp=E,58µm,1.3s								
CIMO				AML		AML			
	comp=N,68µm,1.3s								
CIMO				AML		AML			
	comp=E,58µm,0.7s								
CIMO				AML		AML			
	comp=N,68µm,0.7s								
PTCC	**Patocco-Chiusa**	**3.91**	**1**	P		**Pn**	**15 12 39.2**	**+1.0**	
PTCC				AML		AML			
	comp=N,81µm,0.8s								
PTCC				AML		AML			
	comp=N,81µm,1.2s								
PTCC				AML		AML			
	comp=E,113µm,0.4s								
ACOM	**Acomizza, Ital**	**4.06**	**2**	P		**Pn**	**15 12 41.7**	**+1.5**	
ZOU	**Zoufplan**	**4.07**	**357**	P		**Pn**	**15 12 41.9**	**+1.5**	
ZOU				AML		AML			
	comp=N,101µm,1.6s								
ZOU				AML		AML			
	comp=N,101µm,0.4s								
ZOU				AML		AML			
	comp=E,135µm,0.4s								
OBKA	**Obir**	**4.12**	**12**	*i* Pn		**Pn**	**15 12 42.7**	**+1.8**	
	comp=E,7.3nm,0.6s								
FVI	**Forni Avoltri**	**4.12**	**355**	P		**Pn**	**15 12 42.6**	**+1.6**	
FVI				AML		AML			
	comp=E,95µm,0.4s								
FVI				AML		AML			
	comp=N,139µm,0.7s								
MYKA	**Terra Mystica**	**4.14**	**3**	*i* Pn		**Pn**	**15 12 43.0**	**+1.7**	
	comp=N,1.8nm,0.2s,SNR=4.6								
ABTA	**Abfaltersbach**	**4.29**	**353**	*i* Pn		**Pn**	**15 12 45.7**	**+2.4**	
	comp=N,15nm,0.6s								
SOKA	**Soboth**	**4.37**	**16**	*i* Pn		**Pn**	**15 12 46.0**	**+1.6**	
	comp=N,1.0nm,0.2s								
PDG	**Podgorica**	**4.42**	**89**	⇑P		**Pn**	**15 12 48.1**	**+3.2**	
PDG	**Podgorica**	**4.42**	**89**	*e*Pn		**Pn**	**15 12 48.2**	**+3.2**	
PDG				*e*Sn		**Sn**	**15 13 38.5**	**+2.5**	
SBF	**Sospel**	**4.49**	**290**	*e*P		**Pn**	**15 12 47.5**	**+1.4**	
SBF				*e*Sn		**Sn**	**15 13 35.8**	**-2.1**	
	comp=N,7.7nm,0.3s								
KBA	**Koelnbreinsper**	**4.58**	**1**	*i* Pn		**Pn**	**15 12 49.6**	**+2.1**	
	comp=N,1.7nm,0.2s								
MUGIO	**Muggio**	**4.59**	**320**	AML		AML			
	comp=E,48µm,1.5s								
MUGIO				AML		AML			
	comp=N,39µm,0.5s								
MUGIO				AML		AML			
	comp=N,39µm,1.5s								
MUGIO				AML		AML			
	comp=E,48µm,0.5s								
ROSI	**Rosskopf**	**4.63**	**344**	P		**Pn**	**15 12 49.0**	**+0.9**	
BBLS	**Lazići**	**4.68**	**71**	*e*Pn		**Pn**	**15 12 51.5**	**+2.8**	
FETA	**Feichten**	**4.88**	**339**	*i* Pn		**Pn**	**15 12 54.6**	**+3.1**	
	comp=E,4.1nm,0.4s								
WTTA	**Wattenberg**	**4.91**	**347**	*i* Pn		**Pn**	**15 12 55.3**	**+3.3**	
	comp=E,1.8nm,0.2s								
DAVOX	**Davos/Dischmat**	**4.93**	**332**	Pn		**Pn**	**15 12 53.5**	**+1.3**	
	comp=E,2.6nm,0.3s,baz=154,slow=18,SNR=14								
DAVOX				Sn		**Sn**	**15 13 50.0**	**+1.2**	
	comp=E,1.4nm,0.3s,baz=95,slow=21,SNR=3.7								
	comp=E,6.3nm,0.3s								
SQTA	**Sankt Quirin**	**4.95**	**343**	*i* Pn		**Pn**	**15 12 54.9**	**+2.5**	
	comp=E,6.2nm,0.3s,SNR=6.2								
SJES	**Sjenica**	**4.97**	**79**	*e*Pn		**Pn**	**15 12 56.0**	**+3.2**	
SJES				*e*Sn		**Sn**	**15 13 51.4**	**+1.5**	
WATA	**Walderalm**	**4.99**	**347**	*e*Pn		**Pn**	**15 12 56.8**	**+3.7**	
	comp=E,4.9nm,0.3s								
ARSA	**Arzberg**	**5.01**	**18**	*i* Pn		**Pn**	**15 12 54.6**	**+1.3**	
	comp=E,2.5nm,0.3s								
TIR	**Tirane**	**5.04**	**101**	*e*Pn		**Pn**	**15 12 56.2**	**+2.6**	
TIR				*e*Sn		**Sn**	**15 13 52.7**	**+1.3**	
LMR	**La Mourre**	**5.05**	**282**	*e*P		**Pn**	**15 12 55.8**	**+2.2**	
LMR				*e*Sn		**Sn**	**15 13 48.9**	**-2.6**	
	comp=E,2.1nm,0.3s								
MOTA	**Moosalm**	**5.09**	**343**	*e*Pn		**Pn**	**15 12 57.0**	**+2.6**	
	comp=E,3.6nm,0.4s								
IVAS	**Ivanjica**	**5.15**	**76**	*e*Sn		**Sn**	**15 13 54.4**	**+0.3**	
DIVS	**Divibare**	**5.15**	**70**	*e*Pn		**Pn**	**15 12 57.0**	**+1.8**	
DIVS				*e*Sn		**Sn**	**15 13 54.6**	**+0.4**	
BIOA	**Bad Ischl, Aus**	**5.20**	**3**	*i* Pn		**Pn**	**15 12 57.7**	**+1.8**	
	comp=E,4.0nm,0.3s,SNR=4.6								
MBDF	**Montbardon**	**5.23**	**297**	*e*P		**Pn**	**15 12 58.3**	**+2.0**	
MBDF				*e*Sn		**Sn**	**15 13 51.9**	**-4.3**	
	comp=E,2.5nm,0.4s								
RETA	**Reutte**	**5.30**	**341**	*i* Pn		**Pn**	**15 13 01.1**	**+3.8**	
	comp=E,1.1nm,0.2s								
DAVA	**Damuels**	**5.37**	**334**	*i* Pn		**Pn**	**15 13 01.9**	**+3.7**	
	comp=E,2.1nm,0.2s								
MOA	**Molln**	**5.40**	**7**	*i* Pn		**Pn**	**15 13 01.1**	**+2.5**	
	comp=E,2.3nm,0.4s								
MOA	**Molln**	**5.40**	**7**	*e*Pn		**Pn**	**15 13 00.7**	**+2.2**	
FRGS	**Fruska Gora**	**5.42**	**58**	*e*Pn		**Pn**	**15 13 01.6**	**+2.8**	
TRUS	**Trudelj**	**5.47**	**69**	*e*Pn		**Pn**	**15 13 01.4**	**+1.9**	
LPL	**La Plagne**	**5.61**	**305**	*e*Pn		**Pn**	**15 13 03.5**	**+1.9**	
GRUS	**Gruza**	**5.61**	**73**	*e*Pn		**Pn**	**15 13 03.6**	**+2.2**	
GRUS				*e*Sn		**Sn**	**15 14 07.0**	**+1.6**	
RONA	**Rosalia, Austr**	**5.62**	**21**	*i* Pn		**Pn**	**15 13 02.9**	**+1.3**	
	comp=E,1.4nm,0.2s,SNR=5.7								
CONA	**Conrad Observa**	**5.73**	**18**	*i* Pn		**Pn**	**15 13 04.6**	**+1.4**	
	comp=E,1.9nm,0.3s,SNR=6.8								
OHR	**Ohrid**	**5.78**	**101**	*e*Pn		**Pn**	**15 13 07.5**	**+3.6**	
OHR				*e*Sn		**Sn**	**15 14 10.6**	**+0.8**	
SELS	**Selova**	**5.80**	**80**	*e*Pn		**Pn**	**15 13 06.3**	**+2.2**	
SELS				*e*Sn		**Sn**	**15 14 09.7**	**-0.5**	
SMRF	**Simiane la Rot**	**5.82**	**287**	*e*P		**Pn**	**15 13 07.0**	**+2.6**	
SMRF				*e*Sn		**Sn**	**15 14 08.9**	**-1.8**	
	comp=E,1.2nm,0.3s								
ORIF	**Oris-en-Rattie**	**5.89**	**297**	*e*P		**Pn**	**15 13 09.4**	**+4.1**	
BARS	**Barje**	**6.30**	**84**	*e*Pn		**Pn**	**15 13 13.4**	**+2.5**	
BARS				*e*Sn		**Sn**	**15 14 21.8**	**-0.6**	
FNA	**Florina**	**6.30**	**103**	*e*Pn		**Pn**	**15 13 14.5**	**+3.6**	
FNA				*e*Sn		**Sn**	**15 14 21.6**	**-0.9**	
GERES	**GERESS Array B**	**6.36**	**2**	Pn		**Pn**	**15 13 12.1**	**+0.3**	
	comp=E,0.5nm,0.3s,baz=172,slow=13,SNR=8.7								
GERES				Sn		**Sn**	**15 14 21.1**	**-2.9**	
	comp=E,1.8nm,0.3s,baz=176,slow=15,SNR=2.4								
	comp=E,0.8nm,0.3s								
CKRC	**Cesky Krumlov**	**6.37**	**6**	*e*SN		**Sn**	**15 14 22.5**	**-1.6**	
PRVS	**Prvonek**	**6.50**	**87**	*e*Pn		**Pn**	**15 13 16.2**	**+2.5**	
PRVS				*e*Sn		**Sn**	**15 14 25.6**	**-1.7**	
MODS	**Modra-Piesok**	**6.52**	**24**	*e*PN		**Pn**	**15 13 14.8**	**+0.9**	
CABF	**La Chapelle**	**6.58**	**311**	*e*P		**Pn**	**15 13 16.8**	**+1.9**	
KHC	**Kasperske Hory**	**6.64**	**2**	*e*PN		**Pn**	**15 13 16.4**	**+0.8**	
KHC				*e*SN		**Sn**	**15 14 29.5**	**-1.3**	
VIVF	**Saint-Julien-l**	**6.67**	**294**	*e*Pn		**Pn**	**15 13 16.1**	**0.0**	
ZAGS	**Zajecar**	**6.68**	**76**	*e*Pn		**Pn**	**15 13 17.8**	**+1.8**	
ZAPS	**Zavoj**	**6.91**	**80**	*e*Sn		**Sn**	**15 14 36.0**	**-1.5**	

HINF	**Hinteralfeld**	**7.00**	**322**	*e*P		**Pn**	**15 13 23.8**	**+3.3**	
HINF				*e*Sn		**Sn**	**15 14 35.4**	**-4.2**	
	comp=E,4.0nm,0.3s								
CDF	**Champ du Feu**	**7.27**	**327**	*e*Pn		**Pn**	**15 13 23.5**	**-0.8**	
CDF				*e*Sn		**Sn**	**15 14 41.4**	**-4.9**	
	comp=E,5.6nm,0.4s								
VTS	**Vitosha**	**7.35**	**86**	⇑P		**Pn**	**15 13 27.6**	**+2.1**	
VTS	**Vitosha**	**7.35**	**86**	*e*Pn		**Pn**	**15 13 27.4**	**+2.0**	
VTS	**Vitosha**	**7.35**	**86**	*e*Pn		**Pn**	**15 13 27.4**	**+2.0**	
VTS				*e*Sn		**Sn**	**15 14 47.4**	**-1.0**	
VTS				*e*Sn		**Sn**	**15 14 48.1**	**-0.3**	
HAU	**Haudompre**	**7.37**	**321**	*e*Pn		**Pn**	**15 13 24.8**	**-0.8**	
HAU				*e*Sn		**Sn**	**15 14 43.2**	**-5.5**	
	comp=E,7.8nm,0.3s								
KEST	**Kesra**	**7.41**	**206**	Pn		Pn	15 13 31.9	+5.6	
	comp=E,0.5nm,0.3s,baz=315,slow=2.9,SNR=4.1								
	comp=E,4.8nm,0.6s								
GZR	**Gura Zlata**	**7.44**	**64**	⇑P		**Pn**	**15 13 29.7**	**+3.2**	
SMF	**Signal de Mont**	**7.92**	**305**	*e*P		**Pn**	**15 13 36.6**	**+3.5**	
PAGF	**Fort de Pagny**	**8.05**	**321**	*e*Pn		**Pn**	**15 13 33.6**	**-1.3**	
	baz=140								
PAGF				*e*Sn		**Sn**	**15 14 59.3**	**-6.2**	
	comp=E,5.0nm,0.3s								
MARR	**Marisel-Cluj**	**8.17**	**56**	⇓P		**Pn**	**15 13 39.7**	**+3.1**	
LOR	**Lormes**	**8.22**	**309**	*e*Pn		**Pn**	**15 13 36.1**	**-1.1**	
LOR				*e*Sn		**Sn**	**15 15 03.8**	**-5.8**	
	comp=E,1.7nm,0.3s								
AVF	**Avril sur Loir**	**8.28**	**305**	*e*P		**Pn**	**15 13 42.1**	**+4.1**	
BRG	**Berggiesshubel**	**8.39**	**3**	*e*r			15 15 07.5		
BRG				Amp			15 15 10.8		
	comp=Z,1.4nm,0.4s								
BRG				r			15 16 10.8		
BRG				Amp			15 16 32.1		
	comp=Z,6.5nm,1.0s								
CLL	**Collm**	**8.82**	**359**	*e*Pn		Pn	15 13 52.0	+6.6	
CLL				*e*Sn		Sn	15 15 10.0	-14	
CLL				*e*x		x	15 15 22.0		
CLL				*e*Sg			15 16 23.0		
FINES	**FINESS Array B**	**20.48**	**18**	P		Pn	15 16 18.0	+0.4	
	comp=Z,2.0nm,0.8s,baz=209,slow=14,SNR=1.3								
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**47.85**	**60**	P		**P**	**15 20 17.6**	**+2.2**	
	comp=Z,0.3nm,0.7s,baz=285,slow=4.5,SNR=4.0								
	comp=Z,0.3nm,0.7s								
YKA	**Yellowknife Ar**	**67.34**	**337**	P		**P**	**15 22 33.1**	**+0.8**	
	comp=Z,0.1nm,0.6s,baz=36,slow=5.8,SNR=2.6								
	comp=Z,0.1nm,0.6s								

ROM 18 15:15:56.1±0.1,42°551N±0'005×13°264E±0'009, h11km,ML2.6/7,14C-7D,Error ellipse: s-maj=0.8km s-min=0.5km az=225.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
RM33	**Pellescritta (**	**0.06**	**221**	⇑P	Pg	15	15	58.8	+0.5
RM33				S	Sg	15	16	00.5	+0.5
RM33				AML	AML				
	comp=E,21400µm,0.3s								
RM33				AML	AML				
	comp=N,10415µm,0.7s								
RM33				AML	AML				
	comp=E,20900µm,0.3s								
RM33				AML	AML				
	comp=N,10450µm,0.7s								
RM33				AML	AML				
	comp=N,10395µm,0.7s								
RM33				AML	AML				
	comp=N,10400µm,0.7s								
RM33				AML	AML				
	comp=N,10410µm,0.7s								
RM33				AML	AML				
	comp=N,10400µm,0.7s								
RM33				AML	AML				
	comp=N,10436µm,0.7s								
RM33				AML	AML				
	comp=E,20900µm,0.3s								
RM33				AML	AML				
	comp=E,21396µm,0.3s								
RM33				AML	AML				
	comp=N,10400µm,1.3s								
RM33				AML	AML				
	comp=N,10436µm,1.3s								
CAMP	**Campotosto**	**0.11**	**98**	⇓P	Pg	15	15	59.3	+0.3
CAMP				AML	AML				
	comp=N,1995µm,0.9s								
CAMP				AML	AML				
	comp=E,2480µm,1.0s								
T1247	**Pizzolo (AQ)**	**0.11**	**167**	⇑P	Pb	15	15	59.9	-0.5
T1247				S	Sg	15	16	02.2	+1.2
T1247				AML	AML				
	comp=E,6335µm,0.3s								
T1247				AML	AML				
	comp=N,5495µm,1.6s								
T1247				AML	AML				
	comp=N,5707µm,3.6s								
T1247				AML	AML				
	comp=E,5937µm,0.3s								
T1247				AML	AML				
	comp=N,5707µm,0.4s								
T1218	**Civita (PG)**	**0.16**	**317**	⇑P	Pg	15	16	00.0	+0.2
T1218				S	Sg	15	16	02.9	+0.5
T1218				AML	AML				
	comp=N,8780µm,0.2s								
T1218				AML	AML				
	comp=E,3625µm,1.3s								
T1218				AML	AML				
	comp=N,8750µm,0.2s								
T1218				AML	AML				
	comp=N,8820µm,0.2s								
T1218				AML	AML				
	comp=E,3305µm,0.2s								
T1218				AML	AML				
	comp=N,8840µm,0.2s								
T1218				AML	AML				
	comp=E,3305µm,0.1s								
T1218				AML	AML				
	comp=E,3626µm,1.3s								
T1218				AML	AML				
	comp=N,8839µm,0.2s								
T1218				AML	AML				
	comp=N,8775µm,0.2s								
T1218				AML	AML				
	comp=E,3305µm,1.9s								
T1218				AML	AML				
	comp=N,8839µm,1.8s								
T1218				AML	AML				
	comp=N,8775µm,1.8s								
LNSS	**Leonessa**	**0.17**	**287**	⇑P	Pg	15	16	00.4	+0.4
LNSS				S	Sg	15	16	03.5	+0.8
LNSS				AML	AML				
	comp=N,4965µm,0.3s								
LNSS				AML	AML				
	comp=E,4000µm,0.2s								
LNSS				AML	AML				
	comp=N,4966µm,0.3s								
LNSS				AML	AML				
	comp=E,3998µm,0.2s								
GIGS	**Gran Sasso**	**0.25**	**114**	⇑P	Pg	15	16	01.3	+0.1
GIGS				S	Sg	15	16	05.2	+0.5
GIGS				AML	AML				
	comp=E,2345µm,0.3s								
GIGS				AML	AML				
	comp=N,6460µm,0.9s								
GIGS				AML	AML				
	comp=N,8140µm,1.0s								
GIGS				AML	AML				
	comp=E,2970µm,1.6s								
GIGS				AML	AML				
	comp=E,549µm,1.9s								
GIGS				AML	AML				
	comp=N,956µm,0.1s								
GIGS				AML	AML				
	comp=E,549µm,0.1s								
T1217	**Poggiodomo (PG**	**0.29**	**303**	⇑P	Pg	15	16	02.2	+0.1
T1217				S	Sg	15	16	06.8	+0.7
T1217				AML	AML				
	comp=E,14300µm,0.5s								
T1217				AML	AML				
	comp=N,11740µm,0.7s								
T1217				AML	AML				
	comp=E,13900µm,0.7s								
T1217				AML	AML				
	comp=N,14000µm,0.9s								
T1217				AML	AML				
	comp=E,14350µm,0.5s								
T1217				AML	AML				
	comp=N,11745µm,0.7s								
T1217				AML	AML				
	comp=E,13850µm,0.7s								
T1217				AML	AML				
	comp=N,14000µm,0.8s								
T1217				AML	AML				
	comp=E,14300µm,0.5s								
T1217				AML	AML				
	comp=N,11750µm,0.6s								
T1217				AML	AML				
	comp=E,813µm,1.8s								
T1217				AML	AML				
	comp=N,788µm,0.7s								
T1217				AML	AML				
	comp=E,932µm,0.3s								
T1217				AML	AML				
	comp=N,808µm,0.7s								
T1217				AML	AML				
	comp=E,813µm,0.2s								
FIAM	**Fiamignano**	**0.30**	**201**	⇑P	Pg	15	16	02.7	+0.4
FIAM				S	Sb	15	16	07.6	-1.0
FIAM				AML	AML				
	comp=E,14250µm,0.8s								
FIAM				AML	AML				
	comp=E,14150µm,0.7s								
FIAM				AML	AML				
	comp=N,11560µm,1.1s								
FIAM				AML	AML				
	comp=N,791µm,0.3s								
FIAM				AML	AML				
	comp=N,791µm,1.7s								
FIAM				AML	AML				
	comp=E,690µm,0.6s								
ARRO	**Arrone**	**0.37**	**274**	P	Pg	15	16	03.6	+0.2
ARRO				S	Sg	15	16	09.3	+1.0
ARRO				AML	AML				
	comp=E,19850µm,1.1s								
ARRO				AML	AML				
	comp=N,39600µm,1.0s								
ARRO				AML	AML				
	comp=N,15800µm,0.4s								
ARRO				AML	AML				
	comp=E,19900µm,1.1s								
ARRO				AML	AML				
	comp=N,12750µm,0.6s								
FAGN	**Fagnano**	**0.37**	**140**	P	Pb	15	16	04.2	-0.5
FAGN				AML	AML				
	comp=E,23000µm,0.4s								
FAGN				AML	AML				
	comp=N,22550µm,0.3s								
T0110	**Collepietro**	**0.50**	**130**	⇑P	Pg	15	16	05.8	-0.1
T0110				AML	AML				
	comp=E,60800µm,0.4s								
T0110				AML	AML				
	comp=N,50150µm,0.4s								
FDMO	**Fiordimonte**	**0.50**	**345**	P	Pg	15	16	05.8	-0.1
FDMO				AML	AML				
	comp=E,38300µm,1.2s								
FDMO				AML	AML				
	comp=N,53250µm,1.1s								
CESX	**Cesi**	**0.51**	**277**	⇑P	Pg	15	16	05.8	-0.2
CESX				S	Sb	15	16	14.0	-0.5
CESX				AML	AML				
	comp=E,30750µm,0.7s								
CESX				AML	AML				
	comp=N,46800µm,0.5s								
GUMA	**Gualdo di Mace**	**0.51**	**6**	P	Pg	15	16	06.3	+0.2
GUMA				S	Sb	15	16	14.8	+0.1
GUMA				AML	AML				
GUMA				AML	AML				
GUMA				AML	AML				
GUMA				AML	AML				
GUMA				AML	AML				
CESI	**CESI - Serrava**	**0.53**	**330**	P	Pg	15	16	06.7	+0.4
CESI				AML	AML				
	comp=E,34000µm,0.5s								
CESI				AML	AML				
	comp=E,48150µm,0.8s								
CESI				AML	AML				
	comp=N,38100µm,1.3s								
CSP1	**Cessapalombo**	**0.54**	**355**	P	Pg	15	16	06.4	-0.3
CSP1				AML	AML				
	comp=E,62950µm,1.1s								
CSP1				AML	AML				
	comp=N,68800µm,1.1s								
CSP1				AML	AML				
	comp=E,63000µm,1.1s								
CSP1				AML	AML				
	comp=N,68900µm,1.1s								
MOMA	**Monte Martano**	**0.57**	**296**	⇓P	Pg	15	16	07.4	+0.1
MOMA				S	Sb	15	16	16.3	-0.1
MOMA				AML	AML				
	comp=E,37050µm,1.1s								
MOMA				AML	AML				
	comp=N,39000µm,1.4s								
MOMA				AML	AML				
	comp=E,35200µm,1.1s								
MOMA				AML	AML				
	comp=N,38150µm,1.4s								
T1220	**Camerino, Fraz**	**0.57**	**347**	⇑P	Pb	15	16	08.7	+0.5
T1220				S	Sb	15	16	16.5	+0.1
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
T1220				AML	AML				
CERT	**Cerreto**	**0.64**	**199**	⇓P	Pg	15	16	08.3	-0.1
CERT				AML	AML				
	comp=E,13350µm,1.1s								
CERT				AML	AML				
	comp=E,10340µm,0.5s								
CERT				AML	AML				
	comp=N,9775µm,0.5s								
SRES	**S.Oreste - Sor**	**0.64**	**241**	⇑P	Pg	15	16	08.9	+0.4
SRES				AML	AML				
	comp=E,8230µm,1.2s								
SRES				AML	AML				
	comp=N,9600µm,0.5s								
MTCE	**Montecelio**	**0.66**	**216**	⇓P	Pb	15	16	09.2	-0.4
MTCE				AML	AML				
	comp=E,18600µm,0.5s								
MTCE				AML	AML				
	comp=N,17900µm,0.6s								
MTCE				AML	AML				
	comp=E,16200µm,0.9s								
ASSB	**Assisi San Ben**	**0.66**	**318**	P	Pg	15	16	08.7	-0.3
ASSB				S	Sb	15	16	18.7	-0.3
ASSB				AML	AML				
	comp=N,32450µm,1.6s								
ASSB				AML	AML				
	comp=E,29100µm,1.6s								
GAG1	**Gagliole**	**0.70**	**348**	S	Sb	15	16	20.1	+0.1
GAG1				AML	AML				
	comp=E,53300µm,0.5s								
GAG1				AML	AML				
	comp=N,54300µm,0.7s								
SNTG	**Esanatoglia**	**0.74**	**341**	⇓P	Pg	15	16	10.5	+0.1
SNTG				AML	AML				
	comp=E,12750µm,0.8s								
SNTG				AML	AML				
	comp=N,14650µm,0.8s								
SNTG				AML	AML				
	comp=E,11100µm,0.8s								
SNTG				AML	AML				
	comp=E,13800µm,0.8s								
SNTG				AML	AML				
	comp=N,14650µm,0.8s								
SNTG				AML	AML				
	comp=E,12400µm,0.9s								
SNTG				AML	AML				
	comp=N,15950µm,0.8s								
CING	**Cingoli**	**0.82**	**357**	⇓P	Pg	15	16	12.0	0.0
LPEL	**Lama dei Pelig**	**0.85**	**126**	S	Sg	15	16	23.4	-0.2
MURB	**Monte Urbino**	**0.90**	**323**	⇑P	Pn	15	16	14.3	-0.4
MURB				AML	AML				
	comp=E,51050µm,0.6s								
MURB				AML	AML				
	comp=N,59050µm,0.8s								
MURB				AML	AML				
	comp=N,61800µm,0.8s								
MURB	

comp=N,41600μm,0.8s
MGAB AML AML
comp=E,73900μm,1.1s
MGAB AML AML
comp=N,37150μm,0.5s
VITU Vitulano (BN) 1.71 143 ⇑P Pn 15 16 23.4 -2.5
VITU AML AML
comp=E,1080μm,1.4s
VITU AML AML
comp=N,2465μm,0.8s
VITU AML AML
comp=E,2200μm,0.6s
VITU AML AML
comp=N,2420μm,0.8s
TREM Isole Tremiti 1.72 104 ⇑P Pb 15 16 28.3 +0.6
PZUN Potenza 2.69 134 S Sg 15 17 21.6 -1.0
MTSN Montesano sull 2.95 140 P Pn 15 16 44.2 +1.2
GRAM Graiana 3.03 311 P Pn 15 16 46.4 +2.3

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*BGR **18** 15:16:07.4±0.6,42.°13N×13.°70E,h10km,ML4.7/13,Error ellipse: s-maj=12.2km s-min=11.1km az=26.0*
*MOS **18** 15:16:09.8±1.2,42.°63N×13.°25E,h11km,mb4.7/33,Error ellipse: s-maj=5.6km s-min=3.4km az=79.8*
*IDC **18** 15:16:10.8±0.6,42.°77N×13.°17E,h0km,mb4.3/22, mbtmp4.2/33,ML3.7/11,MS3.7/29,Error ellipse: s-maj=11.3km s-min=9.8km az=77.0*
*ROM **18** 15:16:10.4±0.0,42.°600N±0.°002×13.°288E±0.°002, h9km,ML4.3/105,Mw4.3,Error ellipse: s-maj=0.2km s-min=0.1km az=66.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-2.61; Mθθ0.65; Mϕϕ 1.96; Mrθ-1.36; Mθϕ-1.42; Mϕr0.04; Fault plane solution: M₀3.06433×10¹⁵ NP1:φs347.00000°,δ41.00000°, λ-58.00000°. NP2:φs127.00000°,δ57.00000°, λ-115.00000°.*
*NEIC **18** 15:16:10.7±1.5,42.°59N±0.°04×13.°29E±0.°06,h10km±1km, mb4.7/59,Mwr4.3(VIE) Error ellipse: s-maj=8.0km s-min=6.5km az=227.0*
*STR **18** 15:16:11.3±1.9,43.°N±11.°×1.°3E±1.°3,h10km,MLv4.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=130.8, preliminary*
*BEO **18** 15:16:12.5±0.5,42.°63N×13.°35E,h0km,ML4.3/11*
*LDG **18** 15:16:12.0±0.1,42.°49N×13.°23E,h10km,Ml3.7/31,Error ellipse: s-maj=4.6km s-min=3.0km az=39.0*
*PDG **18** 15:16:12.3±1.0,42.°66N×13.°31E,h14km±4km,ML4.5/11, Error ellipse: s-maj=1.7km s-min=2.0km az=0.0*
*PRU **18** 15:16:12.5±0.0,42.°59N×13.°33E,h10km,M4.6*
*BUG **18** 15:16:13.1±0.9,42.°54N×12.°66E,h10km,ML5.2/3*
*MED_RC **18** 15:16:13.0±0.4,42.°51N×13.°00E,h10km,MW4.6/15, Moment Tensor Solution.Mantle waves: s15,c17; Duration: 1§0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.55±.03; Mθθ0.24±.03; Mϕϕ0.32±.03; Mrθ-0.41±.11; Mθϕ-0.25±.02; Mϕr0.59±.14; Best double couple: M₀0.90000×10¹⁶ NP1:φs144.00000°,δ72.00000°, λ-87.00000°. NP2:φs316.00000°,δ19.00000°, λ-98.00000°. Principal axes: T 0.8900, Plg26.0000°, Azm232.0000°; N 0.0300, Plg3.0000°, Azm323.0000°; P -0.9100, Plg63.0000°, Azm58.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ISC 18 15:16:11.1±0.5,42.°60N±0.°01×13.°26E±0.°01,h10km±3km, n722,σ1§76/862,mb4.6/68,MS3.7/23,51C-31D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h	m s	ISC
SMA1	**SAN MARTINO**	**0.06**	**58**	⇑P	**Pg**	**15**	**16 12.5**	**-1.0**
SMA1				S	**Sg**	**15**	**16 13.8**	**-1.3**
T1204	**Amatrice, Fraz**	**0.09**	**27**	⇑P	**Pg**	**15**	**16 12.9**	**-0.9**
T1204				S	**Sg**	**15**	**16 14.7**	**-1.0**
RM33	**Pellescritta (**	**0.10**	**202**	⇑P	**Pg**	**15**	**16 13.7**	**-0.1**
RM33				S	**Sg**	**15**	**16 15.9**	**+0.2**
RM33				AML	AML			
RM33				AML	AML			
RM33				AML	AML			
RM33				AML	AML			
RM33				AML	AML			
T1202	**Accumoli, Fraz**	**0.11**	**346**	⇓P	**Pg**	**15**	**16 13.8**	**-0.3**
T1202				S	**Sg**	**15**	**16 16.1**	**0.0**
CAMP	**Campotosto**	**0.12**	**119**	Pg	**Pg**	**15**	**16 13.6**	**-0.6**
CAMP				Sg	**Sg**	**15**	**16 15.8**	**-0.6**
CAMP	**Campotosto**	**0.12**	**119**	P	**Pg**	**15**	**16 13.8**	**-0.4**
CAMP				S	**Sg**	**15**	**16 15.8**	**-0.6**
T1218	**Civita (PG)**	**0.13**	**304**	⇑P	**Pg**	**15**	**16 14.3**	**0.0**
T1218				S	**Sg**	**15**	**16 16.9**	**+0.3**
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1247	**Pizzolo (AQ)**	**0.16**	**170**	P	**Pg**	**15**	**16 14.8**	**+0.1**
T1247				S	**Sg**	**15**	**16 17.6**	**+0.5**
T1247				AML	AML			
T1247				AML	AML			
T1247				AML	AML			
LNSS	**Leonessa**	**0.16**	**272**	⇑P	**Pg**	**15**	**16 15.1**	**+0.3**
LNSS				S	**Sg**	**15**	**16 18.4**	**+1.0**
LNSS				AML	AML			
LNSS				AML	AML			
LNSS				AML	AML			
TERO	**Teramo**	**0.25**	**84**	P	**Pg**	**15**	**16 15.3**	**-1.0**
TERO				S	**Sg**	**15**	**16 19.4**	**-0.5**
AQU	**L'Aquila**	**0.26**	**157**	P	**Pg**	**15**	**16 16.4**	**-0.1**
AQU				S	**Sg**	**15**	**16 21.1**	**+1.0**
T1217	**Poggiodomo (PG**	**0.27**	**295**	⇑P	**Pg**	**15**	**16 16.7**	**0.0**
T1217				S	**Sg**	**15**	**16 21.3**	**+0.9**
T1217				AML	AML			
comp=E,91800μm,0.4s								
T1217				AML	AML			
T1217				AML	AML			
comp=E,92150μm,0.4s								
T1217				AML	AML			
T1217				AML	AML			
comp=E,91800μm,0.4s								
T1217				AML	AML			
T1217				AML	AML			
comp=E,91800μm,1.6s								
T1217				AML	AML			
comp=E,91800μm,1.6s								
GIGS	**Gran Sasso**	**0.27**	**123**	⇑P	**Pg**	**15**	**16 16.0**	**-0.7**
GIGS				S	**Sg**	**15**	**16 19.9**	**-0.5**
GIGS				AML	AML			
comp=E,29500μm,1.5s								
GIGS				AML	AML			
comp=N,29550μm,0.8s								
FIAM	**Fiamignano**	**0.35**	**198**	⇑P	**Pg**	**15**	**16 18.1**	**0.0**
FIAM				AML	AML			
comp=E,61000μm,0.7s								
FIAM				AML	AML			
comp=N,53350μm,0.7s								
FIAM				AML	AML			
comp=E,61000μm,1.3s								
ARRO	**Arrone**	**0.37**	**267**	⇑P	**Pg**	**15**	**16 18.6**	**+0.2**
ARRO				S	**Sb**	**15**	**16 24.6**	**-0.9**
ARRO				AML	AML			
comp=E,40100μm,0.9s								
ARRO				AML	AML			
comp=E,40100μm,1.1s								
ARRO				AML	AML			
comp=N,69650μm,0.6s								
FEMA	**Monte Fema**	**0.40**	**337**	P	**Pg**	**15**	**16 18.6**	**-0.4**
FEMA				S	**Sg**	**15**	**16 25.0**	**+0.7**
FEMA				AML	AML			
FEMA				AML	AML			
comp=E,90400μm,1.0s								
FEMA				AML	AML			
FAGN	**Fagnano**	**0.41**	**144**	P	**Pg**	**15**	**16 18.5**	**-0.6**
FAGN				AML	AML			
FAGN				AML	AML			
FDMO	**Fiordimonte**	**0.46**	**344**	Pg	**Pg**	**15**	**16 19.4**	**-0.6**
FDMO				Sg	**Sg**	**15**	**16 26.4**	**+0.2**
FDMO	**Fiordimonte**	**0.46**	**344**	P	**Pg**	**15**	**16 19.5**	**-0.6**
FDMO				S	**Sg**	**15**	**16 26.9**	**+0.7**
FDMO				AML	AML			
comp=N,53250μm,1.1s								
FDMO				AML	AML			
comp=E,38300μm,1.2s								
FDMO				AML	AML			
comp=E,38300μm,0.8s								
GUMA	**Gualdo di Mace**	**0.47**	**7**	Pg	**Pg**	**15**	**16 19.9**	**-0.4**
GUMA				Sg	**Sg**	**15**	**16 26.9**	**+0.4**
GUMA	**Gualdo di Mace**	**0.47**	**7**	⇑P	**Pg**	**15**	**16 20.1**	**-0.2**
GUMA				S	**Sg**	**15**	**16 27.4**	**+0.9**
CESI	**CESI - Serrava**	**0.48**	**327**	⇓P	**Pg**	**15**	**16 20.3**	**-0.4**
CESI				S	**Sg**	**15**	**16 28.0**	**+0.9**
CESI				AML	AML			
comp=E,56150μm,0.8s								
CESI				AML	AML			
comp=N,48400μm,0.6s								
CSP1	**Cessapalombo**	**0.50**	**355**	P	**Pg**	**15**	**16 20.2**	**-0.6**
CSP1				S	**Sg**	**15**	**16 28.0**	**+0.6**
CSP1				AML	AML			
comp=E,62950μm,1.1s								
CSP1				AML	AML			
comp=N,70900μm,0.7s								
CSP1				AML	AML			
comp=E,63000μm,1.1s								
CSP1				AML	AML			
comp=N,70850μm,0.7s								
CESX	**Cesi**	**0.50**	**272**	Pg	**Pg**	**15**	**16 20.6**	**-0.4**
CESX				Sg	**Sg**	**15**	**16 27.3**	**-0.3**
CESX	**Cesi**	**0.50**	**272**	⇑P	**Pg**	**15**	**16 20.8**	**-0.2**
CESX				S	**Sb**	**15**	**16 28.6**	**-0.8**
CESX				AML	AML			
comp=N,46800μm,0.5s								
CESX				AML	AML			
comp=E,54050μm,0.7s								
CESX				AML	AML			
comp=N,46800μm,1.5s								
TRTR	**Tortoreto Alta**	**0.53**	**66**	⇑P	**Pg**	**15**	**16 21.7**	**+0.3**
TRTR				AML	AML			
TRTR				AML	AML			
comp=N,99500μm,0.4s								
T1220	**Camerino, Fraz**	**0.53**	**346**	P	**Pg**	**15**	**16 20.9**	**-0.5**
T1220				S	**Sg**	**15**	**16 29.2**	**+0.8**
T1220				AML	AML			
T1220				AML	AML			
T1220				AML	AML			
T1220				AML	AML			
T1220				AML	AML			
T1220				AML	AML			
T1220				AML	AML			
T0110	**Collepietro**	**0.53**	**134**	⇑P	**Pg**	**15**	**16 21.0**	**-0.5**
T0110				S	**Sg**	**15**	**16 29.4**	**+0.8**
T0110				AML	AML			
comp=E,80700μm,0.7s								
T0110				AML	AML			
comp=N,50150μm,0.4s								
MOMA	**Monte Martano**	**0.55**	**292**	P	**Pg**	**15**	**16 21.7**	**-0.2**
MOMA				S	**Sb**	**15**	**16 30.4**	**-0.5**
MOMA				AML	AML			
comp=E,38800μm,0.4s								
MOMA				AML	AML			
comp=N,39000μm,1.4s								
MOMA				AML	AML			
comp=N,38150μm,1.4s								
MOMA				AML	AML			
comp=E,38950μm,0.4s								
MNTP	**Montappone**	**0.56**	**16**	P	**Pg**	**15**	**16 21.8**	**-0.2**
MNTP				S	**Sb**	**15**	**16 31.4**	**+0.2**
MNTP				AML	AML			
MNTP				AML	AML			
MNTP				AML	AML			
MNTP				AML	AML			
PTQR	**Pietraquaria**	**0.58**	**170**	⇑P	**Pg**	**15**	**16 21.7**	**-0.8**
PTQR				AML	AML			
comp=E,11950μm,1.1s								
PTQR				AML	AML			
comp=N,12000μm,1.2s								
PTQR				AML	AML			
comp=E,11950μm,0.9s								
PTQR				AML	AML			
comp=N,12000μm,0.8s								
SEF1	**Sefro**	**0.60**	**337**	P	**Pg**	**15**	**16 22.1**	**-0.6**
SEF1				S	**Sb**	**15**	**16 31.6**	**-0.5**
SEF1				AML	AML			
comp=E,43550μm,0.6s								
SEF1				AML	AML			
comp=N,34250μm,0.5s								
MDAR	**Monte D'Aria**	**0.60**	**352**	P	**Pg**	**15**	**16 22.0**	**-0.8**
MDAR				S	**Sg**	**15**	**16 31.3**	**+0.5**
MDAR				AML	AML			
comp=N,38000μm,1.0s								
MDAR				AML	AML			
comp=E,28000μm,0.6s								
ASSB	**Assisi San Ben**	**0.63**	**315**	P	**Pg**	**15**	**16 22.9**	**-0.5**
SSM1	**San Severino M**	**0.63**	**354**	P	**Pg**	**15**	**16 22.7**	**-0.7**
SSM1				S	**Sg**	**15**	**16 32.4**	**+0.6**
FIU1	**Fiuminata**	**0.64**	**338**	P	**Pg**	**15**	**16 23.0**	**-0.6**
FIU1				S	**Sb**	**15**	**16 32.9**	**-0.5**
GAG1	**Gagliole**	**0.66**	**347**	P	**Pg**	**15**	**16 23.4**	**-0.5**
GAG1				S	**Sb**	**15**	**16 33.5**	**-0.4**
GAG1				AML	AML			
comp=N,69050μm,0.7s								
GAG1				AML	AML			
comp=E,53300μm,0.5s								
SRES	**S.Oreste - Sor**	**0.66**	**237**	⇑P	**Pg**	**15**	**16 23.4**	**-0.5**
SRES				AML	AML			
comp=E,18600μm,1.5s								
SRES				AML	AML			
comp=E,18600μm,0.5s								
SRES				AML	AML			
comp=N,13100μm,1.0s								
CERT	**Cerreto**	**0.68**	**198**	P	**Pg**	**15**	**16 23.5**	**-0.8**
MTL1	**Matelica**	**0.69**	**344**	P	**Pg**	**15**	**16 23.8**	**-0.6**
MTL1				S	**Sb**	**15**	**16 34.5**	**-0.2**
MTL1				AML	AML			
comp=E,59150μm,0.6s								
MTL1				AML	AML			
comp=N,65450μm,0.8s								
MTL1				AML	AML			
comp=N,65400μm,0.8s								
MTL1				AML	AML			
comp=N,65400μm,1.2s								
MTL1				AML	AML			
comp=E,59150μm,0.6s								
MTCE	**Montecelio**	**0.69**	**214**	P	**Pg**	**15**	**16 23.8**	**-0.7**
MTCE				AML	AML			
comp=N,17900μm,0.6s								
MTCE				AML	AML			
comp=E,30400μm,1.4s								
SNTG	**Esanatoglia**	**0.70**	**340**	P	**Pg**	**15**	**16 23.8**	**-0.9**
SNTG				AML	AML			
comp=E,12750μm,0.8s								
SNTG				AML	AML			
comp=N,14650μm,0.8s								
SNTG				AML	AML			
comp=N,15950μm,0.8s								
SNTG				AML	AML			
comp=N,14650μm,0.8s								
SNTG				AML	AML			
comp=E,12950μm,0.7s								
SNTG				AML	AML			
comp=E,12950μm,1.3s								
SNTG				AML	AML			
comp=E,13800μm,0.8s								
CADA	**Capodarco di F**	**0.70**	**31**	P	**Pg**	**15**	**16 25.0**	**+0.3**
EL6	**Elcito**	**0.74**	**351**	P	**Pg**	**15**	**16 24.6**	**-0.9**
EL6				AML	AML			
comp=E,30250μm,0.7s								
EL6				AML	AML			
comp=N,33550μm,0.6s								
ATCC	**AVT- Casa Cast**	**0.74**	**322**	P	**Pg**	**15**	**16 25.1**	**-0.4**
CIMA	**Civitanova Mar**	**0.77**	**23**	P	**Pg**	**15**	**16 26.3**	**+0.3**
VVLD	**Villa Vallelon**	**0.77**	**160**	P	**Pg**	**15**	**16 25.0**	**-1.0**
VVLD				AML	AML			
comp=E,16150μm,0.9s								
VVLD				AML	AML			
comp=N,18350μm,1.4s								
VVLD				AML	AML			
comp=E,16150μm,1.1s								
VVLD				AML	AML			
comp=N,18350μm,0.6s								
CING	**Cingoli**	**0.78**	**356**	P	**Pg**	**15**	**16 25.4**	**-0.8**
CING				S	**Sb**	**15**	**16 37.0**	**-0.4**
RCAV	**Rocca di Cave**	**0.79**	**198**	P	**Pg**	**15**	**16 25.3**	**-0.9**
RCAV				AML	AML			
comp=E,36600μm,1.4s								
RCAV				AML	AML			
comp=N,35300μm,1.5s								
RCAV				AML	AML			
comp=E,36600μm,0.6s								
RCAV				AML	AML			
comp=N,35300μm,0.5s								
FOSV	**Fossato di Vic**	**0.79**	**332**	P	**Pg**	**15**	**16 25.5**	**-0.9**
FOSV				AML	AML			
comp=N,23250μm,0.9s								
FOSV				AML	AML			
comp=N,23250μm,1.1s								
FOSV				AML	AML			
comp=E,27400μm,0.6s								
GUAR	**Guarcino**	**0.80**	**177**	P	**Pg**	**15**	**16 26.4**	**-0.2**
GUAR				AML	AML			
comp=E,20500μm,0.7s								
GUAR				AML	AML			
comp=N,21650μm,1.3s								
GUAR				AML	AML			
comp=E,20500μm,1.3s								
GUAR				AML	AML			
comp=N,21650μm,0.7s								
PP3	**Marolino**	**0.82**	**18**	P	**Pg**	**15**	**16 26.7**	**-0.3**
PP3				AML	AML			
PP3				AML	AML			
comp=N,54700μm,0.8s								
PP3				AML	AML			
comp=N,54750μm,0.8s								
PP3				AML	AML			
PP3				AML	AML			
comp=N,54450μm,0.8s								
MURB	**Monte Urbino**	**0.86**	**321**	Pg	**Pg**	**15**	**16 26.8**	**-0.8**
MURB	**Monte Urbino**	**0.86**	**321**	P	**Pg**	**15**	**16 27.0**	**-0.7**
MURB				AML	AML			
comp=E,54450μm,0.6s								
MURB				AML	AML			
comp=N,59050μm,0.8s								
MURB				AML	AML			
comp=N,61800μm,0.8s								
MURB				AML	AML			
comp=N,59050μm,1.2s								
MURB				AML	AML			
comp=N,61800μm,1.2s								
MURB				AML	AML			
comp=E,51050μm,0.6s								
LPEL	**Lama dei Pelig**	**0.88**	**129**	P	**Pg**	**15**	**16 26.7**	**-1.3**
RMP	**Rome, Mte Porz**	**0.89**	**208**	P	**Pg**	**15**	**16 27.3**	**-0.9**
RMP				AML	AML			
comp=N,48050μm,1.0s								
RMP				AML	AML			
comp=N,48050μm,1.0s								
RMP				AML	AML			
comp=E,39100μm,0.8s								
MGAB	**Montegabbione**	**0.90**	**291**	P	**Pg**	**15**	**16 27.9**	**-0.6**
MGAB				AML	AML			
comp=E,71400μm,1.1s								
MGAB				AML	AML			
comp=N,41600μm,0.8s								
MGAB				AML	AML			
comp=E,73900μm,1.1s								
MGAB				AML	AML			
comp=N,41600μm,1.2s								
MGAB				AML	AML			
comp=N,37150μm,0.5s								
SSFR	**Montelago di S**	**0.91**	**337**	P	**Pg**	**15**	**16 27.8**	**-0.9**
SSFR				AML	AML			
comp=E,22100μm,0.9s								
SSFR				AML	AML			
comp=N,22750μm,0.2s								
SSFR				AML	AML			
comp=N,19450μm,0.8s								
SSFR				AML	AML			
comp=E,22100μm,1.1s								
SSFR				AML	AML			
comp=E,21150μm,0.7s								
VIVA	**Pratoni del Vi**	**0.92**	**204**	P	**Pg**	**15**	**16 27.9**	**-1.0**
VIVA				AML	AML			
comp=N,42900μm,1.1s								
VIVA				AML	AML			
comp=N,42900μm,0.9s								
VIVA				AML	AML			
comp=E,50550μm,0.4s								
ATSC	**Scheggia e Pas**	**0.93**	**333**	P	**Pg**	**15**	**16 27.9**	**-1.1**
ARVD	**Arcevia**	**0.93**	**345**	P	**Pg**	**15**	**16 28.0**	**-1.1**
ARVD				AML	AML			
comp=E,15550μm,0.6s								
ARVD				AML	AML			
comp=N,18500μm,1.0s								
ARVD				AML	AML			
comp=E,15550μm,1.4s								
ARVD				AML	AML			
comp=N,18500μm,1.0s								
RDP	**Rocca di Papa**	**0.93**	**206**	AML	AML			
comp=E,43600μm,0.5s								
RDP				AML	AML			
comp=N,53050μm,0.5s								
RDP				AML	AML			
comp=E,43600μm,1.5s								
MA9	**Marino**	**0.94**	**209**	P	**Pg**	**15**	**16 29.3**	**+0.1**
MA9				AML	AML			
comp=N,39850μm,0.8s								
MA9				AML	AML			
comp=N,39850μm,1.2s								
MA9				AML	AML			
comp=E,46550μm,0.6s								
POFI	**Posta Fibreno**	**0.94**	**159**	P	**Pg**	**15**	**16 28.1**	**-1.1**
POFI				AML	AML			
comp=E,9315μm,1.5s								
POFI				AML	AML			
comp=N,9480μm,1.1s								
POFI				AML	AML			
comp=E,9980μm,1.5s								
POFI				AML	AML			
comp=N,9685μm,1.1s								
POFI				AML	AML			
comp=N,9480μm,0.9s								
POFI				AML	AML			
comp=E,9980μm,0.5s								
POFI				AML	AML			
comp=E,9315μm,0.5s								
POFI				AML	AML			
comp=N,9685μm,0.9s								
ATLO	**AVT- Montelove**	**0.95**	**319**	P	**Pg**	**15**	**16 28.1**	**-1.3**
LRP	**Arpino**	**0.98**	**166**	AML	AML			
comp=E,6995μm,1.3s								
LRP				AML	AML			
comp=N,8745μm,0.6s								
LRP				AML	AML			
comp=E,6995μm,0.7s								
AOI	**Ancona**	**0.98**	**15**	P	**Pg**	**15**	**16 29.0**	**-1.1**
AOI				AML	AML			
comp=E,16350μm,0.6s								
AOI				AML	AML			
comp=N,16300μm,0.9s								
AOI				AML	AML			
comp=N,16300μm,1.1s								
ATVA	**AVT- Monte Val**	**0.99**	**314**	P	**Pg**	**15**	**16 29.2**	**-0.9**
TB01	**Gubbio**	**0.99**	**323**	P	**Pg**	**15**	**16 29.2**	**-1.0**
TB02	**Pietralunga**	**0.99**	**321**	P	**Pg**	**15**	**16 29.4**	**-0.8**
FRON	**Frontone**	**1.00**	**337**	P	**Pg**	**15**	**16 29.3**	**-1.1**
FRON				AML	AML			
comp=E,18200μm,0.8s								
FRON				AML	AML			
comp=N,20450μm,0.6s								
FRON				AML	AML			
comp=E,18200μm,1.2s								
ATVO	**AVT- Monte Val**	**1.00**	**322**	P	**Pg**	**15**	**16 29.4**	**-1.1**
ATVO				AML	AML			
comp=E,15100μm,0.9s								
ATVO				AML	AML			
comp=N,16550μm,0.7s								
ATVO				AML	AML			
comp=N,16550μm,1.3s								
LAV9	**Lanuvio**	**1.01**	**205**	P	**Pg**	**15**	**16 30.4**	**-0.1**
LAV9				AML	AML			
comp=N,58150μm,1.0s								
LAV9				AML	AML			
comp=E,51600μm,1.4s								
LAV9				AML	AML			
comp=N,58050μm,1.0s								
LAV9				AML	AML			
comp=E,51200μm,1.5s								
LAV9				AML	AML			
comp=N,58150μm,1.0s								
LAV9				AML	AML			
comp=N,58050μm,1.0s								
ATBU	**Serra di Buran**	**1.02**	**329**	P	**Pg**	**15**	**16 29.4**	**-1.4**
SACS	**San Casciano d**	**1.03**	**285**	P	**Pg**	**15**	**16 30.7**	**-0.2**
SACS				AML	AML			
comp=E,16650μm,1.0s								
SACS				AML	AML			

comp=E,15100µm,1.0s
SACS AML AML
comp=N,29900µm,0.9s
SACS AML AML
comp=E,16650µm,1.0s
SACS AML AML
comp=N,29800µm,0.9s
PCRO Pietralacroce 1.03 11 P Pg 15 16 30.9 -0.1
ATMI Monte Miggiano 1.04 316 P Pg 15 16 30.3 -0.8
ATMI AML AML
comp=E,40250µm,0.6s
ATMI AML AML
comp=N,41600µm,0.6s
GIUL Giuliano Di Ro 1.04 180 P Pg 15 16 30.4 -0.7
GIUL AML AML
comp=E,8835µm,0.6s
GIUL AML AML
comp=N,7875µm,0.9s
COR1 Corinaldo 1.05 350 P Pg 15 16 31.2 -0.2
ATPI Pietralunga - 1.06 324 P Pg 15 16 30.2 -1.3
ATPI AML AML
comp=N,14750µm,0.7s
ATPI AML AML
comp=N,14750µm,1.3s
ATPI AML AML
comp=E,25700µm,0.7s
ATPC Poggio Castell 1.06 327 P Pg 15 16 30.2 -1.3
LATE Laterza 1.08 271 Pg 15 16 31.3 -0.6
LATE Laterza 1.08 271 P Pg 15 16 31.4 -0.4
TOLF Tolfa 1.08 241 P Pg 15 16 30.8 -1.0
TOLF AML AML
comp=E,20500µm,0.8s
TOLF AML AML
comp=N,27300µm,0.9s
TOLF AML AML
comp=E,20500µm,1.2s
PIEI Pieia 1.08 331 P Pg 15 16 30.8 -1.0
PIEI AML AML
comp=E,8595µm,1.5s
PIEI AML AML
comp=N,11160µm,0.7s
PIEI AML AML
comp=E,8595µm,0.5s
MPAG Monte Paganucc 1.09 341 P Pg 15 16 30.6 -1.6
MPAG AML AML
comp=E,12250µm,0.8s
MPAG AML AML
comp=N,15920µm,0.9s
MPAG AML AML
comp=N,15160µm,0.9s
MPAG AML AML
comp=E,12300µm,0.8s
MPAG AML AML
comp=N,15920µm,1.1s
SENI Senigallia 1.11 359 P Pb 15 16 30.8 -1.5
SENI AML AML
comp=E,55050µm,0.6s
SENI AML AML
comp=E,27550µm,0.9s
SENI AML AML
comp=N,20650µm,1.6s
SENI AML AML
comp=N,43150µm,0.9s
RNI2 Rionero Sannit 1.11 143 P Pb 15 16 31.4 -1.1
RNI2 AML AML
comp=E,15950µm,1.0s
RNI2 AML AML
comp=N,14750µm,1.4s
RNI2 AML AML
comp=E,16050µm,1.1s
RNI2 AML AML
comp=N,15150µm,1.4s
RNI2 AML AML
comp=N,14750µm,0.6s
RNI2 AML AML
comp=E,16050µm,0.9s
RNI2 AML AML
comp=E,15950µm,1.0s
RNI2 AML AML
comp=N,15150µm,0.6s
LIK San Giovanni I 1.11 168 P Pb 15 16 31.8 -0.6
LIK AML AML
comp=N,17850µm,1.4s
LIK AML AML
comp=N,17850µm,0.6s
LIK AML AML
comp=E,14500µm,0.8s
LATB Latina 1.12 192 P Pb 15 16 30.8 -1.8
LATB AML AML
comp=N,2940µm,0.9s
LATB AML AML
comp=E,5410µm,1.1s
LATB AML AML
comp=N,2940µm,1.1s
APEC Apecchio 1.14 328 P Pb 15 16 32.3 -0.7
APEC AML AML
comp=E,18400µm,0.8s
APEC AML AML
comp=N,14100µm,1.6s
APEC AML AML
comp=E,18400µm,1.2s
APEC AML AML
comp=N,15800µm,0.8s
APEC AML AML
comp=N,14100µm,0.4s
APEC AML AML
comp=E,18800µm,1.0s
CERA Filignano 1.15 150 P Pb 15 16 31.6 -1.5
CERA AML AML
comp=E,9075µm,1.4s
CERA AML AML
comp=N,9910µm,0.8s
CERA AML AML
comp=E,9205µm,1.4s
CERA AML AML
comp=N,10050µm,0.8s
CERA AML AML
comp=E,9075µm,0.6s
CERA AML AML
comp=E,9205µm,0.6s
CERA AML AML
comp=N,10050µm,1.2s
CERA AML AML
comp=N,9910µm,1.2s
ATMC Monte Cedrone 1.16 318 P Pb 15 16 32.9 -0.3
BADI Badiali 1.18 321 P Pb 15 16 33.0 -0.6
BADI AML AML
comp=E,514µm,0.7s
BADI AML AML
comp=N,12200µm,0.7s
BADI AML AML
comp=E,514µm,1.3s
SF03 Valle Cupa 1.18 281 P Pb 15 16 33.4 -0.2
MCIV Monte Civitell 1.18 279 P Pb 15 16 33.5 -0.2
MCIV AML AML
comp=N,7015µm,0.7s
MCIV AML AML
comp=E,7350µm,0.8s
MCIV AML AML
comp=N,7015µm,1.3s
SF11 Podere del Sol 1.20 284 P Pb 15 16 33.8 -0.1
CAFI Castiglion Fio 1.20 308 P Pb 15 16 33.5 -0.5
CAFI AML AML
comp=E,13400µm,0.8s
CAFI AML AML
comp=N,9360µm,0.9s
CAFI AML AML
comp=N,9630µm,0.7s
CAFI AML AML
comp=N,9360µm,1.1s
CAFI AML AML
comp=N,9630µm,1.3s
CAFI AML AML
comp=E,13400µm,0.8s
SF04 Casetta 1.20 282 P Pb 15 16 33.9 -0.1
SF04 AML AML
comp=E,7005µm,0.5s
SF04 AML AML
comp=E,7005µm,1.5s
SF04 AML AML
comp=N,7625µm,1.3s
MIDA Miranda 1.21 142 P Pb 15 16 32.1 -2.0
MIDA AML AML
comp=E,7565µm,0.9s
MIDA AML AML
comp=E,7565µm,1.1s
MIDA AML AML
comp=N,8480µm,0.9s
FRES Fresagrandinar 1.22 120 P Pn 15 16 32.3 -1.9
SF13 Bagnolo 1.23 281 P Pn 15 16 34.2 -0.2
PE3 Peglio 1.23 333 AML AML
comp=E,35850µm,0.7s
PE3 AML AML
comp=N,40µm,0.5s
PE3 AML AML
comp=N,40µm,1.5s
TRIV Trivento 1.27 130 P Pn 15 16 34.1 -0.8
TRIV AML AML
TRIV AML AML
TRIV AML AML
comp=E,5895µm,1.0s
TRIV AML AML
comp=N,6730µm,1.1s
TRIV AML AML
TRIV AML AML
comp=E,5895µm,1.0s
TRIV AML AML
SF01 Poggio Pratacc 1.27 280 P Pb 15 16 35.2 +0.1
ARCI Arcidosso 1.34 282 P Pn 15 16 35.8 -0.1
ARCI AML AML
comp=E,4090µm,0.8s
ARCI AML AML
comp=N,4285µm,0.8s
ARCI AML AML
comp=N,4285µm,1.2s
ARCI AML AML
comp=E,4090µm,1.2s
PESA Pesaro 1.38 347 P Pn 15 16 36.7 +0.3
PESA AML AML
comp=E,21000µm,0.7s
PESA AML AML
comp=N,19900µm,1.0s
PESA AML AML
comp=N,19900µm,1.0s
CPGN Carpegna, Ital 1.39 331 P Pb 15 16 36.9 -0.3
VAGA Valle Agricola 1.39 148 P Pn 15 16 36.7 +0.2
VAGA AML AML
comp=E,4430µm,1.5s
VAGA AML AML
comp=N,5740µm,1.4s
VAGA AML AML
comp=E,4505µm,1.5s
VAGA AML AML
comp=N,5820µm,1.4s
VAGA AML AML
comp=N,5820µm,0.6s
VAGA AML AML
comp=E,4430µm,0.5s
VAGA AML AML
comp=N,5740µm,0.6s
VAGA AML AML
comp=E,4505µm,0.5s
CRE Caprese Michel 1.40 317 P Pb 15 16 37.3 -0.2
SGG Gregorio Mates 1.47 145 P Pn 15 16 37.7 0.0
SGG AML AML
comp=N,4135µm,1.6s
SGG AML AML
comp=E,4280µm,0.7s
SGG AML AML
comp=E,14nm,0.7s
SGG AML AML
comp=N,13nm,1.6s
MODR Mondragone 1.52 162 P Pn 15 16 38.9 +0.5
MODR AML AML
comp=E,2340µm,1.6s
MODR AML AML
comp=N,3165µm,0.8s
MODR AML AML
comp=E,2340µm,0.4s
CIGN Sant'Elia a Pi 1.54 127 P Pg 15 16 40.9 +0.1
PTRJ Pietraroja 1.55 142 AML AML
comp=E,5860µm,0.7s
PTRJ AML AML
comp=E,5835µm,1.3s
PTRJ AML AML
comp=E,5860µm,1.3s
PTRJ AML AML
comp=N,4140µm,1.4s
PTRJ AML AML
comp=E,5835µm,0.7s
PTRJ AML AML
comp=N,4120µm,1.4s
PIGN Pignataro Magg 1.56 154 P Pb 15 16 39.7 -0.3
MAON Monte Argentar 1.58 265 P Pn 15 16 39.1 -0.1
MAON AML AML
comp=E,3875µm,0.9s
MAON AML AML
comp=N,2810µm,1.0s
MAON AML AML
comp=E,3875µm,1.1s
SACR S. Croce Del S 1.61 138 P Pb 15 16 40.5 -0.5
ASQU Asqua 1.61 319 P Pb 15 16 40.9 -0.1
GATE Gambatesa 1.64 131 P Pg 15 16 42.4 -0.2
MELA Melanico ??? S 1.65 122 P Pn 15 16 40.8 +0.7
MELA AML AML
comp=E,7140µm,1.3s
MELA AML AML
comp=N,10100µm,0.7s
MELA AML AML
comp=E,7185µm,1.3s
MELA AML AML
comp=N,10250µm,0.7s
SFI Santa Sofia 1.67 322 P Pn 15 16 40.3 -0.1
VITU Vitulano (BN) 1.74 144 P Pb 15 16 42.7 -0.5
OSSC Osservatorio P 1.74 303 Pn 15 16 41.5 +0.1
OSSC Osservatorio P 1.74 303 P Pn 15 16 41.7 +0.2
OSSC AML AML
comp=E,3455µm,0.9s
OSSC AML AML
comp=N,3460µm,0.9s
OSSC AML AML
comp=E,3350µm,0.9s
OSSC AML AML
comp=N,3315µm,0.9s
OSSC AML AML
comp=E,3350µm,1.1s
OSSC AML AML
comp=E,3455µm,1.1s
OSSC AML AML
comp=N,3315µm,1.1s
OSSC AML AML
comp=N,3460µm,1.1s
CASP Castiglione de 1.78 277 Pn 15 16 41.9 0.0
CASP Castiglione de 1.78 277 P Pn 15 16 42.1 +0.2
CASP AML AML
comp=E,1780µm,0.6s
CASP AML AML
comp=N,1275µm,1.0s
RUFI Rufina 1.78 315 P Pn 15 16 42.1 +0.2
RUFI AML AML
comp=E,4875µm,0.9s
RUFI AML AML
comp=N,6065µm,0.9s
PSB1 Pescosannita 1.79 139 P Pg 15 16 45.0 -0.5
TRIF Trifonti 1.81 287 P Pn 15 16 42.9 +0.6
TRIF AML AML
comp=N,3550µm,0.9s
TRIF AML AML
comp=E,2735µm,0.8s
LMD Lutirano 1.86 323 P Pn 15 16 44.0 +0.9
APRC Apricena 1.89 116 P Pn 15 16 44.1 +0.6
APRC AML AML
comp=N,4965µm,0.4s
APRC AML AML
comp=E,4160µm,1.1s
MRB1 Monte Rocchett 1.95 138 P Pb 15 16 47.2 +0.5
BIOG Biogem 1.98 134 P Pg 15 16 48.8 -0.2
SGRT San Giovanni R 2.03 114 Pn **Pn 15 16 45.2 -0.2**
SGRT San Giovanni R 2.03 114 P Pn 15 16 46.4 +1.0
CRMI Carmignano 2.06 306 P Pn 15 16 46.1 +0.4
SGTA Sant Agata di 2.15 132 P Pb 15 16 48.9 -1.2
CAFE Carife 2.15 136 P Pb 15 16 50.0 -0.3
MSAG Monte S. Angel 2.16 113 P Pn 15 16 48.1 +0.9
MSAG AML AML
comp=N,5835µm,0.5s
MSAG AML AML
comp=E,3265µm,0.9s
MSAG AML AML
comp=N,5880µm,0.5s
MSAG AML AML
comp=E,3140µm,0.9s
MSAG AML AML
comp=N,5880µm,1.5s
MSAG AML AML
comp=N,5835µm,1.5s
MTCR Monte La Croce 2.19 312 P Pn 15 16 47.7 +0.1
MTRZ Monterenzio 2.21 324 P Pb 15 16 50.2 -0.9
SNAL S. Angelo Dei 2.22 138 P Pb 15 16 50.5 -0.8
SNAL AML AML
comp=E,3010µm,0.9s
SNAL AML AML
comp=E,2990µm,1.6s
SNAL AML AML
comp=E,2990µm,0.4s
SNAL AML AML
comp=N,3405µm,1.1s
SNAL AML AML
comp=N,3430µm,1.3s
SNAL AML AML
comp=E,3010µm,1.1s
PII Pisa 2.30 300 P Pb 15 16 50.9 -1.7
PII AML AML
comp=E,2145µm,0.8s
PII AML AML
comp=N,1780µm,0.6s
PII AML AML
comp=N,1780µm,1.4s
PII AML AML
comp=E,2145µm,1.2s
VULT Monte Vulture 2.41 132 P Pn 15 16 52.1 +1.5
VULT AML AML
comp=E,1905µm,1.4s
VULT AML AML
comp=N,2480µm,1.0s
VULT AML AML
comp=E,1905µm,0.6s
MAIM Mastiano 2.41 304 P Pn 15 16 51.6 +1.0
MAIM AML AML
comp=N,1360µm,0.6s
MAIM AML AML
comp=E,1665µm,0.6s
ZCCA Zocca 2.42 317 Pn **Pn 15 16 50.6 -0.1**
MRLC Muro Lucano 2.48 137 P Pb 15 16 53.9 -1.9
CDRU Civita di Ruta 2.60 143 P Pn 15 16 54.9 +1.6
VLC Villacollemand 2.61 308 Pn **Pn 15 16 53.6 +0.1**
VLC Villacollemand 2.61 308 AML AML
comp=E,1030µm,1.0s
VLC AML AML
comp=E,1062µm,1.1s
VLC AML AML
comp=E,1062µm,0.9s
VLC AML AML
comp=N,1515µm,1.0s
VLC AML AML
comp=N,1520µm,1.0s
SARO Sassorosso 2.62 308 P Pn 15 16 53.2 -0.3
SARO AML AML
comp=E,2595µm,1.6s
SARO AML AML
comp=N,2915µm,0.8s
SARO AML AML
comp=E,2595µm,0.4s
MRVN Minervino Murg 2.68 124 P Pn 15 16 54.9 +0.7
MRVN AML AML
comp=E,658µm,0.8s
MRVN AML AML
comp=N,934µm,0.9s
MRVN AML AML
comp=E,658µm,1.2s
MRVN AML AML
comp=N,934µm,1.1s
CMPR Campora 2.75 145 P Pn 15 16 56.4 +1.1
SLCN Sala Consilina 2.83 140 P Pn 15 16 58.9 +2.4
MORSI Morsiglia 2.89 278 P Pn 15 16 58.7 +1.5
MORSI S Sn 15 17 34.3 +2.4
SMPL Sampolo 2.99 262 P Pn 15 16 59.0 +0.4
SMPL S Sn 15 17 37.5 +3.0
TEOL Teolo 2.99 338 Pn **Pn 15 16 58.7 +0.2**
SKDS Skadanscina 3.00 10 ⇑*i*Pn **Pn 15 16 58.4 -0.3**
AMUR Altamura 3.02 123 P Pn 15 16 59.7 +0.8
A050A Klekovaca 3.03 50 *e*Pn **Pn 15 17 00.5 +1.3**
PRMA PARMA 3.04 316 Pn **Pn 15 16 59.4 +0.1**
CORF Corte 3.06 266 P Pn 15 17 00.1 +0.7
PGF Pioggiola 3.15 271 *e*P **Pn 15 17 02.2 +1.3**
PGF *e*Sn **Sn 15 17 36.4 -2.1**
comp=N,17nm,0.3s
PGF Pioggiola 3.15 271 P Pn 15 17 02.2 +1.3
SRKY Kupres RS 3.21 61 *e*Pn **Pn 15 17 03.6 +2.0**
MSSA Maissana 3.22 303 Pn **Pn 15 17 02.3 +0.5**
MSSA Maissana 3.22 303 P Pn 15 17 02.6 +0.8
MSSA AML AML
comp=E,1006µm,0.9s
MSSA AML AML
comp=N,1058µm,0.7s
MATE Matera 3.23 126 P Pn 15 17 04.8 +2.9
MATE Matera 3.23 126 ⇑S **Sn 15 17 44.0 +3.6**
BOJS Bojanci 3.24 26 AML AML
comp=E,3250µm,1.2s
BOJS AML AML
comp=N,2365µm,0.8s
BOJS AML AML
comp=N,2365µm,1.2s
BOJS Bojanci 3.24 26 ⇑*i*Pn **Pn 15 17 03.6 +1.6**
CEY Cerknica 3.25 15 ⇑*i*Pn **Pn 15 17 03.3 +1.1**
STON Ston 3.28 84 AML AML
comp=N,747µm,0.8s
STON AML AML
comp=E,666µm,1.6s
STON AML AML
comp=N,747µm,1.2s
STON AML AML
comp=E,666µm,0.4s
STON Ston 3.28 84 *e*Pn **Pn 15 17 02.9 +0.4**
STON *e*Sn **Sn 15 17 41.7 +0.2**
STON Ston 3.28 84 *e*Pn **Pn 15 17 02.3 -0.2**
MGRS Mrkonjic Grad 3.32 56 *e*Pn **Pn 15 17 04.3 +1.2**
NOCI Noci 3.37 121 P Pn 15 17 04.8 +1.0
SABO M.te Sabotino 3.39 4 Pn **Pn 15 17 03.7 -0.4**
SABO M.te Sabotino 3.39 4 P Pn 15 17 03.7 -0.4
SABO AML AML
comp=E,7580µm,0.7s
SABO AML AML
comp=N,10750µm,0.8s
SABO AML AML
comp=E,2115µm,0.7s
SABO AML AML
comp=N,2790µm,0.8s
SABO AML AML
comp=N,10750µm,1.2s
SABO AML AML
comp=E,7580µm,1.3s
SABO AML AML
comp=N,2790µm,1.2s
SABO AML AML
comp=E,2115µm,1.3s
AJAC Base Areonaval 3.41 260 AML AML
comp=N,403µm,1.2s
AJAC AML AML
comp=N,403µm,0.8s
AJAC AML AML
comp=E,491µm,0.5s
AJAC Base Areonaval 3.41 260 P Pn 15 17 05.4 +1.1
ROVR Rover Verones 3.43 333 P Pn 15 17 05.4 +0.6
ROVR AML AML
comp=E,1455µm,0.8s
ROVR AML AML
comp=N,1985µm,0.8s
ROVR AML AML
comp=E,562µm,0.8s
ROVR AML AML
comp=N,767µm,0.8s
CGRP Cima Grappa 3.45 343 P Pn 15 17 05.5 +0.5
CGRP AML AML
comp=E,1970µm,0.9s
CGRP AML AML
comp=E,1960µm,0.9s
CGRP AML AML
comp=E,1960µm,1.1s
CGRP AML AML
comp=E,1970µm,1.1s
CGRP AML AML
comp=N,2825µm,0.6s
CGRP AML AML
comp=N,2835µm,0.6s
VARN Col Varnada, M 3.50 347 P Pn 15 17 05.9 +0.3
VARN AML AML
comp=E,2670µm,0.9s
VARN AML AML
comp=N,1865µm,0.9s

VARN AML AML
comp=E,2635µm,0.9s
VARN AML AML
comp=N,1820µm,0.9s
VARN AML AML
comp=N,1820µm,1.1s
VARN AML AML
comp=N,1865µm,1.1s
LJU Ljubljana 3.56 14 AML AML
comp=E,9455µm,0.8s
LJU AML AML
comp=N,8800µm,1.1s
LJU AML AML
comp=N,8800µm,0.9s
BLY Banja Luka 3.57 52 *e*Pn **Pn 15 17 08.4 +1.9**
BLY Banja Luka 3.57 52 *e*Pn **Pn 15 17 08.6 +2.1**
A051A Mrakovica 3.58 46 *e*Pn **Pn 15 17 07.1 +0.4**
CRES Cresnjev 3.59 25⇑*i*Pn **Pn 15 17 08.2 +1.4**
DOSS Dosso del Somm 3.60 336 P **Pn 15 17 08.1 +0.9**
DOSS AML AML
comp=N,1088µm,0.6s
DOSS AML AML
comp=E,1225µm,0.9s
DOSS AML AML
comp=E,1125µm,0.6s
DOSS AML AML
comp=N,1250µm,0.9s
SALO Salr 3.61 328 Pn **Pn 15 17 06.5 -0.5**
SALO Salr 3.61 328 P **Pn 15 17 08.1 +1.1**
SALO AML AML
comp=E,1735µm,1.1s
SALO AML AML
comp=N,2115µm,0.8s
SALO AML AML
comp=E,1665µm,1.1s
SALO AML AML
comp=N,2285µm,0.8s
SALO AML AML
comp=E,1735µm,0.9s
SALO AML AML
comp=E,1665µm,0.9s
CTI Castel Tesino 3.64 342 Pn **Pn 15 17 07.9 +0.3**
CTI Castel Tesino 3.64 342 P **Pn 15 17 08.1 +0.5**
CTI AML AML
comp=E,1595µm,1.1s
CTI AML AML
comp=N,1195µm,0.7s
CTI AML AML
comp=N,1195µm,1.3s
CTI Castel Tesino 3.64 342 P **Pn 15 17 07.9 +0.3**
CADS Cadrg 3.65 5 *i*Pn **Pn 15 17 07.2 -0.5**
CADS *e*Sn **Sn 15 17 51.5 +0.8**
CADS IAML 15 18 23.9
comp=Z,419nm,0.7s
STAL STALIGIAL 3.68 354 Pn **Pn 15 17 07.9 -0.2**
STAL STALIGIAL 3.68 354 P **Pn 15 17 08.0 -0.2**
STAL AML AML
comp=E,1480µm,0.9s
STAL AML AML
comp=E,1116µm,0.9s
STAL AML AML
comp=N,1220µm,0.9s
STAL AML AML
comp=N,1310µm,0.8s
STAL AML AML
comp=E,1480µm,1.1s
LUSI Trento, Gardas 3.75 334 P **Pn 15 17 09.8 +0.7**
LUSI AML AML
comp=N,1135µm,0.5s
LUSI AML AML
comp=E,1220µm,1.0s
TREB Trebinje 3.75 86 *e*Pn **Pn 15 17 10.0 +0.9**
TREB *e*Sn **Sn 15 17 53.3 0.0**
TREB Trebinje 3.75 86 *e*Pn **Pn 15 17 10.4 +1.3**
CIMO Cimolais 3.76 351 Pn **Pn 15 17 08.9 -0.3**
CIMO Cimolais 3.76 351 P **Pn 15 17 08.9 -0.3**
CIMO AML AML
comp=E,476µm,0.8s
CIMO AML AML
comp=E,477µm,0.8s
CIMO AML AML
comp=E,477µm,1.2s
CIMO AML AML
comp=N,454µm,0.8s
CIMO AML AML
comp=E,476µm,1.2s
CIMO AML AML
comp=N,464µm,0.8s
PTCC Patocco-Chiusa 3.81 1 P **Pn 15 17 09.2 -0.7**
PTCC AML AML
comp=E,630µm,0.8s
PTCC AML AML
comp=N,760µm,0.8s
PTCC AML AML
comp=E,630µm,1.2s
PTCC AML AML
comp=N,760µm,1.2s
PRED Cave del Predi 3.85 3 Pn **Pn 15 17 10.0 -0.4**
GAGG Gaggia 3.86 335 P **Pn 15 17 11.3 +0.7**
GAGG AML AML
comp=N,1695µm,0.8s
GAGG AML AML
comp=E,1705µm,1.0s
GAGG AML AML
comp=N,1720µm,1.0s
GAGG AML AML
comp=N,1695µm,1.2s
GAGG AML AML
comp=E,1705µm,1.0s
GAGG AML AML
comp=E,1635µm,1.0s
CLUD Cludinico 3.87 356 Pn **Pn 15 17 10.4 -0.3**
HCY Herceg Novi 3.87 90 *e*Pn **Pn 15 17 10.8 +0.2**
HCY Herceg Novi 3.87 90⇑*i*Pn **Pn 15 17 11.2 +0.6**
HCY *i*Sn **Sn 15 17 57.8 +1.7**
ZONE Zone 3.89 326 P **Pn 15 17 11.9 +1.0**
ZONE AML AML
comp=E,968µm,0.6s
ZONE AML AML
comp=N,983µm,0.6s
ZONE AML AML
comp=E,968µm,1.4s
BRY Bratogost 3.90 84 *e*Pn **Pn 15 17 11.3 +0.1**
BRY Bratogost 3.90 84⇑*i*Pn **Pn 15 17 11.7 +0.5**
BRY *i*Sn **Sn 15 17 58.6 +1.6**
ACOM Acomizza, Ital 3.95 3 P **Pn 15 17 12.4 +0.4**
ACOM AML AML
comp=E,2135µm,1.5s
ACOM AML AML
comp=N,1375µm,0.8s
ACOM AML AML
comp=E,2115µm,1.5s
ACOM AML AML
comp=N,1335µm,0.8s
ACOM AML AML
comp=E,2135µm,0.5s
ACOM AML AML
comp=E,2115µm,0.5s
ZOU Zoufplan 3.96 357 P **Pn 15 17 12.0 -0.1**
ZOU AML AML
comp=N,758µm,1.4s
ZOU AML AML
comp=E,1066µm,1.0s
ZOU AML AML
comp=N,732µm,1.3s
ZOU AML AML
comp=N,758µm,0.6s
ZOU AML AML
comp=N,732µm,0.7s
ZOU AML AML
comp=E,1058µm,1.0s
ZOU AML AML
comp=E,1066µm,1.0s
MABI Malga Bissina 3.98 331 P **Pn 15 17 13.7 +1.4**
MABI AML AML
comp=E,366µm,1.1s
MABI AML AML
comp=N,424µm,1.0s
MABI AML AML
comp=N,424µm,1.0s
MABI AML AML
comp=E,366µm,0.9s
FVI Forni Avoltri 4.01 355 P **Pn 15 17 12.8 +0.1**
FVI AML AML
comp=E,947µm,0.8s
FVI AML AML
comp=N,953µm,0.8s
OBKA Obir 4.02 13 *i*Pn **Pn 15 17 14.0 +1.2**
comp=N,14nm,0.3s,SNR=8.4
OBKA *i*Sn **Sn 15 17 59.3 -0.6**
comp=N,291nm,1.0s
OBKA Obir 4.02 13 *e*Pn **Pn 15 17 14.0 +1.2**
SNR=19
OBKA Obir 4.02 13⇑*i*Pn **Pn 15 17 13.2 +0.4**
OBKA Obir 4.02 13 *e*Pn **Pn 15 17 14.0 +1.2**
SNR=19
MYKA Terra Mystica 4.04 4 *i*Pn **Pn 15 17 13.5 +0.4**
comp=N,67nm,0.6s,SNR=17
MYKA *i*Sn **Sn 15 17 58.6 -1.8**
comp=N,86nm,0.8s
MILN Milano 4.09 316 AML AML
comp=E,1585µm,0.9s
MILN AML AML
comp=N,1565µm,0.8s
APPI Appiano 4.14 340 P **Pn 15 17 15.5 +1.0**
APPI AML AML
comp=N,830µm,0.6s
APPI AML AML
comp=E,704µm,0.5s
APPI AML AML
comp=N,830µm,1.4s
CEME Cevo 4.18 89⇑*i*Pn **Pn 15 17 15.5 +0.6**
CEME *i*Sn **Sn 15 18 05.1 +1.3**
ABTA Abfaltersbach 4.18 353 *i*Pn **Pn 15 17 15.9 +0.9**
comp=N,430nm,0.6s,SNR=98
ABTA *i*Sn **Sn 15 18 07.1 +3.1**
comp=N,263nm,0.8s
NKME Niksic 4.20 86⇓*i*Pn **Pn 15 17 16.5 +1.3**
NKME *i*Sn **Sn 15 18 05.8 +1.5**
VSL Villasalto 4.27 225 AML AML
comp=E,323µm,0.8s
VSL AML AML
comp=N,260µm,1.3s
VSL AML AML
comp=E,323µm,1.2s
VSL AML AML
comp=N,260µm,0.7s
SOKA Soboth 4.27 17 *i*Pn **Pn 15 17 17.4 +1.2**
comp=N,5.3nm,0.2s
SOKA *e*Sn **Sn 15 18 05.2 -0.9**
comp=N,46nm,0.6s
TIP Timpagrande 4.32 141⇑P **Pn 15 17 20.9 +4.0**
TIP Timpagrande 4.32 141 Pn **Pn 15 17 15.4 -1.5**
SAOF Saorge 4.39 290 P **Pn 15 17 19.3 +1.5**
BRMO Bormio 4.39 333 P **Pn 15 17 20.0 +2.0**
KOGS Kog 4.40 28 AML AML
comp=N,4965µm,0.9s
KOGS AML AML
comp=E,4470µm,0.8s
DRME Dracevica, Mon 4.41 93⇑*i*Pn **Pn 15 17 19.0 +1.0**
DRME Dracevica, Mon 4.41 93⇓*i*Pn **Pn 15 17 19.4 +1.4**
DRME *i*Sn **Sn 15 18 10.8 +1.5**
RISI Rein 4.43 349 P **Pn 15 17 19.4 +0.9**
PDG Podgorica 4.43 90⇑P **Pn 15 17 20.5 +2.1**
PDG⇑S **Sn 15 18 11.3 +1.4**
PDG Podgorica 4.43 90 Pn **Pn 15 17 17.0 -1.3**
PDG Podgorica 4.43 90 *e*Pn **Pn 15 17 19.7 +1.3**
PDG *e*Sn **Sn 15 18 10.1 +0.1**
PDG Podgorica 4.43 90⇑*i*Pn **Pn 15 17 19.4 +1.0**
PDG *i*Sn **Sn 15 18 11.4 +1.4**
SBF Sospel 4.44 289 *e*Pn **Pn 15 17 18.5 -0.1**
SBF *e*Sn **Sn 15 18 07.1 -3.2**
comp=E,156nm,0.7s
MOSI Grossmontoni 4.46 335 P **Pn 15 17 20.9 +1.9**
MOSI AML AML
comp=E,1840µm,0.8s
MOSI AML AML
comp=N,3215µm,0.9s
MOSI AML AML
comp=E,1840µm,1.2s
MOSI AML AML
comp=N,3215µm,1.1s
KBA Koelnbreinsper 4.48 1 *i*Pn **Pn 15 17 20.0 +0.8**
comp=N,18nm,0.4s,SNR=28
KBA *e*Sn **Sn 15 18 11.9 +0.5**
comp=N,140nm,0.8s
KBA Koelnbreinsper 4.48 1 *e*Pn **Pn 15 17 20.3 +1.1**
SNR=22
KBA *e*Sn **Sn 15 18 12.1 +0.6**
SNR=4.4
KBA Koelnbreinsper 4.48 1 *e*Pn **Pn 15 17 20.3 +1.1**
SNR=22
KBA *e*Sn **Sn 15 18 12.1 +0.6**
SNR=4.4
ULC Ulcinj 4.48 96⇑*i*Pn **Pn 15 17 20.2 +1.1**
ULC *i*Sn **Sn 15 18 12.2 +0.9**
TURF col de Turini 4.50 290 P **Pn 15 17 20.7 +1.2**
ROSI Rosskopf 4.53 344 P **Pn 15 17 21.1 +1.3**
ROSI AML AML
comp=E,1082µm,0.9s
ROSI AML AML
comp=N,1415µm,0.7s
ROSI AML AML
comp=E,1082µm,1.1s
ROSI AML AML
comp=N,1415µm,1.3s
FUORN Ofenpass-Fuorn 4.56 333 Pn **Pn 15 17 20.8 +0.5**
PLE Pljevlja 4.56 79⇓*i*Pn **Pn 15 17 22.4 +2.2**
PLE *i*Sn **Sn 15 18 14.2 +1.0**
RUDO Rudo 4.59 75 *e*Pn **Pn 15 17 21.2 +0.7**
VARE Varese 4.59 317 AML AML
comp=N,582µm,0.8s
VARE AML AML
comp=E,580µm,0.8s
VARE AML AML
comp=E,580µm,1.2s
VARE AML AML
comp=N,582µm,1.2s
KOME Kolasin 4.61 85⇓*i*Pn **Pn 15 17 22.5 +1.5**
KOME *i*Sn **Sn 15 18 15.7 +1.1**
SPIF crte de Spivo 4.63 290 P **Pn 15 17 23.6 +2.4**
BBLS Lazići 4.66 72 *e*Pn **Pn 15 17 23.0 +1.4**
BBLS *e*Sn **Sn 15 18 15.6 -0.2**
CEL Celeste 4.78 154 Pn **Pn 15 17 22.6 -0.6**
FETA Feichten 4.78 339 *i*Pn **Pn 15 17 25.0 +1.8**
comp=N,163nm,0.8s,SNR=47
FETA *i*Sn **Sn 15 18 21.4 +2.7**
comp=N,65nm,0.8s
CALF Calern 4.78 286 P **Pn 15 17 24.3 +1.1**
TUE Stuetta 4.78 326 Pn **Pn 15 17 23.4 +0.1**
WTTA Wattenberg 4.81 347 *i*Pn **Pn 15 17 25.7 +1.9**
comp=N,74nm,0.6s,SNR=21
WTTA *e*Sn **Sn 15 18 23.7 +4.2**
comp=N,332nm,0.9s
WTTA Wattenberg 4.81 347 *e*Pn **Pn 15 17 25.6 +1.9**
SNR=21
WTTA *e*Sn **Sn 15 18 25.5 +6.0**
SNR=2.4
WTTA Wattenberg 4.81 347 *e*Pn **Pn 15 17 25.6 +1.9**
SNR=21
WTTA *e*Sn **Sn 15 18 25.5 +6.0**
SNR=2.4
DAVOX Davos/Dischmat 4.83 331 Pn **Pn 15 17 24.5 +0.5**
comp=N,7.5nm,0.3s,baz=142,slow=11,SNR=67
DAVOX Sn **Sn 15 18 18.3 -1.7**
comp=N,4.0nm,0.3s,baz=319,slow=20,SNR=1.3
comp=N,106nm,0.7s
SQTA Sankt Quirin 4.85 343 **Pn 15 17 25.8 +1.6**
SQTA **Sn 15 18 26.5 +6.2**
SQTA Sankt Quirin 4.85 343 *i*Pn **Pn 15 17 25.8 +1.6**
comp=N,29nm,0.4s,SNR=23
SQTA *e*Sn **Sn 15 18 26.5 +6.2**
comp=N,96nm,0.5s
SQTA Sankt Quirin 4.85 343 P **Pn 15 17 25.8 +1.6**
SQTA 15 18 26.5
WATA Walderalm 4.89 346 **Pn 15 17 26.8 +2.1**
WATA **Sn 15 18 25.9 +4.5**
WATA Walderalm 4.89 346 *i*Pn **Pn 15 17 26.8 +2.1**
comp=N,90nm,0.6s,SNR=26
WATA *e*Sn **Sn 15 18 25.9 +4.5**
comp=N,56nm,0.5s
WATA Walderalm 4.89 346 P **Pn 15 17 26.8 +2.1**
WATA 15 18 25.9
IVA Berane 4.89 85⇑*i*Pn **Pn 15 17 27.0 +2.2**
IVA *i*Sn **Sn 15 18 22.0 +0.5**
ARSA Arzberg 4.92 18 *i*Pn **Pn 15 17 25.5 +0.4**
comp=N,24nm,0.5s,SNR=13
ARSA *i*Sn **Sn 15 18 19.8 -2.3**
comp=N,39nm,0.8s
ARSA Arzberg 4.92 18 *e*Pn **Pn 15 17 26.3 +1.2**
SNR=14
ARSA *e*Sn **Sn 15 18 18.5 -3.6**
SNR=1.4
ARSA Arzberg 4.92 18 *e*Pn **Pn 15 17 26.3 +1.2**
SNR=14
ARSA *e*Sn **Sn 15 18 18.5 -3.6**
SNR=1.4
PVY Plav 4.94 88⇓*i*Pn **Pn 15 17 27.7 +2.2**
PVY *i*Sn **Sn 15 18 23.3 +0.5**
TEKS Tekeris 4.95 65 *e*Pn **Pn 15 17 26.0 +0.5**
TEKS *e*Sn **Sn 15 18 21.8 -1.1**
ENAUX Enaux 4.96 290 P **Pn 15 17 28.6 +2.8**
SJES Sjenica 4.97 80 *e*Pn **Pn 15 17 27.7 +1.8**
SJES *e*Sn **Sn 15 18 23.7 +0.2**
MOTA Moosalm 4.99 343 **Pn 15 17 28.5 +2.3**
MOTA **Sb 15 18 32.3 -6.3**
MOTA Moosalm 4.99 343 *i*Pn **Pn 15 17 28.5 +2.3**
comp=N,44nm,0.7s,SNR=30
MOTA *i*Sn **Sb 15 18 32.3 -6.3**
comp=N,94nm,0.6s
MOTA Moosalm 4.99 343 P **Pn 15 17 28.5 +2.3**
MOTA 15 18 32.3
LMR La Mourre 5.01 281 *e*Pn **Pn 15 17 26.4 +0.1**
LMR *e*Sn **Sn 15 18 21.2 -3.0**
comp=N,344nm,1.6s
SURF Saint Ours 5.05 294 P **Pn 15 17 29.1 +2.0**
JAUF Jausiers 5.08 293 P **Pn 15 17 30.0 +2.7**
TIR Tirane 5.08 102⇓P **Pn 15 17 28.4 +1.2**
TIR Tirane 5.08 102 Pn **Pn 15 17 27.0 -0.2**
TIR Tirane 5.08 102 P **Pn 15 17 27.0 -0.2**
TIR Tirane 5.08 102 *e*Pn **Pn 15 17 28.3 +1.1**
TIR *e*Sn **Sn 15 18 25.9 0.0**
BIOA Bad Ischl, Aus 5.10 3 **Pn 15 17 28.1 +0.5**
BIOA **Sn 15 18 29.1 +2.6**
BIOA Bad Ischl, Aus 5.10 3 *i*Pn **Pn 15 17 28.1 +0.5**
comp=N,5.1nm,0.2s,SNR=25
BIOA *e*Sn **Sn 15 18 29.1 +2.6**
comp=N,102nm,0.6s
DIVS Divibare 5.13 71 Pn **Pn 15 17 26.7 -1.4**
DIVS Divibare 5.13 71 *e*Pn **Pn 15 17 28.9 +0.8**
DIVS Divibare 5.13 71 *e*Pn **Pn 15 17 29.2 +1.1**
VLO Vlora 5.14 112 Pn **Pn 15 17 27.1 -0.9**
VLO Vlora 5.14 112 P **Pn 15 17 27.1 -0.9**
IVAS Ivanjica 5.14 77 *e*Pn **Pn 15 17 29.1 +0.9**
IVAS *e*Sn **Sn 15 18 25.8 -1.7**
TRIGF Trigance 5.14 285 P **Pn 15 17 30.0 +1.8**
MBDF Montbardon 5.17 297 *e*Pn **Pn 15 17 28.6 0.0**
MBDF *e*Sn **Sn 15 18 25.7 -2.6**
comp=N,17nm,0.5s
VAE Valguarnera 5.19 170 Pn Pn 15 17 34.0 +5.2
comp=N,20nm,0.8s,baz=135,slow=15,SNR=1.9
RETA Reutte 5.20 341 *i*Pn **Pn 15 17 31.3 +2.4**
comp=N,12nm,0.4s,SNR=13
RETA *e*Sn **Sn 15 18 35.0 +6.0**
comp=N,82nm,0.7s
CREF Crivoux 5.20 294 P **Pn 15 17 33.5 +4.4**
OGAG Argentiere 5.23 293 P Pn 15 17 34.9 +5.5
PLONS Plons/SG 5.24 330 *e*Pn **Pn 15 17 32.4 +2.8**
SNR=21
PLONS *e*Sn **Sn 15 18 33.8 +3.8**
SNR=2.3
PLONS Plons/SG 5.24 330 *e*Pn **Pn 15 17 32.4 +2.8**
SNR=21
PLONS *e*Sn **Sn 15 18 33.8 +3.8**
SNR=2.3
DAVA Damuels 5.27 334 *i*Pn **Pn 15 17 32.6 +2.7**
comp=N,36nm,0.6s,SNR=28
DAVA *e*Sn **Sn 15 18 38.2 +7.4**
comp=N,136nm,0.6s
DAVA Damuels 5.27 334 *e*Pn **Pn 15 17 32.4 +2.4**
SNR=18
DAVA *e*Sn **Sn 15 18 34.9 +4.1**
SNR=2.8
DAVA Damuels 5.27 334 *e*Pn **Pn 15 17 32.4 +2.4**
SNR=18
DAVA *e*Sn **Sn 15 18 34.9 +4.1**
SNR=2.8
MORH Mrgy, Hungar 5.29 45 P **Pn 15 17 31.1 +1.0**
MORH Mrgy, Hungar 5.29 45 *e*Pn **Pn 15 17 29.4 -0.7**
MOA Molln 5.30 7 *i*Pn **Pn 15 17 31.1 +0.8**
comp=N,79nm,0.8s,SNR=22
MOA *e*Sn **Sn 15 18 32.6 +1.2**
comp=N,47nm,0.4s
MOA Molln 5.30 7 *e*Pn **Pn 15 17 30.6 +0.2**
SNR=34
MOA *e*Sn **Sn 15 18 33.2 +1.8**
SNR=2.7
MOA Molln 5.30 7 *e*Pn **Pn 15 17 31.4 +1.1**
MOA *e*Sn **Sn 15 18 32.0 +0.6**
MOA Molln 5.30 7 *e*Pn **Pn 15 17 30.6 +0.2**
SNR=34
MOA *e*Sn **Sn 15 18 33.2 +1.8**
SNR=2.7
BNI Bardonecchia 5.36 299 Pn **Pn 15 17 30.9 -0.3**
BNI Bardonecchia 5.36 299 P **Pn 15 17 30.9 -0.3**
FRGS Fruska Gora 5.38 59 P **Pn 15 17 32.7 +1.3**
FRGS Fruska Gora 5.38 59 *e*Pn **Pn 15 17 32.2 +0.8**
FRGS Fruska Gora 5.38 59 *e*Pn **Pn 15 17 31.7 +0.3**
TRUS Trudelj 5.45 70 *e*Pn **Pn 15 17 33.1 +0.7**
RONA Rosalia, Austr 5.54 22 **Pn 15 17 33.7 +0.1**
RONA **Sn 15 18 40.1 +2.9**
RONA Rosalia, Austr 5.54 22 *i*Pn **Pn 15 17 33.7 +0.1**
comp=N,2.9nm,0.2s,SNR=21
RONA *e*Sn **Sn 15 18 40.1 +2.9**
comp=N,64nm,0.9s
LPL La Plagne 5.54 304 *e*Pn **Pn 15 17 34.6 +0.9**
LPL *e*Sn **Sn 15 18 34.9 -2.6**
comp=N,8.8nm,0.3s
UBR Ueberruh 5.55 337 *e*Pn **Pn 15 17 35.2 +1.4**
SNR=16
UBR Ueberruh 5.55 337 *e*Pn **Pn 15 17 35.2 +1.4**
SNR=16
GRUS Gruza 5.59 74 *e*Pn **Pn 15 17 35.1 +0.8**
GRUS *e*Sn **Sn 15 18 38.6 0.0**
CONA Conrad Observa 5.64 18 *i*Pn **Pn 15 17 34.7 -0.3**
SNR=26
CONA *i*Sn **Sn 15 18 37.1 -2.7**
comp=N,47nm,0.8s
RSL Roselend 5.69 305 P **Pn 15 17 38.3 +2.5**
SENIN Lac Senin/Sane 5.69 313 Pn **Pn 15 17 36.0 +0.2**
KEK Kerkira 5.71 118 Pn **Pn 15 17 36.3 +0.3**
KEK Kerkira 5.71 118 P **Pn 15 17 38.0 +2.0**
FUR Furstenfeldbru 5.74 347 *e*Pn **Pn 15 17 38.8 +2.5**
SNR=1.5
FUR Furstenfeldbru 5.74 347 *e*Pn **Pn 15 17 38.8 +2.5**
SNR=1.5
SMRF Simiane la Rot 5.78 286 *e*P **Pn 15 17 39.1 +2.2**
SMRF *e*Sn **Sn 15 18 39.6 -3.6**
comp=N,163nm,1.3s
GDM Grand'Maison 5.78 299 P **Pn 15 17 41.2 +4.1**
SELS Selova 5.80 81 *e*Pn **Pn 15 17 38.2 +1.0**
SELS *e*Sn **Sn 15 18 43.4 -0.4**
OHR Ohrid 5.82 102 *e*Pn **Pn 15 17 39.6 +2.1**
OHR *e*Sn **Sn 15 18 43.8 -0.5**
OHR Ohrid 5.82 102 *i*Pn **Pn 15 17 39.5 +2.1**
OHR *i*Sn **Sn 15 18 45.0 +0.7**
ORIF Oris-en-Rattie 5.83 296 *e*P **Pn 15 17 40.7 +3.1**
ORIF *e*Sn **Sn 15 18 42.3 -2.2**
comp=N,137nm,0.9s
ORIF Oris-en-Rattie 5.83 296 P **Pn 15 17 41.6 +4.0**
KBN Korca 5.97 107 Pn **Pn 15 17 37.1 -2.5**
KBN Korca 5.97 107 P **Pn 15 17 37.2 -2.5**
SKO Skopje 6.10 93 *e*Pn **Pn 15 17 42.7 +1.4**
SKO Skopje 6.10 93 *i*Pn **Pn 15 17 42.7 +1.4**
SULZ Cheisacher 6.13 325 *e*Pn **Pn 15 17 42.5 +0.8**
SNR=9.4
SULZ *e*Sn **Sn 15 18 51.3 -0.5**
SNR=2.5
SULZ Cheisacher 6.13 325 P **Pn 15 17 42.8 +1.1**
SULZ Cheisacher 6.13 325 *e*Pn **Pn 15 17 42.5 +0.8**
SNR=9.4
SULZ *e*Sn **Sn 15 18 51.3 -0.5**
SNR=2.5
TORNY Torny/Romont 6.13 315 P **Pn 15 17 44.2 +2.5**
IGT Igoumenitsa 6.16 117 P **Pn 15 17 43.8 +1.7**
BALST Balsthal 6.17 322 *e*Pn **Pn 15 17 42.9 +0.6**
SNR=10
BALST *e*Sn **Sn 15 18 56.9 +4.1**
SNR=2.7
BALST Balsthal 6.17 322 P **Pn 15 17 42.9 +0.6**
BALST Balsthal 6.17 322 *e*Pn **Pn 15 17 42.9 +0.6**
SNR=10
BALST *e*Sn **Sn 15 18 56.9 +4.1**
SNR=2.7
SLE Schleitheim 6.17 329 *e*Pn **Pn 15 17 42.5 +0.3**
SNR=13

SLE					*e*Sn		**Sn**	15 18 53.0	+0.2
	SNR=1.9								
SLE	**Schleitheim**	**6.17**	**329**		P		**Pn**	15 17 42.7	+0.5
SLE	**Schleitheim**	**6.17**	**329**		*e*Pn		**Pn**	15 17 42.5	+0.3
	SNR=13								
SLE					*e*Sn		**Sn**	15 18 53.0	+0.2
	SNR=1.9								
ZST	**Bratislava**	**6.22**	**24**		*e*P		**Pn**	15 17 43.6	+0.7
ZST	**Bratislava**	**6.22**	**24**		*e*PN		**Pn**	15 17 43.5	+0.7
OGSM	**Saint Maurice**	**6.22**	**302**		P		**Pn**	15 17 46.0	+3.0
GEC2	**GERESS Array S**	**6.26**	**3**		Pn		**Pn**	15 17 43.0	-0.5
GEC2	**GERESS Array S**	**6.26**	**3**		*e*Pn		**Pn**	15 17 42.9	-0.6
	SNR=8.8								
GEC2					*e*Sn		**Sn**	15 18 53.9	-1.2
	SNR=3.0								
GEC2	**GERESS Array S**	**6.26**	**3**		*e*Pn		**Pn**	15 17 42.9	-0.6
	SNR=8.8								
GEC2					*e*Sn		**Sn**	15 18 53.9	-1.2
	SNR=3.0								
GERES	**GERESS Array B**	**6.26**	**3**		Pn		**Pn**	15 17 42.9	-0.6
	comp=N,1.1nm,0.3s,baz=173,slow=12,SNR=26								
GERES					Sn		**Sn**	15 18 51.9	-3.1
	comp=N,6.9nm,0.3s,baz=163,slow=24,SNR=11								
GERES					LR		LR	15 20 49.5	
	comp=N,309nm,20.4s,baz=134,slow=46								
	comp=N,15nm,0.8s								
GERES	**GERESS Array B**	**6.26**	**3**		Pn		**Pn**	15 17 42.4	-1.1
BOVS	**Bovan**	**6.27**	**78**		*e*Pn		**Pn**	15 17 43.7	+0.1
BOVS					*e*Sn		**Sn**	15 18 54.4	-0.8
CKRC	**Cesky Krumlov**	**6.27**	**6**		*e*PN		**Pn**	15 17 43.6	0.0
CKRC					*e*SN		**Sn**	15 18 53.3	-1.9
BARS	**Barje**	**6.31**	**85**		*e*Pn		**Pn**	15 17 45.0	+0.9
BARS					*e*Sn		**Sn**	15 18 54.5	-1.7
SRO	**Srobarova**	**6.32**	**33**		*e*P		**Pn**	15 17 46.9	+2.7
SRO	**Srobarova**	**6.32**	**33**		*e*PN		**Pn**	15 17 46.9	+2.7
FNA	**Florina**	**6.34**	**104**		Pn		**Pn**	15 17 42.9	-1.7
FNA	**Florina**	**6.34**	**104**		P		**Pn**	15 17 46.5	+1.9
FNA	**Florina**	**6.34**	**104**		P		**Pn**	15 17 42.9	-1.7
FNA	**Florina**	**6.34**	**104**		*e*Pn		**Pn**	15 17 45.8	+1.2
FNA					*e*Sn		**Sn**	15 18 54.2	-2.9
GIMEL	**St. Georges /**	**6.36**	**311**		P		**Pn**	15 17 47.1	+2.1
PENT	**Pentalofos**	**6.39**	**109**		P		**Pn**	15 17 47.7	+2.3
BOURR	**Bourrignon**	**6.42**	**320**		P		**Pn**	15 17 47.0	+1.2
MODS	**Modra-Piesok**	**6.43**	**25**		*e*P		**Pn**	15 17 47.4	+1.6
MODS	**Modra-Piesok**	**6.43**	**25**		*e*PN		**Pn**	15 17 47.4	+1.6
JAN	**Janina**	**6.44**	**115**		P		**Pn**	15 17 48.1	+2.1
BRANT	**Les Verrieres**	**6.49**	**314**		P		**Pn**	15 17 48.5	+1.8
OG3S	**Corcelles**	**6.50**	**305**		P		**Pn**	15 17 48.4	+1.5
MDVR	**Moldovita**	**6.50**	**68**		P		**Pn**	15 17 48.1	+1.2
CABF	**La Chapelle**	**6.50**	**311**		*e*Pn		**Pn**	15 17 47.4	+0.5
CABF					*e*Sn		**Sn**	15 18 58.9	-2.3
	comp=N,7.9nm,0.4s								
PRVS	**Prvonek**	**6.51**	**88**		*e*Pn		**Pn**	15 17 47.9	+0.9
PRVS					*e*Sn		**Sn**	15 19 00.0	-1.3
KHC	**Kasperske Hory**	**6.54**	**2**		Pn		**Pn**	15 17 46.2	-1.1
KHC	**Kasperske Hory**	**6.54**	**2**		*e*PN		**Pn**	15 17 47.2	-0.1
KHC					*e*SN		**Sn**	15 18 59.5	-2.4
KHC					AMS		AMS	15 20 20.0	
	comp=N,700nm,11.2s								
KHC	**Kasperske Hory**	**6.54**	**2**		P		**Pn**	15 17 46.2	-1.1
KIZ	**Kirchzarten**	**6.55**	**327**		P		**Pn**	15 17 47.4	+0.5
CHMF	**Charmoille**	**6.61**	**317**		P		**Pn**	15 17 49.3	+1.0
VIVF	**Saint-Julien-l**	**6.62**	**293**		*e*P		**Pn**	15 17 51.1	+2.7
VIVF					*e*Sn		**Sn**	15 18 59.2	-4.7
	comp=N,1.9nm,0.3s								
KPRO	**Kipourio**	**6.65**	**111**		P		**Pn**	15 17 52.5	+3.6
ZAGS	**Zajecar**	**6.67**	**76**		*e*Pn		**Pn**	15 17 49.6	+0.5
ZAGS					*e*Sn		**Sn**	15 19 02.7	-2.3
STIP	**Stip**	**6.70**	**95**		*i* Pn		**Pn**	15 17 52.4	+3.0
BFO	**Black Forest**	**6.70**	**331**		Pn		**Pn**	15 17 49.1	-0.3
BFO	**Black Forest**	**6.70**	**331**		*e*Pn		**Pn**	15 17 49.7	+0.2
	SNR=16								
BFO					*e*Sn		**Sn**	15 19 05.0	-0.9
	SNR=2.1								
BFO	**Black Forest**	**6.70**	**331**		P		**Pn**	15 17 49.2	-0.3
BFO	**Black Forest**	**6.70**	**331**		P		**Pn**	15 17 49.8	+0.2
BFO	**Black Forest**	**6.70**	**331**		*e*Pn		**Pn**	15 17 49.7	+0.2
	SNR=16								
BFO					*e*Sn		**Sn**	15 19 05.0	-0.9
	SNR=2.1								
BZS	**Buzias**	**6.73**	**61**		⇑P		**Pn**	15 17 49.9	+0.1
BZS	**Buzias**	**6.73**	**61**		*e*Pn		**Pn**	15 17 50.0	+0.1
VOGT	**Vogtsburg - To**	**6.75**	**326**		P		**Pn**	15 17 51.2	+1.0
LKD2	**Lefkada island**	**6.79**	**122**		P		**Pn**	15 17 51.4	+0.7
KZN	**Kozani**	**6.79**	**107**		P		**Pn**	15 17 54.6	+3.8
KRUC	**Moravsky**	**6.83**	**18**		*e*PN		**Pn**	15 17 51.2	0.0
KRUC					*e*SN		**Sn**	15 19 04.5	-4.4
SSB	**Saint Sauveur**	**6.84**	**296**		Pn		**Pn**	15 17 51.5	0.0
SSB	**Saint Sauveur**	**6.84**	**296**		P		**Pn**	15 17 51.5	0.0
HINF	**Hinteralfeld**	**6.91**	**321**		*e*Pn		**Pn**	15 17 52.3	-0.1
HINF					*e*Sn		**Sn**	15 19 07.8	-3.2
	comp=N,17nm,0.3s								
ZAPS	**Zavoj**	**6.91**	**81**		*e*Sn		**Sn**	15 19 09.5	-1.6
RONF	**Ronchamp**	**6.93**	**320**		P		**Pn**	15 17 52.8	+0.2
RONF					S		**Sn**	15 19 08.1	-3.3
KEF3	**Kipouria, Keph**	**6.96**	**127**		P		**Pn**	15 17 57.9	+4.8
JAVC	**Velka Javorina**	**6.98**	**25**		*e*PN		**Pn**	15 17 53.8	+0.4
HERR	**Herculane**	**7.01**	**68**		⇑P		**Pn**	15 17 55.5	+1.7
LASF	**Ste Croix**	**7.01**	**285**		*e*Pn		**Pn**	15 17 53.8	-0.1
LASF	**Ste Croix**	**7.01**	**285**		*e*P		**Pn**	15 17 57.2	+3.3
LASF					*e*Sn		**Sn**	15 19 08.8	-4.9
	comp=N,2.4nm,0.5s								
DJES	**Djerdap**	**7.03**	**70**		Pn		**Pn**	15 17 53.0	-1.0
SIRR	**Siria**	**7.04**	**56**		⇓P		**Pn**	15 17 56.0	+1.8
VAY	**Valandovo**	**7.05**	**97**		*e*Pn		**Pn**	15 17 55.6	+1.2
VAY					*e*Sn		**Sn**	15 19 11.6	-3.0
VAY	**Valandovo**	**7.05**	**97**		*i* Pn		**Pn**	15 17 55.6	+1.2
VAY					*i* Sn		**Sn**	15 19 11.6	-3.0
ECH	**Echery**	**7.07**	**325**		Pn		**Pn**	15 17 54.0	-0.6
ECH	**Echery**	**7.07**	**325**		P		**Pn**	15 17 54.0	-0.6
ECH	**Echery**	**7.07**	**325**		P		**Pn**	15 17 55.2	+0.6
ECH	**Echery**	**7.07**	**325**		P		**Pn**	15 17 54.9	+0.3
VYHS	**Vyhne**	**7.08**	**32**		*e*P		**Pn**	15 17 56.3	+1.6
VYHS	**Vyhne**	**7.08**	**32**		*e*PN		**Pn**	15 17 56.3	+1.6
VYHS					*e*			15 18 04.1	
VRAC	**Vranov**	**7.10**	**18**		Pn		**Pn**	15 17 54.8	-0.2
	comp=N,1.3nm,0.3s,baz=211,slow=12,SNR=16								
VRAC					Sn		**Sn**	15 19 10.6	-5.1
	comp=N,0.3nm,0.3s,baz=313,slow=19,SNR=1.6								
VRAC					LR		LR	15 21 14.1	
	comp=N,568nm,18.8s,baz=206,slow=44								
	comp=N,16nm,0.8s								
VRAC	**Vranov**	**7.10**	**18**		⇓P		**Pn**	15 17 56.5	+1.4
VRAC	**Vranov**	**7.10**	**18**		*e*PN		**Pn**	15 17 56.0	+1.0
SURR	**Surduc**	**7.11**	**61**		⇑P		**Pn**	15 17 56.2	+1.1
CDF	**Champ du Feu**	**7.17**	**326**		*e*Pn		**Pn**	15 17 56.4	+0.3
CDF					*e*Sn		**Sn**	15 19 14.0	-3.6
	comp=N,22nm,0.5s								
ROTZ	**Rotzenmuhle**	**7.21**	**355**		*e*Pn		**Pn**	15 17 56.2	-0.2
	SNR=6.1								
ROTZ					*e*Sn		**Sn**	15 19 15.9	-2.4
	SNR=2.4								
ROTZ	**Rotzenmuhle**	**7.21**	**355**		*e*Pn		**Pn**	15 17 56.2	-0.2
	SNR=6.1								
ROTZ					*e*Sn		**Sn**	15 19 15.9	-2.4
	SNR=2.4								
GRFO	**Grafenberg**	**7.24**	**349**		Pn		**Pn**	15 17 55.5	-1.3
GRFO	**Grafenberg**	**7.24**	**349**		P		**Pn**	15 17 55.5	-1.3
GRA1	**Grafenberg Arr**	**7.24**	**349**		Pn		**Pn**	15 17 55.4	-1.4
GRF	**Grafenberg Arr**	**7.24**	**349**		*e*Pn		**Pn**	15 17 57.6	+0.7
	SNR=2.7								
GRF	**Grafenberg Arr**	**7.24**	**349**		P		**Pn**	15 17 55.4	-1.4
GRF	**Grafenberg Arr**	**7.24**	**349**		*e*Pn		**Pn**	15 17 57.6	+0.7
	SNR=2.7								
HAU	**Haudompre**	**7.28**	**320**		*e*Pn		**Pn**	15 17 57.5	0.0
HAU					*e*Sn		**Sn**	15 19 16.8	-3.3
	comp=N,30nm,0.3s								
VTS	**Vitosha**	**7.36**	**86**		⇑P		**Pn**	15 18 00.1	+1.4
VTS	**Vitosha**	**7.36**	**86**		Pn		**Pn**	15 17 57.7	-1.0
VTS	**Vitosha**	**7.36**	**86**		P		**Pn**	15 17 57.7	-1.0
VTS	**Vitosha**	**7.36**	**86**		*e*Pn		**Pn**	15 17 59.9	+1.2
VTS	**Vitosha**	**7.36**	**86**		*e*Pn		**Pn**	15 17 59.9	+1.2
VTS					*e*Sn		**Sn**	15 19 19.3	-3.0
VTS					*e*Sn		**Sn**	15 19 19.5	-2.8
LIT	**Litokhoron**	**7.38**	**107**		Pn		**Pn**	15 17 57.6	-1.2
LIT	**Litokhoron**	**7.38**	**107**		P		**Pn**	15 17 57.6	-1.2
GOPC	**GO Pecny, Ondr**	**7.39**	**8**		*e*PN		**Pn**	15 17 59.5	+0.5
GOPC					*e*SN		**Sn**	15 19 20.7	-2.2
GOPC	**GO Pecny, Ondr**	**7.39**	**8**		*e*P		**Pn**	15 17 59.5	+0.5
GOPC					*e*			15 19 20.7	
GZR	**Gura Zlata**	**7.41**	**65**		⇑P		**Pn**	15 18 00.7	+1.4
MANZ	**Manzenberg**	**7.43**	**354**		*e*Pn		**Pn**	15 17 59.5	-0.1
	SNR=4.2								
MANZ	**Manzenberg**	**7.43**	**354**		*e*Pn		**Pn**	15 17 59.5	-0.1
	SNR=4.2								
PRU	**Pruhonice**	**7.45**	**6**		*e*PN		**Pn**	15 17 59.5	-0.2
PRU					*e*SN		**Sn**	15 19 21.2	-3.0
PRU	**Pruhonice**	**7.45**	**6**		*e*P		**Pn**	15 17 59.5	-0.2
PRU					*e*			15 19 21.2	
KEST	**Kesra**	**7.50**	**205**		Pn		**Pn**	15 18 04.7	+4.1
	comp=N,4.1nm,0.3s,baz=354,slow=3.9,SNR=14								
KEST					Sn		**Sn**	15 19 27.5	+1.8
	baz=342,slow=16								
	comp=N,31nm,0.7s								
NKC	**Novy Kostel**	**7.66**	**356**		*e*PN		**Pn**	15 18 02.9	+0.2
NKC					*e*SN		**Sn**	15 19 27.6	-1.8
NKC	**Novy Kostel**	**7.66**	**356**		*e*P		**Pn**	15 18 02.9	+0.2
NKC					*e*			15 19 27.6	
WERN	**Wernitzgruen**	**7.72**	**356**		*e*Pn		**Pn**	15 18 03.8	+0.3
	SNR=6.4								
WERN	**Wernitzgruen**	**7.72**	**356**		*e*Pn		**Pn**	15 18 03.8	+0.3
	SNR=6.4								
AGG	**Agios Georgios**	**7.75**	**114**		P		**Pn**	15 18 06.2	+2.2
MORC	**Moravsky Berou**	**7.77**	**21**		⇑P		**Pn**	15 18 06.5	+2.3
MORC	**Moravsky Berou**	**7.77**	**21**		Pn		**Pn**	15 18 03.3	-0.9
MORC	**Moravsky Berou**	**7.77**	**21**		P		**Pn**	15 18 03.3	-0.9
GUNZ	**Gunzen**	**7.79**	**356**		*e*Pn		**Pn**	15 18 04.7	+0.2
	SNR=8.9								
GUNZ	**Gunzen**	**7.79**	**356**		*e*Pn		**Pn**	15 18 04.7	+0.2
	SNR=8.9								
TANN	**Tannenbergstha**	**7.84**	**356**		*e*Pn		**Pn**	15 18 05.2	0.0
	SNR=6.2								
TANN	**Tannenbergstha**	**7.84**	**356**		*e*Pn		**Pn**	15 18 05.2	0.0
	SNR=6.2								
SMF	**Signal de Mont**	**7.84**	**304**		*e*Pn		**Pn**	15 18 05.8	+0.6
SMF					*e*Sn		**Sn**	15 19 29.8	-4.2
	comp=N,6.2nm,0.4s								
SRS	**Serrai**	**7.85**	**97**		*e*Pn		**Pn**	15 18 06.2	+0.9
SRS					*e*Sn		**Sn**	15 19 31.6	-2.6
LANS	**Liptovska Anna**	**7.85**	**31**		*e*P		**Pn**	15 18 07.3	+1.9
KRLC	**Kraliky**	**7.87**	**17**		*e*PN		**Pn**	15 18 05.9	+0.4
KRLC	**Kraliky**	**7.87**	**17**		*e*P		**Pn**	15 18 05.9	+0.4
WERD	**Werda**	**7.88**	**356**		*e*Pn		**Pn**	15 18 06.2	+0.5
	SNR=7.9								
WERD	**Werda**	**7.88**	**356**		*e*Pn		**Pn**	15 18 06.2	+0.5
	SNR=7.9								
DRGR		**7.93**	**55**		⇑P		**Pn**	15 18 07.8	+1.4
DRGR		**7.93**	**55**		*e*Pn		**Pn**	15 18 08.2	+1.8
PAGF	**Fort de Pagny**	**7.96**	**321**		*e*Pn		**Pn**	15 18 06.9	+0.1
	baz=140								
PAGF					*e*Sn		**Sn**	15 19 31.6	-5.3
	comp=N,11nm,0.4s								
OKC	**Ostrava-Krasne**	**7.99**	**23**		*e*PN		**Pn**	15 18 08.2	+1.0
OKC	**Ostrava-Krasne**	**7.99**	**23**		*e*P		**Pn**	15 18 08.2	+1.0
DPC	**Dobruska-Polom**	**8.04**	**14**		*e*PN		**Pn**	15 18 08.0	+0.1
DPC	**Dobruska-Polom**	**8.04**	**14**		*e*P		**Pn**	15 18 08.0	+0.1
SFTF	**Sexfontaines**	**8.05**	**317**		*e*Pn		**Pn**	15 18 07.5	-0.6
	baz=137								
SFTF					*e*Sn		**Sn**	15 19 35.4	-3.8
	comp=N,10nm,0.4s								
MARR	**Marisel-Cluj**	**8.12**	**57**		⇑P		**Pn**	15 18 11.4	+2.2
MOX	**Moxa**	**8.13**	**353**		*e*Pn		**Pn**	15 18 08.6	-0.5
	SNR=11								
MOX					*e*Sn		**Sn**	15 19 36.5	-4.5
	SNR=3.2								
MOX	**Moxa**	**8.13**	**353**		*e*Pn		**Pn**	15 18 08.6	-0.5
	SNR=11								
MOX					*e*Sn		**Sn**	15 19 36.5	-4.5
	SNR=3.2								
MTLF	**Montolieu**	**8.13**	**279**		*e*P		**Pn**	15 18 13.5	+4.3
MTLF					*e*Sn		**Sn**	15 19 35.2	-6.0
	comp=N,2.4nm,0.5s								
UPC	**Upice**	**8.14**	**13**		*e*PN		**Pn**	15 18 09.9	+0.7
UPC					AMS		AMS	15 21 20.0	
	comp=N,800nm,9.9s								
UPC	**Upice**	**8.14**	**13**		*e*P		**Pn**	15 18 09.9	+0.7
UPC					MLR		MLR		
	comp=Z,800nm,9.9s								
LOR	**Lormes**	**8.14**	**308**		*e*Pn		**Pn**	15 18 09.0	-0.3
	baz=128								
LOR					*e*Sn		**Sn**	15 19 37.3	-4.0
	comp=Z,8.8nm,0.4s								
AVF	**Avril sur Loir**	**8.21**	**304**		*e*Pn		**Pn**	15 18 10.4	+0.2
AVF					*e*Sn		**Sn**	15 19 38.5	-4.4
	comp=Z,4.1nm,0.5s								
OSTC	**Ostas**	**8.22**	**13**		*e*PN		**Pn**	15 18 10.1	-0.2
SSF	**Saint Saulge**	**8.24**	**306**		*e*Pn		**Pn**	15 18 10.1	-0.6
SSF					*e*Sn		**Sn**	15 19 39.1	-4.7
	comp=Z,5.5nm,0.5s								
MEZF	**Maizieres J'vi**	**8.25**	**319**		*e*P		Pn	15 18 16.3	+5.6
MEZF					*e*Sn		**Sn**	15 19 38.0	-5.8
	comp=Z,27nm,0.5s								
SAVF	**Savonnieres en**	**8.29**	**319**		*e*Pn		**Pn**	15 18 11.2	-0.1
	baz=133								
SAVF					*e*Sn		**Sn**	15 19 40.5	-4.4
	comp=Z,7.7nm,0.4s								
BRG	**Berggiesshubel**	**8.29**	**3**		*e*P		**Pn**	15 18 12.8	+1.4
BRG					Amp			15 18 18.5	
	comp=Z,3.6nm,0.7s								
BRG					r			15 19 43.1	
BRG					r			15 20 40.1	
BRG					Amp			15 21 07.9	
	comp=Z,74nm,1.3s								
BRG					Amp			15 21 45.0	
	comp=E,0.5nm,8.5s								
BRG					Amp			15 21 46.0	
	comp=N,0.5nm,7.5s								
BRG					Amp			15 21 49.0	
	comp=Z,0.8nm,8.6s								
BRG	**Berggiesshubel**	**8.29**	**3**		*e*P		**Pn**	15 18 12.7	+1.4
BRG					*i*			15 19 43.0	
BRG					pmax	pmax			
	comp=Z,4.0nm,0.7s								
BRG					pmax	pmax			
	comp=Z,74nm,1.3s								
BRG					MLR	MLR			
	comp=E,511nm,8.5s								
BRG					MLR	MLR			
	comp=N,518nm,7.5s								
BRG					MLR	MLR			
	comp=Z,783nm,8.6s								
TNS	**Taunus Mts**	**8.32**	**338**		*e*Pn		**Pn**	15 18 12.9	+1.1
	SNR=5.1								
TNS					Sn		**Sn**	15 19 48.4	+2.7
	comp=Z,41nm,0.7s								
TNS	**Taunus Mts**	**8.32**	**338**		*e*Pn		**Pn**	15 18 12.9	+1.1
	SNR=5.1								
BGF	**Bois d'Agland**	**8.42**	**302**		*e*Sn		**Sn**	15 19 43.9	-4.3
	comp=Z,10nm,0.4s								
CAF	**Calviac**	**8.43**	**290**		*e*P		**Pn**	15 18 15.7	+2.4
CAF					*e*Sn		**Sn**	15 19 42.0	-6.5
	comp=Z,3.1nm,0.4s								
CRVS	**Cervenica-Dubn**	**8.52**	**39**		*e*		**Pn**	15 18 18.4	+4.0
TRPA	**Tarpa**	**8.56**	**47**		⇓P		**Pn**	15 18 16.7	+1.7
WLF	**Walferdange**	**8.62**	**328**		Pn		**Pn**	15 18 14.9	-0.8
WLF	**Walferdange**	**8.62**	**328**		*e*Pn		**Pn**	15 18 17.8	+2.0
	SNR=3.8								
WLF					Sn		**Sn**	15 19 52.5	-0.5
	comp=Z,55nm,0.9s								
WLF	**Walferdange**	**8.62**	**328**		P		**Pn**	15 18 15.0	-0.8
WLF	**Walferdange**	**8.62**	**328**		*d*P		**Pn**	15 18 17.7	+2.0
WLF					*d*S		**Sn**	15 19 53.8	+0.8
WLF	**Walferdange**	**8.62**	**328**		*e*Pn		**Pn**	15 18 17.8	+2.0
	SNR=3.8								
CLL	**Collm**	**8.72**	**359**		Pn		**Pn**	15 18 14.8	-2.4
CLL	**Collm**	**8.72**	**359**		*e*Pn		**Pn**	15 18 18.0	+0.9
CLL					*ex*	x		15 18 36.0	
CLL					*ex*	x		15 19 57.0	
CLL					*ex*	x		15 20 16.0	
CLL					*ex*	x		15 20 40.0	
CLL					*e*Sg		**Sg**	15 20 51.0	+0.4
	comp=Z,121nm,1.2s								
CLL					LmH			15 21 00.0	
	comp=N,200nm,18.7s								
CLL					LmH			15 21 00.0	
	comp=E,1μm,20.0s								
CLL					Lmax			15 21 00.0	
CLL					LmV			15 21 00.0	
	comp=N,300nm,18.2s								
CLL					LmV			15 21 00.0	
	comp=E,300nm,19.0s								
CLL					LmV			15 21 00.0	
	comp=Z,200nm,21.7s								
CLL	**Collm**	**8.72**	**359**		*e*P		**Pn**	15 18 18.0	+0.9
CLL	**Collm**	**8.72**	**359**		*e*Sn		Sn	15 19 36.0	-19
TCF	**Toulx Ste Croi**	**8.72**	**299**		*e*Pn		**Pn**	15 18 17.2	-0.1
TCF					*e*Sn		**Sn**	15 19 50.3	-5.4
	comp=Z,1.4nm,0.2s								
UZH	**Uzhgorod**	**8.74**	**43**		*e*P		Pn	15 18 27.3	+10
STHS	**Stebnicka Huta**	**8.79**	**36**		*e*P		**Pn**	15 18 22.2	+4.0
STHS	**Stebnicka Huta**	**8.79**	**36**		*e*PN		**Pn**	15 18 16.4	-1.8
STHS	**Stebnicka Huta**	**8.79**	**36**		*e*		**Pn**	15 18 22.2	+4.0
RJF	**Les Rejaudoux**	**8.89**	**292**		*e*P		**Pn**	15 18 22.8	+3.2
AHRW	**Bad Neuenahr-A**	**9.01**	**334**		*e*Pn		**Pn**	15 18 24.3	+3.2
	SNR=2.8								
AHRW					Sn		**Sn**	15 20 04.7	+2.1
	comp=Z,27nm,0.6s								
AHRW	**Bad Neuenahr-A**	**9.01**	**334**		*e*Pn		**Pn**	15 18 24.3	+3.2
	SNR=2.8								
KASTN	**Kahler Asten**	**9.22**	**341**		*e*Pn		**Pn**	15 18 24.6	+0.5
	SNR=3.6								
KASTN	**Kahler Asten**	**9.22**	**341**		*e*Pn		**Pn**	15 18 24.6	+0.5
	SNR=3.6								
RDO	**Rodhopi**	**9.27**	**95**		Pn		**Pn**	15 18 22.9	-1.9
DOPR	**Dopca**	**9.33**	**65**		⇑P		**Pn**	15 18 27.2	+1.6
LFF	**La Frestale**	**9.36**	**289**		*e*Pn		**Pn**	15 18 25.5	-0.4
BTNL	**Ternell**	**9.37**	**331**		*d*P		**Pn**	15 18 27.9	+1.8
BTNL					*d*PP		**PbPb**	15 18 52.0	-4.3
RCHB	**Rochefort**	**9.38**	**327**		*d*P		**Pn**	15 18 27.4	+1.3
RCHB					*d*S		**Sn**	15 20 11.4	-0.1
MEM	**Membach**	**9.44**	**331**		*d*P		**Pn**	15 18 28.9	+1.9
MEM					*d*PP		**PbPb**	15 18 56.5	-0.9
MEM					*d*S		**Sn**	15 20 13.8	+0.7
CLZ	**Clausthal**	**9.45**	**349**		*e*Pn		**Pn**	15 18 27.9	+0.7
	SNR=6.1								
CLZ					Sn		**Sn**	15 20 15.8	+2.2
	comp=Z,31nm,0.7s								
CLZ	**Clausthal**	**9.45**	**349**		*e*Pn		**Pn**	15 18 27.9	+0.7
	SNR=6.1								
GIVF	**Givet**	**9.50**	**325**		*e*Pn		**Pn**	15 18 27.1	-0.8
GIVF					*e*Sn		**Sn**	15 20 08.8	-5.9
	comp=Z,2.5nm,0.2s								
EPF	**Esparros**	**9.51**	**277**		*e*Pn		**Pn**	15 18 27.3	-0.8
BCLA	**Clavier**	**9.55**	**328**		*d*P		**Pn**	15 18 30.2	+1.7
MLR	**Muntele Rosu**	**9.58**	**68**		Pn		**Pn**	15 18 31.8	+2.6
	comp=Z,0.4nm,0.3s,baz=250,slow=6.7,SNR=7.1								
MLR					LR		LR	15 23 03.0	
	comp=Z,838nm,20.8s,baz=253,slow=43								
	comp=Z,14nm,1.0s								
MLR	**Muntele Rosu**	**9.58**	**68**		P		**Pn**	15 18 30.0	+0.9
MLR	**Muntele Rosu**	**9.58**	**68**		Pn		**Pn**	15 18 28.0	-1.1
DOU	**Dourbes**	**9.59**	**324**		*d*P		**Pn**	15 18 28.9	-0.3
BGES	**Gesves**	**9.61**	**327**		*d*P		**Pn**	15 18 31.3	+2.0
BMRD	**Maredsous**	**9.68**	**

	comp=Z,29nm,1.3s								
OBN					MLR	MLR			
	comp=Z,339nm,18.0s								
VORR	**Voronezh**	**19.76**	**54**		P	**Pn**	**15 20 42.0**	**-0.5**	
VORR					pmax	pmax			
	comp=Z,50nm,0.9s								
MMAI	**Mount Meron Ar**	**19.89**	**111**		P	**Pn**	**15 20 45.5**	**+1.2**	
	comp=Z,5.8nm,0.8s,baz=308,slow=14,SNR=4.9								
MMAI					LR	LR	15 30 28.3		
	comp=Z,106nm,18.8s,baz=220,slow=43								
	comp=Z,5.8nm,0.8s								
LPSR	**Galich'ya Gora**	**19.89**	**51**	*eP*		**Pn**	**15 20 43.7**	**-0.3**	
LPSR					pmax	pmax			
	comp=Z,20nm,0.8s								
FINES	**FINESS Array B**	**20.38**	**18**		P	**P**	**15 20 47.2**	**-0.5**	
	comp=Z,15nm,0.8s,baz=204,slow=10,SNR=17								
	comp=Z,15nm,0.8s								
FINES	**FINESS Array B**	**20.38**	**18**		P	**P**	**15 20 46.1**	**-1.5**	
FIA1	**FINESS Array S**	**20.39**	**18**		P	**P**	**15 20 47.4**	**-0.4**	
FIA1					IAmb	IAmb	15 20 55.0		
	comp=Z,58nm,1.4s								
MOS	**Moscow**	**20.52**	**42**	*eP*		**P**	**15 20 48.7**	**-0.5**	
MOS				*e*			15 21 05.5		
MOS					pmax	pmax			
	comp=Z,44nm,0.9s								
VRH	**Novokhopyorsk**	**21.16**	**56**	*eP*		**P**	**15 20 58.9**	**+2.8**	
VRH					pmax	pmax			
	comp=Z,40nm,0.8s								
ASF	**Jabal al Asfar**	**21.41**	**111**		P	**P**	**15 21 01.8**	**+2.7**	
	comp=Z,13nm,0.8s,baz=18,slow=14,SNR=11								
	comp=Z,13nm,0.8s								
KIV	**Kislovodsk**	**21.42**	**76**		P	**P**	**15 20 59.0**	**-0.1**	
KIV					IAmb	IAmb	15 21 04.8		
	comp=Z,34nm,1.1s								
KIV	**Kislovodsk**	**21.42**	**76**	*eP*		**P**	**15 21 01.7**	**+2.5**	
KIV					pmax	pmax			
	comp=Z,29nm,1.0s								
KIV					MLR	MLR			
	comp=Z,63nm,14.0s								
SHA1	**Shidzhatmaz**	**21.43**	**77**	*i* P		**P**	**15 21 02.1**	**+2.7**	
KVAR	**Kislovodsk Air**	**21.43**	**76**	P		**P**	**15 21 00.7**	**+1.4**	
	comp=Z,4.6nm,0.8s,baz=259,slow=19,SNR=7.3								
	comp=Z,4.6nm,0.8s								
NEY	**Neytrino**	**21.54**	**78**⇓	*i* P		**P**	**15 21 03.4**	**+2.9**	
NEY					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KBZ	**Khabaz**	**21.60**	**77**	P		**P**	**15 21 03.7**	**+2.7**	
	comp=Z,15nm,0.9s,baz=301,slow=7.9,SNR=28								
KBZ					LR	LR	15 32 06.4		
	comp=Z,110nm,21.5s,baz=293,slow=44								
	comp=Z,15nm,0.9s								
KBZ	**Khabaz**	**21.60**	**77**	*ce* P		**P**	**15 21 02.8**	**+1.9**	
KBZ					pmax	pmax			
	comp=Z,21nm,0.9s								
MARD	**Mardin**	**21.70**	**95**		P	**P**	**15 21 01.1**	**-1.1**	
MARD					IAmb	IAmb	15 21 12.5		
	comp=Z,24nm,1.2s								
GURO	**Guroymak-BITLI**	**22.17**	**91**		P	**P**	**15 21 06.3**	**-1.1**	
ONI	**Oni**	**22.18**	**80**		P	**P**	**15 21 05.0**	**-2.3**	
ONI	**Oni**	**22.18**	**80**		P	**P**	**15 21 05.0**	**-2.3**	
ONI					pmax	pmax			
	comp=Z,18nm,1.3s								
ZEI	**Tsey**	**22.47**	**79**	*eP*		**P**	**15 21 12.3**	**+1.8**	
ZEI					pmax	pmax			
	comp=Z,12nm,1.0s								
GEVA	**Gevas**	**23.01**	**91**		P	**P**	**15 21 14.5**	**-1.8**	
GNI	**Garni**	**23.68**	**85**		P	**P**	**15 21 25.2**	**+2.2**	
	comp=Z,4.5nm,0.6s,baz=310,slow=17,SNR=4.5								
GNI					LR	LR	15 33 49.6		
	comp=Z,66nm,18.5s,baz=315,slow=45								
	comp=Z,4.5nm,0.6s								
GNI	**Garni**	**23.68**	**85**		P	**P**	**15 21 21.6**	**-1.3**	
GNI					IAmb	IAmb	15 21 36.7		
	comp=Z,15nm,1.1s								
GNI	**Garni**	**23.68**	**85**		P	**P**	**15 21 21.7**	**-1.3**	
GNI					pmax	pmax			
	comp=Z,15nm,1.1s								
GROC	**Groznyy**	**23.76**	**77**	*eP*		**P**	**15 21 24.4**	**+0.8**	
GROC				*e*			15 21 51.4		
GROC				*e*			15 25 09.2		
GROC					pmax	pmax			
	comp=Z,20nm,0.6s								
KLMR	**Klimovskoe**	**24.19**	**32**	*eP*		**P**	**15 21 26.5**	**-0.8**	
KLMR					AMP		15 21 30.2		
	comp=Z,57nm,2.4s								
KLMR					LR	LR	15 30 48.3		
KLMR	**Klimovskoe**	**24.19**	**32**	*eP*		**P**	**15 21 26.5**	**-0.8**	
KLMR					pmax	pmax			
	comp=Z,57nm,2.4s								
MAK	**Makhachkala**	**25.04**	**77**	*eP*		**P**	**15 21 34.7**	**-0.5**	
MAK				*e*			15 22 07.0		
MAK				*eS*		**S**	**15 25 58.7**	**-0.6**	
MAK					pmax	pmax			
	comp=Z,301nm,2.0s								
MAK					MLR	MLR			
	comp=Z,165nm,17.0s								
AKT	**Akhty**	**25.52**	**81**	*eP*		**P**	**15 21 43.1**	**+3.3**	
AKT				*e*			15 22 19.2		
AKT					pmax	pmax			
	comp=Z,18nm,0.9s								
ADZR	**Andozero**	**25.76**	**25**	*eP*		**P**	**15 21 41.2**	**-0.4**	
ADZR					pmax	pmax			
	comp=Z,18nm,0.9s								
KIRV	**Kirov**	**27.53**	**42**		LR	LR	15 33 29.0		
	comp=Z,246nm,19.3s,baz=254,slow=38								
KIRV	**Kirov**	**27.53**	**42**	*ce* P		**P**	**15 21 57.6**	**0.0**	
JMIC	**Jan Mayen**	**30.47**	**346**		LR	LR	15 35 11.1		
	comp=Z,68nm,19.1s,baz=27,slow=38								
TORD	**Torodi Ar. Bea**	**31.01**	**202**		P	**P**	**15 22 30.9**	**+2.1**	
	comp=Z,3.0nm,0.4s,baz=15,slow=7.8,SNR=3.7								
	comp=Z,3.0nm,0.4s								
AKTO	**Aktyubinsk**	**31.38**	**60**		LR	LR	15 36 29.8		
	comp=Z,120nm,20.2s,baz=42,slow=39								
ARU	**Arti**	**31.87**	**48**		LR	LR	15 35 22.9		
	comp=Z,143nm,20.1s,baz=260,slow=36								
ARU	**Arti**	**31.87**	**48**	P		**P**	**15 22 35.1**	**-1.0**	
ARU	**Arti**	**31.87**	**48**	*d i* P		**P**	**15 22 36.1**	**0.0**	
ARU							15 25 20.7		
ARU					S	**S**	**15 27 47.1**	**+0.6**	
ARU					pmax	pmax			
	comp=Z,41nm,1.0s								
ABKAR	**Akbulak array**	**32.72**	**62**		P	**P**	**15 22 42.5**	**-1.1**	
SVE	**Sverdlovsk**	**33.05**	**48**⇓	*eP*		**P**	**15 22 47.5**	**+1.1**	
SVE					pmax	pmax			
	comp=Z,36nm,1.1s								
GEYT	**Alibeck**	**34.24**	**82**		P	**P**	**15 22 58.3**	**+1.2**	
	comp=Z,4.5nm,0.9s,baz=282,slow=7.3,SNR=6.7								
GEYT					LR	LR	15 43 36.6		
	comp=Z,52nm,18.0s,baz=304,slow=48								
	comp=Z,4.5nm,0.9s								
GEYT	**Alibeck**	**34.24**	**82**		P	**P**	**15 22 55.5**	**-1.5**	
BBTS	**Babate**	**37.83**	**232**		LR	LR	15 38 39.5		
	comp=Z,131nm,21.1s,baz=34,slow=36								
BRVK	**Borovoye**	**38.71**	**54**		P	**P**	**15 23 34.7**	**-0.3**	
BRVK					IAmb	IAmb	15 23 40.5		
	comp=Z,17nm,0.9s								
BRVK	**Borovoye**	**38.71**	**54**	*ce* P		**P**	**15 23 36.4**	**+1.4**	
BRVK					pmax	pmax			
	comp=Z,20nm,1.0s								
HRA	**Herat**	**38.75**	**86**		P	**P**	**15 23 35.0**	**-0.8**	
BVAR	**Borovoye Array**	**38.78**	**54**		LR	LR	15 40 52.4		
	comp=Z,203nm,19.1s,baz=280,slow=38								
DBIC	**Dimbokro**	**39.20**	**209**		LR	LR	15 40 17.0		
	comp=Z,114nm,19.8s,baz=13,slow=37								
KK31	**Karatay Array**	**41.26**	**69**		P	**P**	**15 23 55.8**	**-0.5**	
KK31	**Karatay Array**	**41.26**	**69**		P	**P**	**15 23 55.8**	**-0.5**	
KK31					pmax	pmax			
	comp=Z,10.0nm,1.2s								
KKAR	**Karatay Array**	**41.26**	**69**		P	**P**	**15 23 55.5**	**-0.8**	
KKAR	**Karatay Array**	**41.26**	**69**		P	**P**	**15 23 54.8**	**-1.5**	
KKAR					IAmb	IAmb	15 24 01.3		
	comp=Z,10.0nm,1.1s								
KKAR	**Karatay Array**	**41.26**	**69**		P	**P**	**15 23 55.5**	**-0.8**	
CHGR	**Chuyangaron**	**41.95**	**76**		P	**P**	**15 24 01.3**	**-0.8**	
CHGR					IAmb	IAmb	15 24 20.1		
	comp=Z,7.3nm,0.8s								
CHGR	**Chuyangaron**	**41.95**	**76**		P	**P**	**15 24 01.3**	**-0.8**	
CHGR					pmax	pmax			
	comp=Z,7.0nm,0.8s								
WSAR	**Wadi Sarin**	**42.12**	**103**		LR	LR	15 45 36.1		
	comp=Z,57nm,18.6s,baz=338,slow=42								
GAR	**Garm**	**42.64**	**75**		P	**P**	**15 24 06.9**	**-0.9**	
GAR					IAmb	IAmb	15 24 14.3		
	comp=Z,21nm,1.3s								
AAK	**Ala-Archa**	**44.16**	**68**		LR	LR	15 46 15.9		
	comp=Z,157nm,18.7s,baz=318,slow=41								
AAK	**Ala-Archa**	**44.16**	**68**		P	**P**	**15 24 19.9**	**-0.2**	
AAK					IAmb	IAmb	15 24 26.4		
	comp=Z,10nm,1.3s								
AAK	**Ala-Archa**	**44.16**	**68**	*ce* P		**P**	**15 24 22.7**	**+2.6**	
AAK					pmax	pmax			
	comp=Z,7.0nm,1.2s								
KURK	**Kurchatov**	**44.25**	**56**		P	**P**	**15 24 20.4**	**-0.1**	
KURK	**Kurchatov**	**44.25**	**56**	*ce* P		**P**	**15 24 20.3**	**-0.1**	
KURK					pmax	pmax			
	comp=Z,5.0nm,1.3s								
NRIK	**Noril'sk**	**45.46**	**29**		P	**P**	**15 24 29.6**	**-0.2**	
	comp=Z,1.6nm,0.3s,baz=298,slow=3.6,SNR=3.6								
	comp=Z,1.6nm,0.3s								
NRIK	**Noril'sk**	**45.46**	**29**	*i* P		**P**	**15 24 29.5**	**-0.2**	
NRIK					pmax	pmax			
	comp=Z,12nm,1.6s								
KSH	**Kashi**	**46.43**	**72**		P	**P**	**15 24 39.6**	**+1.6**	
KSH					sP	sP	15 24 46.6	+3.6	
KSH					pmax	pmax			
	comp=Z,9.0nm,1.0s								
ZAA0	**Zalesovo Array**	**47.00**	**50**		P	**P**	**15 24 40.7**	**-1.4**	
ZAA0					IAmb	IAmb	15 24 46.4		
	comp=Z,6.4nm,1.1s								
ZALV	**Zalesovo Beam**	**47.00**	**50**		P	**P**	**15 24 42.1**	**0.0**	
	comp=Z,3.5nm,0.8s,baz=281,slow=8.8,SNR=11								
ZALV					PP	**PP**	**15 26 34.0**	**+1.6**	
	comp=Z,2.2nm,0.8s,baz=297,slow=9.5,SNR=5.0								
ZALV					LR	LR	15 46 17.8		
	comp=Z,156nm,18.3s,baz=262,slow=38								
	comp=Z,3.5nm,0.8s								
ZALV	**Zalesovo Beam**	**47.00**	**50**		P	**P**	**15 24 40.7**	**-1.4**	
ZALV	**Zalesovo Beam**	**47.00**	**50**	*i* P		**P**	**15 24 45.7**	**+3.6**	
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.9s								
TULEG	**Thule**	**47.20**	**342**		P	**P**	**15 24 43.9**	**+0.5**	
MK31	**Makanchi Array**	**47.81**	**60**		P	**P**	**15 24 48.5**	**-0.1**	
MK31	**Makanchi Array**	**47.81**	**60**	*i* P		**P**	**15 24 49.2**	**+0.6**	
MKAR	**Makanchi Array**	**47.81**	**60**		P	**P**	**15 24 49.0**	**+0.3**	
	comp=Z,3.8nm,0.9s,baz=291,slow=6.3,SNR=19								
MKAR					LR	LR	15 49 28.6		
	comp=Z,132nm,18.0s,baz=287,slow=42								
	comp=Z,3.8nm,0.9s								
MKAR	**Makanchi Array**	**47.81**	**60**		P	**P**	**15 24 47.5**	**-1.2**	
MKAR	**Makanchi Array**	**47.81**	**60**	*i* P		**P**	**15 24 49.5**	**+0.9**	
MKAR					pmax	pmax			
	comp=Z,4.0nm,0.9s								
DGZ	**Jazzator, Alta**	**49.93**	**55**	*i* P		**P**	**15 25 06.2**	**+1.2**	
DGZ					pmax	pmax			
	comp=Z,6.0nm,1.0s								
EUNU	**Eureka**	**50.02**	**347**		P	**P**	**15 25 04.1**	**-1.0**	
EUNU					IAmb	IAmb	15 25 07.3		
	comp=Z,9.9nm,1.1s								
WMQ	**Urumqi**	**52.50**	**62**	*eP*		**P**	**15 25 26.9**	**+2.6**	
WMQ					pP	sP	15 25 31.3	+2.0	
WMQ					pmax	pmax			
	comp=Z,18nm,0.8s								
TIXI	**Tiksi**	**57.41**	**20**		LR	LR	15 54 36.2		
	comp=Z,95nm,18.1s,baz=357,slow=40								
TIXI	**Tiksi**	**57.41**	**20**	*ce* P		**P**	**15 25 59.0**	**-0.2**	
TIXI					pmax	pmax			
	comp=Z,7.0nm,1.7s								
SONM	**Songino Array**	**61.89**	**50**		P	**P**	**15 26 31.5**	**+0.9**	
	comp=Z,3.7nm,1.0s,baz=289,slow=7.2,SNR=11								
	comp=Z,3.7nm,1.0s								
SONM	**Songino Array**	**61.89**	**50**		P	**P**	**15 26 30.5**	**-0.1**	
SONM					IAmb	IAmb	15 26 40.1		
	comp=Z,8.0nm,1.3s								
ULN	**Ulaanbaatar**	**62.24**	**49**	*ce* P		**P**	**15 26 34.9**	**+1.8**	
ULN					pmax	pmax			
	comp=Z,6.0nm,1.7s								
FCC	**Fort Churchill**	**62.56**	**326**		P	**P**	**15 26 34.3**	**-0.4**	
FCC					IAmb	IAmb	15 26 37.2		
	comp=Z,7.7nm,1.1s								
FCC	**Fort Churchill**	**62.56**	**326**		P	**P**	**15 26 34.3**	**-0.4**	
FCC					pmax	pmax			
	comp=Z,8.0nm,1.1s								
YAK	**Yakutsk**	**63.91**	**28**		P	**P**	**15 26 43.7**	**+0.1**	
YAK	**Yakutsk**	**63.91**	**28**	*eP*		**P**	**15 26 44.0**	**+0.4**	
YAK					pmax	pmax			
	comp=Z,7.0nm,0.9s								
YAK					pmax	pmax			
	comp=N,3.0nm,1.1s								
YAK					pmax	pmax			
	comp=E,3.0nm,0.9s								
C36M	**Paulatuk**	**64.03**	**344**		P	**P**	**15 26 44.8**	**+0.4**	
RCBR	**Riachuelo**	**65.65**	**236**		LR	LR	15 53 02.9		
	comp=E,41nm,18.5s,baz=189,slow=34								
INK	**Inuvik**	**66.65**	**347**		P	**P**	**15 27 01.9**	**+0.6**	
	comp=E,4.2nm,1.1s,baz=46,slow=8.8,SNR=5.5								
	comp=E,4.2nm,1.1s								
YKA	**Yellowknife Ar**	**67.24**	**337**		P	**P**	**15 27 05.5**	**+0.4**	
	comp=E,3.4nm,0.9s,baz=39,slow=5.7,SNR=42								
	comp=E,3.4nm,0.9s								
BILL	**Bilibino**	**67.83**	**11**		P	**P**	**15 27 08.9**	**+0.1**	
BILL					IAmb	IAmb	15 27 11.1		
	comp=Z,5.2nm,1.0s								
BILL	**Bilibino**	**67.83**	**11**⇓	*eP*		**P**	**15 27 09.2**	**+0.4**	
BILL					pmax	pmax			
	comp=Z,6.0nm,1.3s								
BILL					MLR	MLR			
	comp=Z,47nm,19.0s								
FFC	**Flin Flon**	**68.49**	**326**		P	**P**	**15 27 13.6**	**+0.4**	
FFC					IAmb	IAmb	15 27 17.7		
	comp=Z,5.7nm,1.1s								
FFC	**Flin Flon**	**68.49**	**326**		P	**P**	**15 27 13.6**	**+0.4**	
FFC					pmax	pmax			
	comp=Z,6.0nm,1.1s								
MDP	**Montagnes des**	**68.91**	**257**		LR	LR	15 53 08.2		
	comp=Z,35nm,20.4s,baz=40,slow=32								
SEY	**Seymchan**	**69.86**	**19**	*ce* P		**P**	**15 27 22.4**	**+0.9**	
SEY					pmax	pmax			
	comp=Z,7.0nm,1.3s								
HEH	**HeiHe**	**71.15**	**38**	*eP*		**P**	**15 27 31.1**	**+1.5**	
HEH					pmax	pmax			
	comp=Z,8.0nm,0.9s								
DAWY	**Dawson**	**71.50**	**348**		P	**P**	**15 27 32.5**	**+0.9**	
DAWY					IAmb	IAmb	15 27 34.2		
	comp=Z,12nm,1.3s								
H21K	**Melozitna Rive**	**71.54**	**354**		P	**P**	**15 27 32.2**	**+0.4**	
XAN	**Xi'an**	**71.62**	**61**		P	**P**	**15 27 34.5**	**+1.7**	
XAN					pP	sP	15 27 38.9	+0.9	
XAN					pmax	pmax			
	comp=Z,7.0nm,0.9s								
MDM	**Murphy Dome**	**71.81**	**352**		P	**P**	**15 27 34.0**	**+0.7**	
MDM					IAmb	IAmb	15 27 38.3		
	comp=Z,8.3nm,1.2s								
ILAR	**Eielson Array**	**71.84**	**351**		P	**P**	**15 27 34.8**	**+1.2**	
	comp=Z,2.1nm,1.0s,baz=358,slow=3.4,SNR=10								
	comp=Z,2.1nm,1.0s								
ILAR	**Eielson Array**	**71.84**	**351**		P	**P**	**15 27 33.7**	**+0.2**	
FARO	**Faro, Yukon**	**72.12**	**344**		P	**P**	**15 27 35.5**	**+0.2**	
FARO					IAmb	IAmb	15 27 40.4		
	comp=Z,8.6nm,1.3s								
MA2	**Magadan**	**72.34**	**21**		P	**P**	**15 27 37.2**	**+0.6**	
MA2					IAmb	IAmb	15 27 39.4		
	comp=Z,6.9nm,1.0s								
MA2	**Magadan**	**72.34**	**21**	*ce* P		**P**	**15 27 37.6**	**+1.0**	
MA2					pmax	pmax			
	comp=Z,10.0nm,1.3s								
DOT	**Dot Lake**	**72.58**	**350**		P	**P**	**15 27 37.4**	**-0.6**	
DOT					IAmb	IAmb	15 27 41.2		
	comp=Z,14nm,1.4s								
RIDG	**Independent Ri**	**72.59**	**350**		P	**P**	**15 27 38.5**	**+0.3**	
T47A	**Sharon Grove**	**72.69**	**304**		P	**P**	**15 27 37.3**	**-1.8**	
BCAR	**Beaver Creek A**	**72.81**	**348**		P	**P**	**15 27 37.5**	**-2.0**	
BPAW	**Bear Paw Mtn.**	**72.92**	**353**		P	**P**	**15 27 40.0**	**0.0**	
BPAW					IAmb	IAmb	15 27 57.2		
	comp=Z,9.5nm,1.3s								
L26K	**Log Cabin Wild**	**73.08**	**349**		P	**P**	**15 27 40.1**	**-0.9**	
L26K					IAmb	IAmb	15 27 46.5		
	comp=Z,6.0nm,1.0s								
MCK	**McKinley**	**73.08**	**352**		P	**P**	**15 27 40.9**	**0.0**	
MCK	**McKinley**	**73.08**	**352**		P	**P**	**15 27 40.9**	**0.0**	
MCK					pmax	pmax			
	comp=Z,13nm,1.1s								
DHY	**Denali Highway**	**73.54**	**351**		P	**P**	**15 27 44.2**	**+0.3**	
KLR	**Kul'dur**	**73.84**	**37**	*ce* P		**P**	**15 27 45.8**	**+0.1**	
KLR					pmax	pmax			
	comp=Z,5.0nm,1.3s								
EDM	**Edmonton**	**74.09**	**330**		P	**P**	**15 27 46.5**	**-0.6**	
EDM	**Edmonton**	**74.09**	**330**		P	**P**	**15 27 46.5**	**-0.6**	
EDM					pmax	pmax			
	comp=Z,17nm,1.4s								
PPLA	**Purkeypile**	**74.21**	**353**		P	**P**	**15 27 46.9**	**-0.9**	
CHTO	**Chiang Mai**	**74.41**	**79**		P	**P**	**15 27 49.1**	**-0.3**	
CHTO	**Chiang Mai**	**74.41**	**79**		P	**P**	**15 27 49.1**	**-0.3**	
CMAR	**Chiang Mai Arr**	**74.63**	**79**		P	**P**	**15 27 51.2**	**+0.5**	
	comp=Z,3.1nm,0.9s,baz=305,slow=6.9,SNR=17								
	comp=Z,3.1nm,0.9s								
CMAR	**Chiang Mai Arr**	**74.63**	**79**		P	**P**	**15 27 50.5**	**-0.3**	
GYA	**Guiyang**	**74.95**	**68**	*eP*		**P**	**15 27 57.4**	**+4.7**	
GYA					pmax	pmax			
	comp=Z,10.0nm,2.4s								
BGNE	**Belgrade**	**76.02**	**314**		P	**P**	**15 27 58.5**	**0.0**	
EGMT	**Eagleton**	**76.72**	**325**		P	**P**	**15 28 02.1**	**-0.2**	
USRK	**Ussurisk Ar.**	**77.69**	**40**		P	**P**	**15 28 08.1**	**+0.3**	
	comp=Z,3.7nm,0.9s,baz=247,slow=5.6,SNR=3.7								
	comp=Z,3.7nm,0.9s								
OK046	**Pawnee Station**	**78.87**	**309**		P	**P**	**15 28 14.9**	**+0.4**	
NJ2	**Nanjing**	**79.19**	**56**	*eP*		**P**	**15 28 16.3**	**+0.1**	
NJ2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
PETK	**Petropavlovsk-**	**79.87**	**21**		P	**P**	**15 28 19.6**	**0.0**	
	comp=Z,5.2nm,1.1s,baz=53,slow=7.6,SNR=4.1								
	comp=Z,5.2nm,1.1s								
YSS	**Yuzh-Sakhalins**	**80.24**	**32**	*eP*		**P**	**15 28 23.0**	**+1.3**	
YSS					pmax	pmax			
	comp=Z,30nm,0.9s								
KSAR	**Wonju Array Be**	**80.60**	**47**		P	**P**	**15 28 22.2**	**-1.6**	
KSAR	**Wonju Array Be**	**80.60**	**47**		P	**P**	**15 28 22.2**	**-1.6**	
KSRS	**Korea Array**	**80.61**	**47**		P	**P**	**15 28 25.6**	**+1.8**	
	comp=Z,2.8nm,0.9s,baz=341,slow=5.2,SNR=7.8								
	comp=Z,2.8nm,0.9s								
PDAR	**Pinedale Array**	**80.70**	**321**		P	**P**	**15 28 24.8**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=4.3,slow=3.6,SNR=4.4								
	comp=Z,0.2nm,0.5s								
BDFB	**Brasilia**	**80.72**	**239**		P	**P**	**15 28 26.3**	**+1.5**	
	comp=Z,6.7nm,0.8s,baz=72,slow=4.7,SNR=8.4								
	comp=Z,6.7nm,0.8s								
BDFB	**Brasilia**	**80.72**	**239**		P	**P**	**15 28 24.6**	**-0.2**	
BDFB					IAmb	IAmb	15 28 29.9		
	comp=Z,9.4nm,0.9s								
BMO	**Blue Mountains**	**82.39**	**327**		P	**P**	**15 28 32.4**	**-0.9**	
BMO					IAmb	IAmb	15 28 35.8		
	comp=Z,9.7nm,1.1s								
BMO	**Blue Mountains**	**82.39**	**327**		P	**P**	**15 28 32.4**	**-0.9**	
BMO					pmax	pmax			
	comp=Z,10.0nm,1.1s								
ROSC	**El Rosal**	**84.98**	**272**		LR	LR	16 04 38.2		
	comp=Z,42nm,19.3s,baz=198,slow=34								
JNU	**Nakatsue**	**85.44**	**48**		LR	LR	16 09 57.5		
	comp=Z,192nm,19.1s,baz=252,slow=38								
PTLB	**Pontes e Lacer**	**87.89**	**247**		P	**P**	**15 29 00.7**	**-0.3**	
PTLB					IAmb	IAmb	15 29 06.9		
	comp=Z,6.2nm,1.2s								
TXAR	**Lajitas Array**	**87.90**	**309**		P	**P**	**15 29 02.2**	**+1.1**	
	comp=Z,0.4nm,0.9s,baz=111,slow=1.7,SNR=3.5								
	comp=Z,0.4nm,0.9s								
JTS	**Las Juntas de**	**89.09**	**283**		LR	LR	16 03 50.1		
	comp=Z,36nm,18.6s,baz=55,slow=32								
ASAR	**Alice Springs**	**127.90**	**89**		PKP	**PKPdf**	**15 35 17.1**	**-0.1**	
	comp=Z,0.8nm,1.0s,baz=297,slow=1.7,SNR=5.7								

ATH 18 15:17:31.5, 36.74N×23.10E, h25km±1km, ML2.2/4, Error ellipse: s-maj=3.0km s-min=1.1km az=279.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNVA	**Monemvasia**	**0.07**	**226**		P	Pb	15 17 36.5	+0.5
MNVA					S	Sb	15 17 39.5	+0.5
MNVA					AML	AML	15 17 39.6	
	comp=E,726μm,0.1s							
MNVA					AML	AML	15 17 39.7	
	comp=N,2124μm,0.1s							
VLI	**Velíai**	**0.14**	**261**		P	Pb	15 17 35.8	-0.7
VLI					S	Sb	15 17 39.1	-0.7
VLI					AML	AML	15 17 39.4	
	comp=E,900μm,0.1s							
VLI					AML	AML	15 17 39.4	
	comp=N,3237μm,0.2s							
KRND	**KRANIDI**	**0.64**	**3**		P	Pb	15 17 43.9	-0.2
KRND					S	Sb	15 17 52.4	-0.3
KRND					AML	AML	15 17 54.8	
	comp=E,651μm,0.3s							
KRND					AML	AML	15 17 55.5	
	comp=N,662μm,0.3s							
YDRA	**Hydra**	**0.68**	**25**		P	Pb	15 17 43.4	-1.2
YDRA					S	Sb	15 17 53.9	+0.3
YDRA					AML	AML	15 17 57.1	
	comp=E,409μm,0.4s							
YDRA					AML	AML	15 17 57.6	
	comp=N,315μm,0.1s							
EPID	**Epidavros**	**0.87**	**1**		P	Pb	15 17 47.5	-0.6
ANKY	**Antikythira Is**	**0.88**	**170**		P	Pb	15 17 46.6	-1.6
**

PCBR	**Castelo Branco**	**6.30**	**96**	*e*Pn	**Pn**	**15 40 44.3**	**+1.7**
PCBR				*e*Sn	**Sn**	**15 41 54.5**	**-0.1**
PCBR				A	A	15 41 56.2	
	4.2nm,0.3s						
PFVI	**Vila Bisbo**	**6.41**	**122**⇑	*e*Pn	**Pn**	**15 40 44.3**	**+0.2**
PFVI				*e*Sn	**Sn**	**15 41 53.9**	**-3.4**
PFVI	**Vila Bisbo**	**6.41**	**122**	P	**Pn**	**15 40 44.3**	**+0.2**
PFVI				S	Sn	15 41 43.3	-14
MORF	**Marmelete**	**6.42**	**120**	*e*P	**Pn**	**15 40 44.6**	**+0.3**
MORF	**Marmelete**	**6.42**	**120**	*e*Pn	**Pn**	**15 40 44.7**	**+0.3**
MESJ	**Messejana**	**6.43**	**114**	*e*S	**Sn**	**15 41 57.0**	**-0.9**
MESJ				IAML		15 42 00.8	
	comp=E,2.7nm,0.2s						
MESJ	**Messejana**	**6.43**	**114**	*e*Sn	**Sn**	**15 41 57.1**	**-0.9**
MESJ				A	A	15 42 01.8	
	comp=E,3.2nm,0.6s						
PMRV	**Marv??o**	**6.45**	**99**	*e*Pn	**Pn**	**15 40 47.1**	**+2.4**
PMRV				*e*Sn	**Sn**	**15 41 57.4**	**-1.0**
PMRV				A	A	15 42 03.0	
	comp=E,2.9nm,0.4s						
PESTR	**Estremoz**	**6.47**	**104**	*e*Sn	**Sn**	**15 41 58.0**	**-0.8**
PESTR				A	A	15 42 03.2	
	comp=E,3.4nm,0.5s						
PESTR	**Estremoz**	**6.47**	**104**	P	Pb	15 40 54.0	-8.2
PESTR				S	**Sn**	**15 42 03.9**	**+5.1**
PESTR	**Estremoz**	**6.47**	**104**	S	**Sn**	**15 41 57.6**	**-1.2**
PESTR				P	**Pn**	**15 40 45.8**	**+0.8**
MVO	**Moncorvo**	**6.53**	**83**	*e*Pn	**Pn**	**15 40 47.5**	**+1.7**
MVO				*e*Sn	**Sn**	**15 41 59.0**	**-1.3**
MVO				A	A	15 42 06.0	
	comp=E,4.2nm,0.4s						
PCVE	**Castro Verde**	**6.66**	**115**	*e*Pn	**Pn**	**15 40 49.1**	**+1.5**
PCVE				*e*Sn	**Sn**	**15 42 03.5**	**-0.1**
PCVE				A	A	15 42 09.4	
	comp=E,2.9nm,0.8s						
PCVE	**Castro Verde**	**6.66**	**115**	P	**Pn**	**15 40 48.9**	**+1.3**
PCVE				S	**Sn**	**15 42 00.2**	**-3.4**
PBRG	**Braganca**	**6.78**	**78**	*e*Sn	**Sn**	**15 42 05.0**	**-1.6**
PBRG				A	A	15 42 11.3	
	comp=E,6.4nm,0.2s						
ECAL	**Calabor**	**6.80**	**77**	P	**Pn**	**15 40 49.4**	**-0.2**
ECAL			⇑*i*Vmb_V			15 40 53.0	
	comp=E,201nm,SNR=1.4						
ECAL				S	**Sn**	**15 42 05.1**	**-2.0**
EPON	**Pontenova**	**6.83**	**65**	P	**Pn**	**15 40 50.4**	**+0.6**
EPON			⇑*i*Vmb_V			15 40 52.1	
	comp=E,362nm,SNR=1.4						
EPON				S	**Sn**	**15 42 04.3**	**-3.3**
EBAD	**Badajoz**	**6.93**	**104**	P	**Pn**	**15 40 52.1**	**+0.9**
EBAD				S	**Sn**	**15 42 08.4**	**-1.7**
EBAD	**Badajoz**	**6.93**	**104**	P	**Pn**	**15 40 52.7**	**+1.5**
EBAD				S	**Sn**	**15 42 08.4**	**-1.7**
PVAQ	**Vaqueiros**	**7.00**	**116**	*e*Pn	**Pn**	**15 40 54.3**	**+2.1**
PVAQ				*e*Sn	**Sn**	**15 42 11.1**	**-0.7**
PVAQ				A	A	15 42 18.4	
	comp=E,3.2nm,1.0s						
PVAQ	**Vaqueiros**	**7.00**	**116**	P	**Pn**	**15 40 55.4**	**+3.2**
PVAQ				S	**Sn**	**15 42 04.1**	**-7.7**
PVAQ	**Vaqueiros**	**7.00**	**116**	P	**Pn**	**15 40 54.2**	**+2.0**
PVAQ				S	**Sn**	**15 42 10.1**	**-1.7**
EGRO	**El Granado**	**7.09**	**114**	S	**Sn**	**15 42 11.0**	**-3.1**
PBAR	**Barrancos**	**7.12**	**108**	*e*Pn	**Pn**	**15 40 56.1**	**+2.2**
PBAR				*e*Sn	**Sn**	**15 42 14.8**	**-0.1**
PBAR				A	A	15 42 18.1	
	comp=E,2.5nm,0.4s						
PBAR	**Barrancos**	**7.12**	**108**	S	**Sn**	**15 42 13.2**	**-1.7**
EPLA	**Plasencia**	**7.32**	**92**	S	**Sn**	**15 42 19.3**	**-0.5**
EMIN	**Mina Concepcio**	**7.56**	**110**	S	**Sn**	**15 42 24.8**	**-0.8**
EMIN				P	**Pn**	**15 41 01.2**	**+1.4**
EMIN	**Mina Concepcio**	**7.56**	**110**	S	**Sn**	**15 42 25.2**	**-0.4**
EARI	**Arriondas**	**8.17**	**68**	P	**Pn**	**15 41 10.1**	**+1.7**
EARI				S	**Sn**	**15 42 39.6**	**-1.1**
ECAB	**El Cabril**	**8.34**	**105**	P	**Pn**	**15 41 11.8**	**+1.1**
ECAB				S	**Sn**	**15 42 43.0**	**-1.9**
ECAB	**El Cabril**	**8.34**	**105**	S	**Sn**	**15 42 43.1**	**-1.9**
EADA	**Adamuz**	**8.93**	**103**	P	**Pn**	**15 41 19.2**	**+0.5**
EADA				S	**Sn**	**15 42 56.0**	**-3.4**
EADA	**Adamuz**	**8.93**	**103**	P	**Pn**	**15 41 19.6**	**+0.9**
EADA				S	**Sn**	**15 42 58.0**	**-1.3**

TRN ***18*** *15:41:14.0, 10˚.97N×61˚.92W, h99km, MD2.9*
FUNV ***18*** *15:41:13.1, 10˚.93N×62˚.15W, h91km, MW3.4*

ISC 18 15:41:09.4±1.9, 10˚.88N±0˚.08×62˚.15W±0˚.06, h118km±17km, n7, σ2ˢ21/12, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.77**	**107**	*e*P	**Pn**	**15 41 30.7**	**+1.6**
TRN				*e*S	**Sn**	**15 41 42.7**	**-1.2**
CRUV	**Carupano**	**1.08**	**259**	*e*P	**Pn**	**15 41 33.6**	**+1.5**
CRUV				*e*S	**Sn**	**15 41 48.0**	**-1.2**
GRGR	**Grenville**	**1.34**	**21**	*e*P	**Pn**	**15 41 36.0**	**+1.1**
GRGR				*e*S	**Sn**	**15 41 53.3**	**-0.9**
TOSP	**Speyside**	**1.64**	**75**	*e*P	**Pn**	**15 41 40.1**	**+1.8**
TOSP				*e*S	**Sn**	**15 41 57.0**	**-3.4**
GCMP	**Grenada, Carri**	**1.75**	**24**	*e*P	**Pn**	**15 41 40.8**	**+1.1**
GCMP				*e*S	**Sn**	**15 42 01.7**	**-1.0**
CACV	**CAICARA DEL OR**	**5.44**	**233**	*e*P	Pn	15 42 25.5	-2.8
CACV				*e*S	Sn	15 43 19.4	-10
BAUV	**El Baul**	**6.11**	**252**	*e*P	**Pn**	**15 42 39.0**	**+1.6**
BAUV				*e*S	**Sn**	**15 43 43.0**	**-3.0**

IDC ***18*** *15:42:35.7±0.6, 12˚.18N×95˚.04E, h0km, mb4.2/15, mbtmp4.2/17, ML3.6/2, MS3.9/54, Error ellipse: s-maj=20.4km s-min=13.1km az=61.0*
DJA ***18*** *15:42:39.3±0.8, 12˚.N±3˚×9˚.5E±˚, h31km±8km, M4.7/22, mB5.6/6, mb4.8/22, ML4.5/2, MLv4.3/2, Mw(mB)5.1/6*
NEIC ***18*** *15:42:40.5±1.4, 12˚.20N±0˚.08×94˚.97E±0˚.07, h27km±5km, mb4.9/49, Error ellipse: s-maj=11.0km s-min=9.7km az=171.0*
BJI ***18*** *15:42:40.3±0.0, 12˚.38N×94˚.66E, h19km, mb4.4/46, mB4.9/24, Ms4.6/29, Ms7 4.2/31*
NDI ***18*** *15:42:40.8±4.8, 12˚.25N×95˚.10E, h15km±121km, mb4.2, mb4.9(NEIC)*
GCMT ***18*** *15:42:41.5±0.3, 12˚.04N±0˚.02×95˚.04E±0˚.03, h12km±1km, MW4.9/76, Moment Tensor Solution. s19,c25; s76,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.87±.16; $M_{\theta\theta}$1.39±.11; $M_{\phi\phi}$0.47±.10; $M_{r\theta}$-1.02±.35; $M_{\theta\phi}$1.55±.07; $M_{r\phi}$0.59±.32; Best double couple: $M_0$2.57300×10^{16} NP1:ϕs80.00000°, δ58.00000°, λ-54.00000°. NP2: ϕs206.00000°, δ47.00000°, λ-133.00000°. Principal axes: T 2.6010, Plg6.0000°, Azm145.0000°; N -0.0580, Plg30.0000°, Azm239.0000°; P -2.5460, Plg59.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 15:42:38.9±0.4, 12˚.10N±0˚.05×95˚.00E±0˚.05, h21km, n177, σ1ˢ63/145, mb4.8/56, MS4.0/62, 5C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.26**	**259**		**Pn**	**15 43 15.2**	**+0.1**
PBA	**Port Blair**	**2.26**	**259**	*e*P	**Pb**	**15 43 19.1**	**+0.1**
DGPR	**DIGLIPUR**	**2.29**	**298**	*e*P	**Pb**	**15 43 16.8**	**-2.7**
SRIT	**Nakonsritamara**	**5.71**	**127**	Pn	**Pn**	**15 44 01.2**	**-1.3**
CM31	**Chiang Mai Arr**	**7.37**	**31**	Pn	**Pn**	**15 44 24.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**7.37**	**31**	Pn	**Pn**	**15 44 24.6**	**-0.9**
	0.7nm,0.3s,baz=219,slow=15,SNR=44						
CMAR				Lg	Lg	15 46 26.7	
	baz=232,slow=31						
CMAR				LR	LR	15 47 34.2	
	comp=Z,609nm,19.3s,baz=205,slow=41 5.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**7.37**	**31**	Pn	**Pn**	**15 44 24.2**	**-1.2**
CHTO	**Chiang Mai**	**7.68**	**29**	Pn	**Pn**	**15 44 28.8**	**-0.9**
PHRA	**Phrae**	**8.12**	**38**	Pn	**Pn**	**15 44 35.0**	**-0.6**
KCSI	**Kotacane, Aceh**	**8.95**	**162**	P	**Pn**	**15 44 51.8**	**+4.7**
	22nm,0.8s						
CRAI	**Chiangrai**	**9.59**	**32**	Pn	**Pn**	**15 44 56.1**	**+0.3**
MND	**Mandalay**	**9.92**	**6**	Pn	**Pn**	**15 44 58.9**	**-1.4**
PSI	**Prapat**	**10.02**	**157**	Pn	**Pn**	**15 45 04.1**	**+2.2**
	0.1nm,0.3s,baz=317,slow=16,SNR=1.7						
PSI				LR	LR	15 48 56.9	
	comp=Z,612nm,21.3s,baz=321,slow=38 5.6nm,0.6s						
RPSI	**Rantau Prapat**	**10.12**	**157**	Pn	**Pn**	**15 45 04.9**	**+1.8**
SAIH	**SAIHA**	**10.51**	**350**	*e*P	**Pn**	**15 45 07.4**	**-1.1**
SAIH				IAmb	IAmb	15 45 10.7	
	comp=Z,5.8nm,0.6s						
UBPT	**Khong Chiam**	**10.65**	**72**	Pn	**Pn**	**15 45 08.7**	**-1.7**
BRDH	**Bariadhala**	**10.99**	**344**	LR	LR	15 50 46.7	
	comp=Z,629nm,19.4s,baz=91,slow=45						
IMP	**Imphal**	**12.70**	**356**	*e*P	**Pn**	**15 45 39.5**	**+1.0**
IMP				IAmb	IAmb	15 45 41.0	
	comp=Z,8.5nm,0.2s						
BKNI	**Bangkinang**	**13.14**	**152**	Pn	**Pn**	**15 45 45.5**	**+0.9**
TNCH	**TengChong**	**13.28**	**14**	*e*P	**Pn**	**15 45 48.1**	**+1.6**
TNCH				pP	P	15 45 56.3	+0.1
TNCH				S	**Sn**	**15 48 15.3**	**+1.5**
TNCH				pmax	pmax		
	comp=Z,39nm,1.9s						
TNCH				LR	LR		
	comp=Z,790nm,9.0s						
TNCH				LR	LR		
	comp=Z,1μm,9.8s						
TNCH				LR	LR		
	comp=Z,890nm,14.6s						
SHL	**Shillong**	**13.71**	**348**	Pn	**Pn**	**15 45 50.4**	**-2.1**
PZH	**PanZhiHua**	**15.67**	**23**	P	**P**	**15 46 20.6**	**-2.0**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
DSRI	**Dabo**	**15.70**	**142**	P	**Pn**	**15 46 19.7**	**+0.6**
	comp=Z,37nm,1.0s,comp=Z,813nm						
QIZ	**Qiongzhong**	**15.86**	**62**	P	**Pn**	**15 46 21.3**	**+0.2**
QIZ				S	**Sn**	**15 49 17.6**	**+1.1**
QIZ				LR	LR		
	comp=N,1μm,14.0s						
QIZ				LR	LR		
	comp=E,530nm,16.4s						
QIZ				LR	LR		
	comp=Z,780nm,9.6s						
SALM	**Salem**	**16.45**	**270**	*e*P	**P**	**15 46 32.9**	**+1.6**
LSA	**Lhasa**	**17.88**	**349**	Pn	**Pn**	**15 46 44.9**	**-1.9**
PPBI	**Pangkal Pinang**	**17.98**	**141**	P	**Pn**	**15 46 45.3**	**-2.4**
	comp=Z,74nm,1.0s,comp=Z,19μm						
GYA	**Guiyang**	**18.01**	**36**⇑	P	**P**	**15 46 50.6**	**+2.0**
GYA				pP	sP	15 46 55.6	-0.5
GYA				S	**S**	**15 50 15.6**	**+1.1**
GYA				pmax	pmax		
	comp=Z,17nm,1.1s						
GYA				LR	LR		
	comp=Z,990nm,9.8s						
GYA				LR	LR		
	comp=Z,840nm,16.6s						
GYA				LR	LR		
	comp=Z,1μm,12.3s						
VLK	**Valmikinagar**	**18.39**	**327**	*e*P	**Pn**	**15 46 56.0**	**+3.3**
MDSI	**Maura Dua**	**18.84**	**151**	P	**P**	**15 46 52.7**	**-4.9**
	comp=Z,14nm,1.7s						
SBUM	**Sibu**	**19.57**	**118**	P	**P**	**15 47 06.8**	**+1.0**
BHPL	**Bhopal**	**20.06**	**306**	*e*P	**Pn**	**15 47 14.1**	**+1.2**
BHPL				IAmb	IAmb	15 47 15.5	
	comp=Z,19nm,1.1s						
JHNI	**Jhansi**	**20.45**	**313**	*e*P	Pn	15 47 16.9	-0.5
JHNI				IAmb	IAmb	15 47 20.0	
	comp=Z,7.6nm,0.9s						
KKM	**Kota Kinabalu**	**21.78**	**104**	P	**P**	**15 47 30.9**	**+1.1**
KKM				IAmb	IAmb	15 47 45.6	
	comp=Z,40nm,1.0s						
LGTI	**Lohaghat**	**22.06**	**324**	*e*P	**P**	**15 47 35.0**	**+2.6**
PBKI	**Pangkalan Bun**	**22.15**	**131**	P	**P**	**15 47 39.0**	**+5.4**
ENH	**Enshi**	**22.52**	**34**	P	**P**	**15 47 36.6**	**-0.9**
ENH				IAmb	IAmb	15 47 55.5	
	comp=Z,21nm,0.8s						
LEM	**Lembang**	**22.60**	**146**	P	**P**	**15 47 39.9**	**+1.3**
	comp=Z,9.9nm,0.5s,baz=319,slow=19,SNR=1.5						
LEM				LR	LR	15 56 52.7	
	comp=Z,479nm,20.1s,baz=296,slow=38 comp=Z,9.9nm,0.5s						
MTKI	**Muara Teweh, K**	**23.63**	**122**	P	P	15 47 57.7	+8.8
KPJI	**Karang Pucung**	**23.76**	**144**	P	**P**	**15 47 47.4**	**-2.7**
	comp=Z,97nm,0.8s						
AJM	**Ajmer**	**23.90**	**310**	*e*P	**P**	**15 47 53.9**	**+2.4**
AJM				IAmb	IAmb	15 47 58.6	
	comp=Z,8.8nm,0.9s						
GOMU	**GeErMu**	**23.99**	**360**	P	**P**	**15 47 53.4**	**+0.8**
GOMU				pP	pP	15 47 57.3	-0.9
GOMU				sP	sP	15 48 01.3	+0.8
GOMU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GOMU				LR	LR		
	comp=Z,240nm,11.6s						
GOMU				LR	LR		
	comp=Z,200nm,11.0s						
GOMU				LR	LR		
	comp=Z,160nm,11.9s						
MYLDM	**Lahad Datu**	**24.21**	**104**	P	**P**	**15 47 54.6**	**+0.2**
MYLDM				IAmb	IAmb	15 48 06.3	
	comp=Z,39nm,0.9s						
SMRI	**Semarang**	**24.45**	**140**	P	**P**	**15 47 55.7**	**-0.8**
	comp=Z,305nm,0.9s						
BBKI	**Banjar Baru**	**25.06**	**127**	P	**P**	**15 48 03.6**	**+1.5**
	comp=Z,219nm,0.9s,comp=Z,7μm						
SMLA	**Simla**	**25.10**	**322**	*e*P	**P**	**15 48 01.8**	**-0.5**
LZH	**Lanzhou**	**25.18**	**17**	*e*P	**P**	**15 48 03.9**	**+0.7**
LZH				pP	sP	15 48 10.4	-1.0
LZH				sP	pP	15 48 13.0	+4.1
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,190nm,5.2s						
LZH				LR	LR		
	comp=Z,330nm,15.6s						
LZH				LR	LR		
	comp=Z,1μm,15.3s						
LZH				LR	LR		
	comp=Z,630nm,16.3s						
XAN	**Xi'an**	**25.26**	**28**⇑	P	**P**	**15 48 03.5**	**-0.3**
XAN				pP	sP	15 48 11.3	-0.3
XAN				S	**S**	**15 52 27.6**	**-0.9**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN				pmax	pmax		
	comp=Z,83nm,4.3s						
XAN				LR	LR		
	comp=Z,1μm,12.2s						
XAN				LR	LR		
	comp=Z,1μm,13.4s						
XAN				LR	LR		
	comp=Z,830nm,10.8s						
NGJI	**Ngawi**	**25.34**	**139**	P	**P**	**15 48 05.0**	**+0.5**
	comp=Z,128nm,0.9s						
WHN	**Wuhan**	**25.65**	**41**⇑	P	**P**	**15 48 08.8**	**+1.6**
WHN				LR	LR		
	comp=Z,2μm,12.6s						
WHN				LR	LR		
	comp=Z,2μm,12.5s						
WHN				LR	LR		
	comp=Z,3μm,13.7s						
GMJI	**Gumukmas**	**27.31**	**137**	P	**P**	**15 48 22.9**	**+0.5**
	comp=Z,42nm,1.3s						
MPSI	**Mapaga**	**27.33**	**114**	P	**P**	**15 48 21.7**	**-0.9**
	comp=Z,8.4nm,0.9s,comp=Z,417nm						
LYN	**LuoYang**	**27.42**	**33**⇑	P	**P**	**15 48 23.4**	**+0.2**
LYN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LYN				pmax	pmax		
	comp=Z,160nm,7.6s						
LYN				LR	LR		
	comp=Z,580nm,14.5s						
LYN				LR	LR		
	comp=Z,820nm,15.7s						
LYN				LR	LR		
	comp=Z,670nm,13.1s						
GTA	**Gaotai**	**27.53**	**8**	*e*P	**P**	**15 48 25.8**	**+1.5**
GTA				pP	pwP	15 48 33.1	0.0
GTA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,110nm,4.7s						
GTA				LR	LR		
	comp=Z,220nm,14.9s						
GTA				LR	LR		
	comp=Z,170nm,14.5s						
GTA				LR	LR		
	comp=Z,280nm,13.8s						
MRSI	**Marisa**	**29.12**	**111**	P	**P**	**15 48 37.3**	**-1.3**
	comp=Z,28nm,1.2s						
NJ2	**Nanjing**	**29.59**	**44**	*e*P	**P**	**15 48 43.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,13nm,1.1s						
H08S3	**Diego Garcia H**	**29.76**	**230**	T	T	16 19 33.1	
	baz=49,slow=76,SNR=4.1						
H08S2	**Diego Garcia H**	**29.76**	**230**	T	T	16 19 35.6	
	baz=49,slow=76,SNR=6.7						
H08S1	**Diego Garcia H**	**29.78**	**230**	T	T	16 19 34.2	
	baz=49,slow=76,SNR=4.4						
KAPI	**Kappang**	**29.91**	**123**	LR	LR	16 00 58.2	
	comp=Z,256nm,19.7s,baz=300,slow=37						
LUWI	**Luwuk**	**30.51**	**113**	P	**P**	**15 48 51.5**	**+0.5**
LUWI	**Luwuk**	**30.51**	**113**	P	**P**	**15 48 49.9**	**-1.0**
	comp=Z,54nm,0.8s						
DAV	**Davao City (W)**	**30.55**	**97**	LR	LR	16 02 27.6	
	comp=Z,184nm,18.2s,baz=317,slow=39						
HNS	**HongShan**	**30.76**	**32**⇑	P	**P**	**15 48 53.8**	**+0.9**
HNS				S	**S**	**15 53 51.3**	**-3.7**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HNS				LR	LR		
	comp=Z,360nm,14.3s						
HNS				LR	LR		
	comp=Z,690nm,15.5s						
HNS				LR	LR		
	comp=Z,560nm,13.5s						
KSH	**Kashi**	**32.09**	**332**	P	**P**	**15 49 04.9**	**+0.2**
KSH				pP	sP	15 49 14.9	+1.6
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ	**Urumqi**	**32.23**	**350**	*e*P	**P**	**15 49 08.6**	**+2.8**
WMQ				pP	sP	15 49 15.8	+1.6
WMQ				pmax	pmax		
	comp=Z,11nm,1.3s						
WMQ				LR	LR		
	comp=Z,160nm,22.1s						
KBL	**Kabul**	**32.49**	**318**	P	**P**	**15 49 07.9**	**-0.5**
BJI	**Beijing**	**33.52**	**30**	P	**P**	**15 49 18.3**	**+1.2**
BJI				sS	**sS**	**15 54 52.0**	**+4.8**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BJI				LR	LR		
	comp=Z,180nm,13.8s						
BJI				LR	LR		
	comp=Z,250nm,15.7s						
BJI				LR	LR		
	comp=Z,240nm,15.0s						
GAR	**Garm**	**34.61**	**325**	P	**P**	**15 49 26.3**	**-0.5**
GAR				IAmb	IAmb	15 49 35.4	
	comp=Z,22nm,1.4s						
CHGR	**Chuyangaron**	**35.04**	**324**	P	**P**	**15 49 28.8**	**-1.6**
CHGR				IAmb	IAmb	15 49 31.1	
	comp=Z,20nm,0.8s						
AAK	**Ala-Archa**	**35.26**	**333**	LR	LR	16 05 40.4	
	comp=Z,533nm,21.6s,baz=134,slow=39						
AAK	**Ala-Archa**	**35.26**	**333**	P	**P**	**15 49 32.0**	**-0.3**
AAK				IAmb	IAmb	15 49 43.1	
	comp=Z,23nm,1.8s						
MK31	**Makanchi Array**	**36.21**	**345**	P	**P**	**15 49 39.8**	**-0.5**
MKAR	**Makanchi Array**	**36.21**	**345**	P	**P**	**15 49 40.2**	**-0.1**
	comp=Z,5.4nm,0.9s,baz=160,slow=8.4,SNR=39						
MKAR				LR	LR	16 08 46.9	
	comp=Z,124nm,18.7s,baz=172,slow=44 comp=Z,5.4nm,0.9s						
MKAR	**Makanchi Array**	**36.21**	**345**	P	**P**	**15 49 39.7**	**-0.6**
WSAR	**Wadi Sarin**	**36.28**	**293**	LR	LR	16 04 04.4	
	comp=Z,288nm,21.6s,baz=118,slow=36						
MAKZ	**Makanchi**	**36.30**	**345**	P	**P**	**15 49 40.6**	**-0.4**
SONM	**Songino Array**	**36.88**	**13**	P	**P**	**15 49 45.1**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=195,slow=8.8,SNR=8.9						
SONM				PcP	**PcP**	**15 52 08.5**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=184,slow=3.1,SNR=3.0						
SONM				LR	LR	16 06 25.3	
	comp=Z,157nm,21.2s,baz=202,slow=39 comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**36.88**	**13**	P	**P**	**15 49 45.8**	**-0.2**
KK31	**Karatay Array**	**37.47**	**330**	P	**P**	**15 49 51.0**	**0.0**
KKAR	**Karatay Array**	**37.47**	**330**	P	**P**	**15 49 51.0**	**0.0**
SIJI	**Sorong**	**38.24**	**107**	LR	LR	16 08 17.9	
	comp=Z,46nm,18.6s,baz=247,slow=40						
KSAR	**Wonju Array Be**	**38.75**	**44**	P	**P**	**15 50 01.8**	**0.0**
KSRS	**Korea Array**	**38.78**	**44**	P	**P**	**15 50 01.5**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=237,slow=9.7,SNR=7.9 comp=Z,2.4nm,0.9s						
FAKI	**Fak Fak**	**39.91**	**110**	P	**P**	**15 50 12.7**	**+0.8**
FAKI				IAmb	IAmb	15 50 20.8	
	comp=Z,26nm,0.8s						
KURBB	**Kurchatov Arra**	**40.71**	**344**	LR	LR	16 10 03.3	
	comp=Z,103nm,20.5s,baz=162,slow=40						
KURK	**Kurchatov**	**40.77**	**344**	P	**P**	**15 50 18.1**	**-0.4**
CN2	**Changchun**	**41.04**	**34**	*e*P	**P**	**15 50 19.8**	**-1.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
GEYT	**Alibeck**	**41.75**	**315**	P	**P**	**15 50 27.4**	**+0.6**
	comp=Z,18nm,0.7s,baz=145,slow=8.3,SNR=38						
GEYT				LR	LR	16 09 51.9	
	comp=Z,172nm,18.5s,baz=140,slow=39 comp=Z,18nm,0.7s						
GEYT	**Alibeck**	**41.75**	**315**	P	**P**	**15 50 26.6**	**-0.2**
GEYT				IAmb	IAmb	15 50 29.4	
	comp=Z,19nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**41.75**	**315**	P	**P**	**15 50 26.1**	**-0.6**
GYA0B				IAmb	IAmb	15 50 29.4	
	comp=Z,20nm,0.7s						
HIA	**Hailar**	**42.33**	**24**	P	**P**	**15 50 29.7**	**-1.6**
ZAA0	**Zalesovo Array**	**42.52**	**351**	P	**P**	**15 50 30.7**	**-2.0**
ZALV	**Zalesovo Beam**	**42.52**	**351**	P	**P**	**15 50 32.5**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=172,slow=9.9,SNR=20						
ZALV				LR	LR	16 10 43.3	
	comp=Z,111nm,21.8s,baz=178,slow=40 comp=Z,4.5nm,0.8s						
ZALV	**Zalesovo Beam**	**42.52**	**351**	P	**P**	**15 50 31.1**	**-1.6**
BVAR	**Borovoye Array**	**45.32**	**339**	LR	LR	16 13 14.2	
	comp=Z,93nm,19.3s,baz=158,slow=41						
BRVK	**Borovoye**	**45.39**	**339**	P	**P**	**15 50 54.6**	**-1.2**
HEH	**HeiHe**	**46.39**	**28**	*e*P	**P**	**15 51 03.8**	**+0.1**
ABKAR	**Akbulak array**	**47.01**	**329**	P	**P**	**15 51 08.1**	**-0.6**
AKTO	**Aktyubinsk**	**48.72**	**329**	LR	LR	16 13 50.9	
	comp=Z,143nm,19.4s,baz=122,slow=38						
NWAO	**Narrogin (SRO)**	**49.55**	**155**	LR	LR	16 14 11.8	
	comp=Z,67nm,19.1s,slow=38						
WB0	**Warramunga Arr**	**50.07**	**129**	P	**P**	**15 51 33.1**	**+0.5**
WB0				IAmb	IAmb	15 51 41.7	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**50.13**	**129**	P	**P**	**15 51 32.5**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=308,slow=8.5,SNR=19						
WRA				LR	LR	16 15 55.5	
	comp=Z,80nm,19.5s,baz=300,slow=40 comp=Z,2.4nm,0.8s		

BRTR LR LR 16 22 20.8
comp=Z,170nm,18.9s,baz=110,slow=40
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 60.39 309 P P 15 52 45.6 -1.5
OBN Obninsk 62.31 326 LR LR 16 22 41.3
comp=Z,25nm,21.3s,baz=192,slow=39
STKA Stephens Creek 62.46 136 P P 15 53 01.1 +0.2
comp=Z,1.8nm,0.7s,baz=315,slow=10,SNR=4.6
STKA LR LR 16 22 55.8
comp=Z,101nm,19.2s,baz=330,slow=39
comp=Z,1.8nm,0.7s
MA2 Magadan 62.66 28 P P 15 53 01.6 -0.2
MA2 IAmb IAmb 15 53 02.9
comp=Z,9.3nm,0.9s
TIXI Tiksi 62.95 11 P P 15 53 02.1 -1.4
TIXI IAmb IAmb 15 53 03.6
comp=Z,13nm,0.9s
PETK Petropavlovsk- 64.11 37 LR LR 16 23 24.4
comp=Z,66nm,18.9s,baz=247,slow=38
MBAR Mbarara 65.01 264 LR LR 16 21 12.7
comp=Z,97nm,18.8s,baz=64,slow=36
AKASG Malin Array Be 65.42 320 P P 15 53 18.5 -1.6
comp=Z,0.8nm,0.7s,baz=80,slow=4.6,SNR=7.5
AKASG LR LR 16 25 18.4
comp=Z,96nm,21.6s,baz=112,slow=39
comp=Z,0.8nm,0.7s
MLR Muntele Rosu 66.80 314 LR LR 16 26 37.9
comp=Z,168nm,20.4s,baz=110,slow=40
IDI Anoyia 66.92 303 LR LR 16 26 24.9
comp=Z,39nm,22.0s,baz=84,slow=39
MNK Minsk 66.98 324 *i* P **P 15 53 28.3 -1.8**
comp=E,1.0nm,0.8s
MNK *i* P **P 15 53 28.3 -1.8**
comp=N,30nm,0.8s
MNK *i* P **P 15 53 28.3 -1.8**
comp=Z,18nm,0.8s,baz=101
MNK *i* PcP **PcP 15 53 57.4 -1.0**
MNK *i* PP **PP 15 55 54.7 -2.9**
MNK *i* PPP PPP 15 57 29.8
MNK *i* S **S 16 02 20.1 -2.2**
MNK *i* ScS **SKSac 16 03 25.2 -0.8**
MNK *i* SS **SS 16 06 48.9 +8.1**
MNK *i* SSS SSS 16 10 01.8
MNK *i* LQ LQ 16 17 52.9
MNK *i* LR LR 16 22 57.0
MNK *i* LRM MLR 16 24 58.4
comp=E,22nm,15.8s
MNK *i* LRM MLR 16 25 32.4
comp=Z,66nm,15.4s
MNK *i* LRM MLR 16 25 48.9
comp=N,264nm,14.9s
NACGM Naroch 67.69 325 *e*P **P 15 53 35.3 +0.8**
comp=Z,23nm,0.9s,baz=101
HNR Honiara 67.99 105 LR LR 16 25 47.6
comp=Z,502nm,19.6s,baz=154,slow=38
FINES FINESS Array B 69.41 331 P P 15 53 45.7 +0.5
comp=Z,1.2nm,0.7s,baz=101,slow=7.2,SNR=1.2
FINES LR LR 16 26 42.6
comp=Z,170nm,18.3s,baz=75,slow=38
comp=Z,1.2nm,0.7s
CRVS Cervenica-Dubn 70.16 318 *e*P **P 15 53 51.3 +1.2**
LSZ Lusaka 71.51 249 LR LR 16 21 40.3
comp=Z,70nm,20.4s,baz=132,slow=33
ARCES ARCESS Array B 71.61 340 LR LR 16 29 20.3
comp=Z,188nm,18.6s,baz=134,slow=39
BILL Bilibino 71.87 22 P P 15 53 59.5 -0.5
BILL IAmb IAmb 15 54 00.7
comp=Z,7.8nm,1.0s
MORC Moravsky Berou 72.77 319 P P 15 54 05.9 +0.1
MORC IAmb IAmb 15 54 15.9
comp=Z,33nm,1.7s
VRAC Vranov 73.38 318 LR LR 16 30 03.1
comp=Z,52nm,21.5s,baz=72,slow=39
BRG Berggiesshubel 75.08 320 *e*P **P 15 54 20.3 +1.0**
BRG Amp 15 54 21.1
comp=Z,8.0nm,1.1s
HFS Hagfors 75.27 329 LR LR 16 31 35.0
comp=Z,154nm,18.5s,baz=68,slow=39
GEC2 GERESS Array S 75.28 318 P P 15 54 19.0 -1.6
GEC2 IAmb IAmb 15 54 22.1
comp=Z,8.5nm,0.9s
GERES GERESS Array B 75.28 318 P P 15 54 21.0 +0.4
comp=Z,4.6nm,0.8s,baz=93,slow=6.7,SNR=13
comp=Z,4.6nm,0.8s
GERES GERESS Array B 75.28 318 P P 15 54 20.8 +0.2
CLL Collm 75.67 320 *e*P **P 15 54 22.0 -0.6**
CLL Lm MLR 16 32 00.0
comp=Z,100nm,18.5s
SPITS Spitsbergen Ar 75.90 348 LR LR 16 33 17.9
comp=Z,148nm,18.0s,baz=81,slow=40
NOA NORSAR Array B 76.50 330 LR LR 16 33 15.1
comp=Z,74nm,19.2s,baz=80,slow=40
DZM Mont Dzumac 77.82 116 LR LR 16 32 49.1
comp=Z,60nm,18.3s,baz=210,slow=39
DAVOX Davos/Dischmat 77.97 316 LR LR 16 35 32.4
comp=Z,48nm,18.8s,baz=79,slow=41
BOSA Boshof 78.55 237 P **P 15 54 40.8 +1.3**
comp=Z,3.0nm,0.8s,baz=97,slow=4.3,SNR=3.8
comp=Z,3.0nm,0.8s
A21K Barrow 84.39 18 P P 15 55 08.8 -0.5
EKA Eskdalemuir Ar 84.74 325 LR LR 16 37 21.7
comp=Z,42nm,18.0s,baz=46,slow=39
K20K Telida 88.37 25 P P 15 55 29.4 +0.3
RPZ Rata Peaks 88.42 135 LR LR 16 36 26.8
comp=Z,47nm,19.1s,baz=278,slow=36
I21K Tanana 88.43 23 P P 15 55 29.6 +0.3
CAST Castle Rocks 89.16 24 P P 15 55 33.2 +0.4
BPAW Bear Paw Mtn. 89.29 24 P P 15 55 33.3 -0.1
NEA2 Nenana 89.80 23 P P 15 55 36.1 +0.3
NEA2 IAmb IAmb 15 55 37.8
comp=Z,5.9nm,0.9s
BORG Borgarnes 89.88 337 LR LR 16 38 44.1
comp=Z,57nm,19.4s,baz=16,slow=38
MDM Murphy Dome 89.94 22 P P 15 55 36.5 0.0
MDM IAmb IAmb 15 55 38.6
comp=Z,12nm,1.1s
MCK McKinley 90.27 24 P P 15 55 37.9 -0.1
ILAR Eielson Array 90.53 22 P P 15 55 38.0 -1.2
comp=Z,1.0nm,0.8s,baz=294,slow=4.1,SNR=13
ILAR LR LR 16 42 18.9
comp=Z,57nm,19.0s,baz=280,slow=40
comp=Z,1.0nm,0.8s
M22K Willow 90.72 26 P P 15 55 40.0 -0.1
URZ Urewera 91.30 129 LR LR 16 41 10.2
comp=Z,81nm,18.2s,baz=323,slow=38
KDAK Kodiak Island 91.37 30 LR LR 16 40 17.7
comp=Z,41nm,18.1s,baz=282,slow=38
MDT Midelt 91.44 304 LR LR 16 41 24.9
comp=Z,53nm,20.5s,baz=354,slow=39
J26L Joseph Creek 91.89 22 P P 15 55 46.1 +0.4
MENT Mentasta 92.69 23 P P 15 55 48.7 -0.6
INK Inuvik 92.72 16 P P 15 55 49.4 +0.2
ELIB Princess Elisa 95.85 197 *d*P P 15 55 58.5 -5.0
SFJD Kangerlussuaq 97.22 347 LR LR 16 45 14.5
comp=Z,71nm,21.4s,baz=16,slow=39
DBIC Dimbokro 98.18 279 LR LR 16 41 06.6
comp=Z,33nm,18.7s,baz=84,slow=36
LKWY Lake 119.07 21 PKPdf 16 01 24.8 -2.0
NVAR Mina Array Bea 120.87 30 PKP **PKiKP 16 01 31.2 +0.7**
comp=Z,0.7nm,0.7s,baz=318,slow=1.2,SNR=5.5
PDAR Pinedale Array 120.94 21 PKP **PKPdf 16 01 29.9 -0.6**
comp=Z,0.3nm,0.7s,baz=48,slow=2.2,SNR=3.6
TXAR Lajitas Array 135.04 23 PKP **PKPdf 16 01 57.5 0.0**
comp=Z,0.4nm,0.8s,baz=316,slow=5.1,SNR=4.4

ROM 18 15:43:03.2±0.1,42°.493N±0°.003×13°.313E±0°.005,
h14km,ML2.9/23,7C-9D,Error ellipse: s-maj=0.4km
s-min=0.1km az=56.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.05**	**192**	P		Pg	15 43 06.2	+0.2
T1247				S		Sg	15 43 08.2	+0.3
T1247				AML		AML		
	comp=E,75550μm,0.9s							
T1247				AML		AML		
	comp=E,75550μm,1.1s							
T1247				AML		AML		
	comp=E,69752μm,0.3s							
T1247				AML		AML		
T1247				AML		AML		
RM33	**Pellescritta (**	**0.07**	**283**	P		Pg	15 43 06.2	-0.1
RM33				S		Sg	15 43 09.2	+0.9
RM33				AML		AML		
	comp=N,25700μm,0.3s							
RM33				AML		AML		
	comp=E,20550μm,0.3s							
RM33				AML		AML		
	comp=N,25250μm,0.3s							
RM33				AML		AML		
	comp=E,20200μm,0.3s							
RM33				AML		AML		
	comp=N,25700μm,0.3s							
RM33				AML		AML		
	comp=E,20228μm,0.3s							
RM33				AML		AML		
	comp=E,20538μm,0.3s							
RM33				AML		AML		
	comp=N,25264μm,0.3s							
RM33				AML		AML		
	comp=N,25706μm,0.3s							
CAMP	**Campotosto**	**0.08**	**59**	P		Pg	15 43 06.5	+0.1
CAMP				S		Sg	15 43 08.5	0.0
CAMP				AML		AML		
	comp=N,17800μm,0.4s							
CAMP				AML		AML		
	comp=N,17800μm,1.6s							
CAMP				AML		AML		
	comp=E,12050μm,0.3s							
CAMP				AML		AML		
	comp=E,12045μm,0.3s							
CAMP				AML		AML		
	comp=N,17820μm,0.4s							
SMA1	**SAN MARTINO**	**0.14**	**7**	⇑P		Pg	15 43 07.2	+0.2
SMA1				S		Sb	15 43 10.2	-0.5
SMA1				AML		AML		
	comp=N,66850μm,0.5s							
SMA1				AML		AML		
	comp=E,95150μm,0.5s							
SMA1				AML		AML		
	comp=N,53013μm,0.4s							
SMA1				AML		AML		
	comp=E,81232μm,0.2s							
GIGS	**Gran Sasso**	**0.20**	**103**	P		Pg	15 43 07.9	+0.1
GIGS				S		Sg	15 43 11.4	+0.5
GIGS				AML		AML		
	comp=E,1800μm,0.5s							
GIGS				AML		AML		
	comp=N,1485μm,0.7s							
GIGS				AML		AML		
	comp=E,1470μm,0.2s							
GIGS				AML		AML		
	comp=N,1226μm,0.2s							
LNSS	**Leonessa**	**0.23**	**299**	P		Pg	15 43 08.4	0.0
LNSS				S		Sg	15 43 12.2	+0.3
LNSS				AML		AML		
	comp=E,16050μm,0.2s							
LNSS				AML		AML		
	comp=N,18750μm,0.2s							
LNSS				AML		AML		
	comp=N,18759μm,0.2s							
LNSS				AML		AML		
	comp=E,16058μm,0.2s							
T1218	**Civita (PG)**	**0.23**	**321**	P		Pg	15 43 08.4	0.0
T1218				S		Sb	15 43 12.8	-0.5
T1218				AML		AML		
	comp=E,8570μm,0.1s							
T1218				AML		AML		
	comp=N,14800μm,1.2s							
T1218				AML		AML		
	comp=E,8090μm,0.2s							
T1218				AML		AML		
	comp=E,8575μm,0.1s							
T1218				AML		AML		
	comp=E,8095μm,0.2s							
T1218				AML		AML		
	comp=N,14600μm,1.2s							
T1218				AML		AML		
	comp=E,8575μm,0.2s							
T1218				AML		AML		
	comp=N,14850μm,1.2s							
T1218				AML		AML		
	comp=N,14650μm,1.2s							
T1218				AML		AML		
	comp=N,10919μm,0.1s							
T1218				AML		AML		
	comp=N,11044μm,0.2s							
T1218				AML		AML		
	comp=E,7953μm,0.1s							
T1218				AML		AML		
	comp=E,8387μm,0.1s							
FIAM	**Fiamignano**	**0.27**	**213**	P		Pg	15 43 09.2	+0.2
FIAM				S		Sg	15 43 13.6	+0.7
FIAM				AML		AML		
	comp=E,6660μm,0.5s							
FIAM				AML		AML		
	comp=N,9900μm,0.3s							
FIAM				AML		AML		
	comp=N,9850μm,0.3s							
FIAM				AML		AML		
	comp=E,6660μm,1.5s							
FIAM				AML		AML		
	comp=N,9900μm,1.7s							
FIAM				AML		AML		
	comp=E,6660μm,0.5s							
FIAM				AML		AML		
	comp=N,9875μm,0.3s							
FAGN	**Fagnano**	**0.30**	**138**	P		Pb	15 43 10.6	+0.1
FAGN				S		Sb	15 43 14.8	-0.6
FAGN				AML		AML		
	comp=E,9790μm,0.4s							
FAGN				AML		AML		
	comp=N,6365μm,0.4s							
FAGN				AML		AML		
	comp=N,6366μm,0.4s							
FAGN				AML		AML		
	comp=E,9773μm,0.5s							
T1217	**Poggiodomo (PG**	**0.36**	**308**	P		Pg	15 43 10.5	-0.1
T1217				S		Sg	15 43 16.0	+0.5
T1217				AML		AML		
	comp=N,4135μm,0.4s							
T1217				AML		AML		
	comp=E,3340μm,0.5s							
T1217				AML		AML		
	comp=N,4065μm,0.4s							
T1217				AML		AML		
	comp=N,4140μm,0.4s							
T1217				AML		AML		
	comp=E,3495μm,0.5s							
T1217				AML		AML		
	comp=N,4140μm,0.4s							
T1217				AML		AML		
	comp=N,4065μm,0.4s							
T1217				AML		AML		
	comp=N,4065μm,1.6s							
T1217				AML		AML		
	comp=N,4140μm,1.6s							
T1217				AML		AML		
	comp=E,3340μm,1.5s							
T1217				AML		AML		
	comp=E,3495μm,1.5s							
T1217				AML		AML		
	comp=N,3008μm,0.2s							
T1217				AML		AML		
	comp=N,3396μm,0.2s							
T1217				AML		AML		
	comp=E,2529μm,0.2s							
T1217				AML		AML		
	comp=E,2647μm,0.1s							
NRCA	**Norcia**	**0.37**	**337**	⇑P		Pg	15 43 10.8	0.0
NRCA				AML		AML		
	comp=E,7860μm,1.3s							
NRCA				AML		AML		
	comp=E,7860μm,1.3s							
NRCA				AML		AML		
	comp=N,4645μm,0.2s							
NRCA				AML		AML		
	comp=E,282nm,0.2s							
NRCA				AML		AML		
	comp=N,4650μm,0.1s							
NRCA				AML		AML		
	comp=E,7842μm,0.1s							
ARRO	**Arrone**	**0.41**	**282**	P		Pg	15 43 11.8	+0.2
ARRO				S		Sg	15 43 17.8	+0.6
ARRO				AML		AML		
	comp=E,2520μm,1.4s							
ARRO				AML		AML		
	comp=E,2520μm,0.6s							
ARRO				AML		AML		
	comp=N,2610μm,0.3s							
ARRO				AML		AML		
	comp=E,2502μm,0.2s							
ARRO				AML		AML		
	comp=N,2609μm,0.3s							
PTQR	**Pietraquaria**	**0.47**	**172**	P		Pg	15 43 12.5	-0.2
PTQR				S		Sb	15 43 20.0	-0.3
PTQR				AML		AML		
	comp=E,902μm,1.6s							
PTQR				AML		AML		
	comp=N,1022μm,0.2s							
PTQR				AML		AML		
	comp=E,902μm,0.4s							
PTQR				AML		AML		
	comp=E,884μm,0.3s							
TRTR	**Tortoreto Alta**	**0.54**	**54**	⇓P		Pb	15 43 15.0	+0.4
CESX	**Cesi**	**0.55**	**282**	P		Pg	15 43 14.2	+0.1
CESX				S		Sb	15 43 22.1	-0.4
CESX				AML		AML		
	comp=N,1485μm,0.9s							
CESX				AML		AML		
	comp=E,1180μm,0.4s							
CESX				AML		AML		
	comp=E,1178μm,0.4s							
CESX				AML		AML		
	comp=N,1284μm,0.3s							
FDMO	**Fiordimonte**	**0.57**	**343**	P		Pg	15 43 14.4	-0.1
FDMO				S		Sb	15 43 22.8	-0.2
FDMO				AML		AML		
	comp=E,643μm,0.6s							
FDMO				AML		AML		
	comp=N,824μm,1.3s							
FDMO				AML		AML		
	comp=N,824μm,0.7s							
FDMO				AML		AML		
	comp=E,598μm,0.2s							
FDMO				AML		AML		
	comp=N,704μm,0.2s							
GUMA	**Gualdo di Mace**	**0.57**	**2**	P		Pg	15 43 14.4	0.0
GUMA				S		Sb	15 43 23.0	0.0
GUMA				AML		AML		
	comp=E,4080μm,0.3s							
GUMA				AML		AML		
	comp=N,3560μm,0.6s							
GUMA				AML		AML		
	comp=N,3530μm,1.1s							
GUMA				AML		AML		
	comp=E,5155μm,0.3s							
GUMA				AML		AML		
	comp=N,3560μm,1.4s							
GUMA				AML		AML		
	comp=N,3525μm,1.1s							
GUMA				AML		AML		
	comp=E,4081μm,0.3s							
GUMA				AML		AML		
	comp=N,3560μm,0.6s							
GUMA				AML		AML		
	comp=E,5152μm,0.3s							
GUMA				AML		AML		
	comp=N,3452μm,0.6s							
CESI	**CESI - Serrava**	**0.59**	**330**	⇑P		Pg	15 43 14.5	-0.5
CESI				AML		AML		
	comp=E,868μm,0.7s							
CESI				AML		AML		
	comp=N,1435μm,0.3s							
CESI				AML		AML		
	comp=E,868μm,1.3s							
CESI				AML		AML		
	comp=N,1433μm,0.3s							
CESI				AML		AML		
	comp=E,622μm,0.1s							
CERT	**Cerreto**	**0.60**	**204**	⇑P		Pn	15 43 17.6	+0.3
CERT				AML		AML		
	comp=N,806μm,0.3s							
CSP1	**Cessapalombo**	**0.60**	**352**	⇑P		Pg	15 43 14.8	-0.3
CSP1				S		Sb	15 43 24.0	-0.1
CSP1				AML		AML		
	comp=N,1135μm,1.1s							
CSP1				AML		AML		
	comp=E,1062μm,1.4s							
CSP1				AML		AML		
	comp=N,1135μm,0.9s							
CSP1				AML		AML		
	comp=E,1062μm,0.6s							
CSP1				AML		AML		
	comp=N,1070μm,0.4s							
CSP1				AML		AML		
	comp=E,917μm,0.3s							
MOMA	**Monte Martano**	**0.63**	**300**	P		Pg	15 43 15.6	-0.1
MOMA				S		Sb	15 43 25.1	+0.3
MOMA				AML		AML		
	comp=E,2495μm,0.2s							
MOMA				AML		AML		
	comp=N,1955μm,0.5s							
MOMA				AML		AML		
	comp=N,2070μm,0.5s							
MOMA				AML		AML		
	comp=E,2565μm,0.2s							
MOMA				AML		AML		
	comp=N,1976μm,0.2s							
MOMA				AML		AML		
	comp=E,2566μm,0.2s							
MOMA				AML		AML		
	comp=E,2497μm,0.2s							
MOMA				AML		AML		
	comp=N,1945μm,0.2s							
MTCE	**Montecelio**	**0.63**	**222**	P		Pg	15 43 15.7	0.0
MTCE				AML		AML		
	comp=E,770μm,1.6s							
MTCE				AML		AML		
	comp=N,528μm,0.3s							
MTCE				AML		AML		
	comp=E,770μm,0.4s							
MTCE				AML		AML		
	comp=E,748μm,0.7s							
MTCE				AML		AML		
	comp=N,528μm,0.3s							
T1220	**Camerino, Fraz**	**0.64**	**345**	P		Pg	15 43 15.4	-0.3
T1220				S		Sb	15 43 24.8	-0.2
T1220				AML		AML		
	comp=E,3270μm,0.4s							
T1220				AML		AML		
	comp=N,3245μm,1.6s							
T1220				AML		AML		
	comp=N,3155μm,1.6s							
T1220				AML		AML		
	comp=E,3270μm,0.4s							
T1220				AML		AML		
	comp=E,3265μm,0.4s							
T1220				AML		AML		
	comp=N,3160μm,1.6s							
T1220				AML		AML		
	comp=N,3245μm,1.6s							
T1220				AML		AML		
	comp=E,3268μm,0.4s							
T1220				AML		AML		
	comp=E,3267μm,0.4s							
T1220				AML		AML		
	comp=N,3075μm,0.3s							
T1220				AML		AML		
	comp=N,3033μm,0.3s							
SRES	**S.Oreste - Sor**	**0.65**	**247**	⇓P		Pb	15 43 16.3	0.0
SRES				AML		AML		
	comp=N,679μm,1.2s							
SRES				AML		AML		
	comp=E,538μm,1.1s							
SRES				AML		AML		
	comp=N,680μm,1.2s							
SRES				AML		AML		
	comp=E,538μm,0.9s							
SRES				AML		AML		
	comp=N,680μm,0.8s							
SRES				AML		AML		
	comp=N,652μm,0.4s							
SRES				AML		AML		
	comp=E,480μm,0.3s							
GUAR	**Guarcino**	**0.70**	**180**	⇓P		Pn	15 43 20.2	+1.5
GUAR				AML		AML		
	comp=E,811μm,0.6s							
GUAR				AML		AML		
	comp=N,1215μm,1.3s							
GUAR				AML		AML		
	comp=E,811μm,1.4s							
GUAR				AML		AML		
	comp=N,1215μm,0.7s							
GUAR				AML		AML		
	comp=E,811μm,0.6s							
GUAR				AML		AML		
	comp=N,1172μm,0.3s							
ASSB	**Assisi San Ben**	**0.73**	**319**	P		Pg	15 43 17.2	-0.3
ASSB				S		Sg	15 43 27.4	+0.2

ASSB				AML	AML		
	comp=E,832µm,0.3s						
ASSB				AML	AML		
	comp=N,896µm,0.3s						
ASSB				AML	AML		
	comp=E,832µm,0.3s						
ASSB				AML	AML		
	comp=N,896µm,0.3s						
SNTG	**Esanatoglia**	**0.81 340**	⇓P	Pg	15 43 18.5	-0.4	
SNTG			S	Sn	15 43 31.6	-0.5	
SNTG			AML	AML			
	comp=N,376µm,0.8s						
SNTG			AML	AML			
	comp=E,294µm,0.4s						
SNTG			AML	AML			
	comp=E,294µm,1.6s						
SNTG			AML	AML			
	comp=N,311µm,0.3s						
SNTG			AML	AML			
	comp=E,294µm,0.4s						
SNTG			AML	AML			
	comp=N,328µm,0.5s						
SNTG			AML	AML			
	comp=E,382µm,0.6s						
EL6	**Elcito**	**0.85 350**	P	Pg	15 43 19.0	-0.7	
EL6			AML	AML			
	comp=E,860µm,1.2s						
EL6			AML	AML			
	comp=N,1006µm,1.6s						
EL6			AML	AML			
	comp=N,1007µm,1.6s						
EL6			AML	AML			
	comp=N,1007µm,0.4s						
EL6			AML	AML			
	comp=E,860µm,0.8s						
EL6			AML	AML			
	comp=E,830µm,0.4s						
EL6			AML	AML			
	comp=N,885µm,0.5s						
GIUL	**Giuliano Di Ro**	**0.94 183**	⇓P	Pn	15 43 23.5	+1.5	
GIUL			AML	AML			
	comp=E,342µm,1.6s						
GIUL			AML	AML			
	comp=N,346µm,0.7s						
GIUL			AML	AML			
	comp=N,346µm,1.3s						
MGAB	**Montegabbione**	**0.98 296**	P	Pb	15 43 21.8	-0.2	
MGAB			AML	AML			
	comp=N,650µm,0.5s						
MGAB			AML	AML			
	comp=E,1200µm,0.5s						
MGAB			AML	AML			
	comp=E,1175µm,0.5s						
MGAB			AML	AML			
	comp=N,540µm,0.3s						
MGAB			AML	AML			
	comp=E,1199µm,0.5s						
ARVD	**Arcevia**	**1.04 345**	⇑P	Pb	15 43 23.0	-0.1	
ARVD			AML	AML			
	comp=E,326µm,1.1s						
ARVD			AML	AML			
	comp=N,303µm,0.6s						
ARVD			AML	AML			
	comp=E,326µm,0.9s						
ARVD			AML	AML			
	comp=E,283µm,0.5s						
ARVD			AML	AML			
	comp=N,303µm,0.6s						
MPAG	**Monte Paganucc**	**1.21 341**	⇓P	Pb	15 43 26.1	+0.2	
MPAG			AML	AML			
	comp=E,1040µm,1.5s						
MPAG			AML	AML			
	comp=N,1300µm,1.2s						
MPAG			AML	AML			
	comp=E,287µm,1.4s						
MPAG			AML	AML			
	comp=N,368µm,1.0s						
MPAG			AML	AML			
	comp=E,1040µm,0.5s						
MPAG			AML	AML			
	comp=E,287µm,0.6s						
MPAG			AML	AML			
	comp=E,267µm,0.5s						
BRSN	**Barisano**	**2.00 334**	⇓P	Pn	15 43 37.6	+1.0	
PZUN	**Potenza**	**2.63 134**	⇓P	Pb	15 43 51.8	+1.7	
GROG	**Isola di Gorgo**	**2.68 292**	⇓P	Pb	15 43 51.7	+0.8	
GROG			S	Sn	15 44 17.3	-0.8	
MTSN	**Montesano sull**	**2.88 140**	⇑P	Pn	15 43 47.5	-1.4	
GRAM	**Graiana**	**3.09 311**	S	Sg	15 44 43.5	+0.9	
STON	**Ston**	**3.26 82**	S	Sn	15 44 32.3	0.0	
LEOD	**Capriano del C**	**3.75 323**	S	Sn	15 44 43.4	-1.2	
OBKA	**Obir**	**4.11 12**	*e*Pn	Pg	15 44 21.7	-0.3	
	comp=E,1.8nm,0.4s						
ABTA	**Abfaltersbach**	**4.29 353**	*e*Pn	Pn	15 44 12.6	+4.4	
	comp=E,3.2nm,0.2s						
RONA	**Rosalia, Austr**	**5.62 21**	*e*Pn	Pn	15 44 33.4	+7.1	
	comp=E,2.5nm,0.5s						

ROM 18 15:43:56.3±0.1, 42°.588N±0°.007×13°.328E±0°.007, h11km, ML2.2/3, 2C-1D, Error ellipse: s-maj=0.8km s-min=0.4km az=28.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**7**	P	Pg	15 43 58.8	+0.3
SMA1				S	Sg	15 44 00.3	+0.2
SMA1				AML	AML		
	comp=E,25500µm,0.3s						
SMA1				AML	AML		
	comp=N,18450µm,0.4s						
SMA1				AML	AML		
	comp=N,17216µm,0.3s						
SMA1				AML	AML		
	comp=E,25478µm,0.3s						
CAMP	**Campotosto**	**0.08 131**		⇑P	Pg	15 43 59.3	+0.4
CAMP				S	Sg	15 44 00.9	+0.1
CAMP				AML	AML		
	comp=E,1540µm,0.2s						
CAMP				AML	AML		
	comp=E,1540µm,1.8s						
CAMP				AML	AML		
	comp=N,899µm,0.2s						
CAMP				AML	AML		
	comp=N,1420µm,1.2s						
RM33	**Pellescritta (**	**0.12 227**		P	Pb	15 44 00.1	-0.6
RM33				S	Sg	15 44 02.0	+0.6
RM33				AML	AML		
	comp=E,3965µm,0.3s						
RM33				AML	AML		
	comp=N,2675µm,0.2s						
RM33				AML	AML		
	comp=N,2835µm,0.2s						
RM33				AML	AML		
	comp=E,3795µm,0.3s						
RM33				AML	AML		
	comp=E,3965µm,0.3s						
T1247	**Pizzolo (AQ)**	**0.15 188**		S	Sg	15 44 03.7	+1.5
T1247				AML	AML		
	comp=E,1970µm,0.2s						
T1247				AML	AML		
	comp=N,2315µm,0.4s						
T1218	**Civita (PG)**	**0.18 298**		P	Pg	15 44 00.7	+0.4
T1218				S	Sg	15 44 03.8	+0.8
LNSS	**Leonessa**	**0.21 274**		⇓P	Pg	15 44 01.6	+0.7
LNSS				S	Sg	15 44 04.8	+0.9
LNSS				AML	AML		
	comp=E,1255µm,0.3s						
LNSS				AML	AML		
	comp=N,1185µm,0.2s						
LNSS				AML	AML		
	comp=E,1255µm,1.7s						
LNSS				AML	AML		
	comp=N,753µm,0.4s						
LNSS				AML	AML		
	comp=E,961µm,0.2s						
GIGS	**Gran Sasso**	**0.23 128**		⇑P	Pg	15 44 01.8	+0.7
GIGS				S	Sg	15 44 05.2	+0.9
GIGS				AML	AML		
	comp=E,188µm,1.6s						
GIGS				AML	AML		
	comp=N,156µm,1.4s						
GIGS				AML	AML		
	comp=N,156µm,0.6s						
GIGS				AML	AML		
	comp=E,188µm,0.4s						
NRCA	**Norcia**	**0.29 327**		S	Sg	15 44 07.0	+0.7
NRCA				AML	AML		
	comp=E,1590µm,0.2s						
NRCA				AML	AML		
	comp=E,1590µm,0.1s						
NRCA				AML	AML		
	comp=N,1002µm,0.2s						
T1217	**Poggiodomo (PG**	**0.32 293**		P	Pb	15 44 03.7	-0.4
T1217				S	Sb	15 44 08.3	-1.0
T1217				AML	AML		
	comp=E,150µm,0.5s						
ARRO	**Arrone**	**0.41 269**		P	Pg	15 44 04.8	+0.3

ROM 18 15:44:34.1±0.1, 42°.484N±0°.006×13°.288E±0°.006, h11km, ML2.4/3, 1C-3D, Error ellipse: s-maj=0.6km s-min=0.4km az=5.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.04**	**170**	⇓P	Pg	15 44 36.8	+0.5
T1247				S	Sg	15 44 38.5	+0.5
T1247				AML	AML		
	comp=E,9460µm,1.6s						
T1247				AML	AML		
	comp=E,9460µm,0.4s						
T1247				AML	AML		
	comp=N,8680µm,0.1s						
RM33	**Pellescritta (**	**0.06**	**295**	P	Pg	15 44 36.5	-0.1
RM33				S	Sg	15 44 38.4	+0.1
RM33				AML	AML		
	comp=E,4575µm,0.3s						
RM33				AML	AML		
	comp=N,3220µm,1.3s						
RM33				AML	AML		
	comp=N,3250µm,0.3s						
RM33				AML	AML		
	comp=N,3220µm,0.7s						
RM33				AML	AML		
	comp=E,4575µm,0.3s						
RM33				AML	AML		
	comp=E,4385µm,0.3s						
CAMP	**Campotosto**	**0.10**	**60**	P	Pg	15 44 37.5	+0.4
CAMP				S	Sg	15 44 39.8	+0.6
GIGS	**Gran Sasso**	**0.21**	**99**	P	Pg	15 44 39.0	+0.4
GIGS				S	Sg	15 44 42.5	+0.8
GIGS				AML	AML		
	comp=E,189µm,2.9s						
GIGS				AML	AML		
	comp=N,194µm,5.2s						
GIGS				AML	AML		
	comp=N,194µm,0.8s						
GIGS				AML	AML		
	comp=E,189µm,0.9s						
LNSS	**Leonessa**	**0.22 303**		⇑P	Pg	15 44 39.2	+0.4
LNSS				S	Sg	15 44 43.0	+1.0
LNSS				AML	AML		
	comp=N,1715µm,0.2s						
LNSS				AML	AML		
	comp=E,1358µm,0.2s						
T1218	**Civita (PG)**	**0.23 326**		⇓P	Pg	15 44 39.2	+0.3
T1218				S	Sg	15 44 43.0	+0.7
T1218				AML	AML		
	comp=E,876µm,0.2s						
T1218				AML	AML		
	comp=N,1695µm,0.2s						
T1218				AML	AML		
	comp=N,1690µm,0.2s						
T1218				AML	AML		
	comp=E,875µm,0.2s						
T1218				AML	AML		
	comp=E,870µm,0.1s						
T1218				AML	AML		
	comp=E,875µm,1.8s						
T1218				AML	AML		
	comp=E,870µm,1.9s						
T1218				AML	AML		
	comp=N,1695µm,0.2s						
FIAM	**Fiamignano**	**0.25 210**		⇓P	Pg	15 44 39.5	+0.2
FIAM				S	Sg	15 44 43.9	+1.1
FIAM				AML	AML		
	comp=E,278µm,0.7s						
FIAM				AML	AML		
	comp=N,298µm,0.7s						
PTQR	**Pietraquaria**	**0.47 170**		P	Pg	15 44 40.8	-2.6
CESX	**Cesi**	**0.54 284**		P	Pg	15 44 44.9	+0.2
CESX				S	Sb	15 44 52.8	-0.5
CESX				AML	AML		
	comp=N,155µm,2.0s						
CESX				AML	AML		
	comp=E,166µm,2.0s						
CESX				AML	AML		
	comp=N,155µm,0.0s						
CESX				AML	AML		
	comp=E,166µm,0.0s						
CESX				AML	AML		
	comp=N,72µm,0.5s						
CESX				AML	AML		
	comp=E,79µm,0.2s						
FDMO	**Fiordimonte**	**0.57 345**		P	Pb	15 44 45.8	-0.4
FDMO				AML	AML		
	comp=N,19µm,0.1s						
FDMO				AML	AML		
	comp=E,55µm,0.8s						

ROM 18 15:46:29.6±0.1, 42°.539N±0°.004×13°.342E±0°.005, h10km, ML2.0/6, 7C-5D, Error ellipse: s-maj=0.4km s-min=0.3km az=192.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.05**	**93**	⇓P	Pg	15 46 32.1	+0.3
CAMP				S	Sg	15 46 33.5	+0.2
CAMP				AML	AML		
	comp=E,1995µm,1.5s						
CAMP				AML	AML		
	comp=E,1995µm,0.5s						
CAMP				AML	AML		
	comp=N,2015µm,0.2s						
CAMP				AML	AML		
	comp=E,1872µm,0.4s						
CAMP				AML	AML		
	comp=N,2018µm,0.2s						
RM33	**Pellescritta (**	**0.10**	**253**	⇑P	Pg	15 46 32.8	+0.5
RM33				S	Sg	15 46 34.8	+0.6
RM33				AML	AML		
	comp=N,4060µm,0.3s						
RM33				AML	AML		
	comp=N,4075µm,0.3s						
RM33				AML	AML		
	comp=E,5285µm,0.2s						
RM33				AML	AML		
	comp=E,5110µm,0.2s						
RM33				AML	AML		
	comp=E,5285µm,1.8s						
RM33				AML	AML		
	comp=N,4075µm,1.7s						
RM33				AML	AML		
	comp=E,5110µm,1.8s						
RM33				AML	AML		
	comp=N,4060µm,1.7s						
RM33				AML	AML		
	comp=E,5110µm,0.2s						
RM33				AML	AML		
	comp=N,3936µm,0.2s						
RM33				AML	AML		
	comp=N,3793µm,0.2s						
RM33				AML	AML		
	comp=E,5283µm,0.2s						
T1247	**Pizzolo (AQ)**	**0.10**	**198**	⇑P	Pg	15 46 32.9	+0.6
T1247				S	Sg	15 46 35.0	+0.8
T1247				AML	AML		
	comp=E,4730µm,1.2s						
T1247				AML	AML		
	comp=N,8330µm,0.5s						
T1247				AML	AML		
	comp=E,4730µm,0.8s						
T1247				AML	AML		
	comp=N,5918µm,0.2s						
T1247				AML	AML		
	comp=E,4215µm,0.2s						
GIGS	**Gran Sasso**	**0.19**	**118**	⇓P	Pg	15 46 34.2	+0.5
GIGS				S	Sg	15 46 37.3	+0.8
GIGS				AML	AML		
	comp=E,252µm,1.4s						
GIGS				AML	AML		
	comp=E,252µm,1.4s						
GIGS				AML	AML		
	comp=N,206µm,0.3s						
GIGS				AML	AML		
	comp=E,166µm,0.1s						
GIGS				AML	AML		
	comp=N,175µm,0.2s						
T1218	**Civita (PG)**	**0.21**	**308**	⇑P	Pg	15 46 34.6	+0.5
T1218				S	Sg	15 46 38.1	+0.9
T1218				AML	AML		
	comp=E,622µm,0.7s						
T1218				AML	AML		
	comp=N,836µm,0.3s						
T1218				AML	AML		
	comp=N,836µm,0.3s						
T1218				AML	AML		
	comp=N,837µm,0.3s						
T1218				AML	AML		
	comp=E,563µm,0.2s						
T1218				AML	AML		
	comp=N,859µm,0.3s						
T1218				AML	AML		
	comp=E,563µm,0.2s						
LNSS	**Leonessa**	**0.23**	**286**	P	Pg	15 46 35.0	+0.6
LNSS				S	Sg	15 46 39.0	+1.3
LNSS				AML	AML		
	comp=E,1350µm,1.3s						
LNSS				AML	AML		
	comp=N,1895µm,1.5s						
LNSS				AML	AML		
	comp=N,1710µm,0.2s						
LNSS				AML	AML		
	comp=E,1270µm,0.2s						
FIAM	**Fiamignano**	**0.32**	**212**	⇓P	Pb	15 46 36.8	-0.7
FIAM				S	Sb	15 46 41.5	-1.2
FIAM				AML	AML		
	comp=E,364µm,1.6s						
FIAM				AML	AML		
	comp=N,432µm,0.8s						
FIAM				AML	AML		
	comp=E,364µm,0.4s						
FIAM				AML	AML		
	comp=N,432µm,1.2s						
FIAM				AML	AML		
	comp=E,333µm,0.6s						
FIAM				AML	AML		
	comp=N,356µm,0.4s						
T1217	**Poggiodomo (PG**	**0.35**	**300**	⇓P	Pg	15 46 37.0	+0.4
T1217				S	Sb	15 46 42.7	-1.0
ARRO	**Arrone**	**0.43**	**276**	⇑P	Pg	15 46 38.4	+0.3
ARRO				S	Sb	15 46 44.9	-0.9
ARRO				AML	AML		
	comp=E,238µm,1.5s						
ARRO				AML	AML		
	comp=N,194µm,1.1s						
ARRO				AML	AML		
	comp=N,181µm,0.2s						
ARRO				AML	AML		
	comp=E,186µm,0.2s						
CSP1	**Cessapalombo**	**0.56**	**350**	⇓P	Pg	15 46 40.8	+0.2
CSP1				AML	AML		
	comp=N,324µm,1.4s						
CSP1				AML	AML		
	comp=N,324µm,1.4s						
CSP1				AML	AML		
	comp=E,229µm,1.6s						
CSP1				AML	AML		
	comp=N,324µm,0.6s						
CSP1				AML	AML		
	comp=E,220µm,0.3s						
CSP1				AML	AML		
	comp=N,270µm,0.4s						
CESI	**CESI - Serrava**	**0.57**	**326**	⇑P	Pg	15 46 41.1	+0.4
CESI				S	Sb	15 46 49.6	-0.3
CESI				AML	AML		
	comp=E,224µm,1.4s						
CESI				AML	AML		
	comp=N,280µm,1.3s						
CESI				AML	AML		
	comp=N,280µm,0.7s						
CESI				AML	AML		
	comp=E,224µm,0.6s						
CESI				AML	AML		
	comp=N,266µm,0.5s						
T1220	**Camerino, Fraz**	**0.60**	**342**	⇑P	Pg	15 46 41.5	+0.2
T1220				S	Sb	15 46 50.5	-0.4
T1220				AML	AML		
	comp=N,838µm,1.3s						
T1220				AML	AML		
	comp=E,838µm,0.2s						
T1220				AML	AML		
	comp=N,805µm,0.3s						
T1220				AML	AML		
	comp=E,841µm,0.2s						
T1220				AML	AML		
	comp=N,805µm,0.3s						
T1220				AML	AML		
	comp=E,838µm,0.2s						
T1220				AML	AML		
	comp=E,841µm,0.2s						
T1220				AML	AML		
	comp=N,813µm,0.3s						
EL6	**Elcito**	**0.81**	**348**	⇑P	Pg	15 46 44.9	-0.4
EL6				AML	AML		
	comp=E,198µm,0.2s						
EL6				AML	AML		
	comp=N,239µm,0.2s						

ROM 18 15:46:54.2±0.1, 42°.527N±0°.004×13°.279E±0°.006, h13km, ML2.6/13, 3C, Error ellipse: s-maj=0.5km s-min=0.2km az=228.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**250**	P	Pg	15 46 57.1	+0.2
RM33				S	Sg	15 46 58.8	+0.1
RM33				AML	AML		
	comp=E,15600µm,0.3s						
RM33				AML	AML		
	comp=N,17250µm,0.3s						
RM33				AML	AML		
	comp=E,15800µm,0.3s						
RM33				AML	AML		
	comp=N,17500µm,0.3s						
RM33				AML	AML		
	comp=E,15777µm,0.3s						
RM33				AML	AML		
	comp=E,15638µm,0.3s						
RM33				AML	AML		
	comp=N,15487µm,0.2s						
RM33				AML	AML		
	comp=N,15942µm,0.2s						
T1247	**Pizzolo (AQ)**	**0.09**	**171**	P	Pg	15 46 57.4	+0.2
T1247				AML	AML		
	comp=E,9565µm,0.5s						
T1247				AML	AML		
	comp=N,9705µm,0.4s						
T1247				AML	AML		
	comp=E,8773µm,0.1s						
T1247				AML	AML		
	comp=N,8551µm,0.1s						
CAMP	**Campotosto**	**0.10**	**84**	P	Pg	15 46 57.6	+0.2
CAMP				S	Sg	15 46 59.7	+0.1
CAMP				AML	AML		
	comp=N,8625µm,0.4s						
CAMP				AML	AML		
	comp=E,6260µm,0.4s						
CAMP				AML	AML		
	comp=N,8625µm,0.4s						
SMA1	**SAN MARTINO**	**0.11**	**22**	P	Pg	15 46 57.8	+0.3
SMA1				S	Sg	15 47 00.4	+0.6
SMA1				AML	AML		
	comp=N,14800µm,0.2s						
SMA1				AML	AML		
	comp=E,27450µm,0.3s						
SMA1				AML	AML		
	comp=E,27442µm,0.3s						
SMA1				AML	AML		
	comp=N,14800µm,0.2s						
T1218	**Civita (PG)**	**0.19**	**320**	P	Pg	15 46 58.4	-0.2
T1218				S	Sg	15 47 02.0	+0.4
T1218				AML	AML		
	comp=E,2655µm,0.4s						
T1218				AML	AML		
	comp=N,4455µm,0.2s						
T1218				AML	AML		
	comp=E,2890µm,0.4s						

T1218				AML	AML		
	comp=N,4420µm,0.2s						
T1218				AML	AML		
	comp=N,4419µm,0.2s						
T1218				AML	AML		
	comp=N,4455µm,0.2s						
T1218				AML	AML		
	comp=E,2464µm,0.2s						
T1218				AML	AML		
	comp=E,2398µm,0.2s						
LNSS	**Leonessa**	**0.19**	**293**	P	Pb	15 46 59.4	-0.3
LNSS				S	Sg	15 47 02.5	+0.8
LNSS				AML	AML		
	comp=N,9305µm,0.1s						
LNSS				AML	AML		
	comp=E,5035µm,0.6s						
LNSS				AML	AML		
	comp=N,9308µm,0.1s						
LNSS				AML	AML		
	comp=E,4175µm,0.2s						
GIGS	**Gran Sasso**	**0.23**	**110**	P	Pg	15 46 59.3	+0.1
GIGS				S	Sg	15 47 02.9	+0.3
GIGS				AML	AML		
	comp=E,852µm,0.5s						
GIGS				AML	AML		
	comp=N,682µm,0.9s						
GIGS				AML	AML		
	comp=E,659µm,0.3s						
GIGS				AML	AML		
	comp=N,663µm,0.4s						
FIAM	**Fiamignano**	**0.28**	**205**	⇑P	Pg	15 47 00.5	+0.2
FIAM				S	Sg	15 47 04.9	+0.6
FIAM				AML	AML		
	comp=E,5155µm,0.3s						
FIAM				AML	AML		
	comp=N,1960µm,0.5s						
FIAM				AML	AML		
	comp=N,1791µm,0.2s						
T1217	**Poggiodomo (PG**	**0.32**	**306**	P	Pg	15 47 00.9	+0.2
T1217				S	Sg	15 47 06.0	+0.8
T1217				AML	AML		
	comp=E,999µm,1.2s						
T1217				AML	AML		
	comp=N,1120µm,0.6s						
T1217				AML	AML		
	comp=E,999µm,0.8s						
T1217				AML	AML		
	comp=E,1016µm,0.2s						
T1217				AML	AML		
	comp=N,982µm,0.6s						
T1217				AML	AML		
	comp=N,1103µm,0.2s						
T1217				AML	AML		
	comp=N,963µm,0.2s						
T1217				AML	AML		
	comp=E,1015µm,0.2s						
T1217				AML	AML		
	comp=E,987µm,0.2s						
FAGN	**Fagnano**	**0.34**	**139**	P	Pb	15 47 02.0	-0.2
FAGN				S	Sb	15 47 07.3	-0.4
FAGN				AML	AML		
	comp=N,2034µm,0.3s						
FAGN				AML	AML		
	comp=N,2055µm,1.0s						
FAGN				AML	AML		
	comp=E,2024µm,0.3s						
FAGN				AML	AML		
	comp=E,2090µm,0.8s						
ARRO	**Arrone**	**0.38**	**278**	P	Pg	15 47 01.9	0.0
ARRO				S	Sg	15 47 07.8	+0.7
ARRO				AML	AML		
	comp=E,942µm,0.2s						
ARRO				AML	AML		
	comp=N,1585µm,0.2s						
ARRO				AML	AML		
	comp=E,944µm,0.2s						
ARRO				AML	AML		
	comp=N,1585µm,0.2s						
ARRO				AML	AML		
	comp=N,1585µm,1.8s						
CESX	**Cesi**	**0.52**	**279**	⇑P	Pg	15 47 04.5	-0.1
CESX				S	Sb	15 47 12.3	-0.4
CESX				AML	AML		
	comp=E,574µm,0.3s						
CESX				AML	AML		
	comp=E,575µm,0.3s						
CESX				AML	AML		
	comp=N,816µm,0.3s						
CESX				AML	AML		
	comp=N,816µm,0.3s						
FDMO	**Fiordimonte**	**0.53**	**345**	P	Pg	15 47 04.6	0.0
FDMO				S	Sb	15 47 12.6	-0.4
FDMO				AML	AML		
	comp=E,541µm,0.5s						
FDMO				AML	AML		
	comp=N,422µm,0.3s						
FDMO				AML	AML		
	comp=N,422µm,0.3s						
FDMO				AML	AML		
	comp=E,479µm,0.2s						
CESI	**CESI - Serrava**	**0.55**	**330**	P	Pg	15 47 05.0	-0.1
CESI				S	Sb	15 47 13.6	0.0
CESI				AML	AML		
	comp=N,1140µm,0.3s						
CESI				AML	AML		
	comp=E,695µm,1.4s						
CESI				AML	AML		
	comp=N,1139µm,0.3s						
CESI				AML	AML		
	comp=E,667µm,0.3s						
CSP1	**Cessapalombo**	**0.57**	**354**	P	Pg	15 47 05.4	0.0
CSP1				S	Sb	15 47 13.8	-0.3
CSP1				AML	AML		
	comp=E,776µm,0.2s						
CSP1				AML	AML		
	comp=N,972µm,0.4s						
CSP1				AML	AML		
	comp=E,777µm,0.2s						
CSP1				AML	AML		
	comp=N,972µm,1.6s						
CSP1				AML	AML		
	comp=N,973µm,0.4s						
MOMA	**Monte Martano**	**0.59**	**298**	P	Pg	15 47 06.1	+0.2
MOMA				S	Sb	15 47 14.6	-0.2
MOMA				AML	AML		
	comp=N,752µm,0.9s						
MOMA				AML	AML		
	comp=N,748µm,0.2s						
MOMA				AML	AML		
	comp=N,726µm,0.2s						
MOMA				AML	AML		
	comp=N,726µm,0.2s						
MOMA				AML	AML		
	comp=E,1340µm,0.2s						
MOMA				AML	AML		
	comp=E,1315µm,0.2s						
MOMA				AML	AML		
	comp=E,1313µm,0.2s						
MOMA				AML	AML		
	comp=E,1341µm,0.2s						
T1220	**Camerino, Fraz**	**0.60**	**347**	P	Pg	15 47 05.9	-0.1
T1220				S	Sg	15 47 14.3	+0.4
T1220				AML	AML		
	comp=E,2085µm,1.5s						
T1220				AML	AML		
	comp=E,2030µm,1.5s						
T1220				AML	AML		
	comp=N,2005µm,0.2s						
T1220				AML	AML		
	comp=N,2001µm,0.2s						
T1220				AML	AML		
	comp=N,2008µm,0.2s						
T1220				AML	AML		
	comp=N,2000µm,0.2s						
T1220				AML	AML		
	comp=E,2085µm,0.5s						
T1220				AML	AML		
	comp=E,2030µm,0.5s						
T1220				AML	AML		
	comp=E,1977µm,0.3s						
T1220				AML	AML		
	comp=E,1974µm,0.3s						
SRES	**S.Oreste - Sor**	**0.64**	**243**	P	Pg	15 47 06.5	-0.2
SRES				AML	AML		
	comp=E,179µm,0.2s						
ASSB	**Assisi San Ben**	**0.69**	**319**	P	Pg	15 47 07.1	-0.6
ASSB				AML	AML		
	comp=E,529µm,0.6s						
ASSB				AML	AML		
	comp=N,582µm,0.2s						
ASSB				AML	AML		
	comp=E,529µm,1.4s						
ASSB				AML	AML		
	comp=N,582µm,0.2s						
ASSB				AML	AML		
	comp=E,506µm,0.2s						
MGAB	**Montegabbione**	**0.94**	**295**	⇑P	Pn	15 47 14.6	+1.4
MGAB				S	Sn	15 47 26.8	+0.3
MGAB				AML	AML		
	comp=N,369µm,0.4s						
MGAB				AML	AML		
	comp=N,372µm,0.4s						
MGAB				AML	AML		
	comp=E,318µm,0.3s						
MGAB				AML	AML		
	comp=E,276µm,0.5s						
LIK	**San Giovanni I**	**1.04**	**168**	S	Sn	15 47 31.2	+2.3
PE3	**Peglio**	**1.30**	**334**	P	Pn	15 47 17.4	-0.7

*IDC **18** 15:58:22.0±0.6,56.˚57S×150.˚68W,h0km,mb4.5/8, mbtmp4.5/8,MS3.6/9,Error ellipse: s-maj=28.4km s-min=17.2km az=7.0*

*NEIC **18** 15:58:24.5±1.4,56.˚4S±0.˚1×150.˚7W±0.˚2,h10km±1km, mb4.8/18,Error ellipse: s-maj=21.6km s-min=18.5km az=324.0*

ISC 18 15:58:23.7±0.5,56.˚7S±0.˚1×150.˚7W±0.˚1,h10km,n80, σ0.˚87/61,mb4.8/14,MS3.6/9,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**26.50**	**201**	P	**P**	**16 04 02.7**	**+2.0**
	2.8nm,1.1s,baz=56,slow=13,SNR=4.5						
VNDA				LR	LR	16 11 42.1	
	comp=Z,170nm,19.6s,baz=58,slow=30						
	2.8nm,1.1s						
VNDA	**Vanda**	**26.50**	**201**	P	**P**	**16 04 03.3**	**+2.6**
VNDA				IAmb	IAmb	16 04 09.4	
	comp=Z,11nm,1.2s						
BSWZ	**Blackbirch Sta**	**27.19**	**288**	P	**P**	**16 04 06.9**	**-0.4**
URZ	**Urewera**	**28.13**	**297**	LR	LR	16 13 30.0	
	comp=Z,140nm,19.9s,baz=250,slow=32						
QSPA	**South Pole Qui**	**33.49**	**180**	P	**P**	**16 05 02.7**	**-0.2**
	comp=Z,9.8nm,1.0s,baz=65,slow=4.6,SNR=16						
QSPA				LR	LR	16 16 39.4	
	comp=Z,109nm,18.8s,baz=66,slow=33						
	comp=Z,9.8nm,1.0s						
RPN	**Rapa Nui**	**41.62**	**62**	LR	LR	16 18 13.0	
	comp=Z,25nm,21.2s,baz=238,slow=29						
VNA3	**Neumayer Olymp**	**49.46**	**164**	P	**P**	**16 07 11.6**	**-1.8**
VNA2	**Neumayer--Watz**	**50.07**	**165**	P	**P**	**16 07 16.3**	**-1.7**
	baz=201,slow=8.0						
VNA1	**Neumayer--Stat**	**50.20**	**165**	P	**P**	**16 07 17.0**	**-1.9**
TROLL	**Troll, Antarti**	**50.27**	**170**	P	**P**	**16 07 18.0**	**-1.6**
STKA	**Stephens Creek**	**51.96**	**268**	P	**P**	**16 07 32.3**	**-0.4**
	comp=Z,6.3nm,0.8s,baz=130,slow=7.9,SNR=8.0						
	comp=Z,6.3nm,0.8s						
STKA	**Stephens Creek**	**51.96**	**268**	P	**P**	**16 07 34.0**	**+1.3**
PLCA	**Paso Flores**	**52.13**	**108**	P	**P**	**16 07 33.9**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=197,slow=6.3,SNR=10						
	comp=Z,4.6nm,0.8s						
PLCA	**Paso Flores**	**52.13**	**108**	P	**P**	**16 07 35.2**	**+1.3**
PLCA				IAmb	IAmb	16 07 36.1	
	comp=Z,11nm,1.1s						
H03S2	**Juan Fernandez**	**52.70**	**96**	T	T	17 04 34.8	
	baz=219,slow=74,SNR=22						
H03S1	**Juan Fernandez**	**52.70**	**96**	T	T	17 04 36.3	
	baz=219,slow=74,SNR=21						
H03S3	**Juan Fernandez**	**52.72**	**96**	T	T	17 04 35.5	
	baz=219,slow=74,SNR=25						
H03N3	**Juan Fernandez**	**52.98**	**96**	T	T	17 04 52.9	
	baz=222,slow=72,SNR=71						
H03N2	**Juan Fernandez**	**52.99**	**96**	T	T	17 04 51.5	
	baz=222,slow=72,SNR=95						
H03N1	**Juan Fernandez**	**53.00**	**96**	T	T	17 04 54.5	
	baz=222,slow=72,SNR=77						
MAW	**Mawson**	**53.58**	**195**	LR	LR	16 27 14.0	
	comp=Z,122nm,21.4s,baz=184,slow=32						
BO02	**Sierra Bellavi**	**56.41**	**103**	P	**P**	**16 08 05.6**	**+0.4**
BO02				IAmb	IAmb	16 08 10.2	
	comp=Z,9.4nm,1.0s						
TRQA	**Tornquist**	**58.55**	**112**	P	**P**	**16 08 20.1**	**-0.1**
TRQA				IAmb	IAmb	16 08 21.2	
	comp=Z,17nm,1.4s						
ASAR	**Alice Springs**	**62.60**	**268**	P	**P**	**16 08 47.4**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=137,slow=6.7,SNR=62						
	comp=Z,3.8nm,0.7s						
ASAR	**Alice Springs**	**62.60**	**268**	P	**P**	**16 08 47.9**	**-0.1**
AS31	**Alice Springs**	**62.60**	**268**	P	**P**	**16 08 48.4**	**+0.4**
H01W1	**Cape Leeuwin H**	**64.29**	**245**	T	T	17 19 02.4	
	baz=142,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**64.29**	**245**	T	T	17 19 07.3	
	baz=142,slow=76,SNR=15						
H01W3	**Cape Leeuwin H**	**64.31**	**245**	T	T	17 19 05.5	
	baz=142,slow=76,SNR=14						
WB2	**Warramunga Arr**	**65.33**	**271**	P	**P**	**16 09 05.9**	**-0.1**
WB2				IAmb	IAmb	16 09 14.9	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**65.34**	**271**	P	**P**	**16 09 05.6**	**-0.4**
	comp=Z,3.3nm,1.1s,baz=152,slow=5.7,SNR=11						
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**65.34**	**271**	P	**P**	**16 09 05.6**	**-0.4**
WB0	**Warramunga Arr**	**65.45**	**271**	P	**P**	**16 09 07.3**	**+0.6**
WB0				IAmb	IAmb	16 09 20.9	
	comp=Z,9.1nm,1.4s						
PB04	**IPOC Station P**	**66.47**	**95**	P	**P**	**16 09 13.9**	**+0.4**
LVC	**Limon Verde**	**66.94**	**96**	P	**P**	**16 09 17.9**	**+1.2**
PB01	**IPOC Station P**	**67.88**	**95**	P	**P**	**16 09 23.0**	**+0.6**
PB01				IAmb	IAmb	16 09 24.1	
	comp=Z,15nm,1.4s						
MNMC	**Minye Minye**	**69.36**	**94**	P	**P**	**16 09 32.8**	**+0.9**
PB16	**IPOC Station P**	**70.05**	**93**	P	**P**	**16 09 37.6**	**+1.1**
PB16				IAmb	IAmb	16 09 38.8	
	comp=Z,7.5nm,1.0s						
CPUP	**Villa Florida**	**70.19**	**108**	P	**P**	**16 09 36.1**	**-0.4**
	comp=Z,7.4nm,0.9s,baz=232,slow=7.2,SNR=8.0						
	comp=Z,7.4nm,0.9s						
CPUP	**Villa Florida**	**70.19**	**108**	P	**P**	**16 09 37.0**	**+0.4**
CPUP				IAmb	IAmb	16 09 37.4	
	comp=Z,10nm,0.9s						
NNA	**Ila**	**71.19**	**83**	LR	LR	16 33 47.0	
	comp=Z,26nm,18.4s,baz=198,slow=30						
PSA00	**Pilbara Seismi**	**71.97**	**258**	P	**P**	**16 09 47.4**	**0.0**
LPAZ	**La Paz**	**72.47**	**93**	P	**P**	**16 09 51.1**	**0.0**
	comp=Z,5.3nm,0.8s,baz=195,slow=2.8,SNR=17						
	comp=Z,5.3nm,0.8s						
LPAZ	**La Paz**	**72.47**	**93**	P	**P**	**16 09 51.8**	**+0.6**
LPAZ				IAmb	IAmb	16 09 53.6	
	comp=Z,10nm,1.1s						
SAML	**Samuel**	**81.22**	**93**	P	**P**	**16 10 39.8**	**0.0**
LPIG	**La Paz**	**87.37**	**36**	LR	LR	16 42 34.0	
	comp=Z,40nm,18.2s,baz=198,slow=30						
PFO	**Pinyon Flats O**	**94.49**	**28**	LR	LR	16 45 00.7	
	comp=Z,40nm,18.2s,baz=36,slow=30						
BOSA	**Boshof**	**95.00**	**176**	LR	LR	16 49 12.0	
	comp=Z,33nm,21.4s,baz=190,slow=32						
H10N3	**ASCENSION HYDR**	**106.36**	**134**	T	T	18 12 11.8	
	baz=203,slow=75						
H10N1	**ASCENSION HYDR**	**106.37**	**134**	T	T	18 12 07.1	
	baz=203,slow=75						
H10N2	**ASCENSION HYDR**	**106.38**	**134**	T	T	18 12 06.6	
	baz=203,slow=75						
PPLA	**Purkeypile**	**119.23**	**359**	PKPdf	**PKiKP**	**16 17 11.8**	**+0.1**
USA0B	**Ussuriysk Arra**	**119.48**	**306**	PKPdf	**PKiKP**	**16 17 12.8**	**+0.3**
TRF	**Thorofare Moun**	**119.78**	**0**	PKPdf	**PKiKP**	**16 17 13.4**	**+0.6**
BPAW	**Bear Paw Mtn.**	**120.43**	**360**	PKPdf	**PKiKP**	**16 17 14.4**	**+0.6**
WRH	**Wood River Hil**	**120.82**	**1**	PKPdf	**PKPdf**	**16 17 13.8**	**-0.6**
CCB	**Clear Creek Bu**	**121.00**	**1**	PKPdf	**PKiKP**	**16 17 15.7**	**+0.9**
ILAR	**Eielson Array**	**121.14**	**2**	PKP	**PKiKP**	**16 17 15.1**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=248,slow=1.8,SNR=31						
ILAR	**Eielson Array**	**121.14**	**2**	PKPdf	**PKiKP**	**16 17 15.8**	**+0.6**
MDM	**Murphy Dome**	**121.31**	**1**	PKPdf	**PKiKP**	**16 17 15.6**	**+0.1**
H21K	**Melozitna Rive**	**122.00**	**359**	PKPdf	**PKiKP**	**16 17 18.3**	**+1.4**
YKA	**Yellowknife Ar**	**122.08**	**19**	PKP	**PKiKP**	**16 17 16.7**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=190,slow=2.3,SNR=5.8						
IMAR	**Indian Mountai**	**122.34**	**359**	PKPdf	**PKiKP**	**16 17 18.4**	**+0.8**
KLR	**Kul'dur**	**123.48**	**310**	PKP	**PKPdf**	**16 17 19.2**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=138,slow=2.3,SNR=7.6						
RAYN	**Ar Rayn**	**144.85**	**206**		**PKPab**	**16 17 59.9**	**+0.2**
TARG	**Taragay, Kyrgy**	**145.78**	**265**	PKPdf	**PKPbc**	**16 18 02.5**	**-0.2**
MK31	**Makanchi Array**	**146.54**	**276**	PKPdf	**PKPbc**	**16 18 03.5**	**-0.8**
MKAR	**Makanchi Array**	**146.54**	**276**	PKPbc	**PKPbc**	**16 18 04.4**	**+0.1**
	comp=Z,13nm,0.8s,baz=117,slow=4.6,SNR=116						
MKAR	**Makanchi Array**	**146.54**	**276**	PKPdf	**PKPbc**	**16 18 03.7**	**-0.6**
MAKZ	**Makanchi**	**146.72**	**276**	PKPdf	**PKPbc**	**16 18 04.0**	**-0.9**
GAR	**Garm**	**147.92**	**254**	PKPbc	**PKPbc**	**16 18 09.0**	**+0.4**
AAK	**Ala-Archa**	**148.21**	**263**	PKPbc	**PKPbc**	**16 18 09.4**	**+0.2**
CHGR	**Chuyangaron**	**148.28**	**253**	PKPbc	**PKPbc**	**16 18 09.5**	**0.0**
ZAA0	**Zalesovo Array**	**149.02**	**289**	PKPbc	**PKPbc**	**16 18 10.3**	**-0.4**
ZALV	**Zalesovo Beam**	**149.02**	**289**	PKPbc	**PKPbc**	**16 18 09.4**	**-1.3**
	comp=Z,4.1nm,0.7s,baz=111,slow=3.8,SNR=23						
ZALV	**Zalesovo Beam**	**149.02**	**289**	PKPbc	**PKPbc**	**16 18 09.9**	**-0.8**
KURK	**Kurchatov**	**150.75**	**279**	PKPbc	**PKPbc**	**16 18 14.3**	**-0.7**
NRIK	**Noril'sk**	**151.96**	**320**	PKPbc	**PKiKP**	**16 18 17.6**	**0.0**
	comp=Z,2.8nm,0.5s,baz=120,slow=3.1,SNR=6.9						
ESDC	**Sonseca Array**	**152.43**	**114**	PKPbc	**PKPbc**	**16 18 19.5**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=277,slow=1.7,SNR=9.7						
GEYT	**Alibeck**	**153.25**	**238**	PKPbc	**PKPbc**	**16 18 20.8**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=202,slow=3.1,SNR=4.0						

ROM 18 16:11:40.0±0.1,42.˚474N±0.˚005×13.˚286E±0.˚005, h13km,ML2.1/6,3C-2D,Error ellipse: s-maj=0.5km s-min=0.3km az=13.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.03**	**165**	⇑P	Pg	16 11 42.7	+0.2
T1247				S	Sg	16 11 44.5	+0.3
T1247				AML	AML		
	comp=E,3575µm,0.1s						
T1247				AML	AML		
	comp=N,4600µm,0.1s						
T1247				AML	AML		
	comp=E,3575µm,0.1s						
T1247				AML	AML		
	comp=N,4598µm,0.1s						
RM33	**Pellescritta (**	**0.06**	**303**	⇓P	Pg	16 11 41.7	-1.1
RM33				AML	AML		
	comp=E,2260µm,0.2s						
RM33				AML	AML		
	comp=N,1990µm,0.2s						
RM33				AML	AML		
	comp=E,2260µm,1.8s						
CAMP	**Campotosto**	**0.11**	**56**	⇑P	Pg	16 11 43.6	+0.3
CAMP				S	Sg	16 11 45.9	+0.3
CAMP				AML	AML		
	comp=E,586µm,0.7s						
CAMP				AML	AML		
	comp=N,582µm,0.4s						
CAMP				AML	AML		
	comp=E,586µm,1.3s						
CAMP				AML	AML		
	comp=E,417µm,0.2s						
CAMP				AML	AML		
	comp=N,582µm,0.4s						
GIGS	**Gran Sasso**	**0.21**	**97**	⇓P	Pg	16 11 44.9	+0.2
GIGS				S	Sg	16 11 48.7	+0.8
GIGS				AML	AML		
	comp=E,201µm,3.1s						
GIGS				AML	AML		
	comp=N,167µm,2.5s						
GIGS				AML	AML		
	comp=E,84µm,0.2s						
GIGS				AML	AML		
	comp=N,126µm,0.1s						
LNSS	**Leonessa**	**0.22**	**305**	P	Pg	16 11 45.4	+0.5
LNSS				S	Sb	16 11 49.3	-0.6
LNSS				AML	AML		
	comp=N,858µm,1.5s						
LNSS				AML	AML		
	comp=N,858µm,0.5s						
LNSS				AML	AML		
	comp=E,1098µm,0.2s						
LNSS				AML	AML		
	comp=N,719µm,0.1s						
LNSS				AML	AML		
	comp=E,1095µm,0.2s						
FIAM	**Fiamignano**	**0.24**	**211**	⇑P	Pg	16 11 45.6	+0.3
FIAM				S	Sg	16 11 49.5	+0.7
FIAM				AML	AML		
	comp=N,223µm,2.3s						
FIAM				AML	AML		
	comp=E,385µm,0.6s						
FIAM				AML	AML		
	comp=E,328µm,0.2s						
FIAM				AML	AML		
	comp=N,194µm,0.2s						
FAGN	**Fagnano**	**0.30**	**133**	P	Pg	16 11 46.5	+0.2
FAGN				S	Sb	16 11 51.9	-0.2
FAGN				AML	AML		
	comp=E,624µm,0.3s						
FAGN				AML	AML		
	comp=N,486µm,1.5s						
FAGN				AML	AML		
	comp=N,826µm,0.2s						
FAGN				AML	AML		
	comp=E,1157µm,0.2s						
FAGN				AML	AML		
	comp=E,624µm,0.3s						
FAGN				AML	AML		
	comp=N,436µm,0.4s						
T1217	**Poggiodomo (PG**	**0.35**	**312**	P	Pg	16 11 46.9	-0.3
T1217				S	Sb	16 11 53.1	-0.6
T1217				AML	AML		
	comp=E,402µm,0.2s						
T1217				AML	AML		
	comp=N,433µm,0.2s						
T1217				AML	AML		
	comp=N,433µm,0.2s						
T1217				AML	AML		
	comp=E,465µm,0.2s						
T1217				AML	AML		
	comp=N,399µm,0.3s						
T1217				AML	AML		
	comp=E,402µm,0.2s						

*ROM **18** 16:12:02.7±0.1,42.˚497N±0.˚003×13.˚312E±0.˚004, h14km,ML2.8/18,Error ellipse: s-maj=0.4km s-min=0.1km az=237.0*

ISC 18 16:12:02.3±0.8,42.˚51N±0.˚02×13.˚29E±0.˚02,h15km±5km, n38,σ1.˚19/50,4C-7D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.06**	**269**	⇓P	**Pg**	**16 12 05.2**	**-0.2**
RM33				AML	AML		
	comp=N,12700µm,0.3s						
RM33				AML	AML		
	comp=E,16600µm,0.2s						
RM33				AML	AML		
	comp=E,16600µm,0.2s						
RM33				AML	AML		
	comp=N,12700µm,0.2s						
RM33				AML	AML		
	comp=N,12703µm,0.3s						
T1247	**Pizzolo (AQ)**	**0.07**	**175**	P	**Pg**	**16 12 05.8**	**+0.3**
T1247				S	**Sg**	**16 12 07.8**	**+0.3**
T1247				AML	AML		
	comp=E,34550µm,0.2s						
T1247				AML	AML		
	comp=N,34350µm,0.4s						
T1247				AML	AML		
	comp=E,34550µm,1.8s						
T1247				AML	AML		
	comp=N,34350µm,1.6s						
T1247				AML	AML		
	comp=E,34527µm,0.1s						
T1247				AML	AML		
	comp=N,25919µm,0.1s						
CAMP	**Campotosto**	**0.09**	**74**	P	**Pg**	**16 12 05.9**	**+0.1**
CAMP				S	**Sg**	**16 12 07.9**	**0.0**
CAMP				AML	AML		
	comp=E,5445µm,0.7s						
CAMP				AML	AML		
	comp=N,9980µm,1.4s						
CAMP				AML	AML		
	comp=N,9980µm,0.6s						
CAMP				AML	AML		
	comp=E,4682µm,0.3s						
CAMP				AML	AML		
	comp=N,9155µm,0.4s						
SMA1	**SAN MARTINO**	**0.12**	**15**	P	**Pb**	**16 12 06.7**	**+0.2**
SMA1				S	**Sb**	**16 12 09.5**	**+0.2**
SMA1				AML	AML		
	comp=E,53400µm,0.5s						
SMA1				AML	AML		
	comp=N,18250µm,1.5s						

SMA1 AML AML
comp=N,18200µm,1.5s
SMA1 AML AML
comp=E,53400µm,1.5s
SMA1 AML AML
comp=N,18040µm,0.5s
SMA1 AML AML
comp=E,42906µm,0.3s
T1218 Civita (PG) 0.21 321 P **Pb 16 12 07.9 0.0**
T1218 S **Sb 16 12 11.7 +0.2**
T1218 AML AML
comp=E,2935µm,0.5s
T1218 AML AML
comp=E,2700µm,0.4s
T1218 AML AML
comp=N,10650µm,0.3s
T1218 AML AML
comp=N,10600µm,0.3s
T1218 AML AML
comp=E,2940µm,0.5s
T1218 AML AML
comp=E,2695µm,0.4s
T1218 AML AML
comp=N,10650µm,1.7s
T1218 AML AML
comp=N,10600µm,1.7s
T1218 AML AML
comp=E,2566µm,0.2s
T1218 AML AML
comp=N,10612µm,0.3s
T1218 AML AML
comp=N,10674µm,0.3s
T1218 AML AML
comp=E,2536µm,0.2s
LNSS Leonessa 0.21 297 P **Pb 16 12 08.0 +0.1**
LNSS S **Sb 16 12 11.9 +0.3**
LNSS AML AML
comp=E,7620µm,0.6s
LNSS AML AML
comp=N,11900µm,0.2s
LNSS AML AML
comp=N,11926µm,0.2s
LNSS AML AML
comp=E,7172µm,0.2s
GIGS Gran Sasso 0.21 106 P **Pg 16 12 07.4 +0.1**
GIGS S **Sg 16 12 10.8 +0.2**
GIGS AML AML
comp=E,2110µm,0.7s
GIGS AML AML
comp=N,1495µm,0.8s
GIGS AML AML
comp=E,2110µm,1.3s
GIGS AML AML
comp=E,1827µm,0.1s
GIGS AML AML
comp=N,1420µm,0.2s
FIAM Fiamignano 0.27 208 ⇑P **Pb 16 12 08.9 -0.1**
FIAM S **Sb 16 12 13.1 -0.4**
FIAM AML AML
comp=N,2615µm,0.3s
FIAM AML AML
comp=E,3290µm,0.6s
FIAM AML AML
comp=E,3288µm,0.6s
FIAM AML AML
comp=N,2614µm,0.3s
FAGN Fagnano 0.33 138 P **Pg 16 12 09.3 +0.2**
FAGN S **Sb 16 12 14.5 -0.4**
FAGN AML AML
comp=N,3755µm,1.5s
FAGN AML AML
comp=E,5745µm,0.7s
FAGN AML AML
comp=E,5745µm,1.3s
FAGN AML AML
comp=N,3200µm,0.4s
FAGN AML AML
comp=E,6218µm,1.9s
FAGN AML AML
comp=E,6218µm,0.1s
FAGN AML AML
comp=N,3755µm,0.5s
FAGN AML AML
comp=E,5152µm,0.5s
FAGN AML AML
comp=N,3338µm,0.3s
T1217 Poggiodomo (PG 0.33 307 P **Pb 16 12 10.0 -0.1**
T1217 S **Sb 16 12 15.7 +0.4**
T1217 AML AML
comp=E,1273µm,0.5s
T1217 AML AML
comp=E,1355µm,0.2s
T1217 AML AML
comp=N,1770µm,0.5s
T1217 AML AML
comp=E,1273µm,0.5s
T1217 AML AML
comp=E,1355µm,0.2s
T1217 AML AML
comp=N,1775µm,0.5s
T1217 AML AML
comp=N,1650µm,0.5s
T1217 AML AML
comp=E,1355µm,1.8s
T1217 AML AML
comp=E,1267µm,0.2s
T1217 AML AML
comp=N,1414µm,0.2s
T1217 AML AML
comp=E,1139µm,0.1s
T1217 AML AML
comp=N,1405µm,0.2s
ARRO Arrone 0.39 280 P **Pb 16 12 11.1 +0.1**
ARRO S **Sb 16 12 17.4 +0.5**
ARRO AML AML
comp=E,2370µm,0.3s
ARRO AML AML
comp=N,2310µm,0.8s
ARRO AML AML
comp=E,2370µm,1.7s
ARRO AML AML
comp=N,2310µm,1.2s
ARRO AML AML
comp=N,2141µm,0.2s
ARRO AML AML
comp=E,2371µm,0.3s
PTQR Pietraquaria 0.49 170 P **Pg 16 12 12.2 0.0**
PTQR S **Sb 16 12 19.6 -0.2**
PTQR AML AML
comp=E,956µm,0.4s
PTQR AML AML
comp=N,576µm,0.4s
PTQR AML AML
comp=E,956µm,0.4s
PTQR AML AML
comp=N,576µm,0.4s
CESX Cesi 0.54 281 ⇓P **Pb 16 12 13.6 +0.2**
CESX S **Sb 16 12 21.8 +0.9**
CESX AML AML
comp=E,726µm,0.4s
CESX AML AML
comp=N,800µm,1.0s
CESX AML AML
comp=N,702µm,0.4s
CESX AML AML
comp=E,726µm,0.4s
FDMO Fiordimonte 0.55 344 P **Pb 16 12 13.7 0.0**
FDMO S **Sb 16 12 22.1 +0.8**
FDMO AML AML
comp=E,954µm,0.2s
FDMO AML AML
comp=N,891µm,1.2s
FDMO AML AML
comp=N,891µm,0.8s
FDMO AML AML
comp=N,859µm,0.2s
FDMO AML AML
comp=E,989µm,0.2s
TRTR Tortoreto Alta 0.55 57 P **Pb 16 12 13.9 +0.3**
TRTR S **Sb 16 12 21.6 +0.3**
TRTR AML AML
comp=N,2389µm,1.0s
CESI CESI - Serrava 0.57 330 P **Pg 16 12 14.0 +0.3**
CESI S **Sb 16 12 23.0 +1.0**
CESI AML AML
comp=N,1006µm,0.2s
CESI AML AML
comp=N,1006µm,1.8s
CESI AML AML
comp=E,797µm,1.0s
CESI AML AML
comp=E,650µm,0.3s
CESI AML AML
comp=N,1005µm,0.2s
CSP1 Cessapalombo 0.58 354 P **Pb 16 12 14.3 0.0**
CSP1 AML AML
comp=E,1292µm,1.5s
CSP1 AML AML
comp=E,1294µm,1.5s
CSP1 AML AML
comp=E,1294µm,0.5s
CSP1 AML AML
comp=N,1960µm,0.2s
CSP1 AML AML
comp=E,1195µm,0.2s
CSP1 AML AML
comp=N,1957µm,0.2s
CERT Cerreto 0.61 202 ⇑P **Pg 16 12 14.4 +0.1**
CERT AML AML
comp=E,960µm,0.4s
MOMA Monte Martano 0.61 299 ⇓P **Pg 16 12 14.6 +0.3**
MOMA AML AML
comp=E,1085µm,1.3s
MOMA AML AML
comp=N,1141µm,0.9s
MOMA AML AML
comp=E,1105µm,1.3s
MOMA AML AML
comp=N,1145µm,0.9s
MOMA AML AML
comp=N,1142µm,0.9s
MOMA AML AML
comp=E,1105µm,0.7s
MOMA AML AML
comp=N,1142µm,1.1s
MOMA AML AML
comp=N,1145µm,1.1s
MOMA AML AML
comp=E,1085µm,0.7s
MOMA AML AML
comp=N,1020µm,0.2s
MOMA AML AML
comp=E,990µm,0.4s
MOMA AML AML
comp=N,1037µm,0.2s
MOMA AML AML
comp=E,945µm,0.4s
T1220 Camerino, Fraz 0.62 346 P **Pg 16 12 14.8 +0.3**
T1220 AML AML
comp=E,4340µm,0.6s
T1220 AML AML
comp=N,5435µm,1.4s
T1220 AML AML
comp=E,4185µm,0.6s
T1220 AML AML
comp=N,5500µm,1.4s
T1220 AML AML
comp=E,4300µm,1.0s
T1220 AML AML
comp=N,5435µm,1.4s
T1220 AML AML
comp=E,4085µm,1.0s
T1220 AML AML
comp=N,5500µm,1.4s
T1220 AML AML
comp=N,5500µm,0.6s
T1220 AML AML
comp=N,5435µm,0.6s
T1220 AML AML
comp=E,4300µm,1.0s
T1220 AML AML
comp=E,4085µm,1.0s
T1220 AML AML
comp=N,4560µm,0.2s
T1220 AML AML
comp=E,4023µm,0.2s
T1220 AML AML
comp=N,4437µm,0.2s
T1220 AML AML
comp=E,4029µm,0.2s
SRES S.Oreste - Sor 0.64 245 P **Pb 16 12 15.8 +0.6**
SRES S **Sb 16 12 24.4 +0.4**
SRES AML AML
comp=E,235µm,1.2s
SRES AML AML
comp=N,326µm,1.6s
SRES AML AML
comp=N,326µm,0.4s
SRES AML AML
comp=E,202µm,0.5s
SRES AML AML
comp=N,317µm,0.5s
VVLD Villa Vallelon 0.68 159 ⇑P **Pb 16 12 16.6 +0.6**
VVLD AML AML
comp=N,572µm,0.4s
VVLD AML AML
comp=E,406µm,0.7s
VVLD AML AML
comp=N,572µm,0.4s
VVLD AML AML
comp=E,406µm,0.7s
ASSB Assisi San Ben 0.71 319 P **Pg 16 12 16.4 +0.2**
ASSB S **Sn 16 12 27.4 -1.1**
ASSB AML AML
comp=N,738µm,0.2s
ASSB AML AML
comp=E,615µm,0.2s
ASSB AML AML
comp=N,739µm,0.2s
ASSB AML AML
comp=E,615µm,0.2s
SNTG Esanatoglia 0.79 341 S Sb 16 12 18.1 -10
SNTG AML AML
comp=N,474µm,1.2s
SNTG AML AML
comp=E,526µm,0.6s
SNTG AML AML
comp=N,474µm,1.2s
SNTG AML AML
comp=E,492µm,0.2s
SNTG AML AML
comp=N,438µm,0.9s
SNTG AML AML
comp=N,372µm,0.3s
SNTG AML AML
comp=E,501µm,0.3s
SNTG AML AML
comp=E,491µm,0.2s
SNTG AML AML
comp=N,423µm,0.3s
EL6 Elcito 0.83 350 ⇓P Pb 16 12 10.4 -8.2
EL6 S Sb 16 12 18.6 -11
EL6 AML AML
comp=E,1077µm,0.2s
EL6 AML AML
comp=N,1045µm,0.7s
EL6 AML AML
comp=N,1050µm,0.7s
EL6 AML AML
comp=E,1076µm,0.2s
EL6 AML AML
comp=N,1033µm,0.2s
EL6 AML AML
comp=E,1076µm,0.2s
FOSV Fossato di Vic 0.88 334 S Sb 16 12 19.6 -11
FOSV AML AML
comp=N,512µm,0.7s
FOSV AML AML
comp=E,318µm,0.9s
FOSV AML AML
comp=N,513µm,0.7s
FOSV AML AML
comp=E,284µm,0.4s
FOSV AML AML
comp=N,477µm,0.5s
PP3 Marolino 0.90 15 P **Pb 16 12 15.3 -4.3**
GIUL Giuliano Di Ro 0.95 182 ⇓P **Pn 16 12 22.7 +1.5**
GIUL AML AML
comp=E,226µm,0.7s
GIUL AML AML
comp=N,230µm,0.9s
GIUL AML AML
comp=E,208µm,0.6s
GIUL AML AML
comp=N,230µm,0.9s
SSFR Montelago di S 1.00 338 S Sb 16 12 21.9 -12
SSFR AML AML
comp=E,976µm,0.3s
SSFR AML AML
comp=N,942µm,0.3s
SSFR AML AML
comp=E,931µm,0.2s
SSFR AML AML
comp=N,956µm,0.2s
ARVD Arcevia 1.02 346 S Sb 16 12 22.2 -13
ARVD AML AML
comp=E,340µm,0.7s
ARVD AML AML
comp=N,294µm,1.0s
ARVD AML AML
comp=N,228µm,0.4s
ARVD AML AML
comp=E,283µm,0.5s
MCIV Monte Civitell 1.22 283 ⇑P **Pn 16 12 21.9 -2.9**
MCIV S **Sb 16 12 39.0 -1.7**
PTRJ Pietraroja 1.47 141 ⇓P **Pn 16 12 26.6 -1.8**
PTRJ S **Sn 16 12 46.7 -0.7**
TREM Isole Tremiti 1.69 102 ⇓P **Pg 16 12 36.0 +1.2**
GRAM Graiana 3.07 311 S Sn 16 13 16.6 -10
OBKA Obir 4.10 12 *e*Pn **Pn 16 13 05.8 +1.3**
comp=E,2.1nm,0.6s
MYKA Terra Mystica 4.13 3 *i* Pn **Pn 16 13 03.8 -1.1**
comp=E,1.1nm,0.4s
ABTA Abfaltersbach 4.27 353 *i* Pn **Pn 16 13 11.2 +4.3**
comp=E,0.8nm,0.2s
FETA Feichten 4.87 339 *e*Pn Pn 16 13 20.8 +5.8
comp=E,0.4nm,0.3s

ROM 18 16:14:59.6±0.1, 42°520N±0'004×13°280E±0'005, h12km, ML2.5/7, 11C-4D, Error ellipse: s-maj=0.4km s-min=0.1km az=220.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**258**	P	Pg	16 15 02.2	+0.1
RM33				S	Sg	16 15 04.0	+0.1
RM33				AML	AML		
	comp=N,11650µm,0.3s						
RM33				AML	AML		
	comp=E,14900µm,0.3s						
T1247	**Pizzolo (AQ)**	**0.08**	**170**	⇓P	Pg	16 15 02.8	+0.5
T1247				S	Sg	16 15 04.8	+0.5
T1247				AML	AML		
	comp=E,5480µm,0.3s						
T1247				AML	AML		
	comp=N,4265µm,0.4s						
T1247				AML	AML		
	comp=N,4265µm,1.6s						
CAMP	**Campotosto**	**0.10**	**80**	P	Pg	16 15 02.8	+0.3
CAMP				S	Sg	16 15 05.0	+0.3
SMA1	**SAN MARTINO**	**0.12**	**20**	⇑P	Pg	16 15 03.1	+0.3
SMA1				S	Sg	16 15 05.6	+0.4
SMA1				AML	AML		
	comp=N,15700µm,0.3s						
SMA1				AML	AML		
	comp=E,20450µm,0.2s						
SMA1				AML	AML		
	comp=N,15700µm,1.7s						
SMA1				AML	AML		
	comp=E,20450µm,1.8s						
T1218	**Civita (PG)**	**0.19**	**321**	⇑P	Pg	16 15 04.1	+0.1
T1218				S	Sg	16 15 07.5	+0.5
T1218				AML	AML		
	comp=E,1545µm,1.1s						
T1218				AML	AML		
	comp=N,4290µm,0.2s						
T1218				AML	AML		
	comp=N,4260µm,0.3s						
T1218				AML	AML		
	comp=E,1785µm,0.3s						
T1218				AML	AML		
	comp=E,1540µm,1.1s						
LNSS	**Leonessa**	**0.20**	**295**	⇑P	Pg	16 15 04.3	+0.3
LNSS				S	Sg	16 15 07.8	+0.8
LNSS				AML	AML		
	comp=E,4260µm,0.2s						
LNSS				AML	AML		
	comp=N,6905µm,0.1s						
LNSS				AML	AML		
	comp=E,4260µm,1.8s						
GIGS	**Gran Sasso**	**0.23**	**108**	P	Pg	16 15 04.6	+0.1
GIGS				S	Sg	16 15 08.2	+0.4
FIAM	**Fiamignano**	**0.28**	**206**	⇑P	Pg	16 15 05.8	+0.4
FIAM				S	Sb	16 15 10.4	-0.8
FIAM				AML	AML		
	comp=E,1096µm,0.4s						
FIAM				AML	AML		
	comp=E,1096µm,0.4s						
FIAM				AML	AML		
	comp=N,428µm,0.7s						
T1217	**Poggiodomo (PG**	**0.32**	**307**	P	Pg	16 15 06.2	0.0
T1217				S	Sg	16 15 11.3	+0.8
T1217				AML	AML		
	comp=E,1084µm,1.4s						
T1217				AML	AML		
	comp=N,1124µm,1.3s						
T1217				AML	AML		
	comp=E,924µm,1.4s						
T1217				AML	AML		
	comp=N,1120µm,0.2s						
T1217				AML	AML		
	comp=E,1084µm,1.4s						
T1217				AML	AML		
	comp=N,1123µm,1.2s						
T1217				AML	AML		
	comp=E,924µm,1.4s						
T1217				AML	AML		
	comp=E,924µm,0.6s						
T1217				AML	AML		
	comp=N,1123µm,0.8s						
T1217				AML	AML		
	comp=E,1084µm,0.6s						
FAGN	**Fagnano**	**0.34**	**138**	P	Pb	16 15 07.4	-0.2
ARRO	**Arrone**	**0.39**	**279**	⇑P	Pg	16 15 07.4	+0.1
ARRO				S	Sb	16 15 13.6	-0.6
ARRO				AML	AML		
	comp=E,550µm,1.6s						
ARRO				AML	AML		
	comp=N,606µm,0.2s						
ARRO				AML	AML		
	comp=E,550µm,0.4s						
CESX	**Cesi**	**0.53**	**280**	⇑P	Pg	16 15 09.6	-0.3
CESX				S	Sg	16 15 17.5	+0.6
FDMO	**Fiordimonte**	**0.54**	**345**	⇑P	Pg	16 15 10.0	-0.1
FDMO				S	Sb	16 15 18.4	-0.3
FDMO				AML	AML		
	comp=E,233µm,1.3s						
FDMO				AML	AML		
	comp=N,270µm,0.9s						
CESI	**CESI - Serrava**	**0.56**	**330**	⇓P	Pg	16 15 10.3	-0.2
CESI				S	Sb	16 15 19.1	-0.2
CESI				AML	AML		
	comp=E,317µm,1.2s						
CESI				AML	AML		
	comp=E,317µm,0.8s						
CESI				AML	AML		
	comp=N,510µm,0.2s						
CSP1	**Cessapalombo**	**0.57**	**354**	⇑P	Pg	16 15 11.0	+0.1
CSP1				S	Sb	16 15 19.7	-0.1
CSP1				AML	AML		
	comp=E,222µm,0.2s						
CSP1				AML	AML		
	comp=N,267µm,0.3s						
MOMA	**Monte Martano**	**0.60**	**299**	⇑P	Pg	16 15 11.1	-0.1
MOMA				S	Sb	16 15 19.9	-0.5
MOMA				AML	AML		
	comp=E,780µm,0.4s						
MOMA				AML	AML		
	comp=N,564µm,1.3s						
MOMA				AML	AML		
	comp=N,540µm,1.3s						
MOMA				AML	AML		
	comp=N,540µm,0.7s						
MOMA				AML	AML		
	comp=N,564µm,0.7s						
MOMA				AML	AML		
	comp=E,805µm,0.4s						
ASSB	**Assisi San Ben**	**0.69**	**319**	⇓P	Pg	16 15 12.7	-0.4
ASSB				AML	AML		
	comp=E,259µm,1.4s						

ASSB				AML	AML			
	comp=N,270μm,0.3s							
ASSB				AML	AML			
	comp=E,254μm,0.3s							
ASSB				AML	AML			
	comp=N,269μm,0.3s							
SNTG	**Esanatoglia**	**0.78**	**341**	P	Pg	16 15 14.4	-0.2	
EL6	**Elcito**	**0.82**	**351**	⇓P	Pg	16 15 15.5	+0.1	
MGAB	**Montegabbione**	**0.95**	**295**	⇑P	Pg	16 15 17.7	-0.2	
PTRJ	**Pietraroja**	**1.48**	**141**	⇑P	Pg	16 15 27.8	-0.3	

ROM 18 16:15:37.7±0.1, 42°.495N±0°.004×13°.314E±0°.006, h14km, ML2.3/10, 2C-1D, Error ellipse: s-maj=0.5km s-min=0.2km az=242.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.05**	**192**	P	Pg	16 15 40.9	+0.4
T1247				S	Sg	16 15 43.0	+0.6
T1247				AML	AML		
	comp=N,13050μm,1.1s						
T1247				AML	AML		
	comp=E,13950μm,0.4s						
RM33	**Pellescritta (**	**0.07**	**281**	P	Pg	16 15 40.9	+0.1
RM33				S	Sg	16 15 42.8	0.0
RM33				AML	AML		
	comp=E,5050μm,1.2s						
RM33				AML	AML		
	comp=N,5800μm,0.2s						
RM33				AML	AML		
	comp=E,5195μm,1.2s						
RM33				AML	AML		
	comp=N,5560μm,0.2s						
RM33				AML	AML		
	comp=E,5050μm,1.2s						
RM33				AML	AML		
	comp=N,5560μm,1.8s						
RM33				AML	AML		
	comp=N,5800μm,1.8s						
RM33				AML	AML		
	comp=E,5200μm,1.2s						
CAMP	**Campotosto**	**0.08**	**60**	P	Pg	16 15 40.9	+0.1
CAMP				S	Sg	16 15 42.9	0.0
CAMP				AML	AML		
	comp=N,3115μm,1.4s						
CAMP				AML	AML		
	comp=N,3115μm,0.6s						
CAMP				AML	AML		
	comp=E,1915μm,0.6s						
SMA1	**SAN MARTINO**	**0.14**	**7**	P	Pg	16 15 41.6	+0.2
SMA1				S	Sg	16 15 44.5	+0.5
GIGS	**Gran Sasso**	**0.19**	**103**	⇑P	Pg	16 15 42.6	+0.4
GIGS				S	Sg	16 15 45.8	+0.5
GIGS				AML	AML		
	comp=E,316μm,1.3s						
GIGS				AML	AML		
	comp=E,316μm,0.7s						
GIGS				AML	AML		
	comp=N,315μm,0.6s						
T1218	**Civita (PG)**	**0.23**	**320**	P	Pg	16 15 43.0	+0.1
T1218				S	Sg	16 15 46.8	+0.5
T1218				AML	AML		
	comp=E,860μm,0.9s						
T1218				AML	AML		
	comp=N,1855μm,0.2s						
T1218				AML	AML		
	comp=E,888μm,0.8s						
T1218				AML	AML		
	comp=N,1895μm,0.2s						
T1218				AML	AML		
	comp=E,860μm,0.9s						
T1218				AML	AML		
	comp=N,1895μm,0.2s						
T1218				AML	AML		
	comp=E,860μm,1.1s						
T1218				AML	AML		
	comp=E,888μm,0.8s						
T1218				AML	AML		
	comp=N,1895μm,1.8s						
T1218				AML	AML		
	comp=N,1855μm,1.8s						
LNSS	**Leonessa**	**0.23**	**298**	P	Pg	16 15 43.0	+0.2
LNSS				S	Sg	16 15 46.9	+0.6
LNSS				AML	AML		
	comp=E,1685μm,0.1s						
LNSS				AML	AML		
	comp=N,1910μm,0.9s						
FIAM	**Fiamignano**	**0.27**	**213**	P	Pb	16 15 43.9	-0.4
FIAM				S	Sb	16 15 48.3	-0.5
FIAM				AML	AML		
	comp=N,1405μm,1.3s						
FIAM				AML	AML		
	comp=E,1065μm,0.5s						
FIAM				AML	AML		
	comp=N,1405μm,0.7s						
T1217	**Poggiodomo (PG**	**0.36**	**308**	P	Pg	16 15 45.1	+0.1
T1217				S	Sg	16 15 50.5	+0.5
T1217				AML	AML		
	comp=N,422μm,1.2s						
T1217				AML	AML		
	comp=E,408μm,0.5s						
T1217				AML	AML		
	comp=N,332μm,0.2s						
ARRO	**Arrone**	**0.41**	**282**	P	Pg	16 15 46.1	+0.1
ARRO				S	Sb	16 15 52.4	-0.4
ARRO				AML	AML		
	comp=N,300μm,1.3s						
ARRO				AML	AML		
	comp=E,322μm,0.3s						
ARRO				AML	AML		
	comp=E,322μm,1.7s						
FDMO	**Fiordimonte**	**0.57**	**343**	P	Pg	16 15 48.6	-0.2
FDMO				S	Sb	16 15 57.0	-0.3
FDMO				AML	AML		
	comp=E,314μm,0.4s						
FDMO				AML	AML		
	comp=E,314μm,1.6s						
FDMO				AML	AML		
	comp=N,328μm,1.1s						
CESI	**CESI - Serrava**	**0.59**	**330**	P	Pg	16 15 48.7	-0.6
CESI				S	Sb	16 15 58.1	0.0
CESI				AML	AML		
	comp=E,272μm,0.3s						
CESI				AML	AML		
	comp=N,506μm,0.3s						
CESI				AML	AML		
	comp=N,506μm,1.7s						
CERT	**Cerreto**	**0.60**	**204**	⇑P	Pg	16 15 49.5	+0.1
CSP1	**Cessapalombo**	**0.60**	**352**	P	Pg	16 15 49.2	-0.3
CSP1				S	Sb	16 15 58.4	-0.1
CSP1				AML	AML		
	comp=N,331μm,0.3s						
CSP1				AML	AML		
	comp=E,212μm,0.2s						
T1220	**Camerino, Fraz**	**0.64**	**345**	P	Pg	16 15 49.8	-0.3
T1220				S	Sb	16 15 59.5	+0.2
T1220				AML	AML		
	comp=N,913μm,0.2s						
T1220				AML	AML		
	comp=N,907μm,0.2s						
T1220				AML	AML		
	comp=E,856μm,0.4s						
T1220				AML	AML		
	comp=E,876μm,0.3s						
SNTG	**Esanatoglia**	**0.81**	**340**	⇓P	Pg	16 15 53.3	-0.1
SNTG				S	Sb	16 16 04.8	+0.5
EL6	**Elcito**	**0.85**	**349**	P	Pg	16 15 53.6	-0.5
EL6				S	Sg	16 16 05.2	-0.2
PTRJ	**Pietraroja**	**1.45**	**141**	P	Pn	16 16 02.7	-0.8
PTRJ				AML	AML		
	comp=E,252μm,0.6s						
PTRJ				AML	AML		
	comp=N,514μm,0.8s						
PTRJ				AML	AML		
	comp=E,252μm,1.4s						

ROM 18 16:16:14.4±0.1, 42°.589N±0°.004×13°.318E±0°.006, h9km, ML2.1/12, 1C-3D, Error ellipse: s-maj=0.6km s-min=0.4km az=201.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.09**	**128**	P	Pg	16 16 17.3	+0.6
CAMP				S	Sg	16 16 19.1	+0.6
CAMP				AML	AML		
	comp=E,1220μm,0.9s						
CAMP				AML	AML		
	comp=N,1585μm,0.4s						
CAMP				AML	AML		
	comp=E,1144μm,0.4s						
CAMP				AML	AML		
	comp=N,1584μm,0.4s						
RM33	**Pellescritta (**	**0.11**	**224**	P	Pg	16 16 17.6	+0.6
RM33				S	Sg	16 16 19.8	+0.9
RM33				AML	AML		
	comp=E,1995μm,1.1s						
RM33				AML	AML		
	comp=N,2475μm,0.4s						
RM33				AML	AML		
	comp=N,1743μm,0.1s						
RM33				AML	AML		
	comp=N,1698μm,0.1s						
RM33				AML	AML		
	comp=E,1440μm,0.2s						
RM33				AML	AML		
	comp=E,1428μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.15**	**186**	P	Pg	16 16 18.0	+0.4
T1247				S	Sg	16 16 21.0	+1.2
T1247				AML	AML		
	comp=E,1830μm,0.4s						
T1247				AML	AML		
	comp=N,1860μm,0.3s						
T1247				AML	AML		
	comp=N,1860μm,1.7s						
T1247				AML	AML		
	comp=E,1439μm,0.1s						
T1247				AML	AML		
	comp=N,1715μm,0.3s						
T1218	**Civita (PG)**	**0.17**	**299**	P	Pg	16 16 18.5	+0.5
T1218				S	Sg	16 16 21.4	+0.9
T1218				AML	AML		
	comp=E,864μm,0.2s						
T1218				AML	AML		
	comp=N,1310μm,0.2s						
T1218				AML	AML		
	comp=E,861μm,0.2s						
T1218				AML	AML		
	comp=N,1288μm,0.2s						
T1218				AML	AML		
	comp=N,1315μm,0.2s						
T1218				AML	AML		
	comp=E,861μm,0.2s						
T1218				AML	AML		
	comp=E,863μm,0.2s						
T1218				AML	AML		
	comp=N,1287μm,0.2s						
T1218				AML	AML		
	comp=N,1312μm,0.2s						
LNSS	**Leonessa**	**0.20**	**274**	P	Pg	16 16 19.2	+0.5
LNSS				S	Sg	16 16 22.6	+1.0
LNSS				AML	AML		
	comp=E,927μm,0.4s						
LNSS				AML	AML		
	comp=N,1072μm,0.7s						
LNSS				AML	AML		
	comp=E,927μm,1.6s						
LNSS				AML	AML		
	comp=E,663μm,0.2s						
LNSS				AML	AML		
	comp=N,1072μm,1.3s						
LNSS				AML	AML		
	comp=N,926μm,0.1s						
GIGS	**Gran Sasso**	**0.23**	**127**	P	Pg	16 16 19.5	+0.4
GIGS				S	Sg	16 16 23.5	+1.2
GIGS				AML	AML		
	comp=E,121μm,3.4s						
GIGS				AML	AML		
	comp=N,120μm,2.1s						
GIGS				AML	AML		
	comp=E,121μm,0.7s						
GIGS				AML	AML		
	comp=N,120μm,0.1s						
GIGS				AML	AML		
	comp=E,105μm,0.3s						
T1217	**Poggiodomo (PG**	**0.31**	**293**	P	Pg	16 16 20.8	+0.2
T1217				S	Sb	16 16 26.1	-1.3
T1217				AML	AML		
	comp=E,477μm,0.4s						
T1217				AML	AML		
	comp=N,340μm,1.5s						
T1217				AML	AML		
	comp=E,478μm,0.4s						
T1217				AML	AML		
	comp=E,505μm,0.4s						
T1217				AML	AML		
	comp=N,513μm,4.8s						
T1217				AML	AML		
	comp=N,513μm,0.8s						
T1217				AML	AML		
	comp=E,457μm,0.1s						
T1217				AML	AML		
	comp=E,505μm,1.6s						
T1217				AML	AML		
	comp=N,334μm,0.1s						
T1217				AML	AML		
	comp=N,340μm,1.5s						
T1217				AML	AML		
	comp=E,478μm,1.6s						
T1217				AML	AML		
	comp=N,320μm,0.3s						
FIAM	**Fiamignano**	**0.35**	**205**	P	Pb	16 16 22.1	-0.8
ARRO	**Arrone**	**0.41**	**269**	P	Pg	16 16 23.0	+0.7
ARRO				AML	AML		
	comp=N,152μm,0.2s						
ARRO				AML	AML		
	comp=E,151μm,0.2s						
FDMO	**Fiordimonte**	**0.48**	**339**	⇓P	Pg	16 16 24.2	+0.5
FDMO				S	Sb	16 16 31.8	-0.4
FDMO				AML	AML		
	comp=E,152μm,2.1s						
FDMO				AML	AML		
	comp=N,166μm,0.2s						
FDMO				AML	AML		
	comp=E,152μm,0.1s						
CSP1	**Cessapalombo**	**0.51**	**351**	P	Pg	16 16 24.6	+0.3
CSP1				S	Sb	16 16 32.7	-0.5
CSP1				AML	AML		
	comp=E,252μm,2.2s						
CSP1				AML	AML		
	comp=N,200μm,0.3s						
CSP1				AML	AML		
	comp=E,252μm,0.2s						
CESI	**CESI - Serrava**	**0.52**	**324**	P	Pg	16 16 24.8	+0.4
CESI				S	Sb	16 16 32.9	-0.4
CESI				AML	AML		
	comp=E,178μm,2.4s						
CESI				AML	AML		
	comp=N,232μm,2.0s						
CESI				AML	AML		
	comp=N,232μm,0.0s						
CESI				AML	AML		
	comp=N,170μm,0.1s						
CESI				AML	AML		
	comp=E,178μm,1.6s						
CESI				AML	AML		
	comp=E,106μm,0.5s						
T1220	**Camerino, Fraz**	**0.55**	**342**	⇑P	Pg	16 16 25.4	+0.4
T1220				AML	AML		
	comp=N,441μm,0.3s						
T1220				AML	AML		
	comp=N,398μm,0.3s						
MOMA	**Monte Martano**	**0.59**	**292**	⇓P	Pg	16 16 26.1	+0.2
MOMA				S	Sb	16 16 35.5	0.0
MOMA				AML	AML		
	comp=E,317μm,2.4s						
MOMA				AML	AML		
	comp=E,301μm,3.9s						
MOMA				AML	AML		
	comp=N,324μm,8.0s						
MOMA				AML	AML		
	comp=N,274μm,2.3s						
MOMA				AML	AML		
	comp=N,230μm,0.1s						
MOMA				AML	AML		
	comp=N,274μm,0.3s						
MOMA				AML	AML		
	comp=E,317μm,0.4s						
MOMA				AML	AML		
	comp=E,280μm,0.2s						
MOMA				AML	AML		
	comp=E,301μm,0.1s						
MOMA				AML	AML		
	comp=N,324μm,0.0s						
ASSB	**Assisi San Ben**	**0.66**	**313**	⇓P	Pb	16 16 27.8	-0.4
ASSB				S	Sb	16 16 37.2	-0.4
ASSB				AML	AML		
	comp=E,218μm,1.6s						
ASSB				AML	AML		
	comp=N,202μm,1.0s						
ASSB				AML	AML		
	comp=E,113μm,0.3s						
ASSB				AML	AML		
	comp=N,202μm,1.0s						
ASSB				AML	AML		
	comp=N,193μm,0.2s						
ASSB				AML	AML		
	comp=E,218μm,0.4s						

IDC 18 16:21:22.8±2.5, 3°.93S×128°.53E, h0km, mb2.9/2, mbtmp3.0/3, ML2.6/1, MS3.1/2, Error ellipse: s-maj=182.5km s-min=30.9km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.89**	**161**	Pn	P	16 25 21.9	-1.0
	baz=343,slow=13,SNR=1.6						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**20.29**	**166**	P	P	16 25 59.9	-0.5
	0.3nm,0.5s,baz=346,slow=10,SNR=8.2						
	0.3nm,0.5s						
NWAO	**Narrogin (SRO)**	**30.72**	**199**	LR	LR	16 39 29.1	
	comp=Z,76nm,20.7s,slow=35						
KSRS	**Korea Array**	**41.18**	**359**	LR	LR	16 46 02.8	
	comp=Z,9.9nm,20.2s,baz=115,slow=36						
MKAR	**Makanchi Array**	**64.88**	**327**	P	P	16 32 03.9	0.0
	0.1nm,0.4s,baz=145,slow=8.0,SNR=1.5						
	0.1nm,0.4s						

ROM 18 16:24:32.3±0.1, 42°.721N±0°.003×13°.200E±0°.005, h11km, ML2.3/14, 4C-2D, Error ellipse: s-maj=0.4km s-min=0.3km az=227.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.08**	**231**	P	Pg	16 24 35.2	+0.3
T1218				S	Sg	16 24 37.2	+0.5
SMA1	**SAN MARTINO**	**0.14**	**132**	P	Pg	16 24 35.8	+0.2
SMA1				S	Sg	16 24 38.6	+0.7
LNSS	**Leonessa**	**0.17**	**225**	P	Pg	16 24 36.7	+0.7
LNSS				S	Sg	16 24 39.7	+1.1
LNSS				AML	AML		
	comp=N,1945μm,0.2s						
LNSS				AML	AML		
	comp=E,2265μm,1.4s						
LNSS				AML	AML		
	comp=E,2230μm,0.2s						
LNSS				AML	AML		
	comp=N,1945μm,0.2s						
T1217	**Poggiodomo (PG**	**0.20**	**268**	⇑P	Pg	16 24 37.1	+0.5
T1217				S	Sg	16 24 40.2	+0.7
T1217				AML	AML		
	comp=E,1980μm,0.2s						
T1217				AML	AML		
	comp=N,2025μm,0.2s						
T1217				AML	AML		
	comp=E,1930μm,0.2s						
T1217				AML	AML		
	comp=N,2110μm,0.2s						
T1217				AML	AML		
	comp=N,2025μm,0.2s						
T1217				AML	AML		
	comp=N,2110μm,0.2s						
T1217				AML	AML		
	comp=E,1980μm,0.2s						
T1217				AML	AML		
	comp=N,2025μm,0.2s						
T1217				AML	AML		
	comp=N,2109μm,0.2s						
T1217				AML	AML		
	comp=E,1979μm,0.2s						
T1217				AML	AML		
	comp=E,1931μm,0.2s						
RM33	**Pellescritta (**	**0.21**	**177**	AML	AML		
	comp=N,1300μm,0.3s						
RM33				AML	AML		
	comp=N,1300μm,0.3s						
RM33				AML	AML		
	comp=E,1545μm,0.3s						
RM33				AML	AML		
	comp=N,245μm,1.0s						
RM33				AML	AML		
	comp=E,1540μm,0.3s						
CAMP	**Campotosto**	**0.24**	**140**	P	Pg	16 24 37.8	+0.5
CAMP				S	Sg	16 24 41.8	+1.1
FEMA	**Monte Fema**	**0.27**	**335**	P	Pg	16 24 38.4	+0.6
FEMA				S	Sg	16 24 42.4	+0.9
FDMO	**Fiordimonte**	**0.33**	**345**	P	Pg	16 24 39.1	+0.2
FDMO				S	Sb	16 24 44.5	-1.0
FDMO				AML	AML		
	comp=E,337μm,1.5s						
FDMO				AML	AML		
	comp=N,359μm,0.5s						
FDMO				AML	AML		
	comp=E,337μm,0.5s						
FDMO				AML	AML		
	comp=E,328μm,0.2s						
FDMO				AML	AML		
	comp=N,315μm,0.4s						
ARRO	**Arrone**	**0.35**	**246**	P	Pb	16 24 40.1	-0.5
ARRO				S	Sg	16 24 44.8	+0.9
ARRO				AML	AML		
	comp=E,266μm,0.2s						
ARRO				AML	AML		
	comp=N,218μm,1.4s						
ARRO				AML	AML		
	comp=N,218μm,0.6s						
ARRO				AML	AML		
	comp=E,266μm,0.2s						
ARRO				AML	AML		
	comp=N,187μm,0.2s						
GUMA	**Gualdo di Mace**	**0.36**	**16**	P	Pb	16 24 40.0	-0.6
GUMA				S	Sb	16 24 46.2	-0.2
GUMA				AML	AML		
	comp=E,848μm,1.5s						
GUMA				AML	AML		
	comp=E,799μm,0.4s						
GUMA				AML	AML		
	comp=N,724μm,0.5s						
GUMA				AML	AML		
	comp=N,846μm,0.6s						
GUMA				AML	AML		
	comp=E,848μm,0.5s						
GUMA				AML	AML		
	comp=E,799μm,0.4s						
GUMA				AML	AML		
	comp=N,684μm,0.3s						
GUMA				AML	AML		
	comp=N,693μm,0.4s						
GUMA				AML	AML		
	comp=E,634μm,0.2s						
CESI	**CESI - Serrava**	**0.36**	**323**	P	Pg	16 24 39.7	+0.3
CESI				S	Sg	16 24 45.2	+0.9
CESI				AML	AML		
	comp=N,1206μm,0.4s						
CESI				AML	AML		
	comp=E,486μm,1.4s						
CESI				AML	AML		
	comp=E,388μm,0.1s						
CESI				AML	AML		
	comp=N,1131μm,0.3s						
CSP1	**Cessapalombo**	**0.37**	**1**	P	Pg	16 24 40.0	+0.3
CSP1				S	Sb	16 24 46.2	-0.6
CSP1				AML	AML		
	comp=E,447μm,1.3s						
CSP1				AML	AML		
	comp=N,470μm,0.2s						
CSP1				AML	AML		
	comp=E,445μm,1.3s						
CSP1				AML	AML		
	comp=N,470μm,0.2s						
CSP1				AML	AML		
	comp=E,445μm,0.7s						
CSP1				AML	AML		
	comp=E,394μm,0.2s						

GIGS	**Gran Sasso**	**0.38**	**135**	P	Pg	16 24 40.0	+0.1	
GIGS				S	Sg	16 24 46.0	+1.0	
GIGS				AML	AML			
	comp=E,110µm,0.3s							
GIGS				AML	AML			
	comp=N,72µm,0.5s							
T1220	**Camerino, Fraz**	**0.40**	**348**	P	Pg	16 24 40.4	+0.3	
T1220				S	Sb	16 24 46.6	-0.9	
T1220				AML	AML			
	comp=E,1046µm,0.3s							
T1220				AML	AML			
	comp=E,1040µm,0.3s							
T1220				AML	AML			
	comp=N,1065µm,0.2s							
T1220				AML	AML			
	comp=N,1056µm,0.2s							
T1220				AML	AML			
	comp=E,1042µm,0.3s							
T1220				AML	AML			
	comp=E,1040µm,0.3s							
T1220				AML	AML			
	comp=N,1065µm,0.2s							
T1220				AML	AML			
	comp=E,1044µm,0.3s							
T1220				AML	AML			
	comp=N,1058µm,0.2s							
FIAM	**Fiamignano**	**0.46**	**188**	P	Pg	16 24 41.8	+0.6	
FIAM				S	Sb	16 24 48.7	-0.5	
FIAM				AML	AML			
	comp=E,220µm,1.4s							
FIAM				AML	AML			
	comp=N,144µm,1.2s							
FIAM				AML	AML			
	comp=N,122µm,0.5s							
FIAM				AML	AML			
	comp=E,149µm,0.4s							
MOMA	**Monte Martano**	**0.47**	**280**	⇑P	Pg	16 24 42.0	+0.5	
MOMA				AML	AML			
	comp=E,765µm,0.7s							
MOMA				AML	AML			
	comp=E,786µm,0.7s							
MOMA				AML	AML			
	comp=E,764µm,0.7s							
MOMA				AML	AML			
	comp=N,557µm,1.2s							
MOMA				AML	AML			
	comp=N,544µm,0.4s							
MOMA				AML	AML			
	comp=E,786µm,1.3s							
MOMA				AML	AML			
	comp=E,764µm,1.3s							
MOMA				AML	AML			
	comp=N,494µm,0.1s							
MOMA				AML	AML			
	comp=E,741µm,0.2s							
MOMA				AML	AML			
	comp=N,485µm,0.2s							
MOMA				AML	AML			
	comp=E,704µm,0.2s							
ASSB	**Assisi San Ben**	**0.51**	**309**	P	Pg	16 24 42.3	0.0	
ASSB				S	Sg	16 24 49.9	+0.9	
ASSB				AML	AML			
	comp=E,334µm,1.5s							
ASSB				AML	AML			
	comp=N,334µm,1.6s							
ASSB				AML	AML			
	comp=E,334µm,0.5s							
ASSB				AML	AML			
	comp=N,334µm,0.4s							
ASSB				AML	AML			
	comp=N,300µm,0.1s							
ASSB				AML	AML			
	comp=E,283µm,0.1s							
SNTG	**Esanatoglia**	**0.57**	**340**	⇓P	Pg	16 24 43.4	+0.1	
SNTG				AML	AML			
	comp=N,108µm,0.2s							
SNTG				AML	AML			
	comp=E,90µm,0.1s							
EL6	**Elcito**	**0.61**	**353**	⇓P	Pg	16 24 44.3	+0.1	
EL6				AML	AML			
	comp=E,244µm,0.2s							
FOSV	**Fossato di Vic**	**0.66**	**331**	⇑P	Pg	16 24 45.1	+0.1	
FOSV				S	Sb	16 24 54.9	-0.2	
FOSV				AML	AML			
	comp=E,152µm,1.6s							
FOSV				AML	AML			
	comp=N,146µm,1.3s							
FOSV				AML	AML			
	comp=N,146µm,0.7s							
FOSV				AML	AML			
	comp=E,152µm,0.4s							
FOSV				AML	AML			
	comp=E,92µm,0.2s							
FOSV				AML	AML			
	comp=N,92µm,0.3s							
ARVD	**Arcevia**	**0.80**	**346**	S	Sn	16 25 00.4	-1.1	
MGAB	**Montegabbione**	**0.82**	**284**	⇑P	Pn	16 24 50.6	+0.8	
BADI	**Badiali**	**1.05**	**319**	P	Pg	16 24 52.5	0.0	
PTRJ	**Pietraroja**	**1.68**	**143**	P	Pn	16 25 02.3	+0.6	
PTRJ				AML	AML			
	comp=N,552µm,0.4s							
PTRJ				AML	AML			
	comp=N,552µm,1.6s							
PTRJ				AML	AML			
	comp=E,371µm,0.5s							
TREM	**Isole Tremiti**	**1.81**	**108**	S	Sb	16 25 28.6	+0.4	

*ROM **18** 16:25:27.1±0.1,42°.518N±0°.003×13°.346E±0°.005, h10km,ML2.7/17,Error ellipse: s-maj=0.4km s-min=0.3km az=64.0*

ISC 18 16:25:27.2±0.8,**42°.52N**±0°.02×**13°.35E**±0°.02,**h11**km±5km, **n37**,σ0**s89**/55,**7C-5D**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.05**	**67**	P	**Pg**	**16 25 29.5**	**-0.1**
CAMP				S	**Sg**	**16 25 30.8**	**-0.4**
CAMP				AML	AML		
	comp=N,20000µm,0.3s						
CAMP				AML	AML		
	comp=E,14400µm,0.3s						
CAMP				AML	AML		
	comp=E,14427µm,0.3s						
CAMP				AML	AML		
	comp=N,19964µm,0.3s						
T1247	**Pizzolo (AQ)**	**0.08**	**205**	P	**Pg**	**16 25 30.1**	**+0.3**
T1247				S	**Sg**	**16 25 32.0**	**+0.3**
T1247				AML	AML		
	comp=N,30200µm,0.3s						
T1247				AML	AML		
	comp=E,35950µm,0.4s						
T1247				AML	AML		
	comp=N,30114µm,0.1s						
T1247				AML	AML		
	comp=E,35940µm,0.5s						
RM33	**Pellescritta (**	**0.10**	**266**	P	**Pg**	**16 25 30.2**	**+0.2**
RM33				S	**Sg**	**16 25 32.2**	**+0.2**
RM33				AML	AML		
	comp=E,40950µm,0.3s						
RM33				AML	AML		
	comp=E,40950µm,0.3s						
RM33				AML	AML		
	comp=N,21850µm,0.7s						
RM33				AML	AML		
	comp=N,21700µm,0.7s						
RM33				AML	AML		
	comp=N,21850µm,1.3s						
RM33				AML	AML		
	comp=N,21700µm,1.3s						
RM33				AML	AML		
	comp=E,40100µm,0.3s						
RM33				AML	AML		
	comp=N,21025µm,0.3s						
RM33				AML	AML		
	comp=E,40963µm,0.3s						
RM33				AML	AML		
	comp=E,40105µm,0.3s						
RM33				AML	AML		
	comp=N,20878µm,0.3s						
SMA1	**SAN MARTINO**	**0.11**	**356**	P	**Pg**	**16 25 30.3**	**+0.1**
SMA1				S	**Sg**	**16 25 33.0**	**+0.5**
SMA1				AML	AML		
	comp=E,16000µm,0.7s						
SMA1				AML	AML		
	comp=N,9250µm,0.5s						
SMA1				AML	AML		
	comp=N,9249µm,0.5s						
SMA1				AML	AML		
	comp=E,14299µm,0.5s						
GIGS	**Gran Sasso**	**0.18**	**112**	P	**Pg**	**16 25 31.4**	**+0.2**
GIGS				S	**Sg**	**16 25 34.1**	**+0.2**
GIGS				AML	AML		
	comp=E,3055µm,0.2s						
GIGS				AML	AML		
	comp=N,2080µm,0.4s						
GIGS				AML	AML		
	comp=E,3057µm,0.2s						
GIGS				AML	AML		
	comp=N,1592µm,0.2s						
T1218	**Civita (PG)**	**0.23**	**312**	P	**Pg**	**16 25 32.2**	**+0.1**
T1218				S	**Sg**	**16 25 35.8**	**+0.4**
T1218				AML	AML		
	comp=E,7185µm,0.3s						
T1218				AML	AML		
	comp=N,9545µm,0.3s						
T1218				AML	AML		
	comp=N,9565µm,0.3s						
T1218				AML	AML		
	comp=N,9570µm,0.3s						
T1218				AML	AML		
	comp=E,6735µm,0.3s						
T1218				AML	AML		
	comp=N,9560µm,0.3s						
T1218				AML	AML		
	comp=E,7182µm,0.3s						
T1218				AML	AML		
	comp=N,9562µm,0.3s						
T1218				AML	AML		
	comp=E,6734µm,0.3s						
LNSS	**Leonessa**	**0.24**	**291**	⇑P	**Pg**	**16 25 32.7**	**+0.4**
LNSS				S	**Sg**	**16 25 36.6**	**+0.8**
LNSS				AML	AML		
	comp=E,9405µm,0.4s						
LNSS				AML	AML		
	comp=N,8210µm,0.6s						
LNSS				AML	AML		
	comp=N,8103µm,0.2s						
LNSS				AML	AML		
	comp=E,9390µm,0.4s						
FIAM	**Fiamignano**	**0.30**	**214**	P	**Pg**	**16 25 33.8**	**+0.4**
FIAM				S	**Sb**	**16 25 38.8**	**-0.8**
FIAM				AML	AML		
	comp=E,1795µm,1.2s						
FIAM				AML	AML		
	comp=N,1525µm,0.6s						
FIAM				AML	AML		
	comp=N,1525µm,1.4s						
FIAM				AML	AML		
	comp=E,1686µm,0.5s						
FIAM				AML	AML		
	comp=N,1523µm,0.6s						
FAGN	**Fagnano**	**0.31**	**145**	P	**Pg**	**16 25 33.7**	**+0.3**
FAGN				S	**Sb**	**16 25 39.4**	**-0.3**
FAGN				AML	AML		
	comp=E,8995µm,0.4s						
FAGN				AML	AML		
	comp=N,6500µm,0.7s						
FAGN				AML	AML		
	comp=E,8995µm,1.6s						
FAGN				AML	AML		
	comp=E,8999µm,0.4s						
FAGN				AML	AML		
	comp=N,6095µm,0.3s						
T1217	**Poggiodomo (PG**	**0.36**	**303**	⇓P	**Pg**	**16 25 34.9**	**+0.4**
T1217				S	**Sg**	**16 25 40.2**	**+0.8**
T1217				AML	AML		
	comp=E,1965µm,0.6s						
T1217				AML	AML		
	comp=N,1730µm,0.4s						
T1217				AML	AML		
	comp=E,1800µm,0.6s						
T1217				AML	AML		
	comp=N,1735µm,0.4s						
T1217				AML	AML		
	comp=N,1730µm,0.4s						
T1217				AML	AML		
	comp=E,1800µm,0.6s						
T1217				AML	AML		
	comp=N,1735µm,0.4s						
T1217				AML	AML		
	comp=E,1965µm,0.6s						
T1217				AML	AML		
	comp=N,1732µm,0.4s						
T1217				AML	AML		
	comp=E,1801µm,0.6s						
T1217				AML	AML		
	comp=N,1739µm,0.4s						
ARRO	**Arrone**	**0.43**	**279**	P	**Pg**	**16 25 35.9**	**+0.2**
ARRO				S	**Sb**	**16 25 42.6**	**-0.7**
ARRO				AML	AML		
	comp=E,864µm,0.4s						
ARRO				AML	AML		
	comp=E,864µm,0.4s						
ARRO				AML	AML		
	comp=N,964µm,1.4s						
ARRO				AML	AML		
	comp=E,864µm,1.6s						
ARRO				AML	AML		
	comp=N,964µm,0.6s						
ARRO				AML	AML		
	comp=N,842µm,0.2s						
ARRO				AML	AML		
	comp=E,864µm,0.4s						
PTQR	**Pietraquaria**	**0.50**	**175**	⇑P	**Pg**	**16 25 37.0**	**+0.1**
PTQR				S	**Sb**	**16 25 44.6**	**-0.6**
PTQR				AML	AML		
	comp=E,412µm,1.3s						
PTQR				AML	AML		
	comp=N,388µm,0.2s						
PTQR				AML	AML		
	comp=N,388µm,1.8s						
PTQR				AML	AML		
	comp=E,376µm,0.3s						
PTQR				AML	AML		
	comp=N,388µm,0.2s						
GUMA	**Gualdo di Mace**	**0.55**	**359**	P	**Pb**	**16 25 38.2**	**-0.7**
GUMA				S	**Sb**	**16 25 46.2**	**-0.5**
GUMA				AML	AML		
	comp=N,2040µm,0.3s						
GUMA				AML	AML		
	comp=E,1820µm,0.5s						
GUMA				AML	AML		
	comp=N,1960µm,0.5s						
GUMA				AML	AML		
	comp=E,2300µm,0.6s						
GUMA				AML	AML		
	comp=E,1644µm,1.6s						
GUMA				AML	AML		
	comp=E,2066µm,1.9s						
GUMA				AML	AML		
	comp=E,1644µm,0.3s						
GUMA				AML	AML		
	comp=E,2300µm,1.4s						
GUMA				AML	AML		
	comp=E,1817µm,0.5s						
GUMA				AML	AML		
	comp=N,1891µm,0.4s						
GUMA				AML	AML		
	comp=E,2303µm,0.6s						
GUMA				AML	AML		
	comp=N,2039µm,0.3s						
FDMO	**Fiordimonte**	**0.55**	**340**	P	**Pg**	**16 25 37.7**	**-0.3**
FDMO				S	**Sb**	**16 25 46.6**	**-0.3**
FDMO				AML	AML		
	comp=N,868µm,0.3s						
FDMO				AML	AML		
	comp=E,434µm,1.1s						
FDMO				AML	AML		
	comp=E,434µm,0.9s						
CESX	**Cesi**	**0.57**	**280**	⇑P	**Pg**	**16 25 38.5**	**+0.1**
CESX				S	**Sg**	**16 25 46.5**	**+0.5**
CESX				AML	AML		
	comp=N,1135µm,0.3s						
CESX				AML	AML		
	comp=E,711µm,1.4s						
CESX				AML	AML		
	comp=E,711µm,0.6s						
CESX				AML	AML		
	comp=N,1134µm,0.3s						
CESX				AML	AML		
	comp=E,686µm,0.4s						
CSP1	**Cessapalombo**	**0.58**	**350**	P	**Pg**	**16 25 38.3**	**-0.3**
CSP1				S	**Sb**	**16 25 47.7**	**-0.1**
CSP1				AML	AML		
	comp=E,706µm,0.4s						
CSP1				AML	AML		
	comp=N,849µm,0.3s						
CSP1				AML	AML		
	comp=E,707µm,0.4s						
CSP1				AML	AML		
	comp=N,849µm,0.3s						
CESI	**CESI - Serrava**	**0.59**	**327**	⇓P	**Pg**	**16 25 38.5**	**-0.1**
CESI				S	**Sb**	**16 25 47.4**	**-0.5**
CESI				AML	AML		
	comp=N,1125µm,0.4s						
CESI				AML	AML		
	comp=E,892µm,0.4s						
CESI				AML	AML		
	comp=E,892µm,1.6s						
CESI				AML	AML		
	comp=N,1125µm,1.6s						
CESI				AML	AML		
	comp=E,892µm,0.4s						
CESI				AML	AML		
	comp=N,1127µm,0.5s						
T1220	**Camerino, Fraz**	**0.62**	**342**	⇑P	**Pg**	**16 25 39.2**	**-0.1**
T1220				AML	AML		
	comp=N,2525µm,0.4s						
T1220				AML	AML		
	comp=E,2795µm,1.5s						
T1220				AML	AML		
	comp=E,2730µm,1.5s						
T1220				AML	AML		
	comp=E,2795µm,0.5s						
T1220				AML	AML		
	comp=N,2525µm,1.6s						
T1220				AML	AML		
	comp=E,2730µm,0.5s						
T1220				AML	AML		
	comp=N,2550µm,0.5s						
T1220				AML	AML		
	comp=E,2621µm,0.6s						
T1220				AML	AML		
	comp=N,2528µm,0.4s						
T1220				AML	AML		
	comp=N,2551µm,0.5s						
T1220				AML	AML		
	comp=E,2693µm,0.6s						
CERT	**Cerreto**	**0.63**	**206**	P	**Pg**	**16 25 39.3**	**-0.1**
CERT				AML	AML		
	comp=N,564µm,0.3s						
MOMA	**Monte Martano**	**0.64**	**297**	P	**Pg**	**16 25 39.7**	**0.0**
MOMA				S	**Sb**	**16 25 49.3**	**-0.2**
MOMA				AML	AML		
	comp=E,1132µm,0.2s						
MOMA				AML	AML		
	comp=N,2445µm,0.2s						
MOMA				AML	AML		
	comp=E,1120µm,0.2s						
MOMA				AML	AML		
	comp=N,2540µm,0.2s						
MOMA				AML	AML		
	comp=E,1132µm,0.2s						
MOMA				AML	AML		
	comp=N,2445µm,0.2s						
MOMA				AML	AML		
	comp=E,1132µm,1.8s						
MOMA				AML	AML		
	comp=E,1120µm,1.8s						
MOMA				AML	AML		
	comp=E,1115µm,0.2s						
MOMA				AML	AML		
	comp=N,2545µm,0.2s						
MOMA				AML	AML		
	comp=E,1129µm,0.2s						
MOMA				AML	AML		
	comp=N,2448µm,0.2s						
MTCE	**Montecelio**	**0.67**	**222**	P	**Pb**	**16 25 40.5**	**-0.3**
MTCE				AML	AML		
	comp=N,245µm,1.6s						
MTCE				AML	AML		
	comp=N,245µm,0.4s						
MTCE				AML	AML		
	comp=E,495µm,0.4s						
MTCE				AML	AML		
	comp=E,495µm,0.4s						
MTCE				AML	AML		
	comp=N,233µm,0.7s						
VVLD	**Villa Vallelon**	**0.68**	**162**	P	**Pb**	**16 25 40.7**	**-0.3**
VVLD				AML	AML		
	comp=N,461µm,0.4s						
VVLD				AML	AML		
	comp=E,340µm,0.5s						
VVLD				AML	AML		
	comp=E,340µm,0.5s						
VVLD				AML	AML		
	comp=N,461µm,0.4s						
SRES	**S.Oreste - Sor**	**0.68**	**246**	P	**Pg**	**16 25 40.2**	**-0.1**
SRES				AML	AML		
	comp=E,318µm,0.5s						
SRES				AML	AML		
	comp=N,234µm,1.2s						
SRES				AML	AML		
	comp=E,307µm,0.4s						
SRES				AML	AML		
	comp=N,230µm,0.4s						
ASSB	**Assisi San Ben**	**0.73**	**316**	⇓P	**Pg**	**16 25 41.1**	**-0.2**
ASSB				S	**Sb**	**16 25 51.9**	**-0.1**
ASSB				AML	AML		
	comp=E,762µm,0.4s						
ASSB				AML	AML		
	comp=N,879µm,1.4s						
ASSB				AML	AML		
	comp=E,763µm,0.4s						
ASSB				AML	AML		
	comp=N,858µm,0.3s						
SNTG	**Esanatoglia**	**0.80**	**338**	P	**Pg**	**16 25 42.5**	**-0.1**
SNTG				AML	AML		
	comp=E,210µm,0.5s						
SNTG				AML	AML		
	comp=N,282µm,0.4s						
SNTG				AML	AML		
	comp=N,333µm,0.7s						
SNTG				AML	AML		
	comp=E,241µm,0.7s						
SNTG				AML	AML		
	comp=N,281µm,0.5s						
SNTG				AML	AML		
	comp=E,210µm,0.5s						
EL6	**Elcito**	**0.83**	**348**	⇑P	**Pg**	**16 25 42.9**	**-0.4**
EL6				AML	AML		
	comp=E,580µm,0.4s						
EL6				AML	AML		
	comp=N,638µm,0.4s						
EL6				AML	AML		
	comp=E,580µm,0.4s						
EL6				AML	AML		
	comp=N,638µm,0.4s						
POFI	**Posta Fibreno**	**0.84**	**161**	⇑P	**Pg**	**16 25 43.4**	**-0.1**
POFI				AML	AML		
	comp=E,246µm,0.7s						
POFI				AML	AML		
	comp=N,238µm,0.9s						
POFI				AML	AML		
	comp=N,240µm,1.0s						
POFI				AML	AML		
	comp=E,248µm,1.0s						
POFI				AML	AML		
	comp=E,246µm,0.7s						
POFI				AML	AML		
	comp=N,241µm,1.0s						
POFI				AML	AML		
	comp=E,248µm,0.7s						
POFI				AML	AML		
	comp=N,237µm,0.9s						
MGAB	**Montegabbione**	**0.99**	**294**	⇓P	**Pb**	**16 25 46.2**	**-0.2**
MGAB				AML	AML		
	comp=E,713µm,0.5s						
MGAB				AML	AML		
	comp=N,870µm,1.2s						
MGAB				AML	AML		
	comp=E,668µm,0.5s						
MGAB				AML	AML		
	comp=N,852µm,0.4s						
MGAB				AML	AML		
	comp=E,713µm,0.5s						
MGAB				AML	AML		
	comp=N,843µm,0.4s						
MGAB				AML	AML		
	comp=E,667µm,0.5s						
MGAB				AML	AML		

comp=N,853μm,0.4s
LATB Latina 1.06 196 ⇓P **Pn 16 25 48.7 +0.8**
MIDA Miranda 1.10 142 ⇑P **Pb 16 25 47.5 -0.8**
PE3 Peglio 1.33 332 P **Pn 16 25 50.0 -1.8**
PE3 AML AML
comp=E,520μm,0.4s
PE3 AML AML
comp=N,4μm,1.6s
PTRJ Pietraroja 1.45 142 P **Pn 16 25 53.4 -0.1**
OBKA Obir 4.08 12 *e*Pn **Pg 16 26 47.8 +2.4**
comp=N,2.3nm,0.6s
ABTA Abfaltersbach 4.27 352 *i* Pn **Pn 16 26 35.9 +3.6**
comp=N,5.1nm,0.5s
FETA Feichten 4.87 338 *e*Pn **Pb 16 26 49.7 -3.0**
comp=N,1.0nm,0.5s
SQTA Sankt Quirin 4.94 343 *e*Pn **Pb 16 26 52.6 -1.2**
comp=N,1.6nm,0.3s
ARSA Arzberg 4.98 17 *e*Pn Pn 16 26 46.8 +4.9
comp=N,1.0nm,0.4s

IDC ***18*** *16:37:22.8±1.9,40˚.47N×143˚.64E,h0km,mb3.6/6, mbtmp3.6/9,ML3.0/3,MS3.1/1,Error ellipse: s-maj=36.6km s-min=22.7km az=147.0*
JMA ***18*** *16:37:24.1±0.2,40˚.4N±0˚.5×143˚.6E±0˚.9,h13km±3km, MV3.7/35,FAR E OFF SANRIKU*
NIED ***18*** *16:37:24.1,40˚.41N×143˚.56E,h13km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.93; Mθθ1.08; Mϕϕ -6.01; Mrθ1.22; Mθϕ0.90; Mϕr0.52; Fault plane solution: M₀5.73000×10¹⁴ NP1:φs9.00000°, δ49.00000°,λ113.00000°. NP2:φs156.00000°,δ46.00000°, λ66.00000°.*
ISC 18 16:37:22.6±3.7,40˚.41N±0˚.05×143˚.58E±0˚.06,h2km±24km, n32,σ1§13/39,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.40**	**251**	P		**Pn**	**16 37 49.0**	**0.0**
JTH					*e*S	**Sn**	**16 38 07.0**	**-1.0**
JKEN	**Kujiedanarisaw**	**1.44**	**262**	P		**Pn**	**16 37 49.7**	**0.0**
JKEN					*e*S	**Sn**	**16 38 08.5**	**-0.7**
JANG	**Nango**	**1.58**	**269**	P		**Pn**	**16 37 51.8**	**+0.3**
JANG					S	**Sn**	**16 38 11.2**	**-1.3**
MIYJ	**Miyakonagasawa**	**1.59**	**239**	*e*P		**Pn**	**16 37 52.0**	**+0.3**
MIYJ					*e*S	**Sn**	**16 38 12.2**	**-0.5**
JEM	**Erimo**	**1.63**	**349**	*e*P		**Pn**	**16 37 53.1**	**+0.9**
JEM					S	**Sn**	**16 38 14.0**	**+0.2**
JTM	**Tenmabayashi**	**1.95**	**282**	P		**Pb**	**16 37 58.1**	**-0.7**
JTM					*e*S	**Sb**	**16 38 22.8**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.97**	**342**	P		**Pn**	**16 37 58.4**	**+1.5**
JNBK					*e*S	**Sb**	**16 38 23.6**	**-0.5**
JOM	**Ohasama**	**1.99**	**243**	P		**Pn**	**16 37 58.3**	**+1.1**
JOT	**Ohata**	**2.15**	**298**	P		**Pn**	**16 38 00.5**	**+1.1**
JOT					*e*S	**Sn**	**16 38 27.1**	**+0.5**
JCH	**Churui**	**2.21**	**356**	P		**Pn**	**16 38 00.9**	**+0.7**
JCH					S	**Sn**	**16 38 27.5**	**-0.5**
JMK	**Ichinoseki**	**2.33**	**232**	P		**Pn**	**16 38 02.9**	**+1.0**
JMK					*e*S	**Sn**	**16 38 30.8**	**-0.2**
JAK	**Akkeshi**	**2.71**	**18**	*e*P		**Pn**	**16 38 07.3**	**+0.2**
JAK					*e*S	**Sn**	**16 38 40.0**	**-0.5**
JAR	**Ashorobuto**	**2.89**	**3**	P		**Pn**	**16 38 09.6**	**+0.1**
JAR					S	**Sn**	**16 38 42.6**	**-2.2**
JYK	**Kaneyama**	**2.90**	**240**	P		**Pn**	**16 38 11.1**	**+1.4**
JEW	**Eniwo**	**2.90**	**327**	S		**Sn**	**16 38 46.2**	**+1.0**
JOMM	**Oshimamatsumae**	**2.92**	**294**	*e*P		**Pn**	**16 38 12.9**	**+2.8**
JOMM					*e*S	**Sb**	**16 38 48.8**	**-2.7**
ASAJ	**Asahikawa**	**3.77**	**349**	Pn		**Pn**	**16 38 22.6**	**+0.9**
	0.8nm,0.3s,baz=205,slow=13,SNR=16							
ASAJ						Sn	**16 39 06.8**	**+0.2**
	2.4nm,0.3s,baz=27,slow=22,SNR=6.9							
	1.8nm,0.3s							
MJAR	**Matsushiro Arr**	**5.72**	**229**	Pn		**Pn**	**16 38 50.1**	**+1.7**
	0.2nm,0.3s,baz=41,slow=12,SNR=17							
	6.1nm,0.6s							
USRK	**Ussuriysk Ar.**	**9.38**	**298**	Pn		**Pn**	**16 39 40.3**	**+1.6**
	0.3nm,0.3s,baz=95,slow=14,SNR=13							
	3.6nm,0.6s							
SEY	**Seymchan**	**23.16**	**10**	P		**P**	**16 42 29.5**	**-0.5**
	1.2nm,0.5s,baz=166,slow=8.7,SNR=9.2							
	1.2nm,0.5s							
SONM	**Songino Array**	**27.50**	**298**	P		**P**	**16 43 10.5**	**+0.2**
	0.6nm,0.5s,baz=96,slow=8.5,SNR=5.9							
	0.6nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.69**	**129**	T		T	17 13 14.8	
	baz=321,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**28.70**	**129**	T		T	17 13 22.7	
	baz=321,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**28.71**	**129**	T		T	17 13 18.5	
	baz=321,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**29.53**	**131**	T		T	17 14 25.9	
	baz=323,slow=76,SNR=8.8							
H11S3	**WAKE ISLAND Hy**	**29.53**	**131**	T		T	17 14 26.1	
	baz=323,slow=76,SNR=6.6							
H11S2	**WAKE ISLAND Hy**	**29.55**	**131**	T		T	17 14 25.8	
	baz=323,slow=76,SNR=7.0							
TIXI	**Tiksi**	**32.17**	**351**	LR		LR	16 58 11.4	
	comp=Z,30nm,19.9s,baz=266,slow=39							
ZALV	**Zalesovo Beam**	**40.98**	**310**	P		**P**	**16 45 07.0**	**+0.5**
	0.8nm,0.7s,baz=81,slow=8.9,SNR=3.0							
	0.8nm,0.7s							
MKAR	**Makanchi Array**	**43.84**	**300**	P		**P**	**16 45 30.6**	**+0.5**
	0.8nm,0.6s,baz=81,slow=9.4,SNR=8.7							
	0.8nm,0.6s							
ILAR	**Eielson Array**	**45.74**	**34**	P		**P**	**16 45 45.8**	**+0.9**
	0.6nm,0.9s,baz=245,slow=6.5,SNR=4.8							
	0.6nm,0.9s							
YKA	**Yellowknife Ar**	**60.04**	**32**	P		**P**	**16 47 29.8**	**-0.7**
	0.2nm,0.7s,baz=299,slow=7.6,SNR=2.6							
	0.2nm,0.7s							

GCG ***18*** *16:40:15.0±2.6,14˚.04N×91˚.60W,h28km,MD3.9*
SNET ***18*** *16:40:16.4±0.9,14˚.27N×91˚.26W,h14km±4km,ML3.8*
ISC 18 16:40:13.3±3.7,14˚.0N±0˚.1×91˚.43W±0˚.10,h8km±29km,n16, σ1§52/24,3C-1D,Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.29**	**332**	⇑*e*P		**Pn**	**16 40 25.5**	**+1.6**
STG3	**Santiaguito 3,**	**0.68**	**348**	*e*P		**Pb**	**16 40 28.5**	**+0.9**
FUG	**Fuego 3**	**0.69**	**54**	⇓*e*P		**Pn**	**16 40 30.3**	**+0.7**
PCG	**Pacaya**	**0.86**	**66**	⇑*i*P		**Pn**	**16 40 33.3**	**+1.2**
NBG	**Las Nubes**	**1.18**	**62**	*e*P		**Pn**	**16 40 37.9**	**+1.6**
NBG					*e*S	**Sn**	**16 40 56.7**	**+4.0**
HUEH	**Huehuetenango**	**1.27**	**357**	*e*P		**Pb**	**16 40 36.3**	**-1.3**
HUEH					*e*S	**Sn**	**16 40 51.7**	**-3.3**
SLOZ	**Alcaldia de Sa**	**1.59**	**90**	*e*P		**Pn**	**16 40 42.2**	**+0.3**
SLOZ					*e*S	**Sb**	**16 41 01.9**	**-1.4**
NUBE	**Las Nubes**	**1.60**	**95**	*e*P		**Pn**	**16 40 42.6**	**+0.5**
NUBE					*e*S	**Sn**	**16 41 02.1**	**-0.9**
RTR	**El Retiro**	**1.73**	**95**	*e*P		**Pn**	**16 40 45.2**	**+1.3**
RTR					*e*S	**Sb**	**16 41 06.8**	**-0.7**
CEVE	**Cerro Verde**	**1.76**	**97**	*e*P		**Pn**	**16 40 45.1**	**+0.8**
CEVE					*e*S	**Sb**	**16 41 07.7**	**-0.7**
CEVE					IAML		16 41 15.2	
	comp=Z,1μm,0.4s							
SBLS	**San Blas**	**1.76**	**96**	*e*P		**Pn**	**16 40 45.4**	**+1.1**
SBLS					*e*S	**Sb**	**16 41 07.8**	**-0.6**
JAYA	**Jayaque - finc**	**1.96**	**101**	*e*P		**Pn**	**16 40 47.4**	**+0.4**
JAYA					*e*S	**Sn**	**16 41 12.0**	**+0.2**
JAYA					IAML		16 41 18.0	
	comp=Z,558nm,0.2s							
MTO3	**Montecristo**	**2.03**	**80**	*e*P		**Pn**	**16 40 47.6**	**-0.4**
LFRS	**El Faro**	**2.33**	**100**	*e*P		**Pn**	**16 40 52.9**	**+0.8**
PAVA	**Las Pavas**	**2.44**	**97**	*e*P		**Pn**	**16 40 54.2**	**+0.6**
P5NO	**Presa 5 de nov**	**2.59**	**91**	*e*P		**Pn**	**16 40 54.9**	**-0.6**

IDC ***18*** *16:43:32.5±2.2,6˚.26S×130˚.68E,h96km±23km,mb3.6/1, mbtmp3.6/5,MS3.3/1,Error ellipse: s-maj=43.3km s-min=16.7km az=98.0*
ISC 18 16:43:31.2±0.9,6˚.40S±0˚.07×130˚.76E±0˚.09,h100km,n7, σ3§13/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.52**	**5**	P		**Pn**	**16 44 51.6**	**+0.6**
	3.7nm,0.3s,baz=90,slow=4.6,SNR=28							
SIJI					S	**Sn**	**16 45 51.4**	**-1.8**
	21nm,0.2s,baz=119,slow=23,SNR=13							
BATI	**Baumata**	**7.98**	**241**	P		**Pn**	**16 45 25.6**	**+1.1**
	10nm,0.4s,baz=313,slow=5.2,SNR=6.9							
BATI					S	**Sn**	**16 46 49.0**	**-4.2**
	24nm,1.0s,baz=46,slow=22,SNR=1.4							
WRA	**Warramunga Arr**	**13.90**	**166**	P		**Pn**	**16 46 46.5**	**+2.5**
	0.2nm,0.4s,baz=349,slow=13,SNR=2.3							
WRA					S	Sn	16 49 10.3	-6.9
	0.9nm,0.5s,baz=347,slow=20,SNR=11							
PMG	**Port Moresby**	**16.51**	**101**	S		**Sn**	**16 50 16.7**	**-3.6**
	3.0nm,0.3s,baz=119,slow=23,SNR=1.7							
ASAR	**Alice Springs**	**17.43**	**170**	P		**Pn**	**16 47 31.4**	**+3.2**
	0.2nm,0.6s,baz=349,slow=9.4,SNR=8.8							
ASAR					S	**Sn**	**16 50 39.8**	**-2.5**
	0.4nm,0.5s,baz=360,slow=26,SNR=7.1							
PSI	**Prapat**	**33.08**	**285**	LR		LR	17 03 59.8	
	comp=Z,51nm,18.4s,baz=216,slow=37							
MKAR	**Makanchi Array**	**68.14**	**326**	P		**P**	**16 54 21.4**	**+0.8**
	0.5nm,0.4s,baz=113,slow=8.1,SNR=23							
	0.5nm,0.4s							

LDG ***18*** *16:45:16.5±0.1,42˚.47N×13˚.33E,h12km,Ml3.2/20,Error ellipse: s-maj=3.6km s-min=2.4km az=42.0*
ROM ***18*** *16:45:17.2±0.0,42˚.469N±0˚.002×13˚.310E±0˚.002, h12km,ML3.7/59,Mw3.6,Error ellipse: s-maj=0.2km s-min=0.0km az=75.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-0.28; Mθθ0.41; Mϕϕ-0.13; Mrθ1.95; Mθϕ-0.38; Mϕr-1.87; Fault plane solution: M₀2.74601×10¹⁴ NP1:φs82.00000°,δ7.00000°, λ-142.00000°. NP2:φs314.00000°,δ86.00000°, λ-85.00000°.*
PRU ***18*** *16:45:17.9±0.0,42˚.45N×13˚.68E,h10km*
BEO ***18*** *16:45:18.6±0.6,42˚.57N×13˚.29E,h0km,ML3.7/12*
IDC ***18*** *16:45:18.2±1.7,42˚.71N×13˚.44E,h0km,mb3.6/4, mbtmp3.7/8,ML3.6/4,MS3.0/1,Error ellipse: s-maj=26.0km s-min=16.0km az=66.0*
ISC 18 16:45:17.9±0.7,42˚.48N±0˚.02×13˚.29E±0˚.02,h13km±4km, n218,σ2§15/286,mb3.7/3,24C-10D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.04**	**168**	⇑P		**Pg**	**16 45 19.9**	**-0.4**
T1247					S	**Sg**	**16 45 21.6**	**-0.5**
T1247					AML	AML		
T1247					AML	AML		
T1247					AML	AML		
RM33	**Pellescritta (**	**0.06**	**300**	⇑P		**Pg**	**16 45 20.3**	**-0.3**
RM33					S	**Sg**	**16 45 22.1**	**-0.5**
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
CAMP	**Campotosto**	**0.11**	**57**	⇓P		**Pg**	**16 45 20.5**	**-0.5**
CAMP					S	**Sg**	**16 45 22.6**	**-0.7**
CAMP					AML	AML		
	comp=E,46250μm,0.7s							
CAMP					AML	AML		
	comp=N,87750μm,0.5s							
CAMP					AML	AML		
	comp=N,87750μm,1.5s							
CAMP					AML	AML		
	comp=E,46250μm,1.3s							
AQU	**L'Aquila**	**0.15**	**146**	⇑P		**Pg**	**16 45 21.2**	**-0.4**
AQU					S	**Sg**	**16 45 23.9**	**-0.2**
SMA1	**SAN MARTINO**	**0.16**	**13**	⇓P		**Pg**	**16 45 21.5**	**-0.3**
SMA1					S	**Sg**	**16 45 24.6**	**+0.1**
SMA1					AML	AML		
SMA1					AML	AML		
SMA1					AML	AML		
SMA1					AML	AML		
T1204	**Amatrice, Fraz**	**0.20**	**6**	P		**Pg**	**16 45 22.2**	**-0.3**
T1204					S	**Sg**	**16 45 25.4**	**-0.2**
GIGS	**Gran Sasso**	**0.21**	**97**	⇓P		**Pg**	**16 45 21.9**	**-0.6**
GIGS					S	**Sg**	**16 45 25.1**	**-0.6**
GIGS					AML	AML		
	comp=E,14300μm,0.7s							
GIGS					AML	AML		
	comp=N,12700μm,0.7s							
GIGS					AML	AML		
	comp=N,12700μm,1.3s							
GIGS					AML	AML		
	comp=E,14300μm,1.3s							
LNSS	**Leonessa**	**0.22**	**304**	⇑P		**Pg**	**16 45 22.7**	**0.0**
LNSS					S	**Sg**	**16 45 26.7**	**+0.6**
LNSS					AML	AML		
	comp=E,65450μm,0.1s							
LNSS					AML	AML		
	comp=N,63450μm,0.1s							
T1202	**Accumoli, Fraz**	**0.23**	**348**	⇑P		**Pg**	**16 45 22.9**	**0.0**
T1202					S	**Sg**	**16 45 27.2**	**+0.8**
T1218	**Civita (PG)**	**0.23**	**326**	⇑P		**Pg**	**16 45 22.7**	**-0.2**
T1218					S	**Sg**	**16 45 26.6**	**+0.2**
T1218					AML	AML		
	comp=E,82350μm,0.2s							
T1218					AML	AML		
	comp=N,95950μm,0.2s							
T1218					AML	AML		
	comp=N,94750μm,0.2s							
T1218					AML	AML		
	comp=E,80900μm,0.2s							
T1218					AML	AML		
	comp=N,95950μm,1.8s							
T1218					AML	AML		
	comp=N,94750μm,1.8s							
FIAM	**Fiamignano**	**0.24**	**211**	⇑P		**Pg**	**16 45 22.9**	**-0.2**
FIAM					S	**Sg**	**16 45 27.1**	**+0.4**
FIAM					AML	AML		
	comp=N,30300μm,1.0s							
FIAM					AML	AML		
	comp=E,23650μm,0.9s							
FIAM					AML	AML		
	comp=N,30300μm,1.0s							
FIAM					AML	AML		
	comp=E,23650μm,1.1s							
TERO	**Teramo**	**0.28**	**58**	⇓P		**Pg**	**16 45 22.9**	**-0.7**
TERO					S	**Sg**	**16 45 27.3**	**-0.2**
FAGN	**Fagnano**	**0.30**	**134**	⇓P		**Pg**	**16 45 23.8**	**-0.4**
FAGN					AML	AML		
	comp=E,45450μm,1.6s							
FAGN					AML	AML		
	comp=N,58750μm,0.5s							
FAGN					AML	AML		
	comp=N,58750μm,1.5s							
T1217	**Poggiodomo (PG**	**0.35**	**312**	⇑P		**Pg**	**16 45 24.8**	**-0.2**
T1217					S	**Sg**	**16 45 30.6**	**+0.7**
T1217					AML	AML		
	comp=E,25250μm,0.2s							
T1217					AML	AML		
	comp=N,21500μm,0.2s							
T1217					AML	AML		
	comp=N,23300μm,0.6s							
T1217					AML	AML		
	comp=N,23300μm,0.6s							
T1217					AML	AML		
	comp=N,21500μm,0.2s							
T1217					AML	AML		
	comp=E,21550μm,0.2s							
ARRO	**Arrone**	**0.40**	**285**	P		**Pg**	**16 45 25.7**	**-0.2**
ARRO					AML	AML		
	comp=E,17250μm,0.3s							
ARRO					AML	AML		
	comp=N,22200μm,0.2s							
PTQR	**Pietraquaria**	**0.46**	**170**	⇑P		**Pg**	**16 45 26.2**	**-0.8**
PTQR					AML	AML		
	comp=E,2970μm,1.6s							
PTQR					AML	AML		
	comp=E,2970μm,0.4s							
PTQR					AML	AML		
	comp=N,3240μm,0.5s							
FEMA	**Monte Fema**	**0.52**	**340**	P		**Pg**	**16 45 27.6**	**-0.4**
FEMA					S	**Sg**	**16 45 35.8**	**+0.9**
FEMA					AML	AML		
	comp=N,22650μm,0.4s							
FEMA					AML	AML		
	comp=N,22650μm,0.3s							
FEMA					AML	AML		
	comp=E,23950μm,0.4s							
CESX	**Cesi**	**0.54**	**284**	⇑P		**Pg**	**16 45 27.9**	**-0.6**
CESX					S	**Sg**	**16 45 36.1**	**+0.4**
CESX					AML	AML		
	comp=N,13750μm,1.0s							
CESX					AML	AML		
	comp=E,8375μm,0.2s							
TRTR	**Tortoreto Alta**	**0.57**	**54**	P		**Pb**	**16 45 29.2**	**-0.5**
TRTR					AML	AML		
	comp=E,32150μm,0.5s							
TRTR					AML	AML		
	comp=N,22800μm,0.6s							
CERT	**Cerreto**	**0.57**	**203**	⇑P		**Pg**	**16 45 28.3**	**-0.8**
FDMO	**Fiordimonte**	**0.58**	**345**	⇑P		**Pg**	**16 45 28.5**	**-0.7**
FDMO					S	**Sg**	**16 45 37.7**	**+0.8**
FDMO					AML	AML		
	comp=N,8750μm,0.2s							
FDMO					AML	AML		
	comp=E,9360μm,0.2s							
GUMA	**Gualdo di Mace**	**0.59**	**3**	⇑P		**Pg**	**16 45 29.0**	**-0.4**
GUMA					S	**Sb**	**16 45 38.6**	**+0.3**
GUMA					AML	AML		
	comp=E,32800μm,0.4s							
GUMA					AML	AML		
	comp=N,45450μm,0.5s							
GUMA					AML	AML		
	comp=E,40800μm,0.4s							
GUMA					AML	AML		
	comp=N,41600μm,0.4s							
GUMA					AML	AML		
	comp=N,41600μm,1.6s							
GUMA					AML	AML		
	comp=E,40800μm,1.6s							
GUMA					AML	AML		
	comp=N,45450μm,1.5s							
GUMA					AML	AML		
	comp=E,32800μm,1.6s							
CESI	**CESI - Serrava**	**0.60**	**332**	⇑P		**Pg**	**16 45 29.0**	**-0.6**
CESI					S	**Sg**	**16 45 38.3**	**+0.8**
CESI					AML	AML		
	comp=E,8075μm,0.2s							
CESI					AML	AML		
	comp=N,11500μm,0.2s							
MTCE	**Montecelio**	**0.61**	**222**	P		**Pg**	**16 45 29.1**	**-0.7**
MTCE					AML	AML		
	comp=N,4725μm,0.8s							
MTCE					AML	AML		
	comp=E,8745μm,0.5s							
CSP1	**Cessapalombo**	**0.62**	**354**	⇑P		**Pg**	**16 45 29.2**	**-0.7**
CSP1					S	**Sg**	**16 45 38.7**	**+0.5**
CSP1					AML	AML		
	comp=N,15600μm,0.4s							
CSP1					AML	AML		
	comp=E,17900μm,0.4s							
CSP1					AML	AML		
	comp=N,15600μm,1.6s							
MOMA	**Monte Martano**	**0.62**	**302**	P		**Pg**	**16 45 29.5**	**-0.6**
MOMA					S	**Sg**	**16 45 39.2**	**+0.9**
MOMA					AML	AML		
	comp=N,15350μm,1.1s							
MOMA					AML	AML		
	comp=E,20300μm,1.0s							
MOMA					AML	AML		
	comp=E,19600μm,0.2s							
MOMA					AML	AML		
	comp=N,15650μm,0.2s							
SRES	**S.Oreste - Sor**	**0.62**	**248**	P		**Pg**	**16 45 29.5**	**-0.5**
SRES					AML	AML		
	comp=E,4360μm,0.4s							
SRES					AML	AML		
	comp=N,3205μm,0.4s							
SRES					AML	AML		
	comp=E,4360μm,1.6s							
T1220	**Camerino, Fraz**	**0.65**	**347**	⇑P		**Pg**	**16 45 29.7**	**-0.8**
T1220					S	**Sg**	**16 45 39.8**	**+0.7**
T1220					AML	AML		
	comp=E,54000μm,0.4s							
T1220					AML	AML		
	comp=N,34350μm,0.4s							
T1220					AML	AML		
	comp=E,54050μm,0.4s							
T1220					AML	AML		
	comp=E,54050μm,1.6s							
T1220					AML	AML		
	comp=N,34450μm,0.4s							
T1220					AML	AML		
	comp=E,54000μm,1.6s							
VVLD	**Villa Vallelon**	**0.66**	**158**	P		**Pg**	**16 45 29.6**	**-1.0**
VVLD					AML	AML		
	comp=N,3550μm,0.5s							
VVLD					AML	AML		
	comp=E,4095μm,0.6s							
MNTP	**Montappone**	**0.67**	**11**	P		**Pg**	**16 45 30.7**	**-0.3**
MNTP					AML	AML		
	comp=E,14150μm,0.6s							
MNTP					AML	AML		
	comp=N,11750μm,0.8s							
MNTP					AML	AML		
	comp=N,11750μm,1.2s							
RCAV	**Rocca di Cave**	**0.68**	**202**	P		**Pg**	**16 45 30.2**	**-0.9**
RCAV					AML	AML		
	comp=E,8050μm,1.1s							
RCAV					AML	AML		
	comp=N,6265μm,0.7s							
GUAR	**Guarcino**	**0.68**	**178**	P		**Pg**	**16 45 30.2**	**-0.9**
GUAR					AML	AML		
	comp=N,8010μm,0.4s							
GUAR					AML	AML		
	comp=E,5875μm,0.5s							
SEF1	**Sefro**	**0.71**	**340**	P		**Pg**	**16 45 30.9**	**-0.8**
SEF1					AML	AML		
	comp=E,14300μm,1.0s							
SEF1					AML	AML		
	comp=N,12570μm,0.3s							
SEF1					AML	AML		
	comp=E,14300μm,1.0s							
MDAR	**Monte D'Aria**	**0.72**	**352**	P		**Pg**	**16 45 31.0**	**-0.9**
ASSB	**Assisi San Ben**	**0.73**	**321**	P		**Pg**	**16 45 31.2**	**-0.8**
ASSB					S	**Sg**	**16 45 42.7**	**+1.0**
ASSB					AML	AML		
	comp=E,6660μm,0.9s							
ASSB					AML	AML		
	comp=N,6260μm,0.9s							
SSM1	**San Severino M**	**0.76**	**354**	P		**Pg**	**16 45 31.6**	**-0.9**
FIU1	**Fiuminata**	**0.76**	**340**	P		**Pg**	**16 45 31.9**	**-0.7**
GAG1	**Gagliole**	**0.78**	**348**	P		**Pg**	**16 45 32.2**	**-0.7**
CADA	**Capodarco di F**	**0.80**	**26**	P		**Pb**	**16 45 33.8**	**+0.3**
RMP	**Rome, Mte Porz**	**0.80**	**213**	P		**Pg**	**16 45 33.2**	**-0.1**
RMP					AML	AML		
	comp=N,6675μm,1.5s							
RMP					AML	AML		
	comp=N,6675μm,0.5s							
RMP					AML	AML		
	comp=E,7505μm,0.4s							
SNTG	**Esanatoglia**	**0.82**	**342**	⇑P		**Pg**	**16 45 32.6**	**-1.1**
SNTG					S	**Sg**	**16 45 45.3**	**+0.8**
SNTG					AML	AML		
	comp=E,3715μm,0.4s							
SNTG					AML	AML		
	comp=N,3525μm,0.7s							
SNTG					AML	AML		
	comp=N,3285μm,1.4s							
SNTG					AML	AML		
	comp=E,3640μm,0.4s							
POFI	**Posta Fibreno**	**0.82**	**157**	P		**Pg**	**16 45 33.5**	**-0.3**
POFI					AML	AML		
	comp=N,1550μm,0.6s							
POFI					AML	AML		
	comp=E,3345μm,0.6s							
EL6	**Elcito**	**0.86**	**351**	P		**Pg**	**16 45 33.5**	**-1.0**
EL6					AML	AML		
	comp=E,8365μm,0.3s							
EL6					AML	AML		
	comp=N,8600μm,0.5s							
EL6					AML	AML		
	comp=N,8590μm,0.5s							
EL6					AML	AML		
	comp=N,8590μm,1.5s							
CIMA	**Civitanova Mar**	**0.87**	**19**	P		**Pb**	**16 45 35.1**	**+0.2**
CING	**Cingoli**	**0.90**	**356**	P		**Pg**	**16 45 34.1**	**-1.2**
CING					AML	AML		
	comp=E,5720μm,1.0s							
CING					AML	AML		
	comp=N,5005μm,0.3s							
CING					AML	AML		
	comp=N,5005μm,1.7s							
FOSV	**Fossato di Vic**	**0.90**	**335**	P		**Pg**	**16 45 34.3**	**-1.1**
FOSV					AML	AML		
	comp=N,3480μm,1.1s							
FOSV					AML	AML		
	comp=E,3185μm,0.5s							
FOSV					AML	AML		
	comp=N,3480μm,0.9s							

GIUL	**Giuliano Di Ro**	**0.92**	**182**	P	**Pg**	**16 45 34.7**	**-0.9**
GIUL				AML	AML			
	comp=N,3730µm,0.7s							
GIUL				AML	AML			
	comp=E,2730µm,0.5s							
GIUL				AML	AML			
	comp=N,3730µm,1.3s							
PP3	**Marolino**	**0.93**	**15**	P	**Pg**	**16 45 35.7**	**-0.2**
PP3				AML	AML			
	comp=N,7310µm,0.4s							
PP3				AML	AML			
	comp=E,9385µm,0.5s							
PP3				AML	AML			
	comp=E,9080µm,0.5s							
PP3				AML	AML			
	comp=N,7200µm,0.4s							
MGAB	**Montegabbione**	**0.97**	**297**	P	**Pg**	**16 45 35.9**	**-0.7**
MGAB				AML	AML			
	comp=E,8665µm,0.4s							
MGAB				AML	AML			
	comp=E,35000µm,1.6s							
MGAB				AML	AML			
	comp=E,9545µm,1.3s							
MGAB				AML	AML			
	comp=E,9545µm,0.7s							
MGAB				AML	AML			
	comp=E,35000µm,0.4s							
MGAB				AML	AML			
	comp=N,7915µm,0.4s							
MGAB				AML	AML			
	comp=N,7440µm,0.3s							
LIK	**San Giovanni I**	**0.99**	**168**	P	**Pb**	**16 45 37.0**	**+0.1**
RNI2	**Rionero Sannit**	**1.01**	**140**	P	**Pg**	**16 45 36.6**	**-0.7**
SSFR	**Montelago di S**	**1.03**	**339**	P	**Pg**	**16 45 36.7**	**-1.0**
SSFR				AML	AML			
	comp=E,6050µm,0.2s							
SSFR				AML	AML			
	comp=E,5485µm,0.2s							
SSFR				AML	AML			
	comp=N,5525µm,0.3s							
SSFR				AML	AML			
	comp=E,5485µm,1.8s							
SSFR				AML	AML			
	comp=E,6050µm,1.8s							
SSFR				AML	AML			
	comp=N,5300µm,0.2s							
CERA	**Filignano**	**1.03**	**148**	P	**Pg**	**16 45 36.7**	**-1.1**
TOLF	**Tolfa**	**1.04**	**247**	P	**Pg**	**16 45 37.2**	**-0.7**
ARVD	**Arcevia**	**1.05**	**346**	P	**Pg**	**16 45 36.8**	**-1.4**
ARVD				AML	AML			
	comp=E,3935µm,0.8s							
ARVD				AML	AML			
	comp=N,2400µm,0.9s							
ARVD				AML	AML			
	comp=N,2400µm,1.1s							
ARVD				AML	AML			
	comp=E,3935µm,1.2s							
SACS	**San Casciano d**	**1.08**	**291**	P	**Pb**	**16 45 38.1**	**-0.4**
SACS				AML	AML			
	comp=E,1760µm,0.5s							
SACS				AML	AML			
	comp=N,1850µm,0.9s							
SACS				AML	AML			
	comp=E,1725µm,0.5s							
SACS				AML	AML			
	comp=N,1720µm,0.9s							
AOI	**Ancona**	**1.10**	**12**	P	**Pb**	**16 45 37.9**	**-0.8**
AOI				AML	AML			
	comp=E,2730µm,1.6s							
AOI				AML	AML			
	comp=E,2730µm,0.4s							
AOI				AML	AML			
	comp=N,1985µm,0.3s							
MIDA	**Miranda**	**1.10**	**139**	P	**Pg**	**16 45 37.0**	**-2.1**
MIDA				AML	AML			
	comp=E,1260µm,0.8s							
MIDA				AML	AML			
	comp=N,1875µm,0.6s							
MIDA				AML	AML			
	comp=E,1265µm,1.0s							
MIDA				AML	AML			
	comp=E,1260µm,1.2s							
MIDA				AML	AML			
	comp=N,1840µm,0.6s							
FRON	**Frontone**	**1.12**	**339**	P	**Pb**	**16 45 38.0**	**-1.0**
FRON				AML	AML			
	comp=E,2890µm,0.5s							
FRON				AML	AML			
	comp=N,4440µm,0.6s							
FRON				AML	AML			
	comp=E,2890µm,1.5s							
PCRO	**Pietralacroce**	**1.14**	**9**	P	**Pb**	**16 45 39.9**	**+0.4**
TRIV	**Trivento**	**1.18**	**127**	P	**Pb**	**16 45 39.0**	**-1.1**
PIEI	**Pieia**	**1.19**	**333**	P	**Pn**	**16 45 39.4**	**-0.9**
PIEI				AML	AML			
	comp=N,1525µm,0.3s							
PIEI				AML	AML			
	comp=E,2475µm,0.3s							
MPAG	**Monte Paganucc**	**1.22**	**342**	P	**Pn**	**16 45 39.9**	**-0.7**
MPAG				AML	AML			
	comp=N,2370µm,1.0s							
MPAG				AML	AML			
	comp=E,2215µm,0.4s							
MPAG				AML	AML			
	comp=N,2435µm,1.0s							
MPAG				AML	AML			
	comp=E,2260µm,0.6s							
MCIV	**Monte Civitell**	**1.23**	**285**	P	**Pn**	**16 45 40.9**	**+0.1**
MCIV				AML	AML			
	comp=E,1173µm,0.7s							
MCIV				AML	AML			
	comp=N,992µm,1.2s							
SF04	**Casetta**	**1.25**	**287**	P	**Pn**	**16 45 41.6**	**+0.4**
SF04				AML	AML			
	comp=E,1515µm,0.3s							
SF04				AML	AML			
	comp=N,1280µm,0.9s							
SF04				AML	AML			
	comp=N,1280µm,1.1s							
SF04				AML	AML			
	comp=E,1515µm,1.7s							
VAGA	**Valle Agricola**	**1.27**	**146**	P	**Pn**	**16 45 41.2**	**-0.2**
BADI	**Badiali**	**1.28**	**324**	P	**Pn**	**16 45 41.8**	**+0.2**
BADI				AML	AML			
	comp=N,1805µm,0.5s							
BADI				AML	AML			
	comp=E,80µm,0.6s							
BADI				AML	AML			
	comp=N,1805µm,1.5s							
CAFI	**Castiglion Fio**	**1.29**	**312**	P	**Pn**	**16 45 41.8**	**+0.1**
SGG	**Gregorio Mates**	**1.36**	**143**	P	**Pg**	**16 45 43.8**	**-0.2**
SSP9	**Sansepolcro**	**1.39**	**323**	P	**Pn**	**16 45 43.6**	**+0.7**
PIGN	**Pignataro Magg**	**1.44**	**152**	P	**Pb**	**16 45 44.5**	**0.0**
PTRJ	**Pietraroja**	**1.45**	**140**	AML	AML			
	comp=N,1465µm,0.3s							
PTRJ				AML	AML			
	comp=E,1245µm,1.0s							
PTRJ				AML	AML			
	comp=N,1440µm,1.5s							
PTRJ				AML	AML			
	comp=E,1315µm,1.0s							
PTRJ				AML	AML			
	comp=E,1315µm,1.0s							
PTRJ				AML	AML			
	comp=N,1440µm,0.5s							
PTRJ				AML	AML			
	comp=E,1245µm,1.0s							
CRE	**Caprese Michel**	**1.50**	**320**	P	**Pn**	**16 45 45.1**	**+0.5**
SACR	**S. Croce Del S**	**1.51**	**135**	P	**Pg**	**16 45 46.0**	**-0.9**
MELA	**Melanico ??? S**	**1.57**	**119**	P	**Pg**	**16 45 47.1**	**-0.9**
MAON	**Monte Argentar**	**1.60**	**269**	P	**Pn**	**16 45 45.9**	**+0.1**
MAON				AML	AML			
	comp=E,846µm,0.4s							
MAON				AML	AML			
	comp=N,378µm,0.6s							
PSB1	**Pescosannita**	**1.69**	**137**	P	**Pg**	**16 45 49.6**	**-0.7**
ASQU	**Asqua**	**1.71**	**321**	P	**Pn**	**16 45 48.1**	**+0.6**
FROS	**Frosini**	**1.73**	**296**	P	**Pn**	**16 45 48.0**	**+0.4**
SFI	**Santa Sofia**	**1.77**	**324**	P	**Pn**	**16 45 48.4**	**+0.1**
CASP	**Castiglione de**	**1.81**	**281**	P	**Pn**	**16 45 49.0**	**+0.1**
CASP				AML	AML			
	comp=E,160µm,1.3s							
CASP				AML	AML			
	comp=N,300µm,1.0s							
APRC	**Apricena**	**1.82**	**112**	P	**Pn**	**16 45 49.7**	**+0.7**
OSSC	**Osservatorio P**	**1.83**	**306**	P	**Pn**	**16 45 50.0**	**+1.0**

TRIF	**Trifonti**	**1.87**	**291**	P	**Pn**	**16 45 50.1**	**+0.5**
TRIF				AML	AML			
	comp=N,289µm,0.9s							
TRIF				AML	AML			
	comp=E,249µm,0.8s							
TRIF				AML	AML			
	comp=N,289µm,1.1s							
RUFI	**Rufina**	**1.88**	**317**	P	**Pn**	**16 45 49.9**	**+0.2**
RUFI				AML	AML			
	comp=N,593µm,0.5s							
RUFI				AML	AML			
	comp=E,502µm,0.5s							
SGRT	**San Giovanni R**	**1.96**	**111**	P	**Pn**	**16 45 51.9**	**+0.9**
SEI	**Scarperia**	**2.12**	**319**	AML	AML			
	comp=E,608µm,0.6s							
SEI				AML	AML			
	comp=N,903µm,0.8s							
SEI				AML	AML			
	comp=E,608µm,1.4s							
MRVN	**Minervino Murg**	**2.59**	**122**	AML	AML			
	comp=E,135µm,0.7s							
MRVN				AML	AML			
	comp=E,135µm,1.3s							
MRVN				AML	AML			
	comp=N,153µm,0.6s							
A050A	**Klekovaca**	**3.10**	**49**	*e*Pn	**Pn**	**16 46 07.6**	**+1.1**
SKDS	**Skadanscina**	**3.11**	**9**	*e*Pn	**Pn**	**16 46 06.2**	**-0.5**
MATE	**Matera**	**3.15**	**124**	⇓P	**Pb**	**16 46 11.2**	**-2.4**
PGF	**Pioggiola**	**3.17**	**273**	*e*P	**Pn**	**16 46 08.3**	**+0.7**
PGF				*e*Sn	**Sn**	**16 46 41.2**	**-4.1**
	comp=N,8.4nm,0.3s							
GBRS	**Gornja Briga**	**3.24**	**19**	*i* Pn	**Pn**	**16 46 08.9**	**+0.4**
GBRS				*e*Sn	**Sn**	**16 46 47.5**	**+0.5**
SRKY	**Kupres RS**	**3.25**	**59**	*e*Pn	**Pn**	**16 46 06.7**	**-1.9**
STON	**Ston**	**3.28**	**82**	*e*Pn	**Pn**	**16 46 10.9**	**+2.0**
STON				*e*Sn	**Sn**	**16 46 49.9**	**+2.2**
STON	**Ston**	**3.28**	**82**	*e*Pn	**Pn**	**16 46 09.9**	**+1.0**
BOJS	**Bojanci**	**3.34**	**24**	*e*Pn	**Pn**	**16 46 10.7**	**+0.9**
CEY	**Cerknica**	**3.36**	**14**	*e*Pn	**Pn**	**16 46 09.6**	**-0.5**
MGRS	**Mrkonjic Grad**	**3.38**	**54**	*e*Pn	**Pn**	**16 46 12.7**	**+2.4**
CGRP	**Cima Grappa**	**3.57**	**343**	P	**Pn**	**16 46 13.7**	**+0.6**
CGRP				AML	AML			
	comp=E,423µm,0.7s							
CGRP				AML	AML			
	comp=N,394µm,0.6s							
BLY	**Banja Luka**	**3.63**	**50**	*e*Pn	**Pn**	**16 46 15.6**	**+1.9**
BLY	**Banja Luka**	**3.63**	**50**	*e*Pn	**Pn**	**16 46 13.8**	**+0.1**
A051A	**Mrakovica**	**3.65**	**45**	*e*Pn	**Pn**	**16 46 14.7**	**+0.7**
CRES	**Cresnjev**	**3.69**	**24**	*e*Pn	**Pn**	**16 46 14.4**	**-0.2**
SALO	**Salr**	**3.72**	**329**	P	**Pn**	**16 46 16.1**	**+1.1**
DOSS	**Dosso del Somm**	**3.72**	**337**	P	**Pn**	**16 46 15.9**	**+0.7**
TREB	**Trebinje**	**3.75**	**85**	*e*Pn	**Pn**	**16 46 16.6**	**+1.3**
TREB	**Trebinje**	**3.75**	**85**	*e*Pn	**Pn**	**16 46 16.2**	**+0.9**
CTI	**Castel Tesino**	**3.76**	**342**	P	**Pn**	**16 46 16.5**	**+0.8**
CTI				AML	AML			
	comp=N,262µm,0.3s							
CTI				AML	AML			
	comp=E,298µm,0.4s							
CADS	**Cadrg**	**3.76**	**5**	*i* Pn	**Pn**	**16 46 15.4**	**-0.2**
STAL	**STALIGIAL**	**3.81**	**354**	P	**Pn**	**16 46 16.2**	**0.0**
STAL				AML	AML			
	comp=E,326µm,1.2s							
STAL				AML	AML			
	comp=E,326µm,0.8s							
STAL				AML	AML			
	comp=N,298µm,0.2s							
HCY	**Herceg Novi**	**3.85**	**89**	*e*Pn	**Pn**	**16 46 17.2**	**+0.4**
LUSI	**Trento, Gardas**	**3.87**	**335**	P	**Pn**	**16 46 18.2**	**+1.1**
CIMO	**Cimolais**	**3.88**	**351**	P	**Pn**	**16 46 17.1**	**-0.1**
CIMO				AML	AML			
	comp=N,72µm,0.3s							
CIMO				AML	AML			
	comp=N,72µm,0.3s							
CIMO				AML	AML			
	comp=E,84µm,0.7s							
CIMO				AML	AML			
	comp=E,83µm,0.7s							
BRY	**Bratogost**	**3.89**	**82**	*e*Pn	**Pn**	**16 46 19.5**	**+2.0**
GAGG	**Gaggia**	**3.97**	**336**	P	**Pn**	**16 46 19.6**	**+0.9**
MABI	**Maiga Bissina**	**4.09**	**332**	P	**Pn**	**16 46 21.4**	**+1.1**
OBKA	**Obir**	**4.13**	**12**	*i* Pn	**Pn**	**16 46 21.3**	**+0.5**
	comp=E,3.2nm,0.3s,SNR=4.7							
OBKA				*e*Sn	**Sn**	**16 47 10.0**	**+1.1**
	comp=E,12nm,0.5s							
OBKA	**Obir**	**4.13**	**12**	*e*Pn	**Pn**	**16 46 21.2**	**+0.5**
FVI	**Forni Avoltri**	**4.13**	**355**	P	**Pn**	**16 46 20.9**	**+0.1**
FVI				AML	AML			
	comp=E,120µm,0.2s							
FVI				AML	AML			
	comp=N,131µm,0.5s							
MYKA	**Terra Mystica**	**4.16**	**3**	*i* Pn	**Pn**	**16 46 21.7**	**+0.6**
	comp=N,0.1nm,0.1s,SNR=6.1							
MYKA				*i* Sn	**Sn**	**16 47 12.4**	**+2.8**
TIP	**Timpagrande**	**4.22**	**140**	⇓P	**Pb**	**16 46 31.4**	**-0.6**
APPI	**Appiano**	**4.26**	**340**	P	**Pn**	**16 46 23.8**	**+1.2**
ABTA	**Abfaltersbach**	**4.30**	**353**	*i* Pn	**Pn**	**16 46 24.0**	**+0.9**
	comp=N,31nm,0.7s,SNR=24							
ABTA				*i* Sn	**Sn**	**16 47 14.4**	**+1.2**
DRME	**Dracevica, Mon**	**4.38**	**92**	*e*Pn	**Pn**	**16 46 25.7**	**+1.6**
SOKA	**Soboth**	**4.38**	**16**	*i* Pn	**Pn**	**16 46 24.8**	**+0.6**
	comp=N,2.9nm,0.2s							
SOKA				*i* Sn	**Sn**	**16 47 12.6**	**-2.5**
	comp=N,5.9nm,0.4s							
PDG	**Podgorica**	**4.42**	**89**	⇑P	**Pn**	**16 46 26.0**	**+1.5**
PDG	**Podgorica**	**4.42**	**89**	*e*Pn	**Pn**	**16 46 26.5**	**+2.0**
PDG				*e*Sn	**Sn**	**16 47 17.0**	**+1.2**
SBF	**Sospel**	**4.50**	**290**	*e*P	**Pn**	**16 46 26.8**	**+1.0**
SBF				*e*Sn	**Sn**	**16 47 12.1**	**-5.9**
	comp=N,14nm,0.4s							
RISI	**Rein**	**4.55**	**350**	P	**Pn**	**16 46 27.8**	**+1.2**
RUDO	**Rudo**	**4.60**	**74**	*e*Pn	**Pn**	**16 46 29.3**	**+2.2**
KBA	**Koelnbreinsper**	**4.60**	**0**	*i* Pn	**Pn**	**16 46 28.5**	**+1.2**
	comp=N,0.7nm,0.2s							
KBA				*e*Sn	**Sn**	**16 47 19.4**	**-1.2**
	comp=N,8.6nm,0.3s							
ROSI	**Rosskopf**	**4.65**	**344**	P	**Pn**	**16 46 29.3**	**+1.4**
BBLS	**Lazići**	**4.68**	**71**	*e*Pn	**Pn**	**16 46 30.2**	**+1.9**
FETA	**Feichten**	**4.89**	**339**	*e*Pn	**Pn**	**16 46 33.8**	**+2.5**
	comp=N,4.4nm,0.5s,SNR=8.8							
FETA				*i* Sn	**Sn**	**16 47 29.3**	**+1.4**
	comp=N,11nm,0.6s							
WTTA	**Wattenberg**	**4.93**	**347**	*i* Pn	**Pn**	**16 46 33.8**	**+2.0**
	comp=N,2.2nm,0.2s							
WTTA				*i* Sn	**Sn**	**16 47 32.3**	**+3.6**
	comp=N,10nm,0.3s							
DAVOX	**Davos/Dischmat**	**4.94**	**332**	Pn	**Pn**	**16 46 33.6**	**+1.6**
	comp=N,2.3nm,0.3s,baz=158,slow=19,SNR=16							
DAVOX				Sn	**Sn**	**16 47 28.6**	**-0.5**
	comp=N,2.1nm,0.3s,baz=342,slow=20,SNR=2.1							
	comp=N,11nm,0.5s							
SQTA	**Sankt Quirin**	**4.97**	**343**	*i* Pn	**Pn**	**16 46 34.2**	**+2.0**
	comp=N,5.5nm,0.3s,SNR=8.6							
SQTA				*i* Sn	**Sn**	**16 47 32.5**	**+2.9**
	comp=N,8.8nm,0.2s							
SJES	**Sjenica**	**4.97**	**79**	*e*Pn	**Pn**	**16 46 34.4**	**+2.1**
SJES				*e*Sn	**Sn**	**16 47 30.1**	**+0.3**
WATA	**Walderalm**	**5.01**	**347**	*i* Pn	**Pn**	**16 46 35.2**	**+2.4**
	comp=N,2.4nm,0.2s,SNR=7.1							
WATA				*i* Sn	**Sn**	**16 47 34.3**	**+3.6**
	comp=N,12nm,0.3s							
ARSA	**Arzberg**	**5.03**	**18**	*i* Pn	**Pn**	**16 46 32.8**	**-0.2**
	comp=N,1.6nm,0.2s,SNR=5.0							
ARSA				*i* Sn	**Sn**	**16 47 29.7**	**-1.3**
	comp=N,2.3nm,0.3s							
TIR	**Tirane**	**5.04**	**101**	⇑P	**Pn**	**16 46 34.7**	**+1.6**
TIR	**Tirane**	**5.04**	**101**	*e*Pn	**Pn**	**16 46 34.5**	**+1.4**
TIR				*e*Sn	**Sn**	**16 47 32.2**	**+1.1**
LMR	**La Mourre**	**5.05**	**282**	*e*P	**Pn**	**16 46 33.5**	**+0.2**
LMR				*e*Sn	**Sn**	**16 47 25.5**	**-6.0**
	comp=N,3.7nm,0.4s							
MOTA	**Moosalm**	**5.11**	**343**	*e*Pn	**Pn**	**16 46 36.9**	**+2.7**
	comp=N,1.8nm,0.3s							
MOTA				*i* Sn	**Sn**	**16 47 36.6**	**+3.5**
	comp=N,4.1nm,0.3s							
IVAS	**Ivanjica**	**5.15**	**75**	*e*Pn	**Pn**	**16 46 36.1**	**+1.4**
IVAS				*e*Sn	**Sn**	**16 47 34.3**	**+0.3**
DIVS	**Divibare**	**5.15**	**69**	*e*Pn	**Pn**	**16 46 35.4**	**+0.6**
DIVS	**Divibare**	**5.15**	**69**	*e*Pn	**Pn**	**16 46 33.8**	**-1.0**
BIOA	**Bad Ischl, Aus**	**5.22**	**3**	*i* Pn	**Pn**	**16 46 36.9**	**+1.3**
	comp=N,4.8nm,0.3s,SNR=6.9							
BIOA				*i* Sn	**Sn**	**16 47 37.2**	**+1.5**
	comp=N,13nm,0.3s							
MBDF	**Montbardon**	**5.24**	**298**	*e*P	**Pn**	**16 46 38.2**	**+2.2**
MBDF				*e*Sn	**Sn**	**16 47 30.6**	**-5.7**
	comp=N,2.8nm,0.4s							

RETA	**Reutte**	**5.32**	**341**	*i* Pn	**Pn**	**16 46 39.5**	**+2.4**
	comp=N,0.8nm,0.2s							
RETA				*i* Sn	**Sn**	**16 47 40.6**	**+2.4**
	comp=N,9.2nm,0.5s							
MORH	**Mrgy, Hungar**	**5.36**	**44**	⇓P	Pn	16 46 44.0	+6.5
DAVA	**Damuels**	**5.38**	**334**	*i* Pn	**Pn**	**16 46 40.4**	**+2.4**
	comp=N,3.0nm,0.3s,SNR=12							
DAVA				*i* Sn	**Sn**	**16 47 43.7**	**+3.8**
	comp=N,6.3nm,0.3s							
MOA	**Molln**	**5.42**	**7**	*i* Pn	**Pn**	**16 46 34.9**	**-3.4**
	comp=N,9.2nm,0.3s							
MOA				*i* Sn	**Sn**	**16 47 41.6**	**+1.1**
MOA	**Molln**	**5.42**	**7**	*e*Pn	**Pn**	**16 46 37.0**	**-1.3**
MOA				*e*Sn	**Sn**	**16 47 38.8**	**-1.7**
FRGS	**Fruska Gora**	**5.43**	**58**	⇓P	**Pn**	**16 46 41.8**	**+3.4**
FRGS	**Fruska Gora**	**5.43**	**58**	*e*Pn	**Pn**	**16 46 39.7**	**+1.3**
FRGS	**Fruska Gora**	**5.43**	**58**	*e*Pn	**Pn**	**16 46 39.5**	**+1.1**
TRUS	**Trudelj**	**5.48**	**69**	*e*Pn	**Pn**	**16 46 39.8**	**+0.7**
TRUS				*e*Sn	**Sn**	**16 47 40.9**	**-1.0**
GRUS	**Gruza**	**5.61**	**73**	*e*Pn	**Pn**	**16 46 42.0**	**+1.0**
GRUS				*e*Sn	**Sn**	**16 47 45.8**	**+0.5**
LPL	**La Plagne**	**5.62**	**305**	*e*P	**Pn**	**16 46 43.0**	**+1.7**
LPL				*e*Sn	**Sn**	**16 47 38.8**	**-7.0**
	comp=N,2.7nm,0.3s							
RONA	**Rosalia, Austr**	**5.64**	**21**	*i* Pn	**Pn**	**16 46 41.9**	**+0.6**
	comp=N,2.8nm,0.4s,SNR=5.5							
RONA				*i* Sn	**Sn**	**16 47 45.5**	**-0.5**
	comp=N,2.9nm,0.4s							
CONA	**Conrad Observa**	**5.75**	**18**	*i* Pn	**Pn**	**16 46 43.2**	**+0.3**
	comp=N,2.4nm,0.3s,SNR=9.1							
CONA				*i* Sn	**Sn**	**16 47 49.7**	**+1.0**
	comp=N,4.2nm,0.3s							
OHR	**Ohrid**	**5.78**	**101**	*e*Pn	**Pn**	**16 46 45.4**	**+2.1**
OHR				*e*Sn	**Sn**	**16 47 49.1**	**-0.4**
OHR	**Ohrid**	**5.78**	**101**	*i* Pn	**Pn**	**16 46 46.2**	**+2.9**
SELS	**Selova**	**5.80**	**80**	*e*Pn	**Pn**	**16 46 44.8**	**+1.1**
SELS				*e*Sn	**Sn**	**16 47 50.2**	**+0.1**
SMRF	**Simiane la Rot**	**5.83**	**287**	*e*P	**Pn**	**16 46 45.7**	**+1.7**
SMRF				*e*Sn	**Sn**	**16 47 44.3**	**-6.5**
	comp=N,1.5nm,0.4s							
ORIF	**Oris-en-Rattie**	**5.90**	**297**	*e*P	**Pn**	**16 46 47.6**	**+2.6**
ORIF				*e*Sn	**Sn**	**16 47 46.2**	**-6.3**
	comp=N,2.5nm,0.3s							
BOVS	**Bovan**	**6.27**	**77**	*e*Pn	**Pn**	**16 46 50.6**	**+0.5**
FNA	**Florina**	**6.29**	**103**	*e*Pn	**Pn**	**16 46 53.2**	**+2.8**
FNA				*e*Sn	**Sn**	**16 48 01.1**	**-1.1**
BARS	**Barje**	**6.30**	**84**	*e*Pn	**Pn**	**16 46 51.8**	**+1.4**
BARS				*e*Sn	**Sn**	**16 48 02.4**	**+0.2**
GERES	**GERESS Array B**	**6.38**	**2**	Pn	**Pn**	**16 46 50.0**	**-1.5**
	comp=N,0.8nm,0.3s,baz=167,slow=13,SNR=13							
GERES				Sn	**Sn**	**16 48 01.2**	**-3.0**
	comp=N,2.9nm,0.3s,baz=170,slow=23,SNR=8.9							
	comp=N,1.3nm,0.3s							
CKRC	**Cesky Krumlov**	**6.38**	**6**	*e*PN	**Pn**	**16 46 51.2**	**-0.4**
CKRC				*e*SN	**Sn**	**16 48 02.7**	**-1.6**
PRVS	**Prvonek**	**6.50**	**87**	*e*Pn	**Pn**	**16 46 54.3**	**+1.1**
PRVS				*e*Sn	**Sn**	**16 48 06.0**	**-1.2**
MODS	**Modra-Piesok**	**6.53**	**24**	*e*PN	**Pn**	**16 46 58.2**	**+4.6**
MDVR	**Moldovita**	**6.53**	**67**	⇑P	**Pn**	**16 46 55.7**	**+2.0**
CABF	**La Chapelle**	**6.60**	**311**	*e*P	**Pn**	**16 46 57.0**	**+2.4**
CABF				*e*Sn	**Sn**	**16 48 02.9**	**-6.8**
	comp=N,2.1nm,0.3s							
KHC	**Kasperske Hory**	**6.66**	**2**	*e*PN	**Pn**	**16 46 55.2**	**-0.2**
KHC				*e*SN	**Sn**	**16 48 09.4**	**-1.7**
STIP	**Stip**	**6.67**	**94**	*i* Pn	**Pn**	**16 46 58.9**	**+3.4**
ZAGS	**Zajecar**	**6.68**	**75**	*e*Pn	**Pn**	**16 46 56.3**	**+0.7**
VIVF	**Saint-Julien-l**	**6.69**	**294**	*e*Pn	**Pn**	**16 46 52.8**	**-3.0**
VIVF	**Saint-Julien-l**	**6.69**	**294**	*e*P	**Pn**	**16 46 58.0**	**+2.2**
VIVF				*e*Sn	**Sn**	**16 48 04.6**	**-7.2**
	comp=N,0.7nm,0.2s							
BZS	**Buzias**	**6.77**	**60**	⇑P	**Pn**	**16 46 58.3**	**+1.4**
BZS	**Buzias**	**6.77**	**60**	*e*Pn	**Pn**	**16 46 59.0**	**+2.1**
ZAPS	**Zavoj**	**6.91**	**80**	*e*Sn	**Sn**	**16 48 17.1**	**-0.3**
HINF	**Hinteralfeld**	**7.01**	**322**	*e*P	**Pn**	**16 47 01.1**	**+0.9**
HINF				*e*Sn	**Sn**	**16 48 13.0**	**-6.8**
	comp=N,7.2nm,0.3s							
HERR	**Herculane**	**7.04**	**67**	⇑P	**Pn**	**16 47 02.9**	**+2.3**
LASF	**Ste Croix**	**7.07**	**286**	*e*P	**Pn**	**16 47 03.0**	**+2.0**
SURR	**Surduc**	**7.15**	**60**	⇑P	**Pn**	**16 47 04.8**	**+2.7**
VYHS	**Vyhne**	**7.17**	**31**	*e*PN	**Pn**	**16 47 03.6**	**+1.3**
VRAC	**Vranov**	**7.21**	**17**	Pn	**Pn**	**16 46 59.4**	**-3.5**
	comp=N,1.0nm,0.3s,baz=170,slow=10,SNR=4.7							
CDF	**Champ du Feu**	**7.29**	**327**	*e*P	**Pn**	**16 47 04.8**	**+0.8**
CDF				*e*Sn	**Sn**	**16 48 19.1**	**-7.5**
	comp=N,4.6nm,0.3s							
VTS	**Vitosha**	**7.35**	**86**	⇓P	**Pn**	**16 47 06.0**	**+1.0**
VTS	**Vitosha**	**7.35**	**86**	*e*Pn	**Pn**	**16 47 06.5**	**+1.5**
VTS	**Vitosha**	**7.35**	**86**	*e*Pn	**Pn**	**16 47 06.5**	**+1.5**
VTS				*e*Sn	**Sn**	**16 48 27.7**	**-0.6**
HAU	**Haudompre**	**7.38**	**321**	*e*P	**Pn**	**16 47 06.6**	**+1.3**
HAU				*e*Sn	Sn	16 48 20.6	-8.3
	comp=N,16nm,0.3s							
KEST	**Kesra**	**7.40**	**206**	Pn	**Pn**	**16 47 10.2**	**+4.6**
	comp=N,0.9nm,0.3s,baz=281,slow=2.9,SNR=7.7							
KEST				LR	LR	16 49 56.9		
	comp=N,105nm,18.2s,baz=197,slow=36							
	comp=N,6.4nm,0.7s							
PRU	**Pruhonice**	**7.56**	**6**	*e*SN	**Sn**	**16 48 29.6**	**-3.7**
NKC	**Novy Kostel**	**7.78**	**356**	*e*SN	**Sn**	**16 48 35.4**	**-3.3**
SRS	**Serrai**	**7.82**	**97**	*e*Pn	**Pn**	**16 47 13.5**	**+2.2**
KRLC	**Kraliky**	**7.97**	**16**	*e*PN	**Pn**	**16 47 12.4**	**-1.0**
PAGF	**Fort de Pagny**	**8.07**	**321**	*e*P	**Pn**	**16 47 17.4**	**+2.7**
PAGF				*e*Sn

	comp=E,3665µm,0.9s						
RM33				AML	AML		
	comp=E,2928µm,0.1s						
RM33				AML	AML		
	comp=E,2581µm,0.1s						
RM33				AML	AML		
	comp=N,2172µm,0.1s						
RM33				AML	AML		
	comp=N,2269µm,0.1s						
T1247	**Pizzolo (AQ)**	**0.05**	**148**	P	Pg	16 53 13.9	+0.3
T1247				S	Sg	16 53 15.7	+0.3
T1247				AML	AML		
	comp=E,2845µm,0.2s						
T1247				AML	AML		
	comp=N,4240µm,0.2s						
T1247				AML	AML		
	comp=E,2302µm,0.1s						
T1247				AML	AML		
	comp=N,4241µm,0.2s						
CAMP	**Campotosto**	**0.12**	**66**	P	Pg	16 53 14.6	+0.2
CAMP				S	Sg	16 53 17.0	+0.3
CAMP				AML	AML		
	comp=N,739µm,0.4s						
CAMP				AML	AML		
	comp=E,442µm,0.4s						
CAMP				AML	AML		
	comp=E,441µm,0.4s						
CAMP				AML	AML		
	comp=N,739µm,0.4s						
SMA1	**SAN MARTINO**	**0.15**	**21**	P	Pg	16 53 15.2	+0.4
SMA1				S	Sg	16 53 18.1	+0.7
SMA1				AML	AML		
	comp=E,6355µm,0.2s						
SMA1				AML	AML		
	comp=N,4005µm,0.4s						
SMA1				AML	AML		
	comp=N,4003µm,0.4s						
SMA1				AML	AML		
	comp=E,6357µm,0.2s						
LNSS	**Leonessa**	**0.20**	**306**	⇑P	Pg	16 53 15.9	+0.4
LNSS				S	Sg	16 53 19.4	+0.8
LNSS				AML	AML		
	comp=N,1955µm,0.2s						
LNSS				AML	AML		
	comp=E,1525µm,0.8s						
LNSS				AML	AML		
	comp=N,1955µm,1.8s						
LNSS				AML	AML		
	comp=E,1525µm,1.2s						
LNSS				AML	AML		
	comp=N,1955µm,0.2s						
LNSS				AML	AML		
	comp=E,1387µm,0.2s						
T1218	**Civita (PG)**	**0.21**	**330**	P	Pg	16 53 16.0	+0.3
T1218				S	Sg	16 53 19.6	+0.6
T1218				AML	AML		
	comp=E,846µm,0.4s						
T1218				AML	AML		
	comp=E,788µm,0.4s						
T1218				AML	AML		
	comp=N,918µm,0.4s						
T1218				AML	AML		
	comp=N,948µm,0.4s						
T1218				AML	AML		
	comp=E,788µm,0.4s						
T1218				AML	AML		
	comp=N,918µm,0.4s						
T1218				AML	AML		
	comp=N,948µm,1.6s						
T1218				AML	AML		
	comp=N,918µm,1.6s						
T1218				AML	AML		
	comp=N,820µm,0.2s						
T1218				AML	AML		
	comp=N,817µm,0.2s						
T1218				AML	AML		
	comp=E,731µm,0.1s						
T1218				AML	AML		
	comp=E,710µm,0.1s						
GIGS	**Gran Sasso**	**0.23**	**99**	P	Pg	16 53 16.1	+0.1
GIGS				AML	AML		
	comp=E,98µm,1.6s						
GIGS				AML	AML		
	comp=N,139µm,0.3s						
GIGS				AML	AML		
	comp=N,100µm,0.2s						
GIGS				AML	AML		
	comp=E,53µm,0.1s						
FIAM	**Fiamignano**	**0.24**	**206**	P	Pg	16 53 16.6	+0.4
FIAM				AML	AML		
	comp=E,332µm,0.6s						
FIAM				AML	AML		
	comp=N,357µm,1.0s						
FIAM				AML	AML		
	comp=N,232µm,0.2s						
FIAM				AML	AML		
	comp=E,283µm,0.5s						
FIAM				AML	AML		
	comp=N,190µm,0.4s						
T1217	**Poggiodomo (PG**	**0.33**	**313**	P	Pg	16 53 18.0	+0.2
T1217				S	Sb	16 53 23.2	-0.8
T1217				AML	AML		
	comp=E,440µm,1.5s						
T1217				AML	AML		
	comp=N,414µm,1.6s						
T1217				AML	AML		
	comp=N,414µm,0.4s						
T1217				AML	AML		
	comp=E,440µm,0.5s						
T1217				AML	AML		
	comp=N,362µm,0.3s						
T1217				AML	AML		
	comp=E,402µm,0.1s						
T1217				AML	AML		
	comp=E,444µm,0.1s						
T1217				AML	AML		
	comp=N,320µm,0.2s						
ARRO	**Arrone**	**0.38**	**284**	⇑P	Pg	16 53 18.8	+0.2
ARRO				AML	AML		
	comp=E,659µm,1.0s						
ARRO				AML	AML		
	comp=N,954µm,0.2s						
ARRO				AML	AML		
	comp=E,638µm,0.2s						
ARRO				AML	AML		
	comp=N,326µm,0.2s						
CESX	**Cesi**	**0.52**	**284**	P	Pg	16 53 21.1	0.0
CESX				AML	AML		
	comp=E,517µm,0.5s						
CESX				AML	AML		
	comp=N,914µm,0.2s						
CESI	**CESI - Serrava**	**0.58**	**333**	P	Pn	16 53 26.5	+1.5
CESI				AML	AML		
	comp=E,1265µm,0.8s						
CESI				AML	AML		
	comp=N,2420µm,0.2s						
CSP1	**Cessapalombo**	**0.61**	**356**	⇑P	Pg	16 53 22.8	-0.1
CSP1				AML	AML		
	comp=E,2525µm,1.5s						
CSP1				AML	AML		
	comp=N,2345µm,0.3s						

*ROM **18** 16:53:26.6±0.1, 42°.514N±0°.003×13°.296E±0°.005, h14km, ML2.7/26, Error ellipse: s-maj=0.4km s-min=0.0km az=237.0*

*PRU **18** 16:53:26.2±0.0, 42°.47N×13°.96E, h10km*

ISC 18 16:53:26.4±0.8, 42°.49N±0°.02×13°.34E±0°.02, h17km±4km, n63, σ1.56/76, 19C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.06**	**212**	⇓P	**Pg**	**16 53 29.8**	**+0.2**
T1247				S	**Sg**	**16 53 32.0**	**+0.2**
T1247				AML	AML		
	comp=E,34550µm,0.4s						
T1247				AML	AML		
	comp=N,26750µm,0.1s						
T1247				AML	AML		
	comp=N,26700µm,0.1s						
T1247				AML	AML		
	comp=E,27237µm,0.2s						
T1247				AML	AML		
	comp=N,26749µm,0.1s						
RM33	**Pellescritta (**	**0.10**	**280**	P	**Pg**	**16 53 29.6**	**-0.4**
RM33				S	**Sg**	**16 53 31.7**	**-0.7**
RM33				AML	AML		
	comp=N,33150µm,0.6s						
RM33				AML	AML		
	comp=E,22650µm,1.1s						
RM33				AML	AML		
	comp=N,33500µm,0.6s						
RM33				AML	AML		
	comp=E,22900µm,1.1s						
RM33				AML	AML		
	comp=E,22650µm,0.9s						
RM33				AML	AML		
	comp=E,22900µm,0.9s						
RM33				AML	AML		
	comp=N,33500µm,1.4s						
RM33				AML	AML		
	comp=N,33150µm,1.4s						
RM33				AML	AML		
	comp=E,18342µm,0.1s						
RM33				AML	AML		
	comp=E,18248µm,0.2s						
RM33				AML	AML		
	comp=N,32344µm,0.1s						
RM33				AML	AML		
	comp=N,33352µm,0.2s						
SMA1	**SAN MARTINO**	**0.14**	**358**	⇑P	**Pg**	**16 53 30.3**	**-0.2**
SMA1				S	**Sg**	**16 53 33.2**	**0.0**
SMA1				AML	AML		
	comp=N,36550µm,0.3s						
SMA1				AML	AML		
	comp=E,65900µm,0.2s						
SMA1				AML	AML		
	comp=E,65914µm,0.2s						
SMA1				AML	AML		
	comp=N,36540µm,0.3s						
GIGS	**Gran Sasso**	**0.17**	**104**	⇓P	**Pb**	**16 53 31.4**	**+0.2**
GIGS				S	**Sb**	**16 53 35.1**	**+0.6**
GIGS				AML	AML		
	comp=E,2170µm,0.5s						
GIGS				AML	AML		
	comp=N,1505µm,0.5s						
GIGS				AML	AML		
	comp=E,1521µm,0.1s						
GIGS				AML	AML		
	comp=N,1404µm,0.1s						
T1218	**Civita (PG)**	**0.24**	**317**	P	**Pg**	**16 53 31.4**	**-0.6**
T1218				S	**Sg**	**16 53 35.0**	**-0.7**
T1218				AML	AML		
	comp=N,13180µm,0.2s						
T1218				AML	AML		
	comp=E,5335µm,0.4s						
T1218				AML	AML		
	comp=N,13195µm,0.2s						
T1218				AML	AML		
	comp=E,5490µm,0.4s						
T1218				AML	AML		
	comp=E,5340µm,0.4s						
T1218				AML	AML		
	comp=N,13195µm,0.2s						
T1218				AML	AML		
	comp=E,5490µm,0.4s						
T1218				AML	AML		
	comp=N,13180µm,0.2s						
T1218				AML	AML		
	comp=E,5335µm,1.6s						
T1218				AML	AML		
	comp=E,5490µm,1.6s						
T1218				AML	AML		
	comp=N,13190µm,0.2s						
T1218				AML	AML		
	comp=N,13184µm,0.2s						
T1218				AML	AML		
	comp=E,5193µm,0.2s						
T1218				AML	AML		
	comp=E,4938µm,0.1s						
T1218				AML	AML		
	comp=N,13199µm,0.2s						
LNSS	**Leonessa**	**0.25**	**297**	⇑P	**Pg**	**16 53 31.6**	**-0.5**
LNSS				S	**Sg**	**16 53 35.3**	**-0.6**
LNSS				AML	AML		
	comp=N,6325µm,0.1s						
LNSS				AML	AML		
	comp=E,5365µm,0.2s						
LNSS				AML	AML		
	comp=E,5368µm,0.2s						
LNSS				AML	AML		
	comp=N,6326µm,0.1s						
FIAM	**Fiamignano**	**0.28**	**217**	⇑P	**Pg**	**16 53 32.7**	**+0.2**
FIAM				S	**Sb**	**16 53 37.2**	**-0.2**
FIAM				AML	AML		
	comp=N,4290µm,0.3s						
FIAM				AML	AML		
	comp=E,5215µm,0.3s						
FIAM				AML	AML		
	comp=N,4291µm,0.3s						
FIAM				AML	AML		
	comp=E,5213µm,0.3s						
FAGN	**Fagnano**	**0.29**	**141**	⇓P	**Pb**	**16 53 33.5**	**+0.3**
FAGN				S	**Sb**	**16 53 39.0**	**+1.3**
FAGN				AML	AML		
	comp=N,6005µm,0.3s						
FAGN				AML	AML		
	comp=E,5770µm,0.3s						
FAGN				AML	AML		
	comp=N,6003µm,0.3s						
FAGN				AML	AML		
	comp=E,5766µm,0.3s						
T1217	**Poggiodomo (PG**	**0.37**	**306**	⇑P	**Pg**	**16 53 33.5**	**-0.7**
T1217				S	**Sg**	**16 53 38.8**	**-0.7**
T1217				AML	AML		
	comp=E,2025µm,0.2s						
T1217				AML	AML		
	comp=N,1825µm,0.6s						
T1217				AML	AML		
	comp=N,2065µm,0.3s						
T1217				AML	AML		
	comp=E,2020µm,0.2s						
T1217				AML	AML		
	comp=N,2065µm,0.3s						
T1217				AML	AML		
	comp=N,1825µm,0.6s						
T1217				AML	AML		
	comp=E,2045µm,0.2s						
T1217				AML	AML		
	comp=E,2020µm,0.2s						
T1217				AML	AML		
	comp=N,2065µm,1.7s						
T1217				AML	AML		
	comp=N,1757µm,0.3s						
T1217				AML	AML		
	comp=E,2041µm,0.2s						
T1217				AML	AML		
	comp=N,1869µm,0.3s						
T1217				AML	AML		
	comp=E,2023µm,0.2s						
ARRO	**Arrone**	**0.43**	**282**	⇑P	**Pg**	**16 53 34.5**	**-0.7**
ARRO				S	**Sg**	**16 53 40.8**	**-0.4**
ARRO				AML	AML		
	comp=E,1595µm,0.2s						
ARRO				AML	AML		
	comp=N,1995µm,1.1s						
ARRO				AML	AML		
	comp=N,1995µm,0.9s						
ARRO				AML	AML		
	comp=E,1595µm,0.2s						
ARRO				AML	AML		
	comp=N,1722µm,0.2s						
PTQR	**Pietraquaria**	**0.47**	**175**	⇓P	**Pb**	**16 53 36.2**	**-0.1**
PTQR				S	**Sb**	**16 53 44.3**	**+1.3**
PTQR				AML	AML		
	comp=N,522µm,0.8s						
PTQR				AML	AML		
	comp=N,522µm,1.2s						
PTQR				AML	AML		
	comp=E,554µm,0.5s						
PTQR				AML	AML		
	comp=N,362µm,0.2s						
PTQR				AML	AML		
	comp=E,513µm,0.2s						
TRTR	**Tortoreto Alta**	**0.53**	**53**	P	**Pb**	**16 53 37.2**	**0.0**
TRTR				AML	AML		
	comp=E,2476µm,0.4s						
TRTR				AML	AML		
	comp=N,1978µm,0.5s						
GUMA	**Gualdo di Mace**	**0.57**	**360**	⇑P	**Pg**	**16 53 37.4**	**-0.3**
GUMA				AML	AML		
	comp=E,3290µm,0.3s						
GUMA				AML	AML		
	comp=N,3935µm,0.6s						
GUMA				AML	AML		
	comp=E,4175µm,0.3s						
GUMA				AML	AML		
	comp=N,4205µm,0.2s						
GUMA				AML	AML		
	comp=N,3935µm,0.5s						
GUMA				AML	AML		
	comp=N,4205µm,0.2s						
GUMA				AML	AML		
	comp=E,3291µm,0.3s						
GUMA				AML	AML		
	comp=N,3832µm,0.4s						
GUMA				AML	AML		
	comp=E,4176µm,0.3s						
CESX	**Cesi**	**0.57**	**282**	⇓P	**Pg**	**16 53 37.5**	**-0.3**
CESX				AML	AML		
	comp=N,1195µm,0.4s						
CESX				AML	AML		
	comp=E,922µm,0.3s						
CESX				AML	AML		
	comp=E,921µm,0.3s						
CESX				AML	AML		
	comp=N,1196µm,0.4s						
FDMO	**Fiordimonte**	**0.57**	**341**	P	**Pg**	**16 53 37.0**	**-0.8**
FDMO				AML	AML		
	comp=E,1165µm,0.1s						
FDMO				AML	AML		
	comp=N,1205µm,0.2s						
FDMO				AML	AML		
	comp=E,1167µm,0.1s						
FDMO				AML	AML		
	comp=N,1204µm,0.2s						
CESI	**CESI - Serrava**	**0.60**	**328**	P	**Pg**	**16 53 37.9**	**-0.4**
CESI				AML	AML		
	comp=E,1265µm,0.8s						
CESI				AML	AML		
	comp=N,2420µm,0.2s						
CESI				AML	AML		
	comp=N,2418µm,0.2s						
CESI				AML	AML		
	comp=E,1227µm,0.2s						
CSP1	**Cessapalombo**	**0.61**	**351**	⇑P	**Pg**	**16 53 37.7**	**-0.8**
CSP1				S	**Sb**	**16 53 46.8**	**-0.2**
CSP1				AML	AML		
	comp=E,2525µm,1.5s						
CSP1				AML	AML		
	comp=E,2525µm,0.5s						
CSP1				AML	AML		
	comp=N,2345µm,0.3s						
CSP1				AML	AML		
	comp=N,2346µm,0.3s						
CSP1				AML	AML		
	comp=E,2271µm,0.3s						
T1220	**Camerino, Fraz**	**0.65**	**343**	⇓P	**Pg**	**16 53 38.3**	**-0.8**
T1220				AML	AML		
	comp=E,4855µm,1.3s						
T1220				AML	AML		
	comp=N,5675µm,0.7s						
T1220				AML	AML		
	comp=E,4880µm,1.3s						
T1220				AML	AML		
	comp=N,5660µm,0.7s						
T1220				AML	AML		
	comp=E,4855µm,0.7s						
T1220				AML	AML		
	comp=E,4880µm,0.7s						
T1220				AML	AML		
	comp=N,5675µm,1.3s						
T1220				AML	AML		
	comp=N,5660µm,1.3s						
T1220				AML	AML		
	comp=E,4778µm,0.3s						
T1220				AML	AML		
	comp=E,4702µm,0.3s						
T1220				AML	AML		
	comp=N,5610µm,0.2s						
T1220				AML	AML		
	comp=N,5578µm,0.2s						
MTCE	**Montecelio**	**0.65**	**224**	P	**Pg**	**16 53 39.0**	**-0.1**
MTCE				AML	AML		
	comp=E,729µm,0.3s						
MTCE				AML	AML		
	comp=N,369µm,0.7s						
MTCE				AML	AML		
	comp=E,729µm,1.7s						
MTCE				AML	AML		
	comp=N,369µm,0.7s						
MTCE				AML	AML		
	comp=E,731µm,0.3s						
MOMA	**Monte Martano**	**0.65**	**299**	P	**Pg**	**16 53 38.8**	**-0.4**
MOMA				S	**Sb**	**16 53 48.1**	**0.0**
MOMA				AML	AML		
	comp=E,1018µm,0.2s						
MOMA				AML	AML		
	comp=N,966µm,1.3s						
MOMA				AML	AML		
	comp=E,1027µm,0.2s						
MOMA				AML	AML		
	comp=N,984µm,1.3s						
MOMA				AML	AML		
	comp=N,966µm,0.7s						
MOMA				AML	AML		
	comp=N,984µm,0.7s						
MOMA				AML	AML		
	comp=E,1018µm,0.2s						
MOMA				AML	AML		
	comp=N,833µm,0.2s						
MOMA				AML	AML		
	comp=N,865µm,0.2s						
MOMA				AML	AML		
	comp=E,1025µm,0.2s						
MNTP	**Montappone**	**0.65**	**8**	⇓P	**Pb**	**16 53 39.4**	**0.0**
MNTP				AML	AML		
	comp=E,2885µm,0.8s						
MNTP				AML	AML		
	comp=N,1665µm,0.5s						
MNTP				AML	AML		
	comp=N,1665µm,1.5s						
MNTP				AML	AML		
	comp=E,2717µm,0.1s						
MNTP				AML	AML		
	comp=N,1641µm,0.2s						
VVLD	**Villa Vallelon**	**0.66**	**161**	⇑P	**Pb**	**16 53 39.9**	**+0.5**
VVLD				AML	AML		
	comp=N,322µm,1.0s						
VVLD				AML	AML		
	comp=E,372µm,1.2s						
VVLD				AML	AML		
	comp=N,323µm,1.0s						
VVLD				AML	AML		
	comp=E,372µm,0.8s						
VVLD				AML	AML		
	comp=N,307µm,0.8s						
VVLD				AML	AML		
	comp=E,345µm,0.5s						
SRES	**S.Oreste - Sor**	**0.67**	**248**	P	**Pg**	**16 53 39.3**	**-0.1**
SRES				AML	AML		
	comp=N,386µm,0.4s						
SRES				AML	AML		
	comp=E,330µm,0.7s						
SRES				AML	AML		
	comp=E,308µm,0.2s						
SRES				AML	AML		
	comp=N,386µm,0.4s						
RCAV	**Rocca di Cave**	**0.71**	**205**	⇓P	**Pb**	**16 53 40.7**	**+0.3**
RCAV				AML	AML		
	comp=N,727µm,1.2s						
RCAV				AML	AML		
	comp=E,804µm,0.4s						
RCAV				AML	AML		
	comp=N,728µm,1.2s						
RCAV				AML	AML		
	comp=N,646µm,0.5s						
RCAV				AML	AML		
	comp=E,804µm,0.4s						
ASSB	**Assisi San Ben**	**0.74**	**318**	P	**Pb**	**16 53 40.2**	**-0.7**
ASSB				AML	AML		
	comp=N,1360µm,0.2s						
ASSB				AML	AML		
	comp=E,1028µm,1.2s						
ASSB				AML	AML		
	comp=E,1028µm,0.8s						
ASSB				AML	AML		
	comp=N,1363µm,0.2s						
ASSB				AML	AML		
	comp=E,828µm,0.2s						
SNTG	**Esanatoglia**	**0.82**	**339**	S	**Sg**	**16 53 53.6**	**+0.4**
SNTG				AML	AML		

	comp=N,572µm,1.1s							
SNTG					AML	AML		
	comp=E,440µm,0.8s							
SNTG					AML	AML		
	comp=N,534µm,0.2s							
SNTG					AML	AML		
	comp=N,572µm,0.9s							
SNTG					AML	AML		
	comp=E,461µm,0.8s							
SNTG					AML	AML		
	comp=N,535µm,0.1s							
SNTG					AML	AML		
	comp=E,318µm,0.2s							
SNTG					AML	AML		
	comp=E,333µm,0.2s							
SNTG					AML	AML		
	comp=N,486µm,0.1s							
POFI	**Posta Fibreno**	**0.82**	**160**		P	**Pn**	**16 53 43.0**	**-0.3**
POFI					AML	AML		
	comp=E,305µm,0.8s							
POFI					AML	AML		
	comp=N,249µm,1.6s							
POFI					AML	AML		
	comp=E,316µm,0.8s							
POFI					AML	AML		
	comp=N,228µm,1.6s							
POFI					AML	AML		
	comp=E,305µm,1.2s							
POFI					AML	AML		
	comp=N,249µm,0.4s							
POFI					AML	AML		
	comp=N,228µm,0.4s							
POFI					AML	AML		
	comp=E,316µm,1.2s							
POFI					AML	AML		
	comp=N,215µm,0.5s							
POFI					AML	AML		
	comp=E,305µm,0.8s							
POFI					AML	AML		
	comp=N,215µm,0.5s							
POFI					AML	AML		
	comp=E,316µm,0.8s							
EL6	**Elcito**	**0.85**	**348**	⇓P		**Pb**	**16 53 42.0**	**-0.8**
EL6					AML	AML		
	comp=E,1345µm,0.2s							
EL6					AML	AML		
	comp=N,1385µm,0.4s							
EL6					AML	AML		
	comp=E,1340µm,0.2s							
EL6					AML	AML		
	comp=N,1385µm,1.6s							
EL6					AML	AML		
	comp=E,1344µm,0.2s							
EL6					AML	AML		
	comp=N,1300µm,0.3s							
CING	**Cingoli**	**0.89**	**353**	⇑P		**Pb**	**16 53 42.6**	**-0.8**
CING					AML	AML		
	comp=E,880µm,1.0s							
CING					AML	AML		
	comp=N,802µm,0.2s							
CING					AML	AML		
	comp=E,880µm,1.0s							
CING					AML	AML		
	comp=E,821µm,0.3s							
CING					AML	AML		
	comp=N,803µm,0.2s							
FOSV	**Fossato di Vic**	**0.91**	**332**	⇓P		**Pb**	**16 53 43.1**	**-0.6**
FOSV					AML	AML		
	comp=E,516µm,0.6s							
FOSV					AML	AML		
	comp=N,582µm,0.4s							
FOSV					AML	AML		
	comp=E,517µm,0.6s							
FOSV					AML	AML		
	comp=N,581µm,0.4s							
GIUL	**Giuliano Di Ro**	**0.94**	**184**		P	**Pn**	**16 53 45.9**	**+1.1**
GIUL					AML	AML		
	comp=E,240µm,1.4s							
GIUL					AML	AML		
	comp=N,227µm,0.5s							
GIUL					AML	AML		
	comp=E,240µm,0.6s							
GIUL					AML	AML		
	comp=N,227µm,0.5s							
GIUL					AML	AML		
	comp=E,237µm,0.6s							
MGAB	**Montegabbione**	**1.00**	**295**		P	**Pb**	**16 53 44.6**	**-0.7**
MGAB					AML	AML		
	comp=N,532µm,0.9s							
MGAB					AML	AML		
	comp=E,748µm,0.5s							
MGAB					AML	AML		
	comp=N,532µm,1.1s							
MGAB					AML	AML		
	comp=E,747µm,0.5s							
MGAB					AML	AML		
	comp=N,522µm,0.6s							
MGAB					AML	AML		
	comp=E,715µm,0.5s							
ARVD	**Arcevia**	**1.05**	**344**		P	**Pb**	**16 53 45.5**	**-0.6**
ARVD					AML	AML		
	comp=E,386µm,0.5s							
ARVD					AML	AML		
	comp=N,372µm,0.6s							
ARVD					AML	AML		
	comp=E,386µm,1.5s							
ARVD					AML	AML		
	comp=N,372µm,1.4s							
ARVD					AML	AML		
	comp=N,371µm,0.6s							
ARVD					AML	AML		
	comp=E,386µm,0.5s							
PIEI	**Pieia**	**1.20**	**331**	⇑P		**Pb**	**16 53 48.4**	**-0.3**
PIEI					AML	AML		
	comp=E,374µm,0.3s							
PIEI					AML	AML		
	comp=N,244µm,1.1s							
PIEI					AML	AML		
	comp=E,374µm,1.7s							
PIEI					AML	AML		
	comp=N,244µm,0.9s							
PIEI					AML	AML		
	comp=E,374µm,0.3s							
PIEI					AML	AML		
	comp=N,208µm,0.4s							
MPAG	**Monte Paganucc**	**1.21**	**340**		P	**Pn**	**16 53 48.6**	**-0.1**
MPAG					AML	AML		
	comp=E,449µm,0.9s							
MPAG					AML	AML		
	comp=N,563µm,1.6s							
MPAG					AML	AML		
	comp=E,282µm,0.5s							
MPAG					AML	AML		
	comp=E,449µm,1.1s							
MPAG					AML	AML		
	comp=N,368µm,1.0s							
MPAG					AML	AML		
	comp=N,351µm,0.3s							
MPAG					AML	AML		
	comp=E,311µm,0.6s							
MPAG					AML	AML		
	comp=E,252µm,0.4s							
MPAG					AML	AML		
	comp=N,327µm,0.5s							
PZUN	**Potenza**	**2.61**	**134**		S	**Sn**	**16 54 40.4**	**+1.3**
MGR	**Morigerati**	**2.88**	**144**		S	**Sg**	**16 54 59.8**	**+0.8**
NDIM	**Novi di Modena**	**2.98**	**324**		S	**Sn**	**16 54 47.3**	**-0.9**
SIRI	**Monte Sirino -**	**2.99**	**140**		S	**Sg**	**16 55 02.9**	**+0.4**
SBPO	**S.Benedetto Po**	**3.10**	**326**		S	**Sn**	**16 54 50.1**	**-1.1**
GRAM	**Graiana**	**3.11**	**311**	⇓P		**Pn**	**16 54 14.9**	**+0.2**
GRAM					S	**Sb**	**16 55 01.2**	**+2.3**
LTRZ	**Laterza**	**3.22**	**125**		S	**Sb**	**16 55 02.9**	**+0.9**
BLY	**Banja Luka**	**3.59**	**50**		S	**Sg**	**16 55 17.8**	**-3.7**
CTI	**Castel Tesino**	**3.76**	**342**	⇑P		**Pn**	**16 54 25.0**	**+1.3**
CTI					AML	AML		
	comp=N,41µm,0.3s							
CTI					AML	AML		
	comp=E,40µm,0.2s							
ZAG	**Zagreb**	**3.84**	**29**		S	**Sn**	**16 55 13.2**	**+3.8**
LUSI	**Trento, Gardas**	**3.87**	**334**	⇑P		**Pn**	**16 54 26.3**	**+1.1**
LUSI					AML	AML		
	comp=N,35µm,0.2s							
OBKA	**Obir**	**4.11**	**12**	*i* Pn		**Pn**	**16 54 30.0**	**+1.5**
	comp=N,0.9nm,0.2s							
MYKA	**Terra Mystica**	**4.14**	**3**	*i* Pn		**Pn**	**16 54 32.1**	**+3.1**
	comp=N,1.1nm,0.2s							
ABTA	**Abfaltersbach**	**4.30**	**352**	*i* Pn		**Pn**	**16 54 33.2**	**+2.2**
	comp=N,1.9nm,0.2s							
ERC	**Erice**	**4.49**	**188**		P	**Pb**	**16 54 43.2**	**-1.5**
MSRU	**Castanea**	**4.54**	**158**		P	**Pb**	**16 54 42.3**	**-3.3**
RISI	**Rein**	**4.54**	**349**	⇑P		**Pn**	**16 54 37.4**	**+2.8**
GMB	**Gambarie**	**4.72**	**155**	⇑P		**Pb**	**16 54 48.6**	**-0.1**
GALF	**Gagliano Caste**	**4.87**	**168**	⇑P		**Pb**	**16 54 47.9**	**-3.4**
WTTA	**Wattenberg**	**4.92**	**346**	*e*Pn		**Pn**	**16 54 42.2**	**+2.5**
	comp=N,0.8nm,0.3s							
SQTA	**Sankt Quirin**	**4.96**	**343**	*i* Pn		**Pn**	**16 54 44.2**	**+4.0**
	comp=N,1.0nm,0.2s							
WATA	**Walderalm**	**5.00**	**346**	*i* Pn		**Pn**	**16 54 44.4**	**+3.6**
	comp=N,0.7nm,0.1s							
ESML	**S. M. di Licod**	**5.01**	**166**	⇑P		**Pb**	**16 54 50.1**	**-3.5**
EPOZ	**Pozzillo**	**5.15**	**164**	⇑P		Pb	16 54 50.1	-5.9
RAFF	**Raffo Rosso**	**5.32**	**171**	⇑P		**Pb**	**16 54 56.1**	**-2.8**
CLTA	**Licata**	**5.35**	**175**	⇑P		**Pb**	**16 54 59.0**	**-0.3**
KBN	**Korca**	**5.89**	**106**	P		**Pg**	**16 55 16.4**	**-2.7**
KHC	**Kasperske Hory**	**6.64**	**1**	*e*SN		**Sn**	**16 56 16.0**	**-2.5**

ROM 18 16:54:30.6±0.1, 38°522N±0'007×14°722E±0'009, h21km±1km, ML2.6/16, 12C-6D, Error ellipse: s-maj=0.8km s-min=0.5km az=162.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IFIL	**Filicudi I Eol**	**0.13**	**289**		P	Pb	16 54 34.7	-2.1
IFIL					S	Sb	16 54 37.7	-3.5
IFIL					AML	AML		
	comp=E,62500µm,1.0s							
IFIL					AML	AML		
	comp=N,22750µm,0.5s							
LLI	**Lipari**	**0.19**	**113**		P	Pb	16 54 35.8	-0.6
LLI					S	Sb	16 54 39.4	-1.2
LLI					AML	AML		
	comp=E,17100µm,0.7s							
LLI					AML	AML		
	comp=N,21700µm,0.7s							
VPL	**Vulcano Piano**	**0.25**	**125**		P	Pb	16 54 36.3	-0.4
VPL					AML	AML		
	comp=E,8785µm,0.7s							
VPL					AML	AML		
	comp=N,9450µm,1.0s							
IACL	**Alicudi**	**0.29**	**273**		P	Pb	16 54 37.5	+0.4
IACL					S	Sb	16 54 42.3	+0.7
IACL					AML	AML		
	comp=E,8130µm,0.2s							
IACL					AML	AML		
	comp=N,7255µm,0.1s							
ISTR	**Stromboli Gino**	**0.45**	**54**		P	Pn	16 54 41.2	-0.6
ISTR					AML	AML		
	comp=E,3040µm,0.8s							
ISTR					AML	AML		
	comp=N,3315µm,0.8s							
MILZ	**Milazzo**	**0.47**	**122**		P	Pb	16 54 40.1	0.0
IST3	**Stromboli F**	**0.48**	**55**		P	Pn	16 54 41.5	-0.8
IST3					AML	AML		
	comp=E,966µm,1.3s							
IST3					AML	AML		
	comp=N,1400µm,0.8s							
IST3					AML	AML		
	comp=E,966µm,0.7s							
MSFR	**San Fratello**	**0.50**	**192**		P	Pb	16 54 40.6	0.0
MSFR					S	Sb	16 54 47.4	-0.2
MSFR					AML	AML		
	comp=E,675µm,0.7s							
MSFR					AML	AML		
	comp=N,718µm,0.3s							
MNO	**Monte Soro**	**0.59**	**182**		P	Pb	16 54 41.6	-0.8
NOV	**Novara**	**0.59**	**146**		P	Pb	16 54 42.0	-0.4
NOV					S	Sb	16 54 51.3	+0.9
MSRU	**Castanea**	**0.67**	**112**		P	Pb	16 54 43.9	+0.3
MSRU					S	Sb	16 54 53.6	+1.1
AIO	**Antillo**	**0.68**	**144**		P	Pb	16 54 43.7	-0.2
PLLN	**Pollina**	**0.70**	**221**		P	Pb	16 54 44.0	-0.1
EPZF	**Pizzo Felice**	**0.70**	**171**		P	Pn	16 54 45.2	-0.2
EPZF					AML	AML		
	comp=E,1166µm,0.4s							
EPZF					AML	AML		
	comp=N,1500µm,1.6s							
EPZF					AML	AML		
	comp=N,1495µm,1.6s							
EPZF					AML	AML		
	comp=N,1495µm,0.4s							
EMSG	**Monte Spagnolo**	**0.72**	**166**		P	Pn	16 54 45.6	-0.1
EMSG					AML	AML		
	comp=E,1705µm,0.7s							
EMSG					AML	AML		
	comp=N,1685µm,0.3s							
GIB	**Gibilmanna**	**0.76**	**226**		P	Pb	16 54 45.5	+0.3
CSLB	**Castelbuono**	**0.78**	**222**		P	Pb	16 54 45.5	0.0
MSCL	**Scilla**	**0.89**	**109**		P	Pb	16 54 47.2	-0.1
JOPP	**Joppolo**	**0.92**	**84**		P	Pb	16 54 47.8	+0.1
GMB	**Gambarie**	**0.94**	**112**		P	Pb	16 54 48.1	-0.2
SOI	**Samo**	**1.14**	**113**		P	Pn	16 54 51.0	-0.3
HLNI	**Lentini**	**1.18**	**174**		AML	AML		
	comp=E,298µm,0.2s							
HLNI					AML	AML		
	comp=N,266µm,0.5s							
PLAC	**Placanica**	**1.35**	**93**		P	Pb	16 54 54.7	-0.5
PLAC					AML	AML		
	comp=E,161µm,0.6s							
PLAC					AML	AML		
	comp=N,182µm,0.5s							
GRI	**Girifalco**	**1.36**	**77**		P	Pn	16 54 54.8	+0.4
GRI					AML	AML		
	comp=N,155µm,0.6s							
GRI					AML	AML		
	comp=E,152µm,0.6s							
CAR1	**CAROLEI**	**1.37**	**57**		P	Pn	16 54 54.7	+0.2
CAR1					AML	AML		
	comp=E,170µm,0.4s							
CAR1					AML	AML		
	comp=N,140µm,0.4s							
CAR1					AML	AML		
	comp=N,140µm,1.6s							
CAR1					AML	AML		
	comp=E,170µm,1.6s							
CET2	**Cetraro**	**1.39**	**43**		P	Pn	16 54 54.8	0.0
CET2					AML	AML		
	comp=E,173µm,1.1s							
CET2					AML	AML		
	comp=N,150µm,1.2s							
CET2					AML	AML		
	comp=E,173µm,0.9s							
CET2					AML	AML		
	comp=N,150µm,0.8s							
MEU	**Monte Lauro**	**1.43**	**173**		P	Pb	16 54 56.1	-0.4
MEU					AML	AML		
	comp=E,542µm,0.3s							
MEU					AML	AML		
	comp=N,516µm,0.3s							
SPS2	**Spezzano della**	**1.48**	**58**		P	Pn	16 54 56.6	+0.6
SPS2					AML	AML		
	comp=E,32µm,0.5s							
SPS2					AML	AML		
	comp=N,42µm,0.3s							
SPS2					AML	AML		
	comp=N,42µm,1.7s							
CELI	**Celico**	**1.65**	**57**		P	Pn	16 54 58.5	+0.2
CMPR	**Campora**	**1.85**	**14**		P	Pn	16 55 01.3	+0.2
MTSN	**Montesano sull**	**1.92**	**24**		P	Pn	16 55 03.0	+0.9
SCHR	**S. Chirico Rap**	**1.98**	**32**		P	Pn	16 55 04.3	+1.4
PTRJ	**Pietraroja**	**2.84**	**357**		P	Pn	16 55 13.1	-1.7
PTRJ					S	Sb	16 56 00.3	+5.2
PTRJ					AML	AML		
	comp=E,351µm,1.4s							
PTRJ					AML	AML		
	comp=E,404µm,1.2s							
PTRJ					AML	AML		
	comp=N,770µm,0.5s							
PTRJ					AML	AML		
	comp=E,351µm,0.6s							
PTRJ					AML	AML		
	comp=E,404µm,0.8s							
PTRJ					AML	AML		
	comp=N,770µm,1.4s							
LIK	**San Giovanni I**	**3.11**	**344**	⇑P		Pn	16 55 14.6	-3.8
LIK					AML	AML		
	comp=E,338µm,1.5s							
LIK					AML	AML		
	comp=N,350µm,1.6s							
LIK					AML	AML		
	comp=E,338µm,0.5s							
LIK					AML	AML		
	comp=N,350µm,0.4s							
TREM	**Isole Tremiti**	**3.65**	**9**	⇑P		Pn	16 55 27.5	+1.8
FAGN	**Fagnano**	**3.84**	**347**	P		Pb	16 55 39.1	+1.5
FIAM	**Fiamignano**	**3.94**	**342**	⇑P		Pb	16 55 38.3	-1.0
GIGS	**Gran Sasso**	**4.02**	**348**	P		Pb	16 55 37.3	-3.4
T1247	**Pizzolo (AQ)**	**4.06**	**345**	⇓P		Pn	16 55 35.4	+3.8
T1247				S		Sn	16 56 12.4	-6.0
T1247				AML		AML		
	comp=E,26800µm,0.3s							
T1247				AML		AML		
	comp=N,22250µm,0.4s							
CAMP	**Campotosto**	**4.13**	**346**	P		Pn	16 55 31.0	-1.5
CAMP				AML		AML		
	comp=E,4300µm,0.3s							
CAMP				AML		AML		
	comp=N,8475µm,0.4s							
RM33	**Pellescritta (**	**4.14**	**344**	P		Pn	16 55 35.3	+2.7
RM33				S		Sn	16 56 12.7	-7.8
RM33				AML		AML		
	comp=N,11595µm,0.3s							
RM33				AML		AML		
	comp=N,11555µm,0.2s							
RM33				AML		AML		
	comp=E,11550µm,0.3s							
RM33				AML		AML		
	comp=E,11500µm,0.3s							
SMA1	**SAN MARTINO**	**4.24**	**346**	⇑P		Pn	16 55 30.3	-3.7
LNSS	**Leonessa**	**4.27**	**343**	⇑P		Pn	16 55 37.5	+3.1
LNSS				S		Sn	16 56 15.2	-8.5
LNSS				AML		AML		
	comp=E,5340µm,0.2s							
LNSS				AML		AML		
	comp=N,7320µm,0.3s							
ARRO	**Arrone**	**4.32**	**340**	⇑P		Pb	16 55 40.4	-5.3
T1218	**Civita (PG)**	**4.32**	**344**	⇓P		Pn	16 55 37.5	+2.4
T1218				AML		AML		
	comp=E,1995µm,0.3s							
T1218				AML		AML		
	comp=N,2350µm,0.1s							
T1218				AML		AML		
	comp=N,2345µm,0.1s							
T1218				AML		AML		
	comp=E,2110µm,1.3s							
CESX	**Cesi**	**4.40**	**339**	⇑P		Pb	16 55 42.7	-4.4
T1217	**Poggiodomo (PG**	**4.40**	**343**	⇓P		Pn	16 55 39.5	+3.4
T1217				AML		AML		
	comp=E,1520µm,1.6s							
T1217				AML		AML		
	comp=E,1520µm,0.4s							
T1217				AML		AML		
	comp=N,1525µm,0.6s							
T1217				AML		AML		
	comp=N,1325µm,0.6s							
T1217				AML		AML		
	comp=E,1430µm,0.2s							
MOMA	**Monte Martano**	**4.58**	**340**	P		Pb	16 55 44.6	-5.6
GUMA	**Gualdo di Mace**	**4.66**	**347**	⇑P		Pn	16 55 43.9	+4.3
FDMO	**Fiordimonte**	**4.68**	**345**	⇑P		Pn	16 55 43.3	+3.4
CESI	**CESI - Serrava**	**4.69**	**343**	⇑P		Pn	16 55 43.8	+3.7
CESI				AML		AML		
	comp=N,911µm,0.3s							
CESI				AML		AML		
	comp=E,472µm,0.7s							
CSP1	**Cessapalombo**	**4.71**	**346**	⇓P		Pn	16 55 44.0	+3.6
T1220	**Camerino, Fraz**	**4.75**	**345**	⇓P		Pn	16 55 44.6	+3.7
ASSB	**Assisi San Ben**	**4.78**	**342**	⇓P		Pn	16 55 46.2	+4.9
EL6	**Elcito**	**4.96**	**346**	⇑P		Pn	16 55 48.7	+4.9
IMOL	**Imola, Italy**	**6.25**	**340**	⇓P		Pn	16 55 53.1	-8.3

*IDC **18** 17:04:30.3±1.3,5°.89N×124°.93E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=34.7km s-min=14.4km az=105.0*
*DJA **18** 17:04:37.3±0.6,6°N±4°×12°5E±°,h93km±10km,M4.4/10, mb4.2/9,mB5.0/5,MLv4.5/10,Mw(mB)4.3/5*
*MAN **18** 17:04:38.2,6°.13N×125°.45E,h59km,mb4.6,ML3.4,MS3.3*
ISC 18 17:04:38.4±0.9, 6°04N±0'04×125°47E±0'05, h65km±8km, n25, σ1§81/40, mb3.4/3, 9C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.25**	**74**	⇑*e*P		**Pn**	**17 04 49.7**	**+1.0**
DDMP				*e*S		**Sn**	**17 04 58.1**	**+1.8**
GSPH	**General Santos**	**0.52**	**276**	⇓*e*P		**Pn**	**17 04 50.6**	**-0.5**
GSPH				*i* S		**Sn**	**17 04 59.4**	**-1.0**
DAV	**Davao City (W)**	**1.03**	**6**	Pg		**Pn**	**17 04 57.4**	**+0.3**
	113nm,0.3s,baz=254,slow=3.0,SNR=12							
DAV				Lg		Lg	17 05 11.9	
	251nm,0.3s,baz=306,slow=22,SNR=8.5							
KCP	**Kidapawan**	**1.04**	**339**	⇓*i*P		**Pn**	**17 04 57.3**	**+0.1**
KCP				*i* S		**Sn**	**17 05 10.0**	**-1.2**
SKMP	**Bagumbayan, Su**	**1.04**	**298**	⇑*e*P		**Pn**	**17 04 57.0**	**-0.1**
SKMP				*e*S		**Sn**	**17 05 11.4**	**+0.3**
MATI	**Mati**	**1.20**	**41**	⇑*e*P		**Pn**	**17 04 58.0**	**-1.2**
MATI				*e*S		**Sn**	**17 05 11.8**	**-2.9**
CTBH	**Cotabato--PC H**	**1.69**	**314**	⇓*i*P		**Pn**	**17 05 05.3**	**-0.5**
CTBH				*i* S		**Sn**	**17 05 25.2**	**-1.3**
BUKP	**Musuan**	**1.88**	**348**	⇑*e*P		**Pn**	**17 05 08.6**	**+0.3**
BUKP				*e*S		**Sn**	**17 05 32.8**	**+1.8**
BUKP	**Musuan**	**1.88**	**348**	⇑*i*P		**Pn**	**17 05 08.6**	**+0.3**
BUKP				*i* S		**Sn**	**17 05 33.0**	**+1.9**
CDOP	**Cateel, Davao**	**1.98**	**29**	⇓*i*P		**Pn**	**17 05 09.6**	**-0.2**
BIPH	**Bislig**	**2.31**	**22**	⇓*i*P		**Pn**	**17 05 13.8**	**-0.3**
BIPH				*i* S		**Sn**	**17 05 39.7**	**-1.8**
SGSI	**Sangihe**	**2.33**	**179**	P		**Pn**	**17 05 16.3**	**+1.8**
SGSI				S		**Sn**	**17 05 44.1**	**+2.0**
CGP	**Cagayan de Oro**	**2.52**	**342**	⇑*e*P		**Pn**	**17 05 19.8**	**+2.8**
CGP				*e*S		**Sn**	**17 05 52.0**	**+5.3**
PAGZ	**Pagadian**	**2.74**	**311**	⇑*e*P		**Pn**	**17 05 19.2**	**-0.8**
BUTP	**Butuan**	**2.92**	**3**	⇑*e*P		**Pn**	**17 05 23.7**	**+1.2**
BUTP				*e*S		**Sn**	**17 05 58.4**	**+2.0**
MSLP	**Maasin**	**4.12**	**352**	⇑*e*P		**Pn**	**17 05 40.8**	**+2.0**
MSLP				*e*S		**Sn**	**17 06 25.9**	**+0.2**
TNTI	**Ternate**	**5.56**	**160**	P		**Pn**	**17 05 57.8**	**-0.8**
	9.9nm,0.8s,0.1nm							
TNTI				S		**Sn**	**17 07 02.3**	**+1.1**
	9.9nm,0.8s,0.1nm							
GTOI	**Gorontalo**	**5.90**	**205**	P		**Pn**	**17 06 04.4**	**+1.2**
	58nm,0.5s,1µm0.3nm							
GTOI				S		**Sn**	**17 07 04.5**	**-5.0**
	58nm,0.5s,1µm0.3nm							
MRSI	**Marisa**	**6.55**	**213**	P		**Pn**	**17 06 13.6**	**+1.5**
	58nm,0.7s,1µm0.6nm							
LUWI	**Luwuk**	**7.53**	**201**	P		**Pn**	**17 06 26.6**	**+1.1**
	47nm,0.8s,2µm0.3nm							
MPSI	**Mapaga**	**7.93**	**225**	P		**Pn**	**17 06 32.3**	**+1.2**
	4.8nm,0.7s,0.0nm							
SANI	**Sanana**	**8.05**	**176**	P		**Pn**	**17 06 31.6**	**-1.1**
	9.3nm,0.7s							
WRA	**Warramunga Arr**	**27.25**	**162**	P		**P**	**17 10 16.6**	**0.0**
	0.4nm,0.8s,baz=337,slow=9.2,SNR=3.0							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**30.65**	**165**	P		**P**	**17 10 46.4**	**-0.4**
	0.3nm,0.4s,baz=339,slow=7.2,SNR=18							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**54.96**	**325**	P		**P**	**17 14 01.6**	**-1.2**
	0.3nm,0.5s,baz=123,slow=7.1,SNR=12							
	0.3nm,0.5s							

DDA 18 17:07:54.5±0.0, 39°53N×26°17E, h7km±1km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**216**	P		Pg	17 07 56.4	+0.4
KOCA				*i* AML		AML	17 07 57.0	
	comp=E,205nm,0.6s							
KOCA				S		Sg	17 07 57.4	+0.4
BAYC	**CANAKKALE_Bayr**	**0.36**	**55**	P		Pg	17 08 01.3	-0.2
BAYC				*i* AML		AML	17 08 07.0	
	comp=E,24nm,1.2s							
BAYC				S		Sg	17 08 07.1	+0.8

ROM 18 17:08:06.3±0.1, 42°520N±0'004×13°261E±0'006, h11km, ML2.5/13, 6C-3D, Error ellipse: s-maj=0.6km s-min=0.3km az=226.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.04**	**252**	P		Pg	17 08 09.0	+0.5
RM33				S		Sg	17 08 10.6	+0.6
RM33				AML		AML		
	comp=E,43050µm,0.3s							

RM33				AML	AML				
	comp=N,25850μm,0.6s								
RM33				AML	AML				
	comp=N,27000μm,0.3s								
RM33				AML	AML				
	comp=E,43050μm,0.3s								
RM33				AML	AML				
	comp=N,25850μm,0.6s								
RM33				AML	AML				
	comp=E,41250μm,0.3s								
RM33				AML	AML				
	comp=N,27000μm,1.7s								
RM33				AML	AML				
	comp=E,41250μm,1.7s								
RM33				AML	AML				
	comp=N,25850μm,1.4s								
RM33				AML	AML				
	comp=E,43051μm,0.3s								
RM33				AML	AML				
	comp=E,41260μm,0.3s								
RM33				AML	AML				
	comp=N,26998μm,0.3s								
RM33				AML	AML				
	comp=N,24991μm,0.3s								
T1247	**Pizzolo (AQ)**	**0.08**	**161**	P	Pg	17 08 09.5	+0.6		
T1247				S	Sg	17 08 11.6	+0.9		
T1247				AML	AML				
	comp=E,19400μm,1.1s								
T1247				AML	AML				
	comp=N,16700μm,1.1s								
T1247				AML	AML				
	comp=E,19400μm,0.9s								
T1247				AML	AML				
	comp=N,16700μm,0.9s								
T1247				AML	AML				
	comp=E,16651μm,0.1s								
CAMP	**Campotosto**	**0.11**	**82**	P	Pg	17 08 09.4	+0.2		
CAMP				S	Sg	17 08 11.7	+0.3		
CAMP				AML	AML				
	comp=N,11120μm,0.4s								
CAMP				AML	AML				
	comp=E,8495μm,0.3s								
CAMP				AML	AML				
	comp=E,8499μm,0.3s								
CAMP				AML	AML				
	comp=N,11137μm,0.4s								
LNSS	**Leonessa**	**0.18**	**297**	P	Pg	17 08 10.9	+0.5		
LNSS				S	Sg	17 08 14.4	+1.2		
LNSS				AML	AML				
	comp=E,7550μm,0.2s								
LNSS				AML	AML				
	comp=N,6810μm,0.2s								
LNSS				AML	AML				
	comp=N,6811μm,0.2s								
LNSS				AML	AML				
	comp=E,7548μm,0.2s								
T1218	**Civita (PG)**	**0.18**	**324**	P	Pg	17 08 10.7	+0.3		
T1218				S	Sg	17 08 13.8	+0.5		
T1218				AML	AML				
	comp=E,2560μm,0.4s								
T1218				AML	AML				
	comp=E,2820μm,0.4s								
T1218				AML	AML				
	comp=N,6655μm,0.3s								
T1218				AML	AML				
	comp=E,2555μm,0.4s								
T1218				AML	AML				
	comp=N,6695μm,0.3s								
T1218				AML	AML				
	comp=E,2820μm,1.6s								
T1218				AML	AML				
	comp=E,2555μm,1.6s								
T1218				AML	AML				
	comp=E,2101μm,0.2s								
T1218				AML	AML				
	comp=E,1942μm,0.2s								
T1218				AML	AML				
	comp=N,6657μm,0.3s								
T1218				AML	AML				
	comp=N,6697μm,0.3s								
GIGS	**Gran Sasso**	**0.24**	**107**	P	Pg	17 08 11.4	+0.1		
GIGS				S	Sg	17 08 15.3	+0.6		
GIGS				AML	AML				
	comp=E,796μm,1.1s								
GIGS				AML	AML				
	comp=E,796μm,0.9s								
GIGS				AML	AML				
	comp=N,1013μm,0.5s								
FIAM	**Fiamignano**	**0.27**	**203**	P	Pg	17 08 12.5	+0.6		
FIAM				S	Sb	17 08 17.1	-1.0		
FIAM				AML	AML				
	comp=E,2700μm,0.3s								
FIAM				AML	AML				
	comp=N,1740μm,0.6s								
FIAM				AML	AML				
	comp=E,2701μm,0.3s								
FIAM				AML	AML				
	comp=N,1385μm,0.1s								
T1217	**Poggiodomo (PG**	**0.31**	**308**	P	Pg	17 08 12.8	+0.2		
T1217				S	Sg	17 08 17.9	+1.1		
T1217				AML	AML				
	comp=E,1110μm,0.7s								
T1217				AML	AML				
	comp=E,949μm,0.7s								
T1217				AML	AML				
	comp=N,1250μm,0.6s								
T1217				AML	AML				
	comp=N,1305μm,0.5s								
T1217				AML	AML				
	comp=E,887μm,0.3s								
T1217				AML	AML				
	comp=E,993μm,0.3s								
T1217				AML	AML				
	comp=N,1019μm,0.3s								
T1217				AML	AML				
	comp=N,1048μm,0.4s								
FAGN	**Fagnano**	**0.35**	**137**	P	Pb	17 08 14.0	-0.6		
FAGN				S	Sb	17 08 19.6	-0.6		
FAGN				AML	AML				
	comp=E,2915μm,0.9s								
FAGN				AML	AML				
	comp=N,2960μm,0.3s								
FAGN				AML	AML				
	comp=E,2699μm,0.4s								
FAGN				AML	AML				
	comp=N,2959μm,0.3s								
ARRO	**Arrone**	**0.37**	**279**	P	Pg	17 08 14.0	+0.3		
ARRO				S	Sg	17 08 19.6	+0.9		
ARRO				AML	AML				
	comp=N,1042μm,0.4s								
ARRO				AML	AML				
	comp=E,960μm,0.2s								
ARRO				AML	AML				
	comp=N,1009μm,0.2s								
ARRO				AML	AML				
	comp=E,958μm,0.2s								
FEMA	**Monte Fema**	**0.47**	**341**	P	Pg	17 08 15.6	0.0		
FEMA				S	Sb	17 08 23.1	-0.7		
PTQR	**Pietraquaria**	**0.51**	**168**	P	Pb	17 08 17.3	-0.1		
PTQR				AML	AML				
	comp=E,195μm,1.4s								
PTQR				AML	AML				
	comp=N,234μm,1.4s								
PTQR				AML	AML				
	comp=E,189μm,0.3s								
PTQR				AML	AML				
	comp=N,201μm,0.3s								
CESX	**Cesi**	**0.51**	**280**	P	Pg	17 08 16.3	-0.1		
CESX				AML	AML				
	comp=E,422μm,0.4s								
CESX				AML	AML				
	comp=N,488μm,0.3s								
CESX				AML	AML				
	comp=E,422μm,0.4s								
CESX				AML	AML				
	comp=N,488μm,0.3s								
FDMO	**Fiordimonte**	**0.53**	**346**	⇑P	Pg	17 08 16.8	0.0		
FDMO				S	Sb	17 08 25.2	-0.3		
FDMO				AML	AML				
	comp=E,319μm,1.3s								
FDMO				AML	AML				
	comp=N,373μm,0.4s								
FDMO				AML	AML				
	comp=E,305μm,0.2s								
FDMO				AML	AML				
	comp=N,322μm,0.2s								
GUMA	**Gualdo di Mace**	**0.55**	**6**	⇑P	Pg	17 08 17.1	+0.2		
GUMA				S	Sb	17 08 25.5	-0.3		
GUMA				AML	AML				
	comp=E,1480μm,1.5s								
GUMA				AML	AML				
	comp=N,1565μm,0.2s								
GUMA				AML	AML				
	comp=N,1260μm,0.6s								
GUMA				AML	AML				
	comp=E,1370μm,0.6s								
GUMA				AML	AML				
	comp=N,1211μm,0.5s								
GUMA				AML	AML				
	comp=N,1565μm,0.2s								
GUMA				AML	AML				
	comp=E,1368μm,0.6s								
GUMA				AML	AML				
	comp=E,1367μm,0.4s								
CESI	**CESI - Serrava**	**0.55**	**332**	⇑P	Pg	17 08 17.1	0.0		
CESI				S	Sb	17 08 25.8	-0.3		
CESI				AML	AML				
	comp=E,432μm,1.3s								
CESI				AML	AML				
	comp=N,600μm,0.2s								
CESI				AML	AML				
	comp=E,432μm,0.7s								
CESI				AML	AML				
	comp=N,600μm,0.2s								
CESI				AML	AML				
	comp=E,369μm,0.2s								
TRTR	**Tortoreto Alta**	**0.56**	**59**	P	Pb	17 08 18.8	+0.6		
CSP1	**Cessapalombo**	**0.57**	**356**	⇑P	Pg	17 08 17.3	-0.2		
CSP1				S	Sb	17 08 26.4	-0.3		
CSP1				AML	AML				
	comp=E,473μm,0.4s								
CSP1				AML	AML				
	comp=N,474μm,0.6s								
CSP1				AML	AML				
	comp=N,509μm,2.5s								
CSP1				AML	AML				
	comp=E,415μm,3.5s								
CSP1				AML	AML				
	comp=N,494μm,0.4s								
CSP1				AML	AML				
	comp=E,473μm,1.6s								
MOMA	**Monte Martano**	**0.58**	**299**	P	Pg	17 08 17.7	0.0		
MOMA				S	Sb	17 08 27.1	+0.1		
MOMA				AML	AML				
	comp=E,580μm,0.2s								
MOMA				AML	AML				
	comp=N,754μm,1.2s								
MOMA				AML	AML				
	comp=E,616μm,0.2s								
MOMA				AML	AML				
	comp=N,668μm,1.2s								
MOMA				AML	AML				
	comp=N,754μm,0.8s								
MOMA				AML	AML				
	comp=N,668μm,0.8s								
MOMA				AML	AML				
	comp=E,580μm,0.2s								
MOMA				AML	AML				
	comp=N,652μm,0.3s								
MOMA				AML	AML				
	comp=N,637μm,0.3s								
MOMA				AML	AML				
	comp=E,616μm,0.2s								
CERT	**Cerreto**	**0.61**	**200**	⇑P	Pg	17 08 18.1	-0.1		
CERT				AML	AML				
	comp=N,272μm,0.4s								
SRES	**S.Oreste - Sor**	**0.62**	**243**	⇓P	Pb	17 08 19.0	-0.3		
SRES				AML	AML				
	comp=E,328μm,0.8s								
SRES				AML	AML				
	comp=N,218μm,1.2s								
SRES				AML	AML				
	comp=N,208μm,0.5s								
SRES				AML	AML				
	comp=E,270μm,0.4s								
ASSB	**Assisi San Ben**	**0.69**	**320**	⇓P	Pg	17 08 19.5	-0.1		
ASSB				AML	AML				
	comp=E,381μm,0.2s								
ASSB				AML	AML				
	comp=N,365μm,0.4s								
ASSB				AML	AML				
	comp=N,365μm,0.4s								
ASSB				AML	AML				
	comp=E,381μm,0.2s								
SNTG	**Esanatoglia**	**0.77**	**342**	⇑P	Pb	17 08 21.8	-0.1		
SNTG				AML	AML				
	comp=E,235μm,1.5s								
SNTG				AML	AML				
	comp=N,312μm,0.7s								
SNTG				AML	AML				
	comp=E,184μm,1.5s								
SNTG				AML	AML				
	comp=N,214μm,1.4s								
SNTG				AML	AML				
	comp=N,159μm,0.3s								
SNTG				AML	AML				
	comp=N,385μm,0.9s								
SNTG				AML	AML				
	comp=E,180μm,0.5s								
SNTG				AML	AML				
	comp=E,175μm,0.4s								
EL6	**Elcito**	**0.82**	**352**	P	Pg	17 08 22.3	+0.2		
EL6				AML	AML				
	comp=E,574μm,1.2s								
EL6				AML	AML				
	comp=N,625μm,1.4s								
EL6				AML	AML				
	comp=E,493μm,0.2s								
EL6				AML	AML				
	comp=N,536μm,0.5s								
MGAB	**Montegabbione**	**0.93**	**295**	⇓P	Pg	17 08 24.4	0.0		
MGAB				AML	AML				
	comp=N,380μm,0.4s								
MGAB				AML	AML				
	comp=N,376μm,0.4s								
MGAB				AML	AML				
	comp=E,348μm,0.5s								
MGAB				AML	AML				
	comp=E,348μm,0.5s								
MGAB				AML	AML				
	comp=N,380μm,0.4s								
MGAB				AML	AML				
	comp=N,377μm,0.4s								
MGAB				AML	AML				
	comp=E,349μm,0.5s								
MGAB				AML	AML				
	comp=E,347μm,0.5s								

BGR ***18*** *17:09:00.6±0.6, 42°.22N×13°.62E, h10km, ML4.1, Error ellipse: s-maj=8.9km s-min=8.9km az=145.0*
IDC ***18*** *17:09:02.5±1.1, 42°.73N×13°.17E, h0km, mb3.7/7, mbtmp3.7/13, ML3.7/6, MS2.9/2, Error ellipse: s-maj=18.6km s-min=13.3km az=83.0*
ROM ***18*** *17:09:02.9±0.0, 42°.596N±0°.001×13°.251E±0°.001, h11km, ML3.7/97, Error ellipse: s-maj=0.4km s-min=0.1km az=328.0*
PDG ***18*** *17:09:03.3±0.5, 42°.61N×13°.25E, h14km, ML4.0/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
PRU ***18*** *17:09:04.5±0.0, 42°.64N×13°.38E, h10km*
LDG ***18*** *17:09:04.4±0.1, 42°.50N×13°.19E, h11km, Ml3.3/27, Error ellipse: s-maj=4.2km s-min=2.8km az=50.0*
BEO ***18*** *17:09:05.0±0.5, 42°.61N×13°.25E, h9km,9km, ML3.7/9*
ISC 18 17:09:03.3±0.7,**42°.61N**±0°.02×**13°.22E**±0°.02,**h14**km±4km,
n322,σ1§89/431,**mb3.8**/6,**34C-12D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**			**0.10 180**	⇑P	**Pg**	**17 09 06.1**	**-0.4**
RM33					S	**Sg**	**17 09 08.3**	**-0.4**
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
T1218	**Civita (PG)**			**0.10 311**	⇑P	**Pg**	**17 09 06.3**	**-0.2**
T1218					S	**Sg**	**17 09 08.7**	**0.0**
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1202					S	**Sg**	**17 09 08.7**	**-0.1**
T1204	**Amatrice, Fraz**			**0.10 46**	⇓P	**Pg**	**17 09 06.0**	**-0.7**
T1204					S	**Sg**	**17 09 08.0**	**-1.0**
LNSS	**Leonessa**			**0.13 269**	⇑P	**Pg**	**17 09 07.0**	**0.0**
LNSS					S	**Sg**	**17 09 09.9**	**+0.6**
LNSS					AML	AML		
LNSS					AML	AML		
CAMP	**Campotosto**			**0.16 116**	⇓P	**Pg**	**17 09 06.6**	**-0.7**
CAMP					S	**Sg**	**17 09 09.1**	**-1.0**
CAMP					AML	AML		
	comp=N,55000μm,0.5s							
CAMP					AML	AML		
	comp=E,48750μm,1.2s							
T1247	**Pizzolo (AQ)**			**0.17 159**	P	**Pg**	**17 09 07.2**	**-0.4**
T1247					S	**Sg**	**17 09 10.2**	**-0.2**
T1247					AML	AML		
	comp=E,88200μm,0.7s							
T1247					AML	AML		
	comp=E,88250μm,0.7s							
T1247					AML	AML		
	comp=N,89650μm,0.4s							
T1217	**Poggiodomo (PG**			**0.23 297**	⇑P	**Pg**	**17 09 08.6**	**+0.1**
T1217					S	**Sg**	**17 09 12.8**	**+0.8**
T1217					AML	AML		
	comp=E,28350μm,1.0s							
T1217					AML	AML		
	comp=E,26400μm,0.6s							
T1217					AML	AML		
	comp=N,43550μm,0.7s							
T1217					AML	AML		
	comp=N,44800μm,0.7s							
T1217					AML	AML		
	comp=E,26350μm,0.6s							
AQU	**L'Aquila**			**0.29 151**	⇑P	**Pg**	**17 09 08.9**	**-0.5**
AQU					S	**Sg**	**17 09 13.2**	**-0.2**
TERO	**Teramo**			**0.29 86**	⇑P	**Pg**	**17 09 08.5**	**-0.8**
TERO					S	**Sg**	**17 09 12.6**	**-0.9**
GIGS	**Gran Sasso**			**0.30 121**	⇑P	**Pg**	**17 09 08.8**	**-0.8**
GIGS					S	**Sg**	**17 09 13.1**	**-0.9**
GIGS					AML	AML		
	comp=N,10265μm,1.1s							
GIGS					AML	AML		
	comp=N,10265μm,0.9s							
GIGS					AML	AML		
	comp=E,10290μm,0.4s							
ARRO	**Arrone**			**0.33 266**	⇑P	**Pg**	**17 09 10.3**	**+0.1**
ARRO					S	**Sb**	**17 09 15.8**	**-0.5**
ARRO					AML	AML		
	comp=E,34450μm,0.2s							
ARRO					AML	AML		
	comp=N,24150μm,0.8s							
FIAM	**Fiamignano**			**0.34 192**	⇑P	**Pg**	**17 09 10.1**	**-0.3**
FIAM					S	**Sg**	**17 09 15.5**	**+0.3**
FIAM					AML	AML		
	comp=E,21450μm,0.7s							
FIAM					AML	AML		
	comp=N,22150μm,0.7s							
FIAM					AML	AML		
	comp=E,21450μm,1.3s							
FEMA	**Monte Fema**			**0.38 341**	P	**Pg**	**17 09 10.9**	**-0.1**
FEMA					S	**Sb**	**17 09 17.4**	**-0.4**
FEMA					AML	AML		
	comp=N,16650μm,0.7s							
FEMA					AML	AML		
	comp=E,26400μm,1.5s							
FAGN	**Fagnano**			**0.43 141**	P	**Pg**	**17 09 11.1**	**-1.0**
FAGN					AML	AML		
	comp=E,29450μm,1.2s							
FAGN					AML	AML		
	comp=N,32550μm,0.4s							
FAGN					AML	AML		
	comp=E,29450μm,0.8s							
FDMO	**Fiordimonte**			**0.44 348**	P	**Pg**	**17 09 11.9**	**-0.2**
FDMO					S	**Sb**	**17 09 18.9**	**-0.6**
FDMO					AML	AML		
	comp=N,19600μm,0.2s							
FDMO					AML	AML		
	comp=E,21050μm,0.3s							
FDMO					AML	AML		
	comp=E,21050μm,1.7s							
CESI	**CESI - Serrava**			**0.46 330**	P	**Pg**	**17 09 12.3**	**-0.2**
CESI					S	**Sb**	**17 09 19.8**	**-0.3**
CESI					AML	AML		
	comp=N,18350μm,0.4s							
CESI					AML	AML		
	comp=E,9710μm,0.3s							
CESI					AML	AML		
	comp=E,9710μm,1.7s							
GUMA	**Gualdo di Mace**			**0.47 11**	⇑P	**Pg**	**17 09 12.6**	**-0.1**
GUMA					S	**Sb**	**17 09 20.3**	**+0.1**
GUMA					AML	AML		
	comp=E,68950μm,0.4s							
GUMA					AML	AML		
GUMA					AML	AML		
	comp=N,84400μm,0.5s							
GUMA					AML	AML		
GUMA					AML	AML		
	comp=N,84400μm,1.5s							
GUMA					AML	AML		
CESX	**Cesi**			**0.47 271**	⇑P	**Pg**	**17 09 12.4**	**-0.2**
CESX					S	**Sb**	**17 09 20.3**	**+0.1**
CESX					AML	AML		
	comp=E,15700μm,1.4s							
CESX					AML	AML		
	comp=N,23500μm,0.4s							
CESX					AML	AML		
	comp=E,15700μm,0.6s							
CSP1	**Cessapalombo**			**0.49 359**	⇑P	**Pg**	**17 09 12.7**	**-0.3**
CSP1					S	**Sb**	**17 09 20.4**	**-0.5**
CSP1					AML	AML		
	comp=E,21000μm,0.3s							
CSP1					AML	AML		
	comp=N,20350μm,1.2s							
CSP1					AML	AML		
	comp=N,20400μm,1.2s							
CSP1					AML	AML		
	comp=E,21000μm,1.7s							
CSP1					AML	AML		
	comp=N,20400μm,0.8s							
T1220	**Camerino, Fraz**			**0.51 350**	P	**Pg**	**17 09 13.2**	**-0.3**
T1220					S	**Sb**	**17 09 21.2**	**-0.4**
T1220					AML	AML		
	comp=E,67750μm,0.5s							
T1220					AML	AML		
	comp=N,71750μm,0.3s							
T1220					AML	AML		
	comp=N,70850μm,0.3s							
T1220					AML	AML		
	comp=E,68850μm,0.5s							
MOMA	**Monte Martano**			**0.52 293**	⇑P	**Pg**	**17 09 13.4**	**-0.1**
MOMA					S	**Sb**	**17 09 22.0**	**+0.4**
MOMA					AML	AML		
	comp=E,29250μm,1.6s							
MOMA					AML	AML		
	comp=N,35000μm,0.2s							
MOMA					AML	AML		
	comp=E,29250μm,1.6s							
MOMA					AML	AML		
	comp=E,29100μm,0.2s							
MOMA					AML	AML		
	comp=N,37750μm,0.2s							
MOMA					AML	AML		
	comp=E,29250μm,0.4s							
MOMA					AML	AML		
	comp=N,35000μm,0.2s							
TRTR	**Tortoreto Alta**			**0.55 68**	⇑P	**Pg**	**17 09 14.5**	**+0.2**
TRTR					AML	AML		
	comp=E,31950μm,1.0s							
TRTR					AML	AML		
	comp=N,23300μm,0.8s							
TRTR					AML	AML		
	comp=E,41400μm,1.4s							
TRTR					AML	AML		
	comp=N,38250μm,1.4s							
TRTR					AML	AML		
	comp=E,41400μm,0.6s							
TRTR					AML	AML		
	comp=N,38250μm,0.6s							
MNTP	**Montappone**			**0.56 19**	P	**Pg**	**17 09 14.4**	**0.0**
MNTP					AML	AML		
	comp=E,37900μm,0.2s							
MNTP					AML	AML		
	comp=N,24350μm,0.3s							
MNTP					AML	AML		

	comp=E,37900µm,0.3s							
SEF1	**Sefro**	**0.58 340**	P	**Pg**	**17 09 14.4**	**-0.3**		
SEF1			AML	AML				
	comp=E,19700µm,0.7s							
SEF1			AML	AML				
	comp=E,19700µm,0.7s							
SEF1			AML	AML				
	comp=N,13200µm,1.4s							
SEF1			AML	AML				
	comp=E,19700µm,1.3s							
MDAR	**Monte D'Aria**	**0.59 355**	P	**Pg**	**17 09 14.4**	**-0.6**		
ASSB	**Assisi San Ben**	**0.60 317**	P	**Pg**	**17 09 14.8**	**-0.3**		
ASSB			S	**Sb**	**17 09 24.4**	**+0.3**		
ASSB			AML	AML				
	comp=E,9435µm,1.5s							
ASSB			AML	AML				
	comp=N,11075µm,1.4s							
ASSB			AML	AML				
	comp=E,9435µm,0.5s							
ASSB			AML	AML				
	comp=N,11075µm,0.6s							
PTQR	**Pietraquaria**	**0.60 167**	P	**Pg**	**17 09 14.0**	**-1.1**		
PTQR			AML	AML				
	comp=N,2495µm,0.3s							
PTQR			AML	AML				
	comp=E,3165µm,0.8s							
PTQR			AML	AML				
	comp=N,2495µm,1.7s							
FIU1	**Fiuminata**	**0.62 340**	P	**Pg**	**17 09 14.3**	**-1.2**		
SSM1	**San Severino M**	**0.62 357**	P	**Pg**	**17 09 14.9**	**-0.7**		
SRES	**S.Oreste - Sor**	**0.64 235**	P	**Pg**	**17 09 15.0**	**-0.8**		
SRES			AML	AML				
	comp=N,4730µm,0.4s							
SRES			AML	AML				
	comp=E,5595µm,0.3s							
GAG1	**Gagliole**	**0.64 350**	P	**Pg**	**17 09 15.3**	**-0.6**		
MTL1	**Matelica**	**0.67 347**	P	**Pg**	**17 09 16.1**	**-0.3**		
CERT	**Cerreto**	**0.68 195**	P	**Pg**	**17 09 15.5**	**-1.0**		
CERT			AML	AML				
	comp=N,8805µm,0.4s							
CERT			AML	AML				
	comp=E,8720µm,0.3s							
MTCE	**Montecelio**	**0.68 211**	⇑P	**Pg**	**17 09 15.7**	**-0.9**		
MTCE			AML	AML				
	comp=E,8955µm,0.5s							
MTCE			AML	AML				
	comp=N,5035µm,0.5s							
MTCE			AML	AML				
	comp=E,8955µm,1.5s							
MTCE			AML	AML				
	comp=N,5035µm,1.5s							
SNTG	**Esanatoglia**	**0.68 343**	P	**Pg**	**17 09 15.8**	**-0.8**		
SNTG			AML	AML				
	comp=E,4335µm,1.2s							
SNTG			AML	AML				
	comp=N,4635µm,0.6s							
SNTG			AML	AML				
	comp=E,4195µm,0.3s							
SNTG			AML	AML				
	comp=N,4760µm,0.6s							
CADA	**Capodarco di F**	**0.71 34**	P	**Pb**	**17 09 17.8**	**+0.3**		
CADA			AML	AML				
	comp=E,19050µm,0.3s							
CADA			AML	AML				
	comp=N,19750µm,0.5s							
CADA			AML	AML				
	comp=N,19800µm,0.5s							
CADA			AML	AML				
	comp=N,19800µm,1.5s							
CADA			AML	AML				
	comp=E,21500µm,0.4s							
EL6	**Elcito**	**0.73 353**	P	**Pg**	**17 09 16.9**	**-0.7**		
EL6			AML	AML				
	comp=E,12186µm,0.3s							
EL6			AML	AML				
	comp=N,13140µm,0.3s							
FOSV	**Fossato di Vic**	**0.77 334**	P	**Pg**	**17 09 17.8**	**-0.4**		
FOSV			AML	AML				
	comp=E,4125µm,0.3s							
FOSV			AML	AML				
	comp=N,4810µm,0.9s							
CING	**Cingoli**	**0.77 359**	P	**Pg**	**17 09 17.5**	**-0.9**		
CING			AML	AML				
	comp=N,6155µm,0.1s							
CING			AML	AML				
	comp=E,10140µm,0.3s							
CIMA	**Civitanova Mar**	**0.78 25**	P	**Pb**	**17 09 18.8**	**+0.2**		
RCAV	**Rocca di Cave**	**0.78 195**	P	**Pg**	**17 09 17.4**	**-1.1**		
RCAV			AML	AML				
	comp=E,10650µm,0.4s							
RCAV			AML	AML				
	comp=N,9825µm,0.9s							
RCAV			AML	AML				
	comp=E,10645µm,0.4s							
RCAV			AML	AML				
	comp=N,9825µm,1.1s							
VVLD	**Villa Vallelon**	**0.79 157**	P	**Pg**	**17 09 17.5**	**-1.2**		
VVLD			AML	AML				
	comp=E,2700µm,0.6s							
VVLD			AML	AML				
	comp=N,3475µm,0.5s							
VVLD			AML	AML				
	comp=N,3475µm,1.5s							
GUAR	**Guarcino**	**0.81 175**	P	**Pg**	**17 09 18.2**	**-0.9**		
GUAR			AML	AML				
	comp=E,4505µm,1.6s							
GUAR			AML	AML				
	comp=E,4505µm,0.4s							
GUAR			AML	AML				
	comp=N,7165µm,0.4s							
PP3	**Marolino**	**0.82 20**	P	**Pg**	**17 09 19.2**	**-0.1**		
PP3			AML	AML				
	comp=E,15600µm,0.4s							
PP3			AML	AML				
	comp=E,15650µm,0.5s							
PP3			AML	AML				
	comp=N,36600µm,0.5s							
PP3			AML	AML				
	comp=N,37750µm,0.5s							
MGAB	**Montegabbione**	**0.87 291**	P	**Pg**	**17 09 19.8**	**-0.4**		
MGAB			AML	AML				
	comp=N,13650µm,0.4s							
MGAB			AML	AML				
	comp=E,11800µm,0.5s							
RMP	**Rome, Mte Porz**	**0.88 206**	P	**Pg**	**17 09 19.0**	**-1.3**		
RMP			AML	AML				
	comp=E,7455µm,1.6s							
RMP			AML	AML				
	comp=N,9785µm,0.9s							
RMP			AML	AML				
	comp=N,9785µm,1.1s							
RMP			AML	AML				
	comp=E,7455µm,0.4s							
SSFR	**Montelago di S**	**0.89 339**	P	**Pg**	**17 09 20.0**	**-0.6**		
SSFR			AML	AML				
	comp=E,13700µm,1.2s							
SSFR			AML	AML				
	comp=E,12800µm,0.3s							
SSFR			AML	AML				
	comp=N,9740µm,0.3s							
SSFR			AML	AML				
	comp=N,12850µm,0.3s							
SSFR			AML	AML				
	comp=E,13700µm,0.8s							
ARVD	**Arcevia**	**0.92 347**	P	**Pb**	**17 09 20.2**	**-0.8**		
ARVD			AML	AML				
	comp=E,5220µm,1.1s							
ARVD			AML	AML				
	comp=N,3465µm,0.6s							
VIVA	**Pratoni del Vi**	**0.92 201**	P	**Pb**	**17 09 19.9**	**-1.1**		
VIVA			AML	AML				
	comp=E,16650µm,0.4s							
VIVA			AML	AML				
	comp=N,17050µm,0.4s							
RDP	**Rocca di Papa**	**0.92 204**	AML	AML				
	comp=E,19800µm,0.5s							
RDP			AML	AML				
	comp=N,17200µm,0.9s							
RDP			AML	AML				
	comp=N,17200µm,1.1s							
POFI	**Posta Fibreno**	**0.96 157**	P	**Pb**	**17 09 21.0**	**-0.9**		
POFI			AML	AML				
	comp=N,1555µm,1.1s							
POFI			AML	AML				
	comp=E,2455µm,0.9s							
POFI			AML	AML				
	comp=N,1500µm,1.1s							
POFI			AML	AML				
	comp=E,2385µm,0.9s							
FRON	**Frontone**	**0.98 339**	P	**Pb**	**17 09 21.4**	**-0.7**		
FRON			AML	AML				
	comp=E,6360µm,0.8s							
FRON			AML	AML				
	comp=N,5190µm,0.9s							
FRON			AML	AML				
	comp=E,6360µm,1.2s							
AOI	**Ancona**	**0.99 17**	P	**Pb**	**17 09 21.6**	**-0.7**		
AOI			AML	AML				
	comp=E,5685µm,0.4s							
AOI			AML	AML				
	comp=N,6050µm,0.4s							
SACS	**San Casciano d**	**0.99 285**	P	**Pb**	**17 09 22.0**	**-0.4**		
SACS			AML	AML				
	comp=N,4040µm,1.0s							
SACS			AML	AML				
	comp=N,4150µm,1.2s							
SACS			AML	AML				
	comp=E,2375µm,1.6s							
SACS			AML	AML				
	comp=E,2385µm,1.6s							
LRP	**Arpino**	**1.00 164**	AML	AML				
	comp=E,1506µm,0.4s							
LRP			AML	AML				
	comp=E,1506µm,1.6s							
LRP			AML	AML				
	comp=N,3000µm,0.5s							
LAV9	**Lanuvio**	**1.00 203**	P	**Pg**	**17 09 22.8**	**+0.1**		
LAV9			AML	AML				
	comp=E,13250µm,0.4s							
LAV9			AML	AML				
	comp=N,16250µm,0.4s							
LAV9			AML	AML				
	comp=N,16250µm,0.4s							
LAV9			AML	AML				
	comp=E,13850µm,0.4s							
COR1	**Corinaldo**	**1.04 351**	P	**Pg**	**17 09 23.4**	**+0.1**		
COR1			AML	AML				
	comp=N,9990µm,1.2s							
COR1			AML	AML				
	comp=E,5620µm,0.9s							
COR1			AML	AML				
	comp=N,8995µm,1.2s							
COR1			AML	AML				
	comp=E,11115µm,0.7s							
COR1			AML	AML				
	comp=E,5620µm,1.1s							
COR1			AML	AML				
	comp=N,8995µm,0.8s							
COR1			AML	AML				
	comp=N,9990µm,0.8s							
LATE	**Laterza**	**1.04 271**	P	**Pb**	**17 09 23.1**	**-0.1**		
GIUL	**Giuliano Di Ro**	**1.05 178**	P	**Pb**	**17 09 22.3**	**-1.0**		
GIUL			AML	AML				
	comp=E,2545µm,0.8s							
GIUL			AML	AML				
	comp=N,2755µm,0.6s							
GIUL			AML	AML				
	comp=N,2755µm,1.4s							
TOLF	**Tolfa**	**1.05 239**	P	**Pb**	**17 09 22.7**	**-0.6**		
TOLF			AML	AML				
	comp=E,2430µm,0.5s							
TOLF			AML	AML				
	comp=N,3890µm,1.1s							
PIEI	**Pieia**	**1.06 332**	P	**Pb**	**17 09 22.9**	**-0.5**		
PIEI			AML	AML				
	comp=N,2955µm,0.6s							
PIEI			AML	AML				
	comp=E,3130µm,1.4s							
MPAG	**Monte Paganucc**	**1.08 342**	P	**Pb**	**17 09 23.1**	**-0.7**		
MPAG			AML	AML				
	comp=N,3285µm,0.6s							
MPAG			AML	AML				
	comp=N,3200µm,0.7s							
MPAG			AML	AML				
	comp=E,3620µm,0.8s							
MPAG			AML	AML				
	comp=E,3620µm,0.8s							
SENI	**Senigallia**	**1.10 1**	P	**Pb**	**17 09 23.6**	**-0.5**		
SENI			AML	AML				
	comp=E,6100µm,0.6s							
SENI			AML	AML				
	comp=N,4025µm,1.6s							
APEC	**Apecchio**	**1.12 329**	P	**Pg**	**17 09 25.1**	**+0.2**		
APEC			AML	AML				
	comp=E,4505µm,0.4s							
APEC			AML	AML				
	comp=N,3900µm,0.8s							
APEC			AML	AML				
	comp=E,4045µm,0.4s							
APEC			AML	AML				
	comp=N,3865µm,0.5s							
LATB	**Latina**	**1.13 190**	P	**Pb**	**17 09 22.7**	**-1.9**		
LATB			AML	AML				
	comp=E,810µm,0.7s							
LATB			AML	AML				
	comp=N,609µm,1.1s							
RNI2	**Rionero Sannit**	**1.14 142**	P	**Pb**	**17 09 24.2**	**-0.7**		
BADI	**Badiali**	**1.15 322**	P	**Pn**	**17 09 25.1**	**0.0**		
BADI			AML	AML				
	comp=E,123µm,0.5s							
BADI			AML	AML				
	comp=N,2190µm,0.6s							
CAFI	**Castiglion Fio**	**1.17 309**	P	**Pn**	**17 09 25.3**	**-0.1**		
CAFI			AML	AML				
	comp=E,2145µm,0.5s							
CAFI			AML	AML				
	comp=E,2160µm,0.5s							
CAFI			AML	AML				
	comp=N,1530µm,0.9s							
CAFI			AML	AML				
	comp=N,1600µm,0.9s							
SF04	**Casetta**	**1.17 282**	AML	AML				
	comp=N,2125µm,1.6s							
SF04			AML	AML				
	comp=E,2450µm,0.4s							
CERA	**Filignano**	**1.17 149**	P	**Pn**	**17 09 24.7**	**-0.7**		
CERA			AML	AML				
	comp=E,2525µm,0.5s							
CERA			AML	AML				
	comp=N,2040µm,0.7s							
CERA			AML	AML				
	comp=N,2080µm,0.7s							
CERA			AML	AML				
	comp=E,2560µm,0.5s							
PE3	**Peglio**	**1.21 334**	P	**Pb**	**17 09 26.2**	**+0.2**		
MIDA	**Miranda**	**1.23 141**	P	**Pn**	**17 09 25.4**	**-0.9**		
FRES	**Fresagrandinar**	**1.25 120**	P	**Pn**	**17 09 26.1**	**-0.3**		
TRIV	**Trivento**	**1.30 130**	P	**Pg**	**17 09 28.2**	**-0.2**		
TRIV			AML	AML				
TRIV			AML	AML				
TRIV			AML	AML				
	comp=E,2250µm,0.8s							
TRIV			AML	AML				
	comp=N,2845µm,1.2s							
TRIV			AML	AML				
	comp=E,2250µm,1.2s							
TRIV			AML	AML				
TRIV			AML	AML				
	comp=N,2845µm,0.8s							
TRIV			AML	AML				
ARCI	**Arcidosso**	**1.31 281**	P	**Pb**	**17 09 28.1**	**+0.3**		
ARCI			AML	AML				
	comp=N,634µm,1.4s							
ARCI			AML	AML				
	comp=E,782µm,0.9s							
ARCI			AML	AML				
	comp=N,634µm,0.6s							
PESA	**Pesaro**	**1.36 349**	P	**Pg**	**17 09 29.3**	**-0.3**		
PESA			AML	AML				
	comp=E,5930µm,1.2s							
PESA			AML	AML				
	comp=E,5930µm,0.8s							
PESA			AML	AML				
	comp=N,4860µm,0.6s							
CRE	**Caprese Michel**	**1.37 318**	P	**Pn**	**17 09 28.3**	**+0.1**		
VAGA	**Valle Agricola**	**1.41 147**	P	**Pn**	**17 09 29.0**	**+0.3**		
VAGA			AML	AML				
	comp=E,774µm,0.8s							
VAGA			AML	AML				
	comp=N,1270µm,1.0s							
VAGA			AML	AML				
	comp=N,1290µm,1.0s							
VAGA			AML	AML				
	comp=E,769µm,0.8s							
SGG	**Gregorio Mates**	**1.50 144**	P	**Pb**	**17 09 31.4**	**+0.4**		
MODR	**Mondragone**	**1.54 161**	P	**Pn**	**17 09 30.5**	**+0.1**		
MODR			AML	AML				
	comp=E,602µm,1.6s							
MODR			AML	AML				
	comp=N,554µm,0.8s							
MAON	**Monte Argentar**	**1.55 264**	P	**Pn**	**17 09 30.7**	**+0.2**		
MAON			AML	AML				
	comp=E,664µm,0.8s							
MAON			AML	AML				
	comp=N,443µm,1.1s							
MAON			AML	AML				
	comp=N,443µm,0.9s							
MAON			AML	AML				
	comp=E,664µm,1.2s							
ASQU	**Asqua**	**1.58 319**	P	**Pn**	**17 09 31.4**	**+0.3**		
FROS	**Frosini**	**1.63 292**	P	**Pn**	**17 09 32.2**	**+0.5**		
FROS			AML	AML				
	comp=E,1095µm,0.6s							
FROS			AML	AML				
	comp=N,604µm,0.5s							
SFI	**Santa Sofia**	**1.64 323**	P	**Pn**	**17 09 31.9**	**+0.1**		
SACR	**S. Croce Del S**	**1.64 137**	P	**Pb**	**17 09 33.6**	**+0.2**		
MELA	**Melanico ??? S**	**1.68 122**	P	**Pn**	**17 09 33.1**	**+0.7**		
MELA			AML	AML				
	comp=E,2045µm,0.6s							
MELA			AML	AML				
	comp=N,2910µm,0.8s							
MELA			AML	AML				
	comp=N,2865µm,0.8s							
MELA			AML	AML				
	comp=E,1950µm,1.0s							
OSSC	**Osservatorio P**	**1.71 303**	P	**Pn**	**17 09 33.6**	**+0.8**		
OSSC			AML	AML				
	comp=E,492µm,0.6s							
OSSC			AML	AML				
	comp=E,535µm,0.7s							
OSSC			AML	AML				
	comp=N,509µm,0.8s							
OSSC			AML	AML				
	comp=N,462µm,0.6s							
CASP	**Castiglione de**	**1.74 277**	P	**Pn**	**17 09 33.6**	**+0.4**		
CASP			AML	AML				
	comp=E,234µm,1.6s							
CASP			AML	AML				
	comp=N,206µm,0.6s							
CASP			AML	AML				
	comp=E,234µm,0.4s							
CASP			AML	AML				
	comp=N,206µm,1.4s							
RUFI	**Rufina**	**1.75 315**	P	**Pn**	**17 09 34.0**	**+0.6**		
RUFI			AML	AML				
	comp=E,842µm,0.6s							
RUFI			AML	AML				
	comp=N,814µm,1.4s							
VITU	**Vitulano (BN)**	**1.77 143**	P	**Pb**	**17 09 35.3**	**-0.3**		
TRIF	**Trifonti**	**1.77 287**	P	**Pn**	**17 09 34.4**	**+0.7**		
TRIF			AML	AML				
	comp=E,498µm,0.8s							
TRIF			AML	AML				
	comp=N,384µm,0.8s							
TRIF			AML	AML				
	comp=N,384µm,1.2s							
TRIF			AML	AML				
	comp=E,498µm,1.2s							
LMD	**Lutirano**	**1.84 324**	P	**Pn**	**17 09 35.6**	**+1.1**		
LMD			AML	AML				
	comp=E,624µm,1.2s							
LMD			AML	AML				
	comp=N,834µm,0.9s							
LMD			AML	AML				
	comp=N,834µm,1.1s							
LMD			AML	AML				
	comp=E,624µm,0.8s							
APRC	**Apricena**	**1.93 115**	P	**Pn**	**17 09 36.6**	**+0.8**		
APRC			AML	AML				
	comp=E,1265µm,0.5s							
APRC			AML	AML				
	comp=N,1715µm,0.5s							
BRIS	**BRISIGHELLA**	**1.98 322**	AML	AML				
	comp=N,1054µm,1.6s							
BRIS			AML	AML				
	comp=N,1001µm,1.5s							
BRIS			AML	AML				
	comp=E,1053µm,0.8s							
BRIS			AML	AML				
	comp=N,1054µm,0.4s							
BRIS			AML	AML				
	comp=N,1001µm,0.5s							
BRIS			AML	AML				
	comp=E,1140µm,0.8s							
CRMI	**Carmignano**	**2.02 307**	P	**Pn**	**17 09 38.1**	**+1.0**		
SGTA	**Sant Agata di**	**2.18 132**	P	**Pb**	**17 09 41.7**	**-0.8**		
SGTA			AML	AML				
	comp=N,410µm,1.6s							
SGTA			AML	AML				
	comp=N,336µm,0.5s							
SGTA			AML	AML				
	comp=E,636µm,0.6s							
SGTA			AML	AML				
	comp=N,410µm,0.4s							
SGTA			AML	AML				
	comp=E,624µm,0.7s							
MSAG	**Monte S. Angel**	**2.19 113**	P	**Pn**	**17 09 40.4**	**+0.9**		
MSAG			AML	AML				
	comp=N,2570µm,0.8s							
MSAG			AML	AML				
	comp=N,2595µm,0.8s							
MSAG			AML	AML				
	comp=N,2570µm,1.2s							
MSAG			AML	AML				
	comp=N,2595µm,1.2s							
MSAG			AML	AML				
	comp=E,1370µm,0.7s							
MSAG			AML	AML				
	comp=E,1295µm,0.7s							
MAIM	**Mastiano**	**2.38 304**	P	**Pn**	**17 09 42.7**	**+0.8**		
MAIM			AML	AML				
	comp=E,226µm,1.5s							
MAIM			AML	AML				
	comp=N,254µm,1.6s							
MAIM			AML	AML				
	comp=N,254µm,0.4s							
CAPA	**Cerignola FG**	**2.42 126**	P	**Pn**	**17 09 43.6**	**+1.1**		
CAPA			AML	AML				
	comp=E,948µm,0.7s							
CAPA			AML	AML				
	comp=N,1160µm,1.1s							
VULT	**Monte Vulture**	**2.44 132**	P	**Pn**	**17 09 44.9**	**+2.0**		
VULT			AML	AML				
	comp=E,560µm,1.0s							
VULT			AML	AML				
	comp=E,474µm,1.0s							
VULT			AML	AML				
	comp=N,752µm,0.4s							
VULT			AML	AML				
	comp=N,755µm,0.5s							
SARO	**Sassorosso**	**2.59 309**	P	**Pn**	**17 09 45.2**	**+0.2**		
SARO			AML	AML				
	comp=E,428µm,0.6s							
SARO			AML	AML				
	comp=N,603µm,0.5s							
MRVN	**Minervino Murg**	**2.71 124**	P	**Pn**	**17 09 47.4**	**+0.8**		
MRVN			AML	AML				
	comp=E,200µm,1.5s							
MRVN			AML	AML				
	comp=N,204µm,1.0s							
MRVN			AML	AML				
	comp=N,204µm,1.0s							
MRVN			AML	AML				
	comp=E,200µm,0.5s							
EQUI	**Equi**	**2.72 306**	P	**Pn**	**17 09 47.5**	**+0.8**		
EQUI			AML	AML				
	comp=E,144µm,1.1s							
EQUI			AML	AML				
	comp=N,202µm,1.0s							
EQUI			AML	AML				
	comp=N,202µm,1.0s							
EQUI			AML	AML				
	comp=E,144µm,0.9s							
CAVE	**Cavezzo**	**2.77 325**	AML	AML				
	comp=E,448µm,0.6s							
CAVE			AML	AML				
	comp=N,436µm,0.7s							
SKDS	**Skadanscina**	**3.00 11**	*e*Pn	**Pn**	**17 09 50.3**	**-0.2**		
AMUR	**Altamura**	**3.05 123**	P	**Pn**	**17 09 52.3**	**+1.1**		
AMUR			AML	AML				

	comp=E,394µm,0.6s							
AMUR					AML	AML		
	comp=N,393µm,0.4s							
PGF	**Pioggiola**	**3.11**	**270**	*e*P		**Pn**	**17 09 53.7**	**+1.5**
PGF				*e*Sn		**Sn**	**17 10 27.1**	**-2.1**
GBRS	**Gornja Briga**	**3.14**	**21**	*i* Pn		**Pn**	**17 09 53.1**	**+0.6**
MSSA	**Maissana**	**3.19**	**304**	P		**Pn**	**17 09 53.9**	**+0.7**
SRKY	**Kupres RS**	**3.23**	**62**	*e*Pn		**Pn**	**17 09 55.9**	**+2.1**
BOJS	**Bojanci**	**3.25**	**26**	AML	AML			
	comp=E,810µm,0.6s							
BOJS					AML	AML		
	comp=N,623µm,0.4s							
BOJS	**Bojanci**	**3.25**	**26**	*e*Pn		**Pn**	**17 09 54.9**	**+1.0**
CEY	**Cerknica**	**3.25**	**15**	*e*Pn		**Pn**	**17 09 53.9**	**-0.1**
MATE	**Matera**	**3.27**	**126**	⇑P		**Pn**	**17 09 55.6**	**+1.5**
STON	**Ston**	**3.31**	**84**	AML	AML			
	comp=E,203µm,0.3s							
STON					AML	AML		
	comp=N,259µm,1.6s							
STON	**Ston**	**3.31**	**84**	*e*Pn		**Pn**	**17 09 55.5**	**+0.7**
STON				*e*Sn		**Sn**	**17 10 33.5**	**-0.5**
STON	**Ston**	**3.31**	**84**	*e*Pn		**Pn**	**17 09 54.6**	**-0.2**
MGRS	**Mrkonjic Grad**	**3.35**	**56**	*e*Pn		**Pn**	**17 09 57.2**	**+1.9**
LTRZ	**Laterza**	**3.36**	**125**	P		**Pn**	**17 09 56.9**	**+1.4**
AJAC	**Base Areonaval**	**3.37**	**260**	P		**Pn**	**17 09 57.0**	**+1.5**
NOCI	**Noci**	**3.41**	**121**	P		**Pn**	**17 09 57.4**	**+1.3**
NOCI					AML	AML		
	comp=N,328µm,0.5s							
NOCI					AML	AML		
	comp=E,307µm,0.8s							
ROVR	**Rover Verones**	**3.41**	**334**	P		**Pn**	**17 09 57.1**	**+0.9**
ROVR					AML	AML		
	comp=E,280µm,0.4s							
ROVR					AML	AML		
	comp=N,263µm,0.8s							
ROVR					AML	AML		
	comp=N,671µm,0.8s							
ROVR					AML	AML		
	comp=E,103µm,0.6s							
CGRP	**Cima Grappa**	**3.43**	**343**	P		**Pn**	**17 09 57.6**	**+1.0**
CGRP					AML	AML		
	comp=E,876µm,0.5s							
CGRP					AML	AML		
	comp=N,659µm,0.5s							
CGRP					AML	AML		
	comp=E,934µm,0.5s							
CGRP					AML	AML		
	comp=N,636µm,0.5s							
VARN	**Col Varnada, M**	**3.48**	**347**	AML	AML			
	comp=E,630µm,0.5s							
VARN					AML	AML		
	comp=N,423µm,0.9s							
VARN					AML	AML		
	comp=E,628µm,0.6s							
VARN					AML	AML		
	comp=N,446µm,0.9s							
LJU	**Ljubljana**	**3.56**	**15**	AML	AML			
	comp=N,2565µm,0.6s							
LJU					AML	AML		
	comp=E,2355µm,0.6s							
SALO	**Salr**	**3.58**	**328**	P		**Pn**	**17 10 00.1**	**+1.6**
SALO					AML	AML		
	comp=N,490µm,0.6s							
SALO					AML	AML		
	comp=E,366µm,0.3s							
SALO					AML	AML		
	comp=E,351µm,0.3s							
SALO					AML	AML		
	comp=N,468µm,0.6s							
DOSS	**Dosso del Somm**	**3.58**	**337**	P		**Pn**	**17 09 59.9**	**+1.2**
DOSS					AML	AML		
	comp=N,292µm,0.6s							
DOSS					AML	AML		
	comp=N,292µm,1.4s							
DOSS					AML	AML		
	comp=N,304µm,0.7s							
DOSS					AML	AML		
	comp=E,354µm,0.7s							
DOSS					AML	AML		
	comp=E,305µm,0.6s							
BLY	**Banja Luka**	**3.59**	**52**	*e*Pn		**Pn**	**17 10 00.1**	**+1.5**
BLY	**Banja Luka**	**3.59**	**52**	*e*Pn		**Pn**	**17 09 59.9**	**+1.3**
CRES	**Cresnjev**	**3.60**	**26**	*e*Pn		**Pn**	**17 09 59.6**	**+0.8**
CTI	**Castel Tesino**	**3.62**	**342**	P		**Pn**	**17 10 00.4**	**+1.2**
CTI					AML	AML		
	comp=N,618µm,0.2s							
CTI					AML	AML		
	comp=E,738µm,0.2s							
CADS	**Cadrg**	**3.64**	**6**	*i* Pn		**Pn**	**17 09 59.4**	**0.0**
STAL	**STALIGIAL**	**3.67**	**355**	P		**Pn**	**17 10 00.2**	**+0.4**
STAL					AML	AML		
	comp=N,662µm,1.4s							
STAL					AML	AML		
	comp=E,526µm,0.3s							
STAL					AML	AML		
	comp=N,489µm,1.4s							
STAL					AML	AML		
	comp=E,526µm,1.7s							
STAL					AML	AML		
	comp=N,662µm,0.6s							
STAL					AML	AML		
	comp=N,489µm,0.6s							
STAL					AML	AML		
	comp=E,502µm,0.2s							
TAR1	**Taranto**	**3.69**	**123**	P		**Pn**	**17 10 01.4**	**+1.4**
TAR1					AML	AML		
	comp=E,242µm,1.6s							
TAR1					AML	AML		
	comp=N,234µm,1.2s							
TAR1					AML	AML		
	comp=E,242µm,0.4s							
LUSI	**Trento, Gardas**	**3.73**	**335**	P		**Pn**	**17 10 01.7**	**+1.1**
LUSI					AML	AML		
	comp=E,350µm,0.3s							
LUSI					AML	AML		
	comp=N,442µm,1.6s							
LUSI					AML	AML		
	comp=N,442µm,0.4s							
LUSI					AML	AML		
	comp=E,350µm,1.7s							
CIMO	**Cimolais**	**3.75**	**352**	P		**Pn**	**17 10 01.2**	**+0.5**
CIMO					AML	AML		
	comp=E,107µm,0.7s							
CIMO					AML	AML		
	comp=E,104µm,0.7s							
CIMO					AML	AML		
	comp=N,100µm,1.0s							
CIMO					AML	AML		
	comp=N,94µm,1.0s							
CIMO					AML	AML		
	comp=N,100µm,1.0s							
CIMO					AML	AML		
	comp=E,107µm,1.3s							
CIMO					AML	AML		
	comp=E,104µm,1.3s							
AGOR	**Agordo**	**3.77**	**348**	P		**Pn**	**17 10 02.2**	**+1.1**
AGOR					AML	AML		
	comp=E,143µm,0.3s							
AGOR					AML	AML		
	comp=N,144µm,1.2s							
TREB	**Trebinje**	**3.79**	**87**	*e*Pn		**Pn**	**17 10 02.5**	**+1.1**
TREB				*e*Sn		**Sn**	**17 10 46.6**	**+0.9**
TREB	**Trebinje**	**3.79**	**87**	*e*Pn		**Pn**	**17 10 02.4**	**+1.1**
PTCC	**Patocco-Chiusa**	**3.80**	**1**	P		**Pn**	**17 10 01.6**	**0.0**
PTCC					AML	AML		
	comp=E,142µm,0.9s							
PTCC					AML	AML		
	comp=N,160µm,0.3s							
PTCC					AML	AML		
	comp=E,142µm,1.1s							
GAGG	**Gaggia**	**3.84**	**336**	P		**Pn**	**17 10 03.2**	**+1.1**
GAGG					AML	AML		
	comp=E,200µm,0.5s							
GAGG					AML	AML		
	comp=N,308µm,0.6s							
GAGG					AML	AML		
	comp=E,308µm,0.6s							
GAGG					AML	AML		
	comp=N,198µm,0.8s							
GAGG					AML	AML		
	comp=E,200µm,1.5s							
GAGG					AML	AML		
	comp=N,308µm,1.4s							
GAGG					AML	AML		
	comp=E,308µm,1.4s							
GAGG					AML	AML		
	comp=N,198µm,1.2s							
CLUD	**Cludinico**	**3.86**	**357**	P		**Pn**	**17 10 02.6**	**+0.3**
CLUD					AML	AML		
	comp=E,194µm,0.7s							
CLUD					AML	AML		
	comp=N,175µm,0.6s							
ZONE	**Zone**	**3.87**	**326**	P		**Pn**	**17 10 03.5**	**+1.1**
ZONE					AML	AML		
	comp=E,294µm,0.2s							
ZONE					AML	AML		
	comp=N,362µm,1.5s							
HCY	**Herceg Novi**	**3.91**	**91**	*e*Pn		**Pn**	**17 10 03.9**	**+1.0**
HCY	**Herceg Novi**	**3.91**	**91**	⇑*i*Pn		**Pn**	**17 10 03.9**	**+1.0**
HCY				*i* Sn		**Sn**	**17 10 49.5**	**+0.9**
BRY	**Bratogost**	**3.93**	**84**	*e*Pn		**Pn**	**17 10 04.3**	**+0.8**
BRY	**Bratogost**	**3.93**	**84**	⇑*i*Pn		**Pn**	**17 10 04.2**	**+0.8**
BRY				*i* Sn		**Sn**	**17 10 50.4**	**+1.0**
ACOM	**Acomizza, Ital**	**3.95**	**3**	P		**Pn**	**17 10 04.4**	**+0.7**
ACOM					AML	AML		
	comp=E,426µm,0.3s							
ACOM					AML	AML		
	comp=N,392µm,0.3s							
ACOM					AML	AML		
	comp=E,432µm,0.3s							
ACOM					AML	AML		
	comp=N,420µm,0.3s							
FVI	**Forni Avoltri**	**4.00**	**356**	P		**Pn**	**17 10 05.1**	**+0.7**
FVI					AML	AML		
	comp=E,267µm,0.5s							
FVI					AML	AML		
	comp=N,242µm,1.2s							
FVI					AML	AML		
	comp=N,242µm,0.8s							
OBKA	**Obir**	**4.02**	**13**	*i* Pn		**Pn**	**17 10 05.4**	**+0.8**
	comp=N,4.4nm,0.2s,SNR=9.3							
OBKA				*i* Sn		**Sn**	**17 10 54.2**	**+2.7**
	comp=N,23nm,0.3s							
OBKA	**Obir**	**4.02**	**13**	*e*Pn		**Pn**	**17 10 04.0**	**-0.6**
OBKA	**Obir**	**4.02**	**13**	*e*Pn		**Pn**	**17 10 05.0**	**+0.4**
	SNR=6.7							
MYKA	**Terra Mystica**	**4.04**	**4**	*e*Pn		**Pn**	**17 10 05.5**	**+0.7**
	comp=N,3.2nm,0.2s,SNR=11							
MYKA				*i* Sn		**Sn**	**17 10 53.1**	**+1.2**
	comp=N,29nm,0.6s							
APPI	**Appiano**	**4.12**	**341**	P		**Pn**	**17 10 07.6**	**+1.6**
APPI					AML	AML		
	comp=E,264µm,0.4s							
APPI					AML	AML		
	comp=N,364µm,0.3s							
ABTA	**Abfaltersbach**	**4.17**	**353**	*i* Pn		**Pn**	**17 10 08.1**	**+1.4**
	comp=N,0.8nm,0.1s,SNR=15							
ABTA				*i* Sn		**Sn**	**17 10 58.2**	**+2.9**
	comp=N,28nm,0.4s							
CEME	**Cevo**	**4.21**	**89**	⇑*i*Pn		**Pn**	**17 10 08.2**	**+1.0**
CEME				*i* Sn		**Sn**	**17 10 57.1**	**+0.9**
UPM	**Unac-Piva**	**4.22**	**80**	*e*Pn		**Pn**	**17 10 09.2**	**+1.7**
UPM	**Unac-Piva**	**4.22**	**80**	⇓*i*Pn		**Pn**	**17 10 08.2**	**+0.7**
UPM				*i* Sn		**Sn**	**17 10 57.6**	**+0.9**
NKME	**Niksic**	**4.23**	**86**	⇑*i*Pn		**Pn**	**17 10 08.5**	**+1.0**
NKME				*i* Sn		**Sn**	**17 10 57.2**	**+0.5**
VSL	**Villasalto**	**4.25**	**224**	AML	AML			
	comp=E,71µm,1.4s							
VSL					AML	AML		
	comp=N,98µm,1.6s							
VSL					AML	AML		
	comp=N,98µm,0.4s							
SOKA	**Soboth**	**4.27**	**17**	*i* Pn		**Pn**	**17 10 09.2**	**+1.2**
	comp=N,6.6nm,0.2s							
SOKA				*i* Sn		**Sn**	**17 10 60.0**	**+2.2**
	comp=N,31nm,0.7s							
TIP	**Timpagrande**	**4.35**	**141**	P		**Pn**	**17 10 11.0**	**+1.9**
BRMO	**Bormio**	**4.37**	**333**	P		**Pn**	**17 10 11.5**	**+2.1**
BRMO					AML	AML		
	comp=E,64µm,0.4s							
BRMO					AML	AML		
	comp=N,74µm,0.4s							
BRMO					AML	AML		
	comp=N,74µm,1.6s							
SBF	**Sospel**	**4.41**	**289**	*e*Pn		**Pn**	**17 10 10.6**	**+0.7**
SBF				*e*Sn		**Sn**	**17 10 58.1**	**-2.9**
	comp=N,23nm,0.4s							
KOGS	**Kog**	**4.41**	**28**	AML	AML			
	comp=N,736µm,0.6s							
KOGS					AML	AML		
	comp=E,934µm,1.5s							
RISI	**Rein**	**4.42**	**350**	P		**Pn**	**17 10 11.8**	**+1.7**
RISI					AML	AML		
	comp=E,621µm,0.6s							
RISI					AML	AML		
	comp=N,758µm,0.4s							
DRME	**Dracevica, Mon**	**4.44**	**93**	*e*Pn		**Pn**	**17 10 11.7**	**+1.4**
DRME	**Dracevica, Mon**	**4.44**	**93**	⇑*i*Pn		**Pn**	**17 10 11.4**	**+1.1**
DRME				*i* Sn		**Sn**	**17 11 02.7**	**+0.9**
PDG	**Podgorica**	**4.47**	**90**	⇑P		**Pn**	**17 10 12.1**	**+1.4**
PDG	**Podgorica**	**4.47**	**90**	AML	AML			
	comp=E,190µm,0.5s							
PDG					AML	AML		
	comp=E,236µm,1.5s							
PDG					AML	AML		
	comp=N,275µm,1.4s							
PDG					AML	AML		
	comp=E,190µm,1.5s							
PDG					AML	AML		
	comp=N,226µm,1.4s							
PDG					AML	AML		
	comp=N,226µm,0.6s							
PDG					AML	AML		
	comp=N,275µm,0.6s							
PDG					AML	AML		
	comp=E,236µm,0.5s							
PDG	**Podgorica**	**4.47**	**90**	*e*Pn		**Pn**	**17 10 12.2**	**+1.6**
PDG				*e*Sn		**Sn**	**17 11 03.4**	**+1.0**
PDG	**Podgorica**	**4.47**	**90**	⇓*i*Pn		**Pn**	**17 10 11.6**	**+1.0**
PDG				*i* Sn		**Sn**	**17 11 03.3**	**+0.9**
MUGIO	**Muggio**	**4.47**	**319**	AML	AML			
	comp=E,99µm,0.5s							
MUGIO					AML	AML		
	comp=N,110µm,0.4s							
MUGIO					AML	AML		
	comp=N,110µm,1.6s							
KBA	**Koelnbreinsper**	**4.47**	**1**	*i* Pn		**Pn**	**17 10 12.1**	**+1.2**
	comp=N,14nm,0.3s,SNR=12							
KBA				*i* Sn		**Sn**	**17 11 03.1**	**+0.3**
	comp=N,35nm,0.5s							
KBA	**Koelnbreinsper**	**4.47**	**1**	*e*Pn		**Pn**	**17 10 12.0**	**+1.2**
	SNR=9.4							
KBA				*e*Sn		**Sn**	**17 11 02.6**	**-0.3**
	SNR=5.9							
ROSI	**Rosskopf**	**4.51**	**344**	P		**Pn**	**17 10 12.7**	**+1.3**
ULC	**Ulcinj**	**4.52**	**96**	⇓*i*Pn		**Pn**	**17 10 12.5**	**+1.1**
ULC				*i* Sn		**Sn**	**17 11 04.5**	**+0.8**
PLE	**Pljevlja**	**4.59**	**79**	⇓*i*Pn		**Pn**	**17 10 13.1**	**+0.7**
PLE				*i* Sn		**Sn**	**17 11 06.6**	**+1.0**
RUDO	**Rudo**	**4.62**	**75**	*e*Pn		**Pn**	**17 10 13.6**	**+0.9**
KOME	**Kolasin**	**4.65**	**85**	⇑*i*Pn		**Pn**	**17 10 14.0**	**+0.8**
KOME				*i* Sn		**Sn**	**17 11 07.9**	**+0.9**
BBLS	**Lazići**	**4.70**	**72**	*e*Pn		**Pn**	**17 10 15.5**	**+1.7**
FETA	**Feichten**	**4.76**	**339**	*e*Pn		**Pn**	**17 10 16.9**	**+2.2**
	comp=N,3.4nm,0.4s,SNR=13							
FETA				*i* Sn		**Sn**	**17 11 14.3**	**+4.5**
	comp=N,12nm,0.4s							
WTTA	**Wattenberg**	**4.79**	**347**	*i* Pn		**Pn**	**17 10 17.8**	**+2.5**
	comp=N,2.0nm,0.2s,SNR=13							
WTTA				*i* Sn		**Sn**	**17 11 12.8**	**+2.1**
	comp=N,22nm,0.4s							
WTTA	**Wattenberg**	**4.79**	**347**	*e*Pn		**Pn**	**17 10 17.7**	**+2.5**
	SNR=11							
WTTA				*e*Sn		**Sn**	**17 11 14.2**	**+3.5**
	SNR=4.0							
DAVOX	**Davos/Dischmat**	**4.80**	**331**	Pn		**Pn**	**17 10 17.9**	**+2.4**
	comp=N,5.8nm,0.3s,baz=156,slow=17,SNR=42							
DAVOX				Sn		**Sn**	**17 11 10.8**	**-0.2**
	baz=145,slow=18							
SQTA	**Sankt Quirin**	**4.83**	**344**	*i* Pn		**Pn**	**17 10 18.0**	**+2.3**
	comp=N,6.6nm,0.2s,SNR=22							
SQTA				*i* Sn		**Sn**	**17 11 15.6**	**+4.1**
	comp=N,36nm,0.3s							
WATA	**Walderalm**	**4.87**	**347**	*i* Pn		**Pn**	**17 10 19.5**	**+3.2**
	comp=N,5.1nm,0.1s,SNR=14							
WATA				*i* Sn		**Sn**	**17 11 17.2**	**+4.6**
	comp=N,17nm,0.3s							
ARSA	**Arzberg**	**4.93**	**19**	*i* Pn		**Pn**	**17 10 17.1**	**+0.2**
	comp=N,4.2nm,0.3s,SNR=11							
ARSA				*e*Sn		**Sn**	**17 11 12.9**	**-0.9**
	comp=N,9.3nm,0.3s							
ARSA	**Arzberg**	**4.93**	**19**	*e*Pn		**Pn**	**17 10 17.2**	**+0.2**
	SNR=7.2							
ARSA				*e*Sn		**Sn**	**17 11 12.7**	**-1.1**
	SNR=5.7							
IVA	**Berane**	**4.93**	**85**	⇑*i*Pn		**Pn**	**17 10 19.7**	**+2.7**
IVA				*i* Sn		**Sn**	**17 11 14.4**	**+0.5**
MOTA	**Moosalm**	**4.97**	**343**	*i* Pn		**Pn**	**17 10 20.7**	**+3.0**
	comp=N,1.5nm,0.2s,SNR=16							
MOTA				*i* Sn		**Sn**	**17 11 21.9**	**+6.8**
	comp=N,22nm,0.4s							
LMR	**La Mourre**	**4.97**	**281**	*e*Pn		**Pn**	**17 10 17.7**	**+0.1**
LMR				*e*Sn		**Sn**	**17 11 11.5**	**-3.4**
	comp=N,4.7nm,0.3s							
PVY	**Plav**	**4.98**	**88**	⇑*i*Pn		**Pn**	**17 10 19.0**	**+1.2**
PVY				*i* Sn		**Sn**	**17 11 16.0**	**+0.8**
SJES	**Sjenica**	**5.00**	**80**	*e*Pn		**Pn**	**17 10 20.2**	**+2.1**
SJES				*e*Sn		**Sn**	**17 11 16.6**	**+0.7**
BIOA	**Bad Ischl, Aus**	**5.09**	**3**	*i* Pn		**Pn**	**17 10 20.0**	**+0.7**
	comp=N,8.9nm,0.2s,SNR=6.1							
BIOA				*i* Sn		**Sn**	**17 11 18.8**	**+0.8**
	comp=N,12nm,0.3s							
TIR	**Tirane**	**5.11**	**102**	⇓P		**Pn**	**17 10 20.9**	**+1.4**
TIR	**Tirane**	**5.11**	**102**	*e*Pn		**Pn**	**17 10 21.0**	**+1.5**
TIR				*e*Sn		**Sn**	**17 11 19.7**	**+1.3**
MBDF	**Montbardon**	**5.13**	**297**	*e*P		**Pn**	**17 10 22.3**	**+2.4**
MBDF				*e*Sn		**Sn**	**17 11 15.9**	**-3.2**
	comp=N,2.9nm,0.3s							
DIVS	**Divibare**	**5.16**	**71**	*e*Pn		**Pn**	**17 10 21.1**	**+0.8**
DIVS				*e*Sn		**Sn**	**17 11 20.8**	**+1.1**
DIVS	**Divibare**	**5.16**	**71**	*e*Pn		**Pn**	**17 10 20.6**	**+0.3**
IVAS	**Ivanjica**	**5.17**	**77**	*e*Pn		**Pn**	**17 10 21.4**	**+1.0**
IVAS				*e*Sn		**Sn**	**17 11 18.4**	**-1.5**
RETA	**Reutte**	**5.18**	**341**	*e*Pn		**Pn**	**17 10 23.4**	**+2.9**
	comp=N,2.1nm,0.2s							
RETA				*i* Sn		**Sn**	**17 11 24.3**	**+4.2**
	comp=N,10.0nm,0.3s							
PLONS	**Plons/SG**	**5.21**	**330**	*e*Pn		**Pn**	**17 10 24.0**	**+3.0**
	SNR=12							
PLONS				*e*Sn		**Sn**	**17 11 25.0**	**+4.0**
	SNR=3.8							
DAVA	**Damuels**	**5.25**	**334**	*e*Pn		**Pn**	**17 10 23.9**	**+2.4**
	comp=N,3.5nm,0.3s,SNR=21							
DAVA				*i* Sn		**Sn**	**17 11 26.5**	**+4.7**
	comp=N,23nm,0.5s							
DAVA	**Damuels**	**5.25**	**334**	*e*Pn		**Pn**	**17 10 24.3**	**+2.9**
	SNR=11							
DAVA				*e*Sn		**Sn**	**17 11 26.1**	**+4.3**
	SNR=3.0							
MOA	**Molln**	**5.30**	**8**	*i* Pn		**Pn**	**17 10 23.1**	**+1.0**
	comp=N,3.3nm,0.2s,SNR=13							
MOA				*i* Sn		**Sn**	**17 11 24.5**	**+1.6**
	comp=N,15nm,0.4s							
MOA	**Molln**	**5.30**	**8**	*e*Pn		**Pn**	**17 10 23.1**	**+1.0**
MOA				*e*Sn		**Sn**	**17 11 23.2**	**+0.3**
MOA	**Molln**	**5.30**	**8**	*e*Pn		**Pn**	**17 10 23.0**	**+1.0**
	SNR=10							
MOA				*e*Sn		**Sn**	**17 11 23.5**	**+0.6**
	SNR=11							
MORH	**Mrgy, Hungar**	**5.30**	**45**	⇑P		**Pn**	**17 10 23.4**	**+1.2**
MORH	**Mrgy, Hungar**	**5.30**	**45**	*e*Pn		**Pn**	**17 10 21.7**	**-0.4**
FRGS	**Fruska Gora**	**5.41**	**60**	⇑P		**Pn**	**17 10 24.6**	**+1.0**
FRGS	**Fruska Gora**	**5.41**	**60**	*e*Pn		**Pn**	**17 10 24.7**	**+1.1**
FRGS				*e*Sn		**Sn**	**17 11 26.4**	**+0.8**
FRGS	**Fruska Gora**	**5.41**	**60**	*e*Pn		**Pn**	**17 10 24.4**	**+0.8**
TRUS	**Trudelj**	**5.48**	**70**	*e*Pn		**Pn**	**17 10 25.5**	**+0.9**
TRUS				*e*Sn		**Sn**	**17 11 27.3**	**-0.1**
LPL	**La Plagne**	**5.50**	**304**	*e*P		**Pn**	**17 10 28.8**	**+3.7**
LPL				*e*Sn		**Sn**	**17 11 25.1**	**-3.2**
	comp=N,7.9nm,0.3s							
UBR	**Ueberruh**	**5.53**	**338**	*e*Sn		**Sn**	**17 11 33.0**	**+4.3**
	SNR=3.1							
RONA	**Rosalia, Austr**	**5.54**	**22**	*i* Pn		**Pn**	**17 10 26.0**	**+0.6**
	comp=N,2.8nm,0.2s,SNR=11							
RONA				*i* Sn		**Sn**	**17 11 27.7**	**-1.2**
	comp=N,4.6nm,0.4s							
GRUS	**Gruza**	**5.63**	**74**	*e*Pn		**Pn**	**17 10 27.6**	**+1.0**
GRUS				*e*Sn		**Sn**	**17 11 31.1**	**+0.1**
CONA	**Conrad Observa**	**5.64**	**18**	*i* Pn		**Pn**	**17 10 27.3**	**+0.4**
	comp=N,3.1nm,0.3s,SNR=18							
CONA				*i* Sn		**Sn**	**17 11 30.8**	**-0.7**
	comp=N,9.2nm,0.4s							
WILA	**Wila**	**5.70**	**329**	*e*Pn		**Pn**	**17 10 29.1**	**+1.5**
	SNR=3.2							
WILA				*e*Sn		**Sn**	**17 11 35.5**	**+2.7**
	SNR=2.6							
SMRF	**Simiane la Rot**	**5.74**	**286**	*e*P		**Pn**	**17 10 30.2**	**+2.0**
SMRF				*e*Sn		**Sn**	**17 11 30.4**	**-3.5**
	comp=N,1.9nm,0.4s							
ORIF	**Oris-en-Rattie**	**5.79**	**296**	*e*P		**Pn**	**17 10 32.5**	**+3.5**
ORIF				*e*Sn		**Sn**	**17 11 31.6**	**-3.6**
	comp=N,4.3nm,0.4s							
SELS	**Selova**	**5.84**	**81**	*e*Pn		**Pn**	**17 10 30.2**	**+0.7**
SELS				*e*Sn		**Sn**	**17 11 35.3**	**-0.9**
OHR	**Ohrid**	**5.86**	**102**	*e*Pn		**Pn**	**17 10 32.1**	**+2.3**
OHR				*e*Sn		**Sn**	**17 11 35.1**	**-1.7**
OHR	**Ohrid**	**5.86**	**102**	*i* Pn		**Pn**	**17 10 31.9**	**+2.1**
OHR				*i* Sn		**Sn**	**17 11 35.1**	**-1.7**
SULZ	**Cheisacher**	**6.11**	**325**	*e*Pn		**Pn**	**17 10 34.4**	**+1.2**
	SNR=2.6							
SULZ				*e*Sn		**Sn**	**17 11 43.3**	**+0.5**
	SNR=7.4							
SKO	**Skopje**	**6.13**	**93**	*e*Pn		**Pn**	**17 10 35.5**	**+2.0**
SKO	**Skopje**	**6.13**	**93**	*i* Pn		**Pn**	**17 10 35.2**	**+1.6**
BALST	**Balsthal**	**6.14**	**322**	*e*Pn		**Pn**	**17 10 34.8**	**+1.1**
	SNR=5.7							
BALST				*e*Sn		**Sn**	**17 11 45.2**	**+1.5**
	SNR=5.7							
SLE	**Schleitheim**	**6.14**	**329**	*e*Pn		**Pn**	**17 10 34.3**	**+0.6**
	SNR=6.6							
SLE				*e*Sn		**Sn**	**17 11 44.2**	**+0.4**
	SNR=4.4							
GEC2	**GERESS Array S**	**6.25**	**3**	*e*Pn		**Pn**	**17 10 35.4**	**+0.2**
	SNR=4.9							
GEC2				*e*Sn		**Sn**	**17 11 45.8**	**-0.7**
	SNR=6.5							
GERES	**GERESS Array B**	**6.25**	**3**	Pn		**Pn**	**17 10 35.1**	**-0.1**
	comp=N,1.1nm,0.3s,baz=174,slow=13,SNR=26							
GERES				Sn		**Sn**	**17 11 45.2**	**-1.3**
	comp=N,7.1nm,0.3s,baz=170,slow=24,SNR=12							
	comp=N,1.9nm,0.3s							
CKRC	**Cesky Krumlov**	**6.26**	**7**	*e*PN		**Pn**	**17 10 35.0**	**-0.3**
CKRC				*e*SN		**Sn**	**17 11 43.5**	**-3.2**
BOVS	**Bovan**	**6.30**	**78**	*e*Pn		**Pn**	**17 10 36.4**	**+0.6**
BARS	**Barje**	**6.34**	**85**	*e*Pn		**Pn**	**17 10 37.5**	**+1.1**
BARS				*e*Sn		**Sn**	**17 11 46.8**	**-1.8**
FNA	**Florina**	**6.37**	**104**	*e*Pn		**Pn**	**17 10 38.4**	**+1.5**
FNA				*e*Sn		**Sn**	**17 11 47.0**	**-2.5**
MODS	**Modra-Piesok**	**6.44**	**25**	*e*Pn		**Pn**	**17 10 37.6**	**-0.1**
MODS				*e*SN		**Sn**	**17 11 46.7**	**-4.2**
CABF

VRAC	**Vranov**	**7.11**	**18**	Pn		**Pn**	**17 10 45.4**	**-1.4**
	comp=N,0.3nm,0.3s,baz=22,slow=1.8,SNR=1.6							
VRAC				Sn		**Sn**	**17 12 02.5**	**-4.8**
	comp=N,0.8nm,0.3s,baz=257,slow=16,SNR=1.8							
	comp=N,1.8nm,0.3s							
SURR	**Surduc**	**7.14**	**61**	⇑P		**Pn**	**17 10 47.7**	**+0.4**
CDF	**Champ du Feu**	**7.15**	**326**	*e*Pn		**Pn**	**17 10 48.2**	**+0.7**
CDF				*e*Sn		**Sn**	**17 12 05.1**	**-3.5**
	comp=N,7.9nm,0.2s							
ROTZ	**Rotzenmuhle**	**7.20**	**355**	*e*Sn		**Sn**	**17 12 05.9**	**-3.7**
	SNR=3.5							
GRF	**Grafenberg Arr**	**7.22**	**350**	*e*Sn		**Sn**	**17 12 07.6**	**-2.6**
	SNR=3.3							
HAU	**Haudompre**	**7.25**	**320**	*e*Pn		**Pn**	**17 10 48.6**	**-0.3**
HAU				*e*Sn		**Sn**	**17 12 07.9**	**-3.1**
	comp=N,23nm,0.3s							
GOPC	**GO Pecny, Ondr**	**7.39**	**8**	*e*SN		**Sn**	**17 12 11.5**	**-2.9**
VTS	**Vitosha**	**7.39**	**87**	⇑P		**Pn**	**17 10 52.3**	**+1.4**
VTS	**Vitosha**	**7.39**	**87**	*e*Pn		**Pn**	**17 10 52.3**	**+1.4**
VTS	**Vitosha**	**7.39**	**87**	*e*Pn		**Pn**	**17 10 52.4**	**+1.4**
VTS				*e*SN		**Sn**	**17 12 11.7**	**-3.0**
VTS				*e*Sn		**Sn**	**17 12 13.2**	**-1.5**
MANZ	**Manzenberg**	**7.42**	**354**	*e*Sn		**Sn**	**17 12 11.7**	**-3.5**
	SNR=2.8							
GZR	**Gura Zlata**	**7.44**	**65**	⇑P		**Pn**	**17 10 51.8**	**+0.3**
PRU	**Pruhonice**	**7.44**	**7**	*e*PN		**Pn**	**17 10 51.7**	**+0.2**
PRU				*e*SN		**Sn**	**17 12 12.1**	**-3.5**
KEST	**Kesra**	**7.49**	**205**	Pn		**Pn**	**17 10 54.5**	**+2.2**
	comp=N,1.1nm,0.3s,baz=332,slow=5.7,SNR=12							
KEST				Sn		**Sn**	**17 12 15.9**	**-1.2**
	baz=219,slow=13							
	comp=N,4.1nm,0.5s							
NKC	**Novy Kostel**	**7.65**	**356**	*e*PN		**Pn**	**17 10 54.4**	**+0.1**
NKC				*e*SN		**Sn**	**17 12 17.3**	**-3.5**
WERN	**Wernitzgruen**	**7.71**	**356**	*e*Sn		**Sn**	**17 12 19.1**	**-3.1**
	SNR=3.1							
GUNZ	**Gunzen**	**7.79**	**356**	*e*Pn		**Pn**	**17 10 57.3**	**+1.1**
	SNR=2.1							
GUNZ				*e*Sn		**Sn**	**17 12 22.4**	**-1.7**
	SNR=2.4							
SMF	**Signal de Mont**	**7.81**	**304**	*e*Pn		**Pn**	**17 10 56.7**	**+0.1**
SMF	**Signal de Mont**	**7.81**	**304**	*e*P		**Pn**	**17 11 00.4**	**+3.8**
	comp=N,4.6nm,0.3s							
SMF				*e*Sn		**Sn**	**17 12 20.8**	**-4.0**
	comp=N,4.6nm,0.3s							
TANN	**Tannenbergstha**	**7.83**	**356**	*e*Pn		**Pn**	**17 10 57.1**	**+0.2**
	SNR=1.3							
TANN				*e*Sn		**Sn**	**17 12 22.8**	**-2.4**
	SNR=2.6							
KRLC	**Kraliky**	**7.87**	**17**	*e*PN		**Pn**	**17 10 57.1**	**-0.3**
KRLC				*e*SN		**Sn**	**17 12 21.5**	**-4.7**
WERD	**Werda**	**7.87**	**356**	*e*Pn		**Pn**	**17 10 58.7**	**+1.3**
	SNR=2.4							
SRS	**Serrai**	**7.89**	**97**	*e*Pn		**Pn**	**17 10 58.5**	**+0.9**
PAGF	**Fort de Pagny**	**7.94**	**321**	*e*Pn		**Pn**	**17 10 58.7**	**+0.5**
	baz=141							
PAGF				*e*Sn		**Sn**	**17 12 23.4**	**-4.4**
	comp=N,5.2nm,0.3s							
DRGR		**7.95**	**55**	⇑P		**Pn**	**17 10 59.7**	**+1.1**
DRGR		**7.95**	**55**	*e*Pn		**Pn**	**17 11 00.5**	**+1.9**
SFTF	**Sexfontaines**	**8.03**	**317**	*e*Pn		**Pn**	**17 11 00.1**	**+0.6**
	baz=139							
SFTF				*e*Sn		**Sn**	**17 12 25.0**	**-5.0**
	comp=N,4.7nm,0.3s							
DPC	**Dobruska-Polom**	**8.04**	**14**	*e*PN		**Pn**	**17 10 58.8**	**-0.9**
DPC				*e*SN		**Sn**	**17 12 26.1**	**-4.3**
MTLF	**Montolieu**	**8.10**	**279**	*e*P		**Pn**	**17 11 05.2**	**+4.7**
MTLF				*e*Sn		**Sn**	**17 12 26.2**	**-5.7**
	comp=N,0.8nm,0.3s							
LOR	**Lormes**	**8.11**	**308**	*e*Pn		**Pn**	**17 11 00.7**	**0.0**
	baz=125							
LOR				*e*Sn		**Sn**	**17 12 27.6**	**-4.5**
	comp=N,5.8nm,0.3s							
MOX	**Moxa**	**8.12**	**353**	*e*Sn		**Sn**	**17 12 28.0**	**-4.2**
	SNR=7.5							
MARR	**Marisel-Cluj**	**8.15**	**57**	⇓P		**Pn**	**17 11 02.5**	**+1.2**
AVF	**Avril sur Loir**	**8.18**	**304**	*e*Pn		**Pn**	**17 11 02.1**	**+0.6**
AVF				*e*Sn		**Sn**	**17 12 29.9**	**-3.8**
	comp=N,1.4nm,0.4s							
SSF	**Saint Saulge**	**8.21**	**306**	*e*Pn		**Pn**	**17 11 02.4**	**+0.4**
SSF				*e*Sn		**Sn**	**17 12 31.0**	**-3.6**
	comp=N,2.8nm,0.3s							
MEZF	**Maizieres J'vi**	**8.22**	**319**	*e*P		**Pn**	**17 11 04.6**	**+2.5**
	baz=139							
MEZF	**Maizieres J'vi**	**8.22**	**319**	*e*Pg		**Pg**	**17 11 37.0**	**-3.5**
MEZF				*e*Sn		**Sn**	**17 12 31.4**	**-3.3**
	comp=N,5.4nm,0.3s							
SAVF	**Savonnieres en**	**8.26**	**319**	*e*P		**Pn**	**17 11 07.4**	**+4.7**
	baz=140							
BRG	**Berggiesshubel**	**8.29**	**3**	*e*P		**Pn**	**17 11 06.4**	**+3.3**
BRG				Amp			17 11 14.9	
	comp=Z,2.0nm,0.5s							
BRG				r			17 12 30.2	
BRG				Amp			17 12 52.2	
	comp=Z,6.4nm,0.8s							
BRG				r			17 13 36.0	
BRG				Amp			17 13 53.3	
	comp=Z,9.2nm,1.3s							
BRG	**Berggiesshubel**	**8.29**	**3**	*e*Sn		**Sn**	**17 12 33.6**	**-2.8**
	SNR=1.6							
TNS	**Taunus Mts**	**8.30**	**338**	*e*Pn		**Pn**	**17 11 05.0**	**+1.7**
	SNR=2.8							
BGF	**Bois d'Agland**	**8.39**	**302**	*e*Pn		**Pn**	**17 11 04.8**	**+0.3**
BGF	**Bois d'Agland**	**8.39**	**302**	*e*Pg		**Pg**	**17 11 40.4**	**-3.4**
BGF				*e*Sn		**Sn**	**17 12 33.8**	**-5.2**
	comp=Z,3.5nm,0.4s							
CAF	**Calviac**	**8.40**	**290**	*e*P		**Pn**	**17 11 07.0**	**+2.4**
CAF				*e*Sn		**Sn**	**17 12 34.6**	**-4.6**
	comp=Z,0.8nm,0.3s							
PLD	**Plovdiv**	**8.52**	**89**	*e*Pn		**Pn**	**17 11 08.4**	**+2.1**
WLF	**Walferdange**	**8.59**	**328**	*e*Pn		**Pn**	**17 11 09.9**	**+2.6**
	SNR=1.5							
TCF	**Toulx Ste Croi**	**8.69**	**299**	*e*Sn		**Sn**	**17 12 41.1**	**-5.3**
	comp=Z,0.9nm,0.2s							
CLL	**Collm**	**8.71**	**359**	*e*Pn		**Pn**	**17 11 12.0**	**+3.2**
CLL				*ex*		x	17 11 27.0	
CLL				*e*Pg		**Pg**	**17 11 49.0**	**-0.9**
CLL				*ex*		x	17 12 39.0	
CLL				*ex*		x	17 13 01.0	
CLL				*e*Sb		**Sg**	**17 13 35.0**	**-7.5**
	comp=Z,18nm,1.3s							
CLL				*e*Sg		Sg	17 14 00.0	+17
	comp=Z,18nm,1.3s							
STHS	**Stebnicka Huta**	**8.81**	**37**	*e*PN		**Pn**	**17 11 12.7**	**+2.5**
GIVF	**Givet**	**9.48**	**325**	*e*P		Pn	17 11 24.8	+5.5
MLR	**Muntele Rosu**	**9.61**	**68**	Pn		**Pn**	**17 11 22.8**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=198,slow=5.8,SNR=6.0							
MLR				LR		LR	17 16 04.6	
	comp=Z,93nm,20.8s,baz=301,slow=44							
	comp=Z,5.1nm,0.8s							
MLR	**Muntele Rosu**	**9.61**	**68**	⇓P		**Pn**	**17 11 22.7**	**+1.3**
BURAR	**Bucovina Array**	**9.85**	**55**	⇓P		**Pn**	**17 11 25.1**	**+0.5**
ETSF	**Etsaut**	**10.14**	**276**	*e*Pn		**Pn**	**17 11 28.1**	**-0.4**
ESDC	**Sonseca Array**	**13.28**	**263**	LR		LR	17 16 57.3	
	comp=Z,35nm,20.1s,baz=64,slow=36							
BRTR	**Keskin Array B**	**15.65**	**94**	Pn		**P**	**17 12 46.0**	**-1.7**
	baz=275,slow=12,SNR=2.2							
	comp=Z,0.6nm,0.6s							
EKA	**Eskdalemuir Ar**	**16.61**	**326**	Pn		**Pn**	**17 12 53.9**	**-1.7**
	baz=134,slow=13							
	comp=Z,0.6nm,0.7s							
FINES	**FINESS Array B**	**20.39**	**18**	P		**P**	**17 13 40.2**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=196,slow=8.2,SNR=6.3							
	comp=Z,3.1nm,0.8s							
KBZ	**Khabaz**	**21.63**	**77**	P		**P**	**17 13 55.0**	**+2.0**
	comp=Z,2.9nm,0.8s,baz=309,slow=7.8,SNR=7.5							
	comp=Z,2.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**31.00**	**202**	P		**P**	**17 15 21.7**	**+1.2**
	comp=Z,3.0nm,0.3s,baz=15,slow=7.1,SNR=1.6							
	comp=Z,3.0nm,0.3s							
ZALV	**Zalesovo Beam**	**47.02**	**50**	P		**P**	**17 17 35.4**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=290,slow=9.1,SNR=2.3							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**47.84**	**60**	P		**P**	**17 17 42.4**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=302,slow=5.1,SNR=4.9							
	comp=Z,0.3nm,0.6s							
SONM	**Songino Array**	**61.91**	**50**	P		**P**	**17 19 23.8**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=290,slow=8.6,SNR=3.1							
	comp=Z,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**67.22**	**337**	P		**P**	**17 19 57.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=38,slow=5.4,SNR=5.0							
	comp=Z,0.3nm,0.7s							

IDC 18 17:19:23.7±2.7, 0°44N×128°28E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=206.7km

s-min=29.3km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.11**	**164**	P	P	17 24 09.7	-0.5
	0.3nm,0.7s,baz=344,slow=10,SNR=2.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**24.58**	**168**	P	P	17 24 45.8	+0.1
	0.5nm,0.6s,baz=346,slow=9.3,SNR=9.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**61.12**	**326**	P	P	17 29 40.0	+0.1
	0.1nm,0.4s,baz=107,slow=8.2,SNR=2.2						
	0.1nm,0.4s						

*ROM **18** 17:27:45.0±0.1, 42°.574N±0°.004×13°.339E±0°.006, h8km, ML3.3/45, Error ellipse: s-maj=0.6km s-min=0.3km az=69.0*
*LDG **18** 17:27:44.0±0.1, 42°.59N×13°.36E, h8km, Ml2.9/17, Error ellipse: s-maj=4.0km s-min=1.9km az=53.0*
*PRU **18** 17:27:47.6±0.0, 42°.55N×13°.44E, h10km*
*BEO **18** 17:27:49.0±0.7, 42°.61N×13°.49E, h0km, ML3.5/3*
ISC 18 17:27:45.0±0.7, 42°.57N±0°.02×13°.27E±0°.02, h13km±4km, n115, σ2.50/157, 1C, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.07**	**217**	P	**Pg**	**17 27 48.3**	**+0.6**
RM33				S	**Sg**	**17 27 50.5**	**+0.8**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
SMA1	**SAN MARTINO**	**0.08**	**36**	P	**Pg**	**17 27 47.0**	**-0.8**
SMA1				S	**Sg**	**17 27 48.4**	**-1.5**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
CAMP	**Campotosto**	**0.11**	**106**	P	**Pg**	**17 27 47.2**	**-0.9**
CAMP				S	**Sg**	**17 27 48.4**	**-1.9**
CAMP				AML	AML		
CAMP				AML	AML		
	comp=N,91850μm,0.6s						
CAMP				AML	AML		
CAMP				AML	AML		
	comp=N,91906μm,0.6s						
T1247	**Pizzolo (AQ)**	**0.12**	**171**	P	**Pg**	**17 27 48.6**	**+0.3**
T1247				S	**Sg**	**17 27 51.2**	**+0.5**
T1247				AML	AML		
	comp=N,76000μm,1.0s						
T1247				AML	AML		
T1247				AML	AML		
T1247				AML	AML		
	comp=N,60784μm,0.1s						
T1247				AML	AML		
	comp=E,99135μm,0.3s						
T1218	**Civita (PG)**	**0.16**	**312**	P	**Pg**	**17 27 49.5**	**+0.7**
T1218				S	**Sb**	**17 27 52.9**	**-0.1**
T1218				AML	AML		
	comp=E,20000μm,1.2s						
T1218				AML	AML		
	comp=N,35750μm,0.2s						
T1218				AML	AML		
	comp=E,18600μm,1.2s						
T1218				AML	AML		
	comp=N,35950μm,0.2s						
T1218				AML	AML		
	comp=E,20000μm,1.1s						
T1218				AML	AML		
	comp=E,18600μm,1.1s						
T1218				AML	AML		
	comp=N,35958μm,0.2s						
T1218				AML	AML		
	comp=N,35740μm,0.2s						
T1218				AML	AML		
	comp=E,16016μm,0.2s						
T1218				AML	AML		
	comp=E,15271μm,0.2s						
LNSS	**Leonessa**	**0.17**	**283**	P	**Pb**	**17 27 50.2**	**+0.1**
LNSS				S	**Sb**	**17 27 54.4**	**+0.8**
LNSS				AML	AML		
	comp=E,25500μm,0.3s						
LNSS				AML	AML		
	comp=N,21700μm,0.9s						
LNSS				AML	AML		
	comp=E,25500μm,0.3s						
LNSS				AML	AML		
	comp=N,21004μm,0.4s						
GIGS	**Gran Sasso**	**0.25**	**117**	P	**Pg**	**17 27 49.7**	**-0.6**
GIGS				S	**Sg**	**17 27 53.0**	**-0.8**
GIGS				AML	AML		
	comp=E,11410μm,0.5s						
GIGS				AML	AML		
	comp=N,7005μm,1.1s						
GIGS				AML	AML		
	comp=E,11028μm,0.3s						
GIGS				AML	AML		
	comp=N,6532μm,0.5s						
T1217	**Poggiodomo (PG**	**0.29**	**301**	P	**Pb**	**17 27 51.9**	**-0.2**
T1217				S	**Sb**	**17 27 57.5**	**+0.6**
T1217				AML	AML		
	comp=N,7175μm,0.4s						
T1217				AML	AML		
	comp=N,7655μm,0.4s						
T1217				AML	AML		
	comp=E,6665μm,0.5s						
T1217				AML	AML		
	comp=N,7175μm,0.4s						
T1217				AML	AML		
	comp=E,6300μm,0.5s						
T1217				AML	AML		
	comp=N,7660μm,0.4s						
T1217				AML	AML		
	comp=E,6300μm,1.5s						
T1217				AML	AML		
	comp=E,6665μm,1.5s						
T1217				AML	AML		
	comp=N,7177μm,0.4s						
T1217				AML	AML		
	comp=N,7656μm,0.4s						
T1217				AML	AML		
	comp=E,6066μm,0.4s						
T1217				AML	AML		
	comp=E,6330μm,0.4s						
FIAM	**Fiamignano**	**0.32**	**201**	P	**Pb**	**17 27 52.4**	**-0.2**
FIAM				S	**Sb**	**17 27 58.5**	**+0.8**
FIAM				AML	AML		
	comp=E,13600μm,0.7s						
FIAM				AML	AML		
	comp=N,7380μm,0.3s						
FIAM				AML	AML		
	comp=E,13602μm,0.7s						
FIAM				AML	AML		
	comp=N,7379μm,0.3s						
ARRO	**Arrone**	**0.37**	**272**	P	**Pb**	**17 27 53.6**	**+0.1**
ARRO				AML	AML		
	comp=E,3415μm,0.2s						
ARRO				AML	AML		
	comp=N,3340μm,0.2s						
ARRO				AML	AML		
	comp=E,3415μm,0.2s						
ARRO				AML	AML		
	comp=N,3341μm,0.2s						
FAGN	**Fagnano**	**0.38**	**142**	P	**Pg**	**17 27 52.5**	**-0.1**
FAGN				S	**Sb**	**17 27 59.6**	**+0.2**
FAGN				AML	AML		
	comp=N,18350μm,1.1s						
FAGN				AML	AML		
	comp=N,18350μm,0.9s						
FAGN				AML	AML		
	comp=E,21950μm,0.6s						
FAGN				AML	AML		
	comp=E,21944μm,0.6s						
FAGN				AML	AML		
	comp=N,17152μm,0.6s						
FDMO	**Fiordimonte**	**0.49**	**344**	P	**Pg**	**17 27 54.7**	**+0.1**
FDMO				S	**Sb**	**17 28 02.7**	**+0.1**
FDMO				AML	AML		
	comp=N,4815μm,1.0s						
FDMO				AML	AML		
	comp=N,4815μm,1.0s						
FDMO				AML	AML		
	comp=E,5000μm,0.4s						
FDMO				AML	AML		
	comp=N,4225μm,0.5s						
FDMO				AML	AML		
	comp=E,5000μm,0.4s						
GUMA	**Gualdo di Mace**	**0.50**	**5**	P	**Pg**	**17 27 55.0**	**+0.2**
GUMA				S	**Sb**	**17 28 03.6**	**+0.7**
GUMA				AML	AML		
	comp=E,12550μm,0.5s						
GUMA				AML	AML		
	comp=E,15700μm,0.3s						
GUMA				AML	AML		
	comp=N,14700μm,0.4s						
GUMA				AML	AML		
	comp=N,14950μm,0.4s						
GUMA				AML	AML		
	comp=E,12550μm,1.5s						
GUMA				AML	AML		
	comp=N,14919μm,0.4s						
GUMA				AML	AML		
	comp=E,15702μm,0.3s						
GUMA				AML	AML		
	comp=N,14718μm,0.4s						
GUMA				AML	AML		
	comp=E,12548μm,0.5s						
CESX	**Cesi**	**0.51**	**275**	P	**Pb**	**17 27 55.8**	**0.0**
CESX				S	**Sb**	**17 28 04.7**	**+1.5**
CESX				AML	AML		
	comp=E,2825μm,0.6s						
CESX				AML	AML		
	comp=N,2990μm,0.4s						
CESX				AML	AML		
	comp=E,2825μm,1.4s						
CESX				AML	AML		
	comp=N,2986μm,0.4s						
CESX				AML	AML		
	comp=E,2824μm,0.6s						
CESI	**CESI - Serrava**	**0.52**	**329**	P	**Pg**	**17 27 55.7**	**+0.5**
CESI				S	**Sb**	**17 28 03.9**	**+0.5**
CESI				AML	AML		
	comp=N,7775μm,1.3s						
CESI				AML	AML		
	comp=E,6220μm,0.3s						
CESI				AML	AML		
	comp=N,7775μm,0.7s						
CESI				AML	AML		
	comp=E,6224μm,0.3s						
CESI				AML	AML		
	comp=N,7759μm,0.5s						
CSP1	**Cessapalombo**	**0.53**	**355**	P	**Pg**	**17 27 55.5**	**+0.1**
CSP1				S	**Sb**	**17 28 04.5**	**+0.7**
CSP1				AML	AML		
	comp=E,4020μm,0.4s						
CSP1				AML	AML		
	comp=N,4925μm,1.0s						
CSP1				AML	AML		
	comp=E,4020μm,1.6s						
CSP1				AML	AML		
	comp=N,4876μm,0.6s						
CSP1				AML	AML		
	comp=E,4020μm,0.4s						
TRTR	**Tortoreto Alta**	**0.53**	**63**	P	**Pb**	**17 27 55.6**	**-0.6**
TRTR				S	**Sb**	**17 28 04.7**	**+1.0**
TRTR				AML	AML		
	comp=E,16550μm,0.6s						
TRTR				AML	AML		
	comp=N,14450μm,0.5s						
TRTR				AML	AML		
	comp=N,14450μm,1.5s						
TRTR				AML	AML		
	comp=N,14445μm,0.5s						
TRTR				AML	AML		
	comp=E,16550μm,1.4s						
TRTR				AML	AML		
	comp=E,19936μm,0.5s						
PTQR	**Pietraquaria**	**0.55**	**170**	P	**Pg**	**17 27 55.7**	**0.0**
PTQR				S	**Sb**	**17 28 04.7**	**+0.3**
PTQR				AML	AML		
	comp=E,1835μm,0.9s						
PTQR				AML	AML		
	comp=N,1660μm,1.4s						
PTQR				AML	AML		
	comp=E,1835μm,1.1s						
PTQR				AML	AML		
	comp=N,1660μm,0.6s						
PTQR				AML	AML		
	comp=N,1399μm,0.3s						
PTQR				AML	AML		
	comp=E,1596μm,0.3s						
T1220	**Camerino, Fraz**	**0.56**	**346**	P	**Pg**	**17 27 56.1**	**+0.1**
T1220				S	**Sb**	**17 28 05.6**	**+0.9**
T1220				AML	AML		
	comp=N,14850μm,0.5s						
T1220				AML	AML		
	comp=N,14750μm,0.5s						
T1220				AML	AML		
	comp=E,24650μm,0.6s						
T1220				AML	AML		
	comp=E,23850μm,0.6s						
T1220				AML	AML		
	comp=N,14750μm,0.5s						
T1220				AML	AML		
	comp=N,14850μm,0.5s						
T1220				AML	AML		
	comp=N,13298μm,0.3s						
T1220				AML	AML		
	comp=N,12946μm,0.3s						
T1220				AML	AML		
	comp=E,24626μm,0.6s						
T1220				AML	AML		
	comp=E,23864μm,0.6s						
MOMA	**Monte Martano**	**0.57**	**295**	P	**Pb**	**17 27 57.0**	**+0.2**
MOMA				S	**Sb**	**17 28 06.9**	**+1.9**
MOMA				AML	AML		
	comp=E,4740μm,1.5s						
MOMA				AML	AML		
	comp=E,4775μm,1.5s						
MOMA				AML	AML		
	comp=N,3665μm,0.4s						
MOMA				AML	AML		
	comp=E,4740μm,0.5s						
MOMA				AML	AML		
	comp=N,3910μm,0.4s						
MOMA				AML	AML		
	comp=E,4775μm,0.5s						
MOMA				AML	AML		
	comp=N,3414μm,0.2s						
MOMA				AML	AML		
	comp=N,3234μm,0.2s						
MOMA				AML	AML		
	comp=E,4110μm,0.2s						
MOMA				AML	AML		
	comp=E,4202μm,0.2s						
CERT	**Cerreto**	**0.65**	**199**	P	**Pb**	**17 27 58.8**	**+0.6**
CERT				AML	AML		
	comp=N,3355μm,0.5s						
CERT				AML	AML		
	comp=E,3545μm,0.4s						
CERT				AML	AML		
	comp=E,3547μm,0.4s						
CERT				AML	AML		
	comp=N,3356μm,0.5s						
SRES	**S.Oreste - Sor**	**0.65**	**240**	P	**Pb**	**17 27 58.8**	**+0.6**
SRES				S	**Sn**	**17 28 09.3**	**-0.9**
SRES				AML	AML		
	comp=E,1345μm,1.1s						
SRES				AML	AML		
	comp=N,1600μm,0.6s						
SRES				AML	AML		
	comp=E,1345μm,0.9s						
SRES				AML	AML		
	comp=N,1600μm,0.6s						
SRES				AML	AML		
	comp=E,1302μm,0.3s						
ASSB	**Assisi San Ben**	**0.66**	**317**	P	**Pb**	**17 27 58.4**	**0.0**
ASSB				S	**Sn**	**17 28 09.2**	**-1.1**
ASSB				AML	AML		
	comp=E,4140μm,1.3s						
ASSB				AML	AML		
	comp=N,3910μm,0.9s						
ASSB				AML	AML		
	comp=E,4140μm,0.7s						

ASSB AML AML
comp=N,3910µm,1.1s
ASSB AML AML
comp=E,4099µm,0.5s
ASSB AML AML
comp=N,3683µm,0.4s
SNTG Esanatoglia 0.73 341 P **Pg 17 27 59.2 0.0**
SNTG S **Sb 17 28 10.7 +1.1**
SNTG AML AML
comp=N,1855µm,1.4s
SNTG AML AML
comp=E,1430µm,0.7s
SNTG AML AML
comp=E,1335µm,0.7s
SNTG AML AML
comp=N,1850µm,0.3s
SNTG AML AML
comp=N,1802µm,0.3s
SNTG AML AML
comp=N,1851µm,0.3s
SNTG AML AML
comp=E,1143µm,0.5s
SNTG AML AML
comp=E,1083µm,0.4s
VVLD Villa Vallelon 0.74 159 P **Pg 17 27 59.3 -0.1**
VVLD AML AML
comp=N,2305µm,0.5s
VVLD AML AML
comp=E,2765µm,1.0s
VVLD AML AML
comp=E,2765µm,1.0s
VVLD AML AML
comp=N,2735µm,0.5s
VVLD AML AML
comp=E,2763µm,1.0s
VVLD AML AML
comp=N,2735µm,0.5s
GUAR Guarcino 0.77 178 P **Pb 17 28 00.3 +0.1**
GUAR AML AML
comp=E,2040µm,0.4s
GUAR AML AML
comp=E,2040µm,1.6s
GUAR AML AML
comp=N,2855µm,0.4s
GUAR AML AML
comp=E,2042µm,0.4s
GUAR AML AML
comp=N,2855µm,0.4s
CING Cingoli 0.81 356 S **Pg 17 28 00.4 -0.3**
CING AML AML
comp=E,3485µm,0.4s
CING AML AML
comp=N,2310µm,0.2s
CING AML AML
comp=E,3485µm,1.6s
CING AML AML
comp=E,3486µm,0.4s
CING AML AML
comp=N,2312µm,0.2s
FOSV Fossato di Vic 0.82 333 S **Pg 17 28 01.1 +0.2**
FOSV AML AML
comp=E,1560µm,0.8s
FOSV AML AML
comp=N,2225µm,0.3s
FOSV AML AML
comp=E,1560µm,1.2s
FOSV AML AML
comp=N,2225µm,1.7s
FOSV AML AML
comp=N,2224µm,0.3s
FOSV AML AML
comp=E,1565µm,0.3s
RMP Rome, Mte Porz 0.86 210 P **Pg 17 28 01.7 +0.1**
RMP AML AML
comp=E,3565µm,0.8s
RMP AML AML
comp=N,3070µm,0.5s
RMP AML AML
comp=N,3070µm,1.5s
RMP AML AML
comp=E,3565µm,1.2s
RMP AML AML
comp=E,3460µm,0.6s
RMP AML AML
comp=N,3611µm,0.5s
RDP Rocca di Papa 0.91 207 P **Pn 17 28 03.3 -0.2**
RDP AML AML
comp=E,7745µm,0.4s
RDP AML AML
comp=N,7115µm,0.5s
RDP AML AML
comp=E,7745µm,0.4s
RDP AML AML
comp=N,7113µm,0.5s
POFI Posta Fibreno 0.91 159 P **Pg 17 28 02.4 -0.1**
POFI AML AML
comp=E,1320µm,0.5s
POFI AML AML
comp=E,1345µm,0.5s
POFI AML AML
comp=N,851µm,0.4s
POFI AML AML
comp=E,1320µm,1.5s
POFI AML AML
comp=N,844µm,1.6s
POFI AML AML
comp=E,1345µm,1.5s
POFI AML AML
comp=N,851µm,0.5s
POFI AML AML
comp=E,1346µm,0.5s
POFI AML AML
comp=E,1319µm,0.5s
POFI AML AML
comp=N,824µm,0.9s
MGAB Montegabbione 0.92 293 S **Pg 17 28 03.5 +0.7**
MGAB AML AML
comp=E,3550µm,0.5s
MGAB AML AML
comp=E,3635µm,0.5s
MGAB AML AML
comp=N,3300µm,0.4s
MGAB AML AML
comp=E,3635µm,1.5s
MGAB AML AML
comp=E,3550µm,1.5s
MGAB AML AML
comp=N,3280µm,0.4s
MGAB AML AML
comp=N,3300µm,0.4s
MGAB AML AML
comp=N,3278µm,0.5s
MGAB AML AML
comp=E,3632µm,0.5s
MGAB AML AML
comp=E,3554µm,0.5s
ARVD Arcevia 0.96 346 S **Pg 17 28 03.4 -0.2**
ARVD AML AML
comp=E,1395µm,1.2s
ARVD AML AML
comp=N,1225µm,0.5s
ARVD AML AML
comp=E,1395µm,0.8s
ARVD AML AML
comp=N,1464µm,0.6s
ARVD AML AML
comp=E,1330µm,0.5s
GIUL Giuliano Di Ro 1.01 181 S **Pg 17 28 05.0 +0.6**
GIUL AML AML
comp=E,1135µm,1.2s
GIUL AML AML
comp=N,1359µm,0.9s
GIUL AML AML
comp=E,1135µm,0.8s
GIUL AML AML
comp=N,1361µm,0.9s
GIUL AML AML
comp=E,1134µm,1.2s
AOI Ancona 1.01 14 S **Pg 17 28 04.3 -0.2**
AOI AML AML
comp=E,1265µm,0.4s
AOI AML AML
comp=N,1055µm,1.3s
AOI AML AML
comp=E,1265µm,1.6s
AOI AML AML
comp=N,1055µm,0.7s
AOI AML AML
comp=E,1265µm,0.4s
AOI AML AML
comp=N,1039µm,0.4s
SACS San Casciano d 1.04 286 S **Pn 17 28 07.0 +1.6**
SACS AML AML
comp=E,614µm,1.2s
SACS AML AML
comp=N,789µm,1.5s
SACS AML AML
comp=E,655µm,1.0s
SACS AML AML
comp=N,810µm,1.4s
SACS AML AML
comp=N,789µm,0.5s
SACS AML AML
comp=E,655µm,1.0s
SACS AML AML
comp=N,810µm,0.6s
SACS AML AML
comp=N,678µm,1.0s
SACS AML AML
comp=E,756µm,0.7s
SACS AML AML
comp=E,799µm,0.7s
SACS AML AML
comp=N,638µm,0.5s
PIEI Pieia 1.11 331 S **Pg 17 28 07.1 +0.8**
PIEI AML AML
comp=E,1062µm,0.4s
PIEI AML AML
comp=N,923µm,1.1s
PIEI AML AML
comp=E,1061µm,0.4s
PIEI AML AML
comp=N,858µm,0.5s
CERA Filignano 1.11 150 S **Pg 17 28 05.4 -1.1**
CERA AML AML
comp=N,1210µm,0.9s
CERA AML AML
comp=N,1255µm,0.9s
CERA AML AML
comp=E,1835µm,1.0s
CERA AML AML
comp=N,1210µm,1.1s
CERA AML AML
comp=N,1255µm,1.1s
CERA AML AML
comp=E,1820µm,1.0s
CERA AML AML
comp=E,1818µm,1.0s
CERA AML AML
comp=E,1836µm,1.0s
CERA AML AML
comp=N,1277µm,1.0s
CERA AML AML
comp=N,1261µm,1.0s
MPAG Monte Paganucc 1.13 341 S **Pg 17 28 06.6 -0.1**
MPAG AML AML
comp=E,1830µm,0.6s
MPAG AML AML
comp=E,1770µm,0.5s
MPAG AML AML
comp=N,1173µm,0.4s
MPAG AML AML
comp=N,1060µm,0.4s
MPAG AML AML
comp=N,1173µm,0.4s
MPAG AML AML
comp=E,1829µm,0.6s
MPAG AML AML
comp=E,1769µm,0.5s
MPAG AML AML
comp=N,1145µm,0.7s
MIDA Miranda 1.18 141 S **Pg 17 28 06.0 -1.6**
MIDA AML AML
comp=E,942µm,0.8s
MIDA AML AML
comp=E,944µm,0.8s
MIDA AML AML
comp=N,570µm,0.5s
MIDA AML AML
comp=E,942µm,1.2s
MIDA AML AML
comp=E,944µm,1.2s
MIDA AML AML
comp=N,564µm,0.4s
MIDA AML AML
comp=E,944µm,0.8s
MIDA AML AML
comp=E,945µm,0.8s
MIDA AML AML
comp=N,959µm,0.5s
MIDA AML AML
comp=N,925µm,0.5s
BADI Badiali 1.21 322 S **Pg 17 28 10.4 +2.2**
BADI AML AML
comp=E,63µm,1.5s
BADI AML AML
comp=N,862µm,0.5s
BADI AML AML
comp=E,63µm,0.5s
BADI AML AML
comp=N,1016µm,0.8s
BADI AML AML
comp=E,66µm,0.5s
CAFI Castiglion Fio 1.23 309 S **Pn 17 28 07.6 -0.3**
CAFI AML AML
comp=N,814µm,0.5s
CAFI AML AML
comp=E,724µm,1.0s
CAFI AML AML
comp=E,726µm,1.0s
CAFI AML AML
comp=N,795µm,0.5s
CAFI AML AML
comp=N,794µm,0.5s
CAFI AML AML
comp=N,812µm,0.5s
CAFI AML AML
comp=E,698µm,0.7s
CAFI AML AML
comp=E,697µm,0.7s
ARCI Arcidosso 1.35 283 S **Pg 17 28 12.2 +1.2**
ARCI AML AML
comp=E,178µm,0.5s
ARCI AML AML
comp=N,209µm,1.0s
ARCI AML AML
comp=N,209µm,1.0s
ARCI AML AML
comp=E,178µm,0.5s
ARCI AML AML
comp=N,147µm,0.5s
VAGA Valle Agricola 1.35 148 S **Pg 17 28 12.4 +1.4**
VAGA AML AML
comp=E,250µm,1.4s
VAGA AML AML
comp=N,501µm,1.5s
VAGA AML AML
comp=E,266µm,1.4s
VAGA AML AML
comp=N,504µm,1.5s
VAGA AML AML
comp=E,266µm,0.6s
VAGA AML AML
comp=E,250µm,0.6s
VAGA AML AML
comp=N,504µm,0.5s
VAGA AML AML
comp=N,501µm,0.5s
VAGA AML AML
comp=E,420µm,0.7s
VAGA AML AML
comp=E,421µm,0.7s
VAGA AML AML
comp=N,516µm,0.6s
VAGA AML AML
comp=N,514µm,0.6s
MODR Mondragone 1.49 162 S **Pn 17 28 12.1 +0.7**
PTRJ Pietraroja 1.52 142 S **Pn 17 28 11.1 -0.9**
MAON Monte Argentar 1.59 266 S **Pn 17 28 14.3 +1.5**
MAON AML AML
comp=E,165µm,0.5s
MAON AML AML
comp=N,157µm,1.6s
RUFI Rufina 1.81 315 S **Pb 17 28 18.0 0.0**
RUFI AML AML
comp=N,356µm,0.6s
RUFI AML AML
comp=N,356µm,1.4s
RUFI AML AML
comp=E,492µm,0.5s
RUFI AML AML
comp=E,492µm,0.5s
RUFI AML AML
comp=N,412µm,0.7s
LMD Lutirano 1.90 323 S **Pb 17 28 19.9 +0.5**
LMD AML AML
comp=E,376µm,0.7s
LMD AML AML
comp=N,244µm,0.4s
LMD AML AML
comp=E,376µm,1.3s
LMD AML AML
comp=E,346µm,1.0s
LMD AML AML
comp=N,310µm,0.9s
IMOL Imola, Italy 2.11 329 S **Pb 17 28 23.7 +0.6**
MSAG Monte S. Ángel 2.14 113 S **Pb 17 28 24.8 +1.2**
MSAG AML AML
comp=E,408µm,1.2s
MSAG AML AML
comp=E,412µm,1.2s
MSAG AML AML
comp=E,412µm,0.8s
MSAG AML AML
comp=E,408µm,0.8s
MSAG AML AML
comp=N,528µm,1.3s
MSAG AML AML
comp=N,532µm,1.3s
MSAG AML AML
comp=E,383µm,0.6s
MSAG AML AML
comp=E,368µm,0.8s
MSAG AML AML
comp=N,654µm,0.5s
MSAG AML AML
comp=N,662µm,0.4s
PZUN Potenza 2.70 134 S **Sn 17 28 59.9 -0.7**
PGF Pioggiola 3.16 271 *e*P **Pn 17 28 36.8 +2.3**
PGF *e*Sn **Sn 17 29 09.8 -2.2**
comp=N,2.6nm,0.3s
STON Ston 3.28 83 *e*Pn **Pn 17 28 37.8 +1.8**
STON *e*Sn **Sn 17 29 15.4 +0.6**
LEOD Capriano del C 3.68 323 *i*P **Pn 17 28 37.9 -3.6**
TREB Trebinje 3.75 86 *e*Pn **Pn 17 28 45.4 +2.9**
TREB *e*Sn **Sn 17 29 28.9 +2.4**
OBKA Obir 4.05 13 *i* Pn **Pn 17 28 48.1 +1.4**
comp=N,0.9nm,0.2s
MYKA Terra Mystica 4.07 4 *i* Pn **Pn 17 28 48.8 +1.8**
comp=N,1.2nm,0.2s
ABTA Abfaltersbach 4.22 353 *i* Pn **Pn 17 28 51.2 +2.1**
comp=N,38nm,0.5s
SOKA Soboth 4.30 16 *i* Pn **Pn 17 28 50.9 +0.7**
comp=N,0.3nm,0.2s
PDG Podgorica 4.43 90 *e*Pn **Pn 17 28 54.9 +3.1**
PDG *e*Sn **Sn 17 29 45.1 +1.9**
SBF Sospel 4.46 289 *e*P **Pn 17 28 54.2 +1.9**
SBF *e*Sn **Sn 17 29 40.6 -3.5**
comp=N,11nm,0.4s
KBA Koelnbreinsper 4.51 1 *i* Pn **Pn 17 28 57.9 +4.7**
comp=N,1.5nm,0.2s
BBLS Lazići 4.67 72 *e*Pn **Pn 17 28 58.7 +3.5**
FETA Feichten 4.81 339 *i* Pn **Pn 17 29 01.1 +3.8**
comp=N,0.7nm,0.4s
WTTA Wattenberg 4.84 347 *i* Pn **Pn 17 29 01.9 +4.2**
comp=N,2.6nm,0.3s
SQTA Sankt Quirin 4.88 343 *i* Pn **Pn 17 29 02.0 +3.8**
comp=N,3.7nm,0.2s,SNR=7.0
WATA Walderalm 4.92 346 *i* Pn **Pn 17 29 02.9 +4.2**
comp=N,3.1nm,0.3s
ARSA Arzberg 4.95 18 *i* Pn **Pn 17 29 01.8 +2.8**
comp=N,2.5nm,0.5s
MOTA Moosalm 5.02 343 *e*Pn **Pn 17 29 03.5 +3.3**
comp=N,2.6nm,0.3s,SNR=6.9
LMR La Mourre 5.02 281 *e*P **Pn 17 29 02.0 +2.0**
LMR *e*Sn **Sn 17 29 53.7 -4.2**
comp=N,1.4nm,0.3s
TIR Tirane 5.07 102 *e*Pn **Pn 17 29 03.6 +3.0**
BIOA Bad Ischl, Aus 5.13 3 *i* Pn **Pn 17 29 04.6 +3.1**
comp=N,2.1nm,0.2s
DIVS Divibare 5.14 70 *e*Pn **Pn 17 29 04.3 +2.7**
IVAS Ivanjica 5.14 76 *e*Pn **Pn 17 29 04.2 +2.5**
IVAS *e*Sn **Sn 17 30 00.0 -0.9**
MBDF Montbardon 5.19 297 *e*P **Pn 17 29 05.3 +2.9**
MBDF *e*Sn **Sn 17 29 57.3 -4.9**
comp=N,2.3nm,0.4s
RETA Reutte 5.23 341 *e*Pn Pn 17 29 07.8 +4.8
comp=N,2.0nm,0.2s
DAVA Damuels 5.30 334 *i* Pn **Pn 17 29 06.9 +2.9**
comp=N,4.0nm,0.3s,SNR=9.5
MOA Molln 5.33 7 *i* Pn **Pn 17 29 06.7 +2.5**
comp=N,0.1nm,0.1s
MOA Molln 5.33 7 *e*Pn **Pn 17 29 08.0 +3.7**
MOA *e*Sn **Sn 17 30 08.7 +3.2**
FRGS Fruska Gora 5.39 59 *e*Pn **Pn 17 29 07.7 +2.6**
TRUS Trudelj 5.46 70 *e*Pn **Pn 17 29 08.4 +2.4**
LPL La Plagne 5.56 304 *e*P **Pn 17 29 09.6 +2.0**
LPL *e*Sn **Sn 17 30 06.9 -4.6**
comp=N,2.9nm,0.4s
RONA Rosalia, Austr 5.56 22 *e*Pn **Pn 17 29 08.7 +1.2**
comp=N,0.6nm,0.2s
CONA Conrad Observa 5.67 18 *i* Pn **Pn 17 29 10.6 +1.6**
comp=N,0.3nm,0.1s
SMRF Simiane la Rot 5.79 287 *e*P **Pn 17 29 14.1 +3.5**
SMRF *e*Sn **Sn 17 30 11.8 -5.2**
comp=N,0.9nm,0.3s
SELS Selova 5.80 81 *e*Pn **Pn 17 29 12.4 +1.7**
OHR Ohrid 5.81 102 *e*Pn **Pn 17 29 13.4 +2.6**
ORIF Oris-en-Rattie 5.85 296 *e*P **Pn 17 29 15.4 +4.0**
ORIF *e*Sn **Sn 17 30 13.5 -4.9**
comp=N,1.8nm,0.4s
SKO Skopje 6.09 93 *e*Pn **Pn 17 29 18.1 +3.4**
CKRC Cesky Krumlov 6.30 6 *e*SN **Sn 17 30 28.6 -0.7**
BARS Barje 6.30 85 *e*Pn **Pn 17 29 19.7 +2.1**
BARS *e*Sn **Sn 17 30 29.7 +0.3**
FNA Florina 6.32 104 *e*Pn **Pn 17 29 21.7 +3.8**
MODS Modra-Piesok 6.46 24 *e*PN Pn 17 29 26.2 +6.5
PRVS Prvonek 6.50 88 *e*Pn **Pn 17 29 22.3 +1.9**
PRVS *e*Sn **Sn 17 30 33.6 -0.9**
CABF La Chapelle 6.53 311 *e*P **Pn 17 29 24.0 +3.2**
CABF *e*Sn **Sn 17 30 29.4 -5.8**
comp=N,1.7nm,0.4s
KHC Kasperske Hory 6.57 2 *e*PN **Pn 17 29 22.7 +1.4**
KHC *e*SN **Sn 17 30 36.4 +0.3**
VIVF Saint-Julien-l 6.64 293 *e*Pn **Pn 17 29 19.5 -2.7**
VIVF Saint-Julien-l 6.64 293 *e*P **Pn 17 29 25.5 +3.3**
VIVF *e*Sn **Sn 17 30 32.2 -5.6**
comp=N,1.2nm,0.4s
ZAGS Zajecar 6.67 76 *e*Pn **Pn 17 29 25.3 +2.7**
ZAPS Zavoj 6.91 81 *e*Sn **Sn 17 30 43.7 -0.8**
HINF Hinteralfeld 6.94 321 *e*P **Pn 17 29 27.8 +1.5**
HINF *e*Sn **Sn 17 30 38.4 -6.7**
comp=N,4.5nm,0.3s
LASF Ste Croix 7.03 286 *e*P **Pn 17 29 29.8 +2.2**
LASF *e*Sn **Sn 17 30 41.4 -6.0**
comp=N,0.7nm,0.3s
VYHS Vyhne 7.10 31 *e*PN **Pn 17 29 30.0 +1.5**
CDF Champ du Feu 7.21 326 *e*P **Pn 17 29 31.2 +1.2**
CDF *e*Sn **Sn 17 30 46.1 -5.7**
comp=N,3.4nm,0.3s
HAU Haudompre 7.31 320 *e*P **Pn 17 29 33.2 +1.8**
HAU *e*Sn **Sn 17 30 48.5 -5.7**
comp=N,10nm,0.4s
VTS Vitosha 7.35 86 *e*Pn **Pn 17 29 35.1 +2.9**
VTS Vitosha 7.35 86 *e*Pn **Pn 17 29 35.3 +3.1**
NKC Novy Kostel 7.69 356 *e*SN **Sn 17 31 02.6 -1.0**
PAGF Fort de Pagny 7.99 321 *e*P **Pn 17 29 43.9 +3.1**
SFTF Sexfontaines 8.08 317 *e*Pn **Pn 17 29 39.1 -2.9**
LOR Lormes 8.17 308 *e*P **Pn 17 29 46.1 +2.9**
baz=125
LOR *e*Sn **Sn 17 31 08.0 -7.3**
comp=N,1.6nm,0.3s
MEZF Maizieres J'vi 8.28 319 *e*Pn **Pn 17 29 41.7 -2.9**
SAVF Savonnieres en 8.32 319 *e*Pn **Pn 17 29 42.2 -3.0**
CLL Collm 8.75 359 *e*Sn **Sn 17 31 23.0 -6.5**
CLL *ex* x 17 31 47.0
CLL *ex* x 17 32 20.0
CLL *e*Sg Sg 17 32 38.0 +13

*IDC **18** 17:42:12.3±3.4, 17.06S×70.89W, h75km±31km, mb4.3/2, mbtmp3.9/6, Error ellipse: s-maj=39.4km s-min=20.6km az=97.0*

ISC 18 17:42:12.5±1.1, **17.04S**±0.07×**70.98W**±0.09, **h85**km±12km, **n30**, σ1s**56**/34, **mb4.2**/3, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**1.69**	**159**	*e*P	**Pn**	**17 42 37.7**	**-2.9**
PB12				*e*S	**Sn**	**17 43 02.1**	**+0.2**
PB12				IAML		17 43 09.7	
	comp=E,745nm,0.4s						
PB16	**IPOC Station P**	**1.91**	**133**	*e*P	**Pn**	**17 42 41.7**	**-2.2**
PB16				*e*S	**Sn**	**17 43 08.4**	**+0.7**
PB16				IAML		17 43 10.9	
	comp=E,470nm,0.5s						
MNMC	**Minye Minye**	**2.46**	**148**	*e*P	**Pn**	**17 42 50.7**	**-0.4**
MNMC				*e*S	**Sn**	**17 43 25.0**	**+4.5**
MNMC				IAML		17 43 37.7	
	comp=N,863nm,0.5s						
PSGC	**Pisagua**	**2.67**	**162**	*e*P	**Pn**	**17 42 52.0**	**-1.7**
PSGC				*e*S	**Sn**	**17 43 26.1**	**+0.9**
LPAZ	**La Paz**	**2.83**	**75**	P	**Pn**	**17 42 55.5**	**-0.7**
	comp=N,3.1nm,0.6s,baz=296,slow=6.1,SNR=30						
PB11	**IPOC Station P**	**2.99**	**155**	*e*P	**Pn**	**17 42 56.8**	**-1.2**
PB11				*e*S	**Sn**	**17 43 34.5**	**+1.5**
PB11				IAML		17 43 46.8	
	comp=E,468nm,0.8s						
GO01	**Chusmiza**	**3.12**	**147**	*e*P	**Pn**	**17 43 01.4**	**+1.3**
GO01				IAML		17 43 52.3	
	comp=N,232nm,0.6s						
HMBC	**Humberstone**	**3.39**	**162**	*i* P	**Pn**	**17 43 02.2**	**-1.2**
PB08	**IPOC Station P**	**3.54**	**151**	*e*P	**Pn**	**17 43 04.5**	**-1.2**
PB08				*e*S	**Sn**	**17 43 49.3**	**+2.7**
TA01	**Diego Aracena**	**3.59**	**168**	*e*P	**Pn**	**17 43 04.5**	**-1.5**
PATCX	**Punta Patache**	**3.84**	**168**	*e*P	**Pn**	**17 43 08.2**	**-1.4**
PB01	**IPOC Station P**	**4.23**	**161**	*e*P	**Pn**	**17 43 13.9**	**-0.8**
PB02	**IPOC Station P**	**4.38**	**167**	*e*P	**Pn**	**17 43 15.3**	**-1.6**
PB07	**IPOC Station P**	**4.78**	**168**	*e*P	**Pn**	**17 43 20.7**	**-1.6**
LVC	**Limon Verde**	**5.88**	**161**	P	**Pn**	**17 43 36.3**	**-1.1**
	comp=N,1.8nm,0.3s,baz=294,slow=11,SNR=1.9						
LVC				S	**Sn**	**17 44 42.0**	**-1.5**
	comp=N,3.4nm,0.3s,baz=351,slow=16,SNR=1.7						
NNA	**Nana**	**7.58**	**311**	S	**Sn**	**17 45 26.0**	**+1.2**
	comp=N,3.1nm,0.3s,baz=118,slow=21,SNR=1.1						
SIV	**San Ignacio**	**9.56**	**85**	P	**Pn**	**17 44 26.7**	**-0.7**
	comp=N,2.0nm,0.6s,baz=256,slow=21,SNR=12						
CFA	**Coronel Fontan**	**14.72**	**171**	P	**Pn**	**17 45 36.6**	**+0.3**
	comp=N,0.8nm,0.4s,baz=199,slow=23,SNR=1.9						
H03N1	**Juan Fernandez**	**17.83**	**202**	T	T	18 04 16.9	
	baz=24,slow=73,SNR=191						
H03N2	**Juan Fernandez**	**17.83**	**202**	T	T	18 04 17.3	
	baz=24,slow=73,SNR=153						
H03N3	**Juan Fernandez**	**17.84**	**202**	T	T	18 04 15.8	
	baz=24,slow=73,SNR=195						
TXAR	**Lajitas Array**	**55.87**	**325**	P	**P**	**17 51 42.0**	**+0.4**
	comp=N,0.1nm,0.5s,baz=129,slow=8.3,SNR=1.6						
ULM	**Lac du Bonnet**	**70.50**	**343**	P	**P**	**17 53 17.8**	**0.0**
	comp=N,1.9nm,0.6s,baz=161,slow=6.8,SNR=3.2						
	comp=N,1.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.78**	**72**	P	**P**	**17 53 60.0**	**-1.0**
	comp=N,3.2nm,0.3s,baz=258,slow=4.9,SNR=1.3						
	comp=N,3.2nm,0.3s						
ASAR	**Alice Springs**	**132.80**	**212**	PKP	**PKPdf**	**18 01 18.7**	**+0.1**
	comp=N,0.2nm,0.8s,baz=106,slow=2.0,SNR=1.5						
WRA	**Warramunga Arr**	**135.63**	**215**	PKP	**PKPdf**	**18 01 24.5**	**+0.6**
	comp=N,0.4nm,0.9s,baz=142,slow=1.7,SNR=2.3						
ZALV	**Zalesovo Beam**	**138.65**	**22**	PKP	**PKiKP**	**18 01 29.7**	**-0.8**
	comp=N,1.1nm,0.8s,baz=333,slow=2.3,SNR=3.9						
MKAR	**Makanchi Array**	**143.00**	**31**	PKP	**PKPdf**	**18 01 36.0**	**-0.5**
	comp=N,0.1nm,0.6s,baz=329,slow=2.5,SNR=2.1						
MJAR	**Matsushiro Arr**	**147.70**	**313**	PKPbc	**PKPab**	**18 01 50.2**	**0.0**
	comp=N,2.6nm,0.8s,baz=130,slow=2.4,SNR=3.8						
SONM	**Songino Array**	**149.21**	**3**	PKPbc	**PKiKP**	**18 01 53.6**	**+1.0**
	comp=N,0.8nm,0.6s,baz=326,slow=2.4,SNR=6.4						

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*ROM **18** 17:45:49.3±0.1, 42.587N±0.003×13.312E±0.005, h10km, ML3.1/26, Error ellipse: s-maj=0.4km s-min=0.2km az=256.0*
*BEO **18** 17:45:53.0±0.8, 42.63N×13.41E, h4km±3km, ML3.4/3*
*PRU **18** 17:45:53.4±0.0, 42.68N×13.32E, h10km*

ISC 18 17:45:49.8±0.8, **42.59N**±0.02×**13.30E**±0.02, **h10**km±4km, **n75**, σ1s**64**/105, **11C-10D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.05**	**35**	P	**Pg**	**17 45 51.5**	**-0.4**
SMA1				S	**Sg**	**17 45 52.8**	**-0.7**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
CAMP	**Campotosto**	**0.10**	**125**	P	**Pg**	**17 45 52.1**	**-0.4**
CAMP				S	**Sg**	**17 45 53.8**	**-0.7**
CAMP				AML	AML		
	comp=E,27250μm,0.6s						
CAMP				AML	AML		
	comp=N,22550μm,1.4s						
CAMP				AML	AML		
	comp=E,27239μm,0.6s						
CAMP				AML	AML		
	comp=N,20648μm,0.4s						
RM33	**Pellescritta (**	**0.10**	**217**	P	**Pg**	**17 45 52.6**	**0.0**
RM33				S	**Sg**	**17 45 54.9**	**+0.4**
RM33				AML	AML		
	comp=N,25400μm,1.6s						
RM33				AML	AML		
	comp=E,34050μm,0.3s						
RM33				AML	AML		
	comp=N,25800μm,1.6s						
RM33				AML	AML		
	comp=E,33500μm,0.2s						
RM33				AML	AML		
	comp=E,34050μm,0.2s						
RM33				AML	AML		
	comp=N,25800μm,1.6s						
RM33				AML	AML		
	comp=E,33500μm,1.8s						
RM33				AML	AML		
	comp=E,34050μm,1.8s						
RM33				AML	AML		
	comp=N,25400μm,0.4s						
RM33				AML	AML		
	comp=N,25800μm,0.4s						
RM33				AML	AML		
	comp=E,34072μm,0.2s						
RM33				AML	AML		
	comp=E,33514μm,0.2s						
RM33				AML	AML		
	comp=N,25038μm,0.3s						
RM33				AML	AML		
	comp=N,25249μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.15**	**180**	P	**Pg**	**17 45 53.2**	**0.0**
T1247				S	**Sg**	**17 45 56.0**	**+0.5**
T1247				AML	AML		
	comp=E,30950μm,0.4s						
T1247				AML	AML		
	comp=N,37100μm,0.3s						
T1247				AML	AML		
	comp=N,36805μm,0.2s						
T1247				AML	AML		
	comp=E,23166μm,0.1s						
T1218	**Civita (PG)**	**0.16**	**300**	P	**Pg**	**17 45 53.4**	**0.0**
T1218				S	**Sg**	**17 45 56.5**	**+0.7**
T1218				AML	AML		
	comp=E,7475μm,0.6s						
T1218				AML	AML		
	comp=E,7000μm,1.4s						
T1218				AML	AML		
	comp=E,7475μm,0.6s						
T1218				AML	AML		
	comp=N,13000μm,1.4s						
T1218				AML	AML		
	comp=E,7000μm,1.3s						
T1218				AML	AML		
	comp=N,13000μm,0.6s						
T1218				AML	AML		
	comp=N,12750μm,0.2s						
T1218				AML	AML		
	comp=E,6397μm,0.3s						
T1218				AML	AML		
	comp=N,12791μm,0.2s						
T1218				AML	AML		
	comp=N,12757μm,0.2s						
T1218				AML	AML		
	comp=E,6285μm,0.1s						
LNSS	**Leonessa**	**0.19**	**273**	P	**Pg**	**17 45 54.1**	**+0.2**
LNSS				S	**Sg**	**17 45 57.7**	**+1.0**
LNSS				AML	AML		
	comp=N,13000μm,1.2s						
LNSS				AML	AML		
	comp=E,21650μm,0.7s						
LNSS				AML	AML		
	comp=N,13000μm,0.8s						
LNSS				AML	AML		
	comp=E,21098μm,0.4s						
LNSS				AML	AML		
	comp=N,12352μm,0.4s						
GIGS	**Gran Sasso**	**0.24**	**125**	AML	AML		
	comp=N,2145μm,0.9s						
GIGS				AML	AML		
	comp=E,2910μm,0.7s						
GIGS				AML	AML		
	comp=E,2910μm,1.3s						
T1217	**Poggiodomo (PG**	**0.30**	**294**	P	**Pg**	**17 45 55.8**	**0.0**
T1217				S	**Sg**	**17 46 01.0**	**+1.2**
T1217				AML	AML		
	comp=E,4750μm,0.4s						
T1217				AML	AML		
	comp=E,4545μm,0.3s						
T1217				AML	AML		
	comp=N,4775μm,0.4s						
T1217				AML	AML		
	comp=E,4755μm,0.4s						
T1217				AML	AML		
	comp=N,4915μm,0.4s						
T1217				AML	AML		
	comp=E,4755μm,0.4s						
T1217				AML	AML		
	comp=N,4780μm,0.4s						
T1217				AML	AML		
	comp=E,4755μm,1.6s						
T1217				AML	AML		
	comp=E,4518μm,0.1s						
T1217				AML	AML		
	comp=E,3919μm,0.1s						
T1217				AML	AML		
	comp=N,3956μm,0.1s						
T1217				AML	AML		
	comp=N,4470μm,0.1s						
FIAM	**Fiamignano**	**0.35**	**203**	⇑P	**Pg**	**17 45 56.7**	**-0.2**
FIAM				S	**Sg**	**17 46 01.8**	**+0.3**
FIAM				AML	AML		
	comp=N,2635μm,1.4s						
FIAM				AML	AML		
	comp=E,2570μm,0.4s						
FIAM				AML	AML		
	comp=E,2570μm,1.6s						
FIAM				AML	AML		
	comp=N,2635μm,0.6s						
FAGN	**Fagnano**	**0.39**	**147**	⇓P	**Pg**	**17 45 57.3**	**-0.2**
FAGN				S	**Sg**	**17 46 03.7**	**+1.0**
FAGN				AML	AML		
	comp=E,11200μm,0.6s						
FAGN				AML	AML		
	comp=N,13650μm,1.4s						
FAGN				AML	AML		
	comp=N,13650μm,0.6s						
FAGN				AML	AML		
	comp=E,11200μm,1.4s						
FAGN				AML	AML		
	comp=N,13395μm,0.4s						
ARRO	**Arrone**	**0.39**	**268**	⇑P	**Pg**	**17 45 57.6**	**0.0**
ARRO				S	**Sg**	**17 46 04.0**	**+1.2**
ARRO				AML	AML		
	comp=N,3070μm,0.9s						
ARRO				AML	AML		
	comp=E,2115μm,0.3s						
ARRO				AML	AML		
	comp=N,2389μm,0.4s						
ARRO				AML	AML		
	comp=E,2118μm,0.3s						
FEMA	**Monte Fema**	**0.41**	**334**	P	**Pg**	**17 45 58.1**	**+0.1**
FEMA				S	**Sg**	**17 46 04.8**	**+1.3**
FEMA				AML	AML		
	comp=E,5340μm,0.3s						
FEMA				AML	AML		
	comp=N,4860μm,0.3s						
FEMA				AML	AML		
	comp=E,5340μm,0.3s						
FEMA				AML	AML		
	comp=N,4862μm,0.3s						
FDMO	**Fiordimonte**	**0.47**	**341**	⇑P	**Pg**	**17 45 58.8**	**-0.2**
FDMO				S	**Sg**	**17 46 06.3**	**+1.0**
FDMO				AML	AML		
	comp=N,2670μm,0.3s						
FDMO				AML	AML		
	comp=E,2075μm,0.6s						
FDMO				AML	AML		
	comp=N,2665μm,0.3s						
FDMO				AML	AML		
	comp=E,1902μm,0.2s						
FDMO				AML	AML		
	comp=N,2666μm,0.3s						
GUMA	**Gualdo di Mace**	**0.47**	**3**	⇑P	**Pg**	**17 45 59.1**	**+0.1**
GUMA				S	**Sg**	**17 46 06.5**	**+1.2**
GUMA				AML	AML		
	comp=E,10975μm,0.3s						
GUMA				AML	AML		
	comp=E,14200μm,0.3s						
GUMA				AML	AML		
	comp=N,13000μm,0.5s						
GUMA				AML	AML		
	comp=E,14200μm,1.7s						
GUMA				AML	AML		
	comp=N,13000μm,1.5s						
GUMA				AML	AML		
	comp=N,12900μm,0.4s						
GUMA				AML	AML		
	comp=N,12883μm,0.4s						
GUMA				AML	AML		
	comp=N,13032μm,0.5s						
GUMA				AML	AML		
	comp=E,10991μm,0.3s						
GUMA				AML	AML		
	comp=E,14223μm,0.3s						
TRTR	**Tortoreto Alta**	**0.50**	**64**	P	**Pb**	**17 45 59.9**	**-0.9**
TRTR				AML	AML		
	comp=N,6060μm,1.1s						
TRTR				AML	AML		
	comp=E,8125μm,0.6s						
TRTR				AML	AML		
	comp=N,6060μm,0.9s						
TRTR				AML	AML		
	comp=E,8136μm,0.6s						
TRTR				AML	AML		
	comp=N,5914μm,0.4s						
CSP1	**Cessapalombo**	**0.50**	**352**	⇑P	**Pg**	**17 45 59.4**	**-0.3**
CSP1				S	**Sg**	**17 46 07.4**	**+1.0**
CSP1				AML	AML		
	comp=E,3920μm,1.3s						
CSP1				AML	AML		
	comp=N,7205μm,0.4s						
CSP1				AML	AML		
	comp=N,7210μm,0.4s						
CSP1				AML	AML		
	comp=N,7210μm,1.6s						
CSP1				AML	AML		
	comp=N,7125μm,0.3s						
CSP1				AML	AML		
	comp=E,3854μm,0.3s						
CESI	**CESI - Serrava**	**0.51**	**325**	⇑P	**Pg**	**17 45 59.7**	**0.0**
CESI				S	**Sg**	**17 46 07.9**	**+1.6**
CESI				AML	AML		
	comp=N,2775μm,0.3s						
CESI				AML	AML		
	comp=E,2105μm,1.3s						
CESI				AML	AML		
	comp=N,2772μm,0.3s						
CESI				AML	AML		
	comp=E,2049μm,0.3s						
CESX	**Cesi**	**0.53**	**272**	P	**Pg**	**17 45 59.7**	**-0.5**
CESX				S	**Sg**	**17 46 08.3**	**+1.1**
CESX				AML	AML		
	comp=E,2155μm,0.3s						
CESX				AML	AML		
	comp=N,2150μm,1.6s						
CESX				AML	AML		
	comp=N,2150μm,0.4s						
T1220	**Camerino, Fraz**	**0.54**	**343**	P	**Pg**	**17 46 00.1**	**-0.2**
T1220				S	**Sg**	**17 46 08.9**	**+1.4**
T1220				AML	AML		
	comp=E,17250μm,0.5s						
T1220				AML	AML		
	comp=E,17300μm,0.5s						
T1220				AML	AML		
	comp=N,9890μm,0.4s						
T1220				AML	AML		
	comp=N,9985μm,0.4s						
T1220				AML	AML		
	comp=E,17300μm,1.5s						
T1220				AML	AML		
	comp=E,17250μm,1.5s						
T1220				AML	AML		
	comp=E,17284μm,0.5s						
T1220				AML	AML		
	comp=E,17275μm,0.5s						
T1220				AML	AML		
	comp=N,9983μm,0.4s						
T1220				AML	AML		
	comp=N,9903μm,0.4s						
PTQR	**Pietraquaria**	**0.57**	**172**	P	**Pg**	**17 46 00.5**	**-0.5**
PTQR				AML	AML		
	comp=E,1270μm,0.3s						
PTQR				AML	AML		
	comp=N,932μm,0.5s						
PTQR				AML	AML		
	comp=E,1270μm,1.7s						
PTQR				AML	AML		
	comp=N,932μm,1.5s						
PTQR				AML	AML		
	comp=N,932μm,0.5s						
PTQR				AML	AML		
	comp=E,1274μm,0.3s						
MOMA	**Monte Martano**	**0.58**	**292**	⇓P	**Pg**	**17 46 01.0**	**-0.1**
MOMA				S	**Sg**	**17 46 10.3**	**+1.6**
MOMA				AML	AML		
	comp=E,3220μm,0.2s						
MOMA				AML	AML		
	comp=N,3105μm,1.4s						
MOMA				AML	AML		
	comp=E,3120μm,0.2s						
MOMA				AML	AML		
	comp=N,3020μm,1.4s						
MOMA				AML	AML		
	comp=N,3105μm,0.6s						
MOMA				AML	AML		
	comp=N,3020μm,0.6s						
MOMA				AML	AML		
	comp=E,3119μm,0.2s						
MOMA				AML	AML		
	comp=E,3218μm,0.2s						
MOMA				AML	AML		
	comp=N,2762μm,0.2s						
MOMA				AML	AML		
	comp=N,2621μm,0.2s						
SEF1	**Sefro**	**0.61**	**335**	P	**Pg**	**17 46 01.4**	**-0.3**
SEF1				AML	AML		
	comp=E,3330μm,1.6s						
SEF1				AML	AML		
	comp=E,3330μm,1.6s						
SEF1				AML	AML		
	comp=N,3230μm,1.6s						
SEF1				AML	AML		
	comp=E,3330μm,0.4s						
SEF1				AML	AML		
	comp=E,2953μm,0.3s						
SEF1				AML	AML		
	comp=N,2406μm,0.3s						
ASSB	**Assisi San Ben**	**0.65**	**314**	⇑P	**Pg**	**17 46 02.4**	**0.0**
ASSB				S	**Sg**	**17 46 12.5**	**+1.5**
ASSB				AML	AML		
	comp=N,1790μm,0.4s						
ASSB				AML	AML		
	comp=E,1755μm,0.6s						
ASSB				AML	AML		
	comp=N,1789μm,0.4s						
ASSB				AML	AML		
	comp=E,1393μm,0.5s						
SRES	**S.Oreste - Sor**	**0.68**	**239**	P	**Pg**	**17 46 03.2**	**+0.1**
SRES				AML	AML		
	comp=E,1005μm,0.4s						
SRES				AML	AML		
	comp=N,1520μm,0.4s						
SRES				AML	AML		
	comp=E,1005μm,1.6s						
SRES				AML	AML		
	comp=E,1007μm,0.4s						
SRES				AML	AML		
	comp=N,1519μm,0.4s						
CERT	**Cerreto**	**0.68**	**200**	P	**Pg**	**17 46 02.7**	**-0.4**
CERT				AML	AML		
	comp=E,2410μm,0.4s						
CERT				AML	AML		
	comp=N,1390μm,0.7s						
CERT				AML	AML		
	comp=N,1388μm,0.7s						
CERT				AML	AML		
	comp=E,2407μm,0.5s						
SNTG	**Esanatoglia**	**0.71**	**338**	P	**Pg**	**17 46 03.2**	**-0.4**
SNTG				S	**Sg**	**17 46 13.6**	**+0.6**
SNTG				AML	AML		
	comp=E,1155μm,0.4s						
SNTG				AML	AML		
	comp=N,1220μm,0.6s						
SNTG				AML	AML		
	comp=E,1055μm,0.4s						
SNTG				AML	AML		
	comp=N,1280μm,0.6s						
SNTG				AML	AML		
	comp=E,1155μm,0.4s						
SNTG				AML	AML		
	comp=E,1155μm,1.6s						
SNTG				AML	AML		
	comp=E,1055μm,1.6s						
SNTG				AML	AML		
	comp=E,1156μm,0.4s						
SNTG				AML	AML		
	comp=E,1055μm,0.4s						
SNTG				AML	AML		
	comp=N,1220μm,0.6s						
SNTG				AML	AML		
	comp=N,1280μm,0.6s						
EL6	**Elcito**	**0.75**	**349**	⇓P	**Pg**	**17 46 03.9**	**-0.5**
EL6				AML	AML		
	comp=N,2480μm,0.5s						
EL6				AML	AML		
	comp=E,3035μm,0.5s						
VVLD	**Villa Vallelon**	**0.76**	**161**	⇓P	**Pg**	**17 46 04.2**	**-0.3**
VVLD				AML	AML		
	comp=E,1135μm,0.6s						
VVLD				AML	AML		
	comp=N,1285μm,0.9s						
VVLD				AML	AML		
	comp=N,1243μm,0.5s						
VVLD				AML	AML		
	comp=E,1138μm,0.6s						
CING	**Cingoli**	**0.79**	**354**	⇑P	**Pg**	**17 46 04.4**	**-0.7**
CING				AML	AML		
	comp=E,4605μm,0.4s						
CING				AML	AML		
	comp=N,2190μm,0.4s						
CING				AML	AML		
	comp=E,4601μm,0.4s						
CING				AML	AML		
	comp=N,2188μm,0.4s						
FOSV	**Fossato di Vic**	**0.81**	**331**	⇓P	**Pg**	**17 46 04.9**	**-0.5**
FOSV				S	**Sg**	**17 46 15.6**	**-0.4**
FOSV				AML	AML		
	comp=E,1128μm,0.7s						
FOSV				AML	AML		
	comp=N,1430μm,0.6s						
FOSV				AML	AML		
	comp=E,1128μm,1.3s						
FOSV				AML	AML		
	comp=N,1431μm,0.6s						
PP3	**Marolino**	**0.82**	**16**	P	**Pg**	**17 46 04.9**	**-0.8**
PP3				AML	AML		
	comp=E,5855μm,0.6s						
PP3				AML	AML		
	comp=N,4260μm,0.3s						
PP3				AML	AML		
	comp=E,5535μm,0.6s						
PP3				AML	AML		
	comp=N,4255μm,0.3s						
PP3				AML	AML		
	comp=N,4065μm,0.2s						
PP3				AML	AML		
	comp=E,5855μm,1.4s						
PP3				AML	AML		

	comp=E,5535µm,1.4s							
PP3					AML	AML		
	comp=E,5851µm,0.6s							
PP3					AML	AML		
	comp=E,5536µm,0.6s							
PP3					AML	AML		
	comp=N,4257µm,0.3s							
PP3					AML	AML		
	comp=N,4068µm,0.2s							
SSFR	**Montelago di S**	**0.93**	**336**	⇓P		**Pg**	**17 46 07.5**	**-0.2**
SSFR					AML	AML		
	comp=E,1945µm,1.6s							
SSFR					AML	AML		
	comp=N,1605µm,0.3s							
SSFR					AML	AML		
	comp=E,1860µm,1.1s							
SSFR					AML	AML		
	comp=N,1550µm,1.6s							
SSFR					AML	AML		
	comp=N,1385µm,0.2s							
SSFR					AML	AML		
	comp=E,1802µm,0.2s							
SSFR					AML	AML		
	comp=E,1880µm,0.2s							
SSFR					AML	AML		
	comp=N,1601µm,0.3s							
MGAB	**Montegabbione**	**0.93**	**291**	⇓P		**Pg**	**17 46 07.4**	**-0.3**
MGAB					AML	AML		
	comp=E,1905µm,0.4s							
MGAB					AML	AML		
	comp=N,2090µm,0.4s							
MGAB					AML	AML		
	comp=E,1940µm,1.2s							
MGAB					AML	AML		
	comp=N,2360µm,0.4s							
MGAB					AML	AML		
	comp=N,2362µm,0.4s							
MGAB					AML	AML		
	comp=N,2088µm,0.4s							
MGAB					AML	AML		
	comp=E,1905µm,0.4s							
MGAB					AML	AML		
	comp=E,1823µm,0.4s							
ARVD	**Arcevia**	**0.94**	**344**	⇑P		**Pg**	**17 46 07.6**	**-0.4**
ARVD					AML	AML		
	comp=N,889µm,0.7s							
ARVD					AML	AML		
	comp=E,874µm,0.6s							
ARVD					AML	AML		
	comp=E,875µm,0.6s							
ARVD					AML	AML		
	comp=N,889µm,0.7s							
COR1	**Corinaldo**	**1.06**	**348**	P		**Pg**	**17 46 10.5**	**+0.2**
COR1					AML	AML		
	comp=E,1344µm,1.5s							
COR1					AML	AML		
	comp=N,2540µm,1.0s							
COR1					AML	AML		
	comp=E,1281µm,0.3s							
COR1					AML	AML		
	comp=N,1916µm,0.4s							
COR1					AML	AML		
	comp=N,5112µm,0.4s							
COR1					AML	AML		
	comp=E,2430µm,1.0s							
PIEI	**Pieia**	**1.10**	**330**	⇓P		**Pg**	**17 46 10.9**	**0.0**
PIEI					AML	AML		
	comp=E,578µm,0.9s							
PIEI					AML	AML		
	comp=N,672µm,0.5s							
PIEI					AML	AML		
	comp=N,672µm,0.5s							
PIEI					AML	AML		
	comp=E,574µm,0.3s							
LIK	**San Giovanni I**	**1.10**	**170**	⇓P		**Pg**	**17 46 11.7**	**+0.6**
LIK					AML	AML		
	comp=E,1096µm,0.6s							
LIK					AML	AML		
	comp=N,984µm,1.4s							
LIK					AML	AML		
	comp=N,984µm,0.6s							
LIK					AML	AML		
	comp=E,1096µm,1.4s							
LIK					AML	AML		
	comp=E,1097µm,0.6s							
LIK					AML	AML		
	comp=N,784µm,1.5s							
MPAG	**Monte Paganucc**	**1.11**	**339**	⇑P		**Pg**	**17 46 10.7**	**-0.5**
MPAG					AML	AML		
	comp=E,746µm,0.4s							
MPAG					AML	AML		
	comp=N,804µm,1.1s							
MPAG					AML	AML		
	comp=E,732µm,0.5s							
MPAG					AML	AML		
	comp=N,702µm,1.2s							
MPAG					AML	AML		
	comp=E,731µm,0.5s							
MPAG					AML	AML		
	comp=E,747µm,0.4s							
MPAG					AML	AML		
	comp=N,684µm,0.7s							
MPAG					AML	AML		
	comp=N,803µm,1.1s							
CAFI	**Castiglion Fio**	**1.23**	**307**	⇑P		**Pn**	**17 46 14.7**	**+1.6**
MAON	**Monte Argentar**	**1.61**	**265**	P		**Pn**	**17 46 17.9**	**-0.4**
TRIF	**Trifonti**	**1.84**	**287**	⇓P		**Pn**	**17 46 21.5**	**0.0**
TRIF					AML	AML		
	comp=E,113µm,1.3s							
TRIF					AML	AML		
	comp=N,150µm,0.8s							
TRIF					AML	AML		
	comp=N,151µm,0.8s							
TRIF					AML	AML		
	comp=E,100µm,1.0s							
STON	**Ston**	**3.25**	**84**	*e*Pn		**Pn**	**17 46 43.2**	**+2.3**
STON				*e*Sn		**Sn**	**17 47 20.0**	**+0.3**
TREB	**Trebinje**	**3.73**	**86**	*e*Pn		**Pn**	**17 46 49.5**	**+2.0**
TREB				*e*Sn		**Sn**	**17 47 31.4**	**0.0**
OBKA	**Obir**	**4.02**	**12**	*i* Pn		**Pn**	**17 46 54.4**	**+2.8**
	comp=E,1.3nm,0.2s							
MYKA	**Terra Mystica**	**4.04**	**3**	*i* Pn		**Pn**	**17 46 53.5**	**+1.6**
	comp=E,1.8nm,0.4s							
ABTA	**Abfaltersbach**	**4.19**	**353**	*i* Pn		**Pn**	**17 46 55.2**	**+1.3**
	comp=E,13nm,0.5s							
SOKA	**Soboth**	**4.27**	**16**	*i* Pn		**Pn**	**17 46 56.3**	**+1.3**
	comp=E,0.4nm,0.2s							
PDG	**Podgorica**	**4.41**	**90**	*e*Pn		**Pn**	**17 46 59.3**	**+2.5**
PDG				*e*Sn		**Sn**	**17 47 49.7**	**+1.6**
KBA	**Koelnbreinsper**	**4.49**	**0**	*e*Pn		**Pn**	**17 46 60.0**	**+1.9**
	comp=E,0.6nm,0.2s							
BBLS	**Lazići**	**4.64**	**72**	*e*Pn		**Pn**	**17 47 02.2**	**+2.1**
FETA	**Feichten**	**4.79**	**338**	*i* Pn		**Pn**	**17 47 06.2**	**+4.0**
	comp=E,1.6nm,0.4s							
WTTA	**Wattenberg**	**4.82**	**346**	*i* Pn		**Pn**	**17 47 04.9**	**+2.3**
	comp=E,1.6nm,0.2s							
SQTA	**Sankt Quirin**	**4.86**	**343**	*i* Pn		**Pn**	**17 47 06.2**	**+3.1**
	comp=E,0.9nm,0.1s							
WATA	**Walderalm**	**4.90**	**346**	*i* Pn		**Pn**	**17 47 06.3**	**+2.6**
	comp=E,6.4nm,0.5s							
ARSA	**Arzberg**	**4.92**	**18**	*i* Pn		**Pn**	**17 47 06.2**	**+2.4**
	comp=E,0.6nm,0.2s							
MOTA	**Moosalm**	**5.00**	**343**	*i* Pn		**Pn**	**17 47 07.2**	**+2.1**
	comp=E,0.8nm,0.3s							
BIOA	**Bad Ischl, Aus**	**5.11**	**3**	*e*Pn		**Pn**	**17 47 08.4**	**+1.9**
	comp=E,1.7nm,0.3s							
DIVS	**Divibare**	**5.11**	**71**	*e*Pn		**Pn**	**17 47 08.7**	**+2.2**
DIVS				*e*Sn		**Sn**	**17 48 07.3**	**+1.7**
IVAS	**Ivanjica**	**5.12**	**77**	*e*Pn		**Pn**	**17 47 07.9**	**+1.3**
IVAS				*e*Sn		**Sn**	**17 48 05.3**	**-0.4**
DAVA	**Damuels**	**5.28**	**334**	*i* Pn		**Pn**	**17 47 11.5**	**+2.5**
	comp=E,3.2nm,0.6s							
MOA	**Molln**	**5.30**	**7**	*e*Pn		**Pn**	**17 47 12.1**	**+3.0**
	comp=E,0.8nm,0.2s							
MOA	**Molln**	**5.30**	**7**	*e*Pn		**Pn**	**17 47 12.1**	**+3.0**
MOA				*e*Sn		**Sn**	**17 48 10.5**	**+0.2**
TRUS	**Trudelj**	**5.43**	**70**	*e*Pn		**Pn**	**17 47 12.1**	**+1.3**
RONA	**Rosalia, Austr**	**5.53**	**22**	*i* Pn		**Pn**	**17 47 14.7**	**+2.5**
	comp=E,0.4nm,0.1s							
GRUS	**Gruza**	**5.57**	**74**	*e*Pn		**Pn**	**17 47 15.6**	**+2.8**
CONA	**Conrad Observa**	**5.63**	**18**	*i* Pn		**Pn**	**17 47 13.6**	**-0.2**
	comp=E,1.0nm,0.2s							
SELS	**Selova**	**5.78**	**81**	*e*Pn		**Pn**	**17 47 17.1**	**+1.4**
CKRC	**Cesky Krumlov**	**6.27**	**6**	*e*SN		**Sn**	**17 48 31.6**	**-2.5**
BARS	**Barje**	**6.28**	**85**	*e*Pn		**Pn**	**17 47 23.9**	**+1.4**
BARS				*e*Sn		**Sn**	**17 48 33.3**	**-1.0**
FNA	**Florina**	**6.31**	**104**	*e*Pn		**Pn**	**17 47 26.9**	**+3.9**
FNA				*e*Sn		**Sn**	**17 48 34.3**	**-0.9**
PRVS	**Prvonek**	**6.48**	**88**	*e*Pn		**Pn**	**17 47 27.6**	**+2.2**
PRVS				*e*Sn		**Sn**	**17 48 38.7**	**-0.7**
KHC	**Kasperske Hory**	**6.54**	**2**	*e*PN		**Pn**	**17 47 28.1**	**+1.9**
KHC				*e*SN		**Sn**	**17 48 38.8**	**-2.0**
ZAGS	**Zajecar**	**6.64**	**76**	*e*Pn		**Pn**	**17 47 29.5**	**+2.0**
ZAPS	**Zavoj**	**6.89**	**81**	*e*Sn		**Sn**	**17 48 48.6**	**-0.7**
CLL	**Collm**	**8.72**	**359**	*e*Sn		**Sn**	**17 49 27.0**	**-7.3**
CLL				*ex*		x	17 50 26.0	
CLL				*e*Sg		Sg	17 50 39.0	+9.5

DJA 18 17:57:25.6±0.4, 9°S±6°×11°0E±°, h67km±19km, M3.8/19, mb4.2/3, mB4.9/1, ML3.8/19, MLv3.7/19, Mw(mB)4.2/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.12**	**17**	P	Pn	17 57 46.6	+1.1
UGM				S	Sn	17 58 01.0	+0.6
YOGI	**Yogyakarta**	**1.17**	**5**	P	Pn	17 57 45.8	-0.4
YOGI				S	Sn	17 58 01.9	+0.4
PWJI	**Pagerwojo**	**1.86**	**59**	P	Pn	17 57 56.0	+0.6
PWJI				S	Sn	17 58 16.8	-1.2
SMRI	**Semarang**	**1.94**	**7**	P	Pn	17 57 58.1	+1.6
SMRI				S	Sn	17 58 20.6	+0.7
NGJI	**Ngawi**	**2.04**	**38**	P	Pn	17 57 58.7	+0.9
KPJI	**Karang Pucung**	**2.06**	**323**	P	Pn	17 57 59.1	+1.0
CMJI	**Cimerak**	**2.10**	**305**	P	Pn	17 57 58.9	+0.4
CMJI				S	Sn	17 58 22.7	-1.0
UWJI	**Ujung Watu**	**2.66**	**16**	P	Pn	17 58 04.4	-1.8
GMJI	**Gumukmas**	**3.30**	**78**	P	Pn	17 58 14.5	-0.3
CNJI	**Cibinong**	**3.46**	**299**	P	Pn	17 58 17.4	+0.3
BLJI	**Banyuglugur**	**3.59**	**70**	P	Pn	17 58 19.8	+1.0
JAGI	**Jajag, Banyuwa**	**3.95**	**83**	P	Pn	17 58 24.0	+0.2
IGBI	**Denpasar**	**4.90**	**88**	P	Pn	17 58 36.7	-0.1
CGJI	**Cibinong**	**5.04**	**298**	P	Pn	17 58 38.5	-0.2
	31nm,0.5s,1µm0.2nm0.2nm						
PLAI	**Plampang**	**7.50**	**89**	P	Pn	17 59 11.5	-0.8

*IDC **18** 18:00:57.5±0.7, 32°.82N×39°.79W, h0km, mb4.1/15, mbtmp4.1/15, MS3.7/38, Error ellipse: s-maj=22.6km s-min=17.0km az=155.0*
*NEIC **18** 18:01:00.3±1.9, 32°.8N±0°.1×39°.87W±0°.08, h10km±1km, mb4.9/34, Error ellipse: s-maj=23.7km s-min=7.3km az=155.0*
ISC 18 18:01:01.3±0.5, 32°.85N±0°.09×39°.77W±0°.10, h22km, n96, σ0s85/58, mb4.7/31, MS3.8/38, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRLN	**Deer Lake**	**21.07**	**326**		**P**	**18 05 44.2**	**+0.3**
DRLN				IAmb	IAmb	18 05 51.9	
	comp=Z,77nm,1.4s						
LMN	**Caledonia Moun**	**23.20**	**311**	P	**P**	**18 06 06.0**	**-0.6**
LMN				IAmb	IAmb	18 06 19.6	
	comp=Z,87nm,1.8s						
SJG	**San Juan**	**27.87**	**245**	LR	LR	18 15 24.0	
	comp=Z,46nm,22.0s,baz=160,slow=31						
SCHQ	**Schefferville**	**29.07**	**327**	LR	LR	18 17 28.5	
	comp=Z,290nm,21.9s,baz=92,slow=34						
MDT	**Midelt**	**29.46**	**80**	LR	LR	18 16 41.4	
	comp=Z,120nm,18.1s,baz=309,slow=32						
ESDC	**Sonseca Array**	**29.52**	**66**	LR	LR	18 17 18.2	
	comp=Z,67nm,18.4s,baz=256,slow=33						
MDP	**Montagnes des**	**30.11**	**206**	LR	LR	18 16 27.4	
	comp=Z,46nm,22.0s,baz=29,slow=31						
EKA	**Eskdalemuir Ar**	**33.99**	**38**	LR	LR	18 17 58.1	
	comp=Z,80nm,18.6s,baz=232,slow=30						
SFJD	**Kangerlussuaq**	**34.78**	**353**	LR	LR	18 18 24.0	
	comp=Z,101nm,21.5s,baz=169,slow=30						
BAUV	**El Baul**	**35.33**	**234**	P	**P**	**18 07 55.4**	**+0.2**
FRB	**Frobisher Bay**	**35.74**	**338**	LR	LR	18 21 19.6	
	comp=Z,101nm,20.4s,baz=164,slow=34						
TKL	**Tuckaleechee C**	**36.26**	**287**	LR	LR	18 20 40.6	
	comp=Z,31nm,19.0s,baz=82,slow=33						
SDV	**Santo Domingo**	**37.17**	**237**	LR	LR	18 20 30.5	
	comp=Z,37nm,20.9s,baz=162,slow=32						
SDV	**Santo Domingo**	**37.17**	**237**	P	**P**	**18 08 10.7**	**-0.4**
SDV				IAmb	IAmb	18 08 13.7	
	comp=Z,21nm,1.1s						
RCBR	**Riachuelo**	**38.64**	**174**	LR	LR	18 20 24.2	
	comp=Z,109nm,20.2s,baz=136,slow=30						
PRPB	**Parauapebas**	**39.97**	**196**	*e*P	**P**	**18 08 35.4**	**+1.0**
ITTB	**Itaituba**	**39.99**	**205**	*e*P	**P**	**18 08 35.4**	**+0.9**
DBIC	**Dimbokro**	**41.59**	**121**	LR	LR	18 23 27.9	
	comp=Z,146nm,21.4s,baz=318,slow=32						
SGCB	**S&o Gabriel d**	**41.66**	**224**	*e*P	**P**	**18 08 49.3**	**+1.0**
NPGB	**Novo Progresso**	**42.36**	**203**	*e*P	**P**	**18 08 54.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**42.57**	**108**	P	**P**	**18 08 55.1**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=298,slow=6.5,SNR=2.0						
	comp=Z,2.7nm,0.3s						
ROSC	**El Rosal**	**42.60**	**237**	LR	LR	18 23 13.5	
	comp=Z,72nm,20.5s,baz=98,slow=31						
NOA	**NORSAR Array B**	**43.15**	**34**	P	**P**	**18 09 01.1**	**+1.1**
	comp=Z,2.4nm,1.0s,baz=253,slow=8.4,SNR=4.2						
	comp=Z,2.4nm,1.0s						
SDBA	**SAO DESIDERIO**	**45.27**	**187**	*e*P	**P**	**18 09 17.9**	**+0.5**
SNDB	**Serra Nova Dou**	**45.91**	**196**	*e*P	**P**	**18 09 23.6**	**+1.2**
H10N2	**ASCENSION HYDR**	**47.07**	**145**	T	T	18 59 34.3	
	baz=330,slow=75,SNR=763						
H10N3	**ASCENSION HYDR**	**47.08**	**145**	T	T	18 59 34.9	
	baz=330,slow=75,SNR=528						
H10N1	**ASCENSION HYDR**	**47.09**	**145**	T	T	18 59 34.3	
	baz=330,slow=75,SNR=767						
JTS	**Las Juntas de**	**47.18**	**252**	LR	LR	18 26 36.3	
	comp=Z,64nm,21.7s,baz=43,slow=33						
H10S3	**ASCENSION HYDR**	**47.97**	**146**	T	T	19 00 47.6	
	baz=250,slow=74,SNR=102						
H10S2	**ASCENSION HYDR**	**47.98**	**146**	T	T	19 00 42.9	
	baz=330,slow=74,SNR=70						
WMOK	**Wichita Mounta**	**48.46**	**289**	P	**P**	**18 09 41.2**	**-1.1**
WMOK				IAmb	IAmb	18 09 47.9	
	comp=Z,17nm,1.7s						
OTAV	**Otavalo**	**48.75**	**236**	*e*P	**P**	**18 09 46.2**	**+1.0**
BDFB	**Brasilia**	**48.86**	**191**	P	**P**	**18 09 44.9**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=27,slow=9.0,SNR=4.1						
	comp=Z,4.8nm,0.8s						
ETMB	**Extrema**	**49.36**	**215**	P	**P**	**18 09 48.5**	**-0.7**
ETMB				IAmb	IAmb	18 09 55.7	
	comp=Z,16nm,1.6s						
ETMB	**Extrema**	**49.36**	**215**	*e*P	**P**	**18 09 48.8**	**-0.4**
RES	**Resolute Bay**	**49.58**	**343**	LR	LR	18 29 40.0	
	comp=Z,50nm,18.4s,baz=70,slow=35						
RES	**Resolute Bay**	**49.58**	**343**	P	**P**	**18 09 51.3**	**+1.1**
FINES	**FINESS Array B**	**50.28**	**35**	P	**P**	**18 09 55.4**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=275,slow=6.4,SNR=8.4						
	comp=Z,2.3nm,0.6s						
CMIG	**Matias Romero**	**51.82**	**266**	LR	LR	18 28 58.3	
	comp=Z,70nm,21.8s,baz=28,slow=32						
AKASG	**Malin Array Be**	**52.51**	**48**	P	**P**	**18 10 11.8**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=277,slow=6.4,SNR=9.7						
AKASG				LR	LR	18 30 28.8	
	comp=Z,56nm,18.1s,baz=343,slow=34						
	comp=Z,1.9nm,0.6s						
SIV	**San Ignacio**	**52.67**	**206**	LR	LR	18 31 38.7	
	comp=Z,46nm,19.3s,baz=110,slow=35						
MCRA	**Macar, Loja**	**53.11**	**234**	P	**P**	**18 10 15.5**	**-2.0**
EGMT	**Eagleton**	**53.59**	**308**	P	**P**	**18 10 21.4**	**+0.6**
TXAR	**Lajitas Array**	**54.09**	**285**	P	**P**	**18 10 24.7**	**0.0**
	comp=Z,0.8nm,0.8s,baz=92,slow=7.9,SNR=6.4						
TXAR				LR	LR	18 31 48.8	
	comp=Z,161nm,20.4s,baz=61,slow=34						
	comp=Z,0.8nm,0.8s						
ANMO	**Albuquerque**	**54.45**	**292**	LR	LR	18 31 39.1	
	comp=Z,168nm,20.7s,baz=158,slow=34						
YKA	**Yellowknife Ar**	**54.52**	**327**	P	**P**	**18 10 26.5**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=87,slow=7.2,SNR=3.5						
YKA				PcP	**PcP**	**18 11 28.6**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=88,slow=4.0,SNR=3.9						
	comp=Z,0.3nm,0.8s						
YMP	**Mirror Lake PI**	**54.54**	**304**	P	**P**	**18 10 27.8**	**-0.2**
YMP				IAmb	IAmb	18 10 35.3	
	comp=Z,16nm,1.3s						
BW06	**Boulder Array**	**54.59**	**302**	P	**P**	**18 10 27.8**	**-0.6**
PD31	**Pinedale Array**	**54.59**	**302**	P	**P**	**18 10 27.6**	**-0.7**
PDAR	**Pinedale Array**	**54.59**	**302**	P	**P**	**18 10 27.9**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=76,slow=7.5,SNR=13						
PDAR				LR	LR	18 32 59.7	
	comp=Z,101nm,18.8s,baz=112,slow=35						
	comp=Z,1.7nm,0.9s						
PDAR	**Pinedale Array**	**54.59**	**302**	P	**P**	**18 10 27.6**	**-0.7**
YMR	**Madison River**	**55.12**	**305**	P	**P**	**18 10 31.3**	**-0.8**
YMR				IAmb	IAmb	18 10 40.3	
	comp=Z,20nm,1.2s						
IMW	**Indian Meadow**	**55.29**	**304**	P	**P**	**18 10 32.7**	**-0.7**
LPAZ	**La Paz**	**55.89**	**213**	P	**P**	**18 10 37.5**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=20,slow=13,SNR=8.3						
	comp=Z,2.7nm,0.9s						
LPAZ	**La Paz**	**55.89**	**213**	P	**P**	**18 10 38.0**	**-0.3**
LPAZ				IAmb	IAmb	18 10 46.1	
	comp=Z,29nm,1.8s						
LPAZ	**La Paz**	**55.89**	**213**	*e*P	**P**	**18 10 38.7**	**+0.4**
DUG	**Dugway, Tooele**	**57.65**	**300**	P	**P**	**18 10 50.6**	**+0.5**
BRTR	**Keskin Array B**	**58.06**	**61**	P	**P**	**18 10 53.7**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=302,slow=8.3,SNR=4.0						
	comp=Z,1.3nm,1.0s						
NEW	**Newport**	**58.34**	**310**	LR	LR	18 34 43.8	
	comp=Z,187nm,21.6s,baz=62,slow=35						
U15A	**North Rim**	**58.46**	**295**	P	**P**	**18 10 57.1**	**+1.0**
U15A				IAmb	IAmb	18 12 20.6	
	comp=Z,14nm,1.9s						
PLID	**Pearl Lake**	**58.47**	**306**	P	**P**	**18 10 56.0**	**+0.1**
MFID	**Camas Ranch**	**58.84**	**304**	P	**P**	**18 10 59.2**	**+0.9**
MFID				IAmb	IAmb	18 11 03.9	
	comp=Z,15nm,1.5s						
CCUT	**Cedar City**	**58.90**	**297**	P	**P**	**18 10 59.8**	**+0.8**
CCUT				IAmb	IAmb	18 11 24.2	
	comp=Z,10.0nm,1.5s						
MNMC	**Minye Minye**	**59.04**	**213**	P	**P**	**18 10 58.4**	**-1.6**
SPR3	**Spring Creek 3**	**59.14**	**299**	P	**P**	**18 11 01.8**	**+1.1**
SPR3				IAmb	IAmb	18 11 08.0	
	comp=Z,14nm,1.8s						
ELK	**Elko**	**59.24**	**301**	LR	LR	18 35 53.4	
	comp=Z,89nm,18.9s,baz=78,slow=35						
GO01	**Chusmiza**	**59.32**	**213**	P	**P**	**18 11 01.8**	**-0.5**
PB11	**IPOC Station P**	**59.61**	**213**	P	**P**	**18 11 02.5**	**-1.3**
J08A	**Circle Bar Ran**	**60.69**	**305**	P	**P**	**18 11 11.9**	**+0.9**
INK	**Inuvik**	**61.27**	**335**	LR	LR	18 35 26.1	
	comp=Z,163nm,21.6s,baz=5.5,slow=34						
LPIG	**La Paz**	**61.61**	**282**	LR	LR	18 36 05.0	
	comp=Z,79nm,20.5s,baz=17,slow=34						
LVC	**Limon Verde**	**61.77**	**211**	LR	LR	18 37 20.4	
	comp=Z,27nm,18.6s,baz=262,slow=35						
GWY	**Greenwater Val**	**61.86**	**297**	P	**P**	**18 11 20.4**	**+1.2**
GWY				IAmb	IAmb	18 11 25.7	
	comp=Z,11nm,1.5s						
KVN	**Kaiserville**	**61.88**	**300**	P	**P**	**18 11 19.3**	**0.0**
KVN				IAmb	IAmb	18 11 20.0	
	comp=Z,9.7nm,1.3s						
QSM	**Queen of Sheba**	**62.09**	**297**	P	**P**	**18 11 21.9**	**+1.4**
QSM				IAmb	IAmb	18 11 27.9	
	comp=Z,19nm,1.8s						
NVAR	**Mina Array Bea**	**62.25**	**300**	P	**P**	**18 11 21.2**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=67,slow=3.0,SNR=3.9						
	comp=Z,0.7nm,0.7s						
BBB	**Bella Bella**	**63.87**	**317**	LR	LR	18 39 34.5	
	comp=Z,119nm,18.9s,baz=80,slow=36						
YBH	**Yreka Blue Hor**	**64.19**	**304**	LR	LR	18 39 01.0	
	comp=Z,55nm,19.7s,baz=61,slow=36						
EGAK	**Eagle**	**65.38**	**332**	P	**P**	**18 11 42.4**	**+0.7**
RIDG	**Independent Ri**	**67.29**	**332**	P	**P**	**18 11 54.3**	**+0.3**
RIDG				IAmb	IAmb	18 12 01.6	
	comp=Z,12nm,1.2s						
ILAR	**Eielson Array**	**67.57**	**334**	P	**P**	**18 11 55.9**	**+0.1**
	comp=Z,1.2nm,1.2s,baz=63,slow=4.5,SNR=5.5						
ILAR				LR	LR	18 40 54.0	
	comp=Z,93nm,18.2s,baz=77,slow=36						
	comp=Z,1.2nm,1.2s						
ARU	**Arti**	**67.59**	**36**	P	**P**	**18 11 55.8**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=315,slow=7.1,SNR=3.5						
	comp=Z,3.0nm,0.7s						
DHY	**Denali Highway**	**68.61**	**332**	P	**P**	**18 12 03.5**	**+1.0**
CFA	**Coronel Fontan**	**69.53**	**206**	LR	LR	18 43 12.7	
	comp=Z,38nm,18.3s,baz=123,slow=36						
AKTO	**Aktyubinsk**	**69.99**	**42**	P	**P**	**18 12 10.6**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=280,slow=6.4,SNR=6.7						
	comp=Z,4.9nm,0.8s						
TSUM	**Tsumeb**	**75.37**	**125**	LR	LR	18 39 48.2	
	comp=Z,63nm,19.6s,baz=336,slow=31						
ATD	**Arta Tunnel**	**77.69**	**84**	LR	LR	18 47 00.4	
	comp=Z,58nm,18.9s,baz=354,slow=36						
KURBB	**Kurchatov Arra**	**80.67**	**35**	P	**P**	**18 13 11.8**	**-0.6**
	comp=Z,2.8nm,1.0s,baz=322,slow=5.9,SNR=3.8						
	comp=Z,2.8nm,1.0s						
UOSS	**Minazif**	**81.55**	**66**	P	**P**	**18 13 18.4**	**+0.8**
UOSS				IAmb	IAmb	18 13 30.3	
	comp=Z,14nm,1.1s						
LBTB	**Lobatse**	**84.76**	**124**	LR	LR	18 45 56.0	
	comp=Z,78nm,21.1s,baz=324,slow=32						
YAK	**Yakutsk**	**85.07**	**5**	LR	LR	18 49 21.2	
	comp=Z,34nm,18.1s,baz=126,slow=34						
MKAR	**Makanchi Array**	**85.11**	**36**	LR	LR	18 48 47.5	
	comp=Z,36nm,18.2s,baz=346,slow=34						
SUR	**Sutherland**	**86.44**	**132**	LR	LR	18 45 29.5	
	comp=Z,39nm,20.0s,baz=312,slow=31						
BOSA	**Boshof**	**86.83**	**127**	LR	LR	18 47 04.7	
	comp=Z,57nm,20.4s,baz=349,slow=32						
PETK	**Petropavlovsk-**	**93.06**	**350**	LR	LR	18 57 19.9	
	comp=Z,36nm,18.2s,baz=23,slow=36						

*ROM **18** 18:03:47.4±0.1, 42°.594N±0°.004×13°.317E±0°.006, h9km, ML3.3/43, Error ellipse: s-maj=0.5km s-min=0.4km az=215.0*
*BEO **18** 18:03:48.2±0.7, 42°.54N×13°.22E, h0km±1km, ML3.6/8*
*IDC **18** 18:03:49.0±2.3, 42°.76N×13°.50E, h0km, mb3.3/2, mbtmp3.5/6, ML3.4/4, MS2.8/2, Error ellipse: s-maj=49.0km s-min=20.8km az=101.0*
*PRU **18** 18:03:51.0±0.0, 42°.68N×13°.68E, h10km*
ISC 18 18:03:48.1±0.8, 42°.60N±0°.02×13°.29E±0°.02, h9km±4km, n118, σ1s44/150, 17C-19D, Central Italy

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

T1247 AML AML
comp=N,61142µm,0.1s
comp=E,43815µm,0.1s
LNSS Leonessa 0.18 271 P **Pg** 18 03 52.4 +0.4
LNSS S **Sg** 18 03 55.9 +1.2
LNSS AML AML
comp=N,38250µm,0.3s
LNSS AML AML
comp=E,42300µm,0.5s
LNSS AML AML
comp=N,38270µm,0.3s
LNSS AML AML
comp=E,39157µm,0.5s
GIGS Gran Sasso 0.26 126 P **Pg** 18 03 52.7 -0.6
GIGS S **Sg** 18 03 56.5 -0.2
GIGS AML AML
comp=E,6055µm,0.7s
GIGS AML AML
comp=N,5620µm,0.3s
GIGS AML AML
comp=E,6055µm,1.3s
GIGS AML AML
comp=E,5011µm,0.2s
GIGS AML AML
comp=N,5619µm,0.3s
T1217 Poggiodomo (PG 0.29 293 P **Pg** 18 03 54.0 +0.2
T1217 S **Sb** 18 03 58.9 -1.5
T1217 AML AML
comp=E,6745µm,0.3s
T1217 AML AML
comp=N,5395µm,0.9s
T1217 AML AML
comp=E,6100µm,0.3s
T1217 AML AML
comp=N,5320µm,0.5s
T1217 AML AML
comp=E,6745µm,0.3s
T1217 AML AML
comp=N,5325µm,0.5s
T1217 AML AML
comp=E,6100µm,0.3s
T1217 AML AML
comp=E,6100µm,0.3s
T1217 AML AML
comp=E,6744µm,0.3s
T1217 AML AML
comp=N,5395µm,1.1s
T1217 AML AML
comp=N,5321µm,0.5s
FIAM Fiamignano 0.36 201 P **Pg** 18 03 54.9 -0.2
FIAM S **Sg** 18 04 00.7 +0.8
FIAM AML AML
comp=E,7935µm,0.5s
FIAM AML AML
comp=N,6210µm,1.0s
FIAM AML AML
comp=N,6091µm,0.4s
FIAM AML AML
comp=E,7932µm,0.5s
ARRO Arrone 0.39 267 P **Pg** 18 03 55.8 +0.1
ARRO S **Sb** 18 04 02.0 -1.2
ARRO AML AML
comp=E,4600µm,0.8s
ARRO AML AML
comp=N,6380µm,0.7s
ARRO AML AML
comp=N,4490µm,0.2s
ARRO AML AML
comp=E,4135µm,0.4s
ARRO AML AML
comp=N,6380µm,1.3s
FAGN Fagnano 0.40 147 P **Pg** 18 03 55.4 -0.5
FAGN S **Sg** 18 04 01.7 +0.5
FAGN AML AML
comp=E,17950µm,0.4s
FAGN AML AML
comp=E,17950µm,1.6s
FAGN AML AML
comp=E,17947µm,0.4s
FAGN AML AML
comp=N,19094µm,0.4s
FAGN AML AML
comp=N,19100µm,0.4s
FEMA Monte Fema 0.40 334 P **Pg** 18 03 56.1 0.0
FEMA S **Sb** 18 04 02.7 -1.1
FEMA AML AML
comp=N,5635µm,0.3s
FEMA AML AML
comp=E,8455µm,0.4s
FEMA AML AML
comp=N,5635µm,0.3s
FEMA AML AML
comp=N,5634µm,0.3s
FEMA AML AML
comp=E,8452µm,0.4s
FDMO Fiordimonte 0.46 341 P **Pg** 18 03 56.8 -0.2
FDMO S **Sb** 18 04 04.3 -1.1
FDMO AML AML
comp=N,2770µm,1.0s
FDMO AML AML
comp=N,2770µm,1.0s
FDMO AML AML
comp=E,3365µm,0.3s
FDMO AML AML
comp=E,3364µm,0.3s
FDMO AML AML
comp=N,2678µm,0.5s
GUMA Gualdo di Mace 0.46 4 P **Pg** 18 03 57.2 +0.1
GUMA S **Sb** 18 04 04.9 -0.5
GUMA AML AML
comp=N,15850µm,0.5s
GUMA AML AML
comp=E,17250µm,0.5s
GUMA AML AML
comp=N,17500µm,0.5s
GUMA AML AML
comp=N,15850µm,1.5s
GUMA AML AML
comp=N,17500µm,1.5s
GUMA AML AML
comp=E,12850µm,0.7s
GUMA AML AML
comp=N,15820µm,0.5s
GUMA AML AML
comp=N,17496µm,0.5s
GUMA AML AML
comp=E,12565µm,0.5s
GUMA AML AML
comp=E,17258µm,0.5s
GUMA AML AML
comp=E,17250µm,1.5s
CESI CESI - Serrava 0.49 325 ⇓P **Pg** 18 03 57.6 0.0
CESI S **Sb** 18 04 05.0 -1.3
CESI AML AML
comp=E,2990µm,1.5s
CESI AML AML
comp=N,4180µm,0.5s
CESI AML AML
comp=N,4180µm,1.5s
CESI AML AML
comp=E,2990µm,0.5s
CESI AML AML
comp=E,2902µm,0.5s
CESI AML AML
comp=N,4180µm,0.5s
CSP1 Cessapalombo 0.49 353 P **Pg** 18 03 57.5 -0.2
CSP1 S **Sb** 18 04 05.5 -0.9
CSP1 AML AML
comp=E,3745µm,0.4s
CSP1 AML AML
comp=N,7385µm,1.0s
CSP1 AML AML
comp=N,7380µm,1.0s
CSP1 AML AML
comp=E,3743µm,0.4s
CSP1 AML AML
comp=E,3740µm,0.4s
CSP1 AML AML
comp=N,6992µm,0.4s
TRTR Tortoreto Alta 0.50 66 P **Pb** 18 03 58.6 -0.5
TRTR AML AML
comp=N,13750µm,0.4s
TRTR AML AML
comp=E,13900µm,0.4s
TRTR AML AML
comp=E,13932µm,0.4s
TRTR AML AML
comp=N,13750µm,1.6s
TRTR AML AML
comp=N,13758µm,0.4s
CESX Cesi 0.52 271 P **Pg** 18 03 58.1 -0.2
CESX S **Sb** 18 04 07.2 +0.1
CESX AML AML
comp=E,3700µm,0.3s
CESX AML AML
comp=E,3700µm,0.3s
CESX AML AML
comp=N,4400µm,0.3s
T1220 Camerino, Fraz 0.53 344 P **Pg** 18 03 58.2 -0.2
T1220 S **Sb** 18 04 06.2 -1.1
T1220 AML AML
comp=E,15050µm,0.5s
T1220 AML AML
comp=E,14600µm,0.5s
T1220 AML AML
comp=E,15050µm,0.5s
T1220 AML AML
comp=E,14600µm,0.5s
T1220 AML AML
comp=N,14800µm,0.3s
T1220 AML AML
comp=E,14604µm,0.5s
T1220 AML AML
comp=E,15038µm,0.5s
T1220 AML AML
comp=N,14950µm,0.3s
T1220 AML AML
comp=N,14789µm,0.3s
T1220 AML AML
comp=N,14965µm,0.3s
MOMA Monte Martano 0.57 291 P **Pg** 18 03 59.1 0.0
MOMA S **Sb** 18 04 08.6 +0.2
MOMA AML AML
comp=E,2875µm,0.7s
MOMA AML AML
comp=N,3950µm,0.3s
MOMA AML AML
comp=E,2910µm,0.7s
MOMA AML AML
comp=N,3825µm,0.3s
MOMA AML AML
comp=E,2910µm,1.3s
MOMA AML AML
comp=E,2875µm,1.3s
MOMA AML AML
comp=N,3949µm,0.3s
MOMA AML AML
comp=N,3826µm,0.3s
MOMA AML AML
comp=E,2828µm,0.2s
MOMA AML AML
comp=E,2706µm,0.2s
PTQR Pietraquaria 0.58 172 ⇑P **Pg** 18 03 58.5 -0.9
PTQR AML AML
comp=E,1870µm,0.4s
PTQR AML AML
comp=N,1250µm,0.3s
PTQR AML AML
comp=N,1251µm,0.3s
PTQR AML AML
comp=E,1871µm,0.4s
ASSB Assisi San Ben 0.64 314 P **Pg** 18 04 00.0 -0.4
ASSB S **Sb** 18 04 10.7 +0.1
ASSB AML AML
comp=E,2460µm,0.4s
ASSB AML AML
comp=N,2495µm,1.5s
ASSB AML AML
comp=N,2252µm,0.5s
ASSB AML AML
comp=E,2464µm,0.4s
SRES S.Oreste - Sor 0.68 238 ⇑P **Pg** 18 04 01.4 +0.2
SRES AML AML
comp=E,2165µm,0.9s
SRES AML AML
comp=N,1990µm,0.3s
SRES AML AML
comp=E,2165µm,1.1s
SRES AML AML
comp=E,2051µm,0.4s
SRES AML AML
comp=N,1991µm,0.3s
CERT Cerreto 0.69 199 ⇑P **Pg** 18 03 58.4 -3.0
SNTG Esanatoglia 0.70 339 ⇓P **Pg** 18 04 01.2 -0.4
SNTG S **Sn** 18 04 13.2 -2.0
SNTG AML AML
comp=E,1745µm,0.8s
SNTG AML AML
comp=N,1290µm,0.8s
SNTG AML AML
comp=N,1285µm,0.8s
SNTG AML AML
comp=N,1265µm,0.5s
SNTG AML AML
comp=N,1076µm,0.7s
SNTG AML AML
comp=N,1209µm,0.6s
SNTG AML AML
comp=E,1503µm,0.6s
SNTG AML AML
comp=E,1706µm,0.6s
SNTG AML AML
comp=E,1540µm,0.8s
SNTG AML AML
comp=E,1745µm,0.8s
MTCE Montecelio 0.71 215 P **Pg** 18 04 00.1 -1.6
MTCE AML AML
comp=E,3625µm,0.5s
MTCE AML AML
comp=N,1835µm,1.0s
MTCE AML AML
comp=E,3630µm,0.5s
MTCE AML AML
comp=N,1760µm,0.5s
EL6 Elcito 0.74 349 ⇑P **Pg** 18 04 01.9 -0.5
EL6 S **Sn** 18 04 14.7 -1.5
EL6 AML AML
comp=N,3750µm,1.0s
EL6 AML AML
comp=E,3360µm,1.0s
EL6 AML AML
comp=E,3360µm,1.0s
EL6 AML AML
comp=N,3620µm,0.2s
EL6 AML AML
comp=E,2992µm,0.3s
EL6 AML AML
comp=N,3755µm,1.0s
VVLD Villa Vallelon 0.77 161 ⇓P **Pg** 18 04 02.3 -0.6
VVLD AML AML
comp=E,2015µm,0.5s
VVLD AML AML
comp=N,1680µm,0.4s
VVLD AML AML
comp=N,1680µm,0.4s
VVLD AML AML
comp=E,2014µm,0.5s
CING Cingoli 0.78 355 ⇓P **Pg** 18 04 02.6 -0.5
CING AML AML
comp=E,3605µm,0.4s
CING AML AML
comp=E,3605µm,0.4s
CING AML AML
comp=N,2470µm,0.6s
CING AML AML
comp=N,1929µm,0.3s
FOSV Fossato di Vic 0.79 331 ⇑P **Pg** 18 04 03.0 -0.4
FOSV AML AML
comp=E,1497µm,0.6s
FOSV AML AML
comp=E,1500µm,0.6s
FOSV AML AML
comp=N,1725µm,0.4s
FOSV AML AML
comp=N,1725µm,0.4s
GUAR Guarcino 0.81 179 ⇑P **Pg** 18 04 04.2 +0.6
GUAR AML AML
comp=E,2955µm,1.0s
GUAR AML AML
comp=N,2815µm,1.3s
GUAR AML AML
comp=E,2955µm,1.0s
GUAR AML AML
comp=N,2504µm,0.4s
GUAR AML AML
comp=N,2815µm,0.7s
GUAR AML AML
comp=E,2270µm,0.5s
PP3 Marolino 0.81 17 P **Pg** 18 04 02.4 -1.3
PP3 AML AML
comp=E,8405µm,0.7s
PP3 AML AML
comp=N,4675µm,0.5s
PP3 AML AML
comp=E,8400µm,0.8s
PP3 AML AML
comp=E,8402µm,0.8s
PP3 AML AML
comp=E,8459µm,0.8s
PP3 AML AML
comp=E,8460µm,0.8s
PP3 AML AML
comp=N,4677µm,0.5s
PP3 AML AML
comp=N,4675µm,0.5s
PP3 AML AML
comp=N,4676µm,0.5s
RMP Rome, Mte Porz 0.90 209 ⇓P **Pn** 18 04 07.4 +0.5
RMP AML AML
comp=E,3280µm,1.4s
RMP AML AML
comp=E,2891µm,0.5s
RMP AML AML
comp=N,3950µm,1.4s
RMP AML AML
comp=N,3380µm,0.5s
SSFR Montelago di S 0.91 336 ⇓P **Pg** 18 04 05.2 -0.5
SSFR AML AML
comp=N,2620µm,1.3s
SSFR AML AML
comp=N,2580µm,1.3s
SSFR AML AML
comp=E,2375µm,0.3s
SSFR AML AML
comp=N,2580µm,0.7s
SSFR AML AML
comp=N,2620µm,0.7s
SSFR AML AML
comp=N,2303µm,0.3s
SSFR AML AML
comp=N,2319µm,0.2s
SSFR AML AML
comp=E,2220µm,0.3s
SSFR AML AML
comp=E,2375µm,0.3s
SSFR AML AML
comp=E,2218µm,0.3s
MGAB Montegabbione 0.92 290 P **Pb** 18 04 06.0 -0.2
MGAB AML AML
comp=E,2850µm,0.8s
MGAB AML AML
comp=N,2410µm,0.3s
MGAB AML AML
comp=E,2970µm,0.8s
MGAB AML AML
comp=N,2934µm,0.4s
MGAB AML AML
comp=N,2935µm,0.4s
MGAB AML AML
comp=N,2407µm,0.3s
MGAB AML AML
comp=E,2850µm,0.8s
MGAB AML AML
comp=E,2971µm,0.8s
ARVD Arcevia 0.93 344 ⇓P **Pg** 18 04 05.3 -0.7
ARVD S **Sn** 18 04 20.6 -0.2
ARVD AML AML
comp=E,1250µm,1.0s
ARVD AML AML
comp=E,975µm,0.5s
ARVD AML AML
comp=N,1220µm,0.6s
AOI Ancona 0.97 13 ⇑P **Pb** 18 04 06.6 -0.6
AOI AML AML
comp=E,1610µm,0.9s
AOI AML AML
comp=N,1344µm,0.3s
AOI AML AML
comp=N,1440µm,1.1s
AOI AML AML
comp=E,1558µm,0.3s
GIUL Giuliano Di Ro 1.04 181 ⇑P **Pg** 18 04 08.8 +0.7
GIUL AML AML
comp=E,912µm,0.6s
GIUL AML AML
comp=E,912µm,0.6s
GIUL AML AML
comp=N,1071µm,0.5s
GIUL AML AML
comp=N,1070µm,0.5s
SACS San Casciano d 1.05 284 ⇓P **Pn** 18 04 10.3 +1.3
SACS AML AML
comp=E,932µm,0.6s
SACS AML AML
comp=E,959µm,0.6s
SACS AML AML
comp=N,1148µm,0.7s
SACS AML AML
comp=N,1168µm,0.6s
SACS AML AML
comp=E,932µm,1.4s
SACS AML AML
comp=E,931µm,0.6s
SACS AML AML
comp=E,956µm,0.6s
SACS AML AML
comp=E,959µm,1.4s
SACS AML AML
comp=N,1149µm,0.7s
SACS AML AML
comp=N,1170µm,0.6s
COR1 Corinaldo 1.05 348 ⇑P **Pn** 18 04 08.9 -0.1
COR1 AML AML
comp=E,2085µm,0.7s
COR1 AML AML
comp=N,3205µm,0.5s
COR1 AML AML
comp=N,3204µm,0.5s
COR1 AML AML
comp=E,4375µm,0.7s
COR1 AML AML
comp=E,2085µm,0.7s
COR1 AML AML
comp=N,5734µm,1.3s
PIEI Pieia 1.09 330 ⇓P **Pn** 18 04 08.8 -0.7
PIEI AML AML
comp=N,1027µm,0.5s
PIEI AML AML
comp=E,1295µm,0.4s
PIEI AML AML
comp=N,1027µm,1.5s
PIEI AML AML
comp=N,1027µm,0.5s
PIEI AML AML
comp=E,1296µm,0.4s
TOLF Tolfa 1.10 241 ⇑P **Pb** 18 04 09.1 -0.1
TOLF AML AML
comp=E,1585µm,0.7s
TOLF AML AML
comp=N,1495µm,0.8s
TOLF AML AML
comp=N,1499µm,0.8s
TOLF AML AML
comp=N,1495µm,1.2s
TOLF AML AML
comp=E,1584µm,0.7s
TOLF AML AML
comp=E,1585µm,1.3s
CERA Filignano 1.14 151 ⇓P **Pb** 18 04 08.7 -1.3
CERA AML AML
comp=N,1660µm,0.8s
CERA AML AML
comp=N,1675µm,0.8s
CERA AML AML
comp=E,1265µm,0.9s
CERA AML AML
comp=E,1285µm,0.9s
CERA AML AML
comp=N,1674µm,0.8s
CERA AML AML
comp=N,1660µm,0.8s
BADI Badiali 1.19 320 ⇑P **Pg** 18 04 10.9 0.0

BADI AML AML
comp=E,46μm,1.0s
BADI AML AML
comp=N,886μm,0.5s
BADI AML AML
comp=N,886μm,0.5s
BADI AML AML
comp=E,46μm,0.4s
MIDA Miranda 1.20 143 ⇑P **Pn 18 04 09.5 -1.5**
MIDA AML AML
comp=N,734μm,0.7s
MIDA AML AML
comp=N,837μm,0.9s
MIDA AML AML
comp=N,837μm,1.1s
MIDA AML AML
comp=N,836μm,0.9s
MIDA AML AML
comp=N,732μm,0.7s
MIDA AML AML
comp=E,925μm,0.8s
MIDA AML AML
comp=E,925μm,0.8s
MIDA AML AML
comp=E,947μm,0.8s
MIDA AML AML
comp=E,948μm,0.8s
MCIV Monte Civitell 1.20 279 ⇓P **Pb 18 04 10.8 -0.3**
MCIV AML AML
comp=N,360μm,0.5s
MCIV AML AML
comp=E,506μm,0.7s
MCIV AML AML
comp=E,505μm,0.7s
MCIV AML AML
comp=N,360μm,0.5s
MAON Monte Argentar 1.61 265 ⇓P **Pn 18 04 16.7 +0.1**
MAON AML AML
comp=E,199μm,0.6s
MAON AML AML
comp=N,186μm,1.6s
MELA Melanico ??? S 1.63 123 ⇑P **Pb 18 04 18.3 -0.1**
RUFI Rufina 1.80 314 ⇓P **Pb 18 04 20.9 -0.2**
APRC Apricena 1.88 116 ⇑P **Pb 18 04 22.1 -0.4**
SGRT San Giovanni R 2.01 114 ⇓P **Pn 18 04 22.8 +0.5**
SGRT AML AML
comp=N,351μm,0.5s
SBPO S.Benedetto Po 2.99 326 S **Sn 18 05 08.3 -3.2**
STON Ston 3.26 84 P **Pn 18 04 40.4 +1.1**
STON Ston 3.26 84 *e*Pn **Pn 18 04 39.7 +0.4**
STON *e*Sn **Sn 18 05 19.5 +1.3**
NOCI Noci 3.36 121 ⇓P **Pn 18 04 42.3 +1.6**
BLY Banja Luka 3.55 51 *e*Pn **Pn 18 04 44.4 +1.1**
LJU Ljubljana 3.55 14 ⇓P **Pn 18 04 45.3 +1.9**
CTI Castel Tesino 3.64 342 P **Pn 18 04 46.0 +1.4**
MPRI Monte Prat 3.65 357 P **Pn 18 04 41.9 -2.8**
MPRI S **Sb 18 05 39.9 +2.9**
MPRI AML AML
comp=E,111μm,0.3s
MPRI AML AML
comp=N,207μm,0.7s
MPRI AML AML
comp=N,237μm,0.6s
MPRI AML AML
comp=E,119μm,0.5s
ORZI Orzinuovi 3.71 320 S **Sb 18 05 35.3 -3.4**
TREB Trebinje 3.73 87 *e*Pn **Pn 18 04 47.1 +1.2**
TREB *e*Sn **Sn 18 05 30.1 +0.2**
LUSI Trento, Gardas 3.76 334 ⇑P **Pn 18 04 47.6 +1.4**
GAGG Gaggia 3.86 335 ⇓P **Pn 18 04 49.2 +1.4**
ZONE Zone 3.90 325 S **Sn 18 05 36.9 +2.8**
OBKA Obir 4.01 13 *i* Pn **Pn 18 04 50.8 +1.0**
comp=E,0.5nm,0.2s
MYKA Terra Mystica 4.04 3 *i* Pn **Pn 18 04 51.3 +1.2**
comp=E,0.7nm,0.2s
MILN Milano 4.10 316 S **Sn 18 05 43.1 +4.1**
ABTA Abfaltersbach 4.18 353 *e*Pn **Pn 18 04 53.2 +1.1**
comp=E,3.3nm,0.4s,SNR=38
SOKA Soboth 4.26 16 *i* Pn **Pn 18 04 55.2 +2.0**
comp=E,1.3nm,0.2s
PDG Podgorica 4.41 90 *e*Pn **Pn 18 04 56.9 +1.7**
PDG *e*Sn **Sn 18 05 47.4 +0.8**
RISI Rein 4.43 349 ⇓P **Pn 18 04 58.9 +3.2**
KBA Koelnbreinsper 4.48 0 *i* Pn **Pn 18 04 56.4 +0.2**
comp=E,5.2nm,0.4s
BBLS Lazići 4.64 72 *e*Pn **Pn 18 05 00.2 +1.8**
FETA Feichten 4.78 338 *i* Pn **Pn 18 05 03.6 +3.3**
comp=E,2.0nm,0.4s
WTTA Wattenberg 4.81 346 *i* Pn **Pn 18 05 02.5 +1.7**
comp=E,0.7nm,0.2s
DAVOX Davos/Dischmat 4.83 331 Pn **Pn 18 05 04.1 +3.0**
comp=E,2.5nm,0.3s,baz=148,slow=18,SNR=20
DAVOX Sn **Sn 18 05 59.8 +2.5**
comp=E,0.9nm,0.3s,baz=127,slow=23,SNR=1.5
comp=E,5.0nm,0.3s
SQTA Sankt Quirin 4.85 343 *i* Pn **Pn 18 05 03.6 +2.4**
comp=E,2.8nm,0.2s,SNR=6.7
WATA Walderalm 4.89 346 *i* Pn **Pn 18 05 04.4 +2.5**
comp=E,2.5nm,0.4s
ARSA Arzberg 4.91 18 *e*Pn **Pn 18 05 02.1 +0.1**
comp=E,1.1nm,0.4s
SJES Sjenica 4.95 80 *e*Pn **Pn 18 05 04.9 +2.2**
SJES *e*Sn **Sn 18 06 02.2 +2.1**
MOTA Moosalm 4.99 343 *i* Pn **Pn 18 05 06.1 +2.8**
comp=E,6.0nm,0.5s
BIOA Bad Ischl, Aus 5.10 3 *i* Pn **Pn 18 05 05.7 +1.1**
comp=E,2.0nm,0.3s
DIVS Divíbare 5.11 71 *e*Pn **Pn 18 05 06.0 +1.1**
IVAS Ivanjica 5.12 77 *e*Pn **Pn 18 05 05.8 +0.9**
IVAS *e*Sn **Sn 18 06 04.3 +0.1**
RETA Reutte 5.20 341 *i* Pn **Pn 18 05 08.9 +2.7**
comp=E,3.5nm,0.3s
DAVA Damuels 5.27 334 *e*Pn **Pn 18 05 07.6 +0.4**
comp=E,1.2nm,0.1s
MOA Molln 5.29 7 *e*Pn **Pn 18 05 08.7 +1.4**
comp=E,2.0nm,0.3s
MOA Molln 5.29 7 *e*Pn **Pn 18 05 10.4 +3.1**
MOA *e*Sn **Sn 18 06 08.7 +0.3**
FRGS Fruska Gora 5.36 59 *e*Pn **Pn 18 05 09.2 +1.0**
TRUS Trudelj 5.43 70 *e*Pn **Pn 18 05 10.2 +1.0**
TRUS *e*Sn **Sn 18 06 14.0 +2.2**
RONA Rosalia, Austr 5.52 22 *i* Pn **Pn 18 05 11.1 +0.6**
comp=E,0.9nm,0.2s
GRUS Gruza 5.57 74 *e*Pn **Pn 18 05 12.7 +1.6**
GRUS *e*Sn **Sn 18 06 16.7 +1.4**
CONA Conrad Observa 5.63 18 *i* Pn **Pn 18 05 10.4 -1.5**
comp=E,1.2nm,0.4s
SELS Selova 5.78 81 *e*Pn **Pn 18 05 15.0 +1.0**
OHR Ohrid 5.80 102 *e*Pn **Pn 18 05 15.9 +1.6**
OHR *e*Sn **Sn 18 06 21.0 0.0**
GERES GERESS Array B 6.25 2 Pn **Pn 18 05 20.7 +0.2**
comp=E,0.3nm,0.3s,baz=172,slow=13,SNR=5.7
GERES Sn **Sn 18 06 30.4 -1.7**
comp=E,1.2nm,0.3s,baz=176,slow=23,SNR=1.9
comp=E,1.6nm,0.7s
CKRC Cesky Krumlov 6.26 6 *e*SN **Sn 18 06 29.7 -2.5**
BARS Barje 6.29 85 *e*Pn **Pn 18 05 21.9 +1.0**
BARS *e*Sn **Sn 18 06 34.2 +1.4**
FNA Florina 6.32 104 *e*Pn **Pn 18 05 22.1 +0.7**
FNA *e*Sn **Sn 18 06 31.7 -2.0**
MODS Modra-Piesok 6.42 25 *e*PN **Pn 18 05 24.1 +1.4**
PRVS Prvonek 6.49 88 *e*Pn **Pn 18 05 24.9 +1.2**
PRVS *e*Sn **Sn 18 06 38.5 +0.6**
KHC Kasperske Hory 6.53 2 *e*PN **Pn 18 05 25.3 +1.0**
KHC *e*SN **Sn 18 06 35.9 -3.1**
ZAGS Zajecar 6.65 76 *e*Pn **Pn 18 05 26.6 +0.8**
BZS Buzias 6.71 60 *e*Pn **Pn 18 05 27.0 +0.3**
ZAPS Zavoj 6.89 81 *e*Sn **Sn 18 06 46.6 -1.2**
VYHS Vyhne 7.06 32 *e*PN **Pn 18 05 34.9 +3.4**
VTS Vítosha 7.34 87 *e*Pn **Pn 18 05 36.5 +1.0**
VTS Vitosha 7.34 87 *e*Pn **Pn 18 05 37.2 +1.7**
VTS *e*Sn **Sn 18 06 57.5 -1.4**
KEST Kesra 7.51 205 Pn Pn 18 05 43.8 +5.9
comp=E,0.3nm,0.3s,baz=16,slow=7.4,SNR=2.1
comp=E,3.0nm,0.6s
CLL Collm 8.71 359 *ex* x 18 08 25.0
CLL Collm 8.71 359 *e*(Sn) Sn 18 07 10.0 -22
CLL Collm 8.71 359 *ex* x 18 07 43.0
CLL Collm 8.71 359 *ex* x 18 07 53.0
MLR Muntele Rosu 9.56 68 LR LR 18 11 04.5
comp=E,56nm,19.3s,baz=340,slow=46
EKA Eskdalemuir Ar 16.64 326 Pn **P 18 07 42.6 -1.2**
baz=131,slow=13
comp=E,2.1nm,1.0s
FINES FINESS Array B 20.37 18 P Pn 18 08 26.7 -0.1
comp=E,1.8nm,0.7s,baz=223,slow=13,SNR=1.5
comp=E,1.8nm,0.7s
GNI Garni 23.66 85 LR LR 18 21 48.5
comp=E,22nm,18.9s,baz=290,slow=46
YKA Yellowknife Ar 67.25 337 P **P 18 14 42.8 +0.5**
comp=E,0.1nm,0.3s,baz=42,slow=5.9,SNR=2.3
comp=E,0.1nm,0.3s

IDC ***18*** *18:04:17.8±0.7,40.40N×77.74E,h0km,mb4.1/17, mbtmp4.1/24,ML3.4/7,MS2.9/4,Error ellipse: s-maj=14.2km s-min=11.8km az=37.0*
MOS ***18*** *18:04:18.1±1.1,40.34N×77.78E,h14km,mb4.5/17,Error ellipse: s-maj=7.1km s-min=3.9km az=97.0*
SOME ***18*** *18:04:18.1,40.45N×77.43E,h15km,MS3.7*
KRNET ***18*** *18:04:18.7±0.1,40.51N×77.60E,mb4.6*
NEIC ***18*** *18:04:20.2±1.4,40.54N±0.05×77.74E±0.09,h10km±1km, mb4.6/41,Error ellipse: s-maj=11.7km s-min=7.2km az=246.0*
NNC ***18*** *18:04:21.7±0.9,40.64N×77.65E,h0km,mb5.0,mpv4.7, Error ellipse: s-maj=6.5km s-min=4.9km az=161.0*

ISC 18 18:04:18.0±1.4,40.45N±0.04×77.72E±0.03,h1km±9km, n265,σ1§62/302,mb4.4/42,49C-32D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.28**	**3**			**Pg**	**18 04 41.4**	**-1.3**
TARG	**Taragay, Kyrgy**	**1.28**	**3**	PG		**Pg**	**18 04 41.4**	**-1.3**
KSH	**Kashi**	**1.63**	**236**	Pn		Pg	18 04 56.9	+7.6
KSH				Sn		Sg	18 05 27.8	+17
KSH				pmax		pmax		
	comp=Z,320nm,0.7s							
KSH				smax		smax		
	comp=N,3μm,0.7s							
KSH				smax		smax		
	comp=E,4μm,0.7s							
NRN	**Naryn**	**1.63**	**308**	⇓*i*P		**Pn**	**18 04 47.3**	**-1.0**
	baz=7.0							
NRN				⇓*i*S		**Sn**	**18 05 08.6**	**-1.5**
	baz=7.0							
KDJ	**Kajisay**	**1.73**	**347**	⇓*i*P		**Pn**	**18 04 49.7**	**+0.2**
	baz=49							
KDJ				⇓*i*S		**Sb**	**18 05 11.5**	**-1.6**
	baz=49							
PRZ	**Przheval'sk**	**2.10**	**14**	⇑*i*P		**Pb**	**18 04 56.9**	**-0.2**
	baz=17							
PRZ				⇑*i*S		**Sg**	**18 05 24.4**	**-1.1**
	baz=17							
ULHL	**Ulahol**	**2.11**	**329**	P		**Pn**	**18 04 55.8**	**+1.0**
	SNR=228							
ULHL	**Ulahol**	**2.11**	**329**	⇓*i*P		**Pn**	**18 04 56.0**	**+1.2**
	baz=30							
ULHL				⇓*i*S		**Sb**	**18 05 23.0**	**-1.1**
	baz=30							
ANVS	**Anan'yevo**	**2.33**	**359**	⇑*i*P		**Pb**	**18 04 59.5**	**-1.6**
	baz=1.0							
ANVS				⇑*i*S		**Sb**	**18 05 29.2**	**-1.3**
	baz=1.0							
BOOM	**Boomskoye usch**	**2.44**	**327**	⇑*e*P		**Pn**	**18 05 00.7**	**+1.5**
	baz=28							
BOOM				⇑*i*S		**Sb**	**18 05 30.9**	**-2.6**
	baz=28							
TNSS	**Tian-Shan**	**2.65**	**348**	Pg		**Pb**	**18 05 06.5**	**-0.2**
	comp=E,717nm,0.5s							
TNSS				Lg		Lg	18 05 41.5	
	comp=E,890nm,0.7s							
TNSS	**Tian-Shan**	**2.65**	**348**	⇑*i*Pn		**Pb**	**18 05 04.9**	**-1.8**
	baz=346							
TNSS				*i* Pb		**Pg**	**18 05 06.6**	**-2.3**
	baz=346							
TNSS	**Tian-Shan**	**2.65**	**348**	*e*Pg		**Pb**	**18 05 06.5**	**-0.2**
	comp=E,717nm,0.5s							
TNSS				*e*Lg		Lg	18 05 41.5	
	comp=E,890nm,0.7s							
TNSS	**Tian-Shan**	**2.65**	**348**	⇑*i*PN		**Pb**	**18 05 04.8**	**-1.8**
SATY	**Saty**	**2.66**	**11**	Pg		**Pb**	**18 05 05.5**	**-1.1**
	comp=E,355nm,0.7s							
SATY				Lg		Lg	18 05 39.9	
	comp=E,3μm,0.9s							
SATY	**Saty**	**2.66**	**11**	⇑*i*Pn		**Pb**	**18 05 04.8**	**-1.9**
	baz=11							
SATY				*i* Pb		**Pg**	**18 05 07.0**	**-2.1**
	baz=11							
SATY	**Saty**	**2.66**	**11**	*e*Pg		**Pb**	**18 05 05.5**	**-1.1**
	comp=E,355nm,0.7s							
SATY				*e*Lg		Lg	18 05 39.9	
	comp=E,3μm,0.9s							
SATY	**Saty**	**2.66**	**11**	*c i*PN		**Pb**	**18 05 04.7**	**-1.9**
IZV	**Izvestkoviy**	**2.72**	**343**	*e*Pg		**Pb**	**18 05 08.7**	**+1.1**
	comp=E,225nm,0.5s							
IZV				*e*Lg		Lg	18 05 45.1	
	comp=E,2μm,0.6s							
MDOK	**Medeo**	**2.76**	**350**	⇑Pn		**Pb**	**18 05 06.1**	**-2.2**
	comp=E,984nm,0.5s							
MDOK				Pg		**Pg**	**18 05 08.1**	**-2.8**
	comp=E,974nm,0.5s							
MDOK				⇓Lg		Lg	18 05 44.3	
	comp=E,1μm,0.6s							
MDOK				Lg		Lg	18 05 44.7	
	comp=E,2μm,0.6s							
MDOK	**Medeo**	**2.76**	**350**	*i* Pn		**Pb**	**18 05 06.2**	**-2.2**
	baz=348							
MDOK				*i* Pb		**Pg**	**18 05 08.1**	**-2.8**
	baz=348							
MDOK	**Medeo**	**2.76**	**350**	*i* PN		**Pb**	**18 05 06.1**	**-2.2**
ZHN	**Zhinishke**	**2.77**	**11**	Pg		**Pb**	**18 05 09.3**	**+0.8**
ZHN				Lg		Lg	18 05 46.4	
ZHN	**Zhinishke**	**2.77**	**11**	⇑*i*Pn		**Pb**	**18 05 06.4**	**-2.2**
	baz=11							
ZHN				*i* Pb		**Pg**	**18 05 08.5**	**-2.7**
	baz=11							
ZHN				*e*Sb		**Sb**	**18 05 42.0**	**-1.0**
	baz=11							
ZHN	**Zhinishke**	**2.77**	**11**	*e*Pg		**Pb**	**18 05 08.8**	**+0.3**
	comp=E,419nm,0.5s							
ZHN				*e*Lg		Lg	18 05 45.5	
	comp=E,2μm,0.8s							
ZHN	**Zhinishke**	**2.77**	**11**	*c i*PN		**Pb**	**18 05 06.3**	**-2.2**
ZHN				*e*			18 05 42.0	
KOTS	**Kotyrbulak**	**2.82**	**351**	Pg		**Pb**	**18 05 09.4**	**+0.1**
	comp=E,493nm,0.4s							
KOTS				Lg		Lg	18 05 46.6	
	comp=E,3μm,0.6s							
KOTS	**Kotyrbulak**	**2.82**	**351**	*e*Pg		**Pb**	**18 05 09.4**	**+0.1**
	comp=E,493nm,0.4s							
KOTS				*e*Lg		Lg	18 05 46.5	
	comp=E,3μm,0.6s							
AAA	**Alma-Ata**	**2.82**	**348**	Pg		**Pb**	**18 05 09.4**	**+0.1**
	comp=E,1μm,0.4s							
AAA				Lg		Lg	18 05 46.4	
	comp=E,98nm,0.4s							
AAA	**Alma-Ata**	**2.82**	**348**	*e*Pn		**Pb**	**18 05 07.3**	**-2.0**
	baz=347							
AAA				*i* Pb		**Pg**	**18 05 09.7**	**-2.5**
	baz=347							
AAA	**Alma-Ata**	**2.82**	**348**	*e*Pg		**Pb**	**18 05 09.4**	**+0.1**
	comp=E,1μm,0.4s							
AAA				*e*Lg		Lg	18 05 46.4	
	comp=E,98nm,0.4s							
AAA	**Alma-Ata**	**2.82**	**348**	*e*PN		**Pb**	**18 05 07.3**	**-2.0**
KNDC	**Almaty**	**2.83**	**349**	⇑Pn		**Pb**	**18 05 07.4**	**-2.0**
	comp=E,2μm,0.6s							
KNDC				⇓Lg		Lg	18 05 46.9	
	comp=E,3μm,0.6s							
KNDC	**Almaty**	**2.83**	**349**	PN		**Pb**	**18 05 07.3**	**-2.0**
KNDC							18 05 44.5	
MTBS	**Maitube**	**2.85**	**341**	Pg		**Pb**	**18 05 09.6**	**-0.2**
	comp=E,169nm,0.5s							
MTBS				Lg		Lg	18 05 46.6	
	comp=E,1μm,0.6s							
MTBS	**Maitube**	**2.85**	**341**	*e*Pg		**Pb**	**18 05 09.6**	**-0.2**
	comp=E,169nm,0.5s							
MTBS				*e*Lg		Lg	18 05 46.6	
	comp=E,1μm,0.6s							
UZB	**Uzynbulak**	**2.87**	**19**	Pg		**Pb**	**18 05 10.9**	**+0.7**
UZB				Lg		Lg	18 05 49.2	
UZB	**Uzynbulak**	**2.87**	**19**	*i* Pn		**Pb**	**18 05 07.7**	**-2.5**
	baz=20							
UZB				*i* Pb		**Pg**	**18 05 10.3**	**-2.7**
	baz=20							
UZB	**Uzynbulak**	**2.87**	**19**	*e*Pg		**Pb**	**18 05 10.9**	**+0.7**
	comp=E,266nm,1.1s							
UZB				*e*Lg		Lg	18 05 49.2	
	comp=E,1μm,1.1s							
UZB	**Uzynbulak**	**2.87**	**19**	*i* PN		**Pb**	**18 05 07.6**	**-2.5**
KST	**Kastek**	**2.91**	**334**	Pg		**Pb**	**18 05 10.6**	**-0.2**
	comp=E,317nm,0.5s							
KST				Lg		Lg	18 05 48.9	
	comp=E,840nm,0.7s							
KST	**Kastek**	**2.91**	**334**	*e*Pg		**Pb**	**18 05 10.6**	**-0.2**
	comp=E,317nm,0.5s							
KST				*e*Lg		Lg	18 05 48.9	
	comp=E,840nm,0.7s							
ARLS	**Aral**	**2.93**	**300**	⇓*e*P		**Pn**	**18 05 07.0**	**+1.1**
	baz=0.0							
ARLS				⇓*i*S		**Sn**	**18 05 42.1**	**+0.3**
	baz=0.0							
TKM2	**Tokmak 2**	**2.94**	**328**	P		**Pn**	**18 05 08.7**	**+2.5**
	SNR=41							
TKM2	**Tokmak 2**	**2.94**	**328**	⇓Pn		**Pn**	**18 05 08.6**	**+2.5**
TKM2				⇑Lg		Lg	18 05 48.9	
	comp=E,411nm,0.7s							
	comp=E,396nm,0.5s							
TKM2	**Tokmak 2**	**2.94**	**328**	⇑*i*P		**Pn**	**18 05 07.4**	**+1.3**
	baz=29							
TKM2				⇑*i*S		**Sn**	**18 05 42.8**	**+0.6**
	baz=29							
TKM2	**Tokmak 2**	**2.94**	**328**	*i* PN		**Pn**	**18 05 08.5**	**+2.4**
TKM2				pmax		pmax		
	comp=Z,64nm,0.4s							
UCH	**Uchtor**	**3.00**	**307**	P		**Pn**	**18 05 09.2**	**+2.0**
	SNR=80							
UCH	**Uchtor**	**3.00**	**307**	⇑*i*P		**Pn**	**18 05 08.2**	**+1.0**
	baz=8.0							
UCH				⇑*i*S		**Sn**	**18 05 44.1**	**+0.1**
	baz=8.0							
SHLS	**Shalkode**	**3.01**	**25**	Pg		**Pg**	**18 05 16.1**	**+0.4**
	comp=Z,258nm,0.7s							
SHLS				Lg		Lg	18 05 57.7	
	comp=Z,716nm,0.4s							
SHLS	**Shalkode**	**3.01**	**25**	⇑*i*Pn		**Pb**	**18 05 11.7**	**-0.8**
	baz=31							
SHLS				*i* Pb		**Pg**	**18 05 15.6**	**-0.1**
	baz=31							
SHLS	**Shalkode**	**3.01**	**25**	*e*Pg		**Pg**	**18 05 16.1**	**+0.4**
	comp=Z,258nm,0.7s							
SHLS				*e*Lg		Lg	18 05 57.7	
	comp=Z,716nm,0.4s							
SHLS	**Shalkode**	**3.01**	**25**	*c i*PN		**Pb**	**18 05 11.7**	**-0.8**
SHLS				*i*			18 05 15.5	
KBK	**Karagaybulak**	**3.03**	**318**	P		**Pn**	**18 05 10.4**	**+3.0**
	SNR=222							
KBK	**Karagaybulak**	**3.03**	**318**	⇑*e*P		**Pn**	**18 05 08.4**	**+1.0**
	baz=18							
KBK				⇑*i*S		**Sn**	**18 05 44.7**	**+0.2**
	baz=18							
KURS	**Kuram**	**3.06**	**6**	Pg		**Pb**	**18 05 13.2**	**-0.2**
	comp=Z,254nm,0.6s							
KURS				Lg		Lg	18 05 52.7	
	comp=Z,855nm,0.9s							
KURS	**Kuram**	**3.06**	**6**	*e*Pg		**Pb**	**18 05 13.2**	**-0.2**
	comp=Z,254nm,0.6s							
KURS				*e*Lg		Lg	18 05 52.7	
	comp=Z,855nm,0.9s							
KPKS	**Kokpek**	**3.10**	**13**	Pg		**Pb**	**18 05 14.5**	**+0.4**
	comp=Z,283nm,0.5s							
KPKS				Lg		Lg	18 05 54.7	
	comp=Z,2μm,0.8s							
KPKS	**Kokpek**	**3.10**	**13**	⇑*i*Pn		**Pn**	**18 05 10.7**	**+2.4**
	baz=13							
KPKS				*i* Pb		**Pb**	**18 05 14.2**	**+0.1**
	baz=13							
KPKS	**Kokpek**	**3.10**	**13**	*e*Pg		**Pb**	**18 05 14.5**	**+0.4**
	comp=Z,283nm,0.5s							
KPKS				*e*Lg		Lg	18 05 54.7	
	comp=Z,2μm,0.8s							
KPKS	**Kokpek**	**3.10**	**13**	*c i*PN		**Pn**	**18 05 10.6**	**+2.4**
DGS	**Degeres**	**3.15**	**333**	Pg		**Pb**	**18 05 14.5**	**-0.4**
	comp=Z,462nm,0.7s							
DGS				Lg		Lg	18 05 55.3	
	comp=Z,586nm,0.6s							
DGS	**Degeres**	**3.15**	**333**	*e*Pg		**Pb**	**18 05 14.5**	**-0.4**
	comp=Z,462nm,0.7s							
DGS				*e*Lg		Lg	18 05 55.3	
	comp=Z,586nm,0.6s							
AAK	**Ala-Archa**	**3.26**	**313**	P		**Pn**	**18 05 13.3**	**+2.7**
	SNR=118							
AAK	**Ala-Archa**	**3.26**	**313**	Pn		**Pn**	**18 05 13.3**	**+2.7**
	comp=Z,20nm,0.3s,baz=143,slow=14,SNR=127							
AAK				Pg		**Pb**	**18 05 17.5**	**+0.6**
	comp=Z,97nm,0.3s,baz=138,slow=13,SNR=139							
AAK				Lg		Lg	18 05 59.4	
	comp=Z,129nm,0.3s,baz=290,slow=13,SNR=22							
	comp=Z,99nm,0.5s							
AAK	**Ala-Archa**	**3.26**	**313**			**Pn**	**18 05 13.0**	**+2.5**
AAK	**Ala-Archa**	**3.26**	**313**	⇑*i*P		**Pn**	**18 05 11.7**	**+1.2**
	baz=13							
AAK				⇑*i*S		**Sn**	**18 05 50.3**	**+0.2**
	baz=13							
AAK	**Ala-Archa**	**3.26**	**313**	*ce*PN		**Pn**	**18 05 13.2**	**+2.7**
AAK				pmax		pmax		
	comp=Z,227nm,1.0s							
FRU1	**Bishkek**	**3.31**	**317**	⇓*i*P		**Pn**	**18 05 12.5**	**+1.4**
	baz=17							
FRU1				⇓*i*S		**Sn**	**18 05 52.1**	**+1.0**
	baz=17							
KTBS	**Karatobe**	**3.35**	**347**	Pg		**Pb**	**18 05 18.2**	**-0.1**
	comp=Z,327nm,0.6s							
KTBS				Lg		Lg	18 06 01.2	
	comp=Z,1μm,0.6s							
KTBS	**Karatobe**	**3.35**	**347**	*e*Pg		**Pb**	**18 05 18.2**	**-0.1**
	comp=Z,327nm,0.6s							
KTBS				*e*Lg		Lg	18 06 01.2	
	comp=Z,1μm,0.6s							
CHMS	**Chumysh**	**3.38**	**320**	P		**Pn**	**18 05 14.7**	**+2.6**
	SNR=28							
CHMS	**Chumysh**	**3.38**	**320**	⇑Pn		**Pn**	**18 05 14.4**	**+2.3**
	comp=Z,19nm,0.5s							
CHMS				⇓Pg		**Pb**	**18 05 19.2**	**+0.4**
	comp=Z,459nm,0.6s							
CHMS				⇓Lg		Lg	18 06 02.4	
	comp=Z,548nm,0.6s							
CHMS	**Chumysh**	**3.38**	**320**	⇓*i*P		**Pn**	**18 05 13.4**	**+1.4**
	baz=20							
CHMS				⇓*i*S		**Sn**	**18 05 53.0**	**+0.2**
	baz=20							
CHMS	**Chumysh**	**3.38**	**320**	*i* PN		**Pn**	**18 05 14.3**	**+2.3**
CHMS				pmax		pmax		
	comp=Z,19nm,0.4s							
CHKK	**Chushkaly**	**3.45**	**351**	Pg		**Pb**	**18 05 20.1**	**+0.2**
	comp=Z,208nm,0.4s							
CHKK				Lg		Lg	18 06 04.7	
	comp=Z,449nm,0.4s							
CHKK	**Chushkaly**	**3.45**	**351**	*e*Pn		**Pn**	**18 05 15.5**	**+2.5**
	baz=350							
CHKK				*i* Pb		**Pb**	**18 05 19.9**	**0.0**
	baz=350							
CHKK	**Chushkaly**	**3.45**	**351**	*e*Pg		**Pb**	**18 05 20.1**	**+0.2**
	comp=Z,208nm,0.4s							
CHKK				*e*Lg		Lg	18 06 04.7	
	comp=Z,449nm,0.4s							
CHKK	**Chushkaly**	**3.45**	**351**	*e*PN		**Pn**	**18 05 15.4**	**+2.5**
AML	**Almayashu**	**3.47**	**300**	P		**Pn**	**18 05 16.1**	**+2.6**
	SNR=37							
AML	**Almayashu**	**3.47**	**300**	⇓*i*P		**Pn**	**18 05 14.9**	**+1.3**
	baz=0.0							
AML				⇓*e*S		**Sn**	**18 05 55.8**	**+0.3**
	baz=0.0							
KTMS	**Ketmen**	**3.58**	**32**	Pg		**Pb**	**18 05 24.5**	**+2.1**
	comp=Z,38nm,0.6s							
KTMS				Lg		Lg	18 06 12.2	
	comp=Z,271nm,0.5s							
KTMS	**Ketmen**	**3.58**	**32**	*e*Pg		**Pb**	**18 05 24.5**	**+2.1**
	comp=Z,38nm,0.6s							
KTMS				*e*Lg		Lg	18 06 12.2	
	comp=Z,271nm,0.5s							
KRBS	**Karabastau**	**3.58**	**336**	Pg		**Pb**	**18 05 22.5**	**+0.1**
	comp=Z,211nm,0.6s							
KRBS				Lg		Lg	18 06 08.4	
	comp=Z,428nm,0.8s							
KRBS	**Karabastau**	**3.58**	**336**	*e*Pg		**Pb**	**18 05 22.5**	**+0.1**
	comp=Z,211nm,0.6s							
KRBS				*e*Lg		Lg	18 06 08.4	
	comp=Z,428nm,0.8s							
KUU	**Kurty**	**3.59**	**344**	*i* Pn		**Pn**	**18 05 17.0**	**+2.1**
	baz=343							
KUU				*i* Pb		**Pb**	**18 05 22.1**	**-0.3**
	baz=343							
KUU	**Kurty**	**3.59**	**344**	*e*Pg		**Pb**	**18 05 21.7**	**-0.8**
	comp=Z,90nm,0.6s							
KUU				*e*Lg		Lg	18 06 07.3	
	comp=Z,622nm,0.8s							

BLB Baldybastay 3.69 9 Pg Pb 18 05 23.9 -0.3
comp=Z,167nm,0.3s
BLB Lg Lg 18 06 11.8
comp=Z,1µm,0.5s
EKS2 Erkin-Say 3.69 308 P Pn 18 05 19.4 +3.0
SNR=21
EKS2 Erkin-Say 3.69 308⇑*i*P Pn 18 05 17.8 +1.4
baz=8.0
EKS2 ⇑*i*S Sn 18 06 00.4 -0.3
baz=8.0
USP Ospenovka 3.70 321 P Pb 18 05 23.5 -0.8
SNR=98
USP Ospenovka 3.70 321⇓*i*P Pn 18 05 17.8 +1.3
baz=21
USP ⇓*i*S Sn 18 06 00.9 +0.1
baz=21
OHH Osh 3.76 273⇓*i*P Pn 18 05 18.7 +1.4
baz=72
OHH ⇓*i*S Sn 18 06 02.6 +0.3
baz=72
SGDS Sogindy 3.78 324 Pg Pb 18 05 25.8 +0.1
comp=Z,266nm,0.7s
SGDS Lg Lg 18 06 14.7
comp=Z,380nm,0.8s
SGDS Sogindy 3.78 324 *e*Pn Pn 18 05 21.1 +3.5
baz=322
SGDS *i* Pb Pb 18 05 25.6 -0.1
baz=322
SGDS Sogindy 3.78 324 *e*PN Pn 18 05 21.1 +3.5
MRKS Merke 4.08 306 Pg Pb 18 05 31.3 +0.6
comp=Z,62nm,0.6s
MRKS Lg Lg 18 06 23.8
comp=Z,227nm,0.6s
MRKS Merke 4.08 306 *e*Pg Pb 18 05 31.3 +0.6
comp=Z,62nm,0.6s
MRKS *e*Lg Lg 18 06 23.8
comp=Z,227nm,0.6s
DJR Jarkent 4.18 21 Pg Pb 18 05 33.7 +1.3
comp=Z,68nm,0.6s
DJR Lg Lg 18 06 27.9
comp=Z,317nm,0.4s
DJR Jarkent 4.18 21 *e*Pg Pb 18 05 33.7 +1.3
comp=Z,68nm,0.6s
DJR *e*Lg Lg 18 06 27.9
comp=Z,317nm,0.4s
ARK Arkit 4.55 289⇑*i*P Pn 18 05 29.6 +1.4
baz=89
ARK ⇑*i*S Sn 18 06 21.3 -0.5
baz=89
DRK Karamyk 4.65 260⇓*i*P Pn 18 05 30.7 +1.0
baz=59
DRK ⇓*i*S Sn 18 06 24.5 0.0
baz=59
TRKS Terek-Say 5.09 284⇑*i*P Pn 18 05 36.6 +0.9
baz=83
TRKS ⇑*i*S Sn 18 06 33.6 -1.7
baz=83
BTK Batken 5.29 268⇑*i*P Pn 18 05 40.0 +1.6
baz=67
BTK ⇑*i*S Sn 18 06 39.4 -0.7
baz=67
BTLS Baital 5.33 331 Pg Pb 18 05 53.4 +1.4
comp=Z,59nm,0.9s
BTLS Lg Lg 18 07 02.3
comp=Z,15nm,0.9s
BTLS Baital 5.33 331 *e*Pn Pn 18 05 42.2 +3.4
baz=330
BTLS Baital 5.33 331 *e*Pg Pb 18 05 53.4 +1.4
comp=Z,59nm,0.9s
BTLS *e*Lg Lg 18 07 02.3
comp=Z,15nm,0.9s
BTLS Baital 5.33 331 *e*PN Pn 18 05 42.1 +3.3
DZA Taraz 5.37 299 *e*Pn Pn 18 05 42.2 +2.8
baz=298
DZA Taraz 5.37 299 *e*PN Pn 18 05 42.1 +2.8
GAR Garm 5.88 258 Pn 18 05 47.9 +1.3
KK31 Karatay Array 6.00 299 Pn Pn 18 05 49.4 +1.3
KK31 Karatay Array 6.00 299 ⇑Pn Pn 18 05 49.0 +0.9
comp=Z,0.9nm,0.5s,baz=120,slow=13,SNR=15
KK31 ⇑Pg Pb 18 06 09.2 +5.7
comp=Z,18nm,0.5s,baz=118,slow=14,SNR=71
KK31 ⇓Lg Lg 18 07 29.2
comp=Z,44nm,0.6s,baz=113,slow=28,SNR=5.1
KK31 Karatay Array 6.00 299 PN Pn 18 05 49.4 +1.3
KKAR Karatay Array 6.00 299 Pn 18 05 49.5 +1.4
KKAR Karatay Array 6.00 299 Pn 18 05 49.7 +1.6
KKAR Karatay Array 6.00 299 PN Pn 18 05 49.7 +1.6
IUG Iuzhnay 6.03 289 *i* Pn Pn 18 05 51.2 +2.7
baz=288
IUG Iuzhnay 6.03 289 *e*Pg Pb 18 06 08.6 +4.5
comp=Z,66nm,0.7s
IUG *e*Lg Lg 18 07 28.4
comp=Z,203nm,1.1s
IUG Iuzhnay 6.03 289 *i* PN Pn 18 05 51.2 +2.7
CHGR Chuyangaron 6.85 258 Pn 18 06 00.6 +0.8
CHGR Chuyangaron 6.85 258 PN Pn 18 06 00.6 +0.8
MAKZ Makanchi 7.07 25 Pn Pn 18 06 03.9 +1.2
MAKZ Makanchi 7.07 25 ⇓Pn Pn 18 06 05.1 +2.4
comp=Z,22nm,1.2s
MAKZ ⇑Lg Lg 18 08 01.6
comp=Z,66nm,0.9s
MAKZ Makanchi 7.07 25 PN Pn 18 06 03.9 +1.2
MK31 Makanchi Array 7.16 26 Pn 18 06 05.0 +1.0
MK31 Makanchi Array 7.16 26 Pn Pn 18 06 04.7 +0.7
comp=Z,1.5nm,0.2s,baz=209,slow=12,SNR=96
MK31 Pg Pg 18 06 30.1 -5.0
comp=Z,3.4nm,0.5s,baz=194,slow=13,SNR=3.6
MK31 ⇓Sn Sn 18 07 25.6 -0.3
MK31 ⇑Lg Lg 18 08 03.3
MK31 Makanchi Array 7.16 26 *i* P Pn 18 06 05.2 +1.3
MKAR Makanchi Array 7.16 26 Pn Pn 18 06 05.0 +1.1
comp=Z,1.2nm,0.3s,baz=201,slow=15,SNR=67
MKAR Sn Sn 18 07 24.6 -1.3
comp=Z,3.8nm,0.3s,baz=206,slow=23,SNR=6.9
MKAR Lg Lg 18 08 01.6
comp=Z,3.3nm,0.3s,baz=212,slow=30,SNR=9.8
MKAR LR LR 18 08 31.3
comp=Z,52nm,18.5s,baz=256,slow=35
comp=Z,2.5nm,0.3s
MKAR Makanchi Array 7.16 26 Pn 18 06 04.9 +0.9
CHCP Chirah Chowk 7.65 209 P Pn 18 06 13.9 +3.2
WMQ Urumqi 8.15 62 *e*Pn Pn 18 06 20.3 +2.8
WMQ Sn Sn 18 07 52.9 +2.6
WMQ smax smax
comp=N,53nm,1.3s
WMQ smax smax
comp=E,42nm,1.1s
ZSN Zaisan 8.69 34 *e*Pn Pn 18 06 28.4 +3.5
baz=34
ZSN Zaisan 8.69 34 *e*P Pn 18 06 28.4 +3.5
THW Thamme Wali 9.02 214 P Pn 18 06 30.5 +1.0
KBL Kabul 9.07 232 Pn Pn 18 06 31.6 +1.4
KBL Kabul 9.07 232 P Pn 18 06 31.7 +1.4
BHK Bhakra 9.07 187 *e*P Pn 18 06 32.9 +2.7
BHK *e*S Sn 18 08 11.7 -1.3
BHK IAML 18 08 15.7
comp=N,982nm,0.4s
BHK IAML 18 08 16.1
comp=E,674nm,0.7s
SMLA Simla 9.31 183 *e*P Pn 18 06 35.1 +1.7
SMLA IAML 18 08 20.5
comp=N,60nm,0.5s
SMLA IAML 18 08 22.1
comp=E,78nm,0.5s
SEM Semipalatinsk 10.12 9 *e*Pn Pn 18 06 45.7 +1.0
baz=9.2
SEM Semipalatinsk 10.12 9 *e*P Pn 18 06 45.7 +1.0
KURBB Kurchatov Arra 10.19 3 Pn Pn 18 06 45.8 +0.3
comp=E,0.1nm,0.3s,baz=195,slow=12,SNR=18
KURBB Lg Lg 18 09 38.4
comp=E,0.4nm,0.3s,baz=52,slow=28,SNR=2.8
comp=E,0.8nm,0.3s
KURBB Kurchatov Arra 10.19 3 ⇓Pn Pn 18 06 46.0 +0.5
comp=E,5.0nm,0.6s
KURBB ⇓Lg Lg 18 09 38.3
comp=E,212nm,1.3s
KURBB Kurchatov Arra 10.19 3 P Pn 18 06 45.9 +0.5
KURK Kurchatov 10.29 3 Pn Pn 18 06 46.6 -0.1
KURK Kurchatov 10.29 3 ⇓Pn Pn 18 06 47.1 +0.4
comp=E,6.1nm,1.0s
KURK ⇓Lg Lg 18 09 40.2
comp=E,126nm,1.5s
KURK Kurchatov 10.29 3*ce*P Pn 18 06 46.5 -0.3
KURK pmax pmax
comp=Z,3.0nm,0.7s
LGTI Lohaghat 11.16 169 *e*P Pn 18 06 58.3 -0.5
LGTI *e*S Sn 18 09 00.1 -4.2
LGTI IAML 18 09 04.1
comp=N,13nm,0.2s
LGTI IAML 18 09 04.7
comp=E,13nm,0.4s
DGZ Jazzator, Alta 11.51 33 *i* P Pn 18 07 04.2 +0.5
KUDL Kundal 12.31 185 *e*P Pn 18 07 14.0 -0.6
KUDL *e*S Sn 18 09 24.0 -8.5
DANN Dangsing 13.05 156 *e*P Pn 18 07 23.5 -1.4
comp=E,24nm,0.4s
BVA0 Borovoye Array 13.54 341 *i* P Pn 18 07 31.5 +0.3
BVAR Borovoye Array 13.54 341 Pn Pn 18 07 30.2 -1.0
comp=E,0.1nm,0.3s,baz=141,slow=13,SNR=12
BVAR Lg Lg 18 11 17.6
comp=E,0.1nm,0.3s,baz=154,slow=24,SNR=5.8
BVAR LR LR 18 12 42.2
comp=E,130nm,19.9s,baz=163,slow=37
comp=E,1.0nm,0.5s
KOLN Koldanda 13.55 157 *e*P Pn 18 07 30.2 -1.4
comp=E,0.7nm,0.3s
BRVK Borovoye 13.59 341 Pn 18 07 33.4 +1.5
BRVK Borovoye 13.59 341*ce*P Pn 18 07 30.5 -1.4
BRVK pmax pmax
comp=Z,8.0nm,1.7s
GKN Gorkha 13.66 153 *e*P Pn 18 07 30.9 -2.2
comp=Z,22nm,0.4s
HRA Herat 13.70 249 Pn Pn 18 07 29.5 -4.1
GOMU GeErMu 14.07 102 P Pn 18 07 38.1 -0.9
GOMU pP P 18 07 41.4 -5.6
GOMU sP 18 07 45.8
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,62nm,5.3s
KKN Kakani 14.09 151 *e*P Pn 18 07 36.3 -2.7
comp=Z,3.9nm,0.6s
AJM Ajmer 14.16 191 *e*P Pn 18 07 38.4 -1.5
DMN Daman 14.19 152 *e*P Pn 18 07 38.3 -2.1
comp=Z,26nm,0.6s
PKIN Phulchoki 14.32 151 *e*P Pn 18 07 39.4 -2.9
comp=Z,30nm,0.5s
PKI Pulchoki 14.33 151 *e*P Pn 18 07 39.7 -2.8
comp=Z,22nm,0.5s
ZAA0 Zalesovo Array 14.33 17 Pn 18 07 41.4 -0.7
ZALV Zalesovo Beam 14.33 17 Pn Pn 18 07 41.3 -0.7
comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=10
ZALV Lg Lg 18 11 47.9
baz=300,slow=12
ZALV LR LR 18 12 53.4
comp=Z,23nm,20.1s,baz=285,slow=36
comp=Z,1.6nm,0.4s
ZALV Zalesovo Beam 14.33 17 Pn Pn 18 07 41.1 -0.9
ZALV Zalesovo Beam 14.33 17 *i* P Pn 18 07 42.0 0.0
ZALV pmax pmax
comp=Z,2.0nm,0.4s
JIRN Jiri 14.55 149 *e*P Pn 18 07 43.6 -1.9
comp=Z,33nm,0.5s
LSA Lhasa 15.34 130 Pn Pn 18 07 56.9 +0.7
LSA Lhasa 15.34 130 P Pn 18 07 56.9 +0.7
LSA pmax pmax
comp=Z,3.0nm,1.0s
RAMN Ramite 15.35 149 *e*P Pn 18 07 53.7 -2.4
AB31 Akbulak array 15.35 311 P Pn 18 07 54.2 -1.5
ABKAR Akbulak array 15.35 311 Pn 18 07 52.9 -2.9
GEYT Alibeck 15.40 267 Pn Pn 18 07 55.9 -0.8
comp=Z,0.2nm,0.3s,baz=32,slow=8.5,SNR=2.3
GEYT Sn Sn 18 10 40.2 -7.7
comp=Z,0.3nm,0.3s,baz=94,slow=14,SNR=2.1
GEYT LR LR 18 15 26.9
comp=Z,50nm,19.4s,baz=182,slow=43
comp=Z,1.0nm,0.4s
GEYT Alibeck 15.40 267 Pn Pn 18 07 53.2 -3.4
GYA0B ALIBECK ARRAY 15.40 267 Pn Pn 18 07 53.4 -3.2
TAPN Taplejung 15.46 145 *e*P Pn 18 07 56.4 -1.2
GTA Gaotai 16.98 86 *e*P Pn 18 08 17.8 +0.8
GTA pmax pmax
comp=Z,2.0nm,1.2s
AKTO Aktyubinsk 17.00 313 P Pn 18 08 17.6 +0.5
comp=Z,0.3nm,0.3s,baz=104,slow=10,SNR=9.2
comp=Z,2.7nm,0.6s
SHL Shillong 18.97 137 P P 18 08 38.6 -2.5
SHL Shillong 18.97 137 P P 18 08 38.6 -2.5
SHL pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 20.31 328 P P 18 08 55.8 +0.5
comp=Z,4.3nm,0.5s,baz=154,slow=4.8,SNR=8.3
ARU Lg Lg 18 15 00.2
baz=175,slow=22,SNR=1.8
comp=Z,4.3nm,0.5s
ARU Arti 20.31 328 P Pn 18 08 56.7 -0.6
ARU Arti 20.31 328*c i*P P 18 08 56.2 +0.9
ARU 18 09 12.8
ARU S Sn 18 12 44.0 -2.4
ARU SS SnSn 18 13 04.4 +3.6
ARU pmax pmax
comp=Z,6.0nm,0.7s
ZAK Zakamensk 20.42 52 *e*P P 18 08 57.6 +1.0
ZAK pmax pmax
comp=Z,8.0nm,0.9s
ZAK pmax pmax
comp=Z,3.0nm,0.9s
LZH Lanzhou 20.94 94 *e*P Pn 18 09 04.5 -0.5
LZH pP 18 09 09.8
LZH pmax pmax
comp=Z,19nm,1.6s
SONM Songino Array 21.78 61 P P 18 09 13.1 +1.7
comp=Z,4.9nm,0.9s,baz=262,slow=10,SNR=24
comp=Z,4.9nm,0.9s
SONM Songino Array 21.78 61 P P 18 09 11.7 +0.4
SONM Songino Array 21.78 61 P P 18 09 11.7 +0.4
SONM pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 22.22 61 P P 18 09 16.8 +0.6
ULN Ulaanbaatar 22.22 61*ce*P P 18 09 18.7 +2.5
ULN pmax pmax
comp=Z,7.0nm,1.0s
AKT Akhty 22.62 282 *e*P P 18 09 26.3 +5.9
AKT *e* 18 09 50.6
AKT pmax pmax
comp=Z,19nm,1.3s
GNI Garni 25.07 280 P P 18 09 46.1 +1.9
comp=Z,2.5nm,0.6s,baz=173,slow=17,SNR=1.8
comp=Z,2.5nm,0.6s
GNI Garni 25.07 280 P P 18 09 44.0 -0.2
GNI IAmb IAmb 18 10 02.7
comp=Z,23nm,1.4s
GNI Garni 25.07 280 P P 18 09 44.0 -0.2
GNI pmax pmax
comp=Z,23nm,1.4s
KIRV Kirov 25.52 325*ce*P P 18 09 48.3 +0.5
ONI Oni 25.64 286 P P 18 09 50.3 +1.0
ONI IAmb IAmb 18 09 57.6
comp=Z,8.1nm,1.1s
ONI Oni 25.64 286 P P 18 09 50.3 +1.0
ONI pmax pmax
comp=Z,8.0nm,1.1s
AKH Akhalkalaki 25.78 283 P P 18 09 50.6 0.0
AKH Akhalkalaki 25.78 283 P P 18 09 50.6 0.0
AKH pmax pmax
comp=Z,31nm,1.5s
KBZ Khabaz 25.93 289 *i* P P 18 09 54.6 +2.8
KBZ pmax pmax
comp=Z,4.0nm,1.7s
CMAR Chiang Mai Arr 28.53 134 P P 18 10 15.2 0.0
comp=Z,0.4nm,0.6s,baz=319,slow=9.5,SNR=2.3
comp=Z,0.4nm,0.6s
NRIK Noril'sk 29.42 7 P P 18 10 23.3 +0.5
comp=Z,1.5nm,0.3s,baz=185,slow=2.9,SNR=3.8
comp=Z,1.5nm,0.3s
NRIK Noril'sk 29.42 7 P P 18 10 23.0 +0.2
NRIK IAmb IAmb 18 10 24.1
comp=Z,5.4nm,1.1s
NRIK Noril'sk 29.42 7*ce*P P 18 10 22.9 +0.1
NRIK pmax pmax
comp=Z,17nm,2.3s
OBN Obninsk 30.79 312 *e*P P 18 10 35.6 +0.7
OBN pmax pmax
comp=Z,56nm,2.4s
KLMR Klimovskoe 31.01 324 *e*P P 18 10 36.0 -0.9
KLMR AMP 18 10 42.8
comp=Z,41nm,1.9s
KLMR Klimovskoe 31.01 324 *e*P P 18 10 36.0 -0.9
KLMR pmax pmax
comp=Z,41nm,1.9s
BR131 Keskin Array S 33.47 283 P P 18 10 59.2 +0.3
BR131 IAmb IAmb 18 11 00.6
comp=Z,7.8nm,0.8s
BR131 Keskin Array S 33.47 283 P P 18 10 59.3 +0.4
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 33.47 283 P P 18 10 59.1 +0.3
comp=Z,4.0nm,0.7s,baz=90,slow=8.1,SNR=17
comp=Z,4.0nm,0.7s
HEH HeiHe 35.67 57 *e*P P 18 11 18.1 +0.5
HEH pmax pmax
comp=Z,11nm,0.9s
FINES FINESS Array B 37.41 322 P P 18 11 32.9 +0.6
comp=Z,5.4nm,0.5s,baz=106,slow=8.8,SNR=39
comp=Z,5.4nm,0.5s
FINES FINESS Array B 37.41 322 P P 18 11 31.7 -0.6
YAK Yakutsk 37.67 37*ce*P P 18 11 33.9 -0.6
YAK pmax pmax
comp=Z,7.0nm,1.3s
KLR Kul'dur 38.57 58 P P 18 11 42.4 +0.1
comp=Z,0.9nm,0.5s,baz=296,slow=8.8,SNR=3.1
comp=Z,0.9nm,0.5s
KLR Kul'dur 38.57 58 *i* P P 18 11 43.9 +1.6
KLR pmax pmax
comp=Z,9.0nm,2.3s
ARCES ARCESS Array B 39.70 334 P P 18 11 52.2 +0.7
comp=Z,9.3nm,0.8s,baz=104,slow=8.9,SNR=21
comp=Z,9.3nm,0.8s
TIXI Tiksi 40.13 23 P P 18 11 54.7 -0.3
TIXI Tiksi 40.13 23*ce*P P 18 11 54.1 -0.9
TIXI pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 43.38 319 P P 18 12 22.1 +0.3
comp=Z,3.0nm,0.7s,baz=90,slow=5.0,SNR=3.6
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 44.55 320 P P 18 12 31.0 -0.2
comp=Z,3.6nm,0.8s,baz=88,slow=8.6
NOA NORSAR Array B 44.55 320 P P 18 12 31.3 +0.1
comp=Z,1.8nm,0.7s,baz=87,slow=7.8,SNR=6.4
comp=Z,1.8nm,0.7s
BILL Bilibino 52.70 28 *e*P P 18 13 33.8 0.0
BILL pmax pmax
comp=Z,2.0nm,1.0s
ESDC Sonseca Array 60.25 298 P P 18 14 27.2 -0.9
comp=Z,0.9nm,0.9s,baz=51,slow=6.0,SNR=2.9
comp=Z,0.9nm,0.9s
A36M Sachs Harbour 66.70 8 P P 18 15 10.0 -0.1
IMAR Indian Mountai 66.73 20 P P 18 15 10.1 -0.4
BMAR Burnt Mountain 67.78 16 P P 18 15 17.8 +0.7
BPAW Bear Paw Mtn. 68.94 21 P P 18 15 23.5 -0.9
BPAW IAmb IAmb 18 15 45.0
comp=Z,5.6nm,1.3s
MDM Murphy Dome 68.97 19 P P 18 15 24.8 +0.2
MDM IAmb IAmb 18 15 39.7
comp=Z,5.3nm,1.4s
INK Inuvik 69.06 12 P P 18 15 24.3 -0.7
INK IAmb IAmb 18 15 30.1
comp=Z,5.5nm,0.8s
INK Inuvik 69.06 12 P P 18 15 24.3 -0.7
INK pmax pmax
comp=Z,6.0nm,0.9s
C36M Paulatuk 69.34 8 P P 18 15 26.1 -0.7
KTH Kantishna Hill 69.39 21 P P 18 15 27.2 -0.1
KTH IAmb IAmb 18 15 32.7
comp=Z,4.4nm,0.9s
ILAR Eielson Array 69.45 19 P P 18 15 26.4 -1.2
comp=Z,0.5nm,0.8s,baz=324,slow=4.3,SNR=13
comp=Z,0.5nm,0.8s
PPLA Purkeypile 69.56 22 P P 18 15 28.4 0.0
M20K Styx River 70.07 23 P P 18 15 31.7 +0.1
M20K IAmb IAmb 18 16 06.7
comp=Z,9.7nm,1.4s
SKT Skwentna 70.47 22 P P 18 15 33.7 -0.1
SKT IAmb IAmb 18 15 52.3
comp=Z,3.2nm,1.0s
J26L Joseph Creek 70.47 18 P P 18 15 33.9 -0.1
J26L IAmb IAmb 18 15 41.8
comp=Z,1.9nm,0.8s
DHY Denali Highway 70.72 20 P P 18 15 34.3 -1.3
DHY IAmb IAmb 18 16 04.1
comp=Z,10nm,1.4s
RIDG Independent Ri 70.81 19 P P 18 15 34.6 -1.3
RIDG IAmb IAmb 18 15 40.6
comp=Z,6.1nm,0.9s
SCRK Sand Creek 70.82 18 P P 18 15 34.6 -1.5
SCRK IAmb IAmb 18 15 44.1
comp=Z,3.7nm,1.3s
TORD Torodi Ar. Bea 71.00 271 P P 18 15 36.6 -1.1
comp=Z,5.3nm,0.5s,baz=44,slow=5.6,SNR=2.9
comp=Z,5.3nm,0.5s
PAX Paxson 71.30 19 P P 18 15 38.4 -0.6
PAX Paxson 71.30 19 P P 18 15 38.4 -0.6
PAX pmax pmax
comp=Z,12nm,1.5s
P18K Big Mountain, 71.34 26 P P 18 15 37.4 -1.8
GHO Glory Hole Cre 71.37 21 P P 18 15 39.0 -0.4
SML Sawmill 71.51 21 P P 18 15 39.1 -1.2
SCM Sheep Creek Mo 71.76 21 P P 18 15 40.9 -0.9
SCM IAmb IAmb 18 15 46.8
comp=Z,6.7nm,0.9s
SCM Sheep Creek Mo 71.76 21 P P 18 15 40.9 -0.9
SCM pmax pmax
comp=Z,7.0nm,0.9s
M24K Tolsona, Glenn 71.84 20 P P 18 15 42.0 -0.3
BCAR Beaver Creek A 72.11 18 P P 18 15 44.1 +0.3
N25K Chitina, Valde 72.67 20 P P 18 15 48.0 +0.8
N31M Braeburn, Yuko 74.84 16 P P 18 16 00.0 +0.2
N31M IAmb IAmb 18 16 05.3
comp=Z,7.8nm,0.8s
HYT Haines Junctio 75.06 17 P P 18 16 01.6 +0.4
HYT IAmb IAmb 18 16 07.1
comp=Z,5.7nm,0.7s
YKA Yellowknife Ar 76.93 6 P P 18 16 11.0 -0.7
comp=Z,1.9nm,0.5s,baz=344,slow=5.8,SNR=29
comp=Z,1.9nm,0.5s
WRA Warramunga Arr 79.87 127 P P 18 16 28.4 -0.2
comp=Z,0.9nm,0.6s,baz=322,slow=5.3,SNR=13
comp=Z,0.9nm,0.6s
WRA Warramunga Arr 79.87 127 P P 18 16 29.4 +0.8
WRA Warramunga Arr 79.87 127 *i* P P 18 16 31.2 +2.6
WRA pmax pmax
comp=Z,1.0nm,0.6s
WR0 Warramunga Arr 80.01 127 P P 18 16 29.6 +0.3
WR0 IAmb IAmb 18 16 29.9
comp=Z,5.4nm,1.1s
ASAR Alice Springs 82.45 130 P P 18 16 42.0 -0.3
comp=Z,1.2nm,0.7s,baz=315,slow=5.2,SNR=16
comp=Z,1.2nm,0.7s
ASAR Alice Springs 82.45 130 P P 18 16 42.1 -0.1
ASAR Alice Springs 82.45 130 P P 18 16 42.0 -0.3

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*ISK **18** 18:08:58.7, 39.°55N×26.°10E, h7km, ML2.8/15*
*THE **18** 18:08:59.4, 39.°57N×26.°08E, h2km±2km, ML2.3/5, Error ellipse: s-maj=3.3km s-min=1.0km az=122.0*
*ATH **18** 18:08:59.9, 39.°53N×26.°08E, h13km±5km, ML2.2/1, Error ellipse: s-maj=7.8km s-min=1.1km az=257.0*
*DDA **18** 18:08:59.0±0.0, 39.°54N×26.°13E, h7km, ML2.6*
ISC 18 18:08:58.4±0.8**, 39.°53N**±0.°02×**26.°10E**±0.°02**, h13**km±5km**, n40, σ0.s50**/72**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**133**	P	**Pg**	**18 09 00.9**	**0.0**
KOCA				S	**Sg**	**18 09 02.0**	**-0.7**
KOCA				*i* AML	AML	18 09 02.0	
	comp=N,6µm,0.4s						
KOCA				*i* AML	AML	18 09 02.0	
	comp=E,4µm,0.1s						
GPNR	**Gulpinar-Canak**	**0.08**	**160**	Pg	**Pg**	**18 09 01.5**	**+0.3**
GPNR				Sg	**Sg**	**18 09 03.2**	**+0.1**
BOZC	**Bozcaada**	**0.31**	**354**	Pg	**Pb**	**18 09 05.4**	**-0.5**
BOZC				Sg	**Sg**	**18 09 09.9**	**+0.7**
BOZC	**Bozcaada**	**0.31**	**354**	P	**Pb**	**18 09 05.3**	**-0.6**
BOZC				P	**Pb**	**18 09 05.3**	**-0.6**
BOZC				S	**Sg**	**18 09 09.6**	**+0.4**
BOZC				S	**Sb**	**18 09 09.7**	**-1.1**
BOZC				*i* AML	AML	18 09 10.0	
	comp=N,687nm,0.3s						
BOZC				*i* AML	AML	18 09 10.0	
	comp=E,791nm,0.3s						
BOZC				*i* AML	AML	18 09 10.0	
	comp=E,882nm,0.3s						
EZN	**Ezine**	**0.34**	**31**	P	**Pg**	**18 09 05.7**	**+0.3**
EZN				S	**Sg**	**18 09 10.0**	**-0.1**
	2µm,0.4s						
EZN	**Ezine**	**0.34**	**31**	Pg	**Pg**	**18 09 05.6**	**+0.2**
EZN				Sg	**Sg**	**18 09 10.6**	**+0.5**

SIGR	**SIGRI**	**0.37**	**210**	P	**Pb**	**18 09 06.9**	**+0.1**
SIGR				S	**Sb**	**18 09 12.4**	**-0.1**
	622nm,0.5s						
SIGR	**SIGRI**	**0.37**	**210**	Pg	**Pb**	**18 09 06.4**	**-0.4**
SIGR				Sg	**Sb**	**18 09 12.5**	**-0.1**
SIGR	**SIGRI**	**0.37**	**210**	P	**Pb**	**18 09 07.0**	**+0.1**
SIGR				S	**Sb**	**18 09 12.4**	**-0.1**
SIGR				AML	AML	18 09 13.4	
	comp=E,950μm,0.3s						
SIGR				AML	AML	18 09 14.0	
	comp=N,1279μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.41**	**59**	P	**Pg**	**18 09 06.6**	**+0.1**
BAYC				S	**Sg**	**18 09 11.8**	**-0.3**
BAYC				*i* AML	AML	18 09 12.0	
	comp=N,491nm,0.1s						
AYVA	**Ayvalik**	**0.51**	**116**	P	**Pg**	**18 09 08.4**	**-0.1**
AYVA				S	**Sb**	**18 09 16.4**	**-0.1**
ECEA	**Canakkale, Ece**	**0.52**	**7**	P	**Pb**	**18 09 09.1**	**-0.2**
ECEA				S	**Sb**	**18 09 16.6**	**-0.1**
ECEA				*i* AML	AML	18 09 17.0	
	comp=N,324nm,0.3s						
ECEA				*i* AML	AML	18 09 17.0	
	comp=N,378nm,0.3s						
GOKA	**anakkale-Gk**	**0.67**	**348**	P	**Pn**	**18 09 14.2**	**+0.5**
GOKA				S	**Sg**	**18 09 20.1**	**-0.4**
GADA	**Gvkgeada**	**0.68**	**347**	Pg	**Pb**	**18 09 11.8**	**-0.3**
GADA				Sg	**Sb**	**18 09 21.1**	**-0.2**
BUHA	**Balikesir, Bur**	**0.76**	**92**	P	**Pb**	**18 09 13.4**	**-0.1**
BUHA				S	**Sb**	**18 09 23.7**	**0.0**
BUHA				*i* AML	AML	18 09 25.0	
	comp=N,197nm,0.3s						
DKL	**Dikili**	**0.78**	**126**	Pg	**Pn**	**18 09 14.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.91**	**18**	Pg	**Pg**	**18 09 16.0**	**-0.1**
GELI				Sg	**Sn**	**18 09 28.9**	**-1.0**
ZEDA	**zmir-Bergama**	**0.95**	**126**	P	**Pn**	**18 09 17.8**	**+0.4**
ZEDA				S	**Sn**	**18 09 31.9**	**+1.1**
LPK	**Lapseki**	**0.98**	**31**	Pg	**Pg**	**18 09 17.4**	**0.0**
LPK				Sg	**Sn**	**18 09 31.4**	**-0.3**
SMTH	**Samothraki Isl**	**1.03**	**335**	P	**Pg**	**18 09 18.6**	**+0.2**
SMTH				S	**Sg**	**18 09 31.7**	**-0.2**
	comp=N,92nm,0.3s						
SMTH	**Samothraki Isl**	**1.03**	**335**	P	**Pg**	**18 09 18.8**	**+0.4**
SMTH				S	**Sn**	**18 09 32.9**	**-0.1**
PSRA	**Psara**	**1.07**	**203**	P	**Pg**	**18 09 19.5**	**+0.4**
ERIK	**Erikli-Kesan**	**1.18**	**16**	Pn	**Pg**	**18 09 21.4**	**+0.2**
BALY	**Balya**	**1.19**	**79**	P	**Pg**	**18 09 21.3**	**-0.1**
BALY				S	**Sg**	**18 09 36.7**	**-0.2**
BALY				*i* AML	AML	18 09 38.0	
	comp=N,151nm,0.6s						
BALY				*i* AML	AML	18 09 40.0	
	comp=N,110nm,0.5s						
ENEZ	**Enez**	**1.20**	**2**	Pn	**Pg**	**18 09 22.2**	**+0.6**
ENEZ				Sn	**Sg**	**18 09 38.8**	**+1.5**
URLA	**Izmir**	**1.23**	**161**	Pn	**Pg**	**18 09 21.9**	**-0.3**
URLA	**Izmir**	**1.23**	**161**	P	**Pg**	**18 09 21.9**	**-0.3**
URLA				S	**Sg**	**18 09 38.5**	**+0.3**
URLA				*i* AML	AML	18 09 42.0	
	comp=N,102nm,0.7s						
URLA				*i* AML	AML	18 09 45.0	
	comp=N,95nm,0.6s						
STEP	**BALIKESIR_Sava**	**1.26**	**97**	P	**Pg**	**18 09 22.9**	**+0.2**
STEP				S	**Sg**	**18 09 41.0**	**+1.8**
STEP				*i* AML	AML	18 09 45.0	
	comp=N,94nm,0.5s						
GONE	**Gonen-Balikesi**	**1.33**	**67**	Pn	**Pg**	**18 09 23.9**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**1.33**	**166**	P	**Pb**	**18 09 23.0**	**-0.1**
ZEYE				S	**Sg**	**18 09 41.3**	**0.0**
ALN	**Alexandroupoli**	**1.36**	**358**	P	**Pb**	**18 09 24.0**	**+0.2**
ALN				S	**Sg**	**18 09 42.4**	**0.0**
	comp=N,182nm,0.4s						
ALN	**Alexandroupoli**	**1.36**	**358**	Pn	**Pb**	**18 09 24.1**	**+0.2**
ALN				Sn	**Sg**	**18 09 42.7**	**+0.3**
ALN	**Alexandroupoli**	**1.36**	**358**	P	**Pb**	**18 09 24.0**	**+0.2**
KESN	**Edirne-Kesan**	**1.37**	**19**	P	**Pg**	**18 09 24.4**	**-0.4**
KESN				S	**Sb**	**18 09 41.7**	**+0.1**
KESN				*i* AML	AML	18 09 46.0	
	comp=N,118nm,0.5s						
KESN				*i* AML	AML	18 09 46.0	
	comp=N,138nm,0.2s						
BALB	**Balikesir**	**1.38**	**85**	Pn	**Pg**	**18 09 24.5**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.42**	**35**	Pn	**Pb**	**18 09 25.0**	**+0.2**
EDC	**Edincik**	**1.58**	**58**	Pn	**Pb**	**18 09 27.3**	**-0.2**
DGB	**zmir**	**1.60**	**157**	P	**Pb**	**18 09 27.0**	**-0.8**
DGB				S	**Sg**	**18 09 49.3**	**-0.6**
RDO	**Rodhopi**	**1.67**	**345**	P	**Pb**	**18 09 28.9**	**-0.1**
RDO				S	**Sg**	**18 09 50.9**	**-1.2**
	comp=N,35nm,0.7s						
RDO	**Rodhopi**	**1.67**	**345**	Pn	**Pb**	**18 09 28.7**	**-0.3**

IDC ***18*** *18:09:24.6±3.5,26°.55N×96°.56E,h106km±34km,mb3.4/8, mbtmp3.8/9,Error ellipse: s-maj=37.1km s-min=13.9km az=60.0*

ISC 18 18:09:23.9±0.8,**26°.5N**±0°.1×**96°.25E**±0°.09,**h100km,n20,** σ1**°06/16,mb3.8/9,Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZH	**PanZhiHua**	**4.92**	**88**	P	Pn	18 10 23.9	-12
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
TAPN	**Taplejung**	**7.67**	**278**	*e*Pg	**Pn**	**18 11 13.1**	**-0.2**
TAPN				*e*Sg	**Sn**	**18 12 37.6**	**-1.2**
	comp=Z,31nm,0.3s						
CMAR	**Chiang Mai Arr**	**8.36**	**162**	P	**Pn**	**18 11 22.8**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=337,slow=13,SNR=12						
RAMN	**Ramite**	**8.64**	**275**	*e*Pg	**Pn**	**18 11 26.0**	**-0.4**
RAMN				*e*Sg	**Sn**	**18 13 01.6**	**-0.7**
JIRN	**Jiri**	**9.05**	**280**	*e*Pg	**Pn**	**18 11 31.6**	**-0.4**
JIRN				*e*Sg	Sn	18 13 08.6	-3.7
	comp=Z,41nm,0.3s						
PKI	**Pulchoki**	**9.73**	**279**	*e*Pg	Pn	18 11 39.9	-1.4
PKI				*e*Sg	Sn	18 13 25.4	-3.5
	comp=Z,13nm,0.3s						
PKIN	**Phulchoki**	**9.74**	**279**	*e*Pg	Pn	18 11 40.1	-1.3
PKIN				*e*Sg	Sn	18 13 26.3	-2.8
	comp=Z,42nm,0.6s						
KKN	**Kakani**	**9.86**	**280**	*e*Pg	Pn	18 11 42.1	-0.8
KKN				*e*Sg	Sn	18 13 28.4	-3.5
GKN	**Gorkha**	**10.45**	**281**	*e*Pg	Pn	18 11 49.7	-1.2
GKN				*e*Sg	Sn	18 13 41.0	-5.1
	comp=Z,11nm,0.3s						
DANN	**Dangsing**	**11.26**	**282**	*e*Pg	Pn	18 11 59.2	-2.7
DANN				*e*Sg	Sn	18 13 58.6	-7.3
	comp=Z,38nm,0.6s						
KOLN	**Koldanda**	**11.35**	**279**	*e*Pg	Pn	18 12 01.4	-1.6
KOLN				*e*Sg	Sn	18 14 03.2	-4.7
SONM	**Songino Array**	**22.76**	**18**	P	**P**	**18 14 15.4**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=212,slow=9.9,SNR=4.5						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**23.10**	**335**	P	**P**	**18 14 22.2**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=149,slow=9.4,SNR=7.5						
MKAR				PcP	**PcP**	**18 18 06.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=154,slow=4.1,SNR=2.7						
	comp=Z,0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**27.67**	**335**	P	**P**	**18 15 03.2**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=138,slow=11,SNR=1.9						
	comp=Z,0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**28.72**	**346**	P	**P**	**18 15 12.2**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=159,slow=8.4,SNR=5.6						
	comp=Z,1.4nm,0.5s						
BRTR	**Keskin Array B**	**53.11**	**301**	P	**P**	**18 18 32.6**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=109,slow=8.0,SNR=2.4						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**59.11**	**137**	P	**P**	**18 19 13.3**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=324,slow=7.2,SNR=23						
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**61.73**	**141**	P	**P**	**18 19 31.2**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=323,slow=6.5,SNR=49						
	comp=Z,0.9nm,0.4s						
GERES	**GERESS Array B**	**65.82**	**314**	P	**P**	**18 19 59.6**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=87,slow=8.4,SNR=4.0						
	comp=Z,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**88.23**	**284**	P	**P**	**18 22 04.8**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=85,slow=1.5,SNR=1.6						

ROM 18 18:16:08.5±0.1,**42°.494N**±0°.004×**13°.320E**±0°.005, **h12km,ML2.7/17,12C-3D,Error ellipse: s-maj=0.4km s-min=0.2km az=65.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.06**	**197**	P	Pg	18 16 11.3	+0.3
T1247				S	Sg	18 16 13.1	+0.4
T1247				AML	AML		
	comp=E,23550μm,0.3s						
T1247				AML	AML		
	comp=N,15300μm,0.3s						
T1247				AML	AML		
	comp=E,23545μm,0.3s						
T1247				AML	AML		
	comp=N,12203μm,0.3s						
CAMP	**Campotosto**	**0.08**	**58**	⇑P	Pg	18 16 11.6	+0.3
CAMP				S	Sg	18 16 13.4	+0.1
CAMP				AML	AML		
	comp=E,6745μm,0.8s						
CAMP				AML	AML		
	comp=N,8580μm,0.4s						
CAMP				AML	AML		
	comp=E,6745μm,1.2s						
CAMP				AML	AML		
	comp=E,5573μm,0.3s						
CAMP				AML	AML		
	comp=N,8561μm,0.4s						
RM33	**Pellescritta (**	**0.08**	**281**	P	Pg	18 16 11.6	+0.3
RM33				S	Sg	18 16 13.4	+0.2
RM33				AML	AML		
	comp=N,14350μm,1.2s						
RM33				AML	AML		
	comp=E,18050μm,0.3s						
RM33				AML	AML		
	comp=N,14350μm,0.8s						
RM33				AML	AML		
	comp=N,12038μm,0.1s						
RM33				AML	AML		
RM33				AML	AML		
	comp=E,15470μm,0.2s						
RM33				AML	AML		
	comp=N,12210μm,0.2s						
SMA1	**SAN MARTINO**	**0.14**	**5**	P	Pb	18 16 12.7	-0.4
SMA1				S	Sg	18 16 15.2	+0.7
SMA1				AML	AML		
	comp=E,18050μm,0.5s						
SMA1				AML	AML		
	comp=N,25050μm,0.3s						
SMA1				AML	AML		
	comp=N,25050μm,1.7s						
SMA1				AML	AML		
	comp=N,25047μm,0.3s						
SMA1				AML	AML		
	comp=E,12670μm,0.3s						
GIGS	**Gran Sasso**	**0.19**	**103**	⇑P	Pg	18 16 13.0	+0.2
GIGS				S	Sg	18 16 16.2	+0.5
GIGS				AML	AML		
	comp=N,758μm,0.4s						
GIGS				AML	AML		
	comp=E,794μm,0.6s						
GIGS				AML	AML		
	comp=E,738μm,0.3s						
GIGS				AML	AML		
	comp=N,726μm,0.2s						
T1218	**Civita (PG)**	**0.23**	**319**	⇑P	Pg	18 16 13.9	+0.4
T1218				AML	AML		
	comp=E,3705μm,0.4s						
T1218				AML	AML		
	comp=N,9585μm,0.2s						
T1218				AML	AML		
	comp=E,3395μm,0.4s						
T1218				AML	AML		
	comp=N,9500μm,0.2s						
T1218				AML	AML		
	comp=E,3400μm,0.4s						
T1218				AML	AML		
	comp=N,9585μm,0.2s						
T1218				AML	AML		
	comp=N,9500μm,0.2s						
T1218				AML	AML		
	comp=N,9502μm,0.2s						
T1218				AML	AML		
	comp=E,3269μm,0.2s						
T1218				AML	AML		
	comp=N,9588μm,0.2s						
T1218				AML	AML		
	comp=E,3164μm,0.2s						
LNSS	**Leonessa**	**0.23**	**298**	P	Pg	18 16 13.9	+0.4
LNSS				S	Sg	18 16 17.8	+0.9
LNSS				AML	AML		
	comp=E,8840μm,0.2s						
LNSS				AML	AML		
	comp=E,8845μm,0.2s						
LNSS				AML	AML		
	comp=N,12800μm,0.2s						
LNSS				AML	AML		
	comp=N,12826μm,0.1s						
LNSS				AML	AML		
	comp=E,8844μm,0.2s						
FIAM	**Fiamignano**	**0.27**	**214**	P	Pg	18 16 14.5	+0.4
FIAM				S	Sb	18 16 19.0	-0.9
FIAM				AML	AML		
	comp=N,1076μm,0.3s						
FIAM				AML	AML		
	comp=E,1225μm,0.5s						
FIAM				AML	AML		
	comp=E,1222μm,0.5s						
FIAM				AML	AML		
	comp=N,1076μm,0.3s						
FAGN	**Fagnano**	**0.30**	**139**	P	Pb	18 16 15.4	-0.4
FAGN				AML	AML		
	comp=E,3300μm,0.5s						
FAGN				AML	AML		
	comp=N,2560μm,0.3s						
FAGN				AML	AML		
	comp=N,2560μm,1.7s						
FAGN				AML	AML		
	comp=E,3297μm,0.5s						
FAGN				AML	AML		
	comp=N,2560μm,0.3s						
T1217	**Poggiodomo (PG**	**0.36**	**307**	P	Pg	18 16 15.9	+0.2
T1217				S	Sg	18 16 21.5	+0.8
T1217				AML	AML		
	comp=E,1790μm,0.6s						
T1217				AML	AML		
	comp=N,1630μm,0.2s						
T1217				AML	AML		
	comp=E,1495μm,0.6s						
T1217				AML	AML		
	comp=N,1755μm,1.4s						
ARRO	**Arrone**	**0.42**	**282**	⇑P	Pg	18 16 17.0	+0.2
ARRO				AML	AML		
	comp=E,1425μm,0.2s						
ARRO				AML	AML		
	comp=E,1425μm,1.8s						
ARRO				AML	AML		
	comp=N,880μm,0.2s						
ARRO				AML	AML		
	comp=N,880μm,0.2s						
ARRO				AML	AML		
	comp=E,1427μm,0.2s						
CESX	**Cesi**	**0.56**	**282**	⇑P	Pg	18 16 19.2	-0.2
CESX				AML	AML		
	comp=E,422μm,1.3s						
CESX				AML	AML		
	comp=N,419μm,1.0s						
CESX				AML	AML		
	comp=E,422μm,0.7s						
CESX				AML	AML		
	comp=E,385μm,0.3s						
CESX				AML	AML		
	comp=N,393μm,0.3s						
FDMO	**Fiordimonte**	**0.57**	**343**	⇑P	Pg	18 16 19.9	+0.3
FDMO				S	Sb	18 16 28.9	+0.4
FDMO				AML	AML		
	comp=E,336μm,0.5s						
FDMO				AML	AML		
	comp=N,342μm,0.2s						
FDMO				AML	AML		
	comp=E,336μm,1.5s						
FDMO				AML	AML		
	comp=N,342μm,0.2s						
FDMO				AML	AML		
	comp=E,332μm,0.1s						
GUMA	**Gualdo di Mace**	**0.57**	**1**	P	Pb	18 16 20.1	-0.3
GUMA				AML	AML		
	comp=E,1520μm,0.3s						
GUMA				AML	AML		
	comp=N,1150μm,0.4s						
GUMA				AML	AML		
	comp=E,1145μm,0.7s						
GUMA				AML	AML		
	comp=N,1235μm,0.3s						
GUMA				AML	AML		
	comp=E,1520μm,1.7s						
GUMA				AML	AML		
	comp=N,1235μm,1.7s						
GUMA				AML	AML		
	comp=E,1517μm,0.3s						
GUMA				AML	AML		
	comp=N,1150μm,0.5s						
GUMA				AML	AML		
	comp=E,1147μm,0.7s						
GUMA				AML	AML		
	comp=N,1234μm,0.3s						
CESI	**CESI - Serrava**	**0.59**	**329**	⇑P	Pg	18 16 20.2	+0.1
CESI				S	Sb	18 16 29.4	+0.1
CESI				AML	AML		
	comp=E,334μm,0.3s						
CESI				AML	AML		
	comp=N,846μm,0.3s						
CESI				AML	AML		
	comp=E,334μm,1.7s						
CESI				AML	AML		
	comp=N,846μm,0.3s						
CESI				AML	AML		
	comp=E,299μm,0.2s						
CERT	**Cerreto**	**0.60**	**205**	⇑P	Pg	18 16 20.2	+0.1
CERT				AML	AML		
	comp=E,504μm,0.4s						
CERT				AML	AML		
	comp=E,504μm,1.6s						
CERT				AML	AML		
	comp=N,291μm,0.7s						
CERT				AML	AML		
	comp=N,291μm,0.7s						
CERT				AML	AML		
	comp=E,505μm,0.4s						
CSP1	**Cessapalombo**	**0.60**	**352**	⇑P	Pg	18 16 20.4	+0.2
CSP1				S	Sb	18 16 29.7	+0.2
CSP1				AML	AML		
	comp=E,485μm,1.5s						
CSP1				AML	AML		
	comp=N,658μm,1.2s						
CSP1				AML	AML		
	comp=N,658μm,0.8s						
CSP1				AML	AML		
	comp=E,485μm,0.5s						
CSP1				AML	AML		
	comp=N,506μm,0.3s						
CSP1				AML	AML		
	comp=E,461μm,0.4s						
MOMA	**Monte Martano**	**0.63**	**299**	⇓P	Pb	18 16 21.2	-0.3
MOMA				S	Sb	18 16 30.8	+0.5
MOMA				AML	AML		
	comp=N,1032μm,0.2s						
MOMA				AML	AML		
	comp=E,870μm,0.2s						
MOMA				AML	AML		
	comp=E,843μm,0.2s						
MOMA				AML	AML		
	comp=N,998μm,0.2s						
MOMA				AML	AML		
	comp=E,870μm,0.1s						
MOMA				AML	AML		
	comp=E,843μm,0.2s						
MOMA				AML	AML		
	comp=N,1033μm,0.2s						
MOMA				AML	AML		
	comp=N,999μm,0.2s						
T1220	**Camerino, Fraz**	**0.64**	**345**	⇑P	Pg	18 16 21.0	+0.1
T1220				AML	AML		
	comp=E,1595μm,1.6s						
T1220				AML	AML		
	comp=N,1225μm,1.3s						
T1220				AML	AML		
	comp=E,1615μm,1.6s						
T1220				AML	AML		
	comp=E,1615μm,0.4s						
T1220				AML	AML		
	comp=N,1240μm,0.3s						
T1220				AML	AML		
	comp=E,1595μm,0.4s						
T1220				AML	AML		
	comp=N,1225μm,0.7s						
T1220				AML	AML		
	comp=N,1222μm,0.5s						
T1220				AML	AML		
	comp=N,1243μm,0.3s						
T1220				AML	AML		
	comp=E,1530μm,0.3s						
T1220				AML	AML		
	comp=E,1511μm,0.3s						
ASSB	**Assisi San Ben**	**0.73**	**319**	⇑P	Pg	18 16 22.5	-0.2
ASSB				AML	AML		
	comp=N,406μm,1.4s						
ASSB				AML	AML		
	comp=E,354μm,0.4s						
ASSB				AML	AML		
	comp=E,283μm,0.2s						
ASSB				AML	AML		
	comp=N,328μm,0.2s						
SNTG	**Esanatoglia**	**0.81**	**340**	⇓P	Pg	18 16 24.3	+0.1
SNTG				AML	AML		
	comp=E,130μm,0.5s						
SNTG				AML	AML		
	comp=N,158μm,1.1s						
SNTG				AML	AML		
	comp=N,149μm,0.4s						
SNTG				AML	AML		
	comp=E,117μm,0.2s						
EL6	**Elcito**	**0.85**	**349**	⇓P	Pg	18 16 25.0	0.0
EL6				S	Sn	18 16 39.0	+0.3
EL6				AML	AML		
	comp=N,413μm,0.3s						
EL6				AML	AML		
	comp=E,319μm,0.2s						
MGAB	**Montegabbione**	**0.98**	**296**	⇑P	Pb	18 16 27.4	0.0
MGAB				AML	AML		
	comp=E,336μm,0.5s						
MGAB				AML	AML		
	comp=N,376μm,0.4s						
MGAB				AML	AML		
	comp=N,402μm,0.3s						
MGAB				AML	AML		
	comp=E,354μm,0.4s						
MGAB				AML	AML		
	comp=N,377μm,0.4s						
MGAB				AML	AML		
	comp=N,401μm,0.3s						
MGAB				AML	AML		
	comp=E,355μm,0.4s						
MGAB				AML	AML		
	comp=E,336μm,0.5s						

ROM 18 18:16:47.5±0.1,**42°.494N**±0°.004×**13°.316E**±0°.006, **h12km±1km,ML2.4/7,2C-1D,Error ellipse: s-maj=0.5km s-min=0.2km az=227.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.05**	**194**	⇑P	Pg	18 16 50.4	+0.4
T1247				S	Sg	18 16 52.2	+0.5
T1247				AML	AML		
	comp=E,11300μm,0.5s						
T1247				AML	AML		
	comp=N,8655μm,1.2s						
T1247				AML	AML		
	comp=N,8655μm,0.8s						
T1247				AML	AML		
	comp=E,7263μm,0.3s						
T1247				AML	AML		
	comp=N,8250μm,0.1s						
RM33	**Pellescritta (**	**0.08**	**281**	⇑P	Pg	18 16 50.6	+0.4
RM33				S	Sg	18 16 52.4	+0.2
RM33				AML	AML		
	comp=E,2585μm,0.7s						
RM33				AML	AML		
	comp=E,2630μm,0.7s						
RM33				AML	AML		
	comp=N,3350μm,0.2s						
RM33				AML	AML		
	comp=N,3285μm,0.2s						
RM33				AML	AML		
	comp=N,3284μm,0.2s						
RM33				AML	AML		
	comp=N,3352μm,0.2s						
RM33				AML	AML		
	comp=E,1695μm,0.2s						

RM33					AML	AML		
	comp=E,1844µm,0.2s							
CAMP	**Campotosto**	**0.08**	**59**	⇓P	Pg	18 16 50.6	+0.3	
CAMP				S	Sg	18 16 52.5	+0.2	
CAMP				AML	AML			
	comp=E,1315µm,0.6s							
CAMP				AML	AML			
	comp=N,2750µm,0.4s							
CAMP				AML	AML			
	comp=E,1315µm,1.4s							
CAMP				AML	AML			
	comp=E,1298µm,0.4s							
CAMP				AML	AML			
	comp=N,2752µm,0.4s							
SMA1	**SAN MARTINO**	**0.14**	**6**	P	Pb	18 16 51.6	-0.6	
SMA1				S	Sg	18 16 54.3	+0.8	
SMA1				AML	AML			
	comp=N,7445µm,0.4s							
SMA1				AML	AML			
	comp=E,10655µm,0.2s							
SMA1				AML	AML			
	comp=N,7447µm,0.4s							
GIGS	**Gran Sasso**	**0.19**	**103**	P	Pg	18 16 52.0	+0.2	
GIGS				S	Sg	18 16 55.2	+0.4	
GIGS				AML	AML			
	comp=E,194µm,1.3s							
GIGS				AML	AML			
	comp=N,282µm,0.5s							
GIGS				AML	AML			
	comp=E,214µm,0.5s							
GIGS				AML	AML			
	comp=N,220µm,0.2s							
T1218	**Civita (PG)**	**0.23**	**320**	P	Pg	18 16 52.8	+0.3	
T1218				S	Sg	18 16 56.5	+0.6	
T1218				AML	AML			
	comp=E,1024µm,0.2s							
T1218				AML	AML			
	comp=N,1450µm,0.2s							
T1218				AML	AML			
	comp=E,1028µm,0.2s							
T1218				AML	AML			
	comp=E,1023µm,0.2s							
T1218				AML	AML			
	comp=N,1445µm,0.2s							
T1218				AML	AML			
	comp=N,1495µm,0.2s							
T1218				AML	AML			
	comp=E,1022µm,0.1s							
T1218				AML	AML			
	comp=N,1449µm,0.2s							
T1218				AML	AML			
	comp=E,1030µm,0.1s							
T1218				AML	AML			
	comp=N,1493µm,0.2s							
LNSS	**Leonessa**	**0.23**	**298**	P	Pg	18 16 52.9	+0.4	
LNSS				S	Sg	18 16 56.2	+0.3	
LNSS				AML	AML			
	comp=E,2070µm,0.2s							
LNSS				AML	AML			
	comp=N,2640µm,1.0s							
LNSS				AML	AML			
	comp=N,2237µm,0.1s							
LNSS				AML	AML			
	comp=E,2070µm,0.2s							
FIAM	**Fiamignano**	**0.27**	**213**	P	Pg	18 16 53.7	+0.5	
FIAM				S	Sb	18 16 58.0	-1.0	
FIAM				AML	AML			
	comp=E,347µm,0.3s							
FIAM				AML	AML			
	comp=N,449µm,0.5s							
T1217	**Poggiodomo (PG**	**0.36**	**308**	P	Pg	18 16 55.0	+0.2	
T1217				S	Sg	18 17 00.4	+0.8	
T1217				AML	AML			
	comp=E,334µm,0.2s							
T1217				AML	AML			
	comp=E,339µm,0.3s							
T1217				AML	AML			
	comp=N,341µm,0.2s							
T1217				AML	AML			
	comp=N,352µm,0.2s							
CESI	**CESI - Serrava**	**0.59**	**329**	P	Pg	18 16 59.5	+0.3	
CESI				S	Sb	18 17 08.2	-0.1	
CERT	**Cerreto**	**0.60**	**205**	P	Pg	18 16 59.1	-0.2	
CERT				AML	AML			
	comp=E,113µm,0.5s							
CERT				AML	AML			
	comp=N,88µm,0.9s							
MOMA	**Monte Martano**	**0.63**	**300**	S	Sb	18 17 09.7	+0.3	
MOMA				AML	AML			
	comp=E,354µm,0.4s							
MOMA				AML	AML			
	comp=E,340µm,0.4s							
MOMA				AML	AML			
	comp=N,299µm,0.4s							
MOMA				AML	AML			
	comp=N,314µm,0.2s							

*SOME **18** 18:26:03.6,44˚.20N×80˚.47E,h10km*
*NNC **18** 18:26:03.1±0.7,44˚.23N×80˚.50E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=7.5km s-min=4.2km az=131.0
ISC 18 18:26:02.2±2.1,44˚.11N±0˚.05×80˚.62E±0˚.07,h1km±15km,
n45,σ1§13/58,8C-6D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.64**	**291**	⇓*e*P	**Pg**	**18 26 14.5**	**0.0**
DJR	105nm,0.2s			*e*S	**Sg**	**18 26 22.6**	**-0.1**
	335nm,0.3s						
KTMS	**Ketmen**	**0.69**	**196**	*e*P	**Pn**	**18 26 20.8**	**+1.6**
KTMS	6.0nm,0.1s			*e*S	**Sn**	**18 26 31.2**	**+0.6**
	119nm,0.3s						
SHLS	**Shalkode**	**1.27**	**222**	P	**Pn**	**18 26 24.6**	**-2.5**
SHLS	11nm,0.2s			S	**Sb**	**18 26 40.1**	**-3.6**
	91nm,0.2s						
SHLS	**Shalkode**	**1.27**	**222**	*e*P	**Pn**	**18 26 24.6**	**-2.5**
SHLS	11nm,0.2s			*e*S	**Sb**	**18 26 40.1**	**-3.6**
	91nm,0.2s						
UZB	**Uzynbulak**	**1.50**	**231**	P	**Pn**	**18 26 31.3**	**+0.9**
UZB	28nm,0.3s			S	**Sb**	**18 26 51.4**	**+0.8**
	119nm,0.2s						
UZB	**Uzynbulak**	**1.50**	**231**	*e*P	**Pn**	**18 26 31.3**	**+0.9**
UZB	28nm,0.3s			*e*S	**Sb**	**18 26 51.4**	**+0.8**
	119nm,0.2s						
KPKS	**Kokpek**	**1.54**	**246**	P	**Pn**	**18 26 31.7**	**+0.8**
KPKS	49nm,0.1s			S	**Sg**	**18 26 52.3**	**+0.7**
	300nm,0.3s						
KPKS	**Kokpek**	**1.54**	**246**	*e*P	**Pn**	**18 26 31.7**	**+0.8**
KPKS	49nm,0.1s			*e*S	**Sg**	**18 26 52.3**	**+0.7**
	300nm,0.3s						
BLB	**Baldybastay**	**1.54**	**270**	P	**Pn**	**18 26 30.9**	**0.0**
BLB	36nm,0.3s			S	**Sb**	**18 26 51.1**	**-0.6**
	414nm,0.3s						
ZHN	**Zhinishke**	**1.84**	**240**	P	**Pb**	**18 26 37.0**	**+0.2**
ZHN	10.0nm,0.2s			S	**Sb**	**18 27 01.2**	**+0.9**
	276nm,0.2s						
ZHN	**Zhinishke**	**1.84**	**240**	*e*P	**Pb**	**18 26 37.0**	**+0.2**
ZHN	10.0nm,0.2s			*e*S	**Sb**	**18 27 01.2**	**+0.9**
	276nm,0.2s						
KURS	**Kuram**	**1.88**	**252**	P	**Pb**	**18 26 36.9**	**-0.4**
KURS	4.6nm,0.2s			S	**Sb**	**18 27 01.2**	**-0.1**
	82nm,0.4s						
KURS	**Kuram**	**1.88**	**252**	*e*P	**Pb**	**18 26 36.9**	**-0.4**
KURS	4.6nm,0.2s			*e*S	**Sb**	**18 27 01.2**	**-0.1**
	82nm,0.4s						
SATY	**Saty**	**1.92**	**238**	P	**Pb**	**18 26 37.8**	**-0.2**
SATY	36nm,0.3s			S	**Sb**	**18 27 02.7**	**+0.2**
	522nm,0.5s						
SATY	**Saty**	**1.92**	**238**	*e*P	**Pb**	**18 26 37.8**	**-0.2**
SATY	36nm,0.3s			*e*S	**Sb**	**18 27 02.7**	**+0.2**
	522nm,0.5s						

CHKK	**Chushkaly**	**2.63**	**266**	Pg	**Pb**	**18 26 49.5**	**-0.7**	
CHKK	3.1nm,0.2s			Lg	Lg	18 27 22.6		
	91nm,0.2s							
CHKK	**Chushkaly**	**2.63**	**266**	*e*Pg	**Pb**	**18 26 49.5**	**-0.7**	
CHKK	3.1nm,0.2s			*e*Lg	Lg	18 27 22.6		
	91nm,0.2s							
KOTS	**Kotyrbulak**	**2.69**	**252**	Pg	**Pb**	**18 26 51.4**	**+0.2**	
KOTS	3.1nm,0.2s			Lg	Lg	18 27 25.9		
	154nm,0.5s							
KOTS	**Kotyrbulak**	**2.69**	**252**	*e*Pg	**Pb**	**18 26 51.4**	**+0.2**	
KOTS	3.1nm,0.2s			*e*Lg	Lg	18 27 25.9		
	154nm,0.5s							
MDOK	**Medeo**	**2.76**	**251**	Pg	**Pb**	**18 26 52.5**	**+0.1**	
MDOK	5.7nm,0.6s			⇓Pg	**Pg**	**18 26 54.5**	**-0.6**	
MDOK	9.6nm,0.4s			Lg	Lg	18 27 27.4		
MDOK	24nm,0.7s			Lg	Lg	18 27 28.6		
MDOK	3.9nm,0.2s							
MDOK	**Medeo**	**2.76**	**251**	*e*Pg	**Pb**	**18 26 52.5**	**+0.1**	
MDOK	5.7nm,0.6s			*e*Lg	Lg	18 27 27.4		
	24nm,0.7s							
KNDC	**Almaty**	**2.80**	**253**	⇑Pg	**Pb**	**18 26 54.8**	**+1.9**	
KNDC	11nm,0.3s			⇑Lg	Lg	18 27 29.3		
	33nm,0.3s							
MAKZ	**Makanchi**	**2.87**	**19**	⇓Pn	**Pn**	**18 26 49.3**	**+0.3**	
MAKZ	1.6nm,0.8s			⇓Lg	Lg	18 27 27.4		
	6.8nm,0.4s							
KTBS	**Karatobe**	**2.87**	**263**	Pg	**Pb**	**18 26 53.8**	**-0.5**	
KTBS	1.5nm,0.3s			Lg	Lg	18 27 29.9		
	63nm,0.5s							
KTBS	**Karatobe**	**2.87**	**263**	*e*Pg	**Pb**	**18 26 53.8**	**-0.5**	
KTBS	1.5nm,0.3s			*e*Lg	Lg	18 27 29.9		
	63nm,0.5s							
TNSS	**Tian-Shan**	**2.87**	**249**	Pg	**Pb**	**18 26 54.9**	**+0.4**	
TNSS	2.0nm,0.2s			Lg	Lg	18 27 31.7		
	24nm,0.4s							
TNSS	**Tian-Shan**	**2.87**	**249**	*e*Pg	**Pb**	**18 26 54.9**	**+0.4**	
TNSS	2.0nm,0.2s			*e*Lg	Lg	18 27 31.7		
	24nm,0.4s							
MK31	**Makanchi Array**	**2.94**	**23**	⇑Pn	**Pn**	**18 26 50.1**	**+0.1**	
	0.3nm,0.2s,baz=199,slow=13,SNR=37							
MK31				⇑Lg	Lg	18 27 29.3		
	6.1nm,0.4s,baz=204,slow=28,SNR=12							
KUU	**Kurty**	**3.10**	**268**	Pg	**Pb**	**18 26 57.3**	**-0.7**	
KUU	1.4nm,0.3s			Lg	Lg	18 27 36.1		
	60nm,0.4s							
KUU	**Kurty**	**3.10**	**268**	*e*Pg	**Pb**	**18 26 57.3**	**-0.7**	
KUU	1.4nm,0.3s			*e*Lg	Lg	18 27 36.1		
	60nm,0.4s							
IZV	**Izvestkoviy**	**3.10**	**251**	Pg	**Pb**	**18 27 00.4**	**+2.2**	
IZV	0.8nm,0.1s			Lg	Lg	18 27 41.2		
	19nm,0.2s							
IZV	**Izvestkoviy**	**3.10**	**251**	*e*Pg	**Pb**	**18 27 00.4**	**+2.2**	
IZV	0.8nm,0.1s			*e*Lg	Lg	18 27 41.2		
	19nm,0.2s							
MTBS	**Maitube**	**3.19**	**254**	Pg	**Pb**	**18 27 00.2**	**+0.4**	
MTBS	2.0nm,0.2s			Lg	Lg	18 27 40.8		
	44nm,0.2s							
MTBS	**Maitube**	**3.19**	**254**	*e*Pg	**Pb**	**18 27 00.2**	**+0.4**	
MTBS	2.0nm,0.2s			*e*Lg	Lg	18 27 40.8		
	44nm,0.2s							
KST	**Kastek**	**3.55**	**254**	Pg	**Pb**	**18 27 06.0**	**+0.2**	
KST	2.6nm,0.4s			Lg	Lg	18 27 50.9		
	18nm,0.7s							
KST	**Kastek**	**3.55**	**254**	*e*Pg	**Pb**	**18 27 06.0**	**+0.2**	
KST	2.6nm,0.4s			*e*Lg	Lg	18 27 50.9		
	18nm,0.7s							
KRBS	**Karabastau**	**3.60**	**265**	Pg	**Pb**	**18 27 06.1**	**-0.5**	
KRBS	1.4nm,0.3s			Lg	Lg	18 27 51.1		
	9.1nm,0.3s							
KRBS	**Karabastau**	**3.60**	**265**	*e*Pg	**Pb**	**18 27 06.1**	**-0.5**	
KRBS	1.4nm,0.3s			*e*Lg	Lg	18 27 51.1		
	9.1nm,0.3s							
DGS	**Degeres**	**3.62**	**258**	Pg	**Pb**	**18 27 07.5**	**+0.4**	
DGS	2.0nm,0.3s			Lg	Lg	18 27 53.4		
	19nm,0.5s							
DGS	**Degeres**	**3.62**	**258**	*e*Pg	**Pb**	**18 27 07.5**	**+0.4**	
DGS	2.0nm,0.3s			*e*Lg	Lg	18 27 53.4		
	19nm,0.5s							
TKM2	**Tokmak 2**	**3.84**	**254**	⇑Pg	**Pg**	**18 27 16.7**	**+0.9**	
TKM2	3.7nm,0.5s			⇓Lg	Lg	18 28 05.7		
	15nm,0.7s							
CHMS	**Chumysh**	**4.41**	**257**	⇑Pg	**Pg**	**18 27 25.5**	**-1.2**	
CHMS	2.8nm,0.5s			⇑Lg	Lg	18 28 21.8		
	2.8nm,0.3s							
KURBB	**Kurchatov Arra**	**6.67**	**348**	⇑Lg	Lg	18 29 30.2		
	4.3nm,0.6s							
KURK	**Kurchatov**	**6.75**	**349**	⇑Lg	Lg	18 29 31.1		
	3.5nm,0.9s							
KK31	**Karatay Array**	**7.41**	**266**	Lg	Lg	18 29 55.3		
	2.2nm,0.6s,baz=75,slow=28,SNR=7.6							

IDC 18 18:37:48.0±3.4,32˚.33S×177˚.85W,h0km,mb3.8/2,
mbtmp3.8/3,ML3.4/1,Error ellipse: s-maj=76.5km
s-min=47.9km az=120.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.21**	**213**	Pn	Pn	18 39 33.3	-1.3
	0.6nm,0.3s,baz=335,slow=2.9,SNR=6.3						
URZ				Sn	Sn	18 40 54.5	-2.7
	4.1nm,0.3s,baz=295,slow=15,SNR=16						
	7.2nm,0.9s						
ASAR	**Alice Springs**	**43.17**	**269**	P	P	18 45 50.9	+0.1
	0.6nm,0.6s,baz=106,slow=7.0,SNR=18						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**44.33**	**274**	P	P	18 45 59.9	-0.2
	0.7nm,0.3s,baz=113,slow=7.7,SNR=24						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**146.99**	**339**	PKPbc	PKPbc	18 57 31.2	-0.7
	4.1nm,0.9s,baz=60,slow=3.4,SNR=3.3						

ROM 18 18:41:56.2±0.0,42˚.528N±0˚.002×13˚.211E±0˚.002,
h15km,ML2.4/4,4C-3D,Error ellipse: s-maj=0.2km
s-min=0.2km az=67.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.02**	**173**	⇓P	Pg	18 41 59.1	+0.2
RM33				S	Sg	18 42 01.0	+0.2
RM33				AML	AML		
	comp=E,4465µm,0.8s						
RM33				AML	AML		
	comp=N,5795µm,0.3s						
RM33				AML	AML		
	comp=N,5975µm,0.3s						
RM33				AML	AML		
	comp=E,4455µm,0.7s						
RM33				AML	AML		
	comp=N,5795µm,1.7s						
RM33				AML	AML		
	comp=E,4245µm,0.1s						
RM33				AML	AML		
	comp=E,4066µm,0.1s						
RM33				AML	AML		
	comp=N,4787µm,0.2s						
RM33				AML	AML		
	comp=N,4933µm,0.2s						
T1247	**Pizzolo (AQ)**	**0.11**	**143**	⇑P	Pb	18 41 59.8	-0.2

T1247				S	Sb	18 42 02.3	-0.3	
T1247				AML	AML			
	comp=E,1975µm,0.1s							
T1247				AML	AML			
	comp=N,2595µm,0.1s							
T1247				AML	AML			
	comp=E,1979µm,0.1s							
T1247				AML	AML			
	comp=N,2592µm,0.1s							
SMA1	**SAN MARTINO**	**0.14**	**42**	⇑P	Pg	18 42 00.3	+0.2	
SMA1				AML	AML			
	comp=N,3920µm,0.2s							
SMA1				AML	AML			
	comp=E,8800µm,0.2s							
SMA1				AML	AML			
	comp=N,3919µm,0.1s							
SMA1				AML	AML			
	comp=E,8797µm,0.2s							
CAMP	**Campotosto**	**0.15**	**87**	⇑P	Pg	18 42 00.2	+0.1	
CAMP				AML	AML			
	comp=E,391µm,0.3s							
CAMP				AML	AML			
	comp=N,479µm,0.4s							
T1218	**Civita (PG)**	**0.16**	**334**	P	Pg	18 42 00.5	+0.2	
T1218				S	Sg	18 42 03.5	+0.5	
T1218				AML	AML			
	comp=E,1138µm,0.2s							
T1218				AML	AML			
	comp=E,1073µm,0.1s							
T1218				AML	AML			
	comp=N,1590µm,0.2s							
T1218				AML	AML			
	comp=E,1138µm,0.2s							
T1218				AML	AML			
	comp=N,1590µm,0.2s							
T1218				AML	AML			
	comp=E,1070µm,0.1s							
T1218				AML	AML			
	comp=E,1072µm,0.1s							
T1218				AML	AML			
	comp=E,1136µm,0.2s							
T1218				AML	AML			
	comp=N,1589µm,0.2s							
T1218				AML	AML			
	comp=N,1590µm,0.2s							
FIAM	**Fiamignano**	**0.27**	**195**	⇑P	Pg	18 42 02.2	+0.2	
FIAM				S	Sb	18 42 06.7	-0.5	
FIAM				AML	AML			
	comp=N,236µm,3.8s							
FIAM				AML	AML			
	comp=E,356µm,0.3s							
FIAM				AML	AML			
	comp=N,194µm,0.3s							
GIGS	**Gran Sasso**	**0.28**	**106**	P	Pg	18 42 02.1	+0.1	
GIGS				AML	AML			
	comp=E,61µm,0.1s							
T1217	**Poggiodomo (PG**	**0.28**	**312**	⇓P	Pg	18 42 02.3	+0.2	
T1217				S	Sb	18 42 06.9	-0.6	
T1217				AML	AML			
	comp=E,212µm,0.5s							
T1217				AML	AML			
	comp=N,207µm,1.0s							
T1217				AML	AML			
	comp=N,208µm,1.0s							
T1217				AML	AML			
	comp=E,212µm,0.5s							
T1217				AML	AML			
	comp=N,145µm,0.3s							
T1217				AML	AML			
	comp=E,228µm,0.1s							
T1217				AML	AML			
	comp=E,209µm,0.1s							
FDMO	**Fiordimonte**	**0.52**	**350**	AML	AML			
	comp=E,134µm,0.7s							
FDMO				AML	AML			
	comp=N,138µm,1.3s							
FDMO				AML	AML			
	comp=E,134µm,1.3s							
FDMO				AML	AML			
	comp=N,138µm,0.7s							
T1220	**Camerino, Fraz**	**0.59**	**351**	⇓P	Pg	18 42 07.7	0.0	
T1220				AML	AML			
	comp=E,456µm,1.5s							
T1220				AML	AML			
	comp=N,476µm,0.5s							
T1220				AML	AML			
	comp=E,456µm,0.5s							
T1220				AML	AML			
	comp=N,376µm,0.2s							
T1220				AML	AML			
	comp=N,384µm,0.2s							
T1220				AML	AML			
	comp=E,394µm,0.3s							
T1220				AML	AML			
	comp=E,398µm,0.3s							
EL6	**Elcito**	**0.81**	**354**	AML	AML			
EL6	comp=N,331µm,1.6s			AML	AML			
	comp=E,351µm,1.6s							

*ROM **18** 18:42:34.0±0.1,42˚.615N±0˚.004×13˚.345E±0˚.006,*
h10km,ML3.2/35,Error ellipse: s-maj=0.5km s-min=0.3km
az=223.0
*BEO **18** 18:42:35.2±0.7,42˚.43N×13˚.25E,h0km,ML3.7/5*
*PRU **18** 18:42:38.3±0.0,42˚.66N×13˚.39E,h10km*
ISC 18 18:42:35.1±0.8,42˚.61N±0˚.02×13˚.31E±0˚.02,h4km±6km,
n87,σ1§47/112,15C-16D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.03**	**46**	P	**Pg**	**18 42 35.8**	**-0.3**
SMA1				S	**Sg**	**18 42 36.8**	**-0.1**
SMA1				AML	AML		
SMA1				AML	AML		
CAMP	**Campotosto**	**0.11**	**134**	⇑P	**Pg**	**18 42 37.0**	**-0.3**
CAMP				S	**Sg**	**18 42 38.9**	**+0.2**
CAMP				AML	AML		
	comp=E,37200µm,0.6s						
CAMP				AML	AML		
	comp=N,41950µm,0.6s						
CAMP				AML	AML		
	comp=N,41950µm,1.4s						
CAMP				AML	AML		
	comp=E,31559µm,0.2s						
CAMP				AML	AML		
	comp=N,41979µm,0.6s						
RM33	**Pellescritta (**	**0.12**	**214**	P	**Pg**	**18 42 38.0**	**+0.4**
RM33				S	**Sg**	**18 42 40.6**	**+1.4**
RM33				AML	AML		
	comp=E,62300µm,0.6s						
RM33				AML	AML		
	comp=N,56750µm,0.3s						
RM33				AML	AML		
	comp=E,61950µm,0.7s						
RM33				AML	AML		
	comp=N,54500µm,0.3s						
RM33				AML	AML		
	comp=E,62300µm,1.4s						
RM33				AML	AML		
	comp=E,61950µm,1.3s						
RM33				AML	AML		
	comp=E,48016µm,0.3s						
RM33				AML	AML		
	comp=E,45985µm,0.3s						
RM33				AML	AML		
	comp=N,56728µm,0.3s						
RM33				AML	AML		
	comp=N,54480µm,0.3s						
T1218	**Civita (PG)**	**0.15**	**293**	⇑P	**Pg**	**18 42 38.5**	**+0.3**
T1218				S	**Sg**	**18 42 41.5**	**+1.3**
T1218				AML	AML		
	comp=E,15100µm,1.0s						
T1218				AML	AML		
	comp=N,36900µm,1.0s						
T1218				AML	AML		
	comp=N,37850µm,1.0s						
T1218				AML	AML		
	comp=E,15100µm,1.0s						
T1218				AML	AML		
	comp=N,36900µm,1.0s						
T1218				AML	AML		
	comp=E,14050µm,1.0s						
T1218				AML	AML		
	comp=N,37800µm,1.0s						
T1218				AML	AML		
	comp=E,15100µm,1.0s						

T1218 AML AML
comp=N,36850µm,1.0s
T1218 AML AML
comp=E,14050µm,1.0s
T1218 AML AML
comp=E,11064µm,0.2s
T1218 AML AML
comp=E,11856µm,0.2s
T1218 AML AML
comp=N,30918µm,0.3s
T1218 AML AML
comp=N,30413µm,0.3s
T1247 Pizzolo (AQ) 0.17 182 P **Pg 18 42 38.7 +0.3**
T1247 S **Sg 18 42 41.8 +1.2**
T1247 AML AML
comp=N,40800µm,0.3s
T1247 AML AML
comp=E,45700µm,1.5s
T1247 AML AML
comp=E,45700µm,0.5s
T1247 AML AML
comp=N,40810µm,0.3s
T1247 AML AML
comp=E,43972µm,0.4s
LNSS Leonessa 0.20 268 P **Pg 18 42 39.2 +0.2**
LNSS S **Sg 18 42 43.3 +1.8**
LNSS AML AML
comp=E,20700µm,0.4s
LNSS AML AML
comp=N,18950µm,0.6s
LNSS AML AML
comp=N,18950µm,1.4s
LNSS AML AML
comp=E,20721µm,0.4s
LNSS AML AML
comp=N,14493µm,0.8s
GIGS Gran Sasso 0.25 129 P **Pg 18 42 39.5 -0.4**
GIGS S **Sg 18 42 43.1 -0.1**
GIGS AML AML
comp=E,6980µm,0.6s
GIGS AML AML
comp=N,6710µm,1.6s
GIGS AML AML
comp=N,6710µm,0.4s
GIGS AML AML
comp=E,6409µm,0.3s
GIGS AML AML
comp=N,6699µm,0.6s
T1217 Poggiodomo (PG 0.29 290 P **Pg 18 42 41.0 +0.1**
T1217 S **Sg 18 42 46.0 +1.2**
T1217 AML AML
comp=E,6590µm,0.7s
T1217 AML AML
comp=E,5625µm,0.4s
T1217 AML AML
comp=E,6590µm,0.7s
T1217 AML AML
comp=N,8035µm,0.5s
T1217 AML AML
comp=N,7940µm,0.5s
T1217 AML AML
comp=E,5620µm,0.4s
T1217 AML AML
comp=E,6590µm,1.3s
T1217 AML AML
comp=N,7935µm,0.5s
T1217 AML AML
comp=E,5620µm,1.6s
T1217 AML AML
comp=N,7939µm,0.5s
T1217 AML AML
comp=E,5620µm,0.4s
T1217 AML AML
comp=E,5801µm,0.4s
T1217 AML AML
comp=N,8037µm,0.5s
FIAM Fiamignano 0.37 202 P **Pg 18 42 42.0 -0.2**
FIAM S **Sg 18 42 47.8 +0.8**
FIAM AML AML
comp=N,6375µm,0.8s
FIAM AML AML
comp=E,6770µm,0.5s
FIAM AML AML
comp=N,6377µm,0.8s
FIAM AML AML
comp=E,6772µm,0.5s
FEMA Monte Fema 0.40 332 P **Pg 18 42 42.8 -0.1**
FEMA AML AML
comp=E,6505µm,0.6s
FEMA AML AML
comp=N,6490µm,0.7s
FEMA AML AML
comp=N,6490µm,1.3s
FEMA AML AML
comp=N,6488µm,0.7s
FEMA AML AML
comp=E,6505µm,0.6s
ARRO Arrone 0.40 266 ⇑P **Pg 18 42 42.9 +0.1**
ARRO AML AML
comp=E,3230µm,1.4s
ARRO AML AML
comp=N,3210µm,0.6s
ARRO AML AML
comp=N,2669µm,0.5s
ARRO AML AML
comp=E,3233µm,1.4s
GUMA Gualdo di Mace 0.45 3 P **Pg 18 42 43.6 -0.2**
GUMA AML AML
comp=N,8350µm,0.6s
GUMA AML AML
comp=N,8025µm,0.5s
GUMA AML AML
comp=N,8025µm,1.5s
GUMA AML AML
comp=E,10110µm,0.5s
GUMA AML AML
comp=E,11700µm,0.6s
GUMA AML AML
comp=E,11714µm,0.6s
GUMA AML AML
comp=N,8355µm,0.6s
GUMA AML AML
comp=E,10096µm,0.5s
GUMA AML AML
comp=N,8025µm,0.5s
FDMO Fiordimonte 0.46 339 ⇑P **Pg 18 42 43.7 -0.1**
FDMO AML AML
comp=E,1680µm,0.7s
FDMO AML AML
comp=N,2015µm,0.5s
FDMO AML AML
comp=N,1936µm,0.6s
FDMO AML AML
comp=E,1494µm,0.5s
CSP1 Cessapalombo 0.49 351 ⇑P **Pg 18 42 44.0 -0.4**
CSP1 AML AML
comp=E,3490µm,0.6s
CSP1 AML AML
comp=N,4560µm,0.4s
CSP1 AML AML
comp=E,3491µm,0.6s
CSP1 AML AML
comp=N,4561µm,0.5s
TRTR Tortoreto Alta 0.49 66 ⇓P **Pg 18 42 45.4 +0.9**
TRTR AML AML
comp=E,24500µm,0.4s
TRTR AML AML
comp=N,15650µm,0.9s
TRTR AML AML
comp=N,15650µm,1.1s
TRTR AML AML
comp=E,24505µm,0.4s
TRTR AML AML
comp=N,14950µm,0.4s
CESI CESI - Serrava 0.49 323 P **Pg 18 42 44.4 -0.2**
CESI AML AML
comp=E,3915µm,1.1s
CESI AML AML
comp=N,4660µm,0.3s
CESI AML AML
comp=N,4660µm,1.7s
CESI AML AML
comp=E,3915µm,0.9s
CESI AML AML
comp=N,4659µm,0.3s
CESI AML AML
comp=E,3639µm,0.5s

T1220 Camerino, Fraz 0.53 342 ⇓P **Pg 18 42 44.8 -0.4**
T1220 AML AML
comp=N,12300µm,0.4s
T1220 AML AML
comp=E,12650µm,0.5s
T1220 AML AML
comp=N,12400µm,0.4s
T1220 AML AML
comp=E,12600µm,0.4s
T1220 AML AML
comp=E,12600µm,1.6s
T1220 AML AML
comp=E,12650µm,1.5s
T1220 AML AML
comp=E,12628µm,0.5s
T1220 AML AML
comp=E,12622µm,0.5s
T1220 AML AML
comp=N,12387µm,0.4s
T1220 AML AML
comp=N,12278µm,0.4s
CESX Cesi 0.54 270 ⇑P **Pg 18 42 45.0 -0.4**
CESX S **Sb 18 42 54.7 -0.5**
CESX AML AML
comp=E,2275µm,0.3s
CESX AML AML
comp=N,3025µm,0.7s
CESX AML AML
comp=N,3025µm,1.3s
CESX AML AML
comp=N,2811µm,0.5s
CESX AML AML
comp=E,2273µm,0.3s
MOMA Monte Martano 0.58 290 ⇓P **Pg 18 42 46.4 +0.2**
MOMA S **Sb 18 42 55.8 -0.6**
MOMA AML AML
comp=E,2745µm,0.3s
MOMA AML AML
comp=N,2555µm,0.6s
MOMA AML AML
comp=E,2750µm,0.3s
MOMA AML AML
comp=E,2790µm,0.3s
MOMA AML AML
comp=N,2810µm,0.6s
MOMA AML AML
comp=N,2555µm,0.6s
MOMA AML AML
comp=E,2789µm,0.3s
MOMA AML AML
comp=E,2750µm,0.3s
MOMA AML AML
comp=N,2485µm,0.2s
MOMA AML AML
comp=N,2301µm,0.2s
PTQR Pietraquaria 0.59 173 ⇓P **Pg 18 42 46.0 -0.4**
PTQR AML AML
comp=E,1183µm,0.3s
PTQR AML AML
comp=N,1180µm,0.7s
PTQR AML AML
comp=E,1181µm,0.3s
PTQR AML AML
comp=N,1179µm,0.7s
ASSB Assisi San Ben 0.64 312 ⇓P **Pg 18 42 47.2 -0.3**
ASSB AML AML
comp=N,3255µm,0.9s
ASSB AML AML
comp=E,3225µm,0.5s
ASSB AML AML
comp=N,3255µm,1.1s
ASSB AML AML
comp=E,3222µm,0.5s
ASSB AML AML
comp=N,2971µm,0.4s
SNTG Esanatoglia 0.70 337 P **Pg 18 42 47.9 -0.6**
SNTG AML AML
comp=E,1058µm,1.3s
SNTG AML AML
comp=N,1085µm,1.2s
SNTG AML AML
comp=N,1160µm,1.2s
SNTG AML AML
comp=E,1058µm,1.3s
SNTG AML AML
comp=N,1085µm,1.2s
SNTG AML AML
comp=N,1160µm,0.8s
SNTG AML AML
comp=N,1085µm,0.8s
SNTG AML AML
comp=E,964µm,0.5s
SNTG AML AML
comp=E,915µm,0.5s
SNTG AML AML
comp=E,963µm,0.5s
SNTG AML AML
comp=N,885µm,0.5s
SNTG AML AML
comp=N,900µm,0.5s
SRES S.Oreste - Sor 0.70 238 ⇑P **Pg 18 42 48.5 0.0**
SRES S **Sn 18 43 00.4 -2.6**
SRES AML AML
comp=E,1105µm,1.6s
SRES AML AML
comp=N,1850µm,0.5s
SRES AML AML
comp=E,1041µm,0.4s
SRES AML AML
comp=N,1851µm,0.5s
CERT Cerreto 0.70 200 ⇓P **Pg 18 42 48.4 -0.2**
CERT AML AML
comp=E,2750µm,0.4s
CERT AML AML
comp=N,1735µm,0.7s
CERT AML AML
comp=N,1735µm,1.3s
CERT AML AML
comp=E,2747µm,0.4s
CERT AML AML
comp=N,1735µm,0.7s
CING Cingoli 0.77 354 P **Pg 18 42 49.2 -0.7**
CING AML AML
comp=E,2900µm,0.4s
CING AML AML
comp=N,1390µm,0.8s
CING AML AML
comp=E,2897µm,0.4s
CING AML AML
comp=N,1304µm,0.2s
FOSV Fossato di Vic 0.79 330 P **Pg 18 42 50.0 -0.3**
FOSV AML AML
comp=N,1400µm,0.6s
FOSV AML AML
comp=E,1180µm,0.7s
FOSV AML AML
comp=N,1402µm,0.6s
FOSV AML AML
comp=E,1180µm,0.7s
SSFR Montelago di S 0.91 335 ⇑P **Pg 18 42 52.0 -0.6**
SSFR AML AML
comp=E,1480µm,0.5s
SSFR AML AML
comp=N,1455µm,1.3s
SSFR AML AML
comp=N,1200µm,1.0s
SSFR AML AML
comp=N,1200µm,1.0s
SSFR AML AML
comp=E,1345µm,0.5s
SSFR AML AML
comp=E,1306µm,0.3s
SSFR AML AML
comp=E,1461µm,0.3s
SSFR AML AML
comp=N,1170µm,0.2s
SSFR AML AML
comp=N,1391µm,0.3s
ARVD Arcevia 0.93 343 ⇓P **Pg 18 42 52.2 -0.6**
ARVD S **Sn 18 43 07.3 -1.4**
ARVD AML AML
comp=N,670µm,0.8s
ARVD AML AML
comp=E,948µm,0.7s
ARVD AML AML
comp=N,670µm,1.2s
ARVD AML AML
comp=E,936µm,0.6s

ARVD AML AML
comp=N,670µm,0.8s
MGAB Montegabbione 0.93 289 ⇑P **Pb 18 42 53.8 0.0**
MGAB AML AML
comp=E,3455µm,0.6s
MGAB AML AML
comp=N,2510µm,0.6s
MGAB AML AML
comp=E,3540µm,0.6s
MGAB AML AML
comp=N,2315µm,0.5s
MGAB AML AML
comp=N,2313µm,0.5s
MGAB AML AML
comp=N,2513µm,0.6s
MGAB AML AML
comp=E,3538µm,0.6s
MGAB AML AML
comp=E,3455µm,0.6s
POFI Posta Fibreno 0.94 161 ⇑P **Pg 18 42 53.0 -0.1**
POFI AML AML
comp=E,932µm,0.6s
POFI AML AML
comp=N,823µm,0.6s
POFI AML AML
comp=N,794µm,0.6s
POFI AML AML
comp=E,908µm,0.6s
POFI AML AML
comp=N,793µm,0.6s
POFI AML AML
comp=N,823µm,0.6s
POFI AML AML
comp=E,929µm,0.6s
POFI AML AML
comp=E,909µm,0.6s
RDP Rocca di Papa 0.96 207 ⇑P **Pg 18 42 53.1 -0.4**
RDP AML AML
comp=N,4740µm,0.5s
RDP AML AML
comp=E,4370µm,0.5s
RDP AML AML
comp=N,4740µm,1.5s
RDP AML AML
comp=E,4368µm,0.5s
RDP AML AML
comp=N,4741µm,0.5s
SAMA S.Maria delle 0.98 213 ⇑P **Pb 18 42 54.3 -0.4**
SAMA AML AML
comp=E,1660µm,0.7s
SAMA AML AML
comp=N,1505µm,0.6s
SAMA AML AML
comp=N,1270µm,0.5s
SAMA AML AML
comp=E,1622µm,0.6s
FRON Frontone 1.00 335 ⇓P **Pg 18 42 53.7 -0.6**
FRON AML AML
comp=E,1009µm,0.8s
FRON AML AML
comp=N,1280µm,1.6s
FRON AML AML
comp=E,1009µm,1.2s
FRON AML AML
comp=N,1280µm,0.4s
FRON AML AML
comp=N,1171µm,0.6s
FRON AML AML
comp=E,1008µm,0.8s
GIUL Giuliano Di Ro 1.05 182 ⇓P **Pn 18 42 56.7 +0.1**
GIUL AML AML
comp=E,856µm,1.6s
GIUL AML AML
comp=N,876µm,0.5s
GIUL AML AML
comp=N,876µm,1.5s
GIUL AML AML
comp=E,856µm,0.4s
GIUL AML AML
comp=E,830µm,0.7s
GIUL AML AML
comp=N,877µm,0.5s
SACS San Casciano d 1.06 284 ⇓P **Pn 18 42 56.4 -0.3**
SACS AML AML
comp=N,1375µm,0.9s
SACS AML AML
comp=N,1430µm,0.9s
SACS AML AML
comp=N,1375µm,1.1s
SACS AML AML
comp=N,1430µm,1.1s
SACS AML AML
comp=E,843µm,0.7s
SACS AML AML
comp=E,911µm,0.8s
SACS AML AML
comp=N,1378µm,0.9s
SACS AML AML
comp=N,1432µm,0.9s
SACS AML AML
comp=E,843µm,0.7s
SACS AML AML
comp=E,911µm,0.8s
PIEI Pieia 1.08 329 ⇓P **Pg 18 42 55.5 -0.4**
PIEI AML AML
comp=E,620µm,1.2s
PIEI AML AML
comp=N,654µm,1.4s
PIEI AML AML
comp=E,620µm,0.8s
PIEI AML AML
comp=E,596µm,0.5s
PIEI AML AML
comp=N,580µm,0.5s
MPAG Monte Paganucc 1.09 339 P **Pg 18 42 54.7 -1.4**
MPAG AML AML
comp=E,1075µm,1.0s
MPAG AML AML
comp=N,1060µm,0.9s
MPAG AML AML
comp=E,1140µm,0.6s
MPAG AML AML
comp=N,1084µm,1.0s
MPAG AML AML
comp=N,1062µm,0.9s
MPAG AML AML
comp=N,1039µm,0.8s
MPAG AML AML
comp=E,1076µm,1.0s
MPAG AML AML
comp=E,1143µm,0.6s
MIDA Miranda 1.20 144 ⇑P **Pb 18 42 56.2 -2.2**
MIDA AML AML
comp=N,740µm,1.4s
MIDA AML AML
comp=E,672µm,0.5s
MIDA AML AML
comp=N,715µm,1.5s
MIDA AML AML
comp=E,652µm,0.5s
MIDA AML AML
comp=N,740µm,0.6s
MIDA AML AML
comp=N,715µm,0.5s
MIDA AML AML
comp=N,683µm,1.0s
MIDA AML AML
comp=E,671µm,0.5s
MIDA AML AML
comp=E,652µm,0.5s
MIDA AML AML
comp=N,740µm,1.4s
SF04 Casetta 1.23 281 ⇑P **Pg 18 42 58.7 0.0**
SF04 AML AML
comp=E,368µm,0.8s
SF04 AML AML
comp=N,378µm,1.6s
SF04 AML AML
comp=N,378µm,0.4s
SF04 AML AML
comp=E,368µm,1.2s
SF04 AML AML
comp=N,315µm,0.6s
SF04 AML AML
comp=E,300µm,1.0s
RUFI Rufina 1.80 314 ⇑P **Pb 18 43 08.2 -0.4**
MSAG Monte S. Angel 2.13 114 ⇓P **Pb 18 43 14.9 +0.6**
CDRU Civita di Ruta 2.60 144 S **Sg 18 43 56.7 -1.7**

RAVA	**Ravarino**	**2.67**	**324**	S	**Sn**	**18 43 51.0**	**-0.6**
BOJS	**Bojanci**	**3.21**	**25**	⇓P	**Pn**	**18 43 25.9**	**-0.4**
BOJS				AML	AML		
	comp=E,342μm,1.3s						
BOJS				AML	AML		
	comp=E,342μm,0.7s						
BOJS				AML	AML		
	comp=N,252μm,1.5s						
BOJS				AML	AML		
	comp=E,343μm,1.3s						
BOJS				AML	AML		
	comp=N,258μm,1.6s						
STON	**Ston**	**3.25**	**84**	*e*Pn	**Pn**	**18 43 27.1**	**+0.3**
STON				*e*Sn	**Sn**	**18 44 06.9**	**+1.1**
CTI	**Castel Tesino**	**3.64**	**341**	⇓P	**Pn**	**18 43 32.9**	**+0.6**
TREB	**Trebinje**	**3.72**	**87**	*e*Pn	**Pn**	**18 43 34.0**	**+0.7**
TREB				*e*Sn	**Sn**	**18 44 17.8**	**+0.2**
LUSI	**Trento, Gardas**	**3.75**	**334**	⇓P	**Pn**	**18 43 34.6**	**+0.8**
AGOR	**Agordo**	**3.78**	**347**	P	**Pn**	**18 43 35.2**	**+1.0**
AGOR				S	**Sn**	**18 44 19.6**	**+0.5**
GAGG	**Gaggia**	**3.86**	**335**	P	**Pn**	**18 43 36.4**	**+1.0**
OBKA	**Obir**	**4.00**	**12**	*i* Pn	**Pn**	**18 43 38.3**	**+1.1**
	comp=N,1.0nm,0.2s						
MYKA	**Terra Mystica**	**4.03**	**3**	*e*Pn	**Pn**	**18 43 39.7**	**+2.1**
	comp=N,0.1nm,0.1s						
APPI	**Appiano**	**4.14**	**340**	⇓P	**Pn**	**18 43 40.0**	**+0.8**
IMI	**Imperia**	**4.16**	**290**	S	**Sn**	**18 44 28.4**	**-0.1**
ABTA	**Abfaltersbach**	**4.18**	**352**	*e*Pn	**Pn**	**18 43 39.6**	**0.0**
	comp=N,13nm,0.5s						
SOKA	**Soboth**	**4.25**	**16**	*i* Pn	**Pn**	**18 43 43.3**	**+2.6**
	comp=N,0.9nm,0.3s						
PDG	**Podgorica**	**4.40**	**90**	*e*Pn	**Pn**	**18 43 44.2**	**+1.6**
PDG				*e*Sn	**Sn**	**18 44 35.4**	**+1.1**
KBA	**Koelnbreinsper**	**4.47**	**0**	*i* Pn	**Pn**	**18 43 48.1**	**+4.4**
	comp=N,1.1nm,0.2s						
BBLS	**Lazići**	**4.63**	**72**	*e*Pn	**Pn**	**18 43 48.1**	**+2.2**
MSRU	**Castanea**	**4.66**	**158**	P	**Pb**	**18 43 57.6**	**+0.3**
FETA	**Feichten**	**4.78**	**338**	*i* Pn	**Pn**	**18 43 51.0**	**+3.1**
	comp=N,0.8nm,0.3s						
WTTA	**Wattenberg**	**4.80**	**346**	*i* Pn	**Pn**	**18 43 52.3**	**+3.9**
	comp=N,1.1nm,0.3s						
SQTA	**Sankt Quirin**	**4.84**	**343**	*i* Pn	**Pn**	**18 43 51.3**	**+2.4**
	comp=N,5.8nm,0.5s						
WATA	**Walderalm**	**4.88**	**346**	*e*Pn	**Pn**	**18 43 52.6**	**+3.2**
	comp=N,1.1nm,0.2s						
ARSA	**Arzberg**	**4.90**	**18**	*e*Pn	**Pn**	**18 43 51.3**	**+1.8**
	comp=N,1.2nm,0.3s						
SJES	**Sjenica**	**4.94**	**80**	*e*Pn	**Pn**	**18 43 51.9**	**+1.8**
SJES				*e*Sn	**Sn**	**18 44 49.2**	**+1.4**
MOTA	**Moosalm**	**4.99**	**342**	*i* Pn	**Pn**	**18 43 54.2**	**+3.4**
	comp=N,2.7nm,0.5s						
BIOA	**Bad Ischl, Aus**	**5.09**	**3**	*e*Pn	**Pn**	**18 43 53.0**	**+0.9**
	comp=N,3.4nm,0.6s						
DIVS	**Divibare**	**5.10**	**71**	*e*Pn	**Pn**	**18 43 54.1**	**+1.8**
DIVS				*e*Sn	**Sn**	**18 44 53.2**	**+1.6**
IVAS	**Ivanjica**	**5.11**	**77**	*e*Pn	**Pn**	**18 43 52.8**	**+0.4**
IVAS				*e*Sn	**Sn**	**18 44 51.9**	**+0.1**
DAVA	**Damuels**	**5.27**	**334**	*e*Pn	**Pn**	**18 43 57.1**	**+2.3**
	comp=N,4.5nm,0.5s						
MOA	**Molln**	**5.28**	**7**	*i* Pn	**Pn**	**18 43 57.0**	**+2.2**
	comp=N,1.8nm,0.4s						
FRGS	**Fruska Gora**	**5.35**	**59**	*e*Pn	**Pn**	**18 43 56.6**	**+0.9**
TRUS	**Trudelj**	**5.42**	**70**	*e*Pn	**Pn**	**18 43 58.0**	**+1.4**
RONA	**Rosalia, Austr**	**5.51**	**22**	*i* Pn	**Pn**	**18 44 01.9**	**+3.9**
	comp=N,1.4nm,0.4s						
GRUS	**Gruza**	**5.56**	**74**	*e*Pn	**Pn**	**18 43 58.7**	**+0.1**
GRUS				*e*Sn	**Sn**	**18 45 04.2**	**+1.3**
CONA	**Conrad Observa**	**5.62**	**18**	*e*Pn	**Pn**	**18 43 59.3**	**-0.2**
	comp=N,2.1nm,0.5s						
SELS	**Selova**	**5.77**	**81**	*e*Pn	**Pn**	**18 44 00.9**	**-0.6**
CKRC	**Cesky Krumlov**	**6.25**	**6**	*e*SN	**Sn**	**18 45 17.5**	**-2.4**
BARS	**Barje**	**6.27**	**85**	*e*Pn	**Pn**	**18 44 08.9**	**+0.5**
BARS				*e*Sn	**Sn**	**18 45 19.6**	**-0.9**
FNA	**Florina**	**6.31**	**104**	*e*Pn	**Pn**	**18 44 09.5**	**+0.6**
FNA				*e*Sn	**Sn**	**18 45 18.2**	**-3.3**
PRVS	**Prvonek**	**6.48**	**88**	*e*Pn	**Pn**	**18 44 12.4**	**+1.2**
PRVS				*e*Sn	**Sn**	**18 45 24.3**	**-1.3**
KHC	**Kasperske Hory**	**6.53**	**2**	*e*PN	**Pn**	**18 44 13.2**	**+1.3**
KHC				*e*SN	**Sn**	**18 45 23.8**	**-2.9**
ZAGS	**Zajecar**	**6.63**	**77**	*e*Pn	**Pn**	**18 44 14.3**	**+1.0**
ZAPS	**Zavoj**	**6.88**	**81**	*e*Sn	**Sn**	**18 45 34.3**	**-1.1**
SRS	**Serrai**	**7.82**	**98**	*e*Pn	**Pn**	**18 44 30.4**	**+0.8**
CLL	**Collm**	**8.70**	**359**	*ex*	x	18 46 29.0	
CLL				*ex*	x	18 46 50.0	
CLL				*e*(Sg)	**Sg**	**18 47 10.0**	**-4.3**

ROM 18 18:53:53.1±0.1,**42°610N**×0°004×**13°297E**±0°005,
h10km,**ML2.6**/16,**6C-3D**,**Error ellipse: s-maj=0.4km**
s-min=0.3km az=209.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.04**	**55**	P	Pg	18 53 55.3	+0.2
SMA1				S	Sg	18 53 56.5	-0.2
CAMP	**Campotosto**	**0.11**	**132**	⇓P	Pg	18 53 56.5	+0.5
CAMP				S	Sg	18 53 58.5	+0.5
CAMP				AML	AML		
	comp=E,2480μm,0.6s						
CAMP				AML	AML		
	comp=N,1555μm,0.6s						
CAMP				AML	AML		
	comp=E,2480μm,1.4s						
CAMP				AML	AML		
	comp=N,1555μm,1.4s						
RM33	**Pellescritta (**	**0.12**	**211**	P	Pg	18 53 56.4	+0.4
RM33				S	Sg	18 53 59.2	+1.1
RM33				AML	AML		
	comp=E,4095μm,0.5s						
RM33				AML	AML		
	comp=N,3660μm,1.3s						
RM33				AML	AML		
	comp=N,3630μm,1.3s						
RM33				AML	AML		
	comp=N,3660μm,0.7s						
RM33				AML	AML		
	comp=N,3630μm,0.7s						
RM33				AML	AML		
	comp=E,4065μm,0.5s						
T1218	**Civita (PG)**	**0.15**	**294**	P	Pg	18 53 56.9	+0.4
T1218				S	Sg	18 53 59.5	+0.6
T1218				AML	AML		
	comp=E,3325μm,1.1s						
T1218				AML	AML		
	comp=N,4725μm,0.3s						
T1218				AML	AML		
	comp=E,3240μm,1.1s						
T1218				AML	AML		
	comp=N,4605μm,0.3s						
T1218				AML	AML		
	comp=N,4725μm,0.3s						
T1218				AML	AML		
	comp=N,4600μm,0.3s						
T1218				AML	AML		
	comp=E,3325μm,0.9s						
T1218				AML	AML		
	comp=E,3240μm,0.9s						
T1247	**Pizzolo (AQ)**	**0.17**	**180**	⇑P	Pg	18 53 57.5	+0.6
T1247				S	Sg	18 54 00.8	+1.4
T1247				AML	AML		
	comp=E,3425μm,0.9s						
T1247				AML	AML		
	comp=E,3425μm,1.1s						
T1247				AML	AML		
	comp=N,3890μm,0.2s						
LNSS	**Leonessa**	**0.19**	**268**	P	Pg	18 53 57.7	+0.5
LNSS				S	Sg	18 54 01.5	+1.5
LNSS				AML	AML		
	comp=E,3145μm,0.7s						
LNSS				AML	AML		
	comp=N,2935μm,1.5s						
LNSS				AML	AML		
	comp=N,2935μm,0.5s						
LNSS				AML	AML		
	comp=E,3145μm,1.3s						
GIGS	**Gran Sasso**	**0.26**	**128**	P	Pg	18 53 58.9	+0.5
GIGS				S	Sg	18 54 03.0	+1.1
GIGS				AML	AML		
	comp=N,254μm,0.1s						
GIGS				AML	AML		
	comp=E,287μm,1.2s						
GIGS				AML	AML		
	comp=N,253μm,0.1s						
GIGS				AML	AML		
	comp=E,287μm,0.8s						
T1217	**Poggiodomo (PG**	**0.29**	**291**	⇑P	Pg	18 53 59.4	+0.4
T1217				S	Sg	18 54 03.8	+0.9
T1217				AML	AML		
	comp=E,1375μm,1.0s						
T1217				AML	AML		
	comp=N,1765μm,0.4s						
T1217				AML	AML		
	comp=N,1805μm,0.4s						
T1217				AML	AML		
	comp=E,1375μm,1.0s						
T1217				AML	AML		
	comp=E,1365μm,0.3s						
T1217				AML	AML		
	comp=N,1805μm,1.6s						
T1217				AML	AML		
	comp=N,1765μm,1.6s						
FIAM	**Fiamignano**	**0.37**	**201**	⇑P	Pg	18 54 00.9	+0.4
FIAM				AML	AML		
	comp=E,407μm,0.6s						
FIAM				AML	AML		
	comp=N,260μm,1.6s						
FIAM				AML	AML		
	comp=N,250μm,1.6s						
ARRO	**Arrone**	**0.39**	**266**	⇓P	Pg	18 54 01.3	+0.4
ARRO				AML	AML		
	comp=E,482μm,1.4s						
ARRO				AML	AML		
	comp=N,572μm,1.4s						
ARRO				AML	AML		
	comp=N,571μm,1.4s						
ARRO				AML	AML		
	comp=N,571μm,0.6s						
ARRO				AML	AML		
	comp=E,482μm,0.6s						
FDMO	**Fiordimonte**	**0.45**	**340**	P	Pg	18 54 02.3	+0.3
FDMO				S	Sb	18 54 09.6	-0.5
FDMO				AML	AML		
	comp=N,616μm,0.2s						
FDMO				AML	AML		
	comp=E,618μm,0.1s						
GUMA	**Gualdo di Mace**	**0.45**	**4**	⇑P	Pg	18 54 02.6	+0.6
GUMA				S	Sb	18 54 10.2	+0.1
GUMA				AML	AML		
	comp=E,2075μm,0.9s						
GUMA				AML	AML		
	comp=N,1990μm,0.3s						
GUMA				AML	AML		
	comp=N,1820μm,0.5s						
GUMA				AML	AML		
	comp=E,1740μm,0.2s						
CSP1	**Cessapalombo**	**0.49**	**352**	P	Pg	18 54 02.9	+0.2
CSP1				S	Sb	18 54 10.4	-0.7
CSP1				AML	AML		
	comp=E,676μm,1.5s						
CSP1				AML	AML		
	comp=N,798μm,1.1s						
CSP1				AML	AML		
	comp=E,676μm,0.5s						
CSP1				AML	AML		
	comp=N,798μm,0.9s						
CESI	**CESI - Serrava**	**0.49**	**324**	AML	AML		
	comp=N,709μm,0.2s						
CESI				AML	AML		
	comp=E,457μm,0.3s						
T1220	**Camerino, Fraz**	**0.52**	**343**	⇑P	Pg	18 54 03.6	+0.2
T1220				S	Sb	18 54 11.4	-0.7
T1220				AML	AML		
	comp=N,2065μm,0.2s						
T1220				AML	AML		
	comp=N,2030μm,0.2s						
T1220				AML	AML		
	comp=E,1710μm,0.4s						
T1220				AML	AML		
	comp=E,1660μm,0.4s						
T1220				AML	AML		
	comp=N,2065μm,1.8s						
T1220				AML	AML		
	comp=N,2030μm,1.8s						
CESX	**Cesi**	**0.53**	**270**	P	Pg	18 54 03.6	+0.2
CESX				AML	AML		
	comp=E,428μm,0.6s						
CESX				AML	AML		
	comp=N,616μm,0.8s						
CESX				AML	AML		
	comp=E,428μm,1.4s						
CESX				AML	AML		
	comp=N,616μm,1.2s						
ASSB	**Assisi San Ben**	**0.64**	**313**	⇑P	Pg	18 54 05.7	+0.2
ASSB				AML	AML		
	comp=N,335μm,1.2s						
ASSB				AML	AML		
	comp=N,335μm,0.8s						
ASSB				AML	AML		
	comp=E,346μm,1.4s						
SRES	**S.Oreste - Sor**	**0.69**	**238**	P	Pg	18 54 06.9	+0.4
SRES				AML	AML		
	comp=E,120μm,1.6s						
SRES				AML	AML		
	comp=N,126μm,1.6s						
SNTG	**Esanatoglia**	**0.69**	**338**	P	Pg	18 54 06.4	-0.2
SNTG				AML	AML		
	comp=E,173μm,1.6s						
SNTG				AML	AML		
	comp=N,228μm,1.4s						
SNTG				AML	AML		
	comp=E,173μm,0.4s						
SNTG				AML	AML		
	comp=N,228μm,0.6s						
EL6	**Elcito**	**0.73**	**349**	⇓P	Pb	18 54 08.1	0.0
EL6				S	Sb	18 54 19.0	+0.8
EL6				AML	AML		
	comp=E,696μm,1.3s						
EL6				AML	AML		
	comp=N,633μm,1.4s						
EL6				AML	AML		
	comp=N,632μm,1.4s						
EL6				AML	AML		
	comp=E,699μm,1.3s						
CING	**Cingoli**	**0.77**	**354**	P	Pg	18 54 08.0	0.0
CING				AML	AML		
	comp=E,440μm,1.0s						
CING				AML	AML		
	comp=N,464μm,0.2s						
CING				AML	AML		
	comp=N,464μm,1.8s						
CING				AML	AML		
	comp=E,440μm,1.0s						
FOSV	**Fossato di Vic**	**0.79**	**330**	P	Pg	18 54 08.0	-0.3
FOSV				AML	AML		
	comp=E,192μm,1.3s						
FOSV				AML	AML		
	comp=N,161μm,1.4s						
ARVD	**Arcevia**	**0.93**	**344**	P	Pg	18 54 10.5	-0.4
MA9	**Marino**	**0.96**	**210**	P	Pg	18 54 09.1	-2.5
SF01	**Poggio Pratacc**	**1.29**	**280**	P	Pg	18 54 19.0	+1.0

ROM 18 18:54:33.1±0.1,**42°588N**×0°003×**13°241E**±0°004,
h11km,**ML2.7**/17,**5C-5D**,**Error ellipse: s-maj=0.4km**
s-min=0.2km az=46.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.08**	**194**	P	Pg	18 54 36.2	+0.5
RM33				S	Sg	18 54 38.2	+0.6
RM33				AML	AML		
	comp=N,17000μm,0.3s						
RM33				AML	AML		
	comp=E,13950μm,0.9s						
RM33				AML	AML		
	comp=N,16700μm,0.2s						
RM33				AML	AML		
	comp=E,13550μm,0.9s						
SMA1	**SAN MARTINO**	**0.08**	**58**	P	Pg	18 54 36.2	+0.4
SMA1				S	Sg	18 54 38.1	+0.4
SMA1				AML	AML		
	comp=N,33050μm,0.4s						
SMA1				AML	AML		
	comp=E,56750μm,0.5s						
T1218	**Civita (PG)**	**0.12**	**312**	P	Pg	18 54 36.7	+0.3
T1218				S	Sg	18 54 39.0	+0.4
CAMP	**Campotosto**	**0.13**	**113**	P	Pg	18 54 36.8	+0.4
CAMP				S	Sg	18 54 39.3	+0.5
CAMP				AML	AML		
	comp=E,2185μm,1.3s						
CAMP				AML	AML		
	comp=N,2220μm,0.7s						
CAMP				AML	AML		
	comp=E,2185μm,0.7s						
LNSS	**Leonessa**	**0.15**	**276**	P	Pg	18 54 37.2	+0.5
LNSS				S	Sg	18 54 40.1	+0.9
LNSS				AML	AML		
	comp=N,8440μm,0.2s						
LNSS				AML	AML		
	comp=E,6805μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.15**	**164**	P	Pg	18 54 37.2	+0.6
T1247				S	Sg	18 54 40.1	+1.0
T1247				AML	AML		
	comp=N,3575μm,0.5s						
T1247				AML	AML		
	comp=E,4015μm,0.3s						
T1247				AML	AML		
	comp=N,3575μm,1.5s						
T1217	**Poggiodomo (PG**	**0.26**	**299**	P	Pg	18 54 38.8	+0.3
T1217				S	Sg	18 54 43.1	+0.9
T1217				AML	AML		
	comp=N,1830μm,0.6s						
T1217				AML	AML		
	comp=E,1340μm,0.2s						
T1217				AML	AML		
	comp=E,1415μm,1.1s						
T1217				AML	AML		
	comp=E,1335μm,0.2s						
T1217				AML	AML		
	comp=N,1805μm,0.6s						
T1217				AML	AML		
	comp=N,1830μm,1.4s						
GIGS	**Gran Sasso**	**0.28**	**119**	P	Pg	18 54 39.0	+0.2
GIGS				AML	AML		
	comp=E,514μm,0.6s						
GIGS				AML	AML		
	comp=N,484μm,0.2s						
FIAM	**Fiamignano**	**0.33**	**196**	P	Pg	18 54 40.2	+0.3
FIAM				S	Sb	18 54 45.5	-1.0
FIAM				AML	AML		
	comp=N,809μm,0.7s						
FIAM				AML	AML		
	comp=E,864μm,1.6s						
FDMO	**Fiordimonte**	**0.46**	**346**	P	Pg	18 54 42.2	0.0
FDMO				AML	AML		
	comp=N,644μm,1.3s						
FDMO				AML	AML		
	comp=E,691μm,0.3s						
FDMO				AML	AML		
	comp=N,644μm,0.7s						
GUMA	**Gualdo di Mace**	**0.48**	**8**	P	Pg	18 54 42.9	+0.3
GUMA				S	Sb	18 54 50.6	-0.1
GUMA				AML	AML		
	comp=N,3255μm,0.6s						
GUMA				AML	AML		
	comp=E,4470μm,0.3s						
GUMA				AML	AML		
	comp=N,2310μm,0.4s						
GUMA				AML	AML		
	comp=E,2985μm,0.3s						
CESI	**CESI - Serrava**	**0.48**	**329**	P	Pg	18 54 42.8	+0.2
CESI				AML	AML		
	comp=E,428μm,0.9s						
CESI				AML	AML		
	comp=N,642μm,1.4s						
CESI				AML	AML		
	comp=N,642μm,0.6s						
CESI				AML	AML		
	comp=E,428μm,1.1s						
CESX	**Cesi**	**0.49**	**273**	⇓P	Pg	18 54 42.8	+0.1
CESX				AML	AML		
	comp=E,497μm,0.3s						
CESX				AML	AML		
	comp=N,783μm,1.0s						
CESX				AML	AML		
	comp=N,783μm,1.0s						
CSP1	**Cessapalombo**	**0.51**	**357**	⇑P	Pg	18 54 43.0	0.0
CSP1				AML	AML		
	comp=N,908μm,0.3s						
CSP1				AML	AML		
	comp=E,797μm,0.3s						
T1220	**Camerino, Fraz**	**0.53**	**348**	⇑P	Pg	18 54 43.7	+0.1
T1220				AML	AML		
	comp=E,1945μm,0.2s						
T1220				AML	AML		
	comp=N,2205μm,0.7s						
T1220				AML	AML		
	comp=E,1955μm,0.2s						
T1220				AML	AML		
	comp=N,2220μm,0.7s						
T1220				AML	AML		
	comp=N,2220μm,1.3s						
T1220				AML	AML		
	comp=N,2205μm,1.3s						
MOMA	**Monte Martano**	**0.54**	**294**	⇓P	Pg	18 54 44.1	+0.4
MOMA				AML	AML		
	comp=E,1270μm,0.2s						
MOMA				AML	AML		
	comp=N,1405μm,0.2s						
MOMA				AML	AML		
	comp=E,1320μm,0.2s						
MOMA				AML	AML		
	comp=E,1270μm,1.8s						
MOMA				AML	AML		
	comp=E,1320μm,1.8s						
MOMA				AML	AML		
	comp=N,1510μm,0.2s						
ASSB	**Assisi San Ben**	**0.62**	**317**	⇑P	Pg	18 54 45.4	+0.1
ASSB				S	Sb	18 54 55.8	+0.9
ASSB				AML	AML		
	comp=E,410μm,1.4s						
ASSB				AML	AML		
	comp=N,476μm,0.5s						
ASSB				AML	AML		
	comp=E,410μm,0.6s						
SRES	**S.Oreste - Sor**	**0.65**	**237**	⇓P	Pb	18 54 46.6	+0.3
CERT	**Cerreto**	**0.67**	**197**	⇓P	Pg	18 54 45.9	-0.2
SNTG	**Esanatoglia**	**0.70**	**342**	P	Pb	18 54 47.1	-0.3
SNTG				S	Sb	18 54 57.4	+0.3
SNTG				AML	AML		
	comp=E,206μm,1.6s						
SNTG				AML	AML		
	comp=N,240μm,0.5s						
EL6	**Elcito**	**0.75**	**352**	S	Sn	18 55 00.2	-0.9
CING	**Cingoli**	**0.79**	**358**	⇑P	Pg	18 54 48.3	-0.1
MGAB	**Montegabbione**	**0.89**	**292**	⇑P	Pn	18 54 52.5	+0.8
APEC	**Apecchio**	**1.14**	**328**	⇓P	Pg	18 54 56.6	+1.5
ARCI	**Arcidosso**	**1.33**	**282**	P	Pn	18 54 55.7	-2.0
TRIF	**Trifonti**	**1.80**	**288**	S	Sb	18 55 28.2	-0.5
ABTA	**Abfaltersbach**	**4.19**	**353**	*i* Pn	Pn	18 55 39.4	+2.4
	comp=N,4.2nm,0.6s						
FETA	**Feichten**	**4.78**	**339**	*e*Pn	Pn	18 55 47.8	+2.6
	comp=N,1.3nm,0.6s						

CNRM ***18*** *19:06:30.7,32°08N×5°74W,h4km,ml3.1*
MDD ***18*** *19:06:32.1±1.2,32°25N×5°66W,h0km,Mb4.2/7,*
M_mb3.6/7,Error ellipse: s-maj=9.0km s-min=7.4km
az=161.0
INMG ***18*** *19:06:33.9±1.3,32°32N×5°86W,h5km,ML2.3,Error*
ellipse: s-maj=7.9km s-min=5.1km az=13.0

ISC 18 19:06:31.2±1.1,**32°23N**±0°03×**5°76W**±0°02,**h12**km±10km,
n39,σ1**s55**/70,**7C**,**Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLM	**Goulmima**	**0.86**	**127**	P	**Pg**	**19 06 46.9**	**-1.0**
GOLM				S	**Sg**	**19 06 59.3**	**+0.1**
GOLM	**Goulmima**	**0.86**	**127**	P	**Pg**	**19 06 47.0**	**-0.9**
GOLM				S	**Sg**	**19 06 59.0**	**-0.2**
MD31	**MD31**	**1.06**	**53**	P	**Pn**	**19 06 51.8**	**-0.1**
MD31				S	**Sn**	**19 07 09.1**	**+2.4**
MDT	**Midelt**	**1.13**	**59**	P	**Pb**	**19 06 52.8**	**0.0**
MDT				S	**Sn**	**19 07 10.1**	**+1.5**
TZRR	**Tazzarine**	**1.45**	**174**	P	**Pn**	**19 06 56.2**	**-1.2**
TZRR				S	**Sn**	**19 07 13.0**	**-3.4**
TZRR	**Tazzarine**	**1.45**	**174**	P	**Pn**	**19 06 56.1**	**-1.2**
ARF	**Arif**	**1.53**	**121**	P	**Pn**	**19 06 58.4**	**-0.1**
ARF				S	**Sn**	**19 07 18.3**	**-0.1**
OUZM	**OUZ**	**1.57**	**213**	P	**Pn**	**19 06 58.5**	**-0.5**
OUZM				S	**Sn**	**19 07 22.4**	**+3.0**
AVE	**Averroes**	**1.76**	**308**	P	**Pg**	**19 07 04.3**	**-0.6**
AVE				S	**Sg**	**19 07 28.1**	**+0.5**
SRHM	**Skhour des Reh**	**1.83**	**278**	P	**Pb**	**19 07 04.7**	**+0.1**
SRHM				S	**Sg**	**19 07 31.2**	**+1.2**
SRHM	**Skhour des Reh**	**1.83**	**278**	P	**Pg**	**19 07 06.1**	**-0.2**
OUK	**Oukaimeden**	**2.07**	**241**	P	**Pn**	**19 07 06.6**	**+0.6**

OUK				S		Sn	19 07 32.5	+0.6
OUK	**Oukaimeden**	**2.07**	**241**	P		Pn	19 07 08.0	+1.9
OUK				S		Sb	19 07 36.0	+1.3
ZGR	**Zagora**	**2.11**	**177**	P		Pn	19 07 06.1	-0.4
ZGR				S		Sn	19 07 31.1	-1.6
ZGR	**Zagora**	**2.11**	**177**	P		Pn	19 07 06.0	-0.4
JBK	**JBK**	**3.40**	**51**	P		Pn	19 07 24.7	+0.4
JBK				S		Sn	19 08 06.5	+1.8
TAF	**Taforalt**	**3.80**	**46**	P		Pn	19 07 31.8	+2.1
TAF				S		Sn	19 08 17.3	+2.9
FIGM	**Figuig**	**3.81**	**90**	P		Pn	19 07 31.2	+1.3
FIGM				S		Sn	19 08 15.6	+0.8
EMIJ	**Mijas**	**4.40**	**10**	P		Pn	19 07 38.3	+0.4
EMIJ				⇑	*i*Vmb_V		19 07 42.1	
	248nm,SNR=1.2							
EMIJ				S		Sn	19 08 28.3	-0.8
ELGU	**Los Guajares,**	**4.95**	**20**	P		Pn	19 07 44.4	-1.1
ELGU				⇑	*i*Vmb_V		19 07 51.3	
	221nm,SNR=1.4							
ELGU				S		Sn	19 08 40.6	-2.1
PVAQ	**Vaqueiros**	**5.41**	**343**	*e*P		Pn	19 07 52.7	+1.0
PVAQ				S		Sn	19 08 51.5	-2.4
PVAQ				A		A	19 08 55.7	
	2.7nm,0.7s							
EGRO	**El Granado**	**5.48**	**345**	P		Pn	19 07 53.4	+0.8
EGRO				⇑	*i*Vmb_V		19 08 01.4	
	158nm,SNR=1.2							
EGRO				S		Sn	19 08 54.8	-0.8
PFVI	**Vila Bisbo**	**5.51**	**334**	*e*P		Pn	19 07 54.1	+1.0
PFVI				S		Sn	19 08 54.5	-1.8
PFVI				A		A	19 08 59.6	
	7.0nm,1.0s							
EMIN	**Mina Concepcio**	**5.58**	**353**	P		Pn	19 07 54.4	+0.4
EMIN				⇑	*i*Vmb_V		19 08 03.3	
	80nm,SNR=1.0							
EMIN				S		Sn	19 08 57.7	-0.4
MORF	**Marmelete**	**5.59**	**336**	*e*P		Pn	19 07 55.1	+0.8
MORF	**Marmelete**	**5.59**	**336**	*e*P		Pn	19 07 55.4	+1.1
MORF				S		Sn	19 08 57.5	-1.1
MORF				A		A	19 08 59.4	
	2.7nm,0.4s							
PCVE	**Castro Verde**	**5.71**	**341**	*e*P		Pn	19 07 56.7	+0.9
PCVE				S		Sn	19 08 58.2	-3.1
PCVE				A		A	19 09 08.1	
	2.6nm,0.7s							
PTEO	**Sao Teotonio**	**5.84**	**336**	*e*P		Pn	19 07 58.9	+1.3
PTEO				S		Sn	19 09 02.5	-2.0
ECAB	**El Cabril**	**5.84**	**3**	P		Pn	19 07 58.3	+0.6
ECAB				⇑	*i*Vmb_V		19 08 01.2	
	143nm,SNR=2.0							
ECAB				S		Sn	19 09 00.6	-4.0
MESJ	**Messejana**	**5.95**	**341**	*e*P		Pn	19 08 00.1	+1.0
MESJ	**Messejana**	**5.95**	**341**	*e*P		Pn	19 08 00.5	+1.3
MESJ				S		Sn	19 09 06.8	-0.5
MESJ				A		A	19 09 12.5	
	2.7nm,0.7s							
EADA	**Adamuz**	**6.00**	**9**	P		Pn	19 08 00.5	+0.5
EADA				⇑	*i*Vmb_V		19 08 04.6	
	113nm,SNR=1.1							
EADA				S		Sn	19 09 05.6	-3.0
PBAR	**Barrancos**	**6.02**	**350**	*e*P		Pn	19 08 01.0	+0.8
PBAR				S		Sn	19 09 07.1	-2.0
PBAR				A		A	19 09 21.1	
	1.1nm,0.9s							
PNCL	**Nicolau / Gran**	**6.29**	**340**	*e*P		Pn	19 08 04.7	+0.9
PNCL				S		Sn	19 09 13.9	-1.8
PNCL				A		A	19 09 27.1	
	1.7nm,0.6s							
EBAD	**Badajoz**	**6.59**	**351**	P		Pn	19 08 08.8	+0.8
EBAD				⇑	*i*Vmb_V		19 08 09.7	
	124nm,SNR=1.6							
EBAD				S		Sn	19 09 20.3	-2.8
PSIM	**Granatula de C**	**6.78**	**13**	S		Sn	19 09 25.3	-2.4
PMTG	**Montargil**	**7.11**	**344**	*e*P		Pn	19 08 16.8	+1.7
PMRV	**Marv??o**	**7.30**	**350**	*e*P		Pn	19 08 18.9	+1.1
PMRV				S		Sn	19 09 39.8	-0.9
PCBR	**Castelo Branco**	**7.72**	**350**	*e*P		Pn	19 08 24.9	+1.4

WEL 18 19:07:31.1±0.4,**42°S**±3'×**17°3E**±', **h8**km±3km, **M2.8/6, ML3.0**/12, **MLv2.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=80.6, confirmed, South Island**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.10**	**105**	P		Pg	19 07 34.6	+1.0
KHZ				S		Sg	19 07 36.8	+1.5
GVZ	**Greta Valley S**	**0.64**	**205**	P		Pn	19 07 45.6	-0.8
THZ	**Tophouse**	**0.73**	**329**	P		Pb	19 07 45.6	-0.4
THZ				S		Sg	19 07 55.0	+0.4
BSWZ	**Blackbirch Sta**	**0.76**	**28**	P		Pg	19 07 45.5	-0.2
CMWZ	**Cape Campbell**	**0.88**	**44**	P		Pb	19 07 49.0	+0.3
LTZ	**Lake Taylor**	**0.92**	**244**	P		Pb	19 07 49.6	+0.2
LTZ				S		Sb	19 08 01.5	-0.3
MRNZ	**Matariki Terra**	**1.10**	**334**	P		Pb	19 07 52.4	0.0
MRNZ				S		Sg	19 08 06.3	-0.2
NNZ	**Nelson**	**1.17**	**359**	P		Pb	19 07 53.1	-0.5
TCW	**Tory Channel**	**1.35**	**29**	P		Pn	19 07 54.7	-1.5
DSZ	**Denniston Nort**	**1.35**	**298**	P		Pg	19 07 56.9	-0.1
TKNZ	**Takaka Hill**	**1.40**	**346**	P		Pb	19 07 57.4	0.0
AKCZ	**Akaroa Harbour**	**1.52**	**193**	P		Pn	19 07 57.4	-1.2
AKCZ				S		Sn	19 08 16.5	-2.2
DUWZ	**D'Urville Isla**	**1.63**	**14**	P		Pn	19 07 59.6	-0.6
QRZ	**Quartz Range**	**1.69**	**337**	P		Pn	19 08 01.7	+0.8
OGWZ	**Otaki Gorge**	**2.06**	**41**	P		Pn	19 08 04.0	-2.0
CPWZ	**Castlepoint**	**2.57**	**56**	P		Pn	19 08 14.5	+1.5
TSZ	**Takapari Road**	**3.02**	**41**	P		Pn	19 08 16.9	-2.4
DREZ	**Durham Road**	**3.25**	**11**	P		Pb	19 08 27.1	-2.0

*GUC **18** 19:08:02.8±0.5, 23°.98S×67°.11W, h233km±5km, ML3.9*
*IDC **18** 19:08:02.8±1.1, 23°.73S×66°.70W, h195km±9km, mb3.7/6, mbtmp4.1/11, Error ellipse: s-maj=23.2km s-min=13.9km az=13.0*

ISC 18 19:08:02.3±0.6, **23°.99S**±0'.06×**66°.87W**±0'.07, **h200**km, **n31, σ1°78/41, mb3.9/6, 10C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AF01	**San Pedro de A**	**1.58**	**310**	*e*P		Pn	19 08 38.4	+1.3
AF01				*e*S		Sn	19 09 06.2	+2.2
AF01				IAML			19 09 10.4	
	comp=E,321nm,0.6s							
LVC	**Limon Verde**	**2.32**	**306**	P		Pn	19 08 45.5	+0.9
	comp=E,108nm,0.5s,baz=158,slow=5.6,SNR=140							
LVC				S		Sn	19 09 17.5	0.0
	comp=E,178nm,0.7s,baz=108,slow=18,SNR=21							
LVC	**Limon Verde**	**2.32**	**306**	⇑*i*P		Pn	19 08 45.5	+0.9
LVC				*i*S		Sn	19 09 18.0	+0.5
PB06	**IPOC Station P**	**2.79**	**297**	⇑*i*P		Pn	19 08 50.5	+0.8
PB06				*i*S		Sn	19 09 25.9	-0.6
PB06				IAML			19 09 26.9	
	comp=N,404nm,0.3s							
PB09	**IPOC Station P**	**3.09**	**315**	⇑*i*P		Pn	19 08 54.0	+0.8
PB09				*i*S		Sn	19 09 32.7	-0.2
PB09				IAML			19 09 36.0	
	comp=E,152nm,0.4s							
PB03	**IPOC Station P**	**3.28**	**305**	⇑*i*P		Pn	19 08 55.7	+0.2
PB03				*i*S		Sn	19 09 34.6	-2.4
PB14	**IPOC Station P**	**3.28**	**258**	⇑*i*P		Pn	19 08 56.1	+0.5
PB14				*i*S		Sn	19 09 36.1	-1.2
PB10	**IPOC Station P**	**3.41**	**277**	⇑*i*P		Pn	19 08 57.5	+0.7
PB10				*i*S		Sn	19 09 36.8	-2.6
PB04	**IPOC Station P**	**3.44**	**298**	⇑*i*P		Pn	19 08 57.5	+0.2
PB04				*i*S		Sn	19 09 38.9	-1.5
PB07	**IPOC Station P**	**3.58**	**308**	⇑*i*P		Pn	19 08 59.1	0.0
PB07				*i*S		Sn	19 09 40.7	-2.8
PB01	**IPOC Station P**	**3.80**	**320**	⇑*i*P		Pn	19 09 01.4	-0.3
PB01				*i*S		Sn	19 09 45.3	-3.1
AC01	**Pan de Azucar**	**4.00**	**237**	⇑*i*P		Pn	19 09 03.7	-0.4
PB08	**IPOC Station P**	**4.37**	**331**	⇓*i*P		Pn	19 09 10.7	+1.5
CFA	**Coronel Fontan**	**7.68**	**189**	P		Pn	19 09 51.3	-0.1
	comp=E,1.5nm,0.3s,baz=41,slow=19,SNR=7.8							
CFA				S		Sn	19 11 13.2	-5.1
	comp=E,13nm,0.4s,baz=174,slow=17,SNR=16							
LPAZ	**La Paz**	**7.75**	**351**	S		Sn	19 11 16.5	-4.4
	comp=E,1.0nm,0.6s,baz=278,slow=16,SNR=1.3							
CPUP	**Villa Florida**	**8.96**	**107**	P		Pn	19 10 06.4	-1.6
	comp=E,2.3nm,0.7s,baz=282,slow=13,SNR=5.4							
SIV	**San Ignacio**	**9.64**	**35**	P		Pn	19 10 13.5	-3.5
	comp=E,3.5nm,0.7s,baz=214,slow=12,SNR=14							
PLCA	**Paso Flores**	**16.98**	**190**	P		Pn	19 11 52.6	+4.3
	comp=E,1.7nm,0.7s,baz=2.3,slow=8.3,SNR=7.3							
BDFB	**Brasilia**	**19.57**	**68**	P		P	19 12 14.6	-0.8
	comp=E,9.4nm,0.7s,baz=246,slow=12,SNR=14							
TXAR	**Lajitas Array**	**63.74**	**324**	P		P	19 18 12.4	-0.5
	comp=E,0.9nm,1.0s,baz=143,slow=6.8,SNR=4.3							
	comp=E,0.9nm,1.0s							
DBIC	**Dimbokro**	**67.69**	**71**	P		P	19 18 37.2	-1.2
	comp=E,0.0nm,0.8s,baz=238,slow=7.2,SNR=2.0							
	comp=E,2.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.46**	**69**	P		P	19 19 29.9	-0.5
	comp=E,4.3nm,0.5s,baz=252,slow=7.2,SNR=2.3							
	comp=E,4.3nm,0.5s							
PDAR	**Pinedale Array**	**77.20**	**329**	P		P	19 19 35.4	+1.1
	comp=E,0.3nm,0.5s,baz=121,slow=7.8,SNR=4.7							
	comp=E,0.3nm,0.5s							
ULM	**Lac du Bonnet**	**78.25**	**341**	P		P	19 19 39.1	-0.5
	comp=E,2.3nm,0.5s,baz=144,slow=5.9,SNR=2.5							
	comp=E,2.3nm,0.5s							
YKA	**Yellowknife Ar**	**94.15**	**340**	P		P	19 20 58.4	+0.7
	comp=E,0.5nm,0.6s,baz=136,slow=4.2,SNR=14							
	comp=E,0.5nm,0.6s							
ASAR	**Alice Springs**	**128.51**	**205**	PKP		PKPdf	19 26 46.7	+0.6
	comp=E,0.4nm,0.6s,baz=142,slow=2.3,SNR=8.3							
WRA	**Warramunga Arr**	**131.69**	**207**	PKP		PKPdf	19 26 52.7	+0.6
	comp=E,0.4nm,0.6s,baz=160,slow=1.6,SNR=2.5							
ZALV	**Zalesovo Beam**	**143.33**	**28**	PKhKP		PKPpre	19 27 09.5	
	comp=E,0.5nm,0.4s,baz=316,slow=4.4,SNR=4.3							
MKAR	**Makanchi Array**	**146.44**	**40**	PKPbc		**PKPdf**	**19 27 19.1**	**+1.1**
	comp=E,1.3nm,0.5s,baz=306,slow=3.1,SNR=23							
KLR	**Kul'dur**	**150.87**	**335**	PKPbc		**PKPbc**	**19 27 31.3**	**+0.4**
	comp=E,1.0nm,0.6s,baz=37,slow=3.5,SNR=5.0							
SONM	**Songino Array**	**155.61**	**11**	PKPab		**PKPab**	**19 27 59.8**	**+0.7**
	comp=E,0.3nm,0.7s,baz=336,slow=4.2,SNR=2.4							

*IDC **18** 19:20:17.8±2.0, 37°.48N×142°.14E, h0km, mb3.6/4, mbtmp3.7/6, ML3.0/2, MS2.4/1, Error ellipse: s-maj=42.2km s-min=25.0km az=71.0*
*JMA **18** 19:20:24.8±0.1, 37°.4N±0°.4×141°.7E±0°.8, h44km±2km, MV3.4/39, E OFF FUKUSHIMA PREF*

ISC 18 19:20:22.6±1.8, **37°.37N**±0°.04×**141°.84E**±0°.07, **h23**km±12km, **n28, σ1°37/35, mb3.6/4, 12D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.77**	**270**	⇓P		Pb	19 20 37.8	+0.5
JFK				⇓*e*S		Sb	19 20 46.6	-0.7
JMST	**Minamisoumatoc**	**0.83**	**295**	⇓P		Pb	19 20 38.6	+0.2
JMST				⇓S		Sb	19 20 48.2	-1.0
ONAJ	**Iwakimizuishiy**	**0.87**	**252**	⇓P		Pb	19 20 39.4	+0.3
ONAJ				⇓S		Sb	19 20 49.5	-0.8
JMM	**Marumori**	**0.96**	**301**	P		Pn	19 20 40.8	+0.1
JMM	**Marumori**	**0.96**	**301**	⇓P		Pn	19 20 40.6	-0.1
JMM				⇓S		Sb	19 20 51.7	-1.2
JIKH	**Ishinomakikobu**	**0.98**	**343**	P		Pb	19 20 41.4	+0.4
JIKH				S		Sb	19 20 52.9	-0.7
JFFD	**Fukushimafurud**	**1.05**	**255**	⇓*i*P		Pn	19 20 41.9	0.0
JFFD				⇓S		Sb	19 20 54.1	-1.5
JIO	**Ouri**	**1.15**	**341**	*i*P		Pn	19 20 43.8	+0.6
JIO				S		Sn	19 20 56.8	-1.5
JHO	**Hitachi**	**1.27**	**234**	⇓P		Pn	19 20 44.8	-0.1
JHO				⇓S		Sn	19 20 59.4	-1.7
JOU	**Okura**	**1.36**	**317**	P		Pn	19 20 47.0	+0.9
JOU				S		Sn	19 21 02.9	-0.6
JYS	**Shirataka**	**1.64**	**302**	*e*S		Sn	19 21 10.9	+0.5
JMK	**Ichinoseki**	**1.65**	**343**	P		Pn	19 20 51.4	+1.3
JMK				S		Sn	19 21 10.5	-0.1
JFY	**Yanaizu**	**1.70**	**272**	P		Pn	19 20 51.6	+0.8
JFY				*e*S		Sn	19 21 11.8	0.0
MJAR	**Matsushiro Arr**	**3.02**	**255**	Pn		Pn	19 21 10.0	+1.0
	0.4nm,0.3s,baz=74,slow=17,SNR=21							
MJAR				Sn		Sb	19 21 51.4	-0.7
	0.4nm,0.3s,baz=83,slow=12,SNR=6.3							
MJAR				LR		LR	19 22 38.3	
	comp=Z,68nm,21.9s,baz=322,slow=43							
	5.0nm,0.3s							
MAJO	**Matsushiro**	**3.02**	**255**	P		Pn	19 21 11.8	+2.8
JGF	**Kuroka**	**4.02**	**245**	P		Pn	19 21 25.8	+3.1
INU	**Inuyama**	**4.38**	**244**	P		Pn	19 21 31.8	+4.1
JHJ	**Hachijo jima 2**	**4.56**	**202**	Pn		Pn	19 21 31.3	+1.1
	8.1nm,0.3s,baz=125,slow=2.4,SNR=2.6							
JHJ				Sn		Sn	19 22 20.2	-2.2
	17nm,0.3s,baz=80,slow=21,SNR=1.4							
	189nm,0.9s							
SONM	**Songino Array**	**27.88**	**303**	P		P	19 26 10.7	+0.1
	0.4nm,0.6s,baz=98,slow=9.0,SNR=4.3							
	0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.04**	**122**	T		T	19 55 42.9	
	baz=314,slow=75,SNR=6.2							
H11N1	**WAKE ISLAND Hy**	**28.04**	**122**	T		T	19 55 41.6	
	baz=314,slow=75,SNR=7.3							
H11N3	**WAKE ISLAND Hy**	**28.05**	**122**	T		T	19 55 48.0	
	baz=314,slow=75,SNR=5.7							
H11S1	**WAKE ISLAND Hy**	**28.76**	**124**	T		T	19 56 40.4	
	baz=316,slow=76,SNR=5.9							
H11S3	**WAKE ISLAND Hy**	**28.76**	**124**	T		T	19 56 36.5	
	baz=316,slow=76,SNR=5.2							
H11S2	**WAKE ISLAND Hy**	**28.78**	**124**	T		T	19 56 40.5	
	baz=316,slow=76,SNR=5.7							
MKAR	**Makanchi Array**	**44.23**	**302**	P		P	19 28 29.9	0.0
	0.5nm,0.6s,baz=87,slow=9.6,SNR=7.3							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**46.06**	**308**	P		P	19 28 43.9	-0.5
	0.6nm,0.5s,baz=82,slow=7.8,SNR=5.9							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**57.44**	**188**	P		P	19 30 09.3	-0.2
	0.5nm,0.5s,baz=4.6,slow=7.5,SNR=9.0							
	0.5nm,0.5s							

*IDC **18** 19:26:04.3±1.1, 28°.17N×104°.90E, h0km, mb3.5/7, mbtmp3.5/8, ML3.5/1, MS2.9/1, Error ellipse: s-maj=42.0km s-min=18.8km az=61.0*

ISC 18 19:26:09.5±1.3, **28°.2N**±0°.2×**105°.0E**±0°.2, **h35**km, **n9, σ0°68/8, mb3.6/7, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**19.62**	**3**	P		P	19 30 35.3	+0.3
	0.1nm,0.3s,baz=181,slow=10,SNR=6.4							
	0.3nm,0.4s							
KSRS	**Korea Array**	**21.33**	**59**	P		P	19 30 52.8	-0.7
	0.4nm,0.4s,baz=248,slow=9.7,SNR=2.0							
	0.4nm,0.4s							
JNU	**Nakatsuse**	**22.79**	**71**	LR		LR	19 40 04.6	
	comp=Z,31nm,18.3s,baz=7.0,slow=37							
MKAR	**Makanchi Array**	**25.69**	**322**	P		P	19 31 36.0	-0.3
	0.4nm,0.5s,baz=122,slow=11,SNR=7.9							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**29.65**	**336**	P		P	19 32 11.2	-0.4
	0.4nm,0.4s,baz=134,slow=8.5,SNR=3.6							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**30.02**	**325**	P		P	19 32 14.3	-0.6
	0.7nm,0.6s,baz=132,slow=9.1,SNR=3.4							
	0.7nm,0.6s							
WRA	**Warramunga Arr**	**55.66**	**146**	P		P	19 35 42.1	-0.3
	0.3nm,0.5s,baz=335,slow=8.5,SNR=5.7							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**58.64**	**149**	P		P	19 36 03.5	+0.1
	0.5nm,0.6s,baz=329,slow=6.9,SNR=11							
	0.5nm,0.6s							
YKA	**Yellowknife Ar**	**84.22**	**17**	P		P	19 38 38.1	+1.0
	0.2nm,0.4s,baz=324,slow=5.0,SNR=5.3							
	0.2nm,0.4s							

*STR **18** 19:32:26.6±0.7, 42°.1N×10°.2E±', h10km, mb5.0/9*
*BGR **18** 19:32:28.9±0.6, 42°.18N×13°.64E, h10km, ML4.6/15, Error ellipse: s-maj=8.9km s-min=8.9km az=79.0*
*IDC **18** 19:32:31.2±0.6, 42°.68N×13°.11E, h0km, mb4.2/24, mbtmp4.1/34, ML3.8/10, MS3.5/35, Error ellipse: s-maj=11.6km s-min=10.4km az=67.0*
*MOS **18** 19:32:31.6±1.0, 42°.74N×13°.20E, h10km, mb4.7/31, Error ellipse: s-maj=5.6km s-min=3.2km az=75.4*
*ROM **18** 19:32:31.9±0.0, 42°.581N±0°.002×13°.233E±0°.002, h11km, ML4.3/97, Mw4.2, Error ellipse: s-maj=0.2km s-min=0.1km az=72.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.76; $M_{\theta\theta}$0.45; $M_{\phi\phi}$ 1.31; $M_{r\theta}$0.55; $M_{\theta\phi}$-1.12; $M_{r\phi}$-1.44; Fault plane solution: M_o2.47074×10^{15} NP1:ϕ_s134.00000°, δ27.00000°, λ-109.00000°. NP2:ϕ_s335.00000°, δ65.00000°, λ-81.00000°.*
*PDG **18** 19:32:32.1±0.6, 42°.61N×13°.26E, h12km, ML4.4/11 Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*MED_RC **18** 19:32:32.0±0.4, 42°.58N×13°.24E, h13km±1km, MW4.4/23, Moment Tensor Solution. Mantle waves: s23, c27; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-4.69±.63; $M_{\theta\theta}$2.39±.38; $M_{\phi\phi}$2.29±.37; $M_{r\theta}$0.85±.44; $M_{\theta\phi}$-2.23±.20; $M_{r\phi}$-2.36±.51; Best double couple: M_o5.26000×10^{15} NP1:ϕ_s326.00000°, δ59.00000°, λ-78.00000°. NP2:ϕ_s124.00000°, δ33.00000°, λ-109.00000°. Principal axes: T 5.1000, Plg13.0000°, Azm47.0000°; N 0.3000, Plg10.0000°, Azm140.0000°; P -5.4200, Plg73.0000°, Azm266.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*PRU **18** 19:32:32.0±0.0, 42°.58N×13°.11E, h10km, M4.6*
*NEIC **18** 19:32:33.5±2.4, 42°.66N±0°.06×13°.19E±0°.07, h10km±1km, mb4.6/41, Mwr4.2(VIE), Error ellipse: s-maj=11.0km s-min=7.5km az=216.0*
*LDG **18** 19:32:33.0±0.2, 42°.49N×13°.16E, h13km, Ml3.6/35, Error ellipse: s-maj=4.9km s-min=3.5km az=38.0*
*BEO **18** 19:32:34.6±0.5, 42°.67N×13°.35E, h5km±9km, ML4.3/11*
*BUG **18** 19:32:48.2±0.8, 43°.39N×13°.09E, h13km, ML4.9/5*

ISC 18 19:32:32.7±0.6, **42°.58N**±0°.01×**13°.20E**±0°.02, **h13**km±3km, **n727, σ2°03/881, mb4.5/63, MS3.6/28, 92C-31D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
RM33	**Pellescritta (**	**0.07**	**174**	⇑P		**Pg**	**19 32 35.0**	**-0.4**
RM33				S		**Sg**	**19 32 37.1**	**-0.3**
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
RM33				AML		AML		
SMA1	**SAN MARTINO**	**0.11**	**61**	⇓P		**Pg**	**19 32 35.0**	**-0.9**
SMA1				S		**Sg**	**19 32 36.9**	**-1.3**
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
T1218	**Civita (PG)**	**0.11**	**325**	⇑P		**Pg**	**19 32 35.4**	**-0.6**
T1218				S		**Sg**	**19 32 37.6**	**-0.7**
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
LNSS	**Leonessa**	**0.12**	**282**	⇑P		**Pg**	**19 32 35.9**	**-0.1**
LNSS				S		**Sg**	**19 32 38.7**	**+0.2**
LNSS				AML		AML		
LNSS				AML		AML		
T1202	**Accumoli, Fraz**	**0.13**	**7**	⇓P		**Pg**	**19 32 35.5**	**-0.6**
T1202				S		**Sg**	**19 32 37.9**	**-0.7**
T1247	**Pizzolo (AQ)**	**0.15**	**153**	⇑P		**Pg**	**19 32 36.1**	**-0.3**
T1247				S		**Sg**	**19 32 38.9**	**-0.1**
T1247				AML		AML		
T1247				AML		AML		
CAMP	**Campotosto**	**0.16**	**105**	Pg		**Pg**	**19 32 35.6**	**-0.8**
CAMP	**Campotosto**	**0.16**	**105**	⇓P		**Pg**	**19 32 35.7**	**-0.8**
CAMP				S		**Sg**	**19 32 38.1**	**-1.1**
CAMP				AML		AML		
CAMP				AML		AML		
CAMP				AML		AML		
CAMP				AML		AML		
T1217	**Poggiodomo (PG**	**0.24**	**304**	⇑P		**Pg**	**19 32 37.6**	**-0.3**
T1217				S		**Sg**	**19 32 41.7**	**+0.3**
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
T1217				AML		AML		
AQU	**L'Aquila**	**0.27**	**147**	Pg		**Pg**	**19 32 37.6**	**-0.7**
AQU	**L'Aquila**	**0.27**	**147**	⇑P		**Pg**	**19 32 37.8**	**-0.5**
AQU				S		**Sg**	**19 32 41.8**	**-0.3**
AQU	**L'Aquila**	**0.27**	**147**	P		**Pg**	**19 32 37.6**	**-0.7**
GIGS	**Gran Sasso**	**0.30**	**115**	⇓P		**Pg**	**19 32 37.9**	**-1.0**
GIGS				S		**Sg**	**19 32 42.1**	**-0.9**
GIGS				AML		AML		
	comp=E,73100μm,0.2s							
GIGS				AML		AML		
	comp=N,66350μm,0.2s							
FIAM	**Fiamignano**	**0.32**	**192**	⇑P		**Pg**	**19 32 39.0**	**-0.2**
FIAM				S		**Sg**	**19 32 43.8**	**+0.3**
FIAM				AML		AML		
	comp=E,57450μm,0.6s							
FIAM				AML		AML		
	comp=N,88500μm,0.8s							
FIAM				AML		AML		
	comp=N,88500μm,1.2s							
FIAM				AML		AML		
	comp=E,57450μm,1.4s							
ARRO	**Arrone**	**0.32**	**270**	⇑P		**Pg**	**19 32 39.2**	**-0.1**
ARRO				S		**Sg**	**19 32 44.6**	**+0.9**
ARRO				AML		AML		
	comp=E,38500μm,0.7s							

T1220 AML AML
T1220 AML AML
T1220 AML AML
T1220 AML AML
T1220 AML AML
TRTR Tortoreto Alta 0.57 66 ⇑P **Pg 19 32 43.6 -0.3**
TRTR AML AML
TRTR AML AML
PTQR Pietraquaria 0.57 165 ⇑P **Pg 19 32 42.9 -1.0**
PTQR AML AML
comp=E,13650µm,0.9s
PTQR AML AML
comp=N,10015µm,0.6s
MNTP Montappone 0.59 19 P **Pg 19 32 43.6 -0.7**
MNTP S **Sb 19 32 53.1 -0.1**
MNTP AML AML
MNTP AML AML
comp=N,78400µm,0.3s
SEF1 Sefro 0.60 342 P **Pg 19 32 43.5 -0.9**
SEF1 S **Sg 19 32 52.5 +0.1**
SEF1 AML AML
comp=N,52750µm,0.3s
SEF1 AML AML
comp=E,72700µm,0.2s
ASSB Assisi San Ben 0.61 319 ⇑P **Pg 19 32 43.8 -0.9**
ASSB S **Sg 19 32 53.5 +0.7**
ASSB AML AML
comp=N,37600µm,0.2s
ASSB AML AML
comp=E,37200µm,0.4s
SRES S.Oreste - Sor 0.62 237 ⇑P **Pg 19 32 44.1 -0.6**
SRES AML AML
comp=N,11050µm,0.5s
SRES AML AML
comp=E,17650µm,0.7s
MDAR Monte D'Aria 0.62 356 P **Pg 19 32 43.6 -1.2**
PIO1 Pioraco 0.62 345 P **Pg 19 32 44.0 -0.9**
FIU1 Fiuminata 0.64 342 P **Pg 19 32 44.5 -0.7**
CERT Cerreto 0.65 195 ⇑P **Pg 19 32 44.5 -0.9**
CERT AML AML
comp=N,24600µm,0.5s
CERT AML AML
comp=E,29450µm,0.8s
SSM1 San Severino M 0.65 358 P **Pg 19 32 44.1 -1.2**
MTCE Montecelio 0.65 212 ⇑P **Pg 19 32 44.5 -0.8**
MTCE AML AML
comp=E,25600µm,1.2s
MTCE AML AML
comp=N,19800µm,0.6s
MTCE AML AML
comp=E,25600µm,0.8s
GAG1 Gagliole 0.67 351 P **Pg 19 32 44.6 -1.1**
GAG1 S **Sg 19 32 54.5 0.0**
GAG1 AML AML
comp=E,75000µm,0.4s
GAG1 AML AML
comp=N,74100µm,0.5s
MTL1 Matelica 0.69 348 P **Pg 19 32 45.3 -0.9**
SNTG Esanatoglia 0.70 344 ⇑P **Pg 19 32 45.1 -1.3**
SNTG S **Sg 19 32 55.9 +0.2**
SNTG AML AML
comp=E,17950µm,0.6s
SNTG AML AML
comp=E,17950µm,0.6s
SNTG AML AML
comp=N,22400µm,0.6s
SNTG AML AML
comp=E,16150µm,0.6s
SNTG AML AML
comp=N,20650µm,0.6s
CADA Capodarco di F 0.74 33 P **Pg 19 32 46.8 -0.2**
CADA AML AML
comp=E,75650µm,0.7s
CADA AML AML
comp=N,70600µm,0.4s
CADA AML AML
comp=E,75650µm,0.7s
CADA AML AML
comp=E,75650µm,1.3s
CADA AML AML
comp=N,70600µm,0.4s
EL6 Elcito 0.76 354 ⇑P **Pg 19 32 46.0 -1.4**
EL6 AML AML
comp=E,40550µm,1.0s
EL6 AML AML
comp=N,58150µm,0.3s
RCAV Rocca di Cave 0.76 195 P **Pg 19 32 46.2 -1.1**
RCAV AML AML
comp=N,52550µm,0.8s
RCAV AML AML
comp=E,32650µm,0.6s
VVLD Villa Vallelon 0.77 156 P **Pg 19 32 46.9 -0.7**
VVLD AML AML
comp=E,14000µm,0.5s
VVLD AML AML
comp=N,12700µm,0.6s
GUAR Guarcino 0.79 174 P **Pg 19 32 47.2 -0.7**
GUAR AML AML
comp=E,19800µm,0.6s
GUAR AML AML
comp=N,17900µm,0.5s
FOSV Fossato di Vic 0.79 336 P **Pg 19 32 46.8 -1.2**
FOSV AML AML
comp=E,17800µm,0.4s
FOSV AML AML
comp=E,17800µm,1.6s
FOSV AML AML
comp=N,26050µm,1.1s
CING Cingoli 0.80 360 ⇑P **Pg 19 32 46.6 -1.5**
CING S **Sg 19 32 58.8 +0.2**
CING AML AML
comp=E,42350µm,0.3s
CING AML AML
comp=N,22400µm,1.6s
CING AML AML
comp=E,42350µm,1.7s
CIMA Civitanova Mar 0.81 25 P **Pg 19 32 48.1 -0.2**
CIMA AML AML
CIMA AML AML
CIMA AML AML
CIMA AML AML
CIMA AML AML
RMP Rome, Mte Porz 0.85 206 ⇑P **Pg 19 32 47.8 -1.4**
PP3 Marolino 0.85 20 ⇑P **Pb 19 32 48.4 -1.0**
PP3 AML AML
PP3 AML AML
comp=E,82100µm,0.6s
PP3 AML AML
comp=E,77350µm,0.6s
PP3 AML AML
MGAB Montegabbione 0.87 293 ⇑P **Pb 19 32 48.8 -0.9**
MGAB AML AML
comp=N,41950µm,0.5s
MGAB AML AML
comp=N,44050µm,0.5s
MGAB AML AML
comp=E,44050µm,0.5s
MGAB AML AML
comp=E,41450µm,0.5s
RDP Rocca di Papa 0.90 204 AML AML
comp=N,80900µm,0.8s
RDP AML AML
comp=N,80900µm,1.2s
RDP AML AML
comp=E,48400µm,0.7s
MA9 Marino 0.90 207 P **Pb 19 32 48.4 -1.8**
SSFR Montelago di S 0.91 340 P **Pb 19 32 49.4 -1.0**
SSFR AML AML
comp=N,28550µm,0.9s
SSFR AML AML
comp=N,28550µm,1.1s
SSFR AML AML
comp=E,29350µm,1.4s
SSFR AML AML
comp=N,25600µm,0.6s
SSFR AML AML
comp=E,27800µm,1.4s
SAMA S.Maria delle 0.92 210 P **Pb 19 32 49.2 -1.2**
ATSC Scheggia e Pas 0.93 336 P **Pb 19 32 49.4 -1.3**
POFI Posta Fibreno 0.94 156 P **Pb 19 32 49.9 -1.0**
POFI AML AML
comp=E,11185µm,1.5s
POFI AML AML
comp=N,8500µm,1.1s
POFI AML AML
comp=E,11900µm,1.5s
POFI AML AML
comp=N,7930µm,1.1s
POFI AML AML
comp=E,11185µm,0.5s
POFI AML AML
comp=E,11900µm,0.5s
POFI AML AML
comp=N,7930µm,0.9s
POFI AML AML
comp=N,8500µm,0.9s
ARVD Arcevia 0.94 348 P **Pb 19 32 49.3 -1.6**
ARVD AML AML
comp=E,19550µm,0.5s
ARVD AML AML
comp=N,15700µm,0.4s
ARVD AML AML
comp=E,19550µm,1.5s
LRP Arpino 0.97 163 AML AML
comp=E,6410µm,0.7s
LRP AML AML
comp=N,9830µm,1.0s
LRP AML AML
comp=E,6410µm,1.3s
LAV9 Lanuvio 0.97 203 P **Pb 19 32 50.4 -1.0**
LAV9 AML AML
comp=N,40100µm,1.2s
LAV9 AML AML
comp=N,40550µm,1.1s
LAV9 AML AML
comp=N,40550µm,0.9s
LAV9 AML AML
comp=N,40100µm,0.8s
LAV9 AML AML
comp=E,34850µm,0.6s
LAV9 AML AML
comp=E,37300µm,0.6s
SACS San Casciano d 0.99 286 P **Pb 19 32 51.0 -0.8**
SACS AML AML
comp=E,12045µm,0.5s
SACS AML AML
comp=E,11960µm,1.6s
SACS AML AML
comp=N,12900µm,1.1s
SACS AML AML
comp=N,12650µm,1.1s
SACS AML AML
comp=E,12045µm,1.5s
SACS AML AML
comp=E,11960µm,0.4s
FRON Frontone 1.00 340 P **Pb 19 32 50.6 -1.3**
FRON AML AML
comp=N,17100µm,0.9s
FRON AML AML
comp=N,17100µm,1.1s
FRON AML AML
comp=E,19950µm,0.6s
AOI Ancona 1.01 17 ⇑P **Pb 19 32 50.4 -1.7**
AOI AML AML
comp=E,18150µm,0.3s
AOI AML AML
comp=N,19550µm,0.7s
AOI AML AML
comp=N,19500µm,0.7s
AOI AML AML
comp=E,18150µm,1.7s
GIUL Giuliano Di Ro 1.02 178 P **Pb 19 32 50.5 -1.7**
GIUL AML AML
comp=E,11320µm,0.8s
GIUL AML AML
comp=N,10300µm,1.3s
GIUL AML AML
comp=N,10300µm,0.7s
TOLF Tolfa 1.03 241 ⇑P **Pb 19 32 51.4 -1.0**
TOLF AML AML
comp=E,7395µm,0.6s
TOLF AML AML
comp=N,16750µm,1.1s
LATE Laterza 1.03 272 **Pb 19 32 51.4 -1.0**
LATE Laterza 1.03 272 P **Pb 19 32 51.7 -0.7**
PCRO Pietralacroce 1.06 13 P **Pb 19 32 51.8 -1.1**
COR1 Corinaldo 1.06 352 P **Pb 19 32 52.4 -0.6**
COR1 AML AML
comp=E,52800µm,0.8s
COR1 AML AML
comp=N,42400µm,1.4s
COR1 AML AML
comp=E,27800µm,0.8s
COR1 AML AML
comp=N,41350µm,1.5s
COR1 AML AML
comp=N,42400µm,0.6s
COR1 AML AML
comp=N,41350µm,0.5s
COR1 AML AML
comp=E,52800µm,1.2s
COR1 AML AML
comp=E,27800µm,1.2s
PIEI Pieia 1.08 333 P **Pb 19 32 51.8 -1.4**
PIEI AML AML
comp=E,12260µm,1.6s
PIEI AML AML
comp=N,13200µm,0.4s
PIEI AML AML
comp=E,12260µm,0.4s
LATB Latina 1.10 190 P **Pb 19 32 51.7 -1.8**
MPAG Monte Paganucc 1.10 343 ⇑P **Pb 19 32 52.1 -1.5**
MPAG AML AML
comp=E,16100µm,0.5s
MPAG AML AML
comp=N,16100µm,0.6s
MPAG AML AML
comp=N,16450µm,0.6s
MPAG AML AML
comp=N,16450µm,1.4s
MPAG AML AML
comp=E,15600µm,0.5s
MPAG AML AML
comp=N,16100µm,1.4s
LIK San Giovanni I 1.10 166 P **Pb 19 32 53.4 -0.2**
SENI Senigallia 1.13 1 P **Pb 19 32 53.6 -0.4**
SENI AML AML
comp=E,57600µm,0.9s
SENI AML AML
comp=N,64050µm,1.1s
SENI AML AML
comp=E,17700µm,0.8s
SENI AML AML
comp=N,18300µm,0.9s
SENI AML AML
comp=E,17700µm,1.2s
SENI AML AML
comp=E,57600µm,1.1s
SENI AML AML
comp=N,18300µm,1.1s
NARO Abbazia di Nar 1.13 336 P **Pb 19 32 52.8 -1.3**
NARO AML AML
comp=E,11050µm,1.0s
NARO AML AML
comp=N,8825µm,1.1s
NARO AML AML
comp=E,11050µm,1.0s
APEC Apecchio 1.14 330 P **Pb 19 32 53.6 -0.6**
SF03 Valle Cupa 1.14 282 P **Pb 19 32 53.8 -0.6**
MCIV Monte Civitell 1.14 281 P **Pb 19 32 54.0 -0.3**
MCIV AML AML
comp=E,6530µm,1.1s
MCIV AML AML
comp=N,5275µm,1.5s
MCIV AML AML
comp=E,6530µm,0.9s
CERA Filignano 1.15 148 P **Pb 19 32 53.1 -1.4**
SF11 Podere del Sol 1.16 285 P **Pn 19 32 54.3 -0.4**
SF04 Casetta 1.17 283 P **Pn 19 32 54.5 -0.3**
SF04 AML AML
comp=N,7075µm,0.4s
SF04 AML AML
comp=E,7480µm,1.3s
BADI Badiali 1.17 323 P **Pn 19 32 54.1 -0.6**
BADI AML AML
comp=E,412µm,1.2s
BADI AML AML
comp=E,412µm,0.8s
BADI AML AML
comp=N,7715µm,0.5s
CAFI Castiglion Fio 1.18 310 P **Pn 19 32 54.3 -0.6**
CAFI AML AML
comp=E,9190µm,0.4s
CAFI AML AML
comp=N,7525µm,0.8s
CAFI AML AML
comp=E,9035µm,0.4s
CAFI AML AML
comp=N,7260µm,0.8s
SF13 Bagnolo 1.19 282 P **Pn 19 32 54.3 -0.8**
MIDA Miranda 1.22 140 P **Pn 19 32 53.8 -1.7**
MIDA AML AML
comp=N,7000µm,0.7s
MIDA AML AML
comp=E,7650µm,0.9s
MIDA AML AML
comp=N,6985µm,0.7s
MIDA AML AML
comp=N,7000µm,1.3s
MIDA AML AML
comp=N,6985µm,1.3s
MIDA AML AML
comp=E,7400µm,0.9s
PE3 Peglio 1.23 335 P **Pn 19 32 55.3 -0.3**
PE3 AML AML
comp=E,44700µm,0.5s
PE3 AML AML
comp=N,59µm,0.3s
SF01 Poggio Pratacc 1.23 282 P **Pn 19 32 55.4 -0.3**
SF01 AML AML
comp=N,11850µm,0.8s
SF01 AML AML
comp=N,11850µm,1.2s
SF01 AML AML
comp=E,12300µm,0.8s
SSP9 Sansepolcro 1.27 322 P **Pn 19 32 55.9 -0.2**
TRIV Trivento 1.29 129 P **Pn 19 32 56.1 -0.3**
TRIV AML AML
TRIV AML AML
TRIV AML AML
comp=E,9485µm,0.7s
TRIV AML AML
comp=N,12200µm,1.2s
TRIV AML AML
TRIV AML AML
TRIV AML AML
comp=N,12200µm,0.8s
ARCI Arcidosso 1.30 283 P **Pn 19 32 57.0 +0.3**
ARCI AML AML
comp=E,2355µm,0.9s
ARCI AML AML
comp=N,2185µm,0.6s
ARCI AML AML
comp=E,2355µm,1.1s
CRE Caprese Michel 1.39 319 P **Pb 19 32 58.7 +0.2**
PESA Pesaro 1.39 349 AML AML
comp=N,21300µm,0.6s
PESA AML AML
comp=E,20300µm,0.5s
VAGA Valle Agricola 1.39 146 P **Pn 19 32 57.3 -0.6**
SGG Gregorio Mates 1.48 143 P **Pn 19 32 58.9 -0.2**
MODR Mondragone 1.52 160 P **Pb 19 33 00.2 -0.4**
MAON Monte Argentar 1.54 265 ⇑P **Pn 19 32 59.6 -0.2**
MAON AML AML
comp=E,2350µm,0.6s
MAON AML AML
comp=N,1605µm,1.6s
MAON AML AML
comp=N,1605µm,0.4s
PIGN Pignataro Magg 1.56 152 P **Pb 19 33 01.1 -0.3**
PIGN AML AML
comp=E,2620µm,1.5s
PIGN AML AML
comp=N,2340µm,1.1s
PIGN AML AML
comp=E,2645µm,1.5s
PIGN AML AML
comp=N,2425µm,1.2s
PIGN AML AML
comp=N,2425µm,0.8s
PIGN AML AML
comp=E,2620µm,0.5s
PIGN AML AML
comp=E,2645µm,0.5s
PIGN AML AML
comp=N,2340µm,0.9s
CIGN Sant'Elia a Pi 1.57 126 P **Pn 19 32 59.8 -0.4**
ASQU Asqua 1.60 320 P **Pn 19 33 01.3 +0.6**
SACR S. Croce Del S 1.63 136 P **Pb 19 33 02.1 -0.5**
SFI Santa Sofia 1.66 324 P **Pn 19 33 01.1 -0.4**
MELA Melanico ??? S 1.67 121 P **Pb 19 33 02.6 -0.7**
MELA AML AML
comp=E,7995µm,1.0s
MELA AML AML
comp=N,10780µm,0.9s
MELA AML AML
comp=E,7995µm,1.0s
MELA AML AML
comp=N,10920µm,0.9s
MELA AML AML
comp=E,7840µm,1.0s
OSSC Osservatorio P 1.72 304 **Pn 19 33 02.2 -0.2**
OSSC Osservatorio P 1.72 304 P **Pn 19 33 02.6 +0.3**
OSSC AML AML
comp=E,1950µm,0.7s
OSSC AML AML
comp=E,1950µm,1.3s
OSSC AML AML
comp=N,2070µm,0.7s
OSSC AML AML
comp=N,2575µm,0.9s
OSSC AML AML
comp=E,2715µm,0.9s
CASP Castiglione de 1.74 278 Pn **Pn 19 33 02.1 -0.4**
CASP Castiglione de 1.74 278 P **Pn 19 33 02.8 +0.2**
RUFI Rufina 1.77 316 P **Pn 19 33 02.7 -0.3**
RUFI AML AML
comp=N,3230µm,1.6s
RUFI AML AML
comp=E,3080µm,0.6s
RUFI AML AML
comp=N,3230µm,0.4s
TREM Isole Tremiti 1.77 104 AML AML
comp=E,7990µm,0.7s
TREM AML AML
comp=E,7990µm,1.3s
TREM AML AML
comp=N,10500µm,0.8s
TREM AML AML
comp=N,10500µm,1.2s
TRIF Trifonti 1.78 288 P **Pn 19 33 03.2 0.0**
LMD Lutirano 1.85 324 P **Pn 19 33 04.4 +0.2**
LMD AML AML
comp=N,3860µm,1.1s
LMD AML AML
comp=E,3100µm,0.6s
LMD AML AML
comp=N,3860µm,0.9s
APRC Apricena 1.92 114 P **Pn 19 33 05.5 +0.4**
APRC AML AML
comp=E,4430µm,1.5s
APRC AML AML
comp=N,6185µm,0.4s
BIOG Biogem 1.99 133 P **Pb 19 33 08.7 -0.1**
SEI Scarperia 2.00 318 P **Pn 19 33 06.9 +0.7**
A318A Donoratico (LI 2.01 287 P **Pn 19 33 05.9 -0.4**
CRMI Carmignano 2.04 307 P **Pn 19 33 07.0 +0.3**
SGRT San Giovanni R 2.06 113 **Pn 19 33 07.9 +0.9**
SGRT San Giovanni R 2.06 113 P **Pn 19 33 07.8 +0.8**
SGRT AML AML
comp=N,5100µm,0.4s
SGRT AML AML
comp=E,4450µm,0.7s
MPPT Montemurlo 2.07 312 P **Pn 19 33 06.5 -0.7**
MTCR Monte La Croce 2.17 313 P **Pn 19 33 08.6 0.0**
MSAG Monte S. Angel 2.19 112 P **Pn 19 33 09.3 +0.5**
MSAG AML AML
comp=E,6035µm,0.5s
MSAG AML AML
comp=N,9975µm,1.3s
MSAG AML AML
comp=N,10020µm,1.3s
MSAG AML AML
comp=N,10020µm,0.7s
MSAG AML AML
comp=N,9975µm,0.7s
MSAG AML AML
comp=E,6150µm,1.1s

MSAG AML AML
comp=E,6035µm,1.5s
SNAL S. Angelo Dei 2.23 137 P Pn 19 33 10.9 +1.5
PII Pisa 2.27 301 P Pn 19 33 10.6 +0.8
PII AML AML
comp=N,1002µm,0.7s
PII AML AML
comp=E,1238µm,0.5s
MAIM Mastiano 2.39 305 P Pn 19 33 12.1 +0.6
MAIM AML AML
comp=N,1174µm,0.5s
MAIM AML AML
comp=E,1190µm,0.9s
ZCCA Zocca 2.40 318 Pn 19 33 13.5 +1.8
ZCCA Zocca 2.40 318 AML AML
comp=E,1410µm,1.1s
ZCCA AML AML
comp=E,1410µm,0.9s
ZCCA AML AML
comp=N,1195µm,1.5s
CAPA Cerignola FG 2.41 125 P Pn 19 33 12.1 +0.3
CARD Cardoso 2.46 307 P Pn 19 33 12.0 -0.5
CARD AML AML
comp=E,1135µm,0.4s
CARD AML AML
comp=N,1155µm,0.4s
MRLC Muro Lucano 2.50 136 P Pn 19 33 15.0 +2.0
VLC Villacollemand 2.59 309 Pn 19 33 13.1 -1.2
SARO Sassorosso 2.60 309 P Pn 19 33 14.5 0.0
SARO AML AML
comp=E,1445µm,0.6s
SARO AML AML
comp=N,2035µm,0.5s
SARO AML AML
comp=E,1445µm,1.4s
CDRU Civita di Ruta 2.62 142 P Pn 19 33 16.2 +1.5
MRVN Minervino Murg 2.70 123 P Pn 19 33 16.7 +0.9
MRVN AML AML
comp=E,863µm,0.7s
MRVN AML AML
comp=N,882µm,0.7s
MRVN AML AML
comp=N,882µm,1.3s
ACER Acerenza 2.72 130 P Pn 19 33 17.0 +0.9
EQUI Equi 2.73 307 P Pn 19 33 16.2 -0.1
EQUI AML AML
comp=E,578µm,0.8s
EQUI AML AML
comp=N,662µm,0.7s
EQUI AML AML
comp=N,662µm,1.3s
EQUI AML AML
comp=E,578µm,1.2s
CMPR Campora 2.75 144 P Pn 19 33 18.0 +1.4
SLCN Sala Consilina 2.85 139 P Pn 19 33 20.1 +2.2
MCEL Monticello 2.98 138 P Pn 19 33 22.0 +2.3
TEOL Teolo 2.99 339 Pn Pn 19 33 19.4 -0.5
TEOL Teolo 2.99 339 P Pn 19 33 20.2 +0.4
CORF Corte 3.01 266 P Pn 19 33 20.4 +0.3
SKDS Skadanscina 3.02 11⇑iPn Pn 19 33 19.5 -0.8
PRMA PARMA 3.03 317 Pn 19 33 20.4 +0.1
AMUR Altamura 3.04 122 P Pn 19 33 21.3 +0.8
AMUR AML AML
comp=N,1114µm,1.1s
AMUR AML AML
comp=E,980µm,0.7s
A050A Klekovaca 3.08 51 ePn Pn 19 33 22.2 +1.1
PGF Pioggiola 3.11 271 eP Pn 19 33 22.4 +0.9
PGF eSn Sn 19 33 56.9 -1.6
comp=E,20nm,0.3s
PGF Pioggiola 3.11 271 AML AML
comp=E,212µm,0.6s
PGF AML AML
comp=N,176µm,1.6s
PGF AML AML
comp=N,176µm,0.4s
ZOVE Zovencedo 3.13 337 P Pn 19 33 21.9 +0.2
GBRS Gornja Briga 3.17 21 iPn Pn 19 33 22.3 0.0
MSSA Maissana 3.20 304 Pn 19 33 23.0 +0.3
MSSA Maissana 3.20 304 P Pn 19 33 23.6 +0.9
CUC Castrocucco 3.25 142 Pb 19 33 27.6 -2.5
SRKY Kupres RS 3.25 61⇑iPn Pn 19 33 24.8 +1.3
MATE Matera 3.25 125 P Pn 19 33 24.2 +0.8
BOJS Bojanci 3.28 26⇑iPn Pn 19 33 24.1 +0.4
CEY Cerknica 3.28 15⇑iPn Pn 19 33 23.2 -0.6
STON Ston 3.33 83 AML AML
comp=N,690µm,0.6s
STON AML AML
comp=E,679µm,0.4s
STON AML AML
comp=E,679µm,1.6s
STON Ston 3.33 83 ePn Pn 19 33 24.6 +0.3
STON eSn Sn 19 34 03.1 -0.6
STON Ston 3.33 83⇑iPn Pn 19 33 24.3 0.0
AJAC Base Areonaval 3.36 260 P Pn 19 33 25.6 +0.8
AJAC AML AML
comp=E,546µm,1.1s
AJAC AML AML
comp=N,357µm,1.4s
AJAC AML AML
comp=N,357µm,0.6s
AJAC AML AML
comp=E,546µm,0.9s
MGRS Mrkonjic Grad 3.37 56⇑iPn Pn 19 33 26.4 +1.4
MARN Marana (Italy) 3.38 336 P Pn 19 33 25.5 +0.3
NOCI Noci 3.40 120 P Pn 19 33 26.3 +0.9
NOCI AML AML
comp=E,802µm,0.8s
NOCI AML AML
comp=E,802µm,1.2s
NOCI AML AML
comp=N,1012µm,0.4s
SABO M.te Sabotino 3.41 5 Pn 19 33 24.5 -1.2
SABO M.te Sabotino 3.41 5 ⇑P Pn 19 33 25.1 -0.5
SABO AML AML
comp=E,9730µm,0.7s
SABO AML AML
comp=E,2235µm,0.7s
SABO AML AML
comp=N,2940µm,0.7s
SABO AML AML
comp=N,10950µm,0.7s
SABO AML AML
comp=E,9730µm,1.3s
SABO AML AML
comp=E,2235µm,1.3s
ROVR Rover Verones 3.43 334 P Pn 19 33 25.6 -0.4
ROVR AML AML
comp=E,970µm,0.8s
ROVR AML AML
comp=N,622µm,0.6s
ROVR AML AML
comp=N,1625µm,0.6s
ROVR AML AML
comp=E,414µm,0.8s
CGRP Cima Grappa 3.45 343 P Pn 19 33 26.7 +0.4
CGRP AML AML
comp=N,2745µm,0.5s
CGRP AML AML
comp=E,3470µm,0.5s
CGRP AML AML
comp=N,2765µm,0.5s
CGRP AML AML
comp=N,2765µm,1.5s
CGRP AML AML
comp=N,2745µm,1.5s
CGRP AML AML
comp=E,3450µm,0.4s
CAE Caneva 3.47 351 P Pn 19 33 26.4 -0.1
PRIJ Prijedor 3.50 45 ePn Pn 19 33 27.3 +0.6
VARN Col Varnada, M 3.50 347 P Pn 19 33 26.8 -0.1
VARN AML AML
comp=N,1475µm,0.5s
VARN AML AML
comp=E,2055µm,0.7s
VARN AML AML
comp=E,2035µm,0.7s
VARN AML AML
comp=N,1485µm,0.5s
BALD Monte Baldo 3.55 332 P Pn 19 33 27.8 +0.1
LJU Ljubljana 3.59 15 iPn Pn 19 33 28.3 +0.3
LJU iSn Sn 19 34 09.4 -1.0
LJU IAML 19 34 38.6
comp=Z,496nm,0.7s
LJU Ljubljana 3.59 15 AML AML
comp=N,8245µm,0.5s
LJU AML AML
comp=E,6490µm,1.1s
LJU AML AML
comp=E,6490µm,0.9s
SALO Salr 3.60 329 Pn Pn 19 33 28.4 +0.2
SALO Salr 3.60 329 P Pn 19 33 29.2 +1.0
SALO AML AML
comp=E,1350µm,0.4s
SALO AML AML
comp=N,1460µm,0.4s
SALO AML AML
comp=E,1275µm,0.4s
SALO AML AML
comp=E,1275µm,1.6s
SALO AML AML
comp=E,1350µm,1.6s
SALO AML AML
comp=N,1425µm,0.4s
DOSS Dosso del Somm 3.61 337 P Pn 19 33 28.3 -0.1
DOSS AML AML
comp=E,1390µm,0.6s
DOSS AML AML
comp=E,910µm,0.8s
DOSS AML AML
comp=N,1420µm,0.6s
DOSS AML AML
comp=N,876µm,0.5s
DOSS AML AML
comp=E,1390µm,1.4s
DOSS AML AML
comp=N,1420µm,1.4s
DRE Drenchia 3.61 5 ⇑P Pn 19 33 27.7 -0.7
BLY Banja Luka 3.61 52 ePn Pn 19 33 28.7 +0.4
BLY Banja Luka 3.61 52⇑iPn Pn 19 33 28.5 +0.2
A051A Mrakovica 3.62 46⇑iPn Pn 19 33 28.2 -0.3
CRES Cresnjev 3.63 26⇑iPn Pn 19 33 28.1 -0.5
CTI Castel Tesino 3.65 343 Pn 19 33 28.5 -0.4
CTI Castel Tesino 3.65 343 P Pn 19 33 29.3 +0.4
CTI AML AML
comp=N,1380µm,1.5s
CTI AML AML
comp=E,1270µm,0.2s
CTI Castel Tesino 3.65 343 P Pn 19 33 28.5 -0.4
VARA Varagna 3.65 334 P Pn 19 33 29.2 +0.2
BAD Bernadia 3.66 0 ⇑P Pn 19 33 28.6 -0.4
MPRI Monte Prat 3.67 358 ⇑P Pn 19 33 29.2 0.0
CADS Cadrg 3.67 6 iPn Pn 19 33 28.5 -0.6
CADS iSn Sn 19 34 12.1 -0.3
CADS IAML 19 34 16.6
comp=Z,300nm,0.4s
TAR1 Taranto 3.68 122 P Pn 19 33 30.3 +1.0
TAR1 AML AML
comp=N,1024µm,0.6s
TAR1 AML AML
comp=E,822µm,0.5s
TAR1 AML AML
comp=N,1024µm,1.4s
STAL STALIGIAL 3.70 355 Pn 19 33 28.8 -0.8
STAL STALIGIAL 3.70 355 P Pn 19 33 29.2 -0.3
STAL AML AML
comp=N,1295µm,1.3s
STAL AML AML
comp=N,1335µm,0.3s
STAL AML AML
comp=E,1235µm,1.2s
STAL AML AML
comp=E,1545µm,0.3s
STAL AML AML
comp=N,1295µm,0.7s
BOO Bordano 3.74 359 ⇑P Pn 19 33 29.6 -0.5
LUSI Trento, Gardas 3.75 335 P Pn 19 33 30.6 +0.4
LUSI AML AML
comp=E,809µm,0.7s
LUSI AML AML
comp=N,1145µm,0.4s
CIMO Cimolais 3.77 352 Pn Pn 19 33 30.5 -0.1
CIMO Cimolais 3.77 352 P Pn 19 33 30.2 -0.4
CIMO AML AML
comp=E,496µm,0.4s
CIMO AML AML
comp=N,487µm,1.1s
CIMO AML AML
comp=E,489µm,0.4s
CIMO AML AML
comp=N,480µm,1.1s
CIMO AML AML
comp=N,480µm,0.9s
CIMO AML AML
comp=E,496µm,1.6s
CIMO AML AML
comp=N,487µm,0.9s
CIMO AML AML
comp=E,489µm,1.6s
AGOR Agordo 3.80 348 P Pn 19 33 30.7 -0.2
AGOR AML AML
comp=E,770µm,1.4s
AGOR AML AML
comp=E,632µm,1.4s
AGOR AML AML
comp=N,466µm,1.5s
AGOR AML AML
comp=E,770µm,0.6s
AGOR AML AML
comp=E,632µm,0.6s
AGOR AML AML
comp=N,466µm,0.5s
AGOR AML AML
comp=N,586µm,0.3s
TREB Trebinje 3.80 86 ePn Pn 19 33 31.6 +0.7
TREB eSn Sn 19 34 14.7 -0.7
TREB Trebinje 3.80 86⇑iPn Pn 19 33 31.4 +0.5
PTCC Patocco-Chiusa 3.83 2 P Pn 19 33 30.7 -0.7
PTCC AML AML
comp=E,688µm,0.4s
PTCC AML AML
comp=N,656µm,0.5s
FUSE Fusea 3.84 358 P Pn 19 33 30.9 -0.5
GAGG Gaggia 3.86 336 P Pn 19 33 32.2 +0.4
GAGG AML AML
comp=E,856µm,0.6s
GAGG AML AML
comp=N,1140µm,0.9s
GAGG AML AML
comp=N,865µm,0.6s
GAGG AML AML
comp=E,1150µm,0.9s
PRED Cave del Predi 3.87 4 Pn 19 33 31.8 -0.2
PRED Cave del Predi 3.87 4 P Pn 19 33 31.3 -0.7
ZONE Zone 3.88 326 P Pn 19 33 32.4 +0.3
CLUD Cludinico 3.89 357 Pn 19 33 31.4 -0.7
CLUD Cludinico 3.89 357 P Pn 19 33 31.5 -0.6
CLUD AML AML
comp=N,650µm,1.6s
CLUD AML AML
comp=N,650µm,0.4s
CLUD AML AML
comp=E,1228µm,0.8s
CLUD AML AML
comp=N,641µm,0.7s
CLUD AML AML
comp=E,1265µm,0.8s
HCY Herceg Novi 3.91 90⇑iPn Pn 19 33 32.9 +0.4
HCY Herceg Novi 3.91 90⇑iPn Pn 19 33 32.9 +0.4
HCY iSn Sn 19 34 18.6 +0.4
PCP Piancastagn 3.91 302 P Pn 19 33 32.9 +0.3
BRY Bratogost 3.94 83⇑iPn Pn 19 33 33.4 +0.4
BRY iSn Sn 19 34 19.9 +0.7
QLNO Quiliano 3.94 298 P Pn 19 33 33.4 +0.5
PLRO Paularo 3.97 359 P Pn 19 33 33.0 -0.4
ACOM Acomizza, Ital 3.98 3 P Pn 19 33 33.4 -0.1
ACOM AML AML
comp=E,1285µm,0.4s
ACOM AML AML
comp=N,1195µm,0.6s
ACOM AML AML
comp=E,1230µm,0.4s
ACOM AML AML
comp=N,1148µm,0.4s
ACOM AML AML
comp=N,1148µm,1.6s
MABI Malga Bissina 3.98 332 P Pn 19 33 34.1 +0.6
ZOU Zoufplan 3.98 358 P Pn 19 33 33.2 -0.3
ZOU AML AML
comp=E,941µm,1.1s
ZOU AML AML
comp=N,751µm,1.0s
ZOU AML AML
comp=N,737µm,1.0s
ZOU AML AML
comp=E,934µm,1.1s
A052A Srbac 4.01 50⇑iPn Pn 19 33 33.2 -0.6
FVI Forni Avoltri 4.03 356 P Pn 19 33 34.0 -0.1
FVI AML AML
comp=E,540µm,0.7s
FVI AML AML
comp=N,635µm,0.7s
OBKA Obir 4.05 13 iPn Pn 19 33 34.3 -0.1
comp=N,25nm,0.6s
OBKA iSn Sn 19 34 21.5 -0.2
comp=N,106nm,0.5s
OBKA Obir 4.05 13 ePn Pn 19 33 34.0 -0.4
SNR=15
OBKA Obir 4.05 13⇑iPn Pn 19 33 33.6 -0.8
OBKA Obir 4.05 13 ePn Pn 19 33 34.0 -0.4
SNR=15
MYKA Terra Mystica 4.06 4 iPn Pn 19 33 34.7 +0.1
comp=N,42nm,0.6s,SNR=11
MYKA iSn Sn 19 34 21.7 -0.4
comp=N,51nm,0.4s
APPI Appiano 4.15 341 P Pn 19 33 36.9 +1.1
APPI AML AML
comp=N,1031µm,0.4s
APPI AML AML
comp=E,976µm,0.4s
ABTA Abfaltersbach 4.20 353 iPn Pn 19 33 37.1 +0.6
comp=E,265nm,0.5s,SNR=74
ABTA iSn Sn 19 34 26.9 +1.5
comp=E,44nm,0.3s
CEME Cevo 4.22 88⇑iPn Pn 19 33 37.4 +0.7
CEME iSn Sn 19 34 26.5 +0.6
VSL Villasalto 4.22 225 AML AML
comp=E,138µm,0.7s
VSL AML AML
comp=N,195µm,0.8s
NKME Niksic 4.24 86⇑iPn Pn 19 33 37.7 +0.7
NKME iSn Sn 19 34 26.7 +0.2
SOKA Soboth 4.30 17 iPn Pn 19 33 37.7 -0.2
comp=N,9.1nm,0.3s
SOKA iSn Sn 19 34 29.2 +1.2
comp=N,38nm,0.4s
TIP Timpagrande 4.33 140 ⇑P Pn 19 33 39.1 +0.8
TIP Timpagrande 4.33 140 Pn 19 33 42.2 +3.9
BRMO Bormio 4.39 334 AML AML
comp=E,276µm,1.4s
BRMO AML AML
comp=N,232µm,0.9s
BRMO AML AML
comp=E,276µm,0.6s
BRMO AML AML
comp=N,232µm,1.1s
SBF Sospel 4.41 289 eP Pn 19 33 39.7 +0.4
SBF eSn Sn 19 34 27.6 -2.9
comp=N,46nm,0.4s
DRME Dracevica, Mon 4.45 93⇑iPn Pn 19 33 40.8 +1.0
DRME Dracevica, Mon 4.45 93⇑iPn Pn 19 33 40.1 +0.3
DRME iSn Sn 19 34 32.0 +0.6
BERNI Berninapass 4.46 330 ⇑P Pn 19 33 41.4 +1.2
BERNI AML AML
comp=E,358µm,0.7s
BERNI AML AML
comp=N,328µm,1.3s
MOSI Grossmontoni 4.46 336 AML AML
comp=N,1820µm,1.0s
MOSI AML AML
comp=E,1245µm,0.7s
MOSI AML AML
comp=N,1820µm,1.0s
MOSI AML AML
comp=E,1245µm,1.3s
PDG Podgorica 4.48 90 ⇑P Pn 19 33 41.2 +1.0
PDG Podgorica 4.48 90 Pn Pn 19 33 40.8 +0.6
PDG Podgorica 4.48 90 AML AML
comp=N,806µm,1.4s
PDG AML AML
comp=E,697µm,0.7s
PDG AML AML
comp=E,546µm,1.0s
PDG AML AML
comp=N,616µm,1.4s
PDG AML AML
comp=N,616µm,0.6s
PDG AML AML
comp=N,806µm,0.6s
PDG Podgorica 4.48 90 ePn Pn 19 33 41.2 +1.0
PDG eSn Sn 19 34 32.6 +0.5
PDG Podgorica 4.48 90⇑iPn Pn 19 33 41.0 +0.8
PDG iSn Sn 19 34 32.9 +0.8
MUGIO Muggio 4.49 320 P Pn 19 33 40.0 -0.3
KBA Koelnbreinsper 4.50 1 iPn Pn 19 33 41.2 +0.4
comp=N,100nm,0.6s,SNR=27
KBA iSn Sn 19 34 32.3 -0.7
comp=N,124nm,0.6s
KBA Koelnbreinsper 4.50 1 ePn Pn 19 33 41.1 +0.4
SNR=38
KBA eSn Sn 19 34 31.8 -1.2
SNR=6.2
KBA Koelnbreinsper 4.50 1 ePn Pn 19 33 41.1 +0.4
SNR=38
KBA eSn Sn 19 34 31.8 -1.2
SNR=6.2
ULC Ulcinj 4.52 96⇑iPn Pn 19 33 41.1 +0.2
ULC iSn Sn 19 34 33.7 +0.4
FUORN Ofenpass-Fuorn 4.55 334 Pn 19 33 42.9 +1.4
VARE Varese 4.58 317 P Pn 19 33 41.5 -0.2
PLE Pljevlja 4.60 79⇑iPn Pn 19 33 42.4 +0.4
PLE iSn Sn 19 34 35.5 +0.1
RUDO Rudo 4.63 75⇑iPn Pn 19 33 43.0 +0.6
KOME Kolasin 4.66 85⇓iPn Pn 19 33 42.9 +0.1
KOME iSn Sn 19 34 36.6 -0.1
BBLS Lazići 4.71 72 ePn Pn 19 33 44.6 +1.1
TUE Stuetta 4.77 326 Pn Pn 19 33 42.3 -2.2
CEL Celeste 4.78 154 Pn 19 33 45.9 +1.6
FETA Feichten 4.78 339 iPn Pn 19 33 45.9 +1.4
comp=N,19nm,0.7s,SNR=13
FETA iSn Sn 19 34 41.7 +1.9
comp=N,29nm,0.5s
WTTA Wattenberg 4.82 347 iPn Pn 19 33 46.6 +1.6
comp=N,31nm,0.5s,SNR=11
WTTA iSn Sn 19 34 42.5 +1.7
comp=N,152nm,0.5s
WTTA Wattenberg 4.82 347 ePn Pn 19 33 46.7 +1.6
SNR=27
WTTA eSn Sn 19 34 44.1 +3.4
SNR=4.4
WTTA Wattenberg 4.82 347 ePn Pn 19 33 46.7 +1.6
SNR=27
WTTA eSn Sn 19 34 44.1 +3.4
SNR=4.4
DAVOX Davos/Dischmat 4.83 332 Pn Pn 19 33 46.9 +1.8
comp=N,16nm,0.3s,baz=172,slow=18,SNR=115
DAVOX Sn Sn 19 34 36.8 -4.2
comp=N,4.1nm,0.3s,baz=164,slow=20,SNR=1.4
SQTA Sankt Quirin 4.85 344 Pn 19 33 47.4 +1.9
SQTA Sn 19 34 44.4 +2.8
SQTA Sankt Quirin 4.85 344 iPn Pn 19 33 47.4 +1.9
comp=N,72nm,0.4s,SNR=28
SQTA iSn Sn 19 34 44.4 +2.8
comp=N,152nm,0.4s
SQTA Sankt Quirin 4.85 344 P Pn 19 33 47.4 +1.9
SQTA 19 34 44.4
WATA Walderalm 4.90 347 Pn 19 33 48.0 +1.9
WATA Sn 19 34 44.3 +1.7
WATA Walderalm 4.90 347 iPn Pn 19 33 48.0 +1.9
comp=N,53nm,0.4s,SNR=25
WATA iSn Sn 19 34 44.3 +1.7
comp=N,85nm,0.6s
TRAV Traversella 4.91 309 P Pn 19 33 45.6 -0.6
IVA Berane 4.94 84⇓iPn Pn 19 33 47.8 +1.2
IVA iSn Sn 19 34 43.7 +0.1
ARSA Arzberg 4.95 19 iPn Pn 19 33 46.3 -0.5
comp=N,18nm,0.4s,SNR=11
ARSA eSn Sn 19 34 44.5 +0.6
comp=N,57nm,0.4s
ARSA Arzberg 4.95 19 ePn Pn 19 33 46.3 -0.5
SNR=26
ARSA eSn Sn 19 34 42.2 -1.7
SNR=2.5
ARSA Arzberg 4.95 19 AML AML
comp=N,180µm,1.0s
ARSA AML AML
comp=E,206µm,0.6s
ARSA Arzberg 4.95 19 ePn Pn 19 33 46.3 -0.5

	SNR=26										
ARSA					*e*Sn		**Sn**	19 34 42.2	-1.7		
	SNR=2.5										
GALF	**Gagliano Caste**	**4.97**	**167**		AML		AML				
	comp=E,99µm,0.6s										
GALF					AML		AML				
	comp=N,126µm,0.7s										
LMR	**La Mourre**	**4.97**	**281**		*e*P		**Pn**	19 33 46.9	-0.1		
LMR					*e*Sn		**Sn**	19 34 40.5	-3.8		
	comp=N,7.9nm,0.4s										
PVY	**Plav**	**4.99**	**88**	⇓	*i*Pn		**Pn**	19 33 48.0	+0.7		
PVY					*i* Sn		**Sn**	19 34 45.0	+0.1		
MOTA	**Moosalm**	**5.00**	**343**				**Pn**	19 33 49.6	+2.2		
MOTA							**Sn**	19 34 47.0	+1.9		
MOTA	**Moosalm**	**5.00**	**343**		*i* Pn		**Pn**	19 33 49.6	+2.2		
	comp=N,48nm,0.8s,SNR=16										
MOTA					*i* Sn		**Sn**	19 34 47.0	+1.9		
	comp=N,55nm,0.4s										
MOTA	**Moosalm**	**5.00**	**343**		P		**Pn**	19 33 49.6	+2.2		
MOTA								19 34 47.0			
TEKS	**Tekeris**	**5.00**	**65**		*e*Pn		**Pn**	19 33 47.4	0.0		
SJES	**Sjenica**	**5.02**	**80**		*e*Pn		**Pn**	19 33 49.3	+1.6		
SJES					*e*Sn		**Sn**	19 34 45.8	+0.2		
FUSIO	**Fusio**	**5.06**	**322**		P		**Pn**	19 33 49.1	+0.8		
TIR	**Tirane**	**5.12**	**102**	⇑	P		**Pn**	19 33 50.1	+1.1		
TIR	**Tirane**	**5.12**	**102**				**Pn**	19 33 50.2	+1.1		
TIR	**Tirane**	**5.12**	**102**		P		**Pn**	19 33 50.2	+1.2		
TIR	**Tirane**	**5.12**	**102**		*e*Pn		**Pn**	19 33 50.0	+1.1		
TIR					*e*Sn		**Sn**	19 34 46.7	-1.2		
BIOA	**Bad Ischl, Aus**	**5.12**	**3**				**Pn**	19 33 49.4	+0.3		
BIOA							**Sn**	19 34 49.5	+1.4		
BIOA	**Bad Ischl, Aus**	**5.12**	**3**		*i* Pn		**Pn**	19 33 49.4	+0.3		
	comp=N,0.2nm,0.1s,SNR=23										
BIOA					*i* Sn		**Sn**	19 34 49.5	+1.4		
	comp=N,107nm,0.6s										
MBDF	**Montbardon**	**5.14**	**297**		*e*P		**Pn**	19 33 50.6	+1.2		
MBDF					*e*Sn		**Sn**	19 34 44.0	-4.7		
	comp=N,12nm,0.4s										
VLO	**Vlora**	**5.17**	**112**				**Pn**	19 33 51.6	+1.9		
VLO	**Vlora**	**5.17**	**112**		P		**Pn**	19 33 51.6	+1.9		
VAE	**Valguarnera**	**5.18**	**169**		Pn		Pn	19 33 55.7	+5.8		
	comp=N,0.7nm,0.3s,baz=229,slow=12,SNR=3.6										
DIVS	**Divibare**	**5.18**	**71**		Pn		**Pn**	19 33 49.5	-0.4		
DIVS	**Divibare**	**5.18**	**71**		*e*Pn		**Pn**	19 33 50.5	+0.6		
DIVS					*e*Sn		**Sn**	19 34 46.4	-3.2		
DIVS	**Divibare**	**5.18**	**71**	⇑	*i*Pn		**Pn**	19 33 49.9	0.0		
IVAS	**Ivanjica**	**5.19**	**77**		*e*Pn		**Pn**	19 33 50.7	+0.7		
IVAS					*e*Sn		**Sn**	19 34 47.6	-2.1		
RETA	**Reutte**	**5.21**	**341**		*i* Pn		**Pn**	19 33 52.5	+2.3		
	comp=N,7.0nm,0.3s,SNR=12										
RETA					*i* Sn		**Sn**	19 34 51.5	+1.3		
	comp=N,102nm,0.5s										
PLONS	**Plons/SG**	**5.23**	**330**		*e*Pn		**Pn**	19 33 52.9	+2.2		
	SNR=21										
PLONS					*e*Sn		**Sn**	19 34 53.7	+2.8		
	SNR=2.6										
PLONS	**Plons/SG**	**5.23**	**330**		*e*Pn		**Pn**	19 33 52.9	+2.2		
	SNR=21										
PLONS					*e*Sn		**Sn**	19 34 53.7	+2.8		
	SNR=2.6										
DAVA	**Damuels**	**5.27**	**335**		*i* Pn		**Pn**	19 33 53.0	+1.8		
	comp=N,28nm,0.4s,SNR=17										
DAVA					*i* Sn		**Sn**	19 34 52.6	+0.8		
	comp=N,76nm,0.5s										
DAVA	**Damuels**	**5.27**	**335**		*e*Pn		**Pn**	19 33 53.3	+2.1		
	SNR=38										
DAVA					*e*Sn		**Sn**	19 34 55.5	+3.7		
	SNR=2.4										
DAVA	**Damuels**	**5.27**	**335**		*e*Pn		**Pn**	19 33 53.3	+2.1		
	SNR=38										
DAVA					*e*Sn		**Sn**	19 34 55.5	+3.7		
	SNR=2.4										
MOA	**Molln**	**5.33**	**8**		*i* Pn		**Pn**	19 33 52.3	+0.3		
	comp=N,12nm,0.6s,SNR=8.0										
MOA					*i* Sn		**Sn**	19 34 52.7	-0.4		
	comp=N,36nm,0.4s										
MOA	**Molln**	**5.33**	**8**		*e*Pn		**Pn**	19 33 52.2	+0.3		
	SNR=26										
MOA					*e*Sn		**Sn**	19 34 52.8	-0.3		
	SNR=6.8										
MOA	**Molln**	**5.33**	**8**		*e*Pn		**Pn**	19 33 52.2	+0.3		
MOA					*e*Sn		**Sn**	19 34 52.6	-0.4		
MOA	**Molln**	**5.33**	**8**		*e*Pn		**Pn**	19 33 52.2	+0.3		
	SNR=26										
MOA					*e*Sn		**Sn**	19 34 52.8	-0.3		
	SNR=6.8										
BNI	**Bardonecchia**	**5.33**	**300**				**Pn**	19 33 50.8	-1.3		
BNI	**Bardonecchia**	**5.33**	**300**		P		**Pn**	19 33 50.8	-1.3		
MORH	**Mrgy, Hungar**	**5.33**	**45**	⇑	P		**Pn**	19 33 50.8	-1.1		
MORH	**Mrgy, Hungar**	**5.33**	**45**		*e*Pn		**Pn**	19 33 50.8	-1.1		
FRGS	**Fruska Gora**	**5.43**	**59**	⇑	P		**Pn**	19 33 53.8	+0.5		
FRGS	**Fruska Gora**	**5.43**	**59**		*e*Pn		**Pn**	19 33 53.9	+0.6		
FRGS	**Fruska Gora**	**5.43**	**59**	⇑	*i*Pn		**Pn**	19 33 53.2	-0.1		
TRUS	**Trudelj**	**5.50**	**70**		*e*Pn		**Pn**	19 33 54.8	+0.6		
TRUS					*e*Sn		**Sn**	19 34 54.6	-2.7		
LPL	**La Plagne**	**5.51**	**304**		*e*P		**Pn**	19 33 55.7	+1.1		
LPL					*e*Sn		**Sn**	19 34 52.6	-5.4		
	comp=N,17nm,0.4s										
UBR	**Ueberruh**	**5.55**	**338**		*e*Pn		**Pn**	19 33 56.2	+1.2		
	SNR=11										
UBR					*e*Sn		**Sn**	19 35 00.7	+2.0		
	SNR=3.3										
UBR	**Ueberruh**	**5.55**	**338**		*e*Pn		**Pn**	19 33 56.2	+1.2		
	SNR=11										
UBR					*e*Sn		**Sn**	19 35 00.7	+2.0		
	SNR=3.3										
RONA	**Rosalia, Austr**	**5.57**	**22**				**Pn**	19 33 55.2	0.0		
RONA							**Sn**	19 34 58.2	-0.9		
RONA	**Rosalia, Austr**	**5.57**	**22**		*i* Pn		**Pn**	19 33 55.2	0.0		
	comp=N,14nm,0.4s,SNR=14										
RONA					*i* Sn		**Sn**	19 34 58.2	-0.9		
	comp=N,18nm,0.5s										
GRUS	**Gruza**	**5.64**	**74**		*e*Pn		**Pn**	19 33 57.0	+0.8		
GRUS					*e*Sn		**Sn**	19 35 00.4	-0.4		
CONA	**Conrad Observa**	**5.67**	**18**		*i* Pn		**Pn**	19 33 56.4	-0.3		
	comp=N,11nm,0.3s,SNR=12										
CONA					*i* Sn		**Sn**	19 34 59.9	-1.7		
	comp=N,89nm,0.6s										
SENIN	**Lac Senin/Sane**	**5.67**	**314**		Pn		**Pn**	19 33 57.3	+0.5		
WILA	**Wila**	**5.72**	**329**		*e*Pn		**Pn**	19 33 58.2	+0.9		
	SNR=5.7										
WILA					*e*Sn		**Sn**	19 35 04.0	+1.3		
	SNR=3.4										
WILA	**Wila**	**5.72**	**329**		*e*Pn		**Pn**	19 33 58.2	+0.9		
	SNR=5.7										
WILA					*e*Sn		**Sn**	19 35 04.0	+1.3		
	SNR=3.4										
KEK	**Kerkira**	**5.74**	**118**		Pn		**Pn**	19 34 00.0	+2.4		
SMRF	**Simiane la Rot**	**5.74**	**287**		*e*P		**Pn**	19 33 59.7	+2.1		
SMRF					*e*Sn		**Sn**	19 34 58.8	-4.6		
	comp=N,5.3nm,0.4s										
ORIF	**Oris-en-Rattie**	**5.80**	**296**		*e*P		**Pn**	19 34 01.2	+2.8		
ORIF					*e*Sn		**Sn**	19 34 59.5	-5.3		
	comp=N,13nm,0.4s										
SELS	**Selova**	**5.85**	**81**		*e*Pn		**Pn**	19 33 59.4	+0.3		
SELS					*e*Sn		**Sn**	19 35 04.0	-2.0		
OHR	**Ohrid**	**5.86**	**102**		*e*Pn		**Pn**	19 34 01.1	+1.9		
OHR					*e*Sn		**Sn**	19 35 04.4	-1.9		
OHR	**Ohrid**	**5.86**	**102**		*i* Pn		**Pn**	19 34 00.7	+1.5		
OHR					*i* Sn		**Sn**	19 35 04.3	-1.9		
KBN	**Korca**	**6.01**	**106**				**Pn**	19 34 02.9	+1.5		
KBN	**Korca**	**6.01**	**106**		P		**Pn**	19 34 02.9	+1.5		
SKO	**Skopje**	**6.14**	**93**		*e*Pn		**Pn**	19 34 04.4	+1.4		
SKO	**Skopje**	**6.14**	**93**		*i* Pn		**Pn**	19 34 04.3	+1.2		
BALST	**Balsthal**	**6.16**	**322**		*e*Pn		**Pn**	19 34 03.7	+0.4		
	SNR=15										
BALST					*e*Sn		**Sn**	19 35 13.9	+0.3		
	SNR=4.8										
BALST	**Balsthal**	**6.16**	**322**		*e*Pn		**Pn**	19 34 03.7	+0.4		
	SNR=15										
BALST					*e*Sn		**Sn**	19 35 13.9	+0.3		
	SNR=4.8										
SLE	**Schleitheim**	**6.16**	**329**		*e*Pn		**Pn**	19 34 03.0	-0.4		
	SNR=14										
SLE					*e*Sn		**Sn**	19 35 13.4	-0.3		
	SNR=2.4										
SLE	**Schleitheim**	**6.16**	**329**		*e*Pn		**Pn**	19 34 03.0	-0.4		
	SNR=14										
SLE					*e*Sn		**Sn**	19 35 13.4	-0.3		
	SNR=2.4										
ZST	**Bratislava**	**6.25**	**25**		*e*P		**Pn**	19 34 04.0	-0.6		
ZST					*e*			19 35 14.1			
ZST	**Bratislava**	**6.25**	**25**		*e*PN		**Pn**	19 34 04.0	-0.6		
ZST					*e*SN		**Sn**	19 35 14.1	-1.7		
GEC2	**GERESS Array S**	**6.28**	**3**				**Pn**	19 34 03.8	-1.2		
	SNR=13										
GEC2					*e*Sn		**Sn**	19 35 14.4	-2.3		
	SNR=7.8										
GEC2	**GERESS Array S**	**6.28**	**3**		*e*Pn		**Pn**	19 34 04.2	-0.8		
	SNR=13										
GEC2					*e*Sn		**Sn**	19 35 14.4	-2.3		
	SNR=7.8										
GERES	**GERESS Array B**	**6.28**	**3**		Pn		**Pn**	19 34 04.3	-0.8		
	comp=N,2.5nm,0.3s,baz=175,slow=13,SNR=30										
GERES					Sn		**Sn**	19 35 12.7	-4.0		
	comp=N,22nm,0.3s,baz=166,slow=23,SNR=15										
	comp=N,10nm,0.6s										
GERES	**GERESS Array B**	**6.28**	**3**				**Pn**	19 34 04.1	-1.0		
CKRC	**Cesky Krumlov**	**6.29**	**7**		*e*PN		**Pn**	19 34 03.9	-1.2		
CKRC					*e*SN		**Sn**	19 35 14.0	-2.8		
BOVS	**Bovan**	**6.31**	**77**	⇓	P		**Pn**	19 34 05.1	-0.3		
BOVS	**Bovan**	**6.31**	**77**		*e*Pn		**Pn**	19 34 05.4	0.0		
BOVS					*e*Sn		**Sn**	19 35 15.3	-2.0		
BARS	**Barje**	**6.35**	**85**		*e*Pn		**Pn**	19 34 06.7	+0.8		
BARS					*e*Sn		**Sn**	19 35 16.1	-2.2		
SRO	**Srobarova**	**6.36**	**33**		*e*SN		**Sn**	19 35 16.2	-2.2		
FNA	**Florina**	**6.38**	**104**		Pn		**Pn**	19 34 07.5	+1.1		
FNA	**Florina**	**6.38**	**104**		P		**Pn**	19 34 07.5	+1.1		
FNA	**Florina**	**6.38**	**104**		*e*Pn		**Pn**	19 34 07.5	+1.1		
FNA					*e*Sn		**Sn**	19 35 16.3	-2.7		
MODS	**Modra-Piesok**	**6.46**	**25**		*e*P		**Pn**	19 34 06.4	-1.1		
MODS	**Modra-Piesok**	**6.46**	**25**		*e*PN		**Pn**	19 34 06.4	-1.1		
CABF	**La Chapelle**	**6.49**	**311**		*e*Pn		**Pn**	19 34 06.9	-1.0		
CABF					*e*Sn		**Sn**	19 35 16.6	-5.1		
	comp=N,8.4nm,0.4s										
MDVR	**Moldovita**	**6.55**	**67**	⇑	P		**Pn**	19 34 08.4	-0.3		
PRVS	**Prvonek**	**6.55**	**88**		*e*Pn		**Pn**	19 34 09.6	+0.8		
PRVS					*e*Sn		**Sn**	19 35 21.2	-2.2		
KHC	**Kasperske Hory**	**6.56**	**2**		Pn		**Pn**	19 34 07.7	-1.2		
KHC	**Kasperske Hory**	**6.56**	**2**		*e*PN		**Pn**	19 34 07.7	-1.2		
KHC					*e*SN		**Sn**	19 35 19.3	-4.2		
KHC	**Kasperske Hory**	**6.56**	**2**		P		**Pn**	19 34 07.7	-1.2		
VIVF	**Saint-Julien-l**	**6.59**	**293**		*e*P		**Pn**	19 34 10.8	+1.6		
VIVF					*e*Sn		**Sn**	19 35 18.7	-5.5		
	comp=N,3.1nm,0.4s										
BFO	**Black Forest**	**6.70**	**331**		Pn		**Pn**	19 34 09.8	-0.9		
BFO	**Black Forest**	**6.70**	**331**		*e*Pn		**Pn**	19 34 10.4	-0.3		
	SNR=12										
BFO					*e*Sn		**Sn**	19 35 26.6	-0.2		
	SNR=3.9										
BFO	**Black Forest**	**6.70**	**331**		P		**Pn**	19 34 09.8	-0.9		
BFO	**Black Forest**	**6.70**	**331**		P		**Pn**	19 34 12.1	+1.4		
BFO	**Black Forest**	**6.70**	**331**		*e*Pn		**Pn**	19 34 10.4	-0.3		
	SNR=12										
BFO					*e*Sn		**Sn**	19 35 26.6	-0.2		
	SNR=3.9										
ZAGS	**Zajecar**	**6.71**	**76**		*e*Pn		**Pn**	19 34 11.2	+0.3		
ZAGS					*e*Sn		**Sn**	19 35 23.0	-4.2		
STIP	**Stip**	**6.74**	**95**		*i* Pn		**Pn**	19 34 14.2	+3.0		
STIP					*i* Sn		**Sn**	19 35 29.6	+1.8		
BZS	**Buzias**	**6.78**	**60**	⇓	P		**Pn**	19 34 11.6	-0.2		
BZS	**Buzias**	**6.78**	**60**		*e*Pn		**Pn**	19 34 11.5	-0.2		
STU	**Stuttgart**	**6.80**	**337**		Pn		**Pn**	19 34 11.4	-0.7		
STU	**Stuttgart**	**6.80**	**337**		P		**Pn**	19 34 11.4	-0.7		
KRUC	**Moravsky**	**6.86**	**18**		*e*PN		**Pn**	19 34 11.8	-1.1		
KRUC					*e*SN		**Sn**	19 35 26.1	-4.6		
HINF	**Hinteralfeld**	**6.90**	**322**		*e*Pn		**Pn**	19 34 11.7	-1.8		
HINF					*e*Sn		**Sn**	19 35 25.1	-6.7		
	comp=N,50nm,0.4s										
TREC	**Trest**	**6.90**	**13**		*e*PN		**Pn**	19 34 12.6	-0.9		
TREC					*e*SN		**Sn**	19 35 28.2	-3.7		
TREC	**Trest**	**6.90**	**13**		*e*P		**Pn**	19 34 12.6	-0.9		
TREC					*e*			19 35 28.2			
ZAPS	**Zavoj**	**6.96**	**81**		*e*Sn		**Pn**	19 34 15.0	+0.7		
ZAPS	**Zavoj**	**6.96**	**81**		*e*Pn		**Sn**	19 35 30.6	-2.7		
LASF	**Ste Croix**	**6.98**	**286**		*e*Pn		**Pn**	19 34 13.8	-0.8		
LASF					*e*Sn		**Sn**	19 35 28.3	-5.5		
	comp=N,1.6nm,0.4s										
JAVC	**Velka Javorina**	**7.02**	**25**		*e*PN		**Pn**	19 34 15.0	-0.1		
HERR	**Herculane**	**7.06**	**68**	⇓	P		**Pn**	19 34 15.7	+0.1		
ECH	**Echery**	**7.06**	**325**				**Pn**	19 34 15.0	-0.7		
ECH	**Echery**	**7.06**	**325**		P		**Pn**	19 34 15.0	-0.7		
GRG	**Griva**	**7.06**	**100**		P		**Pn**	19 34 16.6	+0.8		
DJES	**Djerdap**	**7.08**	**70**				**Pn**	19 34 16.4	+0.5		
SIRR	**Siria**	**7.09**	**56**	⇑	P		**Pn**	19 34 16.3	+0.2		
VAY	**Valandovo**	**7.09**	**97**		*e*Pn		**Pn**	19 34 17.6	+1.5		
VAY					*e*Sn		**Sn**	19 35 33.8	-2.8		
VAY	**Valandovo**	**7.09**	**97**		*i* Pn		**Pn**	19 34 16.8	+0.6		
VAY					*i* Sn		**Sn**	19 35 33.4	-3.3		
VYHS	**Vyhne**	**7.12**	**32**		*e*P		**Pn**	19 34 16.6	+0.2		
VYHS					*e*			19 35 33.9			
VYHS	**Vyhne**	**7.12**	**32**		*e*PN		**Pn**	19 34 16.6	+0.2		
VYHS					*e*SN		**Sn**	19 35 33.9	-3.2		
PSZ	**Piszkesteto**	**7.13**	**39**		Pn		**Pn**	19 34 14.9	-1.7		
PSZ	**Piszkesteto**	**7.13**	**39**		P		**Pn**	19 34 14.9	-1.7		
VRAC	**Vranov**	**7.13**	**18**		Pn		**Pn**	19 34 16.4	-0.3		
	comp=N,2.0nm,0.3s,baz=205,slow=15,SNR=11										
VRAC					Sn		**Sn**	19 35 31.8	-5.7		
	comp=N,1.6nm,0.3s,baz=260,slow=13,SNR=2.0										
VRAC					LR		LR	19 37 06.3			
	comp=N,212nm,18.2s,baz=221,slow=39										
	comp=N,5.8nm,0.4s										
VRAC	**Vranov**	**7.13**	**18**	⇑	P		**Pn**	19 34 16.3	-0.3		
VRAC	**Vranov**	**7.13**	**18**		*e*PN		**Pn**	19 34 15.7	-1.0		
VRAC					*e*SN		**Sn**	19 35 31.2	-6.4		
VLS	**Valsamata**	**7.15**	**125**		P		**Pn**	19 34 18.7	+1.8		
SURR	**Surduc**	**7.16**	**61**	⇓	P		**Pn**	19 34 17.0	0.0		
CDF	**Champ du Feu**	**7.17**	**327**		*e*Pn		**Pn**	19 34 16.0	-1.2		
CDF					*e*Sn		**Sn**	19 35 32.2	-6.3		
	comp=N,30nm,0.4s										
ROTZ	**Rotzenmuhle**	**7.22**	**355**		*e*Pn		**Pn**	19 34 16.9	-1.0		
	SNR=5.2										
ROTZ					*e*Sn		**Sn**	19 35 35.3	-4.5		
	SNR=4.5										
ROTZ	**Rotzenmuhle**	**7.22**	**355**		*e*Pn		**Pn**	19 34 16.9	-1.0		
	SNR=5.2										
ROTZ					*e*Sn		**Sn**	19 35 35.3	-4.5		
	SNR=4.5										
GRFO	**Grafenberg**	**7.25**	**350**		Pn		**Pn**	19 34 17.0	-1.2		
GRFO	**Grafenberg**	**7.25**	**350**		P		**Pn**	19 34 17.0	-1.2		
GRA1	**Grafenberg Arr**	**7.25**	**350**		Pn		**Pn**	19 34 17.1	-1.2		
GRF	**Grafenberg Arr**	**7.25**	**350**		*e*Sn		**Sn**	19 35 36.4	-4.0		
	SNR=2.8										
GRF	**Grafenberg Arr**	**7.25**	**350**		P		**Pn**	19 34 17.1	-1.2		
GRF	**Grafenberg Arr**	**7.25**	**350**		*e*Sn		**Sn**	19 35 36.4	-4.0		
	SNR=2.8										
HAU	**Haudompre**	**7.27**	**321**		*e*Pn		**Pn**	19 34 17.4	-1.1		
HAU					*e*Sn		**Sn**	19 35 33.2	-7.7		
	comp=N,52nm,0.4s										
KKB	**Krupnik**	**7.37**	**92**		P		**Pn**	19 34 21.7	+1.8		
VTS	**Vitosha**	**7.40**	**86**	⇓	P		**Pn**	19 34 21.3	+0.9		
VTS	**Vitosha**	**7.40**	**86**		Pn		**Pn**	19 34 20.8	+0.3		
VTS	**Vitosha**	**7.40**	**86**		P		**Pn**	19 34 20.8	+0.3		
VTS	**Vitosha**	**7.40**	**86**		*e*Pn		**Pn**	19 34 21.4	+0.9		
VTS	**Vitosha**	**7.40**	**86**		*e*Pn		**Pn**	19 34 21.4	+0.9		
VTS					*e*Sn		**Sn**	19 35 40.7	-3.7		
VTS					*e*Sn		**Sn**	19 35 40.7	-3.7		
VTS	**Vitosha**	**7.40**	**86**		P		**Pn**	19 34 21.4	+0.9		
LIT	**Litokhoron**	**7.41**	**106**		Pn		**Pn**	19 34 21.0	+0.5		
LIT					Sn		**Sn**	19 35 44.5	0.0		
GOPC	**GO Pecny, Ondr**	**7.42**	**8**		*e*PN		**Pn**	19 34 18.6	-2.0		
GOPC					*e*SN		**Sn**	19 35 40.8	-3.8		
GOPC	**GO Pecny, Ondr**	**7.42**	**8**		*e*P		**Pn**	19 34 18.6	-2.0		
GOPC					*e*			19 35 40.8			
MANZ	**Manzenberg**	**7.45**	**355**		*e*Pn		**Pn**	19 34 20.7	-0.4		
	SNR=6.3										
MANZ					*e*Sn		**Sn**	19 35 40.0	-5.4		
	SNR=3.9										
MANZ	**Manzenberg**	**7.45**	**355**		*e*Pn		**Pn**	19 34 20.7	-0.4		
	SNR=6.3										
MANZ					*e*Sn		**Sn**	19 35 40.0	-5.4		
	SNR=3.9										
GZR	**Gura Zlata**	**7.46**	**65**	⇑	P		**Pn**	19 34 21.5	+0.4		
KEST	**Kesra**	**7.46**	**205**		Pn		**Pn**	19 34 26.1	+4.8		
	comp=N,2.7nm,0.3s,baz=307,slow=4.3,SNR=42										
KEST					Sn		**Sn**	19 35 48.5	+2.6		
	baz=168,slow=2.3										
KEST					LR		LR	19 37 32.8			
	comp=N,455nm,18.1s,baz=318,slow=40										
KEST	**Kesra**	**7.46**	**205**		Pn		Pn	19 34 26.9	+5.6		
PRU	**Pruhonice**	**7.47**	**7**		*e*PN		**Pn**	19 34 20.0	-1.3		
PRU					*e*SN		**Sn**	19 35 40.9	-4.9		
PRU	**Pruhonice**	**7.47**	**7**		*e*P		**Pn**	19 34 20.0	-1.3		
PRU					*e*			19 35 40.9			
EVR	**Evrytania**	**7.49**	**116**		P		**Pn**	19 34 24.9	+3.3		
MAUC	**Maruska**	**7.51**	**24**		*e*PN		**Pn**	19 34 21.6	-0.3		
MAUC					*e*SN		**Sn**	19 35 42.9	-4.0		
NKC	**Novy Kostel**	**7.68**	**356**		*e*PN		**Pn**	19 34 23.4	-0.7		
NKC					*e*SN		**Sn**	19 35 46.3	-4.6		
NKC	**Novy Kostel**	**7.68**	**356**		*e*P		**Pn**	19 34 23.4	-0.7		
NKC					*e*			19 35 46.3			
DEV	**Deva**	**7.71**	**61**	⇓	P		**Pn**	19 34 25.3	+0.7		
WERN	**Wernitzgruen**	**7.73**	**356**		*e*Pn		**Pn**	19 34 24.3	-0.7		
	SNR=5.7										
WERN					*e*Sn		**Sn**	19 35 49.4	-3.0		
	SNR=2.8										
WERN	**Wernitzgruen**	**7.73**	**356**		*e*Pn		**Pn**	19 34 24.3	-0.7		
	SNR=5.7										
WERN					*e*Sn		**Sn**	19 35 49.4	-3.0		
	SNR=2.8										
MPEP	**Malo Peshtene**	**7.77**	**81**		P		**Pn**	19 34 29.4	+4.0		
AGG	**Agios Georgios**	**7.78**	**114**		Pn		**Pn**	19 34 28.3	+2.7		
AGG	**Agios Georgios**	**7.78**	**114**		P		**Pn**	19 34 28.3	+2.7		
MORC	**Moravsky Berou**	**7.80**	**21**	⇑	P		**Pn**	19 34 26.2	+0.3		
MORC	**Moravsky Berou**	**7.80**	**21**		Pn		**Pn**	19 34 25.7	-0.2		
MORC	**Moravsky Berou**	**7.80**	**21**		*e*PN		**Pn**	19 34 25.9	0.0		
MORC	**Moravsky Berou**	**7.80**	**21**		P		**Pn**	19 34 25.7	-0.2		
KECS	**Kecovo**	**7.81**	**38**		*e*P		**Pn**	19 34 27.6	+1.7		
KECS	**Kecovo**	**7.81**	**38**		*e*PN		**Pn**	19 34 27.6	+1.7		
GUNZ	**Gunzen**	**7.81**	**356**		*e*Pn		**Pn**	19 34 26.1	+0.1		
	SNR=6.9										
GUNZ	**Gunzen**	**7.81**	**356**

SNR=5.9
CLL Collm 8.73 359 *e*P **Pn** **19 34 39.0 +0.4**
CLL Collm 8.73 359 *e*Pn **Pn** **19 34 37.5 -1.2**
SNR=5.9
UZH Uzhgorod 8.78 43 *e*P **Pn** **19 34 41.1 +1.8**
STHS Stebnicka Huta 8.83 36 *e*P **Pn** **19 34 40.7 +0.7**
STHS Stebnicka Huta 8.83 36 *e*PN **Pn** **19 34 40.7 +0.7**
HYF Humbligny 8.84 306 *e*P **Pn** **19 34 43.1 +3.0**
HYF *e*Sn **Sn** **19 36 11.7 -7.8**
RJF Les Rejaudoux 8.86 292 *e*P **Pn** **19 34 42.2 +1.8**
COPA Copaceanca 8.89 76 ⇑P **Pn** **19 34 40.6 -0.1**
OJC Ojcow 8.89 28 Pn **Pn** **19 34 40.5 -0.3**
OJC Ojcow 8.89 28 P **Pn** **19 34 40.5 -0.3**
PVL Pavlikeni 8.93 82 P **Pn** **19 34 41.4 +0.1**
MTUR Matau 8.96 69 ⇑P **Pn** **19 34 41.8 0.0**
AHRW Bad Neuenahr-A 9.01 334 Pn **Pn** **19 34 46.6 +4.2**
AHRW Sn **Sn** **19 36 22.8 -0.9**
comp=Z,21nm,1.1s
DIM Dimitrovgrad 9.15 89 P **Pn** **19 34 46.0 +1.7**
KASTN Kahler Asten 9.23 341 *e*Pn **Pn** **19 34 47.1 +1.7**
SNR=2.8
KASTN Kahler Asten 9.23 341 *e*Pn **Pn** **19 34 47.1 +1.7**
SNR=2.8
RDO Rodhopi 9.31 95 **Pn** **19 34 47.7 +1.1**
LFF La Frestale 9.32 289 *e*P **Pn** **19 34 48.7 +2.0**
LFF *e*Sn **Sn** **19 36 24.5 -6.9**
comp=Z,1.9nm,0.2s
SZH Strazhica 9.37 81 P **Pn** **19 34 50.9 +3.6**
RCHB Rochefort 9.37 327 *d*P **Pn** **19 34 47.3 +0.1**
DOPR Dopca 9.37 65 ⇑P **Pn** **19 34 48.6 +1.2**
MEM Membach 9.43 331 *d*P **Pn** **19 34 49.4 +1.2**
CLZ Clausthal 9.47 349 Pn **Pn** **19 34 53.3 +4.6**
CLZ Sn **Sn** **19 36 29.8 -5.1**
comp=Z,15nm,0.7s
EPF Esparros 9.47 277 *e*Pn **Pn** **19 34 48.0 -0.8**
EPF *e*Sn **Sn** **19 36 27.5 -7.6**
comp=Z,0.8nm,0.3s
GIVF Givet 9.49 325 *e*P **Pn** **19 34 51.7 +2.7**
GIVF *e*Sn Sn 19 36 25.9 -10
comp=Z,6.4nm,0.3s
BCLA Clavier 9.54 328 *d*P **Pn** **19 34 51.0 +1.3**
BCLA *d*S **Sn** **19 36 34.6 -2.1**
DOU Dourbes 9.59 325 *d*P **Pn** **19 34 53.2 +2.9**
DOU *d*S **Sn** **19 36 37.1 -0.7**
BGES Gesves 9.60 327 *d*P **Pn** **19 34 51.7 +1.2**
MLR Muntele Rosu 9.63 68 Pn **Pn** **19 34 53.4 +2.4**
comp=Z,1.1nm,0.3s,baz=251,slow=5.6,SNR=24
MLR LR LR 19 39 32.2
comp=Z,409nm,18.9s,baz=258,slow=44
comp=Z,24nm,0.8s
MLR Muntele Rosu 9.63 68 ⇓P **Pn** **19 34 52.6 +1.6**
MLR Muntele Rosu 9.63 68 Pn **Pn** **19 34 52.8 +1.8**
BMRD Maredsous 9.67 326 *d*P **Pn** **19 34 54.5 +3.1**
BMRD *d*S **Sn** **19 36 38.5 -1.3**
BAIF Baives 9.73 323 *e*P **Pn** **19 34 55.7 +3.5**
BAIF *e*Sn **Sn** **19 36 33.0 -8.2**
comp=Z,9.2nm,0.6s
BKLB Ruhr-Universit 9.74 338 Pn Pn 19 34 59.7 +7.3
BUG Bochum--Univer 9.74 338 Pn Pn 19 35 08.2 +16
BUG Sn **Sn** **19 36 36.7 -4.9**
comp=Z,15nm,0.9s
BURAR Bucovina Array 9.87 55 ⇑P **Pn** **19 34 55.0 +0.7**
BURAR Bucovina Array 9.87 55 **Pn** **19 34 57.1 +2.8**
BUR08 Bucovina Ar. S 9.88 55 Pn **Pn** **19 34 56.5 +2.2**
COVR Voineasa-Covas 9.89 66 ⇓P **Pn** **19 34 54.6 +0.1**
SNF Seneffe 10.03 325 *d*P **Pn** **19 34 59.5 +3.2**
ETSF Etsaut 10.13 276 *e*Pn **Pn** **19 34 57.1 -0.8**
ETSF *e*Sn **Sn** **19 36 44.2 -7.2**
comp=Z,0.4nm,0.2s
PLOR Plostina 10.19 67 ⇓P **Pn** **19 34 59.8 +1.1**
VRI Vrincioaia 10.25 67 ⇑P **Pn** **19 35 00.5 +1.1**
MFF Saint Martin d 10.34 297 *e*Pn **Pn** **19 34 58.5 -2.1**
MFF *e*Sn Sn 19 36 46.9 -9.3
comp=Z,1.9nm,0.4s
TESR Tescani 10.37 63 ⇑P **Pn** **19 35 02.0 +1.0**
LVV L'vov 10.42 42 *e*P **Pn** **19 35 02.1 +0.4**
RETH Rethem/Aller, 10.49 347 *e*Pn **Pn** **19 35 03.0 +0.4**
SNR=3.9
RETH Rethem/Aller, 10.49 347 *e*Pn **Pn** **19 35 03.0 +0.4**
SNR=3.9
SJPF Ste Jean 10.61 278 *e*Pn **Pn** **19 35 03.9 -0.5**
SJPF *e*Sn **Sn** **19 36 54.7 -8.4**
comp=Z,0.6nm,0.3s
APE Apeiranthos 10.96 116 *i*P **Pn** **19 35 09.3 +0.2**
CFR Carcaliu 11.09 71 ⇓P **Pn** **19 35 10.8 0.0**
BALB Balikesir 11.46 100 **Pn** **19 35 16.9 +1.0**
TLCR 11.57 72 ⇓P **Pn** **19 35 17.8 +0.4**
IDI Anoyia 11.64 125 Pn **Pn** **19 35 20.0 +1.4**
comp=Z,0.4nm,0.3s,baz=319,slow=11,SNR=2.0
IDI Sn **Sn** **19 37 22.0 -6.5**
comp=Z,0.4nm,0.3s,baz=330,slow=18,SNR=2.3
IDI LR LR 19 41 10.4
comp=Z,67nm,19.8s,baz=282,slow=44
comp=Z,4.9nm,0.7s
ESDC Sonseca Array 13.27 263 Pn **Pn** **19 35 40.3 -0.4**
comp=Z,0.1nm,0.3s,baz=66,slow=13,SNR=4.8
ESDC LR LR 19 40 27.8
comp=Z,214nm,20.9s,baz=76,slow=36
comp=Z,0.9nm,0.9s
MDUB Mudurnu 13.65 93 Pn **Pn** **19 35 48.3 +2.4**
ELL Elmali 14.12 109 **P** **19 35 57.7 -2.4**
ELL Elmali 14.12 109 P **P** **19 35 57.7 -2.4**
NACGM Naroch 15.21 31 *e*P **Pn** **19 36 07.1 +0.2**
comp=Z,12nm,0.9s,baz=222
MNK Minsk 15.35 34 *i*P **Pn** **19 36 06.1 -2.8**
comp=E,1.0nm,0.8s
MNK *i*P **Pn** **19 36 06.1 -2.8**
comp=N,42nm,0.9s
MNK *i*P **Pn** **19 36 06.1 -2.8**
comp=Z,9.0nm,0.8s,baz=225
MNK *i*PP **P** **19 36 14.2 +0.6**
MNK *i*S **Sn** **19 38 55.1 -3.6**
MNK *i*SS **SnSn** **19 39 09.0 -2.2**
MNK *i*LQ LQ 19 40 33.5
MNK *i*LR LR 19 41 42.7
MNK *i*LRM MLR 19 42 27.2
comp=E,12nm,14.1s
MNK *i*LRM MLR 19 43 06.8
comp=Z,95nm,14.7s
MNK *i*LRM MLR 19 43 55.6
comp=N,281nm,14.2s
MNK Minsk 15.35 34 *i*P **Pn** **19 36 06.0 -2.8**
MNK *i*S **Sn** **19 38 55.0 -3.6**
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,42nm,0.9s
MNK MLR MLR
comp=E,12nm,14.0s
MNK MLR MLR
comp=Z,95nm,15.0s
MNK MLR MLR
comp=N,281nm,14.0s
BR131 Keskin Array S 15.65 94 **P** **19 36 15.2 -1.9**
BR131 Keskin Array S 15.65 94 P **P** **19 36 15.2 -1.9**
BR131 pmax pmax
comp=Z,13nm,0.9s
BRTR Keskin Array B 15.65 94 Pn **Pn** **19 36 13.9 +0.9**
comp=Z,0.1nm,0.3s,baz=285,slow=13,SNR=5.1
comp=Z,1.3nm,0.8s
BRTR Keskin Array B 15.65 94 Pn **Pn** **19 36 14.9 +1.9**
BRTR Keskin Array B 15.65 94 P **Pn** **19 36 14.9 +1.9**
EKA Eskdalemuir Ar 16.63 326 Pn **Pn** **19 36 24.3 -0.9**
baz=141,slow=14
comp=Z,1.0nm,0.5s
MDT Midelt 17.11 241 LR LR 19 42 08.7
comp=Z,24nm,18.4s,baz=24,slow=34
HFS Hagfors 17.58 1 P **P** **19 36 37.9 -0.4**
comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=2.5
HFS LR LR 19 44 18.9
comp=Z,219nm,18.4s,baz=220,slow=40
comp=Z,3.0nm,0.8s
NC602 NORSAR Array S 18.21 357 P **Pn** **19 36 43.3 -1.6**
NB2 NORSAR Subarra 18.53 357 P **P** **19 36 48.4 -0.3**
comp=Z,6.7nm,1.0s,baz=174,slow=9.3
NOA NORSAR Array B 18.53 357 P **Pn** **19 36 48.9 0.0**
baz=175,slow=12,SNR=10
NOA LR LR 19 44 23.1
comp=Z,50nm,18.6s,baz=185,slow=39
comp=Z,4.2nm,0.8s
GAZ Gaziantep 19.17 98 P **Pn** **19 36 58.2 +1.4**
SOC Sochi 19.37 78 *e*P **P** **19 36 57.2 -0.8**
SOC *e* 19 40 33.0

SOC MLR MLR
comp=Z,77nm,14.0s
VSR Storozhevoye 19.65 55 *e*P **P** **19 37 00.4 -0.6**
VSR pmax pmax
comp=Z,50nm,2.3s
OBN Obninsk 19.73 42 P **Pn** **19 37 02.6 -0.6**
comp=Z,0.2nm,0.3s,baz=248,slow=16,SNR=1.7
OBN LR LR 19 46 35.2
comp=Z,8.5nm,19.2s,baz=190,slow=43
comp=Z,2.2nm,0.4s
OBN Obninsk 19.73 42*ce*P **P** **19 37 00.6 -1.1**
OBN pmax pmax
comp=Z,63nm,2.5s
OBN MLR MLR
comp=Z,214nm,16.0s
VORR Voronezh 19.80 54 P **P** **19 37 02.1 -0.5**
VORR pmax pmax
comp=Z,30nm,0.8s
MMAI Mount Meron Ar 19.92 111 P **Pn** **19 37 06.3 +0.4**
comp=Z,2.6nm,0.6s,baz=313,slow=12,SNR=5.3
MMAI LR LR 19 47 51.0
comp=Z,37nm,18.1s,baz=343,slow=46
comp=Z,2.6nm,0.6s
LPSR Galich'ya Gora 19.94 51 *e*P **P** **19 37 03.0 -1.1**
LPSR pmax pmax
comp=Z,50nm,2.8s
FINES FINESS Array B 20.41 18 P **P** **19 37 09.4 +0.2**
comp=Z,12nm,0.8s,baz=204,slow=8.8,SNR=20
FINES LR LR 19 46 07.1
comp=Z,195nm,18.6s,baz=242,slow=40
comp=Z,12nm,0.8s
FINES FINESS Array B 20.41 18 P **P** **19 37 09.1 -0.1**
FIA1 FINESS Array S 20.42 18 P **P** **19 37 09.3 +0.1**
FIA1 IAmb IAmb 19 37 20.4
comp=Z,42nm,1.2s
MOS Moscow 20.56 42 *e*P P 19 37 02.3 -8.5
MOS pmax pmax
comp=Z,35nm,0.8s
VRH Novokhopyorsk 21.20 56 *e*P **P** **19 37 17.8 0.0**
VRH pmax pmax
comp=Z,110nm,2.5s
KIV Kislovodsk 21.47 76 P **P** **19 37 21.7 +0.9**
KIV IAmb IAmb 19 37 28.7
comp=Z,20nm,1.1s
KIV Kislovodsk 21.47 76 *e*P **P** **19 37 21.8 +1.0**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,45nm,14.0s
KIV Kislovodsk 21.47 76 P **P** **19 37 22.4 +1.6**
SHA1 Shidzhatmaz 21.47 77 *i*P **P** **19 37 21.4 +0.4**
KVAR Kislovodsk Arr 21.47 76 P **P** **19 37 23.0 +2.0**
comp=Z,1.4nm,0.5s,baz=125,slow=22,SNR=1.9
KVAR LR LR 19 48 46.3
comp=Z,138nm,19.4s,baz=78,slow=45
comp=Z,1.4nm,0.5s
NEY Neytrino 21.58 78 *i*P **P** **19 37 23.2 +1.0**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 21.64 77 P **P** **19 37 24.0 +1.3**
comp=Z,10.0nm,0.8s,baz=281,slow=9.7,SNR=26
KBZ LR LR 19 49 39.2
comp=Z,36nm,18.8s,baz=281,slow=47
comp=Z,10.0nm,0.8s
KBZ Khabaz 21.64 77*ce*P **P** **19 37 23.9 +1.3**
KBZ pmax pmax
comp=Z,13nm,0.9s
EIL Elat 21.71 119 P **P** **19 37 23.2 -0.2**
comp=Z,1.5nm,0.3s,baz=10,slow=21,SNR=6.5
EIL LR LR 19 48 58.8
comp=Z,45nm,18.6s,baz=50,slow=45
comp=Z,1.5nm,0.3s
MARD Mardin 21.74 95 P **P** **19 37 26.4 +2.6**
MARD IAmb IAmb 19 37 31.6
comp=Z,16nm,0.9s
GURO Guroymak-BITLI 22.22 91 P **P** **19 37 31.0 +2.0**
ONI Oni 22.22 80 P **P** **19 37 30.9 +2.0**
ONI Oni 22.22 80 P **P** **19 37 30.9 +2.0**
ONI pmax pmax
comp=Z,8.0nm,0.8s
AKH Akhalkalaki 22.49 83 P **P** **19 37 33.7 +1.8**
AKH Akhalkalaki 22.49 83 P **P** **19 37 33.7 +1.8**
AKH pmax pmax
comp=Z,53nm,1.4s
ZEI Tsey 22.51 79 *e*P **P** **19 37 33.7 +1.5**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 23.73 85 P **P** **19 37 46.4 +1.8**
comp=Z,4.2nm,0.7s,baz=6.8,slow=1.1,SNR=6.2
comp=Z,4.2nm,0.7s
GNI Garni 23.73 85 P **P** **19 37 47.4 +2.9**
GNI IAmb IAmb 19 38 13.1
comp=Z,20nm,1.2s
GNI Garni 23.73 85 P P 19 37 58.7 +14
KLMR Klimovskoe 24.23 32 *e*P **P** **19 37 48.6 -0.3**
KLMR AMP 19 37 56.0
comp=Z,39nm,1.8s
KLMR Klimovskoe 24.23 32 *e*P **P** **19 37 48.5 -0.3**
KLMR pmax pmax
comp=Z,39nm,1.8s
BELG Belogornoye 25.03 55 P **P** **19 37 56.9 +0.7**
AKT Akhty 25.57 81 *e*P **P** **19 38 03.1 +1.7**
AKT *e* 19 38 39.7
AKT pmax pmax
comp=Z,15nm,0.8s
ADZR Andozero 25.80 25 *e*P **P** **19 38 04.0 +1.0**
ADZR pmax pmax
comp=Z,14nm,0.9s
KIRV Kirov 27.58 42 P **P** **19 38 18.6 -0.5**
comp=Z,10nm,0.8s,baz=226,slow=19,SNR=3.6
comp=Z,10nm,0.8s
KIRV Kirov 27.58 42*ce*P **P** **19 38 19.3 +0.2**
ARCES ARCESS Array B 27.77 9 P **P** **19 38 20.3 -0.4**
comp=Z,3.3nm,0.9s,baz=187,slow=7.1,SNR=1.9
ARCES LR LR 19 50 07.0
comp=Z,205nm,18.3s,baz=224,slow=38
comp=Z,3.3nm,0.9s
TORD Torodi Ar. Bea 30.97 202 P **P** **19 38 50.6 +1.0**
comp=Z,5.5nm,0.8s,baz=11,slow=8.5,SNR=3.9
comp=Z,5.5nm,0.8s
AKTO Aktyubinsk 31.42 60 P **P** **19 38 53.6 +0.2**
comp=Z,2.9nm,0.7s,baz=258,slow=11,SNR=2.3
AKTO LR LR 19 54 34.8
comp=Z,58nm,18.8s,baz=292,slow=42
comp=Z,2.9nm,0.7s
ARU Arti 31.91 48 P **P** **19 38 57.8 +0.2**
comp=Z,44nm,0.9s,baz=252,slow=5.6,SNR=26
ARU LR LR 19 52 19.8
comp=Z,65nm,20.1s,baz=270,slow=37
ARU Arti 31.91 48 P **P** **19 38 57.6 0.0**
ARU Arti 31.91 48*d* *i*P **P** **19 38 57.4 -0.2**
ARU 19 40 02.2
ARU S **S** **19 44 09.3 +1.3**
ARU SS **SnSn** **19 45 50.8 -5.4**
ARU pmax pmax
comp=Z,38nm,0.8s
ABKAR Akbulak array 32.76 62 P **P** **19 39 05.5 +0.4**
SVE Sverdlovsk 33.09 48 *e*P **P** **19 39 08.9 +1.0**
SVE pmax pmax
comp=Z,25nm,0.8s
GEYT Alibeck 34.28 82 P **P** **19 39 19.8 +1.3**
GEYT Alibeck 34.28 82 P **P** **19 39 19.8 +1.3**
BBTS Babate 37.79 232 LR LR 19 56 17.9
comp=Z,95nm,19.1s,baz=64,slow=38
BRVK Borovoye 38.76 54 P **P** **19 39 57.6 +1.1**
BRVK IAmb IAmb 19 40 01.3
comp=Z,16nm,0.8s
BRVK Borovoye 38.76 54*ce*P **P** **19 39 58.3 +1.8**
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 38.76 54 P **P** **19 39 58.4 +1.8**
HRA Herat 38.79 85 P **P** **19 39 58.6 +1.4**
BVAR Borovoye Array 38.83 54 P **P** **19 39 58.0 +0.9**
comp=Z,11nm,0.9s,baz=224,slow=42,SNR=25
BVAR PP **PP** **19 41 26.9 +1.1**
comp=Z,1.6nm,0.7s,baz=263,slow=9.9,SNR=2.7
comp=Z,11nm,0.9s
DBIC Dimbokro 39.17 209 LR LR 19 55 32.5
comp=Z,47nm,20.1s,baz=36,slow=35
UOSS Minazif 39.36 103 P **P** **19 40 02.2 +0.3**
UOSS IAmb IAmb 19 40 05.5
comp=Z,13nm,0.8s
UOSS Minazif 39.36 103 P **P** **19 40 05.2 +3.3**
KK31 Karatay Array 41.31 69 P **P** **19 40 19.1 +1.3**
KK31 IAmb IAmb 19 40 23.4
comp=Z,5.6nm,0.8s

KK31 Karatay Array 41.31 69 P **P** **19 40 19.1 +1.3**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 41.31 69 P **P** **19 40 19.6 +1.7**
KKAR IAmb IAmb 19 40 23.4
comp=Z,5.6nm,0.8s
KKAR Karatay Array 41.31 69 P **P** **19 40 19.4 +1.6**
KKAR Karatay Array 41.31 69 P **P** **19 40 19.4 +1.6**
CHGR Chuyangaron 42.00 76 P **P** **19 40 25.5 +1.9**
CHGR IAmb IAmb 19 40 42.0
comp=Z,8.0nm,0.9s
CHGR Chuyangaron 42.00 76 P **P** **19 40 25.5 +1.9**
CHGR pmax pmax
comp=Z,8.0nm,0.9s
GAR Garm 42.69 75 P **P** **19 40 32.7 +3.4**
GAR IAmb IAmb 19 40 38.6
comp=Z,14nm,1.2s
KBL Kabul 43.71 81 P **P** **19 40 39.0 +1.3**
KBL Kabul 43.71 81 P **P** **19 40 39.0 +1.3**
KBL pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 44.21 68 P **P** **19 40 42.3 +0.7**
comp=Z,2.7nm,0.9s,baz=242,slow=6.9,SNR=3.7
AAK LR LR 20 02 22.9
comp=Z,62nm,18.0s,baz=346,slow=40
comp=Z,2.7nm,0.9s
AAK Ala-Archa 44.21 68 P **P** **19 40 42.7 +1.1**
AAK IAmb IAmb 19 40 47.5
comp=Z,6.6nm,1.2s
AAK Ala-Archa 44.21 68 *i*P **P** **19 40 43.5 +1.9**
AAK pmax pmax
comp=Z,21nm,3.6s
AAK Ala-Archa 44.21 68 P P 19 40 47.0 +5.4
KURBB Kurchatov Arra 44.27 56 P **P** **19 40 41.9 +0.2**
comp=Z,1.5nm,0.9s,baz=292,slow=9.9,SNR=9.5
KURBB PP **PcP** **19 42 25.3 -0.6**
comp=Z,1.1nm,0.9s,baz=295,slow=11,SNR=5.2
comp=Z,1.5nm,0.9s
KURK Kurchatov 44.30 56 P **P** **19 40 41.7 -0.2**
KURK Kurchatov 44.30 56*ce*P **P** **19 40 41.9 0.0**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 44.30 56 P **P** **19 40 45.1 +3.2**
NRIK Noril'sk 45.50 29 P **P** **19 40 50.3 -0.9**
comp=Z,2.2nm,0.6s,baz=214,slow=3.6,SNR=4.8
comp=Z,2.2nm,0.6s
NRIK Noril'sk 45.50 29 *i*P **P** **19 40 53.1 +1.9**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
KSH Kashi 46.48 72 P **P** **19 41 03.0 +3.5**
KSH pP sP 19 41 09.6 +3.9
KSH pmax pmax
comp=Z,7.0nm,0.9s
TARG Taragay, Kyrgy 46.83 68 P **P** **19 41 03.3 +0.7**
TARG IAmb IAmb 19 41 08.2
comp=Z,4.7nm,0.9s
TARG Taragay, Kyrgy 46.83 68 P **P** **19 41 03.3 +0.7**
TARG pmax pmax
comp=Z,5.0nm,0.9s
ZAA0 Zalesovo Array 47.04 50 P **P** **19 41 03.9 +0.3**
ZAA0 IAmb IAmb 19 41 07.3
comp=Z,3.4nm,0.8s
ZALV Zalesovo Beam 47.04 50 P **P** **19 41 03.6 +0.1**
comp=Z,2.6nm,0.7s,baz=289,slow=7.9,SNR=12
ZALV PP **PP** **19 42 54.4 +0.4**
comp=Z,2.0nm,0.8s,baz=287,slow=10,SNR=4.8
ZALV LR LR 20 04 07.0
comp=Z,31nm,19.2s,baz=295,slow=40
comp=Z,2.6nm,0.7s
ZALV Zalesovo Beam 47.04 50 *i*P **P** **19 41 06.4 +2.8**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
NIL Nilore 47.20 80 P **P** **19 41 07.5 +2.4**
NIL IAmb IAmb 19 41 09.8
comp=Z,8.3nm,0.9s
NIL Nilore 47.20 80 P **P** **19 41 07.5 +2.4**
NIL pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 47.86 60 P **P** **19 41 11.0 +0.9**
MK31 Makanchi Array 47.86 60 *i*P **P** **19 41 10.5 +0.4**
MKAR Makanchi Array 47.86 60 P **P** **19 41 10.8 +0.7**
comp=Z,3.6nm,0.8s,baz=289,slow=5.8,SNR=20
MKAR PP **PP** **19 43 02.0 +0.3**
comp=Z,1.0nm,0.9s,baz=303,slow=7.2,SNR=2.8
MKAR LR LR 20 02 03.9
comp=Z,27nm,21.4s,baz=300,slow=37
comp=Z,3.6nm,0.8s
DGZ Jazzator, Alta 49.98 55 *i*P **P** **19 41 27.3 +0.8**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
SCHQ Schefferville 51.41 313 P **P** **19 41 36.7 -0.3**
comp=Z,2.3nm,1.0s,baz=50,slow=16,SNR=1.9
comp=Z,2.3nm,1.0s
TIXI Tiksi 57.45 20 P **P** **19 42 21.7 +1.2**
TIXI IAmb IAmb 19 42 26.4
comp=Z,8.6nm,1.4s
TIXI Tiksi 57.45 20*ce*P **P** **19 42 20.9 +0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
TIXI Tiksi 57.45 20 P P 19 42 25.8 +5.2
DANN Dangsing 57.65 80 *e*P **P** **19 42 25.6 +2.6**
comp=Z,23nm,0.7s
GKN Gorkha 58.48 80 *e*P **P** **19 42 31.1 +2.4**
ZAK Zakamensk 58.85 48 *e*P **P** **19 42 31.2 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
DMN Daman 59.04 80 *e*P **P** **19 42 35.5 +2.7**
PKIN Phulchoki 59.27 79 *e*P **P** **19 42 36.7 +2.3**
PKI Pulchoki 59.29 79 *e*P **P** **19 42 36.7 +2.2**
JIRN Jiri 59.80 79 *e*P **P** **19 42 40.6 +2.5**
comp=Z,25nm,0.8s
RAMN Ramite 60.51 79 *e*P **P** **19 42 44.9 +2.1**
comp=Z,32nm,0.8s
TAPN Taplejung 61.08 78 *e*P **P** **19 42 49.3 +2.5**
comp=Z,30nm,1.1s
SONM Songino Array 61.94 50 P **P** **19 42 53.6 +1.6**
comp=Z,6.1nm,1.0s,baz=289,slow=8.8,SNR=32
SONM LR LR 20 11 51.8
comp=Z,38nm,20.3s,baz=99,slow=38
comp=Z,6.1nm,1.0s
SONM Songino Array 61.94 50 P **P** **19 42 53.1 +1.0**
SONM Songino Array 61.94 50 P **P** **19 42 53.1 +1.0**
SONM pmax pmax
comp=Z,8.0nm,1.1s
A36M Sachs Harbour 62.05 346 P **P** **19 42 53.0 +0.7**
A36M IAmb IAmb 19 42 57.6
comp=Z,3.2nm,0.8s
LSA Lhasa 62.19 74 P **P** **19 42 56.3 +1.8**
LSA Lhasa 62.19 74 P **P** **19 42 56.3 +1.8**
LSA pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 62.29 49 P **P** **19 42 55.9 +1.4**
ULN IAmb IAmb 19 42 59.6
comp=Z,6.1nm,1.1s
ULN Ulaanbaatar 62.29 49*ce*P **P** **19 42 55.6 +1.1**
ULN pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 62.29 49 P **P** **19 42 58.9 +4.4**
YAK Yakutsk 63.94 28 LR LR 20 13 29.1
comp=Z,54nm,18.2s,baz=279,slow=38
YAK Yakutsk 63.94 28 P **P** **19 43 04.0 -0.9**
YAK Yakutsk 63.94 28 *e*P **P** **19 43 04.5 -0.5**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK Yakutsk 63.94 28 P **P** **19 43 08.4 +3.4**
RCBR Riachuelo 65.60 236 LR LR 20 10 13.4
comp=E,33nm,20.2s,baz=150,slow=34
LZH Lanzhou 67.13 62 *e*P **P** **19 43 27.1 +0.8**
LZH pP sP 19 43 42.5 +10
LZH pmax pmax
comp=Z,5.0nm,1.2s
YKA Yellowknife Ar 67.24 337 P **P** **19 43 26.6 +0.3**
comp=Z,2.4nm,0.9s,baz=37,slow=5.5,SNR=23
comp=Z,2.4nm,0.9s
BILL Bilibino 67.86 11 P **P** **19 43 31.6 +1.5**
BILL IAmb IAmb 19 43 34.9
comp=Z,6.0nm,1.0s
BILL Bilibino 67.86 11⇑ *e*P **P** **19 43 31.8 +1.7**
BILL pmax pmax
comp=Z,12nm,1.7s
BILL MLR MLR
comp=Z,37nm,15.0s

HIA	**Hailar**	**68.18**	**43**	P	**P**	**19 43 33.8**	**+1.3**	
HIA	**Hailar**	**68.18**	**43**	P	**P**	**19 43 33.8**	**+1.3**	
HIA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BMAR	**Burnt Mountain**	**69.03**	**351**	P	**P**	**19 43 38.3**	**+0.8**	
SEY	**Seymchan**	**69.89**	**19**	*i* P	**P**	**19 43 44.0**	**+1.2**	
SEY				pmax	pmax			
	comp=Z,5.0nm,1.1s							
HEH	**HeiHe**	**71.19**	**38**	*e*P	**P**	**19 43 51.8**	**+0.8**	
IMAR	**Indian Mountai**	**71.30**	**354**	P	**P**	**19 43 52.9**	**+1.5**	
TKL	**Tuckaleechee C**	**71.45**	**302**	LR	LR	20 15 50.1		
	comp=Z,38nm,18.1s,baz=26,slow=36							
H21K	**Melozitna Rive**	**71.55**	**354**	P	**P**	**19 43 54.5**	**+1.6**	
H21K				IAmb	IAmb	19 43 59.3		
	comp=Z,7.3nm,1.0s							
XAN	**Xi'an**	**71.67**	**61**	P	**P**	**19 43 55.3**	**+1.1**	
XAN				pmax	pmax			
	comp=Z,7.0nm,1.1s							
J26L	**Joseph Creek**	**71.70**	**350**	P	**P**	**19 43 55.7**	**+1.7**	
J26L				IAmb	IAmb	19 44 00.9		
	comp=Z,3.0nm,0.9s							
ILAR	**Eielson Array**	**71.86**	**351**	P	**P**	**19 43 55.1**	**+0.4**	
	comp=Z,0.6nm,0.9s,baz=14,slow=4.6,SNR=7.1							
	comp=Z,0.6nm,0.9s							
MA2	**Magadan**	**72.37**	**21**	*i* P	**P**	**19 43 59.5**	**+1.6**	
MA2				pmax	pmax			
	comp=Z,11nm,1.2s							
DHY	**Denali Highway**	**73.56**	**351**	P	**P**	**19 44 04.9**	**-0.2**	
KLR	**Kul'dur**	**73.88**	**37**	LR	LR	20 18 18.6		
	comp=Z,43nm,18.0s,baz=313,slow=37							
KLR	**Kul'dur**	**73.88**	**37**	*e*P	**P**	**19 44 06.5**	**-0.5**	
KLR				pmax	pmax			
	comp=Z,7.0nm,1.3s							
ENH	**Enshi**	**74.44**	**63**	P	**P**	**19 44 11.3**	**+0.6**	
CMAR	**Chiang Mai Arr**	**74.68**	**79**	P	**P**	**19 44 13.1**	**+0.9**	
	comp=Z,1.4nm,0.8s,baz=305,slow=7.5,SNR=15							
	comp=Z,1.4nm,0.8s							
CN2	**Changchun**	**74.78**	**44**	*e*P	**P**	**19 44 13.0**	**+0.6**	
CN2				pmax	pmax			
	comp=Z,10.0nm,1.1s							
SUR	**Sutherland**	**74.92**	**173**	LR	LR	20 18 35.4		
	comp=Z,42nm,18.9s,baz=164,slow=37							
EGMT	**Eagleton**	**76.71**	**325**	P	**P**	**19 44 24.5**	**+1.1**	
YSS	**Yuzh-Sakhalins**	**80.28**	**32**	*e*P	**P**	**19 44 44.0**	**+1.0**	
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
KSRS	**Korea Array**	**80.65**	**47**	P	**P**	**19 44 45.0**	**-0.2**	
	comp=Z,1.6nm,0.9s,baz=292,slow=6.4,SNR=2.9							
	comp=Z,1.6nm,0.9s							
KSRS	**Korea Array**	**80.65**	**47**	P	**P**	**19 44 45.0**	**-0.2**	
BDFB	**Brasilia**	**80.68**	**239**	P	**P**	**19 44 46.3**	**+0.7**	
	comp=Z,8.8nm,0.8s,baz=62,slow=3.1,SNR=13							
	comp=Z,8.8nm,0.8s							
PDAR	**Pinedale Array**	**80.69**	**321**	P	**P**	**19 44 46.9**	**+1.2**	
	comp=Z,0.3nm,0.6s,baz=53,slow=7.6,SNR=4.1							
	comp=Z,0.3nm,0.6s							
ASAJ	**Asahikawa**	**82.53**	**34**	LR	LR	20 28 36.5		
	comp=Z,39nm,19.5s,baz=334,slow=41							
ROSC	**El Rosal**	**84.94**	**272**	LR	LR	20 18 31.3		
	comp=Z,56nm,21.1s,baz=220,slow=32							
JNU	**Nakatsue**	**85.48**	**48**	LR	LR	20 27 09.9		
	comp=Z,56nm,18.7s,baz=332,slow=38							
MJAR	**Matsushiro Arr**	**86.65**	**41**	LR	LR	20 26 00.8		
	comp=Z,28nm,18.8s,baz=11,slow=37							
JHJ	**Hachijo jima 2**	**90.16**	**42**	LR	LR	20 28 14.5		
	comp=Z,22nm,18.5s,baz=13,slow=37							
CMIG	**Matias Romero**	**91.28**	**295**	LR	LR	20 27 23.6		
	comp=Z,20nm,18.9s,baz=28,slow=36							
CPUP	**Villa Florida**	**94.39**	**238**	LR	LR	20 29 21.6		
	comp=Z,18nm,18.1s,baz=45,slow=36							
NNA	**Nana**	**98.03**	**261**	LR	LR	20 27 04.2		
	comp=Z,13nm,18.8s,baz=357,slow=33							
WRA	**Warramunga Arr**	**126.00**	**85**	PKP	**PKPdf**	**19 51 33.8**	**-0.9**	
	comp=Z,0.6nm,0.9s,baz=325,slow=3.3,SNR=3.1							
ASAR	**Alice Springs**	**127.94**	**88**	PKP	**PKPdf**	**19 51 37.0**	**-1.4**	
	comp=Z,0.6nm,0.8s,baz=2.9,slow=2.5,SNR=5.4							
ASAR	**Alice Springs**	**127.94**	**88**	PKIKP	**PKPdf**	**19 51 37.0**	**-1.4**	

*SOME **18** 19:33:25.6, 38.°55N × 72.°27E, h0km*
*IDC **18** 19:33:27.7±6.0, 37.°18N × 71.°76E, h123km±56km, mb3.6/5, mbtmp3.7/9, Error ellipse: s-maj=66.1km s-min=43.8km az=120.0*

ISC 18 19:33:25.3±0.8, 37.°10N±0.°08 × 71.°41E±0.°07, h106km, n33, σ1°85/34, mb4.1/5, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**5.15**	**348**	*e*Pg	**Pn**	**19 34 41.6**	**+1.4**
	11nm,0.4s						
IUG				*e*Lg	Lg	19 35 35.5	
	49nm,0.6s						
AML	**Almayashu**	**5.33**	**19**	P	**Pn**	**19 34 44.0**	**+1.2**
	SNR=42						
UCH	**Uchtor**	**5.65**	**24**	P	**Pn**	**19 34 48.6**	**+1.3**
	SNR=9.4						
EKS2	**Erkin-Say**	**5.85**	**17**	P	**Pn**	**19 34 51.5**	**+1.9**
	SNR=5.8						
AAK	**Ala-Archa**	**6.02**	**22**	P	**Pn**	**19 34 53.4**	**+1.5**
	SNR=14						
AAK	**Ala-Archa**	**6.02**	**22**	P	**Pn**	**19 34 53.7**	**+1.8**
	8.0nm,0.4s,baz=185,slow=5.6,SNR=71						
AAK				S	**Sn**	**19 35 57.4**	**-2.1**
	5.7nm,0.4s,baz=163,slow=23,SNR=10						
KK31	**Karatay Array**	**6.04**	**354**	⇑Pn	**Pn**	**19 34 53.2**	**+1.1**
	5.9nm,0.3s,baz=178,slow=13,SNR=102						
KK31				⇑Sn	**Sn**	**19 35 56.6**	**-3.2**
	4.6nm,0.4s,baz=181,slow=23,SNR=6.5						
CHMS	**Chumysh**	**6.43**	**22**	P	**Pn**	**19 34 58.9**	**+1.6**
	SNR=12						
USP	**Ospenovka**	**6.60**	**20**	P	**Pn**	**19 35 00.8**	**+1.1**
	SNR=8.5						
TKM2	**Tokmak 2**	**6.64**	**28**	P	**Pn**	**19 35 01.5**	**+1.0**
	SNR=7.8						
TKM2	**Tokmak 2**	**6.64**	**28**	⇑Pn	**Pn**	**19 35 01.1**	**+0.6**
	3.9nm,0.6s						
TKM2				⇑Sn	**Sn**	**19 36 13.7**	**-1.1**
	8.5nm,1.2s						
DGS	**Degeres**	**6.99**	**27**	*e*Pg	**Pn**	**19 35 06.1**	**+1.1**
	2.7nm,0.5s						
DGS				*e*Lg	Lg	19 36 17.3	
	3.9nm,1.0s						
KRBS	**Karabastau**	**7.35**	**25**	*e*Pg	**Pn**	**19 35 10.1**	**+0.2**
	1.2nm,0.3s						
KRBS				*e*Lg	Lg	19 36 24.3	
	1.3nm,0.5s						
KOTS	**Kotyrbulak**	**7.52**	**34**	*e*Pg	Pn	19 35 18.9	+6.6
	0.6nm,0.1s						
KOTS				*e*Lg	Lg	19 36 39.3	
	5.2nm,0.9s						
GEYT	**Alibeck**	**10.60**	**279**	P	**Pn**	**19 35 53.8**	**-0.2**
	1.8nm,0.3s,baz=99,slow=9.3,SNR=9.3						
GEYT				S	**Sn**	**19 37 45.2**	**-5.4**
	6.0nm,0.6s,baz=114,slow=15,SNR=5.8						
MKAR	**Makanchi Array**	**12.61**	**36**	P	**Pn**	**19 36 20.6**	**-0.2**
	0.3nm,0.8s,baz=214,slow=12,SNR=2.9						
DANN	**Dangsing**	**13.56**	**126**	*e*P	Pn	19 36 30.8	-2.7
	19nm,0.3s						
KOLN	**Koldanda**	**13.86**	**129**	*e*P	**Pn**	**19 36 35.7**	**-1.7**
	2.0nm,0.5s						
GKN	**Gorkha**	**14.36**	**125**	*e*P	**Pn**	**19 36 41.7**	**-2.1**
	19nm,0.3s						
KURBB	**Kurchatov Arra**	**14.45**	**18**	P	**Pn**	**19 36 42.9**	**-1.7**
	0.2nm,0.7s,baz=210,slow=12,SNR=1.9						
KKN	**Kakani**	**14.93**	**124**	*e*P	Pn	19 36 48.3	-2.7
PKIN	**Phulchoki**	**15.14**	**125**	*e*P	**Pn**	**19 36 52.3**	**-1.5**
	7.8nm,0.3s						
PKI	**Pulchoki**	**15.16**	**125**	*e*P	**Pn**	**19 36 52.4**	**-1.6**
	7.6nm,0.3s						
JIRN	**Jiri**	**15.62**	**123**	*e*P	**Pn**	**19 36 57.7**	**-2.1**
	22nm,0.4s						
BVAR	**Borovoye Array**	**15.94**	**358**	P	**Pn**	**19 37 02.3**	**-1.0**
	0.4nm,0.5s,baz=214,slow=39,SNR=2.9						
TAPN	**Taplejung**	**16.85**	**121**	*e*P	**Pn**	**19 37 13.9**	**-1.1**
	10nm,0.4s						
ODAN	**Odare**	**16.95**	**122**	*e*P	**Pn**	**19 37 15.6**	**-0.5**
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**19.23**	**25**	P	**P**	**19 37 40.1**	**-0.8**
	0.4nm,0.3s,baz=172,slow=25,SNR=2.9						
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	**19 40 56.3**	**+1.2**
	5.2nm,1.1s,baz=105,slow=9.4,SNR=2.4						
	5.2nm,1.1s						
HFS	**Hagfors**	**42.80**	**321**	P	**P**	**19 41 14.2**	**+2.0**
	1.3nm,0.4s,baz=99,slow=9.6,SNR=8.4						
	1.3nm,0.4s						
NOA	**NORSAR Array B**	**44.10**	**323**	P	**P**	**19 41 24.7**	**+2.0**
	0.3nm,0.5s,baz=109,slow=6.6,SNR=1.6						
	0.3nm,0.5s						
ESDC	**Sonseca Array**	**57.47**	**298**	P	**P**	**19 43 05.6**	**+2.3**
	0.2nm,0.5s,baz=51,slow=8.3,SNR=1.4						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P	**P**	**19 44 02.3**	**+1.1**
	1.8nm,0.3s,baz=47,slow=5.6,SNR=2.3						
	1.8nm,0.3s						

MAN 18 19:43:16.5, 6.°45N × 126.°88E, h45km, mb4.1, ML2.9, MS2.6, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.79**	**308**	⇓*e*P	Pn	19 43 32.5	+1.1
MATI				*e*S	Sn	19 43 44.6	+2.5
DDMP	**Don Marcelino,**	**1.22**	**254**	⇓*e*P	Pn	19 43 37.3	+0.2
DDMP				*e*S	Sn	19 43 53.4	+1.0
SKMP	**Bagumbayan, Su**	**2.33**	**272**	⇓*e*P	Pn	19 43 53.8	+1.4
SKMP				*e*S	Sn	19 44 21.6	+1.8
CGP	**Cagayan de Oro**	**2.95**	**313**	⇑*e*P	Pn	19 44 02.9	+2.1
CGP				*e*S	Sn	19 44 36.3	+1.3

*MDD **18** 21:04:44.5±0.6, 38.°48N × 0.°37W, h11km, mb_Lg2.4/8, Error ellipse: s-maj=5.6km s-min=3.0km az=111.0*
*SFS **18** 21:04:44.7, 38.°44N × 0.°35W, h75km, ML2.9/5, MLv2.9/5*
*LDG **18** 21:04:45.0±0.3, 38.°49N × 0.°37W, h10km, Ml2.2/4, Error ellipse: s-maj=7.2km s-min=3.8km az=138.0*

ISC 18 21:04:42.8±1.3, 38.°50N±0.°04 × 0.°35W±0.°04, h11km±8km, n24, σ1°15/46, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFON	**Font Roja**	**0.23**	**318**	Pg	**Pg**	**21 04 47.4**	**-0.2**
AFON				Sg	**Sg**	**21 04 51.1**	**+0.1**
ETOB	**Tobarra**	**0.95**	**279**	S	**Sn**	**21 05 16.3**	**+0.5**
ETOB				P	**Pb**	**21 05 02.0**	**+0.6**
ETOB	**Tobarra**	**0.95**	**279**	Pg	**Pb**	**21 05 01.9**	**+0.5**
ETOB				Sg	**Sb**	**21 05 15.3**	**+1.3**
ETOB				*i* Vmb_Lg		21 05 22.2	
EMUR	**La Murta**	**0.96**	**228**	P	**Pb**	**21 05 01.4**	**-0.1**
EMUR	**La Murta**	**0.96**	**228**	Pg	**Pb**	**21 05 01.6**	**+0.1**
EMUR				Sg	**Sg**	**21 05 14.1**	**+0.3**
EMUR				*i* Vmb_Lg		21 05 20.8	
CART	**Cartagena**	**1.04**	**210**	P	**Pb**	**21 05 02.9**	**0.0**
ECHE	**Chera**	**1.20**	**336**	P	**Pg**	**21 05 05.0**	**-0.8**
ECHE	**Chera**	**1.20**	**336**	Pg	**Pn**	**21 05 05.8**	**+0.3**
ECHE				Sg	**Sb**	**21 05 21.8**	**+0.8**
ECHE				*i* Vmb_Lg		21 05 29.0	
EMOS	**Mosqueruela**	**1.87**	**357**	Pg	**Pb**	**21 05 16.6**	**-0.4**
EMOS				Sn	**Sn**	**21 05 39.2**	**+0.6**
EMOS				*i* Vmb_Lg		21 05 43.5	
EQES	**Quesada**	**2.26**	**253**	Pn	**Pn**	**21 05 21.4**	**+1.3**
EQES				Sn	**Sn**	**21 05 48.3**	**+0.3**
EQES				Sg	**Sb**	**21 05 53.3**	**+1.7**
EQES				*i* Vmb_Lg		21 05 59.7	
ETOR	**Torete**	**2.67**	**331**	Pg	**Pg**	**21 05 34.2**	**+0.3**
ETOR				Sn	**Sn**	**21 05 59.1**	**+0.9**
ETOR				*i* Vmb_Lg		21 06 11.6	
PSIM	**Granatula de C**	**2.69**	**278**	Pn	**Pn**	**21 05 26.4**	**+0.4**
PSIM				Pg	**Pg**	**21 05 33.2**	**-1.1**
PSIM				Sn	**Sn**	**21 05 57.4**	**-1.2**
PSIM				Sg	**Sg**	**21 06 09.0**	**-0.2**
ETOS	**Mallorca**	**2.77**	**62**	P	**Pn**	**21 05 27.2**	**+0.1**
EPOB	**Poblet**	**3.06**	**21**	Pn	**Pn**	**21 05 32.9**	**+1.8**
EPOB				Sn	**Sn**	**21 06 07.1**	**-0.7**
PAB	**San Pablo**	**3.29**	**290**	Pn	**Pn**	**21 05 34.4**	**+0.1**
PAB				Pg	**Pb**	**21 05 43.0**	**+1.8**
PAB				Sn	**Sn**	**21 06 11.5**	**-2.0**
PAB				Sg	**Sg**	**21 06 26.0**	**-2.4**
PAB				*i* Vmb_Lg		21 06 32.5	
EADA	**Adamuz**	**3.34**	**266**	P	**Pn**	**21 05 34.2**	**-0.8**
ECAB	**El Cabril**	**4.01**	**266**	Pn	**Pn**	**21 05 43.7**	**-0.5**
ECAB				Sn	**Sn**	**21 06 29.2**	**-2.0**
ECAB				Sg	**Sg**	**21 06 51.2**	**-0.4**
ECAB				*i* Vmb_Lg		21 06 52.4	
ETSF	**Etsaut**	**4.40**	**358**	*e*Pn	**Pn**	**21 05 52.2**	**+2.6**
ETSF				*e*Sn	**Sn**	**21 06 38.8**	**-2.1**
	0.9nm,0.3s						
EPF	**Esparros**	**4.56**	**6**	*e*Pn	**Pn**	**21 05 52.7**	**+0.9**
EPF				*e*Sn	**Sn**	**21 06 43.3**	**-1.5**
	1.2nm,0.3s						
SJPF	**Ste Jean**	**4.66**	**352**	*e*Pn	**Pn**	**21 05 53.8**	**+0.7**
SJPF				*e*Sn	**Sn**	**21 06 45.6**	**-1.6**
	0.6nm,0.3s						
SJPF				*e*Sg	**Sg**	**21 07 11.0**	**-1.4**
	0.6nm,0.3s						
MTLF	**Montolieu**	**5.22**	**21**	*e*Pn	**Pn**	**21 06 01.6**	**+0.9**
LFF	**La Frestale**	**6.49**	**7**	*e*Pn	**Pn**	**21 06 17.8**	**-0.4**
CAF	**Calviac**	**6.67**	**15**	*e*Pn	**Pn**	**21 06 21.6**	**+0.9**
RJF	**Les Rejaudoux**	**6.94**	**11**	*e*Pn	**Pn**	**21 06 24.3**	**-0.1**

IDC 18 21:06:02.6±8.8, 18.°20S × 177.°69W, h629km±34km, mb2.7/3, mbtmp3.7/4, Error ellipse: s-maj=285.2km s-min=31.8km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.08**	**276**	P	P	21 07 30.7	-0.1
	19nm,0.6s,baz=125,slow=4.0,SNR=18						
WRA	**Warramunga Arr**	**45.25**	**260**	P	P	21 13 26.2	-0.1
	0.3nm,0.4s,baz=96,slow=7.3,SNR=7.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**45.37**	**254**	P	P	21 13 27.4	+0.2
	0.5nm,0.5s,baz=90,slow=8.3,SNR=10.0						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**86.01**	**13**	P	P	21 17 37.5	0.0
	1.1nm,1.2s,baz=216,slow=5.1,SNR=5.6						
	1.1nm,1.2s						

TRN 18 21:11:12.1, 10.°31N × 62.°61W, h26km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**1.24**	**74**	*e*P	Pn	21 11 33.3	-0.4
TRN				*e*S	Sn	21 11 49.5	-0.1
TBH	**Brigand Hill**	**1.53**	**83**	*e*P	Pb	21 11 38.8	-1.0
GRGR	**Grenville**	**2.04**	**27**	*e*S	Sn	21 12 09.3	-0.1
TOSP	**Speyside**	**2.26**	**64**	*e*P	Pn	21 11 49.0	+1.2
GCMP	**Grenada, Carri**	**2.45**	**28**	*e*P	Pn	21 11 50.2	-0.3
GCMP				*e*S	Sn	21 12 20.1	+0.4
SVB	**Belmont**	**3.23**	**24**	*e*S	Sn	21 12 38.0	-0.8
BAUV	**El Baul**	**5.52**	**256**	*e*P	Pn	21 12 33.7	+1.0

*IDC **18** 21:12:09.1±2.2, 25.°07N × 123.°46E, h0km, mb3.8/4, mbtmp3.8/4, MS3.3/4, Error ellipse: s-maj=173.2km s-min=21.9km az=65.0*
*TAP **18** 21:12:11.0, 24.°80N × 122.°30E, h8km, ML3.9, D*
*JMA **18** 21:12:11.6±0.1, 24.°7N±0.°8 × 122.°3E±0.°3, h48km±2km, MV2.8/10, TAIWAN REGION*

ISC 18 21:12:10.5±1.1, 24.°78N±0.°02 × 122.°38E±0.°02, h5km±8km, n119, σ0°91/189, mb3.8/4, MS3.1/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.41**	**279**	P	**Pg**	**21 12 18.7**	**+0.4**
EGS	baz=277			*i* S	**Sb**	**21 12 24.7**	**-2.0**
	baz=277						
TWB1	**Santiao Chiao**	**0.42**	**303**	*i* P	**Pg**	**21 12 18.7**	**+0.2**
TWB1	baz=306			*i* S	**Sg**	**21 12 23.7**	**-0.3**
	baz=306						
NTC	**Toucheng**	**0.50**	**278**	*e*P	**Pb**	**21 12 21.9**	**+0.1**
NTC	baz=277			S	**Sb**	**21 12 29.8**	**+0.4**
	baz=277						
TWC	**Suao**	**0.51**	**250**	*i* P	**Pg**	**21 12 19.9**	**-0.4**
TWC	baz=254			*i* S	**Sg**	**21 12 25.3**	**-1.6**
	baz=254						
TIPB	**Shuangxi**	**0.53**	**291**	*i* P	**Pg**	**21 12 21.1**	**+0.3**
TIPB	baz=291			*i* S	**Sg**	**21 12 27.4**	**-0.4**
	baz=291						
SXI1	**Grass Mountain**	**0.55**	**304**	P	**Pb**	**21 12 22.3**	**-0.4**
SXI1	baz=307			S	**Sg**	**21 12 28.4**	**+0.2**
	baz=307						
ILA	**Ilan**	**0.57**	**268**	*i* P	**Pb**	**21 12 22.6**	**-0.4**
ILA	baz=254			*i* S	**Sb**	**21 12 30.1**	**-1.3**
	baz=254						
NWF	**Wu-fen Shan**	**0.61**	**298**	*i* P	**Pb**	**21 12 23.2**	**-0.5**
NWF	baz=299			*i* S	**Sb**	**21 12 31.7**	**-1.0**
	baz=299						
WFSB	**Wu-fen Shan**	**0.61**	**298**	P	**Pb**	**21 12 23.2**	**-0.5**
WFSB	baz=299			S	**Sb**	**21 12 31.8**	**-0.9**
	baz=299						
JYNG	**Yonagunijimaku**	**0.61**	**122**	P	**Pg**	**21 12 23.9**	**+1.6**
JYNG				S	**Sb**	**21 12 33.4**	**+0.7**
NDS	**Dongshan**	**0.62**	**256**	P	**Pg**	**21 12 22.7**	**+0.3**
NDS	baz=252			*i* S	**Sb**	**21 12 31.2**	**-1.6**
	baz=252						
EWUT	**Wuta**	**0.64**	**238**	P	**Pg**	**21 12 23.1**	**+0.3**
EWUT	baz=233			S	**Sg**	**21 12 30.5**	**-0.6**
	baz=233						
TWE	**Neicheng**	**0.65**	**265**	*i* P	**Pg**	**21 12 22.7**	**-0.2**
TWE	baz=253			S	**Sg**	**21 12 30.7**	**-0.7**
	baz=253						
YOJ	**Yonaguni jima**	**0.66**	**119**	P	**Pg**	**21 12 24.8**	**+1.6**
YOJ	**Yonaguni jima**	**0.66**	**119**	P	**Pg**	**21 12 24.8**	**+1.6**
YOJ				S	**Sb**	**21 12 34.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.66**	**119**	P	**Pg**	**21 12 24.4**	**+1.2**
	baz=118						
ENA	**Nanau**	**0.68**	**239**	*i* P	**Pg**	**21 12 23.8**	**+0.3**
ENA	baz=233			S	**Sg**	**21 12 32.0**	**-0.3**
	baz=233						
FUSB	**Fushanzhiwuyua**	**0.72**	**268**	P	**Pg**	**21 12 24.3**	**0.0**
FUSB	baz=266			S	**Sg**	**21 12 33.1**	**-0.5**
	baz=266						
EHP	**Heping Village**	**0.75**	**231**	S	**Sg**	**21 12 34.7**	**+0.2**
	baz=236						
TWA	**Mucha**	**0.75**	**285**	*i* P	**Pb**	**21 12 26.1**	**0.0**
TWA	baz=278			*i* S	**Sb**	**21 12 35.2**	**-1.3**
	baz=278						
ENTT	**Nioudou**	**0.75**	**259**	P	**Pg**	**21 12 25.0**	**+0.1**
ENTT	baz=256			*i* S	**Sb**	**21 12 35.5**	**-1.2**
	baz=256						
NHDH	**Xindian Distri**	**0.79**	**283**	P	**Pb**	**21 12 26.8**	**0.0**
NHDH	baz=274			S	**Sb**	**21 12 37.4**	**-0.5**
	baz=274						
NDT	**Datong Townshi**	**0.81**	**257**	*e*P	**Pg**	**21 12 24.2**	**-1.8**
NDT	baz=254			*e*S	**Sg**	**21 12 35.5**	**-0.9**
	baz=254						
LATG	**Datong**	**0.81**	**252**	P	**Pg**	**21 12 26.2**	**+0.1**
LATG	baz=249			S	**Sg**	**21 12 36.6**	**0.0**
	baz=249						
YM01	**YM01**	**0.82**	**296**	P	**Pb**	**21 12 27.1**	**-0.1**
YM01	baz=297			S	**Sg**	**21 12 36.9**	**+0.1**
	baz=297						
TATO	**Taipei**	**0.83**	**284**	P	**Pb**	**21 12 27.2**	**-0.2**
TAP	**Taipei**	**0.83**	**288**	*i* P	**Pb**	**21 12 27.4**	**0.0**
	baz=288						
TAP				*i* S	**Sb**	**21 12 38.4**	**-0.5**
	baz=288						
TWY	**Chenhua**	**0.86**	**305**	*i* P	**Pb**	**21 12 27.3**	**-0.6**
	baz=306						
TWY				*i* S	**Sb**	**21 12 39.1**	**-0.6**
	baz=306						
ANP	**Anpu**	**0.87**	**298**	P	**Pb**	**21 12 28.2**	**0.0**
ANP	baz=298			S	**Sb**	**21 12 39.4**	**-0.9**
	baz=298						
PCYT	**Pengchaiyu**	**0.89**	**342**	P	**Pg**	**21 12 27.3**	**-0.2**
	baz=360						
YHNB	**Yeheng**	**0.92**	**263**	P	**Pg**	**21 12 28.1**	**0.0**
YHNB	**Yeheng**	**0.92**	**263**	P	**Pg**	**21 12 28.4**	**+0.3**
	baz=253						
YHNB				S	**Sg**	**21 12 39.4**	**-0.6**
	baz=253						
NTST	**Danshui**	**0.92**	**294**	P	**Pb**	**21 12 29.0**	**0.0**
	baz=307						
NTST				S	**Sb**	**21 12 41.5**	**-0.1**
	baz=307						
ETL	**Fush Village**	**0.93**	**228**	P	**Pg**	**21 12 28.1**	**-0.1**
	baz=233						
ETL				S	**Sg**	**21 12 40.0**	**-0.3**
	baz=233						
TWS1	**Kuangyinshan**	**0.93**	**290**	*i* P	**Pn**	**21 12 29.4**	**-0.8**
	baz=290						
TWS1				*i* S	**Sb**	**21 12 41.7**	**0.0**
	baz=290						
NSK	**Sanguang**	**0.93**	**264**	P	**Pg**	**21 12 28.2**	**-0.2**
	baz=254						
NSK				S	**Sg**	**21 12 39.6**	**-0.8**
	baz=254						
NACB	**Ninganchiao**	**0.94**	**230**	P	**Pg**	**21 12 27.8**	**-0.6**
NACB	**Ninganchiao**	**0.94**	**230**	P	**Pg**	**21 12 28.4**	**0.0**
	baz=235						
NACB				S	**Sg**	**21 12 39.4**	**-1.2**
	baz=235						
NNSB	**Datong**	**0.97**	**249**	P	**Pg**	**21 12 28.4**	**-0.7**
	baz=235						
NNSB				S	**Sg**	**21 12 41.2**	**-0.5**
	baz=235						
NNS	**Nan Shan**	**0.97**	**250**	P	**Pb**	**21 12 29.9**	**-0.1**
	baz=236						
NNS				S	**Sb**	**21 12 42.2**	**-1.0**
	baz=236						
ETLH	**Xiulin Townshi**	**1.00**	**235**	P	**Pg**	**21 12 29.9**	**+0.2**
	baz=239						
ETLH				S	**Sb**	**21 12 43.1**	**-0.7**
	baz=239						
TWD	**Chiawan**	**1.00**	**226**	P	**Pg**	**21 12 29.5**	**-0.1**
	baz=230						
TWD				S	**Sn**	**21 12 44.6**	**-1.1**
	baz=230						
NCU	**National Centr**	**1.09**	**280**	P	**Pn**	**21 12 33.6**	**+1.0**
	baz=271						
NCU				S	**Sn**	**21 12 47.3**	**-0.8**
	baz=271						

	baz=233						
CHGB				S	Sb	21 12 51.8	-1.2
	baz=233						
IRIF	**Iriomote-Funau**	**1.31**	**110**	*e*P	Pn	21 12 33.8	-1.7
IRIF				*e*S	Sb	21 12 51.0	-1.8
OWD	**Renai**	**1.37**	**233**	*e*P	Pg	21 12 37.0	+0.2
	baz=229						
OWD				*e*S	Sb	21 12 52.8	-1.8
	baz=229						
WUSB	**Renai**	**1.39**	**236**	P	Pg	21 12 37.6	+0.4
	baz=232						
WUSB				S	Sb	21 12 54.7	-0.5
	baz=232						
WHP	**Taichung City**	**1.40**	**249**	P	Pg	21 12 38.1	+0.8
	baz=246						
WHP				*e*S	Sn	21 12 55.0	-0.7
	baz=246						
EGFH	**Guangfu**	**1.41**	**218**	*e*P	Pn	21 12 36.3	-0.6
	baz=195						
EGFH				*e*S	Sg	21 12 56.9	+1.2
	baz=195						
NMLH	**Miaoli**	**1.46**	**261**	*e*P	Pg	21 12 38.7	+0.1
	baz=259						
NMLH				*e*S	Sg	21 12 58.2	+0.7
	baz=259						
HATJ	**Hateruma jima**	**1.49**	**119**	S	Sn	21 12 55.1	-2.8
WCS	**Beigang Elemen**	**1.52**	**242**	*e*P	Pg	21 12 40.0	+0.4
	baz=246						
WCS				*e*S	Sg	21 13 00.2	+0.9
	baz=246						
TWQ1	**Liyutan**	**1.52**	**254**	P	Pg	21 12 40.4	+0.7
	baz=272						
TWQ1				S	Sg	21 13 00.8	+1.3
	baz=272						
VWDT	**VWDT**	**1.52**	**228**	P	Pb	21 12 39.1	-0.2
	baz=231						
VWDT				S	Sg	21 12 59.5	+0.1
	baz=231						
HGSD	**Ruisui**	**1.55**	**214**	*e*P	Pb	21 12 40.0	+0.3
	baz=194						
JKRS	**Kuro-shima**	**1.58**	**110**	P	Pn	21 12 38.1	-1.2
JKRS				*e*S	Sn	21 12 57.9	-2.3
EHY	**Hungye**	**1.59**	**217**	*e*P	Pb	21 12 41.0	+0.5
	baz=211						
SMLT	**Sun Moon Lake**	**1.62**	**237**	P	Pg	21 12 41.4	-0.2
	baz=233						
SMLT				*e*S	Sg	21 13 02.0	-0.5
	baz=233						
SSLB	**Suanglung**	**1.63**	**233**	P	Pb	21 12 41.4	+0.2
	baz=229						
SSLB				S	Sb	21 13 01.7	-0.4
	baz=229						
TYC	**Yuchr**	**1.64**	**238**	P	Pg	21 12 42.1	+0.2
	baz=234						
TYC				S	Sg	21 13 03.8	+0.6
	baz=234						
JIJ	**Ishigaki jima**	**1.66**	**104**	*e*P	Pn	21 12 39.6	-0.8
JIJ				*e*S	Sn	21 12 59.8	-2.3
TCU	**Taichung**	**1.67**	**248**	*e*P	Pb	21 12 41.6	-0.2
	baz=245						
TCU				*e*S	Sg	21 13 05.8	+1.5
	baz=245						
YULB	**Yu-li**	**1.70**	**216**	P	Pn	21 12 40.1	-0.8
YULB	**Yu-li**	**1.70**	**216**	*e*P	Pn	21 12 40.5	-0.4
	baz=209						
EYUL	**Yuli**	**1.73**	**214**	*e*P	Pn	21 12 41.1	-0.1
	baz=195						
JISG	**Ishigakijimahi**	**1.77**	**96**	*e*P	Pn	21 12 41.0	-0.9
WJS	**Zhushan**	**1.78**	**238**	P	Pg	21 12 44.2	-0.4
	baz=234						
WJS				S	Sg	21 13 09.4	+1.7
	baz=234						
WNT	**Mingjian**	**1.79**	**240**	*e*P	Pg	21 12 44.4	-0.4
	baz=235						
WCHH	**Zhanghua**	**1.80**	**247**	*e*P	Pg	21 12 45.0	0.0
	baz=246						
WCHH				*e*S	Sb	21 13 06.9	+0.1
	baz=246						
FULB	**Fuli**	**1.86**	**212**	*e*P	Pn	21 12 42.6	-0.6
	baz=191						
ALS	**Alishan**	**1.91**	**229**	*e*P	Pb	21 12 45.5	-0.7
	baz=205						
ALS				*e*S	Sg	21 13 13.2	+1.1
	baz=205						
CHKT	**Chengkung**	**1.91**	**209**	*e*P	Pn	21 12 42.7	-1.1
	baz=189						
CHKT				*e*S	Sn	21 13 06.9	-1.4
	baz=189						
EHD	**Haiduan**	**1.95**	**214**	*e*P	Pn	21 12 44.5	+0.2
	baz=207						
CHN5	**Tsauling**	**1.95**	**233**	*e*P	Pb	21 12 46.4	-0.2
	baz=227						
WDLH	**Douliu**	**2.00**	**237**	*e*P	Pb	21 12 47.5	+0.1
	baz=232						
ELDTW	**Lidau**	**2.02**	**218**	*e*P	Pn	21 12 45.9	+0.6
	baz=199						
WRL	**Guolierlin Hig**	**2.02**	**245**	*e*P	Pn	21 12 46.0	+0.7
	baz=241						
EDH	**Donghe**	**2.05**	**209**	*e*P	Pn	21 12 45.3	-0.4
	baz=189						
EDH				*e*S	Sn	21 13 11.7	0.0
	baz=189						
WCKO	**Fanlu**	**2.10**	**231**	*e*P	Pb	21 12 49.5	+0.4
	baz=227						
WCKO				*e*S	Sg	21 13 17.8	-0.2
	baz=227						
WTK	**Tuku**	**2.12**	**239**	*e*P	Pb	21 12 48.0	-1.4
	baz=238						
WTK				*e*S	Sg	21 13 17.2	-1.4
	baz=238						
CHN4	**Tsaushan**	**2.17**	**229**	*e*P	Pb	21 12 51.0	+0.8
	baz=205						
STYH	**Taoyuan**	**2.17**	**223**	*e*P	Pn	21 12 48.5	+1.1
	baz=201						
STYH				*e*S	Sn	21 13 15.2	+0.5
	baz=201						
TPUB	**Ta-pu**	**2.17**	**228**	*e*P	Pb	21 12 49.9	-0.5
	baz=204						
TPUB				*e*S	Sg	21 13 19.2	-1.2
	baz=204						
CHY	**Chiayi**	**2.19**	**235**	*e*P	Pb	21 12 49.2	-1.5
	baz=254						
CHY				*e*S	Sb	21 13 18.4	+0.1
	baz=254						
WTP	**Ta-pu**	**2.22**	**227**	*e*P	Pb	21 12 50.4	-0.8
	baz=204						
WTP				*e*S	Sg	21 13 21.0	-0.9
	baz=204						
LDUT	**Ludao**	**2.26**	**202**	*e*P	Pn	21 12 47.5	-1.1
	baz=197						
LDUT				*e*S	Sn	21 13 15.3	-1.5
	baz=197						
WSF	**Szhu**	**2.27**	**240**	*e*P	Pn	21 12 50.0	+1.3
	baz=238						
WSF				*e*S	Sb	21 13 20.4	-0.1
	baz=238						
TWGBT	**Beinan**	**2.29**	**211**	P	Pn	21 12 49.0	0.0
TWGBT	**Beinan**	**2.29**	**211**	*e*P	Pn	21 12 49.5	+0.6
	baz=205						
CHN1	**Nanshi**	**2.32**	**227**	*e*P	Pb	21 12 52.4	-0.5
	baz=220						
SCST	**Cishan**	**2.56**	**223**	*e*P	Pb	21 12 56.9	0.0
	baz=216						
MATB	**Ma-tsu**	**2.58**	**302**	*e*P	Pn	21 12 52.3	-0.7
	baz=300						
TSCK	**Chigu Township**	**2.65**	**233**	*e*P	Pb	21 12 56.5	-2.0
	baz=227						
MASBT	**Mashibuluo**	**2.69**	**217**	*e*P	Pn	21 12 55.7	+1.2
	baz=198						
LAY	**Lan-yu**	**2.83**	**196**	*e*P	Pn	21 12 55.7	-0.8
	baz=190						
PHUB	**P'eng-hu**	**2.86**	**244**	*e*P	Pn	21 12 57.8	+1.0
	baz=241						
XPSS	**Dashiqiu**	**2.91**	**318**	*e*P	Pn	21 12 56.8	-0.7
	baz=315						
PTMZ	**Houxiangcun**	**2.97**	**276**	*e*P	Pn	21 12 57.5	-0.8
	baz=275						
SMST	**Manzhou Townsh**	**3.09**	**208**	*e*P	Pn	21 12 58.5	-1.6
	baz=191						
ZPLA	**Ao Xicun**	**4.30**	**260**	*e*P	Pn	21 13 17.8	+1.1
	baz=259						
KSRS	**Korea Array**	**13.49**	**19**	LR	LR	21 20 33.1	
	comp=Z,45nm,18.6s,baz=195,slow=39						
KLR	**Kul'dur**	**25.48**	**14**	LR	LR	21 28 21.8	
	comp=Z,40nm,19.6s,baz=264,slow=39						
SONM	**Songino Array**	**26.26**	**335**	P	P	21 17 47.0	+0.2
	1.2nm,1.1s,baz=124,slow=7.4,SNR=6.1						
	1.2nm,1.1s						

YAK	**Yakutsk**	**37.56**	**6**	LR	LR	21 34 45.3	
	comp=Z,28nm,18.8s,baz=80,slow=36						
MKAR	**Makanchi Array**	**38.67**	**315**	P	P	21 19 39.4	+4.2
	0.4nm,0.9s,baz=96,slow=9.0,SNR=3.0						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**45.96**	**164**	P	P	21 20 34.1	-0.6
	3.4nm,0.9s,baz=346,slow=8.4,SNR=16						
	3.4nm,0.9s						
ASAR	**Alice Springs**	**49.44**	**166**	P	P	21 21 01.1	-0.6
	1.3nm,0.8s,baz=342,slow=7.0,SNR=11						
	1.3nm,0.8s						
IDI	**Anoyia**	**81.79**	**305**	LR	LR	22 04 29.7	
	comp=Z,141nm,18.1s,baz=216,slow=38						

*SOME **18** 21:30:14.3, 42.°32N×81.°00E, h10km*
KNET 18 21:29:54.7±0.3, 42.°70N×74.°44E, h16km±3km, mI0.9, 13C-3D, Error ellipse: s-maj=3.2km s-min=2.1km az=127.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
AAK	**Ala-Archa**	**0.07**	**145**	⇑P		Pg	21 29 58.0	-0.2
	13nm,0.1s,SNR=77							
AAK				⇑S		Sg	21 29 59.7	-0.6
	90nm,0.2s							
KBK	**Karagaybulak**	**0.38**	**96**	⇓P		Pb	21 30 03.6	+0.4
	1.7nm,0.1s,SNR=8.0							
KBK				⇑S		Sb	21 30 09.2	+0.4
	5.0nm,0.1s							
CHMS	**Chumysh**	**0.38**	**37**	⇓P		Pb	21 30 03.1	0.0
	2.7nm,0.1s,SNR=5.6							
CHMS				⇑S		Sb	21 30 08.5	-0.2
	3.8nm,0.1s							
UCH	**Uchtor**	**0.47**	**173**	⇑P		Pb	21 30 05.2	+0.3
	1.1nm,0.1s,SNR=6.3							
UCH				⇑S		Sb	21 30 12.0	+0.2
	5.4nm,0.1s							
EKS2	**Erkin-Say**	**0.49**	**266**	⇑P		Pb	21 30 05.4	+0.4
	0.7nm,0.1s,SNR=5.1							
EKS2				⇓S		Sb	21 30 12.5	+0.5
	9.0nm,0.5s							
USP	**Ospenovka**	**0.57**	**4**	⇑P		Pb	21 30 06.4	0.0
	1.6nm,0.2s,SNR=6.5							
USP				⇑S		Sb	21 30 14.2	-0.1
	4.1nm,0.1s							
AML	**Almayashu**	**0.79**	**225**	⇑P		Pn	21 30 10.9	-0.6
	0.7nm,0.1s							
AML				⇑S		Sb	21 30 21.5	+0.7
	8.1nm,0.5s							
TKM2	**Tokmak 2**	**0.88**	**75**	⇑P		Pn	21 30 12.3	-0.3
	0.5nm,0.1s							
TKM2				⇑S		Sg	21 30 24.2	+0.7
	6.4nm,0.1s							
SATY	**Saty**	**2.94**	**82**	*e*Pg		Pg	21 30 52.8	+1.8
	1.4nm,0.2s							
SATY				*e*Lg		Lg	21 31 20.5	
	6.4nm,0.2s							
ZHN	**Zhinishke**	**2.97**	**80**	*e*Pg		Pg	21 30 52.4	+0.7
	1.4nm,0.2s							
ZHN				*e*Lg		Lg	21 31 20.1	
	6.7nm,0.2s							
KPKS	**Kokpek**	**3.20**	**75**	*e*Pg		Pb	21 30 52.0	+0.8
	3.3nm,0.2s							
KPKS				*e*Lg		Lg	21 31 19.2	
	7.6nm,0.5s							

*ROM **18** 21:31:57.4±0.1, 42.°493N±0.°001×13.°323E±0.°006, h11km, ML3.3/24*
*PRU **18** 21:31:58.7±0.0, 42.°49N×13.°54E, h10km*
*BEO **18** 21:32:00.4±0.6, 42.°56N×13.°44E, h0km, ML3.5/4*
ISC 18 21:31:58.1±0.8, 42.°51N±0.°02×13.°29E±0.°02, h11km±4km, n81, σ1s 21/108, 14C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RM33	**Pellescritta (**	**0.06**	**271**	⇑P		Pg	**21 32 00.4**	**-0.1**
RM33				S		Sg	**21 32 02.2**	**-0.1**
RM33				AML		AML		
	comp=E,94100μm,1.1s							
RM33				AML		AML		
	comp=N,73550μm,0.2s							
RM33				AML		AML		
	comp=N,75600μm,1.2s							
RM33				AML		AML		
	comp=N,73550μm,0.2s							
RM33				AML		AML		
	comp=E,92750μm,1.1s							
RM33				AML		AML		
	comp=N,75600μm,0.8s							
RM33				AML		AML		
	comp=E,92750μm,0.9s							
RM33				AML		AML		
	comp=E,94100μm,0.9s							
RM33				AML		AML		
	comp=N,73540μm,0.2s							
RM33				AML		AML		
	comp=E,93668μm,0.3s							
RM33				AML		AML		
	comp=N,74623μm,0.2s							
RM33				AML		AML		
	comp=E,91133μm,0.3s							
T1247	**Pizzolo (AQ)**	**0.07**	**176**	⇓P		Pg	**21 32 00.2**	**-0.3**
T1247				S		Sg	**21 32 01.9**	**-0.5**
T1247				AML		AML		
	comp=N,72800μm,1.4s							
T1247				AML		AML		
T1247				AML		AML		
T1247				AML		AML		
	comp=N,59883μm,0.2s							
CAMP	**Campotosto**	**0.09**	**72**	P		Pg	**21 32 00.4**	**-0.5**
CAMP				S		Sg	**21 32 02.2**	**-0.8**
CAMP				AML		AML		
	comp=E,36800μm,0.7s							
CAMP				AML		AML		
	comp=N,63700μm,0.4s							
CAMP				AML		AML		
	comp=N,63740μm,0.4s							
CAMP				AML		AML		
	comp=E,28143μm,0.3s							
SMA1	**SAN MARTINO**	**0.13**	**15**	⇑P		Pg	**21 32 01.3**	**-0.1**
SMA1				S		Sg	**21 32 03.8**	**+0.1**
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
T1218	**Civita (PG)**	**0.21**	**321**	⇑P		Pg	**21 32 02.7**	**0.0**
T1218				S		Sg	**21 32 06.4**	**+0.6**
T1218				AML		AML		
	comp=E,10750μm,0.5s							
T1218				AML		AML		
	comp=N,29050μm,0.2s							
T1218				AML		AML		
	comp=N,29050μm,0.2s							
T1218				AML		AML		
	comp=E,10600μm,0.5s							
T1218				AML		AML		
	comp=N,28700μm,0.2s							
T1218				AML		AML		
	comp=N,28700μm,0.2s							
T1218				AML		AML		
	comp=E,9991μm,0.2s							
T1218				AML		AML		
	comp=E,9648μm,0.2s							
T1218				AML		AML		
	comp=N,29035μm,0.2s							
T1218				AML		AML		
	comp=N,28700μm,0.2s							
LNSS	**Leonessa**	**0.21**	**297**	⇑P		Pg	**21 32 02.8**	**+0.1**
LNSS				S		Sg	**21 32 06.7**	**+1.0**
LNSS				AML		AML		
	comp=E,40850μm,1.0s							
LNSS				AML		AML		
	comp=N,74900μm,0.2s							
LNSS				AML		AML		
	comp=N,74922μm,0.1s							
LNSS				AML		AML		
	comp=E,40283μm,0.2s							
GIGS	**Gran Sasso**	**0.21**	**106**	⇑P		Pg	**21 32 01.9**	**-0.8**
GIGS				S		Sg	**21 32 04.9**	**-0.9**
GIGS				AML		AML		
	comp=E,3645μm,0.6s							
GIGS				AML		AML		
	comp=N,4830μm,0.5s							
GIGS				AML		AML		
	comp=N,4830μm,1.5s							
GIGS				AML		AML		
	comp=E,3582μm,0.4s							
GIGS				AML		AML		
	comp=N,4830μm,0.6s							
FIAM	**Fiamignano**	**0.27**	**208**	P		Pg	**21 32 03.3**	**-0.4**
FIAM				S		Sg	**21 32 07.8**	**+0.2**
FIAM				AML		AML		
	comp=N,4645μm,1.3s							
FIAM				AML		AML		
	comp=N,4650μm,1.3s							
FIAM				AML		AML		
	comp=E,4980μm,0.5s							
FIAM				AML		AML		
	comp=N,4650μm,0.7s							
FIAM				AML		AML		
	comp=E,4980μm,0.5s							
FIAM				AML		AML		
	comp=N,4421μm,0.6s							
T1217	**Poggiodomo (PG**	**0.34**	**308**	P		Pg	**21 32 04.8**	**-0.1**
T1217				S		Sg	**21 32 10.4**	**+0.9**
T1217				AML		AML		
	comp=E,7390μm,0.6s							
T1217				AML		AML		
	comp=E,6200μm,0.6s							
T1217				AML		AML		
	comp=N,6185μm,1.4s							
T1217				AML		AML		
	comp=N,6800μm,0.6s							
T1217				AML		AML		
	comp=E,7390μm,0.6s							
T1217				AML		AML		
	comp=N,6185μm,1.4s							
T1217				AML		AML		
	comp=E,6200μm,0.6s							
T1217				AML		AML		
	comp=N,6185μm,0.6s							
T1217				AML		AML		
	comp=E,6200μm,1.4s							
T1217				AML		AML		
	comp=N,6800μm,1.4s							
T1217				AML		AML		
	comp=E,7390μm,1.4s							
T1217				AML		AML		
	comp=E,5419μm,0.2s							
T1217				AML		AML		
	comp=N,6190μm,0.2s							
T1217				AML		AML		
	comp=E,4399μm,0.2s							
T1217				AML		AML		
	comp=N,5634μm,0.3s							
ARRO	**Arrone**	**0.40**	**281**	⇑P		Pg	**21 32 05.8**	**-0.2**
ARRO				S		Sg	**21 32 11.7**	**+0.5**
ARRO				AML		AML		
	comp=N,5435μm,0.2s							
ARRO				AML		AML		
	comp=E,7630μm,0.2s							
ARRO				AML		AML		
	comp=N,5431μm,0.2s							
PTQR	**Pietraquaria**	**0.49**	**171**	⇑P		Pg	**21 32 06.7**	**-1.1**
PTQR				AML		AML		
	comp=E,898μm,0.4s							
PTQR				AML		AML		
	comp=N,793μm,1.0s							
PTQR				AML		AML		
	comp=E,898μm,1.6s							
PTQR				AML		AML		
	comp=E,898μm,0.4s							
PTQR				AML		AML		
	comp=N,774μm,0.6s							
CESX	**Cesi**	**0.54**	**281**	P		Pg	**21 32 07.9**	**-0.7**
CESX				S		Sg	**21 32 16.6**	**+0.9**
CESX				AML		AML		
	comp=N,3115μm,0.3s							
CESX				AML		AML		
	comp=E,2235μm,0.3s							
CESX				AML		AML		
	comp=E,2239μm,0.3s							
CESX				AML		AML		
	comp=N,3118μm,0.3s							
TRTR	**Tortoreto Alta**	**0.55**	**57**	P		Pb	**21 32 08.9**	**-0.8**
TRTR				AML		AML		
	comp=N,5265μm,0.4s							
TRTR				AML		AML		
	comp=E,6455μm,0.4s							
TRTR				AML		AML		
	comp=N,5265μm,1.6s							
TRTR				AML		AML		
	comp=E,6457μm,0.4s							
TRTR				AML		AML		
	comp=N,5267μm,0.4s							
FDMO	**Fiordimonte**	**0.55**	**344**	P		Pg	**21 32 08.3**	**-0.6**
FDMO				S		Sg	**21 32 17.1**	**+0.9**
FDMO				AML		AML		
	comp=E,2121μm,0.2s							
GUMA	**Gualdo di Mace**	**0.56**	**3**	P		Pg	**21 32 08.7**	**-0.3**
GUMA				S		Sb	**21 32 17.7**	**-0.1**
GUMA				AML		AML		
	comp=E,6750μm,0.3s							
GUMA				AML		AML		
	comp=N,8335μm,0.5s							
GUMA				AML		AML		
	comp=E,7865μm,0.3s							
GUMA				AML		AML		
	comp=N,8380μm,0.4s							
GUMA				AML		AML		
	comp=N,8380μm,1.6s							
GUMA				AML		AML		
	comp=E,6750μm,0.3s							
GUMA				AML		AML		
	comp=N,8335μm,0.5s							
GUMA				AML		AML		
	comp=E,7863μm,0.3s							
GUMA				AML		AML		
	comp=N,8332μm,0.5s							
GUMA				AML		AML		
	comp=E,6751μm,0.3s							
GUMA				AML		AML		
	comp=N,8379μm,0.5s							
CESI	**CESI - Serrava**	**0.57**	**330**	P		Pg	**21 32 08.8**	**-0.5**
CESI				S		Sg	**21 32 18.1**	**+1.2**
CESI				AML		AML		
	comp=E,1565μm,0.8s							
CESI				AML		AML		
	comp=N,2795μm,0.3s							
CESI				AML		AML		
	comp=E,1471μm,0.3s							
CESI				AML		AML		
	comp=N,2792μm,0.3s							
CSP1	**Cessapalombo**	**0.59**	**354**	⇑P		Pg	**21 32 09.0**	**-0.6**
CSP1				S		Sg	**21 32 18.2**	**+0.8**
CSP1				AML		AML		
	comp=E,4015μm,0.3s							
CSP1				AML		AML		
	comp=N,4260μm,1.0s							
CSP1				AML		AML		
	comp=N,4170μm,0.3s							
CSP1				AML		AML		
	comp=E,4017μm,0.3s							
CERT	**Cerreto**	**0.60**	**202**	⇑P		Pg	**21 32 08.8**	**-1.0**
CERT				AML		AML		
	comp=E,2080μm,0.4s							
CERT				AML		AML		
	comp=N,1040μm,0.4s							
CERT				AML		AML		
	comp=N,1041μm,0.4s							
CERT				AML		AML		
	comp=E,2076μm,0.4s							
MOMA	**Monte Martano**	**0.61**	**299**	P		Pg	**21 32 09.5**	**-0.5**
MOMA				S		Sg	**21 32 19.5**	**+1.5**
MOMA				AML		AML		
	comp=E,5000μm,0.2s							
MOMA				AML		AML		
	comp=N,5530μm,0.2s							
MOMA				AML		AML		
	comp=N,5740μm,0.2s							
MOMA				AML		AML		
	comp=E,4850μm,0.2s							
MOMA				AML		AML		
	comp=N,5736μm,0.2s							
MOMA				AML		AML		
	comp=N,5533μm,0.2s							
MOMA				AML		AML		
	comp=E,5003μm,0.2s							
MOMA				AML		AML		
	comp=E,4850μm,0.2s							
T1220	**Camerino, Fraz**	**0.62**	**346**	P		Pg	**21 32 09.6**	**-0.6**
T1220				S		Sg	**21 32 19.1**	**+0.7**

T1220				AML	AML			
	comp=E,7740µm,0.5s							
T1220				AML	AML			
	comp=E,7685µm,0.5s							
T1220				AML	AML			
	comp=N,8405µm,1.3s							
T1220				AML	AML			
	comp=E,7740µm,0.5s							
T1220				AML	AML			
	comp=E,7680µm,0.5s							
T1220				AML	AML			
	comp=E,7740µm,1.5s							
T1220				AML	AML			
	comp=N,8520µm,0.3s							
T1220				AML	AML			
	comp=E,7680µm,1.5s							
T1220				AML	AML			
	comp=N,8520µm,0.3s							
T1220				AML	AML			
	comp=N,8344µm,0.3s							
T1220				AML	AML			
	comp=E,7362µm,0.4s							
T1220				AML	AML			
	comp=E,7418µm,0.4s							
MTCE	**Montecelio**	**0.63**	**220**	P	**Pg**	**21 32 09.4**	**-1.1**	
MTCE				AML	AML			
	comp=N,750µm,1.5s							
MTCE				AML	AML			
	comp=E,1825µm,0.4s							
MTCE				AML	AML			
	comp=N,750µm,0.5s							
MTCE				AML	AML			
	comp=E,1827µm,0.4s							
MTCE				AML	AML			
	comp=N,679µm,0.3s							
SRES	**S.Oreste - Sor**	**0.64**	**245**	P	**Pg**	**21 32 09.5**	**-1.0**	
SRES				AML	AML			
	comp=E,1250µm,0.8s							
SRES				AML	AML			
	comp=N,842µm,1.6s							
SRES				AML	AML			
	comp=N,842µm,0.4s							
SRES				AML	AML			
	comp=E,1250µm,1.2s							
SRES				AML	AML			
	comp=N,806µm,0.5s							
SRES				AML	AML			
	comp=E,1252µm,0.8s							
VVLD	**Villa Vallelon**	**0.68**	**159**	⇓P	**Pg**	**21 32 11.6**	**+0.2**	
VVLD				AML	AML			
	comp=N,946µm,0.6s							
VVLD				AML	AML			
	comp=E,1225µm,0.7s							
VVLD				AML	AML			
	comp=N,946µm,0.6s							
VVLD				AML	AML			
	comp=E,1221µm,0.7s							
SEF1	**Sefro**	**0.69**	**338**	P	**Pg**	**21 32 11.0**	**-0.4**	
SEF1				AML	AML			
	comp=E,3850µm,0.3s							
SEF1				AML	AML			
	comp=N,4045µm,0.3s							
SEF1				AML	AML			
	comp=E,3850µm,1.7s							
SEF1				AML	AML			
	comp=N,4046µm,0.3s							
SEF1				AML	AML			
	comp=E,3850µm,0.3s							
ASSB	**Assisi San Ben**	**0.71**	**319**	P	**Pg**	**21 32 11.3**	**-0.6**	
ASSB				AML	AML			
	comp=N,1920µm,0.2s							
ASSB				AML	AML			
	comp=E,1420µm,0.4s							
ASSB				AML	AML			
	comp=N,1921µm,0.2s							
ASSB				AML	AML			
	comp=E,1423µm,0.4s							
SNTG	**Esanatoglia**	**0.79**	**341**	P	**Pg**	**21 32 10.7**	**-2.7**	
EL6	**Elcito**	**0.83**	**350**	⇑P	**Pg**	**21 32 13.3**	**-0.9**	
EL6				AML	AML			
	comp=E,2850µm,0.2s							
EL6				AML	AML			
	comp=N,2650µm,1.2s							
EL6				AML	AML			
	comp=N,2650µm,0.8s							
EL6				AML	AML			
	comp=E,2851µm,0.2s							
EL6				AML	AML			
	comp=N,2640µm,0.4s							
POFI	**Posta Fibreno**	**0.85**	**158**	⇓P	**Pb**	**21 32 15.6**	**+0.7**	
CING	**Cingoli**	**0.87**	**355**	⇓P	**Pg**	**21 32 14.1**	**-0.8**	
CING				AML	AML			
	comp=E,1710µm,0.9s							
CING				AML	AML			
	comp=N,1310µm,0.9s							
CING				AML	AML			
	comp=N,1296µm,0.3s							
CING				AML	AML			
	comp=E,1629µm,0.5s							
FOSV	**Fossato di Vic**	**0.88**	**334**	⇓P	**Pg**	**21 32 14.4**	**-0.7**	
FOSV				AML	AML			
	comp=E,781µm,1.4s							
FOSV				AML	AML			
	comp=N,1165µm,0.6s							
FOSV				AML	AML			
	comp=E,761µm,0.3s							
FOSV				AML	AML			
	comp=N,1165µm,0.6s							
GIUL	**Giuliano Di Ro**	**0.95**	**182**	⇓P	**Pg**	**21 32 15.7**	**-0.7**	
GIUL				AML	AML			
	comp=N,532µm,0.9s							
GIUL				AML	AML			
	comp=N,532µm,1.1s							
GIUL				AML	AML			
	comp=E,622µm,0.6s							
GIUL				AML	AML			
	comp=E,622µm,0.6s							
GIUL				AML	AML			
	comp=N,532µm,0.9s							
MGAB	**Montegabbione**	**0.96**	**295**	⇓P	**Pg**	**21 32 16.0**	**-0.6**	
MGAB				AML	AML			
	comp=E,1765µm,0.4s							
MGAB				AML	AML			
	comp=N,1895µm,0.4s							
MGAB				AML	AML			
	comp=N,1950µm,0.5s							
MGAB				AML	AML			
	comp=E,1855µm,0.4s							
MGAB				AML	AML			
	comp=N,1898µm,0.4s							
MGAB				AML	AML			
	comp=N,1950µm,0.5s							
MGAB				AML	AML			
	comp=E,1855µm,0.4s							
MGAB				AML	AML			
	comp=E,1765µm,0.4s							
SSFR	**Montelago di S**	**1.00**	**338**	⇑P	**Pg**	**21 32 16.8**	**-0.6**	
SSFR				AML	AML			
	comp=E,2050µm,0.8s							
SSFR				AML	AML			
	comp=N,1715µm,0.2s							
SSFR				AML	AML			
	comp=N,1725µm,0.7s							
SSFR				AML	AML			
	comp=E,2050µm,1.2s							
SSFR				AML	AML			
	comp=E,2130µm,0.3s							
SSFR				AML	AML			
	comp=N,1635µm,0.2s							
SSFR				AML	AML			
	comp=E,2128µm,0.2s							
SSFR				AML	AML			
	comp=E,1915µm,0.2s							
SSFR				AML	AML			
	comp=N,1715µm,0.2s							
ARVD	**Arcevia**	**1.02**	**346**	⇓P	**Pg**	**21 32 16.8**	**-1.1**	
ARVD				AML	AML			
	comp=E,1174µm,1.6s							
ARVD				AML	AML			
	comp=N,660µm,0.5s							
ARVD				AML	AML			
	comp=E,1174µm,0.4s							
ARVD				AML	AML			
	comp=E,1135µm,0.6s							
ARVD				AML	AML			
	comp=N,659µm,0.5s							
AOI	**Ancona**	**1.07**	**12**	⇑P	**Pg**	**21 32 18.6**	**-0.1**	
AOI				AML	AML			
	comp=N,888µm,0.6s							
AOI				AML	AML			
	comp=E,1235µm,1.4s							
AOI				AML	AML			
	comp=E,886µm,0.3s							
AOI				AML	AML			
	comp=N,881µm,0.3s							
FRON	**Frontone**	**1.09**	**338**	⇑P	**Pg**	**21 32 18.1**	**-1.0**	
PIEI	**Pieia**	**1.17**	**332**	⇑P	**Pg**	**21 32 19.8**	**-0.8**	
PIEI				AML	AML			
	comp=E,628µm,0.7s							
PIEI				AML	AML			
	comp=N,557µm,1.1s							
PIEI				AML	AML			
	comp=N,557µm,0.9s							
PIEI				AML	AML			
	comp=N,511µm,0.2s							
PIEI				AML	AML			
	comp=E,557µm,0.4s							
MPAG	**Monte Paganucc**	**1.19**	**341**	⇓P	**Pg**	**21 32 18.4**	**-2.6**	
MPAG				AML	AML			
	comp=E,742µm,0.5s							
MPAG				AML	AML			
	comp=N,688µm,0.5s							
MPAG				AML	AML			
	comp=N,688µm,1.5s							
MPAG				AML	AML			
	comp=N,687µm,0.5s							
MPAG				AML	AML			
	comp=E,741µm,0.5s							
NARO	**Abbazia di Nar**	**1.22**	**335**	⇓P	**Pn**	**21 32 20.4**	**-0.7**	
NARO				AML	AML			
	comp=N,440µm,0.5s							
NARO				AML	AML			
	comp=E,454µm,0.8s							
NARO				AML	AML			
	comp=N,440µm,0.3s							
NARO				AML	AML			
	comp=E,450µm,0.5s							
CAFI	**Castiglion Fio**	**1.27**	**311**	P	**Pn**	**21 32 20.1**	**-1.8**	
CAFI				AML	AML			
	comp=N,386µm,1.6s							
CAFI				AML	AML			
	comp=E,380µm,0.6s							
CAFI				AML	AML			
	comp=E,374µm,0.6s							
CAFI				AML	AML			
	comp=N,380µm,0.8s							
CAFI				AML	AML			
	comp=E,381µm,0.6s							
CAFI				AML	AML			
	comp=E,375µm,0.6s							
CAFI				AML	AML			
	comp=N,380µm,0.8s							
CAFI				AML	AML			
	comp=N,377µm,0.8s							
MAON	**Monte Argentar**	**1.60**	**268**	⇓P	**Pn**	**21 32 26.2**	**-0.1**	
STON	**Ston**	**3.27**	**82**	*e*Pn	**Pn**	**21 32 50.0**	**+0.8**	
STON				*e*Sn	**Sn**	**21 33 27.9**	**-0.2**	
BLY	**Banja Luka**	**3.60**	**50**	*e*Pn	**Pn**	**21 32 56.0**	**+2.1**	
TREB	**Trebinje**	**3.74**	**85**	*e*Pn	**Pn**	**21 32 56.6**	**+0.9**	
TREB				*e*Sn	**Sn**	**21 33 39.1**	**-0.6**	
OBKA	**Obir**	**4.10**	**12**	*e*Pn	**Pn**	**21 33 01.3**	**+0.6**	
	comp=N,0.6nm,0.2s							
MYKA	**Terra Mystica**	**4.13**	**3**	*e*Pn	**Pn**	**21 33 01.5**	**+0.4**	
	comp=N,0.9nm,0.2s							
ABTA	**Abfaltersbach**	**4.28**	**353**	*e*Pn	**Pn**	**21 33 03.9**	**+0.7**	
	comp=N,4.5nm,0.5s							
SOKA	**Soboth**	**4.35**	**16**	*e*Pn	**Pn**	**21 33 04.3**	**+0.1**	
	comp=N,0.6nm,0.2s							
PDG	**Podgorica**	**4.41**	**89**	*e*Pn	**Pn**	**21 33 06.8**	**+1.9**	
PDG				*e*Sn	**Sn**	**21 33 56.6**	**+0.3**	
KBA	**Koelnbreinsper**	**4.57**	**0**	*e*Pn	**Pn**	**21 33 07.8**	**+0.5**	
	comp=N,2.4nm,0.4s							
BBLS	**Lazići**	**4.67**	**71**	*e*Pn	**Pn**	**21 33 10.1**	**+1.5**	
FETA	**Feichten**	**4.87**	**339**	*e*Pn	**Pn**	**21 33 13.7**	**+2.4**	
	comp=N,0.7nm,0.3s							
WTTA	**Wattenberg**	**4.90**	**347**	*e*Pn	**Pn**	**21 33 13.3**	**+1.5**	
	comp=N,0.9nm,0.2s							
SQTA	**Sankt Quirin**	**4.94**	**343**	*e*Pn	**Pn**	**21 33 13.8**	**+1.5**	
	comp=N,1.0nm,0.1s							
SJES	**Sjenica**	**4.97**	**79**	*e*Pn	**Pn**	**21 33 14.9**	**+2.2**	
WATA	**Walderalm**	**4.98**	**346**	*e*Pn	**Pn**	**21 33 14.8**	**+1.9**	
	comp=N,1.2nm,0.2s							
TIR	**Tirane**	**5.04**	**101**	*e*Pn	**Pn**	**21 33 15.5**	**+1.9**	
MOTA	**Moosalm**	**5.08**	**343**	*e*Pn	**Pn**	**21 33 16.8**	**+2.5**	
	comp=N,0.5nm,0.2s							
IVAS	**Ivanjica**	**5.14**	**76**	*e*Pn	**Pn**	**21 33 15.8**	**+0.8**	
IVAS				*e*Sn	**Sn**	**21 34 14.1**	**-0.2**	
DIVS	**Divibare**	**5.14**	**70**	*e*Pn	**Pn**	**21 33 16.9**	**+1.8**	
BIOA	**Bad Ischl, Aus**	**5.19**	**3**	*e*Pn	**Pn**	**21 33 16.0**	**+0.4**	
	comp=N,1.5nm,0.3s							
RETA	**Reutte**	**5.29**	**341**	*e*Pn	**Pn**	**21 33 18.8**	**+1.7**	
	comp=N,0.9nm,0.3s							
DAVA	**Damuels**	**5.36**	**334**	*e*Pn	**Pn**	**21 33 20.3**	**+2.2**	
	comp=N,2.5nm,0.4s							
MOA	**Molln**	**5.39**	**7**	*e*Pn	**Pn**	**21 33 19.8**	**+1.4**	
	comp=N,0.6nm,0.2s							
MOA	**Molln**	**5.39**	**7**	*e*Pn	**Pn**	**21 33 20.0**	**+1.7**	
MOA				*e*Sn	**Sn**	**21 34 21.3**	**+1.0**	
FRGS	**Fruska Gora**	**5.41**	**58**	*e*Pn	**Pn**	**21 33 19.5**	**+0.9**	
GRUS	**Gruza**	**5.60**	**73**	*e*Pn	**Pn**	**21 33 22.6**	**+1.3**	
GRUS				*e*Sn	**Sn**	**21 34 25.8**	**+0.3**	
RONA	**Rosalia, Austr**	**5.61**	**21**	*e*Pn	**Pn**	**21 33 21.4**	**-0.1**	
	comp=N,0.6nm,0.2s							
CONA	**Conrad Observa**	**5.72**	**18**	*i* Pn	**Pn**	**21 33 22.6**	**-0.3**	
	comp=N,1.4nm,0.4s							
OHR	**Ohrid**	**5.78**	**101**	*e*Pn	**Pn**	**21 33 26.5**	**+2.7**	
OHR				*e*Sn	**Sn**	**21 34 29.6**	**-0.5**	
SELS	**Selova**	**5.80**	**80**	*e*Pn	**Pn**	**21 33 24.6**	**+0.6**	
BARS	**Barje**	**6.29**	**84**	*e*Pn	**Pn**	**21 33 32.3**	**+1.5**	
BARS				*e*Sn	**Sn**	**21 34 40.5**	**-2.1**	
FNA	**Florina**	**6.30**	**103**	*e*Pn	**Pn**	**21 33 32.5**	**+1.6**	
FNA				*e*Sn	**Sn**	**21 34 40.9**	**-1.9**	
CKRC	**Cesky Krumlov**	**6.35**	**6**	*e*SN	**Sn**	**21 34 41.6**	**-2.5**	
PRVS	**Prvonek**	**6.49**	**87**	*e*Pn	**Pn**	**21 33 35.9**	**+2.3**	
KHC	**Kasperske Hory**	**6.63**	**2**	*e*PN	**Pn**	**21 33 35.7**	**+0.3**	
KHC				*e*SN	**Sn**	**21 34 48.4**	**-2.5**	
ZAGS	**Zajecar**	**6.67**	**76**	*e*Pn	**Pn**	**21 33 35.9**	**0.0**	
BZS	**Buzias**	**6.75**	**60**	*e*Pn	**Pn**	**21 33 37.5**	**+0.4**	
ZAPS	**Zavoj**	**6.90**	**80**	*e*Sn	**Sn**	**21 34 57.1**	**-0.6**	
VTS	**Vitosha**	**7.34**	**86**	*e*Pn	**Pn**	**21 33 47.2**	**+1.9**	
VTS	**Vitosha**	**7.34**	**86**	*e*Pn	**Pn**	**21 33 47.3**	**+1.9**	

*SFS **18** 21:43:53.9, 38˚.50N×0˚.25W, h0km, ML2.9/5, MLv2.9/5*
*MDD **18** 21:43:55.5±0.7, 38˚.49N×0˚.32W, h12km, mb_Lg2.4/10,*
Error ellipse: s-maj=5.8km s-min=3.5km az=114.0
ISC 18 21:43:51.5±1.8,**38˚.48N**±0˚.05×**0˚.22W**±0˚.06,**h7**km±11km,
n15,σ1§**23**/32,**1C**,**Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFON	**Font Roja**	**0.31**	**306**	⇑Pg	**Pb**	**21 43 58.7**	**-0.8**
AFON				Sg	**Sg**	**21 44 02.3**	**+0.6**
AFON				*i* Vmb_Lg		21 44 05.1	
ETOB	**Tobarra**	**1.05**	**279**	P	**Pn**	**21 44 13.8**	**+1.0**
ETOB				S	**Sb**	**21 44 26.8**	**+0.7**
ETOB	**Tobarra**	**1.05**	**279**	Pg	**Pn**	**21 44 13.2**	**+0.4**
ETOB				Sg	**Sb**	**21 44 26.7**	**+0.7**
ETOB				*i* Vmb_Lg		21 44 29.7	
CART	**Cartagena**	**1.08**	**215**	S	**Sn**	**21 44 29.3**	**+0.9**
CART				P	**Pn**	**21 44 14.2**	**+1.1**
ECHE	**Chera**	**1.25**	**333**	P	**Pg**	**21 44 17.0**	**+1.5**
ECHE	**Chera**	**1.25**	**333**	Pg	**Pg**	**21 44 16.8**	**+1.3**
ECHE				Sg	**Sn**	**21 44 33.2**	**+0.5**
ECHE				*i* Vmb_Lg		21 44 37.5	
EMOS	**Mosqueruela**	**1.89**	**354**	Pn	**Pb**	**21 44 26.7**	**+0.2**
EMOS				Pg	**Pg**	**21 44 28.3**	**+0.6**
EMOS				Sn	**Sn**	**21 44 48.0**	**-0.6**
EMOS				*i* Vmb_Lg		21 44 52.0	
EQES	**Quesada**	**2.34**	**254**	Pn	**Pb**	**21 44 32.9**	**-1.3**
EQES				Sn	**Sn**	**21 44 59.8**	**+0.1**
EQES				Sg	**Sb**	**21 45 04.7**	**+1.3**
EQES				*i* Vmb_Lg		21 45 10.4	
ETOR	**Torete**	**2.73**	**329**	Pg	**Pg**	**21 44 44.2**	**+0.3**
ETOR				*i* Vmb_Lg		21 45 26.2	
EPOB	**Poblet**	**3.04**	**19**	Pn	**Pb**	**21 44 43.7**	**-2.3**
EPOB				*i* Vmb_Lg		21 45 03.6	
PAB	**San Pablo**	**3.38**	**290**	Pn	**Pn**	**21 44 45.6**	**+0.8**
PAB				Pg	**Pb**	**21 44 52.1**	**+0.2**
PAB				Sn	**Sn**	**21 45 24.6**	**-0.7**
PAB				Sg	**Sg**	**21 45 39.2**	**-1.1**
PAB				*i* Vmb_Lg		21 45 43.4	

EADA	**Adamuz**	**3.44**	**266**	P	**Pn**	**21 44 46.1**	**+0.5**	
EADA	**Adamuz**	**3.44**	**266**	Pn	**Pn**	**21 44 45.9**	**+0.3**	
EADA				Pg	**Pb**	**21 44 53.5**	**+0.7**	
EADA				Sn	**Sn**	**21 45 25.2**	**-1.4**	
EADA				Sg	**Sg**	**21 45 39.5**	**-2.4**	
EADA				*i* Vmb_Lg		21 45 44.6		
ECAB	**El Cabril**	**4.11**	**266**	P	**Pn**	**21 44 55.1**	**+0.3**	
ECAB	**El Cabril**	**4.11**	**266**	Pn	**Pn**	**21 44 55.3**	**+0.5**	
ECAB				Sn	**Sn**	**21 45 41.8**	**-1.3**	
ECAB				Sg	**Sg**	**21 46 00.2**	**-3.3**	
ECAB				*i* Vmb_Lg		21 46 01.6		

*IDC **18** 21:48:19.4±0.6, 19˚.60N×10˚.61E, h0km, mb4.2/31,*
mbtmp4.2/34, ML4.1/3, MS3.8/44, Error ellipse:
s-maj=16.0km s-min=12.7km az=120.0
*NEIC **18** 21:48:22.1±1.6, 19˚.61N×0˚.09×10˚.7E±0˚.1, h10km±1km,*
mb4.6/47, Error ellipse: s-maj=18.7km s-min=14.4km
az=118.0
ISC 18 21:48:21.1±0.4,**19˚.59N**±0˚.06×**10˚.60E**±0˚.07,**h10**km,**n131**,
σ1§**24**/111,**mb4.3**/48,**MS3.8**/40,**3C**,**Niger**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**10.68**	**235**	Pn	**Pn**	**21 50 53.5**	**-0.7**
	0.8nm,0.3s,baz=40,slow=12,SNR=1.7						
TORD				Lg	Lg	21 53 54.2	
	3.1nm,0.3s,baz=49,slow=29,SNR=8.1						
	2.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**10.68**	**235**		Pn	21 51 02.7	+8.5
TORD				LR	LR	21 53 57.6	
KEST	**Kesra**	**16.12**	**356**	Pn	**Pn**	**21 52 07.3**	**-0.7**
	0.7nm,0.3s,baz=169,slow=4.1,SNR=12						
KEST				Sn	**Sn**	**21 55 11.3**	**+4.4**
	baz=326,slow=18						
KEST				Lg	Lg	21 56 44.5	
	0.6nm,0.3s,baz=112,slow=21,SNR=2.1						
KEST				LR	LR	21 58 54.2	
	comp=Z,341nm,19.3s,baz=166,slow=39						
	7.3nm,0.8s						
KEST	**Kesra**	**16.12**	**356**	Pn	**Pn**	**21 52 07.0**	**-1.0**
KEST				IAmb	IAmb	21 52 47.3	
	comp=Z,48nm,1.5s						
RAFF	**Raffo Rosso**	**17.88**	**10**	Pn	**Pn**	**21 52 27.8**	**-2.1**
VAE	**Valguarnera**	**18.14**	**10**	LR	LR	22 00 55.5	
	comp=Z,454nm,18.2s,baz=176,slow=42						
MDT	**Midelt**	**18.94**	**317**	P	**P**	**21 52 39.2**	**-3.2**
	comp=Z,1.3nm,0.5s,baz=277,slow=7.4,SNR=4.1						
MDT				Lg	Lg	21 58 14.8	
	comp=Z,0.2nm,0.3s,baz=167,slow=17,SNR=1.1						
MDT				LR	LR	22 00 44.0	
	comp=Z,569nm,20.2s,baz=156,slow=39						
DBIC	**Dimbokro**	**19.76**	**232**	P	**P**	**21 52 51.2**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=48,slow=10,SNR=10						
DBIC				S	**S**	**21 56 32.9**	**-1.3**
	comp=Z,4.9nm,0.9s,baz=112,slow=16,SNR=2.4						
DBIC				Lg	Lg	21 58 35.4	
	comp=Z,0.5nm,0.3s,baz=293,slow=4.6,SNR=4.2						
DBIC				LR	LR	21 59 58.1	
	comp=Z,98nm,18.9s,baz=58,slow=35						
	comp=Z,12nm,0.9s						
DBIC	**Dimbokro**	**19.76**	**232**	P	**P**	**21 52 51.9**	**+0.5**
KIC	**Kosan Boka**	**19.88**	**231**⇑	*e*P	**Pn**	**21 52 54.4**	**0.0**
	comp=Z,15nm,0.7s						
TIC	**Toumodi**	**19.90**	**232**⇑	*e*P	**Pn**	**21 52 56.9**	**+2.4**
	comp=Z,45nm,0.9s						
IDI	**Anoyia**	**20.10**	**36**	P	**P**	**21 52 53.8**	**-1.2**
	comp=Z,4.9nm,0.6s,baz=23,slow=20,SNR=1.5						
	comp=Z,4.9nm,0.6s						
IDI	**Anoyia**	**20.10**	**36**	P	**P**	**21 52 54.8**	**-0.3**
IDI				IAmb	IAmb	21 53 37.1	
	comp=Z,43nm,1.5s						
LIC	**Lamto**	**20.18**	**231**⇑	*e*P	**P**	**21 52 56.1**	**+0.1**
	comp=Z,74nm,0.8s						
TIP	**Timpagrande**	**20.24**	**14**	P	**P**	**21 52 55.9**	**-0.6**
AGG	**Agios Georgios**	**21.87**	**25**	P	**P**	**21 53 13.6**	**-0.4**
ARG	**Arkhangelos**	**22.62**	**39**	P	**P**	**21 53 21.6**	**-0.6**
FNA	**Florina**	**23.05**	**21**	P	**P**	**21 53 25.3**	**-1.4**
AKAS	**Kas**	**23.53**	**41**	P	**P**	**21 53 32.5**	**+0.8**
AKAS				IAmb	IAmb	21 53 44.0	
	comp=Z,20nm,0.8s						
ESDC	**Sonseca Array**	**23.63**	**331**	P	**P**	**21 53 31.0**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=138,slow=8.7,SNR=11						
ESDC				LR	LR	22 03 41.9	
	comp=Z,355nm,18.7s,baz=122,slow=39						
	comp=Z,1.3nm,0.7s						
PDG	**Podgorica**	**23.92**	**16**	P	**P**	**21 53 35.2**	**0.0**
ELL	**Elmali**	**24.05**	**41**	P	**P**	**21 53 37.6**	**+1.0**
EIL	**Elat**	**24.26**	**61**	P	**P**	**21 53 38.1**	**-0.4**
	comp=Z,4.4nm,0.8s,baz=341,slow=5.5,SNR=4.0						
	comp=Z,4.4nm,0.8s						
ZCCA	**Zocca**	**24.70**	**1**	P	**P**	**21 53 42.7**	**+0.4**
BNI	**Bardonecchia**	**25.61**	**354**	P	**P**	**21 53 51.1**	**+0.4**
MMAI	**Mount Meron Ar**	**25.87**	**54**	P	**P**	**21 53 54.3**	**+1.2**
	comp=Z,4.9nm,0.5s,baz=246,slow=8.1,SNR=26						
MMAI				LR	LR	22 06 34.1	
	comp=Z,88nm,19.7s,baz=109,slow=42						
	comp=Z,4.9nm,0.5s						
BBTS	**Babate**	**26.37**	**264**	P	**P**	**21 53 57.8**	**+0.1**
	comp=Z,8.8nm,0.5s,baz=142,slow=23,SNR=1.6						
	comp=Z,8.8nm,0.5s						
ASF	**Jabal al Asfar**	**26.69**	**57**	P	**P**	**21 54 01.2**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=271,slow=10,SNR=1.7						
	comp=Z,0.9nm,0.4s						
SENIN	**Lac Senin/Sane**	**26.85**	**355**	P	**P**	**21 54 01.0**	**-1.0**
SENIN				IAmb	IAmb	21 54 02.5	
	comp=Z,23nm,1.0s						
BR131	**Keskin Array S**	**28.20**	**40**	P	**P**	**21 54 15.7**	**+1.5**
BR131				IAmb	IAmb	21 54 32.7	
	comp=Z,14nm,1.3s						
BRTR	**Keskin Array B**	**28.20**	**40**	P	**P**	**21 54 14.4**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=221,slow=8.9,SNR=11						
BRTR				LR	LR	22 06 51.2	
	comp=Z,74nm,19.4s,baz=246,slow=39						
	comp=Z,1.9nm,0.8s						
BRTR	**Keskin Array B**	**28.20**	**40**	P	**P**	**21 54 14.8**	**+0.6**
MLR	**Muntele Rosu**	**28.79**	**23**	P	**P**	**21 54 20.0**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=131,slow=20,SNR=3.7						
MLR				LR	LR	22 07 31.4	
	comp=Z,117nm,19.9s,baz=236,slow=40						
	comp=Z,1.9nm,0.7s						
MLR	**Muntele Rosu**	**28.79**	**23**	P	**P**	**21 54 20.4**	**+1.1**
MLR				IAmb	IAmb	21 54 52.8	
	comp=Z,11nm,1.2s						
LODK	**Lodwar**	**29.02**	**120**	P	**P**	**21 54 23.7**	**+2.1**
BNN	**Bunyan**	**29.07**	**43**	P	**P**	**21 54 22.2**	**+0.4**
BNN				IAmb	IAmb	21 54 27.2	
	comp=Z,16nm,0.9s						
FURI	**Furi**	**29.16**	**107**	P	**P**	**21 54 21.7**	**-1.5**
FURI				IAmb	IAmb	21 54 50.8	
	comp=Z,7.9nm,0.5s						
GEC2	**GERESS Array S**	**29.30**	**4**	P	**P**	**21 54 24.0**	**+0.3**
GEC2				IAmb	IAmb	21 54 58.1	
	comp=Z,12nm,1.5s						
GERES	**GERESS Array B**	**29.30**	**4**	P	**P**	**21 54 24.0**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=181,slow=9.3,SNR=7.7						
GERES				LR	LR	22 06 01.0	
	comp=Z,126nm,21.5s,baz=98,slow=36						
	comp=Z,1.5nm,0.7s						
CKRC	**Cesky Krumlov**	**29.32**	**5**	*e*P	**P**	**21 54 25.5**	**+1.7**
KHC	**Kasperske Hory**	**29.57**	**4**	*e*P	**P**	**21 54 27.1**	**+1.0**
VYHS	**Vyhne**	**29.60**	**11**	*e*P	**P**	**21 54 28.0**	**+1.7**
JAVC	**Velka Javorina**	**29.76**	**9**	*e*P	**P**	**21 54 30.2**	**+2.5**
KRUC	**Moravsky**	**29.77**	**8**	*e*P	**P**	**21 54 29.3**	**+1.5**
VRAC	**V

DPC Dobruska-Polom 31.03 7 eP P 21 54 40.5 +1.5
UPC Upice 31.15 7 eP P 21 54 41.8 +1.8
OSTC Ostas 31.22 7 eP P 21 54 42.1 +1.4
BRG Berggiesshubel 31.33 4 eP P 21 54 43.5 +2.0
BRG Amp 21 54 44.8
comp=Z,6.9nm,1.1s
BRG Amp 22 10 29.0
comp=Z,0.4nm,15.0s
CLL Collm 31.71 3 eP P 21 54 46.0 +1.1
CLL epP **sP 21 54 49.0 -0.4**
CLL eS S 22 00 06.0 +12
CLL ex x 22 00 32.0
ATD Arta Tunnel 32.03 100 P P 21 54 47.6 -0.6
comp=Z,2.4nm,0.6s,baz=86,slow=22,SNR=1.1
comp=Z,2.4nm,0.6s
RAYN Ar Rayn 32.65 77 P P 21 54 53.5 0.0
GNI Garni 35.69 48 P P 21 55 18.8 -1.1
comp=Z,3.1nm,0.8s,baz=156,slow=21,SNR=2.2
GNI LR LR 22 12 23.8
comp=Z,68nm,19.4s,baz=280,slow=40
comp=Z,3.1nm,0.8s
GNI Garni 35.69 48 P P 21 55 20.1 +0.2
GNI IAmb IAmb 21 55 49.5
comp=Z,7.0nm,1.0s
ONI Oni 35.94 43 P P 21 55 21.3 -0.6
KBZ Khabaz 36.17 41 P P 21 55 23.6 -0.1
comp=Z,3.5nm,0.9s,baz=239,slow=10,SNR=6.4
KBZ LR LR 22 11 17.6
comp=Z,48nm,19.9s,baz=230,slow=38
comp=Z,3.5nm,0.9s
EKA Eskdalemuir Ar 37.18 347 P P 21 55 32.9 +0.7
comp=Z,1.5nm,0.8s,baz=155,slow=7.4,SNR=3.4
EKA LR LR 22 11 54.0
comp=Z,182nm,18.7s,baz=167,slow=38
comp=Z,1.5nm,0.8s
PABE Paberze 37.26 13 P P 21 55 34.2 +1.4
LSZ Lusaka 38.72 152 LR LR 22 13 13.8
comp=Z,333nm,18.4s,baz=332,slow=39
TSUM Tsumeb 39.15 170 P P 21 55 49.7 +0.4
comp=Z,3.8nm,0.9s,baz=347,slow=8.1,SNR=4.1
TSUM LR LR 22 12 57.1
comp=Z,201nm,19.2s,baz=342,slow=38
comp=Z,3.8nm,0.9s
OBN Obninsk 40.56 23 P P 21 55 58.6 -1.9
comp=Z,3.9nm,0.8s,baz=241,slow=12,SNR=5.0
comp=Z,3.9nm,0.8s
HFS Hagfors 40.56 2 P P 21 56 01.0 +0.5
comp=Z,11nm,0.8s,baz=181,slow=10,SNR=10
HFS LR LR 22 13 28.2
comp=Z,154nm,18.8s,baz=196,slow=37
comp=Z,11nm,0.8s
NOA NORSAR Array B 41.41 0 P P 21 56 08.3 +0.7
comp=Z,1.3nm,0.9s,baz=185,slow=7.6,SNR=3.3
NOA LR LR 22 13 40.3
comp=Z,73nm,18.0s,baz=185,slow=37
comp=Z,1.3nm,0.9s
FINES FINESS Array B 43.21 11 P P 21 56 20.9 -1.2
comp=Z,2.8nm,0.8s,baz=189,slow=6.5,SNR=5.5
FINES LR LR 22 15 14.6
comp=Z,83nm,19.5s,baz=252,slow=37
comp=Z,2.8nm,0.8s
WSAR Wadi Sarin 44.71 76 LR LR 22 16 45.2
comp=Z,95nm,19.9s,baz=264,slow=38
GEYT Alibeck 44.97 56 P P 21 56 35.6 -1.0
comp=Z,1.0nm,0.6s,baz=238,slow=8.3,SNR=1.9
GEYT LR LR 22 20 33.7
comp=Z,33nm,18.1s,baz=4.0,slow=43
comp=Z,1.0nm,0.6s
GEYT Alibeck 44.97 56 P P 21 56 36.1 -0.5
KLMR Klimovskoe 46.01 19 eP P 21 56 43.0 -1.4
comp=Z,31nm,1.5s
KLMR AMP 21 56 45.3
LBTB Lobatse 46.67 161 LR LR 22 17 04.9
comp=Z,151nm,19.0s,baz=298,slow=37
HRA Herat 47.84 61 P P 21 56 59.6 +0.2
HRA IAmb IAmb 21 57 02.7
comp=Z,3.1nm,0.8s
AKTO Aktyubinsk 48.38 39 P P 21 57 02.6 -0.5
comp=Z,1.4nm,0.6s,baz=239,slow=5.5,SNR=4.3
comp=Z,1.4nm,0.6s
ABKAR Akbulak array 49.14 41 P P 21 57 09.6 +0.7
BORG Borgarnes 49.89 343 LR LR 22 18 54.4
comp=Z,154nm,18.2s,baz=168,slow=37
BOSA Boshof 49.97 163 P P 21 57 15.7 +0.1
comp=Z,1.8nm,0.8s,baz=54,slow=11,SNR=1.5
BOSA LR LR 22 19 55.3
comp=Z,240nm,18.4s,baz=344,slow=38
comp=Z,1.8nm,0.8s
BOSA Boshof 49.97 163 P P 21 57 15.9 +0.3
BOSA IAmb IAmb 21 57 52.5
comp=Z,9.3nm,1.1s
ARCES ARCESS Array B 50.77 7 P P 21 57 21.3 +0.2
comp=Z,4.0nm,0.8s,baz=178,slow=8.1,SNR=5.6
ARCES LR LR 22 19 02.6
comp=Z,105nm,18.3s,baz=222,slow=36
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 50.77 7 P P 21 57 21.9 +0.7
ARCES IAmb IAmb 21 57 54.1
comp=Z,7.9nm,1.2s
ARU Arti 51.11 32 P P 21 57 23.0 -0.8
comp=Z,1.5nm,0.5s,baz=252,slow=10.0,SNR=4.0
comp=Z,1.5nm,0.5s
ARU Arti 51.11 32 P P 21 57 23.3 -0.5
ARU IAmb IAmb 21 57 25.7
comp=Z,7.7nm,1.1s
OPO Ambohidratompo 52.22 134 P P 21 57 32.9 +0.2
comp=Z,3.0nm,0.8s,baz=108,slow=6.1,SNR=2.5
comp=Z,3.0nm,0.8s
RCBR Riachuelo 52.26 246 P P 21 57 32.9 -0.1
comp=Z,5.3nm,0.7s,baz=301,slow=5.9,SNR=1.5
RCBR LR LR 22 17 49.2
comp=Z,83nm,18.3s,baz=153,slow=34
comp=Z,5.3nm,0.7s
SUR Sutherland 52.59 169 LR LR 22 19 55.7
comp=Z,305nm,19.2s,baz=342,slow=36
CHGR Chuyangaron 53.67 56 P P 21 57 42.9 -0.4
GAR Garm 54.60 56 P P 21 57 50.6 +0.6
GAR IAmb IAmb 21 57 53.3
comp=Z,10nm,1.0s
KK31 Karatay Array 55.03 51 P P 21 57 52.0 -1.0
KK31 IAmb IAmb 21 57 56.4
comp=Z,5.3nm,1.4s
KKAR Karatay Array 55.03 51 P P 21 57 52.5 -0.6
NIL Nilore 56.97 62 P P 21 58 06.6 -0.5
NIL IAmb IAmb 21 58 09.9
comp=Z,6.0nm,1.0s
KSH Kashi 58.99 55 P P 21 58 19.3 -2.0
KSH pmax pmax
comp=Z,5.0nm,2.3s
SFJD Kangerlussuaq 61.00 337 LR LR 22 23 33.2
comp=Z,32nm,20.1s,baz=100,slow=35
MAKZ Makanchi 63.32 47 P P 21 58 49.4 -1.0
MAKZ IAmb IAmb 21 58 51.8
comp=Z,3.3nm,0.8s
MK31 Makanchi Array 63.54 47 P P 21 58 50.9 -0.9
MKAR Makanchi Array 63.54 47 P P 21 58 50.9 -0.9
comp=Z,1.1nm,0.5s,baz=265,slow=6.3,SNR=24
comp=Z,1.1nm,0.5s
ZAA0 Zalesovo Array 65.14 39 P P 21 59 01.5 -0.6
ZALV Zalesovo Beam 65.14 39 P P 21 59 01.1 -1.0
comp=Z,4.0nm,0.5s,baz=258,slow=7.0,SNR=24
ZALV LR LR 22 30 58.7
comp=Z,35nm,19.0s,baz=5.0,slow=39
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 65.14 39 P P 21 59 01.4 -0.8
SCHQ Schefferville 67.02 322 LR LR 22 25 36.5
comp=Z,45nm,19.1s,baz=84,slow=33
WMQ Urumqi 67.52 50 eP P 21 59 20.4 +2.7
FRB Frobisher Bay 67.83 332 LR LR 22 28 39.9
comp=Z,45nm,18.6s,baz=62,slow=36
SHL Shillong 74.21 68 P P 21 59 58.6 -0.2
RES Resolute Bay 75.27 345 LR LR 22 32 08.7
comp=Z,76nm,21.7s,baz=355,slow=35
SADO Sadowa 76.30 313 LR LR 22 32 41.0
comp=Z,54nm,18.9s,baz=118,slow=35
GTA Gaotai 77.25 53 eP P 22 00 16.8 +0.9
GTA sP PcP 22 00 33.5 +6.9
GTA pmax pmax
comp=Z,2.0nm,1.5s
SIV San Ignacio 78.82 249 LR LR 22 33 58.6
comp=Z,119nm,18.9s,baz=112,slow=35
SONM Songino Array 79.51 43 P P 22 00 28.0 -0.3
comp=Z,1.3nm,1.0s,baz=263,slow=6.0,SNR=8.1
comp=Z,1.3nm,1.0s
SONM Songino Array 79.51 43 P P 22 00 29.0 +0.7
TIXI Tiksi 79.94 16 LR LR 22 39 44.5
comp=Z,45nm,18.7s,baz=358,slow=39
FCC Fort Churchill 80.81 329 P P 22 00 36.3 +1.5
FCC IAmb IAmb 22 00 37.9
comp=Z,3.5nm,0.9s
TKL Tuckaleechee C 82.25 305 LR LR 22 32 35.2
comp=Z,32nm,21.7s,baz=104,slow=32
CMAR Chiang Mai Arr 82.49 73 P P 22 00 44.5 0.0
comp=Z,0.7nm,0.7s,baz=302,slow=7.4,SNR=6.6
CMAR LR LR 22 39 21.3
comp=Z,11nm,21.8s,baz=135,slow=37
comp=Z,0.7nm,0.7s
ULM Lac du Bonnet 85.19 322 LR LR 22 36 06.7
comp=Z,68nm,21.1s,baz=57,slow=34
CZSB Cruzeiro do Su 86.31 261 P P 22 01 04.1 +0.1
CZSB IAmb IAmb 22 01 06.2
comp=Z,28nm,1.1s
FFC Flin Flon 86.48 328 P P 22 01 05.4 +1.4
FFC IAmb IAmb 22 01 06.6
comp=Z,5.3nm,0.9s
YKA Yellowknife Ar 87.55 338 P P 22 01 08.2 -0.9
comp=Z,0.6nm,0.8s,baz=46,slow=4.9,SNR=10.0
comp=Z,0.6nm,0.8s
ECSD EROS Data Cent 88.44 316 P P 22 01 14.2 +0.4
ECSD IAmb IAmb 22 01 16.1
comp=Z,4.3nm,0.9s
INK Inuvik 88.55 347 LR LR 22 42 12.3
comp=Z,35nm,18.6s,baz=288,slow=36
ILAR Eielson Array 94.14 351 LR LR 22 47 23.4
comp=Z,37nm,20.3s,baz=54,slow=38
MAW Mawson 94.97 162 LR LR 22 40 56.8
comp=Z,64nm,21.6s,baz=276,slow=33
PDAR Pinedale Array 97.09 320 LR LR 22 43 20.3
comp=Z,65nm,21.3s,baz=70,slow=34
NEW Newport 97.91 328 LR LR 22 44 26.3
comp=Z,58nm,18.4s,baz=60,slow=34
CMIG Matias Romero 98.25 291 LR LR 22 41 38.6
comp=Z,46nm,20.2s,baz=48,slow=33
ANMO Albuquerque 99.34 312 LR LR 22 45 43.3
comp=Z,65nm,19.2s,baz=146,slow=35

SCB 18 21:57:05.1±1.1, 17°.39S×69°.30W, h162km±16km, ML2.5/1, MW3.6, Error ellipse: s-maj=10.0km s-min=7.4km az=0.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOD	**La Paz, Gloria**	**1.00**	**42**	Pg	Pn	21 57 31.9	+0.1
SOEJ	**Jacaque**	**1.13**	**69**	Pg	Pn	21 57 33.8	+1.0
SOEJ				Sg	Sn	21 57 54.2	+0.2
SOEJ				IAML		21 57 56.4	
47nm,0.5s							
BBOE	**La Paz, Chanca**	**1.38**	**66**	Pg	Pn	21 57 36.3	+1.2
GO01	**Chusmiza**	**2.27**	**178**	Pg	Pn	21 57 45.9	+1.3
SOET	**ToroToro**	**3.40**	**103**	Pg	Pn	21 57 58.7	+0.4
SOET				Sg	Sn	21 58 39.5	-0.1
PB02	**IPOC Station P**	**3.95**	**188**	Pg	Pn	21 58 05.6	+0.5
LVC	**Limon Verde**	**5.20**	**176**	Pg	Pn	21 58 22.1	+0.3
PB06	**IPOC Station P**	**5.29**	**183**	Pg	Pn	21 58 22.3	-0.4

ROM 18 21:57:13.5±0.1, 42°.622N±0°.005×13°.288E±0°.007, h8km, ML2.8/24, 14C-9D, Error ellipse: s-maj=0.6km s-min=0.5km az=91.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**76**	P	Pg	21 57 15.5	+0.3
SMA1				S	Sg	21 57 16.7	+0.3
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
CAMP	**Campotosto**	**0.12**	**134**	⇓P	Pg	21 57 16.7	+0.5
CAMP				S	Sg	21 57 18.9	+0.7
CAMP				AML	AML		
comp=E,4030μm,0.8s							
CAMP				AML	AML		
comp=N,4515μm,0.3s							
RM33	**Pellescritta (**	**0.12**	**206**	⇑P	Pg	21 57 16.9	+0.7
RM33				S	Sg	21 57 19.3	+1.1
RM33				AML	AML		
comp=E,7365μm,0.9s							
RM33				AML	AML		
comp=N,11230μm,0.5s							
RM33				AML	AML		
comp=E,7325μm,0.2s							
RM33				AML	AML		
comp=N,11345μm,0.5s							
RM33				AML	AML		
comp=E,7370μm,0.9s							
RM33				AML	AML		
comp=N,11225μm,0.5s							
RM33				AML	AML		
comp=N,11345μm,0.5s							
RM33				AML	AML		
comp=E,7370μm,1.1s							
T1218	**Civita (PG)**	**0.14**	**291**	⇑P	Pg	21 57 17.1	+0.6
T1218				S	Sg	21 57 19.6	+0.9
T1218				AML	AML		
comp=E,6480μm,0.5s							
T1218				AML	AML		
comp=N,8885μm,0.3s							
T1218				AML	AML		
comp=E,6065μm,0.5s							
T1218				AML	AML		
comp=E,6480μm,0.5s							
T1218				AML	AML		
comp=E,6065μm,0.5s							
T1218				AML	AML		
comp=N,8910μm,0.3s							
T1218				AML	AML		
comp=N,8910μm,0.3s							
T1218				AML	AML		
comp=N,8885μm,0.3s							
T1247	**Pizzolo (AQ)**	**0.18**	**178**	⇑P	Pg	21 57 17.8	+0.6
T1247				S	Sg	21 57 21.0	+1.2
T1247				AML	AML		
comp=E,6840μm,0.6s							
T1247				AML	AML		
comp=N,5500μm,1.3s							
T1247				AML	AML		
comp=N,5500μm,0.7s							
T1247				AML	AML		
comp=E,6840μm,1.4s							
LNSS	**Leonessa**	**0.18**	**264**	⇑P	Pg	21 57 18.0	+0.7
LNSS				S	Sg	21 57 21.2	+1.3
LNSS				AML	AML		
comp=N,6355μm,0.4s							
LNSS				AML	AML		
comp=E,6645μm,0.7s							
LNSS				AML	AML		
comp=E,6645μm,1.3s							
GIGS	**Gran Sasso**	**0.27**	**130**	⇓P	Pg	21 57 18.9	+0.1
GIGS				AML	AML		
comp=E,691μm,0.3s							
GIGS				AML	AML		
comp=N,784μm,0.4s							
GIGS				AML	AML		
comp=E,691μm,1.7s							
T1217	**Poggiodomo (PG**	**0.28**	**289**	P	Pg	21 57 19.5	+0.4
T1217				S	Sg	21 57 23.9	+1.2
FIAM	**Fiamignano**	**0.38**	**200**	⇑P	Pg	21 57 21.1	+0.3
FIAM				AML	AML		
comp=N,646μm,0.5s							
FIAM				AML	AML		
comp=E,910μm,0.8s							
ARRO	**Arrone**	**0.39**	**264**	⇓P	Pg	21 57 21.5	+0.4
ARRO				AML	AML		
comp=N,1295μm,1.0s							
ARRO				AML	AML		
comp=E,1300μm,0.2s							
FDMO	**Fiordimonte**	**0.44**	**340**	P	Pg	21 57 22.4	+0.3
FDMO				S	Sb	21 57 29.3	-1.0
FDMO				AML	AML		
comp=E,892μm,1.5s							
FDMO				AML	AML		
comp=N,960μm,1.2s							
FDMO				AML	AML		
comp=N,960μm,0.8s							
FDMO				AML	AML		
comp=E,892μm,0.5s							
GUMA	**Gualdo di Mace**	**0.44**	**4**	⇑P	Pg	21 57 22.7	+0.6
GUMA				S	Sb	21 57 30.0	-0.4
GUMA				AML	AML		
comp=E,4080μm,0.4s							
GUMA				AML	AML		
comp=N,4565μm,0.6s							
GUMA				AML	AML		
comp=N,4565μm,0.6s							
GUMA				AML	AML		
comp=N,4730μm,0.5s							
GUMA				AML	AML		
comp=E,4080μm,0.3s							
GUMA				AML	AML		
comp=E,4045μm,0.5s							
CSP1	**Cessapalombo**	**0.47**	**353**	⇑P	Pg	21 57 22.9	+0.3
CSP1				AML	AML		
comp=N,1405μm,0.6s							
CSP1				AML	AML		
comp=E,1168μm,0.3s							
CESI	**CESI - Serrava**	**0.48**	**324**	⇓P	Pg	21 57 23.0	+0.3
CESI				AML	AML		
comp=E,931μm,1.5s							
CESI				AML	AML		
comp=N,1460μm,0.5s							
CESI				AML	AML		
comp=E,931μm,0.5s							
TRTR	**Tortoreto Alta**	**0.50**	**68**	⇑P	Pb	21 57 24.5	+0.1
T1220	**Camerino, Fraz**	**0.51**	**343**	⇑P	Pg	21 57 23.6	+0.3
T1220				S	Sb	21 57 31.7	-0.6
T1220				AML	AML		
comp=E,3145μm,0.3s							
T1220				AML	AML		
comp=E,3190μm,0.3s							
T1220				AML	AML		
comp=N,3880μm,0.2s							
T1220				AML	AML		
comp=E,3190μm,1.7s							
T1220				AML	AML		
comp=E,3145μm,1.7s							
T1220				AML	AML		
comp=N,3860μm,0.2s							
CESX	**Cesi**	**0.52**	**269**	P	Pg	21 57 23.7	+0.1
CESX				AML	AML		
comp=N,1580μm,0.8s							
CESX				AML	AML		
comp=E,1069μm,0.4s							
MOMA	**Monte Martano**	**0.56**	**289**	⇓P	Pg	21 57 24.8	+0.5
MOMA				AML	AML		
comp=E,1650μm,0.3s							
MOMA				AML	AML		
comp=N,1535μm,1.4s							
MOMA				AML	AML		
comp=N,1540μm,0.7s							
MOMA				AML	AML		
comp=N,1535μm,0.6s							
MOMA				AML	AML		
comp=E,1650μm,0.2s							
PTQR	**Pietraquaria**	**0.60**	**172**	P	Pg	21 57 24.9	-0.3
PTQR				AML	AML		
comp=E,140μm,1.0s							
PTQR				AML	AML		
comp=N,165μm,1.0s							
ASSB	**Assisi San Ben**	**0.63**	**312**	⇓P	Pg	21 57 25.8	+0.2
ASSB				S	Sb	21 57 36.1	+0.4
ASSB				AML	AML		
comp=E,735μm,0.8s							
ASSB				AML	AML		
comp=N,640μm,1.5s							
ASSB				AML	AML		
comp=E,735μm,1.2s							
ASSB				AML	AML		
comp=N,640μm,0.5s							
SNTG	**Esanatoglia**	**0.68**	**338**	⇓P	Pg	21 57 26.8	+0.1
SNTG				S	Sb	21 57 37.8	+0.5
SNTG				AML	AML		
comp=E,290μm,1.5s							
SNTG				AML	AML		
comp=N,319μm,0.3s							
SNTG				AML	AML		
comp=E,290μm,0.5s							
SRES	**S.Oreste - Sor**	**0.69**	**237**	⇓P	Pg	21 57 27.2	+0.4
SRES				S	Sb	21 57 37.9	+0.4
SRES				AML	AML		
comp=N,208μm,1.4s							
SRES				AML	AML		
comp=E,277μm,1.1s							
SRES				AML	AML		
comp=N,208μm,0.6s							
SRES				AML	AML		
comp=E,277μm,0.9s							
EL6	**Elcito**	**0.72**	**349**	⇓P	Pg	21 57 27.4	+0.1
EL6				S	Sb	21 57 39.3	+0.9
EL6				AML	AML		
comp=N,841μm,0.7s							
EL6				AML	AML		
comp=E,890μm,0.2s							
CING	**Cingoli**	**0.76**	**355**	⇑P	Pg	21 57 28.2	+0.1
CING				AML	AML		
comp=E,850μm,1.6s							
CING				AML	AML		
comp=E,850μm,0.4s							
CING				AML	AML		
comp=N,608μm,0.4s							
FOSV	**Fossato di Vic**	**0.78**	**330**	⇑P	Pg	21 57 28.3	-0.1
SSFR	**Montelago di S**	**0.90**	**336**	⇑P	Pg	21 57 30.8	+0.1
SSFR				AML	AML		
comp=E,808μm,0.2s							
SSFR				AML	AML		
comp=E,890μm,0.2s							
SSFR				AML	AML		
comp=N,786μm,0.2s							
SSFR				AML	AML		
comp=N,808μm,0.3s							
ARVD	**Arcevia**	**0.91**	**344**	⇑P	Pg	21 57 31.1	+0.1
ARVD				S	Sn	21 57 45.2	-0.7
ARVD				AML	AML		
comp=E,238μm,1.6s							
ARVD				AML	AML		
comp=N,190μm,1.4s							
ARVD				AML	AML		
comp=E,238μm,0.4s							
ARVD				AML	AML		
comp=N,190μm,0.6s							
MGAB	**Montegabbione**	**0.91**	**289**	⇑P	Pb	21 57 31.8	+0.3
MGAB				AML	AML		
comp=N,630μm,0.4s							
MGAB				AML	AML		
comp=N,616μm,0.4s							
MGAB				AML	AML		
comp=E,548μm,1.0s							
MGAB				AML	AML		
comp=E,619μm,1.0s							
MGAB				AML	AML		
comp=E,548μm,1.0s							
OBKA	**Obir**	**3.99**	**13**	*e*Pn	Pn	21 58 17.2	+2.3
comp=E,2.2nm,0.6s							
ABTA	**Abfaltersbach**	**4.16**	**353**	*e*Pn	Pn	21 58 18.4	+1.0
comp=E,4.0nm,0.6s							
SQTA	**Sankt Quirin**	**4.83**	**343**	*e*Pn	Pn	21 58 29.0	+2.5
comp=E,1.2nm,0.3s							
CONA	**Conrad Observa**	**5.61**	**18**	*e*Pn	Pn	21 58 39.3	+2.1
comp=E,0.7nm,0.3s							

ROM 18 21:57:50.5±0.1, 42°.603N±0°.004×13°.263E±0°.004, h11km, ML2.1/5, 8C, Error ellipse: s-maj=0.5km s-min=0.2km az=34.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.10**	**201**	⇑P	Pg	21 57 53.8	+0.5
RM33				S	Sg	21 57 55.7	+0.3
RM33				AML	AML		
comp=E,7965μm,1.4s							
RM33				AML	AML		
comp=N,5140μm,0.9s							
RM33				AML	AML		
comp=E,7775μm,1.4s							
RM33				AML	AML		
comp=N,5340μm,0.3s							
RM33				AML	AML		
comp=N,5140μm,0.9s							
RM33				AML	AML		
comp=E,7449μm,0.3s							
RM33				AML	AML		
comp=E,7231μm,0.3s							
RM33				AML	AML		
comp=N,5342μm,0.3s							
RM33				AML	AML		
comp=N,4454μm,0.1s							
CAMP	**Campotosto**	**0.13**	**122**	⇑P	Pg	21 57 54.2	+0.5
CAMP				S	Sg	21 57 56.7	+0.7
CAMP				AML	AML		
comp=N,856μm,0.5s							

CAMP				AML	AML		
	comp=E,1149µm,0.6s						
CAMP				AML	AML		
	comp=E,1149µm,1.4s						
CAMP				AML	AML		
	comp=E,942µm,0.4s						
CAMP				AML	AML		
	comp=N,854µm,0.5s						
T1218	**Civita (PG)**	**0.13 302**	⇑	P	Pg	21 57 54.1	+0.4
T1218				S	Sg	21 57 56.6	+0.5
T1218				AML	AML		
	comp=N,9670µm,0.2s						
T1218				AML	AML		
	comp=E,3365µm,0.4s						
T1218				AML	AML		
	comp=E,3530µm,0.4s						
T1218				AML	AML		
	comp=N,9740µm,0.2s						
T1218				AML	AML		
	comp=E,2571µm,0.2s						
T1218				AML	AML		
	comp=E,2496µm,0.1s						
T1218				AML	AML		
	comp=N,9738µm,0.2s						
T1218				AML	AML		
	comp=N,9680µm,0.2s						
T1247	**Pizzolo (AQ)**	**0.16 171**	⇑	P	Pg	21 57 54.8	+0.6
T1247				S	Sg	21 57 57.8	+1.1
T1247				AML	AML		
	comp=E,2132µm,0.1s						
T1247				AML	AML		
	comp=N,2370µm,0.1s						
LNSS	**Leonessa**	**0.17 270**	⇑	P	Pg	21 57 54.8	+0.5
LNSS				S	Sg	21 57 57.7	+0.8
LNSS				AML	AML		
	comp=E,4055µm,0.4s						
LNSS				AML	AML		
	comp=N,4225µm,0.2s						
LNSS				AML	AML		
	comp=E,4055µm,1.6s						
LNSS				AML	AML		
	comp=N,4223µm,0.2s						
LNSS				AML	AML		
	comp=E,4056µm,0.4s						
T1217	**Poggiodomo (PG**	**0.27 294**	⇑	P	Pg	21 57 56.4	+0.4
T1217				S	Sg	21 58 00.6	+0.9
T1217				AML	AML		
	comp=E,608µm,0.5s						
T1217				AML	AML		
	comp=N,566µm,0.2s						
T1217				AML	AML		
	comp=E,427µm,0.3s						
T1217				AML	AML		
	comp=E,410µm,0.3s						
T1217				AML	AML		
	comp=N,612µm,0.2s						
GIGS	**Gran Sasso**	**0.27 124**	⇑	P	Pg	21 57 56.4	+0.3
GIGS				S	Sg	21 58 00.7	+0.9
GIGS				AML	AML		
	comp=E,568µm,0.2s						
GIGS				AML	AML		
	comp=N,578µm,0.1s						
GIGS				AML	AML		
	comp=E,522µm,0.1s						
GIGS				AML	AML		
	comp=N,578µm,0.1s						
FIAM	**Fiamignano**	**0.35 198**		S	Sg	21 58 02.9	+0.7
FIAM				AML	AML		
	comp=E,355µm,0.5s						
FIAM				AML	AML		
	comp=N,265µm,0.5s						
ARRO	**Arrone**	**0.37 267**	⇑	P	Pg	21 57 58.1	+0.3
ARRO				S	Sg	21 58 03.7	+1.0
ARRO				AML	AML		
	comp=E,386µm,5.2s						
ARRO				AML	AML		
	comp=N,346µm,0.5s						
ARRO				AML	AML		
	comp=N,320µm,0.1s						
ARRO				AML	AML		
	comp=E,383µm,0.2s						

IDC 18 22:02:43.9±3.6, 33°.98N×92°.21E, h0km, mb3.3/3, mbtmp3.3/4, ML2.6/1, MS3.0/3, Error ellipse: s-maj=276.9km s-min=28.9km az=63.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.85**	**332**	Pn	Pn	22 06 13.9	-1.2
	baz=146,slow=10,SNR=2.6						
	0.5nm,1.0s						
ZALV	**Zalesovo Beam**	**20.64**	**348**	P	P	22 07 24.0	-0.9
	0.3nm,0.3s,baz=165,slow=11,SNR=2.0						
ZALV				LR	LR	22 14 36.2	
	comp=Z,9.5nm,20.6s,baz=75,slow=34						
	0.3nm,0.3s						
YAK	**Yakutsk**	**36.73**	**29**	LR	LR	22 26 41.7	
	comp=Z,46nm,19.4s,baz=110,slow=39						
MA2	**Magadan**	**45.62**	**37**	LR	LR	22 30 15.3	
	comp=Z,35nm,19.1s,baz=340,slow=36						
WRA	**Warramunga Arr**	**66.97**	**137**	P	P	22 13 37.8	-0.8
	0.2nm,0.4s,baz=322,slow=6.4,SNR=1.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**69.70**	**139**	P	P	22 13 56.6	+0.9
	0.2nm,0.4s,baz=337,slow=9.1,SNR=2.7						
	0.2nm,0.4s						

IDC 18 22:04:17.4±1.4, 3°.00N×124°.48E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=191.1km s-min=23.3km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**157**	P	P	22 09 41.9	+0.9
	0.6nm,0.6s,baz=337,slow=11,SNR=6.4						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**28.05**	**161**	P	P	22 10 09.5	-1.2
	0.3nm,0.9s,baz=336,slow=9.6,SNR=1.6						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**56.90**	**327**	P	P	22 14 03.0	-1.2
	0.2nm,0.6s,baz=126,slow=7.3,SNR=2.1						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**60.24**	**334**	P	P	22 14 27.8	+0.5
	0.9nm,0.4s,baz=152,slow=6.5,SNR=1.7						
	0.9nm,0.4s						
FINES	**FINESS Array B**	**91.41**	**332**	P	P	22 17 25.7	+0.5
	2.5nm,0.9s,baz=86,slow=6.1,SNR=5.5						
	2.5nm,0.9s						

IDC 18 22:05:38.3±56.0, 20°.63S×174°.86W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1053.0km s-min=178.7km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.39**	**245**	P	P	22 13 18.4	+0.2
	1.5nm,0.5s,baz=100,slow=11,SNR=3.7						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**47.35**	**256**	P	P	22 14 13.8	-0.6
	1.5nm,0.7s,baz=104,slow=7.1,SNR=15						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**47.49**	**261**	P	P	22 14 15.6	+0.1
	0.5nm,0.3s,baz=97,slow=8.2,SNR=16						
	0.5nm,0.3s						

IDC 18 22:24:44.9±330.0, 5°.55S×147°.80E, h0km, Error ellipse: s-maj=130.9km s-min=32.6km az=75.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.54**	**314**	*i*		00 21 20.0	
	baz=135,slow=309,SNR=1.5						
I07AU	**WARRAMUNGA INF**	**79.39**	**221**	*i*		00 27 00.0	
	baz=43,slow=310,SNR=2.2						

*IDC **18** 22:31:21.9±0.6, 19°.38N×61°.65W, h0km, mb4.0/17, mbtmp4.1/21, ML3.5/4, MS3.2/10, Error ellipse: s-maj=16.8km s-min=15.3km az=129.0*
*TRN **18** 22:31:24.2, 19°.47N×61°.67W, h56km, MD4.9*
*NEIC **18** 22:31:25.7±1.5, 19°.38N±0°.07×61°.74W±0°.06, h27km±7km, mb4.3/9, Error ellipse: s-maj=11.0km s-min=8.8km az=190.0*

ISC 18 22:31:22.3±3.0, 19°.36N±0°.04×61°.73W±0°.04, h5km±19km, n135, σ1s34/148, mb4.3/25, MS3.3/7, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.69**	**182**		**Pb**	**22 31 53.6**	**-0.2**
ANWB				Sn	**Sn**	**22 32 13.6**	**-0.8**
ANWB	**Willy Bob**	**1.69**	**182**	*eP*	**Pb**	**22 31 53.7**	**-0.2**
ANWB				*eS*	**Sb**	**22 32 15.4**	**+0.1**
ANWB	**Willy Bob**	**1.69**	**182**	*eP*	**Pb**	**22 31 53.5**	**-0.2**
SMRT	**St. Maarten**	**1.82**	**225**		**Pn**	**22 31 55.7**	**+1.3**
SMRT				Sn	**Sn**	**22 32 18.1**	**+0.2**
SMRT	**St. Maarten**	**1.82**	**225**	*eP*	**Pb**	**22 31 56.1**	**-0.1**
SMRT				*eS*	**Sn**	**22 32 18.5**	**+0.6**
SEUS	**St. Eustatius**	**2.21**	**213**		**Pn**	**22 32 00.7**	**+1.0**
SEUS	**St. Eustatius**	**2.21**	**213**	*eP*	**Pb**	**22 32 02.6**	**-0.2**
SEUS				*eS*	**Sb**	**22 32 29.8**	**-0.6**
SABA	**Saba**	**2.25**	**220**		**Pn**	**22 32 02.2**	**+1.9**
SABA	**Saba**	**2.25**	**220**	*eP*	**Pb**	**22 32 03.5**	**0.0**
SABA				*eS*	**Sn**	**22 32 29.1**	**+0.6**
ANBD	**Bethesda, Anti**	**2.30**	**181**	*eP*	**Pn**	**22 32 02.2**	**+1.3**
ANBD				*eS*	**Sn**	**22 32 29.8**	**+0.2**
MBFL	**Flemmings, Mon**	**2.64**	**190**	*eP*	**Pb**	**22 32 08.4**	**-1.8**
MBFL				*eS*	**Sb**	**22 32 40.9**	**-2.0**
MLYT	**Lee's Yard**	**2.66**	**190**	*eP*	**Pb**	**22 32 08.6**	**-1.9**
MLYT				*eS*	**Sb**	**22 32 41.3**	**-2.3**
ABD	**La Joyeuse, An**	**2.88**	**175**	Pn	**Pn**	**22 32 09.9**	**+1.0**
ABD	**La Joyeuse, An**	**2.88**	**175**	*eP*	**Pn**	**22 32 11.3**	**+2.4**
ABD				*eS*	**Sn**	**22 32 45.0**	**+1.1**
GDHS	**Morne Mazeau,**	**3.07**	**181**		**Pn**	**22 32 12.5**	**+0.9**
H05N1	**Guadeloupe/Mar**	**3.10**	**168**	Pn	**Pn**	**22 32 13.2**	**+1.4**
H05N1				Sn	**Sn**	**22 32 47.4**	**-1.9**
GDSD	**La Dsirade Is**	**3.10**	**168**		**Pn**	**22 32 12.4**	**+0.5**
CBE	**Ff, Capester**	**3.28**	**178**		**Pn**	**22 32 16.4**	**+2.1**
CBE	**Ff, Capester**	**3.28**	**178**	*eP*	**Pn**	**22 32 17.0**	**+2.6**
CBE				*eS*	**Sn**	**22 32 55.7**	**+1.9**
CDVI	**St. Croix**	**3.30**	**241**		**Pn**	**22 32 15.9**	**+1.2**
CDVI	**St. Croix**	**3.30**	**241**	*eP*	**Pn**	**22 32 16.9**	**+2.2**
CDVI				*eS*	**Sn**	**22 32 54.4**	**+0.1**
MAGL	**Barre de l'ile**	**3.42**	**173**	Pn	**Pn**	**22 32 18.8**	**+2.5**
MAGL	**Barre de l'ile**	**3.42**	**173**	*eP*	**Pn**	**22 32 18.1**	**+1.8**
MAGL				*eS*	**Sn**	**22 32 58.6**	**+1.3**
TBG	**Guadaloupe-3**	**3.49**	**179**	*eP*	**Pn**	**22 32 18.7**	**+1.4**
TBG				*eS*	**Sn**	**22 33 00.6**	**+1.6**
CUPR	**Culebra, Puert**	**3.53**	**253**		**Pn**	**22 32 18.0**	**+0.2**
MDCT	**Cottage Hill,**	**3.73**	**176**	*eP*	**Pn**	**22 32 22.9**	**+2.2**
MDCT				*eS*	**Sn**	**22 33 06.7**	**+1.7**
MDVC	**Dominica, Viel**	**3.74**	**175**	*eP*	**Pn**	**22 32 23.1**	**+2.3**
MDVC				*eS*	**Sn**	**22 33 05.7**	**+0.5**
MTP	**Monte Pirata**	**3.84**	**251**		**Pn**	**22 32 23.1**	**+1.0**
DLPL	**La Plaine**	**4.03**	**173**	*eS*	**Sn**	**22 33 12.1**	**-0.3**
CBYP	**Canovanas**	**4.06**	**255**		**Pn**	**22 32 25.1**	**-0.1**
HUMP	**Col San Antoni**	**4.09**	**253**		**Pn**	**22 32 26.1**	**+0.5**
GCPR	**Guaynabo City**	**4.26**	**256**		**Pn**	**22 32 27.6**	**-0.3**
SJG	**San Juan**	**4.37**	**254**	Pn	**Pn**	**22 32 30.1**	**+0.7**
	11nm,0.3s,baz=71,slow=14,SNR=14						
SJG				Sn	**Sn**	**22 33 16.6**	**-4.1**
	12nm,0.3s,baz=241,slow=23,SNR=2.6						
SJG				LR	LR	22 34 31.5	
	comp=Z,148nm,22.0s,baz=71,slow=43						
	26nm,0.3s						
SJG	**San Juan**	**4.37**	**254**		**Pn**	**22 32 28.1**	**-1.3**
SJG	**San Juan**	**4.37**	**254**	*e*	**Pn**	**22 32 27.7**	**-1.7**
EMPR	**Esperanza - Ma**	**4.63**	**260**	Pn	**Pn**	**22 32 33.1**	**+0.1**
ILAM	**Ilet Lapin Mar**	**4.63**	**170**	Pn	**Pn**	**22 32 33.5**	**+0.5**
ILAM	**Ilet Lapin Mar**	**4.63**	**170**	*eP*	**Pn**	**22 32 34.1**	**+1.1**
ILAM	**Ilet Lapin Mar**	**4.63**	**170**	*eS*	**Sn**	**22 33 25.9**	**-1.3**
FDF	**Fort de France**	**4.63**	**173**		**Pn**	**22 32 33.9**	**+0.8**
FDF	**Fort de France**	**4.63**	**173**	*eP*	**Pn**	**22 32 34.7**	**+1.6**
FDF	**Fort de France**	**4.63**	**173**	*eS*	**Sn**	**22 33 25.6**	**-1.7**
CELP	**Cerrillos**	**4.77**	**255**		**Pn**	**22 32 35.5**	**+0.5**
OBIP	**Obispado Ponce**	**4.81**	**255**		**Pn**	**22 32 36.0**	**+0.5**
UUPR	**Utuado, UPR, P**	**4.86**	**258**		**Pn**	**22 32 36.0**	**-0.1**
BIM	**Bigot**	**4.86**	**172**		**Pn**	**22 32 37.5**	**+1.3**
BIM	**Bigot**	**4.86**	**172**	*eP*	**Pn**	**22 32 38.5**	**+2.3**
BIM	**Bigot**	**4.86**	**172**	*eS*	**Sn**	**22 33 33.4**	**+0.5**
AOPR	**Arecibo Observ**	**4.87**	**259**		**Pn**	**22 32 36.1**	**-0.1**
AOPR	**Arecibo Observ**	**4.87**	**259**	*eP*	**Pn**	**22 32 36.5**	**+0.2**
AOPR	**Arecibo Observ**	**4.87**	**259**	*eS*	**Sn**	**22 33 32.7**	**-0.4**
MPOM	**Morne Pois Mar**	**4.96**	**170**		**Pn**	**22 32 38.5**	**+0.9**
MPOM	**Morne Pois Mar**	**4.96**	**170**	*eP*	**Pn**	**22 32 38.7**	**+1.2**
MPOM	**Morne Pois Mar**	**4.96**	**170**	*eS*	**Sn**	**22 33 33.2**	**-2.1**
H05S1	**Guadeloupe/Mar**	**4.98**	**170**	Pn	**Pn**	**22 32 38.9**	**+1.0**
H05S1				Sn	**Sn**	**22 33 33.1**	**-2.7**
AGPR	**Aguadilla, PR**	**5.17**	**261**	Pn	**Pn**	**22 32 38.9**	**-1.6**
MLPR	**Magueyes Islan**	**5.23**	**256**		**Pn**	**22 32 40.8**	**-0.4**
PRSN	**Puerto Rico Se**	**5.26**	**258**		**Pn**	**22 32 41.0**	**-0.6**
CRPR	**Cabo Rojo, PR**	**5.28**	**256**		**Pn**	**22 32 42.1**	**+0.2**
SLBI	**Saint Lucia, B**	**5.36**	**172**	*eP*	**Pn**	**22 32 44.5**	**+1.5**
SLBI	**Saint Lucia, B**	**5.36**	**172**	*eS*	**Sn**	**22 33 42.6**	**-2.5**
SLB	**Belfond**	**5.54**	**173**	*eP*	**Pn**	**22 32 47.8**	**+2.2**
SLB	**Belfond**	**5.54**	**173**	*eS*	**Sn**	**22 33 50.0**	**+0.3**
MCLT	**Moule a Chique**	**5.67**	**172**	Pn	**Pn**	**22 32 47.9**	**+0.6**
MCLT	**Moule a Chique**	**5.67**	**172**	*eP*	**Pn**	**22 32 49.5**	**+2.2**
MCLT	**Moule a Chique**	**5.67**	**172**	*eS*	**Sn**	**22 33 51.4**	**-1.5**
SVB	**Belmont**	**6.07**	**176**		**Pn**	**22 32 54.2**	**+1.3**
SVB	**Belmont**	**6.07**	**176**	*eP*	**Pn**	**22 32 55.0**	**+2.2**
SVB	**Belmont**	**6.07**	**176**	*eS*	**Sn**	**22 34 01.4**	**-1.3**
PCDR	**Punta Cana, DR**	**6.36**	**263**	Pn	**Pn**	**22 32 57.0**	**+0.4**
BBGH	**Gun Hill**	**6.52**	**161**	*eP*	**Pn**	**22 33 00.1**	**+1.1**
BBGH	**Gun Hill**	**6.52**	**161**	*eS*	**Sn**	**22 34 09.9**	**-4.0**
GCMP	**Grenada, Carri**	**6.84**	**178**	*eP*	**Pn**	**22 33 05.3**	**+1.9**
GCMP	**Grenada, Carri**	**6.84**	**178**	*eS*	**Sn**	**22 34 20.0**	**-1.7**
GRGR	**Grenville**	**7.19**	**179**	Pn	**Pn**	**22 33 09.0**	**+0.9**
GRGR	**Grenville**	**7.19**	**179**	*eP*	**Pn**	**22 33 11.4**	**+3.2**
TOSP	**Speyside**	**8.10**	**172**	Pn	**Pn**	**22 33 21.9**	**+1.2**
TOSP	**Speyside**	**8.10**	**172**	*eP*	**Pn**	**22 33 23.3**	**+2.6**
TRN	**Trinidad (W)**	**8.67**	**178**	*eP*	**Pn**	**22 33 30.4**	**+1.9**
SDDR	**Presa de Saban**	**9.04**	**269**		**Pn**	**22 33 34.0**	**+0.3**
BAUV	**El Baul**	**12.03**	**211**		**Pn**	**22 34 14.7**	**+0.1**
BAUV	**El Baul**	**12.03**	**211**	*eP*	**Pn**	**22 34 14.8**	**+0.2**
SDV	**Santo Domingo**	**13.52**	**221**	Pn	**Pn**	**22 34 36.5**	**+1.3**
	0.6nm,0.3s,baz=57,slow=13,SNR=6.2						
SDV				LR	LR	22 39 49.9	
	comp=Z,47nm,21.5s,baz=50,slow=37						
	4.0nm,0.5s						
SDV	**Santo Domingo**	**13.52**	**221**		**Pn**	**22 34 35.3**	**+0.1**
PAMC	**Pamplona, Colo**	**16.01**	**223**	*eP*	**Pn**	**22 35 10.2**	**+1.3**
SJCC	**San Jacinto, C**	**16.05**	**236**	*eP*	**P**	**22 35 14.0**	**+1.5**
MDP	**Montagnes des**	**16.71**	**147**	Pn	**Pn**	**22 35 15.6**	**-1.8**
	0.2nm,0.3s,baz=328,slow=17,SNR=5.3						
MDP				Sn	Sn	22 38 09.0	-14
	0.2nm,0.3s,baz=144,slow=8.9,SNR=2.0						
	17nm,1.0s						
BRRC	**Barranca, Sant**	**16.85**	**225**	*eP*	**Pn**	**22 35 20.1**	**+0.9**
BOAV	**Boa Vista**	**16.90**	**176**	Pn	**Pn**	**22 35 18.6**	**-1.2**
BOAV				IAmb	IAmb	22 35 37.9	
	comp=Z,6.0nm,0.8s						
RUSC	**La Rusia**	**17.36**	**221**		**Pn**	**22 35 25.6**	**-0.5**
RUSC				IAmb	IAmb	22 35 35.7	
	comp=Z,22nm,1.1s						
RUSC	**La Rusia**	**17.36**	**221**	*eP*	**P**	**22 35 28.0**	**+0.6**
ZARC	**Zaragoza, Cauc**	**17.37**	**229**	*eP*	**P**	**22 35 26.9**	**-0.2**
UREC	**San Jos de Ur**	**17.68**	**231**	*eP*	**P**	**22 35 32.0**	**+1.5**
PTBC	**PUERTO BERRIO,**	**17.77**	**226**	*eP*	**Pn**	**22 35 30.3**	**-0.3**
DBBC	**Dabeiba**	**18.67**	**231**	*eP*	**Pn**	**22 35 42.3**	**+0.5**
NORC	**Norcasia**	**18.76**	**225**	*eP*	**Pn**	**22 35 43.2**	**+0.3**
ROSC	**El Rosal**	**18.95**	**222**	P	**Pn**	**22 35 46.3**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=226,slow=23,SNR=5.0						
ROSC				LR	LR	22 45 01.8	
	comp=Z,90nm,18.3s,baz=60,slow=43						
	comp=Z,15nm,0.7s						
ROSC	**El Rosal**	**18.95**	**222**		**Pn**	**22 35 46.1**	**+0.6**
ROSC				IAmb	IAmb	22 35 48.9	
	comp=Z,16nm,0.7s						
GUY2C	**Guyana, Caldas**	**19.34**	**225**	*eP*	**P**	**22 35 49.1**	**-0.2**
PLMC	**San Jos del P**	**20.20**	**227**	*eP*	**P**	**22 35 58.7**	**+0.5**
BCIP	**Isla Barro Col**	**20.25**	**242**	P	**P**	**22 35 57.9**	**-0.8**
MACC	**Macarena, Meta**	**20.82**	**216**	*eP*	P	22 35 53.9	-11
JTS	**Las Juntas de**	**24.17**	**251**	LR	LR	22 45 02.6	
	comp=Z,30nm,21.6s,baz=88,slow=34						
OTAV	**Otavalo**	**25.10**	**223**	P	**P**	**22 36 48.7**	**0.0**
OTAV				IAmb	IAmb	22 36 53.3	
	comp=Z,4.5nm,0.7s						
MCRA	**Macar, Loja**	**29.63**	**219**	P	**P**	**22 37 28.5**	**-0.4**
SCHQ	**Schefferville**	**35.62**	**355**	P	**P**	**22 38 20.7**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=200,slow=9.1,SNR=4.0						
SCHQ				LR	LR	22 50 09.4	
	comp=Z,50nm,19.6s,baz=194,slow=32						
	comp=Z,1.9nm,0.8s						
LPAZ	**La Paz**	**35.98**	**191**	P	**P**	**22 38 24.4**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=4.4,slow=3.5,SNR=3.5						
	comp=Z,2.4nm,0.9s						
TXAR	**Lajitas Array**	**39.30**	**293**	P	**P**	**22 38 53.4**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=96,slow=8.2,SNR=1.5						
	comp=Z,0.2nm,0.8s						
GO01	**Chusmiza**	**39.47**	**191**	P	**P**	**22 38 53.0**	**-1.4**
GO01				IAmb	IAmb	22 38 54.6	
	comp=Z,3.5nm,0.7s						
LVC	**Limon Verde**	**42.30**	**190**	LR	LR	22 58 30.6	
	comp=Z,49nm,20.2s,baz=353,slow=38						
FRB	**Frobisher Bay**	**44.60**	**356**	LR	LR	22 57 47.9	
	comp=Z,30nm,19.1s,baz=158,slow=36						
CPUP	**Villa Florida**	**45.62**	**174**	LR	LR	23 04 16.4	
	comp=Z,30nm,18.6s,baz=51,slow=43						
PDAR	**Pinedale Array**	**46.39**	**311**	P	**P**	**22 39 51.5**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=97,slow=7.4,SNR=4.7						
	comp=Z,0.7nm,0.8s						
NVAR	**Mina Array Bea**	**52.23**	**304**	P	**P**	**22 40 36.0**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=94,slow=5.9,SNR=3.6						
	comp=Z,0.8nm,0.8s						
BORG	**Borgarnes**	**52.69**	**20**	LR	LR	23 00 01.3	
	comp=Z,20nm,18.6s,baz=349,slow=33						
ESDC	**Sonseca Array**	**53.26**	**55**	P	**P**	**22 40 42.0**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=282,slow=6.7,SNR=6.0						
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**56.19**	**334**	P	**P**	**22 41 02.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=105,slow=7.3,SNR=5.3						
	comp=Z,0.6nm,0.7s						
DBIC	**Dimbokro**	**56.59**	**95**	P	**P**	**22 41 07.0**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=298,slow=7.1,SNR=4.6						
DBIC				LR	LR	23 01 48.0	
	comp=Z,25nm,19.6s,baz=60,slow=32						
	comp=Z,4.2nm,0.7s						
DBIC	**Dimbokro**	**56.59**	**95**	P	**P**	**22 41 06.8**	**+0.2**
DBIC				IAmb	IAmb	22 41 07.5	
	comp=Z,4.8nm,0.8s						
PLCA	**Paso Flores**	**60.34**	**188**	P	**P**	**22 41 33.1**	**+0.7**
	comp=Z,3.1nm,1.2s,baz=40,slow=7.0,SNR=2.9						
	comp=Z,3.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**60.92**	**85**	P	**P**	**22 41 36.5**	**-0.3**
	comp=Z,4.6nm,0.4s,baz=285,slow=5.7,SNR=1.9						
	comp=Z,4.6nm,0.4s						
DAVA	**Damuels**	**63.63**	**46**	*i* P	**P**	**22 41 55.8**	**+1.1**
	comp=Z,6.1nm,0.8s						
KEST	**Kesra**	**63.85**	**59**	P	**P**	**22 41 56.2**	**0.0**
	comp=Z,5.2nm,1.0s,baz=272,slow=13,SNR=2.2						
	comp=Z,5.2nm,1.0s						
FETA	**Feichten**	**64.21**	**46**	*e*P	**P**	**22 41 59.8**	**+1.3**
	comp=Z,7.6nm,1.1s						
RETA	**Reutte**	**64.22**	**46**	*e*P	**P**	**22 41 59.4**	**+1.0**
	comp=Z,8.6nm,1.1s						
MOTA	**Moosalm**	**64.46**	**46**	*i* P	**P**	**22 42 00.7**	**+0.6**
	comp=Z,5.2nm,1.0s						
SQTA	**Sankt Quirin**	**64.53**	**46**	*i* P	**P**	**22 42 01.1**	**+0.6**
	comp=Z,3.7nm,0.6s						
NOA	**NORSAR Array B**	**65.00**	**31**	P	**P**	**22 42 02.6**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=267,slow=6.6,SNR=3.2						
	comp=Z,1.8nm,0.9s						
KBA	**Koelnbreinsper**	**66.00**	**46**	*e*P	**P**	**22 42 10.7**	**+0.6**
	comp=Z,2.4nm,0.6s						
GERES	**GERESS Array B**	**66.15**	**44**	P	**P**	**22 42 10.9**	**0.0**
	comp=Z,1.0nm,0.8s,baz=343,slow=4.2,SNR=6.3						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**70.62**	**333**	P	**P**	**22 42 38.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=118,slow=4.7,SNR=9.8						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**72.16**	**30**	P	**P**	**22 42 48.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=290,slow=5.5,SNR=8.3						
	comp=Z,2.6nm,0.7s						
BRTR	**Keskin Array B**	**81.85**	**51**	P	**P**	**22 43 43.0**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=292,slow=2.9,SNR=5.2						
	comp=Z,1.2nm,0.8s						
KBZ	**Khabaz**	**86.89**	**45**	P	**P**	**22 44 09.3**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=264,slow=7.6,SNR=3.7						
	comp=Z,1.9nm,0.9s						
PZH	**PanZhiHua**	**131.67**	**20**	PKP	**PKPdf**	**22 50 35.6**	**-1.7**

*ROM **18** 22:44:36.0±0.1, 42°.636N±0°.004×13°.280E±0°.009, h11km, ML3.1/31, Error ellipse: s-maj=0.7km s-min=0.4km az=244.0*
*BEO **18** 22:44:39.1±0.6, 42°.72N×13°.39E, h0km, ML3.7/11*
*PRU **18** 22:44:39.9±0.0, 42°.74N×13°.70E, h10km*
*IDC **18** 22:44:39.2±2.2, 42°.85N×12°.79E, h0km, mb3.0/1, mbtmp3.2/3, ML2.9/2, MS2.5/1, Error ellipse: s-maj=58.1km s-min=20.8km az=94.0*

ISC 18 22:44:36.6±0.8, 42°.62N±0°.02×13°.22E±0°.03, h15km±5km, n72, σ1s37/96, 13C-5D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1218	**Civita (PG)**	**0.09**	**303**	⇑P	**Pg**	**22 44 39.4**	**-0.4**
T1218				S	**Sg**	**22 44 41.8**	**-0.2**
T1218				AML	AML		
	comp=E,14650µm,0.5s						
T1218				AML	AML		
	comp=E,13305µm,0.5s						
T1218				AML	AML		
	comp=N,35000µm,0.6s						
T1218				AML	AML		
	comp=N,34050µm,0.6s			

FIAM AML AML
comp=E,5875µm,0.6s
FEMA Monte Fema 0.36 340 P **Pg 22 44 43.6 -0.4**
FEMA AML AML
comp=E,4850µm,0.6s
FEMA AML AML
comp=N,3775µm,1.4s
FDMO Fiordimonte 0.43 347 ⇑P **Pg 22 44 44.3 -0.8**
FDMO S **Sg 22 44 50.9 -0.1**
FDMO AML AML
comp=N,1635µm,0.7s
FDMO AML AML
comp=E,1200µm,1.0s
CESI CESI - Serrava 0.45 329 ⇑P **Pg 22 44 45.2 -0.4**
CESI S **Sg 22 44 52.2 +0.5**
CESI AML AML
comp=E,1920µm,1.2s
CESI AML AML
comp=N,2270µm,0.4s
CESI AML AML
comp=E,1920µm,0.8s
GUMA Gualdo di Mace 0.45 11 ⇑P **Pg 22 44 44.7 -0.9**
GUMA S **Sg 22 44 51.9 +0.2**
GUMA AML AML
comp=N,6140µm,0.5s
GUMA AML AML
comp=E,7330µm,0.6s
GUMA AML AML
comp=E,9535µm,0.5s
GUMA AML AML
comp=N,9235µm,0.6s
GUMA AML AML
comp=N,6140µm,1.5s
CSP1 Cessapalombo 0.47 359 ⇑P **Pg 22 44 44.9 -1.1**
CSP1 S **Sg 22 44 52.3 -0.1**
CSP1 AML AML
comp=N,3250µm,1.0s
CSP1 AML AML
comp=E,2600µm,0.8s
CSP1 AML AML
comp=N,3250µm,1.0s
CESX Cesi 0.47 269 P **Pb 22 44 45.8 -0.8**
CESX AML AML
comp=N,1955µm,0.5s
CESX AML AML
comp=E,1970µm,0.7s
CESX AML AML
comp=N,1780µm,0.5s
CESX AML AML
comp=N,1780µm,1.5s
T1220 Camerino, Fraz 0.50 349 ⇑P **Pg 22 44 45.4 -1.1**
T1220 S **Sg 22 44 53.7 +0.5**
T1220 AML AML
comp=E,7125µm,0.7s
T1220 AML AML
comp=N,7995µm,0.7s
T1220 AML AML
comp=E,6985µm,1.6s
T1220 AML AML
comp=N,7880µm,0.7s
T1220 AML AML
comp=E,7125µm,0.7s
T1220 AML AML
comp=N,7995µm,0.7s
T1220 AML AML
comp=E,6985µm,1.6s
T1220 AML AML
comp=N,7880µm,0.7s
T1220 AML AML
comp=N,7995µm,1.3s
T1220 AML AML
comp=N,7880µm,1.3s
T1220 AML AML
comp=E,7125µm,1.3s
T1220 AML AML
comp=E,6985µm,0.4s
MOMA Monte Martano 0.51 291 P **Pg 22 44 46.6 -0.1**
MOMA AML AML
comp=N,1810µm,0.7s
MOMA AML AML
comp=N,1830µm,0.2s
MOMA AML AML
comp=N,1805µm,0.7s
MOMA AML AML
comp=N,1830µm,1.8s
MOMA AML AML
comp=E,1590µm,0.8s
MOMA AML AML
comp=E,1635µm,0.8s
TRTR Tortoreto Alta 0.55 70 ⇑P **Pg 22 44 47.0 -0.4**
TRTR AML AML
comp=E,9320µm,1.6s
TRTR AML AML
comp=N,7910µm,0.5s
TRTR AML AML
comp=E,9320µm,0.4s
ASSB Assisi San Ben 0.59 316 ⇓P **Pg 22 44 47.5 -0.7**
ASSB AML AML
comp=E,1150µm,0.6s
ASSB AML AML
comp=N,1420µm,1.2s
ASSB AML AML
comp=N,1420µm,0.8s
PTQR Pietraquaria 0.61 167 P **Pg 22 44 47.9 -0.7**
PTQR S **Sb 22 44 57.8 +0.3**
PTQR AML AML
comp=E,1280µm,1.1s
PTQR AML AML
comp=E,1280µm,0.9s
PTQR AML AML
comp=N,960µm,0.3s
SNTG Esanatoglia 0.67 342 P **Pg 22 44 48.8 -0.8**
SNTG S **Sb 22 44 59.2 +0.2**
SNTG AML AML
comp=E,573µm,0.7s
SNTG AML AML
comp=N,684µm,0.5s
SNTG AML AML
comp=E,544µm,0.7s
SNTG AML AML
comp=E,574µm,0.7s
SNTG AML AML
comp=N,678µm,0.6s
EL6 Elcito 0.71 353 ⇓P **Pg 22 44 49.4 -1.1**
EL6 AML AML
comp=E,1315µm,0.8s
EL6 AML AML
comp=N,1655µm,0.7s
EL6 AML AML
comp=N,1655µm,1.3s
FOSV Fossato di Vic 0.75 334 ⇑P **Pg 22 44 50.5 -0.7**
FOSV AML AML
comp=E,678µm,1.5s
FOSV AML AML
comp=N,702µm,0.7s
FOSV AML AML
comp=E,678µm,1.5s
FOSV AML AML
comp=N,702µm,1.3s
CING Cingoli 0.76 359 ⇓P **Pb 22 44 50.0 -1.5**
CING AML AML
comp=N,798µm,0.7s
CING AML AML
comp=E,1390µm,0.9s
MGAB Montegabbione 0.87 290 P **Pn 22 44 53.8 -0.5**
MGAB AML AML
comp=E,2800µm,0.9s
MGAB AML AML
comp=N,1655µm,0.8s
MGAB AML AML
comp=N,1805µm,0.7s
MGAB AML AML
comp=E,2655µm,0.9s
MGAB AML AML
comp=N,1805µm,1.3s
MGAB AML AML
comp=E,2655µm,1.1s
MGAB AML AML
comp=E,2800µm,1.1s
SSFR Montelago di S 0.88 339 ⇓P **Pb 22 44 53.0 -0.6**
SSFR AML AML
comp=E,958µm,0.7s
SSFR AML AML
comp=N,840µm,1.2s
SSFR AML AML
comp=E,956µm,0.7s
SSFR AML AML
comp=N,840µm,0.3s
SSFR AML AML
comp=N,840µm,0.8s
ARVD Arcevia 0.90 347 P **Pb 22 44 53.0 -1.0**
ARVD AML AML
comp=E,570µm,1.2s
ARVD AML AML
comp=N,578µm,1.6s
ARVD AML AML
comp=E,570µm,0.8s
ARVD AML AML
comp=N,578µm,0.4s
POFI Posta Fibreno 0.97 158 S **Pb 22 44 54.8 -0.5**
POFI AML AML
comp=N,928µm,0.5s
POFI AML AML
comp=E,1255µm,1.4s
POFI AML AML
comp=N,927µm,0.5s
POFI AML AML
comp=E,1320µm,1.6s
POFI AML AML
comp=N,954µm,0.5s
POFI AML AML
comp=N,954µm,1.5s
POFI AML AML
comp=N,927µm,1.5s
COR1 Corinaldo 1.02 351 ⇓P **Pg 22 44 56.6 +0.2**
COR1 AML AML
comp=E,1175µm,0.8s
COR1 AML AML
comp=N,1755µm,1.1s
COR1 AML AML
comp=E,1170µm,0.8s
COR1 AML AML
comp=N,1750µm,1.1s
PIEI Pieia 1.04 332 P **Pb 22 44 55.7 -0.7**
PIEI AML AML
comp=E,388µm,1.3s
PIEI AML AML
comp=N,616µm,1.2s
PIEI AML AML
comp=N,616µm,0.8s
PIEI AML AML
comp=E,388µm,0.7s
NARO Abbazia di Nar 1.09 335 P **Pb 22 44 56.8 -0.4**
NARO AML AML
comp=E,736µm,1.4s
NARO AML AML
comp=N,532µm,0.9s
BADI Badiali 1.14 322 P **Pb 22 44 58.0 -0.1**
MCIV Monte Civitell 1.15 278 S **Pb 22 44 56.5 -1.6**
MCIV AML AML
comp=E,438µm,0.7s
MCIV AML AML
comp=N,388µm,1.2s
MCIV AML AML
comp=N,388µm,1.2s
MCIV AML AML
comp=N,388µm,0.8s
MODR Mondragone 1.55 161 AML AML
comp=E,210µm,0.6s
MODR AML AML
comp=N,295µm,0.7s
MODR AML AML
comp=E,210µm,1.4s
STON Ston 3.31 84 *e*Pn **Pn 22 45 28.8 +0.9**
STON *e*Sn **Sn 22 46 07.0 +0.1**
CTI Castel Tesino 3.61 342 ⇑P **Pn 22 45 33.6 +1.6**
TREB Trebinje 3.79 87 *e*Pn **Pn 22 45 36.1 +1.7**
TREB *e*Sn **Sn 22 46 18.6 -0.1**
OBKA Obir 4.00 13 *e*Pn **Pn 22 45 38.6 +1.2**
comp=E,1.7nm,0.4s
MYKA Terra Mystica 4.02 4 *e*Pn **Pn 22 45 38.5 +0.8**
comp=E,0.8nm,0.3s
ABTA Abfaltersbach 4.16 353 *e*Pn **Pn 22 45 41.0 +1.4**
comp=E,10nm,0.6s
SOKA Soboth 4.26 17 *e*Pn **Pn 22 45 45.6 +4.6**
comp=E,0.5nm,0.2s
KBA Koelnbreinsper 4.46 1 *e*Pn **Pn 22 45 45.1 +1.2**
comp=E,3.9nm,0.6s
PDG Podgorica 4.46 90 *e*Pn **Pn 22 45 45.3 +1.6**
PDG *e*Sn **Sn 22 46 35.8 +0.4**
BBLS Lazići 4.69 73 *e*Pn **Pn 22 45 49.0 +2.1**
FETA Feichten 4.74 339 *e*Pn **Pn 22 45 51.5 +3.8**
comp=E,3.0nm,0.6s
WTTA Wattenberg 4.78 347 *e*Pn **Pn 22 45 49.6 +1.4**
comp=E,1.9nm,0.4s
SQTA Sankt Quirin 4.82 343 *e*Pn **Pn 22 45 50.5 +1.8**
comp=E,6.0nm,0.6s
WATA Walderalm 4.86 347 *e*Pn **Pn 22 45 50.9 +1.6**
comp=E,4.6nm,0.6s
MOTA Moosalm 4.96 343 *e*Pn **Pn 22 45 54.2 +3.6**
comp=E,1.6nm,0.4s
SJES Sjenica 5.00 80 *e*Pn **Pn 22 45 53.4 +2.2**
SJES *e*Sn **Sn 22 46 49.3 +0.5**
BIOA Bad Ischl, Aus 5.08 3 *e*Pn **Pn 22 45 53.5 +1.3**
comp=E,0.9nm,0.3s
DIVS Divibare 5.15 71 *e*Pn **Pn 22 45 55.6 +2.3**
IVAS Ivanjica 5.17 77 *e*Pn **Pn 22 45 54.4 +0.9**
IVAS *e*Sn **Sn 22 46 51.5 -1.3**
RETA Reutte 5.17 341 *e*Pn **Pn 22 45 53.2 -0.2**
comp=E,0.7nm,0.3s
MOA Molln 5.28 8 *e*Pn **Pn 22 45 56.9 +1.9**
comp=E,1.8nm,0.5s
MOA Molln 5.28 8 *e*Pn **Pn 22 45 57.4 +2.4**
TRUS Trudelj 5.47 71 *e*Pn **Pn 22 46 00.1 +2.5**
TRUS *e*Sn **Sn 22 47 00.2 -0.1**
GRUS Gruza 5.62 74 *e*Pn **Pn 22 46 00.9 +1.3**
GRUS *e*Sn **Sn 22 47 02.6 -1.3**
CONA Conrad Observa 5.63 18 *e*Pn **Pn 22 46 00.8 +1.0**
comp=E,2.4nm,0.6s
SELS Selova 5.83 81 *e*Pn **Pn 22 46 04.0 +1.4**
OHR Ohrid 5.86 102 *e*Pn **Pn 22 46 05.2 +2.3**
OHR *e*Sn **Sn 22 47 10.2 +0.3**
GERES GERESS Array B 6.24 3 Pn **Pn 22 46 09.3 +1.2**
comp=E,0.1nm,0.3s,baz=184,slow=16,SNR=4.8
GERES Sn **Sn 22 47 20.2 +1.1**
comp=E,0.4nm,0.3s,baz=184,slow=32,SNR=2.6
GERES Lg Lg 22 47 55.3
baz=181,slow=31
GERES LR LR 22 49 13.6
comp=E,44nm,19.4s,baz=18,slow=46
comp=E,0.5nm,0.5s
BARS Barje 6.34 85 *e*Pn **Pn 22 46 11.0 +1.5**
BARS *e*Sn **Sn 22 47 21.0 -0.6**
FNA Florina 6.38 104 *e*Pn **Pn 22 46 13.2 +3.1**
FNA *e*Sn **Sn 22 47 22.5 -0.1**
KHC Kasperske Hory 6.52 2 *e*PN **Pn 22 46 12.5 +0.5**
KHC *e*SN **Sn 22 47 23.9 -2.1**
PRVS Prvonek 6.54 88 *e*Pn **Pn 22 46 13.0 +0.7**
PRVS *e*Sn **Sn 22 47 25.6 -1.1**
ZAGS Zajecar 6.69 77 *e*Pn **Pn 22 46 15.3 +1.0**
ZAPS Zavoj 6.94 81 *e*Sn **Sn 22 47 35.1 -1.4**
VTS Vitosha 7.39 87 *e*Pn **Pn 22 46 25.6 +1.5**
VTS *e*Sn **Sn 22 47 45.6 -2.1**
KEST Kesra 7.51 205 Pn Pn 22 46 31.7 +6.1
comp=E,0.2nm,0.3s,baz=198,slow=13,SNR=1.7
comp=E,5.5nm,1.1s
SRS Serrai 7.89 97 *e*Pn **Pn 22 46 32.5 +1.7**
SRS *e*Sn **Sn 22 47 58.8 -1.0**
CLL Collm 8.69 359 *e*Sb Sn 22 48 54.0 +35
MKAR Makanchi Array 47.83 60 P P 22 53 20.0 +6.5
comp=E,0.1nm,0.6s,baz=307,slow=6.0,SNR=2.1
comp=E,0.1nm,0.6s

IDC 18 22:50:11.2±14.0, 11°23S×161°24E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=423.0km s-min=53.3km az=124.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
WRA	**Warramunga Arr**	**27.29**	**248**	P		P	22 55 57.7 0.0
	0.4nm,0.8s,baz=78,slow=9.5,SNR=2.8						
	0.4nm,0.8s						
SONM	**Songino Array**	**76.25**	**325**	P		P	23 02 01.8 0.0
	0.6nm,0.7s,baz=137,slow=5.6,SNR=5.0						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**90.65**	**318**	P		P	23 03 15.8 0.0
	0.1nm,0.5s,baz=100,slow=6.0,SNR=1.4						
	0.1nm,0.5s						

*MAN **18** 23:17:54.8, 3.°61N×126.°57E, h2km, mb4.5, ML3.4, MS3.2*

*IDC **18** 23:17:55.8±0.7, 4.°09N×126.°58E, h0km, mb4.1/13, mbtmp4.1/14, ML4.1/1, MS3.2/11, Error ellipse: s-maj=50.7km s-min=13.7km az=74.0*
*DJA **18** 23:17:58.0±2.7, 4.°N±4.°×12.°7E±.°, h11km±22km, M4.8/18, mB5.0/5, mb4.5/13, mBc6.4/5, Mjma4.3/18, ML4.5/12, MLv4.5/15, Ms(BB)4.0/17, Mw(mB)4.4/5, MwmBc5.8/5*
*NEIC **18** 23:18:00.3±1.6, 4.°15N±0.°04×126.°84E±0.°09, h25km±5km, mb4.6/32, Error ellipse: s-maj=12.6km s-min=6.0km az=76.0*

ISC 18 23:17:57.6±0.4, 4°15N±0°04×126°80E±0°05, h10km, n91, σ1°55/92, mb4.4/28, MS3.1/10, 6C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
SGSI	**Sangihe**	**1.35**	**250**	P		**Pg**	**23 18 23.2 -0.4**
SGSI				S		**Sb**	**23 18 38.2 -2.2**
DDMP	**Don Marcelino,**	**2.23**	**331**	⇑*i*P		**Pb**	**23 18 35.9 -2.0**
DDMP				*e*S		**Sg**	**23 19 16.0 +6.8**
GSPH	**General Santos**	**2.67**	**316**	⇑*e*P		**Pb**	**23 18 43.7 -1.8**
MATI	**Mati**	**2.83**	**349**	⇑*i*P		**Pb**	**23 18 46.8 -1.5**
MATI				*e*S		**Sg**	**23 19 29.5 +0.9**
DAV	**Davao City (W)**	**3.15**	**337**	Sn		**Sg**	**23 19 36.9 -1.8**
	60nm,0.3s,baz=320,slow=13,SNR=4.4						
DAV	**Davao City (W)**	**3.15**	**337**	Pn		**Pn**	**23 18 46.6 -0.7**
DAV				Sn		**Sn**	**23 19 25.9 +1.0**
SKMP	**Bagumbayan, Su**	**3.26**	**316**	⇑*i*P		**Pb**	**23 18 51.8 -3.7**
SKMP				*e*S		**Sb**	**23 19 34.8 -0.4**
KCP	**Kidapawan**	**3.31**	**329**	⇑*i*P		**Pb**	**23 18 53.5 -3.0**
KCP				*i* S		**Sb**	**23 19 36.5 -0.5**
TNTI	**Ternate**	**3.40**	**170**	Pn		**Pn**	**23 18 50.6 -0.2**
TNTI	**Ternate**	**3.40**	**170**	P		**Pn**	**23 18 53.4 +2.6**
BIPH	**Bislig**	**4.03**	**354**	⇓*i*P		**Pb**	**23 19 07.6 -1.1**
BIPH				*e*S		**Sg**	**23 20 04.5 -2.7**
BUKP	**Musuan**	**4.09**	**335**	⇑*i*P		**Pb**	**23 19 08.3 -1.4**
BUKP				*i* S		**Sb**	**23 19 56.4 -2.9**
GTOI	**Gorontalo**	**5.15**	**227**	P		**Pn**	**23 19 17.7 +2.9**
	20nm,1.0s,225nm0.1nm0.1nm						
MRSI	**Marisa**	**6.08**	**233**	P		**Pn**	**23 19 29.0 +1.5**
	58nm,0.6s,880nm0.3nm0.2nm						
SANI	**Sanana**	**6.21**	**188**	P		**Pn**	**23 19 29.3 -0.1**
	21nm,0.6s,0.1nm0.2nm						
LUWI	**Luwuk**	**6.54**	**218**	Pn		**Pn**	**23 19 33.9 -0.1**
LUWI	**Luwuk**	**6.54**	**218**	P		**Pn**	**23 19 36.1 +2.1**
	115nm,1.1s,3µm1.3nm0.9nm						
SWI	**Sorong**	**6.68**	**138**	P		**Pn**	**23 19 36.0 +0.2**
	43nm,0.7s,0.2nm0.2nm						
SIJI	**Sorong**	**6.69**	**138**	Pn		**Pn**	**23 19 37.9 +1.9**
	3.9nm,0.3s,baz=341,slow=7.9,SNR=7.2						
SIJI				Sn		**Sn**	**23 20 51.9 -0.4**
	0.6nm,0.3s,baz=114,slow=24,SNR=1.0						
	13nm,0.3s						
TOLI2	**Tolitoli**	**6.73**	**244**	Pn		**Pn**	**23 19 37.9 +1.4**
NLAI	**Namlea**	**7.35**	**178**	P		**Pn**	**23 19 46.9 +1.9**
	16nm,0.5s,0.4nm0.2nm						
MPSI	**Mapaga**	**7.87**	**241**	P		**Pn**	**23 19 54.4 +2.2**
	14nm,0.8s,439nm0.1nm0.1nm						
AAI	**Ambon**	**7.91**	**170**	P		**Pn**	**23 19 54.6 +1.9**
	78nm,0.5s,0.3nm						
FAKI	**Fak Fak**	**8.88**	**142**	Pn		**Pn**	**23 20 07.2 +1.1**
FAKI	**Fak Fak**	**8.88**	**142**	P		**Pn**	**23 20 08.2 +2.1**
KAPI	**Kappang**	**11.51**	**218**	LR		LR	23 25 41.7
	comp=Z,202nm,19.9s,baz=58,slow=41						
MTN	**Manton Dam**	**17.42**	**166**	Pn		**Pn**	**23 21 59.4 -1.5**
MTN				IAmb		IAmb	23 22 03.7
	comp=Z,61nm,1.4s						
JAGI	**Jajag, Banyuwa**	**17.79**	**225**			**P**	**23 22 08.3 +2.1**
JAGI				IAmb		IAmb	23 22 10.7
	comp=Z,31nm,1.3s						
KNRA	**Kununurra**	**19.80**	**174**	P		**P**	**23 22 27.8 -0.4**
KNRA				IAmb		IAmb	23 22 32.2
	comp=Z,22nm,0.7s						
YULB	**Yu-li**	**19.86**	**345**	P		**P**	**23 22 27.9 -1.0**
YULB				IAmb		IAmb	23 22 35.6
	comp=Z,18nm,1.0s						
TPUB	**Ta-pu**	**19.95**	**343**	P		**P**	**23 22 29.5 -0.5**
TPUB				IAmb		IAmb	23 22 38.3
	comp=Z,50nm,1.2s						
YHNB	**Yeheng**	**21.06**	**346**	P		**P**	**23 22 41.9 -0.2**
YHNB				IAmb		IAmb	23 22 57.7
	comp=Z,15nm,0.9s						
LEM	**Lembang**	**22.04**	**240**	LR		LR	23 32 18.6
	comp=Z,142nm,18.3s,baz=10.0,slow=40						
WB0	**Warramunga Arr**	**24.91**	**163**	P		**P**	**23 23 20.6 -0.4**
WB0				IAmb		IAmb	23 23 22.0
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**25.06**	**163**	P		**P**	**23 23 21.9 -0.4**
	comp=Z,7.7nm,0.7s,baz=344,slow=11,SNR=79						
	comp=Z,7.7nm,0.7s						
WRA	**Warramunga Arr**	**25.06**	**163**	P		**P**	**23 23 20.9 -1.4**
MBWA	**Marble Bar**	**26.09**	**195**	P		**P**	**23 23 32.3 +0.6**
MBWA				IAmb		IAmb	23 23 42.9
	comp=Z,20nm,1.1s						
PSA00	**Pilbara Seismi**	**26.46**	**195**	P		**P**	**23 23 35.4 +0.4**
PSA00				IAmb		IAmb	23 23 37.2
	comp=Z,20nm,0.9s						
AS31	**Alice Springs**	**28.50**	**166**	P		**P**	**23 23 53.2 -0.2**
ASAR	**Alice Springs**	**28.50**	**166**	P		**P**	**23 23 53.2 -0.1**
	comp=Z,1.4nm,0.6s,baz=343,slow=6.6,SNR=18						
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**28.50**	**166**	P		**P**	**23 23 53.0 -0.3**
NJ2	**Nanjing**	**28.74**	**346**	*e*P		**P**	**23 23 56.4 +1.1**
NJ2				pmax		pmax	
	comp=Z,8.0nm,0.5s						
JNU	**Nakatsue**	**29.07**	**7**	P		**P**	**23 23 58.8 +0.5**
	comp=Z,2.0nm,0.4s,baz=141,slow=23,SNR=1.7						
JNU				LR		LR	23 39 01.4
	comp=Z,35nm,18.0s,baz=164,slow=43						
	comp=Z,2.0nm,0.4s						
GSI	**Gunungsitoli**	**29.33**	**265**	P		**P**	**23 24 00.9 +0.1**
PHRA	**Phrae**	**29.64**	**301**	P		**P**	**23 24 04.4 +1.0**
PZH	**PanZhiHua**	**32.70**	**315**	P		**P**	**23 24 33.8 +3.3**
PZH				pmax		pmax	
	comp=Z,10.0nm,0.7s						
PZH				pmax		pmax	
	comp=Z,100nm,5.2s						
KSRS	**Korea Array**	**33.16**	**2**	P		**P**	**23 24 34.8 +0.6**
	comp=Z,1.7nm,0.8s,baz=181,slow=9.7,SNR=4.9						
KSRS				LR		LR	23 41 37.6
	comp=Z,17nm,18.0s,baz=175,slow=43						
	comp=Z,1.7nm,0.8s						
MJAR	**Matsushiro Arr**	**33.90**	**17**	LR		LR	23 38 30.9
	comp=Z,32nm,19.6s,baz=212,slow=36						
XAN	**Xi'an**	**34.08**	**333**	P		**P**	**23 24 41.8 -0.6**
XAN				pmax		pmax	
	comp=Z,7.0nm,0.8s						
FORT	**Forrest**	**34.75**	**178**	P		**P**	**23 24 48.6 +0.4**
BJT	**Baijiatuau**	**36.98**	**346**	P		**P**	**23 25 07.0 -0.2**
BJT				IAmb		IAmb	23 25 09.5
	comp=Z,7.0nm,0.6s						
BJI	**Beijing**	**37.00**	**346**	P		**P**	**23 25 09.0 +1.7**
BJI				pmax		pmax	
	comp=Z,5.0nm,0.6s						
EIDS	**Eidsvold**	**37.64**	**142**	P		**P**	**23 25 12.3 -0.7**
EIDS				IAmb		IAmb	23 25 31.9
	comp=Z,7.5nm,1.0s						
BBOO	**Buckleboo**	**37.79**	**167**	P		**P**	**23 25 14.4 +0.3**
STKA	**Stephens Creek**	**38.49**	**160**	P		**P**	**23 25 20.3 +0.2**
	comp=Z,5.1nm,0.7s,baz=327,slow=11,SNR=6.0						
	comp=Z,5.1nm,0.7s						
STKA	**Stephens Creek**	**38.49**	**160**	P		**P**	**23 25 20.3 +0.2**
HHC	**Hu-ho-hao-te**	**39.02**	**342**	*e*P		**P**	**23 25 27.9 +3.3**
HHC				pmax		pmax	
	comp=Z,8.0nm,0.9s						
HHC				pmax		pmax	
	comp=Z,380nm,5.6s						
SHL	**Shillong**	**39.69**	**306**	P		**P**	**23 25 30.4 -0.1**
SHL				IAmb		IAmb	23 25 32.9
	comp=Z,6.8nm,0.7s						
ARMA	**Armidale**	**41.78**	**147**	P		**P**	**23 25 48.2 +0.7**
ASAJ	**Asahikawa**	**42.17**	**17**	LR		LR	23 42 41.3
	comp=Z,30nm,21.9s,baz=188,slow=35						
KLR	**Kul'dur**	**45.11**	**5**	P		**P**	**23 26 14.0 0.0**
	comp=Z,0.7nm,0.6s,baz=43,slow=20,SNR=1.9						
KLR				LR		LR	23 47 29.8
	comp=Z,15nm,18.2s,baz=202,slow=39						
	comp=Z,0.7nm,0.6s						
HEH	**HeiHe**	**45.94**	**1**	*e*P		P	23 26 28.3 +7.7
SONM	**Songino Array**	**46.92**	**341**	P		**P**	**23 26 29.1 +0.5**
	comp=Z,0.6nm,0.5s,baz=153,slow=9.7,SNR=2.7						
SONM				LR		LR	23 46 16.2
	comp=Z,47nm,18.6s,baz=24,slow=36						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**46.92**	**341**	P		**P**	**23 26 28.6 0.0**
WMQ	**Urumqi**	**52.42**	**325**	*e*P		**P**	**23 27 12.8 +2.3**
MK31	**Makanchi Array**	**57.25**	**325**	P		**P**	**23 27 44.8 -0.5**

MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**23 27 44.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=117,slow=7.7,SNR=7.9						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**23 27 44.8**	**-0.6**
MAKZ	**Makanchi**	**57.44**	**325**	P	**P**	**23 27 46.1**	**-0.6**
YAK	**Yakutsk**	**57.79**	**2**	LR	LR	23 55 38.5	
	comp=Z,13nm,18.1s,baz=256,slow=39						
AAK	**Ala-Archa**	**60.10**	**318**	LR	LR	23 56 13.2	
	comp=Z,45nm,20.3s,baz=80,slow=38						
ZALV	**Zalesovo Beam**	**60.25**	**333**	P	**P**	**23 28 04.9**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=141,slow=6.9,SNR=3.1						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**60.25**	**333**	P	**P**	**23 28 06.2**	**+0.2**
KURK	**Kurchatov**	**61.43**	**327**	P	**P**	**23 28 13.6**	**-0.5**
GAR	**Garm**	**61.70**	**312**	P	**P**	**23 28 16.4**	**0.0**
GAR				IAmb	IAmb	23 28 27.6	
	comp=Z,7.5nm,1.2s						
KKAR	**Karatay Array**	**62.98**	**317**	P	**P**	**23 28 25.1**	**+0.4**
MRZ	**Mangatainoka R**	**63.04**	**140**	P	**P**	**23 28 23.2**	**-1.8**
BRVK	**Borovoye**	**67.08**	**327**	P	**P**	**23 28 50.5**	**-0.7**
BRVK				IAmb	IAmb	23 29 11.8	
	comp=Z,11nm,1.4s						
NRIK	**Noril'sk**	**70.04**	**346**	P	**P**	**23 29 08.5**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=132,slow=6.9,SNR=5.9						
	comp=Z,2.0nm,0.6s						
NRIK	**Noril'sk**	**70.04**	**346**	P	**P**	**23 29 09.4**	**0.0**
NRIK				IAmb	IAmb	23 29 12.6	
	comp=Z,4.9nm,1.1s						
ABKAR	**Akbulak array**	**71.87**	**321**	P	**P**	**23 29 20.7**	**-0.2**
ABKAR	**Akbulak array**	**71.87**	**321**	P	**P**	**23 29 20.7**	**-0.2**
ABKAR				IAmb	IAmb	23 29 28.3	
	comp=Z,3.2nm,1.1s						
RAYN	**Ar Rayn**	**80.39**	**293**	P	**P**	**23 30 08.9**	**-1.0**
RAYN				IAmb	IAmb	23 30 18.9	
	comp=Z,5.0nm,1.3s						
IMAR	**Indian Mountai**	**81.93**	**24**	P	**P**	**23 30 17.6**	**+0.3**
PPLA	**Purkeypile**	**82.22**	**27**	P	**P**	**23 30 18.5**	**-0.5**
CAST	**Castle Rocks**	**82.33**	**27**	P	**P**	**23 30 19.9**	**+0.5**
VNDA	**Vanda**	**83.83**	**173**	P	**P**	**23 30 25.6**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=289,slow=3.8,SNR=3.6						
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**84.69**	**25**	P	**P**	**23 30 31.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=254,slow=5.2,SNR=2.9						
	comp=Z,0.4nm,0.8s						
BMAR	**Burnt Mountain**	**85.66**	**23**	P	**P**	**23 30 37.7**	**+1.4**
FINES	**FINESS Array B**	**91.50**	**332**	P	**P**	**23 31 04.9**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=77,slow=7.3,SNR=0.8						
	comp=Z,0.9nm,0.8s						
NOA	**NORSAR Array B**	**98.44**	**334**	LR	LR	00 18 30.5	
	comp=Z,9.7nm,19.2s,baz=355,slow=37						

*NNC **18** 23:22:18.1±2.2, 37.92N×78.42E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=17.5km s-min=13.6km az=48.0*

SOME 18 23:22:14.9, 37.82N×78.08E, h5km, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZV	**Izvestkoviy**	**5.33**	**348**	Pg	Pg	23 23 55.4	-1.7
	2.5nm,0.6s						
IZV				Lg	Lg	23 25 07.7	
	6.6nm,0.9s						
IZV	**Izvestkoviy**	**5.33**	**348**	*e*Pg	Pg	23 23 55.4	-1.7
	2.5nm,0.6s						
IZV				*e*Lg	Lg	23 25 07.7	
	6.6nm,0.9s						
MDOK	**Medeo**	**5.40**	**352**	Pg	Pg	23 23 55.0	-3.3
	6.9nm,0.6s						
MDOK				Pg	Pb	23 23 55.2	+5.4
	4.4nm,0.6s						
MDOK				Lg	Lg	23 25 05.4	
	10nm,0.6s						
MDOK				Lg	Lg	23 25 07.2	
	13nm,0.7s						
MDOK	**Medeo**	**5.40**	**352**	*e*Pg	Pg	23 23 55.2	-3.1
	4.4nm,0.6s						
MDOK				*e*Lg	Lg	23 25 07.2	
	13nm,0.7s						
TKM2	**Tokmak 2**	**5.44**	**340**	⇓Pg	Pb	23 23 54.2	+3.7
	4.6nm,0.8s						
TKM2				⇑Lg	Lg	23 25 07.1	
	6.8nm,0.6s						
KOTS	**Kotyrbulak**	**5.46**	**353**	Pg	Pg	23 23 56.8	-2.7
	4.1nm,0.7s						
KOTS				Lg	Lg	23 25 10.1	
	13nm,0.6s						
KOTS	**Kotyrbulak**	**5.46**	**353**	*e*Pg	Pg	23 23 56.8	-2.7
	4.1nm,0.7s						
KOTS				*e*Lg	Lg	23 25 10.2	
	13nm,0.6s						
KST	**Kastek**	**5.46**	**343**	Pg	Pg	23 23 59.1	-0.5
	1.7nm,0.2s						
KST				Lg	Lg	23 25 14.0	
	5.5nm,0.7s						
KST	**Kastek**	**5.46**	**343**	*e*Pg	Pg	23 23 59.1	-0.5
	1.7nm,0.2s						
KST				*e*Lg	Lg	23 25 14.0	
	5.5nm,0.7s						
KURS	**Kuram**	**5.67**	**1**	Pg	Pg	23 24 01.6	-1.8
	3.1nm,0.9s						
KURS				Lg	Lg	23 25 18.4	
	4.6nm,1.0s						
KURS	**Kuram**	**5.67**	**1**	*e*Pg	Pg	23 24 01.6	-1.8
	3.1nm,0.9s						
KURS				*e*Lg	Lg	23 25 18.4	
	4.6nm,1.0s						
DGS	**Degeres**	**5.70**	**343**	Pg	Pg	23 24 01.5	-2.5
	3.8nm,0.8s						
DGS				Lg	Lg	23 25 18.3	
	5.2nm,1.0s						
DGS	**Degeres**	**5.70**	**343**	*e*Pg	Pg	23 24 01.5	-2.5
	3.8nm,0.8s						
DGS				*e*Lg	Lg	23 25 18.2	
	5.2nm,1.0s						
KTBS	**Karatobe**	**5.98**	**350**	Pg	Pg	23 24 07.0	-2.6
	1.5nm,0.6s						
KTBS				Lg	Lg	23 25 27.4	
	8.4nm,0.7s						
KTBS	**Karatobe**	**5.98**	**350**	*e*Pg	Pg	23 24 07.0	-2.5
	1.5nm,0.6s						
KTBS				*e*Lg	Lg	23 25 27.4	
	8.4nm,0.7s						
CHKK	**Chushkaly**	**6.09**	**353**	Pg	Pg	23 24 08.7	-2.8
	0.6nm,0.1s						
CHKK				Lg	Lg	23 25 30.3	
	5.0nm,0.7s						
CHKK	**Chushkaly**	**6.09**	**353**	*e*Pg	Pg	23 24 08.7	-2.8
	0.6nm,0.1s						
CHKK				*e*Lg	Lg	23 25 30.2	
	5.0nm,0.7s						
KRBS	**Karabastau**	**6.15**	**343**	Pg	Pg	23 24 09.5	-3.2
	2.3nm,0.5s						
KRBS				Lg	Lg	23 25 31.7	
	4.5nm,0.6s						
KRBS	**Karabastau**	**6.15**	**343**	*e*Pg	Pg	23 24 09.5	-3.2
	2.3nm,0.5s						
KRBS				*e*Lg	Lg	23 25 31.7	
	4.5nm,0.6s						
SGDS	**Sogindy**	**6.21**	**336**	Pg	Pg	23 24 11.2	-2.6
	1.6nm,0.4s						
SGDS				Lg	Lg	23 25 34.9	
	3.7nm,0.8s						
KUU	**Kurty**	**6.21**	**348**	*e*P	Pb	23 24 08.7	+5.1
KUU				*e*S	Sg	23 25 30.3	-4.0
MAKZ	**Makanchi**	**9.44**	**17**	⇓Pn	Pn	23 24 33.5	+2.1
	2.4nm,1.4s						
MAKZ				⇓Sn	Sn	23 26 18.1	+0.2
	1.6nm,1.1s						
MK31	**Makanchi Array**	**9.49**	**18**	Pn	Pn	23 24 33.5	+1.2
	0.3nm,0.5s,baz=202,slow=12,SNR=18						
MK31				⇑Sn	Sn	23 26 18.9	-0.4
	0.4nm,0.4s,baz=203,slow=24,SNR=5.9						

*IDC **18** 23:35:01.9±1.4, 6.41S×26.82E, h0km, mb3.8/6, mbtmp3.9/6, MS2.8/2, Error ellipse: s-maj=35.9km s-min=30.0km az=96.0*

*NEIC **18** 23:35:05.1±0.7, 6.40S±0.09×26.9E±0.1, h12km±6km, mb4.1/5, Error ellipse: s-maj=20.0km s-min=12.1km az=108.0*

ISC 18 23:35:03.9±0.7, 6.40S±0.06×26.8E±0.1, h10km, n24, σ1°69/25, mb4.0/6, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJ	**Idjwi**	**4.87**	**28**	*i* P	**Pn**	**23 36 18.9**	**+1.5**
IDJ				*i* S	**Sb**	**23 37 26.1**	**-2.1**
IDJ				IAML		23 37 43.0	
	comp=Z,72nm,0.8s						
BOBN	**Bobandana**	**5.16**	**25**	*i* P	**Pn**	**23 36 22.7**	**+1.2**
BOBN				*i* S	**Sb**	**23 37 41.0**	**+4.3**
BOBN				IAML		23 37 58.3	
	comp=Z,130nm,0.4s						
MBAR	**Mbarara**	**6.98**	**34**	Pn	**Pn**	**23 36 46.7**	**+0.3**
MBAR				Sn	**Sn**	**23 38 07.0**	**+1.0**
MBAR	**Mbarara**	**6.98**	**34**	*i* P	**Pn**	**23 36 46.1**	**-0.3**
MBAR				IAML		23 38 54.0	
	comp=Z,24nm,0.7s						
LSZ	**Lusaka**	**8.92**	**171**	LR	LR	23 39 54.4	
	comp=Z,31nm,19.9s,baz=305,slow=33						
LSZ	**Lusaka**	**8.92**	**171**	Pn	**Pn**	**23 37 13.8**	**+0.6**
LSZ	**Lusaka**	**8.92**	**171**	*i* P	**Pn**	**23 37 16.8**	**+3.7**
LSZ				IAML		23 40 05.1	
	comp=Z,33nm,0.7s						
KMBO	**Kilima Mbogo**	**11.67**	**64**	Pn	**Pn**	**23 37 50.3**	**-0.6**
KIBK	**Kibwezi**	**11.92**	**71**	Pn	**Pn**	**23 37 51.6**	**-2.6**
LODK	**Lodwar**	**12.97**	**41**	Pn	**Pn**	**23 38 06.3**	**-2.3**
TSUM	**Tsumeb**	**15.56**	**214**	Pn	**Pn**	**23 38 44.5**	**+0.7**
TSUM				IAmb	IAmb	23 38 51.0	
	comp=Z,5.7nm,1.1s						
LBTB	**Lobatse**	**18.54**	**183**	P	**Pn**	**23 39 21.3**	**+0.2**
BOSA	**Boshof**	**22.14**	**184**	P	**P**	**23 39 59.0**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=1.8,slow=13,SNR=1.4						
	comp=Z,1.5nm,0.8s						
BOSA	**Boshof**	**22.14**	**184**	P	**P**	**23 39 58.3**	**-1.8**
BOSA				IAmb	IAmb	23 40 20.7	
	comp=Z,11nm,1.4s						
TORD	**Torodi Ar. Bea**	**31.61**	**308**	P	**P**	**23 41 25.7**	**-1.6**
	comp=Z,3.7nm,0.3s,baz=127,slow=7.9,SNR=1.5						
	comp=Z,3.7nm,0.3s						
DBIC	**Dimbokro**	**34.15**	**292**	P	**P**	**23 41 50.5**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=98,slow=7.1,SNR=5.4						
	comp=Z,1.8nm,0.6s						
DBIC	**Dimbokro**	**34.15**	**292**	P	**P**	**23 41 49.8**	**+0.2**
BR131	**Keskin Array S**	**46.33**	**7**	P	**P**	**23 43 30.0**	**-0.3**
BR131				IAmb	IAmb	23 43 51.4	
	comp=Z,6.2nm,1.2s						
BRTR	**Keskin Array B**	**46.33**	**7**	P	**P**	**23 43 29.8**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=180,slow=7.6,SNR=8.7						
	comp=Z,1.2nm,0.7s						
BRTR	**Keskin Array B**	**46.33**	**7**	P	**P**	**23 43 30.3**	**0.0**
GNI	**Garni**	**49.19**	**18**	LR	LR	00 07 01.8	
	comp=Z,19nm,19.3s,baz=351,slow=39						
ESDC	**Sonseca Array**	**53.94**	**331**	P	**P**	**23 44 26.8**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=140,slow=6.6,SNR=1.0						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**72.16**	**36**	P	**P**	**23 46 28.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=243,slow=5.3,SNR=4.3						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**72.16**	**36**	P	**P**	**23 46 29.0**	**0.0**

IDC 18 23:44:35.9±30.0, 22.91S×68.91E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=776.6km s-min=115.4km az=177.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**15.56**	**13**	T	T	00 03 16.2	
	baz=193,slow=76,SNR=45						
H08S2	**Diego Garcia H**	**15.57**	**13**	T	T	00 03 20.1	
	baz=193,slow=76,SNR=35						
H08S3	**Diego Garcia H**	**15.58**	**13**	T	T	00 03 21.7	
	baz=193,slow=76,SNR=36						
CMAR	**Chiang Mai Arr**	**50.52**	**38**	P	P	23 53 36.1	-0.1
	0.8nm,0.3s,baz=221,slow=6.7,SNR=4.5						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**70.43**	**10**	P	P	23 55 51.6	-0.2
	0.8nm,0.7s,baz=191,slow=5.7,SNR=8.5						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**77.77**	**10**	P	P	23 56 34.8	+0.3
	1.2nm,0.8s,baz=188,slow=5.7,SNR=5.4						
	1.2nm,0.8s						

*HVO **19** 00:03:35.5±0.5, 19.40N±0.09×155.23W±0.04, h29km±8km, ML2.6/4, ML2.3/40(NEIC), Error ellipse: s-maj=12.8km s-min=5.3km az=194.0*

NEIC 19 00:03:33.5±0.9, 19°N±8°×15°5W±°, h31km±17km, Error ellipse: s-maj=1185.2km s-min=9.6km az=194.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.04**	**275**		Sb	00 03 42.2	-0.3
PUH	**Pauahi**	**0.04**	**170**		Pb	00 03 39.0	+0.1
PUH					Sb	00 03 42.2	-0.4
PUH	**Pauahi**	**0.04**	**170**	IAML		00 03 42.5	
	comp=N,300nm,1.6s						
PUH				IAML		00 03 44.0	
	comp=E,240nm,1.5s						
HATHI	**Halema'uma'u T**	**0.04**	**291**		Pb	00 03 38.9	-0.1
HATHI					Sb	00 03 42.0	-0.6
HATHI	**Halema'uma'u T**	**0.04**	**291**	IAML		00 03 43.2	
	comp=N,431nm,1.4s						
HATHI				IAML		00 03 45.8	
	comp=E,447nm,1.1s						
SBLHI	**Steaming Bluff**	**0.05**	**293**		Pb	00 03 38.8	-0.1
SBLHI					Sb	00 03 41.9	-0.7
SBLHI	**Steaming Bluff**	**0.05**	**293**	IAML		00 03 46.0	
	comp=E,280nm,1.2s						
SBLHI				IAML		00 03 48.7	
	comp=N,452nm,0.9s						
RIM	**Rim**	**0.05**	**255**		Pb	00 03 38.8	-0.1
RIM	**Rim**	**0.05**	**255**	IAML		00 03 40.6	
	comp=E,654nm,1.4s						
RIM				IAML		00 03 40.8	
	comp=N,919nm,1.5s						
UWB	**Uwekahuna B**	**0.06**	**287**		Pb	00 03 38.9	0.0
UWB					Sb	00 03 42.5	-0.2
UWB	**Uwekahuna B**	**0.06**	**287**	IAML		00 03 42.7	
	comp=N,201nm,1.6s						
UWB				IAML		00 03 48.9	
	comp=E,195nm,1.6s						
KNHH	**Kane Nui o Ham**	**0.06**	**120**		Pb	00 03 39.1	+0.1
KNHH					Sb	00 03 43.0	+0.4
OBL	**Observatory Le**	**0.06**	**279**		Pb	00 03 38.9	-0.1
OBL	**Observatory Le**	**0.06**	**279**	IAML		00 03 42.5	
	comp=E,1μm,0.8s						
OBL				IAML		00 03 44.9	
	comp=N,1μm,0.7s						
UWE	**Uwekahuna**	**0.07**	**280**		Pb	00 03 38.9	-0.2
UWE	**Uwekahuna**	**0.07**	**280**	IAML		00 03 41.5	
	comp=N,597nm,2.9s						
UWE				IAML		00 03 46.5	
	comp=E,709nm,0.9s						
UWE	**Uwekahuna**	**0.07**	**280**		Sb	00 03 42.4	-0.5
WRMHI	**West Rim**	**0.07**	**268**		Pb	00 03 39.0	-0.1
RSD	**Rainshed**	**0.07**	**316**		Pb	00 03 39.4	+0.3
RSD					Sb	00 03 42.7	-0.2
RSD	**Rainshed**	**0.07**	**316**	IAML		00 03 46.5	
	comp=N,316nm,2.7s						
RSD				IAML		00 03 47.6	
	comp=E,314nm,2.7s						
STCH	**Steam Cracks**	**0.10**	**104**		Pb	00 03 39.2	+0.1
STCH					Sb	00 03 42.6	-0.3
STCH	**Steam Cracks**	**0.10**	**104**	IAML		00 03 43.9	
	comp=N,248nm,0.6s						
STCH				IAML		00 03 44.2	
	comp=E,326nm,0.1s						
NPOC	**North of Pu'u**	**0.11**	**98**		Pb	00 03 39.1	0.0
NPOC	**North of Pu'u**	**0.11**	**98**		Sn	00 03 42.7	+0.2
NPOC	**North of Pu'u**	**0.11**	**98**	IAML		00 03 41.9	
	comp=N,258nm,1.3s						
NPOC				IAML		00 03 42.2	
	comp=E,304nm,0.7s						
HLP	**Hilina Pali**	**0.14**	**216**		Pn	00 03 40.5	+0.9
HLP				IAML		00 03 43.6	
	comp=E,410nm,1.6s						
HLP					Sb	00 03 43.9	+0.5
HLP				IAML		00 03 44.3	
	comp=N,529nm,0.2s						
MLH	**Mauna Loa**	**0.18**	**299**		Pn	00 03 40.8	+0.5
MLH					Sn	00 03 44.6	+0.2
MLH				IAML		00 03 45.4	
	comp=N,553nm,0.2s						
JOKA	**Jonika Flow**	**0.21**	**83**		Pb	00 03 40.1	+0.1
JOKA					Sb	00 03 44.2	-0.3
AIN	**Ainahou**	**0.23**	**261**		Pn	00 03 41.3	+0.4
AIN					Sn	00 03 45.5	-0.1
AIN				IAML		00 03 45.9	
	comp=E,276nm,0.4s						
AIN				IAML		00 03 51.3	
	comp=N,398nm,4.2s						
HTC	**Hot Caves**	**0.24**	**224**		Pb	00 03 40.5	+0.1
HMH	**Humu'ula Sheep**	**0.31**	**308**		Pn	00 03 42.3	+0.1
HMH				IAML		00 03 46.2	
	comp=E,295nm,4.6s						
HMH					Sn	00 03 47.6	-0.3
MLOA	**Mauna Loa Obse**	**0.36**	**291**	Pg	Pb	00 03 42.5	+0.3
MLOA					Sb	00 03 48.1	0.0
MWH	**Moku'aweowe**	**0.36**	**282**		Pb	00 03 42.6	+0.2
MWH					Sb	00 03 48.3	-0.1
MWH				IAML		00 03 55.1	
	comp=N,238nm,1.9s						
MWH				IAML		00 03 57.6	
	comp=E,296nm,1.4s						
KHU	**Kahuku**	**0.40**	**246**		Pb	00 03 43.0	+0.3
KHU					Sb	00 03 48.7	-0.4
KHU				IAML		00 03 52.8	
	comp=E,287nm,2.9s						
ALEP	**Alea Permanent**	**0.42**	**288**		Pb	00 03 42.4	-0.6
ALEP					Sb	00 03 48.1	-1.5
POHA	**Pohakuloa**	**0.45**	**320**	Pg	Pb	00 03 43.8	+0.3
POHA				IAML		00 03 50.3	
	comp=E,253nm,0.1s						
POHA				IAML		00 03 51.7	
	comp=E,200nm,0.1s						
POHA	**Pohakuloa**	**0.45**	**320**		Pn	00 03 48.9	+4.8
HUH	**Hualalai**	**0.64**	**295**	Pn	Pb	00 03 46.3	-0.2
HUH				IAML		00 03 57.6	
	comp=N,189nm,1.5s						
KHLU	**Kahalu`u**	**0.66**	**286**		Pb	00 03 46.2	-0.5

ROM 19 00:13:39.1±0.1, 42.605N±0.004×13.309E±0.006, h9km, ML2.2/20, 10C-7D, Error ellipse: s-maj=0.4km s-min=0.4km az=241.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.03**	**37**	P	Pg	00 13 41.3	+0.3
SMA1				S	Sg	00 13 42.4	+0.1
SMA1				AML	AML		
	comp=N,65836μm,0.2s						
SMA1				AML	AML		
	comp=E,82827μm,0.2s						
CAMP	**Campotosto**	**0.10**	**133**	P	Pg	00 13 42.3	+0.5
CAMP				S	Sg	00 13 44.1	+0.5
CAMP				AML	AML		
	comp=N,1395μm,0.8s						
CAMP				AML	AML		
	comp=E,1460μm,0.6s						
CAMP				AML	AML		
	comp=E,1418μm,0.2s						
CAMP				AML	AML		
	comp=N,1362μm,0.2s						
RM33	**Pellescritta (**	**0.12**	**216**	⇑P	Pg	00 13 42.5	+0.6
RM33				S	Sg	00 13 44.7	+0.7
RM33				AML	AML		
	comp=N,3300μm,0.6s						
RM33				AML	AML		
	comp=E,5135μm,0.9s						
RM33				AML	AML		
	comp=E,5215μm,0.9s						
RM33				AML	AML		
	comp=N,3370μm,0.6s						
RM33				AML	AML		
	comp=E,5135μm,1.1s						
RM33				AML	AML		
	comp=N,3370μm,1.4s						
RM33				AML	AML		
	comp=N,3300μm,1.4s						
RM33				AML	AML		
	comp=E,5215μm,1.1s						
RM33				AML	AML		
	comp=E,4323μm,0.2s						
RM33				AML	AML		
	comp=N,2280μm,0.3s						
RM33				AML	AML		
	comp=N,2195μm,0.3s						
RM33				AML	AML		
	comp=E,4341μm,0.2s						
T1218	**Civita (PG)**	**0.16**	**295**	P	Pg	00 13 43.1	+0.5
T1218				AML	AML		
	comp=E,922μm,1.4s						
T1218				AML	AML		
	comp=N,1385μm,0.3s						
T1218				AML	AML		
	comp=E,878μm,0.4s						
T1218				AML	AML		
	comp=N,1380μm,0.3s						
T1218				AML	AML		
	comp=E,922μm,0.6s						
T1218				AML	AML		
	comp=N,1390μm,0.3s						
T1218				AML	AML		
	comp=E,854μm,0.1s						
T1218				AML	AML		
	comp=N,991μm,0.2s						
T1218				AML	AML		
	comp=N,974μm,0.2s						
T1218				AML	AML		
	comp=E,895μm,0.1s						
T1247	**Pizzolo (AQ)**	**0.16**	**183**	⇑P	Pg	00 13 43.3	+0.7
T1247				S	Sg	00 13 46.2	+1.1
T1247				AML	AML		
	comp=E,4985μm,0.4s						
T1247				AML	AML		
	comp=N,5620μm,0.2s						
T1247				AML	AML		
	comp=E,3722μm,0.1s						
T1247				AML	AML		
	comp=N,5619μm,0.2s						
LNSS	**Leonessa**	**0.20**	**270**	⇑P	Pg	00 13 43.7	+0.4
LNSS				S	Sg	00 13 47.3	+1.2
LNSS				AML	AML		
	comp=E,1185μm,0.4s						
LNSS				AML	AML		
	comp=N,1065μm,0.9s						
LNSS				AML	AML		
	comp=N,1065μm,1.1s						
LNSS				AML	AML		
	comp=N,1016μm,0.1s						
LNSS				AML	AML		
	comp=E,1016μm,0.1s						
GIGS	**Gran Sasso**	**0.25**	**129**	⇓P	Pg	00 13 44.7	+0.6
GIGS				AML	AML		
	comp=N,237μm,0.6s						
GIGS				AML	AML		
	comp=E,235μm,1.6s						
GIGS				AML	AML		
	comp=N,207μm,0.2s						
FIAM	**Fiamignano**	**0.36**	**203**	⇑P	Pg	00 13 46.6	+0.3
FIAM				AML	AML		
	comp=N,312μm,1.0s						
FIAM				AML	AML		
	comp=E,322μm,1.4s						
FIAM				AML	AML		
	comp=E,322μm,0.6s						
FIAM				AML	AML		
	comp=N,235μm,0.5s						
ARRO	**Arrone**	**0.40**	**267**	⇓P	Pg	00 13 47.5	+0.5
ARRO				AML	AML		
	comp=E,308μm,1.4s						
ARRO				AML	AML		
	comp=N,302μm,1.0s						
ARRO				AML	AML		
	comp=E,308μm,0.6s						
ARRO				AML	AML		
	comp=N,302μm,1.0s						
ARRO				AML	AML		
	comp=N,246μm,0.2s						
ARRO				AML	AML		
	comp=E,249μm,0.1s						
GUMA	**Gualdo di Mace**	**0.46**	**2**	⇑P	Pb	00 13 48.7	-0.6
GUMA				AML	AML		
	comp=E,964μm,0.4s						
GUMA				AML	AML		
	comp=N,926μm,0.4s						
GUMA				AML	AML		
	comp=N,795μm,1.5s						
GUMA				AML	AML		
	comp=N,926μm,1.6s						
GUMA				AML	AML		
	comp=E,760μm,0.5s						
GUMA				AML	AML		
	comp=N,784μm,0.3s						
GUMA				AML	AML		

	comp=E,962μm,0.4s							
GUMA				AML	AML			
	comp=N,924μm,0.4s							
GUMA				AML	AML			
	comp=E,298μm,0.3s							
FDMO	**Fiordimonte**	**0.46**	**339**	⇑P	Pg	00	13	48.3 +0.2
FDMO				AML	AML			
	comp=E,252μm,0.8s							
FDMO				AML	AML			
	comp=N,300μm,0.1s							
FDMO				AML	AML			
	comp=E,252μm,1.2s							
FDMO				AML	AML			
	comp=E,218μm,0.2s							
FDMO				AML	AML			
	comp=N,183μm,0.2s							
CSP1	**Cessapalombo**	**0.49**	**351**	⇑P	Pg	00	13	49.0 +0.3
CSP1				AML	AML			
	comp=N,536μm,0.4s							
CSP1				AML	AML			
	comp=E,390μm,1.6s							
CSP1				AML	AML			
	comp=E,308μm,0.1s							
CSP1				AML	AML			
	comp=N,536μm,0.4s							
CESI	**CESI - Serrava**	**0.50**	**323**	⇓P	Pg	00	13	49.2 +0.4
CESI				AML	AML			
	comp=E,242μm,0.4s							
CESI				AML	AML			
	comp=N,364μm,0.5s							
CESI				AML	AML			
	comp=N,315μm,0.2s							
T1220	**Camerino, Fraz**	**0.53**	**342**	⇑P	Pg	00	13	49.6 +0.2
T1220				AML	AML			
	comp=E,954μm,0.4s							
T1220				AML	AML			
	comp=E,948μm,0.4s							
T1220				AML	AML			
	comp=N,1005μm,1.0s							
T1220				AML	AML			
	comp=E,948μm,1.6s							
T1220				AML	AML			
	comp=N,1036μm,1.0s							
T1220				AML	AML			
	comp=E,954μm,1.6s							
T1220				AML	AML			
	comp=N,879μm,0.3s							
T1220				AML	AML			
	comp=N,891μm,0.2s							
T1220				AML	AML			
	comp=E,948μm,0.4s							
T1220				AML	AML			
	comp=E,953μm,0.4s							
CESX	**Cesi**	**0.54**	**271**	P	Pg	00	13	49.6 0.0
CESX				S	Sb	00	13	58.3 -0.3
CESX				AML	AML			
	comp=E,212μm,1.2s							
CESX				AML	AML			
	comp=N,184μm,1.2s							
CESX				AML	AML			
	comp=N,184μm,0.8s							
CESX				AML	AML			
	comp=E,212μm,0.8s							
CESX				AML	AML			
	comp=N,161μm,0.3s							
CESX				AML	AML			
	comp=E,151μm,0.3s							
MOMA	**Monte Martano**	**0.58**	**290**	⇓P	Pg	00	13	50.9 +0.5
MOMA				AML	AML			
	comp=E,203μm,1.5s							
MOMA				AML	AML			
	comp=N,214μm,1.5s							
MOMA				AML	AML			
	comp=N,214μm,0.5s							
MOMA				AML	AML			
	comp=E,203μm,0.5s							
MOMA				AML	AML			
	comp=N,183μm,0.3s							
MOMA				AML	AML			
	comp=E,156μm,0.2s							
ASSB	**Assisi San Ben**	**0.65**	**313**	P	Pg	00	13	52.0 +0.3
ASSB				AML	AML			
	comp=E,159μm,1.5s							
ASSB				AML	AML			
	comp=N,150μm,0.8s							
ASSB				AML	AML			
	comp=E,159μm,0.5s							
ASSB				AML	AML			
	comp=N,150μm,1.2s							
ASSB				AML	AML			
	comp=N,127μm,0.2s							
ASSB				AML	AML			
	comp=E,141μm,0.2s							
CERT	**Cerreto**	**0.70**	**200**	⇓P	Pg	00	13	52.4 -0.2
CERT				AML	AML			
	comp=E,231μm,0.5s							
CERT				AML	AML			
	comp=N,150μm,1.3s							
CERT				AML	AML			
	comp=N,150μm,0.7s							
CERT				AML	AML			
	comp=N,124μm,0.5s							
SNTG	**Esanatoglia**	**0.70**	**338**	⇓P	Pg	00	13	52.6 -0.1
SNTG				AML	AML			
	comp=E,85μm,0.1s							
SNTG				AML	AML			
	comp=N,101μm,0.3s							
EL6	**Elcito**	**0.74**	**348**	⇑P	Pg	00	13	53.3 -0.1
EL6				S	Sb	00	14	05.7 +1.3
EL6				AML	AML			
	comp=N,268μm,0.5s							
EL6				AML	AML			
	comp=E,248μm,0.3s							
CING	**Cingoli**	**0.78**	**354**	⇓P	Pg	00	13	54.1 0.0
CING				AML	AML			
	comp=E,166μm,1.1s							
CING				AML	AML			
	comp=N,209μm,1.6s							
CING				AML	AML			
	comp=E,166μm,0.9s							
CING				AML	AML			
	comp=N,209μm,0.4s							
ARVD	**Arcevia**	**0.93**	**343**	P	Pg	00	13	56.7 -0.4
NARO	**Abbazia di Nar**	**1.14**	**332**	⇑P	Pb	00	13	59.7 -1.3
NARO				AML	AML			
	comp=E,134μm,1.6s							
NARO				AML	AML			
	comp=N,126μm,1.6s							
NARO				AML	AML			
	comp=E,134μm,0.4s							
T1101	**Santa Maria De**	**1.45**	**141**	P	Pg	00	14	07.9 +0.9
T1101				S	Sg	00	14	25.9 +0.1
T1101				AML	AML			
	comp=E,1269μm,1.1s							
T1101				AML	AML			
	comp=N,1151μm,1.6s							
T1101				AML	AML			
	comp=N,1151μm,0.4s							
T1101				AML	AML			
	comp=E,1269μm,0.9s							
T1101				AML	AML			
	comp=N,551μm,0.7s							
T1101				AML	AML			
	comp=E,545μm,0.7s							
T1101				AML	AML			
	comp=E,10μm,4.1s							
MODR	**Mondragone**	**1.52**	**164**	P	Pn	00	14	06.7 +0.3
TREM	**Isole Tremiti**	**1.70**	**106**	S	Sg	00	14	36.7 +2.9

ROM 19 00:16:22.4±0.1, 42°.563N±0°.003×13°.239E±0°.005, h12km, ML2.5/21, 16C-4D, Error ellipse: s-maj=0.4km s-min=0.1km az=270.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
RM33	**Pellescritta (**	**0.06**	**198**	P		Pg	00	16	25.3	+0.4
RM33				S		Sg	00	16	27.1	+0.4
RM33				AML		AML				
	comp=E,21850μm,0.2s									
RM33				AML		AML				
	comp=N,10350μm,1.5s									
RM33				AML		AML				
	comp=E,21450μm,0.2s									
RM33				AML		AML				
	comp=N,11150μm,1.5s									
RM33				AML		AML				
	comp=N,11150μm,0.5s									
RM33				AML		AML				
	comp=N,10350μm,0.5s									
RM33				AML		AML				
	comp=E,21836μm,0.2s									
RM33				AML		AML				
	comp=E,21430μm,0.2s									
RM33				AML		AML				
	comp=N,8280μm,0.2s									
RM33				AML		AML				
	comp=N,7715μm,0.2s									
SMA1	**SAN MARTINO**	**0.10**	**47**	⇑P		Pg	00	16	25.8	+0.4
SMA1				S		Sg	00	16	27.8	+0.3
SMA1				AML		AML				
	comp=N,26950μm,0.3s									
SMA1				AML		AML				
	comp=E,47850μm,0.2s									
SMA1				AML		AML				
	comp=E,47856μm,0.2s									
SMA1				AML		AML				
	comp=N,26940μm,0.3s									
T1218	**Civita (PG)**	**0.14**	**320**	P		Pg	00	16	26.0	+0.1
T1218				S		Sg	00	16	28.4	-0.1
T1218				AML		AML				
	comp=E,9765μm,0.4s									
T1218				AML		AML				
	comp=E,9240μm,0.4s									
T1218				AML		AML				
	comp=E,9765μm,0.4s									
T1218				AML		AML				
	comp=N,17600μm,0.2s									
T1218				AML		AML				
	comp=E,9280μm,0.4s									
T1218				AML		AML				
	comp=N,17550μm,0.2s									
T1218				AML		AML				
	comp=E,8396μm,0.1s									
T1218				AML		AML				
	comp=E,8233μm,0.1s									
T1218				AML		AML				
	comp=N,17579μm,0.2s									
T1218				AML		AML				
	comp=N,17529μm,0.2s									
LNSS	**Leonessa**	**0.15**	**285**	⇑P		Pg	00	16	26.4	+0.3
LNSS				S		Sg	00	16	29.2	+0.5
LNSS				AML		AML				
	comp=N,21300μm,0.1s									
LNSS				AML		AML				
	comp=E,14650μm,0.6s									
LNSS				AML		AML				
	comp=E,12663μm,0.2s									
LNSS				AML		AML				
	comp=N,21312μm,0.1s									
GIGS	**Gran Sasso**	**0.27**	**115**	⇑P		Pg	00	16	28.3	+0.2
GIGS				S		Sg	00	16	32.5	+0.7
GIGS				AML		AML				
	comp=N,444μm,1.2s									
GIGS				AML		AML				
	comp=E,367μm,0.6s									
GIGS				AML		AML				
	comp=E,296μm,0.2s									
GIGS				AML		AML				
	comp=N,365μm,0.1s									
FIAM	**Fiamignano**	**0.31**	**197**	⇑P		Pg	00	16	29.1	+0.4
FIAM				S		Sb	00	16	34.0	-0.9
FIAM				AML		AML				
	comp=N,1090μm,0.7s									
FIAM				AML		AML				
	comp=E,962μm,0.5s									
FIAM				AML		AML				
	comp=N,845μm,0.5s									
FIAM				AML		AML				
	comp=E,917μm,0.6s									
ARRO	**Arrone**	**0.35**	**273**	⇑P		Pg	00	16	29.6	+0.2
ARRO				S		Sg	00	16	35.0	+0.8
ARRO				AML		AML				
	comp=E,913μm,1.3s									
ARRO				AML		AML				
	comp=N,1101μm,0.4s									
ARRO				AML		AML				
	comp=N,1102μm,0.4s									
ARRO				AML		AML				
	comp=E,909μm,1.3s									
ARRO				AML		AML				
	comp=E,887μm,0.1s									
ARRO				AML		AML				
	comp=N,1001μm,0.1s									
FDMO	**Fiordimonte**	**0.49**	**347**	⇑P		Pg	00	16	31.8	-0.2
FDMO				S		Sb	00	16	39.6	-0.4
FDMO				AML		AML				
	comp=E,428μm,0.2s									
FDMO				AML		AML				
	comp=N,532μm,0.8s									
FDMO				AML		AML				
	comp=N,532μm,1.2s									
FDMO				AML		AML				
	comp=N,458μm,0.2s									
FDMO				AML		AML				
	comp=E,428μm,0.2s									
CESX	**Cesi**	**0.49**	**276**	⇓P		Pg	00	16	31.9	-0.1
CESX				S		Sg	00	16	39.0	+0.5
CESX				AML		AML				
	comp=E,467μm,1.0s									
CESX				AML		AML				
	comp=N,768μm,0.2s									
CESX				AML		AML				
	comp=E,467μm,1.0s									
CESX				AML		AML				
	comp=N,769μm,0.2s									
CESX				AML		AML				
	comp=N,769μm,0.2s									
CESX				AML		AML				
	comp=E,426μm,0.3s									
GUMA	**Gualdo di Mace**	**0.50**	**8**	⇑P		Pg	00	16	32.5	+0.2
GUMA				S		Sb	00	16	40.8	+0.3
GUMA				AML		AML				
	comp=E,2315μm,0.3s									
GUMA				AML		AML				
	comp=E,3210μm,0.3s									
GUMA				AML		AML				
	comp=E,3210μm,1.7s									
GUMA				AML		AML				
	comp=N,2450μm,0.5s									
GUMA				AML		AML				
	comp=N,2000μm,0.4s									
GUMA				AML		AML				
	comp=N,1996μm,0.4s									
GUMA				AML		AML				
	comp=E,2317μm,0.3s									
GUMA				AML		AML				
	comp=E,3211μm,0.3s									
GUMA				AML		AML				
	comp=N,2116μm,0.3s									
CESI	**CESI - Serrava**	**0.51**	**331**	⇓P		Pg	00	16	32.3	0.0
CESI				S		Sb	00	16	40.2	-0.4
CESI				AML		AML				
	comp=E,351μm,1.3s									
CESI				AML		AML				
	comp=N,464μm,1.6s									
CESI				AML		AML				
	comp=N,464μm,0.4s									
CESI				AML		AML				
	comp=E,351μm,0.7s									
CESI				AML		AML				
	comp=E,280μm,0.3s									
CESI				AML		AML				
	comp=N,450μm,0.3s									
CSP1	**Cessapalombo**	**0.53**	**357**	⇑P		Pg	00	16	32.6	-0.2
CSP1				S		Sb	00	16	40.8	-0.5
CSP1				AML		AML				
	comp=N,643μm,1.5s									
CSP1				AML		AML				
	comp=E,675μm,0.3s									
CSP1				AML		AML				
	comp=E,675μm,0.3s									
CSP1				AML		AML				
	comp=N,631μm,0.3s									
MOMA	**Monte Martano**	**0.55**	**296**	P		Pg	00	16	33.2	+0.1
MOMA				S		Sb	00	16	41.7	-0.1
MOMA				AML		AML				
	comp=E,1004μm,0.4s									
MOMA				AML		AML				
	comp=N,1355μm,1.2s									
MOMA				AML		AML				
	comp=E,1110μm,0.4s									
MOMA				AML		AML				
	comp=N,1405μm,1.2s									
MOMA				AML		AML				
	comp=E,1110μm,1.6s									
MOMA				AML		AML				
	comp=E,1004μm,1.6s									
MOMA				AML		AML				
	comp=N,1355μm,0.8s									
MOMA				AML		AML				
	comp=N,1405μm,0.8s									
MOMA				AML		AML				
	comp=E,1041μm,0.2s									
MOMA				AML		AML				
	comp=E,980μm,0.2s									
MOMA				AML		AML				
	comp=N,1330μm,0.2s									
MOMA				AML		AML				
	comp=N,1358μm,0.2s									
TRTR	**Tortoreto Alta**	**0.56**	**64**	⇓P		Pb	00	16	34.3	+0.3
T1220	**Camerino, Fraz**	**0.56**	**349**	⇑P		Pg	00	16	33.1	-0.2
T1220				S		Sb	00	16	41.6	-0.4
T1220				AML		AML				
	comp=N,1470μm,0.6s									
T1220				AML		AML				
	comp=E,1570μm,0.7s									
T1220				AML		AML				
	comp=E,1525μm,0.7s									
T1220				AML		AML				
	comp=N,1470μm,1.4s									
T1220				AML		AML				
	comp=N,1450μm,0.8s									
T1220				AML		AML				
	comp=E,1385μm,0.2s									
T1220				AML		AML				
	comp=N,1341μm,0.2s									
T1220				AML		AML				
	comp=N,1352μm,0.2s									
T1220				AML		AML				
	comp=E,1392μm,0.2s									
SRES	**S.Oreste - Sor**	**0.63**	**239**	P		Pg	00	16	34.8	+0.1
SRES				S		Sb	00	16	45.1	+1.0
SRES				AML		AML				
	comp=E,214μm,0.4s									
SRES				AML		AML				
	comp=E,214μm,1.6s									
SRES				AML		AML				
	comp=N,168μm,1.6s									
ASSB	**Assisi San Ben**	**0.64**	**318**	⇑P		Pg	00	16	34.8	-0.1
ASSB				S		Sb	00	16	44.7	+0.2
ASSB				AML		AML				
	comp=E,288μm,1.0s									
ASSB				AML		AML				
	comp=N,416μm,0.2s									
ASSB				AML		AML				
	comp=E,286μm,0.2s									
ASSB				AML		AML				
	comp=N,355μm,0.2s									
CERT	**Cerreto**	**0.64**	**197**	⇑P		Pg	00	16	34.6	-0.3
CERT				AML		AML				
	comp=E,396μm,0.4s									
CERT				AML		AML				
	comp=N,216μm,0.5s									
CERT				AML		AML				
	comp=E,395μm,0.4s									
CERT				AML		AML				
	comp=N,216μm,0.5s									
MTCE	**Montecelio**	**0.65**	**214**	⇑P		Pg	00	16	34.7	-0.4
MTCE				AML		AML				
	comp=N,148μm,0.5s									
MTCE				AML		AML				
	comp=E,251μm,0.6s									
MTCE				AML		AML				
	comp=E,251μm,0.6s									
MTCE				AML		AML				
	comp=N,148μm,0.5s									
SNTG	**Esanatoglia**	**0.72**	**343**	⇑P		Pg	00	16	36.2	-0.3
SNTG				AML		AML				
	comp=E,226μm,1.6s									
SNTG				AML		AML				
	comp=N,192μm,1.6s									
SNTG				AML		AML				
	comp=N,192μm,0.4s									
SNTG				AML		AML				
	comp=E,226μm,0.4s									
SNTG				AML		AML				
	comp=N,220μm,0.5s									
SNTG				AML		AML				
	comp=E,147μm,0.5s									
SNTG				AML		AML				
	comp=N,160μm,0.2s									
SNTG				AML		AML				
	comp=E,133μm,0.1s									
EL6	**Elcito**	**0.77**	**353**	⇓P		Pg	00	16	36.9	-0.5
EL6				AML		AML				
	comp=E,470μm,1.3s									
EL6				AML		AML				
	comp=E,470μm,0.7s									
EL6				AML		AML				
	comp=N,464μm,0.4s									
EL6				AML		AML				
	comp=E,405μm,0.1s									
FOSV	**Fossato di Vic**	**0.81**	**335**	P		Pg	00	16	37.8	-0.2
FOSV				AML		AML				
	comp=E,204μm,1.6s									
FOSV				AML		AML				
	comp=N,180μm,1.1s									
FOSV				AML		AML				
	comp=N,180μm,0.9s									
FOSV				AML		AML				
	comp=N,128μm,0.3s									
CING	**Cingoli**	**0.81**	**358**	⇑P		Pg	00	16	37.7	-0.4
CING				AML		AML				
	comp=E,250μm,1.5s									
CING				AML		AML				
	comp=N,260μm,1.6s									
CING				AML		AML				
	comp=N,260μm,0.4s									
CING				AML		AML				
	comp=E,250μm,0.5s									
CING				AML		AML				
	comp=E,238μm,0.2s									
CING				AML		AML				
	comp=N,236μm,0.2s									
PP3	**Marolino**	**0.86**	**18**	P		Pb	00	16	39.6	+0.4
MGAB	**Montegabbione**	**0.90**	**293**	⇑P		Pg	00	16	39.7	-0.1
MGAB				AML		AML				
	comp=E,208μm,1.5s									
MGAB				AML		AML				
	comp=N,346μm,0.4s									
MGAB				AML		AML				
	comp=E,237μm,1.4s									
MGAB				AML		AML				
	comp=N,370μm,0.4s									
MGAB				AML		AML				
	comp=N,370μm,1.6s									
MGAB				AML		AML				
	comp=E,208μm,0.5s									
MGAB				AML		AML				
	comp=E,237μm,0.6s									
MGAB				AML		AML				
	comp=N,346μm,1.6s									
MGAB				AML		AML				
	comp=E,191μm,0.3s									
MGAB				AML		AML				
	comp=N,346μm,0.4s									
MGAB				AML		AML				
	comp=N,370μm,0.4s									
ARVD	**Arcevia**	**0.96**	**347**	⇑P		Pg	00	16	40.5	-0.4
ARVD				S		Sn	00	16	55.5	+0.3
TOLF	**Tolfa**	**1.04**	**242**	S		Sg	00	16	56.4	+0.3

PRU 19 00:17:11.2±0.0, 42°.32N×14°.24E, h0km
ROM 19 00:17:16.4±0.1, 42°.586N±0°.004×13°.326E±0°.007, h9km, ML2.7/28, Error ellipse: s-maj=0.5km s-min=0.5km az=213.0

ISC 19 00:17:16.7±0.9, 42°.57N±0°.02×13°.34E±0°.03, h12km±5km, n42, σ1s30/53, 15C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CAMP	**Campotosto**	**0.06**	**123**	P		**Pg**	**00**	**17**	**19.2**	**-0.1**
CAMP				S		**Sg**	**00**	**17**	**20.8**	**-0.3**
CAMP				AML		AML				
	comp=N,9515μm,0.4s									
CAMP				AML		AML				
	comp=E,11976μm,0.2s									
CAMP				AML		AML				
	comp=N,9515μm,1.6s									

CAMP AML AML
comp=N,9518μm,0.4s
CAMP AML AML
comp=E,15250μm,0.7s
SMA1 SAN MARTINO 0.06 355 P **Pg** **00 17 18.7 -0.6**
SMA1 S **Sg** **00 17 20.0 -1.2**
SMA1 AML AML
SMA1 AML AML
SMA1 AML AML
SMA1 AML AML
RM33 Pellescritta (0.11 238 ⇑P **Pg** **00 17 19.9 0.0**
RM33 S **Sg** **00 17 22.0 -0.1**
RM33 AML AML
comp=E,21850μm,0.2s
RM33 AML AML
comp=N,24800μm,0.3s
RM33 AML AML
comp=E,21850μm,0.2s
RM33 AML AML
comp=N,24600μm,0.3s
RM33 AML AML
comp=N,24800μm,0.3s
RM33 AML AML
comp=E,21850μm,0.2s
RM33 AML AML
comp=N,23081μm,0.3s
RM33 AML AML
comp=N,23263μm,0.3s
RM33 AML AML
comp=E,21856μm,0.2s
RM33 AML AML
comp=E,21848μm,0.2s
T1247 Pizzolo (AQ) 0.13 195 ⇓P **Pg** **00 17 20.5 +0.4**
T1247 S **Sg** **00 17 23.2 +0.7**
T1247 AML AML
comp=E,16900μm,0.6s
T1247 AML AML
comp=N,25650μm,0.2s
T1247 AML AML
comp=E,16900μm,1.4s
T1247 AML AML
comp=N,25653μm,0.2s
T1247 AML AML
comp=E,14286μm,0.2s
T1218 Civita (PG) 0.20 301 ⇑P **Pg** **00 17 20.7 -0.4**
T1218 S **Sg** **00 17 23.2 -0.9**
T1218 AML AML
comp=E,3740μm,1.2s
T1218 AML AML
comp=E,3560μm,1.2s
T1218 AML AML
comp=N,5745μm,0.2s
T1218 AML AML
comp=E,3740μm,1.2s
T1218 AML AML
comp=N,5820μm,0.2s
T1218 AML AML
comp=N,5745μm,0.2s
T1218 AML AML
comp=E,3560μm,1.2s
T1218 AML AML
comp=N,5820μm,1.8s
T1218 AML AML
comp=N,5817μm,0.2s
T1218 AML AML
comp=N,5745μm,1.8s
T1218 AML AML
comp=N,5745μm,0.2s
T1218 AML AML
comp=E,3546μm,0.1s
T1218 AML AML
comp=E,3479μm,0.1s
GIGS Gran Sasso 0.20 125 ⇑P **Pg** **00 17 21.5 +0.3**
GIGS S **Sg** **00 17 24.9 +0.6**
GIGS AML AML
comp=E,1435μm,0.8s
GIGS AML AML
comp=N,793μm,1.2s
GIGS AML AML
comp=N,793μm,0.8s
GIGS AML AML
comp=E,1388μm,0.3s
GIGS AML AML
comp=N,533μm,0.1s
LNSS Leonessa 0.23 279 ⇑P **Pg** **00 17 21.5 -0.1**
LNSS S **Sg** **00 17 25.2 +0.3**
LNSS AML AML
comp=E,6705μm,0.2s
LNSS AML AML
comp=N,6010μm,0.4s
LNSS AML AML
comp=E,6706μm,0.2s
LNSS AML AML
comp=N,5906μm,0.1s
FIAM Fiamignano 0.34 209 ⇑P **Pg** **00 17 24.0 +0.3**
FIAM S **Sg** **00 17 29.5 +1.2**
FIAM AML AML
comp=E,1310μm,0.8s
FIAM AML AML
comp=N,408μm,0.3s
FIAM AML AML
comp=N,1016μm,0.6s
FIAM AML AML
comp=E,1278μm,0.5s
TRTR Tortoreto Alta 0.48 60 ⇑P **Pn** **00 17 27.5 -1.9**
GUMA Gualdo di Mace 0.49 359 ⇓P **Pg** **00 17 26.4 0.0**
GUMA AML AML
comp=E,2140μm,0.5s
GUMA AML AML
comp=E,1920μm,0.3s
GUMA AML AML
comp=N,2155μm,0.3s
GUMA AML AML
comp=N,2315μm,0.4s
GUMA AML AML
comp=E,661μm,0.2s
GUMA AML AML
comp=N,2315μm,0.4s
GUMA AML AML
comp=N,2157μm,0.3s
GUMA AML AML
comp=N,2155μm,1.7s
GUMA AML AML
comp=E,2143μm,0.5s
FDMO Fiordimonte 0.50 338 ⇑P **Pg** **00 17 26.0 -0.6**
FDMO S **Sg** **00 17 33.7 +0.4**
FDMO AML AML
comp=E,714μm,0.5s
FDMO AML AML
comp=N,886μm,0.9s
FDMO AML AML
comp=N,886μm,1.1s
FDMO AML AML
comp=E,714μm,1.5s
FDMO AML AML
comp=N,790μm,0.3s
FDMO AML AML
comp=E,646μm,0.3s
CSP1 Cessapalombo 0.53 349 ⇑P **Pg** **00 17 26.7 -0.5**
CSP1 S **Sg** **00 17 34.8 +0.5**
CSP1 AML AML
comp=E,904μm,1.5s
CSP1 AML AML
comp=N,1128μm,1.2s
CSP1 AML AML
comp=E,904μm,1.5s
CSP1 AML AML
comp=N,1127μm,1.2s
CSP1 AML AML
comp=N,1127μm,0.8s
CSP1 AML AML
comp=N,1013μm,0.2s
CSP1 AML AML
comp=E,883μm,0.5s
CSP1 AML AML
comp=E,904μm,0.5s
CESI CESI - Serrava 0.54 324 P **Pg** **00 17 26.7 -0.6**
CESI S **Sg** **00 17 35.0 +0.4**
CESI AML AML
comp=N,1385μm,0.5s
CESI AML AML
comp=E,932μm,0.4s
CESI AML AML
comp=N,1385μm,1.5s
CESI AML AML
comp=E,932μm,0.4s
CESI AML AML
comp=N,1368μm,0.6s
PTQR Pietraquaria 0.55 175 ⇓P **Pn** **00 17 27.7 -2.7**
PTQR AML AML
comp=E,354μm,0.5s
PTQR AML AML
comp=N,410μm,0.5s
PTQR AML AML
comp=N,319μm,0.2s
PTQR AML AML
comp=E,328μm,0.2s
CESX Cesi 0.56 275 ⇑P **Pg** **00 17 27.0 -0.7**
CESX AML AML
comp=E,789μm,0.2s
CESX AML AML
comp=N,925μm,0.2s
CESX AML AML
comp=E,789μm,0.2s
CESX AML AML
comp=N,926μm,0.2s
T1220 Camerino, Fraz 0.57 341 P **Pg** **00 17 27.2 -0.6**
T1220 S **Sg** **00 17 36.1 +0.6**
T1220 AML AML
comp=E,3145μm,0.3s
T1220 AML AML
comp=N,2965μm,0.5s
T1220 AML AML
comp=N,2980μm,0.5s
T1220 AML AML
comp=E,3150μm,0.3s
T1220 AML AML
comp=N,2970μm,0.5s
T1220 AML AML
comp=E,3145μm,0.3s
T1220 AML AML
comp=E,3142μm,0.3s
T1220 AML AML
comp=E,3149μm,0.3s
T1220 AML AML
comp=N,2981μm,0.5s
T1220 AML AML
comp=N,2968μm,0.5s
MOMA Monte Martano 0.62 293 ⇑P **Pg** **00 17 28.1 -0.7**
MOMA AML AML
comp=E,1140μm,0.7s
MOMA AML AML
comp=E,1160μm,0.7s
MOMA AML AML
comp=E,1061μm,0.2s
MOMA AML AML
comp=E,1137μm,0.2s
MOMA AML AML
comp=N,1320μm,0.2s
MOMA AML AML
comp=N,1295μm,0.2s
MOMA AML AML
comp=N,1316μm,0.2s
MOMA AML AML
comp=N,1291μm,0.2s
MOMA AML AML
comp=E,1160μm,1.3s
MOMA AML AML
comp=E,1140μm,1.3s
CERT Cerreto 0.67 204 ⇓P **Pg** **00 17 29.2 -0.6**
CERT AML AML
comp=E,666μm,0.9s
CERT AML AML
comp=N,410μm,0.7s
CERT AML AML
comp=N,385μm,0.4s
CERT AML AML
comp=E,634μm,0.7s
ASSB Assisi San Ben 0.69 314 ⇓P **Pg** **00 17 29.3 -0.8**
ASSB AML AML
comp=N,918μm,1.3s
ASSB AML AML
comp=N,918μm,0.7s
ASSB AML AML
comp=E,803μm,0.3s
ASSB AML AML
comp=N,721μm,0.4s
ASSB AML AML
comp=E,803μm,0.3s
SRES S.Oreste - Sor 0.70 242 ⇑P **Pg** **00 17 30.0 -0.3**
SRES AML AML
comp=N,413μm,1.0s
SRES AML AML
comp=E,426μm,1.0s
SRES AML AML
comp=E,403μm,0.3s
SRES AML AML
comp=N,413μm,1.0s
MTCE Montecelio 0.70 219 ⇓P **Pb** **00 17 31.6 +0.7**
MTCE AML AML
comp=E,532μm,0.6s
MTCE AML AML
comp=N,370μm,0.3s
MTCE AML AML
comp=E,532μm,1.4s
MTCE AML AML
comp=E,531μm,0.6s
MTCE AML AML
comp=N,370μm,0.3s
SNTG Esanatoglia 0.75 337 P **Pg** **00 17 30.1 -1.1**
SNTG AML AML
comp=N,578μm,0.4s
SNTG AML AML
comp=N,538μm,0.4s
SNTG AML AML
comp=N,539μm,0.4s
SNTG AML AML
comp=N,578μm,0.4s
SNTG AML AML
comp=E,476μm,0.5s
SNTG AML AML
comp=E,548μm,0.5s
SNTG AML AML
comp=E,476μm,0.5s
SNTG AML AML
comp=E,548μm,0.5s
EL6 Elcito 0.78 347 ⇓P **Pg** **00 17 31.1 -0.8**
EL6 AML AML
comp=E,838μm,0.4s
EL6 AML AML
comp=N,908μm,1.3s
EL6 AML AML
comp=E,838μm,0.4s
EL6 AML AML
comp=N,908μm,0.7s
CING Cingoli 0.81 352 P **Pg** **00 17 31.9 -0.5**
CING AML AML
comp=N,514μm,0.4s
FOSV Fossato di Vic 0.84 330 ⇓P **Pg** **00 17 32.1 -0.9**
FOSV AML AML
comp=N,596μm,0.6s
FOSV AML AML
comp=E,351μm,0.7s
FOSV AML AML
comp=N,596μm,0.6s
FOSV AML AML
comp=E,316μm,0.4s
SSFR Montelago di S 0.96 335 ⇑P **Pg** **00 17 34.5 -0.7**
SSFR AML AML
comp=N,646μm,0.3s
SSFR AML AML
comp=E,664μm,0.2s
SSFR AML AML
comp=E,686μm,0.2s
SSFR AML AML
comp=E,687μm,0.2s
SSFR AML AML
comp=E,664μm,0.2s
SSFR AML AML
comp=N,632μm,0.2s
SSFR AML AML
comp=N,632μm,0.2s
SSFR AML AML
comp=N,645μm,0.2s
MGAB Montegabbione 0.97 291 ⇓P **Pn** **00 17 34.7 -1.4**
MGAB AML AML
comp=E,850μm,0.6s
MGAB AML AML
comp=E,887μm,0.6s
MGAB AML AML
comp=E,850μm,1.4s
MGAB AML AML
comp=E,887μm,1.4s
MGAB AML AML
comp=N,440μm,0.5s
MGAB AML AML
comp=N,484μm,0.8s
MGAB AML AML
comp=N,537μm,0.8s
MGAB AML AML
comp=N,537μm,0.8s
MGAB AML AML
comp=E,887μm,0.6s
MGAB AML AML
comp=E,850μm,0.6s
ARVD Arcevia 0.97 343 P **Pg** **00 17 34.6 -0.9**
ARVD AML AML
comp=E,348μm,1.6s
ARVD AML AML
comp=N,332μm,1.6s
ARVD AML AML
comp=E,348μm,0.4s
ARVD AML AML
comp=N,332μm,0.4s
ARVD AML AML
comp=E,330μm,0.9s
ARVD AML AML
comp=N,297μm,0.6s
PIEI Pieia 1.13 329 ⇑P **Pn** **00 17 37.7 -0.7**
PIEI AML AML
comp=E,254μm,0.4s
PIEI AML AML
comp=N,166μm,1.5s
PIEI AML AML
comp=N,145μm,0.3s
PIEI AML AML
comp=N,166μm,0.5s
PIEI AML AML
comp=E,254μm,0.4s
PIEI AML AML
comp=E,254μm,1.6s
NARO Abbazia di Nar 1.18 332 ⇑P **Pn** **00 17 38.1 -0.9**
NARO AML AML
comp=E,196μm,0.8s
NARO AML AML
comp=N,178μm,1.6s
NARO AML AML
comp=N,178μm,0.4s
MCIV Monte Civitell 1.25 280 S **Sn** **00 17 54.9 -1.8**
PE3 Peglio 1.29 331 ⇑P **Pn** **00 17 40.6 +0.2**
PE3 AML AML
comp=N,2μm,0.3s
ABTA Abfaltersbach 4.22 352 *i* Pn **Pn** **00 18 19.4 -1.5**
comp=N,1.7nm,0.2s
ABTA *e*Sn **Sn** **00 19 11.3 +1.2**
comp=N,1.2nm,0.2s
KBA Koelnbreinsper 4.51 0 *i* Pn **Pn** **00 18 23.9 -1.0**
comp=N,1.1nm,0.3s
KBA *e*Sn **Sn** **00 19 17.9 +0.6**
comp=N,1.4nm,0.3s
FETA Feichten 4.83 338 *e*Pn **Pn** **00 18 33.8 +4.6**
comp=N,1.0nm,0.4s
SQTA Sankt Quirin 4.89 343 *e*Pn Pn 00 18 36.1 +6.0
comp=N,1.9nm,0.3s
WATA Walderalm 4.93 346 *e*Pn **Pn** **00 18 34.6 +4.0**
comp=N,2.1nm,0.4s
MOTA Moosalm 5.03 342 *e*Pn Pn 00 18 37.0 +4.9
comp=N,1.3nm,0.3s
BIOA Bad Ischl, Aus 5.13 2 *i* Pn **Pn** **00 18 35.8 +2.5**
comp=N,1.1nm,0.3s
RETA Reutte 5.25 340 *e*Pn Pn 00 18 40.8 +5.9
comp=N,0.9nm,0.4s
MOA Molln 5.32 7 *i* Pn Pn 00 18 41.4 +5.5
comp=N,0.2nm,0.1s
KHC Kasperske Hory 6.57 1 *e*PN **Pn** **00 18 51.8 -1.2**
KHC *e*SN **Sn** **00 20 07.2 -0.6**

IDC 19 00:23:37.3±4.0, 59.˙18S×149.˙49E, h0km, mb3.4/2, mbtmp3.4/3, ML2.9/1, MS3.6/10, Error ellipse: s-maj=407.9km s-min=32.2km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**18.89**	**172**	P	P	00 27 58.8	-0.1
	baz=5.2,slow=9.7,SNR=2.7						
VNDA				LR	LR	00 34 36.9	
	comp=Z,160nm,18.7s,baz=348,slow=35 1.2nm,0.9s						
RPZ	**Rata Peaks**	**20.35**	**50**	LR	LR	00 34 41.9	
	comp=Z,133nm,19.4s,baz=224,slow=33						
URZ	**Urewera**	**27.40**	**52**	LR	LR	00 39 10.0	
	comp=Z,110nm,18.1s,baz=282,slow=34						
QSPA	**South Pole Qui**	**30.92**	**180**	LR	LR	00 42 02.6	
	comp=Z,68nm,20.5s,baz=14,slow=36						
H01W1	**Cape Leeuwin H**	**33.55**	**301**	T	T	01 05 27.7	
	baz=146,slow=75,SNR=6.3						
H01W2	**Cape Leeuwin H**	**33.55**	**301**	T	T	01 05 30.6	
	baz=146,slow=75,SNR=7.6						
H01W3	**Cape Leeuwin H**	**33.56**	**301**	T	T	01 05 29.1	
	baz=146,slow=75,SNR=7.4						
NWAO	**Narrogin (SRO)**	**33.90**	**306**	LR	LR	00 40 12.8	
	comp=Z,109nm,21.1s,slow=29						
MAW	**Mawson**	**36.54**	**220**	LR	LR	00 44 08.3	
	comp=Z,85nm,21.9s,baz=101,slow=34						
ASAR	**Alice Springs**	**37.16**	**336**	P	P	00 30 49.9	+0.2
	0.4nm,0.7s,baz=163,slow=9.6,SNR=5.0 0.4nm,0.7s						
DZM	**Mont Dzumac**	**39.00**	**25**	LR	LR	00 43 25.2	
	comp=Z,106nm,19.1s,baz=228,slow=30						
CTA	**Charters Tower**	**39.12**	**355**	LR	LR	00 45 23.6	
	comp=Z,76nm,18.1s,baz=180,slow=33						
WRA	**Warramunga Arr**	**40.69**	**338**	P	P	00 31 18.9	-0.4
	0.5nm,0.8s,baz=167,slow=7.6,SNR=5.1 0.5nm,0.8s						
PMG	**Port Moresby**	**49.70**	**357**	LR	LR	00 49 57.7	
	comp=Z,56nm,19.9s,baz=312,slow=32						
AFI	**Afiamalu**	**53.50**	**49**	LR	LR	00 56 31.0	
	comp=Z,58nm,18.2s,baz=348,slow=37						

IDC 19 00:31:45.0±2.7, 3.˙86N×123.˙95E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=349.6km s-min=29.6km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.77**	**157**	P	P	00 37 17.7	0.0
	0.3nm,0.4s,baz=336,slow=9.5,SNR=6.0 0.3nm,0.4s						
ASAR	**Alice Springs**	**29.03**	**161**	P	P	00 37 47.0	0.0
	0.1nm,0.4s,baz=347,slow=7.6,SNR=1.4 0.1nm,0.4s						
MKAR	**Makanchi Array**	**55.89**	**327**	P	P	00 41 24.6	-0.1
	0.2nm,0.4s,baz=120,slow=8.1,SNR=2.6 0.2nm,0.4s						

*SFS **19** 00:31:57.0, 35.˙44N×4.˙05W, h0km, ML2.5/5, MLv2.5/5*
*CNRM **19** 00:32:00.0, 35.˙49N×3.˙54W, h62km*
*MDD **19** 00:32:01.3±1.6, 35.˙74N×3.˙83W, h0km, mb_Lg1.8/4, Error ellipse: s-maj=10.1km s-min=7.5km az=177.0*

ISC 19 00:31:53.6±1.1, 35.˙36N±0.˙04×3.˙86W±0.˙05, h17km±11km, n12, σ0.92/23, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAF	**Taforalt**	**1.30**	**115**	P	**Pg**	**00 32 18.8**	**0.0**
TAF				S	**Sg**	**00 32 36.0**	**+0.2**
EMIJ	**Mijas**	**1.41**	**328**	P	**Pb**	**00 32 20.1**	**+0.6**
EMIJ				S	**Sn**	**00 32 36.5**	**-0.3**
EMIJ	**Mijas**	**1.41**	**328**	Pg	**Pg**	**00 32 21.4**	**+0.6**
EMIJ				Sg	**Sb**	**00 32 37.8**	**+0.5**
EMIJ				*i* Vmb_Lg		00 32 43.1	
EMAL	**Malaga-Limoner**	**1.47**	**342**	P	**Pb**	**00 32 21.1**	**+0.6**
JBK	**JBK**	**1.48**	**134**	P	**Pg**	**00 32 22.6**	**+0.5**
JBK				S	**Sg**	**00 32 41.7**	**+0.4**
ELGU	**Los Guajares,**	**1.51**	**7**	P	**Pn**	**00 32 20.4**	**+0.3**
ELGU	**Los Guajares,**	**1.51**	**7**	Pg	**Pb**	**00 32 20.7**	**-0.6**
ELGU				Sg	**Sn**	**00 32 38.7**	**-0.6**
ELGU				*i* Vmb_Lg		00 32 40.6	
EGOR	**Sierra Gorda,**	**1.75**	**353**	P	**Pg**	**00 32 29.2**	**+1.9**
EGOR				S	**Sg**	**00 32 48.8**	**-1.4**
EGOR	**Sierra Gorda,**	**1.75**	**353**	Pg	**Pg**	**00 32 26.5**	**-0.9**
EGOR				Sg	**Sn**	**00 32 44.7**	**-0.7**
EGOR				*i* Vmb_Lg		00 32 59.5	
EQUE	**Quentar**	**1.87**	**10**	Pn	**Pb**	**00 32 27.6**	**+0.2**
EQUE				Sn	**Sn**	**00 32 48.2**	**0.0**
EQES	**Quesada**	**2.51**	**14**	Pn	**Pb**	**00 32 37.6**	**-0.8**
EQES				Sn	**Sn**	**00 33 04.9**	**+0.7**

EQES				Sg	**Sb**	**00 33 08.6**	**-0.5**
EQES				*i* Vmb_Lg		00 33 09.6	
MD31	**MD31**	**2.60**	**197**	P	**Pg**	**00 32 44.0**	**+0.5**
MD31				S	**Sg**	**00 33 15.1**	**-2.2**

UPP ***19*** *00:34:02.9±0.1, 67.82N×20.19E, h0km, ML2.7, Suspected explosion*
HEL ***19*** *00:34:03.0±0.4, 67.78N×20.22E, h0km, ML1.3, Explosion*
ISC 19 00:34:03.0±0.8**, 67.79N**±0.03×**20.22E**±0.03**, h0km, n22,** σ0s**67**/32**, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**278**	P	**Pg**	**00 34 07.5**	**-0.1**
RATU				S	**Sg**	**00 34 10.8**	**+0.1**
NIKU	**Nikkaluokta**	**0.46**	**280**	P	**Pg**	**00 34 11.4**	**-0.3**
NIKU				S	**Sg**	**00 34 17.6**	**-0.1**
DUNU	**Dundret**	**0.69**	**169**	P	**Pg**	**00 34 16.4**	**+0.3**
LANU	**Lannavaara**	**0.72**	**68**	P	**Pg**	**00 34 16.4**	**-0.3**
LANU				S	**Sg**	**00 34 26.3**	**+0.4**
LANU	**Lannavaara**	**0.72**	**68**	PB	**Pg**	**00 34 16.3**	**-0.3**
LANU				SG	**Sg**	**00 34 26.1**	**+0.1**
MASU	**Masugnsbyn**	**0.76**	**115**	P	**Pg**	**00 34 17.7**	**+0.3**
SALU	**Saltoluokta**	**0.78**	**239**	P	**Pg**	**00 34 17.7**	**-0.1**
KIF	**Kilpisjarvi**	**1.24**	**10**	*eP*	**Pg**	**00 34 26.1**	**-0.6**
KIF	**Kilpisjarvi** baz=186	**1.24**	**10**	PG	**Pg**	**00 34 26.3**	**-0.4**
KIF				SG	**Sg**	**00 34 41.8**	**-1.0**
KIF	comp=Z,3.8nm,0.2s			MSG		00 34 41.9	
PAJU	**Pajala**	**1.36**	**123**	P	**Pg**	**00 34 28.2**	**-0.7**
PAJU	**Pajala**	**1.36**	**123**	PN	**Pg**	**00 34 28.0**	**-0.9**
PAJU				SN	**Sb**	**00 34 46.8**	**-0.3**
HEF	**Hetta**	**1.43**	**63**	*eP*	**Pn**	**00 34 29.2**	**-0.9**
HEF	**Hetta** baz=242	**1.43**	**63**	PN	**Pn**	**00 34 29.4**	**-0.8**
HEF	comp=Z,1.7nm,0.2s			MSG		00 34 46.3	
HEF				SN	**Sn**	**00 34 49.6**	**-0.1**
ERTU	**Ertsjaerv**	**1.46**	**147**	P	**Pn**	**00 34 30.1**	**-0.5**
ERTU	**Ertsjaerv**	**1.46**	**147**	PN	**Pg**	**00 34 30.5**	**-0.4**
ERTU				SN	**Sn**	**00 34 50.4**	**+0.1**
KTK1	**Kautokeino**	**1.66**	**41**	PG	**Pn**	**00 34 33.0**	**-0.3**
KTK1				SN	**Sb**	**00 34 55.6**	**-0.2**
HARU	**Harads**	**1.66**	**169**	P	**Pb**	**00 34 34.2**	**-0.2**
TRO	**Tromso**	**1.91**	**346**	SG	**Sb**	**00 35 03.1**	**+0.1**
SGF	**Sodankyl**	**2.44**	**95**	SG	**Sb**	**00 35 19.2**	**+1.0**
RNF	**Rovaniemi**	**2.55**	**115**	SG	**Sb**	**00 35 21.9**	**+0.6**
ARA0	**ARCESS Array S**	**2.61**	**45**	PB	**Pn**	**00 34 48.0**	**+1.6**
ARA0				SB	**Sn**	**00 35 19.9**	**+1.2**
KEV	**Kevo**	**3.16**	**48**	SB	**Sn**	**00 35 33.6**	**+1.3**

IDC ***19*** *00:39:03.9±1.2, 67.83N×20.44E, h0km, mbtmp3.2/4, ML2.1/4, Error ellipse: s-maj=21.7km s-min=8.5km az=119.0*
UPP ***19*** *00:39:03.5±0.1, 67.83N×20.21E, h0km, ML2.2, Suspected explosion*
HEL ***19*** *00:39:03.5±0.1, 67.83N×20.13E, h0km, ML1.8, Explosion*
ISC 19 00:39:03.6±0.8**, 67.83N**±0.03×**20.21E**±0.02**, h0km, n34,** σ1s**22**/52**, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**269**	P	**Pg**	**00 39 08.1**	**+0.1**
RATU				S	**Sg**	**00 39 11.4**	**+0.3**
NIKU	**Nikkaluokta**	**0.45**	**275**	P	**Pg**	**00 39 12.0**	**-0.1**
NIKU				S	**Sg**	**00 39 18.1**	**+0.2**
LANU	**Lannavaara**	**0.71**	**71**	P	**Pg**	**00 39 16.8**	**-0.3**
LANU				S	**Sg**	**00 39 26.2**	**0.0**
LANU	**Lannavaara**	**0.71**	**71**	PG	**Pg**	**00 39 16.8**	**-0.3**
LANU				SG	**Sg**	**00 39 26.1**	**-0.1**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**00 39 17.1**	**-0.4**
MASU	**Masugnsbyn**	**0.78**	**118**	P	**Pg**	**00 39 18.3**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**00 39 18.5**	**-0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	*eP*	**Pg**	**00 39 26.1**	**-0.4**
KIF	**Kilpisjarvi**	**1.20**	**10**	PG	**Pg**	**00 39 26.1**	**-0.4**
KIF	comp=Z,12nm,0.2s			MSG		00 39 41.4	
KIF				SB	**Sb**	**00 39 42.8**	**-0.3**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**00 39 29.0**	**-1.0**
PAJU	**Pajala**	**1.38**	**125**	PG	**Pg**	**00 39 28.5**	**-1.5**
HEF	**Hetta**	**1.42**	**64**	*eP*	**Pn**	**00 39 29.4**	**-1.1**
HEF	**Hetta** baz=246	**1.42**	**64**	PG	**Pn**	**00 39 29.4**	**-1.1**
HEF	comp=Z,4.8nm,0.2s			MSG		00 39 47.0	
HEF				SG	**Sg**	**00 39 48.2**	**-0.8**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**00 39 31.0**	**-0.6**
ERTU	**Ertsjaerv**	**1.50**	**148**	PG	**Pn**	**00 39 30.7**	**-0.9**
ERTU				SN	**Sn**	**00 39 52.3**	**+0.5**
KTK1	**Kautokeino**	**1.63**	**42**	PG	**Pn**	**00 39 33.1**	**-0.4**
KTK1				SN	**Sg**	**00 39 56.7**	**+0.8**
HARU	**Harads**	**1.70**	**169**	P	**Pn**	**00 39 34.5**	**+0.1**
TRO	**Tromso**	**1.87**	**346**	PG	**Pn**	**00 39 36.8**	**0.0**
TRO				SG	**Sn**	**00 40 01.4**	**+0.4**
KALU	**Kalix** baz=326	**2.34**	**146**	PB	**Pn**	**00 39 44.2**	**+1.1**
KALU				SG	**Sb**	**00 40 16.4**	**+0.6**
TOF	**Tornio**	**2.39**	**135**	PG	**Pn**	**00 39 45.5**	**+1.6**
TOF	comp=Z,3.5nm,0.2s			MSG		00 40 14.8	
TOF				SG	**Sb**	**00 40 17.7**	**+0.4**
SGF	**Sodankyl**	**2.45**	**96**	PB	**Pn**	**00 39 45.6**	**+0.9**
SGF				SG	**Sb**	**00 40 19.4**	**+0.4**
RNF	**Rovaniemi**	**2.57**	**116**	PN	**Pn**	**00 39 45.6**	**-0.7**
RNF				SG	**Sb**	**00 40 21.8**	**-0.7**
ARA0	**ARCESS Array S** baz=228	**2.58**	**46**	PB	**Pn**	**00 39 46.9**	**+0.3**
ARA0				SB	**Sn**	**00 40 20.4**	**+1.8**
ARCES	**ARCESS Array B** comp=Z,0.5nm,0.3s,baz=226,slow=15,SNR=30	**2.58**	**46**	Pn	**Pn**	**00 39 46.9**	**+0.4**
ARCES	comp=Z,0.8nm,0.3s,baz=225,slow=25,SNR=8.5 comp=Z,1.0nm,0.3s			Sn	**Sn**	**00 40 17.5**	**-1.2**
KEV	**Kevo**	**3.14**	**49**	PN	**Pn**	**00 39 55.0**	**+0.8**
KEV				SN	**Sn**	**00 40 33.5**	**+1.3**
VRF	**Varrio** baz=271	**3.57**	**87**	PB	**Pn**	**00 40 03.2**	**+3.1**
OUL	**Oulu**	**3.58**	**138**	PB	**Pn**	**00 40 03.8**	**+3.6**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**00 40 05.7**	**+1.0**
UMAU	**Umeaa** baz=359	**3.97**	**177**	PN	**Pn**	**00 40 07.3**	**+1.7**
MSF	**Maaselka**	**3.98**	**115**	PN	**Pn**	**00 40 07.3**	**+1.6**
KU6	**Riekki**	**4.22**	**111**	PG	**Pb**	**00 40 19.4**	**+0.8**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=3.8	**4.89**	**156**	Pn	**Pn**	**00 40 46.1**	**+0.5**
FINES	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=2.5			Sn	**Sn**	**00 42 03.6**	**-1.0**
FINES	comp=Z,0.1nm,0.3s,baz=352,slow=29,SNR=1.6 comp=Z,2.9nm,0.9s			Lg	Lg	00 42 35.8	
NOA	**NORSAR Array B** baz=22,slow=20,SNR=2.6	**7.84**	**214**	Pn	**Pn**	**00 40 58.7**	**0.0**
NOA	baz=25,slow=21,SNR=1.5 comp=Z,1.1nm,0.9s			Lg	Lg	00 43 07.0	
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=19,slow=14,SNR=2.0	**8.23**	**203**	Pn	**Pn**	**00 41 01.6**	**-2.5**
HFS	comp=Z,0.1nm,0.3s,baz=22,slow=23,SNR=2.2			Sn	**Sn**	**00 42 34.3**	**-3.5**
HFS	comp=Z,0.2nm,0.3s,baz=24,slow=26,SNR=2.1 comp=Z,3.0nm,0.9s			Lg	Lg	00 43 22.5	

UPP ***19*** *00:41:17.8±0.1, 67.85N×20.19E, h0km, ML2.9, Suspected explosion*
DNK ***19*** *00:41:18.2±0.3, 67.85N×20.20E, h0km, ML2.9(UPP), Explosion*
HEL ***19*** *00:41:18.2±0.2, 67.84N×20.17E, h0km, ML1.8, Explosion*
ISC 19 00:41:17.1±0.8**, 67.87N**±0.02×**20.31E**±0.03**, h0km, n34,** σ1s**11**/50**, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.28**	**261**	P	**Pg**	**00 41 22.4**	**0.0**
RATU				S	**Sg**	**00 41 25.7**	**-0.2**
RATU	**Laukkuluspa**	**0.28**	**261**	P	**Pg**	**00 41 22.4**	**0.0**
RATU				S	**Sg**	**00 41 25.7**	**-0.2**
NIKU	**Nikkaluokta**	**0.48**	**271**	P	**Pg**	**00 41 26.3**	**-0.1**
NIKU	**Nikkaluokta**	**0.48**	**271**	P	**Pg**	**00 41 26.3**	**-0.1**
LANU	**Lannavaara**	**0.66**	**73**	P	**Pb**	**00 41 31.2**	**-0.4**
LANU	**Lannavaara**	**0.66**	**73**	P	**Pb**	**00 41 31.2**	**-0.4**
LANU	**Lannavaara**	**0.66**	**73**	PG	**Pb**	**00 41 31.0**	**-0.5**
LANU				SG	**Sb**	**00 41 40.3**	**-1.0**
DUNU	**Dundret**	**0.76**	**172**	P	**Pg**	**00 41 31.9**	**+0.3**
DUNU	**Dundret**	**0.76**	**172**	P	**Pg**	**00 41 31.9**	**+0.3**
MASU	**Masugnsbyn**	**0.77**	**122**	P	**Pb**	**00 41 32.8**	**-0.5**
MASU	**Masugnsbyn**	**0.77**	**122**	P	**Pb**	**00 41 32.8**	**-0.5**
SALU	**Saltoluokta**	**0.84**	**235**	P	**Pg**	**00 41 32.8**	**-0.5**
SALU	**Saltoluokta**	**0.84**	**235**	P	**Pg**	**00 41 32.8**	**-0.5**
KIF	**Kilpisjarvi**	**1.16**	**9**	*eP*	**Pn**	**00 41 41.2**	**+0.7**
KIF	**Kilpisjarvi**	**1.16**	**9**	PG	**Pn**	**00 41 40.6**	**+0.1**
KIF	comp=Z,9.9nm,0.2s			MSG		00 41 55.5	
KIF				SG	**Sn**	**00 41 56.6**	**-0.4**
HEF	**Hetta**	**1.37**	**65**	*eP*	**Pb**	**00 41 43.8**	**+0.2**
HEF	**Hetta** baz=250	**1.37**	**65**	PG	**Pb**	**00 41 43.9**	**+0.3**
HEF	comp=Z,7.4nm,0.2s			MSG		00 42 01.2	
HEF				SB	**Sn**	**00 42 02.2**	**0.0**
PAJU	**Pajala**	**1.38**	**127**	P	**Pb**	**00 41 43.4**	**-0.3**
PAJU	**Pajala**	**1.38**	**127**	P	**Pb**	**00 41 43.4**	**-0.3**
PAJU	**Pajala**	**1.38**	**127**	PG	**Pb**	**00 41 43.3**	**-0.3**
PAJU				SG	**Sn**	**00 42 02.7**	**+0.2**
ERTU	**Ertsjaerv**	**1.51**	**150**	P	**Pg**	**00 41 45.7**	**-0.3**
ERTU	**Ertsjaerv**	**1.51**	**150**	P	**Pg**	**00 41 45.7**	**-0.3**
ERTU	**Ertsjaerv**	**1.51**	**150**	PG	**Pg**	**00 41 45.8**	**-0.2**
ERTU				SN	**Sn**	**00 42 05.9**	**+0.2**
KTK1	**Kautokeino**	**1.58**	**42**	PG	**Pg**	**00 41 48.0**	**+0.6**
KTK1				SN	**Sg**	**00 42 09.3**	**+1.5**
TRO	**Tromso**	**1.84**	**345**	PG	**Pb**	**00 41 51.4**	**-0.2**
TRO				SG	**Sg**	**00 42 16.2**	**0.0**
KALU	**Kalix**	**2.35**	**148**	PB	**Pb**	**00 41 58.7**	**-1.5**
KALU				SG	**Sb**	**00 42 29.4**	**-0.3**
TOF	**Tornio**	**2.39**	**137**	PB	**Pb**	**00 41 60.0**	**-1.0**
TOF	comp=Z,3.0nm,0.2s			MSG		00 42 29.2	
TOF				SG	**Sb**	**00 42 31.3**	**+0.4**
SGF	**Sodankyl**	**2.42**	**97**	PG	**Pb**	**00 42 01.2**	**-0.1**
SGF				SG	**Sg**	**00 42 34.3**	**-0.3**
RNF	**Rovaniemi**	**2.55**	**117**	PB	**Pb**	**00 42 04.4**	**-1.3**
RNF				SG	**Sb**	**00 42 36.8**	**+1.2**
KEV	**Kevo**	**3.08**	**49**	PB	**Pb**	**00 42 12.1**	**-0.7**
KEV				SN	**Sb**	**00 42 47.6**	**-3.3**
KEV	comp=Z,2.3nm,0.2s			MSG		00 42 50.4	
VRF	**Varrio**	**3.53**	**88**	PG	**Pb**	**00 42 21.8**	**+1.3**
OUL	**Oulu**	**3.58**	**139**	PN	**Pn**	**00 42 16.1**	**+2.3**
OUL				SG	**Sb**	**00 43 06.9**	**+1.8**
OLKF	**Oulanka, Finla**	**3.88**	**109**	SG	**Sg**	**00 43 18.6**	**-3.0**
KU6	**Riekki** baz=298	**4.20**	**112**	PG	**Pb**	**00 42 34.0**	**+2.2**
KU6				SG	**Sg**	**00 43 28.9**	**-2.9**

NEIC ***19*** *00:41:26.2±0.9, 40.34N±0.03×124.56W±0.08, h33km±9km, Error ellipse: s-maj=8.7km s-min=4.7km az=80.0*
NCEDC 19 00:41:26.7±1.8**, 40.36N**±0.03×**124.6W**±0.1**, h27**km±8km**, ML3.1**/9**, ML3.0**/30(NEIC)**, Error ellipse: s-maj=11.2km s-min=4.1km az=82.0, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**0.20**	**55**		Pb	**00 41 32.9**	**+0.3**
KCTM					Sb	**00 41 38.1**	**+1.6**
KMPM	**Mount Pierce**	**0.33**	**80**		Pb	**00 41 34.4**	**-0.1**
KMPM					Sb	**00 41 40.3**	**+0.6**
KMPM	**Mount Pierce** comp=E,2µm,0.6s	**0.33**	**80**	IAML		**00 41 40.5**	
KMPM	comp=N,4µm,0.2s			IAML		00 41 40.9	
KCRM	**Chalk Rock**	**0.56**	**83**		Pb	**00 41 37.6**	**-0.5**
JCC	**Jacoby Creek,**	**0.60**	**41**		Pb	**00 41 37.4**	**-1.3**
JCC	comp=E,478nm,0.8s			IAML		00 41 45.7	
KMRM	**Mail Ridge**	**0.66**	**102**		Pb	**00 41 39.5**	**-0.2**
KMRM	**Mail Ridge** comp=N,896nm,0.4s	**0.66**	**102**	IAML		**00 41 52.4**	
KHMM	**Horse Mountain**	**0.81**	**50**		Pb	**00 41 40.9**	**-1.4**
KHMM	**Horse Mountain** comp=E,687nm,0.5s	**0.81**	**50**	IAML		**00 41 52.3**	
KRPM	**Rodgers**	**0.89**	**26**		Pn	**00 41 41.6**	**-1.9**
KRPM	**Rodgers** comp=E,315nm,0.9s	**0.89**	**26**	IAML		**00 41 53.6**	
KIPM	**Iron Peak**	**0.99**	**124**		Pn	**00 41 44.1**	**-0.9**
KCPM	**Cahto Peak**	**1.00**	**132**		Pn	**00 41 43.9**	**-1.3**
KCPM	**Cahto Peak** comp=N,338nm,0.3s	**1.00**	**132**	IAML		**00 41 58.1**	
KCPM	comp=E,521nm,0.3s			IAML		00 41 58.1	
KHBM	**Hayfork Bally**	**1.06**	**73**		Pn	**00 41 44.4**	**-1.6**
KFPM	**Farley Peak**	**1.12**	**130**		Pn	**00 41 45.4**	**-1.3**
KBNM	**Bluenose Ridge**	**1.14**	**114**		Pn	**00 41 46.6**	**-0.4**
KOMM	**Orleans Mounta**	**1.24**	**42**		Pn	**00 41 46.7**	**-1.6**
LBPM	**Beegum Peak**	**1.27**	**91**		Pn	**00 41 47.6**	**-1.2**
LGPM	**Granite Peak**	**1.42**	**67**		Pn	**00 41 49.6**	**-1.3**
GWRM	**Wonder Ranch**	**1.50**	**140**		Pn	**00 41 50.5**	**-1.4**
GHMM	**Hull Mountain**	**1.51**	**124**		Pn	**00 41 51.0**	**-1.2**
GVV	**Valley View**	**1.55**	**112**		Pn	**00 41 52.1**	**-0.6**
LBKM	**Bonanza King**	**1.60**	**63**		Pn	**00 41 52.1**	**-1.3**
GHLM	**Highland Sprin**	**1.77**	**138**		Pn	**00 41 54.2**	**-1.4**
HOPS	**Hopland Field**	**1.78**	**140**	Pn	Pn	**00 41 54.3**	**-1.4**
HOPS	comp=N,162nm,3.8s			IAML		00 42 30.6	
KTRM	**Thompson Ridge**	**1.78**	**29**		Pn	**00 41 54.5**	**-1.4**
LAMM	**Antelope Mount**	**1.92**	**49**		Pn	**00 41 56.7**	**-1.1**
YBH	**Yreka Blue Hor**	**1.95**	**45**	Pn	Pn	**00 41 57.0**	**-1.2**
LSHM	**Sage Hen Hill**	**1.96**	**76**		Pn	**00 41 57.5**	**-0.7**
GACM	**Adobe Creek**	**1.98**	**138**		Pn	**00 41 57.1**	**-1.4**
GFC	**Funks Creek**	**2.02**	**120**		Pn	**00 41 59.2**	**+0.1**
M03C	**McCloud**	**2.05**	**63**		Pn	**00 41 59.3**	**-0.3**
ORV	**Oroville**	**2.48**	**108**	Pn	Pn	**00 42 04.6**	**-0.7**
HUMO	**Hull Mountain**	**2.54**	**28**	Pn	Pn	**00 42 06.1**	**-0.2**
HUMO	comp=E,44nm,4.3s			IAML		00 42 56.2	
AFDM	**Forest Hills D**	**3.10**	**116**	Pn	Pn	**00 42 13.3**	**-0.6**
AFDM	comp=E,27nm,4.9s			IAML		00 43 16.2	
AFDM	comp=N,25nm,4.8s			IAML		00 43 24.2	
K05A	**Summer Lake**	**3.62**	**48**	Pn	Pn	**00 42 20.3**	**-0.9**
YERR	**Yerington**	**4.32**	**107**	Pn	Pn	**00 42 30.9**	**+0.1**
YERR	comp=E,25nm,4.8s			IAML		00 43 12.1	
YERR	comp=N,22nm,4.7s			IAML		00 45 17.1	
KVN	**Kaiserville**	**5.14**	**103**	Pn	Pn	**00 42 41.5**	**-0.7**
KVN	comp=N,9.3nm,3.9s			IAML		00 46 09.9	

UPP ***19*** *00:47:23.7±0.1, 67.84N×20.21E, h0km, ML2.7, Suspected explosion*
HEL ***19*** *00:47:23.4±0.3, 67.84N×20.06E, h0km, ML1.2, Explosion*
ISC 19 00:47:23.2±0.8**, 67.77N**±0.03×**20.25E**±0.03**, h0km, n20,** σ0s**70**/29**, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.25**	**282**	P	**Pg**	**00 47 28.4**	**+0.4**
RATU				S	**Sg**	**00 47 31.6**	**+0.4**
NIKU	**Nikkaluokta**	**0.47**	**282**	P	**Pg**	**00 47 32.2**	**+0.1**
DUNU	**Dundret**	**0.67**	**169**	P	**Pb**	**00 47 37.4**	**-0.3**
LANU	**Lannavaara**	**0.71**	**66**	P	**Pg**	**00 47 37.0**	**+0.2**
LANU	**Lannavaara**	**0.71**	**66**	PG	**Pg**	**00 47 36.8**	**0.0**
LANU				SG	**Sg**	**00 47 46.5**	**+0.4**
MASU	**Masugnsbyn**	**0.74**	**115**	P	**Pb**	**00 47 38.6**	**-0.4**
SALU	**Saltoluokta**	**0.78**	**240**	P	**Pb**	**00 47 38.7**	**-0.8**
KIF	**Kilpisjarvi**	**1.25**	**9**	PN	**Pn**	**00 47 47.6**	**-0.2**
KIF				MSG		00 48 01.0	
KIF	comp=Z,2.2nm,0.2s			SB	**Sb**	**00 48 03.4**	**-0.9**
PAJU	**Pajala**	**1.34**	**123**	P	**Pb**	**00 47 49.1**	**0.0**
PAJU	**Pajala**	**1.34**	**123**	PG	**Pb**	**00 47 49.0**	**-0.1**
PAJU				SG	**Sn**	**00 48 07.8**	**+0.2**
HEF	**Hetta** baz=251	**1.43**	**62**	PG	**Pn**	**00 47 49.9**	**-0.5**
HEF	comp=Z,1.1nm,0.2s			MSG		00 48 07.5	
HEF				SG	**Sg**	**00 48 08.6**	**-0.4**
ERTU	**Ertsjaerv**	**1.44**	**147**	P	**Pb**	**00 47 51.4**	**+0.5**
ERTU	**Ertsjaerv**	**1.44**	**147**	PG	**Pb**	**00 47 51.2**	**+0.3**
ERTU				SN	**Sn**	**00 48 11.9**	**+1.8**
HARU	**Harads**	**1.64**	**170**	P	**Pg**	**00 47 54.8**	**+0.2**
KTK1	**Kautokeino**	**1.67**	**40**	PN	**Pn**	**00 47 53.5**	**-0.1**
KTK1				SN	**Sg**	**00 48 17.4**	**+0.9**
KALU	**Kalix**	**2.28**	**146**	PB	**Pb**	**00 48 04.4**	**-0.8**
KALU				SG	**Sg**	**00 48 36.0**	**-0.4**
TOF	**Tornio** comp=Z,0.9nm,0.2s	**2.34**	**135**	MSG		00 48 35.4	
TOF				SG	**Sg**	**00 48 38.3**	**+0.1**
SGF	**Sodankyl**	**2.43**	**95**	PB	**Pb**	**00 48 06.9**	**-0.8**
SGF				SG	**Sg**	**00 48 41.8**	**+0.7**
RNF	**Rovaniemi**	**2.53**	**115**	SG	**Sg**	**00 48 42.9**	**-1.5**
KEV	**Kevo**	**3.16**	**48**	SN	**Sn**	**00 48 53.8**	**+1.3**

IDC ***19*** *00:51:41.6±1.0, 39.57N×74.47E, h0km, mb3.9/8, mbtmp3.9/9, ML3.6/1, MS3.2/2, Error ellipse: s-maj=26.6km s-min=15.0km az=86.0*
SOME ***19*** *00:51:42.7, 39.82N×74.40E, h10km*
KRNET ***19*** *00:51:43.0±0.1, 39.57N×74.40E, mb3.7*
NNC ***19*** *00:51:44.2±1.7, 39.69N×74.50E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=13.1km s-min=7.9km az=163.0*
ISC 19 00:51:43.0±0.7**, 39.54N**±0.04×**74.34E**±0.03**, h10km, n100,** σ1s**74**/123**, mb3.9**/8**, 35C-27D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh** baz=8.0	**1.55**	**310**	⇑*iP*	**Pb**	**00 52 11.8**	**0.0**
OHH	baz=8.0			⇑*iS*	**Sg**	**00 52 33.0**	**+0.2**
DRK	**Karamyk** baz=68	**1.96**	**269**	⇑*iP*	**Pb**	**00 52 19.2**	**+0.1**
DRK	baz=68			⇑*iS*	**Sg**	**00 52 45.6**	**-0.6**
NRN	**Naryn** baz=32	**2.28**	**33**	⇑*iP*	**Pn**	**00 52 21.7**	**+0.7**
NRN	baz=32			⇑*iS*	**Sn**	**00 52 50.1**	**+0.8**
ARLS	**Aral** baz=59	**2.32**	**360**	⇓*iP*	**Pb**	**00 52 22.9**	**-2.2**
ARLS	baz=59			⇓*iS*	**Sb**	**00 52 52.1**	**-1.8**
AML	**Almayashu** SNR=78	**2.64**	**350**	P	**Pb**	**00 52 27.9**	**-2.7**
AML	**Almayashu** baz=48	**2.64**	**350**	⇑*iP*	**Pn**	**00 52 27.8**	**+1.8**
AML	baz=48			⇑*iS*	**Sn**	**00 53 00.2**	**+2.0**
UCH	**Uchtor** SNR=119	**2.69**	**3**	P	**Pb**	**00 52 29.2**	**-2.4**
UCH	**Uchtor** baz=2.0	**2.69**	**3**	⇑*iP*	**Pn**	**00 52 28.4**	**+1.6**
UCH	baz=2.0			⇑*iS*	**Sn**	**00 53 01.4**	**+1.7**
BTK	**Batken** baz=81	**2.76**	**282**	⇑*iP*	**Pb**	**00 52 30.1**	**-2.4**
BTK	baz=81			⇑*iS*	**Sb**	**00 53 04.7**	**-1.8**
ARK	**Arkit** baz=21	**2.89**	**322**	⇓*iP*	**Pn**	**00 52 31.4**	**+2.1**
ARK	baz=21			⇓*iS*	**Sn**	**00 53 06.7**	**+2.6**
ULHL	**Ulahol** SNR=21	**3.06**	**27**	P	**Pb**	**00 52 37.4**	**-0.4**
ULHL	**Ulahol** baz=27	**3.06**	**27**	⇑*eP*	**Pn**	**00 52 33.0**	**+1.2**
ULHL	baz=27			⇑*iS*	**Sn**	**00 53 09.7**	**+1.1**
AAK	**Ala-Archa** SNR=9.5	**3.10**	**2**	P	**Pb**	**00 52 35.2**	**-3.1**
AAK	**Ala-Archa** 8.2nm,0.3s,baz=167,slow=6.4,SNR=38	**3.10**	**2**	Pn	**Pn**	**00 52 34.2**	**+2.1**
AAK	14nm,0.3s,baz=141,slow=23,SNR=18 20nm,0.3s			Sn	**Sb**	**00 53 14.4**	**-1.9**
AAK	**Ala-Archa** baz=1.0	**3.10**	**2**	⇓*iP*	**Pn**	**00 52 33.9**	**+1.7**
AAK	baz=1.0			⇓*iS*	**Sn**	**00 53 10.8**	**+1.5**
TRKS	**Terek-Say** baz=9.0	**3.15**	**310**	⇓*iP*	**Pn**	**00 52 34.4**	**+1.6**
TRKS	baz=9.0			⇓*iS*	**Sn**	**00 53 11.7**	**+1.2**
EKS2	**Erkin-Say** SNR=16	**3.15**	**352**	P	**Pn**	**00 52 35.1**	**+2.3**
EKS2	**Erkin-Say** baz=52	**3.15**	**352**	⇓*iP*	**Pn**	**00 52 34.7**	**+1.9**
EKS2	baz=52			⇓*iS*	**Sn**	**00 53 12.0**	**+1.5**
KBK	**Karagaybulak** SNR=32	**3.15**	**8**	P	**Pb**	**00 52 35.7**	**-3.5**
KBK	**Karagaybulak** baz=7.0	**3.15**	**8**	⇑*iP*	**Pn**	**00 52 34.5**	**+1.6**
KBK	baz=7.0			⇑*iS*	**Sn**	**00 53 11.9**	**+1.3**
GAR	**Garm** baz=61	**3.17**	**261**	⇓*iP*	**Pb**	**00 52 36.1**	**-3.4**
GAR	baz=61			⇓*iS*	**Sb**	**00 53 14.8**	**-3.4**
FRU1	**Bishkek** baz=3.0	**3.28**	**4**	⇓*iP*	**Pn**	**00 52 36.6**	**+2.1**
FRU1	baz=3.0			⇓*iS*	**Sn**	**00 53 15.5**	**+1.9**
KDJ	**Kajisay** baz=39	**3.37**	**39**	⇓*iP*	**Pn**	**00 52 37.2**	**+1.3**
KDJ	baz=39			⇓*iS*	**Sn**	**00 53 16.9**	**+0.9**
CHMS	**Chumysh** SNR=9.4	**3.47**	**5**	P	**Pn**	**00 52 40.0**	**+2.8**
CHMS	**Chumysh** 8.9nm,0.8s	**3.47**	**5**	⇓Pn	**Pn**	**00 52 39.9**	**+2.7**
CHMS	8.8nm,0.4s			⇑Pg	**Pg**	**00 52 46.7**	**-2.8**
CHMS	38nm,0.8s			⇑Sn	**Sn**	**00 53 20.3**	**+2.0**
CHMS	60nm,0.7s			⇓Lg	Lg	00 53 28.9	
CHMS	**Chumysh** baz=4.0	**3.47**	**5**	⇑*iP*	**Pn**	**00 52 38.6**	**+1.4**
CHMS	baz=4.0			⇑*iS*	**Sn**	**00 53 19.6**	**+1.3**
TKM2	**Tokmak 2** SNR=31	**3.51**	**15**	P	**Pn**	**00 52 40.6**	**+2.8**
TKM2	**Tokmak 2** 20nm,0.7s	**3.51**	**

20nm,0.3s
MTBS Maitube 3.92 23 Pg **Pb 00 52 50.4 -1.9**
21nm,0.3s
MTBS Lg Lg 00 53 40.0
38nm,0.4s
MTBS Maitube 3.92 23 *e*Pg **Pb 00 52 51.3 -1.0**
21nm,0.3s
MTBS *e*Lg Lg 00 53 41.0
38nm,0.4s
TNSS Tian-Shan 4.01 29 Pg **Pb 00 52 53.2 -0.8**
39nm,0.4s
TNSS Lg Lg 00 53 44.8
43nm,0.6s
TNSS Tian-Shan 4.01 29 *e*Pg **Pb 00 52 53.4 -0.6**
39nm,0.4s
TNSS *e*Lg Lg 00 53 44.4
43nm,0.6s
DZA Taraz 4.04 327 Pg **Pb 00 52 53.2 -1.2**
60nm,0.1s
DZA Lg Lg 00 53 44.8
166nm,0.3s
DZA Taraz 4.04 327 *e*Pg **Pb 00 52 56.8 +2.4**
37nm,0.1s
DZA *e*Lg Lg 00 53 50.3
166nm,0.3s
CHGR Chuyangaron 4.12 259 ⇑*i*P **Pn 00 52 49.3 +3.1**
baz=59
CHGR ⇑*i*S **Sn 00 53 37.5 +3.0**
baz=59
AAA Alma-Ata 4.15 27 Pg **Pb 00 52 55.8 -0.4**
35nm,0.3s
AAA Lg Lg 00 53 49.0
105nm,0.4s
AAA Alma-Ata 4.15 27 *e*Pg **Pb 00 52 56.1 -0.1**
35nm,0.3s
AAA *e*Lg Lg 00 53 48.8
105nm,0.4s
MDOK Medeo 4.16 29 Pn **Pn 00 52 48.8 +2.1**
2.8nm,0.6s
MDOK Pg **Pb 00 52 55.4 -1.0**
25nm,0.4s
MDOK Pg Pg 00 52 56.6 -6.0
17nm,0.5s
MDOK Lg Lg 00 53 48.4
34nm,0.7s
MDOK ⇑Lg Lg 00 53 53.6
52nm,0.8s
MDOK Medeo 4.16 29 *e*Pg **Pb 00 52 54.8 -1.5**
25nm,0.4s
MDOK *e*Lg Lg 00 53 47.1
34nm,0.7s
KNDC Almaty 4.17 27 ⇑Pg **Pb 00 52 57.4 +0.8**
43nm,0.5s
KNDC ⇓Lg Lg 00 53 50.0
248nm,0.7s
IUG Iuzhnay 4.18 310 Pg **Pb 00 52 56.6 -0.1**
63nm,0.4s
IUG Lg Lg 00 53 50.6
111nm,0.5s
IUG Iuzhnay 4.18 310 *e*Pg **Pg 00 52 59.8 -3.3**
22nm,0.3s
IUG *e*Lg Lg 00 53 55.2
111nm,0.5s
KOTS Kotyrbulak 4.24 29 Pg **Pb 00 52 57.4 -0.4**
24nm,0.4s
KOTS Lg Lg 00 53 52.0
116nm,0.7s
KOTS Kotyrbulak 4.24 29 *e*Pg **Pb 00 52 57.6 -0.2**
24nm,0.4s
KOTS *e*Lg Lg 00 53 51.4
116nm,0.7s
KRBS Karabastau 4.27 13 Pg **Pb 00 52 57.9 -0.4**
13nm,0.2s
KRBS Lg Lg 00 53 52.8
60nm,0.8s
KRBS Karabastau 4.27 13 *e*Pg **Pb 00 52 57.6 -0.7**
13nm,0.2s
KRBS *e*Lg Lg 00 53 51.6
60nm,0.8s
KTBS Karatobe 4.53 22 Pg **Pb 00 53 01.7 -0.8**
14nm,0.4s
KTBS Lg Lg 00 53 59.3
90nm,0.4s
KTBS Karatobe 4.53 22 *e*Pg **Pb 00 53 02.4 -0.2**
6.7nm,0.5s
KTBS *e*Lg Lg 00 54 00.4
90nm,0.4s
KK31 Karatay Array 4.58 322 ⇓Pn **Pn 00 52 55.1 +2.7**
0.5nm,0.2s,baz=64,slow=12,SNR=7.7
KK31 ⇓Pg **Pb 00 53 06.0 +2.5**
6.9nm,0.7s,baz=140,slow=15,SNR=17
KK31 ⇑Sn **Sn 00 53 49.0 +3.3**
4.6nm,0.4s,baz=136,slow=24,SNR=4.4
KK31 ⇑Lg Lg 00 54 07.9
12nm,0.5s,baz=128,slow=27,SNR=5.9
KKAR Karatay Array 4.58 322 ⇑*i*P **Pn 00 52 54.7 +2.3**
baz=22
KKAR ⇑*i*S **Sn 00 53 47.3 +1.6**
baz=22
KUU Kurty 4.60 18 Pg **Pb 00 53 03.4 -0.4**
6.7nm,0.2s
KUU Lg Lg 00 54 02.3
64nm,0.6s
KUU Kurty 4.60 18 *e*Pg **Pb 00 53 03.5 -0.4**
6.7nm,0.2s
KUU *e*Lg Lg 00 54 01.8
64nm,0.6s
SATY Saty 4.67 40 Pg **Pb 00 53 05.6 +0.6**
11nm,0.7s
SATY Lg Lg 00 54 06.2
22nm,0.6s
SATY Saty 4.67 40 *e*Pg **Pb 00 53 04.3 -0.7**
10nm,0.7s
SATY *e*Lg Lg 00 54 03.3
22nm,0.6s
CHKK Chushkaly 4.75 24 Pg **Pb 00 53 05.9 -0.5**
11nm,0.5s
CHKK Lg Lg 00 54 06.6
40nm,0.3s
CHKK Chushkaly 4.75 24 *e*Pg **Pb 00 53 07.0 +0.7**
9.4nm,0.5s
CHKK *e*Lg Lg 00 54 06.9
40nm,0.3s
ZHN Zhinishke 4.76 39 Pg **Pb 00 53 06.0 -0.6**
8.0nm,0.4s
ZHN Lg Lg 00 54 06.4
26nm,0.6s
ZHN Zhinishke 4.76 39 *e*Pg **Pb 00 53 06.2 -0.4**
8.0nm,0.4s
ZHN *e*Lg Lg 00 54 06.3
26nm,0.6s
KURS Kuram 4.88 35 Pg **Pb 00 53 07.9 -0.8**
12nm,0.7s
KURS Lg Lg 00 54 09.9
17nm,0.6s
KURS Kuram 4.88 35 *e*Pg **Pb 00 53 08.4 -0.3**
12nm,0.7s
KURS *e*Lg Lg 00 54 09.7
17nm,0.6s
UZB Uzynbulak 5.04 43 Pg **Pb 00 53 11.0 -0.4**
11nm,0.5s
UZB Lg Lg 00 54 15.4
16nm,0.7s
UZB Uzynbulak 5.04 43 *e*Pg **Pb 00 53 10.7 -0.8**
11nm,0.5s
UZB *e*Lg Lg 00 54 14.3
16nm,0.7s
KPKS Kokpek 5.10 38 Pg **Pb 00 53 12.2 -0.3**
12nm,0.6s
KPKS Lg Lg 00 54 17.3
43nm,0.4s
KPKS Kokpek 5.10 38 *e*Pg **Pb 00 53 12.5 0.0**
12nm,0.6s
KPKS *e*Lg Lg 00 54 16.5
43nm,0.4s
SHLS Shalkode 5.29 45 Pg **Pg 00 53 21.1 -3.2**
18nm,0.5s
SHLS Lg Lg 00 54 32.6
18nm,0.6s
SHLS Shalkode 5.29 45 *e*Pg **Pg 00 53 21.1 -3.2**
18nm,0.5s
SHLS *e*Lg Lg 00 54 31.0
18nm,0.6s
ARXS Arharly 5.35 28 Pg **Pb 00 53 17.8 +1.2**
23nm,0.5s
ARXS Lg Lg 00 54 26.8
122nm,0.3s
ARXS Arharly 5.35 28 *e*Pg **Pb 00 53 17.0 +0.4**
23nm,0.5s
ARXS *e*Lg Lg 00 54 25.0
122nm,0.3s
BTLS Baital 5.50 358 Pg **Pb 00 53 20.2 +1.0**
2.9nm,0.5s
BTLS Lg Lg 00 54 31.0
8.8nm,0.6s
BTLS Baital 5.50 358 *e*Pg **Pb 00 53 19.7 +0.5**
2.9nm,0.5s
BTLS *e*Lg Lg 00 54 29.4
8.8nm,0.6s
BLB Baldybastay 5.50 33 Pg **Pb 00 53 21.0 +1.6**
18nm,0.3s
BLB Lg Lg 00 54 32.4
31nm,0.5s
KTMS Ketmen 5.97 47 Pg **Pb 00 53 28.7 +1.5**
4.0nm,0.6s
KTMS Lg Lg 00 54 45.3
6.7nm,0.3s
KTMS Ketmen 5.97 47 *e*Pg **Pb 00 53 28.7 +1.5**
4.0nm,0.6s
KTMS *e*Lg Lg 00 54 44.8
6.7nm,0.3s
DJR Jarkent 6.28 39 Pg **Pb 00 53 35.5 +3.0**
3.3nm,0.3s
DJR Lg Lg 00 54 57.3
8.3nm,0.7s
MAKZ Makanchi 9.16 35 ⇓Pg Pn 00 54 30.4 +35
1.1nm,0.8s
MAKZ ⇑Lg Lg 00 56 31.7
4.7nm,1.4s
MK31 Makanchi Array 9.29 36 ⇑Pg Pn 00 54 31.9 +35
0.7nm,0.6s,baz=98,slow=25,SNR=3.4
MK31 ⇓Lg Lg 00 56 35.3
2.6nm,0.8s
MKAR Makanchi Array 9.29 36 Lg Lg 00 56 28.6
0.1nm,0.3s,baz=225,slow=28,SNR=3.5
KURBB Kurchatov Arra 11.47 14 Lg Lg 00 57 36.8
baz=197,slow=29,SNR=6.0
BVAR Borovoye Array 13.76 350 Pn **Pn 00 54 58.0 0.0**
baz=160,slow=13,SNR=2.4
AB31 Akbulak array 14.13 318 ⇓P **Pn 00 55 02.5 -0.6**
1.4nm,0.7s,baz=125,slow=14,SNR=19
AKTO Aktyubinsk 15.84 319 Pn **P 00 55 27.7 -2.1**
0.2nm,0.3s,baz=128,slow=12,SNR=3.7
BRTR Keskin Array B 31.16 284 P **P 00 58 04.9 +2.7**
0.4nm,0.6s,baz=85,slow=8.9,SNR=1.3
0.4nm,0.6s
FINES FINESS Array B 36.54 323 P **P 00 58 49.0 +0.5**
4.0nm,1.1s,baz=101,slow=7.4,SNR=3.9
4.0nm,1.1s
ARCES ARCESS Array B 39.41 335 P **P 00 59 13.4 +0.7**
5.5nm,1.1s,baz=106,slow=9.6,SNR=1.8
5.5nm,1.1s
ATD Arta Tunnel 39.45 234 LR LR 01 16 15.6
comp=Z,19nm,21.4s,baz=10.0,slow=37
NOA NORSAR Array B 43.61 321 P **P 00 59 47.8 +0.5**
0.4nm,0.7s,baz=90,slow=8.0,SNR=1.1
0.4nm,0.7s
ESDC Sonseca Array 58.38 297 P **P 01 01 38.2 -0.5**
1.6nm,1.2s,baz=65,slow=6.7,SNR=2.8
1.6nm,1.2s
TORD Torodi Ar. Bea 68.41 269 P **P 01 02 45.1 -0.2**
3.5nm,0.3s,baz=40,slow=5.3,SNR=1.6
3.5nm,0.3s
WRA Warramunga Arr 81.45 125 P **P 01 04 00.7 +0.3**
0.4nm,0.5s,baz=319,slow=4.1,SNR=9.3
0.4nm,0.5s
BOSA Boshof 81.77 222 LR LR 01 41 58.1
comp=Z,22nm,18.4s,baz=178,slow=37
ASAR Alice Springs 83.91 127 P **P 01 04 13.3 0.0**
0.4nm,0.7s,baz=316,slow=5.2,SNR=2.9
0.4nm,0.7s

ROM 19 00:54:07.7±0.1, 42.594N±0.008×13.321E±0.010, h10km, ML2.4/10, 7C-7D, Error ellipse: s-maj=1.0km s-min=0.5km az=216.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.09**	**132**	⇑P	Pg	Pg	00 54 10.6	+0.4
CAMP				S	Sg	Sg	00 54 12.3	+0.2
CAMP				AML	AML	AML		
	comp=E,3425μm,0.6s							
CAMP				AML	AML	AML		
	comp=N,1855μm,0.4s							
CAMP				AML	AML	AML		
	comp=E,2692μm,0.3s							
CAMP				AML	AML	AML		
	comp=N,1855μm,0.4s							
RM33	**Pellescritta (**	**0.12**	**223**	⇑P	Pg	Pg	00 54 11.2	+0.6
RM33				S	Sg	Sg	00 54 13.4	+0.7
RM33				AML	AML	AML		
	comp=N,3535μm,0.3s							
RM33				AML	AML	AML		
	comp=E,4335μm,1.1s							
RM33				AML	AML	AML		
	comp=N,3535μm,0.3s							
RM33				AML	AML	AML		
	comp=E,4260μm,1.1s							
RM33				AML	AML	AML		
	comp=E,4335μm,0.9s							
RM33				AML	AML	AML		
	comp=E,4260μm,0.9s							
RM33				AML	AML	AML		
	comp=E,4212μm,0.2s							
RM33				AML	AML	AML		
	comp=N,3531μm,0.3s							
RM33				AML	AML	AML		
	comp=N,3535μm,0.3s							
RM33				AML	AML	AML		
	comp=E,4220μm,0.3s							
T1247	**Pizzolo (AQ)**	**0.15**	**186**	⇓P	Pg	Pg	00 54 11.9	+0.7
T1247				S	Sg	Sg	00 54 15.0	+1.4
T1247				AML	AML	AML		
	comp=N,2405μm,0.4s							
T1247				AML	AML	AML		
	comp=E,2230μm,0.2s							
T1247				AML	AML	AML		
	comp=E,2229μm,0.2s							
T1247				AML	AML	AML		
	comp=N,2408μm,0.4s							
T1218	**Civita (PG)**	**0.17**	**297**	⇑P	Pg	Pg	00 54 11.8	+0.3
T1218				S	Sg	Sg	00 54 14.8	+0.7
T1218				AML	AML	AML		
	comp=E,1680μm,0.2s							
T1218				AML	AML	AML		
	comp=N,3560μm,0.2s							
T1218				AML	AML	AML		
	comp=E,1690μm,0.2s							
T1218				AML	AML	AML		
	comp=N,3640μm,0.2s							
T1218				AML	AML	AML		
	comp=E,1685μm,0.2s							
T1218				AML	AML	AML		
	comp=N,3565μm,0.2s							
T1218				AML	AML	AML		
	comp=N,3640μm,1.8s							
T1218				AML	AML	AML		
	comp=N,3565μm,1.8s							
T1218				AML	AML	AML		
	comp=E,1681μm,0.2s							
T1218				AML	AML	AML		
	comp=N,3561μm,0.2s							
T1218				AML	AML	AML		
	comp=N,3638μm,0.2s							
T1218				AML	AML	AML		
	comp=E,1688μm,0.2s							
LNSS	**Leonessa**	**0.21**	**273**	⇑P	Pg	Pg	00 54 12.6	+0.5
LNSS				S	Sg	Sg	00 54 16.2	+1.1
LNSS				AML	AML	AML		
	comp=N,936μm,0.2s							
LNSS				AML	AML	AML		
	comp=E,1020μm,0.5s							
GIGS	**Gran Sasso**	**0.23**	**128**	⇓P	Pg	Pg	00 54 13.1	+0.5
GIGS				S	Sg	Sg	00 54 16.6	+0.8
GIGS				AML	AML	AML		
	comp=E,342μm,0.4s							
GIGS				AML	AML	AML		
	comp=N,176μm,1.6s							
GIGS				AML	AML	AML		
	comp=N,176μm,0.4s							
GIGS				AML	AML	AML		
	comp=N,172μm,0.5s							
GIGS				AML	AML	AML		
	comp=E,261μm,0.4s							
ARRO	**Arrone**	**0.41**	**268**	⇓P	Pg	Pg	00 54 16.2	+0.4
GUMA	**Gualdo di Mace**	**0.47**	**1**	⇑P	Pg	Pg	00 54 17.5	+0.6
GUMA				S	Sb	Sb	00 54 25.9	+0.8
GUMA				AML	AML	AML		
	comp=E,697μm,1.6s							
GUMA				AML	AML	AML		
	comp=N,669μm,1.4s							
GUMA				AML	AML	AML		
	comp=N,669μm,0.6s							
GUMA				AML	AML	AML		
	comp=E,697μm,0.4s							
GUMA				AML	AML	AML		
	comp=E,696μm,0.5s							
FDMO	**Fiordimonte**	**0.47**	**339**	⇓P	Pg	Pg	00 54 17.1	+0.1
FDMO				AML	AML	AML		
	comp=E,190μm,0.7s							
FDMO				AML	AML	AML		
	comp=E,194μm,0.7s							
FDMO				AML	AML	AML		
	comp=N,324μm,0.3s							
FDMO				AML	AML	AML		
	comp=E,194μm,1.3s							
FDMO				AML	AML	AML		
	comp=E,146μm,0.2s							
FDMO				AML	AML	AML		
	comp=N,323μm,0.3s							
CSP1	**Cessapalombo**	**0.51**	**350**	⇑P	Pg	Pg	00 54 17.6	0.0
CSP1				AML	AML	AML		
	comp=E,228μm,1.6s							
CSP1				AML	AML	AML		
	comp=N,336μm,0.9s							
CSP1				AML	AML	AML		
	comp=N,296μm,0.4s							
CESI	**CESI - Serrava**	**0.51**	**323**	⇑P	Pg	Pg	00 54 18.0	+0.3
CESI				AML	AML	AML		
	comp=E,342μm,1.0s							
CESI				AML	AML	AML		
	comp=N,362μm,0.2s							
CESI				AML	AML	AML		
	comp=E,238μm,0.2s							
T1220	**Camerino, Fraz**	**0.54**	**342**	⇓P	Pg	Pg	00 54 18.4	+0.1
T1220				AML	AML	AML		
	comp=E,865μm,0.7s							
T1220				AML	AML	AML		
	comp=N,753μm,0.4s							
T1220				AML	AML	AML		
	comp=E,859μm,0.7s							
T1220				AML	AML	AML		
	comp=N,772μm,0.4s							
T1220				AML	AML	AML		
	comp=N,753μm,0.4s							
T1220				AML	AML	AML		
	comp=E,865μm,0.7s							
T1220				AML	AML	AML		
	comp=N,770μm,0.4s							
T1220				AML	AML	AML		
	comp=E,859μm,0.7s							
CESX	**Cesi**	**0.55**	**272**	⇓P	Pb	Pg	00 54 18.9	-0.5
CESX				AML	AML	AML		
	comp=E,139μm,0.5s							
CESX				AML	AML	AML		
	comp=N,167μm,0.2s							
ARCI	**Arcidosso**	**1.38**	**281**	P	Pn	Pn	00 54 31.5	-1.7
TRIF	**Trifonti**	**1.85**	**287**	S	Sn	Sn	00 55 03.5	+0.4
BRSN	**Barisano**	**1.92**	**332**	⇓P	Pg	Pg	00 54 44.9	+0.4

ROM 19 00:55:06.3±0.1, 42.585N±0.004×13.241E±0.004, h13km, ML2.5/13, 6C-5D, Error ellipse: s-maj=0.4km s-min=0.0km az=208.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.08**	**195**	⇑P	Pg	Pg	00 55 09.7	+0.5
RM33				S	Sg	Sg	00 55 11.5	+0.3
RM33				AML	AML	AML		
	comp=E,10325μm,0.2s							
RM33				AML	AML	AML		
	comp=N,7605μm,1.0s							
RM33				AML	AML	AML		
	comp=N,7735μm,1.0s							
RM33				AML	AML	AML		
	comp=E,10330μm,0.2s							
RM33				AML	AML	AML		
	comp=E,10600μm,0.2s							
RM33				AML	AML	AML		
	comp=E,7868μm,0.3s							
RM33				AML	AML	AML		
	comp=E,10332μm,0.2s							
RM33				AML	AML	AML		
	comp=N,6776μm,0.1s							
RM33				AML	AML	AML		
	comp=N,6844μm,0.2s							
SMA1	**SAN MARTINO**	**0.08**	**57**	⇓P	Pg	Pg	00 55 09.7	+0.4
SMA1				S	Sg	Sg	00 55 11.7	+0.3
SMA1				AML	AML	AML		
	comp=E,21100μm,0.4s							
SMA1				AML	AML	AML		
	comp=E,21150μm,0.4s							
SMA1				AML	AML	AML		
	comp=N,12600μm,0.4s							
SMA1				AML	AML	AML		
	comp=N,12600μm,1.6s							
SMA1				AML	AML	AML		
	comp=E,21150μm,1.6s							
SMA1				AML	AML	AML		
	comp=E,21119μm,0.4s							
SMA1				AML	AML	AML		
	comp=N,10288μm,0.3s							
T1218	**Civita (PG)**	**0.13**	**312**	⇓P	Pg	Pg	00 55 10.0	+0.2
T1218				S	Sg	Sg	00 55 12.2	0.0
T1218				AML	AML	AML		
	comp=N,7055μm,0.2s							
T1218				AML	AML	AML		
	comp=E,4205μm,0.4s							
T1218				AML	AML	AML		
	comp=E,3840μm,0.4s							
T1218				AML	AML	AML		
	comp=N,7085μm,0.2s							
T1218				AML	AML	AML		
	comp=E,3503μm,0.1s							
T1218				AML	AML	AML		
	comp=E,3433μm,0.1s							
T1218				AML	AML	AML		
	comp=N,7086μm,0.2s							
T1218				AML	AML	AML		
	comp=N,7055μm,0.2s							
LNSS	**Leonessa**	**0.15**	**277**	P	Pg	Pg	00 55 10.4	+0.4
LNSS				S	Sg	Sg	00 55 13.2	+0.5
LNSS				AML	AML	AML		
	comp=E,4345μm,0.1s							
LNSS				AML	AML	AML		
	comp=N,5320μm,0.2s							
LNSS				AML	AML	AML		
	comp=E,4345μm,0.1s							
LNSS				AML	AML	AML		
	comp=N,5319μm,0.2s							
T1247	**Pizzolo (AQ)**	**0.15**	**164**	P	Pg	Pg	00 55 09.9	-0.1
GIGS	**Gran Sasso**	**0.28**	**119**	⇑P	Pg	Pg	00 55 12.5	+0.4
GIGS				S	Sg	Sg	00 55 16.9	+0.8
GIGS				AML	AML	AML		
	comp=E,302μm,0.5s							
GIGS				AML	AML	AML		
	comp=N,352μm,0.2s							
GIGS				AML	AML	AML		
	comp=E,302μm,1.5s							
GIGS				AML	AML	AML		
	comp=E,251μm,0.1s							
GIGS				AML	AML	AML		
	comp=N,239μm,0.1s							
FIAM	**Fiamignano**	**0.33**	**196**	⇑P	Pg	Pg	00 55 13.6	+0.5
FIAM				AML	AML	AML		
	comp=E,467μm,1.6s							
FIAM				AML	AML	AML		
	comp=N,502μm,0.8s							
FIAM				AML	AML	AML		
	comp=E,467μm,0.4s							
FIAM				AML	AML	AML		
	comp=N,502μm,1.2s							
FIAM				AML	AML	AML		
	comp=N,382μm,0.5s							
FIAM				AML	AML	AML		
	comp=E,465μm,0.4s							
ARRO	**Arrone**	**0.35**	**269**	⇑P	Pg	Pg	00 55 13.8	+0.3
ARRO				AML	AML	AML		
	comp=N,442μm,0.2s							
ARRO				AML	AML	AML		
	comp=E,342μm,1.1s							
ARRO				AML	AML	AML		

comp=E,299μm,0.2s
ARRO AML AML
comp=N,442μm,0.2s
FDMO Fiordimonte 0.47 346 P Pg 00 55 15.2 -0.3
FDMO AML AML
comp=E,266μm,0.2s
FDMO AML AML
comp=N,244μm,1.1s
FDMO AML AML
comp=N,206μm,0.3s
FDMO AML AML
comp=E,266μm,0.2s
GUMA Gualdo di Mace 0.48 8 P Pg 00 55 16.2 +0.4
GUMA AML AML
comp=N,1315μm,0.3s
GUMA AML AML
comp=E,1087μm,0.3s
GUMA AML AML
comp=E,1765μm,0.3s
GUMA AML AML
comp=N,1100μm,0.6s
GUMA AML AML
comp=N,1099μm,0.6s
GUMA AML AML
comp=E,1086μm,0.2s
GUMA AML AML
comp=E,1764μm,0.3s
GUMA AML AML
comp=N,1317μm,0.3s
CESI CESI - Serrava 0.49 330 ⇑P Pg 00 55 16.1 +0.2
CESX Cesi 0.49 273 ⇓P Pg 00 55 16.0 +0.1
CESX AML AML
comp=E,316μm,0.3s
CESX AML AML
comp=N,303μm,0.3s
CESX AML AML
comp=N,303μm,0.3s
CESX AML AML
comp=E,316μm,0.3s
CSP1 Cessapalombo 0.51 357 P Pg 00 55 16.3 -0.1
CSP1 S Sb 00 55 24.0 -0.5
CSP1 AML AML
comp=E,404μm,0.3s
CSP1 AML AML
comp=N,321μm,0.9s
CSP1 AML AML
comp=N,321μm,1.1s
CSP1 AML AML
comp=E,404μm,0.3s
CSP1 AML AML
comp=N,313μm,0.2s
T1220 Camerino, Fraz 0.54 348 P Pg 00 55 16.9 +0.1
T1220 AML AML
comp=E,948μm,0.3s
T1220 AML AML
comp=E,937μm,0.3s
T1220 AML AML
comp=N,974μm,1.5s
T1220 AML AML
comp=N,966μm,0.3s
T1220 AML AML
comp=E,939μm,0.3s
T1220 AML AML
comp=E,947μm,0.3s
T1220 AML AML
comp=N,968μm,0.3s
T1220 AML AML
comp=N,959μm,0.3s
MOMA Monte Martano 0.54 294 P Pg 00 55 16.8 -0.1
MOMA S Sg 00 55 24.8 +0.6
MOMA AML AML
comp=E,402μm,1.3s
MOMA AML AML
comp=N,468μm,0.2s
MOMA AML AML
comp=N,464μm,0.2s
MOMA AML AML
comp=N,464μm,1.8s
MOMA AML AML
comp=E,366μm,0.2s
MOMA AML AML
comp=N,464μm,0.2s
MOMA AML AML
comp=E,367μm,0.2s
MOMA AML AML
comp=E,359μm,0.2s
MOMA AML AML
comp=N,468μm,0.2s
ASSB Assisi San Ben 0.63 317 P Pg 00 55 18.5 -0.1
ASSB AML AML
comp=E,143μm,0.5s
ASSB AML AML
comp=N,110μm,0.3s
SRES S.Oreste - Sor 0.64 238 ⇑P Pb 00 55 19.2 -0.2
CERT Cerreto 0.66 197 P Pg 00 55 19.0 -0.3
MTCE Montecelio 0.67 214 ⇓P Pg 00 55 19.2 -0.2
MTCE AML AML
comp=E,114μm,0.6s
MTCE AML AML
comp=N,81μm,0.5s
SNTG Esanatoglia 0.70 342 ⇓P Pg 00 55 20.1 +0.1
EL6 Elcito 0.75 352 P Pg 00 55 20.7 -0.2
EL6 AML AML
comp=E,195μm,0.2s
TOLF Tolfa 1.06 241 S Sn 00 55 42.5 +1.1
TOLF AML AML
comp=N,84μm,1.0s
TOLF AML AML
comp=E,32μm,0.3s

*IDC **19** 01:09:32.1±3.2,21.87N×143.28E,h229km±27km,mb3.2/9, mbtmp3.9/10,Error ellipse: s-maj=27.6km s-min=19.8km az=62.0.*

ISC 19 01:09:33.8±0.9,22.1N±0.1×143.4E±0.3,h250km,n13, σ1s80/14,mb3.6/9,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.13**	**348**	P	**Pn**	**01 10 49.8**	**-1.4**
	90nm,0.9s,baz=225,slow=16,SNR=2.2						
JCJ				S	**S**	**01 11 49.4**	**-3.5**
	94nm,0.8s,baz=302,slow=23,SNR=2.8						
KSRS	**Korea Array**	**20.33**	**322**	P	Pn	01 13 54.0	-2.7
	1.3nm,0.6s,baz=150,slow=8.8,SNR=6.3						
	1.3nm,0.6s						
KLR	**Kul'dur**	**28.64**	**344**	P	**P**	**01 15 08.7**	**+1.5**
	1.4nm,0.6s,baz=207,slow=4.5,SNR=5.3						
	1.4nm,0.6s						
SONM	**Songino Array**	**39.17**	**320**	P	**P**	**01 16 38.8**	**+1.0**
	0.4nm,0.4s,baz=131,slow=7.6,SNR=9.0						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.66**	**193**	P	**P**	**01 17 04.0**	**-2.2**
	0.1nm,0.3s,baz=8.0,slow=7.6,SNR=1.4						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**54.04**	**321**	P	**P**	**01 18 32.9**	**+0.5**
	0.8nm,0.5s,baz=96,slow=9.2,SNR=5.2						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**54.58**	**312**	P	**P**	**01 18 37.1**	**+0.6**
	0.3nm,0.5s,baz=94,slow=8.9,SNR=5.6						
MKAR				PcP	**PcP**	**01 19 36.9**	**+0.6**
	0.3nm,0.5s,baz=96,slow=4.6,SNR=6.4						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**76.06**	**28**	P	**P**	**01 20 55.1**	**+1.6**
	0.7nm,0.5s,baz=292,slow=6.0,SNR=15						
	0.7nm,0.5s						
ARCES	**ARCESS Array B**	**78.64**	**342**	P	**P**	**01 21 08.5**	**+0.8**
	3.8nm,0.9s,baz=70,slow=8.7,SNR=2.0						
KBZ	**Khabaz**	**82.24**	**314**	P	**P**	**01 21 28.4**	**+1.2**
	1.9nm,0.9s,baz=90,slow=6.1,SNR=4.4						
	1.9nm,0.9s						
FINES	**FINESS Array B**	**82.93**	**335**	P	**P**	**01 21 30.2**	**-0.3**
	4.3nm,1.0s,baz=58,slow=5.1,SNR=7.4						
	4.3nm,1.0s						
PLCA	**Paso Flores**	**145.86**	**131**	PKPbc	**PKiKP**	**01 28 44.5**	**-2.6**
	2.0nm,0.8s,baz=254,slow=7.4,SNR=5.1						
LPAZ	**La Paz**	**149.74**	**85**	PKPbc	**PKiKP**	**01 28 57.2**	**+0.7**
	1.0nm,0.5s,baz=304,slow=3.1,SNR=5.5						

IDC 19 01:16:48.8±2.7,2.79S×139.54E,h0km,mb3.6/3, mbtmp3.7/4,ML4.2/2,MS3.0/4,Error ellipse: s-maj=87.2km s-min=25.3km az=92.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**17.03**	**305**	LR	LR	01 27 04.4	
	comp=Z,26nm,19.8s,baz=244,slow=36						
BATI	**Baumata**	**17.40**	**244**	P	Pn	01 20 53.2	0.0
	6.0nm,0.3s,baz=67,slow=3.9,SNR=5.4						
WRA	**Warramunga Arr**	**17.79**	**196**	P	Pn	01 20 57.4	-0.7
	0.4nm,0.3s,baz=20,slow=13,SNR=20						
WRA				LR	LR	01 28 55.3	
	comp=Z,77nm,18.4s,baz=305,slow=41						
	2.5nm,0.9s						
CTA	**Charters Tower**	**18.40**	**160**	LR	LR	01 27 30.2	
	comp=Z,42nm,19.1s,baz=266,slow=35						
ASAR	**Alice Springs**	**21.46**	**194**	P	P	01 21 39.5	+0.5
	1.6nm,0.6s,baz=22,slow=10.0,SNR=17						
	1.6nm,0.6s						
STKA	**Stephens Creek**	**29.00**	**176**	LR	LR	01 35 12.4	
	comp=Z,49nm,18.1s,baz=27,slow=38						
SONM	**Songino Array**	**58.14**	**334**	P	P	01 26 45.1	+0.6
	0.3nm,0.7s,baz=140,slow=7.4,SNR=2.1						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**70.36**	**322**	P	P	01 28 04.2	-0.4
	0.7nm,0.6s,baz=97,slow=8.0,SNR=10						
	0.7nm,0.6s						

*LDG **19** 01:28:43.9±0.2,42.46N×13.24E,h10km,Ml2.9/22,Error ellipse: s-maj=5.7km s-min=3.3km az=51.0*
*ROM **19** 01:28:43.3±0.1,42.554N±0.004×13.256E±0.009, h10km,ML3.5/58,Mw3.4,Error ellipse: s-maj=0.7km s-min=0.3km az=79.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.97; $M_{\theta\theta}$0.19; $M_{\phi\phi}$=0.79; $M_{r\theta}$0.58; $M_{\theta\phi}$-1.13; $M_{\phi r}$0.27; Fault plane solution: M_o1.56729×10^{14} NP1:ϕ_s174.00000°,δ53.00000°, λ-40.00000°. NP2:ϕ_s291.00000°,δ59.00000°, λ-136.00000°.*
*PRU **19** 01:28:44.3±0.0,42.71N×13.31E,h0km*
*BEO **19** 01:28:45.0±0.6,42.54N×13.22E,h9km,ML3.8/11*

ISC 19 01:28:43.6±0.4,42.57N±0.01×13.20E±0.02,h17km±2km, n163,σ1s91/220,41C-28D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.12**	**58**	⇑P	**Pg**	**01 28 46.3**	**-1.1**
SMA1				S	**Sg**	**01 28 48.6**	**-1.4**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
T1218	**Civita (PG)**	**0.12**	**328**	⇓P	**Pg**	**01 28 47.2**	**-0.2**
T1218				S	**Sg**	**01 28 50.0**	**0.0**
T1218				AML	AML		
	comp=E,72650μm,0.4s						
T1218				AML	AML		
	comp=E,67900μm,0.4s						
T1218				AML	AML		
	comp=E,67900μm,0.4s						
T1218				AML	AML		
	comp=N,82700μm,0.2s						
T1218				AML	AML		
	comp=N,84950μm,0.2s						
LNSS	**Leonessa**	**0.12**	**286**	⇑P	**Pg**	**01 28 47.6**	**0.0**
LNSS				S	**Sg**	**01 28 50.8**	**+0.6**
LNSS				AML	AML		
LNSS				AML	AML		
T1247	**Pizzolo (AQ)**	**0.15**	**151**	⇓P	**Pg**	**01 28 46.7**	**-1.1**
T1247				S	**Sg**	**01 28 49.1**	**-1.4**
T1247				AML	AML		
	comp=E,91050μm,0.6s						
T1247				AML	AML		
CAMP	**Campotosto**	**0.16**	**102**	P	**Pg**	**01 28 46.5**	**-1.5**
CAMP				S	**Sg**	**01 28 48.8**	**-2.0**
CAMP				AML	AML		
	comp=N,57350μm,1.4s						
CAMP				AML	AML		
	comp=N,57350μm,0.6s						
CAMP				AML	AML		
	comp=E,58100μm,1.0s						
GIGS	**Gran Sasso**	**0.30**	**114**	⇑P	**Pg**	**01 28 48.5**	**-1.5**
GIGS				S	**Sg**	**01 28 52.6**	**-1.9**
GIGS				AML	AML		
	comp=N,6120μm,0.5s						
GIGS				AML	AML		
	comp=E,5525μm,0.6s						
FIAM	**Fiamignano**	**0.31**	**192**	⇑P	**Pg**	**01 28 49.7**	**-0.5**
FIAM				S	**Sg**	**01 28 54.7**	**0.0**
FIAM				AML	AML		
	comp=E,19600μm,0.7s						
FIAM				AML	AML		
	comp=N,10640μm,1.6s						
FIAM				AML	AML		
	comp=N,10640μm,0.4s						
ARRO	**Arrone**	**0.32**	**272**	⇑P	**Pg**	**01 28 50.8**	**+0.3**
ARRO				S	**Sg**	**01 28 56.7**	**+1.6**
ARRO				AML	AML		
	comp=E,7420μm,0.7s						
ARRO				AML	AML		
	comp=E,7425μm,0.7s						
ARRO				AML	AML		
	comp=N,11500μm,0.6s						
ARRO				AML	AML		
	comp=N,11500μm,1.4s						
CESX	**Cesi**	**0.46**	**275**	⇑P	**Pg**	**01 28 53.0**	**+0.1**
CESX				AML	AML		
	comp=E,4915μm,0.4s						
CESX				AML	AML		
	comp=N,6145μm,0.4s						
CESX				AML	AML		
	comp=E,4915μm,1.6s						
CESX				AML	AML		
	comp=N,6145μm,1.6s						
FDMO	**Fiordimonte**	**0.47**	**350**	⇑P	**Pg**	**01 28 53.0**	**-0.2**
FDMO				S	**Sg**	**01 29 00.8**	**+1.2**
FDMO				AML	AML		
	comp=N,4765μm,1.0s						
FDMO				AML	AML		
	comp=E,5365μm,1.0s						
CESI	**CESI - Serrava**	**0.49**	**333**	⇑P	**Pg**	**01 28 53.5**	**+0.1**
CESI				AML	AML		
	comp=N,5070μm,0.4s						
CESI				AML	AML		
	comp=E,4410μm,0.9s						
GUMA	**Gualdo di Mace**	**0.50**	**11**	⇑P	**Pg**	**01 28 53.5**	**-0.1**
GUMA				S	**Sg**	**01 29 01.8**	**+1.3**
GUMA				AML	AML		
	comp=N,31600μm,0.5s						
GUMA				AML	AML		
	comp=E,34150μm,0.4s						
GUMA				AML	AML		
	comp=N,28350μm,0.5s						
GUMA				AML	AML		
	comp=N,31600μm,0.5s						
GUMA				AML	AML		
	comp=E,21550μm,0.4s						
CSP1	**Cessapalombo**	**0.52**	**0**	⇑P	**Pg**	**01 28 53.7**	**-0.4**
CSP1				S	**Sg**	**01 29 02.2**	**+1.0**
CSP1				AML	AML		
	comp=N,7445μm,1.0s						
CSP1				AML	AML		
	comp=E,5595μm,1.4s						
CSP1				AML	AML		
	comp=N,7445μm,1.0s						
CSP1				AML	AML		
	comp=E,5595μm,0.6s						
MOMA	**Monte Martano**	**0.52**	**297**	⇑P	**Pg**	**01 28 54.2**	**+0.2**
MOMA				S	**Sg**	**01 29 03.3**	**+2.2**
MOMA				AML	AML		
	comp=E,7770μm,0.7s						
MOMA				AML	AML		
	comp=E,7620μm,0.7s						
MOMA				AML	AML		
	comp=N,9245μm,0.2s						
MOMA				AML	AML		
	comp=N,8685μm,0.2s						
MOMA				AML	AML		
	comp=E,7770μm,1.3s						
MOMA				AML	AML		
	comp=E,7620μm,1.3s						
T1220	**Camerino, Fraz**	**0.55**	**351**	⇑P	**Pg**	**01 28 54.2**	**-0.3**
T1220				AML	AML		
	comp=N,23050μm,0.5s						
T1220				AML	AML		
	comp=N,23200μm,0.6s						
T1220				AML	AML		
	comp=E,18700μm,0.7s						
T1220				AML	AML		
	comp=E,19150μm,0.7s						
T1220				AML	AML		
	comp=N,23200μm,0.5s						
T1220				AML	AML		
	comp=N,23050μm,0.5s						
PTQR	**Pietraquaria**	**0.57**	**165**	⇓P	**Pg**	**01 28 53.6**	**-1.3**
PTQR				AML	AML		
	comp=E,2105μm,0.6s						
PTQR				AML	AML		
	comp=N,1780μm,0.4s						
TRTR	**Tortoreto Alta**	**0.58**	**65**	⇓P	**Pg**	**01 28 55.0**	**0.0**
TRTR				AML	AML		
	comp=E,15650μm,1.3s						
TRTR				AML	AML		
	comp=N,12250μm,1.6s						
TRTR				AML	AML		
	comp=N,12250μm,0.4s						
SEF1	**Sefro**	**0.61**	**342**	P	**Pg**	**01 28 55.7**	**+0.1**
SEF1				S	**Sg**	**01 29 05.5**	**+1.8**
SEF1				AML	AML		
	comp=N,4970μm,0.3s						
SEF1				AML	AML		
	comp=E,5820μm,0.3s						
SRES	**S.Oreste - Sor**	**0.61**	**237**	⇑P	**Pg**	**01 28 55.3**	**-0.4**
SRES				AML	AML		
	comp=N,3040μm,0.4s						
SRES				AML	AML		
	comp=E,2805μm,1.6s						
ASSB	**Assisi San Ben**	**0.62**	**320**	⇑P	**Pg**	**01 28 55.9**	**0.0**
ASSB				S	**Sg**	**01 29 06.4**	**+2.3**
ASSB				AML	AML		
	comp=E,2830μm,0.3s						
ASSB				AML	AML		
	comp=N,2815μm,0.5s						
CERT	**Cerreto**	**0.64**	**195**	⇑P	**Pg**	**01 28 55.1**	**-1.1**
CERT				S	**Sb**	**01 29 05.8**	**+0.8**
CERT				AML	AML		
	comp=E,6115μm,0.5s						
CERT				AML	AML		
	comp=N,4960μm,0.4s						
CERT				AML	AML		
	comp=E,6115μm,1.5s						
MTCE	**Montecelio**	**0.64**	**212**	⇑P	**Pg**	**01 28 55.5**	**-0.8**
MTCE				S	**Sg**	**01 29 05.7**	**+0.8**
MTCE				AML	AML		
	comp=N,3970μm,0.6s						
MTCE				AML	AML		
	comp=E,4800μm,0.5s						
EL6	**Elcito**	**0.76**	**355**	P	**Pg**	**01 28 58.0**	**-0.5**
EL6				S	**Sg**	**01 29 10.2**	**+1.5**
EL6				AML	AML		
	comp=E,5090μm,0.5s						
EL6				AML	AML		
	comp=N,4705μm,0.4s						
EL6				AML	AML		
	comp=E,5085μm,0.5s						
EL6				AML	AML		
	comp=E,5085μm,1.5s						
EL6				AML	AML		
	comp=N,4710μm,0.4s						
VVLD	**Villa Vallelon**	**0.76**	**156**	P	**Pg**	**01 28 58.2**	**-0.3**
VVLD				AML	AML		
	comp=E,1820μm,1.0s						
VVLD				AML	AML		
	comp=N,1785μm,0.5s						
GUAR	**Guarcino**	**0.78**	**174**	⇓P	**Pg**	**01 28 58.6**	**-0.3**
GUAR				AML	AML		
	comp=E,2350μm,0.8s						
GUAR				AML	AML		
	comp=N,3075μm,1.5s						
GUAR				AML	AML		
	comp=E,2350μm,1.2s						
GUAR				AML	AML		
	comp=N,3075μm,0.5s						
FOSV	**Fossato di Vic**	**0.79**	**336**	⇓P	**Pg**	**01 28 59.0**	**-0.2**
FOSV				AML	AML		
	comp=N,2590μm,0.7s						
FOSV				AML	AML		
	comp=N,2590μm,1.3s						
FOSV				AML	AML		
	comp=E,1865μm,0.7s						
CING	**Cingoli**	**0.81**	**360**	⇓P	**Pg**	**01 28 58.9**	**-0.5**
CING				AML	AML		
	comp=E,2515μm,1.0s						
CING				AML	AML		
	comp=N,3270μm,0.8s						
PP3	**Marolino**	**0.86**	**20**	⇓P	**Pg**	**01 29 00.5**	**+0.1**
PP3				AML	AML		
	comp=E,10275μm,0.6s						
PP3				AML	AML		
	comp=N,7550μm,0.7s						
PP3				AML	AML		
	comp=E,10520μm,0.6s						
PP3				AML	AML		
	comp=N,7405μm,0.7s						
PP3				AML	AML		
	comp=E,10525μm,0.6s						
PP3				AML	AML		
	comp=E,10275μm,0.6s						
MGAB	**Montegabbione**	**0.87**	**294**	⇓P	**Pg**	**01 29 00.9**	**+0.3**
MGAB				AML	AML		
	comp=E,3305μm,0.9s						
MGAB				AML	AML		
	comp=N,3595μm,0.5s						
MGAB				AML	AML		
	comp=E,2835μm,1.2s						
MGAB				AML	AML		
	comp=N,3435μm,0.5s						
MGAB				AML	AML		
	comp=E,3305μm,1.1s						
VIVA	**Pratoni del Vi**	**0.88**	**202**	⇓P	**Pg**	**01 28 59.7**	**-1.0**
VIVA				AML	AML		
	comp=E,6485μm,0.4s						
VIVA				AML	AML		
	comp=N,7100μm,1.0s						
VIVA				AML	AML		
	comp=N,7100μm,1.0s						
RDP	**Rocca di Papa**	**0.89**	**204**	P	**Pg**	**01 28 60.0**	**-0.9**
RDP				AML	AML		
	comp=N,9985μm,0.9s						
RDP				AML	AML		
	comp=E,8005μm,0.6s						
RDP				AML	AML		
	comp=N,9985μm,1.1s						
MA9	**Marino**	**0.90**	**207**	P	**Pg**	**01 29 00.2**	**-0.8**
MA9				AML	AML		
	comp=E,6245μm,0.6s						
MA9				AML	AML		
	comp=E,6245μm,1.4s						
MA9				AML	AML		
	comp=N,4615μm,0.5s						
SSFR	**Montelago di S**	**0.92**	**341**	⇑P	**Pg**	**01 29 01.4**	**-0.1**
SSFR				S	**Sn**	**01 29 16.5**	**+1.8**
SSFR				AML	AML		
	comp=E,3745μm,0.7s						
SSFR				AML	AML		
	comp=N,3350μm,0.2s						
SSFR				AML	AML		
	comp=E,3865μm,1.3s						
SSFR				AML	AML		
	comp=E,3865μm,0.7s						
SSFR				AML	AML		
	comp=N,3795μm,0.2s						
POFI	**Posta Fibreno**	**0.93**	**156**	P	**Pg**	**01 29 01.2**	**-0.5**
POFI				AML	AML		
	comp=E,1665μm,0.6s						
POFI				AML	AML		
	comp=N,1225μm,1.3s						
POFI				AML	AML		
	comp=E,1645μm,0.6s						
POFI				AML	AML		
	comp=N,1195μm,1.3s						
POFI				AML	AML		
	comp=N,1225μm,0.7s						
POFI				AML	AML		
	comp=N,1195μm,0.7s						
POFI				AML	AML		
	comp=E,1645μm,1.4s						
POFI				AML	AML		
	comp=E,1665μm,1.4s						
LRP	**Arpino**	**0.96**	**163**	P	**Pb**	**01 29 02.6**	**+0.7**
LRP				AML	AML		
	comp=E,1030μm,0.8s						
LRP				AML	AML		
	comp=N,1430μm,0.3s						
LRP				AML	AML		
	comp=E,1030μm,1.2s						
LAV9	**Lanuvio**	**0.97**	**203**	⇑P	**Pg**	**01 29 02.6**	**+0.3**
LAV9				AML	AML		

	comp=E,6445µm,0.4s								
LAV9					AML	AML			
	comp=N,5765µm,0.5s								
LAV9					AML	AML			
	comp=E,6580µm,0.4s								
LAV9					AML	AML			
	comp=N,5805µm,0.5s								
LAV9					AML	AML			
	comp=N,5805µm,1.5s								
LAV9					AML	AML			
	comp=N,5765µm,1.5s								
LAV9					AML	AML			
	comp=E,6445µm,1.6s								
LAV9					AML	AML			
	comp=E,6580µm,1.6s								
SACS	**San Casciano d**	**0.99**	**287**	⇑P		**Pg**	**01 29 03.3 +0.4**		
SACS				AML		AML			
	comp=E,1435µm,0.7s								
SACS				AML		AML			
	comp=N,1690µm,1.1s								
SACS				AML		AML			
	comp=E,1410µm,0.9s								
SACS				AML		AML			
	comp=N,1615µm,1.1s								
FRON	**Frontone**	**1.01**	**340**	⇑P		**Pg**	**01 29 03.0 -0.2**		
FRON				AML		AML			
	comp=N,2605µm,0.5s								
FRON				AML		AML			
	comp=E,1915µm,0.8s								
GIUL	**Giuliano Di Ro**	**1.01**	**178**	⇓P		**Pg**	**01 29 02.6 -0.6**		
GIUL				AML		AML			
	comp=E,1855µm,0.5s								
GIUL				AML		AML			
	comp=N,1960µm,0.7s								
GIUL				AML		AML			
	comp=E,1855µm,1.5s								
GIUL				AML		AML			
	comp=N,1960µm,1.3s								
AOI	**Ancona**	**1.02**	**17**	⇓P		**Pg**	**01 29 02.8 -0.7**		
AOI				S		**Sn**	**01 29 19.3 +2.1**		
AOI				AML		AML			
	comp=E,2800µm,0.4s								
AOI				AML		AML			
	comp=N,1980µm,0.5s								
TOLF	**Tolfa**	**1.02**	**241**	⇑P		**Pg**	**01 29 03.3 -0.1**		
TOLF				AML		AML			
	comp=E,1625µm,0.7s								
TOLF				AML		AML			
	comp=E,1625µm,1.3s								
TOLF				AML		AML			
	comp=N,2080µm,0.9s								
COR1	**Corinaldo**	**1.07**	**352**	⇓P		**Pg**	**01 29 04.9 +0.6**		
COR1				AML		AML			
	comp=E,3330µm,1.0s								
COR1				AML		AML			
	comp=N,5205µm,1.0s								
PIEI	**Pieia**	**1.08**	**333**	⇑P		**Pb**	**01 29 04.8 +0.9**		
PIEI				AML		AML			
	comp=N,1170µm,0.6s								
PIEI				AML		AML			
	comp=E,1265µm,0.9s								
LATB	**Latina**	**1.09**	**190**	⇑P		**Pg**	**01 29 03.6 -1.1**		
LATB				AML		AML			
	comp=N,456µm,0.7s								
LATB				AML		AML			
	comp=E,656µm,0.8s								
LIK	**San Giovanni I**	**1.10**	**166**	⇓P		**Pn**	**01 29 06.5 +2.3**		
LIK				AML		AML			
	comp=E,2400µm,0.7s								
LIK				AML		AML			
	comp=N,1970µm,1.0s								
MPAG	**Monte Paganucc**	**1.11**	**343**	⇑P		**Pb**	**01 29 03.9 -0.5**		
MPAG				S		**Sn**	**01 29 21.6 +2.2**		
MPAG				AML		AML			
	comp=E,2115µm,0.9s								
MPAG				AML		AML			
	comp=N,1465µm,0.9s								
NARO	**Abbazia di Nar**	**1.14**	**337**	⇓P		**Pb**	**01 29 05.9 +1.1**		
NARO				AML		AML			
	comp=E,1550µm,0.6s								
NARO				AML		AML			
	comp=N,1335µm,0.4s								
CERA	**Filignano**	**1.15**	**148**	⇑P		**Pg**	**01 29 04.9 -0.9**		
CERA				AML		AML			
	comp=E,1530µm,0.7s								
CERA				AML		AML			
	comp=E,1550µm,0.7s								
CERA				AML		AML			
	comp=N,1710µm,0.7s								
CERA				AML		AML			
	comp=E,1530µm,1.3s								
CERA				AML		AML			
	comp=E,1550µm,1.3s								
CERA				AML		AML			
	comp=N,1675µm,0.7s								
SF04	**Casetta**	**1.17**	**284**	P		**Pb**	**01 29 06.8 +1.4**		
SF04				AML		AML			
	comp=E,770µm,1.2s								
SF04				AML		AML			
	comp=E,770µm,0.8s								
SF04				AML		AML			
	comp=N,592µm,0.9s								
CAFI	**Castiglion Fio**	**1.18**	**310**	⇓P		**Pg**	**01 29 09.1 +2.6**		
PE3	**Peglio**	**1.24**	**336**	⇓P		**Pb**	**01 29 08.4 +1.8**		
VAGA	**Valle Agricola**	**1.39**	**146**	⇑P		**Pg**	**01 29 10.1 -0.2**		
VAGA				AML		AML			
	comp=E,444µm,0.6s								
VAGA				AML		AML			
	comp=N,796µm,1.3s								
VAGA				AML		AML			
	comp=E,459µm,0.6s								
VAGA				AML		AML			
	comp=N,777µm,1.4s								
SGG	**Gregorio Mates**	**1.47**	**143**	⇑P		**Pg**	**01 29 13.0 +1.1**		
MAON	**Monte Argentar**	**1.54**	**265**	⇑P		**Pn**	**01 29 11.2 +0.9**		
MAON				AML		AML			
	comp=E,252µm,1.4s								
MAON				AML		AML			
	comp=E,252µm,0.6s								
MAON				AML		AML			
	comp=N,238µm,1.1s								
MELA	**Melanico ??? S**	**1.67**	**120**	P		**Pb**	**01 29 14.8 +0.9**		
RUFI	**Rufina**	**1.77**	**316**	⇓P		**Pn**	**01 29 15.3 +1.8**		
RUFI				AML		AML			
	comp=E,354µm,0.8s								
RUFI				AML		AML			
	comp=N,372µm,0.6s								
LMD	**Lutiriano**	**1.86**	**325**	P		**Pn**	**01 29 17.8 +3.0**		
BRIS	**BRISIGHELLA**	**2.00**	**323**	⇓P		**Pb**	**01 29 20.5 +0.9**		
PGF	**Pioggiola**	**3.10**	**271**	*e*Pn		**Pn**	**01 29 32.8 +0.9**		
PGF				*e*Sn		**Sn**	**01 30 08.3 -0.4**		
	comp=N,12nm,0.6s								
OPPE	**Oppeano**	**3.11**	**333**	P		**Pn**	**01 29 33.2 +1.4**		
OPPE				AML		AML			
	comp=E,550µm,1.5s								
OPPE				AML		AML			
	comp=N,577µm,1.6s								
OPPE				AML		AML			
	comp=E,550µm,0.5s								
MATE	**Matera**	**3.25**	**125**	⇓P		**Pn**	**01 29 35.7 +1.9**		
MATE				⇑S		**Sn**	**01 30 14.1 +2.0**		
STON	**Ston**	**3.33**	**83**	*e*Pn		**Pn**	**01 29 35.8 +1.0**		
STON				*e*Sn		**Sn**	**01 30 14.3 +0.3**		
ROVR	**Rover Verones**	**3.44**	**334**	⇑P		**Pn**	**01 29 39.1 +2.6**		
ROVR				S		**Sn**	**01 30 19.8 +2.9**		
ROVR				AML		AML			
	comp=E,46µm,0.8s								
ROVR				AML		AML			
	comp=N,85µm,0.9s								
ROVR				AML		AML			
	comp=E,46µm,1.2s								
CGRP	**Cima Grappa**	**3.46**	**344**	P		**Pn**	**01 29 39.2 +2.3**		
ORI	**Oriolo Calabro**	**3.50**	**135**	S		**Sg**	**01 30 34.4 -1.6**		
VARN	**Col Varnada, M**	**3.51**	**347**	S		**Sn**	**01 30 21.9 +3.2**		
VARN				AML		AML			
	comp=E,508µm,0.4s								
VARN				AML		AML			
	comp=N,234µm,0.6s								
VARN				AML		AML			
	comp=N,245µm,0.5s								
VARN				AML		AML			
	comp=E,518µm,0.4s								
DOSS	**Dosso del Somm**	**3.61**	**337**	⇑P		**Pn**	**01 29 41.5 +2.6**		
DOSS				AML		AML			
	comp=E,154µm,0.4s								
DOSS				AML		AML			
	comp=E,115µm,0.6s								
DOSS				AML		AML			
	comp=N,148µm,0.5s								
DOSS				AML		AML			
	comp=E,115µm,1.4s								
DOSS				AML		AML			
	comp=N,154µm,1.0s								
BLY	**Banja Luka**	**3.62**	**52**	*e*Pn		**Pn**	**01 29 41.8 +2.9**		
CTI	**Castel Tesino**	**3.65**	**343**	⇑P		**Pn**	**01 29 41.6 +2.2**		
CTI				S		**Sn**	**01 30 24.0 +1.8**		
STAL	**STALIGIAL**	**3.71**	**355**	⇓P		**Pn**	**01 29 42.5 +2.4**		
LUSI	**Trento, Gardas**	**3.76**	**335**	⇓P		**Pn**	**01 29 42.9 +2.0**		
LUSI				AML		AML			
	comp=E,126µm,1.6s								
LUSI				AML		AML			
	comp=N,174µm,0.7s								
LUSI				AML		AML			
	comp=E,126µm,0.4s								
LUSI				AML		AML			
	comp=N,174µm,1.3s								
TREB	**Trebinje**	**3.80**	**86**	*e*Pn		**Pn**	**01 29 44.5 +3.1**		
TREB				*e*Sn		**Sn**	**01 30 26.0 +0.3**		
MABI	**Malga Bissina**	**3.98**	**332**	⇑P		**Pn**	**01 29 46.5 +2.4**		
MABI				AML		AML			
	comp=N,70µm,0.7s								
MABI				AML		AML			
	comp=E,47µm,0.9s								
OBKA	**Obir**	**4.05**	**13**	*e*Pn		**Pn**	**01 29 46.5 +1.5**		
	comp=E,1.8nm,0.2s								
MYKA	**Terra Mystica**	**4.07**	**4**	*i* Pn		**Pn**	**01 29 47.1 +2.0**		
	comp=E,6.0nm,0.3s								
BOSI	**Bolzano**	**4.15**	**342**	S		**Sn**	**01 30 35.9 +1.7**		
APPI	**Appiano**	**4.16**	**341**	⇑P		**Pn**	**01 29 49.4 +3.1**		
ABTA	**Abfaltersbach**	**4.21**	**354**	*i* Pn		**Pn**	**01 29 49.4 +2.4**		
	comp=E,21nm,0.5s								
ABTA				*e*Sn		**Sn**	**01 30 38.0 +2.3**		
	comp=E,43nm,0.6s								
TIP	**Timpagrande**	**4.33**	**140**	⇓P		**Pn**	**01 29 51.8 +3.1**		
SBF	**Sospel**	**4.41**	**289**	*e*Pn		**Pn**	**01 29 50.7 +0.9**		
SBF				*e*Sn		**Sn**	**01 30 39.2 -1.6**		
	comp=E,7.3nm,0.4s								
RISI	**Rein**	**4.45**	**350**	⇓P		**Pn**	**01 29 54.1 +3.7**		
PDG	**Podgorica**	**4.48**	**90**	⇑P		**Pn**	**01 29 52.3 +1.7**		
PDG				⇓S		**Sn**	**01 30 43.6 +1.3**		
PDG	**Podgorica**	**4.48**	**90**	*e*Pn		**Pn**	**01 29 52.1 +1.4**		
PDG				*e*Sn		**Sn**	**01 30 43.9 +1.6**		
KBA	**Koelnbreinsper**	**4.51**	**1**	*e*Pn		**Pn**	**01 29 53.0 +1.8**		
	comp=E,2.9nm,0.3s								
KBA				*e*Sn		**Sn**	**01 30 44.6 +1.2**		
	comp=E,31nm,0.4s								
BBLS	**Lazići**	**4.71**	**72**	*e*Pn		**Pn**	**01 29 55.9 +1.9**		
BBLS				*e*Sn		**Sn**	**01 30 50.2 +1.9**		
FETA	**Feichten**	**4.79**	**339**	*i* Pn		**Pn**	**01 29 58.9 +3.8**		
	comp=E,5.5nm,0.7s,SNR=4.1								
WTTA	**Wattenberg**	**4.82**	**347**	*i* Pn		**Pn**	**01 29 56.9 +1.3**		
	comp=E,4.2nm,0.3s								
SQTA	**Sankt Quirin**	**4.86**	**344**	*i* Pn		**Pn**	**01 30 00.5 +4.5**		
	comp=E,7.8nm,0.3s,SNR=5.2								
WATA	**Walderalm**	**4.90**	**347**	*i* Pn		**Pn**	**01 30 01.2 +4.5**		
	comp=E,4.6nm,0.3s,SNR=8.1								
ARSA	**Arzberg**	**4.96**	**19**	*e*Pn		**Pn**	**01 29 58.3 +1.0**		
	comp=E,2.1nm,0.4s								
LMR	**La Mourre**	**4.97**	**281**	*e*Pn		**Pn**	**01 29 56.9 -0.5**		
LMR				*e*Sn		**Sn**	**01 30 52.8 -1.7**		
MOTA	**Moosalm**	**5.00**	**343**	*i* Pn		**Pn**	**01 30 01.8 +3.8**		
	comp=E,4.6nm,0.5s,SNR=6.6								
SJES	**Sjenica**	**5.02**	**80**	*e*Pn		**Pn**	**01 30 00.5 +2.3**		
SJES				*e*Sn		**Sn**	**01 30 55.4 -0.5**		
TIR	**Tirane**	**5.12**	**102**	⇑P		**Pn**	**01 30 00.6 +1.2**		
TIR				⇑S		**Sn**	**01 30 57.2 -0.9**		
TIR	**Tirane**	**5.12**	**102**	*e*Pn		**Pn**	**01 30 01.1 +1.7**		
TIR				*e*Sn		**Sn**	**01 30 57.7 -0.4**		
BIOA	**Bad Ischl, Aus**	**5.13**	**3**	*e*Pn		**Pn**	**01 30 01.2 +1.5**		
	comp=E,6.4nm,0.4s								
MBDF	**Montbardon**	**5.14**	**297**	*e*Pn		**Pn**	**01 29 59.6 -0.3**		
MBDF				*e*Sn		**Sn**	**01 30 57.2 -1.7**		
	comp=E,3.5nm,0.5s								
DIVS	**Divibare**	**5.18**	**71**	*e*Pn		**Pn**	**01 30 01.6 +1.2**		
DIVS				*e*Sn		**Sn**	**01 31 00.3 +0.4**		
IVAS	**Ivanjica**	**5.19**	**76**	*e*Pn		**Pn**	**01 30 01.9 +1.4**		
IVAS				*e*Sn		**Sn**	**01 30 59.3 -0.7**		
RETA	**Reutte**	**5.21**	**341**	*i* Pn		**Pn**	**01 30 04.4 +3.6**		
	comp=E,2.7nm,0.5s								
DAVA	**Damuels**	**5.27**	**335**	*e*Pn		**Pn**	**01 30 05.6 +3.9**		
	comp=E,1.2nm,0.2s								
MOA	**Molln**	**5.33**	**8**	*e*Pn		**Pn**	**01 30 04.3 +1.9**		
	comp=E,2.7nm,0.3s								
MOA	**Molln**	**5.33**	**8**	*e*Pn		**Pn**	**01 30 04.3 +1.9**		
MOA				*e*Sn		**Sn**	**01 31 05.0 +1.5**		
MORH	**Mrgy, Hungar**	**5.34**	**45**	⇑P		**Pn**	**01 30 02.0 -0.4**		
MORH	**Mrgy, Hungar**	**5.34**	**45**	*e*Pn		**Pn**	**01 30 03.0 +0.6**		
FRGS	**Fruska Gora**	**5.43**	**59**	⇓P		**Pn**	**01 30 02.0 -1.8**		
FRGS	**Fruska Gora**	**5.43**	**59**	*e*Pn		**Pn**	**01 30 06.1 +2.3**		
HAGA	**Augusta**	**5.49**	**163**	P		**Pn**	**01 30 08.2 +3.6**		
TRUS	**Trudelj**	**5.50**	**70**	*e*Pn		**Pn**	**01 30 06.0 +1.2**		
LPL	**La Plagne**	**5.51**	**304**	*e*P		Pn	01 30 10.1 +5.0		
LPL				*e*Sn		**Sn**	**01 31 06.3 -1.9**		
	comp=E,3.7nm,0.5s								
RONA	**Rosalia, Austr**	**5.58**	**22**	*e*Pn		**Pn**	**01 30 07.3 +1.5**		
	comp=E,1.9nm,0.3s								
GRUS	**Gruza**	**5.65**	**74**	*e*Pn		**Pn**	**01 30 08.0 +1.3**		
GRUS				*e*Sn		**Sn**	**01 31 12.0 +0.9**		
CONA	**Conrad Observa**	**5.68**	**18**	*e*Pn		**Pn**	**01 30 08.1 +0.9**		
	comp=E,2.1nm,0.3s								
SMRF	**Simiane la Rot**	**5.74**	**287**	*e*P		**Pn**	**01 30 11.0 +2.9**		
SMRF				*e*Sn		**Sn**	**01 31 10.2 -3.4**		
	comp=E,1.2nm,0.5s								
ORIF	**Oris-en-Rattie**	**5.80**	**296**	*e*P		**Pn**	**01 30 13.5 +4.6**		
ORIF				*e*Sn		**Sn**	**01 31 13.1 -2.0**		
	comp=E,1.5nm,0.4s								
SELS	**Selova**	**5.85**	**81**	*e*Pn		**Pn**	**01 30 11.2 +1.6**		
SELS				*e*Sn		**Sn**	**01 31 17.2 +0.9**		
OHR	**Ohrid**	**5.86**	**102**	*e*Pn		**Pn**	**01 30 11.9 +2.2**		
OHR				*e*Sn		**Sn**	**01 31 15.4 -1.1**		
SKO	**Skopje**	**6.14**	**93**	*e*Pn		**Pn**	**01 30 15.6 +2.1**		
CKRC	**Cesky Krumlov**	**6.30**	**7**	*e*PN		**Pn**	**01 30 16.3 +0.6**		
CKRC				*e*SN		**Sn**	**01 31 24.9 -2.3**		
BOVS	**Bovan**	**6.32**	**77**	*e*Pn		**Pn**	**01 30 16.8 +0.9**		
BARS	**Barje**	**6.35**	**85**	*e*Pn		**Pn**	**01 30 17.6 +1.2**		
BARS				*e*Sn		**Sn**	**01 31 28.6 0.0**		
MODS	**Modra-Piesok**	**6.47**	**25**	*e*PN		**Pn**	**01 30 18.7 +0.6**		
CABF	**La Chapelle**	**6.49**	**311**	*e*P		**Pn**	**01 30 22.9 +4.5**		
CABF				*e*Sn		**Sn**	**01 31 30.5 -1.5**		
	comp=E,0.3nm,0.2s								
PRVS	**Prvonek**	**6.56**	**88**	*e*Pn		**Pn**	**01 30 20.7 +1.4**		
PRVS				*e*Sn		**Sn**	**01 31 33.8 +0.2**		
KHC	**Kasperske Hory**	**6.57**	**2**	*e*PN		**Pn**	**01 30 20.8 +1.4**		
KHC				*e*SN		**Sn**	**01 31 30.8 -3.1**		
VIVF	**Saint-Julien-l**	**6.59**	**293**	*e*Pn		**Pn**	**01 30 20.0 +0.3**		
ZAGS	**Zajecar**	**6.72**	**76**	*e*Pn		**Pn**	**01 30 22.2 +0.8**		
STIP	**Stip**	**6.74**	**94**	*i* Pn		**Pn**	**01 30 25.1 +3.4**		
BZS	**Buzias**	**6.78**	**60**	⇓P		**Pn**	**01 30 22.7 +0.4**		
BZS	**Buzias**	**6.78**	**60**	*e*Pn		**Pn**	**01 30 23.1 +0.8**		
KRUC	**Moravsky**	**6.87**	**18**	*e*PN		**Pn**	**01 30 23.8 +0.4**		
KRUC				*e*SN		**Sn**	**01 31 36.7 -4.4**		
HINF	**Hinteralfeld**	**6.90**	**322**	*e*Pn		**Pn**	**01 30 24.1 +0.1**		
HINF				*e*Sn		**Sn**	**01 31 39.2 -2.9**		
	comp=E,3.4nm,0.4s								
ZAPS	**Zavoj**	**6.96**	**81**	*e*Sn		**Sn**	**01 31 42.1 -1.5**		
LASF	**Ste Croix**	**6.98**	**286**	*e*Pn		**Pn**	**01 30 25.9 +0.8**		
LASF				*e*Sn		**Sn**	**01 31 40.5 -3.5**		
	comp=E,0.5nm,0.3s								
SIRR	**Siria**	**7.09**	**56**	⇓P		**Pn**	**01 30 25.3 -1.3**		
VAY	**Valandovo**	**7.09**	**97**	*e*Pn		**Pn**	**01 30 28.3 +1.7**		
VAY				*e*Sn		**Sn**	**01 31 44.2 -2.6**		
VYHS	**Vyhne**	**7.12**	**32**	*e*PN		**Pn**	**01 30 27.7 +0.7**		
CDF	**Champ du Feu**	**7.17**	**327**	*e*Pn		**Pn**	**01 30 28.4 +0.7**		
CDF				*e*Sn		**Sn**	**01 31 45.8 -3.0**		
	comp=E,5.8nm,0.5s								
HAU	**Haudompre**	**7.27**	**321**	*e*Pn		**Pn**	**01 30 28.9 -0.1**		
HAU				*e*Sn		**Sn**	**01 31 48.0 -3.2**		
	comp=E,7.2nm,0.4s								
VTS	**Vitosha**	**7.41**	**86**	⇑P		**Pn**	**01 30 32.3 +1.3**		
VTS	**Vitosha**	**7.41**	**86**	*e*Pn		**Pn**	**01 30 32.7 +1.7**		
VTS	**Vitosha**	**7.41**	**86**	*e*Pn		**Pn**	**01 30 32.8 +1.7**		
VTS				*e*Sn		**Sn**	**01 31 53.5 -1.2**		
VTS				*e*Sn		**Sn**	**01 31 53.5 -1.2**		
GZR	**Gura Zlata**	**7.46**	**65**	⇑P		**Pn**	**01 30 30.0 -1.7**		
NKC	**Novy Kostel**	**7.68**	**356**	*e*SN		**Sn**	**01 31 59.9 -1.4**		
SMF	**Signal de Mont**	**7.82**	**305**	*e*P		Pn	01 30 43.2 +6.6		
SMF				*e*Sn		**Sn**	**01 32 00.6 -4.1**		
	comp=E,3.2nm,0.5s								
PAGF	**Fort de Pagny**	**7.96**	**321**	*e*Pn		**Pn**	**01 30 38.7 +0.3**		
PAGF				*e*Sn		**Sn**	**01 32 04.5 -3.5**		
	comp=E,1.0nm,0.3s								
DRGR		**7.98**	**55**	*e*Pn		**Pn**	**01 30 40.8 +2.0**		
DRGR				*e*Sn		**Sn**	**01 32 07.6 -1.1**		
SFTF	**Sexfontaines**	**8.04**	**317**	*e*P		Pn	01 30 46.3 +6.7		
	baz=136								
SFTF				*e*Sn		**Sn**	**01 32 06.0 -4.2**		
	comp=E,1.7nm,0.2s								
MTLF	**Montolieu**	**8.10**	**279**	*e*P		**Pn**	**01 30 43.7 +3.4**		
LOR	**Lormes**	**8.12**	**309**	*e*P		Pn	01 30 46.0 +5.3		
	baz=137								
LOR				*e*Sn		**Sn**	**01 32 08.7 -3.4**		
	comp=E,1.8nm,0.4s								
MARR	**Marisel-Cluj**	**8.18**	**56**	⇑P		**Pn**	**01 30 42.0 +0.5**		
AVF	**Avril sur Loir**	**8.19**	**304**	*e*P		Pn	01 30 46.7 +5.1		
AVF				*e*Sn		**Sn**	**01 32 09.5 -4.2**		
	comp=E,0.5nm,0.3s								
SSF	**Saint Saulge**	**8.22**	**306**	*e*P		Pn	01 30 47.7 +5.6		
SSF				*e*Sn		**Sn**	**01 32 12.3 -2.3**		
	comp=E,0.5nm,0.2s								
MEZF	**Maizieres J'vi**	**8.24**	**319**	*e*P		Pn	01 30 47.7 +5.4		
SAVF	**Savonnieres en**	**8.28**	**320**	*e*Pn		**Pn**	**01 30 43.2 +0.3**		
	baz=144								
BGF	**Bois d'Agland**	**8.40**	**302**	*e*P		Pn	01 30 50.5 +6.0		
BGF				*e*Sn		**Sn**	**01 32 14.5 -4.4**		
	comp=E,2.3nm,0.5s								
CAF	**Calviac**	**8.40**	**290**	*e*Pn		**Pn**	**01 30 43.2 -1.3**		
CAF	**Calviac**	**8.40**	**290**	*e*P		**Pn**	**01 30 47.9 +3.4**		
CAF				*e*Sn		**Sn**	**01 32 15.7 -3.3**		
	comp=E,0.4nm,0.2s								
PLD	**Plovdiv**	**8.53**	**89**	*e*Pn		**Pn**	**01 30 48.7 +2.4**		
CLL	**Collm**	**8.74**	**359**	*e*Pn		Pn	01 30 55.0 +5.8		
CLL				*e*Sn		Sn	01 32 20.0 -7.3		
CLL				*ex*		x	01 32 41.0		
CLL				*e*(Sg)			01 33 21.0		
RJF	**Les Rejaudoux**	**8.86**	**292**	*e*Pn		**Pn**	**01 30 51.2 +0.3**		
LFF	**La Frestale**	**9.32**	**289**	*e*P		Pn	01 31 02.9 +5.7		
BAIF	**Baives**	**9.73**	**323**	*e*P		Pn	01 31 09.1 +6.4		

ROM 19 01:36:12.6±0.1, 42°613N±0'003×13°301E±0'005, h10km, ML2.6/16, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=66.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.03**	**56**	P	Pg	01 36 14.8	+0.2
SMA1				S	Sg	01 36 15.9	-0.1
SMA1				AML	AML		
	comp=E,64650µm,0.3s						
SMA1				AML	AML		
	comp=N,91500µm,0.4s						
SMA1				AML	AML		
	comp=E,56400µm,0.3s						
CAMP	**Campotosto**	**0.11**	**134**	⇓P	Pg	01 36 16.0	+0.6
CAMP				S	Sg	01 36 18.1	+0.7
CAMP				AML	AML		
	comp=E,3525µm,0.2s						
CAMP				AML	AML		
	comp=N,1950µm,0.6s						
CAMP				AML	AML		
	comp=E,3522µm,0.2s						
CAMP				AML	AML		
	comp=N,1854µm,0.2s						
T1218	**Civita (PG)**	**0.15**	**293**	⇑P	Pg	01 36 16.4	+0.4
T1218				S	Sg	01 36 18.8	+0.5
T1218				AML	AML		
	comp=E,2785µm,0.7s						
T1218				AML	AML		
	comp=N,6515µm,0.3s						
T1218				AML	AML		
	comp=E,2610µm,0.7s						
T1218				AML	AML		
	comp=N,6525µm,0.3s						
T1218				AML	AML		
	comp=E,2785µm,0.7s						
T1218				AML	AML		
	comp=E,2605µm,0.7s						
T1218				AML	AML		
	comp=N,6515µm,0.3s						
T1218				AML	AML		
	comp=N,6530µm,0.3s						
T1218				AML	AML		
	comp=N,6529µm,0.3s						
T1218				AML	AML		
	comp=E,2107µm,0.1s						
T1218				AML	AML		
	comp=N,6515µm,0.3s						
T1218				AML	AML		
	comp=E,2212µm,0.1s						
T1247	**Pizzolo (AQ)**	**0.17**	**181**	P	Pg	01 36 17.1	+0.8
T1247				S	Sg	01 36 20.3	+1.4
T1247				AML	AML		
	comp=E,5055µm,0.2s						
T1247				AML	AML		
	comp=N,4995µm,1.1s						
T1247				AML	AML		
	comp=E,5057µm,0.2s						
T1247				AML	AML		
	comp=N,4746µm,0.2s						
LNSS	**Leonessa**	**0.19**	**267**	P	Pg	01 36 17.2	+0.5
LNSS				S	Sg	01 36 20.9	+1.4
LNSS				AML	AML		
	comp=E,4090µm,0.4s						
LNSS				AML	AML		
	comp=N,3025µm,0.1s						
LNSS				AML	AML		
	comp=N,3023µm,0.1s						
LNSS				AML	AML		
	comp=E,3417µm,0.2s						
GIGS	**Gran Sasso**	**0.26**	**129**	P	Pg	01 36 18.4	+0.5
GIGS				S	Sg	01 36 22.6	+1.2
GIGS				AML	AML		
	comp=E,370µm,1.0s						
GIGS				AML	AML		
	comp=E,370µm,1.0s						
GIGS				AML	AML		
	comp=N,306µm,0.8s						
GIGS				AML	AML		
	comp=N,242µm,0.1s						
GIGS				AML	AML		
	comp=E,277µm,0.3s						
FIAM	**Fiamignano**	**0.37**	**202**	P	Pg	01 36 20.4	+0.4
FIAM				S	Sb	01 36 26.2	-1.0
FIAM				AML	AML		
	comp=E,286µm,0.5s						
FIAM				AML	AML		
	comp=N,305µm,0.8s				

FDMO				S	Sb	01 36 28.6	-0.9
FDMO				AML	AML		
	comp=E,515µm,0.1s						
FDMO				AML	AML		
	comp=N,516µm,0.2s						
FDMO				AML	AML		
	comp=E,515µm,0.1s						
FDMO				AML	AML		
	comp=N,516µm,0.2s						
CSP1	**Cessapalombo**	**0.48**	**352**	P	Pg	01 36 22.2	+0.2
CSP1				S	Sb	01 36 29.9	-0.7
CSP1				AML	AML		
	comp=E,605µm,0.3s						
CSP1				AML	AML		
	comp=N,804µm,0.4s						
CSP1				AML	AML		
	comp=E,605µm,0.3s						
CSP1				AML	AML		
	comp=N,804µm,0.4s						
CESI	**CESI - Serrava**	**0.49**	**323**	P	Pg	01 36 22.3	+0.2
CESI				S	Sb	01 36 29.8	-0.9
T1220	**Camerino, Fraz**	**0.52**	**343**	P	Pg	01 36 22.8	0.0
T1220				S	Sb	01 36 30.9	-0.6
T1220				AML	AML		
	comp=E,1560µm,0.3s						
T1220				AML	AML		
	comp=E,1585µm,0.3s						
T1220				AML	AML		
	comp=N,1955µm,0.6s						
T1220				AML	AML		
	comp=N,1955µm,0.6s						
T1220				AML	AML		
	comp=N,1855µm,0.2s						
T1220				AML	AML		
	comp=N,1802µm,0.2s						
T1220				AML	AML		
	comp=E,1559µm,0.3s						
T1220				AML	AML		
	comp=E,1585µm,0.3s						
CESX	**Cesi**	**0.53**	**270**	P	Pg	01 36 23.0	+0.1
CESX				S	Sb	01 36 30.9	-0.9
CESX				AML	AML		
	comp=N,574µm,1.4s						
CESX				AML	AML		
	comp=E,430µm,0.2s						
CESX				AML	AML		
	comp=N,574µm,0.6s						
CESX				AML	AML		
	comp=E,430µm,0.2s						
CESX				AML	AML		
	comp=N,455µm,0.2s						
MOMA	**Monte Martano**	**0.57**	**290**	P	Pg	01 36 24.1	+0.4
MOMA				S	Sb	01 36 32.7	-0.3
PTQR	**Pietraquaria**	**0.59**	**173**	P	Pg	01 36 24.3	+0.1
SRES	**S.Oreste - Sor**	**0.70**	**238**	P	Pg	01 36 26.2	+0.2
SRES				AML	AML		
	comp=N,85µm,0.5s						
SRES				AML	AML		
	comp=E,75µm,0.5s						
CERT	**Cerreto**	**0.70**	**200**	P	Pg	01 36 26.4	+0.1
CERT				AML	AML		
	comp=E,198µm,1.5s						
CERT				AML	AML		
	comp=N,194µm,0.4s						
CERT				AML	AML		
	comp=N,193µm,0.4s						
EL6	**Elcito**	**0.73**	**349**	P	Pg	01 36 26.6	-0.1
EL6				AML	AML		
	comp=E,509µm,1.5s						
EL6				AML	AML		
	comp=N,556µm,1.4s						
EL6				AML	AML		
	comp=E,509µm,0.5s						
EL6				AML	AML		
	comp=N,556µm,0.6s						
CING	**Cingoli**	**0.77**	**354**	P	Pg	01 36 27.2	-0.1
CING				AML	AML		
	comp=E,402µm,0.5s						
CING				AML	AML		
	comp=N,454µm,0.2s						
CING				AML	AML		
	comp=N,454µm,0.2s						
CING				AML	AML		
	comp=E,343µm,0.2s						
FOSV	**Fossato di Vic**	**0.79**	**330**	AML	AML		
	comp=E,137µm,0.4s						
FOSV				AML	AML		
	comp=N,137µm,0.3s						
SSFR	**Montelago di S**	**0.91**	**335**	P	Pg	01 36 29.8	-0.2
SSFR				AML	AML		
	comp=E,300µm,0.2s						
SSFR				AML	AML		
	comp=N,330µm,0.3s						
SSFR				AML	AML		
	comp=E,300µm,0.2s						
SSFR				AML	AML		
	comp=N,336µm,0.3s						
SSFR				AML	AML		
	comp=E,315µm,0.2s						
PIEI	**Pieia**	**1.08**	**329**	P	Pg	01 36 32.9	-0.5
PIEI				AML	AML		
	comp=E,74µm,0.3s						
PIEI				AML	AML		
	comp=N,56µm,0.2s						
MODR	**Mondragone**	**1.53**	**163**	S	Sg	01 37 02.9	+1.2

ROM 19 01:36:55.9±0.1, 42°.602N±0°.004×13°.306E±0°.005, h10km, ML2.0/5, 8C-5D, Error ellipse: s-maj=0.5km s-min=0.2km az=214.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.10**	**131**	⇑P	Pg	01 36 59.0	+0.4
CAMP				S	Sg	01 37 01.1	+0.5
CAMP				AML	AML		
	comp=E,1505µm,0.8s						
CAMP				AML	AML		
	comp=N,780µm,0.7s						
T1218	**Civita (PG)**	**0.16**	**296**	⇑P	Pg	01 36 59.8	+0.3
T1218				S	Sg	01 37 02.5	+0.6
T1218				AML	AML		
	comp=N,1510µm,0.2s						
T1218				AML	AML		
	comp=E,676µm,0.4s						
T1218				AML	AML		
	comp=N,1520µm,0.2s						
T1218				AML	AML		
	comp=N,1515µm,0.2s						
T1218				AML	AML		
	comp=N,1515µm,0.2s						
T1218				AML	AML		
	comp=E,676µm,0.3s						
T1218				AML	AML		
	comp=E,691µm,0.4s						
T1247	**Pizzolo (AQ)**	**0.16**	**182**	⇑P	Pg	01 37 00.2	+0.7
T1247				S	Sg	01 37 03.2	+1.3
T1247				AML	AML		
	comp=E,1450µm,0.6s						
T1247				AML	AML		
	comp=N,1162µm,0.4s						
T1247				AML	AML		
	comp=N,1162µm,1.6s						
LNSS	**Leonessa**	**0.20**	**270**	⇑P	Pg	01 37 00.6	+0.5
LNSS				S	Sg	01 37 04.1	+1.2
LNSS				AML	AML		
	comp=N,600µm,0.6s						
LNSS				AML	AML		
	comp=E,964µm,0.6s						
GIGS	**Gran Sasso**	**0.25**	**128**	⇑P	Pg	01 37 01.5	+0.5
GIGS				S	Sg	01 37 05.4	+1.0
FIAM	**Fiamignano**	**0.36**	**203**	⇓P	Pg	01 37 03.6	+0.5
ARRO	**Arrone**	**0.40**	**267**	⇓P	Pg	01 37 04.1	+0.3
GUMA	**Gualdo di Mace**	**0.46**	**3**	P	Pb	01 37 05.7	-0.4
FDMO	**Fiordimonte**	**0.46**	**340**	⇓P	Pg	01 37 05.2	+0.3
FDMO				AML	AML		
	comp=N,189µm,0.1s						
FDMO				AML	AML		
	comp=E,188µm,0.6s						
CSP1	**Cessapalombo**	**0.49**	**351**	⇑P	Pg	01 37 05.8	+0.2
CSP1				S	Sb	01 37 13.4	-0.7
CESI	**CESI - Serrava**	**0.50**	**324**	⇓P	Pg	01 37 05.9	+0.3
T1220	**Camerino, Fraz**	**0.53**	**343**	⇑P	Pg	01 37 06.5	+0.2
CESX	**Cesi**	**0.54**	**271**	⇑P	Pg	01 37 06.5	+0.2
CESX				S	Sb	01 37 14.6	-0.6
MOMA	**Monte Martano**	**0.58**	**291**	⇓P	Pg	01 37 07.4	+0.3

JSN 19 01:37:10.4±0.5, 19°.80N×76°.57W, h30km±999km, MD4.0
SSNC 19 01:37:10.6±1.2, 19°.71N×76°.62W, h1km±5km, ML3.3, MW3.2
OSPL 19 01:37:13.0±0.9, 19°.49N×76°.55W, h69km±36km, ML2.9
ISC 19 01:37:09.6±1.3, 19.73N±0.04×76.67W±0.03, h25km±14km, n20, σ1§30/28, 5C-3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.46**	**316**	*e*P	**Pb**	**01 37 19.7**	**+0.5**
RCC	**Rio Carpintero**	**0.95**	**74**	*e*P	**Pb**	**01 37 26.9**	**-0.5**
RCC				*e*S	**Sb**	**01 37 38.5**	**-1.1**
HLGC	**Holguin**	**1.28**	**26**	*e*P	**Pn**	**01 37 32.9**	**+0.9**
HLGC				IAML		01 37 51.6	
	comp=E,1µm,0.5s						
HLGC				IAML		01 37 51.7	
	comp=N,745nm,0.4s						
BNJ	**Bonny Gate**	**1.43**	**191**	⇓*i*P	**Pn**	**01 37 34.6**	**+0.6**
BBJ	**Bamboo Saint A**	**1.46**	**203**	⇑*i*P	**Pn**	**01 37 35.0**	**+0.6**
GTBY	**Guantanamo Bay**	**1.48**	**82**	*e*P	**Pn**	**01 37 35.2**	**+0.6**
GTBY				*e*S	**Sn**	**01 37 53.0**	**-0.1**
GTBY	**Guantanamo Bay**	**1.48**	**82**	*i* P	**Pn**	**01 37 35.4**	**+0.7**
GTBY				*e*S	**Sn**	**01 37 53.2**	**+0.1**
GTBY				IAML		01 37 59.3	
	comp=Z,172nm,0.3s						
GWJ	**Greenwich**	**1.65**	**182**	⇓*i*P	**Pn**	**01 37 37.4**	**+0.3**
STH	**Stony Hill**	**1.65**	**185**	⇓*i*P	**Pn**	**01 37 37.4**	**+0.3**
CVJ	**Coleyville**	**1.71**	**209**	⇑*i*P	**Pn**	**01 37 38.8**	**+0.8**
MTDJ	**Mount Denham**	**1.71**	**209**	*e*P	**Pn**	**01 37 38.5**	**+0.6**
MTDJ	**Mount Denham**	**1.71**	**209**	*i* P	**Pn**	**01 37 38.4**	**+0.5**
MTDJ				*e*S	**Sn**	**01 37 56.2**	**-2.8**
MTDJ				IAML		01 38 03.9	
	comp=Z,126nm,0.7s						
HOJ	**Hope**	**1.72**	**183**	⇑*i*P	**Pn**	**01 37 38.7**	**+0.7**
CCCC	**Cccc**	**1.79**	**325**	*e*P	**Pn**	**01 37 37.7**	**-1.2**
CCCC				*e*S	**Sn**	**01 37 58.4**	**-2.4**
MOAC	**Moa**	**1.85**	**60**	*e*P	**Pn**	**01 37 41.2**	**+1.5**
PCJ	**Portland Cotta**	**2.04**	**193**	⇑*i*P	**Pn**	**01 37 43.4**	**+1.1**
MCJ	**Malvern**	**2.04**	**208**	⇑*i*P	**Pn**	**01 37 43.7**	**+1.2**
MCJ				*i* S	**Sn**	**01 38 08.4**	**+1.2**
MASC	**Masc**	**2.33**	**79**	*e*P	**Pn**	**01 37 47.4**	**+1.0**
MASC				*e*S	**Sn**	**01 38 14.5**	**+0.2**
MASC	**Masc**	**2.33**	**79**	*i* P	**Pn**	**01 37 47.5**	**+1.2**
MASC				*e*S	**Sn**	**01 38 12.8**	**-1.4**
MASC				IAML		01 38 22.8	
	comp=Z,36nm,0.8s						
MGV	**Manicaragua**	**3.90**	**308**	*e*P	**Pn**	**01 38 10.9**	**+3.0**

IDC 19 01:44:02.4±2.9, 36°.19N×141°.42E, h0km, mb3.3/3, mbtmp3.4/5, ML3.0/2, MS2.7/2, Error ellipse: s-maj=64.8km s-min=27.8km az=64.0
JMA 19 01:44:07.8±0.1, 36°.1N±0°.3×141°.0E±0°.9, h42km±1km, MV3.0/37, E OFF IBARAKI PREF
ISC 19 01:44:08.2±1.4, 36°.15N±0°.05×141°.07E±0°.08, h32km±8km, n20, σ0§89/20, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.43**	**296**	P	**Pb**	**01 44 17.8**	**+0.2**
JHYU				*e*S	**Sb**	**01 44 24.6**	**+0.5**
JIHU	**Itakohorinouch**	**0.48**	**247**	P	**Pb**	**01 44 18.4**	**+0.1**
JIHU				*e*S	**Sb**	**01 44 25.9**	**+0.6**
CHOJ	**Chosi**	**0.48**	**201**	P	**Pb**	**01 44 17.6**	**-0.7**
CHOJ				S	**Sb**	**01 44 24.5**	**-0.9**
JHO	**Hitachi**	**0.61**	**319**	P	**Pn**	**01 44 20.1**	**-0.6**
JYT	**Yasato**	**0.71**	**276**	*e*P	**Pn**	**01 44 21.2**	**-0.8**
JYT				S	**Sn**	**01 44 30.3**	**-1.5**
JSMT	**Sammumatsuo**	**0.72**	**225**	*e*P	**Pn**	**01 44 21.4**	**-0.7**
JFK	**Kawauchi**	**1.22**	**353**	*e*P	**Pn**	**01 44 28.6**	**-0.5**
JAG	**Ashikaga**	**1.33**	**282**	P	**Pn**	**01 44 30.3**	**-0.3**
JAG				S	**Sn**	**01 44 46.2**	**-1.0**
MJAR	**Matsushiro Arr**	**2.34**	**280**	Pn	**Pn**	**01 44 44.9**	**+0.5**
	1.1nm,0.3s,baz=95,slow=9.5,SNR=22						
MJAR				Sn	**Sn**	**01 45 12.2**	**+0.1**
	0.8nm,0.3s,baz=98,slow=31,SNR=3.7						
MJAR				LR	LR	01 45 50.9	
	comp=Z,128nm,18.5s,baz=96,slow=41 23nm,0.6s						
JHJ	**Hachijo jima 2**	**3.21**	**200**	Pn	**Pn**	**01 44 57.8**	**+1.4**
	9.5nm,0.3s,baz=23,slow=17,SNR=1.1						
JHJ				Sn	**Sn**	**01 45 33.8**	**+0.4**
	28nm,0.3s,baz=346,slow=23,SNR=9.7 87nm,0.7s						
JOW	**Kunigami**	**14.32**	**233**	LR	LR	01 53 06.1	
	comp=Z,31nm,18.1s,baz=322,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.95**	**119**	T	T	02 19 04.9	
	baz=311,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**27.96**	**119**	T	T	02 19 08.2	
	baz=311,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**27.97**	**119**	T	T	02 19 09.0	
	baz=311,slow=75,SNR=12						
SONM	**Songino Array**	**28.06**	**305**	P	**P**	**01 49 57.6**	**+0.9**
	0.3nm,0.6s,baz=100,slow=7.8,SNR=1.5 0.3nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.63**	**121**	T	T	02 20 02.6	
	baz=313,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**28.63**	**121**	T	T	02 19 54.3	
	baz=313,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.65**	**121**	T	T	02 19 58.7	
	baz=313,slow=76,SNR=16						
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**01 52 16.4**	**+1.0**
	0.2nm,0.6s,baz=83,slow=9.6,SNR=2.4 0.2nm,0.6s						
WRA	**Warramunga Arr**	**56.15**	**188**	P	**P**	**01 53 43.6**	**-1.2**
	0.2nm,0.4s,baz=2.5,slow=7.6,SNR=5.0 0.2nm,0.4s						

SSNC 19 01:49:07.6±1.2, 19°.72N×76°.65W, h7km±10km, MD3.0, ML2.8, MW3.1
OSPL 19 01:49:08.1±0.5, 19°.26N×76°.32W, h118km±8km, ML2.5
JSN 19 01:49:08.6±0.3, 19°.65N×76°.56W, h43km±7km, MD3.7
ISC 19 01:49:05.6±1.3, 19.70N±0.06×76.64W±0.04, h17km±12km, n14, σ0§78/19, 4C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.50**	**316**	*e*P	**Pg**	**01 49 16.0**	**+0.3**
LMGC				*e*S	**Sg**	**01 49 21.9**	**-0.5**
RCC	**Rio Carpintero**	**0.93**	**71**	*e*P	**Pg**	**01 49 24.0**	**+0.4**
RCC				*e*S	**Sg**	**01 49 34.9**	**-1.0**
HLGC	**Holguin**	**1.30**	**24**	*e*P	**Pn**	**01 49 29.4**	**+0.3**
HLGC				IAML		01 49 47.6	
	comp=N,182nm,0.6s						
HLGC				IAML		01 49 48.1	
	comp=E,327nm,0.5s						
BNJ	**Bonny Gate**	**1.40**	**192**	*i* P	**Pn**	**01 49 31.0**	**+0.5**
GTBY	**Guantanamo Bay**	**1.45**	**81**	*e*P	**Pn**	**01 49 32.2**	**+1.1**
GTBY	**Guantanamo Bay**	**1.45**	**81**	*i* P	**Pn**	**01 49 31.9**	**+0.8**
GTBY				*e*S	**Sn**	**01 49 50.1**	**+0.3**
GTBY				IAML		01 50 02.3	
	comp=Z,74nm,0.6s						
GWJ	**Greenwich**	**1.62**	**183**	⇑*i*P	**Pn**	**01 49 33.9**	**+0.4**
STH	**Stony Hill**	**1.62**	**186**	⇑*i*P	**Pn**	**01 49 33.9**	**+0.4**
MTDJ	**Mount Denham**	**1.69**	**210**	⇑*e*P	**Pn**	**01 49 34.9**	**+0.4**
MTDJ				*e*P	**Pn**	**01 49 35.0**	**+0.4**
MTDJ	**Mount Denham**	**1.69**	**210**	*i* P	**Pn**	**01 49 35.0**	**+0.4**
MTDJ				*e*S	**Sn**	**01 49 54.4**	**-1.6**
MTDJ				IAML		01 50 01.3	
	comp=Z,40nm,0.6s						
CCCC	**Cccc**	**1.83**	**325**	*e*P	Pn	01 49 34.2	-2.1
PCJ	**Portland Cotta**	**2.01**	**194**	*i* P	**Pn**	**01 49 39.5**	**+0.7**
MCJ	**Malvern**	**2.03**	**210**	⇑*i*P	**Pn**	**01 49 40.1**	**+1.0**
MCJ				*i* S	**Sn**	**01 50 03.7**	**-0.4**
MASC	**Masc**	**2.31**	**78**	*i* P	**Pn**	**01 49 42.1**	**-0.7**
MASC				IAML		01 50 28.1	
	comp=Z,20nm,2.4s						

ROM 19 01:53:07.4±0.0, 42°.597N±0°.003×13°.305E±0°.004, h8km, ML3.5/53, Error ellipse: s-maj=0.4km s-min=0.2km az=242.0
IDC 19 01:53:08.8±1.3, 42°.77N×13°.16E, h0km, mb3.6/4, mbtmp3.5/9, ML3.5/5, MS2.8/5, Error ellipse: s-maj=25.5km s-min=14.0km az=89.0
BEO 19 01:53:09.1±0.6, 42°.61N×13°.28E, h0km, ML3.7/11
LDG 19 01:53:09.1±0.2, 42°.50N×13°.32E, h8km, Ml3.2/25, Error ellipse: s-maj=4.5km s-min=3.4km az=52.0
PRU 19 01:53:10.9±0.0, 42°.75N×13°.54E, h0km
ISC 19 01:53:08.4±0.7, 42°.61N±0°.02×13°.27E±0°.02, h9km±4km, n228, σ1§72/301, mb3.7/4, 18C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.06**	**70**	⇑P	**Pg**	**01 53 09.2**	**-1.2**
SMA1				S	**Sg**	**01 53 10.2**	**-1.6**
SMA1				AML	AML		
SMA1				AML	AML		
T1202	**Accumoli, Fraz**	**0.10**	**342**	⇓P	**Pg**	**01 53 10.9**	**+0.1**
T1202				S	**Sg**	**01 53 13.4**	**+0.7**
T1218	**Civita (PG)**	**0.12**	**298**	⇓P	**Pg**	**01 53 11.4**	**+0.1**
T1218				S	**Sg**	**01 53 14.2**	**+0.9**
T1218				AML	AML		
	comp=E,37050µm,0.9s						
T1218				AML	AML		
	comp=E,39600µm,0.9s						
T1218				AML	AML		
	comp=N,77300µm,0.2s						
T1218				AML	AML		
	comp=N,76550µm,0.2s						
T1218				AML	AML		
	comp=E,37100µm,0.9s						
CAMP	**Campotosto**	**0.13**	**126**	⇑P	**Pg**	**01 53 10.4**	**-1.0**
CAMP				S	**Sg**	**01 53 12.5**	**-1.0**
CAMP				AML	AML		
	comp=E,23700µm,0.8s						
CAMP				AML	AML		
	comp=N,26800µm,0.6s						
CAMP				AML	AML		
	comp=E,23700µm,1.2s						
LNSS	**Leonessa**	**0.17**	**267**	⇑P	**Pg**	**01 53 12.3**	**+0.4**
LNSS				S	**Sb**	**01 53 15.8**	**+1.4**
LNSS				AML	AML		
	comp=N,30200µm,1.4s						
LNSS				AML	AML		
	comp=N,30200µm,0.6s						
LNSS				AML	AML		
	comp=E,47900µm,0.9s						
T1247	**Pizzolo (AQ)**	**0.17**	**172**	⇑P	**Pg**	**01 53 11.6**	**-0.4**
T1247				S	**Sg**	**01 53 14.6**	**+0.1**
T1247				AML	AML		
	comp=E,36800µm,1.1s						
T1247				AML	AML		
	comp=N,51100µm,1.4s						
T1247				AML	AML		
	comp=N,51100µm,0.6s						
NRCA	**Norcia**	**0.25**	**333**	P	**Pg**	**01 53 13.5**	**+0.1**
NRCA				S	**Sb**	**01 53 18.0**	**+1.2**
AQU	**L'Aquila**	**0.28**	**159**	P	**Pg**	**01 53 13.3**	**-0.6**
AQU				S	**Sg**	**01 53 17.1**	**-0.6**
GIGS	**Gran Sasso**	**0.28**	**126**	P	**Pg**	**01 53 12.7**	**-1.2**
GIGS				S	**Sg**	**01 53 17.0**	**-0.7**
GIGS				AML	AML		
	comp=N,4235µm,0.5s						
GIGS				AML	AML		
	comp=E,5010µm,0.4s						
FIAM	**Fiamignano**	**0.36**	**198**	⇑P	**Pg**	**01 53 15.1**	**-0.4**
FIAM				S	**Sg**	**01 53 21.2**	**+0.9**
FIAM				AML	AML		
	comp=E,5295µm,0.6s						
FIAM				AML	AML		
	comp=N,8010µm,1.3s						
FIAM				AML	AML		
	comp=N,8010µm,0.7s						
ARRO	**Arrone**	**0.37**	**265**	P	**Pg**	**01 53 15.8**	**+0.1**
ARRO				AML	AML		
	comp=N,6290µm,1.5s						
ARRO				AML	AML		
	comp=E,6265µm,0.9s						
FAGN	**Fagnano**	**0.42**	**146**	P	**Pg**	**01 53 16.0**	**-0.6**
FDMO	**Fiordimonte**	**0.44**	**343**	⇓P	**Pg**	**01 53 16.7**	**-0.4**
FDMO				S	**Sb**	**01 53 24.0**	**-1.3**
FDMO				AML	AML		
	comp=E,8050µm,0.7s						
FDMO				AML	AML		
	comp=N,9835µm,1.4s						
FDMO				AML	AML		
	comp=N,9835µm,0.6s						
FDMO				AML	AML		
	comp=E,8050µm,1.3s						
GUMA	**Gualdo di Mace**	**0.45**	**6**	P	**Pg**	**01 53 17.0**	**-0.3**
GUMA				S	**Sb**	**01 53 24.7**	**-0.8**
GUMA				AML	AML		
	comp=N,30000µm,0.7s						
GUMA				AML	AML		
	comp=E,39900µm,1.2s						
GUMA				AML	AML		
	comp=E,32950µm,1.1s						
GUMA				AML	AML		
	comp=E,39900µm,0.8s						
GUMA				AML	AML		
	comp=E,32950µm,0.9s						
GUMA				AML	AML		
	comp=N,31650µm,0.8s						
CESI	**CESI - Serrava**	**0.47**	**326**	⇓P	**Pg**	**01 53 17.4**	**-0.2**
CESI				S	**Sb**	**01 53 25.4**	**-0.7**
CESI				AML	AML		
	comp=E,8050µm,0.5s						
CESI				AML	AML		
	comp=N,12600µm,0.5s						
CSP1	**Cessapalombo**	**0.48**	**355**	⇑P	**Pg**	**01 53 17.2**	**-0.6**
CSP1				S	**Sb**	**01 53 25.1**	**-1.3**
CSP1				AML	AML		
	comp=E,9855µm,0.9s						
CSP1				AML	AML		
	comp=N,18900µm,1.2s						
CSP1				AML	AML		
	comp=E,9850µm,0.9s						
CSP1				AML	AML		
	comp=N,18900µm,0.8s						
CESX	**Cesi**	**0.51**	**270**	P	**Pg**	**01 53 18.1**	**-0.1**
CESX				S	**Sb**	**01 53 26.1**	**-0.9**
CESX				AML	AML		
	comp=E,4890µm,0.5s						
CESX				AML	AML		
	comp=N,6275µm,1.5s						
T1220	**Camerino, Fraz**	**0.51**	**345**	⇓P	**Pg**	**01 53 18.0**	**-0.4**
T1220				S	**Sb**	**01 53 26.5**	**-0.8**
T1220				AML	AML		
	comp=E,35000µm,0.3s						
T1220				AML	AML		
	comp=E,34400µm,0.3s						
T1220				AML	AML		
	comp=N,35850µm,0.4s						
T1220				AML	AML		
	comp=E,34400µm,0.3s						
T1220				AML	AML		
	comp=N,35850µm,0.4s						
T1220				AML	AML		
	comp=E,35000µm,1.7s						
T1220				AML	AML		
	comp=N,35900µm,0.5s						
T1220				AML	AML		
	comp=E,34400µm,1.7s						
T1220				AML	AML		
	comp=N,35850µm,1.6s						
TRTR	**Tortoreto Alta**	**0.52**	**68**	P	**Pg**	**01 53 18.6**	**+0.2**
MNTP	**Montappone**	**0.55**	**16**	P	**Pg**	**01 53 18.9**	**-0.1**
MNTP				S	**Sb**	**01 53 28.5**	**+0.3**
MOMA	**Monte Martano**	**0.55**	**291**	P	**Pg**	**01 53 19.0**	**0.0**
MOMA				S	**Sb**	**01 53 28.2**	**-0.1**
MOMA				AML	AML		
	comp=E,6465µm,1.4s						
MOMA				AML	AML		
	comp=E,6810µm,1.4s						
MOMA				AML	AML		
	comp=E,6465µm,1.4s						
MOMA				AML	AML		
	comp=N,8215µm,1.1s						
MOMA				AML	AML		
	comp=N,8180µm,1.1s						
MOMA				AML	AML		
	comp=E,6465µm,0.6s						
MOMA				AML	AML		
	comp=E,6810µm,0.6s						
SEF1	**Sefro**	**0.58**	**336**	P	**Pg**	**01 53 19.3**	**-0.4**
SEF1				S	**Sb**	**01 53 29.1**	**-0.2**
SEF1				AML	AML		
	comp=E,9185µm,0.8s						
SEF1				AML	AML		
	comp=N,7245µm,1.3s						
MDAR	**Monte D'Aria**	**0.59**	**351**	P	**Pg**	**01 53 19.1**	**-0.7**
MDAR				S	**Sb**	**01 53 28.6**	**-0.8**
PTQR	**Pietraquaria**	**0.60**	**170**	P	**Pg**	**01 53 18.9**	**-1.0**

PTQR AML AML
comp=N,1525µm,1.3s
PTQR AML AML
comp=E,1325µm,0.4s
PIO1 Pioraco 0.60 340 P **Pg 01 53 19.0 -1.0**
PIO1 S **Sb 01 53 29.5 -0.3**
ASSB Assisi San Ben 0.62 314 ⇓P **Pg 01 53 20.0 -0.4**
ASSB AML AML
comp=E,5320µm,1.2s
ASSB AML AML
comp=N,4465µm,0.8s
ASSB AML AML
comp=N,4465µm,1.2s
ASSB AML AML
comp=E,5320µm,0.8s
SSM1 San Severino M 0.62 354 P **Pg 01 53 19.9 -0.5**
SSM1 S **Sb 01 53 30.1 -0.2**
FIU1 Fiuminata 0.63 337 P **Pg 01 53 20.3 -0.2**
FIU1 S **Sb 01 53 29.8 -0.7**
GAG1 Gagliole 0.64 347 P **Pg 01 53 20.4 -0.4**
GAG1 S **Sb 01 53 30.7 -0.2**
GAG1 AML AML
comp=E,13850µm,1.5s
GAG1 AML AML
comp=N,13150µm,0.4s
GAG1 AML AML
comp=E,13850µm,1.5s
GAG1 AML AML
comp=E,13850µm,0.5s
SRES S.Oreste - Sor 0.67 236 P **Pg 01 53 21.2 -0.2**
SRES AML AML
comp=E,1830µm,0.9s
SRES AML AML
comp=N,1635µm,0.5s
SRES AML AML
comp=E,1830µm,1.1s
SNTG Esanatoglia 0.69 340 ⇓P **Pg 01 53 20.9 -0.7**
SNTG S **Sb 01 53 32.2 0.0**
SNTG AML AML
comp=E,2385µm,0.8s
SNTG AML AML
comp=E,2250µm,0.8s
SNTG AML AML
comp=N,3515µm,0.5s
SNTG AML AML
comp=N,3355µm,0.5s
SNTG AML AML
comp=E,2250µm,1.2s
SNTG AML AML
comp=E,2385µm,1.2s
CADA Capodarco di F 0.69 32 P **Pg 01 53 22.0 +0.4**
CERT Cerreto 0.69 198 P **Pg 01 53 21.9 +0.1**
CERT AML AML
comp=E,3025µm,0.6s
CERT AML AML
comp=N,2590µm,0.5s
MTCE Montecelio 0.70 214 P **Pg 01 53 21.2 -0.8**
MTCE AML AML
comp=N,2420µm,0.7s
MTCE AML AML
comp=E,3640µm,0.5s
MTCE AML AML
comp=N,2420µm,1.3s
EL6 Elcito 0.73 351 ⇑P **Pg 01 53 21.8 -0.6**
EL6 S **Sb 01 53 33.9 +0.5**
EL6 AML AML
comp=N,7575µm,0.9s
EL6 AML AML
comp=E,7605µm,0.2s
EL6 AML AML
comp=N,7575µm,1.1s
CIMA Civitanova Mar 0.75 23 P **Pg 01 53 23.4 +0.5**
CING Cingoli 0.77 356 P **Pg 01 53 22.4 -0.7**
CING S **Sb 01 53 34.8 +0.3**
CING AML AML
comp=E,6530µm,0.4s
CING AML AML
comp=N,4075µm,1.3s
CING AML AML
comp=N,4075µm,0.7s
FOSV Fossato di Vic 0.78 332 ⇓P **Pg 01 53 22.6 -0.7**
FOSV S **Sb 01 53 34.9 +0.1**
FOSV AML AML
comp=E,2350µm,0.4s
FOSV AML AML
comp=N,3020µm,0.7s
FOSV AML AML
comp=N,3020µm,1.3s
VVLD Villa Vallelon 0.79 160 P **Pg 01 53 23.2 -0.3**
VVLD AML AML
comp=N,1735µm,0.8s
VVLD AML AML
comp=E,1505µm,1.6s
VVLD AML AML
comp=E,1505µm,0.4s
PP3 Marolino 0.81 18 P **Pg 01 53 23.9 0.0**
PP3 AML AML
comp=E,11505µm,0.8s
PP3 AML AML
comp=N,8595µm,0.6s
PP3 AML AML
comp=E,11415µm,0.9s
PP3 AML AML
comp=N,9135µm,0.6s
PP3 AML AML
comp=N,9130µm,0.6s
GUAR Guarcino 0.82 178 P **Pg 01 53 24.6 +0.5**
SSFR Montelago di S 0.90 337 P **Pg 01 53 25.0 -0.7**
SSFR S **Sn 01 53 39.7 -0.8**
SSFR AML AML
comp=E,5925µm,0.2s
SSFR AML AML
comp=E,5550µm,0.2s
SSFR AML AML
comp=N,4990µm,0.2s
SSFR AML AML
comp=E,5550µm,1.8s
SSFR AML AML
comp=E,5925µm,1.8s
SSFR AML AML
comp=N,4560µm,0.2s
SSFR AML AML
comp=N,4990µm,1.8s
MGAB Montegabbione 0.90 290 P **Pg 01 53 25.6 -0.2**
MGAB AML AML
comp=E,5530µm,0.6s
MGAB AML AML
comp=E,5655µm,0.6s
MGAB AML AML
comp=N,3900µm,0.7s
MGAB AML AML
comp=N,4335µm,0.7s
ATSC Scheggia e Pas 0.92 333 P **Pg 01 53 25.1 -0.9**
ARVD Arcevia 0.92 345 P **Pg 01 53 24.9 -1.1**
RDP Rocca di Papa 0.95 206 P **Pb 01 53 26.4 -0.6**
RDP AML AML
comp=E,6325µm,0.5s
RDP AML AML
comp=N,6205µm,0.7s
MA9 Marino 0.95 208 P **Pg 01 53 27.2 +0.5**
MA9 AML AML
comp=E,5455µm,0.7s
MA9 AML AML
comp=N,4030µm,0.7s
MA9 AML AML
comp=E,5455µm,1.3s
MA9 AML AML
comp=N,4030µm,1.3s
POFI Posta Fibreno 0.95 159 P **Pb 01 53 26.6 -0.5**
AOI Ancona 0.97 15 P **Pb 01 53 26.3 -1.1**
AOI AML AML
comp=N,2860µm,0.5s
AOI AML AML
comp=E,3375µm,1.0s
FRON Frontone 0.99 337 ⇑P **Pb 01 53 26.4 -1.4**
FRON AML AML
comp=E,2540µm,0.7s
FRON AML AML
comp=N,3420µm,0.5s
LRP Arpino 0.99 166 P **Pn 01 53 28.6 +0.1**
LAV9 Lanuvio 1.02 204 P **Pg 01 53 28.5 +0.5**
LAV9 AML AML
comp=E,4165µm,0.5s
LAV9 AML AML
comp=N,4665µm,0.7s
LAV9 AML AML
comp=N,4680µm,0.7s
LAV9 AML AML
comp=E,4165µm,1.5s
LAV9 AML AML
comp=E,4005µm,0.6s
SACS San Casciano d 1.03 284 P **Pn 01 53 29.5 +0.4**
SACS AML AML
comp=E,1450µm,0.6s
SACS AML AML
comp=N,2105µm,0.7s
SACS AML AML
comp=N,2090µm,0.6s
SACS AML AML
comp=E,1635µm,0.6s
COR1 Corinaldo 1.04 349 P **Pb 01 53 28.2 -0.3**
COR1 AML AML
comp=E,3195µm,1.3s
COR1 AML AML
comp=N,5560µm,0.8s
COR1 AML AML
comp=E,3195µm,0.7s
COR1 AML AML
comp=N,5560µm,1.2s
PIEI Pieia 1.07 330 ⇓P **Pb 01 53 28.2 -0.9**
PIEI AML AML
comp=N,1455µm,0.5s
PIEI AML AML
comp=E,1815µm,0.4s
MPAG Monte Paganucc 1.08 340 ⇑P **Pb 01 53 28.5 -0.9**
MPAG AML AML
comp=E,2380µm,1.2s
MPAG AML AML
comp=N,2370µm,0.5s
MPAG AML AML
comp=E,2340µm,1.3s
MPAG AML AML
comp=N,2290µm,0.5s
MPAG AML AML
comp=N,2290µm,1.5s
MPAG AML AML
comp=E,2340µm,0.7s
MPAG AML AML
comp=N,2370µm,1.5s
MPAG AML AML
comp=E,2380µm,0.8s
TOLF Tolfa 1.09 240 P **Pb 01 53 28.3 -1.1**
NARO Abbazia di Nar 1.12 334 P **Pb 01 53 28.8 -1.1**
NARO AML AML
comp=E,1390µm,1.5s
NARO AML AML
comp=N,1400µm,0.9s
NARO AML AML
comp=E,1390µm,0.5s
NARO AML AML
comp=N,1400µm,1.1s
LIK San Giovanni I 1.13 169 P **Pg 01 53 30.5 +0.5**
APEC Apecchio 1.13 327 P **Pb 01 53 29.4 -0.7**
APEC AML AML
comp=E,2535µm,0.7s
APEC AML AML
comp=N,2375µm,0.6s
APEC AML AML
comp=E,2535µm,1.3s
APEC AML AML
comp=N,2695µm,0.4s
APEC AML AML
comp=E,2360µm,0.5s
APEC AML AML
comp=N,2375µm,1.4s
LATB Latina 1.14 192 P **Pg 01 53 30.8 +0.5**
LATB AML AML
comp=E,460µm,0.8s
LATB AML AML
comp=N,287µm,0.8s
LATB AML AML
comp=N,287µm,1.2s
CERA Filignano 1.16 151 P **Pn 01 53 28.9 -1.9**
BADI Badiali 1.17 321 P **Pb 01 53 30.3 -0.5**
CAFI Castiglion Fio 1.19 307 P **Pb 01 53 30.8 -0.4**
CAFI AML AML
comp=E,2110µm,0.6s
CAFI AML AML
comp=N,1245µm,1.3s
CAFI AML AML
comp=N,1245µm,1.3s
CAFI AML AML
comp=E,2115µm,0.6s
CAFI AML AML
comp=N,1245µm,0.7s
CAFI AML AML
comp=N,1245µm,0.7s
SF04 Casetta 1.20 281 P **Pg 01 53 32.2 +0.7**
SF04 AML AML
comp=N,830µm,0.7s
SF04 AML AML
comp=E,962µm,0.4s
MIDA Miranda 1.22 142 P **Pn 01 53 29.1 -2.6**
PE3 Peglio 1.22 333 P **Pb 01 53 31.3 -0.4**
PE3 AML AML
comp=E,4890µm,0.6s
PE3 AML AML
comp=N,10µm,1.0s
SF01 Poggio Pratacc 1.27 280 P **Pg 01 53 33.4 +0.6**
SF01 AML AML
comp=N,1400µm,0.9s
SF01 AML AML
comp=E,1315µm,1.0s
SSP9 Sansepolcro 1.27 320 P **Pb 01 53 32.2 -0.3**
SSP9 AML AML
comp=N,1155µm,0.6s
SSP9 AML AML
comp=N,1155µm,1.4s
SSP9 AML AML
comp=E,1315µm,0.8s
TRIV Trivento 1.27 131 P **Pn 01 53 32.5 +0.1**
CRE Caprese Michel 1.39 317 P **Pn 01 53 33.4 -0.7**
VAGA Valle Agricola 1.40 149 P **Pn 01 53 34.0 -0.2**
VAGA AML AML
comp=E,515µm,1.2s
VAGA AML AML
comp=N,746µm,0.5s
VAGA AML AML
comp=E,543µm,1.2s
VAGA AML AML
comp=N,748µm,0.5s
VAGA AML AML
comp=N,746µm,1.5s
VAGA AML AML
comp=E,543µm,0.8s
VAGA AML AML
comp=N,748µm,1.5s
VAGA AML AML
comp=E,515µm,0.8s
MAON Monte Argentar 1.59 264 P **Pn 01 53 36.3 -0.4**
SACR S. Croce Del S 1.62 138 P **Pn 01 53 37.5 +0.3**
GATE Gambatesa 1.65 131 P **Pb 01 53 39.6 +0.7**
SFI Santa Sofia 1.66 322 P **Pg 01 53 39.9 -0.2**
FROS Frosini 1.66 292 P **Pb 01 53 38.1 -1.1**
FROS AML AML
comp=E,628µm,0.8s
FROS AML AML
comp=N,434µm,0.7s
A309A Martorano (FC) 1.73 335 P **Pg 01 53 40.9 -0.5**
RUFI Rufina 1.77 314 P **Pb 01 53 39.8 -1.3**
RUFI AML AML
comp=N,567µm,0.7s
RUFI AML AML
comp=E,396µm,0.5s
RUFI AML AML
comp=N,567µm,1.3s
LMD Lutirano 1.85 323 P **Pn 01 53 40.8 +0.3**
BRSN Barisano 1.88 333 P **Pg 01 53 43.9 -0.6**
BRIS BRISIGHELLA 2.00 321 P **Pb 01 53 45.0 +0.1**
MPPT Montemurlo 2.08 311 P **Pn 01 53 44.1 +0.6**
MSAG Monte S. Angel 2.16 114 P **Pn 01 53 46.0 +1.3**
A308A Longastrino (F 2.17 336 P **Pb 01 53 47.0 -0.8**
MTCR Monte La Croce 2.18 311 P **Pn 01 53 45.7 +0.7**
CMPO Campotto Po 2.23 332 P **Pb 01 53 48.7 -0.3**
A305A Porto Tolle (R 2.42 346 P **Pb 01 53 50.4 -1.7**
GSCL Gusciola 2.61 313 P **Pn 01 53 51.5 +0.7**
SARO Sassorosso 2.61 308 P **Pn 01 53 50.7 -0.3**
SBPO S.Benedetto Po 2.97 326 P **Pb 01 53 58.7 -2.8**
SKDS Skadanscina 2.98 10 *e*Pn **Pn 01 53 55.2 -0.7**
A050A Klekovaca 3.02 51 *e*Pn **Pn 01 53 57.7 +1.2**
OPPE Oppeano 3.09 331 P **Pn 01 53 59.1 +1.8**
PGF Pioggiola 3.15 270 *e*Pn **Pn 01 53 57.9 -0.4**
PGF *e*Sn **Sn 01 54 34.9 -1.2**
comp=N,3.7nm,0.3s
SRKY Kupres RS 3.19 62 *e*Pn **Pn 01 53 59.2 +0.3**
BOJS Bojanci 3.23 26 *e*Pn **Pn 01 53 59.2 0.0**
CEY Cerknica 3.24 15 *e*Pn **Pn 01 53 58.7 -0.7**
MATE Matera 3.24 126 ⇑P **Pn 01 53 56.4 -3.0**
MATE ⇑S **Sn 01 54 35.7 -2.4**
STON Ston 3.28 84 *e*Pn **Pn 01 54 00.0 +0.1**
STON *e*Sn **Sn 01 54 39.0 0.0**
STON Ston 3.28 84 *e*Pn **Pn 01 54 00.0 +0.1**
MGRS Mrkonjic Grad 3.31 56 *e*Pn **Pn 01 54 01.9 +1.4**
ROVR Rover Verones 3.42 333 P **Pn 01 54 02.9 +0.9**
CGRP Cima Grappa 3.43 343 P **Pn 01 54 02.7 +0.5**
PRIJ Prijedor 3.44 45 *e*Pn **Pb 01 54 08.2 -1.3**
BLY Banja Luka 3.56 52 *e*Pn **Pn 01 54 05.1 +1.3**
BLY Banja Luka 3.56 52 *e*Pn **Pn 01 54 04.5 +0.7**
A051A Mrakovica 3.56 46 *e*Pn **Pn 01 54 04.0 0.0**
CRES Cresnjev 3.58 25 *e*Pn **Pn 01 54 07.6 +3.5**
DOSS Dosso del Somm 3.59 336 P **Pn 01 54 05.4 +1.0**
DOSS AML AML
comp=E,152µm,1.5s
DOSS AML AML
comp=N,231µm,0.5s
DOSS AML AML
comp=E,222µm,0.9s
DOSS AML AML
comp=E,152µm,0.5s
DOSS AML AML
comp=N,158µm,0.9s
DOSS AML AML
comp=N,231µm,1.5s
SALO Salr 3.59 328 P **Pn 01 54 05.6 +1.3**
CTI Castel Tesino 3.62 342 P **Pn 01 54 05.5 +0.7**
CTI AML AML
comp=E,174µm,1.6s
CTI AML AML
comp=N,216µm,0.7s
CTI AML AML
comp=N,216µm,1.3s
LUSI Trento, Gardas 3.74 334 P **Pn 01 54 07.5 +1.1**
CIMO Cimolais 3.74 351 P **Pn 01 54 06.3 -0.1**
CIMO AML AML
comp=N,52µm,0.7s
CIMO AML AML
comp=E,52µm,0.9s
TREB Trebinje 3.75 87 *e*Pn **Pn 01 54 07.5 +1.0**
TREB *e*Sn **Sn 01 54 53.4 +2.6**
TREB Trebinje 3.75 87 *e*Pn **Pn 01 54 06.5 0.0**
GAGG Gaggia 3.84 335 P **Pn 01 54 09.0 +1.1**
HCY Herceg Novi 3.87 91 *e*Pn **Pn 01 54 08.2 +0.1**
ZONE Zone 3.88 325 P **Pn 01 54 09.1 +0.8**
ZONE AML AML
comp=E,113µm,0.8s
ZONE AML AML
comp=E,113µm,1.2s
ZONE AML AML
comp=N,190µm,0.3s
BRY Bratogost 3.89 84 *e*Pn **Pn 01 54 09.2 +0.6**
ACOM Acomizza, Ital 3.94 2 P **Pn 01 54 10.0 +0.8**
MABI Malga Bissina 3.97 331 P **Pn 01 54 10.7 +1.1**
OBKA Obir 4.00 13 *e*Pn **Pn 01 54 10.6 +0.6**
comp=N,2.3nm,0.2s
OBKA *e*Sn **Sn 01 54 58.9 +1.8**
comp=N,34nm,0.7s
OBKA Obir 4.00 13 *e*Pn **Pn 01 54 10.0 0.0**
MYKA Terra Mystica 4.03 4 *e*Pn **Pn 01 54 11.1 +0.8**
comp=N,9.2nm,0.5s,SNR=7.2
MYKA *e*Sn **Sn 01 54 58.4 +0.7**
comp=N,13nm,0.4s
APPI Appiano 4.13 340 P **Pn 01 54 12.8 +1.0**
ABTA Abfaltersbach 4.17 353 *i* Pn **Pn 01 54 13.1 +0.8**
comp=N,24nm,0.5s,SNR=26
ABTA *e*Sn **Sn 01 55 03.9 +2.7**
comp=N,41nm,0.7s
SOKA Soboth 4.26 17 *e*Pn **Pn 01 54 14.4 +0.9**
comp=N,1.8nm,0.2s,SNR=6.2
SOKA *e*Sn **Sn 01 55 04.4 +1.0**
comp=N,11nm,0.5s
DRME Dracevica, Mon 4.40 94 *e*Pn **Pn 01 54 15.8 +0.4**
RISI Rein 4.42 349 P **Pn 01 54 17.0 +1.2**
PDG Podgorica 4.43 90 ⇑P **Pn 01 54 15.6 -0.2**
PDG ⇑S **Sn 01 55 08.0 +0.5**
PDG Podgorica 4.43 90 *e*Pn **Pn 01 54 16.8 +1.0**
PDG *e*Sn **Sn 01 55 08.9 +1.4**
SBF Sospel 4.44 288 *e*Pn **Pn 01 54 15.9 -0.1**
SBF *e*Sn **Sn 01 55 03.9 -3.9**
comp=N,22nm,0.6s
KBA Koelnbreinsper 4.47 1 Pn **Pn 01 54 17.5 +1.0**
comp=N,4.1nm,0.3s,SNR=10
ROSI Rosskopf 4.51 344 P **Pn 01 54 18.3 +1.2**
RUDO Rudo 4.58 75 *e*Pn **Pn 01 54 18.3 +0.4**
BBLS Lazići 4.66 72 *e*Pn **Pn 01 54 20.4 +1.4**
FETA Feichten 4.76 339 *i* Pn **Pn 01 54 22.2 +1.7**
comp=N,9.7nm,0.7s,SNR=8.2
WTTA Wattenberg 4.79 347 Pn **Pn 01 54 23.0 +2.0**
comp=N,13nm,0.5s,SNR=9.7
WTTA Wattenberg 4.79 347 P **Pn 01 54 22.9 +2.0**
DAVOX Davos/Dischmat 4.82 331 Pn **Pn 01 54 23.7 +2.4**
comp=N,2.0nm,0.3s,baz=166,slow=21,SNR=17
DAVOX Sn **Sn 01 55 18.2 +0.9**
comp=N,1.6nm,0.3s,baz=312,slow=22,SNR=2.0
DAVOX Davos/Dischmat 4.82 331 P **Pn 01 54 23.7 +2.4**
SQTA Sankt Quirin 4.83 343 *i* Pn **Pn 01 54 23.4 +2.0**
comp=N,6.7nm,0.2s,SNR=17
WATA Walderalm 4.87 346 *i* Pn **Pn 01 54 24.5 +2.5**
comp=N,7.7nm,0.3s,SNR=11
ARSA Arzberg 4.91 18 *i* Pn **Pn 01 54 24.6 +2.3**
comp=N,2.6nm,0.2s
SJES Sjenica 4.97 80 *e*Pn **Pn 01 54 24.9 +1.6**
SJES *e*Sn **Sn 01 55 21.6 +0.7**
MOTA Moosalm 4.97 343 *i* Pn **Pn 01 54 25.9 +2.5**
comp=N,5.7nm,0.4s,SNR=15
LMR La Mourre 5.01 281 *e*Pn **Pn 01 54 22.7 -1.0**
LMR *e*Sn **Sn 01 55 19.2 -2.6**
comp=N,25nm,0.9s
TIR Tirane 5.08 102 ⇑P **Pn 01 54 22.6 -2.1**
TIR ⇑S **Sn 01 55 23.1 -0.4**
TIR Tirane 5.08 102 *e*Pn **Pn 01 54 25.5 +0.8**
TIR *e*Sn **Sn 01 55 23.3 -0.2**
BIOA Bad Ischl, Aus 5.09 3 *i* Pn **Pn 01 54 25.7 +0.9**
comp=N,6.6nm,0.4s,SNR=5.9
DIVS Divibare 5.12 71 *e*Pn **Pn 01 54 26.4 +1.0**
DIVS Divibare 5.12 71 *e*Pn **Pn 01 54 26.5 +1.0**
IVAS Ivanjica 5.13 77 *e*Pn **Pn 01 54 26.1 +0.6**
IVAS *e*Sn **Sn 01 55 23.8 -1.2**
MBDF Montbardon 5.16 296 *e*Pn **Pn 01 54 27.6 +1.6**
MBDF *e*Sn **Sn 01 55 21.8 -4.0**
comp=N,8.8nm,0.6s
RETA Reutte 5.19 341 *i* Pn **Pn 01 54 28.6 +2.3**
comp=N,2.6nm,0.2s,SNR=10
DAVA Damuels 5.25 334 *i* Pn **Pn 01 54 29.5 +2.2**
comp=N,13nm,0.5s,SNR=15
MOA Molln 5.29 7 *e*Pn **Pn 01 54 30.0 +2.4**
comp=N,2.3nm,0.2s,SNR=9.2
MOA Molln 5.29 7 *e*Pn **Pn 01 54 30.0 +2.4**
MOA *e*Sn **Sn 01 55 28.4 -0.2**
FRGS Fruska Gora 5.37 59 ⇑P **Pn 01 54 29.1 +0.3**
FRGS Fruska Gora 5.37 59 *e*Pn **Pn 01 54 29.3 +0.6**
FRGS Fruska Gora 5.37 59 *e*Pn **Pn 01 54 29.0 +0.3**
TRUS Trudelj 5.45 70 *e*Pn **Pn 01 54 31.3 +1.6**
RONA Rosalia, Austr 5.52 22 *e*Pn **Pn 01 54 31.2 +0.4**
comp=N,2.3nm,0.3s
LPL La Plagne 5.53 304 *e*Pn **Pn 01 54 33.4 +2.3**
LPL *e*Sn **Sn 01 55 31.5 -3.4**
comp=N,5.7nm,0.5s
GRUS Gruza 5.59 74 *e*Pn **Pn 01 54 32.4 +0.7**
GRUS *e*Sn **Sn 01 55 36.2 +0.1**
CONA Conrad Observa 5.62 18 *i* Pn **Pn 01 54 32.4 +0.1**
comp=N,1.7nm,0.2s,SNR=6.7
SMRF Simiane la Rot 5.78 286 *e*P **Pn 01 54 38.3 +4.0**
SMRF *e*Sn **Sn 01 55 38.1 -2.6**
comp=N,1.1nm,0.4s
SELS Selova 5.80 81 *e*Pn **Pn 01 54 35.9 +1.3**
SELS *e*Sn **Sn 01 55 41.3 0.0**
OHR Ohrid 5.82 102 *e*Pn **Pn 01 54 36.6 +1.6**
OHR *e*Sn **Sn 01 55 42.2 +0.3**
OHR Ohrid 5.82 102 *i* Pn **Pn 01 54 37.1 +2.1**
ORIF Oris-en-Rattie 5.82 296 *e*Pn **Pn 01 54 36.5 +1.5**
ORIF *e*Sn **Sn 01 55 38.9 -3.1**
comp=N,4.9nm,0.5s
ZST Bratislava 6.20 24 *e*PN **Pn 01 54 41.9 +1.8**
GERES GERESS Array B 6.24 3 Pn **Pn 01 54 40.2 -0.6**
comp=N,0.5nm,0.3s,baz=177,slow=13,SNR=14
GERES Sn **Sn 01 55 48.9 -3.3**

comp=N,1.5nm,0.3s,baz=173,slow=24,SNR=2.6
GERES LR LR 01 57 38.7
comp=N,42nm,18.4s,baz=328,slow=44
comp=N,0.8nm,0.3s
CKRC Cesky Krumlov 6.25 6 *e*PN **Pn 01 54 40.7 -0.1**
CKRC *e*SN **Sn 01 55 49.4 -3.0**
BARS Barje 6.30 85 *e*Pn **Pn 01 54 42.1 +0.6**
BARS *e*Sn **Sn 01 55 52.7 -1.0**
FNA Florina 6.34 104 *e*Pn **Pn 01 54 43.6 +1.5**
FNA *e*Sn **Sn 01 55 51.8 -2.9**
MODS Modra-Piesok 6.41 25 *e*PN **Pn 01 54 45.7 +2.7**
MODS *e*SN **Sn 01 55 56.6 +0.2**
CABF La Chapelle 6.50 310 *e*Pn **Pn 01 54 45.0 +0.7**
CABF *e*Sn **Sn 01 55 54.6 -4.0**
comp=N,3.6nm,0.5s
PRVS Prvonek 6.51 88 *e*Pn **Pn 01 54 46.1 +1.7**
PRVS *e*Sn **Sn 01 55 56.6 -2.2**
KHC Kasperske Hory 6.52 2 *e*PN **Pn 01 54 44.2 -0.4**
KHC *e*SN **Sn 01 55 55.4 -3.7**
VIVF Saint-Julien-l 6.62 293 *e*Pn **Pn 01 54 45.5 -0.4**
VIVF *e*Sn **Sn 01 55 56.2 -5.2**
comp=N,0.9nm,0.4s
ZAGS Zajecar 6.66 77 *e*Pn **Pn 01 54 46.8 +0.4**
STIP Stip 6.69 95 *i* Pn **Pn 01 54 49.4 +2.5**
BZS Buzias 6.72 61 ⇓P **Pn 01 54 47.3 +0.1**
BZS Buzias 6.72 61 *e*Pn **Pn 01 54 46.9 -0.3**
KRUC Moravsky 6.81 18 *e*PN **Pn 01 54 48.7 +0.2**
KRUC *e*SN **Sn 01 56 01.5 -4.6**
HINF Hinteralfeld 6.90 321 *e*Pn **Pn 01 54 49.6 -0.1**
HINF *e*Sn **Sn 01 56 04.9 -3.4**
comp=N,9.8nm,0.4s
ZAPS Zavoj 6.91 81 *e*Sn **Sn 01 56 06.4 -2.2**
LASF Ste Croix 7.01 285 *e*P **Pn 01 54 54.0 +2.7**
LASF *e*Sn **Sn 01 56 07.4 -3.8**
comp=N,0.7nm,0.4s
SIRR Siria 7.03 56 ⇑P **Pn 01 54 52.1 +0.5**
VAY Valandovo 7.05 97 *e*Pn **Pn 01 54 52.8 +1.0**
VYHS Vyhne 7.06 32 *e*PN **Pn 01 54 52.5 +0.6**
VRAC Vranov 7.09 18 Pn **Pn 01 54 53.7 +1.5**
comp=N,0.5nm,0.3s,baz=203,slow=16,SNR=5.1
VRAC LR LR 01 58 12.7
comp=N,70nm,19.1s,baz=196,slow=44
comp=N,1.9nm,0.5s
VRAC Vranov 7.09 18 *e*PN **Pn 01 54 53.2 +0.9**
CDF Champ du Feu 7.16 326 *e*Pn **Pn 01 54 53.4 0.0**
CDF *e*Sn **Sn 01 56 11.2 -3.7**
comp=N,8.3nm,0.5s
HAU Haudompre 7.27 320 *e*Pn **Pn 01 54 54.5 -0.3**
HAU *e*Sn **Sn 01 56 13.4 -4.0**
comp=N,23nm,0.6s
VTS Vitosha 7.36 87 *e*Pn **Pn 01 54 56.3 +0.2**
VTS Vitosha 7.36 87 *e*Pn **Pn 01 54 56.4 +0.3**
VTS *e*Sn **Sn 01 56 18.0 -1.8**
VTS *e*Sn **Sn 01 56 18.0 -1.8**
GZR Gura Zlata 7.40 65 ⇓P **Pn 01 54 56.7 +0.1**
KEST Kesra 7.51 205 Pn Pn 01 55 02.8 +4.6
comp=N,0.3nm,0.3s,baz=336,slow=6.6,SNR=7.0
comp=N,2.0nm,0.6s
NKC Novy Kostel 7.64 356 *e*SN **Sn 01 56 23.9 -2.8**
SMF Signal de Mont 7.84 304 *e*Pn **Pn 01 55 02.1 -0.5**
SMF *e*Sn **Sn 01 56 26.1 -5.3**
comp=N,4.4nm,0.6s
PAGF Fort de Pagny 7.95 321 *e*Pn **Pn 01 55 04.7 +0.6**
PAGF *e*Sn **Sn 01 56 29.6 -4.6**
comp=N,3.4nm,0.4s
SFTF Sexfontaines 8.05 317 *e*Pn **Pn 01 55 06.1 +0.7**
baz=137
SFTF *e*Sn **Sn 01 56 31.7 -4.8**
comp=N,1.0nm,0.2s
MARR Marisel-Cluj 8.11 57 ⇑P **Pn 01 55 07.1 +0.7**
LOR Lormes 8.13 308 *e*Pn **Pn 01 55 06.7 0.0**
baz=129
LOR *e*Sn **Sn 01 56 33.2 -5.5**
comp=N,2.6nm,0.4s
MTLF Montolieu 8.13 279 *e*P Pn 01 55 14.6 +7.9
AVF Avril sur Loir 8.20 304 *e*Pn **Pn 01 55 08.0 +0.4**
AVF Avril sur Loir 8.20 304 *e*P Pn 01 55 12.8 +5.2
AVF *e*Sn **Sn 01 56 36.7 -3.7**
comp=N,0.7nm,0.4s
MEZF Maizieres J'vi 8.24 318 *e*Pn **Pn 01 55 07.7 -0.3**
MEZF *e*Sn **Sn 01 56 35.9 -5.3**
comp=N,4.0nm,0.4s
SSF Saint Saulge 8.24 306 *e*Pn **Pn 01 55 07.8 -0.3**
SSF *e*Sn **Sn 01 56 36.0 -5.2**
comp=N,2.4nm,0.5s
SAVF Savonnieres en 8.28 319 *e*P Pn 01 55 13.4 +4.8
SAVF *e*Sn **Sn 01 56 35.1 -7.1**
comp=N,5.8nm,0.4s
BGF Bois d'Agland 8.42 302 *e*Pn **Pn 01 55 09.7 -0.8**
BGF *e*Sn **Sn 01 56 39.4 -6.2**
comp=N,2.0nm,0.3s
CAF Calviac 8.43 290 *e*Pn **Pn 01 55 11.3 +0.6**
CLL Collm 8.70 359 *e*Pn **Pn 01 55 15.0 +0.6**
CLL *e*Sn Sn 01 56 34.0 -19
CLL *ex* x 01 56 45.0
CLL *ex* x 01 57 35.0
CLL *e*Sg **Sg 01 57 53.0 +5.6**
TCF Toulx Ste Croi 8.72 299 *e*Pn **Pn 01 55 13.5 -1.2**
GIVF Givet 9.49 325 *e*Pn **Pn 01 55 25.1 -0.1**
BAIF Baives 9.73 323 *e*Pn **Pn 01 55 28.2 -0.2**
BRTR Keskin Array B 15.61 94 Pn **P 01 56 51.3 -1.7**
baz=283,slow=14,SNR=2.2
BRTR LR LR 02 03 54.4
comp=N,36nm,21.5s,baz=290,slow=41
comp=N,1.0nm,0.9s
EKA Eskdalemuir Ar 16.62 326 Pn **P 01 57 02.9 -1.1**
baz=135,slow=14
comp=N,0.6nm,0.7s
NOA NORSAR Array B 18.50 357 LR LR 02 04 20.1
comp=N,26nm,18.6s,baz=45,slow=37
FINES FINESS Array B 20.37 18 P Pn 01 57 47.1 +0.1
comp=N,4.1nm,0.8s,baz=212,slow=6.8,SNR=4.7
comp=N,4.1nm,0.8s
KBZ Khabaz 21.59 77 P **P 01 58 01.5 +3.1**
comp=N,2.9nm,1.0s,baz=276,slow=13,SNR=4.7
comp=N,2.9nm,1.0s
TORD Torodi Ar. Bea 31.02 202 P **P 01 59 27.8 +1.3**
comp=N,0.4nm,0.7s,baz=8.3,slow=8.8,SNR=2.0
GEYT Alibeck 34.23 82 LR LR 02 17 43.2
comp=N,20nm,18.7s,baz=284,slow=43
MKAR Makanchi Array 47.80 60 P **P 02 01 47.7 +1.6**
comp=N,0.4nm,0.6s,baz=284,slow=6.0,SNR=5.2
comp=N,0.4nm,0.6s
SONM Songino Array 61.88 50 P **P 02 03 30.0 +1.9**
comp=N,0.5nm,0.9s,baz=292,slow=7.8,SNR=4.0
comp=N,0.5nm,0.9s

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*IDC **19** 01:57:14.3±2.1,51˚.62N×174˚.96W,h0km,mb3.5/4, mbtmp3.6/6,ML3.6/2,MS3.1/3,Error ellipse: s-maj=63.6km s-min=22.6km az=180.0*
*NEIC **19** 01:57:18.1±1.4,51˚.32N±0˚.07×175˚.0W±0˚.1,h78km±14km, mb4.0/10,ML3.5(AEIC),Error ellipse: s-maj=13.8km s-min=3.4km az=133.0*
*AEIC **19** 01:57:18.6±5.2,51˚.31N±0˚.09×175˚.04W±0˚.09,h40km±9km, Error ellipse: s-maj=13.3km s-min=7.6km az=200.0*

ISC 19 01:57:18.8±1.2,51˚.4N±0˚.2×174˚.89W±0˚.06,h40km,n34, σ1$75/28,mb3.7/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.00**	**314**	Pn		**Pn**	**01 57 37.2**	**+0.8**
ADK	**Adak**	**1.22**	**294**			**Pn**	**01 57 38.6**	**-0.7**
ADK				Sn		**Sn**	**01 57 55.6**	**+1.0**
KIWB	**Kanaga Island**	**1.48**	**288**			**Pn**	**01 57 42.4**	**-0.6**
KIWB				Sn		**Sn**	**01 58 01.7**	**+0.6**
CLES	**Cleveland East**	**3.39**	**63**	Pn		**Pn**	**01 58 07.2**	**-2.0**
AMKA	**Amchitka**	**3.64**	**272**	Pn		**Pn**	**01 58 11.1**	**-1.5**
NIKH	**Nikolski High**	**4.03**	**65**	Pn		**Pn**	**01 58 19.9**	**+2.0**
UNV	**Unalaska Valle**	**5.66**	**61**	Pn		**Pn**	**01 58 42.2**	**+2.0**
SDPT	**Sand Point**	**9.47**	**60**	Pn		**Pn**	**01 59 33.3**	**+0.8**
KDAK	**Kodiak Island**	**14.38**	**55**	Pn		**Pn**	**02 00 37.5**	**-1.9**
	0.3nm,0.3s,baz=236,slow=18,SNR=10							
	8.9nm,1.1s							
KDAK	**Kodiak Island**	**14.38**	**55**	Pn		**Pn**	**02 00 39.2**	**-0.2**
PETK	**Petropavlovsk-**	**16.83**	**287**	Pn		**Pn**	**02 01 13.6**	**+2.3**
	0.2nm,0.3s,baz=114,slow=14,SNR=5.0							
PETK				LR		LR	02 06 48.1	
	comp=Z,42nm,20.4s,baz=94,slow=34							
PMR	**Palmer**	**17.37**	**44**			**Pn**	**02 01 15.9**	**-1.9**
BPAW	**Bear Paw Mtn.**	**17.86**	**35**			**Pn**	**02 01 21.7**	**-2.1**
CCB	**Clear Creek Bu**	**19.32**	**36**	Pn		**P**	**02 01 40.4**	**+0.2**
N25K	**Chitina, Valde**	**19.40**	**47**	P		**P**	**02 01 38.0**	**-3.2**
N25K				IAmb		IAmb	02 01 58.4	
	comp=Z,16nm,1.4s							
GLB	**Gilahina Butte**	**19.71**	**47**	Pn		**P**	**02 01 43.9**	**-0.7**
ILAR	**Eielson Array**	**19.72**	**37**	P		**Pn**	**02 01 45.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=223,slow=10,SNR=14							
	comp=Z,0.6nm,0.7s							
RIDG	**Independent Ri**	**20.05**	**40**	P		**P**	**02 01 46.2**	**-2.1**
RIDG				IAmb		IAmb	02 02 03.8	
	comp=Z,10nm,1.3s							
SCRK	**Sand Creek**	**20.50**	**40**	P		**P**	**02 01 50.5**	**-2.7**
SCRK				IAmb		IAmb	02 01 55.3	
	comp=Z,6.4nm,0.8s							
J26L	**Joseph Creek**	**20.88**	**39**	P		**P**	**02 01 56.3**	**-1.0**
J26L				IAmb		IAmb	02 01 59.6	
	comp=Z,5.0nm,0.8s							
MA2	**Magadan**	**20.90**	**306**	LR		LR	02 09 47.0	
	comp=Z,48nm,18.6s,baz=93,slow=36							
EGAK	**Eagle**	**21.94**	**40**	P		**P**	**02 02 07.2**	**-1.3**
EGAK				IAmb		IAmb	02 02 12.7	
	comp=Z,3.9nm,0.8s							
M31M	**Drury Creek, Y**	**24.23**	**48**	P		**P**	**02 02 28.1**	**-3.5**
M31M				IAmb		IAmb	02 03 07.7	
	comp=Z,6.4nm,1.4s							
YAK	**Yakutsk**	**31.24**	**312**	LR		LR	02 16 22.2	
	comp=Z,38nm,18.4s,baz=64,slow=37							
H11N2	**WAKE ISLAND Hy**	**34.71**	**211**	T		T	02 40 52.9	
	baz=18,slow=76							
H11N3	**WAKE ISLAND Hy**	**34.72**	**211**	T		T	02 41 07.5	
	baz=18,slow=76							
H11N1	**WAKE ISLAND Hy**	**34.73**	**211**	T		T	02 41 02.8	
	baz=18,slow=76							
H11S1	**WAKE ISLAND Hy**	**35.91**	**211**	T		T	02 42 45.6	
	baz=19							
H11S2	**WAKE ISLAND Hy**	**35.93**	**211**	T		T	02 42 52.0	
	baz=19							
H11S3	**WAKE ISLAND Hy**	**35.93**	**211**	T		T	02 42 48.9	
	baz=19							
PDAR	**Pinedale Array**	**43.95**	**75**	P		**P**	**02 05 23.6**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=302,slow=3.3,SNR=4.3							
	comp=Z,0.6nm,0.9s							
SONM	**Songino Array**	**48.81**	**299**	P		**P**	**02 05 59.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=47,slow=6.5,SNR=4.4							
	comp=Z,0.5nm,0.8s							
TXAR	**Lajitas Array**	**56.22**	**84**	P		**P**	**02 06 56.1**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=297,slow=4.0,SNR=3.4							
	comp=Z,0.4nm,0.9s							
MKAR	**Makanchi Array**	**61.91**	**311**	P		**P**	**02 07 33.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=47,slow=6.3,SNR=8.9							
	comp=Z,0.4nm,0.5s							

WEL 19 02:08:03.6±0.4,42˚.5±2˚×17˚.4E±˚,h12km±2km,M2.7/7, ML3.0/12,MLv2.7/7,Error ellipse: s-maj=0.0km s-min=0.0km az=122.6,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**226**	P		Pb	02 08 10.9	+0.2
KHZ				S		Sb	02 08 15.6	+0.2
BSWZ	**Blackbirch Sta**	**0.51**	**5**	P		Pb	02 08 14.2	-0.2
BSWZ				S		Sb	02 08 21.7	0.0
THZ	**Tophouse**	**0.82**	**303**	P		Pg	02 08 19.5	+0.1
THZ				S		Sg	02 08 29.8	-0.4
GVZ	**Greta Valley S**	**0.95**	**217**	P		Pn	02 08 23.0	+0.2
GVZ				S		Sn	02 08 36.4	+0.2
NNZ	**Nelson**	**1.05**	**342**	P		Pb	02 08 23.7	0.0
NNZ				S		Sb	02 08 36.9	-0.6
TCW	**Tory Channel**	**1.06**	**19**	P		Pb	02 08 23.9	-0.1
TCW				S		Sg	02 08 38.2	+0.2
MRNZ	**Matariki Terra**	**1.14**	**316**	P		Pg	02 08 25.6	+0.1
MRNZ				S		Sg	02 08 40.6	+0.2
LTZ	**Lake Taylor**	**1.27**	**243**	P		Pn	02 08 27.3	0.0
LTZ				S		Sb	02 08 44.0	0.0
TKNZ	**Takaka Hill**	**1.35**	**331**	P		Pb	02 08 28.8	0.0
TKNZ				S		Sg	02 08 46.8	-0.1
DUWZ	**D'Urville Isla**	**1.42**	**3**	P		Pn	02 08 29.3	+0.1
DUWZ				S		Sg	02 08 49.0	-0.2
CAW	**Cannon Point**	**1.45**	**41**	P		Pn	02 08 29.2	-0.4
CAW				S		Sn	02 08 47.5	-1.1
DSZ	**Denniston Nort**	**1.57**	**287**	P		Pb	02 08 32.9	+0.2
KIW	**Kapiti Island**	**1.58**	**31**	P		Pn	02 08 31.7	+0.2
QRZ	**Quartz Range**	**1.69**	**325**	P		Pb	02 08 34.1	-0.6
QRZ				S		Sn	02 08 55.2	+0.6
MQZ	**McQueen's Vall**	**1.71**	**210**	P		Pn	02 08 32.5	-0.7
MQZ				S		Sn	02 08 52.6	-2.5
OGWZ	**Otaki Gorge**	**1.73**	**36**	P		Pn	02 08 33.0	-0.5
OGWZ				S		Sn	02 08 54.2	-1.3

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*LDG **19** 02:32:45.6±0.2,43˚.11N×11˚.03E,h8km,Ml2.9/12,Error ellipse: s-maj=4.1km s-min=3.5km az=6.0*
*ROM **19** 02:32:46.1±0.1,43˚.117N±0˚.004×10˚.996E±0˚.006, h11km,ML2.7/17,Error ellipse: s-maj=0.4km s-min=0.3km az=48.0*
*PRU **19** 02:32:46.0±0.0,43˚.09N×11˚.38E,h0km*
*STR **19** 02:32:48.4±1.1,43˚.N±6˚×1˚.1E±˚,h10km,MLv3.1/16,Error ellipse: s-maj=0.0km s-min=0.0km az=62.3,preliminary*

ISC 19 02:32:45.9±0.8,43.12N±0.02×10.99E±0.02,h16km±5km, n115,σ1$40/168,6C-2D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRIF	**Trifonti**	**0.07**	**264**	P		**Pg**	**02 32 48.7**	**-0.3**
TRIF				S		**Sg**	**02 32 50.1**	**-0.9**
A318A	**Donoratico (LI**	**0.31**	**270**	P		**Pb**	**02 32 53.0**	**0.0**
A318A				S		**Sg**	**02 32 57.5**	**+0.7**
CASP	**Castiglione de**	**0.34**	**196**	⇑P		**Pb**	**02 32 53.6**	**-0.1**
CASP				S		**Sg**	**02 32 58.5**	**+0.7**
CASP				AML		AML		
	comp=E,11615μm,0.3s							
CASP				AML		AML		
	comp=N,8855μm,0.2s							
CASP				AML		AML		
	comp=N,8855μm,1.8s							
CASP				AML		AML		
	comp=E,11640μm,0.3s							
CASP				AML		AML		
	comp=N,8117μm,0.1s							
OSSC	**Osservatorio P**	**0.44**	**25**	P		**Pg**	**02 32 54.8**	**-0.1**
OSSC				S		**Sg**	**02 33 00.6**	**-0.2**
OSSC				AML		AML		
	comp=E,2740μm,0.7s							
OSSC				AML		AML		
	comp=N,2065μm,1.1s							
OSSC				AML		AML		
	comp=N,2060μm,1.0s							
OSSC				AML		AML		
	comp=N,2640μm,0.7s							
OSSC				AML		AML		
	comp=E,2735μm,0.7s							
OSSC				AML		AML		
	comp=E,1965μm,1.1s							
OSSC				AML		AML		
	comp=N,2060μm,1.0s							
OSSC				AML		AML		
	comp=E,1965μm,0.9s							
OSSC				AML		AML		
	comp=N,1863μm,0.2s							
OSSC				AML		AML		
	comp=E,1856μm,0.3s							
OSSC				AML		AML		
	comp=E,2739μm,0.7s							
OSSC				AML		AML		
	comp=N,2638μm,0.7s							
OSSC	**Osservatorio P**	**0.44**	**25**	P		**Pg**	**02 32 54.7**	**-0.1**
OSSC				S		**Sg**	**02 33 00.7**	**-0.2**
ARCI	**Arcidosso**	**0.45**	**127**	⇑P		**Pg**	**02 32 55.0**	**+0.1**
ARCI				S		**Sg**	**02 33 00.7**	**-0.3**
ARCI				AML		AML		
	comp=E,2725μm,0.3s							
ARCI				AML		AML		
	comp=N,2685μm,0.4s							
ARCI				AML		AML		
	comp=E,2726μm,0.3s							
ARCI				AML		AML		
	comp=N,2683μm,0.4s							
SF01	**Poggio Pratacc**	**0.52**	**126**	P		**Pg**	**02 32 56.3**	**0.0**
SF01				S		**Sb**	**02 33 04.1**	**+0.1**
SF01				AML		AML		
	comp=E,7175μm,0.3s							
SF01				AML		AML		
	comp=N,5685μm,0.2s							
SF01				AML		AML		
	comp=E,7180μm,0.3s							
SF01				AML		AML		
	comp=N,5680μm,0.2s							
SF01				AML		AML		
	comp=N,5681μm,0.2s							
SF01				AML		AML		
	comp=E,7177μm,0.3s							
SF13	**Bagnolo**	**0.55**	**123**	P		**Pg**	**02 32 57.0**	**+0.2**
SF13				S		**Sb**	**02 33 05.2**	**+0.3**
SF11	**Podere del Sol**	**0.56**	**116**	⇓P		**Pg**	**02 32 57.1**	**0.0**
SF11				S		**Sg**	**02 33 05.2**	**+0.6**
SF04	**Casetta**	**0.57**	**120**	⇑P		**Pg**	**02 32 57.2**	**+0.1**
SF04				S		**Sb**	**02 33 05.6**	**+0.2**
SF04				AML		AML		
	comp=E,5530μm,0.2s							
SF04				AML		AML		
	comp=N,5760μm,0.2s							
SF04				AML		AML		
	comp=E,5530μm,0.2s							
SF04				AML		AML		
	comp=N,5760μm,0.2s							
SF14	**Selvena**	**0.59**	**128**	P		**Pg**	**02 32 57.6**	**+0.1**
SF14				S		**Sg**	**02 33 04.7**	**-0.5**
SF03	**Valle Cupa**	**0.60**	**122**	⇑P		**Pg**	**02 32 57.8**	**+0.1**
SF03				S		**Sg**	**02 33 05.0**	**-0.8**
MCIV	**Monte Civitell**	**0.61**	**124**	⇑P		**Pg**	**02 32 57.9**	**0.0**
MCIV				S		**Sb**	**02 33 06.8**	**+0.3**
MCIV				AML		AML		
	comp=E,1325μm,0.3s							
MCIV				AML		AML		
	comp=N,1230μm,1.3s							
MCIV				AML		AML		
	comp=N,1230μm,0.7s							
MCIV				AML		AML		
	comp=E,1323μm,0.3s							
MCIV				AML		AML		
	comp=N,1127μm,0.2s							
CRMI	**Carmignano**	**0.67**	**359**	P		**Pg**	**02 32 59.0**	**0.0**
CRMI				S		**Sg**	**02 33 08.6**	**+0.7**
CRMI				AML		AML		
	comp=E,660μm,0.3s							
CRMI				AML		AML		
	comp=N,406μm,0.5s							
CRMI				AML		AML		
	comp=E,676μm,0.3s							
CRMI				AML		AML		
	comp=N,426μm,0.5s							
CRMI				AML		AML		
	comp=N,426μm,1.5s							
CRMI				AML		AML		
	comp=N,406μm,1.5s							
CRMI				AML		AML		
	comp=E,660μm,0.3s							
CRMI				AML		AML		
	comp=N,427μm,0.5s							
CRMI				AML		AML		
	comp=E,675μm,0.3s							
CRMI				AML		AML		
	comp=N,405μm,0.5s							
CRMI	**Carmignano**	**0.67**	**359**	P		**Pg**	**02 32 59.1**	**0.0**
CRMI				S		**Sg**	**02 33 08.3**	**+0.4**
PII	**Pisa**	**0.69**	**331**	P		**Pg**	**02 32 59.5**	**+0.1**
PII				S		**Sg**	**02 33 09.1**	**+0.6**
PII				AML		AML		
	comp=N,2955μm,1.5s							
PII				AML		AML		
	comp=N,2955μm,0.5s							
PII				AML		AML		
	comp=E,2105μm,0.3s							
PII				AML		AML		
	comp=E,2104μm,0.3s							
PII				AML		AML		
	comp=N,2902μm,0.3s							
PII	**Pisa**	**0.69**	**331**	P		**Pg**	**02 32 59.5**	**+0.1**
PII				S		**Sg**	**02 33 08.8**	**+0.3**
MAON	**Monte Argentar**	**0.70**	**172**	P		**Pb**	**02 33 00.0**	**+0.3**
MAON				S		**Sb**	**02 33 10.0**	**+0.8**
MAON				AML		AML		
	comp=E,2040μm,0.8s							
MAON				AML		AML		
	comp=N,1950μm,0.4s							
MAON				AML		AML		
	comp=E,1630μm,0.2s							
MAON				AML		AML		
	comp=N,1663μm,0.3s							
MAON	**Monte Argentar**	**0.70**	**172**	P		**Pb**	**02 33 00.3**	**+0.6**
MAON				S		**Sb**	**02 33 10.4**	**+1.3**
SACS	**San Casciano d**	**0.73**	**112**	P		**Pg**	**02 33 00.0**	**-0.1**
SACS				AML		AML		
	comp=E,386μm,0.7s							
SACS				AML		AML		
	comp=E,375μm,1.4s							
SACS				AML		AML		
	comp=N,346μm,0.9s							
SACS				AML		AML		
	comp=N,334μm,0.9s							
SACS				AML		AML		
	comp=E,386μm,1.3s							
SACS				AML		AML		
	comp=E,375μm,0.6s							
SACS				AML		AML		
	comp=N,333μm,0.9s							
SACS				AML		AML		
	comp=E,358μm,0.7s							
SACS				AML		AML		
	comp=E,386μm,0.7s							
SACS				AML		AML		
	comp=N,345μm,0.9s							
CAFI	**Castiglion Fio**	**0.74**	**73**	⇓P		**Pg**	**02 33 00.0**	**-0.4**
CAFI				AML		AML		
	comp=E,514μm,0.5s							
CAFI				AML		AML		
	comp=E,515μm,0.5s							
CAFI				AML		AML		
	comp=N,466μm,1.1s							
CAFI				AML		AML		
	comp=E,525μm,0.7s							
CAFI				AML		AML		
	comp=N,464μm,1.1s							
CAFI				AML		AML		
	comp=E,515μm,1.5s							
CAFI				AML		AML		
	comp=N,466μm,0.9s							
CAFI				AML		AML		
	comp=N,464μm,0.9s							
CAFI				AML		AML		
	comp=E,524μm,0.5s							
CAFI				AML		AML		
	comp=N,466μm,1.1s							
CAFI				AML		AML		
	comp=E,515μm,0.5s							
CAFI				AML		AML		
	comp=N,463μm,1.1s							
RUFI	**Rufina**	**0.81**	**28**	P		**Pg**	**02 33 01.5**	**-0.1**
RUFI				S		**Sg**	**02 33 12.7**	**+0.3**
RUFI				AML		AML		
	comp=N,706μm,1.5s							
RUFI				AML		AML		
	comp=E,1255μm,0.6s							
RUFI				AML		AML		
	comp=N,706μm,1.5s							
RUFI				AML		AML		
	comp=N,706μm,0.5s							
RUFI				AML		AML		
	comp=E,1255μm,1.4s							
RUFI				AML		AML		
	comp=N,682μm,0.5s							
RUFI				AML		AML		
	comp=E,1189μm,0.3s							
RUFI	**Rufina**	**0.81**	**28**	P		**Pg**	**02 33 01.6**	**-0.1**
RUFI				S		**Sg**	**02 33 12.5**	**+0.1**
MPPT	**Montemurlo**	**0.84**	**5**	P		**Pg**	**02 33 01.9**	**-0.3**
MGAB	**Montegabbione**	**0.85**	**104**	P		**Pg**	**02 33 01.9**	**-0.4**
MGAB				AML		AML		
	comp=E,415μm,1.5s							
MGAB				AML		AML		
	comp=N,532μm,0.4s							
MGAB				AML		AML		
	comp=N,482μm,0.4s							
MGAB				AML		AML		
	comp=E,446μm,0.4s							
MGAB				AML		AML		
	comp=N,532μm,0.4s							
MGAB				AML		AML		
	comp=E,446μm,0.4s							
MGAB				AML		AML		
	comp=N,481μm,0.4s							
MGAB				AML		AML		
	comp=E,399μm,0.5s							
CRE	**Caprese Michel**	**0.86**	**54**	P		**Pg**	**02 33 02.6**	**0.0**

GROG	**Isola di Gorgo**	**0.86**	**291**	P		**Pg**	02 33 02.3	**-0.3**
GROG				AML		AML		
	comp=E,388μm,1.2s							
GROG				AML		AML		
	comp=N,301μm,1.6s							
GROG				AML		AML		
	comp=N,301μm,0.4s							
GROG				AML		AML		
	comp=E,388μm,0.8s							
GROG				AML		AML		
	comp=E,378μm,0.3s							
GROG				AML		AML		
	comp=N,287μm,0.4s							
GROG	**Isola di Gorgo**	**0.86**	**291**	P		**Pb**	02 33 03.3	**+0.8**
GROG				S		**Sb**	02 33 15.7	**+2.0**
MAIM	**Mastiano**	**0.87**	**336**	⇑P		**Pg**	02 33 02.7	**-0.1**
MAIM				S		**Sg**	02 33 13.5	**-0.8**
MAIM				AML		AML		
	comp=E,458μm,0.3s							
MAIM				AML		AML		
	comp=N,404μm,1.1s							
MAIM				AML		AML		
	comp=E,457μm,0.3s							
MAIM				AML		AML		
	comp=N,381μm,0.3s							
MAIM	**Mastiano**	**0.87**	**336**	P		**Pg**	02 33 02.7	**-0.1**
MAIM				S		**Sg**	02 33 13.6	**-0.8**
ASQU	**Asqua**	**0.89**	**40**	P		**Pg**	02 33 03.0	**-0.2**
ASQU	**Asqua**	**0.89**	**40**	P		**Pg**	02 33 03.3	**+0.1**
MTCR	**Monte La Croce**	**0.91**	**0**	P		**Pg**	02 33 03.4	**-0.1**
MTCR	**Monte La Croce**	**0.91**	**0**	P		**Pg**	02 33 03.7	**+0.2**
SSP9	**Sansepolcro**	**0.95**	**61**	P		**Pg**	02 33 04.1	**-0.1**
SSP9				AML		AML		
	comp=E,473μm,0.5s							
SSP9				AML		AML		
	comp=N,842μm,1.6s							
SSP9				AML		AML		
	comp=E,473μm,1.5s							
SSP9				AML		AML		
	comp=E,473μm,0.5s							
SSP9				AML		AML		
	comp=N,750μm,0.6s							
SEI	**Scarperia**	**0.97**	**16**	P		**Pg**	02 33 04.6	**-0.1**
SEI				AML		AML		
	comp=E,944μm,0.5s							
SEI				AML		AML		
	comp=N,1440μm,1.5s							
SEI				AML		AML		
	comp=N,1440μm,0.5s							
SEI				AML		AML		
	comp=E,944μm,0.5s							
SEI				AML		AML		
	comp=N,1433μm,0.3s							
SEI				AML		AML		
	comp=E,944μm,0.5s							
SEI	**Scarperia**	**0.97**	**16**	P		**Pg**	02 33 04.9	**+0.2**
SEI				S		**Sn**	02 33 19.1	**+0.7**
CARD	**Cardoso**	**0.98**	**338**	P		**Pg**	02 33 04.7	**-0.1**
BADI	**Badiali**	**0.99**	**67**	P		**Pg**	02 33 04.6	**-0.5**
BADI				AML		AML		
	comp=E,36μm,0.3s							
BADI				AML		AML		
	comp=N,305μm,0.5s							
SFI	**Santa Sofia**	**1.00**	**38**	P		**Pg**	02 33 05.0	**-0.2**
SFI				AML		AML		
	comp=E,566μm,1.5s							
SFI				AML		AML		
	comp=N,408μm,1.6s							
SFI				AML		AML		
	comp=N,405μm,0.6s							
SFI				AML		AML		
	comp=E,539μm,0.7s							
LMD	**Lutirano**	**1.09**	**28**	P		**Pb**	02 33 06.5	**+0.2**
LMD				S		**Sg**	02 33 21.0	**-0.1**
LMD				AML		AML		
	comp=E,430μm,0.9s							
LMD				AML		AML		
	comp=N,418μm,1.4s							
LMD				AML		AML		
	comp=N,418μm,0.6s							
LMD				AML		AML		
	comp=E,421μm,0.8s							
LMD				AML		AML		
	comp=N,413μm,0.3s							
LMD	**Lutirano**	**1.09**	**28**	P		**Pb**	02 33 06.6	**+0.2**
LMD				S		**Sn**	02 33 22.2	**+0.9**
VLC	**Villacollemand**	**1.13**	**337**	P		**Pb**	02 33 07.2	**+0.2**
VLC				AML		AML		
	comp=N,228μm,1.0s							
VLC				AML		AML		
	comp=N,235μm,1.0s							
VLC				AML		AML		
	comp=E,232μm,1.6s							
VLC				AML		AML		
	comp=E,218μm,1.6s							
VLC				AML		AML		
	comp=N,228μm,1.0s							
VLC				AML		AML		
	comp=E,218μm,0.4s							
VLC				AML		AML		
	comp=E,232μm,0.4s							
VLC				AML		AML		
	comp=N,235μm,1.0s							
VLC				AML		AML		
	comp=N,193μm,0.5s							
VLC				AML		AML		
	comp=E,158μm,0.4s							
VLC				AML		AML		
	comp=N,196μm,0.7s							
VLC				AML		AML		
	comp=E,156μm,0.4s							
VLC	**Villacollemand**	**1.13**	**337**	P		**Pb**	02 33 07.7	**+0.6**
SARO	**Sassorosso**	**1.15**	**338**	P		**Pb**	02 33 07.6	**+0.2**
SARO				S		**Sb**	02 33 22.6	**+0.5**
CPGN	**Carpegna, Ital**	**1.18**	**54**	P		**Pg**	02 33 09.0	**+0.3**
PIEI	**Pieia**	**1.20**	**69**	P		**Pb**	02 33 08.0	**-0.3**
MOMA	**Monte Martano**	**1.20**	**105**	P		**Pb**	02 33 07.9	**-0.4**
MORSI	**Morsiglia**	**1.21**	**263**	P		**Pn**	02 33 08.3	**+0.2**
MORSI				S		**Sn**	02 33 25.3	**+1.2**
EQUI	**Equi**	**1.21**	**330**	P		**Pn**	02 33 08.5	**+0.3**
EQUI				S		**Sb**	02 33 24.5	**+0.7**
ZCCA	**Zocca**	**1.23**	**359**	P		**Pb**	02 33 09.5	**+0.7**
ZCCA				AML		AML		
	comp=N,341μm,1.4s							
ZCCA				AML		AML		
	comp=N,341μm,0.6s							
ZCCA				AML		AML		
	comp=E,367μm,0.5s							
PE3	**Peglio**	**1.24**	**62**	P		**Pn**	02 33 08.8	**+0.2**
PE3				AML		AML		
	comp=E,891μm,0.5s							
NARO	**Abbazia di Nar**	**1.26**	**67**	P		**Pn**	02 33 08.8	**0.0**
GSCL	**Gusciola**	**1.26**	**347**	P		**Pn**	02 33 09.3	**+0.4**
GSCL				S		**Sb**	02 33 26.5	**+1.1**
FOSV	**Fossato di Vic**	**1.30**	**82**	P		**Pn**	02 33 09.3	**-0.2**
FOSV				AML		AML		
	comp=E,131μm,0.6s							
FOSV				AML		AML		
	comp=N,152μm,0.5s							
FRON	**Frontone**	**1.33**	**72**	P		**Pn**	02 33 09.6	**-0.2**
SSFR	**Montelago di S**	**1.34**	**76**	P		**Pn**	02 33 10.1	**0.0**
FDMO	**Fiordimonte**	**1.54**	**92**	AML		AML		
	comp=E,256μm,1.6s							
FDMO				AML		AML		
	comp=N,212μm,0.6s							
FDMO				AML		AML		
	comp=E,256μm,1.6s							
FDMO				AML		AML		
	comp=N,211μm,0.6s							
FDMO				AML		AML		
	comp=E,256μm,0.4s							
PGF	**Pioggiola**	**1.57**	**249**	*e*Pn		**Pn**	02 33 13.5	**+0.2**
PGF				*e*Sn		**Sg**	02 33 36.1	**-0.5**
	comp=E,64nm,0.3s							
PGF	**Pioggiola**	**1.57**	**249**	AML		AML		
	comp=E,152μm,0.6s							
PGF				AML		AML		
	comp=N,189μm,1.2s							
PGF				AML		AML		
	comp=N,189μm,0.8s							
PGF				AML		AML		
	comp=E,152μm,0.6s							
PGF				AML		AML		
	comp=N,189μm,1.2s							
PGF	**Pioggiola**	**1.57**	**249**	P		**Pn**	02 33 13.9	**+0.7**
CORF	**Corte**	**1.58**	**239**	P		**Pn**	02 33 13.8	**+0.5**

SMPL	**Sampolo**	**1.62**	**231**	P		**Pn**	02 33 14.8	**+0.9**
SMPL				S		**Sn**	02 33 35.9	**+1.4**
SAOF	**Saorge**	**2.64**	**290**	P		**Pn**	02 33 28.0	**+0.1**
SAOF				S		**Sn**	02 33 59.3	**-0.3**
SBF	**Sospel**	**2.69**	**287**	*e*Pn		**Pn**	02 33 28.4	**-0.2**
SBF				*e*Sn		**Sn**	02 34 00.7	**-0.2**
	comp=N,20nm,0.3s							
ESCA	**l'Escarene**	**2.73**	**286**	P		**Pn**	02 33 29.0	**0.0**
ESCA				S		**Sn**	02 34 01.8	**+0.1**
TURF	**col de Turini**	**2.75**	**289**	P		**Pn**	02 33 29.7	**+0.2**
TURF				S		**Sn**	02 34 01.9	**-0.6**
CALF	**Calern**	**3.03**	**283**	P		**Pn**	02 33 33.6	**+0.3**
ENAUX	**Enaux**	**3.22**	**289**	P		**Pn**	02 33 37.1	**+1.2**
ENAUX				S		**Sn**	02 34 14.3	**+0.3**
LMR	**La Mourre**	**3.28**	**275**	*e*Pn		**Pn**	02 33 36.3	**-0.4**
LMR				*e*Sn		**Sn**	02 34 13.1	**-2.3**
	comp=N,14nm,0.4s							
SURF	**Saint Ours**	**3.32**	**296**	P		**Pn**	02 33 38.3	**+1.0**
JAUF	**Jausiers**	**3.34**	**295**	P		**Pn**	02 33 38.7	**+1.1**
TRIGF	**Trigance**	**3.40**	**282**	P		**Pn**	02 33 39.2	**+0.9**
TRIGF				S		**Sn**	02 34 18.3	**0.0**
MBDF	**Montbardon**	**3.45**	**299**	*e*Pn		**Pn**	02 33 39.6	**+0.6**
MBDF				*e*Sn		**Sn**	02 34 17.4	**-2.2**
	comp=N,19nm,0.7s							
CREF	**Crivoux**	**3.47**	**296**	P		**Pn**	02 33 42.9	**+3.5**
CREF				S		**Sn**	02 34 25.6	**+5.4**
FLAF	**Flassans-sur-I**	**3.47**	**276**	P		**Pn**	02 33 39.7	**+0.5**
FLAF				S		**Sn**	02 34 19.9	**-0.1**
ABTA	**Abfaltersbach**	**3.78**	**16**	*e*Pn		**Pn**	02 33 46.0	**+2.4**
	comp=N,1.0nm,0.3s							
ARTF	**Artigues**	**3.81**	**279**	P		**Pn**	02 33 44.9	**+1.0**
LEPF	**PUYLOUBIER**	**3.88**	**278**	P		**Pn**	02 33 45.8	**+0.9**
LPL	**La Plagne**	**3.88**	**310**	*e*Pn		**Pn**	02 33 44.1	**-1.0**
LPL	**La Plagne**	**3.88**	**310**	*e*P		**Pn**	02 33 47.7	**+2.6**
LPL				*e*Sn		**Sn**	02 34 28.2	**-2.3**
	comp=N,1.5nm,0.4s							
FETA	**Feichten**	**3.90**	**357**	*e*Pn		**Pn**	02 33 49.1	**+3.8**
	comp=N,3.9nm,0.8s							
BSTF	**la Bastide-des**	**3.96**	**283**	P		**Pn**	02 33 47.1	**+1.1**
BSTF				S		**Sn**	02 34 31.7	**-0.5**
SMRF	**Simiane la Rot**	**4.03**	**284**	*e*P		**Pn**	02 33 48.6	**+1.6**
SMRF				*e*Sn		**Sn**	02 34 31.3	**-2.6**
	comp=N,3.2nm,0.3s							
RUSF	**Rustrel**	**4.09**	**283**	P		**Pn**	02 33 49.1	**+1.4**
RUSF				S		**Sn**	02 34 36.0	**+0.7**
ORIF	**Oris-en-Rattie**	**4.10**	**298**	*e*P		**Pn**	02 33 52.1	**+4.1**
ORIF				*e*Sn		**Sn**	02 34 32.9	**-2.8**
	comp=N,6.5nm,0.5s							
ORIF	**Oris-en-Rattie**	**4.10**	**298**	P		**Pn**	02 33 50.4	**+2.4**
SQTA	**Sankt Quirin**	**4.10**	**2**	*i* Pn		**Pn**	02 33 50.7	**+2.7**
	comp=N,3.0nm,0.2s							
SQTA				*e*Sn		**Sn**	02 34 36.3	**+0.6**
	comp=N,3.9nm,0.3s							
WTTA	**Wattenberg**	**4.17**	**6**	*e*Pn		**Pn**	02 33 51.8	**+2.8**
	comp=N,1.2nm,0.2s							
MOTA	**Moosalm**	**4.22**	**1**	*e*Pn		**Pn**	02 33 52.8	**+3.0**
	comp=N,3.1nm,0.4s							
WATA	**Walderalm**	**4.24**	**5**	*e*Pn		**Pn**	02 33 52.8	**+2.9**
	comp=N,1.6nm,0.2s							
DAVA	**Damuels**	**4.24**	**350**	*e*Pn		**Pn**	02 33 52.8	**+2.8**
	comp=N,2.4nm,0.4s							
KBA	**Koelnbreinsper**	**4.29**	**22**	*e*Pn		**Pn**	02 33 52.0	**+1.3**
	comp=N,1.3nm,0.2s							
RETA	**Reutte**	**4.37**	**358**	*i* Pn		**Pn**	02 33 54.9	**+3.2**
	comp=N,3.5nm,0.3s							
VIVF	**Saint-Julien-I**	**4.88**	**293**	*e*Pn		**Pn**	02 33 58.1	**-0.5**
VIVF				*e*Sn		**Sn**	02 34 51.6	**-3.2**
	comp=N,1.2nm,0.2s							
CABF	**La Chapelle**	**4.93**	**317**	*e*Pn		**Pn**	02 33 59.0	**-0.4**
ARSA	**Arzberg**	**5.22**	**36**	*e*Pn		**Pn**	02 34 04.6	**+1.2**
	comp=N,0.9nm,0.2s							
MOA	**Molln**	**5.26**	**25**	*e*Pn		**Pn**	02 34 03.7	**-0.1**
	comp=N,2.3nm,0.4s							
LASF	**Ste Croix**	**5.27**	**283**	*e*Pn		**Pn**	02 34 03.0	**-1.0**
HINF	**Hinteralfeld**	**5.52**	**330**	*e*Pn		**Pn**	02 34 06.4	**-1.1**
HINF				*e*Sn		**Sn**	02 35 06.3	**-4.4**
	comp=N,3.2nm,0.5s							
HAU	**Haudompre**	**5.87**	**328**	*e*Pn		**Pn**	02 34 11.2	**-1.0**
HAU				*e*Sn		**Sn**	02 35 14.6	**-4.6**
	comp=N,2.3nm,0.3s							
CDF	**Champ du Feu**	**5.89**	**335**	*e*Pn		**Pn**	02 34 11.9	**-0.7**
CDF				*e*Sn		**Sn**	02 35 15.8	**-4.1**
	comp=N,1.4nm,0.3s							
CKRC	**Cesky Krumlov**	**6.15**	**21**	*e*SN		**Sn**	02 35 25.1	**-1.0**
SMF	**Signal de Mont**	**6.18**	**307**	*e*Pn		**Pn**	02 34 15.5	**-1.0**
KHC	**Kasperske Hory**	**6.27**	**16**	*e*PN		**Pn**	02 34 17.6	**-0.2**
KHC				*e*SN		**Sn**	02 35 27.1	**-2.0**
MTLF	**Montolieu**	**6.41**	**275**	*e*Pn		**Pn**	02 34 18.7	**-1.0**
LOR	**Lormes**	**6.53**	**312**	*e*Pn		**Pn**	02 34 21.2	**0.0**
AVF	**Avril sur Loir**	**6.54**	**307**	*e*Pn		**Pn**	02 34 21.2	**-0.2**
PAGF	**Fort de Pagny**	**6.56**	**328**	*e*Pn		**Pn**	02 34 19.8	**-1.9**
SSF	**Saint Saulge**	**6.60**	**309**	*e*Pn		**Pn**	02 34 22.2	**0.0**
CAF	**Calviac**	**6.68**	**289**	*e*Pn		**Pn**	02 34 22.6	**-0.8**
BGF	**Bois d'Agland**	**6.73**	**303**	*e*Pn		**Pn**	02 34 22.9	**-1.1**
SAVF	**Savonnieres en**	**6.85**	**325**	*e*Pn		**Pn**	02 34 23.7	**-2.0**
TCF	**Toulx Ste Croi**	**7.01**	**300**	*e*Pn		**Pn**	02 34 27.5	**-0.4**
LFF	**La Frestale**	**7.61**	**287**	*e*Pn		**Pn**	02 34 35.2	**-0.9**
LFF				*e*Sn		**Sn**	02 35 57.7	**-4.2**

ROM 19 02:32:54.0±0.1, 42°.526N±0°.004×13°.228E±0°.006, h10km, ML2.4/9, 7C-3D, Error ellipse: s-maj=0.5km s-min=0.4km az=306.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.10**	**148**	⇓P	Pg	02 32 57.6	+0.9
T1247				S	Sg	02 33 00.1	+1.5
T1247				AML	AML		
	comp=E,3275μm,0.7s						
T1247				AML	AML		
	comp=N,3660μm,1.1s						
T1247				AML	AML		
	comp=E,3275μm,1.3s						
T1247				AML	AML		
	comp=E,3201μm,0.1s						
T1247				AML	AML		
	comp=N,3246μm,0.2s						
SMA1	**SAN MARTINO**	**0.13**	**37**	⇑P	Pg	02 32 57.8	+0.6
SMA1				S	Sg	02 33 00.2	+0.8
SMA1				AML	AML		
	comp=N,11400μm,0.2s						
SMA1				AML	AML		
	comp=E,17650μm,0.5s						
SMA1				AML	AML		
	comp=N,11408μm,0.2s						
SMA1				AML	AML		
	comp=E,14835μm,0.3s						
CAMP	**Campotosto**	**0.13**	**86**	P	Pg	02 32 57.8	+0.5
CAMP				S	Sg	02 32 59.9	+0.4
LNSS	**Leonessa**	**0.16**	**299**	⇓P	Pg	02 32 58.4	+0.8
LNSS				S	Sg	02 33 00.7	+0.6
LNSS				AML	AML		
	comp=E,4090μm,0.2s						
LNSS				AML	AML		
	comp=N,3450μm,0.3s						
LNSS				AML	AML		
	comp=E,4091μm,0.2s						
LNSS				AML	AML		
	comp=N,3451μm,0.3s						
T1218	**Civita (PG)**	**0.17**	**330**	⇓P	Pg	02 32 58.3	+0.5
T1218				S	Sg	02 33 01.0	+0.7
T1218				AML	AML		
	comp=E,4450μm,0.2s						
T1218				AML	AML		
	comp=N,5715μm,0.1s						
T1218				AML	AML		
	comp=E,4390μm,0.1s						
T1218				AML	AML		
	comp=N,5595μm,0.1s						
T1218				AML	AML		
	comp=N,5715μm,0.1s						
T1218				AML	AML		
	comp=E,4395μm,0.1s						
T1218				AML	AML		
	comp=E,4450μm,0.1s						
T1218				AML	AML		
	comp=N,5590μm,0.1s						
T1218				AML	AML		
	comp=E,4393μm,0.1s						
T1218				AML	AML		
	comp=E,4451μm,0.1s						
T1218				AML	AML		
	comp=N,5593μm,0.1s						
T1218				AML	AML		

	comp=N,5715μm,0.1s							
GIGS	**Gran Sasso**	**0.26**	**107**	P		Pg	02 32 59.8	+0.3
GIGS				S		Sb	02 33 04.4	-1.2
FIAM	**Fiamignano**	**0.27**	**198**	P		Pb	02 33 00.3	-0.7
FIAM				S		Sb	02 33 05.2	-0.5
FIAM				AML		AML		
	comp=N,266μm,1.6s							
FIAM				AML		AML		
	comp=E,546μm,0.3s							
FIAM				AML		AML		
	comp=N,266μm,0.4s							
FIAM				AML		AML		
	comp=N,260μm,0.5s							
FIAM				AML		AML		
	comp=E,546μm,0.3s							
ARRO	**Arrone**	**0.35**	**279**	⇑P		Pg	02 33 01.5	+0.6
ARRO				S		Sg	02 33 06.0	+0.4
ARRO				AML		AML		
	comp=N,723μm,0.2s							
ARRO				AML		AML		
	comp=E,455μm,0.7s							
ARRO				AML		AML		
	comp=N,723μm,1.8s							
ARRO				AML		AML		
	comp=N,723μm,0.2s							
ARRO				AML		AML		
	comp=E,422μm,0.2s							
CESX	**Cesi**	**0.49**	**280**	P		Pg	02 33 03.8	+0.3
CESX				S		Sb	02 33 11.4	-0.5
CESX				AML		AML		
	comp=E,199μm,1.6s							
CESX				AML		AML		
	comp=E,199μm,0.4s							
CESX				AML		AML		
	comp=N,193μm,0.3s							
CESX				AML		AML		
	comp=E,155μm,0.3s							
CESX				AML		AML		
	comp=N,193μm,0.3s							
FDMO	**Fiordimonte**	**0.52**	**349**	P		Pg	02 33 04.2	0.0
FDMO				S		Sb	02 33 12.4	-0.5
FDMO				AML		AML		
	comp=E,256μm,1.6s							
FDMO				AML		AML		
	comp=N,211μm,0.6s							
FDMO				AML		AML		
	comp=E,256μm,0.4s							
FDMO				AML		AML		
	comp=N,187μm,0.2s							
FDMO				AML		AML		
	comp=E,218μm,0.2s							
OFFI	**Offida**	**0.53**	**39**	⇑P		Pb	02 33 05.1	-0.3
OFFI				S		Sb	02 33 14.7	+1.6
CESI	**CESI - Serrava**	**0.53**	**334**	⇑P		Pg	02 33 04.6	+0.1
CESI				S		Sg	02 33 11.4	-0.1
CESI				AML		AML		
	comp=N,268μm,0.2s							
CESI				AML		AML		
	comp=E,230μm,0.2s							
GUMA	**Gualdo di Mace**	**0.54**	**8**	⇑P		Pg	02 33 04.8	+0.2
GUMA				S		Sb	02 33 13.9	+0.4
GUMA				AML		AML		
	comp=N,770μm,1.2s							
GUMA				AML		AML		
	comp=E,892μm,0.3s							
GUMA				AML		AML		
	comp=N,790μm,1.5s							
GUMA				AML		AML		
	comp=N,790μm,0.5s							
GUMA				AML		AML		
	comp=E,710μm,0.6s							
GUMA				AML		AML		
	comp=E,578μm,0.2s							
GUMA				AML		AML		
	comp=N,731μm,0.5s							
GUMA				AML		AML		
	comp=E,893μm,0.3s							
GUMA				AML		AML		
	comp=N,635μm,0.3s							
CSP1	**Cessapalombo**	**0.56**	**358**	⇑P		Pg	02 33 04.9	-0.1
CSP1				S		Sb	02 33 14.4	+0.1
CSP1				AML		AML		
	comp=N,261μm,0.3s							
CSP1				AML		AML		
	comp=E,217μm,0.1s							
T1220	**Camerino, Fraz**	**0.59**	**350**	⇑P		Pg	02 33 05.4	-0.2
T1220				S		Sb	02 33 15.3	+0.3
T1220				AML		AML		
	comp=N,657μm,0.2s							
T1220				AML		AML		
	comp=N,680μm,0.2s							
T1220				AML		AML		
	comp=E,758μm,0.2s							
T1220				AML		AML		
	comp=E,752μm,0.2s							
T1220				AML		AML		
	comp=N,680μm,0.2s							
T1220				AML		AML		
	comp=E,758μm,0.2s							
T1220				AML		AML		
	comp=N,657μm,0.2s							
T1220				AML		AML		
	comp=E,752μm,0.2s							
CERT	**Cerreto**	**0.60**	**198**	P		Pg	02 33 05.9	+0.1
CERT				AML		AML		
	comp=N,93μm,0.3s							
CERT				AML		AML		
	comp=E,179μm,0.5s							
SRES	**S.Oreste - Sor**	**0.60**	**242**	P		Pb	02 33 06.3	-0.5
SRES				AML		AML		
	comp=E,99μm,1.4s							
SRES				AML		AML		
	comp=N,113μm,1.6s							
SRES				AML		AML		
	comp=N,113μm,0.4s							
SRES				AML		AML		
	comp=E,99μm,0.6s							
SRES				AML		AML		
	comp=N,81μm,0.4s							
SRES				AML		AML		
	comp=E,73μm,0.7s							
MTCE	**Montecelio**	**0.62**	**216**	P		Pg	02 33 06.0	0.0
MTCE				AML		AML		
	comp=E,89μm,0.4s							
MTCE				AML		AML		
	comp=N,56μm,0.5s							
EL6	**Elcito**	**0.81**	**353**	P		Pg	02 33 09.1	-0.5
EL6				AML		AML		
	comp=E,226μm,0.5s							
CING	**Cingoli**	**0.85**	**358**	P		Pg	02 33 10.1	-0.4
CING				S		Sb	02 33 23.4	+0.9
CING				AML		AML		
	comp=N,126μm,0.1s							

*OSPL **19** 02:48:53.1±0.8, 19°.62N×76°.67W, h0km±136km, ML2.4*
*JSN **19** 02:48:54.2±0.4, 19°.72N×76°.65W, h30km±999km, MD3.7*
*SSNC **19** 02:48:54.0±1.4, 19°.67N×76°.68W, h5km±10km, MD3.2, ML2.6, MW3.0*

ISC 19 02:48:52.0±1.5, 19°.64N±0°.05×76°.66W±0°.05, h11km±12km, n19, σ0=69/23, 7C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.53**	**323**	*e*P	**Pg**	**02 49 02.7**	**+0.4**
RCC	**Rio Carpintero**	**0.98**	**69**	*e*P	**Pg**	**02 49 10.6**	**-0.3**
RCC				*e*S	**Sg**	**02 49 23.1**	**-0.5**
BNJ	**Bonny Gate**	**1.34**	**192**	⇑*i*P	**Pn**	**02 49 17.2**	**+0.5**
HLGC	**Holguin**	**1.36**	**24**	*e*P	**Pn**	**02 49 16.6**	**-0.5**
HLGC				*e*S	**Sb**	**02 49 34.6**	**-0.5**
HLGC				IAML		02 49 38.2	
	comp=E,209nm,0.3s						
HLGC				IAML		02 49 38.4	
	comp=N,116nm,0.3s						
BBJ	**Bamboo Saint A**	**1.38**	**205**	⇑*i*P	**Pn**	**02 49 17.5**	**+0.3**
GTBY	**Guantanamo Bay**	**1.49**	**79**	*e*P	**Pn**	**02 49 18.7**	**0.0**
GTBY	**Guantanamo Bay**	**1.49**	**79**	*i* P	**Pn**	**02 49 18.8**	**0.0**
GTBY				*e*S	**Sn**	**02 49 38.8**	**+0.6**
GTBY				IAML		02 49 44.4	
	comp=Z,45nm,0.3s						
GWJ	**Greenwich**	**1.56**	**182**	⇓*i*P	**Pn**	**02 49 20.3**	**+0.4**
STH	**Stony Hill**	**1.56**	**185**	⇑*i*P	**Pn**	**02 49 20.2**	**+0.4**
HOJ	**Hope**	**1.63**	**183**	⇑*i*P	**Pn**	**02 49 21.3**	**+0.6**
CVJ	**Coleyville**	**1.63**	**210**	*i* P	**Pn**	**02 49 21.1**	**+0.3**
MTDJ	**Mount Denham**	**1.63**	**210**	*e*P	**Pn**	**02 49 21.1**	**+0.3**
MTDJ				*e*S	**Sn**	**02 49 40.8**	**-1.1**

MTDJ	**Mount Denham**	**1.63**	**210**	*i* P	**Pn**	**02 49 21.2**	**+0.4**
MTDJ				*e*S	**Sn**	**02 49 41.2**	**-0.7**
MTDJ				IAML		02 49 43.7	
	comp=Z,106nm,0.9s						
CCCC	**Cccc**	**1.86**	**326**	*e*P	Pn	02 49 20.7	-3.1
CCCC				IAML		02 49 47.6	
	comp=E,26nm,0.3s						
CCCC				IAML		02 49 49.4	
	comp=N,20nm,0.6s						
MOAC	**Moa**	**1.89**	**57**	*e*P	**Pn**	**02 49 26.0**	**+1.7**
PCJ	**Portland Cotta**	**1.95**	**194**⇑	*i*P	**Pn**	**02 49 26.0**	**+0.9**
MCJ	**Malvern**	**1.96**	**210**⇑	*i*P	**Pn**	**02 49 26.2**	**+0.8**
MCJ			⇑	*i*S	**Sn**	**02 49 49.9**	**-0.2**
MASC	**Masc**	**2.35**	**77**	*e*P	Pn	02 49 27.8	-2.8
MASC	**Masc**	**2.35**	**77**	*i* P	**Pn**	**02 49 31.4**	**+0.8**
MASC				IAML		02 50 20.3	
	comp=Z,19nm,1.0s						

*IDC **19** 02:48:53.3±2.7, 6˚41N×127˚56E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=192.7km s-min=29.2km az=67.0*
ISC 19 02:48:59.8±1.3, 6˚07N±0˚08×127˚2E±0˚1, h35km, n9, σ1§91/14, mb3.2/3, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDOP	**Cateel, Davao**	**1.87**	**335**⇑	*i*P	**Pn**	**02 49 31.2**	**+1.8**
CDOP				*i* S	**Sn**	**02 49 50.1**	**-1.7**
BIPH	**Bislig**	**2.27**	**338**⇓	*i*P	**Pn**	**02 49 36.0**	**+1.2**
BIPH				*e*S	**Sn**	**02 49 58.4**	**-3.2**
GSPH	**General Santos**	**2.27**	**270**⇑	*e*P	**Pn**	**02 49 34.7**	**-0.3**
KCP	**Kidapawan**	**2.32**	**294**⇓	*e*P	**Pn**	**02 49 37.0**	**+1.4**
KCP				*i* S	**Sn**	**02 50 01.8**	**-1.2**
BUKP	**Musuan**	**2.80**	**310**⇑	*i*P	**Pn**	**02 49 45.2**	**+3.0**
BUKP				*i* S	**Sn**	**02 50 15.2**	**+0.4**
CGP	**Cagayan de Oro**	**3.45**	**313**⇑	*e*P	**Pn**	**02 49 53.2**	**+2.1**
CGP				*e*S	**Sn**	**02 50 31.6**	**+0.7**
WRA	**Warramunga Arr**	**26.78**	**165**	P	**P**	**02 54 37.6**	**+0.9**
	0.3nm,0.8s,baz=346,slow=10,SNR=2.0 0.3nm,0.8s						
ASAR	**Alice Springs**	**30.27**	**168**	P	**P**	**02 55 08.3**	**+0.5**
	0.2nm,0.4s,baz=346,slow=7.7,SNR=2.5 0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.94**	**324**	P	**P**	**02 58 32.6**	**-1.9**
	0.2nm,0.5s,baz=121,slow=7.6,SNR=4.6 0.2nm,0.5s						

*IDC **19** 03:04:34.1±1.3, 5˚27S×153˚47E, h0km, mb3.8/7, mbtmp3.9/9, ML3.0/2, MS3.4/8, Error ellipse: s-maj=27.4km s-min=19.6km az=72.0*
ISC 19 03:04:40.1±1.1, 5˚28S±0˚08×153˚4E±0˚1, h43km, n15, σ1§01/12, mb3.8/6, MS3.3/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.71**	**305**	Pn	**Pn**	**03 05 06.0**	**-1.4**
	96nm,0.3s,baz=260,slow=1.0,SNR=14						
KRVT				Sn	**Sn**	**03 05 28.1**	**+0.1**
	62nm,0.3s,baz=205,slow=16,SNR=5.6						
KRVT				LR	LR	03 05 50.5	
	comp=Z,376nm,19.6s,baz=237,slow=44						
PMG	**Port Moresby**	**7.45**	**236**	Pn	**Pn**	**03 06 26.2**	**-0.1**
	4.0nm,0.3s,baz=66,slow=18,SNR=2.4						
PMG				Sn	**Sn**	**03 07 49.6**	**+0.1**
	4.2nm,0.3s,baz=62,slow=17,SNR=7.8						
PMG				LR	LR	03 09 15.2	
	comp=Z,72nm,18.1s,baz=326,slow=38 8.3nm,0.3s						
HNR	**Honiara**	**7.66**	**123**	LR	LR	03 09 37.6	
	comp=Z,2μm,19.2s,baz=291,slow=40						
CTA	**Charters Tower**	**16.29**	**205**	Pn	**Pn**	**03 08 25.3**	**-0.7**
	0.2nm,0.3s,baz=39,slow=9.8,SNR=4.0						
CTA				LR	LR	03 13 25.8	
	comp=Z,75nm,21.0s,baz=70,slow=33 0.8nm,0.4s						
DZM	**Mont Dzumac**	**20.91**	**144**	P	**P**	**03 09 18.6**	**-0.5**
	4.5nm,0.6s,baz=331,slow=14,SNR=11						
DZM				LR	LR	03 15 45.1	
	comp=Z,64nm,21.0s,baz=104,slow=32 4.5nm,0.6s						
WRA	**Warramunga Arr**	**23.61**	**230**	P	**P**	**03 09 46.5**	**-0.9**
	0.6nm,0.5s,baz=53,slow=9.9,SNR=7.6 0.6nm,0.5s						
ASAR	**Alice Springs**	**26.23**	**224**	P	**P**	**03 10 11.3**	**0.0**
	0.6nm,0.7s,baz=59,slow=9.1,SNR=7.0 0.6nm,0.7s						
STKA	**Stephens Creek**	**28.69**	**201**	LR	LR	03 21 49.7	
	comp=Z,76nm,18.3s,baz=25,slow=36						
BATI	**Baumata**	**29.89**	**259**	LR	LR	03 25 04.3	
	comp=Z,152nm,18.0s,baz=38,slow=41						
JCJ	**Chichijima**	**33.98**	**342**	LR	LR	03 22 22.8	
	comp=Z,104nm,20.5s,baz=106,slow=32						
PETK	**Petropavlovsk-**	**58.28**	**3**	LR	LR	03 38 24.6	
	comp=Z,13nm,18.8s,baz=98,slow=35						
CMAR	**Chiang Mai Arr**	**58.65**	**295**	P	**P**	**03 14 35.9**	**+2.3**
	1.4nm,0.3s,baz=107,slow=6.7,SNR=1.6 1.4nm,0.3s						
SONM	**Songino Array**	**67.07**	**328**	P	**P**	**03 15 28.9**	**-0.3**
	0.4nm,0.4s,baz=144,slow=5.7,SNR=5.6 0.4nm,0.4s						
MKAR	**Makanchi Array**	**81.10**	**319**	P	**P**	**03 16 50.9**	**-0.2**
	0.7nm,0.8s,baz=100,slow=6.6,SNR=3.9 0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**81.90**	**326**	P	**P**	**03 16 55.5**	**+0.5**
	0.5nm,0.4s,baz=116,slow=6.6,SNR=2.3 0.5nm,0.4s						

*IDC **19** 03:26:13.4±1.0, 6˚99N×77˚69W, h0km, mb3.7/4, mbtmp3.9/7, ML3.1/3, MS2.8/5, Error ellipse: s-maj=32.3km s-min=20.5km az=51.0*
*RSNC **19** 03:26:15.8±0.8, 7˚04N×77˚53W, h0km±6km, ML3.1, Mw3.7*
ISC 19 03:26:17.4±2.7, 7˚07N±0˚04×77˚61W±0˚06, h26km±20km, n40, σ1§41/50, mb3.8/4, 2C-1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APAC	**Apartado, Choc**	**1.31**	**51**⇑	*i*P	**Pn**	**03 26 38.4**	**-1.7**
APAC				*e*S	**Sn**	**03 26 56.8**	**-0.1**
APAC				*i*		03 26 59.4	
	comp=Z,797nm,0.6s						
DBBC	**Dabeiba**	**1.39**	**92**	*e*P	**Pn**	**03 26 38.0**	**-3.3**
DBBC				*e*S	**Sn**	**03 26 57.1**	**-1.8**
DBBC				*i*		03 26 58.5	
	comp=Z,353nm,0.8s						
CBOC	**Ciudad Bolivar**	**1.99**	**127**	*e*P	**Pn**	**03 26 46.1**	**-3.5**
CBOC				*e*S	**Sn**	**03 27 11.4**	**-2.4**
CBOC				*i*		03 27 18.8	
	comp=Z,147nm,0.4s						
PIZC	**Pizarro, Choco**	**2.11**	**173**⇑	*e*P	**Pn**	**03 26 48.9**	**-2.1**
PIZC				*i*		03 27 53.5	
	comp=Z,85nm,0.3s						
LCBC	**Los crdobas,**	**2.16**	**35**	*e*P	**Pn**	**03 26 51.9**	**+0.2**
LCBC				*e*S	**Sb**	**03 27 22.7**	**+0.5**
LCBC				*i*		03 27 26.4	
	comp=Z,79nm,0.3s						
UREC	**San Jos de Ur**	**2.17**	**72**	*e*P	**Pn**	**03 26 51.0**	**-1.0**
UREC				*i*		03 27 23.2	
	comp=Z,113nm,0.3s						
PLMC	**San Jos del P**	**2.53**	**148**⇓	*e*P	**Pn**	**03 26 53.7**	**-3.2**
PLMC				*i*		03 27 31.0	
	comp=Z,78nm,0.6s						
ZARC	**Zaragoza, Cauc**	**2.76**	**81**	*e*P	**Pn**	**03 26 59.3**	**-0.8**
ZARC				*e*S	**Sn**	**03 27 32.8**	**+0.1**
ZARC				*i*		03 27 38.3	
	comp=Z,96nm,0.6s						
GUY2C	**Guyana, Caldas**	**2.89**	**129**	*e*P	**Pn**	**03 27 01.3**	**-1.0**
GUY2C				*e*S	**Sn**	**03 27 37.0**	**+0.5**
GUY2C				*i*		03 27 45.8	
	comp=Z,108nm,0.6s						
BCIP	**Isla Barro Col**	**3.03**	**314**	*e*P	**Pn**	**03 27 03.3**	**-0.5**
NORC	**Norcasia**	**3.11**	**119**	*e*P	**Pn**	**03 27 04.1**	**-0.8**
NORC				*i*		03 27 50.9	
	comp=Z,44nm,0.5s						
PTBC	**PUERTO BERRIO,**	**3.18**	**99**	*e*P	**Pn**	**03 27 05.1**	**-0.7**
PTBC				*e*S	**Sn**	**03 27 43.6**	**+0.6**
PTBC				*i*		03 27 54.4	
	comp=Z,43nm,0.7s						
YOTC	**Yotoco, Valle**	**3.32**	**158**	*e*P	**Pn**	**03 27 07.0**	**-0.8**
SJCC	**San Jacinto, C**	**3.70**	**40**	*e*P	**Pn**	**03 27 13.1**	**+0.1**
SJCC				*e*S	**Sn**	**03 27 54.9**	**-0.9**
SJCC				*i*		03 28 00.6	
	comp=Z,32nm,0.7s						
BRRC	**Barranca, Sant**	**3.87**	**89**	*e*P	**Pn**	**03 27 16.1**	**+0.8**
BRRC				*e*S	**Sn**	**03 28 00.6**	**+0.5**
BRRC				*i*		03 28 22.3	
	comp=Z,27nm,0.7s						
ORTC	**Ortega, Tolima**	**3.93**	**143**	*e*P	**Pn**	**03 27 16.8**	**+0.6**
ORTC				*e*S	**Sn**	**03 28 03.7**	**+2.2**
ORTC				*i*		03 28 16.8	
	comp=Z,20nm,0.6s						
ROSC	**El Rosal**	**3.96**	**124**	Pn	**Pn**	**03 27 18.0**	**+1.2**
	comp=Z,7.1nm,0.3s,baz=109,slow=11,SNR=11						
ROSC				Sn	**Sn**	**03 28 04.7**	**+2.1**
	baz=162,slow=20 comp=Z,22nm,0.6s						
ROSC	**El Rosal**	**3.96**	**124**	*e*P	**Pn**	**03 27 18.7**	**+1.9**
BARC	**Barichara**	**4.42**	**96**	*e*P	**Pn**	**03 27 23.6**	**+0.4**
CHIC	**Chingaza**	**4.56**	**122**	*e*P	**Pn**	**03 27 26.7**	**+1.5**
RUSC	**La Rusia**	**4.65**	**104**	*e*P	**Pn**	**03 27 26.9**	**+0.4**
PAMC	**Pamplona, Colo**	**4.88**	**87**	*e*P	**Pn**	**03 27 29.8**	**+0.1**
PAMC				*e*S	**Sn**	**03 28 26.1**	**+0.5**
PAMC				*i*		03 28 45.7	
	comp=Z,21nm,0.5s						
GARC	**Garzon, Huila**	**5.29**	**156**	*e*P	**Pn**	**03 27 36.6**	**+1.5**
FLOC	**Florencia**	**5.79**	**160**	*e*P	**Pn**	**03 27 42.5**	**+0.7**
GCUF	**Volcan Galeras**	**5.81**	**177**	*e*P	**Pn**	**03 27 42.9**	**+0.4**
TAMC	**Tame, Arauca**	**5.81**	**96**	*e*P	**Pn**	**03 27 43.7**	**+1.6**
CRJC	**Cerrejon, Guaj**	**6.10**	**50**	*e*P	**Pn**	**03 27 45.3**	**-0.8**
MACC	**Macarena, Meta**	**6.17**	**142**	*e*P	**Pn**	**03 27 48.6**	**+1.6**
OTAV	**Otavalo**	**6.84**	**187**	*e*P	**Pn**	**03 27 56.4**	**-0.2**
SDV	**Santo Domingo**	**7.14**	**75**	Pn	**Pn**	**03 28 00.5**	**0.0**
	comp=Z,2.8nm,0.3s,baz=301,slow=12,SNR=14						
SDV				Sn	**Sn**	**03 29 19.5**	**-1.5**
	comp=Z,2.6nm,0.3s,baz=318,slow=16,SNR=2.7						
SDV				LR	LR	03 30 47.3	
	comp=Z,33nm,18.8s,baz=95,slow=38 comp=Z,10nm,0.4s						
JTS	**Las Juntas de**	**7.93**	**294**	LR	LR	03 31 31.7	
	comp=Z,73nm,18.6s,baz=108,slow=40						
ATAH	**Atahualpa**	**14.13**	**183**	LR	LR	03 34 55.4	
	comp=Z,66nm,19.3s,baz=17,slow=37						
SJG	**San Juan**	**15.66**	**44**	Pn	**Pn**	**03 29 56.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=222,slow=5.5,SNR=3.6						
SJG				LR	LR	03 35 50.8	
	comp=Z,34nm,18.6s,baz=263,slow=37 comp=Z,7.0nm,0.7s						
CMIG	**Matias Romero**	**19.59**	**302**	LR	LR	03 39 44.1	
	comp=Z,34nm,19.5s,baz=106,slow=41						
SIV	**San Ignacio**	**28.17**	**145**	P	**P**	**03 32 06.5**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=324,slow=10.0,SNR=9.3 comp=Z,2.5nm,0.9s						
SCHQ	**Schefferville**	**48.41**	**8**	P	**P**	**03 34 57.5**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=189,slow=7.6,SNR=3.6 comp=Z,1.5nm,0.8s						
YKA	**Yellowknife Ar**	**61.55**	**341**	P	**P**	**03 36 32.0**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=132,slow=7.0,SNR=10 comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**74.87**	**335**	P	**P**	**03 37 57.0**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=88,slow=5.5,SNR=1.7 comp=Z,0.1nm,0.5s						
ASAR	**Alice Springs**	**145.55**	**238**	PKPbc	**PKPdf**	**03 45 53.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=122,slow=3.7,SNR=6.3						
WRA	**Warramunga Arr**	**146.48**	**244**	PKPbc	**PKPdf**	**03 45 56.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=103,slow=3.2,SNR=1.6						

IDC 19 03:40:29.2±330.0, 5˚55S×147˚83E, h0km, Error ellipse: s-maj=131.0km s-min=14.1km az=74.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**18.57**	**314**	I	I	05 37 50.0	
	baz=135,slow=312,SNR=1.2						
I07AU	**WARRAMUNGA INF**	**19.41**	**221**	I	I	05 42 50.0	
	baz=44,slow=307,SNR=2.4						

*IDC **19** 03:42:14.5±0.6, 21˚12N×120˚08E, h0km, mb4.0/20, mbtmp4.0/21, ML3.6/1, MS3.2/17, Error ellipse: s-maj=24.0km s-min=12.5km az=65.0*
*TAP **19** 03:42:18.5, 21˚30N×119˚99E, h78km±1km, ML4.5, D*
*JMA **19** 03:42:18.1±0.4, 21˚N±2˚×12˚0E±˚, h25km, MV4.6/12, TAIWAN REGION*
*NEIC **19** 03:42:24.0±1.8, 21˚63N±0˚06×120˚09E±0˚09, h38km±8km, mb4.6/8, Error ellipse: s-maj=12.3km s-min=7.2km az=115.0*
*BJI **19** 03:42:24.0±0.0, 21˚68N×119˚82E, h40km, mb4.3/32, mB4.7/22, ML4.0/2, Ms4.0/22, Ms7 4.0/25*
ISC 19 03:42:20.6±1.0, 21˚35N±0˚04×119˚98E±0˚03, h32km±7km, n196, σ1§55/302, mb4.2/24, MS3.3/19, 4C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEN	**Hengchun**	**0.96**	**47**	*e*P	**Pn**	**03 42 38.0**	**+0.1**
	baz=45						
HEN				*e*S	**Sn**	**03 42 51.9**	**+1.4**
	baz=45						
TWK1	**Hengchun**	**0.97**	**53**⇑	*i*P	**Pn**	**03 42 38.0**	**0.0**
	baz=50						
TWK1				S	**Sn**	**03 42 52.5**	**+1.8**
	baz=50						
TWKBT	**Hengchun**	**0.97**	**53**⇑	*i*P	**Pn**	**03 42 37.9**	**-0.1**
	baz=50						
TWKBT				*i* S	**Sn**	**03 42 51.5**	**+0.7**
	baz=50						
TSEB	**Hengchuen, Pin**	**1.02**	**57**	*i* P	**Pn**	**03 42 38.2**	**-0.5**
	baz=53						
TSEB				*i* S	**Sn**	**03 42 53.1**	**+1.3**
	baz=53						
SMST	**Manzhou Townsh**	**1.04**	**50**	P	**Pb**	**03 42 38.6**	**-1.5**
	baz=47						
SMST				S	**Sn**	**03 42 53.2**	**+0.8**
	baz=47						
TWP	**Hsiaoliuchiu**	**1.05**	**20**	*e*S	**Sn**	**03 42 56.3**	**+3.6**
	baz=18						
SLIU	**Shizi**	**1.15**	**42**	*i* P	**Pb**	**03 42 40.4**	**-1.6**
	baz=39						
SLIU				*i* S	**Sn**	**03 42 56.7**	**+1.5**
	baz=39						
SCZT	**Fangliau**	**1.18**	**30**⇑	*i*P	**Pn**	**03 42 40.8**	**-0.1**
	baz=29						
SCZT				S	**Sb**	**03 42 57.7**	**+0.4**
	baz=29						
TAWH	**Dawu Township**	**1.30**	**41**	*i* P	**Pb**	**03 42 42.4**	**-2.0**
	baz=39						
TAWH				*i* S	**Sb**	**03 42 59.9**	**-0.9**
	baz=39						
EAST	**Anshuo**	**1.31**	**38**	*i* P	**Pn**	**03 42 42.7**	**0.0**
	baz=36						
EAST				S	**Sb**	**03 43 00.0**	**-1.1**
	baz=36						
TAW	**Tawu**	**1.32**	**40**	P	**Pn**	**03 42 42.6**	**-0.2**
	baz=39						
TAW				S	**Sb**	**03 43 00.1**	**-1.2**
	baz=39						
MASBT	**Mashibuluo**	**1.39**	**26**⇑	*i*P	**Pn**	**03 42 43.7**	**-0.1**
	baz=24						
MASBT				S	**Sb**	**03 43 02.2**	**-1.3**
	baz=24						
SGLT	**Jiouru**	**1.45**	**19**	*e*P	**Pn**	**03 42 45.0**	**+0.4**
	baz=18						
SGLT				*e*S	**Sn**	**03 43 03.5**	**+1.0**
	baz=18						
TSMG	**Majia**	**1.48**	**25**	*e*P	**Pn**	**03 42 45.4**	**+0.4**
	baz=23						
TSMG				*e*S	**Sn**	**03 43 04.3**	**+0.9**
	baz=23						
TWM1	**Shoushan**	**1.52**	**16**	*e*P	**Pn**	**03 42 46.6**	**+1.0**
	baz=15						
TWM1				*e*S	**Sb**	**03 43 06.4**	**-0.8**
	baz=15						
ECL	**Taimali**	**1.54**	**36**	P	**Pn**	**03 42 45.6**	**-0.2**
	baz=35						
ECL				S	**Sn**	**03 43 04.2**	**-0.5**
	baz=35						
SCST	**Cishan**	**1.60**	**17**	*e*P	**Pn**	**03 42 46.3**	**-0.4**
	baz=16						
SCST				*e*S	**Sb**	**03 43 08.1**	**-1.3**
	baz=16						
LAY	**Lan-yu**	**1.62**	**65**	P	**Pn**	**03 42 45.1**	**-1.8**
	baz=63						
LAY				S	**Sb**	**03 43 06.4**	**-3.5**
	baz=63						
LYUB	**Lan-yu**	**1.63**	**66**	*e*P	**Pn**	**03 42 46.2**	**-0.9**
	baz=64						
LYUB				*e*S	**Sn**	**03 43 06.2**	**-0.8**
	baz=64						
SLGT	**Liugui**	**1.75**	**21**	*e*P	**Pn**	**03 42 49.7**	**+1.0**
	baz=19						
SLGT				*e*S	**Sn**	**03 43 10.8**	**+0.8**
	baz=19						
CHN3	**Shinhua**	**1.75**	**12**	*e*P	**Pn**	**03 42 48.9**	**+0.1**
	baz=11						
CHN3				*e*S	**Sn**	**03 43 12.3**	**+2.3**
	baz=11						
TWG	**Pinlang**	**1.78**	**35**		**Pn**	**03 42 48.8**	**-0.4**
TWG				Sn	**Sn**	**03 43 05.5**	**-5.2**
TWG	**Pinlang**	**1.78**	**35**	P	**Pn**	**03 42 49.2**	**0.0**
	baz=33						
TWG				*e*S	**Sn**	**03 43 11.0**	**+0.3**
	baz=33						
TWGBT	**Beinan**	**1.78**	**35**	P	**Pn**	**03 42 49.3**	**+0.1**
TWGBT	**Beinan**	**1.78**	**35**	P	**Pn**	**03 42 49.1**	**-0.1**
	baz=33						
TWGBT				*e*S	**Sn**	**03 43 09.7**	**-1.1**
	baz=33						
TSCK	**Chigu Township**	**1.79**	**3**	*e*P	**Pn**	**03 42 48.5**	**-0.8**
	baz=2.0						
TSCK				*e*S	**Sn**	**03 43 11.3**	**+0.4**
	baz=2.0						
SSHA	**Shanhua**	**1.80**	**9**	*e*P	**Pn**	**03 42 48.7**	**-0.7**
	baz=8.0						
SSHA				*e*S	**Sn**	**03 43 11.7**	**+0.5**
	baz=8.0						
SGST	**Jiashian**	**1.81**	**18**	P	**Pn**	**03 42 49.0**	**-0.6**
	baz=17						
SGST				*e*S	**Sn**	**03 43 11.6**	**+0.1**
	baz=17						
SCLT	**Jiali**	**1.82**	**6**	*e*S	**Sn**	**03 43 12.4**	**+0.6**
	baz=6.0						
LONT	**Longtian**	**1.88**	**34**	*e*P	**Pn**	**03 42 50.5**	**-0.1**
	baz=33						
LONT				*e*S	**Sn**	**03 43 12.9**	**-0.3**
	baz=33						
CHN1	**Nanshi**	**1.89**	**16**	*e*P	**Pn**	**03 42 50.9**	**+0.1**
	baz=15						
CHN1				*e*S	**Sn**	**03 43 13.6**	**0.0**
	baz=15						
LDUT	**Ludao**	**1.91**	**46**	*e*P	**Pn**	**03 42 49.9**	**-1.0**
	baz=45						
LDUT				*e*S	**Sn**	**03 43 13.3**	**-0.6**
	baz=45						
VCHM	**Qimei**	**1.92**	**345**	*e*P	**Pn**	**03 42 49.8**	**-1.2**
	baz=344						
SNST	**Tainan City**	**1.92**	**14**	*e*S	**Sn**	**03 43 14.6**	**+0.4**
	baz=13						
WDGT	**Dungji**	**1.92**	**351**	*e*P	**Pn**	**03 42 50.5**	**-0.6**
	baz=351						
WDGT				*e*S	**Sn**	**03 43 14.3**	**+0.1**
	baz=351						
TWK	**Hsinying**	**1.96**	**14**	P	**Pn**	**03 42 51.6**	**-0.2**
	baz=13						
TWK				S	**Sn**	**03 43 15.5**	**+0.2**
	baz=13						
WTP	**Ta-pu**	**1.98**	**17**	*e*P	**Pn**	**03 42 51.9**	**0.0**
	baz=16						
WTP				*e*S	**Sn**	**03 43 15.5**	**-0.1**
	baz=16						
EDH	**Donghe**	**2.03**	**37**	*e*P	**Pn**	**03 42 52.5**	**-0.1**
	baz=36						
EDH				*e*S	**Sn**	**03 43 17.8**	**+1.0**
	baz=36						
TPUB	**Ta-pu**	**2.03**	**17**		**Pn**	**03 42 52.3**	**-0.3**
TPUB				Sn	**Sn**	**03 43 12.6**	**-4.3**
TPUB	**Ta-pu**	**2.03**	**17**	P	**Pn**	**03 42 52.6**	**0.0**
TPUB	**Ta-pu**	**2.03**	**17**	P	**Pn**	**03 42 52.3**	**-0.3**
	baz=16						
TPUB				*e*S	**Sn**	**03 43 16.8**	**-0.2**
	baz=16						
ELDTW	**Lidau**	**2.07**	**28**	*e*P	**Pn**	**03 42 53.5**	**+0.3**
	baz=27						
ELDTW				*e*S	**Sn**	**03 43 17.1**	**-0.8**
	baz=27						
CHN4	**Tsaushan**	**2.07**	**16**	*e*P	**Pn**	**03 42 53.1**	**-0.1**
	baz=15						
CHN4				*e*S	**Sn**	**03 43 17.6**	**-0.2**
	baz=15						
EHD	**Haiduan**	**2.12**	**32**	*e*P	**Pn**	**03 42 53.7**	**-0.1**
	baz=31						
EHD				*e*S	**Sn**	**03 43 18.8**	**-0.3**
	baz=31						
WCKO	**Fanlu**	**2.16**	**16**	*e*P	**Pn**	**03 42 53.7**	**-0.6**
	baz=15						
WCKO				*e*S	**Sn**	**03 43 20.1**	**+0.1**
	baz=15						
CHKT	**Chengkung**	**2.16**	**36**	*e*P	**Pn**	**03 42 54.9**	**+0.4**
	baz=35						
CHKT				*e*S	**Sn**	**03 43 20.6**	**+0.5**
	baz=35						
WSL	**Shuilin Townsh**	**2.17**	**6**	*e*S	**Sn**	**03 43 20.1**	**-0.3**
	baz=5.0						
CHY	**Chiayi**	**2.17**	**11**	*e*P	**Pn**	**03 42 53.9**	**-0.7**
	baz=10.0						
CHY				*e*S	**Sn**	**03 43 20.2**	**-0.2**
	baz=10.0						
PHUB	**P'eng-hu**	**2.18**	**350**	*e*P	**Pn**	**03 42 53.5**	**-1.1**
	baz=350						
PHUB				*e*S	**Sn**	**03 43 19.9**	**-0.7**
	baz=350						
FULB	**Fuli**	**2.21**	**33**	*e*P	**Pn**	**03 42 55.7**	**+0.7**
	baz=32						
FULB				*e*S	**Sn**	**03 43 20.5**	**-0.7**
	baz=32						
CHN2	**Minshiung**	**2.22**	**12**	*e*S	**Sn**	**03 43 20.9**	**-0.6**
	baz=11						
PNG	**Penghu**	**2.24**	**350**	*e*P	**Pn**	**03 42 55.0**	**-0.5**
	baz=350						
PNG				*e*S	**Sn**	**03 43 21.9**	**-0.1**
	baz=350						
ALS	**Alishan**	**2.28**	**20**	*e*P	**Pn**	**03 42 55.4**	**-1.0**
	baz=19						
ALS				*e*S	**Sn**	**03 43 22.3**	**-1.2**
	baz=19						
WSF	**Szhu**	**2.29**	**6**	*e*S	**Sn**	**03 43 23.1**	**-0.1**
	baz=5.0						
CHN5	**Tsauling**	**2.33**	**16**	*e*P	**Pn**	**03 42 56.2**	**-0.6**
	baz=15						
CHN5				*e*S	**Sn**	**03 43 23.5**	**-0.8**
	baz=15						
EYUL	**Yuli**	**2.34**	**32**	*e*P	**Pn**	**03 42 55.9**	**-1.0**
	baz=31						
EYUL				*e*S	**Sn**	**03 43 23.5**	**-1.1**
	baz=31						
WTK	**Tuku**	**2.35**	**9**	*e*S	**Sn**	**03 43 24.7**	**-0.2**
	baz=8.0						
YULB	**Yu-li**	**2.37**	**31**		**Pn**	**03 42 57.5**	**+0.2**
YULB	**Yu-li**	**2.37**	**31**	P	**Pn**	**03 42 58.4**	**+1.1**
YULB	**Yu-li**	**2.37**	**31**	P	**Pn**	**03 42 57.7**	**+0.4**
	baz=30						
YULB				*e*S	**Sn**	**03 43 24.2**	**-1.1**
	baz=30						
WDLH	**Douliu**	**2.38**	**12**	*e*P	**Pn**	**03 42 57.4**	**-0.1**
	baz=12						
WDLH				*e*S	**Sn

VWDT eS Sn 03 43 32.3 +0.9
baz=23
SMLT Sun Moon Lake 2.66 19 eP Pn 03 43 01.5 +0.1
baz=18
SMLT eS Sn 03 43 31.4 -1.2
baz=18
EGFH Guangfu 2.67 30 eP Pn 03 43 00.5 -0.8
baz=29
EGFH eS Sn 03 43 31.6 -1.0
baz=29
TYC Yuchr 2.67 18 eP Pn 03 43 01.7 +0.4
baz=17
TYC eS Sn 03 43 32.2 -0.4
baz=17
WCHH Zhanghua 2.77 11 eP Pn 03 43 02.5 -0.2
baz=10.0
WCHH eS Sn 03 43 34.3 -0.7
baz=10.0
ESL Shilin 2.79 29 eP Pn 03 43 02.3 -0.8
baz=28
ESL eS Sn 03 43 33.9 -1.9
baz=28
OWD Renai 2.82 23 eP Pn 03 43 04.1 +0.6
baz=22
OWD eS Sn 03 43 35.0 -1.5
baz=22
WCS Beigang Elemen 2.83 18 eP Pn 03 43 02.9 -0.6
baz=17
WCS eS Sn 03 43 35.5 -1.0
baz=17
WUSB Renai 2.83 22 eP Pn 03 43 04.3 +0.5
baz=21
WUSB eS Sn 03 43 36.5 -0.3
baz=21
TCU Taichung 2.86 13 eP Pn 03 43 03.0 -0.9
baz=12
TCU eS Sn 03 43 36.3 -1.0
baz=12
CHGB Renai 2.91 22 eP Pn 03 43 05.9 +0.9
baz=21
CHGB eS Sn 03 43 37.7 -1.3
baz=21
WHF Hehuan Shan 3.02 23 eP Pn 03 43 05.9 -0.8
baz=22
WHF eS Sn 03 43 40.3 -1.7
baz=22
WHP Taichung City 3.05 17 eP Pn 03 43 06.2 -0.5
baz=16
WHP eS Sn 03 43 42.2 +0.1
baz=16
TWQ1 Liyutan 3.07 14 eS Sn 03 43 40.7 -1.9
baz=13
TDCB Techi 3.09 20 eP Pn 03 43 08.4 +1.1
baz=20
TDCB eS Sn 03 43 41.0 -2.1
baz=20
TWT Tachien 3.09 21 eP Pn 03 43 06.6 -0.8
baz=20
TWT eS Sn 03 43 41.6 -1.7
baz=20
TWD Chiawan 3.10 29 eP Pn 03 43 06.7 -0.6
baz=28
TWD eS Sn 03 43 41.2 -2.0
baz=28
FUSS Fushou 3.11 22 eP Pn 03 43 08.5 +0.8
baz=21
FUSS eS Sn 03 43 41.3 -2.6
baz=21
NSY Sanyi 3.13 13 eS Sn 03 43 42.7 -1.4
baz=13
ETLH Xiulin Townshi 3.16 26 eP Pn 03 43 09.2 +0.9
baz=25
ETLH eS Sn 03 43 43.5 -1.4
baz=25
ETL Fush Village 3.18 28 eS Sn 03 43 43.2 -2.1
baz=28
NACB Ninganchiao 3.18 28 Pn 03 43 06.7 -1.8
NACB Ninganchiao 3.18 28 P Pn 03 43 08.7 +0.3
NACB Ninganchiao 3.18 28 eP Pn 03 43 07.2 -1.2
baz=27
NACB eS Sn 03 43 42.6 -2.6
baz=27
ZPLA Ao Xicun 3.29 322 eP Pn 03 43 08.2 -1.7
baz=321
ZPLA eS Sn 03 43 45.5 -2.3
baz=321
DSXP Dongshan 3.32 315 eP Pn 03 43 09.1 -1.3
baz=315
DSXP eS Sn 03 43 47.1 -1.7
baz=315
NNSB Datong 3.33 23 eP Pn 03 43 11.4 +0.9
baz=22
NNSB eS Sn 03 43 46.8 -2.2
baz=22
NNS Nan Shan 3.33 22 eP Pn 03 43 09.9 -0.8
baz=22
NNS eS Sn 03 43 47.1 -2.1
baz=22
KNM Kinmen 3.37 335 eP Pn 03 43 09.9 -1.1
baz=333
KNM eS Sn 03 43 49.4 -0.4
baz=333
NSTT Nanjuang 3.40 16 eP Pn 03 43 12.2 +0.8
baz=15
NSTT eS Sn 03 43 49.5 -1.2
baz=15
LIOB Emei 3.42 16 eP Pn 03 43 12.1 +0.5
baz=15
LIOB eS Sn 03 43 48.4 -2.7
baz=15
KNMB Chin-men Tao 3.42 335 Pn 03 43 11.6 -0.2
KNMB Chin-men Tao 3.42 335 eP Pn 03 43 10.3 -1.4
baz=334
KNMB eS Sn 03 43 49.6 -1.7
baz=334
NFF Wufeng Townshi 3.43 18 eP Pn 03 43 12.1 +0.2
baz=17
NFF eS Sn 03 43 49.1 -2.4
baz=17
ENA Nanau 3.47 28 eP Pn 03 43 12.0 -0.4
baz=27
ENA eS Sn 03 43 50.5 -1.8
baz=27
LATG Datong 3.48 24 eP Pn 03 43 12.1 -0.5
baz=23
LATG eS Sn 03 43 50.9 -1.9
baz=23
EWUT Wuta 3.50 28 eS Sn 03 43 50.9 -2.2
baz=27
NSK Sanguang 3.54 21 eP Pn 03 43 13.8 +0.3
baz=20
NSK eS Sn 03 43 51.7 -2.6
baz=20
YHNB Yeheng 3.54 21 Pn 03 43 14.0 +0.5
YHNB Yeheng 3.54 21 P Pn 03 43 15.2 +1.7
YHNB Yeheng 3.54 21 eP Pn 03 43 14.5 +1.0
baz=20
YHNB eS Sn 03 43 51.6 -2.8
baz=20
ENTT Nioudou 3.58 24 eP Pn 03 43 13.3 -0.7
baz=23
ENTT eS Sn 03 43 53.1 -2.2
baz=23
TWC Suao 3.67 28 eP Pn 03 43 14.5 -0.7
baz=27
TWC eS Sn 03 43 55.2 -2.2
baz=27
NWLT Wulai 3.69 22 eP Pn 03 43 15.1 -0.3
baz=21
NWLT eS Sn 03 43 55.0 -2.8
baz=21
TWE Neicheng 3.70 25 eP Pn 03 43 14.8 -0.7
baz=24
TWE eS Sn 03 43 55.7 -2.3
baz=24
FUSB Fushanzhiwuyua 3.70 23 eP Pn 03 43 14.8 -0.9
baz=23
FUSB eS Sn 03 43 56.1 -2.2
baz=23
PTMZ Houxiangcun 3.75 348 eP Pn 03 43 14.6 -1.7
baz=347
PTMZ eS Sn 03 43 56.5 -2.9
baz=347
AXDP Jialang 3.98 333 eP Pn 03 43 18.1 -1.4
baz=332
AXDP eS Sn 03 44 02.1 -2.9
baz=332
TIPB Shuangxi 3.98 25 eP Pn 03 43 18.1 -1.4
baz=24
TIPB eS Sn 03 44 02.9 -2.2
baz=24
YM01 YM01 4.05 21 eP Pn 03 43 19.0 -1.5
baz=20
YM01 eS Sn 03 44 03.2 -3.6
baz=20
SXI1 Grass Mountain 4.11 25 eP Pn 03 43 20.8 -0.6
baz=24
SXI1 eS Sn 03 44 04.0 -4.5
baz=24
JYNG Yonagunijimaku 4.12 41 eP Pn 03 43 21.8 +0.4
JYNG eS Sn 03 44 10.4 +1.9
YOJ Yonaguni jima 4.17 42 eP Pn 03 43 22.8 +0.7
YOJ eS Sn 03 44 11.1 +1.3
YOJ Yonaguni jima 4.17 42 eP Pn 03 43 21.2 -0.8
baz=41
YOJ eS Sn 03 44 06.8 -2.9
baz=41
HATJ Hateruma jima 4.44 52 P Pn 03 43 25.9 +0.1
HATJ eS Sn 03 44 15.7 -0.7
IRIF Iriomote-Funau 4.56 49 P Pn 03 43 27.8 +0.4
IRIF S Sn 03 44 19.8 +0.5
JKRS Kuro-shima 4.70 52 P Pn 03 43 29.6 +0.3
JKRS S Sn 03 44 22.1 -0.7
MATB Ma-tsu 4.78 360 eP Pn 03 43 28.2 -2.2
baz=359
MATB eS Sn 03 44 20.8 -3.9
baz=359
MHZQ Yeshan 4.80 350 eP Pn 03 43 29.6 -1.2
baz=349
MHZQ eS Sn 03 44 21.4 -3.9
baz=349
JIJ Ishigaki jima 4.87 51 P Pn 03 43 31.5 -0.2
JIJ eS Sn 03 44 26.4 -0.6
JISG Ishigakijimahi 5.13 50 P Pn 03 43 34.6 -0.7
JISG S Sn 03 44 33.1 -0.3
LYJJ Jianjiangzhen 5.18 358 eP Pn 03 43 34.5 -1.4
baz=357
LYJJ eS Sn 03 44 30.9 -3.6
baz=357
JTJ Tarama 5.45 52 eP Pn 03 43 39.7 +0.1
JTJ S Sn 03 44 41.9 +0.7
SXFK Yanhouchang 5.46 337 eP Pn 03 43 37.7 -2.0
baz=337
SXFK eS Sn 03 44 36.7 -4.8
baz=337
XPSS Dashiqiu 5.56 2 eP Pn 03 43 39.5 -1.5
baz=1.0
XPSS eS Sn 03 44 38.4 -5.5
baz=1.0
JMJ2 Miyako jima3 5.97 55 eS Sn 03 44 54.0 -0.1
JIKM Ikemajima 6.01 53 eP Pn 03 43 47.5 +0.1
JIKM eS Sn 03 44 54.7 -0.5
QIZ Qiongzhong 9.79 258 P Pn 03 44 44.3 +5.0
QIZ S Sn 03 46 35.1 +6.9
QIZ LR LR
comp=N,440nm,11.8s
QIZ LR LR
comp=E,410nm,13.4s
QIZ LR LR
comp=Z,470nm,12.1s
NJ2 Nanjing 10.70 355 eP Pn 03 44 50.1 -1.6
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=N,400nm,10.2s
NJ2 LR LR
comp=E,450nm,10.0s
NJ2 LR LR
comp=Z,520nm,14.2s
GYA Guiyang 13.19 295 ⇓P Pn 03 45 28.9 +3.0
GYA pP P 03 45 37.6 +2.1
GYA S Sn 03 47 52.0 +0.4
GYA pmax pmax
comp=Z,19nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.0s
GYA LR LR
comp=N,310nm,8.6s
GYA LR LR
comp=E,350nm,10.0s
GYA LR LR
comp=Z,260nm,10.4s
LYN LuoYang 14.72 335 eP P 03 45 51.1 -1.2
LYN pmax pmax
comp=Z,10.0nm,0.9s
LYN pmax pmax
comp=Z,90nm,6.5s
LYN LR LR
comp=N,220nm,11.8s
LYN LR LR
comp=E,280nm,10.6s
LYN LR LR
comp=Z,280nm,12.6s
JNU Nakatsue 15.20 37 Pn P 03 45 55.5 -2.1
0.1nm,0.3s,baz=225,slow=4.3,SNR=1.3
JNU LR LR 03 52 40.7
comp=Z,65nm,19.0s,baz=200,slow=41
HNS HongShan 16.63 345 ⇓P P 03 46 14.6 +1.2
HNS S Sn 03 49 14.8 -0.2
HNS pmax pmax
comp=Z,14nm,1.0s
HNS LR LR
comp=N,300nm,15.5s
HNS LR LR
comp=E,260nm,15.9s
CD2 Chengdu 17.38 307 P Pn 03 46 22.0 +1.2
CD2 pP pwP 03 46 32.3 -1.3
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 LR LR
comp=N,310nm,8.3s
CD2 LR LR
comp=E,440nm,12.3s
CD2 LR LR
comp=Z,600nm,13.2s
PZH PanZhiHua 17.43 291 P P 03 46 25.1 +2.5
PZH S Sn 03 49 35.3 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,3.8s
PZH LR LR
comp=N,360nm,13.1s
PZH LR LR
comp=E,390nm,12.7s
PZH LR LR
comp=Z,490nm,13.2s
KSRS Korea Array 17.46 22 P Pn 03 46 21.9 +0.3
0.2nm,0.3s,baz=200,slow=12,SNR=2.6
KSRS LR LR 03 53 45.0
comp=Z,45nm,20.4s,baz=190,slow=39
0.7nm,0.4s
PHRA Phrae 18.78 265 Pn 03 46 40.5 +2.5
BJI Beijing 18.91 351 P Pn 03 46 40.4 +1.1
BJI sP pwP 03 46 52.3 +2.1
BJI pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 19.98 265 P P 03 46 51.1 +0.5
0.9nm,0.3s,baz=72,slow=8.6,SNR=1.8
CMAR LR LR 03 54 59.3
comp=Z,120nm,18.5s,baz=80,slow=38
0.9nm,0.3s
TNCH TengChong 20.06 285 eP Pn 03 46 55.8 +2.4
TNCH pP pwP 03 47 05.3 +1.8
TOLI2 Tolitoli 20.13 178 Pn 03 47 00.0 +5.9
LZH Lanzhou 20.34 320 eP Pn 03 47 01.8 +5.1
LZH pP pwP 03 47 10.1 +3.9
LZH sP sP 03 47 13.3 +7.5
LZH pmax pmax
comp=Z,15nm,1.0s
LZH LR LR
comp=N,300nm,11.3s
LZH LR LR
comp=E,350nm,10.8s
LZH LR LR
comp=Z,380nm,11.9s
HHC Hu-ho-hao-te 20.71 342 eP Pn 03 47 01.3 +0.5
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,470nm,4.9s
HHC LR LR
comp=Z,730nm,13.1s
HHC LR LR
comp=Z,450nm,13.5s
HHC LR LR
comp=Z,540nm,14.2s
JGF Kuroka 20.81 43 Pn Pn 03 47 01.0 -0.9
JGF IAmb IAmb 03 47 01.7
comp=Z,23nm,1.0s
JCJ Chichijima 21.03 70 LR LR 03 55 58.3
comp=Z,34nm,18.1s,baz=112,slow=39
MJAR Matsushiro Arr 21.93 42 P P 03 47 11.7 +0.3
comp=Z,3.3nm,0.7s,baz=228,slow=8.6,SNR=7.9
MJAR LR LR 03 55 43.1
comp=Z,56nm,19.2s,baz=220,slow=37
comp=Z,3.3nm,0.7s
XLT XiLinHaoTe 22.72 353 eP P 03 47 21.0 +1.2
XLT pP pwP 03 47 31.8 +0.3
XLT sP sP 03 47 34.8 +3.6
XLT sS sS 03 51 39.8 +0.1
XLT pmax pmax
comp=Z,83nm,5.0s
XLT LR LR
comp=Z,190nm,14.7s
XLT LR LR
comp=Z,130nm,11.8s
CN2 Changchun 22.84 10 eP P 03 47 19.9 -1.1
CN2 S S 03 51 19.0 -9.3
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,14.4s
MDJ Mudanjiang 24.53 17 P P 03 47 36.8 -0.4
MDJ pP sP 03 47 46.4 -2.7
MDJ sP pwP 03 47 52.6 +3.3
MDJ S S 03 51 56.3 +0.6
MDJ sS sS 03 52 13.6 +4.2
MDJ SS SnSn 03 52 44.6 +2.6
MDJ ScP ScP 03 54 48.4 -3.0
MDJ PcS PcS 03 54 54.3 -0.4
MDJ pmax pmax
comp=Z,130nm,3.5s
MDJ LR LR
comp=Z,210nm,5.7s
MDJ LR LR
comp=Z,150nm,4.8s
MDJ LR LR
comp=Z,150nm,5.0s
SIJI Sorong 24.69 152 P P 03 47 35.2 -3.7
comp=Z,14nm,0.7s,baz=8.4,slow=7.0,SNR=7.3
comp=Z,14nm,0.7s
USRK Ussuriysk Ar. 24.87 21 P P 03 47 43.5 +3.3
comp=Z,3.0nm,0.7s,baz=182,slow=7.2,SNR=5.5
KAPI Kappang 26.20 181 LR LR 04 00 16.4
comp=Z,27nm,18.3s,baz=324,slow=42
FAKI Fak Fak 26.95 152 P P 03 48 01.1 +1.7
FAKI IAmb IAmb 03 48 01.7
comp=Z,19nm,0.8s
FAKI Fak Fak 26.95 152 P P 03 48 00.8 +1.4
comp=Z,26nm,0.9s
PSI Prapat 27.56 231 LR LR 03 57 37.2
comp=Z,77nm,18.6s,baz=22,slow=34
SONM Songino Array 28.60 341 P P 03 48 14.6 +0.6
comp=Z,1.0nm,0.8s,baz=166,slow=10,SNR=7.1
comp=Z,1.0nm,0.8s
KLR Kul'dur 29.36 16 LR LR 04 01 12.4
comp=Z,54nm,20.4s,baz=150,slow=38
WMQ Urumqi 34.89 317 eP P 03 49 13.1 +3.9
MK31 Makanchi Array 39.66 319 P P 03 49 49.9 +0.3
MKAR Makanchi Array 39.66 319 P P 03 49 50.1 +0.6
comp=Z,3.3nm,0.6s,baz=114,slow=9.6,SNR=42
MKAR PcP PcP 03 51 55.8 -0.2
comp=Z,0.7nm,0.8s,baz=78,slow=2.4,SNR=4.5
MKAR LR LR 04 07 34.0
comp=Z,30nm,20.1s,baz=31,slow=38
comp=Z,3.3nm,0.6s
MAKZ Makanchi 39.86 319 P P 03 49 52.0 +0.8
MAKZ IAmb IAmb 03 49 52.6
comp=Z,4.2nm,0.8s
ZALV Zalesovo Beam 42.06 329 P P 03 50 09.3 +0.1
comp=Z,2.6nm,0.8s,baz=112,slow=7.0,SNR=6.5
comp=Z,2.6nm,0.8s
PETK Petropavlovsk- 42.83 33 LR LR 04 07 50.2
comp=Z,14nm,21.4s,baz=185,slow=36
WRA Warramunga Arr 43.38 160 P P 03 50 16.3 -3.9
comp=Z,2.4nm,0.8s,baz=341,slow=9.1,SNR=20
WRA PcP PcP 03 52 06.6 -2.0
comp=Z,1.5nm,0.6s,baz=350,slow=3.4,SNR=9.7
comp=Z,2.4nm,0.8s
AAK Ala-Archa 43.40 310 LR LR 04 08 29.2
comp=Z,67nm,18.3s,baz=152,slow=36
KURBB Kurchatov Arra 43.60 322 P P 03 50 22.2 +0.5
comp=Z,1.4nm,0.2s,baz=124,slow=7.5,SNR=11
comp=Z,1.4nm,0.2s
MA2 Magadan 44.02 22 LR LR 04 09 29.7
comp=Z,25nm,19.5s,baz=226,slow=37
ASAR Alice Springs 46.76 162 P P 03 50 43.6 -3.5
comp=Z,0.9nm,0.5s,baz=344,slow=6.7,SNR=12
ASAR PcP PcP 03 52 17.9 -2.3
comp=Z,1.0nm,0.6s,baz=350,slow=3.0,SNR=4.9
comp=Z,0.9nm,0.5s
BVAR Borovoye Array 49.19 323 P P 03 51 06.2 +0.6
comp=Z,0.8nm,0.7s,baz=97,slow=11,SNR=4.1
BVAR PcP PcP 03 52 28.1 -0.4
comp=Z,1.7nm,0.7s,baz=108,slow=4.8,SNR=5.0
comp=Z,0.8nm,0.7s
HNR Honiara 49.77 124 LR LR 04 10 14.3
comp=Z,368nm,18.0s,baz=318,slow=34
NRIK Noril'sk 51.85 346 P P 03 51 26.1 +0.7
comp=Z,5.0nm,0.8s,baz=131,slow=8.1,SNR=5.1
comp=Z,5.0nm,0.8s
NRIK Noril'sk 51.85 346 P P 03 51 26.3 +0.9
NRIK IAmb IAmb 03 51 26.8
comp=Z,9.2nm,1.1s
GEYT Alibeck 55.30 302 P P 03 51 52.0 +0.7
comp=Z,1.0nm,0.4s,baz=108,slow=4.7,SNR=3.5
comp=Z,1.0nm,0.4s
STKA Stephens Creek 56.84 158 P P 03 51 59.4 -2.7
comp=Z,3nm,1.0s,baz=337,slow=7.7,SNR=2.1
comp=Z,2.3nm,1.0s
KBZ Khabaz 66.39 310 P P 03 53 06.5 -0.1
comp=Z,2.5nm,1.0s,baz=113,slow=10,SNR=3.6
comp=Z,2.5nm,1.0s
MSVF Nonsavu 68.89 120 LR LR 04 19 01.1
comp=Z,31nm,21.5s,baz=232,slow=32
ARCES ARCESS Array B 71.74 338 P P 03 53 40.3 +1.0
comp=Z,2.5nm,0.9s,baz=248,slow=1.3,SNR=3.7
comp=Z,2.5nm,0.9s
ILAR Eielson Array 72.23 27 P P 03 53 42.4 +0.1
comp=Z,0.3nm,0.6s,baz=270,slow=4.7,SNR=6.9
comp=Z,0.3nm,0.6s
FINES FINESS Array B 73.32 330 P P 03 53 49.0 +0.2
comp=Z,2.7nm,0.8s,baz=53,slow=6.0,SNR=15
comp=Z,2.7nm,0.8s
ATD Arta Tunnel 74.01 276 LR LR 04 27 21.0
comp=Z,12nm,19.2s,baz=84,slow=36
NACGM Naroch 74.60 323 eP P 03 54 04.2 +7.7
comp=Z,19nm,1.1s,baz=75
AFI Afiamalu 75.58 111 LR LR 04 23 04.7
comp=Z,28nm,20.5s,baz=252,slow=32
NOA NORSAR Array B 80.19 332 P P 03 54 26.3 -1.4
comp=Z,1.4nm,1.0s,baz=63,slow=5.4,SNR=2.0
NOA LR LR 04 33 45.0
comp=Z,40nm,18.1s,baz=345,slow=38
comp=Z,1.4nm,1.0s
GERES GERESS Array B 84.31 320 P P 03 54 49.7 +0.2
comp=Z,0.4nm,0.5s,baz=58,slow=5.0,SNR=4.4
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 86.00 22 P P 03 54 57.4 -0.2
comp=Z,0.3nm,0.7s,baz=310,slow=5.2,SNR=5.7
comp=Z,0.3nm,0.7s
MBAR Mbarara 89.51 269 LR LR 04 35 23.1
comp=Z,12nm,19.9s,baz=137,slow=36
MSO Missoula 96.53 34 P P 03 55 50.0 +2.7

ROM 19 03:46:27.8±0.1, 43°623N±0°004×12°075E±0°004, h10km, ML1.8/10, 3C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=209.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	
SSP9	**Sansepolcro**	**0.06**	**140**	⇑P		h m s	ISC
SSP9					Pg	03 46 30.2	+0.3
SSP9					S	03 46 32.0	+0.5
SSP9					AML	AML	

comp=E,1690µm,1.6s
SSP9 AML AML
comp=E,1685µm,1.6s
SSP9 AML AML
comp=N,1730µm,0.7s
SSP9 AML AML
comp=E,1685µm,0.4s
SSP9 AML AML
comp=N,1516µm,0.2s
SSP9 AML AML
comp=E,1308µm,0.2s
CRE Caprese Michel 0.09 268 ⇑P Pg 03 46 30.8 +0.4
CRE S Sg 03 46 32.5 +0.4
CRE AML AML
comp=N,3505µm,0.2s
CRE AML AML
comp=E,1125µm,0.2s
CRE AML AML
comp=N,3505µm,0.2s
CRE AML AML
comp=E,1124µm,0.2s
BADI Badiali 0.17 133 P Pg 03 46 32.0 +0.6
BADI S Sg 03 46 35.0 +1.0
BADI AML AML
comp=N,290µm,0.2s
CDCA Citt' di Caste 0.20 145 P Pg 03 46 32.6 +0.6
CDCA S Sg 03 46 36.4 +1.6
CPGN Carpegna, Ital 0.25 45 P Pb 03 46 34.1 -0.4
CPGN AML AML
comp=E,452µm,1.1s
CPGN AML AML
comp=N,511µm,0.8s
CPGN AML AML
comp=N,512µm,0.8s
CPGN AML AML
comp=E,452µm,1.1s
CPGN AML AML
comp=N,512µm,1.2s
CPGN AML AML
comp=E,401µm,0.4s
CPGN AML AML
comp=N,431µm,0.3s
CPGN AML AML
comp=N,376µm,0.4s
CPGN AML AML
comp=E,480µm,0.5s
APEC Apecchio 0.26 104 P Pg 03 46 33.7 +0.6
APEC S Sb 03 46 38.3 -0.8
APEC AML AML
comp=E,557µm,0.2s
APEC AML AML
comp=N,858µm,0.7s
APEC AML AML
comp=N,858µm,1.3s
APEC AML AML
comp=E,632µm,0.2s
APEC AML AML
comp=E,870µm,0.3s
APEC AML AML
comp=N,821µm,0.3s
APEC AML AML
comp=N,666µm,0.2s
APEC AML AML
comp=E,557µm,0.2s
ASQU Asqua 0.27 310 P Pg 03 46 33.8 +0.5
ASQU S Sb 03 46 38.5 -1.1
CAFI Castiglion Fio 0.30 195 P Pb 03 46 34.7 -0.7
CAFI S Sb 03 46 39.7 -0.8
CAFI AML AML
comp=E,166µm,0.4s
CAFI AML AML
comp=N,168µm,1.6s
CAFI AML AML
comp=E,176µm,0.4s
CAFI AML AML
comp=N,188µm,1.6s
CAFI AML AML
comp=E,167µm,0.4s
CAFI AML AML
comp=E,105µm,0.2s
CAFI AML AML
comp=N,162µm,0.3s
CAFI AML AML
comp=E,109µm,0.2s
CAFI AML AML
comp=N,160µm,0.3s
PE3 Peglio 0.31 76 P Pg 03 46 34.8 +0.7
PE3 S Sb 03 46 40.0 -0.8
PE3 AML AML
comp=E,2940µm,0.4s
PE3 AML AML
comp=E,2940µm,1.6s
PE3 AML AML
comp=N,17µm,0.3s
PE3 AML AML
comp=N,15µm,0.1s
PE3 AML AML
comp=E,2941µm,0.4s
SFI Santa Sofia 0.33 330 P Pg 03 46 35.0 +0.6
SFI S Sb 03 46 40.0 -1.1
SFI AML AML
comp=N,168µm,0.7s
SFI AML AML
comp=N,168µm,1.3s
SFI AML AML
comp=E,144µm,1.3s
SFI AML AML
comp=N,88µm,0.3s
SFI AML AML
comp=N,214µm,0.5s
SFI AML AML
comp=N,132µm,0.5s
SFI AML AML
comp=E,98µm,0.2s
PIEI Pieia 0.35 104 P Pg 03 46 35.0 +0.3
PIEI S Sb 03 46 40.7 -1.0
PIEI AML AML
comp=E,586µm,0.2s
PIEI AML AML
comp=N,212µm,1.3s
PIEI AML AML
comp=N,212µm,0.7s
PIEI AML AML
comp=E,586µm,0.2s
PIEI AML AML
comp=N,181µm,0.1s
NARO Abbazia di Nar 0.37 92 P Pg 03 46 35.3 +0.2
NARO S Sg 03 46 41.1 +1.2
NARO AML AML
comp=E,233µm,1.1s
NARO AML AML
comp=N,286µm,0.5s
NARO AML AML
comp=E,233µm,0.9s
NARO AML AML
comp=N,286µm,1.5s
NARO AML AML
comp=E,231µm,0.2s
NARO AML AML
comp=N,281µm,0.1s
FRON Frontone 0.48 102 P Pg 03 46 37.4 +0.2
FRON S Sb 03 46 45.1 -0.5
FRON AML AML
comp=E,63µm,0.0s
FRON AML AML
comp=N,168µm,0.2s
FRON AML AML
comp=E,119µm,0.2s
MPAG Monte Paganucc 0.50 89 P Pg 03 46 37.7 +0.2
MPAG S Sb 03 46 45.8 -0.3
MPAG AML AML
comp=E,45µm,0.0s
MPAG AML AML
comp=E,112µm,0.1s
MPAG AML AML
comp=N,135µm,0.3s
MPAG AML AML
comp=N,167µm,0.3s
MPAG AML AML
comp=E,153µm,0.1s
LMD Lutirano 0.53 330 P Pg 03 46 38.5 +0.5
LMD S Sb 03 46 46.3 -0.6
LMD AML AML
comp=E,101µm,0.0s
LMD AML AML
comp=N,83µm,0.3s
LMD AML AML

comp=E,130µm,0.3s
PII Pisa 1.13 276 ⇑P Pn 03 46 50.2 +0.5
PII AML AML
comp=N,78µm,1.9s
SMA1 SAN MARTINO 1.35 137 P Pg 03 46 55.0 +1.2
SMA1 S Sg 03 47 12.1 +0.7
SMA1 AML AML
comp=E,14200µm,0.4s
SMA1 AML AML
comp=N,11200µm,0.4s
SMA1 AML AML
comp=E,14236µm,0.4s
SMA1 AML AML
comp=N,11194µm,0.4s
LIK San Giovanni I 2.38 152 ⇓P Pn 03 47 05.2 -1.8
MILN Milano 2.75 313 S Sn 03 47 46.6 +1.3
FVI Forni Avoltri 3.02 9 S Sn 03 47 51.2 -0.8

*ROM **19** 03:47:24.1±0.1, 42°515N±0°005×13°333E±0°010, h9km, ML2.7/28, Error ellipse: s-maj=0.7km s-min=0.6km az=244.0*
ISC 19 03:47:24.7±0.8, **42°52N**±0°02×**13°34E**±0°03, **h10**km±6km, **n35**, σ1§06/51, **11C-14D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.09**	**202**	⇑P	**Pg**	**Pg**	**03 47 27.1**	**-0.1**
T1247				S	**Sg**	**Sg**	**03 47 29.0**	**0.0**
T1247				AML	AML	AML		
	comp=E,45200µm,0.3s							
T1247				AML	AML	AML		
	comp=N,32950µm,0.4s							
T1247				AML	AML	AML		
	comp=E,45236µm,0.3s							
T1247				AML	AML	AML		
	comp=N,30224µm,0.3s							
SMA1	**SAN MARTINO**	**0.11**	**358**	⇑P	**Pg**	**Pg**	**03 47 27.1**	**-0.4**
SMA1				S	**Sg**	**Sg**	**03 47 29.3**	**-0.3**
SMA1				AML	AML	AML		
	comp=E,14200µm,0.4s							
SMA1				AML	AML	AML		
	comp=N,11200µm,0.4s							
SMA1				AML	AML	AML		
	comp=N,11194µm,0.4s							
SMA1				AML	AML	AML		
	comp=E,14236µm,0.4s							
GIGS	**Gran Sasso**	**0.18**	**113**	P	**Pg**	**Pg**	**03 47 28.1**	**-0.5**
GIGS				S	**Sg**	**Sg**	**03 47 31.1**	**-0.3**
GIGS				AML	AML	AML		
	comp=E,1990µm,0.6s							
GIGS				AML	AML	AML		
	comp=N,1495µm,0.3s							
GIGS				AML	AML	AML		
	comp=N,1497µm,0.3s							
GIGS				AML	AML	AML		
	comp=E,1343µm,0.3s							
T1218	**Civita (PG)**	**0.22**	**312**	⇑P	**Pg**	**Pg**	**03 47 29.2**	**-0.2**
T1218				S	**Sg**	**Sg**	**03 47 32.9**	**+0.3**
T1218				AML	AML	AML		
	comp=E,4160µm,0.3s							
T1218				AML	AML	AML		
	comp=N,9580µm,0.3s							
T1218				AML	AML	AML		
	comp=E,3875µm,0.3s							
T1218				AML	AML	AML		
	comp=N,9620µm,0.3s							
T1218				AML	AML	AML		
	comp=E,4160µm,0.3s							
T1218				AML	AML	AML		
	comp=N,9580µm,0.3s							
T1218				AML	AML	AML		
	comp=N,9620µm,0.3s							
T1218				AML	AML	AML		
	comp=E,3880µm,0.3s							
T1218				AML	AML	AML		
	comp=N,9625µm,0.3s							
T1218				AML	AML	AML		
	comp=N,9621µm,0.3s							
T1218				AML	AML	AML		
	comp=E,3877µm,0.3s							
T1218				AML	AML	AML		
	comp=E,4157µm,0.3s							
T1218				AML	AML	AML		
	comp=N,9580µm,0.3s							
LNSS	**Leonessa**	**0.24**	**290**	⇑P	**Pg**	**Pg**	**03 47 29.6**	**0.0**
LNSS				S	**Sg**	**Sg**	**03 47 33.7**	**+0.8**
LNSS				AML	AML	AML		
	comp=N,5220µm,1.2s							
LNSS				AML	AML	AML		
	comp=E,8225µm,0.4s							
LNSS				AML	AML	AML		
	comp=E,8225µm,1.6s							
LNSS				AML	AML	AML		
	comp=N,5220µm,0.8s							
LNSS				AML	AML	AML		
	comp=E,8209µm,0.4s							
LNSS				AML	AML	AML		
	comp=N,4703µm,0.3s							
FIAM	**Fiamignano**	**0.30**	**213**	⇑P	**Pg**	**Pg**	**03 47 30.7**	**-0.1**
FIAM				S	**Sb**	**Sb**	**03 47 36.1**	**-1.2**
FIAM				AML	AML	AML		
	comp=E,1630µm,1.1s							
FIAM				AML	AML	AML		
	comp=N,1825µm,0.8s							
FIAM				AML	AML	AML		
	comp=N,1825µm,1.2s							
FIAM				AML	AML	AML		
	comp=N,1829µm,0.8s							
FIAM				AML	AML	AML		
	comp=E,895µm,0.5s							
ARRO	**Arrone**	**0.43**	**278**	P	**Pg**	**Pg**	**03 47 32.8**	**-0.3**
ARRO				AML	AML	AML		
	comp=E,660µm,0.9s							
ARRO				AML	AML	AML		
	comp=N,815µm,1.1s							
ARRO				AML	AML	AML		
	comp=N,815µm,0.9s							
ARRO				AML	AML	AML		
	comp=N,803µm,0.4s							
ARRO				AML	AML	AML		
	comp=E,637µm,0.2s							
OFFI	**Offida**	**0.48**	**31**	P	**Pb**	**Pb**	**03 47 34.5**	**-0.8**
OFFI				S	**Sb**	**Sb**	**03 47 43.3**	**+0.9**
OFFI				AML	AML	AML		
	comp=N,5070µm,0.5s							
OFFI				AML	AML	AML		
	comp=N,5070µm,1.5s							
OFFI				AML	AML	AML		
	comp=E,5850µm,0.6s							
OFFI				AML	AML	AML		
	comp=N,5071µm,0.5s							
OFFI				AML	AML	AML		
	comp=E,5852µm,0.6s							
FEMA	**Monte Fema**	**0.49**	**334**	P	**Pg**	**Pg**	**03 47 33.9**	**-0.4**
FEMA				S	**Sb**	**Sb**	**03 47 41.8**	**-0.9**
FEMA				AML	AML	AML		
	comp=E,1535µm,0.6s							
FEMA				AML	AML	AML		
	comp=N,1330µm,1.2s							
FEMA				AML	AML	AML		
	comp=E,1222µm,0.1s							
FEMA				AML	AML	AML		
	comp=N,991µm,0.1s							
PTQR	**Pietraquaria**	**0.50**	**175**	P	**Pg**	**Pg**	**03 47 33.8**	**-0.7**
PTQR				AML	AML	AML		
	comp=E,338µm,0.8s							
PTQR				AML	AML	AML		
	comp=N,324µm,0.8s							
PTQR				AML	AML	AML		
	comp=E,338µm,1.2s							
PTQR				AML	AML	AML		
	comp=N,301µm,0.5s							
PTQR				AML	AML	AML		
	comp=E,328µm,0.3s							
TRTR	**Tortoreto Alta**	**0.51**	**56**	⇑P	**Pb**	**Pb**	**03 47 35.2**	**-0.4**
TRTR				AML	AML	AML		
	comp=E,5860µm,0.3s							
TRTR				AML	AML	AML		
	comp=N,4515µm,0.5s							
TRTR				AML	AML	AML		
	comp=N,4515µm,1.5s							
TRTR				AML	AML	AML		
	comp=E,5860µm,1.7s							
GUMA	**Gualdo di Mace**	**0.54**	**359**	⇓P	**Pg**	**Pg**	**03 47 35.0**	**-0.1**
GUMA				S	**Sb**	**Sb**	**03 47 43.8**	**-0.3**
GUMA				AML	AML	AML		

comp=E,2440µm,0.4s
GUMA AML AML
comp=N,2820µm,0.5s
GUMA AML AML
comp=E,3355µm,0.5s
GUMA AML AML
comp=N,2645µm,0.5s
GUMA AML AML
comp=N,2645µm,1.5s
GUMA AML AML
comp=E,3355µm,1.5s
GUMA AML AML
comp=N,2820µm,1.5s
GUMA AML AML
comp=E,2442µm,0.4s
GUMA AML AML
comp=E,1983µm,0.2s
GUMA AML AML
comp=N,2819µm,0.5s
GUMA AML AML
comp=N,2644µm,0.5s
FDMO Fiordimonte 0.55 340 ⇓P **Pg** **03 47 34.8** **-0.5**
FDMO S **Sb** **03 47 43.6** **-0.7**
FDMO AML AML
comp=N,710µm,1.4s
FDMO AML AML
comp=E,595µm,1.3s
FDMO AML AML
comp=N,628µm,0.2s
FDMO AML AML
comp=E,528µm,0.2s
CESX Cesi 0.57 279 ⇓P **Pg** **03 47 35.1** **-0.6**
CESX AML AML
comp=E,716µm,0.4s
CESX AML AML
comp=N,882µm,0.4s
CESX AML AML
comp=N,885µm,0.4s
CSP1 Cessapalombo 0.58 350 ⇓P **Pg** **03 47 35.3** **-0.6**
CSP1 S **Sb** **03 47 44.6** **-0.6**
CSP1 AML AML
comp=E,972µm,1.5s
CSP1 AML AML
comp=N,1366µm,0.9s
CSP1 AML AML
comp=E,971µm,1.5s
CSP1 AML AML
comp=N,1366µm,0.9s
CSP1 AML AML
comp=E,971µm,0.5s
CSP1 AML AML
comp=N,1366µm,1.1s
CSP1 AML AML
comp=N,1271µm,0.3s
CSP1 AML AML
comp=E,942µm,0.4s
CESI CESI - Serrava 0.58 326 ⇑P **Pg** **03 47 35.5** **-0.5**
CESI AML AML
comp=N,864µm,0.4s
CESI AML AML
comp=E,554µm,0.4s
CESI AML AML
comp=N,864µm,0.4s
CESI AML AML
comp=E,464µm,0.3s
T1220 Camerino, Fraz 0.62 343 ⇑P **Pg** **03 47 35.6** **-1.0**
T1220 AML AML
comp=E,3770µm,0.3s
T1220 AML AML
comp=E,3765µm,0.3s
T1220 AML AML
comp=N,3150µm,0.5s
T1220 AML AML
comp=E,3690µm,0.3s
T1220 AML AML
comp=N,3190µm,0.5s
T1220 AML AML
comp=N,2964µm,0.3s
T1220 AML AML
comp=E,3768µm,0.3s
T1220 AML AML
comp=N,2970µm,0.3s
T1220 AML AML
comp=E,3691µm,0.3s
CERT Cerreto 0.63 205 ⇓P **Pg** **03 47 36.2** **-0.7**
CERT AML AML
comp=E,1002µm,0.5s
CERT AML AML
comp=N,425µm,0.4s
CERT AML AML
comp=N,425µm,0.4s
MOMA Monte Martano 0.64 297 ⇓P **Pg** **03 47 36.4** **-0.6**
MOMA S **Sb** **03 47 46.5** **-0.3**
MOMA AML AML
comp=E,1175µm,1.4s
MOMA AML AML
comp=E,1265µm,1.4s
MOMA AML AML
comp=N,1325µm,0.2s
MOMA AML AML
comp=E,1175µm,0.6s
MOMA AML AML
comp=E,1265µm,0.6s
MOMA AML AML
comp=N,1340µm,0.2s
MOMA AML AML
comp=E,1161µm,0.3s
MOMA AML AML
comp=N,1341µm,0.2s
MOMA AML AML
comp=N,1323µm,0.2s
MOMA AML AML
comp=E,1134µm,0.2s
MTCE Montecelio 0.67 222 ⇓P **Pg** **03 47 37.2** **-0.4**
MTCE AML AML
comp=E,354µm,1.0s
MTCE AML AML
comp=E,354µm,1.0s
MTCE AML AML
comp=N,276µm,0.3s
SRES S.Oreste - Sor 0.68 245 ⇓P **Pg** **03 47 37.6** **-0.1**
SRES AML AML
comp=N,260µm,0.7s
SRES AML AML
comp=E,224µm,0.6s
SRES AML AML
comp=E,224µm,1.4s
VVLD Villa Vallelon 0.68 162 ⇑P **Pb** **03 47 38.1** **-0.6**
VVLD AML AML
comp=E,294µm,0.6s
VVLD AML AML
comp=N,406µm,0.7s
VVLD AML AML
comp=N,406µm,1.3s
ASSB Assisi San Ben 0.72 316 ⇑P **Pg** **03 47 37.9** **-0.7**
ASSB S **Sb** **03 47 49.7** **+0.3**
ASSB AML AML
comp=E,688µm,0.4s
ASSB AML AML
comp=N,532µm,0.5s
ASSB AML AML
comp=E,688µm,1.6s
ASSB AML AML
comp=E,689µm,0.4s
ASSB AML AML
comp=N,505µm,0.3s
SNTG Esanatoglia 0.79 338 ⇑P **Pg** **03 47 39.2** **-0.7**
SNTG S **Sb** **03 47 51.7** **+0.4**
SNTG AML AML
comp=E,324µm,0.6s
SNTG AML AML
comp=N,358µm,0.6s
SNTG AML AML
comp=E,324µm,1.4s
SNTG AML AML
comp=N,358µm,1.4s
SNTG AML AML
comp=E,209µm,0.1s
SNTG AML AML
comp=N,162µm,0.2s
SNTG AML AML
comp=N,276µm,0.3s
SNTG AML AML
comp=E,191µm,0.1s
EL6 Elcito 0.83 348 ⇓P **Pg** **03 47 39.7** **-0.9**
EL6 S **Sn** **03 47 53.5** **-1.2**
EL6 AML AML

comp=E,630μm,0.3s
EL6 AML AML
comp=N,762μm,0.4s
EL6 AML AML
comp=N,762μm,0.4s
EL6 AML AML
comp=N,741μm,0.3s
EL6 AML AML
comp=E,630μm,0.3s
CING Cingoli 0.86 353 ⇓P **Pg 03 47 38.7 -2.6**
FOSV Fossato di Vic 0.88 331 ⇓P **Pg 03 47 41.0 -0.7**
FOSV AML AML
comp=E,285μm,1.3s
FOSV AML AML
comp=N,389μm,1.2s
FOSV AML AML
comp=E,285μm,0.7s
FOSV AML AML
comp=E,161μm,0.3s
FOSV AML AML
comp=N,348μm,0.5s
MGAB Montegabbione 0.99 294 ⇓P **Pn 03 47 45.1 +0.6**
ARVD Arcevia 1.02 343 ⇓P **Pb 03 47 43.2 -1.2**
ARVD S **Sn 03 47 59.4 +0.1**
ARVD AML AML
comp=E,336μm,0.6s
ARVD AML AML
comp=N,278μm,0.6s
COR1 Corinaldo 1.14 347 P **Pg 03 47 47.0 +0.5**
COR1 AML AML
comp=E,1464μm,0.8s
COR1 AML AML
comp=N,810μm,0.8s
NARO Abbazia di Nar 1.22 333 ⇓P **Pn 03 47 47.1 -0.7**
NARO AML AML
comp=E,168μm,1.6s
NARO AML AML
comp=N,171μm,0.6s
NARO AML AML
comp=E,168μm,0.4s
NARO AML AML
comp=E,135μm,0.4s
NARO AML AML
comp=N,159μm,0.5s
ABTA Abfaltersbach 4.27 352 *e*Pn **Pn 03 48 30.9 +1.2**
comp=N,2.3nm,0.6s
KBA Koelnbreinsper 4.56 0 Pn **Pn 03 48 37.2 +3.4**
comp=N,1.4nm,0.6s
SQTA Sankt Quirin 4.94 343 *e*Pn **Pn 03 48 41.2 +2.3**
comp=N,0.5nm,0.2s
DAVA Damuels 5.36 334 *e*Pn **Pn 03 48 48.0 +3.2**
comp=N,2.3nm,0.5s

JMA ***19*** *04:02:32.0±0.7, 47.°N×14.°E, h395km, MV4.4/16, SOUTHERN SEA OF OKHOTSK*
NIED ***19*** *04:02:32.0, 47.°22N×149.°38E, h395km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.40; Mθθ1.13; Mϕϕ-3.53; Mrθ-0.08; Mθϕ-0.16; Mϕr-2.52; Fault plane solution: M₀3.90000×10¹⁵ NP1: ϕs182.00000°, δ65.00000°, λ90.00000°. NP2:ϕs2.00000°, δ25.00000°, λ90.00000°.*
MOS ***19*** *04:02:32.4±1.1, 47.°96N×148.°59E, h372km, mb4.0/22 Error ellipse: s-maj=8.6km s-min=5.9km az=73.1*
SKHL ***19*** *04:02:32.7±0.1, 47.°90N×148.°80E, h360km±7km, mb4.9/15, mbv5.1/4, msh4.8/3, msha5.2/11*
NEIC ***19*** *04:02:34.5±1.2, 48.°04N±0.°08×148.°5E±0.°1, h370km±6km, mb4.3/159, Error ellipse: s-maj=16.7km s-min=6.8km az=127.0*
IDC ***19*** *04:02:34.9±1.0, 47.°96N×148.°51E, h379km±9km, mb3.7/19, mbtmp4.5/26, Error ellipse: s-maj=11.7km s-min=7.9km az=136.0*
ISC 19 04:02:34.4±0.3, **47.89N**±0.°04×**148.°67E**±0.°04, **h384**km, **n288**, σ1§**87**/275, **mb4.3**/119, **13C-7D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.71**	**192**	⇑*i*	PN	**Pn**	**04 03 31.5**	**-2.6**
KUR					*e*S	**S**	**04 04 17.4**	**-4.7**
KUR					pmax	pmax		
	comp=Z,259nm,0.4s							
KUR					pmax	pmax		
	comp=E,44nm,0.5s							
KUR					pmax	pmax		
	comp=N,86nm,0.3s							
KUR					smax	smax		
	comp=E,206nm,0.9s							
KUR					smax	smax		
	comp=N,185nm,0.6s							
KUR	**Kuril'sk**	**2.71**	**192**	*e*P		**Pn**	**04 03 31.0**	**-3.1**
KUR					AMB	AMB	04 03 32.1	
	comp=N,260nm,0.4s							
KUR					AMB	AMB	04 03 36.4	
	comp=N,1μm,2.0s							
KUR					*e*S	**S**	**04 04 17.5**	**-4.7**
KUR					A	A	04 04 20.7	
	comp=N,460nm,0.7s							
KUR					A	A	04 04 20.7	
	comp=N,430nm,0.7s							
YSS	**Yuzh-Sakhalins**	**4.12**	**259**			**Pn**	**04 03 45.5**	**-1.2**
YSS	**Yuzh-Sakhalins**	**4.12**	**259**	⇓*i*	PN	**Pn**	**04 03 45.8**	**-0.8**
YSS				*i*	S	**S**	**04 04 42.5**	**-2.6**
YSS					pmax	pmax		
	comp=Z,60nm,0.7s							
YSS					smax	smax		
	comp=N,600nm,3.0s							
YSS					smax	smax		
	comp=E,700nm,3.6s							
YSS					smax	smax		
	comp=N,30nm,0.7s							
YSS					smax	smax		
	comp=E,60nm,0.7s							
YSS	**Yuzh-Sakhalins**	**4.12**	**259**	*i*	P	**Pn**	**04 03 44.3**	**-2.3**
YSS					AMB	AMB	04 03 47.4	
	comp=E,60nm,0.5s							
YSS				*i*	S	**S**	**04 04 42.9**	**-2.2**
YSS					A	A	04 04 45.6	
	comp=E,600nm,3.6s							
YSS					A	A	04 04 45.6	
	comp=E,700nm,3.6s							
YSS					A	A	04 04 46.5	
	comp=E,30nm,0.5s							
YSS					A	A	04 04 46.5	
	comp=E,60nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.32**	**208**	⇑*i*	PN	**Pn**	**04 03 45.1**	**-3.6**
YUK					*e*S	**S**	**04 04 42.7**	**-6.2**
YUK					pmax	pmax		
	comp=Z,501nm,0.4s							
YUK					pmax	pmax		
	comp=Z,11nm,0.1s							
YUK					pmax	pmax		
	comp=N,66nm,0.4s							
YUK					smax	smax		
	comp=N,806nm,0.5s							
YUK					smax	smax		
	comp=E,775nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**4.32**	**208**	*i*	P	**Pn**	**04 03 45.2**	**-3.5**
YUK					AMB	AMB	04 03 46.8	
	comp=E,500nm,0.4s							
YUK					*e*S	**S**	**04 04 45.3**	**-3.6**
YUK					A	A	04 04 48.5	
	comp=E,810nm,0.5s							
YUK					A	A	04 04 48.5	
	comp=E,2μm,0.5s							
RUSJ	**Misakicho**	**4.47**	**213**	⇑*i*	PN	**Pn**	**04 03 48.1**	**-2.1**
RUSJ					*e*S	**S**	**04 04 49.4**	**-2.2**
UGL	**Uglegorsk**	**4.55**	**288**	*e*P		**Pn**	**04 03 48.1**	**-2.7**
UGL					AMB	AMB	04 03 49.9	
	comp=E,60nm,0.7s							
UGL					*e*S	**S**	**04 04 51.2**	**-1.7**
UGL					A	A	04 04 56.1	
	comp=E,60nm,0.6s							
UGL					A	A	04 04 56.1	
	comp=E,60nm,0.6s							
JRA	**Rausu**	**4.66**	**213**	*e*P		**Pn**	**04 03 49.2**	**-2.9**
TYV	**Tymovskoe**	**4.93**	**309**	*e*PN		**Pn**	**04 03 53.2**	**-1.5**
TYV					*e*S	**S**	**04 04 56.8**	**-3.2**
TYV					pmax	pmax		
	comp=Z,95nm,0.6s							
TYV					pmax	pmax		
	comp=Z,300nm,2.6s							
TYV					smax	smax		
	comp=N,68nm,1.6s							
TYV					smax	smax		
	comp=N,500nm,3.5s							
TYV					smax	smax		
	comp=E,1μm,3.5s							
TYV	**Tymovskoe**	**4.93**	**309**	*e*P		**Pn**	**04 03 53.4**	**-1.3**
TYV					AMB	AMB	04 03 53.7	
	comp=E,70nm,0.4s							
TYV					AMB	AMB	04 03 53.8	
	comp=E,300nm,2.6s							
TYV					*e*S	**S**	**04 04 58.4**	**-1.6**
TYV					A	A	04 04 59.8	
	comp=E,500nm,3.5s							
TYV					A	A	04 04 59.8	
	comp=E,1μm,3.5s							
TYV					A	A	04 04 59.9	
	comp=E,70nm,0.9s							
TYV					A	A	04 04 59.9	
	comp=E,70nm,0.9s							
NEM2	**Nemuro 2**	**4.97**	**205**	*e*P		Pn	04 03 49.9	-5.4
NEM2					*e*S	S	04 04 51.0	-10
NMR	**Nemuro--Hokkai**	**4.97**	**206**	⇑*i*	PN	Pn	04 03 49.8	-5.5
NMR	**Nemuro--Hokkai**	**4.97**	**206**	*i*	P	Pn	04 03 49.9	-5.4
JTKR	**Abashiri--Toko**	**5.14**	**222**	*e*P		**Pn**	**04 03 54.6**	**-2.4**
JTKR					*e*S	**S**	**04 04 59.7**	**-4.5**
JWK2	**Keihoku**	**5.33**	**244**	*e*P		**Pn**	**04 03 58.9**	**-0.2**
SKR	**Severo-Kuril's**	**5.62**	**57**	*e*PN		**Pn**	**04 04 00.6**	**-1.4**
SKR					*e*S	**S**	**04 05 10.3**	**-3.1**
SKR					pmax	pmax		
	comp=Z,165nm,0.9s							
SKR					smax	smax		
	comp=E,60nm,0.4s							
SKR					smax	smax		
	comp=N,92nm,0.5s							
SKR	**Severo-Kuril's**	**5.62**	**57**	*e*P		**Pn**	**04 04 00.0**	**-2.0**
SKR					AMB	AMB	04 04 01.3	
	comp=N,220nm,0.5s							
SKR					AMB	AMB	04 04 01.7	
	comp=N,380nm,1.2s							
SKR					*e*S	**S**	**04 05 08.3**	**-5.1**
SKR					A	A	04 05 11.1	
	comp=N,110nm,0.4s							
SKR					A	A	04 05 11.1	
	comp=N,100nm,0.4s							
SKR					A	A	04 05 15.0	
	comp=N,240nm,2.0s							
SKR					A	A	04 05 15.0	
	comp=N,150nm,2.0s							
JAK	**Akkeshi**	**5.63**	**211**	*e*P		Pn	04 03 57.4	-5.0
JAK					*e*S	S	04 05 04.2	-10
JKA	**Kamikawa-asahi**	**5.67**	**230**			**Pn**	**04 04 01.8**	**-0.9**
JKA	**Kamikawa-asahi**	**5.67**	**230**	*e*P		**Pn**	**04 04 02.6**	**-0.2**
ASAJ	**Asahikawa**	**5.67**	**231**	P		**Pn**	**04 04 02.5**	**-0.2**
	comp=N,345nm,0.4s,baz=69,slow=7.3,SNR=380							
ASAJ						S	**04 05 11.7**	**-3.0**
	comp=N,28nm,0.7s,baz=180,slow=20,SNR=1.3							
JAR	**Ashorobuto**	**5.74**	**219**	*e*P		**Pn**	**04 04 00.6**	**-3.0**
JAR					*e*S	**S**	**04 05 11.2**	**-4.8**
JKK2	**Kamakawa 2**	**5.76**	**228**	*e*P		**Pn**	**04 04 02.2**	**-1.6**
JRBN	**Rebuntou**	**5.79**	**248**	*e*P		**Pn**	**04 04 02.8**	**-1.2**
JOB	**Onbets**	**6.04**	**216**	*e*P		**Pn**	**04 04 02.8**	**-4.1**
JOB					*e*S	**S**	**04 05 14.2**	**-7.8**
JAB	**Ashibetsu**	**6.29**	**228**	*e*P		**Pn**	**04 04 08.6**	**-1.1**
JCH	**Churui**	**6.47**	**217**	*e*P		**Pn**	**04 04 07.1**	**-4.5**
JCH					*e*S	S	04 05 21.4	-9.4
OKH	**Okha**	**6.74**	**329**	*e*P		**Pn**	**04 04 13.5**	**-0.9**
OKH					AMB	AMB	04 04 16.7	
	comp=N,80nm,0.3s							
MYR	**Moyori**	**6.77**	**216**	*e*P		**Pn**	**04 04 11.2**	**-3.8**
JNBK	**Urakawa-nobuka**	**7.00**	**219**	*e*P		Pn	04 04 12.8	-4.8
ERM	**Erimo**	**7.05**	**216**			**Pn**	**04 04 15.4**	**-2.9**
ERM	**Erimo**	**7.05**	**216**	*i*	PN	**Pn**	**04 04 14.6**	**-3.7**
NKL	**Nikolayevsk**	**7.32**	**319**	*e*P		**Pn**	**04 04 19.5**	**-1.6**
NKL					AMB	AMB	04 04 20.3	
	comp=N,10.0nm,0.4s							
NKL					*e*S	**S**	**04 05 46.0**	**-2.3**
NKL					A	A	04 05 48.0	
	comp=N,10.0nm,0.8s							
NKL					A	A	04 05 48.0	
	comp=N,10.0nm,0.8s							
PEA0B	**Petropavlovsk-**	**7.77**	**44**			**Pn**	**04 04 25.3**	**-1.0**
PEA0B	**Petropavlovsk-**	**7.77**	**44**	*ce*PN		**Pn**	**04 04 24.7**	**-1.6**
PETK	**Petropavlovsk-**	**7.77**	**44**	P		**Pn**	**04 04 25.1**	**-1.1**
	comp=N,28nm,0.6s,baz=218,slow=9.4,SNR=24							
PET	**Petropavlovsk**	**8.18**	**47**			**Pn**	**04 04 29.8**	**-1.1**
PET	**Petropavlovsk**	**8.18**	**47**	*e*PN		**Pn**	**04 04 28.8**	**-2.2**
PET					*e*S	**S**	**04 06 02.0**	**-4.5**
PET					pmax	pmax		
	comp=Z,72nm,0.7s							
PET	**Petropavlovsk**	**8.18**	**47**	*e*P		**Pn**	**04 04 28.6**	**-2.4**
PET					AMB	AMB	04 04 31.5	
	comp=Z,70nm,0.7s							
PET					*e*S	**S**	**04 06 00.2**	**-6.3**
GRNR	**Gornyy**	**8.50**	**294**	⇓*i*	PN	**Pn**	**04 04 33.8**	**-1.0**
GRNR					pmax	pmax		
	comp=E,20nm,1.1s							
GRNR					pmax	pmax		
	comp=Z,20nm,1.1s							
GRNR	**Gornyy**	**8.50**	**294**	*e*P		**Pn**	**04 04 33.8**	**-1.0**
GRNR					AMB	AMB	04 04 34.3	
	comp=Z,20nm,0.8s							
TEY	**Ternei**	**8.80**	**256**	⇓*e*PN		**Pn**	**04 04 38.3**	**0.0**
TEY					pmax	pmax		
	comp=N,100nm,1.9s							
TEY					pmax	pmax		
	comp=E,100nm,1.9s							
TEY					pmax	pmax		
	comp=Z,100nm,2.0s							
TEY					pmax	pmax		
	comp=N,50nm,0.7s							
TEY					pmax	pmax		
	comp=E,140nm,0.7s							
TEY					pmax	pmax		
	comp=Z,150nm,0.7s							
TEY	**Ternei**	**8.80**	**256**	*e*P		**Pn**	**04 04 38.0**	**-0.3**
TEY					AMB	AMB	04 04 38.9	
	comp=Z,100nm,2.0s							
TEY					AMB	AMB	04 04 39.1	
	comp=Z,150nm,0.7s							
JTM	**Tennabayashi**	**8.95**	**220**			**Pn**	**04 04 35.5**	**-4.6**
JANG	**Nango**	**9.10**	**217**	*e*P		Pn	04 04 37.2	-4.7
JANG					*e*S	S	04 06 15.8	-11
KLR	**Kul'dur**	**11.30**	**283**	P		**Pn**	**04 05 08.1**	**+0.7**
	comp=Z,74nm,0.8s,baz=88,slow=11,SNR=260							
KLR	**Kul'dur**	**11.30**	**283**	*ce*PN		**Pn**	**04 05 07.4**	**0.0**
KLR					pmax	pmax		
	comp=Z,208nm,1.7s							
KLR	**Kul'dur**	**11.30**	**283**	*e*P		**Pn**	**04 05 07.4**	**0.0**
JMM	**Marumori**	**11.56**	**213**	P		**Pn**	**04 05 10.0**	**-0.6**
MA2	**Magadan**	**11.78**	**5**	P		**P**	**04 05 11.8**	**0.0**
	comp=Z,14nm,0.5s,baz=180,slow=8.6,SNR=13							
MA2	**Magadan**	**11.78**	**5**	P		**P**	**04 05 09.2**	**-2.6**
MA2	**Magadan**	**11.78**	**5**	*ce*PN		**P**	**04 05 11.3**	**-0.5**
MA2					pmax	pmax		
	comp=Z,72nm,1.7s							
MA2	**Magadan**	**11.78**	**5**	*e*P		**P**	**04 05 11.3**	**-0.5**
KBG	**Krutoberegovo**	**12.01**	**41**	*e*P		**P**	**04 05 14.4**	**0.0**
KBG					*e*S	**S**	**04 07 20.1**	**-6.7**
USA0B	**Ussuriysk Arra**	**12.16**	**259**	P		**P**	**04 05 15.0**	**-1.3**
USA0B	**Ussuriysk Arra**	**12.16**	**259**	*i*	PN	**P**	**04 05 13.8**	**-2.5**
USRK	**Ussuriysk Ar.**	**12.16**	**259**	P		**P**	**04 05 15.6**	**-0.7**
	comp=Z,22nm,0.7s,baz=68,slow=10,SNR=21							
USRK	**Ussuriysk Ar.**	**12.16**	**259**			**P**	**04 05 15.4**	**-0.9**
MDJ	**Mudanjiang**	**13.60**	**263**	P		**P**	**04 05 31.5**	**-0.6**
MJB9	**Matsu-Tunnel**	**13.72**	**218**			**Pn**	**04 05 36.1**	**+0.4**
MAJO	**Matsushiro**	**13.72**	**218**			**Pn**	**04 05 35.1**	**-0.6**
MAJO	**Matsushiro**	**13.72**	**218**	*i*	P	**Pn**	**04 05 35.4**	**-0.4**
MAJO	**Matsushiro**	**13.72**	**218**	*e*P		**Pn**	**04 05 35.4**	**-0.4**
MJAR	**Matsushiro Arr**	**13.72**	**218**	P		**Pn**	**04 05 35.8**	**0.0**
	comp=Z,161nm,0.6s,baz=18,slow=12,SNR=298							
HEH	**HeiHe**	**14.13**	**288**	*e*P		**P**	**04 05 36.9**	**-0.9**
HEH					pmax	pmax		
	comp=Z,52nm,0.8s							
ZEA	**Zeya**	**14.72**	**301**	*e*P		**Pn**	**04 05 48.0**	**+1.2**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.7s							
ZEA	**Zeya**	**14.72**	**301**	*e*P		**P**	**04 05 45.0**	**+0.8**
JGF	**Kuroka**	**14.88**	**219**	P		**Pn**	**04 05 47.2**	**-1.7**
SEY	**Seymchan**	**15.22**	**6**	P		**P**	**04 05 50.2**	**+0.7**
	comp=Z,9.4nm,0.6s,baz=187,slow=8.7,SNR=39							
SEY	**Seymchan**	**15.22**	**6**	*ce*P		**P**	**04 05 48.9**	**-0.6**
SEY					pmax	pmax		
	comp=Z,19nm,1.3s							
SEY	**Seymchan**	**15.22**	**6**	*e*P		**P**	**04 05 48.9**	**-0.6**
INU	**Inuyama**	**15.24**	**219**	P		**P**	**04 05 49.9**	**-0.2**
JSG	**Sagara**	**15.35**	**214**	P		**Pn**	**04 05 52.8**	**-1.5**
JHS	**Saijyo**	**17.33**	**228**			**P**	**04 06 13.5**	**+1.0**
YAK	**Yakutsk**	**17.77**	**330**	*e*P		**P**	**04 06 17.3**	**+0.5**
YAK					*e*S	**S**	**04 09 20.5**	**-0.5**
YAK					pmax	pmax		
	comp=Z,17nm,0.8s							
YAK					pmax	pmax		
	comp=N,2.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,2.0nm,1.0s							
YAK					smax	smax		
	comp=E,100nm,2.3s							
YAK					smax	smax		
	comp=N,42nm,1.9s							
YAK					pmax	pmax		
	comp=Z,14nm,0.7s							
YAK	**Yakutsk**	**17.77**	**330**	*e*P		**P**	**04 06 17.3**	**+0.5**
KSRS	**Korea Array**	**18.42**	**243**	P		**P**	**04 06 25.2**	**+1.2**
	comp=Z,15nm,0.6s,baz=46,slow=10,SNR=44							
KS19	**Wonju Array Si**	**18.43**	**243**	P		**P**	**04 06 25.0**	**+0.9**
KSAR	**Wonju Array Be**	**18.45**	**243**	P		**P**	**04 06 24.6**	**+0.2**
KSAR	**Wonju Array Be**	**18.45**	**243**	P		**P**	**04 06 24.6**	**+0.2**
TJN	**Taejon**	**19.48**	**242**	*ce*P		**P**	**04 06 34.6**	**-0.3**
JNU	**Nakatsue**	**19.94**	**229**	P		**P**	**04 06 39.9**	**+0.5**
	comp=Z,10nm,0.7s,baz=82,slow=8.3,SNR=5.6							
BILL	**Bilibino**	**22.09**	**18**	P		**P**	**04 06 58.1**	**-0.4**
BILL	**Bilibino**	**22.09**	**18**	⇓*i*	P	**P**	**04 06 56.0**	**-2.5**
BILL					*SP	**sP**	**04 08 42.0**	**-5.2**
BILL					S	**S**	**04 10 34.0**	**+0.5**
BILL							04 10 43.0	
BILL					pmax	pmax		
	comp=Z,12nm,1.2s							
BILL	**Bilibino**	**22.09**	**18**	*e*P		**P**	**04 06 56.0**	**-2.5**
TIK	**Tiksi**	**25.55**	**346**	*e*P		**P**	**04 07 28.5**	**-1.0**
TIXI	**Tiksi**	**25.57**	**346**	P		**P**	**04 07 28.5**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=270,slow=24,SNR=5.6							
	comp=Z,2.0nm,0.5s							
ULN	**Ulaanbaatar**	**27.67**	**286**	P		**P**	**04 07 49.0**	**+0.2**
ULN	**Ulaanbaatar**	**27.67**	**286**	*i*	P	**P**	**04 07 47.9**	**-0.9**
ULN					pmax	pmax		
	comp=Z,4.0nm,0.9s							
ULN	**Ulaanbaatar**	**27.67**	**286**	*e*P		**P**	**04 07 47.9**	**-0.9**
SONM	**Songino Array**	**28.11**	**286**	P		**P**	**04 07 52.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=80,slow=8.5,SNR=11							
SONM					PcP	**PcP**	**04 10 55.8**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=132,slow=3.0,SNR=4.9							
SONM					ScP	**ScP**	**04 14 01.1**	**+2.1**
	comp=Z,1.2nm,0.9s,baz=95,slow=3.1,SNR=7.2							
	comp=Z,1.1nm,0.6s							
TNA	**Tin City**	**28.84**	**36**	P		**P**	**04 07 59.2**	**+0.6**
TNA					IAmb	IAmb	04 08 00.0	
	comp=Z,14nm,1.0s							
ZAK	**Zakamensk**	**29.45**	**292**	*e*P		**P**	**04 08 03.7**	**-0.6**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.2s							
ZAK	**Zakamensk**	**29.45**	**292**	*e*P		**P**	**04 08 03.7**	**-0.6**
LYN	**LuoYang**	**30.02**	**257**	⇓P		**P**	**04 08 10.0**	**+0.6**
LYN					pmax	pmax		
	comp=Z,10.0nm,1.0s							
WHN	**Wuhan**	**31.40**	**249**	⇓P		**P**	**04 08 22.4**	**+1.0**
XAN	**Xi'an**	**32.67**	**260**	P		**P**	**04 08 32.3**	**-0.1**
XAN					pmax	pmax		
	comp=Z,12nm,1.0s							
TTA	**Tatalina**	**33.60**	**43**	P		**P**	**04 08 41.1**	**+1.1**
TTA					IAmb	IAmb	04 08 42.1	
	comp=Z,13nm,0.9s							
TTA	**Tatalina**	**33.60**	**43**	P		**P**	**04 08 41.2**	**+1.1**
TTA					pmax	pmax		
	comp=Z,13nm,0.9s							
K20K	**Telida**	**34.48**	**42**	P		**P**	**04 08 48.1**	**+0.7**
IMAR	**Indian Mountai**	**34.66**	**37**	P		**P**	**04 08 49.7**	**+0.8**
LZH	**Lanzhou**	**34.88**	**267**	*e*P		**P**	**04 08 52.3**	**+1.0**
LZH					pmax	pmax		
	comp=Z,48nm,1.1s							
H21K	**Melozitna Rive**	**35.04**	**38**	P		**P**	**04 08 52.6**	**+0.5**
H21K					IAmb	IAmb	04 08 53.3	
	comp=Z,8.0nm,0.7s							
PPLA	**Purkeypile**	**35.35**	**43**	P		**P**	**04 08 56.7**	**+1.8**
CAST	**Castle Rocks**	**35.38**	**42**	P		**P**	**04 08 56.2**	**+1.3**
CAST					IAmb	IAmb	04 08 57.5	
	comp=Z,12nm,0.9s							
I21K	**Tanana**	**35.38**	**39**	P		**P**	**04 08 55.8**	**+0.9**
SPU	**Mount Spurr**	**35.55**	**46**	P		**P**	**04 08 55.0**	**-1.5**
GTA	**Gaotai**	**35.83**	**275**	*e*P		**P**	**04 09 00.3**	**+1.0**
GTA					pmax	pmax		
	comp=Z,9.0nm,1.0s							
KTH	**Kantishna Hill**	**35.89**	**42**	P		**P**	**04 09 00.2**	**+0.9**
KTH					IAmb	IAmb	04 09 01.8	
	comp=Z,16nm,0.9s							
MLY	**Manley**	**35.91**	**39**	P		**P**	**04 09 00.4**	**+1.0**
COLD	**Coldfoot**	**36.12**	**35**	P		**P**	**04 09 01.6**	**+0.4**
COLD					IAmb	IAmb	04 09 05.1	
	comp=Z,12nm,0.8s							
NRIK	**Noril'sk**	**36.21**	**328**	*ce*P		**P**	**04 09 01.5**	**-0.3**
NRIK					pmax	pmax		
	comp=Z,4.0nm,1.0s							
NEA2	**Nenana**	**36.64**	**40**	P		**P**	**04 09 06.4**	**+0.9**
NEA2					IAmb	IAmb	04 09 07.3	
	comp=Z,17nm,0.8s							
MCK	**McKinley**	**36.76**	**41**	P		**P**	**04 09 07.5**	**+0.9**
MCK					IAmb	IAmb	04 09 08.7	
	comp=Z,10.0nm,0.8s							
MCK	**McKinley**	**36.76**	**41**	P		**P**	**04 09 07.5**	**+0.9**
MCK					pmax	pmax		
	comp=Z,10.0nm,0.8s							
GHO	**Glory Hole Cre**	**36.98**	**44**	P		**P**	**04 09 09.3**	**+0.9**
GHO					IAmb	IAmb	04 09 10.2	
	comp=Z,20nm,1.1s							
MDM	**Murphy Dome**	**36.98**	**39**	P		**P**	**04 09 09.3**	**+1.0**
WRH	**Wood River Hil**	**37.07**	**40**	P		**P**	**04 09 10.2**	**+1.1**
WRH					IAmb	IAmb	04 09 11.5	
	comp=Z,11nm,0.8s							
H24K	**Noodor Dome**	**37.07**	**38**	P		**P**	**04 09 10.2**	**+1.0**
TCOL	**CIGO, UAF Yank**	**37.14**	**39**	P		**P**	**04 09 10.8**	**+1.2**
TCOL					IAmb	IAmb	04 09 11.6	
	comp=Z,21nm,0.8s							
COLA	**College**	**37.15**	**39**	P		**P**	**04 09 10.4**	**+0.8**
COLA					IAmb	IAmb	04 09 11.6	
	comp=Z,20nm,0.8s							
COLA	**College**	**37.15**	**39**	*i*	P	**P**	**04 09 09.4**	**-0.2**
COLA					pmax	pmax		
	comp=Z,20nm,0.8s							
CCB	**Clear Creek Bu**	**37.18**	**40**	P		**P**	**04 09 10.5**	**+0.5**
KNK	**Knik Glacier**	**37.25**	**45**	IAmb		IAmb	04 09 12.9	
	comp=Z,19nm,0.9s							
SML	**Sawmill**	**37.25**	**44**	P		**P**	**04 09 11.7**	**+1.0**
POKR	**Poker Plat Res**	**37.30**	**39**	P		**P**	**04 09 12.4**	**+1.3**
DHY	**Denali Highway**	**37.53**	**42**	P		**P**	**04 09 13.6**	**+0.5**
DHY					IAmb	IAmb	04 09 14.5	
	comp=Z,18nm,1.1s							
IL31		**37.56**	**39**	P		**P**	**04 09 13.6**	**+0.5**
IL31					IAmb	IAmb	04 09 15.0	
	comp=Z,11nm,0.7s							
ILAR	**Eielson Array**	**37.56**	**39**	P		**P**	**04 09 13.7**	**+0.5**
	comp=Z,8.7nm,0.8s,baz=272,slow=7.6,SNR=101							
	comp=Z,8.7nm,0.8s							
HDA	**Harding Lake**	**37.57**	**40**	P		**P**	**04 09 13.6**	**+0.3**
HDA					IAmb	IAmb	04 09 16.9	
	comp=Z,6.9nm,0.5s							
FYU	**Fort Yukon**	**38.10**	**36**	P		**P**	**04 09 18.8**	**+1.2**
FYU					IAmb	IAmb	04 09 19.7	
	comp=Z,18nm,0.8s							
BMAR	**Mount Mountain**	**38.30**	**35**	P		**P**	**04 09 20.3**	**+1.1**
RIDG	**Independent Ri**	**38.57**	**41**	P		**P**	**04 09 21.7**

EGAK Eagle 40.00 39 IAmb IAmb 04 09 37.0
comp=Z,13nm,0.8s
L27K Beaver Creek, 40.02 42 IAmb IAmb 04 09 36.2
comp=Z,19nm,0.9s
BCAR Beaver Creek A 40.04 42 P P **04 09 35.2 +1.7**
M27K Edge Creek, AK 40.15 43 IAmb IAmb 04 09 37.3
comp=Z,20nm,0.8s
GOMU GeErMu 40.89 274 P P **04 09 41.5 +0.3**
GOMU pmax pmax
comp=Z,14nm,0.8s
GOMU pmax pmax
comp=Z,90nm,6.5s
EPYK Eagle Plains 41.51 36 P P **04 09 46.4 +1.1**
EPYK IAmb IAmb 04 09 47.2
comp=Z,16nm,0.9s
INK Inuvik 42.32 33 P P **04 09 52.1 +0.6**
INK Inuvik 42.32 33 P P **04 09 52.2 +0.6**
INK pmax pmax
comp=Z,7.0nm,1.0s
N31M Braeburn, Yuko 43.16 43 P P **04 10 00.5 +2.0**
N31M IAmb IAmb 04 10 01.4
comp=Z,14nm,0.9s
MK31 Makanchi Array 43.73 294 *i* P P **04 10 02.2 -1.0**
MKAR Makanchi Array 43.73 294 P P **04 10 02.6 -0.6**
comp=Z,3.4nm,0.5s,baz=63,slow=6.5,SNR=58
MKAR PcP **PcP** **04 11 42.2 +0.1**
comp=Z,0.9nm,0.6s,baz=68,slow=4.5,SNR=4.5
MKAR ScP **ScP** **04 14 57.3 +1.2**
comp=Z,1.4nm,0.8s,baz=58,slow=4.1,SNR=9.1
comp=Z,3.4nm,0.5s
MKAR Makanchi Array 43.73 294 *e*P P **04 10 02.5 -0.7**
MAKZ Makanchi 43.91 295 P P **04 10 03.7 -0.9**
MAKZ Makanchi 43.91 295 P P **04 10 03.7 -0.9**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
FARO Faro, Yukon 44.02 41 P P **04 10 06.5 +1.2**
A36M Sachs Harbour 44.18 26 P P **04 10 06.2 -0.1**
KURK Kurchatov 44.20 301 P P **04 10 06.4 -0.4**
KURK Kurchatov 44.20 301 *i* P P **04 10 04.9 -1.9**
KURK pmax pmax
comp=Z,17nm,3.4s
KURK Kurchatov 44.20 301 *e*P P **04 10 04.9 -1.9**
P33M Teslin, Yukon 44.95 44 P P **04 10 14.2 +1.6**
LSA Lhasa 47.23 269 P P **04 10 31.7 +0.7**
LSA IAmb IAmb 04 10 33.6
comp=Z,11nm,0.8s
LSA Lhasa 47.23 269 P P **04 10 31.7 +0.7**
LSA pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 47.82 307 *ce*P P **04 10 32.8 -1.8**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
BRVK Borovoye 47.82 307 *e*P P **04 10 32.8 -1.8**
PHRA Phrae 48.93 250 P P **04 10 44.5 +1.1**
SHL Shillong 49.43 264 P P **04 10 47.4 +0.1**
SHL Shillong 49.43 264 P P **04 10 47.4 +0.1**
SHL pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 49.78 252 P P **04 10 50.9 +1.1**
comp=Z,1.6nm,0.4s,baz=33,slow=6.5,SNR=5.1
CMAR ScP **ScP** **04 15 24.7 +2.7**
comp=Z,0.8nm,0.3s,baz=15,slow=2.6,SNR=4.6
comp=Z,1.6nm,0.4s
AAK Ala-Archa 50.61 293 *ce*P P **04 10 54.9 -0.9**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 50.61 293 *e*P P **04 10 54.9 -0.9**
KSH Kashi 51.42 289 P P **04 11 06.4 +4.6**
KSH pmax pmax
comp=Z,6.0nm,0.6s
YKA Yellowknife Ar 51.80 36 P P **04 11 04.5 +0.5**
comp=Z,5.5nm,0.8s,baz=302,slow=7.3,SNR=15
YKA PcP **PcP** **04 12 12.2 +1.3**
comp=Z,1.3nm,0.8s,baz=303,slow=3.9,SNR=6.2
comp=Z,5.5nm,0.8s
JIRN Jiri 51.88 271 *e*P P **04 11 06.2 +0.6**
comp=Z,14nm,0.3s
RAMN Ramite 52.06 270 *e*P P **04 11 07.2 +0.4**
comp=Z,19nm,0.4s
ARU Arti 52.10 315 *d i*P P **04 11 06.1 -0.2**
ARU *PP **pP** **04 12 23.5 -1.1**
ARU 04 13 00.8
ARU SS **SKiKP** **04 21 38.8 -6.7**
ARU pmax pmax
comp=Z,12nm,1.4s
ARU Arti 52.10 315 *e*P P **04 11 06.1 -0.2**
PKI Pulchoki 52.46 271 *e*P P **04 11 10.1 +0.3**
PKIN Phulchoki 52.46 271 *e*P P **04 11 10.1 +0.4**
comp=Z,17nm,0.5s
DMN Daman 52.64 271 *e*P P **04 11 11.7 +0.7**
GKN Gorkha 52.70 272 *e*P P **04 11 11.8 +0.5**
comp=Z,10nm,0.3s
DANN Dangsing 53.06 273 *e*P P **04 11 14.6 +0.5**
comp=Z,8.2nm,0.2s
NEEM North Greenlan 54.33 5 *i*P P **04 11 20.6 -1.8**
NEEM IAmb IAmb 04 11 22.0
comp=Z,8.0nm,0.8s
GAR Garm 55.29 292 IAmb IAmb 04 11 30.4
comp=Z,17nm,0.8s
ABKAR Akbulak array 55.35 307 P P **04 11 29.8 +0.1**
ARCES ARCESS Array B 55.75 339 P P **04 11 31.9 -0.2**
comp=Z,6.0nm,1.0s,baz=36,slow=7.8,SNR=1.6
ARCES PcP **PcP** **04 12 26.1 +0.1**
comp=Z,4.5nm,0.9s,baz=46,slow=3.9,SNR=2.1
comp=Z,6.0nm,1.0s
CHGR Chuyangaron 56.22 292 IAmb IAmb 04 11 36.7
comp=Z,22nm,0.9s
KULLO Kullorsuaq 56.59 8 *i*P P **04 11 36.1 -1.8**
KULLO IAmb IAmb 04 11 42.7
comp=Z,9.6nm,1.0s
NIL Nilore 56.68 285 P P **04 11 39.7 +0.4**
NIL IAmb IAmb 04 11 40.9
comp=Z,16nm,0.8s
NIL Nilore 56.68 285 P P **04 11 39.7 +0.4**
NIL pmax pmax
comp=Z,16nm,0.9s
EDM Edmonton 57.67 45 IAmb IAmb 04 11 47.8
comp=Z,13nm,1.0s
UPNV Upernavik 58.39 8 *i*P P **04 11 49.4 -1.0**
UPNV IAmb IAmb 04 11 50.2
comp=Z,9.2nm,1.0s
F07A Phinny Hill Vi 58.81 55 IAmb IAmb 04 11 56.8
comp=Z,16nm,0.7s
SUMG Summit 59.73 2 *i*P P **04 11 59.7 -0.3**
SUMG IAmb IAmb 04 12 01.2
comp=Z,15nm,1.1s
PLID Pearl Lake 61.46 53 P P **04 12 13.0 +1.2**
PLID IAmb IAmb 04 12 14.3
comp=Z,11nm,0.9s
FINES FINESS Array B 61.68 333 P P **04 12 11.9 -0.6**
comp=Z,7.6nm,0.7s,baz=35,slow=8.3,SNR=46
comp=Z,7.6nm,0.7s
FINES FINESS Array B 61.68 333 *i*P P **04 12 12.0 -0.6**
FINES pmax pmax
comp=Z,7.0nm,0.6s
FFC Flin Flon 61.77 38 P P **04 12 14.3 +1.0**
FFC IAmb IAmb 04 12 15.2
comp=Z,11nm,0.8s
FFC Flin Flon 61.77 38 P P **04 12 14.3 +1.0**
FFC pmax pmax
comp=Z,11nm,0.9s
FCC Fort Churchill 61.92 32 P P **04 12 14.2 0.0**
FCC IAmb IAmb 04 12 14.8
comp=Z,6.4nm,0.8s
FCC Fort Churchill 61.92 32 P P **04 12 14.2 0.0**
FCC pmax pmax
comp=Z,6.0nm,0.8s
EGMT Eagleton 62.77 48 P P **04 12 21.4 +1.3**
EGMT IAmb IAmb 04 12 22.5
comp=Z,15nm,1.1s
ICESG Greenland Ices 63.18 3 *i*P P **04 12 22.2 -0.5**
ICESG IAmb IAmb 04 12 23.7
comp=Z,12nm,1.0s
GEYT Alibeck 63.41 298 P P **04 12 24.5 +0.1**
comp=Z,3.3nm,0.8s,baz=52,slow=2.4,SNR=4.6
comp=Z,3.3nm,0.8s
BMN Battle Mountai 63.83 58 IAmb IAmb 04 12 29.8
comp=Z,4.2nm,0.7s
YMR Madison River 64.42 51 IAmb IAmb 04 12 34.0
comp=Z,6.7nm,0.8s
NVAR Mina Array Bea 64.54 60 P P **04 12 33.7 +1.8**
comp=Z,2.7nm,0.7s,baz=296,slow=6.5,SNR=15
comp=Z,2.7nm,0.7s
LKWY Lake 64.79 51 IAmb IAmb 04 12 37.5
comp=Z,6.5nm,0.9s
H17A Grant Village 64.81 51 IAmb IAmb 04 12 38.0
comp=Z,10nm,0.9s
MOOW Moose Ponds 65.16 52 IAmb IAmb 04 12 39.0
comp=Z,6.1nm,1.0s
REDW Red Top Meadow 65.37 52 IAmb IAmb 04 12 40.4
comp=Z,6.3nm,0.8s
HVU Hansel Valley 65.42 54 IAmb IAmb 04 12 40.2
comp=Z,5.3nm,0.9s
SPUT South Pronnonto 65.92 55 IAmb IAmb 04 12 43.4
comp=Z,5.7nm,0.8s
NB2 NORSAR Subarra 66.12 339 P P **04 12 40.7 -0.6**
comp=Z,1.4nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 66.12 339 P P **04 12 41.0 -0.2**
comp=Z,2.4nm,0.6s,baz=30,slow=6.7,SNR=11
comp=Z,2.4nm,0.6s
MNK Minsk 66.43 327 *i* P P **04 12 44.0 +0.8**
comp=E,3.0nm,1.0s
MNK *i* P P **04 12 44.0 +0.8**
comp=N,24nm,0.8s
MNK *i* P P **04 12 44.0 +0.8**
comp=Z,16nm,1.0s,baz=39
MNK *i* pP **pP** **04 14 06.3 +0.3**
MNK *i* PP **PP** **04 15 15.2 +0.5**
MNK *i* PPP PPP 04 17 19.1
MNK *i* S **S** **04 21 06.5 +4.9**
MNK *i* sS **sS** **04 23 29.1 +1.4**
MNK *i* SS **SS** **04 25 27.3 +1.4**
MNK *i* SSS SSS 04 28 44.5
MNK Minsk 66.43 327 *i* P P **04 12 44.0 +0.8**
MNK *i* *PP **pP** **04 14 06.2 +0.3**
MNK *i* 04 15 15.1
MNK *i* S **S** **04 21 06.5 +4.9**
MNK *i* SS **SS** **04 25 27.2 +1.4**
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,16nm,1.0s
MNK pmax pmax
comp=N,24nm,0.8s
SPR3 Spring Creek 3 66.44 58 IAmb IAmb 04 12 48.2
comp=Z,7.2nm,1.1s
BW06 Boulder Array 66.47 52 IAmb IAmb 04 12 46.3
comp=Z,6.5nm,0.7s
PD31 Pinedale Array 66.47 52 IAmb IAmb 04 12 46.3
comp=Z,5.9nm,0.8s
PDAR Pinedale Array 66.47 52 P P **04 12 45.4 +1.4**
comp=Z,5.1nm,0.6s,baz=294,slow=1.7,SNR=63
comp=Z,5.1nm,0.6s
TCUT Toone Canyon 66.62 54 IAmb IAmb 04 12 47.8
comp=Z,7.0nm,0.8s
GWY Greenwater Val 67.01 61 IAmb IAmb 04 12 49.9
comp=Z,6.5nm,0.8s
QSM Queen of Sheba 67.05 61 IAmb IAmb 04 12 50.0
comp=Z,7.9nm,0.8s
NLU North Lily Min 67.05 55 IAmb IAmb 04 12 50.9
comp=Z,7.5nm,0.9s
TCRU Three Creeks R 67.78 57 IAmb IAmb 04 13 00.7
comp=Z,5.2nm,0.7s
KBZ Khabaz 67.86 311 P P **04 12 52.9 +0.6**
comp=Z,2.5nm,0.9s,baz=297,slow=2.3,SNR=2.7
comp=Z,2.5nm,0.9s
KBZ Khabaz 67.86 311 *e*P P **04 12 52.9 +0.6**
TMUT Trail Mountain 67.99 55 IAmb IAmb 04 12 56.3
comp=Z,6.0nm,0.8s
P17A Butcher Ranch, 68.13 55 IAmb IAmb 04 12 57.1
comp=Z,9.4nm,1.0s
P18A Preston Nutter 68.29 55 IAmb IAmb 04 12 58.4
comp=Z,5.2nm,0.8s
MTPU Mont Peterson 68.32 57 IAmb IAmb 04 12 58.6
comp=Z,4.3nm,0.8s
RSSD Black Hills 68.35 48 P P **04 12 56.4 +0.8**
RSSD Black Hills 68.35 48 P P **04 12 56.4 +0.8**
RSSD pmax pmax
comp=Z,9.0nm,0.7s
LCMT Little Creek M 68.44 58 IAmb IAmb 04 12 59.6
comp=Z,6.1nm,1.2s
WB0 Warramunga Arr 68.55 194 P P **04 12 57.6 +0.8**
WB0 IAmb IAmb 04 12 57.9
comp=Z,5.4nm,0.6s
KNB Kanab 68.67 58 IAmb IAmb 04 13 00.9
comp=Z,8.2nm,1.0s
WRA Warramunga Arr 68.73 194 P P **04 12 58.6 +0.8**
comp=Z,3.6nm,0.6s,baz=9.0,slow=6.5,SNR=64
comp=Z,3.6nm,0.6s
U15A North Rim 69.39 58 IAmb IAmb 04 13 05.8
comp=Z,10.0nm,1.2s
N23A Red Feather La 69.70 51 IAmb IAmb 04 13 06.2
comp=Z,5.9nm,0.8s
B35A Bob, Littlefor 69.93 39 IAmb IAmb 04 13 06.0
comp=Z,7.5nm,0.8s
SMCO Snowmass 70.39 53 IAmb IAmb 04 13 12.5
comp=Z,5.3nm,0.9s
WUAZ Wupatki 70.56 58 IAmb IAmb 04 13 12.0
comp=Z,4.9nm,0.9s
MVCO Mesa Verde 70.97 55 IAmb IAmb 04 13 14.2
comp=Z,10nm,0.9s
DZM Mont Dzumac 71.44 163 P P **04 13 16.4 +2.2**
S22A 4UR Ranch, Cre 71.50 54 IAmb IAmb 04 13 17.9
comp=Z,5.6nm,0.9s
Q24A Divide 71.52 52 IAmb IAmb 04 13 17.1
comp=Z,5.0nm,0.8s
ECSD EROS Data Cent 72.21 44 IAmb IAmb 04 13 19.6
comp=Z,6.6nm,0.9s
SDCO Great Sand Dun 72.22 53 IAmb IAmb 04 13 21.6
comp=Z,6.1nm,1.1s
AS31 Alice Springs 72.45 194 P P **04 13 22.0 +2.0**
ASAR Alice Springs 72.45 194 P P **04 13 21.9 +1.9**
comp=Z,3.0nm,0.7s,baz=9.9,slow=6.0,SNR=28
comp=Z,3.3nm,0.7s
ASAR Alice Springs 72.45 194 P P **04 13 22.0 +1.9**
BUR08 Bucovina Ar. S 72.91 324 P P **04 13 22.8 +0.2**
T25A Trinidad 73.26 53 IAmb IAmb 04 13 27.3
comp=Z,6.3nm,0.9s
SCHQ Schefferville 73.37 21 P P **04 13 24.7 -0.3**
comp=Z,3.8nm,0.9s,baz=269,slow=0.7,SNR=3.7
comp=Z,3.8nm,0.9s
ANMO Albuquerque 73.75 56 P P **04 13 28.9 +1.1**
ANMO Albuquerque 73.75 56 *ce*P P **04 13 26.6 -1.2**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
DPC Dobruska-Polom 73.89 330 *e*P P **04 13 26.5 -1.7**
DPC Dobruska-Polom 73.89 330 *e*P P **04 13 26.5 -1.7**
CLL Collm 74.12 333 *i* P P **04 13 28.8 -0.6**
comp=Z,6.0nm,0.7s
CLL Collm 74.12 333 *i* P P **04 13 28.8 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.7s
VYHS Vyhne 74.61 328 *e*P P **04 13 32.4 +0.2**
VYHS Vyhne 74.61 328 *e*P P **04 13 32.4 +0.2**
121A Cookes Peak, D 74.77 58 IAmb IAmb 04 13 36.8
comp=Z,10nm,1.1s
KHC Kasperske Hory 75.84 331 *e*P P **04 13 39.2 0.0**
KHC Kasperske Hory 75.84 331 *e*P P **04 13 39.2 0.0**
CKRC Cesky Krumlov 75.88 331 *e*P P **04 13 39.5 +0.1**
GERES GERESS Array B 76.05 331 P P **04 13 40.2 -0.3**
comp=Z,0.9nm,0.6s,baz=36,slow=5.6,SNR=7.6
comp=Z,0.9nm,0.6s
MNTX Cornudas Mount 76.76 57 IAmb IAmb 04 13 47.2
comp=Z,5.1nm,0.9s
OK053 SW of W Deep R 78.09 49 IAmb IAmb 04 13 55.0
comp=Z,7.2nm,0.8s
TUL1 Leonard 78.68 48 IAmb IAmb 04 13 56.8
comp=Z,4.5nm,0.7s
TRQ Mont Tremblant 78.94 29 P P **04 13 56.6 +0.3**
U38A Gravette 78.96 47 IAmb IAmb 04 13 57.9
comp=Z,5.8nm,0.8s
HHAR Hobbs 79.31 47 IAmb IAmb 04 13 59.3
comp=Z,6.0nm,0.9s
TX32 Lajitas Array 79.50 58 IAmb IAmb 04 14 02.2
comp=Z,8.8nm,1.0s
TXAR Lajitas Array 79.50 58 P P **04 14 01.3 +1.6**
comp=Z,6.0nm,0.8s,baz=291,slow=4.2,SNR=63
comp=Z,6.0nm,0.8s
FCAR Ozark Folk Cen 80.50 46 IAmb IAmb 04 14 05.9
comp=Z,7.6nm,1.0s
MIAR Mount Ida 80.86 48 IAmb IAmb 04 14 08.7
comp=Z,8.0nm,0.8s
DBIC Dimbokro 120.87 329 PKP **PKPdf** **04 20 41.8 -0.1**
comp=Z,1.4nm,0.5s,baz=290,slow=1.9,SNR=4.7
VNDA Vanda 125.40 177 PKP **PKiKP** **04 20 49.5 +0.5**
comp=Z,0.7nm,0.6s,baz=27,slow=2.3,SNR=1.9
LPAZ La Paz 136.36 56 PKP **PKiKP** **04 21 12.6 -1.1**
comp=Z,0.8nm,0.7s,baz=28,slow=3.2,SNR=3.9
AC02 Maricunga 143.83 68 **PKPdf** **04 21 25.7 +0.7**
BDFB Brasilia 145.02 29 PKPbc **PKPab** **04 21 28.2 +0.6**
comp=Z,5.2nm,0.6s,baz=9.9,slow=2.3,SNR=11
BDFB Brasilia 145.02 29 PKPdf **PKPab** **04 21 27.7 +0.2**
BDFB Brasilia 145.02 29 PKIKP **PKPab** **04 21 27.7 +0.2**
AQDB Aquidauana 146.31 44 **PKPbc** **04 21 30.2 -0.4**
CPUP Villa Florida 150.36 53 PKPbc **PKiKP** **04 21 41.8 +0.4**
comp=Z,3.3nm,0.8s,baz=316,slow=4.2,SNR=6.5
PLCA Paso Flores 151.28 90 PKPbc **PKiKP** **04 21 44.1 +1.1**
comp=Z,4.5nm,0.7s,baz=253,slow=2.8,SNR=23

IDC 19 04:30:09.2±54.0, 19°28S×174°55W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1028.0km s-min=174.2km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.24**	**243**	P	P	P	04 37 56.6	+0.3
	1.8nm,0.7s,baz=90,slow=9.1,SNR=3.6							
	1.8nm,0.7s							
ASAR	**Alice Springs**	**47.97**	**255**	P	P	P	04 38 50.0	-0.2
	1.2nm,0.6s,baz=96,slow=7.5,SNR=19							
	1.2nm,0.6s							
WRA	**Warramunga Arr**	**48.00**	**260**	P	P	P	04 38 50.0	-0.4
	0.3nm,0.4s,baz=98,slow=8.1,SNR=12							
	0.3nm,0.4s							

*ROM **19** 04:46:27.9±0.1, 42°.583N±0°.005×13°.284E±0°.007, h10km, ML3.1/32, Error ellipse: s-maj=0.6km s-min=0.5km az=237.0*
*BEO **19** 04:46:28.4±0.9, 42°.54N×13°.24E, h0km±5km, ML3.5/7*
*PRU **19** 04:46:31.9±0.0, 42°.76N×13°.34E, h0km*

ISC 19 04:46:28.9±0.8, 42°.59N±0°.02×13°.29E±0°.02, h8km±5km, n83,σ1$47/111, 24C-15D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.06**	**40**	⇑P	**Pg**	**Pg**	**04 46 30.2**	**-0.6**
SMA1				S	**Sg**	**Sg**	**04 46 31.3**	**-0.8**
SMA1				AML	AML			
SMA1				AML	AML			
SMA1				AML	AML			
SMA1				AML	AML			
CAMP	**Campotosto**	**0.10**	**120**	⇑P	**Pg**	**Pg**	**04 46 31.0**	**-0.4**
CAMP				S	**Sg**	**Sg**	**04 46 32.9**	**-0.3**
CAMP				AML	AML			
	comp=E,16490μm,0.6s							
CAMP				AML	AML			
	comp=N,15400μm,1.2s							
CAMP				AML	AML			
	comp=E,16454μm,0.2s							
CAMP				AML	AML			
	comp=N,15177μm,0.3s							
T1247	**Pizzolo (AQ)**	**0.15**	**177**	⇑P	**Pg**	**Pg**	**04 46 32.0**	**0.0**
T1247				S	**Sg**	**Sg**	**04 46 35.1**	**+0.9**
T1247				AML	AML			
	comp=E,18950μm,1.1s							
T1247				AML	AML			
	comp=N,24650μm,0.3s							
T1247				AML	AML			
	comp=N,24643μm,0.3s							
T1247				AML	AML			
	comp=E,18133μm,0.6s							
LNSS	**Leonessa**	**0.18**	**275**	⇑P	**Pg**	**Pg**	**04 46 32.5**	**-0.1**
LNSS				S	**Sg**	**Sg**	**04 46 36.0**	**+0.7**
LNSS				AML	AML			
	comp=E,17750μm,0.5s							
LNSS				AML	AML			
	comp=N,12750μm,0.6s							
LNSS				AML	AML			
	comp=N,12750μm,1.4s							
LNSS				AML	AML			
	comp=N,12144μm,0.3s							
LNSS				AML	AML			
	comp=E,17781μm,0.5s							
GIGS	**Gran Sasso**	**0.25**	**124**	⇑P	**Pg**	**Pg**	**04 46 33.3**	**-0.6**
GIGS				S	**Sg**	**Sg**	**04 46 37.4**	**+0.2**
GIGS				AML	AML			
	comp=N,1088μm,1.5s							
GIGS				AML	AML			
	comp=N,1088μm,0.5s							
GIGS				AML	AML			
	comp=E,1540μm,0.4s							
GIGS				AML	AML			
	comp=E,1540μm,0.4s							
GIGS				AML	AML			
	comp=N,985μm,0.2s							
FIAM	**Fiamignano**	**0.34**	**202**	⇑P	**Pg**	**Pg**	**04 46 35.4**	**-0.3**
FIAM				AML	AML			
	comp=E,2305μm,0.5s							
FIAM				AML	AML			
	comp=N,1895μm,1.0s							
FIAM				AML	AML			
	comp=N,1895μm,1.0s							
FIAM				AML	AML			
	comp=N,1898μm,1.0s							
ARRO	**Arrone**	**0.39**	**269**	⇑P	**Pg**	**Pg**	**04 46 36.0**	**-0.4**
ARRO				S	**Sg**	**Sg**	**04 46 41.5**	**0.0**
ARRO				AML	AML			
	comp=E,2730μm,1.4s							
ARRO				AML	AML			
	comp=N,3675μm,1.1s							
ARRO				AML	AML			
	comp=N,3638μm,0.2s							
ARRO				AML	AML			
	comp=E,2712μm,0.3s							
FEMA	**Monte Fema**	**0.41**	**335**	P	**Pg**	**Pg**	**04 46 36.3**	**-0.6**
FEMA				S	**Sg**	**Sg**	**04 46 42.7**	**+0.3**
FEMA				AML	AML			
	comp=E,6325μm,1.1s							
FEMA				AML	AML			
	comp=N,5265μm,0.5s							
FEMA				AML	AML			
	comp=E,6325μm,1.1s							
FEMA				AML	AML			
	comp=N,5265μm,0.5s							
FEMA				AML	AML			
	comp=N,5265μm,1.5s							
FEMA				AML	AML			
	comp=E,4851μm,0.2s							
FEMA				AML	AML			
	comp=N,5263μm,0.5s							
OFFI	**Offida**	**0.45**	**40**	⇑P	**Pg**	**Pg**	**04 46 37.7**	**0.0**
OFFI				S	**Sb**	**Sb**	**04 46 46.0**	**0.0**
OFFI				AML	AML			
	comp=E,7410μm,0.5s							
OFFI				AML	AML			
	comp=N,8240μm,0.7s							
OFFI				AML	AML			
	comp=E,7409μm,0.5s							
OFFI				AML	AML			
	comp=N,8241μm,0.7s							
GUMA	**Gualdo di Mace**	**0.47**	**4**	⇑P	**Pg**	**Pg**	**04 46 37.6**	**-0.5**
GUMA				S	**Sg**	**Sg**	**04 46 45.4**	**+1.0**
GUMA				AML	AML			
	comp=N,8445μm,0.3s							
GUMA				AML	AML			
	comp=E,9025μm,0.9s							
GUMA				AML	AML			
	comp=N,10285μm,0.4s							
GUMA				AML	AML			
	comp=N,10285μm,1.6s							
GUMA				AML	AML			
	comp=E,9595μm,0.5s							
GUMA				AML	AML			
	comp=E,9025μm,1.1s							
GUMA				AML	AML			
	comp=N,8445μm,1.7s							
GUMA				AML	AML			
	comp=E,7849μm,0.3s							
GUMA				AML	AML			
	comp=N,10277μm,0.4s							
GUMA				AML	AML			
	comp=E,9595μm,0.5s							
GUMA				AML	AML			
	comp=N,8429μm,0.3s							
CESI	**CESI - Serrava**	**0.50**	**326**	⇑P	**Pg**	**Pg**	**04 46 37.8**	**-0.8**
CESI				S	**Sg**	**Sg**	**04 46 45.8**	**+0.6**
CESI				AML	AML			
	comp=E,2475μm,0.6s							
CESI				AML	AML			
	comp=N,2315μm,0.7s							
CESI				AML	AML			
	comp=E,2475μm,1.4s							
CESI				AML	AML			
	comp=E,1404μm,0.1s							
CESI				AML	AML			
	comp=N,2300μm,0.3s							
CSP1	**Cessapalombo**	**0.51**	**353**	⇑P	**Pg**	**Pg**	**04 46 37.8**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CSP1				S	Sg	04 46 45.9	+0.5
CSP1				AML	AML		
	comp=E,3265µm,1.5s						
CSP1				AML	AML		
	comp=E,3260µm,1.5s						
CSP1				AML	AML		
	comp=N,4015µm,0.4s						
CSP1				AML	AML		
	comp=E,3260µm,0.5s						
CSP1				AML	AML		
	comp=N,4015µm,1.6s						
CSP1				AML	AML		
	comp=E,3191µm,0.3s						
CSP1				AML	AML		
	comp=N,4016µm,0.4s						
TRTR	**Tortoreto Alta**	**0.51**	**64**	P	**Pg**	**04 46 38.9**	**+0.2**
TRTR				AML	AML		
	comp=E,5515µm,1.2s						
TRTR				AML	AML		
	comp=N,5430µm,0.3s						
TRTR				AML	AML		
	comp=E,5515µm,0.8s						
TRTR				AML	AML		
	comp=N,5430µm,1.7s						
TRTR				AML	AML		
	comp=N,5427µm,0.3s						
CESX	**Cesi**	**0.52**	**273**	⇑P	**Pg**	**04 46 38.1**	**-0.8**
CESX				S	**Sg**	**04 46 46.3**	**+0.5**
CESX				AML	AML		
	comp=E,1965µm,0.6s						
CESX				AML	AML		
	comp=N,2610µm,0.5s						
CESX				AML	AML		
	comp=N,2610µm,1.5s						
CESX				AML	AML		
	comp=E,1889µm,0.2s						
CESX				AML	AML		
	comp=N,2610µm,0.5s						
T1220	**Camerino, Fraz**	**0.54**	**344**	⇑P	**Pg**	**04 46 38.4**	**-1.0**
T1220				S	**Sb**	**04 46 47.7**	**-0.8**
T1220				AML	AML		
	comp=N,11850µm,0.2s						
T1220				AML	AML		
	comp=E,8815µm,0.3s						
T1220				AML	AML		
	comp=E,8820µm,0.3s						
T1220				AML	AML		
	comp=N,11850µm,0.2s						
T1220				AML	AML		
	comp=E,8855µm,0.3s						
T1220				AML	AML		
	comp=N,11884µm,0.2s						
T1220				AML	AML		
	comp=E,8818µm,0.3s						
T1220				AML	AML		
	comp=E,8858µm,0.3s						
T1220				AML	AML		
	comp=N,11848µm,0.2s						
MNTP	**Montappone**	**0.56**	**14**	P	**Pg**	**04 46 37.6**	**-2.2**
MNTP				AML	AML		
	comp=E,12150µm,0.5s						
MNTP				AML	AML		
	comp=N,8645µm,1.0s						
MOMA	**Monte Martano**	**0.57**	**292**	⇓P	**Pg**	**04 46 39.2**	**-0.7**
MOMA				AML	AML		
	comp=E,5440µm,0.2s						
MOMA				AML	AML		
	comp=N,3055µm,0.8s						
MOMA				AML	AML		
	comp=E,5655µm,0.2s						
MOMA				AML	AML		
	comp=N,3055µm,0.8s						
MOMA				AML	AML		
	comp=N,3160µm,1.5s						
MOMA				AML	AML		
	comp=N,3055µm,1.2s						
MOMA				AML	AML		
	comp=N,3160µm,0.5s						
MOMA				AML	AML		
	comp=N,2948µm,0.2s						
MOMA				AML	AML		
	comp=N,2940µm,0.2s						
MOMA				AML	AML		
	comp=E,5439µm,0.2s						
MOMA				AML	AML		
	comp=E,5654µm,0.2s						
PTQR	**Pietraquaria**	**0.57**	**172**	⇑P	**Pg**	**04 46 39.0**	**-0.9**
PTQR				AML	AML		
	comp=E,554µm,1.1s						
PTQR				AML	AML		
	comp=N,480µm,1.4s						
PTQR				AML	AML		
	comp=E,554µm,0.9s						
PTQR				AML	AML		
	comp=N,480µm,0.6s						
SEF1	**Sefro**	**0.61**	**336**	⇓P	**Pg**	**04 46 39.8**	**-0.9**
SEF1				S	**Sg**	**04 46 49.3**	**+0.6**
SEF1				AML	AML		
	comp=E,2508µm,0.2s						
SEF1				AML	AML		
	comp=N,2271µm,0.2s						
ASSB	**Assisi San Ben**	**0.65**	**315**	⇓P	**Pg**	**04 46 40.4**	**-1.0**
ASSB				AML	AML		
	comp=E,1445µm,0.1s						
ASSB				AML	AML		
	comp=N,2025µm,1.1s						
ASSB				AML	AML		
	comp=N,2025µm,0.9s						
ASSB				AML	AML		
	comp=N,1578µm,0.3s						
ASSB				AML	AML		
	comp=E,1444µm,0.1s						
GAG1	**Gagliole**	**0.67**	**346**	⇓P	**Pg**	**04 46 41.2**	**-0.6**
GAG1				AML	AML		
	comp=E,3089µm,0.3s						
GAG1				AML	AML		
	comp=N,4708µm,0.3s						
SRES	**S.Oreste - Sor**	**0.67**	**239**	⇑P	**Pg**	**04 46 41.5**	**-0.4**
SRES				AML	AML		
	comp=E,928µm,0.3s						
SRES				AML	AML		
	comp=N,810µm,0.8s						
SRES				AML	AML		
	comp=E,927µm,0.3s						
SRES				AML	AML		
	comp=N,792µm,0.3s						
CERT	**Cerreto**	**0.68**	**200**	⇑P	**Pg**	**04 46 41.1**	**-0.8**
CERT				AML	AML		
	comp=E,1480µm,0.4s						
CERT				AML	AML		
	comp=N,1240µm,0.4s						
CERT				AML	AML		
	comp=N,1240µm,1.6s						
CERT				AML	AML		
	comp=N,1240µm,0.4s						
MTCE	**Montecelio**	**0.69**	**216**	P	**Pg**	**04 46 41.2**	**-1.1**
MTCE				AML	AML		
	comp=N,638µm,1.4s						
MTCE				AML	AML		
	comp=E,1380µm,0.4s						
MTCE				AML	AML		
	comp=N,638µm,0.6s						
MTCE				AML	AML		
	comp=E,1381µm,0.4s						
SNTG	**Esanatoglia**	**0.71**	**339**	P	**Pg**	**04 46 41.4**	**-1.2**
SNTG				S	**Sg**	**04 46 52.8**	**+0.8**
SNTG				AML	AML		
	comp=E,773µm,0.1s						
SNTG				AML	AML		
	comp=N,1055µm,0.4s						
SNTG				AML	AML		
	comp=N,1095µm,0.3s						
SNTG				AML	AML		
	comp=E,782µm,0.4s						
SNTG				AML	AML		
	comp=N,792µm,0.3s						
SNTG				AML	AML		
	comp=E,783µm,0.4s						
SNTG				AML	AML		
	comp=E,773µm,0.1s						
EL6	**Elcito**	**0.75**	**350**	⇑P	**Pg**	**04 46 42.2**	**-1.2**
EL6				S	**Sb**	**04 46 55.0**	**+0.3**
EL6				AML	AML		
	comp=N,2460µm,0.7s						
EL6				AML	AML		
	comp=E,2220µm,0.3s						
EL6				AML	AML		
	comp=N,2447µm,0.4s						
EL6				AML	AML		
	comp=E,2222µm,0.3s						
CING	**Cingoli**	**0.79**	**355**	⇓P	**Pg**	**04 46 42.9**	**-1.1**
CING				AML	AML		
	comp=E,1950µm,0.1s						
CING				AML	AML		
	comp=N,1960µm,0.4s						
CING				AML	AML		
	comp=N,1960µm,0.4s						
CING				AML	AML		
	comp=E,1949µm,0.1s						
FOSV	**Fossato di Vic**	**0.81**	**331**	⇓P	**Pg**	**04 46 43.2**	**-1.1**
FOSV				AML	AML		
	comp=E,876µm,0.6s						
PP3	**Marolino**	**0.82**	**17**	⇓P	**Pg**	**04 46 44.5**	**-0.2**
PP3				AML	AML		
	comp=E,4195µm,0.6s						
PP3				AML	AML		
	comp=N,3480µm,1.3s						
PP3				AML	AML		
	comp=E,4225µm,0.7s						
PP3				AML	AML		
	comp=N,3730µm,1.3s						
PP3				AML	AML		
	comp=E,4195µm,1.4s						
PP3				AML	AML		
	comp=E,4225µm,1.3s						
PP3				AML	AML		
	comp=N,3480µm,0.7s						
PP3				AML	AML		
	comp=N,3730µm,0.7s						
PP3				AML	AML		
	comp=E,4225µm,0.7s						
PP3				AML	AML		
	comp=E,4195µm,0.6s						
PP3				AML	AML		
	comp=N,3422µm,0.5s						
PP3				AML	AML		
	comp=N,3219µm,0.4s						
SSFR	**Montelago di S**	**0.93**	**337**	⇓P	**Pg**	**04 46 45.4**	**-1.2**
SSFR				AML	AML		
	comp=N,1910µm,0.2s						
SSFR				AML	AML		
	comp=E,1880µm,0.2s						
SSFR				AML	AML		
	comp=E,1890µm,1.0s						
SSFR				AML	AML		
	comp=N,1870µm,0.2s						
SSFR				AML	AML		
	comp=E,1878µm,0.2s						
SSFR				AML	AML		
	comp=E,1876µm,0.2s						
SSFR				AML	AML		
	comp=N,1871µm,0.2s						
SSFR				AML	AML		
	comp=N,1775µm,0.1s						
ARVD	**Arcevia**	**0.94**	**345**	⇓P	**Pg**	**04 46 45.8**	**-1.2**
ARVD				S	**Sb**	**04 47 00.8**	**+0.6**
ARVD				AML	AML		
	comp=E,766µm,0.7s						
ARVD				AML	AML		
	comp=N,566µm,0.4s						
ARVD				AML	AML		
	comp=E,408µm,0.2s						
ARVD				AML	AML		
	comp=N,303µm,0.2s						
AOI	**Ancona**	**0.99**	**13**	P	**Pg**	**04 46 47.1**	**-0.8**
AOI				AML	AML		
	comp=E,920µm,1.4s						
AOI				AML	AML		
	comp=N,1075µm,1.1s						
AOI				AML	AML		
	comp=N,1075µm,0.9s						
AOI				AML	AML		
	comp=E,920µm,0.6s						
AOI				AML	AML		
	comp=N,1075µm,1.1s						
AOI				AML	AML		
	comp=E,911µm,0.1s						
FRON	**Frontone**	**1.02**	**336**	⇑P	**Pg**	**04 46 46.3**	**-2.1**
FRON				AML	AML		
	comp=E,688µm,0.5s						
FRON				AML	AML		
	comp=N,675µm,0.5s						
FRON				AML	AML		
	comp=N,675µm,0.5s						
FRON				AML	AML		
	comp=E,689µm,0.5s						
GIUL	**Giuliano Di Ro**	**1.03**	**181**	⇓P	**Pn**	**04 46 49.8**	**+0.2**
COR1	**Corinaldo**	**1.06**	**349**	P	**Pg**	**04 46 49.2**	**-0.1**
COR1				AML	AML		
	comp=E,966µm,1.6s						
COR1				AML	AML		
	comp=N,1625µm,1.2s						
COR1				AML	AML		
	comp=E,966µm,0.4s						
COR1				AML	AML		
	comp=N,1625µm,0.8s						
COR1				AML	AML		
	comp=E,962µm,0.5s						
PIEI	**Pieia**	**1.10**	**330**	⇑P	**Pg**	**04 46 48.6**	**-1.3**
PIEI				AML	AML		
	comp=E,619µm,0.3s						
PIEI				AML	AML		
	comp=N,748µm,0.4s						
PIEI				AML	AML		
	comp=N,748µm,0.4s						
PIEI				AML	AML		
	comp=E,619µm,0.3s						
LATB	**Latina**	**1.12**	**193**	⇑P	**Pn**	**04 46 51.1**	**+0.3**
CAFI	**Castiglion Fio**	**1.22**	**308**	⇓P	**Pg**	**04 46 51.8**	**-0.5**
CAFI				AML	AML		
	comp=E,280µm,0.6s						
CAFI				AML	AML		
	comp=N,268µm,0.7s						
CAFI				AML	AML		
	comp=E,266µm,0.8s						
CAFI				AML	AML		
	comp=N,276µm,0.7s						
CAFI				AML	AML		
	comp=E,266µm,1.2s						
CAFI				AML	AML		
	comp=N,276µm,1.3s						
CAFI				AML	AML		
	comp=N,268µm,1.3s						
CAFI				AML	AML		
	comp=E,267µm,0.8s						
CAFI				AML	AML		
	comp=N,267µm,0.7s						
CAFI				AML	AML		
	comp=N,276µm,0.7s						
CAFI				AML	AML		
	comp=E,280µm,0.6s						
PE3	**Peglio**	**1.25**	**333**	P	**Pg**	**04 46 51.8**	**-1.1**
PE3				AML	AML		
	comp=N,4µm,0.5s						
PE3				AML	AML		
	comp=E,1539µm,0.4s						
RUFI	**Rufina**	**1.80**	**315**	⇑P	**Pn**	**04 47 00.5**	**+0.3**
PII	**Pisa**	**2.32**	**300**	⇑P	**Pb**	**04 47 10.7**	**-0.2**
FIU	**Minerbio Fiu**	**2.43**	**328**	S	**Sg**	**04 47 45.1**	**-1.8**
CARD	**Cardoso**	**2.50**	**306**	S	**Sn**	**04 47 40.7**	**+0.2**
STON	**Ston**	**3.26**	**84**	*e*Pn	**Pn**	**04 47 20.5**	**+0.2**
STON				*e*Sn	**Sn**	**04 47 59.7**	**+0.5**
ROVR	**Rover Verones**	**3.45**	**333**	⇓P	**Pn**	**04 47 22.9**	**0.0**
DOSS	**Dosso del Somm**	**3.62**	**336**	⇑P	**Pn**	**04 47 26.3**	**+1.0**
SALO	**Salr**	**3.62**	**328**	⇓P	**Pn**	**04 47 26.3**	**+1.0**
CTI	**Castel Tesino**	**3.65**	**342**	⇓P	**Pn**	**04 47 26.2**	**+0.4**
TREB	**Trebinje**	**3.74**	**86**	*e*Pn	**Pn**	**04 47 27.7**	**+0.9**
TREB				*e*Sn	**Sn**	**04 48 10.8**	**-0.2**
LUSI	**Trento, Gardas**	**3.77**	**334**	P	**Pn**	**04 47 27.4**	**+0.1**
OBKA	**Obir**	**4.02**	**13**	*e*Pn	**Pn**	**04 47 30.9**	**+0.1**
	comp=E,0.9nm,0.1s						
MYKA	**Terra Mystica**	**4.05**	**3**	Pn	**Pn**	**04 47 32.7**	**+1.6**
	comp=E,1.3nm,0.2s						
IST3	**Stromboli F**	**4.06**	**158**	⇑P	**Pn**	**04 47 36.0**	**+4.7**
ISTR	**Stromboli Gino**	**4.06**	**159**	S	**Sn**	**04 48 11.8**	**-7.2**
APPI	**Appiano**	**4.16**	**340**	⇓P	**Pn**	**04 47 33.6**	**+0.9**
ABTA	**Abfaltersbach**	**4.20**	**353**	*e*Pn	**Pn**	**04 47 34.0**	**+0.8**
	comp=E,15nm,0.5s						
ABTA				*e*Sn	**Sn**	**04 48 22.4**	**0.0**
	comp=E,5.0nm,0.5s						
SOKA	**Soboth**	**4.27**	**16**	*e*Pn	**Pn**	**04 47 36.0**	**+1.7**
	comp=E,0.8nm,0.2s						
PDG	**Podgorica**	**4.42**	**90**	*e*Pn	**Pn**	**04 47 36.4**	**+0.3**
PDG				*e*Sn	**Sn**	**04 48 29.2**	**+1.5**
KBA	**Koelnbreinsper**	**4.49**	**0**	*e*Pn	**Pn**	**04 47 38.0**	**+0.7**
	comp=E,0.6nm,0.3s						
FETA	**Feichten**	**4.79**	**339**	*e*Sn	**Sn**	**04 48 39.9**	**+2.7**
	comp=E,1.9nm,0.4s						
WTTA	**Wattenberg**	**4.82**	**346**	*e*Pn	**Pn**	**04 47 44.0**	**+2.1**
	comp=E,2.1nm,0.3s						
SQTA	**Sankt Quirin**	**4.86**	**343**	*i* Pn	**Pn**	**04 47 44.1**	**+1.7**
	comp=E,1.6nm,0.2s						
SQTA				*e*Sn	**Sn**	**04 48 41.2**	**+2.4**
	comp=E,3.8nm,0.2s						
WATA	**Walderalm**	**4.90**	**346**	*e*Pn	**Pn**	**04 47 45.9**	**+3.0**
	comp=E,1.2nm,0.2s						
ARSA	**Arzberg**	**4.92**	**18**	*e*Pn	**Pn**	**04 47 45.3**	**+2.2**
	comp=E,2.8nm,0.6s						
SJES	**Sjenica**	**4.96**	**80**	*e*Pn	**Pn**	**04 47 44.5**	**+0.8**
SJES				*e*Sn	**Sn**	**04 48 41.8**	**+0.6**
MOTA	**Moosalm**	**5.00**	**343**	*e*Pn	**Pn**	**04 47 46.5**	**+2.2**
	comp=E,0.5nm,0.2s						
MOTA				*e*Sn	**Sn**	**04 48 45.3**	**+3.0**
	comp=E,1.8nm,0.2s						
BIOA	**Bad Ischl, Aus**	**5.11**	**3**	*e*Pn	**Pn**	**04 47 46.6**	**+0.9**
	comp=E,1.0nm,0.3s						
IVAS	**Ivanjica**	**5.12**	**77**	*e*Pn	**Pn**	**04 47 46.7**	**+0.8**
IVAS				*e*Sn	**Sn**	**04 48 44.1**	**-1.2**
RETA	**Reutte**	**5.21**	**341**	*e*Pn	**Pn**	**04 47 49.0**	**+1.9**
	comp=E,1.3nm,0.3s						
DAVA	**Damuels**	**5.28**	**334**	*e*Pn	**Pn**	**04 47 50.6**	**+2.4**
	comp=E,1.1nm,0.2s						
MOA	**Molln**	**5.31**	**7**	*e*Pn	**Pn**	**04 47 49.8**	**+1.5**
	comp=E,1.0nm,0.3s						
MOA	**Molln**	**5.31**	**7**	*e*Pn	**Pn**	**04 47 50.1**	**+1.7**
MOA				*e*Sn	**Sn**	**04 48 49.1**	**-0.6**
TRUS	**Trudelj**	**5.44**	**70**	*e*Pn	**Pn**	**04 47 50.7**	**+0.5**
RONA	**Rosalia, Austr**	**5.54**	**22**	*e*Pn	**Pn**	**04 47 52.7**	**+1.1**
	comp=E,1.5nm,0.2s						
GRUS	**Gruza**	**5.58**	**74**	*e*Sn	**Sn**	**04 48 57.6**	**+1.2**
CONA	**Conrad Observa**	**5.64**	**18**	*e*Pn	**Pn**	**04 47 53.3**	**+0.3**
	comp=E,0.5nm,0.1s						
SELS	**Selova**	**5.79**	**81**	*e*Pn	**Pn**	**04 47 55.4**	**+0.4**
OHR	**Ohrid**	**5.80**	**102**	*e*Pn	**Pn**	**04 47 56.7**	**+1.5**
CKRC	**Cesky Krumlov**	**6.27**	**6**	*e*SN	**Sn**	**04 49 10.9**	**-2.6**
FNA	**Florina**	**6.32**	**104**	*e*Pn	**Pn**	**04 48 01.2**	**-1.1**
FNA				*e*Sn	**Sn**	**04 49 13.3**	**-1.4**
KHC	**Kasperske Hory**	**6.55**	**2**	*e*PN	**Pn**	**04 48 06.6**	**+1.2**
KHC				*e*SN	**Sn**	**04 49 16.2**	**-4.0**
ZAGS	**Zajecar**	**6.65**	**76**	*e*Pn	**Pn**	**04 48 06.3**	**-0.5**
ZAPS	**Zavoj**	**6.89**	**81**	*e*Sn	**Sn**	**04 49 27.7**	**-1.1**

*ROM **19** 05:12:14.9±0.1, 42°.508N±0°.003×13°.265E±0°.006, h15km±1km, ML2.9/30, Error ellipse: s-maj=0.4km s-min=0.2km az=257.0*

*BEO **19** 05:12:15.6±0.9, 42°.43N×13°.20E, h9km, ML3.5/7*

ISC 19 05:12:15.5±0.8**, 42°.50N**±0°.02×**13°.25E**±0°.02**, h12**km±5km**, n60, σ1**§**16**/83**, 19C-8D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.07**	**148**	P	**Pg**	**05 12 18.0**	**-0.1**
T1247				S	**Sg**	**05 12 20.5**	**+0.4**
T1247				AML	AML		
	comp=E,46250µm,1.0s						
T1247				AML	AML		
	comp=N,79250µm,0.1s						
T1247				AML	AML		
	comp=E,46250µm,1.0s						
CAMP	**Campotosto**	**0.12**	**74**	P	**Pg**	**05 12 18.3**	**-0.6**
CAMP				S	**Sg**	**05 12 21.7**	**+0.4**
CAMP				AML	AML		
	comp=E,16800µm,0.5s						
CAMP				AML	AML		
	comp=E,16800µm,1.5s						
CAMP				AML	AML		
	comp=N,25450µm,0.4s						
SMA1	**SAN MARTINO**	**0.14**	**27**	P	**Pg**	**05 12 18.6**	**-0.5**
SMA1				S	**Sg**	**05 12 21.6**	**-0.2**
SMA1				AML	AML		
SMA1				AML	AML		
LNSS	**Leonessa**	**0.18**	**303**	AML	AML		
	comp=E,29650µm,0.2s						
LNSS				AML	AML		
	comp=N,21400µm,0.6s						
LNSS				AML	AML		
	comp=N,21400µm,1.4s						
GIGS	**Gran Sasso**	**0.24**	**102**	P	**Pg**	**05 12 19.9**	**-0.8**
GIGS				S	**Sg**	**05 12 24.0**	**-0.2**
GIGS				AML	AML		
	comp=E,1470µm,0.5s						
GIGS				AML	AML		
	comp=N,1685µm,0.6s						
FIAM	**Fiamignano**	**0.25**	**203**	⇑P	**Pb**	**05 12 21.0**	**-1.1**
FIAM				S	**Sg**	**05 12 25.5**	**+1.0**
FIAM				AML	AML		
	comp=N,6105µm,0.2s						
FIAM				AML	AML		
	comp=E,11565µm,0.3s						
ARRO	**Arrone**	**0.36**	**282**	⇑P	**Pg**	**05 12 22.7**	**-0.1**
ARRO				S	**Sb**	**05 12 28.6**	**-0.9**
ARRO				AML	AML		
	comp=E,3670µm,0.2s						
ARRO				AML	AML		
	comp=N,4305µm,0.2s						
PTQR	**Pietraquaria**	**0.49**	**167**	⇑P	**Pg**	**05 12 24.6**	**-0.6**
PTQR				S	**Sb**	**05 12 32.2**	**-1.1**
PTQR				AML	AML		
	comp=E,667µm,1.1s						
PTQR				AML	AML		
	comp=N,617µm,0.5s						
PTQR				AML	AML		
	comp=E,667µm,0.9s						
CESX	**Cesi**	**0.51**	**283**	⇑P	**Pg**	**05 12 24.9**	**-0.5**
CESX				S	**Sb**	**05 12 33.0**	**-0.6**
CESX				AML	AML		
	comp=E,1345µm,0.3s						
CESX				AML	AML		
	comp=N,1430µm,0.3s						
OFFI	**Offida**	**0.54**	**37**	⇑P	**Pg**	**05 12 25.8**	**-0.3**
OFFI				S	**Sb**	**05 12 35.5**	**+0.9**
OFFI				AML	AML		
	comp=N,3695µm,0.4s						
OFFI				AML	AML		
	comp=E,3530µm,0.4s						
OFFI				AML	AML		
	comp=E,3530µm,1.6s						
CESI	**CESI - Serrava**	**0.56**	**333**	⇑P	**Pg**	**05 12 25.8**	**-0.8**
CESI				S	**Sg**	**05 12 34.5**	**+0.4**
CESI				AML	AML		
	comp=N,3165µm,0.9s						
CESI				AML	AML		
	comp=E,2155µm,0.9s						
CESI				AML	AML		
	comp=E,2155µm,1.1s						
CESI				AML	AML		
	comp=N,3165µm,1.1s						
GUMA	**Gualdo di Mace**	**0.56**	**7**	⇑P	**Pg**	**05 12 25.9**	**-0.7**
GUMA				S	**Sg**	**05 12 34.9**	**+0.8**
GUMA				AML	AML		
	comp=E,4605µm,0.4s						
GUMA				AML	AML		
	comp=E,4815µm,1.5s						
GUMA				AML	AML		
	comp=E,4815µm,0.5s						
GUMA				AML	AML		
	comp=N,4350µm,0.3s						
GUMA				AML	AML		
	comp=N,3945µm,0.3s						
TRTR	**Tortoreto Alta**	**0.58**	**58**	⇓P	**Pg**	**05 12 26.9**	**+0.1**
TRTR				AML	AML		
	comp=N,2920µm,0.4s						
TRTR				AML	AML		
	comp=E,2275µm,1.0s						
MOMA	**Monte Martano**	**0.58**	**301**	P	**Pg**	**05 12 26.3**	**-0.6**
MOMA				S	**Sb**	**05 12 35.8**	**-0.1**
MOMA				AML	AML		
	comp=N,1675µm,0.7s						
MOMA				AML	AML		
	comp=N,1725µm,0.2s						
MOMA				AML	AML		
	comp=E,1990µm,0.2s						
MOMA				AML	AML		
	comp=N,1675µm,1.3s						
MOMA				AML	AML		
	comp=E,1905µm,0.2s						
CERT	**Cerreto**	**0.59**	**200**	⇑P	**Pg**	**05 12 26.4**	**-0.6**
CERT				S	**Sb**	**05 12 35.6**	**-0.3**

CERT					AML	AML		
	comp=N,1022µm,0.7s							
CERT					AML	AML		
	comp=N,1022µm,1.3s							
CERT					AML	AML		
	comp=E,1285µm,0.4s							
CSP1	**Cessapalombo**	**0.59**	**357**	P	**Pg**		**05 12 26.1**	**-1.0**
CSP1				S	**Sg**		**05 12 35.1**	**+0.2**
CSP1				AML	AML			
	comp=E,1515µm,1.5s							
CSP1				AML	AML			
	comp=E,1510µm,1.5s							
CSP1				AML	AML			
	comp=N,2015µm,0.2s							
CSP1				AML	AML			
	comp=E,1510µm,0.5s							
SRES	**S.Oreste - Sor**	**0.61**	**244**	⇑P	**Pg**		**05 12 27.0**	**-0.4**
SRES				AML	AML			
	comp=E,583µm,0.8s							
SRES				AML	AML			
	comp=N,580µm,0.6s							
SRES				AML	AML			
	comp=E,583µm,1.2s							
MTCE	**Montecelio**	**0.61**	**218**	⇑P	**Pg**		**05 12 26.7**	**-0.7**
MTCE				AML	AML			
	comp=N,642µm,0.7s							
MTCE				AML	AML			
	comp=E,825µm,1.6s							
MTCE				AML	AML			
	comp=E,825µm,0.4s							
T1220	**Camerino, Fraz**	**0.62**	**349**	⇑P	**Pg**		**05 12 26.6**	**-1.0**
T1220				S	**Sg**		**05 12 36.2**	**+0.4**
T1220				AML	AML			
	comp=E,5560µm,0.3s							
T1220				AML	AML			
	comp=N,5550µm,0.5s							
T1220				AML	AML			
	comp=E,5590µm,0.3s							
T1220				AML	AML			
	comp=N,5420µm,0.5s							
T1220				AML	AML			
	comp=E,5595µm,0.3s							
T1220				AML	AML			
	comp=N,5420µm,0.5s							
T1220				AML	AML			
	comp=E,5560µm,0.3s							
RCAV	**Rocca di Cave**	**0.69**	**199**	P	**Pn**		**05 12 31.1**	**-0.1**
ASSB	**Assisi San Ben**	**0.69**	**321**	⇑P	**Pg**		**05 12 28.2**	**-0.8**
ASSB				AML	AML			
	comp=E,728µm,0.2s							
ASSB				AML	AML			
	comp=N,1255µm,0.2s							
GUAR	**Guarcino**	**0.71**	**176**	P	**Pb**		**05 12 28.9**	**-0.9**
GUAR				AML	AML			
	comp=E,722µm,1.1s							
GUAR				AML	AML			
	comp=N,1110µm,0.5s							
SNTG	**Esanatoglia**	**0.79**	**343**	P	**Pg**		**05 12 29.5**	**-1.3**
SNTG				AML	AML			
	comp=E,561µm,0.3s							
SNTG				AML	AML			
	comp=N,684µm,0.9s							
SNTG				AML	AML			
	comp=E,608µm,0.3s							
SNTG				AML	AML			
	comp=N,624µm,1.0s							
EL6	**Elcito**	**0.83**	**353**	⇑P	**Pg**		**05 12 30.3**	**-1.4**
EL6				AML	AML			
	comp=E,1590µm,0.3s							
EL6				AML	AML			
	comp=N,1450µm,1.3s							
EL6				AML	AML			
	comp=E,1590µm,1.7s							
POFI	**Posta Fibreno**	**0.86**	**156**	⇓P	**Pn**		**05 12 34.7**	**+1.3**
FOSV	**Fossato di Vic**	**0.87**	**336**	⇓P	**Pg**		**05 12 31.2**	**-1.1**
FOSV				AML	AML			
	comp=E,466µm,0.7s							
FOSV				AML	AML			
	comp=E,466µm,1.3s							
FOSV				AML	AML			
	comp=N,538µm,0.2s							
CING	**Cingoli**	**0.87**	**357**	⇓P	**Pg**		**05 12 31.1**	**-1.3**
CING				S	**Sb**		**05 12 45.0**	**+0.7**
CING				AML	AML			
	comp=N,902µm,0.4s							
CING				AML	AML			
	comp=E,830µm,0.4s							
PP3	**Marolino**	**0.92**	**17**	⇓P	**Pg**		**05 12 32.7**	**-0.5**
PP3				AML	AML			
	comp=E,2025µm,1.4s							
PP3				AML	AML			
	comp=E,2025µm,0.6s							
PP3				AML	AML			
	comp=N,2395µm,0.5s							
MGAB	**Montegabbione**	**0.93**	**297**	⇑P	**Pb**		**05 12 33.9**	**+0.3**
GIUL	**Giuliano Di Ro**	**0.94**	**180**	⇓P	**Pn**		**05 12 35.2**	**+0.6**
SSFR	**Montelago di S**	**0.99**	**340**	P	**Pb**		**05 12 33.5**	**-1.2**
SSFR				AML	AML			
	comp=E,1425µm,1.2s							
SSFR				AML	AML			
	comp=N,986µm,0.3s							
SSFR				AML	AML			
	comp=N,1105µm,0.2s							
SSFR				AML	AML			
	comp=E,1245µm,0.2s							
ARVD	**Arcevia**	**1.02**	**347**	S	**Sn**		**05 12 50.0**	**+0.2**
ARVD				AML	AML			
	comp=N,742µm,0.6s							
ARVD				AML	AML			
	comp=E,534µm,0.4s							
SACS	**San Casciano d**	**1.05**	**290**	⇓P	**Pn**		**05 12 36.4**	**+0.4**
SACS				AML	AML			
	comp=N,254µm,0.5s							
SACS				AML	AML			
	comp=E,226µm,0.8s							
SACS				AML	AML			
	comp=N,258µm,0.5s							
SACS				AML	AML			
	comp=N,254µm,1.5s							
SACS				AML	AML			
	comp=N,258µm,1.5s							
SACS				AML	AML			
	comp=E,222µm,0.8s							
CERA	**Filignano**	**1.07**	**147**	⇑P	**Pn**		**05 12 37.9**	**+1.6**
AOI	**Ancona**	**1.08**	**14**	⇑P	**Pb**		**05 12 35.1**	**-1.0**
PIEI	**Pieia**	**1.16**	**333**	⇑P	**Pb**		**05 12 36.7**	**-0.7**
PIEI				AML	AML			
	comp=E,436µm,0.8s							
PIEI				AML	AML			
	comp=N,360µm,0.5s							
PIEI				AML	AML			
	comp=E,436µm,1.2s							
MPAG	**Monte Paganucc**	**1.18**	**343**	⇑P	**Pn**		**05 12 37.1**	**-0.8**
MPAG				AML	AML			
	comp=E,312µm,0.8s							
MPAG				AML	AML			
	comp=N,383µm,1.0s							
MPAG				AML	AML			
	comp=E,312µm,1.2s							
NARO	**Abbazia di Nar**	**1.21**	**336**	⇓P	**Pn**		**05 12 37.2**	**-1.0**
NARO				AML	AML			
	comp=E,287µm,1.5s							
NARO				AML	AML			
	comp=N,369µm,0.8s							
NARO				AML	AML			
	comp=N,369µm,1.2s							
NARO				AML	AML			
	comp=E,287µm,0.5s							
PE3	**Peglio**	**1.31**	**335**	⇑P	**Pn**		**05 12 39.7**	**0.0**
PE3				AML	AML			
	comp=E,1080µm,0.7s							
PE3				AML	AML			
	comp=N,3µm,1.6s							
PE3				AML	AML			
	comp=N,3µm,0.4s							
PE3				AML	AML			
	comp=E,1080µm,1.3s							
STON	**Ston**	**3.30**	**82**	*e*Pn	**Pn**		**05 13 07.3**	**+0.4**
STON				*e*Sn	**Sn**		**05 13 47.0**	**+0.9**
TREB	**Trebinje**	**3.77**	**85**	*e*Pn	**Pn**		**05 13 14.4**	**+1.0**
TREB				*e*Sn	**Sn**		**05 13 58.0**	**+0.3**
MYKA	**Terra Mystica**	**4.14**	**4**	*e*Pn	**Pn**		**05 13 19.1**	**+0.6**
	comp=E,1.0nm,0.2s							
ABTA	**Abfaltersbach**	**4.28**	**353**	*e*Pn	**Pn**		**05 13 21.2**	**+0.7**
	comp=E,3.3nm,0.3s							
PDG	**Podgorica**	**4.45**	**89**	*e*Pn	**Pn**		**05 13 24.0**	**+1.4**
PDG				*e*Sn	**Sn**		**05 14 13.8**	**-0.4**
KBA	**Koelnbreinsper**	**4.58**	**1**	*e*Pn	**Pn**		**05 13 26.1**	**+1.5**
	comp=E,0.4nm,0.1s							
BBLS	**Lazići**	**4.70**	**71**	*e*Pn	**Pn**		**05 13 27.4**	**+1.1**
BBLS				*e*Sn	**Sn**		**05 14 20.4**	**-0.4**
FETA	**Feichten**	**4.86**	**339**	*e*Pn	**Pn**		**05 13 32.0**	**+3.5**
	comp=E,0.6nm,0.2s							
SQTA	**Sankt Quirin**	**4.94**	**344**	*i* Pn	**Pn**		**05 13 31.5**	**+2.0**
	comp=E,1.0nm,0.2s							
WATA	**Walderalm**	**4.98**	**347**	*e*Pn	**Pn**		**05 13 33.2**	**+3.1**
	comp=E,1.6nm,0.2s							
SJES	**Sjenica**	**5.00**	**79**	*e*Pn	**Pn**		**05 13 31.1**	**+0.7**
SJES				*e*Sn	**Sn**		**05 14 27.8**	**-0.3**
MOTA	**Moosalm**	**5.08**	**343**	*e*Pn	**Pn**		**05 13 34.6**	**+3.2**
	comp=E,0.6nm,0.2s							
IVAS	**Ivanjica**	**5.17**	**76**	*e*Pn	**Pn**		**05 13 33.4**	**+0.7**
IVAS				*e*Sn	**Sn**		**05 14 32.3**	**0.0**
RETA	**Reutte**	**5.29**	**341**	*e*Pn	**Pn**		**05 13 37.0**	**+2.7**
	comp=E,0.5nm,0.2s							
DAVA	**Damuels**	**5.35**	**335**	*e*Pn	**Pn**		**05 13 39.2**	**+4.0**
	comp=E,1.8nm,0.3s							
MOA	**Molln**	**5.40**	**7**	*e*Pn	**Pn**		**05 13 37.6**	**+1.8**
	comp=E,0.3nm,0.1s							
MOA	**Molln**	**5.40**	**7**	*e*Pn	**Pn**		**05 13 35.7**	**0.0**
MOA				*e*Sn	**Sn**		**05 14 38.2**	**+0.5**
RONA	**Rosalia, Austr**	**5.63**	**21**	*e*Pn	**Pn**		**05 13 39.3**	**+0.3**
	comp=E,0.9nm,0.2s							
CONA	**Conrad Observa**	**5.73**	**18**	*e*Pn	**Pn**		**05 13 41.1**	**+0.7**
	comp=E,0.8nm,0.3s							
SELS	**Selova**	**5.83**	**80**	*e*Pn	**Pn**		**05 13 41.5**	**-0.2**
BARS	**Barje**	**6.33**	**84**	*e*Pn	**Pn**		**05 13 49.5**	**+1.0**
BARS				*e*Sn	**Sn**		**05 14 59.8**	**-0.8**

IDC ***19*** *05:33:08.9±14.0, 29°.22N×51°.68E, h0km, mb3.8/4, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=286.5km s-min=46.0km az=4.0*

TEH ***19*** *05:33:13.3, 29°.60N×51°.52E, h17km±10km, ML3.4*

ISC 19 05:33:13.7±1.0, 29°.58N±0°.05×51°.51E±0°.04, h12km±7km, n49, σ0°85/52, mb3.6/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KAZ1	**Kazerun**	**0.12**	**65**	Pg	**Pg**		**05 33 16.9**	**-0.1**
KAZ1				Sg	**Sg**		**05 33 19.7**	**+0.4**
AHBU	**AHRAM**	**0.73**	**195**	Pg	**Pg**		**05 33 27.4**	**-0.5**
SHI	**Shiraz**	**0.87**	**85**	Pg	**Pg**		**05 33 30.0**	**-0.6**
SHI				Sg	**Sb**		**05 33 43.3**	**+0.8**
DSBU	**Dashti - Bushe**	**1.23**	**190**	Pg	**Pg**		**05 33 36.9**	**-0.4**
DSBU				Sg	**Sn**		**05 33 55.3**	**+2.0**
KLNJ	**Kolanjah**	**1.43**	**3**	Pg	**Pn**		**05 33 40.2**	**+0.5**
ABEH	**Behbahan**	**1.50**	**313**	Pg	**Pn**		**05 33 40.7**	**+0.3**
QIR1	**Qir**	**1.73**	**129**	Pg	**Pb**		**05 33 44.8**	**-0.6**
IBRJ	**Brojen**	**2.34**	**355**	Pn	**Pn**		**05 33 52.8**	**+0.7**
IRAM	**Ramesheh**	**2.35**	**18**	Pn	**Pn**		**05 33 53.3**	**+1.0**
SHK1	**Shahrekord**	**2.80**	**349**	Pn	**Pn**		**05 33 59.6**	**+1.1**
AMIS	**Naft Sefid**	**2.83**	**318**	Pn	**Pn**		**05 33 59.2**	**+0.5**
IGAR	**Gharneh**	**2.86**	**9**	Pn	**Pn**		**05 33 59.9**	**+0.6**
ISAD	**Sadrabad**	**2.99**	**38**	Pn	**Pn**		**05 34 02.6**	**+1.5**
IPIR	**Pirpir**	**3.15**	**350**	Pn	**Pn**		**05 34 03.4**	**+0.1**
IMEH	**Mehriz**	**3.23**	**55**	Pn	**Pn**		**05 34 05.5**	**+1.1**
IZEF	**Zefreh**	**3.38**	**12**	Pn	**Pn**		**05 34 07.0**	**+0.5**
ICHK	**Chekchek**	**3.64**	**42**	Pn	**Pn**		**05 34 10.8**	**+0.7**
IKLH	**Kolahrood**	**3.73**	**1**	Pn	**Pn**		**05 34 11.7**	**+0.3**
YZKH	**Yazd**	**3.85**	**43**	Pn	**Pn**		**05 34 13.7**	**+0.8**
IBAF	**Bafgh**	**4.03**	**59**	Pn	**Pn**		**05 34 15.7**	**+0.4**
ANAR	**Anarak**	**4.07**	**27**	Pn	**Pn**		**05 34 15.8**	**0.0**
QAMS	**Qamsar**	**4.15**	**359**	Pn	**Pn**		**05 34 18.0**	**+1.0**
KHMZ	**Khomeyn**	**4.36**	**343**	Pn	**Pn**		**05 34 21.6**	**+1.7**
KHGB	**Koh Gabri**	**4.38**	**78**	Pn	**Pn**		**05 34 20.7**	**+0.5**
ZRDN	**Zarand Kerman**	**4.56**	**71**	Pn	**Pn**		**05 34 23.0**	**+0.3**
KRBR	**Kerman**	**4.58**	**84**	Pn	**Pn**		**05 34 23.6**	**+0.6**
TVBK	**TV Kerman**	**4.58**	**84**	Pn	**Pn**		**05 34 23.5**	**+0.4**
BNDS	**Bandar-Abbas**	**4.64**	**117**	Pn	**Pn**		**05 34 24.0**	**+0.3**
GHVR	**GHOM**	**4.89**	**358**	Pn	**Pn**		**05 34 28.0**	**+0.9**
IDOB	**Doab**	**5.07**	**327**	Pn	**Pn**		**05 34 29.0**	**-0.7**
ASAO	**Ashtian**	**5.12**	**346**	Pn	**Pn**		**05 34 32.3**	**+1.9**
HSAM	**Samen**	**5.24**	**333**	Pn	**Pn**		**05 34 32.6**	**+0.5**
CHMN	**Cheshme madani**	**5.25**	**85**	Pn	**Pn**		**05 34 32.5**	**+0.3**
HAGD	**Aghdareh**	**5.61**	**340**	Pn	**Pn**		**05 34 37.3**	**+0.3**
TPRV	**Parvadeh(Tabas**	**5.61**	**51**	Pn	**Pn**		**05 34 37.3**	**+0.3**
IKOM	**Komasi**	**5.71**	**324**	Pn	**Pn**		**05 34 38.9**	**+0.5**
DAMV	**Damavand**	**6.05**	**4**	Pn	**Pn**		**05 34 44.1**	**+0.9**
ILBA	**Ilam Banvizeh**	**6.07**	**313**	Pn	**Pn**		**05 34 42.2**	**-1.0**
TNSJ	**Nastanj**	**6.16**	**43**	Pn	**Pn**		**05 34 45.2**	**+0.6**
TKDS	**Koohdasht(Taba**	**6.25**	**48**	Pn	**Pn**		**05 34 45.9**	**+0.1**
TABS	**Tabas**	**6.27**	**48**	Pn	**Pn**		**05 34 46.8**	**+0.7**
SNGE	**Sanandaj**	**6.53**	**328**	Pn	**Pn**		**05 34 50.3**	**+0.5**
IDHR	**Dehrash**	**6.71**	**321**	Pn	**Pn**		**05 34 51.8**	**-0.3**
IKOO	**Kooshah**	**7.03**	**64**	Pn	**Pn**		**05 34 57.7**	**+1.1**
BRTR	**Keskin Array B**	**17.82**	**309**	P	**P**		**05 37 22.9**	**+0.5**
	0.1nm,0.3s,baz=132,slow=12,SNR=1.9 0.3nm,0.5s							
BVAR	**Borovoye Array**	**27.22**	**25**	P	**P**		**05 38 56.6**	**-0.7**
	0.9nm,0.4s,baz=225,slow=6.7,SNR=4.6 0.9nm,0.4s							
KURBB	**Kurchatov Arra**	**29.20**	**36**	P	**P**		**05 39 13.9**	**-1.0**
	0.6nm,0.7s,baz=235,slow=9.5,SNR=5.2 0.6nm,0.7s							
MKAR	**Makanchi Array**	**29.42**	**46**	P	**P**		**05 39 15.7**	**-1.3**
	0.2nm,0.3s,baz=248,slow=8.0,SNR=5.5 0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**34.27**	**35**	P	**P**		**05 39 58.0**	**-1.4**
	0.9nm,0.3s,baz=245,slow=8.8,SNR=4.7 0.9nm,0.3s							

IDC 19 05:33:34.0±3.6, 26°.11N×96°.28E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=420.7km s-min=24.0km az=58.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**23.44**	**335**	P	P	05 38 44.8	-0.1
	0.3nm,0.6s,baz=146,slow=9.4,SNR=3.6 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**28.01**	**336**	P	P	05 39 26.5	0.0
	0.2nm,0.3s,baz=145,slow=11,SNR=2.5 0.2nm,0.3s						
WRA	**Warramunga Arr**	**58.83**	**137**	P	P	05 43 34.6	0.0
	0.3nm,0.7s,baz=326,slow=7.7,SNR=5.6 0.3nm,0.7s						
ASAR	**Alice Springs**	**61.43**	**140**	P	P	05 43 52.3	-0.1
	0.3nm,0.4s,baz=320,slow=6.6,SNR=4.2 0.3nm,0.4s						

IDC 19 05:46:36.4±4.9, 22°.72N×94°.70E, h95km±43km, mb3.0/2, mbtmp3.3/3, Error ellipse: s-maj=135.4km s-min=26.0km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.81**	**136**	P	Pn	05 48 00.1	0.0
	1.0nm,0.3s,baz=310,slow=14,SNR=6.7						
MKAR	**Makanchi Array**	**26.03**	**340**	P	P	05 52 00.6	0.0
	0.3nm,0.5s,baz=152,slow=9.9,SNR=5.2 0.3nm,0.5s						
WRA	**Warramunga Arr**	**57.40**	**135**	P	P	05 56 15.2	-0.1
	0.2nm,0.3s,baz=323,slow=7.3,SNR=5.9 0.2nm,0.3s						

SJA ***19*** *05:52:04.6±1.1, 24°.00S×67°.01W, h216km±6km, ML4.2, MW3.9*

NEIC ***19*** *05:52:06.3±2.0, 24°.06S±0°.07×66°.99W±0°.10, h187km±10km, mb4.2/10, ML4.4(GUC), Error ellipse: s-maj=13.3km s-min=9.8km az=91.0*

IDC ***19*** *05:52:06.2±1.2, 24°.00S×66°.83W, h182km±11km, mb3.5/5, mbtmp4.0/11, Error ellipse: s-maj=16.8km s-min=15.0km az=137.0*

GUC ***19*** *05:52:07.6±0.6, 23°.89S×67°.25W, h229km±5km, ML4.4*

VAO ***19*** *05:52:11.4±1.1, 23°.61S×66°.70W, h211km±8km, mb4.0*

ISC 19 05:52:06.4±0.6, 24°.04S±0°.03×67°.05W±0°.03, h196km±6km, n155, σ1°44/223, mb4.0/9, 15C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.49**	**316**		**Pn**	**05 52 41.6**	**+1.5**
AF01	**San Pedro de A**	**1.49**	**316**	*e*P	**Pn**	**05 52 41.6**	**+1.5**
AF01				*i* S	**Sn**	**05 53 07.9**	**+1.7**
SLA	**San Lorenzo**	**1.57**	**116**	*e*P	**Pn**	**05 52 41.0**	**+0.4**
SLA				*e*S	**Sn**	**05 53 07.7**	**+0.6**
SLA	**San Lorenzo**	**1.57**	**116**	*e*P	**Pn**	**05 52 41.0**	**+0.4**
SLA				*e*S	**Sn**	**05 53 07.7**	**+0.6**
AZAP	**Zapla**	**1.83**	**96**	*e*P	**Pn**	**05 52 43.0**	**-0.1**
AZAP				⇓*e*S	**Sn**	**05 53 11.4**	**-0.3**
AZAP	**Zapla**	**1.83**	**96**	*e*P	**Pn**	**05 52 43.0**	**-0.1**
AZAP				⇓*e*S	**Sn**	**05 53 11.4**	**-0.3**
LVC	**Limon Verde**	**2.22**	**309**	P	**Pn**	**05 52 48.5**	**+1.1**
	87nm,0.3s,baz=132,slow=5.5,SNR=158						
LVC				S	**Sn**	**05 53 20.0**	**+0.8**
	246nm,0.3s,baz=339,slow=18,SNR=86						
LVC	**Limon Verde**	**2.22**	**309**		**Pn**	**05 52 48.6**	**+1.1**
LVC				Sn	**Sn**	**05 53 19.6**	**+0.4**
LVC	**Limon Verde**	**2.22**	**309**	⇑*i*P	**Pn**	**05 52 48.3**	**+0.9**
LVC				*i* S	**Sn**	**05 53 19.8**	**+0.6**
YJA	**Yavi**	**2.33**	**38**	*e*P	**Pn**	**05 52 48.8**	**+0.1**
YJA				*e*S	**Sn**	**05 53 21.0**	**-0.6**
YJA	**Yavi**	**2.33**	**38**	*e*P	**Pn**	**05 52 48.8**	**+0.1**
YJA				*e*S	**Sn**	**05 53 21.0**	**-0.6**
ASTB	**Santa Barbara**	**2.38**	**88**	*e*P	**Pn**	**05 52 48.6**	**-0.3**
ASTB	**Santa Barbara**	**2.38**	**88**	*e*P	**Pn**	**05 52 48.6**	**-0.3**
PB06	**IPOC Station P**	**2.67**	**299**		**Pn**	**05 52 53.1**	**+1.0**
PB06				Sn	**Sn**	**05 53 27.0**	**-0.7**
PB06	**IPOC Station P**	**2.67**	**299**	⇑*i*P	**Pn**	**05 52 53.2**	**+1.1**
PB06				*i* S	**Sn**	**05 53 27.2**	**-0.6**
PB06				IAML		05 53 29.1	
	comp=N,764nm,0.1s						
PB06	**IPOC Station P**	**2.67**	**299**	*e*P	**Pn**	**05 52 53.0**	**+0.9**
PB06				*e*S	**Sn**	**05 53 27.7**	**-0.1**
PB06				IAML		05 53 29.1	
	comp=Z,556nm,0.3s						
PB06	**IPOC Station P**	**2.67**	**299**	*e*P	**Pn**	**05 52 53.0**	**+0.9**
PB06				*e*S	**Sn**	**05 53 27.7**	**-0.1**
PB06				IAML		05 53 29.1	
	comp=Z,556nm,0.3s						
PB09	**IPOC Station P**	**3.00**	**317**		**Pn**	**05 52 57.5**	**+1.3**
PB09	**IPOC Station P**	**3.00**	**317**	⇑*i*P	**Pn**	**05 52 57.2**	**+1.1**
PB09				*i* S	**Sn**	**05 53 34.7**	**-0.2**
PB09				IAML		05 53 36.2	
	comp=N,405nm,0.5s						
PB09	**IPOC Station P**	**3.00**	**317**	*e*P	**Pn**	**05 52 57.2**	**+1.1**
PB09				*e*S	**Sn**	**05 53 35.0**	**+0.1**
PB09				IAML		05 53 39.2	
	comp=Z,300nm,0.4s						
PB09	**IPOC Station P**	**3.00**	**317**	*e*P	**Pn**	**05 52 57.2**	**+1.1**
PB09				*e*S	**Sn**	**05 53 35.0**	**+0.1**
PB09				IAML		05 53 39.2	
	comp=Z,300nm,0.4s						
PB14	**IPOC Station P**	**3.11**	**258**		**Pn**	**05 52 58.3**	**+0.7**
PB14	**IPOC Station P**	**3.11**	**258**	⇑*i*P	**Pn**	**05 52 58.2**	**+0.7**
PB14				*i* S	**Sn**	**05 53 36.4**	**-0.9**
PB14	**IPOC Station P**	**3.11**	**258**	*e*P	**Pn**	**05 52 58.0**	**+0.5**
PB14				*e*S	**Sn**	**05 53 37.2**	**-0.2**
PB14				IAML		05 53 39.5	
	comp=Z,199nm,0.6s						
PB14	**IPOC Station P**	**3.11**	**258**	*e*P	**Pn**	**05 52 58.0**	**+0.5**
PB14				*e*S	**Sn**	**05 53 37.2**	**-0.2**
PB14				IAML		05 53 39.5	
	comp=Z,199nm,0.6s						
PB03	**IPOC Station P**	**3.18**	**308**		**Pn**	**05 52 58.6**	**+0.4**
PB03	**IPOC Station P**	**3.18**	**308**	⇑*i*P	**Pn**	**05 52 58.7**	**+0.5**
PB03				*i* S	**Sn**	**05 53 37.0**	**-1.5**
PB03				IAML		05 53 43.4	
	comp=E,592nm,0.4s						
PB03	**IPOC Station P**	**3.18**	**308**	*e*P	**Pn**	**05 52 58.3**	**+0.1**
PB03				*e*S	**Sn**	**05 53 37.3**	**-1.3**
PB03				IAML		05 53 42.5	
	comp=Z,578nm,0.2s						
PB03	**IPOC Station P**	**3.18**	**308**	*e*P	**Pn**	**05 52 58.3**	**+0.1**
PB03				*e*S	**Sn**	**05 53 37.3**	**-1.3**
PB03				IAML		05 53 42.5	
	comp=Z,578nm,0.2s						
PB10	**IPOC Station P**	**3.25**	**278**		**Pn**	**05 52 59.8**	**+1.0**
PB10	**IPOC Station P**	**3.25**	**278**	⇑*i*P	**Pn**	**05 52 59.9**	**+1.0**
PB10				*i* S	**Sn**	**05 53 38.8**	**-1.0**
PB10	**IPOC Station P**	**3.25**	**278**	*e*P	**Pn**	**05 52 59.0**	**+0.2**
PB10				*e*S	**Sn**	**05 53 40.0**	**+0.2**
PB10				IAML		05 53 42.0	
	comp=Z,289nm,0.3s						
PB10	**IPOC Station P**	**3.25**	**278**	*e*P	**Pn**	**05 52 59.0**	**+0.2**
PB10				*e*S	**Sn**	**05 53 40.0**	**+0.2**
PB10				IAML		05 53 42.0	
	comp=Z,289nm,0.3s						
PB04	**IPOC Station P**	**3.31**	**300**		**Pn**	**05 53 00.4**	**+0.6**
PB04	**IPOC Station P**	**3.31**	**300**	⇑*i*P	**Pn**	**05 53 00.3**	**+0.4**
PB04				*i* S	**Sn**	**05 53 39.9**	**-1.6**
PB04	**IPOC Station P**	**3.31**	**300**	*e*P	**Pn**	**05 53 00.0**	**+0.2**
PB04				*e*S	**Sn**	**05 53 40.3**	**-1.2**
PB04				IAML		05 53 41.8	
	comp=Z,607nm,0.5s						
PB04	**IPOC Station P**	**3.31**	**300**	*e*P	**Pn**	**05 53 00.0**	**+0.2**
PB04				*e*S	**Sn**	**05 53 40.3**	**-1.2**
PB04				IAML		05 53 41.8	
	comp=Z,607nm,0.5s						
AC02	**Maricunga**	**3.36**	**213**		**Pn**	**05 53 01.9**	**+1.3**
AC02	**Maricunga**	**3.36**	**213**	⇑*i*P	**Pn**	**05 53 01.9**	**+1.3**
AC02	**Maricunga**	**3.36**	**213**	*e*P	**Pn**	**05 53 01.6**	**+0.9**
AC02				*e*S	**Sn**	**05 53 43.7**	**+0.5**
AC02	**Maricunga**	**3.36**	**213**	*e*P	**Pn**	**05 53 01.6**	**+0.9**
AC02				*e*S	**Sn**	**05 53 43.7**	**+0.5**
PB07	**IPOC Station P**	**3.48**	**311**	Pn	**Pn**	**05 53 01.8**	**-0.1**
PB07	**IPOC Station P**	**3.48**	**311**	⇑*i*P	**Pn**	**05 53 02.2**	**+0.3**
PB07				*i* S	**Sn**	**05 53 43.0**	**-2.2**
PB07	**IPOC Station P**	**3.48**	**311**	*e*P	**Pn**	**05 53 02.2**	**+0.3**
PB07				*e*S	**Sn**	**05 53 43.5**	**-1.7**
PB07				IAML		05 53 51.8	
	comp=Z,390nm,0.5s						
PB07	**IPOC Station P**	**3.48**	**311**	*e*P	**Pn**	**05 53 02.2**	**+0.3**
PB07				*e*S	**Sn**	**05 53 43.5**	**-1.7**
PB07				IAML		05 53 51.8	
	comp=Z,390nm,0.5s						
PB01	**IPOC Station P**	**3.73**	**322**		**Pn**	**05 53 04.8**	**0.0**
PB01	**IPOC Station P**	**3.73**	**322**	⇑*i*P	**Pn**	**05 53 04.8**	**0.0**
PB01				*i* S	**Sn**	**05 53 48.6**	**-2.0**
PB01

TA01				*i* S		**Sn**	05 54 04.9	-3.1
TA01	**Diego Aracena**	**4.51**	**319**	*e*P		**Pn**	05 53 14.0	-0.5
TA01				*e*S		**Sn**	05 54 04.8	-3.2
TA01				IAML			05 54 08.5	
	comp=Z,90nm,0.3s							
TA01	**Diego Aracena**	**4.51**	**319**	*e*P		**Pn**	05 53 14.0	-0.5
TA01				*e*S		**Sn**	05 54 04.8	-3.2
TA01				IAML			05 54 08.5	
	comp=Z,90nm,0.3s							
CYA	**Choya**	**4.53**	**166**	*e*P		**Pn**	05 53 13.9	-0.8
CYA	**Choya**	**4.53**	**166**	*e*P		**Pn**	05 53 13.9	-0.8
GO03	**Copiap**	**4.56**	**218**			**Pn**	05 53 14.5	-0.7
GO03	**Copiap**	**4.56**	**218**	*e*P		**Pn**	05 53 14.4	-0.7
GO03				*i* S		**Sn**	05 54 07.1	-2.2
GO03	**Copiap**	**4.56**	**218**	*e*P		**Pn**	05 53 15.0	-0.1
GO03				*e*S		**Sn**	05 54 07.6	-1.7
GO03	**Copiap**	**4.56**	**218**	*e*P		**Pn**	05 53 15.0	-0.1
GO03				*e*S		**Sn**	05 54 07.6	-1.7
HMBC	**Humberstone**	**4.57**	**324**	⇑*i*P		**Pn**	05 53 14.1	-1.4
HMBC				*i* S		**Sn**	05 54 06.2	-3.4
TA02	**Huaiquique**	**4.71**	**322**			**Pn**	05 53 16.0	-1.0
TA02	**Huaiquique**	**4.71**	**322**	*e*P		**Pn**	05 53 15.6	-1.4
GO01	**Chusmiza**	**4.78**	**335**			**Pn**	05 53 18.5	0.0
GO01	**Chusmiza**	**4.78**	**335**	*e*P		**Pn**	05 53 18.7	+0.3
GO01				*i* S		**Sn**	05 54 14.0	-1.0
GO01	**Chusmiza**	**4.78**	**335**	*e*P		**Pn**	05 53 18.4	0.0
GO01				*e*S		**Sn**	05 54 14.9	-0.1
GO01	**Chusmiza**	**4.78**	**335**	*e*P		**Pn**	05 53 18.4	0.0
GO01				*e*S		**Sn**	05 54 14.9	-0.1
PB11	**IPOC Station P**	**4.89**	**330**	Pn		**Pn**	05 53 18.7	-0.9
PB11	**IPOC Station P**	**4.89**	**330**	*e*P		**Pn**	05 53 18.5	-1.0
PB11				*i* S		**Sn**	05 54 13.6	-3.6
PB11	**IPOC Station P**	**4.89**	**330**	*e*P		**Pn**	05 53 18.6	-1.0
PB11				*e*S		**Sn**	05 54 14.0	-3.2
PB11	**IPOC Station P**	**4.89**	**330**	*e*P		**Pn**	05 53 18.6	-1.0
PB11				*e*S		**Sn**	05 54 14.0	-3.2
PSGCX	**Pisagua**	**5.26**	**327**	Pn		**Pn**	05 53 22.1	-2.1
PSGCX	**Pisagua**	**5.26**	**327**	*e*P		**Pn**	05 53 22.8	-1.4
PSGCX				*e*S		**Sn**	05 54 20.9	-4.6
PSGCX	**Pisagua**	**5.26**	**327**	*e*P		**Pn**	05 53 22.8	-1.4
PSGCX				*e*S		**Sn**	05 54 20.9	-4.6
MNMC	**Minye Minye**	**5.42**	**334**			**Pn**	05 53 25.9	-0.6
MNMC	**Minye Minye**	**5.42**	**334**	*e*P		**Pn**	05 53 25.8	-0.7
MNMC				*i* S		**Sn**	05 54 26.9	-2.7
AC04	**Llanos de Chal**	**5.50**	**220**	Pn		**Pn**	05 53 25.7	-1.5
AC04	**Llanos de Chal**	**5.50**	**220**	*e*P		**Pn**	05 53 25.9	-1.3
AC05	**El Transito**	**5.58**	**210**			**Pn**	05 53 28.2	-0.2
AC05	**El Transito**	**5.58**	**210**	*e*P		**Pn**	05 53 27.8	-0.5
AC05				*i* S		**Sn**	05 54 31.4	-1.7
LCO	**Las Campanas**	**5.94**	**213**	Pn		**Pn**	05 53 31.6	-1.4
PB16	**IPOC Station P**	**6.12**	**338**	Pn		**Pn**	05 53 35.5	-0.3
PB12	**IPOC Station P**	**6.20**	**330**	Pn		**Pn**	05 53 35.0	-1.3
GO04	**Tololo Observa**	**6.96**	**208**	Pn		**Pn**	05 53 45.1	-1.2
CO03	**El Pedregal**	**7.51**	**205**	Pn		**Pn**	05 53 52.5	-0.8
CFA	**Coronel Fontan**	**7.61**	**188**	P		**Pn**	05 53 54.8	+0.2
	comp=Z,2.2nm,0.3s,baz=43,slow=15,SNR=29							
CFA				S		**Sn**	05 55 15.3	-5.3
	comp=Z,5.3nm,0.4s,baz=177,slow=17,SNR=13							
LPAZ	**La Paz**	**7.77**	**352**	P		**Pn**	05 53 57.5	+0.2
	comp=Z,3.3nm,0.5s,baz=154,slow=8.9,SNR=17							
LPAZ	**La Paz**	**7.77**	**352**	*e*P		**Pn**	05 53 57.3	-0.1
CO02	**Combarbal**	**7.95**	**205**	Pn		**Pn**	05 53 57.2	-1.9
BBRB	**Robore, Bolivi**	**8.86**	**51**	*e*P		**Pn**	05 54 06.7	-4.3
MURT	**Porto Murtinho**	**9.03**	**77**	*e*P		**Pn**	05 54 11.9	-1.2
BBSD	**Serra de San D**	**9.10**	**43**	*e*P		**Pn**	05 54 12.1	-2.0
CPUP	**Villa Florida**	**9.10**	**107**	Pn		**Pn**	05 54 11.6	-2.4
VA03	**San Esteban**	**9.22**	**199**	Pn		**Pn**	05 54 14.7	-0.9
SIV	**San Ignacio**	**9.78**	**36**	P		**Pn**	05 54 20.5	-2.4
	comp=Z,5.6nm,0.5s,baz=216,slow=11,SNR=37							
SIV				S		**Sn**	05 56 08.5	-3.9
	comp=Z,1.2nm,0.6s,baz=319,slow=20,SNR=2.3							
MT02	**Curacav**	**9.86**	**200**	Pn		Pn	05 54 18.9	-5.0
AQDB	**Aquidauana**	**11.10**	**74**	Pn		**Pn**	05 54 39.2	-0.6
AQDB	**Aquidauana**	**11.10**	**74**	*e*P		**Pn**	05 54 40.3	+0.4
PTLB	**Pontes e Lacer**	**11.33**	**43**	Pn		**Pn**	05 54 42.3	-0.6
RODS	**Rosario do Sul**	**12.28**	**123**	*e*P		**P**	05 54 59.7	+0.4
FRBT	**Francisco Belt**	**12.84**	**102**	*e*P		**P**	05 55 06.2	+0.6
TRCB	**Terra Rica**	**13.30**	**88**			**Pn**	05 55 06.4	-1.4
CPSB	**Cacapava Do Su**	**13.67**	**121**	*e*P		**P**	05 55 14.6	-0.2
PTGB	**Pitanga**	**13.68**	**96**	*e*P		**P**	05 55 15.2	+0.2
ITAB	**Concordia**	**13.83**	**106**	Pn		**Pn**	05 55 13.3	-1.1
PLTB	**Pedras Altas**	**14.16**	**126**	Pn		**Pn**	05 55 17.6	-0.9
C2SB	**Chapadao do Su**	**14.24**	**71**	*e*P		**P**	05 55 19.6	-1.5
TRQA	**Tornquist**	**14.63**	**164**	Pn		**Pn**	05 55 23.3	-0.9
GO06	**Curarrehue**	**15.95**	**193**	P		**P**	05 55 40.6	+0.6
GO06				IAmb		IAmb	05 55 44.4	
	comp=Z,6.5nm,0.9s							
FRTB	**Fartura**	**16.04**	**91**	*e*P		**Pn**	05 55 40.5	-1.0
PLCA	**Paso Flores**	**16.91**	**189**	P		**Pn**	05 55 52.3	+0.6
	comp=Z,1.1nm,0.5s,baz=0.2,slow=12,SNR=9.6							
PLCA	**Paso Flores**	**16.91**	**189**	P		**Pn**	05 55 51.7	-0.1
CLDB	**Colider**	**16.92**	**41**	*e*P		**Pn**	05 55 50.4	-1.6
LL04	**Puerto Octay**	**17.41**	**194**	P		**P**	05 55 57.3	+1.4
VAO	**Valinhos**	**18.45**	**91**	*e*P		**P**	05 56 06.7	-0.9
IPMB	**Ipameri, GO**	**18.59**	**75**	*e*P		**P**	05 56 08.6	-0.4
LL06	**Loncomilla**	**18.94**	**195**	P		**P**	05 56 13.6	+1.2
LL06				IAmb		IAmb	05 56 26.4	
	comp=Z,131nm,1.5s							
BDFB	**Brasilia**	**19.75**	**68**	P		**P**	05 56 20.8	-0.8
	comp=Z,17nm,0.7s,baz=240,slow=11,SNR=33							
BDFB	**Brasilia**	**19.75**	**68**	P		**P**	05 56 21.3	-0.3
BDFB	**Brasilia**	**19.75**	**68**	*e*P		**P**	05 56 21.0	-0.6
AY01	**Puyuhuapi**	**20.84**	**191**	P		**P**	05 56 33.2	+0.3
AY01				IAmb		IAmb	05 56 54.3	
	comp=Z,12nm,1.2s							
MACA	**Manacapuru-AM**	**21.64**	**17**	P		**P**	05 56 40.2	-1.3
MACA				IAmb		IAmb	05 56 55.0	
	comp=Z,5.5nm,0.6s							
ITTB	**Itaituba**	**22.39**	**31**	*e*P		**P**	05 56 47.1	-1.6
MCRA	**Macar, Loja**	**23.17**	**326**	P		**P**	05 56 57.4	+1.6
MCRA				IAmb		IAmb	05 57 00.5	
	comp=Z,5.6nm,1.3s							
JANB	**Januaria**	**23.19**	**72**	*e*P		**P**	05 56 54.7	-1.3
SMTB	**Santa Maria do**	**23.95**	**54**	*e*P		**P**	05 57 02.5	-0.4
GO08	**Villa O'Higgin**	**24.77**	**189**	P		**P**	05 57 11.8	+1.9
GO08				IAmb		IAmb	05 57 24.1	
	comp=Z,16nm,1.5s							
RUSC	**La Rusia**	**30.32**	**348**	P		**P**	05 58 01.2	+1.0
RUSC				IAmb		IAmb	05 58 02.2	
	comp=Z,6.5nm,1.2s							
MDP	**Montagnes des**	**32.19**	**28**	P		**P**	05 58 15.9	-0.2
	comp=Z,12nm,1.0s,baz=180,slow=11,SNR=6.0							
	comp=Z,12nm,1.0s							
TXAR	**Lajitas Array**	**63.68**	**324**	P		**P**	06 02 19.1	+2.1
	comp=Z,0.2nm,0.7s,baz=100,slow=6.5,SNR=3.6							
	comp=Z,0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.63**	**69**	P		**P**	06 03 35.8	0.0
	comp=Z,0.7nm,0.4s,baz=255,slow=5.9,SNR=2.4							
	comp=Z,0.7nm,0.4s							
PDAR	**Pinedale Array**	**77.15**	**329**	P		**P**	06 03 40.7	+2.2
	comp=Z,0.2nm,0.6s,baz=130,slow=8.4,SNR=2.4							
	comp=Z,0.2nm,0.6s							
YKA	**Yellowknife Ar**	**94.14**	**340**	P		**P**	06 05 03.7	+1.5
	comp=Z,0.4nm,0.5s,baz=135,slow=4.2,SNR=9.9							
	comp=Z,0.4nm,0.5s							
ASAR	**Alice Springs**	**128.40**	**205**	PKP		**PKiKP**	06 10 51.6	+0.6
	comp=Z,0.7nm,0.8s,baz=132,slow=1.8,SNR=7.3							
WRA	**Warramunga Arr**	**131.57**	**207**	PKP		**PKiKP**	06 10 58.0	+0.6
	comp=Z,0.5nm,0.5s,baz=157,slow=1.7,SNR=13							
ZALV	**Zalesovo Beam**	**143.45**	**28**	PKP		**PKPdf**	06 11 16.5	-0.7
	comp=Z,0.8nm,0.5s,baz=309,slow=3.1,SNR=6.2							
MKAR	**Makanchi Array**	**146.58**	**40**	PKPbc		**PKPbc**	06 11 25.0	+0.3
	comp=Z,1.5nm,0.6s,baz=308,slow=3.0,SNR=17							
KLR	**Kul'dur**	**150.84**	**334**	PKPbc		**PKiKP**	06 11 36.7	+0.8
	comp=Z,1.2nm,0.6s,baz=77,slow=4.5,SNR=5.1							

IDC ***19*** *06:03:03.0±2.5,54.7°13N×86.7°52E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=20.1km s-min=11.8km az=60.0*

NNC ***19*** *06:03:02.7±0.7,54.7°12N×86.7°50E,h0km,mb2.8,mpv2.7, Error ellipse: s-maj=3.7km s-min=2.5km az=68.0, Suspected Mining explosion.*

ISC 19 06:03:01.2±3.6,54.3N±0.2×86.6E±0.1,h0km,n8,σ0s88/11, 5C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**255**	I		I		06 09 00.0	
	0.1nm,0.6s,baz=80,slow=348,SNR=46								
ZAA0	**Zalesovo Array**	**1.08**	**255**	⇓P		**Pb**		**06 03 21.9**	**-0.8**
	0.2nm,0.3s,baz=79,slow=17								
ZAA0				⇑S		**Sg**		**06 03 36.1**	**+0.3**
	2.8nm,0.7s,baz=80,slow=28								
ZALV	**Zalesovo Beam**	**1.08**	**255**	Pg		**Pg**		**06 03 21.4**	**-0.4**
	1.3nm,0.3s,baz=78,slow=17,SNR=18								
ZALV				Lg		Lg		06 03 37.1	
	2.4nm,0.3s,baz=79,slow=29,SNR=14								
KURK	**Kurchatov**	**6.01**	**237**	⇑Pn		**Pn**		**06 04 32.4**	**+1.1**
	4.3nm,1.5s								
KURK				⇓Lg		Lg		06 06 10.9	
	3.6nm,1.0s								
KURBB	**Kurchatov Arra**	**6.11**	**237**	Pn		**Pn**		**06 04 33.6**	**+0.9**
	0.1nm,0.3s,baz=54,slow=13,SNR=13								
KURBB				Lg		Lg		06 06 14.1	
	baz=58,slow=34,SNR=1.7								
	1.2nm,0.5s								
KURBB	**Kurchatov Arra**	**6.11**	**237**	⇓Pn		**Pn**		**06 04 32.4**	**-0.3**
	2.2nm,0.6s								
KURBB				⇓Sn		**Sn**		**06 05 44.0**	**+0.7**
	3.7nm,1.0s								
KURBB				⇑Lg		Lg		06 06 14.5	
	4.6nm,1.0s								
MK31	**Makanchi Array**	**7.94**	**202**	Pn		**Pn**		**06 04 57.9**	**+0.1**
	0.1nm,0.3s,baz=76,slow=18,SNR=13								
MK31				⇑Sn		**Sn**		**06 06 28.2**	**-0.2**
	0.6nm,0.9s								
MK31				⇑Lg		Lg		06 07 11.1	
	2.9nm,1.2s								
MKAR	**Makanchi Array**	**7.94**	**202**	Pn		**Pn**		**06 04 59.2**	**+1.3**
	0.3nm,0.3s,baz=24,slow=13,SNR=15								
MKAR				Sn		**Sn**		**06 06 27.5**	**-0.9**
	0.1nm,0.3s,baz=20,slow=27,SNR=4.1								
MKAR				Lg		Lg		06 07 09.4	
	baz=25,slow=27,SNR=3.1								
	0.4nm,0.3s								

IDC ***19*** *06:41:09.3±8.3,30.°82S×179.°69E,h439km±91km,mb3.0/2, mbtmp4.1/3,Error ellipse: s-maj=94.7km s-min=44.7km az=21.0*

WEL ***19*** *06:41:11.2±1.3,31.°5S×18.°0W±2.°0,h408km±18km, M4.7/4,mB4.5/2,ML4.9/5,MLv4.7/4,Mw(mB)3.7/2,Error ellipse: s-maj=0.0km s-min=0.0km az=105.7,confirmed*

ISC 19 06:41:08.2±1.0,30.72S±0.09×179.8E±0.1,h400km,n18, σ2s55/23,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.48**	**55**	P		P	**Pn**	**06 42 07.8**	**+0.5**
GLKZ				S		S	**S**	**06 42 58.7**	**+3.5**
OUZ	**Omahuta**	**6.86**	**227**	P		P	**P**	**06 42 55.0**	**+4.4**
KUZ	**Kuaotunu**	**6.89**	**208**	P		P	**P**	**06 42 54.9**	**+3.9**
WCZ	**Waipu Caves**	**6.90**	**220**	P		P	**P**	**06 42 55.0**	**+3.8**
HAZ	**Te Kaha**	**7.21**	**193**	P		P	**P**	**06 42 56.5**	**+2.0**
HAZ				S		S	**S**	**06 44 20.1**	**-0.5**
MKAZ	**Moumakai**	**7.43**	**210**	P		P	**P**	**06 43 00.8**	**+3.8**
RUGZ	**Raukumara Rang**	**7.43**	**193**	P		P	**P**	**06 42 59.0**	**+1.8**
TWGZ	**Tauwhareparae**	**7.58**	**191**	P		P	**P**	**06 43 00.5**	**+1.7**
TWGZ				S		S	**S**	**06 44 30.4**	**+1.9**
MWZ	**Matawai**	**7.82**	**193**	P		P	**P**	**06 43 03.4**	**+2.0**
URZ	**Urewera**	**7.83**	**196**	P		P	**P**	**06 43 02.3**	**+0.8**
	31nm,0.3s,baz=5.9,slow=3.5,SNR=61								
URZ				S		S	**S**	**06 44 32.6**	**-1.0**
	20nm,1.0s,baz=135,slow=16,SNR=1.3								
URZ	**Urewera**	**7.83**	**196**	P		P	**P**	**06 43 01.7**	**+0.2**
URZ				S		S	**S**	**06 44 32.7**	**-0.9**
RIGZ	**Rimuhau**	**8.14**	**191**	P		P	**P**	**06 43 06.0**	**+1.1**
SNGZ	**Shannon Statio**	**8.29**	**193**	P		P	**P**	**06 43 09.1**	**+2.5**
RAHZ	**Arahi**	**8.47**	**194**	P		P	**Pn**	**06 43 07.3**	**-1.1**
MRHZ	**Matea Rd**	**8.55**	**198**	P		P	**P**	**06 43 10.2**	**+0.6**
ASAR	**Alice Springs**	**41.17**	**268**	P		P	**P**	**06 48 13.3**	**-2.4**
	0.4nm,0.4s,baz=107,slow=7.3,SNR=10								
	0.4nm,0.4s								
WRA	**Warramunga Arr**	**42.19**	**274**	P		P	**P**	**06 48 21.6**	**-2.3**
	0.9nm,0.3s,baz=112,slow=7.8,SNR=32								
	0.9nm,0.3s								
FINES	**FINESS Array B**	**144.75**	**338**	PKP		**PKPdf**		**06 59 53.6**	**-3.7**
	0.7nm,0.4s,baz=44,slow=3.9,SNR=9.1								

ROM 19 06:41:52.1±0.1,42.°477N±0.°004×13.°281E±0.°001, h15km,ML1.6/3,2C-1D,Error ellipse: s-maj=0.3km s-min=0.2km az=11.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.04**	**160**	⇓P		P	Pg	06 41 55.2	+0.3
T1247				S		S	Sg	06 41 57.0	+0.3
T1247				AML		AML			
	comp=E,1740μm,1.3s								
T1247				AML		AML			
	comp=N,1123μm,0.1s								
T1247				AML		AML			
	comp=N,944μm,0.2s								
T1247				AML		AML			
	comp=E,1321μm,0.1s								
CAMP	**Campotosto**	**0.11**	**58**	P		P	Pg	06 41 55.8	+0.2
CAMP				S		S	Sg	06 41 58.3	+0.4
CAMP				AML		AML			
	comp=E,169μm,0.4s								
CAMP				AML		AML			
	comp=N,243μm,0.5s								
GIGS	**Gran Sasso**	**0.21**	**97**	P		P	Pg	06 41 57.3	+0.3
GIGS				S		S	Sb	06 42 01.2	-0.5
LNSS	**Leonessa**	**0.22**	**305**	P		P	Pg	06 41 57.3	+0.2
LNSS				S		S	Sb	06 42 01.2	-0.6
LNSS				AML		AML			
	comp=E,260μm,0.2s								
LNSS				AML		AML			
	comp=N,160μm,0.2s								
FIAM	**Fiamignano**	**0.24**	**210**	P		P	Pg	06 41 57.6	+0.2
FIAM				S		S	Sb	06 42 01.9	-0.5
ARRO	**Arrone**	**0.39**	**285**	P		P	Pg	06 42 00.3	+0.2
ARRO				S		S	Sb	06 42 06.4	-0.4
CSP1	**Cessapalombo**	**0.62**	**355**	⇑P		P	Pg	06 42 04.3	+0.1
CSP1				S		S	Sg	06 42 12.7	+0.2
T1220	**Camerino, Fraz**	**0.65**	**347**	P		P	Pg	06 42 04.8	-0.1
PP3	**Marolino**	**0.93**	**15**	S		S	Sn	06 42 24.4	+0.6
PP3				AML		AML			
	comp=E,1890μm,1.5s								
PP3				AML		AML			
	comp=N,1526μm,1.6s								
PP3				AML		AML			
	comp=E,1995μm,1.5s								
PP3				AML		AML			
	comp=N,1440μm,1.5s								
PP3				AML		AML			
	comp=E,1994μm,1.5s								
PP3				AML		AML			
	comp=E,1887μm,1.5s								
MRB1	**Monte Rocchett**	**1.85**	**136**	⇑P		Pg		06 42 26.8	-0.8

ROM 19 06:42:37.9±0.1,42.°484N±0.°004×13.°270E±0.°006, h13km±1km,ML2.6/18,3C-1D,Error ellipse: s-maj=0.5km s-min=0.2km az=262.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.05**	**154**	P		P	Pg	06 42 40.9	+0.4
T1247				S		S	Sg	06 42 42.9	+0.6
T1247				AML		AML			
	comp=E,8820μm,1.6s								
T1247				AML		AML			
	comp=N,12850μm,0.3s								
T1247				AML		AML			
	comp=N,12850μm,1.7s								
T1247				AML		AML			
	comp=E,8668μm,0.2s								
T1247				AML		AML			
	comp=N,12808μm,0.2s								
CAMP	**Campotosto**	**0.12**	**63**	P		Pg		06 42 41.4	+0.1
CAMP				S		Sg		06 42 43.7	+0.1
CAMP				AML		AML			
	comp=E,2675μm,0.3s								
CAMP				AML		AML			
	comp=N,4865μm,0.4s								
CAMP				AML		AML			
	comp=N,4865μm,1.6s								
CAMP				AML		AML			
	comp=E,2675μm,1.7s								
CAMP				AML		AML			
	comp=E,2675μm,0.3s								
CAMP				AML		AML			
	comp=N,4862μm,0.4s								
SMA1	**SAN MARTINO**	**0.15**	**18**	P		Pg		06 42 42.0	+0.2
SMA1				S		Sg		06 42 45.0	+0.5
SMA1				AML		AML			
	comp=N,22550μm,0.3s								
SMA1				AML		AML			
	comp=E,34950μm,0.2s								
SMA1				AML		AML			
	comp=E,34947μm,0.2s								
SMA1				AML		AML			
	comp=N,22587μm,0.3s								
LNSS	**Leonessa**	**0.21**	**305**	P		Pg		06 42 42.9	+0.3
LNSS				S		Sg		06 42 46.3	+0.5
LNSS				AML		AML			
	comp=E,1190μm,0.4s								
LNSS				AML		AML			
	comp=N,1074μm,0.1s								
LNSS				AML		AML			
	comp=E,10190μm,0.4s								
LNSS				AML		AML			
	comp=N,16900μm,0.4s								
LNSS				AML		AML			
	comp=N,16148μm,0.2s								
LNSS				AML		AML			
	comp=E,9180μm,0.2s								
GIGS	**Gran Sasso**	**0.22**	**99**	⇑P		Pg		06 42 42.9	+0.1
GIGS				S		Sg		06 42 46.6	+0.4
GIGS				AML		AML			
	comp=N,484μm,0.6s								
GIGS				AML		AML			
	comp=E,350μm,0.3s								
GIGS				AML		AML			
	comp=E,350μm,0.3s								
GIGS				AML		AML			
	comp=N,335μm,0.2s								
FIAM	**Fiamignano**	**0.24**	**208**	⇑P		Pb		06 42 43.7	-0.5
FIAM				S		Sb		06 42 47.8	-0.6
FIAM				AML		AML			
	comp=N,800μm,0.7s								
FIAM				AML		AML			
	comp=E,1325μm,0.6s								
FIAM				AML		AML			
	comp=E,1324μm,0.6s								
FIAM				AML		AML			
	comp=N,758μm,0.4s								
ARRO	**Arrone**	**0.39**	**284**	P		Pg		06 42 45.7	+0.1
ARRO				S		Sb		06 42 51.7	-0.6
ARRO				AML		AML			
	comp=E,1025μm,0.2s								
ARRO				AML		AML			
	comp=N,885μm,0.9s								
ARRO				AML		AML			
	comp=N,886μm,0.9s								
ARRO				AML		AML			
	comp=E,1024μm,0.2s								
ARRO				AML		AML			
	comp=N,884μm,0.2s								
ARRO				AML		AML			
	comp=E,1024μm,0.2s								
CESX	**Cesi**	**0.53**	**284**	P		Pg		06 42 48.0	-0.3
CESX				AML		AML			
	comp=E,255μm,0.6s								
CESX				AML		AML			
	comp=N,296μm,0.9s								
CESX				AML		AML			
	comp=E,213μm,0.4s								
CESX				AML		AML			
	comp=N,267μm,0.3s								
OFFI	**Offida**	**0.55**	**34**	P		Pb		06 42 49.1	-0.1
OFFI				AML		AML			
	comp=N,1235μm,1.4s								
OFFI				AML		AML			
	comp=E,910μm,1.5s								
OFFI				AML		AML			
	comp=N,1235μm,0.6s								
OFFI				AML		AML			
	comp=N,935μm,0.8s								
OFFI				AML		AML			
	comp=E,843μm,0.4s								
TRTR	**Tortoreto Alta**	**0.57**	**56**	⇓P		Pb		06 42 49.8	+0.1
CERT	**Cerreto**	**0.58**	**202**	⇑P		Pg		06 42 49.2	0.0
CERT				AML		AML			
	comp=E,246μm,1.2s								
CERT				AML		AML			
	comp=N,147μm,1.6s								
CERT				AML		AML			
	comp=N,147μm,0.4s								
GUMA	**Gualdo di Mace**	**0.58**	**5**	P		Pg		06 42 49.3	0.0
GUMA				S		Sb		06 42 58.4	+0.4
GUMA				AML		AML			
	comp=E,1319μm,1.4s								
GUMA				AML		AML			
	comp=N,2475μm,0.7s								
GUMA				AML		AML			
	comp=E,2265μm,0.7s								
GUMA				AML		AML			
	comp=N,2055μm,1.5s								
GUMA				AML		AML			
	comp=E,2265μm,1.3s								
GUMA				AML		AML			
	comp=E,1319μm,0.6s								
GUMA				AML		AML			
	comp=N,2475μm,1.3s								
GUMA				AML		AML			
	comp=N,2055μm,0.5s								
GUMA				AML		AML			
	comp=N,2330μm,0.3s								
GUMA				AML		AML			
	comp=N,1905μm,0.4s								
GUMA				AML		AML			
	comp=E,1275μm,0.3s								
GUMA				AML		AML			
	comp=E,2178μm,0.3s								
CESI	**CESI - Serrava**	**0.59**	**333**	P		Pg		06 42 49.1	-0.3
CESI				S		Sb		06 42 58.0	-0.3
CESI				AML		AML			
	comp=E,479μm,0.2s								
CESI				AML		AML			
	comp=N,858μm,1.1s								
CESI				AML		AML			
	comp=N,858μm,0.9s

T1220	**Camerino, Fraz**	**0.64**	**348**	P	Pg	06 42 49.8	-0.5
T1220				S	Sb	06 42 59.8	+0.1
T1220				AML	AML		
	comp=E,1240μm,0.7s						
T1220				AML	AML		
	comp=N,1285μm,0.4s						
T1220				AML	AML		
	comp=N,1335μm,0.4s						
T1220				AML	AML		
	comp=N,1285μm,0.5s						
T1220				AML	AML		
	comp=N,1335μm,0.5s						
T1220				AML	AML		
	comp=E,1175μm,0.7s						
T1220				AML	AML		
	comp=E,1245μm,0.7s						
T1220				AML	AML		
	comp=N,1335μm,0.5s						
T1220				AML	AML		
	comp=N,1286μm,0.5s						
T1220				AML	AML		
	comp=E,1030μm,0.3s						
T1220				AML	AML		
	comp=E,1059μm,0.3s						
VVLD	**Villa Vallelon**	**0.67**	**157**	P	Pg	06 42 50.8	-0.1
VVLD				AML	AML		
	comp=E,94μm,1.3s						
VVLD				AML	AML		
	comp=N,109μm,0.5s						
VVLD				AML	AML		
	comp=E,94μm,0.7s						
ASSB	**Assisi San Ben**	**0.72**	**321**	P	Pg	06 42 51.3	-0.5
ASSB				AML	AML		
	comp=N,478μm,0.2s						
ASSB				AML	AML		
	comp=E,452μm,0.2s						
ASSB				AML	AML		
	comp=N,477μm,0.2s						
ASSB				AML	AML		
	comp=E,451μm,0.2s						
SNTG	**Esanatoglia**	**0.81**	**343**	P	Pg	06 42 53.0	-0.6
SNTG				AML	AML		
	comp=N,178μm,1.5s						
SNTG				AML	AML		
	comp=E,141μm,0.3s						
SNTG				AML	AML		
	comp=N,178μm,0.5s						
SNTG				AML	AML		
	comp=N,140μm,0.2s						
SNTG				AML	AML		
	comp=N,231μm,0.3s						
SNTG				AML	AML		
	comp=E,141μm,0.3s						
SNTG				AML	AML		
	comp=E,188μm,0.3s						
CING	**Cingoli**	**0.89**	**356**	P	Pg	06 42 54.5	-0.6
CING				AML	AML		
	comp=N,193μm,0.1s						
CING				AML	AML		
	comp=E,201μm,0.2s						
PP3	**Marolino**	**0.93**	**15**	S	Sg	06 43 02.4	-5.5
ARCI	**Arcidosso**	**1.37**	**286**	S	Sn	06 43 12.8	-8.1

*JMA **19** 07:09:56.2±0.1,30.9N±0.3×129.3E±0.6,h12km±1km, MV3.6/29,SW OFF KYUSHU*
*NIED **19** 07:09:56.2,30.86N×129.30E,h12km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.93; $M_{\theta\theta}$0.38; $M_{\phi\phi}$-4.31; $M_{r\theta}$-1.23; $M_{\theta\phi}$0.28; $M_{\phi r}$1.63; Fault plane solution: $M_0$4.62000×10^{14} NP1: ϕ_s342.00000°,δ58.00000°,λ73.00000°. NP2: ϕ_s192.00000°,δ36.00000°,λ115.00000°.*

ISC 19 07:09:55.2±2.1,30.86N±0.05×129.3E±0.1,h14km±11km, n8,σ0^{s}28/15,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.90**	**116**	*eP*	**Pg**	**07 10 12.9**	**+0.2**
JKC				*eS*	**Sg**	**07 10 24.3**	**-0.2**
JSJ	**Shimokoshiki**	**0.91**	**26**	*eP*	**Pg**	**07 10 12.7**	**-0.2**
JSJ				*eS*	**Sg**	**07 10 24.6**	**-0.2**
JNN	**Nakanoshima**	**1.15**	**152**	*eP*	**Pb**	**07 10 17.0**	**+0.2**
JSU	**Suzuyama**	**1.22**	**58**	*eP*	**Pb**	**07 10 18.2**	**+0.2**
JSU				*eS*	**Sb**	**07 10 33.8**	**+0.1**
JYAK	**Yakushimahirau**	**1.25**	**119**	P	**Pn**	**07 10 18.0**	**-0.2**
JYAK				*eS*	**Sb**	**07 10 34.4**	**-0.1**
JTSR	**Tashiro 2**	**1.47**	**77**	*eP*	**Pn**	**07 10 21.6**	**+0.3**
JTSR				*eS*	**Sn**	**07 10 40.3**	**0.0**
JMTN	**Minamitane**	**1.49**	**107**	*eP*	**Pn**	**07 10 21.7**	**+0.1**
JMTN				*eS*	**Sn**	**07 10 40.4**	**-0.5**
JTN	**Tanegashima 3**	**1.50**	**97**	P	**Pn**	**07 10 22.1**	**+0.4**
JTN				*eS*	**Sn**	**07 10 40.9**	**-0.2**

*ISK **19** 07:21:09.7,39.56N×26.1°E,h6km,ML2.9/16*
*THE **19** 07:21:10.5,39.56N×26.09E,h3km±1km,ML2.6/6,Error ellipse: s-maj=2.1km s-min=0.6km az=117.0*
*DDA **19** 07:21:10.4±0.0,39.56N×26.16E,h2km±1km,ML2.7*
*ATH **19** 07:21:11.2,39.56N×25.82E,h12km±3km,ML2.6/2,Error ellipse: s-maj=5.4km s-min=0.9km az=96.0*

ISC 19 07:21:10.1±0.8,39.55N±0.02×26.09E±0.02,h8km±6km, n44,σ0^{s}57/65,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.07**	**143**	P	**Pg**	**07 21 11.9**	**-0.1**
KOCA				*i* AML	AML	07 21 13.0	
	comp=E,6μm,0.2s						
KOCA				S	**S**	**07 21 13.0**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.10**	**160**	Pg	**Pg**	**07 21 12.4**	**-0.1**
EZN	**Ezine**	**0.33**	**34**	P	**Pg**	**07 21 16.8**	**+0.2**
EZN				S	**Sg**	**07 21 21.2**	**+0.3**
	3μm,0.1s						
EZN	**Ezine**	**0.33**	**34**	Pg	**Pg**	**07 21 16.8**	**+0.2**
EZN				Sg	**Sg**	**07 21 21.6**	**+0.7**
SIGR	**SIGRI**	**0.39**	**208**	P	**Pg**	**07 21 18.0**	**+0.3**
SIGR				S	**Sg**	**07 21 23.7**	**+0.9**
	1μm,0.3s						
SIGR	**SIGRI**	**0.39**	**208**	Pg	**Pg**	**07 21 18.0**	**+0.3**
SIGR				Sg	**Sg**	**07 21 23.7**	**+0.9**
SIGR	**SIGRI**	**0.39**	**208**	P	**Pg**	**07 21 18.0**	**+0.3**
SIGR				S	**Sg**	**07 21 23.5**	**+0.8**
SIGR				AML	AML	07 21 24.0	
	comp=E,1572μm,0.3s						
SIGR				AML	AML	07 21 24.1	
	comp=N,3113μm,0.6s						
BAYC	**CANAKKALE_Bayr**	**0.40**	**62**	P	**Pg**	**07 21 17.6**	**-0.3**
BAYC				S	**Sg**	**07 21 22.6**	**-0.7**
BAYC				*i* AML	AML	07 21 23.0	
	comp=N,966nm,0.3s						
BAYC				*i* AML	AML	07 21 23.0	
	comp=N,886nm,0.3s						
ECEA	**Canakkale, Ece**	**0.49**	**8**	P	**Pg**	**07 21 20.3**	**+0.6**
ECEA				S	**Sb**	**07 21 27.7**	**-0.8**
ECEA				*i* AML	AML	07 21 28.0	
	comp=N,557nm,0.3s						
ECEA				*i* AML	AML	07 21 28.0	
	comp=N,810nm,0.4s						
GOKA	**anakkale-Gk**	**0.65**	**348**	P	**Pg**	**07 21 21.3**	**-1.4**
GOKA				S	**Sb**	**07 21 32.4**	**-0.6**
GOKA				*i* AML	AML	07 21 33.0	
	comp=N,464nm,0.2s						
GADA	**Gvkgeada**	**0.65**	**347**	Pg	**Pg**	**07 21 22.8**	**+0.1**
GADA				Sg	**Sg**	**07 21 32.2**	**+1.0**
BUHA	**Balikesir, Bur**	**0.77**	**94**	P	**Pg**	**07 21 24.6**	**-0.3**
BUHA				S	**Sg**	**07 21 34.5**	**-0.4**
DKL	**Dikili**	**0.80**	**127**	Pg	**Pg**	**07 21 25.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.89**	**19**	Pg	**Pg**	**07 21 27.2**	**-0.1**
GELI				Sg	**Sb**	**07 21 40.1**	**+0.1**
LPK	**Lapseki**	**0.97**	**32**	Pg	**Pg**	**07 21 28.5**	**-0.2**
ZEDA	**zmir-Bergama**	**0.97**	**127**	P	**Pg**	**07 21 28.9**	**+0.2**
ZEDA				S	**Sb**	**07 21 42.6**	**+0.5**
SMTH	**Samothraki Isl**	**1.01**	**335**	P	**Pg**	**07 21 29.8**	**+0.2**
SMTH				S	**Sb**	**07 21 43.7**	**+0.3**
	comp=N,170nm,0.2s						
SMTH	**Samothraki Isl**	**1.01**	**335**	P	**Pg**	**07 21 29.2**	**-0.4**
SMTH				S	**Sg**	**07 21 42.0**	**-0.7**
PSRA	**Psara**	**1.09**	**202**	P	**Pg**	**07 21 30.8**	**-0.2**
PSRA				S	**Sg**	**07 21 44.7**	**-0.5**
CAVK	**Edirne/Enez-Ca**	**1.14**	**3**	P	**Pn**	**07 21 32.9**	**+0.5**
CAVK				S	**Sn**	**07 21 48.0**	**-0.2**
ERIK	**Erikli-Kesan**	**1.16**	**16**	Pn	**Pg**	**07 21 32.4**	**-0.1**
ENEZ	**Enez**	**1.18**	**2**	P	**Pb**	**07 21 33.1**	**+0.3**
ENEZ				S	**Sn**	**07 21 49.2**	**-0.1**
	comp=N,390nm,0.4s						
ENEZ	**Enez**	**1.18**	**2**	Pn	**Pg**	**07 21 32.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.25**	**48**	Pn	**Pg**	**07 21 33.5**	**-0.7**
URLA	**Izmir**	**1.26**	**161**	Pn	**Pn**	**07 21 32.9**	**-1.1**
STEP	**BALIKESIR_Sava**	**1.27**	**97**	P	**Pn**	**07 21 34.0**	**-0.3**
STEP				S	**Sn**	**07 21 51.9**	**+0.3**
STEP				*i* AML	AML	07 21 58.0	
	comp=N,150nm,0.7s						
GONE	**Gonen-Balikesi**	**1.33**	**68**	Pn	**Pn**	**07 21 34.9**	**-0.1**
ALN	**Alexandroupoli**	**1.34**	**359**	P	**Pn**	**07 21 35.3**	**+0.1**
ALN				S	**Sn**	**07 21 53.8**	**+0.6**
	comp=N,280nm,0.5s						
ALN	**Alexandroupoli**	**1.34**	**359**	Pn	**Pn**	**07 21 35.1**	**-0.1**
ALN	**Alexandroupoli**	**1.34**	**359**	P	**Pn**	**07 21 35.5**	**+0.3**
ALN				AML	AML	07 21 54.8	
	comp=E,751μm,0.6s						
ALN				AML	AML	07 21 55.0	
	comp=N,393μm,0.3s						
BALB	**Balikesir**	**1.39**	**86**	Pn	**Pn**	**07 21 35.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.41**	**36**	Pn	**Pn**	**07 21 35.4**	**-0.8**
THAS	**Thassos island**	**1.48**	**315**	P	**Pn**	**07 21 35.5**	**-1.7**
EDC	**Edincik**	**1.58**	**59**	Pn	**Pn**	**07 21 38.3**	**-0.2**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pn**	**07 21 39.2**	**-0.2**
RDO				S	**Sn**	**07 22 01.4**	**+0.7**
	comp=N,72nm,0.5s						
RDO	**Rodhopi**	**1.65**	**345**	Pn	**Pn**	**07 21 39.7**	**+0.3**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pn**	**07 21 40.0**	**+0.7**
KYMI	**Kymi, Euboea I**	**1.80**	**240**	P	**Pn**	**07 21 40.7**	**-0.8**
TKR	**Tekirdag**	**1.81**	**37**	Pn	**Pn**	**07 21 42.7**	**+1.0**
KAVA	**Kavala**	**1.88**	**321**	P	**Pn**	**07 21 42.8**	**+0.2**
KAVA	**Kavala**	**1.88**	**321**	P	**Pn**	**07 21 42.1**	**-0.5**
KCTX	**Karacabey (Bur**	**1.88**	**67**	Pn	**Pn**	**07 21 42.9**	**+0.2**
DST	**Dursunbey**	**1.96**	**88**	Pn	**Pn**	**07 21 43.9**	**+0.2**
EREA	**Eretria**	**2.03**	**237**	P	**Pn**	**07 21 44.0**	**-0.7**

IDC 19 07:27:00.6±330.0,37.62N×136.45E,h0km,Error ellipse: s-maj=142.4km s-min=74.8km az=127.0,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**3.88**	**125**	I	I	07 53 40.0	
	baz=304,slow=322,SNR=1.3						
I45RU	**USSURIYSK INFR**	**7.39**	**334**	I	I	08 13 40.0	
	baz=146,slow=340,SNR=1.2						
I44RU	**PETROPAVLOVSK**	**21.39**	**37**	I	I	09 35 20.0	
	baz=234,slow=335,SNR=2.5						

IDC 19 07:30:37.5±3.0,13.20S×66.53E,h0km,mb3.5/3, mbtmp3.5/3,MS3.3/9,Error ellipse: s-maj=115.5km s-min=43.8km az=50.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**8.04**	**47**	T	T	07 40 45.3	
	baz=226,slow=75,SNR=471						
H08S2	**Diego Garcia H**	**8.05**	**47**	T	T	07 40 47.4	
	baz=226,slow=75,SNR=568						
H08S3	**Diego Garcia H**	**8.06**	**47**	T	T	07 40 47.7	
	baz=226,slow=75,SNR=601						
PSI	**Prapat**	**35.87**	**66**	LR	LR	07 50 33.0	
	comp=Z,80nm,18.4s,baz=225,slow=33						
LBTB	**Lobatse**	**40.27**	**247**	LR	LR	07 52 45.3	
	comp=Z,53nm,19.7s,baz=90,slow=33						
BOSA	**Boshof**	**41.27**	**242**	LR	LR	07 52 13.9	
	comp=Z,38nm,18.3s,baz=170,slow=31						
CMAR	**Chiang Mai Arr**	**44.85**	**46**	LR	LR	07 54 41.8	
	comp=Z,21nm,21.5s,baz=165,slow=32						
SUR	**Sutherland**	**45.87**	**238**	LR	LR	07 56 03.5	
	comp=Z,35nm,19.1s,baz=213,slow=33						
TSUM	**Tsumeb, Nam**	**47.26**	**256**	LR	LR	07 57 52.4	
	comp=Z,48nm,18.5s,baz=328,slow=35						
H01W3	**Cape Leeuwin H**	**48.01**	**125**	T	T	08 30 29.1	
	baz=285,slow=75,SNR=7.1						
H01W2	**Cape Leeuwin H**	**48.01**	**125**	T	T	08 30 30.8	
	baz=285,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**48.02**	**125**	T	T	08 30 30.4	
	baz=285,slow=75,SNR=12						
KAPI	**Kappang**	**53.09**	**86**	LR	LR	08 01 34.0	
	comp=Z,14nm,19.6s,baz=223,slow=35						
ASAR	**Alice Springs**	**64.27**	**110**	P	P	07 41 16.4	+1.3
	0.4nm,0.8s,baz=263,slow=5.5,SNR=3.3						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**64.97**	**106**	P	P	07 41 18.8	-1.0
	0.6nm,0.8s,baz=278,slow=5.6,SNR=6.3						
	0.6nm,0.8s						
SONM	**Songino Array**	**70.37**	**27**	P	P	07 41 53.8	+0.4
	0.4nm,0.8s,baz=221,slow=5.7,SNR=3.2						
	0.4nm,0.8s						
KSRS	**Korea Array**	**76.49**	**46**	LR	LR	08 14 47.7	
	comp=Z,9.2nm,20.4s,baz=325,slow=35						
MJAR	**Matsushiro Arr**	**83.57**	**50**	LR	LR	08 21 08.0	
	comp=Z,9.4nm,18.1s,baz=210,slow=36						
PDAR	**Pinedale Array**	**150.35**	**354**	PKPbc	PKPbc	07 50 30.9	-0.5
	0.8nm,0.8s,baz=90,slow=2.7,SNR=6.4						

IDC 19 07:36:38.5±2.5,54.29N×85.89E,h0km,mbtmp3.1/2, ML2.7/2,Error ellipse: s-maj=18.4km s-min=10.4km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.72**	**242**	I	I	07 41 27.6	
	0.1nm,0.7s,baz=62,slow=342,SNR=3.3						
ZALV	**Zalesovo Beam**	**0.72**	**242**	Pg	Pg	07 36 50.7	-1.6
	0.3nm,0.3s,baz=61,slow=17,SNR=5.6						
ZALV				Lg	Lg	07 37 03.0	
	3.1nm,0.3s,baz=61,slow=30,SNR=13						
KURBB	**Kurchatov Arra**	**5.81**	**234**	Pn	Pn	07 38 06.5	+0.6
	0.1nm,0.3s,baz=50,slow=13,SNR=2.3						
	1.0nm,0.2s						
MKAR	**Makanchi Array**	**7.85**	**198**	Pn	Pn	07 38 35.2	+1.3
	0.2nm,0.3s,baz=23,slow=12,SNR=11						
	0.2nm,0.3s						

*OSPL **19** 07:38:13.7±2.1,17.93N×73.55W,h0km±16km,ML2.2*
*SSNC **19** 07:38:14.4±1.9,17.86N×73.40W,h52km±568km,MD3.2, ML1.8*

ISC 19 07:38:16.7±2.2,18.0N±0.2×73.55W±0.08,h35km,n6, σ1^{s}20/12,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.28**	**68**	*i* P	**Pn**	**07 38 36.5**	**-1.6**
PAPH				*eS*	**Sn**	**07 38 54.5**	**+0.3**
PAPH				IAML		07 38 58.6	
	comp=Z,32nm,0.6s						
LOPE2	**Hotel El Peder**	**1.72**	**90**	*i* P	**Pn**	**07 38 43.2**	**-0.9**
LOPE2				*eS*	**Sn**	**07 39 05.1**	**+0.3**
LOPE2				IAML		07 39 15.0	
	comp=Z,33nm,2.8s						
PODR	**Polo**	**2.16**	**86**	*i* P	**Pn**	**07 38 50.4**	**0.0**
PODR				*eS*	**Sn**	**07 39 18.4**	**+2.3**
MASC	**Masc**	**2.22**	**343**	*eP*	**Pn**	**07 38 50.6**	**-0.4**
MASC				*eS*	**Sn**	**07 39 17.7**	**+0.3**
MASC				IAML		07 39 19.1	
	comp=N,3.6nm,0.5s						
MASC				IAML		07 39 19.5	
	comp=E,3.7nm,0.4s						
GTBY	**Guantanamo Bay**	**2.39**	**322**	*eP*	**Pn**	**07 38 53.2**	**-0.2**
GTBY				*eS*	**Sn**	**07 39 23.0**	**+1.5**
RCC	**Rio Carpintero**	**2.81**	**314**	*eP*	**Pn**	**07 38 58.2**	**-1.0**
RCC				*eS*	**Sn**	**07 39 32.2**	**+0.3**
RCC				IAML		07 39 38.3	
	comp=N,2.1nm,0.6s						
RCC				IAML		07 39 45.5	
	comp=E,2.0nm,0.5s						

*VAO **19** 07:47:55.5±1.3,15.19S×71.85W,h116km±15km,mb4.0*

ISC 19 07:47:56.4±2.1,15.2S±0.1×71.8W±0.2,h124km,n9, σ1^{s}00/10,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**7.43**	**353**	*eP*	**Pn**	**07 49 41.6**	**-0.6**
CZSB				*eS*	**Sn**	**07 51 05.6**	**+0.5**
ETMB	**Extrema**	**7.62**	**47**	*eP*	**Pn**	**07 49 44.2**	**-0.6**
PTLB	**Pontes e Lacer**	**12.24**	**93**	*eP*	**Pn**	**07 50 46.6**	**0.0**
PP1B	**Ponte de Pedra**	**16.43**	**101**	*eP*	**Pn**	**07 51 40.0**	**+0.1**
C2SB	**Chapadao do Su**	**18.51**	**104**	*eP*	**P**	**07 52 02.9**	**-0.2**
ITTB	**Itaituba**	**19.12**	**58**	*eP*	**P**	**07 52 11.2**	**+1.4**
ITQB	**Itaqui**	**20.11**	**138**	*eP*	**P**	**07 52 21.5**	**+1.0**
PTGB	**Pitanga**	**20.84**	**120**	*eP*	**P**	**07 52 26.9**	**-1.6**
JANB	**Januaria**	**26.55**	**93**	*eP*	**P**	**07 53 22.3**	**-0.7**

*ISK **19** 07:58:53.3,34.86N×33.98E,h26km,ML2.5/9*
*NIC **19** 07:58:54.3±0.0,34.83N×33.94E,h17km±1km,Ml2.4/7*

ISC 19 07:58:53.9±1.8,34.84N±0.09×34.00E±0.07,h23km±9km, n16,σ0^{s}65/25,1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.16**	**13**	⇓*iP*	**Pb**	**07 58 58.8**	**-0.1**
PARAL				S	**Sb**	**07 59 02.9**	**+0.6**
PARAL				AML	AML	07 59 05.5	
	4.0nm,0.4s						
PARAL				AML	AML	07 59 05.5	
	4.0nm,0.4s						
PARAL				AML	AML	07 59 05.7	
	6.3nm,0.4s						
PARAL				AML	AML	07 59 05.7	
	6.3nm,0.4s						
MVOU	**Mavrovouni**	**0.35**	**301**	P	**Pb**	**07 59 01.0**	**-0.5**
MVOU				S	**Sb**	**07 59 05.9**	**-0.8**
MVOU				AML	AML	07 59 08.0	
	2.4nm,0.4s						
MVOU				AML	AML	07 59 08.0	
	2.4nm,0.4s						
MVOU				AML	AML	07 59 09.3	
	2.3nm,0.2s						
MVOU				AML	AML	07 59 09.3	
	2.3nm,0.2s						
CSS	**Mathiatis**	**0.56**	**283**	Pg	**Pb**	**07 59 04.8**	**-0.3**
CSS				Sg	**Sb**	**07 59 13.4**	**+0.7**
CSS	**Mathiatis**	**0.56**	**283**	P	**Pb**	**07 59 04.7**	**-0.4**
CSS				S	**Sb**	**07 59 13.3**	**+0.7**
CSS				AML	AML	07 59 17.3	
	0.3nm,0.6s						
CSS				AML	AML	07 59 17.3	
	0.3nm,0.6s						
LFK	**Lefkose**	**0.58**	**319**	Pg	**Pb**	**07 59 05.6**	**+0.1**
LFK				Sg	**Sb**	**07 59 13.9**	**+0.6**
ASGA	**Asgata**	**0.62**	**265**	P	**Pb**	**07 59 05.4**	**-0.6**
ASGA				S	**Sb**	**07 59 14.5**	**+0.2**
ASGA				AML	AML	07 59 21.6	
	0.4nm,0.4s						
ASGA				AML	AML	07 59 21.6	
	0.4nm,0.4s						
ASGA				AML	AML	07 59 24.1	
	0.5nm,0.4s						
ASGA				AML	AML	07 59 24.1	
	0.5nm,0.4s						
EREN	**Erenkoy**	**0.70**	**12**	Pg	**Pb**	**07 59 07.7**	**+0.2**
SZAC	**Souni**	**0.92**	**265**	P	**Pn**	**07 59 11.3**	**-0.1**
SZAC				S	**Sn**	**07 59 24.2**	**+0.2**
SZAC				AML	AML	07 59 29.0	
	0.9nm,0.3s						
SZAC				AML	AML	07 59 29.0	
	0.9nm,0.3s						
LEF	**Lefka**	**0.95**	**287**	Pg	**Pn**	**07 59 11.8**	**0.0**
AKDN	**Akdeniz- Kıbrı**	**0.96**	**299**	Pg	**Pb**	**07 59 11.1**	**-0.7**
ALFC	**Alefka**	**1.19**	**286**	P	**Pb**	**07 59 15.2**	**-0.6**
ALFC				S	**Sb**	**07 59 32.1**	**+1.4**
ALFC				AML	AML	07 59 36.8	
	0.3nm,0.5s						
ALFC				AML	AML	07 59 36.8	
	0.3nm,0.5s						
ALFC				AML	AML	07 59 37.9	
	0.3nm,0.4s						
ALFC				AML	AML	07 59 37.9	
	0.3nm,0.4s						
AKMS	**Akamas**	**1.38**	**278**	P	**Pb**	**07 59 19.2**	**+0.2**
AKMS				S	**Sb**	**07 59 37.4**	**+1.3**
AKMS				AML	AML	07 59 45.5	
	0.2nm,0.8s						
AKMS				AML	AML	07 59 45.5	
	0.2nm,0.8s						
AKMS				AML	AML	07 59 52.2	
	0.2nm,0.9s						
AKMS				AML	AML	07 59 52.2	
	0.2nm,0.9s						
IKL	**Isikli**	**1.42**	**350**	Pn	**Pn**	**07 59 17.6**	**-0.6**
BERE	**Bereket-Mersin**	**1.63**	**337**	Pn	**Pn**	**07 59 20.8**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.66**	**344**	Pn	**Pn**	**07 59 21.0**	**-0.6**
GAZI	**Gazipasa**	**1.95**	**316**	Pn	**Pn**	**07 59 25.2**	**-0.4**

*IDC **19** 08:07:07.6±2.4,54.17N×86.32E,h0km,mbtmp3.0/2, ML2.9/2,Error ellipse: s-maj=18.7km s-min=11.3km az=59.0*

NNC 19 08:07:04.2±1.4,54.50N×86.30E,h0km,mb2.7,mpv2.6, 3C-3D,Error ellipse: s-maj=36.2km s-min=7.4km az=151.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**238**	I	I	08 12 43.8	
	baz=74,slow=348,SNR=5.4						
ZAA0	**Zalesovo Array**	**1.03**	**238**	⇓P	Pg	08 07 23.8	-0.1
	0.3nm,0.3s						
ZAA0				⇓S	Sb	08 07 38.1	-0.7
	1.3nm,0.3s						
ZALV	**Zalesovo Beam**	**1.03**	**238**	Pg	Pg	08 07 23.9	0.0
	4.3nm,0.3s,baz=75,slow=17,SNR=20						
ZALV				Lg	Lg	08 07 38.4	
	9.7nm,0.3s,baz=78,slow=30,SNR=24						
KURBB	**Kurchatov Arra**	**6.12**	**234**	Pn	Pn	08 08 37.9	+2.1
	0.2nm,0.3s,baz=53,slow=13,SNR=4.3						
KURBB				Lg	Lg	08 10 17.8	
	baz=41,slow=23,SNR=1.3						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**6.12**	**234**	⇓Pn	Pn	08 08 36.0	+0.2
	0.9nm,0.3s						
KURBB				⇑Lg	Lg	08 10 18.5	
	3.2nm,0.6s						
MK31	**Makanchi Array**	**8.12**	**200**	⇑Pn	Pn	08 09 03.7	+0.4
	0.5nm,0.7s,baz=26,slow=14,SNR=12						
MK31				⇑Lg	Lg	08 11 20.8	
	0.9nm,0.8s,baz=346,slow=8.6,SNR=4.0						
MKAR	**Makanchi Array**	**8.12**	**200**	Pn	Pn	08 09 03.7	+0.4
	0.3nm,0.3s,baz=24,slow=14,SNR=16						
MKAR				Lg	Lg	08 11 14.2	
	baz=28,slow=33,SNR=3.4						
	0.3nm,0.3s						

IDC 19 08:27:24.6±4.4,18.36S×178.38W,h602km±34km, mb2.7/3,mbtmp3.7/4,Error ellipse: s-maj=241.7km s-min=28.9km az=158.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.45**	**280**	P	P	08 28 46.7	0.0
	18nm,0.4s,baz=242,slow=23,SNR=31						
WRA	**Warramunga Arr**	**44.58**	**260**	P	P	08 34 45.0	+0.1
	0.3nm,0.3s,baz=96,slow=7.6,SNR=17						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.69**	**255**	P	P	08 34 45.5	-0.3
	0.7nm,0.5s,baz=88,slow=7.4,SNR=15						
	0.7nm,0.5s						
TXAR	**Lajitas Array**	**86.22**	**58**	P	P	08 39 03.8	-0.1
	0.3nm,0.8s,baz=225,slow=5.1,SNR=3.6						
	0.3nm,0.8s						

IDC 19 08:38:21.2±2.8,54.22N×87.11E,h0km,mbtmp3.0/2, ML2.5/2,Error ellipse: s-maj=25.2km s-min=16.3km az=64.0,Southwestern Siberia

| Code | Station Name | Δ° | AZ° | Phase

MKAR Sn Sn 08 41 50.4 -0.5
0.1nm,0.3s,baz=20,slow=26,SNR=2.8
MKAR Lg Lg 08 42 36.2
baz=27,slow=30,SNR=1.8
0.3nm,0.4s

IDC 19 08:42:29.4±3.4, 54°.14N×87°.23E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=31.2km s-min=19.8km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**263**	I		I		08 52 20.0	
	0.1nm,0.7s,baz=84,slow=342,SNR=8.0								
ZALV	**Zalesovo Beam**	**1.43**	**263**	Pg		Pn		08 42 54.7	-1.9
	0.8nm,0.3s,baz=80,slow=13,SNR=14								
ZALV				Lg		Lg		08 43 15.0	
	0.6nm,0.3s,baz=81,slow=29,SNR=6.4								
KURBB	**Kurchatov Arra**	**6.38**	**240**	Pn		Pn		08 44 05.5	+1.0
	baz=55,slow=14,SNR=2.0								
	0.2nm,0.3s								
MKAR	**Makanchi Array**	**7.99**	**205**	Pn		Pn		08 44 28.2	+1.5
	0.1nm,0.3s,baz=26,slow=15,SNR=1.7								
	0.1nm,0.2s								

IDC 19 08:59:18.4±2.9, 53°.73N×86°.90E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=27.5km s-min=15.7km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**281**	I		I		09 08 09.1	
	baz=104,slow=341,SNR=7.3								
ZALV	**Zalesovo Beam**	**1.25**	**281**	Pg		Pg		08 59 40.4	-1.9
	0.7nm,0.3s,baz=95,slow=16,SNR=12								
ZALV				Lg		Lg		08 59 59.8	
	0.5nm,0.3s,baz=98,slow=29,SNR=3.7								
KURBB	**Kurchatov Arra**	**6.02**	**242**	Pn		Pn		09 00 49.5	+1.0
	0.1nm,0.3s,baz=56,slow=14,SNR=3.2								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**7.54**	**205**	Pn		Pn		09 01 11.2	+1.6
	0.1nm,0.3s,baz=23,slow=13,SNR=5.0								
	0.1nm,0.3s								

*IDC **19** 09:09:04.4±3.2, 54°.38N×86°.92E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=28.5km s-min=17.5km az=58.0*

NNC 19 09:08:58.9±2.1, 54°.63N×87°.33E, h0km, mb3.1, mpv2.9, 3C-4D, Error ellipse: s-maj=17.3km s-min=14.2km az=155.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**246**	I		I		09 16 22.7	
	baz=71,slow=339,SNR=0.8								
ZAA0	**Zalesovo Array**	**1.62**	**246**	⇓P		Pn		09 09 28.1	-0.5
	0.4nm,0.6s,baz=64,slow=16								
ZAA0				⇓S		Sb		09 09 50.7	0.0
	0.7nm,0.2s								
ZALV	**Zalesovo Beam**	**1.62**	**246**	Pg		Pn		09 09 27.7	-1.0
	1.3nm,0.3s,baz=68,slow=16,SNR=16								
ZALV				Lg		Lg		09 09 46.6	
	1.5nm,0.3s,baz=69,slow=28,SNR=8.3								
KURK	**Kurchatov**	**6.59**	**237**	⇓Pn		Pn		09 10 37.4	+0.5
	2.8nm,1.1s								
KURK				⇑Sn		Sn		09 11 52.7	+0.1
	1.2nm,0.8s								
KURK				⇑Lg		Lg		09 12 28.6	
	5.1nm,1.4s								
KURBB	**Kurchatov Arra**	**6.69**	**237**	Pn		Pn		09 10 40.3	+2.0
	0.1nm,0.3s,baz=54,slow=14,SNR=14								
	1.5nm,0.5s								
KURBB	**Kurchatov Arra**	**6.69**	**237**	⇓Pn		Pn		09 10 39.0	+0.7
	2.2nm,0.6s								
KURBB				⇑Sn		Sn		09 11 55.2	+0.1
	3.6nm,0.6s								
MKAR	**Makanchi Array**	**8.47**	**204**	Pn		Pn		09 11 05.0	+2.2
	0.1nm,0.3s,baz=21,slow=12,SNR=5.8								
MKAR				Sn		Sn		09 12 36.1	-2.9
	0.1nm,0.3s,baz=25,slow=27,SNR=3.8								
	0.2nm,0.3s								

*IDC **19** 09:19:04.3±1.3, 19°.18S×177°.14W, h579km±24km, mb3.1/3, mbtmp4.1/7, Error ellipse: s-maj=29.3km s-min=25.2km az=142.0*

ISC 19 09:19:04.8±1.0, 19°.0S±0°.2×177°.1W±0°.2, h600km±n7, σ1°.16/9, mb3.8/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.77**	**285**	P		**P**		**09 20 34.9**	**-1.2**
	2.5nm,0.4s,baz=114,slow=20,SNR=4.7								
AFI	**Afiamalu**	**7.21**	**46**	P		**P**		**09 20 57.2**	**+0.3**
	11nm,0.6s,baz=250,slow=22,SNR=1.3								
AFI				S		**S**		**09 22 28.3**	**-0.4**
	16nm,0.7s,baz=77,slow=23,SNR=1.9								
DZM	**Mont Dzumac**	**15.70**	**256**	P		**P**		**09 22 19.9**	**+0.3**
	3.6nm,0.9s,baz=102,slow=17,SNR=2.1								
URZ	**Urewera**	**19.81**	**194**	P		**P**		**09 22 55.5**	**-1.2**
	19nm,1.1s,baz=330,slow=3.6,SNR=8.1								
STKA	**Stephens Creek**	**39.19**	**243**	P		**P**		**09 25 43.6**	**+0.7**
	1.1nm,0.4s,baz=69,slow=8.6,SNR=4.1								
	1.1nm,0.4s								
WRA	**Warramunga Arr**	**45.65**	**260**	P		**P**		**09 26 33.0**	**-0.4**
	1.2nm,0.4s,baz=98,slow=7.7,SNR=34								
	1.2nm,0.4s								
ASAR	**Alice Springs**	**45.69**	**255**	P		**P**		**09 26 33.6**	**0.0**
	1.7nm,0.4s,baz=87,slow=8.3,SNR=55								
ASAR				PcP		**PcP**		**09 28 00.9**	**+2.1**
	0.2nm,0.6s,baz=66,slow=4.6,SNR=2.4								
	1.7nm,0.4s								

TAP 19 09:23:44.7, 24°.14N×121°.60E, h3km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.03**	**49**	P		Pg		09 23 45.5	+0.1
	baz=50								
ETL				S		Sg		09 23 46.6	+0.6
	baz=50								
NACB	**Ninganchiao**	**0.03**	**348**	*i* P		Pg		09 23 46.0	+0.5
	baz=348								
NACB				*i* S		Sg		09 23 46.8	+0.6
	baz=348								
TWD	**Chiawan**	**0.06**	**185**	*i* P		Pg		09 23 46.6	+0.6
	baz=177								
TWD				*i* S		Sg		09 23 48.0	+1.2
	baz=177								
ETLH	**Xiulin Townshi**	**0.13**	**300**	P		Pg		09 23 48.2	+1.0
	baz=300								
ETLH				*i* S		Sg		09 23 51.3	+2.4
	baz=300								
ETM	**Tongmen**	**0.20**	**210**	P		Pg		09 23 49.2	+0.6
	baz=209								
ETM				S		Sg		09 23 53.6	+2.4
	baz=209								
TEYL	**Yanliau Villag**	**0.27**	**181**	*e*P		Pg		09 23 49.7	-0.2
	baz=179								
WHF	**Hehuan Shan**	**0.31**	**271**	*i* P		Pb		09 23 51.9	-1.2
	baz=270								
WHF				S		Sg		09 23 56.0	+1.2
	baz=270								
ENA	**Nanau**	**0.31**	**24**	P		Pb		09 23 52.0	-0.9
	baz=25								
ENA				S		Sg		09 23 55.9	+1.1
	baz=25								
FUSS	**Fushou**	**0.34**	**288**	*e*P		Pb		09 23 53.3	-0.3
	baz=287								
FUSS				S		Sb		09 23 58.6	-1.0
	baz=287								
NNSB	**Datong**	**0.35**	**325**	*e*P		Pb		09 23 52.6	-1.0
	baz=325								
NNSB				*e*S		Sb		09 23 58.6	-1.0
	baz=325								
NNSH	**Datong**	**0.35**	**325**	*e*P		Pb		09 23 52.7	-0.9
	baz=325								
NNSH				*e*S		Sb		09 23 58.3	-1.3
	baz=325								
ESL	**Shilin**	**0.36**	**205**	*e*S		Sb		09 23 59.4	-0.4
	baz=204								
LATG	**Datong**	**0.40**	**350**	P		Pb		09 23 54.4	0.0
	baz=350								
LATG				S		Sb		09 24 00.6	-0.4
	baz=350								
CHGB	**Renai**	**0.40**	**258**	P		Pb		09 23 54.2	-0.3
	baz=258								
CHGB				S		Sb		09 24 00.3	-0.8
	baz=258								
OWD	**Renai**	**0.43**	**244**	*e*P		Pb		09 23 54.0	-1.0
	baz=244								
OWD				*e*S		Sb		09 24 01.5	-0.5
	baz=244								
NDT	**Datong Townshi**	**0.47**	**350**	*e*S		Sb		09 24 03.0	+0.2
	baz=349								
WUSB	**Renai**	**0.47**	**251**	*e*P		Pb		09 23 55.7	0.0
	baz=251								
WUSB				*e*S		Sb		09 24 02.6	-0.3
	baz=251								
ENTT	**Nioudou**	**0.50**	**356**	P		Pb		09 23 56.1	0.0
	baz=357								
ENTT				S		Sb		09 24 04.1	+0.4
	baz=357								
YHNB	**Yeheng**	**0.56**	**339**	*e*P		Pb		09 23 57.6	+0.3
	baz=338								
YHNB				*e*S		Sb		09 24 06.2	+0.4
	baz=338								
VWDT	**VWDT**	**0.57**	**228**	*e*P		Pb		09 23 57.6	+0.3
	baz=227								
VWDT				*e*S		Sb		09 24 06.2	+0.4
	baz=227								
NSK	**Sanguang**	**0.58**	**337**	*e*P		Pb		09 23 57.6	+0.1
	baz=337								
NSK				S		Sb		09 24 06.4	+0.3
	baz=337								
FUSB	**Fushanzhiwuyua**	**0.61**	**359**	*e*P		Pb		09 23 58.9	+0.8
	baz=358								
FUSB				S		Sb		09 24 08.0	+0.8
	baz=358								
NWLT	**Wulai**	**0.64**	**352**	*e*P		Pb		09 23 58.8	+0.3
	baz=351								
NWLT				*e*S		Sb		09 24 07.9	0.0
	baz=351								

JMA 19 09:24:04.1±0.2, 24°.9N±0°.8×123°.4E±0°.3, h23km, MV1.5/8, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**219**	*e*P			Pb	09 24 14.6	-0.2
YOJ				*e*S			Sb	09 24 22.1	-0.1
IRIF	**Iriomote-Funau**	**0.62**	**150**	*e*S			Sb	09 24 24.7	0.0
JKRS	**Kuro-shima**	**0.85**	**138**	P			Pb	09 24 20.0	-0.3
JKRS				S			Sb	09 24 31.5	+0.2
JIJ	**Ishigaki jima**	**0.86**	**126**	P			Pb	09 24 19.9	-0.4
JIJ				S			Sb	09 24 30.8	-0.7
JISG	**Ishigakijimahi**	**0.89**	**109**	*e*P			Pb	09 24 20.5	-0.4
JISG				*e*S			Sb	09 24 32.1	-0.3
HATJ	**Hateruma jima**	**0.90**	**155**	*e*S			Sb	09 24 33.1	+0.4

*IDC **19** 09:37:19.4±1.9, 56°.81N×152°.38W, h0km, mb3.7/2, mbtmp3.7/4, ML3.2/1, MS3.0/2, Error ellipse: s-maj=29.9km s-min=16.5km az=97.0*

*NEIC **19** 09:37:22.5±1.8, 56°.78N±0°.08×152°.3W±0°.2, h42km±47km, Error ellipse: s-maj=15.5km s-min=8.4km az=131.0*

*AEIC **19** 09:37:23.8±1.9, 56°.80N±0°.10×152°.4W±0°.1, h29km±8km, ML3.3, ML3.6/52(NEIC), Error ellipse: s-maj=16.1km s-min=7.2km az=146.0*

ISC 19 09:37:21.2±1.0, 56°.76N±0°.06×152°.28W±0°.05, h22km, n129, σ0°.86/125, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.72**	**310**				**Pn**	**09 37 35.6**	**-0.4**
OHAK						IAML		09 37 45.4	
	comp=E,3μm,0.5s								
OHAK	**Old Harbor**	**0.72**	**310**	P		**P**	**Pn**	**09 37 35.6**	**-0.4**
	baz=129								
OHAK				S			**Sn**	**09 37 44.7**	**-1.6**
	baz=129								
KDAK	**Kodiak Island**	**1.03**	**351**	Pg		**Pb**		**09 37 40.1**	**-0.3**
	comp=E,74nm,0.3s,baz=179,slow=5.5,SNR=5134								
KDAK				Lg		Lg		09 37 52.2	
	comp=E,65nm,0.3s,baz=231,slow=21,SNR=8.9								
KDAK	**Kodiak Island**	**1.03**	**351**				**Pb**	**09 37 40.3**	**-0.1**
KDAK	**Kodiak Island**	**1.03**	**351**	S			**Sb**	**09 37 52.1**	**-1.4**
	baz=173								
SII	**Sitkinak Islan**	**1.07**	**260**	Pn		**Pn**	**Pn**	**09 37 41.0**	**+0.1**
SII						IAML		09 38 14.3	
	comp=E,1μm,0.8s								
SII	**Sitkinak Islan**	**1.07**	**260**	P		**Pn**	**Pn**	**09 37 41.0**	**+0.1**
	baz=76								
Q20K	**Shuyak Island**	**1.85**	**358**	P		**Pn**	**Pn**	**09 37 52.2**	**+0.6**
	baz=179								
Q20K				S			**Sn**	**09 38 12.4**	**-1.9**
	baz=179								
CHIR	**Chirikof Islan**	**2.09**	**245**				**Pn**	**09 37 55.0**	**+0.2**
CHIR						IAML		09 38 19.7	
	comp=N,351nm,0.4s								
CHIR	**Chirikof Islan**	**2.09**	**245**				**Sn**	**09 38 18.2**	**-1.9**
CHIR	**Chirikof Islan**	**2.09**	**245**	P		**Pn**	**Pn**	**09 37 55.1**	**+0.3**
	baz=60								
CHIR				S			**Sn**	**09 38 18.2**	**-1.9**
	baz=60								
Q19K	**Cape Douglas,**	**2.29**	**342**	Pn		**Pn**	**Pn**	**09 37 58.8**	**+1.2**
Q19K						IAML		09 38 41.6	
	comp=N,382nm,1.5s								
Q19K						IAML		09 38 42.6	
	comp=E,444nm,1.0s								
Q19K	**Cape Douglas,**	**2.29**	**342**	P		**Pn**	**Pn**	**09 37 59.1**	**+1.4**
	baz=162								
Q18K	**Katmai Hardscr**	**2.39**	**323**	P		**Pn**	**Pn**	**09 38 00.1**	**+1.0**
	baz=141								
R17K	**Ugashik Creek**	**2.40**	**293**	P		**Pn**	**Pn**	**09 37 59.6**	**+0.5**
	baz=109								
Q17K	**Contact Creek**	**2.46**	**309**	P		**Pn**	**Pn**	**09 38 00.8**	**+0.8**
	baz=126								
CNPM	**China Poot**	**2.83**	**11**				**Pn**	**09 38 05.6**	**+0.6**
HOM	**Homer**	**2.92**	**6**				**Pn**	**09 38 07.2**	**+0.9**
HOM	**Homer**	**2.92**	**6**	P		**Pn**	**Pn**	**09 38 07.2**	**+0.9**
	baz=188								
OPT	**Oil Point**	**2.94**	**351**	P		**Pn**	**Pn**	**09 38 08.2**	**+1.7**
	baz=170								
P19K	**Oil Pt**	**2.94**	**351**				**Pn**	**09 38 08.2**	**+1.6**
P19K						IAML		09 38 45.2	
	comp=E,236nm,0.5s								
P19K						IAML		09 38 45.2	
	comp=N,231nm,0.7s								
P19K	**Oil Pt**	**2.94**	**351**	P		**Pn**	**Pn**	**09 38 08.2**	**+1.6**
	baz=170								
R16K	**Pilot Point**	**2.99**	**288**	P		**Pn**	**Pn**	**09 38 07.4**	**+0.2**
	baz=103								
P18K	**Big Mountain,**	**3.07**	**331**	Pn		**Pn**	**Pn**	**09 38 09.1**	**+0.7**
P18K	**Big Mountain,**	**3.07**	**331**	P		**Pn**	**Pn**	**09 38 09.0**	**+0.7**
	baz=148								
BRSE	**Bradley Lake S**	**3.10**	**15**				**Pn**	**09 38 08.6**	**-0.1**
BRSE	**Bradley Lake S**	**3.10**	**15**	P		**Pn**	**Pn**	**09 38 08.6**	**-0.1**
	baz=197								
BRLK	**Bradley Lake**	**3.10**	**13**	Pn		**Pn**	**Pn**	**09 38 08.5**	**-0.3**
BRLK						IAML		09 38 41.7	
	comp=N,138nm,0.2s								
ILSW	**Iliamna Southw**	**3.26**	**352**				**Pn**	**09 38 11.8**	**+0.8**
O20K	**Slope Mountain**	**3.33**	**357**	P		**Pn**	**Pn**	**09 38 13.3**	**+1.3**
	baz=177								
CHGN	**Chignik**	**3.43**	**265**	Pn		**Pn**	**Pn**	**09 38 13.6**	**+0.4**
CHGN	**Chignik**	**3.43**	**265**	P		**Pn**	**Pn**	**09 38 13.4**	**+0.2**
	baz=79								
O19K	**Port Alsworth**	**3.60**	**344**				**Pn**	**09 38 12.0**	**-3.6**
O19K						IAML		09 39 01.1	
	comp=N,137nm,0.5s								
O19K						IAML		09 39 02.4	
	comp=E,181nm,0.5s								
SEW	**Seward**	**3.67**	**23**				**Pn**	**09 38 15.7**	**-0.8**
SEW	**Seward**	**3.67**	**23**	P		**Pn**	**Pn**	**09 38 15.7**	**-0.8**
	baz=206								
RSO	**Redoubt South**	**3.72**	**356**				**Pn**	**09 38 18.0**	**+0.6**
P16K	**Nushagak River**	**3.80**	**309**	P		**Pn**	**Pn**	**09 38 19.0**	**+0.6**
	baz=124								
O17K	**Koliganek Bris**	**3.95**	**322**	P		**Pn**	**Pn**	**09 38 21.6**	**+1.3**
	baz=138								
CAPN	**Captain Cook N**	**4.06**	**8**	P		**Pn**	**Pn**	**09 38 23.3**	**+1.4**
	baz=189								
P23K	**Montague Islan**	**4.14**	**36**	P		**Pn**	**Pn**	**09 38 22.2**	**-0.8**
	baz=221								
O16K	**Kokwok River B**	**4.18**	**315**	P		**Pn**	**Pn**	**09 38 24.4**	**+0.8**
	baz=130								
N19K	**Bonanza Creek**	**4.22**	**345**				**Pn**	**09 38 25.2**	**+1.0**
N19K						IAML		09 39 24.3	
	comp=E,50nm,4.0s								
N19K	**Bonanza Creek**	**4.22**	**345**	P		**Pn**	**Pn**	**09 38 25.0**	**+0.8**
	baz=164								
SPU	**Mount Spurr**	**4.43**	**1**				**Pn**	**09 38 26.8**	**-0.3**
FIS	**Fire Island**	**4.52**	**13**				**Pn**	**09 38 28.2**	**0.0**
RC01	**Rabbit Creek A**	**4.54**	**16**				**Pn**	**09 38 27.6**	**-0.9**
RC01						IAML		09 39 22.8	
	comp=N,43nm,0.3s								
RC01						IAML		09 39 23.8	
	comp=E,51nm,0.5s								
RC01	**Rabbit Creek A**	**4.54**	**16**	P		**Pn**	**Pn**	**09 38 28.0**	**-0.5**
	baz=199								
PWL	**Port Wells**	**4.59**	**25**				**Pn**	**09 38 28.8**	**-0.5**
PWL	**Port Wells**	**4.59**	**25**			IAML		09 39 07.4	
	comp=N,58nm,2.9s								
PWL						IAML		09 39 23.7	
	comp=E,56nm,1.3s								
PWL	**Port Wells**	**4.59**	**25**	P		**Pn**	**Pn**	**09 38 28.8**	**-0.5**
	baz=209								
SVW2	**Sparrevohn**	**4.67**	**340**				**Pn**	**09 38 30.9**	**+0.5**
SVW2						IAML		09 39 24.4	
	comp=E,40nm,4.9s								
SVW2						IAML		09 40 50.8	
	comp=N,41nm,4.4s								
SDPT	**Sand Point**	**4.81**	**256**	Pn		**Pn**	**Pn**	**09 38 33.4**	**+1.3**
SDPT	**Sand Point**	**4.81**	**256**	P		**Pn**	**Pn**	**09 38 32.9**	**+0.7**
	baz=69								
KNK	**Knik Glacier**	**5.06**	**21**				**Pn**	**09 38 34.7**	**-1.0**
KNK	**Knik Glacier**	**5.06**	**21**			IAML		09 39 32.1	
	comp=N,41nm,3.1s								
KNK						IAML		09 41 12.7	
	comp=E,34nm,4.1s								
KNK	**Knik Glacier**	**5.06**	**21**	P		**Pn**	**Pn**	**09 38 34.7**	**-1.0**
	baz=205								
EYAK	**Cordova Ski Ar**	**5.10**	**39**				**Pn**	**09 38 36.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.10**	**39**	P		**Pn**	**Pn**	**09 38 36.0**	**-0.2**
	baz=225								
PMR	**Palmer**	**5.11**	**17**				**Pn**	**09 38 35.6**	**-0.6**
PMR						IAML		09 39 49.1	
	comp=E,39nm,4.3s								
PMR	**Palmer**	**5.11**	**17**	P		**Pn**	**Pn**	**09 38 35.3**	**-1.0**
	baz=200								
M22K	**Willow**	**5.13**	**12**				**Pn**	**09 38 37.0**	**+0.5**
M20K	**Styx River**	**5.15**	**356**			IAML		09 40 19.0	
	comp=N,36nm,4.2s								
M20K						IAML		09 40 52.0	
	comp=E,38nm,3.9s								
M20K	**Styx River**	**5.15**	**356**	P		**Pn**	**Pn**	**09 38 37.4**	**+0.4**
	baz=175								
SKT	**Skwentna**	**5.25**	**4**				**Pn**	**09 38 38.1**	**-0.1**
SKT	**Skwentna**	**5.25**	**4**			IAML		09 40 09.3	
	comp=E,43nm,4.8s								
SKT						IAML		09 41 55.7	
	comp=N,44nm,4.3s								
SKT	**Skwentna**	**5.25**	**4**	P		**Pn**	**Pn**	**09 38 38.1**	**-0.1**
	baz=185								
GHO	**Glory Hole Cre**	**5.31**	**18**				**Pn**	**09 38 38.4**	**-0.8**
GHO	**Glory Hole Cre**	**5.31**	**18**			IAML		09 39 51.4	
	comp=N,37nm,3.3s								
GHO						IAML		09 40 02.0	
	comp=E,39nm,4.3s								
SML	**Sawmill**	**5.45**	**20**				**Pn**	**09 38 41.0**	**0.0**
SML	**Sawmill**	**5.45**	**20**	P		**Pn**	**Pn**	**09 38 41.0**	**0.0**
	baz=204								
DIV	**Divide**	**5.52**	**35**				**Pn**	**09 38 41.7**	**-0.4**
M23K	**Glacier View**	**5.56**	**23**	P		**Pn**	**Pn**	**09 38 42.6**	**+0.1**
	baz=207								
S12K	**Black Hills**	**5.56**	**263**	P		**Pn**	**Pn**	**09 38 42.8**	**+0.3**
	baz=74								
L19K	**White Mountain**	**5.59**	**348**	P		**Pn**	**Pn**	**09 38 43.6**	**+0.6**
	baz=166								
SCM	**Sheep Creek Mo**	**5.68**	**24**				**Pn**	**09 38 44.4**	**+0.1**
SCM	**Sheep Creek Mo**	**5.68**	**24**	P		**Pn**	**Pn**	**09 38 44.4**	**+0.1**
	baz=209								
KLU	**Klutina**	**5.76**	**32**				**Pn**	**09 38 45.0**	**-0.3**
KLU	**Klutina**	**5.76**	**32**	P		**Pn**	**Pn**	**09 38 45.0**	**-0.3**
	baz=218								
BMRM	**Bremner River**	**5.80**	**40**				**Pn**	**09 38 45.7**	**-0.1**
BMRM	**Bremner River**	**5.80**	**40**	P		**Pn**	**Pn**	**09 38 45.7**	**-0.1**
	baz=227								
M24K	**Tolsona, Glenn**	**6.20**	**28**	P		**Pn**	**Pn**	**09 38 52.0**	**+0.7**
	baz=213								
N25K	**Chitina, Valde**	**6.26**	**36**	P		**Pn**	**Pn**	**09 38 51.8**	**-0.3**
	baz=223								
WAT6	**Susitna Watana**	**6.27**	**20**				**Pn**	**09 38 52.0**	**-0.5**
WAT6	**Susitna Watana**	**6.27**	**20**	P		**Pn**	**Pn**	**09 38 52.0**	**-0.5**
	baz=204								
WAT7	**Susitna Watana**	**6.33**	**14**				**Pn**	**09 38 52.8**	**-0.4**
WAT1	**Susitna Watana**	**6.37**	**16**				**Pn**	**09 38 53.2**	**-0.4**
WAT1	**Susitna Watana**	**6.37**	**16**	P		**Pn**	**Pn**	**09 38 53.2**	**-0.4**
	baz=199								
VRDI	**Verde Repeater**	**6.39**	**42**				**Pn**	**09 38 53.7**	**-0.4**
GLB	**Gilahina Butte**	**6.40**	**39**	Pn			**Pn**	**09 38 54.2**	**0.0**
TTA	**Tatalina**	**6.46**	**345**	Pn			**Pn**	**09 38 55.7**	**+0.7**
KIAG	**Kiagna River**	**6.62**	**47**				**Pn**	**09 38 57.0**	**-0.3**
MCARA	**McCarthy VSAT**	**6.65**	**42**				**Pn**	**09 38 57.4**	**0.0**
MCARA	**McCarthy VSAT**	**6.65**	**42**	P		**Pn**	**Pn**	**09 38 57.4**	**0.0**
	baz=230								
K20K	**Telida**	**6.68**	**353**	P		**Pn**	**Pn**	**09 38 58.1**	**+0.3**
	baz=172								
HARP	**HAARP**	**6.71**	**30**	P		**Pn**	**Pn**	**09 38 59.0**	**+0.8**
	baz=216								
TRF	**Thorofare Moun**	**6.78**	**8**				**Pn**	**09 38 58.6**	**-0.8**
TRF	**Thorofare Moun**	**6.78**	**8**	P		**Pn**	**Pn**	**09 38 58.6**	**-0.8**
	baz=190								
DHY	**Denali Highway**	**6.79**	**19**	Pn			**Pn**	**09 39 01.4**	**+1.8**
KTH	**Kantishna Hill**	**6.85**	**5**				**Pn**	**09 38 59.8**	**-0.4**
BARN	**Barnard Glacie**	**6.98**	**48**				**Pn**	**09 39 02.7**	**+0.5**
PAX	**Paxson**	**7.10**	**26**				**Pn**	**09 39 04.3**	**+0.5**
PAX	**Paxson**	**7.10**	**26**	P		**Pn**	**Pn**	**09 39 04.3**	**+0.5**
	baz=212								
PCA	**Pinnacle**	**7.14**	**57**				**Pn**	**09 39 04.7**	**+0.4**
PINM	**Pinnacle**	**7.14**	**57**	P		**Pn**	**Pn**	**09 39 04.7**	**+0.4**
	baz=248								
MCK	**McKinley**	**7.19**	**12**				**Pn**	**09

*TAP **19** 09:37:52.7,23.19N×121.50E,h47km,ML3.9,C*
ISC 19 09:37:50.4±1.0,**23.17N**±0.02×**121.66E**±0.02,**h17**km±8km,
n126,σ0**96**/215,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin** baz=340	**0.24**	**307**	*i* P	**Pb**	**09 38 00.4**	**+4.2**
ECBN				*i* S	**Sb**	**09 38 06.2**	**+6.1**
CHKT	**Chengkung** baz=223	**0.28**	**255**	*i* P	**Pn**	**09 38 00.5**	**+0.8**
CHKT				*i* S	**Sn**	**09 38 06.2**	**+0.7**
FULB	**Fuli** baz=271	**0.34**	**274**	*i* P	**Pn**	**09 38 00.9**	**+0.4**
FULB				*i* S	**Sn**	**09 38 07.1**	**+0.1**
EYUL	**Yuli** baz=301	**0.36**	**299**	*i* P	**Pn**	**09 38 01.1**	**+0.3**
EDH	**Donghe** baz=227	**0.38**	**239**	*i* P	**Pn**	**09 38 01.5**	**+0.4**
EDH				*i* S	**Sn**	**09 38 08.3**	**+0.2**
HGSD	**Ruisui** baz=347	**0.38**	**326**	*i* P	**Pn**	**09 38 01.5**	**+0.4**
HGSD				*i* S	**Sn**	**09 38 09.8**	**+1.7**
YULB	**Yu-li**	**0.40**	**303**	P	**Pn**	**09 38 00.7**	**-0.6**
YULB	**Yu-li** baz=305	**0.40**	**303**	*i* P	**Pn**	**09 38 00.7**	**-0.6**
YULB				*i* S	**Sn**	**09 38 07.0**	**-1.4**
ECS	**Chishang** baz=249	**0.41**	**259**	*i* P	**Pn**	**09 38 01.4**	**-0.1**
ECS				S	**Sn**	**09 38 08.5**	**-0.3**
EHD	**Haiduan** baz=260	**0.42**	**267**	*i* P	**Pn**	**09 38 00.8**	**-0.8**
EHD				*i* S	**Sb**	**09 38 06.9**	**+1.6**
EHY	**Hungye** baz=323	**0.45**	**317**	*i* P	**Pn**	**09 38 01.4**	**-0.7**
EHY				*i* S	**Sb**	**09 38 07.6**	**+1.2**
LDUT	**Ludao** baz=191	**0.53**	**199**	*i* P	**Pn**	**09 38 03.7**	**+0.6**
LDUT				*i* S	**Sn**	**09 38 12.0**	**+0.4**
EGFH	**Guangfu** baz=342	**0.54**	**337**	*i* P	**Pn**	**09 38 02.8**	**-0.4**
EGFH				*i* S	**Sn**	**09 38 10.6**	**-1.3**
LONT	**Longtian** baz=238	**0.56**	**241**	*i* P	**Pn**	**09 38 03.1**	**-0.4**
LONT				*i* S	**Sb**	**09 38 10.6**	**+1.3**
ELDTW	**Lidau** baz=269	**0.59**	**272**	*i* P	**Pb**	**09 38 02.8**	**+0.5**
ELDTW				*i* S	**Sg**	**09 38 10.2**	**+0.1**
TWGBT	**Beinan**	**0.64**	**237**	P	**Pb**	**09 38 03.7**	**+0.6**
TWGBT	**Beinan** baz=233	**0.64**	**237**	*i* P	**Pb**	**09 38 03.8**	**+0.6**
TWGBT				*i* S	**Sg**	**09 38 12.0**	**+0.4**
TWG	**Pinlang** baz=233	**0.65**	**237**	*i* P	**Pb**	**09 38 03.9**	**+0.7**
TWG				*i* S	**Sg**	**09 38 11.9**	**+0.2**
ESL	**Shilin** baz=348	**0.67**	**342**	P	**Pb**	**09 38 04.1**	**+0.5**
ESL				S	**Sb**	**09 38 12.8**	**+0.2**
VWDT	**VWDT** baz=334	**0.75**	**321**	*i* P	**Pn**	**09 38 05.7**	**-0.5**
VWDT				*i* S	**Sb**	**09 38 15.1**	**+0.3**
HWA	**Hwalien** baz=16	**0.80**	**356**	P	**Pn**	**09 38 08.9**	**+2.0**
HWA				S	**Sn**	**09 38 19.1**	**+0.7**
STYH	**Taoyuan** baz=265	**0.81**	**270**	*i* P	**Pg**	**09 38 06.7**	**+0.4**
STYH				*i* S	**Sg**	**09 38 16.5**	**-0.5**
ECL	**Taimali** baz=220	**0.87**	**229**	P	**Pb**	**09 38 05.8**	**-1.1**
ECL				*i* S	**Sb**	**09 38 16.7**	**-1.6**
SSLB	**Suanglung**	**0.89**	**313**	P	**Pg**	**09 38 07.6**	**-0.1**
SSLB	**Suanglung** baz=323	**0.89**	**313**	*i* P	**Pg**	**09 38 07.8**	**+0.1**
SSLB				S	**Sb**	**09 38 18.6**	**-0.4**
OWD	**Renai** baz=338	**0.90**	**330**	*e*P	**Pg**	**09 38 07.7**	**-0.1**
OWD				*e*S	**Sb**	**09 38 17.7**	**-1.6**
TWD	**Chiawan** baz=355	**0.90**	**356**	P	**Pn**	**09 38 08.1**	**-0.1**
TWD				S	**Sg**	**09 38 19.6**	**-0.4**
SLGT	**Liugui** baz=255	**0.95**	**259**	P	**Pn**	**09 38 10.5**	**+1.6**
SLGT				*i* S	**Sb**	**09 38 21.1**	**+0.5**
WUSB	**Renai** baz=336	**0.95**	**329**	*i* P	**Pg**	**09 38 08.8**	**-0.1**
WUSB				*i* S	**Sb**	**09 38 19.6**	**-1.3**
TPUB	**Ta-pu**	**0.95**	**278**	P	**Pn**	**09 38 09.4**	**+0.4**
TPUB	**Ta-pu** baz=277	**0.95**	**278**	*i* P	**Pb**	**09 38 08.7**	**+0.2**
TPUB				*i* S	**Sg**	**09 38 21.6**	**+0.1**
WTP	**Ta-pu** baz=273	**0.96**	**274**	*i* P	**Pn**	**09 38 09.5**	**+0.4**
WTP				*i* S	**Sg**	**09 38 22.2**	**+0.4**
ETL	**Fush Village** baz=357	**0.98**	**358**	P	**Pn**	**09 38 09.9**	**+0.5**
ETL				S	**Sg**	**09 38 22.1**	**-0.2**
CHGB	**Renai** baz=349	**0.99**	**333**	*i* P	**Pn**	**09 38 09.7**	**+0.1**
CHGB				S	**Sb**	**09 38 20.4**	**-1.6**
SMLT	**Sun Moon Lake** baz=324	**0.99**	**316**	*i* P	**Pg**	**09 38 09.5**	**-0.2**
SMLT				*i* S	**Sb**	**09 38 22.1**	**+0.1**
CHN5	**Tsauling** baz=306	**0.99**	**295**	*i* P	**Pn**	**09 38 10.5**	**+0.9**
CHN5				*i* S	**Sn**	**09 38 23.2**	**-0.1**
SGST	**Jiashian** baz=262	**0.99**	**265**	*i* P	**Pb**	**09 38 08.9**	**-0.2**
SGST				*i* S	**Sb**	**09 38 21.8**	**-0.1**
CHN4	**Tsaushan** baz=280	**1.00**	**280**	*i* P	**Pg**	**09 38 09.6**	**-0.1**
CHN4				*i* S	**Sg**	**09 38 22.9**	**+0.1**
NACB	**Ninganchiao**	**1.00**	**357**	P	**Pn**	**09 38 10.0**	**+0.4**
NACB	**Ninganchiao** baz=356	**1.00**	**357**	P	**Pn**	**09 38 09.9**	**+0.3**
NACB				*e*S	**Sb**	**09 38 21.9**	**-0.1**
WCKO	**Fanlu** baz=286	**1.00**	**285**	P	**Pb**	**09 38 09.4**	**+0.1**
WCKO				S	**Sg**	**09 38 22.8**	**-0.3**
WHF	**Hehuan Shan** baz=357	**1.03**	**340**	P	**Pg**	**09 38 10.2**	**-0.3**
WHF				S	**Sb**	**09 38 23.2**	**-0.2**
TYC	**Yuchr** baz=325	**1.03**	**315**	*i* P	**Pg**	**09 38 10.5**	**0.0**
TYC				*i* S	**Sb**	**09 38 23.2**	**+0.1**
CHN1	**Nanshi** baz=269	**1.04**	**271**	*i* P	**Pg**	**09 38 10.6**	**0.0**
CHN1				*i* S	**Sg**	**09 38 24.3**	**+0.1**
ETLH	**Xiulin Townshi** baz=359	**1.04**	**351**	P	**Pg**	**09 38 10.0**	**-0.6**
ETLH				*e*S	**Sb**	**09 38 22.2**	**-1.2**
TSMG	**Majia** baz=238	**1.04**	**244**	P	**Pn**	**09 38 10.5**	**+0.3**
TSMG				*e*S	**Sb**	**09 38 22.6**	**-0.7**
WJS	**Zhushan** baz=311	**1.07**	**307**	*i* P	**Pg**	**09 38 11.2**	**0.0**
WJS				*i* S	**Sg**	**09 38 24.8**	**-0.4**
TAW	**Tawu** baz=214	**1.07**	**221**	*i* S	**Sb**	**09 38 22.0**	**-2.2**
TWK	**Hsinying** baz=273	**1.08**	**275**	*i* P	**Pg**	**09 38 11.5**	**+0.2**
TWK				*i* S	**Sb**	**09 38 25.0**	**+0.5**
EAST	**Anshuo** baz=214	**1.09**	**224**	P	**Pb**	**09 38 10.3**	**-0.4**
EAST				*i* S	**Sb**	**09 38 23.3**	**-1.3**
TAWH	**Dawu Township** baz=214	**1.09**	**221**	P	**Pn**	**09 38 11.3**	**+0.4**
TAWH				S	**Sb**	**09 38 22.6**	**-2.1**
MASBT	**Mashibuluo** baz=233	**1.10**	**240**	P	**Pb**	**09 38 10.3**	**-0.6**
MASBT				S	**Sb**	**09 38 23.5**	**-1.4**
SCST	**Cishan** baz=251	**1.11**	**255**	P	**Pg**	**09 38 12.7**	**+0.8**
SCST				S	**Sg**	**09 38 27.3**	**+0.9**
WCS	**Beigang Elemen** baz=332	**1.11**	**322**	P	**Pg**	**09 38 11.8**	**-0.2**
WCS				*e*S	**Sg**	**09 38 26.0**	**-0.6**
LAY	**Lan-yu** baz=173	**1.13**	**185**	*i* P	**Pb**	**09 38 12.2**	**+0.7**
LAY				*i* S	**Sb**	**09 38 26.5**	**+0.5**
FUSS	**Fushou** baz=354	**1.14**	**340**	P	**Pg**	**09 38 12.8**	**+0.4**
FUSS				S	**Sb**	**09 38 26.2**	**-0.1**
WNT	**Mingjian** baz=312	**1.14**	**308**	P	**Pg**	**09 38 11.9**	**-0.4**
WNT				*i* S	**Sn**	**09 38 26.7**	**0.0**
CHN2	**Minshiung** baz=277	**1.15**	**288**	P	**Pg**	**09 38 12.7**	**+0.1**
CHN2				S	**Sn**	**09 38 27.1**	**+0.3**
WDLH	**Douliu** baz=298	**1.15**	**297**	*e*P	**Pb**	**09 38 11.8**	**0.0**
WDLH				S	**Sg**	**09 38 27.3**	**-0.4**
TWT	**Tachien** baz=343	**1.16**	**338**	P	**Pg**	**09 38 13.3**	**+0.4**
TWT				S	**Sn**	**09 38 27.1**	**-0.5**
TDCB	**Techi** baz=343	**1.17**	**337**	P	**Pn**	**09 38 12.0**	**-0.1**
TDCB				S	**Sb**	**09 38 26.3**	**-0.8**
LYUB	**Lan-yu** baz=171	**1.17**	**183**	P	**Pn**	**09 38 11.3**	**-0.6**
CHY	**Chiayi** baz=286	**1.18**	**286**	*e*P	**Pn**	**09 38 12.0**	**-0.1**
CHY				S	**Sb**	**09 38 27.1**	**-0.2**
CHN3	**Shinhua** baz=273	**1.20**	**266**	*e*S	**Sg**	**09 38 29.8**	**+0.7**
SHHT	**Tainan City** baz=261	**1.22**	**263**	*e*P	**Pg**	**09 38 15.3**	**+1.4**
SLIU	**Shizi** baz=204	**1.24**	**220**	P	**Pb**	**09 38 13.5**	**+0.2**
SCZT	**Fangliau** baz=218	**1.25**	**230**	P	**Pn**	**09 38 12.6**	**-0.4**
SCZT				S	**Sb**	**09 38 28.9**	**-0.3**
ENA	**Nanau** baz=359	**1.25**	**3**	P	**Pg**	**09 38 14.9**	**+0.3**
SSHA	**Shanhua** baz=278	**1.26**	**269**	*e*S	**Sg**	**09 38 30.7**	**-0.5**
EWUT	**Wuta**	**1.27**	**5**	*e*P	**Pg**	**09 38 14.6**	**-0.3**
NNSB	**Datong** baz=4.0	**1.27**	**349**	P	**Pg**	**09 38 14.5**	**-0.6**
NNSB				S	**Sb**	**09 38 28.3**	**-1.9**
WTK	**Tuku** baz=294	**1.27**	**294**	*e*P	**Pg**	**09 38 15.0**	**0.0**
WTK				*e*S	**Sb**	**09 38 29.6**	**-0.4**
WHP	**Taichung City** baz=339	**1.28**	**329**	P	**Pg**	**09 38 14.6**	**-0.5**
ICHU	**Yijhu** baz=277	**1.28**	**279**	P	**Pn**	**09 38 13.5**	**0.0**
ICHU				S	**Sb**	**09 38 30.0**	**-0.2**
NNS	**Nan Shan** baz=3.0	**1.29**	**348**	P	**Pg**	**09 38 15.9**	**+0.7**
NNS				S	**Sb**	**09 38 29.8**	**-0.7**
TCU	**Taichung** baz=310	**1.32**	**317**	*e*P	**Pg**	**09 38 16.6**	**+0.7**
TCU				S	**Sg**	**09 38 32.1**	**-1.1**
CHN8	**Yiju** baz=276	**1.34**	**278**	P	**Pn**	**09 38 14.7**	**+0.4**
CHN8				S	**Sn**	**09 38 30.5**	**-1.2**
WCHH	**Zhanghua** baz=314	**1.35**	**312**	*e*P	**Pb**	**09 38 15.1**	**-0.1**
WCHH				*e*S	**Sb**	**09 38 32.9**	**+0.6**
WSL	**Shuilin Townsh** baz=284	**1.36**	**285**	*e*S	**Sn**	**09 38 31.2**	**-1.0**
LATG	**Datong** baz=1.0	**1.36**	**355**	*e*P	**Pb**	**09 38 15.2**	**-0.2**
LATG				S	**Sn**	**09 38 31.1**	**-1.3**
SMST	**Manzhou Townsh** baz=199	**1.38**	**214**	P	**Pn**	**09 38 14.2**	**-0.5**
SMST				S	**Sn**	**09 38 32.0**	**-0.6**
WRL	**Guolierlin Hig** baz=303	**1.38**	**302**	*e*P	**Pn**	**09 38 14.7**	**-0.2**
WRL				*e*S	**Sn**	**09 38 31.3**	**-1.4**
WSF	**Szhu** baz=289	**1.40**	**290**	*e*S	**Sn**	**09 38 31.9**	**-1.2**
TWQ1	**Liyutan** baz=330	**1.42**	**325**	P	**Pg**	**09 38 17.3**	**-0.5**
TWQ1				S	**Sg**	**09 38 35.4**	**-1.0**
WTCT	**Ta-ch'eng** baz=300	**1.44**	**299**	S	**Sn**	**09 38 33.0**	**-1.2**
TWC	**Suao** baz=23	**1.44**	**7**	*e*P	**Pg**	**09 38 17.6**	**-0.5**
TWC				*e*S	**Sn**	**09 38 34.1**	**0.0**
HEN	**Hengchun** baz=203	**1.44**	**216**	*e*P	**Pn**	**09 38 16.5**	**+0.8**
HEN				*e*S	**Sn**	**09 38 34.2**	**+0.1**
TSCK	**Chigu Township** baz=267	**1.45**	**269**	*e*P	**Pb**	**09 38 16.7**	**-0.2**
TSCK				*e*S	**Sn**	**09 38 33.7**	**-0.6**
TWKBT	**Hengchun** baz=200	**1.46**	**213**	*e*P	**Pn**	**09 38 15.0**	**-0.9**
TWKBT				*e*S	**Sn**	**09 38 33.2**	**-1.3**
TWK1	**Hengchun** baz=200	**1.46**	**213**	*e*P	**Pn**	**09 38 14.9**	**-1.0**
TWK1				*e*S	**Sn**	**09 38 33.2**	**-1.4**
ENTT	**Nioudou** baz=3.0	**1.46**	**357**	*e*P	**Pn**	**09 38 15.5**	**-0.5**
ENTT				*e*S	**Sn**	**09 38 33.0**	**-1.8**
NSY	**Sanyi** baz=331	**1.48**	**327**	P	**Pb**	**09 38 18.0**	**+0.5**
NSY				S	**Sg**	**09 38 37.1**	**-1.2**
WDJ	**Dajia District** baz=325	**1.50**	**322**	*e*S	**Sb**	**09 38 36.9**	**+0.5**
YHNB	**Yeheng**	**1.51**	**350**	P	**Pb**	**09 38 18.0**	**0.0**
YHNB	**Yeheng** baz=6.0	**1.51**	**350**	P	**Pb**	**09 38 17.4**	**-0.6**
YHNB				S	**Sn**	**09 38 35.2**	**-0.9**
NSK	**Sanguang** baz=5.0	**1.52**	**350**	P	**Pb**	**09 38 17.9**	**-0.3**
NSK				S	**Sn**	**09 38 36.1**	**-0.2**
NFF	**Wufeng Townshi** baz=350	**1.53**	**341**	*e*P	**Pg**	**09 38 19.4**	**-0.6**
NFF				*e*S	**Sb**	**09 38 38.0**	**+0.4**
TWE	**Neicheng** baz=6.0	**1.54**	**0**	P	**Pb**	**09 38 18.8**	**+0.4**
NSTT	**Nanjuang** baz=343	**1.57**	**338**	P	**Pb**	**09 38 18.5**	**-0.5**
NSTT				S	**Sb**	**09 38 38.6**	**+0.1**
NMLH	**Miaoli** baz=333	**1.57**	**330**	*e*P	**Pb**	**09 38 18.5**	**-0.5**
NMLH				*e*S	**Sb**	**09 38 38.1**	**-0.5**
LIOB	**Emei** baz=343	**1.58**	**338**	P	**Pb**	**09 38 19.0**	**-0.1**
LIOB				S	**Sb**	**09 38 38.9**	**+0.1**
FUSB	**Fushanzhiwuyua** baz=3.0	**1.58**	**358**	P	**Pb**	**09 38 18.7**	**-0.5**
FUSB				S	**Sn**	**09 38 36.7**	**-1.0**
NWLT	**Wulai** baz=1.0	**1.60**	**355**	P	**Pb**	**09 38 19.1**	**-0.4**
NWLT				*e*S	**Sn**	**09 38 38.5**	**+0.3**
JYNG	**Yonagunijimaku**	**1.73**	**43**	P	**Pb**	**09 38 21.5**	**-0.3**
JYNG				S	**Sb**	**09 38 42.7**	**-0.5**
YOJ	**Yonaguni jima**	**1.78**	**44**	P	**Pb**	**09 38 22.6**	**0.0**
YOJ	**Yonaguni jima**	**1.78**	**44**	P	**Pb**	**09 38 22.6**	**0.0**
YOJ				*e*S	**Sb**	**09 38 44.4**	**-0.2**
YOJ	**Yonaguni jima** baz=48	**1.78**	**44**	*e*P	**Pb**	**09 38 22.1**	**-0.4**
TIPB	**Shuangxi** baz=1.0	**1.80**	**5**	*e*P	**Pb**	**09 38 22.6**	**-0.3**
TATO	**Taipei**	**1.80**	**355**	P	**Pb**	**09 38 22.0**	**-0.9**
TWA	**Mucha** baz=10.0	**1.80**	**358**	*e*P	**Pb**	**09 38 23.1**	**+0.2**
WDGT	**Dungji** baz=272	**1.84**	**273**	*e*P	**Pn**	**09 38 21.1**	**-0.1**
TWB1	**Santiao Chiao** baz=4.0	**1.85**	**9**	*e*P	**Pb**	**09 38 23.4**	**-0.3**
NWF	**Wu-fen Shan** baz=8.0	**1.89**	**3**	*e*P	**Pb**	**09 38 23.2**	**-1.3**
SXI1	**Grass Mountain** baz=360	**1.92**	**6**	*e*P	**Pb**	**09 38 24.8**	**-0.2**
PHUB	**P'eng-hu** baz=280	**1.95**	**280**	*e*P	**Pn**	**09 38 21.8**	**-0.8**
YM01	**YM01** baz=2.0	**1.97**	**358**	*e*P	**Pb**	**09 38 25.5**	**-0.2**
ANP	**Anpu** baz=1.0	**2.01**	**356**	*e*P	**Pn**	**09 38 24.8**	**+1.2**
HATJ	**Hateruma jima**	**2.16**	**66**	*i* P	**Pb**	**09 38 27.4**	**-1.5**
HATJ				*e*S	**Sn**	**09 38 53.3**	**+1.4**
IRIF	**Iriomote-Funau**	**2.22**	**58**	S	**Sb**	**09 38 56.1**	**-1.1**
JKRS	**Kuro-shima**	**2.40**	**63**	P	**Pb**	**09 38 31.1**	**-2.0**
JKRS				*e*S	**Sn**	**09 38 59.8**	**+1.9**
JIJ	**Ishigaki jima**	**2.56**	**62**	P	**Pn**	**09 38 32.8**	**+1.7**
JIJ				S	**Sn**	**09 39 02.6**	**+0.7**
JISG	**Ishigakijimahi**	**2.81**	**59**	P	**Pn**	**09 38 36.0**	**+1.5**
JISG				*e*S	**Sn**	**09 39 08.1**	**+0.2**
JTJ	**Tarama**	**3.15**	**62**	P	**Pn**	**09 38 41.6**	**+2.5**
JTJ				*e*S	**Sn**	**09 39 17.3**	**+1.1**
MATB	**Ma-tsu** baz=335	**3.35**	**333**	*e*P	**Pn**	**09 38 42.9**	**+1.0**
JIRB	**Irabujima**	**3.61**	**62**	*e*P	**Pn**	**09 38 48.4**	**+2.9**
JIKM	**Ikemajima**	**3.71**	**61**	*e*S	**Sn**	**09 39 31.3**	**+1.0**

*NNC **19** 09:56:28.1±0.5,51.72N×75.43E,h0km,mb3.3,mpv2.9,*
Error ellipse: s-maj=20.7km s-min=3.0km az=28.0,
Suspected Mining explosion.
*IDC **19** 09:56:30.7±1.1,51.63N×75.50E,h0km,mbtmp2.8/3,*
ML2.1/3,Error ellipse: s-maj=32.8km s-min=8.2km
az=30.0
ISC 19 09:56:29.9±1.0,**51.6N**±0.2×**75.3E**±0.1,**h0**km,**n12,**
σ1**9**11/13,**8C-5D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=295,slow=18,SNR=38	**2.21**	**114**	Pg	**Pn**	**09 57 08.5**	**+0.6**
KURBB	0.5nm,0.3s,baz=308,slow=30,SNR=7.6			Lg		09 57 40.3	
KURBB	**Kurchatov Arra** 7.1nm,0.7s	**2.21**	**114**	⇑Pg	**Pb**	**09 57 09.2**	**-1.6**
KURBB	62nm,0.7s			⇓Lg	Lg	09 57 39.3	
KURK	**Kurchatov** 2.2nm,0.5s	**2.23**	**111**	⇓Pg	**Pn**	**09 57 08.6**	**+0.6**
KURK	14nm,0.7s			⇑Lg	Lg	09 57 38.5	
BVA0	**Borovoye Array** 5.0nm,1.1s,baz=117,slow=16,SNR=14	**3.38**	**298**	⇑Pg	**Pb**	**09 57 29.5**	**-1.2**
BVA0	20nm,0.8s,baz=111,slow=27,SNR=9.0			⇓Lg	Lg	09 58 13.6	
BVAR	**Borovoye Array** baz=109,slow=13,SNR=4.5	**3.38**	**298**	Pn	**Pn**	**09 57 25.6**	**+1.6**
BVAR	0.1nm,0.3s,baz=110,slow=18,SNR=6.3			Sn	**Sn**	**09 58 05.2**	**+0.4**
BVAR	0.3nm,0.3s,baz=93,slow=27,SNR=13 1.7nm,0.6s			Lg	Lg	09 58 13.9	
BRVK	**Borovoye** 2.9nm,0.7s	**3.46**	**298**	⇓Pg	**Pb**	**09 57 30.7**	**-1.2**
BRVK	27nm,0.9s			⇓Lg	Lg	09 58 16.1	
I46RU	**ZALESOVO INFRA** baz=247,slow=339,SNR=19	**6.24**	**64**	I	I	10 34 00.0	
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=253,slow=13,SNR=6.4 1.2nm,0.5s	**6.24**	**64**	Pn	**Pn**	**09 58 03.5**	**+0.4**
MAKZ	**Makanchi** 1.2nm,0.7s	**6.43**	**135**	⇑Sn	**Sn**	**09 59 20.9**	**+0.9**
MAKZ	8.4nm,0.9s			⇑Lg	Lg	09 59 55.6	
MK31	**Makanchi Array** 0.9nm,0.8s,baz=307,slow=11,SNR=4.7	**6.58**	**134**	⇑Pn	**Pn**	**09 58 08.9**	**+1.0**
MK31	1.7nm,1.0s,baz=317,slow=20,SNR=4.5			⇑Sn	**Sn**	**09 59 23.4**	**-0.3**
MK31	3.5nm,0.7s,baz=323,slow=27,SNR=5.8			⇑Lg	Lg	09 59 59.0	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=313,slow=11,SNR=5.5	**6.58**	**134**	Pn	**Pn**	**09 58 09.1**	**+1.1**
MKAR	0.2nm,0.3s,baz=315,slow=22,SNR=6.0			Sn	**Sn**	**09 59 23.6**	**-0.1**
MKAR	0.3nm,0.3s,baz=323,slow=26,SNR=8.8 0.5nm,0.8s			Lg	Lg	09 59 56.8	
AAK	**Ala-Archa** baz=359,slow=21,SNR=1.9	**8.93**	**184**	Lg	Lg	10 01 16.4	

*IDC **19** 09:59:37.2±1.1,28.65N×88.36E,h0km,mb4.0/11,*
mbtmp4.0/13,ML3.8/2,MS3.1/1,Error ellipse:
s-maj=37.5km s-min=19.6km az=56.0
*NEIC **19** 09:59:42.5±2.1,28.98N±0.06×88.3E±0.1,h10km±1km,*
mb4.1/16,Error ellipse: s-maj=17.8km s-min=6.5km
az=238.0
*NDI **19** 09:59:46.6±1.8,28.65N×88.55E,h155km±34km,ML4.1,*
mb4.1(NEIC)
ISC 19 09:59:41.0±0.6,**28.89N**±0.06×**88.37E**±0.05,**h10**km,**n48,**
σ2**3**34/48,**mb4.0**/13,**1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**1.57**	**173**	*e*P	**Pg**	**10 00 14.9**	**+3.7**
LSA	**Lhasa**	**2.56**	**71**		**Pn**	**10 00 25.7**	**+2.8**
LSA	**Lhasa**	**2.56**	**71**	Pg	**Pb**	**10 00 27.3**	**0.0**
LSA				Sg	**Sb**	**10 01 02.5**	**+3.5**
LSA	comp=N,51nm,0.7s			smax	smax		
LSA	comp=E,96nm,0.7s			smax	smax		
GUWA	**GUWAHATI**	**3.98**	**132**	*e*P	**Pn**	**10 00 43.2**	**+1.0**
GUWA				*e*S	**Sn**	**10 01 24.6**	**-4.4**
TEZP	**TEZPUR**	**4.53**	**119**	*e*P	**Pn**	**10 00 50.2**	**+0.6**
TEZP				*e*S	Sn	10 01 36.6	-5.7
SHL	**Shillong**	**4.55**	**136**	*e*P	**Pn**	**10 00 50.1**	**0.0**

SHL				*e*S		Sn	10 01 35.6	-7.5
ZIRO	**ZIRO**	**5.02**	**104**	*e*P		**Pn**	**10 00 57.4**	**+0.8**
ZIRO				*e*S		Sn	10 01 49.3	-5.4
ZIRO				IAML			10 01 52.2	
	comp=N,573nm,0.4s							
ZIRO				IAML			10 01 53.7	
	comp=E,674nm,0.7s							
MOKO	**MOKOCHONG**	**6.02**	**114**	*e*P		**Pn**	**10 01 10.4**	**+0.2**
MOKO				*e*S		Sn	10 02 11.4	-8.0
MOKO				IAML			10 02 14.5	
	comp=E,138nm,1.4s							
MOKO				IAML			10 02 14.6	
	comp=N,164nm,0.3s							
PTH	**Pithoragarh**	**7.16**	**277**	*e*P		**Pn**	**10 01 30.7**	**+4.8**
PTH				*e*S		**Sn**	**10 02 48.0**	**+0.6**
SMLA	**Simla**	**9.97**	**286**	*e*P		**Pn**	**10 02 08.1**	**+3.8**
SMLA				*e*S		**Sn**	**10 03 53.1**	**-3.1**
KUDL	**Kundal**	**10.48**	**269**	*e*P		Pn	10 02 16.9	+5.6
KUDL				*e*S		**Sn**	**10 04 02.7**	**-6.0**
DHRM	**DHARAMSHALA**	**10.93**	**291**	*e*P		**Pn**	**10 02 21.4**	**+3.7**
DHRM				IAmb		IAmb	10 02 23.0	
	comp=E,28nm,0.6s							
TARG	**Taragay, Kyrgy**	**15.43**	**329**	Pn		**Pn**	**10 03 18.8**	**-0.3**
TKM2	**Tokmak 2**	**17.38**	**327**	P		**P**	**10 03 47.8**	**+2.6**
	SNR=11							
KBK	**Karagaybulak**	**17.50**	**325**	P		**P**	**10 03 50.0**	**+3.5**
	SNR=6.3							
AAK	**Ala-Archa**	**17.72**	**324**	P		**P**	**10 03 49.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=142,slow=14,SNR=3.8							
AAK				LR		LR	10 11 51.8	
	comp=Z,55nm,19.1s,baz=342,slow=41							
	comp=Z,3.2nm,1.1s							
AAK	**Ala-Archa**	**17.72**	**324**			**Pn**	**10 03 47.8**	**-0.1**
AML	**Almayashu**	**17.78**	**322**	P		**P**	**10 03 54.1**	**+4.3**
	SNR=7.6							
GAR	**Garm**	**18.03**	**309**	Pn		**Pn**	**10 03 50.4**	**-1.4**
GAR				IAmb		IAmb	10 04 02.3	
	comp=Z,9.9nm,0.5s							
EKS2	**Erkin-Say**	**18.11**	**323**	P		**P**	**10 03 57.1**	**+4.1**
	SNR=5.8							
USP	**Ospenovka**	**18.17**	**326**	P		**P**	**10 03 56.6**	**+2.9**
	SNR=5.1							
MK31	**Makanchi Array**	**18.50**	**347**	P		**Pn**	**10 03 57.5**	**+0.1**
MKAR	**Makanchi Array**	**18.50**	**347**	P		**P**	**10 03 58.2**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=161,slow=11,SNR=35							
	comp=Z,4.2nm,0.6s							
MKAR	**Makanchi Array**	**18.50**	**347**			**P**	**10 03 57.7**	**+0.4**
MAKZ	**Makanchi**	**18.58**	**346**			**P**	**10 03 58.0**	**-0.1**
MAKZ				IAmb		IAmb	10 04 00.9	
	comp=Z,7.8nm,0.8s							
CHGR	**Chuyangaron**	**18.68**	**306**	P		**P**	**10 03 59.2**	**-0.2**
CHGR				IAmb		IAmb	10 04 03.5	
	comp=Z,8.2nm,0.6s							
KK31	**Karatay Array**	**20.19**	**319**	P		Pn	10 04 17.0	-0.7
KK31				IAmb		IAmb	10 04 21.7	
	comp=Z,9.1nm,1.1s							
KKAR	**Karatay Array**	**20.19**	**319**	P		Pn	10 04 17.0	-0.7
KKAR				IAmb		IAmb	10 04 21.7	
	comp=Z,9.1nm,1.1s							
KKAR	**Karatay Array**	**20.19**	**319**	P		**P**	**10 04 15.8**	**0.0**
WHN	**Wuhan**	**22.61**	**79**	⇓P		**P**	**10 04 39.1**	**-2.8**
KURBB	**Kurchatov Arra**	**22.95**	**344**	P		**P**	**10 04 45.2**	**-0.1**
	comp=Z,4.6nm,0.9s,baz=164,slow=9.1,SNR=28							
	comp=Z,4.6nm,0.9s							
KURK	**Kurchatov**	**23.01**	**344**	P		**P**	**10 04 45.6**	**-0.4**
SONM	**Songino Array**	**23.51**	**32**	P		**P**	**10 04 51.2**	**0.0**
	comp=Z,3.0nm,0.7s,baz=215,slow=10,SNR=26							
	comp=Z,3.0nm,0.7s							
SONM	**Songino Array**	**23.51**	**32**	P		**P**	**10 04 49.6**	**-1.6**
ULN	**Ulaanbaatar**	**23.84**	**32**	P		**P**	**10 04 53.1**	**-1.3**
ULN				IAmb		IAmb	10 04 56.3	
	comp=Z,4.7nm,0.8s							
ZAA0	**Zalesovo Array**	**25.18**	**355**	P		**P**	**10 05 05.0**	**-1.3**
ZAA0				IAmb		IAmb	10 05 08.0	
	comp=Z,4.3nm,1.1s							
ZALV	**Zalesovo Beam**	**25.18**	**355**	P		**P**	**10 05 05.6**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=185,slow=7.4,SNR=10							
	comp=Z,1.3nm,0.5s							
ZALV	**Zalesovo Beam**	**25.18**	**355**	P		**P**	**10 05 05.5**	**-0.9**
ABKAR	**Akbulak array**	**29.73**	**321**	P		**P**	**10 05 47.7**	**+0.4**
AKTO	**Aktyubinsk**	**31.42**	**322**	P		**P**	**10 06 02.8**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=152,slow=7.5,SNR=6.6							
	comp=Z,2.5nm,0.6s							
USRK	**Ussuriysk Ar.**	**37.77**	**54**	P		**P**	**10 06 55.4**	**-1.7**
NRIK	**Noril'sk**	**40.49**	**360**	P		**P**	**10 07 18.9**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=207,slow=11,SNR=3.9							
	comp=Z,1.1nm,0.3s							
FINES	**FINESS Array B**	**51.88**	**327**	P		**P**	**10 08 48.3**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=97,slow=11,SNR=4.4							
	comp=Z,1.5nm,0.7s							
ARCES	**ARCESS Array B**	**53.80**	**337**	P		**P**	**10 09 02.9**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=105,slow=9.4,SNR=1.7							
	comp=Z,4.0nm,1.0s							
HFS	**Hagfors**	**57.86**	**325**	P		**P**	**10 09 31.1**	**-1.5**
	comp=Z,3.1nm,0.8s,baz=62,slow=9.9,SNR=2.4							
	comp=Z,3.1nm,0.8s							
GERES	**GERESS Array B**	**59.07**	**312**	P		**P**	**10 09 39.4**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=69,slow=7.3,SNR=5.8							
	comp=Z,0.7nm,0.5s							
WRA	**Warramunga Ar**	**65.77**	**132**	P		P	10 10 23.2	-3.2
	comp=Z,0.4nm,0.7s,baz=322,slow=6.6,SNR=2.0							
	comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**68.20**	**135**	P		P	10 10 39.3	-2.6
	comp=Z,0.3nm,0.7s,baz=317,slow=6.7,SNR=2.6							
	comp=Z,0.3nm,0.7s							

IDC 19 10:12:22.7±999.0, 50.63N×54.44E, h0km, Error ellipse: s-maj=730.0km s-min=53.0km az=93.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**2.31**	**94**	I	I	10 28 10.0	
	0.4nm,0.7s,baz=277,slow=317,SNR=2.9						
I46RU	**ZALESOVO INFRA**	**18.81**	**68**	I	I	12 07 40.0	
	0.1nm,1.6s,baz=275,slow=336,SNR=1.8						
I34MN	**SONGINO INFRAS**	**33.50**	**74**	I	I	13 36 30.0	
	baz=296,slow=338,SNR=0.8						
I45RU	**USSURIYSK INFR**	**50.62**	**65**	I	I	15 20 20.0	
	baz=297,slow=343,SNR=2.2						

IDC ***19*** *10:15:56.0±0.5, 49.13S×127.30E, h0km, mb4.7/17, mbtmp4.7/18, MS4.6/44, Error ellipse: s-maj=21.8km s-min=13.2km az=102.0*

BJI ***19*** *10:15:56.2±0.0, 49.10S×127.50E, h5km, mb4.9/34, mB5.5/25, Ms5.0/21, Ms7 4.7/23*

GCMT ***19*** *10:15:58.8±0.1, 49.07S±0.01×127.32E±0.01, h20km, MW5.4/134, Moment Tensor Solution. s98,c161; s134,c220; Duration: 1±2 Moment tensor: Scale 10^17 Nm; Mrr=0.18±.02; Mθθ=0.27±.02; Mφφ 0.45±.02; Mrθ=0.35±.04; Mθφ=1.31±.02; Mφr0.07±.04; Best double couple: M0 1.40600×10^17 NP1:φs98.00000°, δ88.00000°, λ-165.00000°. NP2:φs8.00000°, δ75.00000°, λ-2.00000°. Principal axes: T 1.4950, Plg9.0000°, Azm232.0000°; N -0.1790, Plg75.0000°, Azm105.0000°; P -1.3160, Plg12.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *10:15:58.8±2.4, 49.01S±0.09×127.5E±0.2, h10km±1km, mb5.0/28, Mwb5.3/14 Error ellipse: s-maj=21.1km s-min=15.3km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr 0.19; Mθθ-0.21; Mφφ 0.02; Mrθ-0.05; Mθφ-1.09; Mφr-0.26; Fault plane solution: M0 1.14000×10^17 NP1:φs183.44000°, δ88.45000°, λ13.92000°. NP2:φs93.06000°, δ76.09000°, λ178.40000°. Principal axes: T 1.0318, Plg11.0000°, Azm49.0000°; N 0.1934, Plg76.0000°, Azm190.0000°; P -1.2252, Plg9.0000°, Azm317.0000°;*

ISC 19 10:15:58.3±0.3, 49.14S±0.05×127.42E±0.07, h13km, n245, σ1s55/227, mb5.0/52, MS4.7/57, 4C-2D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**15.14**	**73**	Pn	**Pn**	**10 19 31.1**	**-0.6**
TAU	**Tasmania Unive**	**15.14**	**73**	P	**P**	**10 19 36.4**	**-0.4**
MOO	**Moorlands**	**15.31**	**71**	P	**P**	**10 19 38.7**	**-0.1**
	baz=16,SNR=4.5						
MOO	**Moorlands**	**15.31**	**71**	P	**P**	**10 19 40.9**	**+2.2**
ARPS	**Mount Arapiles**	**16.22**	**46**	P	**Pn**	**10 19 47.2**	**+1.5**
	baz=16,SNR=11						
ARPS	**Mount Arapiles**	**16.22**	**46**	P	**P**	**10 19 50.7**	**+1.8**
BRAT	**Ballarat**	**16.64**	**52**	P	**Pn**	**10 19 53.5**	**+2.4**
H01W1	**Cape Leeuwin H**	**17.28**	**321**	T	T	10 37 41.0	
	baz=148,slow=74,SNR=266						
H01W2	**Cape Leeuwin H**	**17.28**	**321**	T	T	10 37 44.4	
	baz=148,slow=74,SNR=266						
H01W3	**Cape Leeuwin H**	**17.29**	**321**	T	T	10 37 43.9	
	baz=148,slow=74,SNR=279						
TOO	**Toolangi**	**17.45**	**55**	P	**P**	**10 20 04.8**	**+2.3**
	baz=18,SNR=4.4						
TOO	**Toolangi**	**17.45**	**55**	Pn	**Pn**	**10 19 59.5**	**-1.8**
TOO	**Toolangi**	**17.45**	**55**	P	**P**	**10 20 05.1**	**+2.5**
BBOO	**Buckleboo**	**17.55**	**25**	P	**Pn**	**10 19 59.3**	**-3.2**
	baz=18,SNR=7.6						
BBOO	**Buckleboo**	**17.55**	**25**	Pn	**Pn**	**10 19 59.1**	**-3.5**
BBOO				IAmb	IAmb	10 20 05.8	
	comp=Z,94nm,1.1s						
BBOO	**Buckleboo**	**17.55**	**25**	P	**Pn**	**10 20 03.9**	**+1.4**
WHYH	**Whyalla**	**17.79**	**29**	P	**P**	**10 20 08.7**	**+2.5**
HTT	**Hallett**	**17.89**	**33**	P	**P**	**10 20 09.0**	**+1.6**
	baz=18,SNR=3.1						
HTT	**Hallett**	**17.89**	**33**	P	**P**	**10 20 09.2**	**+1.9**
NWAO	**Narrogin (SRO)**	**17.90**	**331**	P	**P**	**10 20 07.4**	**-0.1**
	comp=Z,7.6nm,0.8s						
NWAO				LR	LR	10 25 23.2	
	comp=Z,4μm,19.2s,slow=32						
FORT	**Forrest**	**18.35**	**2**	Pn	**P**	**10 20 09.5**	**-2.9**
FORT	**Forrest**	**18.35**	**2**	P	**P**	**10 20 11.6**	**-0.8**
CASY	**Casey**	**19.28**	**201**	P	**P**	**10 20 20.6**	**-1.8**
MULG	**Mulgathing**	**19.50**	**17**	P	**P**	**10 20 25.1**	**+0.1**
STKA	**Stephens Creek**	**20.28**	**37**	P	**P**	**10 20 33.4**	**-0.2**
	comp=Z,11nm,1.0s,baz=192,slow=11,SNR=9.8						
STKA				S	**S**	**10 24 15.2**	**-5.4**
	comp=Z,1.1nm,0.9s,baz=152,slow=22,SNR=1.3						
STKA				LR	LR	10 27 04.4	
	comp=Z,5μm,21.0s,baz=205,slow=33						
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**20.28**	**37**	P	**P**	**10 20 34.6**	**+1.1**
	baz=20,SNR=7.6						
STKA	**Stephens Creek**	**20.28**	**37**		**P**	**10 20 33.3**	**-0.2**
STKA	**Stephens Creek**	**20.28**	**37**	P	**P**	**10 20 34.4**	**+0.9**
LCRK	**Leigh Creek**	**20.39**	**28**	P	**P**	**10 20 35.2**	**+0.5**
CNB	**Canberra Magne**	**21.23**	**58**	P	**P**	**10 20 47.2**	**+3.4**
MORW	**Morawa**	**21.86**	**332**	P	**P**	**10 20 46.5**	**-4.0**
	baz=22,SNR=15						
MORW	**Morawa**	**21.86**	**332**	P	**P**	**10 20 49.1**	**-1.4**
MORW				IAmb	IAmb	10 20 52.3	
	comp=Z,68nm,0.9s						
MORW	**Morawa**	**21.86**	**332**	P	**P**	**10 20 50.5**	**-0.1**
OOD	**Oodnadatta**	**22.25**	**20**	P	**P**	**10 20 54.3**	**-0.5**
CMSA	**Cobar Meteorol**	**22.33**	**45**	P	**P**	**10 20 56.9**	**+1.2**
	baz=22,SNR=25						
CMSA	**Cobar Meteorol**	**22.33**	**45**	P	**P**	**10 20 56.9**	**+1.2**
MEEK	**Meekatharra**	**23.48**	**340**	P	**P**	**10 21 05.5**	**-2.2**
	baz=23,SNR=5.1						
MEEK	**Meekatharra**	**23.48**	**340**	P	**P**	**10 21 07.0**	**-0.7**
INKA	**Innaminka**	**23.71**	**31**	P	**P**	**10 21 10.0**	**+0.2**
WRKA	**Warakurna**	**24.07**	**2**	P	**P**	**10 21 11.9**	**-1.4**
	baz=24,SNR=5.7						
WRKA	**Warakurna**	**24.07**	**2**	P	**P**	**10 21 12.6**	**-0.7**
AULRC	**Lightning Ridg**	**25.17**	**46**	P	**P**	**10 21 25.8**	**+2.6**
AUPHS	**Peel High Scho**	**25.27**	**53**	P	**P**	**10 21 27.0**	**+2.9**
ASAR	**Alice Springs**	**25.93**	**14**	P	**P**	**10 21 29.1**	**-1.2**
	comp=Z,70nm,0.9s,baz=187,slow=8.9,SNR=186						
ASAR				PcP	**PcP**	**10 24 58.3**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=201,slow=1.5,SNR=1.9						
ASAR				S	**S**	**10 25 56.1**	**-4.1**
	comp=Z,0.5nm,0.9s,baz=174,slow=5.4,SNR=1.0						
ASAR				LR	LR	10 31 27.0	
	comp=Z,476nm,18.4s,baz=190,slow=36						
	comp=Z,70nm,0.9s						
AS31	**Alice Springs**	**25.94**	**14**	P	**P**	**10 21 28.8**	**-1.4**
AS31				IAmb	IAmb	10 21 31.7	
	comp=Z,26nm,1.1s						
AS01	**Alice Springs**	**25.94**	**14**	P	**P**	**10 21 29.3**	**-1.0**
QLP	**Quilpie**	**26.03**	**36**	P	**P**	**10 21 32.4**	**+1.4**
ARMA	**Armidale**	**26.19**	**53**	P	**P**	**10 21 32.4**	**-0.3**
ARMA				IAmb	IAmb	10 21 35.0	
	comp=Z,29nm,1.1s						
ARMA	**Armidale**	**26.19**	**53**	P	**P**	**10 21 34.8**	**+2.2**
RMQ	**Roma**	**28.03**	**44**	P	**P**	**10 21 50.6**	**+1.6**
	baz=28,SNR=6.6						
RMQ	**Roma**	**28.03**	**44**	P	**P**	**10 21 50.4**	**+1.4**
WB1	**Warramunga Ar.**	**29.64**	**13**	P	**P**	**10 22 02.3**	**-1.1**
WRA	**Warramunga Arr**	**29.66**	**13**	P	**P**	**10 22 01.6**	**-1.9**
	comp=Z,16nm,0.9s,baz=195,slow=9.2,SNR=62						
WRA				PcP	**PcP**	**10 25 07.0**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=190,slow=1.7,SNR=1.9						
WRA				S	**S**	**10 26 55.6**	**-3.2**
	comp=Z,0.7nm,1.1s,baz=202,slow=14,SNR=1.4						
WRA				LR	LR	10 34 01.1	
	comp=Z,840nm,18.8s,baz=185,slow=37						
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**29.66**	**13**	P	**P**	**10 22 01.4**	**-2.2**
WB2	**Warramunga Arr**	**29.66**	**13**	P	**P**	**10 22 00.9**	**-2.6**
WB2				IAmb	IAmb	10 22 04.2	
	comp=Z,31nm,1.1s						
WRAB	**Tennant Creek**	**29.67**	**13**	P	**P**	**10 22 01.6**	**-2.1**
WRAB				IAmb	IAmb	10 22 04.3	
	comp=Z,28nm,1.0s						
WRAB	**Tennant Creek**	**29.67**	**13**	P	**P**	**10 22 02.6**	**-1.0**
WR0	**Warramunga Arr**	**29.67**	**14**	P	**P**	**10 22 02.0**	**-1.7**
WR0				IAmb	IAmb	10 22 04.5	
	comp=Z,33nm,1.1s						
WB0	**Warramunga Arr**	**29.84**	**13**	P	**P**	**10 22 03.4**	**-1.7**
WB0				IAmb	IAmb	10 22 05.1	
	comp=Z,13nm,0.9s						
QIS	**Mount Isa**	**30.14**	**23**	P	**P**	**10 22 07.6**	**-0.3**
	baz=30,SNR=12						
QIS	**Mount Isa**	**30.14**	**23**	P	**P**	**10 22 07.4**	**-0.4**
RPZ	**Rata Peaks**	**30.23**	**96**	LR	LR	10 31 31.4	
	comp=Z,1μm,20.8s,baz=242,slow=31						
FITZ	**Fitzroy Crossi**	**31.00**	**357**	P	**P**	**10 22 14.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**31.00**	**357**	P	**P**	**10 22 15.8**	**+0.4**
VNDA	**Vanda**	**31.36**	**166**	P	**P**	**10 22 17.7**	**-0.3**
	comp=Z,24nm,0.8s,baz=317,slow=8.7,SNR=65						
VNDA				S	**S**	**10 27 22.7**	**-1.8**
	comp=Z,2.3nm,1.1s,baz=32,slow=7.9,SNR=1.4						
VNDA				LR	LR	10 33 55.1	
	comp=Z,1μm,19.0s,baz=326,slow=34						
	comp=Z,24nm,0.8s						
VNDA	**Vanda**	**31.36**	**166**	P	**P**	**10 22 17.7**	**-0.3**
SBA	**Scott Base**	**32.37**	**165**	P	**P**	**10 22 28.6**	**+1.7**
CTA	**Charters Tower**	**32.68**	**34**	LR	LR	10 35 17.5	
	comp=Z,3μm,20.1s,baz=202,slow=36						
KNRA	**Kununurra**	**33.39**	**2**	P	**P**	**10 22 35.6**	**-0.8**
	baz=33,SNR=7.9						
KNRA	**Kununurra**	**33.39**	**2**	P	**P**	**10 22 34.6**	**-1.8**
KNRA	**Kununurra**	**33.39**	**2**	P	**P**	**10 22 35.6**	**-0.8**
MTSU	**Mount Surprise**	**33.82**	**30**	P	**P**	**10 22 40.8**	**+0.7**
	baz=34,SNR=6.0						
MTSU	**Mount Surprise**	**33.82**	**30**	P	**P**	**10 22 40.9**	**+0.7**
MTN	**Manton Dam**	**36.32**	**6**	P	**P**	**10 23 01.9**	**+0.2**
MAW	**Mawson**	**36.42**	**216**	P	**P**	**10 23 02.8**	**+0.8**
	comp=Z,5.1nm,0.9s,baz=54,slow=18,SNR=1.6						
MAW				LR	LR	10 35 53.3	
	comp=Z,674nm,18.3s,baz=90,slow=33						
	comp=Z,5.1nm,0.9s						
KDU	**Kakadu**	**36.59**	**8**	P	**P**	**10 23 02.9**	**-1.1**
	baz=36,SNR=5.2						
KDU	**Kakadu**	**36.59**	**8**	P	**P**	**10 23 03.3**	**-0.6**
URZ	**Urewera**	**36.92**	**92**	P	**P**	**10 23 07.7**	**+1.1**
	comp=Z,14nm,1.0s,baz=211,slow=5.9,SNR=2.6						
URZ				LR	LR	10 36 13.9	
	comp=Z,1μm,18.5s,baz=316,slow=33						
	comp=Z,14nm,1.0s						
BATI	**Baumata**	**38.94**	**354**	LR	LR	10 39 14.8	
	comp=Z,2μm,20.0s,baz=199,slow=36						
DZM	**Mont Dzumac**	**40.98**	**63**	P	**P**	**10 23 43.1**	**+2.2**
	comp=Z,4.6nm,0.9s,baz=210,slow=10.0,SNR=3.1						
DZM				LR	LR	10 38 15.0	
	comp=Z,2μm,18.9s,baz=211,slow=33						
	comp=Z,4.6nm,0.9s						
DZM	**Mont Dzumac**	**40.98**	**63**	*e*LR	LR	10 34 52.8	
	comp=Z,3μm,28.2s						
QSPA	**South Pole Qui**	**40.98**	**180**	P	**P**	**10 23 39.9**	**-0.6**
	comp=Z,32nm,1.1s,baz=320,slow=1.4,SNR=53						
QSPA				PP	**PP**	**10 25 16.3**	**+1.6**
	comp=Z,8.1nm,1.1s,baz=48,slow=15,SNR=0.7						
QSPA				LR	LR	10 40 39.9	
	comp=Z,451nm,18.0s,baz=348,slow=36						
	comp=Z,32nm,1.1s						
TWSI	**Taliwang, Sumb**	**41.23**	**344**	P	**P**	**10 23 44.3**	**+1.4**
	comp=Z,56nm,1.2s						
SRBI	**Singaraja**	**42.19**	**342**	P	**P**	**10 23 51.5**	**+0.8**
	comp=Z,43nm,1.0s						
PMG	**Port Moresby**	**42.91**	**29**	LR	LR	10 41 51.0	
	comp=Z,2μm,18.6s,baz=197,slow=36						
BKSI	**Bulukumba**	**44.10**	**350**	P	**P**	**10 24 07.7**	**+1.5**
	comp=Z,22nm,2.3s,comp=Z,709nm						
KAPI	**Kappang**	**44.45**	**349**	LR	LR	10 42 59.9	
	comp=Z,432nm,18.4s,baz=176,slow=37						
KAPI	**Kappang**	**44.45**	**349**	P	**P**	**10 24 09.4**	**+0.5**
KPJI	**Karang Pucung**	**44.49**	**333**	P	**P**	**10 24 10.6**	**+1.3**
	comp=Z,40nm,1.0s						
LEM	**Lembang**	**45.37**	**332**	LR	LR	10 40 27.3	
	comp=Z,728nm,21.6s,baz=174,slow=32						
LEM	**Lembang**	**45.37**	**332**	P	**P**	**10 24 18.7**	**+2.2**
	comp=Z,41nm,1.0s						
SPSI	**Sidrap Palu**	**45.48**	**349**	P	**P**	**10 24 18.0**	**+0.8**
	comp=Z,24nm,1.2s,comp=Z,4μm						
BBKI	**Banjar Baru**	**46.76**	**343**	P	**P**	**10 24 28.3**	**+1.0**
	comp=Z,59nm,1.1s,comp=Z,5μm						
SANI	**Sanana**	**46.93**	**358**	P	**P**	**10 24 28.3**	**-0.3**
	comp=Z,13nm,1.0s,comp=Z,591nm						
HNR	**Honiara**	**48.00**	**46**	LR	LR	10 42 47.4	
	comp=Z,22μm,20.4s,baz=209,slow=34						
ELIB	**Princess Elisa**	**48.18**	**204**	*d*P	**P**	**10 24 37.5**	**-0.4**
	comp=Z,27nm,1.1s						
MDSI	**Maura Dua**	**48.69**	**328**	P	**P**	**10 24 43.2**	**+1.0**
	comp=Z,24nm,0.9s,comp=Z,954nm						
KRVT	**Keravat (AS076**	**49.33**	**33**	LR	LR	10 44 59.0	
	comp=Z,818nm,19.4s,baz=336,slow=35						
MRSI	**Marisa**	**49.65**	**353**	P	**P**	**10 24 51.8**	**+2.2**
	comp=Z,14nm,1.2s						
GTOI	**Gorontalo**	**49.73**	**354**	P	**P**	**10 24 51.8**	**+1.6**
	comp=Z,8.0nm,1.4s,comp=Z,234nm						
MSVF	**Nonsavu**	**51.29**	**71**	LR	LR	10 42 41.2	
	comp=Z,893nm,20.0s,baz=229,slow=31						
BELA	**Belgrano 2**	**52.77**	**185**	P	**P**	**10 25 10.5**	**-1.8**
BELA				IAmb	IAmb	10 25 31.0	
	comp=Z,28nm,0.9s						
SBUM	**Sibu**	**53.05**	**341**	P	**P**	**10 25 15.5**	**+0.4**
SBUM				IAmb	IAmb	10 25 18.1	
	comp=Z,18nm,1.0s						
TROLL	**Troll, Antarti**	**53.12**	**199**	P	**P**	**10 25 14.5**	**-0.6**
SNAA	**Sanae**	**54.47**	**197**	P	**P**	**10 25 24.1**	**-0.8**
	comp=Z,46nm,1.0s,baz=151,slow=7.7,SNR=67						
SNAA				LR	LR	10 47 29.7	
	comp=Z,1μm,20.7s,baz=142,slow=35						
	comp=Z,46nm,1.0s						
VNA2	**Neumayer--Watz**	**55.94**	**196**	P	**P**	**10 25 35.1**	**-0.4**
	baz=150,slow=8.0						
DAV	**Davao City (W)**	**56.00**	**358**	LR	LR	10 49 55.7	
	comp=Z,219nm,20.9s,baz=166,slow=36						
VNA3	**Neumayer Olymp**	**56.08**	**195**	P	**P**	**10 25 35.7**	**-0.8**
VNA1	**Neumayer--Stat**	**56.33**	**196**	P	**P**	**10 25 37.9**	**-0.3**
GSI	**Gunungsitoli**	**56.47**	**323**	P	**P**	**10 25 41.3**	**+1.5**
GSI	**Gunungsitoli**	**56.47**	**323**	P	**P**	**10 25 41.2**	**+1.4**
	comp=Z,33nm,0.9s						
RPSI	**Rantau Prapat**	**57.23**	**325**	P	**P**	**10 25 44.5**	**-0.7**
RPSI				IAmb	IAmb	10 25 55.0	
	comp=Z,14nm,0.9s						
PSI	**Prapat**	**57.33**	**326**	LR	LR	10 46 36.0	
	comp=Z,456nm,21.2s,baz=142,slow=32						
KCSI	**Kotacane, Aceh**	**58.42**	**325**	P	**P**	**10 25 53.1**	**-0.5**
	comp=Z,21nm,1.4s						
AFI	**Afiamalu**	**60.58**	**77**	LR	LR	10 48 08.6	
	comp=Z,381nm,20.1s,baz=228,slow=32						
H08S2	**Diego Garcia H**	**61.73**	**293**	T	T	11 33 10.2	
	baz=142,slow=76,SNR=16						
H08S1	**Diego Garcia H**	**61.74**	**293**	T	T	11 33 10.4	
	baz=142,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**61.74**	**293**	T	T	11 33 15.5	
	baz=142,slow=76,SNR=16						
RAR	**Rarotonga**	**63.10**	**92**	LR	LR	10 48 09.3	
	comp=Z,194nm,21.3s,baz=244,slow=31						
GUMO	**Guam**	**64.34**	**19**	LR	LR	10 53 19.3	
	comp=Z,253nm,21.7s,baz=133,slow=35						
PMSA	**Palmer Station**	**66.07**	**175**	LR	LR	10 53 29.0	
	comp=Z,445nm,20.8s,baz=182,slow=34						
TBI	**Tubuai**	**68.31**	**101**	*e*LR	LR	10 47 34.1	
	comp=Z,7μm,22.2s						
TBI				*e*LR	LR	10 47 34.1	
	comp=Z,2μm,29.2s						
QIZ	**Qiongzhong**	**69.65**	**342**	P	**P**	**10 27 08.4**	**+1.2**
QIZ				S	**S**	**10 36 16.3**	**+1.0**
QIZ				LR	LR

comp=Z,213nm,21.1s,baz=208,slow=34
LYN LuoYang 84.38 348 ⇑P **P 10 28 31.1 +1.3**
LYN S **S 10 39 00.6 +5.4**
LYN pmax pmax
comp=Z,10.0nm,2.2s
LYN pmax pmax
comp=Z,190nm,5.2s
LYN LR LR
comp=Z,170nm,14.2s
LYN LR LR
comp=Z,140nm,16.8s
LYN LR LR
comp=Z,190nm,12.2s
XAN Xi'an 84.44 345 P **P 10 28 31.3 +1.1**
XAN sP pwP 10 28 40.3 +1.5
XAN PP **PP 10 31 49.3 +3.4**
XAN SKS **S 10 38 51.0 -4.9**
XAN S **SKKSac 10 38 57.8 -1.0**
XAN sS ScS 10 39 06.8 -0.7
XAN SS **SS 10 44 29.8 +2.6**
XAN pmax pmax
comp=Z,13nm,1.3s
XAN LR LR
comp=Z,360nm,14.8s
XAN LR LR
comp=Z,230nm,17.4s
XAN LR LR
comp=Z,380nm,21.3s
LSZ Lusaka 84.50 253 LR LR 10 59 10.3
comp=Z,564nm,21.1s,baz=150,slow=31
LSZ Lusaka 84.50 253 P **P 10 28 33.0 +1.8**
LSZ IAmb IAmb 10 28 35.4
comp=Z,16nm,1.2s
TAOE Nuku Hiva Isla 84.96 98 *e*LR LR 10 55 16.5
comp=Z,445nm,26.1s
MJAR Matsushiro Arr 85.85 9 P **P 10 28 36.9 -0.2**
comp=Z,4.6nm,0.9s,baz=181,slow=7.0,SNR=9.4
comp=Z,4.6nm,0.9s
KSRS Korea Array 86.22 0 P **P 10 28 38.6 -0.3**
comp=Z,2.1nm,0.8s,baz=176,slow=4.9,SNR=6.4
KSRS LR LR 11 07 35.4
comp=Z,52nm,21.4s,baz=180,slow=36
comp=Z,2.1nm,0.8s
HNS HongShan 86.90 350 ⇑P **P 10 28 43.6 +1.4**
HNS pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 87.41 341 *e*P **P 10 28 46.9 +1.9**
LZH pP sP 10 28 50.6 +1.7
LZH SKS S 10 39 12.5 -13
LZH S **ScS 10 39 29.9 -2.2**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,250nm,4.3s
LZH LR LR
comp=Z,270nm,14.2s
LZH LR LR
comp=Z,160nm,12.0s
LZH LR LR
comp=Z,340nm,15.1s
TSUM Tsumeb 87.94 243 LR LR 11 02 19.7
comp=Z,1μm,19.4s,baz=154,slow=32
RPN Rapa Nui 88.79 132 LR LR 11 01 05.2
comp=Z,176nm,18.6s,baz=208,slow=30
PLCA Paso Flores 89.11 166 P **P 10 28 53.2 -0.1**
comp=Z,3.2nm,1.0s,baz=211,slow=9.2,SNR=5.7
PLCA LR LR 11 04 46.7
comp=Z,266nm,20.1s,baz=186,slow=33
comp=Z,3.2nm,1.0s
PLCA Paso Flores 89.11 166 P **P 10 28 54.4 +1.1**
HHC Hu-ho-hao-te 90.70 348 *e*P **P 10 29 02.0 +1.7**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,230nm,4.8s
GTA Gaotai 91.49 339 *e*P **P 10 29 05.0 +1.0**
GTA pP sP 10 29 08.8 +0.8
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,130nm,4.7s
GTA LR LR
comp=Z,160nm,21.8s
GTA LR LR
comp=Z,150nm,23.3s
GTA LR LR
comp=Z,290nm,23.3s
CN2 Changchun 92.58 359 *e*P **P 10 29 11.5 +2.7**
CN2 S **S 10 40 13.6 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,6.2s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
USRK Ussuriysk Ar. 93.05 3 P **P 10 29 10.0 -0.9**
comp=Z,1.4nm,1.0s,baz=178,slow=4.3,SNR=2.2
USRK LR LR 11 09 56.3
comp=Z,116nm,21.9s,baz=174,slow=35
comp=Z,1.4nm,1.0s
ASAJ Asahikawa 93.82 11 LR LR 11 10 01.7
comp=Z,81nm,21.9s,baz=196,slow=35
MBAR Mbarara 93.93 265 LR LR 11 04 42.1
comp=Z,311nm,21.3s,baz=104,slow=31
WSAR Wadi Sarin 94.44 301 LR LR 11 06 44.6
comp=Z,241nm,18.0s,baz=151,slow=32
ATD Arta Tunnel 95.10 282 LR LR 11 04 55.6
comp=Z,176nm,20.1s,baz=54,slow=31
SONM Songino Array 98.30 346 P Pdif 10 29 35.6 +0.6
comp=Z,1.0nm,1.0s,baz=167,slow=5.0,SNR=5.9
SONM LR LR 11 15 04.4
comp=Z,103nm,21.0s,baz=176,slow=36
comp=Z,1.0nm,1.0s
CFA Coronel Fontan 98.41 167 LR LR 11 11 11.3
comp=Z,300nm,20.0s,baz=186,slow=34
WMQ Urumqi 98.90 332 *e*P Pdif 10 29 39.8 +2.1
WMQ LR LR
comp=Z,360nm,24.1s
KURBB Kurchatov Arra 107.84 330 PP **PP 10 34 46.4 -0.3**
comp=Z,0.4nm,0.9s,baz=143,slow=5.9,SNR=2.0
ZALV Zalesovo Beam 108.82 335 PP **PP 10 34 54.0 +0.3**
comp=Z,0.5nm,0.3s,baz=177,slow=3.0,SNR=4.3
BRTR Keskin Array B 120.89 296 PKP **PKPdf 10 34 49.8 -0.1**
comp=Z,1.1nm,1.0s,baz=152,slow=3.9,SNR=2.3
TORD Torodi Ar. Bea 122.95 250 PKP **PKPdf 10 34 53.5 -0.9**
comp=Z,1.2nm,0.3s,baz=86,slow=2.1,SNR=6.0
TORD Torodi Ar. Bea 122.95 250 **PKiKP 10 34 55.9 +1.3**
ILAR Eielson Array 131.32 35 PKP **PKPdf 10 35 09.0 +0.2**
comp=Z,0.1nm,0.5s,baz=300,slow=4.1,SNR=2.1
NVAR Mina Array Bea 132.75 77 PKP **PKPdf 10 35 13.5 +0.8**
comp=Z,0.6nm,0.7s,baz=212,slow=3.2,SNR=2.1
FINES FINESS Array B 136.34 317 PKP **PKPdf 10 35 18.6 +0.3**
comp=Z,3.4nm,0.9s,baz=96,slow=4.2,SNR=2.6
TX31 Lajitas Ar. Si 136.70 98 P **PKPdf 10 35 20.5 +0.3**
baz=228
TXAR Lajitas Array 136.70 98 PKhKP PKPpre 10 35 11.1
comp=Z,0.4nm,0.9s,baz=256,slow=4.6,SNR=3.5
TXAR PKP **PKPdf 10 35 20.3 +0.1**
comp=Z,0.7nm,0.9s,baz=191,slow=6.4,SNR=5.4
MNTX Cornudas Mount 137.12 94 **PKiKP 10 35 22.7 +0.1**
MNTX Cornudas Mount 137.12 94 P **PKPdf 10 35 21.4 +0.6**
baz=230
INK Inuvik 137.60 33 PKP **PKPdf 10 35 19.8 -0.7**
comp=Z,1.4nm,1.0s,baz=197,slow=5.0,SNR=3.5
GERES GERESS Array B 137.79 296 PKP **PKPdf 10 35 19.6 -2.0**
comp=Z,0.8nm,0.8s,baz=93,slow=5.3,SNR=3.6
ANMO Albuquerque 138.42 89 P **PKPdf 10 35 22.6 -0.7**
baz=233
833A Chaparral WMA, 138.78 103 P **PKPdf 10 35 23.8 -0.1**
baz=227
ARCES ARCESS Array B 138.91 328 PKP **PKPdf 10 35 19.9 -2.9**
comp=Z,4.1nm,0.9s,baz=24,slow=3.3,SNR=3.7
DAVOX Davos/Dischmat 139.16 291 PKP **PKPdf 10 35 21.9 -2.4**
comp=Z,1.1nm,0.4s,baz=38,slow=4.5,SNR=2.3
CLL Collm 139.24 299 *e*PKPdf **PKiKP 10 35 25.0 -1.3**
CLL *e*(PKiKP) 10 35 29.0
CLL *e*x x 10 35 35.0
CLL *e*x x 10 49 33.0
CLL *e*SS SS 10 56 36.0 +0.1
CLL *e*SSS SSS 11 01 48.0
CLL LmV 11 57 00.0
comp=Z,200nm,18.0s
PDAR Pinedale Array 140.69 77 PKhKP PKPpre 10 35 22.9

comp=Z,0.4nm,0.7s,baz=204,slow=3.3,SNR=3.9
ABTX Abilene, Hawle 141.46 97 P **PKPdf 10 35 27.8 -0.8**
baz=230
ISCO Idaho Springs 141.73 84 P **PKPdf 10 35 27.9 -1.4**
baz=238
WHTX Lake Whitney, 142.47 100 P **PKPdf 10 35 29.6 -0.8**
baz=230
EDM Edmonton 142.69 60 **PKPdf 10 35 30.4 +0.1**
WMOK Wichita Mounta 143.33 96 P **PKPdf 10 35 31.2 -0.7**
baz=233
YKA Yellowknife Ar 144.19 44 PKP **PKPab 10 35 30.9 +0.6**
comp=Z,5.2nm,1.0s,baz=269,slow=3.5,SNR=27
ESDC Sonseca Array 144.55 273 PKP **PKPab 10 35 31.7 -0.8**
comp=Z,5.3nm,1.0s,baz=115,slow=2.5,SNR=11
ESDC Sonseca Array 144.55 273 **PKPdf 10 35 33.4 -0.6**
LAO LASA Array 144.59 73 P **PKPab 10 35 32.9 +0.5**
baz=246
RSSD Black Hills 144.88 78 **PKPdf 10 35 34.7 +0.1**
RSSD Black Hills 144.88 78 P **PKPbc 10 35 33.6 -0.2**
baz=243
Z38A Mt. Pleasant 144.88 101 P **PKPbc 10 35 32.9 -0.9**
baz=230
CBKS Cedar Bluff 145.05 89 P **PKPab 10 35 34.9 +0.6**
baz=237
342B Flagon Creek P 145.35 106 P **PKPdf 10 35 35.2 -0.3**
baz=228
X37A Clayton 145.46 99 **PKPbc 10 35 36.1 +0.4**
X37A Clayton 145.46 99 P **PKPdf 10 35 35.8 +0.2**
baz=232
R32A Long Quarter, 145.51 90 P **PKPbc 10 35 36.2 +0.4**
baz=237
TUL1 Leonard 145.99 96 **PKPbc 10 35 38.0 +0.7**
TUL1 Leonard 145.99 96 P **PKPbc 10 35 37.4 +0.1**
baz=234
T35B Sooner Cattle 146.10 94 P **PKPbc 10 35 38.1 +0.5**
baz=235
PESTR Estremoz 146.50 269 **PKiKP 10 35 40.5 -1.2**
DGMT Dagmar 146.54 71 P **PKPdf 10 35 37.9 +0.9**
baz=249
MIAR Mount Ida 146.60 100 P **PKPdf 10 35 37.9 +0.4**
baz=232
143A Socs Landing, 146.81 105 P **PKPdf 10 35 37.7 -0.2**
baz=229
EUNU Eureka 146.88 10 **PKPbc 10 35 39.5 +0.8**
X40A Basin Creek Fa 147.04 101 P **PKPdf 10 35 37.5 -0.7**
baz=231
X40A P **PKPdf 10 35 37.5 -0.7**
baz=231
U38A Gravette 147.22 97 P **PKPdf 10 35 38.9 +0.4**
baz=234
KSU1 Kansas State U 147.26 91 P **PKPdf 10 35 38.1 -0.4**
baz=238
BGNE Belgrade 147.43 86 P **PKPdf 10 35 38.7 0.0**
baz=241
RES Resolute Bay 148.88 20 **PKPbc 10 35 44.4 +0.4**
Z47A Carrollton 149.24 108 P **PKPdf 10 35 42.0 +0.1**
baz=228
ECSD EROS Data Cent 149.51 83 P **PKPdf 10 35 42.7 +0.6**
baz=244
P38A Dawn 149.55 93 P **PKPdf 10 35 42.0 -0.2**
baz=238
FFC Flin Flon 149.57 60 **PKPbc 10 35 46.7 +0.4**
EKA Eskdalemuir Ar 149.66 301 PKPbc **PKiKP 10 35 47.1 -0.4**
comp=Z,6.2nm,0.8s,baz=96,slow=3.2,SNR=11
R40A Maddies Statio 149.66 96 P **PKPdf 10 35 42.7 +0.2**
baz=236
LRAL Lakeview Retre 149.80 109 P **PKPdf 10 35 43.5 +0.7**
baz=228
N38A Joes South For 150.35 91 P **PKPdf 10 35 43.0 -0.5**
baz=240
F33A 5 Mile Ranch, 150.59 80 P **PKPdf 10 35 44.4 +0.8**
baz=248
X48A Hartselle 150.70 107 P **PKPdf 10 35 44.2 0.0**
baz=230
SCIA State Center 150.91 89 P **PKPdf 10 35 43.8 -0.5**
baz=242
152A Waverly Hall 150.94 112 P **PKPdf 10 35 45.1 +0.4**
baz=226
Z51A Franklin 151.11 111 P **PKPdf 10 35 44.6 -0.3**
baz=227
K38A Parkersburg 151.54 88 P **PKPdf 10 35 45.7 +0.4**
baz=243
TULEG Thule 151.75 8 **PKPbc 10 35 51.1 +0.3**
ULM Lac du Bonnet 152.26 71 PKPbc **PKPbc 10 35 52.8 0.0**
comp=Z,2.4nm,0.6s,baz=346,slow=7.6,SNR=3.0
HDIL Hopedale 152.81 94 P **PKPdf 10 35 45.6 -1.6**
baz=239
JFWS Jewell Farm 153.32 89 P **PKPdf 10 35 47.7 -0.1**
baz=244
WCI Wyandotte Cave 153.50 102 **PKiKP 10 35 57.1 +1.0**
WCI Wyandotte Cave 153.50 102 P **PKPdf 10 35 47.0 -1.3**
baz=235
T50A Nancy 153.71 105 P **PKPdf 10 35 47.8 -0.9**
baz=232
T50A P **PKPdf 10 35 47.8 -0.9**
baz=232
V52A Sevierville 153.76 109 P **PKPdf 10 35 48.3 -0.5**
baz=230
FCC Fort Churchill 154.15 52 PKPdf **PKPbc 10 35 53.3 -3.3**
EYMN Ely 154.40 78 P **PKPdf 10 35 49.5 +0.2**
baz=253
KMSC Kings Mountain 154.69 113 P **PKPdf 10 35 50.5 +0.4**
baz=228
P48A Milroy 154.75 100 P **PKPdf 10 35 49.0 -1.0**
baz=237
P48A P **PKPdf 10 35 49.0 -1.0**
baz=237
S51A Beattyville 154.88 106 P **PKPdf 10 35 50.4 +0.2**
baz=233
S51A P **PKPdf 10 35 50.4 +0.2**
baz=233
V55A Taylorsville 155.23 112 P **PKPdf 10 35 51.0 +0.2**
baz=229
V55A P **PKPdf 10 35 51.0 +0.2**
baz=229

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*ROM **19** 10:25:50.5±0.1, 42.°593N±0.°004×13.°296E±0.°006, h10km, ML3.4/54, Mw3.3, Error ellipse: s-maj=0.5km s-min=0.3km az=232.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.12; $M_{\theta\theta}$0.53; $M_{\phi\phi}$0.60; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.65; $M_{\phi r}$-0.05; Fault plane solution: $M_0$1.16874×10^{14} NP1:ϕ_s135.00000°, δ44.00000°, λ-93.00000°. NP2:ϕ_s318.00000°, δ46.00000°, λ-88.00000°.*
*IDC **19** 10:25:51.8±1.3, 42.°75N×13.°21E, h0km, mb3.6/5, mbtmp3.6/8, ML3.3/3, MS4.3/2 Error ellipse: s-maj=28.9km s-min=15.0km az=91.0*
*BEO **19** 10:25:52.8±0.6, 42.°64N×13.°32E, h0km, ML3.6/7*
*PRU **19** 10:25:54.6±0.0, 42.°76N×13.°52E, h0km*
ISC 19 10:25:52.0±0.8**, 42.°60N**±0.°02×**13.°29E**±0.°02**, h5**km±5km**,**
n135, σ1.°44/165**, mb3.6**/4**, 20C-22D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.04**	**49**	P	**Pg**	**10 25 52.8**	**-0.6**
SMA1				S	**Sg**	**10 25 54.1**	**-0.3**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
CAMP	**Campotosto**	**0.11**	**127**	P	**Pg**	**10 25 53.7**	**-0.7**
CAMP				S	**Sg**	**10 25 55.8**	**-0.2**
CAMP				AML	AML		
	comp=N,40300μm,1.2s						
CAMP				AML	AML		
	comp=E,34800μm,0.7s						
CAMP				AML	AML		
	comp=E,33284μm,0.3s						
CAMP				AML	AML		
	comp=N,36609μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.16**	**178**	P	**Pg**	**10 25 54.7**	**-0.5**
T1247				S	**Sg**	**10 25 57.8**	**+0.4**
T1247				AML	AML		
	comp=E,52600μm,0.6s						
T1247				AML	AML		
	comp=N,57850μm,0.5s						
T1247				AML	AML		
	comp=N,57850μm,1.5s						
T1247				AML	AML		
	comp=N,57828μm,0.5s						
T1247				AML	AML		
	comp=E,42442μm,0.5s						
LNSS	**Leonessa**	**0.18**	**271**	P	**Pg**	**10 25 55.2**	**-0.5**
LNSS				S	**Sg**	**10 25 58.7**	**+0.6**
LNSS				AML	AML		
	comp=N,39800μm,0.3s						
LNSS				AML	AML		
	comp=E,52000μm,0.7s						
LNSS				AML	AML		
	comp=N,39800μm,1.7s						
LNSS				AML	AML		
	comp=E,50735μm,0.5s						
GIGS	**Gran Sasso**	**0.26**	**126**	P	**Pg**	**10 25 56.1**	**-0.9**
GIGS				S	**Sg**	**10 26 00.1**	**-0.2**
GIGS				AML	AML		
	comp=E,3995μm,1.3s						
GIGS				AML	AML		
	comp=N,4900μm,0.5s						
GIGS				AML	AML		
	comp=E,3995μm,0.7s						
GIGS				AML	AML		
	comp=N,4898μm,0.5s						
GIGS				AML	AML		
	comp=E,3952μm,0.3s						
AQU	**L'Aquila**	**0.26**	**161**	P	**Pg**	**10 25 56.4**	**-0.7**
AQU				AML	AML		
	comp=E,21750μm,0.6s						
AQU				AML	AML		
	comp=N,14700μm,0.6s						
AQU				AML	AML		
	comp=E,21600μm,0.6s						
AQU				AML	AML		
	comp=N,14500μm,0.6s						
AQU				AML	AML		
	comp=N,14500μm,1.4s						
AQU				AML	AML		
	comp=N,14700μm,1.4s						
AQU				AML	AML		
	comp=N,14687μm,0.6s						
AQU				AML	AML		
	comp=N,14506μm,0.6s						
AQU				AML	AML		
	comp=E,21568μm,0.6s						
AQU				AML	AML		
	comp=E,21791μm,0.6s						
T1217	**Poggiodomo (PG**	**0.29**	**293**	P	**Pg**	**10 25 56.9**	**-0.7**
T1217				S	**Sg**	**10 26 01.5**	**+0.1**
T1217				AML	AML		
	comp=N,8975μm,0.3s						
T1217				AML	AML		
	comp=E,7765μm,0.4s						
T1217				AML	AML		
	comp=E,8745μm,0.4s						
T1217				AML	AML		
	comp=E,7765μm,0.4s						
T1217				AML	AML		
	comp=N,8675μm,0.3s						
T1217				AML	AML		
	comp=E,8745μm,0.4s						
T1217				AML	AML		
	comp=E,8746μm,0.4s						
T1217				AML	AML		
	comp=N,8677μm,0.3s						
T1217				AML	AML		
	comp=N,8985μm,0.3s						
T1217				AML	AML		
	comp=E,7764μm,0.4s						
MC2	**Monte Cornacci**	**0.32**	**347**	P	**Pg**	**10 25 57.5**	**-0.7**
FIAM	**Fiamignano**	**0.36**	**201**	P	**Pg**	**10 25 58.0**	**-0.9**
FIAM				S	**Sg**	**10 26 03.7**	**+0.1**
FIAM				AML	AML		
	comp=E,7305μm,0.9s						
FIAM				AML	AML		
	comp=N,7140μm,1.1s						
FIAM				AML	AML		
	comp=E,7305μm,1.1s						
FIAM				AML	AML		
	comp=N,7140μm,0.9s						
FIAM				AML	AML		
	comp=N,7137μm,1.1s						
FIAM				AML	AML		
	comp=E,6841μm,0.4s						
T1215	**Vallo di Nera,**	**0.37**	**303**	P	**Pg**	**10 25 58.3**	**-0.9**
T1215				S	**Sg**	**10 26 04.3**	**+0.2**
T1215				AML	AML		
	comp=N,2825μm,0.8s						
T1215				AML	AML		
	comp=E,3165μm,0.5s						
T1215				AML	AML		
	comp=N,2820μm,0.8s						
T1215				AML	AML		
	comp=E,3165μm,1.5s						
T1215				AML	AML		
	comp=N,2820μm,1.2s						
T1215				AML	AML		
	comp=E,3060μm,0.4s						
T1215				AML	AML		
	comp=E,3144μm,0.4s						
T1215				AML	AML		
	comp=N,2542μm,0.3s						
T1215				AML	AML		
	comp=N,2460μm,0.4s						
ARRO	**Arrone**	**0.39**	**267**	P	**Pg**	**10 25 57.4**	**-2.1**
ARRO				AML	AML		
	comp=E,5870μm,1.3s						
ARRO				AML	AML		
	comp=N,7280μm,1.3s						
ARRO				AML	AML		
	comp=E,5870μm,0.7s						
ARRO				AML	AML		
	comp=N,7280μm,0.7s						
ARRO				AML	AML		
	comp=E,4468μm,0.2s						
ARRO				AML	AML		
	comp=N,6864μm,0.5s						
OFFI	**Offida**	**0.44**	**41**	P	**Pg**	**10 26 00.4**	**-0.1**
OFFI				AML	AML		
	comp=E,11800μm,0.8s						
OFFI				AML	AML		
	comp=N,16800μm,0.5s						
OFFI				AML	AML		
	comp=E,11800μm,1.2s						
OFFI				AML	AML		
	comp=E,11326μm,0.6s						
OFFI				AML	AML		
	comp=N,16842μm,0.5s						
FDMO	**Fiordimonte**	**0.46**	**341**	P	**Pg**	**10 25 59.9**	**-1.0**
FDMO				S	**Sg**	**10 26 07.2**	**+0.3**
FDMO				AML	AML		
	comp=E,4270μm,1.5s						
FDMO				AML	AML		
	comp=N,4775μm,1.1s						
FDMO				AML	AML		
	comp=N,4775μm,0.9s						
FDMO				AML	AML		
	comp=E,4270μm,0.5s						
FDMO				AML	AML		
	comp=N,4656μm,0.5s						
GUMA	**Gualdo di Mace**	**0.46**	**4**	P	**Pg**	**10 26 00.2**	**-0.7**
GUMA				AML	AML		
	comp=N,23250μm,0.4s						
GUMA				AML	AML		
	comp=E,23300μm,0.4s						
GUMA				AML	AML		
	comp=E,20300μm,0.4s						
GUMA				AML	AML		
	comp=N,23250μm,1.6s						
GUMA				AML	AML		
	comp=E,23300μm,1.6s						
GUMA				AML	AML		
	comp=N,23850μm,0.5s						
GUMA				AML	AML		
	comp=N,23245μm,0.4s						
GUMA				AML	AML		
	comp=E,23304μm,0.4s						
GUMA				AML	AML		
	comp=E,20299μm,0.4s						
CESI	**CESI - Serrava**	**0.49**	**325**	P	**Pg**	**10 26 00.6**	**-0.9**
CESI				AML	AML		
	comp=E,5735μm,0.7s						
CESI				AML	AML		
	comp=N,5140μm,0.5s						
CESI				AML	AML		
	comp=E,5740μm,0.7s						
CESI				AML	AML		
	comp=E,4749μm,0.6s						
CESI				AML	AML		
	comp=N,5141μm,0.5s						
CSP1	**Cessapalombo**	**0.49**	**353**	P	**Pg**	**10 26 00.6**	**-0.9**
CSP1				S	**Sg**	**10 26 08.6**	**+0.6**
CSP1				AML	AML		

comp=E,6605µm,0.4s
CSP1 AML AML
comp=N,8375µm,1.1s
CSP1 AML AML
comp=E,6600µm,0.4s
CSP1 AML AML
comp=N,8375µm,0.9s
CSP1 AML AML
comp=E,6601µm,0.4s
CSP1 AML AML
comp=N,8053µm,0.5s
TRTR Tortoreto Alta 0.50 66 AML AML
comp=E,13245µm,0.5s
TRTR AML AML
comp=E,15450µm,1.5s
TRTR AML AML
comp=N,16100µm,0.4s
TRTR AML AML
comp=E,15450µm,0.5s
TRTR AML AML
comp=N,16099µm,0.4s
CESX Cesi 0.52 271 ⇓P Pg 10 26 01.1 -0.9
CESX AML AML
comp=E,4820µm,0.4s
CESX AML AML
comp=N,5780µm,1.2s
CESX AML AML
comp=E,4817µm,0.4s
CESX AML AML
comp=N,4978µm,0.5s
T1220 Camerino, Fraz 0.53 344 P Pg 10 26 01.1 -1.1
T1220 S Sg 10 26 09.8 +0.7
T1220 AML AML
comp=E,21050µm,0.4s
T1220 AML AML
comp=N,15000µm,0.6s
T1220 AML AML
comp=N,14800µm,0.6s
T1220 AML AML
comp=N,15050µm,0.6s
T1220 AML AML
comp=E,20950µm,0.4s
T1220 AML AML
comp=N,14795µm,0.6s
T1220 AML AML
comp=N,15008µm,0.6s
T1220 AML AML
comp=E,21051µm,0.4s
T1220 AML AML
comp=E,20911µm,0.4s
MOMA Monte Martano 0.57 291 P Pg 10 26 02.0 -0.9
MOMA AML AML
comp=E,3960µm,0.3s
MOMA AML AML
comp=N,4425µm,1.0s
MOMA AML AML
comp=E,4210µm,0.3s
MOMA AML AML
comp=N,4705µm,1.0s
MOMA AML AML
comp=N,4425µm,1.0s
MOMA AML AML
comp=E,4210µm,1.7s
MOMA AML AML
comp=E,3960µm,1.7s
MOMA AML AML
comp=N,4499µm,0.3s
MOMA AML AML
comp=N,4406µm,0.3s
MOMA AML AML
comp=E,4210µm,0.3s
MOMA AML AML
comp=E,3958µm,0.3s
PTQR Pietraquaria 0.58 172 ⇓P Pg 10 26 01.7 -1.5
PTQR AML AML
comp=N,1305µm,0.6s
PTQR AML AML
comp=E,1625µm,0.6s
PTQR AML AML
comp=N,1304µm,0.6s
PTQR AML AML
comp=E,1630µm,0.6s
SEF1 Sefro 0.60 335 AML AML
comp=E,4965µm,0.4s
SEF1 AML AML
comp=E,5610µm,0.8s
SEF1 AML AML
comp=E,5610µm,0.8s
SEF1 AML AML
comp=N,5105µm,0.3s
SEF1 AML AML
comp=E,5610µm,1.2s
SEF1 AML AML
comp=N,5107µm,0.3s
ASSB Assisi San Ben 0.64 314 ⇑P Pg 10 26 03.2 -1.0
ASSB AML AML
comp=E,2785µm,0.4s
ASSB AML AML
comp=N,2895µm,0.5s
ASSB AML AML
comp=N,2897µm,0.5s
SRES S.Oreste - Sor 0.68 238 ⇑P Pg 10 26 03.7 -1.3
SRES AML AML
comp=N,1955µm,0.4s
SRES AML AML
comp=E,2020µm,0.6s
SRES AML AML
comp=N,1959µm,0.4s
SRES AML AML
comp=E,2021µm,0.6s
CERT Cerreto 0.69 199 ⇑P Pg 10 26 03.6 -1.6
CERT AML AML
comp=E,4175µm,0.5s
CERT AML AML
comp=N,3515µm,1.3s
CERT AML AML
comp=N,3515µm,0.7s
CERT AML AML
comp=E,4175µm,1.5s
CERT AML AML
comp=N,3306µm,0.4s
CERT AML AML
comp=E,4177µm,0.5s
SNTG Esanatoglia 0.70 339 P Pg 10 26 04.1 -1.3
SNTG AML AML
comp=N,1465µm,0.5s
SNTG AML AML
comp=E,1580µm,0.5s
SNTG AML AML
comp=E,1660µm,0.5s
SNTG AML AML
comp=N,1580µm,0.5s
SNTG AML AML
comp=N,673µm,0.2s
SNTG AML AML
comp=N,938µm,0.3s
SNTG AML AML
comp=E,1578µm,0.5s
SNTG AML AML
comp=E,1659µm,0.5s
MTCE Montecelio 0.71 215 ⇓P Pb 10 26 06.0 -0.7
MTCE AML AML
comp=E,3750µm,0.6s
MTCE AML AML
comp=N,2800µm,0.6s
MTCE AML AML
comp=E,3750µm,1.4s
MTCE AML AML
comp=E,3753µm,0.6s
MTCE AML AML
comp=N,2800µm,0.6s
EL6 Elcito 0.74 349 ⇑P Pg 10 26 04.4 -1.8
EL6 S Sb 10 26 17.1 -0.8
EL6 AML AML
comp=E,4075µm,0.4s
EL6 AML AML
comp=N,4375µm,1.4s
EL6 AML AML
comp=N,4385µm,1.4s
EL6 AML AML
comp=N,4385µm,0.6s
EL6 AML AML
comp=E,4070µm,0.4s
EL6 AML AML
comp=E,4069µm,0.4s
EL6 AML AML
comp=N,3913µm,0.4s
VVLD Villa Vallelon 0.77 161 ⇑P Pg 10 26 06.4 -0.4
VVLD AML AML
comp=N,2310µm,0.6s
VVLD AML AML
comp=E,1690µm,0.6s
VVLD AML AML
comp=N,2312µm,0.6s
VVLD AML AML
comp=E,1689µm,0.6s
CING Cingoli 0.78 355 ⇑P Pg 10 26 05.6 -1.3
CING AML AML
comp=E,3430µm,0.8s
CING AML AML
comp=N,2970µm,0.5s
CING AML AML
comp=E,3430µm,1.2s
CING AML AML
comp=E,3136µm,0.5s
FOSV Fossato di Vic 0.80 331 ⇑P Pg 10 26 05.9 -1.3
FOSV AML AML
comp=E,1665µm,0.8s
FOSV AML AML
comp=N,2155µm,0.3s
FOSV AML AML
comp=E,1665µm,1.2s
FOSV AML AML
comp=E,1434µm,0.4s
FOSV AML AML
comp=N,2154µm,0.3s
RCAV Rocca di Cave 0.80 199 P Pb 10 26 07.8 -0.5
RCAV AML AML
comp=N,4130µm,0.6s
RCAV AML AML
comp=E,4050µm,1.6s
RCAV AML AML
comp=N,4127µm,0.6s
RCAV AML AML
comp=E,3871µm,0.5s
PP3 Marolino 0.81 17 ⇓P Pg 10 26 07.2 -0.3
PP3 AML AML
comp=E,10025µm,0.7s
PP3 AML AML
comp=N,5585µm,0.7s
PP3 AML AML
comp=N,5475µm,0.7s
PP3 AML AML
comp=E,9925µm,0.7s
PP3 AML AML
comp=N,5580µm,0.7s
PP3 AML AML
comp=E,10041µm,0.7s
PP3 AML AML
comp=E,9907µm,0.7s
PP3 AML AML
comp=N,5475µm,0.7s
PP3 AML AML
comp=N,5582µm,0.7s
LPEL Lama dei Pelig 0.86 130 S Sg 10 26 19.5 -0.3
MURB Monte Urbino 0.87 320 ⇑P Pg 10 26 07.6 -1.1
MURB AML AML
comp=E,4030µm,0.4s
MURB AML AML
comp=E,4030µm,0.4s
MURB AML AML
comp=N,4510µm,0.9s
MURB AML AML
comp=E,4310µm,0.3s
MURB AML AML
comp=N,4950µm,0.9s
MURB AML AML
comp=N,3928µm,0.4s
MURB AML AML
comp=N,3905µm,0.5s
MURB AML AML
comp=E,4310µm,0.3s
MURB AML AML
comp=E,4033µm,0.4s
SSFR Montelago di S 0.91 336 ⇓P Pg 10 26 08.2 -1.3
SSFR AML AML
comp=E,2755µm,0.7s
SSFR AML AML
comp=N,2915µm,0.2s
SSFR AML AML
comp=N,2595µm,0.7s
SSFR AML AML
comp=E,2755µm,1.3s
SSFR AML AML
comp=E,2390µm,0.4s
SSFR AML AML
comp=E,2394µm,0.4s
SSFR AML AML
comp=N,2919µm,0.2s
SSFR AML AML
comp=E,2627µm,0.3s
MGAB Montegabbione 0.92 290 ⇓P Pg 10 26 08.7 -0.9
MGAB AML AML
comp=E,4725µm,0.7s
MGAB AML AML
comp=N,2785µm,1.3s
MGAB AML AML
comp=E,5230µm,0.7s
MGAB AML AML
comp=N,2845µm,0.4s
MGAB AML AML
comp=E,5230µm,1.3s
MGAB AML AML
comp=N,2785µm,0.7s
MGAB AML AML
comp=E,4725µm,1.3s
MGAB AML AML
comp=N,2636µm,0.4s
MGAB AML AML
comp=N,2843µm,0.4s
MGAB AML AML
comp=E,4725µm,0.7s
MGAB AML AML
comp=E,5229µm,0.7s
ATFO Monte Foce - G 0.93 326 P Pg 10 26 08.8 -1.0
ATFO AML AML
comp=E,1720µm,0.7s
ATFO AML AML
comp=N,1940µm,0.5s
ATFO AML AML
comp=N,1940µm,1.5s
ATFO AML AML
comp=E,1722µm,0.7s
ATFO AML AML
comp=N,1937µm,0.5s
ARVD Arcevia 0.93 344 ⇑P Pg 10 26 08.3 -1.5
ARVD S Sb 10 26 24.0 +0.7
ARVD AML AML
comp=E,1640µm,0.6s
ARVD AML AML
comp=N,1360µm,0.7s
ARVD AML AML
comp=E,1640µm,0.6s
ARVD AML AML
comp=N,1357µm,0.7s
POFI Posta Fibreno 0.94 160 ⇓P Pg 10 26 09.0 -0.9
POFI AML AML
comp=N,1115µm,0.6s
POFI AML AML
comp=N,1160µm,0.6s
POFI AML AML
comp=E,1306µm,0.8s
POFI AML AML
comp=E,1310µm,0.8s
POFI AML AML
comp=N,1118µm,0.6s
POFI AML AML
comp=N,1158µm,0.6s
POFI AML AML
comp=E,1310µm,0.8s
POFI AML AML
comp=E,1304µm,0.8s
AOI Ancona 0.98 13 ⇑P Pg 10 26 09.7 -1.0
AOI AML AML
comp=E,1580µm,0.4s
AOI AML AML
comp=N,1680µm,0.4s
AOI AML AML
comp=N,1680µm,1.6s
AOI AML AML
comp=N,1679µm,0.4s
AOI AML AML
comp=E,1582µm,0.4s
FRON Frontone 1.00 336 ⇑P Pg 10 26 09.7 -1.5
FRON S Sb 10 26 25.4 0.0
FRON AML AML
comp=E,1810µm,1.3s
FRON AML AML
comp=N,2500µm,0.5s
FRON AML AML
comp=E,1810µm,0.7s
FRON AML AML
comp=E,1564µm,0.5s
FRON AML AML
comp=N,2503µm,0.5s
ATVO AVT- Monte Val 1.01 321 ⇓P Pg 10 26 10.2 -1.3
ATVO AML AML
comp=N,1110µm,1.1s
ATVO AML AML
comp=E,1675µm,0.7s
ATVO AML AML
comp=E,1673µm,0.7s
SACS San Casciano d 1.05 284 ⇓P Pb 10 26 12.2 -0.4
SACS AML AML
comp=N,2010µm,1.0s
SACS AML AML
comp=E,1012µm,0.6s
SACS AML AML
comp=N,2025µm,1.0s
SACS AML AML
comp=E,1026µm,0.6s
SACS AML AML
comp=N,2011µm,1.0s
SACS AML AML
comp=N,2027µm,1.0s
SACS AML AML
comp=E,1027µm,0.6s
SACS AML AML
comp=E,1013µm,0.6s
ATMI Monte Miggiano 1.05 315 ⇓P Pb 10 26 12.7 +0.1
ATMI AML AML
comp=E,2605µm,0.7s
ATMI AML AML
comp=N,3130µm,1.0s
ATMI AML AML
comp=E,2605µm,1.3s
ATMI AML AML
comp=E,2539µm,0.5s
ATMI AML AML
comp=N,3132µm,1.0s
COR1 Corinaldo 1.05 348 ⇓P Pg 10 26 11.9 -0.2
COR1 AML AML
comp=E,2220µm,0.6s
COR1 AML AML
comp=N,4835µm,1.1s
COR1 AML AML
comp=N,4835µm,0.9s
COR1 AML AML
comp=E,2220µm,1.4s
PIEI Pieia 1.09 330 ⇑P Pg 10 26 11.9 -0.9
PIEI AML AML
comp=E,1335µm,0.4s
PIEI AML AML
comp=N,1560µm,0.5s
PIEI AML AML
comp=N,1560µm,1.5s
PIEI AML AML
comp=N,1560µm,0.5s
PIEI AML AML
comp=E,1337µm,0.4s
TOLF Tolfa 1.10 241 P Pg 10 26 11.4 -1.6
TOLF AML AML
comp=E,1955µm,0.8s
TOLF AML AML
comp=N,2050µm,0.8s
TOLF AML AML
comp=E,1955µm,1.2s
TOLF AML AML
comp=N,2052µm,0.8s
TOLF AML AML
comp=E,1954µm,0.8s
MPAG Monte Paganucc 1.10 339 ⇑P Pg 10 26 11.6 -1.5
MPAG AML AML
comp=N,1595µm,1.2s
MPAG AML AML
comp=N,1520µm,1.1s
MPAG AML AML
comp=E,1260µm,0.6s
MPAG AML AML
comp=E,1257µm,0.7s
MPAG AML AML
comp=N,1520µm,0.9s
MPAG AML AML
comp=N,1595µm,0.8s
MPAG AML AML
comp=N,1068µm,0.4s
MPAG AML AML
comp=E,1258µm,0.7s
MPAG AML AML
comp=N,1425µm,0.5s
MPAG AML AML
comp=E,1260µm,0.6s
SENI Senigallia 1.10 358 ⇓P Pg 10 26 13.0 -0.2
SENI AML AML
comp=N,2080µm,0.7s
SENI AML AML
comp=E,2255µm,0.8s
SENI AML AML
comp=E,2255µm,0.8s
SENI AML AML
comp=N,2081µm,0.7s
LATB Latina 1.13 193 ⇑P Pg 10 26 13.4 -0.3
LATB AML AML
comp=E,475µm,1.2s
LATB AML AML
comp=N,321µm,0.9s
LATB AML AML
comp=N,321µm,1.1s
LATB AML AML
comp=N,321µm,0.9s
LATB AML AML
comp=E,475µm,1.2s
NARO Abbazia di Nar 1.14 333 ⇓P Pg 10 26 12.2 -1.6
NARO AML AML
comp=N,969µm,0.8s
NARO AML AML
comp=E,1220µm,0.7s
NARO AML AML
comp=N,969µm,0.8s
NARO AML AML
comp=E,1219µm,0.7s
CERA Filignano 1.14 151 ⇑P Pg 10 26 10.9 -2.9
CERA AML AML
comp=E,1275µm,0.8s
CERA AML AML
comp=N,1165µm,0.9s
CERA AML AML
comp=E,1295µm,0.8s
CERA AML AML
comp=N,1200µm,0.9s
CERA AML AML
comp=E,1275µm,1.2s
CERA AML AML
comp=E,1295µm,1.2s
CERA AML AML
comp=N,1167µm,0.9s
CERA AML AML
comp=N,1201µm,0.9s
CERA AML AML
comp=E,1274µm,0.8s
CERA AML AML
comp=E,1296µm,0.8s
BADI Badiali 1.19 320 ⇓P Pg 10 26 14.0 -0.8
MIDA Miranda 1.20 143 ⇓P Pg 10 26 12.4 -2.5
MIDA AML AML
comp=N,876µm,0.6s
MIDA AML AML
comp=N,918µm,0.6s
MIDA AML AML
comp=N,918µm,1.4s
MIDA AML AML
comp=E,1214µm,0.6s
MIDA AML AML
comp=E,1261µm,0.6s
MIDA AML AML
comp=N,876µm,1.4s
MIDA AML AML
comp=N,915µm,0.6s
MIDA AML AML
comp=N,877µm,0.6s
MIDA AML AML
comp=E,1214µm,0.6s
MIDA AML AML
comp=E,1260µm,0.6s

MCIV Monte Civitell 1.20 279 P Pg 10 26 14.4 -0.6
MCIV AML AML
comp=N,559μm,0.8s
MCIV AML AML
comp=N,559μm,1.2s
MCIV AML AML
comp=E,570μm,0.7s
SF04 Casetta 1.22 282 ⇓P Pg 10 26 13.3 -2.1
SF04 AML AML
comp=E,638μm,1.1s
SF04 AML AML
comp=N,748μm,1.0s
SF04 AML AML
comp=E,638μm,0.9s
SF04 AML AML
comp=N,564μm,0.3s
SF04 AML AML
comp=E,615μm,0.4s
PTRJ Pietraroja 1.54 143 P Pg 10 26 22.0 +0.5
RUFI Rufina 1.80 314 ⇓P Pn 10 26 23.0 -0.6
RUFI AML AML
comp=E,428μm,1.0s
RUFI AML AML
comp=E,428μm,1.0s
RUFI AML AML
comp=N,440μm,0.7s
BRIS BRISIGHELLA 2.02 321 ⇑P Pb 10 26 29.2 +0.1
NDIM Novi di Modena 2.87 324 ⇓P Pn 10 26 36.4 -1.9
NDIM AML AML
comp=E,8305μm,0.1s
NDIM AML AML
comp=N,5945μm,0.1s
NDIM AML AML
comp=N,7095μm,0.1s
NDIM AML AML
comp=E,8050μm,0.1s
SBPO S.Benedetto Po 2.99 326 ⇓P Pb 10 26 44.8 -0.9
SKDS Skadanscina 2.99 10 ePn Pn 10 26 37.4 -2.6
A050A Klekovaca 3.02 50 ePn Pn 10 26 40.5 +0.1
SRKV Kupres RS 3.19 61 ePn Pn 10 26 43.1 +0.4
BOJS Bojanci 3.23 25 ePn Pn 10 26 42.4 -0.8
CEY Cerknica 3.24 14 ePn Pn 10 26 42.9 -0.6
STON Ston 3.26 84 ePn Pn 10 26 43.6 0.0
STON eSn Sn 10 27 22.8 0.0
STON Ston 3.26 84 ePn Pn 10 26 41.0 -2.6
MGRS Mrkonjic Grad 3.30 55 ePn Pn 10 26 44.7 +0.4
LTRZ Laterza 3.31 126 ⇓P Pn 10 26 45.2 +0.8
BLY Banja Luka 3.55 51 ePn Pn 10 26 48.7 +1.1
A051A Mrakovica 3.56 46 ePn Pn 10 26 47.7 -0.2
CRES Cresnjev 3.58 25 ePn Pn 10 26 47.7 -0.4
DOSS Dosso del Somm 3.61 336 ⇑P Pn 10 26 49.8 +1.1
CTI Castel Tesino 3.64 342 ⇓P Pn 10 26 49.0 0.0
STAL STALIGIAL 3.68 354 ⇑P Pn 10 26 49.9 +0.4
CTL8 Castelleone 3.69 318 ⇑P Pn 10 26 49.4 -0.3
TREB Trebinje 3.73 87 ePn Pn 10 26 52.4 +2.2
TREB eSn Sn 10 27 34.5 0.0
TREB Trebinje 3.73 87 ePn Pn 10 26 49.7 -0.5
LUSI Trento, Gardas 3.76 334 ⇑P Pn 10 26 50.8 +0.2
HCY Herceg Novi 3.85 91 ePn Pn 10 26 50.4 -1.4
BRY Bratogost 3.88 84 ePn Pn 10 26 52.0 -0.3
ZONE Zone 3.90 325 ⇓P Pn 10 26 53.8 +1.3
ZONE S Sn 10 27 39.9 +1.2
OBKA Obir 4.01 13 i Pn Pn 10 26 55.1 +1.1
comp=E,2.5nm,0.4s
OBKA Obir 4.01 13 ePn Pn 10 26 53.7 -0.4
MYKA Terra Mystica 4.04 3 i Pn Pn 10 26 54.8 +0.4
comp=E,3.4nm,0.4s
UPM Unac-Piva 4.17 80 ePn Pn 10 26 57.4 +1.1
ABTA Abfaltersbach 4.18 353 i Pn Pn 10 26 56.6 +0.1
comp=E,44nm,0.6s,SNR=8.1
ABTA eSn Sn 10 27 44.4 -1.3
comp=E,15nm,0.4s
DRME Dracevica, Mon 4.38 93 ePn Pn 10 26 59.0 -0.1
HAPS Han Pijesak,Bl 4.39 68 ePn Pn 10 26 59.8 +0.5
PDG Podgorica 4.41 90 ePn Pn 10 27 00.4 +0.9
PDG eSn Sn 10 27 51.3 +0.1
KBA Koelnbreinsper 4.48 0 ePn Pn 10 27 02.3 +1.7
comp=E,3.2nm,0.3s
BBLS Lazići 4.64 72 ePn Pn 10 27 03.5 +0.7
BBLS eSn Sn 10 27 57.4 +0.4
BBLS Lazići 4.64 72 ePn Pn 10 27 02.7 -0.1
FETA Feichten 4.78 338 i Pn Pn 10 27 07.3 +2.6
comp=E,8.2nm,0.6s,SNR=5.0
FETA eSn Sn 10 28 00.4 -0.2
comp=E,9.2nm,0.7s
WTTA Wattenberg 4.81 346 i Pn Pn 10 27 07.4 +2.2
comp=E,7.7nm,0.4s,SNR=4.2
DAVOX Davos/Dischmat 4.83 331 Pn Pn 10 27 05.5 0.0
comp=E,1.7nm,0.3s,baz=144,slow=18,SNR=10
DAVOX Sn Sn 10 28 00.4 -1.5
comp=E,1.0nm,0.3s,baz=125,slow=21,SNR=1.3
comp=E,4.0nm,0.3s
SQTA Sankt Quirin 4.85 343 ePn Pn 10 27 08.3 +2.7
comp=E,3.7nm,0.2s
SQTA eSn Sn 10 28 01.2 -1.0
comp=E,19nm,0.5s
WATA Walderalm 4.89 346 ePn Pn 10 27 08.8 +2.6
comp=E,10nm,0.6s
ARSA Arzberg 4.91 18 ePn Pn 10 27 07.4 +1.0
comp=E,2.5nm,0.3s
SJES Sjenica 4.95 80 ePn Pn 10 27 07.5 +0.5
SJES eSn Sn 10 28 03.1 -1.6
MOTA Moosalm 4.99 343 ePn Pn 10 27 11.4 +3.8
comp=E,7.6nm,0.6s
DIVS Divibare 5.11 71 ePn Pn 10 27 08.3 -0.9
DIVS eSn Sn 10 28 06.6 -2.0
DIVS Divibare 5.11 71 ePn Pn 10 27 05.7 -3.5
IVAS Ivanjica 5.12 77 ePn Pn 10 27 09.3 0.0
IVAS eSn Sn 10 28 06.4 -2.4
RETA Reutte 5.20 341 ePn Pn 10 27 12.8 +2.4
comp=E,2.2nm,0.3s
DAVA Damuels 5.27 334 ePn Pn 10 27 14.1 +2.6
comp=E,4.6nm,0.3s
MOA Molln 5.29 7 ePn Pn 10 27 12.4 +0.8
comp=E,3.2nm,0.4s
MOA Molln 5.29 7 ePn Pn 10 27 12.1 +0.5
MOA eSn Sn 10 28 11.7 -1.3
FRGS Fruska Gora 5.36 59 ePn Pn 10 27 08.4 -4.2
TRUS Trudelj 5.43 70 ePn Pn 10 27 13.4 -0.1
RONA Rosalia, Austr 5.52 22 ePn Pn 10 27 16.5 +1.7
comp=E,2.4nm,0.3s
GRUS Gruza 5.57 74 ePn Pn 10 27 15.9 +0.4
GRUS eSn Sn 10 28 18.7 -1.2
CONA Conrad Observa 5.63 18 ePn Pn 10 27 16.9 +0.6
comp=E,6.1nm,0.6s
SELS Selova 5.78 81 ePn Pn 10 27 18.4 0.0
OHR Ohrid 5.80 102 ePn Pn 10 27 19.6 +0.9
OHR eSn Sn 10 28 23.2 -2.4
GERES GERESS Array B 6.25 2 Pn Pn 10 27 23.3 -1.6
comp=E,0.3nm,0.3s,baz=172,slow=13,SNR=8.1
GERES Sn Sn 10 28 32.8 -3.9
comp=E,1.2nm,0.3s,baz=172,slow=22,SNR=1.8
comp=E,1.2nm,0.6s
CKRC Cesky Krumlov 6.26 6 eSN Sn 10 28 34.0 -2.8
BARS Barje 6.29 85 ePn Pn 10 27 25.2 0.0
BARS eSn Sn 10 28 35.8 -1.6
PRVS Prvonek 6.49 88 ePn Pn 10 27 28.1 0.0
PRVS eSn Sn 10 28 41.2 -1.3
KHC Kasperske Hory 6.53 2 ePN Pn 10 27 27.6 -1.1
KHC eSN Sn 10 28 39.0 -4.6
ZAGS Zajecar 6.65 76 ePn Pn 10 27 29.5 -0.7
ZAPS Zavoj 6.89 81 eSn Sn 10 28 49.2 -3.2
VRAC Vranov 7.09 18 LR LR 10 30 32.3
comp=E,61nm,19.3s,baz=312,slow=40
VTS Vitosha 7.34 87 ePn Pn 10 27 40.4 +0.6
VTS Vitosha 7.34 87 ePn Pn 10 27 40.7 +0.9
VTS eSn Sn 10 29 00.3 -3.2
VTS eSn Sn 10 29 01.1 -2.4
KEST Kesra 7.51 205 Pn Pn 10 27 45.5 +3.4
comp=E,0.5nm,0.3s,baz=349,slow=5.2,SNR=4.3
comp=E,3.5nm,0.5s
FINES FINESS Array B 20.37 18 P P 10 30 29.8 +0.7
comp=E,2.6nm,0.9s,baz=215,slow=8.9,SNR=3.8
comp=E,2.6nm,0.9s
KBZ Khabaz 21.58 77 P P 10 30 44.5 +2.2
comp=E,1.8nm,0.8s,baz=359,slow=2.2,SNR=4.2
comp=E,1.8nm,0.8s
TORD Torodi Ar. Bea 31.02 202 P P 10 32 11.0 +0.5
comp=E,0.9nm,0.3s,baz=15,slow=8.1,SNR=1.7
comp=E,0.9nm,0.3s
MKAR Makanchi Array 47.79 60 P P 10 34 28.7 -1.3
comp=E,0.5nm,0.8s,baz=305,slow=5.1,SNR=5.6
comp=E,0.5nm,0.8s
SONM Songino Array 61.87 50 P P 10 36 13.8 +1.7
comp=E,0.3nm,0.7s,baz=349,slow=1.5,SNR=3.2
comp=E,0.3nm,0.7s
PETK Petropavlovsk- 79.86 21 LR LR 11 15 49.6
comp=E,148nm,19.6s,baz=195,slow=38
SHEM Shemya Is, Ala 83.61 12 LR LR 11 17 26.9
comp=E,186nm,19.7s,baz=132,slow=37

ROM 19 10:26:44.9±0.1, 42°.588N±0°.008×13°.329E±0°.006, h10km, ML2.9/2, 2C, Error ellipse: s-maj=0.8km s-min=0.5km az=183.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.08**	**131**	⇑P	Pg	10 26 47.8	+0.5
CAMP				S	Sg	10 26 49.4	+0.4
CAMP				AML	AML		
	comp=N,7680μm,0.3s						
CAMP				AML	AML		
	comp=E,11595μm,0.6s						
CAMP				AML	AML		
	comp=E,11106μm,0.3s						
CAMP				AML	AML		
	comp=N,3412μm,0.3s						
CAMP				AML	AML		
	comp=N,7682μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.15**	**189**	P	Pg	10 26 48.9	+0.7
T1247				S	Sg	10 26 51.8	+1.3
T1247				AML	AML		
	comp=N,15050μm,0.4s						
T1247				AML	AML		
	comp=E,7345μm,0.6s						
T1247				AML	AML		
	comp=E,6513μm,0.4s						
T1247				AML	AML		
	comp=N,14470μm,0.2s						
LNSS	**Leonessa**	**0.21**	**274**	P	Pg	10 26 49.9	+0.6
LNSS				S	Sg	10 26 53.6	+1.1
LNSS				AML	AML		
	comp=N,2869μm,0.3s						
LNSS				AML	AML		
	comp=E,3951μm,0.4s						
GIGS	**Gran Sasso**	**0.23**	**128**	P	Pg	10 26 50.2	+0.7
GIGS				S	Sg	10 26 53.7	+1.0
GIGS				AML	AML		
	comp=E,717μm,0.2s						
GIGS				AML	AML		
	comp=N,480μm,0.1s						
T1217	**Poggiodomo (PG**	**0.32**	**293**	P	Pg	10 26 51.8	+0.5
T1217				S	Sb	10 26 56.8	-1.2
T1217				AML	AML		
	comp=N,537μm,0.3s						
T1217				AML	AML		
	comp=E,535μm,0.3s						
T1217				AML	AML		
	comp=E,530μm,0.2s						
T1217				AML	AML		
	comp=N,603μm,0.3s						
MC2	**Monte Cornacci**	**0.34**	**343**	P	Pg	10 26 52.4	+0.6
MC2				S	Sb	10 26 58.2	-0.5
T1215	**Vallo di Nera,**	**0.40**	**302**	P	Pg	10 26 53.1	+0.3
T1215				S	Sb	10 26 59.6	-0.8
T1215				AML	AML		
	comp=N,314μm,0.2s						
T1215				AML	AML		
	comp=E,248μm,0.2s						
T1215				AML	AML		
	comp=E,249μm,0.2s						
T1215				AML	AML		
	comp=N,307μm,0.2s						
ARRO	**Arrone**	**0.42**	**269**	P	Pg	10 26 53.3	+0.2
ARRO				S	Sb	10 27 00.1	-0.6
ARRO				AML	AML		
	comp=N,492μm,0.2s						
ARRO				AML	AML		
	comp=E,416μm,0.2s						
T1220	**Camerino, Fraz**	**0.55**	**341**	⇑P	Pg	10 26 56.1	+0.5
T1220				AML	AML		
	comp=N,1669μm,0.4s						
T1220				AML	AML		
	comp=N,1708μm,0.4s						
T1220				AML	AML		
	comp=E,2494μm,0.4s						
T1220				AML	AML		
	comp=E,2542μm,0.4s						
EL6	**Elcito**	**0.76**	**347**	S	Sn	10 27 12.6	-0.8
LPEL	**Lama dei Pelig**	**0.83**	**130**	S	Sg	10 27 11.1	-0.7

*IDC **19** 10:43:36.6±1.0, 2°.81S×126°.74E, h0km, mb3.8/7, mbtmp3.8/10, ML3.8/3, Error ellipse: s-maj=25.2km s-min=20.3km az=69.0*
*DJA **19** 10:43:39.3±0.3, 3°.5S±5°.1×12°.7E±°, h10km, M4.0/13, mb4.4/7, mB4.4/2, MLv3.8/13, Mw(mB)3.5/2*
ISC 19 10:43:41.4±0.8, 2°.77S±0°.07×126°.59E±0°.06, h35km, n20, σ1s75/22, mb3.9/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.69**	**133**	P	**Pn**	**10 43 53.4**	**-1.3**
SANI	**Sanana**	**0.94**	**320**	P	**Pn**	**10 43 55.3**	**-2.8**
AAI	**Ambon**	**1.84**	**120**	P	**Pn**	**10 44 12.2**	**+1.7**
MSAI	**Masohi**	**2.40**	**104**	P	**Pn**	**10 44 19.6**	**+1.3**
LUWI	**Luwuk**	**4.19**	**294**	P	**Pn**	**10 44 42.2**	**-0.6**
GTOI	**Gorontalo**	**4.93**	**313**	P	**Pn**	**10 44 55.3**	**+2.3**
	11nm,0.5s,205nm0.1nm						
SIJI	**Sorong**	**5.04**	**68**	Pn	**Pn**	**10 44 53.8**	**-0.7**
	3.0nm,0.3s,baz=160,slow=24,SNR=6.8						
SIJI				Sn	**Sn**	**10 45 49.2**	**-2.4**
	1.5nm,0.3s,baz=204,slow=19,SNR=6.4						
	9.2nm,0.3s						
FAKI	**Fak Fak**	**5.65**	**92**	P	**Pn**	**10 45 02.2**	**-0.8**
	9.7nm,1.2s,0.1nm						
MRSI	**Marisa**	**5.66**	**305**	P	**Pn**	**10 45 02.4**	**-0.7**
	39nm,0.5s,0.5nm						
BKSI	**Bulukumba**	**6.93**	**248**	P	**Pn**	**10 45 22.5**	**+1.9**
	20nm,0.7s,0.1nm						
KAPI	**Kapang**	**7.18**	**252**	Pn	**Pn**	**10 45 26.7**	**+2.7**
	5.0nm,0.3s,baz=105,slow=6.0,SNR=8.7						
KAPI				Sn	**Sn**	**10 46 41.4**	**-3.0**
	2.4nm,0.3s,baz=142,slow=16,SNR=2.1						
	16nm,0.4s						
MPSI	**Mapaga**	**7.37**	**295**	P	**Pn**	**10 45 26.9**	**+0.3**
WRA	**Warramunga Arr**	**18.67**	**157**	P	**P**	**10 47 54.8**	**-1.8**
	0.2nm,0.3s,baz=337,slow=12,SNR=7.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**21.94**	**162**	P	**P**	**10 48 30.9**	**-1.2**
	0.8nm,0.7s,baz=340,slow=7.2,SNR=10						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**34.44**	**309**	P	**P**	**10 50 27.6**	**+1.6**
	1.0nm,0.3s,baz=150,slow=7.3,SNR=1.8						
	1.0nm,0.3s						
KSRS	**Korea Array**	**40.04**	**2**	P	**P**	**10 51 14.1**	**+1.0**
	1.3nm,0.7s,baz=184,slow=9.3,SNR=6.4						
	1.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**47.01**	**5**	P	**P**	**10 52 09.9**	**+0.7**
	1.9nm,0.7s,baz=136,slow=4.5,SNR=3.6						
	1.9nm,0.7s						
SONM	**Songino Array**	**53.41**	**343**	P	**P**	**10 52 58.8**	**+1.0**
	0.9nm,0.7s,baz=141,slow=7.9,SNR=5.9						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**62.85**	**327**	P	**P**	**10 54 05.0**	**+1.2**
	1.0nm,0.7s,baz=125,slow=8.2,SNR=14						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**66.32**	**335**	P	**P**	**10 54 26.5**	**+0.2**
	0.3nm,0.4s,baz=65,slow=7.2,SNR=1.7						
	0.3nm,0.4s						

*ROM **19** 10:46:19.9±0.1, 42°.576N±0°.005×13°.305E±0°.006, h10km, ML3.1/33, Error ellipse: s-maj=0.5km s-min=0.5km az=193.0*
*BEO **19** 10:46:21.8±0.9, 42°.57N×13°.28E, h9km±5km, ML3.5/6*
*PRU **19** 10:46:22.0±0.0, 42°.64N×13°.45E, h0km*
ISC 19 10:46:20.6±0.8, 42°.58N±0°.02×13°.30E±0°.02, h9km±6km, n70, σ1s61/97, 1C-5D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.10**	**119**	P	**Pg**	**10 46 22.7**	**-0.5**
CAMP				S	**Sg**	**10 46 24.5**	**-0.6**
CAMP				AML	AML		
	comp=E,19900μm,0.7s						
CAMP				AML	AML		
	comp=N,15700μm,0.3s						
CAMP				AML	AML		
	comp=E,19900μm,1.3s						
CAMP				AML	AML		
	comp=E,18682μm,0.3s						
CAMP				AML	AML		
	comp=N,15702μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.14**	**179**	P	**Pg**	**10 46 23.8**	**0.0**
T1247				S	**Sg**	**10 46 26.6**	**+0.6**
T1247				AML	AML		
	comp=E,21850μm,0.3s						
T1247				AML	AML		
	comp=N,23700μm,0.4s						
T1247				AML	AML		
	comp=N,23184μm,0.4s						
T1247				AML	AML		
	comp=E,21832μm,0.3s						
LNSS	**Leonessa**	**0.19**	**276**	P	**Pg**	**10 46 24.7**	**+0.1**
LNSS				S	**Sg**	**10 46 28.0**	**+0.6**
LNSS				AML	AML		
	comp=E,15400μm,0.5s						
LNSS				AML	AML		
	comp=N,14450μm,0.3s						
LNSS				AML	AML		
	comp=N,14441μm,0.3s						
LNSS				AML	AML		
	comp=E,15442μm,0.5s						
AQU	**L'Aquila**	**0.24**	**161**	P	**Pg**	**10 46 25.4**	**-0.2**
AQU				AML	AML		
	comp=N,5790μm,0.9s						
AQU				AML	AML		
	comp=E,5470μm,0.5s						
AQU				AML	AML		
	comp=N,5760μm,0.9s						
AQU				AML	AML		
	comp=E,5860μm,0.5s						
AQU				AML	AML		
	comp=N,5788μm,0.9s						
AQU				AML	AML		
	comp=E,5471μm,0.5s						
AQU				AML	AML		
	comp=N,5761μm,0.9s						
AQU				AML	AML		
	comp=E,5860μm,0.5s						
GIGS	**Gran Sasso**	**0.24**	**123**	P	**Pg**	**10 46 25.0**	**-0.5**
GIGS				S	**Sg**	**10 46 28.8**	**-0.1**
GIGS				AML	AML		
	comp=E,1965μm,0.6s						
GIGS				AML	AML		
	comp=N,1300μm,0.5s						
GIGS				AML	AML		
	comp=E,1966μm,0.6s						
GIGS				AML	AML		
	comp=N,1297μm,0.5s						
T1217	**Poggiodomo (PG**	**0.30**	**296**	P	**Pg**	**10 46 26.4**	**-0.2**
T1217				S	**Sg**	**10 46 31.6**	**+1.0**
T1217				AML	AML		
	comp=E,3990μm,1.3s						
T1217				AML	AML		
	comp=N,5160μm,0.3s						
T1217				AML	AML		
	comp=E,3865μm,1.3s						
T1217				AML	AML		
	comp=N,5160μm,0.3s						
T1217				AML	AML		
	comp=N,5160μm,0.3s						
T1217				AML	AML		
	comp=E,3865μm,1.3s						
T1217				AML	AML		
	comp=N,5165μm,0.3s						
T1217				AML	AML		
	comp=E,3860μm,1.3s						
T1217				AML	AML		
	comp=N,5160μm,0.3s						
T1217				AML	AML		
	comp=E,3860μm,0.7s						
T1217				AML	AML		
	comp=E,3990μm,0.7s						
T1217				AML	AML		
	comp=N,5163μm,0.3s						
T1217				AML	AML		
	comp=E,3961μm,0.3s						
T1217				AML	AML		
	comp=E,3675μm,0.3s						
T1217				AML	AML		
	comp=N,5163μm,0.3s						
MC2	**Monte Cornacci**	**0.34**	**347**	P	**Pg**	**10 46 27.0**	**-0.4**
MC2				S	**Sg**	**10 46 32.6**	**+0.7**
FIAM	**Fiamignano**	**0.34**	**203**	P	**Pg**	**10 46 27.1**	**-0.3**
FIAM				AML	AML		
	comp=E,2045μm,0.8s						
FIAM				AML	AML		
	comp=N,1990μm,0.7s						
T1215	**Vallo di Nera,**	**0.38**	**305**	P	**Pg**	**10 46 27.7**	**-0.4**
T1215				S	**Sg**	**10 46 34.1**	**+0.8**
T1215				AML	AML		
	comp=E,1755μm,0.2s						
T1215				AML	AML		
	comp=N,2125μm,0.1s						
T1215				AML	AML		
	comp=E,1755μm,0.2s						
T1215				AML	AML		
	comp=N,2125μm,0.1s						
T1215				AML	AML		
	comp=E,1754μm,0.2s						
T1215				AML	AML		
	comp=E,1757μm,0.2s						
T1215				AML	AML		
	comp=N,2093μm,0.1s						
T1215				AML	AML		
	comp=N,2127μm,0.1s						
ARRO	**Arrone**	**0.39**	**270**	P	**Pg**	**10 46 28.0**	**-0.3**
ARRO				AML	AML		
	comp=N,2875μm,0.9s						
ARRO				AML	AML		
	comp=N,2875μm,1.1s						
ARRO				AML	AML		
	comp=E,1730μm,0.8s						
ARRO				AML	AML		
	comp=E,1719μm,0.3s						
ARRO				AML	AML		
	comp=N,2363μm,0.2s						
FEMA	**Monte Fema**	**0.42**	**335**	S	**Sg**	**10 46 32.7**	**-1.8**
OFFI	**Offida**	**0.45**	**39**	P	**Pg**	**10 46 29.5**	**+0.1**
OFFI				AML	AML		
	comp=E,8620μm,0.6s						
OFFI				AML	AML		
	comp=N,9545μm,0.5s						
OFFI				AML	AML		
	comp=E,8634μm,0.6s						
OFFI				AML	AML		
	comp=N,9537μm,0.5s						
FDMO	**Fiordimonte**	**0.48**	**341**	P	**Pg**	**10 46 29.4**	**-0.5**
FDMO				AML	AML		
	comp=E,2330μm,0.2s						
FDMO				AML	AML		
	comp=N,2455μm,0.2s						
FDMO				AML	AML		
	comp=N,2452μm,0.2s						
FDMO				AML	AML		
	comp=E,2332μm,0.2s						
GUMA	**Gualdo di Mace**	**0.48**	**4**	P	**Pg**	**10 46 29.6**	**-0.3**
GUMA				S	**Sb**	**10 46 37.7**	**-0.7**
GUMA				AML	AML		
	comp=N,10750μm,0.5s						
GUMA				AML	AML		
	comp=E,10540μm,1.2s						
GUMA				AML	AML		
	comp=E,8170μm,0.3s						
GUMA				AML	AML		
	comp=N,11395μm,0.5s						
GUMA				AML	AML		
	comp=N,10750μm,1.5s						
GUMA				AML	AML		
	comp=E,10540μm,0.8s						
GUMA				AML	AML		
	comp=E,9953μm,0.5s						
GUMA				AML	AML		
	comp=N,11386μm,0.5s						
GUMA				AML	AML		
	comp=E,5414μm,0.3s						
GUMA				AML	AML		
	comp=N,10779μm,0.5s						
TRTR	**Tortoreto Alta**	**0.51**	**64**	P	**Pg**	**10 46 30.9**	**+0.4**
TRTR				AML	AML		
	comp=E,5360μm,1.1s						
TRTR				AML	AML		
	comp=N,4935μm,1.3s						
TRTR				AML	AML		
	comp=E,5360μm,0.9s						

TRTR				AML	AML			
	comp=N,4591µm,0.4s							
TRTR				AML	AML			
	comp=E,5290µm,0.5s							
CESI	**CESI - Serrava**	**0.51**	**326**	P	**Pg**	**10 46 30.1**	**-0.5**	
CESI				S	**Sb**	**10 46 38.2**	**-1.0**	
CESI				AML	AML			
	comp=N,2715µm,0.3s							
CESI				AML	AML			
	comp=E,1680µm,0.9s							
CESI				AML	AML			
	comp=E,871µm,0.2s							
CESI				AML	AML			
	comp=N,2717µm,0.3s							
CSP1	**Cessapalombo**	**0.51**	**353**	P	**Pg**	**10 46 29.9**	**-0.7**	
CSP1				S	**Sg**	**10 46 38.0**	**+0.7**	
CSP1				AML	AML			
	comp=E,3005µm,1.5s							
CSP1				AML	AML			
	comp=N,5300µm,0.5s							
CSP1				AML	AML			
	comp=E,3010µm,1.5s							
CSP1				AML	AML			
	comp=E,3010µm,0.5s							
CSP1				AML	AML			
	comp=N,5305µm,0.5s							
CSP1				AML	AML			
	comp=N,5303µm,0.5s							
CSP1				AML	AML			
	comp=E,3002µm,0.2s							
CESX	**Cesi**	**0.53**	**273**	P	**Pg**	**10 46 30.4**	**-0.4**	
CESX				S	**Sg**	**10 46 38.4**	**+0.6**	
CESX				AML	AML			
	comp=E,1855µm,0.3s							
CESX				AML	AML			
	comp=N,2345µm,0.7s							
CESX				AML	AML			
	comp=N,2345µm,1.3s							
CESX				AML	AML			
	comp=N,2270µm,0.3s							
CESX				AML	AML			
	comp=E,1854µm,0.3s							
T1220	**Camerino, Fraz**	**0.55**	**344**	P	**Pg**	**10 46 30.6**	**-0.6**	
T1220				S	**Sb**	**10 46 39.4**	**-1.0**	
T1220				AML	AML			
	comp=E,12150µm,0.3s							
T1220				AML	AML			
	comp=E,11900µm,0.3s							
T1220				AML	AML			
	comp=N,8850µm,0.3s							
T1220				AML	AML			
	comp=N,8725µm,0.3s							
T1220				AML	AML			
	comp=N,8728µm,0.3s							
T1220				AML	AML			
	comp=E,11904µm,0.3s							
T1220				AML	AML			
	comp=N,8851µm,0.3s							
T1220				AML	AML			
	comp=E,12159µm,0.3s							
MOMA	**Monte Martano**	**0.58**	**293**	P	**Pg**	**10 46 31.6**	**-0.3**	
MOMA				S	**Sb**	**10 46 40.9**	**-0.4**	
MOMA				AML	AML			
	comp=E,4665µm,0.3s							
MOMA				AML	AML			
	comp=N,3665µm,1.1s							
MOMA				AML	AML			
	comp=N,3670µm,1.1s							
MOMA				AML	AML			
	comp=E,4790µm,0.3s							
MOMA				AML	AML			
	comp=N,3650µm,1.1s							
MOMA				AML	AML			
	comp=E,4790µm,1.7s							
MOMA				AML	AML			
	comp=E,4665µm,1.7s							
MOMA				AML	AML			
	comp=E,4790µm,0.3s							
MOMA				AML	AML			
	comp=N,3622µm,0.2s							
MOMA				AML	AML			
	comp=N,3555µm,0.2s							
MOMA				AML	AML			
	comp=E,4668µm,0.3s							
ASSB	**Assisi San Ben**	**0.66**	**315**	P	**Pg**	**10 46 32.8**	**-0.5**	
ASSB				AML	AML			
	comp=N,1715µm,0.2s							
ASSB				AML	AML			
	comp=E,1545µm,0.2s							
ASSB				AML	AML			
	comp=N,1716µm,0.2s							
ASSB				AML	AML			
	comp=E,1541µm,0.2s							
CERT	**Cerreto**	**0.68**	**200**	P	**Pg**	**10 46 33.1**	**-0.6**	
CERT				AML	AML			
	comp=E,1330µm,1.6s							
CERT				AML	AML			
	comp=N,875µm,1.3s							
CERT				AML	AML			
	comp=N,875µm,0.7s							
CERT				AML	AML			
	comp=E,1330µm,0.4s							
SRES	**S.Oreste - Sor**	**0.68**	**240**	S	**Sb**	**10 46 45.8**	**+1.8**	
SRES				AML	AML			
	comp=E,698µm,0.9s							
SRES				AML	AML			
	comp=N,966µm,0.5s							
SRES				AML	AML			
	comp=E,698µm,1.1s							
SRES				AML	AML			
	comp=E,691µm,0.4s							
SRES				AML	AML			
	comp=N,967µm,0.5s							
SNTG	**Esanatoglia**	**0.72**	**339**	P	**Pg**	**10 46 33.5**	**-1.0**	
SNTG				AML	AML			
	comp=E,810µm,0.4s							
SNTG				AML	AML			
	comp=E,738µm,0.8s							
SNTG				AML	AML			
	comp=N,1190µm,0.5s							
SNTG				AML	AML			
	comp=N,1112µm,0.2s							
SNTG				AML	AML			
	comp=N,1172µm,0.2s							
SNTG				AML	AML			
	comp=E,713µm,0.4s							
SNTG				AML	AML			
	comp=N,1112µm,0.2s							
SNTG				AML	AML			
	comp=E,810µm,0.4s							
EL6	**Elcito**	**0.76**	**349**	P	**Pg**	**10 46 34.3**	**-0.9**	
EL6				AML	AML			
	comp=E,2545µm,1.3s							
EL6				AML	AML			
	comp=N,2240µm,0.2s							
EL6				AML	AML			
	comp=N,2235µm,0.2s							
EL6				AML	AML			
	comp=E,2545µm,0.7s							
EL6				AML	AML			
	comp=N,2235µm,1.8s							
EL6				AML	AML			
	comp=N,2237µm,0.2s							
EL6				AML	AML			
	comp=E,2439µm,0.2s							
ATCC	**AVT- Casa Cast**	**0.77**	**322**	P	**Pg**	**10 46 34.9**	**-0.6**	
ATCC				AML	AML			
	comp=E,1570µm,0.5s							
ATCC				AML	AML			
	comp=N,1360µm,0.5s							
ATCC				AML	AML			
	comp=N,1360µm,1.5s							
ATCC				AML	AML			
	comp=N,1307µm,0.3s							
ATCC				AML	AML			
	comp=E,1568µm,0.5s							
RCAV	**Rocca di Cave**	**0.78**	**200**	⇓P	**Pn**	**10 46 37.7**	**-0.1**	
RCAV				AML	AML			
	comp=E,1295µm,0.5s							
RCAV				AML	AML			
	comp=N,1205µm,0.6s							
RCAV				AML	AML			
	comp=E,1296µm,0.5s							
RCAV				AML	AML			
	comp=N,1207µm,0.6s							
CING	**Cingoli**	**0.80**	**355**	P	**Pg**	**10 46 35.0**	**-1.0**	
CING				AML	AML			
	comp=E,3420µm,0.3s							
CING				AML	AML			
	comp=N,1590µm,0.7s							
CING				AML	AML			
	comp=N,1552µm,0.3s							
CING				AML	AML			
	comp=E,3417µm,0.3s							
PP3	**Marolino**	**0.83**	**16**	P	**Pg**	**10 46 36.4**	**-0.1**	
PP3				AML	AML			
	comp=E,4410µm,0.6s							
PP3				AML	AML			
	comp=N,3355µm,0.4s							
PP3				AML	AML			
	comp=N,3455µm,0.4s							
PP3				AML	AML			
	comp=N,3355µm,1.6s							
PP3				AML	AML			
	comp=E,4050µm,0.6s							
PP3				AML	AML			
	comp=N,3455µm,1.6s							
PP3				AML	AML			
	comp=N,3149µm,0.2s							
PP3				AML	AML			
	comp=E,4158µm,0.5s							
PP3				AML	AML			
	comp=E,3842µm,0.4s							
PP3				AML	AML			
	comp=N,3161µm,0.2s							
MURB	**Monte Urbino**	**0.88**	**320**	P	**Pb**	**10 46 37.9**	**-0.3**	
MURB				S	**Sb**	**10 46 50.6**	**+0.6**	
MURB				AML	AML			
	comp=N,2580µm,0.3s							
MURB				AML	AML			
	comp=E,1990µm,0.3s							
MURB				AML	AML			
	comp=N,2675µm,0.3s							
MURB				AML	AML			
	comp=E,2055µm,0.3s							
MURB				AML	AML			
	comp=E,2058µm,0.3s							
MURB				AML	AML			
	comp=N,2580µm,0.3s							
MURB				AML	AML			
	comp=N,2673µm,0.3s							
MURB				AML	AML			
	comp=E,1990µm,0.3s							
MGAB	**Montegabbione**	**0.93**	**291**	P	**Pg**	**10 46 38.3**	**-0.2**	
MGAB				AML	AML			
	comp=E,1810µm,0.4s							
MGAB				AML	AML			
	comp=N,2025µm,1.1s							
MGAB				AML	AML			
	comp=E,1930µm,1.2s							
MGAB				AML	AML			
	comp=E,1930µm,0.8s							
MGAB				AML	AML			
	comp=N,2220µm,0.5s							
MGAB				AML	AML			
	comp=N,2025µm,0.9s							
MGAB				AML	AML			
	comp=N,1950µm,0.5s							
MGAB				AML	AML			
	comp=E,1809µm,0.4s							
MGAB				AML	AML			
	comp=E,1857µm,0.5s							
MGAB				AML	AML			
	comp=N,2219µm,0.5s							
ARVD	**Arcevia**	**0.95**	**344**	P	**Pg**	**10 46 37.8**	**-1.1**	
ARVD				AML	AML			
	comp=E,730µm,1.6s							
ARVD				AML	AML			
	comp=N,554µm,1.1s							
ARVD				AML	AML			
	comp=N,382µm,0.3s							
ARVD				AML	AML			
	comp=E,661µm,0.2s							
AOI	**Ancona**	**0.99**	**13**	P	**Pg**	**10 46 38.8**	**-0.9**	
AOI				AML	AML			
	comp=E,1072µm,0.4s							
AOI				AML	AML			
	comp=N,1028µm,0.8s							
AOI				AML	AML			
	comp=E,1072µm,0.4s							
AOI				AML	AML			
	comp=N,929µm,0.4s							
FRON	**Frontone**	**1.02**	**336**	⇓P	**Pg**	**10 46 39.0**	**-1.3**	
FRON				S	**Sn**	**10 46 55.3**	**-0.3**	
FRON				AML	AML			
	comp=E,668µm,1.6s							
FRON				AML	AML			
	comp=N,874µm,0.4s							
FRON				AML	AML			
	comp=E,668µm,0.4s							
FRON				AML	AML			
	comp=N,874µm,0.4s							
FRON				AML	AML			
	comp=E,653µm,0.7s							
MPAG	**Monte Paganucc**	**1.12**	**340**	⇓P	**Pg**	**10 46 41.1**	**-1.0**	
MPAG				S	**Sn**	**10 46 59.0**	**+1.1**	
MPAG				AML	AML			
	comp=E,610µm,1.1s							
MPAG				AML	AML			
	comp=E,594µm,1.1s							
MPAG				AML	AML			
	comp=E,610µm,0.9s							
MPAG				AML	AML			
	comp=E,594µm,0.9s							
MPAG				AML	AML			
	comp=N,613µm,0.6s							
MPAG				AML	AML			
	comp=N,526µm,0.6s							
MPAG				AML	AML			
	comp=E,523µm,0.4s							
MPAG				AML	AML			
	comp=N,613µm,0.6s							
MPAG				AML	AML			
	comp=E,506µm,0.4s							
MPAG				AML	AML			
	comp=N,525µm,0.6s							
MODR	**Mondragone**	**1.50**	**163**	P	**Pn**	**10 46 46.1**	**-1.5**	
MODR				S	**Sb**	**10 47 08.3**	**+0.6**	
MODR				AML	AML			
	comp=N,121µm,0.7s							
MODR				AML	AML			
	comp=E,111µm,0.8s							
ZCCA	**Zocca**	**2.44**	**317**	P	**Pn**	**10 46 59.1**	**-1.6**	
NDIM	**Novi di Modena**	**2.88**	**324**	S	**Sn**	**10 47 37.6**	**-3.7**	
STON	**Ston**	**3.26**	**83**	*e*Pn	**Pn**	**10 47 12.0**	**+0.2**	
STON				*e*Sn	**Sn**	**10 47 50.8**	**+0.2**	
CTI	**Castel Tesino**	**3.66**	**342**	⇓P	**Pn**	**10 47 18.4**	**+1.0**	
CTI				AML	AML			
	comp=E,92µm,1.5s							
CTI				AML	AML			
	comp=N,103µm,0.2s							
LEOD	**Capriano del C**	**3.67**	**323**	⇓P	**Pg**	**10 47 29.2**	**-1.7**	
RNCA	**Ronca, Sant'Ol**	**3.68**	**302**	S	**Sn**	**10 48 04.2**	**+3.2**	
TREB	**Trebinje**	**3.73**	**86**	*e*Pn	**Pn**	**10 47 20.7**	**+2.4**	
TREB				*e*Sn	**Sn**	**10 48 03.6**	**+1.3**	
LUSI	**Trento, Gardas**	**3.77**	**334**	⇑P	**Pn**	**10 47 20.2**	**+1.3**	
CAPR	**Capriolo**	**3.90**	**323**	P	**Pn**	**10 47 17.6**	**-3.0**	
OBKA	**Obir**	**4.03**	**12**	*e*Pn	**Pn**	**10 47 23.6**	**+1.2**	
	comp=N,1.0nm,0.1s							
MYKA	**Terra Mystica**	**4.05**	**3**	*e*Pn	**Pn**	**10 47 25.0**	**+2.2**	
	comp=N,3.0nm,0.5s							
ABTA	**Abfaltersbach**	**4.20**	**353**	*e*Pn	**Pn**	**10 47 26.9**	**+2.1**	
	comp=N,12nm,0.4s							
ABTA				*e*Sn	**Sn**	**10 48 15.0**	**+1.0**	
	comp=N,4.1nm,0.2s							
PDG	**Podgorica**	**4.41**	**90**	*e*Sn	**Sn**	**10 48 19.8**	**+0.8**	
KBA	**Koelnbreinsper**	**4.50**	**0**	*e*Pn	**Pn**	**10 47 32.3**	**+3.3**	
	comp=N,1.7nm,0.3s							
FETA	**Feichten**	**4.80**	**339**	*e*Pn	**Pn**	**10 47 37.1**	**+4.0**	
	comp=N,0.7nm,0.2s							
FETA				*e*Sn	**Sn**	**10 48 32.2**	**+3.4**	
	comp=N,2.4nm,0.4s							
WTTA	**Wattenberg**	**4.83**	**346**	*e*Pn	**Pn**	**10 47 37.1**	**+3.6**	
	comp=N,1.4nm,0.3s							
SQTA	**Sankt Quirin**	**4.87**	**343**	*e*Pn	**Pn**	**10 47 38.3**	**+4.3**	
	comp=N,1.9nm,0.2s							
SQTA				*e*Sn	**Sn**	**10 48 34.1**	**+3.6**	
	comp=N,3.3nm,0.2s							
WATA	**Walderalm**	**4.91**	**346**	*e*Pn	**Pn**	**10 47 38.7**	**+4.1**	
	comp=N,2.3nm,0.3s							
ARSA	**Arzberg**	**4.93**	**18**	*e*Pn	**Pb**	**10 47 45.2**	**-1.8**	
	comp=N,1.5nm,0.2s							
SJES	**Sjenica**	**4.95**	**80**	*e*Pn	**Pn**	**10 47 36.9**	**+1.7**	
SJES				*e*Sn	**Sn**	**10 48 32.7**	**+0.1**	
IVAS	**Ivanjica**	**5.12**	**77**	*e*Pn	**Pn**	**10 47 38.4**	**+1.0**	
IVAS				*e*Sn	**Sn**	**10 48 35.9**	**-0.8**	
RETA	**Reutte**	**5.22**	**341**	*e*Pn	**Pn**	**10 47 41.4**	**+2.5**	
	comp=N,1.7nm,0.4s							
DAVA	**Damuels**	**5.29**	**334**	*e*Pn	**Pn**	**10 47 43.0**	**+3.1**	
	comp=N,0.9nm,0.2s							
MOA	**Molln**	**5.31**	**7**	*e*Pn	**Pn**	**10 47 41.8**	**+1.8**	
MOA				*e*Sn	**Sn**	**10 48 40.3**	**-1.0**	
TRUS	**Trudelj**	**5.43**	**70**	*e*Pn	**Pn**	**10 47 42.2**	**+0.5**	
RONA	**Rosalia, Austr**	**5.54**	**21**	*e*Pn	**Pn**	**10 47 43.6**	**+0.4**	
	comp=N,0.7nm,0.2s							
CONA	**Conrad Observa**	**5.64**	**18**	*e*Pn	**Pn**	**10 47 47.3**	**+2.6**	
	comp=N,0.8nm,0.2s							
SELS	**Selova**	**5.78**	**81**	*e*Pn	**Pn**	**10 47 47.7**	**+1.2**	
BARS	**Barje**	**6.28**	**85**	*e*Pn	**Pn**	**10 47 54.3**	**+0.9**	
BARS				*e*Sn	**Sn**	**10 49 03.8**	**-1.4**	
FNA	**Florina**	**6.31**	**104**	*e*Sn	**Pn**	**10 47 54.6**	**+0.8**	
FNA	**Florina**	**6.31**	**104**	*e*Pn	**Sn**	**10 49 04.0**	**-2.0**	
PRVS	**Prvonek**	**6.49**	**88**	*e*Pn	**Pn**	**10 47 55.9**	**-0.3**	
PRVS				*e*Sn	**Sn**	**10 49 08.2**	**-2.1**	
KHC	**Kasperske Hory**	**6.55**	**2**	*e*SN	**Sn**	**10 49 09.8**	**-2.1**	
ZAGS	**Zajecar**	**6.65**	**76**	*e*Pn	**Pn**	**10 47 58.5**	**+0.2**	

*IDC **19** 10:53:13.9±0.6,26°.98N×130°.18E,h0km,mb4.0/16, mbtmp3.9/20,ML3.5/3,Error ellipse: s-maj=19.9km s-min=13.6km az=80.0*

*NIED **19** 10:53:16.3,26°.95N×130°.20E,h57km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.27; $M_{\theta\theta}$0.32; $M_{\phi\phi}$0.95; $M_{r\theta}$-0.05; $M_{\theta\phi}$0.68; $M_{\phi r}$-0.73; Fault plane solution: $M_0$1.52000×10^{15} NP1:ϕs19.00000°, δ59.00000°,λ-105.00000°. NP2:ϕs227.00000°, δ34.00000°,λ-66.00000°.*

*JMA **19** 10:53:16.3±0.1,27°.0N±0°.4×130°.2E±0°.5,h57km,MV4.1/23, NEAR MINAMI-DAITOJIMA IS*

ISC 19 10:53:16.3±3.9,26°.98N±0°.03×130°.21E±0°.04,h17km±29km, n40,σ1s64/59,mb4.0/16,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.35**	**351**		*e*P	**Pn**	**10 53 40.3**	**-0.1**
JZK					*e*S	**Sn**	**10 53 57.8**	**-0.1**
JTK	**Tokunoshima**	**1.38**	**306**		*e*P	**Pn**	**10 53 40.0**	**-0.8**
JTK					*e*S	**Sn**	**10 53 56.5**	**-2.1**
JKDJ	**Kitadaitoujima**	**1.42**	**136**		*e*P	**Pn**	**10 53 39.7**	**-1.5**
JKDJ					*e*S	**Sn**	**10 53 57.5**	**-2.0**
JMZ	**Minamidaito 2**	**1.47**	**142**		P	**Pn**	**10 53 40.6**	**-1.4**
JMZ					*e*S	**Sn**	**10 53 58.4**	**-2.4**
JOKE	**Okinoerabujima**	**1.51**	**285**		P	**Pn**	**10 53 41.8**	**-0.7**
JOKE					*e*S	**Sn**	**10 53 59.8**	**-2.0**
JAM	**Amami Oshima**	**1.52**	**340**		P	**Pn**	**10 53 42.0**	**-0.7**
JAMN	**Amaminishikomi**	**1.56**	**324**		P	**Pn**	**10 53 42.3**	**-1.0**
JAMN					*e*S	**Sn**	**10 54 00.7**	**-2.4**
JYRO	**Yoronjima**	**1.57**	**272**		*e*P	**Pn**	**10 53 42.5**	**-0.9**
JYRO					*e*S	**Sn**	**10 54 00.8**	**-2.4**
JOW	**Kunigami**	**1.73**	**266**		Pn	**Pn**	**10 53 44.8**	**-0.8**
	188nm,0.3s,baz=111,slow=23,SNR=620							
JOW					Sn	**Sn**	**10 54 05.1**	**-2.2**
	267nm,0.3s,baz=119,slow=29,SNR=33							
JOW	**Kunigami**	**1.73**	**266**		P	**Pn**	**10 53 44.9**	**-0.8**
JOW					*e*S	**Sn**	**10 54 05.3**	**-2.0**
JOW	**Kunigami**	**1.73**	**266**		A	A	10 53 44.9	
	comp=E,2.0nm,2.2s,comp=E,4.0nm,1.8s							
JIH	**Iheya**	**2.00**	**272**		*e*P	**Pn**	**10 53 48.5**	**-0.7**
JIH					*e*S	**Sn**	**10 54 12.6**	**-1.4**
JNTH	**Nagotoyohara**	**2.01**	**257**		P	**Pn**	**10 53 48.3**	**-1.1**
JNTH					*e*S	**Sn**	**10 54 11.1**	**-3.0**
JJT3	**Tamagusuku3**	**2.32**	**250**		*e*P	**Pn**	**10 53 53.1**	**-0.6**
JJT3					*e*S	**Sn**	**10 54 20.1**	**-1.8**
JTAJ	**Takarajima**	**2.34**	**338**		*e*P	**Pn**	**10 53 53.2**	**-0.8**
JTAJ					*e*S	**Sn**	**10 54 18.9**	**-3.5**
JNN	**Nakanoshima**	**2.87**	**354**		*e*P	**Pn**	**10 54 00.3**	**-1.0**
JNN					*e*S	**Sn**	**10 54 33.8**	**-1.6**
JKE	**Kume jima 2**	**3.13**	**259**		*e*P	**Pn**	**10 54 03.1**	**-1.7**
JYAK	**Yakushimahirau**	**3.26**	**5**		*e*P	**Pn**	**10 54 06.0**	**-0.6**
JYAK					*e*S	**Sn**	**10 54 42.0**	**-3.1**
JMTN	**Minamitane**	**3.46**	**10**		*e*P	**Pn**	**10 54 09.5**	**0.0**
JMTN					*e*S	**Sn**	**10 54 47.7**	**-2.4**
JKC	**Kuchinoerabu**	**3.47**	**360**		*e*P	**Pn**	**10 54 09.0**	**-0.6**
JKC					*e*S	**Sn**	**10 54 47.4**	**-2.9**
JNU	**Nakatsue**	**6.15**	**5**		Pn	**Pn**	**10 54 46.9**	**+0.5**
	1.6nm,0.3s,baz=270,slow=5.1,SNR=14							
JNU					Sn	**Sn**	**10 55 51.6**	**-4.8**
	baz=219,slow=23 6.7nm,0.5s							
KSRS	**Korea Array**	**10.62**	**350**		Pn	**Pn**	**10 55 49.0**	**+1.3**
	0.2nm,0.3s,baz=172,slow=13,SNR=4.5 1.2nm,0.7s							
MJAR	**Matsushiro Arr**	**11.71**	**34**		Pn	**Pn**	**10 56 03.4**	**+0.8**
	0.6nm,0.7s,baz=183,slow=13,SNR=1.5							
USRK	**Usurisyk Ar.**	**17.25**	**4**		P	**P**	**10 57 17.4**	**-0.3**
	0.2nm,0.3s,baz=102,slow=13,SNR=2.4 2.8nm,0.9s							
KLR	**Kul'dur**	**22.25**	**3**		P	**P**	**10 58 11.7**	**-0.6**
	2.3nm,0.8s,baz=195,slow=8.1,SNR=9.8 2.3nm,0.8s							
SONM	**Songino Array**	**27.93**	**324**		P	**P**	**10 59 06.8**	**+1.1**
	0.5nm,0.8s,baz=140,slow=7.6,SNR=3.1 0.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.00**	**260**		P	**P**	**10 59 25.8**	**+1.5**
	0.5nm,0.3s,baz=49,slow=9.3,SNR=4.1 0.5nm,0.3s							
MKAR	**Makanchi Array**	**42.37**	**311**		P	**P**	**11 01 09.8**	**+0.1**
	0.4nm,0.5s,baz=93,slow=10,SNR=8.5 0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**42.74**	**322**		P	**P**	**11 01 13.4**	**+1.0**
	1.5nm,0.6s,baz=104,slow=9.5,SNR=7.8 1.5nm,0.6s							
WRA	**Warramunga Arr**	**46.81**	**175**		P	**P**	**11 01 45.1**	**-0.1**
	1.8nm,0.6s,baz=355,slow=8.4,SNR=17							
WRA					PcP	**PcP**	**11 03 17.0**	**-1.3**
	0.3nm,0.9s,baz=345,slow=3.9,SNR=1.7 1.8nm,0.6s							
CTA	**Charters Tower**	**49.30**	**160**		P	**P**	**11 02 05.8**	**+1.2**
	3.0nm,0.7s,baz=320,slow=5.2,SNR=6.0 3.0nm,0.7s							
ASAR	**Alice Springs**	**50.47**	**176**		P	**P**	**11 02 14.0**	**+0.6**
	1.5nm,0.8s,baz=6.7,slow=14,SNR=28							
ASAR					PcP	**PcP**	**11 03 31.6**	**+0.1**
	0.4nm,0.7s,baz=5.3,slow=4.8,SNR=2.1 1.5nm,0.8s							
ILAR	**Eielson Array**	**62.94**	**29**		P	**P**	**11 03 41.1**	**-0.4**
	0.4nm,0.8s,baz=280,slow=8.5,SNR=4.6 0.4nm,0.8s							
KBZ	**Khabaz**	**70.05**	**310**		P	**P**	**11 04 26.8**	**-0.5**
	3.6nm,0.9s,baz=152,slow=4.1,SNR=5.0 3.6nm,0.9s							
FINES	**FINESS Array B**	**73.08**	**331**		P	**P**	**11 04 44.9**	**-0.4**
	1.6nm,0.7s,baz=48,slow=2.8,SNR=3.8 1.6nm,0.7s							
BRTR	**Keskin Array B**	**77.97**	**308**		P	**P**	**11 05 13.5**	**-0.4**
	2.2nm,0.9s,baz=58,slow=5.8,SNR=6.5 2.2nm,0.9s							
NOA	**NORSAR Array B**	**79.42**	**334**		P	**P**	**11 05 20.6**	**-0.8**
	3.4nm,1.0s,baz=54,slow=5.2,SNR=3.9 3.4nm,1.0s							
GERES	**GERESS Array B**	**85.66**	**324**		P	**P**	**11 05 54.3**	**0.0**
	0.6nm,0.6s,baz=23,slow=4.4,SNR=5.0 0.6nm,0.6s							
NVAR	**Mina Array Bea**	**88.71**	**47**		P	**P**	**11 06 11.5**	**+2.1**
	0.6nm,0.8s,baz=304,slow=8.6,SNR=2.5 0.6nm,0.8s							
PDAR	**Pinedale Array**	**91.47**	**40**		P	**P**	**11 06 22.5**	**+0.3**
	0.4nm,0.8s,baz=339,slow=3.7,SNR=4.3 0.4nm,0.8s							

*IDC **19** 10:55:50.6±2.1,5°.89S×153°.24E,h0km,mb3.0/3, mbtmp3.2/4,ML1.9/1,Error ellipse: s-maj=42.9km s-min=25.2km az=98.0*

ISC 19 10:55:56.1±1.8,5°.81S±0°.08×153°.2E±0°.2,h33km,n6, σ1s08/8,mb2.9/3,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.87**	**323**		Pn	**Pn**	**10 56 26.5**	**+0.7**
	5.7nm,0.3s,baz=110,slow=22,SNR=2.5							
KRVT					Sn	**Sb**	**10 56 51.8**	**-0.8**
	14nm,0.3s,baz=162,slow=20,SNR=8.6							
PMG	**Port Moresby**	**6.93**	**239**		Pn	**Pn**	**10 57 36.0**	**+0.6**
	1.3nm,0.3s,baz=90,slow=7.8,SNR=2.6							
PMG					Sn	**Sn**	**10 58 53.7**	**+0.5**
	1.3nm,0.3s,baz=130,slow=20,SNR=3.8 4.9nm,0.4s							
WRA	**Warramunga Arr**	**23.06**	**231**		P	**P**	**11 00 57.4**	**-1.5**

0.4nm,0.9s,baz=54,slow=10,SNR=2.4
0.4nm,0.9s
ASAR Alice Springs 25.66 224 P **P** **11 01 22.6 -0.5**
0.1nm,0.6s,baz=59,slow=9.1,SNR=1.4
0.1nm,0.6s
MKAR Makanchi Array 81.31 319 P **P** **11 08 10.1 +0.8**
0.3nm,0.7s,baz=97,slow=3.3,SNR=2.3
0.3nm,0.7s
TORD Torodi Ar. Bea 150.94 287 PKPbc **PKPbc** **11 15 45.7 -0.9**
1.0nm,0.3s,baz=349,slow=1.5,SNR=8.1

*IDC **19** 11:14:47.0±2.9,29.98S×178.42W,h200km±26km,mb3.5/6, mbtmp4.3/10,Error ellipse: s-maj=31.3km s-min=18.5km az=130.0*

ISC 19 11:14:47.3±0.7,30.14S±0.06×178.5W±0.1,h200km,n43, σ2.53/47,mb3.8/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.01**	**30**	P	P	Pn	11 15 22.0	+4.8
GLKZ				S	S	**Sn**	**11 15 39.8**	**-0.4**
RIZ	**Raoul Island**	**1.02**	**29**	P	P	**Pn**	**11 15 20.3**	**+3.1**
RIZ				S	S	**Sn**	**11 15 38.2**	**-2.1**
MXZ	**Matakaoa Point**	**7.87**	**199**	S	S	**Sn**	**11 18 09.0**	**+1.5**
WMGZ	**Waiomatatini S**	**8.08**	**198**	P	P	**Pn**	**11 16 44.2**	**+2.8**
WMGZ				S	S	**Sn**	**11 18 08.7**	**-3.7**
KUZ	**Kuaotunu**	**8.17**	**215**	P	P	**Pn**	**11 16 47.5**	**+4.8**
HAZ	**Te Kaha**	**8.20**	**201**	P	P	**Pn**	**11 16 44.2**	**+1.2**
HAZ				S	S	Sn	11 18 09.8	-5.5
PKGZ	**Pakihiroa**	**8.23**	**199**	P	P	**Pn**	**11 16 45.4**	**+1.8**
PKGZ				S	S	**Sn**	**11 18 18.8**	**+2.5**
WCZ	**Waipu Caves**	**8.34**	**224**	P	P	Pn	11 16 52.4	+7.5
PUZ	**Puketiti**	**8.36**	**198**	P	P	**Pn**	**11 16 45.6**	**+0.5**
PUZ				S	S	**Sn**	**11 18 20.7**	**+1.5**
TWGZ	**Tauwhareparae**	**8.53**	**199**	P	P	**Pn**	**11 16 47.9**	**+0.4**
TWGZ				S	S	**Sn**	**11 18 24.8**	**+1.5**
URZ	**Urewera**	**8.88**	**203**	P	P	**Pn**	**11 16 53.2**	**+1.4**
	4.4nm,0.3s,baz=360,slow=4.0,SNR=7.8							
URZ				S	S	**Sn**	**11 18 31.3**	**-0.1**
	41nm,0.4s,baz=146,slow=20,SNR=16							
WPHZ	**Waipukurau**	**10.73**	**201**	P	P	**Pn**	**11 17 17.6**	**+1.7**
WPHZ				S	S	**Sn**	**11 19 12.2**	**-3.4**
PRHZ	**Porangahau**	**10.86**	**200**	P	P	**Pn**	**11 17 15.5**	**-2.0**
PRHZ				S	S	**Sn**	**11 19 13.6**	**-5.0**
DVHZ	**Dannevirke**	**11.03**	**202**	P	P	**Pn**	**11 17 21.7**	**+1.9**
DVHZ				S	S	Sn	11 19 16.3	-6.5
ANWZ	**Angora Road**	**11.08**	**200**	S	S	Sn	11 19 18.4	-5.5
POWZ	**Post Office Ro**	**11.25**	**203**	P	P	**Pn**	**11 17 22.5**	**0.0**
POWZ				S	S	**Sn**	**11 19 22.7**	**-5.2**
PRWZ	**Pori Road**	**11.33**	**202**	P	P	**Pn**	**11 17 22.8**	**-0.8**
PRWZ				S	S	Sn	11 19 21.9	-7.8
BFZ	**Birch Farm**	**11.36**	**201**	P	P	**Pn**	**11 17 21.2**	**-2.7**
BFZ				S	S	Sn	11 19 22.5	-7.9
MRZ	**Mangatainoka R**	**11.55**	**203**	P	P	Pn	11 17 21.7	-4.7
MRZ				S	S	Sn	11 19 26.3	-8.9
TIWZ	**Tintock**	**11.56**	**202**	P	P	Pn	11 17 21.9	-4.6
TIWZ				S	S	Sn	11 19 29.7	-5.6
CPWZ	**Castlepoint**	**11.58**	**200**	S	S	**Sn**	**11 19 31.7**	**-4.0**
HOWZ	**Holdsworth Sta**	**11.79**	**203**	P	P	Pn	11 17 24.4	-5.0
HOWZ				S	S	Sn	11 19 33.3	-7.4
TMWZ	**Te Maipa**	**11.85**	**201**	P	P	**Pn**	**11 17 29.7**	**-0.6**
TMWZ				S	S	Sn	11 19 33.7	-8.6
KIW	**Kapiti Island**	**11.97**	**205**	P	P	Pn	11 17 27.5	-4.2
KIW				S	S	**Sn**	**11 19 40.2**	**-4.8**
MTW	**Mount Morrison**	**12.03**	**202**	P	P	**Pn**	**11 17 30.2**	**-2.2**
MTW				S	S	Sn	11 19 40.8	-5.7
CAW	**Cannon Point**	**12.13**	**204**	P	P	**Pn**	**11 17 31.2**	**-2.5**
CAW				S	S	Sn	11 19 39.1	-10
PAWZ	**Paruwai Farm**	**12.25**	**202**	P	P	Pn	11 17 30.1	-5.2
PAWZ				S	S	Sn	11 19 42.8	-9.0
DUWZ	**D'Urville Isla**	**12.30**	**208**	P	P	**Pn**	**11 17 35.7**	**-0.1**
DUWZ				S	S	**Sn**	**11 19 49.0**	**-4.0**
PLWZ	**Palliser**	**12.48**	**202**	P	P	**Pn**	**11 17 35.8**	**-2.3**
PLWZ				S	S	Sn	11 19 49.6	-7.6
TCW	**Tory Channel**	**12.51**	**206**	P	P	Pn	11 17 35.1	-3.4
TCW				S	S	Sn	11 19 51.1	-6.8
MSVF	**Nonsavu**	**12.75**	**345**	P	P	**Pn**	**11 17 40.8**	**-1.0**
	33nm,1.0s,baz=132,slow=13,SNR=17							
TKNZ	**Takaka Hill**	**12.89**	**210**	P	P	**Pn**	**11 17 44.2**	**+0.8**
TKNZ				S	S	Sn	11 20 00.7	-6.4
DZM	**Mont Dzumac**	**15.72**	**297**	P	P	**Pn**	**11 18 19.6**	**+1.1**
	3.9nm,0.6s,baz=142,slow=14,SNR=7.3							
AFI	**Afiamalu**	**17.30**	**22**	P	P	**P**	**11 18 32.0**	**-3.7**
	17nm,0.5s,baz=206,slow=4.5,SNR=4.7							
STKA	**Stephens Creek**	**34.12**	**257**	P	P	**P**	**11 21 15.6**	**+2.3**
	1.4nm,0.4s,baz=94,slow=10,SNR=4.6							
	1.4nm,0.4s							
ASAR	**Alice Springs**	**42.70**	**267**	P	P	**P**	**11 22 24.1**	**-0.7**
	0.4nm,0.4s,baz=103,slow=6.6,SNR=12							
ASAR				PcP	PcP	**PcP**	**11 24 13.3**	**+0.5**
	0.6nm,0.6s,baz=118,slow=4.2,SNR=4.2							
	0.4nm,0.4s							
WRA	**Warramunga Arr**	**43.66**	**272**	P	P	**P**	**11 22 32.0**	**-0.5**
	1.6nm,0.4s,baz=112,slow=6.9,SNR=36							
	1.6nm,0.4s							
MJAR	**Matsushiro Arr**	**77.79**	**326**	P	P	**P**	**11 26 20.3**	**-2.0**
	1.1nm,0.7s,baz=177,slow=5.3,SNR=2.2							
	1.1nm,0.7s							
VNA3	**Neumayer Olymp**	**78.59**	**176**	P	P	**P**	**11 26 29.3**	**+3.0**
VNA2	**Neumayer--Watz**	**79.02**	**177**	P	P	**P**	**11 26 32.0**	**+3.3**
	baz=183,slow=5.0							
PETK	**Petropavlovsk-**	**85.46**	**346**	P	P	**P**	**11 27 00.8**	**-1.2**
	1.8nm,0.8s,baz=124,slow=6.3,SNR=8.4							
	1.8nm,0.8s							
NVAR	**Mina Array Bea**	**88.34**	**43**	P	P	**P**	**11 27 17.0**	**+0.5**
	0.8nm,0.9s,baz=215,slow=11,SNR=2.6							
	0.8nm,0.9s							
FINES	**FINESS Array B**	**144.75**	**340**	PKP	**PKPab**		**11 33 57.5**	**-1.4**
	1.3nm,0.3s,baz=29,slow=3.2,SNR=15							

IDC 19 11:17:47.7±3.0,30.50S×178.35W,h0km,mb4.1/4, mbtmp4.1/4,Error ellipse: s-maj=113.3km s-min=36.7km az=148.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.16**	**257**	P	P	P	11 24 35.8	+1.1
	2.2nm,0.5s,baz=106,slow=6.8,SNR=5.1							
	2.2nm,0.5s							
ASAR	**Alice Springs**	**42.80**	**267**	P	P	P	11 25 47.0	-0.5
	1.1nm,0.7s,baz=106,slow=7.4,SNR=7.0							
ASAR				PcP	PcP	PcP	11 27 36.5	-2.5
	0.8nm,1.0s,baz=106,slow=4.1,SNR=4.3							
	1.1nm,0.7s							
WRA	**Warramunga Arr**	**43.80**	**272**	P	P	P	11 25 54.8	-0.8
	2.6nm,0.6s,baz=111,slow=8.1,SNR=25							
WRA				PcP	PcP	PcP	11 27 43.9	+1.6
	0.9nm,0.9s,baz=107,slow=4.2,SNR=4.5							
	2.6nm,0.6s							
PETK	**Petropavlovsk-**	**85.84**	**346**	P	P	P	11 30 29.6	+0.9
	1.5nm,0.8s,baz=99,slow=9.3,SNR=5.7							
	1.5nm,0.8s							
FINES	**FINESS Array B**	**145.14**	**340**	PKPbc	PKPbc	PKPbc	11 37 24.5	-1.4
	2.5nm,0.3s,baz=58,slow=3.4,SNR=23							

*IDC **19** 11:56:51.6±0.9,31.14N×88.22E,h0km,mb3.7/10, mbtmp3.7/12,ML4.0/1,MS3.8/3,Error ellipse: s-maj=28.7km s-min=17.3km az=49.0*

ISC 19 11:56:56.5±0.8,31.2N±0.1×88.3E±0.1,h35km,n15, σ1.38/12,mb3.8/9,MS3.8/3,Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.95**	**140**	Pn	Pn	**Pn**	**12 00 36.8**	**-1.6**
	0.2nm,0.3s,baz=320,slow=15,SNR=6.0							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**16.24**	**345**	Pn	Pn	**Pn**	**12 00 39.4**	**-2.5**
	1.0nm,1.1s,baz=156,slow=12,SNR=5.2							
KURBB	**Kurchatov Arra**	**20.72**	**342**	P	P	**P**	**12 01 32.9**	**-0.8**
	1.8nm,0.9s,baz=156,slow=11,SNR=6.1							
	1.8nm,0.9s							
SONM	**Songino Array**	**21.62**	**35**	P	P	**P**	**12 01 43.8**	**+0.2**
	0.9nm,0.6s,baz=219,slow=12,SNR=4.9							
	0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**22.87**	**355**	P	P	**P**	**12 01 57.3**	**+0.6**
	0.7nm,0.6s,baz=181,slow=8.5,SNR=6.0							
	0.7nm,0.6s							
GEYT	**Allbeck**	**25.65**	**293**	P	P	**P**	**12 02 24.5**	**+1.5**
	0.9nm,0.5s,baz=63,slow=7.5,SNR=1.6							
	0.9nm,0.5s							
KSRS	**Korea Array**	**33.16**	**68**	P	P	**P**	**12 03 30.3**	**+0.7**
	0.7nm,0.7s,baz=272,slow=12,SNR=1.4							
	0.7nm,0.7s							
JHJ	**Hachijo jima 2**	**43.29**	**73**	LR	LR		12 23 17.2	
	comp=Z,91nm,18.8s,baz=80,slow=37							
NOA	**NORSAR Array B**	**57.06**	**326**	P	P	**P**	**12 06 40.3**	**+1.4**
	1.6nm,0.9s,baz=86,slow=6.8,SNR=3.4							
	1.6nm,0.9s							
GERES	**GERESS Array B**	**57.48**	**311**	P	P	**P**	**12 06 42.3**	**+0.2**
	1.0nm,0.7s,baz=117,slow=7.6,SNR=3.9							
	1.0nm,0.7s							
KEST	**Kesra**	**64.30**	**298**	LR	LR		12 40 03.1	
	comp=Z,63nm,18.6s,baz=270,slow=40							
WRA	**Warramunga Arr**	**67.39**	**133**	P	P	**P**	**12 07 49.2**	**+0.6**
	0.7nm,0.6s,baz=324,slow=6.6,SNR=14							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**69.91**	**136**	P	P	**P**	**12 08 04.7**	**+0.5**
	0.8nm,0.6s,baz=323,slow=6.6,SNR=5.5							
	0.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**80.42**	**280**	P	P	**P**	**12 09 03.7**	**-1.3**
	0.5nm,0.5s,baz=55,slow=3.4,SNR=2.1							
	0.5nm,0.5s							
DZM	**Mont Dzumac**	**91.70**	**115**	LR	LR		12 52 10.3	
	comp=Z,40nm,19.7s,baz=28,slow=36							

*NOU **19** 11:59:37.3,42.52S×173.98E,h0km,MLv3.9/8,South Island, New Zealand*
*WEL **19** 11:59:40.2±1.0,42.3°S±3°×17.4E±°,h27km±11km,M3.1/15, ML3.4/24,MLv3.1/15,Error ellipse: s-maj=0.0km s-min=0.0km az=128.6,confirmed*

ISC 19 11:59:38.1±1.3,42.42S±0.03×173.94E±0.04,h8km±10km, n63,σ1.04/73,South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**270**	P	P	**Pg**	**11 59 43.9**	**+0.1**
KHZ	**Kahutara**	**0.29**	**270**	P	P	**Pg**	**11 59 43.9**	**+0.1**
KHZ				S	S	**Sg**	**11 59 47.3**	**-0.4**
CMWZ	**Cape Campbell**	**0.70**	**17**	P	P	**Pn**	**11 59 54.7**	**+0.5**
GVZ	**Greta Valley S**	**0.86**	**230**	P	P	**Pn**	**11 59 56.9**	**+0.3**
GVZ				S	S	**Sn**	**12 00 10.3**	**+1.0**
THZ	**Tophouse**	**1.01**	**310**	P	P	**Pb**	**11 59 56.0**	**-1.8**
AMCZ	**Amberley**	**1.21**	**231**	P	P	**Pg**	**12 00 01.7**	**+0.4**
AMCZ				S	S	**Sg**	**12 00 19.7**	**+2.6**
TCW	**Tory Channel**	**1.23**	**12**	P	P	**Pn**	**12 00 01.4**	**-0.2**
TCW				S	S	**Sb**	**12 00 18.5**	**+0.8**
SNZO	**South Karori**	**1.25**	**28**	P	P	**Pn**	**12 00 02.1**	**+0.3**
NNZ	**Nelson**	**1.27**	**341**	P	P	**Pn**	**12 00 01.0**	**-1.1**
LTZ	**Lake Taylor**	**1.28**	**253**	P	P	**Pn**	**12 00 01.9**	**-0.4**
LTZ				S	S	**Sb**	**12 00 19.4**	**+0.3**
WEL	**Wellington**	**1.29**	**29**	P	P	**Pn**	**12 00 02.7**	**+0.3**
PLWZ	**Palliser**	**1.30**	**50**	P	P	**Pn**	**12 00 02.9**	**+0.3**
MRNZ	**Matariki Terra**	**1.35**	**319**	P	P	**Pn**	**12 00 02.4**	**-0.8**
MRNZ				S	S	**Sn**	**12 00 20.3**	**-1.0**
OKCZ	**Okains Bay**	**1.45**	**206**	P	P	**Pb**	**12 00 05.3**	**-0.1**
PAWZ	**Paruwai Farm**	**1.52**	**48**	P	P	**Pn**	**12 00 05.7**	**+0.1**
CAW	**Cannon Point**	**1.56**	**33**	P	P	**Pn**	**12 00 06.2**	**+0.2**
TKNZ	**Takaka Hill**	**1.56**	**332**	P	P	**Pn**	**12 00 06.1**	**-0.1**
TKNZ				S	S	**Sn**	**12 00 26.6**	**-0.1**
MQZ	**McQueen's Vall**	**1.59**	**216**	P	P	**Pn**	**12 00 06.2**	**-0.4**
MQZ				S	S	**Sb**	**12 00 26.9**	**-1.1**
DUWZ	**D'Urville Isla**	**1.62**	**360**	P	P	**Pn**	**12 00 06.7**	**-0.2**
DUWZ				S	S	**Sn**	**12 00 28.5**	**+0.6**
TRWZ	**Traveller**	**1.66**	**53**	P	P	**Pn**	**12 00 07.4**	**0.0**
OXZ	**Oxford**	**1.66**	**236**	P	P	**Pn**	**12 00 07.0**	**-0.6**
KIW	**Kapiti Island**	**1.72**	**25**	P	P	**Pn**	**12 00 08.7**	**+0.4**
MTW	**Mount Morrison**	**1.72**	**43**	P	P	**Pn**	**12 00 08.2**	**-0.1**
DSZ	**Denniston Nort**	**1.72**	**292**	P	P	**Pn**	**12 00 08.2**	**-0.2**
DSZ				S	S	**Sn**	**12 00 31.5**	**+0.8**
OGWZ	**Otaki Gorge**	**1.85**	**30**	P	P	**Pn**	**12 00 10.2**	**+0.2**
RACZ	**Rakaia**	**1.86**	**225**	P	P	**Pn**	**12 00 09.9**	**-0.2**
INZ	**Inchbonnie**	**1.87**	**260**	P	P	**Pn**	**12 00 10.1**	**-0.2**
QRZ	**Quartz Range**	**1.91**	**326**	P	P	**Pn**	**12 00 11.5**	**+0.6**
QRZ	**Quartz Range**	**1.91**	**326**	P	P	**Pn**	**12 00 11.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.93**	**38**	P	P	**Pn**	**12 00 11.1**	**-0.1**
TMWZ	**Te Maipa**	**1.96**	**49**	P	P	**Pn**	**12 00 11.5**	**-0.2**
MRZ	**Mangatainoka R**	**2.15**	**36**	P	P	**Pn**	**12 00 14.0**	**-0.2**
WACZ	**Wakanui South**	**2.16**	**224**	P	P	**Pn**	**12 00 14.2**	**-0.1**
WVZ	**Waitaha Valley**	**2.45**	**253**	P	P	**Pn**	**12 00 18.4**	**+0.1**
BFZ	**Birch Farm**	**2.45**	**46**	P	P	**Pn**	**12 00 17.9**	**-0.5**
BFZ	**Birch Farm**	**2.45**	**46**	P	P	**Pn**	**12 00 17.8**	**-0.6**
RPZ	**Rata Peaks**	**2.48**	**238**	P	P	**Pn**	**12 00 18.2**	**-0.5**
RPZ	**Rata Peaks**	**2.48**	**238**	P	P	**Pn**	**12 00 18.3**	**-0.5**
ARCZ	**Arundel**	**2.53**	**232**	P	P	**Pn**	**12 00 19.1**	**-0.4**
WAZ	**Wanganui**	**2.78**	**17**	P	P	**Pn**	**12 00 24.6**	**+1.7**
TSZ	**Takapari Road**	**2.81**	**34**	P	P	**Pn**	**12 00 22.9**	**-0.4**
TMZ	**Timaru**	**2.90**	**226**	P	P	**Pn**	**12 00 24.7**	**+0.2**
KHEZ	**Kahui Hut**	**3.12**	**1**	P	P	**Pn**	**12 00 29.8**	**+2.1**
NEZ	**North Egmont**	**3.15**	**2**	P	P	**Pn**	**12 00 31.2**	**+3.2**
PKE	**Pukeiti**	**3.22**	**1**	P	P	**Pn**	**12 00 31.4**	**+2.4**
WNVZ	**Wahianoa**	**3.34**	**23**	P	P	**Pn**	**12 00 32.8**	**+2.1**
BHHZ	**Black Hill Sta**	**3.34**	**30**	P	P	**Pn**	**12 00 30.8**	**+0.2**
VRZ	**Vera Road**	**3.35**	**11**	P	P	**Pn**	**12 00 32.2**	**+1.5**
OTVZ	**Oturere**	**3.51**	**23**	P	P	**Pn**	**12 00 33.9**	**+0.8**
WTVZ	**West Tongariro**	**3.53**	**21**	P	P	**Pn**	**12 00 35.1**	**+1.8**
KWHZ	**Kaweka Forest**	**3.54**	**33**	P	P	**Pb**	**12 00 39.2**	**-1.7**
ETVZ	**East Tongariro**	**3.54**	**23**	P	P	**Pn**	**12 00 34.7**	**+1.2**
ODZ	**Otahua Downs**	**3.55**	**221**	P	P	**Pn**	**12 00 33.4**	**0.0**
ODZ	**Otahua Downs**	**3.55**	**221**	P	P	**Pn**	**12 00 33.2**	**-0.2**
TMVZ	**Te Maari**	**3.56**	**23**	P	P	**Pn**	**12 00 34.4**	**+0.7**
BKZ	**Black Stump Fm**	**3.79**	**32**	P	P	**Pb**	**12 00 43.1**	**-2.0**
HIZ	**Hauiti**	**3.96**	**10**	P	P	**Pn**	**12 00 41.5**	**+2.3**
HIZ	**Hauiti**	**3.96**	**10**	P	P	**Pn**	**12 00 40.5**	**+1.4**
EAZ	**Earnscleugh**	**4.37**	**228**	P	P	**Pn**	**12 00 44.7**	**-0.1**
TOZ	**Tahuroa Road**	**4.83**	**15**	P	P	**Pn**	**12 00 51.5**	**+0.4**
AWAZ	**Awhitu Peninsu**	**5.38**	**6**	P	P	**Pn**	**12 00 59.8**	**+1.3**
MKAZ	**Moumakai**	**5.39**	**10**	P	P	**Pn**	**12 00 59.2**	**+0.5**
ETAZ	**East Tamaki Re**	**5.51**	**8**	P	P	**Pn**	**12 01 01.5**	**+1.1**

*UPA **19** 12:01:00.6±2.4,5.53N×76.22W,h63km±65km,MW4.5*
*NEIC **19** 12:01:04.9±2.5,5.90N±0.06×76.15W±0.06,h64km±7km, mb4.7/50,Error ellipse: s-maj=9.9km s-min=8.6km az=225.0*
*VAO **19** 12:01:04.7±0.6,5.67N×75.92W,h66km,mb4.9*
*RSNC **19** 12:01:05.1±1.2,5.76N×76.11W,h29km±3km,ML4.2, Mw4.4,Fault plane solution: NP1:φ=1.00000°,δ=32.00000°, λ=158.00000°.*
*IDC **19** 12:01:07.2±1.2,5.81N×76.09W,h94km±11km,mb3.9/17, mbtmp4.3/23,MS3.5/12,Error ellipse: s-maj=14.1km s-min=10.1km az=35.0*

ISC 19 12:01:02.4±0.6,5.80N±0.02×76.12W±0.03,h49km±5km, n204,σ2.10/235,mb4.7/38,MS3.5/7,3C-7D,Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.13**	**62**	*i* P	P	**Pn**	**12 01 10.5**	**0.0**
CBOC				*e* S	S	**Sn**	**12 01 15.8**	**-0.3**
CBOC	**Ciudad Bolivar**	**0.13**	**62**	⇓*i* P	P	**Pn**	**12 01 10.5**	**0.0**
CBOC				*e* S	S	**Sn**	**12 01 15.8**	**-0.3**
CBOC				*i*			12 01 18.7	
	comp=Z,72µm,0.4s							
MEDEC	**Medelln, Ant**	**0.71**	**49**	*e* P	P	**Pn**	**12 01 16.5**	**0.0**
MEDEC				*e* S	S	**Sn**	**12 01 27.4**	**+0.8**
PLMC	**San Jos del P**	**0.91**	**190**	*i* P	P	**Pn**	**12 01 19.3**	**+0.3**
PLMC				*e* S	S	**Sn**	**12 01 33.0**	**+1.9**
PLMC				*i*			12 01 35.5	
	comp=Z,11µm,0.4s							
CMAN1	**Manizales, Cal**	**0.94**	**141**	*e* P	P	**Pn**	**12 01 20.9**	**+1.3**
CMAN1				*e* S	S	**Sn**	**12 01 32.1**	**-0.1**
GUY2C	**Guyana, Caldas**	**0.95**	**127**	⇓*i* P	P	**Pn**	**12 01 20.2**	**+0.3**
GUY2C				*e* S	S	**Sn**	**12 01 33.9**	**+1.2**
NIZA	**Niza - Manizal**	**0.99**	**139**	*e* P	P	**Pn**	**12 01 21.7**	**+1.4**
NIZA				*e* S	S	**Sn**	**12 01 35.3**	**+2.1**
DBBC	**Dabeiba**	**1.21**	**356**	*e* P	P	**Pn**	**12 01 24.5**	**+1.4**
DBBC				*e* S	S	**Sn**	**12 01 42.3**	**+3.9**
DBBC	**Dabeiba**	**1.21**	**356**	⇑*i* P	P	**Pn**	**12 01 24.7**	**+1.6**
DBBC				*e* S	S	**Sn**	**12 01 42.3**	**+3.9**
NORC	**Norcasia**	**1.27**	**101**	⇓*i* P	P	**Pn**	**12 01 25.2**	**+1.3**
NORC				*e* S	S	**Sn**	**12 01 41.5**	**+1.7**
NORC				*i*			12 01 43.5	
	comp=Z,14µm,0.3s							
ARMEC	**Armenia, Quind**	**1.32**	**160**	*e* P	P	**Pn**	**12 01 27.7**	**+3.0**
ARMEC				*e* S	S	**Sn**	**12 01 46.2**	**+4.9**
PIZC	**Pizarro, Choco**	**1.49**	**236**	⇓*e* P	P	**Pn**	**12 01 27.5**	**+0.7**
PIZC				*e* S	S	**Sn**	**12 01 47.2**	**+2.1**
PIZC				*i*			12 02 01.1	
	comp=Z,3µm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.81**	**66**	⇓*i* P	P	**Pn**	**12 01 33.6**	**+2.4**
UREC	**San Jos de Ur**	**2.02**	**17**	*e* P	P	**Pn**	**12 01 35.8**	**+1.6**
UREC				*e* S	S	**Sn**	**12 02 01.7**	**+3.5**
UREC				*i*			12 02 09.4	
	comp=Z,2µm,0.3s							
ROSC	**El Rosal**	**2.04**	**118**	P	P	**Pn**	**12 01 38.4**	**+3.7**
	comp=Z,1µm,0.3s,baz=323,slow=3.8,SNR=189							
ROSC				S	S	**Sn**	**12 02 06.9**	**+7.8**
	comp=Z,2µm,0.4s,baz=239,slow=22,SNR=8.6							
ROSC				LR	LR		12 02 22.5	
	comp=Z,2µm,19.3s,baz=266,slow=38							
ROSC	**El Rosal**	**2.04**	**118**			**Pn**	**12 01 37.8**	**+3.1**
ROSC	**El Rosal**	**2.04**	**118**	*e*P		**Pn**	**12 01 37.9**	**+3.2**
ROSC				*e*S		**Sn**	**12 02 07.0**	**+7.8**
ROSC				L	L		12 02 13.8	
	comp=Z,2µm,0.4s							
ORTC	**Ortega, Tolima**	**2.08**	**155**	*e*P		**Pn**	**12 01 36.6**	**+1.7**
ORTC				*i*			12 02 17.2	
	comp=Z,2µm,0.5s							
ZARC	**Zaragoza, Cauc**	**2.10**	**37**	*e*P		**Pn**	**12 01 37.0**	**+1.9**
ZARC				*e*S		**Sn**	**12 02 03.5**	**+3.5**
ZARC				*i*			12 02 09.0	
	comp=Z,2µm,0.4s							
APAC	**Apartado, Choc**	**2.13**	**348**	*e*P		**Pn**	**12 01 39.5**	**+3.9**
APAC				*e*S		**Sn**	**12 02 07.5**	**+6.6**
APAC				*i*			12 02 11.3	
	comp=Z,4µm,0.8s							
CHIC	**Chingaza**	**2.65**	**116**	⇑*e*P		**Pn**	**12 01 46.2**	**+3.1**
CHIC				*e*S		**Sn**	**12 02 17.4**	**+3.1**
CHIC				*i*			12 02 40.8	
	comp=Z,626nm,0.5s							
BRRC	**Barranca, Sant**	**2.72**	**61**	*e*P		**Pn**	**12 01 46.0**	**+2.2**
BRRC				*e*S		**Sn**	**12 02 19.4**	**+3.9**
BRRC				*i*			12 02 35.6	
	comp=Z,700nm,0.4s							
RUSC	**La Rusia**	**3.03**	**88**	Pn		**Pn**	**12 01 50.3**	**+2.0**
RUSC	**La Rusia**	**3.03**	**88**	*e*P		**Pn**	**12 01 50.4**	**+2.0**
RUSC				*i*			12 02 44.2	
	comp=Z,940nm,0.6s							
BARC	**Barichara**	**3.03**	**75**	⇑*e*P		**Pn**	**12 01 50.4**	**+2.3**
LCBC	**Los crdobas,**	**3.04**	**355**	*e*P		**Pn**	**12 01 50.4**	**+2.3**
LCBC				*e*S		**Sn**	**12 02 28.2**	**+4.8**
BETC	**Betania**	**3.18**	**168**	*e*P		**Pn**	**12 01 52.0**	**+2.0**
BETC				*e*S		**Sn**	**12 02 30.8**	**+4.1**
UPD2	**Meteti**	**3.31**	**326**	*i* P		**Pn**	**12 01 53.1**	**+1.3**
UPD2				*i* S		**Sn**	**12 02 32.9**	**+3.0**
GR1C	**Gorgona, Isla**	**3.45**	**216**	*e*P		**Pn**	**12 01 56.0**	**+2.3**
GARC	**Garzon, Huila**	**3.65**	**170**	*e*P		**Pn**	**12 01 58.1**	**+1.4**
GARC				*i*			12 03 03.0	
	comp=Z,303nm,0.3s							
PAMC	**Pamplona, Colo**	**3.73**	**66**	*e*P		**Pn**	**12 02 00.4**	**+2.4**
PAMC				*e*S		**Sn**	**12 02 44.4**	**+3.5**
PAMC				L	L		12 02 48.4	
	comp=Z,625nm,0.4s							
SJCC	**San Jacinto, C**	**4.17**	**13**	*e*P		**Pn**	**12 02 05.6**	**+1.9**
SJCC				*i*			12 03 26.5	
	comp=Z,147nm,0.6s							
FLOC	**Florencia**	**4.22**	**174**	*e*P		**Pn**	**12 02 05.9**	**+1.5**
FLOC				*i*			12 03 17.1	
	comp=Z,145nm,0.5s							
PEDA3	**Pedasi**	**4.24**	**294**	*e*P		**Pn**	**12 02 02.8**	**-1.7**
PEDA3				*e*S		**Sn**	**12 02 50.4**	**-2.4**
PTGC	**Puerto Gaitan,**	**4.28**	**112**	*e*P		**Pn**	**12 02 06.6**	**+1.5**
CRUC	**La Cruz**	**4.29**

MACA	**Manacapuru-AM**	**17.81**	**120**	P	**Pn**	**12 05 04.8**	**-2.1**
MACA				IAmb	IAmb	12 05 07.4	
	comp=Z,27nm,0.6s						
MACA	**Manacapuru-AM**	**17.81**	**120**	*e*P	**Pn**	**12 05 06.0**	**-1.0**
ETMB	**Extrema**	**18.39**	**147**	P	**P**	**12 05 12.5**	**-1.1**
ETMB				IAmb	IAmb	12 05 17.0	
	comp=Z,25nm,0.7s						
ETMB	**Extrema**	**18.39**	**147**	*e*P	**P**	**12 05 11.9**	**-1.7**
CMIG	**Matias Romero**	**21.51**	**303**	P	**P**	**12 05 48.6**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=128,slow=12,SNR=5.3						
CMIG				LR	LR	12 15 24.8	
	comp=Z,72nm,19.4s,baz=107,slow=40						
	comp=Z,1.4nm,0.5s						
ITTB	**Itaituba**	**22.73**	**116**	*e*P	**P**	**12 05 58.1**	**-2.5**
MALB	**Monte Alegre**	**23.12**	**109**	*e*P	**P**	**12 06 02.5**	**-2.0**
MDP	**Montagnes des**	**23.39**	**91**	P	**P**	**12 06 06.5**	**-0.7**
	comp=Z,12nm,0.7s,baz=273,slow=9.7,SNR=8.0						
	comp=Z,12nm,0.7s						
NPGB	**Novo Progresso**	**24.34**	**121**	*e*P	**P**	**12 06 13.3**	**-2.6**
VILB	**Vilhena**	**24.45**	**140**	P	**P**	**12 06 15.7**	**-1.3**
VILB				IAmb	IAmb	12 06 47.7	
	comp=Z,45nm,0.7s						
VILB	**Vilhena**	**24.45**	**140**	*e*P	**P**	**12 06 16.8**	**-0.2**
MCPB	**Macapa, AP**	**24.80**	**104**	*e*P	**P**	**12 06 18.9**	**-1.3**
PDRB	**Porto dos Gac**	**25.92**	**132**	*e*P	**P**	**12 06 28.8**	**-1.5**
PSGCX	**Pisagua**	**25.92**	**167**	P	**P**	**12 06 29.1**	**-1.3**
PSGCX				IAmb	IAmb	12 07 05.1	
	comp=Z,19nm,0.8s						
CLDB	**Colider**	**26.15**	**129**	*e*P	**P**	**12 06 30.7**	**-1.8**
SIV	**San Ignacio**	**26.29**	**146**	P	**P**	**12 06 32.7**	**-1.0**
	comp=Z,39nm,0.6s,baz=316,slow=9.7,SNR=21						
BBSD	**Serra de San D**	**27.51**	**146**	*e*P	**P**	**12 06 45.1**	**+0.5**
PRPB	**Parauapebas**	**28.83**	**114**	*e*P	**P**	**12 06 54.6**	**-1.9**
BBRB	**Robore, Bolivi**	**28.84**	**146**	*e*P	**P**	**12 06 55.8**	**-0.6**
TMAB	**Tom-Au,PA,Br**	**29.15**	**105**	*e*P	**P**	**12 06 58.5**	**-0.8**
SNDB	**Serra Nova Dou**	**30.36**	**126**	*e*P	**P**	**12 07 08.2**	**-1.7**
PP1B	**Ponte de Pedra**	**31.32**	**138**	*e*P	**P**	**12 07 18.0**	**-0.4**
SMTB	**Santa Maria do**	**31.96**	**117**	*e*P	**P**	**12 07 22.2**	**-1.9**
WVT	**Waverly**	**32.04**	**342**	P	**P**	**12 07 24.4**	**-0.1**
WVT				IAmb	IAmb	12 07 51.2	
	comp=Z,13nm,1.4s						
MURT	**Porto Murtinho**	**32.78**	**147**	*e*P	**P**	**12 07 28.9**	**-2.2**
ROSB	**Rosrio**	**33.11**	**104**	*e*P	**P**	**12 07 32.8**	**-1.4**
TXAR	**Lajitas Array**	**34.99**	**315**	P	**P**	**12 07 50.7**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=140,slow=9.1,SNR=9.8						
TXAR				PcP	**PcP**	**12 10 22.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=140,slow=4.7,SNR=7.6						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**34.99**	**315**	P	**P**	**12 07 50.2**	**-0.2**
TX31	**Lajitas Ar. Si**	**34.99**	**315**	P	**P**	**12 07 50.2**	**-0.2**
TX31				IAmb	IAmb	12 08 05.3	
	comp=Z,20nm,1.5s						
FNO	**Franklin**	**35.27**	**329**	P	**P**	**12 07 52.1**	**-0.5**
R40A	**Maddies Statio**	**35.51**	**338**	P	**P**	**12 07 54.3**	**-0.4**
SDBA	**SAO DESIDERIO**	**35.92**	**120**	*e*P	**P**	**12 07 56.2**	**-2.4**
IPMB	**Ipameri, GO**	**36.30**	**131**	*e*P	**P**	**12 07 59.9**	**-1.8**
K62A	**Royalston**	**36.87**	**5**	P	**P**	**12 08 08.1**	**+1.9**
LPIG	**La Paz**	**37.54**	**303**	LR	LR	12 23 36.2	
	comp=Z,93nm,20.4s,baz=64,slow=36						
JANB	**Januaria**	**37.73**	**124**	*e*P	**P**	**12 08 11.9**	**-2.1**
NCB	**Newcomb**	**38.05**	**2**	P	**P**	**12 08 17.3**	**+1.0**
G62A	**West of Eustis**	**39.56**	**6**	P	**P**	**12 08 30.2**	**+1.3**
G62A				IAmb	IAmb	12 08 32.0	
	comp=Z,17nm,1.1s						
MT09	**Talagante**	**39.66**	**173**	P	**P**	**12 08 30.7**	**+0.7**
DIAM	**Diamantina, MG**	**39.98**	**127**	*e*P	**P**	**12 08 30.8**	**-2.0**
ANMO	**Albuquerque**	**40.30**	**320**	LR	LR	12 29 51.1	
	comp=Z,44nm,18.5s,baz=166,slow=43						
ANMO	**Albuquerque**	**40.30**	**320**	P	**P**	**12 08 36.2**	**+0.9**
GO05	**Huala**	**40.79**	**175**	P	**P**	**12 08 39.4**	**+0.3**
GO05				IAmb	IAmb	12 08 40.9	
	comp=Z,16nm,0.8s						
E62A	**Clayton Lake**	**41.06**	**7**	P	**P**	**12 08 43.1**	**+1.9**
E62A				IAmb	IAmb	12 09 06.1	
	comp=Z,26nm,1.4s						
LMN	**Caledonia Moun**	**41.09**	**12**	P	**P**	**12 08 42.8**	**+1.4**
LMN				IAmb	IAmb	12 08 57.3	
	comp=Z,23nm,1.4s						
D62A	**Allapoint, All**	**41.57**	**7**	P	**P**	**12 08 47.2**	**+1.8**
D62A				IAmb	IAmb	12 09 03.5	
	comp=Z,8.4nm,0.9s						
RCBR	**Riachuelo**	**41.78**	**105**	P	**P**	**12 08 46.5**	**-1.1**
	comp=Z,15nm,0.9s,baz=52,slow=7.6,SNR=4.3						
	comp=Z,15nm,0.9s						
RCBR	**Riachuelo**	**41.78**	**105**	P	**P**	**12 08 46.1**	**-1.6**
RCBR	**Riachuelo**	**41.78**	**105**	*e*P	**P**	**12 08 46.7**	**-1.0**
BATG	**Bathurst New B**	**42.22**	**10**	P	**P**	**12 08 52.2**	**+1.5**
BATG				IAmb	IAmb	12 09 06.0	
	comp=Z,14nm,1.2s						
DUB01	**Friburgo-RJ**	**43.13**	**131**	*e*P	**P**	**12 08 56.3**	**-2.2**
RIB01	**Linhares ES**	**43.13**	**126**	*e*P	**P**	**12 08 55.5**	**-3.0**
ALF01	**Guarapari-ES**	**43.57**	**128**	*e*P	**P**	**12 09 00.6**	**-1.3**
GO06	**Curarrehue**	**45.37**	**175**	P	**P**	**12 09 15.8**	**-0.3**
GO06				IAmb	IAmb	12 09 18.5	
	comp=Z,6.1nm,0.8s						
PLCA	**Paso Flores**	**46.59**	**174**	P	**P**	**12 09 25.6**	**-0.2**
PLCA				IAmb	IAmb	12 09 51.5	
	comp=Z,16nm,1.1s						
LL04	**Puerto Octay**	**46.61**	**176**	P	**P**	**12 09 25.2**	**-0.6**
LL04				IAmb	IAmb	12 09 26.2	
	comp=Z,8.5nm,0.8s						
PDAR	**Pinedale Array**	**47.20**	**326**	P	**P**	**12 09 31.9**	**+1.1**
	comp=Z,1.4nm,1.1s,baz=130,slow=6.0,SNR=4.9						
PDAR				PcP	**PcP**	**12 11 00.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=123,slow=6.6,SNR=1.6						
	comp=Z,1.4nm,1.1s						
ULM	**Lac du Bonnet**	**47.30**	**343**	P	**P**	**12 09 30.9**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=150,slow=10,SNR=4.4						
ULM				LR	LR	12 30 16.2	
	comp=Z,44nm,18.1s,baz=64,slow=37						
	comp=Z,1.7nm,0.4s						
SPUT	**South Promonto**	**47.94**	**323**	P	**P**	**12 09 36.7**	**+0.3**
BGU	**Big Grassy Mou**	**48.06**	**322**	P	**P**	**12 09 37.7**	**+0.4**
GO07	**Milladeo Hill,**	**48.74**	**178**	P	**P**	**12 09 42.5**	**+0.3**
SCHQ	**Schefferville**	**49.46**	**7**	P	**P**	**12 09 47.5**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=193,slow=9.2,SNR=8.7						
SCHQ				LR	LR	12 32 30.8	
	comp=Z,17nm,18.1s,baz=181,slow=38						
	comp=Z,5.0nm,0.9s						
SCHQ	**Schefferville**	**49.46**	**7**	P	**P**	**12 09 48.2**	**+0.6**
SCHQ				IAmb	IAmb	12 10 11.3	
	comp=Z,13nm,1.2s						
NVAR	**Mina Array Bea**	**50.12**	**317**	P	**P**	**12 09 54.2**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=126,slow=6.5,SNR=5.5						
NVAR				PcP	**PcP**	**12 11 12.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=130,slow=4.5,SNR=5.6						
	comp=Z,0.8nm,0.8s						
FCC	**Fort Churchill**	**54.62**	**349**	P	**P**	**12 10 25.5**	**-0.4**
FCC				IAmb	IAmb	12 10 26.7	
	comp=Z,8.4nm,0.9s						
YKA	**Yellowknife Ar**	**63.22**	**341**	P	**P**	**12 11 24.9**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=132,slow=6.4,SNR=40						
	comp=Z,1.3nm,0.5s						
DLBC	**Dease Lake**	**66.81**	**332**	P	**P**	**12 11 49.0**	**0.0**
DLBC				IAmb	IAmb	12 12 17.5	
	comp=Z,8.5nm,1.4s						
SUMG	**Summit**	**70.55**	**11**	*i* P	**P**	**12 12 12.3**	**-0.1**
DBIC	**Dimbokro**	**70.79**	**85**	P	**P**	**12 12 13.6**	**-0.9**
	comp=Z,10.0nm,0.6s,baz=285,slow=5.9,SNR=25						
	comp=Z,10.0nm,0.6s						
DBIC	**Dimbokro**	**70.79**	**85**	P	**P**	**12 12 13.7**	**-0.8**
ESDC	**Sonseca Array**	**72.59**	**50**	P	**P**	**12 12 24.4**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=260,slow=6.1,SNR=8.7						
	comp=Z,2.2nm,0.8s						
A36M	**Sachs Harbour**	**72.66**	**346**	P	**P**	**12 12 23.3**	**-1.4**
NEEM	**North Greenlan**	**72.83**	**6**	*i* P	**P**	**12 12 26.2**	**+0.2**
INK	**Inuvik**	**72.99**	**341**	P	**P**	**12 12 26.4**	**-0.3**
BCAR	**Beaver Creek A**	**73.97**	**334**	P	**P**	**12 12 33.4**	**+0.8**
L27K	**Beaver Creek,**	**73.99**	**334**	P	**P**	**12 12 33.8**	**+1.1**
SMAI	**San Martin Ant**	**74.04**	**176**	P	**P**	**12 12 33.5**	**+0.7**
J26L	**Joseph Creek**	**75.18**	**336**	P	**P**	**12 12 40.0**	**+0.3**
RIDG	**Independent Ri**	**75.49**	**335**	P	**P**	**12 12 41.9**	**+0.5**
EKA	**Eskdalemuir Ar**	**75.58**	**34**	P	**P**	**12 12 41.5**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=250,slow=3.5,SNR=6.9						
	comp=Z,2.0nm,0.7s						
SCM	**Sheep Creek Mo**	**76.08**	**332**	P	**P**	**12 12 44.8**	**-0.1**
SCM				IAmb	IAmb	12 12 53.5	
	comp=Z,14nm,1.1s						
BMAR	**Burnt Mountain**	**76.48**	**338**	P	**P**	**12 12 46.1**	**-0.9**
HDA	**Harding Lake**	**76.56**	**335**	P	**P**	**12 12 47.2**	**-0.2**
HDA				IAmb	IAmb	12 13 03.4	
	comp=Z,8.9nm,0.9s						
ILAR	**Eielson Array**	**76.63**	**335**	P	**P**	**12 12 47.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=106,slow=4.4,SNR=12						
	comp=Z,0.7nm,0.7s						

TORD	**Torodi Ar. Bea**	**76.87**	**78**	P	**P**	**12 12 49.6**	**-0.5**
	comp=Z,4.1nm,0.5s,baz=278,slow=6.3,SNR=29						
	comp=Z,4.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.87**	**78**	P	**P**	**12 12 49.6**	**-0.5**
MCK	**McKinley**	**77.25**	**334**	P	**P**	**12 12 51.2**	**-0.1**
MCK				IAmb	IAmb	12 13 13.3	
	comp=Z,9.2nm,1.2s						
BWN	**Browne**	**77.57**	**335**	P	**P**	**12 12 52.6**	**-0.5**
KDAK	**Kodiak Island**	**77.90**	**328**	LR	LR	12 50 37.6	
	comp=Z,22nm,19.4s,baz=213,slow=38						
BPAW	**Bear Paw Mtn.**	**78.21**	**334**	P	**P**	**12 12 56.3**	**-0.4**
BPAW				IAmb	IAmb	12 13 10.5	
	comp=Z,14nm,1.4s						
MLY	**Manley**	**78.29**	**335**	P	**P**	**12 12 56.2**	**-0.9**
PPLA	**Purkeypile**	**78.52**	**333**	P	**P**	**12 12 58.1**	**-0.4**
PPLA				IAmb	IAmb	12 13 15.7	
	comp=Z,22nm,1.5s						
IMAR	**Indian Mountai**	**79.69**	**336**	P	**P**	**12 13 04.2**	**-0.6**
DAVOX	**Davos/Dischmat**	**83.07**	**44**	P	**P**	**12 13 24.0**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=290,slow=5.4,SNR=6.4						
	comp=Z,3.6nm,0.7s						
NOA	**NORSAR Array B**	**83.67**	**29**	P	**P**	**12 13 26.4**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=306,slow=3.3,SNR=2.3						
	comp=Z,1.3nm,0.8s						
CIMO	**Cimolais**	**84.85**	**44**	P	**P**	**12 13 31.8**	**-0.3**
CIMO				IAmb	IAmb	12 13 33.4	
	comp=Z,15nm,1.4s						
GERES	**GERESS Array B**	**85.56**	**41**	P	**P**	**12 13 35.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=256,slow=2.9,SNR=8.3						
	comp=Z,1.0nm,0.7s						
TSUM	**Tsumeb**	**95.37**	**109**	LR	LR	12 55 45.6	
	comp=Z,41nm,18.7s,baz=30,slow=34						
KURBB	**Kurchatov Arra**	**119.69**	**18**	PKP	**PKPdf**	**12 19 46.4**	**-0.8**
	comp=Z,0.7nm,0.2s,baz=352,slow=1.9,SNR=2.5						
MKAR	**Makanchi Array**	**124.24**	**18**	PKP	**PKPdf**	**12 19 54.2**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=346,slow=3.7,SNR=3.5						
SONM	**Songino Array**	**126.55**	**358**	PKP	**PKPdf**	**12 19 59.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=128,slow=2.4,SNR=2.4						
KSRS	**Korea Array**	**131.47**	**334**	PKP	**PKPdf**	**12 20 09.7**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=29,slow=1.5,SNR=2.3						
ASAR	**Alice Springs**	**146.09**	**235**	PKPbc	**PKPdf**	**12 20 37.0**	**-0.2**
	comp=Z,8.5nm,0.4s,baz=118,slow=3.5,SNR=74						
WRA	**Warramunga Arr**	**147.23**	**242**	PKPbc	**PKPdf**	**12 20 38.6**	**-0.5**
	comp=Z,4.8nm,0.6s,baz=107,slow=2.9,SNR=55						
CMAR	**Chiang Mai Arr**	**155.41**	**11**	PKPab	**PKPab**	**12 21 16.7**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=332,slow=5.3,SNR=14						

VAO ***19*** *12:01:41.1±0.9,31°.27S×71°.98W,h10km,mb4.7*
SJA ***19*** *12:01:46.8±0.9,30°.80S×71°.71W,h17km±5km,ML4.7, MW4.4*
GUC ***19*** *12:01:50.1±0.7,30°.85S×71°.37W,h47km±3km,ML5.0*
NEIC ***19*** *12:01:51.6±2.2,30°.86S±0°.02×71°.51W±0°.07,h44km±7km, mb5.1/38,Mwr4.4/66,ML5.0(GUC),Error ellipse: s-maj=9.2km s-min=1.8km az=108.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr5.32; Mθθ0.54; Mϕϕ-5.86; Mrθ1.12; Mθϕ1.17; Mϕr-0.90; Fault plane solution: M₀5.91000×10¹⁵ NP1:φs159.41000°, δ51.39000°,λ76.09000°. NP2:φs1.06000°,δ40.67000°, λ106.75000°. Principal axes: T 5.6085, Plg78.0000°, Azm16.0000°; N 0.5636, Plg11.0000°, Azm168.0000°; P -6.1721, Plg5.0000°, Azm259.0000°;*
IDC ***19*** *12:01:52.2±0.8,30°.80S×71°.57W,h52km±4km,mb4.3/10, mbtmp4.5/13,MS3.5/8 Error ellipse: s-maj=25.3km s-min=9.3km az=26.0*
ISC 19 12:01:50.0±0.6,30°.86S±0°.02×71°.40W±0°.03,h31km±3km, n400,σ1s57/461,mb5.1/29,MS3.6/4,6C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.49**	**135**		**Pn**	**12 02 02.8**	**+1.8**
CO02				Sn	**Sn**	**12 02 10.9**	**+2.4**
CO02	**Combarbal**	**0.49**	**135**	*i*P	**Pn**	**12 02 02.9**	**+1.9**
CO02				e*S*	**Sn**	**12 02 10.8**	**+2.4**
CO02				IAML		12 02 11.4	
	comp=E,548μm,0.3s						
CO02	**Combarbal**	**0.49**	**135**	*e*P	**Pn**	**12 02 02.0**	**+1.0**
CO02				*e*P		12 02 02.7	
CO02				e*S*	**Sn**	**12 02 11.5**	**+3.0**
CO02	**Combarbal**	**0.49**	**135**	*e*P	**Pn**	**12 02 02.0**	**+1.0**
CO02				*e*P		12 02 02.7	
CO02				e*S*	**Sn**	**12 02 11.5**	**+3.0**
CO03	**El Pedregal**	**0.61**	**88**		**Pn**	**12 02 04.3**	**+1.6**
CO03				Sn	**Sn**	**12 02 13.3**	**+1.6**
CO03	**El Pedregal**	**0.61**	**88**	*i*P	**Pn**	**12 02 04.3**	**+1.6**
CO03				e*S*	**Sn**	**12 02 13.2**	**+1.6**
CO03				IAML		12 02 14.0	
	comp=E,86μm,0.3s						
CO03	**El Pedregal**	**0.61**	**88**	*e*P	**Pn**	**12 02 02.7**	**0.0**
CO03				*e*P		12 02 04.0	
CO03				e*S*	**Sn**	**12 02 13.6**	**+2.0**
CO03				IAML		12 02 17.9	
	comp=Z,22μm,0.4s						
CO03	**El Pedregal**	**0.61**	**88**	*e*P	**Pn**	**12 02 02.7**	**0.0**
CO03				*e*P		12 02 04.0	
CO03				e*S*	**Sn**	**12 02 13.6**	**+2.0**
CO03				IAML		12 02 17.9	
	comp=Z,22μm,0.4s						
GO04	**Tololo Observa**	**0.86**	**37**		**Pb**	**12 02 07.8**	**+1.2**
GO04				Sn	**Sn**	**12 02 20.0**	**+2.2**
GO04	**Tololo Observa**	**0.86**	**37**	*e*P	**Pb**	**12 02 07.6**	**+0.9**
GO04				e*S*	**Sn**	**12 02 19.6**	**+1.8**
GO04				IAML		12 02 22.4	
	comp=E,134μm,0.6s						
GO04	**Tololo Observa**	**0.86**	**37**	*e*P	**Pn**	**12 02 02.7**	**-3.5**
GO04				*e*P		12 02 07.0	
GO04				e*S*	**Sn**	**12 02 20.6**	**+2.8**
GO04	**Tololo Observa**	**0.86**	**37**	*e*P	**Pn**	**12 02 02.7**	**-3.5**
GO04				*e*P		12 02 07.0	
GO04				e*S*	**Sn**	**12 02 20.6**	**+2.8**
CO05	**La Serena**	**0.95**	**9**		**Pb**	**12 02 08.9**	**+0.9**
CO05	**La Serena**	**0.95**	**9**	*i*P	**Pb**	**12 02 08.8**	**+0.9**
CO05				e*S*	**Sb**	**12 02 21.1**	**+0.9**
CO01	**Juntas del Tor**	**1.43**	**52**		**Pb**	**12 02 16.7**	**+0.4**
CO01				Sn	**Sb**	**12 02 35.1**	**+0.9**
CO01	**Juntas del Tor**	**1.43**	**52**	*i*P	**Pb**	**12 02 16.7**	**+0.4**
CO01				*i* S	**Sb**	**12 02 35.2**	**+0.9**
CO01	**Juntas del Tor**	**1.43**	**52**	*e*P	**Pb**	**12 02 16.8**	**+0.5**
CO01				e*S*	**Sb**	**12 02 35.8**	**+1.5**
CO01				IAML		12 02 39.8	
	comp=Z,4μm,0.8s						
CO01	**Juntas del Tor**	**1.43**	**52**	*e*P	**Pb**	**12 02 16.8**	**+0.5**
CO01				e*S*	**Sb**	**12 02 35.8**	**+1.5**
CO01				IAML		12 02 39.8	
	comp=Z,4μm,0.8s						
VA06	**Catapilco**	**1.70**	**177**		**Pb**	**12 02 19.6**	**-1.0**
VA06	**Catapilco**	**1.70**	**177**	*e*P	**Pb**	**12 02 19.6**	**-1.0**
VA06				e*S*	**Sb**	**12 02 41.0**	**-0.6**
VA06				IAML		12 02 53.1	
	comp=E,15μm,0.4s						
LCO	**Las Campanas**	**1.94**	**18**	Pn	**Pb**	**12 02 23.1**	**-1.8**
LCO	**Las Campanas**	**1.94**	**18**	*i*P	**Pb**	**12 02 23.0**	**-1.9**
LCO				*i* S	**Sb**	**12 02 46.9**	**-1.9**
RTLS	**Leoncito**	**2.03**	**118**	*e*P	**Pb**	**12 02 26.8**	**+0.3**
RTLS				e*S*	**Sn**	**12 02 41.1**	**-5.8**
RTLS				IAML		12 02 55.8	
	comp=Z,8μm,0.7s						
RTLS	**Leoncito**	**2.03**	**118**	*e*P	**Pb**	**12 02 26.8**	**+0.3**
RTLS				e*S*	**Sn**	**12 02 41.1**	**-5.8**
RTLS				IAML		12 02 55.8	
	comp=Z,8μm,0.7s						
VA03	**San Esteban**	**2.03**	**159**		**Pb**	**12 02 25.0**	**-1.4**
VA03	**San Esteban**	**2.03**	**159**	*e*P	**Pb**	**12 02 24.4**	**-1.9**
VA03				e*S*	**Sb**	**12 02 50.5**	**-0.8**
VA03				IAML		12 02 59.4	
	comp=E,16μm,0.5s						
VA03	**San Esteban**	**2.03**	**159**	*e*P	**Pn**	**12 02 19.2**	**-3.0**
VA03				*e*P		12 02 25.0	
VA03				e*S*	**Sb**	**12 02 54.3**	**+3.0**
VA03				IAML		12 03 03.1	
	comp=Z,4μm,0.3s						
VA03	**San Esteban**	**2.03**	**159**	*e*P	**Pn**	**12 02 19.2**	**-3.0**
VA03				*e*P		12 02 25.0	
VA03				e*S*	**Sb**	**12 02 54.3**	**+3.0**
VA03				IAML		12 03 03.1	
	comp=Z,4μm,0.3s						
ROCH	**El Roble**	**2.13**	**171**	*e*P	**Pn**	**12 02 26.0**	**+2.3**
ROCH				e*S*	**Sb**	**12 02 52.3**	**-2.0**
ROCH				IAML		12 03 07.9	
	comp=N,10μm,0.4s						
ROC1	**El Roble**	**2.14**	**171**		**Pn**	**12 02 25.7**	**+2.0**
ROC1				e*S*	**Sb**	**12 02 53.2**	**-1.2**
ROC1	**El Roble**	**2.14**	**171**	*e*P	**Pn**	**12 02 25.9**	**+2.1**
ROC1				e*S*	**Sb**	**12 02 53.2**	**-1.2**
VA01	**Torpederas**	**2.17**	**185**		**Pn**	**12 02 25.0**	**+1.1**
VA01	**Torpederas**	**2.17**	**185**	*i*P	**Pn**	**12 02 25.1**	**+1.1**
VA01	**Torpederas**	**2.17**	**185**	*e*P	**Pn**	**12 02 25.0**	**+1.1**
VA01				e*S*	Sn	12 02 34.6	-15
VA01	**Torpederas**	**2.17**	**185**	*e*P	**Pn**	**12 02 25.0**	**+1.1**
VA01				e*S*	Sn	12 02 34.6	-15
AC05	**El Transito**	**2.24**	**26**		**Pb**	**12 02 28.2**	**-1.7**
AC05	**El Transito**	**2.24**	**26**	*i*P	**Pb**	**12 02 28.0**	**-2.0**
AC05				e*S*	**Sb**	**12 02 55.5**	**-1.8**
AC05				IAML		12 03 04.8	
	comp=N,5μm,0.6s						
AC05	**El Transito**	**2.24**	**26**	*e*P	**Pb**	**12 02 28.0**	**-2.0**
AC05	**El Transito**	**2.24**	**26**	*e*P	**Pb**	**12 02 28.0**	**-2.0**
PEL	**Peldehue**	**2.36**	**165**	Pn	**Pn**	**12 02 28.6**	**+1.9**
PEL	**Peldehue**	**2.36**	**165**	*e*P	**Pn**	**12 02 29.1**	**+2.4**
PEL				e*S*	**Sb**	**12 02 58.3**	**-2.3**
PEL				IAML		12 03 13.8	
	comp=N,6μm,0.4s						
PEL	**Peldehue**	**2.36**	**165**	*e*P	**Pn**	**12 02 29.2**	**+2.6**
PEL				e*S*	**Sb**	**12 03 02.5**	**+1.9**
PEL	**Peldehue**	**2.36**	**165**	*e*P	**Pn**	**12 02 29.2**	**+2.6**
PEL				e*S*	**Sb**	**12 03 02.5**	**+1.9**
MT02	**Curacav**	**2.40**	**175**		**Pn**	**12 02 29.2**	**+2.0**
MT02	**Curacav**	**2.40**	**175**	*e*P	**Pn**	**12 02 28.8**	**+1.5**
MT02				e*S*	**Sn**	**12 02 57.4**	**+1.7**
MT02				IAML		12 03 10.4	
	comp=E,4μm,0.5s						
MT02	**Curacav**	**2.40**	**175**	*e*P	**Pn**	**12 02 28.7**	**+1.5**
MT02				*e*P		12 02 29.0	
MT02				e*S*	**Sb**	**12 03 04.5**	**+2.6**
MT02				IAML		12 03 09.7	
	comp=Z,3μm,0.6s						
MT02	**Curacav**	**2.40**	**175**	*e*P	**Pn**	**12 02 28.7**	**+1.5**
MT02				*e*P		12 02 29.0	
MT02				e*S*	**Sb**	**12 03 04.5**	**+2.6**
MT02				IAML		12 03 09.7	
	comp=Z,3μm,0.6s						
ZON	**Zonda**	**2.43**	**107**		**Pb**	**12 02 32.2**	**-0.9**
ZON	**Zonda**	**2.43**	**107**	*e*P	**Pb**	**12 02 32.0**	**-1.2**
ZON				*e*P		12 02 32.2	
ZON				e*S*	**Sn**	**12 02 51.1**	**-5.3**
ZON				IAML		12 02 51.5	
	comp=Z,2μm,0.4s						
ZON	**Zonda**	**2.43**	**107**	*e*P	**Pb**	**12 02 32.0**	**-1.2**
ZON				*e*P		12 02 32.2	
ZON				e*S*	**Sn**	**12 02 51.1**	**-5.3**
ZON				IAML		12 02 51.5	
	comp=Z,2μm,0.4s						
SJA	**San Juan**	**2.53**	**106**	*e*P	**Pb**	**12 02 38.2**	**+3.5**
SJA				*e*P		12 02 43.0	
SJA				e*S*	**Sn**	**12 03 00.0**	**+1.3**
SJA				IAML		12 03 01.2	
	comp=Z,2μm,0.3s						
SJA	**San Juan**	**2.53**	**106**	*e*P	**Pb**	**12 02 38.2**	**+3.5**
SJA				*e*P		12 02 43.0	
SJA				e*S*	**Sn**	**12 03 00.0**	**+1.3**
SJA				IAML		12 03 01.2	
	comp=Z,2μm,0.3s						
RTLL	**Cerro Villicun**	**2.56**	**101**	*e*P	**Pb**	**12 02 33.2**	**-2.0**
RTLL	**Cerro Villicun**	**2.56**	**101**	*e*P	**Pb**	**12 02 33.2**	**-2.0**
MT05	**Renca**	**2.59**	**168**		**Pn**	**12 02 32.5**	**+2.6**
MT05	**Renca**	**2.59**	**168**	*i*P	**Pn**	**12 02 32.3**	**+2.5**
MT05				e*S*	**Sb**	**12 03 03.9**	**-3.3**
MT05				IAML		12 03 19.7	
	comp=E,14μm,0.3s						
MT05	**Renca**	**2.59**	**168**	*e*P	**Pn**	**12 02 32.0**	**+2.

comp=Z,1µm,0.8s
BO01 Tunca 3.53 176 *e*P **Pn 12 02 39.7 -3.0**
BO01 *e*P 12 02 45.0
BO01 *e*S **Sn 12 03 28.7 +5.2**
BO01 *e*S 12 03 33.2
BO01 IAML 12 03 43.8
comp=Z,1µm,0.8s
BO02 Sierra Bellavi 3.96 173 Pn **Pn 12 02 50.8 +2.1**
BO02 Sierra Bellavi 3.96 173 IAML 12 04 00.5
comp=Z,1µm,0.3s
BO02 Sierra Bellavi 3.96 173 IAML 12 04 00.5
comp=Z,1µm,0.3s
GO05 Huala 4.16 186 *e*P **Pn 12 02 51.0 -0.4**
GO05 Huala 4.16 186 *e*P **Pn 12 02 51.0 -0.4**
AC02 Maricunga 4.48 27 IAML 12 04 21.7
comp=Z,1µm,1.2s
AC02 Maricunga 4.48 27 IAML 12 04 21.7
comp=Z,1µm,1.2s
AC01 Pan de Azucar 4.75 9 IAML 12 04 20.5
comp=Z,730nm,0.6s
AC01 Pan de Azucar 4.75 9 IAML 12 04 20.5
comp=Z,730nm,0.6s
H03N1 Juan Fernandez 6.87 246 T T 12 10 21.2
baz=74,slow=72,SNR=2514
VA04 Juan Fernndez 6.88 244 Pn **Pn 12 03 28.3 -0.4**
H03N3 Juan Fernandez 6.88 246 T T 12 10 17.1
baz=74,slow=72,SNR=2900
H03N2 Juan Fernandez 6.88 246 T T 12 10 20.7
baz=74,slow=72,SNR=2814
H03S3 Juan Fernandez 7.01 243 T T 12 10 45.7
baz=70,slow=79,SNR=16
H03S1 Juan Fernandez 7.01 243 T T 12 10 44.4
baz=70,slow=79,SNR=18
H03S2 Juan Fernandez 7.02 243 T T 12 10 48.3
baz=70,slow=79,SNR=29
LVC Limon Verde 8.51 16 P **Pn 12 03 51.1 -0.4**
comp=Z,4.0nm,0.3s,baz=154,slow=9.5,SNR=4.9
LVC S **Sn 12 05 34.4 +7.7**
comp=Z,51nm,0.7s,baz=159,slow=17,SNR=2.0
LVC LR LR 12 07 24.6
comp=Z,223nm,20.9s,baz=200,slow=39
LVC Limon Verde 8.51 16 Pn 12 03 50.6 -0.9
GO06 Curarrehue 8.71 180 Pn 12 03 54.3 +0.4
PB09 IPOC Station P 9.23 13 Pn 12 04 00.7 -0.6
PB02 IPOC Station P 9.60 8 Pn 12 04 06.0 -0.2
PLCA Paso Flores 9.88 176 P **Pn 12 04 10.9 +1.0**
comp=Z,0.9nm,0.3s,baz=345,slow=11,SNR=18
PLCA LR LR 12 08 33.0
comp=Z,170nm,20.0s,baz=338,slow=40
PLCA Paso Flores 9.88 176 Pn **Pn 12 04 11.1 +1.2**
VACA Villa Angela C 9.88 74 *e*P **Pn 12 04 10.6 +0.7**
LL04 Puerto Octay 10.06 184 Pn 12 04 11.5 -0.9
TRQA Tornquist 10.58 135 Pn **Pn 12 04 20.4 +0.9**
TICA Tres Isletas 10.66 68 *e*P **Pn 12 04 22.9 +2.4**
SCCA San Cayetano, 11.62 77 *e*P **Pn 12 04 34.8 +1.0**
MNMC Minye Minye 11.79 8 Pn 12 04 39.5 +3.1
ITQB Itaqui 12.83 88 *e*P **Pn 12 04 49.1 -1.2**
CPUP Villa Florida 13.16 73 P **Pn 12 04 53.0 -1.8**
comp=Z,3.3nm,0.4s,baz=245,slow=12,SNR=7.7
CPUP LR LR 12 10 29.1
comp=Z,281nm,19.6s,baz=236,slow=39
CPUP Villa Florida 13.16 73 Pn **Pn 12 04 53.2 -1.6**
AZCA Azaras, Argent 13.72 82 *e*P **Pn 12 05 03.1 +0.7**
RODS Rosario do Sul 13.97 92 *e*P **Pn 12 05 06.6 +0.7**
UNIS Unistalda (Bra 14.27 87 *e*P **Pn 12 05 10.3 +0.4**
PLTB Pedras Altas 15.24 98 *e*P **Pn 12 05 21.6 -1.5**
MURT Porto Murtinho 15.38 57 *e*P **Pn 12 05 26.5 +1.6**
CPSB Cacapava Do Su 15.47 93 *e*P **Pn 12 05 24.8 -1.2**
CRSM Crissiumal (Br 15.53 82 *e*P **Pn 12 05 27.6 +0.8**
BBRB Robore, Bolivi 16.36 43 *e*P **P 12 05 39.5 -0.6**
AMBA Amambai (Brazi 16.62 66 *e*P **P 12 05 41.9 -1.1**
BBLB La Banda, Boli 16.67 46 *e*P **P 12 05 43.6 +0.1**
BDQN Bodoquena, MS 16.78 55 *e*P **P 12 05 44.5 -0.2**
BBSD Serra de San D 16.79 38 *e*P **P 12 05 44.5 -0.3**
ITAB Concordia 17.23 83 P **P 12 05 50.6 +0.9**
ITAB Concordia 17.23 83 *e*P **P 12 05 49.4 -0.3**
AQDB Aquidauana 17.51 58 P **P 12 05 53.4 +0.6**
AQDB Aquidauana 17.51 58 *e*P **P 12 05 54.0 +1.2**
SIV San Ignacio 17.56 35 P **P 12 05 53.6 +0.2**
comp=Z,16nm,0.6s,baz=209,slow=9.5,SNR=81
PTGB Pitanga 18.16 75 *e*P **P 12 06 00.6 +0.5**
PTLB Pontes e Lacer 19.01 39 P 12 06 09.4 0.0
PTLB IAmb IAmb 12 06 27.8
comp=Z,14nm,1.0s
PTLB Pontes e Lacer 19.01 39 *e*P **P 12 06 09.3 0.0**
TER01 Tubaro-SC 19.49 89 *e*P **Pn 12 06 15.4 -0.5**
PP1B Ponte de Pedra 20.00 52 *e*P **P 12 06 20.1 -0.1**
PCMB Pacaembu 20.26 68 *e*P **P 12 06 23.0 0.0**
C2SB Chapadao do Su 20.67 59 *e*P Pn 12 06 29.0 -0.9
SALV Santo Antonio 20.69 48 *e*P **P 12 06 27.6 0.0**
FRTB Fartura 20.81 74 *e*P **P 12 06 28.4 -0.6**
NBRS Nobres 21.84 45 *e*P **P 12 06 39.9 -0.2**
ITRB Iturama 21.99 65 *e*P **P 12 06 40.9 -0.8**
PET01 Itanhaem-SP 22.34 79 *e*P **P 12 06 45.8 +0.4**
SPB Sao Paulo 22.48 77 *e*P **P 12 06 46.8 -0.1**
DVLD Doverlandia 22.54 95 *e*P **P 12 06 48.5 +0.8**
BB19B Bebedouro 22.72 70 *e*P **P 12 06 49.8 +0.2**
RCLB Rio Claro- Sao 22.90 74 *e*P **P 12 06 51.2 -0.2**
CZSB Cruzeiro do Su 23.04 357 *e*P **P 12 06 51.0 -1.8**
VAO Valinhos 23.12 76 *e*P **P 12 06 52.9 -0.8**
IPMB Ipameri, GO 24.64 64 *e*P **P 12 07 06.6 -1.4**
PMNB Patos De Minas 25.72 67 *e*P **P 12 07 17.1 -0.7**
BSCB Bom Sucesso 25.83 74 *e*P **P 12 07 18.3 -0.5**
BDFB Brasilia 26.21 60 P **P 12 07 21.9 -0.4**
comp=Z,20nm,0.6s,baz=230,slow=7.5,SNR=23
comp=Z,20nm,0.6s
BDFB Brasilia 26.21 60 P **P 12 07 21.8 -0.6**
BDFB Brasilia 26.21 60 *e*P **P 12 07 21.5 -0.8**
VAS01 Vassouras-RJ 26.37 70 *e*P **P 12 07 23.1 -0.6**
DIAM Diamantina, MG 28.06 70 *e*P **P 12 07 38.3 -0.7**
ALF01 Guarapari-ES 29.37 77 *e*P **P 12 07 50.3 -0.1**
JANB Januaria 29.38 64 *e*P **P 12 07 49.3 -1.3**
SJMB Sao Joao De Ma 29.89 73 *e*P **P 12 07 54.4 -0.7**
BSFB Barra de Sao F 30.10 74 *e*P **P 12 07 55.9 -1.0**
RPN Rapa Nui 33.28 267 LR LR 12 17 06.3
comp=Z,25nm,22.0s,baz=39,slow=28
GDU01 Guandu, BA 33.87 67 *e*P **P 12 08 29.0 -1.0**
PMSA Palmer Station 34.24 174 LR LR 12 22 21.3
comp=Z,103nm,18.7s,baz=301,slow=36
MLPR Magueyes Islan 48.73 6 P **P 12 10 30.2 -1.6**
CELP Cerrillos 48.87 6 P **P 12 10 32.3 -0.6**
CBYP Canovanas 49.14 7 P **P 12 10 33.7 -1.3**
VNA3 Neumayer Olymp 52.07 158 P **P 12 10 56.6 +0.1**
VNA2 Neumayer--Watz 52.70 158 P **P 12 11 01.3 +0.1**
baz=282,slow=7.0
TROLL Troll, Antarti 56.01 159 P **P 12 11 25.3 -0.1**
HAW Hawthorne Fire 64.60 351 P **P 12 12 24.3 0.0**
baz=170
833A Chaparral WMA, 64.62 333 P **P 12 12 25.8 +1.3**
baz=154
833A Chaparral WMA, 64.62 333 P **P 12 12 25.6 +1.0**
baz=154
344A Westbrook Farm 64.63 342 P **P 12 12 25.7 +1.2**
baz=162
LRAL Lakeview Retre 65.24 346 P **P 12 12 28.6 +0.1**
baz=165
LRAL Lakeview Retre 65.24 346 P **P 12 12 28.4 -0.1**
baz=165
VBMS Vicksburg 65.30 342 P **P 12 12 29.8 +1.0**
baz=162
VBMS Vicksburg 65.30 342 P **P 12 12 30.2 +1.4**
baz=162
146A Union 65.33 344 P **P 12 12 30.5 +1.5**
baz=164
JSC Jenkinsville 65.46 351 P **P 12 12 29.8 -0.1**
baz=171
Y52A Lilburn 65.48 348 IAmb IAmb 12 12 30.6
comp=Z,18nm,1.0s
Y52A Lilburn 65.48 348 P **P 12 12 29.3 -0.7**
baz=168
Y52A P **P 12 12 29.3 -0.7**
baz=168
X58A Rowland 65.49 353 P **P 12 12 30.4 +0.3**
baz=173
X58A P **P 12 12 30.4 +0.3**
baz=173
HODGE Hodges 65.55 350 P **P 12 12 30.3 -0.1**
baz=170
Z47A Carrollton 65.63 345 P **P 12 12 31.3 +0.3**
baz=164
Y49A Blount Mountai 65.91 346 P **P 12 12 32.6 -0.3**
baz=166
PAULI Pauline 66.06 351 P **P 12 12 34.1 +0.4**
baz=170
NATX Nacogdoches 66.07 338 P **P 12 12 35.6 +1.8**
baz=158
NATX Nacogdoches 66.07 338 P **P 12 12 35.7 +1.8**
baz=158
W57A Gilead 66.16 352 P **P 12 12 34.4 +0.1**
baz=172
W57A P **P 12 12 34.4 +0.1**
baz=172
X51A Calhoun 66.30 348 P **P 12 12 35.0 -0.3**
baz=168
X51A P **P 12 12 35.0 -0.3**
baz=168
KMSC Kings Mountain 66.31 351 P **P 12 12 36.0 +0.6**
baz=171
KMSC Kings Mountain 66.31 351 P **P 12 12 35.6 +0.2**
baz=171
CASEE Lake Jocassee 66.40 350 P **P 12 12 36.0 0.0**
baz=169
V61A Roper 66.48 355 P **P 12 12 37.4 +1.0**
baz=175
V61A P **P 12 12 37.4 +1.0**
baz=175
X48A Hartselle 66.62 346 IAmb IAmb 12 12 38.2
comp=Z,17nm,0.9s
X48A Hartselle 66.62 346 P **P 12 12 37.2 -0.1**
baz=166
W52A Murphy 66.65 349 P **P 12 12 37.8 +0.2**
baz=168
237A Washetta, Mont 66.66 338 P **P 12 12 37.6 -0.1**
baz=157
V58A Windy Hill, Pi 66.70 353 P **P 12 12 37.6 -0.2**
baz=173
V58A P **P 12 12 37.6 -0.2**
baz=173
JCT Junction City 66.71 333 P **P 12 12 38.8 +0.8**
baz=154
JCT Junction City 66.71 333 P **P 12 12 39.2 +1.1**
baz=154
V55A Taylorsville 67.00 351 P **P 12 12 39.9 +0.1**
baz=171
V55A P **P 12 12 39.9 +0.1**
baz=171
W50A Signal Mountai 67.00 348 IAmb IAmb 12 12 40.2
comp=Z,12nm,0.8s
W50A Signal Mountai 67.00 348 P **P 12 12 39.9 +0.1**
baz=167
V53A Saluda 67.04 350 IAmb IAmb 12 12 41.2
comp=Z,36nm,1.5s
V53A Saluda 67.04 350 P **P 12 12 40.0 -0.1**
baz=170
V53A P **P 12 12 40.0 -0.1**
baz=170
CPCT Cooper Cave 67.10 348 IAmb IAmb 12 12 40.8
comp=Z,13nm,0.9s
U59A Littleton 67.13 354 P **P 12 12 40.3 -0.2**
baz=174
U59A P **P 12 12 40.3 -0.2**
baz=174
TKL Tuckaleechee C 67.18 349 IAmb IAmb 12 12 41.9
comp=Z,23nm,1.2s
TKL Tuckaleechee C 67.18 349 P **P 12 12 40.5 -0.4**
baz=169
OXF Oxford 67.20 344 P **P 12 12 41.0 0.0**
baz=163
OXF Oxford 67.20 344 P **P 12 12 41.3 +0.3**
baz=163
WHTX Lake Whitney, 67.21 336 P **P 12 12 40.6 -0.6**
baz=156
TXAR Lajitas Array 67.28 330 P **P 12 12 42.4 +0.6**
comp=Z,1.3nm,0.6s,baz=154,slow=8.6,SNR=16
TXAR pP sP 12 12 55.8 +0.5
comp=Z,1.6nm,0.7s,baz=152,slow=7.6,SNR=9.7
comp=Z,1.3nm,0.6s
TX31 Lajitas Ar. Si 67.28 330 P **P 12 12 42.7 +0.9**
baz=150
V52A Sevierville 67.33 349 IAmb IAmb 12 12 42.2
comp=Z,14nm,0.8s
V52A Sevierville 67.33 349 P **P 12 12 41.5 -0.4**
baz=169
U56A King 67.38 352 P **P 12 12 42.3 +0.2**
baz=172
U56A P **P 12 12 42.3 +0.2**
baz=172
V51A Loudon 67.42 349 IAmb IAmb 12 12 43.0
comp=Z,15nm,0.9s
V51A Loudon 67.42 349 P **P 12 12 42.4 0.0**
baz=168
Z38A Mt. Pleasant 67.56 339 P **P 12 12 44.5 +1.2**
baz=158
T59A Double "B" Far 67.72 355 P **P 12 12 44.9 +0.6**
baz=174
T59A P **P 12 12 44.9 +0.6**
baz=174
U54A Nelsons Funny 67.74 351 IAmb IAmb 12 12 44.6
comp=Z,12nm,0.7s
U54A Nelsons Funny 67.74 351 P **P 12 12 44.1 -0.4**
baz=170
U54A P **P 12 12 44.1 -0.4**
baz=170
V48A Smith Brothers 67.81 346 IAmb IAmb 12 12 46.4
comp=Z,18nm,0.8s
V48A Smith Brothers 67.81 346 P **P 12 12 45.0 +0.1**
baz=166
CLTN Cedars of Leba 68.06 347 IAmb IAmb 12 12 47.2
comp=Z,12nm,0.7s
MIAR Mount Ida 68.33 340 P **P 12 12 48.5 +0.3**
baz=160
MIAR Mount Ida 68.33 340 P **P 12 12 48.7 +0.5**
baz=160
Z35A Perchaven, San 68.36 337 IAmb IAmb 12 12 49.9
comp=Z,22nm,0.8s
Z35A Perchaven, San 68.36 337 P **P 12 12 49.0 +0.7**
baz=156
U49A Red Boiling Sp 68.36 348 P **P 12 12 48.1 -0.2**
baz=167
WVT Waverly 68.40 346 P **P 12 12 46.6 -1.9**
WVT IAmb IAmb 12 12 49.3
comp=Z,23nm,1.0s
WVT Waverly 68.40 346 P **P 12 12 48.2 -0.3**
baz=165
WVT Waverly 68.40 346 P **P 12 12 48.5 0.0**
baz=165
S57A Dark Hollow, R 68.63 354 P **P 12 12 49.7 -0.3**
baz=173
S57A P **P 12 12 49.7 -0.3**
baz=173
T50A Nancy 68.69 348 P **P 12 12 49.8 -0.5**
baz=168
T50A P **P 12 12 49.8 -0.5**
baz=168
X37A Clayton 68.91 339 P **P 12 12 52.8 +1.0**
baz=158
T47A Sharon Grove 69.08 347 IAmb IAmb 12 12 53.5
comp=Z,30nm,1.3s
T47A Sharon Grove 69.08 347 P **P 12 12 52.7 -0.1**
baz=166
S51A Beattyville 69.09 350 IAmb IAmb 12 13 25.5
comp=Z,19nm,1.2s
S51A Beattyville 69.09 350 P **P 12 12 52.7 -0.1**
baz=169
S51A P **P 12 12 52.7 -0.1**
baz=169
LCAR Lake Charles 69.11 343 IAmb IAmb 12 12 53.7
comp=Z,15nm,0.7s
R55A Marlinton 69.27 353 P **P 12 12 54.4 +0.4**
baz=172
R55A P **P 12 12 54.4 +0.4**
baz=172
T45B Paducah 69.43 345 P **P 12 12 55.3 +0.4**
baz=164
PBMO Poplar Bluff 69.61 344 P **P 12 12 56.6 +0.6**
baz=163
R50A Paris 69.83 349 P **P 12 12 57.1 -0.4**
baz=168
R50A P **P 12 12 57.1 -0.4**
baz=168
R49A Shelbyville 69.98 349 P **P 12 12 58.0 -0.4**
baz=168
R49A P **P 12 12 58.0 -0.4**
baz=168
Q54A Coxs Mills 70.04 352 P **P 12 12 57.9 -0.8**
baz=172
Q54A P **P 12 12 57.9 -0.8**
baz=172
HHAR Hobbs 70.06 341 P **P 12 12 58.4 -0.5**
HHAR IAmb IAmb 12 12 59.7
comp=Z,13nm,0.8s
MNTX Cornudas Mount 70.06 330 P **P 12 12 57.4 -1.6**
MNTX Cornudas Mount 70.06 330 P **P 12 12 58.7 -0.3**
baz=150
MNTX Cornudas Mount 70.06 330 P **P 12 12 59.1 0.0**
baz=150
WCI Wyandotte Cave 70.12 348 P **P 12 12 58.4 -0.7**
baz=167
WMOK Wichita Mounta 70.16 336 P **P 12 12 58.6 -0.9**
baz=155
Q52A Bidwell 70.20 351 IAmb IAmb 12 13 00.1
comp=Z,18nm,1.1s
Q52A Bidwell 70.20 351 P **P 12 12 59.4 -0.2**
baz=170
Q52A P **P 12 12 59.4 -0.2**
baz=170
S44A Carbondale 70.21 345 P **P 12 12 59.5 -0.2**
baz=164
P57A Homestead Farm 70.25 355 P **P 12 13 00.7 +0.8**
baz=174
P57A P **P 12 13 00.7 +0.8**
baz=174
TUL1 Leonard 70.26 339 P **P 12 13 00.0 -0.1**
baz=158
TUL1 Leonard 70.26 339 P **P 12 13 00.3 +0.2**
baz=158
U38A Gravette 70.33 340 P **P 12 13 00.5 0.0**
baz=159
Q51A Peebles 70.41 350 P **P 12 13 01.1 +0.1**
baz=169
Q51A P **P 12 13 01.1 +0.1**
baz=169
GEDE Greenville 70.42 357 P **P 12 13 01.4 +0.4**
baz=176
PSUB Penn St. - Bra 70.53 357 P **P 12 13 01.2 -0.4**
baz=176
P51A Williamsport 70.82 350 P **P 12 13 03.0 -0.4**
baz=170
P51A P **P 12 13 03.0 -0.4**
baz=170
P52A Corning 70.84 351 P **P 12 13 03.6 +0.1**
baz=170
MSTX Muleshoe 70.95 333 P **P 12 13 04.4 -0.1**
baz=152
OLIL Olney 70.96 346 IAmb IAmb 12 13 04.6
comp=Z,16nm,1.0s
OLIL Olney 70.96 346 P **P 12 13 03.4 -0.9**
baz=165
P49A Miami Univ. Ec 71.12 349 P **P 12 13 04.2 -1.1**
baz=168
P48A Milroy 71.17 349 P **P 12 13 04.6 -1.0**
baz=168
P48A P **P 12 13 04.6 -1.0**
baz=168
S39A Bolivar 71.21 342 P **P 12 13 05.8 0.0**
baz=160
AMTX Amarillo 71.34 334 P **P 12 13 08.2 +1.4**
baz=153
SSPA Standing Stone 71.39 355 P **P 12 13 07.3 +0.5**
baz=174
T35B Sooner Cattle 71.41 339 P **P 12 13 07.7 +0.6**
baz=158
UPAO U. Pittsburgh 71.43 353 P **P 12 13 07.6 +0.5**
baz=172
R40A Maddies Statio 71.50 343 P **P 12 13 07.5 0.0**
baz=161
ACSO Alum Creek Sta 71.54 351 P **P 12 13 07.6 -0.2**
baz=170
ACSO Alum Creek Sta 71.54 351 P **P 12 13 07.9 +0.1**
baz=170
P46A Rosedale 71.64 347 P **P 12 13 07.0 -1.3**
baz=166
O49A Covington 71.70 350 IAmb IAmb 12 13 09.5
comp=Z,18nm,1.1s
O49A Covington 71.70 350 P **P 12 13 08.3 -0.4**
baz=168
O49A P **P 12 13 08.3 -0.4**
baz=168
U32A Winter Ranch, 71.72 337 P **P 12 13 09.5 +0.5**
baz=155
121A Cookes Peak, D 71.84 328 P **P 12 13 11.6 +1.6**
baz=148
121A Cookes Peak, D 71.84 328 P **P 12 13 12.0 +2.0**
baz=148
PAMR Moraine State 71.89 353 P **P 12 13 09.9 0.0**
baz=172
O48B Farmland 71.90 349 P **P 12 13 09.2 -0.7**
baz=168
P43A Skaggs, Pawnee 72.14 345 P **P 12 13 11.3 -0.1**
baz=164
M55A Ridgway 72.29 354 P **P 12 13 12.2 0.0**
baz=174
M55A P **P 12 13 12.2 0.0**
baz=174
NPNY Mohonk Preserv 72.30 358 P **P 12 13 13.6 +1.3**
baz=178
N49A Columbus Grove 72.39 350 P **P 12 13 12.3 -0.5**
baz=169
N49A P **P 12 13 12.3 -0.5**
baz=169
O44A Mansfield 72.41 346 P **P 12 13 12.2 -0.8**
baz=165
N47A Urbana 72.60 349 P **P 12 13 13.2 -0.8**
baz=167
N47A P **P 12 13 13.2 -0.8**
baz=167
P40A Paris 72.61 343 P **P 12 13 14.6 +0.3**
baz=162
M50A Fremont 72.70 351 P **P 12 13 14.5 -0.2**
baz=170
M50A P **P 12 13 14.5 -0.2**
baz=170
L59A Walton 72.77 357 P **P 12 13 15.5 +0.4**
baz=177
L59A P **P 12 13 15.5 +0.4**
baz=177
L56A Greenwood 72.86 355 P **P 12 13 14.7 -1.0**
baz=175
L56A P **P 12 13 14.7 -1.0**
baz=175
HDIL Hopedale 72.97 346 P **P 12 13 16.2 -0.1**
baz=164
P38A Dawn 73.08 342 P **P 12 13 16.4 -0.5**
baz=160
K62A Royalston 73.17 359 P **P 12 13 19.7 +2.3**
baz=179
K62A P **P 12 13 19.7 +2.3**
baz=179
WVNY West Valley, N 73.21 354 P **P 12 13 18.0 +0.4**
baz=174
HCNY Howe Caverns 73.25 358 P **P 12 13 18.5 +0.6**
baz=177
ANMO Albuquerque 73.31 330 P **P 12 13 19.5 +0.8**
baz=149
K57A Scipio Center 73.38 356 P **P 12 13 19.5 +0.8**
baz=176
L48A N Adams 73.43 350 P **P 12 13 18.6 -0.4**
baz=168
L48A P **P 12 13 18.6 -0.4**
baz=168
N41A Harden Midland 73.45 345 P **P 12 13 18.9 -0.2**
baz=163
R32A Long Quarter, 73.48 338 P **P 12 13 19.8 +0.3**
baz=156
DBIC Dimbokro 73.68 72 P **P 12 13 20.8 -0.3**
comp=Z,20nm,0.5s,baz=235,slow=5.6,SNR=19
comp=Z,20nm,0.5s
214A Organ Pipe Nat 73.77 324 P **P 12 13 22.5 +1.2**
baz=144
ACCN Adirondack Com 73.91 358 P **P 12 13 23.2 +1.4**
baz=178
J57A Williamstown 74.03 357 P **P 12 13 23.4 +0.9**
baz=176
J57A P **P 12 13 23.4 +0.9**
baz=176
N38A Joes South For 74.10 343 P **P 12 13 22.7 -0.3**
baz=161
CBKS Cedar Bluff 74.17 337 P **P 12 13 23.9 +0.4**
baz=155
T25A Trinidad 74.37 333 P **P 12 13 26.2 +1.4**
baz=151
L42A Oliver, Polo 74.43 346 P **P 12 13 25.0 +0.2**
baz=164
LBNH Lisbon 74.74 360 P **P 12 13 26.3 -0.3**
baz=180
N35A Tabor 74.81 341 P **P 12 13 26.5 -0.6**
baz=159
L40A Anamosa 74.83 345 P **P 12 13 26.7 -0.4**
baz=163
SCIA State Center 75.15 343 P **P 12 13 29.2 +0.2**
baz=161

N33B	**J Bar K, Exete** baz=157	**75.21**	**340**	P	**P**	12 13 29.1	-0.3
SDCO	**Great Sand Dun** baz=150	**75.32**	**333**	P	**P**	12 13 31.4	+0.9
SDCO	**Great Sand Dun** baz=150	**75.32**	**333**	P	**P**	12 13 31.6	+1.1
KSCO	**Kaye Shedlock'** baz=153	**75.35**	**335**	P	**P**	12 13 31.7	+1.4
KSCO	**Kaye Shedlock'** baz=153	**75.35**	**335**	P	**P**	12 13 31.8	+1.4
FRNY	**Flat Rock** baz=178	**75.36**	**358**	P	**P**	12 13 30.2	+0.1
BMNY	**Brushton-Moira** baz=177	**75.39**	**358**	P	**P**	12 13 30.8	+0.5
JFWS	**Jewell Farm** baz=164	**75.43**	**346**	P	**P**	12 13 30.5	-0.1
K38A	**Parkersburg** baz=161	**75.74**	**344**	P	**P**	12 13 31.9	-0.5
WUAZ	**Wupatki** baz=146	**75.97**	**327**	P	**P**	12 13 35.5	+1.4
BGNE	**Belgrade** baz=157	**76.03**	**340**	P	**P**	12 13 34.4	+0.3
L34A	**Svendsen Farm,** baz=158	**76.03**	**341**	P	**P**	12 13 33.6	-0.5
I42A	**Draeger Farm,** baz=165	**76.10**	**347**	P	**P**	12 13 33.6	-0.7
MVCO	**Mesa Verde** baz=148	**76.10**	**330**	P	**P**	12 13 36.2	+1.4
F63A	**Nahmakanta, Br** baz=182	**76.23**	**2**	P	**P**	12 13 36.3	+1.2
F63A				P	**P**	12 13 36.3	+1.2
I40A	**Norwalk** baz=163	**76.44**	**346**	P	**P**	12 13 36.2	-0.2
H43A	**Windswept, Lux** baz=166	**76.44**	**348**	P	**P**	12 13 36.1	-0.2
BC3	**Big Chuckawall** baz=142	**76.47**	**323**	P	**P**	12 13 38.5	+1.6
ISCO	**Idaho Springs** baz=150	**77.15**	**334**	P	**P**	12 13 41.9	+1.1
GMRC	**Granite Mounta** baz=142	**77.46**	**324**	P	**P**	12 13 43.8	+1.3
ECSD	**EROS Data Cent** baz=158	**77.74**	**342**	P	**P**	12 13 44.0	+0.3
E46A	**Sault Ste Mari** baz=169	**77.75**	**351**	P	**P**	12 13 43.1	-0.5
TUQ	**Turquoise Moun** baz=142	**78.11**	**324**	P	**P**	12 13 47.8	+1.7
E43A	**Lone Tree Farm** baz=166	**78.16**	**349**	P	**P**	12 13 45.8	-0.1
SPMN	**Marine on St.** baz=162	**78.19**	**345**	P	**P**	12 13 45.6	-0.5
N23A	**Red Feather La** baz=150	**78.22**	**334**	P	**P**	12 13 48.5	+1.8
O20A	**White River Ci** baz=148	**78.47**	**332**	P	**P**	12 13 49.0	+1.0
F36A	**Milaca** baz=161	**78.95**	**344**	P	**P**	12 13 50.0	-0.4
D41A	**Chassel** baz=165	**79.09**	**348**	P	**P**	12 13 51.5	+0.5
E38A	**The Farm, Brul** baz=163	**79.23**	**346**	P	**P**	12 13 51.0	-0.8
F33A	**5 Mile Ranch,** baz=159	**79.61**	**343**	P	**P**	12 13 53.3	-0.5
K22A	**Casper** baz=150	**79.96**	**334**	P	**P**	12 13 57.3	+1.2
R11A	**Troy Canyon, C** baz=143	**80.24**	**326**	P	**P**	12 13 59.4	+1.7
RSSD	**Black Hills** baz=152	**80.36**	**337**	P	**P**	12 13 58.6	+0.3
RSSD	**Black Hills** baz=152	**80.36**	**337**	P	**P**	12 13 58.9	+0.6
DUG	**Dugway, Tooele** baz=145	**80.45**	**329**	P	**P**	12 13 59.9	+1.1
EYMN	**Ely** baz=163	**80.50**	**346**	P	**P**	12 13 58.3	-0.3
EYMN	**Ely** baz=163	**80.50**	**346**	P	**P**	12 13 58.5	-0.2
BOSA	**Boshof** comp=Z,4.2nm,0.6s,baz=252,slow=4.4,SNR=7.6 comp=Z,4.2nm,0.6s	**81.06**	**118**	P	**P**	12 14 02.2	-0.2
PDAR	**Pinedale Array** comp=Z,0.7nm,0.6s,baz=141,slow=8.4,SNR=7.6	**81.22**	**333**	P	**P**	12 14 02.9	0.0
PDAR	comp=Z,0.8nm,0.5s,baz=136,slow=7.8,SNR=7.6 comp=Z,0.7nm,0.6s			pP	**sP**	12 14 16.6	+0.1
B35A	**Bob, Littlefor** baz=161	**81.36**	**345**	P	**P**	12 14 03.0	-0.2
E28A	**Huff** baz=155	**81.50**	**340**	P	**P**	12 14 04.3	+0.3
NVAR	**Mina Array Bea** comp=Z,1.3nm,0.7s,baz=160,slow=4.9,SNR=6.7	**81.63**	**325**	P	**P**	12 14 05.0	-0.2
NVAR	comp=Z,1.0nm,0.7s,baz=157,slow=5.8,SNR=5.2 comp=Z,1.3nm,0.7s			pP	**sP**	12 14 19.1	+0.3
AGMN	**Agassiz Nation** baz=159	**81.79**	**344**	P	**P**	12 14 05.3	-0.2
AGMN	**Agassiz Nation** baz=159	**81.79**	**344**	P	**P**	12 14 05.6	+0.1
MDND	**Maddock** baz=156	**82.34**	**341**	P	**P**	12 14 09.1	+0.7
MDND	**Maddock** baz=156	**82.34**	**341**	P	**P**	12 14 09.1	+0.7
TORD	**Torodi Ar. Bea** comp=Z,7.0nm,0.6s,baz=280,slow=6.2,SNR=18 comp=Z,7.0nm,0.6s	**82.64**	**70**	P	**P**	12 14 10.2	-0.5
LBTB	**Lobatse** comp=Z,51nm,20.2s,baz=268,slow=32	**83.14**	**115**	LR	LR	12 46 32.3	
LAO	**LASA Array** baz=151	**83.35**	**337**	P	**P**	12 14 14.4	+0.7
ULM	**Lac du Bonnet** comp=Z,7.7nm,0.8s,baz=168,slow=4.1,SNR=9.5 comp=Z,7.7nm,0.8s	**83.62**	**344**	P	**P**	12 14 14.3	-0.7
DGMT	**Dagmar** baz=152	**84.25**	**339**	P	**P**	12 14 18.7	+0.4
DGMT	**Dagmar** baz=152	**84.25**	**339**	P	**P**	12 14 18.9	+0.6
SCHQ	**Schefferville** comp=Z,3.0nm,0.8s,baz=174,slow=4.1,SNR=7.4 comp=Z,3.0nm,0.8s	**85.43**	**3**	P	**P**	12 14 23.4	-0.6
ESDC	**Sonseca Array** comp=Z,21nm,21.8s,baz=311,slow=33	**94.01**	**46**	LR	LR	12 53 07.0	
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.6s,baz=144,slow=4.5,SNR=5.4 comp=Z,0.3nm,0.6s	**99.27**	**341**	P	**Pdif**	12 15 26.8	-1.3
H11S2	**WAKE ISLAND Hy** baz=116,slow=75,SNR=161	**126.30**	**271**	T	T	14 39 38.3	
H11S1	**WAKE ISLAND Hy** baz=116,slow=75,SNR=232	**126.31**	**271**	T	T	14 39 39.3	
H11S3	**WAKE ISLAND Hy** baz=116,slow=75,SNR=209	**126.32**	**271**	T	T	14 39 39.6	
H11N3	**WAKE ISLAND Hy** baz=116,slow=75,SNR=28	**126.64**	**273**	T	T	14 40 04.6	
H11N1	**WAKE ISLAND Hy** baz=116,slow=75,SNR=8.5	**126.65**	**273**	T	T	14 40 18.4	
H11N2	**WAKE ISLAND Hy** baz=116,slow=75,SNR=42	**126.65**	**273**	T	T	14 40 05.9	
BVAR	**Borovoye Array** comp=Z,6.2nm,0.5s,baz=302,slow=3.1,SNR=32	**144.58**	**40**	PKP	**PKPab**	12 21 21.7	+0.1
BVAR	comp=Z,2.2nm,0.6s,baz=298,slow=3.2,SNR=4.4			pPKP	**sPKPdf**	12 21 36.5	-0.6
YAK	**Yakutsk** comp=Z,4.3nm,0.3s,baz=42,slow=0.3,SNR=9.3	**145.93**	**342**	PKPbc	**PKPdf**	12 21 24.5	-0.4
YAK	comp=Z,5.3nm,0.4s,baz=41,slow=0.8,SNR=2.3			pPKPbc	sPKPab	12 21 39.5	-0.4
HYB	**Hyderabad**	**149.60**	**109**	*e*PKPbc	**PKPbc**	12 21 35.9	-1.2
KURBB	**Kurchatov Array** comp=Z,1.3nm,0.2s,baz=300,slow=3.0,SNR=10	**150.17**	**40**	PKPbc	**PKPbc**	12 21 36.5	-0.8
ZALV	**Zalesovo Beam** comp=Z,7.7nm,0.6s,baz=297,slow=3.2,SNR=31	**151.26**	**30**	PKPbc	**PKPbc**	12 21 39.1	-0.8
MKAR	**Makanchi Array** comp=Z,0.4nm,0.6s,baz=262,slow=2.9,SNR=4.8	**154.22**	**44**	PKPbc	**PKPbc**	12 21 45.3	-1.5
MKAR	comp=Z,2.3nm,0.8s,baz=300,slow=2.4,SNR=14			PKPab	**sPKPbc**	12 21 59.6	-1.2
WMQ	**Urumqi**	**159.01**	**46**	*e*P	**PKPdf**	12 21 45.1	+0.2
SONM	**Songino Array** comp=Z,0.6nm,0.6s,baz=322,slow=3.7,SNR=2.0	**162.96**	**5**	PKPab	**PKPab**	12 22 38.7	+0.2
HHC	**Hu-ho-hao-te**	**169.75**	**347**	*e*P	**PKPdf**	12 21 55.9	+1.4

*IDC **19** 12:17:30.5±0.7, 40.09N×142.24E, h0km, mb3.8/14, mbtmp3.8/19, ML3.2/5, MS3.0/6, Error ellipse: s-maj=19.8km s-min=14.0km az=119.0*
*NIED **19** 12:17:31.8, 40.02N×142.27E, h20km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-0.01; Mθθ1.00; Mφφ-1.00; Mrθ0.48; Mθφ0.07; Mφr-0.38; Fault plane solution: M0 1.17000×10^15^ NP1: φs133.00000°, δ89.00000°, λ31.00000°. NP2: φs42.00000°, δ59.00000°, λ179.00000°.*
*JMA **19** 12:17:31.8±0.1, 40.0°N±0.2×142.3°E±0.5, h20km, MD4.2/35, MV4.2/35, NE OFF IWATE PREF*
JMA Felt II J1 at NE OFF IWATE PREF

ISC 19 12:17:31.7±0.6, 40.02N±0.04×142.31E±0.06, h10km, n58, σ1§06/31, mb3.9/13, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.35**	**257**	⇓*i*P		**Pg**	**12 17 38.8**	**+0.2**
JTH				⇓*e*S		**Sg**	**12 17 43.6**	**+0.4**
JTH	**Tanohata** comp=E,28nm,0.5s,comp=E,19nm,1.0s	**0.35**	**257**	A		A	12 17 38.8	
JKEN	**Kujiedanarisaw**	**0.49**	**292**	⇓*i*P		**Pg**	**12 17 41.1**	**-0.2**
JKEN				⇓S		**Sg**	**12 17 47.7**	**-0.1**
JKEN	**Kujiedanarisaw** comp=E,23nm,0.4s,comp=E,58nm,0.8s	**0.49**	**292**	A		A	12 17 41.1	
MIYJ	**Miyakonagasawa**	**0.58**	**220**	*i* P		**Pg**	**12 17 42.7**	**-0.2**
MIYJ				S		**Sg**	**12 17 50.1**	**-0.4**
MIYJ	**Miyakonagasawa** comp=E,13nm,1.6s,comp=E,8.0nm,1.7s	**0.58**	**220**	A		A	12 17 42.7	
JANG	**Nango**	**0.70**	**301**	*i* P		**Pg**	**12 17 44.4**	**-0.8**
JKZ	**Kuzumaki**	**0.75**	**268**	⇓*i*P		**Pg**	**12 17 45.7**	**-0.5**
JKZ	**Kuzumaki** comp=E,5.0nm,1.7s,comp=E,7.0nm,2.7s	**0.75**	**268**	A		A	12 17 45.7	
JOM	**Ohasama**	**0.95**	**235**	⇓*i*P		**Pg**	**12 17 49.1**	**-1.0**
JOM				⇓S		**Sg**	**12 18 01.6**	**-0.9**
JOM	**Ohasama** comp=E,14nm,0.8s,comp=E,11nm,0.3s	**0.95**	**235**	A		A	12 17 49.1	
OFUJ	**Ofunato**	**1.06**	**208**	*i* P		**Pg**	**12 17 50.4**	**-1.6**
OFUJ	**Ofunato** comp=E,5.0nm,4.3s,comp=E,4.0nm,7.4s	**1.06**	**208**	A		A	12 17 50.4	
JSZI	**Iwateshizukuis** comp=E,10.0nm,3.1s,comp=E,12nm,1.5s	**1.08**	**255**	A		A	12 17 51.5	
JTM	**Tennnabayashi** comp=E,8.0nm,1.1s,comp=E,7.0nm,1.4s	**1.22**	**309**	A		A	12 17 53.3	
JARK	**Aomorirokkasho** comp=E,7.0nm,1.1s,comp=E,6.0nm,0.9s	**1.22**	**324**	A		A	12 17 53.4	
JAH	**Hinai** comp=E,11nm,0.7s,comp=E,10.0nm,0.5s	**1.29**	**278**	A		A	12 17 54.4	
JRG	**Rokugo** comp=E,8.0nm,0.8s,comp=E,7.0nm,1.8s	**1.43**	**245**	A		A	12 17 56.6	
JAHD	**Aomorihigashid** comp=E,8.0nm,1.4s,comp=E,10.0nm,1.9s	**1.45**	**331**	A		A	12 17 56.9	
JHHS	**Hirosakihyakuz** comp=E,12nm,0.9s,comp=E,10.0nm,1.3s	**1.62**	**294**	A		A	12 17 59.3	
JNTW	**Noshirotokiwa** comp=E,12nm,5.0s,comp=E,13nm,3.4s	**1.66**	**279**	A		A	12 18 00.0	
JOT	**Ohata** comp=E,3.0nm,1.5s,comp=E,4.0nm,2.6s	**1.66**	**325**	A		A	12 18 00.2	
JYW	**Yuwa** comp=E,12nm,0.5s,comp=E,11nm,0.8s	**1.69**	**254**	A		A	12 18 00.4	
JSI2	**Shiura 2** comp=E,3.0nm,2.9s,comp=E,4.0nm,7.7s	**1.78**	**306**	A		A	12 18 01.8	
JOFO	**Osakifurukawao** comp=E,21nm,3.5s,comp=E,20nm,2.3s	**1.78**	**218**	A		A	12 18 02.0	
JIW	**Iwasaki** comp=E,4.0nm,0.6s,comp=E,5.0nm,1.0s	**1.85**	**289**	A		A	12 18 02.8	
JYK	**Kaneyama** comp=E,3.0nm,2.4s,comp=E,5.0nm,9.9s	**1.87**	**234**	A		A	12 18 03.1	
JOU	**Okura** comp=E,6.0nm,2.1s,comp=E,5.0nm,2.4s	**2.09**	**218**	A		A	12 18 06.4	
JYA	**Atsumi** comp=E,7.0nm,0.6s,comp=E,6.0nm,1.3s	**2.46**	**235**	A		A	12 18 11.8	
JYS	**Shirataka** comp=E,5.0nm,8.2s,comp=E,6.0nm,2.7s	**2.50**	**225**	A		A	12 18 12.4	
JIAM	**Iburiatsuma** comp=E,4.0nm,1.3s,comp=E,4.0nm,4.3s	**2.62**	**354**	A		A	12 18 14.1	
JYAR	**Yonezawaarcadi** comp=E,5.0nm,4.9s,comp=E,3.0nm,5.6s	**2.70**	**219**	A		A	12 18 15.2	
ASAJ	**Asahikawa** 9.4nm,0.3s,baz=220,slow=9.5,SNR=61	**4.10**		Pn	**Pn**	**12 18 35.5**	**+1.2**
ASAJ	4.1nm,0.3s,baz=27,slow=31,SNR=1.5			Sn	**Sn**	**12 19 23.1**	**+0.7**
ASAJ	comp=Z,65nm,19.9s,baz=178,slow=37 27nm,0.4s			LR	LR	12 20 01.5	
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=39,slow=12,SNR=5.7	**4.74**	**224**	Pn	**Pn**	**12 18 44.4**	**+1.2**
MJAR	comp=Z,129nm,19.3s,baz=59,slow=39 2.5nm,0.6s			LR	LR	12 20 36.3	
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=93,slow=14,SNR=1.4	**8.73**	**302**	Pn	**Pn**	**12 19 36.5**	**-1.4**
USRK	comp=Z,53nm,18.6s,baz=30,slow=37 1.0nm,0.7s			LR	LR	12 22 51.8	
JNU	**Nakatsue** comp=Z,120nm,19.3s,baz=36,slow=38	**11.47**	**237**	LR	LR	12 24 43.1	
KSRS	**Korea Array** 0.2nm,0.3s,baz=70,slow=13,SNR=1.4	**11.52**	**262**	Pn	**Pn**	**12 20 17.1**	**+0.9**
KSRS	comp=Z,82nm,18.8s,baz=25,slow=37 0.7nm,0.8s			LR	LR	12 24 31.6	
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=224,slow=4.0,SNR=1.9 0.7nm,0.7s	**16.79**	**34**	Pn	**Pn**	**12 21 25.2**	**-1.5**
MA2	**Magadan** 2.1nm,0.5s,baz=201,slow=14,SNR=3.8 2.1nm,0.5s	**20.29**	**12**	P	**P**	**12 22 05.7**	**-1.7**
SONM	**Songino Array** 0.4nm,0.5s,baz=110,slow=9.4,SNR=3.0 0.4nm,0.5s	**26.83**	**299**	P	**P**	**12 23 11.5**	**-0.7**
H11N2	**WAKE ISLAND Hy** baz=320,slow=76,SNR=3945	**29.22**	**127**	T	T	12 54 14.6	
H11N1	**WAKE ISLAND Hy** baz=320,slow=76,SNR=4395	**29.23**	**127**	T	T	12 54 15.3	
H11N3	**WAKE ISLAND Hy** baz=320,slow=76,SNR=2923	**29.24**	**127**	T	T	12 54 15.9	
H11S1	**WAKE ISLAND Hy** baz=321,slow=76,SNR=1709	**30.03**	**128**	T	T	12 55 15.1	
H11S3	**WAKE ISLAND Hy** baz=321,slow=76,SNR=937	**30.03**	**128**	T	T	12 55 15.2	
H11S2	**WAKE ISLAND Hy** baz=321,slow=76,SNR=1161	**30.05**	**128**	T	T	12 55 16.3	
ZALV	**Zalesovo Beam** 2.4nm,0.5s,baz=95,slow=9.6,SNR=6.6 2.4nm,0.5s	**40.48**	**310**	P	**P**	**12 25 09.8**	**-0.5**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=46,slow=5.2,SNR=5.8 0.7nm,0.3s	**42.99**	**253**	P	**P**	**12 25 33.2**	**+1.9**
MKAR	**Manchi Array** 0.7nm,0.6s,baz=86,slow=10.0,SNR=7.5 0.7nm,0.6s	**43.19**	**300**	P	**P**	**12 25 32.0**	**-0.7**
ILAR	**Eielson Array** 0.8nm,0.6s,baz=264,slow=6.1,SNR=21 0.8nm,0.6s	**46.61**	**34**	P	**P**	**12 26 00.6**	**+0.9**
INK	**Inuvik** 1.5nm,0.5s,baz=297,slow=6.8,SNR=14 1.5nm,0.5s	**51.42**	**28**	P	**P**	**12 26 37.7**	**+1.4**
WRA	**Warramunga Arr** 2.2nm,0.8s,baz=6.5,slow=7.1,SNR=16 2.2nm,0.8s	**60.11**	**189**	P	**P**	**12 27 39.1**	**-0.2**
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=297,slow=6.4,SNR=7.6 0.4nm,0.6s	**60.89**	**31**	P	**P**	**12 27 43.0**	**-1.1**
ASAR	**Alice Springs** 1.2nm,0.8s,baz=359,slow=6.4,SNR=11 1.2nm,0.8s	**63.84**	**189**	P	**P**	**12 28 04.8**	**+0.6**
FINES	**FINESS Array B** 1.5nm,0.6s,baz=46,slow=8.2,SNR=5.9 1.5nm,0.6s	**66.51**	**332**	P	**P**	**12 28 19.9**	**-1.2**
NOA	**NORSAR Array B** 1.2nm,0.7s,baz=40,slow=6.1,SNR=3.8	**71.71**	**337**	P	**P**	**12 28 52.5**	**-1.0**
NOA	comp=Z,28nm,18.8s,baz=0.0,slow=40 1.2nm,0.7s			LR	LR	13 05 24.2	
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=248,slow=4.8,SNR=2.2 0.2nm,0.6s	**75.09**	**46**	P	**P**	**12 29 15.2**	**+1.2**
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=318,slow=3.6,SNR=2.9 0.2nm,0.8s	**87.76**	**53**	P	**P**	**12 30 22.4**	**+1.2**

IDC 19 12:32:08.8±3.0, 12.79S×167.93E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=132.2km s-min=35.3km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=84,slow=9.3,SNR=2.2 0.3nm,0.6s	**32.96**	**253**	P	P	P	12 38 45.5	-0.1
ASAR	**Alice Springs** 0.3nm,0.6s,baz=73,slow=9.6,SNR=5.3	**34.00**	**247**	P	P	P	12 38 55.9	+1.2
ASAR	0.2nm,0.7s,baz=72,slow=3.0,SNR=0.9 0.3nm,0.6s			PcP	PcP	PcP	12 41 30.8	-2.1
ILAR	**Eielson Array** 0.2nm,0.6s,baz=226,slow=5.1,SNR=4.1 0.2nm,0.6s	**84.49**	**18**	P	P	P	12 44 44.4	+1.2
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=88,slow=6.0,SNR=6.0 0.5nm,0.6s	**96.25**	**316**	P	P	P	12 45 38.0	-1.2

HEL 19 12:38:46.2±0.2, 67.82N×20.16E, h0km, ML1.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.73**	**71**	P		Pg	12 38 59.2	-0.9
LANU				S		Sg	12 39 08.7	-0.8
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*P		Pb	12 39 10.1	+0.2
KIF	**Kilpisjarvi**	**1.21**	**11**	PN		Pn	12 39 10.5	+0.2
KIF	comp=Z,4.8nm,0.2s			MSG			12 39 24.1	
KIF				SB		Sg	12 39 24.8	-0.3
PAJU	**Pajala** baz=302	**1.39**	**124**	PG		Pg	12 39 10.7	-2.2
PAJU				SG		Sg	12 39 29.1	-1.7
HEF	**Hetta**	**1.44**	**64**	*e*P		Pn	12 39 12.3	-1.1
HEF	**Hetta**	**1.44**	**64**	PG		Pn	12 39 12.1	-1.4
HEF	comp=Z,2.0nm,0.2s			MSG			12 39 29.5	
HEF				SG		Sg	12 39 30.3	-2.0
ERTU	**Ertsjaerv**	**1.50**	**147**	PG		Pn	12 39 13.3	-1.0
ERTU				SN		Sg	12 39 34.0	-0.2
KTK1	**Kautokeino**	**1.65**	**42**	PN		Pn	12 39 16.3	-0.1
KTK1				SN		Sg	12 39 39.3	+0.2
TRO	**Tromso**	**1.87**	**347**	SG		Sb	12 39 45.3	+0.1
KALU	**Kalix** baz=333	**2.34**	**146**	PB		Pn	12 39 27.1	+1.3
KALU				SG		Sb	12 39 57.8	-0.8
TOF	**Tornio**	**2.40**	**135**	PG		Pn	12 39 27.9	+1.3
TOF	comp=Z,1.4nm,0.2s			MSG			12 39 57.2	
TOF				SG		Sb	12 39 59.3	-0.9
SGF	**Sodankyl**	**2.46**	**96**	SG		Sb	12 40 02.3	+0.2
RNF	**Rovaniemi**	**2.58**	**115**	PB		Pn	12 39 30.6	+1.4
RNF				SB		Sn	12 40 03.4	+2.1
ARA0	**ARCESS Array S** baz=226	**2.60**	**46**	PB		Pn	12 39 29.7	+0.2
ARA0				SG		Sb	12 40 05.1	-1.0
KEV	**Kevo**	**3.16**	**49**	SB		Sn	12 40 17.1	+1.8

*DNK **19** 12:39:47.8±0.5, 67.82N×20.22E, h0km, ML2.8(UPP), Suspected explosion*
*HEL **19** 12:39:47.3±0.3, 67.77N×20.31E, h0km, ML1.8, Explosion*
*UPP **19** 12:39:47.4±0.1, 67.82N×20.21E, h0km, ML2.8, Confirmed Induced event*

ISC 19 12:39:46.4±0.8, 67.84N±0.03×20.32E±0.03, h0km, n33, σ0§83/42, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.28**	**268**	P		**Pg**	**12 39 52.0**	**+0.4**
RATU				S		**Sg**	**12 39 55.4**	**+0.1**
RATU	**Laukkuluspa**	**0.28**	**268**	P		**Pg**	**12 39 52.0**	**+0.4**
RATU				S		**Sg**	**12 39 55.4**	**+0.1**
NIKU	**Nikkaluokta**	**0.49**	**274**	P		**Pg**	**12 39 56.0**	**+0.3**
NIKU	**Nikkaluokta**	**0.49**	**274**	P		**Pg**	**12 39 56.0**	**+0.3**
LANU	**Lannavaara**	**0.67**	**70**	P		**Pb**	**12 40 00.8**	**-0.1**
LANU	**Lannavaara**	**0.67**	**70**	P		**Pb**	**12 40 00.8**	**-0.1**
LANU	**Lannavaara**	**0.67**	**70**	PB		**Pb**	**12 40 00.7**	**-0.1**
LANU				SG		**Sb**	**12 40 10.0**	**-0.7**
DUNU	**Dundret**	**0.72**	**172**	P		**Pg**	**12 40 00.7**	**+0.5**
DUNU	**Dundret**	**0.72**	**172**	P		**Pg**	**12 40 00.7**	**+0.5**
MASU	**Masugnsbyn**	**0.75**	**120**	P		**Pb**	**12 40 02.2**	**-0.1**
MASU	**Masugnsbyn**	**0.75**	**120**	P		**Pb**	**12 40 02.2**	**-0.1**
SALU	**Saltoluokta**	**0.83**	**237**	P		**Pg**	**12 40 02.4**	**+0.1**
SALU	**Saltoluokta**	**0.83**	**237**	P		**Pg**	**12 40 02.4**	**+0.1**
KIF	**Kilpisjarvi**	**1.19**	**8**	*e*P		**Pn**	**12 40 10.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.19**	**8**	PG		**Pn**	**12 40 10.7**	**+0.4**
KIF	comp=Z,11nm,0.2s			MSG			12 40 26.4	
KIF				SG		**Sn**	**12 40 27.1**	**+0.1**
PAJU	**Pajala**	**1.35**	**126**	P		**Pg**	**12 40 12.4**	**+0.2**
PAJU	**Pajala**	**1.35**	**126**	P		**Pg**	**12 40 12.4**	**+0.2**
PAJU	**Pajala** baz=311	**1.35**	**126**	PN		**Pg**	**12 40 12.4**	**+0.2**
PAJU				SN		**Sn**	**12 40 31.2**	**0.0**
HEF	**Hetta**	**1.38**	**64**	*e*P		**Pb**	**12 40 13.7**	**+0.7**
HEF	**Hetta** baz=244	**1.38**	**64**	PN		**Pb**	**12 40 13.7**	**+0.7**
HEF	comp=Z,7.3nm,0.2s			MSG			12 40 29.8	
HEF				SN		**Sn**	**12 40 32.5**	**+0.7**
ERTU	**Ertsjaerv**	**1.48**	**150**	PN		**Pg**	**12 40 14.7**	**0.0**
ERTU				SN		**Sn**	**12 40 35.1**	**+0.9**
KTK1	**Kautokeino**	**1.60**	**41**	PG		**Pg**	**12 40 17.3**	**+0.2**
KTK1				SN		**Sg**	**12 40 40.1**	**+2.4**
HARU	**Harads**	**1.70**	**171**	P		**Pb**	**12 40 18.2**	**-0.2**
HARU	**Harads**	**1.70**	**171**	P		**Pb**	**12 40 18.2**	**-0.2**
TRO	**Tromso**	**1.88**	**345**	SG		**Sg**	**12 40 46.9**	**+0.3**
KALU	**Kalix** baz=327	**2.32**	**147**	PG		**Pb**	**12 40 28.0**	**-1.0**
TOF	**Tornio** baz=315	**2.37**	**136**	PG		**Pb**	**12 40 29.0**	**-0.8**
TOF	comp=Z,2.8nm,0.2s			MSG			12 40 56.0	
SGF	**Sodankyl**	**2.41**	**97**	PG		**Pb**	**12 40 30.6**	**+0.1**
RNF	**Rovaniemi** baz=304	**2.54**	**116**	PG		**Pb**	**12 40 32.1**	**-0.6**
ARA0	**ARCESS Array S** baz=230	**2.55**	**46**	PB		**Pb**	**12 40 31.7**	**-1.3**
ARA0				SG		**Sg**	**12 41 06.6**	**-1.7**
KEV	**Kevo**	**3.10**	**48**	SN		**Sb**	**12 41 17.6**	**-3.1**
VRF	**Varrio**	**3.53**	**87**	SG		**Sb**	**12 41 34.2**	**+1.2**
OLKF	**Oulanka, Finla**	**3.87**	**109**	PN		**Pn**	**12 40 47.0**	**0.0**

*REN **19** 12:43:20.5±1.1, 39.04N±0.02×118.81W±0.02, h6km±7km, ML2.5/11, ML2.3/36(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=190.0*

NEIC 19 12:43:20.5±1.2, 39.06N±0.02×118.81W±0.01, h3km±7km, Error ellipse: s-maj=2.2km s-min=1.3km az=190.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YERR	**Yerington**	**0.34**	**258**			Pg	12 43 27.4	+0.2
YERR						Sg	12 43 32.3	+0.7
YERR	**Yerington** comp=E,742nm,0.3s	**0.34**	**258**	IAML			12 43 33.7	
YERR	comp=N,682nm,0.3s			IAML			12 43 34.1	
RYN	**Ryan**	**0.48**	**152**			Pg	12 43 29.8	0.0
RYN						Sg	12 43 36.7	+0.6
RYN	**Ryan** comp=E,412nm,0.3s	**0.48**	**152**	IAML			12 43 37.2	
RYN	comp=N,577nm,0.3s			IAML			12 43 37.4	
KVN	**Kaiserville**	**0.55**	**90**			Pg	12 43 31.2	+0.1
KVN						Sg	12 43 39.2	+0.8
KVN	**Kaiserville** comp=N,215nm,0.4s	**0.55**	**90**	IAML			12 43 39.4	
KVN	comp=E,115nm,0.2s			IAML			12 43 42.2	
PNTR	**Pine Nut**	**0.62**	**273**			Pg	12 43 32.4	+0.1
PNTR						Sg	12 43 41.2	+0.9
PNTR	**Pine Nut** comp=N,242nm,0.8s	**

NV11			IAML		12 43 48.1		
	comp=E,111nm,0.3s						
LHV	**Little Huntoon**	**0.84 163**		Pg	12 43 36.3	-0.3	
LHV				Sg	12 43 48.3	+0.8	
LHV	**Little Huntoon**	**0.84 163**	IAML		12 43 49.2		
	comp=E,121nm,0.5s						
LHV			IAML		12 43 49.6		
	comp=N,148nm,0.4s						
LUL	**Lundy Lake**	**1.04 196**		Pg	12 43 40.1	-0.5	
WVA	**Winnemucca Val**	**1.18 319**		Pg	12 43 42.8	-0.4	
WVA				Sb	12 43 59.2	-0.3	
Q09A	**Carvers**	**1.29 99**		Pg	12 43 44.2	-1.0	
BENR	**Benton**	**1.35 172**		Pg	12 43 45.5	-1.0	
MCBM	**Casa Benchmark**	**1.41 183**		Pn	12 43 46.9	-0.5	
OMMB	**Old Mammoth Mi**	**1.45 186**		Pn	12 43 46.8	-1.1	
TPH	**Tonopah**	**1.58 128**		Pn	12 43 49.3	-0.4	
CMB	**Columbia Colle**	**1.60 231**		Pn	12 43 49.7	-0.1	
CMB			IAML		12 44 12.9		
	comp=E,48nm,0.7s						
CMB			IAML		12 44 13.7		
	comp=N,39nm,0.4s						
AFDM	**Forest Hills D**	**1.69 267**		Pn	12 43 50.3	-0.6	
AFDM			IAML		12 44 15.9		
	comp=E,46nm,0.2s						
AFDM			IAML		12 44 16.5		
	comp=N,34nm,0.7s						
PLTX	**Planet X, Gerl**	**1.72 343**		Pb	12 43 52.5	-0.4	
DSP	**Deep Springs**	**1.81 158**		Pn	12 43 52.4	-0.1	
BMN	**Battle Mountai**	**1.84 41**	Pn	Pn	12 43 51.6	-1.6	
LCH	**Last Change Ra**	**2.04 153**		Pn	12 43 53.6	-2.3	
LCH			IAML		12 44 27.4		
	comp=E,15nm,0.2s						
LCH			IAML		12 44 29.1		
	comp=N,14nm,0.4s						
GRAC	**Grapevine Rang**	**2.35 151**	Pn	Pb	12 44 02.9	-0.7	
R11A	**Troy Canyon, C**	**2.62 105**	Pn	Pn	12 44 05.5	+1.6	
R11A			IAML		12 44 41.3		
	comp=E,8.8nm,4.3s						
R11A			IAML		12 44 45.1		
	comp=N,8.2nm,0.9s						
WCT	**Wildcat Mounta**	**2.84 142**	Pn	Pn	12 44 06.4	-0.5	
ELK	**Elko**	**3.22 57**		Pn	12 44 12.2	-0.1	
ELK			IAML		12 45 16.0		
	comp=N,6.0nm,4.3s						
PRN	**Pahroc Range**	**3.39 118**	Pn	Pn	12 44 14.9	+0.5	

ROM 19 12:49:09.9±0.1, 42°598N±0°004×13°252E±0°005, h11km, ML2.5/25, 4C-3D, Error ellipse: s-maj=0.4km s-min=0.1km az=223.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.12**	**306**	P	Pg	12 49 13.4	+0.3
T1218				S	Sg	12 49 15.8	+0.4
T1218				AML	AML		
	comp=E,7620μm,0.2s						
T1218				AML	AML		
	comp=N,16950μm,0.2s						
T1218				AML	AML		
	comp=E,6860μm,0.3s						
T1218				AML	AML		
	comp=E,7615μm,0.2s						
T1218				AML	AML		
	comp=N,16950μm,0.2s						
T1218				AML	AML		
	comp=E,6865μm,0.4s						
T1218				AML	AML		
	comp=N,17400μm,0.2s						
T1218				AML	AML		
	comp=E,6865μm,0.3s						
T1218				AML	AML		
	comp=N,17400μm,0.2s						
T1218				AML	AML		
	comp=N,17400μm,1.8s						
T1218				AML	AML		
	comp=E,7615μm,1.8s						
T1218				AML	AML		
	comp=N,16950μm,1.8s						
T1218				AML	AML		
	comp=E,7618μm,0.2s						
T1218				AML	AML		
	comp=N,17413μm,0.2s						
T1218				AML	AML		
	comp=E,6469μm,0.2s						
T1218				AML	AML		
	comp=N,16981μm,0.2s						
CAMP	**Campotosto**	**0.13**	**118**	P	Pg	12 49 13.6	+0.4
CAMP				S	Sg	12 49 16.1	+0.5
CAMP				AML	AML		
	comp=E,1965μm,0.5s						
CAMP				AML	AML		
	comp=N,2335μm,0.5s						
CAMP				AML	AML		
	comp=N,2330μm,0.5s						
CAMP				AML	AML		
	comp=E,1729μm,0.3s						
CAMP				AML	AML		
	comp=N,2333μm,0.5s						
LNSS	**Leonessa**	**0.16**	**272**	P	Pg	12 49 14.2	+0.6
LNSS				S	Sg	12 49 17.2	+1.1
LNSS				AML	AML		
	comp=N,3925μm,1.5s						
LNSS				AML	AML		
	comp=N,3925μm,0.5s						
LNSS				AML	AML		
	comp=E,3755μm,1.0s						
LNSS				AML	AML		
	comp=N,3386μm,0.1s						
LNSS				AML	AML		
	comp=E,3290μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.16**	**168**	P	Pb	12 49 14.4	-0.6
T1247				AML	AML		
	comp=N,3085μm,0.2s						
T1247				AML	AML		
	comp=E,3085μm,1.0s						
T1247				AML	AML		
	comp=E,2415μm,0.1s						
T1247				AML	AML		
	comp=N,2219μm,0.1s						
T1217	**Poggiodomo (PG**	**0.26**	**296**	P	Pg	12 49 15.8	+0.4
T1217				S	Sb	12 49 20.2	-1.1
T1217				AML	AML		
	comp=E,1290μm,0.8s						
T1217				AML	AML		
	comp=E,1120μm,1.0s						
T1217				AML	AML		
	comp=N,1315μm,1.3s						
T1217				AML	AML		
	comp=N,1370μm,1.3s						
T1217				AML	AML		
	comp=E,1120μm,1.0s						
T1217				AML	AML		
	comp=E,1290μm,0.8s						
T1217				AML	AML		
	comp=E,1290μm,1.2s						
T1217				AML	AML		
	comp=N,1315μm,0.7s						
T1217				AML	AML		
	comp=N,1370μm,0.7s						
T1217				AML	AML		
	comp=N,1127μm,0.1s						
T1217				AML	AML		
	comp=E,1060μm,0.1s						
T1217				AML	AML		
	comp=E,851μm,0.1s						
T1217				AML	AML		
	comp=N,1105μm,0.1s						
AQU	**L'Aquila**	**0.27**	**155**	P	Pg	12 49 16.1	+0.6
AQU				AML	AML		
	comp=E,645μm,1.2s						
AQU				AML	AML		
	comp=N,753μm,1.0s						
AQU				AML	AML		
	comp=E,646μm,1.2s						
AQU				AML	AML		
	comp=E,592μm,1.2s						
AQU				AML	AML		
	comp=E,646μm,0.8s						
AQU				AML	AML		
	comp=E,592μm,0.8s						
AQU				AML	AML		
	comp=N,746μm,1.0s						
AQU				AML	AML		
	comp=N,562μm,0.2s						
AQU				AML	AML		
	comp=N,555μm,0.2s						
AQU				AML	AML		
	comp=E,630μm,0.3s						
AQU				AML	AML		
	comp=E,584μm,0.3s						
GIGS	**Gran Sasso**	**0.28**	**122**	P	Pg	12 49 15.8	+0.2
GIGS				S	Sg	12 49 20.3	+0.8
GIGS				AML	AML		
	comp=E,443μm,0.2s						
GIGS				AML	AML		
	comp=N,318μm,0.5s						
GIGS				AML	AML		
	comp=E,442μm,0.2s						
GIGS				AML	AML		
	comp=N,265μm,0.1s						
GIGS				AML	AML		
	comp=E,443μm,0.2s						
MC2	**Monte Cornacci**	**0.32**	**352**	P	Pg	12 49 16.6	+0.2
FIAM	**Fiamignano**	**0.34**	**197**	P	Pg	12 49 17.3	+0.5
FIAM				S	Sb	12 49 22.6	-1.1
FIAM				AML	AML		
	comp=N,323μm,0.6s						
FIAM				AML	AML		
	comp=E,436μm,0.8s						
FIAM				AML	AML		
	comp=N,323μm,1.4s						
FIAM				AML	AML		
	comp=E,415μm,0.5s						
FIAM				AML	AML		
	comp=N,308μm,0.4s						
T1215	**Vallo di Nera,**	**0.35**	**306**	P	Pg	12 49 17.1	+0.2
T1215				S	Sg	12 49 22.6	+1.0
T1215				AML	AML		
	comp=E,992μm,0.3s						
T1215				AML	AML		
	comp=N,906μm,1.6s						
T1215				AML	AML		
	comp=E,956μm,0.3s						
T1215				AML	AML		
	comp=N,992μm,0.6s						
T1215				AML	AML		
	comp=E,995μm,0.3s						
T1215				AML	AML		
	comp=N,906μm,1.6s						
T1215				AML	AML		
	comp=E,958μm,0.3s						
T1215				AML	AML		
	comp=N,994μm,0.6s						
T1215				AML	AML		
	comp=N,906μm,1.6s						
T1215				AML	AML		
	comp=E,958μm,0.3s						
T1215				AML	AML		
	comp=N,996μm,0.6s						
T1215				AML	AML		
	comp=E,994μm,0.3s						
T1215				AML	AML		
	comp=N,996μm,1.4s						
T1215				AML	AML		
	comp=E,829μm,0.1s						
T1215				AML	AML		
	comp=N,827μm,0.2s						
T1215				AML	AML		
	comp=E,790μm,0.1s						
T1215				AML	AML		
	comp=N,870μm,0.2s						
ARRO	**Arrone**	**0.36**	**267**	P	Pg	12 49 17.5	+0.4
ARRO				AML	AML		
	comp=E,513μm,0.6s						
ARRO				AML	AML		
	comp=E,513μm,1.4s						
ARRO				AML	AML		
	comp=N,508μm,0.7s						
ARRO				AML	AML		
	comp=N,491μm,0.1s						
ARRO				AML	AML		
	comp=E,489μm,0.2s						
FAGN	**Fagnano**	**0.41**	**143**	P	Pg	12 49 18.3	+0.2
FAGN				AML	AML		
	comp=N,869μm,1.0s						
FAGN				AML	AML		
	comp=E,893μm,0.4s						
FAGN				AML	AML		
	comp=N,869μm,1.0s						
FAGN				AML	AML		
	comp=E,893μm,0.4s						
FAGN				AML	AML		
	comp=N,835μm,0.3s						
FDMO	**Fiordimonte**	**0.46**	**345**	P	Pg	12 49 18.9	0.0
FDMO				AML	AML		
	comp=N,589μm,0.2s						
FDMO				AML	AML		
	comp=E,521μm,0.9s						
FDMO				AML	AML		
	comp=E,458μm,0.2s						
FDMO				AML	AML		
	comp=N,589μm,0.2s						
OFFI	**Offida**	**0.47**	**43**	P	Pb	12 49 19.9	-0.2
OFFI				S	Sb	12 49 28.3	+1.3
OFFI				AML	AML		
	comp=E,1540μm,1.5s						
OFFI				AML	AML		
	comp=N,2625μm,0.6s						
OFFI				AML	AML		
	comp=E,1540μm,0.5s						
OFFI				AML	AML		
	comp=E,1492μm,0.5s						
OFFI				AML	AML		
	comp=N,2599μm,0.5s						
GUMA	**Gualdo di Mace**	**0.47**	**8**	P	Pg	12 49 19.6	+0.4
GUMA				AML	AML		
	comp=E,1590μm,0.4s						
GUMA				AML	AML		
	comp=N,1470μm,1.2s						
GUMA				AML	AML		
	comp=N,1470μm,1.3s						
GUMA				AML	AML		
	comp=E,1750μm,0.4s						
GUMA				AML	AML		
	comp=N,1590μm,0.7s						
GUMA				AML	AML		
	comp=E,1585μm,0.4s						
GUMA				AML	AML		
	comp=N,1470μm,0.7s						
GUMA				AML	AML		
	comp=E,1586μm,0.4s						
GUMA				AML	AML		
	comp=N,1199μm,0.3s						
GUMA				AML	AML		
	comp=E,1750μm,0.4s						
GUMA				AML	AML		
	comp=N,1301μm,0.4s						
CESI	**CESI - Serrava**	**0.48**	**328**	P	Pg	12 49 19.4	0.0
CESI				AML	AML		
	comp=E,484μm,1.1s						
CESI				AML	AML		
	comp=N,732μm,0.3s						
CESI				AML	AML		
	comp=E,484μm,0.9s						
CESI				AML	AML		
	comp=E,381μm,0.2s						
CESI				AML	AML		
	comp=N,733μm,0.3s						
CSP1	**Cessapalombo**	**0.49**	**356**	P	Pg	12 49 19.7	0.0
CSP1				S	Sb	12 49 27.4	-0.6
CSP1				AML	AML		
	comp=E,543μm,0.5s						
CSP1				AML	AML		
	comp=N,580μm,0.5s						
CSP1				AML	AML		
	comp=E,501μm,0.3s						
CSP1				AML	AML		
	comp=N,554μm,0.3s						
CESX	**Cesi**	**0.50**	**272**	P	Pg	12 49 19.7	0.0
CESX				AML	AML		
	comp=E,432μm,0.2s						
CESX				AML	AML		
	comp=N,628μm,0.5s						
CESX				AML	AML		
	comp=N,628μm,1.5s						
CESX				AML	AML		
	comp=N,628μm,0.2s						
CESX				AML	AML		
	comp=E,431μm,0.2s						
T1220	**Camerino, Fraz**	**0.53**	**347**	P	Pg	12 49 20.1	-0.1
T1220				AML	AML		
	comp=N,1370μm,0.3s						
T1220				AML	AML		
	comp=E,1845μm,0.3s						
T1220				AML	AML		
	comp=N,1355μm,0.3s						
T1220				AML	AML		
	comp=E,1840μm,0.3s						
T1220				AML	AML		
	comp=N,1370μm,0.3s						
T1220				AML	AML		
	comp=E,1845μm,0.3s						
T1220				AML	AML		
	comp=N,1360μm,0.3s						
T1220				AML	AML		
	comp=N,1358μm,0.3s						
T1220				AML	AML		
	comp=N,1372μm,0.3s						
TRTR	**Tortoreto Alta**	**0.53**	**66**	⇓P	Pb	12 49 21.6	+0.4
MOMA	**Monte Martano**	**0.54**	**293**	P	Pg	12 49 20.6	+0.1
MOMA				AML	AML		
	comp=N,1150μm,0.2s						
MOMA				AML	AML		
	comp=E,1023μm,0.2s						
MOMA				AML	AML		
	comp=N,1151μm,0.2s						
MOMA				AML	AML		
	comp=E,1014μm,0.2s						
MOMA				AML	AML		
	comp=N,1210μm,0.2s						
MOMA				AML	AML		
	comp=E,1014μm,0.2s						
MOMA				AML	AML		
	comp=E,1022μm,0.2s						
MOMA				AML	AML		
	comp=N,1152μm,0.2s						
MOMA				AML	AML		
	comp=N,1209μm,0.2s						
ASSB	**Assisi San Ben**	**0.62**	**316**	P	Pg	12 49 21.9	-0.2
ASSB				AML	AML		
	comp=E,418μm,1.3s						
ASSB				AML	AML		
	comp=N,490μm,1.3s						
ASSB				AML	AML		
	comp=E,418μm,0.7s						
ASSB				AML	AML		
	comp=N,490μm,0.7s						
ASSB				AML	AML		
	comp=N,426μm,0.1s						
ASSB				AML	AML		
	comp=E,364μm,0.2s						
SRES	**S.Oreste - Sor**	**0.66**	**237**	S	Sg	12 49 22.9	-8.4
CERT	**Cerreto**	**0.68**	**197**	S	Sg	12 49 24.2	-7.8
CERT				AML	AML		
	comp=E,279μm,0.3s						
CERT				AML	AML		
	comp=N,168μm,1.1s						
CERT				AML	AML		
	comp=N,168μm,0.9s						
SNTG	**Esanatoglia**	**0.70**	**341**	⇓P	Pg	12 49 23.4	0.0
SNTG				S	Sb	12 49 34.6	+0.9
SNTG				AML	AML		
	comp=N,306μm,0.5s						
SNTG				AML	AML		
	comp=N,306μm,1.5s						
SNTG				AML	AML		
	comp=E,216μm,1.1s						
SNTG				AML	AML		
	comp=E,242μm,0.5s						
SNTG				AML	AML		
	comp=N,293μm,0.4s						
SNTG				AML	AML		
	comp=E,187μm,0.2s						
SNTG				AML	AML		
	comp=N,339μm,0.5s						
EL6	**Elcito**	**0.74**	**351**	⇑P	Pg	12 49 24.3	+0.1
EL6				S	Sn	12 49 36.4	-1.3
EL6				AML	AML		
	comp=N,448μm,0.4s						
EL6				AML	AML		
	comp=E,418μm,1.3s						
EL6				AML	AML		
	comp=E,418μm,0.7s						
EL6				AML	AML		
	comp=N,449μm,0.4s						
EL6				AML	AML		
	comp=E,263μm,0.1s						
EL6				AML	AML		
	comp=N,366μm,0.2s						
CING	**Cingoli**	**0.78**	**357**	⇑P	Pg	12 49 24.9	-0.1
CING				AML	AML		
	comp=N,265μm,0.9s						
CING				AML	AML		
	comp=E,464μm,0.4s						
CING				AML	AML		
	comp=N,195μm,0.3s						
LPEL	**Lama dei Pelig**	**0.88**	**128**	S	Sb	12 49 39.2	+0.2
LPEL				AML	AML		
	comp=N,144μm,0.2s						
MGAB	**Montegabbione**	**0.90**	**291**	⇑P	Pb	12 49 27.6	+0.1
MGAB				AML	AML		
	comp=E,410μm,0.4s						
MGAB				AML	AML		
	comp=N,272μm,0.4s						
MGAB				AML	AML		
	comp=E,383μm,0.4s						
MGAB				AML	AML		
	comp=N,238μm,1.2s						
MGAB				AML	AML		
	comp=N,272μm,0.4s						
MGAB				AML	AML		
	comp=E,410μm,1.6s						
MGAB				AML	AML		
	comp=E,383μm,1.6s						
MGAB				AML	AML		
	comp=N,272μm,1.6s						
MGAB				AML	AML		
	comp=N,238μm,0.8s						
MGAB				AML	AML		
	comp=E,383μm,0.4s						
MGAB				AML	AML		
	comp=E,410μm,0.4s						
MGAB				AML	AML		
	comp=N,236μm,0.4s						
MGAB				AML	AML		
	comp=N,272μm,0.4s						
VIVA	**Pratoni del Vi**	**0.92**	**203**	⇓P	Pg	12 49 15.7	-12
VIVA				AML	AML		
	comp=E,1036μm,0.5s						
VIVA				AML	AML		
	comp=N,812μm,0.1s						
ARVD	**Arcevia**	**0.93**	**346**	S	Sn	12 49 42.2	0.0
ARVD				AML	AML		
	comp=E,179μm,1.5s						
ARVD				AML	AML		
	comp=N,152μm,0.4s						
ARVD				AML	AML		
	comp=N,152μm,1.6s						
ARVD				AML	AML		
	comp=E,179μm,0.5s						
TOLF	**Tolfa**	**1.07**	**241**	S	Sb	12 49 30.3	-14
PTRJ	**Pietraroja**	**1.56**	**142**	P	Pn	12 49 36.1	-1.6
PTRJ				S	Sn	12 49 58.0	+0.1
PIGN	**Pignataro Magg**	**1.56**	**153**	S	Sn	12 49 57.9	+0.1
GATE	**Gambatesa**	**1.64**	**131**	S	Sn	12 49 59.0	-0.9
NDIM	**Novi di Modena**	**2.85**	**324**	⇑P	Pn	12 49 54.1	-1.2
NDIM				S	Sn	12 50 24.5	-5.1
NDIM				AML	AML		
	comp=E,5275μm,1.4s						
NDIM				AML	AML		
	comp=E,5275μm,0.6s						
NDIM				AML	AML		
	comp=N,12100μm,0.2s						
NDIM				AML	AML		
	comp=N,12100μm,0.2s						
NDIM				AML	AML		
	comp=E,5770μm,0.4s						
MNTV	**Mantova**	**3.11**	**326**	P	Pn	12 49 55.9	-3.0
MNTV				S	Sn	12 50 25.1	-11
MSSA	**Maissana**	**3.22**	**304**	P	Pg	12 50 09.9	-1.6

ROM 19 12:50:00.2±0.2, 42°805N±0°004×13°084E±0°007, h7km±2km, ML1.5/3, Error ellipse: s-maj=0.5km s-min=0.5km az=69.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.14**	**170**	P	Pg	12 50 03.6	+0.5
T1218				S	Sg	12 50 06.1	+1.0

T1218				AML	AML	
	comp=E,258μm,0.1s					
T1218				AML	AML	
	comp=N,378μm,0.3s					
T1218				AML	AML	
	comp=N,395μm,0.3s					
T1218				AML	AML	
	comp=E,240μm,0.1s					
T1217	**Poggiodomo (PG**	**0.15 230**		P	Pg	12 50 03.9 +0.6
T1217				S	Sg	12 50 06.3 +0.9
T1217				AML	AML	
	comp=E,74μm,0.1s					
T1217				AML	AML	
	comp=E,77μm,0.1s					
T1215	**Vallo di Nera,**	**0.16 269**		P	Pg	12 50 04.1 +0.6
T1215				S	Sg	12 50 06.7 +1.0
LNSS	**Leonessa**	**0.20 189**		P	Pg	12 50 04.9 +0.6
LNSS				S	Sg	12 50 08.1 +1.0
LNSS				AML	AML	
	comp=N,343μm,0.3s					
LNSS				AML	AML	
	comp=E,306μm,0.3s					
CESI	**CESI - Serrava**	**0.24 327**		P	Pg	12 50 05.6 +0.7
CESI				S	Sg	12 50 09.6 +1.4

*IDC **19** 13:38:04.9±4.5, 6°.65N×73°.21W, h169km±30km, mb2.9/2, mbtmp3.4/3, Error ellipse: s-maj=82.5km s-min=31.6km az=84.0*
*RSNC **19** 13:38:04.3±1.2, 6°.78N×73°.15W, h146km±5km, ML3.4, Mw3.8*

ISC 19 13:38:02.8±0.9, **6°.82N**±0°.03×**73°.11W**±0°.04, **h151**km±6km, **n31**, σ1s**77**/56, **3C-1D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**198**	↑*i*	P	**Pn**	**13 38 23.8**	**+0.1**
BARC				*e*	S	**Sn**	**13 38 38.5**	**-1.1**
BARC				*i*			13 38 40.7	
	comp=Z,817nm,0.3s							
PAMC	**Pamplona, Colo**	**0.66**	**38**	↑*i*	P	**Pn**	**13 38 26.6**	**+0.8**
PAMC				*e*	S	**Sn**	**13 38 43.7**	**+0.4**
BRRC	**Barranca, Sant**	**0.66**	**296**	↓*i*	P	**Pn**	**13 38 25.7**	**+0.5**
BRRC				*e*	S	**Sn**	**13 38 42.8**	**+0.4**
BRRC				*i*			13 38 45.5	
	comp=Z,403nm,0.4s							
RUSC	**La Rusia**	**0.92**	**178**	*e*	P	**Pn**	**13 38 27.8**	**+0.1**
RUSC				*e*	S	**Sn**	**13 38 46.2**	**-0.4**
RUSC				*i*			13 38 47.4	
	comp=Z,344nm,0.3s							
TAMC	**Tame, Arauca**	**1.36**	**106**	↑*i*	P	**Pn**	**13 38 32.2**	**+1.0**
TAMC				*e*	S	**Sn**	**13 38 53.5**	**+0.7**
TAMC				*i*			13 38 54.9	
	comp=Z,191nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*e*	P	**Pn**	**13 38 30.4**	**-0.7**
PTBC				*e*	S	**Sn**	**13 38 52.6**	**-0.2**
PTBC				*i*			13 38 53.9	
	comp=Z,351nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*	P	**Pn**	**13 38 37.0**	**+0.5**
ZARC				*e*	S	**Sn**	**13 39 02.9**	**+0.7**
NORC	**Norcasia**	**2.15**	**235**	*e*	P	**Pn**	**13 38 41.1**	**+1.2**
NORC				*e*	S	**Sn**	**13 39 08.2**	**-0.1**
CHIC	**Chingaza**	**2.26**	**196**	*e*	P	**Pn**	**13 38 41.9**	**+0.3**
CHIC				*e*	S	**Sn**	**13 39 11.1**	**-0.3**
CHIC				*i*			13 39 18.1	
	comp=Z,67nm,0.3s							
ROSC	**El Rosal**	**2.31**	**212**	P		**Pn**	**13 38 43.8**	**+1.7**
	comp=Z,73nm,0.4s,baz=34,slow=16,SNR=32							
ROSC				S		**Sn**	**13 39 12.5**	**+0.2**
	comp=Z,185nm,0.4s,baz=359,slow=23,SNR=12							
ROSC	**El Rosal**	**2.31**	**212**	*e*	P	**Pn**	**13 38 43.7**	**+1.7**
ROSC				*e*	S	**Sn**	**13 39 12.0**	**-0.3**
URIC	**San Jos de Ur**	**2.58**	**291**	*e*	P	**Pn**	**13 38 44.1**	**-0.9**
UREC				*e*	S	**Sn**	**13 39 15.2**	**-2.4**
LL1C	**La Loma 1 Cana**	**2.74**	**351**	*e*	P	**Pn**	**13 38 49.0**	**+2.0**
LL1C				*e*	S	**Sn**	**13 39 23.6**	**+2.4**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*	P	**Pn**	**13 38 47.8**	**+0.2**
GUY2C				*e*	S	**Sn**	**13 39 21.9**	**-0.1**
GUY2C				IAML			13 39 31.5	
	comp=Z,136nm,0.6s							
PTGC	**Puerto Gaitan,**	**2.78**	**159**	*e*	P	**Pn**	**13 38 47.0**	**-0.4**
PTGC				*e*	S	**Sn**	**13 39 19.7**	**-2.3**
PTGC				*i*			13 39 22.6	
	comp=Z,212nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*	P	**Pn**	**13 38 52.0**	**+1.1**
CBOC				*e*	S	**Sn**	**13 39 28.9**	**+0.9**
CBOC				*i*			13 39 39.9	
	comp=Z,56nm,0.4s							
DBBC	**Dabeiba**	**3.08**	**274**	*e*	P	**Pn**	**13 38 52.1**	**+0.7**
DBBC				*e*	S	**Sn**	**13 39 27.7**	**-1.3**
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*	P	**Pn**	**13 38 54.8**	**+1.7**
ARGC				*e*	S	**Sn**	**13 39 33.5**	**+1.4**
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*	P	**Pn**	**13 38 59.1**	**+1.3**
ORTC				*e*	S	**Sn**	**13 39 40.8**	**+0.2**
APAC	**Apartado, Choc**	**3.61**	**288**	*e*	P	**Pn**	**13 38 58.5**	**+0.5**
APAC				*e*	S	**Sn**	**13 39 40.0**	**-0.9**
APAC				*i*			13 39 44.9	
	comp=Z,106nm,0.4s							
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*	P	**Pn**	**13 38 58.2**	**-0.9**
SJCC				*e*	S	**Sn**	**13 39 40.2**	**-2.6**
PLMC	**San Jos del P**	**3.69**	**239**	*e*	P	**Pn**	**13 39 00.1**	**+1.0**
PLMC				*e*	S	**Sn**	**13 39 40.3**	**-2.5**
LCBC	**Los crdobas,**	**3.81**	**302**	*e*	P	**Pn**	**13 39 00.5**	**-0.2**
LCBC				*e*	S	**Sn**	**13 39 47.7**	**+2.1**
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	*e*	P	**Pn**	**13 39 04.5**	**-1.2**
CRJC				*e*	S	**Sn**	**13 39 51.0**	**-3.5**
URIC	**Uribia, Colomb**	**4.98**	**13**	*e*	S	**Sn**	**13 40 04.7**	**-8.4**
GARC	**Garzon, Huila**	**5.18**	**207**	*e*	P	**Pn**	**13 39 18.4**	**-0.5**
GARC				*e*	S	**Sn**	**13 40 14.9**	**-3.4**
FLOC	**Florencia**	**5.79**	**206**	*e*	P	**Pn**	**13 39 27.0**	**+0.2**
TXAR	**Lajitas Array**	**36.47**	**312**	P		**P**	**13 44 54.6**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=128,slow=8.1,SNR=3.8							
	comp=Z,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	**13 48 15.4**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=134,slow=6.3,SNR=4.8							
	comp=Z,0.2nm,0.6s							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	**13 57 33.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=115,slow=3.5,SNR=6.6							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**13 57 36.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=111,slow=2.4,SNR=4.6							

*DJA **19** 13:46:57.0±0.3, 1°.N±5°×12°.3E±°, h34km±4km, M4.0/10, mb4.2/4, MLv3.9/10*
*IDC **19** 13:47:00.3±1.8, 0°.33S×123°.13E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=282.3km s-min=26.8km az=61.0*

ISC 19 13:46:52.8±2.1, **1°.2N**±0°.2×**122°.79E**±0°.07, **h35**km, **n12**, σ1s**98**/10, **mb3.5**/4, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.58**	**158**	P		**Pn**	**13 47 06.8**	**+2.2**
MRSI	**Marisa**	**1.10**	**231**	P		**Pn**	**13 47 13.7**	**+1.9**
MRSI				S		**Sn**	**13 47 25.2**	**-0.5**
LUWI	**Luwuk**	**2.20**	**181**	P		**Pn**	**13 47 29.0**	**+2.1**
MPSI	**Mapaga**	**3.01**	**254**	P		**Pn**	**13 47 40.1**	**+2.0**
SANI	**Sanana**	**4.52**	**135**	P		**Pn**	**13 48 00.7**	**+1.8**
TNTI	**Ternate**	**4.59**	**95**	P		Pn	13 48 05.7	+5.9
SPSI	**Sidrap Palu**	**5.93**	**211**	P		**Pn**	**13 48 18.7**	**+0.4**
	13nm,0.8s,0.1nm							
SPMM	**Sapulut**	**7.23**	**299**	P		Pn	13 48 42.0	+5.9
WRA	**Warramunga Arr**	**23.85**	**152**	P		**P**	**13 52 01.1**	**-1.9**
	2.0nm,0.7s,baz=331,slow=10.0,SNR=21							
	2.0nm,0.7s							
ASAR	**Alice Springs**	**26.95**	**157**	P		**P**	**13 52 29.8**	**-1.5**
	0.3nm,0.7s,baz=333,slow=9.2,SNR=6.3							
	0.3nm,0.7s							
STKA	**Stephens Creek**	**37.39**	**153**	P		**P**	**13 54 01.6**	**-0.9**
	1.3nm,0.5s,baz=335,slow=14,SNR=3.5							
	1.3nm,0.5s							
MKAR	**Makanchi Array**	**57.51**	**328**	P		P	13 57 02.0	+23
	0.2nm,0.7s,baz=139,slow=7.3,SNR=2.8							
	0.2nm,0.7s							

IDC 19 13:46:55.5±2.7, **16°.51N**×**46°.58W**, **h0**km, **mb3.8**/5, **mbtmp3.8**/5, **MS3.1**/5, **Error ellipse: s-maj=128.5km s-min=30.5km az=85.0**, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.80**	**208**	LR		LR	13 53 48.9	
	comp=Z,57nm,19.6s,baz=360,slow=32							

SJG	**San Juan**	**18.75**	**278**	LR	LR	13 57 02.9
	comp=Z,50nm,21.9s,baz=112,slow=32					
ROSC	**El Rosal**	**29.57**	**250**	LR	LR	14 06 33.4
	comp=Z,53nm,18.4s,baz=200,slow=40					
TKL	**Tuckaleechee C**	**38.17**	**307**	LR	LR	14 08 06.9
	comp=Z,30nm,21.4s,baz=34,slow=33					
ATAH	**Atahualpa**	**39.27**	**236**	LR	LR	14 11 39.9
	comp=Z,41nm,18.2s,baz=351,slow=38					
H10N3	**ASCENSION HYDR**	**39.91**	**125**	T	T	14 36 57.0
	baz=307,slow=75,SNR=46					
H10N2	**ASCENSION HYDR**	**39.91**	**125**	T	T	14 36 57.3
	baz=307,slow=75,SNR=63					
H10N1	**ASCENSION HYDR**	**39.93**	**125**	T	T	14 36 58.5
	baz=307,slow=75,SNR=54					
H10S3	**ASCENSION HYDR**	**40.47**	**126**	T	T	14 37 38.9
	baz=306,slow=74,SNR=19					
H10S2	**ASCENSION HYDR**	**40.48**	**126**	T	T	14 37 40.3
	baz=274,slow=74,SNR=7.2					
CPUP	**Villa Florida**	**43.84**	**194**	P	P	13 55 03.3 -0.2
	1.9nm,0.7s,baz=12,slow=6.3,SNR=5.0					
	1.9nm,0.7s					
PDAR	**Pinedale Array**	**59.20**	**310**	P	P	13 56 58.6 -0.2
	0.8nm,1.0s,baz=93,slow=9.5,SNR=5.2					
	0.8nm,1.0s					
YKA	**Yellowknife Ar**	**65.37**	**332**	P	P	13 57 39.4 -0.1
	0.2nm,0.7s,baz=99,slow=7.3,SNR=4.4					
	0.2nm,0.7s					
INK	**Inuvik**	**73.67**	**337**	P	P	13 58 30.8 +0.1
	0.6nm,0.6s,baz=66,slow=6.5,SNR=4.2					
	0.6nm,0.6s					
ILAR	**Eielson Array**	**79.54**	**335**	P	P	13 59 04.2 +0.2
	1.0nm,0.8s,baz=71,slow=5.3,SNR=13					
	1.0nm,0.8s					

*UPP **19** 14:05:57.7±0.1, 67°.82N×20°.21E, h0km, ML2.7, Confirmed Induced event*
*HEL **19** 14:05:57.4±0.3, 67°.77N×20°.22E, h0km, ML1.4, Explosion*

ISC 19 14:05:57.4±0.8, **67°.78N**±0°.03×**20°.25E**±0°.03, **h0**km, **n23**, σ0s**82**/32, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.26**	**281**	P		**Pg**	**14 06 02.3**	**0.0**
RATU				S		**Sg**	**14 06 05.6**	**0.0**
NIKU	**Nikkaluokta**	**0.47**	**282**	P		**Pg**	**14 06 06.3**	**-0.1**
DUNU	**Dundret**	**0.67**	**169**	P		**Pg**	**14 06 11.0**	**-0.9**
LANU	**Lannavaara**	**0.71**	**67**	P		**Pg**	**14 06 11.0**	**0.0**
LANU	**Lannavaara**	**0.71**	**67**	PB		**Pg**	**14 06 10.9**	**0.0**
LANU				SG		**Sg**	**14 06 20.3**	**+0.2**
MASU	**Masugnsbyn**	**0.74**	**115**	P		**Pb**	**14 06 12.4**	**-0.7**
SALU	**Saltoluokta**	**0.78**	**240**	P		**Pg**	**14 06 12.6**	**+0.3**
KIF	**Kilpisjarvi**	**1.25**	**9**	*e*P		**Pg**	**14 06 20.9**	**-0.4**
KIF	**Kilpisjarvi**	**1.25**	**9**	PG		**Pg**	**14 06 21.2**	**-0.1**
KIF				MSG			14 06 36.5	
	comp=Z,4.5nm,0.2s							
KIF				SG		**Sg**	**14 06 37.2**	**-0.3**
PAJU	**Pajala**	**1.34**	**123**	P		**Pg**	**14 06 22.8**	**-0.2**
HEF	**Hetta**	**1.43**	**62**	*e*P		**Pn**	**14 06 22.6**	**-1.9**
HEF	**Hetta**	**1.43**	**62**	PN		**Pn**	**14 06 24.4**	**-0.2**
HEF				MSG			14 06 40.7	
	comp=Z,2.4nm,0.2s							
HEF				SN		**Sn**	**14 06 44.8**	**+0.8**
ERTU	**Ertsjaerv**	**1.44**	**148**	P		**Pb**	**14 06 24.8**	**-0.3**
ERTU	**Ertsjaerv**	**1.44**	**148**	PN		**Pb**	**14 06 24.7**	**-0.3**
ERTU				SN		**Sn**	**14 06 45.9**	**+1.6**
HARU	**Harads**	**1.65**	**170**	P		**Pg**	**14 06 28.4**	**-0.5**
KTK1	**Kautokeino**	**1.66**	**40**	PG		**Pn**	**14 06 27.6**	**-0.2**
KTK1				SN		**Sg**	**14 06 51.2**	**+0.5**
TRO	**Tromso**	**1.93**	**346**	SG		**Sb**	**14 06 58.2**	**+0.3**
KALU	**Kalix**	**2.28**	**146**	PG		**Pb**	**14 06 38.1**	**-1.3**
TOF	**Tornio**	**2.34**	**135**	PG		**Pb**	**14 06 39.5**	**-0.9**
TOF				MSG			14 07 06.8	
	comp=Z,0.9nm,0.2s							
SGF	**Sodankyl**	**2.42**	**95**	PG		**Pb**	**14 06 40.9**	**-0.9**
SGF				SG		**Sb**	**14 07 13.0**	**+0.7**
RNF	**Rovaniemi**	**2.53**	**115**	PG		**Pb**	**14 06 42.4**	**-1.3**
RNF				SG		**Sb**	**14 07 16.5**	**+1.2**
ARA0	**ARCESS Array S**	**2.61**	**45**	PB		**Pn**	**14 06 41.7**	**+0.9**
ARA0				SG		**Sb**	**14 07 17.6**	**+0.1**
KEV	**Kevo**	**3.16**	**48**	SB		**Sn**	**14 07 28.0**	**+1.3**

*MEX **19** 14:12:25.7±0.6, 14°.64N×92°.76W, h61km±10km, MD4.1*
*SNET **19** 14:12:27.0±1.0, 14°.61N×92°.61W, h43km±39km, ML3.7*
*GCG **19** 14:12:39.0±0.3, 14°.64N×91°.70W, h26km±3km, MD4.0*

ISC 19 14:12:23.4±1.3, **14°.67N**±0°.05×**92°.80W**±0°.03, **h32**km±12km, **n29**, σ1s**84**/51, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.57**	**65**	*i*	P	**Pn**	**14 12 36.5**	**+1.2**
THIG				*i*	S	**Sn**	**14 12 45.0**	**+1.4**
PAVE	**Pavencul**	**0.80**	**49**	*e*	P	**Pn**	**14 12 38.8**	**+0.2**
PAVE				*e*	S	**Sb**	**14 12 48.8**	**-0.7**
RTAL	**Retalhuleu**	**1.08**	**98**	*e*	P	**Pb**	**14 12 43.1**	**-0.5**
RTAL				*e*	S	**Sn**	**14 12 55.6**	**-0.6**
RTAL				IAML			14 12 57.6	
	comp=Z,898nm,0.2s							
PCIG		**1.10**	**339**	*e*	P	**Pb**	**14 12 44.2**	**+0.1**
PCIG				*i*	S	**Sb**	**14 12 58.8**	**+0.7**
STG3	**Santiaguito 3,**	**1.19**	**88**	*e*	P	**Pb**	**14 12 44.8**	**-0.8**
SULM	**Suchitepequez,**	**1.25**	**107**	*e*	P	**Pb**	**14 12 46.8**	**+0.4**
HUEH	**Huehuetenango**	**1.41**	**63**	*e*	P	**Pb**	**14 12 48.6**	**-0.7**
HUEH				*e*	S	**Sb**	**14 13 06.9**	**-0.1**
HUEH				IAML			14 13 10.8	
	comp=Z,2μm,0.4s							
CCIG	**Comitan**	**1.72**	**22**	*e*	P	**Pb**	**14 12 52.8**	**-1.9**
CCIG				*e*	S	**Sn**	**14 13 13.2**	**+0.8**
FUG	**Fuego 3**	**1.91**	**96**	*e*	P	**Pn**	**14 12 55.2**	**+1.3**
TGIG		**2.12**	**352**	*e*	P	**Pn**	**14 12 57.7**	**+0.9**
TGIG				*e*	S	**Sn**	**14 13 23.1**	**+1.1**
NBG	**Las Nubes**	**2.38**	**92**	*e*	P	**Pn**	**14 13 02.5**	**+2.0**
UXUV	**UXUV**	**2.93**	**334**	*e*	P	**Pn**	**14 13 09.9**	**+2.0**
UXUV				*e*	S	**Sn**	**14 13 43.3**	**+1.3**
NUBE	**Las Nubes**	**3.02**	**104**	*e*	P	**Pn**	**14 13 09.9**	**+0.6**
NUBE				*e*	S	**Sn**	**14 13 42.5**	**-2.0**
NUBE				IAML			14 13 53.9	
	comp=Z,92nm,0.4s							
CMIG	**Matias Romero**	**3.13**	**320**	*e*	P	**Pn**	**14 13 12.2**	**+1.5**
CMIG				*i*	S	**Sn**	**14 13 47.7**	**+0.7**
SBLS	**San Blas**	**3.19**	**105**	*e*	P	**Pn**	**14 13 13.1**	**+1.5**
CEVE	**Cerro Verde**	**3.19**	**105**	*e*	P	**Pn**	**14 13 12.8**	**+1.2**
CEVE				*e*	S	**Sn**	**14 13 48.9**	**+0.1**
HUIG	**Huatulco**	**3.38**	**289**	*e*	P	**Pn**	**14 13 14.8**	**+0.8**
HUIG				*e*	S	**Sn**	**14 13 49.3**	**-3.7**
JAYA	**Jayaque - finc**	**3.40**	**107**	*e*	P	**Pn**	**14 13 15.2**	**+0.7**
JAYA				*e*	S	**Sn**	**14 13 52.5**	**-1.4**
JAYA				IAML			14 13 57.4	
	comp=Z,455nm,0.2s							
PMON	**Piamonte**	**3.51**	**105**	*e*	P	**Pn**	**14 13 17.3**	**+1.4**
BOQS	**Boqueron**	**3.54**	**105**	*e*	P	**Pn**	**14 13 17.7**	**+1.3**
LFRS	**El Faro**	**3.77**	**106**	*e*	P	**Pn**	**14 13 21.2**	**+1.7**
LFRS				*e*	S	**Sn**	**14 14 03.4**	**+0.4**
PEIG	**Puerto Escondi**	**4.40**	**288**	*e*	P	**Pn**	**14 13 28.8**	**+0.8**
PEIG				*e*	S	**Sn**	**14 14 13.5**	**-4.7**
SCIG	**Sabancuy**	**4.54**	**20**	*e*	P	**Pn**	**14 13 29.9**	**-0.1**
SCIG				*e*	S	**Sn**	**14 14 17.3**	**-4.5**
YOIG	**Yosondua**	**5.06**	**296**	*e*	P	**Pn**	**14 13 40.8**	**+3.4**
YOIG				*e*	S	**Sn**	**14 14 35.6**	**+0.7**
TOIG	**Toxpalan**	**5.33**	**310**	*e*	P	**Pn**	**14 13 43.1**	**+2.2**
TOIG				*e*	S	**Sn**	**14 14 40.8**	**-0.4**
PNIG	**Pinotepa**	**5.41**	**289**	*i*	P	**Pn**	**14 13 43.6**	**+1.6**
PNIG				*e*	S	**Sn**	**14 14 39.2**	**-4.1**
TXIG	**Tlaxiaco**	**5.42**	**299**	*e*	P	**Pn**	**14 13 44.2**	**+1.8**
TXIG				*e*	S	**Sn**	**14 14 43.9**	**0.0**
HLIG	**Huajuapan de L**	**5.74**	**304**	*e*	P	**Pn**	**14 13 48.0**	**+1.3**
HLIG				*e*	S	**Sn**	**14 14 52.0**	**+0.3**
FTIG	**Fresnillo de T**	**6.05**	**303**	*e*	P	**Pn**	**14 13 52.9**	**+2.1**
FTIG				*e*	S	**Sn**	**14 14 55.7**	**-3.4**

*NOU **19** 14:15:37.9, 43°.66S×173°.31E, h6km, MLv4.0/8, Off E. Coast of S. Island, N.Z.*
*WEL **19** 14:15:40.2±0.5, 43°.5±3°×17°.3E±°, h11km±3km, M3.1/12, ML3.3/14, MLv3.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=110.0, confirmed*

ISC 19 14:15:40.8±1.0, **43°.48S**±0°.03×**172°.95E**±0°.04, **h22**km±8km, **n53**, σ0s**93**/60, **South Island**

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

OKCZ	**Okains Bay**	**0.26**	**162**	P		**Pb**	**14 15 47.2**	**+0.2**
OKCZ				S		**Sb**	**14 15 52.3**	**+0.9**
MQZ	**McQueen's Vall**	**0.32**	**223**	P		**Pb**	**14 15 47.0**	**-0.8**
MQZ				S		**Sb**	**14 15 51.8**	**-0.9**
AMCZ	**Amberley**	**0.37**	**324**	P		**Pb**	**14 15 47.7**	**-1.0**
AKCZ	**Akaroa Harbour**	**0.40**	**184**	P		**Pb**	**14 15 49.4**	**+0.2**
GVZ	**Greta Valley S**	**0.51**	**7**	P		**Pb**	**14 15 50.8**	**-0.3**
GVZ				S		**Sb**	**14 15 58.5**	**+0.4**
RACZ	**Rakaia**	**0.64**	**247**	P		**Pb**	**14 15 53.2**	**-0.1**
OXZ	**Oxford**	**0.68**	**282**	P		**Pb**	**14 15 53.1**	**-0.9**
OXZ				S		**Sb**	**14 16 02.6**	**-0.4**
LTZ	**Lake Taylor**	**0.85**	**324**	P		**Pb**	**14 15 56.6**	**-0.4**
LTZ				S		**Sb**	**14 16 08.4**	**+0.4**
WACZ	**Wakanui South**	**0.93**	**239**	P		**Pn**	**14 15 58.3**	**-0.2**
WACZ				S		**Sn**	**14 16 11.0**	**-0.1**
MHCZ	**Mount Hutt**	**1.01**	**266**	P		**Pn**	**14 15 58.8**	**-0.9**
KHZ	**Kahutara**	**1.14**	**22**	P		**Pn**	**14 16 01.3**	**-0.1**
KHZ	**Kahutara**	**1.14**	**22**	P		**Pn**	**14 16 01.0**	**-0.5**
KHZ				S		**Sn**	**14 16 16.6**	**+0.3**
INZ	**Inchbonnie**	**1.33**	**304**	P		**Pn**	**14 16 04.1**	**+0.1**
ARCZ	**Arundel**	**1.37**	**249**	P		**Pn**	**14 16 04.4**	**-0.2**
RPZ	**Rata Peaks**	**1.40**	**259**	P		**Pb**	**14 16 06.4**	**+0.2**
RPZ	**Rata Peaks**	**1.40**	**259**	P		**Pn**	**14 16 04.4**	**-0.5**
WVZ	**Waitaha Valley**	**1.67**	**283**	P		**Pn**	**14 16 08.7**	**+0.1**
TMZ	**Timaru**	**1.67**	**236**	P		**Pn**	**14 16 08.7**	**0.0**
THZ	**Tophouse**	**1.71**	**359**	P		**Pn**	**14 16 09.0**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**1.92**	**274**	P		**Pb**	**14 16 13.7**	**-1.3**
DSZ	**Denniston Nort**	**1.93**	**334**	P		**Pn**	**14 16 12.4**	**+0.2**
MRNZ	**Matariki Terra**	**2.08**	**356**	P		**Pn**	**14 16 15.2**	**+0.9**
LBZ	**Lake Benmore**	**2.20**	**245**	P		**Pn**	**14 16 16.8**	**+0.9**
NNZ	**Nelson**	**2.28**	**8**	P		**Pn**	**14 16 17.7**	**+0.6**
FOZ	**Fox Glacier**	**2.28**	**267**	P		**Pn**	**14 16 18.2**	**+1.1**
ODZ	**Otahua Downs**	**2.28**	**226**	P		**Pn**	**14 16 17.3**	**+0.2**
ODZ	**Otahua Downs**	**2.28**	**226**	P		**Pn**	**14 16 17.0**	**-0.1**
TKNZ	**Takaka Hill**	**2.44**	**0**	P		**Pn**	**14 16 20.0**	**+0.7**
TCW	**Tory Channel**	**2.47**	**24**	P		**Pn**	**14 16 19.3**	**-0.3**
WEL	**Wellington**	**2.57**	**32**	P		**Pn**	**14 16 20.6**	**-0.5**
QRZ	**Quartz Range**	**2.67**	**353**	P		**Pn**	**14 16 24.1**	**+1.7**
QRZ	**Quartz Range**	**2.67**	**353**	P		**Pn**	**14 16 23.2**	**+0.8**
CAW	**Cannon Point**	**2.84**	**34**	P		**Pn**	**14 16 24.1**	**-0.7**
MTW	**Mount Morrison**	**2.99**	**40**	P		**Pn**	**14 16 25.7**	**-1.1**
KIW	**Kapiti Island**	**2.99**	**30**	P		**Pn**	**14 16 26.4**	**-0.5**
JCZ	**Jackson Bay**	**3.08**	**257**	P		**Pn**	**14 16 30.5**	**+2.4**
JCZ	**Jackson Bay**	**3.08**	**257**	P		**Pn**	**14 16 28.9**	**+0.8**
OGWZ	**Otaki Gorge**	**3.13**	**33**	P		**Pn**	**14 16 28.1**	**-0.7**
EAZ	**Earnscleugh**	**3.15**	**235**	P		**Pn**	**14 16 28.9**	**-0.1**
MRZ	**Mangatainoka R**	**3.43**	**36**	P		**Pn**	**14 16 32.2**	**-0.7**
TUZ	**Tuapeka**	**3.43**	**223**	P		**Pn**	**14 16 33.1**	**+0.3**
TIWZ	**Tintock**	**3.47**	**40**	P		**Pn**	**14 16 33.5**	**+0.1**
BFZ	**Birch Farm**	**3.72**	**42**	P		**Pn**	**14 16 35.3**	**-1.5**
BFZ	**Birch Farm**	**3.72**	**42**	P		**Pn**	**14 16 35.4**	**-1.4**
KHEZ	**Kahui Hut**	**4.25**	**11**	P		**Pn**	**14 16 45.9**	**+1.6**
PKVZ	**Pokaka**	**4.55**	**24**	P		**Pn**	**14 16 50.5**	**+2.1**
VRZ	**Vera Road**	**4.55**	**18**	P		**Pn**	**14 16 50.3**	**+2.0**
WNVZ	**Wahianoa**	**4.60**	**27**	P		**Pn**	**14 16 50.7**	**+1.6**
TRVZ	**Turoa**	**4.61**	**26**	P		**Pn**	**14 16 50.4**	**+1.2**
TUVZ	**Tukino**	**4.67**	**27**	P		**Pn**	**14 16 51.4**	**+1.3**
NNVZ	**North Ngauruho**	**4.78**	**26**	P		**Pn**	**14 16 52.3**	**+0.7**
TWVZ	**Taurewa**	**4.78**	**24**	P		**Pn**	**14 16 52.1**	**+0.5**
BKZ	**Black Stump Fm**	**5.06**	**33**	P		**Pn**	**14 16 54.3**	**-1.1**

*BGR **19** 14:16:07.4, 19°.87S×170°.71E, h33km*
*NEIC **19** 14:16:31.0±2.7, 18°.32S±0°.10×169°.3E±0°.1, h190km±9km, mb4.5/21, Error ellipse: s-maj=19.3km s-min=9.0km az=127.0*
*IDC **19** 14:16:35.1±1.7, 18°.48S×169°.05E, h221km±17km, mb3.9/15, mbtmp4.5/17, Error ellipse: s

STKA	**Stephens Creek**	**28.09**	**236**	P	**P**	**14 22 07.5**	**+0.6**
BRAT	**Ballarat**	**29.07**	**224**	P	**P**	**14 22 16.4**	**+1.0**
LCRK	**Leigh Creek**	**30.37**	**241**	P	**P**	**14 22 27.0**	**+0.1**
HTT	**Hallett**	**30.77**	**235**	P	**P**	**14 22 30.9**	**+0.4**
OOD	**Oodnadatta**	**31.93**	**247**	P	**P**	**14 22 41.3**	**+0.6**
WR0	**Warramunga Arr**	**32.52**	**262**	P	**P**	**14 22 44.8**	**-1.1**
WR0				IAmb	IAmb	14 23 13.4	
	comp=Z,8.7nm,1.4s						
WB0	**Warramunga Arr**	**32.67**	**262**	P	**P**	**14 22 46.2**	**-1.0**
WB0				IAmb	IAmb	14 22 47.8	
	comp=Z,10nm,1.1s						
WB2	**Warramunga Arr**	**32.70**	**262**	P	**P**	**14 22 45.6**	**-1.9**
WB2				IAmb	IAmb	14 23 04.0	
	comp=Z,9.8nm,1.4s						
WRAB	**Tennant Creek**	**32.70**	**262**	P	**P**	**14 22 46.5**	**-0.9**
WRAB	**Tennant Creek**	**32.70**	**262**	P	**P**	**14 22 46.6**	**-0.9**
WB1	**Warramunga Ar.**	**32.70**	**262**	P	**P**	**14 22 46.7**	**-0.8**
WRA	**Warramunga Arr**	**32.71**	**262**	P	**P**	**14 22 46.8**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=82,slow=6.8,SNR=57						
WRA				PcP	**PcP**	**14 25 27.2**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=87,slow=3.0,SNR=3.5						
	comp=Z,1.9nm,0.4s						
WRA	**Warramunga Arr**	**32.71**	**262**	P	**P**	**14 22 45.6**	**-1.9**
BBOO	**Buckleboo**	**32.82**	**238**	P	**P**	**14 22 47.9**	**-0.5**
BBOO	**Buckleboo**	**32.82**	**238**	P	**P**	**14 22 48.5**	**+0.1**
AS01	**Alice Springs**	**33.05**	**255**	P	**P**	**14 22 50.5**	**0.0**
AS31	**Alice Springs**	**33.09**	**255**	P	**P**	**14 22 50.2**	**-0.6**
ASAR	**Alice Springs**	**33.09**	**255**	P	**P**	**14 22 50.7**	**-0.2**
	comp=Z,20nm,0.5s,baz=82,slow=8.7,SNR=408						
ASAR				PcP	**PcP**	**14 25 27.8**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=76,slow=4.9,SNR=2.2						
	comp=Z,20nm,0.5s						
ASAR	**Alice Springs**	**33.09**	**255**	P	**P**	**14 22 49.7**	**-1.2**
MULG	**Mulgathing**	**33.81**	**243**	P	**P**	**14 22 56.9**	**-0.1**
KDU	**Kakadu**	**35.56**	**274**	P	**P**	**14 23 11.8**	**-0.3**
WRKA	**Warakurna**	**38.25**	**253**	P	**P**	**14 23 34.4**	**-0.4**
KNRA	**Kununurra**	**38.48**	**268**	P	**P**	**14 23 35.7**	**-1.0**
KNRA				IAmb	IAmb	14 24 03.1	
	comp=Z,26nm,1.3s						
KNRA	**Kununurra**	**38.48**	**268**	P	**P**	**14 23 36.0**	**-0.7**
	comp=Z,20nm,1.5s						
FORT	**Forrest**	**38.99**	**244**	P	**P**	**14 23 40.4**	**-0.4**
FORT				IAmb	IAmb	14 23 43.6	
	comp=Z,12nm,0.8s						
FORT	**Forrest**	**38.99**	**244**	P	**P**	**14 23 40.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**41.07**	**263**	P	**P**	**14 23 58.1**	**+0.1**
PSA00	**Pilbara Seismi**	**46.12**	**257**	P	**P**	**14 24 37.1**	**-1.2**
PSA00				IAmb	IAmb	14 24 56.9	
	comp=Z,19nm,1.2s						
PSA00	**Pilbara Seismi**	**46.12**	**257**	P	**P**	**14 24 38.4**	**+0.1**
MBWA	**Marble Bar**	**46.27**	**258**	P	**P**	**14 24 39.2**	**-0.2**
MBWA				IAmb	IAmb	14 24 41.5	
	comp=Z,18nm,1.2s						
MBWA	**Marble Bar**	**46.27**	**258**	P	**P**	**14 24 39.4**	**0.0**
MEEK	**Meekatharra**	**46.99**	**250**	P	**P**	**14 24 44.8**	**-0.2**
TOLI2	**Tolitoli**	**51.16**	**287**	P	**P**	**14 25 17.8**	**+1.0**
PTCN	**Pitcairn Islan**	**56.61**	**108**	P	**P**	**14 25 57.6**	**+1.5**
MJAR	**Matsushiro Arr**	**61.87**	**332**	P	**P**	**14 26 31.3**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=170,slow=6.6,SNR=7.3						
	comp=Z,4.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**70.85**	**333**	P	**P**	**14 27 29.1**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=123,slow=7.8,SNR=4.5						
	comp=Z,3.0nm,0.8s						
PEA0B	**Petropavlovsk-**	**71.85**	**353**	P	**P**	**14 27 34.8**	**+0.5**
PETK	**Petropavlovsk-**	**71.85**	**353**	P	**P**	**14 27 33.9**	**-0.4**
	comp=Z,9.1nm,0.8s,baz=143,slow=6.0,SNR=35						
	comp=Z,9.1nm,0.8s						
PETK	**Petropavlovsk-**	**71.85**	**353**	P	**P**	**14 27 32.2**	**-2.2**
CMAR	**Chiang Mai Arr**	**77.91**	**294**	P	**P**	**14 28 10.9**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=130,slow=4.6,SNR=16						
	comp=Z,1.9nm,0.7s						
P18K	**Big Mountain,**	**82.82**	**18**	P	**P**	**14 28 33.0**	**-2.2**
TNA	**Tin City**	**85.50**	**9**	P	**P**	**14 28 48.1**	**-0.3**
TNA				IAmb	IAmb	14 28 49.5	
	comp=Z,7.9nm,1.0s						
GTA	**Gaotai**	**86.34**	**313**	*e*P	**P**	**14 28 53.8**	**+0.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**86.37**	**323**	P	**P**	**14 28 53.5**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=151,slow=6.5,SNR=17						
	comp=Z,3.0nm,0.7s						
NVAR	**Mina Array Bea**	**88.43**	**49**	P	**P**	**14 29 03.1**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=225,slow=8.9,SNR=9.6						
	comp=Z,1.3nm,0.8s						
ILAR	**Eielson Array**	**89.49**	**17**	P	**P**	**14 29 05.1**	**-2.4**
	comp=Z,1.7nm,0.7s,baz=238,slow=4.8,SNR=25						
	comp=Z,1.7nm,0.7s						
ILAR	**Eielson Array**	**89.49**	**17**	P	**P**	**14 29 05.2**	**-2.3**
PDAR	**Pinedale Array**	**96.22**	**47**	P	**P**	**14 29 39.3**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=211,slow=6.9,SNR=2.5						
	comp=Z,0.2nm,0.6s						
TXAR	**Lajitas Array**	**96.58**	**61**	P	**P**	**14 29 40.4**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=232,slow=5.9,SNR=3.8						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**100.02**	**27**	P	**Pdif**	**14 29 54.7**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=255,slow=4.9,SNR=22						
MKAR	**Makanchi Array**	**100.94**	**316**	P	**Pdif**	**14 29 60.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=92,slow=6.6,SNR=6.9						
ARCES	**ARCESS Array B**	**124.17**	**345**	PKP	**PKPdf**	**14 35 05.3**	**-2.4**
	comp=Z,1.8nm,0.6s,baz=29,slow=2.8,SNR=8.4						
RONA	**Rosalia, Austr**	**143.21**	**329**	*e*PKP	PKPbc	14 35 41.7	+0.2
	comp=Z,4.8nm,0.7s						
CONA	**Conrad Observa**	**143.27**	**329**	*e*PKP	PKPbc	14 35 42.1	+0.4
	comp=Z,6.2nm,0.9s						
GERES	**GERESS Array B**	**143.61**	**332**	PKP	PKPab	14 35 41.3	-0.3
	comp=Z,1.9nm,0.8s,baz=40,slow=2.3,SNR=9.9						
GRF	**Grafenberg Arr**	**144.00**	**335**	*e*PKPbc	PKPbc	14 35 43.3	-0.4
	baz=44,slow=3.1						
MOA	**Molln**	**144.08**	**331**	*e*PKP	**PKPab**	**14 35 43.3**	**-0.1**
	comp=Z,6.1nm,0.6s						
BIOA	**Bad Ischl, Aus**	**144.49**	**331**	*e*PKP	**PKPab**	**14 35 44.3**	**-0.7**
	comp=Z,7.4nm,0.8s						
SOKA	**Soboth**	**144.54**	**329**	*e*PKP	**PKPab**	**14 35 44.6**	**-0.8**
	comp=Z,12nm,0.6s						
OBKA	**Obir**	**144.90**	**329**	*e*PKiKP	PKPbc	14 35 46.3	-0.3
	comp=Z,8.6nm,0.8s						
KBA	**Koelnbreinsper**	**145.07**	**330**	*e*PKiKP	**PKPbc**	**14 35 46.6**	**-0.6**
	comp=Z,7.7nm,0.9s						
WATA	**Walderalm**	**145.68**	**332**	*e*PKiKP	**PKPbc**	**14 35 48.6**	**-0.4**
	comp=Z,7.1nm,0.9s						
ABTA	**Abfaltersbach**	**145.70**	**331**	*e*PKP	**PKPdf**	**14 35 47.6**	**-0.7**
	comp=Z,5.6nm,0.7s						
WTTA	**Wattenberg**	**145.71**	**332**	*e*PKiKP	**PKPdf**	**14 35 48.5**	**0.0**
	comp=Z,9.4nm,0.9s						
MOTA	**Moosalm**	**145.88**	**333**	*e*PKP	**PKPdf**	**14 35 48.1**	**-0.6**
	comp=Z,16nm,1.1s						
RETA	**Reutte**	**145.92**	**333**	*e*PKiKP	**PKPbc**	**14 35 49.3**	**-0.4**
	comp=Z,10.0nm,1.1s						
SQTA	**Sankt Quirin**	**145.93**	**333**	*e*PKP	**PKPdf**	**14 35 49.0**	**+0.2**
	comp=Z,12nm,1.2s						
FETA	**Feichten**	**146.29**	**333**	*e*PKP	**PKPbc**	**14 35 50.0**	**-0.9**
	comp=Z,12nm,1.1s						

*IDC **19** 14:26:39.4±3.3, 33°89S×178°44W, h0km, mb3.5/2, mbtmp3.6/3, ML3.6/1, MS3.2/1, Error ellipse: s-maj=79.7km s-min=37.2km az=121.0, South of Kermadec Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.66**	**218**	Pn	Pn	14 28 05.2	+0.5
	1.8nm,0.3s,baz=338,slow=4.1,SNR=17						
URZ				Sn	Sn	14 29 10.5	0.0
	2.1nm,0.3s,baz=356,slow=18,SNR=10						
	4.3nm,0.3s						
ASAR	**Alice Springs**	**42.67**	**271**	P	P	14 34 38.0	-0.1
	0.6nm,0.8s,baz=107,slow=7.6,SNR=5.9						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**43.98**	**276**	P	P	14 34 48.4	-0.3
	0.4nm,0.7s,baz=119,slow=6.8,SNR=6.0						
	0.4nm,0.7s						
RPN	**Rapa Nui**	**58.92**	**104**	LR	LR	14 56 52.3	
	comp=Z,19nm,20.9s,baz=106,slow=31						
FINES	**FINESS Array B**	**148.26**	**338**	PKPbc	PKPbc	14 46 26.0	-0.6
	8.4nm,1.2s,baz=44,slow=6.2,SNR=3.9						

HEL 19 14:30:06.9±0.2, 63°27N×18°61E, h0km, ML1.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUSU	**Husum**	**0.28**	**74**	PG	Pg	14 30 11.8	-0.6
	baz=266						
HUSU				SG	Sg	14 30 15.8	-0.2
HEMU	**Hemsoen**	**0.65**	**204**	PG	Pg	14 30 18.5	-0.8
	baz=23						
HEMU				SG	Sg	14 30 27.3	-0.4
UMAU	**Umeaa**	**1.11**	**55**	PG	Pg	14 30 27.2	-1.0
	baz=243						
UMAU				SB	Sg	14 30 42.0	-0.6
VAF	**Ylistaro**	**1.86**	**95**	PG	Pn	14 30 40.3	+0.4
	baz=274						
VAF				MSG		14 31 02.1	
	comp=Z,2.2nm,0.2s						
VAF				SG	Sb	14 31 04.8	-0.5
RAF	**Rauma**	**2.69**	**145**	PB	Pn	14 30 53.1	+1.7
RAF				MSG		14 31 26.2	
	comp=Z,1.1nm,0.2s						
RAF				SG	Sb	14 31 29.4	-0.1
OUL	**Oulu**	**3.67**	**57**	PN	Pn	14 31 04.6	-0.2

*IDC **19** 14:31:40.6±3.9, 11°19S×163°24E, h59km±28km, mb3.5/3, mbtmp3.8/5, ML3.6/2, MS3.3/8, Error ellipse: s-maj=48.9km s-min=20.3km az=50.0*
ISC 19 14:31:39.7±2.0, 11°2S±0°2×163°3E±0°2, h50km, n17, σ0s82/7, mb3.6/3, MS3.4/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.71**	**297**	P	**Pn**	**14 32 34.3**	**-0.2**
	3µm,0.8s,baz=132,slow=4.4,SNR=13						
HNR				S	**Sn**	**14 33 18.1**	**+1.1**
	2µm,0.4s,baz=138,slow=12,SNR=6.3						
HNR				LR	LR	14 34 10.1	
	comp=Z,5µm,20.2s,baz=134,slow=41						
DZM	**Mont Dzumac**	**11.27**	**165**	P	**Pn**	**14 34 18.8**	**+0.6**
	0.5nm,0.3s,baz=341,slow=17,SNR=14						
DZM				LR	LR	14 37 21.2	
	comp=Z,51nm,20.5s,baz=28,slow=30						
	1.8nm,0.5s						
KRVT	**Keravat (AS076**	**13.07**	**301**	LR	LR	14 40 25.1	
	comp=Z,118nm,18.7s,baz=258,slow=40						
MSVF	**Nonsavu**	**15.71**	**116**	LR	LR	14 40 34.0	
	comp=Z,92nm,19.3s,baz=307,slow=34						
PMG	**Port Moresby**	**15.97**	**275**	LR	LR	14 41 03.7	
	comp=Z,122nm,20.9s,baz=64,slow=35						
CTA	**Charters Tower**	**18.64**	**239**	P	**Pn**	**14 35 54.1**	**-0.1**
	0.1nm,0.3s,baz=67,slow=13,SNR=3.3						
CTA				LR	LR	14 42 23.3	
	comp=Z,65nm,18.6s,baz=60,slow=35						
	2.3nm,0.7s						
STKA	**Stephens Creek**	**28.75**	**221**	LR	LR	14 47 48.3	
	comp=Z,63nm,21.1s,baz=26,slow=34						
WRA	**Warramunga Arr**	**29.19**	**249**	P	**P**	**14 37 35.8**	**-0.9**
	0.5nm,0.4s,baz=79,slow=9.0,SNR=12						
WRA				LR	LR	14 49 13.4	
	comp=Z,76nm,18.2s,baz=22,slow=36						
	0.5nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**29.65**	**7**	T	T	15 08 40.8	
	baz=188,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.65**	**7**	T	T	15 08 44.8	
	baz=188,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.67**	**7**	T	T	15 08 39.3	
	baz=188,slow=76,SNR=13						
ASAR	**Alice Springs**	**30.60**	**242**	P	**P**	**14 37 48.8**	**-0.4**
	0.8nm,0.7s,baz=64,slow=10,SNR=11						
	0.8nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**30.88**	**7**	T	T	15 10 07.6	
	baz=188,slow=76,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**30.88**	**7**	T	T	15 10 09.4	
	baz=188,slow=76,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**30.90**	**7**	T	T	15 10 09.4	
	baz=188,slow=76,SNR=6.9						
SIJI	**Sorong**	**33.41**	**286**	LR	LR	14 53 49.8	
	comp=Z,79nm,18.3s,baz=78,slow=40						
MKAR	**Makanchi Array**	**91.96**	**317**	P	**P**	**14 44 42.9**	**-0.1**
	0.3nm,0.8s,baz=99,slow=5.3,SNR=2.7						
	0.3nm,0.8s						

*ROM **19** 14:42:00.4±0.1, 42°593N±0°004×13°304E±0°006, h10km, ML3.4/65, Error ellipse: s-maj=0.6km s-min=0.2km az=238.0*
*LDG **19** 14:42:01.0±0.2, 42°54N×13°23E, h10km, Ml3.1/15, Error ellipse: s-maj=6.2km s-min=4.4km az=40.0*
*BEO **19** 14:42:02.6±0.6, 42°61N×13°35E, h0km, ML3.5/9*
*PRU **19** 14:42:02.7±0.0, 42°67N×13°44E, h0km*
*IDC **19** 14:42:03.6±3.4, 42°93N×13°66E, h0km, mb3.2/1, mbtmp3.4/4, ML2.9/3, Error ellipse: s-maj=51.1km s-min=26.4km az=61.0*
*STR **19** 14:42:05.1±2.2, 43°N±10°×1°3E±1°8, h10km, MLv3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=104.6, preliminary*
ISC 19 14:42:01.2±0.8, 42°61N±0°02×13°29E±0°02, h10km±5km, n207, σ1s81/275, 50C-32D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.11**	**129**	P	**Pg**	**14 42 03.5**	**-0.6**
CAMP				S	**Sg**	**14 42 05.3**	**-0.8**
CAMP				AML	AML		
	comp=N,34850µm,0.6s						
CAMP				AML	AML		
	comp=E,47550µm,0.6s						
CAMP				AML	AML		
	comp=E,40945µm,0.3s						
CAMP				AML	AML		
	comp=N,29554µm,0.6s						
T1218	**Civita (PG)**	**0.14**	**297**	⇑P	**Pg**	**14 42 04.5**	**-0.1**
T1218				S	**Sg**	**14 42 07.3**	**+0.3**
T1218				AML	AML		
	comp=E,23750µm,0.5s						
T1218				AML	AML		
	comp=N,69500µm,0.2s						
T1218				AML	AML		
	comp=E,23750µm,0.5s						
T1218				AML	AML		
	comp=N,69500µm,0.2s						
T1218				AML	AML		
	comp=N,69850µm,0.2s						
T1218				AML	AML		
	comp=E,25600µm,0.5s						
T1218				AML	AML		
	comp=E,23800µm,0.5s						
T1218				AML	AML		
	comp=N,69489µm,0.2s						
T1218				AML	AML		
	comp=E,21398µm,0.3s						
T1218				AML	AML		
	comp=N,69870µm,0.2s						
T1218				AML	AML		
	comp=E,22929µm,0.3s						
T1247	**Pizzolo (AQ)**	**0.16**	**178**	⇑P	**Pg**	**14 42 04.7**	**-0.1**
T1247				S	**Sg**	**14 42 07.5**	**+0.2**
T1247				AML	AML		
	comp=N,84100µm,0.3s						
T1247				AML	AML		
	comp=E,51150µm,1.5s						
T1247				AML	AML		
	comp=E,44974µm,0.2s						
T1247				AML	AML		
	comp=N,84029µm,0.3s						
LNSS	**Leonessa**	**0.18**	**269**	P	**Pg**	**14 42 05.1**	**-0.1**
LNSS				AML	AML		
	comp=E,38550µm,0.4s						
LNSS				AML	AML		
	comp=N,61400µm,0.4s						
LNSS				AML	AML		
	comp=N,53585µm,0.2s						
LNSS				AML	AML		
	comp=E,34208µm,0.2s						
GIGS	**Gran Sasso**	**0.26**	**127**	⇑P	**Pg**	**14 42 05.7**	**-0.8**
GIGS				S	**Sg**	**14 42 09.6**	**-0.4**
GIGS				AML	AML		
	comp=E,4875µm,0.2s						
GIGS				AML	AML		
	comp=N,4930µm,0.3s						
GIGS				AML	AML		
	comp=E,4875µm,1.8s						
GIGS				AML	AML		
	comp=N,3158µm,0.1s						
GIGS				AML	AML		
	comp=E,4872µm,0.2s						
NRCA	**Norcia**	**0.26**	**330**	⇑P	**Pg**	**14 42 06.5**	**-0.1**
NRCA				AML	AML		
	comp=E,54150µm,0.2s						
NRCA				AML	AML		
	comp=E,54150µm,0.2s						
NRCA				AML	AML		
	comp=N,52450µm,0.1s						
NRCA				AML	AML		
	comp=N,52450µm,0.1s						
NRCA				AML	AML		
	comp=N,52432µm,0.1s						
NRCA				AML	AML		
	comp=E,54133µm,0.2s						
AQU	**L'Aquila**	**0.26**	**162**	⇑P	**Pg**	**14 42 06.3**	**-0.3**
AQU				S	**Sg**	**14 42 11.0**	**+0.8**
AQU				AML	AML		
	comp=E,8360µm,1.4s						
AQU				AML	AML		
	comp=E,8275µm,0.3s						
AQU				AML	AML		
	comp=N,9625µm,0.3s						
AQU				AML	AML		
	comp=E,8360µm,0.6s						
AQU				AML	AML		
	comp=N,9230µm,0.3s						
AQU				AML	AML		
	comp=E,8273µm,0.3s						
AQU				AML	AML		
	comp=N,9640µm,0.3s						
AQU				AML	AML		
	comp=E,8296µm,0.4s						
AQU				AML	AML		
	comp=N,9231µm,0.3s						
T1217	**Poggiodomo (PG**	**0.29**	**292**	⇑P	**Pg**	**14 42 06.9**	**-0.1**
T1217				S	**Sg**	**14 42 11.7**	**+0.8**
T1217				AML	AML		
	comp=N,14750µm,0.9s						
T1217				AML	AML		
	comp=N,14000µm,0.9s						
T1217				AML	AML		
	comp=E,15300µm,0.3s						
T1217				AML	AML		
	comp=N,14750µm,0.9s						
T1217				AML	AML		
	comp=N,14000µm,0.9s						
T1217				AML	AML		
	comp=E,14950µm,0.3s						
T1217				AML	AML		
	comp=N,13462µm,0.3s						
T1217				AML	AML		
	comp=E,11960µm,0.1s						
T1217				AML	AML		
	comp=N,14468µm,0.3s						
T1217				AML	AML		
	comp=E,12098µm,0.1s						
FIAM	**Fiamignano**	**0.36**	**201**	⇑P	**Pg**	**14 42 08.0**	**-0.4**
FIAM				S	**Sg**	**14 42 13.6**	**+0.4**
FIAM				AML	AML		
	comp=N,4990µm,0.4s						
FIAM				AML	AML		
	comp=E,4615µm,1.5s						
FIAM				AML	AML		
	comp=E,4615µm,0.5s						
FIAM				AML	AML		
	comp=N,4990µm,1.6s						
FIAM				AML	AML		
	comp=N,4994µm,0.4s						
FIAM				AML	AML		
	comp=E,4016µm,0.3s						
T1215	**Vallo di Nera,**	**0.37**	**302**	⇑P	**Pg**	**14 42 08.3**	**-0.3**
T1215				S	**Sg**	**14 42 14.2**	**+0.8**
T1215				AML	AML		
	comp=E,6500µm,1.0s						
T1215				AML	AML		
	comp=E,6635µm,1.0s						
T1215				AML	AML		
	comp=N,8255µm,0.2s						
T1215				AML	AML		
	comp=E,6640µm,1.0s						
T1215				AML	AML		
	comp=N,8430µm,0.2s						
T1215				AML	AML		
	comp=E,6500µm,1.0s						
T1215				AML	AML		
	comp=E,6640µm,1.0s						
T1215				AML	AML		
	comp=N,8433µm,0.2s						
T1215				AML	AML		
	comp=N,8254µm,0.2s						
T1215				AML	AML		
	comp=E,6016µm,0.2s						
T1215				AML	AML		
	comp=E,5922µm,0.2s						
ARRO	**Arrone**	**0.39**	**266**	⇑P	**Pg**	**14 42 08.7**	**-0.2**
ARRO				S	**Sg**	**14 42 14.7**	**+0.7**
ARRO				AML	AML		
	comp=N,7290µm,0.1s						
ARRO				AML	AML		
	comp=E,7255µm,0.7s						
ARRO				AML	AML		
	comp=E,7255µm,1.3s						
ARRO				AML	AML		
	comp=E,7180µm,0.2s						
ARRO				AML	AML		
	comp=N,7291µm,0.1s						
FEMA	**Monte Fema**	**0.40**	**334**	P	**Pg**	**14 42 08.9**	**-0.2**
FEMA				S	**Sg**	**14 42 15.3**	**+0.8**
FEMA				AML	AML		
	comp=N,12550µm,0.1s						
FEMA				AML	AML		
	comp=E,15750µm,0.6s						
FEMA				AML	AML		
	comp=E,14811µm,0.2s						
FEMA				AML	AML		
	comp=N,12526µm,0.1s						
FAGN	**Fagnano**	**0.40**	**147**	P	**Pg**	**14 42 08.4**	**-0.8**
FAGN				AML	AML		
	comp=N,16500µm,0.6s						
FAGN				AML	AML		
	comp=E,19150µm,0.7s						
FAGN				AML	AML		
	comp=N,16500µm,1.4s						
FAGN				AML	AML		
	comp=N,16470µm,0.6s						
OFFI	**Offida**	**0.44**	**41**	⇑P	**Pg**	**14 42 10.2**	**+0.3**
OFFI				AML	AML		
	comp=E,33500µm,0.7s						
OFFI				AML	AML		
	comp=N,34050µm,0.7s						
OFFI				AML	AML		
	comp=N,34049µm,0.7s						
OFFI				AML	AML		
	comp=E,29752µm,0.4s						
FDMO	**Fiordimonte**	**0.46**	**341**	⇓P	**Pg**	**14 42 09.8**	**-0.4**
FDMO				S	**Sg**	**14 42 17.3**	**+1.1**
FDMO				AML	AML		
	comp=E,4345µm,0.3s						
FDMO				AML	AML		
	comp=N,4455µm,1.4s						
FDMO				AML	AML		
	comp=E,4344µm,0.3s						
FDMO				AML	AML		
	comp=N,4187µm,0.2s						
GUMA	**Gualdo di Mace**	**0.46**	**4**	⇓P	**Pg**	**14 42 10.2**	**0.0**
GUMA				S	**Sb**	**14 42 17.9**	**-0.4**
GUMA				AML	AML		
	comp=N,13550µm,0.4s						
GUMA				AML	AML		
	comp=E,16750µm,0.3s						
GUMA				AML	AML		
	comp=N,11700µm,0.4s						
GUMA				AML	AML		
	comp=E,16700µm,0.4s						
GUMA				AML	AML		
	comp=N,13550µm,1.6s						
GUMA				AML	AML		
	comp=N,11700µm,1.6s						
GUMA				AML	AML		
	comp=E,16709µm,0.3s						
GUMA				AML	AML		
	comp=N,13523µm,0.4s						
GUMA				AML	AML		
	comp=N,11681µm,0.4s						
GUMA				AML	AML		
	comp=E,16692µm,0.4s						
CESI	**CESI - Serrava**	**0.49**	**325**	⇑P	**Pg**	**14 42 10.4**	**-0.4**
CESI				S	**Sg**	**14 42 18.4**	**+1.1**
CESI				AML	AML		
	comp=N,10090µm,1.1s						
CESI				AML	AML		
	comp=E,5840µm,0.4s						
CESI				AML	AML		

	comp=N,8715µm,0.2s							
CESI				AML	AML			
	comp=E,5718µm,0.3s							
CSP1	**Cessapalombo**	**0.49**	**353**	⇓P	**Pg**	**14 42 10.4**	**-0.4**
CSP1				S	**Sb**	**14 42 18.2**	**-1.1**
CSP1				AML	AML			
	comp=E,5480µm,0.3s							
CSP1				AML	AML			
	comp=N,7330µm,0.3s							
CSP1				AML	AML			
	comp=E,5485µm,0.3s							
CSP1				AML	AML			
	comp=E,4092µm,0.3s							
CSP1				AML	AML			
	comp=N,7329µm,0.3s							
TRTR	**Tortoreto Alta**	**0.50**	**66**	⇑P	**Pg**	**14 42 11.6**	**+0.6**
TRTR				AML	AML			
	comp=N,20850µm,0.3s							
TRTR				AML	AML			
	comp=E,29300µm,0.2s							
TRTR				AML	AML			
	comp=E,29275µm,0.2s							
TRTR				AML	AML			
	comp=N,17547µm,0.4s							
CESX	**Cesi**	**0.53**	**271**	⇑P	**Pg**	**14 42 10.8**	**-0.6**
CESX				AML	AML			
	comp=N,4915µm,0.7s							
CESX				AML	AML			
	comp=E,5340µm,0.2s							
CESX				AML	AML			
	comp=N,4915µm,1.3s							
CESX				AML	AML			
	comp=E,5341µm,0.2s							
CESX				AML	AML			
	comp=N,4884µm,0.2s							
T1220	**Camerino, Fraz**	**0.53**	**344**	⇓P	**Pg**	**14 42 11.0**	**-0.4**
T1220				S	**Sb**	**14 42 20.1**	**-0.1**
T1220				AML	AML			
	comp=N,18650µm,1.4s							
T1220				AML	AML			
	comp=E,20400µm,1.1s							
T1220				AML	AML			
	comp=N,18900µm,1.4s							
T1220				AML	AML			
	comp=E,20300µm,1.1s							
T1220				AML	AML			
	comp=E,20400µm,1.1s							
T1220				AML	AML			
	comp=N,18650µm,0.6s							
T1220				AML	AML			
	comp=N,18900µm,0.6s							
T1220				AML	AML			
	comp=E,18945µm,0.3s							
T1220				AML	AML			
	comp=E,18916µm,0.3s							
MOMA	**Monte Martano**	**0.57**	**291**	⇓P	**Pg**	**14 42 12.0**	**-0.2**
MOMA				S	**Sg**	**14 42 21.1**	**+1.4**
MOMA				AML	AML			
	comp=E,8615µm,0.2s							
MOMA				AML	AML			
	comp=N,10010µm,0.9s							
MOMA				AML	AML			
	comp=E,8615µm,0.2s							
MOMA				AML	AML			
	comp=N,10005µm,0.9s							
MOMA				AML	AML			
	comp=E,8940µm,0.3s							
MOMA				AML	AML			
	comp=N,10300µm,0.9s							
MOMA				AML	AML			
	comp=E,8941µm,0.3s							
MOMA				AML	AML			
	comp=E,8617µm,0.2s							
MOMA				AML	AML			
	comp=N,9688µm,0.2s							
MOMA				AML	AML			
	comp=N,10168µm,0.2s							
PTQR	**Pietraquaria**	**0.59**	**172**	⇑P	**Pg**	**14 42 11.6**	**-1.1**
PTQR				AML	AML			
	comp=E,1530µm,0.3s							
PTQR				AML	AML			
	comp=N,1265µm,0.4s							
PTQR				AML	AML			
	comp=E,1532µm,0.3s							
SEF1	**Sefro**	**0.60**	**335**	⇓P	**Pg**	**14 42 12.5**	**-0.3**
SEF1				AML	AML			
	comp=E,8065µm,0.7s							
SEF1				AML	AML			
	comp=N,6740µm,0.9s							
SEF1				AML	AML			
	comp=E,8065µm,0.8s							
SEF1				AML	AML			
	comp=N,6745µm,0.9s							
SEF1				AML	AML			
	comp=E,6890µm,0.3s							
SEF1				AML	AML			
	comp=N,4966µm,0.2s							
ASSB	**Assisi San Ben**	**0.64**	**313**	⇓P	**Pg**	**14 42 13.2**	**-0.4**
ASSB				S	**Sg**	**14 42 22.9**	**+0.9**
ASSB				AML	AML			
	comp=E,5195µm,1.2s							
ASSB				AML	AML			
	comp=N,6860µm,0.2s							
ASSB				AML	AML			
	comp=E,5195µm,0.8s							
ASSB				AML	AML			
	comp=E,5109µm,0.3s							
ASSB				AML	AML			
	comp=N,6860µm,0.2s							
CADA	**Capodarco di F**	**0.68**	**30**	⇓P	**Pb**	**14 42 15.2**	**0.0**
CADA				AML	AML			
	comp=E,10600µm,0.5s							
CADA				AML	AML			
	comp=N,10060µm,0.2s							
CADA				AML	AML			
	comp=N,10060µm,0.3s							
CADA				AML	AML			
	comp=N,10060µm,1.7s							
CADA				AML	AML			
	comp=E,10600µm,0.4s							
CADA				AML	AML			
	comp=N,10066µm,0.2s							
SRES	**S.Oreste - Sor**	**0.69**	**238**	⇑P	**Pg**	**14 42 13.6**	**-0.9**
SRES				S	**Sg**	**14 42 24.9**	**+1.4**
SRES				AML	AML			
	comp=N,1885µm,0.4s							
SRES				AML	AML			
	comp=E,1670µm,0.9s							
SRES				AML	AML			
	comp=N,1886µm,0.4s							
SRES				AML	AML			
	comp=E,1473µm,0.3s							
CERT	**Cerreto**	**0.69**	**199**	⇓P	Pg	14 42 12.2	-2.4
SNTG	**Esanatoglia**	**0.70**	**338**	⇑P	**Pg**	**14 42 14.1**	**-0.7**
SNTG				S	**Sb**	**14 42 26.1**	**+0.9**
SNTG				AML	AML			
	comp=E,1545µm,0.3s							
SNTG				AML	AML			
	comp=N,2030µm,0.3s							
SNTG				AML	AML			
	comp=N,2060µm,0.3s							
SNTG				AML	AML			
	comp=E,1585µm,0.3s							
SNTG				AML	AML			
	comp=N,2028µm,0.3s							
SNTG				AML	AML			
	comp=E,1585µm,0.3s							
SNTG				AML	AML			
	comp=N,2059µm,0.3s							
SNTG				AML	AML			
	comp=E,1544µm,0.3s							
MTCE	**Montecelio**	**0.71**	**215**	⇑P	**Pg**	**14 42 15.3**	**+0.4**
MTCE				AML	AML			
	comp=N,1790µm,0.3s							
MTCE				AML	AML			
	comp=E,2435µm,0.5s							
MTCE				AML	AML			
	comp=N,1792µm,0.3s							
MTCE				AML	AML			
	comp=E,2437µm,0.5s							
EL6	**Elcito**	**0.74**	**349**	⇓P	**Pg**	**14 42 14.7**	**-0.7**
EL6				S	**Sb**	**14 42 26.8**	**+0.4**
EL6				AML	AML			
	comp=E,4570µm,0.3s							
EL6				AML	AML			
	comp=N,4225µm,0.3s							
EL6				AML	AML			
	comp=N,4227µm,0.3s							
EL6				AML	AML			
	comp=E,4572µm,0.3s							
ATCC	**AVT- Casa Cast**	**0.75**	**321**	⇑P	**Pg**	**14 42 15.3**	**-0.4**
ATCC				S	**Sb**	**14 42 27.3**	**+0.6**
ATCC				AML	AML			
	comp=N,3725µm,0.6s							
ATCC				AML	AML			
	comp=N,3725µm,1.4s							
ATCC				AML	AML			
	comp=E,4635µm,1.4s							
ATCC				AML	AML			
	comp=N,3223µm,0.3s							
ATCC				AML	AML			
	comp=E,4383µm,0.6s							
CING	**Cingoli**	**0.77**	**355**	⇓P	**Pg**	**14 42 15.3**	**-0.8**
CING				AML	AML			
	comp=N,3280µm,0.8s							
CING				AML	AML			
	comp=E,4560µm,0.4s							
CING				AML	AML			
	comp=N,2884µm,0.2s							
CING				AML	AML			
	comp=E,3769µm,0.2s							
VVLD	**Villa Vallelon**	**0.77**	**161**	⇑P	**Pg**	**14 42 15.3**	**-0.9**
VVLD				AML	AML			
	comp=E,1145µm,0.8s							
VVLD				AML	AML			
	comp=N,1550µm,0.5s							
FOSV	**Fossato di Vic**	**0.79**	**331**	P	**Pg**	**14 42 15.7**	**-0.8**
FOSV				AML	AML			
	comp=N,2260µm,0.5s							
FOSV				AML	AML			
	comp=E,1750µm,0.7s							
FOSV				AML	AML			
	comp=E,1664µm,0.9s							
FOSV				AML	AML			
	comp=N,2258µm,0.5s							
RCAV	**Rocca di Cave**	**0.80**	**199**	⇑P	**Pg**	**14 42 18.6**	**+1.9**
RCAV				AML	AML			
	comp=E,3095µm,0.9s							
RCAV				AML	AML			
	comp=N,2980µm,1.0s							
RCAV				AML	AML			
	comp=E,3095µm,1.1s							
RCAV				AML	AML			
	comp=N,2643µm,0.4s							
RCAV				AML	AML			
	comp=E,2875µm,0.8s							
PP3	**Marolino**	**0.81**	**17**	⇑P	**Pg**	**14 42 17.1**	**+0.4**
PP3				S	**Sn**	**14 42 29.1**	**-1.5**
PP3				AML	AML			
	comp=E,8280µm,0.6s							
PP3				AML	AML			
	comp=N,7525µm,0.4s							
PP3				AML	AML			
	comp=N,8260µm,0.4s							
PP3				AML	AML			
	comp=N,7525µm,0.4s							
PP3				AML	AML			
	comp=E,8280µm,0.6s							
PP3				AML	AML			
	comp=E,7545µm,0.7s							
PP3				AML	AML			
	comp=E,8279µm,0.6s							
PP3				AML	AML			
	comp=N,8260µm,0.4s							
PP3				AML	AML			
	comp=E,7546µm,0.7s							
PP3				AML	AML			
	comp=N,7525µm,0.4s							
GUAR	**Guarcino**	**0.81**	**179**	⇓P	**Pg**	**14 42 17.1**	**+0.3**
GUAR				AML	AML			
	comp=E,1585µm,0.6s							
GUAR				AML	AML			
	comp=N,1895µm,0.4s							
GUAR				AML	AML			
	comp=N,1898µm,0.4s							
GUAR				AML	AML			
	comp=E,1584µm,0.6s							
MURB	**Monte Urbino**	**0.86**	**320**	P	**Pg**	**14 42 14.8**	**-3.2**
MURB				S	**Sb**	**14 42 31.3**	**+1.2**
MURB				AML	AML			
	comp=E,6760µm,0.2s							
MURB				AML	AML			
	comp=E,7415µm,1.5s							
MURB				AML	AML			
	comp=N,11800µm,0.3s							
MURB				AML	AML			
	comp=E,7415µm,0.5s							
MURB				AML	AML			
	comp=N,11450µm,0.3s							
MURB				AML	AML			
	comp=E,6759µm,0.2s							
MURB				AML	AML			
	comp=N,11795µm,0.3s							
MURB				AML	AML			
	comp=N,11436µm,0.3s							
MURB				AML	AML			
	comp=E,7275µm,0.2s							
LPEL	**Lama dei Pelig**	**0.87**	**130**	⇓P	**Pg**	**14 42 16.4**	**-1.5**
LPEL				S	**Sg**	**14 42 29.5**	**+0.3**
LPEL				AML	AML			
	comp=E,3600µm,0.3s							
LPEL				AML	AML			
	comp=N,3365µm,0.2s							
LPEL				AML	AML			
	comp=N,3365µm,1.8s							
LPEL				AML	AML			
	comp=E,3600µm,0.3s							
LPEL				AML	AML			
	comp=N,2936µm,0.2s							
RMP	**Rome, Mte Porz**	**0.91**	**209**	⇓P	**Pg**	**14 42 20.3**	**+1.7**
RMP				AML	AML			
	comp=N,2120µm,0.3s							
RMP				AML	AML			
	comp=E,1790µm,0.4s							
RMP				AML	AML			
	comp=N,2118µm,0.3s							
SSFR	**Montelago di S**	**0.91**	**336**	⇑P	**Pg**	**14 42 18.0**	**-0.8**
SSFR				AML	AML			
	comp=E,4300µm,0.2s							
SSFR				AML	AML			
	comp=N,3730µm,0.3s							
SSFR				AML	AML			
	comp=E,3840µm,0.2s							
SSFR				AML	AML			
	comp=N,3340µm,0.2s							
SSFR				AML	AML			
	comp=N,3730µm,1.7s							
SSFR				AML	AML			
	comp=E,4303µm,0.2s							
SSFR				AML	AML			
	comp=E,3843µm,0.2s							
MGAB	**Montegabbione**	**0.92**	**290**	⇑P	**Pg**	**14 42 18.2**	**-0.8**
MGAB				AML	AML			
	comp=E,3785µm,1.4s							
MGAB				AML	AML			
	comp=N,3620µm,0.4s							
MGAB				AML	AML			
	comp=E,3920µm,1.4s							
MGAB				AML	AML			
	comp=N,3980µm,0.4s							
MGAB				AML	AML			
	comp=E,3920µm,0.6s							
MGAB				AML	AML			
	comp=N,3980µm,1.6s							
MGAB				AML	AML			
	comp=N,3620µm,1.6s							
MGAB				AML	AML			
	comp=E,3785µm,0.6s							
MGAB				AML	AML			
	comp=N,3980µm,0.4s							
MGAB				AML	AML			
	comp=N,3620µm,0.4s							
MGAB				AML	AML			
	comp=E,3660µm,0.5s							
MGAB				AML	AML			
	comp=E,3713µm,0.6s							
ATFO	**Monte Foce - G**	**0.93**	**325**	P	**Pg**	**14 42 18.6**	**-0.5**
ATFO				AML	AML			
	comp=E,1960µm,0.3s							
ATFO				AML	AML			
	comp=N,2020µm,0.3s							
ATFO				AML	AML			
	comp=N,2018µm,0.3s							
ATFO				AML	AML			
	comp=E,1960µm,0.3s							
ARVD	**Arcevia**	**0.93**	**344**	⇓P	**Pg**	**14 42 17.7**	**-1.4**
ARVD				S	**Sn**	**14 42 33.4**	**-0.4**
ARVD				AML	AML			
	comp=N,1086µm,0.5s							
ARVD				AML	AML			
	comp=E,1615µm,0.8s							
ARVD				AML	AML			
	comp=N,1086µm,0.5s							
ARVD				AML	AML			
	comp=E,1404µm,0.4s							
AOI	**Ancona**	**0.97**	**13**	⇑P	**Pg**	**14 42 19.3**	**-0.6**
AOI				S	**Sn**	**14 42 35.6**	**+0.9**
AOI				AML	AML			
	comp=E,1915µm,0.3s							
AOI				AML	AML			
	comp=N,2010µm,0.4s							
AOI				AML	AML			
	comp=N,2008µm,0.4s							
AOI				AML	AML			
	comp=E,1919µm,0.3s							
FRON	**Frontone**	**1.00**	**336**	⇓P	**Pg**	**14 42 19.5**	**-1.0**
FRON				AML	AML			
	comp=N,2625µm,0.5s							
FRON				AML	AML			
	comp=E,1715µm,0.5s							
FRON				AML	AML			
	comp=N,2628µm,0.5s							
FRON				AML	AML			
	comp=E,1715µm,0.5s							
ATVO	**AVT- Monte Val**	**1.01**	**320**	⇓P	**Pg**	**14 42 19.1**	**-1.6**
ATVO				S	**Sn**	**14 42 36.0**	**+0.2**
ATVO				AML	AML			
	comp=E,1380µm,1.6s							
ATVO				AML	AML			
	comp=E,1380µm,0.4s							
ATVO				AML	AML			
	comp=N,1360µm,0.4s							
ATVO				AML	AML			
	comp=N,1362µm,0.4s							
ATVO				AML	AML			
	comp=E,1244µm,0.4s							
ATMI	**Monte Miggiano**	**1.05**	**314**	⇑P	**Pg**	**14 42 21.0**	**-0.3**
ATMI				S	**Sn**	**14 42 37.2**	**+0.6**
ATMI				AML	AML			
	comp=N,4650µm,0.3s							
ATMI				AML	AML			
	comp=E,3970µm,0.6s							
ATMI				AML	AML			
	comp=E,3973µm,0.6s							
ATMI				AML	AML			
	comp=N,4654µm,0.3s							
GIUL	**Giuliano Di Ro**	**1.05**	**181**	⇓P	**Pb**	**14 42 20.8**	**-0.6**
GIUL				AML	AML			
	comp=E,590µm,0.3s							
GIUL				AML	AML			
	comp=N,634µm,0.7s							
GIUL				AML	AML			
	comp=N,634µm,1.3s							
GIUL				AML	AML			
	comp=N,635µm,0.7s							
GIUL				AML	AML			
	comp=E,590µm,0.3s							
SACS	**San Casciano d**	**1.05**	**284**	⇑P	**Pg**	**14 42 20.7**	**-0.7**
SACS				AML	AML			
	comp=E,812µm,0.7s							
SACS				AML	AML			
	comp=E,832µm,0.7s							
SACS				AML	AML			
	comp=N,926µm,0.8s							
SACS				AML	AML			
	comp=N,898µm,0.8s							
SACS				AML	AML			
	comp=N,898µm,0.8s							
SACS				AML	AML			
	comp=E,832µm,0.7s							
SACS				AML	AML			
	comp=N,927µm,0.8s							
SACS				AML	AML			
	comp=E,812µm,0.7s							
COR1	**Corinaldo**	**1.05**	**348**	⇑P	**Pg**	**14 42 21.6**	**+0.2**
COR1				AML	AML			
	comp=E,2135µm,0.9s							
COR1				AML	AML			
	comp=N,3390µm,0.7s							
COR1				AML	AML			
	comp=E,2135µm,1.1s							
COR1				AML	AML			
	comp=E,2138µm,0.9s							
COR1				AML	AML			
	comp=E,3978µm,0.6s							
COR1				AML	AML			
	comp=N,2879µm,0.5s							
PIEI	**Pieia**	**1.08**	**329**	⇑P	**Pg**	**14 42 21.4**	**-0.6**
PIEI				AML	AML			
	comp=N,1155µm,0.3s							
PIEI				AML	AML			
	comp=E,1730µm,0.3s							
PIEI				AML	AML			
	comp=N,1154µm,0.3s							
PIEI				AML	AML			
	comp=E,1731µm,0.3s							
MPAG	**Monte Paganucc**	**1.09**	**339**	⇑P	**Pg**	**14 42 21.4**	**-0.8**
MPAG				AML	AML			
	comp=E,1335µm,0.9s							
MPAG				AML	AML			
	comp=N,1335µm,0.5s							
MPAG				AML	AML			
	comp=E,1315µm,0.9s							
MPAG				AML	AML			
	comp=N,1345µm,0.5s							
MPAG				AML	AML			
	comp=N,1335µm,1.5s							
MPAG				AML	AML			
	comp=E,1315µm,1.1s							
MPAG				AML	AML			
	comp=N,1345µm,1.5s							
MPAG				AML	AML			
	comp=E,1335µm,1.1s							
MPAG				AML	AML			
	comp=E,1279µm,0.3s							
MPAG				AML	AML			
	comp=E,1219µm,0.3s							
MPAG				AML	AML			
	comp=N,1335µm,0.5s							
MPAG				AML	AML			
	comp=N,1346µm,0.5s							
LATE	**Laterza**	**1.10**	**271**	P	**Pb**	**14 42 21.9**	**-0.4**
TOLF	**Tolfa**	**1.10**	**241**	⇓P	**Pb**	**14 42 21.1**	**-1.2**
TOLF				AML	AML			
	comp=E,1290µm,0.8s							
TOLF				AML	AML			
	comp=N,909µm,1.2s							
TOLF				AML	AML			
	comp=N,909µm,0.8s							
TOLF				AML	AML			
	comp=E,1290µm,1.2s							
TOLF				AML	AML			
	comp=E,1289µm,0.8s							
TOLF				AML	AML			
	comp=N,670µm,0.6s							
NARO	**Abbazia di Nar**	**1.13**	**333**	⇑P	**Pb**	**14 42 21.9**	**-1.0**
NARO				AML	AML			
	comp=E,753µm,1.3s							
NARO				AML	AML			
	comp=E,753µm,0.7s							
NARO				AML	AML			
	comp=N,784µm,0.3s							
NARO				AML	AML			
	comp=N,784µm,0.3s							
APEC	**Apecchio**	**1.15**	**326**	⇑P	**Pb**	**14 42 22.8**	**-0.3**
APEC				AML	AML			
	comp=N,1720µm,0.4s							
APEC				AML	AML			
	comp=E,1770µm,0.4s							
APEC				AML	AML			
	comp=N,1720µm,1.6s							
APEC				AML	AML			
	comp=N,1904µm,0.5s							
APEC				AML	AML			
	comp=N,1719µm,0.4s							
APEC				AML	AML			
	comp=E,1253µm,0.4s							
APEC				AML	AML			
	comp=E,1769µm,0.4s							
BADI	**Badiali**	**1.19**	**320**	⇓P	**Pb**	**14 42 23.8**	**0.0**
BADI				AML	AML			
	comp=E,59µm,0.5s							

BADI AML AML
comp=N,717µm,0.5s
BADI AML AML
comp=N,717µm,0.5s
BADI AML AML
comp=E,58µm,0.4s
MIDA Miranda 1.20 143 ⇑P Pn 14 42 22.5 -1.6
MIDA AML AML
comp=E,780µm,0.5s
MIDA AML AML
comp=N,699µm,0.7s
MIDA AML AML
comp=N,664µm,0.8s
MIDA AML AML
comp=E,772µm,0.5s
MIDA AML AML
comp=N,664µm,1.2s
MIDA AML AML
comp=N,699µm,1.3s
MIDA AML AML
comp=N,664µm,0.8s
MIDA AML AML
comp=N,699µm,0.7s
MCIV Monte Civitell 1.20 279 ⇓P Pn 14 42 24.2 +0.1
MCIV AML AML
comp=E,532µm,1.6s
MCIV AML AML
comp=N,332µm,1.3s
MCIV AML AML
comp=N,332µm,0.7s
MCIV AML AML
comp=E,532µm,0.4s
MCIV AML AML
comp=N,296µm,0.3s
MCIV AML AML
comp=E,490µm,0.3s
CAFI Castiglion Fio 1.21 307 ⇓P Pn 14 42 24.3 +0.1
CAFI AML AML
comp=E,778µm,0.6s
CAFI AML AML
comp=N,764µm,0.6s
CAFI AML AML
comp=E,773µm,1.6s
CAFI AML AML
comp=N,762µm,0.6s
CAFI AML AML
comp=E,778µm,1.4s
CAFI AML AML
comp=N,762µm,1.4s
CAFI AML AML
comp=E,773µm,0.4s
CAFI AML AML
comp=N,764µm,1.4s
CAFI AML AML
comp=N,762µm,0.6s
CAFI AML AML
comp=E,757µm,0.3s
CAFI AML AML
comp=E,748µm,0.3s
CAFI AML AML
comp=N,764µm,0.6s
SF04 Casetta 1.22 281 ⇑P Pn 14 42 24.3 -0.1
SF04 AML AML
comp=N,494µm,0.3s
SF04 AML AML
comp=E,808µm,0.3s
SF04 AML AML
comp=E,808µm,0.3s
SF04 AML AML
comp=N,494µm,0.3s
SSP9 Sansepolcro 1.29 319 ⇑P Pg 14 42 27.1 +1.2
SSP9 AML AML
comp=E,593µm,0.5s
SSP9 AML AML
comp=N,747µm,0.7s
SSP9 AML AML
comp=E,593µm,0.5s
ARCI Arcidosso 1.36 281 ⇑P Pn 14 42 26.7 +0.4
ARCI AML AML
comp=E,169µm,0.8s
ARCI AML AML
comp=N,173µm,1.2s
ARCI AML AML
comp=E,169µm,1.2s
ARCI AML AML
comp=E,150µm,0.6s
PESA Pesaro 1.38 346 ⇓P Pb 14 42 27.7 +0.7
PESA AML AML
comp=E,1885µm,1.6s
PESA AML AML
comp=N,1870µm,1.5s
PESA AML AML
comp=N,1870µm,0.5s
PESA AML AML
comp=E,1885µm,0.4s
PESA AML AML
comp=N,1636µm,0.3s
PESA AML AML
comp=E,1571µm,0.4s
FROS Frosini 1.68 292 P Pn 14 42 30.8 +0.1
FROS AML AML
comp=E,276µm,0.4s
FROS AML AML
comp=N,226µm,0.8s
FROS AML AML
comp=N,226µm,0.8s
FROS AML AML
comp=E,277µm,0.4s
TREM Isole Tremiti 1.71 106 ⇑P Pb 14 42 34.1 +1.3
RUFI Rufina 1.79 314 ⇑P Pn 14 42 33.7 +1.5
RUFI AML AML
comp=E,287µm,1.6s
RUFI AML AML
comp=N,397µm,1.5s
RUFI AML AML
comp=N,397µm,0.5s
RUFI AML AML
comp=E,287µm,0.4s
RUFI AML AML
comp=E,286µm,0.5s
RUFI AML AML
comp=N,373µm,0.5s
CASP Castiglione de 1.80 277 ⇓P Pn 14 42 32.2 -0.1
CASP AML AML
comp=N,112µm,1.3s
CASP AML AML
comp=E,95µm,1.0s
CASP AML AML
comp=N,112µm,0.7s
CASP AML AML
comp=E,95µm,1.0s
CASP AML AML
comp=N,97µm,0.9s
LMD Lutirano 1.87 322 ⇑P Pn 14 42 35.4 +2.1
LMD AML AML
comp=E,280µm,0.5s
LMD AML AML
comp=N,328µm,0.8s
LMD AML AML
comp=E,280µm,1.5s
APRC Apricena 1.88 116 S Sb 14 43 00.1 +1.1
APRC AML AML
comp=N,608µm,1.1s
APRC AML AML
comp=E,436µm,0.7s
APRC AML AML
comp=N,608µm,0.9s
IMOL Imola, Italy 2.08 328 S Sb 14 43 04.9 -0.1
MSAG Monte S. Angel 2.14 114 P Pn 14 42 38.2 +1.2
MSAG AML AML
comp=E,407µm,0.5s
MSAG AML AML
comp=N,846µm,1.5s
MSAG AML AML
comp=E,458µm,1.1s
MSAG AML AML
comp=N,864µm,1.5s
MSAG AML AML
comp=E,458µm,0.9s
MSAG AML AML
comp=N,846µm,0.5s
MSAG AML AML
comp=N,864µm,0.5s
MSAG AML AML
comp=E,452µm,0.7s
MSAG AML AML
comp=N,789µm,0.3s
MSAG AML AML
comp=N,791µm,0.4s
CAFE Carife 2.15 137 P Pn 14 42 34.5 -2.6
CAFE AML AML
comp=E,234µm,1.6s
CAFE AML AML
comp=N,248µm,1.6s
CAFE AML AML
comp=N,248µm,0.4s
CAFE AML AML
comp=E,234µm,0.4s
HVAR Hvar 2.39 75 ⇓P Pn 14 42 40.6 +0.2
MAIM Mastiano 2.43 304 ⇑P Pn 14 42 41.7 +0.8
MAIM AML AML
comp=N,134µm,0.4s
MAIM AML AML
comp=E,133µm,0.6s
PZUN Potenza 2.72 135 S Sn 14 43 19.3 +1.5
PLMA Palmaria, Port 2.90 301 P Pn 14 42 46.8 -0.5
PLMA AML AML
comp=E,96µm,1.1s
PLMA AML AML
comp=N,93µm,0.6s
SKDS Skadanscina 2.99 10 ePn Pn 14 42 47.2 -1.4
AMUR Altamura 3.00 123 ⇑P Pn 14 42 50.1 +1.3
AMUR AML AML
comp=E,169µm,1.6s
AMUR AML AML
comp=N,162µm,1.5s
AMUR AML AML
comp=E,169µm,0.4s
AMUR AML AML
comp=N,162µm,0.5s
AMUR AML AML
comp=N,147µm,0.3s
AMUR AML AML
comp=E,164µm,0.7s
A050A Klekovaca 3.01 50 ePn Pn 14 42 49.7 +0.7
SMPL Sampolo 3.01 262 P Pn 14 42 48.9 -0.1
CORF Corte 3.08 266 P Pn 14 42 50.4 +0.5
PGF Pioggiola 3.17 270 eP Pn 14 42 51.8 +0.6
PGF eSn Sn 14 43 25.2 -3.9
comp=E,6.2nm,0.3s
PGF Pioggiola 3.17 270 P Pn 14 42 52.2 +1.0
SRKY Kupres RS 3.18 61 ePn Pn 14 42 50.8 -0.6
BOJS Bojanci 3.22 25 ⇓P Pn 14 42 52.0 +0.2
BOJS AML AML
comp=E,231µm,1.4s
BOJS AML AML
comp=N,223µm,1.2s
BOJS Bojanci 3.22 25 ePn Pn 14 42 52.1 +0.2
CEY Cerknica 3.24 14 ePn Pn 14 42 52.5 +0.4
STON Ston 3.26 84 ⇑P Pn 14 42 52.4 +0.1
STON Ston 3.26 84 ePn Pn 14 42 52.8 +0.5
STON eSn Sn 14 43 31.0 -0.1
STON Ston 3.26 84 ePn Pn 14 42 52.1 -0.2
MGRS Mrkonjic Grad 3.30 55 ePn Pn 14 42 53.8 +0.9
NOCI Noci 3.36 121 ⇑P Pn 14 42 55.4 +1.7
ROVR Rover Verones 3.44 333 P Pn 14 42 56.1 +1.2
ROVR AML AML
comp=N,84µm,0.9s
ROVR AML AML
comp=N,84µm,1.1s
ROVR AML AML
comp=E,46µm,0.5s
ROVR AML AML
comp=E,46µm,0.5s
ROVR AML AML
comp=N,190µm,0.3s
ROVR AML AML
comp=N,79µm,0.3s
CGRP Cima Grappa 3.44 342 ⇑P Pn 14 42 56.0 +0.9
CGRP AML AML
comp=E,222µm,0.4s
CGRP AML AML
comp=N,288µm,0.5s
CGRP AML AML
comp=E,232µm,0.3s
CGRP AML AML
comp=N,335µm,0.5s
CGRP AML AML
comp=N,288µm,0.5s
CGRP AML AML
comp=E,221µm,0.4s
BLY Banja Luka 3.54 51 ePn Pn 14 42 59.3 +3.0
BLY Banja Luka 3.54 51 ePn Pn 14 43 00.4 +4.1
LJU Ljubljana 3.55 14 P Pn 14 42 57.8 +1.5
LJU AML AML
comp=E,816µm,0.7s
LJU AML AML
comp=N,1010µm,0.4s
LJU AML AML
comp=E,816µm,1.3s
LJU AML AML
comp=N,1010µm,0.4s
LJU AML AML
comp=E,701µm,0.3s
A051A Mrakovica 3.56 46 ePn Pn 14 42 57.1 +0.6
CRES Cresnjev 3.58 25 ePn Pn 14 42 56.4 -0.3
DOSS Dosso del Somm 3.61 336 ⇑P Pn 14 42 59.1 +1.8
DOSS AML AML
comp=E,127µm,0.6s
DOSS AML AML
comp=N,168µm,0.8s
DOSS AML AML
comp=E,138µm,0.8s
DOSS AML AML
comp=E,127µm,1.4s
DOSS AML AML
comp=N,109µm,1.6s
DOSS AML AML
comp=E,112µm,0.3s
DOSS AML AML
comp=N,130µm,0.6s
SALO Salr 3.61 327 ⇓P Pn 14 42 59.0 +1.8
CTI Castel Tesino 3.64 342 P Pn 14 42 58.5 +0.8
CTI AML AML
comp=N,202µm,0.2s
CTI AML AML
comp=E,248µm,0.2s
CTI AML AML
comp=E,247µm,0.2s
RNCA Ronca, Sant'Ol 3.67 302 ⇑P Pb 14 43 07.8 +1.7
STAL STALIGIAL 3.68 354 P Pn 14 42 58.0 -0.1
STAL AML AML
comp=E,284µm,0.3s
STAL AML AML
comp=N,151µm,0.3s
STAL AML AML
comp=N,254µm,1.0s
STAL AML AML
comp=E,240µm,0.7s
STAL AML AML
comp=N,151µm,0.3s
STAL AML AML
comp=N,232µm,0.3s
STAL AML AML
comp=E,284µm,0.3s
STAL AML AML
comp=E,194µm,0.3s
TREB Trebinje 3.73 87 ePn Pn 14 42 59.8 +0.9
TREB eSn Sn 14 43 43.8 +0.9
TREB Trebinje 3.73 87 ePn Pn 14 42 59.5 +0.6
LUSI Trento, Gardas 3.75 334 ⇓P Pn 14 43 00.4 +1.2
LUSI S Sn 14 43 44.6 +1.2
LUSI AML AML
comp=E,126µm,0.4s
LUSI AML AML
comp=N,196µm,0.2s
LUSI AML AML
comp=N,197µm,0.2s
LUSI AML AML
comp=E,126µm,0.4s
PTCC Patocco-Chiusa 3.80 1 ⇑P Pn 14 42 59.6 -0.2
PTCC AML AML
comp=N,74µm,0.3s
PTCC AML AML
comp=E,75µm,0.2s
PTCC AML AML
comp=N,74µm,1.7s
PTCC AML AML
comp=N,74µm,0.3s
PTCC AML AML
comp=E,76µm,0.2s
GAGG Gaggia 3.86 335 ⇑P Pn 14 43 02.1 +1.4
GAGG AML AML
comp=N,93µm,1.4s
GAGG AML AML
comp=N,93µm,0.6s
GAGG AML AML
comp=E,133µm,0.7s
GAGG AML AML
comp=E,118µm,0.4s
GAGG AML AML
comp=N,71µm,0.4s
BRY Bratogost 3.88 84 ePn Pn 14 43 02.2 +1.2
A052A Srbac 3.94 49 ePn Pn 14 43 00.4 -1.3
OBKA Obir 4.00 13 ePn Pn 14 43 03.7 +1.0
comp=N,2.4nm,0.1s
OBKA Obir 4.00 13 ePn Pn 14 43 03.1 +0.4
FVI Forni Avoltri 4.01 355 ⇓P Pn 14 43 03.0 +0.3
FVI AML AML
comp=E,64µm,0.3s
FVI AML AML
comp=N,69µm,1.6s
FVI AML AML
comp=N,69µm,0.4s
FVI AML AML
comp=E,64µm,0.3s
FVI AML AML
comp=N,67µm,0.5s
MYKA Terra Mystica 4.03 3 ePn Pn 14 43 03.7 +0.7
comp=N,2.8nm,0.2s
APPI Appiano 4.14 340 ⇑P Pn 14 43 06.0 +1.4
APPI AML AML
comp=E,119µm,0.3s
APPI AML AML
comp=N,124µm,0.3s
APPI AML AML
comp=E,119µm,1.7s
APPI AML AML
comp=N,124µm,0.3s
APPI AML AML
comp=E,119µm,0.3s
ABTA Abfaltersbach 4.18 353 ePn Pn 14 43 06.1 +1.0
comp=E,7.9nm,0.2s
BRES Bressanone 4.24 345 P Pn 14 43 07.5 +1.4
BRES AML AML
comp=N,160µm,0.3s
BRES AML AML
comp=E,136µm,0.2s
BRES AML AML
comp=E,136µm,0.2s
BRES AML AML
comp=N,160µm,0.3s
SOKA Soboth 4.26 16 ePn Pn 14 43 09.2 +3.1
comp=N,1.6nm,0.2s
VSL Villasalto 4.29 225 ⇓P Pn 14 43 08.6 +2.0
DRME Dracevica, Mon 4.38 93 ePn Pn 14 43 08.8 +1.0
HAPS Han Pijesak,Bl 4.38 68 ePn Pn 14 43 09.8 +1.9
SAOF Saorge 4.41 290 P Pn 14 43 09.2 +1.0
PDG Podgorica 4.41 90 ePn Pn 14 43 10.0 +1.8
PDG eSn Sn 14 44 01.3 +1.7
RISI Rein 4.43 349 ⇓P Pn 14 43 09.8 +1.2
SBF Sospel 4.46 288 eP Pn 14 43 09.7 +0.8
SBF eSn Sn 14 43 56.1 -4.8
comp=N,6.7nm,0.3s
MOSI Grossmontoni 4.46 335 ⇑P Pn 14 43 12.0 +2.9
KBA Koelnbreinsper 4.47 0 ePn Pn 14 43 10.2 +1.0
comp=N,3.2nm,0.2s,SNR=4.6
KBA eSn Sn 14 44 01.7 +0.3
comp=N,6.1nm,0.4s
TURF col de Turini 4.52 290 P Pn 14 43 10.6 +0.8
ROSI Rosskopf 4.53 343 ⇓P Pn 14 43 11.2 +1.3
ROSI S Sn 14 44 06.5 +3.9
RUDO Rudo 4.56 75 ePn Pn 14 43 01.0 -9.3
BBLS Lazići 4.64 72 ePn Pn 14 43 13.1 +1.7
BBLS eSn Sn 14 44 06.4 +1.0
BBLS Lazići 4.64 72 ePn Pn 14 43 12.6 +1.2
FETA Feichten 4.78 338 ePn Pn 14 43 16.3 +2.9
comp=N,2.2nm,0.3s
FETA eSn Sn 14 44 12.5 +3.7
comp=N,6.5nm,0.6s
CALF Calern 4.80 286 P Pn 14 43 14.4 +0.8
WTTA Wattenberg 4.80 346 ePn Pn 14 43 15.6 +1.9
comp=N,1.5nm,0.2s
WTTA eSn Sn 14 44 11.7 +2.2
comp=N,24nm,0.6s
DAVOX Davos/Dischmat 4.83 331 Pn Pn 14 43 16.6 +2.5
comp=N,1.5nm,0.3s,baz=151,slow=18,SNR=9.9
DAVOX Sn Sn 14 44 11.9 +1.7
comp=N,1.0nm,0.3s,baz=300,slow=22,SNR=2.8
comp=N,4.4nm,0.3s
SQTA Sankt Quirin 4.85 343 *i* Pn Pn 14 43 16.2 +1.9
comp=N,5.4nm,0.2s,SNR=9.4
SQTA eSn Sn 14 44 13.4 +3.0
comp=N,7.6nm,0.2s
WATA Walderalm 4.88 346 ePn Pn 14 43 16.7 +1.9
comp=N,1.4nm,0.1s
WATA eSn Sn 14 44 12.9 +1.5
comp=N,7.0nm,0.2s
ARSA Arzberg 4.91 18 eSn Sn 14 44 10.6 -1.3
comp=N,1.7nm,0.3s
SJES Sjenica 4.95 80 ePn Pn 14 43 17.7 +2.0
SJES eSn Sn 14 44 13.2 +0.2
ENAUX Enaux 4.98 290 P Pn 14 43 18.4 +2.2
MOTA Moosalm 4.99 343 ePn Pn 14 43 18.7 +2.5
comp=N,2.7nm,0.4s
MOTA eSn Sn 14 44 15.5 +1.5
comp=N,12nm,0.4s
LMR La Mourre 5.03 281 eP Pn 14 43 18.0 +1.3
LMR eSn Sn 14 44 07.2 -7.6
comp=N,0.4nm,0.2s
TIR Tirane 5.06 102 ePn Pn 14 43 18.3 +1.2
SURF Saint Ours 5.07 294 P Pn 14 43 20.2 +2.8
BIOA Bad Ischl, Aus 5.09 3 ePn Pn 14 43 18.3 +0.8
comp=N,4.6nm,0.5s
JAUF Jausiers 5.09 293 P Pn 14 43 20.3 +2.6
JAUF S Sn 14 44 01.1 -16
DIVS Divibare 5.11 71 ePn Pn 14 43 18.8 +1.0
DIVS eSn Sn 14 44 17.4 +0.5
DIVS Divibare 5.11 71 ePn Pn 14 43 13.3 -4.5
IVAS Ivanjica 5.12 77 ePn Pn 14 43 18.8 +0.9
IVAS eSn Sn 14 44 15.9 -1.2
VLO Vlora 5.12 113 ⇑P Pn 14 43 16.4 -1.6
TRIGF Trigance 5.16 285 P Pn 14 43 20.2 +1.6
TRIGF S Sn 14 44 10.3 -8.0
MBDF Montbardon 5.18 296 eP Pn 14 43 20.2 +1.3
MBDF eSn Sn 14 44 13.9 -4.9
comp=N,146nm,1.9s
RETA Reutte 5.20 341 ePn Pn 14 43 21.4 +2.4
comp=N,2.5nm,0.4s
RETA eSn Sn 14 44 22.6 +3.5
comp=N,8.6nm,0.4s
CREF Crivoux 5.22 294 P Pn 14 43 22.3 +2.9
DAVA Damuels 5.27 334 ePn Pn 14 43 22.4 +2.3
comp=N,1.4nm,0.1s
DAVA eSn Sn 14 44 21.8 +0.8
comp=N,10nm,0.3s
MOA Molln 5.29 7 ePn Pn 14 43 22.3 +2.0
comp=N,1.7nm,0.2s
MOA eSn Sn 14 44 22.6 +1.3
comp=N,3.7nm,0.3s
MOA Molln 5.29 7 ePn Pn 14 43 22.2 +2.0
MOA eSn Sn 14 44 22.3 +1.1
FRGS Fruska Gora 5.36 59 ePn Pn 14 43 20.7 -0.5
FRGS Fruska Gora 5.36 59 ePn Pn 14 43 20.9 -0.3
TRUS Trudelj 5.43 70 ePn Pn 14 43 22.9 +0.7
TRUS eSn Sn 14 44 24.6 -0.1
RONA Rosalia, Austr 5.52 22 Pn Pn 14 43 23.7 +0.3
comp=N,1.9nm,0.2s,SNR=5.5
LPL La Plagne 5.55 304 eP Pn 14 43 26.6 +2.6
LPL eSn Sn 14 44 22.9 -5.0
comp=N,34nm,1.2s
GRUS Gruza 5.57 74 ePn Pn 14 43 25.3 +1.2
GRUS eSn Sn 14 44 28.4 +0.2
CONA Conrad Observa 5.62 18 ePn Pn 14 43 25.2 +0.3
comp=N,1.7nm,0.2s
CONA eSn Sn 14 44 28.8 -0.8
comp=N,5.1nm,0.4s
SELS Selova 5.78 81 ePn Pn 14 43 27.7 +0.7
SELS eSn Sn 14 44 33.6 +0.2
SMRF Simiane la Rot 5.80 286 eP Pn 14 43 28.9 +1.7
OHR Ohrid 5.80 102 ePn Pn 14 43 29.8 +2.5
OHR eSn Sn 14 44 32.4 -1.5
ORIF Oris-en-Rattie 5.84 296 eP Pn 14 43 31.2 +3.3
ORIF Oris-en-Rattie 5.84 296 P Pn 14 43 31.6 +3.6
BALST Balsthal 6.17 322 P Pn 14 43 34.1 +1.7
GERES GERESS Array B 6.25 2 Pn Pn 14 43 33.0 -0.4
comp=N,0.3nm,0.3s,baz=179,slow=15,SNR=6.8
GERES Sn Sn 14 44 40.2 -4.7
comp=N,0.8nm,0.3s,baz=184,slow=25,SNR=3.2

comp=N,0.4nm,0.3s
CKRC Cesky Krumlov 6.26 6 *e*PN **Pn** **14 43 35.2 +1.7**
CKRC *e*SN **Sn** **14 44 43.2 -1.8**
BARS Barje 6.28 85 *e*Pn **Pn** **14 43 35.1 +1.2**
BARS *e*Sn **Sn** **14 44 45.1 -0.6**
FNA Florina 6.32 104 *e*Pn **Pn** **14 43 37.0 +2.5**
FNA *e*Sn **Sn** **14 44 45.7 -1.0**
MODS Modra-Piesok 6.41 25 *e*PN **Pn** **14 43 37.1 +1.4**
PRVS Prvonek 6.49 88 *e*Pn **Pn** **14 43 37.9 +1.1**
PRVS *e*Sn **Sn** **14 44 49.4 -1.4**
KHC Kasperske Hory 6.53 2 *e*PN **Pn** **14 43 36.9 -0.4**
KHC *e*SN **Sn** **14 44 49.7 -2.1**
KIZ Kirchzarten 6.56 327 P **Pn** **14 43 38.2 +0.5**
CHMF Charmoille 6.61 317 P **Pn** **14 43 39.7 +1.2**
CHMF S **Sn** **14 44 53.1 -0.8**
VIVF Saint-Julien-l 6.64 293 *e*P **Pn** **14 43 41.0 +2.2**
ZAGS Zajecar 6.64 77 *e*Pn **Pn** **14 43 40.0 +1.2**
VOGT Vogtsburg - To 6.76 326 P **Pn** **14 43 41.2 +0.8**
ZAPS Zavoj 6.89 81 *e*Sn **Sn** **14 44 57.9 -2.8**
HINF Hinteralfeld 6.91 321 *e*Pn **Pn** **14 43 41.7 -0.9**
HINF *e*Sn **Sn** **14 44 55.5 -5.8**
comp=N,5.4nm,0.3s
RONF Ronchamp 6.94 320 P **Pn** **14 43 44.1 +1.2**
LASF Ste Croix 7.03 285 *e*P **Pn** **14 43 45.1 +0.9**
VYHS Vyhne 7.06 32 *e*PN **Pn** **14 43 45.5 +1.0**
ECH Echery 7.08 325 P **Pn** **14 43 45.3 +0.5**
CDF Champ du Feu 7.18 326 *e*P **Pn** **14 43 46.9 +0.6**
CDF *e*Sn **Sn** **14 45 01.4 -6.5**
comp=N,2.0nm,0.2s
HAU Haudompre 7.29 320 *e*P **Pn** **14 43 47.8 +0.1**
HAU *e*Sn **Sn** **14 45 03.7 -6.7**
comp=N,2.2nm,0.2s
VTS Vitosha 7.34 87 *e*Pn **Pn** **14 43 49.8 +1.3**
VTS Vitosha 7.34 87 *e*Pn **Pn** **14 43 49.9 +1.4**
VTS *e*Sn **Sn** **14 45 10.3 -1.6**
VTS *e*Sn **Sn** **14 45 10.3 -1.6**
SMF Signal de Mont 7.86 304 *e*P **Pn** **14 43 58.3 +2.8**
SMF *e*Sn Sn 14 45 16.9 -7.5
comp=N,0.4nm,0.2s
PAGF Fort de Pagny 7.97 321 *e*Pn **Pn** **14 43 55.3 -1.7**
PAGF *e*Sn **Sn** **14 45 20.8 -6.4**
comp=N,4.7nm,0.4s
SFTF Sexfontaines 8.06 317 *e*P **Pn** **14 44 02.4 +4.1**
SFTF *e*Sn **Sn** **14 45 22.7 -6.8**
comp=N,6.4nm,0.3s
LOR Lormes 8.15 308 *e*P **Pn** **14 44 00.7 +1.1**
baz=137
LOR *e*Sn Sn 14 45 24.1 -7.6
comp=N,1.1nm,0.3s
SSF Saint Saulge 8.26 306 *e*Sn Sn 14 45 26.4 -7.8
comp=N,0.5nm,0.2s
SAVF Savonnieres en 8.30 319 *e*P **Pn** **14 44 04.5 +3.0**
CAF Calviac 8.45 290 *e*P **Pn** **14 44 05.8 +2.1**
CLL Collm 8.71 359 *e*Sn **Sn** **14 45 40.0 -5.3**
CLL *ex* x 14 46 11.0
CLL *e*(Sg) **Sg** **14 46 35.0 -5.5**
CLL Lm MLR 17 34 00.0
comp=Z,100nm,18.1s
FINES FINESS Array B 20.37 18 P **P** **14 46 37.6 0.0**
baz=210,slow=7.5,SNR=1.3
comp=Z,26nm,0.9s
MKAR Makanchi Array 47.79 60 P **P** **14 50 39.0 +0.5**
comp=Z,0.2nm,0.5s,baz=282,slow=8.5,SNR=3.5
comp=Z,0.2nm,0.5s

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*IDC **19** 15:01:58.8±1.5, 13°.38S×166°.47E, h0km, mb3.9/6, mbtmp3.9/7, ML3.4/1, MS3.5/3, Error ellipse: s-maj=40.9km s-min=24.3km az=120.0*
*NEIC **19** 15:02:03.5±1.9, 13°.56S±0°.09×166°.3E±0°.1, h10km±2km, mb4.6/10, Error ellipse: s-maj=22.7km s-min=13.5km az=73.0*

ISC 19 15:02:05.7±1.0, 13°.51S±0°.07×166°.3E±0°.1, h39km, n27, σ1s06/27, mb4.0/8, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**7.27**	**195**		**Pn**	**15 03 49.5**	**+0.1**
KOUNC				Sn	**Sn**	**15 05 08.7**	**-2.0**
LIFNC	**LIFOU**	**7.28**	**173**	Pn	**Pn**	**15 03 50.6**	**+1.1**
HNR	**Honiara**	**7.45**	**302**	Pn	**Pn**	**15 03 52.5**	**+0.6**
MARNC	**Mare, Loyalty**	**8.09**	**169**		**Pn**	**15 04 02.0**	**+1.3**
DZM	**Mont Dzumac**	**8.52**	**179**		**Pn**	**15 04 05.7**	**-0.9**
	0.5nm,0.3s,baz=54,slow=19,SNR=19						
DZM				Sn	**Sn**	**15 05 43.2**	**+1.7**
	0.1nm,0.3s,baz=325,slow=23,SNR=1.7						
	1.5nm,0.4s						
DZM	**Mont Dzumac**	**8.52**	**179**		**Pn**	**15 04 05.8**	**-0.8**
OUENC	**Ouen Island, N**	**8.87**	**177**	Pn	**Pn**	**15 04 09.8**	**-1.7**
PINNC	**Pines Island,**	**9.12**	**173**	Pn	**Pn**	**15 04 14.5**	**-0.2**
EIDS	**Eidsvold**	**18.58**	**228**	P	**Pn**	**15 06 20.9**	**+0.8**
EIDS				IAmb	IAmb	15 07 02.2	
	comp=Z,22nm,1.4s						
CTA	**Charters Tower**	**20.29**	**248**	P	**P**	**15 06 38.7**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=90,slow=11,SNR=6.6						
	comp=Z,3.8nm,0.8s						
CTAO	**Charters Tower**	**20.29**	**248**	P	**P**	**15 06 38.5**	**+0.2**
URZ	**Urewera**	**26.45**	**161**	LR	LR	15 15 42.2	
	comp=Z,80nm,21.6s,baz=234,slow=31						
STKA	**Stephens Creek**	**29.12**	**227**	P	**P**	**15 08 04.1**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=60,slow=20,SNR=1.6						
STKA				LR	LR	15 19 33.6	
	comp=Z,90nm,18.7s,baz=26,slow=36						
	comp=Z,1.0nm,0.3s						
WB0	**Warramunga Arr**	**31.19**	**254**	P	**P**	**15 08 21.0**	**-0.5**
WB0				IAmb	IAmb	15 08 22.8	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**31.26**	**254**	P	**P**	**15 08 21.3**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=86,slow=9.1,SNR=7.6						
	comp=Z,1.0nm,0.8s						
AS31	**Alice Springs**	**32.28**	**247**	P	**P**	**15 08 29.6**	**-1.5**
ASAR	**Alice Springs**	**32.28**	**247**	P	**P**	**15 08 30.9**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=75,slow=9.2,SNR=17						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**32.28**	**247**	P	**P**	**15 08 30.5**	**-0.5**
BBOO	**Buckleboo**	**33.63**	**230**	P	**P**	**15 08 42.5**	**-0.2**
KNRA	**Kununurra**	**36.39**	**262**	P	**P**	**15 09 07.3**	**+0.7**
KNRA				IAmb	IAmb	15 09 43.7	
	comp=Z,23nm,1.2s						
TNTI	**Ternate**	**41.14**	**287**	P	**P**	**15 09 47.1**	**+0.6**
SOEI	**Soe**	**41.33**	**271**	P	**P**	**15 09 48.5**	**+0.2**
SOEI				IAmb	IAmb	15 10 29.1	
	comp=Z,31nm,1.4s						
MMRI	**Maumere**	**43.50**	**272**	P	**P**	**15 10 04.7**	**-1.0**
JKA	**Kamikawa-asahi**	**61.29**	**341**	P	**P**	**15 12 18.4**	**+1.3**
ILAR	**Eielson Array**	**85.66**	**18**	P	**P**	**15 14 38.1**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=233,slow=5.2,SNR=15						
	comp=Z,0.5nm,0.4s						
ELK	**Elko**	**90.16**	**48**	LR	LR	15 55 04.9	
	comp=Z,22nm,18.0s,baz=330,slow=35						
MKAR	**Makanchi Array**	**95.70**	**317**	P	**P**	**15 15 26.9**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=93,slow=5.5,SNR=3.0						
	comp=Z,0.3nm,0.8s						

IDC 19 15:04:05.6±2.2, 8°.26S×159°.30E, h0km, mb3.4/3, mbtmp3.4/3, MS3.4/1, Error ellipse: s-maj=48.4km s-min=28.0km az=42.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.33**	**151**	Pn	Pb	15 04 31.6	+0.2
	3μm,0.3s,baz=336,slow=20,SNR=154						
HNR				Sn	Sg	15 04 44.2	-4.2
	5μm,0.3s,baz=262,slow=23,SNR=28						
WRA	**Warramunga Arr**	**26.80**	**242**	P	P	15 09 48.3	+0.6
	0.3nm,0.5s,baz=70,slow=9.0,SNR=5.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**28.74**	**235**	P	P	15 10 04.1	-1.0
	0.3nm,0.5s,baz=66,slow=9.3,SNR=1.7						
	0.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**28.78**	**15**	T	T	15 40 11.3	
	baz=194,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**28.79**	**15**	T	T	15 40 11.9	
	baz=194,slow=76,SNR=28						
H11N2	**WAKE ISLAND Hy**	**28.80**	**15**	T	T	15 40 12.7	
	baz=194,slow=76,SNR=30						
AFI	**Afiamalu**	**28.92**	**104**	LR	LR	15 20 34.2	
	comp=Z,73nm,18.4s,baz=332,slow=34						
MKAR	**Makanchi Array**	**87.18**	**318**	P	P	15 16 53.9	+0.1
	0.2nm,0.6s,baz=95,slow=4.4,SNR=2.4						
	0.2nm,0.6s						

*GII **19** 15:29:17.2±0.3, 30°.49N×31°.49E, h100km, mb4.0/6, MD3.8/7, Mm3.7/4*
*IDC **19** 15:29:20.4±5.8, 30°.41N×32°.04E, h0km, mb3.1/3, mbtmp3.1/4, ML2.3/1, MS2.3/1, Error ellipse: s-maj=99.8km s-min=44.1km az=25.0*

ISC 19 15:29:20.1±2.3, 30°.35N±0°.10×31°.94E±0°.08, h1km±13km, n36, σ1s03/44, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZIT	**Kziot**	**2.19**	**75**	Pn	**Pn**	**15 29 57.9**	**+0.2**
KZIT				Sn	**Sb**	**15 30 28.3**	**0.0**
KZIT	**Kziot**	**2.19**	**75**	P	**Pg**	**15 30 02.2**	**0.0**
KRMI	**Paran Flat**	**2.42**	**95**	Pn	**Pn**	**15 30 00.1**	**-0.9**
KRMI				Sn	**Sb**	**15 30 34.5**	**-0.5**
MBRI	**Mt Berech**	**2.64**	**101**	Pn	**Pn**	**15 30 03.5**	**-0.4**
MBRI	**Mt Berech**	**2.64**	**101**	P	**Pn**	**15 30 03.6**	**-0.4**
PRNI	**Paran**	**2.65**	**89**	Pn	**Pn**	**15 30 03.8**	**-0.3**
PRNI				Sn	**Sn**	**15 30 39.1**	**+2.2**
PRNI	**Paran**	**2.65**	**89**	P	**Pn**	**15 30 03.9**	**-0.2**
EIL	**Elat**	**2.70**	**104**	Pn	**Pn**	**15 30 03.9**	**-0.8**
EIL				Sn	**Sb**	**15 30 42.0**	**-1.0**
EIL	**Elat**	**2.70**	**104**	P	**Pn**	**15 30 04.2**	**-0.5**
HRFI	**Mount Harif**	**2.70**	**96**	Pn	**Pn**	**15 30 04.2**	**-0.6**
AQBJ	**Aqaba**	**2.77**	**102**	P	**Pn**	**15 30 05.2**	**-0.5**
AQBJ				S	**Sg**	**15 30 48.8**	**-0.4**
ZFRI	**Zfri**	**2.81**	**85**	Pn	**Pn**	**15 30 05.5**	**-0.7**
ZFRI				Sn	**Sn**	**15 30 43.3**	**+2.7**
AMAZ	**Amatzia**	**2.82**	**65**	Pn	**Pn**	**15 30 04.9**	**-1.5**
AMAZ				Sn	**Sn**	**15 30 40.8**	**-0.2**
AMAZ	**Amatzia**	**2.82**	**65**	P	**Pb**	**15 30 13.0**	**+1.7**
YTIR	**Yattir**	**2.92**	**69**	Pn	**Pn**	**15 30 06.8**	**-1.0**
MDBI	**Mazsada**	**3.10**	**71**	P	**Pn**	**15 30 10.1**	**0.0**
LISJ	**El Lisan**	**3.18**	**73**	P	**Pn**	**15 30 10.8**	**-0.4**
DSI	**Dead Sea**	**3.20**	**67**	Sn	**Sn**	**15 30 50.9**	**+0.6**
DSI	**Dead Sea**	**3.20**	**67**	P	**Pb**	**15 30 17.4**	**-0.4**
HSNJ	**Maan**	**3.25**	**91**	P	**Pn**	**15 30 12.8**	**+0.5**
GHAJ	**Ghor Haditha**	**3.26**	**72**	P	**Pn**	**15 30 12.0**	**-0.4**
KARJ	**KARJ**	**3.29**	**76**	P	**Pb**	**15 30 19.3**	**0.0**
OFRI	**`Ofer**	**3.45**	**48**	Sn	**Sn**	**15 30 54.1**	**-2.5**
WALJ	**Wala**	**3.54**	**69**	P	**Pn**	**15 30 16.2**	**-0.1**
WALJ				S	**Sn**	**15 31 00.3**	**+1.5**
HMDT	**Nahal Hemdat**	**3.61**	**57**	Sn	**Sn**	**15 30 59.4**	**-1.1**
HMDT	**Nahal Hemdat**	**3.61**	**57**	P	**Pn**	**15 30 17.8**	**+0.6**
HMDT				S	**Sn**	**15 31 00.8**	**+0.3**
MMLI	**Mount Malkishu**	**3.63**	**54**	Sn	**Sn**	**15 31 00.0**	**-1.2**
MMAI	**Mount Meron Ar**	**3.97**	**47**	LR	LR	15 32 13.0	
	comp=Z,41nm,19.5s,baz=101,slow=45						
SHMJ	**Saham**	**4.04**	**53**	P	**Pn**	**15 30 24.6**	**+1.5**
GEM	**Giv'at Ha'Em**	**4.27**	**47**	P	**Pn**	**15 30 26.7**	**+0.5**
NATI	**Neve Ativ**	**4.35**	**47**	P	**Pn**	**15 30 27.7**	**+0.4**
ASF	**Jabal al Asfar**	**4.62**	**66**	P	**Pn**	**15 30 32.5**	**+1.3**
BRTR	**Keskin Array B**	**9.46**	**8**	Pn	**Pn**	**15 31 39.0**	**+1.3**
	baz=189,slow=14,SNR=1.5						
	0.2nm,0.3s						
AKASG	**Malin Array Be**	**20.43**	**355**	P	**P**	**15 33 58.1**	**-0.6**
	0.4nm,0.4s,baz=178,slow=9.7,SNR=7.0						
	0.4nm,0.4s						
GERES	**GERESS Array B**	**23.10**	**328**	P	**P**	**15 34 28.0**	**+0.6**
	0.5nm,0.7s,baz=122,slow=6.3,SNR=2.3						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**41.91**	**52**	P	**P**	**15 37 11.6**	**-0.6**
	0.1nm,0.3s,baz=253,slow=7.5,SNR=4.6						
	0.1nm,0.3s						

NOU 19 16:03:48.0, 21°.73S×170°.08E, h0km, mb4.3/11, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**2.59**	**250**	P	Pn	16 04 30.6	-0.6
LIFNC	**LIFOU**	**2.81**	**289**	P	Pn	16 04 32.6	-1.7
OUENC	**Ouen Island, N**	**3.08**	**257**	P	Pn	16 04 37.7	-0.2
DZM	**Mont Dzumac**	**3.39**	**264**	P	Pn	16 04 42.6	+0.3
NOUC	**Port Laguerre**	**3.53**	**263**	P	Pn	16 04 44.1	0.0
RTV	**Rentapao**	**4.22**	**338**	P	Pn	16 04 54.9	+1.4
DVP	**Devils Point**	**4.37**	**336**	P	Pn	16 04 57.0	+1.4
KOUNC	**Koumac, New Ca**	**5.53**	**281**	P	Pn	16 05 12.6	+0.9

NNC 19 16:09:30.2±9.4, 36°.77N×70°.67E, h115km±205km, mb2.9, mpv3.6, 3C-1D, Error ellipse: s-maj=82.6km s-min=68.5km az=6.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.33**	**359**	P	Pn	16 11 01.1	+0.2
	0.9nm,0.2s,baz=175,slow=13,SNR=21						
KK31				⇑S	Sn	16 12 12.0	+0.2
	1.1nm,0.3s,baz=188,slow=24,SNR=5.9						
TKM2	**Tokmak 2**	**7.22**	**30**	⇑P	Pn	16 11 12.8	-0.3
	1.9nm,0.4s						
TKM2				⇑S	Sn	16 12 35.0	+1.3
	3.0nm,1.1s						
AB31	**Akbulak array**	**14.72**	**331**	⇓P	Pn	16 12 52.4	-0.1
	0.2nm,0.3s,baz=167,slow=12,SNR=11						

IDC 19 16:09:50.4±81.0, 13°.69S×166°.21E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1361.0km s-min=127.8km az=62.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.91**	**227**	P	P	16 15 51.6	+0.4
	0.9nm,0.4s,baz=32,slow=4.6,SNR=1.4						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**31.10**	**254**	P	P	16 16 10.6	-0.2
	0.2nm,0.5s,baz=85,slow=8.3,SNR=2.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**32.10**	**247**	P	P	16 16 19.4	-0.2
	0.4nm,0.5s,baz=78,slow=9.3,SNR=23						
	0.4nm,0.5s						

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*ATH **19** 16:21:34.7, 38°.54N×26°.52E, h16km±7km, ML3.0/3, Error ellipse: s-maj=7.4km s-min=1.8km az=55.0*
*ISK **19** 16:21:34.2, 38°.47N×26°.27E, h8km, ML2.9/16*
*DDA **19** 16:21:35.1±0.0, 38°.52N×26°.37E, h7km±2km, ML2.7*
*THE **19** 16:21:37.3, 38°.51N×26°.18E, h38km±16km, ML2.8/2, Error ellipse: s-maj=16.2km s-min=1.3km az=314.0*

ISC 19 16:21:35.2±0.9, 38°.52N±0°.02×26°.36E±0°.02, h16km±7km, n46, σ0s63/74, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.25**	**130**	Pg	**Pg**	**16 21 40.5**	**-0.1**
URLA				Sg	**Sg**	**16 21 44.4**	**-0.1**
URLI	**Izmir**	**0.25**	**130**	P	**Pg**	**16 21 40.6**	**-0.1**
URLA				*i* AML	AML	16 21 44.0	
	comp=E,2μm,0.3s						
URLA				S	**Sg**	**16 21 44.4**	**-0.1**
URLA				*i* AML	AML	16 21 46.0	
	comp=N,899nm,0.6s						
ZEYE	**Izmir, Urla-Ze**	**0.30**	**157**	P	**Pg**	**16 21 41.5**	**-0.1**
ZEYE				*i* AML	AML	16 21 46.0	
	comp=N,1μm,0.4s						
ZEYE				*i* AML	AML	16 21 46.0	
	comp=E,2μm,0.3s						
ZEYE				S	**Sb**	**16 21 46.4**	**-0.5**
PSRA	**Psara**	**0.62**	**272**	P	**Pn**	**16 21 48.9**	**-0.4**
PSRA				S	**Sn**	**16 21 59.5**	**+0.6**
PSRA				AML	AML	16 21 59.7	
	comp=N,6086μm,0.2s						
PSRA				AML	AML	16 22 00.0	
	comp=E,5246μm,0.2s						
DGB	**zmir**	**0.62**	**138**	P	**Pg**	**16 21 47.0**	**-0.5**
DGB				S	**Sg**	**16 21 55.7**	**-0.1**
DGB				*i* AML	AML	16 21 59.0	
	comp=E,390nm,0.2s						
DGB				*i* AML	AML	16 21 59.0	
	comp=E,471nm,0.5s						
DKL	**Dikili**	**0.70**	**38**	Pg	**Pg**	**16 21 48.5**	**-0.3**
DKL				Sg	**Sn**	**16 22 00.8**	**0.0**
ZEDA	**zmir-Bergama**	**0.72**	**51**	P	**Pg**	**16 21 48.8**	**-0.5**
ZEDA				S	**Sn**	**16 22 00.6**	**-0.7**
ZEDA				*i* AML	AML	16 22 01.0	
	comp=E,293nm,0.6s						
ZEDA				*i* AML	AML	16 22 02.0	
	comp=E,281nm,0.2s						
SIGR	**SIGRI**	**0.79**	**331**	P	**Pb**	**16 21 50.4**	**-0.1**
SIGR				S	**Sg**	**16 22 01.6**	**+0.5**
	comp=E,892nm,0.4s						
SIGR	**SIGRI**	**0.79**	**331**	Pg	**Pb**	**16 21 50.3**	**-0.2**
SIGR				Sg	**Sg**	**16 22 01.9**	**+0.8**
SIGR	**SIGRI**	**0.79**	**331**	P	**Pg**	**16 21 50.7**	**+0.1**
SIGR				S	**Sg**	**16 22 01.7**	**+0.6**
SIGR				AML	AML	16 22 02.9	
	comp=E,1291μm,0.4s						
SIGR				AML	AML	16 22 03.2	
	comp=N,2277μm,0.4s						
AYVA	**Ayvalik**	**0.83**	**18**	P	**Pb**	**16 21 50.7**	**-0.5**
AYVA				S	**Sn**	**16 22 03.3**	**-0.7**
AYVA				*i* AML	AML	16 22 05.0	
	comp=N,237nm,0.3s						
AYVA				*i* AML	AML	16 22 05.0	
	comp=N,572nm,0.7s						
KOCA	**Canakkale, Ayv**	**0.99**	**350**	P	**Pn**	**16 21 54.3**	**-0.1**
KOCA				S	**Sn**	**16 22 08.0**	**-0.1**
KOCA				*i* AML	AML	16 22 09.0	
	comp=N,180nm,0.3s						
KOCA				*i* AML	AML	16 22 10.0	
	comp=N,220nm,0.7s						
GCAM	**G?zelcaml?**	**1.07**	**139**	Pg	**Pn**	**16 21 55.3**	**-0.2**
GCAM				Sg	**Sn**	**16 22 10.7**	**+0.7**
GCAM	**G?zelcaml?**	**1.07**	**139**	P	**Pn**	**16 21 55.2**	**-0.2**
GCAM				S	**Sn**	**16 22 11.1**	**+1.1**
GCAM				*i* AML	AML	16 22 12.0	
	comp=N,250nm,0.4s						
GCAM				*i* AML	AML	16 22 12.0	
	comp=N,123nm,0.3s						
BUHA	**Balikesir, Bur**	**1.13**	**30**	P	**Pn**	**16 21 56.3**	**0.0**
BUHA				S	**Sg**	**16 22 12.2**	**+0.4**
BUHA				*i* AML	AML	16 22 13.0	
	comp=N,198nm,0.3s						
BUHA				*i* AML	AML	16 22 16.0	
	comp=N,194nm,0.4s						
AKHS	**Akhisar**	**1.20**	**72**	P	**Pg**	**16 21 58.1**	**-0.1**
AKHS				S	**Sg**	**16 22 15.4**	**+1.6**
AKHS				*i* AML	AML	16 22 16.0	
	comp=N,187nm,0.6s						
AKS	**Akhisar**	**1.20**	**72**	Pn	**Pg**	**16 21 58.8**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**1.23**	**7**	P	**Pn**	**16 21 57.2**	**-0.5**
BAYC				S	**Sb**	**16 22 13.2**	**-0.4**
BAYC				*i* AML	AML	16 22 15.0	
	comp=N,112nm,0.3s						
BAYC				*i* AML	AML	16 22 16.0	
	comp=N,159nm,0.4s						
EZN	**Ezine**	**1.30**	**359**	P	**Pb**	**16 21 59.5**	**+0.2**
EZN				S	**Sb**	**16 22 15.6**	**-0.1**
	comp=N,220nm,0.4s						
EZN	**Ezine**	**1.30**	**359**	Pn	**Pg**	**16 21 59.9**	**-0.4**
EZN				Sn	**Sg**	**16 22 18.7**	**+1.4**
BOZC	**Bozcaada**	**1.34**	**350**	Pn	**Pb**	**16 22 00.3**	**+0.4**
BOZC	**Bozcaada**	**1.34**	**350**	P	**Pb**	**16 22 00.4**	**+0.4**
BOZC				S	**Sg**	**16 22 18.6**	**+0.1**
BOZC				*i* AML	AML	16 22 19.0	
	comp=N,182nm,0.3s						
BOZC				*i* AML	AML	16 22 19.0	
	comp=N,126nm,0.3s						
TNSA	**Tinos**	**1.36**	**224**	P	**Pb**	**16 22 00.2**	**0.0**
TNSA				S	**Sb**	**16 22 18.1**	**+0.8**
TNSA				AML	AML	16 22 21.6	
	comp=E,447μm,0.3s						
TNSA				AML	AML	16 22 21.8	
	comp=N,405μm,0.2s						
STEP	**BALIKESIR_Sava**	**1.36**	**51**	P	**Pb**	**16 21 59.8**	**-0.5**
STEP				S	**Sg**	**16 22 20.3**	**+1.1**
STEP				*i* AML	AML	16 22 24.0	
	comp=N,154nm,0.2s						
STEP				*i* AML	AML	16 22 26.0	
	comp=N,110nm,0.7s						
AYDN	**Tasoluk**	**1.48**	**125**	P	**Pn**	**16 22 01.3**	**+0.2**
AYDN				S	**Sn**	**16 22 19.9**	**-0.2**
BALY	**Balya**	**1.57**	**39**	P	**Pb**	**16 22 03.7**	**0.0**
BALY				S	**Sb**	**16 22 23.5**	**+0.2**
BALY				*i* AML	AML	16 22 30.0	
	comp=N,91nm,0.3s						
BALY				*i* AML	AML	16 22 30.0	
	comp=N,138nm,0.5s						
APE	**Apeiranthos**	**1.59**	**205**	P	**Pn**	**16 22 02.0**	**-0.7**
APE	**Apeiranthos**	**1.59**	**205**	Pn	**Pn**	**16 22 01.9**	**-0.7**
APE	**Apeiranthos**	**1.59**	**205**	P	**Pn**	**16 22 01.9**	**-0.7**
BALB	**Balikesir**	**1.63**	**46**	Pn	**Pb**	**16 22 05.2**	**+0.4**
MLSB	**Milas**	**1.66**	**137**	Pn	**Pb**	**16 22 04.4**	**-1.0**
BDRM	**Kayabasi**	**1.69**	**149**	P	**Pn**	**16 22 04.0**	**+0.1**
BDRM				S	**Sg**	**16 22 31.0**	**+1.4**
GADA	**Gvkgeada**	**1.71**	**348**	Pn	**Pb**	**16 22 05.7**	**-0.4**
MANT	**Manisa**	**1.73**	**90**	P	**Pg**	**16 22 08.3**	**-0.1**
MANT				S	**Sg**	**16 22 29.3**	**-1.6**
KULA	**Kula-Manisa**	**1.81**	**89**	P	**Pb**	**16 22 08.3**	**+0.4**
KULA				S	**Sb**	**16 22 31.0**	**+0.7**
KULA	**Kula-Manisa**	**1.81**	**89**	Pn	**Pb**	**16 22 07.3**	**-0.6**
KOSK	**Kos Island**	**1.83**	**164**	Pn	**Pn**	**16 22 06.2**	**+0.3**
GONE	**Gonen-Balikesi**	**1.84**	**34**	Pn	**Pb**	**16 22 08.7**	**+0.3**
LPK	**Lapseki**	**1.88**	**9**	Pn	**Pb**	**16 22 08.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.88**	**3**	Pn	**Pb**	**16 22 07.9**	**-1.1**
DAT	**Datca**	**2.04**	**151**	P	**Pn**	**16 22 08.8**	**0.0**
DAT	**Datca**	**2.04**	**151**	Pn	**Pn**	**16 22 08.8**	**0.0**
YER	**Yerkesik**	**2.06**	**132**	Pn	**Pn**	**16 22 10.4**	**+1.3**
SIMA	**Simav-Kutahya**	**2.13**	**74**	Pn	**Pb**	**16 22 12.9**	**-0.5**
RDO	**Rodhopi**	**2.70**	**347**	P	**Pn**	**16 22 18.3**	**+0.5**
RDO				S	**Sn**	**16 22 48.6**	**-1.5**
RDO	**Rodhopi**	**2.70**	**347**	P	**Pn**	**16 22 17.9**	**0.0**

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*NOU **19** 16:30:04.3, 31°.63S×177°.27W, h274km, mb4.3/6, Kermadec Islands Region*
*WEL **19** 16:31:11.1±1.0, 36°.S±10°×17°.8E±1°.0, h181km±17km, M3.2/6, ML3.5/10, MLv3.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=107.7, confirmed*

ISC 19 16:31:08.4±3.4, 35°.6S±0°.1×178°.5E±0°.1, h217km±16km, n43, σ1s08/57, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.99**	**185**	P	**Pn**	**16 31 48.7**

KIW	Kapiti Island	5.99	207	P	Pn	16 32 34.7 -1.0
CAW	Cannon Point	6.15	205	P	Pn	16 32 36.3 -1.4
CAW				P	Pn	16 32 36.4 -1.4
PAWZ	Paruwai Farm	6.28	202	P	Pn	16 32 45.4 +6.0
DUWZ	D'Urville Isla	6.35	213	P	Pn	16 32 46.8 +6.5
WEL	Wellington	6.41	206	P	Pn	16 32 42.5 +1.4
SNZO	South Karori	6.46	207	P	Pn	16 32 41.8 +0.2
PLWZ	Palliser	6.51	202	P	Pn	16 32 41.3 -1.0
TCW	Tory Channel	6.54	209	P	Pn	16 32 41.0 -1.7
QRZ	Quartz Range	7.05	220	P	Pn	16 32 51.8 +2.6
QRZ	Quartz Range	7.05	220	P	Pn	16 32 51.2 +2.0

IDC ***19*** *16:53:14.1±0.6,17°.82S×13°.72W,h0km,mb4.2/16, mbtmp4.2/16,MS4.0/55,Error ellipse: s-maj=21.2km s-min=14.9km az=153.0*

NEIC ***19*** *16:53:16.4±1.9,18°.2S±0°.1×13°.66W±0°.09,h10km±1km, mb5.0/87,Error ellipse: s-maj=19.8km s-min=14.4km az=163.0*

GCMT ***19*** *16:53:20.4±0.3,17°.84S±0°.02×13°.65W±0°.02,h17km±1km, MW4.9/79,Moment Tensor Solution. s27,c30; s79,c112; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.53±.22; Mθθ 1.09±.13; Mϕϕ 1.45±.14; Mrθ 0.36±.40; Mrϕ -2.02±.09; Mθϕ -0.52±.39; Best double couple: Mo2.98200×10^16^ NP1:ϕs320.00000°,δ51.00000°,λ-87.00000°. NP2: ϕs135.00000°,δ39.00000°,λ-94.00000°. Principal axes: T 3.3650, Plg6.0000°, Azm48.0000°; N -0.7550, Plg2.0000°, Azm138.0000°; P -2.6000, Plg83.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 16:53:17.0±0.4,18°.01S±0°.09×13°.68W±0°.06,h17km,n169,σ1ϕ37/124,mb5.0/58,MS4.0/55,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	Horse Pasture	7.86	76	Pn	Pn	16 55 08.3	-2.4
H10S2	ASCENSION HYDR	9.05	354	T	T	17 04 39.7	
	baz=47,slow=74,SNR=54						
H10S3	ASCENSION HYDR	9.06	354	T	T	17 04 40.9	
	baz=173,slow=74,SNR=87						
H10N1	ASCENSION HYDR	10.14	355	T	T	17 06 03.3	
	baz=179						
H10N3	ASCENSION HYDR	10.14	355	T	T	17 06 02.1	
	baz=179						
H10N2	ASCENSION HYDR	10.15	355	T	T	17 06 02.6	
	baz=179						
RCBR	Riachuelo	24.85	296	P	P	16 58 35.8	-3.1
	20nm,1.1s,baz=90,slow=2.8,SNR=2.4						
RCBR				LR	LR	17 06 41.4	
	comp=Z,403nm,18.5s,baz=258,slow=33						
	20nm,1.1s						
RCBR	Riachuelo	24.85	296	P	P	16 58 36.4	-2.5
RCBR				IAmb	IAmb	16 58 40.5	
	comp=Z,66nm,1.6s						
DBIC	Dimbokro	26.03	20	P	P	16 58 46.6	-2.9
	comp=Z,2.3nm,0.6s,baz=190,slow=8.7,SNR=4.6						
DBIC				LR	LR	17 06 28.8	
	comp=Z,382nm,20.5s,baz=197,slow=31						
	comp=Z,2.3nm,0.6s						
DBIC	Dimbokro	26.03	20	P	P	16 58 47.3	-2.2
TSUM	Tsumeb	29.63	97	P	P	16 59 20.7	-1.2
	comp=Z,4.3nm,0.8s,baz=245,slow=5.2,SNR=4.7						
TSUM				LR	LR	17 09 13.7	
	comp=Z,209nm,20.4s,baz=314,slow=32						
	comp=Z,4.3nm,0.8s						
SDBA	SAO DESIDERIO	30.61	276	eP	P	16 59 30.0	-0.6
BBTS	Babate	32.59	355	P	P	16 59 45.2	-2.5
	comp=Z,18nm,0.3s,baz=323,slow=24,SNR=1.9						
BBTS				LR	LR	17 11 28.7	
	comp=Z,154nm,18.0s,baz=190,slow=34						
IPMB	Ipameri, GO	32.81	265	eP	P	16 59 49.0	-0.9
BDFB	Brasilia	32.92	269	P	P	16 59 50.0	-0.9
	comp=Z,2.7nm,0.6s,baz=86,slow=7.6,SNR=4.0						
BDFB				LR	LR	17 10 35.3	
	comp=Z,507nm,20.6s,baz=134,slow=32						
	comp=Z,2.7nm,0.6s						
ROSB	Rosrio	33.41	293	eP	P	16 59 53.7	-1.3
SMTB	Santa Maria do	34.16	281	eP	P	17 00 01.1	-0.6
SUR	Sutherland	34.16	121	LR	LR	17 11 19.4	
	comp=Z,273nm,20.4s,baz=290,slow=32						
SUR	Sutherland	34.16	121	P	P	16 59 59.4	-2.3
PCMB	Pacaembu	35.48	258	eP	P	17 00 12.7	-0.4
LBTB	Lobatse	37.10	108	P	P	17 00 26.9	0.0
	comp=Z,1.8nm,0.5s,baz=228,slow=11,SNR=2.6						
LBTB				LR	LR	17 13 51.4	
	comp=Z,295nm,19.2s,baz=259,slow=33						
	comp=Z,1.8nm,0.5s						
LBTB	Lobatse	37.10	108	P	P	17 00 26.2	-0.7
LBTB				IAmb	IAmb	17 01 49.1	
	comp=Z,42nm,1.9s						
C2SB	Chapadao do Su	37.12	263	eP	P	17 00 28.6	+1.6
BOSA	Boshof	37.13	114	LR	LR	17 13 25.2	
	comp=Z,273nm,19.2s,baz=271,slow=32						
BOSA	Boshof	37.13	114	P	P	17 00 24.2	-3.0
BOSA				IAmb	IAmb	17 00 53.5	
	comp=Z,31nm,1.6s						
GRHM	Grahamstown, E	38.92	121	P	P	17 00 42.1	0.0
AQDB	Aquidauana	39.67	259	P	P	17 00 48.0	-0.5
AQDB				IAmb	IAmb	17 00 50.0	
	comp=Z,49nm,1.6s						
SALV	Santo Antonio	40.18	267	eP	P	17 00 51.9	-0.9
ITQB	Itaqui	40.74	245	P	P	17 00 57.2	0.0
ITQB				IAmb	IAmb	17 00 59.9	
	comp=Z,22nm,1.0s						
CPUP	Villa Florida	41.10	250	P	P	17 01 00.9	+0.6
	comp=Z,1.2nm,0.6s,baz=43,slow=17,SNR=2.3						
CPUP				LR	LR	17 15 07.8	
	comp=Z,161nm,20.2s,baz=92,slow=32						
	comp=Z,1.2nm,0.6s						
CPUP	Villa Florida	41.10	250	P	P	17 01 00.8	+0.5
CLDB	Colider	41.33	274	eP	P	17 01 02.7	+0.4
NPGB	Novo Progresso	42.02	280	eP	P	17 01 07.4	-0.6
PDRB	Porto dos Gac	42.03	273	eP	P	17 01 07.8	-0.3
POGA	Pongola	42.70	111	P	P	17 01 14.2	+0.9
MALB	Monte Alegre	42.93	287	eP	P	17 01 15.3	0.0
ITTB	Itaituba	43.30	283	eP	P	17 01 18.8	+0.4
PTLB	Pontes e Lacer	43.53	266	P	P	17 01 20.9	+0.7
PTLB				IAmb	IAmb	17 01 30.2	
	comp=Z,13nm,1.0s						
PTLB	Pontes e Lacer	43.53	266	eP	P	17 01 21.0	+0.9
MDP	Montagnes des	44.77	297	LR	LR	17 18 35.6	
	comp=Z,54nm,19.1s,baz=103,slow=34						
VILB	Vilhena	45.02	270	P	P	17 01 32.6	+0.4
VILB				IAmb	IAmb	17 01 42.4	
	comp=Z,11nm,0.8s						
VILB	Vilhena	45.02	270	eP	P	17 01 33.1	+0.9
SIV	San Ignacio	45.27	265	P	P	17 01 34.5	+0.3
	comp=Z,3.9nm,0.9s,baz=86,slow=6.9,SNR=10						
SIV				LR	LR	17 18 15.2	
	comp=Z,261nm,21.0s,baz=118,slow=33						
	comp=Z,3.9nm,0.9s						
TRQA	Tornquist	46.50	234	P	P	17 01 43.1	-0.4
TRQA				IAmb	IAmb	17 01 52.9	
	comp=Z,37nm,1.7s						
MBAR	Mbarara	46.93	73	LR	LR	17 19 13.2	
	comp=Z,261nm,19.6s,baz=208,slow=33						
CFA	Coronel Fontan	50.87	244	P	P	17 02 16.4	-0.8
	comp=Z,3.0nm,0.7s,baz=75,slow=7.6,SNR=5.2						
CFA				LR	LR	17 20 40.8	
	comp=Z,212nm,21.7s,baz=76,slow=32						
	comp=Z,3.0nm,0.7s						
ZON	Zonda	51.24	244	P	P	17 02 18.7	-1.4
ZON				IAmb	IAmb	17 03 60.0	
	comp=Z,39nm,1.9s						
MDT	Midelt	51.28	10	LR	LR	17 22 16.2	
	comp=Z,260nm,18.3s,baz=166,slow=34						
AVE	Averroes	51.37	7	P	P	17 02 23.8	+3.0
ETMB	Extrema	51.50	272	P	P	17 02 21.3	-0.8
ETMB				IAmb	IAmb	17 02 23.8	
	comp=Z,38nm,2.0s						
ETMB	Extrema	51.50	272	eP	P	17 02 22.7	+0.5
LVC	Limon Verde	51.76	255	LR	LR	17 24 11.7	
	comp=Z,103nm,19.1s,baz=87,slow=36						
LVC	Limon Verde	51.76	255	P	P	17 02 23.6	-0.9
LPAZ	La Paz	51.90	263	P	P	17 02 25.1	-0.8
	comp=Z,1.4nm,0.9s,baz=93,slow=5.3,SNR=5.3						
LPAZ				LR	LR	17 23 19.0	
	comp=Z,315nm,18.7s,baz=95,slow=35						
	comp=Z,1.4nm,0.9s						
LPAZ	La Paz	51.90	263	P	P	17 02 24.9	-1.0
PB06	IPOC Station P	52.36	255	P	P	17 02 27.9	-0.8
PB06				IAmb	IAmb	17 03 17.9	
	comp=Z,15nm,0.8s						
GO01	Chusmiza	52.37	259	P	P	17 02 27.8	-1.4
GO01				IAmb	IAmb	17 02 38.7	
	comp=Z,25nm,1.6s						
CO01	Juntas del Tor	52.44	246	P	P	17 02 29.8	+0.5
PB01	IPOC Station P	52.46	257	P	P	17 02 28.2	-1.2
PB01				IAmb	IAmb	17 02 38.4	
	comp=Z,25nm,1.3s						
PB03	IPOC Station P	52.59	256	P	P	17 02 29.4	-1.1
PB03				IAmb	IAmb	17 02 40.2	
	comp=Z,23nm,1.3s						
LMEL	Las Melosas	52.61	241	P	P	17 02 28.6	-1.8
LMEL				IAmb	IAmb	17 02 36.7	
	comp=Z,37nm,1.6s						
AC05	El Transito	52.62	247	P	P	17 02 28.8	-1.8
GO03	Copiap	52.62	249	P	P	17 02 29.7	-0.8
GO03				IAmb	IAmb	17 02 39.5	
	comp=Z,21nm,1.4s						
KMBO	Kilima Mbogo	52.73	77	P	P	17 02 32.9	+1.3
AC06	Mina Casimiro	52.74	249	P	P	17 02 30.9	-0.4
AC06				IAmb	IAmb	17 02 41.0	
	comp=Z,21nm,1.1s						
PB07	IPOC Station P	52.75	256	P	P	17 02 30.8	-0.8
PB07				IAmb	IAmb	17 02 32.8	
	comp=Z,35nm,1.1s						
PB11	IPOC Station P	52.79	259	P	P	17 02 30.0	-1.9
PB11				IAmb	IAmb	17 02 49.3	
	comp=Z,19nm,0.8s						
LODK	Lodwar	52.81	71	P	P	17 02 32.4	+0.4
PB02	IPOC Station P	52.81	257	P	P	17 02 31.1	-0.9
PB02				IAmb	IAmb	17 02 33.1	
	comp=Z,27nm,1.2s						
MNMC	Minye Minye	52.82	259	P	P	17 02 31.1	-1.2
MT03	Universidad Ad	52.85	241	P	P	17 02 32.9	+0.7
MT03				IAmb	IAmb	17 02 45.8	
	comp=Z,18nm,0.6s						
PB16	IPOC Station P	52.86	260	P	P	17 02 31.7	-1.2
VA03	San Esteban	52.86	242	P	P	17 02 30.8	-1.4
VA03				IAmb	IAmb	17 03 50.4	
	comp=Z,44nm,1.7s						
PB04	IPOC Station P	52.93	255	P	P	17 02 32.2	-0.7
PB14	IPOC Station P	52.95	252	P	P	17 02 32.9	-0.3
BO04	La Punta	52.95	241	P	P	17 02 31.9	-0.9
CO03	El Pedregal	52.95	245	P	P	17 02 31.4	-1.5
CO03				IAmb	IAmb	17 03 31.1	
	comp=Z,30nm,1.5s						
PEL	Peldehue	52.99	242	P	P	17 02 32.7	-0.4
LCO	Las Campanas	52.99	247	P	P	17 02 32.8	-0.6
LCO				IAmb	IAmb	17 02 43.2	
	comp=Z,20nm,1.2s						
AC01	Pan de Azucar	53.02	251	P	P	17 02 32.2	-1.2
AC01				IAmb	IAmb	17 02 43.5	
	comp=Z,21nm,1.1s						
KIBK	Kibwezi	53.03	79	P	P	17 02 33.2	-0.4
GO04	Tololo Observa	53.05	246	P	P	17 02 32.9	-1.0
PATCX	Punta Patache	53.11	257	P	P	17 02 32.5	-1.6
PATCX				IAmb	IAmb	17 02 43.7	
	comp=Z,32nm,1.2s						
BO02	Sierra Bellavi	53.13	240	P	P	17 02 33.2	-0.9
BO02				IAmb	IAmb	17 02 43.8	
	comp=Z,21nm,1.2s						
TA02	Huaiquique	53.16	258	P	P	17 02 32.8	-1.6
TA02				IAmb	IAmb	17 02 35.1	
	comp=Z,26nm,0.8s						
TA01	Diego Aracena	53.17	257	P	P	17 02 33.0	-1.5
TA01				IAmb	IAmb	17 02 35.5	
	comp=Z,26nm,1.4s						
PB10	IPOC Station P	53.18	254	P	P	17 02 33.9	-0.7
PB10				IAmb	IAmb	17 02 35.8	
	comp=Z,15nm,0.9s						
ROC1	El Roble	53.26	242	P	P	17 02 33.6	-1.7
ROC1				IAmb	IAmb	17 02 40.5	
	comp=Z,16nm,1.0s						
MT09	Talagante	53.26	241	P	P	17 02 33.5	-1.7
MT09				IAmb	IAmb	17 02 44.9	
	comp=Z,28nm,1.2s						
BO01	Tunca	53.36	240	P	P	17 02 35.1	-0.7
MT02	Curacav	53.37	242	P	P	17 02 34.3	-1.5
MT02				IAmb	IAmb	17 03 43.3	
	comp=Z,52nm,1.6s						
MT01	Popeta	53.48	241	P	P	17 02 35.2	-1.4
MT01				IAmb	IAmb	17 02 39.0	
	comp=Z,61nm,1.9s						
PLCA	Paso Flores	53.49	232	LR	LR	17 23 31.9	
	comp=Z,338nm,18.6s,baz=84,slow=34						
VA06	Catapilco	53.49	243	P	P	17 02 35.3	-1.4
PB12	IPOC Station P	53.58	260	P	P	17 02 36.1	-1.6
PB12				IAmb	IAmb	17 02 37.7	
	comp=Z,16nm,1.0s						
ML02	Panimavida	53.70	239	P	P	17 02 38.0	-0.2
SNAA	Sanae	54.04	176	P	P	17 02 41.8	+1.6
	comp=Z,1.9nm,0.9s,baz=349,slow=4.1,SNR=4.0						
	comp=Z,1.9nm,0.9s						
LL04	Puerto Octay	54.91	232	P	P	17 02 46.1	-0.9
MESJ	Messejana	55.79	5	P	P	17 02 56.1	+2.9
MESJ				IAmb	IAmb	17 03 14.7	
	comp=Z,21nm,1.2s						
GRGR	Grenville	56.02	299	P	P	17 02 57.0	+1.7
GO08	Villa O'Higgin	56.17	223	P	P	17 02 57.2	+1.4
MG04	Isla Riesco	56.56	218	P	P	17 02 57.8	-0.7
PESTR	Estremoz	56.87	6	P	P	17 03 05.5	+4.7
PESTR				IAmb	IAmb	17 03 30.9	
	comp=Z,24nm,1.7s						
PMSA	Palmer Station	57.47	203	LR	LR	17 22 14.1	
	comp=Z,84nm,21.9s,baz=54,slow=30						
OPO	Ambohidratompo	57.54	101	LR	LR	17 25 07.5	
	comp=Z,89nm,18.8s,baz=150,slow=33						
KEST	Kesra	57.73	22	LR	LR	17 26 26.8	
	comp=Z,137nm,20.7s,baz=228,slow=35						
ESDC	Sonseca Array	58.10	9	LR	LR	17 26 21.3	
	comp=Z,127nm,20.5s,baz=166,slow=34						
BELA	Belgrano 2	60.77	185	P	P	17 03 28.9	+1.4
NNA	Nana	61.07	266	LR	LR	17 28 17.2	
	comp=Z,191nm,20.8s,baz=106,slow=34						
VAE	Valguarnera	61.21	25	LR	LR	17 29 24.6	
	comp=Z,306nm,18.4s,baz=155,slow=36						
SDV	Santo Domingo	62.25	291	LR	LR	17 30 00.1	
	comp=Z,170nm,18.1s,baz=138,slow=36						
SDV	Santo Domingo	62.25	291	P	P	17 03 38.7	0.0
SDV				IAmb	IAmb	17 03 40.3	
	comp=Z,27nm,1.6s						
HUMP	Col San Antoni	62.62	302	P	P	17 03 40.6	-0.3
CBYP	Canovanas	62.70	302	P	P	17 03 41.5	+0.1
CBYP				IAmb	IAmb	17 04 02.3	
	comp=Z,13nm,0.8s						
SJG	San Juan	62.85	302	LR	LR	17 24 53.6	
	comp=Z,64nm,20.9s,baz=106,slow=30						
ATD	Arta Tunnel	63.04	67	LR	LR	17 29 20.0	
	comp=Z,103nm,20.4s,baz=192,slow=34						
CELP	Cerrillos	63.18	302	P	P	17 03 45.8	+1.2
OBIP	Obispado Ponce	63.18	302	P	P	17 03 44.3	-0.3
RUSC	La Rusia	63.23	286	P	P	17 03 45.8	+0.2
RUSC				IAmb	IAmb	17 03 54.6	
	comp=Z,30nm,1.6s						
ATAH	Atahualpa	63.81	271	LR	LR	17 29 48.5	
	comp=Z,289nm,20.7s,baz=112,slow=34						
ROSC	El Rosal	63.95	285	LR	LR	17 31 06.9	
	comp=Z,632nm,18.2s,baz=134,slow=36						
ROSC	El Rosal	63.95	285	P	P	17 03 50.4	+0.1
IDI	Anoyia	64.41	34	LR	LR	17 31 48.0	
	comp=Z,30nm,19.4s,baz=134,slow=36						
PORT	Chimborazo Vol	65.89	277	P	P	17 04 04.0	+0.7
PORT				IAmb	IAmb	17 04 14.5	
	comp=Z,26nm,1.6s						
OTAV	Otavalo	66.15	278	P	P	17 04 04.0	-0.7
EIL	Elat	66.67	45	LR	LR	17 30 47.8	
	comp=Z,96nm,19.3s,baz=236,slow=34						
DAVOX	Davos/Dischmat	67.90	17	LR	LR	17 33 11.9	
	comp=Z,103nm,19.5s,baz=216,slow=35						
MAW	Mawson	68.36	156	LR	LR	17 29 28.8	
	comp=Z,90nm,18.1s,baz=295,slow=32						
MMAI	Mount Meron Ar	69.08	43	LR	LR	17 32 48.0	
	comp=Z,102nm,19.6s,baz=106,slow=34						
ALN	Alexandroupoli	69.25	31	P	P	17 04 26.8	+3.7
GERES	GERESS Array B	70.89	19	P	P	17 04 32.6	-0.4
	comp=Z,0.5nm,0.7s,baz=212,slow=3.3,SNR=2.4						
GERES				LR	LR	17 36 48.1	
	comp=Z,62nm,18.2s,baz=236,slow=37						
	comp=Z,0.5nm,0.7s						
GERES	GERESS Array B	70.89	19	P	P	17 04 35.1	+2.0
GRFO	Grafenberg	70.92	17	P	P	17 04 35.8	+2.6
RAYN	Ar Rayn	71.00	56	P	P	17 04 36.0	+1.7
RAYN				IAmb	IAmb	17 04 51.3	
	comp=Z,19nm,1.5s						
QSPA	South Pole Qui	72.17	180	LR	LR	17 33 12.6	
	comp=Z,50nm,19.0s,baz=208,slow=33						
VRAC	Vranov	72.21	20	LR	LR	17 35 27.8	
	comp=Z,123nm,20.4s,baz=198,slow=35						
VYHS	Vyhne	72.29	22	e	P	17 04 43.1	+1.7
BR131	Keskin Array S	72.43	36	P	P	17 04 42.8	+0.2
BRTR	Keskin Array B	72.43	36	P	P	17 04 43.0	+0.3
	comp=Z,3.3nm,0.7s,baz=198,slow=6.8,SNR=18						
BRTR				LR	LR	17 36 31.6	
	comp=Z,59nm,19.9s,baz=272,slow=36						
	comp=Z,3.3nm,0.7s						
BRTR	Keskin Array B	72.43	36	P	P	17 04 42.8	+0.2
MLR	Muntele Rosu	72.72	28	LR	LR	17 37 46.5	
	comp=Z,162nm,19.0s,baz=234,slow=37						
MLR	Muntele Rosu	72.72	28	P	P	17 04 45.0	+0.7
GAZ	Gaziantep	72.87	40	P	P	17 04 46.5	+1.2
GAZ				IAmb	IAmb	17 04 49.1	
	comp=Z,12nm,1.3s						
EKA	Eskdalemuir Ar	73.60	6	LR	LR	17 35 42.0	
	comp=Z,39nm,18.3s,baz=191,slow=35						
MARD	Mardin	75.20	42	P	P	17 05 00.2	+1.3
JTS	Las Juntas de	75.75	286	LR	LR	17 38 07.8	
	comp=Z,217nm,20.5s,baz=114,slow=36						
GURO	Guroymak-BITLI	76.73	42	P	P	17 05 08.5	+0.8
GURO				IAmb	IAmb	17 05 39.9	
	comp=Z,5.8nm,0.3s						
HAL	Halifax	77.16	326	P	P	17 05 10.7	+1.0
BOAB	BOACO BROADBAN	77.20	288	P	P	17 05 10.4	-0.1
AKASG	Malin Array Be	78.11	26	P	P	17 05 14.0	-0.9
	comp=Z,1.6nm,0.6s,baz=224,slow=5.4,SNR=11						
AKASG				LR	LR	17 42 13.9	
	comp=Z,40nm,18.2s,baz=197,slow=38						
	comp=Z,1.6nm,0.6s						
AKASG	Malin Array Be	78.11	26	P	P	17 05 14.6	-0.3
AKASG				IAmb	IAmb	17 05 22.5	
	comp=Z,24nm,1.9s						
AKBB	Malin Array Si	78.11	26	P	P	17 05 14.8	-0.1
GNI	Garni	79.36	42	LR	LR	17 39 06.4	
	comp=Z,49nm,21.2s,baz=258,slow=35						
KBZ	Khabaz	80.31	38	P	P	17 05 26.8	-0.3
	comp=Z,2.5nm,0.9s,baz=252,slow=5.3,SNR=4.2						
	comp=Z,2.5nm,0.9s						
HFS	Hagfors	80.98	13	LR	LR	17 42 35.9	
	comp=Z,77nm,19.0s,baz=205,slow=37						
NOA	NORSAR Array B	81.28	12	LR	LR	17 41 55.8	
	comp=Z,62nm,18.0s,baz=205,slow=36						
WSAR	Wadi Sarin	81.64	62	LR	LR	17 40 52.3	
	comp=Z,299nm,19.8s,baz=254,slow=35						
VNDA	Vanda	84.63	179	P	P	17 05 50.5	+1.3
	comp=Z,2.3nm,1.0s,baz=168,slow=2.2,SNR=4.4						
VNDA				LR	LR	17 41 48.8	
	comp=Z,68nm,18.1s,baz=166,slow=34						
	comp=Z,2.3nm,1.0s						
TKL	Tuckaleechee C	85.10	310	LR	LR	17 36 04.4	
	comp=Z,24nm,21.6s,baz=130,slow=30						
FINES	FINESS Array B	85.30	18	P	P	17 05 52.2	-0.4
	comp=Z,5.7nm,1.0s,baz=224,slow=7.7,SNR=2.9						
FINES				LR	LR	17 43 56.3	
	comp=Z,74nm,18.4s,baz=183,slow=36						
	comp=Z,5.7nm,1.0s						
SCHQ	Schefferville	85.44	332	LR	LR	17 35 36.4	
	comp=Z,67nm,19.3s,baz=98,slow=30						
RPN	Rapa Nui	86.80	243	LR	LR	17 39 22.4	
	comp=Z,51nm,18.0s,baz=68,slow=32						
CMIG	Matias Romero	87.17	289	LR	LR	17 46 37.8	
	comp=Z,73nm,18.9s,baz=136,slow=37						
GEYT	Alibeck	87.31	49	LR	LR	17 42 56.0	
	comp=Z,102nm,21.2s,baz=290,slow=34						
KIRV	Kirov	92.08	28	LR	LR	17 50 07.3	
	comp=Z,75nm,18.5s,baz=298,slow=37						
AKTO	Aktyubinsk	92.59	37	LR	LR	17 49 01.6	
	comp=Z,45nm,20.7s,baz=237,slow=36						
ARU	Arti	95.41	32	LR	LR	17 53 16.5	
	comp=Z,36nm,18.1s,baz=238,slow=38						
SONM	Songino Array	123.26	44	PKP	PKPdf	17 12 12.3	-0.9
	comp=Z,0.3nm,0.8s,baz=258,slow=4.3,SNR=1.8						
MJAR	Matsushiro Arr	149.11	48	PKPbc	PKPbc	17 13 03.6	-1.2
	comp=Z,2.4nm,0.9s,baz=325,slow=5.5,SNR=4.6						

IDC 19 16:59:12.9±3.1,32°.16S×179°.04W,h0km,mb3.3/2, mbtmp3.4/3,ML3.4/1,Error ellipse: s-maj=69.2km s-min=46.1km az=111.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.85	206	Pn	Pn	17 00 53.5	-1.2
	0.8nm,0.3s,baz=350,slow=5.4,SNR=12						
URZ				Sn	Sn	17 02 07.9	-5.5
	0.5nm,0.3s,baz=60,slow=20,SNR=5.9						
	2.3nm,0.3s						
ASAR	Alice Springs	42.16	269	P	P	17 07 07.6	+0.1
	0.2nm,0.6s,baz=109,slow=8.6,SNR=7.6						
	0.2nm,0.6s						
WRA	Warramunga Arr	43.31	275	P	P	17 07 16.7	-0.1
	0.1nm,0.3s,baz=112,slow=7.8,SNR=7.0						
	0.1nm,0.3s						
FINES	FINESS Array B	146.47	338	PKPbc	PKPdf	17 18 54.6	+0.7
	2.0nm,0.9s,baz=20,slow=4.4,SNR=4.5						

IDC ***19*** *17:29:44.0±0.5,18°.56N×145°.61E,h202km±4km,mb4.0/29, mbtmp4.5/33,MS2.9/1,Error ellipse: s-maj=11.9km s-min=6.2km az=88.0*

DJA ***19*** *17:29:43.1±1.2,19°.N±6°×14°.6E±1°.2,h198km±9km, M5.1/13,mB4.8/2,mb4.8/13,MLv5.2/1,Mw(mB)4.0/2*

NEIC ***19*** *17:29:46.9±1.7,18°.53N±0°.07×145°.6E±0°.1,h224km±7km, mb4.6/149,Error ellipse: s-maj=16.0km s-min=10.5km az=92.0*

ISC 19 17:29:45.0±0.4,18°.60N±0°.04×145°.55E±0°.07,h209km±4km, h209km:pP-P,n228,σ1ϕ8/241,mb4.6/111,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.02	188	P	Pn	17 30 59.8	-0.2
	152nm,0.5s,baz=18,slow=20,SNR=11						
GUMO				S	S	17 31 57.4	-1.5

MANU **Manus Island** 20.59 175 P **P** 17 34 07.3 -0.9
MANU **Manus Island** 20.59 175 P **P** 17 34 08.1 -0.1
comp=Z,141nm,0.8s
GENI **Genyem** 21.71 195 P **P** 17 34 20.4 +0.5
comp=Z,128nm,1.0s
GENI **Genyem** 21.71 195 P **P** 17 34 19.8 -0.1
comp=Z,132nm,0.9s
SRPI **Serui, Papua** 22.31 205 P **P** 17 34 26.8 +1.3
comp=Z,81nm,1.1s
JTM **Tenmabayashi** 22.45 351 P **P** 17 34 27.4 +0.8
YULB **Yu-li** 23.13 286 P **P** 17 34 33.4 +0.4
YULB IAmb IAmb 17 35 12.4
comp=Z,22nm,1.1s
YHNB **Yeheng** 23.26 289 P **P** 17 34 33.8 -0.3
ERM **Erimo** 23.43 356 P **P** 17 34 38.4 +3.0
SSLB **Suanglung** 23.50 287 P **P** 17 34 36.4 +0.1
SSLB IAmb IAmb 17 34 40.4
comp=Z,17nm,0.9s
RABL **Rabaul** 23.56 163 P **P** 17 34 34.9 -2.0
RABL **Rabaul** 23.56 163 P **P** 17 34 37.2 +0.3
comp=Z,120nm,0.7s
KRVT **Keravat (AS076** 23.64 164 P **P** 17 34 36.5 -1.0
comp=Z,24nm,0.5s,baz=351,slow=2.0,SNR=6.3
comp=Z,24nm,0.5s
SIJI **Sorong** 23.91 218 P **P** 17 34 40.5 +0.4
comp=Z,16nm,0.7s,baz=31,slow=7.7,SNR=9.7
comp=Z,16nm,0.7s
KSRS **Korea Array** 24.32 324 P **P** 17 34 43.6 +0.1
comp=Z,3.4nm,0.6s,baz=144,slow=9.0,SNR=20
KSRS pP **pP** 17 35 23.5 +1.3
comp=Z,4.2nm,0.9s,baz=144,slow=8.1,SNR=3.6
comp=Z,3.4nm,0.6s
KSAR **Wonju Array Be** 24.33 324 P **P** 17 34 43.8 +0.1
KS19 **Wonju Array Si** 24.38 324 P **P** 17 34 43.5 -0.7
KS19 IAmb IAmb 17 35 12.3
comp=Z,34nm,1.4s
FAKI **Fak Fak** 25.07 213 P **P** 17 34 51.1 +0.5
FAKI IAmb IAmb 17 34 55.3
comp=Z,17nm,0.8s
JKA **Kamikawa-asahi** 25.56 355 P **P** 17 34 56.1 +1.4
JKA IAmb IAmb 17 34 58.1
comp=Z,23nm,0.8s
ASAJ **Asahikawa** 25.57 355 P **P** 17 34 55.8 +1.1
comp=Z,20nm,0.7s,baz=188,slow=8.0,SNR=31
comp=Z,20nm,0.7s
PMG **Port Moresby** 27.87 177 P **P** 17 35 14.6 -0.9
comp=Z,12nm,0.6s,baz=8.1,slow=7.1,SNR=6.4
comp=Z,12nm,0.6s
PMG **Port Moresby** 27.87 177 P **P** 17 35 14.1 -1.5
PMG **Port Moresby** 27.87 177 P **P** 17 35 16.0 +0.4
comp=Z,42nm,0.9s
USRK **Ussuriysk Ar.** 27.95 339 P **P** 17 35 15.4 -0.6
comp=Z,1.0nm,0.6s,baz=160,slow=6.0,SNR=2.2
comp=Z,1.0nm,0.6s
YSS **Yuzh-Sakhalins** 28.38 356 P **P** 17 35 19.7 0.0
YSS IAmb IAmb 17 35 21.1
comp=Z,17nm,0.8s
MYLDM **Lahad Datu** 29.58 247 P **P** 17 35 33.3 +2.6
MYLDM IAmb IAmb 17 35 34.7
comp=Z,12nm,0.6s
TOLI2 **Tolitoli** 29.88 237 P **P** 17 35 34.5 +1.1
TOLI2 IAmb IAmb 17 35 35.4
comp=Z,13nm,1.1s
KKM **Kota Kinabalu** 31.20 250 P **P** 17 35 46.8 +1.7
COEN **Coen** 32.43 184 P **P** 17 35 55.5 -0.2
COEN IAmb IAmb 17 35 57.1
comp=Z,15nm,0.5s
COEN **Coen** 32.43 184 P **P** 17 35 55.5 -0.2
comp=Z,21nm,0.7s
KLR **Kul'dur** 32.53 343 P **P** 17 35 56.1 -0.1
comp=Z,11nm,0.5s,baz=156,slow=7.1,SNR=44
KLR pP **pP** 17 36 37.6 -0.6
comp=Z,2.7nm,0.5s,baz=153,slow=11,SNR=2.9
comp=Z,11nm,0.5s
MTN **Manton Dam** 34.33 206 P **P** 17 36 12.0 -0.1
KAPI **Kappang** 34.60 230 P **P** 17 36 15.5 +1.0
KAPI IAmb IAmb 17 36 16.5
comp=Z,14nm,0.8s
HEH **HeiHe** 34.75 339 *e*P **P** 17 36 15.5 +0.1
HEH pmax pmax
comp=Z,5.0nm,0.8s
SOEI **Soe** 35.14 218 P **P** 17 36 17.8 -1.4
SOEI IAmb IAmb 17 36 56.0
comp=Z,30nm,1.1s
PEA0B **Petropavlovsk-** 35.72 13 P **P** 17 36 24.7 +1.1
PEA0B IAmb IAmb 17 36 29.0
comp=Z,27nm,1.4s
PETK **Petropavlovsk-** 35.72 13 P **P** 17 36 24.1 +0.6
comp=Z,5.5nm,0.7s,baz=181,slow=7.4,SNR=10
comp=Z,5.5nm,0.7s
SBUM **Sibu** 36.38 248 P **P** 17 36 31.6 +1.9
SBUM IAmb IAmb 17 36 32.1
comp=Z,18nm,0.6s
MTSU **Mount Surprise** 36.52 182 P **P** 17 36 30.7 -0.1
comp=Z,22nm,0.7s
KNRA **Kununurra** 37.86 207 P **P** 17 36 42.5 +0.5
KNRA IAmb IAmb 17 36 42.9
comp=Z,17nm,0.7s
CTAO **Charters Tower** 38.45 179 P **P** 17 36 46.3 -0.6
QIS **Mount Isa** 39.35 189 P **P** 17 36 54.9 +0.6
comp=Z,17nm,0.8s
WB0 **Warramunga Arr** 39.67 197 P **P** 17 36 57.1 +0.1
WB0 IAmb IAmb 17 36 57.9
comp=Z,43nm,1.2s
WR0 **Warramunga Arr** 39.81 196 P **P** 17 36 58.2 0.0
WR0 IAmb IAmb 17 36 59.3
comp=Z,34nm,1.4s
WRAB **Tennant Creek** 39.84 197 P **P** 17 36 58.2 -0.2
WRAB IAmb IAmb 17 36 60.0
comp=Z,21nm,0.6s
WRAB **Tennant Creek** 39.84 197 P **P** 17 36 58.7 +0.3
comp=Z,34nm,0.5s
WB2 **Warramunga Arr** 39.84 197 P **P** 17 36 58.6 +0.1
WB2 IAmb IAmb 17 36 59.4
comp=Z,20nm,0.5s
WRA **Warramunga Arr** 39.85 197 P **P** 17 36 58.3 -0.2
comp=Z,12nm,0.4s,baz=21,slow=9.1,SNR=171
WRA PcP **PcP** 17 38 59.6 -0.5
comp=Z,2.0nm,0.5s,baz=14,slow=3.3,SNR=4.6
WRA ScP **ScP** 17 42 27.1 -2.1
comp=Z,1.3nm,0.9s,baz=19,slow=3.8,SNR=5.3
comp=Z,12nm,0.4s
WRA **Warramunga Arr** 39.85 197 P **P** 17 36 58.1 -0.4
MA2 **Magadan** 41.10 4 P **P** 17 37 09.3 +1.0
comp=Z,3.4nm,0.5s,baz=187,slow=8.4,SNR=7.0
comp=Z,3.4nm,0.5s
MA2 **Magadan** 41.10 4 P **P** 17 37 09.0 +0.8
FITZ **Fitzroy Crossi** 41.38 209 P **P** 17 37 11.5 +0.4
ULN **Ulaanbaatar** 42.77 322 P **P** 17 37 22.5 +0.4
SONM **Songino Array** 43.14 322 P **P** 17 37 24.7 -0.4
comp=Z,2.9nm,0.5s,baz=138,slow=9.2,SNR=34
SONM PcP **PP** 17 39 09.9 +0.2
comp=Z,0.7nm,0.6s,baz=143,slow=5.0,SNR=2.0
SONM ScP **ScP** 17 42 39.7 -2.4
comp=Z,0.2nm,0.5s,baz=109,slow=5.5,SNR=2.3
comp=Z,2.9nm,0.5s
SONM **Songino Array** 43.14 322 P **P** 17 37 25.2 +0.2
UGM **Wanagama** 43.45 236 P **P** 17 37 26.1 -1.8
AS01 **Alice Springs** 43.50 196 P **P** 17 37 28.2 +0.1
comp=Z,7.8nm,0.7s
AS31 **Alice Springs** 43.52 196 P **P** 17 37 27.6 -0.5
ASAR **Alice Springs** 43.52 196 P **P** 17 37 27.6 -0.6
comp=Z,4.0nm,0.6s,baz=11,slow=7.1,SNR=112
ASAR ScP **ScP** 17 42 40.8 -3.1
comp=Z,0.6nm,0.8s,baz=23,slow=5.0,SNR=4.7
comp=Z,4.0nm,0.6s
ASAR **Alice Springs** 43.52 196 P **P** 17 37 27.9 -0.3
EIDS **Eidsvold** 44.03 173 P **P** 17 37 30.1 -2.1
CMAR **Chiang Mai Arr** 44.09 278 P **P** 17 37 33.2 +0.2
comp=Z,0.7nm,0.8s,baz=76,slow=7.5,SNR=4.4
comp=Z,0.7nm,0.8s
LIFNC **LIFOU** 44.53 150 P **P** 17 37 35.3 -0.9
LIFNC IAmb IAmb 17 37 36.9
comp=Z,29nm,0.8s
YAK **Yakutsk** 44.80 349 P **P** 17 37 37.3 -0.5
comp=Z,5.3nm,0.4s,baz=151,slow=1.0,SNR=14
YAK pP **pP** 17 38 21.0 -1.1
comp=Z,3.7nm,0.5s,baz=213,slow=0.5,SNR=1.9
comp=Z,5.3nm,0.4s
YAK **Yakutsk** 44.80 349 P **P** 17 37 37.9 +0.2
YAK IAmb IAmb 17 37 38.7
comp=Z,18nm,0.7s
RMQ **Roma** 44.92 176 P **P** 17 37 39.6 +0.4
comp=Z,17nm,0.7s
NOUC **Port Laguerre** 45.26 152 P **P** 17 37 42.2 +0.3
comp=Z,26nm,0.9s
DZM **Mont Dzumac** 45.29 152 P **P** 17 37 42.1 -0.3
DZM IAmb IAmb 17 37 43.1
comp=Z,31nm,0.9s
DZM **Mont Dzumac** 45.29 152 P **P** 17 37 42.5 +0.2
comp=Z,47nm,1.6s
KULM **Kulim** 45.73 259 P **P** 17 37 47.8 +1.9
OUENC **Ouen Island, N** 45.77 152 P **P** 17 37 45.9 -0.1
OUENC IAmb IAmb 17 37 46.9
comp=Z,30nm,0.7s
OUENC **Ouen Island, N** 45.77 152 P **P** 17 37 46.5 +0.6
comp=Z,46nm,0.7s
PINNC **Pines Island,** 46.21 151 P **P** 17 37 49.2 -0.2
PINNC IAmb IAmb 17 37 50.1
comp=Z,19nm,0.8s
INKA **Innaminka** 46.30 186 P **P** 17 37 49.7 -0.3
comp=Z,19nm,1.0s
WRKA **Warakurna** 46.51 202 P **P** 17 37 52.3 +0.5
comp=Z,17nm,0.8s
MBWA **Marble Bar** 46.91 214 P **P** 17 37 55.2 +0.4
MBWA IAmb IAmb 17 38 37.7
comp=Z,40nm,1.4s
OOD **Oodnadatta** 47.10 192 P **P** 17 37 56.2 +0.1
comp=Z,10nm,0.7s
PSA00 **Pilbara Seismi** 47.19 213 P **P** 17 37 57.6 +0.5
PSA00 IAmb IAmb 17 38 34.1
comp=Z,31nm,1.4s
AULRC **Lightning Ridg** 47.80 177 P **P** 17 38 01.9 +0.3
comp=Z,26nm,0.9s
ARMA **Armidale** 49.08 173 P **P** 17 38 10.9 -0.6
ARMA IAmb IAmb 17 38 42.1
comp=Z,16nm,1.3s
MULG **Mulgathing** 49.84 193 P **P** 17 38 17.0 0.0
comp=Z,19nm,1.2s
GSI **Gunungsitoli** 50.07 256 P **P** 17 38 20.4 +1.3
GSI IAmb IAmb 17 38 22.8
comp=Z,22nm,1.0s
STKA **Stephens Creek** 50.33 184 P **P** 17 38 19.6 -1.1
comp=Z,4.8nm,0.9s,baz=24,slow=6.7,SNR=8.0
comp=Z,4.8nm,0.9s
STKA **Stephens Creek** 50.33 184 P **P** 17 38 19.7 -1.0
UNV **Unalaska Valle** 50.82 35 P **P** 17 38 23.9 -0.2
BILL **Bilibino** 51.14 10 P **P** 17 38 27.3 +0.9
BILL IAmb IAmb 17 38 28.2
comp=Z,18nm,1.1s
GIRL **Giralia** 51.16 218 P **P** 17 38 27.5 +0.4
AKUT **Akutan** 51.33 34 P **P** 17 38 28.4 +0.5
FORT **Forrest** 51.89 199 P **P** 17 38 32.5 +0.1
FORT IAmb IAmb 17 38 34.3
comp=Z,20nm,0.7s
BBOO **Buckleboo** 51.92 190 P **P** 17 38 32.0 -0.5
BBOO IAmb IAmb 17 39 03.8
comp=Z,27nm,1.4s
TIXI **Tiksi** 53.95 354 P **P** 17 38 46.1 -0.8
comp=Z,1.2nm,0.3s,baz=270,slow=22,SNR=4.0
comp=Z,1.2nm,0.3s
SDPT **Sand Point** 54.63 35 P **P** 17 38 52.3 +0.4
MORW **Morawa** 55.30 212 P **P** 17 38 57.5 +0.5
TNA **Tin City** 55.96 21 P **P** 17 39 01.4 +0.1
CHGN **Chignik** 56.05 34 P **P** 17 39 02.1 +0.1
ANM **Nome** 56.34 23 P **P** 17 39 05.3 +1.2
CHIR **Chirikof Islan** 57.40 35 P **P** 17 39 12.8 +1.2
NWAO **Narrogin (SRO)** 57.95 208 P **P** 17 39 16.8 +1.1
NWAO IAmb IAmb 17 39 17.8
comp=Z,23nm,1.0s
NWAO **Narrogin (SRO)** 57.95 208 P **P** 17 39 16.6 +0.9
NWAO IAmb IAmb 17 39 17.8
comp=Z,20nm,1.1s
ZAA0 **Zalesovo Array** 58.01 323 P **P** 17 39 14.5 -1.4
ZALV **Zalesovo Beam** 58.01 323 P **P** 17 39 15.2 -0.7
comp=Z,1.7nm,0.4s,baz=103,slow=8.8,SNR=11
ZALV pP **pP** 17 40 02.8 +0.9
comp=Z,1.2nm,0.5s,baz=118,slow=6.9,SNR=3.1
comp=Z,1.7nm,0.4s
ZALV **Zalesovo Beam** 58.01 323 P **P** 17 39 15.3 -0.6
SII **Sitkinak Islan** 58.37 34 P **P** 17 39 19.3 +1.0
MK31 **Makanchi Array** 58.43 314 P **P** 17 39 19.5 +0.5
MKAR **Makanchi Array** 58.43 314 P **P** 17 39 19.0 0.0
comp=Z,1.0nm,0.5s,baz=91,slow=7.6,SNR=32
MKAR pP **pP** 17 40 05.7 +0.7
comp=Z,1.6nm,0.8s,baz=100,slow=9.1,SNR=4.1
MKAR ScP **ScP** 17 43 45.8 -1.9
comp=Z,0.4nm,0.8s,baz=90,slow=5.8,SNR=2.7
comp=Z,1.0nm,0.5s
MKAR **Makanchi Array** 58.43 314 P **P** 17 39 19.5 +0.5
P18K **Big Mountain,** 58.62 31 P **P** 17 39 20.2 +0.1
P18K IAmb IAmb 17 39 20.3
comp=Z,17nm,1.2s
MAKZ **Makanchi** 58.65 314 P **P** 17 39 20.7 +0.2
O18K **Koktuh Hills** 58.77 30 P **P** 17 39 21.6 +0.6
O18K IAmb IAmb 17 39 23.1
comp=Z,14nm,0.8s
SVW2 **Sparrevohn** 58.98 29 P **P** 17 39 23.4 +0.9
SVW2 IAmb IAmb 17 39 37.4
comp=Z,22nm,1.5s
Q19K **Cape Douglas,** 59.27 32 P **P** 17 39 24.0 -0.5
N19K **Bonanza Creek** 59.40 30 P **P** 17 39 26.7 +1.2
N19K IAmb IAmb 17 39 30.0
comp=Z,18nm,1.3s
KDAK **Kodiak Island** 59.52 33 P **P** 17 39 26.4 +0.3
comp=Z,4.2nm,0.5s,baz=162,slow=16,SNR=1.8
comp=Z,4.2nm,0.5s
L19K **White Mountain** 59.66 28 P **P** 17 39 27.2 +0.1
L19K IAmb IAmb 17 39 54.1
comp=Z,20nm,1.4s
P19K **Oil Pt** 59.67 31 P **P** 17 39 27.9 +0.6
K20K **Telida** 60.38 27 P **P** 17 39 32.9 +0.9
CNPM **China Poot** 60.62 31 P **P** 17 39 33.8 +0.1
BRLK **Bradley Lake** 60.85 31 P **P** 17 39 35.0 -0.2
PPLA **Purkeypile** 61.05 28 P **P** 17 39 37.0 +0.3
PPLA IAmb IAmb 17 40 01.6
comp=Z,30nm,1.4s
SKT **Skwentna** 61.10 29 P **P** 17 39 36.6 -0.2
CAST **Castle Rocks** 61.25 27 P **P** 17 39 38.6 +0.8
CAST IAmb IAmb 17 39 39.5
comp=Z,8.3nm,0.8s
KURK **Kurchatov** 61.26 318 P **P** 17 39 37.8 -0.3
IMAR **Indian Mountai** 61.37 24 P **P** 17 39 39.4 +0.9
NRIK **Noril'sk** 61.66 340 P **P** 17 39 40.4 -0.1
comp=Z,5.0nm,0.4s,baz=108,slow=11,SNR=10
comp=Z,5.0nm,0.4s
NRIK **Noril'sk** 61.66 340 P **P** 17 39 40.4 -0.1
NRIK IAmb IAmb 17 39 40.8
comp=Z,6.2nm,0.5s
RC01 **Rabbit Creek A** 61.71 30 P **P** 17 39 41.0 +0.1
RC01 IAmb IAmb 17 39 41.7
comp=Z,18nm,1.1s
CUT **Chulitna** 61.78 28 P **P** 17 39 41.3 -0.1
CUT IAmb IAmb 17 39 51.0
comp=Z,32nm,1.4s
KTH **Kantishna Hill** 61.79 27 P **P** 17 39 42.0 +0.5
KTH IAmb IAmb 17 39 44.0
comp=Z,19nm,1.4s
I21K **Tanana** 61.81 25 P **P** 17 39 42.4 +0.9
I21K IAmb IAmb 17 39 45.3
comp=Z,20nm,1.4s
BPAW **Bear Paw Mtn.** 61.91 26 P **P** 17 39 42.8 +0.6
BPAW IAmb IAmb 17 39 43.7
comp=Z,6.9nm,0.6s
TRF **Thorofare Moun** 62.03 27 P **P** 17 39 43.1 -0.1
TRF IAmb IAmb 17 39 43.6
comp=Z,6.4nm,0.8s
GHO **Glory Hole Cre** 62.24 29 P **P** 17 39 44.8 +0.2
GHO IAmb IAmb 17 39 45.4
comp=Z,14nm,1.0s
MLY **Manley** 62.27 25 P **P** 17 39 45.3 +0.7
MLY IAmb IAmb 17 39 46.2
comp=Z,7.0nm,0.7s
PWL **Port Wells** 62.33 30 P **P** 17 39 45.3 +0.3
KNK **Knik Glacier** 62.38 30 P **P** 17 39 45.0 -0.4
SML **Sawmill** 62.53 29 P **P** 17 39 46.0 -0.4
SML IAmb IAmb 17 39 47.2
comp=Z,14nm,0.9s
SCM **Sheep Creek Mo** 63.00 29 P **P** 17 39 49.6 0.0
COLD **Coldfoot** 63.10 23 P **P** 17 39 51.3 +1.3
COLD IAmb IAmb 17 39 51.9
comp=Z,7.4nm,1.2s
WRH **Wood River Hil** 63.23 26 P **P** 17 39 50.8 -0.1
WRH IAmb IAmb 17 40 05.9
comp=Z,12nm,1.4s
MDM **Murphy Dome** 63.28 26 P **P** 17 39 51.6 +0.3
MDM IAmb IAmb 17 39 53.0
comp=Z,5.7nm,0.6s
CCB **Clear Creek Bu** 63.38 26 P **P** 17 39 51.4 -0.5
KLU **Klutina** 63.60 30 P **P** 17 39 54.3 +0.8
KLU IAmb IAmb 17 40 35.1
comp=Z,19nm,1.4s
H24K **Noodor Dome** 63.63 25 P **P** 17 39 54.3 +0.7
HDA **Harding Lake** 63.69 27 P **P** 17 39 53.5 -0.5
HDA IAmb IAmb 17 39 54.1
comp=Z,6.9nm,1.0s
IL31 63.80 26 P **P** 17 39 53.5 -1.1
ILAR **Eielson Array** 63.80 26 P **P** 17 39 53.6 -1.0
comp=Z,2.7nm,0.6s,baz=253,slow=5.4,SNR=40
ILAR pP **pP** 17 40 40.3 -1.5
comp=Z,1.1nm,0.8s,baz=254,slow=5.1,SNR=2.7
comp=Z,2.7nm,0.6s
PAX **Paxson** 64.06 28 P **P** 17 39 56.8 +0.3
PAX IAmb IAmb 17 39 57.6
comp=Z,4.3nm,0.6s
RTZ **Ruatahuna** 64.09 153 P **P** 17 39 55.5 -1.4
QRZ **Quartz Range** 64.22 158 P **P** 17 39 57.2 -0.4
N25K **Chitina, Valde** 64.24 30 P **P** 17 39 56.2 -1.5
N25K IAmb IAmb 17 40 27.2
comp=Z,9.3nm,1.2s
BKZ **Black Stump Fm** 64.34 154 P **P** 17 39 57.1 -1.5
RIDG **Independent Ri** 64.47 28 P **P** 17 39 59.0 -0.2
RIDG IAmb IAmb 17 40 05.6
comp=Z,15nm,1.2s
FYU **Fort Yukon** 64.84 24 P **P** 17 40 02.0 +0.7
FYU IAmb IAmb 17 40 02.9
comp=Z,5.9nm,0.8s
NNZ **Nelson** 64.87 157 P **P** 17 40 00.7 -1.1
SCRK **Sand Creek** 64.89 27 P **P** 17 40 02.1 +0.3
MCARA **McCarthy VSAT** 64.96 30 P **P** 17 40 02.6 +0.4
MCARA IAmb IAmb 17 40 06.8
comp=Z,24nm,1.5s
J26L **Joseph Creek** 65.15 27 P **P** 17 40 03.8 +0.3
J26L IAmb IAmb 17 40 04.7
comp=Z,10nm,1.3s
TCW **Tory Channel** 65.20 156 P **P** 17 40 03.3 -0.6
MRZ **Mangatainoka R** 65.23 155 P **P** 17 40 03.0 -1.2
BMAR **Burnt Mountain** 65.26 24 P **P** 17 40 05.5 +1.3
BARN **Barnard Glacie** 65.58 31 P **P** 17 40 07.0 +0.5
BARN IAmb IAmb 17 40 16.7
comp=Z,14nm,1.1s
M27K **Edge Creek, AK** 65.61 29 P **P** 17 40 07.1 +0.5
L27K **Beaver Creek,** 65.72 28 P **P** 17 40 07.2 +0.1
BCAR **Beaver Creek A** 65.74 28 P **P** 17 40 07.7 +0.4
LTZ **Lake Taylor** 65.85 159 P **P** 17 40 06.5 -1.7
KHZ **Kahutara** 65.97 158 P **P** 17 40 06.4 -2.4
EGAK **Eagle** 66.22 27 P **P** 17 40 10.5 +0.3
EGAK IAmb IAmb 17 40 20.9
comp=Z,9.6nm,1.4s
BVAR **Borovoye Array** 66.47 320 P **P** 17 40 12.1 +0.1
comp=Z,6.4nm,0.5s,baz=93,slow=7.3,SNR=66
BVAR pP **pP** 17 40 58.9 -0.4
comp=Z,3.1nm,0.7s,baz=64,slow=8.2,SNR=2.6
comp=Z,6.4nm,0.5s
BRVK **Borovoye** 66.53 320 P **P** 17 40 12.8 +0.4
BRVK IAmb IAmb 17 40 15.4
comp=Z,4.7nm,0.8s
KKAR **Karatay Array** 66.73 310 P **P** 17 40 14.8 +0.9
DAWY **Dawson** 66.91 28 P **P** 17 40 15.4 +0.8
GAR **Garm** 67.23 305 P **P** 17 40 17.5 +0.2
GAR IAmb IAmb 17 40 23.0
comp=Z,9.4nm,1.5s
HYT **Haines Junctio** 67.58 31 P **P** 17 40 20.2 +1.2
HYT IAmb IAmb 17 40 21.4
comp=Z,18nm,1.2s
M30M **Minto, Yukon** 67.98 29 P **P** 17 40 21.8 +0.3
N31M **Braeburn, Yuko** 68.44 30 P **P** 17 40 25.3 +1.1
N31M IAmb IAmb 17 40 37.2
comp=Z,18nm,1.4s
M31M **Drury Creek, Y** 69.10 30 P **P** 17 40 28.9 +0.6
INK **Inuvik** 69.52 23 P **P** 17 40 30.6 0.0
comp=Z,4.2nm,0.8s,baz=272,slow=4.8,SNR=17
comp=Z,4.2nm,0.8s
INK **Inuvik** 69.52 23 P **P** 17 40 30.8 +0.1
FARO **Faro, Yukon** 69.59 30 P **P** 17 40 30.7 -0.6
P33M **Teslin, Yukon** 69.91 32 P **P** 17 40 34.0 +0.6
DLBC **Dease Lake** 71.45 34 P **P** 17 40 44.0 +1.3
C36M **Paulatuk** 72.89 22 P **P** 17 40 51.0 +0.1
C36M IAmb IAmb 17 40 51.1
comp=Z,5.7nm,0.6s
ARU **Arti** 73.07 325 P **P** 17 40 52.4 +0.2
comp=Z,1.6nm,0.4s,baz=89,slow=23,SNR=4.2
comp=Z,1.6nm,0.4s
ABKAR **Akbulak array** 73.32 317 P **P** 17 40 53.2 -0.6
ABKAR **Akbulak array** 73.32 317 P **P** 17 40 53.0 -0.8
AKTO **Aktyubinsk** 74.35 318 P **P** 17 40 59.6 -0.2
comp=Z,1.0nm,0.6s,baz=88,slow=8.1,SNR=3.7
comp=Z,1.0nm,0.6s
EUNU **Eureka** 77.84 8 P **P** 17 41 19.1 +0.1
YKA **Yellowknife Ar** 78.14 28 P **P** 17 41 20.7 -0.1
comp=Z,1.8nm,0.6s,baz=290,slow=5.6,SNR=33
YKA pP **pP** 17 42 07.7 -2.3
comp=Z,1.5nm,0.6s,baz=288,slow=5.8,SNR=3.1
comp=Z,1.8nm,0.6s
LTY **Liberty** 79.08 44 P **P** 17 41 26.9 +0.5
LTY IAmb IAmb 17 41 41.5
comp=Z,14nm,1.4s
RES **Resolute Bay** 79.56 14 P **P** 17 41 26.3 -1.9
PINE **Pine Mountain** 79.83 47 P **P** 17 41 31.9 +1.2
PINE IAmb IAmb 17 41 56.1
comp=Z,18nm,1.3s
NVAR **Mina Array Bea** 83.31 52 P **P** 17 41 49.7 +0.7
comp=Z,1.6nm,0.6s,baz=266,slow=5.4,SNR=14
NVAR pP **pP** 17 42 36.6 -1.9
comp=Z,1.8nm,1.0s,baz=260,slow=5.1,SNR=2.2
comp=Z,1.6nm,0.6s
NVAR **Mina Array Bea** 83.31 52 P **P** 17 41 48.7 -0.3
MZP **Montezuma Peak** 84.23 52 P **P** 17 41 52.7 -1.0
HRY **Holter Researc** 84.98 42 P **P** 17 41 57.7 +0.6
IMW **Indian Meadow** 86.62 45 pP 17 42 59.5 +4.1
FLWY **Flagg Ranch** 86.71 45 P **P** 17 42 04.9 -0.9
FLWY IAmb IAmb 17 42 15.8
comp=Z,8.4nm,1.5s
FLWY **pP** 17 42 57.8 +2.0
DUG **Dugway, Tooele** 86.72 49 P **P** 17 42 04.7 -1.1
DUG pP **pP** 17 42 58.6 +2.9
YMP **Mirror Lake Pl** 86.82 44 pP 17 42 58.9 +2.4
FINES **FINESS Array B** 86.92 335 P **P** 17 42 04.1 -2.0
comp=Z,0.9nm,0.3s,baz=67,slow=5.0,SNR=15
comp=Z,0.9nm,0.3s
JLU **Jordanelle** 87.53 48 pP 17 43 03.6 +3.7
PDAR **Pinedale Array** 87.99 45 P **P** 17 42 11.7 -0.3
comp=Z,0.3nm,0.3s,baz=164,slow=0.9,SNR=9.7
PDAR pP **pP** 17 43 00.2 -2.1
comp=Z,0.2nm,0.5s,baz=48,slow=1.3,SNR=2.0
comp=Z,0.3nm,0.3s
FCC **Fort Churchill** 88.81 27 P **P** 17 42 14.5 -0.6
FCC IAmb IAmb 17 42 20.4
comp=Z,6.4nm,1.5s
PLCA **Paso Flores** 142.03 133 PKhKP PKPpre 17 48 48.0
comp=Z,1.0nm,0.5s,baz=235,slow=5.7,SNR=4.4
LPAZ **La Paz** 147.81 91 PKPbc **PKPbc** 17 49 07.3 +0.4
comp=Z,3.5nm,0.6s,baz=314,slow=3.3,SNR=14
LPAZ pPKPbc **pPKPdf** 17 49 56.5 -0.4
comp=Z,0.8nm,0.4s,baz=298,slow=4.1,SNR=1.3

IDC 19 17:46:16.4±7.6, 3°.05S×101°.85E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=400.1km s-min=30.4km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**29.58**	**260**	T	T	18 22 05.2	
	baz=84,slow=76,SNR=5.5						
H08S3	**Diego Garcia H**	**29.58**	**260**	T	T	18 22 02.5	
	baz=84,slow=76,SNR=5.6						
H08S1	**Diego Garcia H**	**29.59**	**260**	T	T	18 22 02.0	
	baz=84,slow=76,SNR=4.8						
WRA	**Warramunga Arr**	**35.87**	**120**	P	P	17 53 18.8	+0.4
	0.3nm,0.4s,baz=300,slow=7.7,SNR=8.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**37.15**	**126**	P	P	17 53 28.9	-0.5
	0.3nm,0.4s,baz=298,slow=7.8,SNR=15						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**52.54**	**343**	P	P	17 55 31.6	-0.1
	0.1nm,0.4s,baz=148,slow=6.8,SNR=2.0						
	0.1nm,0.4s						

*ROM **19** 18:03:58.3±0.0, 43°.025N±0°.002×13°.036E±0°.004, h8km, ML2.8/27, Error ellipse: s-maj=0.3km s-min=0.1km az=85.0*

ISC 19 18:03:58.7±0.8, 43°.01N±0°.02×13°.05E±0°.02, h10km±4km, n48, σ0°.95/65, 19C-12D, Central Italy

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

FDMO Fiordimonte 0.04 53 P Pg 18 03 60.0 -0.7
FDMO S **Sg** **18 04 00.9 -1.1**
FDMO AML AML
comp=N,43000µm,0.2s
FDMO AML AML
comp=E,64950µm,0.3s
FDMO AML AML
comp=N,43000µm,1.8s
FDMO AML AML
comp=E,64953µm,0.3s
FEMA Monte Fema 0.05 177 ⇓P Pg 18 04 00.7 -0.2
FEMA S **Sg** **18 04 02.2 -0.2**
FEMA AML AML
comp=N,41700µm,1.2s
FEMA AML AML
comp=E,67700µm,1.0s
FEMA AML AML
comp=E,67700µm,1.0s
FEMA AML AML
comp=E,53123µm,0.2s
FEMA AML AML
comp=N,39316µm,0.2s
T1220 Camerino, Fraz 0.10 18 ⇑P Pg 18 04 01.1 -0.3
T1220 S **Sg** **18 04 03.0 -0.2**
T1220 AML AML
comp=E,58250µm,0.3s
T1220 AML AML
comp=N,54100µm,0.3s
T1220 AML AML
comp=E,58050µm,0.3s
T1220 AML AML
comp=N,54300µm,0.3s
T1220 AML AML
comp=E,58300µm,0.3s
T1220 AML AML
comp=N,54050µm,0.3s
T1220 AML AML
comp=N,54052µm,0.3s
T1220 AML AML
comp=E,58091µm,0.3s
T1220 AML AML
comp=E,58301µm,0.3s
T1220 AML AML
comp=N,54332µm,0.3s
CESI CESI - Serrava 0.10 265 ⇑P Pg 18 04 01.2 -0.2
CESI S **Sg** **18 04 03.4 +0.1**
CESI AML AML
comp=E,13700µm,1.1s
CESI AML AML
comp=N,17950µm,1.1s
CESI AML AML
comp=N,17950µm,0.9s
CESI AML AML
comp=E,13700µm,0.9s
CESI AML AML
comp=N,15409µm,0.4s
CESI AML AML
comp=E,12185µm,0.4s
SEF1 Sefro 0.15 332 ⇓P Pg 18 04 01.8 -0.3
SEF1 S **Sg** **18 04 04.3 -0.2**
SEF1 AML AML
comp=N,9840µm,0.3s
SEF1 AML AML
comp=E,15900µm,0.3s
SEF1 AML AML
comp=N,9840µm,0.3s
SEF1 AML AML
comp=E,15878µm,0.3s
SEF1 AML AML
comp=N,9841µm,0.3s
NRCA Norcia 0.19 164 ⇑P Pg 18 04 03.2 +0.5
NRCA AML AML
comp=E,12350µm,0.2s
NRCA AML AML
comp=E,12350µm,0.2s
NRCA AML AML
comp=N,8745µm,0.2s
NRCA AML AML
comp=N,8740µm,0.2s
NRCA AML AML
comp=E,12383µm,0.2s
MDAR Monte D'Aria 0.19 22 P Pg 18 04 02.9 0.0
MDAR S **Sg** **18 04 06.0 +0.3**
MDAR AML AML
comp=E,3150µm,0.5s
MDAR AML AML
comp=N,3900µm,0.5s
MDAR AML AML
comp=E,3150µm,1.5s
MDAR AML AML
comp=N,3857µm,0.4s
MDAR AML AML
comp=E,2987µm,0.6s
GUMA Gualdo di Mace 0.22 77 ⇑P Pg 18 04 04.0 +0.7
GUMA AML AML
comp=E,22000µm,0.3s
GUMA AML AML
comp=N,26050µm,0.3s
GUMA AML AML
comp=N,20150µm,0.3s
GUMA AML AML
comp=E,22000µm,0.4s
GUMA AML AML
comp=N,26050µm,0.3s
GUMA AML AML
comp=E,34700µm,0.3s
GUMA AML AML
comp=E,22008µm,0.3s
GUMA AML AML
comp=N,26040µm,0.3s
GUMA AML AML
comp=E,34675µm,0.3s
GUMA AML AML
comp=N,20116µm,0.3s
GAG1 Gagliole 0.23 4 P Pg 18 04 03.6 +0.3
GAG1 S **Sg** **18 04 07.5 +1.0**
GAG1 AML AML
comp=N,6775µm,1.5s
GAG1 AML AML
comp=E,9460µm,0.7s
GAG1 AML AML
comp=N,6638µm,0.2s
GAG1 AML AML
comp=E,8085µm,0.5s
T1215 Vallo di Nera, 0.25 212 ⇑P Pg 18 04 04.2 +0.4
T1215 S **Sb** **18 04 08.7 +1.5**
T1215 AML AML
comp=E,2270µm,0.6s
T1215 AML AML
comp=N,3145µm,0.3s
T1215 AML AML
comp=E,2270µm,0.6s
T1215 AML AML
comp=N,3190µm,0.3s
T1215 AML AML
comp=E,2270µm,0.6s
T1215 AML AML
comp=N,3145µm,0.3s
T1215 AML AML
comp=E,2270µm,0.6s
T1215 AML AML
comp=N,3145µm,1.7s
T1215 AML AML
comp=N,3190µm,1.7s
T1215 AML AML
comp=E,2270µm,1.4s
T1215 AML AML
comp=E,2270µm,1.4s
T1215 AML AML
comp=N,3193µm,0.3s
T1215 AML AML
comp=N,3142µm,0.3s
T1215 AML AML
comp=E,2258µm,0.2s
T1215 AML AML
comp=E,2206µm,0.2s
SNTG Esanatoglia 0.25 342 P Pg 18 04 03.7 -0.2
SNTG S **Sg** **18 04 08.1 +0.8**
SNTG AML AML
comp=N,2190µm,0.5s
SNTG AML AML
comp=N,2185µm,0.5s
SNTG AML AML
comp=E,1815µm,1.2s
SNTG AML AML
comp=N,2135µm,0.5s
SNTG AML AML
comp=E,1815µm,0.8s
SNTG AML AML
comp=E,1945µm,0.7s
SNTG AML AML
comp=N,1881µm,0.2s
SNTG AML AML
comp=E,1587µm,0.1s
SNTG AML AML
comp=N,1764µm,0.2s
SNTG AML AML
comp=E,1597µm,0.1s
ASSB Assisi San Ben 0.28 276 P Pg 18 04 04.4 0.0
ASSB S **Sb** **18 04 09.2 -1.6**
ASSB AML AML
comp=E,3955µm,0.3s
ASSB AML AML
comp=N,4510µm,0.4s
ASSB AML AML
comp=E,3955µm,0.3s
ASSB AML AML
comp=N,4161µm,0.3s
T1217 Poggiodomo (PG 0.31 196 ⇑P Pg 18 04 05.5 +0.5
T1217 S **Sb** **18 04 11.1 -0.5**
T1217 AML AML
comp=E,3980µm,0.9s
T1217 AML AML
comp=N,2795µm,0.5s
T1217 AML AML
comp=E,3870µm,0.9s
T1217 AML AML
comp=N,2555µm,0.5s
T1217 AML AML
comp=N,2795µm,1.5s
T1217 AML AML
comp=E,3870µm,1.1s
T1217 AML AML
comp=E,3980µm,1.1s
T1217 AML AML
comp=N,2555µm,1.5s
T1217 AML AML
comp=N,2273µm,0.2s
T1217 AML AML
comp=E,3029µm,0.4s
T1217 AML AML
comp=N,2507µm,0.3s
T1217 AML AML
comp=E,3119µm,0.4s
EL6 Elcito 0.32 7 ⇑P Pg 18 04 05.0 -0.1
EL6 AML AML
comp=N,5705µm,0.4s
EL6 AML AML
comp=E,5075µm,0.9s
EL6 AML AML
comp=E,4764µm,0.2s
EL6 AML AML
comp=N,5706µm,0.5s
T1202 Accumoli, Fraz 0.34 157 ⇓P Pg 18 04 05.9 +0.4
T1202 S **Sb** **18 04 12.3 -0.1**
T1202 AML AML
comp=E,8010µm,0.8s
T1202 AML AML
comp=E,8010µm,1.2s
T1202 AML AML
comp=N,15950µm,0.3s
T1202 AML AML
comp=N,15961µm,0.3s
T1202 AML AML
comp=E,6525µm,0.2s
ATCC AVT- Casa Cast 0.34 300 ⇑P Pg 18 04 05.5 -0.1
ATCC S **Sb** **18 04 11.3 -1.2**
ATCC AML AML
comp=E,3970µm,0.3s
ATCC AML AML
comp=N,2965µm,0.4s
ATCC AML AML
comp=E,3975µm,0.3s
ATCC AML AML
comp=N,2966µm,0.4s
ATCC AML AML
comp=E,3901µm,0.3s
T1218 Civita (PG) 0.35 171 P Pg 18 04 05.9 +0.3
T1218 S **Sb** **18 04 12.2 -0.5**
T1218 AML AML
comp=N,3360µm,0.9s
T1218 AML AML
comp=E,2410µm,0.3s
T1218 AML AML
comp=N,3400µm,0.9s
T1218 AML AML
comp=N,3360µm,0.9s
T1218 AML AML
comp=N,3400µm,0.9s
T1218 AML AML
comp=N,3400µm,1.1s
T1218 AML AML
comp=N,3360µm,1.1s
T1218 AML AML
comp=E,2470µm,0.2s
T1218 AML AML
comp=E,2469µm,0.2s
T1218 AML AML
comp=N,3218µm,0.2s
T1218 AML AML
comp=N,3216µm,0.2s
T1218 AML AML
comp=E,2408µm,0.3s
FOSV Fossato di Vic 0.35 324 ⇑P Pg 18 04 05.5 -0.1
FOSV S **Sb** **18 04 11.2 -1.4**
FOSV AML AML
comp=E,1610µm,0.7s
FOSV AML AML
comp=N,2155µm,0.5s
FOSV AML AML
comp=E,1450µm,0.3s
FOSV AML AML
comp=N,2158µm,0.5s
CING Cingoli 0.38 17 ⇑P Pg 18 04 06.1 -0.1
CING S **Sb** **18 04 12.5 -1.0**
CING AML AML
comp=E,3100µm,0.2s
CING AML AML
comp=N,2305µm,0.3s
CING AML AML
comp=E,3100µm,0.2s
CING AML AML
comp=N,2082µm,0.1s
MOMA Monte Martano 0.41 239 ⇑P Pg 18 04 06.9 +0.1
MOMA AML AML
comp=E,1670µm,0.9s
MOMA AML AML
comp=N,1531µm,0.3s
MOMA AML AML
comp=E,1670µm,1.0s
MOMA AML AML
comp=E,1730µm,1.0s
MOMA AML AML
comp=E,1670µm,1.0s
MOMA AML AML
comp=N,1560µm,0.3s
MOMA AML AML
comp=N,1531µm,0.3s
MOMA AML AML
comp=E,1730µm,1.0s
MOMA AML AML
comp=N,1530µm,0.3s
MOMA AML AML
comp=E,1571µm,0.2s
MOMA AML AML
comp=E,1628µm,0.2s
MOMA AML AML
comp=N,1560µm,0.3s
LNSS Leonessa 0.41 181 ⇓P Pg 18 04 07.1 +0.3
LNSS S **Sb** **18 04 14.1 -0.4**
LNSS AML AML
comp=E,4145µm,0.3s
LNSS AML AML
comp=N,2565µm,0.7s
LNSS AML AML
comp=N,2565µm,1.3s
LNSS AML AML
comp=E,4145µm,0.3s
LNSS AML AML
comp=N,2542µm,0.6s
MURB Monte Urbino 0.46 303 ⇑P Pg 18 04 07.5 -0.1
MURB AML AML
comp=E,3480µm,0.3s
MURB AML AML
comp=N,2255µm,0.4s
MURB AML AML
comp=N,2280µm,1.1s
MURB AML AML
comp=E,3350µm,0.3s
MURB AML AML
comp=E,3479µm,0.3s
MURB AML AML
comp=E,3348µm,0.3s
MURB AML AML
comp=N,2122µm,0.4s
MURB AML AML
comp=N,2254µm,0.4s
SSFR Montelago di S 0.46 336 ⇓P Pb 18 04 07.9 -1.2
SSFR AML AML
comp=N,2250µm,0.2s
SSFR AML AML
comp=E,1635µm,0.3s
SSFR AML AML
comp=N,2215µm,0.2s
SSFR AML AML
comp=E,1975µm,1.3s
SSFR AML AML
comp=E,1845µm,0.3s
SSFR AML AML
comp=N,2217µm,0.2s
SSFR AML AML
comp=N,2251µm,0.2s
SSFR AML AML
comp=E,1638µm,0.3s
OFFI Offida 0.48 99 ⇑P Pb 18 04 09.6 +0.4
ARRO Arrone 0.48 205 ⇓P Pb 18 04 08.4 -0.8
ARRO AML AML
comp=E,1150µm,0.3s
ARRO AML AML
comp=N,1122µm,0.2s
ARRO AML AML
comp=N,1124µm,0.2s
ARRO AML AML
comp=E,1147µm,0.3s
ARVD Arcevia 0.49 351 ⇓P Pg 18 04 08.1 -0.2
ARVD AML AML
comp=E,1082µm,0.6s
ARVD AML AML
comp=N,686µm,0.7s
ARVD AML AML
comp=N,631µm,0.2s
ARVD AML AML
comp=E,1003µm,0.3s
CESX Cesi 0.53 221 ⇑P Pg 18 04 09.0 0.0
CESX AML AML
comp=E,1800µm,0.3s
CESX AML AML
comp=N,1950µm,0.3s
CESX AML AML
comp=E,1800µm,0.3s
CESX AML AML
comp=N,1949µm,0.3s
CAMP Campotosto 0.55 151 ⇓P Pg 18 04 09.4 0.0
CAMP AML AML
comp=E,503µm,0.2s
CAMP AML AML
comp=N,402µm,0.4s
CAMP AML AML
comp=E,503µm,0.2s
CAMP AML AML
comp=N,343µm,0.2s
PP3 Marolino 0.55 48 P Pg 18 04 08.7 -0.7
PP3 AML AML
comp=N,2210µm,1.1s
PP3 AML AML
comp=E,1595µm,0.9s
PP3 AML AML
comp=N,2210µm,0.9s
FRON Frontone 0.56 335 ⇓P Pg 18 04 09.1 -0.4
FRON AML AML
comp=E,559µm,0.5s
FRON AML AML
comp=N,1095µm,0.7s
FRON AML AML
comp=N,1095µm,1.3s
FRON AML AML
comp=E,559µm,1.5s
FRON AML AML
comp=N,925µm,0.6s
FRON AML AML
comp=E,522µm,0.3s
COR1 Corinaldo 0.62 357 P Pb 18 04 11.4 -0.2
COR1 AML AML
comp=N,1215µm,1.0s
COR1 AML AML
comp=E,720µm,1.4s
COR1 AML AML
comp=N,1220µm,1.0s
COR1 AML AML
comp=E,720µm,0.6s
COR1 AML AML
comp=N,1220µm,1.0s
PIEI Pieia 0.64 325 ⇓P Pg 18 04 10.7 -0.4
PIEI AML AML
comp=E,336µm,0.8s
PIEI AML AML
comp=N,288µm,0.6s
PIEI AML AML
comp=E,336µm,1.2s
MPAG Monte Paganucc 0.65 341 ⇓P Pg 18 04 10.9 -0.4
MPAG AML AML
comp=N,538µm,1.0s
MPAG AML AML
comp=E,602µm,0.4s
MPAG AML AML
comp=E,553µm,0.6s
MPAG AML AML
comp=N,473µm,0.9s
MPAG AML AML
comp=E,553µm,1.4s
MPAG AML AML
comp=E,602µm,1.6s
MPAG AML AML
comp=E,478µm,0.5s
MPAG AML AML
comp=E,602µm,0.4s
MPAG AML AML
comp=N,441µm,0.3s
MPAG AML AML
comp=N,447µm,0.5s
GIGS Gran Sasso 0.68 145 ⇑P Pg 18 04 11.6 -0.3
GIGS AML AML
comp=E,147µm,1.0s
GIGS AML AML
comp=N,132µm,0.3s
GIGS AML AML
comp=E,147µm,1.0s
GIGS AML AML
comp=E,143µm,0.4s
GIGS AML AML
comp=N,132µm,0.3s
NARO Abbazia di Nar 0.69 331 ⇑P Pg 18 04 11.4 -0.5
NARO AML AML
comp=E,340µm,0.9s
NARO AML AML
comp=N,246µm,0.4s
NARO AML AML
comp=E,307µm,0.3s
FIAM Fiamignano 0.75 176 ⇑P Pg 18 04 13.1 0.0
FIAM AML AML
comp=E,454µm,0.3s
FIAM AML AML
comp=N,416µm,0.3s
FIAM AML AML
comp=E,455µm,0.3s
FIAM AML AML
comp=N,416µm,0.3s
BADI Badiali 0.77 311 ⇑P Pb 18 04 13.2 -0.9
PE3 Peglio 0.79 330 P Pb 18 04 14.0 -0.5
PE3 AML AML
comp=N,3µm,1.3s
PE3 AML AML
comp=N,3µm,0.7s
PE3 AML AML
comp=E,900µm,0.5s
FAGN Fagnano 0.85 152 ⇑P Pg 18 04 14.6 -0.4
FAGN AML AML
comp=E,800µm,0.5s
FAGN AML AML
comp=N,745µm,0.4s
MIDA Miranda 1.64 146 P Pn 18 04 26.5 -1.1

MIDA AML AML
comp=E,94μm,1.1s
MIDA AML AML
comp=N,297μm,1.7s
MIDA AML AML
comp=E,120μm,1.1s
PAOL Paolisi 2.28 150 ⇓P **Pn 18 04 35.6 -0.9**
PAOL AML AML
comp=N,298μm,0.9s
PAOL AML AML
comp=E,161μm,0.6s
PAOL AML AML
comp=N,36μm,0.3s
PAOL AML AML
comp=E,27μm,0.1s
MYKA Terra Mystica 3.64 6 *i* Pn **Pn 18 04 57.2 +2.0**
comp=E,1.3nm,0.4s
OBKA Obir 3.66 17 *i* Pn **Pn 18 04 55.8 +0.4**
comp=E,0.7nm,0.2s
ABTA Abfaltersbach 3.75 354 *i* Pn **Pn 18 04 59.0 +2.2**
comp=E,1.7nm,0.4s
FETA Feichten 4.33 339 *e*Pn **Pn 18 05 08.0 +3.3**
comp=E,0.8nm,0.4s
SQTA Sankt Quirin 4.40 343 *e*Pn **Pn 18 05 06.7 +1.0**
WATA Walderalm 4.45 347 *i* Pn **Pn 18 05 07.1 +0.8**
comp=E,0.4nm,0.2s
DAVA Damuels 4.82 333 *i* Pn **Pn 18 05 14.8 +3.3**
comp=E,0.8nm,0.3s

ROM 19 18:04:37.4±0.1,**43°029N**±0.003×**13°039E**±0.007,
h7km,**ML2.3/5,2C-1D,Error ellipse: s-maj=0.5km**
s-min=0.2km az=90.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.04**	**78**	P	Pg	18 04 39.0	0.0
FDMO				S	Sg	18 04 39.8	-0.2
FDMO				AML	AML		
	comp=E,5790μm,0.2s						
FDMO				AML	AML		
	comp=N,5730μm,0.1s						
FDMO				AML	AML		
	comp=N,5730μm,1.9s						
FDMO				AML	AML		
	comp=N,5734μm,0.1s						
FDMO				AML	AML		
	comp=E,5792μm,0.2s						
FEMA	**Monte Fema**	**0.07**	**173**	P	Pg	18 04 39.6	+0.2
FEMA				S	Sg	18 04 41.3	+0.6
FEMA				AML	AML		
	comp=E,3355μm,1.0s						
FEMA				AML	AML		
	comp=N,2765μm,0.9s						
FEMA				AML	AML		
	comp=E,3350μm,1.0s						
FEMA				AML	AML		
	comp=N,2770μm,0.9s						
FEMA				AML	AML		
	comp=E,3350μm,1.0s						
FEMA				AML	AML		
	comp=E,3353μm,1.0s						
FEMA				AML	AML		
	comp=N,2770μm,1.1s						
FEMA				AML	AML		
	comp=E,2765μm,0.3s						
FEMA				AML	AML		
	comp=N,2530μm,0.2s						
T1220	**Camerino, Fraz**	**0.09**	**24**	P	Pg	18 04 40.0	+0.4
T1220				S	Sg	18 04 41.9	+0.7
T1220				AML	AML		
	comp=E,3771μm,1.1s						
T1220				AML	AML		
	comp=E,3729μm,1.1s						
T1220				AML	AML		
	comp=N,4056μm,0.2s						
T1220				AML	AML		
	comp=E,4620μm,0.4s						
T1220				AML	AML		
	comp=N,4023μm,0.2s						
T1220				AML	AML		
	comp=E,3557μm,0.3s						
CESI	**CESI - Serrava**	**0.10**	**256**	P	Pg	18 04 40.2	+0.4
CESI				AML	AML		
	comp=N,1045μm,2.3s						
CESI				AML	AML		
	comp=E,828μm,0.4s						
CESI				AML	AML		
	comp=N,958μm,0.2s						
SEF1	**Sefro**	**0.14**	**330**	P	Pg	18 04 40.7	+0.4
SEF1				S	Sg	18 04 43.2	+0.8
MDAR	**Monte D'Aria**	**0.18**	**25**	P	Pg	18 04 42.1	+0.9
MDAR				S	Sg	18 04 44.8	+1.1
GAG1	**Gagliole**	**0.21**	**6**	P	Pg	18 04 43.2	+1.5
GUMA	**Gualdo di Mace**	**0.22**	**81**	P	Pg	18 04 43.0	+1.2
SNTG	**Esanatoglia**	**0.24**	**342**	⇑P	Pg	18 04 42.7	+0.5
SNTG				S	Sg	18 04 46.8	+1.4
SNTG				AML	AML		
	comp=N,231μm,0.1s						
SNTG				AML	AML		
	comp=E,237μm,0.2s						
SNTG				AML	AML		
	comp=N,342μm,0.4s						
SNTG				AML	AML		
	comp=E,188μm,0.1s						
T1215	**Vallo di Nera,**	**0.26**	**209**	P	Pg	18 04 43.1	+0.6
T1215				S	Sb	18 04 47.8	-1.4
T1215				AML	AML		
	comp=E,146μm,0.2s						
T1215				AML	AML		
	comp=E,150μm,0.2s						
T1215				AML	AML		
	comp=N,121μm,0.2s						
T1215				AML	AML		
	comp=N,131μm,0.2s						
ASSB	**Assisi San Ben**	**0.28**	**273**	⇑P	Pg	18 04 43.4	+0.4
ASSB				AML	AML		
	comp=N,272μm,0.2s						
ASSB				AML	AML		
	comp=E,234μm,0.2s						
EL6	**Elcito**	**0.30**	**9**	⇓P	Pg	18 04 44.0	+0.5
EL6				AML	AML		
	comp=E,584μm,1.4s						
EL6				AML	AML		
	comp=E,552μm,0.2s						
EL6				AML	AML		
	comp=N,369μm,0.2s						
T1202	**Accumoli, Fraz**	**0.35**	**157**	P	Pg	18 04 45.1	+0.7
T1202				S	Sb	18 04 51.3	-0.6
T1202				AML	AML		
	comp=N,961μm,0.3s						
T1202				AML	AML		
	comp=E,541μm,0.9s						
T1218	**Civita (PG)**	**0.36**	**171**	P	Pg	18 04 44.2	-0.3
T1218				S	Sb	18 04 51.4	-0.8
PP3	**Marolino**	**0.54**	**50**	S	Sg	18 04 55.8	+0.8
PP3				AML	AML		
	comp=N,927μm,1.2s						

NOU 19 18:24:44.1,14°74S×167°49E,h124km,**MLv4.4/9,**
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.04**	**167**	P	Pn	18 25 32.2	+1.1
LIFNC	**LIFOU**	**6.01**	**182**	P	Pn	18 26 09.6	-1.1
KOUNC	**Koumac, New Ca**	**6.54**	**207**	P	Pn	18 26 17.7	-0.1
NOUC	**Port Laguerre**	**7.41**	**189**	P	Pn	18 26 29.7	+0.1
OUENC	**Ouen Island, N**	**7.66**	**185**	P	Pn	18 26 33.5	+0.5

*IDC **19** 18:27:22.0±2.1,6°20S×153°99E,h0km,mb3.6/5,*
mbtmp3.6/6,ML3.2/1,Error ellipse: s-maj=60.0km
s-min=27.6km az=99.0

ISC 19 18:27:25.0±2.2,**6°1S**±0°2×**154°1E**±0°4,**h35**km,**n7,σ4s66/6,**
mb3.5/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.74**	**311**	Pn	**Pn**	**18 28 07.2**	**+0.7**
	3.6nm,0.3s,baz=276,slow=2.2,SNR=8.8						
	31nm,0.6s						
WRA	**Warramunga Arr**	**23.61**	**233**	P	**P**	**18 32 33.7**	**+0.6**
	0.6nm,0.8s,baz=58,slow=9.2,SNR=3.6						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**26.11**	**226**	P	**P**	**18 32 56.5**	**+0.6**
	1.1nm,0.9s,baz=60,slow=9.2,SNR=12						
ASAR				PcP	**PcP**	**18 36 26.0**	**+3.0**
	0.2nm,0.8s,baz=66,slow=2.3,SNR=2.4						
	1.1nm,0.9s						
SONM	**Songino Array**	**68.12**	**328**	P	P	18 38 25.1	+3.5
	0.2nm,0.5s,baz=143,slow=4.6,SNR=2.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**82.16**	**319**	P	P	18 39 44.4	+2.0
	0.8nm,0.8s,baz=108,slow=5.5,SNR=8.8						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**82.96**	**326**	P	**P**	**18 39 47.8**	**+1.5**
	0.6nm,0.7s,baz=104,slow=4.6,SNR=2.2						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.93**	**286**	PKPbc	**PKPab**	**18 47 19.5**	**-7.3**
	1.8nm,0.3s,baz=53,slow=1.5,SNR=1.4						

*SNET **19** 18:54:11.8±1.1, 12°.30N×89°.49W,h8km±6km,ML3.7*
*INET **19** 18:54:19.2±0.5, 12°.56N×89°.19W,h15km,MW3.6*
*IDC **19** 18:54:20.5±1.8, 13°.01N×88°.83W,h46km±18km,mb3.5/7,*
mbtmp3.8/10,ML3.3/3,Error ellipse: s-maj=28.0km
s-min=12.5km az=39.0

ISC 19 18:54:17.9±1.6,**12°45N**±0°.07×**89°39W**±0°.06,**h49**km±14km,
n46,σ1s96/55,mb3.8/8,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**1.18**	**43**	*e*P	**Pn**	**18 54 36.3**	**-1.8**
JAYA	**Jayaque - finc**	**1.20**	**357**	*e*P	**Pn**	**18 54 36.2**	**-2.2**
JAYA				IAML		18 54 56.8	
	comp=Z,1μm,0.2s						
LFRS	**El Faro**	**1.21**	**15**	*e*P	**Pn**	**18 54 36.7**	**-1.9**
SNET	**Serv Nac Est T**	**1.24**	**7**	*e*P	**Pn**	**18 54 36.7**	**-2.2**
COEG	**Centro de Oper**	**1.27**	**23**	*e*P	**Pn**	**18 54 37.9**	**-1.3**
BOQS	**Boqueron**	**1.28**	**5**	*e*P	**Pn**	**18 54 38.0**	**-1.7**
LFU	**La Fuente**	**1.32**	**12**	*e*P	**Pn**	**18 54 38.1**	**-1.9**
PAVA	**Las Pavas**	**1.33**	**19**	*e*P	**Pn**	**18 54 38.7**	**-1.5**
PAVA				*e*S	**Sn**	**18 55 00.1**	**+3.2**
COEB	**Comit de Eme**	**1.34**	**39**	*e*P	**Pn**	**18 54 38.3**	**-2.0**
COEB				*e*S	**Sn**	**18 55 00.3**	**+3.3**
CEDA	**San Andres**	**1.34**	**360**	*e*P	**Pn**	**18 54 38.2**	**-2.1**
CEDA				IAML		18 55 02.5	
	comp=Z,1μm,0.3s						
TECA	**Tecapa**	**1.35**	**40**	*e*P	**Pn**	**18 54 39.0**	**-1.5**
CEVE	**Cerro Verde**	**1.39**	**351**	*e*P	**Pn**	**18 54 39.5**	**-1.6**
PQSS	**Presa 15 de Se**	**1.42**	**35**	*e*P	**Pn**	**18 54 39.8**	**-1.5**
PQSS				*e*S	**Sn**	**18 55 01.0**	**+2.1**
PACA	**Pacayal**	**1.45**	**46**	*e*P	**Pn**	**18 54 40.4**	**-1.5**
PACA	**Pacayal**	**1.45**	**46**	*e*P	**Pn**	**18 54 41.0**	**-0.9**
RTR	**El Retiro**	**1.46**	**350**	*e*P	**Pn**	**18 54 40.2**	**-1.8**
VSM	**San Miguel**	**1.46**	**48**	*e*P	**Pn**	**18 54 40.9**	**-1.2**
NUBE	**Las Nubes**	**1.49**	**345**	*e*P	**Pn**	**18 54 40.4**	**-2.1**
NUBE				*e*S	**Sn**	**18 55 01.2**	**+0.4**
NUBE				IAML		18 55 03.5	
	comp=Z,900nm,0.5s						
SLOZ	**Alcaldia de Sa**	**1.61**	**346**	*e*P	**Pn**	**18 54 42.7**	**-1.3**
SLOZ				*e*S	**Sn**	**18 55 06.4**	**+2.8**
P5NO	**Presa 5 de nov**	**1.65**	**22**	*e*P	**Pn**	**18 54 43.2**	**-1.3**
LCND	**La Caada**	**1.70**	**60**	*e*P	**Pn**	**18 54 43.8**	**-1.3**
LCND				IAML		18 55 12.2	
	comp=Z,690nm,0.3s						
CNCH	**Conchagua**	**1.73**	**61**	*e*P	**Pn**	**18 54 44.2**	**-1.4**
FAGO	**Alcalda de S**	**1.76**	**45**	*e*S	**Sn**	**18 55 10.9**	**+3.6**
MTO3	**Montecristo**	**1.94**	**1**	*e*P	**Pn**	**18 54 47.6**	**-1.0**
ESQI	**Esquipulas**	**2.10**	**1**	*e*P	**Pn**	**18 54 49.3**	**-1.4**
ESQI				*e*S	**Sn**	**18 55 18.1**	**+2.5**
CRIN	**San Cristobal**	**2.30**	**84**	*e*P	**Pn**	**18 54 52.9**	**-0.5**
CRIN				*e*S	**Sn**	**18 55 22.7**	**+2.1**
TELN	**Telica**	**2.51**	**86**	*e*P	**Pn**	**18 54 55.8**	**-0.5**
CNGN	**Cerro Negro**	**2.63**	**89**	*e*P	**Pn**	**18 54 56.9**	**-1.0**
COPN	**Copaltepe**	**2.75**	**95**	*e*P	**Pn**	**18 54 58.8**	**-0.8**
MOMN	**Momotombo**	**2.79**	**91**	*e*P	**Pn**	**18 54 59.0**	**-1.1**
MATN	**Matagalpa**	**3.42**	**82**	*e*P	**Pn**	**18 55 07.2**	**-1.5**
BOAB	**BOACO BROADBAN**	**3.64**	**90**	*e*P	**Pn**	**18 55 10.4**	**-1.4**
JTS	**Las Juntas de**	**4.85**	**116**	P	**Pn**	**18 55 29.7**	**+1.2**
	comp=Z,1.9nm,0.3s,baz=297,slow=23,SNR=4.9						
JTS				S	**Sn**	**18 56 20.8**	**-2.7**
	comp=Z,4.1nm,0.4s,baz=262,slow=19,SNR=1.9						
	comp=Z,3.4nm,0.3s						
CMIG	**Matias Romero**	**7.04**	**312**	P	Pn	18 56 03.6	+5.3
	comp=Z,0.5nm,0.3s,baz=122,slow=12,SNR=4.9						
CMIG				S	**Sn**	**18 57 20.3**	**+3.2**
	comp=Z,3.5nm,0.9s,baz=45,slow=18,SNR=1.3						
	comp=Z,1.1nm,0.5s						
SDV	**Santo Domingo**	**18.77**	**99**	P	**P**	**18 58 32.3**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=306,slow=8.7,SNR=2.3						
	comp=Z,1.9nm,0.3s						
TXAR	**Lajitas Array**	**21.41**	**324**	P	**P**	**18 59 03.8**	**+2.0**
	comp=Z,1.9nm,0.7s,baz=141,slow=9.2,SNR=20						
	comp=Z,1.9nm,0.7s						
TKL	**Tuckaleechee C**	**23.66**	**11**	P	**P**	**18 59 21.3**	**-3.6**
	comp=Z,1.9nm,0.5s,baz=182,slow=11,SNR=2.2						
	comp=Z,1.9nm,0.5s						
PDAR	**Pinedale Array**	**34.90**	**334**	P	**P**	**19 01 07.4**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=148,slow=5.3,SNR=2.7						
	comp=Z,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**36.47**	**320**	P	**P**	**19 01 20.4**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=134,slow=8.9,SNR=3.5						
NVAR				PcP	**PcP**	**19 03 44.2**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=122,slow=3.3,SNR=1.8						
	comp=Z,0.5nm,0.6s						
ULM	**Lac du Bonnet**	**38.06**	**353**	P	**P**	**19 01 29.8**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=180,slow=3.0,SNR=1.8						
	comp=Z,1.5nm,0.5s						
SCHQ	**Schefferville**	**45.84**	**18**	P	**P**	**19 02 32.8**	**-2.3**
	comp=Z,2.0nm,0.5s,baz=231,slow=8.7,SNR=6.5						
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**53.13**	**346**	P	**P**	**19 03 29.0**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=146,slow=7.3,SNR=9.8						
YKA				PcP	**PcP**	**19 04 38.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=146,slow=3.3,SNR=2.3						
	comp=Z,0.9nm,0.8s						
PPT	**Papeete**	**66.48**	**245**	P	P	19 05 10.9	+7.9
	comp=Z,75nm,0.7s,baz=75,slow=20,SNR=2.2						
MKAR	**Makanchi Array**	**120.56**	**7**	PKP	**PKiKP**	**19 13 05.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=325,slow=2.1,SNR=1.4						
WRA	**Warramunga Ar**	**137.45**	**254**	PKP	**PKPdf**	**19 13 39.0**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=82,slow=1.7,SNR=1.2						
CMAR	**Chiang Mai Arr**	**148.21**	**345**	PKPbc	**PKiKP**	**19 14 01.4**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=345,slow=3.7,SNR=7.6						

*IDC **19** 19:17:20.9±0.9,56°.79S×150°.91W,h0km,mb3.9/5,*
mbtmp3.9/5,MS3.6/7,Error ellipse: s-maj=46.2km
s-min=24.9km az=9.0

ISC 19 19:17:22.1±1.0,**56°7S**±0°.3×**151°0W**±0°.2,**h10**km,**n29,**
σ0s35/8,mb4.1/5,MS3.7/7,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**26.36**	**201**	LR	LR	19 30 31.6	
	comp=Z,96nm,21.8s,baz=108,slow=30						
QSPA	**South Pole Qui**	**33.40**	**180**	P	**P**	**19 24 00.6**	**+0.1**
	0.5nm,0.3s,baz=334,slow=3.1,SNR=3.6						
	0.5nm,0.3s						
RAR	**Rarotonga**	**36.08**	**346**	LR	LR	19 36 02.9	
	comp=Z,97nm,19.1s,baz=128,slow=31						
H03S2	**Juan Fernandez**	**52.84**	**97**	T	T	20 23 35.5	
	baz=219,slow=74,SNR=5.5						
H03S1	**Juan Fernandez**	**52.85**	**97**	T	T	20 23 36.6	
	baz=219,slow=74,SNR=3.8						
H03S3	**Juan Fernandez**	**52.86**	**97**	T	T	20 23 35.9	
	baz=219,slow=74,SNR=4.1						
H03N3	**Juan Fernandez**	**53.13**	**96**	T	T	20 23 51.3	
	baz=222,slow=72,SNR=34						
H03N2	**Juan Fernandez**	**53.13**	**96**	T	T	20 23 48.7	
	baz=222,slow=72,SNR=56						
H03N1	**Juan Fernandez**	**53.15**	**96**	T	T	20 23 56.0	
	baz=222,slow=72,SNR=48						
ASAR	**Alice Springs**	**62.44**	**268**	P	**P**	**19 27 45.8**	**+0.4**
	1.2nm,1.0s,baz=138,slow=6.5,SNR=13						
	1.2nm,1.0s						
H01W1	**Cape Leeuwin H**	**64.11**	**246**	T	T	20 38 04.6	
	baz=142,slow=76,SNR=6.1						
H01W2	**Cape Leeuwin H**	**64.12**	**246**	T	T	20 38 03.3	
	baz=142,slow=76,SNR=5.3						
H01W3	**Cape Leeuwin H**	**64.13**	**246**	T	T	20 38 05.7	
	baz=142,slow=76,SNR=4.2						
WRA	**Warramunga Arr**	**65.19**	**271**	P	**P**	**19 28 03.2**	**-0.3**
	0.8nm,1.0s,baz=142,slow=7.1,SNR=3.3						
	0.8nm,1.0s						
CPUP	**Villa Florida**	**70.31**	**108**	P	**P**	**19 28 35.4**	**-0.3**
	1.1nm,0.4s,baz=208,slow=4.8,SNR=3.3						
	1.1nm,0.4s						
LPAZ	**La Paz**	**72.62**	**93**	P	**P**	**19 28 50.7**	**+0.3**
	1.6nm,0.8s,baz=139,slow=4.3,SNR=5.9						
	1.6nm,0.8s						
LPIG	**La Paz**	**87.53**	**37**	LR	LR	19 59 31.1	
	comp=Z,21nm,18.0s,baz=184,slow=29						
SUR	**Sutherland**	**90.95**	**173**	LR	LR	20 08 38.8	
	comp=Z,24nm,18.4s,baz=189,slow=34						
TXAR	**Lajitas Array**	**94.61**	**40**	LR	LR	20 03 52.3	
	comp=Z,29nm,20.9s,baz=322,slow=30						
LBTB	**Lobatse**	**98.51**	**177**	LR	LR	20 09 30.8	
	comp=Z,22nm,20.2s,baz=186,slow=32						
ANMO	**Albuquerque**	**98.80**	**36**	LR	LR	20 05 39.6	
	comp=Z,27nm,20.9s,baz=99,slow=29						
H10S3	**ASCENSION HYDR**	**105.33**	**135**	T	T	21 29 43.3	
	baz=17						
H10S2	**ASCENSION HYDR**	**105.34**	**135**	T	T	21 29 45.4	
	baz=203						
H10N3	**ASCENSION HYDR**	**106.41**	**135**	T	T	21 31 03.3	
	baz=203,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**106.42**	**135**	T	T	21 31 08.9	
	baz=203,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**106.43**	**135**	T	T	21 31 10.0	
	baz=203,slow=75,SNR=13						
ILAR	**Eielson Array**	**121.23**	**2**	PKP	**PKiKP**	**19 36 14.1**	**+0.3**
	1.0nm,0.9s,baz=234,slow=2.6,SNR=6.5						
MKAR	**Makanchi Array**	**146.40**	**276**	PKPbc	**PKPab**	**19 37 02.9**	**-0.4**
	2.7nm,0.8s,baz=119,slow=4.3,SNR=24						
ZALV	**Zalesovo Beam**	**148.91**	**289**	PKPbc	**PKPbc**	**19 37 08.8**	**-0.1**
	1.0nm,0.6s,baz=116,slow=3.3,SNR=5.5						

*IDC **19** 19:18:30.8±0.6,28°.12N×92°.55E,h0km,mb3.9/19,*
mbtmp3.9/20,ML4.0/1,Error ellipse: s-maj=27.7km
s-min=12.9km az=56.0
*NDI **19** 19:18:33.7±2.8,28°.21N×92°.73E,h10km,ML3.6,*
mb4.1(NEIC)
*NEIC **19** 19:18:36.8±1.6,28°.18N±0°.05×92°.7E±0°.1,h40km±9km,*
mb4.1/17,Error ellipse: s-maj=16.1km s-min=3.6km
az=63.0

ISC 19 19:18:32.6±1.5,**28°17N**±0°.04×**92°61E**±0°.04,**h9**km±10km,
n62,σ1s34/72,mb4.1/23,Eastern Xizang-India border
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIRO	**ZIRO**	**1.27**	**120**	*e*Pg	**Pn**	**19 18 56.2**	**-0.6**
ZIRO				*e*S	**Sn**	**19 19 15.3**	**+1.3**
TEZP	**TEZPUR**	**1.56**	**174**	*e*P	**Pn**	**19 19 00.9**	**+0.4**
TEZP				IAML		19 19 25.0	
	comp=N,1μm,0.2s						
TEZP				IAML		19 19 25.2	
	comp=E,1μm,0.2s						
LSA	**Lhasa**	**1.99**	**320**	Pn	**Pn**	**19 19 08.3**	**+1.4**
LSA				Sn	**Sn**	**19 19 34.1**	**+2.0**
LSA	**Lhasa**	**1.99**	**320**	Pg	**Pn**	**19 19 08.3**	**+1.4**
LSA				Sg	**Sn**	**19 19 34.5**	**+2.4**
LSA				smax	smax		
	comp=N,150nm,0.9s						
LSA				smax	smax		
	comp=E,240nm,0.9s						
JORH	**JORHAT**	**2.04**	**134**	*e*Pg	**Pg**	**19 19 10.5**	**-1.1**
JORH				*i* Sg	**Sg**	**19 19 38.5**	**+0.4**
GUWA	**GUWAHATI**	**2.13**	**203**	*e*P	**Pn**	**19 19 09.7**	**+1.3**
GUWA				*e*S	**Sn**	**19 19 36.6**	**+1.6**
GUWA				IAML		19 19 38.8	
	comp=E,704nm,0.3s						
GUWA				IAML		19 19 39.4	
	comp=N,605nm,0.2s						
DIBR	**DIBRUGARH**	**2.15**	**108**	*e*Pg	**Pg**	**19 19 13.2**	**-0.7**
DIBR				*i* Sg	**Sg**	**19 19 42.9**	**+1.0**
MOKO	**MOKOCHONG**	**2.51**	**137**	*e*P	**Pb**	**19 19 16.0**	**-1.8**
SHL	**Shillong**	**2.68**	**194**	Pn	**Pn**	**19 19 16.6**	**+0.5**
SHL				Sn	**Sn**	**19 19 51.3**	**+2.6**
SHL	**Shillong**	**2.68**	**194**	*e*P	**Pb**	**19 19 19.4**	**-1.4**
SHL				*e*S	**Sn**	**19 19 52.5**	**+3.8**
SHL				IAML		19 19 53.7	
	comp=E,1μm,0.5s						
SHL				IAML		19 19 53.9	
	comp=N,795nm,0.5s						
IMP	**Imphal**	**3.54**	**160**	*e*P	**Pn**	**19 19 29.1**	**+1.3**
IMP				IAML		19 20 32.3	
	comp=N,80nm,0.5s						
IMP				IAML		19 20 35.0	
	comp=E,108nm,0.7s						
GTK	**Tadong**	**3.65**	**257**	*e*P	**Pn**	**19 19 31.0**	**+1.5**
TNCH	**TengChong**	**6.15**	**119**	Pn	**Pn**	**19 20 05.6**	**+1.8**
TNCH				Sn	**Sn**	**19 21 15.5**	**+1.2**
TNCH				Sg	**Sb**	**19 21 37.6**	**+3.9**
TNCH				smax	smax		
	comp=N,37nm,1.2s						
TNCH				smax	smax		
	comp=E,48nm,1.3s						
TNCH				LR	LR		
	comp=N,180nm,6.5s						
TNCH				LR	LR		
	comp=E,250nm,6.3s						
TNCH				LR	LR		
	comp=Z,250nm,5.4s						
MND	**Mandalay**	**6.90**	**152**	Pn	**Pn**	**19 20 13.8**	**-0.2**
BOK	**Bokaro**	**7.46**	**236**	*e*P	**Pn**	**19 20 24.2**	**+2.6**
BOK				*e*S	**Sn**	**19 21 44.4**	**-2.0**
PZH	**PanZhiHua**	**8.29**	**99**	P	**Pn**	**19 20 35.5**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,4.5s						
CRAI	**Chiangrai**	**10.61**	**136**	Pn	**Pn**	**19 21 05.7**	**+0.8**
CHTO	**Chiang Mai**	**10.98**	**147**		**Pn**	**19 21 11.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**11.28**	**148**	Pn	**Pn**	**19 21 14.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=319,slow=13,SNR=14						
	comp=Z,1.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.28**	**148**	Pn	**Pn**	**19 21 14.1**	**0.0**
LZH	**Lanzhou**	**12.36**	**48**	*e*P	**Pn**	**19 21 30.1**	**+1.2**
LZH				pP		19 21 38.8	
LZH				sP		19 21 43.0	
LZH				pmax	pmax		
	comp=Z,12nm,1.2s						
WMQ	**Urumqi**	**16.11**	**347**	*e*P	**Pn**	**19 22 20.8**	**+1.5**
WMQ				sP	P	19 22 24.4	+1.8
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NIL	**Nilore**	**17.48**	**293**		**Pn**	**19 22 37.2**	**+0.5**
NIL				IAmb	IAmb	19 22 43.5	
	comp=Z,7.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.04**	**46**	*e*P	**Pn**	**19 23 06.5**	**-1.3**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,3.8s						
MK31	**Makanchi Array**	**20.28**	**339**	P	**P**	**19 23 08.9**	**+0.4**
MKAR	**Makanchi Array**	**20.28**	**339**	P	**P**	**19 23 08.8**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=149,slow=13,SNR=16						
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**20.28**	**339**		**P**	**19 23 09.5**	**+1.0**
MAKZ	**Makanchi**	**20.39**	**339**		Pn	19 23 12.2	+0.5
AAK	**Ala-Archa**	**20.59**	**319**	P	**P**	**19 23 12.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=179,slow=8.8,SNR=4.5						
	comp=Z,0.7nm,0.5s						
AAK	**Ala-Archa**	**20.59**	**319**	P	**P**	**19

ABKAR IAmb IAmb 19 25 05.8
comp=Z,3.3nm,1.2s
ABKAR Akbulak array 32.67 319 P P 19 25 05.4 +0.4
ARU Arti 37.16 329 P P 19 25 44.1 +0.4
comp=Z,1.7nm,0.6s,baz=106,slow=10,SNR=4.0
comp=Z,1.7nm,0.6s
ARU Arti 37.16 329 P P 19 25 43.8 +0.2
ARU IAmb IAmb 19 26 00.7
comp=Z,6.5nm,1.5s
TOLI2 Tolitoli 38.08 130 P P 19 25 50.2 -1.6
BATI Baumata 48.56 137 P P 19 27 16.6 +0.1
comp=Z,26nm,0.6s,baz=335,slow=17,SNR=2.1
BR131 Keskin Array S 49.46 300 P P 19 27 22.9 -0.5
BRTR Keskin Array B 49.46 300 P P 19 27 22.8 -0.6
comp=Z,0.8nm,0.6s,baz=107,slow=8.8,SNR=5.1
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 49.46 300 P P 19 27 22.9 -0.5
AKASG Malin Array Be 52.12 314 P P 19 27 41.4 -1.6
comp=Z,0.3nm,0.4s,baz=79,slow=6.5,SNR=5.4
comp=Z,0.3nm,0.4s
ELL Elmali 52.77 296 P P 19 27 47.8 -0.5
FINES FINESS Array B 54.49 327 P P 19 27 59.2 -1.1
comp=Z,2.9nm,0.9s,baz=116,slow=8.9,SNR=1.9
comp=Z,2.9nm,0.9s
MLR Muntele Rosu 54.56 308 P P 19 28 02.2 +0.9
comp=Z,3.9nm,0.8s,baz=186,slow=6.6,SNR=3.5
comp=Z,3.9nm,0.8s
HFS Hagfors 60.56 326 P P 19 28 42.3 -0.8
comp=Z,1.9nm,0.6s,baz=96,slow=11,SNR=4.9
comp=Z,1.9nm,0.6s
NOA NORSAR Array B 61.67 327 P P 19 28 49.6 -1.1
comp=Z,0.7nm,0.6s,baz=83,slow=6.6,SNR=2.0
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 62.57 135 P P 19 28 56.4 -0.8
comp=Z,0.7nm,0.5s,baz=323,slow=7.2,SNR=10
comp=Z,0.7nm,0.5s
ASAR Alice Springs 65.12 138 P P 19 29 13.9 -0.1
comp=Z,1.2nm,0.5s,baz=323,slow=6.6,SNR=33
comp=Z,1.2nm,0.5s
EKA Eskdalemuir Ar 70.44 323 P P 19 29 46.2 -0.9
comp=Z,0.9nm,0.5s,baz=66,slow=5.9,SNR=8.3
comp=Z,0.9nm,0.5s
ILAR Eielson Array 76.57 22 P P 19 30 22.5 -0.5
comp=Z,0.5nm,0.8s,baz=304,slow=4.9,SNR=6.2
comp=Z,0.5nm,0.8s
LBTB Lobatse 83.38 237 P P 19 31 00.1 -0.5
comp=Z,3.7nm,0.8s,baz=51,slow=5.6,SNR=4.7
comp=Z,3.7nm,0.8s
YKA Yellowknife Ar 87.05 12 P P 19 31 17.0 -1.3
comp=Z,0.1nm,0.5s,baz=322,slow=3.9,SNR=2.3
comp=Z,0.1nm,0.5s

ROM 19 19:20:57.5±0.1, 42.585N±0.005 13.308E±0.007, h9km, ML2.6/27, 12C-8D, Error ellipse: s-maj=0.8km s-min=0.3km az=230.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.13**	**333**	P	Pg	19 21 01.3	+0.7
T1202				S	Sg	19 21 03.8	+1.0
T1202				AML	AML		
	comp=E,17400μm,0.3s						
T1202				AML	AML		
	comp=N,23650μm,0.2s						
T1218	**Civita (PG)**	**0.17**	**301**	P	Pg	19 21 01.6	+0.5
T1218				S	Sg	19 21 04.3	+0.7
T1218				AML	AML		
	comp=E,2460μm,0.1s						
T1218				AML	AML		
	comp=N,4685μm,1.3s						
T1218				AML	AML		
	comp=E,2320μm,0.1s						
T1218				AML	AML		
	comp=N,4720μm,1.3s						
T1218				AML	AML		
	comp=N,4720μm,1.3s						
T1218				AML	AML		
	comp=N,4685μm,1.3s						
T1218				AML	AML		
	comp=E,2320μm,0.1s						
T1218				AML	AML		
	comp=N,4725μm,1.3s						
T1218				AML	AML		
	comp=E,2460μm,0.1s						
T1218				AML	AML		
	comp=N,4725μm,0.7s						
T1218				AML	AML		
	comp=N,4685μm,0.7s						
T1218				AML	AML		
	comp=E,1999μm,0.3s						
T1218				AML	AML		
	comp=E,1962μm,0.2s						
T1218				AML	AML		
	comp=N,4003μm,0.4s						
T1218				AML	AML		
	comp=N,3957μm,0.4s						
LNSS	**Leonessa**	**0.20**	**275**	P	Pg	19 21 02.4	+0.7
LNSS				S	Sg	19 21 06.0	+1.5
LNSS				AML	AML		
	comp=N,4690μm,0.3s						
LNSS				AML	AML		
	comp=E,5100μm,0.6s						
LNSS				AML	AML		
	comp=N,4690μm,1.7s						
LNSS				AML	AML		
	comp=E,3911μm,0.3s						
LNSS				AML	AML		
	comp=N,4692μm,0.3s						
GIGS	**Gran Sasso**	**0.23**	**125**	⇑P	Pg	19 21 02.8	+0.5
GIGS				S	Sg	19 21 06.7	+1.1
GIGS				AML	AML		
	comp=E,636μm,1.3s						
GIGS				AML	AML		
	comp=N,481μm,0.8s						
GIGS				AML	AML		
	comp=E,636μm,0.7s						
GIGS				AML	AML		
	comp=N,481μm,1.2s						
GIGS				AML	AML		
	comp=N,418μm,0.3s						
GIGS				AML	AML		
	comp=E,551μm,0.3s						
AQU	**L'Aquila**	**0.24**	**163**	P	Pg	19 21 03.2	+0.9
AQU				S	Sg	19 21 07.7	+2.0
AQU				AML	AML		
	comp=E,1725μm,0.6s						
AQU				AML	AML		
	comp=E,1675μm,0.6s						
AQU				AML	AML		
	comp=N,1625μm,0.9s						
AQU				AML	AML		
	comp=N,1555μm,0.9s						
AQU				AML	AML		
	comp=E,1725μm,1.4s						
AQU				AML	AML		
	comp=E,1675μm,1.4s						
AQU				AML	AML		
	comp=N,1625μm,1.1s						
AQU				AML	AML		
	comp=N,1555μm,1.1s						
NRCA	**Norcia**	**0.29**	**330**	⇓P	Pg	19 21 03.8	+0.5
NRCA				AML	AML		
	comp=E,5710μm,0.1s						
NRCA				AML	AML		
	comp=N,3210μm,1.0s						
NRCA				AML	AML		
	comp=N,3210μm,1.0s						
NRCA				AML	AML		
	comp=E,5710μm,0.1s						
NRCA				AML	AML		
	comp=N,3113μm,0.1s						
FIAM	**Fiamignano**	**0.35**	**204**	⇑P	Pg	19 21 05.0	+0.6
FIAM				AML	AML		
	comp=N,480μm,0.7s						
FIAM				AML	AML		
	comp=E,642μm,0.4s						
FIAM				AML	AML		
	comp=N,480μm,1.3s						
FAGN	**Fagnano**	**0.38**	**147**	⇑P	Pb	19 21 05.8	-0.6
FAGN				AML	AML		
	comp=N,2200μm,0.2s						
FAGN				AML	AML		
	comp=E,2960μm,0.4s						
FAGN				AML	AML		
	comp=N,2202μm,0.2s						
FAGN				AML	AML		
	comp=E,2960μm,0.4s						
T1215	**Vallo di Nera,**	**0.39**	**304**	⇓P	Pg	19 21 05.5	+0.4
T1215				S	Sg	19 21 11.4	+1.1
T1215				AML	AML		
	comp=N,558μm,0.3s						
T1215				AML	AML		
	comp=N,582μm,0.7s						
T1215				AML	AML		
	comp=E,610μm,0.4s						
T1215				AML	AML		
	comp=N,582μm,0.7s						
T1215				AML	AML		
	comp=E,578μm,0.4s						
T1215				AML	AML		
	comp=N,521μm,0.1s						
T1215				AML	AML		
	comp=E,451μm,0.1s						
T1215				AML	AML		
	comp=E,477μm,0.1s						
T1215				AML	AML		
	comp=N,542μm,0.1s						
FEMA	**Monte Fema**	**0.42**	**333**	P	Pg	19 21 06.1	+0.3
FEMA				S	Sb	19 21 12.7	-1.1
FEMA				AML	AML		
	comp=E,1753μm,0.2s						
FEMA				AML	AML		
	comp=N,1615μm,0.2s						
OFFI	**Offida**	**0.45**	**38**	⇑P	Pb	19 21 07.3	-0.2
OFFI				AML	AML		
	comp=E,2905μm,0.6s						
OFFI				AML	AML		
	comp=E,2905μm,1.4s						
OFFI				AML	AML		
	comp=N,2640μm,0.5s						
OFFI				AML	AML		
	comp=N,2641μm,0.5s						
OFFI				AML	AML		
	comp=E,2034μm,0.4s						
GUMA	**Gualdo di Mace**	**0.48**	**2**	P	Pg	19 21 07.3	+0.5
GUMA				S	Sb	19 21 15.2	0.0
GUMA				AML	AML		
	comp=E,2475μm,1.1s						
GUMA				AML	AML		
	comp=N,2805μm,0.5s						
GUMA				AML	AML		
	comp=E,2745μm,0.3s						
GUMA				AML	AML		
	comp=N,3175μm,0.3s						
GUMA				AML	AML		
	comp=N,3175μm,1.7s						
GUMA				AML	AML		
	comp=E,2475μm,0.9s						
GUMA				AML	AML		
	comp=E,2450μm,0.2s						
GUMA				AML	AML		
	comp=E,2744μm,0.3s						
GUMA				AML	AML		
	comp=N,2806μm,0.5s						
GUMA				AML	AML		
	comp=N,3172μm,0.3s						
FDMO	**Fiordimonte**	**0.48**	**340**	P	Pg	19 21 07.2	+0.4
FDMO				S	Sb	19 21 14.4	-0.9
FDMO				AML	AML		
	comp=N,850μm,0.2s						
FDMO				AML	AML		
	comp=E,853μm,0.2s						
FDMO				AML	AML		
	comp=N,851μm,0.2s						
FDMO				AML	AML		
	comp=E,853μm,0.2s						
TRTR	**Tortoreto Alta**	**0.50**	**63**	⇑P	Pb	19 21 08.3	-0.1
TRTR				AML	AML		
	comp=N,1598μm,0.2s						
CESI	**CESI - Serrava**	**0.51**	**325**	P	Pg	19 21 07.8	+0.3
CESI				S	Sb	19 21 15.8	-0.5
CESI				AML	AML		
	comp=E,426μm,0.6s						
CESI				AML	AML		
	comp=N,695μm,0.7s						
CESI				AML	AML		
	comp=E,426μm,1.4s						
CESI				AML	AML		
	comp=N,695μm,1.3s						
CESI				AML	AML		
	comp=E,411μm,0.3s						
CESI				AML	AML		
	comp=N,373μm,0.2s						
CESX	**Cesi**	**0.54**	**273**	⇓P	Pg	19 21 08.2	+0.3
CESX				S	Sb	19 21 16.2	-0.7
CESX				AML	AML		
	comp=E,747μm,0.2s						
CESX				AML	AML		
	comp=N,921μm,1.4s						
CESX				AML	AML		
	comp=N,921μm,0.6s						
CESX				AML	AML		
	comp=N,899μm,0.2s						
CESX				AML	AML		
	comp=E,747μm,0.2s						
MOMA	**Monte Martano**	**0.59**	**292**	⇑P	Pg	19 21 09.2	+0.4
MOMA				AML	AML		
	comp=E,1485μm,0.8s						
MOMA				AML	AML		
	comp=E,1575μm,0.8s						
MOMA				AML	AML		
	comp=N,1200μm,0.2s						
MOMA				AML	AML		
	comp=N,1194μm,0.2s						
MOMA				AML	AML		
	comp=N,1198μm,0.2s						
MOMA				AML	AML		
	comp=N,1195μm,0.2s						
MOMA				AML	AML		
	comp=E,1535μm,0.2s						
MOMA				AML	AML		
	comp=E,1423μm,0.2s						
ASSB	**Assisi San Ben**	**0.66**	**314**	P	Pg	19 21 09.8	-0.5
ASSB				AML	AML		
	comp=N,348μm,1.2s						
ASSB				AML	AML		
	comp=E,399μm,0.6s						
ASSB				AML	AML		
	comp=E,390μm,0.3s						
ASSB				AML	AML		
	comp=N,282μm,0.4s						
SRES	**S.Oreste - Sor**	**0.69**	**240**	⇑P	Pb	19 21 11.3	-0.2
SRES				AML	AML		
	comp=E,292μm,0.9s						
SRES				AML	AML		
	comp=N,242μm,0.4s						
SRES				AML	AML		
	comp=E,286μm,0.3s						
SRES				AML	AML		
	comp=N,242μm,0.4s						
SNTG	**Esanatoglia**	**0.72**	**338**	P	Pg	19 21 11.4	0.0
SNTG				S	Sb	19 21 22.8	+0.6
SNTG				AML	AML		
	comp=N,303μm,0.8s						
SNTG				AML	AML		
	comp=E,206μm,0.7s						
SNTG				AML	AML		
	comp=N,303μm,1.2s						
SNTG				AML	AML		
	comp=N,195μm,0.3s						
SNTG				AML	AML		
	comp=E,160μm,0.1s						
SNTG				AML	AML		
	comp=E,216μm,0.3s						
SNTG				AML	AML		
	comp=N,235μm,0.2s						
EL6	**Elcito**	**0.76**	**349**	P	Pg	19 21 12.0	-0.1
EL6				S	Sb	19 21 24.6	+1.3
EL6				AML	AML		
	comp=E,605μm,0.3s						
EL6				AML	AML		
	comp=N,622μm,1.4s						
EL6				AML	AML		
	comp=N,621μm,1.4s						
EL6				AML	AML		
	comp=N,621μm,0.6s						
EL6				AML	AML		
	comp=E,605μm,0.3s						
EL6				AML	AML		
	comp=N,583μm,0.2s						
CING	**Cingoli**	**0.80**	**354**	⇑P	Pg	19 21 12.8	0.0
CING				AML	AML		
	comp=N,496μm,0.7s						
CING				AML	AML		
	comp=E,779μm,0.4s						
CING				AML	AML		
	comp=E,640μm,0.3s						
CING				AML	AML		
	comp=N,401μm,0.1s						
FOSV	**Fossato di Vic**	**0.82**	**331**	⇓P	Pg	19 21 13.3	+0.1
FOSV				AML	AML		
	comp=E,243μm,0.4s						
FOSV				AML	AML		
	comp=N,291μm,0.4s						
FOSV				AML	AML		
	comp=E,243μm,0.4s						
LPEL	**Lama dei Pelig**	**0.84**	**129**	P	Pg	19 21 12.9	-0.8
MGAB	**Montegabbione**	**0.94**	**291**	⇑P	Pb	19 21 15.9	0.0
MGAB				AML	AML		
	comp=E,488μm,1.2s						
MGAB				AML	AML		
	comp=N,534μm,1.1s						
MGAB				AML	AML		
	comp=E,546μm,1.2s						
MGAB				AML	AML		
	comp=N,532μm,1.1s						
MGAB				AML	AML		
	comp=E,488μm,0.8s						
MGAB				AML	AML		
	comp=N,532μm,0.9s						
MGAB				AML	AML		
	comp=N,534μm,0.9s						
MGAB				AML	AML		
	comp=E,546μm,0.8s						
MGAB				AML	AML		
	comp=E,459μm,0.4s						
MGAB				AML	AML		
	comp=E,474μm,0.5s						
MGAB				AML	AML		
	comp=N,463μm,0.2s						
MGAB				AML	AML		
	comp=N,441μm,0.4s						
ARVD	**Arcevia**	**0.95**	**344**	⇑P	Pg	19 21 15.5	-0.3
ARVD				AML	AML		
	comp=E,212μm,1.6s						
ARVD				AML	AML		
	comp=N,137μm,1.6s						
ARVD				AML	AML		
	comp=E,212μm,0.4s						
ARVD				AML	AML		
	comp=N,137μm,0.4s						
ARVD				AML	AML		
	comp=N,123μm,0.2s						
ARVD				AML	AML		
	comp=E,185μm,0.2s						
FRON	**Frontone**	**1.03**	**336**	⇓P	Pg	19 21 17.1	-0.1
FRON				AML	AML		
	comp=E,196μm,1.5s						
FRON				AML	AML		
	comp=E,196μm,0.5s						
FRON				AML	AML		
	comp=N,224μm,0.8s						
FRON				AML	AML		
	comp=E,191μm,0.3s						
FRON				AML	AML		
	comp=N,207μm,0.4s						
SACS	**San Casciano d**	**1.06**	**285**	P	Pn	19 21 18.8	+0.2
SACS				AML	AML		
	comp=E,128μm,0.6s						
SACS				AML	AML		
	comp=N,151μm,1.0s						
SACS				AML	AML		
	comp=N,138μm,0.5s						
SACS				AML	AML		
	comp=E,116μm,0.6s						
SACS				AML	AML		
	comp=N,141μm,0.6s						
SACS				AML	AML		
	comp=E,116μm,0.6s						
SACS				AML	AML		
	comp=E,127μm,0.6s						
SACS				AML	AML		
	comp=N,138μm,0.5s						
COR1	**Corinaldo**	**1.07**	**348**	⇓P	Pn	19 21 18.9	+0.3
MPAG	**Monte Paganucc**	**1.12**	**339**	⇑P	Pg	19 21 18.7	-0.3
MPAG				AML	AML		
	comp=N,158μm,0.7s						
MPAG				AML	AML		
	comp=E,152μm,1.2s						
MPAG				AML	AML		
	comp=N,158μm,1.3s						
MPAG				AML	AML		
	comp=E,152μm,0.8s						
MPAG				AML	AML		
	comp=N,157μm,0.7s						
NARO	**Abbazia di Nar**	**1.16**	**333**	⇑P	Pb	19 21 19.4	-0.2
NARO				AML	AML		
	comp=E,139μm,1.5s						
NARO				AML	AML		
	comp=N,130μm,1.2s						
NARO				AML	AML		
	comp=E,139μm,0.5s						
NARO				AML	AML		
	comp=E,112μm,0.6s						
NARO				AML	AML		
	comp=N,106μm,0.9s						
GROG	**Isola di Gorgo**	**2.64**	**290**	P	Pn	19 21 40.7	+0.5
GROG				AML	AML		
	comp=E,75μm,0.7s						
GROG				AML	AML		
	comp=N,159μm,1.5s						
PZUN	**Potenza**	**2.69**	**135**	⇓P	Pn	19 21 41.7	+0.9
PZUN				AML	AML		
	comp=E,118μm,1.1s						
PZUN				AML	AML		
	comp=E,157μm,1.0s						
PZUN				AML	AML		
	comp=N,125μm,0.1s						
PZUN				AML	AML		
	comp=N,213μm,1.1s						
NDIM	**Novi di Modena**	**2.89**	**324**	⇓P	Pn	19 21 42.1	-1.4
NDIM				AML	AML		
	comp=N,514μm,0.1s						
NDIM				AML	AML		
	comp=E,1380μm,0.1s						
NDIM				AML	AML		
	comp=N,514μm,1.9s						
NDIM				AML	AML		
	comp=N,513μm,0.1s						
NDIM				AML	AML		
	comp=N,439μm,0.1s						
NDIM				AML	AML		
	comp=E,1378μm,0.1s						
NDIM				AML	AML		
	comp=E,1487μm,0.1s						
OBKA	**Obir**	**4.02**	**12**	*i* Pn	Pn	19 22 02.1	+2.8
	comp=E,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**4.20**	**353**	*i* Pn	Pn	19 22 04.9	+3.2
	comp=E,1.4nm,0.2s						
MOA	**Molln**	**5.31**	**7**	*i* Pn	Pn	19 22 20.8	+3.9
	comp=E,0.3nm,0.3s						

ROM 19 19:21:10.4±0.1, 43.608N±0.005 11.012E±0.007, h11km, ML1.1/4, 1D, Error ellipse: s-maj=0.7km s-min=0.2km az=45.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRMI	**Carmignano**	**0.18**	**351**	P	Pb	19 21 15.2	-0.6
CRMI				S	Sg	19 21 18.3	+1.1
CRMI				AML	AML		
	comp=E,121μm,0.8s						
CRMI				AML	AML		
	comp=N,75μm,1.5s						
CRMI				AML	AML		
	comp=E,121μm,1.2s						
CRMI				AML	AML		
	comp=N,75μm,0.5s						
CRMI				AML	AML		
	comp=N,60μm,0.2s						
CRMI				AML	AML		
	comp=E,80μm,0.2s						
CRMI				AML	AML		
	comp=E,75μm,0.3s						
CRMI				AML	AML		
	comp=N,65μm,0.2s						
OSSC	**Osservatorio P**	**0.19**	**116**	⇓P	Pg	19 21 15.2	+0.7
OSSC				S	Sg	19 21 18.4	+1.1
OSSC				AML	AML		
	comp=E,83μm,1.5s						
OSSC				AML	AML		

comp=N,75µm,1.6s
OSSC AML AML
comp=E,83µm,0.5s
OSSC AML AML
comp=N,75µm,0.4s
OSSC AML AML
comp=E,66µm,0.3s
OSSC AML AML
comp=N,54µm,0.2s
OSSC AML AML
comp=E,49µm,0.1s
OSSC AML AML
comp=N,149µm,0.6s
CSNT Castellina Chi 0.24 124 P Pg 19 21 15.9 +0.4
CSNT S Sg 19 21 20.1 +1.2
CSNT AML AML
comp=E,33µm,0.2s
CSNT AML AML
comp=N,36µm,0.4s
PII Pisa 0.37 288 P Pb 19 21 18.5 -0.4
PII S Sg 19 21 23.6 +0.9
PII AML AML
comp=N,63µm,0.1s
PII AML AML
comp=E,46µm,0.3s
FROS Frosini 0.41 165 P Pb 19 21 19.1 -0.6
FROS S Sg 19 21 24.8 +0.8
RUFI Rufina 0.43 57 P Pb 19 21 19.4 -0.6
RUFI S Sg 19 21 25.4 +0.9
RUFI AML AML
comp=E,53µm,1.4s
RUFI AML AML
comp=N,67µm,1.2s
RUFI AML AML
comp=E,53µm,0.6s
RUFI AML AML
comp=E,44µm,0.3s
RUFI AML AML
comp=N,55µm,1.7s
MAIM Mastiano 0.48 309 P Pb 19 21 20.5 -0.4
MAIM S Sg 19 21 26.8 +0.5

WEL 19 19:21:32.7±0.5, 42°S±3"×17°4E±", h12km, M2.8/12, ML3.0/18, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=144.6, confirmed, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.43**	**266**	P	Pg	19 21 41.2	0.0
KHZ				S	Sg	19 21 47.7	+0.8
CMWZ	**Cape Campbell**	**0.64**	**6**	P	Pn	19 21 46.9	-0.7
BSWZ	**Blackbirch Sta**	**0.69**	**345**	P	Pg	19 21 46.2	0.0
GVZ	**Greta Valley S**	**0.99**	**234**	P	Pn	19 21 52.1	-0.3
GVZ				S	Sn	19 22 06.7	+0.5
THZ	**Tophouse**	**1.10**	**304**	P	Pb	19 21 52.9	-0.7
THZ				S	Sg	19 22 08.3	+0.2
PLWZ	**Palliser**	**1.18**	**46**	P	Pb	19 21 54.7	-0.3
TCW	**Tory Channel**	**1.18**	**6**	P	Pb	19 21 54.3	-0.7
TCW				S	Sb	19 22 10.2	-0.1
WEL	**Wellington**	**1.20**	**24**	P	Pn	19 21 55.3	0.0
NNZ	**Nelson**	**1.29**	**334**	P	Pn	19 21 55.9	-0.6
NNZ				S	Sb	19 22 13.5	+0.1
PAWZ	**Paruwai Farm**	**1.40**	**45**	P	Pn	19 21 57.6	-0.5
MRNZ	**Matariki Terra**	**1.42**	**314**	P	Pn	19 21 58.3	0.0
MRNZ				S	Sb	19 22 17.2	+0.2
LTZ	**Lake Taylor**	**1.42**	**253**	P	Pn	19 21 57.9	-0.5
LTZ				S	Sn	19 22 15.8	-1.2
CAW	**Cannon Point**	**1.46**	**29**	P	Pn	19 21 58.7	-0.1
DUWZ	**D'Urville Isla**	**1.59**	**355**	P	Pn	19 22 00.3	-0.4
TKNZ	**Takaka Hill**	**1.60**	**327**	P	Pn	19 22 01.1	+0.2
TKNZ				S	Sn	19 22 21.9	+0.4
MTW	**Mount Morrison**	**1.61**	**41**	P	Pn	19 22 00.3	-0.6
KIW	**Kapiti Island**	**1.64**	**22**	P	Pn	19 22 01.2	-0.1
OGWZ	**Otaki Gorge**	**1.76**	**27**	P	Pn	19 22 02.7	-0.2
OXZ	**Oxford**	**1.79**	**238**	P	Pn	19 22 03.3	-0.2
HOWZ	**Holdsworth Sta**	**1.82**	**36**	P	Pn	19 22 03.3	-0.5
DSZ	**Denniston Nort**	**1.84**	**290**	P	Pn	19 22 04.9	+0.9
DSZ				S	Sb	19 22 29.0	-0.2
TMWZ	**Te Maipa**	**1.84**	**47**	P	Pn	19 22 03.6	-0.6
QRZ	**Quartz Range**	**1.96**	**322**	P	Pn	19 22 06.2	+0.5
MRZ	**Mangatainoka R**	**2.04**	**33**	P	Pn	19 22 06.4	-0.5
BFZ	**Birch Farm**	**2.34**	**44**	P	Pn	19 22 09.8	-1.1
WVZ	**Waitaha Valley**	**2.58**	**253**	P	Pn	19 22 14.2	0.0
RPZ	**Rata Peaks**	**2.61**	**238**	P	Pn	19 22 13.7	-0.9
ARCZ	**Arundel**	**2.66**	**233**	P	Pn	19 22 14.9	-0.5
TSZ	**Takapari Road**	**2.71**	**31**	P	Pn	19 22 15.2	-0.9
WAZ	**Wanganui**	**2.71**	**14**	P	Pn	19 22 18.1	+2.1
WNVZ	**Wahianoa**	**3.26**	**21**	P	Pn	19 22 24.1	+0.4
VRZ	**Vera Road**	**3.29**	**9**	P	Pn	19 22 25.4	+1.3
TUVZ	**Tukino**	**3.33**	**21**	P	Pn	19 22 25.0	+0.3
NGZ	**Ngauruhoe**	**3.40**	**20**	P	Pn	19 22 26.5	+0.8
NNVZ	**North Ngauruho**	**3.44**	**20**	P	Pn	19 22 26.9	+0.6
TMVZ	**Te Maari**	**3.48**	**21**	P	Pn	19 22 27.1	+0.3
MRHZ	**Matea Rd**	**3.96**	**27**	P	Pn	19 22 36.7	+3.5

*NEIC **19** 19:24:22.7±1.8, 8.2S±0.1×154.8E±0.2, h10km±1km, mb4.3/15, Error ellipse: s-maj=29.8km s-min=13.4km az=57.0*
*IDC **19** 19:24:33.8±2.9, 8.22S×154.88E, h96km±30km, mb3.4/4, mbtmp4.1/7, Error ellipse: s-maj=32.6km s-min=23.7km az=174.0*
ISC 19 19:24:26.0±0.8, 8.07S±0.10×154.9E±0.1, h35km, n26, σ2§01/24, mb4.0/12, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.73**	**324**	Pn	**Pn**	**19 25 34.0**	**-0.9**
HNR	**Honiara**	**5.14**	**106**	P	Pn	19 25 47.8	+7.3
	725nm,0.8s,baz=288,slow=9.6,SNR=1.7						
PMG	**Port Moresby**	**7.80**	**260**	P	Pn	19 26 24.2	+7.2
	12nm,0.4s,baz=46,slow=8.0,SNR=13						
PMG	**Port Moresby**	**7.80**	**260**	Pn	**Pn**	**19 26 18.7**	**+1.7**
MANU	**Manus Island**	**9.62**	**308**	Pn	**Pn**	**19 26 39.5**	**-2.6**
LIFNC	**LIFOU**	**17.36**	**138**	Pn	**Pn**	**19 28 22.7**	**-2.8**
LIFNC				IAmb	IAmb	19 29 05.5	
	comp=E,41nm,1.0s						
DZM	**Mont Dzumac**	**17.80**	**143**	P	**P**	**19 28 34.9**	**+3.2**
	comp=Z,2.2nm,0.4s,baz=300,slow=14,SNR=8.8						
WR0	**Warramunga Arr**	**23.01**	**237**	P	**P**	**19 29 29.1**	**+1.1**
WR0				IAmb	IAmb	19 29 30.1	
	comp=Z,4.3nm,0.8s						
WB0	**Warramunga Arr**	**23.05**	**238**	P	**P**	**19 29 26.0**	**-2.4**
WB0				IAmb	IAmb	19 29 56.8	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**23.16**	**237**	P	**P**	**19 29 27.1**	**-2.4**
WRAB				IAmb	IAmb	19 29 31.3	
	comp=Z,3.9nm,0.7s						
WB2	**Warramunga Arr**	**23.16**	**237**	P	**P**	**19 29 28.0**	**-1.6**
WB2				IAmb	IAmb	19 29 31.4	
	comp=Z,3.4nm,0.8s						
WRA	**Warramunga Arr**	**23.17**	**237**	P	**P**	**19 29 30.4**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=58,slow=9.6,SNR=21						
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**23.17**	**237**	P	**P**	**19 29 28.2**	**-1.5**
MTN	**Manton Dam**	**23.87**	**257**	P	**P**	**19 29 34.0**	**-2.4**
MTN				IAmb	IAmb	19 30 17.5	
	comp=Z,18nm,1.1s						
ASAR	**Alice Springs**	**25.43**	**230**	P	**P**	**19 29 51.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=63,slow=8.5,SNR=10						
	comp=Z,0.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.18**	**248**	P	**P**	**19 30 30.2**	**-2.9**
FORT	**Forrest**	**33.78**	**224**	P	**P**	**19 31 04.3**	**-0.3**
RTZ	**Ruatahuna**	**36.33**	**150**	P	**P**	**19 31 25.4**	**-1.2**
BKZ	**Black Stump Fm**	**36.52**	**151**	P	**P**	**19 31 27.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**61.19**	**296**	P	**P**	**19 34 40.5**	**+2.7**
	comp=Z,0.9nm,0.7s,baz=111,slow=5.4,SNR=5.7						
	comp=Z,0.9nm,0.7s						
VNDA	**Vanda**	**69.52**	**178**	P	**P**	**19 35 29.4**	**-1.2**
VNDA				IAmb	IAmb	19 35 53.4	
	comp=Z,4.0nm,1.3s						
CAST	**Castle Rocks**	**81.74**	**21**	P	**P**	**19 36 42.9**	**+2.2**
MK31	**Makanchi Array**	**84.16**	**319**	P	**P**	**19 36 53.9**	**+0.3**
MK31				IAmb	IAmb	19 37 03.6	
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**84.16**	**319**	P	**P**	**19 36 53.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=120,slow=4.6,SNR=5.3						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**84.16**	**319**	P	**P**	**19 36 53.5**	**-0.2**
KURK	**Kurchatov**	**87.63**	**322**	P	**P**	**19 37 13.3**	**+2.6**
KURK				IAmb	IAmb	19 37 14.2	
	comp=Z,4.5nm,1.0s						

*IPEC **19** 19:27:13.5±0.2, 51.60N×16.09E, h0km, ML2.6/5, Error ellipse: s-maj=2.0km s-min=1.1km az=33.0*
*DNK **19** 19:27:14.2±2.0, 51.65N×16.23E, h13km±73km, ML2.2*
*PRU **19** 19:27:14.8±0.0, 51.55N×15.98E, h0km*
*IDC **19** 19:27:15.0±0.9, 51.53N×15.92E, h0km, mbtmp3.2/7, ML2.7/6, Error ellipse: s-maj=12.9km s-min=8.3km az=111.0*
*BGR **19** 19:27:15.5±0.4, 51.50N×15.97E, h1km, ML3.0/14, Error ellipse: s-maj=4.4km s-min=2.2km az=18.0*
*VIE **19** 19:27:16.1, 51.42N×16.03E, h0km, mb2.9/8, ml2.7/13 77 km WNW of Wroclaw Suspected Mining induced.*
ISC 19 19:27:12.8±0.7, 51.66N±0.03×16.07E±0.02, h0km, n71, σ1§02/140, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.83**	**170**	*e*Pg	**Pg**	**19 27 28.6**	**0.0**
KSP				*i* Sg	**Sg**	19 27 38.5	-0.7
OSTC	**Ostas**	**1.10**	**175**	*e*PG	**Pb**	**19 27 34.2**	**-0.6**
OSTC				*e*SG	**Sg**	**19 27 47.2**	**-1.0**
	comp=Z,97nm,0.4s						
UPC	**Upice**	**1.15**	**182**	*e*PG	**Pg**	**19 27 34.4**	**-0.4**
UPC				*e*SG	**Sg**	**19 27 47.9**	**-1.8**
	comp=Z,88nm,0.4s						
DPC	**Dobruska-Polom**	**1.32**	**173**	*e*PG	**Pg**	19 27 37.3	-0.7
DPC				*e*SG	**Sg**	**19 27 52.8**	**-2.3**
	comp=Z,82nm,0.4s						
DPC	**Dobruska-Polom**	**1.32**	**173**	*e*Pg	**Pg**	19 27 37.4	-0.6
DPC				*e*Sg	**Sg**	19 27 53.2	-1.8
PVCC	**Panska Ves**	**1.47**	**220**	*e*PG	**Pn**	19 27 40.2	-0.3
PVCC				*e*SG	**Sg**	19 27 58.7	-1.3
	comp=Z,128nm,0.5s						
BRG	**Berggiesshubel**	**1.55**	**240**	Pg	**Pg**	**19 27 42.4**	**0.0**
BRG				Sg	**Sn**	**19 28 02.3**	**-0.1**
BRG				Amp		19 28 03.2	
	comp=Z,102nm,0.3s						
BRG	**Berggiesshubel**	**1.55**	**240**	*e*Pn	**Pn**	19 27 40.9	-0.6
BRG				*e*Pg	**Pb**	19 27 41.7	-0.6
BRG				*e*Sg	**Sg**	19 28 00.8	-1.6
KRLC	**Kraliky**	**1.65**	**164**	*e*PG	**Pn**	19 27 43.0	0.0
KRLC				*e*SG	**Sn**	19 28 03.8	-1.1
	comp=Z,94nm,0.4s						
FBE	**Freiberg**	**1.85**	**248**	*e*Pg	**Pg**	19 27 48.0	-0.3
FBE				*e*Sg	**Sb**	19 28 10.8	-0.4
GOPC	**GO Pecny, Ondr**	**1.92**	**205**	*e*SG	**Sn**	**19 28 11.5**	**-0.2**
PRU	**Pruhonice**	**1.93**	**211**	*e*PN	**Pn**	19 27 46.2	-0.6
PRU				*e*PG	**Pb**	19 27 48.0	-0.8
PRU				*e*SG	**Sn**	19 28 11.5	-0.3
	comp=Z,52nm,0.6s						
CLL	**Collm**	**1.95**	**261**	*e*Pn	**Pn**	19 27 47.0	0.0
CLL				*e*Pg	**Pg**	19 27 50.0	0.0
CLL				*i* x	x	19 27 53.5	
CLL				*e*Sg	**Sg**	**19 28 15.0**	**-0.2**
	comp=Z,20nm,0.6s						
CLL	**Collm**	**1.95**	**261**	*e*Pn	**Pn**	19 27 46.8	-0.2
CLL				*e*Pg	**Pg**	19 27 50.3	+0.3
CLL				*e*Sg	**Sg**	19 28 14.8	-0.5
MORC	**Moravsky Berou**	**2.10**	**153**	*e*PN	**Pn**	19 27 49.1	-0.2
MORC				*e*SG	**Sb**	19 27 49.2	-0.7
MORC	**Moravsky Berou**	**2.10**	**153**	*e*Pn	**Pn**	19 27 49.4	+0.2
MORC				*e*Sg	**Sb**	19 28 18.7	+0.2
MORC	**Moravsky Berou**	**2.10**	**153**	*e*Pn	**Pn**	19 27 49.1	-0.2
	baz=334						
MORC				*e*Sg	**Sb**	19 28 17.6	-0.8
	comp=Z,35nm,0.5s,baz=334						
OKC	**Ostrava-Krasne**	**2.25**	**143**	*e*PG	**Pb**	19 27 54.7	+0.4
OKC				*e*SG	**Sg**	19 28 24.1	-0.9
	comp=Z,40nm,0.5s						
OKC	**Ostrava-Krasne**	**2.25**	**143**	*e*Pn	**Pn**	19 27 51.1	-0.1
OKC				*e*Pg	**Pg**	19 27 55.6	-0.3
OKC				*e*Sg	**Sg**	19 28 24.6	-0.4
VRAC	**Vranov**	**2.38**	**172**	Pn	**Pn**	**19 27 53.1**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=344,slow=16,SNR=8.3						
VRAC				Pg	**Pg**	**19 27 57.8**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=354,slow=17,SNR=8.4						
VRAC				Lg	Lg	19 28 26.5	
	comp=Z,6.5nm,0.3s,baz=356,slow=14,SNR=11						
	comp=Z,2.0nm,0.3s						
VRAC	**Vranov**	**2.38**	**172**	*e*PN	**Pn**	19 27 52.9	-0.1
VRAC				*e*SG	**Sb**	19 28 26.1	-0.2
VRAC	**Vranov**	**2.38**	**172**	*e*Pn	**Pn**	19 27 52.9	-0.1
	baz=352						
VRAC				*e*Sg	**Sb**	**19 28 26.0**	**-0.2**
	comp=Z,26nm,0.5s,baz=352						
TREC	**Trest**	**2.39**	**189**	*e*SG	**Sb**	19 28 26.6	-0.2
TANN	**Tannenbergstha**	**2.59**	**243**	*e*Pn	**Pn**	19 27 56.1	+0.1
TANN				*e*Pg	**Pg**	19 28 02.7	+0.3
TANN				*e*Sg	**Sb**	19 28 33.6	+1.1
KRUC	**Moravsky**	**2.61**	**175**	*e*PN	**Pn**	19 27 56.2	+0.1
KRUC				*e*SG	**Sb**	19 28 39.5	+0.6
KRUC	**Moravsky**	**2.61**	**175**	*e*Pn	**Pn**	19 27 56.2	+0.1
	baz=356						
KRUC				*e*Sg	**Sb**	**19 28 33.4**	**+0.6**
	comp=Z,28nm,0.7s,baz=356						
WERD	**Werda**	**2.66**	**244**	*e*Pn	**Pn**	19 27 56.9	-0.1
WERD				*e*Pg	**Pb**	19 28 02.4	+1.1
WERD				*e*Sg	**Sb**	19 28 35.6	+1.0
NKC	**Novy Kostel**	**2.69**	**239**	*e*PN	**Pn**	19 27 57.7	+0.3
NKC				*e*PG	**Pg**	19 28 03.2	-1.2
NKC				*e*SG	**Sg**	19 28 38.4	-0.9
	comp=Z,60nm,0.6s						
OJC	**Ojcow**	**2.77**	**120**	*e*Pg	**Pg**	19 28 06.1	+0.3
OJC				*e*Sn	**Sn**	19 28 30.7	-1.7
OJC				*e*Sg	**Sg**	19 28 42.0	+0.4
MOX	**Moxa**	**2.98**	**252**	*e*Pn	**Pn**	19 28 01.1	-0.1
MOX				*e*Pg	**Pg**	19 28 09.5	-0.3
MOX				*e*Sg	**Sg**	19 28 46.7	-1.7
JAVC	**Velka Javorina**	**2.98**	**159**	*e*PN	**Pn**	**19 28 01.1**	**-0.3**
JAVC	**Velka Javorina**	**2.98**	**159**	*e*Pn	**Pn**	**19 28 01.1**	**-0.3**
	baz=340						
KHC	**Kasperske Hory**	**2.99**	**213**	*e*PN	**Pn**	19 28 00.9	-0.5
KHC				*e*PG	**Pb**	19 28 06.7	-0.1
KHC				*e*SN	**Sn**	19 28 36.6	-1.3
KHC				*e*SG	**Sb**	19 28 45.3	+1.4
	comp=Z,15nm,0.5s						
MANZ	**Manzenberg**	**3.02**	**238**	*e*Pn	**Pn**	19 28 02.2	+0.4
MANZ				*e*Sg	**Sg**	19 28 48.3	-1.3
CKRC	**Cesky Krumlov**	**3.06**	**202**	*e*PN	**Pn**	19 28 02.8	+0.5
CKRC				*e*PG	**Pb**	19 28 08.3	+0.3
CKRC				*e*SG	**Sb**	19 28 47.5	+1.7
	comp=Z,18nm,0.5s						
ROTZ	**Rotzenmuhle**	**3.10**	**234**	*e*Pn	**Pn**	19 28 02.8	-0.1
ROTZ				*e*Sg	**Sb**	19 28 49.0	+2.0
GEC2	**GERESS Array S**	**3.20**	**209**	*e*Pn	**Pn**	19 28 04.4	0.0
GEC2				*e*Pg	**Pb**	19 28 11.4	+1.0
GEC2				*e*Sg	**Sb**	19 28 51.8	+1.8
GERES	**GERESS Array B**	**3.20**	**209**	Pn	**Pn**	19 28 04.6	+0.3
	comp=Z,1.0nm,0.3s,baz=32,slow=13,SNR=26						
GERES				Pg	**Pb**	**19 28 10.6**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=30,slow=17,SNR=20						
GERES				Lg	Lg	19 28 49.8	
	comp=Z,1.7nm,0.3s,baz=27,slow=26,SNR=4.5						
	comp=Z,1.3nm,0.3s						
LANS	**Liptovska Anna**	**3.32**	**138**	*e*Pn	**Pn**	19 28 06.8	+0.8
LANS				*e*PG	**Pg**	19 28 16.0	-0.4
LANS				*e*SG	**Sg**	19 28 59.8	+0.4
MODS	**Modra-Piesok**	**3.38**	**166**	*e*PN	**Pn**	19 28 08.1	+1.3
MODS				*e*PG	**Pg**	19 28 17.4	-0.1
MODS				*e*SG	**Sg**	19 29 02.4	+1.2
NIE	**Niedzica**	**3.51**	**128**	*e*P	**Pg**	19 28 20.1	+0.1
NIE				*e*S	**Sg**	19 29 05.4	0.0
ZST	**Bratislava**	**3.53**	**169**	*e*SG	**Sg**	19 29 03.8	-2.2
BSD	**Bornholm Skovb**	**3.53**	**349**	*i* P	**Pn**	19 28 10.0	+1.2
BSD				*e*S	**Sn**	19 28 49.8	-1.5
BSD				IAML		19 28 53.9	
	comp=Z,3.0nm,0.2s						
CLZ	**Clausthal**	**3.54**	**275**	*e*Pn	**Pn**	19 28 10.4	+1.4
CLZ				*e*Sg	**Sg**	19 29 06.5	0.0
VYHS	**Vyhne**	**3.63**	**150**	*e*PN	**Pn**	19 28 09.7	-0.6
VYHS				*e*PG	**Pg**	19 28 22.3	-0.1
VYHS				*e*SG	**Sg**	19 29 09.6	+0.2
GRF	**Grafenberg Arr**	**3.66**	**239**	*e*Pn	**Pn**	19 28 11.2	+0.6
GRF				*e*Sg	**Sg**	19 29 07.0	-3.1
CONA	**Conrad Observa**	**3.73**	**182**	*i* Pn	**Pn**	19 28 11.7	0.0
	comp=Z,0.4nm,0.1s						
CONA				*e*Sn	**Sn**	**19 28 56.3**	**-0.1**
	comp=Z,8.2nm,0.3s						
RONA	**Rosalia, Austr**	**3.96**	**178**	*i* Pn	**Pn**	**19 28 14.8**	**0.0**
	comp=Z,0.5nm,0.2s						
RONA				*e*Sn	**Sn**	**19 29 00.8**	**-1.3**
	comp=Z,7.6nm,0.4s						
MOA	**Molln**	**3.98**	**198**	*i* Pn	**Pn**	**19 28 15.3**	**+0.2**
	comp=Z,2.0nm,0.2s						
MOA				*i* Sn	**Sn**	**19 29 02.3**	**-0.2**
	comp=Z,10nm,0.4s						
STHS	**Stebnicka Huta**	**3.99**	**122**	*e*PN	**Pn**	**19 28 15.2**	**0.0**
STHS				*e*PG	**Pg**	**19 28 29.1**	**-0.1**
STHS				*e*SG	**Sg**	**19 29 22.3**	**+1.4**
BIOA	**Bad Ischl, Aus**	**4.27**	**203**	*i* Pn	**Pn**	**19 28 19.2**	**+0.2**
	comp=Z,2.0nm,0.3s						
BIOA				*e*Sn	**Sn**	**19 29 11.2**	**+1.7**
	comp=Z,23nm,0.5s						
LUNU	**Lund**	**4.28**	**340**	*e*P	**Pn**	**19 28 19.4**	**+0.4**
LUNU				*e*S	**Sn**	**19 29 08.9**	**-0.7**
ARSA	**Arzberg**	**4.42**	**185**	*i* Pn	**Pn**	**19 28 21.3**	**+0.1**
	comp=Z,0.2nm,0.2s						
ARSA				*e*Sg	**Sg**	**19 29 32.1**	**-2.7**
	comp=Z,3.7nm,0.4s						
CRVS	**Cervenica-Dubn**	**4.42**	**126**	*e*PG	**Pg**	**19 28 38.6**	**+1.1**
BLEU	**Blekinge**	**4.66**	**358**	*e*P	**Pn**	**19 28 26.1**	**+1.8**
BLEU				*e*S	**Sn**	**19 29 15.4**	**-3.6**
BJUU	**Bjuv**	**4.78**	**339**	*e*P	**Pn**	**19 28 26.2**	**+0.3**
BJUU				*e*S	**Sn**	**19 29 19.5**	**-2.4**
KBA	**Koelnbreinsper**	**4.91**	**202**	*e*Sg	**Sg**	**19 29 50.9**	**+0.4**
	comp=Z,8.6nm,0.5s						
DEL	**Delary**	**4.99**	**346**	*e*P	**Pn**	**19 28 29.8**	**+0.9**
DEL				*e*S	**Sn**	**19 29 26.2**	**-1.1**
SOKA	**Soboth**	**5.03**	**188**	*e*Sg	**Sg**	**19 29 53.7**	**-0.5**
	comp=Z,1.6nm,0.4s						
WATA	**Walderalm**	**5.22**	**216**	*e*Sg	**Sg**	**19 30 01.1**	**+0.8**
	comp=Z,2.4nm,0.3s						
OBKA	**Obir**	**5.25**	**192**	*e*Sg	**Sg**	**19 30 01.3**	**+0.1**
	comp=Z,3.6nm,0.6s						
WTTA	**Wattenberg**	**5.26**	**215**	*e*Sg	**Sg**	**19 30 00.7**	**-1.0**
	comp=Z,4.4nm,0.5s						
MYKA	**Terra Mystica**	**5.28**	**198**	*e*Sg	**Sg**	**19 30 03.8**	**+1.6**
	comp=Z,0.8nm,0.2s						
MOTA	**Moosalm**	**5.39**	**219**	*e*Sn	**Sn**	**19 29 37.2**	**-0.1**
	comp=Z,4.3nm,0.5s						
ABTA	**Abfaltersbach**	**5.44**	**207**	*e*Sn	**Sn**	**19 29 41.7**	**+3.3**
	comp=Z,2.4nm,0.6s						
FETA	**Feichten**	**5.80**	**219**	*e*Sg	**Sg**	**19 30 20.8**	**+1.7**
	comp=Z,2.0nm,0.6s						
DAVOX	**Davos/Dischmat**	**6.34**	**222**	Pn	**Pn**	**19 28 45.7**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=18,slow=17,SNR=1.8						
DAVOX				Lg	Lg	19 30 32.1	
	comp=Z,0.3nm,0.3s,baz=18,slow=19,SNR=1.9						
	comp=Z,0.8nm,0.4s						
AKASG	**Malin Array Be**	**8.33**	**91**	Pn	**Pn**	**19 29 14.2**	**-0.5**
	comp=Z,0.3nm,0.2s,baz=280,slow=12,SNR=8.1						
HFS	**Hagfors**	**8.60**	**352**	Pn	**Pn**	**19 29 19.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=169,slow=16,SNR=1.9						
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**11.24**	**25**	Pn	**Pn**	**19 29 55.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=1.7						
	comp=Z,4.5nm,1.0s						
EKA	**Eskdalemuir Ar**	**12.02**	**295**	Pn	**Pn**	**19 30 05.5**	**+0.3**
	baz=95,slow=14						
	comp=Z,0.2nm,0.4s						

*IDC **19** 19:27:59.1±1.2, 1.48N×125.32E, h0km, mb3.6/4, mbtmp3.9/5, ML4.8/1, Error ellipse: s-maj=89.3km s-min=19.1km az=71.0*
*DJA **19** 19:28:03.8±2.7, 2°N±3"×12°6E±", h19km±26km, M4.3/8, mb5.3/1, MLv3.9/8*
*NEIC **19** 19:28:04.3±2.0, 1.87N±0.05×126.33E±0.08, h42km±14km, mb4.0/8, Error ellipse: s-maj=13.2km s-min=4.6km az=60.0*
ISC 19 19:28:05.0±0.8, 1.76N±0.06×126.33E±0.08, h47km, n27, σ1§22/27, mb3.9/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.43**	**133**	Pn	**Pn**	**19 28 28.4**	**-0.1**
TNTI	**Ternate**	**1.43**	**133**	P	Pn	19 28 28.2	-0.3
TNTI				S	**Sn**	**19 28 46.5**	**+0.4**
SGSI	**Sangihe**	**2.08**	**337**	P	**Pn**	**19 28 39.1**	**+1.7**
GTOI	**Gorontalo**	**3.50**	**251**	P	**Pn**	**19 29 00.1**	**+3.2**
SANI	**Sanana**	**3.80**	**185**	P	**Pn**	**19 29 00.4**	**-0.6**
LUWI	**Luwuk**	**4.51**	**232**		**Pn**	**19 29 10.2**	**-0.7**
LUWI	**Luwuk**	**4.51**	**232**	P	**Pn**	**19 29 11.4**	**+0.5**
MRSI	**Marisa**	**4.57**	**254**	P	**Pn**	**19 29 12.8**	**+1.2**
DAV	**Davao City (W)**	**5.33**	**352**	Pn	**Pn**	**19 29 21.4**	**-0.7**
	27nm,0.3s,baz=97,slow=19,SNR=6.2						
	128nm,0.5s						
DAV	**Davao City (W)**	**5.33**	**352**	Pn	Pn	19 29 18.8	-3.4
TOLI2	**Tolitoli**	**5.58**	**263**		**Pn**	**19 29 24.3**	**-1.3**
FAKI	**Fak Fak**	**7.52**	**128**	Pn	**Pn**	**19 29 52.8**	**+0.6**
MYLDM	**Lahad Datu**	**8.52**	**294**	Pn	**Pn**	**19 30 05.8**	**-0.1**
WB0	**Warramunga Arr**	**22.81**	**160**	P	**P**	**19 33 04.1**	**+0.7**
WRAB	**Tennant Creek**	**22.95**	**160**	P	**P**	**19 33 05.7**	**+0.2**
WRAB				IAmb	IAmb	19 33 10.2	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**22.95**	**160**	P	**P**	**19 33 05.3**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=333,slow=11,SNR=22						
	comp=Z,2.5nm,0.6s						
WRA	**Warramunga Arr**	**22.95**	**160**	P	**P**	**19 33 04.6**	**-0.9**
WB2	**

WRAB				IAmb	IAmb	19 53 14.8			
	comp=Z,4.6nm,0.8s								
WRAB	**Tennant Creek**	**15.17**	**141**	P	**Pn**	**19 53 12.1**	**+0.9**		
	comp=Z,7.5nm,1.1s								
WB2	**Warramunga Arr**	**15.18**	**141**		**Pn**	**19 53 11.6**	**+0.3**		
WB2				IAmb	IAmb	19 53 14.8			
	comp=Z,6.0nm,0.8s								
WR0	**Warramunga Arr**	**15.31**	**141**		**Pn**	**19 53 12.1**	**-0.8**		
WR0				IAmb	IAmb	19 53 21.1			
	comp=Z,10nm,1.4s								
WRKA	**Warakurna**	**17.15**	**168**	P	**Pn**	**19 53 36.2**	**+1.3**		
	comp=Z,7.6nm,2.1s								
AS31	**Alice Springs**	**17.90**	**150**		**Pn**	**19 53 44.5**	**+0.7**		
AS31				IAmb	IAmb	19 53 46.8			
	comp=Z,3.2nm,0.4s								
ASAR	**Alice Springs**	**17.90**	**150**	P	**Pn**	**19 53 44.4**	**+0.6**		
	comp=Z,4.1nm,0.5s,baz=330,slow=12,SNR=50								
ASAR				S	**S**	**19 56 58.1**	**+1.2**		
	comp=Z,0.2nm,0.4s,baz=334,slow=20,SNR=2.1								
AS01	**Alice Springs**	**17.92**	**150**	P	**Pn**	**19 53 45.2**	**+1.2**		
	comp=Z,8.4nm,1.1s								
MEEK	**Meekatharra**	**19.09**	**196**	P	**Pn**	**19 54 00.0**	**+2.3**		
	comp=Z,26nm,2.5s								
QIS	**Mount Isa**	**19.21**	**131**	P	**P**	**19 53 58.3**	**+2.4**		
	comp=Z,18nm,0.6s								
OOD	**Oodnadatta**	**22.24**	**152**	P	**P**	**19 54 29.6**	**+2.3**		
	comp=Z,7.9nm,1.0s								
FORT	**Forrest**	**22.71**	**172**	P	**P**	**19 54 33.7**	**+2.2**		
FORT	**Forrest**	**22.71**	**172**	P	**P**	**19 54 34.1**	**+2.6**		
	comp=Z,21nm,0.8s								
MULG	**Mulgathing**	**23.77**	**159**	P	**P**	**19 54 43.7**	**+2.5**		
	comp=Z,7.3nm,1.7s								
BBOO	**Buckleboo**	**26.78**	**158**	P	**P**	**19 55 10.4**	**+2.2**		
BBOO	**Buckleboo**	**26.78**	**158**	P	**P**	**19 55 10.2**	**+1.9**		
	comp=Z,15nm,1.7s								
MKAR	**Makanchi Array**	**66.29**	**330**	P	**P**	**20 00 12.5**	**-1.1**		
	comp=Z,0.3nm,0.5s,baz=130,slow=6.4,SNR=6.7								
	comp=Z,0.3nm,0.5s								

ROM 19 19:57:28.0±0.7, 42°63'N±0°03'×13°30'E±0°03, h4km, ML1.6/3, 1C-2D, Error ellipse: s-maj=3.8km s-min=1.6km az=25.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.09**	**326**	AML	AML		
	comp=N,860μm,1.1s						
T1202				AML	AML		
	comp=E,699μm,1.0s						
T1247	**Pizzolo (AQ)**	**0.18**	**180**	⇑P	Pg	19 57 33.0	+1.4
T1247				S	Sg	19 57 35.2	+1.2
T1247				AML	AML		
	comp=N,641μm,1.2s						
T1247				AML	AML		
	comp=E,506μm,0.3s						
LNSS	**Leonessa**	**0.19**	**263**	P	Pg	19 57 32.7	+1.0
LNSS				S	Sg	19 57 34.7	+0.4
LNSS				AML	AML		
	comp=E,224μm,1.3s						
LNSS				AML	AML		
	comp=N,297μm,0.6s						
GIGS	**Gran Sasso**	**0.27**	**131**	⇓P	Pg	19 57 34.0	+0.9
GIGS				S	Sg	19 57 37.1	+0.4
GIGS				AML	AML		
	comp=E,56μm,0.2s						
GIGS				AML	AML		
	comp=N,61μm,0.3s						
FAGN	**Fagnano**	**0.42**	**149**	⇓P	Pb	19 57 37.8	-0.1
FAGN				AML	AML		
	comp=E,197μm,0.4s						
FAGN				AML	AML		
	comp=N,140μm,1.5s						
FDMO	**Fiordimonte**	**0.44**	**339**	AML	AML		
	comp=E,212μm,1.2s						
FDMO				AML	AML		
	comp=E,212μm,1.2s						
FDMO				AML	AML		
	comp=N,170μm,0.5s						

ROM 19 19:58:04.5±0.1, 42°568'N±0°008'×13°32'E±0°02, h15km±1km, ML1.6/6, 2C-4D, Error ellipse: s-maj=1.5km s-min=0.2km az=62.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.13**	**186**	⇓P	Pg	19 58 08.4	+0.2
T1247				S	Sb	19 58 11.0	-0.3
T1247				AML	AML		
	comp=E,458μm,1.3s						
T1247				AML	AML		
	comp=N,590μm,0.1s						
T1247				AML	AML		
	comp=E,458μm,0.7s						
T1202	**Accumoli, Fraz**	**0.15**	**334**	⇓P	Pb	19 58 08.8	-0.2
T1202				S	Sb	19 58 11.9	-0.3
T1202				AML	AML		
	comp=E,480μm,2.1s						
T1202				AML	AML		
	comp=N,548μm,1.1s						
T1218	**Civita (PG)**	**0.18**	**305**	⇓P	Pg	19 58 09.1	+0.1
T1218				S	Sg	19 58 12.2	+0.3
T1218				AML	AML		
	comp=E,202μm,1.3s						
T1218				AML	AML		
	comp=N,396μm,0.3s						
T1218				AML	AML		
	comp=E,202μm,0.7s						
LNSS	**Leonessa**	**0.21**	**280**	⇑P	Pg	19 58 09.6	+0.3
LNSS				S	Sb	19 58 13.2	-0.6
LNSS				AML	AML		
	comp=E,269μm,1.4s						
LNSS				AML	AML		
	comp=N,402μm,0.5s						
LNSS				AML	AML		
	comp=E,269μm,0.6s						
T1215	**Vallo di Nera,**	**0.40**	**305**	P	Pg	19 58 12.6	0.0
FDMO	**Fiordimonte**	**0.50**	**340**	⇑P	Pg	19 58 13.9	-0.4
FDMO				AML	AML		
	comp=E,197μm,1.5s						
FDMO				AML	AML		
	comp=N,173μm,0.1s						
FDMO				AML	AML		
	comp=E,197μm,0.5s						
T1220	**Camerino, Fraz**	**0.57**	**343**	⇓P	Pg	19 58 15.6	0.0
T1220				AML	AML		
	comp=E,674μm,0.9s						
T1220				AML	AML		
	comp=N,1385μm,0.5s						
T1220				AML	AML		
	comp=E,632μm,0.8s						
T1220				AML	AML		
	comp=N,1405μm,0.5s						

*ROM **19** 19:58:21.5±0.1, 42°.547N±0°.003×13°.324E±0°.005, h10km, ML2.5/18, Error ellipse: s-maj=0.5km s-min=0.2km az=63.0*

ISC 19 19:58:21.5±0.8, 42°54'N±0°02'×13°32'E±0°03, h14km±5km, n42, σ0s64/55, 16C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.06**	**90**	P	**Pg**	**19 58 24.0**	**-0.5**
CAMP				S	**Sg**	**19 58 25.5**	**-1.0**
CAMP				AML	AML		
	comp=N,6845μm,0.2s						
CAMP				AML	AML		
	comp=E,5070μm,1.4s						
CAMP				AML	AML		
	comp=E,5070μm,0.6s						
CAMP				AML	AML		
	comp=E,3704μm,0.4s						
CAMP				AML	AML		
	comp=N,6843μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.10**	**192**	P	**Pg**	**19 58 25.0**	**+0.2**
T1247				S	**Sg**	**19 58 27.2**	**+0.3**
T1247				AML	AML		
	comp=E,6810μm,0.5s						
T1247				AML	AML		
	comp=N,10845μm,0.3s						
T1247				AML	AML		
	comp=E,5863μm,0.2s						
T1247				AML	AML		
	comp=N,10829μm,0.3s						
T1202	**Accumoli, Fraz**	**0.18**	**336**	⇑P	**Pg**	**19 58 25.9**	**-0.1**
T1202				S	**Sg**	**19 58 29.5**	**+0.5**
T1202				AML	AML		
	comp=E,11250μm,0.4s						
T1202				AML	AML		
	comp=N,16500μm,1.2s						
T1202				AML	AML		
	comp=E,11300μm,0.4s						
T1202				AML	AML		
	comp=N,16500μm,0.8s						
T1202				AML	AML		
	comp=N,14733μm,0.3s						
T1202				AML	AML		
	comp=E,11116μm,0.2s						
AQU	**L'Aquila**	**0.19**	**162**	P	**Pg**	**19 58 26.4**	**+0.4**
AQU				S	**Sb**	**19 58 30.0**	**-0.3**
AQU				AML	AML		
	comp=E,1805μm,0.5s						
AQU				AML	AML		
	comp=N,1715μm,1.1s						
AQU				AML	AML		
	comp=E,1740μm,0.5s						
AQU				AML	AML		
	comp=N,1685μm,1.1s						
AQU				AML	AML		
	comp=E,1805μm,1.5s						
AQU				AML	AML		
	comp=E,1740μm,1.5s						
AQU				AML	AML		
	comp=N,1595μm,0.3s						
AQU				AML	AML		
	comp=E,877μm,0.2s						
AQU				AML	AML		
	comp=N,1602μm,0.3s						
AQU				AML	AML		
	comp=E,1090μm,0.3s						
GIGS	**Gran Sasso**	**0.20**	**115**	⇑P	**Pg**	**19 58 26.2**	**0.0**
GIGS				AML	AML		
	comp=N,834μm,0.2s						
GIGS				AML	AML		
	comp=E,834μm,0.1s						
GIGS				AML	AML		
	comp=E,833μm,0.1s						
GIGS				AML	AML		
	comp=N,765μm,0.2s						
T1218	**Civita (PG)**	**0.20**	**311**	⇑P	**Pg**	**19 58 26.0**	**-0.3**
T1218				S	**Sg**	**19 58 29.3**	**-0.2**
T1218				AML	AML		
	comp=N,3180μm,0.5s						
T1218				AML	AML		
	comp=E,3655μm,0.7s						
T1218				AML	AML		
	comp=N,3220μm,0.5s						
T1218				AML	AML		
	comp=E,3965μm,0.7s						
T1218				AML	AML		
	comp=N,3215μm,0.5s						
T1218				AML	AML		
	comp=N,3215μm,0.5s						
T1218				AML	AML		
	comp=N,3180μm,0.5s						
T1218				AML	AML		
	comp=E,3655μm,0.7s						
T1218				AML	AML		
	comp=E,3965μm,0.7s						
T1218				AML	AML		
	comp=E,3270μm,0.2s						
T1218				AML	AML		
	comp=N,2782μm,0.2s						
T1218				AML	AML		
	comp=N,2940μm,0.2s						
T1218				AML	AML		
	comp=E,2986μm,0.2s						
LNSS	**Leonessa**	**0.22**	**288**	⇑P	**Pg**	**19 58 26.6**	**0.0**
LNSS				S	**Sg**	**19 58 30.5**	**+0.6**
LNSS				AML	AML		
	comp=E,7420μm,0.4s						
LNSS				AML	AML		
	comp=N,5640μm,0.1s						
LNSS				AML	AML		
	comp=N,5638μm,0.1s						
LNSS				AML	AML		
	comp=E,6572μm,0.2s						
FIAM	**Fiamignano**	**0.31**	**210**	⇑P	**Pb**	**19 58 28.7**	**-0.2**
FIAM				S	**Sb**	**19 58 33.7**	**-0.1**
FIAM				AML	AML		
	comp=N,466μm,0.3s						
FIAM				AML	AML		
	comp=E,502μm,0.4s						
FIAM				AML	AML		
	comp=E,501μm,0.4s						
FIAM				AML	AML		
	comp=N,297μm,0.3s						
FAGN	**Fagnano**	**0.33**	**144**	⇑P	**Pg**	**19 58 28.6**	**+0.3**
FAGN				AML	AML		
	comp=E,2700μm,0.4s						
FAGN				AML	AML		
	comp=N,2350μm,0.5s						
NRCA	**Norcia**	**0.34**	**333**	⇓P	**Pg**	**19 58 28.3**	**-0.2**
NRCA				AML	AML		
	comp=E,9500μm,0.2s						
NRCA				AML	AML		
	comp=N,5360μm,0.1s						
NRCA				AML	AML		
	comp=N,5360μm,0.1s						
ARRO	**Arrone**	**0.41**	**276**	⇓P	**Pg**	**19 58 29.9**	**+0.1**
ARRO				S	**Sb**	**19 58 36.5**	**-0.3**
ARRO				AML	AML		
	comp=E,362μm,0.3s						
ARRO				AML	AML		
	comp=N,455μm,1.6s						
ARRO				AML	AML		
	comp=N,455μm,0.4s						
ARRO				AML	AML		
	comp=E,293μm,0.1s						
ARRO				AML	AML		
	comp=N,423μm,0.2s						
T1215	**Vallo di Nera,**	**0.43**	**309**	⇑P	**Pg**	**19 58 29.8**	**-0.3**
T1215				S	**Sg**	**19 58 36.2**	**+0.3**
T1215				AML	AML		
	comp=E,444μm,1.2s						
T1215				AML	AML		
	comp=N,532μm,0.2s						
T1215				AML	AML		
	comp=N,518μm,0.2s						
T1215				AML	AML		
	comp=E,455μm,0.1s						
T1215				AML	AML		
	comp=E,444μm,0.8s						
T1215				AML	AML		
	comp=N,532μm,0.2s						
T1215				AML	AML		
	comp=N,532μm,0.2s						
T1215				AML	AML		
	comp=N,518μm,0.2s						
T1215				AML	AML		
	comp=E,441μm,0.1s						
T1215				AML	AML		
	comp=E,455μm,0.1s						
OFFI	**Offida**	**0.48**	**34**	⇓P	**Pb**	**19 58 31.8**	**+0.1**
OFFI				AML	AML		
	comp=N,1011μm,1.6s						
OFFI				AML	AML		
	comp=E,666μm,0.9s						
OFFI				AML	AML		
	comp=E,575μm,0.2s						
OFFI				AML	AML		
	comp=N,559μm,0.2s						
TRTR	**Tortoreto Alta**	**0.51**	**58**	⇓P	**Pb**	**19 58 32.9**	**+0.6**
PTQR	**Pietraquaria**	**0.52**	**174**	⇓P	**Pg**	**19 58 31.7**	**-0.1**
PTQR				AML	AML		
	comp=N,136μm,0.3s						
PTQR				AML	AML		
	comp=E,130μm,0.4s						
GUMA	**Gualdo di Mace**	**0.53**	**1**	⇑P	**Pg**	**19 58 31.9**	**0.0**
GUMA				AML	AML		
	comp=N,1485μm,0.5s						
GUMA				AML	AML		
	comp=E,1110μm,0.4s						
GUMA				AML	AML		
	comp=E,1335μm,0.2s						
GUMA				AML	AML		
	comp=N,1485μm,1.5s						
GUMA				AML	AML		
	comp=E,1110μm,1.6s						
GUMA				AML	AML		
	comp=N,1465μm,0.9s						
GUMA				AML	AML		
	comp=N,1417μm,0.2s						
GUMA				AML	AML		
	comp=E,754μm,0.2s						
GUMA				AML	AML		
	comp=N,1488μm,0.5s						
GUMA				AML	AML		
	comp=E,1333μm,0.2s						
FDMO	**Fiordimonte**	**0.53**	**341**	⇓P	**Pg**	**19 58 31.7**	**-0.4**
FDMO				S	**Sb**	**19 58 40.0**	**-0.2**
FDMO				AML	AML		
	comp=E,658μm,0.2s						
FDMO				AML	AML		
	comp=N,773μm,1.0s						
FDMO				AML	AML		
	comp=E,658μm,0.2s						
FDMO				AML	AML		
	comp=N,708μm,0.3s						
CESX	**Cesi**	**0.56**	**278**	⇑P	**Pg**	**19 58 32.4**	**-0.1**
CESX				AML	AML		
	comp=E,356μm,1.4s						
CESX				AML	AML		
	comp=N,326μm,0.2s						
CESI	**CESI - Serrava**	**0.56**	**327**	⇑P	**Pg**	**19 58 32.2**	**-0.4**
CESI				S	**Sb**	**19 58 40.9**	**-0.2**
CESI				AML	AML		
	comp=N,1000μm,0.2s						
CESI				AML	AML		
	comp=E,568μm,1.3s						
CESI				AML	AML		
	comp=N,1000μm,1.8s						
CESI				AML	AML		
	comp=E,568μm,0.7s						
CESI				AML	AML		
	comp=N,1000μm,0.2s						
CESI				AML	AML		
	comp=E,459μm,0.2s						
T1220	**Camerino, Fraz**	**0.60**	**343**	⇑P	**Pg**	**19 58 32.8**	**-0.5**
T1220				AML	AML		
	comp=E,2105μm,0.8s						
T1220				AML	AML		
	comp=N,1840μm,1.5s						
T1220				AML	AML		
	comp=N,1915μm,1.5s						
T1220				AML	AML		
	comp=E,2040μm,0.8s						
T1220				AML	AML		
	comp=N,1840μm,0.5s						
T1220				AML	AML		
	comp=N,1915μm,0.5s						
T1220				AML	AML		
	comp=E,2040μm,1.2s						
T1220				AML	AML		
	comp=E,2105μm,1.2s						
T1220				AML	AML		
	comp=N,1813μm,0.2s						
T1220				AML	AML		
	comp=E,1848μm,0.4s						
T1220				AML	AML		
	comp=E,1806μm,0.2s						
T1220				AML	AML		
	comp=N,1794μm,0.3s						
MOMA	**Monte Martano**	**0.62**	**296**	⇓P	**Pg**	**19 58 33.5**	**-0.2**
MOMA				AML	AML		
	comp=N,833μm,0.2s						
MOMA				AML	AML		
	comp=E,709μm,0.8s						
MOMA				AML	AML		
	comp=E,663μm,0.2s						
MOMA				AML	AML		
	comp=N,833μm,0.2s						
MOMA				AML	AML		
	comp=E,671μm,0.2s						
MOMA				AML	AML		
	comp=N,782μm,0.2s						
SRES	**S.Oreste - Sor**	**0.67**	**244**	S	**Sn**	**19 58 46.3**	**-0.6**
VVLD	**Villa Vallelon**	**0.70**	**161**	P	**Pb**	**19 58 35.6**	**+0.1**
VVLD				AML	AML		
	comp=N,220μm,0.6s						
VVLD				AML	AML		
	comp=E,261μm,0.5s						
VVLD				AML	AML		
	comp=E,261μm,0.5s						
ASSB	**Assisi San Ben**	**0.70**	**316**	⇑P	**Pg**	**19 58 34.8**	**-0.5**
ASSB				AML	AML		
	comp=E,448μm,1.6s						
ASSB				AML	AML		
	comp=N,540μm,0.2s						
ASSB				AML	AML		
	comp=N,539μm,0.2s						
SNTG	**Esanatoglia**	**0.77**	**339**	⇑P	**Pg**	**19 58 35.9**	**-0.6**
SNTG				AML	AML		
	comp=E,282μm,0.6s						
SNTG				AML	AML		
	comp=N,292μm,0.6s						
LPEL	**Lama dei Pelig**	**0.80**	**127**	⇑P	**Pg**	**19 58 36.7**	**-0.5**
LPEL				AML	AML		
	comp=E,366μm,0.2s						
LPEL				AML	AML		
	comp=N,336μm,1.3s						
LPEL				AML	AML		
	comp=E,366μm,0.2s						
LPEL				AML	AML		
	comp=N,233μm,0.2s						
EL6	**Elcito**	**0.81**	**348**	P	**Pg**	**19 58 36.7**	**-0.6**
EL6				AML	AML		
	comp=E,568μm,1.2s						
EL6				AML	AML		
	comp=N,612μm,0.3s						
CING	**Cingoli**	**0.84**	**354**	⇑P	**Pg**	**19 58 37.4**	**-0.6**
CING				AML	AML		
	comp=E,414μm,0.5s						
CING				AML	AML		
	comp=N,308μm,1.1s						
CING				AML	AML		
	comp=E,414μm,1.5s						
CING				AML	AML		
	comp=N,308μm,0.9s						
CING				AML	AML		
	comp=E,340μm,0.2s						
CING				AML	AML		
	comp=N,302μm,0.2s						
FOSV	**Fossato di Vic**	**0.86**	**332**	⇓P	**Pb**	**19 58 37.9**	**-0.4**
FOSV				AML	AML		
	comp=N,326μm,1.5s						
FOSV				AML	AML		
	comp=E,208μm,0.3s						
FOSV				AML	AML		
	comp=N,326μm,0.5s						
FOSV				AML	AML		
	comp=E,208μm,0.3s						
FOSV				AML	AML		
	comp=N,301μm,0.4s						
POFI	**Posta Fibreno**	**0.87**	**160**	⇓P	**Pb**	**19 58 38.2**	**-0.1**
POFI				AML	AML		
	comp=E,168μm,1.0s						
POFI				AML	AML		
	comp=N,82μm,1.3s						
MURB	**Monte Urbino**	**0.94**	**321**	P	**Pb**	**19 58 39.0**	**-0.6**
MURB				S	**Sn**	**19 58 54.6**	**+1.1**
MURB				AML	AML		
	comp=N,569μm,0.4s						
MURB				AML	AML		
	comp=E,608μm,0.3s						
MURB				AML	AML		
	comp=E,604μm,0.3s						
MURB				AML	AML		
	comp=N,585μm,0.3s						
MURB				AML	AML		
	comp=N,569μm,1.6s						
MURB				AML	AML		
	comp=E,609μm,0.3s						
MURB				AML	AML		
	comp=N,569μm,0.4s						
MURB				AML	AML		
	comp=N,585μm,0.3s						
MURB				AML	AML		
	comp=E,604μm,0.3s						
ARVD	**Arcevia**	**1.00**	**344**	⇓P	**Pb**	**19 58 40.1**	**-0.6**
ARVD				S	**Sn**	**19 58 55.9**	**+0.8**
ARVD				AML	AML		
	comp=E,216μm,0.7s						
ARVD				AML	AML		
	comp=N,196μm,0.4s						
ARVD				AML	AML		
	comp=E,170μm,0.5s						
MPAG	**Monte Paganucc**	**1.17**	**339**	⇑P	**Pn**	**19 58 43.3**	**-0.2**
MPAG				AML	AML		

comp=E,134μm,1.6s
MPAG AML AML
comp=N,172μm,1.4s
MPAG AML AML
comp=E,159μm,0.3s
MPAG AML AML
comp=N,189μm,0.2s
MPAG AML AML
comp=N,147μm,0.3s
APEC Apecchio 1.22 327 S **Sg 19 59 02.4 +1.5**
APEC AML AML
comp=E,168μm,1.6s
APEC AML AML
comp=N,154μm,1.5s
PAOL Paolisi 1.77 148 P **Pn 19 58 50.7 -1.0**
IMOL Imola, Italy 2.16 328 S **Sb 19 59 26.5 -0.3**
CAVE Cavezzo 2.87 325 S **Sg 19 59 52.3 -1.5**
MNTV Mantova 3.19 326 P **Pn 19 59 12.3 +1.1**
OBKA Obir 4.07 12 *i* Pn **Pb 19 59 32.5 -0.4**
comp=N,1.8nm,0.5s
ABTA Abfaltersbach 4.25 352 *i* Pn **Pn 19 59 28.1 +2.2**
comp=N,0.4nm,0.2s
WTTA Wattenberg 4.88 346 *i* Pn **Pn 19 59 34.6 0.0**
comp=N,0.3nm,0.2s
SQTA Sankt Quirin 4.92 343 *e*Pn **Pn 19 59 35.5 +0.4**
comp=N,0.2nm,0.1s

IDC ***19*** *19:59:33.3±0.4, 19°.87N×121°.40E, h0km, mb4.4/34, mbtmp4.4/37, ML4.1/3, MS4.0/57, Error ellipse: s-maj=15.3km s-min=9.2km az=81.0*
MAN ***19*** *19:59:35.6, 20°.14N×121°.31E, h61km, mb5.5, ML4.4, MS4.7*
NEIC ***19*** *19:59:35.4±1.8, 19°.89N±0°.07×121°.29E±0°.08, h10km±1km, mb4.8/98, Error ellipse: s-maj=12.9km s-min=11.0km az=103.0*
DJA ***19*** *19:59:36.0±0.2, 20°.2N±2°×12°.1E±°, h10km, M4.6/31, mB5.1/10, mb4.8/31, MLv4.7/3, Mw(mB)4.4/10*
BJI ***19*** *19:59:36.3±0.0, 20°.16N×121°.22E, h10km, mb4.4/63, mB4.8/42, ML4.2/2, Ms4.4/59, Ms7 4.4/55*
JMA ***19*** *19:59:39.0±0.8, 20°.3N±3°×12°.2E±°, h17km, MV5.0/15, PHILIPPINE ISL REGION*
GCMT ***19*** *19:59:39.3±0.3, 20°.01N±0°.02×121°.06E±0°.03, h32km±1km, MW4.9/72, Moment Tensor Solution. s28,c33; s72,c107; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.39±.17; Mθθ -0.25±.10; Mφφ -2.13±.11; Mre -1.00±.11; Mθφ -0.64±.06; Mφr -1.66±.11; Best double couple: Mo 3.05000×10^16 NP1: φs 9.00000°, δ26.00000°, λ75.00000°. Principal axes: T 3.1080, Plg69.0000°, Azm130.0000°; N -0.1100, Plg6.0000°, Azm23.0000°; P -2.9920, Plg19.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 19:59:39.3±0.3, 19°.91N±0°.03×121°.32E±0°.04, h40km, n305, σ1§56/291, mb4.7/95, MS4.1/71, 9C-11D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICP	**Calayan Island**	**0.66**	**167**	*i*P	**Pn**	**19 59 51.1**	**-1.2**
PACPP	**Pamplona Cagay**	**1.45**	**179**	*i*P	**Pn**	**20 00 02.5**	**-0.5**
SGCP	**Gonzaga**	**1.80**	**157**	*e*P	**Pn**	**20 00 08.8**	**+0.9**
SGCP				*i* S	**Sn**	**20 00 31.4**	**+1.9**
SAMP	**Sagada Mountai**	**2.84**	**188**	*i*P	**Pn**	**20 00 22.6**	**+0.4**
TWGBT	**Beinan**	**2.90**	**356**	P	**Pn**	**20 00 23.0**	**0.0**
TWG	**Pinlang**	**2.90**	**355**		**Pn**	**20 00 20.6**	**-2.4**
TPUB	**Ta-pu**	**3.43**	**349**	P	**Pn**	**20 00 28.1**	**-2.2**
TPUB	**Ta-pu**	**3.43**	**349**	P	**Pn**	**20 00 28.7**	**-1.7**
YULB	**Yu-li**	**3.46**	**360**	Pn	**Pn**	**20 00 28.9**	**-1.9**
YULB	**Yu-li**	**3.46**	**360**	P	**Pn**	**20 00 30.6**	**-0.2**
SMPP	**San Manuel, Pa**	**3.79**	**189**	*i*P	**Pn**	**20 00 36.1**	**+0.8**
SSLB	**Suanglung**	**3.87**	**355**	Pn	**Pn**	**20 00 33.6**	**-2.8**
SSLB	**Suanglung**	**3.87**	**355**	P	**Pn**	**20 00 35.7**	**-0.7**
NACB	**Ninganchiao**	**4.25**	**3**		**Pn**	**20 00 39.2**	**-2.4**
NACB	**Ninganchiao**	**4.25**	**3**	P	**Pn**	**20 00 41.2**	**-0.4**
PCPH	**Palayan**	**4.33**	**183**	*e*P	**Pn**	**20 00 44.4**	**+1.7**
PCPH				*e*S	Sn	20 01 40.6	+8.6
HATJ	**Hateruma jima**	**4.72**	**29**	*e*P	**Pn**	**20 00 47.7**	**-0.4**
HATJ				*e*S	**Sn**	**20 01 38.3**	**-3.3**
YHNB	**Yeheng**	**4.74**	**1**	Pn	**Pn**	**20 00 48.6**	**+0.3**
YHNB	**Yeheng**	**4.74**	**1**	P	**Pn**	**20 00 48.9**	**+0.6**
YOJ	**Yonaguni jima**	**4.79**	**19**		**Pn**	**20 00 49.4**	**+0.4**
YOJ	**Yonaguni jima**	**4.79**	**19**	P	**Pn**	**20 00 49.9**	**+0.9**
YOJ	**Yonaguni jima**	**4.79**	**19**	P	**Pn**	**20 00 49.8**	**+0.8**
YOJ				*e*S	**Sn**	**20 01 42.1**	**-1.2**
IRIF	**Iriomote-Funau**	**4.94**	**26**	P	**Pn**	**20 00 50.6**	**-0.4**
IRIF				*e*S	**Sn**	**20 01 45.2**	**-1.6**
JKRS	**Kuro-shima**	**4.97**	**30**	*e*P	**Pn**	**20 00 51.1**	**-0.4**
JKRS				*e*S	**Sn**	**20 01 45.4**	**-2.4**
TATO	**Taipei**	**5.04**	**2**	Pn	**Pn**	**20 00 52.4**	**0.0**
TATO	**Taipei**	**5.04**	**2**	P	**Pn**	**20 00 52.2**	**-0.2**
JIJ	**Ishigaki jima**	**5.14**	**30**	P	**Pn**	**20 00 53.0**	**-0.8**
JIJ				S	**Sn**	**20 01 48.7**	**-3.3**
KNMB	**Chin-men Tao**	**5.28**	**330**	Pn	**Pn**	**20 00 52.2**	**-3.6**
JISG	**Ishigakijimahi**	**5.41**	**30**	P	**Pn**	**20 00 56.6**	**-1.0**
JISG				S	**Sn**	**20 01 55.2**	**-3.4**
MACP	**Maragondon, Ca**	**5.65**	**186**	*i*P	**Pn**	**20 01 02.5**	**+1.7**
JTJ	**Tarama**	**5.65**	**33**	*e*S	**Sn**	**20 02 01.3**	**-3.2**
JCNP	**Jose Panganiba**	**5.74**	**167**	*e*P	**Pn**	**20 01 03.3**	**+1.2**
LQP	**Lukban**	**5.77**	**178**	*e*P	**Pn**	**20 01 04.0**	**+1.3**
LQP				*e*S		20 03 26.4	
JIRB	**Irabujima**	**6.05**	**35**	*e*P	**Pn**	**20 01 06.0**	**-0.4**
JIRB				S	**Sn**	**20 02 12.1**	**-2.2**
GQP	**Guinayangan**	**6.07**	**170**	*e*P	**Pn**	**20 01 07.8**	**+1.2**
GQP				*e*S	**Sn**	**20 02 16.1**	**+1.3**
JMJ2	**Miyako jima3**	**6.07**	**37**	*e*P	**Pn**	**20 01 06.7**	**+0.2**
JMJ	**Miyako jima 2**	**6.11**	**36**	P	**Pn**	**20 01 07.2**	**+0.1**
JOGS	**Gusukube**	**6.13**	**37**	*e*P	**Pn**	**20 01 06.0**	**-1.4**
JIKM	**Ikemajima**	**6.17**	**35**	*e*P	**Pn**	**20 01 08.9**	**+1.0**
JIKM				S	**Sn**	**20 02 15.2**	**-2.0**
HKPS	**Hong Kong Po S**	**7.10**	**291**		**Pn**	**20 01 17.0**	**-3.8**
HKPS	**Hong Kong Po S**	**7.10**	**291**	P	**Pn**	**20 01 17.3**	**-3.5**
JOW	**Kunigami**	**9.39**	**42**	Pn	**Pn**	**20 01 51.7**	**-0.5**
	13nm,0.3s,baz=179,slow=19,SNR=19						
JOW				Sn	**Sn**	**20 03 33.6**	**-2.8**
	0.8nm,0.3s,baz=162,slow=19,SNR=1.4 26nm,0.2s						
JOW	**Kunigami**	**9.39**	**42**	Pn	**Pn**	**20 01 50.9**	**-1.3**
JOW	**Kunigami**	**9.39**	**42**	P	**Pn**	**20 01 52.5**	**+0.3**
QIZ	**Qiongzhong**	**10.86**	**267**		**Pn**	**20 02 09.4**	**-3.0**
QIZ	**Qiongzhong**	**10.86**	**267**	P	**Pn**	**20 02 08.5**	**-3.9**
NJ2	**Nanjing**	**12.29**	**350**	*e*P	**Pn**	**20 02 30.8**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				LR	LR		
	comp=N,910nm,17.5s						
NJ2				LR	LR		
	comp=E,650nm,16.6s						
NJ2				LR	LR		
	comp=Z,1μm,17.5s						
WHN	**Wuhan**	**12.32**	**331**	⇓P	**Pn**	**20 02 34.9**	**+2.7**
WHN				pmax	pmax		
	comp=Z,64nm,0.9s						
WHN				LR	LR		
	comp=N,3μm,13.6s						
WHN				LR	LR		
	comp=E,5μm,20.1s						
WHN				LR	LR		
	comp=Z,5μm,17.3s						
DAV	**Davao City (W)**	**13.42**	**161**	LR	LR	20 08 37.8	
	comp=Z,1μm,19.6s,baz=346,slow=41						
KKM	**Kota Kinabalu**	**14.65**	**200**	Pn	**Pn**	**20 03 03.8**	**-0.3**
ENH	**Enshi**	**14.86**	**316**	Pn	**Pn**	**20 03 06.9**	**0.0**
MYLDM	**Lahad Datu**	**14.90**	**191**		**Pn**	**20 03 05.4**	**-2.0**
GYA	**Guiyang**	**14.96**	**299**	⇓P	**Pn**	**20 03 08.3**	**0.0**
GYA				S	**Sn**	**20 05 55.5**	**+2.6**
GYA				pmax	pmax		
	comp=Z,14nm,1.0s						
GYA				pmax	pmax		
	comp=Z,68nm,4.3s						
GYA				LR	LR		
	comp=N,790nm,14.9s						
GYA				LR	LR		
	comp=E,1μm,15.4s						
GYA				LR	LR		
	comp=Z,2μm,15.5s						
JNU	**Nakatsue**	**15.68**	**31**	Pn	**Pn**	**20 03 17.5**	**0.0**
	0.2nm,0.3s,baz=194,slow=17,SNR=2.2 10nm,1.1s						
JNU	**Nakatsue**	**15.68**	**31**	Pn	**Pn**	**20 03 16.5**	**-0.9**
UBPT	**Khong Chiam**	**15.79**	**256**	Pn	**Pn**	**20 03 16.3**	**-2.7**
UBPT	**Khong Chiam**	**15.79**	**256**	P	**Pn**	**20 03 15.2**	**-3.8**
LYN	**LuoYang**	**16.56**	**334**	⇑*i*P	**Pn**	**20 03 29.1**	**+0.5**
LYN				pP	P	20 03 32.3	+1.6
LYN				pmax	pmax		
	comp=Z,40nm,0.9s						
LYN				pmax	pmax		
	comp=Z,200nm,3.6s						
LYN				LR	LR		
	comp=N,750nm,17.2s						
LYN				LR	LR		
	comp=E,540nm,16.7s						
LYN				LR	LR		
	comp=Z,740nm,16.1s						
TIA	**Tai'an**	**16.65**	**348**	P	**Pn**	**20 03 30.6**	**+0.8**
TIA				pmax	pmax		
	comp=Z,260nm,3.4s						
TIA				pmax	pmax		
	comp=Z,18nm,1.1s						
TIA				LR	LR		
	comp=N,400nm,15.0s						
TIA				LR	LR		
	comp=E,720nm,15.3s						
TIA				LR	LR		
	comp=Z,740nm,16.7s						
JMN	**Monobe**	**17.72**	**37**	P	**P**	**20 03 44.8**	**+1.1**
XAN	**Xi'an**	**17.87**	**324**	⇑P	**Pn**	**20 03 44.8**	**-0.1**
XAN				pP	P	20 03 49.0	+3.7
XAN				sP	pP	20 03 52.3	-2.2
XAN				S	**S**	**20 07 06.1**	**-2.4**
XAN				sS	Sn	20 07 10.8	+7.6
XAN				pmax	pmax		
	comp=Z,30nm,1.2s						
XAN				pmax	pmax		
	comp=Z,400nm,5.0s						
XAN				LR	LR		
	comp=N,1μm,14.4s						
XAN				LR	LR		
	comp=E,560nm,14.3s						
XAN				LR	LR		
	comp=Z,1μm,13.9s						
KMI	**Kunming**	**17.93**	**290**	⇓P	**Pn**	**20 03 44.0**	**-1.9**
KMI				pP	P	20 03 48.4	+2.2
KMI				S	**Sn**	**20 07 04.0**	**-1.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,190nm,5.8s						
KMI				LR	LR		
	comp=N,590nm,15.3s						
KMI				LR	LR		
	comp=E,830nm,15.2s						
KMI				LR	LR		
	comp=Z,1μm,14.2s						
JHS	**Saijyo**	**18.29**	**32**	P	**Pn**	**20 03 51.5**	**+1.4**
HNS	**HongShan**	**18.36**	**343**	⇓P	**Pn**	**20 03 51.4**	**+0.6**
HNS				pmax	pmax		
	comp=Z,29nm,1.1s						
HNS				LR	LR		
	comp=N,390nm,16.5s						
HNS				LR	LR		
	comp=E,860nm,19.2s						
HNS				LR	LR		
	comp=Z,1μm,16.3s						
KSRS	**Korea Array**	**18.40**	**17**	P	**P**	**20 03 50.6**	**-0.4**
	0.6nm,0.3s,baz=196,slow=11,SNR=8.7						
KSRS				LR	LR	20 12 03.9	
	comp=Z,312nm,19.6s,baz=205,slow=41 5.8nm,0.7s						
KS19	**Wonju Array Si**	**18.43**	**17**	P	**P**	**20 03 51.0**	**-0.4**
KS19				IAmb	IAmb	20 03 59.1	
	comp=Z,134nm,1.8s						
TOLI2	**Tolitoli**	**18.69**	**182**	P	**P**	**20 03 53.3**	**-1.1**
TOLI2	**Tolitoli**	**18.69**	**182**	P	**P**	**20 03 53.8**	**-0.6**
PZH	**PanZhiHua**	**19.14**	**294**	P	**Pn**	**20 04 00.4**	**-0.2**
PZH				PP	**pwP**	**20 04 11.9**	**+0.7**
PZH				SS	S	20 07 54.1	+20
PZH				pmax	pmax		
	comp=Z,20nm,1.3s						
PZH				pmax	pmax		
	comp=Z,370nm,4.5s						
PZH				LR	LR		
	comp=Z,710nm,14.1s						
PZH				LR	LR		
	comp=Z,1μm,15.0s						
PZH				LR	LR		
	comp=Z,2μm,14.7s						
GTOI	**Gorontalo**	**19.23**	**175**	P	**P**	**20 03 58.8**	**-1.5**
	comp=Z,16nm,0.8s,comp=Z,153nm						
CD2	**Chengdu**	**19.25**	**308**	P	**P**	**20 04 00.5**	**0.0**
CD2				S	**Sn**	**20 07 38.3**	**+1.6**
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				pmax	pmax		
	comp=Z,330nm,6.3s						
CD2				LR	LR		
	comp=Z,600nm,10.8s						
CD2				LR	LR		
	comp=Z,620nm,13.5s						
CD2				LR	LR		
	comp=Z,1μm,14.1s						
MRSI	**Marisa**	**19.32**	**178**	P	**Pn**	**20 04 02.1**	**-0.5**
	comp=Z,53nm,1.0s,comp=Z,495nm						
SBUM	**Sibu**	**19.50**	**208**	P	**P**	**20 04 03.4**	**+0.2**
SBUM				IAmb	IAmb	20 04 05.5	
	comp=Z,32nm,0.9s						
MPSI	**Mapaga**	**19.50**	**184**	P	**P**	**20 04 02.5**	**-0.8**
	comp=Z,13nm,0.7s						
CRAI	**Chiangrai**	**19.68**	**275**	P	**P**	**20 04 04.0**	**-1.3**
PHRA	**Phrae**	**19.97**	**269**		**P**	**20 04 08.1**	**-0.3**
BJT	**Baijiatuao**	**20.52**	**349**	P	**P**	**20 04 13.5**	**-0.7**
BJT				IAmb	IAmb	20 04 18.8	
	comp=Z,49nm,0.8s						
BJT	**Baijiatuao**	**20.52**	**349**	P	**P**	**20 04 13.5**	**-0.7**
BJI	**Beijing**	**20.54**	**349**	P	**P**	**20 04 14.6**	**+0.2**
BJI				pP	Pn	20 04 18.3	+1.5
BJI				S	**S**	**20 08 01.0**	**-0.9**
BJI				sS	Sn	20 08 05.4	-2.1
BJI				pmax	pmax		
	comp=Z,15nm,0.9s						
BJI				pmax	pmax		
	comp=Z,190nm,3.9s						
BJI				LR	LR		
	comp=Z,220nm,17.2s						
BJI				LR	LR		
	comp=Z,150nm,16.3s						
BJI				LR	LR		
	comp=Z,240nm,17.4s						
INU	**Inuyama**	**20.69**	**39**	P	**P**	**20 04 14.7**	**-1.3**
INU	**Inuyama**	**20.69**	**39**	P	Pn	20 04 18.3	-0.3
LUWI	**Luwuk**	**20.87**	**176**	P	**P**	**20 04 18.0**	**-0.1**
LUWI	**Luwuk**	**20.87**	**176**	P	**P**	**20 04 18.4**	**+0.3**
	comp=Z,103nm,0.9s,comp=Z,990nm						
JGF	**Kuroka**	**21.06**	**39**	P	**P**	**20 04 20.3**	**+0.2**
JGF				IAmb	IAmb	20 04 33.3	
	comp=Z,29nm,1.0s						
JGF	**Kuroka**	**21.06**	**39**	P	**P**	**20 04 22.3**	**+2.2**
JHJ	**Hachijo jima 2**	**21.07**	**48**	LR	LR	20 10 56.6	
	comp=Z,236nm,20.9s,baz=282,slow=32						
CHTO	**Chiang Mai**	**21.14**	**271**	P	**P**	**20 04 20.9**	**-0.1**
CM31	**Chiang Mai Arr**	**21.18**	**270**	P	**P**	**20 04 21.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**21.18**	**270**	P	**P**	**20 04 22.1**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=74,slow=9.3,SNR=37						
CMAR				PcP	**PcP**	**20 08 26.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=61,slow=0.7,SNR=6.2 comp=Z,4.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.18**	**270**	P	**P**	**20 04 21.7**	**+0.1**
BKB	**Balikpapan**	**21.48**	**192**	P	**P**	**20 04 23.2**	**-1.4**
TNCH	**TengChong**	**21.67**	**288**	⇓P	**P**	**20 04 27.3**	**+0.5**
TNCH				pP	pP	20 04 30.0	-6.4
TNCH				PP	**PnPn**	**20 04 52.1**	**+3.6**
TNCH				S	**S**	**20 08 19.8**	**-5.0**
TNCH				SS	**SnSn**	**20 08 57.3**	**+6.7**
TNCH				pmax	pmax		
	comp=Z,21nm,1.4s						
TNCH				pmax	pmax		
	comp=Z,160nm,4.8s						
TNCH				LR	LR		
	comp=Z,370nm,11.2s						
TNCH				LR	LR		
	comp=Z,710nm,14.5s						
TNCH				LR	LR		
	comp=Z,1μm,15.2s						
SNY	**Shenyang**	**21.93**	**5**	⇓P	**P**	**20 04 35.1**	**+5.8**
SNY				pmax	pmax		
	comp=Z,22nm,2.0s						
SNY				pmax	pmax		
	comp=Z,240nm,3.6s						
SNY				LR	LR		
	comp=N,610nm,15.1s						
SNY				LR	LR		
	comp=E,840nm,19.2s						
SNY				LR	LR		
	comp=Z,630nm,14.6s						
MJAR	**Matsushiro Arr**	**22.21**	**38**	P	**P**	**20 04 31.4**	**-1.0**
	comp=Z,6.3nm,0.9s,baz=222,slow=7.4,SNR=12 comp=Z,6.3nm,0.9s						
LZH	**Lanzhou**	**22.25**	**320**	⇓P	**P**	**20 04 33.8**	**+0.8**
LZH				pP	pP	20 04 37.9	-4.5
LZH				sP	pwP	20 04 40.8	-4.9
LZH				S	**S**	**20 08 39.9**	**+4.2**
LZH				pmax	pmax		
	comp=Z,38nm,1.0s						
LZH				pmax	pmax		
	comp=Z,230nm,4.7s						
LZH				LR	LR		
	comp=Z,730nm,12.2s						
LZH				LR	LR		
	comp=Z,760nm,15.8s						
LZH				LR	LR		
	comp=Z,1μm,16.2s						
SANI	**Sanana**	**22.30**	**168**	P	**P**	**20 04 32.1**	**-1.4**
HHC	**Hu-ho-hao-te**	**22.47**	**340**	*e*P	**P**	**20 04 36.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,34nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,3.9s						
HHC				LR	LR		
	comp=Z,2μm,14.4s						
HHC				LR	LR		
	comp=Z,2μm,16.3s						
BTO	**Baotou**	**22.78**	**337**	*e*P	**P**	**20 04 40.0**	**+1.5**
BTO				LR	LR		
	comp=Z,2μm,15.3s						
BTO				LR	LR		
	comp=Z,3μm,17.8s						
SIJI	**Sorong**	**22.84**	**154**	P	**P**	**20 04 37.0**	**-2.2**
	comp=Z,19nm,0.6s,baz=357,slow=10,SNR=11						
SIJI				LR	LR	20 15 27.5	
	comp=Z,163nm,18.1s,baz=75,slow=42 comp=Z,19nm,0.6s						
GUMO	**Guam**	**23.39**	**102**	LR	LR	20 13 42.6	
	comp=Z,384nm,19.5s,baz=280,slow=36						
NLAI	**Namlea**	**23.70**	**166**	P	**P**	**20 04 49.1**	**+1.5**
	comp=Z,34nm,0.8s,comp=Z,12μm						
SPSI	**Sidrap Palu**	**23.78**	**184**	P	**P**	**20 04 48.7**	**+0.3**
	comp=Z,22nm,0.9s						
CN2	**Changchun**	**24.07**	**7**	*e*P	**P**	**20 04 51.8**	**+0.9**
CN2				*e*S	**S**	**20 09 06.0**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,17.2s						
BBKI	**Banjar Baru**	**24.09**	**196**	P	**P**	**20 04 52.6**	**+1.3**
	comp=Z,192nm,1.5s,comp=Z,1μm						
XLT	**XiLinHaoTe**	**24.32**	**351**	⇑*i*P	**P**	**20 04 52.0**	**-1.3**
XLT				pP	pP	20 04 57.8	-5.4
XLT				sP	sP	20 05 00.4	-7.2
XLT				S	**S**	**20 09 15.0**	**+5.2**
XLT				pmax	pmax		
	comp=Z,13nm,1.1s						
XLT				pmax	pmax		
	comp=Z,160nm,4.5s						
XLT				LR	LR		
	comp=Z,360nm,16.2s						
XLT				LR	LR		
	comp=Z,400nm,18.8s						
AAI	**Ambon**	**24.41**	**163**	P	**P**	**20 04 56.3**	**+2.1**
	comp=Z,28nm,0.9s						
JMM	**Marumori**	**24.63**	**39**	P	**P**	**20 04 55.5**	**-0.5**
JMM				IAmb	IAmb	20 04 56.9	
	comp=Z,26nm,0.9s						
JMM	**Marumori**	**24.63**	**39**	P	**P**	**20 04 57.8**	**+1.8**
KAPI	**Kappang**	**24.82**	**184**	P	**P**	**20 04 56.7**	**-1.2**
	comp=Z,13nm,0.7s,baz=336,slow=12,SNR=10.0						
KAPI				LR	LR	20 15 16.3	
	comp=Z,366nm,19.7s,baz=352,slow=38 comp=Z,13nm,0.7s						
IPM	**Ipoh**	**25.02**	**235**	P	**P**	**20 04 59.2**	**-0.7**
IPM				IAmb	IAmb	20 05 16.9	
	comp=Z,28nm,1.3s						
FAKI	**Fak Fak**	**25.10**	**153**	P	**P**	**20 04 59.0**	**-1.5**
FAKI				IAmb	IAmb	20 05 01.2	
	comp=Z,23nm,0.8s						
FAKI	**Fak Fak**	**25.10**	**153**	P	**P**	**20 05 00.8**	**+0.3**
BKSI	**Bulukumba**	**25.10**	**183**	P	**P**	**20 05 00.8**	**+0.3**
	comp=Z,23nm,0.8s						
MDJ	**Mudanjiang**	**25.58**	**14**	P	**P**	**20 05 05.8**	**+1.2**
MDJ				pP	pP	20 05 08.8	-5.8
MDJ				S	**S**	**20 09 34.8**	**+5.1**
MDJ				sS	sS	20 09 39.1	-7.6
MDJ				ScP	**ScP**	**20 12 16.4**	**+5.1**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,150nm,3.5s						
MDJ				LR	LR		
	comp=Z,410nm,15.5s						
MDJ				LR	LR		
	comp=Z,380nm,13.4s						
MDJ				LR	LR		
	comp=Z,500nm,17.8s						
USRK	**Ussuriysk Ar.**	**25.80**	**18**	P	**P**	**20 05 06.3**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=185,slow=11,SNR=4.4 comp=Z,3.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**25.80**	**18**	P	**P**	**20 05 06.2**	**-0.4**
PPBI	**Pangkal Pinang**	**26.52**	**216**	P	**P**	**20 05 27.7**	**+14**
GTA	**Gaotai**	**26.84**	**321**	*e*P	**P**	**20 05 16.6**	**+0.4**
GTA				S	**S**	**20 09 54.4**	**+4.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,57nm,5.5s						
GTA				LR	LR		
	comp=Z,300nm,14.9s						
GTA				LR	LR		
	comp=Z,380nm,14.5s						
GTA				LR	LR		
	comp=Z,480nm,15.6s						
SHL	**Shillong**	**27.69**	**287**	P	**P**	**20 05 22.8**	**-1.3**
SHL				IAmb	IAmb	20 05 49.1	
	comp=Z,15nm,1.2s						
PSI	**Prapat**	**27.70**	**235**	LR	LR	20 16 04.3	
	comp=Z,101nm,19.7s,baz=64,slow=36						
BRDH	**Bariadhala**	**27.77**	**281**	LR	LR	20 18 17.9	
	comp=Z,588nm,18.3s,baz=89,slow=40						
GOMU	**GeErMu**	**28.34**	**310**	P	**P**	**20 05 31.4**	**+1.4**
GOMU				pP	pP	20 05 35.3	-5.0
GOMU				sP	pwP	20 05 39.0	-4.2
GOMU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,86nm,5.8s						
GOMU				LR	LR		
	comp=Z,280nm,16.1s						
GOMU				LR	LR		
	comp=Z,690nm,16.4s						
GOMU				LR	LR		
	comp=Z,1μm,16.4s						
ERM	**Erimo**	**28.76**	**35**	P	**P**	**20 05 36.3**	**+3.1**
JEM	**Erimo**	**28.76**	**35**	P	**P**	**20 05 36.5**	**+3.3**
LSA	**Lhasa**	**29.00**	**296**	P	**P**	**20 05 34.9**	**-1.1**
PWJI	**Pagerwojo**	**29.30**	**200**	P	**P**	**20 05 39.0**	**+0.9**
	comp=Z,29nm,0.8s						
ASAJ	**Asahikawa**	**29.96**	**32**	P	**P**	**20 05 43.6**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=216,slow=10,SNR=11 comp=Z,2.9nm,0.4s						
BATI	**Baumata**	**30.02**	**175**	P	**P**	**20 05 43.2**	**-1.4**
	comp=Z,41nm,0.7s,baz=302,slow=2.6,SNR=5.6						
BATI				LR	LR	20 18 52.1	
	comp=Z,289nm,20.7s,baz=30,slow=39						
ULN	**Ulaanbaatar**	**30.19**	**341**	P	**P**	**20 05 47.0**	**+1.0**
SONM	**Songino Array**	**30.37**	**340**	P	**P**	**20 05 48.0**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=160,slow=11,SNR=24						
SONM				PcP	**PcP**	**20 08 47.7**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=168,slow=4.1,SNR=1.5						

SONM LR LR 20 20 12.8
comp=Z,376nm,19.1s,baz=136,slow=41
comp=Z,2.4nm,0.8s
SONM Songino Array 30.37 340 P P 20 05 48.3 +0.7
KLR Kul'dur 30.42 14 P P 20 05 47.9 +0.1
comp=Z,2.2nm,0.6s,baz=180,slow=6.4,SNR=9.5
KLR LR LR 20 19 59.1
comp=Z,328nm,18.8s,baz=202,slow=40
comp=Z,2.2nm,0.6s
HEH HeiHe 30.66 8 *eP* **P 20 05 48.4 -1.5**
HEH pmax pmax
comp=Z,2.0nm,0.5s
HEH LR LR
comp=Z,350nm,14.4s
HEH LR LR
comp=Z,230nm,14.6s
HEH LR LR
comp=Z,490nm,18.4s
MTN Manton Dam 33.95 163 P P 20 06 16.8 -2.2
KNRA Kununurra 36.12 168 P P 20 06 35.9 -1.8
KNRA IAmb IAmb 20 06 42.1
comp=Z,16nm,0.8s
KNRA Kununurra 36.12 168 P P 20 06 36.0 -1.7
WMQ Urumqi 36.80 318 *eP* **P 20 06 44.5 +1.0**
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ LR LR
comp=Z,790nm,12.1s
WMQ LR LR
comp=Z,630nm,11.3s
WMQ LR LR
comp=Z,260nm,15.9s
FITZ Fitzroy Crossi 38.01 173 P 20 06 52.1 -1.6
KRVT Keravat (AS076 38.60 125 LR LR 20 20 45.3
comp=Z,409nm,18.3s,baz=82,slow=33
PMG Port Moresby 38.68 137 LR LR 20 22 06.2
comp=Z,106nm,20.5s,baz=266,slow=35
COEN Coen 39.94 146 P P **20 07 08.0 -2.0**
MBWA Marble Bar 40.85 182 P P **20 07 15.4 -2.0**
MBWA IAmb IAmb 20 07 20.8
comp=Z,18nm,1.0s
MBWA Marble Bar 40.85 182 P P **20 07 16.3 -1.1**
PSA00 Pilbara Seismi 41.26 182 P P **20 07 19.5 -1.3**
PSA00 IAmb IAmb 20 07 20.4
comp=Z,22nm,0.7s
PSA00 Pilbara Seismi 41.26 182 P P **20 07 19.9 -0.8**
MK31 Makanchi Array 41.57 319 P P **20 07 23.7 +0.5**
MKAR Makanchi Array 41.57 319 P P **20 07 24.1 +0.9**
comp=Z,4.2nm,0.8s,baz=112,slow=10,SNR=53
MKAR LR LR 20 27 52.7
comp=Z,249nm,18.1s,baz=118,slow=41
MKAR Makanchi Array 41.57 319 P P **20 07 23.7 +0.5**
WRAB Tennant Creek 41.61 161 P P **20 07 21.8 -1.8**
WRAB IAmb IAmb 20 07 23.2
comp=Z,20nm,0.8s
WRAB Tennant Creek 41.61 161 P P **20 07 22.3 -1.4**
WRA Warramunga Arr 41.61 161 P P **20 07 22.2 -1.5**
comp=Z,22nm,0.8s,baz=343,slow=9.3,SNR=130
WRA PcP **PcP 20 09 20.9 +0.5**
comp=Z,1.9nm,0.8s,baz=343,slow=3.3,SNR=3.6
WRA S **S 20 13 34.6 -2.8**
comp=Z,1.3nm,0.8s,baz=344,slow=16,SNR=7.1
WRA LR LR 20 25 30.8
comp=Z,85nm,19.7s,baz=314,slow=38
comp=Z,22nm,0.8s
WRA Warramunga Arr 41.61 161 P P **20 07 20.8 -2.9**
WB2 Warramunga Arr 41.62 161 P P **20 07 21.9 -1.9**
WB2 IAmb IAmb 20 07 23.3
comp=Z,25nm,0.8s
WR0 Warramunga Arr 41.69 161 P P **20 07 22.6 -1.7**
MAKZ Makanchi 41.77 319 P P **20 07 25.3 +0.5**
YAK Yakutsk 42.48 6 P P **20 07 30.6 +0.3**
comp=Z,2.5nm,0.3s,baz=172,slow=3.5,SNR=5.5
YAK LR LR 20 27 43.2
comp=Z,214nm,19.2s,baz=253,slow=40
comp=Z,2.5nm,0.3s
H11S3 WAKE ISLAND Hy 42.77 84 T T 20 53 30.4
baz=280,slow=74,SNR=63
H11N1 WAKE ISLAND Hy 42.77 82 T T 20 53 15.8
baz=278,slow=75,SNR=108
H11N2 WAKE ISLAND Hy 42.77 82 T T 20 53 16.0
baz=278,slow=75,SNR=72
H11S1 WAKE ISLAND Hy 42.78 84 T T 20 53 15.0
baz=280,slow=74,SNR=56
H11S2 WAKE ISLAND Hy 42.79 84 T T 20 53 14.9
baz=280,slow=74,SNR=37
H11N3 WAKE ISLAND Hy 42.79 82 T T 20 53 18.9
baz=278,slow=75,SNR=59
PETK Petropavlovsk- 43.38 31 P P **20 07 36.6 -1.1**
comp=Z,5.7nm,0.8s,baz=220,slow=8.9,SNR=8.5
PETK LR LR 20 26 02.7
comp=Z,105nm,21.2s,baz=239,slow=37
comp=Z,5.7nm,0.8s
KSH Kashi 43.44 307 P P 20 07 44.3 +5.7
KSH sP sP 20 07 52.8 -1.0
KSH pmax pmax
comp=Z,2.0nm,0.7s
KSH LR LR
comp=Z,190nm,13.0s
KSH LR LR
comp=Z,440nm,18.1s
KSH LR LR
comp=Z,530nm,13.8s
ZAA0 Zalesovo Array 43.93 330 P P **20 07 42.0 -0.2**
ZALV Zalesovo Beam 43.93 330 P P **20 07 42.5 +0.3**
comp=Z,7.3nm,0.7s,baz=113,slow=7.8,SNR=30
ZALV LR LR 20 27 21.4
comp=Z,296nm,18.3s,baz=129,slow=38
comp=Z,7.3nm,0.7s
ZALV Zalesovo Beam 43.93 330 P P **20 07 42.0 -0.2**
QIS Mount Isa 44.02 155 P P **20 07 42.4 -0.9**
NIL Nilore 44.67 298 P P **20 07 47.8 -0.6**
NIL IAmb IAmb 20 08 01.3
comp=Z,9.5nm,0.8s
MA2 Magadan 44.89 21 P P **20 07 49.6 -0.1**
comp=Z,1.7nm,0.6s,baz=158,slow=22,SNR=2.0
MA2 LR LR 20 29 15.7
comp=Z,86nm,18.3s,baz=222,slow=40
comp=Z,1.7nm,0.6s
MA2 Magadan 44.89 21 P P **20 07 49.4 -0.4**
AS31 Alice Springs 45.02 164 P P **20 07 50.2 -1.0**
ASAR Alice Springs 45.02 164 P P **20 07 50.3 -0.9**
comp=Z,9.3nm,0.5s,baz=340,slow=6.7,SNR=131
ASAR S S **20 14 23.7 -3.6**
comp=Z,0.3nm,0.8s,baz=273,slow=39,SNR=2.6
ASAR LR LR 20 26 58.2
comp=Z,57nm,19.2s,baz=73,slow=37
comp=Z,9.3nm,0.5s
ASAR Alice Springs 45.02 164 P P **20 07 49.8 -1.4**
AS01 Alice Springs 45.03 164 P P **20 07 50.4 -0.9**
comp=Z,17nm,0.8s
WRKA Warakurna 45.19 171 P P **20 07 52.0 -0.6**
AAK Ala-Archa 45.29 311 LR LR 20 29 48.9
comp=Z,578nm,19.1s,baz=96,slow=40
KURK Kurchatov 45.50 323 P P **20 07 54.8 +0.1**
KURK IAmb IAmb 20 08 07.1
comp=Z,19nm,1.4s
KURBB Kurchatov Arra 45.51 323 P P **20 07 55.5 +0.7**
comp=Z,5.7nm,0.7s,baz=123,slow=7.6,SNR=60
comp=Z,5.7nm,0.7s
MEEK Meekatharra 46.35 183 P P **20 08 01.1 -0.5**
CTA Charters Tower 46.66 147 P P **20 08 04.0 -0.2**
comp=Z,9.7nm,0.7s,baz=334,slow=8.1,SNR=16
CTA LR LR 20 26 17.3
comp=Z,207nm,21.6s,baz=315,slow=34
comp=Z,9.7nm,0.7s
CTAO Charters Tower 46.66 147 P P **20 08 04.1 -0.1**
CTAO IAmb IAmb 20 08 07.2
comp=Z,11nm,0.8s
GAR Garm 47.66 305 P P **20 08 11.4 -0.6**
HNR Honiara 47.92 124 LR LR 20 28 04.1
comp=Z,2µm,19.0s,baz=302,slow=36
SEY Seymchan 47.95 19 P P **20 08 14.9 +1.2**
comp=Z,0.8nm,0.6s,baz=180,slow=23,SNR=1.3
comp=Z,0.8nm,0.6s
KBL Kabul 48.22 299 P P **20 08 15.4 -1.1**
KBL IAmb IAmb 20 08 18.6
comp=Z,6.1nm,0.8s
KK31 Karatay Array 48.24 310 P P **20 08 16.3 0.0**
KK31 IAmb IAmb 20 08 33.0
comp=Z,9.7nm,1.4s
KKAR Karatay Array 48.24 310 P P **20 08 16.3 0.0**
KKAR Karatay Array 48.24 310 P P **20 08 16.2 -0.1**
KKAR IAmb IAmb 20 08 33.0
comp=Z,9.7nm,1.4s
MORW Morawa 48.96 186 P P **20 08 21.7 -0.1**
OOD Oodnadatta 49.42 163 P P **20 08 25.4 0.0**

FORT Forrest 50.81 173 P P **20 08 35.1 -0.8**
FORT Forrest 50.81 173 P P **20 08 36.3 +0.4**
BVAR Borovoye Array 51.10 323 LR LR 20 32 16.1
comp=Z,116nm,18.9s,baz=112,slow=38
BRVK Borovoye 51.17 323 P P **20 08 39.2 +0.8**
BRVK IAmb IAmb 20 08 55.7
comp=Z,14nm,1.4s
KLBR Kellerberrin 51.32 184 P P **20 08 39.8 +0.1**
MULG Mulgathing 51.39 166 P P **20 08 40.2 0.0**
TIXI Tiksi 51.93 3 P P **20 08 43.6 -0.2**
comp=Z,2.3nm,0.2s,baz=270,slow=22,SNR=4.0
TIXI LR LR 20 33 44.7
comp=Z,211nm,19.4s,baz=93,slow=40
comp=Z,2.3nm,0.2s
LCRK Leigh Creek 52.64 162 P P **20 08 49.6 +0.1**
NWAO Narrogin (SRO) 52.69 184 LR LR 20 33 34.3
comp=Z,61nm,18.1s,slow=39
NWAO Narrogin (SRO) 52.69 184 P P **20 08 49.6 -0.2**
comp=Z,65nm,2.4s
NRIK Noril'sk 53.55 346 P P **20 08 55.8 0.0**
comp=Z,6.3nm,0.8s,baz=132,slow=7.1,SNR=12
NRIK LR LR 20 33 52.0
comp=Z,270nm,18.9s,baz=156,slow=38
comp=Z,6.3nm,0.8s
NRIK Noril'sk 53.55 346 P P **20 08 56.4 +0.7**
NRIK IAmb IAmb 20 09 11.0
comp=Z,15nm,1.0s
HRA Herat 53.83 298 P P **20 08 58.7 0.0**
BBOO Buckleboo 54.29 165 P P **20 09 01.6 -0.1**
BBOO Buckleboo 54.29 165 P P **20 09 01.5 +0.1**
STKA Stephens Creek 55.04 159 P P **20 09 06.2 -0.8**
comp=Z,7.6nm,0.8s,baz=339,slow=6.8,SNR=13
STKA LR LR 20 34 04.2
comp=Z,75nm,19.3s,baz=16,slow=38
comp=Z,7.6nm,0.8s
STKA Stephens Creek 55.04 159 P P **20 09 06.8 -0.3**
HTT Hallett 55.64 162 P P **20 09 11.7 +0.3**
BILL Bilibino 55.66 19 P P **20 09 11.0 -0.1**
BILL IAmb IAmb 20 09 22.4
comp=Z,5.7nm,0.7s
CMSA Cobar Meteorol 56.25 155 P P **20 09 16.6 +0.9**
ABKAR Akbulak array 56.56 316 P P **20 09 17.5 -0.3**
ABKAR IAmb IAmb 20 09 34.2
comp=Z,8.9nm,1.4s
GEYT Alibeck 57.13 303 P P **20 09 22.5 +0.3**
comp=Z,4.9nm,0.9s,baz=90,slow=4.4,SNR=10
GEYT LR LR 20 38 18.6
comp=Z,208nm,18.3s,baz=132,slow=41
comp=Z,4.9nm,0.9s
GEYT Alibeck 57.13 303 P P **20 09 21.9 -0.2**
GEYT IAmb IAmb 20 09 26.9
comp=Z,15nm,1.4s
GYA0B ALIBECK ARRAY 57.13 303 P P **20 09 22.4 +0.2**
GYA0B IAmb IAmb 20 09 27.5
comp=Z,9.9nm,1.1s
AKTO Aktyubinsk 57.95 318 LR LR 20 36 44.4
comp=Z,164nm,18.5s,baz=204,slow=38
WSAR Wadi Sarin 58.00 285 LR LR 20 35 41.2
comp=Z,96nm,21.7s,baz=98,slow=37
ARU Arti 58.62 325 LR LR 20 37 12.5
comp=Z,107nm,19.5s,baz=140,slow=38
ARPS Mount Arapiles 59.61 161 P P **20 09 39.1 -0.1**
comp=Z,45nm,0.8s
DZM Mont Dzumac 60.70 131 P P **20 09 45.9 -1.2**
comp=Z,3.8nm,0.7s,baz=256,slow=8.9,SNR=7.9
DZM LR LR 20 31 53.4
comp=Z,184nm,21.3s,baz=242,slow=32
comp=Z,3.8nm,0.7s
DZM Mont Dzumac 60.70 131 *eP* **P 20 09 49.2 +2.1**
comp=Z,44nm,23.9s
DZM Mont Dzumac 60.70 131 *e*LR LR 20 27 42.9
comp=Z,286nm,22.1s
DZM Mont Dzumac 60.70 131 P P **20 09 48.6 +1.5**
comp=Z,8.3nm,1.4s
OUENC Ouen Island, N 61.21 131 P P **20 09 49.5 -0.9**
OUENC IAmb IAmb 20 09 53.1
comp=Z,13nm,0.9s
TOO Toolangi 61.54 158 P P **20 09 52.9 +0.5**
TOO Toolangi 61.54 158 P P **20 09 54.1 +1.7**
KIRV Kirov 63.80 326 LR LR 20 40 44.9
comp=Z,317nm,18.1s,baz=96,slow=39
TAU Tasmania Unive 66.94 160 P P **20 10 29.1 +1.5**
MSVF Nonsavu 67.08 120 LR LR 20 34 47.5
comp=Z,159nm,21.8s,baz=319,slow=32
GNI Garni 67.37 306 LR LR 20 44 29.9
comp=Z,110nm,19.9s,baz=76,slow=40
ONI Oni 68.02 309 P P **20 10 34.3 -0.5**
ONI IAmb IAmb 20 10 48.7
comp=Z,7.8nm,0.8s
KBZ Khabaz 68.28 310 P P **20 10 36.1 -0.1**
comp=Z,3.0nm,0.8s,baz=136,slow=6.3,SNR=5.8
KBZ LR LR 20 44 48.7
comp=Z,140nm,18.8s,baz=70,slow=40
comp=Z,3.0nm,0.8s
KIV Kislovodsk 68.40 310 P P **20 10 38.6 +1.5**
GURO Guroymak-BITLI 69.68 305 P P **20 10 47.1 +1.9**
GURO IAmb IAmb 20 10 58.9
comp=Z,9.3nm,1.1s
L19K White Mountain 69.73 30 P P **20 10 45.1 +0.1**
O18K Koktuh Hills 69.74 32 P P **20 10 47.0 +1.9**
RAYN Ar Rayn 69.76 288 P P **20 10 45.2 -0.7**
RAYN IAmb IAmb 20 11 02.2
comp=Z,14nm,1.4s
IMAR Indian Mountai 69.94 26 P P **20 10 47.0 +0.8**
K20K Telida 70.00 29 P P **20 10 47.9 +1.3**
K20K IAmb IAmb 20 10 59.5
comp=Z,9.3nm,0.9s
O19K Port Alsworth 70.15 32 P P **20 10 47.6 0.0**
H21K Melozitna Rive 70.36 26 P P **20 10 49.5 +0.7**
M20K Styx River 70.56 30 P P **20 10 50.5 +0.3**
M20K IAmb IAmb 20 11 02.8
comp=Z,16nm,1.1s
MARD Mardin 70.88 304 P P **20 10 53.6 +1.0**
MARD IAmb IAmb 20 11 05.5
comp=Z,13nm,0.9s
CAST Castle Rocks 70.88 28 P P **20 10 52.3 +0.3**
OBN Obninsk 70.94 323 LR LR 20 43 46.6
comp=Z,31nm,19.1s,baz=342,slow=37
COLD Coldfoot 71.24 24 P P **20 10 54.4 +0.3**
COLD IAmb IAmb 20 11 06.0
comp=Z,12nm,1.5s
MLY Manley 71.28 27 P P **20 10 54.4 0.0**
MLY IAmb IAmb 20 11 08.8
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 71.29 28 P P **20 10 55.0 +0.6**
KDAK Kodiak Island 71.33 34 P P **20 10 54.0 -0.7**
comp=Z,6.8nm,0.7s,baz=308,slow=3.3,SNR=10
comp=Z,6.8nm,0.7s
NEA2 Nenana 72.05 27 P P **20 10 58.8 -0.2**
NEA2 IAmb IAmb 20 11 01.3
comp=Z,8.9nm,1.0s
MCK McKinley 72.24 28 P P **20 11 00.2 0.0**
RND Reindeer 72.33 28 P P **20 11 00.5 -0.2**
MDM Murphy Dome 72.35 27 P P **20 11 01.2 +0.4**
WRH Wood River Hil 72.49 27 P P **20 11 02.2 +0.6**
ILAR Eielson Array 72.95 27 P P **20 11 03.5 -0.8**
comp=Z,1.6nm,0.8s,baz=279,slow=5.0,SNR=14
comp=Z,1.6nm,0.8s
ILAR Eielson Array 72.95 27 P P **20 11 04.7 +0.3**
BMAR Burnt Mountain 73.36 24 P P **20 11 07.9 +1.1**
ARCES ARCESS Array B 73.54 339 LR LR 20 47 47.6
comp=Z,102nm,18.6s,baz=271,slow=39
SPITS Spitsbergen Ar 73.67 348 LR LR 20 48 21.8
comp=Z,239nm,18.1s,baz=34,slow=40
J26L Joseph Creek 74.40 27 P P **20 11 12.7 -0.3**
J26L IAmb IAmb 20 11 24.6
comp=Z,22nm,1.8s
GLB Gilahina Butte 75.02 30 P **20 11 16.8 +0.2**
M26K Nabesna, AK 75.16 29 P P **20 11 17.2 -0.2**
M26K IAmb IAmb 20 11 29.3
comp=Z,6.8nm,0.8s
FINES FINESS Array B 75.19 330 P P **20 11 18.9 +1.4**
comp=Z,2.7nm,0.8s,baz=46,slow=5.5,SNR=7.0
comp=Z,2.7nm,0.8s
EGAK Eagle 75.34 26 P P **20 11 18.3 +0.1**
EGAK IAmb IAmb 20 12 01.4
comp=Z,13nm,1.4s
ATD Arta Tunnel 75.43 277 LR LR 20 43 41.2
comp=Z,24nm,21.3s,baz=90,slow=35
L27K Beaver Creek, 75.51 28 P P **20 11 20.6 +1.2**
L27K IAmb IAmb 20 11 54.4
comp=Z,28nm,1.9s
BCAR Beaver Creek A 75.52 28 P P **20 11 19.4 0.0**
BRTR Keskin Array B 75.83 307 P P **20 11 22.2 +0.5**
comp=Z,0.7nm,0.7s,baz=96,slow=6.5,SNR=3.6
comp=Z,0.7nm,0.7s

MMAI Mount Meron Ar 76.12 300 LR LR 20 51 06.5
comp=Z,74nm,18.6s,baz=240,slow=41
AKASG Malin Array Be 76.15 319 P P **20 11 22.3 -0.9**
comp=Z,0.2nm,0.3s,baz=61,slow=5.5,SNR=4.6
AKASG LR LR 20 48 02.3
comp=Z,116nm,18.3s,baz=40,slow=38
comp=Z,0.2nm,0.3s
DAWY Dawson 76.27 27 P P **20 11 24.0 +0.3**
NACGM Naroch 76.50 324 *e*P P **20 11 25.5 +0.4**
comp=Z,35nm,1.0s,baz=75
EPYK Eagle Plains 76.63 24 P P **20 11 25.7 0.0**
EPYK IAmb IAmb 20 11 36.9
comp=Z,16nm,1.3s
INK Inuvik 77.12 22 P P **20 11 28.2 -0.1**
comp=Z,0.8nm,0.3s,baz=303,slow=5.3,SNR=8.4
INK LR LR 20 48 45.8
comp=Z,56nm,18.5s,baz=286,slow=38
comp=Z,0.8nm,0.3s
M30M Minto, Yukon 77.86 28 P P **20 11 32.9 +0.3**
URZ Urewera 78.01 138 LR LR 20 49 02.2
comp=Z,31nm,18.1s,baz=34,slow=38
HYT Haines Junctio 78.12 29 P P **20 11 35.1 +0.9**
HYT IAmb IAmb 20 12 59.1
comp=Z,21nm,1.6s
A36M Sachs Harbour 78.15 17 P P **20 11 34.0 +0.1**
A36M IAmb IAmb 20 11 35.8
comp=Z,8.9nm,0.8s
M31M Drury Creek, Y 79.04 28 P P **20 11 39.4 +0.3**
M31M IAmb IAmb 20 11 56.5
comp=Z,12nm,1.4s
EUNU Eureka 79.13 5 P P **20 11 39.0 -0.4**
EUNU IAmb IAmb 20 12 38.0
comp=Z,26nm,1.9s
WHY Whitehorse 79.39 29 P P **20 11 40.6 -0.5**
BURAR Bucovina Array 79.54 317 P P **20 11 41.5 -0.8**
BUR08 Bucovina Ar. S 79.54 317 P P **20 11 41.9 -0.4**
C36M Paulatuk 79.78 19 P P **20 11 42.5 -0.4**
HFS Hagfors 81.34 331 LR LR 20 51 08.8
comp=Z,210nm,18.3s,baz=57,slow=38
NB2 NORSAR Subarra 82.05 333 P P **20 11 54.7 -0.6**
comp=Z,7.2nm,1.2s,baz=65,slow=5.1
NOA NORSAR Array B 82.05 333 P P **20 11 54.4 -0.9**
comp=Z,1.1nm,0.8s,baz=63,slow=5.3,SNR=3.5
NOA LR LR 20 52 21.0
comp=Z,323nm,18.5s,baz=65,slow=39
comp=Z,1.1nm,0.8s
RES Resolute Bay 82.84 9 P P **20 11 58.4 -0.7**
comp=Z,1.5nm,0.9s,baz=322,slow=6.2,SNR=4.8
RES LR LR 20 55 04.9
comp=Z,44nm,18.1s,baz=10,slow=40
comp=Z,1.5nm,0.9s
JMIC Jan Mayen 82.97 345 LR LR 20 53 35.8
comp=Z,117nm,18.6s,baz=290,slow=39
IDI Anoyia 83.77 305 LR LR 20 56 18.4
comp=Z,30nm,18.2s,baz=66,slow=41
VRAC Vranov 84.30 320 LR LR 20 53 38.1
comp=Z,140nm,18.6s,baz=65,slow=38
CLL Collm 85.53 323 *eP* P **20 12 14.0 +0.8**
CLL *ex* x 20 12 24.0
CLL *e*Sx Sx 20 23 00.0
CLL LmH 20 53 00.0
comp=N,200nm,18.4s
CLL LmH 20 53 00.0
comp=E,100nm,21.3s
CLL LmH 20 53 00.0
comp=Z,200nm,19.0s
GERES GERESS Array B 86.22 321 P P **20 12 17.5 +0.7**
comp=Z,0.3nm,0.6s,baz=137,slow=8.8,SNR=2.4
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 86.84 23 P P **20 12 18.6 -0.8**
comp=Z,3.5nm,0.7s,baz=309,slow=4.8,SNR=56
comp=Z,3.5nm,0.7s
RAR Rarotonga 87.30 114 LR LR 20 45 04.8
comp=Z,42nm,20.8s,baz=118,slow=31
DAVOX Davos/Dischmat 89.45 320 LR LR 20 55 50.5
comp=Z,190nm,18.4s,baz=38,slow=38
MBAR Mbarara 90.75 270 LR LR 20 52 06.0
comp=Z,34nm,21.1s,baz=48,slow=35
BORG Borgarnes 90.86 345 LR LR 20 58 26.0
comp=Z,77nm,18.0s,baz=26,slow=39
EKA Eskdalemuir Ar 91.52 332 LR LR 20 59 10.3
comp=Z,211nm,19.0s,baz=43,slow=39
SFJD Kangerlussuaq 93.14 357 LR LR 20 57 23.6
comp=Z,49nm,19.3s,baz=36,slow=37
PPT2 Papeete2 95.03 107 *e*LR LR 20 43 37.9
comp=Z,204nm,30.0s
PPT2 *e*LR LR 20 43 38.0
comp=Z,164nm,23.2s
FRB Frobisher Bay 96.26 4 LR LR 20 59 41.0
comp=Z,81nm,20.6s,baz=18,slow=38
NVAR Mina Array Bea 99.45 43 P **Pdif 20 13 18.6 +0.1**
comp=Z,0.8nm,0.8s,baz=282,slow=4.6,SNR=4.3
comp=Z,0.8nm,0.8s
PLCA Paso Flores 156.90 157 PKPab **PKPab 20 20 01.9 +1.2**
comp=Z,2.0nm,0.9s,baz=236,slow=5.9,SNR=4.3
LPAZ La Paz 170.32 70 PKP **PKPdf 20 19 45.1 +0.6**
comp=Z,0.7nm,0.5s,baz=359,slow=3.6,SNR=5.0

IDC ***19****20:12:19.4±0.7,28°.12N×104°.70E,h0*km*,mb4.0/18, mbtmp4.0/19,ML4.0/1,MS3.3/3, Error ellipse: s-maj=22.1km s-min=14.5km az=39.0*
NEIC ***19****20:12:26.2±1.3,28°.2N±0°.1×104°.80E±0°.10,h34*km*±7*km*, mb4.3/20, Error ellipse: s-maj=17.5km s-min=12.1km az=162.0*
ISC 19 20:12:25.1±0.6,28°.18N±0°.09×104°.74E±0°.07,h35km**,n53,**
σ1s21/53,mb4.2/26,MS3.1/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**4.64**	**62**	Pn	**Pn**	**20 13 33.6**	**+0.8**
MND	**Mandalay**	**9.94**	**234**	Pn	**Pn**	**20 14 46.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.04**	**210**	Pn	**Pn**	**20 15 01.9**	**+1.3**
	0.2nm,0.3s,baz=17,slow=12,SNR=12						
SHL	**Shillong**	**11.77**	**260**	Pn	**Pn**	**20 15 12.1**	**+1.3**
LSA	**Lhasa**	**12.00**	**281**	Pn	**Pn**	**20 15 15.5**	**+1.3**
TAPN	**Taplejung**	**15.10**	**271**	*e*P	**Pn**	**20 15 54.4**	**-1.8**
RAMN	**Ramite**	**16.14**	**270**	*e*P	**Pn**	**20 16 08.2**	**-1.4**
PKI	**Pulchoki**	**17.11**	**273**	*e*P	**Pn**	**20 16 19.7**	**-2.2**
	18nm,0.6s						
PKIN	**Phulchoki**	**17.12**	**273**	*e*P	**Pn**	**20 16 20.2**	**-1.8**
	18nm,0.5s						
KKN	**Kakani**	**17.20**	**273**	*e*Pg	**Pn**	**20 16 20.6**	**-2.3**
GKN	**Gorkha**	**17.74**	**274**	*e*P	**Pn**	**20 16 26.9**	**-2.7**
DANN	**Dangsing**	**18.48**	**276**	*e*P	**P**	**20 16 36.6**	**-1.9**
	56nm,0.7s						
KOLN	**Koldanda**	**18.68**	**274**	*e*Pg	**P**	**20 16 38.6**	**-2.0**
SONM	**Songino Array**	**19.67**	**3**	P	**P**	**20 16 51.0**	**-0.2**
	0.4nm,0.3s,baz=188,slow=11,SNR=13						
	1.1nm,0.5s						
SONM	**Songino Array**	**19.67**	**3**	P	**Pn**	**20 16 52.6**	**-0.1**
ULN	**Ulaanbaatar**	**19.74**	**5**	P	**Pn**	**20 16 53.3**	**-0.2**
KSRS	**Korea Array**	**21.52**	**59**	P	**P**	**20 17 10.9**	**-0.2**
	1.4nm,0.5s,baz=243,slow=11,SNR=5.4						
KSRS				LR	LR	20 26 29.0	
	comp=Z,69nm,18.7s,baz=175,slow=39						
	1.4nm,0.5s						
JNU	**Nakatsue**	**22.99**	**71**	P	**P**	**20 17 27.2**	**+0.4**
	13nm,0.9s,baz=183,slow=3.5,SNR=4.3						
JNU				LR	LR	20 27 03.4	
	comp=Z,62nm,18.9s,baz=243,slow=38						
	13nm,0.9s						
MK31	**Makanchi Array**	**25.59**	**323**	P	**P**	**20 17 51.2**	**+0.2**
MK31				IAmb	IAmb	20 17 54.2	
	comp=Z,5.0nm,1.1s						
MKAR	**Makanchi Array**	**25.59**	**323**	P	**P**	**20 17 51.3**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=122,slow=11,SNR=26						
	comp=Z,1.9nm,0.5s						
MKAR	**Makanchi Array**	**25.59**	**323**	P	**P**	**20 17 51.1**	**+0.1**
TARG	**Taragay, Kyrgy**	**25.76**	**309**	P	**P**	**20 17 52.9**	**-0.2**
MAKZ	**Makanchi**	**25.77**	**322**	P	**P**	**20 17 52.8**	**+0.2**
MAKZ				IAmb	IAmb	20 17 58.2	
	comp=Z,4.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**27.02**	**46**	P	**P**	**20 18 03.3**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=264,slow=7.0,SNR=5.0						
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**29.60**	**336**	P	**P**	**20 18 26.1**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=137,slow=7.9,SNR=5.0						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**29.93**	**326**	P	**P**	**20 18 29.9**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=131,slow=9.4,SNR=32						
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**29.95**	**326**	P	**P**	**20 18 29.7**	**-0.1**
KURK				IAmb	IAmb	20 18 32.6	
	comp=Z,3.6nm,0.8s						
KK31	**Karatay Array**	**31.30**	**308**	P	**P**	**20 18 44.7**	**+2.7**
KKAR	**Karatay Array**	**31.30**	**308**	P	**P**	**20 18 43.3**	**+1.3**

CHGR	**Chuyangaron**	**31.31**	**299**	P	**P**	**20 18 43.4**	**+1.2**
CHGR				IAmb	IAmb	20 19 01.0	
	comp=Z,8.1nm,1.1s						
GEYT	**Alibeck**	**39.92**	**296**	P	**P**	**20 19 55.3**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=115,slow=6.7,SNR=8.5						
	comp=Z,3.4nm,0.7s						
GEYT	**Alibeck**	**39.92**	**296**	P	**P**	**20 19 57.6**	**+1.6**
GEYT				IAmb	IAmb	20 20 00.2	
	comp=Z,5.9nm,0.9s						
ABKAR	**Akbulak array**	**40.07**	**314**	P	**P**	**20 19 58.3**	**+1.4**
NRIK	**Noril'sk**	**42.40**	**351**	P	**P**	**20 20 16.4**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=142,slow=7.2,SNR=3.7						
	comp=Z,2.4nm,0.6s						
KBZ	**Khabaz**	**51.28**	**305**	P	**P**	**20 21 25.2**	**-0.4**
	comp=Z,3.6nm,1.1s,baz=53,slow=8.6,SNR=3.2						
	comp=Z,3.6nm,1.1s						
KIV	**Kislovodsk**	**51.41**	**305**	P	**P**	**20 21 28.6**	**+1.8**
GURO	**Guroymak-BITLI**	**52.49**	**299**	P	**P**	**20 21 36.7**	**+1.8**
GURO				IAmb	IAmb	20 21 38.8	
	comp=Z,6.1nm,1.0s						
RAYN	**Ar Rayn**	**53.07**	**279**	P	**P**	**20 21 39.7**	**+0.5**
RAYN				IAmb	IAmb	20 21 39.9	
	comp=Z,3.3nm,1.1s						
MARD	**Mardin**	**53.66**	**297**	P	**P**	**20 21 44.0**	**+0.4**
WRAB	**Tennant Creek**	**55.74**	**146**	P	**P**	**20 21 57.2**	**-1.3**
WRA	**Warramunga Arr**	**55.75**	**146**	P	**P**	**20 21 57.4**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=332,slow=8.2,SNR=21						
WRA				LR	LR	20 46 51.8	
	comp=Z,36nm,18.2s,baz=323,slow=37						
	comp=Z,3.0nm,0.9s						
WB2	**Warramunga Arr**	**55.75**	**146**	P	**P**	**20 21 58.2**	**-0.4**
WB2				IAmb	IAmb	20 21 59.8	
	comp=Z,5.1nm,0.9s						
BR131	**Keskin Array S**	**58.70**	**301**	P	**P**	**20 22 20.7**	**+1.2**
BRTR	**Keskin Array B**	**58.70**	**301**	P	**P**	**20 22 19.1**	**-0.5**
	comp=Z,2.4nm,1.0s,baz=71,slow=3.7,SNR=7.0						
	comp=Z,2.4nm,1.0s						
AS31	**Alice Springs**	**58.71**	**148**	P	**P**	**20 22 19.5**	**0.0**
AS31				IAmb	IAmb	20 22 22.3	
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**58.71**	**148**	P	**P**	**20 22 19.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=329,slow=6.5,SNR=36						
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**58.71**	**148**	P	**P**	**20 22 20.0**	**+0.5**
AKASG	**Malin Array Be**	**59.81**	**315**	P	**P**	**20 22 26.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=72,slow=6.4,SNR=4.6						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**60.31**	**327**	P	**P**	**20 22 29.1**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=128,slow=13,SNR=1.8						
	comp=Z,2.4nm,0.9s						
NOA	**NORSAR Array B**	**67.42**	**328**	P	**P**	**20 23 16.0**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=356,slow=12,SNR=2.6						
	comp=Z,1.1nm,0.9s						
GERES	**GERESS Array B**	**70.00**	**315**	P	**P**	**20 23 33.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=91,slow=5.9,SNR=2.4						
	comp=Z,0.2nm,0.3s						
ILAR	**Eielson Array**	**72.23**	**25**	P	**P**	**20 23 45.7**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=291,slow=3.8,SNR=2.7						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**84.31**	**17**	P	**P**	**20 24 52.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=324,slow=4.9,SNR=8.4						
	comp=Z,0.3nm,0.5s						

*JMA **19** 20:24:20.0±0.1, 43.1°N±0.5°×145.8°E±0.7°, h51km±1km, MV3.2/39, OFF NEMURO PENINSULA*
*SKHL **19** 20:24:20.7±0.2, 43.10°N×145.80°E, h41km±2km, mb4.0/2*
ISC 19 20:24:20.2±1.7, 43.12°N±0.07°×145.77°E±0.07°, h48km±9km, n14, σ0°42/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.25**	**355**	*eP*	**Pn**	**20 24 28.7**	**0.0**
NEM2				*eS*	**Sn**	**20 24 34.9**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.25**	**352**	*i P*	**Pn**	**20 24 28.7**	**0.0**
NMR				*i S*	**Sn**	**20 24 34.7**	**-0.1**
JKHN	**Kushirohamanak**	**0.45**	**266**	*i P*	**Pn**	**20 24 30.9**	**+0.2**
JKHN				*eS*	**Sn**	**20 24 38.5**	**+0.3**
AKK	**Akkeshi**	**0.69**	**262**	*eP*	**Pn**	**20 24 33.3**	**-0.4**
AKK				*eS*	**Sn**	**20 24 42.9**	**-0.6**
JAK	**Akkeshi**	**0.80**	**261**	*eP*	**Pn**	**20 24 34.8**	**-0.3**
JAK				*eS*	**Sn**	**20 24 45.8**	**-0.2**
JNSB	**Nemuroshibetsu**	**0.86**	**320**	*i P*	**Pn**	**20 24 35.8**	**-0.2**
JNSB				*eS*	**Sn**	**20 24 48.3**	**+0.7**
JNK	**Nakash**	**0.90**	**302**	*eP*	**Pn**	**20 24 36.1**	**-0.4**
JNK				*eS*	**Sn**	**20 24 48.0**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**0.92**	**4**	*eP*	**Pn**	**20 24 36.4**	**-0.3**
YUK				AMB	AMB	20 24 37.3	
	50nm,0.2s						
YUK				*eS*	**Sn**	**20 24 48.2**	**-0.6**
YUK				A	A	20 24 50.4	
	650nm,0.3s						
YUK				A	A	20 24 50.4	
	790nm,0.3s						
JRA	**Rausu**	**0.94**	**330**	*eP*	**Pn**	**20 24 37.1**	**0.0**
JRA				*eS*	**Sn**	**20 24 49.7**	**+0.2**
JOB	**Onbets**	**1.44**	**262**	*eP*	**Pn**	**20 24 43.6**	**-0.2**
JAR	**Ashorobuto**	**1.48**	**278**	*eP*	**Pn**	**20 24 44.4**	**+0.1**
JAR				*eS*	**Sn**	**20 25 02.5**	**+0.1**
JTKR	**Abashiri--Toko**	**1.60**	**303**	*eP*	**Pn**	**20 24 46.7**	**+0.7**
MYR	**Moyori**	**2.01**	**247**	*eP*	**Pn**	**20 24 52.1**	**+0.5**
MYR				*eS*	**Sn**	**20 25 15.4**	**-0.2**
KUR	**Kuril'sk**	**2.59**	**35**	*eP*	**Pn**	**20 25 00.2**	**+0.6**
KUR				AMB	AMB	20 25 01.8	
	20nm,0.3s						
KUR				*eS*	**Sn**	**20 25 29.2**	**-0.7**
KUR				A	A	20 25 31.9	
	40nm,0.6s						
KUR				A	A	20 25 31.9	
	60nm,0.6s						

*IDC **19** 20:41:27.1±1.0, 19.86°N×121.47°E, h0km, mb3.6/7, mbtmp3.6/7, MS2.8/1, Error ellipse: s-maj=45.1km s-min=18.9km az=65.0*
*MAN **19** 20:41:30.6, 19.97°N×121.24°E, h15km, mb4.7, ML3.6, MS3.4*
ISC 19 20:41:33.1±0.9, 20.00°N±0.08°×121.5°E±0.2°, h40km, n15, σ2°03/13, mb3.6/7, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.74**	**181**	*eP*	**Pn**	**20 41 44.7**	**-2.3**
PACPP	**Pamplona Cagay**	**1.54**	**185**	*eP*	**Pn**	**20 41 55.5**	**-2.6**
SGCP	**Gonzaga**	**1.83**	**163**	*iP*	**Pn**	**20 42 02.2**	**+0.2**
SAMP	**Sagada Mountai**	**2.96**	**191**	*eP*	**Pn**	**20 42 16.6**	**-1.0**
SAMP				*eS*	**Sn**	**20 42 56.4**	**+4.5**
SMPP	**San Manuel, Pa**	**3.91**	**192**	*iP*	**Pn**	**20 42 30.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.34**	**270**	P	**P**	**20 46 16.2**	**-0.8**
	0.3nm,0.4s,baz=79,slow=9.3,SNR=1.0						
CMAR				LR	LR	20 54 08.4	
	comp=Z,26nm,19.4s,baz=295,slow=36						
	0.3nm,0.4s						
SONM	**Songino Array**	**30.34**	**340**	P	**P**	**20 47 41.7**	**+0.7**
	0.3nm,0.7s,baz=156,slow=9.0,SNR=3.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**41.60**	**319**	P	**P**	**20 49 17.4**	**+0.3**
	0.4nm,0.7s,baz=104,slow=10,SNR=4.6						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**41.65**	**162**	P	**P**	**20 49 15.7**	**-2.1**
	1.4nm,0.6s,baz=345,slow=8.8,SNR=15						
	1.4nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.60**	**82**	T	T	21 35 10.1	
	baz=278,slow=75,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**42.60**	**82**	T	T	21 35 08.8	
	baz=278,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**42.62**	**82**	T	T	21 35 07.5	
	baz=278,slow=75,SNR=3.5						
ZALV	**Zalesovo Beam**	**43.93**	**329**	P	**P**	**20 49 36.0**	**+0.2**
	1.0nm,0.7s,baz=114,slow=6.2,SNR=5.0						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**45.06**	**164**	P	**P**	**20 49 44.1**	**-1.1**
	0.7nm,0.3s,baz=340,slow=6.7,SNR=21						
	0.7nm,0.3s						
YKA	**Yellowknife Ar**	**86.69**	**23**	P	**P**	**20 54 13.7**	**+1.2**
	0.2nm,0.5s,baz=311,slow=5.0,SNR=4.5						
	0.2nm,0.5s						

ROM 19 20:45:00.7±0.1, 42.525N±0.005°×13.269E±0.007°, h12km, ML1.7/4, 5C-1D, Error ellipse: s-maj=0.7km s-min=0.4km az=230.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.09**	**165**	P	Pg	20 45 03.8	+0.4
T1247				S	Sg	20 45 05.9	+0.6
T1247				AML	AML		
	comp=E,590μm,1.1s						
T1247				AML	AML		
	comp=N,820μm,1.0s						
T1247				AML	AML		
	comp=E,590μm,0.9s						
T1202	**Accumoli, Fraz**	**0.18**	**350**	P	Pg	20 45 05.2	+0.4
T1202				S	Sg	20 45 08.5	+0.8
T1202				AML	AML		
	comp=E,681μm,0.7s						
T1202				AML	AML		
	comp=N,1029μm,0.2s						
LNSS	**Leonessa**	**0.19**	**295**	↑P	Pg	20 45 05.2	+0.4
LNSS				S	Sg	20 45 08.6	+0.8
LNSS				AML	AML		
	comp=N,716μm,0.8s						
LNSS				AML	AML		
	comp=E,533μm,0.3s						
LNSS				AML	AML		
	comp=N,716μm,1.2s						
GIGS	**Gran Sasso**	**0.23**	**109**	↑P	Pg	20 45 05.7	0.0
GIGS				S	Sg	20 45 09.4	+0.3
FIAM	**Fiamignano**	**0.28**	**204**	↑P	Pg	20 45 06.8	+0.3
FIAM				S	Sb	20 45 11.4	-1.0
FAGN	**Fagnano**	**0.35**	**138**	P	Pb	20 45 08.8	-0.1
ARRO	**Arrone**	**0.38**	**278**	P	Pg	20 45 08.3	+0.1
ARRO				S	Sg	20 45 14.1	+0.9
T1215	**Vallo di Nera,**	**0.40**	**313**	P	Pg	20 45 08.7	0.0
T1215				S	Sg	20 45 15.0	+0.9
GUMA	**Gualdo di Mace**	**0.54**	**5**	P	Pb	20 45 11.7	-0.4
GUMA				S	Sb	20 45 20.0	+0.1
T1220	**Camerino, Fraz**	**0.60**	**347**	P	Pg	20 45 12.1	-0.2
T1220				S	Sb	20 45 21.4	-0.3
MCIV	**Monte Civitell**	**1.20**	**283**	P	Pn	20 45 22.2	-1.2
APEC	**Apecchio**	**1.21**	**329**	↑P	Pg	20 45 25.3	+1.5
MODR	**Mondragone**	**1.45**	**162**	↑P	Pb	20 45 28.1	+0.4
PIGN	**Pignataro Magg**	**1.49**	**152**	↓P	Pn	20 45 23.8	-3.5
PIGN				AML	AML		
	comp=E,99μm,1.6s						
PIGN				AML	AML		
	comp=N,102μm,1.2s						
PIGN				AML	AML		
	comp=E,99μm,0.4s						
FROS	**Frosini**	**1.70**	**294**	S	Sn	20 45 52.5	+0.6
PAOL	**Paolisi**	**1.78**	**147**	S	Sn	20 45 52.2	-1.8
PAOL				AML	AML		
	comp=E,164μm,0.5s						
PAOL				AML	AML		
	comp=N,323μm,1.4s						
PAOL				AML	AML		
	comp=E,119μm,0.7s						
PAOL				AML	AML		
	comp=N,112μm,1.6s						
PAOL				AML	AML		
	comp=N,112μm,0.4s						
PAOL				AML	AML		
	comp=E,164μm,1.5s						
PAOL				AML	AML		
	comp=N,323μm,0.6s						
PZUN	**Potenza**	**2.67**	**134**	S	Sb	20 46 22.0	+0.7

*VAO **19** 21:13:11.4±0.8, 14.82°S×72.52°W, h10km, mb4.3*
*IDC **19** 21:13:18.6±2.0, 14.84°S×72.40°W, h97km±23km, mb4.0/2, mbtmp4.2/7, Error ellipse: s-maj=42.8km s-min=20.1km az=41.0*
*NEIC **19** 21:13:18.1±2.6, 14.96°S±0.08°×72.67°W±0.08°, h122km±16km, mb4.2/4, Error ellipse: s-maj=14.4km s-min=8.1km az=46.0*
ISC 19 21:13:17.7±0.7, 14.87°S±0.06°×72.57°W±0.07°, h114km, n50, σ1°93/61, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.08**	**149**	Pn	**Pn**	**21 14 19.8**	**+1.5**
AP01				Sn	**Sn**	**21 15 05.9**	**+0.7**
PB12	**IPOC Station P**	**4.30**	**150**	Pn	**Pn**	**21 14 21.6**	**+0.4**
PB12				Sn	**Sn**	**21 15 12.4**	**+1.9**
LPAZ	**La Paz**	**4.50**	**109**	P	**Pn**	**21 14 25.1**	**+0.6**
	16nm,0.4s,baz=294,slow=9.2,SNR=72						
LPAZ				S	**Sn**	**21 15 15.9**	**-0.3**
	8.6nm,0.7s,baz=287,slow=11,SNR=7.7						
LPAZ	**La Paz**	**4.50**	**109**	Pn	**Pn**	**21 14 25.7**	**+1.2**
PB16	**IPOC Station P**	**4.53**	**140**	Pn	**Pn**	**21 14 26.5**	**+1.8**
PB16				Sn	**Sn**	**21 15 19.1**	**+2.4**
NNA	**Nana**	**5.05**	**304**	P	**Pn**	**21 14 32.7**	**+1.3**
	48nm,0.3s,baz=120,slow=14,SNR=17						
NNA				S	**Sn**	**21 15 29.6**	**+1.0**
	28nm,0.3s,baz=204,slow=10.0,SNR=6.8						
NNA	**Nana**	**5.05**	**304**	Pn	**Pn**	**21 14 32.1**	**+0.8**
NNA				Sn	**Sn**	**21 15 28.6**	**0.0**
MNMC	**Minye Minye**	**5.10**	**147**		**Pn**	**21 14 31.9**	**-0.3**
PSGCX	**Pisagua**	**5.25**	**154**		**Pn**	**21 14 33.1**	**-0.9**
PB11	**IPOC Station P**	**5.60**	**151**	Pn	**Pn**	**21 14 38.1**	**-0.8**
GO01	**Chusmiza**	**5.76**	**146**		**Pn**	**21 14 42.4**	**+1.1**
GO01				Sn	**Sn**	**21 15 46.3**	**0.0**
TA02	**Huaiquique**	**5.85**	**157**	Pn	**Pn**	**21 14 41.7**	**-0.3**
TA02					**Sn**	**21 15 45.6**	**-2.3**
TA01	**Diego Aracena**	**6.10**	**158**		**Pn**	**21 14 45.0**	**-0.4**
TA01				Sn	**Sn**	**21 15 51.6**	**-2.3**
PATCX	**Punta Patache**	**6.35**	**159**	Pn	**Pn**	**21 14 48.1**	**-0.8**
PATCX					**Sn**	**21 15 57.3**	**-2.8**
PB01	**IPOC Station P**	**6.80**	**155**		**Pn**	**21 14 54.8**	**-0.3**
PB01				Sn	**Sn**	**21 16 09.0**	**-2.1**
PB02	**IPOC Station P**	**6.90**	**159**		**Pn**	**21 14 55.4**	**-0.9**
CZSB	**Cruzeiro do Su**	**7.10**	**359**		**Pn**	**21 14 55.5**	**-3.6**
CZSB	**Cruzeiro do Su**	**7.10**	**359**	*eP*	**Pn**	**21 14 55.3**	**-3.8**
PB07	**IPOC Station P**	**7.28**	**160**	Pn	**Pn**	**21 15 01.2**	**-0.4**
PB07				Sn	**Sn**	**21 16 20.1**	**-2.6**
PB09	**IPOC Station P**	**7.58**	**156**	Pn	**Pn**	**21 15 04.4**	**-1.2**
PB03	**IPOC Station P**	**7.62**	**160**		**Pn**	**21 15 04.2**	**-2.0**
PB04	**IPOC Station P**	**7.77**	**163**	Pn	**Pn**	**21 15 06.5**	**-1.7**
ETMB	**Extrema**	**7.99**	**52**	Pn	**Pn**	**21 15 07.8**	**-3.3**
ETMB	**Extrema**	**7.99**	**52**	*eP*	**Pn**	**21 15 07.7**	**-3.3**
LVC	**Limon Verde**	**8.44**	**156**	P	**Pn**	**21 15 17.5**	**0.0**
	2.2nm,0.4s,baz=342,slow=12,SNR=9.5						
LVC				S	**Sn**	**21 16 48.2**	**-3.1**
	6.1nm,0.4s,baz=229,slow=20,SNR=11						
LVC	**Limon Verde**	**8.44**	**156**	Pn	**Pn**	**21 15 16.2**	**-1.3**
SIV	**San Ignacio**	**11.14**	**97**	P	**Pn**	**21 15 51.2**	**-2.6**
	0.6nm,0.3s,baz=264,slow=13,SNR=5.5						
BBSD	**Serra de San D**	**11.73**	**103**	*eP*	**Pn**	**21 15 58.5**	**-3.1**
BBRB	**Robore, Bolivi**	**12.69**	**107**	*eP*	**Pn**	**21 16 11.8**	**-2.4**
PTLB	**Pontes e Lacer**	**12.98**	**94**	*eP*	**Pn**	**21 16 15.6**	**-2.4**
SGCB	**São Gabriel d**	**15.65**	**21**	*eP*	**Pn**	**21 16 52.1**	**+0.1**
BDQN	**Bodoquena, MS**	**16.06**	**112**	*eP*	**P**	**21 16 57.6**	**-0.7**
PP1B	**Ponte de Pedra**	**17.20**	**101**	*eP*	**Pn**	**21 17 11.7**	**+0.5**
CPUP	**Villa Florida**	**18.24**	**131**	P	**Pn**	**21 17 24.1**	**+0.5**
	6.7nm,0.8s,baz=301,slow=11,SNR=12						
CPUP	**Villa Florida**	**18.24**	**131**	Pn	**Pn**	**21 17 23.6**	**+0.1**
CPUP				IAmb	IAmb	21 17 25.2	
	comp=Z,5.9nm,0.7s						
AMBA	**Amambai (Brazi**	**18.45**	**118**	*eP*	**Pn**	**21 17 27.5**	**+1.4**
ITTB	**Itaituba**	**19.59**	**59**	*eP*	**P**	**21 17 38.0**	**+0.9**
MCR1	**Marechal Candi**	**19.87**	**122**	*eP*	**P**	**21 17 41.1**	**+1.1**
TRCB	**Terra Rica**	**20.43**	**116**	P	**P**	**21 17 45.7**	**-0.5**
ITQB	**Itaqui**	**20.81**	**138**	P	Pn	21 17 54.2	+0.6
ITQB				IAmb	IAmb	21 17 55.7	
	comp=Z,17nm,0.8s						
ITQB	**Itaqui**	**20.81**	**138**	*eP*	Pn	21 17 53.5	-0.1
BOAV	**Boa Vista**	**20.90**	**36**	P	**P**	**21 17 51.2**	**+0.1**
BOAV				IAmb	IAmb	21 17 51.9	
	comp=Z,4.5nm,0.7s						
BOAV	**Boa Vista**	**20.90**	**36**	*eP*	**P**	**21 17 51.3**	**+0.2**
CRSM	**Crissiumal (Br**	**21.32**	**129**	*eP*	**P**	**21 17 57.9**	**+2.3**
FRBT	**Francisco Belt**	**21.33**	**124**	*eP*	**P**	**21 17 58.7**	**+3.0**
ITAB	**Concordia**	**22.66**	**126**	*eP*	**P**	**21 18 13.5**	**+4.0**
SDV	**Santo Domingo**	**23.68**	**5**	P	**P**	**21 18 22.2**	**+2.8**
	comp=Z,1.9nm,0.4s,baz=172,slow=7.1,SNR=4.7						
	comp=Z,1.9nm,0.4s						
CNLB	**Canela**	**24.67**	**129**	*eP*	**P**	**21 18 32.5**	**+4.5**
TORD	**Torodi Ar, Bea**	**78.59**	**73**	P	**P**	**21 25 07.5**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=256,slow=4.7,SNR=1.4						
	comp=Z,1.9nm,0.3s						
SONM	**Songino Array**	**147.12**	**1**	PKPbc	**PKiKP**	**21 32 51.0**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=343,slow=4.5,SNR=2.3						

*TUL **19** 21:30:04.9±0.7, 36.76°N±0.02°×98.06°W±0.01°, h8km±7km, ML3.3, mb_Lg3.1/82(NEIC), ML3.3/72(NEIC), Error ellipse: s-maj=2.7km s-min=0.9km az=147.0*

*ANF **19** 21:30:04.7±0.4, 36.75°N×98.05°W, h5km, ML3.5/9, Error ellipse: s-maj=5.8km s-min=3.2km az=162.0*
*NEIC **19** 21:30:05.5±0.5, 36.76°N±0.01°×98.06°W±0.01°, h3km±6km, Error ellipse: s-maj=1.7km s-min=1.5km az=140.0*
ISC 19 21:30:05.4±0.9, 36.76N±0.02°×98.07W±0.02°, h9km±7km, n104, σ0°96/99, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.13**	**293**	Pg	**Pg**	**21 30 07.4**	**-0.9**
OK032				Sg	**Sg**	**21 30 09.9**	**-0.3**
OK032				IAML		21 30 10.2	
	9μm,0.3s						
GC02	**Grant County #**	**0.19**	**60**	Pg	**Pg**	**21 30 09.0**	**-0.3**
GC02				Sg	**Sg**	**21 30 11.9**	**-0.2**
KAN14	**Manchester OK**	**0.22**	**22**		**Pg**	**21 30 09.5**	**-0.4**
KAN14				Sg	**Sg**	**21 30 12.6**	**-0.2**
KAN14				IAML		21 30 12.9	
	comp=E,4μm,0.2s						
CROK	**Carrier**	**0.26**	**165**	Pg	**Pg**	**21 30 10.3**	**-0.3**
CROK				Sg	**Sg**	**21 30 14.3**	**+0.2**
CROK				IAML		21 30 16.5	
	comp=N,5μm,0.2s						
CROK				IAML		21 30 16.8	
	comp=E,7μm,0.2s						
KAN17	**Caldwell West**	**0.38**	**40**	Pg	**Pg**	**21 30 12.3**	**-0.5**
KAN17				Sg	**Sg**	**21 30 17.5**	**-0.3**
KAN17				IAML		21 30 17.8	
	comp=E,3μm,0.4s						
KAN17				IAML		21 30 17.9	
	comp=N,2μm,0.3s						
KAN01	**Argonia South**	**0.47**	**32**	Pg	**Pg**	**21 30 14.1**	**-0.5**
KAN01				Sg	**Sg**	**21 30 20.5**	**-0.2**
KAN01				IAML		21 30 20.7	
	comp=E,1μm,0.5s						
KAN08	**Anthony NE Sta**	**0.48**	**9**	Pg	**Pg**	**21 30 14.3**	**-0.4**
KAN08				Sg	**Sg**	**21 30 21.1**	**+0.1**
KAN06	**Argonia West S**	**0.52**	**19**	Pg	**Pg**	**21 30 14.9**	**-0.6**
KAN06				Sg	**Sg**	**21 30 21.7**	**-0.6**
KAN06				IAML		21 30 22.4	
	comp=E,909nm,0.7s						
OK035	**E0210 Rd and N**	**0.52**	**265**	Pg	**Pg**	**21 30 15.1**	**-0.4**
OK035				Sg	**Sg**	**21 30 22.6**	**+0.3**
KAN09	**Caldwell North**	**0.52**	**43**	Pg	**Pg**	**21 30 15.0**	**-0.6**
KAN09				Sg	**Sg**	**21 30 21.9**	**-0.6**
KAN09				IAML		21 30 22.4	
	comp=N,2μm,0.4s						
KAN09				IAML		21 30 28.0	
	comp=E,3μm,0.3s						
KAN13	**South Haven SW**	**0.54**	**61**	Pg	**Pg**	**21 30 15.2**	**-0.6**
KAN13				Sg	**Sg**	**21 30 22.0**	**-0.8**
KAN13				IAML		21 30 22.9	
	comp=N,2μm,0.4s						
KAN13				IAML		21 30 34.3	
	comp=E,1μm,0.3s						
KAN12	**Harper NE Stat**	**0.54**	**6**	Pg	**Pg**	**21 30 15.5**	**-0.4**
KAN12				Sg	**Sg**	**21 30 23.0**	**-0.1**
KAN12				IAML		21 30 30.2	
	comp=E,1μm,0.4s						
KAN12				IAML		21 30 30.4	
	comp=N,1μm,0.3s						
OK038	**West end E0370**	**0.61**	**243**	Pg	**Pg**	**21 30 16.6**	**-0.6**
OK038				Sg	**Sg**	**21 30 25.5**	**+0.3**
OK038				IAML		21 30 35.1	
	comp=N,2μm,0.4s						
OK038				IAML		21 30 35.8	
	comp=N,2μm,0.4s						
KS21	**Milan North St**	**0.62**	**31**	Pg	**Pg**	**21 30 16.8**	**-0.6**
KS21				Sg	**Sg**	**21 30 25.1**	**-0.4**
KS21	**Milan North St**	**0.62**	**31**	IAML		21 30 25.6	
	comp=N,507nm,0.5s						
KS21				IAML		21 30 25.7	
	comp=N,585nm,0.4s						
KS20	**Mayfield South**	**0.63**	**41**	Pg	**Pg**	**21 30 16.9**	**-0.6**
KS20				Sg	**Sg**	**21 30 25.1**	**-0.6**
KS20				IAML		21 30 25.6	
	comp=N,894nm,0.5s						
BLOK	**Blackwell**	**0.68**	**89**	Pg	**Pg**	**21 30 17.9**	**-0.7**
BLOK				Sg	**Sg**	**21 30 27.1**	**-0.4**
BLOK				IAML		21 30 29.0	
	comp=E,2μm,0.2s						
BLOK				IAML		21 30 32.7	
	comp=N,1μm,0.2s						
NOKA	**Waynoka**	**0.71**	**260**	Pg	**Pg**	**21 30 18.4**	**-0.6**
NOKA				Sg	**Sg**	**21 30 28.2**	**0.0**
U32A	**Winter Ranch,**	**0.84**	**244**	Pg	**Pg**	**21 30 20.6**	**-0.9**
U32A	**Winter Ranch,**	**0.84**	**244**	P	**Pg**	**21 30 20.9**	**-0.7**
	baz=63						
U32A				S	**Sg**	**21 30 32.6**	**+0.1**
	baz=63						
OK050	**Pawnee Station**	**0.94**	**112**	Pg	**Pg**	**21 30 22.4**	**-1.1**
OK050				IAML		21 30 35.4	
	comp=N,982nm,0.2s						
OK050				IAML		21 30 39.7	
	comp=N,1μm,0.4s						
OK048	**Pawnee Station**	**0.96**	**110**	Pg	**Pg**	**21 30 22.8**	**-1.1**
OK048				IAML		21 30 38.3	
	comp=N,665nm,0.5s						
OK048				IAML		21 30 44.0	
	comp=N,563nm,0.2s						
OK045	**Pawnee Station**	**0.97**	**108**	Pg	**Pg**	**21 30 22.9**	**-1.1**
OK046	**Pawnee Station**	**1.00**	**111**	Pg	**Pg**	**21 30 23.3**	**-1.3**
OK046				IAML		21 30 41.6	
	comp=N,964nm,0.1s						
OK046				IAML		21 30 42.6	
	comp=N,1μm,0.3s						
OK029	**Li

X34A	Smith Ranch, M	2.16	175	Pn	Pn	21 30 42.8	+1.2
X34A				lAmb_Lg		21 31 16.7	
	comp=Z,99nm,0.8s						
CBKS	Cedar Bluff	2.44	328	Pn	Pn	21 30 46.4	+0.9
CBKS	Cedar Bluff	2.44	328	P	Pn	21 30 45.6	0.0
	baz=147						
CBKS				S	Sn	21 31 16.4	+0.8
	baz=147						
RLO	Rose Lookout	2.52	103	Pn	Pn	21 30 46.8	+0.1
KSU1	Kansas State U	2.61	26	lAmb_Lg		21 31 30.8	
	comp=Z,86nm,1.1s						
KSU1	Kansas State U	2.61	26	P	Pn	21 30 47.7	-0.1
	baz=207						
KSU1				S	Sn	21 31 19.8	+0.2
	baz=207						
LOOK	Love County	2.85	165	Pn	Pn	21 30 51.2	+0.1
U38A	Gravette	2.98	95	Pn	Pn	21 30 52.6	-0.3
U38A				lAmb_Lg		21 31 42.3	
	comp=Z,54nm,0.9s						
U38A	Gravette	2.98	95	P	Pn	21 30 53.0	+0.1
	baz=277						
X37A	Clayton	3.08	134	Pn	Pn	21 30 54.0	-0.2
X37A				lAmb_Lg		21 31 49.3	
	comp=Z,66nm,0.8s						
X37A	Clayton	3.08	134	P	Pn	21 30 54.0	-0.2
	baz=316						
HHAR	Hobbs	3.36	97	Pn	Pn	21 30 58.3	+0.2
HHAR				lAmb_Lg		21 31 50.3	
	comp=Z,42nm,0.7s						
HHAR	Hobbs	3.36	97	P	Pn	21 30 57.9	-0.2
	baz=280						
AMTX	Amarillo	3.48	239	lAmb_Lg		21 32 02.4	
	comp=Z,33nm,0.8s						
FW03	Perrin-Whitt E	3.71	180	lAmb_Lg		21 32 11.7	
	comp=Z,20nm,0.7s						
FW06	Azle	3.80	174	lAmb_Lg		21 32 11.3	
	comp=Z,28nm,0.7s						
S39A	Bolivar	3.90	75	Pn	Pn	21 31 05.6	+0.1
S39A				lAmb_Lg		21 32 10.5	
	comp=Z,42nm,0.8s						
KSCO	Kaye Shedlock'	4.25	303	lAmb_Lg		21 32 24.0	
	comp=Z,35nm,0.7s						
MIAR	Mount Ida	4.27	120	Pn	Pn	21 31 10.9	+0.3
MIAR				lAmb_Lg		21 32 29.5	
	comp=Z,46nm,0.7s						
Z38A	Mt. Pleasant	4.31	143	Pn	Pn	21 31 10.8	-0.3
Z38A				lAmb_Lg		21 32 26.0	
	comp=Z,48nm,0.7s						
P38A	Dawn	4.58	50	lAmb_Lg		21 32 39.3	
	comp=Z,42nm,0.8s						
BGNE	Belgrade	4.65	359	Pn	Pn	21 31 15.4	-0.4
BGNE				lAmb_Lg		21 32 41.5	
	comp=Z,31nm,0.8s						
MGMO	Mountain Grove	4.66	83	Pn	Pn	21 31 16.3	+0.3
MGMO				lAmb_Lg		21 32 36.3	
	comp=Z,34nm,0.8s						
MSTX	Muleshoe	4.75	236	Pn	Pn	21 31 18.4	+1.2
WHTX	Lake Whitney,	4.78	174	Pn	Pn	21 31 17.6	0.0
X40A	Basin Creek Fa	4.83	116	Pn	Pn	21 31 18.7	+0.5
R40A	Maddies Statio	4.86	70	Pn	Pn	21 31 17.7	-1.0
R40A				lAmb_Lg		21 32 44.4	
	comp=Z,34nm,0.8s						
FCAR	Ozark Folk Cen	4.88	98	Pn	Pn	21 31 19.0	+0.1
FCAR				lAmb_Lg		21 32 47.4	
	comp=Z,23nm,0.8s						
WHAR	Wooly Hollow	4.91	106	Pn	Pn	21 31 19.3	-0.1
WHAR				lAmb_Lg		21 32 50.5	
	comp=Z,42nm,0.8s						
UALR	University of	5.05	111	lAmb_Lg		21 32 55.1	
	comp=Z,42nm,0.8s						
WLAR	White Oak Lake	5.08	126	lAmb_Lg		21 32 55.3	
	comp=Z,39nm,0.9s						
T25A	Trinidad	5.10	276	Pg	Pg	21 31 39.8	-3.2
T25A				lAmb_Lg		21 32 50.0	
	comp=Z,40nm,0.9s						
OGNE	Ogallala	5.20	325	Pn	Pn	21 31 24.2	+0.7
P40A	Paris	5.49	58	lAmb_Lg		21 33 06.1	
	comp=Z,32nm,0.8s						
N38A	Joes South For	5.52	42	Pn	Pn	21 31 25.9	-1.9
CCM	Cathedral Cave	5.58	75	Pg	Pb	21 31 46.2	+3.2
CCM	Cathedral Cave	5.58	75	lAmb_Lg		21 33 05.9	
	comp=Z,38nm,1.1s						
LCAR	Lake Charles	5.62	95	Pn	Pn	21 31 29.7	+0.6
NATX	Nacogdoches	5.72	150	lAmb_Lg		21 33 19.5	
	comp=Z,20nm,0.8s						
K31A	O'Neill	5.88	355	lAmb_Lg		21 33 15.9	
	comp=Z,36nm,0.8s						
435B	Jarrell	5.97	176	lAmb_Lg		21 33 22.3	
	comp=Z,26nm,0.8s						
Q24A	Divide	6.02	294	lAmb_Lg		21 33 16.7	
	comp=Z,19nm,0.8s						
PBMO	Poplar Bluff	6.13	88	lAmb_Lg		21 33 28.2	
	comp=Z,28nm,0.7s						
BRIGG	Briggsdale	6.21	310	lAmb_Lg		21 33 28.9	
	comp=Z,27nm,0.9s						
CGM3	Cape Girardeau	6.75	83	lAmb_Lg		21 33 37.7	
	comp=Z,26nm,0.8s						
143A	Socs Landing,	6.81	124	lAmb_Lg		21 33 47.3	
	comp=Z,26nm,0.8s						
ECSD	EROS Data Cent	7.06	9		Pg	21 32 14.9	-5.6
S44A	Carbondale	7.09	80	lAmb_Lg		21 33 49.3	
	comp=Z,25nm,0.9s						
SIUC	Southern Illin	7.12	80	lAmb_Lg		21 33 50.2	
	comp=Z,20nm,0.8s						
PHWY	Pilot Hill	7.33	311	lAmb_Lg		21 34 10.9	
	comp=Z,13nm,0.8s						
OXF	Oxford	7.39	105	lAmb_Lg		21 34 04.5	
	comp=Z,26nm,1.0s						
N23A	Red Feather La	7.41	306		Pg	21 32 23.3	-3.9
L40A	Anamosa	7.49	43	lAmb_Lg		21 34 06.7	
	comp=Z,25nm,0.9s						
T45A	Paducah	7.55	85	lAmb_Lg		21 34 03.4	
	comp=Z,24nm,0.7s						
MNTX	Cornudas Mount	7.88	232	lAmb_Lg		21 34 28.7	
	comp=Z,11nm,0.9s						
O44A	Mansfield	8.26	63	lAmb_Lg		21 34 40.1	
	comp=Z,22nm,0.7s						
JFWS	Jewell Farm	8.60	42	lAmb_Lg		21 34 54.5	
	comp=Z,21nm,0.8s						

MAN 19 21:53:07.9,20°.13N×121°.16E,h10km,mb4.6,ML3.5, MS3.4,2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Gonzaga	2.05	156	eP	Pn	21 53 43.4	+0.9
SAMP	Sagada Mountai	3.04	185	eP	Pn	21 53 57.6	+1.5
WRA	Warramunga Arr	41.86	161	P	P	22 00 56.0	-2.4
	0.3nm,0.6s,baz=341,slow=9.0,SNR=4.7 0.3nm,0.6s						
ASAR	Alice Springs	45.27	163	P	P	22 01 24.9	-0.9
	0.2nm,0.4s,baz=338,slow=6.6,SNR=4.1 0.2nm,0.4s						

IDC ***19*** *22:06:49.8±2.0,31°.70N×139°.88E,h0km,mb3.6/3, mbtmp3.6/4,ML2.6/1,MS2.7/1, Error ellipse: s-maj=64.5km s-min=23.3km az=86.0*

JMA ***19*** *22:06:53.5±0.3,32°.3N±0°.6×14°.1E±°,h37km,MV3.4/17,E OFF HACHIJOJIMA ISLAND*

ISC 19 22:06:52.2±1.2,32°.10N±0°.08×141°.0E±0°.1,h35km,n14, σ1s99/16,mb3.9/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.07	290	P	Pn	22 07 12.9	+2.1
JHCJ	Hachijojimakas	1.38	315	P	Pn	22 07 16.2	+1.3
JHCJ				S	Sn	22 07 32.8	+0.8
JHJ2	Mitsune	1.40	317	P	Pn	22 07 16.3	+1.1
JHJ	Hachijo jima 2	1.42	316	Pn	Pn	22 07 16.3	+0.8
	44nm,0.3s,baz=115,slow=22,SNR=53						
JHJ				Sn	Sn	22 07 29.1	-3.9
	79nm,0.3s,baz=266,slow=24,SNR=8.6						
JMKN	Mikurajimanish	2.13	328	P	Pn	22 07 26.3	+1.1
JOD2	Odawara 2	3.52	334	P	Pn	22 07 45.7	+1.3
JIE	Ise	4.23	304	P	Pn	22 07 56.8	+2.7
JRY	Ryogami san	4.27	337	eP	Pn	22 07 56.7	+2.0
MJAR	Matsushiro Arr	4.98	334	Pn	Pn	22 08 07.6	+3.1
	0.2nm,0.3s,baz=160,slow=13,SNR=8.8						
MJAR				Sn	Sn	22 09 01.3	+0.4
	baz=180,slow=16 2.3nm,0.3s						
JCJ	Chichijima	5.10	168	Sn	Sn	22 09 03.7	0.0
	4.1nm,0.3s,baz=285,slow=21,SNR=1.6						
PETK	Petropavlovsk-	24.23	25	LR	LR	22 24 34.6	
	comp=Z,18nm,19.1s,baz=68,slow=43						
MKAR	Makanchi Array	46.57	306	P	P	22 15 15.8	-0.7
	0.7nm,0.4s,baz=87,slow=9.5,SNR=21 0.7nm,0.4s						
KURBB	Kurchatov Arra	48.86	311	P	P	22 15 32.6	-1.5
	0.6nm,0.5s,baz=78,slow=6.2,SNR=4.3 0.6nm,0.5s						
WRA	Warramunga Arr	52.13	188	P	P	22 15 58.1	-1.1
	0.1nm,0.3s,baz=2.0,slow=7.7,SNR=5.5 0.1nm,0.3s						

BJI ***19*** *22:54:54.0±0.0,8°.20S×119°.80E,h177km,mb4.7/48, mB4.8/20*

DJA ***19*** *22:54:55.9±0.1,8°.2S×12°.0E±°,h174km±2km,M4.8/66, mb4.9/66,mB5.3/31,MLv5.3/22,Mw(mB)4.8/31, MwMwp5.0/1,Mwp5.3/1*

NEIC ***19*** *22:54:56.1±2.0,8°.15S±0°.07×119°.74E±0°.07,h180km±5km, mb4.9/88,Error ellipse: s-maj=10.7km s-min=8.3km az=222.0*

IDC ***19*** *22:54:57.3±0.8,8°.01S×119°.77E,h198km±6km,mb4.2/26, mbtmp4.8/30,Error ellipse: s-maj=11.8km s-min=6.7km az=62.0*

ISC 19 22:54:55.7±0.4,8°.17S±0°.04×119°.77E±0°.04,h183km±3km, h183km:pP-P,n335,σ1s22/367,mb4.8/74,2C-3D,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.07	252	P	Pn	22 55 34.3	+0.6
PLAI	Plampang	2.07	252	P	Pn	22 55 33.3	-0.4
PLAI				S	Sn	22 56 02.0	-1.3
BSSI	Bau Bau, Buton	2.14	20	P	Pn	22 55 34.9	+0.4
BASI	Baing, Sumba	2.19	159	P	Pn	22 55 34.3	-0.7
BASI				S	Sn	22 56 03.4	-2.2
MMRI	Maumere	2.49	101	Pn	Pn	22 55 38.4	0.0
MMRI	Maumere	2.49	101	P	Pn	22 55 39.0	+0.6
MMRI	Maumere	2.49	101	P	Pn	22 55 38.7	+0.3
BKSI	Bulukumba	2.85	7	P	Pn	22 55 43.8	+1.1
TWSI	Taliwang, Sumb	2.91	259	P	Pn	22 55 43.7	+0.4
KAPI	Kappang	3.14	360	P	Pn	22 55 47.4	+1.3
	200nm,0.5s,baz=177,slow=7.5,SNR=153						
KAPI				S	Sn	22 56 26.3	+0.7
	271nm,0.8s,baz=4.9,slow=23,SNR=14						
KAPI	Kappang	3.14	360		Pn	22 55 46.9	+0.7
SPSI	Sidrap Palu	4.18	0	P	Pn	22 56 01.2	+2.0
BATI	Baumata	4.35	118	P	Pn	22 56 01.4	+0.1
	1µm,0.5s,baz=314,slow=1.9,SNR=157						
BATI				S	Sn	22 56 50.8	-2.0
	709nm,0.4s,baz=98,slow=13,SNR=5.8						
BATI	Baumata	4.35	118	P	Pn	22 56 01.4	+0.1
SRBI	Singaraja	4.51	271	P	Pn	22 56 04.0	+0.6
IGBI	Denpasar	4.61	262	P	Pn	22 56 03.7	-1.0
SOEI	Soe	4.72	110	Pn	Pn	22 56 06.2	+0.1
SOEI	Soe	4.72	110	P	Pn	22 56 06.4	+0.2
SOEI	Soe	4.72	110	P	Pn	22 56 06.3	+0.1
ABJI	Asem Bagus	5.49	274	P	Pn	22 56 16.4	+0.3
	324nm,1.1s,4µm1.5nm						
JAGI	Jajag, Banyuwa	5.56	267	Pn	Pn	22 56 15.6	-1.4
JAGI	Jajag, Banyuwa	5.56	267	P	Pn	22 56 16.0	-1.0
JAGI	Jajag, Banyuwa	5.56	267	P	Pn	22 56 15.7	-1.3
	308nm,0.6s,5µm2.9nm						
BLJI	Banyuglugur	6.13	274	P	Pn	22 56 24.6	+0.2
	682nm,0.5s,9µm2.5nm						
BBKI	Banjar Baru	6.77	313	P	Pn	22 56 33.9	+1.0
	146nm,1.0s,10µm1.5nm						
GRJI	Gresik	7.33	279	P	Pn	22 56 40.6	+0.4
	1µm,0.9s,10µm4.1nm						
BKB	Balikpapan	7.44	337	Pn	Pn	22 56 47.1	+5.5
BKB	Balikpapan	7.44	337	P	Pn	22 56 44.8	+3.2
	112nm,0.8s,1µm0.5nm						
LUWI	Luwuk	7.69	23	Pn	Pn	22 56 45.6	+0.7
LUWI	Luwuk	7.69	23	P	Pn	22 56 47.2	+2.3
	160nm,1.3s,2µm0.6nm						
PWJI	Pagerwojo	7.88	271	P	Pn	22 56 47.1	-0.4
	187nm,0.5s,5µm1.3nm						
NGJI	Ngawi	8.27	275	P	Pn	22 56 53.0	+0.5
	153nm,0.5s						
MPSI	Mapaga	8.46	1	P	Pn	22 56 56.7	+1.7
	14nm,1.1s						
SANI	Sanana	8.68	46	P	Pn	22 56 59.7	+1.7
	162nm,1.2s,2µm						
NLAI	Namlea	8.79	57	P	Pn	22 57 00.8	+1.4
	41nm,1.0s						
MRSI	Marisa	8.86	14	P	Pn	22 57 00.3	0.0
	125nm,1.2s,2µm						
UGM	Wanagama	9.16	271	Pn	Pn	22 57 03.8	-0.5
UGM	Wanagama	9.16	271	P	Pn	22 57 04.1	-0.1
UGM	Wanagama	9.16	271	P	Pn	22 57 04.1	-0.1
	356nm,1.2s						
TOLI2	Tolitoli	9.28	6	Pn	Pn	22 57 04.7	-1.1
TOLI2	Tolitoli	9.28	6	P	Pn	22 57 08.5	+2.7
SMRI	Semarang	9.31	276		Pn	22 57 06.3	+0.1
SMRI	Semarang	9.31	276	P	Pn	22 57 08.8	+2.6
SMRI	Semarang	9.31	276	P	Pn	22 57 06.6	+0.4
	1µm,0.9s,13µm						
GTOI	Gorontalo	9.33	20	P	Pn	22 57 09.7	+3.2
	76nm,1.1s,782nm						
AAI	Ambon	9.49	62	P	Pn	22 57 09.8	+1.2
	152nm,0.6s,2µm						
MSAI	Masohi	10.30	63	P	Pn	22 57 20.2	+1.1
	23nm,0.8s,674nm						
BNDI	Bandanaira	10.71	71	P	P	22 57 34.0	+2.0
KPJI	Karang Pucung	10.77	274	P	Pn	22 57 24.3	-0.9
	152nm,0.6s						
CMJI	Cimerak	11.21	271	P	Pn	22 57 27.5	-3.5
FITZ	Fitzroy Crossi	11.40	150		Pn	22 57 32.5	-0.8
FITZ	Fitzroy Crossi	11.40	150	P	Pn	22 57 33.0	-0.4
SAUI	Saumlaki	11.42	90	Pn	Pn	22 57 33.1	-0.6
SAUI	Saumlaki	11.42	90	P	Pn	22 57 33.8	+0.1
SAUI	Saumlaki	11.42	90	P	Pn	22 57 33.5	-0.2
	404nm,0.7s,6µm						
KNRA	Kununurra	11.53	131	P	Pn	22 57 33.3	-1.8
	baz=12,SNR=137						
KNRA	Kununurra	11.53	131	Pn	Pn	22 57 33.3	-1.8
KNRA	Kununurra	11.53	131	P	Pn	22 57 33.6	-1.5
TNTI	Ternate	11.68	41	Pn	Pn	22 57 37.7	+0.8
TNTI	Ternate	11.68	41	P	Pn	22 57 38.7	+1.7
	115nm,1.2s,1µm						
BBJI	Bungbulang	12.02	273	P	Pn	22 57 40.1	-1.4
MTN	Manton Dam	12.10	114	P	Pn	22 57 41.0	-1.4
	baz=12,SNR=705						
MTN	Manton Dam	12.10	114	Pn	Pn	22 57 41.4	-1.0
MTN	Manton Dam	12.10	114	P	Pn	22 57 41.6	-0.8
LEM	Lembang	12.12	276	P	Pn	22 57 43.4	+0.6
	122nm,0.7s,baz=60,slow=11,SNR=23						
CNJI	Cibinong	12.55	273	P	Pn	22 57 45.9	-2.2
	69nm,0.6s,983nm						
MBWA	Marble Bar	12.91	180	P	Pn	22 57 52.2	-0.4
MBWA	Marble Bar	12.91	180		Pn	22 57 51.7	-0.9
MBWA	Marble Bar	12.91	180	P	Pn	22 57 52.5	-0.1
SBUM	Sibu	12.96	324		Pn	22 57 52.8	-0.6
SGSI	Sangihe	13.11	26	P	Pn	22 57 57.0	+1.8
KDU	Kakadu	13.28	111	P	Pn	22 57 55.8	-1.4
	baz=13,SNR=149						
KDU	Kakadu	13.28	111	P	Pn	22 57 55.9	-1.4
PSA00	Pilbara Seismi	13.32	180	Pn	Pn	22 57 57.2	-0.6
PSA00	Pilbara Seismi	13.32	180		Pn	22 57 55.5	-2.3
PSA00	Pilbara Seismi	13.32	180	P	Pn	22 57 57.4	-0.4
MYLDM	Lahad Datu	13.32	355		Pn	22 57 57.8	-0.1
FAKI	Fak Fak	13.47	68	Pn	Pn	22 57 58.6	-1.2
FAKI	Fak Fak	13.47	68	P	Pn	22 57 59.0	-0.8
FAKI	Fak Fak	13.47	68	P	Pn	22 57 58.7	-1.1
	151nm,0.9s,2µm						
SIJI	Sorong	13.56	58	P	Pn	22 58 01.1	+0.2
	165nm,0.8s,baz=230,slow=7.4,SNR=27						
SIJI				S	Sn	23 00 31.8	-0.2
	18nm,0.8s,baz=281,slow=23,SNR=2.0						
CGJI	Cibinong	14.04	275	P	Pn	22 58 06.5	-0.4
	206nm,0.5s,3µm						
XMI	Christmas Isla	14.07	260	P	Pn	22 58 05.9	-1.4
KKM	Kota Kinabalu	14.56	346	P	Pn	22 58 13.1	-0.3
KKM	Kota Kinabalu	14.56	346	P	P	22 58 16.0	+1.0
GIRL	Giralia	15.34	200	P	P	22 58 26.0	+2.5
	baz=15,SNR=7.2						
GIRL	Giralia	15.34	200	Pn	Pn	22 58 21.0	-1.8
GIRL	Giralia	15.34	200	P	P	22 58 25.7	+2.3
KASI	Kota Agung	15.39	279	P	P	22 58 24.6	+0.6
	110nm,0.5s						
RKPI	Ransiki, Papua	15.80	66	P	Pn	22 58 28.5	-0.1
	167nm,0.6s,9µm						
LWLI	Liwa	15.91	280	P	Pn	22 58 30.8	+0.8
	156nm,0.5s,19µm						
MDSI	Maura Dua	15.92	282	P	Pn	22 58 30.2	+0.3
	63nm,1.0s						
DAV	Davao City (W)	16.21	21	P	Pn	22 58 34.5	+1.0
	81nm,0.3s,baz=111,slow=4.1,SNR=4.6						
MNAI	Manna	17.13	282	P	P	22 58 43.3	0.0
MNAI	Manna	17.13	282	P	Pn	22 58 44.7	+0.2
MNAI	Manna	17.13	282	P	Pn	22 58 44.4	-0.1
	228nm,0.6s						
MASI	Maura Aman, Be	18.14	285	P	P	22 58 55.4	+1.1
	46nm,1.1s						
WB0	Warramunga Arr	18.27	131	P	P	22 58 55.7	+0.1
WRA	Warramunga Arr	18.33	131	P	P	22 58 56.4	+0.1
	26nm,0.5s,baz=303,slow=12,SNR=372						
WRA				S	S	23 02 13.4	-3.1
	16nm,1.0s,baz=305,slow=23,SNR=9.2						
WRA				ScP	ScP	23 06 36.1	-2.1
	2.1nm,0.7s,baz=322,slow=1.2,SNR=2.8						
WRAB	Tennant Creek	18.33	131	P	P	22 58 56.7	+0.3
WRAB	Tennant Creek	18.33	131	P	P	22 58 56.9	+0.5
WB2	Warramunga Arr	18.34	131	P	P	22 58 56.7	+0.2
MEEK	Meekatharra	18.40	183	P	Pn	22 58 58.6	-0.7
	baz=18,SNR=83						
MEEK	Meekatharra	18.40	183	P	Pn	22 58 58.9	-0.4
WRKA	Warakurna	18.64	155	P	Pn	22 59 01.1	-1.1
	baz=19,SNR=400						
WRKA	Warakurna	18.64	155	P	Pn	22 59 01.6	-0.6
MYKOM	Kota Tinggi	18.70	301		Pn	22 59 02.1	-0.9
ASAR	Alice Springs	20.52	140	P	P	22 59 20.4	+0.5
	13nm,0.3s,baz=320,slow=11,SNR=323						
ASAR				S	S	23 02 57.2	-2.2
	19nm,0.7s,baz=324,slow=22,SNR=12						
ASAR				ScP	ScP	23 06 40.8	-2.4
	5.7nm,0.7s,baz=337,slow=1.8,SNR=5.9 13nm,0.3s						
ASAR	Alice Springs	20.52	140	P	P	22 59 20.1	+0.2
AS01	Alice Springs	20.55	140	P	P	22 59 20.8	+0.6
GENI	Genyem	21.05	76	P	P	22 59 24.2	-1.4
MORW	Morawa	21.08	189	P	P	22 59 26.6	+0.8
	baz=21,SNR=8.0						
MORW	Morawa	21.08	189	P	P	22 59 26.1	+0.3
MORW	Morawa	21.08	189	P	P	22 59 26.8	+1.0
BLDU	Ballidu	22.51	187	P	P	22 59 40.7	+0.6
	baz=22,SNR=51						
BLDU	Ballidu	22.51	187	P	P	22 59 40.4	+0.3
IPM	Ipoh	22.52	303	P	P	22 59 40.9	+0.4
IPM	Ipoh	22.52	303	P	P	22 59 42.3	+1.9
QIS	Mount Isa	22.79	125	P	P	22 59 43.5	+0.8
	baz=23,SNR=71						
QIS	Mount Isa	22.79	125	P	P	22 59 43.6	+0.8
KMBL	Kambalda	23.16	175	P	P	22 59 46.7	+0.7
	baz=23,SNR=35						
KMBL	Kambalda	23.16	175	P	P	22 59 46.7	+0.7
KULM	Kulim	23.29	304	P	P	22 59 48.2	+0.9
KULM				lAmb	lAmb	23 00 00.9	
	comp=Z,24nm,1.1s						
KLBR	Kellerberrin	23.38	184	P	P	22 59 49.0	+1.1
	baz=23,SNR=16						
KLBR	Kellerberrin	23.38	184	P	P	22 59 49.0	+1.1
RPSI	Rantau Prapat	23.42	297	P	P	22 59 48.5	-0.1
PSI	Prapat	23.47	297	P	P	22 59 48.2	-0.9
	comp=Z,10nm,0.4s,baz=143,slow=6.6,SNR=9.8 comp=Z,10nm,0.4s						
PSI	Prapat	23.47	297	P	P	22 59 48.6	-0.5
COEN	Coen	23.67	106	P	P	22 59 50.9	+0.1
	baz=24,SNR=42						
COEN	Coen	23.67	106	P	P	22 59 50.7	-0.1
COEN	Coen	23.67	106	P	P	22 59 50.6	-0.2
FORT	Forrest	23.79	162	P	P	22 59 52.9	+1.2
	baz=24,SNR=45						
FORT	Forrest	23.79	162	P	P	22 59 52.3	+0.6
FORT	Forrest	23.79	162	P	P	22 59 52.7	+1.0
MUN	Mundaring	23.92	187	P	P	22 59 53.1	+0.3
	baz=24,SNR=4.4						
MUN	Mundaring	23.92	187	P	P	22 59 53.8	+1.0
MTKN	Mount Kenneth	23.93	188	P	P	22 59 54.6	+1.6
GSI	Gunungsitoli	24.04	292	lAmb	lAmb	22 59 58.0	
	comp=Z,18nm,0.5s						
GSI	Gunungsitoli	24.04	292	P	P	22 59 57.2	+3.0
OOD	Oodnadatta	24.65	144	P	P	23 00 00.4	+0.9
NWAO	Narrogin (SRO)	24.75	185	P	P	23 00 01.9	+1.5
	comp=Z,35nm,0.9s comp=Z,35nm,0.9s						
NWAO	Narrogin (SRO)	24.75	185	P	P	23 00 02.0	+1.7
	baz=25,SNR=9.7						
NWAO				P	P	23 00 02.0	+1.7
	baz=25,SNR=9.7						
NWAO	Narrogin (SRO)	24.75	185	P	P	23 00 01.1	+0.8
NWAO				lAmb	lAmb	23 00 03.8	
	comp=Z,48nm,1.1s						
NWAO	Narrogin (SRO)	24.75	185	P	P	23 00 01.3	+1.0
NWAO				lAmb	lAmb	23 00 03.2	
	comp=Z,161nm,1.9s						
NWAO	Narrogin (SRO)	24.75	185	P	P	23 00 02.2	+1.9
MULG	Mulgathing	25.75	151	P	P	23 00 10.3	+0.8
MTSU	Mount Surprise	25.84	115	P	P	23 00 11.5	+1.0
RKGY	Rocky Gully	26.44	185	P	P	23 00 17.2	+1.7
	baz=26,SNR=7.4						
INKA	Innaminka	27.79	137	P	P	23 00 29.0	+1.3
LCRK	Leigh Creek	28.09	145	P	P	23 00 31.4	+1.0
CTA	Charters Tower	28.23	118	P	P	23 00 32.9	+1.1
	comp=Z,4.1nm,0.7s,baz=280,slow=11,SNR=11						
CTA				PcP	PcP	23 03 40.7	0.0
	comp=Z,11nm,0.8s,baz=283,slow=4.3,SNR=8.8 comp=Z,4.1nm,0.7s						
CTAO	Charters Tower	28.23	118	P	P	23 00 32.6	+0.9
CTAO				lAmb	lAmb	23 00 33.8	
	comp=Z,42nm,1.9s						
CTAO					PcP	23 03 41.0	+0.3
BBOO	Buckleboo	28.79	151	P	P	23 00 37.4	+0.9
	baz=29,SNR=91						
BBOO	Buckleboo	28.79	151	P	P	23 00 37.0	+0.4
BBOO	Buckleboo	28.79	151	P	P

PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,100nm,3.7s
TNCH TengChong 38.96 328 ⇑P **P** **23 02 06.1 +1.8**
TNCH pP pP 23 02 44.1 +1.4
TNCH pmax pmax
comp=Z,20nm,0.9s
TNCH pmax pmax
comp=Z,160nm,4.2s
ENH Enshi 39.48 346 P **P** **23 02 08.2 -0.2**
ENH Enshi 39.48 346 P **P** **23 02 08.5 0.0**
NJ2 Nanjing 40.01 359 ⇑P **P** **23 02 13.8 +1.1**
NJ2 pmax pmax
comp=Z,22nm,0.7s
CD2 Chengdu 41.78 339 P **P** **23 02 27.3 0.0**
CD2 pmax pmax
comp=Z,30nm,0.6s
SHL Shillong 43.13 322 P **P** **23 02 37.9 -0.6**
SHL IAmb IAmb 23 02 39.2
comp=Z,24nm,1.0s
XAN Xi'an 43.22 347 P **P** **23 02 38.3 -0.5**
XAN pmax pmax
comp=Z,11nm,0.9s
XAN Xi'an 43.22 347 P **P** **23 02 38.4 -0.5**
KOUNC Koumac, New Ca 44.70 111 P **P** **23 02 51.1 +0.3**
KOUNC IAmb IAmb 23 02 52.6
comp=Z,21nm,0.7s
KSRS Korea Array 46.02 9 P **P** **23 02 58.9 -2.0**
comp=Z,3.6nm,0.9s,baz=187,slow=8.7,SNR=3.5
KSRS PcP **PcP** **23 04 33.1 -1.1**
comp=Z,3.8nm,0.7s,baz=188,slow=3.3,SNR=8.5
comp=Z,3.6nm,0.9s
LZH Lanzhou 46.50 342 *e*P **P** **23 03 06.4 +1.5**
LZH pP pP 23 03 45.6 +1.3
LZH sP sP 23 04 07.3 +3.1
LZH pmax pmax
comp=Z,20nm,1.2s
LSA Lhasa 46.65 325 P **P** **23 03 06.9 +0.5**
LSA IAmb IAmb 23 03 08.5
comp=Z,86nm,1.7s
LSA Lhasa 46.65 325 P **P** **23 03 07.6 +1.1**
NOUC Port Laguerre 46.81 113 P **P** **23 03 08.5 +1.1**
NOUC Port Laguerre 46.81 113 P **P** **23 03 08.3 +0.9**
DZM Mont Dzumac 46.94 113 P **P** **23 03 09.7 +1.2**
comp=Z,15nm,0.6s,baz=255,slow=9.9,SNR=36
comp=Z,15nm,0.6s
DZM Mont Dzumac 46.94 113 P **P** **23 03 09.7 +1.2**
DZM Mont Dzumac 46.94 113 P **P** **23 03 09.8 +1.4**
DZM Mont Dzumac 46.94 113 P **P** **23 03 09.6 +1.2**
OUENC Ouen Island, N 47.36 113 P **P** **23 03 13.3 +1.7**
OUENC IAmb IAmb 23 03 14.2
comp=Z,41nm,1.1s
OUENC Ouen Island, N 47.36 113 P **P** **23 03 13.4 +1.8**
LIFNC LIFOU 47.47 111 P **P** **23 03 12.7 +0.2**
LIFNC IAmb IAmb 23 03 13.5
comp=Z,44nm,0.7s
MJAR Matsushiro Ari 47.73 20 P **P** **23 03 11.5 -2.7**
comp=Z,4.7nm,0.8s,baz=188,slow=7.5,SNR=10
MJAR PcP **PcP** **23 04 39.8 -0.6**
comp=Z,1.3nm,0.7s,baz=184,slow=4.2,SNR=5.0
comp=Z,4.7nm,0.8s
PINNC Pines Island, 47.94 113 P **P** **23 03 16.8 +0.7**
PINNC IAmb IAmb 23 03 18.7
comp=Z,42nm,0.6s
BJT Baijiatuan 48.06 356 P **P** **23 03 16.1 -0.5**
BJT Baijiatuan 48.06 356 P **P** **23 03 15.6 -1.0**
MARNC Mare, Loyalty 48.30 111 P **P** **23 03 20.3 +1.4**
MARNC Mare, Loyalty 48.30 111 P **P** **23 03 20.8 +2.0**
JSD Sado 49.10 19 P **P** **23 03 22.9 -1.6**
JSD IAmb IAmb 23 03 51.0
comp=Z,74nm,1.5s
HHC Hu-ho-hao-te 49.36 352 *e*P **P** **23 03 29.9 +3.3**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.6s
GOMU GeErMu 49.98 334 P **P** **23 03 31.3 -0.5**
GOMU pmax pmax
comp=Z,9.0nm,0.9s
GOMU pmax pmax
comp=Z,57nm,4.2s
GTA Gaotai 50.83 340 *e*P **P** **23 03 38.4 +0.6**
GTA pP pwP 23 04 22.9 +1.5
GTA PcP **PcP** **23 04 51.0 -0.8**
GTA pmax pmax
comp=Z,22nm,1.3s
XLT XiLinHaoTe 51.93 357 ⇓*i*P **P** **23 03 44.5 -1.3**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,110nm,6.7s
MDJ Mudanjiang 53.29 9 P **P** **23 03 56.9 +1.3**
MDJ IAmb IAmb 23 03 58.1
comp=Z,73nm,2.0s
MDJ Mudanjiang 53.29 9 P **P** **23 03 57.3 +1.7**
MDJ pP pP 23 04 36.8 +1.0
MDJ sP sP 23 04 56.4 +0.9
MDJ ScP **ScP** **23 08 42.3 +1.2**
MDJ PcS **PcS** **23 09 00.3 +0.5**
MDJ S **S** **23 11 17.3 +4.6**
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ pmax pmax
comp=Z,170nm,4.4s
MDJ Mudanjiang 53.29 9 P **P** **23 03 56.6 +1.1**
USA0B Ussuriysk Arra 53.29 11 P **P** **23 03 55.6 0.0**
USA0B IAmb IAmb 23 04 24.9
comp=Z,38nm,1.9s
USRK Ussuriysk Ar. 53.29 11 P **P** **23 03 54.7 -0.9**
comp=Z,3.9nm,0.6s,baz=182,slow=6.1,SNR=7.9
comp=Z,3.9nm,0.6s
USRK Ussuriysk Ar. 53.29 11 P **P** **23 03 55.3 -0.3**
JCZ Jackson Bay 55.54 139 P **P** **23 04 12.8 +0.7**
MLZ Mavora Lakes 55.67 140 P **P** **23 04 14.2 +1.3**
WHZ Wether Hill Ro 55.80 141 P **P** **23 04 15.0 +1.3**
WKZ Wanaka 56.01 139 P **P** **23 04 17.1 +1.7**
LBZ Lake Benmore 56.58 139 P **P** **23 04 20.0 +0.6**
RPZ Rata Peaks 56.89 138 P **P** **23 04 22.4 +0.8**
comp=Z,39nm,0.8s,baz=278,slow=1.8,SNR=10
RPZ PcP **PcP** **23 05 15.6 +0.7**
comp=Z,5.5nm,0.4s,baz=337,slow=24,SNR=1.3
comp=Z,39nm,0.8s
RPZ Rata Peaks 56.89 138 P **P** **23 04 22.9 +1.4**
RPZ Rata Peaks 56.89 138 P **P** **23 04 23.0 +1.4**
ULN Ulaanbaatar 56.92 350 P **P** **23 04 21.9 +0.2**
ULN Ulaanbaatar 56.92 350 P **P** **23 04 22.1 +0.4**
ULN pwP **pwP** **23 05 08.1 +0.9**
SONM Songino Array 57.01 349 P **P** **23 04 21.4 -0.9**
comp=Z,8.4nm,0.9s,baz=168,slow=7.7,SNR=31
SONM ScP **ScP** **23 08 55.2 -2.4**
comp=Z,0.6nm,0.8s,baz=165,slow=6.0,SNR=3.4
comp=Z,8.4nm,0.9s
SONM Songino Array 57.01 349 P **P** **23 04 22.2 -0.2**
ODZ Otahua Downs 57.15 139 P **P** **23 04 24.1 +0.7**
ODZ Otahua Downs 57.15 139 P **P** **23 04 24.6 +1.3**
MSVF Nonsavu 57.40 106 P **P** **23 04 26.2 +0.6**
comp=Z,7.6nm,0.6s,baz=268,slow=8.2,SNR=12
comp=Z,7.6nm,0.6s
MSVF Nonsavu 57.40 106 P **P** **23 04 26.7 +1.0**
MSVF IAmb IAmb 23 04 27.2
comp=Z,12nm,0.7s
MSVF Nonsavu 57.40 106 P **P** **23 04 26.5 +0.9**
OXZ Oxford 57.41 137 P **P** **23 04 26.1 +0.9**
THZ Tophouse 57.45 135 P **P** **23 04 27.4 +1.8**
NNZ Nelson 57.61 134 P **P** **23 04 27.9 +1.3**
AMCZ Amberley 57.77 136 P **P** **23 04 29.1 +1.4**
TCW Tory Channel 58.24 134 P **P** **23 04 31.9 +0.9**
HEH HeiHe 58.56 6 *e*P P 23 04 26.6 -6.3
HEH pmax pmax
comp=Z,8.0nm,1.3s
SNZO South Karori 58.58 134 P **P** **23 04 33.8 +0.4**
MRZ Mangatainoka R 59.01 133 P **P** **23 04 37.2 +0.8**
BKZ Black Stump Fm 59.27 131 P **P** **23 04 39.8 +1.6**
WMQ Urumqi 59.35 333 ⇓P **P** **23 04 38.9 +0.3**
WMQ PcP **PcP** **23 05 25.9 +1.3**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ Urumqi 59.35 333 P **P** **23 04 38.9 +0.3**
RTZ Ruatahuna 59.49 130 P **P** **23 04 40.9 +1.2**
RTZ IAmb IAmb 23 05 17.8
comp=Z,47nm,1.6s
URZ Urewera 59.50 130 P **P** **23 04 40.5 +0.8**
BFZ Birch Farm 59.51 133 P **P** **23 04 39.5 -0.2**

DRV Dumont d'Urvil 60.03 171 P **P** **23 04 44.0 +1.3**
DRV pP **pP** **23 05 23.8 -1.0**
NIL Nilore 60.63 316 P **P** **23 04 46.1 -1.4**
NIL Nilore 60.63 316 P **P** **23 04 46.4 -1.1**
WUS Wushi 61.64 326 P **P** **23 04 54.1 -0.2**
KSH Kashi 62.40 323 P **P** **23 04 59.3 0.0**
KSH pmax pmax
comp=Z,34nm,0.7s
TARG Taragay, Kyrgy 62.78 326 IAmb IAmb 23 05 10.3
comp=Z,7.6nm,0.7s
KBL Kabul 64.05 315 IAmb IAmb 23 05 09.9
comp=Z,18nm,1.2s
KBL P P **23 05 10.5 +0.1**
MK31 Makanchi Array 64.08 332 P **P** **23 05 10.0 -0.1**
MK31 IAmb IAmb 23 05 10.7
comp=Z,22nm,0.7s
MKAR Makanchi Array 64.08 332 P **P** **23 05 09.9 -0.2**
comp=Z,28nm,0.6s,baz=140,slow=7.7,SNR=393
comp=Z,28nm,0.6s
MKAR Makanchi Array 64.08 332 P **P** **23 05 10.0 0.0**
MAKZ Makanchi 64.23 332 P **P** **23 05 10.6 -0.5**
MAKZ IAmb IAmb 23 05 11.5
comp=Z,12nm,0.8s
MAKZ Makanchi 64.23 332 P **P** **23 05 10.5 -0.5**
MAKZ pP **pP** **23 05 50.1 -2.6**
TKM2 Tokmak 2 64.80 326 P **P** **23 05 14.6 -0.5**
SNR=9.3
UCH Uchtor 64.97 324 P **P** **23 05 16.3 -0.2**
SNR=6.8
KBK Karagaybulak 65.00 325 P **P** **23 05 16.2 -0.1**
SNR=9.6
AAK Ala-Archa 65.24 325 P **P** **23 05 17.3 -0.6**
SNR=14
AAK Ala-Archa 65.24 325 P **P** **23 05 17.6 -0.3**
AAK IAmb IAmb 23 05 18.6
comp=Z,10nm,0.7s
AAK Ala-Archa 65.24 325 P **P** **23 05 17.6 -0.3**
AML Almayashu 65.39 324 P **P** **23 05 18.6 -0.5**
SNR=20
GAR Garm 65.61 319 IAmb IAmb 23 05 21.2
comp=Z,40nm,1.0s
USP Ospenovka 65.64 325 P **P** **23 05 19.6 -0.7**
SNR=9.1
EKS2 Erkin-Say 65.67 324 P **P** **23 05 20.4 -0.2**
SNR=9.4
CHGR Chuyangaron 66.17 319 IAmb IAmb 23 05 23.5
comp=Z,34nm,1.1s
CCD Concordia, Ant 66.92 179 P **P** **23 05 30.7 +2.4**
CCD pP **pP** **23 06 12.4 +1.2**
AFI Afiamalu 67.25 102 P **P** **23 05 30.8 -0.2**
comp=Z,12nm,0.3s,baz=246,slow=22,SNR=2.0
comp=Z,12nm,0.3s
KK31 Karatay Array 67.84 323 P **P** **23 05 33.8 -0.4**
KKAR Karatay Array 67.84 323 P **P** **23 05 33.3 -0.9**
ZAA0 Zalesovo Array 68.55 339 IAmb IAmb 23 05 37.9
comp=Z,26nm,0.7s
ZALV Zalesovo Beam 68.55 339 P **P** **23 05 37.2 -1.1**
comp=Z,26nm,0.5s,baz=139,slow=5.1,SNR=150
comp=Z,26nm,0.5s
KURK Kurchatov 68.60 333 P **P** **23 05 38.0 -0.7**
KURK IAmb IAmb 23 05 39.0
comp=Z,20nm,0.9s
KURK Kurchatov 68.60 333 P **P** **23 05 38.0 -0.7**
KURK pP **pP** **23 06 18.8 -1.9**
PEA0B Petropavlovsk- 69.02 23 P **P** **23 05 41.9 +0.6**
PEA0B IAmb IAmb 23 05 43.5
comp=Z,15nm,0.8s
PETK Petropavlovsk- 69.02 23 P **P** **23 05 39.8 -1.5**
comp=Z,5.7nm,0.7s,baz=205,slow=3.1,SNR=8.2
comp=Z,5.7nm,0.7s
MA2 Magadan 71.92 16 P **P** **23 05 59.3 +0.7**
MA2 IAmb IAmb 23 06 01.2
comp=Z,12nm,0.8s
VNDA Vanda 72.68 171 P **P** **23 06 04.4 +1.5**
comp=Z,1.5nm,0.5s,baz=310,slow=7.2,SNR=9.1
comp=Z,1.5nm,0.5s
VNDA Vanda 72.68 171 P **P** **23 06 04.1 +1.2**
GEYT Alibeck 73.42 313 P **P** **23 06 07.4 -0.6**
comp=Z,4.1nm,0.8s,baz=160,slow=4.7,SNR=10
comp=Z,4.1nm,0.8s
GEYT Alibeck 73.42 313 P **P** **23 06 07.3 -0.8**
GEYT IAmb IAmb 23 06 08.6
comp=Z,31nm,1.9s
GYA0B ALIBECK ARRAY 73.42 313 P **P** **23 06 06.8 -1.2**
GYA0B IAmb IAmb 23 06 08.5
comp=Z,31nm,1.9s
BRVK Borovoye 74.00 331 P **P** **23 06 10.0 -1.1**
ABKAR Akbulak array 77.33 325 pwP 23 07 16.8 -1.9
TIXI Tiksi 79.88 3 P **P** **23 06 42.4 -1.1**
NRIK Noril'sk 80.49 349 P **P** **23 06 45.6 -1.2**
comp=Z,5.5nm,0.9s,baz=145,slow=5.5,SNR=8.7
comp=Z,5.5nm,0.8s
QSPA South Pole Qui 81.82 180 P **P** **23 06 55.4 +1.3**
comp=Z,2.7nm,0.8s,baz=214,slow=1.1,SNR=8.6
comp=Z,2.7nm,0.8s
GNI Garni 83.95 312 P **P** **23 07 05.6 0.0**
GEVA Gevas 84.73 310 P **P** **23 07 09.2 -0.4**
GEVA IAmb IAmb 23 07 11.4
comp=Z,39nm,0.9s
AKH Akhalkalaki 85.20 313 P **P** **23 07 11.7 -0.1**
AKH IAmb IAmb 23 07 13.2
comp=Z,37nm,0.8s
KARS Kars 85.30 312 P **P** **23 07 12.7 +0.3**
KARS IAmb IAmb 23 07 13.6
comp=Z,40nm,0.8s
GURO Guroymak-BITLI 85.57 310 P **P** **23 07 13.7 0.0**
GURO IAmb IAmb 23 07 15.4
comp=Z,13nm,1.0s
KBZ Khabaz 86.23 315 P **P** **23 07 15.7 -0.9**
comp=Z,4.6nm,0.8s,baz=117,slow=5.4,SNR=9.1
comp=Z,4.6nm,0.8s
MARD Mardin 86.24 308 P **P** **23 07 16.7 -0.3**
LSZ Lusaka 89.39 255 P **P** **23 07 33.0 +0.6**
LSZ IAmb IAmb 23 09 09.7
comp=Z,24nm,1.7s
BOSA Boshof 90.07 241 P **P** **23 07 35.1 -0.3**
comp=Z,1.1nm,0.5s,baz=78,slow=5.2,SNR=8.6
comp=Z,1.1nm,0.5s
BOSA Boshof 90.07 241 P **P** **23 07 36.4 +1.0**
BOSA IAmb IAmb 23 11 08.1
comp=Z,33nm,1.6s
SNAA Sanae 91.99 195 P **P** **23 07 45.2 +1.8**
SNAA IAmb IAmb 23 08 39.3
comp=Z,15nm,1.6s
BRTR Keskin Array B 92.20 310 P **P** **23 07 43.0 -2.0**
comp=Z,1.6nm,0.8s,baz=121,slow=6.9,SNR=8.2
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 92.20 310 P **P** **23 07 43.2 -1.8**
BELA Belgrano 2 92.91 185 P **P** **23 07 48.2 +0.9**
BELA **pP** **23 08 33.0 0.0**
BELA IAmb IAmb 23 08 34.0
comp=Z,28nm,1.8s
M20K Styx River 95.78 28 P **P** **23 08 00.1 -0.8**
IMAR Indian Mountai 95.97 24 P **P** **23 08 01.6 +0.2**
PPLA Purkeypile 96.32 27 P **P** **23 08 02.4 -0.9**
CAST Castle Rocks 96.42 27 P **P** **23 08 03.4 -0.2**
AKASG Malin Array Be 96.60 320 P **P** **23 08 02.5 -2.1**
comp=Z,0.8nm,0.6s,baz=81,slow=4.4,SNR=4.5
comp=Z,0.8nm,0.6s
BPAW Bear Paw Mtn. 96.96 26 P **P** **23 08 05.5 -0.6**
BPAW IAmb IAmb 23 11 07.1
comp=Z,27nm,1.8s
MLY Manley 97.13 25 P **P** **23 08 06.4 -0.4**
MLY IAmb IAmb 23 09 59.1
comp=Z,18nm,1.8s
DHY Denali Highway 98.52 27 P **P** **23 08 12.9 -0.4**
ILAR Eielson Array 98.76 26 P **P** **23 08 12.3 -1.8**
comp=Z,0.3nm,0.7s,baz=270,slow=4.2,SNR=4.4
ILAR PKiKP **PKiKP** **23 12 42.9 -1.4**
comp=Z,0.2nm,0.6s,baz=257,slow=3.6,SNR=4.3
comp=Z,0.3nm,0.7s
RIDG Independent Ri 99.66 27 Pdif **Pdif** **23 08 16.7 -1.5**
BMAR Burnt Mountain 99.67 23 P **Pdif** **23 08 18.8 +0.7**
YKA Yellowknife Ar 113.13 24 PKiKP **PKiKP** **23 13 09.7 -1.2**
comp=Z,3.6nm,0.6s,baz=303,slow=2.1,SNR=53
PLID Pearl Lake 119.62 42 **PKPdf** **23 13 23.5 -0.8**
NVAR Mina Array Bea 119.91 50 PKP **PKPdf** **23 13 24.7 -0.3**
comp=Z,2.6nm,0.7s,baz=258,slow=1.5,SNR=21
MSO Missoula 120.33 40 **PKPdf** **23 13 24.5 -0.9**
ESDC Sonseca Array 120.93 312 PKP **PKPdf** **23 13 25.8 -0.9**
comp=Z,0.3nm,0.8s,baz=40,slow=2.2,SNR=4.9
PDAR Pinedale Array 124.80 43 PKP **PKPdf** **23 13 33.5 -0.8**
comp=Z,1.7nm,0.8s,baz=252,slow=2.3,SNR=9.8
DBIC Dimbokro 125.10 272 PKP **PKPdf** **23 13 34.7 -0.6**
comp=Z,3.4nm,0.9s,baz=73,slow=7.8,SNR=3.4
ULM Lac du Bonnet 128.67 29 PKP **PKPdf** **23 13 40.0 -1.0**
comp=Z,3.4nm,0.6s,baz=291,slow=3.7,SNR=4.8
PLCA Paso Flores 130.42 170 PKP **PKPdf** **23 13 44.9 -0.1**
comp=Z,0.9nm,0.6s,baz=5.4,slow=4.1,SNR=7.9
PLCA SKPbc **SKPbc** **23 16 50.2 -1.0**
comp=Z,7.2nm,0.8s,baz=211,slow=4.9,SNR=13
SCHQ Schefferville 133.17 5 PKP **PKPdf** **23 13 49.3 -0.2**
comp=Z,2.9nm,0.5s,baz=324,slow=1.5,SNR=13
SCHQ SKPbc **SKPbc** **23 16 57.7 -2.7**
comp=Z,3.1nm,0.9s,baz=309,slow=1.8,SNR=6.8
TXAR Lajitas Array 134.15 57 PKhKP PKPpre 23 13 39.8
comp=Z,0.3nm,0.6s,baz=219,slow=3.2,SNR=3.9
TXAR PKP **PKPdf** **23 13 52.2 -0.1**
comp=Z,2.2nm,0.8s,baz=238,slow=2.3,SNR=12
TXAR SKPbc **SKPbc** **23 17 01.8 -2.9**
comp=Z,0.9nm,0.8s,baz=251,slow=3.8,SNR=5.7
CPUP Villa Florida 145.59 185 PKPbc **PKPbc** **23 14 13.1 -0.3**
comp=Z,6.9nm,0.6s,baz=169,slow=3.4,SNR=18
CPUP SKPbc **SKPbc** **23 17 33.6 -2.0**
comp=Z,1.5nm,0.4s,baz=143,slow=3.2,SNR=3.0
BDFB Brasilia 153.42 207 PKP **PKPdf** **23 14 24.6 -1.1**
comp=Z,2.6nm,0.7s,baz=167,slow=5.0,SNR=4.0
BDFB PKPbc **PKPbc** **23 14 33.3 -0.1**
comp=Z,2.5nm,0.5s,baz=153,slow=3.8,SNR=5.2
LPAZ La Paz 154.47 162 PKP **PKPdf** **23 14 27.4 -0.3**
comp=Z,1.4nm,0.6s,baz=232,slow=2.3,SNR=1.5
LPAZ PKPbc **PKiKP** **23 14 36.9 +0.6**
comp=Z,1.0nm,0.3s,baz=24,slow=14,SNR=4.4
LPAZ PKPab **PKPab** **23 14 52.0 +0.8**
comp=Z,4.2nm,0.6s,baz=230,slow=1.7,SNR=11

SCB 19 22:56:14.0±1.2, 17.50S×69.14W, h156km±16km, ML2.2/1, MW3.8, Error ellipse: s-maj=11.6km s-min=9.7km az=2.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOD	**La Paz, Gloria**	**1.01**	**31**	Pg	Pn	22 56 40.8	+0.8
SOEJ	**Jacaque**	**1.05**	**60**	Pg	Pn	22 56 41.5	+1.2
SOEJ				Sg	Sn	22 57 00.8	+0.4
SOEJ				IAML		22 57 01.5	
	24nm,0.8s						
BBOE	**La Paz, Chanca**	**1.30**	**58**	Pg	Pn	22 56 43.8	+1.1
LPAZ	**La Paz**	**1.55**	**39**	Pg	Pn	22 56 45.5	+0.3
GO01	**Chusmiza**	**2.15**	**181**	Pg	Pn	22 56 52.9	+1.1
TA01	**Diego Aracena**	**3.20**	**198**	Pg	Pn	22 57 04.1	0.0
SOET	**ToroToro**	**3.23**	**101**	Pg	Pn	22 57 05.2	+0.3
PB02	**IPOC Station P**	**3.86**	**190**	Pg	Pn	22 57 13.5	+0.8
PB04	**IPOC Station P**	**4.90**	**191**	Pg	Pn	22 57 26.2	-0.1
LVC	**Limon Verde**	**5.08**	**178**	Pg	Pn	22 57 30.0	+1.0
PB06	**IPOC Station P**	**5.19**	**184**	Pg	Pn	22 57 30.4	+0.2

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*NOU **19** 22:59:17.2, 42.66S×173.71E, h0km, MLv3.9/9, South Island, New Zealand*
*WEL **19** 22:59:20.3±0.7, 43.3S±3.×17.4E±., h28km±8km, M3.4/19, ML3.5/19, MLv3.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=127.1, confirmed*

ISC 19 22:59:18.6±1.1, 42.57S±0.03×173.61E±0.04, h12km±7km, n64, σ0.71/70, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.17**	**341**	P	**Pg**	**22 59 22.5**	**+0.1**
KHZ	**Kahutara**	**0.17**	**341**	P	**Pg**	**22 59 22.6**	**+0.3**
KHZ				S	**Sg**	**22 59 24.6**	**-0.4**
GVZ	**Greta Valley S**	**0.58**	**227**	P	**Pn**	**22 59 32.8**	**+0.1**
GVZ				S	**Sn**	**22 59 42.5**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.88**	**13**	P	**Pb**	**22 59 35.7**	**-0.1**
AMCZ	**Amberley**	**0.93**	**229**	P	**Pn**	**22 59 37.9**	**+0.4**
CMWZ	**Cape Campbell**	**0.94**	**29**	P	**Pn**	**22 59 38.1**	**+0.6**
LTZ	**Lake Taylor**	**1.01**	**258**	P	**Pb**	**22 59 37.8**	**-0.2**
LTZ				S	**Sb**	**22 59 51.0**	**-0.3**
OKCZ	**Okains Bay**	**1.22**	**199**	P	**Pg**	**22 59 42.6**	**+0.5**
MQZ	**McQueen's Vall**	**1.33**	**211**	P	**Pb**	**22 59 43.1**	**-0.4**
MQZ				S	**Sn**	**23 00 00.5**	**-0.2**
MRNZ	**Matariki Terra**	**1.33**	**331**	P	**Pn**	**22 59 42.4**	**-0.7**
MRNZ				S	**Sn**	**22 59 59.3**	**-1.3**
NNZ	**Nelson**	**1.36**	**353**	P	**Pn**	**22 59 43.0**	**-0.5**
OXZ	**Oxford**	**1.38**	**236**	P	**Pn**	**22 59 43.3**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.40**	**201**	P	**Pb**	**22 59 44.7**	**+0.1**
TCW	**Tory Channel**	**1.45**	**20**	P	**Pn**	**22 59 44.3**	**-0.3**
SNZO	**South Karori**	**1.50**	**33**	P	**Pn**	**22 59 45.2**	**+0.1**
WEL	**Wellington**	**1.55**	**34**	P	**Pn**	**22 59 45.9**	**-0.1**
DSZ	**Denniston Nort**	**1.58**	**301**	P	**Pn**	**22 59 46.1**	**-0.3**
DSZ				S	**Sn**	**23 00 06.5**	**-0.2**
RACZ	**Rakaia**	**1.58**	**223**	P	**Pn**	**22 59 46.4**	**0.0**
PLWZ	**Palliser**	**1.58**	**51**	P	**Pn**	**22 59 46.4**	**-0.1**
TKNZ	**Takaka Hill**	**1.61**	**342**	P	**Pn**	**22 59 46.7**	**-0.2**
DUWZ	**D'Urville Isla**	**1.78**	**8**	P	**Pn**	**22 59 49.0**	**-0.2**
PAWZ	**Paruwai Farm**	**1.80**	**49**	P	**Pn**	**22 59 49.1**	**-0.4**
CAW	**Cannon Point**	**1.82**	**37**	P	**Pn**	**22 59 49.6**	**-0.1**
WACZ	**Wakanui South**	**1.89**	**223**	P	**Pn**	**22 59 50.6**	**0.0**
QRZ	**Quartz Range**	**1.92**	**335**	P	**Pn**	**22 59 51.5**	**+0.4**
QRZ	**Quartz Range**	**1.92**	**335**	P	**Pn**	**22 59 51.4**	**+0.2**
TRWZ	**Traveller**	**1.94**	**54**	P	**Pn**	**22 59 51.0**	**-0.4**
KIW	**Kapiti Island**	**1.97**	**30**	P	**Pn**	**22 59 51.8**	**+0.1**
MTW	**Mount Morrison**	**2.00**	**46**	P	**Pn**	**22 59 51.7**	**-0.5**
OGWZ	**Otaki Gorge**	**2.11**	**34**	P	**Pn**	**22 59 53.4**	**-0.3**
WVZ	**Waitaha Valley**	**2.17**	**256**	P	**Pn**	**22 59 53.5**	**-1.0**
RPZ	**Rata Peaks**	**2.19**	**238**	P	**Pn**	**22 59 54.0**	**-0.2**
RPZ	**Rata Peaks**	**2.19**	**238**	P	**Pn**	**22 59 54.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**2.20**	**41**	P	**Pn**	**22 59 54.4**	**-0.5**
TMWZ	**Te Maipa**	**2.25**	**50**	P	**Pn**	**22 59 55.0**	**-0.6**
ARCZ	**Arundel**	**2.25**	**231**	P	**Pn**	**22 59 55.2**	**-0.4**
MRZ	**Mangatainoka R**	**2.41**	**38**	P	**Pn**	**22 59 57.3**	**-0.6**
TMZ	**Timaru**	**2.62**	**225**	P	**Pn**	**23 00 00.8**	**+0.1**
BFZ	**Birch Farm**	**2.73**	**47**	P	**Pn**	**23 00 01.3**	**-1.0**
BFZ	**Birch Farm**	**2.73**	**47**	P	**Pn**	**23 00 01.2**	**-1.1**
LBZ	**Lake Benmore**	**3.08**	**233**	P	**Pn**	**23 00 07.5**	**+0.4**
ODZ	**Otahua Downs**	**3.27**	**220**	P	**Pn**	**23 00 09.6**	**-0.1**
ODZ	**Otahua Downs**	**3.27**	**220**	P	**Pn**	**23 00 09.6**	**-0.1**
KHEZ	**Kahui Hut**	**3.29**	**5**	P	**Pn**	**23 00 11.9**	**+1.9**
KHEZ	**Kahui Hut**	**3.29**	**5**	P	**Pn**	**23 00 11.7**	**+1.7**
PKE	**Pukeiti**	**3.39**	**5**	P	**Pn**	**23 00 13.1**	**+1.8**
VRZ	**Vera Road**	**3.55**	**15**	P	**Pn**	**23 00 14.8**	**+1.3**
MOVZ	**Moawhango**	**3.55**	**28**	P	**Pn**	**23 00 13.4**	**-0.2**
WNVZ	**Wahianoa**	**3.57**	**26**	P	**Pn**	**23 00 14.7**	**+0.7**
TRVZ	**Turoa**	**3.58**	**25**	P	**Pn**	**23 00 14.1**	**-0.1**
FWVZ	**Far West T-bar**	**3.63**	**25**	P	**Pn**	**23 00 16.1**	**+1.4**
NGZ	**Ngauruhoe**	**3.71**	**25**	P	**Pn**	**23 00 16.5**	**+0.6**
SNVZ	**South Ngauruho**	**3.72**	**25**	P	**Pn**	**23 00 17.1**	**+1.2**
NNVZ	**North Ngauruho**	**3.76**	**25**	P	**Pn**	**23 00 17.3**	**+0.8**
WTVZ	**West Tongariro**	**3.77**	**24**	P	**Pn**	**23 00 17.3**	**+0.8**
NTVZ	**North Tongarir**	**3.81**	**25**	P	**Pn**	**23 00 17.6**	**+0.5**
JCZ	**Jackson Bay**	**3.83**	**245**	P	**Pn**	**23 00 18.1**	**+0.7**
BKZ	**Black Stump Fm**	**4.04**	**34**	P	**Pn**	**23 00 21.8**	**+1.4**
EAZ	**Earnscleugh**	**4.09**	**228**	P	**Pn**	**23 00 21.0**	**0.0**
HIZ	**Hauiti**	**4.16**	**14**	P	**Pn**	**23 00 23.3**	**+1.4**
HIZ	**Hauiti**	**4.16**	**14**	P	**Pn**	**23 00 23.0**	**+1.1**
TUZ	**Tuapeka**	**4.43**	**219**	P	**Pn**	**23 00 25.8**	**+0.3**
AWAZ	**Awhitu Peninsu**	**5.56**	**9**	P	**Pn**	**23 00 42.0**	**+0.9**
MKAZ	**Moumakai**	**5.59**	**13**	P	**Pn**	**23 00 41.5**	**0.0**

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*BJI **19** 23:04:16.3±0.0, 10.27S×161.31E, h20km, mb6.0/79, mB6.4/80, Ms6.4/99, Ms7 6.3/95*
*MOS **19** 23:04:18.3±1.1, 10.25S×161.13E, h35km, mb6.5/65, MS6.3/58, Error ellipse: s-maj=6.2km s-min=5.2km az=103.2*
*NOU **19** 23:04:21.7, 10.37S×161.28E, h42km, ML6.7/144, Solomon Islands*
*IDC **19** 23:04:21.8±0.9, 10.40S×161.30E, h59km±7km, mb5.7/39, mbtmp6.0/43, MS6.3/53, Error ellipse: s-maj=8.6km s-min=6.8km az=57.0*
*NEIC **19** 23:04:21.1±1.7, 10.35S±0.07×161.34E±0.06, h36km±1km, mb6.5/570, Ms_20 6.5/410, Mwb6.4/54, Mww6.5, Error ellipse: s-maj=11.8km s-min=8.4km az=207.0, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr3.83; Mθθ0.34; Mϕϕ-4.17; Mrθ1.04; Mrϕ1.93; Mθϕ0.49; Fault plane solution: Mo4.60000×10^18 NP1: ϕs141.05000°, δ47.61000°, λ62.89000°. NP2: ϕs358.27000°, δ48.90000°, λ116.53000°. Principal axes: T 4.2442, Plg70.0000°, Azm338.0000°; N 0.6415, Plg20.0000°, Azm160.0000°; P -4.8857, Plg1.0000°, Azm70.0000°;*
*GCMT **19** 23:04:24.1±0.0, 10.40S×161.29E, h42km, MW6.5/169, Moment Tensor Solution. s169,c423; s162,c659;*

Duration: 4ᵈ3 Moment tensor: Scale 10^{18}Nm; M_{rr}5.45±.03; $M_{\theta\theta}$1.33±.02; $M_{\phi\phi}$-6.78±.02; $M_{r\theta}$1.21±.03; $M_{\theta\phi}$2.68±.02; $M_{r\phi}$0.03±.03; Best double couple: M_o6.71000×10^{18} NP1:ϕ_s147.00000°,δ49.00000°, λ66.00000°. NP2:ϕ_s0.00000°,δ46.00000°,λ115.00000°. Principal axes: T 5.8270, Plg72.0000°, Azm348.0000°; N 1.7670, Plg18.0000°, Azm163.0000°; P -7.5930, Plg1.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

NEIC ***19*** *23:04:26, 10.25S×161.18E, h40km,Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^{18}Nm; M_{rr}5.73; $M_{\theta\theta}$2.16; $M_{\phi\phi}$-7.89; $M_{r\theta}$-0.12; $M_{\theta\phi}$2.48; $M_{r\phi}$-1.72; Fault plane solution: M_o7.68000×10^{18} NP1: ϕ_s337.00000°,δ39.00000°,λ76.00000°. NP2: ϕ_s175.00000°,δ52.00000°,λ101.00000°. Principal axes: T 5.9957, Plg79.0000°, Azm131.0000°; N 2.6597, Plg9.0000°, Azm348.0000°; P -8.6554, Plg7.0000°, Azm257.0000°;*

ISC 19 23:04:20.3±0.2, 10°41'S±0'03, 161°31'E±0'03, h45km±1km, h51km; pP-P, n2280, σ1°66/2344, mb6.4/524, MS6.5/347, 106C-88D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.66**	**306**	P		**Pn**	**Pn**	**23 04 47.3**	**+0.4**
	246µm,0.6s,baz=269,slow=0.4,SNR=428								
HNR				S		**Sn**	**Sn**	**23 05 11.1**	**+4.1**
	158µm,0.4s,baz=192,slow=18,SNR=5.5								
HNR	**Honiara**	**1.66**	**306**			**Pn**	**Pn**	**23 04 47.8**	**+0.9**
HNR	**Honiara**	**1.66**	**306**	P		**Pn**	**Pn**	**23 04 48.5**	**+1.6**
HNR	**Honiara**	**1.66**	**306**	⇑P		**Pn**	**Pn**	**23 04 46.7**	**-0.3**
DVP	**Devils Point**	**9.87**	**138**	P		**Pn**	**Pn**	**23 06 40.4**	**+0.7**
	30µm,0.9s								
KOUNC	**Koumac, New Ca**	**10.49**	**164**	Pn		**Pn**	**Pn**	**23 06 48.8**	**+0.6**
KOUNC	**Koumac, New Ca**	**10.49**	**164**	P		**Pn**	**Pn**	**23 06 50.0**	**+1.9**
	4µm,1.1s								
KOUNC	**Koumac, New Ca**	**10.49**	**164**	⇑P		**Pn**	**Pn**	**23 06 48.5**	**+0.4**
RABL	**Rabaul**	**10.97**	**304**	Pn		**Pn**	**Pn**	**23 06 58.1**	**+3.3**
RABL	**Rabaul**	**10.97**	**304**	P		**Pn**	**Pn**	**23 06 56.3**	**+1.5**
	2µm,0.6s								
RABL	**Rabaul**	**10.97**	**304**	⇑P		**Pn**	**Pn**	**23 06 57.1**	**+2.3**
KRVT	**Keravat (AS076**	**11.02**	**303**	P		**Pn**	**Pn**	**23 06 55.6**	**+0.1**
	47nm,0.5s,baz=276,slow=23,SNR=1.5								
KRVT				S			**Sn**	**23 08 57.5**	**+0.1**
	2µm,0.7s,baz=133,slow=21,SNR=2.2								
LIFNC	**LIFOU**	**11.79**	**152**	Pn		**Pn**	**Pn**	**23 07 04.5**	**-1.4**
LIFNC	**LIFOU**	**11.79**	**152**	P		**Pn**	**Pn**	**23 07 05.3**	**-0.6**
	6µm,0.8s								
DZM	**Mont Dzumac**	**12.60**	**158**	P		**Pn**	**Pn**	**23 07 19.2**	**+2.1**
	479nm,0.5s,baz=2.9,slow=7.2,SNR=313								
DZM				S			**Sn**	**23 09 30.5**	**-5.7**
	480nm,0.8s,baz=74,slow=19,SNR=4.6								
DZM				LR		LR	LR	23 11 39.2	
	comp=Z,171µm,19.1s,baz=336,slow=35								
DZM				T		T	T	23 19 02.1	
	7.9nm,0.4s,baz=93,slow=17,SNR=2.0								
DZM	**Mont Dzumac**	**12.60**	**158**	*e*Pn		**Pn**	**Pn**	**23 07 16.9**	**-0.2**
	5µm,1.4s								
DZM				*e*Sn		**Sn**	**Sn**	**23 09 30.7**	**-5.5**
	3µm,1.2s								
DZM				*e*LR		LR	LR	23 10 10.8	
DZM	**Mont Dzumac**	**12.60**	**158**	Pn		**Pn**	**Pn**	**23 07 18.2**	**+1.1**
DZM	**Mont Dzumac**	**12.60**	**158**	⇑P		**Pn**	**Pn**	**23 07 18.4**	**+1.3**
MARNC	**Mare, Loyalty**	**12.76**	**150**	Pn		**Pn**	**Pn**	**23 07 19.5**	**+0.2**
MARNC	**Mare, Loyalty**	**12.76**	**150**	⇑P		**Pn**	**Pn**	**23 07 19.7**	**+0.4**
OUENC	**Ouen Island, N**	**13.07**	**157**	Pn		**Pn**	**Pn**	**23 07 24.4**	**+1.0**
PINNC	**Pines Island,**	**13.48**	**155**				**Pn**	**23 07 30.4**	**+1.3**
PMG	**Port Moresby**	**13.98**	**273**	P		**P**	**P**	**23 07 39.5**	**-3.3**
	1µm,1.0s,baz=85,slow=12,SNR=55								
PMG				S			**Sn**	**23 10 11.6**	**+2.0**
	118nm,0.9s,baz=202,slow=13,SNR=1.4								
PMG				LR		LR	LR	23 12 50.0	
	comp=Z,344µm,21.0s,baz=106,slow=36								
PMG	**Port Moresby**	**13.98**	**273**	Pn		**P**	**P**	**23 07 39.9**	**-2.9**
PMG	**Port Moresby**	**13.98**	**273**	*d*P		**Pn**	**Pn**	**23 07 39.0**	**+3.1**
MANU	**Manus Island**	**16.15**	**300**	Pn		**Pn**	**Pn**	**23 08 03.5**	**-0.9**
TARA	**Tarawa**	**16.43**	**45**			**Pn**	**Pn**	**23 08 07.4**	**-0.6**
TARA					IAmb	IAmb	IAmb	23 08 16.4	
	comp=Z,6µm,1.8s								
TARA	**Tarawa**	**16.43**	**45**	P		**P**	**P**	**23 08 09.5**	**-0.6**
	comp=Z,4µm,1.6s								
TARA	**Tarawa**	**16.43**	**45**	⇓P		**Pn**	**Pn**	**23 08 07.1**	**-0.8**
GD1S	**Gladstone Soft**	**16.49**	**215**	P		**P**	**P**	**23 08 10.0**	**-0.7**
	comp=Z,680nm,0.9s								
TV1H	**Townsville Har**	**16.55**	**236**	P		**P**	**P**	**23 08 12.0**	**+0.6**
	comp=Z,982nm,1.0s								
PATS	**Pohnpei**	**17.39**	**350**	P		**Pn**	**Pn**	**23 08 19.9**	**0.0**
	baz=18,SNR=16								
PATS	**Pohnpei**	**17.39**	**350**	Pn		**Pn**	**Pn**	**23 08 17.2**	**-2.6**
PATS					IAmb	IAmb	IAmb	23 08 27.7	
	comp=Z,7µm,1.4s								
PATS	**Pohnpei**	**17.39**	**350**	P		**Pn**	**Pn**	**23 08 19.5**	**-0.3**
	comp=Z,4µm,1.1s								
CTA	**Charters Tower**	**17.41**	**235**	P		**P**	**P**	**23 08 21.8**	**+0.8**
	comp=Z,465nm,0.8s,baz=60,slow=13,SNR=93								
CTA				S			**Sn**	**23 11 28.6**	**-4.6**
	comp=Z,57nm,0.8s,baz=341,slow=20,SNR=1.7								
CTA				LR		LR	LR	23 15 09.1	
	comp=Z,149µm,18.3s,baz=58,slow=37								
CTA				T		T	T	23 26 03.3	
	comp=Z,1.1nm,0.3s,baz=188,slow=3.3,SNR=3.1								
CTA	**Charters Tower**	**17.41**	**235**	P		**P**	**P**	**23 08 23.1**	**+2.1**
	comp=Z,2µm,1.3s								
CTAO	**Charters Tower**	**17.41**	**235**			**P**	**P**	**23 08 21.1**	**+0.1**
CTAO	**Charters Tower**	**17.41**	**235**	P		**P**	**P**	**23 08 23.0**	**+2.1**
	comp=Z,2µm,1.0s								
CTAO	**Charters Tower**	**17.41**	**235**	⇓P		**P**	**P**	**23 08 22.0**	**+1.1**
CTAO	**Charters Tower**	**17.41**	**235**	P		**P**	**P**	**23 08 21.1**	**+0.1**
CTAO				pmax		pmax			
	comp=Z,1µm,0.9s								
FUNA	**Funafuti**	**17.74**	**85**	P		**Pn**	**Pn**	**23 08 24.2**	**-0.1**
FUNA				IAmb		IAmb	IAmb	23 08 27.4	
	comp=Z,7µm,1.8s								
FUNA	**Funafuti**	**17.74**	**85**	⇓P		**Pn**	**Pn**	**23 08 23.8**	**-0.4**
EIDS	**Eidsvold**	**17.77**	**212**	P		**P**	**P**	**23 08 27.6**	**+2.8**
	baz=18,SNR=159								
EIDS	**Eidsvold**	**17.77**	**212**	P		**P**	**P**	**23 08 26.2**	**+1.4**
EIDS	**Eidsvold**	**17.77**	**212**	P		**P**	**P**	**23 08 27.2**	**+2.4**
	comp=Z,1µm,1.3s								
EIDS	**Eidsvold**	**17.77**	**212**	⇓P		**P**	**P**	**23 08 25.9**	**+1.1**
MSVF	**Nonsavu**	**17.79**	**116**	P		**P**	**P**	**23 08 26.5**	**+1.3**
	comp=Z,1µm,1.2s,baz=276,slow=5.6,SNR=86								
MSVF				S			**Sn**	**23 11 43.8**	**+1.4**
	comp=Z,52nm,1.2s,baz=211,slow=18,SNR=1.3								
MSVF				LR		LR	LR	23 14 14.0	
	comp=Z,70µm,21.2s,baz=297,slow=33								
MSVF	**Nonsavu**	**17.79**	**116**	P		**P**	**P**	**23 08 25.8**	**+0.6**
MSVF	**Nonsavu**	**17.79**	**116**	P		**P**	**P**	**23 08 28.8**	**+3.6**
	comp=Z,4µm,1.8s								
MSVF	**Nonsavu**	**17.79**	**116**	⇓P		**P**	**P**	**23 08 26.3**	**+1.1**
COEN	**Coen**	**18.07**	**257**	P		**Pn**	**Pn**	**23 08 32.1**	**+3.8**
	baz=18,SNR=105								
COEN	**Coen**	**18.07**	**257**			**Pn**	**Pn**	**23 08 29.3**	**+1.0**
COEN	**Coen**	**18.07**	**257**	P		**Pn**	**Pn**	**23 08 32.1**	**+3.8**
	comp=Z,1µm,2.6s								
COEN	**Coen**	**18.07**	**257**	⇓P		**Pn**	**Pn**	**23 08 30.4**	**+2.1**
MTSU	**Mount Surprise**	**18.16**	**243**	P		**Pn**	**Pn**	**23 08 32.8**	**+3.4**
	baz=18,SNR=402								
MTSU	**Mount Surprise**	**18.16**	**243**	P		**Pn**	**Pn**	**23 08 31.6**	**+2.2**
	comp=Z,2µm,1.1s								
TAVE	**Taveuni**	**19.30**	**111**	P		**P**	**P**	**23 08 42.2**	**+0.5**
	comp=Z,1µm,2.0s								
RMQ	**Roma**	**19.91**	**215**	P		**Pn**	**Pn**	**23 08 51.1**	**+0.8**
	baz=20,SNR=422								
RMQ	**Roma**	**19.91**	**215**	P		**Pn**	**Pn**	**23 08 52.4**	**+2.1**
	comp=Z,2µm,0.9s								
KWAJ	**Kwajalein Atol**	**20.09**	**18**			**P**	**P**	**23 08 49.4**	**-0.9**
KWAJ	**Kwajalein Atol**	**20.09**	**18**	P		**P**	**P**	**23 08 51.1**	**+0.8**
	comp=Z,5µm,2.2s								
KWAJ	**Kwajalein Atol**	**20.09**	**18**	⇑P		Pn	Pn	23 08 52.3	-0.1
KWAJ	**Kwajalein Atol**	**20.09**	**18**	P		**P**	**P**	**23 08 49.4**	**-0.9**
KWAJ				pmax		pmax	pmax		
	comp=Z,8µm,1.5s								
KWAJ				MLR		MLR	MLR		
	comp=Z,109µm,21.0s								
FUTU	**Fugatoga**	**20.46**	**103**	P		**P**	**P**	**23 08 55.4**	**+1.0**
	comp=Z,916nm,1.3s								
LHI	**Lord Howe Isla**	**21.11**	**185**	P		**P**	**P**	**23 09 04.6**	**+3.3**
	baz=21,SNR=4.1								
LHI	**Lord Howe Isla**	**21.11**	**185**	P		**P**	**P**	**23 09 02.8**	**+1.5**
LHI	**Lord Howe Isla**	**21.11**	**185**	⇑P		**P**	**P**	**23 09 02.5**	**+1.2**
LHI				⇓S			Sn	23 13 01.4	-0.8
ARMA	**Armidale**	**21.86**	**203**	P		**P**	**P**	**23 09 11.6**	**+2.2**
	baz=22,SNR=84								
ARMA	**Armidale**	**21.86**	**203**	P		**P**	**P**	**23 09 10.2**	**+0.8**
ARMA	**Armidale**	**21.86**	**203**	P		**P**	**P**	**23 09 10.6**	**+1.2**
	comp=Z,542nm,1.5s								
ARMA	**Armidale**	**21.86**	**203**	⇓P		**P**	**P**	**23 09 10.4**	**+1.0**
GENI	**Genyem**	**22.38**	**289**	P		**P**	**P**	**23 09 15.4**	**+0.3**
	comp=Z,1µm,1.1s,comp=Z,34µmcomp=Z,102µm								
QLP	**Quilpie**	**22.78**	**223**	P		**P**	**P**	**23 09 20.6**	**+1.4**
	baz=23,SNR=136								
QLP	**Quilpie**	**22.78**	**223**	P		**P**	**P**	**23 09 21.3**	**+2.1**
	comp=Z,2µm,1.1s								
QLP	**Quilpie**	**22.78**	**223**	⇓P		**P**	**P**	**23 09 20.2**	**+1.0**
QIS	**Mount Isa**	**23.20**	**242**	P		**P**	**P**	**23 09 24.5**	**+0.9**
	baz=23,SNR=133								
QIS	**Mount Isa**	**23.20**	**242**	P		**P**	**P**	**23 09 24.4**	**+0.9**
	comp=Z,880nm,1.5s								
SMPI	**Sarmi**	**23.95**	**289**	P		**P**	**P**	**23 09 30.3**	**-0.4**
	comp=Z,4µm,1.3s,comp=Z,74µmcomp=Z,111µm								
MGCD	**Mangrove Creek**	**24.56**	**201**	P		**P**	**P**	**23 09 37.6**	**+1.6**
	baz=25,SNR=34								
MGCD	**Mangrove Creek**	**24.56**	**201**	P		**P**	**P**	**23 09 37.8**	**+1.7**
	comp=Z,267nm,1.0s								
CMSA	**Cobar Meteorol**	**25.53**	**212**	P		**P**	**P**	**23 09 45.6**	**+0.7**
	baz=26,SNR=110								
CMSA	**Cobar Meteorol**	**25.53**	**212**	P		**P**	**P**	**23 09 45.6**	**+0.7**
	comp=Z,440nm,1.3s								
INKA	**Innaminka**	**25.91**	**225**	P		**P**	**P**	**23 09 49.9**	**+1.5**
	comp=Z,5µm,1.1s								
SRPI	**Serui, Papua**	**26.31**	**287**	P		**P**	**P**	**23 09 52.0**	**-0.1**
	comp=Z,598nm,1.8s,comp=Z,20µmcomp=Z,47µm								
AFI	**Afiamalu**	**26.53**	**100**	S		**S**	**S**	**23 14 15.4**	**-10**
	comp=Z,31nm,0.2s,baz=41,slow=22,SNR=1.2								
AFI				LR		LR	LR	23 18 20.7	
	comp=Z,181µm,20.1s,baz=278,slow=32								
AFI	**Afiamalu**	**26.53**	**100**	IAMs_20		IAMs_20	IAMs_20	23 18 00.4	
	comp=Z,172µm,20.0s								
RAO	**Raoul Island**	**27.00**	**137**	P		**P**	**P**	**23 09 58.7**	**+0.6**
RAO	**Raoul Island**	**27.00**	**137**	P		**P**	**P**	**23 09 58.7**	**+0.6**
RAO				pmax		pmax			
	comp=Z,7µm,1.9s								
CNB	**Canberra Magne**	**27.08**	**202**	P		**P**	**P**	**23 10 00.7**	**+1.8**
	comp=Z,217nm,1.0s								
OUZ	**Omahuta**	**27.12**	**158**	IAMs_20		IAMs_20	IAMs_20	23 19 25.3	
	comp=Z,93µm,18.0s								
OUZ	**Omahuta**	**27.12**	**158**	P		**P**	**P**	**23 10 01.1**	**+1.9**
	comp=Z,304nm,1.6s								
OUZ	**Omhuta**	**27.12**	**158**	⇑P		**P**	**P**	**23 10 01.3**	**+2.1**
CAN	**Canberra**	**27.22**	**202**	P		**P**	**P**	**23 10 01.5**	**+1.3**
	comp=Z,366nm,1.4s								
WB0	**Warramunga Arr**	**27.57**	**247**	IAmb		IAmb	IAmb	23 10 07.1	
	comp=Z,664nm,0.8s								
WRAB	**Tennant Creek**	**27.65**	**247**	P		**P**	**P**	**23 10 03.9**	**-0.3**
WRAB				IAmb		IAmb	IAmb	23 10 07.8	
	comp=Z,684nm,1.0s								
WRAB	**Tennant Creek**	**27.65**	**247**	IAMs_20		IAMs_20	IAMs_20	23 21 12.6	
	comp=Z,147µm,18.0s								
WRAB	**Tennant Creek**	**27.65**	**247**	P		**P**	**P**	**23 10 04.3**	**+0.1**
	comp=Z,736nm,1.0s								
WRAB	**Tennant Creek**	**27.65**	**247**	*i*P		**P**	**P**	**23 10 03.5**	**-0.7**
WRAB				pmax		pmax			
	comp=Z,873nm,1.1s								
WRAB				MLR		MLR			
	comp=Z,164µm,17.0s								
WB2	**Warramunga Arr**	**27.65**	**247**	P		**P**	**P**	**23 10 04.0**	**-0.2**
WB2				IAmb		IAmb	IAmb	23 10 07.9	
	comp=Z,839nm,1.1s								
WB1	**Warramunga Ar.**	**27.66**	**247**	P		**P**	**P**	**23 10 04.3**	**0.0**
	comp=Z,887nm,0.9s								
WRA	**Warramunga Arr**	**27.66**	**247**	P		**P**	**P**	**23 10 04.0**	**-0.3**
	comp=Z,458nm,0.9s,baz=76,slow=8.9,SNR=148								
WRA				S			**S**	**23 14 37.4**	**-6.1**
	comp=Z,7.6nm,0.9s,baz=76,slow=14,SNR=1.0								
WRA				ScP		**ScP**		**23 16 56.4**	**-1.7**
	comp=Z,8.2nm,0.9s,baz=75,slow=3.8,SNR=2.4								
WRA				LR		LR	LR	23 20 30.1	
	comp=Z,150µm,20.5s,baz=60,slow=35								
WRA				PKiKP		**PKiKP**		**23 21 00.4**	**+2.7**
	comp=Z,3.3nm,0.9s,baz=354,slow=0.7,SNR=4.7								
WRA				P3KPbc				23 42 32.2	
	comp=Z,2.6nm,0.9s,baz=251,slow=2.5,SNR=13								
	comp=Z,458nm,0.9s								
WRA	**Warramunga Arr**	**27.66**	**247**	*i*P		**P**	**P**	**23 10 04.0**	**-0.3**
WRA				pmax		pmax			
	comp=Z,338nm,0.7s								
I07AU	**WARRAMUNGA INF**	**27.67**	**247**	*i*				02 00 20.0	
	baz=73,slow=298,SNR=0.4								
STKA	**Stephens Creek**	**28.09**	**218**	P		**P**	**P**	**23 10 07.9**	**0.0**
	comp=Z,105nm,0.9s,baz=24,slow=8.3,SNR=45								
STKA				LR		LR	LR	23 20 57.1	
	comp=Z,227µm,20.0s,baz=40,slow=35								
STKA				P3KPbc				23 42 28.6	
	comp=Z,3.7nm,0.8s,baz=252,slow=3.2,SNR=2.8								
	comp=Z,105nm,0.9s								
STKA	**Stephens Creek**	**28.09**	**218**	P		**P**	**P**	**23 10 09.5**	**+1.5**
	baz=28,SNR=36								
STKA	**Stephens Creek**	**28.09**	**218**	P		**P**	**P**	**23 10 09.3**	**+1.3**
STKA	**Stephens Creek**	**28.09**	**218**	P		**P**	**P**	**23 10 09.3**	**+1.3**
	comp=Z,69nm,0.9s								
STKA	**Stephens Creek**	**28.09**	**218**	*d*P		**P**	**P**	**23 10 08.7**	**+0.8**
KDU	**Kakadu**	**28.34**	**263**	P		**P**	**P**	**23 10 09.6**	**-0.7**
	baz=28,SNR=160								
KDU	**Kakadu**	**28.34**	**263**	P		**P**	**P**	**23 10 10.9**	**+0.6**
	comp=Z,654nm,1.4s								
KDU	**Kakadu**	**28.34**	**263**	⇑S		**P**	**P**	**23 10 09.8**	**-0.6**
RKPI	**Ransiki, Papua**	**28.37**	**286**	P		**P**	**P**	**23 10 10.5**	**-0.1**
	comp=Z,899nm,1.0s,comp=Z,23µmcomp=Z,62µm								
MILA	**Mila**	**28.71**	**201**	P		**P**	**P**	**23 10 15.0**	**+1.5**
	baz=29,SNR=15								
MILA	**Mila**	**28.71**	**201**	P		**P**	**P**	**23 10 15.2**	**+1.7**
	comp=Z,249nm,1.0s								
MILA	**Mila**	**28.71**	**201**	⇑P		**P**	**P**	**23 10 15.4**	**+1.9**
GUMO	**Guam**	**28.89**	**325**	P		**P**	**P**	**23 10 14.6**	**-0.5**
	comp=Z,134nm,0.6s,baz=33,slow=4.1,SNR=6.6								
GUMO				S			**S**	**23 14 57.2**	**-5.4**
	comp=Z,29nm,0.3s,baz=241,slow=20,SNR=1.7								
GUMO				LR		LR	LR	23 20 51.0	
	comp=Z,78µm,21.9s,baz=146,slow=34								
	comp=Z,134nm,0.6s								
GUMO	**Guam**	**28.89**	**325**	⇑P		**P**	**P**	**23 10 15.8**	**+0.7**
GUMO	**Guam**	**28.89**	**325**	P		**P**	**P**	**23 10 16.5**	**+1.4**
GUMO				pmax		pmax	pmax		
	comp=Z,2µm,1.3s								
GUMO				MLR		MLR	MLR		
	comp=Z,73µm,21.0s								
H11S2	**WAKE ISLAND Hy**	**29.20**	**11**	P		**P**	**P**	**23 10 18.3**	**+0.6**
	baz=191,slow=74								
H11S2				T		T	T	23 41 15.8	
	baz=188,slow=76,SNR=354								
H11S3	**WAKE ISLAND Hy**	**29.20**	**11**	P		**P**	**P**	**23 10 18.5**	**+0.8**
	baz=191								
H11S3				T		T	T	23 41 41.4	
	baz=188,slow=76,SNR=412								
H11S1	**WAKE ISLAND Hy**	**29.22**	**11**	P		**P**	**P**	**23 10 19.6**	**+1.7**
	baz=191,slow=74								
H11S1				T		T	T	23 41 41.7	
	baz=188,slow=76,SNR=381								
ASAR	**Alice Springs**	**29.26**	**240**	P		**P**	**P**	**23 10 18.0**	**-0.5**
	comp=Z,200nm,1.0s,baz=70,slow=9.5,SNR=98								
ASAR				S			**S**	**23 15 03.2**	**-5.4**
	comp=Z,18nm,1.1s,baz=58,slow=30,SNR=1.3								
ASAR				ScP		**ScP**		**23 17 01.5**	**-1.6**
	comp=Z,16nm,1.0s,baz=63,slow=4.3,SNR=3.4								
ASAR				LR		LR	LR	23 21 53.8	
	comp=Z,235µm,18.9s,baz=71,slow=36								
ASAR				P3KPbc				23 42 27.4	
	comp=Z,4.5nm,1.0s,baz=240,slow=3.9,SNR=19								
	comp=Z,200nm,1.0s								
ASAR	**Alice Springs**	**29.26**	**240**	P		**P**	**P**	**23 10 17.9**	**-0.7**
KUZ	**Kuaotunu**	**29.28**	**156**	P		P	P	23 10 23.6	+5.1
	comp=Z,146nm,1.2s								
LCRK	**Leigh Creek**	**29.31**	**224**	P		**P**	**P**	**23 10 19.3**	**+0.5**
	comp=Z,2µm,1.0s								
MTN	**Manton Dam**	**29.65**	**262**	P		**P**	**P**	**23 10 22.0**	**0.0**
	baz=30,SNR=47								
MTN	**Manton Dam**	**29.65**	**262**	P		**P**	**P**	**23 10 21.2**	**-0.8**
MTN	**Manton Dam**	**29.65**	**262**	P		**P**	**P**	**23 10 23.1**	**+1.1**
	comp=Z,470nm,1.0s								
MTN	**Manton Dam**	**29.65**	**262**	⇑P		**P**	**P**	**23 10 21.8**	**-0.2**
OOD	**Oodnadatta**	**29.65**	**231**	P		**P**	**P**	**23 10 22.7**	**+0.9**
	comp=Z,585nm,1.3s								
SAUI	**Saumlaki**	**29.72**	**272**	P		**P**	**P**	**23 10 23.3**	**+0.7**
SAUI	**Saumlaki**	**29.72**	**272**	P		**P**	**P**	**23 10 23.3**	**+0.7**
	comp=Z,770nm,1.5s,comp=Z,36µmcomp=Z,73µm								
FAKI	**Fak Fak**	**29.79**	**282**	P		**P**	**P**	**23 10 24.6**	**+1.4**
FAKI	**Fak Fak**	**29.79**	**282**	P		**P**	**P**	**23 10 23.7**	**+0.5**
	comp=Z,332nm,1.5s								
FAKI	**Fak Fak**	**29.79**	**282**	P		**P**	**P**	**23 10 23.7**	**+0.5**
	comp=Z,334nm,1.3s,comp=Z,13µmcomp=Z,58µm								
WAKE	**Wake Island**	**29.97**	**10**	P		**P**	**P**	**23 10 25.2**	**+0.6**
WAKE				IAmb		IAmb	IAmb	23 10 27.8	
	comp=Z,1µm,1.6s								
H11N1	**WAKE ISLAND Hy**	**30.43**	**10**	P		**P**	**P**	**23 10 26.4**	**-2.1**
	baz=208,slow=11,SNR=5.2								
H11N1				T		T	T	23 42 59.6	
	baz=188,slow=76,SNR=4.4								
H11N3	**WAKE ISLAND Hy**	**30.44**	**10**	P		**P**	**P**	**23 10 28.8**	**+0.3**
	baz=208,slow=11,SNR=5.1								
H11N3				T		T	T	23 43 18.7	
	baz=188,slow=76,SNR=5.2								
H11N2	**WAKE ISLAND Hy**	**30.45**	**10**	P		**P**	**P**	**23 10 27.4**	**-1.2**
	baz=208,slow=11,SNR=4.7								
H11N2				T		T	T	23 43 09.4	
	baz=188,slow=76,SNR=4.5								
HIZ	**Hauiti**	**30.51**	**159**	P		**P**	**P**	**23 10 31.1**	**+1.8**
HIZ				IAmb		IAmb	IAmb	23 10 46.3	
	comp=Z,764nm,1.2s								
HIZ	**Hauiti**	**30.51**	**159**	P		**P**	**P**	**23 10 31.9**	**+2.6**
	comp=Z,653nm,1.8s								
TOO	**Toolangi**	**30.57**	**205**	P		**P**	**P**	**23 10 31.0**	**+1.1**
	baz=31,SNR=112								
TOO	**Toolangi**	**30.57**	**205**	P		**P**	**P**	**23 10 30.7**	**+0.8**
	comp=Z,438nm,1.3s								
TOO	**Toolangi**	**30.57**	**205**	⇑P		**P**	**P**	**23 10 31.1**	**+1.2**
HTT	**Hallett**	**30.79**	**218**	P		**P**	**P**	**23 10 32.2**	**+0.3**
	baz=31,SNR=63								
HTT	**Hallett**	**30.79**	**218**	P		**P**	**P**	**23 10 32.4**	**+0.5**
	comp=Z,498nm,1.2s								
HTT	**Hallett**	**30.79**	**218**	⇑P		**P**	**P**	**23 10 32.0**	**+0.1**
KHEZ	**Kahui Hut**	**30.92**	**161**	P		P	P	23 10 38.1	+5.1
	comp=Z,1µm,2.3s								
MXZ	**Matakaoa Point**	**31.07**	**153**	P		**P**	**P**	**23 10 35.5**	**+1.3**
MXZ	**Matakaoa Point**	**31.07**	**153**	P		**P**	**P**	**23 10 36.4**	**+2.2**
	comp=Z,238nm,0.9s								
URZ	**Urewera**	**31.15**	**156**	P		**P**	**P**	**23 10 36.8**	**+1.9**
	comp=Z,332nm,2.0s								
URZ	**Urewera**	**31.15**	**156**	⇑P		**P**	**P**	**23 10 35.9**	**+0.9**
BRAT	**Ballarat**	**31.23**	**207**	P		**P**	**P**	**23 10 37.5**	**+1.9**
	comp=Z,102nm,1.2s								
SIJI	**Sorong**	**31.33**	**286**	P		**P**	**P**	**23 10 35.8**	**-1.1**
	comp=Z,60nm,0.9s,baz=67,slow=7.6,SNR=13								
SIJI				S			**S**	**23 15 39.6**	**-1.5**
	comp=Z,2.3nm,0.3s,baz=205,slow=22,SNR=1.0								
SIJI				LR		LR	LR	23 25 19.8	

WKZ	Wanaka	34.94	170	P		P	23 11 09.5	+1.5
WKZ				IAmb		IAmb	23 11 34.8	
	comp=Z,952nm,1.6s							
DCZ	Deep Cove	35.29	173	IAmb		IAmb	23 11 31.9	
	comp=Z,434nm,1.2s							
FITZ	Fitzroy Crossi	35.36	253	P		P	23 11 11.8	-0.1
	comp=Z,88nm,1.0s							
ODZ	Otahua Downs	35.44	169	P		P	23 11 14.0	+1.7
ODZ	Otahua Downs	35.44	169	P		P	23 11 14.3	+2.1
	comp=Z,119nm,2.1s							
ODZ	Otahua Downs	35.44	169	⇑P		P	23 11 13.6	+1.4
TNTI	Ternate	35.55	286	P		P	23 11 14.1	+0.6
TNTI				IAmb		IAmb	23 11 46.5	
	comp=Z,541nm,1.4s							
TNTI	Ternate	35.55	286	P		P	23 11 13.0	-0.6
	comp=Z,249nm,1.6s,comp=Z,10µmcomp=Z,25µm							
SANI	Sanana	36.05	281	P		P	23 11 19.2	+1.3
	comp=Z,995nm,1.3s							
SANI	Sanana	36.05	281	P		P	23 11 16.9	-1.0
	comp=Z,998nm,1.2s,comp=Z,29µmcomp=Z,49µm							
SOEI	Soe	36.46	268	P		P	23 11 21.8	+0.2
SOEI				IAmb		IAmb	23 11 43.3	
	comp=Z,581nm,1.0s							
SOEI	Soe	36.46	268	P		P	23 11 22.8	+1.2
	comp=Z,847nm,1.0s							
SOEI	Soe	36.46	268	P		P	23 11 21.9	+0.3
	comp=Z,850nm,1.0s,comp=Z,26µmcomp=Z,55µm							
SYZ	Scrubby Hill	36.62	171	P		P	23 11 24.4	+2.1
	comp=Z,360nm,1.1s							
FORT	Forrest	36.92	232	P		P	23 11 25.6	+0.4
	baz=37,SNR=25							
FORT	Forrest	36.92	232	IAmb		IAmb	23 11 29.4	
	comp=Z,1µm,1.4s							
FORT	Forrest	36.92	232	P		P	23 11 26.3	+1.2
	comp=Z,486nm,1.9s							
FORT	Forrest	36.92	232	⇑P		P	23 11 25.1	0.0
BATI	Baumata	37.02	267	P		P	23 11 25.9	-0.3
	comp=Z,1µm,0.7s,baz=147,slow=1.2,SNR=29							
BATI				S		S	23 17 02.2	-7.0
	comp=Z,24nm,0.6s,baz=171,slow=18,SNR=1.3							
	comp=Z,1µm,0.7s							
BATI	Baumata	37.02	267	P		P	23 11 27.2	+1.0
	comp=Z,2µm,0.8s,comp=Z,26µmcomp=Z,43µm							
MMRI	Maumere	38.56	269	P		P	23 11 40.2	+1.0
	comp=Z,1µm,1.3s							
MMRI	Maumere	38.56	269	P		P	23 11 38.1	-1.1
	comp=Z,1µm,1.3s,comp=Z,27µmcomp=Z,42µm							
RAR	Rarotonga	38.85	111	P		P	23 11 42.4	+0.9
	comp=Z,50nm,0.8s,baz=232,slow=8.9,SNR=4.5							
RAR				LR		LR	23 24 47.1	
	comp=Z,25µm,20.6s,baz=282,slow=32							
	comp=Z,50nm,0.8s							
LUWI	Luwuk	39.41	281	P		P	23 11 45.7	-0.6
LUWI	Luwuk	39.41	281	P		P	23 11 48.0	+1.7
	comp=Z,2µm,1.1s							
LUWI	Luwuk	39.41	281	P		P	23 11 46.3	0.0
	comp=Z,2µm,1.1s,comp=Z,40µmcomp=Z,49µm							
JOHN	Johnston Islan	39.48	47	P		P	23 11 48.0	+1.2
JOHN				IAmb		IAmb	23 12 06.0	
	comp=Z,808nm,1.1s							
JOHN	Johnston Islan	39.48	47	⇓P		P	23 11 49.2	+2.5
JOHN	Johnston Islan	39.48	47	P		P	23 11 47.6	+0.9
DAV	Davao City (W)	39.59	295	P		P	23 11 46.9	-0.8
	comp=Z,104nm,0.3s,baz=208,slow=4.4,SNR=1.1							
DAV				S		S	23 17 50.8	+2.9
	comp=Z,153nm,0.4s,baz=246,slow=8.7,SNR=2.5							
DAV				LR		LR	23 29 09.2	
	comp=Z,13µm,18.1s,baz=92,slow=38							
	comp=Z,104nm,0.3s							
DAV	Davao City (W)	39.59	295	P		P	23 11 49.1	+1.3
BASI	Baing, Sumba	40.05	266	P		P	23 11 51.9	+0.2
	comp=Z,942nm,1.0s,comp=Z,25µmcomp=Z,42µm							
BSSI	Bau Bau, Buton	40.59	273	P		P	23 11 55.8	-0.3
	comp=Z,1µm,0.9s,comp=Z,21µmcomp=Z,39µm							
MRSI	Marisa	40.62	283	P		P	23 11 54.4	-1.9
	comp=Z,563nm,1.2s,comp=Z,12µmcomp=Z,36µm							
BKSI	Bulukumba	41.09	274	P		P	23 11 59.5	-0.7
	comp=Z,291nm,2.0s,comp=Z,16µmcomp=Z,40µm							
PSA00	Pilbara Seismi	41.26	249	P		P	23 12 01.5	0.0
PSA00	Pilbara Seismi	41.26	249	IAmb		IAmb	23 12 04.9	
	comp=Z,215nm,1.0s							
PSA00	Pilbara Seismi	41.26	249	P		P	23 12 01.5	0.0
	comp=Z,491nm,1.4s							
MBWA	Marble Bar	41.30	250	P		P	23 12 01.5	-0.3
MBWA				IAmb		IAmb	23 12 05.8	
	comp=Z,748nm,1.2s							
MBWA	Marble Bar	41.30	250	P		P	23 12 02.1	+0.3
	comp=Z,332nm,0.9s							
MBWA	Marble Bar	41.30	250	⇑P		P	23 12 01.3	-0.6
MBWA	Marble Bar	41.30	250	P		P	23 12 01.2	-0.7
KAPI	Kappang	41.50	274	P		P	23 12 03.2	-0.3
	comp=Z,200nm,0.7s,baz=92,slow=5.0,SNR=54							
KAPI				S		S	23 18 09.5	-6.9
	comp=Z,6.4nm,0.8s,baz=16,slow=9.3,SNR=1.8							
KAPI				LR		LR	23 30 13.5	
	comp=Z,14µm,21.2s,baz=85,slow=37							
	comp=Z,200nm,0.7s							
KAPI	Kappang	41.50	274	P		P	23 12 02.8	-0.8
KAPI				IAmb		IAmb	23 12 23.5	
	comp=Z,794nm,1.3s							
KAPI	Kappang	41.50	274	P		P	23 12 03.5	-0.1
CBIJ	Chichi jima	41.64	334	P		P	23 12 03.2	-1.3
JCJ	Chichijima	41.64	334	P		P	23 12 04.3	-0.2
	comp=Z,764nm,0.9s,baz=150,slow=7.9,SNR=19							
JCJ				PP		PP	23 13 39.8	-1.7
	comp=Z,122nm,0.8s,baz=123,slow=22,SNR=0.9							
JCJ				S		S	23 18 10.6	-7.5
	comp=Z,74nm,0.9s,baz=273,slow=23,SNR=1.7							
	comp=Z,764nm,0.9s							
JCJ	Chichijima	41.64	334	P		P	23 12 05.2	+0.7
	comp=Z,2µm,0.9s							
SPSI	Sidrap Palu	41.67	276	P		P	23 12 03.8	-1.2
	comp=Z,342nm,1.1s,comp=Z,11µmcomp=Z,35µm							
TOLI2	Tolitoli	41.91	283	P		P	23 12 04.8	-2.2
TOLI2	Tolitoli	41.91	283	P		P	23 12 06.2	-0.8
	comp=Z,330nm,1.0s							
KMBL	Kambalda	42.02	234	P		P	23 12 08.6	+1.0
	baz=42,SNR=77							
KMBL	Kambalda	42.02	234	P		P	23 12 09.0	+1.4
	comp=Z,725nm,1.2s							
MPSI	Mapaga	42.55	282	P		P	23 12 10.6	-1.5
	comp=Z,401nm,1.1s,comp=Z,14µmcomp=Z,36µm							
XMAS	Kiritimati	42.87	76	P		P	23 12 15.0	+0.2
XMAS	Kiritimati	42.87	76	⇓P		P	23 12 16.2	+1.4
XMAS	Kiritimati	42.87	76	P		P	23 12 16.0	+1.2
PLAI	Plampang	42.93	268	P		P	23 12 14.3	-0.9
	comp=Z,1µm,0.9s							
PLAI	Plampang	42.93	268	P		P	23 12 13.7	-1.5
	comp=Z,1µm,0.9s,comp=Z,29µmcomp=Z,39µm							
MEEK	Meekatharra	43.35	242	P		P	23 12 18.6	+0.1
	baz=44,SNR=147							
MEEK	Meekatharra	43.35	242	P		P	23 12 19.3	+0.8
	comp=Z,642nm,0.9s							
MIDW	Midway	43.59	28	P		P	23 12 21.0	+0.8
MIDW				IAmb		IAmb	23 12 24.4	
	comp=Z,808nm,1.1s							
MIDW	Midway	43.59	28	P		P	23 12 20.4	+0.2
TWSI	Taliwang, Sumb	43.81	268	P		P	23 12 21.2	-1.2
	comp=Z,896nm,0.8s,comp=Z,21µmcomp=Z,37µm							
MCQ	Macquarie Isla	44.02	182	P		P	23 12 24.2	+0.8
	baz=44,SNR=6.1							
MCQ	Macquarie Isla	44.02	182	P		P	23 12 25.0	+1.7
MCQ	Macquarie Isla	44.02	182	⇑P		P	23 12 25.2	+1.9
MCQ	Macquarie Isla	44.02	182	P		P	23 12 25.0	+1.7
MCQ				pmax		pmax		
	comp=Z,408nm,1.3s							
BKB	Balikpapan	45.05	279	P		P	23 12 33.5	+1.3
BKB				IAmb		IAmb	23 12 54.0	
	comp=Z,1µm,1.1s							
BKB	Balikpapan	45.05	279	P		P	23 12 32.4	+0.1
	comp=Z,1µm,1.8s,comp=Z,33µmcomp=Z,55µm							
MYLDM	Lahad Datu	45.35	288	P		P	23 12 35.1	+0.5
MYLDM				IAmb		IAmb	23 12 59.3	
	comp=Z,1µm,1.3s							
MYLDM	Lahad Datu	45.35	288	⇓P		P	23 12 35.7	+1.0
KLBR	Kellerberrin	45.42	236	P		P	23 12 34.3	-0.6
	baz=46,SNR=46							
KLBR	Kellerberrin	45.42	236	P		P	23 12 34.8	-0.1
	comp=Z,510nm,1.1s							
IGBI	Denpasar	45.51	268	P		P	23 12 35.3	-0.6
	comp=Z,2µm,1.0s,comp=Z,20µmcomp=Z,19µm							
SRBI	Singaraja	45.53	269	P		P	23 12 35.4	-0.6
	comp=Z,1µm,0.9s,comp=Z,22µmcomp=Z,38µm							
BLDU	Ballidu	45.99	237	P		P	23 12 39.2	-0.3
	baz=46,SNR=137							
BLDU	Ballidu	45.99	237	P		P	23 12 39.4	-0.1
	comp=Z,658nm,1.1s							
MORW	Morawa	46.15	240	P		P	23 12 40.4	-0.3
	baz=46,SNR=59							
MORW	Morawa	46.15	240	P		P	23 12 40.5	-0.3
MORW				IAmb		IAmb	23 12 44.3	
	comp=Z,367nm,1.1s							
MORW	Morawa	46.15	240	P		P	23 12 40.8	+0.1
	comp=Z,378nm,1.6s							
MORW	Morawa	46.15	240	⇓P		P	23 12 40.6	-0.1
MORW				⇑sP		pwP	23 12 59.6	+1.9
NWAO	Narrogin (SRO)	46.25	234	P		P	23 12 41.0	-0.5
	comp=Z,250nm,0.8s							
NWAO				S		S	23 19 27.9	+2.6
NWAO				LR		LR	23 32 14.1	
	comp=Z,52µm,19.0s,slow=36							
	comp=Z,250nm,0.8s							
NWAO	Narrogin (SRO)	46.25	234	P		P	23 12 41.4	-0.2
	baz=46,SNR=56							
NWAO				P		P	23 12 41.4	-0.2
	baz=46,SNR=56							
NWAO	Narrogin (SRO)	46.25	234	P		P	23 12 41.0	-0.5
NWAO	Narrogin (SRO)	46.25	234	P		P	23 12 41.4	-0.2
NWAO				IAmb		IAmb	23 12 45.0	
	comp=Z,349nm,0.9s							
NWAO	Narrogin (SRO)	46.25	234	P		P	23 12 41.8	+0.2
	comp=Z,366nm,1.1s							
NWAO	Narrogin (SRO)	46.25	234	P		P	23 12 41.7	+0.2
	comp=Z,366nm,1.1s							
NWAO	Narrogin (SRO)	46.25	234	P		P	23 12 41.4	-0.2
NWAO				pmax		pmax		
	comp=Z,349nm,0.9s							
NWAO	Narrogin (SRO)	46.25	234	P		P	23 12 40.8	-0.7
NWAO				sP		pwP	23 12 59.3	+0.9
JMZ	Minamidaito 2	46.41	321	P		P	23 12 43.0	+0.3
JMZ	Minamidaito 2	46.41	321	P		P	23 12 43.6	+0.9
	comp=Z,2µm,0.9s							
JMZ	Minamidaito 2	46.41	321	⇓P		P	23 12 44.3	+1.6
JMZ				⇓p		pP	23 12 46.0	-8.9
ABJI	Asem Bagus	46.52	269	P		P	23 12 43.4	-0.5
	comp=Z,815nm,1.9s,comp=Z,25µmcomp=Z,36µm							
JAGI	Jajag, Banyuwa	46.53	268	P		P	23 12 41.7	-2.2
JAGI	Jajag, Banyuwa	46.53	268	P		P	23 12 43.0	-0.9
	comp=Z,2µm,0.9s							
JAGI	Jajag, Banyuwa	46.53	268	P		P	23 12 43.2	-0.7
	comp=Z,2µm,0.9s,comp=Z,23µmcomp=Z,36µm							
GIRL	Giralia	46.56	249	P		P	23 12 44.8	+0.8
	baz=47,SNR=14							
GIRL	Giralia	46.56	249	P		P	23 12 44.3	+0.3
GIRL	Giralia	46.56	249	P		P	23 12 46.9	+2.9
	comp=Z,1µm,1.6s							
GIRL	Giralia	46.56	249	⇓P		P	23 12 45.2	+1.2
GIRL				⇑p		P	23 12 45.6	+1.6
BBKI	Banjar Baru	46.60	275	P		P	23 12 44.4	-0.1
	comp=Z,1µm,1.7s,comp=Z,16µmcomp=Z,24µm							
MUN	Mundaring	46.79	236	P		P	23 12 45.7	-0.1
	baz=47,SNR=22							
MUN	Mundaring	46.79	236	P		P	23 12 47.0	+1.3
	comp=Z,431nm,1.2s							
RKGY	Rocky Gully	47.01	232	P		P	23 12 49.4	+2.0
	baz=47,SNR=23							
RKGY	Rocky Gully	47.01	232	P		P	23 12 49.9	+2.5
	comp=Z,843nm,1.0s							
SPMM	Sapulut	47.11	286	P		P	23 12 48.0	-0.5
BLJI	Banyuglugur	47.16	269	P		P	23 12 48.0	-0.8
	comp=Z,669nm,1.3s,comp=Z,18µmcomp=Z,33µm							
GMJI	Gumukmas	47.25	268	P		P	23 12 48.2	-1.3
	comp=Z,616nm,1.0s,comp=Z,13µm							
KKM	Kota Kinabalu	47.79	288	IAmb		IAmb	23 13 09.5	
	comp=Z,588nm,1.0s							
KKM	Kota Kinabalu	47.79	288	P		P	23 12 54.4	+0.6
	comp=Z,590nm,1.2s							
JHJ2	Mitsune	47.88	336	P		P	23 12 54.4	+0.4
JHJ2	Mitsune	47.88	336	P		P	23 12 55.7	+1.6
	comp=Z,924nm,1.3s							
JHJ2	Mitsune	47.88	336	⇑P		P	23 12 56.1	+2.0
JHJ2				⇓P		P	23 12 56.2	+2.1
JHJ	Hachijo jima 2	47.90	335	LR		LR	23 33 10.2	
	comp=Z,22µm,19.6s,baz=157,slow=36							
PPT	Papeete	48.08	104	P		P	23 12 57.5	+1.6
	comp=Z,188nm,1.0s,baz=324,slow=13,SNR=4.2							
PPT				LR		LR	23 29 20.3	
	comp=Z,40µm,19.2s,baz=269,slow=31							
	comp=Z,188nm,1.0s							
PPT2	Papeete2	48.08	104	*e*P		P	23 12 57.9	+1.9
	comp=Z,232nm,1.2s							
PPT2	Papeete2	48.08	104	*e*PP		PP	23 14 49.2	+0.7
	comp=Z,4µm,28.5s							
PPT2				*e*S		S	23 19 54.3	+2.4
	comp=Z,25µm,35.8s							
PPT2				*e*SS		SS	23 23 24.9	+3.5
	comp=Z,21µm,29.0s							
PPT2				*e*LQ		LQ	23 24 35.0	
	comp=Z,106µm,27.5s							
PPT2				*e*LR		LR	23 26 36.8	
	comp=Z,60µm,26.2s							
PPT2				*e*LR		LR	23 26 37.1	
	comp=Z,70µm,22.2s							
PPTF	Pamatai, Papee	48.09	104	P		P	23 12 57.4	+1.2
PPTF				IAMs_20		IAMs_20	23 28 59.7	
	comp=Z,41µm,20.0s							
TIAR	Tiarei	48.30	104	*e*P		P	23 12 58.2	+0.5
	comp=Z,25nm,1.0s							
GRJI	Gresik	48.36	270	P		P	23 12 58.5	+0.3
	comp=Z,149nm,0.7s,comp=Z,8µmcomp=Z,20µm							
TBI	Tubuai	48.61	112	*e*P		P	23 13 03.0	+3.0
	comp=Z,595nm,1.2s							
TBI	Tubuai	48.61	112	*e*PP		PP	23 14 54.1	+0.9
	comp=Z,11µm,30.8s							
TBI				*e*S		S	23 20 01.7	+2.6
	comp=Z,66µm,38.8s							
TBI				*e*SS		SS	23 23 33.5	+3.8
	comp=Z,52µm,31.5s							
TBI				*e*LQ		LQ	23 24 48.7	
	comp=Z,623µm,33.2s							
TBI				*e*LR		LR	23 26 51.6	
	comp=Z,681µm,23.8s							
TBI				*e*LR		LR	23 26 51.7	
	comp=Z,170µm,25.5s							
PWJI	Pagerwio	48.89	268	P		P	23 13 01.3	-0.9
	comp=Z,493nm,0.7s,comp=Z,19µm							
JOW	Kunigami	48.98	320	IAmb		IAmb	23 13 08.0	
	comp=Z,778nm,1.2s							
JOW	Kunigami	48.98	320	P		P	23 13 05.5	+2.8
	comp=Z,558nm,0.8s							
JOW	Kunigami	48.98	320	P		P	23 13 03.5	+0.9
JOW	Kunigami	48.98	320	⇑P		P	23 13 03.7	+1.0
JOW				⇑P		P	23 13 03.9	+1.2
JOW				⇓p		P	23 13 07.5	+4.8
H01W1	Cape Leeuwin H	49.30	233	P		P	23 13 06.7	+1.9
	baz=95,slow=7.5,SNR=28							
NGJI	Ngawi	49.30	269	P		P	23 13 05.4	0.0
	comp=Z,886nm,1.1s,comp=Z,26µmcomp=Z,42µm							
H01W3	Cape Leeuwin H	49.31	233	P		P	23 13 06.5	+1.6
	baz=95,slow=7.5,SNR=21							
H01W2	Cape Leeuwin H	49.32	233	P		P	23 13 06.5	+1.5
	baz=95,slow=7.5,SNR=14							
MEH	Mehetia	49.53	105	*e*P		P	23 13 09.5	+2.4
	comp=Z,170nm,1.4s							
JMJ	Miyako jima 2	49.59	315	P		P	23 13 10.9	+3.5
	comp=Z,3µm,0.8s							
PBKI	Pangkalan Bun	49.85	275	P		P	23 13 09.8	+0.2
	comp=Z,906nm,1.1s,comp=Z,15µm							
JSG	Sagara	49.91	335	⇑P		P	23 13 09.5	-0.1
VAH	Vaihoa	49.93	101	*e*P		P	23 13 09.5	-0.7
	comp=Z,394nm,1.5s							
UWJI	Ujung Watu	49.94	270	P		P	23 13 11.0	+0.8
	comp=Z,552nm,1.1s,comp=Z,13µm							
KEKH	Kekaha	49.98	50	P		P	23 13 11.0	+0.6
KEKH				IAmb		IAmb	23 13 14.8	
	comp=Z,528nm,1.0s							
JOD2	Odawara 2	50.05	336	P		P	23 13 10.2	-0.5
UGM	Wanagama	50.16	268	P		P	23 13 11.6	-0.4
	comp=Z,1µm,1.0s							
UGM	Wanagama	50.16	268	P		P	23 13 12.2	+0.2
	comp=Z,1µm,1.0s,comp=Z,25µmcomp=Z,42µm							
JIE	Ise	50.30	333	P		P	23 13 13.0	+0.5
SMRI	Semarang	50.35	269	P		P	23 13 14.0	+0.6
	comp=Z,1µm,1.1s							
SMRI	Semarang	50.35	269	P		P	23 13 13.7	+0.3
	comp=Z,1µm,1.0s,comp=Z,29µmcomp=Z,44µm							
YOGI	Yogyakarta	50.40	268	P		P	23 13 13.9	+0.2
	comp=Z,2µm,0.9s,comp=Z,17µmcomp=Z,19µm							
SBUM	Sibu	50.50	282	IAmb		IAmb	23 13 22.7	
	comp=Z,740nm,1.6s							
SBUM	Sibu	50.50	282	P		P	23 13 15.0	+0.5
JRY	Ryogami san	50.78	336	P		P	23 13 15.2	-1.1
HON	Honolulu	50.90	52	IAmb		IAmb	23 13 22.8	
	comp=Z,537nm,0.9s							
KIP	Kipapa	50.95	51	P		P	23 13 18.7	+1.0
KIP				IAmb		IAmb	23 13 22.1	
	comp=Z,486nm,0.8s							
KIP	Kipapa	50.95	51	IAMs_20		IAMs_20	23 30 24.9	
	comp=Z,45µm,20.0s							
KIP	Kipapa	50.95	51	P		P	23 13 19.6	+1.9
	comp=Z,676nm,0.9s							
KIP	Kipapa	50.95	51	P		P	23 13 19.0	+1.3
	comp=Z,676nm,0.9s							
KIP	Kipapa	50.95	51	⇑*i*P		P	23 13 18.4	+0.7
KIP				pmax		pmax		
	comp=Z,511nm,0.8s							
KIP	Kipapa	50.95	51	P		P	23 13 18.3	+0.5
KIP				pP		pP	23 13 31.2	+1.0
YOJ	Yonaguni jima	50.98	313	P		P	23 13 17.6	-0.2
YOJ				IAmb		IAmb	23 13 22.6	
	comp=Z,544nm,0.8s							
YOJ	Yonaguni jima	50.98	313	P		P	23 13 21.8	+4.0
	comp=Z,782nm,1.1s							
YOJ	Yonaguni jima	50.98	313	P		P	23 13 18.9	+1.1
YOJ	Yonaguni jima	50.98	313	P		P	23 13 17.6	-0.2
YOJ				pmax		pmax		
	comp=Z,544nm,0.8s							
INU	Inuyama	50.98	334	IAmb		IAmb	23 13 23.1	
	comp=Z,708nm,1.1s							
INU	Inuyama	50.98	334	P		P	23 13 19.3	+1.6
	comp=Z,637nm,1.7s							
INU	Inuyama	50.98	334	⇑P		P	23 13 17.2	-0.5
INU	Inuyama	50.98	334	P		P	23 13 17.4	-0.3
INU				pP		sP	23 13 33.1	-1.6
JGF	Kuroka	51.05	335	P		P	23 13 19.0	+0.7
	comp=Z,615nm,1.8s							
JGF	Kuroka	51.05	335	⇑P		P	23 13 17.4	-0.9
JMN	Monobe	51.06	330	P		P	23 13 19.3	+0.9
	comp=Z,1µm,1.2s							
JMN	Monobe	51.06	330	P		P	23 13 19.0	+0.6
JMN				S		S	23 20 33.7	+0.8
JMN	Monobe	51.06	330	⇑P		P	23 13 18.0	-0.4
JMN				⇓P		P	23 13 18.5	+0.1
JSU	Suzuyama	51.09	326	IAmb		IAmb	23 13 23.4	
	comp=Z,944nm,1.3s							
JSU	Suzuyama	51.09	326	P		P	23 13 19.9	+1.2
	comp=Z,628nm,1.1s							
JSU	Suzuyama	51.09	326	P		P	23 13 18.9	+0.3
JSU	Suzuyama	51.09	326	⇑P		P	23 13 18.4	-0.3
JSU				⇑P		P	23 13 18.4	-0.3
OPA	Opana	51.10	51	P		P	23 13 19.6	+0.7
OPA	Opana	51.10	51	P		P	23 13 19.6	+0.7
OPA				pmax		pmax		
	comp=Z,2µm,0.8s							
TWG	Pinlang	51.41	310	P		P	23 13 20.9	-0.3
MJAR	Matsushiro Arr	51.51	336	P		P	23 13 19.8	-1.9
	comp=Z,103nm,0.8s,baz=169,slow=8.6,SNR=117							
MJAR				S		S	23 20 39.2	+0.2
	comp=Z,0.4nm,0.3s,baz=143,slow=22,SNR=1.2							
MJAR				LR		LR	23 34 31.3	
	comp=Z,10µm,21.0s,baz=126,slow=35							
	comp=Z,103nm,0.8s							
MAJO	Matsushiro	51.51	336	P		P	23 13 20.8	-0.9
MAJO				IAmb		IAmb	23 13 27.0	
	comp=Z,1µm,1.6s							
MAJO	Matsushiro	51.51	336	P		P	23 13 22.9	+1.2
	comp=Z,416nm,1.3s							
MAJO	Matsushiro	51.51	336	⇑P		P	23 13 20.3	-1.4
MAJO	Matsushiro	51.51	336	*c i*P		P	23 13 20.3	-1.4
MAJO				pmax		pmax		
	comp=Z,918nm,1.7s							
MAJO				MLR		MLR		
	comp=Z,14µm,18.0s							
MAJO	Matsushiro	51.51	336	P		P	23 13 20.5	-1.2
MAJO				pP		pP	23 13 34.3	+0.5
MAJO				sP		sP	23 13 40.2	+1.5
MJB9	Matsu-Tunnel	51.52	336	P		P	23 13 21.7	0.0
MJB9				IAmb		IAmb	23 13 28.0	
	comp=Z,1µm,1.5s							
YULB	Yu-li	51.58	311	IAmb		IAmb	23 13 29.6	
	comp=Z,300nm,0.8s							
YULB	Yu-li	51.58	311	P		P	23 13 23.0	+0.6
	comp=Z,374nm,0.8s							
JGN	Niukaw	51.60	335	P		P	23 13 21.9	-0.5
JWT	Wachi	51.63	333	P		P	23 13 22.0	-0.5
KHLU	Kahalu`u	51.63	55	P		P	23 13 24.0	+1.0
KHLU				IAmb		IAmb	23 13 27.4	
	comp=Z,712nm,1.0s							
KHU	Kahuku	51.67	55	P		P	23 13 24.3	+0.9
KHU	Kahuku	51.67	55	P		P	23 13 24.3	+0.9
KHU				pmax		pmax		
	comp=Z,2µm,0.9s							
JMM	Marumori	51.72	339	IAmb		IAmb	23 13 26.9	
	comp=Z,639nm,1.0s							
JMM	Marumori	51.72	339	P		P	23 13 24.0	+0.8
	comp=Z,718nm,1.7s							
JMM	Marumori	51.72	339	P		P	23 13 22.8	-0.4
HUH	Hualalai	51.72	55	P		P	23 13 24.8	+1.0
KPJI	Karang Pucung	51.80	269	P		P	23

JNU **Nakatsue** 52.10 327 P **P** **23 13 26.3 +0.1**
STCH **Steam Cracks** 52.14 55 P **P** **23 13 28.0 +1.2**
STCH IAmb IAmb 23 13 31.0
comp=Z,710nm,0.9s
NPOC **North of Pu'u** 52.16 55 P **P** **23 13 28.1 +1.2**
JCUZ **Jacuzzi** 52.16 56 P **P** **23 13 28.1 +1.2**
CMJI **Cimerak** 52.22 268 P **P** **23 13 26.9 -0.4**
comp=Z,1μm,0.8s,comp=Z,13μmcomp=Z,32μm
YHNB **Yeheng** 52.28 312 IAmb IAmb 23 13 56.8
comp=Z,703nm,1.2s
YHNB IAMs_20 IAMs_20 23 32 34.0
comp=Z,43μm,22.0s
YHNB **Yeheng** 52.28 312 P **P** **23 13 28.9 +1.2**
comp=Z,470nm,0.8s
TATO **Taipei** 52.38 313 P **P** **23 13 29.3 +0.9**
TATO IAmb IAmb 23 13 32.7
comp=Z,342nm,0.7s
TATO **Taipei** 52.38 313 IAMs_20 IAMs_20 23 33 46.5
comp=Z,41μm,20.0s
TATO **Taipei** 52.38 313 P **P** **23 13 29.0 +0.7**
comp=Z,533nm,0.8s
TATO **Taipei** 52.38 313 P **P** **23 13 29.0 +0.7**
JHS **Saijyo** 52.46 331 P **P** **23 13 30.1 +1.3**
comp=Z,377nm,1.9s
JCJI **Jatiwangi** 52.56 270 P **P** **23 13 29.9 0.0**
comp=Z,2μm,0.9s,comp=Z,34μmcomp=Z,37μm
JYA **Atsumi** 52.75 339 P **P** **23 13 30.6 -0.2**
JSD **Sado** 52.79 337 P **P** **23 13 32.3 +1.1**
comp=Z,433nm,1.7s
JSD **Sado** 52.79 337 P **P** **23 13 31.2 +0.1**
JOM **Ohasama** 53.00 341 P **P** **23 13 32.5 -0.1**
BBJI **Bungbulang** 53.04 268 P **P** **23 13 34.4 +0.8**
comp=Z,987nm,0.9s
LEM **Lembang** 53.16 269 P **P** **23 13 33.4 -1.1**
comp=Z,533nm,0.8s,baz=76,slow=8.0,SNR=30
LEM LR LR 23 39 40.5
comp=Z,14μm,18.9s,baz=85,slow=40
comp=Z,533nm,0.8s
CNJI **Cibinong** 53.57 269 P **P** **23 13 36.1 -1.3**
comp=Z,387nm,1.0s,comp=Z,8μmcomp=Z,13μm
JTU **Tsushima** 53.97 327 P **P** **23 13 40.5 +0.7**
JTU IAmb IAmb 23 13 44.4
comp=Z,639nm,1.6s
JTU **Tsushima** 53.97 327 P **P** **23 13 40.8 +1.0**
comp=Z,286nm,2.0s
CBJI **Citeko** 53.97 270 P **P** **23 13 39.6 -0.7**
comp=Z,1μm,1.7s,comp=Z,28μmcomp=Z,34μm
SKJI **Sukabumi** 54.18 269 P **P** **23 13 43.1 +1.3**
comp=Z,741nm,1.0s,comp=Z,6μm
JTM **Tenmabayashi** 54.26 341 IAmb IAmb 23 13 44.3
comp=Z,290nm,0.8s
JTM **Tenmabayashi** 54.26 341 P **P** **23 13 41.8 0.0**
comp=Z,478nm,1.3s
JTM **Tenmabayashi** 54.26 341 P **P** **23 13 41.9 0.0**
KNMB **Chin-men Tao** 54.37 310 P **P** **23 13 43.8 +0.8**
XMI **Christmas Isla** 54.64 265 P **P** **23 13 49.3 +4.1**
comp=Z,1μm,0.8s
SBJI **Serang** 54.72 270 P **P** **23 13 46.1 +0.4**
comp=Z,270nm,1.4s,comp=Z,12μm
ERM **Erimo** 54.76 343 P **P** **23 13 46.9 +1.5**
ERM **Erimo** 54.76 343 IAMs_20 IAMs_20 23 37 44.7
comp=Z,49μm,20.0s
ERM **Erimo** 54.76 343 P **P** **23 13 46.8 +1.3**
comp=Z,809nm,1.6s
ERM **Erimo** 54.76 343 *ce*P **P** **23 13 45.7 +0.2**
ERM pmax pmax
comp=Z,1μm,1.7s
ERM MLR MLR
comp=Z,47μm,19.0s
ERM **Erimo** 54.76 343 P **P** **23 13 45.5 +0.1**
ERM sP **sP** **23 14 04.0 +0.8**
JEM **Erimo** 54.76 343 P **P** **23 13 46.9 +1.4**
comp=Z,308nm,1.6s
JOT **Ohata** 54.81 341 P **P** **23 13 45.8 0.0**
CGJI **Cibinong** 55.08 269 P **P** **23 13 47.0 -1.3**
comp=Z,1μm,0.6s,comp=Z,19μmcomp=Z,31μm
PPBI **Pangkal Pinang** 55.38 275 P **P** **23 13 50.8 +0.3**
comp=Z,368nm,1.1s,comp=Z,36μmcomp=Z,35μm
BLSI **Bandar Lampung** 55.70 271 P **P** **23 13 52.9 +0.1**
comp=Z,202nm,1.1s,comp=Z,7μm
YUK **Yuzh-Kuril'sk** 55.97 347 *d i*P **P** **23 13 54.5 +0.4**
YUK 23 14 51.8
YUK *e* 23 15 59.5
YUK *e*PPP PPP 23 17 14.1
YUK *i* S **S** **23 21 43.8 +4.8**
YUK pmax pmax
comp=Z,910nm,1.3s
YUK pmax pmax
comp=N,287nm,0.9s
YUK pmax pmax
comp=E,454nm,0.9s
JEW **Eniwo** 56.02 342 P **P** **23 13 54.8 +0.4**
KLI **Kotabumi** 56.16 271 P **P** **23 13 56.1 0.0**
comp=E,229nm,0.4s,comp=E,10μmcomp=E,29μm
KASI **Kota Agung** 56.41 270 P **P** **23 13 56.5 -1.4**
comp=E,593nm,1.2s,comp=E,11μmcomp=E,28μm
SSE **Sheshan** 56.42 318 P **P** **23 13 57.1 -0.5**
SSE S **S** **23 21 46.5 +1.0**
SSE pmax pmax
comp=E,2μm,9.5s
SSE LR LR
comp=E,4μm,17.6s
SSE LR LR
comp=E,3μm,21.2s
SSE **Sheshan** 56.42 318 P **P** **23 13 57.8 +0.2**
SSE pP **pP** **23 14 10.5 +0.6**
TJN **Taejon** 56.45 327 P **P** **23 13 58.9 +1.2**
comp=E,2μm,0.9s
TJN **Taejon** 56.45 327 *ce*P **P** **23 13 58.4 +0.7**
HKPS **Hong Kong Po S** 56.51 305 P **P** **23 13 59.6 +1.2**
HKPS IAmb IAmb 23 14 03.5
comp=Z,306nm,1.1s
HKPS **Hong Kong Po S** 56.51 305 IAMs_20 IAMs_20 23 34 42.9
comp=Z,31μm,21.0s
JMP **Maruseppu** 56.56 345 P **P** **23 13 58.5 +0.1**
PMBI **Palembang** 56.58 273 P **P** **23 14 00.2 +1.1**
PMBI **Palembang** 56.58 273 P **P** **23 13 59.9 +0.8**
comp=Z,1μm,1.1s,comp=Z,31μmcomp=Z,34μm
ASAJ **Asahikawa** 56.86 344 S **S** **23 21 54.2 +3.3**
comp=Z,2.0nm,0.2s,baz=9.3,slow=31,SNR=1.9
ASAJ LR LR 23 35 05.5
comp=Z,47μm,21.9s,baz=180,slow=32
ASAJ **Asahikawa** 56.86 344 P **P** **23 14 00.9 +0.4**
MDSI **Maura Dua** 56.89 271 P **P** **23 13 59.0 -2.3**
LWLI **Liwa** 56.92 271 P **P** **23 14 00.9 -0.8**
comp=Z,978nm,1.1s,comp=Z,17μmcomp=Z,18μm
KSRS **Korea Array** 56.97 329 P **P** **23 14 00.9 -0.4**
comp=Z,129nm,0.7s,baz=139,slow=7.5,SNR=73
KSRS S **S** **23 21 52.5 0.0**
comp=Z,2.2nm,1.0s,baz=158,slow=17,SNR=1.9
KSRS LR LR 23 37 25.2
comp=Z,18μm,19.9s,baz=120,slow=35
comp=Z,129nm,0.7s
KS19 **Wonju Array Si** 57.04 329 P **P** **23 14 02.2 +0.3**
KS19 IAmb IAmb 23 14 25.0
comp=Z,586nm,1.4s
DSRI **Dabo** 57.24 276 P **P** **23 14 04.2 +0.4**
comp=Z,210nm,1.0s,comp=Z,6μmcomp=Z,19μm
TPRI **Tanjung Pinang** 57.59 278 P **P** **23 14 05.9 -0.3**
comp=Z,365nm,0.8s,comp=Z,6μmcomp=Z,19μm
INCN **Inchon** 57.67 328 P **P** **23 14 07.5 +1.2**
INCN **Inchon** 57.67 328 P **P** **23 14 07.5 +1.2**
INCN pmax pmax
comp=Z,2μm,1.8s
INCN MLR MLR
comp=Z,20μm,22.0s
INCN **Inchon** 57.67 328 P **P** **23 14 06.8 +0.5**
INCN pP **pP** **23 14 20.8 +2.2**
TAOE **Nuku Hiva Isla** 57.67 94 *e*P **P** **23 14 07.4 +0.5**
comp=Z,940nm,1.2s
TAOE **Nuku Hiva Isla** 57.67 94 *e*PP **PP** **23 16 15.8 +0.6**
comp=Z,2μm,27.4s
TAOE *e*S **S** **23 22 04.9 +2.1**
comp=Z,14μm,29.3s
TAOE *e*SS **SS** **23 25 56.6 +2.9**
comp=Z,13μm,33.4s
TAOE *e*LR LR 23 31 06.6
comp=Z,62μm,24.1s
TAOE **Nuku Hiva Isla** 57.67 94 *e*T T 00 15 51.8
comp=Z,46nm,0.3s
TAOE **Nuku Hiva Isla** 57.67 94 P **P** **23 14 07.4 +0.5**
TAOE IAmb IAmb 23 14 11.1
comp=Z,437nm,1.2s
TAOE **Nuku Hiva Isla** 57.67 94 P **P** **23 14 08.1 +1.1**
JMBI **JAMBI** 57.93 275 P **P** **23 14 08.9 +0.3**
comp=Z,361nm,1.2s,comp=Z,8μm

DRV **Dumont d'Urvil** 58.01 190 P **P** **23 14 07.6 -0.6**
MNAI **Manna** 58.11 271 P **P** **23 14 10.2 +0.3**
MNAI **Manna** 58.11 271 P **P** **23 14 11.8 +1.9**
comp=Z,592nm,1.3s
MNAI **Manna** 58.11 271 P **P** **23 14 10.3 +0.3**
comp=Z,594nm,1.3s,comp=Z,16μmcomp=Z,29μm
MYKOM **Kota Tinggi** 58.44 279 P **P** **23 14 12.0 -0.2**
QIZ **Qiongzhong** 58.56 300 P **P** **23 14 14.1 +1.1**
QIZ **Qiongzhong** 58.56 300 ⇑*i*P **P** **23 14 14.0 +1.1**
QIZ sP **pwP** **23 14 27.0 -0.6**
QIZ S **S** **23 22 17.1 +3.1**
QIZ pmax pmax
comp=Z,82nm,1.0s
QIZ pmax pmax
comp=Z,4μm,5.2s
QIZ LR LR
comp=Z,11μm,27.6s
QIZ LR LR
comp=Z,20μm,25.0s
QIZ LR LR
comp=Z,42μm,26.8s
QIZ **Qiongzhong** 58.56 300 P **P** **23 14 14.5 +1.6**
comp=Z,149nm,1.1s
QIZ **Qiongzhong** 58.56 300 P **P** **23 14 13.6 +0.7**
QIZ pP **pwP** **23 14 28.5 +0.9**
HJU **Haeju** 58.56 327 P **P** **23 14 13.2 +0.6**
HJU AmB
comp=Z,729nm,0.9s
HJU AMS AMS
comp=Z,12μm,13.4s
NJ2 **Nanjing** 58.56 318 ⇑*i*P **P** **23 14 13.8 +1.1**
NJ2 pP **pP** **23 14 26.1 +1.0**
NJ2 S **S** **23 22 14.8 +1.2**
NJ2 sS **sS** **23 22 32.4 -2.1**
NJ2 SS **SS** **23 26 11.3 +4.2**
NJ2 pmax pmax
comp=Z,200nm,1.0s
NJ2 pmax pmax
comp=Z,5μm,4.6s
NJ2 LR LR
comp=Z,11μm,21.6s
NJ2 LR LR
comp=Z,12μm,21.1s
NJ2 LR LR
comp=Z,15μm,23.5s
MASI **Maura Aman, Be** 59.02 273 P **P** **23 14 15.9 -0.4**
comp=Z,316nm,1.2s,comp=Z,5μmcomp=Z,18μm
HHU **Hamhung** 59.06 330 P **P** **23 14 16.7 +0.7**
HHU AMS AMS
comp=Z,24μm,25.0s
PYAG **Pyongyang** 59.29 328 P **P** **23 14 18.3 +0.7**
PYAG S **S** **23 22 27.1 +4.3**
PYAG AmB
comp=Z,8μm,2.9s
PYAG AMS AMS
comp=Z,20μm,19.9s
YSS **Yuzh-Sakhalins** 59.46 345 P **P** **23 14 19.0 +0.4**
YSS IAmb IAmb 23 14 25.3
comp=Z,612nm,1.3s
YSS IAMs_20 IAMs_20 23 37 54.0
comp=Z,42μm,20.0s
YSS **Yuzh-Sakhalins** 59.46 345 P **P** **23 14 19.9 +1.3**
comp=Z,383nm,1.1s
YSS **Yuzh-Sakhalins** 59.46 345 *ce*P **P** **23 14 18.4 -0.2**
YSS *e**PP **pP** **23 14 28.7 -2.5**
YSS *e**SP **sP** **23 14 34.5 -1.8**
YSS *e* 23 15 02.1
YSS *e* 23 16 25.5
YSS *e*S **S** **23 22 22.5 -2.1**
YSS *e*PS **PnS** **23 22 47.4 +5.2**
YSS *e*SS **SS** **23 26 23.2 +2.6**
YSS pmax pmax
comp=Z,8μm,5.2s
YSS pmax pmax
comp=N,3μm,4.8s
YSS pmax pmax
comp=Z,300nm,1.4s
YSS smax smax
comp=N,2μm,8.9s
YSS **Yuzh-Sakhalins** 59.46 345 P **P** **23 14 18.7 +0.1**
YSS pP **pP** **23 14 33.0 +1.8**
TEY **Ternei** 59.53 340 ⇓*e*P **P** **23 14 20.0 +0.9**
TEY *e* 23 22 26.4
TEY pmax pmax
comp=E,20nm,0.7s
TEY pmax pmax
comp=N,40nm,0.9s
TEY pmax pmax
comp=Z,80nm,0.9s
TEY pmax pmax
comp=E,200nm,5.5s
TEY pmax pmax
comp=N,300nm,5.3s
SDSI **Sungai Dareh** 60.23 275 P **P** **23 14 23.3 -1.3**
comp=N,475nm,1.1s,comp=N,18μmcomp=N,20μm
CNSH **ChangSha** 60.49 311 ⇓P **P** **23 14 27.3 +1.2**
CNSH PP **PP** **23 16 44.3 +4.3**
CNSH S **S** **23 22 40.8 +2.1**
CNSH SS **SS** **23 26 41.0 +3.4**
CNSH pmax pmax
comp=N,160nm,1.1s
CNSH LR LR
comp=N,7μm,18.9s
CNSH LR LR
comp=N,11μm,20.2s
CNSH LR LR
comp=N,12μm,22.2s
USA0B **Ussuriysk Arra** 60.51 336 *c i*P **P** **23 14 25.8 -0.1**
USRK **Ussuriysk Ar.** 60.51 336 P **P** **23 14 25.7 -0.2**
comp=N,404nm,0.8s,baz=152,slow=6.8,SNR=79
USRK S **S** **23 22 37.5 -0.8**
comp=N,2.0nm,0.6s,baz=135,slow=35,SNR=1.5
USRK LR LR 23 39 27.4
comp=N,16μm,20.0s,baz=126,slow=35
USRK PKPPKP **P'P'df** **23 43 46.6 +1.9**
comp=N,0.9nm,0.3s,baz=298,slow=3.1,SNR=2.3
comp=N,404nm,0.8s
SUJ **Sinuiju** 60.73 328 P **P** **23 14 28.0 +0.6**
SUJ S **S** **23 22 45.4 +4.2**
SUJ AmB
comp=Z,3μm,2.2s
SUJ AMS AMS
comp=Z,30μm,23.7s
WHN **Wuhan** 60.76 314 ⇓P **P** **23 14 28.3 +0.5**
WHN S **S** **23 22 34.9 -7.0**
WHN pmax pmax
comp=Z,310nm,0.8s
WHN LR LR
comp=Z,42μm,18.5s
WHN LR LR
comp=Z,45μm,17.8s
WHN LR LR
comp=Z,86μm,19.7s
BKNI **Bangkinang** 60.87 276 P **P** **23 14 29.5 +0.6**
BKNI **Bangkinang** 60.87 276 P **P** **23 14 31.1 +2.2**
comp=Z,1μm,1.1s
BKNI **Bangkinang** 60.87 276 P **P** **23 14 29.8 +0.9**
comp=Z,1μm,1.1s,comp=Z,18μmcomp=Z,37μm
UBPT **Khong Chiam** 60.91 294 P **P** **23 14 30.3 +1.1**
comp=Z,131nm,1.1s
GULI **GuiLin** 60.99 307 ⇓P **P** **23 14 33.0 +3.4**
GULI sP **pP** **23 14 39.3 -2.3**
GULI S **S** **23 22 50.8 +5.6**
GULI pmax pmax
comp=Z,160nm,1.1s
GULI LR LR
comp=Z,3μm,18.9s
GULI LR LR
comp=Z,3μm,19.9s
GULI LR LR
comp=Z,7μm,20.3s
SKR **Severo-Kuril's** 61.00 356 *e*P **P** **23 14 30.4 +1.4**
SKR *e*S S 23 22 53.3 +9.1
SKR pmax pmax
comp=Z,32nm,0.8s
SKR pmax pmax
comp=Z,2μm,3.3s
SKR pmax pmax
comp=Z,1μm,6.0s
PDSI **Padang** 61.18 275 P **P** **23 14 29.6 -1.5**
comp=Z,194nm,0.7s,comp=Z,9μmcomp=Z,17μm
PPSI **Pulau Pagai** 61.28 273 P **P** **23 14 31.8 +0.1**
comp=Z,993nm,1.4s,comp=Z,21μmcomp=Z,26μm
DL2 **Dalian** 61.41 325 P **P** **23 14 31.9 -0.2**
DL2 S **S** **23 22 50.8 +0.8**
DL2 pmax pmax
comp=Z,240nm,0.7s
DL2 pmax pmax
comp=Z,4μm,5.1s
DL2 LR LR
comp=Z,10μm,19.1s
DL2 LR LR
comp=Z,14μm,18.6s
DL2 LR LR
comp=Z,25μm,18.5s
UGL **Uglegorsk** 61.61 346 *e*P **P** **23 14 33.5 +0.3**
UGL *e*S **S** **23 22 55.7 +3.7**
UGL pmax pmax
comp=Z,9μm,5.4s
UGL pmax pmax
comp=Z,600nm,1.4s
UGL smax smax
comp=E,9μm,11.0s
UGL smax smax
comp=N,7μm,6.8s
UGL MLR MLR
comp=E,4μm,16.0s
UGL MLR MLR
comp=N,16μm,14.0s
UGL MLR MLR
comp=Z,20μm,19.0s
IPM **Ipoh** 61.82 281 IAmb IAmb 23 14 39.2
comp=Z,346nm,0.9s
IPM **Ipoh** 61.82 281 P **P** **23 14 35.6 +0.2**
comp=Z,437nm,1.2s
IPM **Ipoh** 61.82 281 P **P** **23 14 35.0 -0.4**
MDJ **Mudanjiang** 61.83 335 P **P** **23 14 34.4 -0.4**
MDJ pP pP 23 14 45.3 -1.8
MDJ sP pwP 23 14 48.4 -0.8
MDJ ScP **ScP** **23 19 11.8 -2.0**
MDJ PcS **PcS** **23 19 16.6 -1.8**
MDJ S **S** **23 22 58.1 +3.0**
MDJ sS sS 23 23 15.1 -0.5
MDJ ScS **ScS** **23 24 24.1 +1.2**
MDJ SS **SS** **23 27 02.8 +4.8**
MDJ pmax pmax
comp=Z,300nm,2.5s
MDJ pmax pmax
comp=Z,8μm,4.4s
MDJ LR LR
comp=Z,15μm,20.9s
MDJ LR LR
comp=Z,13μm,19.2s
MDJ LR LR
comp=Z,29μm,19.8s
MDJ **Mudanjiang** 61.83 335 P **P** **23 14 36.3 +1.5**
comp=Z,575nm,1.3s
MDJ **Mudanjiang** 61.83 335 P **P** **23 14 35.3 +0.5**
TIA **Tai'an** 62.29 320 P **P** **23 14 37.9 -0.2**
TIA S **S** **23 23 00.4 -0.8**
TIA pmax pmax
comp=Z,140nm,0.7s
TIA pmax pmax
comp=Z,4μm,5.0s
TIA LR LR
comp=Z,8μm,21.1s
TIA LR LR
comp=Z,6μm,23.0s
TIA LR LR
comp=Z,17μm,23.1s
KULM **Kulim** 62.38 282 IAmb IAmb 23 14 42.7
comp=Z,273nm,0.9s
KULM **Kulim** 62.38 282 P **P** **23 14 38.0 -1.1**
MNSI **Mandailing Nat** 62.39 276 P **P** **23 14 37.4 -1.8**
SNY **Shenyang** 62.47 329 ⇑P **P** **23 14 38.0 -1.1**
SNY S **S** **23 23 02.8 -0.3**
SNY pmax pmax
comp=Z,220nm,0.8s
SNY pmax pmax
comp=Z,7μm,5.5s
SNY LR LR
comp=Z,22μm,23.1s
SNY LR LR
comp=Z,18μm,20.8s
SNY LR LR
comp=Z,45μm,25.0s
CN2 **Changchun** 63.03 332 *e*P **P** **23 14 42.5 -0.3**
CN2 *e*S **S** **23 23 11.3 +1.1**
CN2 SS **SS** **23 27 22.0 +5.2**
CN2 pmax pmax
comp=Z,70nm,0.9s
CN2 pmax pmax
comp=Z,6μm,10.0s
CN2 LR LR
comp=Z,12μm,20.0s
CN2 LR LR
comp=Z,12μm,20.0s
CN2 LR LR
comp=Z,19μm,21.0s
COCO **West Island** 63.12 262 P **P** **23 14 45.0 +1.0**
COCO **West Island** 63.12 262 P **P** **23 14 45.0 +1.0**
COCO pmax pmax
comp=Z,2μm,1.7s
TYV **Tymovskoe** 63.14 347 *e*P **P** **23 14 43.7 +0.3**
TYV *e*S **S** **23 23 19.0 +7.8**
TYV pmax pmax
comp=Z,7μm,4.9s
TYV pmax pmax
comp=Z,369nm,1.5s
TYV smax smax
comp=N,6μm,7.3s
TYV smax smax
comp=E,9μm,7.3s
TYV smax smax
comp=N,63nm,2.4s
PET **Petropavlovsk** 63.22 358 P **P** **23 14 42.9 -0.9**
PET IAmb IAmb 23 14 47.9
comp=Z,574nm,1.3s
PET **Petropavlovsk** 63.22 358 *c i*P **P** **23 14 43.3 -0.6**
PET *e* 23 17 03.7
PET *e*S **S** **23 23 19.6 +7.5**
PET pmax pmax
comp=Z,475nm,1.4s
PET pmax pmax
comp=Z,5μm,12.3s
PET pmax pmax
comp=Z,2μm,18.0s
PET smax smax
comp=N,5μm,21.8s
PET **Petropavlovsk** 63.22 358 P **P** **23 14 43.2 -0.6**
PET pP **pP** **23 14 57.0 +0.5**
PEA0B **Petropavlovsk-** 63.34 358 P **P** **23 14 44.8 +0.2**
PEA0B **Petropavlovsk-** 63.34 358 *c i*P **P** **23 14 44.4 -0.3**
PETK **Petropavlovsk-** 63.34 358 P **P** **23 14 44.6 -0.1**
comp=N,121nm,0.9s,baz=186,slow=12,SNR=108
PETK S **S** **23 23 12.7 -1.0**
comp=N,0.9nm,0.5s,baz=216,slow=7.3,SNR=1.5
PETK LR LR 23 37 48.0
comp=N,19μm,21.3s,baz=175,slow=32
PETK PKPPKP **P'P'df** **23 43 39.9 +0.4**
comp=N,0.9nm,0.8s,baz=349,slow=5.1,SNR=1.6
comp=N,121nm,0.9s
RPSI **Rantau Prapat** 63.44 278 P **P** **23 14 44.7 -1.5**
RPSI IAmb IAmb 23 14 54.4
comp=Z,523nm,1.4s
PSI **Prapat** 63.47 278 LR LR 23 43 33.6
comp=Z,14μm,21.7s,baz=122,slow=37
PSI **Prapat** 63.47 278 P **P** **23 14 44.7 -1.8**
PSI pmax pmax
comp=Z,523nm,1.4s
PBSI **Pulau Batu** 63.49 275 P **P** **23 14 46.3 -0.2**
comp=Z,848nm,1.2s,comp=Z,26μmcomp=Z,34μm
BNX **BinXian** 63.66 334 ⇑P **P** **23 14 45.8 -1.2**
BNX pP **pP** **23 14 56.3 -3.0**
BNX sP **pwP** **23 14 59.6 -1.8**
BNX PP **PP** **23 17 08.3 +0.8**
BNX S **S** **23 23 21.9 +4.0**
BNX pmax pmax
comp=Z,41nm,1.2s
BNX pmax pmax
comp=Z,6μm,4.1s
BNX LR LR
comp=Z,20μm,19.2s
BNX LR LR
comp=Z,20μm,21.0s
BNX LR LR
comp=Z,14μm,25.5s
SHEM **Shemya Is, Ala** 63.83 9 P **P** **23 14 47.4 -0.5**
comp=Z,243nm,0.6s,baz=348,slow=8.4,SNR=4.4
SHEM LR LR 23 37 04.0
comp=Z,17μm,21.9s,baz=193,slow=31
comp=Z,243nm,0.6s

SMY	**Shemya**	**63.83**	**9**	P	**P**	**23 14 47.8**	**-0.1**	KMI			SS	**SS**	**23 28 16.3**	**-4.9**
SMY	**Shemya**	**63.83**	**9**	P	**P**	**23 14 47.8**	**-0.1**	KMI			pmax	pmax		
SMY				pmax	pmax				comp=Z,180nm,1.5s					
	comp=Z,2μm,1.6s							KMI			pmax	pmax		
TSI	**Tuntungan**	**63.97**	**279**	P	**P**	**23 14 49.7**	**0.0**		comp=Z,4μm,8.5s					
	comp=Z,1μm,1.0s,comp=Z,13μmcomp=Z,30μm							KMI			LR	LR		
ENH	**Enshi**	**64.15**	**311**	P	**P**	**23 14 49.0**	**-1.6**		comp=Z,7μm,21.4s					
ENH				IAmb	IAmb	23 14 54.8		KMI			LR	LR		
	comp=Z,214nm,0.9s								comp=Z,15μm,23.1s					
ENH	**Enshi**	**64.15**	**311**	P	**P**	**23 14 52.5**	**+1.9**	KMI			LR	LR		
	comp=Z,265nm,0.9s								comp=Z,22μm,25.2s					
ENH	**Enshi**	**64.15**	**311**	P	**P**	**23 14 48.8**	**-1.8**	**VNDA**	**Vanda**	**67.10**	**180**	P	**P**	**23 15 08.4**	**-0.4**
ENH				pP	**pP**	**23 15 03.1**	**-0.1**		comp=Z,151nm,0.8s,baz=343,slow=6.8,SNR=125						
SRIT	**Nakonsritamara**	**64.25**	**285**	P	**P**	**23 14 50.6**	**-0.9**	VNDA				S	**S**	**23 23 59.6**	**+0.3**
SRIT				IAmb	IAmb	23 14 55.6			comp=Z,0.8nm,0.9s,baz=130,slow=21,SNR=0.6						
	comp=Z,295nm,0.9s							VNDA				LR	LR	23 40 59.8	
LYN	**LuoYang**	**64.33**	**316**⇑	*i*P	**P**	**23 14 50.3**	**-1.3**		comp=Z,7μm,18.4s,baz=1.0,slow=33						
LYN				S	**S**	**23 23 18.5**	**-8.3**	VNDA				PKPPKP	**P'P'df**	**23 43 34.8**	**-2.4**
LYN				pmax	pmax				comp=Z,2.9nm,0.9s,baz=210,slow=3.7,SNR=5.0						
	comp=Z,4μm,4.7s								comp=Z,151nm,0.8s						
LYN				LR	LR			**VNDA**	**Vanda**	**67.10**	**180**	P	**P**	**23 15 09.3**	**+0.5**
	comp=Z,11μm,18.6s							**VNDA**	**Vanda**	**67.10**	**180**	P	**P**	**23 15 09.3**	**+0.5**
LYN				LR	LR			VNDA				pmax	pmax		
	comp=Z,11μm,20.6s								comp=Z,167nm,0.9s						
LYN				LR	LR			**VNDA**	**Vanda**	**67.10**	**180**	P	**P**	**23 15 08.9**	**+0.1**
	comp=Z,20μm,23.0s							VNDA				pP	**pwP**	**23 15 23.2**	**-0.7**
GSI	**Gunungsitoli**	**64.46**	**276**	P	**P**	**23 14 51.5**	**-1.3**	**CRAI**	**Chiangrai**	**67.23**	**297**	P	**P**	**23 15 10.2**	**-0.3**
GSI	**Gunungsitoli**	**64.46**	**276**	P	**P**	**23 14 52.3**	**-0.6**	**HEH**	**HeiHe**	**67.26**	**337**	*e*P	**P**	**23 15 08.8**	**-1.3**
	comp=Z,1μm,0.9s							HEH				pP	**pP**	**23 15 18.0**	**-4.5**
GSI	**Gunungsitoli**	**64.46**	**276**	P	**P**	**23 14 51.6**	**-1.3**	HEH				S	**S**	**23 24 03.6**	**+1.8**
	comp=Z,1μm,0.8s,comp=Z,17μmcomp=Z,36μm							HEH				sS	**sS**	**23 24 19.3**	**-3.4**
GYA	**Guiyang**	**64.48**	**306**⇓	*i*P	**P**	**23 14 54.8**	**+1.9**	HEH				pmax	pmax		
GYA				sP	pP	23 15 06.3	+0.7		comp=Z,520nm,0.9s						
GYA				PcP	**PcP**	**23 15 25.0**	**-1.9**	HEH				pmax	pmax		
GYA				S	**S**	**23 23 30.1**	**+0.9**		comp=Z,4μm,8.0s						
GYA				SS	**SS**	**23 27 45.1**	**+4.8**	HEH				LR	LR		
GYA				pmax	pmax				comp=Z,16μm,22.7s						
	comp=Z,4μm,9.5s							HEH				LR	LR		
GYA				LR	LR				comp=Z,15μm,22.1s						
	comp=Z,6μm,20.2s							HEH				LR	LR		
GYA				LR	LR				comp=Z,37μm,20.8s						
	comp=Z,14μm,20.4s							**SBA**	**Scott Base**	**67.49**	**179**	P	**P**	**23 15 12.8**	**+1.5**
GYA				LR	LR			**SBA**	**Scott Base**	**67.49**	**179**	P	**P**	**23 15 12.8**	**+1.5**
	comp=Z,22μm,21.2s							SBA				pmax	pmax		
HNS	**HongShan**	**64.55**	**320**	⇑P	**P**	**23 14 52.1**	**-0.8**		comp=Z,211nm,1.2s						
HNS				PP	**PP**	**23 17 11.8**	**-3.7**	SBA				MLR	MLR		
HNS				S	**S**	**23 23 29.8**	**+0.6**		comp=Z,10μm,19.0s						
HNS				SKS	**ScS**	**23 24 45.8**	**+1.9**	**SBA**	**Scott Base**	**67.49**	**179**	P	**P**	**23 15 12.5**	**+1.2**
HNS				pmax	pmax			**CLES**	**Cleveland East**	**67.63**	**18**	P	**P**	**23 15 11.9**	**-0.5**
	comp=Z,270nm,1.1s							CLES				lAmb	lAmb	23 15 27.8	
HNS				pmax	pmax				comp=Z,3μm,1.6s						
	comp=Z,5μm,5.6s							**XLT**	**XiLinHaoTe**	**67.86**	**326**⇑	*i*P	**P**	**23 15 13.8**	**-0.4**
HNS				LR	LR			XLT				pP	pP	23 15 20.5	-6.2
	comp=Z,13μm,21.5s							XLT				sP	sP	23 15 25.3	-6.3
HNS				LR	LR			XLT				PcP	**PcP**	**23 15 36.8**	**-3.7**
	comp=Z,17μm,22.9s							XLT				S	**S**	**23 24 11.5**	**+2.0**
GRNR	**Gornyy**	**64.66**	**343**⇓	*i*P	**P**	**23 14 54.3**	**+0.9**	XLT				ScS	**SKiKP**	**23 25 07.9**	**+0.5**
GRNR				*e*S	**S**	**23 23 35.6**	**+5.5**	XLT				SS	**SS**	**23 28 32.5**	**+0.3**
GRNR				*e*SS	**SS**	**23 27 41.1**	**-0.8**	XLT				pmax	pmax		
GRNR				pmax	pmax				comp=Z,1μm,1.7s						
	comp=E,10.0nm,0.7s							XLT				pmax	pmax		
GRNR				pmax	pmax				comp=Z,7μm,4.5s						
	comp=N,30nm,1.0s							XLT				LR	LR		
GRNR				pmax	pmax				comp=Z,2μm,21.9s						
	comp=Z,60nm,1.0s							XLT				LR	LR		
GRNR				smax	smax				comp=Z,12μm,23.9s						
	comp=N,6.0nm,0.9s							XLT				LR	LR		
KCSI	**Kotacane, Aceh**	**64.75**	**279**	P	**P**	**23 14 52.7**	**-2.1**		comp=Z,16μm,23.8s						
KLR	**Kul'dur**	**64.82**	**339**	S	**S**	**23 23 33.4**	**+1.2**	**CMAR**	**Chiang Mai Arr**	**67.88**	**295**	P	**P**	**23 15 13.6**	**-1.1**
	comp=N,1.2nm,0.8s,baz=78,slow=11,SNR=1.3								comp=Z,102nm,1.0s,baz=117,slow=4.2,SNR=71						
KLR				LR	LR	23 41 45.3		CMAR				S	**S**	**23 24 10.6**	**+0.2**
	comp=N,23μm,20.4s,baz=150,slow=35								comp=Z,0.5nm,0.4s,baz=112,slow=8.9,SNR=1.4						
KLR				PKPPKP		23 43 39.9		CMAR				LR	LR	23 43 22.9	
	comp=N,2.3nm,1.0s,baz=330,slow=3.7,SNR=4.1								comp=Z,4μm,20.5s,baz=120,slow=34						
KLR	**Kul'dur**	**64.82**	**339**	*ce*P	**P**	**23 14 53.8**	**-0.7**	CMAR				PKPPKP	**P'P'df**	**23 43 34.5**	**-1.7**
KLR				pmax	pmax				comp=Z,4.7nm,0.8s,baz=283,slow=3.9,SNR=5.5						
	comp=Z,784nm,1.5s								comp=Z,102nm,1.0s						
ADK	**Adak**	**64.88**	**15**	P	**P**	**23 14 54.9**	**+0.1**	**CMAR**	**Chiang Mai Arr**	**67.88**	**295**	P	**P**	**23 15 14.4**	**-0.3**
ADK	**Adak**	**64.88**	**15**	P	**P**	**23 14 56.4**	**+1.6**	**CMAR**	**Chiang Mai Arr**	**67.88**	**295**	*i* P	**P**	**23 15 14.6**	**-0.1**
	comp=Z,1μm,0.9s							CMAR				pmax	pmax		
ADK	**Adak**	**64.88**	**15**	P	**P**	**23 14 54.9**	**+0.1**		comp=Z,99nm,0.9s						
ADK				pmax	pmax			**CHTO**	**Chiang Mai**	**67.99**	**295**	P	**P**	**23 15 14.5**	**-1.0**
	comp=Z,954nm,1.0s							**CHTO**	**Chiang Mai**	**67.99**	**295**	P	**P**	**23 15 14.5**	**-1.0**
ADK				MLR	MLR			CHTO				pmax	pmax		
	comp=Z,24μm,22.0s								comp=Z,123nm,1.0s						
ADK	**Adak**	**64.88**	**15**	P	**P**	**23 14 56.0**	**+1.2**	CHTO				MLR	MLR		
GSTR	**Great Sitkin T**	**65.23**	**15**	P	**P**	**23 14 57.5**	**+0.3**		comp=Z,10μm,21.0s						
BJT	**Baijiatuau**	**65.29**	**323**	P	**P**	**23 14 59.5**	**+1.7**	**CCD**	**Concordia, Ant**	**68.05**	**190**	P	**P**	**23 15 15.0**	**-0.3**
	comp=Z,132nm,1.8s							CCD				pP	**pwP**	**23 15 29.8**	**-0.2**
BJT	**Baijiatuau**	**65.29**	**323**	P	**P**	**23 14 57.9**	**+0.1**	**NIKH**	**Nikolski High**	**68.09**	**19**	P	**P**	**23 15 16.1**	**+0.8**
BJI	**Beijing**	**65.30**	**323**	P	**P**	**23 14 57.3**	**-0.5**	**NIKH**	**Nikolski High**	**68.09**	**19**	P	**P**	**23 15 13.6**	**-1.7**
BJI				PcP	**PcP**	**23 15 28.6**	**-1.2**		baz=212,SNR=24						
BJI				S	**S**	**23 23 39.8**	**+1.4**	**NIKH**	**Nikolski High**	**68.09**	**19**	P	**P**	**23 15 16.4**	**+1.1**
BJI				sS	**sS**	**23 23 57.8**	**-1.1**		comp=Z,919nm,1.4s						
BJI				pmax	pmax			**PZH**	**PanZhiHua**	**68.48**	**304**	P	**P**	**23 15 17.0**	**-1.5**
	comp=Z,46nm,1.0s							PZH				pP	**pP**	**23 15 31.3**	**+0.1**
BJI				pmax	pmax			PZH				PP	**PP**	**23 17 53.9**	**+3.7**
	comp=Z,2μm,4.4s							PZH				S	**S**	**23 24 17.1**	**-0.5**
BJI				LR	LR			PZH				sS	**pS**	**23 24 34.1**	**+1.5**
	comp=Z,7μm,22.4s							PZH				pmax	pmax		
BJI				LR	LR				comp=Z,40nm,0.8s						
	comp=Z,5μm,22.5s							PZH				pmax	pmax		
BJI				LR	LR				comp=Z,3μm,6.8s						
	comp=Z,12μm,24.3s							PZH				LR	LR		
PBKT	**Sadao Pong**	**65.42**	**294**	P	**P**	**23 14 58.3**	**-0.7**		comp=Z,14μm,21.1s						
CASY	**Casey**	**65.43**	**200**	P	**P**	**23 14 58.7**	**+0.5**	PZH				LR	LR		
CASY				lAmb	lAmb	23 15 01.5			comp=Z,9μm,22.5s						
	comp=Z,316nm,1.2s							PZH				LR	LR		
CASY	**Casey**	**65.43**	**200**	P	**P**	**23 14 57.8**	**-0.4**		comp=Z,15μm,20.0s						
CASY				sP	**sP**	**23 15 17.9**	**+2.2**	**HHC**	**Hu-ho-hao-te**	**68.57**	**322**	*e*P	**P**	**23 15 18.0**	**-0.8**
NKL	**Nikolayevsk**	**65.71**	**347**	*e*P	**P**	**23 15 00.0**	**-0.2**	HHC				S	**S**	**23 24 21.0**	**+2.8**
NKL				*e*S	**S**	**23 23 48.0**	**+5.1**	HHC				ScS	**ScS**	**23 25 17.5**	**+2.2**
NKL				pmax	pmax			HHC				SS	**SS**	**23 28 48.8**	**+5.5**
	comp=E,272nm,1.7s							HHC				pmax	pmax		
NKL				pmax	pmax				comp=Z,230nm,0.9s						
	comp=N,630nm,1.9s							HHC				LR	LR		
NKL				pmax	pmax				comp=Z,12μm,21.6s						
	comp=Z,2μm,1.8s							HHC				LR	LR		
NKL				smax	smax				comp=Z,31μm,21.2s						
	comp=E,3μm,5.4s							HHC				LR	LR		
NKL				smax	smax				comp=Z,56μm,22.7s						
	comp=N,2μm,6.5s							**CD2**	**Chengdu**	**68.78**	**309**	P	**P**	**23 15 19.0**	**-1.2**
SNSI	**Sinabang, Aceh**	**65.91**	**277**	P	**P**		**23 15 03.3 +1.0**	CD2				PP	**PP**	**23 17 52.6**	**-0.1**
	comp=N,300nm,0.8s,comp=N,7μmcomp=N,19μm							CD2				S	**S**	**23 24 20.9**	**0.0**
LHMI	**Lhok Sumawe**	**65.94**	**280**	lAmb	lAmb	23 15 06.6		CD2				sS	pS	23 24 37.8	+1.9
	comp=Z,375nm,0.9s							CD2				SS	**SS**	**23 28 42.0**	**-4.8**
LHMI	**Lhok Sumawe**	**65.94**	**280**	P	**P**	**23 15 02.4**	**-0.1**	CD2				pmax	pmax		
	comp=Z,460nm,0.9s,comp=Z,12μmcomp=Z,30μm								comp=Z,290nm,1.0s						
TIY	**Taiyuan**	**66.18**	**319**	*e*P	**P**	**23 15 02.5**	**-1.2**	CD2				pmax	pmax		
TIY				S	**S**	**23 23 50.5**	**+1.0**		comp=Z,4μm,7.4s						
TIY				pmax	pmax			CD2				LR	LR		
	comp=Z,50nm,0.6s								comp=Z,3μm,17.3s						
TIY				pmax	pmax			CD2				LR	LR		
	comp=Z,4μm,9.8s								comp=Z,4μm,16.5s						
TIY				LR	LR			CD2				LR	LR		
	comp=Z,5μm,19.9s								comp=Z,16μm,23.0s						
TIY				LR	LR			**BTO**	**Baotou**	**69.39**	**321**	*e*P	**P**	**23 15 24.0**	**+0.2**
	comp=Z,13μm,20.6s							BTO				S	**S**	**23 24 32.0**	**+4.2**
TIY				LR	LR			BTO				LR	LR		
	comp=Z,16μm,19.2s								comp=Z,40μm,19.0s						
MLSI	**Meulaboh, Aceh**	**66.25**	**279**	P	**P**		**23 15 02.9 -1.5**	BTO				LR	LR		
	comp=Z,501nm,1.2s,comp=Z,4μmcomp=Z,479nm								comp=Z,31μm,22.8s						
XAN	**Xi'an**	**66.51**	**314**	⇑P	**P**	**23 15 04.0**	**-1.8**	**UNV**	**Unalaska Valle**	**69.59**	**20**	lAmb	lAmb	23 15 45.2	
XAN				PcP	**PcP**	**23 15 32.3**	**-2.8**		comp=Z,446nm,1.3s						
XAN				PP	**PP**	**23 17 34.8**	**+2.0**	**UNV**	**Unalaska Valle**	**69.59**	**20**	P	**P**	**23 15 22.7**	**-1.9**
XAN				S	**S**	**23 23 50.6**	**-2.9**		baz=214,SNR=6.0						
XAN				ScS	**SKSac**	**23 24 56.3**	**-2.7**	**HIA**	**Hailar**	**69.72**	**332**	lAmb	lAmb	23 15 30.3	
XAN				SS	**SS**	**23 28 07.5**	**-4.0**		comp=Z,356nm,0.8s						
XAN				pmax	pmax			**HIA**	**Hailar**	**69.72**	**332**	lAMs_20	lAMs_20	23 43 09.3	
	comp=Z,280nm,0.8s								comp=Z,29μm,22.0s						
XAN				pmax	pmax			**HIA**	**Hailar**	**69.72**	**332**	P	**P**	**23 15 25.9**	**+0.3**
	comp=Z,5μm,7.0s								comp=Z,506nm,0.9s						
XAN				LR	LR			**HIA**	**Hailar**	**69.72**	**332**	P	**P**	**23 15 25.2**	**-0.4**
	comp=Z,9μm,21.0s							HIA				pP	**pwP**	**23 15 39.1**	**-1.0**
XAN				LR	LR			**AKUT**	**Akutan**	**70.07**	**20**	P	**P**	**23 15 28.1**	**+0.5**
	comp=Z,19μm,19.8s							AKUT				lAmb	lAmb	23 15 42.4	
XAN				LR	LR				comp=Z,489nm,1.1s						
	comp=Z,29μm,21.1s							**ZEA**	**Zeya**	**70.13**	**339**	*e*P	**P**	**23 15 27.5**	**-0.5**
XAN	**Xi'an**	**66.51**	**314**	P	**P**	**23 15 05.0**	**-0.8**	ZEA				*e*S	**S**	**23 24 38.2**	**+2.4**
XAN				pP	**pP**	**23 15 19.9**	**+1.5**	ZEA				pmax	pmax		
PHRA	**Phrae**	**66.74**	**295**	P	**P**	**23 15 07.4**	**-0.1**		comp=E,700nm,4.9s						
KMI	**Kunming**	**67.09**	**303**	⇑P	**P**	**23 15 09.3**	**-0.6**	ZEA				pmax	pmax		
KMI				sP	pP	23 15 24.5	+1.8		comp=N,2μm,5.9s						
KMI				PcP	**PcP**	**23 15 37.6**	**-0.3**	ZEA				pmax	pmax		
KMI				S	**S**	**23 24 03.9**	**+2.7**		comp=Z,4μm,5.9s						
								ZEA				pmax	pmax		
	comp=N,300nm,1.2s														
ZEA				pmax	pmax										
	comp=Z,500nm,1.3s														
ZEA				smax	smax										
	comp=E,3μm,5.7s														
ZEA				smax	smax										
	comp=N,3μm,6.4s														
ZEA				MLR	MLR										
	comp=E,3μm,21.0s														
ZEA				MLR	MLR										
	comp=N,8μm,19.0s														
ZEA				MLR	MLR										
	comp=Z,9μm,19.0s														
MA2	**Magadan**	**70.26**	**354**	LR	LR	23 43 03.9									
	comp=Z,13μm,21.0s,baz=182,slow=33														
MA2				PKPPKP		23 43 27.9									
	comp=Z,3.8nm,0.3s,baz=354,slow=6.2,SNR=4.5														
MA2	**Magadan**	**70.26**	**354**	P	**P**	**23 15 27.8**	**-0.9**								
MA2				lAmb	lAmb	23 15 32.4									
	comp=Z,444nm,1.3s														
MA2	**Magadan**	**70.26**	**354***c i* P		**P**	**23 15 27.7**	**-0.9**								
MA2				pmax	pmax										
	comp=Z,385nm,1.2s														
MA2				MLR	MLR										
	comp=Z,9μm,19.0s														
MA2	**Magadan**	**70.26**	**354**	P	**P**	**23 15 27.7**	**-0.9**								
TNCH	**TengChong**	**70.58**	**301**	⇑P	**P**	**23 15 30.5**	**-1.0**								
TNCH				pP	pP	23 15 39.8	-4.6								
TNCH				sP	sP	23 15 43.5	-5.8								
TNCH				PcP	**PcP**	**23 15 51.8**	**-0.7**								
TNCH				PP	**PP**	**23 18 09.1**	**+0.7**								
TNCH				S	**S**	**23 24 41.1**	**-1.4**								
TNCH				sS	pS	23 24 56.8	-0.8								
TNCH				SS	**SS**	**23 29 14.8**	**-0.1**								
TNCH				pmax	pmax										
	comp=Z,120nm,1.7s														
TNCH				pmax	pmax										
	comp=Z,3μm,4.5s														
TNCH				LR	LR										
	comp=Z,4μm,18.8s														
TNCH				LR	LR										
	comp=Z,5μm,23.9s														
TNCH				LR	LR										
	comp=Z,19μm,26.2s														
LZH	**Lanzhou**	**71.14**	**314**	⇑P	**P**	**23 15 34.4**	**-0.3**								
LZH				sP	pP	23 15 41.8	-5.6								
LZH				S	**S**	**23 24 43.9**	**-4.6**								
LZH				sS	pS	23 24 59.4	-4.1								
LZH				pmax	pmax										
	comp=Z,300nm,1.4s														
LZH				pmax	pmax										
	comp=Z,5μm,5.0s														
LZH				LR	LR										
	comp=Z,11μm,16.3s														
LZH				LR	LR										
	comp=Z,19μm,16.6s														
LZH				LR	LR										
	comp=Z,32μm,19.1s														
SPIA	**Saint Paul Isl**	**71.30**	**16**	P	**P**	**23 15 35.6**	**+0.7**								
SPIA				lAmb	lAmb	23 15 39.4									
	comp=Z,619nm,1.0s														
SPIA	**Saint Paul Isl**	**71.30**	**16**	P	**P**	**23 15 32.8**	**-2.2**								
	baz=210														
PBA	**Port Blair**	**71.57**	**286**	P	**P**	**23 15 37.6**	**+0.1**								
PBA				lAmb	lAmb	23 16 16.5									
	comp=Z,361nm,1.2s														
PBA	**Port Blair**	**71.57**	**286**	*e*P	**P**	**23 15 37.2**	**-0.3**								
DGPR	**DIGLIPUR**	**71.80**	**288**	*e*P	**P**	**23 15 37.3**	**-1.6**								
S12K	**Black Hills**	**72.60**	**21**	P	**P**	**23 15 41.0**	**-1.9**								
	baz=218,SNR=10														
SDPT	**Sand Point**	**72.89**	**22**	P	**P**	**23 15 44.5**	**-0.1**								
SDPT				lAmb	lAmb	23 15 47.2									
	comp=Z,366nm,0.8s														
SDPT	**Sand Point**	**72.89**	**22**	P	**P**	**23 15 43.0**	**-1.5**								
	baz=220,SNR=13														
SEY	**Seymchan**	**73.44**	**356**	LR	LR	23 44 49.2									
	comp=Z,19μm,21.3s,baz=176,slow=33														
SEY	**Seymchan**	**73.44**	**356***ce*P		**P**	**23 15 47.4**	**-0.2**								
SEY				pmax	pmax										
	comp=Z,872nm,2.5s														
SEY				MLR	MLR										
	comp=Z,12μm,18.0s														
LKP	**Lekhapani**	**73.65**	**303**	*e*P	**P**	**23 15 50.1**	**+0.4**								
LKP				lAMs_20	lAMs_20	23 44 09.5									
	comp=Z,28μm,24.5s														
CHGN	**Chignik**	**74.37**	**22**	lAmb	lAmb	23 16 07.8									
	comp=Z,1μm,1.5s														
CHGN	**Chignik**	**74.37**	**22**	P	**P**	**23 15 52.1**	**-1.1**								
	baz=221,SNR=14														
IMP	**Imphal**	**74.39**	**299**	*e*P	**P**	**23 15 52.3**	**-1.8**								
MOKO	**MOKOCHONG**	**74.41**	**301**	*e*P	**P**	**23 15 52.5**	**-1.8**								
SAIH	**SAIHA**	**74.46**	**297**	*e*P	**P**	**23 15 54.0**	**-0.7**								
SAIH				lAMs_20	lAMs_20	23 43 42.6									
	comp=Z,30μm,24.5s														
CIT	**Chita**	**74.48**	**332**	*e*P	**P**	**23 15 55.4**	**+1.4**								
CIT				*e*		23 16 04.2									
CIT				*e*		23 16 14.2									
CIT				*e*		23 25 28.0									
CIT				*e*S	S	23 25 47.8	+22								
CIT				pmax	pmax										
	comp=Z,2μm,1.9s														
JORH	**JORHAT**	**74.78**	**301**	lAMs_20	lAMs_20	23 44 16.8									
	comp=Z,16μm,24.5s														
CHIR	**Chirikof Islan**	**75.08**	**24**	P	**P**	**23 15 57.7**	**+0.4**								
CHIR				lAmb	lAmb	23 16 03.0									
	comp=Z,805nm,1.4s														
CHIR	**Chirikof Islan**	**75.08**	**24**	P	**P**	**23 15 56.7**	**-0.7**								
	baz=224,SNR=7.1														
ULN	**Ulaanbaatar**	**75.27**	**326**	P	**P**	**23 15 58.4**	**-0.4**								
ULN				lAmb	lAmb	23 16 06.5									
	comp=Z,1μm,1.4s														
ULN	**Ulaanbaatar**	**75.27**	**326**	lAMs_20	lAMs_20	23 52 06.2									
	comp=Z,21μm,19.0s														
ULN	**Ulaanbaatar**	**75.27**	**326***c i* P		**P**	**23 15 58.3**	**-0.5**								
ULN				pmax	pmax										
	comp=Z,903nm,1.4s														
ULN				MLR	MLR										
	comp=Z,20μm,19.0s														
ZIRO	**ZIRO**	**75.38**	**302**	*e*P	**P**	**23 15 58.5**	**-1.4**								
GTA	**Gaotai**	**75.51**	**315**	⇑P	**P**	**23 15 59.6**	**-0.8**								
GTA				PP	**PP**	**23 18 50.4**	**+0.2**								
GTA				S	**S**	**23 25 39.4**	**+1.5**								
GTA				sS	pS	23 25 55.4	+2.2								
GTA				SS	**SS**	**23 30 30.8**	**+1.1**								
GTA				pmax	pmax										
	comp=Z,4μm,5.1s														
GTA				LR	LR										
	comp=Z,5μm,20.7s														
GTA				LR	LR										
	comp=Z,11μm,21.1s														
GTA				LR	LR										
	comp=Z,15μm,21.1s														
SONM	**Songino Array**	**75.62**	**325**	P	**P**	**23 16 00.2**	**-0.6**								
	comp=Z,284nm,0.9s,baz=141,slow=5.1,SNR=221														
SONM				S	**S**	**23 25 40.7**	**+1.9**								
	comp=Z,1.6nm,1.1s,baz=46,slow=6.4,SNR=2.9														
SONM				LR	LR	23 51 17.6									
	comp=Z,16μm,18.5s,baz=122,slow=37														
	comp=Z,284nm,0.9s														
SONM	**Songino Array**	**75.62**	**325**	lAmb	lAmb	23 16 07.5									
	comp=Z,512nm,1.2s														
R16K	**Pilot Point**	**75.63**	**21**	P	**P**	**23 16 00.0**	**-0.4**								
	baz=222														
BRDH	**Bariadhala**	**75.70**	**297**	LR	LR	23 48 33.0									
	comp=Z,7μm,21.7s,baz=179,slow=35														
TEZP	**TEZPUR**	**75.96**	**301**	*e*P	**P**	**23 16 01.9**	**-1.2**								
R17K	**Ugashik Creek**	**76.11**	**22**	P	**P**	**23 16 03.0**	**-0.2**								
	baz=223,SNR=48														
SII	**Sitkinak Islan**	**76.17**	**24**	P	**P**	**23 16 03.4**	**-0.2**								
	baz=225,SNR=28		

YAK pmax pmax
comp=Z,750nm,1.1s
YAK pmax pmax
comp=N,136nm,1.0s
YAK pmax pmax
comp=E,113nm,1.4s
YAK pmax pmax
comp=Z,371nm,2.2s
YAK pmax pmax
comp=N,421nm,2.5s
YAK pmax pmax
comp=E,347nm,2.7s
YAK smax smax
comp=E,1µm,4.2s
YAK smax smax
comp=N,1µm,5.3s

SHL Shillong 76.39 300 P **P** **23 16 04.9 -0.9**
SHL Shillong 76.39 300 *e*P **P** **23 16 04.0 -1.8**
SHL IAmb IAmb 23 16 13.3
comp=Z,72nm,0.7s
SHL *i* x x 23 19 08.4
SHL Shillong 76.39 300 P **P** **23 16 04.9 -0.9**
SHL pmax pmax
comp=Z,290nm,1.3s
P16K Nushagak River 76.58 20 P **P** **23 16 05.0 -0.8**
baz=221,SNR=73
Q17K Contact Creek 76.75 22 P **P** **23 16 06.4 -0.6**
baz=223,SNR=158
GAMB Gambell 76.78 12 IAmb IAmb 23 16 22.4
comp=Z,622nm,1.5s
GAMB Gambell 76.78 12 P **P** **23 16 06.7 -0.1**
baz=207,SNR=36
Q16K King Salmon 76.78 21 P **P** **23 16 06.4 -0.5**
baz=222,SNR=25
O16K Kokwok River B 76.97 20 P **P** **23 16 07.4 -0.6**
baz=221
OHAK Old Harbor 76.99 23 P **P** **23 16 08.1 0.0**
baz=226,SNR=46
Q18K Katmai Hardscr 77.35 22 P **P** **23 16 09.6 -0.7**
baz=224,SNR=148
N16K Nishlik Lake 77.42 19 P **P** **23 16 11.5 +0.9**
baz=220
O17K Koliganek Bris 77.44 20 P **P** **23 16 10.1 -0.5**
baz=222,SNR=43
KDAK Kodiak Island 77.65 23 P **P** **23 16 11.4 -0.5**
comp=Z,306nm,1.0s,baz=236,slow=2.8,SNR=94
KDAK PP **PP** **23 19 08.0 +0.4**
comp=Z,84nm,1.2s,baz=277,slow=4.5,SNR=6.2
KDAK S **S** **23 25 58.1 -2.2**
comp=Z,7.1nm,1.1s,baz=284,slow=20,SNR=2.1
KDAK LR LR 23 46 38.0
comp=Z,23µm,19.7s,baz=245,slow=33
comp=Z,306nm,1.0s
KDAK Kodiak Island 77.65 23 P **P** **23 16 12.2 +0.3**
KDAK IAmb IAmb 23 16 16.9
comp=Z,470nm,0.8s
KDAK Kodiak Island 77.65 23 IAMs_20 IAMs_20 23 46 27.1
comp=Z,23µm,20.0s
KDAK Kodiak Island 77.65 23 P **P** **23 16 11.6 -0.2**
baz=226
KDAK Kodiak Island 77.65 23*c i*P **P** **23 16 12.3 +0.4**
KDAK pmax pmax
comp=Z,735nm,0.8s
KDAK MLR MLR
comp=Z,14µm,18.0s
GOMU GeErMu 77.77 311 P **P** **23 16 13.0 -0.5**
GOMU PP **PP** **23 19 10.4 +0.8**
GOMU S **S** **23 26 06.3 +3.1**
GOMU SS **SS** **23 31 09.4 +5.0**
GOMU LR LR
comp=Z,5µm,18.8s
GOMU LR LR
comp=Z,9µm,19.4s
GOMU LR LR
comp=Z,10µm,19.2s
P18K Big Mountain, 77.81 21 IAmb IAmb 23 16 27.6
comp=Z,985nm,1.4s
P18K IAMs_20 IAMs_20 23 44 01.9
comp=Z,30µm,22.0s
P18K Big Mountain, 77.81 21 P **P** **23 16 11.9 -0.9**
baz=224,SNR=107
Q19K Cape Douglas, 78.05 22 P **P** **23 16 13.9 -0.2**
baz=225,SNR=74
BOD Bodaibo 78.15 336 *e*P **P** **23 16 13.4 -1.2**
BOD pmax pmax
comp=Z,393nm,1.7s
O18K Koktuh Hills 78.15 21 IAmb IAmb 23 16 29.8
comp=Z,1µm,1.9s
O18K IAMs_20 IAMs_20 23 45 18.5
comp=Z,34µm,21.0s
O18K Koktuh Hills 78.15 21 P **P** **23 16 14.1 -0.5**
baz=224
Q20K Shuyak Island 78.30 23 P **P** **23 16 15.8 +0.4**
baz=226,SNR=39
BILL Bilibino 78.32 2 P **P** **23 16 15.0 -0.4**
BILL IAmb IAmb 23 16 30.6
comp=Z,788nm,1.1s
BILL Bilibino 78.32 2*d i*P **P** **23 16 14.7 -0.7**
BILL *e* 23 16 24.7
BILL *e**PP **PcP** **23 16 26.1 +1.5**
BILL *i* *SP **pP** **23 16 28.8 +0.4**
BILL *i* 23 19 12.0
BILL *i* PPP PPP 23 20 59.0
BILL *i* S **S** **23 26 05.2 -1.9**
BILL *i* *SS **SKSac** **23 26 26.2 +0.2**
BILL *i* 23 26 47.4
BILL *i* 23 27 04.5
BILL *i* SS **SS** **23 31 04.7 -6.0**
BILL pmax pmax
comp=Z,873nm,1.4s
BILL MLR MLR
comp=Z,6µm,18.0s
LSA Lhasa 78.34 303 P **P** **23 16 15.5 -1.5**
LSA S **S** **23 26 07.6 -2.3**
LSA pmax pmax
comp=Z,16nm,2.6s
LSA LR LR
comp=Z,8µm,23.1s
LSA LR LR
comp=Z,14µm,23.1s
LSA LR LR
comp=Z,22µm,23.5s
O19K Port Alsworth 78.70 21 IAmb IAmb 23 16 33.7
comp=Z,1µm,1.9s
O19K IAMs_20 IAMs_20 23 45 24.6
comp=Z,30µm,21.0s
O19K Port Alsworth 78.70 21 P **P** **23 16 17.0 -0.7**
baz=224,SNR=37
P19K Oil Pt 78.71 22 IAmb IAmb 23 16 22.4
comp=Z,571nm,0.8s
P19K IAMs_20 IAMs_20 23 45 02.8
comp=Z,26µm,22.0s
P19K Oil Pt 78.71 22 P **P** **23 16 17.3 -0.4**
baz=226
ZAK Zakamensk 78.72 326 *e*P **P** **23 16 17.0 -1.1**
ZAK *e* 23 26 10.3
ZAK pmax pmax
comp=Z,299nm,1.7s
AIS Amsterdam Isla 78.78 233 P **P** **23 16 19.8 +1.1**
AIS IAmb IAmb 23 16 23.0
comp=Z,479nm,1.1s
ANM Nome 78.86 14 IAmb IAmb 23 16 34.4
comp=Z,677nm,1.6s
ANM IAMs_20 IAMs_20 23 44 48.0
comp=Z,19µm,22.0s
ANM Nome 78.86 14 P **P** **23 16 18.5 +0.1**
baz=213,SNR=85
ILSW Iliamna Southw 78.97 21 IAmb IAmb 23 16 23.5
comp=Z,550nm,1.0s
N19K Bonanza Creek 79.09 20 P **P** **23 16 19.9 0.0**
N19K Bonanza Creek 79.09 20 P **P** **23 16 19.5 -0.4**
baz=224
TNA Tin City 79.13 13 P **P** **23 16 19.7 -0.2**
baz=211,SNR=108
IRK Irkutsk 79.19 328 *e*P **P** **23 16 19.1 -1.4**
IRK *e* 23 26 38.0
IRK pmax pmax
comp=Z,712nm,1.9s
O20K Slope Mountain 79.23 22 P **P** **23 16 20.3 -0.4**
baz=226,SNR=51
HOM Homer 79.30 22 P **P** **23 16 21.9 +1.0**
HOM Homer 79.30 22 P **P** **23 16 21.2 +0.3**
baz=227,SNR=18
BRSE Bradley Lake S 79.69 22 P **P** **23 16 22.9 -0.2**
baz=228,SNR=51
SLGI Shiliguri 79.71 300 *e*P **P** **23 16 23.7 -0.2**
L19K White Mountain 79.95 19 P **P** **23 16 24.8 +0.3**
baz=224
TTA Tatalina 80.14 18 IAmb IAmb 23 16 30.9
comp=Z,304nm,0.9s
TTA Tatalina 80.14 18 P **P** **23 16 25.6 +0.1**
baz=223,SNR=92
N20K Mount Spurr 80.15 21 P **P** **23 16 24.2 -1.4**
baz=226,SNR=58
SPCR Spurr Chakacha 80.15 21 P **P** **23 16 24.4 -1.2**
baz=226,SNR=37
CAPN Captain Cook N 80.23 22 P **P** **23 16 27.8 +1.9**
CAPN IAMs_20 IAMs_20 23 46 03.0
comp=Z,35µm,21.0s
CAPN Captain Cook N 80.23 22 P **P** **23 16 26.5 +0.6**
baz=227,SNR=25
M20K Styx River 80.31 20 IAmb IAmb 23 16 30.1
comp=Z,1µm,1.9s
M20K IAMs_20 IAMs_20 23 48 28.0
comp=Z,30µm,20.0s
M20K Styx River 80.31 20 P **P** **23 16 26.3 -0.2**
baz=225
SEW Seward 80.42 23 IAmb IAmb 23 16 34.3
comp=Z,354nm,0.9s
SEW Seward 80.42 23 P **P** **23 16 26.9 0.0**
baz=229,SNR=46
L20K Farewell, AK 80.49 19 P **P** **23 16 27.8 +0.5**
baz=225
MOY Mondy 80.62 327 *e*P **P** **23 16 27.4 -1.0**
MOY pmax pmax
comp=Z,59nm,1.9s
FIS Fire Island 80.82 22 P **P** **23 16 29.8 +0.7**
SUA Susitna One 80.85 21 IAmb IAmb 23 16 33.3
comp=Z,437nm,0.9s
SUA IAMs_20 IAMs_20 23 45 50.2
comp=Z,25µm,22.0s
SUA Susitna One 80.85 21 P **P** **23 16 28.5 -0.9**
baz=228
SKT Skwentna 80.92 21 IAMs_20 IAMs_20 23 47 38.3
comp=Z,30µm,21.0s
SKT Skwentna 80.92 21 P **P** **23 16 27.9 -1.8**
baz=227,SNR=58
RC01 Rabbit Creek A 80.96 22 P **P** **23 16 29.4 -0.4**
baz=229,SNR=90
K20K Telida 81.05 19 IAmb IAmb 23 16 37.0
comp=Z,738nm,1.3s
K20K IAMs_20 IAMs_20 23 46 42.5
comp=Z,22µm,22.0s
K20K Telida 81.05 19 P **P** **23 16 30.6 +0.3**
baz=224,SNR=172
BOK Bokaro 81.09 296 *e*P **P** **23 16 30.2 -1.2**
BOK IAmb IAmb 23 16 35.4
comp=Z,67nm,0.9s
BOK IAMs_20 IAMs_20 23 47 15.9
comp=Z,21µm,27.8s
P23K Montague Islan 81.14 23 P **P** **23 16 30.6 -0.2**
baz=231
Q23K Middleton Isla 81.20 24 P **P** **23 16 32.1 +1.0**
Q23K IAmb IAmb 23 17 17.5
comp=Z,504nm,0.9s
Q23K IAMs_20 IAMs_20 23 45 24.9
comp=Z,18µm,22.0s
Q23K Middleton Isla 81.20 24 P **P** **23 16 30.9 -0.2**
baz=232
MID Middleton Isla 81.20 24 P **P** **23 16 31.5 +0.4**
MID IAmb IAmb 23 17 17.4
comp=Z,454nm,0.9s
MID Middleton Isla 81.20 24 P **P** **23 16 31.5 +0.4**
MID pmax pmax
comp=Z,454nm,0.9s
GCSA Galena City Sc 81.23 17 P **P** **23 16 31.0 -0.2**
baz=222
M22K Willow 81.27 21 IAMs_20 IAMs_20 23 46 48.9
comp=Z,24µm,22.0s
M22K Willow 81.27 21 P **P** **23 16 30.7 -0.7**
baz=228,SNR=96
PWL Port Wells 81.33 22 IAmb IAmb 23 16 36.9
comp=Z,683nm,1.1s
PWL IAMs_20 IAMs_20 23 46 12.1
comp=Z,31µm,22.0s
PWL Port Wells 81.33 22 P **P** **23 16 31.6 -0.3**
baz=230,SNR=41
PPLA Purkeypile 81.33 20 P **P** **23 16 32.1 +0.1**
PPLA IAmb IAmb 23 16 38.9
comp=Z,1µm,1.6s
PPLA Purkeypile 81.33 20 P **P** **23 16 30.8 -1.2**
baz=226,SNR=73
PMR Palmer 81.51 22 IAmb IAmb 23 16 48.0
comp=Z,1µm,1.7s
PMR Palmer 81.51 22 P **P** **23 16 32.5 -0.3**
baz=229,SNR=73
KNK Knik Glacier 81.64 22 IAmb IAmb 23 16 49.2
comp=Z,887nm,1.4s
KNK Knik Glacier 81.64 22 P **P** **23 16 33.2 -0.3**
baz=230,SNR=44
CUT Chulitna 81.65 21 IAMs_20 IAMs_20 23 48 49.5
comp=Z,26µm,20.0s
CUT Chulitna 81.65 21 P **P** **23 16 32.7 -0.7**
baz=228,SNR=77
CAST Castle Rocks 81.73 19 IAmb IAmb 23 16 39.3
comp=Z,506nm,0.8s
CAST IAMs_20 IAMs_20 23 47 26.5
comp=Z,29µm,21.0s
CAST Castle Rocks 81.73 19 P **P** **23 16 32.9 -1.1**
baz=226,SNR=366
SML Sawmill 81.94 22 P **P** **23 16 34.6 -0.5**
baz=230,SNR=77
CHUM Lake Minchumin 81.98 19 P **P** **23 16 34.8 -0.4**
baz=226,SNR=158
EYAK Cordova Ski Ar 82.13 23 IAmb IAmb 23 16 42.6
comp=Z,245nm,0.9s
EYAK Cordova Ski Ar 82.13 23 P **P** **23 16 35.9 -0.1**
baz=232,SNR=26
EYAK Cordova Ski Ar 82.13 23 P **P** **23 16 38.9 +2.9**
comp=Z,351nm,1.2s
PALK Pallekele 82.14 279 P **P** **23 16 37.1 -0.1**
PALK Pallekele 82.14 279 P **P** **23 16 37.1 -0.1**
PALK pmax pmax
comp=Z,181nm,1.0s
M23K Glacier View 82.16 22 P **P** **23 16 36.0 -0.2**
baz=230,SNR=50
KTH Kantishna Hill 82.20 20 IAmb IAmb 23 16 40.4
comp=Z,525nm,1.0s
KTH IAMs_20 IAMs_20 23 47 51.0
comp=Z,29µm,21.0s
RDOG Red Dog Mine 82.32 13 IAMs_20 IAMs_20 23 55 43.2
comp=Z,19µm,22.0s
SCM Sheep Creek Mo 82.33 22 P **P** **23 16 37.2 0.0**
SCM IAmb IAmb 23 16 41.8
comp=Z,371nm,0.8s
SCM IAMs_20 IAMs_20 23 46 46.4
comp=Z,33µm,22.0s
SCM Sheep Creek Mo 82.33 22 P **P** **23 16 37.0 -0.1**
baz=231,SNR=74
SCM Sheep Creek Mo 82.33 22 P **P** **23 16 37.2 0.0**
SCM pmax pmax
comp=Z,371nm,0.8s
SCM MLR MLR
comp=Z,34µm,22.0s
TRF Thorofare Moun 82.34 20 IAmb IAmb 23 16 43.0
comp=Z,453nm,1.0s
TRF Thorofare Moun 82.34 20 P **P** **23 16 36.3 -1.0**
baz=228,SNR=116
JHSG JHARSUGUGA 82.46 294 *e*P **P** **23 16 38.5 -0.1**
DIV Divide 82.47 23 IAmb IAmb 23 16 44.0
comp=Z,347nm,0.9s
WAT1 Susitna Watana 82.53 21 P **P** **23 16 37.5 -0.6**
baz=230
BPAW Bear Paw Mtn. 82.56 19 P **P** **23 16 37.2 -1.1**
BPAW IAmb IAmb 23 16 42.2
comp=Z,1µm,1.9s
BPAW IAMs_20 IAMs_20 23 47 39.3
comp=Z,28µm,22.0s
BPAW Bear Paw Mtn. 82.56 19 P **P** **23 16 37.1 -1.1**
baz=227,SNR=117
KLU Klutina 82.64 23 IAmb IAmb 23 16 58.3
comp=Z,282nm,0.9s
KLU IAMs_20 IAMs_20 23 48 30.7
comp=Z,20µm,20.0s
KLU Klutina 82.64 23 P **P** **23 16 38.9 +0.1**
baz=232,SNR=67
WAT6 Susitna Watana 82.65 21 P **P** **23 16 38.5 -0.5**
baz=230,SNR=101
RND Reindeer 82.80 20 P **P** **23 16 39.4 -0.2**
RND IAmb IAmb 23 16 46.5
comp=Z,831nm,1.5s
RND Reindeer 82.80 20 P **P** **23 16 39.4 -0.2**
RND pmax pmax
comp=Z,831nm,1.5s
BMRM Bremner River 82.83 23 P **P** **23 16 40.8 +1.0**
baz=233,SNR=47
PAF Port-aux-Franc 82.91 221 P **P** **23 16 40.0 -0.5**
PAF IAMs_20 IAMs_20 23 48 01.2
comp=Z,30µm,21.0s
PAF Port-aux-Franc 82.91 221 P **P** **23 16 40.0 -0.5**
PAF pmax pmax
comp=Z,762nm,0.9s
PAF MLR MLR
comp=Z,30µm,21.0s
M24K Tolsona, Glenn 82.92 22 IAMs_20 IAMs_20 23 47 16.2
comp=Z,23µm,22.0s
M24K Tolsona, Glenn 82.92 22 P **P** **23 16 40.5 +0.2**
baz=232,SNR=111
MCK McKinley 82.99 20 P **P** **23 16 39.8 -0.7**
MCK McKinley 82.99 20 P **P** **23 16 39.4 -1.0**
baz=229,SNR=488
MCK McKinley 82.99 20 P **P** **23 16 39.8 -0.7**
MCK pmax pmax
comp=Z,1µm,1.0s
MCK MLR MLR
comp=Z,36µm,21.0s
I21K Tanana 82.99 18 IAMs_20 IAMs_20 23 51 23.6
comp=Z,21µm,20.0s
I21K Tanana 82.99 18 P **P** **23 16 40.5 +0.1**
baz=226
SNH Sunshine Point 83.08 25 P **P** **23 16 42.2 +1.1**
SNH IAmb IAmb 23 16 45.8
comp=Z,407nm,0.9s
SNH IAMs_20 IAMs_20 23 47 54.4
comp=Z,20µm,20.0s
H21K Melozitna Rive 83.08 17 IAMs_20 IAMs_20 23 50 00.9
comp=Z,20µm,21.0s
H21K Melozitna Rive 83.08 17 P **P** **23 16 41.1 +0.2**
baz=225
DHY Denali Highway 83.10 21 IAmb IAmb 23 16 56.7
comp=Z,799nm,1.8s
DHY Denali Highway 83.10 21 P **P** **23 16 40.8 -0.5**
baz=231,SNR=78
N25K Chitina, Valde 83.21 23 IAmb IAmb 23 16 47.9
comp=Z,203nm,0.7s
N25K IAMs_20 IAMs_20 23 48 38.9
comp=Z,29µm,20.0s
N25K Chitina, Valde 83.21 23 P **P** **23 16 41.8 0.0**
baz=233,SNR=144
MLY Manley 83.27 19 IAmb IAmb 23 16 46.7
comp=Z,341nm,0.9s
MLY IAMs_20 IAMs_20 23 52 21.0
comp=Z,20µm,20.0s
MLY Manley 83.27 19 P **P** **23 16 41.9 0.0**
baz=227,SNR=300
GLB Gilahina Butte 83.42 23 IAmb IAmb 23 16 47.9
comp=Z,297nm,0.8s
GLB IAMs_20 IAMs_20 23 47 32.4
comp=Z,35µm,21.0s
VRDI Verde Repeater 83.44 24 IAmb IAmb 23 16 57.9
comp=Z,259nm,1.0s
HARP HAARP 83.48 22 P **P** **23 16 43.3 +0.2**
baz=233,SNR=50
G21K Allakaket 83.48 17 P **P** **23 16 42.7 -0.3**
baz=225
NEA2 Nenana 83.51 19 IAmb IAmb 23 16 47.2
comp=Z,382nm,1.0s
NEA2 IAMs_20 IAMs_20 23 48 52.4
comp=Z,28µm,21.0s
NEA2 Nenana 83.51 19 P **P** **23 16 42.0 -1.2**
baz=229,SNR=227
MAW Mawson 83.66 202 P **P** **23 16 43.1 -0.8**
comp=Z,273nm,0.9s,baz=90,slow=5.5,SNR=50
MAW S **S** **23 27 02.1 -0.8**
comp=Z,5.6nm,0.8s,baz=272,slow=17,SNR=1.3
MAW LR LR 23 48 43.4
comp=Z,12µm,21.1s,baz=86,slow=32
comp=Z,273nm,0.9s
MAW Mawson 83.66 202 P **P** **23 16 44.2 +0.3**
baz=84,SNR=41
MCARA McCarthy VSAT 83.69 24 IAmb IAmb 23 17 01.3
comp=Z,484nm,1.0s
MCARA IAMs_20 IAMs_20 23 47 17.7
comp=Z,29µm,22.0s
MCARA McCarthy VSAT 83.69 24 P **P** **23 16 44.2 0.0**
baz=235,SNR=93
PAX Paxson 83.71 22 P **P** **23 16 43.8 -0.5**
PAX Paxson 83.71 22 P **P** **23 16 43.8 -0.5**
baz=232,SNR=26
PAX Paxson 83.71 22 P **P** **23 16 43.8 -0.5**
PAX pmax pmax
comp=Z,245nm,1.4s
WRH Wood River Hil 83.75 20 P **P** **23 16 43.6 -0.8**
WRH IAmb IAmb 23 16 48.0
comp=Z,253nm,0.8s
MDRS Chennai 83.77 284 *e*P **P** **23 16 46.0 +0.6**
MDRS IAmb IAmb 23 16 52.3
comp=Z,198nm,1.3s
VAR Varanasi 84.01 297 *e*P **P** **23 16 46.6 +0.1**
MDM Murphy Dome 84.02 19 IAmb IAmb 23 16 49.9
comp=Z,330nm,1.0s
MDM IAMs_20 IAMs_20 23 49 18.0
comp=Z,31µm,21.0s
TCOL CIGO, UAF Yank 84.08 19 IAmb IAmb 23 16 50.1
comp=Z,355nm,0.8s
TCOL CIGO, UAF Yank 84.08 19 P **P** **23 16 45.2 -0.8**
baz=230,SNR=46
HDA Harding Lake 84.09 20 IAmb IAmb 23 16 50.7
comp=Z,431nm,1.0s
HDA IAMs_20 IAMs_20 23 48 13.9
comp=Z,18µm,22.0s
HDA Harding Lake 84.09 20 P **P** **23 16 45.8 -0.3**
baz=231,SNR=189
PCA Pinnacle 84.10 25 P **P** **23 16 47.3 +1.0**
PINM Pinnacle 84.10 25 P **P** **23 16 46.6 +0.2**
baz=237,SNR=44
K24K Donnelly Dome 84.12 21 P **P** **23 16 46.2 -0.1**
baz=232,SNR=98
PNL Peninsula 84.24 26 P **P** **23 16 46.9 -0.1**
baz=238,SNR=16
PNL Peninsula 84.24 26 P **P** **23 16 49.0 +2.0**
comp=Z,316nm,1.4s
BCPM Bancas Point 84.29 26 P **P** **23 16 48.0 +0.8**
BCPM IAmb IAmb 23 16 53.6
comp=Z,589nm,1.2s
BCPM IAMs_20 IAMs_20 23 47 26.6
comp=Z,33µm,20.0s
M26K Nabesna, AK 84.29 23 IAmb IAmb 23 16 51.5
comp=Z,279nm,0.9s
M26K IAMs_20 IAMs_20 23 48 25.5
comp=Z,27µm,21.0s
M26K Nabesna, AK 84.29 23 P **P** **23 16 47.4 +0.2**
baz=235
MENT Mentasta 84.34 22 IAmb IAmb 23 17 04.7
comp=Z,228nm,0.9s
IL31 84.34 20 P **P** **23 16 47.3 0.0**
ILAR Eielson Array 84.34 20 P **P** **23 16 46.5 -0.9**
comp=Z,90nm,0.9s,baz=241,slow=5.6,SNR=147
ILAR S **S** **23 27 05.3 -4.3**
comp=Z,0.3nm,0.6s,baz=323,slow=33,SNR=1.3
ILAR PKKPbc **PKKPbc** **23 34 58.9 -3.9**
comp=Z,0.7nm,0.6s,baz=11,slow=0.9,SNR=8.0
comp=Z,90nm,0.9s
ILAR Eielson Array 84.34 20 P **P** **23 16 47.4 0.0**
ILAR Eielson Array 84.34 20 P **P** **23 16 47.4 0.0**
POKR Poker Plat Res 84.38 19 P **P** **23 16 47.4 -0.2**
POKR **PcP** **23 16 47.6 -3.6**
POKR IAmb IAmb 23 16 52.6
comp=Z,181nm,0.8s
POKR Poker Plat Res 84.38 19 P **P** **23 16 46.3 -1.3**
baz=230,SNR=67
RIDG Independent Ri 84.41 21 IAmb IAmb 23 17 02.6
comp=Z,496nm,1.2s
RIDG Independent Ri 84.41 21 P **P** **23 16 47.4 -0.4**
baz=233,SNR=135
O28M Mount Upton 84.50 25 P **P** **23 16 48.3 -0.3**
baz=237
L26K Log Cabin Wild 84.53 22 P **P** **23 16 48.5 +0.1**
L26K IAmb IAmb 23 17 03.6
comp=Z,241nm,1.0s
L26K IAMs_20 IAMs_20 23 49 21.5
comp=Z,17µm,21.0s
L26K Log Cabin Wild 84.53 22 P **P** **23 16 48.5 +0.1**
baz=234,SNR=195
DIB Dawson Inlet, 84.53 34 P **P** **23 16 49.6 +1.1**
DIB IAmb IAmb 23 16 53.9
comp=Z,193nm,1.0s
H02S1 DAWSON INLET T 84.53 34 P **P** **23 16 49.6 +1.1**
SNR=12
H02S1 T T 00 49 40.1
SNR=222

G23K	**Bananza Creek**	**84.62**	**17**	P	**P**	**23 16 49.0**	**+0.2**
	baz=228						
DOT	**Dot Lake**	**84.63**	**21**	IAmb	IAmb	23 16 52.8	
	comp=Z,228nm,0.8s						
VA02	**Isla de Pascua**	**84.67**	**117**	P	**P**	**23 16 50.2**	**+0.3**
VA02				IAmb	IAmb	23 17 05.9	
	comp=Z,830nm,1.6s						
TIXI	**Tiksi**	**84.68**	**350**	S	**S**	**23 27 13.0**	**+0.3**
	comp=Z,1.2nm,0.2s,baz=270,slow=24,SNR=5.9						
TIXI				LR	LR	23 58 20.2	
	comp=Z,7μm,18.3s,baz=90,slow=38						
TIXI	**Tiksi**	**84.68**	**350**	P	**P**	**23 16 48.2**	**-0.7**
TIXI				IAmb	IAmb	23 17 03.4	
	comp=Z,913nm,1.7s						
TIXI	**Tiksi**	**84.68**	**350** *c i*	P	**P**	**23 16 47.2**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,524nm,1.6s						
M27K	**Edge Creek, AK**	**84.70**	**23**	IAMs_20	IAMs_20	23 47 52.3	
	comp=Z,29μm,22.0s						
M27K	**Edge Creek, AK**	**84.70**	**23**	P	**P**	**23 16 49.9**	**+0.5**
	baz=236						
H24K	**Noodor Dome**	**84.70**	**19**	IAMs_20	IAMs_20	23 52 37.0	
	comp=Z,19μm,20.0s						
H24K	**Noodor Dome**	**84.70**	**19**	P	**P**	**23 16 48.6**	**-0.7**
	baz=230						
RPN	**Rapa Nui**	**84.77**	**117**	LR	LR	23 46 31.9	
	comp=Z,16μm,21.7s,baz=265,slow=30						
RPN	**Rapa Nui**	**84.77**	**117**	P	**P**	**23 16 51.5**	**+1.2**
RPN	**Rapa Nui**	**84.77**	**117**	P	**P**	**23 16 51.6**	**+1.2**
RPN				pmax	pmax		
	comp=Z,1μm,1.6s						
RPN				MLR	MLR		
	comp=Z,16μm,22.0s						
MOBC	**Moresby Island**	**84.78**	**34**	P	**P**	**23 16 50.9**	**+1.0**
MOBC				IAmb	IAmb	23 16 54.9	
	comp=Z,328nm,1.2s						
SIT	**Sitka**	**84.80**	**29**	P	**P**	**23 16 50.3**	**+0.5**
SIT	**Sitka**	**84.80**	**29**	P	**P**	**23 16 49.8**	**0.0**
	baz=242,SNR=6.9						
SIT	**Sitka**	**84.80**	**29**	P	**P**	**23 16 50.3**	**+0.5**
SIT				pmax	pmax		
	comp=Z,111nm,0.9s						
S31K	**Pelican**	**84.80**	**28**	P	**P**	**23 16 50.0**	**+0.3**
	baz=241,SNR=14						
HG4B	**Hotspring**	**84.85**	**35**	IAmb	IAmb	23 16 55.3	
	comp=Z,287nm,1.2s						
SCRK	**Sand Creek**	**84.85**	**21**	P	**P**	**23 16 50.0**	**-0.1**
SCRK				IAmb	IAmb	23 16 54.9	
	comp=Z,430nm,1.2s						
SCRK				IAMs_20	IAMs_20	23 48 06.1	
	comp=Z,35μm,22.0s						
SCRK	**Sand Creek**	**84.85**	**21**	P	**P**	**23 16 49.9**	**-0.3**
	baz=234,SNR=258						
COLD	**Coldfoot**	**84.92**	**17**	P	**P**	**23 16 51.1**	**+0.8**
COLD				IAmb	IAmb	23 17 06.6	
	comp=Z,275nm,1.3s						
COLD	**Coldfoot**	**84.92**	**17**	P	**P**	**23 16 50.9**	**+0.7**
	baz=228,SNR=104						
O29M	**Mount Kennedy**	**84.92**	**26**	P	**P**	**23 16 51.0**	**+0.4**
	baz=239						
YUK3	**Moose Creek**	**84.93**	**24**	P	**P**	**23 16 51.1**	**+0.4**
	baz=237,SNR=221						
YUK8	**Steele Glacier**	**84.95**	**25**	P	**P**	**23 16 51.2**	**+0.4**
	baz=238,SNR=251						
ALBI	**Allahabad**	**85.07**	**297** *e*	P	**P**	**23 16 51.2**	**-0.7**
L27K	**Beaver Creek,**	**85.11**	**23**	IAMs_20	IAMs_20	23 49 01.2	
	comp=Z,29μm,22.0s						
L27K	**Beaver Creek,**	**85.11**	**23**	P	**P**	**23 16 52.1**	**+0.7**
	baz=236						
BVCY	**Beaver Creek**	**85.12**	**23**	P	**P**	**23 16 51.9**	**+0.5**
	baz=237,SNR=220						
BCAR	**Beaver Creek A**	**85.13**	**23**	P	**P**	**23 16 52.0**	**+0.6**
CRAG	**Craig**	**85.17**	**31**	P	**P**	**23 16 52.4**	**+0.7**
CRAG				IAmb	IAmb	23 17 07.9	
	comp=Z,363nm,1.9s						
CRAG	**Craig**	**85.17**	**31**	P	**P**	**23 16 51.4**	**-0.3**
	baz=244						
KMPM	**Mount Pierce**	**85.19**	**48**	P	**P**	**23 16 52.5**	**+0.2**
KMPM				IAmb	IAmb	23 16 59.4	
	comp=Z,600nm,1.5s						
R31K	**City Hall, Gus**	**85.25**	**28**	P	**P**	**23 16 52.2**	**+0.2**
	baz=242						
J26L	**Joseph Creek**	**85.31**	**21**	IAmb	IAmb	23 17 39.5	
	comp=Z,389nm,1.6s						
J26L	**Joseph Creek**	**85.31**	**21**	P	**P**	**23 16 52.5**	**+0.1**
	baz=234						
YUK6	**Outpost Mounta**	**85.35**	**25**	P	**P**	**23 16 53.2**	**+0.4**
	baz=239,SNR=86						
KCPM	**Cahto Peak**	**85.36**	**48**	P	**P**	**23 16 54.5**	**+1.3**
KCPM				IAmb	IAmb	23 17 00.1	
	comp=Z,356nm,1.2s						
JCC	**Jacoby Creek,**	**85.37**	**47**	P	**P**	**23 16 54.3**	**+1.3**
JCC				IAMs_20	IAMs_20	23 48 29.6	
	comp=Z,16μm,20.0s						
KMRM	**Mail Ridge**	**85.42**	**48**	P	**P**	**23 16 55.0**	**+1.5**
KMRM				IAmb	IAmb	23 17 00.7	
	comp=Z,264nm,1.2s						
MCCM	**Marconi Confer**	**85.42**	**50**	P	**P**	**23 16 53.7**	**+0.4**
MCCM				IAmb	IAmb	23 17 41.2	
	comp=Z,540nm,1.6s						
MCCM				IAMs_20	IAMs_20	23 47 52.2	
	comp=Z,20μm,20.0s						
SALM	**Salem**	**85.43**	**283** *e*	P	**P**	**23 16 55.0**	**+1.1**
YUK4	**Talbot Arm**	**85.44**	**25**	P	**P**	**23 16 54.0**	**+0.8**
	baz=239,SNR=255						
U33K	**Whale Pass**	**85.45**	**31**	P	**P**	**23 16 53.3**	**+0.2**
	baz=244,SNR=11						
PLBC	**Pleasant Camp**	**85.46**	**27**	P	**P**	**23 16 53.1**	**0.0**
	baz=241,SNR=47						
KRPM	**Rodgers**	**85.48**	**47**	P	**P**	**23 16 54.9**	**+1.1**
KRPM				IAmb	IAmb	23 17 01.1	
	comp=Z,654nm,1.6s						
HOPS	**Hopland Field**	**85.53**	**49**	P	**P**	**23 16 56.1**	**+2.2**
HOPS				IAMs_20	IAMs_20	23 47 55.9	
	comp=Z,29μm,20.0s						
P30M	**Million Dollar**	**85.53**	**26**	P	**P**	**23 16 54.2**	**+0.7**
	baz=240,SNR=71						
WMQ	**Urumqi**	**85.58**	**316**	P	**P**	**23 16 53.3**	**-0.9**
WMQ				pP	pP	23 17 07.0	-0.1
WMQ				sP	sP	23 17 11.6	-0.3
WMQ				PP	**PP**	**23 20 18.0**	**+4.5**
WMQ				S	**S**	**23 27 22.6**	**-0.3**
WMQ				sS	sS	23 27 41.8	-2.4
WMQ				SS	**SS**	**23 33 06.8**	**+7.0**
WMQ				pmax	pmax		
	comp=Z,40nm,1.9s						
WMQ				pmax	pmax		
	comp=Z,4μm,6.3s						
WMQ				LR	LR		
	comp=Z,11μm,22.1s						
WMQ				LR	LR		
	comp=Z,8μm,22.1s						
WMQ				LR	LR		
	comp=Z,10μm,25.5s						
KHMM	**Horse Mountain**	**85.61**	**47**	P	**P**	**23 16 54.6**	**+0.1**
KHMM				IAmb	IAmb	23 17 01.6	
	comp=Z,427nm,1.5s						
E23K	**Chandalar**	**85.65**	**17**	P	**P**	**23 16 54.2**	**+0.2**
	baz=228						
HYT	**Haines Junctio**	**85.65**	**26**	IAmb	IAmb	23 17 00.9	
	comp=Z,414nm,1.3s						
HYT	**Haines Junctio**	**85.65**	**26**	P	**P**	**23 16 54.5**	**+0.3**
	baz=240,SNR=70						
KBO	**Bosley Butte**	**85.66**	**46**	P	**P**	**23 16 55.8**	**+1.1**
KBO				IAmb	IAmb	23 17 01.8	
	comp=Z,520nm,1.4s						
GDXM	**Geysers**	**85.68**	**49**	P	**P**	**23 16 56.3**	**+1.5**
GDXM				IAmb	IAmb	23 17 11.3	
	comp=Z,256nm,1.3s						
BESE	**Bessie Mountai**	**85.73**	**28**	IAmb	IAmb	23 17 00.1	
	comp=Z,578nm,1.7s						
R32K	**Eaglecrest**	**85.75**	**28**	P	**P**	**23 16 54.9**	**+0.3**
	baz=243,SNR=18						
F24K	**Squaw Lake**	**85.79**	**17**	P	**P**	**23 16 55.1**	**+0.5**
	baz=230,SNR=131						
JIS	**Juneau Island**	**85.81**	**29**	IAMs_20	IAMs_20	23 46 33.2	
	comp=Z,24μm,22.0s						
T33K	**Petersburg**	**85.85**	**30**	P	**P**	**23 16 54.5**	**-0.5**
	baz=244						
G25K	**Bearman Lake**	**85.85**	**18**	P	**P**	**23 16 55.2**	**+0.3**
	baz=232						
KOD	**Kodaikanal**	**85.86**	**281** *e*	P	**P**	**23 16 57.3**	**+0.9**
V35K	**Ketchikan**	**85.89**	**32**	P	**P**	**23 16 54.3**	**-1.0**
	baz=245,SNR=12						
SKAG	**Skagway**	**85.93**	**27**	P	**P**	**23 16 55.8**	**+0.4**
	baz=242,SNR=35						
D23K	**Nanushuk River**	**85.97**	**16**	P	**P**	**23 16 55.8**	**+0.3**
	baz=227						
E24K	**Your Creek**	**85.98**	**17**	P	**P**	**23 16 56.0**	**+0.4**
	baz=229						
WRAK	**Wrangell Islan**	**85.98**	**31**	P	**P**	**23 16 56.4**	**+0.7**
	baz=245,SNR=13						
HOLB	**Holberg**	**85.98**	**37**	P	**P**	**23 16 56.8**	**+0.8**
HOLB				IAmb	IAmb	23 17 12.8	
	comp=Z,791nm,1.7s						
FYU	**Fort Yukon**	**86.00**	**19**	IAmb	IAmb	23 17 00.6	
	comp=Z,311nm,1.5s						
FYU				IAMs_20	IAMs_20	23 51 21.2	
	comp=Z,31μm,20.0s						
TRD	**Trivandrum**	**86.02**	**279** *e*	P	**P**	**23 16 58.5**	**+1.6**
TRD				IAmb	IAmb	23 17 03.7	
	comp=Z,110nm,1.0s						
M29M	**Somme Creek**	**86.08**	**24**	P	**P**	**23 16 56.6**	**+0.4**
	baz=239						
SAO	**San Andreas Ge**	**86.13**	**52**	P	**P**	**23 16 58.1**	**+1.1**
SAO				IAmb	IAmb	23 17 03.6	
	comp=Z,375nm,1.4s						
SAO				IAMs_20	IAMs_20	23 52 29.9	
	comp=Z,29μm,18.0s						
SAO	**San Andreas Ge**	**86.13**	**52**	P	**P**	**23 16 58.1**	**+1.1**
SAO				pmax	pmax		
	comp=Z,375nm,1.4s						
SAO				MLR	MLR		
	comp=Z,29μm,18.0s						
GRNB	**Grenville Isla**	**86.17**	**34**	P	**P**	**23 16 58.1**	**+1.3**
RUBB	**Prince Rupert**	**86.20**	**33**	P	**P**	**23 16 58.5**	**+1.7**
RUBB				IAmb	IAmb	23 17 13.3	
	comp=Z,339nm,1.6s						
O30N	**Mendenhall**	**86.22**	**26**	P	**P**	**23 16 57.2**	**+0.3**
	baz=241,SNR=50						
A21K	**Barrow**	**86.25**	**12**	IAMs_20	IAMs_20	23 50 00.2	
	comp=Z,21μm,22.0s						
A21K	**Barrow**	**86.25**	**12**	P	**P**	**23 16 56.4**	**-0.3**
	baz=221						
HYB	**Hyderabad**	**86.27**	**288** ⇑ *e*	P	**P**	**23 16 58.0**	**-0.1**
HYB				IVmB_BB		23 16 58.9	
	comp=Z,1μm,5.4s						
HYB				*e*pP	**pP**	**23 17 10.6**	**-0.4**
HYB				*e*sP	**sP**	**23 17 14.9**	**-0.9**
HYB				*e*PP	**PP**	**23 20 20.9**	**+1.4**
HYB				*e*		23 25 34.8	
HYB				*e*SKSac	**SKSac**	**23 27 21.8**	**+0.4**
HYB				*e*SKKSac	**SKKSac**	**23 27 28.8**	**-0.4**
HYB				IVMs_BB	IVMs_BB	23 49 27.1	
	comp=Z,2μm,32.2s						
HYB	**Hyderabad**	**86.27**	**288** *e*	P	**P**	**23 16 56.0**	**-2.1**
HYB				IAmb	IAmb	23 17 00.5	
	comp=Z,62nm,1.0s						
EGAK	**Eagle**	**86.32**	**21**	P	**P**	**23 16 57.6**	**+0.4**
	baz=236,SNR=331						
BBGB	**Big Mountain B**	**86.39**	**52**	P	**P**	**23 16 59.8**	**+1.4**
PMPB	**Monarch Peak**	**86.48**	**52**	P	**P**	**23 16 59.9**	**+1.1**
F25K	**Christian Rive**	**86.50**	**18**	P	**P**	**23 16 58.9**	**+0.8**
	baz=232						
L29M	**L29M**	**86.56**	**23**	P	**P**	**23 16 58.8**	**+0.3**
	baz=239						
BBB	**Bella Bella**	**86.56**	**36**	P	**P**	**23 16 57.4**	**-1.3**
	comp=Z,25nm,0.9s,baz=346,slow=1.6,SNR=2.7						
DAWY	**Dawson**	**86.58**	**22**	P	**P**	**23 16 59.0**	**+0.4**
	baz=238,SNR=347						
YBH	**Yreka Blue Hor**	**86.59**	**47**	P	**P**	**23 17 00.8**	**+1.5**
	comp=Z,91nm,0.8s,baz=205,slow=1.6,SNR=58						
YBH				PP	**PP**	**23 20 19.0**	**-2.7**
	comp=Z,23nm,1.2s,baz=240,slow=6.6,SNR=3.8						
YBH				LR	LR	23 48 16.3	
	comp=Z,20μm,21.3s,baz=254,slow=30						
	comp=Z,91nm,0.8s						
YBH	**Yreka Blue Hor**	**86.59**	**47**	IAmb	IAmb	23 17 06.1	
	comp=Z,264nm,1.1s						
YBH				IAMs_20	IAMs_20	23 47 32.8	
	comp=Z,18μm,21.0s						
I27K	**Kandik River**	**86.62**	**20**	P	**P**	**23 16 59.2**	**+0.4**
	baz=236						
DBO	**Dodson Butte**	**86.63**	**45**	P	**P**	**23 17 00.3**	**+0.9**
DBO				IAmb	IAmb	23 17 06.1	
	comp=Z,277nm,1.3s						
HUMO	**Hull Mountain**	**86.68**	**46**	P	**P**	**23 17 00.8**	**+1.2**
HUMO				IAmb	IAmb	23 17 16.2	
	comp=Z,180nm,1.1s						
HUMO				IAMs_20	IAMs_20	23 48 36.9	
	comp=Z,21μm,20.0s						
G26K	**Porcupine Rive**	**86.69**	**19**	P	**P**	**23 16 59.7**	**+0.7**
	baz=234						
WHY	**Whitehorse**	**86.69**	**26**	P	**P**	**23 16 59.3**	**0.0**
WHY	**Whitehorse**	**86.69**	**26**	P	**P**	**23 16 59.3**	**0.0**
	baz=242,SNR=22						
N31M	**Braeburn, Yuko**	**86.70**	**25**	IAmb	IAmb	23 17 04.9	
	comp=Z,209nm,0.9s						
N31M	**Braeburn, Yuko**	**86.70**	**25**	P	**P**	**23 16 59.5**	**+0.3**
	baz=241,SNR=79						
P32M	**Atlin**	**86.72**	**27**	P	**P**	**23 16 59.1**	**-0.3**
	baz=243,SNR=21						
BMAR	**Burnt Mountain**	**86.73**	**18**	P	**P**	**23 17 00.2**	**+1.0**
SNCC	**San Nicolas Is**	**86.73**	**56**	P	**P**	**23 17 01.8**	**+1.8**
SNCC	**San Nicolas Is**	**86.73**	**56**	P	**P**	**23 16 58.5**	**-1.5**
	baz=255						
M30M	**Minto, Yukon**	**86.82**	**24**	IAMs_20	IAMs_20	23 50 57.3	
	comp=Z,21μm,20.0s						
M30M	**Minto, Yukon**	**86.82**	**24**	P	**P**	**23 17 00.1**	**+0.3**
	baz=240,SNR=126						
SCZ2	**Santa Cruz Isl**	**86.83**	**55**	P	**P**	**23 17 00.3**	**-0.2**
	baz=255						
E25K	**Arctic Village**	**86.85**	**17**	P	**P**	**23 17 00.8**	**+1.0**
	baz=232,SNR=129						
ORV	**Oroville**	**86.86**	**49**	P	**P**	**23 17 01.6**	**+1.1**
ORV				IAmb	IAmb	23 17 16.5	
	comp=Z,347nm,1.6s						
ORV				IAMs_20	IAMs_20	23 48 49.0	
	comp=Z,17μm,20.0s						
ORV	**Oroville**	**86.86**	**49**	P	**P**	**23 17 01.6**	**+1.1**
ORV				pmax	pmax		
	comp=Z,347nm,1.6s						
ORV				MLR	MLR		
	comp=Z,17μm,20.0s						
SMMC	**Simmler**	**86.88**	**53**	P	**P**	**23 17 01.3**	**+0.6**
	baz=255,SNR=18						
SBC	**Santa Barbara**	**86.88**	**54**	P	**P**	**23 17 00.7**	**+0.1**
	baz=255						
PKM	**Mcpherson Peak**	**86.91**	**54**	P	**P**	**23 17 01.6**	**+0.5**
	baz=255,SNR=25						
HEBO	**Mount Hebo**	**86.92**	**43**	P	**P**	**23 17 02.6**	**+1.9**
HEBO				IAmb	IAmb	23 17 10.3	
	comp=Z,492nm,1.2s						
PCHI	**Peechi**	**87.00**	**281** ⇑ *e*	P	**P**	**23 17 02.3**	**+0.6**
H27K	**Steamboat Moun**	**87.01**	**20**	P	**P**	**23 17 01.1**	**+0.5**
	baz=236,SNR=313						
F26K	**Sheenjek River**	**87.02**	**18**	P	**P**	**23 17 01.5**	**+0.9**
	baz=233						
COR	**Corvallis**	**87.03**	**44**	P	**P**	**23 17 03.3**	**+2.1**
COR				IAmb	IAmb	23 17 08.1	
	comp=Z,655nm,1.6s						
COR	**Corvallis**	**87.03**	**44**	IAMs_20	IAMs_20	23 47 13.0	
	comp=Z,22μm,22.0s						
COR	**Corvallis**	**87.03**	**44**	P	**P**	**23 17 03.3**	**+2.1**
COR				pmax	pmax		
	comp=Z,655nm,1.7s						
AFDM	**Forest Hills D**	**87.09**	**50**	P	**P**	**23 17 02.3**	**+0.6**
AFDM				IAmb	IAmb	23 17 17.6	
	comp=Z,379nm,1.4s						
Q32M	**Nakina River**	**87.11**	**28**	P	**P**	**23 17 01.5**	**0.0**
	baz=244						
BUCK	**Buck Mountain**	**87.13**	**44**	P	**P**	**23 17 02.9**	**+1.1**
BUCK				IAmb	IAmb	23 17 08.6	
	comp=Z,503nm,1.4s						
S34M	**Telegraph Cree**	**87.21**	**30**	P	**P**	**23 17 02.2**	**+0.5**
	baz=246,SNR=35						
J29M	**Klondike Camp**	**87.22**	**22**	P	**P**	**23 17 03.7**	**+2.0**
J29M				IAMs_20	IAMs_20	23 51 06.8	
	comp=Z,29μm,20.0s						
J29M	**Klondike Camp**	**87.22**	**22**	P	**P**	**23 17 02.8**	**+1.1**
	baz=239,SNR=22						
C03A	**Quillayute Air**	**87.24**	**40**	P	**P**	**23 17 03.5**	**+1.4**
C03A				IAmb	IAmb	23 19 01.9	
	comp=Z,554nm,1.5s						
RADR	**Rader Ridge**	**87.26**	**42**	P	**P**	**23 17 04.3**	**+2.0**
RADR				IAmb	IAmb	23 17 11.0	
	comp=Z,542nm,1.2s						
T35M	**Bob Quinn**	**87.26**	**31**	P	**P**	**23 17 02.7**	**+0.6**
	baz=246,SNR=10						
F03A	**Seaside**	**87.27**	**42**	P	**P**	**23 17 04.3**	**+2.0**
CMB	**Columbia Colle**	**87.28**	**51**	IAMs_20	IAMs_20	23 50 36.5	
	comp=Z,15μm,20.0s						
G27K	**Doyon Strip**	**87.29**	**19**	P	**P**	**23 17 02.6**	**+0.6**
	baz=236						
LGTI	**Lohaghat**	**87.39**	**300** *e*	P	**P**	**23 17 02.0**	**-1.3**
P33M	**Teslin, Yukon**	**87.40**	**27**	P	**P**	**23 17 03.0**	**+0.2**
	baz=244,SNR=36						
PTH	**Pithoragarh**	**87.44**	**300** *e*	P	**P**	**23 17 02.8**	**-0.9**
E03A	**Lebam**	**87.45**	**42**	P	**P**	**23 17 05.8**	**+2.6**
E03A				IAmb	IAmb	23 17 09.9	
	comp=Z,255nm,1.0s						
WISH	**Wishkah**	**87.49**	**41**	P	**P**	**23 17 04.7**	**+1.4**
NLWA	**Neilton Lookou**	**87.52**	**41**	P	**P**	**23 17 03.9**	**+0.4**
NLWA				IAmb	IAmb	23 17 08.1	
	comp=Z,360nm,1.8s						
NLWA				IAMs_20	IAMs_20	23 48 28.6	
	comp=Z,28μm,20.0s						
DGAR	**Diego Garcia**	**87.57**	**263**	P	**P**	**23 17 03.8**	**-0.6**
DGAR	**Diego Garcia**	**87.57**	**263**	P	**P**	**23 17 03.8**	**-0.6**
DGAR				pmax	pmax		
	comp=Z,1μm,2.0s						
VOG	**Valley Oaks Go**	**87.62**	**53**	P	**P**	**23 17 04.5**	**+0.3**
	baz=255						
M31M	**Drury Creek, Y**	**87.62**	**25**	P	**P**	**23 17 03.4**	**-0.3**
	baz=242,SNR=45						
DGZ	**Jazzator, Alta**	**87.66**	**321** *c i*	P	**P**	**23 17 02.7**	**-1.6**
DGZ				pmax	pmax		
	comp=Z,153nm,1.5s						
DGZ				MLR	MLR		
	comp=Z,14μm,22.0s						
I29M	**Ogilvie Camp,**	**87.66**	**21**	IAMs_20	IAMs_20	23 49 52.3	
	comp=Z,29μm,22.0s						
I29M	**Ogilvie Camp,**	**87.66**	**21**	P	**P**	**23 17 03.5**	**-0.2**
	baz=239,SNR=357						
CIS	**Catalina Islan**	**87.67**	**56**	P	**P**	**23 17 04.5**	**-0.1**
	baz=256						
MAYO	**Mayo, Yukon**	**87.68**	**23**	P	**P**	**23 17 04.4**	**+0.6**
	baz=241,SNR=11						
OSI	**Osito Audit: C**	**87.71**	**54**	P	**P**	**23 17 04.7**	**-0.1**
	baz=256						
VES	**Vestal, Richgr**	**87.73**	**53**	P	**P**	**23 17 04.8**	**+0.1**
	baz=256,SNR=31						
ARVC	**Arvin**	**87.75**	**54**	P	**P**	**23 17 05.4**	**+0.5**
	baz=256,SNR=24						
CLRS	**Cowichan Lake**	**87.80**	**40**	P	**P**	**23 17 05.2**	**+0.5**
CLRS				IAmb	IAmb	23 17 22.4	
	comp=Z,422nm,2.0s						
H04A	**Detroit Lake**	**87.82**	**44**	IAmb	IAmb	23 17 20.8	
	comp=Z,574nm,1.6s						
FMP	**Fort Macarthur**	**87.84**	**55**	P	**P**	**23 17 04.9**	**-0.4**
	baz=256						
R33M	**Jennings River**	**87.90**	**28**	P	**P**	**23 17 05.5**	**+0.3**
	baz=246						
DECC	**Green Verdugo**	**87.94**	**55**	P	**P**	**23 17 05.3**	**-0.5**
	baz=256						
B04A	**Port Angeles**	**87.96**	**40**	P	**P**	**23 17 06.4**	**+0.9**
DLBC	**Dease Lake**	**87.96**	**29**	P	**P**	**23 17 05.8**	**+0.3**
	comp=Z,55nm,1.0s,baz=242,slow=2.3,SNR=19						
DLBC				PP	**PP**	**23 20 32.4**	**+0.2**
	comp=Z,13nm,1.1s,baz=302,slow=1.3,SNR=2.5						
DLBC				LR	LR	23 53 54.7	
	comp=Z,32μm,18.1s,baz=253,slow=34						
	comp=Z,55nm,1.0s						
DLBC	**Dease Lake**	**87.96**	**29**	P	**P**	**23 17 05.3**	**-0.1**
	baz=246,SNR=40						
JHNI	**Jhansi**	**87.98**	**296** *e*	P	**P**	**23 17 04.4**	**-1.8**
PASC	**Pasadena Art C**	**88.04**	**55**	P	**P**	**23 17 07.4**	**+1.1**
FARO	**Faro, Yukon**	**88.07**	**25**	P	**P**	**23 17 06.1**	**+0.2**
	baz=243,SNR=16						
E27K	**Coleen River**	**88.09**	**18**	P	**P**	**23 17 06.7**	**+0.9**
	baz=236						
C26K	**Camden Bay**	**88.14**	**16**	P	**P**	**23 17 06.9**	**+0.9**
	baz=233						
PNTR	**Pine Nut**	**88.15**	**50**	P	**P**	**23 17 07.4**	**+0.4**
ISA	**Isabella, Lake**	**88.17**	**53**	P	**P**	**23 17 06.9**	**-0.1**
	baz=256,SNR=60						
VCNR	**Virginia City**	**88.17**	**50**	IAmb	IAmb	23 17 23.6	
	comp=Z,631nm,2.0s						
K05A	**Summer Lake**	**88.17**	**46**	IAmb	IAmb	23 17 13.9	
	comp=Z,281nm,1.1s						
PGC	**Sidney**	**88.17**	**40**	P	**P**	**23 17 07.4**	**+0.9**
PGC				IAmb	IAmb	23 17 21.4	
	comp=Z,240nm,1.4s						
MDPB	**Devils Postpil**	**88.18**	**51**	P	**P**	**23 17 08.5**	**+1.2**
MDPB				IAmb	IAmb	23 17 13.8	
	comp=Z,452nm,1.6s						
OMMB	**Old Mammoth Mi**	**88.24**	**51**	P	**P**	**23 17 08.7**	**+1.2**
OMMB				IAmb	IAmb	23 17 23.7	
	comp=Z,737nm,1.8s						
C27K	**Jago River**	**88.30**	**17**	P	**P**	**23 17 07.7**	**+1.0**
	baz=234						
EDW2	**Edwards Air Fo**	**88.36**	**54**	P	**P**	**23 17 08.0**	**+0.1**
	baz=256,SNR=70						
AKL	**Akola**	**88.37**	**291** *e*	P	**P**	**23 17 06.3**	**-1.8**
MLAC	**Mammoth, Mammo**	**88.37**	**51**	P	**P**	**23 17 07.7**	**-0.3**
	baz=256						
MOD	**Modoc Plateau**	**88.37**	**47**	IAmb	IAmb	23 17 25.3	
	comp=Z,232nm,1.2s						
MOD				IAMs_20	IAMs_20	23 48 40.9	
	comp=Z,19μm,22.0s						
YERR	**Yerington**	**88.40**	**50**	P	**P**	**23 17 08.9**	**+0.8**
YERR				IAmb	IAmb	23 17 23.3	
	comp=Z,492nm,1.8s						
CCAC	**Calif City Air**	**88.41**	**54**	P	**P**	**23 17 09.5**	**+1.5**
PINE	**Pine Mountain**	**88.43**	**45**	IAmb	IAmb	23 17 15.1	
	comp=Z,277nm,1.2s						
KAAM	**Kaadhehdhoo**	**88.43**	**271**	P	**P**	**23 17 09.0**	**+0.4**
KAAM				IAmb	IAmb	23 17 15.9	
	comp=Z,564nm,1.5s						
BFSC	**Mount Baldy Ra**	**88.48**	**55**	P	**P**	**23 17 08.7**	**+0.1**
	baz=256,SNR=42						
BHPL	**Bhopal**	**88.51**	**294** *e*	P	**P**	**23 17 05.6**	**-3.2**
BHPL				IAmb	IAmb	23 17 12.3	
	comp=Z,19nm,0.7s						
BHPL				IAMs_20	IAMs_20	23 52 36.1	
	comp=Z,13μm,29.5s						
ELS	**Elsinore Mount**	**88.53**	**56**	P	**P**	**23 17 09.4**	**+0.7**
ELS				IAmb	IAmb	23 17 24.8	
	comp=Z,679nm,1.8s						
**TJX

baz=256,SNR=88
BBRC Big Bear Solar 89.08 55 P P 23 17 11.3 -0.2
baz=257
NV11 Mina Array Sit 89.08 51 P P 23 17 13.1 +1.8
NV11 IAmb IAmb 23 17 18.9
comp=Z,448nm,1.3s
RRX Edison Barstow 89.16 54 P P 23 17 11.9 +0.3
baz=257,SNR=8.1
MONP2 Monument Peak 89.18 56 P P 23 17 11.8 -0.1
baz=257,SNR=33
LCH Last Change Ra 89.19 52 P P 23 17 12.3 +0.5
LCH IAmb IAmb 23 17 27.8
comp=Z,484nm,1.9s
WTLY Watson Lake, Y 89.19 28 P P 23 17 11.8 +0.6
WTLY IAmb IAmb 23 17 16.4
comp=Z,315nm,1.8s
WTLY Watson Lake, Y 89.19 28 P P 23 17 12.5 +1.3
baz=248
G30M tAoh Zraii Nji 89.21 20 P P 23 17 11.2 +0.1
baz=241
PFO Pinyon Flats O 89.31 56 P P 23 17 12.3 -0.2
comp=Z,51nm,0.9s,baz=265,slow=4.8,SNR=18
PFO LR LR 23 48 54.5
comp=Z,42µm,21.3s,baz=278,slow=30
comp=Z,51nm,0.9s
PFO Pinyon Flats O 89.31 56 P P 23 17 13.4 +1.0
PFO IAmb IAmb 23 17 28.6
comp=Z,580nm,1.8s
PFO Pinyon Flats O 89.31 56 P P 23 17 12.7 +0.2
baz=257,SNR=24
PFO Pinyon Flats O 89.31 56 *c i* **P P 23 17 13.1 +0.7**
PFO pmax pmax
comp=Z,499nm,1.7s
PFO MLR MLR
comp=Z,8µm,17.0s
TPFO Pinon Flats 89.31 56 P P 23 17 12.6 +0.1
baz=257,SNR=28
GRAC Grapevine Rang 89.35 52 P P 23 17 13.4 +1.0
GRAC Grapevine Rang 89.35 52 P P 23 17 13.1 +0.7
baz=256,SNR=52
ESJX Sierra Juarez 89.37 57 P P 23 17 14.0 +1.1
HMDM Hanimaadhoo 89.38 277 P P 23 17 14.4 +1.4
HMDM IAmb IAmb 23 19 33.3
comp=Z,188nm,1.0s
IKP In-Ko-Pah, Jac 89.38 57 P P 23 17 13.0 +0.3
baz=257,SNR=21
B06A Marblemount 89.38 40 P P 23 17 12.8 +0.6
PMD Palm Desert 89.38 56 P P 23 17 13.4 +0.8
RMX La Rumorosa 89.39 57 P P 23 17 14.8 +1.9
GSC Goldstone, Bar 89.41 54 P P 23 17 13.0 +0.2
GSC IAmb IAmb 23 17 29.1
comp=Z,490nm,1.5s
GSC Goldstone, Bar 89.41 54 P P 23 17 13.0 +0.2
baz=257,SNR=53
GSC Goldstone, Bar 89.41 54 P P 23 17 13.0 +0.2
GSC pmax pmax
comp=Z,490nm,1.5s
DDI Dehra Dun 89.44 301 *eP* **P 23 17 12.8 -0.3**
MZP Montezuma Peak 89.50 52 P P 23 17 13.0 -0.4
MZP IAmb IAmb 23 17 29.4
comp=Z,254nm,1.5s
QSM Queen of Sheba 89.51 53 P P 23 17 13.3 +0.2
QSM IAmb IAmb 23 17 29.2
comp=Z,419nm,1.5s
YUH Yuha Desert 89.53 57 P P 23 17 13.5 +0.1
LTY Liberty 89.56 42 P P 23 17 13.0 -0.2
LTY IAmb IAmb 23 17 30.1
comp=Z,215nm,1.4s
FURC Furnace Creek, 89.62 53 P P 23 17 14.2 +0.5
baz=257,SNR=67
HEC Hector,Ludlow 89.68 55 P P 23 17 14.2 +0.1
baz=257,SNR=43
F07A Phinny Hill Vi 89.69 43 P P 23 17 14.7 +1.0
SWSC Sam W. Stewart 89.70 57 P P 23 17 14.5 +0.4
baz=258,SNR=44
WVOR Wild Horse Val 89.70 47 P P 23 17 14.8 +0.7
WVOR IAMs_20 IAMs_20 23 49 23.1
comp=Z,17µm,21.0s
WVOR Wild Horse Val 89.70 47 P P 23 17 14.8 +0.7
WVOR pmax pmax
comp=Z,866nm,1.5s
WVOR MLR MLR
comp=Z,16µm,21.0s
GWY Greenwater Val 89.71 53 P P 23 17 14.5 +0.2
LLLB Lillooet 89.73 38 P P 23 17 14.2 +0.3
NDI New Delhi 89.81 299 *eP* **P 23 17 14.0 -0.7**
NDI *ex* x 23 28 00.0
WCT Wildcat Mounta 89.89 53 IAmb IAmb 23 17 31.2
comp=Z,403nm,1.3s
Q09A Carvers 89.92 51 P P 23 17 16.7 +1.5
UABX UABC, Campus M 89.93 57 P P 23 17 17.8 +2.7
SHOC Shoshone, Teco 89.96 54 P P 23 17 15.8 +0.5
baz=257,SNR=42
CPBX Cerro Prieto 89.99 57 P P 23 17 17.2 +1.7
J08A Circle Bar Ran 90.05 46 IAmb IAmb 23 17 32.0
comp=Z,428nm,1.3s
HAWA Hanford 90.08 43 IAmb IAmb 23 17 32.9
comp=Z,448nm,1.6s
HAWA IAMs_20 IAMs_20 23 50 24.7
comp=Z,21µm,20.0s
SFX San Felipe 90.08 59 P P 23 17 17.5 +1.6
SFX IAmb IAmb 23 17 32.2
comp=Z,641nm,1.8s
MK31 Makanchi Array 90.09 318 *i* **P P 23 17 13.4 -2.3**
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 90.09 318 P P 23 17 13.8 -1.8
comp=Z,36nm,0.7s,baz=94,slow=5.8,SNR=124
MKAR PP PP 23 20 48.5 -1.1
comp=Z,14nm,1.1s,baz=95,slow=10,SNR=2.8
MKAR S SKSac 23 27 35.8 -7.4
comp=Z,0.5nm,0.8s,baz=90,slow=4.3,SNR=1.4
MKAR PKKPbc PKKPbc 23 34 47.0 -1.0
comp=Z,0.8nm,0.7s,baz=301,slow=0.7,SNR=4.1
MKAR PKPPKP P'P'df 23 42 57.0 +2.5
comp=Z,0.5nm,0.7s,baz=322,slow=1.2,SNR=4.8
MKAR LR LR 23 57 21.7
comp=Z,9µm,21.9s,baz=97,slow=35
comp=Z,36nm,0.7s
MKAR Makanchi Array 90.09 318 P P 23 17 14.2 -1.5
MKAR Makanchi Array 90.09 318 P P 23 17 14.2 -1.5
BC3 Big Chuckawall 90.14 56 P P 23 17 16.9 +0.6
baz=258,SNR=59
TUQ Turquoise Moun 90.14 54 P P 23 17 16.7 +0.4
baz=257,SNR=54
GUVIX Guadalupe Vict 90.16 57 P P 23 17 18.8 +2.5
G08A Pilot Rock 90.19 44 IAmb IAmb 23 17 32.5
comp=Z,572nm,1.7s
GMRC Granite Mounta 90.21 55 P P 23 17 16.8 +0.1
baz=258,SNR=77
LIRD Liard River Hi 90.21 29 P P 23 17 15.8 -0.1
baz=250,SNR=37
TPNV Topopah Spring 90.21 53 IAmb IAmb 23 17 21.8
comp=Z,236nm,1.0s
TPNV Topopah Spring 90.21 53 P P 23 17 16.9 +0.3
baz=257,SNR=169
BMN Battle Mountai 90.26 49 P P 23 17 17.9 +1.1
BMN IAmb IAmb 23 17 33.2
comp=Z,545nm,1.5s
BMN Battle Mountai 90.26 49 P P 23 17 17.9 +1.1
BMN pmax pmax
comp=Z,545nm,1.5s
F31M Tsiigehtchic 90.28 20 P P 23 17 15.8 -0.2
baz=243,SNR=84
MAKZ Makanchi 90.31 318 P P 23 17 14.8 -1.9
MAKZ IAmb IAmb 23 17 22.9
comp=Z,215nm,1.2s
MAKZ Makanchi 90.31 318 P P 23 17 14.8 -1.9
MAKZ pmax pmax
comp=Z,215nm,1.2s
MAKZ MLR MLR
comp=Z,11µm,22.0s
GOA Goa 90.34 286 IAmb IAmb 23 17 22.9
comp=Z,68nm,1.4s
SMLA Simla 90.36 301 *eP* **P 23 17 15.4 -1.8**
SMLA IAmb IAmb 23 17 24.1
comp=Z,225nm,1.5s
E08A Dider Farm, El 90.42 43 P P 23 17 17.6 +0.4
IRM Iron Mountain 90.49 55 P P 23 17 18.4 +0.6
baz=258,SNR=79
ZAA0 Zalesovo Array 90.51 325 P P 23 17 15.6 -1.8
ZALV Zalesovo Beam 90.51 325 P P 23 17 15.2 -2.2
comp=Z,45nm,0.9s,baz=112,slow=5.3,SNR=72
ZALV PP PP 23 20 51.9 -0.8
comp=Z,3.7nm,0.9s,baz=87,slow=5.9,SNR=1.5
ZALV S SKKSac 23 27 57.2 -2.2
comp=Z,0.9nm,0.7s,baz=75,slow=11,SNR=1.8
ZALV LR LR 23 57 05.9
comp=Z,13µm,21.7s,baz=100,slow=35
comp=Z,45nm,0.9s
ZALV Zalesovo Beam 90.51 325 *i* **P P 23 17 15.1 -2.2**
ZALV pmax pmax
comp=Z,46nm,0.9s
GLA Glamis 90.52 57 P P 23 17 17.9 -0.2
baz=258,SNR=70
D08A Wollman Farm, 90.66 42 P P 23 17 18.9 +0.7
D08A IAmb IAmb 23 17 24.7
comp=Z,245nm,1.3s
B08A Colville Reser 90.72 41 IAmb IAmb 23 17 22.9
comp=Z,159nm,1.0s
INK Inuvik 90.74 20 P P 23 17 18.3 +0.2
comp=Z,34nm,0.9s,baz=247,slow=4.6,SNR=35
INK PP PP 23 20 53.5 -0.6
comp=Z,16nm,1.0s,baz=259,slow=6.4,SNR=2.9
INK S SKSac 23 27 40.5 -5.3
comp=Z,1.0nm,0.8s,baz=212,slow=26,SNR=1.5
INK PKKPbc PKKPbc 23 34 45.7 -1.4
comp=Z,1.1nm,0.7s,baz=52,slow=26,SNR=6.1
INK LR LR 23 53 39.4
comp=Z,37µm,20.7s,baz=231,slow=33
comp=Z,34nm,0.9s
INK Inuvik 90.74 20 IAmb IAmb 23 17 33.5
comp=Z,396nm,1.6s
INK Inuvik 90.74 20 P P 23 17 18.1 -0.1
baz=243,SNR=72
S11A Rachel 90.76 52 P P 23 17 20.8 +1.6
PNT Penticton 90.78 40 P P 23 17 07.4 -11
PNT pmax pmax
comp=Z,134nm,1.1s
POO Poona 90.88 289 *eP* **P 23 17 18.9 -1.0**
BLYC Blythe 90.91 56 P P 23 17 21.1 +1.3
BLYC IAmb IAmb 23 17 25.1
comp=Z,132nm,0.9s
SHPR Sheep Range 90.97 53 P P 23 17 20.7 +0.5
WTNK Soaring Height 91.03 54 P P 23 17 21.3 +1.0
R11A Troy Canyon, C 91.03 51 IAmb IAmb 23 17 27.7
comp=Z,219nm,1.1s
R11A Troy Canyon, C 91.03 51 P P 23 17 20.0 -0.4
baz=258,SNR=174
BHK Bhakra 91.04 302 *eP* **P 23 17 19.4 -1.0**
NEE2 Needles Airpor 91.04 55 P P 23 17 20.4 +0.1
baz=258
V12A Nelson 91.06 54 P P 23 17 21.2 +0.7
V12A IAmb IAmb 23 17 36.8
comp=Z,366nm,1.4s
SHLS Shalkode 91.16 314 *eP* **P 23 17 18.1 -2.8**
baz=314
SHLS Shalkode 91.16 314 *eP* **P 23 17 18.0 -2.8**
H06N1 SOCORRO T-PHAS 91.17 71 T T 00 57 52.5
SNR=40
H06S1 SOCORRO T 91.17 71 T T 00 57 44.3
SNR=374
H06E1 SOCORRO T-PHAS 91.21 71 T T 00 57 41.6
SNR=238
BMO Blue Mountains 91.22 45 P P 23 17 21.0 -0.1
BMO IAMs_20 IAMs_20 23 49 16.0
comp=Z,20µm,22.0s
BMO Blue Mountains 91.22 45 P P 23 17 21.0 -0.1
BMO pmax pmax
comp=Z,676nm,1.7s
BMO MLR MLR
comp=Z,20µm,22.0s
C09A Chrisman Ranch 91.27 42 IAmb IAmb 23 17 27.0
comp=Z,77nm,1.7s
PDMCI Parker Dam,Lak 91.33 56 P P 23 17 22.4 +0.7
baz=258,SNR=55
113A Mohawk Valley, 91.34 57 P P 23 17 23.1 +1.3
113A IAmb IAmb 23 17 38.1
comp=Z,516nm,1.9s
PIX Pinacate 91.35 58 P P 23 17 23.1 +1.3
PIX IAmb IAmb 23 17 38.0
comp=Z,337nm,1.8s
BELA Belgrano 2 91.41 177 P P 23 17 20.5 -0.8
BELA IAmb IAmb 23 17 35.0
comp=Z,284nm,1.2s
KOTAN Kotaneelee Air 91.43 29 P P 23 17 20.1 -1.5
baz=252,SNR=16
UZB Uzunbulak 91.47 313 *eP* **P 23 17 20.4 -1.9**
comp=Z,126nm,1.6s,baz=314
UZB Uzunbulak 91.47 313 *eP* **P 23 17 20.4 -1.9**
UZB pmax pmax
comp=Z,125nm,1.6s
SRIG Santa Rosalia 91.59 63 P P 23 17 23.4 +0.4
AJM Ajmer 91.62 296 *eP* **P 23 17 21.3 -1.9**
AJM IAmb IAmb 23 17 25.4
comp=Z,31nm,0.5s
W13A Hualapai Mount 91.70 55 IAmb IAmb 23 17 30.3
comp=Z,164nm,1.3s
KPKS Kokpek 91.78 314 *eP* **P 23 17 21.7 -2.0**
comp=Z,128nm,1.9s,baz=314
KPKS *eS* **SKSac 23 27 52.0 -1.2**
baz=314
KPKS Kokpek 91.78 314 *eP* **P 23 17 21.7 -2.0**
KPKS *eS* **SKSac 23 27 51.9 -1.2**
KPKS pmax pmax
comp=Z,128nm,1.9s
ELK Elko 91.80 49 LR LR 23 50 56.2
comp=Z,20µm,21.5s,baz=244,slow=30
ELK Elko 91.80 49 IAmb IAmb 23 17 29.2
comp=Z,106nm,0.9s
ELK IAMs_20 IAMs_20 23 52 26.9
comp=Z,19µm,20.0s
SATY Saty 91.89 313 *i* **P P 23 17 22.4 -1.9**
baz=313
SATY Saty 91.89 313 *i* **P P 23 17 22.4 -1.9**
ZHN Zhinishke 91.89 313 *eP* **P 23 17 22.5 -1.8**
baz=313
ZHN Zhinishke 91.89 313 *eP* **P 23 17 22.4 -1.8**
MFID Camas Ranch 91.94 46 IAmb IAmb 23 17 31.1
comp=Z,285nm,1.2s
MFID IAMs_20 IAMs_20 23 52 09.2
comp=Z,19µm,20.0s
214A Organ Pipe Nat 91.97 58 P P 23 17 25.9 +1.1
214A IAmb IAmb 23 17 42.5
comp=Z,249nm,1.4s
214A Organ Pipe Nat 91.97 58 P P 23 17 24.6 -0.2
baz=259,SNR=22
NEW Newport 92.13 41 P P 23 17 25.6 +0.5
comp=Z,77nm,0.9s,baz=242,slow=4.3,SNR=77
NEW PP PP 23 21 06.0 +0.3
comp=Z,5.7nm,0.9s,baz=261,slow=5.2,SNR=2.1
NEW S SKSac 23 27 59.2 +4.5
comp=Z,1.0nm,0.3s,baz=268,slow=22,SNR=1.6
comp=Z,77nm,0.9s
NEW Newport 92.13 41 P 23 17 25.4 +0.2
NEW Newport 92.13 41 IAmb IAmb 23 17 40.5
comp=Z,339nm,1.3s
NEW IAMs_20 IAMs_20 23 51 52.6
comp=Z,15µm,19.0s
NEW Newport 92.13 41 P P 23 17 24.6 -0.5
baz=257,SNR=99
SPR3 Spring Creek 3 92.13 51 IAmb IAmb 23 17 32.4
comp=Z,271nm,1.1s
PLID Pearl Lake 92.18 45 IAmb IAmb 23 17 30.1
comp=Z,120nm,0.9s
PLID IAMs_20 IAMs_20 23 52 03.3
comp=Z,17µm,20.0s
Y14A Wickenburg 92.19 56 P P 23 17 26.2 +0.4
SEM Semipalatinsk 92.30 321 *eP* **P 23 17 24.2 -1.8**
comp=Z,120nm,1.5s,baz=321
SEM LR LR 23 59 12.2
comp=Z,4µm,19.2s,baz=321
SEM Semipalatinsk 92.30 321 *eP* **P 23 17 24.2 -1.8**
SEM pmax pmax
comp=Z,120nm,1.5s
PSUT Pine Spring 92.40 51 P P 23 17 28.0 +1.2
PSUT IAmb IAmb 23 17 33.5
comp=Z,172nm,1.5s
ARXS Arharly 92.55 314 *eP* **P 23 17 26.5 -0.7**
LCMT Little Creek M 92.58 53 P P 23 17 28.3 +0.7
LCMT IAmb IAmb 23 17 44.0
comp=Z,425nm,1.7s
CCUT Cedar City 92.59 52 P P 23 17 29.1 +1.4
WRGLY Wrigley 92.66 26 P P 23 17 26.4 -0.7
baz=252
LPIG La Paz 92.72 66 PP PP 23 21 10.9 0.0
comp=Z,26nm,0.4s,baz=76,slow=5.6,SNR=1.6
LPIG LR LR 23 49 59.0
comp=Z,12µm,21.6s,baz=268,slow=30
SZCU Shurtz Canyon 92.81 52 P P 23 17 29.9 +1.1
SZCU IAmb IAmb 23 17 36.5
comp=Z,339nm,1.5s
MDOK Medeo 92.89 313 *eP* **P 23 17 27.1 -1.8**
baz=313
MDOK LR LR 00 00 59.1
comp=Z,3µm,19.2s,baz=313
MDOK Medeo 92.89 313 *eP* **P 23 17 27.1 -1.8**
KNB Kanab 92.91 53 P P 23 17 30.5 +1.3
KNB Kanab 92.91 53 P P 23 17 30.5 +1.3
KNB pmax pmax
comp=Z,1µm,2.0s
TNSS Tian-Shan 92.93 313 *eP* **P 23 17 27.6 -1.8**
baz=313
TNSS Tian-Shan 92.93 313 *eP* **P 23 17 27.6 -1.8**
KSH Kashi 92.97 309 P P 23 17 30.1 +0.8
KSH sP sP 23 17 44.8 -2.4
KSH PP **PP 23 21 19.0 +6.3**
KSH SKS **SKSac 23 28 01.6 +1.6**
KSH S **ScS 23 28 34.9 +0.7**
KSH SS **SS 23 34 51.3 +3.8**
KSH pmax pmax
comp=Z,31nm,2.2s
KSH pmax pmax
comp=Z,2µm,9.2s
KSH LR LR
comp=Z,12µm,18.6s
KSH LR LR
comp=Z,9µm,19.5s
KSH LR LR
comp=Z,17µm,20.4s
HLID Hailey 92.97 46 IAmb IAmb 23 17 45.9
comp=Z,256nm,1.3s
HLID IAMs_20 IAMs_20 23 52 32.6
comp=Z,18µm,20.0s
HLID Hailey 92.97 46 P P 23 17 29.3 0.0
baz=259,SNR=143
SLBS Sierra La Lagu 92.98 67 P P 23 17 30.9 +1.3
SLBS Sierra La Lagu 92.98 67 IAMs_20 IAMs_20 23 52 12.5
comp=Z,14µm,20.0s
AAA Alma-Ata 92.99 313 *eP* **P 23 17 27.7 -1.6**
baz=313
AAA Alma-Ata 92.99 313 *eP* **P 23 17 27.6 -1.6**
HSIG 93.02 61 P P 23 17 30.4 +0.8
HSIG IAmb IAmb 23 17 45.6
comp=Z,413nm,1.5s
CHKK Chushkaly 93.06 314 *eP* **P 23 17 27.8 -1.7**
baz=314
CHKK Chushkaly 93.06 314 *eP* **P 23 17 27.8 -1.7**
U15A North Rim 93.22 54 P P 23 17 31.6 +0.9
U15A IAmb IAmb 23 17 48.3
comp=Z,242nm,1.5s
BRLDA Berland Lookou 93.28 36 P P 23 17 30.5 +0.1
BRLDA IAmb IAmb 23 17 34.4
comp=Z,94nm,0.7s
ELIB Princess Elisa 93.28 192 *dP* **P 23 17 29.1 -1.1**
ELIB *dx* x 23 17 42.9
ULHL Ulahol 93.29 312 P P 23 17 32.1 +1.2
SNR=16
KURK Kurchatov 93.38 321 P P 23 17 29.4 -1.3
KURK IAmb IAmb 23 17 36.2
comp=Z,439nm,1.8s
KURK Kurchatov 93.38 321 IAMs_20 IAMs_20 23 56 55.6
comp=Z,17µm,22.0s
KURK Kurchatov 93.38 321 P P 23 17 29.4 -1.3
KURK pmax pmax
comp=Z,439nm,1.8s
KURK MLR MLR
comp=Z,17µm,22.0s
PKCU Pink Cliffs 93.39 53 P P 23 17 32.8 +1.2
PKCU IAmb IAmb 23 18 17.4
comp=Z,254nm,1.4s
KURBB Kurchatov Arra 93.42 321 LR LR 23 57 45.2
comp=Z,9µm,21.6s,baz=87,slow=34
BGU Big Grassy Mou 93.48 49 P P 23 17 32.2 +0.6
TCRU Three Creeks R 93.50 52 P P 23 17 33.0 +1.1
TCRU IAmb IAmb 23 18 24.3
comp=Z,240nm,1.6s
DUG Dugway, Tooele 93.51 50 P P 23 17 32.2 +0.5
DUG IAmb IAmb 23 18 16.8
comp=Z,216nm,1.6s
DUG IAMs_20 IAMs_20 23 53 29.2
comp=Z,16µm,20.0s
DUG Dugway, Tooele 93.51 50 P P 23 17 31.7 -0.1
baz=259,SNR=35
DUG Dugway, Tooele 93.51 50 P P 23 17 32.3 +0.5
DUG pmax pmax
comp=Z,216nm,1.7s
DUG MLR MLR
comp=Z,16µm,20.0s
KUU Kurty 93.53 314 *eP* **P 23 17 28.8 -2.9**
comp=Z,205nm,1.6s,baz=314
KUU *eS* **SKSac 23 28 01.4 -1.4**
baz=314
KUU LR LR 00 02 08.3
comp=Z,4µm,20.1s,baz=314
KUU Kurty 93.53 314 *eP* **P 23 17 28.8 -2.9**
KUU *eS* **SKSac 23 28 01.3 -1.4**
KUU pmax pmax
comp=Z,205nm,1.6s
MTPU Mount Pierson 93.60 52 P P 23 17 33.5 +0.9
MTPU IAmb IAmb 23 17 49.8
comp=Z,473nm,1.8s
MVU Marysvale 93.66 52 P P 23 17 33.8 +1.1
MSU Marysvale 93.69 52 P P 23 17 34.2 +1.4
MSU Marysvale 93.69 52 P P 23 17 34.2 +1.4
TUC Tucson 93.73 58 P P 23 17 34.4 +1.5
TUC IAmb IAmb 23 18 52.0
comp=Z,64nm,0.7s
TUC Tucson 93.73 58 IAMs_20 IAMs_20 23 56 38.9
comp=Z,23µm,19.0s
TUC Tucson 93.73 58 P P 23 17 33.3 +0.4
baz=260
TUC Tucson 93.73 58 P P 23 17 34.4 +1.5
TUC pmax pmax
comp=Z,64nm,0.7s
TUC MLR MLR
comp=Z,23µm,19.0s
WUAZ Wupatki 93.80 55 P P 23 17 34.7 +1.4
WUAZ Wupatki 93.80 55 P P 23 17 31.8 -1.5
baz=260,SNR=18
HVU Hansel Valley 93.82 48 P P 23 17 34.1 +0.9
HVU IAmb IAmb 23 17 50.7
comp=Z,214nm,1.2s
HVU Hansel Valley 93.82 48 P P 23 17 34.1 +0.9
HVU pmax pmax
comp=Z,214nm,1.2s
BCYI Bear Canyon 93.83 46 P P 23 17 34.3 +1.0
ROCAM Rodrigues Isla 93.88 249 IAMs_20 IAMs_20 23 56 34.3
comp=Z,14µm,20.0s
TKM2 Tokmak 2 93.88 313 P P 23 17 31.0 -2.6
SNR=13
TKM2 Tokmak 2 93.88 313 *i* **P P 23 17 32.6 -1.0**
TKM2 pmax pmax
comp=Z,39nm,1.3s
MSO Missoula 93.94 43 IAMs_20 IAMs_20 23 53 14.7
comp=Z,17µm,20.0s
MSO Missoula 93.94 43 P P 23 17 32.2 -1.4
baz=259,SNR=20
SPUT South Promonto 93.98 49 IAmb IAmb 23 17 49.3
comp=Z,273nm,1.9s
NRIK Noril'sk 94.02 340 P P 23 17 30.9 -2.3
comp=Z,41nm,1.0s,baz=101,slow=5.1,SNR=26
NRIK PP PP 23 21 19.5 -0.4
comp=Z,11nm,0.9s,baz=132,slow=8.7,SNR=4.7
NRIK S SKSac 23 27 56.3 -7.8
comp=Z,0.9nm,0.5s,baz=148,slow=4.0,SNR=1.4
NRIK LR LR 23 58 28.2
comp=Z,33µm,22.0s,baz=110,slow=34
comp=Z,41nm,1.0s
NRIK Noril'sk 94.02 340 *c i* **P P 23 17 32.7 -0.6**
NRIK pmax pmax
comp=Z,132nm,1.3s
NRIK MLR MLR
comp=Z,18µm,19.0s
NLU North Lily Min 94.02 50 P P 23 17 35.3 +1.0
NIL Nilore 94.08 303 P P 23 17 33.0 -1.4
NIL Nilore 94.08 303 P P 23 17 33.0 -1.4
NIL pmax pmax
comp=Z,59nm,1.2s
NIL MLR MLR
comp=Z,8µm,21.0s
KBK Karagaybulak 94.31 312 P P 23 17 34.8 -0.6
SNR=10
C36M Paulatuk 94.31 20 IAmb IAmb 23 17 39.1
comp=Z,180nm,1.0s
C36M IAMs_20 IAMs_20 23 53 56.1
comp=Z,24µm,22.0s
C36M Paulatuk 94.31 20 P P 23 17 33.9 -0.7
baz=252

MPU Maple Canyon 94.37 50 P **P** 23 17 37.3 +1.4
MPU IAmb IAmb 23 17 52.2
comp=Z,231nm,1.7s
WALA Waterton Lakes 94.37 41 P **P** 23 17 36.5 +0.9
WALA IAmb IAmb 23 17 51.4
comp=Z,398nm,1.6s
CTU Camp Tracy 94.39 50 P **P** 23 17 37.1 +1.2
CTU IAmb IAmb 23 17 52.1
comp=Z,357nm,2.0s
SMAI San Martin Ant 94.49 164 IAmb IAmb 23 17 50.6
comp=Z,375nm,1.3s
CHMS Chumysh 94.51 313 P **P** 23 17 36.3 +0.1
SNR=14
CHMS Chumysh 94.51 313 *i* P **P** 23 17 35.3 -0.9
CHMS pmax pmax
comp=Z,28nm,1.0s
Q16A Castle Valley 94.53 51 P **P** 23 17 37.5 +0.9
Q16A IAmb IAmb 23 17 43.5
comp=Z,262nm,1.9s
UCH Uchtor 94.55 312 P **P** 23 17 36.0 -0.9
SNR=12
TMUT Trail Mountain 94.57 51 P **P** 23 17 37.8 +0.9
JLU Jordanelle 94.60 50 P **P** 23 17 37.8 +0.9
JLU IAmb IAmb 23 17 53.3
comp=Z,329nm,1.8s
AAK Ala-Archa 94.63 312 P **P** 23 17 34.8 -2.1
SNR=13
AAK Ala-Archa 94.63 312 P **P** 23 17 35.4 -1.5
AAK Ala-Archa 94.63 312 P **P** 23 17 35.4 -1.5
AAK pmax pmax
comp=Z,107nm,2.0s
AAK MLR MLR
comp=Z,10µm,21.0s
SGDS Sogindy 94.67 313 *e*P **P** 23 17 34.3 -2.7
baz=313
SGDS Sogindy 94.67 313 *e*P **P** 23 17 34.2 -2.7
HWUT Hardware Ranch 94.69 49 P **P** 23 17 37.3 0.0
HWUT IAmb IAmb 23 18 06.9
comp=Z,247nm,2.0s
HWUT IAMs_20 IAMs_20 23 54 09.2
comp=Z,16µm,20.0s
TCUT Toone Canyon 94.72 49 P **P** 23 17 38.4 +0.9
TCUT IAmb IAmb 23 18 14.9
comp=Z,205nm,1.7s
USP Ospenovka 94.74 313 P **P** 23 17 37.9 +0.6
SNR=12
A36M Sachs Harbour 94.78 17 IAmb IAmb 23 17 41.0
comp=Z,165nm,0.9s
A36M IAMs_20 IAMs_20 23 57 19.1
comp=Z,24µm,21.0s
A36M Sachs Harbour 94.78 17 P **P** 23 17 36.1 -0.5
baz=251
X18A Snowflake 94.78 56 P **P** 23 17 38.7 +0.8
X18A IAmb IAmb 23 18 56.9
comp=Z,77nm,0.7s
319A Douglas 94.84 59 P **P** 23 17 40.1 +2.1
319A IAmb IAmb 23 19 34.5
comp=Z,131nm,1.0s
P17A Butcher Ranch, 94.96 51 P **P** 23 17 39.3 +0.8
W18A Petrified Fore 95.05 55 P **P** 23 17 40.0 +1.0
W18A IAmb IAmb 23 19 38.5
comp=Z,181nm,1.4s
W18A Petrified Fore 95.05 55 P **P** 23 17 37.3 -1.8
baz=261,SNR=7.3
SRU San Rafael Swe 95.06 51 P **P** 23 17 39.7 +0.7
SRU San Rafael Swe 95.06 51 P **P** 23 17 39.7 +0.7
SRU pmax pmax
comp=Z,32nm,1.1s
AML Almayashu 95.13 312 P **P** 23 17 37.6 -2.0
SNR=17
EKS2 Erkin-Say 95.16 312 P **P** 23 17 40.1 +0.8
SNR=9.5
DUN6 Lazy B Ranch 95.18 58 P **P** 23 17 41.0 +1.4
AHID Auburn Hatcher 95.22 48 IAMs_20 IAMs_20 23 56 42.1
comp=Z,15µm,19.0s
BOZ Bozeman (W) 95.30 45 P **P** 23 17 40.6 +0.7
BOZ IAmb IAmb 23 17 46.4
comp=Z,172nm,1.4s
BOZ IAMs_20 IAMs_20 23 52 39.9
comp=Z,16µm,22.0s
BOZ Bozeman (W) 95.30 45 P **P** 23 17 39.4 -0.5
baz=261,SNR=45
BOZ Bozeman (W) 95.30 45 P **P** 23 17 40.6 +0.7
BOZ pmax pmax
comp=Z,172nm,1.5s
BOZ MLR MLR
comp=Z,16µm,22.0s
BTLS Baital 95.35 315 *e*P **P** 23 17 37.6 -2.3
baz=315
BTLS Baital 95.35 315 *e*P **P** 23 17 37.6 -2.3
P18A Preston Nutter 95.36 51 P **P** 23 17 41.3 +0.8
FXWY Fox Creek 95.41 47 P **P** 23 17 41.2 +0.7
FXWY IAmb IAmb 23 17 55.9
comp=Z,181nm,1.6s
FXWY IAMs_20 IAMs_20 23 53 52.1
comp=Z,20µm,20.0s
EDM Edmonton 95.47 37 **P** 23 17 40.0 -0.3
EDM IAmb IAmb 23 17 55.1
comp=Z,309nm,1.4s
EDM Edmonton 95.47 37 P **P** 23 17 40.0 -0.3
EDM pmax pmax
comp=Z,309nm,1.4s
YHL Hebgen Lake 95.49 46 P **P** 23 17 41.5 +0.5
REDW Red Top Meadow 95.49 47 P **P** 23 17 42.0 +1.1
REDW IAmb IAmb 23 17 57.1
comp=Z,431nm,1.9s
REDW IAMs_20 IAMs_20 23 54 24.3
comp=Z,25µm,20.0s
IMW Indian Meadow 95.51 47 P **P** 23 17 41.7 +0.6
IMW IAmb IAmb 23 17 57.3
comp=Z,228nm,1.7s
IMW IAMs_20 IAMs_20 23 53 45.7
comp=Z,19µm,20.0s
CRZF Crozet Islands 95.56 221 P **P** 23 17 40.6 -0.3
SNOW Snow King Moun 95.58 47 P **P** 23 17 41.5 +0.1
SNOW IAmb IAmb 23 17 56.7
comp=Z,154nm,1.4s
SNOW IAMs_20 IAMs_20 23 54 16.6
comp=Z,25µm,20.0s
YMR Madison River 95.62 46 P **P** 23 17 42.3 +0.8
YMR IAmb IAmb 23 17 58.2
comp=Z,181nm,1.3s
MOOW Moose Ponds 95.63 47 P **P** 23 17 42.0 +0.4
MOOW IAmb IAmb 23 17 57.7
comp=Z,162nm,1.6s
MOOW IAMs_20 IAMs_20 23 53 59.9
comp=Z,21µm,20.0s
LOHW Long Hollow 95.71 47 P **P** 23 17 42.7 +0.8
LOHW IAMs_20 IAMs_20 23 54 32.0
comp=Z,22µm,20.0s
FLWY Flagg Ranch 95.71 46 IAmb IAmb 23 17 58.3
comp=Z,352nm,1.9s
FLWY IAMs_20 IAMs_20 23 54 03.1
comp=Z,20µm,20.0s
YNM Yellowstone No 95.81 46 P **P** 23 17 44.5 +2.2
YNR Norris Junctio 95.83 46 P **P** 23 17 43.9 +1.5
YNR IAmb IAmb 23 17 59.7
comp=Z,208nm,1.6s
H17A Grant Village 95.85 46 P **P** 23 17 44.6 +2.0
H17A Grant Village 95.85 46 P **P** 23 17 42.0 -0.6
baz=261,SNR=70
YUF Upper Falls 95.94 46 P **P** 23 17 44.5 +1.5
LKWY Lake 96.00 46 P **P** 23 17 45.0 +1.7
LKWY Lake 96.00 46 P **P** 23 17 45.0 +1.7
LKWY pmax pmax
comp=Z,48nm,1.0s
RDMU Red Mountain 96.01 50 P **P** 23 17 44.4 +1.0
PV10 Paradox Valley 96.10 52 P **P** 23 17 43.9 +0.1
PV14 Lion Creek, Pa 96.11 52 P **P** 23 17 45.4 +1.5
PV14 IAmb IAmb 23 18 03.8
comp=Z,151nm,1.4s
PV23 Carpenter Ridg 96.13 52 P **P** 23 17 44.7 +0.6
PV19 Morning Glory 96.13 52 P **P** 23 17 44.7 +0.7
PV19 IAmb IAmb 23 18 03.9
comp=Z,145nm,1.4s
PV17 East Wray Mesa 96.15 52 P **P** 23 17 45.4 +1.4
PV20 West Nyswonger 96.15 52 P **P** 23 17 45.6 +1.5
PV21 Cone Mtn., Par 96.17 52 P **P** 23 17 45.1 +1.0
PV18 Skein Mesa, Pa 96.18 52 P **P** 23 17 45.2 +1.0
PV16 Nyswonger Mesa 96.19 52 P **P** 23 17 45.6 +1.4
YMP Mirror Lake Pl 96.20 46 P **P** 23 17 45.9 +1.7
YMP IAmb IAmb 23 18 01.5
comp=Z,205nm,1.5s
PV04 Paradox Valley 96.20 52 P **P** 23 17 45.3 +1.0
PV04 IAmb IAmb 23 17 53.8
comp=Z,144nm,1.4s
PV11 David Mesa, Pa 96.22 52 P **P** 23 17 45.9 +1.5
PV11 IAmb IAmb 23 18 02.8
comp=Z,196nm,1.6s
PV03 Paradox Valley 96.23 52 P **P** 23 17 44.6 +0.2
PV13 Radium Mtn., P 96.24 52 P **P** 23 17 45.1 +0.7
121A Cookes Peak, D 96.27 58 IAmb IAmb 23 18 53.3
comp=Z,225nm,0.9s
121A Cookes Peak, D 96.27 58 P **P** 23 17 46.5 +1.8
baz=262
121A Cookes Peak, D 96.27 58 P **P** 23 17 44.0 -0.6
baz=262
PV12 Saucer Basin, 96.27 52 P **P** 23 17 46.0 +1.4
PV02 Paradox Valley 96.31 52 P **P** 23 17 45.4 +0.6
PV22 Blue Mesa, Par 96.32 52 P **P** 23 17 45.6 +0.9
PV22 IAmb IAmb 23 18 03.2
comp=Z,179nm,1.7s
BW06 Boulder Array 96.34 48 IAMs_20 IAMs_20 23 55 53.9
comp=Z,16µm,20.0s
BW06 Boulder Array 96.34 48 P **P** 23 17 44.0 -0.8
baz=262
PDAR Pinedale Array 96.34 48 P **P** 23 17 45.0 +0.1
comp=Z,14nm,0.9s,baz=225,slow=1.9,SNR=56
PDAR PP **PP** 23 21 40.0 +1.1
comp=Z,7.8nm,1.1s,baz=253,slow=4.5,SNR=3.9
PDAR PKPPKP **P'P'df** 23 42 43.4 -0.2
comp=Z,0.7nm,0.9s,baz=85,slow=4.0,SNR=3.0
PDAR LR LR 23 56 25.0
comp=Z,13µm,19.7s,baz=286,slow=32
comp=Z,14nm,0.9s
PDAR Pinedale Array 96.34 48 P **P** 23 17 44.9 +0.1
MVCO Mesa Verde 96.36 53 IAmb IAmb 23 19 50.7
comp=Z,183nm,2.0s
MVCO Mesa Verde 96.36 53 P **P** 23 17 44.3 -0.7
baz=262
NVL N'lazarevskaya 96.40 190 *e*P **P** 23 17 43.1 -1.2
NVL *e* 23 21 35.4
NVL *e*S **SKSac** 23 28 12.7 -4.4
NVL *e*PS **PS** 23 30 19.5 -6.5
NVL *e*SS SS 23 35 46.8 +13
NVL pmax pmax
comp=Z,25nm,0.7s
NVL MLR MLR
comp=Z,11µm,16.0s
PV07 Paradox Valley 96.41 52 P **P** 23 17 46.2 +1.0
YKA Yellowknife Ar 96.42 28 P **P** 23 17 43.6 -0.8
comp=Z,46nm,0.7s,baz=259,slow=4.8,SNR=238
YKA PP **PP** 23 21 35.7 -2.9
comp=Z,9.2nm,1.0s,baz=267,slow=8.1,SNR=4.5
YKA S **SKSac** 23 28 15.4 -1.8
comp=Z,0.4nm,0.7s,baz=262,slow=4.7,SNR=1.6
YKA PKKP **PKKPbc** 23 34 31.6 -0.4
comp=Z,0.8nm,0.8s,baz=64,slow=2.4,SNR=6.4
comp=Z,46nm,0.7s
PV01 Paradox Valley 96.43 53 P **P** 23 17 46.6 +1.2
PV15 Paradox Valley 96.53 52 P **P** 23 17 46.7 +0.9
TROLL Troll, Antarti 96.57 187 P **P** 23 17 45.1 -0.1
GCMT Greycliff 96.69 45 P **P** 23 17 47.6 +1.4
RLMT Red Lodge 96.88 45 P **P** 23 17 48.3 +1.1
RLMT Red Lodge 96.88 45 P **P** 23 17 47.4 +0.3
baz=262,SNR=34
EGMT Eagleton 96.93 43 IAmb IAmb 23 17 51.7
comp=Z,135nm,0.8s
EGMT IAMs_20 IAMs_20 23 55 46.9
comp=Z,14µm,20.0s
EGMT Eagleton 96.93 43 P **P** 23 17 47.2 0.0
baz=262,SNR=103
O20A White River Ci 96.96 51 P **P** 23 17 48.7 +1.0
O20A White River Ci 96.96 51 P **P** 23 17 47.7 0.0
baz=262,SNR=27
DZA Taraz 96.97 312 *e*P **P** 23 17 45.1 -2.3
baz=312
DZA Taraz 96.97 312 *e*P **P** 23 17 45.1 -2.3
Y22A Socorro 97.14 57 P Pdif 23 17 50.3 +1.6
baz=262
Y22D IRIS PASSCAL I 97.20 57 P Pdif 23 17 50.5 +1.6
Y22D IAmb IAmb 23 19 59.2
comp=Z,88nm,0.8s
Y22D IAMs_20 IAMs_20 23 52 44.6
comp=Z,24µm,21.0s
Y22D IRIS PASSCAL I 97.20 57 P **P** 23 17 48.6 -0.2
baz=262
Y22F Passcal Instru 97.20 57 P Pdif 23 17 48.9 0.0
baz=262
GAR Garm 97.22 308 P **P** 23 17 47.4 -1.4
HPIG 97.31 64 P **P** 23 17 49.1 -0.4
CRNM Carthage 97.33 57 P Pdif 23 17 51.5 +1.9
SNAA Sanae 97.42 185 S **SKSac** 23 28 17.9 -4.7
comp=Z,1.0nm,1.0s,baz=195,slow=11,SNR=1.3
SNAA PKKP 23 34 27.4
comp=Z,2.3nm,0.9s,baz=353,slow=8.3,SNR=3.9
SNAA Sanae 97.42 185 IAMs_20 IAMs_20 23 59 18.7
comp=Z,16µm,20.0s
KK31 Karatay Array 97.60 312 P Pdif 23 17 50.3 0.0
KK31 Karatay Array 97.60 312 P Pdif 23 17 50.3 0.0
KK31 pmax pmax
comp=Z,18nm,1.0s
KKAR Karatay Array 97.60 312 P Pdif 23 17 50.3 0.0
KKAR Karatay Array 97.60 312 P Pdif 23 17 50.3 0.0
KKAR pmax pmax
comp=Z,18nm,1.0s
KBL Kabul 97.67 304 P **P** 23 17 50.2 -0.8
KBL Kabul 97.67 304 P **P** 23 17 50.2 -0.8
KBL pmax pmax
comp=Z,24nm,1.1s
ANMO Albuquerque 97.69 56 P Pdif 23 17 52.0 +0.9
comp=Z,21nm,0.9s,baz=335,slow=5.7,SNR=25
ANMO PP **PP** 23 21 49.2 -0.2
comp=Z,7.4nm,1.1s,baz=340,slow=8.7,SNR=2.9
ANMO LR LR 23 53 28.5
comp=Z,18µm,21.9s,baz=6.5,slow=30
comp=Z,21nm,0.9s
ANMO Albuquerque 97.69 56 P Pdif 23 17 51.5 +0.3
ANMO Albuquerque 97.69 56 IAMs_20 IAMs_20 23 53 05.6
comp=Z,18µm,22.0s
ANMO Albuquerque 97.69 56 P Pdif 23 17 52.1 +1.0
baz=263
ANMO Albuquerque 97.69 56 P **P** 23 17 50.4 -0.7
baz=263
ANMO Albuquerque 97.69 56*ce*P Pdif 23 17 52.6 +1.5
ANMO pmax pmax
comp=Z,32nm,1.1s
PMSA Palmer Station 97.71 162 LR LR 23 58 58.1
comp=Z,6µm,18.2s,baz=220,slow=34
PMSA Palmer Station 97.71 162 P Pdif 23 17 51.4 +1.2
S22A 4UR Ranch, Cre 97.74 53 P Pdif 23 17 52.5 +1.1
S22A 4UR Ranch, Cre 97.74 53 P Pdif 23 17 51.6 +0.2
baz=263,SNR=25
SMCO Snowmass 97.81 52 P Pdif 23 17 53.5 +1.7
IUG luzhnay 97.83 311 *e*P **P** 23 17 49.7 -1.8
baz=311
IUG luzhnay 97.83 311 *e*P **P** 23 17 49.6 -1.8
RWWY Rawlins 97.93 49 P Pdif 23 17 53.1 +1.0
RWWY IAMs_20 IAMs_20 23 57 42.0
comp=Z,20µm,20.0s
CHGR Chuyangaron 98.08 308 P **P** 23 17 52.3 -0.3
CHGR IAmb IAmb 23 21 25.6
comp=Z,142nm,1.6s
CHGR Chuyangaron 98.08 308 P **P** 23 17 52.3 -0.3
CHGR pmax pmax
comp=Z,143nm,1.6s
MNTX Cornudas Mount 98.18 59 P **P** 23 17 52.8 -0.3
MNTX Cornudas Mount 98.18 59 P Pdif 23 17 54.4 +1.3
baz=263
MNTX Cornudas Mount 98.18 59 P Pdif 23 17 53.3 +0.2
baz=263
TAS Tashkent 98.28 310 P Pdif 23 17 54.1 +0.7
TAS Tashkent 98.28 310 P Pdif 23 17 54.1 +0.7
TAS pmax pmax
comp=Z,50nm,1.0s
VNA3 Neumayer Olymp 98.31 183 P **P** 23 17 51.5 -1.4
VNA2 Neumayer--Watz 98.49 184 P **P** 23 17 53.7 0.0
baz=164,slow=6.0
K22A Casper 98.54 48 P Pdif 23 17 56.0 +1.3
baz=264
K22A Casper 98.54 48 Pdiff Pdif 23 17 55.1 +0.4
baz=264
BVAR Borovoye Array 98.78 322 LR LR 00 04 37.5
comp=Z,8µm,19.3s,baz=87,slow=37
N23A Red Feather La 98.79 50 Pdif 23 17 56.9 +1.0
N23A Red Feather La 98.79 50 Pdiff Pdif 23 17 56.3 +0.3
baz=264
SDCO Great Sand Dun 98.79 53 P Pdif 23 17 56.8 +0.8
baz=264
SDCO Great Sand Dun 98.79 53 Pdiff Pdif 23 17 56.6 +0.6
baz=264
VNA1 Neumayer--Stat 98.82 184 P Pdif 23 17 57.1 +2.0
BRVK Borovoye 98.84 322 **P** 23 17 53.7 -1.8
BRVK Borovoye 98.84 322 P **P** 23 17 53.7 -1.8
BRVK pmax pmax
comp=Z,84nm,1.2s
BRVK MLR MLR
comp=Z,11µm,21.0s
ISCO Idaho Springs 98.92 51 P Pdif 23 17 57.4 +0.7
ISCO Idaho Springs 98.92 51 P Pdif 23 17 59.0 +2.4
baz=264
ISCO Idaho Springs 98.92 51 Pdiff Pdif 23 17 56.6 0.0
baz=264
ISCO Idaho Springs 98.92 51 P Pdif 23 17 57.4 +0.8
ISCO pmax pmax
comp=Z,31nm,1.4s
ISCO MLR MLR
comp=Z,33µm,21.0s
GDL2 Guadalupe Moun 99.09 59 **Pdif** 23 17 58.6 +1.3
LAO LASA Array 99.17 44 IAmb IAmb 23 18 03.1
comp=Z,176nm,1.1s
LAO LASA Array 99.17 44 P **Pdif** 23 17 59.0 +1.8
baz=265
LAO LASA Array 99.17 44 Pdiff **Pdif** 23 17 57.6 +0.4
baz=265
Q24A Divide 99.19 52 P **Pdif** 23 17 58.9 +1.0
Q24A Divide 99.19 52 Pdiff **Pdif** 23 17 58.2 +0.3
baz=264
PHWY Pilot Hill 99.19 50 P **Pdif** 23 17 59.0 +1.2
PHWY IAMs_20 IAMs_20 23 56 47.6
comp=Z,12µm,20.0s
TX31 Lajitas Ar. Si 99.36 62 P **Pdif** 23 17 59.1 +0.6
TX31 Lajitas Ar. Si 99.36 62 P **Pdif** 23 17 59.8 +1.3
baz=263
TX32 Lajitas Array 99.36 62 P **Pdif** 23 17 58.7 +0.2
TXAR Lajitas Array 99.36 62 P **Pdif** 23 17 59.0 +0.4
comp=Z,3.0nm,0.8s,baz=228,slow=5.8,SNR=11
TXAR PP **PP** 23 22 02.2 -0.1
comp=Z,17nm,1.1s,baz=248,slow=6.6,SNR=9.3
TXAR PKKP **PKKPbc** 23 34 23.8 +1.1
comp=Z,1.5nm,0.8s,baz=98,slow=3.7,SNR=7.4
TXAR PKPPKP **P'P'df** 23 42 34.5 -4.2
comp=Z,0.3nm,0.9s,baz=62,slow=2.1,SNR=2.0
TXAR LR LR 23 54 05.4
comp=Z,29µm,22.0s,baz=268,slow=30
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 99.36 62 P **Pdif** 23 17 59.0 +0.4
CLNB Carlsbad 99.51 59 P **Pdif** 23 18 00.8 +1.7
ZAIG Zacatecas 99.55 69 P **Pdif** 23 18 00.2 +0.5
T25A Trinidad 99.59 54 **Pdif** 23 18 00.5 +1.0
T25A Trinidad 99.59 54 Pdiff **Pdif** 23 17 59.5 -0.1
baz=264
CPRX Cap Rock 99.60 58 P **Pdif** 23 18 01.4 +1.8
RSSD Black Hills 100.48 47 IAMs_20 IAMs_20 23 58 25.4
comp=Z,21µm,20.0s
RSSD Black Hills 100.48 47 P **Pdif** 23 18 04.9 +1.5
baz=266
RSSD Black Hills 100.48 47 Pdiff **Pdif** 23 18 02.9 -0.5
baz=266
MSTX Muleshoe 100.61 57 P **Pdif** 23 18 05.4 +1.4
baz=265
MSTX Muleshoe 100.61 57 Pdiff **Pdif** 23 18 03.5 -0.5
baz=265
DGMT Dagmar 100.67 42 IAMs_20 IAMs_20 23 58 59.9
comp=Z,13µm,20.0s
DGMT Dagmar 100.67 42 P **Pdif** 23 18 04.8 +1.0
baz=266
DGMT Dagmar 100.67 42 Pdiff **Pdif** 23 18 04.0 +0.2
baz=266
KSCO Kaye Shedlock' 101.15 52 Pdiff **Pdif** 23 18 05.6 -0.7
baz=266
AMTX Amarillo 101.59 56 IAMs_20 IAMs_20 23 54 41.8
comp=Z,19µm,22.0s
AMTX Amarillo 101.59 56 P **Pdif** 23 18 09.2 +0.9
baz=265
AMTX Amarillo 101.59 56 Pdiff **Pdif** 23 18 08.1 -0.2
baz=265
OGNE Ogallala 101.74 50 Pdiff **Pdif** 23 18 08.4 -0.4
baz=266
UNM Universidad Na 102.27 72 IAMs_20 IAMs_20 00 02 15.1
comp=Z,11µm,18.0s
FFC Flin Flon 102.29 36 IAMs_20 IAMs_20 00 00 32.8
comp=Z,14µm,20.0s
JCT Junction City 102.81 61 Pdiff **Pdif** 23 18 13.8 0.0
baz=265
E28A Huff 102.96 45 P **Pdif** 23 18 15.6 +1.5
baz=269
833A Chaparral WMA, 102.99 63 Pdiff **Pdif** 23 18 14.3 -0.2
baz=265
ABTX Abilene, Hawle 103.11 59 P **Pdif** 23 18 16.8 +1.7
baz=266
ABTX Abilene, Hawle 103.11 59 Pdiff **Pdif** 23 18 13.9 -1.1
baz=266
CBKS Cedar Bluff 103.39 52 Pdiff **Pdif** 23 18 16.1 -0.1
baz=267
RES Resolute Bay 103.61 15 PKKPbc PKKPbc 23 34 09.7 -1.9
comp=Z,0.7nm,0.6s,baz=140,slow=3.1,SNR=4.5
MDND Maddock 103.73 43 P **Pdif** 23 18 20.0 +2.6
baz=270
MDND Maddock 103.73 43 Pdiff **Pdif** 23 18 17.4 0.0
baz=270
WMOK Wichita Mounta 103.96 57 IAMs_20 IAMs_20 23 56 28.6
comp=Z,20µm,22.0s
WMOK Wichita Mounta 103.96 57 P **Pdif** 23 18 19.7 +1.0
baz=267
WMOK Wichita Mounta 103.96 57 Pdiff **Pdif** 23 18 19.2 +0.4
baz=267
SUSD Miller 104.14 47 P **Pdif** 23 18 20.8 +1.5
baz=269
SUSD Miller 104.14 47 Pdiff **Pdif** 23 18 20.4 +1.1
baz=269
R32A Long Quarter, 104.18 53 P **Pdif** 23 18 21.9 +2.2
baz=268
KVTX Kingsville 104.25 64 IAMs_20 IAMs_20 00 02 21.0
comp=Z,11µm,20.0s
MSEY Mahe Island 104.65 262 IAMs_20 IAMs_20 00 03 02.6
comp=Z,12µm,20.0s
BGNE Belgrade 104.69 50 Pdiff **Pdif** 23 18 22.4 +0.5
baz=269
435B Jarrell 104.74 61 Pdiff **Pdif** 23 18 22.1 -0.2
baz=267
WHTX Lake Whitney, 104.92 60 Pdiff **Pdif** 23 18 22.7 -0.4
baz=267
OK029 Liberty Lake 105.09 56 IAMs_20 IAMs_20 00 01 07.4
comp=Z,15µm,20.0s
OK025 Westminster Rd 105.18 56 IAMs_20 IAMs_20 00 01 01.8
comp=Z,18µm,20.0s
OK050 Pawnee Station 105.49 55 IAMs_20 IAMs_20 23 58 20.0
comp=Z,23µm,22.0s
OK033 Mehan 105.52 55 IAMs_20 IAMs_20 23 57 11.7
comp=Z,21µm,22.0s
OK048 Pawnee Station 105.52 55 IAMs_20 IAMs_20 23 58 31.8
comp=Z,23µm,22.0s
OK046 Pawnee Station 105.55 55 IAMs_20 IAMs_20 23 58 21.6
comp=Z,24µm,22.0s
OK031 S. Brethren Rd 105.59 56 IAMs_20 IAMs_20 00 02 08.8
comp=Z,15µm,20.0s
OK052 Battle Ridge R 105.62 55 IAMs_20 IAMs_20 23 57 26.6
comp=Z,20µm,22.0s
OK053 SW of W Deep R 105.64 55 IAMs_20 IAMs_20 23 57 14.9
comp=Z,20µm,22.0s
OK030 Cody Creek RV 105.64 56 IAMs_20 IAMs_20 23 57 15.0
comp=Z,19µm,22.0s
ARU Arti 105.65 326 Pdif **Pdif** 23 18 25.7 0.0
ARU IAMs_20 IAMs_20 00 06 35.7
comp=Z,15µm,21.0s
ARU Arti 105.65 326*d* iP **Pdif** 23 18 25.8 0.0
ARU S **SKSac** 23 29 02.8 +0.7
ARU SP **SP** 23 31 54.8 -4.5
ARU SSS SSS 23 41 44.1
ARU pmax pmax
comp=Z,32nm,1.4s
ARU MLR MLR
comp=Z,16µm,21.0s
OK034 N. Norfolk Rd. 105.70 55 IAMs_20 IAMs_20 23 57 05.5
comp=Z,19µm,22.0s
ECSD EROS Data Cent 105.83 47 PKiKP **PKiKP** 23 22 39.2 -0.2
baz=271
KSU1 Kansas State U 105.84 52 PKiKP **PKiKP** 23 22 39.2 -0.3
baz=269
ULM Lac du Bonnet 106.12 41 Pdiff **Pdif** 23 18 27.9 0.0
comp=Z,18nm,0.8s,baz=285,slow=5.8,SNR=13
ULM PKiKP **PKiKP** 23 22 38.8 -0.9
comp=Z,13nm,0.9s,baz=279,slow=2.3,SNR=8.6
AGMN Agassiz Nation 106.23 43 IAMs_20 IAMs_20 00 03 10.8
comp=Z,15µm,20.0s
AGMN Agassiz Nation 106.23 43 PKiKP **PKiKP** 23 22 39.4 -0.6
baz=273

GEYT **Alibeck** 106.70 307 Pdiff **Pdif** 23 18 29.9 -1.0
comp=Z,0.8nm,0.7s,baz=21,slow=38,SNR=2.3
GEYT PKiKP **PKiKP** 23 22 40.5 -0.7
comp=Z,3.9nm,1.1s,baz=110,slow=2.1,SNR=1.8
GEYT PKKP **PKKPdf** 23 34 13.1 -0.5
comp=Z,0.8nm,0.5s,baz=270,slow=2.6,SNR=1.9
U38A **Gravette** 107.58 55 P **PKiKP** 23 22 43.5 +0.6
baz=270
F36A **Milaca** 107.95 45 P **PKiKP** 23 22 43.7 +0.5
baz=274
H03N3 **Juan Fernandez** 108.05 130 T T 01 20 16.4
baz=238,slow=72,SNR=12
H03N2 **Juan Fernandez** 108.05 130 T T 01 20 26.4
baz=238,slow=72,SNR=9.0
H03N1 **Juan Fernandez** 108.07 130 T T 01 20 19.9
baz=238,slow=72,SNR=6.8
I37B **Waseca** 108.14 47 P **PKiKP** 23 22 44.6 +0.9
baz=273
VOI **Vohitsoka** 108.21 243 IAMs_20 IAMs_20 00 02 02.6
comp=Z,20µm,22.0s
SCIA **State Center** 108.38 49 PKiKP **PKiKP** 23 22 45.4 +1.2
baz=272
S39A **Bolivar** 108.43 54 P **PKiKP** 23 22 45.1 +0.7
baz=271,SNR=6.6
SPMN **Marine on St.** 108.50 46 PKiKP **PKiKP** 23 22 45.8 +1.6
baz=274
EYMN **Ely** 109.17 43 IAMs_20 IAMs_20 00 07 28.6
comp=Z,10µm,20.0s
EYMN **Ely** 109.17 43 P **PKiKP** 23 22 46.2 +0.7
baz=276
EYMN **Ely** 109.17 43 PKiKP **PKiKP** 23 22 45.5 0.0
baz=276
L40A **Anamosa** 109.86 49 P **PKiKP** 23 22 47.7 +0.8
baz=274
SPITS **Spitsbergen Ar** 109.98 353 PKiKP **PKiKP** 23 22 45.8 -0.4
comp=Z,18nm,1.1s,baz=198,slow=2.7,SNR=1.0
CCM **Cathedral Cave** 110.06 53 P **PKiKP** 23 22 48.1 +0.7
baz=272
CCM **Cathedral Cave** 110.06 53 PKiKP **PKiKP** 23 22 47.3 -0.1
baz=272
PLCA **Paso Flores** 110.19 140 PP **PP** 23 23 24.9 +3.3
comp=Z,6.2nm,1.2s,baz=269,slow=3.2,SNR=3.8
PLCA PKKPbc **PKKPbc** 23 33 50.0 -0.3
comp=Z,5.7nm,0.9s,baz=22,slow=3.4,SNR=7.7
N41A **Harden Midland** 110.22 50 P **PKiKP** 23 22 47.9 +0.2
baz=274
G40A **Rib Lake** 110.33 46 P **PKiKP** 23 22 48.1 +0.3
baz=276
JFWS **Jewell Farm** 110.51 48 P **PKiKP** 23 22 48.3 +0.1
baz=275
JFWS **Jewell Farm** 110.51 48 PKiKP **PKiKP** 23 22 48.2 0.0
baz=275
COWI **Conover** 110.98 45 IAMs_20 IAMs_20 00 10 29.7
comp=Z,11µm,18.0s
COWI **Conover** 110.98 45 P **PKiKP** 23 22 49.7 +0.7
baz=277
L42A **Oliver, Polo** 111.02 49 P **PKiKP** 23 22 49.5 +0.4
baz=275
SNET **Serv Nac Est T** 111.14 79 IAMs_20 IAMs_20 23 57 53.2
comp=Z,15µm,21.0s
D41A **Chassel** 111.25 44 P **PKiKP** 23 22 50.0 +0.6
baz=278
P43A **Skaggs, Pawnee** 111.31 52 P **PKiKP** 23 22 50.2 +0.4
baz=274
I42A **Draeger Farm,** 111.39 47 P **PKiKP** 23 22 50.1 +0.3
baz=276
HDIL **Hopedale** 111.42 51 P **PKiKP** 23 22 50.5 +0.5
baz=275
HDIL **Hopedale** 111.42 51 PKiKP **PKiKP** 23 22 50.0 +0.1
baz=275
K43A **Burlington** 111.93 48 P **PKiKP** 23 22 51.3 +0.4
baz=276
M44A **Midewin, Midew** 112.28 50 P **PKiKP** 23 22 52.4 +0.8
baz=276
L44A **Lake County Fo** 112.30 49 P **PKiKP** 23 22 52.3 +0.8
baz=276
L44A **Lake County Fo** 112.30 49 PKiKP **PKiKP** 23 22 51.4 -0.2
baz=276
E43A **Lone Tree Farm** 112.41 44 P **PKiKP** 23 22 52.5 +0.8
baz=279
OLIL **Olney** 112.48 52 P **PKiKP** 23 22 52.4 +0.4
baz=275
PLAL **Pickwick Lake** 112.76 56 IAMs_20 IAMs_20 00 06 28.6
comp=Z,19µm,19.0s
Z47A **Carrollton** 112.85 58 P **PKiKP** 23 22 53.0 +0.2
baz=272
LVZ **Lovozero** 112.85 341 IAMs_20 IAMs_20 00 12 03.4
comp=Z,20µm,21.0s
WVT **Waverly** 112.89 55 IAMs_20 IAMs_20 00 02 45.9
comp=Z,18µm,21.0s
WVT **Waverly** 112.89 55 P **PKiKP** 23 22 53.2 +0.3
baz=274
WVT **Waverly** 112.89 55 PKiKP **PKiKP** 23 22 52.2 -0.7
baz=274
TGUH **Tegucigalpa,Un** 113.07 79 IAMs_20 IAMs_20 23 59 04.3
comp=Z,13µm,21.0s
P46A **Rosedale** 113.09 51 P **PKiKP** 23 22 54.1 +1.0
baz=276
SFIN **Lafayette** 113.10 51 P **PKiKP** 23 22 54.1 +0.9
baz=276
SFIN **Lafayette** 113.10 51 PKiKP **PKiKP** 23 22 52.9 -0.2
baz=276
T47A **Sharon Grove** 113.41 54 P **PKiKP** 23 22 54.4 +0.6
baz=275
APA **Apatity** 113.43 341 ⇓ *i* PKIKP **PKiKP** 23 22 53.4 +0.5
APA *i* 23 23 41.0
APA *i* PS **PS** **23 33 16.0 -4.9**
APA *i* 23 34 29.0
APA *i* SS SS 23 39 45.0 +18
APA pmax pmax
comp=Z,12nm,1.2s
APA MLR MLR
comp=Z,22µm,20.0s
L46A **Eue Claire** 113.51 49 P **PKiKP** 23 22 54.9 +1.0
baz=277
L46A P **PKiKP** 23 22 54.9 +1.0
baz=277
G45A **Suttons Bay** 113.54 45 P **PKiKP** 23 22 54.5 +0.7
baz=279
G45A P **PKiKP** 23 22 54.5 +0.7
baz=279
X48A **Hartselle** 113.64 57 P **PKiKP** 23 22 54.4 +0.1
baz=274
DAG **Danmarks Havn** 113.65 360 *i* P **PKiKP** 23 22 52.0 -1.2
LRAL **Lakeview Retre** 113.75 59 P **PKiKP** 23 22 54.8 +0.2
baz=273
BRAL **Brewton** 113.79 61 PKiKP **PKiKP** 23 22 53.5 -1.2
baz=272
UPNV **Upernavik** 113.82 11 *e*P **PKiKP** 23 22 53.2 -0.3
WCI **Wyandotte Cave** 113.94 53 P **PKiKP** 23 22 55.2 +0.4
baz=276,SNR=7.9
WCI **Wyandotte Cave** 113.94 53 PKiKP **PKiKP** 23 22 54.4 -0.5
baz=276
KEV **Kevo** 114.04 344 IAMs_20 IAMs_20 00 11 19.7
comp=Z,11µm,21.0s
N47A **Urbana** 114.11 50 P **PKiKP** 23 22 55.9 +0.9
baz=277
N47A P **PKiKP** 23 22 55.9 +0.9
baz=277
Y49A **Blount Mountai** 114.20 58 P PKPdf 23 22 55.4 -0.1
baz=274
PEL **Peldehue** 114.24 134 IAMs_20 IAMs_20 00 00 42.4
comp=Z,11µm,22.0s
E46A **Sault Ste Mari** 114.25 44 P **PKiKP** 23 22 55.6 +0.4
baz=281
GLMI **Grayling** 114.31 45 IAMs_20 IAMs_20 00 10 41.0
comp=Z,18µm,19.0s
GLMI **Grayling** 114.31 45 P **PKiKP** 23 22 55.9 +0.5
baz=280
GLMI **Grayling** 114.31 45 PKiKP PKPdf 23 22 54.8 -0.5
baz=280
MAK **Makhachkala** 114.41 312 *ce*P **Pdif** **23 19 08.6 +3.6**
MAK *i* 23 22 54.2
MAK *e* 23 23 49.3
MAK *e*PPP PPP 23 26 14.4
MAK *e* 23 29 41.5
MAK *e*PS **PS** **23 33 30.7 -0.3**
MAK *e*SS SS 23 39 37.3 -4.3
MAK *e*SSS SSS 23 43 59.2
MAK pmax pmax
comp=Z,154nm,1.3s
J47A **Sunmer** 114.42 47 P **PKiKP** 23 22 56.2 +0.6
baz=279
J47A P **PKiKP** 23 22 56.2 +0.6
baz=279
250A **Grady** 114.42 60 P **PKiKP** 23 22 56.9 +1.0
baz=273
BOAB **BOACO BROADBAN** 114.47 81 IAMs_20 IAMs_20 23 59 04.5
comp=Z,17µm,21.0s
P48A **Milroy** 114.48 51 P **PKiKP** 23 22 56.2 +0.4
baz=277
P48A P **PKiKP** 23 22 56.2 +0.4
baz=277
U49A **Red Boiling Sp** 114.51 55 P **PKiKP** 23 22 56.3 +0.3
baz=275
ARCES **ARCESS Array B** 114.58 344 PKP **PKiKP** 23 22 55.1 0.0
comp=Z,3.2nm,0.4s,baz=86,slow=1.7,SNR=15
ARCES PKKPbc **PKKPbc** 23 33 34.2 -2.1
comp=Z,8.5nm,0.9s,baz=270,slow=3.4,SNR=2.6
O48B **Farmland** 114.59 50 P **PKiKP** 23 22 56.7 +0.7
baz=277
O48B **Farmland** 114.59 50 PKiKP PKPdf 23 22 55.6 -0.4
baz=277
R49A **Shelbyville** 114.81 53 P **PKiKP** 23 22 57.4 +0.9
baz=276
R49A P **PKiKP** 23 22 57.4 +0.9
baz=276
L48A **N Adams** 114.90 49 P PKPdf 23 22 57.3 +0.7
baz=279
L48A P PKPdf 23 22 57.3 +0.7
baz=279
JTS **Las Juntas de** 114.93 83 IAMs_20 IAMs_20 00 00 49.8
comp=Z,15µm,20.0s
W50A **Signal Mountai** 115.00 56 P **PKiKP** 23 22 57.4 +0.4
baz=275
P49A **Miami Univ. Ec** 115.02 51 P **PKPdf** 23 22 57.3 +0.5
baz=277
P49A **Miami Univ. Ec** 115.02 51 PKiKP **PKiKP** 23 22 55.8 -1.0
baz=277
T50A **Nancy** 115.21 54 P **PKPdf** 23 22 57.9 +0.6
baz=276
T50A P **PKPdf** 23 22 57.9 +0.6
baz=276
O49A **Covington** 115.22 50 P **PKPdf** 23 22 58.2 +1.0
baz=278,SNR=13
O49A P **PKPdf** 23 22 58.2 +1.0
baz=278,SNR=13
N49A **Columbus Grove** 115.23 50 P **PKPdf** 23 22 58.0 +0.8
baz=278
N49A P **PKPdf** 23 22 58.0 +0.8
baz=278
Z51A **Franklin** 115.26 58 P **PKiKP** 23 22 58.0 +0.5
baz=274
NUUG **Nuugaatsiaq** 115.36 12 *e*P **PKiKP** 23 22 56.5 -0.1
AAM **Ann Arbor** 115.41 48 P **PKPdf** 23 22 58.3 +0.8
baz=279
AAM **Ann Arbor** 115.41 48 PKiKP **PKiKP** 23 22 57.3 -0.2
baz=279
X51A **Calhoun** 115.43 57 P **PKiKP** 23 22 58.1 +0.3
baz=275
X51A P **PKiKP** 23 22 58.1 +0.3
baz=275
R50A **Paris** 115.47 53 **PKiKP** 23 22 57.6 -0.2
R50A **Paris** 115.47 53 P **PKPdf** 23 22 58.3 +0.5
baz=277,SNR=6.4
R50A P **PKPdf** 23 22 58.3 +0.5
baz=277,SNR=6.4
352A **Blakely** 115.59 60 P **PKiKP** 23 22 58.9 +0.8
baz=273
GROC **Groznyy** 115.61 313 *i* PKIKP **PKPdf** **23 23 00.8 +2.9**
GROC *e* 23 24 06.5
GROC *e* 23 30 06.2
GROC *e*PS **PS** **23 33 39.8 -2.1**
GROC pmax pmax
comp=Z,9.0nm,0.5s
152A **Waverly Hall** 115.69 59 PP **PP** 23 24 01.8 +0.2
152A **Waverly Hall** 115.69 59 P **PKiKP** 23 22 59.0 +0.6
baz=274
HDC **Heredia** 115.72 84 IAMs_20 IAMs_20 23 59 35.8
comp=Z,14µm,22.0s
V51A **Loudon** 115.73 55 **PKiKP** 23 22 58.4 0.0
V51A PP **PP** 23 23 59.9 -1.9
V51A **Loudon** 115.73 55 P **PKiKP** 23 22 59.1 +0.8
baz=276
I49A **Point Hope** 115.73 46 P **PKPdf** 23 22 58.7 +0.7
baz=281
I49A P **PKPdf** 23 22 58.7 +0.7
baz=281
M50A **Fremont** 116.01 49 **PKiKP** 23 22 59.0 +0.3
M50A **PP** 23 24 01.2 -2.3
M50A **Fremont** 116.01 49 P **PKiKP** 23 22 59.3 +0.6
baz=279
M50A P **PKiKP** 23 22 59.3 +0.6
baz=279
DBG **Daneborg** 116.12 0 *i* P **PKiKP** 23 22 57.3 -0.7
S51A **Beattyville** 116.13 53 P **PKiKP** 23 22 59.6 +0.5
baz=277
S51A P **PKiKP** 23 22 59.6 +0.5
baz=277
Q51A **Peebles** 116.14 52 P **PKiKP** 23 22 59.5 +0.5
baz=278,SNR=13
Q51A P **PKiKP** 23 22 59.5 +0.5
baz=278,SNR=13
W52A **Murphy** 116.14 56 P **PKiKP** 23 22 59.8 +0.6
baz=276
Y52A **Lilburn** 116.14 57 P **PKiKP** 23 22 59.7 +0.5
baz=275
Y52A P **PKiKP** 23 22 59.7 +0.5
baz=275
TKL **Tuckaleechee C** 116.21 55 PKKPab PKKPab 23 33 33.6 +0.4
comp=Z,4.5nm,1.0s,baz=113,slow=8.0,SNR=3.1
TKL **Tuckaleechee C** 116.21 55 P **PKiKP** 23 22 59.8 +0.5
baz=276
ACSO **Alum Creek Sta** 116.24 50 P **PKiKP** 23 23 00.1 +0.9
baz=279,SNR=10
ACSO **Alum Creek Sta** 116.24 50 PKiKP **PKPdf** 23 22 58.2 -1.0
baz=279
TZTN **Tazewell** 116.29 54 P **PKiKP** 23 23 00.3 +0.9
baz=277
TZTN **Tazewell** 116.29 54 PKiKP **PKPdf** 23 22 58.7 -0.8
baz=277
P51A **Williamsport** 116.29 51 P **PKiKP** 23 22 59.5 +0.2
baz=278,SNR=8.2
P51A P **PKiKP** 23 22 59.5 +0.2
baz=278,SNR=8.2
V52A **Sevierville** 116.33 55 P **PKiKP** 23 23 00.1 +0.5
baz=276
SRBA **San Rafael, Bu** 116.37 85 PKPdf **PKiKP** 23 23 01.9 +1.6
VRH **Novokhopyorsk** 116.43 322 *i* PKIKP **PKPdf** 23 22 58.8 -0.4
VRH pmax pmax
comp=Z,10.0nm,0.7s
VRH MLR MLR
comp=Z,12µm,23.0s
N51A **Ashland** 116.59 49 PP **PP** 23 24 06.1 -1.5
N51A **Ashland** 116.59 49 P **PKiKP** 23 23 00.2 +0.3
baz=280,SNR=8.5
N51A P **PKiKP** 23 23 00.2 +0.3
baz=280,SNR=8.5
TIGA **Tifton** 116.73 60 PP **PP** 23 24 09.5 +0.5
TIGA **Tifton** 116.73 60 P **PKiKP** 23 23 01.1 +0.7
baz=274
TIGA **Tifton** 116.73 60 PKiKP **PKPdf** 23 22 59.4 -1.0
baz=274
SUMG **Summit** 116.75 7 *i* P **PKPdf** 23 22 58.5 -1.3
GNI **Garni** 116.91 310 **PKiKP** 23 23 02.4 +1.7
GNI **Garni** 116.91 310 PKIKP **PKiKP** 23 23 02.4 +1.7
CASEE **Lake Jocassee** 116.97 56 P **PKiKP** 23 23 01.1 +0.3
baz=276
P52A **Corning** 116.98 51 PKiKP **PKPdf** 23 23 00.2 -0.5
baz=279
Q52A **Bidwell** 116.98 52 P **PKPdf** 23 23 00.4 -0.2
baz=279,SNR=8.5
Q52A P **PKPdf** 23 23 00.4 -0.2
baz=279,SNR=8.5
V53A **Saluda** 116.99 55 P **PKiKP** 23 23 01.4 +0.5
baz=277
V53A P **PKiKP** 23 23 01.4 +0.5
baz=277
154A **Montrose** 117.05 59 P **PKiKP** 23 23 01.7 +0.7
baz=275
ZEI **Tsey** 117.05 313 *i* PKIKP **PKiKP** 23 23 02.6 +1.6
ZEI pmax pmax
comp=Z,21nm,1.9s
O52A **Adamsville** 117.13 50 PP **PP** 23 24 08.9 -2.5
O52A **Adamsville** 117.13 50 P **PKiKP** 23 23 01.0 +0.1
baz=280,SNR=7.6
O52A P **PKiKP** 23 23 01.0 +0.1
baz=280,SNR=7.6
MOS **Moscow** 117.17 328 *i* PKIKP **PKiKP** 23 23 06.7 +6.2
MOS *e* 23 24 18.8
MOS pmax pmax
comp=Z,35nm,1.4s
MOS MLR MLR
comp=Z,14µm,21.0s
M52A **Chesterland** 117.23 49 PP **PP** 23 24 10.6 -1.5
M52A **Chesterland** 117.23 49 P **PKiKP** 23 23 01.2 +0.1
baz=281
M52A P **PKiKP** 23 23 01.2 +0.1
baz=281
MCRA **Macar, Loja** 117.26 100 PKPdf **PKPdf** 23 23 01.5 -0.5
R53A **Hurricane** 117.32 52 P **PKiKP** 23 23 01.8 +0.4
baz=279
R53A P **PKiKP** 23 23 01.8 +0.4
baz=279
P53A **Whipple** 117.57 51 P **PKPdf** 23 23 01.5 -0.2
baz=280,SNR=15
P53A P **PKPdf** 23 23 01.5 -0.2
baz=280,SNR=15
O53A **New Philadelph** 117.57 50 PKiKP **PKPdf** 23 23 01.4 -0.4
baz=280
KBZ **Khabaz** 117.58 314 PKP **PKiKP** 23 23 01.8 +0.2
comp=Z,3.3nm,0.8s,baz=131,slow=5.9,SNR=5.0
KBZ PP **PP** 23 24 14.5 +0.2
comp=Z,6.8nm,0.9s,baz=81,slow=11,SNR=3.5
KBZ PKKPab **PKKPab** 23 33 26.6 -0.3
comp=Z,4.7nm,0.8s,baz=232,slow=5.5,SNR=8.2
HODGE **Hodges** 117.60 57 P **PKiKP** 23 23 02.3 +0.3
baz=276
LPSR **Galich'ya Gora** 117.62 324 *i* PKIKP **PKiKP** 23 23 02.5 +1.1
LPSR pmax pmax
comp=Z,30nm,1.2s
LPSR MLR MLR
comp=Z,8µm,23.0s
255A **Hazlehurst** 117.64 59 P **PKiKP** 23 23 03.1 +1.0
baz=275
ILULI **Ilulissat** 117.65 12 IAMs_20 IAMs_20 00 09 23.9
comp=Z,14µm,22.0s
ILULI **Ilulissat** 117.65 12 *e*PP PP 23 24 05.2 -8.5
RAYN **Ar Rayn** 117.67 291 PKPdf **PKiKP** 23 23 02.9 +0.4
RAYN PP **PP** 23 24 16.0 +0.3
RAYN **Ar Rayn** 117.67 291 ⇓ PKIKP **PKiKP** 23 23 02.8 +0.3
KIV **Kislovodsk** 117.68 314 ⇓ P **PKiKP** 23 23 04.0 +2.1
KIV **Kislovodsk** 117.68 314 **PKiKP** 23 23 04.1 +2.1
KIV PP **PP** 23 24 15.9 +0.8
KIV **Kislovodsk** 117.68 314 *e*P **Pdif** **23 19 15.5 -4.1**
KIV *i* 23 23 02.0
KIV *e* 23 24 14.2
KIV *e*PPP PPP 23 26 43.4
KIV *e* 23 29 52.4
KIV *e*PS **PS** **23 33 59.1 -1.8**
KIV *e*SS SS 23 40 23.8 -0.6
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,7µm,22.0s
U54A **Nelsons Funny** 117.68 54 P **PKiKP** 23 23 03.0 +0.8
baz=278
U54A P **PKiKP** 23 23 03.0 +0.8
baz=278
N53A **Lisbon** 117.76 49 P **PKPdf** 23 23 02.0 -0.1
baz=281,SNR=35
N53A P **PKPdf** 23 23 02.0 -0.1
baz=281,SNR=35
M53A **WI Miller and** 117.76 49 PKiKP **PKPdf** 23 23 01.7 -0.3
baz=281
VORR **Voronezh** 117.77 323 *e*PKIKP **PKPdf** 23 22 57.8 -3.9
VORR pmax pmax
comp=Z,69nm,0.4s
656A **Willston** 117.78 62 P **PKiKP** 23 23 02.8 +0.4
baz=274
PAULI **Pauline** 117.90 56 P **PKiKP** 23 23 02.9 +0.3
baz=277
S54A **Dingess, Beckl** 117.90 53 PP **PP** 23 24 15.6 -1.3
S54A **Dingess, Beckl** 117.90 53 P **PKiKP** 23 23 02.9 +0.3
baz=279
S54A P **PKiKP** 23 23 02.9 +0.3
baz=279
VSR **Storozhevoye** 117.95 323 *i* PKIKP **PKPdf** 23 22 57.1 -5.0
VSR pmax pmax
comp=Z,20nm,1.2s
VSR MLR MLR
comp=Z,11µm,21.0s
OBN **Obninsk** 117.97 328 IAMs_20 IAMs_20 00 15 33.2
comp=Z,16µm,21.0s
OBN **Obninsk** 117.97 328 ⇑ *i* PKIKP **PKiKP** **23 23 03.1 +1.1**
OBN 23 23 11.0
OBN 23 23 15.0
OBN *i* 23 24 20.8
OBN *i* PS **PS** **23 34 03.8 +1.1**
OBN *e* 23 35 10.8
OBN *i* SS SS 23 40 31.5 +4.5
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,16µm,21.0s
Q54A **Coxs Mills** 118.08 51 PP **PP** 23 24 16.5 -1.5
Q54A **Coxs Mills** 118.08 51 P **PKiKP** 23 23 02.9 +0.1
baz=280
Q54A P **PKiKP** 23 23 02.9 +0.1
baz=280
ALLY **Alegheny Colle** 118.11 48 P **PKiKP** 23 23 03.0 +0.2
baz=282
ERPA **Erie** 118.12 48 P **PKiKP** 23 23 03.4 +0.7
baz=282
ERPA **Erie** 118.12 48 PKiKP **PKPdf** 23 23 02.4 -0.3
baz=282
SADO **Sadowa** 118.13 45 PKKPab PKKPab 23 33 23.6 -0.9
comp=Z,4.8nm,0.7s,baz=146,slow=3.4,SNR=6.4
O54A **Avella** 118.22 50 P **PKPdf** 23 23 02.8 -0.2
baz=281,SNR=23
O54A P **PKPdf** 23 23 02.8 -0.2
baz=281,SNR=23
HAW **Hawthorne Fire** 118.23 58 P **PKiKP** 23 23 04.2 +1.0
baz=276
KMSC **Kings Mountain** 118.25 56 P **PKiKP** 23 23 03.9 +0.7
baz=277
KMSC **Kings Mountain** 118.25 56 PKiKP **PKPdf** 23 23 02.9 -0.3
baz=277
V55A **Taylorsville** 118.25 55 P **PKiKP** 23 23 04.0 +0.8
baz=278
V55A P **PKiKP** 23 23 04.0 +0.8
baz=278
PAMR **Moraine State** 118.28 49 P **PKiKP** 23 23 03.8 +0.7
baz=281
UPAO **U. Pittsburgh** 118.43 50 P **PKiKP** 23 23 04.0 +0.5
baz=281
PAOC **Oil Creek Stat** 118.47 48 P **PKiKP** 23 23 04.0 +0.5
baz=282
BLA **Blacksburg** 118.69 53 IAMs_20 IAMs_20 00 08 33.1
comp=Z,14µm,20.0s
BLA **Blacksburg** 118.69 53 P **PKiKP** 23 23 04.5 +0.4
baz=279
BLA **Blacksburg** 118.69 53 PKiKP **PKPdf** 23 23 03.5 -0.5
baz=279
R55A **Marlinton** 118.75 52 P **PKiKP** 23 23 04.4 +0.2
baz=280
R55A P **PKiKP** 23 23 04.4 +0.2
baz=280
DWPF **Disney Wildern** 118.82 64 IAMs_20 IAMs_20 00 07 53.9
comp=Z,13µm,22.0s
DWPF **Disney Wildern** 118.82 64 PKiKP **PKPdf** 23 23 03.8 -0.6
baz=274
J54A **Appleton** 118.84 46 P **PKiKP** 23 23 05.0 +0.8
baz=284
J54A P **PKiKP** 23 23 05.0 +0.8
baz=284
U56A **King** 118.85 54 P **PKiKP** 23 23 05.3 +0.9
baz=279
U56A P **PKiKP** 23 23 05.3 +0.9
baz=279
BIRD **Birdtown, Kers** 119.03 56 P **PKiKP** 23 23 04.8 +0.1
baz=278
WVNY **West Valley, N** 119.07 47 P **PKPdf** 23 23 03.9 -0.7
baz=283,SNR=14
M55A **Ridgway** 119.16 48 P **PKPdf** 23 23 04.5 -0.3
baz=283,SNR=16
M55A P **PKPdf** 23 23 04.5 -0.3
baz=283,SNR=16
PSDB **Penn State Uni** 119.24 49 P **PKPdf** 23 23 04.9 0.0
baz=282
GURO **Guroymak-BITLI** 119.25 308 **PKiKP** 23 23 06.2 +1.0
Q56A **Snyder Ridge,** 119.33 51 P **PKiKP** 23 23 05.3 +0.1
baz=281
Q56A P **PKiKP** 23 23 05.3 +0.1
baz=281
W57A **Gilead** 119.34 56 PP **PP** 23 24 25.4 -1.4
W57A **Gilead** 119.34 56 P **PKPdf** 23 23 05.1 -0.1
baz=278
W57A P **PKPdf** 23 23 05.1 -0.1
baz=278
061Z **Ochoppi** 119.41 66 P **PKiKP** 23 23 06.0 +0.3
baz=272

J55A	**Hilton**	**119.43**	**46**	P		**PKiKP**	**23 23 05.6**	**+0.4**
	baz=284								
J55A				P		**PKiKP**	**23 23 05.6**	**+0.4**
	baz=284								
NHSC	**New Hope**	**119.45**	**58**	PKiKP		**PKPdf**	**23 23 05.5**	**-0.1**
	baz=277								
MMNY	**Mt. Morris Dam**	**119.49**	**47**	PP		**PP**	**23 24 25.6**	**-2.0**
FIA1	**FINESS Array S**	**119.53**	**337**	PKPdf		**PKiKP**	**23 23 07.4**	**+2.5**
FIA1				PP		**PP**	**23 24 27.2**	**+0.2**
FINES	**FINESS Array B**	**119.54**	**337**	Pdiff		**Pdif**	**23 19 26.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=57,slow=5.1,SNR=1.4								
FINES				PKP		**PKPdf**	**23 23 04.2**	**-0.7**
	comp=Z,12nm,0.9s,baz=109,slow=4.6,SNR=12								
FINES				PP		**PP**	**23 24 26.9**	**-0.2**
	comp=Z,9.7nm,0.9s,baz=70,slow=4.6,SNR=5.9								
FINES				PKKPbc		**PKKPbc**	**23 33 18.3**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=270,slow=1.1,SNR=7.2								
PABK	**Blue Knob Stat**	**119.55**	**50**	P		**PKiKP**	**23 23 06.3**	**+0.7**
	baz=282								
SFJD	**Kangerlussuaq**	**119.55**	**14**	PKPdf		**PKiKP**	**23 23 05.6**	**+0.8**
SFJD	**Kangerlussuaq**	**119.55**	**14**	IAMs_20		IAMs_20	00 11 46.0	
	comp=Z,9μm,21.0s								
SFJD	**Kangerlussuaq**	**119.55**	**14**	*e*P		**PKPdf**	**23 23 04.1**	**-0.6**
SFJD	**Kangerlussuaq**	**119.55**	**14**	PKiKP		**PKiKP**	**23 23 05.6**	**+0.8**
SFJD				MLR		MLR		
	comp=Z,9μm,21.0s								
T57A	**Hurt**	**119.64**	**53**	P		**PKiKP**	**23 23 06.4**	**+0.5**
	baz=280								
T57A				P		**PKiKP**	**23 23 06.4**	**+0.5**
	baz=280								
ATD	**Arta Tunnel**	**119.68**	**277**	IAMs_20		IAMs_20	00 20 38.7	
	comp=Z,8μm,18.0s								
OTAV	**Otavalo**	**119.75**	**96**	IAMs_20		IAMs_20	00 03 36.6	
	comp=Z,11μm,20.0s								
OTAV	**Otavalo**	**119.75**	**96**	*e*P		**PKiKP**	**23 23 09.8**	**+2.5**
OTAV	**Otavalo**	**119.75**	**96**	*e*P		**PKiKP**	**23 23 10.5**	**+3.1**
S57A	**Dark Hollow, R**	**119.75**	**52**	P		**PKiKP**	**23 23 06.7**	**+0.6**
	baz=280								
S57A				P		**PKiKP**	**23 23 06.7**	**+0.6**
	baz=280								
Y58A	**Scranton**	**119.78**	**57**			**PKiKP**	**23 23 07.2**	**+1.0**
Y58A	**Scranton**	**119.78**	**57**	P		**PKiKP**	**23 23 07.4**	**+1.2**
	baz=278								
Y58A				P		**PKiKP**	**23 23 07.4**	**+1.2**
	baz=278								
BCIP	**Isla Barro Col**	**119.81**	**85**	IAMs_20		IAMs_20	00 01 49.2	
	comp=Z,10μm,21.0s								
ICESG	**Greenland Ices**	**119.82**	**9**	*e*P		**PKPdf**	**23 23 04.7**	**-1.0**
ICESG				*i*PP		**PP**	**23 24 21.5**	**-7.6**
SOC	**Sochi**	**119.85**	**314**	*i* PKiKP		**PKPdf**	**23 23 03.4**	**-2.6**
SOC				*e*			23 24 26.2	
SOC				*e*PPP		PPP	23 26 58.6	
SOC				*e*PS		**PS**	**23 34 16.5**	**-3.8**
SOC				*e*SSS		SSS	23 45 16.9	
L56A	**Greenwood**	**119.88**	**47**	P		**PKiKP**	**23 23 06.5**	**+0.2**
	baz=284,SNR=21								
L56A				P		**PKiKP**	**23 23 06.5**	**+0.2**
	baz=284,SNR=21								
SCO	**Scoresbysund**	**119.94**	**1**	*i* P		**PKPdf**	**23 23 05.2**	**-0.2**
V58A	**Windy Hill, Pi**	**119.95**	**55**	P		**PKPdf**	**23 23 06.3**	**-0.1**
	baz=279								
V58A				P		**PKPdf**	**23 23 06.3**	**-0.1**
	baz=279								
X58A	**Rowland**	**119.95**	**56**	P		**PKiKP**	**23 23 06.9**	**+0.3**
	baz=278								
X58A				P		**PKiKP**	**23 23 06.9**	**+0.3**
	baz=278								
SSPA	**Standing Stone**	**119.99**	**49**			**PKPdf**	**23 23 05.7**	**-0.7**
SSPA	**Standing Stone**	**119.99**	**49**	P		**PKPdf**	**23 23 06.1**	**-0.3**
	baz=283,SNR=21								
SSPA	**Standing Stone**	**119.99**	**49**	PKiKP		**PKPdf**	**23 23 06.2**	**-0.2**
	baz=283								
J56A	**Wolcott**	**120.10**	**46**	P		**PKiKP**	**23 23 06.7**	**+0.1**
	baz=285,SNR=13								
J56A				P		**PKiKP**	**23 23 06.7**	**+0.1**
	baz=285,SNR=13								
P57A	**Homestead Farm**	**120.14**	**50**	P		**PKiKP**	**23 23 06.9**	**+0.2**
	baz=282								
P57A				P		**PKiKP**	**23 23 06.9**	**+0.2**
	baz=282								
M57A	**Sunshine Farm,**	**120.39**	**48**	P		**PKPdf**	**23 23 06.8**	**-0.3**
	baz=284,SNR=31								
M57A				P		**PKPdf**	**23 23 06.8**	**-0.3**
	baz=284,SNR=31								
K57A	**Scipio Center**	**120.48**	**46**	P		**PKiKP**	**23 23 07.6**	**+0.2**
	baz=285,SNR=13								
R58B	**Mineral**	**120.55**	**52**	PP		**PP**	**23 24 34.3**	**-0.7**
R58B	**Mineral**	**120.55**	**52**	P		**PKiKP**	**23 23 07.7**	**+0.1**
	baz=281								
R58B				P		**PKiKP**	**23 23 07.7**	**+0.1**
	baz=281								
JSRW	**J. Sargeant Re**	**120.60**	**52**	PP		**PP**	**23 24 35.2**	**-0.1**
J57A	**Williamstown**	**120.67**	**45**	P		**PKiKP**	**23 23 08.1**	**+0.4**
	baz=286,SNR=12								
J57A				P		**PKiKP**	**23 23 08.1**	**+0.4**
	baz=286,SNR=12								
WCNY	**West Carthage**	**120.75**	**45**	P		**PKiKP**	**23 23 08.2**	**+0.3**
	baz=286,SNR=14								
N58A	**Sunbury**	**120.81**	**49**	P		**PKiKP**	**23 23 08.4**	**+0.4**
	baz=284,SNR=28								
N58A				P		**PKiKP**	**23 23 08.4**	**+0.4**
	baz=284,SNR=28								
LVC	**Limon Verde**	**120.87**	**124**	PKKPbc		PKKPbc	23 33 13.5	+0.5
	comp=Z,3.3nm,0.8s,baz=40,slow=2.1,SNR=2.8								
LVC	**Limon Verde**	**120.87**	**124**	*e*P		**PKiKP**	**23 23 12.6**	**+3.4**
CBN	**Corbin Frederi**	**120.89**	**52**	P		**PKiKP**	**23 23 08.8**	**+0.5**
	baz=282								
CBN	**Corbin Frederi**	**120.89**	**52**	PKiKP		**PKPdf**	**23 23 08.0**	**-0.2**
	baz=282								
U59A	**Littleton**	**120.91**	**54**	P		**PKiKP**	**23 23 08.4**	**0.0**
	baz=280								
U59A				P		**PKiKP**	**23 23 08.4**	**0.0**
	baz=280								
MEF	**Metsahovi**	**120.94**	**337**	*e*P		**PKiKP**	**23 23 09.7**	**+2.0**
DY2G	**Dye2**	**120.96**	**13**	*e*P		**PKPdf**	**23 23 06.9**	**-0.8**
T59A	**Double "B" Far**	**120.99**	**53**	P		**PKiKP**	**23 23 09.3**	**+0.8**
	baz=281								
T59A				P		**PKiKP**	**23 23 09.3**	**+0.8**
	baz=281								
BINY	**Binghamton**	**121.00**	**47**	P		**PKiKP**	**23 23 08.8**	**+0.3**
	baz=285,SNR=15								
BINY	**Binghamton**	**121.00**	**47**	PKiKP		**PKPdf**	**23 23 08.0**	**-0.3**
	baz=285								
CNNC	**Cliffs of the**	**121.03**	**55**			**PKiKP**	**23 23 09.2**	**+0.6**
CNNC	**Cliffs of the**	**121.03**	**55**	P		**PKiKP**	**23 23 09.1**	**+0.5**
	baz=280								
CNNC	**Cliffs of the**	**121.03**	**55**	PKiKP		**PKPdf**	**23 23 08.4**	**-0.2**
	baz=280								
VSU	**Vasula**	**121.03**	**334**	*e*P		**PKiKP**	**23 23 10.0**	**+2.0**
SDMD	**Soldier's Deli**	**121.04**	**50**	P		**PKiKP**	**23 23 09.0**	**+0.5**
	baz=283								
ANN	**Anapa**	**121.09**	**316**	*e*P		**Pdif**	**23 19 24.2**	**-10**
ANN				*e*			23 24 36.8	
ANN				*e*			23 30 02.8	
ANN				pmax		pmax		
	comp=Z,64nm,1.1s								
ANN				MLR		MLR		
	comp=N,13μm,21.0s								
ANN				MLR		MLR		
	comp=Z,9μm,25.0s								
ANN				MLR		MLR		
	comp=E,3μm,22.0s								
J58A	**Remsen**	**121.18**	**45**	P		**PKPdf**	**23 23 08.5**	**-0.1**
	baz=286,SNR=16								
J58A				P		**PKPdf**	**23 23 08.5**	**-0.1**
	baz=286,SNR=16								
BMNY	**Brushton-Moira**	**121.29**	**44**	P		**PKiKP**	**23 23 08.9**	**+0.1**
	baz=288								
LONY	**Lake Ozonia**	**121.30**	**44**	IAMs_20		IAMs_20	00 13 55.8	
	comp=Z,14μm,20.0s								
LONY	**Lake Ozonia**	**121.30**	**44**	PKiKP		**PKPdf**	**23 23 08.3**	**-0.6**
	baz=288								
RAF	**Rauma**	**121.42**	**338**	*e*P		**PKiKP**	**23 23 10.1**	**+1.5**
NUUK	**Nuuk**	**121.50**	**16**	*e*P		**PKiKP**	**23 23 08.9**	**+0.2**
LATQ	**La Tuque**	**121.58**	**40**	PP		**PP**	**23 24 38.9**	**-2.8**
LPA	**La Plata**	**121.60**	**142**	*c i* PDIFF		**Pdif**	**23 19 40.8**	**+3.6**
LPA				PP		**PP**	**23 24 37.0**	**-4.4**
LPA				PPP		PPP	23 27 18.7	
LPA				SKS		**SKSdf**	**23 30 09.1**	**-9.3**
T60A	**Surry**	**121.60**	**53**	P		**PKiKP**	**23 23 10.2**	**+0.5**
	baz=282								
T60A				P		**PKiKP**	**23 23 10.2**	**+0.5**
	baz=282								
L59A	**Walton**	**121.68**	**47**	P		**PKPdf**	**23 23 09.5**	**-0.1**
	baz=286,SNR=15								
L59A				P		**PKPdf**	**23 23 09.5**	**-0.1**
	baz=286,SNR=15								
J59A	**Piesco**	**121.70**	**45**	P		**PKiKP**	**23 23 09.7**	**0.0**
	baz=287,SNR=22								
J59A				P		**PKiKP**	**23 23 09.7**	**0.0**
	baz=287,SNR=22								
NCB	**Newcomb**	**121.74**	**44**	PP		**PP**	**23 24 42.0**	**-0.9**
NCB	**Newcomb**	**121.74**	**44**	P		**PKPdf**	**23 23 09.4**	**-0.3**
	baz=288,SNR=14								
SCHQ	**Schefferville**	**121.75**	**30**	PKP		**PKPdf**	**23 23 08.9**	**-0.4**
	comp=Z,19nm,0.9s,baz=263,slow=2.4,SNR=23								
SCHQ				PP		**PP**	**23 24 43.0**	**+0.6**
	comp=Z,20nm,1.0s,baz=297,slow=5.2,SNR=5.1								
SCHQ				PKKPbc		**PKKPab**	**23 33 08.4**	**-0.1**
	comp=Z,6.1nm,0.5s,baz=147,slow=3.8,SNR=23								
GEDE	**Greenville**	**121.85**	**49**	P		**PKiKP**	**23 23 10.1**	**0.0**
	baz=284								
LUPA	**Lehigh Univers**	**121.86**	**49**			**PKiKP**	**23 23 10.5**	**+0.4**
FRNY	**Flat Rock**	**121.91**	**43**	P		**PKiKP**	**23 23 10.2**	**+0.1**
	baz=289,SNR=17								
PSUB	**Penn St. - Bra**	**121.96**	**49**	P		**PKPdf**	**23 23 10.2**	**0.0**
	baz=284								
V61A	**Roper**	**121.98**	**54**	P		**PKiKP**	**23 23 11.0**	**+0.5**
	baz=281								
V61A				P		**PKiKP**	**23 23 11.0**	**+0.5**
	baz=281								
HCNY	**Howe Caverns**	**122.00**	**46**	P		**PKiKP**	**23 23 10.4**	**+0.1**
	baz=287,SNR=15								
MTSE	**Matsula**	**122.11**	**335**	*e*P		**PKiKP**	**23 23 12.0**	**+2.0**
KIBK	**Kibwezi**	**122.13**	**261**	IAMs_20		IAMs_20	00 13 57.8	
	comp=Z,11μm,19.0s								
ODNJ	**Ogdensburg**	**122.29**	**48**	P		**PKiKP**	**23 23 11.4**	**+0.5**
	baz=286,SNR=26								
ACCN	**Adirondack Com**	**122.31**	**45**	PP		**PP**	**23 24 45.2**	**-1.5**
ACCN	**Adirondack Com**	**122.31**	**45**	P		**PKiKP**	**23 23 11.4**	**+0.4**
	baz=288,SNR=7.3								
BRNJ	**Basking Ridge**	**122.43**	**48**	P		**PKiKP**	**23 23 11.1**	**-0.1**
	baz=285,SNR=18								
BOSA	**Boshof**	**122.50**	**226**	PKP		**PKPdf**	**23 23 11.8**	**+0.1**
	comp=Z,12nm,0.6s,baz=129,slow=1.6,SNR=35								
BOSA				PKKPab		**PKKPab**	**23 33 08.6**	**+1.0**
	comp=Z,9.4nm,0.9s,baz=332,slow=3.1,SNR=9.6								
YOTC	**Yotoco, Valle**	**122.51**	**92**	*e*P		**PKPdf**	**23 23 09.2**	**-2.9**
MCVT	**Middlebury Col**	**122.60**	**44**	P		**PKiKP**	**23 23 12.0**	**+0.5**
	baz=289,SNR=14								
BRNY	**Black Rk. Fore**	**122.63**	**47**	P		**PKiKP**	**23 23 12.2**	**+0.6**
	baz=286,SNR=12								
VT1	**Waterbury**	**122.64**	**44**	IAMs_20		IAMs_20	00 12 39.2	
	comp=Z,16μm,20.0s								
VT1	**Waterbury**	**122.64**	**44**	P		**PKiKP**	**23 23 12.1**	**+0.5**
	baz=289,SNR=14								
MNK	**Minsk**	**122.70**	**330**	*i* PKP		**PKiKP**	**23 23 13.8**	**+2.5**
	comp=E,4.0nm,1.4s								
MNK				*i* PKP		**PKiKP**	**23 23 13.8**	**+2.5**
	comp=N,34nm,1.0s								
MNK				*i* PKP		**PKiKP**	**23 23 13.8**	**+2.5**
	comp=Z,24nm,0.9s,baz=57								
MNK				*i* PP		PP	23 24 56.9	+8.1
MNK				*i* SKP			23 26 32.8	
MNK				*i* PPP		PPP	23 27 22.9	
MNK				*i* SKS		SKSdf	23 30 01.1	-18
MNK				*i* SP		**SP**	**23 34 47.3**	**+8.8**
MNK				*i* PS		PS	23 35 00.7	+16
MNK				*i* SS		SS	23 41 49.0	+21
MNK				*i* SSS		SSS	23 46 00.7	
MNK				*i* LQ		LQ	00 05 23.7	
MNK				*i* LR		LR	00 09 36.1	
MNK				*i* LRM		MLR	00 14 20.1	
	comp=E,2μm,22.4s								
MNK				*i* LRM		MLR	00 15 13.7	
	comp=Z,17μm,25.6s								
MNK				*i* LRM		MLR	00 15 32.9	
	comp=N,10μm,24.1s								
MNK	**Minsk**	**122.70**	**330**	*e*PKiKP		**PKiKP**	**23 23 13.8**	**+2.5**
FLOC	**Florencia**	**122.76**	**95**	*e*P		**PKiKP**	**23 23 15.6**	**+2.8**
PAL	**Palisades**	**122.82**	**48**	P		**PKiKP**	**23 23 12.3**	**+0.3**
	baz=286,SNR=14								
PAL	**Palisades**	**122.82**	**48**	PKiKP		**PKPdf**	**23 23 11.5**	**-0.3**
	baz=286								
FOR	**Fordham**	**122.88**	**48**	P		**PKiKP**	**23 23 12.7**	**+0.6**
	baz=286								
NACGM	**Naroch**	**123.02**	**331**	LQ		LQ	00 05 37.4	
J61A	**Chester**	**123.09**	**45**	P		**PKiKP**	**23 23 13.7**	**+1.2**
	baz=289,SNR=16								
J61A				P		**PKiKP**	**23 23 13.7**	**+1.2**
	baz=289,SNR=16								
SUR	**Sutherland**	**123.14**	**220**	IAMs_20		IAMs_20	00 14 13.7	
	comp=Z,14μm,18.0s								
HNH	**Hanover**	**123.16**	**44**	P		**PKiKP**	**23 23 14.0**	**+1.4**
	baz=289,SNR=14								
N62A	**Caumsett State**	**123.16**	**48**	P		**PKiKP**	**23 23 13.2**	**+0.5**
	baz=286								
N62A				P		**PKiKP**	**23 23 13.2**	**+0.5**
	baz=286								
ISOG	**Isortoq, Green**	**123.18**	**10**	*e*P		**PKPdf**	**23 23 11.1**	**-0.6**
KMBO	**Kilima Mbogo**	**123.18**	**262**	PKP		**PKPdf**	**23 23 13.0**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=138,slow=23,SNR=6.5								
KMBO				PP		**PP**	**23 24 54.4**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=92,slow=23,SNR=3.7								
KMBO	**Kilima Mbogo**	**123.18**	**262**	IAMs_20		IAMs_20	00 10 57.7	
	comp=Z,12μm,22.0s								
KMBO	**Kilima Mbogo**	**123.18**	**262**	PKiKP		**PKPdf**	**23 23 13.0**	**-0.6**
LBNH	**Lisbon**	**123.23**	**44**	P		**PKiKP**	**23 23 13.1**	**+0.3**
	baz=290,SNR=12								
LBNH	**Lisbon**	**123.23**	**44**	PKiKP		**PKPdf**	**23 23 12.3**	**-0.3**
	baz=290								
SIM	**Simferopol'**	**123.27**	**317**	P		**Pdif**	**23 19 34.7**	**-10**
SIM				*i*			23 23 13.9	
SIM				*e*			23 30 20.0	
SIM				*e*SS		SS	23 41 30.0	-5.8
SIM				pmax		pmax		
	comp=Z,27nm,0.8s								
SIM				pmax		pmax		
	comp=Z,1μm,20.3s								
L61B	**Northampton**	**123.28**	**46**	P		**PKiKP**	**23 23 12.9**	**0.0**
	baz=288,SNR=14								
L61B	**Northampton**	**123.28**	**46**	PKiKP		**PKPdf**	**23 23 12.5**	**-0.2**
	baz=288								
ANGG	**Ammassalik, Gr**	**123.33**	**9**	IAMs_20		IAMs_20	00 11 19.6	
	comp=Z,14μm,22.0s								
ANGG	**Ammassalik, Gr**	**123.33**	**9**	*e*PP		PP	23 24 48.1	-4.4
FURI	**Furi**	**123.49**	**274**	IAMs_20		IAMs_20	00 17 42.7	
	comp=Z,9μm,20.0s								
K62A	**Royalston**	**123.53**	**45**	P		**PKiKP**	**23 23 13.6**	**+0.2**
	baz=288,SNR=8.2								
K62A				P		**PKiKP**	**23 23 13.6**	**+0.2**
	baz=288,SNR=8.2								
ORTC	**Ortega, Tolima**	**123.58**	**92**	*e*P		**PKiKP**	**23 23 14.6**	**+0.2**
H62A	**Milan**	**123.63**	**43**	P		**PKiKP**	**23 23 14.1**	**+0.6**
	baz=291,SNR=14								
H62A				P		**PKiKP**	**23 23 14.1**	**+0.6**
	baz=291,SNR=14								
GUY2C	**Guyana, Caldas**	**123.68**	**91**	*e*P		**PKPdf**	**23 23 14.5**	**-0.3**
VSVD	**Vaisvydziai**	**123.73**	**333**	*e*P		**PKiKP**	**23 23 13.2**	**-0.1**
I62A	**Tamworth**	**123.75**	**44**	P		**PKiKP**	**23 23 14.0**	**+0.2**
	baz=290,SNR=7.4								
I62A				P		**PKiKP**	**23 23 14.0**	**+0.2**
	baz=290,SNR=7.4								
G62A	**West of Eustis**	**123.82**	**42**	P		**PKiKP**	**23 23 14.3**	**+0.4**
	baz=292,SNR=12								
G62A				P		**PKiKP**	**23 23 14.3**	**+0.4**
	baz=292,SNR=12								
UREC	**San Jos de Ur**	**123.87**	**88**	*e*P		PKiKP	23 23 25.1	+10
AKASG	**Malin Array Be**	**123.90**	**325**	Pdiff		**Pdif**	**23 19 46.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=45,slow=2.8,SNR=1.6								
AKASG				PKP		**PKPdf**	**23 23 12.8**	**-0.7**
	comp=Z,18nm,0.8s,baz=62,slow=2.2,SNR=30								
AKASG				PP		**PP**	**23 24 58.7**	**+1.6**
	comp=Z,11nm,1.0s,baz=47,slow=6.5,SNR=8.4								
AKASG				PKKPab		**PKKPab**	**23 32 57.4**	**-1.9**
	comp=Z,1.7nm,0.7s,baz=258,slow=4.1,SNR=4.9								
AKBB	**Malin Array Si**	**123.90**	**325**	*c i* PKiKP		**PKiKP**	**23 23 14.9**	**+1.1**
F62A	**Pittston Farm,**	**123.93**	**41**	P		**PKiKP**	**23 23 14.2**	**+0.2**
	baz=292,SNR=20								
F62A				P		**PKiKP**	**23 23 14.2**	**+0.2**
	baz=292,SNR=20								
E62A	**Clayton Lake**	**123.94**	**40**	P		**PKiKP**	**23 23 14.4**	**+0.4**
	baz=293,SNR=17								
E62A				P		**PKiKP**	**23 23 14.4**	**+0.4**
	baz=293,SNR=17								
PABE	**Paberze**	**124.00**	**332**	PKPdf		**PKPdf**	**23 23 13.6**	**0.0**
PABE	**Paberze**	**124.00**	**332**	*e*P		**PKiKP**	**23 23 14.7**	**+0.8**
D62A	**Allapoint, All**	**124.05**	**39**	P		**PKiKP**	**23 23 14.3**	**0.0**
	baz=294,SNR=20								
D62A				P		**PKiKP**	**23 23 14.3**	**0.0**
	baz=294,SNR=20								
M63A	**Gales Ferry**	**124.05**	**47**	P		**PKiKP**	**23 23 15.0**	**+0.6**
	baz=288								
M63A				P		**PKiKP**	**23 23 15.0**	**+0.6**
	baz=288								
HRV	**Adam Dziewonsk**	**124.05**	**45**			**PKPdf**	**23 23 14.2**	**+0.1**
HRV	**Adam Dziewonsk**	**124.05**	**45**	IAMs_20		IAMs_20	00 09 51.8	
	comp=Z,12μm,22.0s								
HRV	**Adam Dziewonsk**	**124.05**	**45**	P		**PKiKP**	**23 23 14.8**	**+0.4**
	baz=289,SNR=9.4								
HRV	**Adam Dziewonsk**	**124.05**	**45**	PKiKP		**PKPdf**	**23 23 13.5**	**-0.6**
	baz=289								
HRV	**Adam Dziewonsk**	**124.05**	**45**	PKiKP		**PKPdf**	**23 23 14.2**	**+0.1**
I63A	**Otisfield**	**124.20**	**43**	P		**PKiKP**	**23 23 14.9**	**+0.2**
	baz=291								
I63A				P		**PKiKP**	**23 23 14.9**	**+0.2**
	baz=291								
NORC	**Norcasia**	**124.22**	**90**	*e*P		**PKPdf**	**23 23 12.7**	**-2.6**
WES	**Weston**	**124.26**	**45**	P		**PKiKP**	**23 23 16.6**	**+1.8**
	baz=289,SNR=9.1								
UNH	**University of**	**124.34**	**44**	P		**PKiKP**	**23 23 15.4**	**+0.5**
	baz=290								
LPAZ	**La Paz**	**124.36**	**118**	PKP		**PKiKP**	**23 23 17.1**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=272,slow=2.7,SNR=12								
LPAZ	**La Paz**	**124.36**	**118**	*e*P		**PKiKP**	**23 23 16.5**	**0.0**
LPAZ	**La Paz**	**124.36**	**118**	*e*P		**PKiKP**	**23 23 19.2**	**+2.7**
SJCC	**San Jacinto, C**	**124.46**	**85**	*e*P		**PKiKP**	**23 23 17.2**	**+1.1**
ZARC	**Zaragoza, Cauc**	**124.50**	**88**	*e*P		**PKPdf**	**23 23 14.1**	**-1.8**
F63A	**Nahmakanta, Br**	**124.56**	**41**	P		**PKiKP**	**23 23 16.1**	**+0.7**
	baz=293,SNR=7.9								
F63A				P		**PKiKP**	**23 23 16.1**	**+0.7**
	baz=293,SNR=7.9								
PBUR	**Paburge**	**124.59**	**334**	*e*P		**PKiKP**	**23 23 16.1**	**+1.1**
PKME	**Peaks-Kenny Pk**	**124.61**	**42**	P		**PKiKP**	**23 23 16.5**	**+1.1**
	baz=293,SNR=12								
PKME	**Peaks-Kenny Pk**	**124.61**	**42**	PKiKP		**PKPdf**	**23 23 14.9**	**-0.2**
	baz=293								
MACC	**Macarena, Meta**	**124.63**	**95**	*e*P		**PKPdf**	**23 23 15.2**	**-0.9**
ROSC	**El Rosal**	**124.64**	**91**	PKP		**PKPdf**	**23 23 16.0**	**-0.6**
	comp=Z,30nm,0.8s,baz=140,slow=4.0,SNR=9.4								
ROSC	**El Rosal**	**124.64**	**91**	*e*P		**PKPdf**	**23 23 15.0**	**-1.6**
BEIL	**Beino**	**124.65**	**305**	*e*P		**PKPdf**	**23 23 15.0**	**-0.6**
E63A	**Oxbow**	**124.71**	**40**	P		**PKiKP**	**23 23 16.0**	**+0.4**
	baz=294,SNR=5.3								
E63A				P		**PKiKP**	**23 23 16.0**	**+0.4**
	baz=294,SNR=5.3								
L64A	**Middleborough**	**124.74**	**46**	P		**PKiKP**	**23 23 16.2**	**+0.4**
	baz=289								
L64A				P		**PKiKP**	**23 23 16.2**	**+0.4**
	baz=289								
PTBC	**PUERTO BERRIO**	**124.76**	**89**	*e*P		**PKPdf**	**23 23 13.3**	**-3.0**
NB2	**NORSAR Subarra**	**124.88**	**343**	PKPdf		**PKiKP**	**23 23 16.2**	**+0.7**
	comp=Z,40nm,1.2s,baz=40,slow=1.8								
NB2				PKKP		**PKKPbc**	**23 32 58.6**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=241,slow=2.1								
NB2	**NORSAR Subarra**	**124.88**	**343**	PKPdf		**PKiKP**	**23 23 16.2**	**+0.7**
	baz=40,slow=1.8								
NOA	**NORSAR Array B**	**124.88**	**343**	PKP		**PKiKP**	**23 23 15.5**	**0.0**
	comp=Z,15nm,0.9s,baz=36,slow=1.9,SNR=22								
NOA				PP		**PP**	**23 25 03.3**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=37,slow=7.3,SNR=2.8								
NOA				PKKPab		**PKKPab**	**23 32 55.0**	**0.0**
	comp=Z,3.7nm,0.8s,baz=218,slow=4.3,SNR=9.2								
HWQ	**Hawqa**	**124.89**	**305**	*e*P		**PKPdf**	**23 23 14.7**	**-1.5**
F64A	**Sherman**	**124.98**	**41**	P		**PKiKP**	**23 23 16.6**	**+0.4**
	baz=294,SNR=10.0								
F64A				P		**PKiKP**	**23 23 16.6**	**+0.4**
	baz=294,SNR=10.0								
ZAHL	**Zahle**	**125.03**	**304**	*e*P		**PKiKP**	**23 23 22.2**	**+5.5**
CHIC	**Chingaza**	**125.19**	**92**	*e*P		**PKPdf**	**23 23 16.8**	**-0.8**
BHL	**Bhannes**	**125.21**	**304**	*e*P		**PKPdf**	**23 23 15.4**	**-1.4**
BRTR	**Keskin Array B**	**125.30**	**312**	PK

BMR Baia Mare 128.67 324 ⇑PKIKP **PKiKP 23 23 24.7 +1.2**
SDV Santo Domingo 128.81 87 PKPdf **PKPdf 23 23 22.9 -1.3**
SDV IAMs_20 IAMs_20 00 08 40.8
comp=Z,9µm,22.0s
UZH Uzhgorod 128.82 326 *i* PKHKP PKPpre 23 23 08.3
UZH *i* 23 23 22.0
UZH *e* 23 23 31.4
UZH *e* 23 23 39.5
UZH *e*PS **PS** 23 35 31.5 -7.5
UZH *e*SS SS 23 42 38.3 -6.3
UZH MLR MLR
comp=N,2µm,21.0s
UZH MLR MLR
comp=E,2µm,21.0s
UZH MLR MLR
comp=Z,780nm,21.0s
RAZG Razgrad 128.84 319 ⇓P **PKiKP 23 23 25.4 +1.4**
STHS Stebnicka Huta 128.94 327 *e*PKIKP **PKiKP 23 23 24.9 +0.9**
STHS Stebnicka Huta 128.94 327 *e*PKP **PKiKP 23 23 24.9 +0.9**
TRPA Tarpa 128.97 325 ⇓P **PKiKP 23 23 25.0 +1.0**
MTUR Matau 128.99 321 ⇑P **PKiKP 23 23 27.1 +2.8**
MTUR Matau 128.99 321 ⇑PKIKP **PKiKP 23 23 27.1 +2.8**
CJR Cluj-Napoca 129.12 323 ⇓P **PKiKP 23 23 25.4 +0.9**
CJR Cluj-Napoca 129.12 323 ⇓PKIKP **PKiKP 23 23 25.4 +0.9**
CRVS Cervenica-Dubn 129.12 327 *e*PKIKP **PKiKP 23 23 25.3 +0.9**
CRVS Cervenica-Dubn 129.12 327 *e*PKP **PKiKP 23 23 25.3 +0.9**
ARR Arges 129.18 321 ⇓P **PKiKP 23 23 26.7 +2.0**
RGN Rugen 129.19 337 IAMs_20 IAMs_20 00 20 41.5
comp=Z,17µm,22.0s
MUD Monsted U'grnd 129.20 340 *e*PP PP 23 25 21.2 -10
MUD *e*PP **PP 23 25 30.6 -1.1**
OJC Ojcow 129.21 329 *e*PKPdf **PKiKP 23 23 25.3 +0.8**
OJC *e*PP **PP 23 25 33.0 +0.8**
OJC *e*L L 00 15 59.2
comp=Z,17µm,26.4s
JMB Yambol 129.27 317 *i* P **PKPdf 23 23 22.1 -2.0**
HUMR Humele 129.37 320 ⇓P **PKiKP 23 23 24.8 -0.2**
MARR Marisel-Cluj 129.42 324 ⇓P **PKiKP 23 23 28.5 +3.3**
NIE Niedzica 129.44 328 *e*PKPdf **PKiKP 23 23 28.1 +3.0**
NIE *e*PP **PP 23 25 33.4 -0.3**
NIE *e*L L 00 13 46.7
comp=Z,6µm,28.3s
MBAR Mbarara 129.64 261 **PKiKP 23 23 26.4 -0.2**
MBAR Mbarara 129.64 261 IAMs_20 IAMs_20 00 17 00.7
comp=Z,8µm,21.0s
MBAR Mbarara 129.64 261 PKIKP **PKiKP 23 23 26.4 -0.2**
MBAR MLR MLR
comp=Z,8µm,21.0s
MBAR Mbarara 129.64 261 *e*P **PKiKP 23 23 29.4 +2.8**
PVL Pavlikeni 129.76 319 *i* P **PKiKP 23 23 33.2 +7.4**
KECS Kecovo 129.89 327 *e*PP PP 23 25 37.9 +1.2
DEV Deva 129.97 323 ⇑P **PKiKP 23 23 28.0 +1.9**
DEV Deva 129.97 323 ⇑PKIKP **PKiKP 23 23 28.0 +1.9**
LANS Liptovska Anna 130.03 328 *e*PP PP 23 25 40.7 +3.1
PLVB Pleven 130.14 319 ⇑P **PKiKP 23 23 27.2 +0.7**
DIM Dimitrovgrad 130.15 317 *i* P **PKPdf 23 23 24.4 -1.4**
OKC Ostrava-Krasne 130.28 329 *e*PP **PP 23 25 37.4 -1.7**
OKC AMS AMS 00 23 10.0
comp=Z,11µm,19.5s
GZR Gura Zlata 130.30 322 ⇓P **PKiKP 23 23 26.8 -0.1**
GZR Gura Zlata 130.30 322 ⇓PKIKP **PKiKP 23 23 26.8 -0.1**
SIRR Siria 130.49 324 ⇑P **PKiKP 23 23 27.8 +0.6**
SURR Surduc 130.50 323 ⇓P **PKiKP 23 23 27.2 0.0**
KSP Ksiaz 130.53 331 *e*PKPdf **PKiKP 23 23 27.6 +0.5**
KSP *e*PP **PP 23 25 42.2 +1.6**
KSP *e*SS SS 23 43 26.4 +21
KSP *e*L L 00 20 09.0
comp=Z,30µm,23.5s
PSZ Piszkesteto 130.55 326 IAMs_20 IAMs_20 00 22 07.0
comp=Z,13µm,22.0s
MORC Moravsky Berou 130.62 330 ⇑P **PKiKP 23 23 28.3 +0.9**
MORC Moravsky Berou 130.62 330 *e*PKP **PKPdf 23 23 26.3 -0.2**
MORC Moravsky Berou 130.62 330 ⇑PKIKP **PKiKP 23 23 28.3 +0.9**
PLD Plovdiv 130.68 318 *i* P **PKPdf 23 23 25.6 -1.2**
MAUC Maruska 130.74 329 *e*PKPDF **PKiKP 23 23 27.8 +0.2**
OSTC Ostas 130.75 331 *e*PKPpre PKPpre 23 23 21.3
OSTC *e*PKPDF **PKiKP 23 23 30.0 +2.4**
OSTC *e*PP **PP 23 25 38.9 -3.2**
OSTC AMS AMS 00 19 50.0
comp=Z,28µm,23.7s
VYHS Vyhne 130.77 328 *e*PKIKP **PKPdf 23 23 27.0 +0.2**
VYHS *e* 23 25 44.3
VYHS Vyhne 130.77 328 *e*PKP **PKPdf 23 23 27.0 +0.2**
VYHS *e*PP **PP 23 25 44.3 +2.0**
HERR Herculane 130.78 322 ⇑P **PKPdf 23 23 23.5 -3.4**
BSEG Bad Segeberg 130.80 338 *e*PKPdf **PKiKP 23 23 28.0 +0.5**
baz=43,slow=1.9
BSEG *e*pPKPdf **pPKPdf 23 23 41.2 +1.0**
baz=43,slow=1.8
KRLC Kraliky 130.80 330 *e*PKPDF **PKiKP 23 23 28.6 +0.9**
KRLC *e*PP **PP 23 25 37.6 -4.9**
KRLC AMS AMS 00 20 30.0
comp=Z,21µm,23.6s
KRLC Kraliky 130.80 330 *e*PKIKP **PKiKP 23 23 28.6 +0.9**
KRLC *e* 23 25 37.6
KRLC MLR MLR
comp=Z,21µm,23.6s
DPC Dobruska-Polom 130.84 331 *e*PKPDF **PKPdf 23 23 26.7 -0.2**
DPC *e*PP **PP 23 25 40.4 -2.3**
DPC AMS AMS 00 20 00.0
comp=Z,27µm,24.0s
DPC Dobruska-Polom 130.84 331 *e*PKIKP **PKPdf 23 23 26.7 -0.2**
DPC *e* 23 25 40.4
DPC MLR MLR
comp=Z,27µm,24.0s
BZS Buzias 130.87 323 ⇓P **PKPdf 23 23 27.5 +0.4**
BZS Buzias 130.87 323 ⇓PKIKP **PKPdf 23 23 27.5 +0.4**
UPC Upice 130.88 331 *e*PP **PP 23 25 41.9 -1.0**
UPC AMS AMS 00 20 10.0
comp=Z,27µm,23.0s
TIM Timisoara 131.04 323 ⇓P **PKiKP 23 23 32.7 +4.4**
TIM Timisoara 131.04 323 ⇓PKIKP **PKiKP 23 23 32.7 +4.4**
JAVC Velka Javorina 131.14 329 *e*PKP **PKiKP 23 23 28.8 +0.3**
MDVR Moldovita 131.26 322 ⇓P **PKiKP 23 23 28.9 +0.1**
BANR Banloc 131.28 323 ⇑P **PKiKP 23 23 29.9 +1.2**
BAUV El Baul 131.37 87 *e*P **PKPdf 23 23 25.3 -3.6**
VRAC Vranov 131.40 330 ⇓P **PKiKP 23 23 30.9 +2.0**
VRAC Vranov 131.40 330 *e*PKP **PKPdf 23 23 27.7 -0.3**
VRAC Vranov 131.40 330 ⇓PKIKP **PKiKP 23 23 30.9 +2.0**
VTS Vitosha 131.40 319 ⇑P **PKiKP 23 23 29.8 +0.5**
VTS Vitosha 131.40 319 ⇑PKIKP **PKiKP 23 23 29.8 +0.5**
VTS Vitosha 131.40 319 *i* P **PKPdf 23 23 27.9 -0.5**
SRO Srobarova 131.46 327 *e*PKIKP **PKiKP 23 23 31.1 +2.1**
SRO *e* 23 25 48.1
SRO Srobarova 131.46 327 *e*PKP **PKiKP 23 23 31.1 +2.1**
SRO *e*PP **PP 23 25 48.1 +1.3**
PVCC Panska Ves 131.54 332 *e*PKPDF **PKiKP 23 23 29.8 +0.7**
PVCC *e*PP **PP 23 25 44.6 -2.5**
PVCC *e*SKP 23 26 52.1
PVCC AMS AMS 00 23 10.0
comp=Z,16µm,19.7s
PVCC Panska Ves 131.54 332 *e*PKIKP **PKiKP 23 23 29.8 +0.7**
PVCC *e* 23 25 44.6
PVCC MLR MLR
comp=Z,16µm,19.7s
MMB Musomiste 131.56 317 *i* P **PKPdf 23 23 26.9 -1.7**
BRG Berggiesshubel 131.59 333 *i* PKP **PKiKP 23 23 29.4 +0.1**
BRG Amp 23 23 35.4
comp=Z,99nm,1.6s
BRG Berggiesshubel 131.59 333 P PKiKP 23 23 42.6 +13
BRG Amp 23 23 44.7
comp=Z,83nm,1.6s
BRG Berggiesshubel 131.59 333 SS SS 23 43 25.0 +6.9
BRG Amp 00 23 10.0
comp=E,8.1nm,23.3s
BRG Amp 00 23 22.0
comp=N,13nm,21.5s
BRG Amp 00 23 27.0
comp=Z,19nm,20.5s
BRG Berggiesshubel 131.59 333 *i* PKIKP **PKiKP 23 23 29.3 +0.1**
BRG 23 25 52.0
BRG SP SP 23 36 01.0 +4.9
BRG pmax pmax
comp=Z,99nm,1.6s
BRG pmax pmax
comp=Z,141nm,1.9s
BRG MLR MLR
comp=N,13µm,21.5s
BRG MLR MLR
comp=Z,19µm,20.5s
BRG Berggiesshubel 131.59 333 *e*PKPdf **PKiKP 23 23 29.4 +0.1**
baz=43,slow=1.9
BRG *e*pPKPdf **pPKPdf 23 23 42.8 +0.9**
baz=43,slow=1.8
MODS Modra-Piesok 131.65 328 *e*PKIKP **PKPdf 23 23 28.8 +0.3**
MODS *e* 23 25 47.6
MODS Modra-Piesok 131.65 328 *e*PKP **PKPdf 23 23 28.8 +0.3**
MODS *e*PP **PP 23 25 47.6 -0.4**
MODS *e* 23 26 54.4
MODS *e*SS SS 23 43 28.1 +8.9
KRUC Moravsky 131.66 330 *e*PKP **PKPdf 23 23 27.9 -0.5**
FLTG Flechtingen 131.67 336 *e*PKPdf **PKiKP 23 23 29.3 0.0**
baz=43,slow=1.9
FLTG *e*pPKPdf **pPKPdf 23 23 42.7 +0.8**
baz=43,slow=1.8
CLL Collm 131.69 334 IAMs_20 IAMs_20 00 28 16.9
comp=Z,13µm,19.0s
CLL Collm 131.69 334 *e*Pdif **Pdif 23 20 25.0 +3.3**
CLL *i* PKPdf **PKiKP 23 23 29.3 -0.1**
comp=Z,143nm,2.1s
CLL *i* PP **PP 23 25 43.7 -4.3**
comp=Z,240nm,2.0s
CLL *i* pPP 23 25 59.7
CLL *e*SKPbc **SKPbc 23 26 49.0 -1.5**
comp=Z,47nm,1.3s
CLL *e*PKSbc PKSbc 23 27 03.0 +7.8
CLL *e*PKSdf **PKSdf 23 27 08.0 +3.3**
comp=Z,229nm,2.2s
CLL *ex* x 23 27 26.0
CLL *i* x x 23 27 45.3
comp=Z,236nm,2.2s
CLL *ex* x 23 28 30.0
CLL *e*PPP PPP 23 28 41.0
CLL *e*PS **PS 23 36 03.0 -0.6**
CLL *e*pPS 23 36 13.0
CLL *e*sPKKSbc 23 36 40.0
CLL *e*SKKPdf **SKKPdf 23 36 55.0 -3.2**
CLL *e*PPS PPS 23 37 36.0
CLL *ex* x 23 38 54.0
CLL *e*SS **SS 23 43 30.0 +11**
CLL *ex* x 23 45 00.0
CLL *e*SSS SSS 23 48 00.0
CLL *ex* x 23 49 30.0
CLL LmV 00 28 00.0
comp=Z,13µm,18.8s
CLL Lmax 00 28 00.0
CLL Collm 131.69 334 *i* PKIKP **PKiKP 23 23 29.3 -0.1**
CLL *i* 23 25 43.7
CLL pmax pmax
comp=Z,143nm,2.1s
CLL pmax pmax
comp=Z,240nm,2.0s
CLL MLR MLR
comp=Z,13µm,18.8s
CLL Collm 131.69 334 *e*PKPdf **PKiKP 23 23 29.4 -0.1**
baz=43,slow=1.9
CLL *e*pPKPdf **pPKPdf 23 23 42.6 +0.6**
baz=43,slow=1.8
CLL *e*PP **PP 23 25 49.0 +0.9**
baz=36,slow=6.8
FBE Freiberg 131.81 333 *e*PKPdf **PKiKP 23 23 29.8 +0.1**
baz=43,slow=1.9
FBE *e*pPKPdf **pPKPdf 23 23 43.4 +1.1**
baz=43,slow=1.8
ZST Bratislava 131.86 328 *e*PKIKP **PKiKP 23 23 29.8 0.0**
ZST *e* 23 25 49.9
ZST Bratislava 131.86 328 *e*PKP **PKiKP 23 23 29.8 0.0**
ZST *e*PP **PP 23 25 49.9 +0.6**
ZST *e* 23 26 54.9
KKB Krupnik 131.86 318 *i* P **PKPdf 23 23 26.5 -2.6**
BOVS Bovan 131.86 321 ⇓P **PKiKP 23 23 29.6 -0.4**
GOPC GO Pecny, Ondr 131.86 331 *e*PKPDF **PKiKP 23 23 31.8 +1.9**
GOPC AMS AMS 00 22 50.0
comp=Z,20µm,21.0s
GOPC GO Pecny, Ondr 131.86 331 *e*PKIKP **PKiKP 23 23 31.8 +1.9**
GOPC MLR MLR
comp=Z,20µm,21.0s
DRUM Mains of Drumt 131.93 348 *e*P **PKiKP 23 23 31.7 +2.0**
DRUM IAMs_20 IAMs_20 00 25 31.7
comp=Z,12µm,21.2s
PRU Pruhonice 131.93 332 *e*PKPDF **PKPdf 23 23 29.4 +0.5**
PRU *e*PP **PP 23 25 45.9 -3.8**
PRU *e*SKP 23 27 01.2
PRU AMS AMS 00 22 20.0
PRU Pruhonice 131.93 332 *e*PKIKP **PKPdf 23 23 29.4 +0.5**
PRU *e* 23 25 45.9
PRU MLR MLR
comp=N,15µm,21.2s
TREC Trest 131.95 330 *e*PP **PP 23 25 44.9 -5.0**
TREC AMS AMS 00 21 30.0
comp=N,30µm,23.2s
NRDL Niedersach Rie 132.00 337 *e*PKPdf **PKiKP 23 23 30.3 +0.4**
baz=43,slow=1.9
NRDL *e*pPKPdf **pPKPdf 23 23 43.9 +1.5**
baz=43,slow=1.8
ASSE Asse, Remlinge 132.05 336 *e*PKPdf **PKiKP 23 23 30.3 +0.3**
baz=43,slow=1.9
ASSE *e*pPKPdf **pPKPdf 23 23 43.8 +1.2**
baz=43,slow=1.8
RETH Rethem/Aller, 132.09 337 *e*PKPdf **PKiKP 23 23 30.4 +0.2**
baz=43,slow=1.9
RETH *e*pPKPdf **pPKPdf 23 23 43.9 +1.2**
baz=43,slow=1.8
FRGS Fruska Gora 132.19 324 ⇑P **PKiKP 23 23 30.2 -0.4**
MORH Mrgy, Hungar 132.24 325 ⇓P **PKiKP 23 23 30.9 +0.3**
NEUB Neuenburg 132.29 334 *e*PKPdf **PKiKP 23 23 31.0 +0.4**
baz=43,slow=1.9
NEUB *e*pPKPdf **pPKPdf 23 23 44.3 +1.1**
baz=43,slow=1.8
BBSR BB Station 132.36 55 IAMs_20 IAMs_20 00 18 53.5
comp=Z,10µm,20.0s
CLZ Clausthal 132.39 336 *e*PKPdf **PKiKP 23 23 30.8 -0.1**
baz=43,slow=1.9
CLZ *e*pPKPdf **pPKPdf 23 23 44.4 +1.0**
baz=43,slow=1.8
TANN Tannenbergstha 132.57 333 *e*PKPdf **PKiKP 23 23 31.2 -0.1**
baz=43,slow=1.9
TANN *e*pPKPdf **pPKPdf 23 23 44.6 +0.8**
baz=43,slow=1.8
TANN *e*PP **PP 23 25 54.7 +0.9**
baz=36,slow=6.8
RONA Rosalia, Austr 132.59 328 *e*PKP **PKPdf 23 23 29.0 -1.3**
comp=Z,3.8nm,0.5s
WERD Werda 132.62 333 *e*PKPdf **PKiKP 23 23 31.3 0.0**
baz=43,slow=1.9
WERD *e*pPKPdf **pPKPdf 23 23 44.8 +1.0**
baz=43,slow=1.8
WERD *e*PP **PP 23 25 55.0 +0.9**
baz=36,slow=6.8
CONA Conrad Observa 132.66 329 *e*PKP **PKPdf 23 23 27.8 -2.7**
comp=Z,6.6nm,1.0s
GUNZ Gunzen 132.67 333 *e*PKPdf **PKiKP 23 23 31.5 0.0**
baz=43,slow=1.9
GUNZ *e*pPKPdf **pPKPdf 23 23 44.9 +0.9**
baz=43,slow=1.8
INVG Invergeldie, C 132.69 349 *e*P **PKiKP 23 23 30.9 -0.4**
INVG IAMs_20 IAMs_20 00 26 32.3
comp=Z,9µm,21.4s
WERN Wernitzgruen 132.70 333 *e*PKPdf **PKiKP 23 23 31.5 -0.1**
baz=43,slow=1.9
WERN *e*pPKPdf **pPKPdf 23 23 44.9 +0.9**
baz=43,slow=1.8
NKC Novy Kostel 132.71 333 *e*PKPDF **PKiKP 23 23 33.0 +1.4**
NKC *e*PP **PP 23 25 48.9 -5.8**
NKC AMS AMS 00 22 30.0
comp=Z,16µm,21.6s
NKC Novy Kostel 132.71 333 *e*PKIKP **PKiKP 23 23 33.0 +1.4**
NKC MLR MLR
comp=Z,16µm,21.6s
MOX Moxa 132.78 334 *e*PKPdf **PKiKP 23 23 31.6 -0.1**
baz=43,slow=1.9
MOX *e*pPKPdf **pPKPdf 23 23 44.7 +0.6**
baz=43,slow=1.8
MOX *e*L L 00 29 16.9
comp=Z,11µm,19.2s
CKRC Cesky Krumlov 132.84 331 *e*PKPpre PKPpre 23 23 20.6
CKRC *e*PKPDF **PKiKP 23 23 33.1 +1.2**
CKRC *e*PP **PP 23 25 50.4 -5.2**
CKRC AMS AMS 00 22 30.0
comp=Z,25µm,21.8s
KHC Kasperske Hory 132.98 331 PKPdf **PKiKP 23 23 31.8 -0.3**
KHC Kasperske Hory 132.98 331 *e*PKPpre PKPpre 23 23 20.8
KHC *e*PKPDF **PKiKP 23 23 32.7 +0.5**
KHC *e*PP **PP 23 25 51.5 -4.9**
KHC AMS AMS 00 20 50.0
comp=Z,28µm,23.4s
KHC Kasperske Hory 132.98 331 PKIKP **PKiKP 23 23 31.8 -0.3**
EDI Edinburgh 132.99 348 *e*P **PKiKP 23 23 32.4 +0.5**
EDI IAMs_20 IAMs_20 00 27 41.0
comp=Z,10µm,21.9s
IBBN Ibbenburen 133.04 338 *e*PKPdf **PKiKP 23 23 32.1 0.0**
baz=43,slow=1.9
IBBN *e*pPKPdf **pPKPdf 23 23 45.3 +0.8**
baz=43,slow=1.8
MANZ Manzenberg 133.04 333 *e*PKPdf **PKiKP 23 23 32.0 -0.2**
baz=43,slow=1.9
MANZ *e*pPKPdf **pPKPdf 23 23 45.4 +0.8**
baz=43,slow=1.8
LAWE Loch Awe, Argy 133.09 350 *e*P **PKPdf 23 23 30.7 -0.2**
LAWE IAMs_20 IAMs_20 00 18 40.8
comp=Z,9µm,25.8s
GEC2 GERESS Array S 133.12 331 PKPpre 23 23 23.4
GEC2 PKPdf **PKiKP 23 23 32.6 +0.1**
GEC2 GERESS Array S 133.12 331 *e*PKPdf **PKiKP 23 23 32.0 -0.5**
baz=43,slow=1.9
GEC2 *e*pPKPdf **pPKPdf 23 23 45.6 +0.6**
baz=43,slow=1.8
GERES GERESS Array B 133.12 331 PKhKP PKPpre 23 23 20.3
comp=Z,1.3nm,0.7s,baz=70,slow=2.8,SNR=6.1
GERES PKP **PKPdf 23 23 30.7 -0.7**
comp=Z,5.0nm,0.7s,baz=86,slow=1.9,SNR=20
GERES PP **PP 23 25 55.3 -2.1**
comp=Z,3.4nm,1.0s,baz=53,slow=5.0,SNR=1.5
GERES PKKP **PKKPdf 23 33 23.0 -0.5**
comp=Z,0.4nm,0.6s,baz=207,slow=5.4,SNR=2.2
GERES SKKPbc SKKPbc 23 36 16.4 -0.6
comp=Z,5.8nm,1.2s,baz=227,slow=2.4,SNR=6.1
ROTZ Rotzenmuhle 133.16 333 *e*PKPdf **PKiKP 23 23 32.5 +0.1**
baz=43,slow=1.9
ROTZ *e*pPKPdf **pPKPdf 23 23 45.7 +0.8**
baz=43,slow=1.8
ARSA Arzberg 133.28 328 *e*PKP **PKPdf 23 23 27.2 -4.4**
comp=Z,3.2nm,0.8s
IDI Anoyia 133.33 309 SKPab **SKPbc 23 26 57.0 +0.1**
comp=Z,8.7nm,0.9s,baz=115,slow=8.8,SNR=1.3
IDI Anoyia 133.33 309 ⇓P **PKiKP 23 23 34.0 +0.6**
SJG San Juan 133.47 75 SKP 23 27 02.9
comp=Z,35nm,1.0s,baz=93,slow=21,SNR=8.2
SJG San Juan 133.47 75 **PKPdf 23 23 32.2 -0.5**
SJG San Juan 133.47 75 *e* 23 26 12.8
SJG San Juan 133.47 75 PKIKP **PKPdf 23 23 32.2 -0.5**
FNA Florina 133.51 318 PKPdf **PKiKP 23 23 33.2 -0.3**
FNA Florina 133.51 318 PKIKP **PKiKP 23 23 33.2 -0.3**
MOA Molln 133.52 330 *e*PKP **PKPdf 23 23 29.5 -2.5**
comp=Z,5.8nm,0.8s
EKA Eskdalemuir Ar 133.54 348 PP **PP 23 26 00.6 +1.1**
comp=Z,4.6nm,1.0s,baz=39,slow=5.0,SNR=2.3
EKA SKPbc **SKPbc 23 26 54.8 -2.1**
comp=Z,5.3nm,0.9s,baz=28,slow=3.2,SNR=2.1
ESK Eskdalemuir 133.56 348 IAMs_20 IAMs_20 00 27 51.6
comp=Z,11µm,20.0s
GRA1 Grafenberg Arr 133.65 333 IAMs_20 IAMs_20 00 24 29.4
comp=Z,12µm,22.0s
GRF Grafenberg Arr 133.65 333 *e*PKPdf **PKiKP 23 23 33.3 -0.2**
baz=43,slow=1.9
GRF *e*pPKPdf **pPKPdf 23 23 46.9 +1.1**
baz=43,slow=1.8
GRF *e*L L 00 24 29.5
comp=Z,12µm,21.9s
GRFO Grafenberg 133.65 333 IAMs_20 IAMs_20 00 24 30.4
comp=Z,12µm,21.0s
KASTN Kahler Asten 133.66 337 *e*PKPdf **PKiKP 23 23 33.3 -0.2**
baz=43,slow=1.9
KASTN *e*pPKPdf **pPKPdf 23 23 46.5 +0.7**
baz=43,slow=1.8
KASTN *e*PP **PP 23 25 59.6 -1.0**
baz=36,slow=6.8
TSUM Tsumeb 133.70 231 PP **PP 23 26 02.0 0.0**
comp=Z,8.5nm,1.1s,baz=162,slow=11,SNR=1.5
TSUM Tsumeb 133.70 231 PKPpre 23 23 26.8
GDLE Glaisdale, N Y 133.85 346 *e*P **PKiKP 23 23 34.4 +0.7**
GDLE IAMs_20 IAMs_20 00 18 17.2
comp=Z,9µm,22.2s
PERS Pernice 133.89 328 *e*PKPdf **PKPdf 23 23 32.2 -0.6**
PERS *e*PP **PP 23 25 55.9 -6.6**
PERS *e* 23 27 01.9
PERS *e*SS SS 23 43 57.1 +11
SOKA Soboth 133.91 328 *e*PKP **PKPdf 23 23 30.3 -2.5**
comp=Z,24nm,1.1s
BUG Bochum--Univer 133.91 338 *e*PKPdf **PKiKP 23 23 33.6 -0.2**
baz=43,slow=1.9
BUG *e*pPKPdf **pPKPdf 23 23 46.8 +0.6**
baz=43,slow=1.8
BUG *e*PP **PP 23 26 00.7 -1.4**
baz=36,slow=6.8
BIOA Bad Ischl, Aus 133.94 330 *e*PKP **PKPdf 23 23 29.4 -3.4**
comp=Z,4.2nm,0.7s
PDG Podgorica 134.03 321 IAMs_20 IAMs_20 00 28 41.8
comp=Z,8µm,20.0s
TIR Tirane 134.21 319 IAMs_20 IAMs_20 00 26 38.9
comp=Z,11µm,20.0s
OBKA Obir 134.27 328 *e*PKP **PKPdf 23 23 31.0 -2.6**
comp=Z,2.5nm,0.8s
RJOB Jochberg 134.32 330 *e*PKPdf **PKPdf 23 23 34.3 +0.7**
baz=43,slow=1.9
RJOB *e*pPKPdf **pPKPdf 23 23 47.5 +0.3**
baz=43,slow=1.8
CLGH Cloghs, Cushen 134.34 350 *e*P **PKiKP 23 23 34.1 -0.6**
CLGH IAMs_20 IAMs_20 00 19 14.0
comp=Z,9µm,29.4s
TNS Taunus Mts 134.42 336 *e*PKPdf **PKiKP 23 23 35.0 -0.1**
baz=43,slow=1.9
TNS *e*PP **PP 23 26 06.8 +1.4**
baz=36,slow=6.8
KBA Koelnbreinsper 134.50 329 *e*PKP **PKPdf 23 23 26.9 -7.2**
comp=Z,4.0nm,0.6s
BOJS Bojanci 134.55 327 *e*PKPdf **PKPdf 23 23 34.4 +0.4**
BOJS *e*PP **PP 23 26 02.9 -3.7**
BOJS *e* 23 27 23.9
MYKA Terra Mystica 134.66 329 *e*PKP **PKPdf 23 23 30.1 -4.1**
comp=Z,5.7nm,0.8s
AHRW Bad Neuenahr-A 134.71 337 *e*PKPdf **PKiKP 23 23 35.0 -0.5**
baz=43,slow=1.9
AHRW *e*pPKPdf **pPKPdf 23 23 48.6 +0.9**
baz=43,slow=1.8
FUR Furstenfeldbru 134.74 332 *e*PKPdf **PKiKP 23 23 35.2 -0.5**
baz=43,slow=1.9
FUR *e*pPKPdf **pPKPdf 23 23 48.6 +0.7**
baz=43,slow=1.8
FUR *e*PP **PP 23 26 09.9 +2.3**
baz=36,slow=6.8
CDVI St. Croix 134.81 75 *e* 23 26 24.7
FRTB Fartura 134.86 138 *e*P **PKiKP 23 23 39.2 +2.4**
PCMB Pacaembu 134.89 135 *e*P **PKiKP 23 23 39.8 +2.9**
SALV Santo Antonio 135.00 125 *e*P **PKiKP 23 23 39.9 +2.8**
BTNL Ternell 135.03 338 *d*PKiKP **PKiKP 23 23 37.2 +0.9**
MEM Membach 135.05 338 *d*PKPdf **PKiKP 23 23 36.3 +0.1**
ABTA Abfaltersbach 135.15 330 *e*PKP **PKPdf 23 23 28.7 -6.5**
comp=Z,34nm,1.1s
WATA Walderalm 135.19 331 *e*PKP **PKPdf 23 23 29.0 -6.3**
comp=Z,3.5nm,0.6s
WTTA Wattenberg 135.21 331 *e*PKP **PKPdf 23 23 28.4 -7.0**
comp=Z,10nm,0.5s
STU Stuttgart 135.22 334 IAMs_20 IAMs_20 00 31 04.3
comp=Z,9µm,19.0s
STU Stuttgart 135.22 334 *e*PP PP 23 26 12.1 +1.5
baz=36,slow=6.8
BSTI Sart Tilman 135.24 338 *d*PKPdf **PKiKP 23 23 36.6 0.0**
BHOU Houvegnez 135.26 338 *d*PKPdf **PKiKP 23 23 36.7 0.0**
BHOU *d*PKiKP **PKPdf 23 23 38.2 +3.0**
RETA Reutte 135.47 332 *e*PKP **PKPdf 23 23 29.2 -6.6**
comp=Z,5.9nm,0.6s
BCLA Clavier 135.47 338 *d*PKPdf **PKPdf 23 23 35.8 +0.3**
BCLA *d*pPKPdf **pPKPdf 23 23 46.1 -3.0**
BGES Gesves 135.58 338 *d*PKP **PKiKP 23 23 37.9 +0.6**
UBR Ueberruh 135.63 332 *e*PKPdf **PKPdf 23 23 36.8 +0.8**
baz=43,slow=1.9
UBR *e*pPKPdf **pPKPdf 23 23 50.0 +0.3**
baz=43,slow=1.8
UBR *e*PP **PP 23 26 15.4 +2.1**
baz=36,slow=6.8
PET01 Itanhaem-SP 135.63 141 *e*P **PKiKP 23 23 40.7 +2.5**
RCHB Rochefort 135.71 338 *d*PKP **PKiKP 23 23 38.0 +0.4**
SNF Seneffe 135.76 339 *d*PKPdf **PKPdf 23 23 36.2 +0.1**
WLF Walferdange 135.76 337 *d*PKPdf **PKiKP 23 23 37.5 -0.2**
WLF Walferdange 135.76 337 *e*PKPdf **PKiKP 23 23 37.8 0.0**
baz=43,slow=1.9
WLF *e*pPKPdf **pPKPdf 23 23 51.1 +1.3**
baz=43,slow=1.8
WLF *e*PP **PP 23 26 15.8 +1.9**
baz=36,slow=6.8
BFO Black Forest 135.93 334 **PKPdf 23 23 36.7 +0.2**
BFO IAMs_20 IAMs_20 00 31 17.0
comp=Z,7µm,19.0s

BFO	**Black Forest**	**135.93**	**334**	PKIKP	**PKPdf**	**23**	**23**	**36.7**	**+0.2**
BFO	**Black Forest**	**135.93**	**334**	*e*PKPdf	**PKPdf**	**23**	**23**	**37.3**	**+0.7**
	baz=43,slow=1.9								
BFO				*ep*PKPdf	**pPKPdf**	**23**	**23**	**50.7**	**+0.6**
	baz=43,slow=1.8								
BFO				*e*PP	**PP**	**23**	**26**	**16.6**	**+1.6**
	baz=36,slow=6.8								
DAVA	**Damuels**	**136.02**	**332**	PKP	**PKPdf**	**23**	**23**	**30.3**	**-6.6**
	comp=Z,9.6nm,0.7s								
SPB	**Sao Paulo**	**136.05**	**141**	IAMs_20	IAMs_20	00	15	45.4	
	comp=Z,8μm,21.0s								
CTI	**Castel Tesino**	**136.06**	**330**	PKPpre	PKPpre	23	23	28.7	
CTI	**Castel Tesino**	**136.06**	**330**	PKHKP	PKPpre	23	23	28.7	
HLM1	**Long Mynd**	**136.09**	**346**	*e*P	**PKiKP**	**23**	**23**	**38.4**	**+0.1**
HLM1				IAMs_20	IAMs_20	00	14	36.0	
	comp=Z,13μm,29.5s								
DSB	**Dublin**	**136.14**	**349**	IAMs_20	IAMs_20	00	29	47.6	
	comp=Z,7μm,20.0s								
SABA	**Saba**	**136.27**	**75**	IAMs_20	IAMs_20	00	21	15.9	
	comp=Z,8μm,20.0s								
SABA	**Saba**	**136.27**	**75**	*e*		23	26	24.7	
PDRB	**Porto dos Gac**	**136.32**	**119**	*e*P	**PKiKP**	**23**	**23**	**42.5**	**+2.6**
FUORN	**Ofenpass-Fuorn**	**136.33**	**331**	PKPdf	**PKiKP**	**23**	**23**	**40.0**	**+0.7**
FUORN				IAMs_20	IAMs_20	00	30	16.6	
	comp=Z,11μm,20.0s								
DAVOX	**Davos/Dischmat**	**136.40**	**332**	PKhKP	PKPpre	23	23	26.4	
	comp=Z,3.6nm,0.6s,baz=318,slow=2.0,SNR=5.3								
DAVOX				SKPab	**SKiKP**	**23**	**27**	**09.9**	**-2.2**
	comp=Z,8.0nm,0.8s,baz=45,slow=6.2,SNR=1.8								
SMRT	**St. Maarten**	**136.40**	**75**	PKPdf	**PKPdf**	**23**	**23**	**38.5**	**+0.3**
SMRT				IAMs_20	IAMs_20	00	19	59.4	
	comp=Z,9μm,21.0s								
SMRT	**St. Maarten**	**136.40**	**75**	*e*P	PKPpre	23	23	28.3	
SMRT	**St. Maarten**	**136.40**	**75**	*e*		23	26	27.7	
ECH	**Echery**	**136.51**	**335**	PKPdf	**PKPdf**	**23**	**23**	**38.4**	**+0.8**
ECH				IAMs_20	IAMs_20	00	27	05.4	
	comp=Z,15μm,21.0s								
ECH	**Echery**	**136.51**	**335**	PKIKP	**PKPdf**	**23**	**23**	**38.4**	**+0.8**
SEUS	**St. Eustatius**	**136.52**	**76**	IAMs_20	IAMs_20	00	21	13.7	
	comp=Z,7μm,20.0s								
SEUS	**St. Eustatius**	**136.52**	**76**	*e*		23	26	12.8	
TEOL	**Teolo**	**136.53**	**329**	PKPpre	PKPpre	23	23	28.4	
RCLB	**Rio Claro- Sao**	**136.83**	**139**	*e*P	**PKiKP**	**23**	**23**	**41.3**	**+2.3**
TUE	**Stuetta**	**136.87**	**332**	IAMs_20	IAMs_20	00	25	28.8	
	comp=Z,14μm,22.0s								
MBFL	**Flemmings, Mon**	**137.29**	**77**	*e*P	PKPpre	23	23	28.3	
MLYT	**Lee's Yard**	**137.32**	**77**	*e*P	PKPpre	23	23	28.3	
TIP	**Timpagrande**	**137.38**	**318**	⇑P	PKPpre	23	23	31.7	
TIP	**Timpagrande**	**137.38**	**318**	IAMs_20	IAMs_20	00	27	11.6	
	comp=Z,10μm,22.0s								
CLDB	**Colider**	**137.48**	**119**	*e*P	**PKiKP**	**23**	**23**	**45.0**	**+2.7**
AQU	**L'Aquila**	**137.58**	**324**	IAMs_20	IAMs_20	00	29	17.4	
	comp=Z,11μm,21.0s								
ANWB	**Willy Bob**	**137.65**	**75**	*e*P	**PKiKP**	**23**	**23**	**42.2**	**-0.2**
ANBD	**Bethesda, Anti**	**137.71**	**76**	*e*P	PKPpre	23	23	31.3	
ANBD	**Bethesda, Anti**	**137.71**	**76**	*e*P	PKPpre	23	23	34.3	
BOAV	**Boa Vista**	**137.72**	**98**	PKPdf	**PKiKP**	**23**	**23**	**42.6**	**-0.2**
BOAV	**Boa Vista**	**137.72**	**98**	*e*P	**PKPdf**	**23**	**23**	**40.6**	**-0.3**
BOAV	**Boa Vista**	**137.72**	**98**	*e*P	**PKiKP**	**23**	**23**	**45.2**	**+2.4**
GDHS	**Morne Mazeau,**	**137.74**	**77**	IAMs_20	IAMs_20	00	19	02.3	
	comp=Z,10μm,22.0s								
GRGR	**Grenville**	**137.86**	**83**	*e*		23	26	27.7	
CBE	**Ff, Capester**	**137.90**	**78**	*e*P	PKPdf	23	23	31.3	-10
ABD	**La Joyeuse, An**	**138.00**	**77**	*e*P	PKPdf	23	23	28.3	-13
TRN	**Trinidad (W)**	**138.03**	**86**	*e*		23	26	16.5	
MAGL	**Barre de l'ile**	**138.22**	**78**	IAMs_20	IAMs_20	00	20	06.9	
	comp=Z,8μm,20.0s								
MAGL	**Barre de l'ile**	**138.22**	**78**	*e*P	PKPpre	23	23	37.3	
SVB	**Belmont**	**138.28**	**82**	*e*P	PKPpre	23	23	31.3	
FDF	**Fort de France**	**138.38**	**80**	IAMs_20	IAMs_20	00	22	27.0	
	comp=Z,7μm,22.0s								
GDSD	**La Dsirade Is**	**138.41**	**77**	IAMs_20	IAMs_20	00	19	38.0	
	comp=Z,7μm,21.0s								
CEL	**Celeste**	**138.44**	**318**	IAMs_20	IAMs_20	00	28	23.9	
	comp=Z,13μm,22.0s								
BIM	**Bigot**	**138.46**	**80**	IAMs_20	IAMs_20	00	23	08.2	
	comp=Z,7μm,20.0s								
CLF	**Chambon-Foret**	**138.57**	**339**	PKPdf	**PKiKP**	**23**	**23**	**45.2**	**+1.7**
CLF				IAMs_20	IAMs_20	00	27	12.4	
	comp=Z,14μm,22.0s								
ILAM	**Ilet Lapin Mar**	**138.65**	**79**	IAMs_20	IAMs_20	00	20	37.0	
	comp=Z,7μm,21.0s								
MPOM	**Morne Pois Mar**	**138.67**	**80**	IAMs_20	IAMs_20	00	22	16.5	
	comp=Z,7μm,20.0s								
MPOM	**Morne Pois Mar**	**138.67**	**80**	*e*P	PKPdf	23	23	34.3	-8.1
MPOM	**Morne Pois Mar**	**138.67**	**80**	*e*		23	26	27.7	
BNI	**Bardonecchia**	**139.17**	**332**		PKPpre	23	23	35.9	
BNI				PKPdf	**PKiKP**	**23**	**23**	**45.4**	**+0.4**
BNI				IAMs_20	IAMs_20	00	25	32.6	
	comp=Z,11μm,22.0s								
BNI	**Bardonecchia**	**139.17**	**332**	PKIKP	**PKiKP**	**23**	**23**	**45.4**	**+0.4**
VAS01	**Vassouras-RJ**	**139.45**	**143**	*e*P	**PKiKP**	**23**	**23**	**48.0**	**+1.9**
NPGB	**Novo Progresso**	**139.58**	**114**	*e*P	**PKiKP**	**23**	**23**	**49.0**	**+2.4**
BBGH	**Gun Hill**	**139.93**	**82**	IAMs_20	IAMs_20	00	22	15.1	
	comp=Z,9μm,21.0s								
BBGH	**Gun Hill**	**139.93**	**82**	*e*P	PKPdf	23	23	34.3	-10
SSB	**Saint Sauveur**	**139.94**	**334**		PKPpre	23	23	37.6	
SSB				PKPdf	**PKiKP**	**23**	**23**	**45.5**	**-0.9**
SSB	**Saint Sauveur**	**139.94**	**334**	PKIKP	**PKiKP**	**23**	**23**	**45.5**	**-0.9**
RAFF	**Raffo Rosso**	**140.02**	**317**	PKPdf	**PKiKP**	**23**	**23**	**49.0**	**+2.1**
DUB01	**Friburgo-RJ**	**140.22**	**144**	*e*P	**PKiKP**	**23**	**23**	**48.8**	**+1.0**
ITTB	**Itaituba**	**140.30**	**110**	*e*P	**PKiKP**	**23**	**23**	**49.5**	**+1.4**
SNDB	**Serra Nova Dou**	**140.71**	**124**	*e*P	**PKiKP**	**23**	**23**	**50.3**	**+1.4**
BDFB	**Brasilia**	**141.10**	**131**	PKhKP	PKPpre	23	23	41.4	
	comp=Z,9.6nm,0.6s,baz=255,slow=1.2,SNR=12								
BDFB	**Brasilia**	**141.10**	**131**		PKPpre	23	23	42.0	
BDFB	**Brasilia**	**141.10**	**131**	PKHKP	PKPpre	23	23	42.0	
BDFB	**Brasilia**	**141.10**	**131**	*e*P	**PKiKP**	**23**	**23**	**51.0**	**+1.3**
DIAM	**Diamantina, MG**	**142.30**	**139**	*e*P	**PKiKP**	**23**	**23**	**53.1**	**+0.9**
ALF01	**Guarapari-ES**	**142.32**	**145**	*e*P	**PKiKP**	**23**	**23**	**53.5**	**+1.5**
RIB01	**Linhares ES**	**143.53**	**144**	*e*P	**PKiKP**	**23**	**23**	**55.9**	**+1.3**
JANB	**Januaria**	**144.16**	**134**	*e*P	**PKiKP**	**23**	**23**	**55.1**	**-0.8**
KEST	**Kesra**	**144.18**	**319**	PKP	**PKPab**	**23**	**23**	**48.9**	**-0.7**
	comp=Z,101nm,0.9s,baz=333,slow=1.0,SNR=57								
MAHO	**Mahon**	**144.25**	**329**	PKPdf	**PKPdf**	**23**	**23**	**50.9**	**-0.8**
MAHO				IAMs_20	IAMs_20	00	29	22.3	
	comp=Z,11μm,22.0s								
MCPB	**Macapa, AP**	**145.13**	**106**	*e*P	**PKPdf**	**23**	**23**	**56.0**	**+1.9**
SMTB	**Santa Maria do**	**145.45**	**123**	*e*P	**PKPab**	**23**	**23**	**56.7**	**+1.8**
ABR01	**Abrolhos, BA**	**145.58**	**145**	*e*P	**PKPab**	**23**	**23**	**56.8**	**+1.7**
GUA01	**Guaratinga, BA**	**146.01**	**142**	*e*P	**PKPab**	**23**	**23**	**57.7**	**+0.9**
PBRG	**Braganca**	**147.01**	**343**	*e*PKPdf	**PKPdf**	**23**	**23**	**55.6**	**-0.9**
PBRG	**Braganca**	**147.01**	**343**	*e*PKPbc	**PKPbc**	**23**	**23**	**59.0**	**+0.4**
PBRG	**Braganca**	**147.01**	**343**	*e*PP	**PP**	**23**	**27**	**22.5**	**+0.3**
PGAV	**Gavieira, Arco**	**147.26**	**346**	*e*PKPdf	**PKPdf**	**23**	**23**	**57.1**	**+0.1**
PGAV	**Gavieira, Arco**	**147.26**	**346**	*e*PKPbc	**PKPbc**	**23**	**23**	**59.8**	**+0.5**
PGAV	**Gavieira, Arco**	**147.26**	**346**	*e*SS	SS	23	46	27.6	+5.8
PGAV	**Gavieira, Arco**	**147.26**	**346**	*e*LR	LR	00	13	56.6	
	comp=Z,13μm,20.0s								
PCAB	**Cabril**	**147.44**	**345**	*e*PKPbc	**PKPbc**	**23**	**23**	**59.9**	**+0.1**
MVO	**Moncorvo**	**147.68**	**343**	*e*PKPdf	**PKPdf**	**23**	**23**	**57.7**	**0.0**
MVO	**Moncorvo**	**147.68**	**343**	*e*PKPbc	**PKPbc**	**23**	**24**	**00.6**	**+0.1**
MVO	**Moncorvo**	**147.68**	**343**	*e*LR	LR	00	14	05.8	
	comp=Z,9μm,22.0s								
POLO	**Lamas de Olo**	**147.69**	**345**	*e*PKPdf	**PKPdf**	**23**	**23**	**58.4**	**+0.6**
POLO	**Lamas de Olo**	**147.69**	**345**	*e*PKPbc	**PKPbc**	**23**	**24**	**00.8**	**+0.3**
POLO	**Lamas de Olo**	**147.69**	**345**	*e*PP	**PP**	**23**	**27**	**27.1**	**+0.8**
PVRL	**Vila Real**	**147.76**	**344**	*e*PKPbc	**PKPbc**	**23**	**24**	**00.3**	**-0.4**
ESBB	**Sonseca Array**	**148.04**	**338**		**PKPbc**	**23**	**24**	**01.1**	**-0.3**
ESDC	**Sonseca Array**	**148.04**	**338**	PKPbc	**PKPbc**	**23**	**24**	**00.5**	**-1.0**
	comp=Z,43nm,1.0s,baz=19,slow=2.6,SNR=44								
ESDC				SKP		23	27	28.4	
	comp=Z,5.5nm,1.1s,baz=32,slow=2.3,SNR=2.3								
ESDC	**Sonseca Array**	**148.04**	**338**		**PKPbc**	**23**	**24**	**00.3**	**-1.2**
TMAB	**Tom-Au,PA,Br**	**148.10**	**112**	*e*P	**PKPab**	**23**	**24**	**04.7**	**-0.5**
PTO	**Porto**	**148.12**	**345**	*e*PKPbc	**PKiKP**	**23**	**24**	**02.5**	**-0.8**
PAB	**San Pablo**	**148.29**	**339**		**PKPbc**	**23**	**24**	**02.2**	**0.0**
PAB	**San Pablo**	**148.29**	**339**	IAMs_20	IAMs_20	00	34	47.9	
	comp=Z,10μm,21.0s								
PAB	**San Pablo**	**148.29**	**339**	P	**PKPbc**	**23**	**24**	**02.8**	**+0.6**
PAB	**San Pablo**	**148.29**	**339**	⇑PKP2	**PKPbc**	**23**	**24**	**02.0**	**-0.2**
PVIS	**Viseu**	**148.34**	**344**	*e*PKPdf	**PKPdf**	**23**	**23**	**59.6**	**+0.8**
PVIS	**Viseu**	**148.34**	**344**	*e*PKPbc	**PKPbc**	**23**	**24**	**02.9**	**+0.7**
MTE	**Manteigas**	**148.53**	**344**	*e*PKPdf	**PKPdf**	**23**	**23**	**59.6**	**+0.5**
MTE	**Manteigas**	**148.53**	**344**	*e*PKPbc	**PKPbc**	**23**	**24**	**02.8**	**0.0**
MTE	**Manteigas**	**148.53**	**344**	*e*SS	SS	23	46	42.6	+6.4
MTE	**Manteigas**	**148.53**	**344**	*e*LR	LR	00	14	52.1	
	comp=Z,7μm,18.0s								
MTE	**Manteigas**	**148.53**	**344**	IAMs_20	IAMs_20	00	35	43.9	
	comp=Z,9μm,20.0s								
CART	**Cartagena**	**148.60**	**332**		**PKPbc**	**23**	**24**	**01.2**	**-1.6**
CART				IAMs_20	IAMs_20	00	31	48.1	
	comp=Z,11μm,22.0s								

H07N1	**FLORES T-PHASE**	**148.81**	**19**	PKPbc	**PKPbc**	**23**	**24**	**02.7**	**-0.7**
H07N1	**FLORES T-PHASE**	**148.81**	**19**	*e*PKP	**PKiKP**	**23**	**24**	**05.3**	**+0.5**
PCBR	**Castelo Branco**	**149.04**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**01.8**	**+1.9**
H07S1	**FLORES T-PHASE**	**149.06**	**19**	*e*PKP	**PKiKP**	**23**	**24**	**06.1**	**+0.7**
PCAS	**Casmilo, Conde**	**149.12**	**345**	*e*PKPdf	**PKPdf**	**23**	**24**	**00.1**	**+0.1**
PCAS	**Casmilo, Conde**	**149.12**	**345**	*e*PKPbc	**PKPbc**	**23**	**24**	**04.6**	**+0.4**
PMRV	**Marv??o**	**149.39**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**01.0**	**+0.5**
PMRV	**Marv??o**	**149.39**	**343**	*e*PKPbc	**PKiKP**	**23**	**24**	**05.7**	**-0.3**
PMRV	**Marv??o**	**149.39**	**343**	*e*LR	LR	00	15	19.8	
	comp=Z,9μm,20.0s								
PSBE	**So Bento**	**149.70**	**345**	*e*PKPdf	**PKPdf**	**23**	**24**	**01.4**	**+0.4**
PSBE	**So Bento**	**149.70**	**345**	*e*PKPbc	**PKiKP**	**23**	**24**	**06.2**	**-0.5**
PMTG	**Montargil**	**149.96**	**344**	*e*PKPbc	**PKPbc**	**23**	**24**	**06.6**	**+0.3**
PESTR	**Estremoz**	**149.97**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**01.6**	**+0.2**
PESTR	**Estremoz**	**149.97**	**343**	*e*PKPbc	**PKPbc**	**23**	**24**	**06.7**	**+0.4**
PGRA	**Graciosa**	**150.31**	**15**	*e*PKP	**PKPab**	**23**	**24**	**12.1**	**-1.2**
PMAFR	**Mafra**	**150.35**	**345**	*e*PKPdf	**PKPdf**	**23**	**24**	**02.3**	**+0.3**
PMAFR	**Mafra**	**150.35**	**345**	*e*PKPbc	**PKiKP**	**23**	**24**	**07.7**	**-0.3**
EVO	**Evora**	**150.40**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**02.3**	**+0.2**
EVO	**Evora**	**150.40**	**343**	*e*PKPbc	**PKiKP**	**23**	**24**	**08.1**	**0.0**
EVO	**Evora**	**150.40**	**343**	*e*PP	**PP**	**23**	**27**	**44.4**	**+2.5**
PBAR	**Barrancos**	**150.44**	**341**	*e*PKPdf	**PKPdf**	**23**	**24**	**02.7**	**+0.6**
PBAR	**Barrancos**	**150.44**	**341**	*e*PKPbc	**PKiKP**	**23**	**24**	**08.3**	**+0.1**
PBAR	**Barrancos**	**150.44**	**341**	*e*PP	**PP**	**23**	**27**	**43.5**	**+1.4**
ROSA	**Rosais**	**150.54**	**15**	*e*PKP	**PKiKP**	**23**	**24**	**08.9**	**+0.5**
LIS	**Lisbon**	**150.54**	**345**	*e*PKPdf	**PKPdf**	**23**	**24**	**03.0**	**+0.8**
LIS				IAMs_20	IAMs_20	00	32	27.7	
	comp=E,13μm,21.3s								
LIS	**Lisbon**	**150.54**	**345**	*e*PKIKP	**PKPdf**	**23**	**24**	**03.0**	**+0.8**
PMAN	**Manadas**	**150.66**	**15**	*e*PKP	**PKiKP**	**23**	**24**	**09.7**	**+1.1**
PICO	**Pico**	**150.69**	**16**	*e*PKP	**PKiKP**	**23**	**24**	**10.2**	**+1.4**
PCAN	**Candelaria**	**150.71**	**16**	*e*PKP	**PKiKP**	**23**	**24**	**11.7**	**+2.9**
PSBA	**Serra de Santa**	**150.72**	**14**	*e*PKP	**PKiKP**	**23**	**24**	**09.6**	**+0.8**
PAGU	**Agualva, Azore**	**150.75**	**14**	*e*PKP	**PKiKP**	**23**	**24**	**10.2**	**+1.4**
PPNO	**Prainha do Nor**	**150.76**	**16**	*e*PKP	**PKiKP**	**23**	**24**	**11.6**	**+2.6**
PBEJ	**Beja**	**150.83**	**342**	*e*PKPdf	**PKPdf**	**23**	**24**	**03.9**	**+1.1**
PBEJ	**Beja**	**150.83**	**342**	*e*PKPbc	**PKiKP**	**23**	**24**	**08.9**	**-0.1**
PBEJ	**Beja**	**150.83**	**342**	*e*PP	**PP**	**23**	**27**	**45.6**	**+1.2**
PID	**Ribeirinha**	**150.83**	**15**	*e*PKP	**PKiKP**	**23**	**24**	**09.9**	**+0.9**
PSCM	**Serra do Cume**	**150.83**	**14**	*e*PKP	**PKiKP**	**23**	**24**	**10.9**	**+1.9**
SHEL	**Horse Pasture**	**150.84**	**206**	IAMs_20	IAMs_20	00	26	10.9	
	comp=Z,8μm,21.0s								
ADH	**Angra Heroismo**	**150.85**	**14**	*e*PKP	**PKiKP**	**23**	**24**	**10.6**	**+1.6**
PNCL	**Nicolau / Gran**	**150.94**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**03.1**	**+0.2**
PNCL	**Nicolau / Gran**	**150.94**	**343**	*e*PKPbc	**PKPbc**	**23**	**24**	**08.9**	**+0.3**
PNCL	**Nicolau / Gran**	**150.94**	**343**	*e*PP	**PP**	**23**	**27**	**46.4**	**+1.4**
MESJ	**Messejana**	**151.11**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**03.9**	**+0.7**
MESJ				*e*PP	**PP**	**23**	**27**	**48.5**	**+2.6**
MESJ				IAMs_20	IAMs_20	00	34	36.1	
	comp=Z,16μm,22.5s								
MESJ	**Messejana**	**151.11**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**03.9**	**+0.7**
MESJ	**Messejana**	**151.11**	**343**	*e*PKPbc	**PKiKP**	**23**	**24**	**10.0**	**+0.4**
MESJ	**Messejana**	**151.11**	**343**	*e*PP	**PP**	**23**	**27**	**47.5**	**+1.5**
MESJ	**Messejana**	**151.11**	**343**		**PKPbc**	**23**	**24**	**07.2**	**-1.8**
MESJ	**Messejana**	**151.11**	**343**	PKIKP	**PKPbc**	**23**	**24**	**07.2**	**-1.8**
PCVE	**Castro Verde**	**151.25**	**342**	*e*PKPdf	**PKPdf**	**23**	**24**	**03.7**	**+0.3**
PCVE	**Castro Verde**	**151.25**	**342**	*e*PKPbc	**PKiKP**	**23**	**24**	**10.5**	**+0.6**
PCVE	**Castro Verde**	**151.25**	**342**	*e*PP	**PP**	**23**	**27**	**50.0**	**+3.2**
PVAQ	**Vaqueiros**	**151.36**	**342**	*e*PKPbc	**PKiKP**	**23**	**24**	**10.1**	**0.0**
PVAQ	**Vaqueiros**	**151.36**	**342**	*e*SS	SS	23	47	16.8	+9.3
PVAQ	**Vaqueiros**	**151.36**	**342**	*e*LR	LR	00	16	24.5	
	comp=Z,12μm,22.0s								
PVAQ	**Vaqueiros**	**151.36**	**342**	P	**PKiKP**	**23**	**24**	**10.4**	**+0.3**
ROSB	**Rosrio**	**151.44**	**116**	*e*P	**PKPbc**	**23**	**24**	**09.0**	**-1.5**
PTEO	**Sao Teotonio**	**151.53**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**05.1**	**+1.3**
PTEO	**Sao Teotonio**	**151.53**	**343**	*e*PKPbc	**PKiKP**	**23**	**24**	**11.0**	**+0.6**
SFS	**San Fernando**	**151.70**	**338**	P	**PKiKP**	**23**	**24**	**14.2**	**+3.4**
MORF	**Marmelete**	**151.73**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**04.9**	**+0.6**
MORF				IAMs_20	IAMs_20	00	36	55.5	
	comp=Z,15μm,21.7s								
MORF	**Marmelete**	**151.73**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**04.6**	**+0.4**
MORF	**Marmelete**	**151.73**	**343**	*e*PKPbc	**PKiKP**	**23**	**24**	**11.7**	**+0.8**
MORF	**Marmelete**	**151.73**	**343**	*e*PKIKP	**PKPdf**	**23**	**24**	**04.8**	**+0.6**
PFVI	**Vila Bisbo**	**151.94**	**343**	*e*PKPdf	**PKPdf**	**23**	**24**	**04.2**	**-0.3**
PFVI	**Vila Bisbo**	**151.94**	**343**	*e*PKPbc	**PKiKP**	**23**	**24**	**12.0**	**+0.7**
PFVI	**Vila Bisbo**	**151.94**	**343**	*e*PP	**PP**	**23**	**27**	**51.4**	**+0.7**
PFVI	**Vila Bisbo**	**151.94**	**343**		**PKPbc**	**23**	**24**	**08.5**	**-2.5**
PFVI				pPKPdf	**pPKPdf**	**23**	**24**	**15.1**	**-2.9**
PFVI	**Vila Bisbo**	**151.94**	**343**	P	**PKiKP**	**23**	**24**	**12.6**	**+1.3**
PSET	**Sete Cidades**	**151.98**	**12**	*e*PKP	**PKiKP**	**23**	**24**	**12.8**	**+1.4**
PDA	**Ponta Delgada**	**152.06**	**12**	*e*PKP	**PKiKP**	**23**	**24**	**13.8**	**+2.3**
CMLA	**Cha da Macela**	**152.07**	**12**	*e*PKP	**PKiKP**	**23**	**24**	**14.4**	**+2.8**
CMLA	**Cha da Macela**	**152.07**	**12**	IAMs_20	IAMs_20	00	28	31.2	
	comp=Z,12μm,22.0s								
PGRON	**Lagoa das Cont**	**152.10**	**11**	*e*PKP	**PKiKP**	**23**	**24**	**13.8**	**+2.1**
BART	**Pico Bartolome**	**152.13**	**11**	*e*PKP	**PKiKP**	**23**	**24**	**12.6**	**+0.8**
CHEFC	**Chefchaouen**	**152.56**	**336**	P	**PKiKP**	**23**	**24**	**16.0**	**+3.2**
PSMA	**Santa Maria**	**152.90**	**11**	*e*PKP	**PKPbc**	**23**	**24**	**10.2**	**-2.9**
PSMN	**Pico do Norte,**	**152.90**	**11**	*e*PKP	**PKPbc**	**23**	**24**	**10.4**	**-2.7**
FIGM	**Figuig**	**153.04**	**326**	P	**PKiKP**	**23**	**24**	**17.0**	**+3.0**
MDT	**Midelt**	**154.20**	**332**	PKP	**PKPdf**	**23**	**24**	**06.6**	**-1.4**
	comp=Z,3.2nm,1.0s,baz=292,slow=11,SNR=2.3								
MDT				PKPbc	**PKPbc**	**23**	**24**	**15.6**	**-0.7**
	comp=Z,13nm,0.9s,baz=40,slow=2.2,SNR=9.8								
MDT				PP	**PP**	**23**	**28**	**04.2**	**+0.3**
	comp=Z,11nm,0.9s,baz=78,slow=4.9,SNR=3.8								
MDT	**Midelt**	**154.20**	**332**	P	**PKPab**	**23**	**24**	**32.8**	**+2.9**
AVE	**Averroes**	**154.97**	**337**	IAMs_20	IAMs_20	00	40	25.6	
	comp=Z,11μm,19.0s								
GOLM	**Goulmima**	**155.28**	**331**	P	**PKPab**	**23**	**24**	**41.0**	**+6.3**
RCBR	**Riaclolo**	**156.47**	**133**	IAMs_20	IAMs_20	00	33	43.1	
	comp=Z,9μm,20.0s								
OUZM	**OUZ**	**156.78**	**333**	P	**PKPab**	**23**	**24**	**45.0**	**+3.9**
OUK	**Oukaimeden**	**156.99**	**336**	P	**PKPab**	**23**	**24**	**46.0**	**+3.7**
PMPST	**Porto Santo, M**	**157.33**	**355**	*e*PKPdf	**PKPdf**	**23**	**24**	**12.2**	**+0.1**
PMPST	**Porto Santo, M**	**157.33**	**355**	*e*PP	**PP**	**23**	**28**	**20.6**	**-0.1**
PMOZ	**Porto Moniz, M**	**157.65**	**357**	*e*PP	**PP**	**23**	**28**	**24.4**	**+1.8**
PMOZ	**Porto Moniz, M**	**157.65**	**357**	*e*LR	LR	00	18	06.3	
	comp=Z,8μm,20.0s								
PMAR	**Madeira**	**157.73**	**356**	*e*PP	**PP**	**23**	**28**	**23.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**159.86**	**280**	PKP	**PKPdf**	**23**	**24**	**14.5**	**-1.1**
	comp=Z,8.0nm,0.6s,baz=236,slow=6.6,SNR=7.4								
TORD				PKPab	**PKPab**	**23**	**24**	**53.9**	**-1.0**
	comp=Z,19nm,0.8s,baz=78,slow=4.2,SNR=4.9								
TORD				PP	**PP**	**23**	**28**	**37.7**	**+0.7**
	comp=Z,13nm,0.4s,baz=85,slow=1.6,SNR=1.7								
TORD	**Torodi Ar. Bea**	**159.86**	**280**		**PKPdf**	**23**	**24**	**14.5**	**-1.1**
TORD				PKPab	**PKPab**	**23**	**24**	**56.9**	**+2.1**
DBIC	**Dimbokro**	**165.83**	**256**	PKP	**PKPdf**	**23**	**24**	**20.1**	**-1.3**
	comp=Z,20nm,1.0s,baz=90,slow=1.6,SNR=14								
DBIC				PKPab	**PKPab**	**23**	**25**	**19.3**	**-1.8**
	comp=Z,20nm,1.0s,baz=19,slow=0.8,SNR=2.3								
DBIC				PP	**PP**	**23**	**29**	**09.1**	**+0.6**
	comp=Z,52nm,1.3s,baz=108,slow=6.7,SNR=6.1								
DBIC	**Dimbokro**	**165.83**	**256**	PKPab	**PKPab**	**23**	**25**	**20.8**	**-0.3**
DBIC	**Dimbokro**	**165.83**	**256**	⇓PKIKP	**PKPdf**	**23**	**24**	**22.0**	**+0.6**
BBTS	**Babate**	**175.28**	**334**	PKP	**PKPdf**	**23**	**24**	**25.2**	**-1.2**
	comp=Z,68nm,0.9s,baz=162,slow=23,SNR=6.4								

ROM 19 23:07:18.2±0.1, 42°509N±0′004×13°296E±0′006, h10km, ML2.1/19, 5C-4D, Error ellipse: s-maj=0.5km s-min=0.3km az=74.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.07**	**179**	P		P	Pg	23 07 21.0	+0.5
T1247				S		S	Sg	23 07 22.6	+0.5
CAMP	**Campotosto**	**0.09**	**72**	P		P	Pg	23 07 21.2	+0.4
CAMP				S		S	Sg	23 07 23.0	+0.4
AQU	**L'Aquila**	**0.17**	**153**	⇓P		P	Pb	23

ASAR	**Alice Springs**	**50.02**	**253**	P	**P**	**23**	**16**	**23.9 -2.0**
	8.9nm,0.5s,baz=88,slow=8.1,SNR=3.5							
	8.9nm,0.5s							
MJAR	**Matsushiro Arr**	**69.67**	**320**	P	**P**	**23**	**18**	**40.4 +0.1**
	1.4nm,0.5s,baz=146,slow=5.7,SNR=2.1							
	1.4nm,0.5s							
ASAJ	**Asahikawa**	**72.32**	**328**	P	**P**	**23**	**18**	**58.0 +1.9**
	26nm,0.9s,baz=179,slow=3.1,SNR=7.3							
	26nm,0.9s							
PETK	**Petropavlovsk-**	**73.46**	**342**	P	**P**	**23**	**19**	**04.3 +1.7**
	12nm,0.8s,baz=159,slow=9.3,SNR=4.7							
	12nm,0.8s							
ILAR	**Eielson Array**	**83.21**	**11**	P	**P**	**23**	**19**	**58.1 +2.0**
	14nm,1.1s,baz=226,slow=5.1,SNR=2.2							
	14nm,1.1s							
BRTR	**Keskin Array B**	**146.89**	**320**	PKPbc	**PKiKP**	**23**	**27**	**14.7 -0.4**
	6.5nm,0.8s,baz=80,slow=2.5,SNR=11							
MMAI	**Mount Meron Ar**	**149.21**	**308**	PKPbc	**PKPab**	**23**	**27**	**21.0 -2.5**
	4.7nm,0.6s,baz=64,slow=3.4,SNR=6.2							

ROM 19 23:08:11.5±0.1, 42°.592N±0°.004×13°.312E±0°.007, h8km, ML2.6/27, 16C-7D, Error ellipse: s-maj=0.6km s-min=0.3km az=60.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.09**	**128**	P	Pg	23 08 14.3	+0.4
CAMP				S	Sg	23 08 15.9	+0.4
CAMP				AML	AML		
	comp=E,21050μm,0.2s						
CAMP				AML	AML		
	comp=N,18000μm,0.3s						
CAMP				AML	AML		
	comp=E,21086μm,0.2s						
CAMP				AML	AML		
	comp=N,17986μm,0.3s						
T1202	**Accumoli, Fraz**	**0.13**	**330**	⇑P	Pg	23 08 15.3	+0.8
T1202				S	Sg	23 08 16.6	+0.1
T1202				AML	AML		
	comp=E,37300μm,0.9s						
T1202				AML	AML		
	comp=N,30850μm,0.3s						
T1202				AML	AML		
	comp=N,30850μm,1.7s						
T1202				AML	AML		
	comp=E,37250μm,0.9s						
T1202				AML	AML		
	comp=N,20923μm,0.2s						
T1202				AML	AML		
	comp=E,34445μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.15**	**184**	⇓P	Pg	23 08 15.7	+0.9
T1247				S	Sg	23 08 19.2	+2.2
T1247				AML	AML		
	comp=E,8375μm,0.3s						
T1247				AML	AML		
	comp=N,7385μm,0.6s						
T1247				AML	AML		
	comp=E,8374μm,0.3s						
T1247				AML	AML		
	comp=N,7297μm,0.3s						
LNSS	**Leonessa**	**0.20**	**273**	⇑P	Pg	23 08 16.5	+0.9
LNSS				AML	AML		
	comp=N,3070μm,0.4s						
LNSS				AML	AML		
	comp=N,3070μm,1.6s						
LNSS				AML	AML		
	comp=E,4785μm,0.6s						
LNSS				AML	AML		
	comp=N,3067μm,0.4s						
LNSS				AML	AML		
	comp=E,4785μm,0.6s						
GIGS	**Gran Sasso**	**0.24**	**127**	P	Pg	23 08 16.7	+0.4
GIGS				S	Sg	23 08 20.4	+0.9
GIGS				AML	AML		
	comp=E,1260μm,0.9s						
GIGS				AML	AML		
	comp=N,1210μm,0.5s						
GIGS				AML	AML		
	comp=N,1118μm,0.3s						
GIGS				AML	AML		
	comp=E,1241μm,0.3s						
AQU	**L'Aquila**	**0.25**	**164**	⇓P	Pg	23 08 17.2	+0.7
AQU				AML	AML		
	comp=E,2570μm,0.5s						
AQU				AML	AML		
	comp=N,2560μm,0.4s						
AQU				AML	AML		
	comp=E,2515μm,0.5s						
AQU				AML	AML		
	comp=N,2550μm,0.8s						
NRCA	**Norcia**	**0.28**	**329**	⇑P	Pg	23 08 17.8	+0.6
NRCA				AML	AML		
	comp=E,3405μm,0.2s						
NRCA				AML	AML		
	comp=N,3035μm,0.1s						
NRCA				AML	AML		
	comp=E,3405μm,0.1s						
FIAM	**Fiamignano**	**0.35**	**204**	⇑P	Pg	23 08 19.1	+0.6
FIAM				S	Sb	23 08 25.9	0.0
FIAM				AML	AML		
	comp=N,1225μm,0.6s						
FIAM				AML	AML		
	comp=E,1090μm,0.5s						
FIAM				AML	AML		
	comp=E,1090μm,0.5s						
FIAM				AML	AML		
	comp=N,873μm,0.7s						
FAGN	**Fagnano**	**0.38**	**148**	P	Pb	23 08 20.1	-0.5
FAGN				S	Sb	23 08 27.7	+1.0
FAGN				AML	AML		
	comp=E,3915μm,0.4s						
FAGN				AML	AML		
	comp=N,3845μm,1.5s						
FAGN				AML	AML		
	comp=N,3845μm,0.5s						
FAGN				AML	AML		
	comp=E,2921μm,0.3s						
FAGN				AML	AML		
	comp=N,3405μm,0.4s						
T1215	**Vallo di Nera,**	**0.39**	**303**	⇑P	Pg	23 08 19.5	+0.3
T1215				S	Sb	23 08 26.1	-0.8
T1215				AML	AML		
	comp=N,716μm,1.1s						
T1215				AML	AML		
	comp=E,673μm,0.4s						
T1215				AML	AML		
	comp=N,705μm,1.1s						
T1215				AML	AML		
	comp=N,716μm,1.2s						
T1215				AML	AML		
	comp=N,705μm,1.2s						
T1215				AML	AML		
	comp=E,624μm,0.5s						
T1215				AML	AML		
	comp=E,624μm,0.5s						
T1215				AML	AML		
	comp=N,689μm,0.4s						
T1215				AML	AML		
	comp=E,673μm,0.5s						
T1215				AML	AML		
	comp=N,695μm,0.4s						
ARRO	**Arrone**	**0.40**	**268**	P	Pg	23 08 20.1	+0.7
ARRO				S	Sb	23 08 26.6	-0.7
ARRO				AML	AML		
	comp=N,739μm,0.7s						
ARRO				AML	AML		
	comp=E,572μm,1.2s						
ARRO				AML	AML		
	comp=N,620μm,0.3s						
ARRO				AML	AML		
	comp=E,293μm,0.2s						
OFFI	**Offida**	**0.44**	**39**	P	Pb	23 08 21.1	-0.5
OFFI				S	Sb	23 08 29.4	+1.1
OFFI				AML	AML		
	comp=N,5685μm,0.3s						
OFFI				AML	AML		
	comp=N,5685μm,1.7s						
OFFI				AML	AML		
	comp=E,5190μm,0.3s						
OFFI				AML	AML		
	comp=N,5682μm,0.3s						
OFFI				AML	AML		
	comp=E,5192μm,0.3s						
GUMA	**Gualdo di Mace**	**0.47**	**2**	⇓P	Pg	23 08 21.3	+0.6
GUMA				S	Sb	23 08 29.3	+0.1
GUMA				AML	AML		
	comp=E,1875μm,1.6s						
GUMA				AML	AML		
	comp=N,1900μm,0.4s						
GUMA				AML	AML		
	comp=E,2375μm,0.4s						
GUMA				AML	AML		
	comp=N,1895μm,0.4s						
GUMA				AML	AML		
	comp=E,1875μm,0.4s						
GUMA				AML	AML		
	comp=N,1513μm,0.3s						
GUMA				AML	AML		
	comp=E,1642μm,0.5s						
GUMA				AML	AML		
	comp=E,2011μm,0.3s						
GUMA				AML	AML		
	comp=N,1281μm,0.3s						
TRTR	**Tortoreto Alta**	**0.49**	**64**	⇓P	Pb	23 08 22.5	+0.1
CESI	**CESI - Serrava**	**0.51**	**324**	⇑P	Pg	23 08 21.7	+0.3
CESI				S	Sb	23 08 30.2	-0.2
CESI				AML	AML		
	comp=N,1315μm,0.5s						
CESI				AML	AML		
	comp=N,1315μm,1.5s						
CESI				AML	AML		
	comp=E,679μm,0.5s						
CESI				AML	AML		
	comp=N,1316μm,0.5s						
CESI				AML	AML		
	comp=E,679μm,0.6s						
CESX	**Cesi**	**0.54**	**272**	⇑P	Pg	23 08 22.1	+0.1
CESX				S	Sb	23 08 30.8	-0.4
CESX				AML	AML		
	comp=N,544μm,1.6s						
CESX				AML	AML		
	comp=N,544μm,0.4s						
CESX				AML	AML		
	comp=E,493μm,0.5s						
CESX				AML	AML		
	comp=E,477μm,0.4s						
CESX				AML	AML		
	comp=N,453μm,0.4s						
T1220	**Camerino, Fraz**	**0.54**	**343**	⇑P	Pg	23 08 22.3	+0.2
T1220				AML	AML		
	comp=E,3380μm,0.4s						
T1220				AML	AML		
	comp=N,3105μm,0.3s						
T1220				AML	AML		
	comp=E,3345μm,0.4s						
T1220				AML	AML		
	comp=N,3120μm,0.3s						
T1220				AML	AML		
	comp=E,3350μm,0.4s						
T1220				AML	AML		
	comp=N,3105μm,0.3s						
T1220				AML	AML		
	comp=E,3380μm,1.6s						
T1220				AML	AML		
	comp=E,3350μm,1.6s						
T1220				AML	AML		
	comp=N,3120μm,0.4s						
PTQR	**Pietraquaria**	**0.57**	**173**	⇑P	Pg	23 08 23.1	+0.4
PTQR				AML	AML		
	comp=E,218μm,1.0s						
PTQR				AML	AML		
	comp=N,218μm,0.6s						
PTQR				AML	AML		
	comp=E,194μm,0.3s						
MOMA	**Monte Martano**	**0.59**	**291**	⇑P	Pg	23 08 23.1	+0.2
MOMA				AML	AML		
	comp=E,204μm,1.4s						
MOMA				AML	AML		
	comp=N,174μm,1.2s						
MOMA				AML	AML		
	comp=N,174μm,0.8s						
MOMA				AML	AML		
	comp=E,204μm,0.6s						
ASSB	**Assisi San Ben**	**0.66**	**313**	P	Pg	23 08 24.4	+0.2
ASSB				AML	AML		
	comp=E,534μm,0.5s						
ASSB				AML	AML		
	comp=N,580μm,0.3s						
ASSB				AML	AML		
	comp=E,534μm,1.5s						
ASSB				AML	AML		
	comp=E,534μm,0.5s						
ASSB				AML	AML		
	comp=N,580μm,0.3s						
SNTG	**Esanatoglia**	**0.72**	**338**	P	Pg	23 08 25.2	-0.1
SNTG				AML	AML		
	comp=E,228μm,1.5s						
SNTG				AML	AML		
	comp=E,228μm,0.5s						
SNTG				AML	AML		
	comp=N,270μm,0.3s						
SNTG				AML	AML		
	comp=N,270μm,0.3s						
SNTG				AML	AML		
	comp=E,206μm,0.6s						
EL6	**Elcito**	**0.75**	**348**	⇓P	Pg	23 08 26.0	0.0
EL6				S	Sn	23 08 39.3	-0.9
EL6				AML	AML		
	comp=E,738μm,0.4s						
EL6				AML	AML		
	comp=N,716μm,1.6s						
EL6				AML	AML		
	comp=E,738μm,0.4s						
EL6				AML	AML		
	comp=N,716μm,0.4s						
EL6				AML	AML		
	comp=N,702μm,0.4s						
EL6				AML	AML		
	comp=E,737μm,0.4s						
CING	**Cingoli**	**0.79**	**354**	⇓P	Pg	23 08 26.8	+0.1
CING				AML	AML		
	comp=N,333μm,0.6s						
CING				AML	AML		
	comp=E,545μm,0.5s						
CING				AML	AML		
	comp=N,333μm,1.4s						
FOSV	**Fossato di Vic**	**0.81**	**330**	⇓P	Pg	23 08 27.0	-0.1
FOSV				AML	AML		
	comp=E,236μm,1.3s						
FOSV				AML	AML		
	comp=N,295μm,0.8s						
FOSV				AML	AML		
	comp=E,236μm,0.7s						
FOSV				AML	AML		
	comp=N,278μm,0.4s						
LPEL	**Lama dei Pelig**	**0.85**	**130**	⇑P	Pg	23 08 27.2	-0.6
LPEL				S	Sb	23 08 39.8	-0.2
LPEL				AML	AML		
	comp=E,525μm,0.6s						
LPEL				AML	AML		
	comp=N,375μm,1.2s						
LPEL				AML	AML		
	comp=N,370μm,0.4s						
LPEL				AML	AML		
	comp=E,452μm,0.3s						
MGAB	**Montegabbione**	**0.94**	**290**	⇑P	Pb	23 08 30.1	0.0
MGAB				AML	AML		
	comp=N,511μm,0.4s						
MGAB				AML	AML		
	comp=E,619μm,0.5s						
MGAB				AML	AML		
	comp=N,512μm,0.4s						
MGAB				AML	AML		
	comp=E,654μm,0.5s						
MGAB				AML	AML		
	comp=N,550μm,0.4s						
MGAB				AML	AML		
	comp=N,550μm,0.4s						
MGAB				AML	AML		
	comp=N,511μm,0.4s						
ARVD	**Arcevia**	**0.94**	**343**	⇑P	Pg	23 08 29.4	-0.3
ARVD				S	Sn	23 08 44.7	-0.1
ARVD				AML	AML		
	comp=E,207μm,0.6s						
ARVD				AML	AML		
	comp=N,169μm,1.0s						
ARVD				AML	AML		
	comp=E,207μm,1.4s						
ARVD				AML	AML		
	comp=N,169μm,1.0s						
SACS	**San Casciano d**	**1.06**	**284**	⇑P	Pn	23 08 33.5	+0.7
LIK	**San Giovanni I**	**1.10**	**170**	S	Sg	23 08 45.5	-1.5
PIEI	**Pieia**	**1.10**	**329**	⇑P	Pn	23 08 33.4	+0.1
MPAG	**Monte Paganucc**	**1.11**	**339**	⇑P	Pg	23 08 32.8	-0.1
MPAG				AML	AML		
	comp=N,232μm,0.6s						
MPAG				AML	AML		
	comp=E,187μm,0.7s						
MPAG				AML	AML		
	comp=N,232μm,1.4s						
MYKA	**Terra Mystica**	**4.04**	**3**	*e*Pn	Pn	23 09 16.7	+2.9
	comp=N,1.0nm,0.3s						
ABTA	**Abfaltersbach**	**4.19**	**352**	*e*Pn	Pn	23 09 17.9	+2.1
	comp=N,2.5nm,0.5s						
KBA	**Koelnbreinsper**	**4.49**	**0**	*e*Pn	Pn	23 09 22.7	+2.7
	comp=N,1.2nm,0.5s						
SQTA	**Sankt Quirin**	**4.86**	**343**	*i* Pn	Pn	23 09 28.9	+3.8
	comp=N,0.5nm,0.2s						

ROM 19 23:11:20.2±0.1, 42°.612N±0°.004×13°.329E±0°.007, h8km, ML2.0/10, 3D, Error ellipse: s-maj=0.6km s-min=0.3km az=236.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.10**	**142**	P	Pg	23 11 23.2	+0.5
CAMP				S	Sg	23 11 25.0	+0.6
CAMP				AML	AML		
	comp=N,716μm,0.6s						
CAMP				AML	AML		
	comp=E,791μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.17**	**188**	P	Pg	23 11 24.6	+0.8
T1247				S	Sg	23 11 27.9	+1.6
T1247				AML	AML		
	comp=E,1129μm,0.3s						
T1247				AML	AML		
	comp=N,1275μm,0.2s						
LNSS	**Leonessa**	**0.21**	**268**	P	Pg	23 11 25.2	+0.6
LNSS				S	Sg	23 11 29.2	+1.6
LNSS				AML	AML		
	comp=E,514μm,0.3s						
LNSS				AML	AML		
	comp=N,476μm,0.7s						
LNSS				AML	AML		
	comp=N,476μm,1.3s						
GIGS	**Gran Sasso**	**0.24**	**132**	P	Pg	23 11 25.6	+0.5
GIGS				S	Sg	23 11 29.2	+0.8
GIGS				AML	AML		
	comp=E,114μm,0.2s						
GIGS				AML	AML		
	comp=N,125μm,1.2s						
FIAM	**Fiamignano**	**0.38**	**205**	P	Pg	23 11 28.1	+0.4
FIAM				S	Sb	23 11 34.2	-1.0
T1215	**Vallo di Nera,**	**0.39**	**299**	P	Pg	23 11 28.1	+0.2
T1215				S	Sb	23 11 34.3	-1.2
FAGN	**Fagnano**	**0.39**	**151**	P	Pb	23 11 28.9	-0.5
FAGN				S	Sb	23 11 35.5	-0.1
FAGN				AML	AML		
	comp=N,316μm,0.4s						
FAGN				AML	AML		
	comp=E,458μm,0.3s						
FAGN				AML	AML		
	comp=N,316μm,1.6s						
GUMA	**Gualdo di Mace**	**0.45**	**1**	P	Pg	23 11 29.7	+0.7
GUMA				S	Sb	23 11 37.2	-0.1
GUMA				AML	AML		
	comp=E,396μm,0.5s						
GUMA				AML	AML		
	comp=N,519μm,0.6s						
GUMA				AML	AML		
	comp=E,427μm,0.8s						
GUMA				AML	AML		
	comp=N,469μm,1.3s						
GUMA				AML	AML		
	comp=E,396μm,1.5s						
GUMA				AML	AML		
	comp=E,427μm,1.2s						
GUMA				AML	AML		
	comp=N,469μm,0.7s						
FDMO	**Fiordimonte**	**0.46**	**337**	P	Pg	23 11 29.5	+0.3
FDMO				S	Sb	23 11 37.0	-0.6
FDMO				AML	AML		
	comp=E,102μm,0.2s						
FDMO				AML	AML		
	comp=N,112μm,1.5s						
FDMO				AML	AML		
	comp=N,112μm,0.5s						
CESI	**CESI - Serrava**	**0.50**	**322**	P	Pg	23 11 30.3	+0.4
CESI				S	Sb	23 11 38.0	-0.8
CESI				AML	AML		
	comp=E,96μm,1.4s						
CESI				AML	AML		
	comp=N,162μm,0.5s						
CESI				AML	AML		
	comp=N,162μm,1.5s						
CESI				AML	AML		
	comp=E,96μm,0.6s						
T1220	**Camerino, Fraz**	**0.53**	**341**	P	Pg	23 11 30.6	+0.2
T1220				S	Sb	23 11 39.0	-0.5
T1220				AML	AML		
	comp=E,440μm,1.6s						
T1220				AML	AML		
	comp=E,430μm,1.6s						
T1220				AML	AML		
	comp=N,392μm,0.2s						
T1220				AML	AML		
	comp=N,388μm,0.2s						
T1220				AML	AML		
	comp=E,430μm,0.4s						
T1220				AML	AML		
	comp=E,440μm,0.4s						
CESX	**Cesi**	**0.55**	**270**	P	Pg	23 11 31.2	+0.3
CESX				S	Sb	23 11 39.6	-0.6
CESX				AML	AML		
	comp=E,76μm,1.6s						
CESX				AML	AML		
	comp=N,100μm,1.5s						
CESX				AML	AML		
	comp=E,76μm,1.6s						
CESX				AML	AML		
	comp=N,100μm,0.5s						
SNTG	**Esanatoglia**	**0.70**	**336**	P	Pg	23 11 33.9	+0.1
SNTG				S	Sb	23 11 44.8	+0.3
SRES	**S.Oreste - Sor**	**0.71**	**239**	P	Pg	23 11 34.1	+0.1
MTCE	**Montecelio**	**0.73**	**217**	⇓P	Pn	23 11 36.8	0.0
EL6	**Elcito**	**0.74**	**347**	S	Sb	23 11 46.5	+0.9
CING	**Cingoli**	**0.77**	**353**	⇓P	Pg	23 11 35.1	+0.1
ARVD	**Arcevia**	**0.93**	**342**	S	Sn	23 11 52.9	-0.2
MGAB	**Montegabbione**	**0.94**	**289**	⇓P	Pn	23 11 40.7	+0.9
MA9	**Marino**	**0.98**	**211**	S	Sg	23 11 51.9	+0.2

ROM 19 23:12:01.3±0.1, 42°.581N±0°.006×13°.306E±0°.009, h9km, ML2.6/33, Error ellipse: s-maj=0.9km s-min=0.3km az=43.0

ISC 19 23:12:02.1±0.9, 42°.58N±0°.02×13°.30E±0°.02, h9km±6km, n48, σ1826/58, 16C-15D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.09**	**116**	P	**Pg**	**23 12 04.2**	**-0.3**
CAMP				S	**Sg**	**23 12 05.9**	**-0.4**
CAMP				AML	AML		
	comp=E,8770μm,0.6s						
CAMP				AML	AML		
	comp=N,5990μm,0.3s						
CAMP				AML	AML		
	comp=E,8710μm,0.2s						
CAMP				AML	AML		
	comp=N,5991μm,0.3s						
T1202	**Accumoli, Fraz**	**0.14**	**337**	P	**Pg**	**23 12 05.2**	**-0.1**
T1202				S	**Sg**	**23 12 07.4**	**-0.1**
T1202				AML	AML		
	comp=E,19650μm,1.6s						
T1202				AML	AML		
	comp=N,22950μm,0.2s						
T1202				AML	AML		
	comp=N,22900μm,0.2s						
T1202				AML	AML		
	comp=E,19600μm,1.6s						
T1202				AML	AML		
	comp=E,19600μm,0.4s						
T1202				AML	AML		
	comp=N,22900μm,1.8s						
T1202				AML	AML		
	comp=N,22904μm,0.2s						
T1202				AML	AML		
	comp=E,17315μm,0.3s						

LNSS	**Leonessa**	**0.19**	**278**	⇑P	**Pg**	**23 12 06.3**	**+0.1**
LNSS				S	**Sg**	**23 12 09.7**	**+0.8**
LNSS				AML	AML		
	comp=E,5420µm,1.6s						
LNSS				AML	AML		
	comp=N,4550µm,1.3s						
LNSS				AML	AML		
	comp=N,4237µm,0.2s						
LNSS				AML	AML		
	comp=E,4295µm,0.2s						
AQU	**L'Aquila**	**0.23**	**161**	⇑P	**Pg**	**23 12 07.0**	**+0.2**
AQU				AML	AML		
	comp=N,1825µm,0.8s						
AQU				AML	AML		
	comp=N,1810µm,0.8s						
AQU				AML	AML		
	comp=E,1945µm,0.7s						
AQU				AML	AML		
	comp=N,1830µm,0.8s						
AQU				AML	AML		
	comp=E,2005µm,1.3s						
AQU				AML	AML		
	comp=E,1945µm,1.3s						
GIGS	**Gran Sasso**	**0.23**	**122**	P	**Pg**	**23 12 06.6**	**-0.3**
GIGS				S	**Sg**	**23 12 10.2**	**+0.1**
GIGS				AML	AML		
	comp=E,704µm,0.4s						
GIGS				AML	AML		
	comp=N,442µm,0.2s						
GIGS				AML	AML		
	comp=N,442µm,1.8s						
GIGS				AML	AML		
	comp=N,442µm,0.2s						
GIGS				AML	AML		
	comp=E,704µm,0.4s						
NRCA	**Norcia**	**0.29**	**332**	⇓P	**Pg**	**23 12 07.7**	**-0.3**
NRCA				S	**Sg**	**23 12 12.2**	**+0.2**
NRCA				AML	AML		
	comp=E,5755µm,0.5s						
NRCA				AML	AML		
	comp=N,4450µm,0.2s						
NRCA				AML	AML		
	comp=E,5755µm,0.5s						
FIAM	**Fiamignano**	**0.34**	**204**	⇑P	**Pg**	**23 12 08.8**	**0.0**
FIAM				AML	AML		
	comp=N,546µm,0.9s						
FIAM				AML	AML		
	comp=E,792µm,0.5s						
FIAM				AML	AML		
	comp=E,792µm,0.5s						
FIAM				AML	AML		
	comp=E,792µm,1.5s						
FIAM				AML	AML		
	comp=N,546µm,1.1s						
FIAM				AML	AML		
	comp=E,792µm,0.5s						
FAGN	**Fagnano**	**0.37**	**146**	⇓P	**Pg**	**23 12 09.4**	**-0.1**
FAGN				AML	AML		
	comp=E,3290µm,0.4s						
FAGN				AML	AML		
	comp=N,2210µm,0.3s						
FAGN				AML	AML		
	comp=E,3286µm,0.4s						
FAGN				AML	AML		
	comp=N,2212µm,0.3s						
T1215	**Vallo di Nera,**	**0.39**	**306**	P	**Pg**	**23 12 09.4**	**-0.4**
T1215				S	**Sg**	**23 12 15.5**	**+0.6**
T1215				AML	AML		
	comp=E,719µm,0.3s						
T1215				AML	AML		
	comp=N,702µm,0.1s						
T1215				AML	AML		
	comp=E,676µm,1.3s						
T1215				AML	AML		
	comp=N,762µm,0.9s						
T1215				AML	AML		
	comp=E,719µm,0.4s						
T1215				AML	AML		
	comp=E,676µm,1.3s						
T1215				AML	AML		
	comp=N,702µm,0.1s						
T1215				AML	AML		
	comp=E,676µm,0.7s						
T1215				AML	AML		
	comp=N,762µm,0.9s						
T1215				AML	AML		
	comp=E,628µm,0.1s						
T1215				AML	AML		
	comp=N,735µm,0.1s						
T1215				AML	AML		
	comp=E,607µm,0.1s						
T1215				AML	AML		
	comp=N,703µm,0.1s						
ARRO	**Arrone**	**0.40**	**271**	⇑P	**Pg**	**23 12 09.7**	**-0.2**
ARRO				AML	AML		
	comp=E,914µm,0.8s						
ARRO				AML	AML		
	comp=N,1055µm,0.9s						
ARRO				AML	AML		
	comp=E,914µm,1.2s						
ARRO				AML	AML		
	comp=N,796µm,0.2s						
ARRO				AML	AML		
	comp=E,726µm,0.1s						
FEMA	**Monte Fema**	**0.43**	**335**	P	**Pg**	**23 12 10.0**	**-0.5**
FEMA				AML	AML		
	comp=E,1610µm,0.2s						
FEMA				AML	AML		
	comp=N,1491µm,0.3s						
OFFI	**Offida**	**0.46**	**38**	⇑P	**Pb**	**23 12 11.2**	**-1.2**
OFFI				AML	AML		
	comp=E,2730µm,0.6s						
OFFI				AML	AML		
	comp=N,2725µm,0.5s						
OFFI				AML	AML		
	comp=N,2726µm,0.5s						
OFFI				AML	AML		
	comp=E,2729µm,0.6s						
FDMO	**Fiordimonte**	**0.49**	**341**	⇑P	**Pg**	**23 12 10.9**	**-0.7**
FDMO				AML	AML		
	comp=N,936µm,0.3s						
FDMO				AML	AML		
	comp=E,899µm,0.7s						
FDMO				AML	AML		
	comp=E,863µm,0.1s						
FDMO				AML	AML		
	comp=N,936µm,0.3s						
GUMA	**Gualdo di Mace**	**0.49**	**3**	⇑P	**Pg**	**23 12 11.2**	**-0.4**
GUMA				AML	AML		
	comp=E,2410µm,0.3s						
GUMA				AML	AML		
	comp=E,3505µm,0.2s						
GUMA				AML	AML		
	comp=N,3820µm,0.4s						
GUMA				AML	AML		
	comp=E,2410µm,0.3s						
GUMA				AML	AML		
	comp=N,3720µm,0.4s						
GUMA				AML	AML		
	comp=N,3818µm,0.4s						
GUMA				AML	AML		
	comp=E,2406µm,0.3s						
GUMA				AML	AML		
	comp=E,3507µm,0.2s						
GUMA				AML	AML		
	comp=N,3721µm,0.4s						
TRTR	**Tortoreto Alta**	**0.51**	**63**	⇑P	**Pb**	**23 12 12.5**	**-0.7**
TRTR				AML	AML		
	comp=N,1965µm,0.2s						
TRTR				AML	AML		
	comp=E,2235µm,0.4s						
TRTR				AML	AML		
	comp=N,1968µm,0.2s						
CESI	**CESI - Serrava**	**0.52**	**326**	⇓P	**Pg**	**23 12 11.6**	**-0.6**
CESI				AML	AML		
	comp=E,542µm,0.6s						
CESI				AML	AML		
	comp=N,820µm,0.4s						
CESI				AML	AML		
	comp=E,542µm,1.4s						
CESI				AML	AML		
	comp=E,282µm,0.1s						
CESI				AML	AML		
	comp=N,787µm,0.3s						
CESX	**Cesi**	**0.53**	**274**	⇓P	**Pg**	**23 12 12.0**	**-0.5**
CESX				AML	AML		
	comp=E,706µm,1.4s						
CESX				AML	AML		
	comp=N,957µm,1.4s						
CESX				AML	AML		
	comp=E,706µm,0.6s						
CESX				AML	AML		
	comp=N,957µm,0.6s						
CESX				AML	AML		
	comp=N,903µm,0.2s						
CESX				AML	AML		
	comp=E,689µm,0.2s						
T1220	**Camerino, Fraz**	**0.56**	**344**	⇑P	**Pg**	**23 12 11.8**	**-1.1**
T1220				AML	AML		
	comp=E,3775µm,0.3s						
T1220				AML	AML		
	comp=N,2765µm,0.4s						
T1220				AML	AML		
	comp=E,3780µm,0.3s						
T1220				AML	AML		
	comp=N,2795µm,0.4s						
T1220				AML	AML		
	comp=E,3820µm,0.3s						
T1220				AML	AML		
	comp=E,3779µm,0.3s						
T1220				AML	AML		
	comp=E,3818µm,0.3s						
PTQR	**Pietraquaria**	**0.56**	**172**	⇓P	**Pg**	**23 12 13.0**	**0.0**
PTQR				AML	AML		
	comp=E,229µm,0.3s						
PTQR				AML	AML		
	comp=N,175µm,1.2s						
PTQR				AML	AML		
	comp=E,229µm,1.7s						
PTQR				AML	AML		
	comp=N,175µm,0.8s						
PTQR				AML	AML		
	comp=N,167µm,0.3s						
PTQR				AML	AML		
	comp=E,229µm,0.3s						
ASSB	**Assisi San Ben**	**0.66**	**315**	⇑P	**Pg**	**23 12 14.4**	**-0.6**
ASSB				AML	AML		
	comp=N,467µm,0.5s						
ASSB				AML	AML		
	comp=E,544µm,0.6s						
ASSB				AML	AML		
	comp=E,530µm,0.2s						
SRES	**S.Oreste - Sor**	**0.68**	**240**	⇑P	**Pg**	**23 12 15.2**	**0.0**
SRES				S	**Sn**	**23 12 27.4**	**-1.2**
SRES				AML	AML		
	comp=N,274µm,0.5s						
SRES				AML	AML		
	comp=E,260µm,1.0s						
SRES				AML	AML		
	comp=E,260µm,1.0s						
SRES				AML	AML		
	comp=N,274µm,0.5s						
SRES				AML	AML		
	comp=E,246µm,0.4s						
MTCE	**Montecelio**	**0.69**	**217**	⇓P	**Pn**	**23 12 17.9**	**-0.2**
SNTG	**Esanatoglia**	**0.73**	**339**	P	**Pg**	**23 12 15.2**	**-1.0**
SNTG				S	**Sb**	**23 12 26.9**	**-0.2**
SNTG				AML	AML		
	comp=E,266µm,0.6s						
SNTG				AML	AML		
	comp=N,434µm,0.2s						
SNTG				AML	AML		
	comp=E,266µm,1.4s						
SNTG				AML	AML		
	comp=N,434µm,0.2s						
SNTG				AML	AML		
	comp=E,264µm,0.2s						
SNTG				AML	AML		
	comp=E,309µm,0.2s						
SNTG				AML	AML		
	comp=N,443µm,0.2s						
EL6	**Elcito**	**0.77**	**349**	⇓P	**Pg**	**23 12 16.0**	**-1.0**
EL6				AML	AML		
	comp=E,951µm,1.3s						
EL6				AML	AML		
	comp=N,884µm,0.8s						
EL6				AML	AML		
	comp=N,884µm,0.8s						
EL6				AML	AML		
	comp=E,951µm,0.7s						
EL6				AML	AML		
	comp=E,899µm,0.2s						
EL6				AML	AML		
	comp=N,842µm,0.2s						
CING	**Cingoli**	**0.80**	**355**	⇓P	**Pg**	**23 12 16.6**	**-1.0**
CING				AML	AML		
	comp=E,1372µm,0.3s						
CING				AML	AML		
	comp=N,788µm,0.1s						
CING				AML	AML		
	comp=E,1158µm,0.1s						
CING				AML	AML		
	comp=N,787µm,0.1s						
FOSV	**Fossato di Vic**	**0.82**	**331**	⇓P	**Pg**	**23 12 17.0**	**-0.9**
FOSV				AML	AML		
	comp=E,222µm,0.7s						
FOSV				AML	AML		
	comp=N,345µm,0.5s						
FOSV				AML	AML		
	comp=E,222µm,1.3s						
PP3	**Marolino**	**0.83**	**16**	⇑P	**Pb**	**23 12 18.3**	**-0.5**
PP3				AML	AML		
	comp=E,941µm,0.5s						
LPEL	**Lama dei Pelig**	**0.84**	**129**	⇑P	**Pg**	**23 12 17.4**	**-0.9**
LPEL				AML	AML		
	comp=N,326µm,1.6s						
LPEL				AML	AML		
	comp=E,324µm,1.0s						
LPEL				AML	AML		
	comp=N,326µm,0.4s						
LPEL				AML	AML		
	comp=E,282µm,0.2s						
LPEL				AML	AML		
	comp=N,258µm,0.1s						
MGAB	**Montegabbione**	**0.94**	**291**	⇓P	**Pb**	**23 12 19.9**	**-0.6**
MGAB				AML	AML		
	comp=N,588µm,0.5s						
MGAB				AML	AML		
	comp=E,498µm,1.2s						
MGAB				AML	AML		
	comp=N,514µm,0.5s						
MGAB				AML	AML		
	comp=E,454µm,0.3s						
MGAB				AML	AML		
	comp=E,465µm,0.5s						
MGAB				AML	AML		
	comp=N,499µm,0.3s						
MGAB				AML	AML		
	comp=N,448µm,0.3s						
SSFR	**Montelago di S**	**0.94**	**336**	P	**Pg**	**23 12 19.4**	**-0.8**
SSFR				AML	AML		
	comp=E,713µm,0.8s						
SSFR				AML	AML		
	comp=N,638µm,0.2s						
SSFR				AML	AML		
	comp=N,567µm,0.2s						
SSFR				AML	AML		
	comp=E,634µm,0.3s						
ARVD	**Arcevia**	**0.96**	**344**	⇑P	**Pg**	**23 12 19.6**	**-1.0**
ARVD				S	**Sn**	**23 12 34.7**	**-0.9**
ARVD				AML	AML		
	comp=N,208µm,1.1s						
ARVD				AML	AML		
	comp=E,215µm,0.8s						
ARVD				AML	AML		
	comp=N,208µm,0.9s						
ARVD				AML	AML		
	comp=E,173µm,0.3s						
AOI	**Ancona**	**1.00**	**13**	⇓P	**Pg**	**23 12 20.7**	**-0.6**
AOI				AML	AML		
	comp=N,369µm,1.0s						
GIUL	**Giuliano Di Ro**	**1.02**	**182**	⇓P	**Pn**	**23 12 23.3**	**+0.7**
SACS	**San Casciano d**	**1.06**	**285**	P	**Pn**	**23 12 23.2**	**-0.1**
SACS				AML	AML		
	comp=E,124µm,0.8s						
SACS				AML	AML		
	comp=N,160µm,1.0s						
SACS				AML	AML		
	comp=N,156µm,1.0s						
SACS				AML	AML		
	comp=N,160µm,1.0s						
SACS				AML	AML		
	comp=N,156µm,1.0s						
SACS				AML	AML		
	comp=E,121µm,1.2s						
SACS				AML	AML		
	comp=E,124µm,1.2s						
PIEI	**Pieia**	**1.11**	**330**	⇓P	**Pb**	**23 12 22.4**	**-1.1**
PIEI				AML	AML		
	comp=E,182µm,0.3s						
PIEI				AML	AML		
	comp=N,179µm,1.3s						
MPAG	**Monte Paganucc**	**1.13**	**340**	⇓P	**Pn**	**23 12 23.1**	**-1.0**
MPAG				AML	AML		
	comp=E,187µm,1.2s						
MPAG				AML	AML		
	comp=N,158µm,1.4s						
MPAG				AML	AML		
	comp=E,187µm,0.8s						
NARO	**Abbazia di Nar**	**1.16**	**333**	⇓P	**Pb**	**23 12 23.3**	**-1.1**
NARO				AML	AML		
	comp=N,120µm,1.3s						
NARO				AML	AML		
	comp=E,143µm,0.8s						
NARO				AML	AML		
	comp=N,120µm,0.7s						
CAFI	**Castiglion Fio**	**1.24**	**308**	⇑P	**Pg**	**23 12 26.6**	**+0.7**
PE3	**Peglio**	**1.27**	**333**	⇑P	**Pg**	**23 12 27.2**	**+0.8**
OBKA	**Obir**	**4.03**	**12**	*e*Pn	**Pn**	**23 13 05.3**	**+1.1**
	comp=N,0.8nm,0.3s						
ABTA	**Abfaltersbach**	**4.21**	**353**	*e*Pn	**Pn**	**23 13 08.1**	**+1.5**
	comp=N,3.8nm,0.4s						
KBA	**Koelnbreinsper**	**4.50**	**0**	*e*Pn	**Pn**	**23 13 13.5**	**+2.8**
	comp=N,0.8nm,0.3s						
KBA				*i* Sn	**Sn**	**23 14 02.4**	**-0.8**
	comp=N,2.0nm,0.4s						
WTTA	**Wattenberg**	**4.83**	**346**	*e*Pn	**Pn**	**23 13 17.1**	**+1.9**
	comp=N,0.2nm,0.2s						
WATA	**Walderalm**	**4.92**	**346**	*e*Pn	**Pn**	**23 13 19.9**	**+3.6**
	comp=N,0.7nm,0.2s						
BIOA	**Bad Ischl, Aus**	**5.12**	**3**	*e*Pn	**Pn**	**23 13 22.2**	**+3.2**
	comp=N,0.7nm,0.2s						
MOA	**Mollin**	**5.32**	**7**	*e*Pn	**Pn**	**23 13 25.1**	**+3.3**
	comp=N,0.2nm,0.2s						
RONA	**Rosalia, Austr**	**5.54**	**21**	*e*Pn	**Pn**	**23 13 27.9**	**+3.0**
	comp=N,0.2nm,0.1s						
CONA	**Conrad Observa**	**5.65**	**18**	*e*Pn	**Pn**	**23 13 28.5**	**+2.2**
	comp=N,0.7nm,0.3s						

*IDC **19** 23:17:20.0±5.7, 10°.43S×161°.30E, h69km±42km, mb3.6/4, mbtmp3.9/4, Error ellipse: s-maj=46.4km s-min=38.4km az=121.0*
*NEIC **19** 23:17:19.5±2.2, 10°.38S±0°.07×161°.4E±0°.1, h69km±7km, mb4.4/7, Error ellipse: s-maj=16.7km s-min=10.2km az=74.0*
ISC 19 23:17:18.8±0.9, 10°.5S±0°.1×161°.4E±0°.1, h61km, n18, σ1§42/20, mb4.2/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.71**	**306**	P	**Pn**	**Pn**	**23 17 46.6**	**+0.3**
	5µm,0.3s,baz=210,slow=6.2,SNR=15							
HNR				S	**Sn**	**Sn**	**23 18 07.7**	**+0.5**
	16µm,0.4s,baz=196,slow=0.5,SNR=12							
HNR	**Honiara**	**1.71**	**306**	Pn	**Pn**	**Pn**	**23 17 46.7**	**+0.3**
HNR				Sn	**Sn**	**Sn**	**23 18 08.3**	**+1.1**
KOUNC	**Koumac, New Ca**	**10.44**	**165**	Pn	**Pn**	**Pn**	**23 19 46.4**	**+0.6**
CAN	**Canberra**	**27.20**	**202**	P	**P**	**P**	**23 22 55.2**	**-1.7**
WB0	**Warramunga Arr**	**27.59**	**247**	P	**P**	**P**	**23 23 00.5**	**-0.1**
WRAB	**Tennant Creek**	**27.67**	**247**	P	**P**	**P**	**23 22 57.6**	**-3.7**
WRAB				IAmb	IAmb	IAmb	23 23 02.5	
	comp=Z,13nm,0.9s							
WB2	**Warramunga Arr**	**27.67**	**247**	P	**P**	**P**	**23 23 00.8**	**-0.5**
WB2				IAmb	IAmb	IAmb	23 23 01.1	
	comp=Z,9.2nm,1.1s							
WRA	**Warramunga Arr**	**27.68**	**247**	P	**P**	**P**	**23 23 01.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=74,slow=9.2,SNR=2.1							
	comp=Z,0.6nm,0.5s							
TOO	**Toolangi**	**30.55**	**205**	P	**P**	**P**	**23 23 27.4**	**+0.8**
VNDA	**Vanda**	**67.06**	**180**	P	**P**	**P**	**23 28 06.3**	**+1.1**
SONM	**Songino Array**	**75.67**	**325**	P	**P**	**P**	**23 28 58.5**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=140,slow=4.7,SNR=3.6							
	comp=Z,1.0nm,0.8s							
BRLK	**Bradley Lake**	**79.68**	**22**	P	**P**	**P**	**23 29 18.7**	**-0.9**
BRLK				IAmb	IAmb	IAmb	23 29 22.2	
	comp=Z,16nm,1.2s							
L19K	**White Mountain**	**79.98**	**19**	P	**P**	**P**	**23 29 22.3**	**+1.0**
ILAR	**Eielson Array**	**84.37**	**20**	P	**P**	**P**	**23 29 44.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=246,slow=4.7,SNR=11							
	comp=Z,0.5nm,0.4s							
MK31	**Makanchi Array**	**90.15**	**318**	P	**P**	**P**	**23 30 12.5**	**0.0**
MKAR	**Makanchi Array**	**90.15**	**318**	P	**P**	**P**	**23 30 11.5**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=91,slow=5.6,SNR=2.2							
	comp=Z,0.4nm,0.6s							
MAKZ	**Makanchi**	**90.36**	**318**	P	**P**	**P**	**23 30 10.4**	**-3.1**
MAKZ				IAmb	IAmb	IAmb	23 30 18.7	
	comp=Z,0.6nm,0.5s							
KBL	**Kabul**	**97.72**	**304**	P	**P**	**P**	**23 30 47.2**	**-0.6**
KBL				IAmb	IAmb	IAmb	23 30 52.8	
	comp=Z,0.7nm,0.5s							

*IDC **19** 23:27:56.6±2.6, 10°.50S×161°.31E, h56km±22km, mb4.1/11, mbtmp4.3/13, ML4.4/2, Error ellipse: s-maj=22.1km s-min=13.7km az=81.0*
*NOU **19** 23:27:56.0, 10°.25S×161°.56E, h47km, mb4.6/13, Solomon Islands*
*NEIC **19** 23:27:57.4±1.9, 10°.5S±0°.1×161°.3E±0°.1, h58km±6km, mb4.7/59, Error ellipse: s-maj=20.2km s-min=10.6km az=46.0*
ISC 19 23:27:57.5±0.6, 10°.42S±0°.07×161°.35E±0°.08, h61km, n106, σ1§41/102, mb4.6/42, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.69**	**305**	P	**Pn**	**Pn**	**23 28 23.6**	**-1.3**
	14µm,0.3s,baz=186,slow=4.3,SNR=24							
HNR				S	**Sn**	**Sn**	**23 28 45.1**	**-0.5**
	35µm,0.3s,baz=268,slow=22,SNR=9.9							
HNR	**Honiara**	**1.69**	**305**		**Pn**	**Pn**	**23 28 23.5**	**-1.3**
HNR					Sn	**Sn**	**23 28 46.8**	**+1.2**
HNR	**Honiara**	**1.69**	**305**	P	**Pn**	**Pn**	**23 28 23.9**	**-1.0**
KOUNC	**Koumac, New Ca**	**10.46**	**165**		**Pn**	**Pn**	**23 30 23.2**	**-1.6**
KOUNC	**Koumac, New Ca**	**10.46**	**165**	P	**Pn**	**Pn**	**23 30 23.6**	**-1.2**
LIFNC	**LIFOU**	**11.75**	**152**	Pn	**Pn**	**Pn**	**23 30 38.7**	**-3.7**
NOUC	**Port Laguerre**	**12.55**	**158**	P	**Pn**	**Pn**	**23 30 52.5**	**-0.8**
DZM	**Mont Dzumac**	**12.57**	**158**	P	**Pn**	**Pn**	**23 30 52.4**	**-1.3**
	2.1nm,0.3s,baz=6.5,slow=9.1,SNR=31							
	7.3nm,0.5s							
DZM	**Mont Dzumac**	**12.57**	**158**			**Pn**	**23 30 52.2**	**-1.5**
OUENC	**Ouen Island, N**	**13.04**	**157**			**Pn**	**23 30 59.1**	**-0.9**
OUENC	**Ouen Island, N**	**13.04**	**157**	P		**Pn**	**23 30 59.5**	**-0.5**
PINNC	**Pines Island,**	**13.46**	**155**	Pn		**Pn**	**23 31 04.5**	**-1.1**
RK1H	**Rockhampton Ha**	**16.54**	**217**	P		**P**	**23 31 49.2**	**+2.0**
CTA	**Charters Tower**	**17.43**	**235**	P		**Pn**	**23 31 56.3**	**-0.4**
	0.8nm,0.3s,baz=64,slow=12,SNR=10							
	7.5nm,0.8s							
CTA	**Charters Tower**	**17.43**	**235**	P		**P**	**23 31 59.2**	**+2.1**
CTAO	**Charters Tower**	**17.43**	**235**	P		**P**	**23 31 57.2**	**0.0**
CTAO	**Charters Tower**	**17.43**	**235**	P		**P**	**23 31 59.3**	**+2.1**
COEN	**Coen**	**18.11**	**257**	P		**P**	**23 32 04.1**	**-0.5**
COEN	**Coen**	**18.11**	**257**	P		**Pn**	**23 32 06.6**	**+1.7**
MTSU	**Mount Surprise**	**18.19**	**243**	P		**Pn**	**23 32 08.5**	**+2.6**
RMQ	**Roma**	**19.92**	**215**	P		**Pn**	**23 32 27.4**	**+0.9**
QIS	**Mount Isa**	**23.22**	**242**	P		**P**	**23 33 01.6**	**+2.0**
INKA	**Innaminka**	**25.93**	**226**	P		**P**	**23 33 24.6**	**+0.5**
WR0	**Warramunga Arr**	**27.52**	**247**	P		**P**	**23 33 37.7**	**-0.9**
WB0	**Warramunga Arr**	**27.60**	**247**	P		**P**	**23 33 38.6**	**-0.7**
WB0				IAmb		IAmb	23 33 39.5	
	comp=Z,8.1nm,0.5s							
WRAB	**Tennant Creek**	**27.68**	**247**	P		**P**	**23 33 37.7**	**-2.3**
WRAB				IAmb		IAmb	23 33 39.2	
	comp=Z,14nm,0.7s							
WB2	**Warramunga Arr**	**27.68**	**247**	P		**P**	**23 33 39.3**	**-0.8**
WRA	**Warramunga Arr**	**27.69**	**247**	P		**P**	**23 33 39.1**	**-1.1**
	comp=Z,3.4nm,0.4s,baz=77,slow=8.7,SNR=29							
	comp=Z,3.4nm,0.4s							
WRA	**Warramunga Arr**	**27.69**	**247**	P		**P**	**23 33 37.8**	**-2.4**
STKA	**Stephens Creek**	**28.10**	**218**	P		**P**	**23 33 42.9**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=51,slow=14,SNR=1.4							
	comp=Z,0.8nm,0.5s							
STKA	**Stephens Creek**	**28.10**	**218**	P		**P**	**23 33 43.5**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**29.21**	**10**	T		T	00 05 01.5	
	baz=183							
H11S3	**WAKE ISLAND Hy**	**29.21**	**10**	T		T	00 05 38.3	
	baz=183							

H11S1	**WAKE ISLAND Hy** baz=183	**29.23**	**10**	T	T	00 05 32.8		
AS31	**Alice Springs**	**29.29**	**240**	P	**P**	**23 33 52.5**	**-1.9**	
ASAR	**Alice Springs** comp=Z,1.3nm,0.4s,baz=63,slow=10,SNR=28 comp=Z,1.3nm,0.4s	**29.29**	**240**	P	**P**	**23 33 52.7**	**-1.6**	
MTN	**Manton Dam**	**29.68**	**262**	P	**P**	**23 33 58.6**	**+0.7**	
MTN				IAmb	IAmb	23 34 33.6		
	comp=Z,13nm,1.1s							
H11N1	**WAKE ISLAND Hy** baz=193	**30.44**	**10**	T	T	00 07 08.6		
H11N3	**WAKE ISLAND Hy** baz=193	**30.45**	**10**	T	T	00 07 19.3		
H11N2	**WAKE ISLAND Hy** baz=193	**30.46**	**10**	T	T	00 07 27.4		
TOO	**Toolangi**	**30.57**	**205**	P	**P**	**23 34 05.2**	**-0.3**	
BKZ	**Black Stump Fm**	**31.66**	**157**	P	**P**	**23 34 14.4**	**-0.7**	
KNRA	**Kununurra**	**32.15**	**257**	P	**P**	**23 34 19.1**	**-0.5**	
BBOO	**Buckleboo**	**32.23**	**222**	P	**P**	**23 34 19.6**	**-0.6**	
BBOO				IAmb	IAmb	23 34 24.2		
	comp=Z,19nm,1.2s							
MRNZ	**Matariki Terra**	**32.45**	**164**	P	**P**	**23 34 24.2**	**+2.3**	
NNZ	**Nelson**	**32.46**	**163**	P	**P**	**23 34 25.6**	**+3.6**	
NNZ	**Nelson**	**32.46**	**163**	P	**P**	**23 34 25.9**	**+3.9**	
DSZ	**Denniston Nort**	**32.53**	**165**	P	**P**	**23 34 26.4**	**+3.7**	
DSZ	**Denniston Nort**	**32.53**	**165**	P	**P**	**23 34 26.5**	**+3.8**	
TCW	**Tory Channel**	**32.72**	**162**	P	**P**	**23 34 28.8**	**+4.6**	
THZ	**Tophouse**	**32.83**	**164**	P	**P**	**23 34 26.5**	**+1.1**	
FITZ	**Fitzroy Crossi**	**35.39**	**253**	P	**P**	**23 34 46.6**	**-1.2**	
PSA00	**Pilbara Seismi**	**41.28**	**249**	P	**P**	**23 35 36.4**	**-0.9**	
PSA00				IAmb	IAmb	23 35 49.0		
	comp=Z,24nm,1.3s							
ASAJ	**Asahikawa** comp=Z,2.9nm,0.4s,baz=230,slow=9.0,SNR=4.6 comp=Z,2.9nm,0.4s	**56.89**	**344**	P	**P**	**23 37 36.1**	**0.0**	
VNDA	**Vanda** comp=Z,0.9nm,0.7s,baz=324,slow=6.8,SNR=5.6 comp=Z,0.9nm,0.7s	**67.08**	**180**	P	**P**	**23 38 43.4**	**-0.6**	
MA2	**Magadan** comp=Z,6.6nm,0.3s,baz=132,slow=21,SNR=4.7 comp=Z,6.6nm,0.3s	**70.28**	**354**	P	**P**	**23 39 06.1**	**+2.1**	
SONM	**Songino Array** comp=Z,1.1nm,0.5s,baz=144,slow=6.2,SNR=16 comp=Z,1.1nm,0.5s	**75.65**	**325**	P	**P**	**23 39 36.7**	**+0.4**	
L19K	**White Mountain**	**79.96**	**19**	P	**P**	**23 40 00.8**	**+1.1**	
L19K				IAmb	IAmb	23 40 01.7		
	comp=Z,13nm,1.3s							
TTA	**Tatalina**	**80.14**	**18**	P	**P**	**23 40 01.4**	**+0.6**	
TTA				IAmb	IAmb	23 40 32.5		
	comp=Z,12nm,1.3s							
M20K	**Styx River**	**80.31**	**20**	P	**P**	**23 40 01.6**	**-0.2**	
M20K				IAmb	IAmb	23 40 28.4		
	comp=Z,12nm,1.4s							
SUA	**Susitna One**	**80.85**	**21**	P	**P**	**23 40 05.1**	**+0.4**	
SUA				IAmb	IAmb	23 40 08.9		
	comp=Z,13nm,1.4s							
SKT	**Skwentna**	**80.93**	**21**	P	**P**	**23 40 04.2**	**-0.8**	
RC01	**Rabbit Creek A**	**80.96**	**22**	P	**P**	**23 40 03.9**	**-1.3**	
RC01				IAmb	IAmb	23 40 12.9		
	comp=Z,17nm,1.5s							
K20K	**Telida**	**81.06**	**19**	P	**P**	**23 40 06.3**	**+0.6**	
PPLA	**Purkeypile**	**81.34**	**20**	P	**P**	**23 40 07.6**	**+0.3**	
PPLA				IAmb	IAmb	23 40 14.6		
	comp=Z,17nm,1.4s							
CAST	**Castle Rocks**	**81.73**	**19**	P	**P**	**23 40 08.9**	**-0.3**	
CAST				IAmb	IAmb	23 40 10.8		
	comp=Z,6.0nm,1.1s							
SML	**Sawmill**	**81.94**	**22**	P	**P**	**23 40 10.9**	**+0.5**	
KTH	**Kantishna Hill**	**82.21**	**20**	P	**P**	**23 40 11.1**	**-0.6**	
KTH				IAmb	IAmb	23 40 15.3		
	comp=Z,9.3nm,1.2s							
SCM	**Sheep Creek Mo**	**82.33**	**22**	P	**P**	**23 40 13.1**	**+0.7**	
TRF	**Thorofare Moun**	**82.35**	**20**	P	**P**	**23 40 12.1**	**-0.5**	
TRF				IAmb	IAmb	23 40 45.9		
	comp=Z,8.7nm,1.3s							
BPAW	**Bear Paw Mtn.**	**82.56**	**19**	P	**P**	**23 40 13.7**	**+0.2**	
BPAW				IAmb	IAmb	23 40 14.1		
	comp=Z,12nm,1.5s							
KLU	**Klutina**	**82.64**	**23**	P	**P**	**23 40 14.7**	**+0.7**	
KLU				IAmb	IAmb	23 40 25.7		
	comp=Z,12nm,1.3s							
PAF	**Port-aux-Franc**	**82.92**	**221**	P	**P**	**23 40 14.3**	**-1.5**	
M24K	**Tolsona, Glenn**	**82.92**	**22**	P	**P**	**23 40 16.6**	**+1.1**	
MCK	**McKinley**	**82.99**	**20**	P	**P**	**23 40 16.3**	**+0.5**	
I21K	**Tanana**	**82.99**	**18**	P	**P**	**23 40 16.4**	**+0.7**	
I21K				IAmb	IAmb	23 40 17.7		
	comp=Z,13nm,1.3s							
IMAR	**Indian Mountai**	**83.04**	**17**	P	**P**	**23 40 16.3**	**+0.4**	
H21K	**Melozitna Rive**	**83.08**	**17**	P	**P**	**23 40 16.4**	**+0.2**	
DHY	**Denali Highway**	**83.10**	**21**	P	**P**	**23 40 16.6**	**+0.1**	
DHY				IAmb	IAmb	23 40 22.5		
	comp=Z,9.9nm,1.4s							
N25K	**Chitina, Valde**	**83.21**	**23**	P	**P**	**23 40 17.5**	**+0.4**	
MLY	**Manley**	**83.27**	**18**	P	**P**	**23 40 16.9**	**-0.4**	
MLY				IAmb	IAmb	23 40 18.7		
	comp=Z,3.6nm,0.7s							
GLB	**Gilahina Butte**	**83.42**	**23**	P	**P**	**23 40 18.7**	**+0.6**	
GLB				IAmb	IAmb	23 40 19.2		
	comp=Z,15nm,1.4s							
VRDI	**Verde Repeater**	**83.43**	**24**	P	**P**	**23 40 18.9**	**+0.6**	
MCARA	**McCarthy VSAT**	**83.69**	**24**	P	**P**	**23 40 20.6**	**+1.1**	
MCARA				IAmb	IAmb	23 40 56.7		
	comp=Z,12nm,1.1s							
PAX	**Paxson**	**83.72**	**22**	P	**P**	**23 40 20.1**	**+0.5**	
PAX				IAmb	IAmb	23 40 21.9		
	comp=Z,8.2nm,1.3s							
WRH	**Wood River Hil**	**83.75**	**20**	P	**P**	**23 40 18.7**	**-0.9**	
WRH				IAmb	IAmb	23 40 30.0		
	comp=Z,7.8nm,1.4s							
CCB	**Clear Creek Bu**	**83.96**	**20**	P	**P**	**23 40 20.3**	**-0.4**	
CCB				IAmb	IAmb	23 40 21.2		
	comp=Z,11nm,1.4s							
MDM	**Murphy Dome**	**84.02**	**19**	P	**P**	**23 40 20.6**	**-0.4**	
BARN	**Barnard Glacie**	**84.05**	**24**	P	**P**	**23 40 22.8**	**+1.3**	
HDA	**Harding Lake**	**84.09**	**20**	P	**P**	**23 40 21.8**	**+0.4**	
HDA				IAmb	IAmb	23 40 22.5		
	comp=Z,12nm,1.3s							
M26K	**Nabesna, AK**	**84.29**	**23**	P	**P**	**23 40 23.5**	**+1.0**	
M26K				IAmb	IAmb	23 40 36.8		
	comp=Z,12nm,1.5s							
IL31		**84.34**	**20**	P	**P**	**23 40 22.1**	**-0.5**	
ILAR	**Eielson Array** comp=Z,1.4nm,0.5s,baz=248,slow=4.7,SNR=41 comp=Z,1.4nm,0.5s	**84.34**	**20**	P	**P**	**23 40 21.8**	**-0.9**	
ILAR	**Eielson Array**	**84.34**	**20**	P	**P**	**23 40 22.0**	**-0.6**	
IL03	**Eielson Array**	**84.36**	**20**	P	**P**	**23 40 22.1**	**-0.7**	
RIDG	**Independent Ri**	**84.41**	**21**	P	**P**	**23 40 23.4**	**+0.4**	
RIDG				IAmb	IAmb	23 40 30.2		
	comp=Z,11nm,1.5s							
L26K	**Log Cabin Wild**	**84.53**	**22**	P	**P**	**23 40 24.5**	**+0.8**	
L26K				IAmb	IAmb	23 40 26.8		
	comp=Z,8.8nm,1.4s							
DOT	**Dot Lake**	**84.63**	**21**	P	**P**	**23 40 24.5**	**+0.4**	
DOT				IAmb	IAmb	23 40 26.0		
	comp=Z,3.5nm,0.7s							
M27K	**Edge Creek, AK**	**84.70**	**23**	P	**P**	**23 40 25.8**	**+1.1**	
M27K				IAmb	IAmb	23 40 26.6		
	comp=Z,5.4nm,0.7s							
SCRK	**Sand Creek**	**84.86**	**21**	P	**P**	**23 40 25.4**	**0.0**	
SCRK				IAmb	IAmb	23 40 27.1		
	comp=Z,3.2nm,0.6s							
COLD	**Coldfoot**	**84.92**	**17**	P	**P**	**23 40 25.3**	**-0.2**	
BCAR	**Beaver Creek A**	**85.13**	**23**	P	**P**	**23 40 27.8**	**+1.1**	
MKAR	**Makanchi Array** comp=Z,0.3nm,0.4s,baz=93,slow=6.7,SNR=13 comp=Z,0.3nm,0.4s	**90.13**	**318**	P	**P**	**23 40 50.5**	**-0.6**	
PDAR	**Pinedale Array** comp=Z,0.4nm,0.8s,baz=274,slow=3.5,SNR=2.5 comp=Z,0.4nm,0.8s	**96.32**	**48**	P	**P**	**23 41 20.5**	**+0.5**	
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.5s,baz=268,slow=4.6,SNR=9.5 comp=Z,0.7nm,0.5s	**96.42**	**28**	P	**P**	**23 41 18.9**	**-0.7**	
MDP	**Montagnes des** comp=Z,9.5nm,1.0s,baz=244,slow=6.0,SNR=4.3	**145.93**	**96**	PKPbc	**PKPdf**	**23 47 29.9**	**-0.7**	

DJA 19 23:30:21.8±0.3, 3°N±3°×98°E±°, h10km, M3.2/7, MLv3.2/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSI	**Tuntungan**	**0.19**	**31**	P	Pg	23 30 26.9	+1.1
KCSI	**Kotacane, Aceh**	**0.72**	**285**	P	Pg	23 30 36.1	+0.4
KCSI				S	Sb	23 30 46.5	+0.1
GSI	**Gunungsitoli**	**2.21**	**204**	P	Pn	23 30 59.0	+0.4
MLSI	**Meulaboh, Aceh**	**2.26**	**294**	P	Pg	23 31 07.5	+2.4
MNSI	**Mandailing Nat**	**2.76**	**156**	P	Pg	23 31 19.4	+4.6

*NEIC **19** 23:30:31.4±1.3, 10.40S±0.04×161.30E±0.10, h47km±8km, mb4.7/64, Error ellipse: s-maj=14.6km s-min=2.5km az=67.0*
*IDC **19** 23:30:32.6±2.1, 10.40S×161.31E, h68km±17km, mb4.0/23, mbtmp4.3/25, Error ellipse: s-maj=18.9km s-min=13.0km az=87.0*
*NOU **19** 23:30:35.5, 10.57S×161.51E, h84km, mb4.9/13, Solomon Islands*

ISC 19 23:30:31.9±0.4, 10.39S±0.06×161.31E±0.06, h61km, n118, σ1°06/114, mb4.5/54, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.65**	**305**	P	**Pn**	**23 30 58.9**	**+0.3**
	15µm,0.3s,baz=168,slow=8.5,SNR=12						
HNR				S	**Sn**	**23 31 20.1**	**+1.4**
	52µm,0.4s,baz=130,slow=13,SNR=6.9						
HNR	**Honiara**	**1.65**	**305**		**Pn**	**23 30 57.6**	**-0.9**
HNR				Sn	**Sn**	**23 31 18.1**	**-0.6**
DVP	**Devils Point**	**9.88**	**138**	P	**Pn**	**23 32 50.8**	**-0.4**
RTV	**Rentapao**	**10.09**	**138**	P	**Pn**	**23 32 54.8**	**+0.8**
KOUNC	**Koumac, New Ca**	**10.50**	**165**		**Pn**	**23 32 57.5**	**-2.2**
KOUNC	**Koumac, New Ca**	**10.50**	**165**	P	**Pn**	**23 33 00.0**	**+0.3**
LIFNC	**LIFOU**	**11.80**	**152**		**Pn**	**23 33 15.0**	**-2.4**
DZM	**Mont Dzumac**	**12.61**	**158**	P	**Pn**	**23 33 28.7**	**+0.1**
	9.3nm,0.4s,baz=15,slow=11,SNR=25						
DZM	**Mont Dzumac**	**12.61**	**158**		**Pn**	**23 33 28.1**	**-0.5**
DZM	**Mont Dzumac**	**12.61**	**158**	P	**Pn**	**23 33 29.1**	**+0.5**
MARNC	**Mare, Loyalty**	**12.78**	**150**		**Pn**	**23 33 30.6**	**-0.2**
MARNC	**Mare, Loyalty**	**12.78**	**150**	P	**Pn**	**23 33 30.6**	**-0.2**
OUENC	**Ouen Island, N**	**13.08**	**157**		**Pn**	**23 33 35.0**	**+0.1**
OUENC	**Ouen Island, N**	**13.08**	**157**	P	**Pn**	**23 33 34.5**	**-0.4**
PMG	**Port Moresby**	**13.98**	**273**	P	**P**	**23 33 51.0**	**-2.2**
CTA	**Charters Tower**	**17.42**	**235**	P	**P**	**23 34 32.7**	**+1.3**
	22nm,0.7s,baz=63,slow=12,SNR=23						
CTA	**Charters Tower**	**17.42**	**235**	P	**P**	**23 34 33.5**	**+2.1**
CTAO	**Charters Tower**	**17.42**	**235**	P	**P**	**23 34 31.6**	**+0.2**
CTAO	**Charters Tower**	**17.42**	**235**	P	**P**	**23 34 33.8**	**+2.4**
FUNA	**Funafuti**	**17.74**	**86**		**Pn**	**23 34 34.2**	**-0.6**
EIDS	**Eidsvold**	**17.78**	**212**		**Pn**	**23 34 34.7**	**-0.5**
MSVF	**Nonsavu**	**17.79**	**116**		**Pn**	**23 34 34.4**	**-1.1**
COEN	**Coen**	**18.08**	**257**	P	**P**	**23 34 38.2**	**-0.4**
INKA	**Innaminka**	**25.92**	**225**	P	**P**	**23 36 00.8**	**+2.3**
AFI	**Afiamalu**	**26.53**	**100**	P	**P**	**23 36 04.0**	**-0.2**
WR0	**Warramunga Arr**	**27.50**	**247**	P	**P**	**23 36 12.4**	**-0.3**
WB0	**Warramunga Arr**	**27.58**	**247**	P	**P**	**23 36 13.3**	**-0.2**
WB0				IAmb	IAmb	23 36 14.2	
	comp=Z,8.1nm,0.6s						
WRAB	**Tennant Creek**	**27.66**	**247**	P	**P**	**23 36 13.6**	**-0.6**
WRAB				IAmb	IAmb	23 36 16.1	
	comp=Z,11nm,0.6s						
WB2	**Warramunga Arr**	**27.66**	**247**	P	**P**	**23 36 14.0**	**-0.2**
WRA	**Warramunga Arr**	**27.67**	**247**	P	**P**	**23 36 14.4**	**+0.1**
	comp=Z,3.7nm,0.5s,baz=75,slow=9.2,SNR=16						
WRA				PcP	**PcP**	**23 39 28.7**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=72,slow=2.7,SNR=2.8 comp=Z,3.7nm,0.5s						
WRA	**Warramunga Arr**	**27.67**	**247**	P	**P**	**23 36 12.9**	**-1.4**
STKA	**Stephens Creek**	**28.10**	**218**	P	**P**	**23 36 18.8**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=48,slow=15,SNR=2.1 comp=Z,2.3nm,0.8s						
STKA	**Stephens Creek**	**28.10**	**218**	P	**P**	**23 36 18.6**	**+0.6**
H11S2	**WAKE ISLAND Hy** baz=189,slow=76,SNR=0.9	**29.19**	**11**	T	T	00 07 42.6	
H11S3	**WAKE ISLAND Hy** baz=189,slow=76,SNR=0.8	**29.19**	**11**	T	T	00 07 54.0	
H11S1	**WAKE ISLAND Hy** baz=189,slow=76,SNR=0.8	**29.20**	**11**	T	T	00 07 54.4	
ASAR	**Alice Springs** comp=Z,1.4nm,0.6s,baz=64,slow=10,SNR=10 comp=Z,1.4nm,0.6s	**29.27**	**240**	P	**P**	**23 36 27.5**	**-1.0**
LCRK	**Leigh Creek**	**29.32**	**224**	P	**P**	**23 36 29.7**	**+0.8**
H11N1	**WAKE ISLAND Hy** baz=191	**30.41**	**10**	T	T	00 09 25.6	
H11N3	**WAKE ISLAND Hy** baz=191	**30.42**	**10**	T	T	00 09 21.8	
H11N2	**WAKE ISLAND Hy** baz=191	**30.43**	**10**	T	T	00 09 25.8	
TOO	**Toolangi**	**30.58**	**205**	P	**P**	**23 36 40.7**	**+0.7**
TOO				IAmb	IAmb	23 36 53.7	
	comp=Z,23nm,1.4s						
RTZ	**Ruatahuna**	**31.41**	**156**	P	**P**	**23 36 48.1**	**+0.8**
BKZ	**Black Stump Fm**	**31.70**	**157**	P	**P**	**23 36 49.7**	**-0.1**
KNRA	**Kununurra**	**32.12**	**257**	P	**P**	**23 36 53.9**	**+0.2**
BBOO	**Buckleboo**	**32.23**	**222**	P	**P**	**23 36 55.2**	**+0.8**
BBOO				IAmb	IAmb	23 36 56.2	
	comp=Z,14nm,1.1s						
MRZ	**Mangatainoka R**	**32.69**	**160**	P	**P**	**23 36 58.6**	**+0.3**
TCW	**Tory Channel**	**32.76**	**162**	P	**P**	**23 36 59.3**	**+0.3**
THZ	**Tophouse**	**32.87**	**164**	P	**P**	**23 37 00.4**	**+0.4**
LBZ	**Lake Benmore**	**34.73**	**169**	P	**P**	**23 37 17.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**35.36**	**253**	P	**P**	**23 37 21.6**	**-0.3**
MBWA	**Marble Bar**	**41.30**	**250**	P	**P**	**23 38 11.9**	**+0.1**
MBWA				IAmb	IAmb	23 38 21.2	
	comp=Z,25nm,1.3s						
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.4s,baz=182,slow=8.3,SNR=1.8 comp=Z,0.9nm,0.4s	**51.50**	**336**	P	**P**	**23 39 30.3**	**-1.1**
ASAJ	**Asahikawa** comp=Z,6.1nm,0.5s,baz=129,slow=15,SNR=4.3 comp=Z,6.1nm,0.5s	**56.85**	**344**	P	**P**	**23 40 11.2**	**+1.1**
KSRS	**Korea Array** comp=Z,1.7nm,0.9s,baz=145,slow=7.4,SNR=2.5 comp=Z,1.7nm,0.9s	**56.96**	**329**	P	**P**	**23 40 11.2**	**+0.2**
USRK	**Ussuriysk Ar.** comp=Z,3.8nm,0.8s,baz=133,slow=6.1,SNR=3.0 comp=Z,3.8nm,0.8s	**60.50**	**336**	P	**P**	**23 40 35.8**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,1.8nm,0.9s,baz=155,slow=7.9,SNR=2.5 comp=Z,1.8nm,0.9s	**63.32**	**358**	P	**P**	**23 40 54.4**	**+0.1**
KLR	**Kul'dur** comp=Z,0.7nm,0.3s,baz=193,slow=5.3,SNR=3.7 comp=Z,0.7nm,0.3s	**64.81**	**339**	P	**P**	**23 41 04.7**	**+0.6**
VNDA	**Vanda** comp=Z,3.4nm,0.7s,baz=78,slow=20,SNR=8.0 comp=Z,3.4nm,0.7s	**67.11**	**180**	P	**P**	**23 41 18.9**	**+0.4**
VNDA	**Vanda**	**67.11**	**180**	P	**P**	**23 41 19.3**	**+0.7**
VNDA				IAmb	IAmb	23 41 19.5	
	comp=Z,4.1nm,0.8s						
SBA	**Scott Base**	**67.51**	**179**	P	**P**	**23 41 21.4**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.5s,baz=116,slow=5.4,SNR=4.2 comp=Z,0.5nm,0.5s	**67.87**	**295**	P	**P**	**23 41 24.3**	**-0.1**
SEY	**Seymchan** comp=Z,0.7nm,0.3s,baz=78,slow=16,SNR=3.5 comp=Z,0.7nm,0.3s	**73.42**	**356**	P	**P**	**23 41 57.1**	**-0.1**
SONM	**Songino Array** comp=Z,2.0nm,0.6s,baz=142,slow=5.7,SNR=12 comp=Z,2.0nm,0.6s	**75.61**	**325**	P	**P**	**23 42 11.0**	**+0.6**
TNA	**Tin City**	**79.12**	**13**	P	**P**	**23 42 29.9**	**+0.5**
BRLK	**Bradley Lake**	**79.64**	**22**	P	**P**	**23 42 32.8**	**+0.4**
L19K	**White Mountain**	**79.94**	**19**	P	**P**	**23 42 36.0**	**+1.9**
L19K				IAmb	IAmb	23 42 40.4	
	comp=Z,12nm,0.9s						
TTA	**Tatalina**	**80.12**	**18**	P	**P**	**23 42 36.8**	**+1.7**
M20K	**Styx River**	**80.30**	**20**	P	**P**	**23 42 37.3**	**+1.3**
M20K				IAmb	IAmb	23 42 53.1	
	comp=Z,20nm,1.5s						
SUA	**Susitna One**	**80.83**	**21**	P	**P**	**23 42 39.8**	**+0.9**
SUA				IAmb	IAmb	23 42 53.4	
	comp=Z,13nm,1.3s						
K20K	**Telida**	**81.04**	**19**	P	**P**	**23 42 40.5**	**+0.6**
K20K				IAmb	IAmb	23 42 54.8	
	comp=Z,6.5nm,1.1s						
CAST	**Castle Rocks**	**81.72**	**19**	P	**P**	**23 42 44.2**	**+0.7**
SML	**Sawmill**	**81.93**	**22**	P	**P**	**23 42 45.9**	**+1.2**
KTH	**Kantishna Hill**	**82.19**	**20**	P	**P**	**23 42 46.1**	**0.0**
KTH				IAmb	IAmb	23 42 47.5	
	comp=Z,8.4nm,0.9s						
RDOG	**Red Dog Mine**	**82.30**	**13**	P	**P**	**23 42 47.9**	**+1.4**
RDOG				IAmb	IAmb	23 42 51.6	
	comp=Z,4.0nm,0.6s						
SCM	**Sheep Creek Mo**	**82.31**	**22**	P	**P**	**23 42 48.3**	**+1.6**
TRF	**Thorofare Moun**	**82.33**	**20**	P	**P**	**23 42 47.3**	**+0.4**
TRF				IAmb	IAmb	23 42 47.5	
	comp=Z,5.7nm,1.0s						
M24K	**Tolsona, Glenn**	**82.91**	**22**	P	**P**	**23 42 52.1**	**+2.3**
MCK	**McKinley**	**82.97**	**20**	P	**P**	**23 42 50.6**	**+0.6**
I21K	**Tanana**	**82.97**	**18**	P	**P**	**23 42 51.5**	**+1.5**
I21K				IAmb	IAmb	23 42 54.0	
	comp=Z,15nm,1.4s						
IMAR	**Indian Mountai**	**83.02**	**17**	P	**P**	**23 42 51.5**	**+1.3**
H21K	**Melozitna Rive**	**83.06**	**17**	P	**P**	**23 42 51.8**	**+1.4**
DHY	**Denali Highway**	**83.08**	**21**	P	**P**	**23 42 52.1**	**+1.3**
N25K	**Chitina, Valde**	**83.20**	**23**	P	**P**	**23 42 52.6**	**+1.3**
N25K				IAmb	IAmb	23 42 54.4	
	comp=Z,6.6nm,0.8s						
MLY	**Manley**	**83.25**	**19**	P	**P**	**23 42 52.6**	**+1.1**
MLY				IAmb	IAmb	23 42 53.8	
	comp=Z,3.9nm,0.9s						
GLB	**Gilahina Butte**	**83.41**	**23**	P	**P**	**23 42 53.7**	**+1.3**
GLB				IAmb	IAmb	23 42 54.5	
	comp=Z,9.1nm,1.0s						
VRDI	**Verde Repeater**	**83.42**	**24**	P	**P**	**23 42 53.5**	**+0.9**
VRDI				IAmb	IAmb	23 43 12.6	
	comp=Z,11nm,1.2s						
CCB	**Clear Creek Bu**	**83.94**	**20**	P	**P**	**23 42 55.6**	**+0.7**
CCB				IAmb	IAmb	23 43 03.4	
	comp=Z,6.5nm,1.3s						
MDM	**Murphy Dome**	**84.01**	**19**	P	**P**	**23 42 56.0**	**+0.7**
MDM				IAmb	IAmb	23 42 56.1	
	comp=Z,4.4nm,1.0s						
BARN	**Barnard Glacie**	**84.04**	**24**	P	**P**	**23 42 57.3**	**+1.6**
HDA	**Harding Lake**	**84.08**	**20**	P	**P**	**23 42 56.7**	**+1.1**
HDA				IAmb	IAmb	23 42 57.2	
	comp=Z,5.7nm,0.9s						
M26K	**Nabesna, AK**	**84.28**	**23**	P	**P**	**23 42 58.2**	**+1.4**
M26K				IAmb	IAmb	23 42 59.2	
	comp=Z,5.7nm,0.9s						
IL31		**84.33**	**20**	P	**P**	**23 42 57.0**	**+0.1**
IL31				IAmb	IAmb	23 43 12.1	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array** comp=Z,1.1nm,0.7s,baz=248,slow=4.6,SNR=12 comp=Z,1.1nm,0.7s	**84.33**	**20**	P	**P**	**23 42 56.2**	**-0.7**
ILAR	**Eielson Array**	**84.33**	**20**	P	**P**	**23 42 57.8**	**+0.8**
POKR	**Poker Flat Res**	**84.37**	**19**	P	**P**	**23 42 57.4**	**+0.3**
POKR				IAmb	IAmb	23 42 58.3	
	comp=Z,3.0nm,0.7s						
RIDG	**Independent Ri**	**84.39**	**21**	P	**P**	**23 42 58.6**	**+1.3**
DOT	**Dot Lake**	**84.62**	**21**	P	**P**	**23 42 59.9**	**+1.4**
DOT				IAmb	IAmb	23 43 01.0	
	comp=Z,4.3nm,0.8s						
TIXI	**Tiksi** comp=Z,0.8nm,0.2s,baz=90,slow=24,SNR=1.7 comp=Z,0.8nm,0.2s	**84.66**	**350**	P	**P**	**23 42 57.1**	**-1.3**
M27K	**Edge Creek, AK**	**84.68**	**23**	P	**P**	**23 43 00.9**	**+1.9**
M27K				IAmb	IAmb	23 43 06.4	
	comp=Z,10nm,1.2s						
SCRK	**Sand Creek**	**84.84**	**21**	P	**P**	**23 43 01.5**	**+1.8**
SCRK				IAmb	IAmb	23 43 01.8	
	comp=Z,4.1nm,0.8s						
J26L	**Joseph Creek**	**85.30**	**21**	P	**P**	**23 43 04.2**	**+2.2**
J26L				IAmb	IAmb	23 43 16.1	
	comp=Z,7.2nm,1.3s						
HYT	**Haines Junctio**	**85.63**	**26**	P	**P**	**23 43 04.5**	**+0.7**
HYT				IAmb	IAmb	23 43 08.0	
	comp=Z,7.3nm,1.1s						
YBH	**Yreka Blue Hor** comp=Z,2.7nm,0.9s,baz=319,slow=10,SNR=2.2 comp=Z,2.7nm,0.9s	**86.58**	**47**	P	**P**	**23 43 09.1**	**+0.3**
M30M	**Minto, Yukon**	**86.80**	**24**	P	**P**	**23 43 11.0**	**+1.7**
M30M				IAmb	IAmb	23 43 30.8	
	comp=Z,8.4nm,1.2s						
K05A	**Summer Lake**	**88.16**	**46**	P	**P**	**23 43 17.2**	**+0.7**
NVAR	**Mina Array Bea** comp=Z,1.3nm,0.8s,baz=238,slow=5.2,SNR=6.0 comp=Z,1.3nm,0.8s	**88.96**	**51**	P	**P**	**23 43 20.1**	**-0.3**
MK31	**Makanchi Array**	**90.08**	**318**	P	**P**	**23 43 24.8**	**-0.4**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.6s,baz=92,slow=6.7,SNR=13 comp=Z,0.7nm,0.6s	**90.08**	**318**	P	**P**	**23 43 24.4**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=110,slow=6.3,SNR=2.1 comp=Z,0.4nm,0.4s	**90.50**	**325**	P	**P**	**23 43 27.0**	**+0.1**
ELK	**Elko** comp=Z,1.6nm,0.8s,baz=231,slow=3.6,SNR=3.4 comp=Z,1.6nm,0.8s	**91.79**	**49**	P	**P**	**23 43 32.4**	**-1.2**
NEW	**Newport** comp=Z,2.5nm,0.8s,baz=219,slow=13,SNR=3.8 comp=Z,2.5nm,0.8s	**92.11**	**41**	P	**P**	**23 43 35.0**	**+0.3**
PLID	**Pearl Lake**	**92.17**	**45**	P	**P**	**23 43 35.8**	**+0.6**
PLID				IAmb	IAmb	23 43 36.4	
	comp=Z,2.2nm,0.9s						
PDAR	**Pinedale Array** comp=Z,0.3nm,0.7s,baz=297,slow=4.0,SNR=2.1 comp=Z,0.3nm,0.7s	**96.33**	**48**	P	**P**	**23 43 55.8**	**+1.4**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.5s,baz=260,slow=4.9,SNR=5.3 comp=Z,0.4nm,0.5s	**96.41**	**28**	P	**P

ISC 19 23:52:44.3±0.6, 2°16S±0°06×77°15W±0°09, h150km, n37, σ1§63/38, mb3.7/6, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
OTAV	**Otavalo**	**2.71**	**331**	***e*P**	**Pn**		**23 53 30.3**	**+1.8**
OTAV	**Otavalo**	**2.71**	**331**	***e*P**	**Pn**		**23 53 29.2**	**+0.6**
TULM	**Tulcn-Chalpat**	**2.93**	**347**	***e*P**	**Pn**		**23 53 32.7**	**+1.4**
GCUF	**Volcan Galeras**	**3.37**	**357**	***e*P**	**Pn**		**23 53 38.5**	**+1.6**
CRUC	**La Cruz**	**3.71**	**3**	***e*P**	**Pn**		**23 53 42.3**	**+1.1**
FLOC	**Florencia**	**4.01**	**22**	***e*P**	**Pn**		**23 53 43.2**	**-1.6**
GARC	**Garzon, Huila**	**4.62**	**21**	***e*P**	**Pn**		**23 53 53.3**	**+0.3**
ATAH	**Atahualpa**	**5.09**	**194**	P	**Pn**		**23 54 02.9**	**+3.4**
	125nm,0.5s,baz=32,slow=8.5,SNR=146							
ATAH				S	**Sn**		**23 54 55.6**	**-2.4**
	23nm,0.5s,baz=101,slow=13,SNR=1.2							
MACC	**Macarena, Meta**	**5.40**	**38**	***e*P**	**Pn**		**23 54 03.2**	**+0.1**
YOTC	**Yotoco, Valle**	**6.16**	**8**	***e*P**	**Pn**		**23 54 13.5**	**+0.2**
ORTC	**Ortega, Tolima**	**6.32**	**18**	***e*P**	**Pn**		**23 54 16.0**	**+0.6**
CZSB	**Cruzeiro do Su**	**7.09**	**141**	***e*P**	**Pn**		**23 54 27.6**	**+2.0**
ROSC	**El Rosal**	**7.51**	**22**	P	**Pn**		**23 54 30.8**	**-0.7**
	6.4nm,0.4s,baz=315,slow=23,SNR=2.0							
CHIC	**Chingaza**	**7.56**	**27**	***e*P**	**Pn**		**23 54 33.3**	**+1.0**
RUSC	**La Rusia**	**8.97**	**27**	***e*P**	**Pn**		**23 54 52.4**	**+1.2**
NNA	**Nana**	**9.77**	**178**	P	**Pn**		**23 55 03.9**	**+2.5**
	14nm,0.3s,baz=334,slow=7.0,SNR=7.9							
NNA				S	**Sn**		**23 56 44.3**	**-5.4**
	8.8nm,0.3s,baz=274,slow=16,SNR=2.6							
SDV	**Santo Domingo**	**12.75**	**31**	P	**Pn**		**23 55 40.6**	**0.0**
	2.8nm,0.6s,baz=225,slow=14,SNR=4.0							
ETMB	**Extrema**	**13.27**	**125**	***e*P**	**Pn**		**23 55 46.1**	**-0.9**
LPAZ	**La Paz**	**16.61**	**148**	P	**Pn**		**23 56 30.7**	**+1.5**
	2.1nm,0.8s,baz=340,slow=13,SNR=10							
SIV	**San Ignacio**	**20.97**	**132**	P	**P**		**23 57 17.2**	**+1.4**
	1.9nm,0.5s,baz=319,slow=12,SNR=14							
	1.9nm,0.5s							
ITTB	**Itaituba**	**21.49**	**96**	***e*P**	**P**		**23 57 22.4**	**+0.9**
BBSD	**Serra de San D**	**22.07**	**134**	***e*P**	**P**		**23 57 28.8**	**+1.3**
NPGB	**Novo Progresso**	**22.25**	**103**	***e*P**	**P**		**23 57 28.4**	**-0.8**
MALB	**Monte Alegre**	**22.87**	**90**	***e*P**	**P**		**23 57 36.0**	**+0.9**
MCPB	**Macapa, AP**	**25.15**	**86**	***e*P**	**P**		**23 57 56.2**	**+0.3**
SNDB	**Serra Nova Dou**	**27.42**	**112**	***e*P**	**P**		**23 58 17.1**	**+0.8**
BDFB	**Brasilia**	**31.68**	**117**	P	**P**		**23 58 54.6**	**+0.5**
	1.5nm,0.4s,baz=298,slow=11,SNR=4.8							
	1.5nm,0.4s							
PLCA	**Paso Flores**	**38.86**	**172**	P	**P**		**23 59 55.9**	**+0.9**
	3.2nm,0.8s,baz=348,slow=8.7,SNR=5.3							
	3.2nm,0.8s							
SJMB	**Sao Joao De Ma**	**38.87**	**118**	***e*P**	**P**		**23 59 55.8**	**+0.4**
RIB01	**Linhares ES**	**39.79**	**118**	***e*P**	**P**		**00 00 03.4**	**+0.4**
TXAR	**Lajitas Array**	**40.31**	**323**	P	**P**		**00 00 07.4**	**+0.1**
	0.3nm,0.6s,baz=145,slow=9.9,SNR=3.4							
	0.3nm,0.6s							
YKA	**Yellowknife Ar**	**70.42**	**343**	P	**P**		**00 03 40.8**	**-1.1**
	0.2nm,0.5s,baz=142,slow=6.4,SNR=5.3							
	0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**79.64**	**76**	P	**P**		**00 04 33.0**	**-2.8**
	10nm,0.4s,baz=250,slow=22,SNR=5.1							
ILAR	**Eielson Array**	**83.42**	**336**	P	**P**		**00 04 54.3**	**-0.3**
	0.5nm,0.8s,baz=134,slow=5.0,SNR=4.7							
	0.5nm,0.8s							
MKAR	**Makanchi Array**	**132.07**	**19**	PKP	**PKPdf**		**00 11 39.6**	**-0.9**
	0.2nm,0.5s,baz=283,slow=3.7,SNR=5.1							
ASAR	**Alice Springs**	**140.35**	**228**	PKhKP	PKPpre		00 11 49.0	
	0.2nm,0.6s,baz=116,slow=2.2,SNR=1.6							
ASAR				PKP	**PKPdf**		**00 11 55.9**	**-0.6**
	0.6nm,0.8s,baz=112,slow=2.5,SNR=4.8							
WRA	**Warramunga Arr**	**142.09**	**233**	PKhKP	PKPpre		00 11 55.5	
	0.6nm,0.6s,baz=116,slow=2.5,SNR=9.5							

*NEIC **20** 00:04:39.4±2.1, 9°98S±0°05×161°9E±0°1, h82km±10km, mb4.1/6, Error ellipse: s-maj=17.2km s-min=3.6km az=69.0.*

*IDC **20** 00:04:45.0±2.8, 10°46S×161°33E, h68km±25km, mb3.5/3, mbtmp3.8/4, Error ellipse: s-maj=35.4km s-min=21.3km az=50.0*

ISC 20 00:04:43.0±1.3, 10°4S±0°1×161°5E±0°1, h61km, n18, σ1§87/18, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
HNR	**Honiara**	**1.82**	**301**	P	**Pn**		**00 05 11.5**	**-0.5**
	3µm,0.2s,baz=163,slow=7.8,SNR=18							
HNR				S	**Sn**		**00 05 33.9**	**-0.1**
	10µm,0.3s,baz=129,slow=14,SNR=10							
HNR	**Honiara**	**1.82**	**301**	Pn	**Pn**		**00 05 11.1**	**-1.0**
HNR				Sn	**Sn**		**00 05 33.4**	**-0.6**
KOUNC	**Koumac, New Ca**	**10.46**	**166**	Pn	**Pn**		**00 07 10.1**	**-0.2**
LIFNC	**LIFOU**	**11.71**	**153**	Pn	**Pn**		**00 07 25.6**	**-1.8**
DZM	**Mont Dzumac**	**12.55**	**159**	P	**Pn**		**00 07 41.6**	**+2.7**
	1.5nm,0.4s,baz=338,slow=16,SNR=17							
DZM	**Mont Dzumac**	**12.55**	**159**	Pn	**Pn**		**00 07 38.6**	**-0.3**
MARNC	**Mare, Loyalty**	**12.69**	**151**	Pn	**Pn**		**00 07 37.6**	**-3.1**
CTA	**Charters Tower**	**17.61**	**235**	P	**P**		**00 08 48.4**	**+3.8**
	2.6nm,0.7s,baz=62,slow=13,SNR=6.2							
CTAO	**Charters Tower**	**17.61**	**235**	P	**P**		**00 08 44.8**	**+0.2**
CTAO				IAmb	IAmb		00 08 48.4	
	comp=Z,6.3nm,1.2s							
WB0	**Warramunga Arr**	**27.78**	**247**	P	**P**		**00 10 25.5**	**-1.0**
WB0				IAmb	IAmb		00 10 26.6	
	comp=Z,2.5nm,0.7s							
WB2	**Warramunga Arr**	**27.87**	**247**	P	**P**		**00 10 26.9**	**-0.4**
WB2				IAmb	IAmb		00 10 54.7	
	comp=Z,10nm,1.5s							
WRA	**Warramunga Arr**	**27.88**	**247**	P	**P**		**00 10 27.2**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=77,slow=8.7,SNR=13							
	comp=Z,0.9nm,0.5s							
ASAR	**Alice Springs**	**29.47**	**240**	P	**P**		**00 10 40.3**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=63,slow=10,SNR=4.8							
	comp=Z,0.3nm,0.6s							
KNRA	**Kununurra**	**32.34**	**257**	P	**P**		**00 11 05.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**35.58**	**253**	P	**P**		**00 11 31.9**	**-3.0**
PETK	**Petropavlovsk-**	**63.31**	**357**	P	P		00 14 56.8	-8.6
VNDA	**Vanda**	**67.13**	**180**	P	P		00 15 21.0	-8.8
VNDA				IAmb	IAmb		00 15 22.9	
	comp=Z,6.9nm,1.4s							
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**		**00 18 06.6**	**+2.1**
	comp=Z,0.1nm,0.5s,baz=256,slow=5.0,SNR=2.6							
	comp=Z,0.1nm,0.5s							

*ROM **20** 00:09:16.4±0.1, 42°540N±0°003×13°292E±0°006, h11km, ML3.1/60, Error ellipse: s-maj=0.5km s-min=0.3km az=72.0*

*BEO **20** 00:09:18.5±0.6, 42°56N×13°29E, h0km, ML3.5/11*

ISC 20 00:09:17.6±0.8, 42°54N±0°02×13°28E±0°02, h9km±5km, n128, σ1§23/171, 37C-19D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
T1247	**Pizzolo (AQ)**	**0.10**	**170**	⇑P	**Pg**		**00 09 19.8**	**-0.3**
T1247				S	**Sg**		**00 09 21.9**	**0.0**
T1247				AML	AML			
	comp=E,85900µm,0.3s							
T1247				AML	AML			
	comp=N,53850µm,1.0s							
CAMP	**Campotosto**	**0.10**	**91**	P	**Pg**		**00 09 19.4**	**-0.8**
CAMP				S	**Sg**		**00 09 21.2**	**-0.9**
CAMP				AML	AML			
	comp=N,41250µm,0.4s							
CAMP				AML	AML			
	comp=E,32750µm,1.0s							
T1202	**Accumoli, Fraz**	**0.17**	**347**	⇓P	**Pg**		**00 09 20.9**	**-0.4**
T1202				S	**Sg**		**00 09 24.2**	**+0.3**
T1202				AML	AML			
	comp=N,69250µm,1.4s							
T1202				AML	AML			
	comp=E,46500µm,0.3s							
T1202				AML	AML			
	comp=N,69250µm,0.6s							
LNSS	**Leonessa**	**0.19**	**291**	P	**Pg**		**00 09 21.3**	**-0.2**
LNSS				S	**Sg**		**00 09 24.8**	**+0.6**
LNSS				AML	AML			
	comp=E,73400µm,0.2s							
LNSS				AML	AML			
	comp=N,76650µm,0.2s							
AQU	**L'Aquila**	**0.21**	**153**	⇓P	**Pg**		**00 09 21.4**	**-0.4**
AQU				S	**Sg**		**00 09 24.9**	**+0.2**
AQU				AML	AML			
	comp=E,7700µm,0.4s							
AQU				AML	AML			
	comp=N,9575µm,0.7s							
AQU				AML	AML			
	comp=E,7735µm,1.0s							
AQU				AML	AML			
	comp=N,9340µm,0.7s							
GIGS	**Gran Sasso**	**0.23**	**112**	⇑P	**Pg**		**00 09 21.4**	**-1.0**
GIGS				AML	AML			
	comp=E,5150µm,0.6s							
GIGS				AML	AML			
	comp=N,5370µm,0.3s							
GIGS				AML	AML			
	comp=E,5150µm,1.4s							
FIAM	**Fiamignano**	**0.29**	**204**	⇑P	**Pg**		**00 09 23.1**	**-0.5**
FIAM				S	**Sg**		**00 09 27.8**	**+0.4**
FIAM				AML	AML			
	comp=N,6385µm,1.0s							
FIAM				AML	AML			
	comp=E,6125µm,0.3s							
FIAM				AML	AML			
	comp=N,6390µm,1.0s							
FIAM				AML	AML			
	comp=N,6390µm,1.0s							
NRCA	**Norcia**	**0.32**	**338**	⇑P	**Pg**		**00 09 23.2**	**-0.8**
NRCA				S	**Sg**		**00 09 28.2**	**-0.1**
NRCA				AML	AML			
	comp=N,22000µm,0.1s							
NRCA				AML	AML			
	comp=N,22000µm,0.1s							
NRCA				AML	AML			
	comp=E,23700µm,0.5s							
FAGN	**Fagnano**	**0.35**	**140**	⇑P	**Pg**		**00 09 23.7**	**-0.9**
FAGN				AML	AML			
	comp=E,23000µm,0.8s							
FAGN				AML	AML			
	comp=E,23000µm,1.2s							
FAGN				AML	AML			
	comp=N,16050µm,0.3s							
ARRO	**Arrone**	**0.38**	**277**	⇑P	**Pg**		**00 09 24.5**	**-0.5**
ARRO				S	**Sg**		**00 09 30.6**	**+0.5**
ARRO				AML	AML			
	comp=E,2645µm,0.5s							
ARRO				AML	AML			
	comp=N,5325µm,1.2s							
ARRO				AML	AML			
	comp=N,5325µm,0.8s							
ARRO				AML	AML			
	comp=E,2645µm,1.5s							
T1215	**Vallo di Nera,**	**0.40**	**312**	⇑P	**Pg**		**00 09 24.6**	**-0.8**
T1215				S	**Sg**		**00 09 30.9**	**+0.1**
T1215				AML	AML			
	comp=E,2485µm,1.2s							
T1215				AML	AML			
	comp=E,2425µm,1.2s							
T1215				AML	AML			
	comp=E,2485µm,0.8s							
T1215				AML	AML			
	comp=E,2425µm,0.8s							
T1215				AML	AML			
	comp=N,2150µm,1.4s							
T1215				AML	AML			
	comp=N,2165µm,1.4s							
FEMA	**Monte Fema**	**0.46**	**339**	S	**Sg**		**00 09 33.3**	**+0.7**
FEMA				AML	AML			
	comp=E,5210µm,1.2s							
FEMA				AML	AML			
	comp=N,3765µm,0.4s							
FEMA				AML	AML			
	comp=E,5210µm,0.8s							
OFFI	**Offida**	**0.50**	**37**	P	**Pg**		**00 09 26.9**	**-0.4**
OFFI				AML	AML			
	comp=E,11250µm,0.5s							
OFFI				AML	AML			
	comp=N,17200µm,0.5s							
OFFI				AML	AML			
	comp=E,11250µm,1.5s							
OFFI				AML	AML			
	comp=N,17200µm,1.5s							
FDMO	**Fiordimonte**	**0.52**	**345**	⇑P	**Pg**		**00 09 25.9**	**-1.8**
FDMO				S	**Sg**		**00 09 35.0**	**+0.5**
FDMO				AML	AML			
	comp=N,1645µm,1.0s							
FDMO				AML	AML			
	comp=E,1790µm,1.3s							
FDMO				AML	AML			
	comp=E,1790µm,0.7s							
CESX	**Cesi**	**0.52**	**278**	⇑P	**Pg**		**00 09 26.7**	**-1.0**
CESX				AML	AML			
	comp=E,1725µm,0.6s							
CESX				AML	AML			
	comp=N,2065µm,0.5s							
PTQR	**Pietraquaria**	**0.52**	**170**	⇑P	**Pg**		**00 09 26.6**	**-1.1**
PTQR				AML	AML			
	comp=N,918µm,1.4s							
PTQR				AML	AML			
	comp=E,1216µm,0.8s							
PTQR				AML	AML			
	comp=N,918µm,0.6s							
GUMA	**Gualdo di Mace**	**0.53**	**5**	⇑P	**Pg**		**00 09 27.1**	**-0.8**
GUMA				AML	AML			
	comp=E,8235µm,0.5s							
GUMA				AML	AML			
	comp=N,13000µm,0.4s							
GUMA				AML	AML			
	comp=E,7225µm,0.5s							
GUMA				AML	AML			
	comp=N,13000µm,1.6s							
GUMA				AML	AML			
	comp=N,13750µm,0.4s							
CESI	**CESI - Serrava**	**0.54**	**330**	P	**Pg**		**00 09 26.7**	**-1.5**
CESI				S	**Sg**		**00 09 35.3**	**0.0**
CESI				AML	AML			
	comp=E,2210µm,1.2s							
CESI				AML	AML			
	comp=E,2210µm,0.8s							
CESI				AML	AML			
	comp=N,2495µm,0.3s							
TRTR	**Tortoreto Alta**	**0.54**	**60**	⇑P	**Pg**		**00 09 27.8**	**-0.3**
TRTR				AML	AML			
	comp=N,5370µm,1.5s							
TRTR				AML	AML			
	comp=N,5370µm,0.5s							
TRTR				AML	AML			
	comp=E,7765µm,1.0s							
MOMA	**Monte Martano**	**0.58**	**297**	⇑P	**Pg**		**00 09 28.0**	**-1.0**
MOMA				S	**Sg**		**00 09 37.7**	**+1.0**
MOMA				AML	AML			
	comp=E,6780µm,0.2s							
MOMA				AML	AML			
	comp=N,4550µm,0.2s							
MOMA				AML	AML			
	comp=N,4550µm,0.2s							
MOMA				AML	AML			
	comp=E,6875µm,1.1s							
MOMA				AML	AML			
	comp=N,4935µm,0.2s							
MOMA				AML	AML			
	comp=N,4550µm,1.8s							
MOMA				AML	AML			
	comp=N,4935µm,1.8s							
MOMA				AML	AML			
	comp=E,6875µm,0.9s							
T1220	**Camerino, Fraz**	**0.59**	**347**	⇓P	**Pg**		**00 09 27.8**	**-1.2**
T1220				S	**Sg**		**00 09 37.2**	**+0.4**
T1220				AML	AML			
	comp=E,8550µm,1.6s							
T1220				AML	AML			
	comp=E,8160µm,1.6s							
T1220				AML	AML			
	comp=N,8265µm,1.4s							
T1220				AML	AML			
	comp=E,8160µm,0.4s							
T1220				AML	AML			
	comp=N,8285µm,1.4s							
T1220				AML	AML			
	comp=N,8270µm,1.4s							
T1220				AML	AML			
	comp=E,8550µm,0.4s							
MNTP	**Montappone**	**0.62**	**13**	⇓P	**Pg**		**00 09 29.1**	**-0.5**
MNTP				AML	AML			
	comp=E,4995µm,0.3s							
MNTP				AML	AML			
	comp=N,3400µm,0.5s							
MNTP				AML	AML			
	comp=N,3400µm,1.5s							
CERT	**Cerreto**	**0.63**	**200**	P	**Pg**		**00 09 28.1**	**-1.6**
CERT				AML	AML			
	comp=E,2740µm,0.4s							
CERT				AML	AML			
	comp=N,2465µm,0.4s							
CERT				AML	AML			
	comp=N,2465µm,1.6s							
SRES	**S.Oreste - Sor**	**0.64**	**242**	⇑P	**Pg**		**00 09 28.9**	**-1.1**
SRES				S	**Sb**		**00 09 40.9**	**+0.9**
SRES				AML	AML			
	comp=E,1200µm,0.6s							
SRES				AML	AML			
	comp=E,1200µm,1.4s							
SRES				AML	AML			
	comp=N,1215µm,0.5s							
MTCE	**Montecelio**	**0.65**	**218**	⇑P	**Pg**		**00 09 28.9**	**-1.3**
MTCE				AML	AML			
	comp=E,1880µm,0.3s							
MTCE				AML	AML			
	comp=N,1750µm,0.6s							
ASSB	**Assisi San Ben**	**0.68**	**318**	⇑P	**Pg**		**00 09 29.6**	**-1.2**
ASSB				S	**Sg**		**00 09 40.5**	**+0.8**
ASSB				AML	AML			
	comp=E,2465µm,0.3s							
ASSB				AML	AML			
	comp=N,2625µm,0.3s							
VVLD	**Villa Vallelon**	**0.71**	**159**	⇓P	**Pg**		**00 09 30.8**	**-0.6**
VVLD				AML	AML			
	comp=N,1940µm,0.5s							
VVLD				AML	AML			
	comp=N,1940µm,1.5s							
VVLD				AML	AML			
	comp=E,2085µm,0.5s							
RCAV	**Rocca di Cave**	**0.73**	**200**	⇓P	**Pg**		**00 09 31.5**	**-0.2**
RCAV				AML	AML			
	comp=E,1770µm,0.4s							
RCAV				AML	AML			
	comp=E,1770µm,1.6s							
RCAV				AML	AML			
	comp=N,2240µm,0.6s							
SNTG	**Esanatoglia**	**0.76**	**341**	⇑P	**Pg**		**00 09 30.9**	**-1.4**
SNTG				AML	AML			
	comp=E,1125µm,0.5s							
SNTG				AML	AML			
	comp=N,928µm,1.1s							
SNTG				AML	AML			
	comp=N,964µm,1.0s							
SNTG				AML	AML			
	comp=E,1125µm,0.6s							
SNTG				AML	AML			
	comp=N,964µm,1.0s							
SNTG				AML	AML			
	comp=E,882µm,0.5s							
EL6	**Elcito**	**0.80**	**351**	⇑P	**Pg**		**00 09 31.6**	**-1.4**
EL6				AML	AML			
	comp=E,1680µm,0.4s							
EL6				AML	AML			
	comp=N,2080µm,1.4s							
EL6				AML	AML			
	comp=N,2075µm,1.4s							
EL6				AML	AML			
	comp=N,2075µm,0.6s							
LPEL	**Lama dei Pelig**	**0.83**	**126**	⇑P	**Pg**		**00 09 31.6**	**-2.0**
LPEL				S	**Sg**		**00 09 43.9**	**-0.5**
LPEL				AML	AML			
	comp=E,2305µm,0.3s							
LPEL				AML	AML			
	comp=N,2145µm,0.3s							
LPEL				AML	AML			
	comp=N,2145µm,1.7s							
CING	**Cingoli**	**0.84**	**356**	⇑P	**Pg**		**00 09 32.3**	**-1.5**
CING				AML	AML			
	comp=E,1310µm,1.2s							
CING				AML	AML			
	comp=E,1310µm,0.8s							
CING				AML	AML			
	comp=N,1014µm,0.7s							
FOSV	**Fossato di Vic**	**0.85**	**334**	⇑P	**Pg**		**00 09 32.8**	**-1.1**
FOSV				S	**Sg**		**00 09 45.8**	**+0.8**
FOSV				AML	AML			
	comp=N,741µm,0.3s							
FOSV				AML	AML			
	comp=E,790µm,1.0s							
PP3	**Marolino**	**0.88**	**16**	⇓P	**Pg**		**00 09 33.8**	**-0.7**
PP3				AML	AML			
	comp=N,2515µm,0.9s							
PP3				AML	AML			
	comp=E,4345µm,0.6s							
PP3				AML	AML			
	comp=N,2435µm,0.9s							
PP3				AML	AML			
	comp=E,4295µm,0.5s							
RDP	**Rocca di Papa**	**0.88**	**208**	P	**Pb**		**00 09 34.6**	**-0.5**
RDP				AML	AML			
	comp=N,3885µm,0.4s							
RDP				AML	AML			
	comp=E,4110µm,0.5s							
MURB	**Monte Urbino**	**0.91**	**323**	⇓P	**Pg**		**00 09 34.1**	**-1.1**
MURB				S	**Sg**		**00 09 44.7**	**-2.3**
MURB				AML	AML			
	comp=E,2620µm,1.6s							
MURB				AML	AML			
	comp=E,2900µm,1.5s							
MURB				AML	AML			
	comp=N,3365µm,0.9s							
MURB				AML	AML			
	comp=N,3325µm,0.3s							
MURB				AML	AML			
	comp=E,2625µm,1.6s							
MURB				AML	AML			
	comp=E,2900µm,0.5s							
MURB				AML	AML			
	comp=N,3365µm,1.1s							
MGAB	**Montegabbione**	**0.94**	**294**	⇑P	**Pg**		**00 09 34.4**	**-1.2**
MGAB				S	**Sb**		**00 09 49.0**	**+0.4**
MGAB				AML	AML			
	comp=N,1955µm,0.4s							
MGAB				AML	AML			
	comp=E,1545µm,0.5s							
MGAB				AML	AML			
	comp=N,2235µm,0.4s							
MGAB				AML	AML			
	comp=N,1955µm,1.6s							
MGAB				AML	AML			
	comp=E,1410µm,0.5s							
MGAB				AML	AML			
	comp=N,2235µm,1.6s							
LAV9	**Lanuvio**	**0.96**	**207**	⇑P	**Pn**		**00 09 37.3**	**0.0**
LAV9				AML	AML			
	comp=E,3325µm,0.5s							
LAV9				AML	AML			
	comp=E,3635µm,0.5s							
LAV9				AML	AML			
	comp=N,3310µm,0.6s							
LAV9				AML	AML			
	comp=E,3325µm,1.5s							
LAV9				AML	AML			
	comp=N,3185µm,0.6s							
LAV9				AML	AML			
	comp=E,3635µm,1.5s							
SSFR	**Montelago di S**	**0.97**	**338**	⇑P	**Pg**		**00 09 35.2**	**-1.0**
SSFR				AML	AML			
	comp=E,1565µm,0.2s							
SSFR				AML	AML			
	comp=E,1360µm,0.3s							
SSFR				AML	AML			
	comp=N,1290µm,0.7s							
SSFR				AML	AML			
	comp=N,1490µm,0.3s							
SSFR				AML	AML			
	comp=E,1360µm,1.7s							
GIUL	**Giuliano Di Ro**	**0.98**	**181**	⇑P	**Pg**		**00 09 35.6**	**-0.8**
GIUL				AML	AML			
	comp=E,726µm,1.5s							
GIUL				AML	AML			
	comp=N,589µm,0.4s							
GIUL				AML	AML			
	comp=E,726µm,0.5s							
ARVD	**Arcevia**	**0.99**	**346**	⇑P	**Pg**		**00 09 35.0**	**-1.6**
ARVD				S	**Sb**		**00 09 51.1**	**+0.9**
ARVD				AML	AML			
	comp=E,682µm,1.4s							
ARVD				AML	AML			
	comp=N,1120µm,0.6s							
ARVD				AML	AML			
	comp=E,682µm,0.6s							
AOI	**Ancona**	**1.04**	**13**	⇑P	**Pg**		**00 09 36.4**	**-1.2**
AOI				S	**Sb**		**00 09 52.9**	**+1.3**
AOI				AML	AML			
	comp=E,769µm,1.4s							
AOI				AML	AML			

	comp=N,730µm,1.3s									
AOI					AML	AML				
	comp=N,730µm,0.7s									
SACS	**San Casciano d**	**1.05**	**288**		P	**Pg**	**00**	**09**	**37.0**	**-0.8**
SACS					AML	AML				
	comp=E,630µm,0.8s									
SACS					AML	AML				
	comp=N,737µm,0.8s									
SACS					AML	AML				
	comp=E,596µm,0.7s									
SACS					AML	AML				
	comp=N,745µm,0.8s									
SACS					AML	AML				
	comp=N,737µm,1.2s									
SACS					AML	AML				
	comp=E,596µm,1.3s									
SACS					AML	AML				
	comp=N,745µm,1.2s									
TOLF	**Tolfa**	**1.06**	**244**	⇓	P	**Pg**	**00**	**09**	**36.5**	**-1.4**
TOLF					AML	AML				
	comp=E,1085µm,0.7s									
TOLF					AML	AML				
	comp=N,760µm,0.8s									
TOLF					AML	AML				
	comp=N,760µm,1.2s									
TOLF					AML	AML				
	comp=E,1085µm,1.3s									
FRON	**Frontone**	**1.06**	**338**	⇓	P	**Pg**	**00**	**09**	**36.5**	**-1.5**
FRON					S	**Sg**	**00**	**09**	**52.2**	**+0.5**
FRON					AML	AML				
	comp=E,679µm,0.5s									
FRON					AML	AML				
	comp=N,854µm,0.5s									
LATB	**Latina**	**1.07**	**193**	⇓	P	**Pb**	**00**	**09**	**37.9**	**-0.3**
LATB					AML	AML				
	comp=E,216µm,0.9s									
LATB					AML	AML				
	comp=N,248µm,0.6s									
LATB					AML	AML				
	comp=N,248µm,1.4s									
LATB					AML	AML				
	comp=E,216µm,1.1s									
ATMI	**Monte Miggiano**	**1.09**	**317**		P	**Pg**	**00**	**09**	**38.0**	**-0.5**
ATMI					AML	AML				
	comp=E,1835µm,0.7s									
ATMI					AML	AML				
	comp=N,1525µm,0.4s									
ATMI					AML	AML				
	comp=E,1835µm,1.3s									
ATMI					AML	AML				
	comp=N,1525µm,1.6s									
PIEI	**Pieia**	**1.14**	**332**	⇓	P	**Pg**	**00**	**09**	**37.3**	**-2.2**
PIEI					AML	AML				
	comp=E,540µm,1.1s									
PIEI					AML	AML				
	comp=N,366µm,0.3s									
PIEI					AML	AML				
	comp=E,540µm,0.9s									
MPAG	**Monte Paganucc**	**1.16**	**341**	⇓	P	**Pg**	**00**	**09**	**38.3**	**-1.5**
MPAG					AML	AML				
	comp=E,452µm,0.8s									
MPAG					AML	AML				
	comp=N,307µm,1.3s									
MPAG					AML	AML				
	comp=N,270µm,1.6s									
MPAG					AML	AML				
	comp=N,270µm,0.4s									
MPAG					AML	AML				
	comp=E,433µm,0.3s									
MPAG					AML	AML				
	comp=E,452µm,1.2s									
NARO	**Abbazia di Nar**	**1.19**	**335**	⇓	P	**Pg**	**00**	**09**	**38.6**	**-1.8**
NARO					AML	AML				
	comp=N,388µm,0.7s									
NARO					AML	AML				
	comp=E,520µm,0.7s									
MCIV	**Monte Civitell**	**1.20**	**282**	⇑	P	**Pg**	**00**	**09**	**39.8**	**-0.9**
MCIV					S	**Sn**	**00**	**09**	**57.9**	**+0.7**
MCIV					AML	AML				
	comp=N,262µm,1.2s									
MCIV					AML	AML				
	comp=N,262µm,0.8s									
MCIV					AML	AML				
	comp=E,398µm,0.9s									
SF04	**Casetta**	**1.23**	**285**	⇑	P	**Pg**	**00**	**09**	**40.1**	**-1.0**
SF04					S	**Sn**	**00**	**09**	**58.9**	**+1.1**
SF04					AML	AML				
	comp=N,302µm,1.0s									
SF04					AML	AML				
	comp=E,324µm,0.5s									
CAFI	**Castiglion Fio**	**1.25**	**310**	⇑	P	**Pg**	**00**	**09**	**40.1**	**-1.4**
CAFI					S	**Sb**	**00**	**09**	**58.8**	**+1.3**
CAFI					AML	AML				
	comp=E,538µm,0.5s									
CAFI					AML	AML				
	comp=N,608µm,0.7s									
CAFI					AML	AML				
	comp=E,531µm,0.5s									
CAFI					AML	AML				
	comp=N,606µm,0.6s									
CAFI					AML	AML				
	comp=E,538µm,1.5s									
CAFI					AML	AML				
	comp=E,531µm,1.5s									
PE3	**Peglio**	**1.29**	**334**		P	**Pg**	**00**	**09**	**41.0**	**-1.4**
PE3					AML	AML				
	comp=N,3µm,0.4s									
PE3					AML	AML				
	comp=E,1825µm,0.7s									
ARCI	**Arcidosso**	**1.36**	**284**		P	**Pn**	**00**	**09**	**42.7**	**-0.2**
ARCI					AML	AML				
	comp=E,130µm,1.0s									
ARCI					AML	AML				
	comp=E,130µm,1.0s									
ARCI					AML	AML				
	comp=N,173µm,1.3s									
CRE	**Caprese Michel**	**1.45**	**319**	⇑	P	**Pn**	**00**	**09**	**43.6**	**-0.5**
CRE					AML	AML				
	comp=E,244µm,0.7s									
CRE					AML	AML				
	comp=N,330µm,0.7s									
CRE					AML	AML				
	comp=N,330µm,1.3s									
CRE					AML	AML				
	comp=E,244µm,1.3s									
MAON	**Monte Argentar**	**1.59**	**267**	⇑	P	**Pn**	**00**	**09**	**45.0**	**-0.9**
CASP	**Castiglione de**	**1.80**	**279**	⇑	P	**Pn**	**00**	**09**	**48.0**	**-0.8**
RUFI	**Rufina**	**1.83**	**316**	⇑	P	**Pn**	**00**	**09**	**49.5**	**+0.3**
RUFI					AML	AML				
	comp=E,160µm,0.9s									
RUFI					AML	AML				
	comp=E,160µm,1.1s									
RUFI					AML	AML				
	comp=N,181µm,0.8s									
TRIF	**Trifonti**	**1.84**	**289**	⇓	P	**Pn**	**00**	**09**	**49.2**	**-0.2**
TRIF					AML	AML				
	comp=E,79µm,1.4s									
TRIF					AML	AML				
	comp=N,122µm,1.1s									
TRIF					AML	AML				
	comp=E,79µm,0.6s									
AMUR	**Altamura**	**2.98**	**122**	⇑	P	**Pn**	**00**	**10**	**06.0**	**+1.0**
SKDS	**Skadanscina**	**3.06**	**10**		*e*Pn	**Pn**	**00**	**10**	**03.4**	**-2.7**
A050A	**Klekovaca**	**3.06**	**50**		*e*Pn	**Pn**	**00**	**10**	**07.0**	**+0.7**
SRKY	**Kupres RS**	**3.23**	**60**		*e*Pn	**Pn**	**00**	**10**	**08.3**	**-0.2**
STON	**Ston**	**3.28**	**83**		*e*Pn	**Pn**	**00**	**10**	**10.9**	**+1.8**
STON					*e*Sn	**Sn**	**00**	**10**	**49.4**	**+1.2**
STON	**Ston**	**3.28**	**83**		*e*Pn	**Pn**	**00**	**10**	**07.9**	**-1.2**
BOJS	**Bojanci**	**3.29**	**25**		*e*Pn	**Pn**	**00**	**10**	**08.4**	**-0.9**
CEY	**Cerknica**	**3.31**	**14**		*e*Pn	**Pn**	**00**	**10**	**10.7**	**+1.2**
MGRS	**Mrkonjic Grad**	**3.35**	**55**		*e*Pn	**Pn**	**00**	**10**	**12.6**	**+2.5**
ROVR	**Rover Verones**	**3.49**	**334**	⇓	P	**Pn**	**00**	**10**	**12.7**	**+0.6**
CGRP	**Cima Grappa**	**3.51**	**343**		P	**Pn**	**00**	**10**	**12.8**	**+0.3**
BLY	**Banja Luka**	**3.60**	**51**		*e*Pn	**Pn**	**00**	**10**	**15.6**	**+2.1**
BLY					*e*Sn	**Sn**	**00**	**10**	**58.7**	**+2.6**
BLY	**Banja Luka**	**3.60**	**51**		*e*Pn	**Pn**	**00**	**10**	**15.6**	**+2.1**
A051A	**Mrakovica**	**3.61**	**46**		*e*Pn	**Pn**	**00**	**10**	**14.4**	**+0.6**
CRES	**Cresnjev**	**3.64**	**25**		*e*Pn	**Pn**	**00**	**10**	**14.9**	**+0.7**
SALO	**Salr**	**3.66**	**328**		P	**Pn**	**00**	**10**	**14.9**	**+0.5**
DOSS	**Dosso del Somm**	**3.66**	**337**	⇓	P	**Pn**	**00**	**10**	**15.2**	**+0.6**
CTI	**Castel Tesino**	**3.70**	**342**	⇑	P	**Pn**	**00**	**10**	**15.4**	**+0.4**
TREB	**Trebinje**	**3.75**	**86**		*e*Pn	**Pn**	**00**	**10**	**17.1**	**+1.5**
TREB					*e*Sn	**Sn**	**00**	**11**	**00.8**	**+1.0**
TREB	**Trebinje**	**3.75**	**86**		*e*Pn	**Pn**	**00**	**10**	**14.9**	**-0.7**
LUSI	**Trento, Gardas**	**3.81**	**335**		S	**Sn**	**00**	**11**	**03.3**	**+1.9**
CIMO	**Cimolais**	**3.82**	**351**	⇑	P	**Pn**	**00**	**10**	**15.8**	**-0.8**
HCY	**Herceg Novi**	**3.86**	**90**		*e*Pn	**Pn**	**00**	**10**	**16.9**	**-0.2**
BRY	**Bratogost**	**3.90**	**83**		*e*Pn	**Pn**	**00**	**10**	**17.8**	**+0.1**
A052A	**Srbac**	**4.00**	**49**		*e*Pn	**Pn**	**00**	**10**	**16.0**	**-3.0**
FVI	**Forni Avoltri**	**4.07**	**355**	⇓	P	**Pn**	**00**	**10**	**19.1**	**-1.1**
FVI					AML	AML				
	comp=E,31µm,0.4s									
FVI					AML	AML				
	comp=N,38µm,1.6s									
FVI					AML	AML				
	comp=N,38µm,0.4s									
OBKA	**Obir**	**4.07**	**12**		*e*Pn	**Pn**	**00**	**10**	**21.7**	**+1.6**
	comp=N,0.8nm,0.3s									
OBKA	**Obir**	**4.07**	**12**		*e*Pn	**Pn**	**00**	**10**	**19.8**	**-0.4**
MYKA	**Terra Mystica**	**4.10**	**4**		*i* Pn	**Pn**	**00**	**10**	**22.1**	**+1.6**
	comp=N,2.7nm,0.3s									
IMI	**Imperia**	**4.17**	**291**		P	**Pg**	**00**	**10**	**37.8**	**+0.4**
UPM	**Unac-Piva**	**4.19**	**79**		*e*Pn	**Pn**	**00**	**10**	**22.5**	**+0.6**
VSL	**Villasalto**	**4.23**	**225**	⇑	P	**Pn**	**00**	**10**	**22.9**	**+0.7**
ABTA	**Abfaltersbach**	**4.25**	**353**		*e*Pn	**Pn**	**00**	**10**	**23.1**	**+0.6**
	comp=N,9.6nm,0.6s									
ABTA					*e*Sn	**Sn**	**00**	**11**	**12.7**	**+0.5**
	comp=N,9.0nm,0.5s									
DRME	**Dracevica, Mon**	**4.39**	**93**		*e*Pn	**Pn**	**00**	**10**	**24.6**	**+0.2**
PDG	**Podgorica**	**4.42**	**89**		*e*Pn	**Pn**	**00**	**10**	**27.7**	**+2.9**
PDG					*e*Sn	**Sn**	**00**	**11**	**16.6**	**+0.2**
RISI	**Rein**	**4.49**	**349**	⇓	P	**Pn**	**00**	**10**	**26.8**	**+0.8**
KBA	**Koelnbreinsper**	**4.54**	**1**		*e*Pn	**Pn**	**00**	**10**	**28.0**	**+1.4**
	comp=N,3.6nm,0.4s									
KBA					*e*Sn	**Sn**	**00**	**11**	**17.6**	**-2.0**
	comp=N,6.4nm,0.4s									
RUDO	**Rudo**	**4.59**	**74**		*e*Pn	**Pn**	**00**	**10**	**27.0**	**-0.2**
BBLS	**Lazići**	**4.67**	**71**		*e*Pn	**Pn**	**00**	**10**	**28.9**	**+0.5**
BBLS					*e*Sn	**Sn**	**00**	**11**	**23.7**	**+1.0**
FETA	**Feichten**	**4.84**	**339**		*e*Pn	**Pn**	**00**	**10**	**33.1**	**+2.4**
	comp=N,0.9nm,0.4s									
WTTA	**Wattenberg**	**4.87**	**347**		*e*Pn	**Pn**	**00**	**10**	**32.6**	**+1.5**
	comp=N,0.6nm,0.2s									
SQTA	**Sankt Quirin**	**4.91**	**343**		*e*Pn	**Pn**	**00**	**10**	**33.2**	**+1.6**
	comp=N,1.4nm,0.2s									
SQTA					*e*Sn	**Sn**	**00**	**11**	**28.1**	**-0.4**
	comp=N,12nm,0.5s									
WATA	**Walderalm**	**4.95**	**346**		*e*Pn	**Pn**	**00**	**10**	**34.0**	**+1.8**
	comp=N,1.2nm,0.2s									
SJES	**Sjenica**	**4.97**	**79**		*e*Pn	**Pn**	**00**	**10**	**33.6**	**+1.1**
SJES					*e*Sn	**Sn**	**00**	**11**	**30.4**	**+0.2**
ARSA	**Arzberg**	**4.98**	**18**		*i* Pn	**Pn**	**00**	**10**	**33.7**	**+1.2**
	comp=N,1.1nm,0.4s									
MOTA	**Moosalm**	**5.05**	**343**		*e*Pn	**Pn**	**00**	**10**	**35.8**	**+2.2**
	comp=N,2.3nm,0.5s									
TIR	**Tirane**	**5.06**	**101**		*e*Pn	**Pn**	**00**	**10**	**34.4**	**+0.8**
DIVS	**Divibare**	**5.14**	**70**		*e*Pn	**Pn**	**00**	**10**	**37.2**	**+2.4**
DIVS	**Divibare**	**5.14**	**70**		*e*Pn	**Pn**	**00**	**10**	**35.7**	**+0.9**
IVAS	**Ivanjica**	**5.14**	**76**		*e*Pn	**Pn**	**00**	**10**	**34.9**	**+0.1**
IVAS					*e*Sn	**Sn**	**00**	**11**	**33.5**	**-0.8**
BIOA	**Bad Ischl, Aus**	**5.16**	**3**		*e*Pn	**Pn**	**00**	**10**	**32.6**	**-2.4**
	comp=N,2.2nm,0.4s									
RETA	**Reutte**	**5.26**	**341**		*e*Pn	**Pn**	**00**	**10**	**38.9**	**+2.5**
	comp=N,2.1nm,0.5s									
DAVA	**Damuels**	**5.33**	**334**		*e*Pn	**Pn**	**00**	**10**	**40.2**	**+2.8**
	comp=N,6.0nm,0.5s									
MOA	**Molln**	**5.36**	**7**		*i* Pn	**Pn**	**00**	**10**	**39.0**	**+1.3**
	comp=N,1.9nm,0.5s									
MOA	**Molln**	**5.36**	**7**		*e*Pn	**Pn**	**00**	**10**	**38.7**	**+1.0**
MOA					*e*Sn	**Sn**	**00**	**11**	**38.2**	**-1.3**
FRGS	**Fruska Gora**	**5.40**	**59**		*e*Pn	**Pn**	**00**	**10**	**38.7**	**+0.4**
TRUS	**Trudelj**	**5.46**	**70**		*e*Pn	**Pn**	**00**	**10**	**41.3**	**+2.1**
RONA	**Rosalia, Austr**	**5.59**	**21**		*i* Pn	**Pn**	**00**	**10**	**42.3**	**+1.4**
	comp=N,0.5nm,0.2s									
GRUS	**Gruza**	**5.60**	**74**		*e*Pn	**Pn**	**00**	**10**	**41.2**	**+0.1**
GRUS					*e*Sn	**Sn**	**00**	**11**	**44.5**	**-1.0**
CONA	**Conrad Observa**	**5.69**	**18**		*i* Pn	**Pn**	**00**	**10**	**43.6**	**+1.2**
	comp=N,1.1nm,0.3s									
CONA					*e*Sn	**Sn**	**00**	**11**	**46.6**	**-1.2**
	comp=N,1.4nm,0.5s									
OHR	**Ohrid**	**5.80**	**102**		*e*Pn	**Pn**	**00**	**10**	**46.2**	**+2.4**
SELS	**Selova**	**5.80**	**81**		*e*Pn	**Pn**	**00**	**10**	**44.4**	**+0.5**
BARS	**Barje**	**6.30**	**85**		*e*Pn	**Pn**	**00**	**10**	**50.8**	**+0.1**
BARS					*e*Sn	**Sn**	**00**	**12**	**02.3**	**-0.5**
FNA	**Florina**	**6.32**	**103**		*e*Pn	**Pn**	**00**	**10**	**52.5**	**+1.6**
FNA					*e*Sn	**Sn**	**00**	**12**	**01.5**	**-1.7**
PRVS	**Prvonek**	**6.50**	**87**		*e*Pn	**Pn**	**00**	**10**	**53.6**	**+0.1**
PRVS					*e*Sn	**Sn**	**00**	**12**	**05.8**	**-2.0**
BZS	**Buzias**	**6.75**	**60**		*e*Pn	**Pn**	**00**	**10**	**57.9**	**+1.1**
VTS	**Vitosha**	**7.35**	**86**		*e*Pn	**Pn**	**00**	**11**	**05.6**	**+0.4**
VTS	**Vitosha**	**7.35**	**86**		*e*Pn	**Pn**	**00**	**11**	**05.7**	**+0.5**
VTS					*e*Sn	**Sn**	**00**	**12**	**27.1**	**-1.7**
VTS					*e*Sn	**Sn**	**00**	**12**	**27.1**	**-1.7**

*NEIC **20** 00:20:38.7±2.6, 43˚.86N±0˚.09×148˚.5E±0˚.1, h35km±2km, mb4.3/24, Error ellipse: s-maj=17.0km s-min=12.7km az=131.0*
*MOS **20** 00:20:38.3±1.3, 43˚.90N×148˚.40E, h65km, mb4.1/12, Error ellipse: s-maj=9.3km s-min=7.0km az=80.4*
*IDC **20** 00:20:40.6±2.3, 43˚.92N×148˚.33E, h65km±21km, mb3.6/18, mbtmp3.9/21, Error ellipse: s-maj=18.4km s-min=13.3km az=158.0*
*JMA **20** 00:20:40.2±0.3, 44˚N±1˚×14˚8E±˚, h5km, MV4.8/36, SE OFF ETOROFU*
*SKHL **20** 00:20:40.6±0.6, 43˚.90N×148˚.30E, h87km±2km, mb5.1/4, mshal6.1/3*

ISC 20 00:20:39.1±0.9, 43˚.90N±0˚.06×148˚.38E±0˚.06, h51km±7km, n139, σ1$37/152, mb4.2/35, 4C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.38**	**345**	*c i*	PN	**Pn**	**00 21 03.4**	**+1.4**
KUR				*e*	S	**Sn**	**00 21 18.9**	**-0.2**
KUR					pmax	pmax		
	comp=Z,324nm,0.5s							
KUR					pmax	pmax		
	comp=E,93nm,0.3s							
KUR					pmax	pmax		
	comp=N,90nm,0.5s							
KUR					smax	smax		
	comp=N,4µm,0.4s							
KUR					smax	smax		
	comp=E,1µm,0.3s							
KUR	**Kuril'sk**	**1.38**	**345**	*i*	P	**Pn**	**00 21 03.0**	**+1.0**
KUR					AMB	AMB	00 21 03.9	
	comp=E,350nm,0.2s							
KUR					*e*S	**Sn**	**00 21 20.2**	**+1.1**
KUR					A	A	00 21 21.9	
	comp=E,4µm,0.3s							
KUR					A	A	00 21 21.9	
	comp=E,2µm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.82**	**275**	*c i*	PN	**Pn**	**00 21 09.0**	**+1.0**
YUK				*i*	S	**Sn**	**00 21 29.8**	**-0.1**
YUK					pmax	pmax		
	comp=N,281nm,0.2s							
YUK					pmax	pmax		
	comp=Z,1µm,0.2s							
YUK					pmax	pmax		
	comp=E,272nm,0.1s							
YUK					smax	smax		
	comp=N,3µm,0.2s							
YUK					smax	smax		
	comp=E,6µm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.82**	**275**	*i*	P	**Pn**	**00 21 08.8**	**+0.8**
YUK					AMB	AMB	00 21 10.8	
	comp=E,550nm,0.3s							
YUK				*i*	S	**Sn**	**00 21 29.5**	**-0.4**
YUK					A	A	00 21 30.8	
	comp=E,3µm,0.4s							
YUK					A	A	00 21 30.8	
	comp=E,4µm,0.4s							
NEM2	**Nemuro 2**	**1.99**	**255**	*e*	P	**Pn**	**00 21 11.2**	**+1.0**
NEM2				*e*	S	**Sn**	**00 21 33.1**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.00**	**256**	⇑ *i*	PN	**Pn**	**00 21 11.2**	**+0.9**
NMR				*e*	S	**Sn**	**00 21 33.3**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.00**	**256**	*i*	P	**Pn**	**00 21 11.2**	**+0.9**
NMR					AMB	AMB	00 21 13.3	
	comp=E,320nm,0.3s							
NMR				*e*	S	**Sn**	**00 21 33.3**	**-0.8**
NMR					A	A	00 21 36.0	
	comp=E,600nm,0.2s							
NMR					A	A	00 21 36.0	
	comp=E,850nm,0.2s							
RUSJ	**Misakicho**	**2.27**	**276**	⇑ *i*	PN	**Pn**	**00 21 16.2**	**+2.1**
RUSJ				*e*	S	**Sn**	**00 21 42.4**	**+1.6**
JRA	**Rausu**	**2.36**	**272**	*e*	P	**Pn**	**00 21 16.9**	**+1.7**
JRA				*e*	S	**Sn**	**00 21 43.9**	**+0.9**
JNSB	**Nemuroshibetsu**	**2.45**	**268**		P	**Pn**	**00 21 18.4**	**+1.9**
JNSB				*e*	S	**Sn**	**00 21 45.9**	**+0.7**
JKHN	**Kushirohamanak**	**2.48**	**252**		P	**Pn**	**00 21 18.3**	**+1.4**
JKHN				*e*	S	**Sn**	**00 21 45.9**	**-0.1**
JNK	**Nakash**	**2.67**	**265**	*e*	P	**Pn**	**00 21 20.8**	**+1.2**
AKK	**Akkeshi**	**2.72**	**252**	*e*	P	**Pn**	**00 21 21.1**	**+0.8**
JAK	**Akkeshi**	**2.83**	**253**	*e*	P	**Pn**	**00 21 22.8**	**+1.1**
JTKR	**Abashiri--Toko**	**3.23**	**273**	*e*	P	**Pn**	**00 21 29.2**	**+2.0**
JAR	**Ashorobuto**	**3.40**	**261**	*e*	P	**Pn**	**00 21 31.4**	**+1.8**
JAR				*e*	S	**Sn**	**00 22 10.1**	**+1.3**
JOB	**Onbets**	**3.46**	**255**	*e*	P	**Pn**	**00 21 31.9**	**+1.5**
JOB				*e*	S	**Sn**	**00 22 10.1**	**+0.1**
JMP	**Maruseppu**	**3.63**	**273**	*e*	P	**Pn**	**00 21 35.0**	**+2.2**
JCH	**Churui**	**3.88**	**252**	*e*	P	**Pn**	**00 21 37.5**	**+1.3**
JCH				*e*	S	**Sn**	**00 22 19.1**	**-1.4**
MYR	**Moyori**	**4.06**	**248**	*e*	P	**Pn**	**00 21 40.7**	**+2.0**
JKK2	**Kamakawa 2**	**4.07**	**272**	*e*	P	**Pn**	**00 21 41.9**	**+3.1**
JKA	**Kamikawa-asahi**	**4.18**	**275**			**Pn**	**00 21 41.9**	**+1.7**
JKA	**Kamikawa-asahi**	**4.18**	**275**	*e*	P	**Pn**	**00 21 42.5**	**+2.3**
ASAJ	**Asahikawa**	**4.18**	**275**		P	**Pn**	**00 21 42.5**	**+2.3**
	comp=E,7.7nm,0.3s,baz=65,slow=19,SNR=8.6							
ASAJ					S	**Sn**	**00 22 30.4**	**+2.6**
	comp=E,35nm,0.6s,baz=324,slow=29,SNR=2.2							
JEM	**Erimo**	**4.27**	**246**			**Pn**	**00 21 43.8**	**+2.3**
JEM					Sn	**Sn**	**00 22 30.3**	**+0.3**
ERM	**Erimo**	**4.27**	**246**			**Pn**	**00 21 43.5**	**+2.0**
ERM					Sn	**Sn**	**00 22 30.4**	**+0.3**
ERM	**Erimo**	**4.27**	**246**		PN	**Pn**	**00 21 43.5**	**+2.0**
ERM							00 22 30.4	
ERM	**Erimo**	**4.27**	**246**	*e*	P	**Pn**	**00 21 43.5**	**+2.0**
JSE	**Soyaes**	**4.29**	**286**	*e*	P	**Pn**	**00 21 43.9**	**+2.2**
JNBK	**Urakawa-nobuka**	**4.43**	**251**	*e*	P	**Pn**	**00 21 44.8**	**+1.1**
JWK2	**Keihoku**	**4.84**	**289**	*e*	P	**Pn**	**00 21 53.1**	**+3.8**
YSS	**Yuzh-Sakhalins**	**5.00**	**310**		Pn	**Pn**	**00 21 52.4**	**+0.9**
YSS	**Yuzh-Sakhalins**	**5.00**	**310**	*e*	PN	**Pn**	**00 21 52.8**	**+1.3**
YSS				*e*	S	**Sn**	**00 22 46.8**	**-1.1**
YSS					pmax	pmax		
	comp=Z,20nm,0.7s							
YSS					smax	smax		
	comp=N,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**5.00**	**310**	*e*	P	**Pn**	**00 21 53.2**	**+1.7**
YSS				*e*	S	**Sn**	**00 22 46.8**	**-1.1**
JEW	**Eniwo**	**5.16**	**261**	*e*	P	**Pn**	**00 21 56.7**	**+3.0**
JRBN	**Rebuntou**	**5.44**	**289**	*e*	P	**Pn**	**00 22 00.4**	**+3.0**
JTM	**Tenmabayashi**	**6.25**	**243**			**Pn**	**00 22 09.3**	**+0.7**
UGL	**Uglegorsk**	**6.77**	**322**	*e*	P	**Pn**	**00 22 18.2**	**+2.5**
TYV	**Tymovskoe**	**7.97**	**333**	*e*	P	**Pn**	**00 22 34.0**	**+1.8**
JMM	**Marumori**	**8.32**	**226**		Pn	**Pn**	**00 22 36.9**	**-0.1**
SKR	**Severo-Kuril's**	**8.58**	**35**	*e*	P	**Pn**	**00 22 42.9**	**+2.4**
SKR					AMB	AMB	00 22 48.8	
	comp=N,40nm,0.4s							
SKR				*e*	S	**Sn**	**00 24 14.4**	**-1.4**
JSD	**Sado**	**9.63**	**236**		Pn	**Pn**	**00 22 55.2**	**+0.2**
NKL	**Nikolayevsk**	**10.57**	**334**	*e*	P	**Pn**	**00 23 07.8**	**+0.2**
MJA0	**Matsu Arr-Jizo**	**10.67**	**230**	*e*	PN	**Pn**	**00 23 09.6**	**+0.4**
MJAR	**Matsushiro Arr**	**10.69**	**230**		P	**Pn**	**00 23 09.1**	**-0.5**
	comp=N,1.7nm,0.5s,baz=28,slow=14,SNR=8.4							
MAJO	**Matsushiro**	**10.69**	**230**		Pn	**Pn**	**00 23 09.8**	**+0.4**
MAJO	**Matsushiro**	**10.69**	**230**		PN	**Pn**	**00 23 09.9**	**+0.4**
PEA0B	**Petropavlovsk-**	**11.09**	**31**			**Pn**	**00 23 14.7**	**-0.1**
PEA0B	**Petropavlovsk-**	**11.09**	**31**		PN	**Pn**	**00 23 14.7**	**-0.1**
PETK	**Petropavlovsk-**	**11.09**	**31**		P	**Pn**	**00 23 14.5**	**-0.3**
	comp=N,3.6nm,0.6s,baz=200,slow=13,SNR=8.6							
PETK	**Petropavlovsk-**	**11.09**	**31**		Pn	**Pn**	**00 23 15.9**	**+1.1**
PETK	**Petropavlovsk-**	**11.09**	**31**		PN	**Pn**	**00 23 15.9**	**+1.1**
JGF	**Kuroka**	**11.85**	**229**		Pn	**Pn**	**00 23 26.0**	**+0.7**
KBG	**Krutoberegovo**	**15.37**	**31**	*e*	P	**Pn**	**00 24 09.7**	**-2.7**
MA2	**Magadan**	**15.77**	**4**	*i*	P	**Pn**	**00 24 16.7**	**-0.8**
MA2					pmax	pmax		
	comp=Z,3.0nm,0.4s							
MA2	**Magadan**	**15.77**	**4**	*e*	P	**Pn**	**00 24 16.7**	**-0.8**
ZEA	**Zeya**	**16.98**	**313**	*e*	P	**Pn**	**00 24 30.7**	**-2.1**
SEY	**Seymchan**	**19.21**	**6**	*i*	P	**P**	**00 24 57.8**	**-0.7**
SEY					pmax	pmax		
	comp=Z,3.0nm,0.7s							
YAK	**Yakutsk**	**21.22**	**335**	*i*	P	**P**	**00 25 18.0**	**-2.3**
YAK					pmax	pmax		
	comp=Z,14nm,1.0s							
BILL	**Bilibino**	**25.98**	**15**	*e*	P	**P**	**00 26 05.3**	**-1.2**
BILL				*e**	PP	**pP**	**00 26 19.3**	**+0.2**
BILL				*e*			00 26 46.4	
BILL				*e*			00 29 32.2	
BILL

SKAG	**Skagway**	**47.03**	**43**	P	**P**	**00 29 04.1**	**-0.9**
C36M	**Paulatuk**	**48.93**	**28**	P	**P**	**00 29 20.1**	**+0.5**
KKAR	**Karatay Array**	**54.43**	**298**	P	**P**	**00 30 01.5**	**+0.5**
KKAR	**Karatay Array**	**54.43**	**298**	P	**P**	**00 30 01.5**	**+0.5**
RES	**Resolute Bay**	**54.57**	**17**	P	**P**	**00 30 01.5**	**0.0**
RES				lAmb	lAmb	00 30 01.6	
	comp=Z,2.8nm,0.8s						
RES	**Resolute Bay**	**54.57**	**17**	P	**P**	**00 30 01.5**	**0.0**
RES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**55.18**	**34**	P	**P**	**00 30 06.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=298,slow=7.1,SNR=4.1						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**55.18**	**34**	*eP*	P	00 30 11.5	+5.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ABKAR	**Akbulak array**	**57.66**	**309**	P	**P**	**00 30 23.6**	**-0.3**
ABKAR				lAmb	lAmb	00 30 24.4	
	comp=Z,3.4nm,1.5s						
ARCES	**ARCESS Array B**	**59.41**	**340**	P	**P**	**00 30 34.9**	**-0.9**
	comp=Z,9.1nm,1.1s,baz=49,slow=7.3,SNR=4.0						
	comp=Z,9.1nm,1.1s						
ARCES	**ARCESS Array B**	**59.41**	**340**	*eP*	**P**	**00 30 33.4**	**-2.4**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WB0	**Warramunga Arr**	**64.64**	**195**	P	**P**	**00 31 12.2**	**+0.9**
WB0				lAmb	lAmb	00 31 19.9	
	comp=Z,5.8nm,1.4s						
WRA	**Warramunga Arr**	**64.82**	**195**	P	**P**	**00 31 11.7**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=13,slow=6.8,SNR=6.1						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**64.82**	**195**	P	**P**	**00 31 11.6**	**-0.9**
WRA	**Warramunga Arr**	**64.82**	**195**	*eP*	**P**	**00 31 12.2**	**-0.4**
FINES	**FINESS Array B**	**65.14**	**333**	P	**P**	**00 31 12.7**	**-1.5**
	comp=Z,5.1nm,0.6s,baz=47,slow=6.9,SNR=36						
	comp=Z,5.1nm,0.6s						
FINES	**FINESS Array B**	**65.14**	**333**	*eP*	**P**	**00 31 13.0**	**-1.2**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SCO	**Scoresbysund**	**65.72**	**356**	P	**P**	**00 31 17.8**	**0.0**
SCO				lAmb	lAmb	00 31 53.0	
	comp=Z,2.9nm,1.0s						
SCO	**Scoresbysund**	**65.72**	**356**	P	**P**	**00 31 17.8**	**0.0**
SCO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	**Obninsk**	**65.72**	**324**	*eP*	**P**	**00 31 15.5**	**-2.5**
OBN				*e**PP	**pP**	**00 31 30.2**	**-1.4**
OBN				*e*		00 31 47.8	
OBN				*e*		00 33 45.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NVAR	**Mina Array Bea**	**66.74**	**59**	P	**P**	**00 31 26.1**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=300,slow=7.3,SNR=4.1						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**68.53**	**194**	P	**P**	**00 31 36.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=12,slow=5.4,SNR=4.4						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**69.13**	**50**	P	**P**	**00 31 40.7**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=318,slow=1.2,SNR=2.1						
	comp=Z,0.1nm,0.4s						
NB201	**NORSAR Array S**	**69.75**	**339**	P	**P**	**00 31 42.7**	**-0.7**
NB2	**NORSAR Subarra**	**69.78**	**339**	P	**P**	**00 31 42.5**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.78**	**339**	P	**P**	**00 31 42.6**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=32,slow=6.6,SNR=10						
	comp=Z,0.8nm,0.7s						
KBZ	**Khabaz**	**70.36**	**312**	P	**P**	**00 31 48.8**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=60,slow=7.0,SNR=7.2						
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**70.36**	**312**	*eP*	**P**	**00 31 48.7**	**+1.4**
AKASG	**Malin Array Be**	**71.98**	**324**	P	**P**	**00 31 55.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=38,slow=6.0,SNR=4.8						
	comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**71.98**	**324**	*eP*	**P**	**00 31 56.2**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KRLC	**Kraliky**	**77.34**	**330**	*eP*	**P**	**00 32 29.0**	**+0.9**
KRLC	**Kraliky**	**77.34**	**330**	*eP*	**P**	**00 32 29.0**	**+0.9**
CLL	**Collm**	**77.59**	**333**	*i* P	**P**	**00 32 30.3**	**+0.9**
CLL	**Collm**	**77.59**	**333**	*i* P	**P**	**00 32 30.3**	**+0.9**
KHC	**Kasperske Hory**	**79.26**	**332**	*eP*	**P**	**00 32 40.3**	**+1.6**
KHC	**Kasperske Hory**	**79.26**	**332**	*eP*	**P**	**00 32 40.3**	**+1.6**
GERES	**GERESS Array B**	**79.46**	**331**	P	**P**	**00 32 41.2**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=56,slow=7.1,SNR=4.5						
	comp=Z,0.5nm,0.6s						
GERES	**GERESS Array B**	**79.46**	**331**	*eP*	**P**	**00 32 42.3**	**+2.4**
TXAR	**Lajitas Array**	**81.82**	**57**	P	**P**	**00 32 53.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=298,slow=3.9,SNR=9.1						
	comp=Z,0.6nm,0.6s						
H03N2	**Juan Fernandez**	**142.07**	**90**	T	T	03 18 52.3	
	baz=304						
H03N3	**Juan Fernandez**	**142.09**	**90**	T	T	03 18 58.3	
	baz=304,slow=74						
H03N1	**Juan Fernandez**	**142.09**	**90**	T	T	03 19 06.0	
	baz=304,slow=74						

*HEL **20** 00:40:27.7±0.3, 67.84N×20.01E, h0km, ML1.7, Explosion*
*DNK **20** 00:40:28.7±0.4, 67.82N×20.20E, h0km, ML2.8(UPP), Explosion*
*UPP **20** 00:40:28.3±0.0, 67.82N×20.19E, h0km, ML2.8, Suspected explosion*

ISC 20 00:40:27.8±0.8, 67.78N±0.03×20.31E±0.03, h0km, n33, σ0s92/44, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.28**	**280**	P	**Pg**	**00 40 32.8**	**-0.3**
RATU				S	**Sg**	**00 40 36.0**	**-0.6**
RATU	**Laukkuluspa**	**0.28**	**280**	P	**Pg**	**00 40 32.8**	**-0.3**
RATU				S	**Sg**	**00 40 36.0**	**-0.6**
KOVU	**Salmi**	**0.45**	**353**	P	**Pg**	**00 40 36.1**	**-0.3**
KOVU	**Salmi**	**0.45**	**353**	P	**Pg**	**00 40 36.1**	**-0.3**
NIKU	**Nikkaluokta**	**0.49**	**281**	P	**Pg**	**00 40 36.7**	**-0.5**
NIKU	**Nikkaluokta**	**0.49**	**281**	P	**Pg**	**00 40 36.7**	**-0.5**
DUNU	**Dundret**	**0.67**	**171**	P	**Pb**	**00 40 41.7**	**-0.6**
DUNU	**Dundret**	**0.67**	**171**	P	**Pb**	**00 40 41.7**	**-0.6**
LANU	**Lannavaara**	**0.69**	**66**	P	**Pb**	**00 40 41.9**	**-0.8**
LANU	**Lannavaara**	**0.69**	**66**	P	**Pb**	**00 40 41.9**	**-0.8**
LANU	**Lannavaara**	**0.69**	**66**	PG	**Pb**	**00 40 41.7**	**-1.0**
LANU				SG	**Sb**	**00 40 51.1**	**-1.7**
MASU	**Masugnsbyn**	**0.72**	**116**	P	**Pb**	**00 40 43.2**	**0.0**
MASU	**Masugnsbyn**	**0.72**	**116**	P	**Pb**	**00 40 43.2**	**0.0**
SALU	**Saltoluokta**	**0.80**	**241**	P	**Pg**	**00 40 43.1**	**0.0**
SALU	**Saltoluokta**	**0.80**	**241**	P	**Pg**	**00 40 43.1**	**0.0**
KIF	**Kilpisjarvi**	**1.25**	**8**	*eP*	**Pb**	**00 40 51.8**	**-0.3**
KIF	**Kilpisjarvi**	**1.25**	**8**	PN	**Pb**	**00 40 51.8**	**-0.3**
	baz=193						
KIF				MSG		00 41 05.3	
	comp=Z,8.5nm,0.2s						
KIF				SN	**Sb**	**00 41 07.8**	**-0.9**
PAJU	**Pajala**	**1.32**	**124**	P	**Pn**	**00 40 53.5**	**+0.1**
PAJU	**Pajala**	**1.32**	**124**	P	**Pn**	**00 40 53.5**	**+0.1**
HEF	**Hetta**	**1.41**	**62**	*eP*	**Pb**	**00 40 54.6**	**+0.3**
HEF	**Hetta**	**1.41**	**62**	PG	**Pb**	**00 40 54.6**	**-0.3**
HEF				MSG		00 41 12.0	
	comp=Z,4.7nm,0.2s						
HEF				SN	**Sn**	**00 41 17.3**	**+3.4**
ERTU	**Ertsjaerv**	**1.43**	**148**	P	**Pb**	**00 40 55.5**	**+0.2**
ERTU	**Ertsjaerv**	**1.43**	**148**	P	**Pb**	**00 40 55.5**	**+0.2**
ERTU	**Ertsjaerv**	**1.43**	**148**	PG	**Pb**	**00 40 55.5**	**+0.2**
ERTU				SN	**Sn**	**00 41 16.5**	**+2.0**
HARU	**Harads**	**1.64**	**171**	P	**Pb**	**00 40 58.8**	**-0.1**
HARU	**Harads**	**1.64**	**171**	P	**Pb**	**00 40 58.8**	**-0.1**
KTK1	**Kautokeino**	**1.65**	**40**	PN	**Pb**	**00 40 58.2**	**-0.8**
KTK1				SN	**Sg**	**00 41 22.7**	**+2.1**
KALU	**Kalix**	**2.27**	**147**	PB	**Pb**	**00 41 08.9**	**-0.7**
	baz=327						
KALU				SG	**Sg**	**00 41 40.9**	**+0.2**
TOF	**Tornio**	**2.33**	**135**	PB	**Pb**	**00 41 10.2**	**-0.3**
TOF				MSG		00 41 40.3	
	comp=Z,2.9nm,0.2s						
TOF				SB	**Sg**	**00 41 42.1**	**-0.3**
SGF	**Sodankyl**	**2.40**	**95**	PB	**Pb**	**00 41 11.4**	**-0.4**
SGF				SG	**Sg**	**00 41 44.1**	**-0.8**
RNF	**Rovaniemi**	**2.51**	**115**	PB	**Pb**	**00 41 12.9**	**-0.8**
	baz=302						
RNF				SB	**Sg**	**00 41 47.2**	**-1.2**
KEV	**Kevo**	**3.14**	**48**	SG	**Sb**	**00 42 04.0**	**+0.8**
OLKF	**Oulanka, Finla**	**3.85**	**108**	PG	**Pg**	**00 41 40.4**	**-1.1**

*IDC **20** 00:45:46.1±1.2, 19.41N×121.44E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=82.9km s-min=22.7km az=64.0*
*MAN **20** 00:45:48.6, 19.87N×121.89E, h14km, mb4.6, ML3.4, MS3.3*

ISC 20 00:45:48.1±1.1, 19.79N±0.08×122.0E±0.2, h10km, n11, σ1s70/14, mb3.4/6, 4C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.72**	**223**	*eP*	**Pg**	**00 46 01.9**	**0.0**
PACPP	**Pamplona Cagay**	**1.46**	**205**	*i* P	**Pn**	**00 46 13.7**	**-0.8**
PACPP				*e*S	**Sn**	**00 46 34.8**	**+1.2**
SGCP	**Gonzaga**	**1.54**	**178**	*eP*	**Pn**	**00 46 16.4**	**+0.8**
APYP	**Conner**	**2.05**	**201**	*i* P	**Pb**	**00 46 25.4**	**0.0**
APYP				*i* S	**Sn**	**00 46 50.7**	**+2.5**
SAMP	**Sagada Mountai**	**2.89**	**201**	*eP*	**Pn**	**00 46 36.0**	**+1.8**
SAMP				*e*S	**Sb**	**00 47 13.9**	**-1.3**
WRA	**Warramunga Arr**	**41.30**	**162**	P	**P**	**00 53 31.5**	**-2.4**
	0.4nm,0.8s,baz=342,slow=8.9,SNR=2.5						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**42.08**	**319**	P	**P**	**00 53 39.4**	**-0.8**
	0.2nm,0.5s,baz=110,slow=9.4,SNR=4.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**44.36**	**329**	P	**P**	**00 53 58.5**	**+0.1**
	0.6nm,0.6s,baz=122,slow=5.2,SNR=2.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**44.72**	**164**	P	**P**	**00 53 59.7**	**-2.0**
	0.3nm,0.7s,baz=336,slow=6.9,SNR=2.0						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.99**	**322**	P	**P**	**00 54 10.2**	**-1.3**
	0.5nm,1.0s,baz=123,slow=7.5,SNR=0.9						
	0.5nm,1.0s						
YKA	**Yellowknife Ar**	**86.71**	**23**	P	**P**	**00 58 34.4**	**+2.4**
	0.2nm,0.7s,baz=305,slow=4.7,SNR=2.8						
	0.2nm,0.7s						

IDC 20 01:07:31.1±5.6, 6.79S×129.39E, h109km±69km, mb3.3/1, mbtmp3.9/4, ML3.8/3, Error ellipse: s-maj=104.3km s-min=20.1km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.17**	**18**	P	Pn	01 09 00.8	+0.9
	5.0nm,0.3s,baz=192,slow=23,SNR=38						
SIJI				S	Sn	01 10 09.1	-0.1
	31nm,0.2s,baz=240,slow=23,SNR=16						
	7.3nm,0.3s						
WRA	**Warramunga Arr**	**13.93**	**160**	P	Pn	01 10 42.2	-1.6
	0.3nm,0.3s,baz=341,slow=13,SNR=14						
WRA				S	Sn	01 13 13.6	-3.8
	1.2nm,0.7s,baz=335,slow=22,SNR=5.7						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**17.33**	**166**	P	Pn	01 11 27.1	+0.7
	0.5nm,0.3s,baz=344,slow=11,SNR=30						
ASAR				S	Sn	01 14 36.6	-2.9
	0.5nm,0.8s,baz=347,slow=25,SNR=2.3						
	2.0nm,0.5s						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	01 18 16.9	0.0
	0.3nm,0.4s,baz=119,slow=7.9,SNR=7.8						
	0.3nm,0.4s						

*NEIC **20** 01:15:55.4±1.9, 3.51N±0.04×128.6E±0.1, h10km±1km, mb4.5/28, Error ellipse: s-maj=19.8km s-min=4.0km az=76.0*
*DJA **20** 01:15:58.8±1.8, 4.7N±4.1×12.9E±.1, h20km±17km, M4.6/12, mb4.7/10, mB5.2/6, MLv4.6/12, Mw(mB)4.7/6*
*IDC **20** 01:16:00.1±1.7, 3.50N×128.62E, h43km±17km, mb3.9/18, mbtmp4.2/22, ML4.3/4, MS4.0/4, Error ellipse: s-maj=22.7km s-min=8.9km az=66.0*

ISC 20 01:15:55.3±0.4, 3.47N±0.04×128.67E±0.07, h10km, n88, σ1s86/86, mb4.5/34, MS4.1/3, 5C-1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.98**	**206**	Pn	**Pn**	**01 16 42.5**	**-0.1**
TNTI	**Ternate**	**2.98**	**206**	P	**Pb**	**01 16 46.1**	**-2.4**
SGSI	**Sangihe**	**3.15**	**274**	P	**Pn**	**01 16 46.4**	**+1.5**
DDMP	**Don Marcelino,**	**3.95**	**312**	*eP*	**Pn**	**01 16 58.3**	**+2.3**
MATI	**Mati**	**4.21**	**325**	*eP*	**Pb**	**01 17 10.6**	**+1.1**
DAV	**Davao City (W)**	**4.72**	**319**	P	**Pn**	**01 17 09.7**	**+3.1**
	64nm,0.3s,baz=144,slow=8.7,SNR=2.4						
DAV				S	**Sn**	**01 18 01.0**	**-0.5**
	159nm,0.4s,baz=248,slow=13,SNR=1.1						
DAV				LR	LR	01 18 53.1	
	comp=Z,942nm,21.5s,baz=21,slow=37						
	227nm,0.4s						
DAV	**Davao City (W)**	**4.72**	**319**	Pn	**Pn**	**01 17 04.0**	**-2.7**
KCP	**Kidapawan**	**5.01**	**315**	*i* P	**Pn**	**01 17 12.1**	**+1.4**
KCP				*i* S	**Sn**	**01 18 11.4**	**+2.7**
SIJI	**Sorong**	**5.03**	**149**	P	**Pn**	**01 17 14.6**	**+3.7**
	2.5nm,0.3s,baz=354,slow=12,SNR=4.6						
SIJI				S	**Sn**	**01 18 10.4**	**+1.4**
	9.2nm,0.3s,baz=74,slow=23,SNR=7.9						
	9.5nm,0.4s						
SKMP	**Bagumbayan, Su**	**5.11**	**307**	*eP*	**Pn**	**01 17 14.3**	**+2.3**
SKMP				*e*S	**Sn**	**01 18 14.0**	**+2.9**
SANI	**Sanana**	**6.10**	**206**	P	**Pn**	**01 17 28.5**	**+2.9**
	70nm,0.9s,0.2nm						
GTOI	**Gorontalo**	**6.32**	**244**	P	Pn	01 17 32.5	+3.9
	32nm,0.5s,552nm0.2nm						
FAKI	**Fak Fak**	**7.28**	**151**	P	**Pn**	**01 17 44.7**	**+2.9**
	18nm,1.4s,0.1nm						
MRSI	**Marisa**	**7.36**	**246**	P	**Pn**	**01 17 46.4**	**+3.6**
	344nm,0.5s,4μm1.4nm						
LUWI	**Luwuk**	**7.41**	**233**	Pn	**Pn**	**01 17 43.7**	**+0.1**
LUWI	**Luwuk**	**7.41**	**233**	P	**Pn**	**01 17 46.1**	**+2.6**
	78nm,0.6s,6μm0.4nm						
TOLI2	**Tolitoli**	**8.23**	**254**	Pn	**Pn**	**01 17 55.0**	**+0.2**
MPSI	**Mapaga**	**9.30**	**251**	P	**Pn**	**01 18 12.3**	**+2.7**
	16nm,1.3s,477nm						
MYLDM	**Lahad Datu**	**10.29**	**280**	Pn	**Pn**	**01 18 21.1**	**-2.0**
SPSI	**Sidrap Palu**	**11.56**	**230**	P	**Pn**	**01 18 43.7**	**+3.2**
	16nm,0.7s,3μm						
BKSI	**Bulukumba**	**12.21**	**224**	P	**Pn**	**01 18 53.5**	**+4.0**
KAPI	**Kappang**	**12.27**	**227**	P	**Pn**	**01 18 52.9**	**+2.7**
	1.3nm,0.3s,baz=60,slow=20,SNR=3.5						
	4.8nm,0.3s						
KAPI	**Kappang**	**12.27**	**227**		**Pn**	**01 18 48.4**	**-1.8**
LQP	**Lukban**	**12.71**	**327**	*eP*	Pn	01 19 13.5	+17
BATI	**Baumata**	**14.47**	**200**	P	**Pn**	**01 19 21.6**	**+1.3**
	1.8nm,0.3s,baz=17,slow=20,SNR=1.8						
	10.0nm,0.3s						
PLAI	**Plampang**	**16.35**	**222**	P	**P**	**01 19 51.7**	**+3.7**
SBUM	**Sibu**	**16.46**	**267**	Pn	**Pn**	**01 19 43.6**	**-3.0**
TWSI	**Taliwang, Sumb**	**16.89**	**224**	P	P	01 20 08.0	+14
GUMO	**Guam**	**18.89**	**57**	LR	LR	01 26 14.9	
	comp=Z,434nm,21.4s,baz=5.0,slow=32						
KNRA	**Kununurra**	**19.02**	**180**	P	**P**	**01 20 15.1**	**-2.4**
KNRA				lAmb	lAmb	01 20 23.9	
	comp=Z,23nm,0.7s						
PWJI	**Pagerwojo**	**20.33**	**236**	P	Pn	01 20 50.4	+16
WB0	**Warramunga Arr**	**23.76**	**167**	P	**P**	**01 21 08.5**	**+0.4**
WB0				lAmb	lAmb	01 21 11.8	
	comp=Z,8.7nm,0.7s						
WRAB	**Tennant Creek**	**23.91**	**167**	P	**P**	**01 21 08.9**	**-0.7**
WRA	**Warramunga Arr**	**23.92**	**167**	P	**P**	**01 21 11.2**	**+1.6**
	comp=Z,4.3nm,0.6s,baz=346,slow=10,SNR=43						
	comp=Z,4.3nm,0.6s						
WRA	**Warramunga Arr**	**23.92**	**167**	P	**P**	**01 21 09.2**	**-0.4**
WB2	**Warramunga Arr**	**23.92**	**167**	P	**P**	**01 21 10.0**	**+0.4**
WB2				lAmb	lAmb	01 21 20.9	
	comp=Z,18nm,1.4s						
TNG	**Tangerang**	**23.99**	**247**	P	P	01 21 18.4	+8.1
KRVT	**Keravat (AS076**	**24.58**	**108**	LR	LR	01 28 22.2	
	comp=Z,592nm,20.7s,baz=87,slow=30						
AS31	**Alice Springs**	**27.45**	**170**	P	**P**	**01 21 42.4**	**+0.8**
ASAR	**Alice Springs**	**27.45**	**170**	P	**P**	**01 21 43.1**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=353,slow=7.8,SNR=12						
ASAR				PcP	**PcP**	**01 25 00.7**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=1.0,slow=2.2,SNR=10						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**27.45**	**170**	P	**P**	**01 21 42.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**32.68**	**299**	P	**P**	**01 22 28.6**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=113,slow=6.7,SNR=6.1						
CMAR				LR	LR	01 35 30.6	
	comp=Z,302nm,20.4s,baz=285,slow=36						
	comp=Z,1.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**32.68**	**299**	P	**P**	**01 22 27.0**	**-1.1**
KSRS	**Korea Array**	**33.83**	**359**	P	**P**	**01 22 39.0**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=180,slow=9.3,SNR=5.6						
	comp=Z,1.6nm,0.6s						
MJAR	**Matsushiro Arr**	**34.07**	**14**	P	**P**	**01 22 39.8**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=184,slow=8.6,SNR=4.5						
	comp=Z,1.4nm,0.5s						
LYN	**LuoYang**	**34.40**	**336**	*i* P	P	01 22 50.4	+7.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**34.50**	**314**	P	**P**	**01 22 47.0**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
XAN	**Xi'an**	**35.55**	**331**	P	**P**	**01 22 51.3**	**-1.5**
XAN				pP	pwP	01 23 04.9	+4.6
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
STKA	**Stephens Creek**	**37.23**	**162**	P	**P**	**01 23 07.7**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=18,slow=6.7,SNR=6.0						
	comp=Z,2.0nm,0.4s						
LZH	**Lanzhou**	**39.73**	**328**	*eP*	**P**	**01 23 29.4**	**+1.1**
LZH				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC	**Hu-ho-hao-te**	**40.28**	**340**	*eP*	**P**	**01 23 35.8**	**+3.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,460nm,6.9s						
USRK	**Ussuriysk Ar.**	**40.67**	**4**	P	**P**	**01 23 37.6**	**+1.9**
	comp=Z,2.2nm,0.6s,baz=145,slow=40,SNR=0.7						
	comp=Z,2.2nm,0.6s						
SHL	**Shillong**	**41.60**	**305**	P	**P**	**01 23 42.5**	**-1.4**
LSA	**Lhasa**	**44.08**	**310**	P	**P**	**01 24 03.4**	**-0.9**
GTA	**Gaotai**	**44.34**	**328**	*eP*	**P**	**01 24 06.8**	**+0.9**
GTA				pP	pwP	01 24 22.1	+8.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KLR	**Kul'dur**	**45.67**	**3**	P	**P**	**01 24 16.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=192,slow=9.3,SNR=6.4						
	comp=Z,1.0nm,0.6s						
ULN	**Ulaanbaatar**	**47.99**	**340**	P	**P**	**01 24 33.9**	**-0.6**
ULN				lAmb	lAmb	01 24 48.2	
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**48.19**	**340**	P	**P**	**01 24 35.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=153,slow=9.7,SNR=4.9						
SONM				PcP	**PcP**	**01 26 02.0**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=140,slow=3.2,SNR=1.9						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**48.19**	**340**	P	**P**	**01 24 36.0**	**-0.1**
SONM				lAmb	lAmb	01 24 45.3	
	comp=Z,6.0nm,1.4s						
WMQ	**Urumqi**	**54.06**	**324**	*eP*	**P**	**01 25 22.1**	**+1.9**
WMQ				LR	LR		
	comp=N,860nm,17.7s						
WMQ				LR	LR		
	comp=E,490nm,17.7s						
WMQ				LR	LR		
	comp=Z,350nm,22.7s						
PETK	**Petropavlovsk-**	**54.96**	**21**	P	**P**	**01 25 26.6**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=242,slow=3.2,SNR=5.0						
	comp=Z,4.5nm,1.0s						
MK31	**Makanchi Array**	**58.88**	**324**	P	**P**	**01 25 53.5**	**-1.0**
MK31				lAmb	lAmb	01 26 10.6	
	comp=Z,3.7nm,1.1s						
MKAR	**Makanchi Array**	**58.88**	**324**	P	**P**	**01 25 53.2**	**-1.2**
	comp=Z,2.6nm,0.4s,baz=114,slow=7.8,SNR=44						
	comp=Z,2.6nm,0.4s						
MKAR	**Makanchi Array**	**58.88**	**324**	P	**P**	**01 25 53.4**	**-1.1**
MAKZ	**Makanchi**	**59.08**	**324**	P	**P**	**01 25 54.1**	**-1.7**
MAKZ				lAmb	lAmb	01 26 11.1	
	comp=Z,7.6nm,1.4s						
KSH	**Kashi**	**59.60**	**314**	P	**P**	**01 26 01.8**	**+2.1**
NIL	**Nilore**	**59.62**	**307**	P	**P**	**01 25 58.8**	**-1.1**
ZAA0	**Zalesovo Array**	**61.71**	**332**	P	**P**	**01 26 11.8**	**-1.8**
ZALV	**Zalesovo Beam**	**61.71**	**332**	P	**P**	**01 26 11.6**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=124,slow=7.2,SNR=3.0						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**61.71**	**332**	P	**P**	**01 26 11.8**	**-1.8**
KURK	**Kurchatov**	**63.01**	**327**	P	**P**	**01 26 21.0**	**-1.4**
KBL	**Kabul**	**63.22**	**307**	P	**P**	**01 26 23.3**	**-1.2**
KBL				lAmb	lAmb	01 26 32.9	
	comp=Z,6.8nm,1.2s						
GAR	**Garm**	**63.53**	**312**	P	**P**	**01 26 24.1**	**-2.2**
KK31	**Karatay Array**	**64.75**	**317**	P	**P**	**01 26 33.5**	**-0.5**
KK31				lAmb	lAmb	01 26 49.5	
	comp=Z,5.9nm,1.4s						
KKAR	**Karatay Array**	**64.75**	**317**	P	**P**	**01 26 33.3**	**-0.8**
KKAR				lAmb	lAmb	01 26 49.5	
	comp=Z,5.9nm,1.4s						
TIXI	**Tiksi**	**68.09**	**0**	P	**P**	**01 26 54.6**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=90,slow=23,SNR=1.8						

KUKN SN Sn 01 30 39.1 -10
KUKN Trac 01 32 12.4
comp=Z,380nm,1.5s
ILON Igloolik, Nuna 10.72 132 PN Pn 01 28 49.6 -0.8
ILON SN Sn **01 30 47.8 -2.6**
ILON Trac 01 31 55.9
comp=Z,150nm,1.1s
NEEM North Greenlan 11.12 66 *i* P **Pn 01 28 55.4 -0.8**
NEEM *e*S **Sn 01 30 53.9 -6.6**
NEEM IAML 01 30 55.7
comp=Z,38nm,0.5s
KULLO Kullorsuaq 11.50 83 *i* P **Pn 01 28 59.5 -1.7**
KULLO *i* S Sn 01 31 01.1 -8.3
KULLO IAML 01 31 07.9
comp=Z,28nm,0.5s
KULLO Kullorsuaq 11.50 83 PN **Pn 01 29 00.4 -0.8**
KULLO SN Sn 01 31 01.9 -7.4
KULLO Trac 01 31 10.1
comp=Z,142nm,0.6s
INK Inuvik 12.58 235 Pn **Pn 01 29 12.7 -3.2**
comp=Z,1.7nm,0.3s,baz=21,slow=16,SNR=31
INK Sn Sn 01 31 25.9 -10
comp=Z,1.9nm,0.3s,baz=276,slow=16,SNR=3.8
comp=Z,9.3nm,0.5s
INK Inuvik 12.58 235 Pn **Pn 01 29 13.1 -2.8**
INK Inuvik 12.58 235 PN Pn 01 29 10.6 -5.3
INK SN Sn 01 31 18.5 -17
INK Trac 01 31 44.1
comp=Z,44nm,0.6s
INK Inuvik 12.58 235 P **Pn 01 29 13.1 -2.8**
baz=26,SNR=34
UPNV Upernavik 12.95 88 *i* P **Pn 01 29 20.2 -0.7**
UPNV *e*S Sn 01 31 36.7 -8.0
UPNV IAML 01 31 50.7
comp=Z,9.6nm,0.4s
C26K Camden Bay 13.34 254 P **Pn 01 29 23.5 -2.8**
baz=34,SNR=39
C27K Jago River 13.34 252 P Pn 01 29 22.1 -4.2
baz=33
F31M Tsiigehtchic 13.40 233 P **Pn 01 29 24.5 -2.5**
baz=24,SNR=20
E27K Colleen River 14.15 246 P Pn 01 29 32.9 -4.5
baz=30
G30M tAoh Zraii Nji 14.24 236 P **Pn 01 29 35.5 -3.0**
baz=25
NOR Nord 14.46 36 *i* P **Pn 01 29 40.5 -1.1**
NUUG Nuugaatsiaq 14.48 89 *i* P **Pn 01 29 44.5 +2.7**
A21K Barrow 14.65 271 Pn **Pn 01 29 43.3 -0.7**
A21K Barrow 14.65 271 P Pn 01 29 39.2 -4.9
baz=40
EPYK Eagle Plains 14.87 236 Pn 01 29 43.1 -4.1
EPYK Eagle Plains 14.87 236 PN **Pn 01 29 43.2 -4.1**
EPYK SN Sn 01 32 19.4 -12
EPYK Trac 01 32 51.1
comp=Z,167nm,1.4s
EPYK Eagle Plains 14.87 236 P Pn 01 29 42.7 -4.5
baz=24,SNR=41
E25K Arctic Village 14.98 251 P Pn 01 29 44.4 -4.3
baz=31,SNR=15
F26K Sheenjek River 15.07 248 P **Pn 01 29 45.6 -4.2**
baz=29
D23K Nanushuk River 15.30 259 P **Pn 01 29 50.7 -2.1**
baz=34
G27K Doyon Strip 15.37 243 P **Pn 01 29 50.3 -3.5**
baz=27
BMAR Burnt Mountain 15.38 248 Pn **Pn 01 29 49.0 -4.9**
F25K Christian Rive 15.45 250 P **Pn 01 29 51.2 -3.6**
baz=30,SNR=31
E24K Your Creek 15.60 254 P **Pn 01 29 53.1 -3.7**
baz=31
G26K Porcupine Rive 15.65 246 P **Pn 01 29 53.2 -4.2**
baz=28
E23K Chandalar 15.84 256 P **Pn 01 29 57.0 -2.9**
baz=32
H27K Steamboat Moun 15.86 242 P **Pn 01 29 56.7 -3.5**
baz=26
YKA Yellowknife Ar 15.91 197 Pn **Pn 01 29 57.4 -3.4**
comp=Z,1.2nm,0.3s,baz=2.3,slow=11,SNR=40
YKA Sn Sn 01 32 45.8 -11
comp=Z,2.6nm,0.3s,baz=359,slow=21,SNR=8.0
YKA Lg Lg 01 34 31.5
baz=4.4,slow=26
comp=Z,3.0nm,0.6s
WRGLY Wrigley 15.94 212 P **Pn 01 29 58.4 -2.8**
baz=13,SNR=14
F24K Squaw Lake 15.95 253 P **Pn 01 29 58.1 -3.3**
baz=30
I29M Ogilvie Camp, 16.07 236 Pn 01 29 59.7 -3.2
I29M IAmb IAmb 01 30 16.6
comp=Z,26nm,0.8s
I29M Ogilvie Camp, 16.07 236 P **Pn 01 30 00.1 -2.7**
baz=23
G25K Bearman Lake 16.26 249 P **Pn 01 30 01.5 -3.6**
baz=28
FYU Fort Yukon 16.26 248 Pn **Pn 01 30 01.8 -3.5**
I27K Kandik River 16.44 241 P **Pn 01 30 04.2 -3.4**
baz=25
G24K Hadweenzic Riv 16.58 251 P **Pn 01 30 05.4 -3.9**
baz=29
COLD Coldfoot 16.67 255 Pn **Pn 01 30 07.2 -3.2**
COLD Coldfoot 16.67 255 P **Pn 01 30 06.6 -3.9**
baz=30,SNR=6.4
SUMG Summit 16.73 74 *i* P **Pn 01 30 07.9 -3.7**
SUMG IAML 01 33 13.8
comp=Z,6.6nm,0.4s
J29M Klondike Camp 16.89 235 P **Pn 01 30 10.4 -2.9**
baz=22
G23K Bananza Creek 17.08 254 P **Pn 01 30 12.1 -3.6**
baz=29
EGAK Eagle 17.11 239 Pn **Pn 01 30 12.3 -3.6**
EGAK IAmb IAmb 01 30 27.0
comp=Z,32nm,0.8s
EGAK Eagle 17.11 239 P **Pn 01 30 12.5 -3.4**
baz=24,SNR=21
DAG Danmarks Havn 17.29 51 *i* P **Pn 01 30 14.3 -3.8**
MAYO Mayo, Yukon 17.30 231 Pn 01 30 17.2 -1.2
MAYO Mayo, Yukon 17.30 231 P **Pn 01 30 16.4 -2.0**
baz=20
F21K Alatna River 17.34 258 P **Pn 01 30 16.4 -2.5**
baz=31
H24K Noodor Dome 17.42 250 Pn 01 30 17.0 -2.9
H24K Noodor Dome 17.42 250 P **Pn 01 30 16.8 -3.1**
baz=28
DAWY Dawson 17.45 236 Pn **Pn 01 30 17.6 -2.6**
DAWY IAmb IAmb 01 30 24.8
comp=Z,27nm,0.9s
DAWY Dawson 17.45 236 PN **Pn 01 30 16.4 -3.9**
DAWY SN Sn 01 33 14.4 -20
DAWY Trac 01 34 04.9
comp=Z,132nm,2.1s
DAWY Dawson 17.45 236 P **Pn 01 30 16.8 -3.5**
baz=22,SNR=11
J26L Joseph Creek 17.80 242 Pn **Pn 01 30 22.2 -2.4**
J26L Joseph Creek 17.80 242 P **Pn 01 30 22.6 -2.0**
baz=24
G21K Allakaket 17.95 257 P **Pn 01 30 24.2 -2.2**
baz=30
POKR Poker Plat Res 17.97 248 Pn 01 30 24.9 -1.9
POKR IAmb IAmb 01 30 43.9
comp=Z,33nm,0.9s
POKR Poker Plat Res 17.97 248 P **Pn 01 30 23.5 -3.2**
baz=26
FRB Frobisher Bay 18.07 122 P **Pn 01 30 26.0 -1.9**
comp=Z,4.8nm,0.6s,baz=340,slow=13,SNR=19
FRB S Sn 01 33 39.6 -9.4
comp=Z,23nm,1.0s,baz=60,slow=17,SNR=4.4
FRB Lg Lg 01 35 36.4
baz=257,slow=19
FRB Frobisher Bay 18.07 122 PN **Pn 01 30 26.9 -0.9**
FRB SN **Sn 01 33 40.5 -8.6**
FRB Trac 01 36 11.6
comp=Z,886nm,2.3s
L29M L29M 18.12 233 P **Pn 01 30 26.2 -2.4**
baz=20
IL31 18.18 247 Pn 01 30 27.6 -1.6
ILAR Eielson Array 18.18 247 P **Pn 01 30 28.9 -0.3**
comp=Z,0.3nm,0.3s,baz=21,slow=11,SNR=43
ILAR S **Sn 01 33 43.6 -8.2**
comp=Z,1.6nm,0.6s,baz=23,slow=26,SNR=5.0
comp=Z,7.9nm,0.9s
ILAR Eielson Array 18.18 247 Pn 01 30 28.1 -1.1
FARO Faro, Yukon 18.19 226 Pn 01 30 27.1 -2.4
FARO Faro, Yukon 18.19 226 P **Pn 01 30 26.9 -2.5**
baz=17
MDM Murphy Dome 18.27 249 Pn 01 30 28.9 -1.5
MDM IAmb IAmb 01 30 36.3
comp=Z,24nm,1.0s
SCRK Sand Creek 18.35 242 Pn **Pn 01 30 29.8 -1.7**
SCRK IAmb IAmb 01 30 48.0
comp=Z,35nm,1.2s
SCRK Sand Creek 18.35 242 P **Pn 01 30 30.3 -1.2**
baz=24,SNR=14
M31M Drury Creek, Y 18.38 227 P **Pn 01 30 30.1 -1.6**
M31M IAmb IAmb 01 30 43.5
comp=Z,26nm,0.7s
M31M Drury Creek, Y 18.38 227 P **Pn 01 30 30.6 -1.0**
baz=18,SNR=17
M30M Minto, Yukon 18.40 231 P **Pn 01 30 30.1 -1.9**
baz=19,SNR=6.8
IMAR Indian Mountai 18.46 257 P **P 01 30 30.6 -2.0**
CCB Clear Creek Bu 18.47 248 P 01 30 31.8 -0.8
HDA Harding Lake 18.52 246 P **P 01 30 32.9 -0.3**
HDA IAmb IAmb 01 30 50.0
comp=Z,22nm,0.9s
HDA Harding Lake 18.52 246 P **P 01 30 32.5 -0.7**
baz=25,SNR=14
H21K Melozitna Rive 18.56 255 IAmb IAmb 01 30 48.5
comp=Z,44nm,1.4s
H21K Melozitna Rive 18.56 255 P **P 01 30 32.2 -1.5**
baz=28
MLY Manley 18.70 252 P **P 01 30 34.3 -0.9**
MLY Manley 18.70 252 P **P 01 30 34.8 -0.5**
baz=27
RIDG Independent Ri 18.73 243 IAmb IAmb 01 30 55.0
comp=Z,27nm,0.8s
RIDG Independent Ri 18.73 243 P **P 01 30 35.7 +0.1**
baz=24
NEA2 Nenana 18.76 249 P **P 01 30 35.8 -0.1**
NEA2 Nenana 18.76 249 P **P 01 30 34.2 -1.7**
baz=26
M29M Somme Creek 18.80 233 P **P 01 30 35.5 -1.0**
baz=20
L27K Beaver Creek, 18.80 238 P **P 01 30 35.3 -1.1**
baz=22
I21K Tanana 18.81 253 IAmb IAmb 01 30 43.6
comp=Z,23nm,1.0s
I21K Tanana 18.81 253 P **P 01 30 35.1 -1.3**
baz=28
K24K Donnelly Dome 18.84 244 P **P 01 30 35.9 -0.9**
baz=24
DBG Daneborg 18.86 57 *e*P **P 01 30 34.7 -2.2**
KOTAN Kotaneelee Air 19.03 210 P **P 01 30 38.3 -0.6**
baz=11,SNR=28
L26K Log Cabin Wild 19.11 240 IAmb IAmb 01 30 46.1
comp=Z,19nm,0.8s
L26K Log Cabin Wild 19.11 240 P **P 01 30 39.2 -0.6**
baz=22,SNR=16
BVCY Beaver Creek 19.23 236 P **P 01 30 40.2 -1.0**
baz=21
ICESG Greenland Ices 19.24 82 *i* P **P 01 30 41.5 0.0**
MENT Mentasta 19.25 240 P **P 01 30 41.6 +0.2**
MENT IAmb IAmb 01 30 52.0
comp=Z,23nm,0.7s
N31M Braeburn, Yuko 19.27 228 IAmb IAmb 01 30 54.2
comp=Z,25nm,0.7s
N31M Braeburn, Yuko 19.27 228 P **P 01 30 40.8 -0.8**
baz=18
M27K Edge Creek, AK 19.46 237 P **P 01 30 42.5 -1.2**
baz=21
MCK McKinley 19.51 248 IAmb IAmb 01 30 50.4
comp=Z,32nm,1.3s
MCK McKinley 19.51 248 P **P 01 30 43.3 -0.8**
baz=25,SNR=5.4
PAX Paxson 19.55 243 P **P 01 30 45.1 +0.5**
PAX IAmb IAmb 01 30 50.6
comp=Z,22nm,1.0s
PAX Paxson 19.55 243 P **Pn 01 30 45.9 +0.1**
baz=23,SNR=18
BPAW Bear Paw Mtn. 19.58 251 IAmb IAmb 01 30 49.6
comp=Z,27nm,1.2s
BPAW Bear Paw Mtn. 19.58 251 P **Pn 01 30 46.0 -0.2**
baz=26,SNR=7.1
M26K Nabesna, AK 19.62 239 P **P 01 30 45.3 -0.1**
baz=22
FCC Fort Churchill 19.70 163 P **P 01 30 45.7 -0.5**
FCC Fort Churchill 19.70 163 PN **P 01 30 45.6 -0.5**
FCC SN S 01 34 17.1 -11
FCC Trac 01 37 11.0
comp=Z,715nm,3.6s
YUK3 Moose Creek 19.76 235 P **P 01 30 47.1 0.0**
baz=20
DHY Denali Highway 19.81 245 P **P 01 30 48.3 +0.8**
baz=24
YUK4 Talbot Arm 19.86 232 P **P 01 30 48.9 +0.7**
baz=19,SNR=9.7
WHY Whitehorse 19.92 226 P **P 01 30 49.8 +1.1**
baz=17
LIRD Liard River Hi 19.96 213 P **P 01 30 50.4 +1.4**
baz=12,SNR=8.4
HILA High Level 19.98 199 P **P 01 30 49.6 +0.3**
O30N Mendenhall 20.00 228 P **Pn 01 30 51.1 -0.2**
baz=17,SNR=9.1
HARP HAARP 20.01 242 P **P 01 30 49.6 0.0**
baz=22
TRF Thorofare Moun 20.03 249 P **P 01 30 50.2 +0.3**
baz=25
CHUM Lake Minchumin 20.04 252 P **P 01 30 50.0 +0.3**
baz=26
P33M Teslin, Yukon 20.05 223 IAmb IAmb 01 31 01.4
comp=Z,22nm,1.2s
P33M Teslin, Yukon 20.05 223 P **P 01 30 50.3 +0.3**
baz=16
DY2G Dye2 20.06 92 *i* P Pn 01 30 54.4 +2.3
YUK8 Steele Glacier 20.10 233 P **P 01 30 51.7 +0.8**
baz=19
HYT Haines Junctio 20.17 230 P **P 01 30 52.7 +1.3**
baz=18
GCSA Galena City Sc 20.19 258 P **P 01 30 49.4 -2.0**
baz=28
YUK6 Outpost Mounta 20.20 231 P Pn 01 30 55.7 +2.0
baz=18,SNR=5.5
WAT1 Susitna Watana 20.25 246 P **P 01 30 50.3 -1.9**
baz=24
WAT6 Susitna Watana 20.33 245 P **P 01 30 52.9 -0.3**
baz=23
CAST Castle Rocks 20.41 251 P 01 30 54.9 +1.0
CAST Castle Rocks 20.41 251 P **P 01 30 53.7 -0.2**
baz=25
M24K Tolsona, Glenn 20.47 242 P **P 01 30 54.5 -0.2**
baz=22
MCARA McCarthy VSAT 20.57 238 P Pn 01 30 58.0 0.0
MCARA McCarthy VSAT 20.57 238 P **P 01 30 56.5 +0.8**
baz=21
R33M Jennings River 20.58 220 P Pn 01 30 57.7 -0.5
baz=14,SNR=5.7
N25K Chitina, Valde 20.65 240 P Pn 01 30 57.9 -0.9
baz=21
GLB Gilahina Butte 20.66 239 Pn 01 30 58.2 -0.8
GLB IAmb IAmb 01 31 05.0
comp=Z,14nm,0.9s
O28M Mount Upton 20.66 233 P Pn 01 30 58.8 -0.4
baz=22
P30M Million Dollar 20.75 229 P Pn 01 31 00.1 0.0
baz=17
P32M Atlin 20.77 224 P Pn 01 30 59.9 -0.4
baz=15
VRDI Verde Repeater 20.79 238 IAmb IAmb 01 31 18.8
comp=Z,29nm,1.2s
O29M Mount Kennedy 20.84 231 P Pn 01 31 01.0 -0.2
baz=18
K20K Telida 20.86 253 IAmb IAmb 01 31 18.9
comp=Z,18nm,0.9s
K20K Telida 20.86 253 P Pn 01 31 00.7 -0.6
baz=26,SNR=5.5
PPLA Purkeypile 20.90 251 P Pn 01 31 01.2 -0.7
baz=25
SCM Sheep Creek Mo 20.94 244 P Pn 01 31 01.5 -0.8
baz=22
CUT Chulitna 20.97 248 P **P 01 31 00.9 +0.9**
baz=24
KLU Klutina 20.99 242 P **P 01 31 00.8 +0.5**
KLU IAmb IAmb 01 31 19.0
comp=Z,20nm,1.0s
KLU Klutina 20.99 242 P **P 01 31 01.6 +1.3**
baz=22
M23K Glacier View 21.05 244 P **P 01 30 59.2 -1.7**
baz=22
SKAG Skagway 21.13 226 P **P 01 31 02.1 +0.4**
baz=16
SML Sawmill 21.15 245 P **P 01 31 01.8 -0.2**
baz=23
Q32M Nakina River 21.18 221 P **P 01 31 04.1 +1.7**
baz=14
BMRM Bremner River 21.24 239 P **P 01 31 04.1 +1.2**
baz=21
PLBC Pleasant Camp 21.29 227 P **P 01 31 05.1 +1.6**
baz=16
PINM Pinnacle 21.31 233 P **P 01 31 04.9 +1.2**
baz=18
DLBC Dease Lake 21.39 218 P **P 01 31 06.2 +1.7**
DLBC IAmb IAmb 01 31 10.6
comp=Z,15nm,1.0s
DLBC Dease Lake 21.39 218 P **P 01 31 07.7 +3.2**
baz=13,SNR=6.7
PMR Palmer 21.50 246 P **P 01 31 06.6 +1.0**
baz=23
KNK Knik Glacier 21.54 245 P **P 01 31 07.0 +0.9**
baz=22
M22K Willow 21.54 247 P **P 01 31 06.8 +0.8**
baz=23
SCO Scoresbysund 21.61 65 P **P 01 31 06.3 -0.4**
SCO IAmb IAmb 01 31 19.8
comp=Z,15nm,0.9s
SCO Scoresbysund 21.61 65 *e*P **P 01 31 08.1 +1.3**
L20K Farewell, AK 21.61 252 P **P 01 31 07.9 +1.0**
baz=25
TTA Tatalina 21.63 255 P **P 01 31 07.7 +0.6**
TTA IAmb IAmb 01 31 14.9
comp=Z,32nm,1.4s
TTA Tatalina 21.63 255 P **P 01 31 08.3 +1.2**
baz=26
TNA Tin City 21.76 271 P **P 01 31 10.2 +1.7**
TNA IAmb IAmb 01 31 21.9
comp=Z,20nm,0.9s
TNA Tin City 21.76 271 P **P 01 31 11.5 +3.1**
baz=30,SNR=8.7
BESE Bessie Mountai 21.91 224 P **P 01 31 12.3 +2.1**
SUA Susitna One 21.93 247 P **P 01 31 12.0 +1.6**
baz=23
M20K Styx River 22.01 251 IAmb IAmb 01 31 31.8
comp=Z,11nm,0.8s
M20K Styx River 22.01 251 P **P 01 31 12.0 +0.8**
baz=24
PWL Port Wells 22.03 244 P **P 01 31 12.6 +1.2**
PWL Port Wells 22.03 244 P **P 01 31 12.3 +0.9**
baz=22
S34M Telegraph Cree 22.04 219 P **P 01 31 12.5 +1.1**
baz=13
L19K White Mountain 22.08 253 P **P 01 31 12.7 +0.8**
baz=24
RC01 Rabbit Creek A 22.08 246 P **P 01 31 12.5 +0.6**
RC01 Rabbit Creek A 22.08 246 P **P 01 31 14.0 +2.2**
baz=22,SNR=8.5
ANM Nome 22.10 267 P **P 01 31 13.9 +1.8**
ANM IAmb IAmb 01 31 17.9
comp=Z,19nm,1.1s
ANM Nome 22.10 267 P **P 01 31 13.2 +1.1**
baz=28,SNR=7.7
R32K Eaglecrest 22.16 224 P **P 01 31 14.5 +1.8**
baz=15
N20K Mount Spurr 22.45 249 P **P 01 31 16.5 +0.5**
baz=23,SNR=6.2
SPCR Spurr Chakacha 22.45 249 P **P 01 31 16.3 +0.3**
baz=23
SEW Seward 22.94 244 P **P 01 31 21.7 +0.7**
baz=21
N19K Bonanza Creek 23.25 251 P **P 01 31 24.7 +0.4**
baz=23
FFC Flin Flon 23.43 176 P **P 01 31 27.9 +1.9**
FFC IAmb IAmb 01 31 43.7
comp=Z,17nm,0.9s
WAPA Wapiti River 23.50 201 P **P 01 31 28.2 +1.5**
BILL Bilibino 24.80 296 P **P 01 31 38.4 -0.3**
EDM Edmonton 25.10 192 P **P 01 31 43.6 +2.0**
KDAK Kodiak Island 25.70 246 P **P 01 31 48.4 +1.5**
comp=Z,8.4nm,0.8s,baz=15,slow=6.5,SNR=5.5
comp=Z,8.4nm,0.8s
BORG Borgarnes 26.69 72 LR LR 01 43 24.8
comp=Z,911nm,18.6s,baz=336,slow=38
SCHQ Schefferville 26.78 128 P **P 01 31 58.0 +1.3**
comp=Z,2.6nm,0.9s,baz=332,slow=10,SNR=3.7
comp=Z,2.6nm,0.9s
SCHQ Schefferville 26.78 128 P **P 01 31 58.2 +1.4**
SCHQ IAmb IAmb 01 32 09.7
comp=Z,9.0nm,1.2s
TIXI Tiksi 27.31 326 P **P 01 32 01.3 0.0**
ULM Lac du Bonnet 28.10 168 P **P 01 32 10.1 +1.5**
comp=Z,3.1nm,0.7s,baz=360,slow=9.5,SNR=4.4
comp=Z,3.1nm,0.7s
ULM Lac du Bonnet 28.10 168 P **P 01 32 09.8 +1.2**
ULM IAmb IAmb 01 32 23.1
comp=Z,5.8nm,1.0s
AGMN Agassiz Nation 30.05 168 P **P 01 32 27.1 +1.2**
AGMN IAmb IAmb 01 32 43.1
comp=Z,6.6nm,0.9s
AGMN Agassiz Nation 30.05 168 P **P 01 32 27.8 +1.9**
baz=356
B35A Bob, Littlefor 30.09 165 P **P 01 32 27.6 +1.3**
B35A IAmb IAmb 01 32 29.4
comp=Z,8.0nm,1.2s
EYMN Ely 30.63 162 P **P 01 32 32.7 +1.6**
EYMN IAmb IAmb 01 32 42.4
comp=Z,6.2nm,0.9s
EYMN Ely 30.63 162 P **P 01 32 32.4 +1.3**
baz=354
LAO LASA Array 31.46 182 P **P 01 32 40.5 +2.0**
baz=360
MSO Missoula 31.51 192 P **P 01 32 40.9 +1.9**
baz=2.9
GCMT Greycliff 32.41 186 P **P 01 32 48.2 +1.3**
NRIK Noril'sk 32.65 352 P **P 01 32 48.4 -0.2**
comp=Z,1.9nm,0.7s,baz=26,slow=8.5,SNR=4.2
NRIK LR LR 01 46 57.8
comp=Z,625nm,18.1s,baz=293,slow=38
comp=Z,1.9nm,0.7s
NRIK Noril'sk 32.65 352 P **P 01 32 49.5 +0.9**
NRIK IAmb IAmb 01 33 00.5
comp=Z,9.0nm,1.4s
H17A Grant Village 33.83 187 P **P 01 33 00.0 +0.6**
baz=1.5
RSSD Black Hills 34.03 179 P **P 01 33 02.4 +1.2**
RSSD Black Hills 34.03 179 P **P 01 33 03.3 +2.2**
baz=359
MOOW Moose Ponds 34.48 187 P **P 01 33 07.1 +2.0**
ECSD EROS Data Cent 34.57 169 P **P 01 33 05.8 +0.2**
ECSD IAmb IAmb 01 33 24.1
comp=Z,5.3nm,1.1s
ECSD EROS Data Cent 34.57 169 P **P 01 33 07.9 +2.3**
baz=356
HLID Hailey 34.80 192 P **P 01 33 10.1 +2.4**
baz=2.8
MA2 Magadan 35.36 302 P **P 01 33 12.0 -0.1**
comp=Z,1.7nm,0.3s,baz=48,slow=9.4,SNR=3.6
comp=Z,1.7nm,0.3s
BW06 Boulder Array 35.43 186 P **P 01 33 15.0 +1.7**
baz=1.1
PDAR Pinedale Array 35.43 186 P **P 01 33 15.3 +2.0**
comp=Z,0.7nm,0.6s,baz=32,slow=7.1,SNR=11
comp=Z,0.7nm,0.6s
K22A Casper 35.50 182 IAmb IAmb 01 33 20.0
comp=Z,7.7nm,0.9s
K22A Casper 35.50 182 P **P 01 33 15.2 +1.4**
baz=360
LONY Lake Ozonia 35.59 142 P **P 01 33 16.1 +1.8**
baz=349
NB2 NORSAR Subarra 35.94 48 P **P 01 33 20.3 +3.1**
comp=Z,3.1nm,1.0s,baz=342,slow=8.6
NOA NORSAR Array B 35.94 48 P **P 01 33 18.7 +1.5**
comp=Z,1.0nm,0.3s,baz=343,slow=8.4,SNR=1.9
comp=Z,1.0nm,0.9s
BGNE Belgrade 36.84 172 P **P 01 33 25.2 +0.1**
baz=357
FINES FINESS Array B 37.63 36 P **P 01 33 32.1 +0.5**
comp=Z,2.0nm,0.7s,baz=347,slow=11,SNR=11
comp=Z,2.0nm,0.7s
O20A White River Ci 38.03 184 P **P 01 33 38.3 +2.8**
baz=0.6
DUG Dugway, Tooele 38.09 190 P **P 01 33 39.6 +3.7**
baz=2.1
ISCO Idaho Springs 38.35 181 P **P 01 33 39.8 +1.6**
baz=360
Q24A Divide 39.18 180 P **P 01 33 47.2 +2.1**
baz=360
KSU1 Kansas State U 39.20 170 P **P 01 33 46.6 +1.6**
baz=357
P49A Miami Univ. Ec 39.51 155 P **P 01 33 49.4 +1.9**
baz=353
R11A Troy Canyon, C 40.05 193 P **P 01 33 53.1 +0.9**
baz=2.9
NVAR Mina Array Bea 40.11 196 P **P 01 33 56.0 +3.1**
comp=Z,1.5nm,0.9s,baz=9.5,slow=5.4,SNR=8.1

	comp=Z,1.5nm,0.9s							
PETK	**Petropavlovsk-**	**40.17**	**292**	P		**P**	**01 33 53.8**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=21,slow=14,SNR=2.4							
	comp=Z,2.6nm,0.9s							
R40A	**Maddies Statio**	**40.21**	**165**	IAmb		IAmb	01 34 03.6	
	comp=Z,6.9nm,0.7s							
SDCO	**Great Sand Dun**	**40.40**	**181**	P		**P**	**01 33 56.7**	**+1.5**
	baz=360							
S22A	**4UR Ranch, Cre**	**40.40**	**182**	P		**P**	**01 33 57.2**	**+1.9**
	baz=0.1							
MGMO	**Mountain Grove**	**41.34**	**165**	P		**P**	**01 34 03.4**	**+0.7**
MGMO				IAmb		IAmb	01 34 15.1	
	comp=Z,8.3nm,1.1s							
T35A	**Sooner Cattle**	**41.38**	**170**	P		**P**	**01 34 04.4**	**+1.3**
T35A				IAmb		IAmb	01 34 19.6	
	comp=Z,14nm,1.4s							
TPNV	**Topopah Spring**	**41.48**	**194**	P		**P**	**01 34 06.9**	**+2.9**
	baz=3.0							
GRAC	**Grapevine Rang**	**41.49**	**195**	P		**P**	**01 34 04.8**	**+0.8**
	baz=3.3							
CWC	**Cottonwood Cre**	**42.08**	**196**	P		**P**	**01 34 07.0**	**-1.9**
	baz=3.5							
TUL1	**Leonard**	**42.41**	**169**	IAmb		IAmb	01 34 27.4	
	comp=Z,4.7nm,0.8s							
TUL1	**Leonard**	**42.41**	**169**	P		**P**	**01 34 12.0**	**+0.6**
	baz=357							
MPMC	**Manual Prospec**	**42.43**	**195**	P		**P**	**01 34 11.6**	**-0.2**
	baz=3.3							
V12A	**Nelson**	**42.63**	**192**	P		**P**	**01 34 14.9**	**+1.6**
WUAZ	**Wupatki**	**42.71**	**188**	P		**P**	**01 34 16.2**	**+2.0**
	baz=1.4							
ANMO	**Albuquerque**	**43.20**	**182**	P		**P**	**01 34 20.1**	**+2.1**
	baz=360							
WMOK	**Wichita Mounta**	**43.48**	**173**	P		**P**	**01 34 20.9**	**+0.7**
WMOK				IAmb		IAmb	01 34 29.2	
	comp=Z,5.3nm,0.9s							
WMOK	**Wichita Mounta**	**43.48**	**173**	P		**P**	**01 34 21.4**	**+1.2**
	baz=358							
MIAR	**Mount Ida**	**43.87**	**166**	P		**P**	**01 34 23.6**	**+0.4**
	baz=356							
ABTX	**Abilene, Hawle**	**45.57**	**174**	P		**P**	**01 34 39.0**	**+2.1**
	baz=358							
LRAL	**Lakeview Retre**	**45.78**	**159**	P		**P**	**01 34 38.7**	**+0.2**
	baz=354							
MNTX	**Cornudas Mount**	**46.43**	**181**	P		**P**	**01 34 45.3**	**+1.7**
	baz=360							
JCT	**Junction City**	**47.70**	**174**	P		**P**	**01 34 54.2**	**+0.6**
	baz=358							
GERES	**GERESS Array B**	**48.07**	**51**	P		**P**	**01 34 56.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=338,slow=9.5,SNR=2.5							
	comp=Z,0.3nm,0.6s							
GERES	**GERESS Array B**	**48.07**	**51**	P		**P**	**01 34 57.5**	**+1.2**
HEH	**HeiHe**	**48.09**	**317**	*eP*		**P**	**01 34 57.8**	**+1.5**
HEH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ZAA0	**Zalesovo Array**	**48.14**	**352**	P		**P**	**01 34 56.1**	**-0.6**
ZAA0				IAmb		IAmb	01 35 01.1	
	comp=Z,2.5nm,0.9s							
ZALV	**Zalesovo Beam**	**48.14**	**352**	P		**P**	**01 34 56.8**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=359,slow=8.0,SNR=12							
	comp=Z,1.8nm,0.5s							
ZALV	**Zalesovo Beam**	**48.14**	**352**	P		**P**	**01 34 56.5**	**-0.2**
AKASG	**Malin Array Be**	**48.52**	**38**	P		**P**	**01 35 00.5**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=344,slow=8.1,SNR=2.6							
	comp=Z,0.3nm,0.4s							
TX31	**Lajitas Ar. Si**	**48.79**	**179**	P		**P**	**01 35 02.9**	**+0.9**
TXAR	**Lajitas Array**	**48.79**	**179**	P		**P**	**01 35 04.2**	**+2.2**
	comp=Z,1.2nm,1.0s,baz=12,slow=7.5,SNR=8.8							
TXAR				LR		LR	01 56 26.6	
	comp=Z,600nm,21.9s,baz=14,slow=37							
	comp=Z,1.2nm,1.0s							
TXAR	**Lajitas Array**	**48.79**	**179**	P		**P**	**01 35 04.4**	**+2.3**
BRVK	**Borovoye**	**49.14**	**4**	P		**P**	**01 35 05.2**	**+0.8**
BRVK				IAmb		IAmb	01 35 23.6	
	comp=Z,6.1nm,1.4s							
KURK	**Kurchatov**	**51.50**	**357**	P		**P**	**01 35 22.0**	**-0.2**
KURK				IAmb		IAmb	01 35 31.8	
	comp=Z,4.2nm,1.1s							
ULN	**Ulaanbaatar**	**52.85**	**333**	P		**P**	**01 35 32.5**	**0.0**
ULN				IAmb		IAmb	01 35 49.7	
	comp=Z,3.5nm,0.8s							
SONM	**Songino Array**	**52.95**	**334**	P		**P**	**01 35 33.8**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=355,slow=5.5,SNR=14							
	comp=Z,2.2nm,0.5s							
SONM	**Songino Array**	**52.95**	**334**	P		**P**	**01 35 33.0**	**-0.2**
SONM				IAmb		IAmb	01 35 35.8	
	comp=Z,3.7nm,0.8s							
USRK	**Ussuriysk Ar.**	**53.31**	**311**	P		**P**	**01 35 35.5**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=3.4,slow=4.9,SNR=3.2							
	comp=Z,2.5nm,0.6s							
ESDC	**Sonseca Array**	**53.75**	**70**	P		**P**	**01 35 38.5**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=347,slow=7.5,SNR=2.4							
	comp=Z,0.8nm,1.0s							
LPIG	**La Paz**	**54.06**	**186**	LR		LR	01 57 57.9	
	comp=Z,422nm,19.5s,baz=13,slow=35							
MAKZ	**Makanchi**	**55.36**	**354**	P		**P**	**01 35 50.6**	**-0.1**
MAKZ				IAmb		IAmb	01 35 55.0	
	comp=Z,6.7nm,1.4s							
MK31	**Makanchi Array**	**55.36**	**354**	P		**P**	**01 35 50.1**	**-0.6**
MK31				IAmb		IAmb	01 35 59.6	
	comp=Z,4.0nm,0.9s							
MKAR	**Makanchi Array**	**55.36**	**354**	P		**P**	**01 35 50.5**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=12,slow=5.9,SNR=23							
	comp=Z,4.0nm,0.8s							
KBZ	**Khabaz**	**56.93**	**27**	P		**P**	**01 36 03.0**	**+1.2**
	comp=Z,4.3nm,0.9s,baz=348,slow=5.4,SNR=7.3							
	comp=Z,4.3nm,0.9s							
WMQ	**Urumqi**	**58.17**	**349**	*eP*		**P**	**01 36 11.8**	**+1.1**
WMQ				pP		sP	01 36 16.3	+1.3
WMQ				pmax		pmax		
	comp=Z,11nm,1.3s							
WMQ				LR		LR		
	comp=N,450nm,13.3s							
WMQ				LR		LR		
	comp=Z,420nm,16.9s							
KK31	**Karatay Array**	**59.10**	**4**	P		**P**	**01 36 17.3**	**+0.2**
KK31				IAmb		IAmb	01 36 21.6	
	comp=Z,3.6nm,0.8s							
KKAR	**Karatay Array**	**59.10**	**4**	P		**P**	**01 36 16.7**	**-0.5**
KKAR				IAmb		IAmb	01 36 21.6	
	comp=Z,3.6nm,0.8s							
HHC	**Hu-ho-hao-te**	**59.34**	**328**	*eP*		**P**	**01 36 18.3**	**-0.7**
HHC				pmax		pmax		
	comp=Z,13nm,0.8s							
HHC				pmax		pmax		
	comp=Z,260nm,5.5s							
AAK	**Ala-Archa**	**59.60**	**1**	P		**P**	**01 36 20.4**	**-0.4**
AAK				IAmb		IAmb	01 36 31.4	
	comp=Z,4.5nm,0.9s							
BJT	**Baijiatuan**	**59.63**	**324**	P		**P**	**01 36 21.1**	**+0.2**
MJAR	**Matsushiro Arr**	**59.75**	**304**	P		**P**	**01 36 22.3**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=0.0,slow=13,SNR=2.3							
	comp=Z,0.6nm,0.3s							
KSH	**Kashi**	**62.72**	**359**	P		**P**	**01 36 45.8**	**+3.9**
KSH				pP		sP	01 36 49.8	+3.7
KSH				pmax		pmax		
	comp=Z,5.0nm,0.8s							
GAR	**Garm**	**63.20**	**4**	P		**P**	**01 36 45.8**	**+0.7**
GEYT	**Alibeck**	**63.84**	**15**	P		**P**	**01 36 51.0**	**+1.7**
GYA0B	**ALIBECK ARRAY**	**63.84**	**15**	P		**P**	**01 36 48.8**	**-0.4**
HRA	**Herat**	**67.57**	**11**	P		**P**	**01 37 14.5**	**+0.9**
HRA				IAmb		IAmb	01 37 18.0	
	comp=Z,5.1nm,1.3s							
KBL	**Kabul**	**67.62**	**5**	P		**P**	**01 37 14.0**	**+0.1**
LSA	**Lhasa**	**72.08**	**345**	P		**P**	**01 37 42.2**	**+0.4**
PZH	**PanZhiHua**	**74.52**	**335**	P		**P**	**01 37 57.0**	**+1.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,90nm,5.1s							
CMAR	**Chiang Mai Arr**	**82.73**	**337**	P		**P**	**01 38 40.9**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=347,slow=5.6,SNR=6.9							
	comp=Z,1.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**82.73**	**337**	P		**P**	**01 38 40.7**	**-0.1**

GUC 20 01:33:32.4±0.5, 22°.89S×66°.96W, h259km±7km, **ML3.5, 2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LVC	**Limon Verde**	**1.82**	**279**	*eP*		Pn	01	34	13.5	-1.1
LVC				*i* S		S	01	34	45.9	-1.9
PB09	**IPOC Station P**	**2.38**	**297**	*eP*		Pn	01	34	19.8	+0.4
PB06	**IPOC Station P**	**2.42**	**274**	*eP*		Pn	01	34	19.8	+0.1
PB06				*i* S		S	01	34	55.8	-1.3
PB03	**IPOC Station P**	**2.72**	**287**	*i*/*iP*		Pn	01	34	22.7	0.0
PB03				*i* S		S	01	35	01.1	-1.4
PB03				IAML			01	35	03.6	
	comp=N,63nm,0.2s									
PB07	**IPOC Station P**	**2.95**	**293**	*eP*		Pn	01	34	25.4	+0.3
PB07				*i* S		S	01	35	05.4	-1.5
PB01	**IPOC Station P**	**2.98**	**308**	*eP*		Pn	01	34	25.5	0.0
PB01				*i* S		S	01	35	06.6	-0.8
PB04	**IPOC Station P**	**3.00**	**280**	*eP*		Pn	01	34	26.1	+0.4
PB04				*i* S		S	01	35	06.7	-1.2
PB02	**IPOC Station P**	**3.14**	**299**	*eP*		Pn	01	34	27.2	+0.1
PB02				*i* S		S	01	35	09.0	-1.5
PB10	**IPOC Station P**	**3.37**	**259**	*eP*		Pn	01	34	29.7	+0.3
PB10				*i* S		S	01	35	13.4	-1.3
PATCX	**Punta Patache**	**3.61**	**304**	*eP*		Pn	01	34	33.0	+0.6
PATCX				*i* S		S	01	35	18.1	-1.8
HMBC	**Humberstone**	**3.77**	**313**	*eP*		Pn	01	34	34.5	+0.4
HMBC				*i* S		S	01	35	21.2	-2.0
GO01	**Chusmiza**	**3.83**	**327**	*eP*		Pn	01	34	35.7	+0.6
GO01				*i* S		S	01	35	25.7	+0.7
PB11	**IPOC Station P**	**4.00**	**321**	*eP*		Pn	01	34	36.7	-0.2
PB11				*i* S		S	01	35	26.7	-1.5
MNMC	**Minye Minye**	**4.48**	**326**	*eP*		Pn	01	34	42.9	+0.3
MNMC				*i* S		S	01	35	37.1	-1.5
PB16	**IPOC Station P**	**5.12**	**332**	*eP*		Pn	01	34	51.5	+0.9
PB16				*i* S		S	01	35	51.9	-1.1

*IDC **20** 01:34:37.8±0.5, 58°.72S×25°.34W, h0km, mb4.5/13, mbtmp4.5/14, ML4.7/1, MS4.3/1, Error ellipse: s-maj=19.8km s-min=15.5km az=53.0*
*NEIC **20** 01:34:39.2±1.4, 58°.66S±0°.04×25°.2W±0°.2, h10km±1km, mb4.8/26, Error ellipse: s-maj=21.4km s-min=7.8km az=87.0*

ISC 20 01:34:39.4±0.4, **58°.76S**±0°.08×**25°.3W**±0°.1, **h10km, n182,** σ0s**86**/174, **mb4.8**/20, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
VNA1	**Neumayer--Stat**	**13.88**	**156**	P		**Pn**	**01**	**37**	**56.2**	**+0.3**
VNA1				S		Sn	01	40	16.9	-13
VNA3	**Neumayer Olymp**	**14.08**	**159**	P		**Pn**	**01**	**37**	**58.3**	**-0.3**
VNA3				S		Sn	01	40	20.1	-15
VNA2	**Neumayer--Watz**	**14.28**	**156**	P		**Pn**	**01**	**38**	**00.8**	**-0.6**
	baz=319,slow=14									
VNA2				S		Sn	01	40	22.2	-17
	baz=316,slow=22									
SNAA	**Sanae**	**15.84**	**154**	P		**Pn**	**01**	**38**	**22.3**	**+0.2**
SNAA				S		Sn	01	41	04.4	-13
SNAA	**Sanae**	**15.84**	**154**	Pn		**Pn**	**01**	**38**	**22.5**	**+0.4**
	3.1nm,0.3s,baz=33,slow=12,SNR=285									
SNAA				Sn		Sn	01	41	04.9	-13
	0.3nm,0.3s,baz=329,slow=18,SNR=3.9									
	6.9nm,0.3s									
SNAA	**Sanae**	**15.84**	**154**			**Pn**	**01**	**38**	**22.4**	**+0.2**
TROLL	**Troll, Antarti**	**17.35**	**151**	P		**Pn**	**01**	**38**	**42.7**	**+1.3**
TROLL				S		Sn	01	41	40.1	-14
PMSA	**Palmer Station**	**19.06**	**235**	LR		LR	01	45	01.1	
	comp=Z,905nm,20.2s,baz=70,slow=33									
BELA	**Belgrano 2**	**19.46**	**186**	P		**P**	**01**	**39**	**06.5**	**+0.8**
SMAI	**San Martin Ant**	**20.49**	**226**	P		**P**	**01**	**39**	**17.4**	**+0.4**
USHA	**Ushuaia**	**23.66**	**261**	P		**P**	**01**	**39**	**50.2**	**-0.3**
	31nm,0.7s,baz=135,slow=2.9,SNR=4.1									
	31nm,0.7s									
MG05	**Puerto Natales**	**27.36**	**264**	P		**P**	**01**	**40**	**22.8**	**-1.5**
TRQA	**Tornquist**	**31.39**	**295**	P		**P**	**01**	**40**	**59.5**	**-0.6**
QSPA	**South Pole Qui**	**31.48**	**180**	P		**P**	**01**	**41**	**01.4**	**+0.5**
	9.0nm,0.7s,baz=206,slow=3.8,SNR=27									
	9.0nm,0.7s									
PLTB	**Pedras Altas**	**33.09**	**312**	P		**P**	**01**	**41**	**14.1**	**-1.1**
PLTB				IAmb		IAmb	01	41	18.0	
	comp=Z,23nm,1.6s									
PLCA	**Paso Flores**	**33.56**	**282**	P		**P**	**01**	**41**	**18.8**	**-0.4**
	comp=Z,7.2nm,1.1s,baz=147,slow=7.8,SNR=12									
	comp=Z,7.2nm,1.1s									
PLCA	**Paso Flores**	**33.56**	**282**	P		**P**	**01**	**41**	**18.6**	**-0.6**
PLCA				IAmb		IAmb	01	41	20.3	
	comp=Z,7.4nm,0.9s									
PLCA	**Paso Flores**	**33.56**	**282**	*eP*		**P**	**01**	**41**	**19.3**	**+0.1**
LR04	**Corral**	**35.66**	**280**	P		**P**	**01**	**41**	**37.8**	**+0.5**
ITQB	**Itaqui**	**36.14**	**310**	P		**P**	**01**	**41**	**40.3**	**-1.2**
ITQB				IAmb		IAmb	01	41	41.3	
	comp=Z,12nm,0.8s									
BO02	**Sierra Bellavi**	**38.26**	**288**	P		**P**	**01**	**41**	**58.8**	**-0.7**
MT09	**Talagante**	**39.17**	**289**	P		**P**	**01**	**42**	**06.1**	**-1.2**
MT09				IAmb		IAmb	01	42	08.8	
	comp=Z,20nm,0.7s									
MT01	**Popeta**	**39.23**	**289**	P		**P**	**01**	**42**	**07.8**	**+0.2**
MT01				IAmb		IAmb	01	42	21.5	
	comp=Z,28nm,1.1s									
CPUP	**Villa Florida**	**39.39**	**311**	P		**P**	**01**	**42**	**08.0**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=184,slow=6.3,SNR=2.8									
	comp=Z,1.0nm,0.5s									
PEL	**Peldehue**	**39.53**	**290**	P		**P**	**01**	**42**	**09.1**	**-1.2**
CFA	**Coronel Fontan**	**39.61**	**294**	P		**P**	**01**	**42**	**09.8**	**-1.0**
	comp=Z,5.8nm,0.7s,baz=153,slow=9.3,SNR=15									
	comp=Z,5.8nm,0.7s									
MT02	**Curacav**	**39.66**	**290**	P		**P**	**01**	**42**	**09.6**	**-1.6**
VA06	**Catapilco**	**40.31**	**290**	P		**P**	**01**	**42**	**15.2**	**-1.3**
VA06				IAmb		IAmb	01	42	21.0	
	comp=Z,14nm,0.8s									
RIB01	**Linhares ES**	**40.91**	**338**	*eP*		**P**	**01**	**42**	**22.9**	**+1.3**
AMBA	**Amambai (Brazi**	**41.60**	**316**	*eP*		**P**	**01**	**42**	**27.0**	**-0.3**
SJMB	**Sao Joao De Ma**	**41.66**	**337**	*eP*		**P**	**01**	**42**	**28.9**	**+1.0**
CO01	**Juntas del Tor**	**41.85**	**293**	P		**P**	**01**	**42**	**29.3**	**-0.2**
CO01				IAmb		IAmb	01	42	47.3	
	comp=Z,20nm,1.1s									
ABR01	**Abrolhos, BA**	**41.92**	**341**	*eP*		**P**	**01**	**42**	**31.2**	**+1.3**
DIAM	**Diamantina, MG**	**42.60**	**334**	*eP*		**P**	**01**	**42**	**36.7**	**+1.0**
AC05	**El Transito**	**42.89**	**294**	P		**P**	**01**	**42**	**37.2**	**-0.7**
LCO	**Las Campanas**	**42.94**	**294**	P		**P**	**01**	**42**	**37.7**	**-0.8**
LCO				IAmb		IAmb	01	42	55.5	
	comp=Z,38nm,1.5s									
GUA01	**Guaratinga, BA**	**43.46**	**339**	*eP*		**P**	**01**	**42**	**43.3**	**+0.9**
MURT	**Porto Murtinho**	**43.72**	**314**	*eP*		**P**	**01**	**42**	**44.3**	**-0.2**
VNDA	**Vanda**	**43.90**	**182**	P		**P**	**01**	**42**	**47.0**	**+1.7**
	comp=Z,6.3nm,0.7s,baz=182,slow=6.9,SNR=35									
	comp=Z,6.3nm,0.7s									
VNDA	**Vanda**	**43.90**	**182**	P		**P**	**01**	**42**	**47.2**	**+1.8**
VNDA				IAmb		IAmb	01	42	48.0	
	comp=Z,8.4nm,0.8s									
IPMB	**Ipameri, GO**	**44.06**	**328**	*eP*		**P**	**01**	**42**	**48.2**	**+0.9**
AQDB	**Aquidauana**	**44.11**	**317**	*eP*		**P**	**01**	**42**	**46.5**	**-1.1**
BDQN	**Bodoquena, MS**	**44.51**	**316**	*eP*		**P**	**01**	**42**	**51.5**	**+0.7**
BOSA	**Boshof**	**45.73**	**71**	P		**P**	**01**	**43**	**01.4**	**+0.7**
	comp=Z,4.9nm,1.0s,baz=204,slow=12,SNR=5.5									
	comp=Z,4.9nm,1.0s									
BOSA	**Boshof**	**45.73**	**71**	P		**P**	**01**	**43**	**00.3**	**-0.3**
BOSA				IAmb		IAmb	01	43	02.2	
	comp=Z,6.0nm,0.9s									
JANB	**Januaria**	**45.87**	**334**	*eP*		**P**	**01**	**43**	**02.8**	**+1.0**
BDFB	**Brasilia**	**46.24**	**329**	P		**P**	**01**	**43**	**05.4**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=167,slow=8.1,SNR=5.1									
	comp=Z,2.2nm,0.6s									
BDFB	**Brasilia**	**46.24**	**329**	*eP*		**P**	**01**	**43**	**05.5**	**+0.8**
PP1B	**Ponte de Pedra**	**46.48**	**319**	*eP*		**P**	**01**	**43**	**06.0**	**-0.6**
LVC	**Limon Verde**	**47.57**	**300**	*eP*		**P**	**01**	**43**	**16.4**	**+0.9**
SDBA	**SAO DESIDERIO**	**48.57**	**334**	*eP*		**P**	**01**	**43**	**23.9**	**+1.1**
BBSD	**Serra de San D**	**48.93**	**313**	*eP*		**P**	**01**	**43**	**24.3**	**-1.2**
PTLB	**Pontes e Lacer**	**49.97**	**315**	*eP*		**P**	**01**	**43**	**33.0**	**-0.5**
SNDB	**Serra Nova Dou**	**50.64**	**326**	*eP*		**P**	**01**	**43**	**39.3**	**+0.7**
MNMC	**Minye Minye**	**50.92**	**302**	P		**P**	**01**	**43**	**39.7**	**-1.3**
H10N1	**ASCENSION HYDR**	**51.46**	**14**	T		T	02	39	25.8	
	baz=181,slow=71,SNR=14									
H10N3	**ASCENSION HYDR**	**51.47**	**14**	T		T	02	39	31.0	
	baz=181,slow=71,SNR=43									
H10N2	**ASCENSION HYDR**	**51.48**	**14**	T		T	02	39	32.2	
	baz=181,slow=71,SNR=32									
SMTB	**Santa Maria do**	**52.63**	**332**	*eP*		**P**	**01**	**43**	**54.9**	**+1.5**
VILB	**Vilhena**	**52.66**	**315**	*eP*		**P**	**01**	**43**	**53.2**	**-0.5**
PDRB	**Porto dos Gac**	**52.69**	**320**	*eP*		**P**	**01**	**43**	**53.1**	**-0.7**
LPAZ	**La Paz**	**52.80**	**305**	P		**P**	**01**	**43**	**55.2**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=147,slow=8.0,SNR=11									
	comp=Z,2.0nm,0.6s									
LPAZ	**La Paz**	**52.80**	**305**	P		**P**	**01**	**43**	**53.4**	**-1.9**
LPAZ	**La Paz**	**52.80**	**305**	*eP*		**P**	**01**	**43**	**55.2**	**-0.1**
CLDB	**Colider**	**53.07**	**321**	*eP*		**P**	**01**	**43**	**56.1**	**-0.5**
RCBR	**Riachuelo**	**53.44**	**347**	*eP*		**P**	**01**	**44**	**00.6**	**+1.2**
NBCL	**Cascavel-CE**	**55.33**	**344**	*eP*		**P**	**01**	**44**	**15.3**	**+2.2**
PRPB	**Parauapebas**	**55.77**	**330**	*eP*		**P**	**01**	**44**	**17.6**	**+1.3**
NPGB	**Novo Progresso**	**56.53**	**323**	*eP*		**P**	**01**	**44**	**23.1**	**+1.3**
ROSB	**Rosrio**	**57.63**	**338**	*eP*		**P**	**01**	**44**	**30.9**	**+1.5**
ETMB	**Extrema**	**57.83**	**310**	*eP*		**P**	**01**	**44**	**29.9**	**-1.0**
TMAB	**Tom-Au,PA,Br**	**59.01**	**333**	*eP*		**P**	**01**	**44**	**40.5**	**+1.4**
ITTB	**Itaituba**	**59.17**	**324**	*eP*		**P**	**01**	**44**	**42.3**	**+2.0**
MALB	**Monte Alegre**	**61.12**	**326**	*eP*		**P**	**01**	**44**	**55.3**	**+1.7**
MCPB	**Macapa, AP**	**61.93**	**329**	*eP*		**P**	**01**	**45**	**00.4**	**+1.3**
TBTG	**Tabatinga, AM**	**64.43**	**309**	*eP*		**P**	**01**	**45**	**16.3**	**+0.6**
SGCB	**SΣo Gabriel d**	**67.02**	**314**	*eP*		**P**	**01**	**45**	**32.6**	**+0.3**
BOAV	**Boa Vista**	**67.06**	**321**	P		**P**	**01**	**45**	**30.9**	**-1.7**
BOAV				IAmb		IAmb	01	45	34.5	
	comp=Z,14nm,1.6s									
BOAV	**Boa Vista**	**67.06**	**321**	*eP*		**P**	**01**	**45**	**34.2**	**+1.6**
DBIC	**Dimbokro**	**67.25**	**22**	P		**P**	**01**	**45**	**34.0**	**+0.3**
	comp=Z,8.0nm,1.0s,baz=202,slow=5.5,SNR=9.0									
	comp=Z,8.0nm,1.0s									
DBIC	**Dimbokro**	**67.25**	**22**	P		**P**	**01**	**45**	**32.3**	**-1.5**
DBIC				IAmb		IAmb	01	45	36.0	
	comp=Z,7.8nm,0.9s									
HDC	**Heredia**	**83.21**	**302**	*eP*		**P**	**01**	**47**	**07.4**	**+1.6**
STKA	**Stephens Creek**	**89.04**	**169**	P		**P**	**01**	**47**	**34.6**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=169,slow=4.3,SNR=5.5									
	comp=Z,4.0nm,0.8s									
ASAR	**Alice Springs**	**96.08**	**161**	P		**P**	**01**	**48**	**06.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=183,slow=4.4,SNR=14									
	comp=Z,1.5nm,0.7s									
ASAR	**Alice Springs**	**96.08**	**161**	P		**P**	**01**	**48**	**06.1**	**-1.0**
WRA	**Warramunga Arr**	**99.80**	**161**	P		**Pdif**	**01**	**48**	**23.1**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=188,slow=5.0,SNR=2.1									
	comp=Z,0.3nm,0.8s									
TXAR	**Lajitas Array**	**108.94**	**295**	PKiKP		**PKiKP**	**01**	**53**	**08.8**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=139,slow=5.6,SNR=4.2									
AKASG	**Malin Array Be**	**117.78**	**36**	PKP		**PKPdf**	**01**	**53**	**23.7**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=262,slow=0.7,SNR=2.3									
SCHQ	**Schefferville**	**118.07**	**334**	PKP		**PKPdf**	**01**	**53**	**24.2**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=208,slow=0.3,SNR=5.3									
PDAR	**Pinedale Array**	**122.64**	**300**	PKP		**PKPdf**	**01**	**53**	**33.5**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=132,slow=5.6,SNR=10									
NOA	**NORSAR Array B**	**122.79**	**20**	PKP		**PKPdf**	**01**	**53**	**32.3**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=201,slow=1.6,SNR=2.9									
ULM	**Lac du Bonnet**	**122.91**	**314**	PKP		**PKPdf**	**01**	**53**	**33.4**	**-1.1**
	comp=Z,4.9nm,0.6s,baz=175,slow=1.7,SNR=5.8									
CMAR	**Chiang Mai Arr**	**123.13**	**110**	PKP		**PKiKP**	**01**	**53**	**36.3**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=220,slow=4.2,SNR=7.8									
NVAR	**Mina Array Bea**	**123.37**	**290**	PKP		**PKiKP**	**01**	**53**	**36.3**	**0.0**
	comp=Z,1.8nm,0.7s,baz=130,slow=2.8,SNR=13									
FINES	**FINESS Array B**	**126.30**	**28**	PKP

G24K	**Hadweenzic Riv**	**153.32 311**	P		**PKiKP**	**01 54 37.2**	**+1.1**
	baz=101						
SUA	**Susitna One**	**153.37 299**	P		**PKiKP**	**01 54 37.0**	**+0.5**
	baz=109						
CUT	**Chulitna**	**153.45 301**	P		**PKiKP**	**01 54 36.6**	**+0.2**
	baz=107						
NEA2	**Nenana**	**153.52 307**	P		**PKiKP**	**01 54 36.4**	**-0.2**
	baz=104						
F24K	**Squaw Lake**	**153.62 313**	P		**PKiKP**	**01 54 37.5**	**+0.8**
	baz=99						
TRF	**Thorofare Moun**	**153.75 304**	P		**PKiKP**	**01 54 37.0**	**-0.2**
	baz=105						
SKT	**Skwentna**	**153.89 300**	P		**PKiKP**	**01 54 37.3**	**-0.1**
	baz=107						
E24K	**Your Creek**	**153.93 314**	P		**PKiKP**	**01 54 38.3**	**+0.9**
	baz=97						
MLY	**Manley**	**154.31 307**	P		**PKiKP**	**01 54 38.8**	**+0.6**
	baz=102						
G23K	**Bananza Creek**	**154.32 311**	P		**PKiKP**	**01 54 39.3**	**+1.1**
	baz=99						
E23K	**Chandalar**	**154.35 314**	P		**PKiKP**	**01 54 38.2**	**-0.1**
	baz=96						
PPLA	**Purkeypile**	**154.44 302**	P		**PKiKP**	**01 54 39.0**	**+0.3**
	baz=105						
COLD	**Coldfoot**	**154.47 312**	P		**PKiKP**	**01 54 39.4**	**+1.0**
	baz=98						
CAST	**Castle Rocks**	**154.52 303**	P		**PKPbc**	**01 54 38.2**	**-0.5**
	baz=104						
M20K	**Styx River**	**154.58 299**	P		**PKPbc**	**01 54 38.7**	**-0.2**
	baz=106						
D23K	**Nanushuk River**	**154.82 316**	P		**PKiKP**	**01 54 39.9**	**+0.8**
	baz=93						
H21K	**Melozitna Rive**	**155.28 308**	P		PKPdf	01 54 40.7	+10
	baz=99						
G21K	**Allakaket**	**155.68 310**	P		PKPdf	01 54 41.4	+10
	baz=96						
F21K	**Alatna River**	**155.74 312**	P		PKPdf	01 54 41.6	+10
	baz=95						
PETK	**Petropavlovsk-**	**174.10 198**	PKPab		**PKPab**	**01 56 17.6**	**-1.8**
	comp=Z,2.2nm,0.8s,baz=165,slow=6.0,SNR=4.4						

*IDC **20** 01:35:32.7±0.9, 3°.73N×128°.64E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=50.7km s-min=16.9km az=70.0*

ISC 20 01:35:34.2±0.9, 3°.7N±0°.1×128°.4E±0°.2, h10km, n11, σ1§91/13, mb3.9/8, 3C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**3.58**	**312**	⇑	*eP*	**Pb**	**01 36 35.1**	**-2.6**
DDMP					*eS*	**Sb**	**01 37 25.3**	**+4.1**
KCP	**Kidapawan**	**4.65**	**315**	⇑	*eP*	Pn	01 36 51.1	+6.5
KCP					*i S*	**Sb**	**01 37 52.5**	**+0.5**
SKMP	**Bagumbayan, Su**	**4.75**	**306**	⇑	*eP*	Pn	01 36 52.5	+6.6
SKMP					*eS*	**Sb**	**01 37 52.2**	**-2.5**
WRA	**Warramunga Arr**	**24.20**	**166**		P	**P**	**01 40 50.9**	**-0.3**
	1.4nm,0.7s,baz=346,slow=10,SNR=20							
	1.4nm,0.7s							
ASAR	**Alice Springs**	**27.72**	**169**		P	**P**	**01 41 22.5**	**-0.4**
	0.3nm,0.6s,baz=0.8,slow=9.1,SNR=5.3							
ASAR					PcP	**PcP**	**01 44 40.0**	**0.0**
	0.4nm,0.7s,baz=355,slow=2.5,SNR=4.3							
	0.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**32.32**	**299**		P	**P**	**01 42 05.6**	**+1.8**
	1.0nm,0.3s,baz=105,slow=6.6,SNR=6.9							
	1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**33.92**	**14**		P	**P**	**01 42 16.7**	**-0.8**
	1.7nm,0.7s,baz=188,slow=8.9,SNR=1.9							
	1.7nm,0.7s							
STKA	**Stephens Creek**	**37.54**	**161**		P	**P**	**01 42 48.6**	**0.0**
	2.6nm,0.9s,baz=325,slow=12,SNR=3.3							
	2.6nm,0.9s							
SONM	**Songino Array**	**47.88**	**340**		P	**P**	**01 44 12.8**	**+0.2**
	0.6nm,0.6s,baz=144,slow=5.2,SNR=2.1							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**58.54**	**325**		P	**P**	**01 45 32.4**	**+1.4**
	2.0nm,0.7s,baz=122,slow=8.0,SNR=23							
	2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**61.38**	**332**		P	**P**	**01 45 50.4**	**+0.1**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=2.0							
	0.4nm,0.5s							

*DDA **20** 01:41:49.5±0.0, 39°.97N×26°.90E, h7km±2km, ML3.4*
*ISK **20** 01:41:49.4, 39°.99N×26°.89E, h4km, ML3.7/46*
*THE **20** 01:41:50.4, 39°.97N×26°.86E, h9km±1km, ML3.3/8, Error ellipse: s-maj=2.0km s-min=1.0km az=108.0*
*SOF **20** 01:41:51.4, 40°.19N×26°.88E, h11km, MD3.7*
*BEO **20** 01:41:52.0±0.6, 40°.11N×26°.80E, h0km, ML3.4/9*

ISC 20 01:41:50.2±0.9, 39°.98N±0°.02×26°.89E±0°.02, h12km±8km, n148, σ0§88/200, 28C-22D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAYC	**CANAKKALE_Bayr**	**0.35**	**228**		P	**Pg**	**01 41 56.9**	**-0.4**
BAYC					*i* AML	AML	01 42 02.0	
	comp=N,3μm,0.4s							
BAYC					*i* AML	AML	01 42 02.0	
	comp=E,4μm,0.5s							
BAYC					S	**Sg**	**01 42 02.2**	**+0.2**
LPK	**Lapseki**	**0.40**	**346**		Pg	**Pg**	**01 41 57.9**	**-0.3**
LPK					Sg	**Sg**	**01 42 03.7**	**+0.1**
EZN	**Ezine**	**0.46**	**250**		P	**Pg**	**01 41 58.9**	**-0.2**
EZN	**Ezine**	**0.46**	**250**		Pg	**Pg**	**01 41 59.0**	**-0.2**
EZN					Sg	**Sg**	**01 42 05.8**	**+0.5**
BUHA	**Balikesir, Bur**	**0.50**	**163**		P	**Pg**	**01 41 59.6**	**-0.4**
BUHA					S	**Sg**	**01 42 06.4**	**-0.2**
BUHA					*i* AML	AML	01 42 07.0	
	comp=E,3μm,0.5s							
BUHA					*i* AML	AML	01 42 09.0	
	comp=N,2μm,0.6s							
KRBG	**Karabiga-Canak**	**0.52**	**37**		Pg	**Pg**	**01 41 59.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.52**	**323**		Pg	**Pg**	**01 42 00.2**	**-0.2**
GELI					Sg	**Sg**	**01 42 07.9**	**+0.5**
ECEA	**Canakkale, Ece**	**0.55**	**277**		P	**Pb**	**01 42 01.6**	**-0.1**
ECEA					S	**Sb**	**01 42 09.5**	**0.0**
ECEA					*i* AML	AML	01 42 11.0	
	comp=N,1μm,0.6s							
KNL	**Balıkesir**	**0.57**	**59**		P	**Pg**	**01 42 00.7**	**-0.6**
KNL					S	**Sg**	**01 42 08.7**	**-0.1**
KNL					*i* AML	AML	01 42 09.0	
	comp=N,2μm,0.3s							
KNL					*i* AML	AML	01 42 09.0	
	comp=E,1μm,0.2s							
BALY	**Balya**	**0.61**	**113**		P	**Pg**	**01 42 02.0**	**-0.1**
BALY					S	**Sg**	**01 42 09.8**	**-0.4**
BALY					*i* AML	AML	01 42 16.0	
	comp=N,852nm,0.4s							
GONE	**Gonen-Balikesi**	**0.62**	**84**		Pg	**Pg**	**01 42 01.6**	**-0.6**
BOZC	**Bozcaada**	**0.66**	**258**		Pg	**Pg**	**01 42 02.8**	**-0.1**
BOZC	**Bozcaada**	**0.66**	**258**		P	**Pg**	**01 42 02.6**	**-0.3**
BOZC					S	**Sg**	**01 42 12.1**	**+0.6**
BOZC					S	**Sg**	**01 42 12.2**	**+0.6**
AYVA	**Ayvalik**	**0.69**	**193**		P	**Pg**	**01 42 03.3**	**-0.2**
AYVA					*i* AML	AML	01 42 12.0	
	comp=N,4μm,0.4s							
AYVA					S	**Sg**	**01 42 12.6**	**+0.1**
AYVA					*i* AML	AML	01 42 13.0	
	comp=E,970nm,0.2s							
RKY	**Sarkoy-Tekirda**	**0.74**	**17**		Pg	**Pg**	**01 42 04.1**	**-0.4**
SART	**Tekirdag**	**0.74**	**17**		P	**Pg**	**01 42 04.0**	**-0.5**
SART					*i* AML	AML	01 42 14.0	
	comp=N,1μm,0.3s							
SART					S	**Sg**	**01 42 14.3**	**-0.1**
SART					*i* AML	AML	01 42 18.0	
	comp=E,1μm,0.4s							
ERIK	**Erikli-Kesan**	**0.75**	**338**		Pg	**Pg**	**01 42 04.3**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.75**	**231**		P	**Pg**	**01 42 04.0**	**-0.6**
KOCA					S	**Sg**	**01 42 14.8**	**+0.3**
KOCA					*i* AML	AML	01 42 15.0	
	comp=N,2μm,0.6s							
KOCA					*i* AML	AML	01 42 15.0	
	comp=E,2μm,0.5s							
GOKA	**anakkale-Gk**	**0.78**	**286**		P	**Pg**	**01 42 05.3**	**+0.1**
GOKA					S	**Sb**	**01 42 16.6**	**+0.4**
GOKA					*i* AML	AML	01 42 20.0	
	comp=N,2μm,0.4s							
GPNR	**Gulpinar-Canak**	**0.78**	**228**		Pg	**Pg**	**01 42 05.2**	**-0.1**
GADA	**Gvkgeada**	**0.79**	**286**		Pg	**Pg**	**01 42 05.1**	**-0.3**
EDC	**Edincik**	**0.83**	**64**		Pg	**Pg**	**01 42 05.4**	**-0.9**
BALB	**Balikesir**	**0.84**	**114**		Pg	**Pg**	**01 42 06.0**	**-0.3**
KESN	**Edirne-Kesan**	**0.86**	**349**		P	**Pg**	**01 42 06.3**	**-0.5**
KESN					S	**Sn**	**01 42 21.3**	**+0.2**
KESN					*i* AML	AML	01 42 22.0	
	comp=E,2μm,0.2s							
KESN					*i* AML	AML	01 42 25.0	
	comp=N,2μm,0.4s							
STEP	**BALIKESIR_Sava**	**0.88**	**133**		P	**Pg**	**01 42 06.5**	**-0.7**
STEP					S	**Sg**	**01 42 18.7**	**0.0**
STEP					*i* AML	AML	01 42 21.0	
	comp=N,2μm,0.4s							
STEP					*i* AML	AML	01 42 21.0	
	comp=E,2μm,0.2s							
CAVK	**Edirne/Enez-Ca**	**0.90**	**323**		P	**Pg**	**01 42 07.2**	**-0.4**
CAVK					S	**Sb**	**01 42 19.9**	**+0.3**
CAVK					*i* AML	AML	01 42 23.0	
	comp=N,2μm,0.3s							
CAVK					*i* AML	AML	01 42 24.0	
	comp=E,2μm,0.2s							
ENEZ	**Enez**	**0.94**	**324**		P	**Pg**	**01 42 07.9**	**-0.4**
ENEZ					S	**Sb**	**01 42 21.2**	**+0.4**
	10μm,0.4s							
ENEZ	**Enez**	**0.94**	**324**		Pg	**Pg**	**01 42 07.9**	**-0.4**
ZEDA	**zmir-Bergama**	**1.02**	**172**		P	**Pg**	**01 42 09.6**	**-0.3**
ZEDA					S	**Sg**	**01 42 23.1**	**-0.1**
ZEDA					*i* AML	AML	01 42 25.0	
	comp=N,3μm,0.7s							
ZEDA					*i* AML	AML	01 42 26.0	
	comp=E,2μm,0.3s							
SIGR	**SIGRI**	**1.11**	**226**		P	**Pg**	**01 42 11.0**	**-0.5**
SIGR					S	**Sg**	**01 42 25.4**	**-0.5**
	4μm,0.5s							
SIGR	**SIGRI**	**1.11**	**226**		Pn	**Pg**	**01 42 10.8**	**-0.7**
ALN	**Alexandroupoli**	**1.12**	**325**		P	**Pg**	**01 42 10.7**	**-1.0**
ALN					S	**Sb**	**01 42 26.6**	**+0.7**
	2μm,0.4s							
ALN	**Alexandroupoli**	**1.12**	**325**		Pn	**Pg**	**01 42 11.2**	**-0.5**
TKR	**Tekirdag**	**1.12**	**26**		Pn	**Pg**	**01 42 10.8**	**-1.0**
SMTH	**Samothraki Isl**	**1.15**	**296**		P	**Pg**	**01 42 11.5**	**-0.8**
SMTH					S	**Sb**	**01 42 27.6**	**+0.8**
	1μm,0.3s							
KCTX	**Karacabey (Bur**	**1.16**	**75**		Pn	**Pg**	**01 42 12.2**	**-0.3**
BOTS	**Marmara Eregli**	**1.31**	**39**		Pn	**Pn**	**01 42 14.4**	**+0.2**
AKS	**Akhisar**	**1.31**	**147**		Pn	**Pn**	**01 42 14.9**	**+0.6**
AKHS	**Akhisar**	**1.31**	**147**		P	**Pn**	**01 42 14.1**	**-0.2**
AKHS					S	**Sb**	**01 42 31.3**	**-0.3**
CRLT	**Corlu**	**1.32**	**29**		Pn	**Pn**	**01 42 14.5**	**+0.1**
DST	**Dursunbey**	**1.39**	**105**		Pn	**Pn**	**01 42 16.1**	**+0.7**
GOMA	**Golmarmara-Man**	**1.50**	**148**		Pn	**Pn**	**01 42 17.6**	**+0.7**
ORLT	**Orhaneli**	**1.54**	**87**		Pn	**Pn**	**01 42 18.0**	**+0.5**
RDO	**Rodhopi**	**1.55**	**319**		P	**Pn**	**01 42 18.0**	**+0.4**
RDO					S	**Sn**	**01 42 38.7**	**+1.1**
	682nm,0.2s							
RDO	**Rodhopi**	**1.55**	**319**		Pn	**Pn**	**01 42 18.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.58**	**75**		Pn	**Pn**	**01 42 18.5**	**+0.6**
SLVT	**Silivri**	**1.60**	**38**		Pn	**Pn**	**01 42 18.8**	**+0.5**
SINB	**Sinanoba-Istan**	**1.62**	**51**		Pn	**Pn**	**01 42 19.2**	**+0.7**
URLA	**Izmir**	**1.63**	**188**		Pn	**Pn**	**01 42 19.6**	**+0.9**
YKBL	**Yakuplu-Istanb**	**1.69**	**53**		Pn	**Pn**	**01 42 20.3**	**+0.8**
DEMI	**Demirci**	**1.70**	**123**		P	**Pn**	**01 42 19.9**	**+0.3**
DEMI					S	**Sn**	**01 42 40.9**	**-0.4**
DEMI					*i* AML	AML	01 42 44.0	
	comp=N,302nm,0.4s							
DEMI					*i* AML	AML	01 42 45.0	
	comp=E,339nm,0.3s							
PHSR	**Pinarhisar**	**1.72**	**16**		Pn	**Pn**	**01 42 20.0**	**+0.1**
AVCI	**Avcilar-stanb**	**1.73**	**53**		Pn	**Pn**	**01 42 20.5**	**+0.5**
ULDT	**Uludag**	**1.73**	**84**		P	**Pn**	**01 42 20.0**	**-0.3**
ULDT					S	**Sb**	**01 42 45.5**	**+1.7**
ULDT					*i* AML	AML	01 42 46.0	
	comp=N,428nm,0.6s							
ULDT					*i* AML	AML	01 42 46.0	
	comp=E,528nm,0.6s							
CTKS	**Kestanelik-??a**	**1.76**	**44**		Pn	**Pn**	**01 42 19.8**	**-0.6**
THAS	**Thassos island**	**1.77**	**291**		P	**Pn**	**01 42 20.3**	**-0.3**
THAS					S	**Sn**	**01 42 42.6**	**-0.4**
	310nm,0.5s							
HVHR	**Bakirkoy-Istan**	**1.79**	**56**		Pn	**Pn**	**01 42 21.6**	**+0.8**
GEMT	**Gemlik**	**1.82**	**75**		Pn	**Pn**	**01 42 22.5**	**+1.2**
CTYL	**Yalikoy Yolu**	**1.83**	**35**		Pn	**Pn**	**01 42 22.4**	**+1.0**
SIMA	**Simav-Kutahya**	**1.85**	**118**		Pn	**Pn**	**01 42 23.0**	**+1.2**
EDRB	**Edirne**	**1.87**	**357**		P	**Pn**	**01 42 21.7**	**-0.2**
EDRB					S	**Sn**	**01 42 46.1**	**+0.7**
	280nm,0.7s							
EDRB	**Edirne**	**1.87**	**357**		Pn	**Pn**	**01 42 22.4**	**+0.5**
BGKT	**Bogazkoy**	**1.87**	**50**		Pn	**Pn**	**01 42 22.4**	**+0.4**
BRGA	**Burgazada-Ista**	**1.89**	**61**		Pn	**Pn**	**01 42 23.2**	**+1.0**
BUYA	**Buyukada-Istan**	**1.93**	**62**		Pn	**Pn**	**01 42 23.9**	**+1.2**
ISK	**Istanbul-Kandi**	**1.98**	**56**		P	**Pn**	**01 42 22.3**	**-1.1**
ISK	**Istanbul-Kandi**	**1.98**	**56**		Pn	**Pn**	**01 42 24.4**	**+1.0**
KAVV	**Kandilli-Istan**	**1.98**	**56**		Pn	**Pn**	**01 42 24.4**	**+1.0**
YLV	**Yalova**	**1.99**	**72**		Pn	**Pn**	**01 42 24.6**	**+0.9**
TUZL	**Tuzla-Istanbul**	**2.00**	**65**		Pn	**Pn**	**01 42 24.9**	**+1.2**
KDZ	**Kurdzhali**	**2.01**	**327**		Pn	**Pn**	**01 42 24.7**	**+0.8**
KDZ	**Kurdzhali**	**2.01**	**327**		*i* P	**Pn**	**01 42 24.6**	**+0.7**
YLVH	**Yalova**	**2.03**	**69**		Pn	**Pn**	**01 42 25.4**	**+1.3**
KAVA	**Kavala**	**2.08**	**300**		P	**Pn**	**01 42 25.1**	**+0.3**
KAVA					S	**Sn**	**01 42 50.3**	**-0.2**
	440nm,0.5s							
KLYT	**Kilyos**	**2.08**	**52**		Pn	**Pn**	**01 42 25.6**	**+0.8**
OUR	**Ouranopolis**	**2.25**	**280**		P	**Pn**	**01 42 26.9**	**-0.3**
OUR	**Ouranopolis**	**2.25**	**280**		Pn	**Pn**	**01 42 27.0**	**-0.3**
DIM	**Dimitrovgrad**	**2.31**	**334**		*i* P	**Pn**	**01 42 28.3**	**+0.3**
RZN	**Rozhen**	**2.37**	**317**		*i* P	**Pn**	**01 42 29.7**	**+0.7**
JMB	**Yambol**	**2.49**	**355**		*i* P	**Pn**	**01 42 30.5**	**0.0**
PLD	**Plovdiv**	**2.69**	**323**		*e*Pn	**Pn**	**01 42 34.3**	**+1.1**
PLD					*e*Sn	**Sn**	**01 43 05.9**	**+0.2**
PLD	**Plovdiv**	**2.69**	**323**		*i* P	**Pn**	**01 42 34.1**	**+0.9**
SRS	**Serrai**	**2.75**	**295**		P	**Pn**	**01 42 34.4**	**+0.3**
SRS	**Serrai**	**2.75**	**295**		*e*Pn	**Pn**	**01 42 34.4**	**+0.3**
SRS					*e*Sn	**Sn**	**01 43 06.7**	**-0.6**
MMB	**Musomiste**	**2.89**	**305**		*i* P	**Pn**	**01 42 36.7**	**+0.7**
APE	**Apeiranthos**	**3.10**	**201**		⇓P	**Pn**	**01 42 36.8**	**-2.0**
APE					⇓S	**Sn**	**01 43 15.8**	**0.0**
ROIA	**ROIAK**	**3.13**	**7**		*i* P	**Pn**	**01 42 40.1**	**+0.8**
PRD	**Provadia**	**3.24**	**7**		*i* P	**Pn**	**01 42 40.6**	**-0.2**
KKB	**Krupnik**	**3.44**	**304**		*i* P	**Pn**	**01 42 45.2**	**+1.6**
VAY	**Valandovo**	**3.55**	**294**		*e*Pn	**Pn**	**01 42 46.8**	**+1.8**
VAY					*e*Sn	**Sn**	**01 43 27.7**	**+0.9**
VAY	**Valandovo**	**3.55**	**294**		*i* Pn	**Pn**	**01 42 46.8**	**+1.8**
RAZG	**Razgrad**	**3.59**	**356**		⇑P	**Pn**	**01 42 46.2**	**+0.5**
PLVN	**Pleven**	**3.80**	**334**		⇑P	**Pn**	**01 42 48.3**	**-0.2**
VTS	**Vitosha**	**3.81**	**315**		⇑P	**Pn**	**01 42 48.5**	**-0.3**
VTS					⇓S	**Sn**	**01 43 32.3**	**-1.3**
VTS	**Vitosha**	**3.81**	**315**		*e*Pn	**Pn**	**01 42 49.9**	**+1.2**
VTS	**Vitosha**	**3.81**	**315**		*e*Pn	**Pn**	**01 42 50.0**	**+1.2**
VTS					*e*Sn	**Sn**	**01 43 33.2**	**-0.3**
VTS					*e*Sn	Sb	01 43 33.3	-10
VTS	**Vitosha**	**3.81**	**315**		*i* P	**Pn**	**01 42 49.9**	**+1.2**
STIP	**Stip**	**3.96**	**297**		*i* Pn	**Pn**	**01 42 49.8**	**-0.9**
ICOR	**Ion Corvin**	**4.19**	**9**		⇓P	**Pn**	**01 42 54.7**	**+0.9**
FNA	**Florina**	**4.28**	**283**		*e*Pn	**Pn**	**01 42 56.4**	**+1.2**
FNA					*e*Sn	**Sn**	**01 43 45.5**	**+0.4**
PRVS	**Prvonek**	**4.42**	**306**		*e*Pn	**Pn**	**01 42 58.7**	**+1.7**
PRVS					*e*Sn	**Sn**	**01 43 48.0**	**-0.4**
VLAD	**Vladila**	**4.42**	**336**		⇑P	**Pn**	**01 42 56.8**	**-0.2**
ZAPS	**Zavoj**	**4.58**	**317**		*e*Sn	**Sn**	**01 43 53.3**	**+0.9**
TIRR	**Tirgusor**	**4.62**	**14**		⇓P	**Pn**	**01 42 59.7**	**0.0**
BARS	**Barje**	**4.75**	**308**		*e*Pn	**Pn**	**01 43 03.1**	**+1.5**
BARS					*e*Sn	**Sn**	**01 43 55.7**	**-0.9**
HUMR	**Humele**	**4.76**	**343**		⇓P	**Pn**	**01 43 01.9**	**+0.3**
HUMR					⇓S	**Sn**	**01 43 56.8**	**+0.1**
TPGR	**Topolog**	**5.00**	**13**		⇓P	**Pn**	**01 43 05.2**	**+0.2**
ZAGS	**Zajecar**	**5.17**	**319**		*e*Pn	**Pn**	**01 43 07.5**	**+0.2**
ZAGS					*e*Sn	**Sn**	**01 44 05.3**	**-1.5**
CFR	**Carcaliu**	**5.28**	**10**		⇓P	**Pn**	**01 43 09.1**	**+0.4**
BOVS	**Bovan**	**5.32**	**315**		⇑S	**Sn**	**01 44 09.2**	**-1.4**
BOVS	**Bovan**	**5.32**	**315**		*e*Pn	**Pn**	**01 43 10.5**	**+1.1**
TLCR		**5.39**	**15**		⇑P	**Pn**	**01 43 10.8**	**+0.5**
SELS	**Selova**	**5.40**	**309**		*e*Pn	**Pn**	**01 43 11.5**	**+1.0**
SELS					*e*Sn	**Sn**	**01 44 11.1**	**-1.5**
MLR	**Muntele Rosu**	**5.55**	**353**		⇑P	**Pn**	**01 43 13.2**	**+0.5**
BISRR	**Bisoca**	**5.57**	**359**		⇓P	**Pn**	**01 43 13.9**	**+1.1**
SLCR	**Slobozia Conac**	**5.64**	**6**		⇑P	**Pn**	**01 43 14.1**	**+0.3**
TATR	**Tatarca**	**5.68**	**8**		⇓P	**Pn**	**01 43 15.2**	**+0.9**
TATR					⇓S	**Sn**	**01 44 21.0**	**+1.6**
ODU	**Odobesti**	**5.78**	**1**		⇑P	**Pn**	**01 43 16.6**	**+0.9**
PLOR	**Plostina**	**5.87**	**358**		⇓P	**Pn**	**01 43 17.9**	**+0.9**
PLOR					⇑S	**Sn**	**01 44 25.8**	**+1.6**
VRI	**Vrincioaia**	**5.88**	**359**		⇓P	**Pn**	**01 43 18.6**	**+1.4**
PANC	**Panciu**	**5.89**	**2**		⇓P	**Pn**	**01 43 18.1**	**+0.9**
HERR	**Herculane**	**5.91**	**327**		⇑P	**Pn**	**01 43 17.1**	**-0.3**
HERR					⇑S	**Sn**	**01 44 23.8**	**-1.2**
VLDR	**Vladesti**	**5.93**	**8**		⇓P	**Pn**	**01 43 18.7**	**+1.0**
VARL	**Varlezi**	**5.96**	**6**		⇑P	**Pn**	**01 43 19.1**	**+1.0**
GRUS	**Gruza**	**6.03**	**312**		*e*Pn	**Pn**	**01 43 20.1**	**+0.9**
GRUS					*e*Sn	**Sn**	**01 44 26.4**	**-1.7**
DOPR	**Dopca**	**6.08**	**350**		⇓P	**Pn**	**01 43 20.9**	**+1.0**
GHRR		**6.09**	**3**		⇑P	**Pn**	**01 43 20.5**	**+0.6**
SJES	**Sjenica**	**6.13**	**305**		*e*Pn	**Pn**	**01 43 22.2**	**+1.6**
MDVR	**Moldovita**	**6.14**	**323**		⇑P	**Pn**	**01 43 21.1**	**+0.4**
MDVR					⇑S	**Sn**	**01 44 28.7**	**-2.1**
OZUR		**6.17**	**353**		⇓P	**Pn**	**01 43 21.7**	**+0.7**
IVAS	**Ivanjica**	**6.18**	**308**		*e*Pn	**Pn**	**01 43 22.3**	**+1.0**
IVAS					*e*Sn	**Sn**	**01 44 30.3**	**-1.6**
GZR	**Gura Zlata**	**6.20**	**332**		⇑P	**Pn**	**01 43 21.3**	**-0.2**
GZR					⇓S	**Sn**	**01 44 31.3**	**-0.9**
TRUS	**Trudelj**	**6.42**	**313**		*e*Pn	**Pn**	**01 43 25.1**	**+0.7**
TESR	**Tescani**	**6.53**	**359**		⇓P	**Pn**	**01 43 26.0**	**+0.1**
DIVS	**Divibare**	**6.58**	**311**		*e*Pn	**Pn**	**01 43 27.5**	**+0.8**
DIVS					*e*Sn	**Sn**	**01 44 38.7**	**-2.9**
VASR	**Vaslui**	**6.69**	**5**		⇑P	**Pn**	**01 43 28.0**	**-0.2**
SURR	**Surduc**	**6.75**	**330**		⇑P	**Pn**	**01 43 29.0**	**+0.1**
BZS	**Buzias**	**6.84**	**327**		⇑P	**Pn**	**01 43 29.8**	**-0.3**
BZS	**Buzias**	**6.84**	**327**		*e*Pn	**Pn**	**01 43 30.0**	**-0.2**
BZS					*e*Sn	**Sn**	**01 44 43.5**	**-4.4**
BANR	**Banloc**	**6.86**	**324**		⇓P	**Pn**	**01 43 29.6**	**-0.9**
BIZ	**Bicaz**	**6.98**	**356**		⇑P	**Pn**	**01 43 33.2**	**+1.0**
MILM	**Milestii Mici**	**7.08**	**11**		⇑P	**Pn**	**01 43 34.6**	**+1.2**
MARR	**Marisel-Cluj**	**7.23**	**339**		⇑P	**Pn**	**01 43 35.8**	**+0.1**
MARR					⇓S	**Sn**	**01 44 57.2**	**-0.6**
SIRR	**Siria**	**7.35**	**330**		⇑P	**Pn**	**01 43 37.2**	**-0.1**
SIRR					⇑S	**Sn**	**01 44 59.2**	**-1.5**
DRGR		**7.46**	**337**		⇑P	**Pn**	**01 43 38.8**	**0.0**
DRGR		**7.46**	**337**		*e*Pn	**Pn**	**01 43 39.4**	**+0.7**
BURAR	**Bucovina Array**	**7.73**	**352**		⇓P	**Pn**	**01 43 42.1**	**-0.4**
MORH	**Mrgy, Hungar**	**8.67**	**319**		⇑P	**Pn**	**01 43 54.9**	**-0.4**

*SSNC **20** 01:48:39.0±1.4, 19°.78N×75°.69W, h12km±7km, MD3.5, ML3.6, MW3.7*
*JSN **20** 01:48:39.3±0.8, 19°.71N×75°.61W, h30km±999km, MD4.2*

ISC 20 01:48:37.3±1.0, 19°.81N±0°.05×75°.69W±0°.03, h27km±8km, n16, σ1§47/26, 3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCC	**Rio Carpintero**	**0.19**	**358**		*eP*	**Pb**	**01 48 43.1**	**+0.1**
RCC					*eS*	**Sb**	**01 48 46.2**	**-0.7**
RCC					IAML		01 48 46.4	
	comp=E,16μm,0.1s							
RCC					IAML		01 48 46.4	
	comp=N,22μm,0.1s							
GTBY	**Guantanamo Bay**	**0.56**	**77**		*i* P	**Pn**	**01 48 49.6**	**+0.1**
GTBY					*eS*	**Sn**	**01 48 57.9**	**0.0**
MOAC	**Moa**	**1.09**	**39**		*eP*	**Pb**	**01 48 57.0**	**-0.6**
MOAC					*eS*	**Sb**	**01 49 10.2**	**-1.2**
HLGC	**Holgu

MAKZ	**Makanchi**	**2.48**	**230**	Pg	**Pg**	**02 11 45.5**	**-0.1**
MAKZ				Sg	**Sg**	**02 12 18.5**	**+0.8**
UKR	**Ust'-Kan**	**2.51**	**0**	Pg	**Pb**	**02 11 44.7**	**+0.5**
UKR				Sg	**Sg**	**02 12 17.6**	**-1.3**
CHBI	**Chibit, Altay**	**2.61**	**43**	Pg	**Pg**	**02 11 50.3**	**+2.0**
CHBI				Sg	**Sg**	**02 12 22.7**	**+0.7**
CUR	**Chagan-Uzun**	**2.90**	**53**	Pg	**Pg**	**02 11 53.3**	**-0.4**
CUR				Sg	**Sg**	**02 12 29.9**	**-1.3**
ULGR	**Ulagan, Altay**	**3.04**	**42**	Pg	**Pg**	**02 11 58.0**	**+1.6**
ULGR				Sg	**Sb**	**02 12 32.5**	**+1.8**
SEM	**Semipalatinsk**	**3.54**	**306**	*eP*	Pg	02 12 12.3	+6.4
SEM				*eS*	Sg	02 13 03.4	+12
ARTR	**Artybash**	**3.75**	**25**	Pg	**Pg**	**02 12 08.3**	**-1.7**
ARTR				Sg	**Sg**	**02 12 58.4**	**-0.2**
KURK	**Kurchatov**	**4.59**	**302**	⇑Lg	Lg	02 13 28.8	
	11nm,0.5s						
KURK	**Kurchatov**	**4.59**	**302**	Pg	**Pg**	**02 12 25.6**	**-0.6**
KURK				Sg	**Sg**	**02 13 27.4**	**+1.8**
KURBB	**Kurchatov Arra**	**4.60**	**301**	⇓Lg	Lg	02 13 29.0	
	34nm,0.5s						
TASR	**Tashtagol**	**4.78**	**24**	Pg	**Pg**	**02 12 29.6**	**-0.1**
TASR				Sg	**Sg**	**02 13 30.1**	**-1.4**
ELT	**Eltsovka**	**4.93**	**11**	Pg	**Pg**	**02 12 31.6**	**-1.0**
DJR	**Jarkent**	**5.34**	**222**	*eP*g	**Pg**	**02 12 37.8**	**-2.7**
	0.3nm,0.1s						
DJR				*e*Lg	Lg	02 13 46.9	
	2.9nm,0.4s						
LUZB	**Luzhba, Kemero**	**5.86**	**25**	Sg	**Sg**	**02 14 06.9**	**+0.7**

*SNET **20** 02:15:23.3±1.1, 12°.10N×87°.84W, h61km±29km, ML2.9*
*INET **20** 02:15:24.2±1.1, 12°.10N×87°.70W, h19km±13km, MW3.0*
ISC 20 02:15:20.9±3.3, 12°.0N±0°.1×87°.81W±0°.07, h18km±12km, n20, σ0961/29, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.01**	**48**	*eP*	**Pb**	**02 15 40.5**	**+0.6**
TELN	**Telica**	**1.12**	**59**	*eP*	**Pb**	**02 15 41.6**	**-0.3**
CNGN	**Cerro Negro**	**1.19**	**66**	*eP*	**Pb**	**02 15 43.6**	**+0.6**
COPN	**Copaltepe**	**1.21**	**82**	*eP*	**Pn**	**02 15 42.9**	**0.0**
CNCH	**Conchagua**	**1.25**	**359**	*eP*	**Pn**	**02 15 43.4**	**-0.2**
CNCH				*eS*	**Sb**	**02 16 00.5**	**+0.6**
LCND	**La Caada**	**1.29**	**357**	*eP*	**Pn**	**02 15 43.6**	**-0.4**
LCND				*eS*	**Sb**	**02 16 00.7**	**-0.1**
LCND				IAML		02 16 03.8	
	comp=Z,416nm,0.4s						
MOMN	**Momotombo**	**1.30**	**72**	*eP*	**Pn**	**02 15 44.2**	**0.0**
RANC	**El Ranchito**	**1.48**	**342**	*eP*	**Pn**	**02 15 46.9**	**0.0**
PACA	**Pacayal**	**1.53**	**341**	*eP*	**Pn**	**02 15 47.3**	**-0.2**
PACA				*eS*	**Sn**	**02 16 06.3**	**-0.6**
PACA				IAML		02 16 16.0	
	comp=Z,1μm,0.3s						
HUEN		**1.64**	**79**	*eP*	**Pn**	**02 15 49.4**	**+0.6**
FAGO	**Alcalda de S**	**1.69**	**350**	*eP*	**Pn**	**02 15 49.6**	**0.0**
FAGO				IAML		02 15 51.5	
	comp=Z,46nm,0.3s						
FAGO				*eS*	**Sn**	**02 16 10.5**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.90**	**332**	*eP*	**Pn**	**02 15 52.6**	**+0.2**
SCLA				*eS*	**Sn**	**02 16 15.6**	**-0.4**
SCLA				IAML		02 16 19.5	
	comp=Z,26nm,0.3s						
SJTE	**Alcalda de S**	**1.97**	**324**	*eP*	**Pn**	**02 15 54.1**	**+0.6**
SJTE				*eS*	**Sn**	**02 16 17.1**	**-0.7**
SJTE				IAML		02 16 21.8	
	comp=Z,33nm,0.2s						
LFRS	**El Faro**	**2.01**	**323**	*eP*	**Pn**	**02 15 54.9**	**+0.9**
LFRS				*eS*	**Sn**	**02 16 19.0**	**+0.2**
MATN	**Matagalpa**	**2.06**	**64**	*eP*	**Pn**	**02 15 55.1**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.10**	**14**	*eP*	**Pn**	**02 15 55.6**	**+0.3**
BOAB	**BOACO BROADBAN**	**2.14**	**78**	*eP*	**Pn**	**02 15 54.6**	**-1.1**
P5NO	**Presa 5 de nov**	**2.17**	**335**	*eP*	**Pn**	**02 15 56.4**	**+0.3**
P5NO				*eS*	**Sn**	**02 16 21.8**	**-0.7**
JAYA	**Jayaque - finc**	**2.28**	**316**	*eP*	**Pn**	**02 15 58.3**	**+0.5**
NUBE	**Las Nubes**	**2.68**	**315**	*eP*	**Pn**	**02 16 03.3**	**-0.1**
NUBE				*eS*	**Sn**	**02 16 33.8**	**-1.7**

*TEH **20** 02:18:30.8, 30°.12N×50°.69E, h11km±22km, ML3.3*
*OMAN **20** 02:18:34.7±0.6, 29°.79N×50°.98E, h1km±29km, mb5.5/13, Mwp5.6/3, Error ellipse: s-maj=57.6km s-min=6.2km az=337.0*
ISC 20 02:18:30.8±0.8, 30°.08N±0°.04×50°.70E±0°.05, h10km, n78, σ186/99, 1C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.65**	**323**	Pg	**Pg**	**02 18 43.5**	**+0.1**
KAZ1	**Kazerun**	**0.93**	**119**	Pg	**Pg**	**02 18 49.2**	**+0.5**
KAZ1				Sg	**Sb**	**02 19 03.5**	**+1.9**
KLNJ	**Kolanjah**	**1.20**	**39**	Pg	**Pb**	**02 18 53.3**	**-0.7**
KLNJ				Sg	**Sb**	**02 19 10.8**	**+1.1**
AHBU	**AHRAM**	**1.32**	**157**	Pg	**Pg**	**02 18 57.3**	**+1.2**
SHI	**Shiraz**	**1.63**	**105**	Pg	**Pb**	**02 19 02.4**	**+1.2**
DSBU	**Dashti - Bushe**	**1.78**	**164**	Pn	**Pn**	**02 19 03.7**	**+2.0**
IBRJ	**Brojen**	**1.88**	**15**	Pn	**Pn**	**02 19 04.8**	**+1.4**
AMIS	**Naft Sefid**	**2.00**	**323**	Pn	**Pn**	**02 19 04.9**	**+0.3**
SHK1	**Shahrekord**	**2.25**	**4**	Pn	**Pn**	**02 19 10.0**	**+1.7**
IRAM	**Ramesheh**	**2.25**	**40**	Pn	**Pn**	**02 19 10.2**	**+1.9**
IGAR	**Gharneh**	**2.58**	**26**	Pn	**Pn**	**02 19 13.8**	**+0.8**
QIR1	**Qir**	**2.60**	**127**	Pn	**Pn**	**02 19 14.9**	**+2.0**
IPIR	**Pirpir**	**2.60**	**4**	Pn	**Pn**	**02 19 15.3**	**+2.0**
GHIR	**Ghir-Karzin**	**2.68**	**131**	Pn	**Pn**	**02 19 15.4**	**+1.2**
JHRM	**Jahrom**	**2.96**	**121**	Pn	**Pn**	**02 19 19.8**	**+1.8**
IZEF	**Zefreh**	**3.13**	**26**	Pn	**Pn**	**02 19 22.6**	**+2.1**
ISAD	**Sadrabad**	**3.15**	**54**	Pn	**Pn**	**02 19 23.4**	**+2.7**
IKLH	**Kolahrood**	**3.31**	**13**	Pn	**Pn**	**02 19 24.9**	**+1.9**
IMEH	**Mehriz**	**3.61**	**68**	Pn	**Pn**	**02 19 29.2**	**+2.1**
QAMS	**Qamsar**	**3.69**	**9**	Pn	**Pn**	**02 19 30.0**	**+1.8**
KHMZ	**Khomeyn**	**3.70**	**350**	Pn	**Pn**	**02 19 30.6**	**+2.3**
ICHK	**Chekchek**	**3.84**	**55**	Pn	**Pn**	**02 19 32.2**	**+2.0**
ANAR	**Anarak**	**4.03**	**39**	Pn	**Pn**	**02 19 34.4**	**+1.6**
YZKH	**Yazd**	**4.05**	**54**	Pn	**Pn**	**02 19 35.2**	**+2.2**
KRSH	**Karshahi**	**4.06**	**17**	Pn	**Pn**	**02 19 35.8**	**+2.1**
SAKB	**Bahrain**	**4.09**	**182**	P	**Pn**	**02 19 35.8**	**+2.4**
SAKB				S	**Sn**	**02 20 22.0**	**+0.7**
SHMA	**Al-Shehemyia**	**4.21**	**177**	P	**Pn**	**02 19 37.6**	**+2.4**
IDOB	**Doab**	**4.27**	**331**	Pn	**Pn**	**02 19 37.4**	**+1.3**
GHVR	**GHOM**	**4.42**	**6**	Pn	**Pn**	**02 19 39.8**	**+1.8**
IBAF	**Bafgh**	**4.45**	**69**	Pn	**Pn**	**02 19 40.2**	**+1.8**
ISFB	**Sefidab**	**4.45**	**17**	Pn	**Pn**	**02 19 39.9**	**+1.4**
HSAM	**Samen**	**4.49**	**337**	Pn	**Pn**	**02 19 40.6**	**+1.5**
ASAO	**Ashtian**	**4.49**	**353**	Pn	**Pn**	**02 19 41.1**	**+1.9**
IQOM	**Qom**	**4.76**	**4**	Pn	**Pn**	**02 19 44.0**	**+1.2**
IKOM	**Komasi**	**4.90**	**327**	Pn	**Pn**	**02 19 45.8**	**+1.1**
HAGD	**Aghdareh**	**4.91**	**345**	Pn	**Pn**	**02 19 46.4**	**+1.5**
KHGB	**Koh Gabri**	**5.01**	**85**	Pn	**Pn**	**02 19 49.1**	**+2.8**
KRBR	**Kerman**	**5.25**	**90**	Pn	**Pn**	**02 19 52.4**	**+2.6**
SMRA	**Abu-Samra**	**5.32**	**179**	P	**Pn**	**02 19 51.8**	**+1.5**
SMRA				S	**Sn**	**02 20 52.3**	**+0.7**
IGHG	**Ghaleghazi**	**5.50**	**321**	Pn	**Pn**	**02 19 53.5**	**+0.5**
DAMV	**Damavand**	**5.64**	**11**	Pn	**Pn**	**02 19 56.3**	**+1.3**
SNGE	**Sanandaj**	**5.74**	**331**	Pn	**Pn**	**02 19 57.1**	**+0.7**
IDHR	**Dehrash**	**5.88**	**323**	Pn	**Pn**	**02 19 58.1**	**-0.1**
TPRV	**Parvadeh(Tabas**	**5.89**	**59**	Pn	**Pn**	**02 19 59.3**	**+1.0**
SLWR	**Sila**	**6.05**	**171**	P	**Pn**	**02 20 01.3**	**+0.9**
SLWR				S	**Sn**	**02 21 08.1**	**-1.6**
TNSJ	**Nastanj**	**6.33**	**51**	Pn	**Pn**	**02 20 06.0**	**+1.7**
BANOM	**Banah**	**6.45**	**129**	P	**Pn**	**02 20 06.6**	**+0.7**
BANOM				S	**Sn**	**02 21 17.4**	**-2.3**
TKDS	**Koohdasht(Taba**	**6.50**	**56**	Pn	**Pn**	**02 20 07.3**	**+0.7**
TABS	**Tabas**	**6.51**	**55**	Pn	**Pn**	**02 20 08.4**	**+1.6**
AJN	**Ajban**	**6.69**	**144**	P	**Pn**	**02 20 09.9**	**+0.8**
AJN				S	**Sn**	**02 21 24.0**	**-1.4**
NAZ	**Nazwa, Dubai**	**6.71**	**138**	P	**Pn**	**02 20 10.1**	**+0.5**
NAZ				S	**Sn**	**02 21 24.3**	**-1.8**
MASF	**Masafi**	**6.74**	**133**	P	**Pn**	**02 20 09.9**	**+0.1**
MASF				S	**Sn**	**02 21 23.5**	**-3.1**
ZNJK	**Zanjan**	**6.79**	**346**	Pn	**Pn**	**02 20 12.8**	**+2.1**
ASUD	**Al Ashush, Dub**	**6.81**	**142**	P	**Pn**	**02 20 12.0**	**+1.1**
	SNR=30						
ASUD				P	**Pn**	**02 20 12.0**	**+1.1**
	SNR=30						
ASUD				S	**Sn**	**02 21 26.9**	**-1.6**
ASUD				S	**Sn**	**02 21 26.9**	**-1.6**
FAQ	**Al Faqa, Dubai**	**6.86**	**140**	P	**Pn**	**02 20 13.0**	**+1.5**
FAQ				S	**Sn**	**02 21 27.7**	**-2.1**
MDH	**Madha**	**6.88**	**133**	P	**Pn**	**02 20 11.4**	**-0.3**
MDH				S	**Sn**	**02 21 26.9**	**-3.1**
MZWR	**Madinat Zayed**	**6.90**	**155**	P	**Pn**	**02 20 13.5**	**+1.4**
MZWR				S	**Sn**	**02 21 30.0**	**-0.8**
UOSS	**Minazif**	**7.07**	**135**	P	**Pn**	**02 20 15.3**	**+0.9**
UOSS				S	**Sn**	**02 21 32.3**	**-2.6**
ASHO	**Ashiyiah**	**7.18**	**137**	P	**Pn**	**02 20 17.0**	**+1.0**
	SNR=8.3						
ASHO				S	**Sn**	**02 21 35.4**	**-2.2**
SHRO	**Shahrood**	**7.39**	**36**	Pn	**Pn**	**02 20 20.7**	**+1.9**
BSRN	**Basiran**	**7.47**	**73**	Pn	**Pn**	**02 20 22.9**	**+2.9**
MZR	**Muzera**	**7.47**	**160**	P	**Pn**	**02 20 21.0**	**+1.1**
	SNR=36						
ALNE	**Al Ain**	**7.50**	**142**	P	**Pn**	**02 20 21.8**	**+1.5**
	SNR=5.9						
SOHO	**SOHO**	**7.88**	**137**	P	**Pn**	**02 20 24.7**	**-0.8**
UMZA	**Um Al Zommool**	**8.35**	**150**	P	**Pn**	**02 20 32.6**	**+0.6**
UMZA				S	**Sn**	**02 22 02.8**	**-3.6**
ARQ	**Araqi**	**8.49**	**141**	P	**Pn**	**02 20 33.5**	**-0.5**
ARQ				S	**Sn**	**02 22 07.1**	**-2.9**
HOQ	**Hoqain**	**8.76**	**136**	P	**Pn**	**02 20 37.8**	**+0.2**
MRVT	**Maraveh tapeh**	**8.78**	**29**	Pn	**Pn**	**02 20 39.8**	**+1.8**
SHRT	**Shahrakht**	**8.89**	**64**	Pn	**Pn**	**02 20 42.5**	**+3.0**
BSY	**Bisya**	**9.34**	**140**	P	**Pn**	**02 20 45.8**	**+0.2**
BSY				⇑S	**Sn**	**02 22 26.4**	**-4.4**
SMDO	**Samad**	**9.60**	**135**	S	**Sn**	**02 22 31.9**	**-5.3**
MHTO	**MHTO**	**11.18**	**142**	P	**Pn**	**02 21 10.3**	**-0.4**
	SNR=10						
DOK	**Doka**	**11.83**	**164**	P	**Pn**	**02 21 19.0**	**-0.7**
	SNR=6.7						
DQM	**DQM**	**11.85**	**147**	P	**Pn**	**02 21 18.1**	**-1.8**
WHFO	**Wadi Hawf**	**12.43**	**166**	P	**Pn**	**02 21 26.0**	**-1.9**
	SNR=10						
ABTO	**Aybut**	**12.89**	**169**	P	**Pn**	**02 21 32.5**	**-1.7**
DMTO	**DMTO**	**12.90**	**162**	P	**Pn**	**02 21 31.8**	**-2.6**
DMTO				P	**Pn**	**02 21 32.0**	**-2.4**
	SNR=16						
RBK	**Rabkut**	**12.92**	**165**	P	**Pn**	**02 21 32.9**	**-1.8**

*NEIC **20** 02:20:04.9±1.0, 10°.4S±0°.1×161°.3E±0°.1, h38km±8km, mb4.6/27, Error ellipse: s-maj=19.9km s-min=7.4km az=222.0*
*IDC **20** 02:20:07.8±2.1, 10°.37S×161°.32E, h73km±16km, mb4.0/18, mbtmp4.3/20, Error ellipse: s-maj=20.0km s-min=12.5km az=88.0*
*NOU **20** 02:20:08.0, 10°.38S×161°.49E, h61km, mb4.7/20, Solomon Islands*
ISC 20 02:20:06.8±0.5, 10°.34S±0°.06×161°.33E±0°.08, h61km, n79, σ1953/77, mb4.5/37, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.64**	**303**	P	**Pn**	**02 20 34.1**	**+0.8**
	32μm,0.5s,baz=185,slow=6.1,SNR=92						
HNR				S	**Sn**	**02 20 55.2**	**+1.8**
	98μm,0.3s,baz=183,slow=19,SNR=19						
HNR				LR	LR	02 21 25.5	
	comp=Z,16μm,19.9s,baz=330,slow=47						
HNR	**Honiara**	**1.64**	**303**	Pn	**Pn**	**02 20 30.3**	**-3.1**
HNR	**Honiara**	**1.64**	**303**	P	**Pn**	**02 20 34.9**	**+1.6**
KOUNC	**Koumac, New Ca**	**10.54**	**165**	Pn	**Pn**	**02 22 32.9**	**-2.3**
KOUNC	**Koumac, New Ca**	**10.54**	**165**	P	**Pn**	**02 22 34.6**	**-0.5**
NOUC	**Port Laguerre**	**12.63**	**158**	P	**Pn**	**02 23 03.6**	**0.0**
DZM	**Mont Dzumac**	**12.65**	**158**	P	**Pn**	**02 23 03.2**	**-0.8**
	11nm,0.5s,baz=31,slow=8.2,SNR=30						
DZM				S	Sn	02 25 14.4	-9.0
	2.0nm,0.4s,baz=32,slow=21,SNR=2.4						
DZM	**Mont Dzumac**	**12.65**	**158**	Pn	**Pn**	**02 23 01.8**	**-2.2**
DZM	**Mont Dzumac**	**12.65**	**158**	P	**Pn**	**02 23 03.4**	**-0.7**
OUENC	**Ouen Island, N**	**13.12**	**157**	Pn	**Pn**	**02 23 07.7**	**-2.6**
OUENC	**Ouen Island, N**	**13.12**	**157**	P	**Pn**	**02 23 10.1**	**-0.2**
PMG	**Port Moresby**	**13.99**	**273**	Pn	**Pn**	**02 23 19.4**	**-2.8**
PMG	**Port Moresby**	**13.99**	**273**	P	**P**	**02 23 27.0**	**-1.3**
TV1H	**Townsville Har**	**16.61**	**236**	P	**P**	**02 23 57.4**	**+0.2**
CTA	**Charters Tower**	**17.47**	**235**	P	**P**	**02 24 07.7**	**+0.9**
	25nm,0.6s,baz=64,slow=12,SNR=31						
CTA	**Charters Tower**	**17.47**	**235**	P	**P**	**02 24 08.0**	**+1.2**
CTAO	**Charters Tower**	**17.47**	**235**		**Pn**	**02 24 05.8**	**-0.6**
CTAO				IAmb	IAmb	02 24 11.1	
	comp=Z,32nm,0.7s						
CTAO	**Charters Tower**	**17.47**	**235**	P	**P**	**02 24 07.6**	**+0.8**
EIDS	**Eidsvold**	**17.83**	**212**		**P**	**02 24 09.4**	**-1.3**
EIDS	**Eidsvold**	**17.83**	**212**	P	**Pn**	**02 24 11.3**	**+0.5**
COEN	**Coen**	**18.11**	**257**	P	**P**	**02 24 12.6**	**-1.3**
COEN	**Coen**	**18.11**	**257**	P	**Pn**	**02 24 18.8**	**+4.6**
MTSU	**Mount Surprise**	**18.21**	**243**	P	**Pn**	**02 24 18.0**	**+2.5**
RMQ	**Roma**	**19.98**	**215**	P	**Pn**	**02 24 38.7**	**+2.3**
AULRC	**Lightning Ridg**	**22.73**	**211**	P	**P**	**02 25 08.1**	**+4.4**
QIS	**Mount Isa**	**23.25**	**242**	P	**P**	**02 25 09.4**	**+0.3**
INKA	**Innaminka**	**25.97**	**225**	P	**P**	**02 25 34.4**	**+0.6**
WR0	**Warramunga Arr**	**27.53**	**247**	P	**P**	**02 25 47.9**	**-0.1**
WB0	**Warramunga Arr**	**27.61**	**247**	P	**P**	**02 25 48.5**	**-0.3**
WB0				IAmb	IAmb	02 26 08.0	
	comp=Z,8.7nm,0.9s						
WB2	**Warramunga Arr**	**27.70**	**247**	P	**P**	**02 25 48.5**	**-1.0**
WRA	**Warramunga Arr**	**27.71**	**247**	P	**P**	**02 25 49.2**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=77,slow=9.2,SNR=42						
WRA				PcP	**PcP**	**02 29 03.9**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=74,slow=3.4,SNR=1.5						
	comp=Z,2.9nm,0.5s						
STKA	**Stephens Creek**	**28.15**	**218**	P	**P**	**02 25 54.3**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=78,slow=8.6,SNR=3.0						
	comp=Z,2.2nm,0.8s						
GUMO	**Guam**	**28.85**	**325**	P	**P**	**02 25 58.0**	**-1.6**
	comp=Z,70nm,0.6s,baz=112,slow=11,SNR=2.1						
AS31	**Alice Springs**	**29.31**	**240**	P	**P**	**02 26 02.8**	**-1.0**
ASAR	**Alice Springs**	**29.31**	**240**	P	**P**	**02 26 02.6**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=70,slow=9.4,SNR=16						
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**29.31**	**240**	P	**P**	**02 26 02.8**	**-1.1**
LCRK	**Leigh Creek**	**29.37**	**224**	P	**P**	**02 26 04.2**	**0.0**
SBUM	**Sibu**	**50.51**	**282**	P	**P**	**02 28 58.5**	**-0.8**
SBUM				IAmb	IAmb	02 29 15.3	
	comp=Z,6.1nm,1.0s						
MJAR	**Matsushiro Arr**	**51.46**	**336**	P	**P**	**02 29 04.7**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=167,slow=8.1,SNR=5.7						
	comp=Z,2.2nm,0.7s						
ASAJ	**Asahikawa**	**56.81**	**344**	P	**P**	**02 29 45.1**	**+0.3**
	comp=Z,3.1nm,0.3s,baz=207,slow=4.5,SNR=3.4						
	comp=Z,3.1nm,0.3s						
KSRS	**Korea Array**	**56.93**	**328**	P	**P**	**02 29 46.0**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=142,slow=7.1,SNR=2.9						
	comp=Z,1.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**60.46**	**336**	P	**P**	**02 30 10.2**	**0.0**
	comp=Z,5.4nm,0.9s,baz=142,slow=7.3,SNR=4.5						
	comp=Z,5.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**60.46**	**336**	P	**P**	**02 30 10.4**	**+0.3**
PETK	**Petropavlovsk-**	**63.27**	**358**	P	**P**	**02 30 29.6**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=137,slow=5.5,SNR=2.3						
	comp=Z,1.3nm,0.7s						
SHEM	**Shemya Is, Ala**	**63.77**	**9**	P	**P**	**02 30 32.7**	**+0.6**
	comp=Z,42nm,0.4s,baz=256,slow=4.2,SNR=1.5						
ENH	**Enshi**	**64.12**	**311**	P	**P**	**02 30 34.7**	**-0.3**
ENH				IAmb	IAmb	02 30 50.1	
	comp=Z,4.4nm,0.9s						
KLR	**Kul'dur**	**64.77**	**339**	P	**P**	**02 30 39.2**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=117,slow=3.2,SNR=5.5						
	comp=Z,1.8nm,0.6s						
VNDA	**Vanda**	**67.16**	**180**	P	**P**	**02 30 53.9**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=343,slow=6.6,SNR=29						
	comp=Z,3.3nm,0.6s						
HEH	**HeiHe**	**67.21**	**337**	*eP*	**P**	**02 30 54.3**	**-0.1**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**67.87**	**295**	P	**P**	**02 30 59.1**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=126,slow=4.6,SNR=1.2						
	comp=Z,0.9nm,0.3s						
PZH	**PanZhiHua**	**68.46**	**304**	P	**P**	**02 31 06.6**	**+3.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,70nm,4.3s						
HHC	**Hu-ho-hao-te**	**68.54**	**322**	*eP*	**P**	**02 31 07.3**	**+4.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,5.8s						
ULN	**Ulaanbaatar**	**75.23**	**326**	P	**P**	**02 31 43.5**	**+0.3**
ULN				IAmb	IAmb	02 31 58.6	
	comp=Z,5.5nm,0.8s						
GTA	**Gaotai**	**75.48**	**315**	*eP*	**P**	**02 31 46.0**	**+1.2**
GTA				sP	PcP	02 31 59.1	+1.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**75.58**	**325**	P	**P**	**02 31 45.9**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=142,slow=5.7,SNR=12						
SONM	**Songino Array**	**75.58**	**325**	P	**P**	**02 31 44.9**	**-0.2**
SONM				IAmb	IAmb	02 32 00.4	
	comp=Z,5.2nm,0.7s						
BILL	**Bilibino**	**78.26**	**2**	P	**P**	**02 31 59.6**	**0.0**
BILL				IAmb	IAmb	02 32 05.3	
	comp=Z,6.5nm,0.9s						
LSA	**Lhasa**	**78.33**	**303**	P	**P**	**02 31 59.6**	**-1.8**
LSA				IAmb	IAmb	02 32 02.8	
	comp=Z,3.1nm,0.6s						
IMAR	**Indian Mountai**	**82.97**	**17**	P	**P**	**02 32 25.6**	**+0.8**
CCB	**Clear Creek Bu**	**83.89**	**20**	IAmb	IAmb	02 32 33.9	
	comp=Z,7.2nm,1.2s						
MDM	**Murphy Dome**	**83.95**	**19**	IAmb	IAmb	02 32 31.5	
	comp=Z,4.0nm,0.7s						
IL31		**84.28**	**20**	P	**P**	**02 32 31.7**	**+0.2**
IL31				IAmb	IAmb	02 32 36.4	
	comp=Z,9.7nm,1.4s						
ILAR	**Eielson Array**	**84.28**	**20**	P	**P**	**02 32 31.1**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=247,slow=4.9,SNR=24						
	comp=Z,1.4nm,0.7s						
L26K	**Log Cabin Wild**	**84.46**	**22**	IAmb	IAmb	02 32 35.5	
	comp=Z,4.4nm,0.8s						
SCRK	**Sand Creek**	**84.79**	**21**	P	**P**	**02 32 35.2**	**+0.9**
SCRK				IAmb	IAmb	02 32 37.0	
	comp=Z,4.3nm,0.8s						
BCAR	**Beaver Creek A**	**85.06**	**23**	P	**P**	**02 32 37.9**	**+2.3**
WMQ	**Urumqi**	**85.55**	**316**	*eP*	**P**	**02 32 40.9**	**+2.4**
NVAR	**Mina Airay Bea**	**88.92**	**51**	P	**P**	**02 32 54.9**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=236,slow=7.6,SNR=12						
	comp=Z,1.2nm,0.7s						
MK31	**Makanchi Array**	**90.06**	**318**	P	**P**	**02 32 59.4**	**-0.7**
MKAR	**Makanchi Array**	**90.06**	**318**	P	**P**	**02 32 59.2**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=90,slow=6.3,SNR=18						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**90.06**	**318**	P	**P**	**02 32 59.1**	**-1.0**
ZALV	**Zalesovo Beam**	**90.47**	**325**	P	**P**	**02 33 00.3**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=104,slow=1.8,SNR=2.6						
	comp=Z,0.6nm,0.5s						
R11A	**Troy Canyon, C**	**90.98**	**51**	P	**P**	**02 33 05.8**	**+1.2**
PRN	**Pahroc Range**	**91.19**	**52**	P	**P**	**02 33 06.0**	**+0.4**
PRN				IAmb	IAmb	02 33 25.6	
	comp=Z,3.4nm,1.0s						
F10A	**Beach Ranch, E**	**91.47**	**44**	P	**P**	**02 33 07.1**	**+0.4**
PLID	**Pearl Lake**	**92.12**	**45**	IAmb	IAmb	02 33 27.5	
	comp=Z,3.7nm,1.2s						
BCYI	**Bear Canyon**	**93.78**	**46**	P	**P**	**02 33 18.5**	**+1.0**
PDAR	**Pinedale Array**	**96.28**	**48**	P	**P**	**02 33 29.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=203,slow=3.1,SNR=3.6						
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**02 33 28.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=261,slow=4.8,SNR=17						
	comp=Z,0.7nm,0.6s						

IDC 20 02:48:01.3±1.6, 8°.70S×127°.12E, h0km, mb3.8/2, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=47.8km s-min=29.6km az=69.0, Timor region

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

BKZ	Black Stump Fm	1.88	78	P	Pn	03 04 29.0	+0.8
WPRZ	Whakapapatarin	1.90	57	P	Pn	03 04 29.4	+1.0
MTW	Mount Morrison	1.91	147	P	Pn	03 04 29.1	+0.7
MRHZ	Matea Rd	1.92	68	P	Pn	03 04 29.1	+0.4
BFZ	Birch Farm	1.97	125	P	Pn	03 04 29.8	+0.9
BFZ	Birch Farm	1.97	125	P	Pn	03 04 29.9	+0.9
MCHZ	McNeill Hill	1.99	87	P	Pn	03 04 31.1	+1.9
ALRZ	Allen Road	1.99	61	P	Pn	03 04 29.6	+0.4
ANWZ	Angora Road	2.01	117	P	Pn	03 04 30.7	+1.4
TMWZ	Te Maipa	2.04	139	P	Pn	03 04 30.6	+0.9
PRHZ	Porangahau	2.05	111	P	Pn	03 04 31.2	+1.4
PAWZ	Paruwai Farm	2.07	152	P	Pn	03 04 30.6	+0.7
CPWZ	Castlepoint	2.08	131	P	Pn	03 04 31.5	+1.5
MRNZ	Matariki Terra	2.11	209	P	Pn	03 04 31.3	+1.0
TOZ	Tahuroa Road	2.12	31	P	Pn	03 04 31.8	+1.3
NMHZ	Naumai	2.13	78	P	Pn	03 04 32.4	+1.8
KAHZ	Kahuranaki	2.13	97	P	Pn	03 04 32.2	+1.6
BSWZ	Blackbirch Sta	2.16	185	P	Pn	03 04 32.2	+1.4
PXZ	Pawanui	2.16	103	P	Pn	03 04 32.1	+1.4
PLWZ	Palliser	2.18	157	P	Pn	03 04 31.7	+0.7
CMWZ	Cape Campbell	2.18	178	P	Pn	03 04 33.2	+2.2
TRWZ	Traveller	2.18	148	P	Pn	03 04 31.9	+0.8
MTHZ	Maungataniwha	2.22	72	P	Pn	03 04 32.4	+0.8
ARHZ	Aropaoanui	2.24	83	P	Pn	03 04 33.3	+1.6
CKHZ	Cape Kidnapper	2.28	93	P	Pn	03 04 33.8	+1.7
MUGZ	Murupara	2.33	63	P	Pn	03 04 32.7	+0.1
THZ	Tophouse	2.38	203	P	Pn	03 04 34.3	+1.2
RAHZ	Arahi	2.39	75	P	Pn	03 04 34.5	+1.3
RTZ	Ruatahuna	2.41	68	P	Pn	03 04 34.3	+0.7
WHHZ	Waihua	2.46	80	P	Pn	03 04 35.4	+1.5
SNGZ	Shannon Statio	2.62	74	P	Pn	03 04 36.7	+1.1
URZ	Urewera	2.67	62	P	Pn	03 04 36.2	0.0
URZ	Urewera	2.67	62	P	Pn	03 04 36.4	+0.3
RAGZ	Rawiri	2.77	68	P	Pn	03 04 38.2	+0.8
KNZ	Kokohu	2.80	80	P	Pn	03 04 38.8	+1.1
DSZ	Denniston Nort	2.81	218	P	Pn	03 04 38.9	+1.2
KHZ	Kahutara	2.88	189	P	Pn	03 04 39.9	+1.5
KHZ	Kahutara	2.88	189	P	Pn	03 04 40.1	+1.7
MWZ	Matawai	2.92	66	P	Pn	03 04 39.5	+0.4
RIGZ	Rimuhau	2.95	74	P	Pn	03 04 40.5	+1.2
MHGZ	Mahia Peninsul	2.96	83	P	Pn	03 04 41.0	+1.6
TKGZ	Te Karaka	3.11	70	P	Pn	03 04 42.2	+1.1
RUGZ	Raukumara Rang	3.20	61	P	Pn	03 04 42.0	-0.3
TWGZ	Tauwhareparae	3.31	66	P	Pn	03 04 44.4	+1.0
CNGZ	Carnagh Statio	3.35	73	P	Pn	03 04 45.3	+1.4
HAZ	Te Kaha	3.38	59	P	Pn	03 04 44.1	-0.1
GVZ	Greta Valley S	3.50	193	P	Pn	03 04 46.2	+0.6
LTZ	Lake Taylor	3.51	203	P	Pn	03 04 46.6	+1.0
PKGZ	Pakihiroa	3.51	63	P	Pn	03 04 46.4	+0.6
PUZ	Puketiti	3.55	66	P	Pn	03 04 46.7	+0.5
INZ	Inchbonnie	3.75	212	P	Pn	03 04 49.7	+1.2
AMCZ	Amberley	3.77	197	P	Pn	03 04 49.4	+0.6
WMGZ	Waiomatatini S	3.78	64	P	Pn	03 04 49.3	+0.3
MXZ	Matakaoa Point	3.84	60	P	Pn	03 04 50.2	+0.6
MXZ	Matakaoa Point	3.84	60	P	Pn	03 04 50.3	+0.6
OXZ	Oxford	4.07	202	P	Pn	03 04 52.7	+0.3
MQZ	McQueen's Vall	4.28	194	P	Pn	03 04 54.4	-0.5
WVZ	Waitaha Valley	4.34	215	P	Pn	03 04 56.0	+0.5
AKCZ	Akaroa Harbour	4.40	192	P	Pn	03 04 57.8	+1.4
RACZ	Rakaia	4.42	199	P	Pn	03 04 56.8	+0.3
WACZ	Wakanui South	4.70	201	P	Pn	03 05 00.7	+0.7
GCSZ	Gaunt Creek Bo	4.71	216	P	Pn	03 05 00.6	+0.4
RPZ	Rata Peaks	4.74	208	P	Pn	03 05 01.4	+0.8
RPZ	Rata Peaks	4.74	208	P	Pn	03 05 01.0	+0.4
ARCZ	Arundel	4.90	206	P	Pn	03 05 02.7	+0.1
FOZ	Fox Glacier	5.12	218	P	Pn	03 05 05.8	+0.6
TMZ	Timaru	5.37	205	P	Pn	03 05 09.0	+0.9
LBZ	Lake Benmore	5.64	210	P	Pn	03 05 12.2	+0.3
JCZ	Jackson Bay	6.02	220	P	Pn	03 05 17.6	+0.9
JCZ	Jackson Bay	6.02	220	P	Pn	03 05 17.1	+0.4
ODZ	Otahua Downs	6.05	204	P	Pn	03 05 18.1	+1.0
ODZ	Otahua Downs	6.05	204	P	Pn	03 05 18.0	+1.0
WKZ	Wanaka	6.48	214	P	Pn	03 05 22.2	-0.4
EAZ	Earnscleugh	6.69	211	P	Pn	03 05 24.9	-0.3
TUZ	Tuapeka	7.19	206	P	Pn	03 05 33.0	+1.5
SYZ	Scrubby Hill	7.87	206	P	Pn	03 05 42.8	+2.6
SYZ	Scrubby Hill	7.87	206	P	Pn	03 05 41.8	+1.6

IDC 20 03:07:25.7±2.1, 8°84S×126°97E, h0km, mb3.2/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=166.3km s-min=34.1km az=61.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.14**	**148**	Pn	Pn	03 10 33.4	-0.3
	0.2nm,0.3s,baz=322,slow=14,SNR=11						
WRA				Sn	Sn	03 12 55.3	-5.3
	0.1nm,0.3s,baz=316,slow=25,SNR=1.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**16.16**	**157**	Pn	Pn	03 11 14.9	+0.4
	0.1nm,0.3s,baz=333,slow=11,SNR=2.7						
ASAR				Sn	Sn	03 14 04.0	-11
	baz=311,slow=38,SNR=2.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.17**	**329**	P	P	03 18 27.9	0.0
	0.1nm,0.5s,baz=133,slow=5.6,SNR=2.1						
	0.1nm,0.5s						

*DDA **20** 03:15:11.6±0.0, 39°.24N×28°.09E, h7km±2km, ML3.2*
*ISK **20** 03:15:11.3, 39°.23N×28°.09E, h9km, ML3.6/44*
*ATH **20** 03:15:12.3, 39°.21N×28°.14E, h13km±4km, ML3.0/2, Error ellipse: s-maj=5.7km s-min=1.4km az=68.0*
*THE **20** 03:15:13.4, 39°.21N×28°.15E, h17km±5km, ML3.0/3, Error ellipse: s-maj=5.5km s-min=1.1km az=66.0*
*BEO **20** 03:15:17.0±1.0, 39°.46N×27°.86E, h0km, ML3.0/4*

ISC 20 03:15:11.8±1.0, 39°21N±0°.02×28°11E±0°.02, h13km±8km, n96, σ1°914/113, 7C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STEP	**BALIKESIR_Sava**	**0.34**	**299**	P	**Pg**	**03 15 18.2**	**-0.6**
STEP				*i* AML	AML	03 15 23.0	
	comp=N,4μm,0.3s						
STEP				*i* AML	AML	03 15 23.0	
	comp=E,5μm,0.3s						
STEP				S	**Sg**	**03 15 23.4**	**0.0**
BALB	**Balikesir**	**0.46**	**338**	Pg	**Pg**	**03 15 20.8**	**-0.1**
BALB				Sg	**Sg**	**03 15 27.6**	**+0.5**
GOMA	**Golmarmara-Man**	**0.53**	**196**	Pg	**Pb**	**03 15 22.3**	**-0.5**
GOMA				Sg	**Sb**	**03 15 30.2**	**-0.1**
DST	**Dursunbey**	**0.56**	**45**	Pg	**Pg**	**03 15 21.9**	**-0.8**
SMAA	**Simav-Kutahya**	**0.69**	**99**	Pg	**Pg**	**03 15 25.4**	**+0.2**
SIMA	**Simav-Kutahya**	**0.69**	**101**	Pg	**Pb**	**03 15 25.7**	**0.0**
MANT	**Manisa**	**0.80**	**154**	P	**Pb**	**03 15 28.0**	**+0.3**
MANT				S	**Sg**	**03 15 38.0**	**+0.1**
MANT				*i* AML	AML	03 15 39.0	
	comp=N,712nm,0.2s						
MANT				*i* AML	AML	03 15 42.0	
	comp=E,986nm,0.5s						
KULA	**Kula-Manisa**	**0.82**	**148**	P	**Pb**	**03 15 28.1**	**+0.1**
KULA				S	**Sg**	**03 15 38.5**	**+0.1**
KULA	**Kula-Manisa**	**0.82**	**148**	Pg	**Pb**	**03 15 28.0**	**+0.1**
ZEDA	**zmir-Bergama**	**0.84**	**253**	P	**Pg**	**03 15 27.7**	**-0.3**
ZEDA				S	**Sb**	**03 15 39.2**	**-0.2**
ZEDA				*i* AML	AML	03 15 41.0	
	comp=N,705nm,0.5s						
ZEDA				*i* AML	AML	03 15 42.0	
	comp=E,647nm,0.2s						
BUHA	**Balikesir, Bur**	**0.85**	**290**	P	**Pb**	**03 15 28.4**	**0.0**
BUHA				S	**Sb**	**03 15 39.7**	**+0.1**
BUHA				*i* AML	AML	03 15 42.0	
	comp=N,653nm,0.3s						
BUHA				*i* AML	AML	03 15 44.0	
	comp=E,571nm,0.2s						
USAK	**Uak-Merkez**	**0.87**	**125**	P	**Pb**	**03 15 29.0**	**+0.3**
GONE	**Gonen-Balikesi**	**0.89**	**339**	Pg	**Pg**	**03 15 28.4**	**-0.7**
DKL	**Dikili**	**0.95**	**262**	Pg	**Pg**	**03 15 29.7**	**-0.3**
GEDZ	**Gediz**	**1.03**	**99**	Pg	**Pn**	**03 15 32.1**	**+0.2**
ORLT	**Orhaneli**	**1.03**	**36**	Pg	**Pb**	**03 15 31.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.07**	**10**	Pg	**Pb**	**03 15 31.9**	**-0.2**
TVSB	**Tavsanli**	**1.08**	**77**	Pn	**Pn**	**03 15 32.7**	**+0.1**
EDC	**Edincik**	**1.15**	**351**	Pn	**Pb**	**03 15 33.2**	**-0.3**
ULDT	**Uludag**	**1.22**	**40**	P	**Pn**	**03 15 34.6**	**-0.1**
ULDT				*i* AML	AML	03 15 53.0	
	comp=E,645nm,0.6s						
ULDT				*i* AML	AML	03 15 53.0	
	comp=N,617nm,0.2s						
MDNY	**Mudanya-Bursa**	**1.30**	**27**	Pn	**Pn**	**03 15 35.9**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.32**	**294**	P	**Pn**	**03 15 36.1**	**+0.2**
BAYC				S	**Sb**	**03 15 52.8**	**-0.3**
BAYC				*i* AML	AML	03 15 56.0	
	comp=E,313nm,0.5s						
BAYC				*i* AML	AML	03 15 57.0	
	comp=N,378nm,0.2s						
URLA	**Izmir**	**1.46**	**235**	Pn	**Pn**	**03 15 37.8**	**0.0**
GEMT	**Gemlik**	**1.48**	**34**	Pn	**Pn**	**03 15 38.3**	**+0.3**
EZN	**Ezine**	**1.51**	**294**	P	**Pn**	**03 15 38.8**	**+0.4**
EZN				S	**Sn**	**03 15 57.8**	**-0.1**
	345nm,0.5s						
EZN	**Ezine**	**1.51**	**294**	Pn	**Pn**	**03 15 38.9**	**+0.5**
LPK	**Lapseki**	**1.56**	**319**	Pn	**Pn**	**03 15 39.5**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.64**	**334**	Pn	**Pn**	**03 15 40.5**	**+0.2**
GCAM	**G?zelcaml?**	**1.66**	**205**	Pn	**Pb**	**03 15 41.3**	**-0.8**
CAVI	**Cavuskoy**	**1.66**	**53**	Pn	**Pn**	**03 15 41.1**	**+0.5**
YLV	**Yalova**	**1.67**	**35**	Pn	**Pn**	**03 15 41.2**	**+0.5**
BOZC	**Bozcaada**	**1.71**	**292**	Pn	**Pn**	**03 15 41.5**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.73**	**314**	Pn	**Pn**	**03 15 42.1**	**+0.6**
ADVT	**Abdulvahap**	**1.75**	**45**	Pn	**Pn**	**03 15 42.5**	**+0.7**
SIGR	**SIGRI**	**1.75**	**271**	P	**Pn**	**03 15 41.8**	**+0.1**
SIGR	**SIGRI**	**1.75**	**271**	Pn	**Pn**	**03 15 41.9**	**+0.1**
SIGR	**SIGRI**	**1.75**	**271**	P	**Pn**	**03 15 41.8**	**+0.1**
SIGR				S	**Sn**	**03 16 03.9**	**0.0**
SIGR				AML	AML	03 16 09.0	
	comp=E,660μm,0.5s						
SIGR				AML	AML	03 16 09.4	
	comp=N,1086μm,0.8s						
YLVH	**Yalova**	**1.77**	**33**	Pn	**Pn**	**03 15 42.8**	**+0.8**
BOTS	**Marmara Eregli**	**1.78**	**357**	Pn	**Pn**	**03 15 42.6**	**+0.4**
SINB	**Sinanoba-Istan**	**1.81**	**10**	Pn	**Pn**	**03 15 43.3**	**+0.6**
LAFA	**Gebze-Kocaeli**	**1.82**	**31**	Pn	**Pn**	**03 15 43.5**	**+0.8**
BRGA	**Burgazada-Ista**	**1.82**	**23**	Pn	**Pn**	**03 15 43.5**	**+0.7**
TUZL	**Tuzla-Istanbul**	**1.83**	**29**	Pn	**Pn**	**03 15 43.7**	**+0.8**
BUYA	**Buyukada-Istan**	**1.83**	**25**	Pn	**Pn**	**03 15 43.3**	**+0.4**
AVCI	**Avcilar-stanb**	**1.84**	**15**	Pn	**Pb**	**03 15 45.1**	**-0.2**
HVHR	**Bakirkoy-Istan**	**1.84**	**18**	Pn	**Pn**	**03 15 43.3**	**+0.2**
ERIK	**Erikli-Kesan**	**1.90**	**320**	Pn	**Pn**	**03 15 44.4**	**+0.5**
MLSB	**Milas**	**1.93**	**188**	Pn	**Pn**	**03 15 45.3**	**+1.0**
GADA	**Gvkgeada**	**1.96**	**301**	Pn	**Pn**	**03 15 44.9**	**+0.2**
APMY	**Acipayam-Deniz**	**1.98**	**151**	Pn	**Pn**	**03 15 45.7**	**+0.7**
ISK	**Istanbul-Kandi**	**1.99**	**21**	P	**Pn**	**03 15 44.8**	**-0.3**
BASM	**Basmaki-Afyon**	**2.00**	**130**	Pn	**Pn**	**03 15 46.2**	**+0.9**
SHUT	**Suhut-Afyon**	**2.02**	**108**	Pn	**Pb**	**03 15 47.1**	**-1.2**
YER	**Yerkesik**	**2.08**	**176**	P	**Pn**	**03 15 46.9**	**+0.5**
YER	**Yerkesik**	**2.08**	**176**	Pn	**Pn**	**03 15 46.7**	**+0.3**
PSRA	**Psara**	**2.10**	**252**	P	**Pn**	**03 15 47.0**	**+0.5**
ENEZ	**Enez**	**2.14**	**316**	P	**Pn**	**03 15 47.9**	**+0.8**
ENEZ				S	**Sn**	**03 16 14.4**	**+0.9**
	comp=N,318nm,0.4s						
ALN	**Alexandroupoli**	**2.31**	**317**	P	**Pn**	**03 15 50.0**	**+0.5**
ALN	**Alexandroupoli**	**2.31**	**317**	P	**Pn**	**03 15 49.9**	**+0.5**
ALN				S	**Sn**	**03 16 16.7**	**-1.0**
ALN				AML	AML	03 16 26.5	
	comp=E,300μm,0.3s						
ALN				AML	AML	03 16 28.7	
	comp=N,260μm,0.8s						
SMTH	**Samothraki Isl**	**2.35**	**303**	P	**Pn**	**03 15 50.3**	**+0.3**
SMTH				S	**Sn**	**03 16 18.4**	**-0.4**
DALY	**Dalyan (Mula)**	**2.43**	**170**	Pn	**Pn**	**03 15 52.6**	**+1.5**
DAT	**Datca**	**2.52**	**190**	P	**Pn**	**03 15 52.9**	**+0.5**
DAT	**Datca**	**2.52**	**190**	Pn	**Pn**	**03 15 52.4**	**0.0**
KOSK	**Kos Island**	**2.61**	**200**	Pn	**Pn**	**03 15 55.6**	**+2.0**
RDO	**Rodhopi**	**2.76**	**315**	P	**Pn**	**03 15 56.4**	**+0.8**
ARG	**Arkhangelos**	**2.99**	**180**	P	**Pn**	**03 15 59.8**	**+0.9**
ARG				S	**Sn**	**03 16 34.9**	**+0.3**
	comp=N,75nm,0.4s						
ARG	**Arkhangelos**	**2.99**	**180**	P	**Pn**	**03 15 59.1**	**+0.2**
ARG				S	**Sn**	**03 16 33.4**	**-1.2**
KAVA	**Kavala**	**3.28**	**304**	P	**Pn**	**03 16 03.4**	**+0.6**
OUR	**Ouranopolis**	**3.37**	**291**	P	**Pn**	**03 16 04.5**	**+0.4**
ANTO	**Ankara**	**3.68**	**78**	⇓P	**Pg**	**03 16 21.9**	**-0.4**
PLD	**Plovdiv**	**3.88**	**319**	*e*Pn	**Pn**	**03 16 12.2**	**+1.1**
PLD				*e*Sn	**Sn**	**03 16 55.3**	**-1.2**
NVR	**Nevrokopi**	**3.89**	**305**	P	**Pn**	**03 16 12.1**	**+0.9**
SRS	**Serrai**	**3.95**	**300**	*e*Pn	**Pn**	**03 16 14.4**	**+2.4**
SRS	**Serrai**	**3.95**	**300**	P	**Pn**	**03 16 12.7**	**+0.7**
KNT	**Kendrikon**	**4.44**	**298**	P	**Pn**	**03 16 19.9**	**+1.1**
VTS	**Vitosha**	**5.02**	**314**	*e*Pn	**Pn**	**03 16 28.0**	**+1.1**
VTS	**Vitosha**	**5.02**	**314**	*e*Pn	**Pn**	**03 16 28.3**	**+1.4**
VTS				*e*Sn	**Sn**	**03 17 22.6**	**-2.2**
VTS				*e*Sn	**Sn**	**03 17 22.8**	**-2.0**
COPA	**Copaceanca**	**5.37**	**337**	⇑P	Pn	03 16 38.2	+6.6
FNA	**Florina**	**5.40**	**289**	*e*Pn	**Pn**	**03 16 33.9**	**+1.9**
HARR	**Harsova**	**5.47**	**359**	⇑P	**Pg**	**03 16 56.1**	**-0.4**
PRVS	**Prvonek**	**5.63**	**308**	*e*Pn	**Pn**	**03 16 36.8**	**+1.6**
PRVS				*e*Sn	**Sn**	**03 17 37.8**	**-2.0**
CFR	**Carcaliu**	**5.96**	**0**	⇓P	**Pn**	**03 16 41.7**	**+2.1**
BARS	**Barje**	**5.97**	**309**	*e*Pn	**Pn**	**03 16 41.5**	**+1.8**
MLR	**Muntele Rosu**	**6.47**	**346**	⇑P	**Pn**	**03 16 49.4**	**+2.6**
BOVS	**Bovan**	**6.53**	**315**	*e*Pn	**Pn**	**03 16 49.1**	**+1.6**
SELS	**Selova**	**6.62**	**309**	*e*Pn	**Pn**	**03 16 50.2**	**+1.5**
PLOR	**Plostina**	**6.72**	**351**	⇑P	**Pn**	**03 16 52.8**	**+2.7**
VRI	**Vrincioaia**	**6.73**	**352**	⇓P	**Pn**	**03 16 49.6**	**-0.6**
COVR	**Voineasa-Covas**	**6.78**	**349**	⇓P	**Pn**	**03 16 54.9**	**+4.0**
DOPR	**Dopca**	**7.04**	**344**	⇑P	**Pn**	**03 16 57.3**	**+2.8**
GRUS	**Gruza**	**7.25**	**312**	*e*Pn	**Pn**	**03 17 00.3**	**+3.0**
TESR	**Tescani**	**7.37**	**352**	⇑P	**Pn**	**03 17 00.3**	**+1.2**
IVAS	**Ivanjica**	**7.40**	**309**	*e*Pn	**Pn**	**03 17 02.7**	**+3.2**
DIVS	**Divibare**	**7.79**	**311**	*e*Pn	**Pn**	**03 17 07.6**	**+2.7**
BZS	**Buzias**	**8.00**	**325**	⇑P	Pn	03 17 15.6	+8.0
BURAR	**Bucovina Array**	**8.66**	**347**	⇓P	**Pn**	**03 17 18.0**	**+1.3**

IDC 20 03:17:55.2±2.1, 8°79S×127°05E, h0km, mb3.1/1, mbtmp3.2/4, ML3.4/3, Error ellipse: s-maj=38.9km s-min=33.6km az=46.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.63**	**247**	Pn	Pn	03 18 53.7	+0.9
	4.7nm,0.3s,baz=79,slow=10,SNR=1.6						
BATI				Sn	Sn	03 19 35.8	-0.5
	8.9nm,0.3s,baz=76,slow=11,SNR=2.4						
	16nm,0.4s						
WRA	**Warramunga Arr**	**13.14**	**148**	Pn	Pn	03 21 04.1	+0.7
	0.2nm,0.3s,baz=322,slow=14,SNR=21						
WRA				Sn	Sn	03 23 24.5	-5.8
	0.2nm,0.3s,baz=252,slow=19,SNR=1.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**16.19**	**157**	Pn	Pn	03 21 43.1	-1.1
	0.1nm,0.3s,baz=334,slow=11,SNR=1.9						
ASAR				Sn	Sn	03 24 36.7	-7.9
	baz=313,slow=19,SNR=2.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**68.16**	**329**	P	P	03 28 57.3	-0.1
	0.1nm,0.4s,baz=116,slow=6.7,SNR=1.7						
	0.1nm,0.4s						

*GUC **20** 03:18:07.4±0.8, 31°.12S×69°.03W, h115km±16km, ML4.3*
*NEIC **20** 03:18:07.8±1.5, 31°.22S±0°.06×68°.93W±0°.07, h117km±5km, mb4.3/9, ML4.1/62, Error ellipse: s-maj=9.9km s-min=7.9km az=50.0*
*IDC **20** 03:18:07.7±1.0, 31°.15S×68°.91W, h114km±7km, mb3.5/5, mbtmp3.7/10, Error ellipse: s-maj=28.3km s-min=17.9km az=87.0*

ISC 20 03:18:07.4±0.6, 31°16S±0°.03×68°95W±0°.04, h118km±6km, n84, σ1°921/110, mb4.2/8, 17C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.45**	**149**		**Pn**	**03 18 25.0**	**+0.1**
ZON				Sn	**Sn**	**03 18 37.3**	**-0.8**
ZON				IAML		03 18 38.4	
	comp=N,6μm,0.6s						
ZON				IAML		03 18 40.2	
	comp=E,3μm,0.4s						
CFA	**Coronel Fontan**	**0.75**	**126**	P	**Pn**	**03 18 27.3**	**+0.3**
	comp=E,434nm,0.3s,baz=294,slow=5.4,SNR=2515						
CFA				S	**Sn**	**03 18 42.2**	**+0.3**
	comp=E,2μm,0.4s,baz=55,slow=23,SNR=36						
CO03	**El Pedregal**	**1.53**	**282**		**Pn**	**03 18 36.0**	**+0.9**
CO03				Sn	**Sn**	**03 18 57.6**	**+1.4**
CO03	**El Pedregal**	**1.53**	**282**	*i* P	**Pn**	**03 18 36.0**	**+0.9**
CO03				*i* S	**Sn**	**03 18 57.6**	**+1.4**
CO03				IAML		03 18 58.1	
	comp=N,7μm,0.2s						
CO01	**Juntas del Tor**	**1.54**	**320**		**Pn**	**03 18 37.0**	**+1.6**
CO01				IAML		03 18 59.3	
	comp=E,2μm,0.6s						
CO01				IAML		03 18 59.5	
	comp=N,2μm,0.5s						
CO01	**Juntas del Tor**	**1.54**	**320**	⇑P	**Pn**	**03 18 37.0**	**+1.3**
CO01				*i* S	**Sn**	**03 18 58.3**	**+1.6**
CO02	**Combarbal**	**1.76**	**268**		**Pn**	**03 18 38.4**	**+0.5**
CO02				Sn	**Sn**	**03 19 01.4**	**+0.3**
CO02	**Combarbal**	**1.76**	**268**	⇑P	**Pn**	**03 18 38.4**	**+0.5**
CO02				*i* S	**Sn**	**03 19 01.5**	**+0.3**
CO02				IAML		03 19 03.0	
	comp=N,5μm,0.2s						
GO04	**Tololo Observa**	**1.87**	**301**		**Pn**	**03 18 39.8**	**+0.3**
GO04	**Tololo Observa**	**1.87**	**301**	⇑P	**Pn**	**03 18 39.7**	**+0.3**
GO04				*i* S	**Sn**	**03 19 04.1**	**+0.2**
VA03	**San Esteban**	**2.10**	**220**		**Pn**	**03 18 43.2**	**+1.0**
VA03				IAML		03 19 12.5	
	comp=N,2μm,0.4s						
VA03	**San Esteban**	**2.10**	**220**	⇑P	**Pn**	**03 18 43.1**	**+1.0**
VA03				*i* S	**Sn**	**03 19 10.1**	**+1.4**
VA03				IAML		03 19 13.7	
	comp=E,2μm,0.4s						
CO05	**La Serena**	**2.33**	**301**		**Pn**	**03 18 44.6**	**-0.4**
CO05	**La Serena**	**2.33**	**301**	*e*P	**Pn**	**03 18 44.5**	**-0.4**
CO05				*i* S	**Sn**	**03 19 12.3**	**-1.4**
CO05				IAML		03 19 13.3	
	comp=E,2μm,0.3s						
VA06	**Catapilco**	**2.44**	**234**		**Pn**	**03 18 45.9**	**-0.4**
VA06				IAML		03 19 18.4	
	comp=N,882nm,0.4s						
VA06				IAML		03 19 18.9	
	comp=E,1μm,0.4s						
VA06	**Catapilco**	**2.44**	**234**	⇑P	**Pn**	**03 18 45.2**	**-1.1**
VA06				*i* S	**Sn**	**03 19 14.6**	**-1.5**
FCH	**Farellones**	**2.44**	**207**	⇑P	**Pn**	**03 18 48.2**	**+1.5**
FCH				*i* S	**Sn**	**03 19 19.0**	**+2.1**
PEL	**Peldehue**	**2.47**	**216**		**Pn**	**03 18 47.5**	**+0.7**
PEL	**Peldehue**	**2.47**	**216**	⇑P	**Pn**	**03 18 47.3**	**+0.5**
PEL				*i* S	**Sn**	**03 19 17.6**	**+0.7**
PEL				IAML		03 19 19.6	
	comp=E,718nm,0.6s						
VCA	**Vinchina**	**2.50**	**15**	⇓P	**Pn**	**03 18 48.3**	**+1.0**
VCA				*i* S	**Sn**	**03 19 18.9**	**+1.1**
ROCH	**El Roble**	**2.52**	**224**	⇑P	**Pn**	**03 18 47.4**	
ROCH				*e*P		**03 18 47.4**	**-0.2**
ROCH				*i* S	**Sn**	**03 19 18.8**	**+0.4**
ROCH				*i* S		03 19 19.1	
ROCH				IAML		03 19 22.6	
	comp=E,975nm,0.5s						
ROC1	**El Roble**	**2.52**	**224**		**Pn**	**03 18 47.7**	**0.0**
ROC1				IAML		03 19 22.4	
	comp=E,1μm,0.5s						
ROC1				IAML		03 19 22.5	
	comp=N,878nm,0.5s						
AC05	**El Transito**	**2.58**	**333**		**Pn**	**03 18 49.7**	**+1.3**
AC05				IAML		03 19 21.7	
	comp=N,648nm,0.4s						
AC05				IAML		03 19 23.2	
	comp=E,1μm,0.5s						
AC05	**El Transito**	**2.58**	**333**	⇑P	**Pn**	**03 18 49.7**	**+1.3**
AC05				*i* S	**Sn**	**03 19 20.4**	**+0.6**
AC05				IAML		03 19 23.5	
	comp=E,942nm,0.4s						
LCO	**Las Campanas**	**2.62**	**324**		**Pn**	**03 18 49.1**	**+0.1**
LCO				IAML		03 19 23.4	
	comp=E,979nm,0.2s						
LCO	**Las Campanas**	**2.62**	**324**	*e*P	**Pn**	**03 18 49.1**	**+0.1**
LCO				*i* S	**Sn**	**03 19 20.1**	**-0.8**
MT03	**Universidad Ad**	**2.68**	**209**		**Pn**	**03 18 50.7**	**+1.2**
MT03	**Universidad Ad**	**2.68**	**209**	⇑P	**Pn**	**03 18 50.5**	**+1.0**
MT03				*

LPAZ	La Paz	14.82	3	P	Pn	03 21 30.2	-1.5	
	comp=E,0.4nm,0.5s,baz=194,slow=8.3,SNR=1.7							
ITAB	Concordia	15.20	79	P	P	03 21 38.0	-0.1	
ITAB				IAmb	IAmb	03 22 16.9		
	comp=Z,24nm,1.5s							
SIV	San Ignacio	16.73	27	P	Pn	03 21 55.2	+0.4	
	comp=Z,1.5nm,0.8s,baz=184,slow=13,SNR=6.7							
ETMB	Extrema	21.39	7	P	P	03 22 46.3	+0.6	
ETMB				IAmb	IAmb	03 23 12.8		
	comp=Z,2.4nm,0.9s							
BOAV	Boa Vista	34.32	15	P	P	03 24 42.3	-0.4	
BOAV				IAmb	IAmb	03 25 22.9		
	comp=Z,6.0nm,1.3s							
RUSC	La Rusia	37.05	353	P	P	03 25 07.4	+0.7	
SNAA	Sanae	53.26	159	P	P	03 27 13.6	+0.2	
	comp=Z,1.5nm,0.9s,baz=253,slow=10,SNR=5.7							
	comp=Z,1.5nm,0.9s							
SNAA	Sanae	53.26	159	P	P	03 27 13.7	+0.2	
SNAA				IAmb	IAmb	03 27 51.1		
	comp=Z,5.2nm,1.4s							
FPAL	Fort Paine	67.21	345	P	P	03 28 49.4	+0.6	
FPAL				IAmb	IAmb	03 29 29.1		
	comp=Z,5.1nm,1.0s							
TXAR	Lajitas Array	68.63	328	P	P	03 28 59.5	+1.5	
	comp=Z,0.2nm,0.6s,baz=154,slow=8.9,SNR=4.8							
	comp=Z,0.2nm,0.6s							
TX31	Lajitas Ar. Si	68.63	328	P	P	03 28 58.8	+0.8	
TX31				IAmb	IAmb	03 29 38.3		
	comp=Z,6.4nm,1.4s							
LCAR	Lake Charles	70.05	341	P	P	03 29 06.5	+0.2	
DBIC	Dimbokro	71.78	70	P	P	03 29 18.2	+0.8	
	comp=Z,2.2nm,0.8s,baz=267,slow=3.8,SNR=3.2							
	comp=Z,2.2nm,0.8s							
DBIC	Dimbokro	71.78	70	P	P	03 29 16.9	-0.5	
TORD	Torodi Ar. Bea	80.77	69	P	P	03 30 08.8	+0.7	
	comp=Z,1.9nm,0.4s,baz=217,slow=6.9,SNR=1.8							
	comp=Z,1.9nm,0.4s							
PDAR	Pinedale Array	82.48	331	P	P	03 30 17.9	+1.0	
	comp=Z,0.1nm,0.6s,baz=143,slow=6.4,SNR=2.1							
	comp=Z,0.1nm,0.6s							
ASAR	Alice Springs	121.25	205	PKP	PKPdf	03 36 46.8	-0.3	
	comp=Z,0.2nm,0.4s,baz=197,slow=2.9,SNR=1.8							
WRA	Warramunga Arr	124.49	207	PKP	PKPdf	03 36 53.4	0.0	
	comp=Z,1.1nm,0.8s,baz=153,slow=1.8,SNR=11							
ZALV	Zalesovo Beam	150.44	32	PKPbc	PKiKP	03 37 45.8	+0.6	
	comp=Z,1.8nm,0.5s,baz=306,slow=2.8,SNR=8.4							
MKAR	Makanchi Array	152.93	47	PKPbc	PKPbc	03 37 51.0	+0.4	
	comp=Z,0.7nm,0.8s,baz=329,slow=1.4,SNR=7.3							
MKAR				PKPab	PKPab	03 38 03.2	+1.0	
	comp=Z,0.4nm,0.6s,baz=289,slow=4.8,SNR=4.8							

IDC ***20*** *03:19:24.1±1.2,56.˚29S×25.˚73W,h0km,mb4.2/6, mbtmp4.2/7,ML3.2/1,Error ellipse: s-maj=35.1km s-min=27.6km az=37.0*

ISC 20 03:19:29.0±0.9,56.˚5S±0.˚2×26.˚0W±0.˚2,h35km,n13, σ0s81/12,mb4.3/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	16.16	159	P	Pn	03 23 13.1	+0.1
VNA3	Neumayer Olymp	16.38	161	P	Pn	03 23 15.1	-0.8
VNA2	Neumayer--Watz	16.56	158	P	Pn	03 23 17.6	-0.4
	baz=326,slow=14						
SNAA	Sanae	18.09	156	P	P	03 23 38.2	+0.9
SNAA	Sanae	18.09	156	P	P	03 23 37.8	+0.5
	0.1nm,0.3s,baz=323,slow=15,SNR=8.8						
	1.8nm,1.0s						
PMSA	Palmer Station	20.14	230	P	Pn	03 24 02.7	+1.1
	11nm,0.9s,baz=30,slow=3.7,SNR=2.7						
	11nm,0.9s						
CFA	Coronel Fontan	38.33	292	P	P	03 26 46.1	-0.1
	1.6nm,0.6s,baz=136,slow=8.5,SNR=2.6						
	1.6nm,0.6s						
LVC	Limon Verde	46.08	299	P	P	03 27 50.9	+1.1
	5.4nm,0.8s,baz=207,slow=4.5,SNR=4.6						
	5.4nm,0.8s						
SIV	San Ignacio	48.34	312	P	P	03 28 06.4	-0.7
	0.6nm,0.6s,baz=153,slow=11,SNR=2.6						
	0.6nm,0.6s						
LPAZ	La Paz	51.16	304	P	P	03 28 29.9	+0.7
	2.2nm,0.7s,baz=173,slow=6.9,SNR=10						
	2.2nm,0.7s						
TORD	Torodi Ar. Bea	73.10	28	P	P	03 30 55.9	+0.5
	2.5nm,0.3s,baz=210,slow=7.6,SNR=2.6						
	2.5nm,0.3s						
SONM	Songino Array	150.09	86	PKPbc	PKPbc	03 39 13.8	-1.2
	0.5nm,0.7s,baz=225,slow=1.8,SNR=2.3						
ILAR	Eielson Array	150.89	311	PKPbc	PKiKP	03 39 16.5	-0.3
	0.5nm,0.8s,baz=130,slow=1.4,SNR=7.5						

IDC ***20*** *03:32:13.2±3.6,20.˚53S×176.˚10W,h222km±29km,mb3.3/4, mbtmp4.0/6,Error ellipse: s-maj=36.1km s-min=22.6km az=133.0*

ISC 20 03:32:11.6±1.0,20.˚7S±0.˚1×175.˚9W±0.˚2,h211km,n11, σ1s50/11,mb3.5/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	6.39	296	P	Pn	03 33 43.7	-0.5
	16nm,0.7s,baz=115,slow=18,SNR=12						
DZM	Mont Dzumac	16.49	262	P	Pn	03 35 53.6	+2.2
	13nm,0.6s,baz=82,slow=17,SNR=32						
URZ	Urewera	18.55	197	P	P	03 36 14.4	+1.8
	14nm,1.1s,baz=139,slow=6.8,SNR=1.4						
URZ				S	S	03 39 30.4	-2.4
	12nm,1.1s,baz=296,slow=11,SNR=1.3						
ASAR	Alice Springs	46.38	257	P	P	03 40 16.4	-0.7
	3.2nm,0.7s,baz=87,slow=8.3,SNR=35						
	3.2nm,0.7s						
WRA	Warramunga Arr	46.51	262	P	P	03 40 17.1	-1.1
	1.4nm,0.6s,baz=98,slow=9.2,SNR=33						
	1.4nm,0.6s						
NVAR	Mina Array Bea	79.81	42	P	P	03 43 57.4	+0.7
	0.3nm,0.6s,baz=216,slow=6.6,SNR=3.7						
	0.3nm,0.6s						
ILAR	Eielson Array	88.04	12	P	P	03 44 36.3	-1.1
	0.3nm,0.5s,baz=217,slow=5.5,SNR=5.8						
	0.3nm,0.5s						
AKASG	Malin Array Be	144.07	333	PKP	PKPab	03 51 19.1	-0.8
	0.9nm,0.4s,baz=38,slow=3.9,SNR=6.0						
BRTR	Keskin Array B	148.37	313	PKPbc	PKPbc	03 51 33.2	-0.1
	1.9nm,0.6s,baz=139,slow=4.3,SNR=11						
MMAI	Mount Meron Ar	149.58	300	PKPbc	PKPbc	03 51 37.1	+0.6
	2.3nm,0.6s,baz=79,slow=4.4,SNR=5.6						
GERES	GERESS Array B	150.83	347	PKPbc	PKPbc	03 51 39.2	+0.2
	0.6nm,0.6s,baz=5.7,slow=2.7,SNR=5.9						

GCMT ***20*** *03:32:52.9±0.4,36.˚39S±0.˚02×97.˚22W±0.˚02,h17km±1km, MW5.0/101,Moment Tensor Solution. s20,c20; s101,c130; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.33±.23; Mθθ0.98±.18; Mϕϕ0.35±.15; Mrθ0.25±.40; Mθϕ-3.99±.14; Mϕr0.11±.40; Best double couple: Mo4.01800×10^16^ NP1:ϕs268.00000°,δ86.00000°, λ-174.00000°. NP2:ϕs178.00000°,δ84.00000°, λ-4.00000°. Principal axes: T 4.6690, Plg1.0000°, Azm43.0000°; N -1.3010, Plg83.0000°, Azm305.0000°; P -3.3680, Plg7.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***20*** *03:32:52.9±1.4,36.˚4S±0.˚1×97.˚2W±0.˚2,h10km±1km, mb4.9/183 Error ellipse: s-maj=22.9km s-min=19.6km az=270.0*

IDC ***20*** *03:32:52.5±0.7,36.˚30S×97.˚07W,h0km,mb4.5/15, mbtmp4.5/15,MS4.3/34,Error ellipse: s-maj=22.6km s-min=18.0km az=17.0*

ISC 20 03:32:52.9±0.5,36.35S±0.˚09×97.˚10W±0.˚09,h10km,n266, σ0s90/169,mb4.9/102,MS4.3/36,1D,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	Rapa Nui	13.88	308	LR	LR	03 39 51.6	
	comp=Z,1μm,20.3s,baz=128,slow=30						
H03N2	Juan Fernandez	15.19	84	T	T	03 52 10.2	
	baz=257,slow=73,SNR=112						
H03N3	Juan Fernandez	15.19	84	T	T	03 52 11.5	
	baz=257,slow=73,SNR=91						
H03N1	Juan Fernandez	15.20	84	T	T	03 52 10.5	
	baz=257,slow=73,SNR=85						
VA04	Juan Fernndez	15.21	85	Pn	Pn	03 36 28.4	+0.6
LR03	Panguipulli	19.77	107	P	P	03 37 21.0	-2.0
LR03				IAmb	IAmb	03 37 29.3	
	comp=Z,142nm,1.9s						

LL04	Puerto Octay	19.80	111	P	P	03 37 22.4	-0.9	
AY01	Puyuhuapi	20.24	121	P	P	03 37 28.0	-0.1	
GO06	Curarrehue	20.44	107	P	P	03 37 31.0	+0.5	
GO05	Huala	20.48	94	P	P	03 37 30.6	-0.2	
GO05				IAmb	IAmb	03 37 32.9		
	comp=Z,54nm,1.1s							
COYC	Coyhaique	20.95	124	P	P	03 37 36.2	+0.4	
VA05	Santo Domingo	21.03	90	P	P	03 37 37.4	+0.6	
PLCA	Paso Flores	21.19	110	P	P	03 37 40.0	+1.5	
	comp=Z,5.0nm,0.8s,baz=277,slow=11,SNR=19							
PLCA				LR	LR	03 44 00.7		
	comp=Z,172nm,18.1s,baz=276,slow=32							
	comp=Z,5.0nm,0.8s							
PLCA	Paso Flores	21.19	110	P	P	03 37 38.1	-0.4	
PLCA	Paso Flores	21.19	110	eP	P	03 37 40.3	+1.7	
MT01	Popeta	21.27	91	P	P	03 37 39.0	-0.5	
BO01	Tunca	21.29	92	P	P	03 37 39.3	-0.2	
BO01				IAmb	IAmb	03 37 49.5		
	comp=Z,56nm,1.2s							
BO02	Sierra Bellavi	21.44	94	P	P	03 37 40.8	-0.6	
MT09	Talagante	21.51	91	P	P	03 37 42.8	+0.7	
MT09				IAmb	IAmb	03 37 47.6		
	comp=Z,39nm,0.8s							
MT02	Curacav	21.52	89	P	P	03 37 42.7	+0.6	
MT02				IAmb	IAmb	03 37 49.6		
	comp=Z,61nm,1.1s							
VA06	Catapilco	21.59	87	P	P	03 37 42.1	-0.7	
VA06				IAmb	IAmb	03 37 46.5		
	comp=Z,79nm,1.1s							
GO08	Villa O'Higgin	21.69	132	P	P	03 37 43.9	+0.1	
GO08				IAmb	IAmb	03 37 51.0		
	comp=Z,68nm,1.4s							
ROC1	El Roble	21.69	89	P	P	03 37 43.8	-0.4	
ROC1				IAmb	IAmb	03 37 53.0		
	comp=Z,49nm,1.0s							
BO04	La Punta	21.76	92	P	P	03 37 44.7	0.0	
BO04				IAmb	IAmb	03 37 47.5		
	comp=Z,54nm,1.1s							
PEL	Peldehue	21.91	89	IAmb	IAmb	03 38 03.1		
	comp=Z,60nm,1.2s							
MT03	Universidad Ad	21.96	90	IAmb	IAmb	03 37 50.2		
	comp=Z,50nm,0.9s							
LMEL	Las Melosas	22.12	91	IAmb	IAmb	03 37 51.0		
	comp=Z,45nm,0.9s							
VA03	San Esteban	22.13	88	IAmb	IAmb	03 37 53.1		
	comp=Z,87nm,1.4s							
CO02	Combarbal	22.26	84	IAmb	IAmb	03 37 53.7		
	comp=Z,34nm,0.9s							
CO05	La Serena	22.55	81	P	P	03 37 53.2	+0.1	
CO03	El Pedregal	22.64	84	P	P	03 37 54.2	0.0	
GO04	Tololo Observa	22.80	82	IAmb	IAmb	03 37 58.4		
	comp=Z,35nm,0.8s							
LCO	Las Campanas	23.34	79	P	P	03 38 01.4	-0.3	
LCO				IAmb	IAmb	03 38 07.2		
	comp=Z,37nm,1.0s							
AC04	Llanos de Chal	23.40	77	P	P	03 38 01.8	-0.2	
CO01	Juntas del Tor	23.44	82	IAmb	IAmb	03 38 16.9		
	comp=Z,46nm,1.5s							
ZON	Zonda	24.01	87	IAmb	IAmb	03 38 11.3		
	comp=Z,33nm,1.0s							
CFA	Coronel Fontan	24.35	87	P	P	03 38 11.3	+0.3	
	comp=Z,18nm,0.9s,baz=253,slow=9.4,SNR=38							
CFA				LR	LR	03 45 27.2		
	comp=Z,617nm,20.5s,baz=252,slow=31							
	comp=Z,18nm,0.9s							
AC06	Mina Casimiro	24.36	76	P	P	03 38 10.9	-0.2	
AC06				IAmb	IAmb	03 38 13.4		
	comp=Z,32nm,1.2s							
AC01	Pan de Azucar	24.76	73	P	P	03 38 15.3	+0.5	
PB04	IPOC Station P	27.22	67	IAmb	IAmb	03 38 39.7		
	comp=Z,23nm,1.0s							
PB06	IPOC Station P	27.43	68	IAmb	IAmb	03 38 40.2		
	comp=Z,24nm,0.9s							
PB03	IPOC Station P	27.68	67	IAmb	IAmb	03 38 42.6		
	comp=Z,17nm,0.8s							
PB07	IPOC Station P	27.78	66	IAmb	IAmb	03 38 43.5		
	comp=Z,15nm,0.8s							
LVC	Limon Verde	27.98	68	P	P	03 38 45.2	+0.9	
	comp=Z,19nm,0.9s,baz=245,slow=8.9,SNR=15							
LVC				LR	LR	03 47 02.0		
	comp=Z,1μm,19.2s,baz=247,slow=30							
	comp=Z,19nm,0.9s							
LVC	Limon Verde	27.98	68	P	P	03 38 44.7	+0.5	
LVC				IAmb	IAmb	03 38 46.3		
	comp=Z,26nm,1.0s							
LVC	Limon Verde	27.98	68	eP	P	03 38 45.6	+1.3	
PB02	IPOC Station P	28.02	65	IAmb	IAmb	03 38 48.0		
	comp=Z,29nm,1.0s							
PB09	IPOC Station P	28.21	67	IAmb	IAmb	03 38 48.9		
	comp=Z,31nm,1.0s							
TA01	Diego Aracena	28.28	64	IAmb	IAmb	03 38 47.8		
	comp=Z,17nm,0.9s							
PB01	IPOC Station P	28.49	65	IAmb	IAmb	03 38 50.2		
	comp=Z,24nm,1.2s							
PB11	IPOC Station P	29.17	63	P	P	03 38 54.5	-0.2	
PB11				IAmb	IAmb	03 38 55.8		
	comp=Z,25nm,1.0s							
PB12	IPOC Station P	29.45	60	IAmb	IAmb	03 38 58.0		
	comp=Z,16nm,0.9s							
GO01	Chusmiza	29.57	63	IAmb	IAmb	03 39 01.3		
	comp=Z,14nm,0.8s							
NNA	Nana	30.36	42	LR	LR	03 48 04.3		
	comp=Z,2μm,21.9s,baz=219,slow=30							
LPAZ	La Paz	32.56	60	P	P	03 39 26.2	+1.1	
	comp=Z,23nm,0.8s,baz=217,slow=6.6,SNR=83							
LPAZ				LR	LR	03 50 20.3		
	comp=Z,143nm,18.6s,baz=234,slow=32							
	comp=Z,23nm,0.8s							
LPAZ	La Paz	32.56	60	eP	P	03 39 26.2	+1.1	
ATAH	Atahualpa	33.73	35	P	P	03 39 37.0	+2.0	
	comp=Z,19nm,1.0s,baz=208,slow=6.0,SNR=16							
ATAH				LR	LR	03 49 56.2		
	comp=Z,1μm,21.6s,baz=210,slow=30							
	comp=Z,19nm,1.0s							
PMSA	Palmer Station	34.60	156	LR	LR	03 49 51.2		
	comp=Z,174nm,20.6s,baz=301,slow=29							
ESFA	Espinillo Form	34.89	82	eP	P	03 39 44.6	0.0	
CPUP	Villa Florida	35.19	85	P	P	03 39 46.5	-0.7	
	comp=Z,3.6nm,0.9s,baz=259,slow=7.7,SNR=5.4							
CPUP				LR	LR	03 52 18.8		
	comp=Z,204nm,18.2s,baz=250,slow=33							
	comp=Z,3.6nm,0.9s							
CPUP	Villa Florida	35.19	85	IAmb	IAmb	03 39 50.0		
	comp=Z,26nm,1.7s							
RODS	Rosario do Sul	35.30	93	eP	P	03 39 48.5	+0.4	
MCRA	Macar, Loja	35.52	30	P	P	03 39 50.7	+0.6	
AZCA	Azaras, Argent	35.54	89	eP	P	03 39 50.1	0.0	
PLTB	Pedras Altas	36.10	96	IAmb	IAmb	03 39 56.6		
	comp=Z,13nm,0.9s							
PLTB	Pedras Altas	36.10	96	eP	P	03 39 55.6	+0.6	
CZSB	Cruzeiro do Su	36.15	44	P	P	03 39 55.3	-0.1	
CZSB				IAmb	IAmb	03 39 58.4		
	comp=Z,20nm,0.9s							
MURT	Porto Murtinho	37.24	78	eP	P	03 40 04.1	-0.6	
CRSM	Crissiumal (Br	37.34	89	eP	P	03 40 06.4	+0.8	
BBRB	Robore, Bolivi	37.41	71	eP	P	03 40 06.1	-0.1	
BBSD	Serra de San D	37.46	69	eP	P	03 40 06.1	-0.5	
ALGR	Alto Alegre (B	37.63	91	eP	P	03 40 08.3	+0.1	
SIV	San Ignacio	37.86	67	LR	LR	03 53 24.1		
	comp=Z,418nm,20.8s,baz=260,slow=33							
ETMB	Extrema	38.48	54	IAmb	IAmb	03 40 17.9		
	comp=Z,14nm,1.0s							
ETMB	Extrema	38.48	54	eP	P	03 40 15.8	+0.5	
BDQN	Bodoquena, MS	38.56	77	eP	P	03 40 15.6	-0.4	
CHSH	Refugio Sur-Vo	38.57	30	P	P	03 40 17.4	+0.8	
CHSH				IAmb	IAmb	03 40 36.4		
	comp=Z,13nm,1.0s							
PORT	Chimborazo Vol	38.64	30	P	P	03 40 18.0	+0.8	
AMBA	Amambai (Brazi	38.67	82	eP	P	03 40 17.6	+0.7	
FRBT	Francisco Belt	38.79	87	eP	P	03 40 17.6	-0.3	
AQDB	Aquidauana	39.37	78	eP	P	03 40 22.5	-0.2	
OTAV	Otavalo	40.31	30	P	P	03 40 31.4	+0.4	
OTAV	Otavalo	40.31	30	eP	P	03 40 30.1	-0.9	
OTAV	Otavalo	40.31	30	eP	P	03 40 32.0	+1.0	
VILB	Vilhena	40.46	64	P	P	03 40 31.9	+0.1	
VILB				IAmb	IAmb	03 40 46.1		
	comp=Z,35nm,1.3s							
VILB	Vilhena	40.46	64	eP	P	03 40 31.7	-0.1	
TRCB	Terra Rica	40.62	83	P	P	03 40 32.1	-1.0	
TRCB				IAmb	IAmb	03 40 33.9		
	comp=Z,24nm,0.8s							
PP1B	Ponte de Pedra	41.62	75	eP	P	03 40 41.1	-0.2	
SALV	Santo Antonio	41.98	72	eP	P	03 40 44.5	+0.2	
PCMB	Pacaembu	42.31	83	eP	P	03 40 47.3	+0.3	
FRTB	Fartura	42.82	86	eP	P	03 40 51.2	+0.1	
PDRB	Porto dos Gac	43.89	66	eP	P	03 40 59.5	-0.2	

TEFE	Tefe	44.29	50	eP	P	03 41 02.9	-0.1	
YOTC	Yotoco, Valle	44.57	30	eP	P	03 41 04.4	-0.9	
CLDB	Colider	45.06	66	eP	P	03 41 08.4	-0.8	
VAO	Valinhos	45.08	87	eP	P	03 41 09.9	+0.5	
SGCB	SÞo Gabriel d	45.58	45	eP	P	03 41 12.4	-0.8	
GUY2C	Guyana, Caldas	46.09	31	eP	P	03 41 18.5	+0.7	
ROSC	El Rosal	46.19	32	P	P	03 41 19.6	+1.2	
	comp=Z,3.9nm,0.3s,baz=144,slow=11,SNR=6.8							
ROSC				LR	LR	03 57 54.0		
	comp=Z,607nm,19.1s,baz=200,slow=32							
	comp=Z,3.9nm,0.3s							
CHIC	Chingaza	46.26	33	eP	P	03 41 19.3	+0.2	
CBOC	Ciudad Bolivar	46.41	30	eP	P	03 41 20.6	+0.6	
IPMB	Ipameri, GO	46.66	80	eP	P	03 41 21.4	-0.4	
TBI	Tubuai	46.71	271	eLR	LR	03 54 30.9		
	comp=Z,1μm,39.5s							
MACA	Manacapuru-AM	47.07	54	P	P	03 41 24.8	-0.2	
MACA				IAmb	IAmb	03 41 25.7		
	comp=Z,82nm,0.8s							
MACA	Manacapuru-AM	47.07	54	eP	P	03 41 24.9	-0.1	
DBBC	Dabeiba	47.38	29	eP	P	03 41 29.2	+1.7	
PTBC	PUERTO BERRIO,	47.66	31	eP	P	03 41 29.4	0.0	
RUSC	La Rusia	47.67	33	IAmb	IAmb	03 41 33.4		
	comp=Z,10nm,0.9s							
RUSC	La Rusia	47.67	33	eP	P	03 41 29.9	-0.3	
SNDB	Serra Nova Dou	47.75	71	eP	P	03 41 30.2	-0.1	
JTS	Las Juntas de	47.78	16	LR	LR	03 56 31.9		
	comp=Z,765nm,21.6s,baz=196,slow=30							
NPGB	Novo Progresso	47.95	63	eP	P	03 41 30.9	-0.9	
BDFB	Brasilia	48.12	78	P	P	03 41 33.5	+0.2	
	comp=Z,8.5nm,0.7s,baz=245,slow=7.3,SNR=16							
BDFB				LR	LR	04 00 05.3		
	comp=Z,262nm,21.8s,baz=267,slow=34							
	comp=Z,8.5nm,0.7s							
BDFB	Brasilia	48.12	78	IAmb	IAmb	03 41 34.1		
	comp=Z,11nm,0.8s							
BDFB	Brasilia	48.12	78	eP	P	03 41 33.6	+0.3	
UREC	San Jos de Ur	48.32	29	eP	P	03 41 33.7	-0.9	
ZARC	Zaragoza, Cauc	48.35	30	eP	P	03 41 34.7	-0.2	
MEH	Mehetia	48.38	278	eT	T	04 33 17.2		
	comp=Z,28nm,0.3s							
BELA	Belgrano 2	49.03	166	P	P	03 41 39.4	0.0	
BELA				IAmb	IAmb	03 41 43.1		
	comp=Z,10.0nm,0.9s							
PAMC	Pamplona, Colo	49.12	33	eP	P	03 41 40.3	-1.1	
ITTB	Itaituba	49.55	60	eP	P	03 41 43.3	-0.8	
PPT2	Papeete2	49.74	278	eLR	LR	03 55 54.9		
	comp=Z,104nm,22.0s							
JANB	Januaria	51.39	80	eP	P	03 41 58.4	+0.3	
SDV	Santo Domingo	51.42	34	LR	LR	04 01 30.6		
	comp=Z,472nm,20.9s,baz=200,slow=34							
SDV	Santo Domingo	51.42	34	P	P	03 41 57.0	-1.4	
SDV				IAmb	IAmb	03 42 00.1		
	comp=Z,23nm,1.6s							
SDV	Santo Domingo	51.42	34	eP	P	03 41 56.9	-1.5	
BOAV	Boa Vista	51.44	50	P	P	03 41 57.9	-0.5	
BOAV				IAmb	IAmb	03 41 58.6		
	comp=Z,11nm,0.8s							
BOAV	Boa Vista	51.44	50	eP	P	03 41 57.4	-1.0	
BOAV	Boa Vista	51.44	50	eP	P	03 41 57.8	-0.6	
RIB01	Linhares ES	52.22	87	eP	P	03 42 04.4	+0.1	
MALB	Monte Alegre	52.36	59	eP	P	03 42 05.2	-0.1	
SDBA	SAO DESIDERIO	52.45	77	eP	P	03 42 06.8	+0.7	
SMTB	Santa Maria do	52.53	71	eP	P	03 42 07.2	+0.6	
PRPB	Parauapebas	52.59	67	eP	P	03 42 06.6	-0.4	
BAUV	El Baul	52.69	37	P	P	03 42 07.0	-0.6	
CMIG	Matias Romero	53.19	3	LR	LR	03 59 09.0		
	comp=Z,220nm,21.0s,baz=182,slow=30							
NAN01	Guarapari, ES	53.21	86	eP	P	03 42 12.1	+0.5	
URIC	Uribia, Colomb	53.33	31	IAmb	IAmb	03 42 12.0		
	comp=Z,17nm,0.9s							
URIC	Uribia, Colomb	53.33	31	eP	P	03 42 08.4	-4.0	
QSPA	South Pole Qui	53.87	180	LR	LR	04 01 05.0		
	comp=Z,98nm,21.0s,baz=115,slow=31							
GUA01	Guaratinga, BA	54.15	85	eP	P	03 42 19.1	+0.6	
MCPB	Macapa, AP	54.96	60	eP	P	03 42 24.1	-0.2	
VNA3	Neumayer Olymp	55.24	157	P	P	03 42 25.8	+0.1	
VNA1	Neumayer--Stat	55.82	156	P	P	03 42 31.4	+1.6	
GDU01	Guandu, BA	55.92	82	eP	P	03 42 31.8	+0.5	
VNA2	Neumayer--Watz	56.04	157	P	P	03 42 30.1	-1.3	
	baz=251,slow=8.0							
RAR	Rarotonga	56.08	267	LR	LR	04 00 47.0		
	comp=Z,110nm,20.6s,baz=130,slow=30							
TMAB	Tom-Au,PA,Br	56.40	65	eP	P	03 42 35.2	+0.6	
VNDA	Vanda	57.16	195	P	P	03 42 40.6	+1.3	
	comp=Z,3.6nm,1.1s,baz=119,slow=6.8,SNR=5.3							
VNDA				LR	LR	04 02 53.4		
	comp=Z,153nm,18.5s,baz=112,slow=32							
	comp=Z,3.6n

MGMO	Mountain Grove	73.27	4	IAmb	IAmb	03 44 31.4	
	comp=Z,12nm,1.0s						
V55A	Taylorsville	73.34	13	IAmb	IAmb	03 44 39.8	
	comp=Z,21nm,1.4s						
U15A	North Rim	73.77	347	P	P	03 44 26.8	-0.6
CCM	Cathedral Cave	74.23	5	P	P	03 44 28.9	-0.8
CCM				IAmb	IAmb	03 44 37.0	
	comp=Z,16nm,0.9s						
WCT	Wildcat Mounta	75.00	344	IAmb	IAmb	03 44 51.3	
	comp=Z,15nm,1.5s						
PV11	David Mesa, Pa	75.07	350	IAmb	IAmb	03 44 53.0	
	comp=Z,7.4nm,0.8s						
KSU1	Kansas State U	75.08	0	IAmb	IAmb	03 44 50.4	
	comp=Z,14nm,0.9s						
KSCO	Kaye Shedlock'	75.16	356	P	P	03 44 36.0	+0.8
KSCO				IAmb	IAmb	03 44 54.3	
	comp=Z,11nm,1.1s						
OLIL	Olney	75.17	7	P	P	03 44 34.8	-0.3
OLIL				IAmb	IAmb	03 44 35.2	
	comp=Z,9.9nm,0.8s						
P40A	Paris	75.65	4	IAmb	IAmb	03 44 44.8	
	comp=Z,11nm,0.8s						
P38A	Dawn	75.67	3	IAmb	IAmb	03 44 44.5	
	comp=Z,8.1nm,0.9s						
P43A	Skaggs, Pawnee	75.94	6	IAmb	IAmb	03 44 46.5	
	comp=Z,13nm,0.8s						
Q16A	Castle Valley	76.01	349	IAmb	IAmb	03 44 49.4	
	comp=Z,6.7nm,0.8s						
MZP	Montezuma Peak	76.03	344	P	P	03 44 40.9	+0.4
SRU	San Rafael Swe	76.10	349	IAmb	IAmb	03 44 58.3	
	comp=Z,19nm,1.7s						
P51A	Williamsport	76.56	11	IAmb	IAmb	03 44 49.9	
	comp=Z,9.4nm,0.8s						
N33A	J Bar K, Exete	76.71	360	P	P	03 44 44.6	+0.7
LHV	Little Huntoon	76.82	343	IAmb	IAmb	03 45 02.6	
	comp=Z,15nm,1.2s						
N38A	Joes South For	76.85	3	IAmb	IAmb	03 44 51.2	
	comp=Z,12nm,0.8s						
NVAR	Mina Airpark Bea	76.94	343	P	P	03 44 47.0	+1.5
	comp=Z,2.6nm,0.7s,baz=175,slow=6.8,SNR=19						
	comp=Z,2.6nm,0.7s						
RYN	Ryan	77.19	343	P	P	03 44 46.7	-0.2
ACSO	Alum Creek Sta	77.30	11	IAmb	IAmb	03 45 02.3	
	comp=Z,14nm,0.9s						
KVN	Kaiserville	77.49	343	IAmb	IAmb	03 45 05.9	
	comp=Z,14nm,1.4s						
SCIA	State Center	77.96	3	P	P	03 44 51.6	+0.8
SCIA				IAmb	IAmb	03 45 06.2	
	comp=Z,14nm,1.0s						
L40A	Anamosa	78.22	4	IAmb	IAmb	03 45 09.4	
	comp=Z,12nm,1.1s						
ELK	Elko	78.51	346	IAmb	IAmb	03 45 10.7	
	comp=Z,14nm,1.6s						
K22A	Casper	79.09	353	IAmb	IAmb	03 45 06.5	
	comp=Z,16nm,1.3s						
AAM	Ann Arbor	79.23	10	P	P	03 44 56.8	-1.0
BW06	Boulder Array	79.56	351	P	P	03 44 59.8	-0.1
PDAR	Pinedale Array	79.56	351	P	P	03 45 00.1	+0.2
	comp=Z,2.4nm,0.5s,baz=156,slow=6.4,SNR=39						
	comp=Z,2.4nm,0.5s						
WVNY	West Valley, N	80.18	14	P	P	03 45 02.4	-0.7
WVNY				IAmb	IAmb	03 45 18.2	
	comp=Z,21nm,1.1s						
FXWY	Fox Creek	80.61	350	IAmb	IAmb	03 45 23.3	
	comp=Z,22nm,1.9s						
IMW	Indian Meadow	80.85	350	IAmb	IAmb	03 45 24.7	
	comp=Z,15nm,1.4s						
FLWY	Flagg Ranch	81.00	350	IAmb	IAmb	03 45 14.2	
	comp=Z,24nm,1.7s						
HLID	Hailey	81.08	347	IAmb	IAmb	03 45 25.7	
	comp=Z,12nm,1.3s						
YBH	Yreka Blue Hor	81.17	341	P	P	03 45 08.7	+0.2
	comp=Z,1.4nm,0.7s,baz=135,slow=7.1,SNR=2.1						
	comp=Z,1.4nm,0.7s						
SPMN	Marine on St.	81.29	3	P	P	03 45 08.8	-0.1
G40A	Rib Lake	81.48	5	IAmb	IAmb	03 45 25.1	
	comp=Z,9.3nm,0.9s						
BCYI	Bear Canyon	81.63	348	P	P	03 45 11.2	+0.2
J08A	Circle Bar Ran	81.68	344	IAmb	IAmb	03 45 27.2	
	comp=Z,13nm,1.1s						
RLMT	Red Lodge	81.84	351	IAmb	IAmb	03 45 30.0	
	comp=Z,29nm,1.9s						
F36A	Milaca	81.90	3	IAmb	IAmb	03 45 27.7	
	comp=Z,7.6nm,0.8s						
DZM	Mont Dzumac	82.17	248	*e*LR	LR	04 10 56.4	
	comp=Z,199nm,24.4s						
SADO	Sadowa	82.36	13	LR	LR	04 18 22.6	
	comp=Z,107nm,19.7s,baz=128,slow=33						
AGMN	Agassiz Nation	84.28	1	IAmb	IAmb	03 45 35.2	
	comp=Z,8.6nm,1.1s						
C09A	Chrisman Ranch	85.89	346	IAmb	IAmb	03 45 51.1	
	comp=Z,5.7nm,0.8s						
NEW	Newport	86.11	347	IAmb	IAmb	03 45 51.0	
	comp=Z,8.1nm,1.1s						
ULM	Lac du Bonnet	86.23	1	P	P	03 45 34.1	0.0
	comp=Z,1.2nm,0.3s,baz=187,slow=4.3,SNR=2.5						
	comp=Z,1.2nm,0.3s						
BBTS	Babate	91.16	73	LR	LR	04 22 36.6	
	comp=Z,233nm,21.4s,baz=240,slow=33						
STKA	Stephens Creek	92.68	227	LR	LR	04 19 29.7	
	comp=Z,255nm,21.3s,baz=184,slow=30						
SCHQ	Schefferville	94.47	17	LR	LR	04 25 54.6	
	comp=Z,214nm,18.2s,baz=158,slow=34						
HNR	Honiara	94.73	255	LR	LR	04 20 16.9	
	comp=Z,1µm,20.9s,baz=319,slow=30						
BOSA	Boshof	95.67	132	LR	LR	04 26 26.8	
	comp=Z,70nm,18.2s,baz=0.5,slow=34						
CTA	Charters Tower	97.98	238	LR	LR	04 23 20.7	
	comp=Z,154nm,21.3s,baz=88,slow=31						
YKA	Yellowknife Ar	99.50	352	P	Pdif	03 46 35.4	+0.1
	comp=Z,0.2nm,0.7s,baz=160,slow=5.5,SNR=3.5						
	comp=Z,0.2nm,0.7s						
H01W1	Cape Leeuwin H	103.38	206	T	T	05 43 14.3	
	baz=154,slow=76,SNR=3.9						
H01W2	Cape Leeuwin H	103.38	206	T	T	05 43 10.0	
	baz=154,slow=76,SNR=5.0						
H01W3	Cape Leeuwin H	103.39	206	T	T	05 43 03.9	
	baz=154,slow=76,SNR=4.6						
PETK	Petropavlovsk-	126.76	313	PKP	PKiKP	03 51 58.2	+1.7
	comp=Z,1.5nm,0.7s,baz=69,slow=4.8,SNR=2.7						
GERES	GERESS Array B	129.23	53	PKP	PKiKP	03 52 03.3	+1.6
	comp=Z,0.5nm,0.6s,baz=230,slow=2.4,SNR=3.9						
CLL	Collm	129.31	50	*e*PKPdf	PKPdf	03 52 01.0	+0.1
FINES	FINESS Array B	136.87	36	PKP	PKPdf	03 52 14.0	-0.8
	comp=Z,2.6nm,0.9s,baz=323,slow=2.1,SNR=3.4						
BRTR	Keskin Array B	141.44	70	PKP	PKiKP	03 52 25.7	-1.2
	comp=Z,0.9nm,0.7s,baz=180,slow=1.1,SNR=2.8						
KULM	Kulim	145.06	212		PKPab	03 52 28.0	-2.5
MARD	Mardin	146.47	75	PKPbc	PKPdf	03 52 33.4	+0.4
NRIK	Noril'sk	146.85	357	PKPbc	PKPbc	03 52 34.4	+0.1
	comp=Z,1.8nm,0.5s,baz=96,slow=2.5,SNR=4.9						
NRIK	Noril'sk	146.85	357	PKPbc	PKPbc	03 52 34.3	0.0
KBZ	Khabaz	148.73	64	PKPbc	PKiKP	03 52 42.1	+0.6
	comp=Z,5.6nm,0.9s,baz=310,slow=2.2,SNR=5.9						
NJ2	Nanjing	150.07	272	*e*P	PKPdf	03 52 38.0	-0.8
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BELG	Belogornoye	150.48	46	PKPbc	PKiKP	03 52 45.6	+0.8
	comp=Z,26nm,0.9s,baz=264,slow=0.9,SNR=6.0						
CMAR	Chiang Mai Arr	157.25	223	PKP	PKPdf	03 52 51.0	+1.6
	comp=Z,1.9nm,0.3s,baz=82,slow=1.9,SNR=3.2						
BVAR	Borovoye Array	161.15	24	PKP	PKPdf	03 52 53.9	+0.9
	comp=Z,2.1nm,1.0s,baz=36,slow=2.8,SNR=5.7						
PZH	PanZhiHua	161.19	244	PKP	PKPdf	03 52 53.3	-0.7
ZALV	Zalesovo Beam	162.35	356	PKP	PKPdf	03 52 54.3	+0.2
	comp=Z,2.8nm,1.0s,baz=343,slow=1.5,SNR=7.4						
LZH	Lanzhou	163.10	275	*e*P	PKPdf	03 52 52.4	-3.3
LZH				pP	sPKPdf	03 53 01.5	+2.8
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
KURBB	Kurchatov Arra	165.38	11	PKP	PKPdf	03 52 58.4	+1.3
	comp=Z,0.9nm,0.9s,baz=323,slow=1.2,SNR=4.2						

DJA ***20*** *03:43:53.5±0.4, 9.°N±4.°×12.°7E±.°, h10km, M5.1/31, mb5.0/31, mB5.5/14, MLv5.5/3, Mw(mB)4.9/14, MwMwp5.3/1, Mwp5.5/1*

BJI ***20*** *03:43:57.0±0.0, 8.°90N×126.°70E, h53km, mb4.6/45, mB4.9/30, Ms4.5/20, Ms7 4.3/21*

NEIC ***20*** *03:43:59.2±1.7, 8.°88N±0.°08×126.°70E±0.°09, h58km±2km, mb4.9/71, Error ellipse: s-maj=13.0km s-min=10.9km az=82.0*

IDC ***20*** *03:44:00.8±1.6, 8.°81N×126.°56E, h74km±14km, mb4.3/33, mbtmp4.6/36, MS3.8/16, Error ellipse: s-maj=14.3km s-min=9.4km az=80.0*

ISC 20 03:43:55.9±0.5, 8.°87N±0.°03×126.°73E±0.°04, h31km±3km, n327, σ1°65/333, mb4.8/81, MS4.1/21, 11C-11D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	h	m	s	ISC	Res
BIPH	**Bislig**	**0.78**	**208**	⇓	*e*P	**Pn**		**03**	**44**	**09.2**		**-1.6**
BIPH					*i* S	**Sb**		**03**	**44**	**20.9**		**-0.3**
TASP	**Talacogon, Agu**	**1.00**	**246**	⇓	*i*P	**Pn**		**03**	**44**	**13.5**		**-0.4**
TASP					*i* S	**Sb**		**03**	**44**	**30.5**		**+2.8**
CDOP	**Cateel, Davao**	**1.12**	**195**	⇓	*i*P	**Pn**		**03**	**44**	**15.1**		**-0.4**
CDOP					*i* S	**Sn**		**03**	**44**	**30.4**		**+0.6**
SCPH	**Surigao**	**1.53**	**306**		*e*P	**Pn**		**03**	**44**	**21.8**		**+0.7**
SCPH					*e*S	**Sb**		**03**	**44**	**41.8**		**-0.8**
BUKP	**Musuan**	**1.93**	**239**	⇑	*i*P	**Pb**		**03**	**44**	**29.7**		**-0.7**
BUKP					*i* S	**Sb**		**03**	**44**	**56.2**		**+2.1**
CGP	**Cagayan de Oro**	**2.06**	**259**	⇓	*i*P	**Pn**		**03**	**44**	**30.0**		**+1.6**
CGP					*i* S	**Sn**		**03**	**44**	**55.6**		**+2.5**
DAV	**Davao City (W)**	**2.12**	**213**		P	**Pb**		**03**	**44**	**33.5**		**-0.3**
	486nm,0.4s,baz=42,slow=2.9,SNR=29											
DAV					S	**Sn**		**03**	**44**	**56.7**		**+2.0**
	2µm,0.6s,baz=354,slow=19,SNR=6.2											
DAV					LR	LR		03	45	30.6		
	comp=Z,7µm,19.4s,baz=343,slow=45											
DAV	**Davao City (W)**	**2.12**	**213**			**Pb**		**03**	**44**	**32.8**		**-1.0**
MSLP	**Maasin**	**2.23**	**304**	⇑	*i*P	**Pn**		**03**	**44**	**32.7**		**+1.8**
KCP	**Kidapawan**	**2.46**	**221**	⇑	*i*P	**Pn**		**03**	**44**	**36.3**		**+2.3**
KCP					*i* S	**Sb**		**03**	**45**	**07.3**		**-2.3**
GHBP	**Garcia Hernand**	**2.50**	**288**	⇑	*i*P	**Pn**		**03**	**44**	**36.4**		**+1.9**
TABP	**Talibon, Bohol**	**2.66**	**297**	⇑	*i*P	**Pn**		**03**	**44**	**38.6**		**+1.9**
TABP					*i* S	**Sb**		**03**	**45**	**13.4**		**-1.8**
TBP	**Tagbilaran**	**2.95**	**286**	⇓	*e*P	**Pn**		**03**	**44**	**43.1**		**+2.5**
TBP					*e*S	**Sb**		**03**	**45**	**21.6**		**-1.9**
CTBH	**Cotabato--PC H**	**2.96**	**237**		*e*P	**Pn**		**03**	**44**	**43.2**		**+2.4**
CTBH					*i* S	**Sn**		**03**	**45**	**18.3**		**+3.0**
LSIP	**Lazi, Siquijor**	**3.08**	**275**	⇑	*i*P	**Pn**		**03**	**44**	**43.8**		**+1.4**
LSIP					*i* S	**Sn**		**03**	**45**	**20.1**		**+1.9**
LLP	**Lapu-Lapu**	**3.08**	**298**	⇓	*i*P	**Pn**		**03**	**44**	**45.5**		**+2.9**
LLP					*i* S	**Sn**		**03**	**45**	**22.9**		**+4.5**
GSPH	**General Santos**	**3.28**	**213**	⇓	*i*P	**Pn**		**03**	**44**	**48.0**		**+2.6**
GSPH					*i* S	**Sn**		**03**	**45**	**27.4**		**+3.9**
DCPH	**Dipolog City**	**3.35**	**265**	⇓	*e*P	**Pn**		**03**	**44**	**47.8**		**+1.5**
DCPH					*e*S	**Sn**		**03**	**45**	**25.3**		**+0.2**
PAGZ	**Pagadian**	**3.47**	**253**	⇑	*e*P	**Pn**		**03**	**44**	**50.8**		**+3.0**
SNPH	**Sibulan**	**3.48**	**278**	⇓	*e*P	**Pn**		**03**	**44**	**50.7**		**+2.6**
SNPH					*e*S	**Sb**		**03**	**45**	**36.1**		**-2.8**
CNOP	**Candoni, Negro**	**4.15**	**284**	⇑	*i*P	**Pn**		**03**	**44**	**59.9**		**+2.7**
RCP	**Roxas**	**4.75**	**305**	⇓	*e*P	**Pn**		**03**	**45**	**08.3**		**+2.9**
SGSI	**Sangihe**	**5.29**	**193**		P	**Pn**		**03**	**45**	**15.8**		**+2.9**
	586nm,0.9s,8µm5.8nm											
LQP	**Lukban**	**7.28**	**316**	⇓	*e*P	**Pn**		**03**	**45**	**43.6**		**+3.2**
TNTI	**Ternate**	**8.07**	**175**		Pn	**Pn**		**03**	**45**	**53.0**		**+1.9**
TNTI	**Ternate**	**8.07**	**175**		P	**Pn**		**03**	**45**	**54.4**		**+3.3**
	186nm,0.8s,2µm											
MYLDM	**Lahad Datu**	**8.96**	**246**		Pn	**Pn**		**03**	**46**	**05.2**		**+2.0**
GTOI	**Gorontalo**	**8.98**	**205**		P	**Pn**		**03**	**46**	**04.0**		**+0.4**
	75nm,0.8s,596nm											
MRSI	**Marisa**	**9.61**	**210**		P	**Pn**		**03**	**46**	**13.2**		**+1.0**
	154nm,1.0s,1µm											
TOLI2	**Tolitoli**	**9.72**	**218**		Pn	**Pn**		**03**	**46**	**13.4**		**-0.4**
LUWI	**Luwuk**	**10.61**	**202**		Pn	**Pn**		**03**	**46**	**28.5**		**+2.6**
LUWI	**Luwuk**	**10.61**	**202**		P	**Pn**		**03**	**46**	**29.2**		**+3.3**
	250nm,1.1s											
SIJI	**Sorong**	**10.68**	**155**		P	**Pn**		**03**	**46**	**30.6**		**+3.7**
	15nm,0.3s,baz=179,slow=20,SNR=10											
SIJI					S	**Sn**		**03**	**48**	**19.1**		**-6.4**
	5.5nm,0.3s,baz=216,slow=23,SNR=1.1											
KKM	**Kota Kinabalu**	**10.80**	**256**		Pn	**Pn**		**03**	**46**	**30.4**		**+1.8**
MPSI	**Mapaga**	**10.87**	**219**		P	**Pn**		**03**	**46**	**33.0**		**+3.5**
	11nm,0.8s											
SANI	**Sanana**	**10.87**	**184**		P	**Pn**		**03**	**46**	**30.1**		**+0.6**
	67nm,0.6s											
NLAI	**Namlea**	**12.04**	**178**		P	**Pn**		**03**	**46**	**48.3**		**+2.9**
	32nm,0.9s,7µm											
MSAI	**Masohi**	**12.33**	**170**		P	**Pn**		**03**	**46**	**52.2**		**+2.7**
AAI	**Ambon**	**12.56**	**173**		P	**Pn**		**03**	**46**	**56.5**		**+3.9**
	64nm,0.7s											
FAKI	**Fak Fak**	**12.94**	**155**		Pn	**Pn**		**03**	**46**	**59.2**		**+1.4**
FAKI	**Fak Fak**	**12.94**	**155**		P	**Pn**		**03**	**46**	**59.4**		**+1.6**
	39nm,1.0s											
BNDI	**Bandanaira**	**13.68**	**167**		P	**Pn**		**03**	**47**	**09.7**		**+1.8**
	102nm,0.6s,6µm											
BKB	**Balikpapan**	**14.05**	**225**		Pn	**Pn**		**03**	**47**	**14.2**		**+1.2**
SPSI	**Sidrap Palu**	**14.52**	**209**		P	**Pn**		**03**	**47**	**22.4**		**+3.0**
	30nm,1.0s											
KAPI	**Kappang**	**15.45**	**207**		P	**Pn**		**03**	**47**	**34.0**		**+2.2**
	18nm,0.8s,baz=22,slow=7.2,SNR=1.8											
KAPI					LR	LR		03	54	47.4		
	comp=Z,209nm,19.6s,baz=36,slow=42											
SBUM	**Sibu**	**15.78**	**247**		Pn	**Pn**		**03**	**47**	**37.8**		**+1.7**
GUMO	**Guam**	**18.39**	**74**		LR	LR		03	53	47.3		
	comp=Z,294nm,21.7s,baz=271,slow=32											
SOEI	**Soe**	**18.67**	**188**		P	**Pn**		**03**	**48**	**12.6**		**+0.4**
SOEI					IAmb	IAmb		03	48	31.7		
	comp=Z,79nm,0.7s											
SOEI	**Soe**	**18.67**	**188**		P	**Pn**		**03**	**48**	**14.9**		**+2.7**
	comp=Z,129nm,0.8s,comp=Z,1µm											
BATI	**Baumata**	**19.20**	**189**		P	**Pn**		**03**	**48**	**19.4**		**+0.9**
	comp=Z,38nm,0.4s,baz=302,slow=0.4,SNR=5.8											
BATI					LR	LR		03	56	57.2		
	comp=Z,270nm,18.3s,baz=16,slow=41											
BATI	**Baumata**	**19.20**	**189**		P	**Pn**		**03**	**48**	**19.2**		**+0.7**
	comp=Z,116nm,0.7s,comp=Z,1µm											
QIZ	**Qiongzhong**	**19.23**	**303**		P	**Pn**		**03**	**48**	**18.8**		**-0.1**
QIZ					S	**S**		**03**	**51**	**54.3**		**+0.2**
QIZ					pmax	pmax						
	comp=Z,340nm,4.0s											
QIZ					LR	LR						
	comp=Z,560nm,14.3s											
QIZ					LR	LR						
	comp=Z,510nm,16.7s											
QIZ					LR	LR						
	comp=Z,730nm,18.3s											
PLAI	**Plampang**	**19.72**	**207**		P	**Pn**		**03**	**48**	**26.5**		**+1.8**
	comp=Z,90nm,0.8s											
TWSI	**Taliwang, Sumb**	**20.06**	**210**		P	Pn		03	48	29.6		+0.9
	comp=Z,49nm,0.9s											
SRBI	**Singaraja**	**20.38**	**215**		P	Pn		03	48	33.5		+1.0
	comp=Z,53nm,0.9s											
MTN	**Manton Dam**	**22.01**	**168**		P	**P**		**03**	**48**	**47.9**		**0.0**
	baz=22,SNR=26											
MTN	**Manton Dam**	**22.01**	**168**		P	**P**		**03**	**48**	**47.5**		**-0.3**
MTN					IAmb	IAmb		03	49	04.4		
	comp=Z,60nm,1.1s											
KDU	**Kakadu**	**22.16**	**165**		P	**P**		**03**	**48**	**48.9**		**-0.6**
	baz=22,SNR=20											
PWJI	**Pagerwojo**	**22.43**	**222**		P	P		03	49	08.7		+16
SMRI	**Semarang**	**22.67**	**226**		P	**P**		**03**	**48**	**55.0**		**0.0**
SMRI					IAmb	IAmb		03	49	12.9		
	comp=Z,77nm,1.2s											
KPJI	**Karang Pucung**	**23.96**	**228**		P	P		03	49	21.0		+13
NJ2	**Nanjing**	**24.20**	**344**		*e*P	**P**		**03**	**49**	**11.1**		**+1.3**
NJ2					pmax	pmax						
	comp=Z,8.0nm,0.5s											
JNU	**Nakatsue**	**24.43**	**8**		LR	LR		04	00	27.0		
	comp=Z,152nm,18.4s,baz=196,slow=40											
WHN	**Wuhan**	**24.47**	**333**		P	P		03	49	22.5		+10
KNRA	**Kununurra**	**24.47**	**175**		P	**P**		**03**	**49**	**12.3**		**-0.1**
	baz=24,SNR=26											
KNRA	**Kununurra**	**24.47**	**175**		P	**P**		**03**	**49**	**12.0**		**-0.4**
GYA	**Guiyang**	**25.85**	**315**	⇑	*i*P	**P**		**03**	**49**	**27.1**		**+2.1**
GYA					sP	pwP		03	49	47.4		+10
GYA					S	**S**		**03**	**53**	**51.3**		**-1.7**
GYA					pmax	pmax						
	comp=Z,11nm,0.9s											
GYA					pmax	pmax						
	comp=Z,150nm,3.5s											
GYA					LR	LR						
	comp=Z,520nm,17.0s											
GYA					LR	LR						
	comp=Z,280nm,14.1s											
GYA					LR	LR						
	comp=Z,420nm,18.9s											
IPM	**Ipoh**	**25.90**	**262**		P	**P**		**03**	**49**	**25.5**		**+0.1**
IPM					IAmb	IAmb		03	49	38.1		
	comp=Z,48nm,1.1s											
MDSI	**Maura Dua**	**26.11**	**240**		P	**P**		**03**	**49**	**34.0**		**+6.7**
KULM	**Kulim**	**26.12**	**264**		P	**P**		**03**	**49**	**28.4**		**+0.9**
KULM					IAmb	IAmb		03	49	39.9		
	comp=Z,25nm,0.9s											
FITZ	**Fitzroy Crossi**	**26.82**	**182**		P	**P**		**03**	**49**	**34.1**		**+0.5**
JHJ	**Hachijo jima 2**	**26.98**	**25**		LR	LR		03	58	19.5		
	comp=Z,165nm,21.0s,baz=168,slow=32											
PHRA	**Phrae**	**27.44**	**293**		P	**P**		**03**	**49**	**38.5**		**-0.8**
CRAI	**Chiangrai**	**27.85**	**297**		P	**P**		**03**	**49**	**42.5**		**-0.5**
COEN	**Coen**	**27.94**	**144**		P	**P**		**03**	**49**	**45.3**		**+1.5**
PSI	**Prapat**	**28.30**	**259**		P	**P**		**03**	**49**	**47.3**		**+0.1**
	comp=Z,3.0nm,0.3s,baz=43,slow=9.8,SNR=5.8											
	comp=Z,3.0nm,0.3s											
RPSI	**Rantau Prapat**	**28.33**	**259**		P	**P**		**03**	**49**	**47.7**		**+0.4**
KSRS	**Korea Array**	**28.48**	**2**		P	**P**		**03**	**49**	**50.0**		**+1.8**
	comp=Z,3.4nm,0.9s,baz=186,slow=10,SNR=6.0											
	comp=Z,3.4nm,0.9s											
CM31	**Chiang Mai Arr**	**28.60**	**292**		P	**P**		**03**	**49**	**49.1**		**-0.5**
CMAR	**Chiang Mai Arr**	**28.60**	**292**		P	**P**		**03**	**49**	**49.6**		**-0.1**
	comp=Z,2.2nm,0.3s,baz=103,slow=6.9,SNR=23											
CMAR					PcP	**PcP**		**03**	**53**	**00.9**		**+0.4**
	comp=Z,1.6nm,0.3s,baz=64,slow=3.1,SNR=4.4											
	comp=Z,2.2nm,0.3s											
CMAR	**Chiang Mai Arr**	**28.60**	**292**		P	**P**		**03**	**49**	**49.1**		**-0.5**
KCSI	**Kotacane, Aceh**	**29.27**	**261**		P	P		03	50	06.8		+11
MJAR	**Matsushiro Arr**	**29.46**	**19**		P	**P**		**03**	**49**	**58.8**		**+1.8**
	comp=Z,0.9nm,0.6s,baz=200,slow=9.9,SNR=2.2											
MJAR					LR	LR		04	01	47.4		
	comp=Z,202nm,19.5s,baz=208,slow=36											
	comp=Z,0.9nm,0.6s											
PZH	**PanZhiHua**	**29.47**	**310**		P	**P**		**03**	**50**	**01.4**		**+3.9**
PZH					S	**S**		**03**	**54**	**45.0**		**-5.1**
PZH					pmax	pmax						
	comp=Z,10.0nm,0.5s											
PZH					pmax	pmax						
	comp=Z,40nm,3.7s											
PZH					LR	LR						
	comp=Z,430nm,21.2s											
PZH					LR	LR						
	comp=Z,530nm,19.0s											
PZH					LR	LR						
	comp=Z,930nm,18.6s											
WRAB	**Tennant Creek**	**29.59**	**165**		P	**P**		**03**	**49**	**57.2**		**-1.2**
WRA	**Warramunga Arr**	**29.59**	**165**		P	**P**		**03**	**49**	**57.4**		**-1.0**
	comp=Z,1.8nm,0.5s,baz=347,slow=9.4,SNR=21											
WRA					PcP	**PcP**		**03**	**53**	**00.3**		**-2.7**
	comp=Z,0.9nm,0.7s,baz=338,slow=3.1,SNR=1.6											
	comp=Z,1.8nm,0.5s											
WRA	**Warramunga Arr**	**29.59**	**165**		P	**P**		**03**	**49**	**57.7**		**-0.7**
WB2	**Warramunga Arr**	**29.60**	**165**		P	**P**		**03**	**49**	**57.7**		**-0.8**
XAN	**Xi'an**	**29.93**	**329**		P	**P**		**03**	**49**	**59.9**		**-1.5**
XAN					pP	sP		03	50	12.4		-0.3
XAN					S	**S**		**03**	**54**	**52.8**		**-4.3**
XAN					pmax	pmax						
	comp=Z,6.0nm,0.7s											
XAN					LR	LR						
	comp=Z,450nm,12.9s											
XAN					LR	LR						
	comp=Z,520nm,13.6s											
XAN					LR	LR						
	comp=Z,560nm,16.5s											
HNS	**HongShan**	**30.42**	**341**	⇑	P

comp=Z,260nm,13.3s
KMBL Kambalda 40.28 186 P **P** 03 51 30.5 +0.2
baz=40,SNR=11
BLDU Ballidu 40.42 193 P **P** 03 51 31.8 +0.3
baz=40,SNR=7.1
KLR Kul'dur 40.45 5 P **P** 03 51 32.3 +0.8
comp=Z,3.2nm,0.4s,baz=192,slow=7.1,SNR=18
comp=Z,3.2nm,0.4s
HIA Hailar 40.69 353 P **P** 03 51 33.8 +0.2
HIA IAmb IAmb 03 51 35.0
comp=Z,33nm,1.6s
KLBR Kellerberrin 41.14 192 P **P** 03 51 37.6 +0.2
baz=41,SNR=8.4
EIDS Eidsvold 41.48 146 P **P** 03 51 39.6 -0.7
MUN Mundaring 41.85 193 P **P** 03 51 43.6 +0.4
baz=42,SNR=5.5
ULN Ulaanbaatar 42.29 340 P **P** 03 51 45.8 -1.1
ULN Ulaanbaatar 42.29 340 P **P** 03 51 46.8 -0.1
ULN pP **pP** 03 51 53.4 -1.1
BBOO Buckleboo 42.39 168 P **P** 03 51 47.5 -0.1
baz=42,SNR=14
BBOO Buckleboo 42.39 168 P **P** 03 51 46.8 -0.9
SONM Songino Array 42.48 340 P **P** 03 51 47.7 -0.7
comp=Z,1.3nm,0.6s,baz=157,slow=9.3,SNR=7.0
comp=Z,1.3nm,0.6s
SONM Songino Array 42.48 340 P **P** 03 51 47.4 -1.0
NWAO Narrogin (SRO) 42.54 192 P **P** 03 51 49.4 +0.5
baz=43,SNR=12
NWAO P **P** 03 51 49.4 +0.5
baz=43,SNR=12
NWAO Narrogin (SRO) 42.54 192 P **P** 03 51 47.7 -1.1
NWAO IAmb IAmb 03 51 50.3
comp=Z,27nm,0.8s
NWAO Narrogin (SRO) 42.54 192 P **P** 03 51 49.2 +0.4
NWAO pP **pP** 03 51 55.6 -1.2
STKA Stephens Creek 42.94 161 P **P** 03 51 51.8 -0.3
comp=Z,8.8nm,0.6s,baz=335,slow=8.2,SNR=24
comp=Z,8.8nm,0.6s
STKA Stephens Creek 42.94 161 P **P** 03 51 52.0 0.0
baz=43,SNR=14
STKA Stephens Creek 42.94 161 P **P** 03 51 51.3 -0.8
HTT Hallett 43.64 165 P **P** 03 51 58.6 +0.8
baz=44,SNR=6.1
RKGY Rocky Gully 44.22 192 P **P** 03 52 03.7 +1.3
baz=44,SNR=12
ARPS Mount Arapiles 47.56 164 P **P** 03 52 29.2 +0.5
baz=48,SNR=10
WMQ Urumqi 48.60 323 *eP* **P** 03 52 36.4 -0.4
WMQ pP pwP 03 52 52.8 +3.2
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ LR LR
comp=Z,150nm,15.9s
DZM Mont Dzumac 49.62 129 P **P** 03 52 45.0 +0.1
DZM IAmb IAmb 03 52 58.9
comp=Z,12nm,1.1s
DZM Mont Dzumac 49.62 129 P **P** 03 52 46.4 +1.5
DZM pP **pP** 03 52 52.7 -0.1
PETK Petropavlovsk- 50.72 24 P **P** 03 52 54.0 +1.3
comp=Z,1.6nm,0.5s,baz=209,slow=4.2,SNR=8.4
comp=Z,1.6nm,0.5s
MKAR Makanchi Array 53.41 323 P **P** 03 53 12.5 -0.4
comp=Z,15nm,0.6s,baz=132,slow=6.9,SNR=10
MKAR PcP **PcP** 03 54 19.4 -0.5
comp=Z,4.1nm,0.8s,baz=110,slow=5.1,SNR=1.5
comp=Z,15nm,0.6s
MA2 Magadan 53.76 15 P **P** 03 53 16.9 +1.8
ZAA0 Zalesovo Array 56.07 332 P **P** 03 53 30.9 -1.0
ZAA0 IAmb IAmb 03 53 31.5
comp=Z,6.5nm,0.8s
ZALV Zalesovo Beam 56.07 332 P **P** 03 53 30.8 -1.1
comp=Z,5.7nm,0.7s,baz=121,slow=6.5,SNR=14
comp=Z,5.7nm,0.7s
ZALV Zalesovo Beam 56.07 332 P **P** 03 53 30.6 -1.3
AAK Ala-Archa 56.64 316 LR LR 04 19 52.1
comp=Z,197nm,20.5s,baz=91,slow=38
MSVF Nonsavu 57.16 118 P **P** 03 53 41.0 +0.6
KURK Kurchatov 57.47 326 P **P** 03 53 40.6 -1.4
KURK Kurchatov 57.47 326 P **P** 03 53 41.0 -1.0
KURK pP **pP** 03 53 47.2 -2.7
KURBB Kurchatov Arra 57.48 326 P **P** 03 53 41.3 -0.7
comp=Z,17nm,0.7s,baz=125,slow=6.6,SNR=33
comp=Z,17nm,0.7s
KK31 Karatay Array 59.55 315 P **P** 03 53 55.3 -1.4
KK31 IAmb IAmb 03 53 58.5
comp=Z,5.1nm,0.8s
KKAR Karatay Array 59.55 315 P **P** 03 53 55.3 -1.4
KKAR IAmb IAmb 03 53 58.5
comp=Z,5.1nm,0.8s
TIXI Tiksi 62.73 1 P **P** 03 54 17.7 0.0
TIXI Tiksi 62.73 1 P **P** 03 54 18.4 +0.7
BVAR Borovoye Array 63.07 326 P **P** 03 54 19.2 -1.0
comp=Z,10nm,0.8s,baz=123,slow=6.6,SNR=5.8
comp=Z,10nm,0.8s
BILL Bilibino 64.62 15 P **P** 03 54 30.7 +0.5
BILL IAmb IAmb 03 54 33.3
comp=Z,14nm,1.4s
BILL Bilibino 64.62 15 P **P** 03 54 32.1 +1.9
BILL pP **pP** 03 54 38.0 0.0
AFI Afiamalu 65.08 110 LR LR 04 20 13.9
comp=Z,69nm,18.6s,baz=302,slow=33
NRIK Noril'sk 65.47 346 P **P** 03 54 35.2 -0.5
comp=Z,8.9nm,0.7s,baz=130,slow=6.4,SNR=10
comp=Z,8.9nm,0.7s
NRIK Noril'sk 65.47 346 P **P** 03 54 35.5 -0.2
NRIK IAmb IAmb 03 54 36.7
comp=Z,14nm,0.8s
BKZ Black Stump Fm 66.43 140 P **P** 03 54 41.9 -0.5
GEYT Alibeck 67.75 307 P **P** 03 54 51.1 +0.2
comp=Z,9.5nm,0.6s,baz=134,slow=4.3,SNR=12
GEYT LR LR 04 27 26.9
comp=Z,79nm,19.4s,baz=100,slow=38
comp=Z,9.5nm,0.6s
GEYT Alibeck 67.75 307 P **P** 03 54 49.7 -1.2
GEYT IAmb IAmb 03 54 51.9
comp=Z,14nm,0.8s
GYA0B ALIBECK ARRAY 67.75 307 **P** 03 54 50.0 -0.9
GYA0B IAmb IAmb 03 54 51.8
comp=Z,13nm,0.7s
AKTO Aktyubinsk 69.69 321 P **P** 03 55 01.2 -1.5
comp=Z,5.5nm,0.8s,baz=89,slow=8.4,SNR=2.7
AKTO LR LR 04 28 09.8
comp=Z,197nm,18.6s,baz=356,slow=38
comp=Z,5.5nm,0.8s
ARU Arti 70.64 327 P **P** 03 55 06.9 -1.5
comp=Z,13nm,0.6s,baz=118,slow=3.5,SNR=12
comp=Z,13nm,0.6s
ARU Arti 70.64 327 **P** 03 55 06.2 -2.1
ARU IAmb IAmb 03 55 08.0
comp=Z,14nm,0.6s
ARU Arti 70.64 327 P **P** 03 55 07.1 -1.3
TNA Tin City 71.89 23 P **P** 03 55 17.3 +1.6
baz=251
CHGN Chignik 74.27 34 P **P** 03 55 31.1 +1.2
baz=262
P16K Nushagak River 74.87 31 P **P** 03 55 35.3 +1.8
baz=262
BELG Belogornoye 76.38 322 P **P** 03 55 40.0 -2.3
comp=Z,13nm,0.8s,baz=157,slow=7.7,SNR=3.0
comp=Z,13nm,0.8s
O18K Koktuh Hills 76.38 31 P **P** 03 55 43.4 +1.2
baz=264
M20K Styx River 77.58 29 P **P** 03 55 50.6 +1.7
baz=266
KDAK Kodiak Island 77.58 33 P **P** 03 55 50.1 +1.2
baz=267
IMAR Indian Mountai 77.68 24 P **P** 03 55 49.1 -0.2
O20K Slope Mountain 77.70 30 P **P** 03 55 50.4 +0.9
baz=266
G21K Allakaket 77.83 24 P **P** 03 55 52.3 +2.1
baz=264
F21K Alatna River 77.92 23 P **P** 03 55 52.2 +1.6
baz=264
H21K Melozitna Rive 78.04 25 P **P** 03 55 52.9 +1.6
baz=265
RAR Rarotonga 78.06 114 LR LR 04 29 31.6
comp=Z,48nm,18.5s,baz=289,slow=35
PPLA Purkeypile 78.09 28 P **P** 03 55 53.2 +1.3
baz=266
CAST Castle Rocks 78.17 27 **P** 03 55 51.8 -0.3
CAST IAmb IAmb 03 56 09.0
comp=Z,20nm,1.5s
CAST Castle Rocks 78.17 27 P **P** 03 55 53.3 +1.2
baz=266
GNI Garni 78.23 309 P **P** 03 55 53.0 -0.1
comp=Z,3.6nm,0.6s,baz=18,slow=3.2,SNR=1.6
comp=Z,3.6nm,0.6s

I21K Tanana 78.34 25 IAmb IAmb 03 56 03.4
comp=Z,13nm,1.2s
I21K Tanana 78.34 25 P **P** 03 55 54.8 +1.8
baz=266
RAYN Ar Rayn 78.52 292 **P** 03 55 52.7 -2.1
RAYN IAmb IAmb 03 55 54.6
comp=Z,12nm,0.8s
SUA Susitna One 78.69 29 P **P** 03 55 55.9 +0.8
baz=268
BPAW Bear Paw Mtn. 78.70 26 IAmb IAmb 03 56 13.2
comp=Z,23nm,1.3s
BPAW Bear Paw Mtn. 78.70 26 P **P** 03 55 56.3 +1.3
baz=267
MLY Manley 78.86 25 IAmb IAmb 03 55 59.8
comp=Z,29nm,1.8s
MLY Manley 78.86 25 P **P** 03 55 57.6 +1.7
baz=267
TRF Thorofare Moun 78.98 27 P **P** 03 55 58.0 +1.3
baz=268
D23K Nanushuk River 79.11 21 P **P** 03 55 59.0 +1.8
baz=266
AKH Akhalkalaki 79.14 310 P **P** 03 55 57.4 -0.7
RC01 Rabbit Creek A 79.16 29 P **P** 03 55 58.5 +0.9
baz=269
COLD Coldfoot 79.19 23 P **P** 03 55 59.4 +1.8
baz=267
G23K Bananza Creek 79.23 24 P **P** 03 55 59.4 +1.5
baz=267
SEW Seward 79.28 30 P **P** 03 55 58.8 +0.6
baz=269
E23K Chandalar 79.45 22 P **P** 03 56 00.6 +1.4
baz=268
PMR Palmer 79.47 29 P **P** 03 55 59.3 +0.2
baz=269
KBZ Khabaz 79.49 313 P **P** 03 55 58.2 -1.4
comp=Z,6.2nm,1.1s,baz=113,slow=7.7,SNR=3.4
comp=Z,6.2nm,1.1s
MCK McKinley 79.59 27 IAmb IAmb 03 56 17.9
comp=Z,28nm,1.3s
MCK McKinley 79.59 27 P **P** 03 56 00.0 +0.1
baz=269
WAT1 Susitna Watana 79.75 28 P **P** 03 56 01.8 +0.9
baz=269
KNK Knik Glacier 79.79 29 P **P** 03 56 01.7 +0.7
baz=270
PWL Port Wells 79.84 30 P **P** 03 56 01.7 +0.3
baz=270
SML Sawmill 79.85 29 P **P** 03 56 02.2 +0.8
baz=270
E24K Your Creek 79.88 22 P **P** 03 56 03.1 +1.7
baz=268
H24K Noodor Dome 80.08 25 P **P** 03 56 04.7 +2.2
baz=270
F24K Squaw Lake 80.09 23 P **P** 03 56 04.8 +2.3
baz=269
CCB Clear Creek Bu 80.10 26 IAmb IAmb 03 56 04.6
comp=Z,13nm,1.4s
WAT6 Susitna Watana 80.13 28 P **P** 03 56 04.2 +1.2
baz=270
M23K Glacier View 80.14 29 P **P** 03 56 04.0 +1.1
baz=270
G24K Hadweenzic Riv 80.25 24 P **P** 03 56 04.3 +0.9
baz=270
DHY Denali Highway 80.29 27 P **P** 03 56 06.4 +2.5
baz=270
SCM Sheep Creek Mo 80.33 29 P **P** 03 56 05.5 +1.6
baz=271
GURO Guroymak-BITLI 80.41 308 P **P** 03 56 04.6 -0.4
GURO IAmb IAmb 03 56 07.9
comp=Z,14nm,0.9s
HDA Harding Lake 80.47 26 P **P** 03 56 05.5 +0.9
baz=271
IL31 80.49 26 IAmb IAmb 03 56 12.7
comp=Z,19nm,1.6s
ILAR Eielson Array 80.49 26 P **P** 03 56 05.0 +0.2
comp=Z,0.9nm,0.5s,baz=245,slow=5.0,SNR=19
comp=Z,0.9nm,0.5s
ILAR Eielson Array 80.49 26 P **P** 03 56 04.8 0.0
G25K Bearman Lake 80.79 24 P **P** 03 56 08.0 +1.8
baz=271
Q23K Middleton Isla 80.86 31 P **P** 03 56 08.1 +1.3
baz=272
M24K Tolsona, Glenn 80.86 28 P **P** 03 56 07.9 +1.1
baz=272
F25K Christian Rive 80.95 23 P **P** 03 56 08.9 +1.7
baz=271
KLMR Klimovskoe 80.96 330 *eP* **P** 03 56 05.5 -1.8
KLMR AMP 03 56 07.5
comp=Z,35nm,1.5s
E25K Arctic Village 80.97 22 P **P** 03 56 09.3 +2.0
baz=271
K24K Donnelly Dome 81.00 27 P **P** 03 56 09.1 +1.6
baz=272
KLU Klutina 81.00 29 P **P** 03 56 08.4 +0.7
baz=272
FYU Fort Yukon 81.14 24 IAmb IAmb 03 56 26.5
comp=Z,25nm,1.4s
PAX Paxson 81.16 28 IAmb IAmb 03 56 24.7
comp=Z,41nm,1.9s
PAX Paxson 81.16 28 P **P** 03 56 10.0 +1.5
baz=272
C26K Camden Bay 81.17 20 P **P** 03 56 10.8 +2.6
baz=272
RIDG Independent Ri 81.41 27 P **P** 03 56 11.0 +1.3
baz=273
MARD Mardin 81.48 306 **P** 03 56 10.1 -0.7
MARD IAmb IAmb 03 56 11.1
comp=Z,7.3nm,0.5s
F26K Sheenjek River 81.52 23 P **P** 03 56 12.4 +2.2
baz=273
C27K Jago River 81.59 21 P **P** 03 56 12.3 +1.8
baz=273
N25K Chitina, Valde 81.63 29 P **P** 03 56 13.3 +2.3
baz=273
BMRM Bremner River 81.66 30 P **P** 03 56 13.1 +2.0
baz=273
G26K Porcupine Rive 81.70 23 P **P** 03 56 13.4 +2.3
baz=273
SCRK Sand Creek 81.78 26 IAmb IAmb 03 56 26.4
comp=Z,15nm,1.5s
SCRK Sand Creek 81.78 26 P **P** 03 56 13.8 +2.0
baz=273
J26L Joseph Creek 81.93 26 IAmb IAmb 03 56 27.6
comp=Z,8.6nm,1.0s
J26L Joseph Creek 81.93 26 P **P** 03 56 14.4 +1.8
baz=274
L26K Log Cabin Wild 82.13 27 P **P** 03 56 15.3 +1.8
baz=274
M26K Nabesna, AK 82.33 28 P **P** 03 56 14.8 +0.2
baz=274
E27K Coleen River 82.45 22 P **P** 03 56 17.0 +1.9
baz=275
G27K Doyon Strip 82.55 24 P **P** 03 56 17.8 +2.1
baz=275
H27K Steamboat Moun 82.65 24 P **P** 03 56 18.3 +2.1
baz=275
I27K Kandik River 82.67 25 P **P** 03 56 18.6 +2.3
baz=275
L27K Beaver Creek, 82.81 27 P **P** 03 56 19.1 +2.1
baz=275
M27K Edge Creek, AK 82.86 28 P **P** 03 56 18.2 +0.8
baz=275
EGAK Eagle 82.94 26 IAmb IAmb 03 56 32.1
comp=Z,7.6nm,1.0s
EGAK Eagle 82.94 26 P **P** 03 56 18.9 +1.3
baz=276
BVCY Beaver Creek 83.32 28 P **P** 03 56 21.5 +1.8
baz=276
YUK3 Moose Creek 83.58 29 P **P** 03 56 23.0 +1.7
baz=277
DAWY Dawson 83.79 26 IAmb IAmb 03 56 36.9
comp=Z,16nm,1.2s
DAWY Dawson 83.79 26 P **P** 03 56 24.0 +1.9
baz=277,SNR=7.5
PINM Pinnacle 83.88 30 P **P** 03 56 24.7 +2.1
baz=277
I29M Ogilvie Camp, 84.07 25 P **P** 03 56 24.0 +0.5
I29M Ogilvie Camp, 84.07 25 P **P** 03 56 25.9 +2.4
baz=278,SNR=11
GAZ Gaziantep 84.33 307 IAmb IAmb 03 56 26.2
comp=Z,26nm,1.4s
M29M Somme Creek 84.43 28 P **P** 03 56 27.6 +2.1
baz=278
L29M L29M 84.48 27 P **P** 03 56 28.0 +2.3
baz=279
EPYK Eagle Plains 84.56 24 P **P** 03 56 27.9 +1.9
baz=280,SNR=10
G30M tAoh Zraii Nji 84.65 23 P **P** 03 56 28.0 +1.6
baz=280,SNR=11
YUK6 Outpost Mounta 84.69 29 P **P** 03 56 28.6 +1.6
baz=279
HYT Haines Junctio 85.13 29 P **P** 03 56 30.9 +1.8
baz=279
M30M Minto, Yukon 85.17 27 IAmb IAmb 03 56 44.8
comp=Z,11nm,1.1s
M30M Minto, Yukon 85.17 27 P **P** 03 56 31.1 +2.0
baz=280
INK Inuvik 85.41 22 P **P** 03 56 30.9 +0.9
comp=Z,12nm,1.1s,baz=275,slow=5.0,SNR=19
comp=Z,12nm,1.1s
INK Inuvik 85.41 22 P **P** 03 56 31.7 +1.6
baz=282,SNR=16
F31M Tsiigehtchic 85.51 22 P **P** 03 56 32.1 +1.6
baz=282,SNR=9.9
O30N Mendenhall 85.82 29 P **P** 03 56 34.8 +2.4
baz=281
N31M Braeburn, Yuko 85.83 28 P **P** 03 56 34.6 +2.2
baz=281
MMAI Mount Meron Ar 86.34 303 P **P** 03 56 34.7 -0.9
comp=Z,7.5nm,0.8s,baz=61,slow=6.8,SNR=11
comp=Z,7.5nm,0.8s
WHY Whitehorse 86.42 29 P **P** 03 56 37.4 +1.9
baz=282
BRTR Keskin Array B 86.77 310 P **P** 03 56 36.1 -1.5
comp=Z,1.3nm,0.8s,baz=128,slow=5.1,SNR=5.1
comp=Z,1.3nm,0.8s
FARO Faro, Yukon 86.81 28 P **P** 03 56 39.1 +1.9
baz=283
A36M Sachs Harbour 87.11 17 P **P** 03 56 40.3 +1.9
baz=290,SNR=8.0
EIL Elat 87.21 299 P **P** 03 56 39.6 -0.2
comp=Z,13nm,1.1s,baz=305,slow=3.6,SNR=4.6
comp=Z,13nm,1.1s
FINES FINESS Array B 87.33 332 P **P** 03 56 39.3 -0.3
comp=Z,4.5nm,0.9s,baz=64,slow=3.1,SNR=7.6
comp=Z,4.5nm,0.9s
AKASG Malin Array Be 87.93 321 P **P** 03 56 41.9 -0.9
comp=Z,0.8nm,0.5s,baz=104,slow=11,SNR=5.2
comp=Z,0.8nm,0.5s
C36M Paulatuk 88.40 20 P **P** 03 56 45.8 +1.2
baz=291,SNR=12
VNDA Vanda 88.49 173 P **P** 03 56 44.8 0.0
comp=Z,1.5nm,0.9s,baz=320,slow=6.7,SNR=9.3
comp=Z,1.5nm,0.9s
EUNU Eureka 89.60 5 IAmb IAmb 03 56 52.5
comp=Z,12nm,1.2s
KOTAN Kotaneelee Air 91.73 28 P **P** 03 57 01.9 +1.5
baz=291
RES Resolute Bay 92.78 10 LR LR 04 45 13.4
comp=Z,37nm,18.1s,baz=13,slow=40
RES Resolute Bay 92.78 10 **P** 03 57 05.1 +0.2
NOA NORSAR Array B 94.21 334 LR LR 04 43 45.4
comp=Z,63nm,18.7s,baz=100,slow=38
YKA Yellowknife Ar 94.84 24 P **P** 03 57 16.1 +1.5
comp=Z,4.0nm,0.7s,baz=298,slow=4.7,SNR=62
comp=Z,4.0nm,0.7s
JMIC Jan Mayen 94.89 347 LR LR 04 46 13.8
comp=Z,34nm,18.7s,baz=230,slow=39
GERES GERESS Array B 98.07 322 P **P** 03 57 29.4 -0.3
comp=Z,0.6nm,0.7s,baz=35,slow=3.6,SNR=1.4
comp=Z,0.6nm,0.7s
MURC Murrieta 106.15 51 P **PKiKP** 04 02 18.3 +0.5
baz=293
109C Camp Elliot, M 106.49 52 P **PKiKP** 04 02 18.4 +0.1
baz=292
DUG Dugway, Tooele 106.57 44 P **PKiKP** 04 02 18.5 0.0
baz=297
BC3 Big Chuckawall 107.46 51 P **PKiKP** 04 02 20.5 +0.2
baz=294
TXAR Lajitas Array 118.38 50 PKP **PKiKP** 04 02 41.5 +0.3
comp=Z,0.2nm,0.4s,baz=174,slow=2.2,SNR=7.8
JCT Junction City 120.63 47 P **PKiKP** 04 02 46.1 +0.5
baz=304
CCM Cathedral Cave 121.39 35 P **PKPdf** 04 02 45.6 -1.1
baz=315
833A Chaparral WMA, 122.11 49 P **PKiKP** 04 02 48.9 +0.4
baz=303
MIAR Mount Ida 122.38 39 P **PKiKP** 04 02 49.6 +0.8
baz=311
BINY Binghamton 125.08 21 P **PKPdf** 04 02 53.0 -0.6
baz=332
TKL Tuckaleechee C 127.19 31 PKP **PKiKP** 04 02 58.3 0.0
comp=Z,2.2nm,0.7s,baz=146,slow=3.6,SNR=2.6
LRAL Lakeview Retre 127.39 36 P **PKPdf** 04 02 57.8 -0.5
baz=316
CMIG Matias Romero 131.44 58 PKP **PKiKP** 04 03 07.4 +0.1
comp=Z,1.1nm,0.6s,baz=180,slow=4.0,SNR=2.1
PLCA Paso Flores 144.75 157 PKP PKPbc 04 03 29.4 +0.3
comp=Z,4.5nm,1.1s,baz=184,slow=2.6,SNR=8.0
SDDR Presa de Saban 147.11 33 *eP* **PKPbc** 04 03 37.6 +0.7
UREC San Jos de Ur 152.34 54 *eP* **PKiKP** 04 03 50.5 +0.2
URIC Uribia, Colomb 152.35 43 *eP* **PKiKP** 04 03 51.6 +1.4
CBOC Ciudad Bolivar 153.01 58 *eP* **PKiKP** 04 03 52.3 +0.4
ZARC Zaragoza, Cauc 153.03 54 *eP* **PKPdf** 04 03 41.7 -2.5
MCRA Macar, Loja 153.12 82 *eP* **PKPbc** 04 03 51.5 -0.3
CFA Coronel Fontan 153.44 150 PKP **PKPdf** 04 03 43.8 -0.5
comp=Z,1.0nm,0.8s,baz=270,slow=7.1,SNR=1.4
CFA PKPbc **PKPbc** 04 03 50.2 -1.8
comp=Z,1.1nm,0.4s,baz=342,slow=2.4,SNR=3.9
YOTC Yotoco, Valle 153.69 62 *eP* **PKPdf** 04 03 45.5 +0.2
PTBC PUERTO BERRIO 153.91 55 *eP* **PKiKP** 04 03 53.6 +0.1
BARC Barichara 154.90 53 *eP* **PKPab** 04 04 12.9 +1.9
LPAZ La Paz 163.74 118 PKP **PKPdf** 04 03 58.1 +0.4
comp=Z,1.2nm,0.9s,baz=214,slow=3.6,SNR=2.7
SIV San Ignacio 169.60 134 PKP **PKPdf** 04 04 01.7 +0.2
comp=Z,1.1nm,0.9s,baz=213,slow=4.3,SNR=3.7

*IDC **20** 03:47:41.1±0.6,26.70N×66.08E,h0km,mb4.3/27, mbtmp4.3/30,ML4.0/2,MS4.0/42,Error ellipse: s-maj=16.6km s-min=12.4km az=16.0*
*MOS **20** 03:47:42.7±1.1,26.82N×66.28E,h15km,mb4.6/23,Error ellipse: s-maj=7.7km s-min=4.7km az=105.1*
*NEIC **20** 03:47:42.6±1.8,26.71N±0.09×66.15E±0.09,h10km±1km, mb4.5/32,Error ellipse: s-maj=16.5km s-min=11.6km az=150.0*
*BGR **20** 03:47:49.7,26.68N×65.88E,h33km,mb5.0*

ISC 20 03:47:42.4±0.4,**26.79N**±0.05×**66.30E**±0.04,**h8km,n243,**
σ2s10/229,mb4.5/94,MS4.1/47,1C-12D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHUJ	**Bhuj**	**4.65**	**138**	*eP*	**Pn**	**03 48 55.2**	**+2.2**
BHUJ				*eS*	**Sn**	**03 49 49.2**	**+2.0**
BHUJ				IAML		03 49 54.4	
	comp=E,583nm,1.2s						
BHUJ				IAML		03 49 54.4	
	comp=N,469nm,1.2s						
AJM	**Ajmer**	**7.47**	**90**	*eP*	**Pn**	**03 49 34.5**	**+2.6**
AJM				*eS*	**Sn**	**03 50 57.5**	**+0.6**
SARP	**Sargodha**	**7.56**	**46**	P	**Pn**	**03 49 34.2**	**+1.3**
THW	**Thamme Wali**	**7.63**	**37**	P	**Pn**	**03 49 35.8**	**+1.9**
WSAR	**Wadi Sarin**	**7.80**	**245**	Pn	Pn	03 49 31.8	-4.5
	comp=N,2.3nm,0.3s,baz=113,slow=9.2,SNR=22						
WSAR				Sn	Sn	03 50 50.6	-14
	comp=N,4.0nm,0.3s,baz=69,slow=11,SNR=3.6						
WSAR				LR	LR	03 53 26.2	
	comp=N,622nm,19.5s,baz=84,slow=46						
	comp=N,9.3nm,0.3s						
KBL	**Kabul**	**8.08**	**16**	Pn	**Pn**	**03 49 41.3**	**+1.0**
KBL	**Kabul**	**8.08**	**16**	P	**Pn**	**03 49 41.3**	**+1.0**
HRA	**Herat**	**8.34**	**336**	Pn	**Pn**	**03 49 43.8**	**-0.1**
CEP	**Cherat**	**8.53**	**33**	P	**Pn**	**03 49 49.4**	**+3.1**
NIL	**Nilore**	**9.11**	**40**	Pn	**Pn**	**03 49 54.9**	**+0.7**
NIL	**Nilore**	**9.11**	**40**	P	**Pn**	**03 49 54.9**	**+0.7**
CHCP	**Chirah Chowk**	**9.12**	**40**	P	**Pn**	**03 49 56.2**	**+1.8**
UOSS	**Minazif**	**9.27**	**261**	Pn	**Pn**	**03 49 53.1**	**-3.4**
JMU	**Jammu**	**9.53**	**50**	*eP*	**Pn**	**03 50 03.9**	**+4.0**
JMU				*eS*	**Sn**	**03 51 45.1**	**-2.1**
NDI	**New Delhi**	**9.86**	**76**	*eP*	**Pn**	**03 50 06.3**	**+1.8**
NDI				*eP*		03 50 06.5	
NDI				*eS*	**Sn**	**03 51 53.8**	**-1.5**
NDI				*eS*		03 51 54.5	
NDI				IAML		03 51 57.8	
	comp=N,117nm,0.0s						
NDI				IAML		03 52 01.9	
	comp=E,124nm,0.7s						
THN	**Thein Dam**	**9.94**	**53**	*eP*	**Pn**	**03 50 08.6**	**+3.1**
THN				*eS*	**Sn**	**03 51 57.1**	**-0.2**
THN				IAML		03 52 07.2	
	comp=N,243nm,1.1s						
THN				IAML		03 52 07.9	
	comp=E,342nm,0.8s						
BHPL	**Bhopal**	**10.69**	**107**	*eP*	**Pn**	**03 50 17.5**	**+1.5**

BHPL eS Sn 03 52 18.1 +2.2
BHPL IAML 03 52 20.9
comp=N,86nm,3.7s
BHPL IAML 03 52 22.9
comp=E,274nm,1.6s
CHGR Chuyangaron 12.08 11 Pn 03 50 34.7 -0.2
CHGR Chuyangaron 12.08 11 P **Pn 03 50 34.7 -0.2**
GAR Garm 12.64 14 Pn 03 50 43.1 +0.6
JBP Jabalpur 12.93 103 *eP* **Pn 03 50 47.9 +1.4**
JBP IAmb IAmb 03 50 53.3
comp=Z,21nm,0.6s
JBP eS Sn 03 53 22.1 +11
GEYT Alibeck 13.08 330 Pn **Pn 03 50 46.5 -2.0**
comp=Z,1.6nm,0.7s,baz=145,slow=11,SNR=4.5
GEYT LR LR 03 56 05.9
comp=Z,510nm,18.9s,baz=160,slow=39
GEYT Alibeck 13.08 330 Pn **Pn 03 50 48.5 -0.1**
GEYT Alibeck 13.08 330 P **Pn 03 50 48.5 -0.1**
HYB Hyderabad 14.69 127 *eP* **Pn 03 51 11.2 +0.6**
KSH Kashi 15.05 30 P **Pn 03 51 10.5 -5.0**
KSH sP P 03 51 19.8 -1.1
KSH S Sn 03 53 48.3 -14
KSH pmax pmax
comp=Z,25nm,0.9s
KSH LR LR
comp=N,3μm,13.0s
KSH LR LR
comp=E,3μm,14.4s
KSH LR LR
comp=Z,2μm,18.2s
KOLN Koldanda 15.42 82 *eP* **P 03 51 24.1 -1.1**
KOLN *eS* **Sn 03 54 09.6 -2.1**
comp=Z,28nm,1.2s
DANN Dangsing 15.57 80 *eP* **Pn 03 51 21.4 -1.2**
DANN eS **Sn 03 54 05.9 -10**
GKN Gorkha 16.34 82 *eS* **Sn 03 54 24.6 -9.3**
KK31 Karatay Array 16.64 11 Pn 03 51 34.8 -1.2
KK31 Karatay Array 16.64 11 P **Pn 03 51 35.9 -0.1**
KKAR Karatay Array 16.64 11 Pn 03 51 35.5 -0.4
KKAR Karatay Array 16.64 11 Pn **Pn 03 51 36.1 +0.1**
KKAR Karatay Array 16.64 11 P **Pn 03 51 36.1 +0.1**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
DMN Daman 16.76 83 *eS* **Sn 03 54 38.0 -6.3**
PKIN Phulchoki 17.02 83 *eP* **Pn 03 51 41.9 +0.8**
PKIN *eS* **Sn 03 54 42.7 -7.9**
PKI Pulchoki 17.03 83 *eP* **Pn 03 51 41.7 +0.4**
PKI *eS* **Sn 03 54 42.2 -8.8**
comp=Z,432nm,1.6s
AAK Ala-Archa 17.17 21 P **P 03 51 44.2 -0.3**
comp=Z,0.5nm,0.3s,baz=200,slow=12,SNR=13
AAK S **Sn 03 54 49.2 -4.8**
comp=Z,3.1nm,0.8s,baz=306,slow=15,SNR=1.8
AAK LR LR 03 59 44.3
comp=Z,783nm,19.3s,baz=222,slow=42
comp=Z,4.2nm,0.6s
AAK Ala-Archa 17.17 21 Pn **Pn 03 51 41.0 -1.8**
AAK Ala-Archa 17.17 21 *iP* **P 03 51 43.8 -0.7**
JIRN Jiri 17.72 83 *eP* **Pn 03 51 48.8 -1.2**
RAMN Ramite 18.12 85 *eS* **Sn 03 55 09.5 -7.8**
comp=Z,180nm,1.0s
MDOK Medeo 18.53 25 P **Pn 03 52 02.0 +2.3**
PCHI Peechi 18.75 148 *eP* **Pn 03 52 04.6 +2.4**
PCHI *eS* Sn 03 55 21.3 -11
LKRN Lenkeran, Azer 18.89 313 P **Pn 03 52 04.8 +0.9**
RAYN Ar Rayn 19.10 265 P **P 03 52 02.1 -3.6**
RAYN Ar Rayn 19.10 265 P **P 03 52 02.2 -3.6**
RAYN pmax pmax
comp=Z,20nm,1.4s
MNGR Mingechevir, A 21.14 316 P **P 03 52 29.4 +1.6**
AKT Akhty 21.17 319 *eP* **P 03 52 29.2 +0.9**
AKT *e* 03 52 48.8
AKT pmax pmax
comp=Z,125nm,1.1s
NAX Nakhchivan 21.32 311 P **P 03 52 30.5 +0.6**
SEKA Sheki 21.33 317 P **P 03 52 31.0 +1.1**
GANJ Ganja 21.55 315 P **P 03 52 34.3 +2.1**
LSA Lhasa 22.07 77 P **P 03 52 36.6 -1.9**
LSA IAmb IAmb 03 52 52.5
comp=Z,13nm,0.8s
LSA Lhasa 22.07 77 P **P 03 52 36.6 -1.9**
LSA pmax pmax
comp=Z,13nm,0.8s
GNI Garni 22.31 312 P **P 03 52 40.1 -0.4**
comp=Z,4.9nm,0.5s,baz=116,slow=16,SNR=1.0
GNI LR LR 04 01 49.4
comp=Z,222nm,18.5s,baz=120,slow=38
comp=Z,4.9nm,0.5s
GNI Garni 22.31 312 P 03 52 40.5 -0.1
AB31 Akbulak array 22.97 349 P **P 03 52 47.6 +0.4**
ABKAR Akbulak array 22.97 349 P **P 03 52 48.1 +0.9**
SHL Shillong 22.99 87 P **P 03 52 46.5 -1.4**
SHL IAmb IAmb 03 53 02.0
comp=Z,14nm,0.8s
SHL Shillong 22.99 87 P **P 03 52 46.5 -1.4**
SHL pmax pmax
comp=Z,14nm,0.8s
GROC Groznyy 23.36 320 *eP* **P 03 52 52.8 +1.5**
GROC *e* 03 53 17.7
GROC pmax pmax
comp=Z,61nm,0.6s
BRDH Bariadhala 23.37 95 LR LR 04 03 28.6
comp=Z,470nm,18.4s,baz=90,slow=40
GURO Guroymak-BITLI 23.48 306 P **P 03 52 52.6 -0.1**
GURO IAmb IAmb 03 52 56.8
comp=Z,15nm,1.0s
MAKZ Makanchi 23.52 28 P **P 03 52 53.2 +0.3**
MAKZ Makanchi 23.52 28 P **P 03 52 53.2 +0.3**
MAKZ pmax pmax
comp=Z,26nm,1.1s
MK31 Makanchi Array 23.64 28 P **P 03 52 54.5 +0.5**
MK31 Makanchi Array 23.64 28 *iP* **P 03 52 53.9 -0.2**
MK31 pmax pmax
comp=Z,19nm,0.9s
MKAR Makanchi Array 23.64 28 P **P 03 52 54.5 +0.5**
comp=Z,16nm,0.9s,baz=211,slow=7.3,SNR=103
MKAR LR LR 04 03 14.7
comp=Z,619nm,18.3s,baz=230,slow=39
comp=Z,16nm,0.9s
ZEI Tsey 24.24 317 *eP* P 03 52 42.3 -18
ZEI pmax pmax
comp=Z,14nm,1.2s
WMQ Urumqi 24.25 40 *eP* **P 03 53 01.6 +1.6**
WMQ Urumqi 24.25 40 *eP* **P 03 53 02.5 +2.5**
WMQ pP sP 03 53 05.5 +1.5
WMQ sP pP 03 53 08.5 +5.7
WMQ pmax pmax
comp=Z,47nm,0.9s
WMQ pmax pmax
comp=Z,250nm,5.9s
WMQ LR LR
comp=N,1μm,14.9s
WMQ LR LR
comp=E,610nm,18.5s
WMQ LR LR
comp=Z,380nm,18.5s
ONI Oni 24.41 316 P **P 03 52 59.4 -2.1**
ONI IAmb IAmb 03 53 18.7
comp=Z,7.7nm,0.9s
ONI Oni 24.41 316 P **P 03 52 59.4 -2.1**
ONI pmax pmax
comp=Z,8.0nm,0.9s
AKTO Aktyubinsk 24.45 347 P **P 03 53 02.6 +1.0**
comp=Z,5.2nm,0.6s,baz=154,slow=8.6,SNR=23
AKTO LR LR 04 04 44.8
comp=Z,247nm,18.5s,baz=253,slow=42
comp=Z,5.2nm,0.6s
NEY Neytrino 25.22 317 *iP* **P 03 53 07.9 -1.0**
NEY pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 25.38 318 P **P 03 53 10.9 +0.8**
comp=Z,7.5nm,0.8s,baz=130,slow=10,SNR=6.8
comp=Z,7.5nm,0.8s
KBZ Khabaz 25.38 318 *iP* **P 03 53 12.7 +2.7**
KBZ pmax pmax
comp=Z,20nm,1.4s
SHA1 Shidzhatmaz 25.53 318 *iP* **P 03 53 13.8 +2.1**
KURBB Kurchatov Arra 25.57 18 P **P 03 53 13.1 +1.3**
comp=Z,6.9nm,0.8s,baz=210,slow=9.0,SNR=31
KURBB LR LR 04 05 39.9
comp=Z,365nm,19.9s,baz=170,slow=42
comp=Z,6.9nm,0.8s
KVAR Kislovodsk Arr 25.63 318 LR LR 04 05 11.2
comp=Z,132nm,20.0s,baz=102,slow=41
KIV Kislovodsk 25.63 318 P **P 03 53 10.9 -1.6**
KIV Kislovodsk 25.63 318 *eP* **P 03 53 13.8 +1.3**
KIV *eS* **S 03 57 44.0 +3.0**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,59nm,15.0s
KURK Kurchatov 25.68 18 P **P 03 53 13.1 +0.3**
KURK IAmb IAmb 03 53 30.2
comp=Z,8.5nm,0.8s
KURK Kurchatov 25.68 18 *iP* **P 03 53 13.4 +0.6**
KURK pmax pmax
comp=Z,7.0nm,0.8s
ASF Jabal al Asfar 26.11 289 P **P 03 53 15.8 -1.1**
comp=Z,1.0nm,0.6s,baz=21,slow=16,SNR=1.6
comp=Z,1.0nm,0.6s
BVA0 Borovoye Array 26.39 6 *iP* **P 03 53 21.4 +2.3**
BVAR Borovoye Array 26.39 6 P **P 03 53 20.4 +1.3**
comp=Z,3.1nm,0.5s,baz=178,slow=8.7,SNR=11
BVAR LR LR 04 05 49.2
comp=Z,524nm,19.4s,baz=194,slow=41
comp=Z,3.1nm,0.5s
BRVK Borovoye 26.41 5 P **P 03 53 18.9 -0.4**
BRVK IAmb IAmb 03 53 35.6
comp=Z,13nm,0.9s
BRVK Borovoye 26.41 5 *iP* **P 03 53 19.9 +0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
GAZ Gaziantep 26.66 300 P **P 03 53 21.6 -0.3**
GAZ IAmb IAmb 03 53 37.0
comp=Z,7.7nm,0.8s
ATD Arta Tunnel 26.78 240 LR LR 04 05 04.8
comp=Z,92nm,20.4s,baz=41,slow=39
MMAI Mount Meron Ar 27.43 291 LR LR 04 06 37.5
comp=Z,382nm,18.8s,baz=318,slow=42
EIL Elat 27.73 283 LR LR 04 06 23.4
comp=Z,389nm,21.8s,baz=84,slow=41
DGZ Jazzator, Alta 28.08 30 *iP* **P 03 53 34.9 +0.3**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
TNCH TengChong 29.00 86 *eP* **P 03 53 44.0 +0.9**
TNCH pmax pmax
comp=Z,130nm,0.4s
TNCH pmax pmax
comp=Z,210nm,4.8s
TNCH LR LR
comp=N,440nm,13.7s
TNCH LR LR
comp=E,440nm,13.6s
TNCH LR LR
comp=Z,380nm,17.8s
BELG Belogornoye 29.17 336 LR LR 04 07 42.5
comp=Z,220nm,20.2s,baz=121,slow=41
ANN Anapa 29.29 315 *eP* **P 03 53 45.0 -0.2**
ANN *eS* **S 03 58 39.1 +0.7**
ANN pmax pmax
comp=Z,53nm,1.1s
BRTR Keskin Array B 30.03 304 P **P 03 53 51.7 -0.3**
comp=Z,0.5nm,0.7s,baz=100,slow=8.2,SNR=2.2
comp=Z,0.5nm,0.7s
ARU Arti 30.14 351 LR LR 04 07 36.4
comp=Z,398nm,18.7s,baz=175,slow=40
ARU Arti 30.14 351 P **P 03 53 53.2 +0.6**
ARU 03 54 48.9
ARU S **S 03 58 53.4 +1.9**
ARU SS **SnSn 04 00 24.3 +0.1**
ARU MLR MLR
comp=Z,356nm,14.0s
ZALV Zalesovo Beam 30.39 22 P **P 03 53 55.8 +1.0**
comp=Z,3.5nm,0.6s,baz=229,slow=10,SNR=6.8
ZALV LR LR 04 07 35.6
comp=Z,552nm,19.0s,baz=224,slow=39
comp=Z,3.5nm,0.6s
CMAR Chiang Mai Arr 31.18 99 P **P 03 54 04.5 +2.3**
comp=Z,1.9nm,0.3s,baz=290,slow=8.4,SNR=2.9
CMAR LR LR 04 08 30.6
comp=Z,295nm,18.6s,baz=250,slow=40
comp=Z,1.9nm,0.3s
PZH PanZhiHua 31.62 82 P **P 03 54 08.8 +2.6**
PZH S **S 03 59 15.8 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,3.6s
PZH LR LR
comp=N,960nm,17.8s
PZH LR LR
comp=E,430nm,18.0s
PZH LR LR
comp=Z,340nm,17.8s
KIRV Kirov 33.91 344 LR LR 04 10 17.3
comp=Z,288nm,19.3s,baz=150,slow=40
KIRV Kirov 33.91 344 *iP* **P 03 54 28.4 +2.8**
MOS Moscow 35.59 332 *eP* **P 03 54 39.9 -0.2**
MOS pmax pmax
comp=Z,48nm,1.7s
OBN Obninsk 35.62 331 P **P 03 54 40.3 -0.2**
OBN Obninsk 35.62 331 *eP* **P 03 54 41.1 +0.7**
OBN *e* 03 56 00.0
OBN *e*PPP PPP 03 56 13.9
OBN *e* 03 57 09.8
OBN pmax pmax
comp=Z,16nm,1.0s
OBN MLR MLR
comp=Z,139nm,18.0s
IDI Anoyia 36.27 294 LR LR 04 13 22.1
comp=Z,81nm,20.7s,baz=96,slow=43
AKASG Malin Array Be 36.92 320 P **P 03 54 50.6 -1.0**
comp=Z,1.5nm,0.7s,baz=117,slow=7.4,SNR=6.7
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 36.92 320 *eP* **P 03 54 53.4 +1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 36.92 320 P **P 03 54 52.2 +0.6**
AKBB IAmb IAmb 03 55 06.9
comp=Z,6.9nm,0.6s
AKBB Malin Array Si 36.92 320 *iP* **P 03 54 53.5 +1.9**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 37.63 45 P **P 03 54 59.9 +2.0**
comp=Z,3.7nm,0.8s,baz=247,slow=8.7,SNR=9.5
SONM LR LR 04 13 28.4
comp=Z,524nm,18.3s,baz=196,slow=41
comp=Z,3.7nm,0.8s
SONM Songino Array 37.63 45 P **P 03 54 58.9 +1.0**
ENH Enshi 37.94 74 P **P 03 55 01.3 +0.7**
ENH IAmb IAmb 03 55 18.7
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 38.06 45 P **P 03 55 02.8 +1.2**
ULN Ulaanbaatar 38.06 45 *iP* **P 03 55 03.2 +1.6**
ULN pmax pmax
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 38.19 314 IAmb IAmb 03 55 06.0
comp=Z,8.5nm,0.8s
BUR08 Bucovina Ar. S 38.21 314 P **P 03 55 01.4 -1.3**
BUR08 IAmb IAmb 03 55 06.4
comp=Z,7.9nm,1.0s
KLMR Klimovskoe 38.60 339 *eP* **P 03 55 04.9 -0.8**
KLMR AMP 03 55 09.0
comp=Z,54nm,1.2s
KLMR Klimovskoe 38.60 339 *eP* **P 03 55 04.8 -0.9**
KLMR pmax pmax
comp=Z,54nm,1.2s
PSI Prapat 39.31 122 P **P 03 55 14.7 +2.4**
comp=Z,4.5nm,0.7s,baz=319,slow=10,SNR=4.4
PSI LR LR 04 12 01.6
comp=Z,233nm,21.6s,baz=345,slow=37
comp=Z,4.5nm,0.7s
RPSI Rantau Prapat 39.38 122 P **P 03 55 14.7 +1.9**
KIBK Kibwezi 39.77 228 P **P 03 55 15.2 -1.0**
KIBK IAmb IAmb 03 55 19.3
comp=Z,17nm,1.5s
UZH Uzhgorod 40.36 315 *eP* P 03 55 26.0 +5.4
UZH *e* 03 55 31.9
QIZ Qiongzhong 40.69 92 P **P 03 55 22.8 -0.9**
QIZ S **S 04 01 35.9 +1.6**
QIZ LR LR
comp=N,560nm,20.7s
QIZ LR LR
comp=E,410nm,19.9s
QIZ LR LR
comp=Z,200nm,25.5s
CRVS Cervenica-Dubn 40.97 315 *eP* **P 03 55 29.2 +3.6**
CRVS Cervenica-Dubn 40.97 315 *eP* **P 03 55 29.2 +3.6**
VYHS Vyhne 42.55 314 *eP* **P 03 55 39.5 +0.9**
VYHS Vyhne 42.55 314 *eP* **P 03 55 39.5 +0.9**
XLT XiLinHaoTe 43.37 54 *iP* **P 03 55 49.3 +3.9**
XLT pP sP 03 55 53.8 +4.4
XLT sP pP 03 55 57.4 +9.2
XLT pmax pmax
comp=Z,83nm,6.7s
XLT pmax pmax
comp=Z,11nm,0.7s
XLT LR LR
comp=N,37nm,15.6s
XLT LR LR
comp=E,330nm,14.2s
XLT LR LR
comp=Z,250nm,16.5s
MAUC Maruska 43.39 315 *eP* **P 03 55 47.0 +1.6**
MODS Modra-Piesok 43.53 313 *eP* **P 03 55 47.8 +1.2**
MODS Modra-Piesok 43.53 313 *eP* **P 03 55 47.8 +1.2**
MORC Moravsky Berou 43.67 315 P **P 03 55 47.6 0.0**
MORC IAmb IAmb 03 55 50.4
comp=Z,4.4nm,0.8s
MORC Moravsky Berou 43.67 315 P **P 03 55 47.7 0.0**
MORC pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 43.85 333 P **P 03 55 48.4 -0.5**
comp=Z,7.9nm,0.7s,baz=135,slow=7.8,SNR=19
FINES LR LR 04 16 27.0
comp=Z,253nm,18.2s,baz=112,slow=39
comp=Z,7.9nm,0.7s
FINES FINESS Array B 43.85 333 P **P 03 55 48.8 -0.1**
FINES FINESS Array B 43.85 333 *iP* **P 03 55 50.7 +1.8**
FINES pmax pmax
comp=Z,8.0nm,0.7s
RONA Rosalia, Austr 44.06 312 *ep*P pP 03 55 52.6 -1.0
comp=Z,1.6nm,0.5s
KRLC Kraliky 44.21 315 *eP* **P 03 55 53.9 +1.9**
KRLC Kraliky 44.21 315 *eP* **P 03 55 53.9 +1.9**
CONA Conrad Observa 44.38 312 *ep*P **P 03 55 54.6 +1.1**
comp=Z,0.8nm,0.5s
ARSA Arzberg 44.50 311 *ep*P pP 03 55 56.7 -0.5
comp=Z,3.1nm,0.8s
DPC Dobruska-Polom 44.56 316 *eP* **P 03 55 54.2 -0.6**
DPC Dobruska-Polom 44.56 316 *eP* **P 03 55 54.2 -0.6**
OSTC Ostas 44.67 316 *eP* **P 03 55 55.3 -0.4**
VAE Valguarnera 44.72 297 LR LR 04 20 37.9
comp=Z,125nm,18.1s,baz=168,slow=44
MOA Molln 45.43 312 *ep*P **P 03 56 02.9 +1.2**
comp=Z,1.7nm,0.6s
CKRC Cesky Krumlov 45.55 313 *eP* **P 03 56 02.0 -0.7**
PRU Pruhonice 45.61 315 *eP* **P 03 56 04.4 +1.3**
PRU Pruhonice 45.61 315 *eP* **P 03 56 04.4 +1.3**
NJ2 Nanjing 45.71 70 *eP* **P 03 56 03.0 -1.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KBA Koelnbreinsper 45.95 311 *ep*P **P 03 56 07.2 +1.2**
comp=Z,1.8nm,0.7s
GEC2 GERESS Array S 45.95 313 P **P 03 56 05.1 -0.9**
GEC2 IAmb IAmb 03 56 08.4
comp=Z,7.1nm,1.1s
GEC2 GERESS Array S 45.95 313 *eP* **P 03 56 07.6 +1.6**
comp=Z,17nm,1.5s,baz=98,slow=7.8
GERES GERESS Array B 45.95 313 P **P 03 56 05.0 -0.9**
comp=Z,1.7nm,0.7s,baz=96,slow=8.2,SNR=12
comp=Z,1.7nm,0.7s
GERES GERESS Array B 45.95 313 *eP* **P 03 56 07.8 +1.8**
GERES pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 46.08 313 *eP* **P 03 56 07.6 +0.7**
KHC Kasperske Hory 46.08 313 *eP* **P 03 56 07.6 +0.7**
BRG Berggiesshubel 46.15 316 *eP* **P 03 56 10.2 +2.9**
BRG Amp 03 56 11.0
comp=Z,13nm,1.0s
BRG Berggiesshubel 46.15 316 *eP* **P 03 56 09.5 +2.1**
comp=Z,13nm,1.0s,baz=98,slow=7.8
ABTA Abfaltersbach 46.48 310 *ep*P **P 03 56 11.7 +1.6**
comp=Z,2.2nm,0.5s
FBE Freiberg 46.53 316 *eP* **P 03 56 12.3 +2.0**
comp=Z,18nm,1.1s,baz=98,slow=7.8
HIA Hailar 46.57 46 P **P 03 56 11.4 +0.8**
HIA Hailar 46.57 46 P **P 03 56 11.5 +0.8**
HIA pmax pmax
comp=Z,10.0nm,1.1s
RUE Ruedersdorf 46.58 318 *eP* **P 03 56 12.0 +1.3**
comp=Z,19nm,0.9s,baz=98,slow=7.8
CLL Collm 46.82 316 P **P 03 56 11.7 -0.8**
CLL IAmb IAmb 03 56 16.6
comp=Z,4.7nm,0.8s
CLL Collm 46.82 316 *iP* **P 03 56 13.5 +0.9**
comp=Z,5.0nm,0.8s
CLL LmV 04 20 00.0
comp=Z,100nm,18.4s
CLL Collm 46.82 316 *iP* **P 03 56 13.5 +0.9**
CLL pmax pmax
comp=Z,5.0nm,0.8s
WTTA Wattenberg 47.13 311 *eP* **P 03 56 14.9 -0.4**
comp=Z,2.3nm,0.6s
SQTA Sank Ulirin 47.41 311 *ep*P **P 03 56 18.6 +1.1**
comp=Z,1.1nm,0.4s
FUR Furstenfeldbru 47.46 312 *eP* **P 03 56 18.9 +1.2**
comp=Z,13nm,0.8s,baz=98,slow=7.8
MOTA Moosalm 47.50 311 *eP* **P 03 56 17.8 -0.3**
comp=Z,3.6nm,0.6s
NEUB Neuenburg 47.56 316 *eP* **P 03 56 20.3 +1.9**
comp=Z,20nm,0.9s,baz=98,slow=7.8
MOX Moxa 47.57 315 *eP* **P 03 56 20.2 +1.7**
comp=Z,16nm,0.9s,baz=98,slow=7.8
GRF Grafenberg Arr 47.68 314 *eP* **P 03 56 21.2 +1.8**
comp=Z,11nm,0.8s,baz=98,slow=7.8
FETA Feichten 47.72 310 *ep*P **P 03 56 20.9 +1.0**
comp=Z,2.8nm,0.7s
RETA Reutte 47.74 311 *eP* **P 03 56 20.3 +0.4**
comp=Z,2.5nm,0.5s
FLTG Flechtingen 48.08 317 *eP* **P 03 56 23.7 +1.4**
comp=Z,21nm,0.9s,baz=98,slow=7.8
DAVA Damuels 48.32 311 *eP* **P 03 56 24.1 -0.4**
comp=Z,9.7nm,0.9s
ASSE Asse, Remlinge 48.39 317 *eP* **P 03 56 26.2 +1.5**
comp=Z,20nm,1.4s,baz=98,slow=7.8
CLZ Clausthal 48.52 317 *eP* **P 03 56 27.7 +1.8**
comp=Z,15nm,0.9s,baz=98,slow=7.8
GTTG Gottingen 48.73 316 *eP* **P 03 56 29.2 +1.8**
comp=Z,18nm,1.2s,baz=98,slow=7.8
NRDL Niedersach Rie 48.79 318 *eP* **P 03 56 29.8 +2.1**
comp=Z,13nm,0.9s,baz=98,slow=7.8
ARCES ARCESS Array B 48.88 342 P **P 03 56 29.2 +0.9**
comp=Z,6.0nm,0.8s,baz=124,slow=6.5,SNR=7.9
ARCES LR LR 04 19 20.3
comp=Z,328nm,18.0s,baz=124,slow=39
comp=Z,6.0nm,0.8s
KEST Kesra 48.91 295 P **P 03 56 28.6 -0.5**
comp=Z,4.7nm,0.7s,baz=86,slow=0.7,SNR=2.4
comp=Z,4.7nm,0.7s
RETH Rethem/Aller, 49.28 318 *eP* **P 03 56 33.3 +1.8**
comp=Z,10nm,1.1s,baz=98,slow=7.8
TNS Taunus Mts 49.52 314 *eP* **P 03 56 36.4 +2.8**
comp=Z,10nm,1.0s,baz=98,slow=7.8
KASTN Kahler Asten 49.65 316 *eP* **P 03 56 36.6 +2.1**
comp=Z,5.9nm,1.0s,baz=98,slow=7.8
NB2 NORSAR Subarra 50.16 329 P **P 03 56 40.0 +1.7**
comp=Z,2.1nm,0.8s,baz=107,slow=7.9
NOA NORSAR Array B 50.16 329 P **P 03 56 37.6 -0.7**
comp=Z,3.2nm,0.8s,baz=108,slow=7.5,SNR=9.4
comp=Z,3.2nm,0.8s
NOA NORSAR Array B 50.16 329 *eP* **P 03 56 38.6 +0.3**
NOA pmax pmax
comp=Z,3.0nm,0.8s
IBBN Ibbenburen 50.19 317 *eP* **P 03 56 40.4 +1.9**
comp=Z,29nm,1.2s,baz=98,slow=7.8
BUG Bochum--Univer 50.39 316 *eP* **P 03 56 42.0 +1.9**
comp=Z,18nm,0.9s,baz=98,slow=7.8
AHRW Bad Neuenahr-A 50.43 315 *eP* **P 03 56 42.6 +2.2**
comp=Z,14nm,1.1s,baz=98,slow=7.8
WLF Walferdange 50.96 313 *dx* **P 03 56 46.6 +2.2**
WLF Walferdange 50.96 313 *eP* **P 03 56 46.3 +1.9**
comp=Z,17nm,1.1s,baz=98,slow=7.8
BTNL Ternell 51.03 315 *dx* **P 03 56 47.5 +2.5**
BHOU Houvegnez 51.10 314 *dP* **P 03 56 44.6 -0.8**
BHOU *d*PcP **PcP 03 58 00.1 -1.0**
MEM Membach 51.11 315 *dP* **P 03 56 47.3 +1.8**
MEM *d*PcP **PcP 03 57 58.8 -2.4**
BCLA Clavier 51.55 314 *dP* **P 03 56 49.1 +0.3**
comp=Z,3.1nm,1.1s
RCHB Rochefort 51.58 314 *dx* **P 03 56 52.0 +3.0**
HEH HeiHe 51.62 46 *eP* **P 03 56 50.6 +1.3**
HEH pmax pmax
comp=Z,8.0nm,0.9s
BGES Gesves 51.69 314 *dP* **P 03 56 49.5 -0.4**
comp=Z,7.1nm,1.1s
BMRD Maredsous 51.89 314 *dx* **P 03 56 54.1 +2.8**
DOU Dourbes 51.99 314 *dx* **P 03 56 54.5 +2.4**

KSRS	**Korea Array**	**52.45**	**62**	P		**P**	**03 56 58.1**	**+2.4**
	comp=Z,3.5nm,0.8s,baz=271,slow=7.3,SNR=6.9							
KSRS				LR		LR	04 22 22.8	
	comp=Z,115nm,20.1s,baz=270,slow=40							
	comp=Z,3.5nm,0.8s							
YAK	**Yakutsk**	**54.26**	**31**	LR		LR	04 23 28.4	
	comp=Z,159nm,18.2s,baz=226,slow=39							
KLR	**Kul'dur**	**54.41**	**47**	LR		LR	04 24 11.9	
	comp=Z,225nm,18.3s,baz=252,slow=40							
JOW	**Kunigami**	**54.79**	**75**	LR		LR	04 23 37.8	
	comp=Z,268nm,19.2s,baz=67,slow=39							
LSZ	**Lusaka**	**55.84**	**226**	LR		LR	04 22 03.1	
	comp=Z,160nm,19.4s,baz=314,slow=37							
SPITS	**Spitsbergen Ar**	**56.13**	**349**	LR		LR	04 27 19.4	
	comp=Z,111nm,19.1s,baz=130,slow=42							
TIXI	**Tiksi**	**56.25**	**20**	LR		LR	04 23 50.7	
	comp=Z,226nm,20.5s,baz=186,slow=38							
ESDC	**Sonseca Array**	**58.80**	**302**	P		**P**	**03 57 40.2**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=64,slow=6.6,SNR=8.0							
	comp=Z,2.0nm,0.9s							
DAV	**Davao City (W)**	**59.47**	**98**	LR		LR	04 26 00.3	
	comp=Z,100nm,20.5s,baz=22,slow=38							
MJAR	**Matsushiro Arr**	**60.71**	**61**	LR		LR	04 26 20.8	
	comp=Z,104nm,19.6s,baz=218,slow=38							
TORD	**Torodi Ar. Bea**	**61.66**	**271**	P		**P**	**03 58 00.0**	**-1.2**
	comp=Z,10nm,1.1s,baz=63,slow=3.3,SNR=7.4							
	comp=Z,10nm,1.1s							
TORD	**Torodi Ar. Bea**	**61.66**	**271**	P		**P**	**03 57 59.3**	**-1.9**
ASAJ	**Asahikawa**	**62.39**	**52**	LR		LR	04 28 26.3	
	comp=Z,264nm,18.4s,baz=340,slow=39							
JHJ	**Hachijo jima 2**	**62.81**	**65**	LR		LR	04 29 50.6	
	comp=Z,183nm,18.4s,baz=96,slow=40							
MA2	**Magadan**	**64.55**	**34**	LR		LR	04 28 26.4	
	comp=Z,135nm,20.2s,baz=271,slow=38							
BORG	**Borgarnes**	**65.11**	**332**	LR		LR	04 29 10.3	
	comp=Z,159nm,20.5s,baz=124,slow=38							
TSUM	**Tsumeb**	**65.74**	**231**	LR		LR	04 28 48.2	
	comp=Z,121nm,18.5s,baz=343,slow=38							
BILL	**Bilibino**	**69.08**	**23**	*e*P		**P**	**03 58 50.1**	**+1.6**
BILL				*e*			03 59 10.8	
BILL				*e*			04 01 21.8	
BILL				*e*PPP		PPP	04 03 01.7	
BILL				pmax		pmax		
	comp=Z,1.0nm,1.1s							
BILL				MLR		MLR		
	comp=Z,216nm,21.0s							
PETK	**Petropavlovsk-**	**69.85**	**40**	LR		LR	04 32 10.3	
	comp=Z,178nm,20.4s,baz=288,slow=38							
DBIC	**Dimbokro**	**70.21**	**268**	P		**P**	**03 58 55.1**	**-1.2**
	comp=Z,6.5nm,1.1s,baz=16,slow=7.5,SNR=4.2							
	comp=Z,6.5nm,1.1s							
GUMO	**Guam**	**73.93**	**83**	LR		LR	04 32 59.7	
	comp=Z,53nm,21.7s,baz=108,slow=37							
SFJD	**Kangerlussuaq**	**75.34**	**339**	LR		LR	04 34 33.5	
	comp=Z,193nm,18.2s,baz=210,slow=37							
WRA	**Warramunga Arr**	**80.65**	**118**	P		**P**	**03 59 57.0**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=316,slow=4.4,SNR=8.2							
	comp=Z,1.5nm,1.0s							
WRA	**Warramunga Arr**	**80.65**	**118**	P		**P**	**03 59 57.0**	**+0.8**
ASAR	**Alice Springs**	**82.34**	**121**	P		**P**	**04 00 05.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=307,slow=5.2,SNR=16							
	comp=Z,0.8nm,0.7s							
ASAR	**Alice Springs**	**82.34**	**121**	P		**P**	**04 00 05.5**	**+0.4**
ASAR	**Alice Springs**	**82.34**	**121**	P		**P**	**04 00 05.5**	**+0.4**
AS31	**Alice Springs**	**82.34**	**121**	P		**P**	**04 00 04.7**	**-0.4**
BMAR	**Burnt Mountain**	**83.26**	**12**	P		**P**	**04 00 09.6**	**+0.3**
INK	**Inuvik**	**84.06**	**7**	P		**P**	**04 00 13.1**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=303,slow=5.1,SNR=4.1							
	comp=Z,2.2nm,0.7s							
ILAR	**Eielson Array**	**85.16**	**14**	P		**P**	**04 00 18.8**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=333,slow=4.4,SNR=1.8							
	comp=Z,0.2nm,0.6s							
YKA	**Yellowknife Ar**	**91.03**	**0**	P		**P**	**04 00 46.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=347,slow=4.7,SNR=9.1							
	comp=Z,0.4nm,0.7s							
YKA	**Yellowknife Ar**	**91.03**	**0**	*e*P		**P**	**04 00 48.5**	**+1.5**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
STKA	**Stephens Creek**	**92.44**	**125**	LR		LR	04 45 25.5	
	comp=Z,54nm,19.4s,baz=225,slow=37							
TXAR	**Lajitas Array**	**123.37**	**350**	PKP		**PKPdf**	**04 06 40.4**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=126,slow=1.2,SNR=1.4							

*IDC **20** 03:57:30.3±2.0,0˚.23N×97˚.71E, h0km, mb3.9/5, mbtmp3.9/6, ML4.8/1, Error ellipse: s-maj=63.6km s-min=20.0km az=63.0*
*DJA **20** 03:57:35.0±0.8,0˚N±4˚×9˚8E±˚, h16km±6km, M3.9/11, mb3.9/1, MLv4.0/11*
ISC 20 03:57:36.0±0.9,**0˚.44N**±0˚.06×**97˚.85E**±0˚.08,**h29km**,**n18,** σ1§**23**/**18**,**mb4.0/5**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.66**	**139**	P		**Pb**	**Sn**	**03 57 48.5**	**-0.5**
PBSI				S		Sn	Sn	03 57 59.5	+0.7
GSI	**Gunungsitoli**	**0.90**	**343**	P		**Pn**	**Sn**	**03 57 52.1**	**-0.6**
GSI				S		Sn	Sn	03 58 07.7	+3.0
MNSI	**Mandailing Nat**	**1.77**	**79**	P		**Pn**	**Pb**	**03 58 06.9**	**-0.9**
SNSI	**Sinabang, Aceh**	**2.47**	**322**	P		**Pn**	**Pb**	**03 58 14.7**	**+0.3**
PSI	**Prapat**	**2.58**	**25**	Pn		**Pn**	**Pn**	**03 58 16.1**	**+0.2**
	1.2nm,0.3s,baz=185,slow=7.3,SNR=8.3								
PSI				Sn		Sn	**Sn**	**03 58 46.4**	**0.0**
	5.9nm,0.3s,baz=229,slow=8.9,SNR=7.3								
PDSI	**Padang**	**2.94**	**117**	P		**Pn**	**Pn**	**03 58 22.5**	**+1.7**
KCSI	**Kotacane, Aceh**	**3.06**	**359**	P		**Pn**	**Pn**	**03 58 23.5**	**+1.1**
SDSI	**Sungai Dareh**	**3.83**	**111**	P		**Pn**	**Pn**	**03 58 34.5**	**+1.4**
PPSI	**Pulau Pagai**	**3.85**	**146**	P		**Pn**	**Pn**	**03 58 33.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.93**	**3**	P		**Pn**	**Pn**	**04 01 43.2**	**-0.2**
	1.1nm,0.3s,baz=194,slow=12,SNR=7.0								
	1.8nm,0.3s								
H08S2	**Diego Garcia H**	**26.53**	**252**	T		T	T	04 30 19.5	
	baz=73,slow=76,SNR=449								
H08S3	**Diego Garcia H**	**26.53**	**252**	T		T	T	04 30 26.6	
	baz=73,slow=76								
H08S1	**Diego Garcia H**	**26.55**	**252**	T		T	T	04 30 19.1	
	baz=73,slow=76								
WRA	**Warramunga Arr**	**41.09**	**122**	P		**P**	**P**	**04 05 15.7**	**-1.9**
	1.0nm,0.8s,baz=301,slow=9.0,SNR=8.7								
	1.0nm,0.8s								
ASAR	**Alice Springs**	**42.43**	**127**	P		**P**	**P**	**04 05 27.4**	**-1.2**
	1.2nm,0.8s,baz=311,slow=7.7,SNR=9.6								
	1.2nm,0.8s								
SONM	**Songino Array**	**47.78**	**8**	P		**P**	**P**	**04 06 11.4**	**+0.6**
	1.1nm,0.8s,baz=196,slow=10.0,SNR=4.5								
	1.1nm,0.8s								
MKAR	**Makanchi Array**	**48.13**	**346**	P		**P**	**P**	**04 06 13.7**	**+0.3**
	1.2nm,0.8s,baz=151,slow=7.5,SNR=11								
	1.2nm,0.8s								
ZALV	**Zalesovo Beam**	**54.40**	**351**	P		**P**	**P**	**04 06 60.0**	**-0.3**
	2.8nm,0.8s,baz=182,slow=6.8,SNR=7.0								
	2.8nm,0.8s								

NEIC 20 04:05:59.6±2.4,**39˚.11N**±0˚.02×**107˚.25W**±0˚.02,**h5**km±1km, **ML2.3**/62,**Error ellipse: s-maj=4.3km s-min=2.5km az=348.0,Colorado**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMCO	**Snowmass**	**0.23**	**72**				Pg	04 06 04.8	+0.6
SMCO						Sg	Sg	04 06 08.3	+1.1
SMCO				IAML				04 06 08.8	
	588nm,0.3s								
SMCO				IAML				04 06 08.9	
	931nm,0.3s								
PV15	**Paradox Valley**	**1.23**	**232**				Pg	04 06 23.0	-0.2
PV15				Sg		Sg	Sg	04 06 39.1	0.0
PV15				IAML				04 06 39.4	
	comp=N,70nm,0.3s								
PV15				IAML				04 06 40.2	
	comp=E,52nm,0.3s								
O20A	**White River Ci**	**1.28**	**324**				Pn	04 06 25.3	+1.0
PV07	**Paradox Valley**	**1.28**	**239**				Pg	04 06 23.9	-0.3
PV07				Sg		Sg	Sg	04 06 40.4	-0.3
PV07				IAML				04 06 43.1	
	comp=N,36nm,0.1s								
S22A	**4UR Ranch, Cre**	**1.40**	**166**				Pb	04 06 26.3	0.0
S22A				Sg		Sg	Sg	04 06 44.3	-0.2
ISCO	**Idaho Springs**	**1.44**	**61**				Pg	04 06 27.6	+0.4
PV11	**David Mesa, Pa**	**1.50**	**238**				Pg	04 06 28.5	+0.1
PV23	**Carpenter Ridg**	**1.52**	**245**				Pg	04 06 29.1	+0.3
PV23							Sn	04 06 47.7	-0.4
PV23				IAML				04 06 58.0	
	comp=E,38nm,0.5s								
PV13	**Radium Mtn., P**	**1.55**	**233**				Pb	04 06 28.9	0.0
PV13							Sb	04 06 48.9	-0.1
PV13				IAML				04 06 50.4	
	comp=E,34nm,3.5s								
PV13				IAML				04 06 56.2	
	comp=N,28nm,0.7s								
PV10	**Paradox Valley**	**1.58**	**243**				Pg	04 06 30.1	+0.3
PV10				IAML				04 06 53.4	
	comp=E,38nm,0.2s								
PV10				IAML				04 06 57.1	
	comp=N,39nm,0.7s								
Q24A	**Divide**	**1.64**	**94**				Pg	04 06 31.1	0.0
SDCO	**Great Sand Dun**	**1.93**	**134**				Pb	04 06 35.0	-0.5
N23A	**Red Feather La**	**2.05**	**29**				Pb	04 06 37.6	+0.2
MVCO	**Mesa Verde**	**2.13**	**208**				Pn	04 06 37.1	+1.0
MVCO				IAML				04 07 12.3	
	comp=N,13nm,3.4s								
RDMU	**Red Mountain**	**2.31**	**310**				Pn	04 06 39.5	+1.0
RDMU				IAML				04 07 14.4	
	comp=E,16nm,0.7s								
RDMU				IAML				04 07 15.0	
	comp=N,12nm,0.6s								
P18A	**Preston Nutter**	**2.38**	**284**				Pn	04 06 40.6	+1.1
P18A				IAML				04 07 15.7	
	comp=E,26nm,0.2s								
P18A				IAML				04 07 18.6	
	comp=N,29nm,0.5s								
SRU	**San Rafael Swe**	**2.54**	**271**				Pn	04 06 42.9	+1.2
SRU				IAML				04 07 19.1	
	comp=N,18nm,0.4s								
SRU				IAML				04 07 22.8	
	comp=E,14nm,0.6s								
RWWY	**Rawlins**	**2.58**	**1**	Pn		Pn	Pn	04 06 43.5	+1.3
RWWY				IAML				04 07 42.7	
	comp=E,9.5nm,4.2s								
RWWY				IAML				04 07 58.6	
	comp=E,10nm,4.7s								
BRIGG	**Briggsdale**	**2.69**	**56**	Pn		Pn	Pn	04 06 43.6	-0.1
BRIGG				IAML				04 07 26.4	
	comp=E,17nm,3.8s								
BRIGG				IAML				04 08 23.4	
	comp=N,16nm,4.2s								
P17A	**Butcher Ranch,**	**2.73**	**279**	Pn		Pn	Pn	04 06 44.1	-0.1
P17A				IAML				04 07 24.9	
	comp=E,17nm,0.3s								
P17A				IAML				04 07 25.5	
	comp=N,14nm,0.4s								
Q16A	**Castle Valley**	**3.06**	**268**	Pn		Pn	Pn	04 06 47.6	-1.2
Q16A				IAML				04 07 34.6	
	comp=N,7.9nm,0.4s								
Q16A				IAML				04 07 42.5	
	comp=E,9.7nm,4.5s								
TMUT	**Trail Mountain**	**3.08**	**275**				Pn	04 06 49.0	-0.2
TMUT				IAML				04 07 42.5	
	comp=N,12nm,0.5s								
TMUT				IAML				04 08 11.8	
	comp=E,14nm,5.0s								
JLU	**Jordanelle**	**3.56**	**296**				Pn	04 06 56.2	+0.5
JLU				IAML				04 08 07.3	
	comp=E,6.8nm,3.2s								
JLU				IAML				04 08 51.6	
	comp=N,7.2nm,4.8s								
TCUT	**Toone Canyon**	**3.77**	**304**	Pn		Pn	Pn	04 06 58.7	+0.2
NLU	**North Lily Min**	**3.82**	**284**	Pn		Pn	Pn	04 07 00.8	+1.5
MSU	**Marysvale**	**3.89**	**263**				Pn	04 07 02.4	+2.1
MVU	**Marysvale**	**3.92**	**263**				Pn	04 07 02.0	+1.4
MTPU	**Mount Pierson**	**4.01**	**256**	Pn		Pn	Pn	04 07 01.6	-0.4
MTPU				IAML				04 08 33.8	
	comp=N,6.4nm,4.2s								
PDAR	**Pinedale Array**	**4.05**	**335**	Pn		Pn	Pn	04 07 04.7	+2.3
BW06	**Boulder Array**	**4.05**	**335**	Pn		Pn	Pn	04 07 02.3	-0.1
BW06				IAML				04 07 31.2	
	comp=N,4.8nm,5.0s								
BW06				IAML				04 07 34.8	
	comp=N,5.9nm,5.0s								
TCRU	**Three Creeks R**	**4.09**	**265**				Pn	04 07 04.8	+1.9
W18A	**Petrified Fore**	**4.45**	**207**	Pn		Pn	Pn	04 07 07.1	-0.7
KNB	**Kanab**	**4.87**	**246**	Pn		Pn	Pn	04 07 13.1	-0.5

*IDC **20** 04:08:27.1±10.0,3˚.71N×127˚.06E, h0km, mb4.3/3, mbtmp4.3/3, MS3.8/1, Error ellipse: s-maj=185.8km s-min=167.3km az=93.0*
*DJA **20** 04:08:32.8±0.5,3˚N±5˚×12˚6E±˚, h10km, M4.1/9, mb4.2/3, mB5.4/2, MLv4.0/9, Mw(mB)4.9/2*
ISC 20 04:08:32.0±1.2,**3.02N**±0.10×**125˚.94E**±0˚.08,**h10km**,**n11,** σ0§**90**/**10**,**mb4.2**/**3**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.78**	**328**	P		**Pg**		**04 08 47.5**	**+0.4**
TNTI	**Ternate**	**2.65**	**147**	P		**Pn**		**04 09 15.9**	**+1.1**
GTOI	**Gorontalo**	**3.76**	**231**	P		**Pn**		**04 09 31.0**	**+0.8**
MRSI	**Marisa**	**4.73**	**238**	P		**Sn**		**04 10 39.6**	**+1.3**
MRSI	**Marisa**	**4.73**	**238**	P		**Pn**		**04 09 42.9**	**-0.5**
SANI	**Sanana**	**5.03**	**179**	P		**Pn**		**04 09 47.5**	**-0.1**
	15nm,0.6s,0.1nm								
MPSI	**Mapaga**	**6.60**	**246**	P		Pb		04 10 22.2	-4.8
MPSI	**Mapaga**	**6.60**	**246**	P		**Pn**		**04 10 09.0**	**-0.2**
WRA	**Warramunga Arr**	**24.26**	**160**	P		**P**		**04 13 48.5**	**-1.1**
	4.4nm,0.5s,baz=344,slow=9.7,SNR=105								
	4.4nm,0.5s								
ASAR	**Alice Springs**	**27.63**	**164**	P		**P**		**04 14 19.7**	**-0.4**
	0.9nm,0.3s,baz=348,slow=9.6,SNR=17								
ASAR				LR		LR		04 25 13.8	
	comp=Z,178nm,20.3s,baz=106,slow=36								
	0.9nm,0.3s								
STKA	**Stephens Creek**	**37.76**	**158**	P		**P**		**04 15 47.7**	**-0.6**
	1.6nm,0.4s,baz=337,slow=8.3,SNR=5.9								
	1.6nm,0.4s								

*IDC **20** 04:10:29.0±5.1,7˚.71S×106˚.94E, h72km±40km, mb3.4/5, mbtmp3.7/5, MS3.3/1, Error ellipse: s-maj=65.6km s-min=20.5km az=57.0*
*DJA **20** 04:10:29.2±0.7,8˚S±5˚×107˚E±˚, h19km±5km, M3.9/15, mb3.6/3, MLv4.0/15*
ISC 20 04:10:29.8±1.0,**7.78S**±0.09×**107˚.27E**±0˚.06,**h62**km,**n28,** σ1§**50**/**24**,**mb3.6**/**5**,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.49**	**343**	P		**Pn**		**04 10 41.8**	**0.0**
CNJI				S		**Sn**		**04 10 48.1**	**-2.5**
LEM	**Lembang**	**1.01**	**20**	P		**Pn**		**04 10 48.6**	**+0.3**
	1µm,0.5s,baz=275,slow=3.4,SNR=112								
LEM				S		**Sn**		**04 11 04.3**	**+2.5**
	897nm,0.5s,baz=220,slow=17,SNR=12								
LEM	**Lembang**	**1.01**	**20**	P		**Pn**		**04 10 48.5**	**+0.3**
SKJI	**Sukabumi**	**1.05**	**317**	P		**Pn**		**04 10 49.3**	**+0.8**
SKJI				S		**Sn**		**04 11 04.7**	**+2.3**
CMJI	**Cimerak**	**1.17**	**90**	P		**Pn**		**04 10 49.8**	**-0.3**
KPJI	**Karang Pucung**	**1.71**	**75**	P		**Pn**		**04 10 57.5**	**+0.2**
CGJI	**Cibinong**	**1.95**	**306**	P		**Pn**		**04 11 01.0**	**+0.4**
SBJI	**Serang**	**2.00**	**325**	P		**Pn**		**04 11 02.0**	**+0.7**
YOGI	**Yogyakarta**	**3.00**	**91**	P		**Pn**		**04 11 15.1**	**+0.2**
UGM	**Wanagama**	**3.23**	**93**	P		**Pn**		**04 11 18.3**	**+0.2**
SMRI	**Semarang**	**3.23**	**77**	P		**Pn**		**04 11 18.5**	**+0.4**
KASI	**Kota Agung**	**3.55**	**309**	P		**Pn**		**04 11 23.7**	**+1.2**
MDSI	**Maura Dua**	**4.49**	**317**	P		**Pn**		**04 11 36.6**	**+1.2**
PWJI	**Pagerwojo**	**4.50**	**93**	P		**Pn**		**04 11 36.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**6.85**	**96**	P		**Pn**		**04 12 09.2**	**+1.5**
	25nm,0.6s,0.1nm								
PLAI	**Plampang**	**10.45**	**96**	P		**Pn**		**04 12 58.4**	**+1.5**
	18nm,1.4s								
H01W3	**Cape Leeuwin H**	**27.70**	**168**	T		T	T	04 46 00.6	
	baz=348								
H01W1	**Cape Leeuwin H**	**27.71**	**168**	T		T	T	04 46 02.0	
	baz=348								
H01W2	**Cape Leeuwin H**	**27.72**	**168**	T		T	T	04 46 02.8	
	baz=348								
WRA	**Warramunga Arr**	**28.87**	**118**	P		**P**		**04 16 22.8**	**-0.1**
	0.4nm,0.8s,baz=290,slow=11,SNR=3.0								
	0.4nm,0.8s								
ASAR	**Alice Springs**	**30.02**	**125**	P		**P**		**04 16 33.8**	**+0.8**
	0.2nm,0.3s,baz=307,slow=9.2,SNR=2.0								
	0.2nm,0.3s								
H08S2	**Diego Garcia H**	**34.46**	**268**	T		T	T	04 52 50.9	
	baz=93								
H08S3	**Diego Garcia H**	**34.47**	**268**	T		T	T	04 52 52.5	
	baz=93								
H08S1	**Diego Carcia H**	**34.48**	**268**	T		T	T	04 52 57.0	
	baz=93								
STKA	**Stephens Creek**	**39.92**	**132**	P		**P**		**04 17 59.4**	**+1.3**
	2.9nm,0.4s,baz=303,slow=8.3,SNR=9.8								
	2.9nm,0.4s								
MJAR	**Matsushiro Arr**	**52.79**	**31**	LR		LR	LR	04 40 03.0	
	comp=Z,30nm,21.6s,baz=132,slow=34								
MKAR	**Makanchi Array**	**58.71**	**340**	P		**P**		**04 20 18.5**	**-2.6**
	0.3nm,0.6s,baz=135,slow=6.0,SNR=2.5								
	0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**64.35**	**345**	P		**P**		**04 20 55.6**	**-3.3**
	0.5nm,0.3s,baz=137,slow=7.2,SNR=4.4								
	0.5nm,0.3s								

IDC 20 04:11:05.8±2.1,**46˚.94N**×**27˚.35W**,**h0km**,**mb3.6**/3, **mbtmp3.6**/3,**MS3.6**/5,**Error ellipse: s-maj=76.2km s-min=35.2km az=49.0,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.46**	**105**	LR		LR	LR	04 21 11.6	
	comp=Z,142nm,21.2s,baz=265,slow=33								
KEST	**Kesra**	**29.48**	**99**	LR		LR	LR	04 27 41.7	
	comp=Z,192nm,19.1s,baz=336,slow=34								
TORD	**Torodi Ar. Bea**	**41.57**	**135**	P		P	P	04 18 55.1	-0.1
	1.2nm,0.3s,baz=331,slow=9.4,SNR=2.1								
	1.2nm,0.3s								
SJG	**San Juan**	**42.87**	**241**	LR		LR	LR	04 32 24.8	
	comp=Z,49nm,21.8s,baz=54,slow=30								
TKL	**Tuckaleechee C**	**43.01**	**276**	LR		LR	LR	04 34 24.3	
	comp=Z,89nm,21.7s,baz=48,slow=32								
YKA	**Yellowknife Ar**	**48.68**	**322**	P		P	P	04 19 51.1	-0.1
	0.1nm,0.4s,baz=67,slow=7.3,SNR=3.5								
	0.1nm,0.4s								
TXAR	**Lajitas Array**	**60.23**	**282**	LR		LR	LR	04 46 24.8	
	comp=Z,88nm,18.9s,baz=7.0,slow=35								
MKAR	**Makanchi Array**	**68.22**	**44**	P		P	P	04 22 08.0	0.0
	0.3nm,0.7s,baz=305,slow=5.1,SNR=4.1								
	0.3nm,0.7s								

*IDC **20** 04:12:18.9±2.5,33˚.87N×140˚.40E, h0km, mb3.3/2, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=81.9km s-min=25.9km az=70.0*
*JMA **20** 04:12:22.2±0.3,34˚.2N±0˚.8×14˚1E±˚, h53km±3km, MV3.1/38, FAR 5 OFF BOSO PENINSULA*
ISC 20 04:12:23.0±1.4,**34˚.16N**±0˚.05×**140˚.81E**±0˚.08,**h48**km±16km, **n19,** σ0§**49**/**22**,**Near coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.52**	**15**	P		**Pn**		**04 12 33.6**	**-0.2**
BSO1				X				04 12 43.4	
BSO3	**Boso 3**	**0.69**	**339**	P		**Pn**		**04 12 36.6**	**+0.3**
BSO3				X				04 12 47.1	
BSO4	**Boso 4**	**0.92**	**335**	P		**Pn**		**04 12 40.0**	**+0.4**
JMKN	**Mikurajimanish**	**1.05**	**256**	P		**Pn**		**04 12 41.3**	**0.0**
JMKN				S		**Sn**		**04 12 55.1**	**+0.3**
JMYK	**Miyake Tsubota**	**1.05**	**265**	P		**Pn**		**04 12 41.5**	**+0.2**
JIM2	**Oshima 3**	**1.27**	**297**	P		**Pn**		**04 12 43.7**	**-0.7**
JTHY	**Toshimahigashi**	**1.31**	**287**	P		**Pn**		**04 12 45.0**	**+0.1**
JHJ2	**Mitsune**	**1.33**	**219**	P		**Pn**		**04 12 44.9**	**-0.3**
JHJ2				S		**Sn**		**04 13 02.1**	**+0.4**
JKO	**Kozu shima**	**1.39**	**272**	P		**Pn**		**04 12 46.0**	**+0.1**
JSMT	**Sammumatsuo**	**1.51**	**349**	*e*P		**Pn**		**04 12 47.6**	**-0.1**
KTJ3	**Kamata3**	**1.63**	**299**	P		**Pn**		**04 12 48.8**	**-0.5**
KTJ3				S		**Sn**		**04 13 07.9**	**-1.3**
JIZS	**Izushimoda**	**1.69**	**290**	P		**Pn**		**04 12 50.4**	**+0.3**
JIZS				*e*S		**Sn**		**04 13 11.0**	**+0.4**
JOD2	**Odawara 2**	**1.80**	**308**	P		**Pn**		**04 12 51.4**	**-0.2**
JOD2				*e*S		**Sn**		**04 13 12.9**	**-0.4**
MJAR	**Matsushiro Arr**	**3.19**	**319**	Pn		**Pn**		**04 13 11.2**	**+0.4**
	0.5nm,0.3s,baz=150,slow=13,SNR=11								
MJAR				Sn		**Sn**		**04 13 48.2**	**+0.6**
	0.6nm,0.3s,baz=142,slow=23,SNR=3.6								
	3.5nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**27.23**	**115**	T		T		04 47 13.9	
	baz=306,slow=74								
H11N1	**WAKE ISLAND Hy**	**27.24**	**115**	T		T		04 46 59.0	
	baz=306,slow=74								
H11N3	**WAKE ISLAND Hy**	**27.25**	**115**	T		T		04 46 59.8	
	baz=306								
WRA	**Warramunga Arr**	**54.15**	**188**	P		**P**		**04 21 43.7**	**+0.3**
	0.2nm,0.4s,baz=3.3,slow=7.6,SNR=6.6								
	0.2nm,0.4s								
ASAR	**Alice Springs**	**57.88**	**187**	P		**P**		**04 22 09.7**	**-0.3**
	0.3nm,0.9s,baz=11,slow=6.7,SNR=1.3								
	0.3nm,

	5.6nm,0.1s							
SATY				*e*S		**Sb**	**04 46 46.1**	**-0.6**
	14nm,0.1s							
ZHN	**Zhinishke**	**1.13**	**359**	P		**Pb**	**04 46 33.8**	**-0.8**
	2.7nm,0.1s							
ZHN				S		**Sb**	**04 46 49.6**	**-0.2**
	14nm,0.1s							
ZHN	**Zhinishke**	**1.13**	**359**	*e*P		**Pb**	**04 46 33.8**	**-0.8**
	2.7nm,0.1s							
ZHN				*e*S		**Sb**	**04 46 49.6**	**-0.2**
	21nm,0.1s							
UZB	**Uzynbulak**	**1.18**	**21**	P		**Pg**	**04 46 33.5**	**-1.3**
	3.0nm,0.1s							
UZB				S		**Sg**	**04 46 49.1**	**-1.1**
	3.6nm,0.1s							
UZB	**Uzynbulak**	**1.18**	**21**	*e*P		**Pg**	**04 46 33.5**	**-1.3**
	2.7nm,0.1s							
UZB				*e*S		**Sg**	**04 46 49.1**	**-1.1**
	6.4nm,0.1s							
SHLS	**Shalkode**	**1.34**	**33**	P		**Pb**	**04 46 40.1**	**+1.9**
	4.7nm,0.2s							
SHLS				S		**Sn**	**04 47 00.4**	**+3.6**
	156nm,0.3s							
SHLS	**Shalkode**	**1.34**	**33**	*e*P		**Pb**	**04 46 40.1**	**+1.9**
	3.6nm,0.1s							
SHLS				*e*S		**Sn**	**04 47 00.4**	**+3.6**
	196nm,0.2s							
TNSS	**Tian-Shan**	**1.49**	**312**	P		**Pg**	**04 46 40.4**	**-0.3**
	2.5nm,0.2s							
TNSS				S		**Sn**	**04 47 01.1**	**+0.1**
	13nm,0.3s							
TNSS	**Tian-Shan**	**1.49**	**312**	*e*P		**Pg**	**04 46 40.1**	**-0.6**
	2.7nm,0.1s							
TNSS				*e*S		**Sg**	**04 47 00.6**	**+0.5**
	13nm,0.2s							
MDOK	**Medeo**	**1.53**	**318**	P		**Pn**	**04 46 38.3**	**-2.5**
	0.6nm,0.3s							
MDOK				Pg		**Pb**	**04 46 40.8**	**-0.6**
	2.1nm,0.2s							
MDOK				Lg		Lg	04 47 02.2	
	5.9nm,0.2s							
MDOK				S		**Sg**	**04 47 02.2**	**+1.1**
	5.9nm,0.5s							
MDOK	**Medeo**	**1.53**	**318**	*e*P		**Pg**	**04 46 41.0**	**-0.4**
	2.1nm,0.2s							
MDOK				*e*S		**Sg**	**04 47 01.9**	**+0.8**
	6.8nm,0.2s							
KOTS	**Kotyrbulak**	**1.55**	**321**	P		**Pg**	**04 46 41.3**	**-0.4**
	2.1nm,0.2s							
KOTS				S		**Sg**	**04 47 02.5**	**+0.7**
	19nm,0.2s							
KOTS	**Kotyrbulak**	**1.55**	**321**	*e*P		**Pg**	**04 46 41.4**	**-0.4**
	2.8nm,0.2s							
KOTS				*e*S		**Sg**	**04 47 02.5**	**+0.7**
	26nm,0.2s							
ULHL	**Ulahol**	**1.66**	**278**	⇓*i*P		**Pb**	**04 46 42.6**	**-1.0**
	baz=82							
ULHL				⇓*i*S		**Sg**	**04 47 05.7**	**+0.4**
	baz=82							
MTBS	**Maitube**	**1.85**	**307**	P		**Pb**	**04 46 46.4**	**-0.4**
	4.7nm,0.2s							
MTBS				S		**Sg**	**04 47 11.9**	**+0.4**
	12nm,0.3s							
MTBS	**Maitube**	**1.85**	**307**	*e*P		**Pb**	**04 46 46.4**	**-0.4**
	4.7nm,0.2s							
MTBS				*e*S		**Sb**	**04 47 11.3**	**+0.7**
	13nm,0.1s							
KST	**Kastek**	**2.09**	**299**	Pg		**Pb**	**04 46 50.9**	**-0.1**
	2.9nm,0.3s							
KST				Lg		Lg	04 47 18.9	
	20nm,0.4s							
KST	**Kastek**	**2.09**	**299**	*e*Pg		**Pb**	**04 46 50.9**	**-0.1**
	2.9nm,0.1s							
KST				*e*Lg		Lg	04 47 18.9	
	20nm,0.2s							
CHKK	**Chushkaly**	**2.11**	**330**	Pg		**Pb**	**04 46 51.2**	**+0.1**
	4.0nm,0.3s							
CHKK				Lg		Lg	04 47 19.8	
	30nm,0.2s							
CHKK	**Chushkaly**	**2.11**	**330**	*e*Pg		**Pb**	**04 46 51.2**	**+0.1**
	3.1nm,0.1s							
CHKK				*e*Lg		Lg	04 47 19.6	
	36nm,0.2s							
KTBS	**Karatobe**	**2.12**	**323**	Pg		**Pg**	**04 46 51.8**	**-0.8**
	2.6nm,0.2s							
KTBS				Lg		Lg	04 47 20.5	
	38nm,0.2s							
KTBS	**Karatobe**	**2.12**	**323**	*e*Pg		**Pg**	**04 46 51.8**	**-0.8**
	2.6nm,0.2s							
KTBS				*e*Lg		Lg	04 47 20.5	
	39nm,0.6s							
ARXS	**Arharly**	**2.22**	**348**	Pg		**Pb**	**04 46 52.5**	**-0.6**
	4.5nm,0.2s							
ARXS				Lg		Lg	04 47 21.6	
	6.4nm,0.4s							
ARXS	**Arharly**	**2.22**	**348**	*e*Pg		**Pb**	**04 46 52.5**	**-0.6**
	4.6nm,0.1s							
ARXS				*e*Lg		Lg	04 47 21.6	
	13nm,0.2s							
TKM2	**Tokmak 2**	**2.29**	**294**	⇑Pg		**Pb**	**04 46 53.0**	**-1.3**
	2.2nm,0.3s							
TKM2				⇑Lg		Lg	04 47 25.3	
	3.1nm,0.3s							
TKM2	**Tokmak 2**	**2.29**	**294**	⇑*i*P		**Pb**	**04 46 52.8**	**-1.6**
	baz=97							
TKM2				⇑*i*S		**Sb**	**04 47 23.6**	**+0.3**
	baz=97							
DGS	**Degeres**	**2.31**	**302**	Pg		**Pg**	**04 46 55.3**	**-1.1**
	2.3nm,0.4s							
DGS				Lg		Lg	04 47 26.5	
	17nm,0.4s							
DGS	**Degeres**	**2.31**	**302**	*e*Pg		**Pb**	**04 46 54.3**	**-0.4**
	3.5nm,0.3s							
DGS				*e*Lg		Lg	04 47 25.0	
	17nm,0.4s							
KUU	**Kurty**	**2.42**	**321**	Pg		**Pb**	**04 46 56.8**	**+0.4**
	1.6nm,0.2s							
KUU				Lg		Lg	04 47 29.1	
	15nm,0.4s							
KUU	**Kurty**	**2.42**	**321**	*e*Pg		**Pb**	**04 46 55.9**	**-0.5**
	1.6nm,0.1s							
KUU				*e*Lg		Lg	04 47 29.1	
	15nm,0.3s							
DJR	**Jarkent**	**2.49**	**23**	Pg		**Pb**	**04 46 55.8**	**-2.0**
	3.1nm,0.2s							
DJR				Lg		Lg	04 47 27.2	
	15nm,0.3s							
DJR	**Jarkent**	**2.49**	**23**	*e*Pg		**Pb**	**04 46 55.8**	**-2.0**
	3.1nm,0.1s							
DJR				*e*Lg		Lg	04 47 29.8	
	15nm,0.2s							
KRBS	**Karabastau**	**2.63**	**310**	Pg		**Pb**	**04 47 00.4**	**+0.3**
	1.5nm,0.2s							
KRBS				Lg		Lg	04 47 35.2	
	9.1nm,0.4s							
KRBS	**Karabastau**	**2.63**	**310**	*e*Pg		**Pb**	**04 47 00.4**	**+0.3**
	1.5nm,0.1s							
KRBS				*e*Lg		Lg	04 47 35.2	
	9.1nm,0.2s							
UCH	**Uchtor**	**2.94**	**275**	⇑*i*P		**Pn**	**04 47 01.5**	**+1.1**
	baz=77							
UCH				⇑*i*S		**Sn**	**04 47 38.7**	**+2.1**
	baz=77							
SGDS	**Sogindy**	**3.15**	**298**	Pg		**Pb**	**04 47 09.3**	**+0.3**
	0.6nm,0.2s							
SGDS				Lg		Lg	04 47 50.7	
	3.4nm,0.2s							
AML	**Almayashu**	**3.54**	**273**	⇓*e*P		**Pn**	**04 47 09.8**	**+1.1**
	baz=75							
AML				⇓*i*S		**Sn**	**04 47 53.0**	**+1.5**
	baz=75							

*SNET **20** 04:53:04.8±0.9, 13°.77N×91°.20W, h15km±5km, ML3.8*
*GCG **20** 04:53:09.0±0.4, 14°.17N×91°.32W, h52km±7km, MD3.6*
ISC 20 04:53:04.3±2.2, 13°.7N±0°.1×91°.30W±0°.07, h25km±17km, n19, σ0s87/29, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.64**	**336**	*e*P	**Pb**	**04 53 17.9**	**+0.9**
SULM				*e*S	**Sb**	**04 53 25.0**	**-0.5**
FUG	**Fuego 3**	**0.85**	**31**	*e*P	**Pn**	**04 53 21.1**	**+0.1**
STG3	**Santiaguito 3,**	**1.03**	**345**	*e*P	**Pn**	**04 53 22.0**	**-1.4**
NBG	**Las Nubes**	**1.27**	**47**	*e*P	**Pb**	**04 53 28.2**	**+0.4**
NBG				*e*S	**Sb**	**04 53 44.9**	**+1.2**
NUBE	**Las Nubes**	**1.49**	**83**	*e*P	**Pn**	**04 53 28.8**	**-0.8**
NUBE				*e*S	**Sn**	**04 53 47.5**	**-0.9**

SLOZ	**Alcaldia de Sa**	**1.50**	**78**	*e*P		**Pn**	**04 53 29.5**	**-0.3**
SLOZ				*e*S		**Sb**	**04 53 48.9**	**-1.4**
CEVE	**Cerro Verde**	**1.63**	**86**	*e*P		**Pn**	**04 53 31.4**	**-0.3**
CEVE				*e*S		**Sb**	**04 53 53.4**	**-0.8**
CEVE				IAML			04 54 01.9	
	comp=Z,2μm,0.3s							
JAYA	**Jayaque - finc**	**1.80**	**92**	*e*P		**Pn**	**04 53 33.3**	**-0.7**
JAYA				*e*S		**Sn**	**04 53 56.2**	**+0.1**
JAYA				IAML			04 54 00.2	
	comp=Z,1μm,0.3s							
CEDA	**San Andres**	**1.85**	**87**	*e*P		**Pn**	**04 53 34.6**	**0.0**
CEDA				*e*S		**Sb**	**04 53 57.8**	**-2.5**
UEES	**Universidad Ev**	**2.00**	**90**	*e*P		**Pn**	**04 53 36.9**	**+0.2**
SJTE	**Alcalda de S**	**2.23**	**92**	*e*P		**Pn**	**04 53 40.2**	**+0.3**
PAVA	**Las Pavas**	**2.29**	**90**	*e*P		**Pn**	**04 53 41.2**	**+0.4**
PAVA				*e*S		**Sn**	**04 54 08.3**	**0.0**
COEG	**Centro de Oper**	**2.35**	**92**	*e*P		**Pn**	**04 53 42.1**	**+0.6**
COEG				IAML			04 54 19.9	
	comp=Z,531nm,0.4s							
SCLA	**Alcaldia de Sa**	**2.50**	**90**	*e*P		**Pn**	**04 53 44.0**	**+0.5**
PQSS	**Presa 15 de Se**	**2.66**	**92**	*e*P		**Pn**	**04 53 45.6**	**-0.1**
ALJI	**Alcalda de J**	**2.68**	**98**	*e*P		**Pn**	**04 53 45.5**	**-0.5**
COEB	**Comit de Eme**	**2.70**	**94**	*e*P		**Pn**	**04 53 46.7**	**+0.3**
COEB				*e*S		**Sn**	**04 54 19.0**	**+0.7**
FAGO	**Alcalda de S**	**3.10**	**90**	*e*P		**Pn**	**04 53 52.3**	**+0.5**
LCND	**La Caada**	**3.34**	**97**	*e*P		**Pn**	**04 53 55.3**	**+0.2**
LCND				*e*S		**Sn**	**04 54 35.2**	**+1.3**
LCND				IAML			04 54 42.1	
	comp=Z,180nm,0.5s							

*IDC **20** 05:07:56.7±2.6, 10°.43S×161°.31E, h64km±22km, mb3.6/7, mbtmp3.9/8, Error ellipse: s-maj=31.7km s-min=19.3km az=51.0*
ISC 20 05:07:56.0±0.8, 10°.6S±0°.1×161°.3E±0°.1, h61km, n9, σ1s84/11, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.72**	**310**	P	**Pn**	**05 08 22.8**	**-1.0**
	4μm,0.3s,baz=152,slow=3.8,SNR=17						
HNR				S	**Sn**	**05 08 44.6**	**-0.1**
	15μm,0.4s,baz=42,slow=22,SNR=14						
DZM	**Mont Dzumac**	**12.48**	**157**	P	**Pn**	**05 10 53.7**	**+2.7**
	0.9nm,0.3s,baz=311,slow=19,SNR=12						
DZM				S	**Sn**	**05 13 04.5**	**-3.9**
	0.9nm,0.5s,baz=315,slow=20,SNR=1.0						
WRA	**Warramunga Arr**	**27.58**	**247**	P	**P**	**05 13 38.5**	**+0.8**
	0.5nm,0.6s,baz=76,slow=8.9,SNR=6.5						
	0.5nm,0.6s						
SONM	**Songino Array**	**75.72**	**325**	P	**P**	**05 19 35.9**	**+0.7**
	1.1nm,0.6s,baz=132,slow=6.2,SNR=7.3						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**84.48**	**20**	P	**P**	**05 20 21.3**	**-0.6**
	0.3nm,0.4s,baz=244,slow=5.0,SNR=13						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**89.08**	**51**	P	**P**	**05 20 46.0**	**+0.9**
	0.4nm,0.7s,baz=258,slow=4.5,SNR=2.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**90.18**	**318**	P	**P**	**05 20 50.0**	**+0.2**
	0.3nm,0.7s,baz=96,slow=5.4,SNR=2.5						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**90.61**	**325**	P	**P**	**05 20 51.0**	**-0.6**
	0.4nm,0.4s,baz=114,slow=3.5,SNR=2.5						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**05 21 18.0**	**-0.8**
	0.3nm,0.6s,baz=264,slow=4.8,SNR=6.8						
	0.3nm,0.6s						

*IDC **20** 05:21:08.7±0.6, 56°.69S×150°.60W, h0km, mb4.2/7, mbtmp4.2/7, MS3.5/4, Error ellipse: s-maj=37.6km s-min=18.1km az=9.0*
ISC 20 05:21:10.2±0.8, 56°.7S±0°.3×150°.6W±0°.1, h10km, n30, σ0s83/13, mb4.3/7, MS3.4/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**26.51**	**201**	LR	LR	05 34 34.3	
	comp=Z,78nm,21.3s,baz=69,slow=30						
QSPA	**South Pole Qui**	**33.48**	**180**	P	**P**	**05 27 49.1**	**-0.2**
	3.5nm,0.9s,baz=92,slow=3.8,SNR=8.6						
	3.5nm,0.9s						
RPN	**Rapa Nui**	**41.57**	**62**	LR	LR	05 41 40.7	
	comp=Z,56nm,20.9s,baz=230,slow=30						
STKA	**Stephens Creek**	**52.02**	**268**	P	**P**	**05 30 20.9**	**+1.3**
	3.1nm,0.8s,baz=125,slow=11,SNR=5.1						
	3.1nm,0.8s						
PLCA	**Paso Flores**	**52.07**	**108**	P	**P**	**05 30 20.9**	**+0.9**
	2.9nm,0.9s,baz=220,slow=7.8,SNR=8.2						
PLCA				LR	LR	05 46 54.2	
	comp=Z,35nm,20.3s,baz=180,slow=30						
	2.9nm,0.9s						
H03S2	**Juan Fernandez**	**52.64**	**96**	T	T	06 27 14.4	
	baz=219,slow=74,SNR=5.6						
H03S1	**Juan Fernandez**	**52.65**	**96**	T	T	06 27 19.2	
	baz=219,slow=74,SNR=5.6						
H03S3	**Juan Fernandez**	**52.66**	**96**	T	T	06 27 15.9	
	baz=219,slow=74,SNR=6.1						
H03N3	**Juan Fernandez**	**52.93**	**96**	T	T	06 27 34.5	
	baz=222,slow=72,SNR=112						
H03N2	**Juan Fernandez**	**52.93**	**96**	T	T	06 27 40.4	
	baz=222,slow=72,SNR=104						
H03N1	**Juan Fernandez**	**52.95**	**96**	T	T	06 27 38.7	
	baz=222,slow=72,SNR=140						
ASAR	**Alice Springs**	**62.65**	**268**	P	**P**	**05 31 34.3**	**-0.6**
	2.4nm,0.6s,baz=139,slow=6.5,SNR=17						
	2.4nm,0.6s						
H01W1	**Cape Leeuwin H**	**64.33**	**245**	T	T	06 41 54.8	
	baz=142,slow=75,SNR=6.6						
H01W2	**Cape Leeuwin H**	**64.34**	**245**	T	T	06 41 51.7	
	baz=142,slow=75,SNR=7.2						
H01W3	**Cape Leeuwin H**	**64.35**	**245**	T	T	06 41 56.5	
	baz=142,slow=75,SNR=5.9						
WRA	**Warramunga Arr**	**65.39**	**271**	P	**P**	**05 31 52.1**	**-0.8**
	0.9nm,0.8s,baz=148,slow=6.1,SNR=5.5						
	0.9nm,0.8s						
CPUP	**Villa Florida**	**70.13**	**108**	P	**P**	**05 32 21.9**	**-0.8**
	4.0nm,0.9s,baz=222,slow=9.3,SNR=7.7						
	4.0nm,0.9s						
NNA	**Nana**	**71.13**	**83**	LR	LR	05 55 56.2	
	comp=Z,53nm,21.4s,baz=258,slow=29						
LPAZ	**La Paz**	**72.41**	**93**	P	**P**	**05 32 37.5**	**+0.2**
	3.5nm,0.8s,baz=224,slow=10,SNR=14						
	3.5nm,0.8s						
H10S3	**ASCENSION HYDR**	**105.24**	**135**	T	T	07 33 25.5	
	baz=16,slow=74,SNR=32						
H10S2	**ASCENSION HYDR**	**105.24**	**135**	T	T	07 33 24.2	
	baz=204,slow=74,SNR=14						
H10N3	**ASCENSION HYDR**	**106.31**	**134**	T	T	07 34 45.8	
	baz=204,slow=75,SNR=45						
H10N1	**ASCENSION HYDR**	**106.32**	**134**	T	T	07 34 54.9	
	baz=204,slow=75,SNR=128						
H10N2	**ASCENSION HYDR**	**106.33**	**134**	T	T	07 34 47.0	
	baz=204,slow=75,SNR=80						
ILAR	**Eielson Array**	**121.15**	**2**	PKP	**PKiKP**	**05 40 01.9**	**+0.2**
	1.7nm,0.8s,baz=202,slow=4.7,SNR=16						
YKA	**Yellowknife Ar**	**122.08**	**19**	PKP	**PKPdf**	**05 40 02.7**	**-0.7**
	0.8nm,1.1s,baz=197,slow=3.0,SNR=5.5						
MKAR	**Makanchi Array**	**146.60**	**276**	PKPbc	**PKPbc**	**05 40 50.9**	**-0.1**
	6.4nm,0.8s,baz=124,slow=4.1,SNR=56						
ZALV	**Zalesovo Beam**	**149.08**	**289**	PKPbc	**PKPbc**	**05 40 56.0**	**-1.3**
	2.4nm,0.7s,baz=107,slow=1.5,SNR=12						
NRIK	**Noril'sk**	**152.00**	**320**	PKPbc	**PKiKP**	**05 41 04.9**	**+0.7**
	1.7nm,0.5s,baz=58,slow=5.1,SNR=2.2						
ESDC	**Sonseca Array**	**152.37**	**114**	PKPbc	**PKPbc**	**05 41 05.8**	**+0.1**
	2.6nm,1.2s,baz=255,slow=2.1,SNR=5.8						

KRSC 20 06:14:37.5±0.6, 55°.78N×165°.74E, h46km±8km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.59**	**167**	*e*P	Pn	06 14 51.0	+1.3
BKI				*e*S	Sn	06 14 59.8	+1.4
KBTR	**Krutoberegovo**	**1.70**	**286**	*e*P	Pn	06 15 05.6	+1.0
KBG	**Krutoberegovo**	**1.77**	**287**	*e*P	Pn	06 15 06.7	+1.1
KBG				*e*S	Sn	06 15 29.1	+2.2
SMKR	**Semkarok**	**2.52**	**290**	*e*P	Pn	06 15 19.0	+3.0
SMKR				*e*S	Sn	06 15 50.0	+4.5
KIRR	**Kirishev**	**3.05**	**275**	*e*P	Pn	06 15 27.1	+3.8
TUMD	**Tumrok D**	**3.09**	**261**	*e*P	Pn	06 15 27.3	+3.4
KMNR	**Kamenistaya**	**3.11**	**272**	*e*P	Pn	06 15 28.1	+4.0
TUMR	**Tumrok**	**3.22**	**263**	*e*P	Pn	06 15 29.5	+3.9
SRDR	**Sredinnyy**	**3.42**	**282**	*e*P	Pn	06 15 32.1	+3.8
SRDR				*e*S	Sn	06 16 13.1	+5.4

SPN	**Mys Shipunski**	**4.29**	**234**	*e*P		Pn	06 15 43.9	+3.8
TILK	**Tilichiki**	**4.69**	**2**	*e*P		Pn	06 15 49.8	+4.2
SDLR	**Sedlovina**	**4.71**	**241**	*e*P		Pn	06 15 49.9	+3.7
SMAR	**Somma**	**4.76**	**241**	*e*P		Pn	06 15 50.5	+3.5
UGLR	**Uglovaya**	**4.79**	**240**	*e*P		Pn	06 15 51.1	+4.0
KRX	**Arik**	**4.79**	**242**	*e*P		Pn	06 15 51.2	+4.1
AVH	**Avacha**	**4.79**	**241**	*e*P		Pn	06 15 51.0	+3.8
KOK	**Koryaka**	**4.83**	**242**	*e*P		Pn	06 15 52.0	+4.3
GNL	**Ganaly**	**4.98**	**248**	*e*P		Pn	06 15 54.5	+4.7
MTVR	**Mutnovka**	**5.54**	**236**	*e*P		Pn	06 16 01.0	+3.6

*SSNC **20** 06:15:18.1±1.0, 19°.75N×76°.74W, h3km±6km, MD3.5, ML3.0, MW3.5*
*OSPL **20** 06:15:19.6±0.5, 19°.51N×76°.56W, h5km, ML2.8*
*JSN **20** 06:15:19.7±0.5, 19°.73N×76°.67W, h30km±999km, MD3.9*
ISC 20 06:15:14.4±1.7, 19°.85N±0°.04×76°.86W±0°.04, h7km±13km, n18, σ1s49/26, 4C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.26**	**327**	*e*P	**Pn**	**06 15 25.6**	**+0.9**
RCC	**Rio Carpintero**	**1.10**	**82**	*e*P	**Pg**	**06 15 35.4**	**-0.2**
RCC				*e*S	**Sg**	**06 15 48.1**	**-1.9**
HLGC	**Holguin**	**1.28**	**36**	*e*P	**Pn**	**06 15 39.8**	**+1.0**
HLGC				*i* S	**Sg**	**06 15 56.7**	**+1.1**
HLGC				IAML		06 15 59.9	
	comp=N,551nm,0.5s						
HLGC				IAML		06 16 00.3	
	comp=E,992nm,0.5s						
BBJ	**Bamboo Saint A**	**1.51**	**195**	⇑*i*P	**Pn**	**06 15 43.0**	**+1.0**
BNJ	**Bonny Gate**	**1.52**	**183**	*i* P	**Pn**	**06 15 42.8**	**+0.7**
CCCC	**Cccc**	**1.59**	**328**	*e*P	**Pn**	**06 15 43.8**	**+0.7**
CCCC				*e*S	**Sn**	**06 16 00.8**	**-3.1**
CCCC				IAML		06 16 06.9	
	comp=E,120nm,0.5s						
CCCC				IAML		06 16 08.4	
	comp=N,109nm,0.5s						
GTBY	**Guantanamo Bay**	**1.65**	**87**	*e*P	**Pn**	**06 15 43.6**	**-0.2**
GTBY				*i* S	**Sn**	**06 16 02.0**	**-3.2**
GTBY	**Guantanamo Bay**	**1.65**	**87**	*i* P	**Pn**	**06 15 44.0**	**+0.2**
GTBY				IAML		06 16 12.0	
	comp=Z,133nm,0.5s						
MTDJ	**Mount Denham**	**1.74**	**202**	*e*P	**Pn**	**06 15 46.4**	**+1.2**
MTDJ				*e*S	**Sn**	**06 16 06.3**	**-1.3**
MTDJ	**Mount Denham**	**1.74**	**202**	*i* P	**Pn**	**06 15 46.5**	**+1.2**
MTDJ				IAML		06 16 14.0	
	comp=Z,68nm,2.0s						
STH	**Stony Hill**	**1.76**	**179**	*i* P	**Pn**	**06 15 45.7**	**+0.2**
GWJ	**Greenwich**	**1.77**	**176**	*i* P	**Pn**	**06 15 45.8**	**+0.1**
HOJ	**Hope**	**1.84**	**177**	⇑*i*P	**Pn**	**06 15 47.0**	**+0.6**
MOAC	**Moa**	**1.96**	**65**	*e*P	**Pn**	**06 15 48.7**	**+0.6**
MOAC				*e*S	**Sn**	**06 16 14.1**	**+1.2**
MCJ	**Malvern**	**2.07**	**202**	⇑*i*P	**Pn**	**06 15 51.5**	**+1.8**
MCJ				*i* S	**Sn**	**06 16 15.3**	**-0.5**
PCJ	**Portland Cotta**	**2.12**	**188**	⇑*i*P	**Pn**	**06 15 51.6**	**+1.3**
MASC	**Masc**	**2.49**	**82**	*e*P	**Pn**	**06 15 56.7**	**+1.2**
MASC				*e*S	**Sn**	**06 16 28.4**	**+2.3**
MASC				IAML		06 16 35.8	
	comp=N,55nm,0.7s						
MASC				IAML		06 16 35.9	
	comp=E,50nm,0.5s						
MASC	**Masc**	**2.49**	**82**	*i* P	**Pn**	**06 15 56.6**	**+1.2**
MASC				IAML		06 16 35.5	
	comp=Z,54nm,0.6s						

*SSNC **20** 06:22:34.6±0.8, 19°.76N×76°.73W, h6km±4km, MD3.1, ML2.7, MW3.1*
*JSN **20** 06:22:35.5±0.5, 19°.77N×76°.66W, h29km±999km, MD3.8*
ISC 20 06:22:30.8±1.4, 19°.81N±0°.03×76°.82W±0°.04, h9km±13km, n13, σ1s50/20, 3C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.30**	**324**	*e*P	**Pn**	**06 22 41.9**	**+0.5**
LMGC				*e*S	**Sb**	**06 22 47.3**	**+3.7**
LMGC				IAML		06 22 47.6	
	comp=N,6μm,0.1s						
LMGC				IAML		06 22 48.2	
	comp=E,5μm,0.1s						
RCC	**Rio Carpintero**	**1.07**	**80**	*e*P	**Pg**	**06 22 51.7**	**+0.3**
RCC				*e*S	**Sg**	**06 23 04.2**	**-1.1**
RCC				IAML		06 23 04.3	
	comp=E,32nm,0.1s						
RCC				IAML		06 23 04.5	
	comp=N,28nm,0.2s						
HLGC	**Holguin**	**1.28**	**33**	*e*P	**Pb**	**06 22 55.9**	**+0.8**
BBJ	**Bamboo Saint A**	**1.49**	**197**	⇑*i*P	**Pg**	**06 22 59.3**	**0.0**
GTBY	**Guantanamo Bay**	**1.61**	**86**	*e*P	**Pn**	**06 22 59.8**	**+0.4**
GTBY				*e*S	**Sn**	**06 23 18.7**	**-1.6**
CCCC	**Cccc**	**1.64**	**327**	*e*P	**Pn**	**06 23 00.2**	**+0.4**
CCCC				*e*S	**Sn**	**06 23 18.8**	**-2.2**
CCCC				*e*S	**Sb**	**06 23 19.7**	**-2.3**
CCCC				IAML		06 23 24.0	
	comp=Z,60nm,0.4s						
CCCC				IAML		06 23 24.0	
	comp=N,80nm,0.5s						
MTDJ	**Mount Denham**	**1.72**	**203**	*e*P	**Pb**	**06 23 02.3**	**-0.3**
MTDJ				*e*S	**Sn**	**06 23 22.4**	**-0.7**
STH	**Stony Hill**	**1.73**	**180**	⇓*i*P	**Pn**	**06 23 02.0**	**+1.0**
GWJ	**Greenwich**	**1.73**	**177**	⇓*i*P	**Pn**	**06 23 02.1**	**+0.9**
HOJ	**Hope**	**1.80**	**178**	⇑*i*P	**Pn**	**06 23 03.4**	**+1.3**
MCJ	**Malvern**	**2.05**	**204**	*i* P	**Pb**

ONAJ				*e*S		**Sn**	07 09 48.2	**-2.5**
JFK	**Kawauchi**	**1.09**	**309**	*i* P		**Pn**	07 09 37.2	**-1.5**
JHO	**Hitachi**	**1.10**	**266**	*i* P		**Pn**	07 09 37.8	**-1.1**
JHO				S		**Sn**	07 09 51.4	**-1.7**
JHYU	**Hitachinakayam**	**1.14**	**253**	*i* P		**Pn**	07 09 39.0	**-0.4**
JHYU				S		**Sn**	07 09 53.1	**-0.9**
JFFD	**Fukushimafurud**	**1.17**	**290**	P		**Pn**	07 09 39.0	**-0.9**
JFFD				*e*S		**Sn**	07 09 52.5	**-2.2**
JMM	**Marumori**	**1.49**	**323**	⇓ *i* P		**Pn**	07 09 43.4	**-0.7**
JMM				⇓S		**Sn**	07 10 00.5	**-1.9**
JIO	**Ouri**	**1.82**	**345**	P		**Pn**	07 09 48.2	**-0.4**
JIO				S		**Sn**	07 10 09.0	**-1.6**
JFY	**Yanaizu**	**1.92**	**293**	*e*P		**Pn**	07 09 50.4	**+0.3**
JOU	**Okura**	**1.96**	**329**	P		**Pn**	07 09 50.5	**-0.1**
JAG	**Ashikaga**	**2.02**	**263**	*i* P		**Pn**	07 09 51.4	**0.0**
JAG				S		**Sn**	07 10 14.5	**-0.9**
JKT	**Katashina**	**2.16**	**273**	P		**Pn**	07 09 54.2	**+0.8**
MJAR	**Matsushiro Arr**	**3.00**	**268**	P		**Pn**	07 10 05.2	**+0.3**
	1.1nm,0.3s,baz=116,slow=11,SNR=24							
MJAR				S		**Sn**	07 10 40.9	**+1.2**
	13nm,0.5s,baz=101,slow=12,SNR=7.8							
MJAR				LR		LR	07 11 30.6	
	comp=Z,85nm,18.7s,baz=55,slow=44 6.2nm,0.4s							
JHJ	**Hachijo jima 2**	**3.98**	**207**	P		**Pn**	07 10 17.4	**-0.9**
	9.1nm,0.3s,baz=317,slow=23,SNR=6.8							
JHJ				S		**Sn**	07 11 00.1	**-3.4**
	48nm,0.3s,baz=288,slow=23,SNR=6.7 93nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**27.61**	**121**	T		T	07 44 17.2	
	baz=313,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**27.62**	**121**	T		T	07 44 19.4	
	baz=313,slow=75,SNR=7.5							
H11N3	**WAKE ISLAND Hy**	**27.63**	**121**	T		T	07 44 19.4	
	baz=313,slow=75,SNR=7.0							
H11S1	**WAKE ISLAND Hy**	**28.32**	**123**	T		T	07 45 12.5	
	baz=315,slow=76,SNR=6.8							
H11S3	**WAKE ISLAND Hy**	**28.32**	**123**	T		T	07 45 12.5	
	baz=315,slow=76,SNR=5.6							
SONM	**Songino Array**	**28.33**	**304**	P		**P**	**07 15 10.4**	**+1.6**
	0.8nm,0.6s,baz=112,slow=8.0,SNR=4.8 0.8nm,0.6s							
H11S2	**WAKE ISLAND Hy**	**28.34**	**123**	T		T	07 45 11.4	
	baz=315,slow=76,SNR=3.9							
MKAR	**Makanchi Array**	**44.66**	**302**	P		**P**	**07 17 28.2**	**+0.8**
	0.3nm,0.7s,baz=91,slow=8.6,SNR=2.2 0.3nm,0.7s							
ILAR	**Eielson Array**	**49.56**	**32**	P		P	07 18 09.4	+4.1
	0.1nm,0.6s,baz=268,slow=8.1,SNR=1.3 0.1nm,0.6s							
WRA	**Warramunga Arr**	**56.78**	**189**	P		**P**	**07 18 59.7**	**+0.9**
	0.5nm,0.9s,baz=5.9,slow=7.3,SNR=5.9 0.5nm,0.9s							
ASAR	**Alice Springs**	**60.51**	**188**	P		**P**	**07 19 25.0**	**+0.3**
	0.2nm,0.7s,baz=4.0,slow=5.3,SNR=1.5 0.2nm,0.7s							

*IDC **20** 07:16:28.3±0.9, 13˚13S×166˚35E, h0km, mb3.9/11, mbtmp3.9/12, ML3.3/1, MS3.6/8, Error ellipse: s-maj=33.1km s-min=20.4km az=117.0*

ISC 20 07:16:34.5±0.7, 13˚24S±0.08×166˚4E±0.2, h44km, n18, σ0°83/15, mb3.8/11, MS3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.34**	**300**	LR	LR	07 21 13.4	
	comp=Z,2μm,18.8s,baz=176,slow=39						
DZM	**Mont Dzumac**	**8.79**	**180**	Pn	**Pn**	**07 18 38.9**	**-0.1**
	0.3nm,0.3s,baz=320,slow=20,SNR=8.2						
DZM				Sn	**Sn**	**07 20 16.1**	**-0.7**
	baz=329,slow=23 0.9nm,0.3s						
CTA	**Charters Tower**	**20.42**	**248**	P	Pn	07 21 11.9	+1.4
	2.9nm,0.9s,baz=64,slow=11,SNR=4.2						
CTA				LR	LR	07 28 26.9	
	comp=Z,142nm,18.2s,baz=77,slow=35						
URZ	**Urewera**	**26.69**	**161**	LR	LR	07 31 08.1	
	comp=Z,128nm,18.6s,baz=66,slow=33						
STKA	**Stephens Creek**	**29.33**	**227**	P	**P**	**07 22 33.1**	**0.0**
	1.1nm,1.0s,baz=66,slow=18,SNR=1.0						
STKA				LR	LR	07 33 10.0	
	comp=Z,57nm,18.3s,baz=30,slow=34 1.1nm,1.0s						
WRA	**Warramunga Arr**	**31.37**	**253**	P	**P**	**07 22 51.2**	**-0.1**
	0.6nm,0.7s,baz=86,slow=8.5,SNR=3.1						
WRA				LR	LR	07 35 05.0	
	comp=Z,136nm,18.3s,baz=37,slow=36 0.6nm,0.7s						
ASAR	**Alice Springs**	**32.42**	**247**	P	**P**	**07 22 59.8**	**-0.7**
	0.8nm,0.6s,baz=73,slow=9.4,SNR=18						
ASAR				PcP	**PcP**	**07 25 48.1**	**+0.8**
	0.6nm,0.9s,baz=94,slow=2.8,SNR=3.0						
ASAR				LR	LR	07 36 04.2	
	comp=Z,94nm,18.5s,baz=90,slow=36 0.8nm,0.6s						
RAR	**Rarotonga**	**33.25**	**109**	LR	LR	07 33 37.2	
	comp=Z,46nm,20.9s,baz=276,slow=31						
MJAR	**Matsushiro Arr**	**56.18**	**333**	P	**P**	**07 26 09.0**	**-1.0**
	1.2nm,0.5s,baz=128,slow=9.4,SNR=2.9 1.2nm,0.5s						
VNDA	**Vanda**	**64.33**	**181**	P	**P**	**07 27 06.1**	**+1.0**
	0.6nm,0.7s,baz=350,slow=6.1,SNR=2.2 0.6nm,0.7s						
RPN	**Rapa Nui**	**79.08**	**115**	LR	LR	07 58 20.8	
	comp=Z,42nm,19.2s,baz=240,slow=32						
SONM	**Songino Array**	**80.78**	**324**	P	**P**	**07 28 44.5**	**+1.0**
	0.8nm,0.8s,baz=136,slow=5.9,SNR=2.7 0.8nm,0.8s						
ILAR	**Eielson Array**	**85.39**	**18**	P	**P**	**07 29 05.5**	**-1.3**
	0.7nm,0.6s,baz=247,slow=5.4,SNR=13 0.7nm,0.6s						
NVAR	**Mina Array Bea**	**86.97**	**50**	P	**P**	**07 29 15.1**	**-0.4**
	0.4nm,0.7s,baz=254,slow=9.3,SNR=2.3 0.4nm,0.7s						
MKAR	**Makanchi Array**	**95.52**	**317**	P	**P**	**07 29 55.6**	**+0.8**
	0.6nm,0.6s,baz=91,slow=6.1,SNR=3.5 0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**95.68**	**324**	P	**P**	**07 29 54.9**	**-0.5**
	0.9nm,0.4s,baz=127,slow=3.9,SNR=5.0 0.9nm,0.4s						
YKA	**Yellowknife Ar**	**96.63**	**27**	P	**P**	**07 30 00.0**	**+0.6**
	0.1nm,0.5s,baz=258,slow=4.8 0.1nm,0.5s						
ESDC	**Sonseca Array**	**152.32**	**344**	PKPbc	**PKiKP**	**07 36 27.1**	**+0.8**
	0.2nm,0.3s,baz=12,slow=3.9,SNR=1.4						

IDC 20 07:24:18.7±39.0, 23˚74S×69˚33E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=1295.0km s-min=43.5km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.29**	**11**	T	T	07 45 00.9	
	baz=190,slow=76,SNR=7.8						
H08S2	**Diego Garcia H**	**16.29**	**11**	T	T	07 45 01.3	
	baz=190,slow=76,SNR=5.7						
H08S3	**Diego Garcia H**	**16.31**	**11**	T	T	07 45 02.6	
	baz=190,slow=76,SNR=7.0						
ASAR	**Alice Springs**	**58.63**	**104**	P	P	07 34 17.9	-0.1
	0.6nm,1.1s,baz=256,slow=5.9,SNR=4.9 0.6nm,1.1s						
WRA	**Warramunga Arr**	**60.00**	**100**	P	P	07 34 27.7	+0.1
	0.2nm,0.7s,baz=256,slow=9.4,SNR=1.3 0.2nm,0.7s						
MKAR	**Makanchi Array**	**71.17**	**9**	P	P	07 35 39.2	0.0
	0.4nm,0.7s,baz=190,slow=5.8,SNR=5.0 0.4nm,0.7s						

*IDC **20** 07:32:41.3±7.3, 15˚47N×98˚65W, h0km, mb3.5/4, mbtmp3.5/5, ML3.6/1, MS3.3/1, Error ellipse: s-maj=138.9km s-min=23.4km az=174.0*

*NEIC **20** 07:32:45.4±2.5, 15˚90N±0˚04×98˚64W±0˚02, h16km±4km, mb4.2/12, Md4.3/49(MEX), Error ellipse: s-maj=5.8km s-min=1.8km az=206.0*

*MEX **20** 07:32:47.2±0.6, 15˚94N×98˚75W, h17km±727km, MD4.3*

ISC 20 07:32:43.6±2.1, 15˚96N±0˚05×98˚66W±0˚03, h2km±14km, n69, σ1°44/87, mb3.6/7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**50**		**Pb**	**07 32 58.8**	**+0.7**
PNIG					**Sb**	**07 33 08.6**	**+0.7**
PNIG	**Pinotepa**	**0.67**	**50**	*i* P	**Pb**	**07 32 58.8**	**+0.7**
PNIG				*i* S	**Sb**	**07 33 08.6**	**+0.7**

YOIG	**Yosondua**	**1.40**	**50**			**Pn**	**07 33 09.9**	**-0.5**
YOIG						**Sb**	**07 33 28.0**	**-1.0**
YOIG	**Yosondua**	**1.40**	**50**	*e*P		**Pn**	07 33 09.9	**-0.5**
YOIG				*e*S		**Sb**	**07 33 28.0**	**-1.0**
DAIG	**Los Arroyos**	**1.42**	**318**			**Pn**	**07 33 09.6**	**-1.0**
DAIG	**Los Arroyos**	**1.42**	**318**	*e*P		**Pn**	**07 33 09.6**	**-1.0**
DAIG				*e*S		**Sn**	**07 33 24.4**	**-5.4**
PEIG	**Puerto Escondi**	**1.46**	**88**			**Pn**	**07 33 11.0**	**0.0**
PEIG						**Sn**	**07 33 27.9**	**-2.9**
PEIG	**Puerto Escondi**	**1.46**	**88**	*e*P		**Pn**	**07 33 11.0**	**0.0**
PEIG				*e*S		**Sn**	**07 33 28.4**	**-2.3**
TXIG	**Tlaxiaco**	**1.55**	**34**			**Pn**	**07 33 12.0**	**-0.5**
TXIG						**Sn**	**07 33 32.1**	**-1.2**
TXIG	**Tlaxiaco**	**1.55**	**34**	*e*P		**Pn**	**07 33 12.0**	**-0.5**
TXIG				*e*S		**Sn**	**07 33 32.1**	**-1.2**
TLIG	**Tlapa**	**1.60**	**3**			**Pn**	**07 33 12.6**	**-0.5**
TLIG	**Tlapa**	**1.60**	**3**	*i* P		**Pn**	**07 33 12.7**	**-0.4**
TLIG				*e*S		**Sn**	**07 33 33.6**	**-0.8**
CAIG	**El Cayaco**	**1.88**	**305**			**Pn**	**07 33 16.6**	**-0.3**
CAIG						**Sg**	**07 33 46.0**	**+1.8**
CAIG	**El Cayaco**	**1.88**	**305**	*e*P		**Pn**	**07 33 16.6**	**-0.3**
CAIG				*e*S		**Sn**	**07 33 38.4**	**-2.9**
FTIG	**Fresnillo de T**	**2.00**	**15**			**Pn**	**07 33 18.7**	**0.0**
FTIG						**Sn**	**07 33 42.6**	**-1.8**
FTIG	**Fresnillo de T**	**2.00**	**15**	*e*P		**Pn**	**07 33 18.7**	**0.0**
FTIG				*e*S		**Sn**	**07 33 42.6**	**-1.8**
HLIG	**Huajuapan de L**	**2.03**	**24**			**Pn**	**07 33 19.1**	**0.0**
HLIG						**Sn**	**07 33 44.4**	**-0.9**
HLIG	**Huajuapan de L**	**2.03**	**24**	*e*P		**Pn**	**07 33 19.1**	**0.0**
HLIG				*e*S		**Sn**	**07 33 44.4**	**-0.9**
OXIG	**Oaxaca**	**2.16**	**59**			**Pn**	**07 33 21.3**	**+0.4**
OXIG						**Sn**	**07 33 48.1**	**-0.2**
VHO	**Vista Hermosa**	**2.16**	**59**	*i* P		**Pn**	**07 33 21.3**	**+0.4**
VHO				*e*S		**Sn**	**07 33 48.1**	**-0.2**
MEIG	**Mezcala**	**2.16**	**335**			**Pn**	**07 33 21.2**	**+0.4**
MEIG						**Sn**	**07 33 45.6**	**-2.6**
MEIG	**Mezcala**	**2.16**	**335**	*e*P		**Pn**	**07 33 21.2**	**+0.4**
MEIG				*e*S		**Sn**	**07 33 45.6**	**-2.6**
HUIG	**Huatulco**	**2.46**	**94**			**Pn**	**07 33 25.4**	**+0.6**
HUIG	**Huatulco**	**2.46**	**94**	*e*P		**Pn**	**07 33 25.4**	**+0.6**
HUIG				*e*S		**Sn**	**07 33 51.5**	**-4.1**
PLIG	**Platanillo**	**2.55**	**342**			**Pn**	**07 33 27.2**	**+1.0**
PLIG	**Platanillo**	**2.55**	**342**	*e*P		**Pn**	**07 33 27.2**	**+1.0**
PLIG				*e*			07 33 58.2	
TOIG	**Toxpalan**	**2.62**	**35**			**Pn**	**07 33 28.1**	**+1.0**
TOIG	**Toxpalan**	**2.62**	**35**	*e*P		**Pn**	**07 33 28.1**	**+1.0**
TOIG				*e*			07 34 02.2	
TPIG	**Tehuac#an**	**2.75**	**27**			**Pn**	**07 33 29.3**	**+0.4**
TPIG	**Tehuac#an**	**2.75**	**27**	*e*P		**Pn**	**07 33 29.3**	**+0.4**
TPIG				*e*			07 34 04.2	
ARIG	**Puente Sto Nin**	**2.82**	**325**			**Pn**	**07 33 31.2**	**+1.4**
ARIG	**Puente Sto Nin**	**2.82**	**325**	*e*P		**Pn**	**07 33 31.2**	**+1.4**
ARIG				*e*			07 34 02.1	
YAIG	**Yautepec**	**2.91**	**352**	*e*		**Pb**	**07 33 34.4**	**-2.1**
YAIG				*e*			07 34 06.6	
PPM	**Popocatepetl**	**3.09**	**1**	*e*		**Pn**	**07 33 34.7**	**+0.7**
PPM				*e*S		**Sn**	**07 34 10.8**	**-1.0**
PPIG	**Popocatepetl**	**3.09**	**1**			**Sg**	**07 34 22.7**	**-0.4**
ZIIG	**Zihuatanejo**	**3.15**	**302**	*e*		**Pb**	**07 33 40.6**	**+0.3**
ZIIG				*e*			07 34 23.8	
UNM	**Universidad Na**	**3.39**	**352**			**Pn**	**07 33 38.6**	**+0.8**
UNM	**Universidad Na**	**3.39**	**352**	*e*P		**Pn**	**07 33 37.1**	**-0.7**
UNM				*e*			07 33 46.6	
UNM				*e*			07 34 21.3	
UNM				*e*			07 34 26.1	
CMIG	**Matias Romero**	**3.79**	**72**	Pn		**Pn**	**07 33 43.4**	**+0.2**
	3.6nm,0.3s,baz=265,slow=11,SNR=61							
CMIG				Sn		**Sn**	**07 34 26.7**	**-1.7**
	7.5nm,0.3s,baz=266,slow=12,SNR=6.4							
CMIG				Lg		Lg	07 34 47.2	
	34nm,0.3s,baz=280,slow=5.0,SNR=21 17nm,0.6s							
CMIG	**Matias Romero**	**3.79**	**72**			**Pn**	**07 33 43.3**	**+0.1**
CMIG	**Matias Romero**	**3.79**	**72**	*e*P		**Pn**	**07 33 43.3**	**+0.1**
CMIG				*e*			07 34 25.5	
LVIG	**Laguna Verde**	**4.31**	**29**	*e*		**Pb**	**07 33 58.5**	**-1.7**
LVIG				*e*			07 34 52.0	
DEIG	**Demacu**	**4.33**	**355**	*e*		**Pb**	**07 33 57.8**	**-2.9**
DEIG				*e*			07 34 49.6	
MOIG	**Morelia**	**4.41**	**327**			**Pn**	**07 33 52.5**	**+0.6**
CCIG	**Comitan**	**6.28**	**86**	Pn		**Pn**	**07 34 19.2**	**+1.7**
HUEH	**Huehuetenango**	**6.93**	**94**	Pn		**Pn**	**07 34 25.1**	**-1.3**
TEIG	**Tepich**	**10.75**	**65**	Pn		**Pn**	**07 35 18.2**	**-0.5**
H06E1	**SOCORRO T-PHAS**	**12.04**	**285**	T		T	07 47 45.1	
	SNR=53							
JTS	**Las Juntas de**	**14.49**	**111**	Pn		**Pn**	**07 36 07.8**	**-2.2**
ABTX	**Abilene, Hawle**	**16.62**	**357**	P		**P**	**07 36 39.1**	**-1.3**
FW07	**Weatherford**	**16.69**	**3**	P		**Pn**	**07 36 38.8**	**0.0**
FW07				IAmb		IAmb	07 36 52.3	
	comp=Z,6.7nm,0.8s							
121A	**Cookes Peak, D**	**18.46**	**335**	P		**P**	**07 36 59.8**	**-1.2**
OK033	**Mehan**	**20.06**	**4**	P		**P**	**07 37 18.3**	**0.0**
OK033				IAmb		IAmb	07 37 27.6	
	comp=Z,8.6nm,0.9s							
ANMO	**Albuquerque**	**20.16**	**341**	LR		LR	07 45 08.2	
	comp=Z,76nm,18.1s,baz=243,slow=36							
ANMO	**Albuquerque**	**20.16**	**341**	P		**P**	**07 37 18.7**	**-0.8**
OK046	**Pawnee Station**	**20.42**	**4**	P		**P**	**07 37 21.7**	**-0.5**
OK046				IAmb		IAmb	07 37 30.6	
	comp=Z,18nm,1.5s							
P40A	**Paris**	**24.19**	**13**	P		**P**	**07 38 02.1**	**+0.6**
P40A				IAmb		IAmb	07 38 03.5	
	comp=Z,8.9nm,1.0s							
N38A	**Joes South For**	**25.19**	**10**	P		**P**	**07 38 11.7**	**+1.0**
S51A	**Beattyville**	**25.37**	**29**	P		**P**	**07 38 13.7**	**+1.4**
S51A				IAmb		IAmb	07 38 15.1	
	comp=Z,10nm,1.0s							
SCIA	**State Center**	**26.28**	**9**	P		**P**	**07 38 22.5**	**+2.0**
NVAR	**Mina Array Bea**	**28.27**	**326**	P		**P**	**07 38 40.9**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=140,slow=11,SNR=1.4 comp=Z,0.5nm,0.8s							
PDAR	**Pinedale Array**	**28.30**	**343**	P		**P**	**07 38 40.6**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=140,slow=7.4,SNR=4.0 comp=Z,0.6nm,0.9s							
MDND	**Maddock**	**31.81**	**359**	P		**P**	**07 39 11.1**	**+1.5**
AGMN	**Agassiz Nation**	**32.33**	**3**	P		**P**	**07 39 15.1**	**+0.9**
AGMN				IAmb		IAmb	07 39 16.5	
	comp=Z,3.5nm,0.8s							
YKA	**Yellowknife Ar**	**47.82**	**350**	P		**P**	**07 41 24.0**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=160,slow=7.3,SNR=6.5 comp=Z,0.4nm,0.8s							
H03N2	**Juan Fernandez**	**52.61**	**159**	T		T	08 38 48.2	
	baz=337,slow=77,SNR=111							
H03N1	**Juan Fernandez**	**52.62**	**159**	T		T	08 38 49.4	
	baz=337,slow=77,SNR=131							
H03N3	**Juan Fernandez**	**52.63**	**159**	T		T	08 38 48.3	
	baz=337,slow=77,SNR=105							
ILAR	**Eielson Array**	**58.56**	**338**	P		**P**	**07 42 42.6**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=163,slow=4.3,SNR=4.3 comp=Z,0.6nm,1.0s							

IDC 20 07:57:09.8±2.3, 9˚95S×119˚86E, h0km, mb3.3/1, mbtmp3.3/4, ML3.2/3, MS2.5/2, Error ellipse: s-maj=84.1km s-min=25.0km az=63.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.91**	**359**	Pn	Pn	07 58 25.2	+0.3
	1.0nm,0.3s,baz=338,slow=15,SNR=1.6						
KAPI				Sn	Sn	07 59 24.3	+1.8
	1.6nm,0.3s,baz=251,slow=22,SNR=2.4						
KAPI				LR	LR	08 00 35.7	
	comp=Z,33nm,21.6s,baz=86,slow=42 2.8nm,0.3s						
LEM	**Lembang**	**12.51**	**283**	LR	LR	08 06 22.7	
	comp=Z,34nm,19.4s,baz=190,slow=44						
WRA	**Warramunga Arr**	**17.14**	**127**	P	Pn	08 01 09.5	-1.5
	0.1nm,0.3s,baz=304,slow=14,SNR=5.1						
WRA				S	Sn	08 04 13.3	-9.1
	0.1nm,0.4s,baz=302,slow=24,SNR=1.9 0.3nm,0.7s						
ASAR	**Alice Springs**	**19.12**	**137**	P	Pn	08 01 35.6	+0.3
	0.1nm,0.3s,baz=315,slow=13,SNR=11 0.4nm,0.6s						
MKAR	**Makanchi Array**	**65.69**	**333**	P	P	08 07 55.9	-0.3
	0.2nm,0.6s,baz=134,slow=6.2,SNR=1.8 0.2nm,0.6s						

*MOS **20** 08:06:35.9±1.1, 48˚09N×155˚18E, h19km, mb4.4/4, Error ellipse: s-maj=13.1km s-min=4.6km az=73.5*

*KRSC **20** 08:06:38.2±2.0, 48˚18N×156˚35E, h15km±37km, Ml4.1*

*SKHL **20** 08:06:40.2±0.3, 48˚10N×155˚30E, h64km±6km, mb4.8/5*

*IDC **20** 08:06:42.6±2.7, 48˚26N×154˚90E, h58km±23km, mb3.5/16, mbtmp3.8/21, ML3.7/5, MS3.2/5, Error ellipse: s-maj=22.8km s-min=15.3km az=143.0*

ISC 20 08:06:39.0±0.7, 48˚08N±0˚07×155˚23E±0˚07, h33km, n118, σ1°41/118, mb4.0/16, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.67**	**12**	PN	**Pn**	**08 07 20.4**	**+0.7**
SKR				S	**Sn**	**08 07 51.4**	**+0.5**
SKR	**Severo-Kuril's**	**2.67**	**12**	*e*P	**Pn**	**08 07 20.4**	**+0.7**
SKR				*e*S	**Sn**	**08 07 51.4**	**+0.5**
SKR	**Severo-Kuril's**	**2.67**	**12**	*e*P	**Pn**	**08 07 20.1**	**+0.4**
SKR				AMB	AMB	08 07 26.0	
	140nm,0.6s						
SKR				*e*S	**Sn**	**08 07 50.2**	**-0.7**
SKR				A	A	08 08 02.1	
	280nm,0.6s						
SKR				A	A	08 08 02.1	
	340nm,0.6s						
SKR	**Severo-Kuril's**	**2.67**	**12**	*e*P	**Pn**	**08 07 20.1**	**+0.4**
SKR				AMB	AMB	08 07 26.0	
	140nm,0.6s						
SKR				*e*S	**Sn**	**08 07 50.2**	**-0.7**
SKR				A	A	08 08 02.1	
	280nm,0.6s						
SKR				A	A	08 08 02.1	
	340nm,0.6s						
KDTR	**Khodutka, Kamc**	**4.16**	**25**	PN	**Pn**	**08 07 39.3**	**-0.8**
KDTR	**Khodutka, Kamc**	**4.16**	**25**	*e*P	**Pn**	**08 07 39.3**	**-0.8**
KDTR				*e*S	**Sn**	**08 08 24.8**	**-2.8**
MTVR	**Mutnovka**	**4.80**	**22**	PN	**Pn**	**08 07 48.9**	**-0.1**
MTVR	**Mutnovka**	**4.80**	**22**	*e*P	**Pn**	**08 07 48.9**	**-0.1**
GRL	**Gorelyy**	**4.84**	**21**	PN	**Pn**	**08 07 49.9**	**+0.4**
GRL	**Gorelyy**	**4.84**	**21**	*e*P	**Pn**	**08 07 49.9**	**+0.4**
RUS	**Russkaya**	**4.84**	**25**	PN	**Pn**	**08 07 48.4**	**-1.1**
RUS	**Russkaya**	**4.84**	**25**	*e*P	**Pn**	**08 07 48.4**	**-1.1**
RUS	**Russkaya**	**4.84**	**25**	*e*P	**Pn**	**08 07 48.4**	**-1.1**
APC	**Apacha**	**5.01**	**13**	PN	**Pn**	**08 07 52.7**	**+1.0**
APC	**Apacha**	**5.01**	**13**	*e*P	**Pn**	**08 07 52.7**	**+1.0**
KRMR	**Karymshinskiy**	**5.11**	**20**	PN	**Pn**	**08 07 54.0**	**+0.9**
KRMR	**Karymshinskiy**	**5.11**	**20**	*e*P	**Pn**	**08 07 54.0**	**+0.9**
PEA0B	**Petropavlovsk-**	**5.28**	**16**	⇓ *i* PN	**Pn**	**08 07 57.8**	**+2.3**
PETK	**Petropavlovsk-**	**5.28**	**16**	P	**Pn**	**08 07 56.2**	**+0.8**
	1.6nm,0.3s,baz=191,slow=13,SNR=13						
PETK				LR	LR	08 10 20.3	
	comp=Z,174nm,20.0s,baz=192,slow=42 4.9nm,0.4s						
PET	**Petropavlovsk**	**5.41**	**22**	*e*PN	Pn	08 08 02.2	+4.9
PET	**Petropavlovsk**	**5.41**	**22**	*e*P	**Pn**	**08 07 59.0**	**+1.7**
PET				AMB	AMB	08 08 02.6	
	50nm,0.8s						
PET				*e*S	**Sn**	**08 08 57.9**	**-0.4**
PET				A	A	08 09 23.4	
	90nm,0.7s						
PET				A	A	08 09 23.4	
	80nm,0.7s						
PET	**Petropavlovsk**	**5.41**	**22**	*e*P	**Pn**	**08 07 59.0**	**+1.7**
PET				AMB	AMB	08 08 02.6	
	50nm,0.8s						
PET				*e*S	**Sn**	**08 08 57.9**	**-0.4**
PET				A	A	08 09 23.4	
	90nm,0.7s						
PET				A	A	08 09 23.4	
	80nm,0.7s						
DALK	**Dalny**	**5.44**	**23**	PN	**Pn**	**08 07 58.1**	**+0.4**
DALK	**Dalny**	**5.44**	**23**	*e*P	**Pn**	**08 07 58.1**	**+0.4**
UGLR	**Uglovaya**	**5.62**	**23**	PN	**Pn**	**08 08 01.3**	**+1.0**
UGLR	**Uglovaya**	**5.62**	**23**	*e*P	**Pn**	**08 08 01.3**	**+1.0**
KOK	**Koryaka**	**5.65**	**21**	PN	**Pn**	**08 08 01.4**	**+0.7**
KOK	**Koryaka**	**5.65**	**21**	*e*P	**Pn**	**08 08 01.4**	**+0.7**
KOK	**Koryaka**	**5.65**	**21**	*e*P	**Pn**	**08 08 03.2**	**+2.5**
AVH	**Avacha**	**5.65**	**22**	PN	**Pn**	**08 08 02.6**	**+1.9**
AVH	**Avacha**	**5.65**	**22**	*e*P	**Pn**	**08 08 02.6**	**+1.9**
SMAR	**Somma**	**5.67**	**22**	PN	**Pn**	**08 08 02.6**	**+1.6**
SMAR	**Somma**	**5.67**	**22**	*e*P	**Pn**	**08 08 02.6**	**+1.6**
SDLR	**Sedlovina**	**5.70**	**23**	PN	**Pn**	**08 08 00.9**	**-0.5**
SDLR	**Sedlovina**	**5.70**	**23**	*e*P	**Pn**	**08 08 00.9**	**-0.5**
KRX	**Arik**	**5.72**	**21**	PN	**Pn**	**08 08 02.6**	**+1.0**
KRX	**Arik**	**5.72**	**21**	*e*P	**Pn**	**08 08 02.6**	**+1.0**
KUR	**Kuril'sk**	**5.81**	**243**	⇓ *i* PN	**Pn**	**08 08 04.7**	**+1.9**
KUR				pmax	pmax		
	comp=Z,101nm,0.4s						
KUR				pmax	pmax		
	comp=E,50nm,0.5s						
KUR				pmax	pmax		
	comp=N,39nm,0.4s						
KUR	**Kuril'sk**	**5.81**	**243**	*i* P	**Pn**	**08 08 04.3**	**+1.5**
K

KLR	Kul'dur	15.55	283	*e*P		Pn	08 10 15.2	-0.4
KLR	Kul'dur	15.55	283	*e*P		Pn	08 10 12.3	-3.3
USRK	Ussuriysk Ar.	16.55	265	P		Pn	08 10 27.5	-0.9
	comp=Z,0.3nm,0.3s,baz=68,slow=11,SNR=1.4							
	comp=Z,2.2nm,0.6s							
BILL	Bilibino	20.79	12	*e*P		P	08 11 15.8	-1.1
BILL				*e*			08 11 25.0	
BILL				*e*			08 11 34.6	
BILL				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BILL	Bilibino	20.79	12	*e*P		P	08 11 15.8	-1.1
BILL	Bilibino	20.79	12	*e*P		P	08 11 15.8	-1.1
KSRS	Korea Array	22.57	252	P		P	08 11 36.5	+0.2
	comp=Z,3.2nm,0.5s,baz=45,slow=10,SNR=10							
	comp=Z,3.2nm,0.5s							
KSRS	Korea Array	22.57	252	*e*P		P	08 11 38.5	+2.2
KSRS				pmax		pmax		
	comp=Z,3.0nm,0.5s							
KSRS	Korea Array	22.57	252	*e*P		P	08 11 38.5	+2.2
H11N2	WAKE ISLAND Hy	29.82	157	T		T	08 44 18.4	
	baz=344,slow=76,SNR=20							
H11N1	WAKE ISLAND Hy	29.83	157	T		T	08 44 17.1	
	baz=344,slow=76,SNR=34							
H11N3	WAKE ISLAND Hy	29.83	157	T		T	08 44 17.6	
	baz=344,slow=76,SNR=13							
H11S1	WAKE ISLAND Hy	30.94	158	T		T	08 45 46.2	
	baz=345,slow=76,SNR=95							
H11S3	WAKE ISLAND Hy	30.95	159	T		T	08 45 46.2	
	baz=345,slow=76,SNR=195							
H11S2	WAKE ISLAND Hy	30.96	158	T		T	08 45 43.7	
	baz=345,slow=76,SNR=85							
ILAR	Eielson Array	34.61	40	P		P	08 13 25.4	+0.9
	comp=Z,0.3nm,0.9s,baz=264,slow=9.0,SNR=2.2							
	comp=Z,0.3nm,0.9s							
ZALV	Zalesovo Beam	43.01	305	P		P	08 14 33.4	-1.5
	comp=Z,0.4nm,0.3s,baz=58,slow=9.4,SNR=1.9							
	comp=Z,0.4nm,0.3s							
MKAR	Makanchi Array	47.61	297	P		P	08 15 09.9	-1.6
	comp=Z,1.9nm,0.8s,baz=67,slow=8.0,SNR=16							
	comp=Z,1.9nm,0.6s							
MKAR	Makanchi Array	47.61	297	*e*P		P	08 15 09.9	-1.6
KURK	Kurchatov	47.83	303	P		P	08 15 12.2	-0.9
KURK	Kurchatov	47.83	303	*e*P		P	08 15 12.2	-0.9
KURK	Kurchatov	47.83	303	*e*P		P	08 15 12.2	-0.9
KURBB	Kurchatov Arra	47.93	303	P		P	08 15 12.2	-1.6
	comp=Z,3.3nm,0.6s,baz=66,slow=8.3,SNR=18							
	comp=Z,3.3nm,0.6s							
YKA	Yellowknife Ar	49.00	38	P		P	08 15 23.3	+1.4
	comp=Z,0.4nm,0.9s,baz=290,slow=7.2,SNR=4.2							
	comp=Z,0.4nm,0.9s							
BVAR	Borovoye Array	51.13	309	P		P	08 15 37.0	-1.3
	comp=Z,1.3nm,0.5s,baz=66,slow=6.4,SNR=6.8							
	comp=Z,1.3nm,0.5s							
BVAR	Borovoye Array	51.13	309	P		P	08 15 37.0	-1.3
NEEM	North Greenlan	53.68	7	*i* P		P	08 15 56.4	-0.8
CMAR	Chiang Mai Arr	54.08	257	*i* P		P	08 15 59.5	-1.0
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
SUMG	Summit	59.27	5	*i* P		P	08 16 37.1	0.0
FINES	FINESS Array B	63.44	335	P		P	08 17 04.1	-0.8
	comp=Z,1.1nm,0.6s,baz=33,slow=7.3,SNR=5.7							
	comp=Z,1.1nm,0.6s							
FINES	FINESS Array B	63.44	335	*i* P		P	08 17 04.5	-0.4
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NOA	NORSAR Array B	67.42	342	P		P	08 17 30.1	-0.7
	comp=Z,1.3nm,0.9s,baz=37,slow=6.8,SNR=1.9							
	comp=Z,1.3nm,0.9s							
CTA	Charters Tower	68.33	189	LR		LR	08 44 51.3	
	comp=Z,20nm,21.2s,baz=268,slow=33							
WRA	Warramunga Arr	70.25	201	P		P	08 17 50.0	+1.3
	comp=Z,0.2nm,0.7s,baz=13,slow=6.2,SNR=1.3							
	comp=Z,0.2nm,0.7s							
WRA	Warramunga Arr	70.25	201	P		P	08 17 50.0	+1.3
AKASG	Malin Array Be	71.23	327	P		P	08 17 53.2	-1.2
	comp=Z,0.6nm,0.5s,baz=33,slow=6.4,SNR=1.3							
	comp=Z,0.6nm,0.5s							
SCHQ	Schefferville	71.52	24	P		P	08 17 57.3	+1.2
	comp=Z,2.5nm,1.1s,baz=308,slow=4.8,SNR=1.7							
	comp=Z,2.5nm,1.1s							
GNI	Garni	72.75	311	LR		LR	08 52 18.0	
	comp=Z,26nm,19.2s,baz=320,slow=38							
ASAR	Alice Springs	73.94	200	P		P	08 18 12.2	+1.4
	comp=Z,0.2nm,0.7s,baz=19,slow=5.9,SNR=1.7							
	comp=Z,0.2nm,0.7s							
TXAR	Lajitas Array	75.59	62	P		P	08 18 21.4	+0.8
	comp=Z,0.2nm,0.5s,baz=304,slow=4.4,SNR=6.1							
	comp=Z,0.2nm,0.5s							
CLL	Collm	75.84	337	*e*P		P	08 18 21.0	-0.5
CLL	Collm	75.84	337	*e*P		P	08 18 21.0	-0.5
GERES	GERESS Array B	77.88	335	P		P	08 18 33.4	+0.2
	comp=Z,0.8nm,0.6s,baz=27,slow=6.3,SNR=5.3							
	comp=Z,0.8nm,0.6s							
GERES	GERESS Array B	77.88	335	*e*P		P	08 18 33.8	+0.7
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR	Keskin Array B	78.39	318	P		P	08 18 34.9	-1.3
	comp=Z,1.4nm,0.8s,baz=21,slow=7.9,SNR=4.2							
	comp=Z,1.4nm,0.8s							
BRTR	Keskin Array B	78.39	318	*i* P		P	08 18 36.2	0.0
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
H03N2	Juan Fernandez	137.32	90	T		T	10 59 09.5	
	baz=310,slow=77,SNR=5.4							
H03N1	Juan Fernandez	137.34	90	T		T	10 59 09.5	
	baz=310,slow=77,SNR=4.5							
H03N3	Juan Fernandez	137.34	90	T		T	10 59 14.5	
	baz=310,slow=77,SNR=3.2							

NIED ***20*** *08:16:26.6,24.2°N×122.2°E,h50km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.89; $M_{\theta\theta}$0.33; $M_{\phi\phi}$-1.22; $M_{r\theta}$0.87; $M_{\theta\phi}$-1.42; $M_{\phi r}$-0.68; Fault plane solution: $M_0$2.10000×10¹⁵ NP1: ϕ_s174.00000°,δ65.00000°,λ34.00000°. NP2:ϕ_s68.00000°, δ60.00000°,λ150.00000°.*

JMA ***20*** *08:16:26.6±0.1,24.3°N±0.7°×122.2°E±0.2,h50km±2km, MD4.2/14,MV4.0/14,TAIWAN REGION*

TAP ***20*** *08:16:27.1,24.3°N×122.2°E,h42km,ML4.5,C*

NEIC ***20*** *08:16:27.3±1.2,24.3°N±0.05°×122.2°E±0.04°,h46km±8km, mb4.3/15,Error ellipse: s-maj=7.6km s-min=5.5km az=170.0*

IDC ***20*** *08:16:29.2±3.7,24.3°N×122.2°E,h71km±35km,mb3.9/11, mbtmp4.2/13,ML3.9/2,MS3.2/11,Error ellipse: s-maj=30.5km s-min=13.1km az=64.0*

ISC 20 08:16:26.7±0.8,24.3°2N±0.0°2.0×122.2°4E±0.0°2.0,h43km±7km, n231,σ1°45/379,mb4.2/19,MS3.2/9,11C-32D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.44	286	⇓*i*P		Pn	08 16 36.6	-0.1
	baz=284							
EWUT				S		Sn	08 16 43.1	-0.8
	baz=284							
EHP	Heping Village	0.46	268	*e*P		Pn	08 16 37.6	+0.6
	baz=264							
EHP				*e*S		Sn	08 16 45.1	+0.8
	baz=264							
TWC	Suao	0.46	309	⇓*i*P		Pn	08 16 36.8	-0.2
	baz=309							
TWC				*i* S		Sn	08 16 43.8	-0.5
	baz=309							
ENA	Nanau	0.47	283	⇓*i*P		Pn	08 16 37.1	-0.1
	baz=280							
ENA				*i* S		Sn	08 16 44.2	-0.3
	baz=280							
NDS	Dongshan	0.57	303	⇓*i*P		Pn	08 16 38.8	+0.3
	baz=303							
NDS				*e*S		Sn	08 16 47.1	+0.3
	baz=303							
ETL	Fush Village	0.59	254	*e*P		Pn	08 16 39.2	+0.5
	baz=250							
ETL				*e*S		Sn	08 16 48.0	+0.7
	baz=250							
EGS		0.59	332	⇓*i*P		Pn	08 16 38.9	+0.2
	baz=334							
EGS				*e*S		Sn	08 16 47.3	0.0
	baz=334							
NACB	Ninganchiao	0.61	256			Pn	08 16 39.1	+0.1
NACB	Ninganchiao	0.61	256	P		Pn	08 16 39.3	+0.3
NACB	Ninganchiao	0.61	256	⇓*i*P		Pn	08 16 39.0	+0.1
	baz=252							
NACB				S		Sn	08 16 48.1	+0.3
	baz=252							
ILA	Ilan	0.63	315	P		Pn	08 16 39.9	+0.7
	baz=315							
ILA				*e*S		Sn	08 16 49.6	+1.4
	baz=315							
TWD	Chiawan	0.64	248	⇓*i*P		Pn	08 16 39.6	+0.3
	baz=244							
TWD				*e*S		Sn	08 16 48.9	+0.5
	baz=244							
NTC	Toucheng	0.65	325	*i* P		Pn	08 16 39.9	+0.4
	baz=326							
NTC				*e*S		Sn	08 16 49.4	+0.8
	baz=326							
JYNG	Yonagunijimaku	0.66	79	P		Pn	08 16 40.2	+0.7
JYNG				S		Sn	08 16 49.8	+1.0
JYNG	Yonagunijimaku	0.66	79	A		A	08 16 40.2	
	comp=E,35nm,0.5s,comp=E,29nm,0.6s							
TWE	Neicheng	0.66	307	⇓*i*P		Pn	08 16 39.9	+0.3
	baz=308							
TWE				*e*S		Sn	08 16 49.3	+0.5
	baz=308							
HWA	Hwalien	0.68	239	⇑P		Pn	08 16 40.5	+0.6
	baz=235							
HWA				*e*S		Sn	08 16 50.8	+1.5
	baz=235							
LATG	Datong	0.68	288	⇓*i*P		Pn	08 16 40.6	+0.5
	baz=287							
LATG				*e*S		Sn	08 16 50.5	+0.8
	baz=287							
ENTT	Nioudou	0.69	297	⇓*i*P		Pn	08 16 40.7	+0.6
	baz=297							
ENTT				S		Sn	08 16 50.6	+0.8
	baz=297							
ETLH	Xiulin Townshi	0.70	261	⇓*i*P		Pn	08 16 40.5	+0.2
	baz=258							
ETLH				S		Sn	08 16 50.8	+0.7
	baz=258							
YOJ	Yonaguni jima	0.72	79			Pn	08 16 41.1	+0.7
YOJ	Yonaguni jima	0.72	79	P		Pn	08 16 41.3	+0.9
YOJ	Yonaguni jima	0.72	79	P		Pn	08 16 40.9	+0.5
YOJ				S		Sn	08 16 51.4	+1.1
YOJ	Yonaguni jima	0.72	79	A		A	08 16 40.9	
	comp=E,13nm,0.6s,comp=E,25nm,1.3s							
TWB1	Santiao Chiao	0.72	341	*i* P		Pn	08 16 40.3	-0.2
	baz=344							
TWB1				*e*S		Sn	08 16 49.6	-0.8
	baz=344							
FUSB	Fushanzhiwuyua	0.74	306	⇓*i*P		Pn	08 16 41.2	+0.5
	baz=306							
FUSB				S		Sn	08 16 51.7	+0.8
	baz=306							
TEYL	Yanliau Villag	0.74	232	*e*P		Pn	08 16 41.1	+0.4
	baz=231							
TEYL				*e*S		Sn	08 16 51.4	+0.5
	baz=231							
TIPB	Shuangxi	0.75	330	⇓*i*P		Pn	08 16 40.9	0.0
	baz=331							
TIPB				*e*S		Sn	08 16 50.9	-0.3
	baz=331							
ETM	Tongmen	0.77	243	P		Pn	08 16 41.3	+0.1
	baz=239							
ETM				*e*S		Sn	08 16 51.9	+0.3
	baz=239							
NNSB	Datong	0.79	278	⇓P		Pn	08 16 42.0	+0.5
	baz=276							
NNSB				*e*S		Sn	08 16 52.7	+0.5
	baz=276							
NNSH	Datong	0.79	278	⇓P		Pn	08 16 42.0	+0.5
	baz=276							
NNSH				*e*S		Sn	08 16 52.6	+0.4
	baz=276							
NNS	Nan Shan	0.80	279	⇓*e*P		Pn	08 16 42.0	+0.4
	baz=277							
NNS				*e*S		Sn	08 16 53.0	+0.5
	baz=277							
NWLT	Wulai	0.81	304	⇓*i*P		Pn	08 16 42.5	+0.8
	baz=304							
NWLT				*e*S		Sn	08 16 53.4	+0.8
	baz=304							
SXI1	Grass Mountain	0.84	337	⇓*i*P		Pn	08 16 42.1	0.0
	baz=338							
SXI1				S		Sn	08 16 52.8	-0.5
	baz=338							
NWF	Wu-fen Shan	0.85	331	⇓P		Pn	08 16 42.6	+0.2
	baz=332							
NWF				*e*S		Sn	08 16 53.1	-0.7
	baz=332							
WFSB	Wu-fen Shan	0.85	331	⇓P		Pn	08 16 42.6	+0.3
	baz=332							
WFSB				*e*S		Sn	08 16 53.4	-0.2
	baz=332							
YHNB	Yeheng	0.86	294			Pn	08 16 43.4	+1.0
YHNB	Yeheng	0.86	294	⇓*i*P		Pn	08 16 43.3	+0.8
	baz=293							
YHNB				*e*S		Sn	08 16 54.9	+0.9
	baz=293							
NSK	Sanguang	0.88	294	⇓P		Pn	08 16 43.5	+0.8
	baz=293							
NSK				*e*S		Sn	08 16 55.1	+0.8
	baz=293							
TWA	Mucha	0.89	318	⇓P		Pn	08 16 43.3	+0.6
	baz=318							
TWA				*e*S		Sn	08 16 54.9	+0.5
	baz=318							
TEGC	Jichi Village	0.89	226	*e*P		Pn	08 16 43.2	+0.5
	baz=223							
TEGC				*e*S		Sn	08 16 55.1	+0.7
	baz=223							
ESL	Shilin	0.90	236	⇑*i*P		Pn	08 16 42.9	0.0
	baz=232							
ESL				*e*S		Sn	08 16 54.5	-0.1
	baz=232							
WHF	Hehuan Shan	0.91	259	⇓*i*P		Pn	08 16 43.7	+0.3
	baz=256							
WHF				*e*S		Sn	08 16 56.2	+0.6
	baz=256							
NHDH	Xindian Distri	0.91	315	P		Pn	08 16 43.8	+0.8
	baz=315							
NHDH				*e*S		Sn	08 16 56.0	+1.0
	baz=315							
FUSS	Fushou	0.91	265	⇓*i*P		Pn	08 16 43.9	+0.6
	baz=263							
FUSS				*e*S		Sn	08 16 56.5	+1.0
	baz=263							
TNOU	National Taiwa	0.93	333	*e*P		Pn	08 16 42.7	-0.5
	baz=334							
TNOU				*e*S		Sn	08 16 54.9	-0.5
	baz=334							
NHY	Taipei	0.94	320	*e*P		Pn	08 16 44.6	+1.2
	baz=320							
NHY				*e*S		Sn	08 16 56.9	+1.2
	baz=320							
TATO	Taipei	0.94	314			Pn	08 16 44.2	+0.7
TATO	Taipei	0.94	314	P		Pn	08 16 44.4	+0.9
TAP1	Taipei	0.97	318	*e*P		Pn	08 16 45.4	+1.6
	baz=318							
TAP1				*e*S		Sn	08 16 58.3	+1.9
	baz=318							
TWT	Tachien	0.97	266	P		Pn	08 16 45.1	+1.0
	baz=264							
TWT				*e*S		Sn	08 16 57.9	+1.1
	baz=264							
TAP	Taipei	0.98	317	*e*P		Pn	08 16 44.5	+0.6
	baz=318							
TAP				*e*S		Sn	08 16 57.5	+0.9
	baz=318							
BACT	New Taipei Cit	0.99	313	*e*P		Pn	08 16 45.9	+1.7
	baz=313							
BACT				*e*S		Sn	08 16 58.1	+1.1
	baz=313							
EGFH	Guangfu	0.99	229	P		Pn	08 16 44.1	0.0
	baz=226							
EGFH				*e*S		Sn	08 16 57.2	+0.3
	baz=226							
TDCB	Techi	0.99	266	P		Pn	08 16 45.2	+0.9
	baz=264							
TDCB				*e*S		Sn	08 16 57.6	+0.5
	baz=264							
CHGB	Renai	1.01	255	⇓*i*P		Pn	08 16 45.2	+0.6
	baz=253							
CHGB				*e*S		Sn	08 16 58.1	+0.4
	baz=253							
YM01	YM01	1.02	323	*e*P		Pn	08 16 44.6	0.0
	baz=324							
YM01				*e*S		Sn	08 16 58.2	+0.4
	baz=324							
NWRT	Kuosheng	1.02	329	*e*P		Pn	08 16 44.7	+0.2
	baz=330							
NWRT				*e*S		Sn	08 16 57.8	+0.1
	baz=330							
OWD	Renai	1.04	250	P		Pn	08 16 45.4	+0.4
	baz=247							
OWD				*e*S		Sn	08 16 58.0	-0.4
	baz=247							
YM08	YM08	1.04	326	*e*P		Pn	08 16 44.6	-0.3
	baz=326							
YM08				*e*S		Sn	08 16 57.4	-0.9
	baz=326							
NFF	Wufeng Townshi	1.07	287	*e*P		Pn	08 16 46.3	+1.0
	baz=286							
NFF				*e*S		Sn	08 17 00.1	+1.2
	baz=286							
TWS1	Kuangyinshan	1.08	316	*e*P		Pn	08 16 45.9	+0.6
	baz=317							
TWS1				*e*S		Sn	08 17 00.6	+1.6
	baz=317							
WUSB	Renai	1.08	252	⇓P		Pn	08 16 46.1	+0.7
	baz=250							
WUSB				*e*S		Sn	08 16 59.8	+0.5
	baz=250							
ANP	Anpu	1.08	323	*e*P		Pn	08 16 45.4	-0.1
	baz=324							
ANP				*e*S		Sn	08 16 59.5	+0.2
	baz=324							
NTY	Taoyuan	1.09	308	*e*P		Pn	08 16 46.8	+1.3
	baz=308							
NTY				*e*S		Sn	08 17 01.7	+2.3
	baz=308							
NTST	Danshui	1.10	319	*e*P		Pn	08 16 46.1	+0.4
	baz=320							
NTST				*e*S		Sn	08 17 00.8	+1.0
	baz=320							
TWY	Chenhua	1.11	329	*e*P		Pn	08 16 46.4	+0.6
	baz=330							
TWY				*e*S		Sn	08 17 00.7	+0.7
	baz=330							
HGSD	Ruisui	1.11	222	⇑*e*P		Pn	08 16 46.0	+0.1
	baz=220							
HGSD				*e*S		Sn	08 17 01.0	+1.0
	baz=220							
NJD	Zhudong	1.13	292	*e*P		Pn	08 16 48.0	+2.0
	baz=291							
NJD				*e*S		Sn	08 17 03.4	+3.1
	baz=291							
NCU	National Centr	1.15	304	*e*P		Pn	08 16 47.5	+1.1
	baz=304							
NCU				*e*S		Sn	08 17 02.9	+1.9
	baz=304							
VWDT	VWDT	1.15	241	⇓*e*P		Pn	08 16 47.2	+0.8
	baz=239							
VWDT				*e*S		Sn	08 17 01.6	+0.6
	baz=239							
NCUH	Zhongli	1.16	304	*e*P		Pn	08 16 47.4	+1.0
	baz=304							
NCUH				*e*S		Sn	08 17 02.6	+1.6
	baz=304							
LIOB	Emei	1.16	286	⇓*e*P		Pn	08 16 48.0	+1.5
	baz=285							
LIOB				*e*S		Sn	08 17 03.8	+2.6
	baz=285							
EHY	Hungye	1.17	226	⇑P		Pn	08 16 46.5	-0.1
	baz=223							
EHY				*e*S		Sn	08 17 00.7	-0.7
	baz=223							
NSTT	Nanjuang	1.17	285	⇓*e*P		Pn	08 16 48.0	+1.4
	baz=284							
NSTT				*e*S		Sn	08 17 03.5	+2.1
	baz=284							
WHP	Taichung City	1.18	268	*e*P		Pn	08 16 48.4	+1.5
	baz=266							
WHP				*e*S		Sn	08 17 03.4	+1.6
	baz=266							
WPL	Puli Township	1.21	255	*e*P		Pn	08 16 48.6	+1.4
	baz=254							
WPL				*e*S		Sn	08 17 03.8	+1.4
	baz=254							
DPDB	Guoxing	1.23	257	*e*P		Pn	08 16 48.9	+1.3
	baz=255							
DPDB				*e*S		Sn	08 17 04.3	+1.3
	baz=255							
SBCB	Hsinchu	1.23	292	*e*P		Pn	08 16 48.8	+1.3
	baz=292							
SBCB				*e*S		Sn	08 17 05.4	+2.5
	baz=292							
ECBN	Changbin	1.24	216	*e*P		Pn	08 16 47.8	+0.3
	baz=214							
ECBN				*e*S		Sn	08 17 02.7	-0.3
	baz=214							
WCS	Beigang Elemen	1.24	258	*e*P		Pn	08 16 48.8	+1.2
	baz=256							
WCS				*e*S		Sn	08 17 04.3	+1.2
	baz=256							
HSN	Hsinchu	1.25	293	*e*P		Pn	08 16 48.7	+1.0
	baz=294							
HSN				*e*S		Sn	08 17 05.6	+2.2
	baz=294							
YULB	Yu-li	1.27	223			Pn	08 16 47.9	-0.1
YULB	Yu-li	1.27	223	P		Pn	08 16 47.9	-0.1
YULB	Yu-li	1.27	223	⇑*e*P		Pn	08 16 47.8	-0.1
	baz=221							
YULB				*e*S		Sn	08 17 03.0	-0.8
	baz=221							
NHW	Xinwu Township	1.28	302	*e*P		Pn	08 16 48.8	+0.7
	baz=302							
NHW				*e*S		Sn	08 17 05.6	+1.5
	baz=302							
EYUL	Yuli	1.29	221	⇑*e*P		Pn	08 16 48.5	+0.3
	baz=219							
EYUL				*e*S		Sn	08 17 05.0	+0.8
	baz=219							
SSLB	Suanglung	1.29	246			Pn	08 16 48.9	+0.6
SSLB	Suanglung	1.29	246	P		Pn	08 16 49.2	+0.9
SSLB	Suanglung	1.29	246	P		Pn	08 16 49.1	+0.8
	baz=244							
SSLB				*e*S		Sn	08 17 04.4	0.0
	baz=244							
TWF1	Yuli	1.30	222	P		Pn	08 16 48.4	0.0
	baz=220							
TWF1				*e*S		Sn	08 17 04.1	-0.4
	baz=220							
NJN	Zhunan	1.30	286	*e*P		Pn	08 16 50.1	+1.7
	baz=285							
NJN				*e*S		Sn	08 17 07.0	+2.5
	baz=285							
SMLT	Sun Moon Lake	1.30	251	*e*P		Pn	08 16 49.5	+1.0
	baz=248							
SMLT				*e*S		Sn	08 17 05.5	+0.7
	baz=248							
PCYT	Pengchaiyu	1.31	353	*e*P		Pn	08 16 48.8	+0.3
	baz=355							
PCYT				*e*S		Sn	08 17 06.3	+1.5
	baz=355							
TYC	Yuchr	1.33	252	*e*P		Pn	08 16 49.7	+0.9
	baz=250							
TYC				*e*S		Sn	08 17 06.9	+1.5
	baz=250							
NMLH	Miaoli	1.34	279	*e*P		Pn	08 16 50.2	+1.3
	baz=278							
NMLH				*e*S		Sn	08 17 08.0	+2.5
	baz=278							
TWQ1	Liyutan	1.34	271	*e*P		Pn	08 16 50.7	+1.8
	baz=270							
TWQ1				*e*S		Sn	08 17 07.8	+2.3
	baz=270							
IRIF	Iriomote-Funau	1.36	89	P		Pn	08 16 49.8	+0.6
IRIF				S		Sn	08 17 07.2	+1.2
IRIF	Iriomote-Funau	1.36	89	A		A	08 16 49.8	
	comp=E,7.0nm,2.3s,comp=E,9.0nm,1.4s							
FULB	Fuli	1.42	218	⇑*e*P		Pn	08 16 50.0	0.0
	baz=216							
FULB				*e*S		Sn	08 17 07.5	0.0
	baz=216							
WWF	Wufeng	1.44	259	*e*P		Pn	08 16 52.7	+2.4
	baz=257							
WWF				*e*S		Sn	08 17 11.9	+4.0
	baz=257							
TCU	Taichung	1.44	263	*e*P		Pn	08 16 52.5	+2.2
	baz=262							
TCU				*e*S		Sn	08 17 11.2	+3.2
	baz=262							
HATJ	Hateruma jima	1.45	100	*

WDJ eS Sn 08 17 10.9 +2.4
baz=270
WJS Zhushan 1.47 250 eP Pn 08 16 52.9 +2.2
baz=249
WJS eS Sn 08 17 11.6 +2.8
baz=249
WNT1 Nantou City 1.48 254 eP Pn 08 16 53.8 +2.9
baz=252
WNT1 eS Sn 08 17 12.3 +3.2
baz=252
WNT Mingjian 1.49 253 eP Pn 08 16 53.4 +2.4
baz=251
WNT eS Sn 08 17 11.7 +2.5
baz=251
EHD Haiduan 1.50 219 eP Pn 08 16 50.9 -0.3
baz=217
EHD eS Sn 08 17 08.8 -0.8
baz=217
ECS Chishang 1.54 218 eP Pn 08 16 52.5 +0.8
baz=216
ECS eS Sn 08 17 11.3 +0.8
baz=216
ALS Alishan 1.54 239⇑ eP Pn 08 16 53.5 +1.5
baz=237
ALS eS Sn 08 17 11.9 +0.9
baz=237
WCHH Zhanghua 1.56 261 eP Pn 08 16 53.2 +1.4
baz=260
WCHH eS Sn 08 17 13.7 +2.8
baz=260
WYL Yuanlin Townsh 1.56 257 eP Pn 08 16 54.3 +2.3
baz=255
WYL eS Sn 08 17 14.8 +3.8
baz=255
ELDTW Lidau 1.59 225 eP Pn 08 16 52.5 0.0
baz=223
ELDTW eS Sn 08 17 10.9 -1.0
baz=223
EDH Donghe 1.60 213⇑ eP Pn 08 16 52.1 -0.3
baz=211
EDH eS Sn 08 17 10.4 -1.4
baz=211
CHN5 Tsauling 1.60 243 eP Pn 08 16 54.4 +1.8
baz=242
CHN5 eS Sn 08 17 14.7 +2.5
baz=242
JKRS Kuro-shima 1.62 93 P Pn 08 16 53.9 +1.2
JKRS S Sn 08 17 14.3 +1.9
WGK Gukeng 1.66 248 eP Pn 08 16 55.8 +2.5
baz=246
WGK eS Sn 08 17 16.5 +3.1
baz=246
WDLH Douliu 1.68 248 eP Pn 08 16 56.0 +2.4
baz=247
WDLH eS Sn 08 17 17.4 +3.5
baz=247
JIJ Ishigaki jima 1.74 88 P Pn 08 16 54.8 +0.4
JIJ S Sn 08 17 15.4 +0.2
JIJ Ishigaki jima 1.74 88 A A 08 16 54.8
comp=E,3.0nm,7.6s,comp=E,3.0nm,2.0s
WCKO Fanlu 1.74 240 eP Pn 08 16 56.3 +1.9
baz=238
WCKO eS Sn 08 17 18.6 +3.3
baz=238
LONT Longtian 1.74 216 eP Pn 08 16 54.3 -0.2
baz=214
LONT eS Sn 08 17 15.2 -0.2
baz=214
WRL Guolierlin Hig 1.75 257 eP Pn 08 16 56.3 +1.7
baz=255
WRL eS Sn 08 17 17.3 +1.6
baz=255
STYH Taoyuan 1.77 230 eP Pn 08 16 56.1 +1.3
baz=228
STYH eS Sn 08 17 17.5 +1.5
baz=228
STYT Tauyuan 1.78 230 eP Pn 08 16 56.5 +1.4
baz=228
STYT eS Sn 08 17 17.7 +1.2
baz=228
LDUT Ludao 1.79 203 eP Pn 08 16 54.6 -0.5
baz=202
LDUT eS Sn 08 17 14.6 -2.0
baz=202
CHN4 Tsaushan 1.79 238 eP Pn 08 16 57.3 +2.1
baz=236
CHN4 eS Sn 08 17 20.6 +3.9
baz=236
TPUB Ta-pu 1.79 236 Pn 08 16 57.2 +2.0
TPUB Ta-pu 1.79 236 P Pn 08 16 57.4 +2.2
TPUB Ta-pu 1.79 236 eP Pn 08 16 57.1 +2.0
baz=234
TPUB eS Sn 08 17 18.9 +2.2
baz=234
CHN2 Minshiung 1.80 244 eP Pn 08 16 57.7 +2.5
baz=243
CHN2 eS Sn 08 17 21.8 +5.0
baz=243
WTK Tuku 1.81 250 eP Pn 08 16 57.6 +2.3
baz=248
WTK eS Sn 08 17 19.7 +2.7
baz=248
WTP Ta-pu 1.84 235 eP Pn 08 16 57.8 +2.0
baz=233
WTP eS Sn 08 17 20.7 +2.8
baz=233
TWGBT Beinan 1.84 216 P Pn 08 16 55.7 -0.1
TWGBT Beinan 1.84 216⇓ eP Pn 08 16 55.6 -0.2
baz=214
TWGBT eS Sn 08 17 16.6 -1.2
baz=214
TWG Pinlang 1.84 216 Pn 08 16 55.2 -0.6
TWG Pinlang 1.84 216 eP Pn 08 16 55.6 -0.2
baz=214
TWG eS Sn 08 17 16.6 -1.3
baz=214
WTCT Ta-ch'eng 1.85 256 eP Pn 08 16 57.0 +1.1
baz=254
WTCT eS Sn 08 17 20.4 +2.3
baz=254
CHY Chiayi 1.85 244 eP Pn 08 16 58.3 +2.4
baz=242
CHY eS Sn 08 17 21.5 +3.3
baz=242
TTN Taitung 1.86 213 eP Pn 08 16 57.4 +1.4
baz=211
TTN eS Sn 08 17 18.9 +0.6
baz=211
JISG Ishigakijimahi 1.91 82 eP Pn 08 16 57.1 +0.5
JISG S Sn 08 17 19.9 +0.5
TWK Hsinying 1.92 237 eP Pn 08 16 58.9 +2.0
baz=235
TWK eS Sn 08 17 23.5 +3.6
baz=235
CHN1 Nanshi 1.94 234 eP Pn 08 16 59.3 +2.1
baz=233
CHN1 eS Sn 08 17 23.4 +3.1
baz=233
SGST Jiashian 1.96 231⇑ eP Pn 08 16 58.8 +1.4
baz=229
SGST eS Sn 08 17 22.9 +2.1
baz=229
WSF Szhu 1.97 250 eP Pn 08 16 58.1 +0.6
baz=248
WSF eS Sn 08 17 24.4 +3.4
baz=248
SLGT Liugui 1.97 228 eP Pn 08 17 00.6 +2.9
baz=227
SLGT eS Sn 08 17 24.5 +3.3
baz=227
ECL Taimali 2.08 215 eP Pn 08 16 58.8 -0.3
baz=213
ECL eS Sn 08 17 22.3 -1.6
baz=213
SCST Cishan 2.15 229 eP Pn 08 17 02.8 +2.8
baz=227
SCST eS Sn 08 17 29.0 +3.6
baz=227
SSD Sandimen 2.15 224 eP Pn 08 17 01.8 +1.6
baz=222
SSD eS Sn 08 17 27.9 +2.2
baz=222
TWM1 Shoushan 2.24 229 eP Pn 08 17 03.6 +2.4
baz=227
TWM1 eS Sn 08 17 31.0 +3.3
baz=227
MASBT Mashibuluo 2.25 221 eP Pn 08 17 02.7 +1.3
baz=220
MASBT eS Sn 08 17 29.3 +1.3
baz=220
JTJ Tarama 2.27 81 P Pn 08 17 02.9 +1.3
JTJ S Sn 08 17 29.6 +1.2
TSCK Chigu Township 2.29 240 eP Pn 08 17 04.1 +2.0
baz=238
TSCK eS Sn 08 17 31.2 +2.1
baz=238
EAST Anshuo 2.32 214 eP Pn 08 17 02.5 +0.1
baz=212
EAST eS Sn 08 17 29.6 -0.1
baz=212
TAWH Dawu Township 2.33 212 eP Pn 08 17 02.5 0.0
baz=211
TAWH eS Sn 08 17 29.4 -0.7
baz=211
LAY Lan-yu 2.36 196 eP Pn 08 17 02.1 -0.9
baz=194
LAY eS Sn 08 17 28.4 -2.4
baz=194
LYUB Lan-yu 2.39 195 eP Pn 08 17 02.2 -1.1
baz=194
LYUB eS Sn 08 17 27.2 -4.1
baz=194
SCZT Fangliau 2.45 218 eP Pn 08 17 05.5 +1.3
baz=216
SCZT eS Sn 08 17 35.6 +2.8
baz=216
SLIU Shizi 2.48 213 eP Pn 08 17 05.0 +0.4
baz=211
SLIU eS Sn 08 17 34.0 +0.3
baz=211
PNG Penghu 2.57 254 eP Pn 08 17 06.9 +1.1
baz=252
PNG eS Sn 08 17 36.5 +0.7
baz=252
PHUB P'eng-hu 2.57 252 eP Pn 08 17 06.5 +0.6
baz=251
PHUB eS Sn 08 17 35.2 -0.7
baz=251
WDGT Dungji 2.59 246 eP Pn 08 17 07.8 +1.8
baz=245
WDGT eS Sn 08 17 37.0 +0.7
baz=245
SMST Manzhou Townsh 2.63 210 eP Pn 08 17 07.2 +0.5
baz=208
SMST eS Sn 08 17 36.6 -0.7
baz=208
HEN Hengchun 2.69 211 eP Pn 08 17 09.2 +1.7
baz=210
HEN eS Sn 08 17 39.5 +0.7
baz=210
TWKBT Hengchun 2.71 209 eP Pn 08 17 08.6 +0.8
baz=208
TWKBT eS Sn 08 17 39.5 +0.2
baz=208
TWK1 Hengchun 2.71 209 eP Pn 08 17 08.5 +0.8
baz=208
TWK1 eS Sn 08 17 39.5 +0.2
baz=208
JIRB Irabujima 2.72 79 eS Sn 08 17 41.1 +1.6
MATB Ma-tsu 2.76 312 eP Pn 08 17 08.4 0.0
baz=311
MATB eS Sn 08 17 39.2 -1.4
baz=311
MSUT Lienchiang 2.79 312 eP Pn 08 17 08.9 +0.1
baz=311
MSUT eS Sn 08 17 40.6 -0.6
baz=311
JIKM Ikemajima 2.80 77 eS Sn 08 17 43.2 +1.7
JMJ Miyako jima 2 2.82 79 P Pn 08 17 12.3 +3.0
JMJ2 Miyako jima3 2.84 81 eP Pn 08 17 11.2 +1.7
JMJ2 S Sn 08 17 44.1 +1.6
PTMZ Houxiangcun 2.93 285 eP Pn 08 17 10.8 +0.1
baz=284
PTMZ eS Sn 08 17 42.4 -2.2
baz=284
LYJJ Jianjiangzhen 3.15 315 eP Pn 08 17 13.8 -0.1
baz=315
LYJJ eS Sn 08 17 49.0 -1.2
baz=315
XPSS Dashiqiu 3.19 325 eP Pn 08 17 13.9 -0.4
baz=325
XPSS eS Sn 08 17 49.2 -1.8
baz=325
MHZQ Yeshan 3.40 302 eP Pn 08 17 17.1 -0.2
baz=301
MHZQ eS Sn 08 17 54.6 -1.7
baz=301
KNM Kinmen 3.47 272 eP Pn 08 17 20.0 +1.8
baz=271
KNM eS Sn 08 17 58.1 0.0
baz=271
KNMB Chin-men Tao 3.51 273 Pn 08 17 18.5 -0.3
KNMB Chin-men Tao 3.51 273 eP Pn 08 17 18.6 -0.2
baz=272
KNMB eS Sn 08 17 56.9 -2.3
baz=272
AXDP Jialang 3.93 279⇓ eP Pn 08 17 24.6 +0.2
baz=278
AXDP eS Sn 08 18 06.7 -2.6
baz=278
ZPLA Ao Xicun 4.12 265 eP Pn 08 17 27.5 +0.4
baz=264
ZPLA eS Sn 08 18 12.0 -2.0
baz=264
DSXP Dongshan 4.44 263 eP Pn 08 17 31.5 -0.1
baz=262
DSXP eS Sn 08 18 18.7 -3.4
baz=262
JOW Kunigami 5.99 64 P Pn 08 17 53.4 +0.5
10nm,0.3s,baz=122,slow=17,SNR=7.3
25nm,0.3s
JOW Kunigami 5.99 64 Pn Pn 08 17 54.1 +1.2
JOW Kunigami 5.99 64 P Pn 08 17 54.2 +1.3
JNU Nakatsue 11.58 39 LR LR 08 23 04.6
comp=Z,38nm,21.9s,baz=212,slow=34
KSRS Korea Array 13.96 19 P Pn 08 19 44.0 +2.1
0.2nm,0.3s,baz=197,slow=12,SNR=2.4
2.8nm,1.0s
MJAR Matsushiro Arr 18.35 45 LR LR 08 27 36.9
comp=Z,54nm,21.3s,baz=206,slow=36
CMAR Chiang Mai Arr 22.45 259 LR LR 08 31 11.8
comp=Z,28nm,18.1s,baz=65,slow=39
GUMO Guam 23.88 112 LR LR 08 29 36.9
comp=Z,35nm,20.5s,baz=87,slow=33
ASAJ Asahikawa 25.82 35 LR LR 08 32 50.4
comp=Z,48nm,18.4s,baz=206,slow=38
ULN Ulaanbaatar 26.41 337 P P 08 21 59.2 -0.1
ULN IAmb IAmb 08 21 59.8
comp=Z,6.8nm,0.5s
SONM Songino Array 26.62 336 P P 08 22 01.2 0.0
comp=Z,5.6nm,0.6s,baz=152,slow=10,SNR=40
comp=Z,5.6nm,0.6s
SONM Songino Array 26.62 336 P P 08 22 01.3 0.0
SONM IAmb IAmb 08 22 01.9
comp=Z,5.1nm,0.7s
PSI Prapat 31.06 230 LR LR 08 35 05.1
comp=Z,48nm,18.7s,baz=48,slow=36
MK31 Makanchi Array 38.91 315 P P 08 23 47.9 -0.3
MKAR Makanchi Array 38.91 315 P P 08 23 48.1 -0.1
comp=Z,1.4nm,0.5s,baz=100,slow=10,SNR=30
MKAR PcP PcP 08 25 57.8 -0.5
comp=Z,0.3nm,0.7s,baz=88,slow=5.1,SNR=3.8
comp=Z,1.4nm,0.5s
MKAR Makanchi Array 38.91 315 P P 08 23 47.8 -0.4
MAKZ Makanchi 39.12 315 P P 08 23 50.0 +0.1
MAKZ IAmb IAmb 08 23 50.8
comp=Z,2.3nm,0.6s
PETK Petropavlovsk- 39.22 34 LR LR 08 40 25.3
comp=Z,24nm,19.7s,baz=121,slow=37
ZAA0 Zalesovo Array 40.66 327 P P 08 24 01.2 -1.3
ZAA0 IAmb IAmb 08 24 02.4
comp=Z,3.9nm,0.9s
ZALV Zalesovo Beam 40.66 327 P P 08 24 01.1 -1.4
comp=Z,3.2nm,0.6s,baz=113,slow=7.4,SNR=14
ZALV LR LR 08 42 01.3
comp=Z,47nm,18.2s,baz=88,slow=38
comp=Z,3.2nm,0.6s
ZALV Zalesovo Beam 40.66 327 P P 08 24 01.5 -1.0
KURK Kurchatov 42.61 320 P P 08 24 18.4 -0.1
KURK IAmb IAmb 08 24 18.5
comp=Z,4.5nm,1.3s
KURBB Kurchatov Arra 42.63 319 P P 08 24 18.1 -0.5
comp=Z,1.9nm,0.2s,baz=111,slow=7.8,SNR=5.1
comp=Z,1.9nm,0.2s
WB0 Warramunga Arr 45.40 164 P P 08 24 41.2 +0.1
WB0 IAmb IAmb 08 24 46.1
comp=Z,5.6nm,1.2s
WRA Warramunga Arr 45.55 164 P P 08 24 42.4 -0.1
comp=Z,2.5nm,0.8s,baz=345,slow=8.6,SNR=14
WRA PcP PcP 08 26 19.1 -1.4
comp=Z,0.6nm,0.8s,baz=354,slow=3.5,SNR=3.8
comp=Z,2.5nm,0.8s
WRA Warramunga Arr 45.55 164 P P 08 24 42.6 +0.2
KKAR Karatay Array 46.15 307 P P 08 24 48.4 +1.3
TIXI Tiksi 47.50 3 LR LR 08 48 09.4
comp=Z,38nm,18.2s,baz=351,slow=40
BRVK Borovoye 48.25 320 P P 08 25 02.9 -0.3
BRVK IAmb IAmb 08 25 04.5
comp=Z,3.3nm,1.0s
ASAR Alice Springs 49.03 166 P P 08 25 10.2 +0.8
comp=Z,1.0nm,0.7s,baz=341,slow=7.5,SNR=12
ASAR PcP PcP 08 26 32.5 -0.3
comp=Z,0.6nm,0.9s,baz=338,slow=2.0,SNR=3.7
comp=Z,1.0nm,0.7s
ASAR Alice Springs 49.03 166 P P 08 25 08.5 -0.9
NRIK Noril'sk 49.52 345 LR LR 08 50 23.2
comp=Z,64nm,18.2s,baz=284,slow=41
ABKAR Akbulak array 54.03 314 P P 08 25 46.4 -0.2
GEYT Alibeck 55.56 300 LR LR 08 54 36.5
comp=Z,56nm,18.4s,baz=55,slow=41
ARU Arti 55.58 323 P P 08 25 56.4 -1.3
comp=Z,4.7nm,0.2s,baz=145,slow=6.8,SNR=3.8
comp=Z,4.7nm,0.2s
STKA Stephens Creek 58.87 161 P P 08 26 21.1 0.0
comp=Z,1.2nm,0.7s,baz=282,slow=9.8,SNR=3.5
comp=Z,1.2nm,0.7s
STKA Stephens Creek 58.87 161 P P 08 26 21.9 +0.8
H21K Melozitna Rive 66.05 27 P P 08 27 09.2 +0.5
H21K IAmb IAmb 08 27 32.1
comp=Z,6.1nm,1.4s
KTH Kantishna Hill 67.12 29 P P 08 27 16.6 +0.9
SUA Susitna One 67.54 31 P P 08 27 18.0 -0.4
ILAR Eielson Array 68.65 27 P P 08 27 25.4 +0.2
comp=Z,0.6nm,1.1s,baz=293,slow=6.7,SNR=4.4
comp=Z,0.6nm,1.1s
BMAR Burnt Mountain 69.00 24 P P 08 27 27.4 0.0
SCM Sheep Creek Mo 69.07 31 P P 08 27 27.4 -0.5
BCAR Beaver Creek A 71.25 29 P P 08 27 41.4 +0.1
FINES FINESS Array B 71.81 330 P P 08 27 42.8 -1.7
comp=Z,1.9nm,0.8s,baz=47,slow=6.1,SNR=2.2
comp=Z,1.9nm,0.8s
DAWY Dawson 71.97 27 P P 08 27 45.4 -0.2
DAWY IAmb IAmb 08 27 56.2
comp=Z,6.0nm,1.4s
YKA Yellowknife Ar 82.47 23 P P 08 28 42.9 -1.4
comp=Z,1.2nm,0.9s,baz=312,slow=4.9,SNR=16
comp=Z,1.2nm,0.9s
USHA Ushuaia 148.51 168 PKPbc PKPdf 08 36 05.6 +0.9
comp=Z,22nm,0.4s,baz=239,slow=0.1,SNR=2.4

*SEA **20** 08:20:05.1±2.7,47°.278N±0°.008×123°.800W±0°.008, h-0km±8km, ML2.6/14, ML2.5/16(NEIC), Error ellipse: s-maj=1.4km s-min=0.4km az=214.0*
NEIC 20 08:20:04.6±1.9, 47°.278N±0°.007×123°.79W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=306.0, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLWA	**Neilton Lookou**	**0.13**	**334**		Pg	08 20 07.3	-0.3
NLWA					Sg	08 20 09.9	+0.2
NLWA	**Neilton Lookou**	**0.13**	**334**	IAML		08 20 10.1	
	2μm,0.4s						
NLWA				IAML		08 20 10.2	
	2μm,0.6s						
WISH	**Wishkah**	**0.16**	**176**		Pg	08 20 08.4	+0.3
WISH	**Wishkah**	**0.16**	**176**		Sg	08 20 10.3	-0.2
WISH				IAML		08 20 12.2	
	comp=N,1μm,0.5s						
WISH				IAML		08 20 12.5	
	comp=E,983nm,0.1s						
OLQ	**Olympics--Lake**	**0.24**	**356**		Pg	08 20 09.3	-0.1
OLQ					Sg	08 20 13.5	+0.7
PABH	**Pacific Beach**	**0.29**	**257**		Sb	08 20 17.0	+0.2
SMW	**South Mountain**	**0.31**	**82**		Pg	08 20 11.4	+0.7
B017	**Montesano**	**0.32**	**151**		Pg	08 20 11.6	+0.6
TAHO	**Taholah School**	**0.35**	**281**		Sb	08 20 19.5	+1.1
CPW	**Capitol Peak**	**0.54**	**124**		Pg	08 20 15.1	0.0
CPW					Sb	08 20 24.0	0.0
OSD	**Olympics--Snow**	**0.55**	**6**		Pg	08 20 15.3	0.0
OSD					Sb	08 20 23.5	-0.9
EGRN	**Evergreen Coll**	**0.59**	**110**		Pg	08 20 16.2	+0.2
EGRN					Sb	08 20 26.3	+1.0
HDW	**Hoodsport**	**0.62**	**53**		Pg	08 20 15.7	-0.9
B019	**Raymond**	**0.63**	**172**		Pg	08 20 16.6	-0.2
C04A	**Brinnon**	**0.71**	**51**		Sb	08 20 29.4	+0.6
GMW	**Gold Mountain**	**0.73**	**68**		Pg	08 20 17.6	-1.1
E03A	**Lebam**	**0.75**	**168**		Pg	08 20 18.1	-0.9
E03A	**Lebam**	**0.75**	**168**	IAML		08 20 35.0	
	comp=E,224nm,0.5s						
OBC	**Olympics--Boni**	**0.78**	**346**		Pb	08 20 20.2	-0.1
B013	**Quilcene**	**0.80**	**48**		Pb	08 20 20.5	0.0
B013	**Quilcene**	**0.80**	**48**		Pb	08 20 20.5	0.0
B04A	**Port Angeles**	**0.80**	**14**		Pg	08 20 20.3	+0.2
B04A	**Port Angeles**	**0.80**	**14**		Pg	08 20 19.3	-0.8
B04A	**Port Angeles**	**0.80**	**14**	IAML		08 20 35.8	
	comp=N,174nm,0.3s						
P403	**Sandy Floe Qua**	**0.82**	**343**		Pg	08 20 19.6	-0.8
C03A	**Quillayute Air**	**0.85**	**322**		Pg	08 20 20.7	-0.3
C03A				IAML		08 20 28.8	
	comp=N,172nm,3.1s						
RADR	**Rader Ridge**	**0.86**	**181**		Pg	08 20 20.4	-0.6
RADR				IAML		08 20 24.9	
	comp=N,172nm,2.0s						
STW	**Striped Peak**	**0.88**	**5**		Pb	08 20 22.1	+0.2
BMW	**Boistfort Moun**	**0.89**	**154**		Pg	08 20 19.7	-2.1
D05A	**Enumclaw**	**1.23**	**94**		Pn	08 20 27.6	-0.2
B023	**Clatskanie**	**1.27**	**157**		Pn	08 20 25.4	-2.8
B011	**North Saanich**	**1.39**	**9**		Pn	08 20 27.9	-2.2
PGC	**Sidney**	**1.39**	**9**	Pn	Pn	08 20 28.9	-1.1
PGC				IAML		08 20 51.1	
	comp=E,53nm,0.5s						
B201	**Coldwater, Mou**	**1.43**	**132**		Pn	08 20 28.4	-2.2
FL2	**Flat Top 2**	**1.47**	**137**		Pn	08 20 29.1	-2.1
STD	**Studebaker Rid**	**1.50**	**133**		Pn	08 20 29.8	-1.8
B202	**Windy Ridge, M**	**1.54**	**132**		Pn	08 20 30.2	-1.9
SEPW	**September Lobe**	**1.54**	**134**		Pn	08 20 31.0	-1.3
JCW	**Jim Creek**	**1.55**	**53**		Pn	08 20 31.7	-0.6
WPW	**White Pass**	**1.64**	**110**		Pn	08 20 32.7	-0.9
MBW	**Mount Baker**	**1.97**	**39**		Pn	08 20 37.8	-0.4
LTY	**Liberty**	**2.12**	**89**		Pn	08 20 40.8	+0.7

*IDC **20** 08:20:45.2±1.3,28°.24S×68°.61W, h90km±12km, mb3.3/2, mbtmp3.8/7, Error ellipse: s-maj=34.2km s-min=9.6km az=88.0*
*NEIC **20** 08:20:47.6±1.9,28°.34S±0°.05×68°.84W±0°.09, h111km±9km, mb4.2/7, Error ellipse: s-maj=12.0km s-min=7.4km az=89.0*
ISC 20 08:20:46.3±0.7, 28°.28S±0°.04×68°.68W±0°.04, h110km±6km, n71, σ1$47/86, mb4.2/7, 11C-1D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.62**	**137**⇓	*iP*	**Pn**	**08 21 05.2**	**+0.9**
VCA				*eS*	**Sn**	**08 21 18.4**	**+0.6**
VCA				IAML		08 21 19.5	
	comp=N,29μm,0.4s						
AC02	**Maricunga**	**1.50**	**345**		**Pn**	**08 21 15.6**	**+1.9**
AC02				Sn	**Sn**	**08 21 36.5**	**+2.3**
AC02	**Maricunga**	**1.50**	**345**⇑	*iP*	**Pn**	**08 21 15.7**	**+2.0**
AC02				*eS*	**Sn**	**08 21 36.7**	**+2.4**
AC05	**El Transito**	**1.50**	**248**		**Pn**	**08 21 14.2**	**+0.8**
AC05	**El Transito**	**1.50**	**248**⇑	*iP*	**Pn**	**08 21 14.4**	**+1.1**
AC05				*eS*	**Sn**	**08 21 35.0**	**+1.2**
AC05				IAML		08 21 37.0	
	comp=E,2μm,0.5s						
GO03	**Copiap**	**1.53**	**296**		**Pn**	**08 21 14.0**	**+0.4**
GO03				Sn	**Sn**	**08 21 34.2**	**-0.2**
GO03	**Copiap**	**1.53**	**296**⇑	*eP*	**Pn**	**08 21 14.2**	**+0.5**
GO03				*eS*	**Sn**	**08 21 34.4**	**0.0**
GO03				IAML		08 21 35.8	
	comp=E,4μm,0.2s						
AC06	**Mina Casimiro**	**1.74**	**302**		**Pn**	**08 21 16.5**	**+0.3**
AC06				Sn	**Sn**	**08 21 37.8**	**-1.1**
AC06	**Mina Casimiro**	**1.74**	**302**⇑	*iP*	**Pn**	**08 21 16.4**	**+0.3**
AC06				*eS*	**Sn**	**08 21 38.0**	**-0.9**
AC06				IAML		08 21 39.8	

comp=E,814nm,0.2s
LCO Las Campanas 1.92 247 Pn 08 21 19.2 +0.7
LCO Las Campanas 1.92 247 *eP* **Pn 08 21 18.4 -0.1**
LCO *eS* **Sn 08 21 44.0 +1.0**
CO01 Juntas del Tor 2.09 216 Pn 08 21 22.5 +1.8
CO01 Juntas del Tor 2.09 216 ⇑*iP* **Pn 08 21 22.5 +1.8**
CO01 *eS* **Sn 08 21 50.0 +3.0**
AC04 Llanos de Chal 2.11 272 Pn 08 21 20.6 -0.1
AC04 Llanos de Chal 2.11 272 ⇑*iP* **Pn 08 21 20.6 -0.2**
AC04 *eS* **Sn 08 21 46.0 -1.0**
AC04 IAML 08 21 46.8
comp=E,928nm,0.1s
CYA Choya 2.54 94 ⇑*iP* **Pn 08 21 27.3 +0.9**
CYA *eS* **Sn 08 21 56.2 -0.9**
GO04 Tololo Observa 2.64 224 Pn 08 21 27.9 +0.1
GO04 Tololo Observa 2.64 224 ⇑*eP* **Pn 08 21 27.8 +0.1**
AC01 Pan de Azucar 2.73 321 Pn 08 21 29.7 +1.0
AC01 Pan de Azucar 2.73 321 *eP* **Pn 08 21 29.3 +0.5**
AC01 *eS* **Sn 08 22 00.2 -1.1**
CO05 La Serena 2.77 233 Pn **Pn 08 21 28.6 -0.6**
CO05 La Serena 2.77 233 ⇑*eP* **Pn 08 21 28.6 -0.6**
CO03 El Pedregal 3.09 214 Pn **Pn 08 21 33.5 -0.1**
CO03 El Pedregal 3.09 214 ⇑*eP* **Pn 08 21 33.9 +0.3**
ZON Zonda 3.25 180 Pn **Pn 08 21 36.4 +0.7**
CFA Coronel Fontan 3.33 173 P **Pn 08 21 37.5 +0.7**
comp=E,82nm,0.3s,baz=6.0,slow=13,SNR=914
CFA S **Sn 08 22 14.9 -0.8**
comp=E,160nm,0.5s,baz=142,slow=17,SNR=19
CO02 Combarbal 3.54 214 Pn 08 21 39.1 -0.6
CO02 Combarbal 3.54 214 ⇑*eP* **Pn 08 21 39.0 -0.6**
PB14 IPOC Station P 3.96 337 Pn **Pn 08 21 46.8 +1.4**
VA03 San Esteban 4.75 199 Pn 08 21 55.8 0.0
VA06 Catapilco 4.82 207 Pn **Pn 08 21 54.8 -1.9**
PB10 IPOC Station P 5.04 340 Pn 08 21 59.6 -0.1
ROC1 El Roble 5.09 203 Pn 08 21 58.6 -2.0
PEL Peldehue 5.14 199 Pn 08 21 59.7 -1.3
AF01 San Pedro de A 5.33 5 Pn 08 22 05.2 +1.3
MT05 Renca 5.39 199 Pn **Pn 08 22 03.2 -1.2**
LVC Limon Verde 5.65 358 P **Pn 08 22 08.3 0.0**
comp=E,9.3nm,0.3s,baz=159,slow=10,SNR=75
LVC S **Sn 08 23 09.4 -2.8**
comp=E,14nm,0.3s,baz=255,slow=19,SNR=11
LVC Limon Verde 5.65 358 Pn **Pn 08 22 08.6 +0.2**
LMEL Las Melosas 5.70 193 Pn 08 22 07.7 -1.0
MT09 Talagante 5.82 199 Pn 08 22 07.8 -2.6
BO04 La Punta 5.92 196 Pn 08 22 09.9 -1.7
MT01 Popeta 5.98 201 Pn **Pn 08 22 09.6 -2.8**
BO01 Tunca 6.43 198 Pn **Pn 08 22 15.4 -3.0**
BO02 Sierra Bellavi 6.73 195 Pn **Pn 08 22 20.0 -2.6**
PB02 IPOC Station P 7.02 351 Pn **Pn 08 22 25.1 -1.6**
PB01 IPOC Station P 7.25 354 Pn **Pn 08 22 28.2 -1.4**
TA01 Diego Aracena 7.80 350 Pn 08 22 35.5 -1.7
GO01 Chusmiza 8.59 357 Pn 08 22 46.5 -1.8
MNMC Minye Minye 9.15 355 Pn 08 22 54.2 -1.5
CPUP Villa Florida 10.29 82 P **Pn 08 23 07.1 -3.7**
comp=E,1.0nm,0.3s,baz=250,slow=12,SNR=6.5
CPUP Villa Florida 10.29 82 Pn **Pn 08 23 08.4 -2.4**
ITQB Itaqui 10.65 100 Pn **Pn 08 23 14.4 -1.3**
TRQA Tornquist 11.24 152 Pn **Pn 08 23 21.4 -2.2**
LPAZ La Paz 11.95 3 P **Pn 08 23 31.3 -2.4**
comp=E,0.4nm,0.3s,baz=19,slow=23,SNR=2.0
PLCA Paso Flores 12.51 187 P **Pn 08 23 37.7 -2.8**
comp=E,0.8nm,0.8s,baz=300,slow=15,SNR=2.2
SIV San Ignacio 14.11 32 P **Pn 08 24 00.5 -0.9**
comp=E,0.7nm,0.4s,baz=250,slow=8.4,SNR=4.2
RUSC La Rusia 34.24 352 P **P**
RUSC IAmb IAmb 08 27 37.2
comp=Z,4.3nm,1.2s
BAUV El Baul 37.01 1 P **P 08 27 45.9 +0.5**
SNAA Sanae 55.85 160 P **P 08 30 13.2 +1.2**
SNAA IAmb IAmb 08 30 39.0
comp=Z,4.7nm,1.3s
TXAR Lajitas Array 66.35 327 P **P 08 31 24.3 +1.0**
comp=Z,0.4nm,0.9s,baz=152,slow=8.3,SNR=3.9
comp=Z,0.4nm,0.9s
U49A Red Boiling Sp 66.43 345 P **P 08 31 23.4 -0.2**
WVT Waverly 66.56 343 P **P 08 31 25.6 +1.2**
WVT IAmb IAmb 08 31 47.9
comp=Z,4.2nm,1.1s
CCM Cathedral Cave 69.29 341 P **P 08 31 42.7 +1.2**
CCM IAmb IAmb 08 31 43.7
comp=Z,2.7nm,0.7s
R40A Maddies Statio 69.81 340 P **P 08 31 46.0 +1.3**
R40A IAmb IAmb 08 31 47.1
comp=Z,3.9nm,0.8s
PDAR Pinedale Array 80.08 331 P **P 08 32 45.0 +1.0**
comp=Z,0.7nm,0.8s,baz=128,slow=8.5,SNR=6.0
comp=Z,0.7nm,0.8s
ASAR Alice Springs 123.95 205 PKP **PKPdf 08 39 32.5 +0.4**
comp=Z,0.5nm,0.7s,baz=128,slow=1.9,SNR=6.1
WRA Warramunga Arr 127.14 207 PKP **PKPdf 08 39 38.8 +0.5**
comp=Z,0.6nm,0.5s,baz=157,slow=1.8,SNR=9.6
AAK Ala-Archa 147.04 54 PKPbc **PKPbc 08 40 17.4 +1.0**
comp=Z,1.7nm,0.6s,baz=214,slow=5.8,SNR=6.7
ZALV Zalesovo Beam 147.86 30 PKPbc **PKiKP 08 40 20.0 +0.1**
comp=Z,1.9nm,0.3s,baz=267,slow=3.9,SNR=5.0
MKAR Makanchi Array 150.73 43 PKPbc **PKPbc 08 40 26.4 +1.0**
comp=Z,1.7nm,0.6s,baz=297,slow=2.0,SNR=13
PZH PanZhiHua 171.31 100 PKP **PKPdf 08 40 42.0 -0.2**

DDA ***20*** *08:39:33.7±0.0,36.°61N×28.°26E,h53km±5km, MW3.5*
ATH ***20*** *08:39:33.9,36.°42N×28.°19E,h66km±3km, ML2.9/5, Error ellipse: s-maj=5.4km s-min=2.0km az=199.0*
GII ***20*** *08:39:34.7±0.8,37.°41N×30.°69E,h45km, Mm3.1/1*
THE ***20*** *08:39:34.9,36.°59N×28.°37E,h54km±3km, ML2.9/3, Error ellipse: s-maj=3.0km s-min=0.9km az=144.0*
ISK 20 08:39:35.2,36.°63N×28.°32E,h31km, ML3.3/20
ISC 20 08:39:34.6±1.1, 36.°57N±0.°03×28.°37E±0.°03, h50km, n55, σ1s78/89, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.34**	**43**	Pg	**Pn**	**08 39 43.8**	**-0.3**
DALY				Sg	**Sn**	**08 39 50.5**	**-0.3**
ARG	**Arkhangelos**	**0.40**	**209**	P	**Pn**	**08 39 45.2**	**+0.4**
ARG				S	**Sn**	**08 39 53.0**	**+1.1**
	3μm,0.3s						
ARG	**Arkhangelos**	**0.40**	**209**	Pg	**Pn**	**08 39 45.2**	**+0.4**
ARG				Sg	**Sn**	**08 39 53.1**	**+1.1**
ARG	**Arkhangelos**	**0.40**	**209**	P	**Pn**	**08 39 45.2**	**+0.4**
ARG				S	**Sn**	**08 39 52.7**	**+0.7**
ARG				AML	AML	08 39 53.5	
	comp=N,6007μm,0.3s						
ARG				AML	AML	08 39 54.0	
	comp=E,6694μm,0.4s						
YER	**Yerkesik**	**0.57**	**353**	P	**Pn**	**08 39 46.6**	**-0.2**
YER				S	**Sn**	**08 39 55.5**	**0.0**
YER	**Yerkesik**	**0.57**	**353**	Pg	**Pn**	**08 39 46.6**	**-0.2**
FETY	**Fethiye**	**0.58**	**83**	Pg	**Pn**	**08 39 47.4**	**+0.5**
FETY				Sg	**Sn**	**08 39 57.4**	**+1.7**
DAT	**Datca**	**0.65**	**284**	P	**Pn**	**08 39 47.8**	**-0.1**
DAT				S	**Sn**	**08 39 58.2**	**+0.8**
DAT	**Datca**	**0.65**	**284**	Pg	**Pn**	**08 39 47.9**	**0.0**
DAT				Sg	**Sn**	**08 39 57.1**	**-0.3**
MLSB	**Milas**	**0.86**	**327**	Pg	**Pn**	**08 39 50.7**	**+0.2**
MLSB				Sg	**Sn**	**08 40 02.2**	**0.0**
BDRM	**Kayabasi**	**0.89**	**304**	P	**Pn**	**08 39 50.5**	**-0.4**
BDRM				S	**Sn**	**08 40 01.9**	**-0.9**
CAEL	**Denizli, Camel**	**0.94**	**54**	P	**Pn**	**08 39 53.1**	**+1.4**
CAEL				S	**Sn**	**08 40 06.8**	**+2.5**
TAVA	**DENIZLI_Tavas**	**0.99**	**26**	P	**Pn**	**08 39 52.9**	**+0.6**
TAVA				S	**Sn**	**08 40 06.4**	**+1.0**
NISR	**Nisiros**	**1.00**	**273**	P	**Pn**	**08 39 52.3**	**+0.1**
NISR				S	**Sn**	**08 40 05.6**	**+0.3**
	comp=E,615nm,0.3s						
NISR	**Nisiros**	**1.00**	**273**	P	**Pn**	**08 39 52.4**	**+0.2**
NISR				S	**Sn**	**08 40 05.8**	**+0.5**
NISR				AML	AML	08 40 07.4	
	comp=E,1251μm,0.2s						
NISR				AML	AML	08 40 11.8	
	comp=N,1188μm,0.5s						
AKAS	**Kas**	**1.05**	**108**	Pn	**Pn**	**08 39 55.7**	**+2.5**
AKAS				Sn	**Sn**	**08 40 09.3**	**+2.4**
AKAS	**Kas**	**1.05**	**108**	P	**Pn**	**08 39 53.6**	**+0.4**
AKAS				S	**Sn**	**08 40 10.9**	**+4.0**
KSL	**Kastellorizon**	**1.07**	**113**	P	Pn	08 39 56.3	+3.1
KSL				AML	AML	08 40 15.7	
	comp=N,252μm,0.4s						
KSL				AML	AML	08 40 16.2	
	comp=E,365μm,0.4s						
KOSK	**Kos Island**	**1.13**	**280**	P	**Pn**	**08 39 54.1**	**+0.1**
KOSK				S	**Sn**	**08 40 08.2**	**-0.3**
	comp=E,222nm,0.3s						
KOSK	**Kos Island**	**1.13**	**280**	Pn	**Pn**	**08 39 54.8**	**+0.8**
KOSK				Sn	**Sn**	**08 40 08.8**	**+0.3**
KOSK	**Kos Island**	**1.13**	**280**	P	**Pn**	**08 39 54.3**	**+0.3**
KOSK				AML	AML	08 40 09.6	
	comp=N,1285μm,0.3s						
KOSK				AML	AML	08 40 11.3	
	comp=E,1280μm,0.4s						
AYDN	**Tasoluk**	**1.16**	**340**	P	**Pn**	**08 39 55.0**	**+0.5**
AYDN				S	**Sn**	**08 40 09.6**	**+0.4**
GOLH	**Golhisar**	**1.17**	**55**	P	**Pn**	**08 39 56.2**	**+1.5**
GOLH				S	**Sn**	**08 40 11.9**	**+2.4**
APMY	**Acipayam-Deniz**	**1.17**	**40**	Pn	**Pn**	**08 39 55.3**	**+0.6**
APMY				Sn	**Sn**	**08 40 10.6**	**+1.0**
ELL	**Elmali**	**1.25**	**81**	Pn	**Pn**	**08 39 57.7**	**+1.8**
GCAM	**G?zelcaml?**	**1.45**	**322**	Pn	**Pn**	**08 39 58.4**	**0.0**
GCAM				Sn	**Sn**	**08 40 15.8**	**-0.4**
GCAM	**G?zelcaml?**	**1.45**	**322**	P	**Pn**	**08 39 58.4**	**0.0**
GCAM				S	**Sn**	**08 40 15.2**	**-1.0**
AKUM	**Antalya-Kumluc**	**1.61**	**98**	P	**Pn**	**08 40 01.9**	**+1.3**
AKUM				S	**Sn**	**08 40 22.5**	**+2.2**
KORT	**Korkueli**	**1.65**	**74**	P	**Pn**	**08 40 02.9**	**+1.6**
KORT				S	Sn	08 40 29.4	+8.0
BRDR	**BURDUR-Merkez**	**1.76**	**50**	P	**Pn**	**08 40 03.0**	**+0.2**
BRDR				S	**Sn**	**08 40 26.0**	**+2.0**
DGB	**zmir**	**1.89**	**322**	P	**Pn**	**08 40 04.1**	**-0.4**
DGB				S	**Sn**	**08 40 25.8**	**-1.3**
BASM	**Basmaki-Afyon**	**1.90**	**44**	Pn	**Pn**	**08 40 06.1**	**+1.4**
KULA	**Kula-Manisa**	**1.95**	**7**	P	**Pn**	**08 40 05.0**	**-0.4**
KULA				S	**Sn**	**08 40 27.9**	**-0.9**
KULA	**Kula-Manisa**	**1.95**	**7**	Pn	**Pn**	**08 40 05.0**	**-0.4**
PASA	**Karahalli, USA**	**1.99**	**26**	P	**Pn**	**08 40 05.5**	**-0.3**
PASA				S	**Sn**	**08 40 29.3**	**-0.3**
USAK	**Uak-Merkez**	**2.20**	**13**	P	**Pn**	**08 40 08.6**	**-0.2**
USAK				S	**Sn**	**08 40 34.1**	**-0.7**
ZKR	**Zakros**	**2.27**	**231**	Pn	**Pn**	**08 40 11.0**	**+1.3**
ZKR	**Zakros**	**2.27**	**231**	P	**Pn**	**08 40 10.9**	**+1.3**
ZKR				AML	AML	08 40 42.2	
	comp=E,216μm,0.2s						
ZKR				AML	AML	08 40 42.3	
	comp=N,138μm,0.6s						
URLA	**Izmir**	**2.27**	**322**	Pn	**Pn**	**08 40 09.7**	**0.0**
URLA	**Izmir**	**2.27**	**322**	P	**Pn**	**08 40 09.5**	**-0.2**
SUTC	**Sutluce-Ispart**	**2.29**	**66**	Pn	**Pn**	**08 40 11.9**	**+1.8**
APE	**Apeiranthos**	**2.33**	**283**	Pn	**Pn**	**08 40 11.7**	**+1.2**
AKHS	**Akhisar**	**2.34**	**349**	P	**Pn**	**08 40 10.1**	**-0.6**
AKHS				S	**Sn**	**08 40 37.3**	**-1.0**
DEMI	**Demirci**	**2.48**	**6**	P	**Pn**	**08 40 12.3**	**-0.3**
DEMI				S	**Sn**	**08 40 40.4**	**-1.4**
SIMA	**Simav-Kutahya**	**2.56**	**11**	Pn	**Pn**	**08 40 13.5**	**-0.1**
KEPZ	**Antalya-Kepez**	**2.62**	**82**	P	Pn	08 40 17.0	+2.5
KEPZ				S	**Sn**	**08 40 49.1**	**+4.0**
SHUT	**Suhut-Afyon**	**2.63**	**41**	Pn	**Pn**	**08 40 15.1**	**+0.4**
GDZ	**Gediz**	**2.66**	**19**	P	**Pn**	**08 40 14.9**	**-0.3**
GDZ				S	**Sn**	**08 40 44.8**	**-1.5**
DOQA	**KONYA_Doganhis**	**3.04**	**59**	P	**Pn**	**08 40 21.4**	**+1.0**
KKBE	**Karaman, Kazim**	**3.72**	**79**	P	**Pn**	**08 40 31.1**	**+1.4**
KZIT	**Kziot**	**7.56**	**137**	Pn	**Pn**	**08 41 19.1**	**-3.1**
KZIT				Sn	**Sn**	**08 42 40.9**	**-5.6**
PRNI	**Paran**	**8.32**	**136**	Pn	**Pn**	**08 41 29.3**	**-3.3**
PRNI				Sn	**Sn**	**08 42 57.9**	**-7.3**
HRFI	**Mount Harif**	**8.58**	**138**	Pn	**Pn**	**08 41 32.6**	**-3.6**
HRFI				Sn	**Sn**	**08 43 05.9**	**-5.7**
MBRI	**Mt Berech**	**8.70**	**139**	Pn	**Pn**	**08 41 36.1**	**-1.8**
EIL	**Elat**	**8.82**	**139**	Pn	**Pn**	**08 41 37.1**	**-2.4**

IDC 20 08:40:12.1±2.2, 54.°28N×85.°94E, h0km, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=16.7km s-min=9.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.74**	**244**	I	I	08 46 00.0	
	baz=62,slow=340,SNR=0.9						
ZALV	**Zalesovo Beam**	**0.74**	**244**	Pg	Pg	08 40 25.1	-1.2
	2.6nm,0.3s,baz=63,slow=17,SNR=13						
ZALV				Lg	Lg	08 40 37.3	
	12nm,0.3s,baz=63,slow=30,SNR=36						
KURBB	**Kurchatov Arra**	**5.82**	**234**	Pn	Pn	08 41 40.4	+0.7
	0.2nm,0.3s,baz=50,slow=13,SNR=4.9						
KURBB				Lg	Lg	08 43 15.7	
	0.2nm,0.3s,baz=45,slow=32,SNR=2.1						
	1.4nm,0.3s						
MKAR	**Makanchi Array**	**7.84**	**199**	Pn	Pn	08 42 08.5	+1.0
	0.4nm,0.3s,baz=20,slow=11,SNR=12						
MKAR				Lg	Lg	08 44 20.2	
	0.1nm,0.3s,baz=22,slow=30,SNR=1.9						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**9.32**	**269**	Pn	Pn	08 42 27.3	-0.4
	baz=84,slow=10,SNR=1.5						
	0.3nm,0.5s						

IDC 20 08:42:06.7±3.0, 54.°16N×87.°23E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.7km s-min=16.6km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**263**	I	I	08 51 30.0	
	baz=80,slow=344,SNR=7.1						
ZALV	**Zalesovo Beam**	**1.43**	**263**	Pg	Pn	08 42 32.6	-1.4
	1.4nm,0.3s,baz=84,slow=17,SNR=5.3						
ZALV				Lg	Lg	08 42 53.0	
	1.8nm,0.3s,baz=83,slow=28,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.39**	**240**	Pn	Pn	08 43 41.9	-0.1
	0.1nm,0.3s,baz=56,slow=14,SNR=1.7						
KURBB				Sn	Sn	08 44 54.9	-0.8
	0.1nm,0.3s,baz=64,slow=28,SNR=1.7						
KURBB				Lg	Lg	08 45 28.5	
	0.1nm,0.3s,baz=61,slow=31,SNR=2.4						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**8.01**	**205**	Pn	Pn	08 44 06.1	+1.8
	0.2nm,0.3s,baz=24,slow=13,SNR=4.9						
MKAR				Sn	Sn	08 45 35.5	-0.1
	0.1nm,0.3s,baz=23,slow=27,SNR=4.1						
MKAR				Lg	Lg	08 46 21.5	
	baz=27,slow=30,SNR=1.5						
	0.2nm,0.3s						

ROM 20 08:46:22.7±0.1, 42.°592N±0.°004×13.°317E±0.°006, h11km, ML1.7/6, 2C-2D, Error ellipse: s-maj=0.5km s-min=0.4km az=225.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**19**	P	Pg	08 46 25.0	+0.2
SMA1				S	Sg	08 46 26.5	+0.1
SMA1				AML	AML		
	comp=E,3765μm,0.4s						
SMA1				AML	AML		
	comp=N,1625μm,0.2s						
CAMP	**Campotosto**	**0.09**	**130**	P	Pg	08 46 25.5	+0.2
RM33	**Pellescritta (**	**0.11**	**223**	P	Pg	08 46 26.1	+0.5
RM33				S	Sg	08 46 28.5	+0.8
RM33				AML	AML		
	comp=E,380μm,0.9s						
RM33				AML	AML		
	comp=N,301μm,0.6s						
RM33				AML	AML		
	comp=E,380μm,1.1s						
T1202	**Accumoli, Fraz**	**0.13**	**329**	⇑P	Pg	08 46 26.6	+0.7
T1202				S	Sg	08 46 29.4	+1.1
T1202				AML	AML		
	comp=E,1012μm,0.6s						
T1202				AML	AML		
	comp=N,928μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.15**	**185**	P	Pb	08 46 28.1	+0.5
T1247				AML	AML		
	comp=E,355μm,1.6s						
T1247				AML	AML		
	comp=N,466μm,0.4s						
T1218	**Civita (PG)**	**0.17**	**298**	P	Pg	08 46 26.7	+0.3
T1218				S	Sg	08 46 29.9	+0.7
LNSS	**Leonessa**	**0.20**	**273**	P	Pg	08 46 27.7	+0.6
LNSS				AML	AML		
	comp=E,198μm,0.7s						
LNSS				AML	AML		
	comp=N,226μm,0.2s						
LNSS				AML	AML		
	comp=E,198μm,1.3s						
GIGS	**Gran Sasso**	**0.23**	**127**	P	Pg	08 46 27.9	+0.4
GIGS				S	Sg	08 46 32.2	+1.4
GIGS				AML	AML		
	comp=E,50μm,1.6s						
GIGS				AML	AML		
	comp=N,48μm,0.4s						
GIGS				AML	AML		
	comp=E,50μm,0.4s						
T1217	**Poggiodomo (PG**	**0.31**	**293**	P	Pg	08 46 29.3	+0.3
MC2	**Monte Cornacci**	**0.33**	**344**	P	Pg	08 46 29.9	+0.5
FAGN	**Fagnano**	**0.38**	**149**	⇑P	Pb	08 46 31.2	-0.3
FAGN				AML	AML		
	comp=E,118μm,0.7s						
FAGN				AML	AML		
	comp=N,172μm,1.4s						
CESI	**CESI - Serrava**	**0.51**	**324**	P	Pg	08 46 33.2	+0.5
T1220	**Camerino, Fraz**	**0.55**	**342**	⇓P	Pg	08 46 31.5	-1.8
T1220				AML	AML		
	comp=E,258μm,1.2s						
T1220				AML	AML		
	comp=N,198μm,1.1s						
MOMA	**Monte Martano**	**0.59**	**291**	⇓P	Pg	08 46 34.3	+0.1
MOMA				S	Sb	08 46 43.6	+0.1
EL6	**Elcito**	**0.75**	**348**	S	Sn	08 46 50.1	-0.7
VIVA	**Pratoni del Vi**	**0.93**	**206**	S	Sb	08 46 53.1	-0.2
VIVA				AML	AML		
	comp=E,776μm,0.2s						
VIVA				AML	AML		
	comp=N,740μm,0.2s						
PIGN	**Pignataro Magg**	**1.53**	**155**	S	Sn	08 47 09.2	-0.8

ROM ***20*** *08:46:58.8±0.1, 42.°594N±0.°004×13.°307E±0.°005, h9km, ML3.1/30, Error ellipse: s-maj=0.5km s-min=0.3km az=234.0*
BEO ***20*** *08:46:58.9±0.9, 42.°52N×13.°21E, h0km, ML3.3/5*
ISC 20 08:46:59.7±0.8, 42.°59N±0.°02×13.°29E±0.°02, h7km±5km, n72, σ1s05/101, 11C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.05**	**42**	P	**Pg**	**08 47 01.0**	**-0.5**
SMA1				S	**Sg**	**08 47 02.2**	**-0.6**
SMA1				AML	AML		
SMA1				AML	AML		
RM33	**Pellescritta (**	**0.10**	**213**	P	**Pg**	**08 47 02.1**	**0.0**
RM33				S	**Sg**	**08 47 04.3**	**+0.6**
RM33				AML	AML		
	comp=E,13450μm,0.4s						
RM33				AML	AML		
	comp=N,18250μm,0.5s						
RM33				AML	AML		
	comp=E,13700μm,0.3s						
RM33				AML	AML		
	comp=N,17850μm,0.5s						
RM33				AML	AML		
	comp=E,13500μm,0.4s						
CAMP	**Campotosto**	**0.11**	**121**	P	**Pg**	**08 47 01.6**	**-0.5**
CAMP				S	**Sg**	**08 47 03.5**	**-0.4**
CAMP				AML	AML		
	comp=E,18900μm,0.8s						
CAMP				AML	AML		
	comp=E,18900μm,1.2s						
CAMP				AML	AML		
	comp=N,14000μm,0.3s						
T1202	**Accumoli, Fraz**	**0.12**	**338**	⇓P	**Pg**	**08 47 02.5**	**0.0**
T1202				S	**Sg**	**08 47 05.0**	**+0.6**
T1202				AML	AML		
	comp=E,46650μm,0.3s						
T1202				AML	AML		
	comp=N,65200μm,0.2s						
T1202				AML	AML		
	comp=E,46700μm,0.3s						
T1202				AML	AML		
	comp=N,65150μm,0.2s						
T1218	**Civita (PG)**	**0.15**	**302**	P	**Pg**	**08 47 02.7**	**-0.2**
T1218				S	**Sg**	**08 47 05.5**	**+0.5**
T1218				AML	AML		
	comp=E,6935μm,0.3s						
T1218				AML	AML		
	comp=N,13100μm,0.4s						
T1218				AML	AML		
	comp=E,6940μm,0.3s						
T1218				AML	AML		
	comp=N,13100μm,0.4s						
T1218				AML	AML		
	comp=E,6950μm,0.3s						
T1218				AML	AML		
	comp=N,13050μm,0.4s						
T1218				AML	AML		
	comp=E,6940μm,0.3s						
T1218				AML	AML		
	comp=E,6950μm,0.3s						
T1218				AML	AML		
	comp=N,13050μm,0.4s						
T1218				AML	AML		
	comp=N,13100μm,1.6s						
T1218				AML	AML		
	comp=N,13050μm,1.6s						
T1247	**Pizzolo (AQ)**	**0.15**	**176**	P	**Pg**	**08 47 02.7**	**-0.1**
T1247				S	**Sg**	**08 47 05.7**	**+0.7**
T1247				AML	AML		
	comp=E,17300μm,0.4s						
T1247				AML	AML		
	comp=N,20600μm,0.3s						
LNSS	**Leonessa**	**0.18**	**274**	P	**Pg**	**08 47 03.5**	**+0.1**
LNSS				S	**Sg**	**08 47 07.1**	**+1.1**
LNSS				AML	AML		
	comp=E,15650μm,0.6s						
LNSS				AML	AML		
	comp=N,15150μm,0.3s						
AQU	**L'Aquila**	**0.25**	**160**	P	**Pg**	**08 47 04.4**	**-0.3**
AQU				S	**Sg**	**08 47 09.6**	**+1.5**
AQU				AML	AML		
	comp=N,4390μm,0.9s						
AQU				AML	AML		
	comp=E,4505μm,0.6s						
AQU				AML	AML		
	comp=E,4770μm,0.6s						
AQU				AML	AML		
	comp=N,4615μm,0.9s						
GIGS	**Gran Sasso**	**0.25**	**124**	P	**Pg**	**08 47 03.9**	**-0.8**
GIGS				S	**Sg**	**08 47 07.8**	**-0.3**
GIGS				AML	AML		
	comp=E,1620μm,1.2s						
GIGS				AML	AML		
	comp=N,1075μm,0.4s						
NRCA	**Norcia**	**0.27**	**333**	⇓P	**Pg**	**08 47 04.9**	**-0.2**
NRCA				AML	AML		
	comp=N,5760μm,0.2s						
NRCA				AML	AML		
	comp=E,10295μm,0.1s						
T1217	**Poggiodomo (PG**	**0.29**	**295**	P	**Pg**	**08 47 05.2**	**-0.3**
T1217				S	**Sg**	**08 47 10.3**	**+1.0**
T1217				AML	AML		
	comp=E,3529μm,0.2s						
T1217				AML	AML		
	comp=E,3393μm,0.2s						
T1217				AML	AML		
	comp=N,3543μm,0.3s						
MC2	**Monte Cornacci**	**0.33**	**348**	⇓P	**Pg**	**08 47 05.8**	**-0.5**
MC2				S	**Sg**	**08 47 11.5**	**+0.9**
FIAM	**Fiamignano**	**0.35**	**201**	P	**Pg**	**08 47 06.1**	**-0.4**
FIAM				S	**Sb**	**08 47 12.5**	**-1.5**
FIAM				AML	AML		
	comp=E,1820μm,0.6s						
FIAM				AML	AML		
	comp=N,1705μm,0.7s						
FIAM				AML	AML		
	comp=N,1705μm,1.3s						
T1215	**Vallo di Nera,**	**0.37**	**305**	P	**Pg**	**08 47 06.7**	**-0.3**
T1215				S	**Sg**	**08 47 12.6**	**+0.6**
T1215				AML	AML		
	comp=E,1515μm,0.5s						
T1215				AML	AML		
	comp=N,1415μm,1.5s						
T1215				AML	AML		
	comp=E,1475μm,0.5s						
T1215				AML	AML		
	comp=N,1525μm,1.5s						
T1215				AML	AML		
	comp=N,1415μm,1.5s					

	comp=E,1515µm,0.5s							
T1215					AML	AML		
	comp=N,1525µm,0.5s							
T1215					AML	AML		
	comp=E,1480µm,0.5s							
ARRO	**Arrone**	**0.38**	**268**	P	**Pg**	**08 47 07.0**	**-0.2**
ARRO				S	**Sg**	**08 47 12.4**	**+0.1**
ARRO				AML	AML		
	comp=E,2635µm,0.8s							
ARRO					AML	AML		
	comp=E,2630µm,0.8s							
ARRO					AML	AML		
	comp=N,3210µm,0.1s							
FAGN	**Fagnano**	**0.39**	**146**	P	**Pg**	**08 47 06.8**	**-0.5**
FAGN				S	**Sg**	**08 47 13.5**	**+1.0**
FAGN				AML	AML		
	comp=E,7410µm,0.4s							
FAGN					AML	AML		
	comp=E,7410µm,1.6s							
FAGN					AML	AML		
	comp=N,4830µm,0.3s							
OFFI	**Offida**	**0.45**	**40**	P	**Pg**	**08 47 08.5**	**0.0**
OFFI				AML	AML		
	comp=E,7120µm,0.6s							
OFFI					AML	AML		
	comp=N,8840µm,0.5s							
OFFI					AML	AML		
	comp=E,7120µm,1.4s							
FDMO	**Fiordimonte**	**0.47**	**342**	P	**Pg**	**08 47 08.1**	**-0.8**
FDMO				S	**Sg**	**08 47 15.7**	**+0.7**
FDMO				AML	AML		
	comp=N,2275µm,0.2s							
FDMO					AML	AML		
	comp=E,2030µm,0.2s							
GUMA	**Gualdo di Mace**	**0.47**	**4**	P	**Pg**	**08 47 08.5**	**-0.4**
GUMA				S	**Sb**	**08 47 16.4**	**-1.2**
GUMA				AML	AML		
	comp=N,8260µm,0.5s							
GUMA					AML	AML		
	comp=E,6615µm,0.9s							
GUMA					AML	AML		
	comp=N,8260µm,0.5s							
GUMA					AML	AML		
	comp=E,6615µm,1.1s							
GUMA					AML	AML		
	comp=N,8260µm,1.5s							
GUMA					AML	AML		
	comp=N,9150µm,0.4s							
GUMA					AML	AML		
	comp=E,7345µm,0.3s							
CESI	**CESI - Serrava**	**0.50**	**326**	P	**Pg**	**08 47 08.8**	**-0.6**
CESI				S	**Sg**	**08 47 16.8**	**+0.8**
CESI				AML	AML		
	comp=E,1285µm,0.4s							
CESI					AML	AML		
	comp=N,2020µm,0.3s							
TRTR	**Tortoreto Alta**	**0.51**	**65**	P	**Pg**	**08 47 09.8**	**+0.2**
TRTR				AML	AML		
	comp=E,4925µm,0.4s							
TRTR					AML	AML		
	comp=N,4170µm,0.5s							
CESX	**Cesi**	**0.52**	**272**	P	**Pg**	**08 47 09.2**	**-0.6**
CESX				S	**Sb**	**08 47 17.7**	**-1.3**
CESX				AML	AML		
	comp=E,2200µm,0.2s							
CESX					AML	AML		
	comp=N,2920µm,1.4s							
T1220	**Camerino, Fraz**	**0.54**	**344**	P	**Pg**	**08 47 09.4**	**-0.8**
T1220				S	**Sg**	**08 47 18.0**	**+0.8**
T1220				AML	AML		
	comp=N,7215µm,1.1s							
T1220					AML	AML		
	comp=N,7295µm,1.1s							
T1220					AML	AML		
	comp=E,9030µm,0.5s							
T1220					AML	AML		
	comp=E,8985µm,0.5s							
MOMA	**Monte Martano**	**0.57**	**292**	P	**Pg**	**08 47 10.2**	**-0.5**
MOMA				S	**Sb**	**08 47 19.6**	**-0.8**
MOMA				AML	AML		
	comp=E,4720µm,0.2s							
MOMA					AML	AML		
	comp=N,3630µm,0.2s							
MOMA					AML	AML		
	comp=N,3755µm,0.2s							
MOMA					AML	AML		
	comp=E,4490µm,0.2s							
ASSB	**Assisi San Ben**	**0.65**	**315**	P	**Pg**	**08 47 11.6**	**-0.5**
ASSB				S	**Sb**	**08 47 21.7**	**-0.9**
ASSB				AML	AML		
	comp=E,1117µm,0.6s							
ASSB					AML	AML		
	comp=N,984µm,0.3s							
ASSB					AML	AML		
	comp=E,1117µm,1.4s							
SRES	**S.Oreste - Sro**	**0.67**	**239**	P	**Pg**	**08 47 12.5**	**-0.2**
SRES				AML	AML			
	comp=E,806µm,0.8s							
SRES					AML	AML		
	comp=E,806µm,1.2s							
SRES					AML	AML		
	comp=N,762µm,0.4s							
CERT	**Cerreto**	**0.68**	**199**	⇓P	**Pg**	**08 47 12.8**	**0.0**
CERT				AML	AML			
	comp=N,824µm,0.4s							
CERT					AML	AML		
	comp=N,824µm,1.6s							
CERT					AML	AML		
	comp=E,934µm,0.5s							
SNTG	**Esanatoglia**	**0.71**	**339**	⇑P	**Pg**	**08 47 12.4**	**-1.0**
SNTG				AML	AML			
	comp=N,818µm,0.3s							
SNTG					AML	AML		
	comp=E,578µm,0.7s							
SNTG					AML	AML		
	comp=E,693µm,0.2s							
SNTG					AML	AML		
	comp=N,892µm,0.3s							
SNTG					AML	AML		
	comp=E,578µm,1.3s							
SNTG					AML	AML		
	comp=N,818µm,0.2s							
EL6	**Elcito**	**0.75**	**350**	⇓P	**Pg**	**08 47 13.2**	**-1.0**
EL6				AML	AML			
	comp=N,1480µm,1.4s							
EL6					AML	AML		
	comp=N,1475µm,1.4s							
EL6					AML	AML		
	comp=E,1595µm,1.4s							
ATCC	**AVT- Casa Cast**	**0.76**	**322**	⇑P	**Pg**	**08 47 13.7**	**-0.6**
ATCC				AML	AML			
	comp=E,1375µm,0.5s							
ATCC					AML	AML		
	comp=N,1140µm,0.6s							
VVLD	**Villa Vallelon**	**0.76**	**161**	⇑P	**Pg**	**08 47 14.3**	**0.0**
VVLD				AML	AML			
	comp=E,570µm,0.8s							
VVLD					AML	AML		
	comp=N,516µm,0.4s							
VVLD					AML	AML		
	comp=E,570µm,1.2s							
CING	**Cingoli**	**0.79**	**355**	⇑P	**Pg**	**08 47 14.0**	**-0.9**
CING				AML	AML			
	comp=E,2190µm,0.4s							
CING					AML	AML		
	comp=E,2190µm,1.6s							
CING					AML	AML		
	comp=N,1076µm,0.3s							
FOSV	**Fossato di Vic**	**0.80**	**331**	⇓P	**Pg**	**08 47 14.8**	**-0.4**
FOSV				AML	AML			
	comp=E,760µm,0.4s							
FOSV					AML	AML		
	comp=E,760µm,1.6s							
FOSV					AML	AML		
	comp=N,854µm,1.0s							
LPEL	**Lama dei Pelig**	**0.86**	**129**	S	**Sg**	**08 47 27.0**	**-0.4**
LPEL				AML	AML			
	comp=E,710µm,0.4s							
LPEL					AML	AML		
	comp=N,538µm,0.3s							
MGAB	**Montegabbione**	**0.92**	**291**	⇑P	**Pg**	**08 47 17.1**	**-0.3**
MGAB				AML	AML			
	comp=E,1615µm,1.2s							
MGAB					AML	AML		
	comp=N,1710µm,1.1s							
MGAB					AML	AML		
	comp=N,1730µm,1.1s							
MGAB					AML	AML		
	comp=E,1825µm,1.2s							
MGAB					AML	AML		
	comp=N,1730µm,0.9s							
MGAB					AML	AML		
	comp=E,1825µm,0.8s							
MGAB					AML	AML		
	comp=E,1615µm,0.8s							
MGAB					AML	AML		
	comp=N,1710µm,0.9s							
SSFR	**Montelago di S**	**0.92**	**337**	⇑P	**Pg**	**08 47 16.4**	**-1.0**
SSFR				AML	AML			
	comp=E,1370µm,0.2s							
SSFR					AML	AML		
	comp=N,1180µm,0.2s							
SSFR					AML	AML		
	comp=E,1290µm,0.8s							
SSFR					AML	AML		
	comp=E,1370µm,1.8s							
SSFR					AML	AML		
	comp=N,1165µm,0.3s							
ARVD	**Arcevia**	**0.94**	**345**	⇓P	**Pg**	**08 47 16.8**	**-1.0**
ARVD				S	**Sn**	**08 47 32.0**	**-1.2**
ARVD				AML	AML			
	comp=E,486µm,1.6s							
ARVD					AML	AML		
	comp=N,373µm,1.0s							
ARVD					AML	AML		
	comp=E,486µm,0.4s							
ARVD					AML	AML		
	comp=N,373µm,1.0s							
AOI	**Ancona**	**0.99**	**13**	P	**Pg**	**08 47 17.9**	**-0.8**
AOI				AML	AML			
	comp=N,787µm,0.3s							
AOI					AML	AML		
	comp=E,852µm,0.3s							
FRON	**Frontone**	**1.01**	**336**	⇑P	**Pg**	**08 47 18.0**	**-1.2**
FRON				AML	AML			
	comp=E,588µm,1.4s							
FRON					AML	AML		
	comp=N,739µm,0.4s							
FRON					AML	AML		
	comp=E,588µm,0.6s							
SACS	**San Casciano d**	**1.05**	**285**	⇓P	**Pn**	**08 47 20.6**	**-0.2**
SACS				AML	AML			
	comp=E,356µm,0.6s							
SACS					AML	AML		
	comp=N,492µm,0.7s							
SACS					AML	AML		
	comp=E,364µm,0.6s							
SACS					AML	AML		
	comp=N,490µm,0.9s							
SACS					AML	AML		
	comp=E,356µm,1.4s							
SACS					AML	AML		
	comp=N,490µm,1.1s							
SACS					AML	AML		
	comp=E,364µm,1.4s							
TOLF	**Tolfa**	**1.09**	**242**	P	**Pg**	**08 47 19.6**	**-1.0**
TOLF				AML	AML			
	comp=E,546µm,0.7s							
TOLF					AML	AML		
	comp=N,552µm,1.2s							
TOLF					AML	AML		
	comp=E,546µm,1.3s							
PIEI	**Piela**	**1.09**	**330**	⇑P	**Pg**	**08 47 19.7**	**-1.0**
PIEI				AML	AML			
	comp=E,552µm,0.4s							
PIEI					AML	AML		
	comp=N,387µm,1.4s							
PIEI					AML	AML		
	comp=N,387µm,0.6s							
MPAG	**Monte Paganucc**	**1.11**	**340**	⇑P	**Pg**	**08 47 19.9**	**-1.1**
MPAG				AML	AML			
	comp=N,462µm,0.7s							
MPAG					AML	AML		
	comp=E,416µm,0.4s							
APEC	**Apecchio**	**1.16**	**327**	⇑P	**Pn**	**08 47 22.1**	**-0.2**
APEC				AML	AML			
	comp=E,819µm,1.5s							
APEC					AML	AML		
	comp=N,504µm,0.6s							
APEC					AML	AML		
	comp=E,819µm,0.5s							
MCIV	**Monte Civitell**	**1.20**	**280**	⇓P	**Pn**	**08 47 24.9**	**+1.9**
CAFI	**Castiglion Fio**	**1.22**	**308**	⇓P	**Pg**	**08 47 23.6**	**+0.5**
CAFI				AML	AML			
	comp=E,252µm,0.6s							
CAFI					AML	AML		
	comp=N,296µm,0.7s							
CAFI					AML	AML		
	comp=E,252µm,1.4s							
PE3	**Peglio**	**1.25**	**333**	⇓P	**Pn**	**08 47 22.8**	**-0.8**
CRE	**Caprese Michel**	**1.42**	**317**	P	**Pb**	**08 47 26.4**	**-0.1**
PII	**Pisa**	**2.31**	**300**	P	**Pn**	**08 47 36.0**	**-2.3**
NDIM	**Novi di Modena**	**2.88**	**324**	S	**Sb**	**08 48 25.7**	**-0.9**
BOJS	**Bojanci**	**3.24**	**25**	⇑P	**Pn**	**08 47 52.0**	**+1.1**
STON	**Ston**	**3.26**	**84**	*e*Pn	**Pn**	**08 47 50.9**	**-0.4**
STON				*e*Sn	**Sn**	**08 48 30.4**	**+0.1**
TREB	**Trebinje**	**3.74**	**86**	*e*Pn	**Pn**	**08 47 58.6**	**+0.8**
TREB				*e*Sn	**Sn**	**08 48 42.2**	**+0.2**
OBKA	**Obir**	**4.02**	**13**	*e*Pn	**Pn**	**08 48 03.2**	**+1.5**
	comp=E,1.2nm,0.2s							
MYKA	**Terra Mystica**	**4.05**	**3**	*e*Pn	**Pn**	**08 48 04.4**	**+2.3**
	comp=E,1.2nm,0.2s							
ABTA	**Abfaltersbach**	**4.19**	**353**	*e*Pn	**Pn**	**08 48 06.2**	**+2.0**
	comp=E,7.7nm,0.3s							
PDG	**Podgorica**	**4.42**	**90**	*e*Pn	**Pn**	**08 48 08.0**	**+0.9**
PDG				*e*Sn	**Sn**	**08 49 00.5**	**+1.8**
KBA	**Koelnbreinsper**	**4.49**	**1**	*e*Pn	**Pn**	**08 48 09.3**	**+1.1**
	comp=E,1.7nm,0.3s							
BBLS	**Lazići**	**4.65**	**72**	*e*Pn	**Pn**	**08 48 11.7**	**+1.3**
BBLS				*e*Sn	**Sn**	**08 49 05.5**	**+0.9**
WTTA	**Wattenberg**	**4.82**	**346**	*e*Pn	**Pn**	**08 48 15.3**	**+2.5**
	comp=E,1.1nm,0.2s							
SQTA	**Sankt Quirin**	**4.86**	**343**	*e*Pn	**Pn**	**08 48 16.2**	**+2.9**
	comp=E,1.3nm,0.2s							
WATA	**Walderalm**	**4.90**	**346**	*e*Pn	**Pn**	**08 48 15.8**	**+2.0**
	comp=E,1.2nm,0.2s							
MOTA	**Moosalm**	**5.00**	**343**	*i* Pn	**Pn**	**08 48 16.9**	**+1.7**
	comp=E,1.3nm,0.3s							
TIR	**Tirane**	**5.06**	**102**	*e*Pn	**Pn**	**08 48 14.9**	**-1.1**
IVAS	**Ivanjica**	**5.12**	**77**	*e*Pn	**Pn**	**08 48 17.3**	**+0.4**
IVAS				*e*Sn	**Sn**	**08 49 16.6**	**+0.3**
RETA	**Reutte**	**5.21**	**341**	*i* Pn	**Pn**	**08 48 18.1**	**0.0**
	comp=E,0.3nm,0.1s							
MOA	**Molln**	**5.30**	**7**	*e*Pn	**Pn**	**08 48 22.1**	**+2.7**
	comp=E,1.0nm,0.2s							
MOA	**Molln**	**5.30**	**7**	*e*Pn	**Pn**	**08 48 20.5**	**+1.2**
MOA				*e*Sn	**Sn**	**08 49 19.9**	**-0.8**
RONA	**Rosalia, Austr**	**5.54**	**22**	*e*Pn	**Pn**	**08 48 24.5**	**+2.0**
	comp=E,0.7nm,0.2s							
CONA	**Conrad Observa**	**5.64**	**18**	*e*Pn	**Pn**	**08 48 26.2**	**+2.2**
	comp=E,0.5nm,0.2s							
SELS	**Selova**	**5.79**	**81**	*e*Pn	**Pn**	**08 48 26.7**	**+0.7**
ZAGS	**Zajecar**	**6.65**	**76**	*e*Pn	**Pn**	**08 48 37.5**	**-0.3**

ZUR 20 08:51:51.4,46°20N×9°21E,h12km±1km,MLh1.2/6,Error ellipse: s-maj=3.7km s-min=1.4km az=196.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUGIO	**Muggio**	**0.30**	**202**	Pg	Pg	08 51 57.8	+0.2
MUGIO				Sg	Sg	08 52 02.0	+0.3
FUSIO	**Fusio**	**0.45**	**304**	Sg	Sg	08 52 06.7	+0.2
NALPS	**Val Nalps**	**0.51**	**321**	Pg	Pg	08 52 01.5	+0.2

ROM 20 08:53:36.8±0.1,42°619N±0°003×13°260E±0°006, h13km,ML1.9/6,1C-1D,Error ellipse: s-maj=0.4km s-min=0.3km az=79.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.06**	**78**	P	Pg	08 53 39.5	+0.1
SMA1				S	Sg	08 53 41.3	0.0
SMA1				AML	AML		
	comp=E,1990µm,0.5s						
SMA1				AML	AML		
	comp=N,1355µm,0.4s						
T1202	**Accumoli, Fraz**	**0.09**	**343**	⇓P	Pg	08 53 40.1	+0.3
T1202				S	Sg	08 53 42.3	+0.5
T1202				AML	AML		
	comp=N,1285µm,1.2s						
T1202				AML	AML		
	comp=E,1034µm,0.3s						
T1202				AML	AML		
	comp=N,1285µm,0.8s						
RM33	**Pellescritta (**	**0.12**	**197**	P	Pg	08 53 40.5	+0.4
RM33				S	Sg	08 53 42.7	+0.4
RM33				AML	AML		
	comp=E,680µm,0.2s						
RM33				AML	AML		
	comp=E,681µm,0.2s						
RM33				AML	AML		
	comp=N,510µm,0.1s						
T1218	**Civita (PG)**	**0.12**	**296**	P	Pg	08 53 40.4	+0.3
T1218				S	Sg	08 53 42.7	+0.3
T1218				AML	AML		
	comp=E,502µm,0.1s						
T1218				AML	AML		
	comp=N,1152µm,0.2s						
T1218				AML	AML		
	comp=N,1152µm,1.8s						
LNSS	**Leonessa**	**0.16**	**264**	⇑P	Pg	08 53 41.2	+0.5
LNSS				S	Sb	08 53 44.3	-0.8
LNSS				AML	AML		
	comp=N,350µm,0.4s						
LNSS				AML	AML		
	comp=N,349µm,0.4s						
LNSS				AML	AML		
	comp=E,307µm,0.8s						
T1217	**Poggiodomo (PG**	**0.26**	**291**	P	Pg	08 53 42.6	+0.3
T1217				S	Sg	08 53 46.8	+0.8
T1217				AML	AML		
	comp=E,312µm,1.6s						
T1217				AML	AML		
	comp=N,482µm,1.6s						
T1217				AML	AML		
	comp=N,482µm,0.4s						
MC2	**Monte Cornacci**	**0.30**	**350**	P	Pg	08 53 43.2	+0.1
MC2				S	Sg	08 53 48.1	+0.8
T1215	**Vallo di Nera,**	**0.34**	**303**	P	Pg	08 53 43.9	+0.2
T1215				S	Sg	08 53 49.2	+0.9

IDC 20 08:55:23.9±2.4,54°21N×86°10E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=18.6km s-min=11.2km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVINFRA**	**0.80**	**251**	I	I	09 00 53.5	
	baz=72,slow=346,SNR=2.1						
ZALV	**Zalesovo Beam**	**0.80**	**251**	Pg	Pg	08 55 38.5	-0.5
	1.7nm,0.3s,baz=67,slow=17,SNR=7.7						
ZALV				Lg	Lg	08 55 50.6	
	3.7nm,0.3s,baz=67,slow=30,SNR=6.0						
KURBB	**Kurchatov Arra**	**5.86**	**235**	Pn	Pn	08 56 53.0	+1.2
	0.1nm,0.3s,baz=53,slow=13,SNR=2.8						
KURBB				Lg	Lg	08 58 28.9	
	0.1nm,0.3s,baz=51,slow=31,SNR=1.8						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.81**	**200**	Pn	Pn	08 57 19.6	+0.9
	0.3nm,0.3s,baz=23,slow=15,SNR=16						
MKAR				Lg	Lg	08 59 29.5	
	0.1nm,0.3s,baz=17,slow=23,SNR=1.8						
	0.4nm,0.3s						

*NNC **20** 08:59:52.0±1.9,38°59N×76°65E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=13.2km s-min=10.1km az=165.0*
SOME 20 08:59:52.3,38°62N×76°73E,h10km,4C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.38**	**349**	⇑Pg	Pb	09 01 11.6	+2.0
	2.2nm,0.6s						
TKM2				⇓Lg	Lg	09 02 11.8	
	10nm,0.6s						
TNSS	**Tian-Shan**	**4.42**	**2**	Pg	Pb	09 01 12.9	+2.6
	1.4nm,0.3s						
TNSS				Lg	Lg	09 02 12.6	
	7.1nm,0.6s						
TNSS	**Tian-Shan**	**4.42**	**2**	*e*Pg	Pg	09 01 13.9	-3.1
	4.9nm,0.3s						
TNSS				*e*Lg	Lg	09 02 12.4	
	7.1nm,0.3s						
KST	**Kastek**	**4.46**	**353**	Pg	Pg	09 01 15.3	-2.4
	1.7nm,0.2s						
KST				Lg	Lg	09 02 16.7	
	8.0nm,0.4s						
KST	**Kastek**	**4.46**	**353**	*e*Pg	Pg	09 01 16.4	-1.4
	3.7nm,0.4s						
KST				*e*Lg	Lg	09 02 16.7	
	11nm,0.2s						
MTBS	**Maitube**	**4.51**	**357**	*e*Pg	Pg	09 01 17.4	-1.4
	1.8nm,0.1s						
MTBS				*e*Lg	Lg	09 02 18.2	
	8.3nm,0.2s						
MDOK	**Medeo**	**4.55**	**3**	Pg	Pb	09 01 15.5	+3.2
	3.7nm,0.5s						
MDOK				⇑Lg	Lg	09 02 17.6	
	18nm,0.8s						
MDOK	**Medeo**	**4.55**	**3**	*e*Pg	Pg	09 01 17.6	-1.8
	4.6nm,1.0s						
MDOK				*e*Lg	Lg	09 02 19.1	
	19nm,0.4s						
SATY	**Saty**	**4.62**	**15**	Pg	Pb	09 01 16.9	+3.5
	2.2nm,0.3s						
SATY				Lg	Lg	09 02 19.2	
	21nm,0.5s						
SATY	**Saty**	**4.62**	**15**	*e*Pg	Pg	09 01 17.7	-3.0
	3.3nm,0.3s						
SATY				*e*Lg	Lg	09 02 19.2	
	22nm,0.3s						
KOTS	**Kotyrbulak**	**4.62**	**3**	*e*Pg	Pg	09 01 18.8	-2.0
	4.3nm,0.2s						
KOTS				*e*Lg	Lg	09 02 20.8	
	25nm,0.2s						
CHMS	**Chumysh**	**4.63**	**342**	⇓Pg	Pg	09 01 18.3	-2.6
	2.6nm,0.6s						
CHMS				⇓Lg	Lg	09 02 19.7	
	13nm,0.8s						
DGS	**Degeres**	**4.68**	**351**	Pg	Pg	09 01 19.6	-2.3
	4.6nm,0.6s						
DGS				Lg	Lg	09 02 23.2	
	11nm,0.7s						
DGS	**Degeres**	**4.68**	**351**	*e*Pg	Pg	09 01 19.6	-2.3
	4.6nm,0.6s						
DGS				*e*Lg	Lg	09 02 22.2	
	11nm,0.7s						
ZHN	**Zhinishke**	**4.73**	**15**	Pg	Pb	09 01 18.8	+3.5
	11nm,0.1s						
ZHN				Lg	Lg	09 02 22.2	
	5.6nm,0.1s						
ZHN	**Zhinishke**	**4.73**	**15**	*e*Pg	Pg	09 01 19.2	-3.6
	12nm,0.1s						
ZHN				*e*Lg	Lg	09 02 21.6	
	22nm,0.2s						
UZB	**Uzynbulak**	**4.85**	**20**	Pg	Pg	09 01 22.8	-2.3
	2.6nm,0.2s						
UZB				Lg	Lg	09 02 29.2	
	9.8nm,0.6s						
UZB	**Uzynbulak**	**4.85**	**20**	*e*Pg	Pg	09 01 23.2	-1.9
	5.8nm,0.3s						
UZB				*e*Lg	Lg	09 02 28.5	
	12nm,0.4s						
SHLS	**Shalkode**	**4.98**	**24**	Pg	Pg	09 01 25.6	-2.1
	3.2nm,0.4s						
SHLS				Lg	Lg	09 02 34.1	
	7.5nm,0.7s						
SHLS	**Shalkode**	**4.98**	**24**	*e*Pg	Pg	09 01 26.7	-1.0
	6.3nm,0.2s						
SHLS				*e*Lg	Lg	09 02 34.5	
	165nm,0.3s						
KPKS	**Kokpek**	**5.06**	**16**	*e*Pg	Pg	09 01 26.1	-3.1
	3.2nm,0.2s						
KPKS				*e*Lg	Lg	09 02 33.4	
	19nm,0.3s						
SGDS	**Sogindy**	**5.08**	**342**	Pg	Pg	09 01 25.9	-3.7
	0.7nm,0.3s						
SGDS				Lg	Lg	09 02 34.6	
	8.7nm,0.5s						
KTBS	**Karatobe**	**5.09**	**360**	Pg	Pb	09 01 24.9	+3.4
KTBS				Lg	Lg	09 02 32.6	
KTBS	**Karatobe**	**5.09**	**360**	*e*Pg	Pb	09 01 25.6	+4.1
	0.9nm,0.2s						
KTBS				*e*Lg	Lg	09 02 32.6	
	9.2nm,0.2s						
KRBS	**Karabastau**	**5.14**	**351**	*e*Pg	Pg	09 01 27.5	-3.2

	1.7nm,0.4s							
KRBS				*e*Lg	Lg	09 02 35.9		
	5.1nm,0.3s							
DJR	**Jarkent**	**6.15**	**21**	Pg	Pg	09 01 45.3	-4.8	
	1.2nm,0.1s							
DJR				Lg	Lg	09 03 07.3		
	3.4nm,0.3s							
DJR	**Jarkent**	**6.15**	**21**	*e*Pg	Pg	09 01 45.7	-4.4	
	2.0nm,1.5s							
DJR				*e*Lg	Lg	09 03 07.3		
	6.2nm,0.3s							
KK31	**Karatay Array**	**6.50**	**316**	⇑Pn	Pn	09 01 25.2	-2.9	
	0.3nm,0.3s,baz=138,slow=13,SNR=6.0							
KK31				⇑Sn	Sn	09 02 43.2	+0.9	
	0.9nm,0.5s							
BTLS	**Baital**	**6.72**	**344**	Pg	Pg	09 01 55.8	-5.2	
BTLS				Lg	Lg	09 03 25.3		
BTLS	**Baital**	**6.72**	**344**	*e*Pg	Pg	09 01 56.4	-4.7	
	0.9nm,0.2s							
BTLS				*e*Lg	Lg	09 03 25.3		
	3.6nm,0.4s							

*JMA **20** 09:03:33.8±0.1,30.°5N±0.°2×130.°4E±0.°2,h68km,MV3.2/39, NEAR TANEGASHIMA ISLAND*
JMA Felt I J1 at NEAR TANEGASHIMA ISLAND .
*IDC **20** 09:03:35.8±5.5,30.°53N×130.°43E,h93km±35km,mb3.3/7, mbtmp3.6/11,Error ellipse: s-maj=47.4km s-min=25.7km az=175.0*

ISC 20 09:03:33.3±0.8,30.°43N±0.°05×130.°41E±0.°06,h71km±6km, n28,σ0.93/39,mb3.6/7,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
JKC	**Kuchinoerabu**	**0.18**	**281**	*i*	P		**Pn**	**09 03 44.2**	**+0.4**
JKC					S		**Sn**	**09 03 52.2**	**+0.6**
JYAK	**Yakushimahirau**	**0.21**	**154**	*i*	P		**Pn**	**09 03 44.4**	**+0.4**
JYAK					S		**Sn**	**09 03 52.0**	**+0.2**
JMTN	**Minamitane**	**0.43**	**94**	*i*	P		**Pn**	**09 03 45.8**	**+0.3**
JMTN					S		**Sn**	**09 03 54.6**	**+0.2**
JTN	**Tanegashima 3**	**0.55**	**65**	*i*	P		**Pn**	**09 03 46.8**	**+0.2**
JTN					S		**Sn**	**09 03 56.2**	**-0.1**
JNN	**Nakanoshima**	**0.74**	**218**		P		**Pn**	**09 03 49.5**	**+0.8**
JNN					S		**Sn**	**09 04 01.2**	**+1.1**
JTSR	**Tashiro 2**	**0.86**	**31**	*i*	P		**Pn**	**09 03 50.1**	**0.0**
JTSR					S		**Sn**	**09 04 01.9**	**-0.7**
JSU	**Suzuyama**	**1.08**	**2**		P		**Pn**	**09 03 53.2**	**+0.4**
JSU	**Suzuyama**	**1.08**	**2**	*i*	P		**Pn**	**09 03 53.0**	**+0.2**
JSU					S		**Sn**	**09 04 07.1**	**-0.2**
JNAR	**Kushima--Naru**	**1.32**	**34**		P		**Pn**	**09 03 56.4**	**+0.5**
JNAR					S		**Sn**	**09 04 13.4**	**+0.5**
JSJ	**Shimokoshiki**	**1.38**	**335**	*i*	P		**Pn**	**09 03 56.5**	**-0.2**
JSJ					S		**Sn**	**09 04 13.8**	**-0.5**
JNKG	**Nichinankitago**	**1.49**	**34**	*e*P			**Pn**	**09 03 58.9**	**+0.8**
JTZ	**Takazaki**	**1.58**	**22**		P		**Pn**	**09 03 59.8**	**+0.4**
JTZ					S		**Sn**	**09 04 19.2**	**+0.2**
JNU	**Nakatsue**	**2.72**	**8**		P		**Pn**	**09 04 16.3**	**+1.7**
	23nm,0.3s,baz=199,slow=4.0,SNR=92								
JNU					S		**Sn**	**09 04 47.7**	**+1.3**
	14nm,0.4s,baz=164,slow=23,SNR=9.4								
JNU	**Nakatsue**	**2.72**	**8**		P		**Pn**	**09 04 16.9**	**+2.2**
JMN	**Monobe**	**4.42**	**41**		P		**Pn**	**09 04 38.4**	**+0.5**
JHS	**Saijyo**	**5.10**	**26**		P		**Pn**	**09 04 48.0**	**+0.9**
KSRS	**Korea Array**	**7.31**	**344**		P		**Pn**	**09 05 18.9**	**+1.7**
	1.6nm,0.6s,baz=169,slow=15,SNR=2.5								
INU	**Inuyama**	**7.42**	**47**		P		**Pn**	**09 05 20.4**	**+1.6**
JGF	**Kuroka**	**7.79**	**47**		P		**Pn**	**09 05 25.8**	**+1.9**
MJAR	**Matsushiro Arr**	**8.92**	**45**		P		**Pn**	**09 05 40.3**	**+0.9**
	0.8nm,0.5s,baz=237,slow=13,SNR=2.4								
KLR	**Kul'dur**	**18.81**	**3**		P		**Pn**	**09 07 48.2**	**0.0**
	0.7nm,0.6s,baz=308,slow=19,SNR=4.7								
SONM	**Songino Array**	**25.32**	**320**		P		**P**	**09 08 53.5**	**+0.1**
	1.9nm,0.5s,baz=141,slow=10,SNR=15								
	1.9nm,0.5s								
MKAR	**Makanchi Array**	**40.33**	**308**		P		**P**	**09 11 03.7**	**-0.1**
	0.3nm,0.5s,baz=94,slow=9.4,SNR=6.6								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**43.27**	**313**		P		**P**	**09 11 27.6**	**-0.1**
	0.4nm,0.8s,baz=101,slow=8.4,SNR=2.9								
	0.4nm,0.8s								
BVAR	**Borovoye Array**	**48.52**	**316**		P		**P**	**09 12 09.3**	**+0.3**
	1.2nm,0.7s,baz=91,slow=12,SNR=4.7								
	1.2nm,0.7s								
INK	**Inuvik**	**64.29**	**24**		P		**P**	**09 13 59.6**	**-1.1**
	0.9nm,1.1s,baz=284,slow=3.0,SNR=4.4								
	0.9nm,1.1s								
FINES	**FINESS Array B**	**70.17**	**330**		P		**P**	**09 14 36.2**	**-1.9**
	0.7nm,0.5s,baz=75,slow=6.9,SNR=9.8								
	0.7nm,0.5s								
YKA	**Yellowknife Ar**	**73.93**	**26**		P		**P**	**09 15 00.9**	**+0.5**
	0.1nm,0.6s,baz=301,slow=5.9,SNR=6.0								
	0.1nm,0.6s								

IDC 20 09:10:52.8±3.0,54.°16N×87.°24E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=26.3km s-min=18.2km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
I46RU	**ZALESOVO INFRA**	**1.45**	**263**		I		I	09 20 40.0	
	baz=82,slow=342,SNR=1.5								
ZALV	**Zalesovo Beam**	**1.45**	**263**		Pg		Pn	09 11 18.6	-1.5
	2.3nm,0.3s,baz=79,slow=16,SNR=20								
ZALV					Lg		Lg	09 11 38.4	
	2.0nm,0.3s,baz=76,slow=24,SNR=7.6								
KURBB	**Kurchatov Arra**	**6.40**	**240**		Pn		Pn	09 12 29.3	+1.1
	0.1nm,0.3s,baz=52,slow=13,SNR=5.2								
KURBB					Lg		Lg	09 14 17.4	
	baz=57,slow=31,SNR=2.2								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**8.02**	**205**		Pn		Pn	09 12 51.7	+1.2
	0.1nm,0.3s,baz=27,slow=14,SNR=4.8								
MKAR					Lg		Lg	09 15 05.1	
	0.1nm,0.3s,baz=35,slow=25,SNR=2.8								
	0.1nm,0.3s								

*BEO **20** 09:30:59.2±0.7,38.°29N×15.°08E,h0km,ML3.6/5*
*ROM **20** 09:30:59.5±0.2,38.°41N±0.°01×14.°89E±0.°01,h191km±1km, ML3.4/62,Error ellipse: s-maj=1.5km s-min=0.6km az=135.0*
*IDC **20** 09:31:00.9±1.1,38.°76N×15.°05E,h162km±27km,mb3.1/5, mbtmp3.5/6,Error ellipse: s-maj=37.8km s-min=27.3km az=26.0*

ISC 20 09:31:00.6±0.9,38.°40N±0.°05×14.°93E±0.°05,h185km±6km, n90,σ0.95/111,mb3.6/3,2C-1D,Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
LLI	**Lipari**	**0.04**	**23**	*e*P			**Pn**	**09 31 25.1**	**+0.1**
VPL	**Vulcano Piano**	**0.05**	**118**		P		**Pn**	**09 31 24.8**	**-0.2**
VPL					S		**Sn**	**09 31 43.3**	**-0.4**
VPL					AML		AML		
	comp=N,3815μm,0.5s								
VPL					AML		AML		
	comp=E,3755μm,0.6s								
MILZ	**Milazzo**	**0.27**	**119**		P		**Pn**	**09 31 24.6**	**-0.6**
MILZ					S		**Sn**	**09 31 43.0**	**-1.2**
IFIL	**Filicudi I Eol**	**0.32**	**300**		P		**Pn**	**09 31 24.8**	**-0.6**
NOV	**Novara**	**0.41**	**156**		P		**Pn**	**09 31 26.0**	**+0.2**
NOV					S		**Sn**	**09 31 45.0**	**-0.1**
NOV					AML		AML		
	comp=N,1450μm,0.4s								
NOV					AML		AML		
	comp=E,1340μm,0.5s								
ISTR	**Stromboli Gino**	**0.44**	**29**		P		**Pn**	**09 31 26.0**	**+0.3**
MSFR	**San Fratello**	**0.45**	**216**		P		**Pn**	**09 31 25.8**	**-0.2**
MSFR					S		**Sn**	**09 31 45.2**	**-0.2**
MSFR					AML		AML		
	comp=N,295μm,0.4s								
MSFR					AML		AML		
	comp=E,320μm,0.6s								
IST3	**Stromboli F**	**0.46**	**31**		P		**Pn**	**09 31 26.3**	**+0.5**
IACL	**Alicudi**	**0.47**	**286**		P		**Pn**	**09 31 25.5**	**-0.3**
IACL					AML		AML		
	comp=E,319μm,1.5s								
IACL					AML		AML		
	comp=N,374μm,0.9s								
IACL					AML		AML		
	comp=E,319μm,0.5s								
MSRU	**Castanea**	**0.48**	**107**		P		**Pn**	**09 31 25.4**	**-0.5**
MSRU					S		**Sn**	**09 31 44.9**	**-0.5**
MSRU					AML		AML		
	comp=E,1195μm,0.3s								
MSRU					AML		AML		
	comp=N,964μm,1.0s								
AIO	**Antillo**	**0.49**	**151**		P		**Pn**	**09 31 26.2**	**+0.1**
AIO					S		**Sn**	**09 31 45.7**	**0.0**
AIO					AML		AML		
	comp=N,1120μm,0.5s								
AIO					AML		AML		
	comp=E,1235μm,0.4s								
MNO	**Monte Soro**	**0.50**	**201**		P		**Pn**	**09 31 26.4**	**+0.1**
MNO					AML		AML		
	comp=E,2060μm,0.6s								
MNO					AML		AML		
	comp=N,1615μm,0.8s								
EPZF	**Pizzo Felice**	**0.58**	**185**		P		**Pn**	**09 31 26.8**	**+0.2**
EPZF					AML		AML		
	comp=N,2775μm,0.5s								
EPZF					AML		AML		
	comp=E,5985μm,0.6s								
EPZF					AML		AML		
	comp=N,2775μm,1.5s								
EMSG	**Monte Spagnolo**	**0.58**	**178**		P		**Pn**	**09 31 26.4**	**-0.2**
EMSG					AML		AML		
	comp=N,1740μm,0.6s								
EMSG					AML		AML		
	comp=E,2625μm,0.6s								
ESLN	**Serra La Nave**	**0.71**	**177**		P		**Pn**	**09 31 26.4**	**-0.9**
PLLN	**Pollina**	**0.74**	**237**		P		**Pn**	**09 31 26.7**	**-0.6**
GALF	**Gagliano Caste**	**0.75**	**202**		P		**Pn**	**09 31 27.7**	**+0.3**
GALF					AML		AML		
	comp=E,1075μm,0.6s								
GALF					AML		AML		
	comp=N,384μm,0.6s								
GALF					AML		AML		
	comp=E,1075μm,1.4s								
GMB	**Gambarie**	**0.75**	**108**		P		**Pn**	**09 31 27.8**	**+0.4**
GMB					S		**Sn**	**09 31 47.9**	**-0.1**
GMB					AML		AML		
	comp=N,4400μm,0.9s								
GMB					AML		AML		
	comp=N,4405μm,0.9s								
GMB					AML		AML		
	comp=N,4405μm,1.1s								
GMB					AML		AML		
	comp=E,5215μm,0.5s								
CEL	**Celeste**	**0.78**	**100**		AML		AML		
	comp=N,1490μm,1.7s								
CEL					AML		AML		
	comp=E,1120μm,0.4s								
CEL					AML		AML		
	comp=N,1210μm,0.3s								
CEL					AML		AML		
	comp=E,1370μm,0.4s								
CEL					AML		AML		
	comp=N,1490μm,0.3s								
CEL					AML		AML		
	comp=N,1210μm,1.7s								
JOPP	**Joppolo**	**0.78**	**75**	⇑P			**Pn**	**09 31 27.2**	**-0.2**
JOPP					S		**Sn**	**09 31 47.6**	**-0.5**
JOPP					AML		AML		
	comp=N,1060μm,0.9s								
JOPP					AML		AML		
	comp=E,886μm,0.3s								
JOPP					AML		AML		
	comp=N,1060μm,1.1s								
ESML	**S. M. di Licod**	**0.79**	**183**		P		**Pn**	**09 31 27.7**	**+0.2**
GIB	**Gibilmanna**	**0.82**	**240**		P		**Pn**	**09 31 27.2**	**-0.5**
CSLB	**Castelbuono**	**0.83**	**236**		P		**Pn**	**09 31 27.0**	**-0.8**
CSLB					AML		AML		
	comp=E,59μm,0.3s								
CSLB					AML		AML		
	comp=N,60μm,0.9s								
CSLB					AML		AML		
	comp=E,59μm,1.7s								
CAGR	**Agira**	**0.85**	**203**		P		**Pn**	**09 31 28.4**	**+0.5**
CAGR					AML		AML		
	comp=E,914μm,0.7s								
CAGR					AML		AML		
	comp=N,878μm,0.7s								
CAGR					AML		AML		
	comp=E,914μm,1.3s								
CAGR					AML		AML		
	comp=N,878μm,1.3s								
EPOZ	**Pozzillo**	**0.90**	**172**		P		**Pn**	**09 31 27.3**	**-0.8**
EPOZ					AML		AML		
	comp=N,1330μm,0.9s								
EPOZ					AML		AML		
	comp=E,1038μm,1.4s								
SOI	**Samo**	**0.95**	**110**		P		**Pn**	**09 31 28.4**	**-0.1**
SOI					S		**Sn**	**09 31 49.2**	**-0.8**
SOI					AML		AML		
	comp=N,644μm,0.8s								
SOI					AML		AML		
	comp=E,708μm,0.5s								
VAE	**Valguarnera**	**1.01**	**204**		P		**Pn**	**09 31 29.4**	**+0.3**
	comp=E,28nm,0.4s,baz=334,slow=7.1,SNR=7.5								
VAE					S		**Sn**	**09 31 53.9**	**+2.9**
	comp=E,20nm,0.3s,baz=345,slow=17,SNR=2.7								
HLNI	**Lentini**	**1.05**	**182**	⇓*i*	P		**Pn**	**09 31 29.0**	**-0.3**
HLNI					AML		AML		
	comp=E,837μm,0.9s								
HLNI					AML		AML		
	comp=N,508μm,0.9s								
HLNI					AML		AML		
	comp=E,837μm,1.1s								
HAGA	**Augusta**	**1.13**	**171**		P		**Pn**	**09 31 29.6**	**-0.3**
HAGA					AML		AML		
	comp=E,1224μm,0.6s								
HAGA					AML		AML		
	comp=N,758μm,0.5s								
SOLUN	**Solunto**	**1.14**	**255**		P		**Pn**	**09 31 29.3**	**-0.6**
SOLUN					AML		AML		
	comp=E,112μm,1.4s								
SOLUN					AML		AML		
	comp=N,75μm,0.4s								
SOLUN					AML		AML		
	comp=N,75μm,0.4s								
SOLUN					AML		AML		
	comp=E,112μm,1.4s								
AGST	**Augusta-Monte**	**1.17**	**168**		P		**Pn**	**09 31 29.8**	**-0.4**
PLAC	**Placanica**	**1.19**	**87**		P		**Pn**	**09 31 30.7**	**+0.4**
PLAC					S		**Sn**	**09 31 53.1**	**-0.2**
PLAC					AML		AML		
	comp=E,1475μm,0.7s								
PLAC					AML		AML		
	comp=E,1475μm,1.3s								
PLAC					AML		AML		
	comp=N,1280μm,0.3s								
HVZN	**Vizzini**	**1.23**	**188**		P		**Pn**	**09 31 30.4**	**-0.4**
GRI	**Girifalco**	**1.24**	**70**	*e*P			**Pn**	**09 31 31.0**	**+0.3**
GRI					S		**Sn**	**09 31 54.2**	**0.0**
GRI					AML		AML		
	comp=E,694μm,1.6s								
GRI					AML		AML		
	comp=N,846μm,0.4s								
GRI					AML		AML		
	comp=E,694μm,0.4s								
RAFF	**Raffo Rosso**	**1.26**	**201**		P		**Pn**	**09 31 30.9**	**0.0**
RAFF					AML		AML		
	comp=N,228μm,0.7s								
RAFF					AML		AML		
	comp=N,228μm,1.3s								
RAFF					AML		AML		
	comp=E,188μm,0.4s								
CMDO	**Montedoro**	**1.28**	**223**		P		**Pn**	**09 31 31.1**	**0.0**
MEU	**Monte Lauro**	**1.30**	**180**		P		**Pn**	**09 31 30.9**	**-0.4**
MEU					AML		AML		
	comp=N,811μm,0.4s								
MEU					AML		AML		
	comp=N,810μm,0.4s								
MEU					AML		AML		
	comp=E,936μm,0.7s								
CAR1	**CAROLEI**	**1.31**	**49**		P		**Pn**	**09 31 31.3**	**-0.1**
CAR1					AML		AML		
	comp=E,585μm,0.6s								
CAR1					AML		AML		
	comp=N,333μm,0.3s								
CAR1					AML		AML		
	comp=N,333μm,1.7s								
CORL	**Corleone**	**1.38**	**249**		P		**Pn**	**09 31 31.1**	**-0.8**
CORL					AML		AML		
	comp=E,365μm,0.8s								
CORL					AML		AML		
	comp=N,325μm,0.3s								
CET2	**Cetraro**	**1.38**	**35**		P		**Pn**	**09 31 32.4**	**+0.5**
CET2					AML		AML		
	comp=N,532μm,0.5s								
CET2					AML		AML		
	comp=E,374μm,0.7s								
SPS2	**Spezzano della**	**1.42**	**51**		P		**Pn**	**09 31 32.1**	**-0.1**
SPS2					AML		AML		
	comp=E,110μm,0.4s								
SPS2					AML		AML		
	comp=N,120μm,1.3s								
SPS2					AML		AML		
	comp=E,110μm,0.4s								
SPS2					AML		AML		
	comp=E,110μm,1.6s								
SPS2					AML		AML		
	comp=N,120μm,0.7s								
HMDC	**Modica**	**1.45**	**185**		P		**Pn**	**09 31 32.4**	**-0.2**
HMDC					AML		AML		
	comp=E,594μm,0.8s								
HMDC					AML		AML		
	comp=E,594μm,1.2s								
HMDC					AML		AML		
	comp=N,514μm,0.6s								
CLTA	**Licata**	**1.46**	**212**		P		**Pn**	**09 31 33.0**	**+0.4**
CLTA					AML		AML		
	comp=N,769μm,1.5s								
CLTA					AML		AML		
	comp=N,769μm,0.5s								
CLTA					AML		AML		
	comp=E,707μm,0.2s								
FAVR	**Favara**	**1.51**	**222**		P		**Pn**	**09 31 33.3**	**+0.2**
SERS	**Sersale**	**1.52**	**65**		P		**Pn**	**09 31 33.5**	**+0.3**
SERS					AML		AML		
	comp=E,232μm,0.4s								
SERS					AML		AML		
	comp=E,166μm,0.3s								
SERS					AML		AML		
	comp=N,228μm,0.4s								
SERS					AML		AML		
	comp=N,166μm,0.3s								
CELI	**Celico**	**1.59**	**51**		P		**Pn**	**09 31 34.3**	**+0.4**
CELI					AML		AML		
	comp=E,280μm,1.1s								
CELI					AML		AML		
	comp=N,397μm,0.7s								
CELI					AML		AML		
	comp=E,280μm,0.9s								
CELI					AML		AML		
	comp=N,397μm,1.3s								
TIP	**Timpagrande**	**1.63**	**61**	⇑P			**Pn**	**09 31 34.8**	**+0.6**
TIP					AML		AML		
	comp=E,108μm,0.7s								
TIP					AML		AML		
	comp=N,115μm,0.5s								
TIP					AML		AML		
	comp=N,102μm,1.4s								
TIP					AML		AML		
	comp=E,140μm,0.5s								
CRJA	**Costa Raja**	**1.63**	**249**		P		**Pn**	**09 31 34.3**	**0.0**
CRJA					AML		AML		
	comp=E,273μm,1.4s								
CRJA					AML		AML		
	comp=N,150μm,1.6s								
CRJA					AML		AML		
	comp=N,150μm,0.4s								
CRJA					AML		AML		
	comp=E,273μm,0.6s								
TDS	**Terranova Siba**	**1.67**	**41**		P		**Pn**	**09 31 34.8**	**+0.2**
TDS					AML		AML		
	comp=N,89μm,0.6s								
TDS					AML		AML		
	comp=N,89μm,1.4s								
TDS					AML		AML		
	comp=E,109μm,0.9s								
MMN	**Mormanno**	**1.70**	**29**		P		**Pn**	**09 31 35.4**	**+0.5**
HPAC	**Pachino**	**1.71**	**175**		P		**Pn**	**09 31 35.0**	**-0.1**
CUC	**Castrocucco**	**1.73**	**23**		P		**Pn**	**09 31 35.4**	**+0.2**
MGR	**Morigerati**	**1.80**	**16**		P		**Pn**	**09 31 36.2**	**+0.4**
LADO	**San Nicola del**	**1.83**	**61**		P		**Pn**	**09 31 36.0**	**-0.3**
SALB	**San Lorenzo Be**	**1.84**	**36**		P		**Pn**	**09 31 37.2**	**+0.7**
SALB					AML		AML		
	comp=N,90μm,1.4s								
SALB					AML		AML		
	comp=E,154μm,0.8s								
SALB					AML		AML		
	comp=N,90μm,0.6s								
CAVT	**Castelvetrano**	**1.86**	**248**		P		**Pn**	**09 31 36.1**	**-0.4**
ERC	**Erice**	**1.88**	**260**		P		**Pn**	**09 31 36.2**	**-0.6**
SIRI	**Monte Sirino -**	**1.92**	**22**		P		**Pn**	**09 31 37.5**	**+0.2**
SIRI					AML		AML		
	comp=E,85μm,1.6s								
SIRI					AML		AML		
	comp=N,99μm,0.8s								
SIRI					AML		AML		
	comp=E,85μm,0.4s								
SIRI					AML		AML		
	comp=N,99μm,1.2s								
CMPR	**Campora**	**1.93**	**9**		P		**Pn**	**09 31 37.5**	**+0.2**
CMPR					AML		AML		
	comp=E,59μm,1.2s								
CMPR					AML		AML		
	comp=N,73μm,1.0s								
CMPR					AML		AML		
	comp=E,59μm,0.8s								
MTSN	**Montesano sull**	**1.97**	**19**		P		**Pn**	**09 31 37.6**	**-0.2**
SCHR	**S. Chirico Rap**	**2.00**	**26**		P		**Pn**	**09 31 38.0**	**-0.1**
MCEL	**Monticello**	**2.04**	**19**		P		**Pn**	**09 31 38.2**	**-0.3**
MRLC	**Muro Lucano**	**2.39**	**10**		P		**Pn**	**09 31 42.9**	**+0.6**
IFOR	**Ischia Forio P**	**2.45**	**341**		P		**Pn**	**09 31 42.3**	**-0.6**
LTRZ	**Laterza**	**2.64**	**33**		P		**Pn**	**09 31 44.4**	**-0.7**
VENT	**Ventotene**	**2.66**	**335**		P		**Pn**	**09 31 43.5**	**-1.8**
TAR1	**Taranto**	**2.80**	**40**		P		**Pn**	**09 31 46.1**	**-0.8**
TAR1					AML		AML		
	comp=E,435μm,1.4s								
TAR1					AML		AML		
	comp=N,416μm,0.6s								
TAR1					AML		AML		
	comp=E,435μm,0.6s								
PTRJ	**Pietraroja**	**2.97**	**354**		P		**Pn**	**09 31 49.7**	**+0.5**
PTRJ					AML		AML		
	comp=N,703μm,1.0s								
PTRJ					AML		AML		
	comp=E,502μm,0.4s								
PTRJ					AML		AML		
	comp=N,703μm,1.0s								
SCTE	**Santa Cesarea**	**3.22**	**58**		P		**Pn**	**09 31 49.9**	**-2.2**
SCTE					AML		AML		
	comp=E,493μm,1.2s								
SCTE					AML		AML		
	comp=N,418μm,1.6s								
SCTE					AML		AML		
	comp=N,418μm,0.4s								
SCTE					AML		AML		
	comp=E,493μm,0.8s								
TIR	**Tirane**	**4.80**	**51**	*e*Pn			**Pn**	**09 32 12.3**	**+0.2**
TIR				*e*Sn			**Sn**	**09 33 07.0**	**-1.3**
STON	**Ston**	**4.94**	**24**	*e*Pn			**Pn**	**09 32 14.8**	**+1.1**
STON				*e*Sn			**Sn**	**09 33 12.7**	**+1.4**
TREB	**Trebinje**	**5.04**	**30**	*e*Pn			**Pn**	**09 32 15.6**	**+0.6**
TREB				*e*Sn			**Sn**	**09 33 12.4**	**-1.3**
KEST	**Kesra**	**5.20**	**241**		P		**Pn**	**09 32 19.1**	**+1.8**
	comp=E,2.9nm,0.5s,baz=131,slow=19,SNR=5.6								
PDG	**Podgorica**	**5.21**	**38**	*e*Pn			**Pn**	**09 32 17.6**	**+0.4**
PDG				*e*Sn			**Sn**	**09 33 17.7**	**+0.2**
OHR	**Ohrid**	**5.27**	**57**	*e*Pn			**Pn**	**09 32 20.1**	**+1.9**
FNA	**Florina**	**5.52**	**62**	*e*Pn			**Pn**	**09 32 23.8**	**+2.4**
FNA				*e*Sn			**Sn**	**09 33 23.0**	**-2.0**
SJES	**Sjenica**	**6.18**	**37**	*e*Pn			**Pn**	**09 32 32.6**	**+2.6**
SJES				*e*Sn			**Sn**	**09 33 40.5**	**-0.1**
BBLS	**Lazići**	**6.42**	**30**	*e*Pn			**Pn**	**09 32 34.8**	**+1.7**
IVAS	**Ivanjica**	**6.51**	**36**	*e*Pn			**Pn**	**09 32 34.6**	**+0.4**
IVAS				*e*Sn			**Sn**	**09 33 50.4**	**+2.2**
SELS	**Selova**	**6.72**	**42**	*e*Pn			**Pn**	**09 32 37.2**	**+0.2**
PRVS	**Prvonek**	**6.82**	**51**	*e*Pn			**Pn**	**09 32 39.6**	**+1.3**
PRVS				*e*Sn			**Sn**	**09 33 52.7**	**-2.9**
BARS	**Barje**	**6.85**	**48**	*e*Pn			**Pn**	**09 32 39.2**	**+0.5**
BARS				*e*Sn			**Sn**	**09 33 54.7**	**-1.5**
DIVS	**Divibare**	**6.85**	**32**	*e*Pn			**Pn**	**09 32 40.1**	**+1.4**
DIVS				*e*Sn			**Sn**

comp=E,1.7nm,0.4s,baz=186,slow=8.7,SNR=24
comp=E,1.7nm,0.4s
MKAR Makanchi Array 48.91 57 P **P** **09 39 27.9 +0.3**
comp=E,0.5nm,0.4s,baz=284,slow=6.9,SNR=13
comp=E,0.5nm,0.4s
YKA Yellowknife Ar 71.59 338 P **P** **09 42 03.2 +2.0**
baz=34,slow=5.5,SNR=1.5

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*NNC **20** 09:38:06.8±5.9,56°.13N×85°.75E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=47.9km s-min=41.7km az=102.0, Suspected Mining explosion.*
*IDC **20** 09:38:07.4±2.6,55°.86N×86°.40E,h0km,mbtmp3.2/4, ML2.6/4,Error ellipse: s-maj=23.7km s-min=18.0km az=68.0*
ISC 20 09:38:08.0±3.8,55°.9N±0°.2×86°.1E±0°.2,h0km,n9,σ1s40/14, 7C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.10**	**201**	I	I	09 52 47.8	
	baz=26,slow=352,SNR=2.4						
ZAA0	**Zalesovo Array**	**2.10**	**201**	⇓Pn	**Pn**	**09 38 45.0**	**+0.6**
	1.9nm,0.6s						
ZAA0				⇓Sn	**Sb**	**09 39 16.2**	**+2.6**
	2.6nm,0.3s						
ZALV	**Zalesovo Beam**	**2.10**	**201**	Pn	**Pn**	**09 38 45.0**	**+0.6**
	3.7nm,0.3s,baz=22,slow=16,SNR=65						
ZALV				Lg	Lg	09 39 16.2	
	9.0nm,0.3s,baz=25,slow=26,SNR=24						
	13nm,0.4s						
KURK	**Kurchatov**	**6.86**	**224**	⇓Pn	**Pn**	**09 39 49.6**	**-0.1**
	1.9nm,0.8s						
KURK				⇑Sn	**Sn**	**09 41 06.5**	**-1.9**
	1.1nm,0.6s						
KURK				⇑Lg	Lg	09 41 47.7	
	1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**6.96**	**224**	Pn	**Pn**	**09 39 51.7**	**+0.5**
	0.1nm,0.3s,baz=42,slow=14,SNR=19						
KURBB				Sn	**Sn**	**09 41 09.2**	**-1.9**
	baz=36,slow=22,SNR=2.0						
KURBB				Lg	Lg	09 41 51.2	
	0.1nm,0.3s,baz=46,slow=30,SNR=4.1						
	1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**6.96**	**224**	⇑Pn	**Pn**	**09 39 50.9**	**-0.3**
	1.8nm,0.6s,baz=42,slow=14						
KURBB				⇓Sn	**Sn**	**09 41 10.8**	**-0.2**
	3.4nm,0.8s						
KURBB				⇑Lg	Lg	09 41 51.0	
	4.9nm,0.6s,baz=44,slow=30						
MK31	**Makanchi Array**	**9.44**	**196**	⇑Pn	**Pn**	**09 40 24.3**	**-0.9**
	0.9nm,0.8s,baz=19,slow=12,SNR=9.7						
MK31				⇑Sn	**Sn**	**09 42 11.1**	**-0.7**
	0.7nm,0.6s,baz=355,slow=30,SNR=4.7						
MK31				⇑Lg	Lg	09 43 08.3	
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**9.44**	**196**	Pn	**Pn**	**09 40 24.3**	**-0.8**
	0.2nm,0.3s,baz=19,slow=13,SNR=11						
MKAR				Sn	**Sn**	**09 42 10.0**	**-1.9**
	0.1nm,0.3s,baz=16,slow=21,SNR=2.5						
MKAR				Lg	Lg	09 43 07.6	
	0.1nm,0.3s,baz=21,slow=30,SNR=2.4						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**9.57**	**259**	Pn	**Pn**	**09 40 28.0**	**+1.0**
	baz=65,slow=15,SNR=3.6						
	0.7nm,0.4s						

ROM 20 09:47:50.5±0.1,43°.022N±0°.004×13°.101E±0°.009, h9km,ML1.0/1,2D,Error ellipse: s-maj=0.7km s-min=0.1km az=263.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.02**	**326**	P	Pg	09 47 52.1	-0.1
FEMA	**Monte Fema**	**0.07**	**212**	P	Pg	09 47 53.0	+0.3
FEMA				S	Sg	09 47 54.5	+0.1
T1220	**Camerino, Fraz**	**0.09**	**354**	P	Pg	09 47 53.4	+0.5
T1220				AML	AML		
	comp=E,1088μm,1.2s						
T1220				AML	AML		
	comp=N,1138μm,0.4s						
T1220				AML	AML		
	comp=N,1177μm,0.4s						
T1220				AML	AML		
	comp=E,1088μm,0.8s						
T1220				AML	AML		
	comp=E,1084μm,0.2s						
T1220				AML	AML		
	comp=N,1177μm,1.6s						
T1220				AML	AML		
	comp=N,1138μm,1.6s						
MC2	**Monte Cornacci**	**0.13**	**149**	P	Pg	09 47 54.2	+0.6
CESI	**CESI - Serrava**	**0.14**	**263**	P	Pg	09 47 54.4	+0.6
CESI				S	Sg	09 47 57.0	+1.0
CESI				AML	AML		
	comp=E,90μm,0.5s						
CESI				AML	AML		
	comp=N,100μm,0.9s						
SNTG	**Esanatoglia**	**0.26**	**333**	P	Pg	09 47 56.6	+0.8
SNTG				S	Sb	09 48 01.0	-1.1
T1215	**Vallo di Nera,**	**0.28**	**218**	P	Pg	09 47 56.8	+0.7
EL6	**Elcito**	**0.31**	**0**	P	Pb	09 47 57.6	-0.7
ASSB	**Assisi San Ben**	**0.33**	**274**	⇓P	Pg	09 47 57.7	+0.7
T1202	**Accumoli, Fraz**	**0.33**	**164**	⇓P	Pb	09 47 57.9	-0.7

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*ROM **20** 09:48:17.2±0.1,42°.492N±0°.004×13°.285E±0°.004, h13km,ML2.5/31, Error ellipse: s-maj=0.4km s-min=0.1km az=216.0*
ISC 20 09:48:17.1±0.8,42°.49N±0°.02×13°.29E±0°.02,h16km±4km, n38,σ0s56/54,10C-10D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.05**	**170**	P	**Pg**	**09 48 20.2**	**0.0**
T1247				S	**Sg**	**09 48 22.1**	**-0.2**
T1247				AML	AML		
	comp=N,15200μm,0.9s						
T1247				AML	AML		
	comp=E,19250μm,0.3s						
RM33	**Pellescritta (**	**0.06**	**289**	P	**Pg**	**09 48 20.1**	**-0.2**
RM33				S	**Sg**	**09 48 21.8**	**-0.6**
RM33				AML	AML		
	comp=E,10815μm,0.2s						
RM33				AML	AML		
	comp=N,14100μm,0.2s						
RM33				AML	AML		
	comp=N,14400μm,0.2s						
RM33				AML	AML		
	comp=N,14400μm,1.8s						
RM33				AML	AML		
	comp=N,14100μm,1.8s						
RM33				AML	AML		
	comp=E,10815μm,0.3s						
RM33				AML	AML		
	comp=E,10365μm,0.3s						
CAMP	**Campotosto**	**0.10**	**63**	P	**Pg**	**09 48 20.5**	**-0.2**
CAMP				S	**Sg**	**09 48 22.6**	**-0.5**
SMA1	**SAN MARTINO**	**0.14**	**14**	P	**Pg**	**09 48 21.1**	**-0.1**
SMA1				S	**Sg**	**09 48 24.0**	**+0.1**
SMA1				AML	AML		
	comp=N,17950μm,0.4s						
SMA1				AML	AML		
	comp=E,40050μm,0.4s						
AQU	**L'Aquila**	**0.16**	**148**	⇓P	**Pg**	**09 48 21.6**	**+0.2**
AQU				S	**Sb**	**09 48 24.8**	**0.0**
AQU				AML	AML		
	comp=E,1805μm,0.3s						
AQU				AML	AML		
	comp=E,1785μm,0.3s						
AQU				AML	AML		
	comp=N,1920μm,1.0s						
AQU				AML	AML		
	comp=N,1920μm,1.0s						
GIGS	**Gran Sasso**	**0.21**	**101**	P	**Pg**	**09 48 21.9**	**-0.2**
GIGS				S	**Sg**	**09 48 25.7**	**+0.1**
GIGS				AML	AML		
	comp=N,704μm,0.7s						
GIGS				AML	AML		
	comp=E,710μm,0.9s						
LNSS	**Leonessa**	**0.21**	**302**	P	**Pg**	**09 48 22.2**	**0.0**
LNSS				S	**Sg**	**09 48 25.9**	**+0.3**
LNSS				AML	AML		
	comp=N,6740μm,0.3s						
LNSS				AML	AML		
	comp=E,3710μm,0.7s						
T1202	**Accumoli, Fraz**	**0.22**	**348**	⇓P	**Pg**	**09 48 22.4**	**+0.2**
T1202				S	**Sb**	**09 48 26.2**	**-0.3**
T1202				AML	AML		
	comp=E,13750μm,0.9s						
T1202				AML	AML		
	comp=N,11595μm,1.1s						
T1202				AML	AML		
	comp=N,11590μm,1.1s						
T1218	**Civita (PG)**	**0.22**	**325**	P	**Pg**	**09 48 22.2**	**-0.1**
T1218				S	**Sg**	**09 48 25.9**	**+0.1**
T1218				AML	AML		
	comp=N,5530μm,0.2s						
T1218				AML	AML		
	comp=E,1755μm,0.2s						
T1218				AML	AML		
	comp=N,5530μm,0.2s						
T1218				AML	AML		
	comp=N,5530μm,0.3s						
T1218				AML	AML		
	comp=E,1870μm,0.2s						
T1218				AML	AML		
	comp=N,5530μm,0.3s						
T1218				AML	AML		
	comp=N,5535μm,0.3s						
T1218				AML	AML		
	comp=E,1755μm,0.2s						
FIAM	**Fiamignano**	**0.26**	**210**	⇑P	**Pg**	**09 48 23.1**	**+0.4**
FIAM				AML	AML		
	comp=E,2005μm,0.6s						
FIAM				AML	AML		
	comp=N,1023μm,0.7s						
FIAM				AML	AML		
	comp=E,2005μm,1.4s						
FAGN	**Fagnano**	**0.31**	**135**	⇓P	**Pg**	**09 48 24.1**	**+0.3**
FAGN				AML	AML		
	comp=E,2260μm,0.5s						
FAGN				AML	AML		
	comp=N,1905μm,1.6s						
NRCA	**Norcia**	**0.37**	**340**	⇑P	**Pg**	**09 48 24.7**	**0.0**
NRCA				AML	AML		
	comp=E,3140μm,0.7s						
NRCA				AML	AML		
	comp=N,2125μm,1.4s						
NRCA				AML	AML		
	comp=E,3145μm,0.7s						
NRCA				AML	AML		
	comp=N,2130μm,1.3s						
NRCA				AML	AML		
	comp=N,2125μm,1.3s						
NRCA				AML	AML		
	comp=E,3145μm,1.3s						
NRCA				AML	AML		
	comp=N,2125μm,0.7s						
ARRO	**Arrone**	**0.40**	**283**	⇑P	**Pg**	**09 48 25.2**	**+0.1**
ARRO				S	**Sg**	**09 48 31.1**	**+0.5**
ARRO				AML	AML		
	comp=E,1300μm,0.2s						
ARRO				AML	AML		
	comp=N,1130μm,0.8s						
ARRO				AML	AML		
	comp=E,1300μm,1.8s						
ARRO				AML	AML		
	comp=N,1130μm,1.2s						
MC2	**Monte Cornacci**	**0.43**	**350**	⇓P	**Pg**	**09 48 25.7**	**-0.1**
T1215	**Vallo di Nera,**	**0.44**	**315**	⇑P	**Pg**	**09 48 25.8**	**-0.1**
T1215				AML	AML		
	comp=N,266μm,0.7s						
T1215				AML	AML		
	comp=N,266μm,0.7s						
T1215				AML	AML		
	comp=E,345μm,0.3s						
T1215				AML	AML		
	comp=E,311μm,0.3s						
T1215				AML	AML		
	comp=N,286μm,0.9s						
PTQR	**Pietraquaria**	**0.48**	**170**	⇑P	**Pb**	**09 48 27.1**	**0.0**
PTQR				AML	AML		
	comp=E,195μm,0.2s						
PTQR				AML	AML		
	comp=N,151μm,1.1s						
PTQR				AML	AML		
	comp=N,151μm,0.9s						
FEMA	**Monte Fema**	**0.50**	**340**	P	**Pb**	**09 48 27.5**	**-0.1**
FEMA				S	**Sb**	**09 48 34.7**	**0.0**
OFFI	**Offida**	**0.53**	**33**	P	**Pb**	**09 48 28.1**	**+0.1**
CESX	**Cesi**	**0.54**	**283**	P	**Pg**	**09 48 27.3**	**-0.4**
CESX				S	**Sb**	**09 48 35.4**	**-0.1**
CESX				AML	AML		
	comp=E,290μm,1.2s						
CESX				AML	AML		
	comp=N,359μm,1.6s						
CESX				AML	AML		
	comp=N,359μm,0.4s						
TRTR	**Tortoreto Alta**	**0.56**	**55**	P	**Pb**	**09 48 29.1**	**+0.7**
FDMO	**Fiordimonte**	**0.56**	**345**	⇑P	**Pg**	**09 48 28.0**	**-0.3**
FDMO				S	**Sb**	**09 48 36.7**	**+0.3**
FDMO				AML	AML		
	comp=E,417μm,1.0s						
FDMO				AML	AML		
	comp=N,430μm,0.2s						
GUMA	**Gualdo di Mace**	**0.57**	**4**	⇑P	**Pg**	**09 48 28.6**	**+0.2**
GUMA				AML	AML		
	comp=E,1675μm,0.4s						
GUMA				AML	AML		
	comp=N,1985μm,0.4s						
GUMA				AML	AML		
	comp=E,2335μm,0.4s						
GUMA				AML	AML		
	comp=N,1785μm,0.5s						
GUMA				AML	AML		
	comp=E,1675μm,1.6s						
GUMA				AML	AML		
	comp=E,2335μm,1.6s						
CESI	**CESI - Serrava**	**0.59**	**331**	⇓P	**Pg**	**09 48 28.4**	**-0.3**
CESI				AML	AML		
	comp=N,530μm,0.3s						
CESI				AML	AML		
	comp=E,408μm,1.6s						
CESI				AML	AML		
	comp=E,408μm,0.4s						
CERT	**Cerreto**	**0.59**	**203**	P	**Pg**	**09 48 28.7**	**0.0**
CERT				AML	AML		
	comp=E,308μm,0.4s						
CERT				AML	AML		
	comp=N,220μm,0.9s						
CERT				AML	AML		
	comp=E,308μm,1.6s						
MOMA	**Monte Martano**	**0.61**	**301**	⇑P	**Pg**	**09 48 28.6**	**-0.7**
MOMA				AML	AML		
	comp=N,624μm,1.2s						
MOMA				AML	AML		
	comp=E,444μm,0.5s						
MOMA				AML	AML		
	comp=E,508μm,0.4s						
MOMA				AML	AML		
	comp=N,625μm,1.2s						
MOMA				AML	AML		
	comp=N,600μm,0.4s						
SRES	**S.Oreste - Sor**	**0.63**	**247**	P	**Pg**	**09 48 28.6**	**-0.8**
SRES				S	**Sb**	**09 48 39.5**	**+1.3**
SRES				AML	AML		
	comp=E,117μm,1.1s						
SRES				AML	AML		
	comp=N,141μm,0.5s						
SRES				AML	AML		
	comp=E,117μm,0.9s						
T1220	**Camerino, Fraz**	**0.64**	**347**	⇓P	**Pg**	**09 48 29.2**	**-0.4**
T1220				AML	AML		
	comp=E,2160μm,0.3s						
T1220				AML	AML		
	comp=N,1675μm,0.5s						
T1220				AML	AML		
	comp=E,2110μm,0.3s						
T1220				AML	AML		
	comp=N,1660μm,0.5s						
T1220				AML	AML		
	comp=E,2160μm,0.3s						
T1220				AML	AML		
	comp=N,1675μm,0.5s						
T1220				AML	AML		
	comp=N,1675μm,1.5s						
T1220				AML	AML		
	comp=E,2110μm,0.3s						
T1220				AML	AML		
	comp=N,1660μm,1.5s						
ASSB	**Assisi San Ben**	**0.72**	**320**	⇓P	**Pg**	**09 48 29.9**	**-1.3**
ASSB				AML	AML		
	comp=N,256μm,1.6s						
ASSB				AML	AML		
	comp=E,324μm,0.3s						
ASSB				AML	AML		
	comp=E,324μm,1.7s						
ASSB				AML	AML		
	comp=N,256μm,0.4s						
LPEL	**Lama dei Pelig**	**0.80**	**123**	P	**Pg**	**09 48 31.6**	**-1.0**
LPEL				S	**Sb**	**09 48 43.6**	**+0.5**
LPEL				AML	AML		
	comp=N,189μm,0.7s						
LPEL				AML	AML		
	comp=E,194μm,0.2s						
SNTG	**Esanatoglia**	**0.81**	**342**	⇓P	**Pg**	**09 48 32.3**	**-0.4**
SNTG				AML	AML		
	comp=E,166μm,1.0s						
SNTG				AML	AML		
	comp=N,166μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.84**	**326**	⇑P	**Pg**	**09 48 33.1**	**-0.3**
ATCC				AML	AML		
	comp=N,219μm,0.3s						
ATCC				AML	AML		
	comp=E,346μm,1.5s						
EL6	**Elcito**	**0.85**	**351**	⇓P	**Pg**	**09 48 33.1**	**-0.5**
EL6				S	**Sn**	**09 48 46.8**	**+0.2**
EL6				AML	AML		
	comp=N,612μm,0.5s						
EL6				AML	AML		
	comp=E,354μm,0.4s						
CING	**Cingoli**	**0.89**	**356**	P	**Pg**	**09 48 34.1**	**-0.2**
CING				AML	AML		
	comp=E,292μm,0.5s						
CING				AML	AML		
	comp=N,296μm,1.6s						
MGAB	**Montegabbione**	**0.96**	**296**	⇓P	**Pg**	**09 48 35.8**	**0.0**
MGAB				AML	AML		
	comp=E,304μm,1.6s						
MGAB				AML	AML		
	comp=N,334μm,0.4s						
MGAB				AML	AML		
	comp=E,288μm,0.4s						
MGAB				AML	AML		
	comp=N,332μm,0.4s						
MGAB				AML	AML		
	comp=N,332μm,1.6s						
MGAB				AML	AML		
	comp=N,334μm,1.6s						
MGAB				AML	AML		
	comp=E,304μm,0.4s						
SSFR	**Montelago di S**	**1.01**	**339**	⇑P	**Pb**	**09 48 36.4**	**+0.2**
SSFR				AML	AML		
	comp=E,291μm,1.5s						
SSFR				AML	AML		
	comp=N,298μm,0.3s						
SSFR				AML	AML		
	comp=E,275μm,0.2s						
SSFR				AML	AML		
	comp=N,242μm,0.7s						
SSFR				AML	AML		
	comp=N,242μm,1.3s						
SSFR				AML	AML		
	comp=E,291μm,0.5s						
SSFR				AML	AML		
	comp=E,275μm,1.8s						
PTRJ	**Pietraroja**	**1.46**	**140**	P	**Pg**	**09 48 44.9**	**-0.2**
VULT	**Monte Vulture**	**2.32**	**131**	P	**Pn**	**09 48 53.5**	**-1.2**
BRJN	**Brijuni**	**2.44**	**8**	S	**Sn**	**09 49 27.8**	**+2.3**

ROM 20 09:49:06.5±0.1,42°.596N±0°.005×13°.313E±0°.006, h9km,ML2.1/8,5C-2D,Error ellipse: s-maj=0.6km s-min=0.2km az=38.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**25**	⇑P	Pg	09 49 08.6	+0.2
SMA1				S	Sg	09 49 09.9	+0.1
SMA1				AML	AML		
	comp=E,31400μm,0.4s						
SMA1				AML	AML		
	comp=N,20100μm,0.2s						
SMA1				AML	AML		
	comp=E,31400μm,1.6s						
CAMP	**Campotosto**	**0.09**	**130**	⇑P	Pg	09 49 09.3	+0.3
CAMP				S	Sg	09 49 11.1	+0.4
CAMP				AML	AML		
	comp=E,2255μm,0.8s						
CAMP				AML	AML		
	comp=N,1354μm,0.3s						
RM33	**Pellescritta (**	**0.11**	**220**	⇑P	Pg	09 49 09.7	+0.5
RM33				AML	AML		
	comp=N,1620μm,1.2s						
RM33				AML	AML		
	comp=E,1340μm,1.0s						
RM33				AML	AML		
	comp=E,1335μm,0.2s						
RM33				AML	AML		
	comp=E,1345μm,1.0s						
RM33				AML	AML		
	comp=N,1535μm,1.2s						
RM33				AML	AML		
	comp=N,1535μm,0.8s						
RM33				AML	AML		
	comp=N,1620μm,0.8s						
T1202	**Accumoli, Fraz**	**0.13**	**329**	P	Pg	09 49 10.1	+0.7
T1202				S	Sg	09 49 12.6	+1.1
T1247	**Pizzolo (AQ)**	**0.15**	**184**	P	Pg	09 49 10.6	+0.7
T1247				AML	AML		
	comp=N,1805μm,0.2s						
T1247				AML	AML		
	comp=E,1505μm,1.1s						
T1218	**Civita (PG)**	**0.16**	**297**	⇑P	Pg	09 49 10.4	+0.4
T1218				S	Sg	09 49 13.3	+0.8
T1218				AML	AML		
	comp=E,695μm,0.9s						
T1218				AML	AML		
	comp=N,846μm,0.9s						
T1218				AML	AML		
	comp=E,694μm,0.9s						
T1218				AML	AML		
	comp=N,848μm,0.9s						
T1218				AML	AML		
	comp=E,473μm,1.3s						
T1218				AML	AML		
	comp=E,694μm,1.1s						
T1218				AML	AML		
	comp=N,824μm,0.3s						
LNSS	**Leonessa**	**0.20**	**272**	⇑P	Pg	09 49 11.2	+0.5
LNSS				S	Sg	09 49 14.9	+1.3
LNSS				AML	AML		
	comp=E,927μm,0.8s						
LNSS				AML	AML		
	comp=N,806μm,0.1s						
GIGS	**Gran Sasso**	**0.24**	**128**	P	Pg	09 49 11.7	+0.3
GIGS				AML	AML		
	comp=N,82μm,0.8s						
GIGS				AML	AML		
	comp=E,156μm,1.3s						
GIGS				AML	AML		
	comp=E,156μm,0.7s						
AQU	**L'Aquila**	**0.25**	**165**	P	Pb	09 49 12.4	-0.8
NRCA	**Norcia**	**0.28**	**328**	P	Pg	09 49 12.6	+0.5
MC2	**Monte Cornacci**	**0.33**	**344**	S	Sg	09 49 18.7	+1.2
FIAM	**Fiamignano**	**0.36**	**204**	⇓P	Pg	09 49 13.9	+0.4
FAGN	**Fagnano**	**0.39**	**149**	P	Pb	09 49 15.1	-0.4
MOMA	**Monte Martano**	**0.59**	**291**	⇓P	Pg	09 49 18.2	+0.4
MOMA				AML	AML		
	comp=E,322μm,0.8s						
MOMA				AML	AML		
	comp=N,272μm,0.2s						
ASSB	**Assisi San Ben**	**0.66**	**313**	S	Sb	09 49 29.5	+0.1

ROM 20 09:49:48.9±0.1,42°.499N±0°.003×13°.301E±0°.004, h13km,ML1.0/6,1D,Error ellipse: s-maj=0.3km s-min=0.1km az=228.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.06**	**182**	P	Pg	09 49 51.6	0.0
T1247				S	Sg	09 49 54.0	+0.5
T1247				AML	AML		
	comp=E,562μm,0.1s						
T1247				AML	AML		
	comp=N,748μm,0.3s						

T1247					AML	AML		
	comp=E,236μm,0.1s							
RM33	**Pellescritta (**	**0.07**	**279**		P	Pg	09 49 51.8	+0.2
RM33					S	Sg	09 49 53.6	0.0
RM33					AML	AML		
	comp=E,2210μm,0.2s							
RM33					AML	AML		
	comp=E,2190μm,0.6s							
RM33					AML	AML		
	comp=N,2500μm,0.1s							
RM33					AML	AML		
	comp=N,2480μm,0.1s							
CAMP	**Campotosto**	**0.09**	**65**		P	Pg	09 49 52.2	+0.3
CAMP					S	Sg	09 49 54.2	+0.2
CAMP					AML	AML		
	comp=E,304μm,0.4s							
CAMP					AML	AML		
	comp=N,456μm,0.3s							
CAMP					AML	AML		
	comp=N,47μm,0.3s							
CAMP					AML	AML		
	comp=E,35μm,0.3s							
GIGS	**Gran Sasso**	**0.20**	**104**		P	Pg	09 49 54.0	+0.5
GIGS					S	Sg	09 49 57.4	+0.7
T1202	**Accumoli, Fraz**	**0.21**	**345**		P	Pg	09 49 54.1	+0.5
T1202					S	Sb	09 49 58.0	-0.7
T1202					AML	AML		
	comp=N,309μm,0.2s							
T1202					AML	AML		
	comp=E,259μm,0.2s							
LNSS	**Leonessa**	**0.22**	**298**	⇓	P	Pg	09 49 54.1	+0.3
LNSS					S	Sg	09 49 57.9	+0.8
LNSS					AML	AML		
	comp=N,947μm,0.1s							
LNSS					AML	AML		
	comp=E,612μm,0.2s							
LNSS					AML	AML		
	comp=N,76μm,0.1s							
T1218	**Civita (PG)**	**0.22**	**321**		P	Pg	09 49 53.7	-0.1
T1218					S	Sg	09 49 57.8	+0.7
T1218					AML	AML		
	comp=E,366μm,0.4s							
T1218					AML	AML		
	comp=N,596μm,0.2s							
T1218					AML	AML		
	comp=N,596μm,0.2s							
FIAM	**Fiamignano**	**0.27**	**211**		P	Pg	09 49 54.9	+0.3
FIAM					S	Sb	09 49 59.5	-0.6
FIAM					AML	AML		
	comp=E,31μm,0.6s							
FIAM					AML	AML		
	comp=N,35μm,0.6s							
T1215	**Vallo di Nera,**	**0.44**	**314**		P	Pg	09 49 57.6	-0.1
T1215					S	Sb	09 50 04.4	-0.7

IDC ***20*** *09:54:00.2±0.3,38˚.14N×76˚.67E,h0km,mb4.9/46, mbtmp4.9/53,ML4.2/7,MS4.4/83,Error ellipse: s-maj=9.3km s-min=8.3km az=17.0*

BJI ***20*** *09:54:02.8±0.0,38˚.21N×76˚.73E,h10km,mb4.9/61, mB5.3/48,ML5.3/7,Ms4.9/73,Ms7 4.9/57*

MOS ***20*** *09:54:02.2±1.0,38˚.18N×76˚.72E,h21km,mb5.4/88, MS4.7/20,Error ellipse: s-maj=4.4km s-min=2.9km az=111.4*

SOME ***20*** *09:54:04.1,38˚.45N×76˚.57E,h10km,MS4.7*

GCMT ***20*** *09:54:05.4±0.2,38˚.33N±0˚.02×76˚.93E±0˚.02,h19km±1km, MW5.0/77,Moment Tensor Solution. s31,c38; s77,c109; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.18±.20; Mθθ0.33±.15; Mϕϕ-2.51±.13; Mrθ-0.50±.36; Mθϕ2.15±.10; Mϕr3.49±.37; Best double couple: M0 4.66800×10^16^ NP1:ϕs122.00000°,δ26.00000°,λ43.00000°. Principal axes: T 4.1390, Plg58.0000°, Azm289.0000°; N 1.0600, Plg19.0000°, Azm166.0000°; P -5.1970, Plg25.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NNC ***20*** *09:54:05.5±1.3,38˚.47N×76˚.55E,h0km,mb5.6,mpv5.3 Error ellipse: s-maj=11.1km s-min=8.1km az=131.0*

NEIC ***20*** *09:54:06.8±1.7,38˚.29N±0˚.06×76˚.73E±0˚.08,h37km±5km, mb5.3/247,Error ellipse: s-maj=9.4km s-min=8.4km az=130.0*

BGR ***20*** *09:54:08.6,38˚.54N×76˚.76E,h48km±2km,mb5.3,Ms4.6*

ISC 20 09:54:03.6±0.2,38˚.20N±0˚.03×76˚.67E±0˚.02,h21km±2km, h21km:pP-P,n1292,σ1.959/1365,mb5.2/354,MS4.6/127, 89C-54D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.42**	**338**	Pg	**Pn**	**09 54 25.4**	**-3.0**
KSH				Sg	**Sn**	**09 54 43.6**	**-3.0**
KSH				smax	smax		
	comp=N,53μm,0.4s						
KSH				smax	smax		
	comp=E,87μm,0.7s						
TARG	**Taragay, Kyrgy**	**3.63**	**14**	Pn	**Pn**	**09 55 01.9**	**+2.9**
TARG	**Taragay, Kyrgy**	**3.63**	**14**	P	**Pn**	**09 55 01.9**	**+2.9**
ULHL	**Ulahol**	**4.05**	**355**	P	**Pn**	**09 55 07.6**	**+3.0**
	SNR=214						
UCH	**Uchtor**	**4.35**	**338**	P	**Pn**	**09 55 11.3**	**+2.4**
	SNR=95						
AML	**Almayashu**	**4.54**	**331**	P	**Pn**	**09 55 13.3**	**+1.8**
	SNR=95						
KBK	**Karagaybulak**	**4.64**	**344**	P	**Pn**	**09 55 15.7**	**+3.0**
	SNR=74						
AAK	**Ala-Archa**	**4.73**	**340**	P	**Pn**	**09 55 16.8**	**+2.9**
	SNR=51						
AAK	**Ala-Archa**	**4.73**	**340**	Pn	**Pn**	**09 55 16.9**	**+2.9**
	16nm,0.3s,baz=141,slow=7.5,SNR=76						
AAK				Lg	Lg	09 56 26.8	
	54nm,0.3s,baz=137,slow=16,SNR=3.6						
	35nm,0.3s						
AAK	**Ala-Archa**	**4.73**	**340**	Pn	**Pn**	**09 55 16.7**	**+2.9**
AAK	**Ala-Archa**	**4.73**	**340**	*c* *i*P	**Pn**	**09 55 16.5**	**+2.6**
AAK				pmax	pmax		
	comp=Z,113nm,0.8s						
AAK	**Ala-Archa**	**4.73**	**340**	*i* P	**Pn**	**09 55 16.8**	**+2.9**
	SNR=62						
TKM2	**Tokmak 2**	**4.79**	**350**	P	**Pn**	**09 55 17.5**	**+2.8**
	SNR=98						
TKM2	**Tokmak 2**	**4.79**	**350**	⇑Pn	**Pn**	**09 55 17.5**	**+2.8**
	comp=Z,125nm,1.2s						
TKM2				⇑Pg	**Pb**	**09 55 27.8**	**+0.9**
	comp=Z,438nm,0.6s						
TKM2				⇑Lg	Lg	09 56 29.4	
	comp=Z,1μm,0.7s						
TKM2	**Tokmak 2**	**4.79**	**350**	P	**Pn**	**09 55 17.5**	**+2.8**
IZV	**Izvestkoviy**	**4.83**	**359**	Pg	**Pb**	**09 55 27.8**	**+0.1**
	comp=Z,125nm,0.5s						
IZV				Lg	Lg	09 56 27.4	
	comp=Z,913nm,0.7s						
IZV	**Izvestkoviy**	**4.83**	**359**	*e*Pg	**Pb**	**09 55 27.4**	**-0.3**
	comp=Z,125nm,0.5s						
IZV				*e*Lg	Lg	09 56 27.4	
	comp=Z,1μm,0.3s						
TNSS	**Tian-Shan**	**4.84**	**2**	Pg	**Pb**	**09 55 29.9**	**+2.0**
	comp=Z,297nm,0.4s						
TNSS				Lg	Lg	09 56 31.4	
	comp=Z,730nm,0.6s						
TNSS	**Tian-Shan**	**4.84**	**2**	⇑*i*Pn	**Pn**	**09 55 18.1**	**+2.5**
	baz=2.3						
TNSS				*e*Sn	**Sn**	**09 56 11.9**	**+0.8**
	baz=2.3						
TNSS	**Tian-Shan**	**4.84**	**2**	*e*Pg	**Pb**	**09 55 29.9**	**+2.0**
	comp=Z,297nm,0.4s						
TNSS				*e*Lg	Lg	09 56 31.4	
	comp=Z,730nm,0.6s						
TNSS	**Tian-Shan**	**4.84**	**2**	⇑*i*P	**Pn**	**09 55 18.1**	**+2.5**
TNSS				*e*		09 56 11.9	
KST	**Kastek**	**4.87**	**354**	Pg	**Pb**	**09 55 29.0**	**+0.7**
	comp=Z,218nm,0.5s						
KST				Lg	Lg	09 56 31.0	
	comp=Z,712nm,0.6s						
KST	**Kastek**	**4.87**	**354**	*e*Pg	**Pb**	**09 55 29.0**	**+0.7**
	comp=Z,394nm,0.6s						
KST				*e*Lg	Lg	09 56 30.1	
	comp=Z,2μm,0.3s						
MTBS	**Maitube**	**4.93**	**358**	Pg	**Pb**	**09 55 31.4**	**+2.2**
	comp=Z,221nm,0.7s						
MTBS				*e*Lg	Lg	09 56 34.6	
	comp=Z,973nm,0.5s						
MTBS	**Maitube**	**4.93**	**358**	*e*Pg	**Pb**	**09 55 31.4**	**+2.2**
	comp=Z,221nm,0.7s						
MTBS				*e*Lg	Lg	09 56 34.6	
	comp=Z,973nm,0.5s						
MDOK	**Medeo**	**4.97**	**3**	⇓Pn	**Pn**	**09 55 19.4**	**+2.2**
	comp=Z,114nm,0.6s						
MDOK				⇓Pg	**Pb**	**09 55 29.5**	**-0.4**
	comp=Z,629nm,0.7s						
MDOK				Pg		09 55 31.9	
	comp=Z,266nm,0.6s						
MDOK				Lg	Lg	09 56 35.1	
	comp=Z,938nm,0.8s						
MDOK				⇓Lg	Lg	09 56 37.2	
	comp=Z,3μm,0.8s						
MDOK	**Medeo**	**4.97**	**3**	*i* Pn	**Pn**	**09 55 19.8**	**+2.7**
	baz=3.1						
MDOK				*e*Sn	**Sn**	**09 56 15.3**	**+1.3**
	baz=3.1						
MDOK	**Medeo**	**4.97**	**3**	P	**Pn**	**09 55 19.3**	**+2.2**
EKS2	**Erkin-Say**	**4.97**	**335**	P	**Pn**	**09 55 21.3**	**+4.1**
	SNR=27						
AAA	**Alma-Ata**	**5.01**	**2**	Pg	**Pb**	**09 55 32.8**	**+2.2**
	comp=Z,499nm,0.6s						
AAA				Lg	Lg	09 56 36.3	
	comp=Z,2μm,0.5s						
AAA	**Alma-Ata**	**5.01**	**2**	*e*Pn	**Pn**	**09 55 20.7**	**+3.0**
	baz=1.9						
AAA	**Alma-Ata**	**5.01**	**2**	*e*Pg	**Pb**	**09 55 32.5**	**+1.9**
	comp=Z,555nm,0.4s						
AAA				*e*Lg	Lg	09 56 36.3	
	comp=Z,2μm,0.5s						
AAA	**Alma-Ata**	**5.01**	**2**	*e*P	**Pn**	**09 55 20.6**	**+3.0**
CHMS	**Chumysh**	**5.01**	**344**	P	**Pn**	**09 55 20.5**	**+2.9**
	SNR=68						
CHMS	**Chumysh**	**5.01**	**344**	⇓Pn	**Pn**	**09 55 20.0**	**+2.4**
	comp=Z,322nm,0.8s						
CHMS				Lg	Lg	09 56 37.7	
CHMS	**Chumysh**	**5.01**	**344**	P	**Pn**	**09 55 20.0**	**+2.4**
KNDC	**Almaty**	**5.02**	**2**	⇑Pn	**Pn**	**09 55 20.6**	**+2.9**
	comp=Z,415nm,0.8s						
KNDC				⇑Pg	**Pb**	**09 55 29.4**	**-1.3**
	comp=Z,1μm,0.7s						
KNDC				⇑Lg	Lg	09 56 36.8	
	comp=Z,11μm,0.9s						
KNDC	**Almaty**	**5.02**	**2**	P	**Pn**	**09 55 20.6**	**+2.9**
SATY	**Saty**	**5.03**	**15**	Pg	**Pb**	**09 55 31.4**	**+0.4**
	comp=Z,422nm,0.6s						
SATY				Lg	Lg	09 56 34.5	
	comp=Z,1μm,0.5s						
SATY	**Saty**	**5.03**	**15**	⇓*i*Pn	**Pn**	**09 55 20.3**	**+2.3**
	baz=15						
SATY	**Saty**	**5.03**	**15**	*e*Pg	**Pb**	**09 55 31.4**	**+0.4**
	comp=Z,422nm,0.6s						
SATY				*e*Lg	Lg	09 56 34.5	
	comp=Z,1μm,0.5s						
SATY	**Saty**	**5.03**	**15**	*d* *i*P	**Pn**	**09 55 20.3**	**+2.3**
KOTS	**Kotyrbulak**	**5.04**	**4**	Pg	**Pb**	**09 55 33.8**	**+2.6**
	comp=Z,255nm,0.4s						
KOTS				Lg	Lg	09 56 38.3	
	comp=Z,2μm,0.5s						
KOTS	**Kotyrbulak**	**5.04**	**4**	*e*Pg	**Pb**	**09 55 33.8**	**+2.6**
	comp=Z,255nm,0.4s						
KOTS				*e*Lg	Lg	09 56 38.3	
	comp=Z,2μm,0.5s						
GAR	**Garm**	**5.04**	**281**	Pn	**Pn**	**09 55 20.3**	**+2.2**
DGS	**Degeres**	**5.08**	**353**	Pg	**Pb**	**09 55 34.8**	**+2.9**
	comp=Z,357nm,0.8s						
DGS				Lg	Lg	09 56 39.5	
	comp=Z,1μm,0.7s						
DGS	**Degeres**	**5.08**	**353**	*e*Pg	**Pb**	**09 55 34.6**	**+2.7**
	comp=Z,374nm,0.4s						
DGS				*e*Lg	Lg	09 56 39.5	
	comp=Z,1μm,0.3s						
ZHN	**Zhinishke**	**5.14**	**15**	Pg	**Pb**	**09 55 34.9**	**+2.0**
	comp=Z,408nm,0.7s						
ZHN				Lg	Lg	09 56 40.0	
	comp=Z,2μm,0.5s						
ZHN	**Zhinishke**	**5.14**	**15**	*i* Pn	**Pn**	**09 55 21.8**	**+2.3**
	baz=15						
ZHN	**Zhinishke**	**5.14**	**15**	*e*Pg	**Pb**	**09 55 34.9**	**+2.0**
	comp=Z,408nm,0.7s						
ZHN				*e*Lg	Lg	09 56 40.0	
	comp=Z,2μm,0.5s						
ZHN	**Zhinishke**	**5.14**	**15**	*i* P	**Pn**	**09 55 21.7**	**+2.3**
MRKS	**Merke**	**5.25**	**331**	Pg	**Pb**	**09 55 38.1**	**+3.5**
	comp=Z,101nm,0.6s						
MRKS				Lg	Lg	09 56 46.3	
	comp=Z,782nm,0.6s						
MRKS	**Merke**	**5.25**	**331**	*e*Pg	**Pb**	**09 55 38.5**	**+3.9**
	comp=Z,101nm,0.2s						
MRKS				*e*Lg	Lg	09 56 46.3	
	comp=Z,1μm,0.4s						
UZB	**Uzunbulak**	**5.25**	**19**	Pg	Pb	09 55 39.8	+4.9
	comp=Z,446nm,0.7s						
UZB				Lg	Lg	09 56 49.0	
	comp=Z,1μm,0.6s						
UZB	**Uzunbulak**	**5.25**	**19**	⇓*i*Pn	**Pn**	**09 55 23.1**	**+1.9**
	baz=20						
UZB	**Uzunbulak**	**5.25**	**19**	*e*Pg	Pb	09 55 39.8	+4.9
	comp=Z,446nm,0.7s						
UZB				*e*Lg	Lg	09 56 49.0	
	comp=Z,1μm,0.6s						
UZB	**Uzunbulak**	**5.25**	**19**	*d* *i*P	**Pn**	**09 55 23.0**	**+1.9**
CHCP	**Chirah Chowk**	**5.31**	**212**	P	Pn	09 55 27.2	+5.5
NIL	**Nilore**	**5.32**	**212**	Pn	**Pn**	**09 55 26.3**	**+4.4**
NIL	**Nilore**	**5.32**	**212**	P	**Pn**	**09 55 26.3**	**+4.4**
USP	**Ospenovka**	**5.32**	**343**	P	**Pn**	**09 55 25.4**	**+3.4**
	SNR=12						
SHLS	**Shalkode**	**5.39**	**22**	Pg	Pb	09 55 44.0	+7.0
	comp=Z,464nm,0.6s						
SHLS				Lg	Lg	09 56 55.6	
	comp=Z,654nm,0.6s						
SHLS	**Shalkode**	**5.39**	**22**	*i* Pn	**Pn**	**09 55 26.7**	**+3.8**
	baz=26						
SHLS	**Shalkode**	**5.39**	**22**	*e*Pg	Pb	09 55 44.0	+7.0
	comp=Z,464nm,0.6s						
SHLS				*e*Lg	Lg	09 56 55.6	
	comp=Z,654nm,0.6s						
SHLS	**Shalkode**	**5.39**	**22**	*i* P	**Pn**	**09 55 26.6**	**+3.8**
KURS	**Kuram**	**5.40**	**12**	Pg	**Pb**	**09 55 39.8**	**+2.5**
	comp=Z,698nm,0.8s						
KURS				Lg	Lg	09 56 49.2	
	comp=Z,870nm,0.8s						
KURS	**Kuram**	**5.40**	**12**	*e*Pg	**Pb**	**09 55 39.8**	**+2.5**
	comp=Z,698nm,0.8s						
KURS				*e*Lg	Lg	09 56 49.2	
	comp=Z,870nm,0.8s						
SGDS	**Sogindy**	**5.47**	**344**	Pg	**Pb**	**09 55 41.7**	**+3.2**
	comp=Z,95nm,0.7s						
SGDS				Lg	Lg	09 56 51.6	
	comp=Z,943nm,0.6s						
SGDS	**Sogindy**	**5.47**	**344**	*e*Pn	**Pn**	**09 55 26.7**	**+2.7**
	baz=344						
SGDS	**Sogindy**	**5.47**	**344**	*e*P	**Pn**	**09 55 26.7**	**+2.7**
KPKS	**Kokpek**	**5.48**	**16**	Pg	**Pb**	**09 55 39.6**	**+1.0**
	comp=Z,306nm,0.4s						
KPKS				Lg	Lg	09 56 48.8	
	comp=Z,1μm,0.5s						
KPKS	**Kokpek**	**5.48**	**16**	⇓*i*Pn	**Pn**	**09 55 26.3**	**+2.2**
	baz=16						
KPKS	**Kokpek**	**5.48**	**16**	*e*Pg	**Pb**	**09 55 39.6**	**+1.0**
	comp=Z,306nm,0.4s						
KPKS				*e*Lg	Lg	09 56 48.8	
	comp=Z,1μm,0.5s						
KPKS	**Kokpek**	**5.48**	**16**	*d* *i*P	**Pn**	**09 55 26.3**	**+2.2**
KTBS	**Karatobe**	**5.51**	**0**	Pg	**Pb**	**09 55 41.3**	**+2.3**
	comp=Z,204nm,0.7s						
KTBS				Lg	Lg	09 56 51.0	
	comp=Z,1μm,0.4s						
KTBS	**Karatobe**	**5.51**	**0**	*e*Pg	**Pb**	**09 55 41.3**	**+2.3**
	comp=Z,204nm,0.7s						
KTBS				*e*Lg	Lg	09 56 51.0	
	comp=Z,1μm,0.4s						
KRBS	**Karabastau**	**5.54**	**352**	Pg	**Pb**	**09 55 41.7**	**+2.0**
	comp=Z,230nm,0.6s						
KRBS				Lg	Lg	09 56 51.9	
	comp=Z,818nm,0.7s						
KRBS	**Karabastau**	**5.54**	**352**	*e*Pg	**Pb**	**09 55 41.7**	**+2.0**
	comp=Z,230nm,0.6s						
KRBS				*e*Lg	Lg	09 56 51.9	
	comp=Z,818nm,0.7s						
CHKK	**Chushkaly**	**5.65**	**2**	Pg	**Pb**	**09 55 44.4**	**+2.8**
	comp=Z,306nm,0.6s						
CHKK				Lg	Lg	09 56 56.0	
	comp=Z,537nm,0.4s						
CHKK	**Chushkaly**	**5.65**	**2**	*e*Pn	**Pn**	**09 55 28.7**	**+2.2**
	baz=2.3						
CHKK	**Chushkaly**	**5.65**	**2**	*e*Pg	**Pb**	**09 55 44.4**	**+2.8**
	comp=Z,306nm,0.6s						
CHKK				*e*Lg	Lg	09 56 56.0	
	comp=Z,537nm,0.4s						
CHKK	**Chushkaly**	**5.65**	**2**	*e*P	**Pn**	**09 55 28.6**	**+2.2**
JMU	**Jammu**	**5.66**	**195**	*e*P	Pn	09 55 32.6	+6.1
JMU				*e*S	**Sn**	**09 56 37.9**	**+7.1**
JMU				IAML		09 57 18.5	
	comp=E,80μm,2.5s						
JMU				IAML		09 57 19.7	
	comp=N,84μm,1.2s						
KUU	**Kurty**	**5.69**	**358**	Pg	**Pb**	**09 55 43.9**	**+1.6**
	comp=N,176nm,0.7s						
KUU				Lg	Lg	09 56 56.2	
	comp=N,1μm,0.6s						
KUU	**Kurty**	**5.69**	**358**	*i* Pn	**Pn**	**09 55 28.8**	**+1.8**
	baz=357						
KUU	**Kurty**	**5.69**	**358**	*e*Pg	**Pb**	**09 55 43.2**	**+1.0**
	comp=N,176nm,0.3s						
KUU				*e*Lg	Lg	09 56 54.6	
	comp=N,1μm,0.6s						
KUU	**Kurty**	**5.69**	**358**	*i* P	**Pn**	**09 55 28.8**	**+1.8**
THN	**Thein Dam**	**5.81**	**188**	*e*P	Pn	09 55 33.9	+5.4
THN				*e*S	**Sn**	**09 56 39.7**	**+5.3**
THN				IAML		09 57 14.8	
	comp=E,2μm,1.2s						
THN				IAML		09 57 16.6	
	comp=N,2μm,0.6s						
CEP	**Cherat**	**5.83**	**223**	P	Pn	09 55 34.8	+5.8
CEP				S	**Sn**	**09 56 41.0**	**+5.8**
CHGR	**Chuyangaron**	**5.92**	**277**		**Pn**	**09 55 32.3**	**+2.2**
CHGR	**Chuyangaron**	**5.92**	**277**	P	**Pn**	**09 55 32.3**	**+2.2**
KTMS	**Ketmen**	**5.94**	**27**	Pg	**Pb**	**09 55 50.3**	**+3.8**
	comp=N,248nm,0.8s						
KTMS				Lg	Lg	09 57 06.8	
	comp=N,405nm,0.7s						
KTMS	**Ketmen**	**5.94**	**27**	*e*Pg	**Pb**	**09 55 50.3**	**+3.8**
	comp=N,248nm,0.8s						
KTMS				*e*Lg	Lg	09 57 06.8	
	comp=N,405nm,0.7s						
BLB	**Baldybastay**	**6.05**	**12**	Pg	**Pb**	**09 55 50.3**	**+2.0**
	comp=N,354nm,0.8s						
BLB				Lg	Lg	09 57 06.2	
	comp=N,1μm,0.5s						
ARXS	**Arharly**	**6.07**	**8**	Pg	**Pb**	**09 55 51.4**	**+2.7**
	comp=N,223nm,0.7s						
ARXS				Lg	Lg	09 57 08.4	
	comp=N,668nm,0.5s						
ARXS	**Arharly**	**6.07**	**8**	*e*Pg	**Pb**	**09 55 51.4**	**+2.7**
	comp=N,223nm,0.7s						
ARXS				*e*Lg	Lg	09 57 08.4	
	comp=N,668nm,0.5s						
ARXS	**Arharly**	**6.07**	**8**	*e*P	**Pn**	**09 55 34.1**	**+1.9**
DZA	**Taraz**	**6.20**	**321**	Pg	**Pb**	**09 55 53.7**	**+2.8**
	comp=N,48nm,0.1s						
DZA				Lg	Lg	09 57 12.0	
	comp=N,701nm,0.8s						
DZA	**Taraz**	**6.20**	**321**	*e*Pn	**Pn**	**09 55 37.2**	**+3.1**
	baz=320						
DZA	**Taraz**	**6.20**	**321**	*e*Pg	**Pb**	**09 55 53.5**	**+2.5**
	comp=N,50nm,0.1s						
DZA				*e*Lg	Lg	09 57 12.0	
	comp=N,701nm,0.8s						
DZA	**Taraz**	**6.20**	**321**	*e*P	**Pn**	**09 55 37.1**	**+3.1**
IUG	**Iuzhnay**	**6.43**	**310**	Pg	Pb	09 56 00.0	+5.1
	comp=N,324nm,0.3s						
IUG				Lg	Lg	09 57 23.6	
	comp=N,739nm,0.6s						
IUG	**Iuzhnay**	**6.43**	**310**	⇑*i*Pn	**Pn**	**09 55 38.8**	**+1.5**
	baz=309						
IUG				*e*S	**Sn**	**09 56 50.9**	**+0.9**
	baz=309						
IUG	**Iuzhnay**	**6.43**	**310**	*e*Pg	Pb	09 56 00.0	+5.2
	comp=N,324nm,0.3s						
IUG				*e*Lg	Lg	09 57 23.6	
	comp=N,739nm,0.6s						
IUG	**Iuzhnay**	**6.43**	**310**	*c* *i*P	**Pn**	**09 55 38.7**	**+1.5**
IUG				*e*S	**Sn**	**09 56 50.9**	**+0.9**
KNOS	**Konyrlen**	**6.44**	**16**	Pg	**Pb**	**09 55 58.8**	**+3.8**
	comp=N,352nm,0.5s						
KNOS				Lg	Lg	09 57 21.1	
	comp=N,339nm,0.5s						
TAS	**Tashkent**	**6.48**	**301**	Pn	**Pn**	**09 55 39.7**	**+1.9**
TAS	**Tashkent**	**6.48**	**301**	P	**Pn**	**09 55 39.7**	**+1.9**
DJR	**Jarkent**	**6.56**	**20**	Pg	**Pb**	**09 56 00.7**	**+3.7**
	comp=N,164nm,0.6s						
DJR				Lg	Lg	09 57 23.0	
	comp=N,441nm,0.7s						
DJR	**Jarkent**	**6.56**	**20**	*e*Pg	**Pb**	**09 56 00.4**	**+3.3**
	comp=N,176nm,0.4s						
DJR				*e*Lg	Lg	09 57 24.0	
	comp=N,596nm,0.7s						
THW	**Thamme Wali**	**6.72**	**218**	P	**Pn**	**09 55 44.9**	**+3.7**
BHK	**Bhakra**	**6.77**	**182**	*e*P	Pn	09 55 46.7	+4.9
BHK				*e*S	**Sn**	**09 57 01.0**	**+2.7**
BHK				IAML		09 57 44.5	
	comp=N,2μm,1.9s						
BHK				IAML		09 57 51.3	
	comp=E,2μm,0.0s						
KK31	**Karatay Array**	**6.78**	**318**		**Pn**	**09 55 42.2**	**+0.4**
KK31	**Karatay Array**	**6.78**	**318**	⇑Pn	**Pn**	**09 55 42.0**	**+0.1**
	comp=E,64nm,0.7s,baz=129,slow=12,SNR=511						
KK31				⇓Lg	Lg	09 57 34.8	
	comp=E,468nm,0.8s,baz=127,slow=26,SNR=5.1						
KK31	**Karatay Array**	**6.78**	**318**	P	**Pn**	**09 55 42.2**	**+0.4**
KKAR	**Karatay Array**	**6.78**	**318**	Pn	**Pn**	**09 55 42.0**	**+0.2**
KKAR	**Karatay Array**	**6.78**	**318**	P	**Pn**	**09 55 42.1**	**+0.2**
CHM	**Chimkent**	**6.79**	**309**	*e*Pn	**Pn**	**09 55 43.4**	**+1.3**
	baz=309						
CHM	**Chimkent**	**6.79**	**309**	*e*Pg	Pb	09 56 07.6	+6.6
	comp=E,201nm,0.2s						
CHM				*e*Lg	Lg	09 57 36.6	
	comp=E,814nm,0.3s						
CHM	**Chimkent**	**6.79**	**309**	*e*P	**Pn**	**09 55 43.3**	**+1.3**
SARP	**Sargodha**	**7.07**	**209**	P	**Pn**	**09 55 49.4**	**+3.5**
BTLS	**Baital**	**7.11**	**345**	Pg	Pb	09 56 11.2	+4.9
	comp=E,38nm,0.8s						
BTLS				Lg	Lg	09 57 42.1	
	comp=E,287nm,0.7s						
BTLS	**Baital**	**7.11**	**345**	*e*Pn	**Pn**	**09 55 48.6**	**+2.2**
	baz=344						
BTLS	**Baital**	**7.11**	**345**	*e*Pg	**Pb**	**09 56 10.8**	**+4.5**
	comp=E,20nm,0.3s						
BTLS				*e*Lg	Lg	09 57 42.1	
	comp=E,342nm,0.4s						
BTLS	**Baital**	**7.11**	**345**	*e*P	**Pn**	**09 55 48.6**	**+2.2**
KBL	**Kabul**	**7.15**	**242**	Pn	**Pn**	**09 55 50.1**	**+2.9**
KBL	**Kabul**	**7.15**	**242**	P	**Pn**	**09 55 50.1**	**+2.9**
LGTI	**Lohaghat**	**9.22**	**160**	*ex*	**Pn**	**09 56 16.4**	**+1.1**
LGTI				*i* x	x	09 56 20.2	
MAKZ	**Makanchi**	**9.45**	**23**		**Pn**	**09 56 18.5**	**0.0**
MAKZ	**Makanchi**	**9.45**	**23**	P	**Pn**	**09 56 18.5**	**0.0**
NDI	**New Delhi**	**9.50**	**177**	*e*P	**Pn**	**09 56 21.4**	**+2.1**
NDI				*e*P		09 56 21.5	
NDI				*ex*	x	09 58 04.5	

HRA	**Herat**	**12.24**	**256**		Pn	**Pn**	**09 56 58.0**	**+1.0**
VLK	**Valmikinagar**	**12.42**	**149**		*e*P	Pn	09 56 51.0	-8.2
KURBB	**Kurchatov Arra**	**12.49**	**5**		Pn	**Pn**	**09 56 59.9**	**-0.2**
	comp=E,0.7nm,0.3s,baz=191,slow=12,SNR=194							
KURBB					Lg	Lg	10 00 35.2	
	comp=E,0.7nm,0.3s,baz=191,slow=27,SNR=3.3							
KURBB					LR	LR	10 02 03.7	
	comp=E,3µm,18.2s,baz=175,slow=38							
	comp=E,37nm,0.8s							
KURBB	**Kurchatov Arra**	**12.49**	**5**	⇓	Pn	**Pn**	**09 56 59.2**	**-0.9**
	comp=E,46nm,0.7s							
KURBB				⇓	Lg	Lg	10 00 37.5	
	comp=E,813nm,1.4s							
KURBB	**Kurchatov Arra**	**12.49**	**5**		P	**Pn**	**09 56 59.1**	**-0.9**
KURK	**Kurchatov**	**12.59**	**6**		Pn	**Pn**	**09 57 01.1**	**-0.3**
KURK	**Kurchatov**	**12.59**	**6**	*d*	iP	**Pn**	**09 57 00.0**	**-1.4**
KURK					pmax	pmax		
	comp=Z,105nm,0.8s							
KKN	**Kakani**	**12.64**	**143**		*e*P	**Pn**	**09 57 00.4**	**-2.0**
KKN					*e*S	**Sn**	**09 59 16.5**	**-6.1**
DMN	**Daman**	**12.71**	**144**		*e*P	**Pn**	**09 57 02.3**	**-1.1**
	comp=Z,168nm,0.4s							
DMN					*e*S	**Sn**	**09 59 18.7**	**-5.7**
JHNI	**Jhansi**	**12.79**	**172**		*e*P	**Pn**	**09 57 02.9**	**-1.4**
JHNI					IAmb	IAmb	09 57 05.9	
	comp=Z,70nm,0.7s							
PKIN	**Phulchoki**	**12.87**	**143**		*e*P	**Pn**	**09 57 04.1**	**-1.6**
	comp=Z,282nm,0.6s							
PKIN					*e*S	**Sn**	**09 59 23.0**	**-5.5**
PKI	**Pulchoki**	**12.88**	**143**		*e*P	**Pn**	**09 57 04.5**	**-1.4**
PKI					*e*S	**Sn**	**09 59 22.7**	**-6.1**
JIRN	**Jiri**	**13.20**	**140**		*e*P	**Pn**	**09 57 09.4**	**-0.7**
	comp=Z,366nm,0.5s							
JIRN					*e*S	**Sn**	**09 59 30.4**	**-6.0**
ALBI	**Allahabad**	**13.57**	**160**		*e*P	**Pn**	**09 57 11.1**	**-3.8**
DGZ	**Jazzator, Alta**	**13.85**	**30**	*d*	iP	**Pn**	**09 57 17.8**	**-0.9**
RAMN	**Ramite**	**13.98**	**140**		*e*P	**Pn**	**09 57 18.1**	**-2.7**
	comp=Z,873nm,0.7s							
RAMN					*e*S	**Sn**	**09 59 47.5**	**-8.0**
TAPN	**Taplejung**	**14.24**	**136**		*e*P	**Pn**	**09 57 22.7**	**-1.7**
	comp=Z,152nm,0.6s							
TAPN					*e*S	**Sn**	**09 59 55.6**	**-6.3**
ODAN	**Odare**	**14.46**	**138**		*e*P	**Pn**	**09 57 24.6**	**-2.8**
GOMU	**GeErMu**	**14.60**	**92**		P	**Pn**	**09 57 27.4**	**-1.9**
GOMU					pP	P	09 57 31.3	-4.3
GOMU					sP		09 57 35.3	
GOMU					S	**Sn**	**10 00 06.1**	**-4.5**
GOMU					pmax	pmax		
	comp=Z,18nm,1.0s							
GOMU					LR	LR		
	comp=Z,3µm,10.0s							
GOMU					LR	LR		
	comp=Z,1µm,10.0s							
GOMU					LR	LR		
	comp=Z,4µm,10.6s							
GEYT	**Alibeck**	**14.62**	**275**		Pn	**Pn**	**09 57 27.1**	**-2.2**
	comp=Z,4.1nm,0.3s,baz=99,slow=9.2,SNR=43							
GEYT					Sn	**Sn**	**10 00 08.0**	**-2.7**
	comp=Z,2.8nm,0.3s,baz=103,slow=21,SNR=2.5							
GEYT					LR	LR	10 04 15.1	
	comp=Z,3µm,18.6s,baz=96,slow=42							
	comp=Z,40nm,0.9s							
GYA0	**ALIBECK ARRAY**	**14.62**	**275**		P	**Pn**	**09 57 26.1**	**-3.2**
GYA0B	**ALIBECK ARRAY**	**14.62**	**275**	⇓	P	**Pn**	**09 57 26.2**	**-3.1**
LSA	**Lhasa**	**14.69**	**121**		Pn	**Pn**	**09 57 32.3**	**+1.6**
LSA	**Lhasa**	**14.69**	**121**		P	**Pn**	**09 57 33.0**	**+2.3**
LSA					pmax	pmax		
	comp=Z,11nm,0.7s							
LSA	**Lhasa**	**14.69**	**121**		P	**Pn**	**09 57 32.3**	**+1.6**
JBP	**Jabalpur**	**15.25**	**168**	*ex*		**Pn**	**09 57 33.1**	**-4.6**
JBP					IAmb	IAmb	09 57 36.9	
	comp=Z,136nm,0.5s							
JBP				*ex*		x	10 00 18.6	
BVA0	**Borovoye Array**	**15.45**	**346**		P	**Pn**	**09 57 38.5**	**-1.7**
	comp=Z,53nm,0.8s,baz=150,slow=12,SNR=107							
BVA0	**Borovoye Array**	**15.45**	**346**	*i*	P	**Pn**	**09 57 38.5**	**-1.7**
BVAR	**Borovoye Array**	**15.45**	**346**		Pn	**Pn**	**09 57 38.9**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=34							
BVAR					Lg	Lg	10 02 09.9	
	comp=Z,0.3nm,0.3s,baz=143,slow=27,SNR=8.3							
BVAR					LR	LR	10 03 47.5	
	comp=Z,2µm,18.1s,baz=160,slow=38							
	comp=Z,17nm,0.8s							
BRVK	**Borovoye**	**15.51**	**345**		Pn	**Pn**	**09 57 39.8**	**-1.1**
BRVK	**Borovoye**	**15.51**	**345**	⇑	*e*P	**Pn**	**09 57 39.5**	**-1.4**
BRVK					pmax	pmax		
	comp=Z,64nm,1.7s							
AB31	**Akbulak array**	**16.34**	**318**	⇑	P	**Pn**	**09 57 48.3**	**-3.3**
	comp=Z,43nm,0.9s,baz=118,slow=13,SNR=245							
ABKAR	**Akbulak array**	**16.34**	**318**		Pn	**Pn**	**09 57 49.2**	**-2.5**
ZAA0	**Zalesovo Array**	**16.71**	**17**			**Pn**	**09 57 53.5**	**-2.9**
ZALV	**Zalesovo Beam**	**16.71**	**17**		Pn	**Pn**	**09 57 54.6**	**-1.8**
	comp=Z,1.3nm,0.3s,baz=203,slow=12,SNR=61							
ZALV					Lg	Lg	10 02 52.9	
	comp=Z,0.3nm,0.3s,baz=207,slow=22,SNR=2.4							
	comp=Z,62nm,0.8s							
ZALV	**Zalesovo Beam**	**16.71**	**17**			**Pn**	**09 57 53.3**	**-3.1**
AKL	**Akola**	**17.44**	**179**	*ex*		**Pn**	**09 58 01.6**	**-4.0**
AKL					IAmb	IAmb	09 58 08.7	
	comp=Z,82nm,0.4s							
AKTO	**Aktyubinsk**	**18.04**	**319**		P	**Pn**	**09 58 12.1**	**-0.9**
	comp=Z,2.1nm,0.3s,baz=118,slow=7.6,SNR=62							
AKTO					S	**Sn**	**10 01 29.3**	**-4.2**
	comp=Z,6.4nm,0.8s,baz=145,slow=18,SNR=1.1							
AKTO					LR	LR	10 05 43.5	
	comp=Z,2µm,18.6s,baz=123,slow=39							
	comp=Z,29nm,0.8s							
AKTO	**Aktyubinsk**	**18.04**	**319**	⇑	P	**Pn**	**09 58 11.3**	**-1.7**
	comp=Z,50nm,1.4s							
AKTO	**Aktyubinsk**	**18.04**	**319**		P	**Pn**	**09 58 11.2**	**-1.7**
GTA	**Gaotai**	**18.07**	**79**		*e*P	**Pn**	**09 58 11.8**	**-1.7**
GTA					sP	sP	09 58 29.1	+6.2
GTA					S	**Sn**	**10 01 30.3**	**-4.3**
GTA					sS	sS	10 01 47.5	-3.5
GTA					pmax	pmax		
	comp=Z,29nm,0.9s							
GTA					pmax	pmax		
	comp=Z,160nm,4.2s							
GTA					LR	LR		
	comp=Z,2µm,13.1s							
GTA					LR	LR		
	comp=Z,4µm,16.0s							
RAGD	**RAYAGADA**	**19.79**	**161**		*e*P	**P**	**09 58 32.5**	**0.0**
RAGD					IAmb	IAmb	09 58 35.1	
	comp=Z,155nm,1.3s							
BRDH	**Bariadhala**	**20.11**	**136**		P	**P**	**09 58 35.2**	**-0.8**
	comp=Z,88nm,0.3s,baz=89,slow=3.1,SNR=4.1							
BRDH					LR	LR	10 07 25.2	
	comp=Z,650nm,18.2s,baz=80,slow=40							
	comp=Z,88nm,0.3s							
HYB	**Hyderabad**	**20.77**	**175**	⇑	*e*P	**P**	**09 58 43.4**	**+0.1**
HYB					*e*S	**S**	**10 02 34.5**	**+0.2**
BANOM	**Banah**	**21.11**	**241**	*i*	P	**P**	**09 58 49.2**	**+2.3**
	SNR=11							
SVE	**Sverdlovsk**	**21.45**	**335**		*e*P	**P**	**09 58 51.4**	**+1.1**
SVE					*e*S	Sn	10 02 53.4	-2.1
SVE					pmax	pmax		
	comp=Z,78nm,1.0s							
SVE					MLR	MLR		
	comp=Z,3µm,12.0s							
WSAR	**Wadi Sarin**	**21.46**	**231**		P	**P**	**09 58 51.5**	**+0.8**
	comp=Z,332nm,0.9s,baz=81,slow=8.5,SNR=31							
WSAR					LR	LR	10 09 17.2	
	comp=Z,993nm,20.9s,baz=84,slow=43							
	comp=Z,332nm,0.9s							
MDH	**Madha**	**21.52**	**239**		P	**P**	**09 58 51.8**	**+0.5**
MSFE	**Esma-Masafi**	**21.57**	**240**	*i*	P	**P**	**09 58 52.7**	**+0.7**
	SNR=18							
MOY	**Mondy**	**21.73**	**44**		*e*P	**P**	**09 58 54.7**	**+1.2**
MOY					pmax	pmax		
	comp=Z,232nm,2.5s							
LZH	**Lanzhou**	**21.74**	**87**	⇓	P	**P**	**09 58 54.6**	**+0.8**
LZH					pP	pP	09 58 58.0	-2.1
LZH					sP	sP	09 59 01.4	-1.6
LZH					S	**S**	**10 02 56.4**	**+2.9**
LZH					pmax	pmax		
	comp=Z,130nm,1.2s							
LZH					pmax	pmax		
	comp=Z,460nm,5.4s							
LZH					LR	LR		
	comp=Z,2µm,14.4s							
LZH					LR	LR		
	comp=Z,5µm,14.0s							
UMQ	**Umm Al-Quwin**	**21.80**	**241**		P	**P**	**09 58 56.7**	**+2.4**
UOSS	**Minazif**	**21.82**	**239**		P	**P**	**09 58 55.6**	**+1.1**
UOSS					IAmb	IAmb	09 59 03.5	
	comp=Z,157nm,0.9s							
UOSS	**Minazif**	**21.82**	**239**	*i*	P	**P**	**09 58 54.7**	**+0.2**
	SNR=15							
LKRN	**Lenkeran, Azer**	**21.82**	**280**		P	**P**	**09 58 55.9**	**+1.5**
ARU	**Arti**	**21.86**	**332**		P	**P**	**09 58 55.2**	**+0.5**
	comp=Z,47nm,0.5s,baz=147,slow=4.9,SNR=37							
ARU					LR	LR	10 08 08.2	
	comp=Z,992nm,21.8s,baz=134,slow=39							
	comp=Z,47nm,0.5s							
ARU	**Arti**	**21.86**	**332**		P	**P**	**09 58 55.3**	**+0.5**
ARU					IAmb	IAmb	09 59 05.0	
	comp=Z,102nm,0.7s							
ARU	**Arti**	**21.86**	**332**	*d*	iP	**P**	**09 58 55.3**	**+0.6**
ARU					*PP	**sP**	**09 59 03.8**	**-0.2**
ARU							09 59 19.6	
ARU					S	**S**	**10 02 54.4**	**-0.8**
ARU					pmax	pmax		
	comp=Z,67nm,0.7s							
ARU					MLR	MLR		
	comp=Z,2µm,13.0s							
HATD	**Hatta, Dubai**	**21.95**	**239**	*i*	P	**P**	**09 58 56.4**	**+0.5**
	SNR=7.9							
ASHO	**Ashiyiah**	**22.09**	**238**	*i*	P	**P**	**09 58 58.3**	**+0.8**
	SNR=15							
SOHO	**SOHO**	**22.15**	**237**	*i*	P	**P**	**09 58 59.0**	**+1.0**
	SNR=9.0							
NAZ	**Nazwa, Dubai**	**22.16**	**240**	*i*	P	**P**	**09 58 58.8**	**+0.6**
	SNR=25							
FAQ	**Al Faqa, Dubai**	**22.36**	**239**	*i*	P	**P**	**09 59 03.0**	**+2.6**
	SNR=10							
AKT	**Akhty**	**22.42**	**288**		*e*P	**P**	**09 59 01.3**	**+0.3**
AKT					*e*		09 59 24.2	
AKT					*e*		10 03 10.0	
AKT					pmax	pmax		
	comp=Z,198nm,1.1s							
ZAK	**Zakamensk**	**22.47**	**49**		*e*P	**P**	**09 59 01.9**	**+0.4**
ZAK					pmax	pmax		
	comp=Z,78nm,1.0s							
MAK	**Makhachkala**	**22.60**	**291**		*e*P	**P**	**09 59 05.4**	**+2.7**
MAK					*e*PP	**sP**	**09 59 16.4**	**+3.5**
MAK					*e*S	**S**	**10 03 11.2**	**+2.0**
MAK					pmax	pmax		
	comp=Z,124nm,1.1s							
MAK					MLR	MLR		
	comp=Z,844nm,14.0s							
ASUD	**Al Ashush, Dub**	**22.62**	**239**	*i*	P	**P**	**09 59 04.2**	**+1.0**
	SNR=14							
TNCH	**TengChong**	**22.70**	**119**		*e*P	**P**	**09 59 06.4**	**+2.2**
TNCH					S	**S**	**10 03 06.0**	**-5.7**
TNCH					pmax	pmax		
	comp=Z,94nm,1.0s							
TNCH					pmax	pmax		
	comp=Z,230nm,4.1s							
TNCH					LR	LR		
	comp=Z,660nm,10.5s							
TNCH					LR	LR		
	comp=Z,820nm,13.6s							
TNCH					LR	LR		
	comp=Z,1µm,15.2s							
ALNE	**Al Ain**	**22.72**	**238**	*i*	P	**P**	**09 59 05.0**	**+0.8**
	SNR=8.8							
SEKA	**Sheki**	**22.82**	**287**		P	**P**	**09 59 06.2**	**+1.0**
AJN	**Ajban**	**22.90**	**240**		P	**P**	**09 59 08.4**	**+2.4**
MNGR	**Mingechevir, A**	**22.93**	**286**		P	**P**	**09 59 07.5**	**+1.3**
MND	**Mandalay**	**23.23**	**128**		P	**P**	**09 59 09.7**	**+0.3**
CD2	**Chengdu**	**23.41**	**100**		P	**P**	**09 59 12.6**	**+1.3**
CD2					S	**S**	**10 03 22.5**	**-0.9**
CD2					pmax	pmax		
	comp=Z,50nm,1.2s							
CD2					pmax	pmax		
	comp=Z,170nm,4.7s							
CD2					LR	LR		
	comp=Z,1µm,10.8s							
CD2					LR	LR		
	comp=Z,3µm,11.8s							
GANJ	**Ganja**	**23.52**	**286**		P	**P**	**09 59 13.7**	**+1.5**
SONM	**Songino Array**	**23.64**	**56**		P	**P**	**09 59 14.6**	**+1.1**
	comp=Z,111nm,0.7s,baz=253,slow=10,SNR=750							
	comp=Z,111nm,0.7s							
SONM	**Songino Array**	**23.64**	**56**		P	**P**	**09 59 14.6**	**+1.1**
SONM					IAmb	IAmb	09 59 15.6	
	comp=Z,100nm,0.6s							
SONM	**Songino Array**	**23.64**	**56**		P	**P**	**09 59 14.6**	**+1.1**
SONM					pmax	pmax		
	comp=Z,100nm,0.6s							
IRK	**Irkutsk**	**23.80**	**45**		*e*P	**P**	**09 59 15.9**	**+1.1**
IRK					pmax	pmax		
	comp=Z,221nm,3.5s							
GROC	**Groznyy**	**23.86**	**292**		*e*P	**P**	**09 59 16.7**	**+1.3**
GROC					*e*PP	**sP**	**09 59 29.5**	**+3.9**
GROC					*e*S	**S**	**10 03 29.3**	**-0.9**
GROC					pmax	pmax		
	comp=Z,99nm,0.5s							
ULN	**Ulaanbaatar**	**24.08**	**57**		P	**P**	**09 59 18.5**	**+0.9**
ULN					IAmb	IAmb	09 59 40.5	
	comp=Z,96nm,0.9s							
ULN	**Ulaanbaatar**	**24.08**	**57**	*d*	iP	**P**	**09 59 18.6**	**+0.9**
ULN					pmax	pmax		
	comp=Z,47nm,0.7s							
PZH	**PanZhiHua**	**24.10**	**112**		P	**P**	**09 59 20.9**	**+2.9**
PZH					sP	**pP**	**09 59 24.6**	**-0.3**
PZH					S	**S**	**10 03 37.3**	**+2.7**
PZH					ScS	**ScS**	**10 10 22.9**	**-0.7**
PZH					pmax	pmax		
	comp=Z,40nm,2.3s							
PZH					pmax	pmax		
	comp=Z,670nm,3.6s							
PZH					LR	LR		
	comp=Z,1µm,15.0s							
PZH					LR	LR		
	comp=Z,1µm,16.0s							
PZH					LR	LR		
	comp=Z,1µm,16.3s							
NAX	**Nakhchivan**	**24.30**	**282**		P	**P**	**09 59 21.6**	**+1.9**
GNI	**Garni**	**24.76**	**285**		P	**P**	**09 59 26.8**	**+2.8**
	comp=Z,78nm,0.7s,baz=28,slow=1.0,SNR=44							
GNI					LR	LR	10 10 45.1	
	comp=Z,547nm,19.1s,baz=112,slow=41							
GNI	**Garni**	**24.76**	**285**		P	**P**	**09 59 25.2**	**+1.2**
GNI					IAmb	IAmb	09 59 44.5	
	comp=Z,143nm,1.1s							
GNI	**Garni**	**24.76**	**285**		P	**P**	**09 59 25.2**	**+1.2**
GNI					pmax	pmax		
	comp=Z,143nm,1.1s							
GNI	**Garni**	**24.76**	**285**		P	**P**	**09 59 25.5**	**+1.6**
MZR	**Muzera**	**24.96**	**239**	*i*	P	**P**	**09 59 26.1**	**+0.4**
	SNR=37							
ZEI	**Tsey**	**25.24**	**291**		*e*P	**P**	**09 59 28.1**	**-0.2**
ZEI					pmax	pmax		
	comp=Z,56nm,1.2s							
ONI	**Oni**	**25.58**	**290**		P	**P**	**09 59 33.5**	**+2.3**
ONI	**Oni**	**25.58**	**290**		P	**P**	**09 59 33.5**	**+2.3**
ONI					pmax	pmax		
	comp=Z,166nm,1.0s							
AKH	**Akhalkalaki**	**25.60**	**288**		P	**P**	**09 59 33.9**	**+2.3**
AKH	**Akhalkalaki**	**25.60**	**288**		P	**P**	**09 59 33.9**	**+2.3**
AKH					pmax	pmax		
	comp=Z,359nm,1.0s							
KMI	**Kunming**	**25.64**	**113**	⇑	P	**P**	**09 59 33.0**	**+1.0**
KMI					S	**S**	**10 04 01.3**	**+1.9**
KMI					pmax	pmax		
	comp=Z,56nm,1.0s							
KMI					pmax	pmax		
	comp=Z,350nm,4.1s							
KMI					LR	LR		
	comp=Z,770nm,13.9s							
KMI					LR	LR		
	comp=Z,960nm,11.6s							
KMI					LR	LR		
	comp=Z,1µm,14.7s							
BTO	**Baotou**	**25.80**	**74**		*e*P	**P**	**09 59 33.3**	**0.0**
BTO					PP	**PnPn**	**10 00 12.8**	**+2.5**
BTO					S	**S**	**10 03 57.3**	**-4.2**
BTO					LR	LR		
	comp=Z,5µm,7.1s							
KBZ	**Khabaz**	**25.98**	**293**		P	**P**	**09 59 35.5**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=118,slow=7.6,SNR=9.8							
KBZ					LR	LR	10 11 30.1	
	comp=Z,713nm,18.4s,baz=101,slow=40							
	comp=Z,5.0nm,0.7s							
KARS	**Kars**	**25.98**	**286**		P	**P**	**09 59 36.9**	**+1.9**
KARS	**Kars**	**25.98**	**286**		P	**P**	**09 59 36.9**	**+1.9**
KARS					pmax	pmax		
	comp=Z,200nm,1.1s							
NEY	**Neytrino**	**26.10**	**292**	⇑	*e*P	**P**	**09 59 38.0**	**+1.9**
NEY					pmax	pmax		
	comp=Z,15nm,0.8s							
KVAR	**Kislovodsk Arr**	**26.13**	**294**		P	**P**	**09 59 37.9**	**+1.7**
	comp=Z,7.3nm,0.7s,baz=38,slow=17,SNR=3.6							
KVAR					LR	LR	10 11 46.9	
	comp=Z,471nm,19.2s,baz=196,slow=41							
	comp=Z,7.3nm,0.7s							
KIV	**Kislovodsk**	**26.13**	**294**		P	**P**	**09 59 37.6**	**+1.3**
KIV					IAmb	IAmb	10 00 10.7	
	comp=Z,56nm,0.7s							
KIV	**Kislovodsk**	**26.13**	**294**	*e*	P	**P**	**09 59 36.9**	**+0.6**
KIV				*e*	S	**S**	**10 04 05.9**	**-0.9**
KIV					pmax	pmax		
	comp=Z,41nm,1.0s							
KIV					MLR	MLR		
	comp=Z,363nm,15.0s							
XAN	**Xi'an**	**26.31**	**89**	⇑	P	**P**	**09 59 38.9**	**+1.0**
XAN					PP	**PnPn**	**10 00 17.3**	**+0.1**
XAN					S	**S**	**10 04 13.9**	**+4.3**
XAN					pmax	pmax		
	comp=Z,45nm,0.9s							
XAN					pmax	pmax		
	comp=Z,220nm,4.5s							
XAN					LR	LR		
	comp=Z,5µm,12.9s							
XAN					LR	LR		
	comp=Z,4µm,13.4s							
GEVA	**Gevas**	**26.32**	**281**		P	**P**	**09 59 39.7**	**+1.7**
SALM	**Salem**	**26.47**	**177**	*e*	P	**P**	**09 59 40.3**	**+1.0**
HHC	**Hu-ho-hao-te**	**26.94**	**73**	*e*	P	**P**	**09 59 44.3**	**+0.7**
HHC					S	**S**	**10 04 16.6**	**-3.0**
HHC					sS	sS	10 04 35.8	+5.1
HHC					pmax	pmax		
	comp=Z,23nm,0.8s							
HHC					pmax	pmax		
	comp=Z,470nm,5.0s							
HHC					LR	LR		
	comp=Z,5µm,12.1s							
HHC					LR	LR		
	comp=Z,4µm,12.7s							
KIRV	**Kirov**	**26.94**	**328**		P	**P**	**09 59 44.0**	**+0.7**
	comp=Z,74nm,0.6s,baz=114,slow=3.0,SNR=20							
KIRV					LR	LR	10 11 29.2	
	comp=Z,1µm,20.5s,baz=129,slow=39							
	comp=Z,74nm,0.6s							
KIRV	**Kirov**	**26.94**	**328**	*c*	iP	**P**	**09 59 43.8**	**+0.6**
GURO	**Guroymak-BITLI**	**27.07**	**282**		P	**P**	**09 59 46.2**	**+1.4**
CRAI	**Chiangrai**	**27.23**	**124**		P	**P**	**09 59 47.5**	**+1.2**
CHTO	**Chiang Mai**	**27.37**	**129**		P	**P**	**09 59 47.5**	**0.0**
CHTO	**Chiang Mai**	**27.37**	**129**		P	**P**	**09 59 47.5**	**0.0**
CHTO					pmax	pmax		
	comp=Z,1.0nm,1.3s							
CM31	**Chiang Mai Arr**	**27.64**	**129**		P	**P**	**09 59 50.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**27.64**	**129**		P	**P**	**09 59 49.9**	**-0.1**
	comp=Z,9.3nm,0.8s,baz=313,slow=9.0,SNR=42							
CMAR					LR	LR	10 11 06.6	
	comp=Z,324nm,20.3s,baz=305,slow=37							
	comp=Z,9.3nm,0.8s							
VRH	**Novokhopyorsk**	**27.75**	**309**	*e*	P	**P**	**09 59 49.9**	**-0.7**
VRH					pmax	pmax		
	comp=Z,70nm,1.8s							
GYA	**Guiyang**	**27.80**	**106**	⇑	P	**P**	**09 59 54.0**	**+2.6**
GYA					S	**S**	**10 04 31.0**	**-2.3**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.2s							
GYA					pmax	pmax		
	comp=Z,240nm,3.8s							
GYA					LR	LR		
	comp=Z,730nm,12.9s							
GYA					LR	LR		
	comp=Z,310nm,9.4s							
GYA					LR	LR		
	comp=Z,510nm,23.3s							
KOD	**Kodaikanal**	**27.86**	**178**		*e*P	**P**	**09 59 53.3**	**+1.2**
TIY	**Taiyuan**	**28.10**	**80**		*e*P	**P**	**09 59 58.6**	**+4.6**
TIY					S	**S**	**10 04 42.8**	**+5.0**
TIY					pmax	pmax		
	comp=Z,14nm,0.6s							
TIY					pmax	pmax		
	comp=Z,230nm,3.9s							
TIY					LR	LR		
	comp=Z,1µm,12.4s							
TIY					LR	LR		
	comp=Z,1µm,14.4s							
TIY					LR	LR		
	comp=Z,2µm,17.2s							
ENH	**Enshi**	**28.15**	**96**		P	**P**	**09 59 52.8**	**-1.7**
ENH	**Enshi**	**28.15**	**96**		P	**P**	**09 59 58.5**	**+4.1**
SOC	**Sochi**	**28.29**	**293**	*e*	P	P	09 59 49.5	-6.0
SOC					MLR	MLR		
	comp=Z,383nm,16.0s							
PHRA	**Phrae**	**28.41**	**127**		P	**P**	**09 59 57.2**	**+0.4**
LYN	**LuoYang**	**28.94**	**86**	⇑	*i*P	**P**	**10 00 03.6**	**+2.2**
LYN					S	**S**	**10 04 52.3**	**+1.4**
LYN					SS	**SnSn**	**10 06 21.4**	**+7.4**
LYN					LR	LR		
	comp=Z,2µm,15.3s							
LYN					LR	LR		
	comp=Z,2µm,15.7s							
VSR	**Storozhevoye**	**29.32**	**309**	*e*	P	**P**	**10 00 02.7**	**-1.9**
VSR					pmax	pmax		
	comp=Z,30nm,0.9s							
LPSR	**Galich'ya Gora**	**29.77**	**311**	*e*	P	**P**	**10 00 06.4**	**-2.1**
LPSR					pmax	pmax		
	comp=Z,20nm,0.8s							
ANN	**Anapa**	**29.90**	**295**	*e*	P	**P**	**10 00 09.2**	**-0.5**
ANN				*e*	*PP	**sP**	**10 00 22.2**	**+2.2**
ANN				*e*	S	**S**	**10 05 03.4**	**-2.4**
ANN				*e*	SS	**SnSn**	**10 06 39.8**	**+2.7**
ANN					pmax	pmax		
	comp=Z,32nm,0.8s							
ANN					MLR	MLR		
	comp=Z,977nm,14.0s							
ANN					MLR	MLR		
	comp=E,374nm,11.0s							
ANN					MLR	MLR		
	comp=N,427nm,7.0s							
HNS	**HongShan**	**29.93**	**80**	⇓	P	**P**	**10 00 11.8**	**+1.7**
HNS					S	**S**	**10 05 09.0**	**+2.6**
HNS					pmax	pmax		
	comp=N,10.0nm,0.8s							
HNS					LR	LR		
	comp=N,580nm,12.6s							
HNS					LR	LR		
	comp=N,2µm,16.3s							
XLT	**XiLinHaoTe**	**30.05**	**66**	*e*	P	**P**	**10 00 13.0**	**+1.7**
XLT					S	**S**	**10 05 17.0**	**+8.5**
XLT					pmax	pmax		
	comp=N,10.0nm,1.1s							
XLT					pmax	pmax		
	comp=N,190nm,5.4s							
XLT					LR	LR		
	comp=N,2µm,15.5s							

GAZ Gaziantep 31.09 281 P P 10 00 21.1 +0.6
GAZ IAmb IAmb 10 00 30.5
comp=Z,43nm,1.2s
BOD Bodaibo 31.19 39 eP P 10 00 21.5 +0.5
BOD pmax pmax
comp=Z,25nm,1.1s
MOS Moscow 31.36 317 eP P 10 00 21.5 -1.0
MOS MLR MLR
comp=Z,1μm,15.0s
HMDM Hanimaadhoo 31.44 187 P P 10 00 25.2 +1.6
NRIK Noril'sk 31.75 7 P P 10 00 26.7 +0.9
comp=Z,41nm,0.8s,baz=189,slow=6.3,SNR=29
NRIK LR LR 10 14 59.6
comp=Z,1μm,19.0s,baz=197,slow=40
comp=Z,41nm,0.8s
NRIK Noril'sk 31.75 7 P P 10 00 26.4 +0.5
NRIK IAmb IAmb 10 00 31.4
comp=Z,64nm,1.1s
NRIK Noril'sk 31.75 7c iP P 10 00 26.6 +0.8
NRIK pmax pmax
comp=Z,65nm,1.0s
OBN Obninsk 31.76 315 LR LR 10 14 29.7
comp=Z,189nm,19.0s,baz=125,slow=39
OBN Obninsk 31.76 315 eP P 10 00 26.5 +0.5
OBN e*PP **sP 10 00 39.2 +3.2**
OBN e 10 01 32.4
OBN pmax pmax
comp=Z,41nm,1.3s
OBN MLR MLR
comp=Z,688nm,17.0s
BNN Bunyan 31.76 284 P P 10 00 27.3 +0.9
BNN IAmb IAmb 10 00 57.9
comp=Z,26nm,0.6s
TIA Tai'an 32.10 81 P P 10 00 31.5 +2.2
TIA pmax pmax
comp=Z,19nm,1.0s
TIA LR LR
comp=Z,1μm,14.0s
TIA LR LR
comp=Z,1μm,11.3s
TIA LR LR
comp=Z,2μm,13.7s
SIM Simferopol' 32.25 296 eP P 10 00 32.0 +1.5
SIM SS **SnSn 10 07 33.3 -1.0**
SIM pmax pmax
comp=Z,236nm,0.8s
NAYO Nakonayok 32.28 131 P P 10 00 32.3 +1.3
KLMR Klimovskoe 32.39 327 eP P 10 00 30.0 -1.6
KLMR AMP 10 00 37.2
comp=Z,110nm,1.5s
KLMR LQ LQ 10 11 23.1
KLMR LQ LQ 10 11 23.1
KLMR LR LR 10 13 31.7
KLMR AMP 10 14 18.6
comp=Z,3μm,14.9s
KLMR LRM MLR 10 14 36.3
KLMR Klimovskoe 32.39 327 eP P 10 00 29.9 -1.6
KLMR pmax pmax
comp=Z,110nm,1.5s
KLMR MLR MLR
comp=Z,3μm,15.0s
HIA Hailar 32.61 56 P P 10 00 33.9 +0.2
HIA Hailar 32.61 56 P P 10 00 38.6 +4.9
HIA Hailar 32.61 56 P P 10 00 33.9 +0.2
HIA pmax pmax
comp=Z,17nm,0.9s
ILGA Ilgaz 32.96 289 P P 10 00 38.5 +1.4
BR131 Keskin Array S 33.26 286 P P 10 00 39.8 +0.2
BR131 IAmb IAmb 10 00 41.9
comp=Z,42nm,0.8s
BR131 Keskin Array S 33.26 286c iP P 10 00 40.6 +1.0
BRTR Keskin Array B 33.26 286 P P 10 00 40.5 +1.0
comp=Z,24nm,0.8s,baz=92,slow=8.1,SNR=112
BRTR LR LR 10 16 05.5
comp=Z,543nm,19.5s,baz=84,slow=40
comp=Z,24nm,0.8s
BRTR Keskin Array B 33.26 286 P P 10 00 41.0 +1.4
MMAI Mount Meron Ar 33.74 274 LR LR 10 18 58.2
comp=Z,331nm,18.9s,baz=256,slow=44
ANTO Ankara 33.87 287 P P 10 00 46.2 +1.4
ANTO IAmb IAmb 10 00 47.6
comp=Z,56nm,1.2s
ANTO Ankara 33.87 287 P P 10 00 46.2 +1.4
ANTO pmax pmax
comp=Z,56nm,1.2s
ANTO Ankara 33.87 287 P P 10 00 46.2 +1.4
ANTO sP **pP 10 00 52.0 0.0**
BR231 Keskin MP Arra 33.89 287 P P 10 00 46.2 +1.2
BR231 IAmb IAmb 10 00 47.8
comp=Z,62nm,1.2s
GHAJ Ghor Haditha 34.25 271 P P 10 00 49.7 +1.6
GHAJ IAmb IAmb 10 00 52.4
comp=Z,28nm,0.8s
ADZR Andozero 34.38 331 eP P 10 00 48.9 +0.1
ADZR pmax pmax
comp=Z,41nm,0.6s
QIZ Qiongzhong 34.57 114 P P 10 00 51.8 +0.9
QIZ IAmb IAmb 10 01 04.2
comp=Z,84nm,1.4s
QIZ Qiongzhong 34.57 114 P P 10 00 51.8 +0.9
QIZ S **S 10 06 19.8 +0.8**
QIZ LR LR
comp=Z,700nm,15.9s
QIZ LR LR
comp=Z,830nm,17.5s
QIZ LR LR
comp=Z,1μm,16.7s
CSS Mathiatis 34.72 278 P P 10 00 53.8 +1.6
NJ2 Nanjing 34.81 87 eP P 10 00 54.1 +1.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,2μm,11.4s
NJ2 LR LR
comp=Z,1μm,11.8s
NJ2 LR LR
comp=Z,2μm,12.3s
DL2 Dalian 34.90 75 P P 10 00 58.3 +4.7
DL2 S **S 10 06 29.1 +5.4**
DL2 pmax pmax
comp=Z,50nm,1.1s
DL2 pmax pmax
comp=Z,490nm,3.9s
DL2 LR LR
comp=Z,1μm,15.9s
DL2 LR LR
comp=Z,2μm,18.2s
MDUB Mudurnu 34.95 288 P P 10 00 55.2 +1.0
EIL Elat 35.40 269 LR LR 10 18 11.8
comp=Z,1μm,19.4s,baz=63,slow=41
AKASG Malin Array Be 35.50 306 P **P 10 00 58.7 0.0**
comp=Z,2.0nm,0.4s,baz=82,slow=7.0,SNR=56
AKASG LR LR 10 18 20.6
comp=Z,722nm,18.3s,baz=86,slow=41
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 35.50 306 P **P 10 00 58.7 0.0**
AKBB IAmb IAmb 10 01 05.8
comp=Z,27nm,0.8s
AKBB Malin Array Si 35.50 306 P **P 10 00 58.7 0.0**
AKBB pmax pmax
comp=Z,27nm,0.8s
SURA Surathani 35.53 138 P P 10 01 00.5 +1.3
BORA Eskisehir 35.63 288 P P 10 00 59.9 -0.1
BORA IAmb IAmb 10 01 02.0
comp=Z,37nm,0.9s
HKPS Hong Kong Po S 35.78 105 P P 10 01 02.4 +1.0
MILM Milestii Mici 35.83 300 i iP P 10 01 02.6 +1.1
comp=Z,60nm,0.6s
MILM Milestii Mici 35.83 300c iP P 10 01 02.6 +1.1
MILM pmax pmax
comp=Z,60nm,0.6s
TLCR 35.98 297 ⇑P P 10 01 04.0 +1.2
TLCR 35.98 297 P **P 10 01 03.9 +1.2**
SRIT Nakonsritamara 36.00 139 P P 10 01 03.3 +0.1
ISP Isparta 36.07 284 P P 10 01 03.5 -0.3
ISP IAmb IAmb 10 01 06.2
comp=Z,29nm,1.2s
ISP Isparta 36.07 284 P P 10 01 03.5 -0.3
ISP pmax pmax
comp=Z,29nm,1.2s
SORM Soroca 36.08 302 ⇓P P 10 01 04.0 +0.3
SORM Soroca 36.08 302 P **P 10 01 03.9 +0.3**
TPGR Topolog 36.29 296 ⇑P P 10 01 06.7 +1.1
TIRR Tirgusor 36.34 296 P P 10 01 05.5 -0.4
TIRR Tirgusor 36.34 296 P P 10 01 05.5 -0.4
TIRR pmax pmax
comp=Z,135nm,1.4s
VLDR Vladesti 36.42 298 ⇓P P 10 01 08.3 +1.7
CFR Carcaliu 36.45 297 ⇓P P 10 01 08.5 +1.6
CFR Carcaliu 36.45 297 P **P 10 01 08.5 +1.6**
SCTR Scanteiesti 36.50 298 ⇑P P 10 01 09.2 +2.0
VASR Vaslui 36.55 299 ⇑P P 10 01 08.6 +0.9
MNK Minsk 36.58 313 *i* P **P 10 01 07.0 -0.8**
comp=E,5.0nm,0.8s
MNK *i* P **P 10 01 07.0 -0.8**
comp=N,27nm,1.0s
MNK *i* P **P 10 01 07.0 -0.8**
comp=Z,35nm,0.8s,baz=96
MNK *i* pP **sP 10 01 20.2 +2.3**
MNK *i* PP **PnPn 10 02 30.4 -0.5**
MNK *i* S **S 10 06 45.6 -3.7**
MNK *i* sS **ScP 10 07 08.9 -7.3**
MNK *i* SS **SnSn 10 09 20.2 +1.2**
MNK *i* SSS SSS 10 09 36.8
MNK *i* LQ LQ 10 13 26.4
MNK *i* LR LR 10 16 13.2
MNK *i* LRM MLR 10 18 24.7
comp=E,96nm,18.1s
MNK *i* LRM MLR 10 18 57.5
comp=N,576nm,10.9s
MNK *i* LRM MLR 10 19 13.0
comp=Z,525nm,16.8s
MNK Minsk 36.58 313 *i* P **P 10 01 07.0 -0.8**
MNK *i* *PP **sP 10 01 20.1 +2.3**
MNK *i* 10 02 30.3
MNK *i* S **S 10 06 45.5 -3.7**
MNK *i* SS **SnSn 10 09 20.2 +1.2**
MNK pmax pmax
comp=Z,35nm,0.8s
MNK pmax pmax
comp=N,27nm,1.0s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK MLR MLR
comp=E,96nm,18.0s
MNK MLR MLR
comp=N,576nm,11.0s
MNK MLR MLR
comp=Z,525nm,17.0s
HARR Harsova 36.66 296 ⇑P P 10 01 10.2 +1.5
HARR Harsova 36.66 296 P **P 10 01 10.1 +1.5**
CN2 Changchun 36.80 65 P **P 10 01 10.1 +0.2**
CN2 pP pP 10 01 14.5 -2.3
CN2 S **S 10 06 51.9 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,2μm,15.0s
ELL Elmali 36.84 283 P **P 10 01 11.6 +1.2**
ELL Elmali 36.84 283 P **P 10 01 11.6 +1.2**
ELL pmax pmax
comp=Z,66nm,0.9s
SSE Sheshan 37.02 87 P **P 10 01 13.3 +1.4**
SSE S **S 10 06 53.1 -3.3**
SSE pmax pmax
comp=Z,23nm,0.9s
SSE pmax pmax
comp=Z,330nm,4.4s
SSE LR LR
comp=Z,520nm,10.0s
SSE LR LR
comp=Z,680nm,16.1s
PANC Panciu 37.07 298 ⇓P P 10 01 14.3 +2.2
AKAS Kas 37.22 282 P **P 10 01 13.3 -0.4**
NACGM Naroch 37.26 313 eP P 10 01 14.5 +0.9
comp=Z,48nm,0.8s,baz=95
TESR Tescani 37.35 299 ⇑P P 10 01 15.4 +0.9
VRI Vrincioaia 37.36 298 ⇓P P 10 01 16.6 +2.0
VRI Vrincioaia 37.36 298 P **P 10 01 16.6 +2.0**
MANT Manisa 37.39 286 P **P 10 01 16.3 +1.1**
BISRR Bisoca 37.41 298 ⇑P P 10 01 16.7 +1.6
PLOR Plostina 37.42 298 ⇑P P 10 01 17.4 +2.3
PLOR Plostina 37.42 298 P **P 10 01 17.4 +2.3**
ZEA Zeya 37.57 49 eP P 10 01 18.2 +1.9
ZEA *e* 10 07 09.6
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=E,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA MLR MLR
comp=E,900nm,10.0s
ZEA MLR MLR
comp=N,700nm,11.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
ISR Istrita 37.58 297 ⇑P P 10 01 19.0 +2.4
ISR Istrita 37.58 297 P **P 10 01 18.9 +2.4**
HEH HeiHe 37.60 55 eP P 10 01 17.6 +1.0
HEH pmax pmax
comp=Z,85nm,1.0s
HEH pmax pmax
comp=Z,380nm,5.4s
HEH LR LR
comp=Z,1μm,14.4s
HEH LR LR
comp=Z,2μm,15.5s
HEH LR LR
comp=Z,3μm,14.3s
LHMI Lhok Sumawe 37.65 146 P **P 10 01 18.2 +0.9**
LVZ Lovozero 37.67 336 P **P 10 01 17.6 +0.6**
LVZ Lovozero 37.67 336 P **P 10 01 17.6 +0.6**
LVZ pmax pmax
comp=Z,93nm,0.8s
LVZ Lovozero 37.67 336 P **P 10 01 17.2 +0.2**
LVZ pP **pP 10 01 21.6 -2.4**
KAAM Kaadhehdhoo 37.68 186 P **P 10 01 17.6 +0.1**
ISAL Salakas 37.70 314 eP P 10 01 18.8 +1.5
COVR Voineasa-Covas 37.73 298 ⇑P P 10 01 19.8 +2.1
VSU Vasula 37.77 319 ceP P 10 01 18.1 +0.2
VSU pmax pmax
comp=Z,75nm,0.9s
VSU Vasula 37.77 319 eP P 10 01 18.5 +0.6
RAZG Razgrad 37.83 294 ⇑P P 10 01 20.3 +1.7
APA Apatity 37.92 335 ⇓iP P 10 01 18.1 -1.0
APA pmax pmax
comp=Z,15nm,0.8s
APA MLR MLR
comp=Z,2μm,12.0s
BNX BinXian 37.92 62 ⇑P P 10 01 20.8 +1.4
BNX S **S 10 07 14.8 +5.0**
BNX pmax pmax
comp=Z,13nm,0.8s
BNX pmax pmax
comp=Z,290nm,5.5s
BNX LR LR
comp=Z,1μm,9.6s
BNX LR LR
comp=Z,3μm,14.5s
SECR 37.92 297 ⇓P P 10 01 21.1 +1.7
MLR Muntele Rosu 37.95 298 LR LR 10 20 33.8
comp=Z,479nm,18.3s,baz=72,slow=42
MLR Muntele Rosu 37.95 298 ⇓P P 10 01 22.3 +2.5
MLR Muntele Rosu 37.95 298 P **P 10 01 22.2 +2.5**
BURAR Bucovina Array 38.22 301 ⇑P P 10 01 23.2 +1.2
BURAR Bucovina Array 38.22 301 P **P 10 01 22.8 +0.9**
BURAR Bucovina Array 38.22 301 P **P 10 01 23.1 +1.2**
BUR08 Bucovina Ar. S 38.23 301 P **P 10 01 23.0 +1.0**
DOPR Dopca 38.28 299 ⇑P P 10 01 24.4 +2.0
SZH Strazhica 38.30 294 *i* P **P 10 01 23.6 +1.0**
MTUR Matau 38.60 297 ⇑P P 10 01 27.0 +1.7
MTUR Matau 38.60 297 P **P 10 01 26.9 +1.7**
ALN Alexandroupoli 38.69 290 P **P 10 01 26.5 +0.6**
ALN IAmb IAmb 10 02 26.6
comp=Z,47nm,1.3s
ALN Alexandroupoli 38.69 290 P **P 10 01 26.5 +0.6**
ALN pmax pmax
comp=Z,47nm,1.3s
FIA1 FINESS Array S 38.70 324 P **P 10 01 26.3 +0.6**
FIA1 IAmb IAmb 10 01 27.1
comp=Z,28nm,0.9s
FINES FINESS Array B 38.70 324 P **P 10 01 25.9 +0.2**
comp=Z,14nm,0.6s,baz=110,slow=9.5,SNR=48
FINES LR LR 10 18 19.3
comp=Z,966nm,20.3s,baz=106,slow=38
comp=Z,14nm,0.6s
FINES FINESS Array B 38.70 324 P **P 10 01 26.1 +0.4**
LVV L'vov 38.84 305 eP P 10 01 27.5 +0.4
LVV *e* 10 03 07.0
LVV *eS* S 10 07 33.1 +9.5
LVV MLR MLR
comp=Z,1μm,15.0s
ARR Arges 38.88 298 ⇓P P 10 01 29.4 +1.9
PABE Paberze 38.92 314 P **P 10 01 28.4 +0.9**
PABE Paberze 38.92 314 eP P 10 01 28.5 +0.9
VSVD Vaisvydziai 38.97 315 eP P 10 01 29.1 +1.1
RDO Rodhopi 39.01 291 P **P 10 01 28.1 -0.4**
INCN Inchon 39.07 75 P **P 10 01 28.4 -0.8**
INCN Inchon 39.07 75 P **P 10 01 28.4 -0.8**
INCN pmax pmax
comp=Z,301nm,2.0s
MEF Metsahovi 39.26 321 eP P 10 01 31.2 +0.8
MTSE Matsula 39.32 319 eP P 10 01 32.1 +1.2
KULM Kulim 39.35 140 P **P 10 01 32.2 +0.6**
KULM IAmb IAmb 10 01 33.2
comp=Z,34nm,1.1s
CJR Cluj-Napoca 39.41 300 ⇑P P 10 01 33.8 +1.8
CJR Cluj-Napoca 39.41 300 P **P 10 01 33.7 +1.8**
RZN Rozhen 39.49 292 iP P 10 01 34.0 +1.2
KCSI Kotacane, Aceh 39.53 146 P **P 10 01 33.7 +0.6**
comp=Z,28nm,0.8s
MDJ Mudanjiang 39.62 63 P **P 10 01 35.8 +2.2**
MDJ pmax pmax
comp=Z,36nm,1.0s
MDJ pmax pmax
comp=Z,430nm,5.3s
MDJ LR LR
comp=Z,2μm,17.9s
MDJ LR LR
comp=Z,3μm,15.5s
MDJ Mudanjiang 39.62 63 P **P 10 01 36.4 +2.8**
PGB Panagyurishte 39.71 293 iP P 10 01 36.3 +1.9
MARR Marisel-Cluj 39.75 300 ⇓P P 10 01 36.4 +1.7
YAK Yakutsk 39.95 36 P **P 10 01 36.2 +0.1**
comp=Z,40nm,0.8s,baz=168,slow=0.5,SNR=19
YAK LR LR 10 20 20.5
comp=Z,521nm,18.5s,baz=264,slow=40
comp=Z,40nm,0.8s
YAK Yakutsk 39.95 36 P **P 10 01 36.0 -0.1**
YAK Yakutsk 39.95 36 eP P 10 01 36.0 -0.1
YAK *e*PP **sP 10 01 49.1 +3.4**
YAK *e* 10 03 11.7
YAK *e* 10 03 40.5
YAK *eS* **S 10 07 37.8 -2.1**
YAK *eSS* **SS 10 10 37.9 +1.3**
YAK *e* 10 11 40.8
YAK pmax pmax
comp=Z,75nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,22nm,1.2s
YAK pmax pmax
comp=Z,245nm,4.4s
YAK pmax pmax
comp=E,163nm,5.3s
YAK pmax pmax
comp=N,132nm,5.5s
YAK smax smax
comp=N,66nm,2.3s
YAK smax smax
comp=E,34nm,2.3s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK MLR MLR
comp=N,838nm,13.0s
YAK MLR MLR
comp=E,754nm,15.0s
YAK Yakutsk 39.95 36 P **P 10 01 35.9 -0.2**
YAK pP **pP 10 01 39.7 -3.4**
TRPA Tarpa 39.96 302 ⇓P P 10 01 38.2 +1.8
TJN Taejon 39.96 76 P **P 10 01 37.3 +0.7**
TJN Taejon 39.96 76 P **P 10 01 37.3 +0.7**
TJN pmax pmax
comp=Z,869nm,1.7s
KS19 Wonju Array Si 40.01 75 P **P 10 01 37.1 +0.2**
SLIT Slitere, Latvi 40.01 317 eP P 10 01 36.2 -0.4
KSAR Wonju Array Be 40.04 75 P **P 10 01 34.5 -2.7**
KSAR Wonju Array Be 40.04 75 P **P 10 01 34.5 -2.7**
KSRS Korea Array 40.06 75 P **P 10 01 38.0 +0.6**
comp=Z,14nm,0.9s,baz=280,slow=7.8,SNR=14
KSRS LR LR 10 20 31.1
comp=Z,1μm,18.9s,baz=280,slow=40
comp=Z,14nm,0.9s
KSRS Korea Array 40.06 75 P **P 10 01 38.0 +0.6**
UZH Uzhgorod 40.07 303 ⇑eP P 10 01 38.0 +0.7
UZH *i* 10 01 44.0
APE Apeiranthos 40.09 285 ⇓P P 10 01 38.5 +0.8
APE Apeiranthos 40.09 285 P **P 10 01 38.4 +0.8**
PBUR Paburge 40.10 315 eP P 10 01 38.0 +0.7
GZR Gura Zlata 40.17 298 ⇑P P 10 01 39.2 +0.9
GZR Gura Zlata 40.17 298 P **P 10 01 39.2 +0.9**
ATD Arta Tunnel 40.20 238 P **P 10 01 39.3 +0.5**
comp=Z,5.6nm,0.3s,baz=72,slow=5.9,SNR=5.7
ATD LR LR 10 20 04.4
comp=Z,380nm,21.8s,baz=30,slow=39
comp=Z,5.6nm,0.3s
ATD Arta Tunnel 40.20 238 P **P 10 01 40.1 +1.3**
SSLB Suanglung 40.21 98 P **P 10 01 37.4 -1.4**
SSLB IAmb IAmb 10 01 48.0
comp=Z,106nm,1.5s
IPM Ipoh 40.24 140 P **P 10 01 38.5 -0.5**
IPM IAmb IAmb 10 01 39.7
comp=Z,50nm,1.4s
IPM Ipoh 40.24 140 P **P 10 01 38.8 -0.2**
VTS Vitosha 40.37 294 P **P 10 01 38.4 -1.6**
VTS Vitosha 40.37 294 P **P 10 01 38.4 -1.6**
VTS pmax pmax
comp=Z,25nm,0.8s
VTS Vitosha 40.37 294 i P P 10 01 41.4 +1.4
VADS Vadso 40.41 337 eP P 10 01 40.9 +1.1
VADS IAmb IAmb 10 01 44.9
comp=Z,44nm,0.6s
KLR Kul'dur 40.47 56 P **P 10 01 41.4 +0.7**
comp=Z,12nm,0.8s,baz=279,slow=7.9,SNR=42
KLR LR LR 10 20 39.7
comp=Z,1μm,18.6s,baz=276,slow=40
comp=Z,12nm,0.8s
DJES Djerdap 40.47 297 P **P 10 01 41.2 +0.5**
HERR Herculane 40.51 297 ⇑P P 10 01 41.6 +0.6
SURR Surduc 40.56 299 ⇓P P 10 01 43.5 +2.1
CRVS Cervenica-Dubn 40.59 304 eP P 10 01 42.1 +0.5
CRVS Cervenica-Dubn 40.59 304 eP P 10 01 42.1 +0.5
KKB Krupnik 40.64 293 iP P 10 01 43.1 +1.0
RAF Rauma 40.67 322 eP P 10 01 42.3 +0.3
STHS Stebnicka Huta 40.68 304 eP P 10 01 42.3 -0.1
STHS pmax pmax
comp=Z,10.0nm,0.7s
STHS Stebnicka Huta 40.68 304 eP P 10 01 42.3 -0.1
PSI Prapat 40.69 145 P **P 10 01 41.1 -1.8**
comp=Z,33nm,0.8s,baz=332,slow=8.1,SNR=30
PSI LR LR 10 20 07.7
comp=Z,300nm,21.4s,baz=309,slow=38
comp=Z,33nm,0.8s
RPSI Rantau Prapat 40.79 145 P **P 10 01 41.1 -2.4**
SIRR Siria 40.80 300 ⇓P P 10 01 45.5 +2.1
BZS Buzias 40.94 299 ⇑P P 10 01 45.8 +1.3
BZS Buzias 40.94 299 P **P 10 01 45.8 +1.3**
KEV Kevo 40.99 336 P **P 10 01 44.9 +0.3**
KEV Kevo 40.99 336 P **P 10 01 44.9 +0.3**
KEV pmax pmax
comp=Z,369nm,1.9s
KEV Kevo 40.99 336 P **P 10 01 44.9 +0.3**
KEV pP **pP 10 01 49.0 -2.7**
MDVR Moldovita 41.02 297 ⇓P P 10 01 46.7 +1.4
VAY Valandovo 41.15 292 iP P 10 01 47.1 +0.8
IDI Anoyia 41.16 282 P **P 10 01 46.6 +0.1**
comp=Z,12nm,0.8s,baz=76,slow=7.0,SNR=6.6
IDI LR LR 10 21 36.5
comp=Z,150nm,19.7s,baz=67,slow=40
comp=Z,12nm,0.8s
BOVS Bovan 41.25 296 ⇓P P 10 01 48.3 +1.2
NIE Niedzica 41.29 305 eP P 10 01 49.2 +1.8
STIP Stip 41.34 293 iP P 10 01 47.3 -0.5
USRK Ussuriysk Ar. 41.38 63 P **P 10 01 48.6 +0.5**
comp=Z,3.4nm,0.7s,baz=275,slow=9.4,SNR=11
USRK LR LR 10 18 49.7
comp=Z,181nm,19.1s,baz=272,slow=36
comp=Z,3.4nm,0.7s

USRK Ussuriysk Ar. 41.38 63 P **P** **10 01 46.3 -1.9**
USRK Ussuriysk Ar. 41.38 63 P **P** **10 01 46.3 -1.9**
ARA0 ARCESS Array S 41.39 336 *eP* **P** **10 01 48.9 +1.0**
ARA0 IAmb IAmb 10 01 49.6
comp=Z,54nm,0.7s
ARCES ARCESS Array B 41.39 336 P **P** **10 01 48.8 +0.9**
comp=Z,35nm,0.6s,baz=104,slow=8.6,SNR=113
ARCES LR LR 10 20 05.7
comp=Z,778nm,18.6s,baz=110,slow=38
comp=Z,35nm,0.6s
ARCES ARCESS Array B 41.39 336 P **P** **10 01 48.6 +0.7**
ARCES IAmb IAmb 10 01 49.6
comp=Z,46nm,0.8s
ARCES ARCESS Array B 41.39 336 P **P** **10 01 48.6 +0.7**
ARCES pmax pmax
comp=Z,46nm,0.8s
GSI Gunungsitoli 41.43 147 P **P** **10 01 49.1 +0.2**
GSI Gunungsitoli 41.43 147 P **P** **10 01 49.8 +1.0**
GSI Gunungsitoli 41.43 147 P **P** **10 01 49.6 +0.8**
comp=Z,162nm,0.9s,comp=Z,3µm
LIT Litokhoron 41.51 290 P **P** **10 01 50.0 +0.7**
LIT IAmb IAmb 10 01 50.6
comp=Z,39nm,1.0s
LIT Litokhoron 41.51 290 P **P** **10 01 50.0 +0.7**
LIT pmax pmax
comp=Z,39nm,1.0s
OJC Ojcow 41.53 306 *eP* **P** **10 01 50.1 +0.7**
OJC Ojcow 41.53 306 P **P** **10 01 50.0 +0.6**
OJC IAmb IAmb 10 01 51.0
comp=Z,67nm,1.3s
OJC Ojcow 41.53 306 P **P** **10 01 50.0 +0.6**
OJC pmax pmax
comp=Z,67nm,1.3s
PSZ Piszkesteto 41.75 302 P **P** **10 01 51.5 +0.2**
PSZ Piszkesteto 41.75 302 P **P** **10 01 51.5 +0.2**
PSZ pmax pmax
comp=Z,15nm,0.9s
SKO Skopje 41.81 293 *i P* **P** **10 01 52.6 +0.9**
LANS Liptovska Anna 41.87 304 *eP* **P** **10 01 52.6 +0.5**
LANS pmax pmax
comp=Z,5.0nm,1.1s
LANS Liptovska Anna 41.87 304 *eP* **P** **10 01 52.6 +0.5**
AGG Agios Georgios 41.93 289 P **P** **10 01 52.0 -0.8**
AGG Agios Georgios 41.93 289 P **P** **10 01 52.0 -0.8**
AGG pmax pmax
comp=Z,6.0nm,0.8s
KTK1 Kautokeino 41.96 334 *eP* **P** **10 01 53.1 +0.5**
KTK1 IAmb IAmb 10 01 54.0
comp=Z,45nm,0.8s
FNA Florina 42.15 292 P **P** **10 01 54.5 -0.1**
FNA Florina 42.15 292 P **P** **10 01 54.5 -0.1**
FNA pmax pmax
comp=Z,14nm,0.7s
FRGS Fruska Gora 42.27 298 ⇑P **P** **10 01 58.0 +2.5**
FRGS Fruska Gora 42.27 298 ⇑*iP* **P** **10 01 57.4 +1.9**
DIVS Divibare 42.36 297 P **P** **10 01 57.2 +0.9**
DIVS IAmb IAmb 10 01 58.6
comp=Z,66nm,0.9s
DIVS Divibare 42.36 297 ⇑*iP* **P** **10 01 57.5 +1.2**
VYHS Vyhne 42.37 303 *eP* **P** **10 01 57.4 +1.2**
VYHS pmax pmax
comp=Z,32nm,1.2s
VYHS Vyhne 42.37 303 *eP* **P** **10 01 57.4 +1.2**
HAMF Hammerfest 42.38 337 *eP* **P** **10 01 56.4 +0.5**
HAMF IAmb IAmb 10 02 01.2
comp=Z,69nm,0.6s
OHR Ohrid 42.49 292 *i P* **P** **10 01 57.3 -0.1**
TIXI Tiksi 42.52 22 P **P** **10 01 57.3 +0.2**
comp=Z,23nm,0.7s,baz=90,slow=24,SNR=7.8
TIXI LR LR 10 20 46.6
comp=Z,2µm,19.7s,baz=274,slow=38
comp=Z,23nm,0.7s
TIXI Tiksi 42.52 22 P **P** **10 01 56.5 -0.5**
TIXI pP **pP** **10 02 00.5 -3.5**
TIXI Tiksi 42.52 22 *de*P **P** **10 01 57.2 +0.2**
TIXI pmax pmax
comp=Z,45nm,1.3s
TIXI Tiksi 42.52 22 P **P** **10 01 57.1 +0.1**
TIXI pP **pP** **10 02 01.1 -2.9**
TEKS Tekeris 42.59 297 ⇑*iP* **P** **10 01 58.5 +0.4**
ITM Ithomi 42.79 286 P **P** **10 01 58.4 -1.4**
ITM IAmb IAmb 10 02 04.3
comp=Z,33nm,0.9s
SRO Srobarova 42.82 302 *eP* **P** **10 02 01.6 +1.8**
SRO Srobarova 42.82 302 *eP* **P** **10 02 01.6 +1.8**
BBLS Lazići 42.83 296 ⇑*iP* **P** **10 02 01.3 +1.2**
MAUC Maruska 42.90 305 *eP* **P** **10 02 01.9 +1.3**
RUDO Rudo 42.91 296 ⇑*iP* **P** **10 02 01.2 +0.5**
MORC Moravsky Berou 43.03 305 ⇓P **P** **10 02 02.7 +1.1**
MORC Moravsky Berou 43.03 305 P **P** **10 02 02.1 +0.5**
MORC Moravsky Berou 43.03 305 *eP* **P** **10 02 02.5 +0.9**
MORC Moravsky Berou 43.03 305 P **P** **10 02 02.1 +0.5**
MORC pmax pmax
comp=Z,22nm,1.0s
JAVC Velka Javorina 43.08 304 *eP* **P** **10 02 04.0 +2.0**
JETT Jettan, Norway 43.09 335 *eP* **P** **10 02 02.2 +0.4**
JETT IAmb IAmb 10 02 03.5
comp=Z,42nm,0.7s
HAPS Han Pijesak,BI 43.10 297 ⇑*iP* **P** **10 02 03.4 +1.1**
TIR Tirane 43.11 293 P **P** **10 02 02.8 +0.5**
TIR Tirane 43.11 293 P **P** **10 02 02.8 +0.5**
TIR pmax pmax
comp=Z,361nm,2.0s
PDG Podgorica 43.27 294 ⇑P **P** **10 02 04.4 +0.9**
PDG Podgorica 43.27 294 P **P** **10 02 03.9 +0.4**
PDG IAmb IAmb 10 02 05.6
comp=Z,77nm,0.9s
SMOL Smolenice 43.29 304 *eP* **P** **10 02 04.8 +1.1**
SMOL pmax pmax
comp=Z,8.0nm,0.9s
GRNR Gornyy 43.30 53 ⇓*iP* **P** **10 02 05.0 +1.3**
GRNR *eS* **S** **10 08 31.2 +1.3**
GRNR pmax pmax
comp=E,3.0nm,0.8s
GRNR pmax pmax
comp=N,1.0nm,1.0s
GRNR pmax pmax
comp=Z,5.0nm,0.8s
GRNR smax smax
comp=N,1.0nm,0.8s
GRNR MLR MLR
comp=E,1µm,15.0s
GRNR MLR MLR
comp=N,600nm,19.0s
GRNR MLR MLR
comp=Z,1µm,16.0s
UPM Unac-Piva 43.33 296 ⇑*iP* **P** **10 02 05.1 +0.8**
DRME Dracevica, Mon 43.38 294 *eP* **P** **10 02 03.5 -1.0**
MODS Modra-Piesok 43.41 303 *eP* **P** **10 02 05.7 +1.0**
MODS pmax pmax
comp=Z,37nm,1.2s
MODS Modra-Piesok 43.41 303 *eP* **P** **10 02 05.7 +1.0**
KRLC Kraliky 43.48 306 *eP* **P** **10 02 06.2 +1.0**
KRLC Kraliky 43.48 306 *eP* **P** **10 02 06.2 +1.0**
BLEU Blekinge 43.52 315 *i P* **P** **10 02 04.8 -0.6**
ZST Bratislava 43.56 303 *eP* **P** **10 02 07.3 +1.5**
ZST pmax pmax
comp=Z,38nm,0.7s
ZST Bratislava 43.56 303 *eP* **P** **10 02 07.3 +1.5**
TRO Tromso 43.61 335 *eP* **P** **10 02 06.6 +0.7**
TRO IAmb IAmb 10 02 10.6
comp=Z,206nm,1.7s
KEK Kerkira 43.61 291 P **P** **10 02 06.2 -0.2**
KEK IAmb IAmb 10 03 17.4
comp=Z,48nm,1.0s
VLO Vlora 43.62 292 P **P** **10 02 05.2 -1.1**
VLO Vlora 43.62 292 P **P** **10 02 05.3 -1.1**
VLO pmax pmax
comp=Z,181nm,0.9s
BRY Bratogost 43.67 295 ⇑*iP* **P** **10 02 07.6 +0.6**
KSP Ksiaz 43.69 307 *eP* **P** **10 02 07.5 +0.7**
VRAC Vranov 43.71 305 LR LR 10 22 35.6
comp=Z,424nm,19.6s,baz=76,slow=39
VRAC Vranov 43.71 305 ⇓P **P** **10 02 08.8 +1.7**
VRAC Vranov 43.71 305 *eP* **P** **10 02 08.2 +1.1**
VRAC Vranov 43.71 305 P **P** **10 02 08.7 +1.7**
DPC Dobruska-Polom 43.73 306 *eP* **P** **10 02 08.2 +0.9**
DPC AMS AMS 10 23 10.0
comp=Z,600nm,15.3s
DPC Dobruska-Polom 43.73 306 *eP* **P** **10 02 08.2 +0.9**
DPC MLR MLR
comp=Z,600nm,15.3s
OSTC Ostas 43.77 307 *eP* **P** **10 02 08.8 +1.2**
HCY Herceg Novi 43.81 295 *eP* **P** **10 02 07.8 -0.2**

JNU Nakatsue 43.81 79 P **P** **10 02 09.6 +1.4**
comp=Z,36nm,0.9s,baz=289,slow=3.6,SNR=7.1
JNU LR LR 10 22 41.4
comp=Z,522nm,18.3s,baz=294,slow=39
comp=Z,36nm,0.9s
TREB Trebinje 43.85 295 *eP* **P** **10 02 08.6 +0.4**
KRUC Moravsky 43.88 305 *eP* **P** **10 02 09.7 +1.3**
UPC Upice 43.91 307 *eP* **P** **10 02 09.9 +1.3**
UPC Upice 43.91 307 *eP* **P** **10 02 09.9 +1.3**
BSD Bornholm Skovb 44.09 313 *i P* **P** **10 02 09.4 -0.5**
BSD IAmb IAmb 10 02 14.4
comp=Z,18nm,0.6s
RONA Rosalia, Austr 44.18 303 *eP* **P** **10 02 12.0 +1.2**
comp=Z,26nm,0.9s
BLY Banja Luka 44.18 298 ⇑*iP* **P** **10 02 11.8 +0.9**
STON Ston 44.27 296 ⇑*iP* **P** **10 02 11.8 +0.2**
A051A Mrakovica 44.31 299 *eP* **P** **10 02 12.9 +0.9**
MGRS Mrkonjic Grad 44.33 298 *eP* **P** **10 02 13.1 +1.0**
SRKY Kupres RS 44.35 297 ⇑*iP* **P** **10 02 13.1 +0.7**
CONA Conrad Observa 44.42 303 *i P* **P** **10 02 14.1 +1.2**
comp=Z,40nm,0.8s,SNR=22
FAUS Fauske 44.45 331 *eP* **P** **10 02 13.2 +0.5**
FAUS IAmb IAmb 10 02 14.3
comp=Z,31nm,0.7s
JOW Kunigami 44.46 89 LR LR 10 22 31.9
comp=Z,686nm,20.1s,baz=250,slow=38
JOW Kunigami 44.46 89 P **P** **10 02 13.2 -0.1**
STEI Steigen 44.56 332 *eP* **P** **10 02 14.1 +0.6**
STEI IAmb IAmb 10 02 18.3
comp=Z,370nm,2.0s
HFS Hagfors 44.58 321 LR LR 10 21 42.8
comp=Z,1µm,18.5s,baz=94,slow=37
DEL Delary 44.59 315 *i* P **P** **10 02 13.2 -0.7**
MOR8 Moi Rana 44.61 329 *eP* **P** **10 02 13.7 -0.3**
MOR8 IAmb IAmb 10 02 14.8
comp=Z,600nm,0.8s
PDSI Padang 44.68 145 P **P** **10 02 14.4 -0.7**
comp=Z,157nm,1.1s,comp=Z,2µm
A050A Klekovaca 44.70 298 *eP* **P** **10 02 15.0 -0.1**
GOPC GO Pecny, Ondr 44.77 306 *eP* **P** **10 02 16.3 +0.7**
GOPC AMS AMS 10 22 20.0
comp=Z,900nm,16.6s
GOPC GO Pecny, Ondr 44.77 306 *eP* **P** **10 02 16.3 +0.7**
GOPC MLR MLR
comp=Z,900nm,16.6s
ARSA Arzberg 44.78 302 *i P* **P** **10 02 16.5 +0.8**
comp=Z,21nm,0.9s,SNR=5.1
PVCC Panska Ves 44.82 307 *eP* **P** **10 02 17.2 +1.3**
PVCC Panska Ves 44.82 307 *eP* **P** **10 02 17.2 +1.3**
LUNU Lund 44.89 314 *i P* **P** **10 02 17.0 +0.7**
PRU Pruhonice 44.92 306 *eP* **P** **10 02 17.4 +0.7**
PRU AMS AMS 10 23 50.0
comp=Z,600nm,17.1s
PRU Pruhonice 44.92 306 *eP* **P** **10 02 17.4 +0.7**
PRU MLR MLR
comp=Z,600nm,17.1s
GROS Grobnik 44.96 301 *i P* **P** **10 02 17.8 +0.6**
RUE Ruedersdorf 45.02 310 *eP* **P** **10 02 17.8 +0.3**
comp=Z,41nm,1.1s,baz=79,slow=7.8
BJUU Bjuv 45.09 315 *i P* **P** **10 02 17.3 -0.6**
BORU Boraas 45.12 317 *i P* **P** **10 02 17.9 -0.3**
CRES Cresnjev 45.13 300 *i P* **P** **10 02 19.3 +0.9**
CRES Cresnjev 45.13 300 ⇑*iP* **P** **10 02 19.3 +0.9**
BRG Berggiesshubel 45.16 307 *i P* **P** **10 02 19.5 +0.9**
BRG Amp 10 02 20.8
comp=Z,41nm,1.1s
BRG Berggiesshubel 45.16 307 P P 10 02 24.7 +6.2
BRG Amp 10 02 25.1
comp=Z,27nm,1.0s
BRG Berggiesshubel 45.16 307 P P 10 02 32.7 +14
BRG Amp 10 02 33.1
comp=Z,21nm,1.0s
BRG Amp 10 22 48.0
comp=E,0.6nm,11.2s
BRG Amp 10 22 48.0
comp=N,0.8nm,16.0s
BRG Amp 10 22 52.0
comp=Z,1.1nm,15.2s
BRG Berggiesshubel 45.16 307 *eP* **P** **10 02 19.4 +0.8**
comp=Z,40nm,1.1s,baz=79,slow=7.8
KONS Konsvik 45.18 330 *eP* **P** **10 02 19.0 +0.5**
KONS IAmb IAmb 10 02 20.8
comp=Z,25nm,0.8s
FABU Falkenberg 45.19 316 *i P* **P** **10 02 18.2 -0.5**
STOK Stokkvaagen 45.20 329 *eP* **P** **10 02 19.2 +0.6**
LOF Lofoten 45.22 332 *e* **P** **10 02 19.4 +0.6**
SOKA Soboth 45.23 301 *i P* **P** **10 02 20.4 +1.1**
comp=Z,68nm,0.9s,SNR=20
CKRC Cesky Krumlov 45.27 305 *eP* **P** **10 02 20.7 +1.1**
CKRC AMS AMS 10 24 00.0
comp=Z,800nm,17.2s
BOJS Bojanci 45.34 300 ⇑*iP* **P** **10 02 21.1 +1.0**
MOA Molln 45.49 303 *i P* **P** **10 02 22.1 +0.8**
comp=Z,24nm,0.7s,SNR=11
NSS Namsos 45.50 327 *e* **P** **10 02 20.8 -0.3**
FBE Freiberg 45.52 308 *eP* **P** **10 02 22.5 +1.1**
comp=Z,56nm,1.0s,baz=79,slow=7.8
NC405 NORSAR Array S 45.55 322 P **P** **10 02 21.4 -0.2**
VISS Visnje 45.55 300 *eP* **P** **10 02 22.7 +0.9**
OBKA Obir 45.59 301 *i P* **P** **10 02 23.4 +1.2**
comp=Z,59nm,1.1s,SNR=9.4
OBKA Obir 45.59 301 ⇑*iP* **P** **10 02 22.4 +0.2**
NC602 NORSAR Array S 45.64 321 P **P** **10 02 22.4 +0.2**
NC602 NORSAR Array S 45.64 321 *eP* **P** **10 02 22.6 +0.4**
NC602 IAmb IAmb 10 02 27.0
comp=Z,34nm,0.6s
GEC2 GERESS Array S 45.66 305 P **P** **10 02 23.9 +1.1**
GEC2 IAmb IAmb 10 02 24.9
comp=Z,37nm,0.9s
GEC2 GERESS Array S 45.66 305 *eP* **P** **10 02 23.7 +0.9**
comp=Z,52nm,1.1s,baz=79,slow=7.8
GERES GERESS Array B 45.66 305 P **P** **10 02 24.1 +1.4**
comp=Z,24nm,0.8s,baz=75,slow=7.1,SNR=89
GERES LR LR 10 23 01.9
comp=Z,436nm,20.5s,baz=78,slow=38
comp=Z,24nm,0.8s
GERES GERESS Array B 45.66 305 P **P** **10 02 23.6 +0.8**
GERES GERESS Array B 45.66 305 P **P** **10 02 23.6 +0.8**
CLL Collm 45.67 308 P **P** **10 02 23.2 +0.5**
CLL IAmb IAmb 10 02 24.2
comp=Z,30nm,1.0s
CLL Collm 45.67 308 ⇑*iP* **P** **10 02 23.1 +0.5**
comp=Z,34nm,1.1s
CLL *i* x x 10 02 26.5
comp=Z,82nm,1.8s
CLL *i* pP **sP** **10 02 35.2 +2.3**
CLL *e*PcP **PcP** **10 04 00.0 -0.4**
CLL *i* x x 10 04 46.2
CLL *e*S **S** **10 09 03.0 -1.3**
CLL *e*SS **SS** **10 12 28.0 -0.1**
CLL LmV 10 24 00.0
comp=Z,700nm,18.4s
CLL Collm 45.67 308 ⇑*iP* **P** **10 02 23.1 +0.5**
CLL *i* *PP **sP** **10 02 35.2 +2.3**
CLL *e*S **S** **10 09 03.0 -1.3**
CLL pmax pmax
comp=Z,34nm,1.1s
CLL MLR MLR
comp=Z,700nm,18.4s
CLL Collm 45.67 308 *eP* **P** **10 02 23.0 +0.3**
comp=Z,34nm,1.1s,baz=79,slow=7.8
CLL *e*pP **sP** **10 02 35.9 +3.0**
KHC Kasperske Hory 45.69 305 P **P** **10 02 23.6 +0.7**
KHC IAmb IAmb 10 02 25.1
comp=Z,30nm,0.8s
KHC Kasperske Hory 45.69 305 *eP* **P** **10 02 23.9 +1.1**
KHC *e*pP **sP** **10 02 33.0 -0.1**
KHC AMS AMS 10 23 10.0
comp=Z,800nm,17.4s
KHC Kasperske Hory 45.69 305*c iP* **P** **10 02 24.0 +1.1**
KHC pmax pmax
comp=Z,78nm,0.9s
NC303 NORSAR Array S 45.71 322 P **P** **10 02 23.1 +0.2**
NB201 NORSAR Array S 45.75 322 P **P** **10 02 22.9 -0.3**
NB2 NORSAR Subarra 45.79 322 P **P** **10 02 22.9 -0.6**
comp=Z,40nm,0.7s,baz=89,slow=7.9
NB2 NORSAR Subarra 45.79 322 P **P** **10 02 22.9 -0.6**
slow=7.9
NOA NORSAR Array B 45.79 322 P **P** **10 02 23.8 +0.3**
comp=Z,30nm,0.7s,baz=90,slow=7.8,SNR=110
NOA LR LR 10 22 50.8
comp=Z,698nm,19.0s,baz=90,slow=38
comp=Z,30nm,0.7s
CEY Cerknica 45.85 300 ⇑*iP* **P** **10 02 25.1 +0.9**
STRU Stroemstad 45.88 319 *i P* **P** **10 02 24.0 -0.1**

BIOA Bad Ischl, Aus 45.94 303 *i P* **P** **10 02 25.5 +0.7**
comp=Z,10nm,0.6s,SNR=6.7
NAO01 NORSAR Array S 45.96 322 P **P** **10 02 24.5 -0.3**
SGRT San Giovanni R 45.97 295 P **P** **10 02 25.6 +0.3**
NBO00 NORSAR Array S 46.01 322 P **P** **10 02 23.9 -1.2**
NC204 NORSAR Array S 46.01 322 P **P** **10 02 24.6 -0.6**
TIP Timpagrande 46.02 291 P **P** **10 02 25.6 -0.1**
TANN Tannenbergstha 46.16 307 *eP* **P** **10 02 27.3 +0.7**
comp=Z,19nm,1.0s,baz=79,slow=7.8
MYKA Terra Mystica 46.17 302 *eP* **P** **10 02 27.3 +0.5**
comp=Z,11nm,0.8s
SKDS Skadanscina 46.17 300 ⇑*iP* **P** **10 02 26.6 -0.1**
NKC Novy Kostel 46.20 307 *eP* **P** **10 02 28.0 +1.1**
NKC Novy Kostel 46.20 307 *eP* **P** **10 02 28.0 +1.1**
WERN Wernitzgruen 46.24 307 *eP* **P** **10 02 28.1 +0.9**
comp=Z,13nm,1.0s,baz=79,slow=7.8
GUNZ Gunzen 46.25 307 *eP* **P** **10 02 28.1 +0.8**
comp=Z,23nm,0.9s,baz=79,slow=7.8
GUNZ *e*pP **sP** **10 02 40.6 +3.0**
WERD Werda 46.25 307 *eP* **P** **10 02 28.0 +0.7**
comp=Z,22nm,0.9s,baz=79,slow=7.8
PRED Cave del Predi 46.27 301 P **P** **10 02 27.1 -0.4**
KBA Koelnbreinsper 46.27 302 *i P* **P** **10 02 28.3 +0.6**
comp=Z,11nm,0.6s,SNR=5.9
DSRI Dabo 46.28 140 P **P** **10 02 29.8 +2.0**
comp=Z,38nm,1.7s
SABO M.te Sabotino 46.35 301 P **P** **10 02 28.0 -0.1**
SABO IAmb IAmb 10 02 29.2
comp=Z,57nm,0.8s
ROTZ Rotzenmuhle 46.45 306 *eP* **P** **10 02 30.0 +1.2**
comp=Z,5.7nm,1.2s,baz=79,slow=7.8
CUC Castrocucco 46.45 292 P **P** **10 02 29.6 +0.6**
NEUB Neuenburg 46.45 308 *eP* **P** **10 02 29.3 +0.5**
comp=Z,51nm,1.0s,baz=79,slow=7.8
MANZ Manzenberg 46.47 306 *eP* **P** **10 02 30.0 +1.0**
comp=Z,4.4nm,0.9s,baz=79,slow=7.8
RJOB Jochberg 46.48 303 *eP* **P** **10 02 29.6 +0.4**
comp=Z,11nm,0.8s,baz=79,slow=7.8
FLTG Flechtingen 46.59 310 *eP* **P** **10 02 29.9 +0.1**
comp=Z,54nm,1.0s,baz=79,slow=7.8
FLTG *e*pP **sP** **10 02 43.2 +3.4**
MOX Moxa 46.65 307 *eP* **P** **10 02 31.1 +0.7**
comp=Z,30nm,1.1s,baz=79,slow=7.8
MOX *e*L L 10 25 27.3
comp=Z,703nm,18.3s
KONO Kongsberg 46.66 320 P **P** **10 02 30.3 +0.1**
KONO IAmb IAmb 10 02 31.5
comp=Z,26nm,0.8s
KONO Kongsberg 46.66 320 P **P** **10 02 30.3 +0.1**
KONO pmax pmax
comp=Z,26nm,0.8s
KONO Kongsberg 46.66 320 *eP* **P** **10 02 30.8 +0.5**
KONO Kongsberg 46.66 320 P **P** **10 02 30.6 +0.3**
KONO pP **pP** **10 02 34.8 -2.5**
CLUD Cludinico 46.72 302 P **P** **10 02 30.9 -0.1**
CLUD IAmb IAmb 10 02 48.0
comp=Z,17nm,0.8s
DOMB Dombas 46.80 323 *eP* **P** **10 02 31.7 +0.3**
DOMB IAmb IAmb 10 02 32.9
comp=Z,48nm,0.8s
BSEG Bad Segeberg 46.88 312 *eP* **P** **10 02 33.1 +1.0**
comp=Z,84nm,1.2s,baz=79,slow=7.8
STAL STALIGIAL 46.88 301 P **P** **10 02 31.6 -0.7**
STAL IAmb IAmb 10 02 42.6
comp=Z,21nm,0.9s
ABTA Abfaltersbach 46.90 302 *eP* **P** **10 02 32.2 -0.3**
comp=Z,16nm,1.0s
SPITS Spitsbergen Ar 46.91 346 LR LR 10 25 16.9
comp=Z,869nm,19.4s,baz=77,slow=40
CIMO Cimolais 47.05 301 P **P** **10 02 33.4 -0.3**
CIMO IAmb IAmb 10 02 34.5
comp=Z,27nm,0.8s
GRA1 Grafenberg Arr 47.09 306 P **P** **10 02 34.3 +0.5**
GRF Grafenberg Arr 47.09 306 P **P** **10 02 34.3 +0.5**
GRF pmax pmax
comp=Z,52nm,0.9s
GRF Grafenberg Arr 47.09 306 *eP* **P** **10 02 35.3 +1.5**
comp=Z,65nm,1.0s,baz=79,slow=7.8
GRF *e*L L 10 24 15.7
comp=Z,562nm,18.2s
GRFO Grafenberg 47.09 306 P **P** **10 02 34.8 +1.0**
GRFO Grafenberg 47.09 306 P **P** **10 02 34.8 +1.0**
GRFO pmax pmax
comp=Z,54nm,1.0s
UGL Uglegorsk 47.18 55 *eP* P 10 02 22.7 -12
UGL pmax pmax
comp=Z,50nm,0.8s
UGL MLR MLR
comp=Z,2µm,18.0s
UGL MLR MLR
comp=E,1µm,16.0s
UGL MLR MLR
comp=N,2µm,19.0s
TYV Tymovskoe 47.19 52 *eP* P 10 02 39.6 +5.1
TYV *e*S **S** **10 09 34.3 +8.3**
TYV pmax pmax
comp=Z,12nm,0.7s
TYV pmax pmax
comp=Z,200nm,3.2s
TYV smax smax
comp=N,500nm,5.8s
TYV MLR MLR
comp=Z,2µm,13.0s
CLZ Clausthal 47.20 309 *eP* **P** **10 02 35.4 +0.8**
comp=Z,36nm,1.2s,baz=79,slow=7.8
SKAR Skarslia 47.23 321 *eP* **P** **10 02 36.2 +1.4**
SKAR IAmb IAmb 10 02 37.1
comp=Z,30nm,0.7s
NRDL Niedersach Rie 47.24 310 *eP* **P** **10 02 36.0 +1.1**
comp=Z,60nm,1.1s,baz=79,slow=7.8
NRDL *e*pP **sP** **10 02 48.5 +3.6**
GUMA Gualdo di Mace 47.30 297 P **P** **10 02 35.9 +0.2**
GUMA IAmb IAmb 10 04 25.8
comp=Z,141nm,0.4s
HOMB Homborsund 47.34 318 *i P* **P** **10 02 36.0 +0.4**
HOMB Homborsund 47.34 318 *e* **P** **10 02 36.2 +0.6**
WTTA Wattenberg 47.36 303 *i P* **P** **10 02 36.3 +0.2**
comp=Z,54nm,1.2s,SNR=8.0
WATA Walderalm 47.38 303 *i P* **P** **10 02 36.2 -0.1**
comp=Z,23nm,1.0s,SNR=6.2
FUR Furstenfeldbru 47.38 304 *eP* **P** **10 02 37.3 +1.1**
comp=Z,97nm,0.8s,baz=79,slow=7.8
MASI Maura Aman, Be 47.46 144 P **P** **10 02 37.0 0.0**
comp=Z,65nm,1.3s,comp=Z,843nm
AQU L'Aquila 47.46 296 P **P** **10 02 36.8 -0.1**
AQU IAmb IAmb 10 02 39.8
comp=Z,36nm,0.8s
AQU L'Aquila 47.46 296 P **P** **10 02 36.8 -0.1**
AQU pmax pmax
comp=Z,36nm,0.8s
MOL Molde 47.48 324 *eP* **P** **10 02 38.0 +1.4**
MOL IAmb IAmb 10 02 38.6
comp=Z,56nm,0.7s
FDMO Fiordimonte 47.48 297 P **P** **10 02 37.9 +0.9**
GTTG Gottingen 47.50 309 *eP* **P** **10 02 37.9 +0.9**
comp=Z,75nm,0.9s,baz=79,slow=7.8
GTTG *e*pP **sP** **10 02 50.7 +3.3**
RETH Rethem/Aller, 47.65 311 *eP* **P** **10 02 38.8 +0.7**
comp=Z,24nm,1.1s,baz=79,slow=7.8
CTI Castel Tesino 47.65 301 P **P** **10 02 38.1 -0.3**
CTI Castel Tesino 47.65 301 P **P** **10 02 38.1 -0.3**
SQTA Sankt Quirin 47.65 303 *i P* **P** **10 02 38.4 +0.1**
comp=Z,16nm,0.6s,SNR=7.8
INU Inuyama 47.67 74 P **P** **10 02 40.0 +1.5**
MOTA Moosalm 47.69 303 *i P* **P** **10 02 38.6 -0.1**
comp=Z,26nm,0.8s,SNR=7.5
AKN Aaknes 47.76 324 *e* **P** **10 02 39.8 +1.0**
TEOL Teolo 47.82 300 P **P** **10 02 39.0 -0.5**
JGF Kuroka 47.84 73 P **P** **10 02 39.9 +0.1**
JGF IAmb IAmb 10 02 44.5
comp=Z,23nm,0.7s
JGF Kuroka 47.84 73 P **P** **10 02 43.9 +4.0**
RETA Reutte 47.88 303 *i P* **P** **10 02 40.4 +0.3**
comp=Z,25nm,1.1s,SNR=7.7
CESX Cesi 47.97 297 P **P** **10 02 41.2 +0.5**
SNART Snartemo 48.01 318 *i P* **P** **10 02 40.0 -0.8**
SNART Snartemo 48.01 318 *eP* **P** **10 02 41.3 +0.5**
FETA Feichten 48.02 303 *i P* **P** **10 02 41.2 0.0**
comp=Z,17nm,0.8s,SNR=8.2
KKM Kota Kinabalu 48.04 122 P **P** **10 02 43.4 +1.7**
MJB9 Matsu-Tunnel 48.12 72 P **P** **10 02 42.7 +0.7**
MJB9 IAmb IAmb 10 02 47.5
comp=Z,23nm,0.8s
MAJO Matsushiro 48.13 72 P **P** **10 02 41.9 -0.2**
MAJO IAmb IAmb 10 02 46.5

comp=Z,24nm,0.8s
MAJO Matsushiro 48.13 72 P P 10 02 45.8 +3.7
MAJO Matsushiro 48.13 72⇑ eP P 10 02 45.4 +3.3
MAJO pmax pmax
comp=Z,28nm,0.9s
MAJO Matsushiro 48.13 72 P P 10 02 42.0 0.0
MAJO pP P 10 02 45.8 +3.7
MJAR Matsushiro Arr 48.13 72 P P 10 02 42.5 +0.4
comp=Z,22nm,0.8s,baz=293,slow=8.3,SNR=17
MJAR LR LR 10 24 50.8
comp=Z,167nm,19.1s,baz=318,slow=38
comp=Z,22nm,0.8s
ODD1 Odda 48.13 321 *e* **P 10 02 43.0 +1.2**
YSS Yuzh-Sakhalins 48.13 57 P **P 10 02 42.6 +0.7**
YSS Yuzh-Sakhalins 48.13 57 P **P 10 02 45.5 +3.6**
YSS Yuzh-Sakhalins 48.13 57 *eP* **P 10 02 42.7 +0.8**
YSS *eS* **S 10 09 36.7 -2.7**
YSS pmax pmax
comp=Z,40nm,1.2s
YSS MLR MLR
comp=Z,2µm,14.0s
YSS Yuzh-Sakhalins 48.13 57 P **P 10 02 42.6 +0.7**
YSS pP **pP 10 02 46.6 -2.4**
SBUM Sibu 48.20 129 P **P 10 02 43.6 +0.9**
UBR Ueberruh 48.26 304 *eP* **P 10 02 43.6 +0.5**
comp=Z,56nm,0.8s,baz=79,slow=7.8
BLS5 Blasjo 48.27 320 *e* **P 10 02 43.4 +0.5**
FUORN Ofenpass-Fuorn 48.43 302 P **P 10 02 44.4 -0.2**
FUORN IAmb IAmb 10 02 45.6
comp=Z,24nm,0.7s
RAFF Raffo Rosso 48.45 289 P **P 10 02 43.2 -1.4**
DAVA Damuels 48.51 303 *i P* **P 10 02 45.4 +0.4**
comp=Z,62nm,0.6s,SNR=18
LATE Laterza 48.51 297 P **P 10 02 45.4 +0.4**
PPBI Pangkal Pinang 48.52 139 P **P 10 02 45.9 +0.7**
comp=Z,49nm,0.9s
KASTN Kahler Asten 48.52 309 *eP* **P 10 02 45.5 +0.6**
comp=Z,11nm,1.0s,baz=79,slow=7.8
SALO Salr 48.52 301 P **P 10 02 45.1 0.0**
SALO IAmb IAmb 10 02 46.1
comp=Z,38nm,0.8s
STU Stuttgart 48.59 305 P **P 10 02 46.0 +0.6**
STU IAmb IAmb 10 02 47.6
comp=Z,43nm,1.1s
STU Stuttgart 48.59 305 P **P 10 02 46.0 +0.6**
STU pmax pmax
comp=Z,43nm,1.1s
STU Stuttgart 48.59 305 *eP* **P 10 02 46.2 +0.7**
comp=Z,95nm,1.1s,baz=79,slow=7.8
OSSC Osservatorio P 48.63 298 P **P 10 02 46.6 +0.7**
DAVOX Davos/Dischmat 48.64 303 LR LR 10 25 22.2
comp=Z,497nm,18.3s,baz=65,slow=39
IBBN Ibbenburen 48.69 310 *eP* **P 10 02 46.8 +0.6**
comp=Z,52nm,1.1s,baz=79,slow=7.8
TNS Taunus Mts 48.72 307 *eP* **P 10 02 47.1 +0.6**
comp=Z,15nm,0.9s,baz=79,slow=7.8
BER Bergen 48.72 321 *eP* **P 10 02 47.0 +0.7**
ASK Askoy 48.78 321 *eP* **P 10 02 47.3 +0.6**
ASAJ Asahikawa 48.80 61 P **P 10 02 47.5 +0.4**
comp=Z,12nm,0.8s,baz=257,slow=8.8,SNR=8.9
ASAJ LR LR 10 25 38.4
comp=Z,1µm,18.7s,baz=288,slow=39
comp=Z,12nm,0.8s
ASAJ Asahikawa 48.80 61 P **P 10 02 46.6 -0.5**
ASAJ pmax pmax
comp=Z,21nm,0.9s
JKA Kamikawa-asahi 48.80 61 P **P 10 02 46.6 -0.5**
JKA IAmb IAmb 10 02 59.2
comp=Z,21nm,0.9s
VLC Villacollemand 49.03 299 P **P 10 02 48.3 -0.7**
TUE Stuetta 49.08 302 P **P 10 02 49.0 -0.5**
TUE IAmb IAmb 10 02 50.9
comp=Z,18nm,0.7s
BUG Bochum–Univer 49.17 309 *eP* **P 10 02 50.7 +0.8**
comp=Z,55nm,1.3s,baz=79,slow=7.8
BFO Black Forest 49.25 305 P **P 10 02 50.8 +0.2**
BFO IAmb IAmb 10 02 52.1
comp=Z,23nm,1.0s
BFO Black Forest 49.25 305 P **P 10 02 50.8 +0.2**
BFO pmax pmax
comp=Z,23nm,1.0s
BFO Black Forest 49.25 305 P **P 10 02 51.0 +0.4**
BFO Black Forest 49.25 305 *eP* **P 10 02 50.8 +0.2**
comp=Z,21nm,0.8s,baz=79,slow=7.8
AHRW Bad Neuenahr-A 49.50 308 *eP* **P 10 02 53.2 +0.8**
comp=Z,27nm,1.0s,baz=79,slow=7.8
MDSI Maura Dua 49.55 143 P **P 10 02 51.8 -1.3**
comp=Z,11nm,1.0s,comp=Z,2µm
MSSA Maissana 49.58 300 P **P 10 02 53.5 +0.3**
ECH Echery 50.04 305 P **P 10 02 56.7 +0.1**
ECH IAmb IAmb 10 02 58.6
comp=Z,19nm,1.0s
ECH Echery 50.04 305 P **P 10 02 56.7 +0.1**
ECH pmax pmax
comp=Z,19nm,1.0s
ECH Echery 50.04 305 P **P 10 02 56.9 +0.3**
BTNL Ternell 50.07 308 *dP* **P 10 02 57.6 +0.8**
comp=Z,20nm,0.9s
MEM Membach 50.14 308 *dP* **P 10 02 57.7 +0.4**
comp=Z,21nm,0.9s
BHOU Houvegnez 50.21 308 *dP* **P 10 02 59.0 +1.2**
comp=Z,10nm,0.9s
MA2 Magadan 50.21 40 LR LR 10 26 02.7
comp=Z,251nm,18.9s,baz=265,slow=38
MA2 Magadan 50.21 40 P **P 10 02 57.5 -0.2**
MA2 Magadan 50.21 40 P **P 10 03 02.2 +4.6**
MA2 Magadan 50.21 40 *deP* **P 10 02 58.0 +0.4**
MA2 pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 50.21 40 P **P 10 02 57.8 +0.2**
MA2 pP **pP 10 03 02.0 -2.7**
MYLDM Lahad Datu 50.21 120 P **P 10 02 59.9 +1.7**
MYLDM IAmb IAmb 10 03 02.1
comp=Z,46nm,1.1s
WLF Walferdange 50.29 307 P **P 10 02 59.4 +1.0**
WLF IAmb IAmb 10 03 00.6
comp=Z,43nm,0.9s
WLF Walferdange 50.29 307 P **P 10 02 59.4 +1.0**
WLF pmax pmax
comp=Z,43nm,0.9s
WLF Walferdange 50.29 307 *dP* **P 10 02 59.5 +1.0**
comp=Z,30nm,1.0s
WLF Walferdange 50.29 307 *eP* **P 10 02 59.4 +1.0**
comp=Z,59nm,1.1s,baz=79,slow=7.8
SEY Seymchan 50.46 35⇑ *i P* **P 10 03 00.3 +0.8**
SEY pmax pmax
comp=Z,22nm,1.3s
SENIN Lac Senin/Sane 50.47 303 P **P 10 03 00.1 0.0**
BCLA Clavier 50.63 308 *dP* **P 10 03 01.7 +0.8**
comp=Z,9.2nm,1.0s
JHJ Hachijo jima 2 50.66 75 LR LR 10 27 22.4
comp=Z,778nm,18.0s,baz=284,slow=40
RCHB Rochefort 50.74 308 *dP* **P 10 03 02.5 +0.7**
comp=Z,11nm,0.8s
BGES Gesves 50.77 308 *dP* **P 10 03 02.6 +0.6**
comp=Z,11nm,1.0s
BMRD Maredsous 50.99 308 *dP* **P 10 03 04.4 +0.8**
comp=Z,26nm,1.0s
LODK Lodwar 51.15 238 P **P 10 03 06.0 +0.7**
LODK IAmb IAmb 10 03 07.4
comp=Z,20nm,0.9s
DOU Dourbes 51.15 308 *dP* **P 10 03 05.7 +0.9**
comp=Z,20nm,0.9s
SNF Seneffe 51.23 309 *dP* **P 10 03 06.1 +0.7**
comp=Z,19nm,0.8s
BNI Bardonecchia 51.28 301 P **P 10 03 06.6 +0.5**
BNI IAmb IAmb 10 03 12.1
comp=Z,35nm,0.8s
BNI Bardonecchia 51.28 301 P **P 10 03 06.6 +0.5**
BNI pmax pmax
comp=Z,35nm,0.8s
CGJI Cibinong 52.12 142 P **P 10 03 10.7 -1.8**
comp=Z,46nm,0.8s
SSB Saint Sauveur 52.64 302 P **P 10 03 16.2 +0.1**
SSB IAmb IAmb 10 03 17.2
comp=Z,26nm,0.6s
SSB Saint Sauveur 52.64 302 P **P 10 03 16.2 +0.1**
SSB pmax pmax
comp=Z,26nm,0.6s
SSB Saint Sauveur 52.64 302 P **P 10 03 16.6 +0.5**
KEST Kesra 52.76 289 P **P 10 03 17.4 +0.3**
comp=Z,21nm,0.9s,baz=273,slow=1.3,SNR=6.5
KEST LR LR 10 31 06.9
comp=Z,244nm,18.1s,baz=271,slow=42
comp=Z,21nm,0.9s
KEST Kesra 52.76 289 P **P 10 03 17.6 +0.4**
KEST IAmb IAmb 10 03 18.8
comp=Z,22nm,0.8s
ELMS Elmsett, Ipswi 52.78 311 *eP* **P 10 03 16.9 -0.1**
WACR West Acre 52.81 312⇑ *eP* **P 10 03 17.4 +0.2**
WACR IAmb IAmb 10 03 18.7
comp=Z,118nm,0.9s
JMIC Jan Mayen 52.88 336 LR LR 10 25 59.6
comp=Z,232nm,18.6s,baz=78,slow=36
CLF Chambon-Foret 53.23 306 P **P 10 03 20.7 +0.3**
CLF Chambon-Foret 53.23 306 P **P 10 03 20.6 +0.3**
CLF pP **pP 10 03 25.3 -2.4**
LEM Lembang 53.25 140 LR LR 10 30 25.0
comp=Z,262nm,18.7s,baz=310,slow=41
KMBO Kilima Mbogo 53.38 232 P **P 10 03 21.3 -0.8**
comp=Z,0.4nm,0.8s,baz=32,slow=23,SNR=17
KMBO Kilima Mbogo 53.38 232 P **P 10 03 23.1 +0.9**
KMBO IAmb IAmb 10 03 30.4
comp=Z,29nm,1.1s
KMBO Kilima Mbogo 53.38 232 P **P 10 03 23.3 +1.2**
KMBO pP **pP 10 03 27.8 -1.7**
DRUM Mains of Drumt 53.40 318⇑ *eP* **P 10 03 21.7 +0.2**
DRUM IAmb IAmb 10 03 22.5
comp=Z,19nm,0.8s
MCD Coleburn Disti 53.62 319 *eP* **P 10 03 23.6 +0.5**
EDMD Edmundbyers 53.69 315⇑ *eP* **P 10 03 23.6 -0.1**
BIGH Upper Bighouse 53.72 320⇑ *eP* **P 10 03 24.3 +0.6**
ESY Stoneypath 53.74 317⇑ *eP* **P 10 03 23.8 -0.2**
HPK Haverah Park 53.75 314⇑ *eP* **P 10 03 24.2 +0.1**
HPK IAmb IAmb 10 03 25.2
comp=Z,42nm,0.8s
KIBK Kibwezi 53.84 231 P **P 10 03 26.3 +1.0**
KIBK IAmb IAmb 10 03 33.5
comp=Z,27nm,0.8s
LBWR Ladybower, Pea 53.98 314 *eP* **P 10 03 25.6 -0.1**
LBWR IAmb IAmb 10 03 26.7
comp=Z,25nm,0.9s
EKA Eskdalemuir Ar 54.20 316 LR LR 10 29 06.5
comp=Z,762nm,18.8s,baz=71,slow=39
ESK Eskdalemuir 54.23 316 P **P 10 03 27.7 +0.1**
ESK IAmb IAmb 10 03 28.8
comp=Z,30nm,0.9s
ESK Eskdalemuir 54.23 316⇑ *eP* **P 10 03 27.5 -0.1**
ESK IAmb IAmb 10 03 28.5
comp=Z,32nm,1.0s
ESK Eskdalemuir 54.23 316 P **P 10 03 27.7 +0.1**
ESK pmax pmax
comp=Z,30nm,1.0s
ESK Eskdalemuir 54.23 316 P **P 10 03 27.5 -0.1**
ESK pP **pP 10 03 32.1 -2.6**
DAG Danmarks Havn 54.38 344 *i P* **P 10 03 28.0 -0.3**
DAG IAmb IAmb 10 03 33.3
comp=Z,7.5nm,0.7s
KESW Keswick, Cumbr 54.40 315⇑ *eP* **P 10 03 29.1 +0.3**
KESW IAmb IAmb 10 03 30.7
comp=Z,70nm,1.3s
BBKI Banjar Baru 54.45 131 P **P 10 03 31.4 +1.7**
comp=Z,84nm,0.9s,comp=Z,12µm
MPSI Mapaga 54.71 123 P **P 10 03 33.2 +1.6**
comp=Z,47nm,0.9s,comp=Z,5µm
TOLI2 Tolitoli 54.73 122 P **P 10 03 32.8 +1.1**
TOLI2 IAmb IAmb 10 03 34.7
comp=Z,22nm,1.0s
TOLI2 Tolitoli 54.73 122 P **P 10 03 33.1 +1.4**
NEWG New Galloway 54.85 316 *eP* **P 10 03 32.6 +0.5**
NEWG IAmb IAmb 10 03 33.9
comp=Z,23nm,0.8s
SMRI Semarang 54.90 138 P **P 10 03 33.3 +0.4**
HLM1 Long Mynd 54.91 313⇑ *eP* **P 10 03 32.4 -0.2**
HLM1 IAmb IAmb 10 03 33.1
comp=Z,14nm,0.8s
KPL Plockton 54.94 319 *eP* **P 10 03 32.5 -0.1**
FOEL Foel Wylfa 54.98 313 *eP* **P 10 03 32.5 -0.6**
BILL Bilibino 55.06 27 P **P 10 03 34.5 +1.0**
BILL IAmb IAmb 10 03 40.8
comp=Z,35nm,1.1s
BILL Bilibino 55.06 27 *c i P* **P 10 03 33.7 +0.3**
BILL *e* *PP **sP 10 03 46.6 +3.4**
BILL *e* 10 04 31.9
BILL *e* 10 05 37.8
BILL *e* PPP PPP 10 06 51.6
BILL pmax pmax
comp=Z,28nm,0.9s
BILL MLR MLR
comp=Z,637nm,15.0s
BILL Bilibino 55.06 27 P **P 10 03 34.4 +1.0**
BILL pP **pP 10 03 38.3 -2.3**
MONM Monmouth 55.09 312 *eP* **P 10 03 33.2 -0.7**
MONM IAmb IAmb 10 03 35.2
comp=Z,47nm,1.1s
LAWE Loch Awe, Argy 55.13 318⇑ *eP* **P 10 03 34.3 +0.3**
LAWE IAmb IAmb 10 03 35.6
comp=Z,27nm,0.8s
MCH1 Michaelchurch 55.15 312⇑ *eP* **P 10 03 34.5 +0.2**
MCH1 IAmb IAmb 10 03 35.1
comp=Z,94nm,0.8s
GAL1 Galloway 55.20 316⇑ *eP* **P 10 03 34.7 +0.2**
GAL1 IAmb IAmb 10 03 35.7
comp=Z,20nm,0.9s
JCJ Chichijima 55.24 81 LR LR 10 31 06.3
comp=Z,314nm,19.0s,baz=127,slow=40
LLW Llanuwchllyn 55.26 313⇑ *eP* **P 10 03 35.4 +0.4**
IOMK Kirk Michael 55.31 315⇑ *eP* **P 10 03 35.8 +0.4**
IOMK IAmb IAmb 10 03 36.7
comp=Z,62nm,0.7s
WIM Isle of Man 55.41 315 *eP* **P 10 03 36.6 +0.5**
YLL Llanberis 55.45 314⇑ *eP* **P 10 03 36.2 -0.2**
DBG Daneborg 55.47 341 *eP* **P 10 03 38.7 +2.4**
DBG IAmb IAmb 10 03 42.2
comp=Z,2.1nm,0.7s
WLF1 Llynfaes 55.53 314 *eP* **P 10 03 38.0 +1.0**
WLF1 IAmb IAmb 10 03 39.0
comp=Z,71nm,1.1s
PETK Petropavlovsk- 55.57 46 P **P 10 03 37.8 +0.5**
comp=Z,3.0nm,0.8s,baz=274,slow=3.4,SNR=2.7
PETK LR LR 10 29 33.1
comp=Z,782nm,19.3s,baz=285,slow=38
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 55.57 46 P **P 10 03 37.5 +0.2**
PETK Petropavlovsk- 55.57 46 P **P 10 03 37.5 +0.2**
LPW Lampeter 55.74 313⇑ *eP* **P 10 03 38.8 +0.3**
MRSI Marisa 55.98 121 P **P 10 03 42.2 +1.5**
comp=Z,110nm,0.9s,comp=Z,968nm
PET Petropavlovsk 56.14 46 *eP* **P 10 03 41.8 +0.4**
PET *eS* **S 10 11 32.6 +3.5**
PET *eSS* **SS 10 15 12.1 -2.9**
PET pmax pmax
comp=Z,35nm,1.1s
PET MLR MLR
comp=Z,1µm,14.0s
PET MLR MLR
comp=Z,900nm,17.0s
RSBS Rosebush, Pemb 56.19 313 *eP* **P 10 03 41.8 +0.1**
RSBS IAmb IAmb 10 03 42.5
comp=Z,47nm,1.2s
GTOI Gorontalo 56.59 120 P **P 10 03 44.9 -0.1**
comp=Z,22nm,0.9s,comp=Z,246nm
DSB Dublin 56.66 314 P **P 10 03 44.6 -0.5**
BLJI Banyuglugur 57.20 135 P **P 10 03 49.1 -0.2**
comp=Z,98nm,0.7s,comp=Z,4µm
MBAR Mbarara 57.21 239 LR LR 10 30 52.9
comp=Z,472nm,19.3s,baz=20,slow=39
MBAR Mbarara 57.21 239 P **P 10 03 49.8 +0.1**
MBAR IAmb IAmb 10 03 50.6
comp=Z,28nm,0.8s
MBAR Mbarara 57.21 239 P **P 10 03 49.8 +0.1**
MBAR pmax pmax
comp=Z,28nm,0.8s
MBAR Mbarara 57.21 239 P **P 10 03 49.7 0.0**
MBAR pP **pP 10 03 54.5 -2.6**
SCO Scoresbysund 57.29 337 P **P 10 03 49.5 +0.2**
SCO Scoresbysund 57.29 337 *eP* **P 10 03 49.3 0.0**
SCO IAmb IAmb 10 03 59.0
comp=Z,2.2nm,0.6s
SCO Scoresbysund 57.29 337 P **P 10 03 49.5 +0.2**
SCO pmax pmax
comp=Z,19nm,1.5s
ALE Alert 57.83 354 P **P 10 03 53.6 +0.6**
ALE pP **pP 10 03 57.5 -2.9**
KAPI Kappang 58.68 127 LR LR 10 32 22.6
comp=Z,144nm,21.6s,baz=312,slow=39
KAPI Kappang 58.68 127 P **P 10 03 59.7 0.0**
KAPI IAmb IAmb 10 03 60.0
comp=Z,16nm,1.0s
KAPI Kappang 58.68 127 P **P 10 03 59.7 0.0**
KAPI pmax pmax
comp=Z,16nm,1.0s
BORG Borgarnes 59.38 330 LR LR 10 29 40.3
comp=Z,271nm,18.6s,baz=50,slow=36
NEEM North Greenlan 60.30 349 *i P* **P 10 04 10.4 -0.1**
NEEM IAmb IAmb 10 04 14.8
comp=Z,21nm,0.7s
SANI Sanana 60.57 120 P **P 10 04 13.4 +0.6**
SANI Sanana 60.57 120 P **P 10 04 13.4 +0.6**
comp=Z,64nm,1.0s,comp=Z,950nm
ESDC Sonseca Array 60.62 299 P **P 10 04 12.7 -0.3**
comp=Z,5.9nm,0.6s,baz=56,slow=7.3,SNR=38
ESDC LR LR 10 33 21.3
comp=Z,190nm,18.9s,baz=62,slow=39
comp=Z,5.9nm,0.6s
ESDC Sonseca Array 60.62 299 P **P 10 04 12.7 -0.3**
SUMG Summit 60.89 342 *i P* **P 10 04 14.2 -0.5**
SUMG IAmb IAmb 10 04 20.8
comp=Z,6.6nm,1.0s
SOEG Soedalen 61.31 336 *i P* **P 10 04 19.2 +2.2**
PBRG Braganca 61.54 302 *eP* **P 10 04 19.3 +0.1**
EUNU Eureka 61.61 357 P **P 10 04 19.2 +0.1**
MVO Moncorvo 62.02 302 *eP* **P 10 04 23.4 +0.9**
comp=Z,41nm,1.6s
PCAB Cabril 62.44 303 *eP* **P 10 04 26.1 +0.9**
comp=Z,47nm,1.8s
POLO Lamas de Olo 62.44 302 *eP* **P 10 04 25.2 -0.1**
PGAV Gavieira, Arco 62.48 303 *eP* **P 10 04 26.6 +1.1**
comp=Z,57nm,1.6s
PVIS Viseu 62.81 302 *eP* **P 10 04 28.6 +0.9**
OPO Ambohidratompo 62.90 212 LR LR 10 31 29.7
comp=Z,126nm,18.2s,baz=166,slow=36
PCBR Castelo Branco 62.95 301 *eP* **P 10 04 28.9 +0.4**
PMRV Marv??o 63.08 300 *eP* **P 10 04 30.1 +0.6**
ABPO Ambohimpanom 63.28 211 P **P 10 04 31.9 +0.8**
ICESG Greenland Ices 63.30 339 *i P* **P 10 04 31.6 +0.8**
ICESG IAmb IAmb 10 04 35.5
comp=Z,16nm,0.6s
SIJI Sorong 63.44 114 LR LR 10 32 59.5
comp=Z,72nm,21.6s,baz=354,slow=37
PBAR Barrancos 63.44 299 *eP* **P 10 04 31.8 -0.1**
TULEG Thule 63.48 351 P **P 10 04 31.9 +0.4**
TULEG pP **pP 10 04 35.2 -3.6**
TULEG IAmb IAmb 10 04 36.5
comp=Z,44nm,1.8s
PMTG Montargil 63.82 300 *eP* **P 10 04 34.6 +0.2**
PBEJ Beja 64.09 299 *eP* **P 10 04 36.6 +0.5**
comp=Z,24nm,1.5s
PVAQ Vaqueiros 64.29 298 *eP* **P 10 04 38.0 +0.6**
MDT Midelt 64.36 293 P **P 10 04 38.0 -0.1**
comp=Z,3.5nm,0.9s,baz=80,slow=5.8,SNR=2.2
MDT LR LR 10 36 50.9
comp=Z,100nm,18.2s,baz=2.0,slow=40
comp=Z,3.5nm,0.9s
PCVE Castro Verde 64.40 299 *eP* **P 10 04 38.3 +0.1**
comp=Z,34nm,1.9s
MESJ Messejana 64.42 299 *eP* **P 10 04 39.0 +0.7**
comp=Z,53nm,1.6s
GUMO Guam 64.64 92 LR LR 10 34 04.3
comp=Z,124nm,20.6s,baz=294,slow=37
SHEM Shemya Is, Ala 64.73 42 LR LR 10 35 42.3
comp=Z,372nm,18.4s,baz=296,slow=39
GAMB Gambell 64.99 27 P **P 10 04 41.6 +0.1**
baz=306
BATI Baumata 65.13 127 LR LR 10 37 41.4
comp=Z,202nm,19.6s,baz=320,slow=40
SOEI Soe 65.16 127 P **P 10 04 42.7 -0.8**
SOEI Soe 65.16 127 P **P 10 04 43.0 -0.5**
SOEI Soe 65.16 127 P **P 10 04 43.5 0.0**
comp=Z,68nm,0.7s
TNA Tin City 65.20 24 P **P 10 04 44.5 +1.6**
TNA IAmb IAmb 10 04 50.7
comp=Z,30nm,1.1s
TNA Tin City 65.20 24 P **P 10 04 42.8 -0.1**
baz=308,SNR=8.5
VOI Vohitsoka 66.05 210 P **P 10 04 49.7 +0.7**
VOI IAmb IAmb 10 04 53.3
comp=Z,39nm,0.9s
VOI Vohitsoka 66.05 210 P **P 10 04 50.6 +1.6**
ANM Nome 66.67 25 P **P 10 04 54.2 +1.8**
ANM IAmb IAmb 10 04 60.0
comp=Z,20nm,1.0s
ANM Nome 66.67 25 P **P 10 04 52.0 -0.4**
baz=311,SNR=17
ANM Nome 66.67 25 P **P 10 04 54.2 +1.8**
ANM pmax pmax
comp=Z,20nm,1.0s
RES Resolute Bay 67.26 358 P **P 10 04 55.9 0.0**
comp=Z,2.8nm,0.7s,baz=30,slow=7.2,SNR=7.6
RES LR LR 10 37 35.3
comp=Z,339nm,18.7s,baz=6.0,slow=39
comp=Z,2.8nm,0.7s
RES Resolute Bay 67.26 358 P **P 10 04 56.1 +0.2**
C24K Franklin Bluff 67.41 16 P **P 10 04 55.2 -1.7**
baz=323
D23K Nanushuk River 67.57 17 P **P 10 04 57.4 -0.6**
baz=321
SFJD Kangerlussuaq 67.75 340 P **P 10 04 59.0 -0.2**
comp=Z,8.8nm,0.8s,baz=157,slow=20,SNR=3.1
comp=Z,8.8nm,0.8s
SFJD Kangerlussuaq 67.75 340 P **P 10 04 59.8 +0.6**
SFJD Kangerlussuaq 67.75 340 P **P 10 04 59.0 -0.2**
E22K Anaktuvuk Pass 67.95 18 P **P 10 04 59.8 -0.7**
baz=321
C26K Camden Bay 68.01 14 P **P 10 05 00.2 -0.6**
baz=326
F21K Alatna River 68.24 19 P **P 10 05 01.1 -1.2**
baz=319
SAUI Saumlaki 68.48 120 P **P 10 05 06.2 +1.7**
SAUI Saumlaki 68.48 120 P **P 10 05 06.5 +2.0**
SAUI Saumlaki 68.48 120 P **P 10 05 06.8 +2.3**
comp=Z,246nm,1.1s
C27K Jago River 68.49 14 P **P 10 05 02.4 -1.4**
baz=327
E23K Chandalar 68.53 17 P **P 10 05 03.8 -0.4**
baz=322
E24K Your Creek 68.77 17 P **P 10 05 05.3 -0.3**
baz=323
G21K Allakaket 68.78 19 P **P 10 05 05.6 -0.1**
baz=320
A36M Sachs Harbour 69.03 7 P **P 10 05 07.5 +0.4**
A36M Sachs Harbour 69.03 7 P **P 10 05 06.5 -0.6**
baz=342,SNR=11
COLD Coldfoot 69.05 18 P **P 10 05 08.2 +0.9**
COLD Coldfoot 69.05 18 P **P 10 05 07.2 -0.1**
baz=322,SNR=20
IMAR Indian Mountai 69.12 20 P **P 10 05 08.5 +0.7**
GCSA Galena City Sc 69.18 22 P **P 10 05 07.3 -0.8**
baz=317,SNR=6.4
F24K Squaw Lake 69.36 17 P **P 10 05 09.0 -0.3**
baz=324
E25K Arctic Village 69.37 16 P **P 10 05 09.0 -0.3**
baz=326
G23K Bananza Creek 69.50 18 P **P 10 05 09.7 -0.5**
baz=322
H21K Melozitna Rive 69.62 20 P **P 10 05 11.2 +0.3**
baz=320
F25K Christian Rive 69.79 16 P **P 10 05 12.2 +0.2**
baz=326
LSZ Lusaka 69.95 230 LR LR 10 37 34.7
comp=Z,290nm,19.5s,baz=31,slow=37
LSZ Lusaka 69.95 230 P **P 10 05 14.0 +0.3**
LSZ IAmb IAmb 10 05 15.5
comp=Z,39nm,1.0s
LSZ Lusaka 69.95 230 *eP* **P 10 05 13.8 +0.1**
LSZ IAmb IAmb 10 05 15.1
comp=Z,356nm,1.0s
LSZ Lusaka 69.95 230 P **P 10 05 14.0 +0.3**
LSZ pmax pmax
comp=Z,39nm,1.0s
F26K Sheenjek River 70.03 15 P **P 10 05 13.5 +0.1**
baz=327
G24K Hadweenzic Riv 70.11 17 P **P 10 05 14.6 +0.7**
baz=324
E27K Coleen River 70.12 14 P **P 10 05 14.0 +0.1**
baz=329
BMAR Burnt Mountain 70.16 16 P **P 10 05 14.3 +0.1**
I21K Tanana 70.21 20 P **P 10 05 15.1 +0.7**
I21K Tanana 70.21 20 P **P 10 05 14.4 -0.1**
baz=321
TORD Torodi Ar. Bea 70.24 271 P **P 10 05 14.7 -0.8**
comp=Z,14nm,0.6s,baz=40,slow=3.7,SNR=17
comp=Z,14nm,0.6s
TORD Torodi Ar. Bea 70.24 271 P **P 10 05 14.7 -0.8**
TORD IAmb IAmb 10 05 15.8
comp=Z,17nm,0.9s
MLY Manley 70.65 19 P **P 10 05 18.4 +1.1**

MLY Manley 70.65 19 P **P** 10 05 16.9 -0.4
baz=322,SNR=5.6
H24K Noodor Dome 70.72 18 P **P** 10 05 17.3 -0.4
H24K IAmb IAmb 10 05 29.6
comp=Z,38nm,1.9s
H24K Noodor Dome 70.72 18 P **P** 10 05 17.5 -0.2
baz=324
G26K Porcupine Rive 70.73 16 P **P** 10 05 17.8 +0.2
baz=327
FYU Fort Yukon 70.74 16 P **P** 10 05 17.1 -0.6
FYU IAmb IAmb 10 07 01.4
comp=Z,57nm,1.7s
TTA Tatalina 70.79 23 P **P** 10 05 18.0 -0.2
baz=318
K20K Telida 71.04 22 P **P** 10 05 19.0 -0.6
K20K IAmb IAmb 10 05 25.6
comp=Z,20nm,0.8s
K20K Telida 71.04 22 P **P** 10 05 20.7 +1.0
baz=320,SNR=7.7
CHUM Lake Minchumin 71.13 21 P **P** 10 05 20.1 -0.1
baz=321
G27K Doyon Strip 71.30 15 P **P** 10 05 21.2 0.0
baz=329
BPAW Bear Paw Mtn. 71.33 20 P **P** 10 05 22.0 +0.7
BPAW IAmb IAmb 10 05 28.2
comp=Z,24nm,1.2s
BPAW Bear Paw Mtn. 71.33 20 P **P** 10 05 21.8 +0.4
baz=322,SNR=6.5
MDM Murphy Dome 71.35 18 P **P** 10 05 20.4 -1.1
POKR Poker Plat Res 71.42 18 P **P** 10 05 21.8 -0.1
baz=325
INK Inuvik 71.43 11 P **P** 10 05 21.9 +0.1
INK pP **pP** 10 05 26.0 -3.1
INK Inuvik 71.43 11 P **P** 10 05 21.7 -0.1
baz=335,SNR=17
INK Inuvik 71.43 11 P **P** 10 05 21.9 +0.1
INK *PP **pP** 10 05 26.0 -3.1
INK pmax pmax
comp=Z,13nm,0.9s
NEA2 Nenana 71.44 19 P **P** 10 05 21.4 -0.5
NEA2 Nenana 71.44 19 P **P** 10 05 21.5 -0.5
baz=324
TCOL CIGO, UAF Yank 71.51 18 P **P** 10 05 22.8 +0.4
TCOL CIGO, UAF Yank 71.51 18 P **P** 10 05 23.1 +0.7
baz=324
CAST Castle Rocks 71.56 21 P **P** 10 05 22.2 -0.5
CAST IAmb IAmb 10 05 30.2
comp=Z,29nm,1.0s
CAST Castle Rocks 71.56 21 P **P** 10 05 23.6 +0.8
baz=321,SNR=21
MBWA Marble Bar 71.56 138 P **P** 10 05 22.9 -0.3
MBWA IAmb IAmb 10 05 24.6
comp=Z,28nm,0.9s
MBWA Marble Bar 71.56 138 P **P** 10 05 24.2 +1.0
MBWA Marble Bar 71.56 138 P **P** 10 05 23.4 +0.1
BWN Browne 71.67 19 P **P** 10 05 22.0 -1.4
BWN IAmb IAmb 10 05 28.7
comp=Z,41nm,1.1s
C36M Paulatuk 71.68 8 P **P** 10 05 22.8 -0.6
C36M IAmb IAmb 10 05 27.2
comp=Z,14nm,0.7s
C36M Paulatuk 71.68 8 P **P** 10 05 22.9 -0.4
baz=343,SNR=26
L19K White Mountain 71.70 23 P **P** 10 05 24.7 +1.0
baz=320
CCB Clear Creek Bu 71.71 19 P **P** 10 05 23.9 +0.2
N16K Nishlik Lake 71.72 25 P **P** 10 05 24.7 +0.8
baz=317
L20K Farewell, AK 71.77 22 P **P** 10 05 24.9 +0.8
baz=320
KTH Kantishna Hill 71.78 20 P **P** 10 05 22.9 -1.2
KTH IAmb IAmb 10 05 37.2
comp=Z,32nm,1.0s
H27K Steamboat Moun 71.82 15 P **P** 10 05 23.8 -0.6
baz=329
IL31 71.84 18 P **P** 10 05 23.0 -1.3
ILAR Eielson Array 71.84 18 P **P** 10 05 23.6 -0.8
comp=Z,2.8nm,0.9s,baz=320,slow=4.2,SNR=21
ILAR LR LR 10 41 16.4
comp=Z,527nm,19.6s,baz=294,slow=40
comp=Z,2.8nm,0.9s
PPLA Purkeypile 71.94 21 P **P** 10 05 24.7 -0.5
PPLA IAmb IAmb 10 05 30.6
comp=Z,23nm,1.0s
PPLA Purkeypile 71.94 21 P **P** 10 05 25.5 +0.3
baz=322
PSA00 Pilbara Seismi 71.96 138 P **P** 10 05 25.5 -0.2
PSA00 IAmb IAmb 10 05 27.3
comp=Z,42nm,0.9s
PSA00 Pilbara Seismi 71.96 138 P **P** 10 05 25.9 +0.3
TRF Thorofare Moun 72.03 20 P **P** 10 05 26.8 +1.0
baz=323
HDA Harding Lake 72.12 18 P **P** 10 05 27.1 +1.0
baz=325
MCK McKinley 72.17 20 P **P** 10 05 26.7 +0.3
MCK McKinley 72.17 20 P **P** 10 05 27.0 +0.6
baz=324
MCK McKinley 72.17 20 P **P** 10 05 26.7 +0.3
MCK pmax pmax
comp=Z,9.0nm,0.9s
G30M tAoh Zraii Nji 72.18 13 P **P** 10 05 26.5 0.0
baz=333
F31M Tsiigehtchic 72.18 12 P **P** 10 05 25.7 -0.7
baz=335,SNR=6.3
I27K Kandik River 72.34 16 P **P** 10 05 26.5 -1.0
baz=329
FITZ Fitzroy Crossi 72.44 131 P **P** 10 05 28.8 +0.3
FITZ Fitzroy Crossi 72.44 131 P **P** 10 05 29.1 +0.6
M20K Styx River 72.46 22 P **P** 10 05 28.2 0.0
baz=321
KNRA Kununurra 72.49 127 P **P** 10 05 29.0 +0.1
KNRA IAmb IAmb 10 05 30.4
comp=Z,43nm,0.9s
KNRA Kununurra 72.49 127 P **P** 10 05 29.5 +0.6
O16K Kokwok River B 72.60 26 P **P** 10 05 29.9 +0.9
baz=318
O17K Koliganek Bris 72.81 25 P **P** 10 05 30.2 -0.1
baz=318
SKT Skwentna 72.85 22 P **P** 10 05 30.1 -0.4
SKT IAmb IAmb 10 05 35.8
comp=Z,26nm,1.0s
SKT Skwentna 72.85 22 P **P** 10 05 30.8 +0.2
baz=322,SNR=7.1
J26L Joseph Creek 72.85 17 P **P** 10 05 30.0 -0.6
J26L Joseph Creek 72.85 17 P **P** 10 05 31.1 +0.5
baz=328
N19K Bonanza Creek 72.87 24 P **P** 10 05 31.5 +0.7
baz=320
CUT Chulitna 72.87 21 P **P** 10 05 30.5 -0.1
baz=323
K24K Donnelly Dome 72.91 18 P **P** 10 05 31.3 +0.4
baz=326
WAT1 Susitna Watana 73.00 20 P **P** 10 05 31.6 +0.2
baz=324
P16K Nushagak River 73.06 26 P **P** 10 05 31.8 +0.1
baz=318
DHY Denali Highway 73.11 19 P **P** 10 05 31.9 -0.3
DHY Denali Highway 73.11 19 P **P** 10 05 31.7 -0.5
baz=325
EGAK Eagle 73.15 16 P **P** 10 05 32.7 +0.4
baz=330
RIDG Independent Ri 73.19 18 P **P** 10 05 33.9 +1.3
RIDG IAmb IAmb 10 06 05.4
comp=Z,21nm,1.1s
RIDG Independent Ri 73.19 18 P **P** 10 05 32.5 0.0
baz=327
SCRK Sand Creek 73.20 17 P **P** 10 05 32.1 -0.6
SCRK Sand Creek 73.20 17 P **P** 10 05 32.8 +0.1
baz=328
I29M Ogilvie Camp, 73.23 15 P **P** 10 05 32.4 -0.4
I29M Ogilvie Camp, 73.23 15 P **P** 10 05 32.9 +0.2
baz=332
SPCR Spurr Chakacha 73.27 22 P **P** 10 05 33.0 0.0
baz=322
O18K Koktuh Hills 73.37 24 P **P** 10 05 34.6 +1.0
baz=320
O19K Port Alsworth 73.40 24 P **P** 10 05 34.0 +0.3
baz=320
WAT6 Susitna Watana 73.42 20 P **P** 10 05 33.7 -0.3
baz=325
M22K Willow 73.44 21 P **P** 10 05 34.7 +0.8
M22K IAmb IAmb 10 05 47.2
comp=Z,57nm,1.1s
M22K Willow 73.44 21 P **P** 10 05 34.0 +0.1
baz=323
P17K Kvichak River 73.46 25 P **P** 10 05 34.6 +0.5
baz=319
SUA Susitna One 73.49 22 P **P** 10 05 35.1 +0.7
SUA Susitna One 73.49 22 P **P** 10 05 34.7 +0.3
baz=323
PAX Paxson 73.69 19 P **P** 10 05 34.3 -1.2
PAX Paxson 73.69 19 P **P** 10 05 35.8 +0.3
baz=327
PAX Paxson 73.69 19 P **P** 10 05 34.3 -1.2
PAX pmax pmax
comp=Z,23nm,1.3s
P18K Big Mountain, 73.72 25 P **P** 10 05 36.1 +0.4
P18K IAmb IAmb 10 05 43.6
comp=Z,43nm,1.1s
P18K Big Mountain, 73.72 25 P **P** 10 05 36.3 +0.6
baz=320
GHO Glory Hole Cre 73.76 21 P **P** 10 05 35.7 -0.3
GHO IAmb IAmb 10 05 54.9
comp=Z,22nm,0.9s
Q16K King Salmon 73.78 26 P **P** 10 05 37.3 +1.3
baz=319
PMR Palmer 73.85 21 P **P** 10 05 36.6 +0.3
PMR Palmer 73.85 21 P **P** 10 05 36.8 +0.5
baz=324
PMR Palmer 73.85 21 P **P** 10 05 36.6 +0.3
PMR pmax pmax
comp=Z,13nm,0.9s
SML Sawmill 73.89 20 P **P** 10 05 37.2 +0.4
SML IAmb IAmb 10 05 49.5
comp=Z,30nm,0.9s
SML Sawmill 73.89 20 P **P** 10 05 38.0 +1.3
baz=325
M23K Glacier View 74.07 20 P **P** 10 05 37.4 -0.4
baz=325
RC01 Rabbit Creek A 74.08 21 P **P** 10 05 37.2 -0.6
RC01 IAmb IAmb 10 05 43.3
comp=Z,56nm,1.5s
RC01 Rabbit Creek A 74.08 21 P **P** 10 05 37.8 +0.1
baz=324
SCM Sheep Creek Mo 74.15 20 P **P** 10 05 38.4 +0.2
SCM IAmb IAmb 10 05 50.9
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 74.15 20 P **P** 10 05 37.6 -0.6
baz=325
SCM Sheep Creek Mo 74.15 20 P **P** 10 05 38.4 +0.2
SCM pmax pmax
comp=Z,17nm,0.8s
DAWY Dawson 74.15 16 P **P** 10 05 37.3 -0.9
DAWY Dawson 74.15 16 P **P** 10 05 38.2 0.0
baz=331
KNK Knik Glacier 74.18 21 P **P** 10 05 38.9 +0.6
KNK Knik Glacier 74.18 21 P **P** 10 05 39.0 +0.6
baz=325
M24K Tolsona, Glenn 74.23 19 P **P** 10 05 39.3 +0.6
M24K IAmb IAmb 10 05 46.1
comp=Z,54nm,1.1s
M24K Tolsona, Glenn 74.23 19 P **P** 10 05 38.8 +0.2
baz=326
HARP HAARP 74.25 19 P **P** 10 05 39.7 +1.0
baz=327
Q17K Contact Creek 74.36 26 P **P** 10 05 38.5 -1.0
baz=320
Q18K Katmai Hardscr 74.36 25 P **P** 10 05 38.9 -0.6
baz=320
L27K Beaver Creek, 74.49 17 P **P** 10 05 38.6 -1.6
baz=330
BCAR Beaver Creek A 74.50 17 P **P** 10 05 40.1 -0.1
MUSN Musina, Limpop 74.50 224 *eP* **P** 10 05 41.2 +0.5
MUSN IAmb IAmb 10 05 48.8
comp=Z,157nm,2.4s
MOPA Mopani 74.66 223 *eP* **P** 10 05 41.2 -0.3
MOPA IAmb IAmb 10 05 43.9
comp=Z,18nm,1.1s
FRB Frobisher Bay 74.70 345 P **P** 10 05 40.2 -1.1
comp=Z,2.5nm,0.7s,baz=47,slow=5.8,SNR=6.6
comp=Z,2.5nm,0.7s
M26K Nabesna, AK 74.78 18 P **P** 10 05 39.9 -2.0
baz=329
N25K Chitina, Valde 75.06 19 P **P** 10 05 44.0 +0.4
N25K IAmb IAmb 10 06 25.4
comp=Z,29nm,1.4s
N25K Chitina, Valde 75.06 19 P **P** 10 05 43.6 +0.1
baz=328
M27K Edge Creek, AK 75.09 18 P **P** 10 05 44.2 +0.4
baz=330
Q20K Shuyak Island 75.25 24 P **P** 10 05 44.4 -0.1
baz=322
L29M L29M 75.27 16 P **P** 10 05 44.2 -0.4
baz=332
MAYO Mayo, Yukon 75.29 14 P **P** 10 05 43.9 -0.8
baz=334
MEEK Meekatharra 75.53 142 P **P** 10 05 46.8 +0.3
BMRM Bremner River 75.59 19 P **P** 10 05 45.6 -0.9
baz=328
P23K Montague Islan 75.64 21 P **P** 10 05 46.8 +0.1
baz=326
M29M Somme Creek 75.79 16 P **P** 10 05 47.8 +0.1
baz=332
KDAK Kodiak Island 75.84 25 LR LR 10 42 19.6
comp=Z,596nm,19.1s,baz=351,slow=38
KDAK Kodiak Island 75.84 25 P **P** 10 05 47.5 -0.5
baz=322
M30M Minto, Yukon 76.02 15 P **P** 10 05 48.4 -0.6
baz=334
SII Sitkinak Islan 76.26 26 P **P** 10 05 49.3 -1.1
baz=321
MORW Morawa 76.38 145 P **P** 10 05 51.0 -0.2
MORW IAmb IAmb 10 05 52.6
comp=Z,35nm,1.0s
MORW Morawa 76.38 145 P **P** 10 05 51.9 +0.6
M31M Drury Creek, Y 76.85 14 P **P** 10 05 53.6 0.0
baz=335
LEPH Lephalale, Lim 76.89 225 *eP* **P** 10 05 54.0 -0.4
LEPH IAmb IAmb 10 05 55.8
comp=Z,23nm,1.0s
FARO Faro, Yukon 77.02 14 P **P** 10 05 53.3 -1.4
baz=336
N31M Braeburn, Yuko 77.22 15 P **P** 10 05 55.9 +0.1
baz=334
HYT Haines Junctio 77.44 16 P **P** 10 05 56.7 -0.4
baz=333
WRGLY Wrigley 77.64 9 P **P** 10 05 58.2 +0.2
baz=344
O30N Mendenhall 77.80 16 P **P** 10 05 58.7 -0.3
baz=334
BLDU Ballidu 78.00 145 P **P** 10 06 00.3 0.0
NWCL Newcastle 78.86 221 *eP* **P** 10 06 04.3 -1.0
NWCL IAmb IAmb 10 06 14.6
comp=Z,18nm,1.0s
MUN Mundaring 78.94 147 P **P** 10 06 05.8 +0.3
KSR Koster 78.97 225 *eP* **P** 10 06 05.5 -0.5
KSR IAmb IAmb 10 06 26.0
comp=Z,31nm,0.4s
P33M Teslin, Yukon 78.98 15 P **P** 10 06 04.7 -0.9
P33M Teslin, Yukon 78.98 15 P **P** 10 06 05.6 0.0
baz=337
LBTB Lobatse 79.04 226 LR LR 10 44 21.0
comp=Z,124nm,18.3s,baz=27,slow=38
LBTB Lobatse 79.04 226 P **P** 10 06 06.8 +0.5
LBTB IAmb IAmb 10 06 15.1
comp=Z,39nm,1.1s
LBTB Lobatse 79.04 226 *eP* **P** 10 06 07.1 +0.8
LBTB IAmb IAmb 10 06 14.4
comp=Z,27nm,0.8s
LBTB Lobatse 79.04 226 P **P** 10 06 06.8 +0.5
LBTB pmax pmax
comp=Z,39nm,1.1s
WB0 Warramunga Arr 79.09 126 P **P** 10 06 06.5 -0.2
WB0 IAmb IAmb 10 06 07.6
comp=Z,27nm,1.1s
WRA Warramunga Arr 79.19 126 P **P** 10 06 07.1 0.0
comp=Z,14nm,0.9s,baz=328,slow=5.5,SNR=88
WRA PKKPbc **PKKPbc** 10 24 56.8 -1.1
comp=Z,0.4nm,0.7s,baz=132,slow=2.4,SNR=5.1
WRA LR LR 10 46 26.1
comp=Z,74nm,18.7s,baz=300,slow=40
comp=Z,14nm,0.9s
WRA Warramunga Arr 79.19 126 P **P** 10 06 06.7 -0.5
WRA Warramunga Arr 79.19 126 P **P** 10 06 06.7 -0.5
WRA pmax pmax
comp=Z,1.0nm,1.5s
WRAB Tennant Creek 79.19 126 P **P** 10 06 07.2 +0.1
WRAB Tennant Creek 79.19 126 P **P** 10 06 07.2 +0.1
WRAB Tennant Creek 79.19 126 *c i* P **P** 10 06 07.0 -0.1
WRAB pmax pmax
comp=Z,23nm,1.2s
WB2 Warramunga Arr 79.19 126 P **P** 10 06 07.2 0.0
YKA Yellowknife Ar 79.24 5 P **P** 10 06 06.6 -0.3
comp=Z,5.1nm,0.6s,baz=344,slow=5.5,SNR=47
YKA PKKPbc **PKKPbc** 10 24 55.4 -1.8
comp=Z,0.3nm,0.8s,baz=167,slow=2.7,SNR=5.6
YKA LR LR 10 45 50.0
comp=Z,285nm,18.1s,baz=320,slow=39
comp=Z,5.1nm,0.6s
YKA Yellowknife Ar 79.24 5 P **P** 10 06 06.5 -0.4
DBIC Dimbokro 79.26 270 P **P** 10 06 07.3 -0.4
comp=Z,26nm,0.8s,baz=55,slow=6.2,SNR=33
DBIC LR LR 10 45 30.0
comp=Z,463nm,18.3s,baz=56,slow=39
comp=Z,26nm,0.8s
DBIC Dimbokro 79.26 270 P **P** 10 06 07.4 -0.4
DBIC IAmb IAmb 10 06 08.6
comp=Z,32nm,0.9s
DBIC Dimbokro 79.26 270 *eP* **P** 10 06 07.0 -0.7
DBIC IAmb IAmb 10 06 08.3
comp=Z,32nm,0.9s
KLBR Kellerberrin 79.30 145 P **P** 10 06 07.7 +0.2
WR0 Warramunga Arr 79.33 126 P **P** 10 06 07.8 -0.1
WR0 IAmb IAmb 10 06 08.8
comp=Z,25nm,1.1s
WRKA Warakurna 79.37 134 P **P** 10 06 08.6 +0.5
PRYS Parys 79.56 224 *eP* **P** 10 06 08.4 -0.8
PRYS IAmb IAmb 10 06 10.0
comp=Z,281nm,3.6s
TSUM Tsumeb 79.56 236 LR LR 10 45 02.5
comp=Z,353nm,18.6s,baz=340,slow=38
TSUM Tsumeb 79.56 236 P **P** 10 06 09.7 +0.3
TSUM IAmb IAmb 10 06 11.5
comp=Z,37nm,1.7s
WTLY Watson Lake, Y 79.82 13 P **P** 10 06 10.2 +0.1
baz=340
R33M Jennings River 80.10 14 P **P** 10 06 10.7 -1.0
baz=338
NWAO Narrogin (SRO) 80.20 146 LR LR 10 43 09.2
comp=Z,94nm,20.1s,slow=37
NWAO Narrogin (SRO) 80.20 146 P **P** 10 06 12.3 0.0
NWAO IAmb IAmb 10 06 12.9
comp=Z,30nm,1.1s
NWAO Narrogin (SRO) 80.20 146 P **P** 10 06 12.3 0.0
NWAO IAmb IAmb 10 06 12.9
comp=Z,26nm,1.1s
NWAO Narrogin (SRO) 80.20 146 P **P** 10 06 12.5 +0.2
NWAO Narrogin (SRO) 80.20 146 P **P** 10 06 12.3 0.0
NWAO pmax pmax
comp=Z,26nm,1.2s
PMG Port Moresby 80.81 110 P **P** 10 06 16.7 +0.7
comp=Z,21nm,0.8s,baz=261,slow=9.6,SNR=6.0
PMG LR LR 10 44 51.0
comp=Z,46nm,20.1s,baz=338,slow=38
comp=Z,21nm,0.8s
PMG Port Moresby 80.81 110 P **P** 10 06 16.9 +0.9
PMG Port Moresby 80.81 110 P **P** 10 06 17.4 +1.4
PMG Port Moresby 80.81 110 *d i* P **P** 10 06 17.0 +0.9
PMG pmax pmax
comp=Z,27nm,0.9s
SWZ Schweizer 80.87 225 *eP* **P** 10 06 15.0 -1.3
SWZ IAmb IAmb 10 06 22.4
comp=Z,483nm,3.5s
LIRD Liard River Hi 80.93 12 P **P** 10 06 16.1 +0.1
baz=342
COEN Coen 80.95 116 P **P** 10 06 16.6 -0.1
KMBL Kambalda 81.04 142 P **P** 10 06 16.4 -0.5
DLBC Dease Lake 81.17 14 LR LR 10 47 42.1
comp=Z,241nm,20.5s,baz=318,slow=40
KRVT Keravat (AS076 81.22 103 LR LR 10 41 52.2
comp=Z,81nm,20.2s,baz=87,slow=35
S34M Telegraph Cree 81.44 15 P **P** 10 06 18.9 +0.1
baz=338
AS31 Alice Springs 81.65 129 P **P** 10 06 20.0 -0.4
ASAR Alice Springs 81.65 129 P **P** 10 06 20.3 -0.1
comp=Z,23nm,0.8s,baz=314,slow=5.3,SNR=239
ASAR PKKPbc **PKKPbc** 10 24 52.6 +0.1
comp=Z,0.5nm,0.7s,baz=112,slow=3.3,SNR=7.3
comp=Z,23nm,0.8s
ASAR Alice Springs 81.65 129 P **P** 10 06 20.0 -0.3
ASAR Alice Springs 81.65 129 P **P** 10 06 20.0 -0.3
AS01 Alice Springs 81.68 129 P **P** 10 06 20.3 -0.2
comp=Z,38nm,0.8s
BOSA Boshof 82.03 224 P **P** 10 06 22.2 -0.1
comp=Z,10nm,1.0s,baz=22,slow=4.0,SNR=10
BOSA LR LR 10 42 46.4
comp=Z,198nm,19.8s,baz=11,slow=36
comp=Z,10nm,1.0s
BOSA Boshof 82.03 224 *eP* **P** 10 06 21.7 -0.6
BOSA IAmb IAmb 10 07 09.5
comp=Z,433nm,3.1s
SCHQ Schefferville 82.19 340 P **P** 10 06 22.6 -0.2
comp=Z,5.8nm,0.7s,baz=30,slow=6.2,SNR=12
SCHQ LR LR 10 44 30.9
comp=Z,162nm,19.4s,baz=34,slow=37
comp=Z,5.8nm,0.7s
SCHQ Schefferville 82.19 340 P **P** 10 06 22.9 +0.1
SCHQ IAmb IAmb 10 06 27.5
comp=Z,38nm,1.6s
WIN Windhoek 82.31 234 *eP* **P** 10 06 24.6 +0.6
WIN IAmb IAmb 10 06 26.0
comp=Z,76nm,2.5s
T35M Bob Quinn 82.49 14 P **P** 10 06 25.2 +0.8
baz=339
QIS Mount Isa 83.05 123 P **P** 10 06 27.7 0.0
comp=Z,20nm,1.0s
FCC Fort Churchill 83.09 355 P **P** 10 06 27.8 +0.4
FCC Fort Churchill 83.09 355 P **P** 10 06 27.8 +0.4
FCC pmax pmax
comp=Z,20nm,1.4s
BBTS Babate 83.55 283 LR LR 10 52 10.7
comp=Z,45nm,18.7s,baz=62,slow=42
FORT Forrest 83.71 137 P **P** 10 06 31.2 +0.4
FORT Forrest 83.71 137 P **P** 10 06 31.0 +0.2
comp=Z,93nm,0.9s
UPI Upington 84.08 227 *eP* **P** 10 06 33.2 +0.3
UPI IAmb IAmb 10 06 42.9
comp=Z,113nm,2.2s
KEIM Keimoes 84.51 227 *eP* **P** 10 06 36.0 +0.9
KEIM IAmb IAmb 10 06 36.4
comp=Z,8.1nm,0.8s
MTSU Mount Surprise 84.58 118 P **P** 10 06 36.2 +0.6
comp=Z,13nm,0.9s
ARMS Ukamas 84.72 228 *eP* **P** 10 06 36.8 +0.7
ARMS IAmb IAmb 10 06 44.5
comp=Z,9.2nm,0.8s
BFON Badsfontein, M 85.36 223 *eP* **P** 10 06 40.1 +0.8
BFON IAmb IAmb 10 06 41.2
comp=Z,11nm,0.7s
OOD Oodnadatta 85.78 130 P **P** 10 06 41.1 -0.2
MULG Mulgathing 86.66 133 P **P** 10 06 44.9 -0.7
MERW Merweville 87.20 224 *eP* **P** 10 06 49.1 +0.8
MERW IAmb IAmb 10 06 50.0
comp=Z,668nm,3.1s
CTA Charters Tower 87.25 118 LR LR 10 49 03.5
comp=Z,78nm,21.0s,baz=273,slow=38
CTA Charters Tower 87.25 118 P **P** 10 06 49.1 +0.4
CTAO Charters Tower 87.25 118 P **P** 10 06 48.9 +0.2
CTAO IAmb IAmb 10 06 53.7
comp=Z,17nm,1.0s
CTAO Charters Tower 87.25 118 P **P** 10 06 49.2 +0.5
CTAO Charters Tower 87.25 118 P **P** 10 06 48.9 +0.2
CTAO pmax pmax
comp=Z,17nm,1.0s
SUR Sutherland 87.37 225 LR LR 10 46 23.3
comp=Z,113nm,19.3s,baz=32,slow=36
BBB Bella Bella 87.43 15 LR LR 10 51 11.3
comp=Z,179nm,18.3s,baz=319,slow=39
FFC Flin Flon 87.44 359 P **P** 10 06 48.5 -0.7
FFC IAmb IAmb 10 06 55.9
comp=Z,15nm,0.8s
FFC Flin Flon 87.44 359 P **P** 10 06 48.5 -0.7
FFC pmax pmax
comp=Z,15nm,0.9s
EDM Edmonton 88.54 6 P **P** 10 06 54.1 -0.4
EDM IAmb IAmb 10 07 01.1
comp=Z,19nm,0.9s
EDM Edmonton 88.54 6 P **P** 10 06 54.1 -0.4
EDM pmax pmax
comp=Z,19nm,0.9s
LCRK Leigh Creek 89.22 131 P **P** 10 06 57.4 -0.4
BBOO Buckleboo 89.67 134 P **P** 10 06 59.6 -0.3
BBOO IAmb IAmb 10 07 00.2
comp=Z,18nm,0.8s
D62A Allapoint, All 89.73 337 P **P** 10 07 00.4 +0.1
D62A IAmb IAmb 10 07 09.2
comp=Z,11nm,1.1s
D62A Allapoint, All 89.73 337 P **P** 10 07 00.3 +0.1

	baz=26							
D62A				P	P	10 07 00.3	+0.1	
	baz=26							
E63A	**Oxbow**	**90.13**	**337**	P	P	10 07 03.4	+1.3	
	baz=27							
E63A				P	P	10 07 03.4	+1.3	
	baz=27							
E62A	**Clayton Lake**	**90.29**	**337**	P	P	10 07 03.2	+0.4	
	baz=26							
E62A				P	P	10 07 03.2	+0.4	
	baz=26							
HNR	**Honiara**	**90.53**	**102**	LR	LR	10 46 44.7		
	comp=Z,827nm,21.6s,baz=287,slow=35							
F64A	**Sherman**	**90.61**	**336**	P	P	10 07 03.8	-0.4	
	baz=27							
F64A				P	P	10 07 03.8	-0.4	
	baz=27							
OZB	**Mount Ozzard**	**91.02**	**14**	P	P	10 07 05.2	-1.0	
F62A	**Pittston Farm,**	**91.08**	**337**	P	P	10 07 05.1	-1.4	
F62A	**Pittston Farm,**	**91.08**	**337**	P	P	10 07 06.4	-0.1	
	baz=26							
F62A				P	P	10 07 06.4	-0.1	
	baz=26							
PKME	**Peaks-Kenny Pk**	**91.44**	**337**	P	P	10 07 09.1	+1.0	
	baz=26							
PKME	**Peaks-Kenny Pk**	**91.44**	**337**	P	P	10 07 07.3	-0.8	
	baz=26							
ULM	**Lac du Bonnet**	**91.68**	**355**	P	P	10 07 08.3	-1.0	
	comp=Z,7.7nm,0.8s,baz=343,slow=7.0,SNR=4.2							
ULM				LR	LR	10 50 51.9		
	comp=Z,162nm,19.7s,baz=338,slow=37							
	comp=Z,7.7nm,0.8s							
ULM	**Lac du Bonnet**	**91.68**	**355**	P	P	10 07 08.2	-1.0	
ULM				IAmb	IAmb	10 07 14.3		
	comp=Z,16nm,1.1s							
ULM	**Lac du Bonnet**	**91.68**	**355**	P	P	10 07 08.2	-1.0	
ULM				pmax	pmax			
	comp=Z,16nm,1.2s							
G62A	**West of Eustis**	**91.86**	**337**	P	P	10 07 10.9	+0.8	
	baz=25							
G62A				P	P	10 07 10.9	+0.8	
	baz=25							
TRQ	**Mont Tremblant**	**92.08**	**340**	P	P	10 07 10.7	-0.6	
TRQ				IAmb	IAmb	10 07 16.7		
	comp=Z,20nm,1.3s							
STKA	**Stephens Creek**	**92.27**	**130**	P	P	10 07 11.0	-1.0	
	comp=Z,3.8nm,0.8s,baz=341,slow=5.5,SNR=5.8							
STKA				LR	LR	10 52 50.0		
	comp=Z,69nm,19.9s,baz=336,slow=38							
	comp=Z,3.8nm,0.8s							
NEW	**Newport**	**93.04**	**9**	LR	LR	10 54 08.9		
	comp=Z,195nm,19.1s,baz=326,slow=39							
NEW	**Newport**	**93.04**	**9**	P	P	10 07 15.4	-0.2	
NEW	**Newport**	**93.04**	**9**	P	P	10 07 15.0	-0.6	
	baz=349							
NEW	**Newport**	**93.04**	**9**	P	P	10 07 15.4	-0.2	
NEW				pmax	pmax			
	comp=Z,6.0nm,1.0s							
FRNY	**Flat Rock**	**93.09**	**339**	P	P	10 07 15.7	-0.2	
	baz=23							
LBNH	**Lisbon**	**93.16**	**338**	P	P	10 07 16.7	+0.5	
	baz=24							
LBNH	**Lisbon**	**93.16**	**338**	P	P	10 07 14.7	-1.5	
	baz=24							
RMQ	**Roma**	**93.21**	**121**	P	P	10 07 17.6	+1.1	
B35A	**Bob, Littlefor**	**93.39**	**354**	P	P	10 07 15.8	-1.3	
	baz=7.6							
LONY	**Lake Ozonia**	**93.57**	**340**	P	P	10 07 18.8	+0.7	
LONY				IAmb	IAmb	10 07 23.5		
	comp=Z,17nm,1.1s							
LONY	**Lake Ozonia**	**93.57**	**340**	P	P	10 07 17.1	-0.9	
	baz=22							
EYMN	**Ely**	**93.59**	**352**	P	P	10 07 18.6	+0.5	
EYMN				IAmb	IAmb	10 07 23.7		
	comp=Z,21nm,1.1s							
EYMN	**Ely**	**93.59**	**352**	P	P	10 07 17.3	-0.8	
	baz=9.3							
EYMN	**Ely**	**93.59**	**352**	P	P	10 07 17.9	-0.2	
	baz=9.3							
AGMN	**Agassiz Nation**	**93.62**	**355**	P	P	10 07 18.5	+0.3	
AGMN				IAmb	IAmb	10 07 23.1		
	comp=Z,8.4nm,0.9s							
AGMN	**Agassiz Nation**	**93.62**	**355**	P	P	10 07 17.1	-1.2	
	baz=5.9							
AGMN	**Agassiz Nation**	**93.62**	**355**	P	P	10 07 18.1	-0.2	
	baz=5.9							
DGMT	**Dagmar**	**93.70**	**1**	P	P	10 07 17.6	-1.0	
	baz=359							
DGMT	**Dagmar**	**93.70**	**1**	P	P	10 07 18.4	-0.2	
	baz=359							
MCVT	**Middlebury Col**	**93.74**	**339**	P	P	10 07 18.1	-0.8	
	baz=23							
EGMT	**Eagleton**	**93.96**	**4**	P	P	10 07 18.7	-1.2	
	baz=355							
NCB	**Newcomb**	**94.07**	**339**	P	P	10 07 19.4	-1.0	
	baz=22							
D41A	**Chassel**	**94.10**	**350**	P	P	10 07 19.8	-0.6	
	baz=12							
E46A	**Sault Ste Mari**	**94.10**	**347**	P	P	10 07 19.7	-0.7	
E46A	**Sault Ste Mari**	**94.10**	**347**	P	P	10 07 19.1	-1.3	
	baz=15							
J61A	**Chester**	**94.16**	**338**	P	P	10 07 21.7	+0.9	
J61A				IAmb	IAmb	10 07 26.6		
	comp=Z,16nm,0.9s							
J61A	**Chester**	**94.16**	**338**	P	P	10 07 21.5	+0.7	
	baz=24							
J61A				P	P	10 07 21.5	+0.7	
	baz=24							
DELO	**Deloro Mine**	**94.45**	**342**	P	P	10 07 22.6	+0.5	
DELO				IAmb	IAmb	10 07 27.4		
	comp=Z,9.2nm,0.8s							
WCNY	**West Carthage**	**94.45**	**340**	P	P	10 07 21.8	-0.2	
	baz=22							
E43A	**Lone Tree Farm**	**94.54**	**349**	P	P	10 07 21.8	-0.6	
	baz=13							
SADO	**Sadowa**	**94.57**	**343**	P	P	10 07 21.4	-1.2	
	comp=Z,2.2nm,0.7s,baz=76,slow=6.4,SNR=1.8							
SADO				LR	LR	10 57 32.4		
	comp=Z,96nm,18.1s,baz=309,slow=40							
	comp=Z,2.2nm,0.7s							
J59A	**Piesco**	**94.61**	**339**	P	P	10 07 22.8	-0.1	
J59A				IAmb	IAmb	10 07 28.5		
	comp=Z,18nm,1.1s							
J59A	**Piesco**	**94.61**	**339**	P	P	10 07 23.5	+0.6	
	baz=22							
J59A				P	P	10 07 23.5	+0.6	
	baz=22							
MSO	**Missoula**	**94.82**	**7**	P	P	10 07 22.0	-1.9	
	baz=352							
E38A	**The Farm, Brul**	**94.92**	**352**	P	P	10 07 24.2	0.0	
E38A				IAmb	IAmb	10 07 30.0		
	comp=Z,13nm,1.1s							
E38A	**The Farm, Brul**	**94.92**	**352**	P	P	10 07 23.3	-0.8	
	baz=9.3							
J58A	**Remsen**	**94.92**	**340**	P	P	10 07 24.0	-0.3	
	baz=22							
J58A				P	P	10 07 24.0	-0.3	
	baz=22							
J57A	**Williamstown**	**95.07**	**340**	P	P	10 07 25.3	+0.4	
J57A	**Williamstown**	**95.07**	**340**	P	P	10 07 23.8	-1.2	
	baz=21							
J57A				P	P	10 07 23.8	-1.2	
	baz=21							
COWI	**Conover**	**95.12**	**350**	P	P	10 07 23.4	-1.8	
COWI				IAmb	IAmb	10 07 30.8		
	comp=Z,8.2nm,1.0s							
COWI	**Conover**	**95.12**	**350**	P	P	10 07 23.9	-1.2	
	baz=11							
HRY	**Holter Researc**	**95.12**	**6**	P	P	10 07 23.5	-1.8	
HCNY	**Howe Caverns**	**95.29**	**339**	P	P	10 07 25.2	-0.8	
	baz=22							
J56A	**Wolcott**	**95.42**	**341**	P	P	10 07 26.8	+0.3	
	baz=21							
J56A				P	P	10 07 26.8	+0.3	
	baz=21							
LAO	**LASA Array**	**95.45**	**2**	P	P	10 07 26.7	0.0	
	baz=358							
LAO	**LASA Array**	**95.45**	**2**	P	P	10 07 26.8	0.0	
	baz=358							
E28A	**Huff**	**95.57**	**358**	P	P	10 07 27.2	0.0	
E28A				IAmb	IAmb	10 07 33.9		
	comp=Z,12nm,0.9s							
E28A	**Huff**	**95.57**	**358**	P	P	10 07 27.2	0.0	
	baz=2.1							
G45A	**Suttons Bay**	**95.62**	**348**	P	P	10 07 26.8	-0.7	
	baz=14							
G45A				P	P	10 07 26.8	-0.7	
	baz=14							
J55A	**Hilton**	**95.67**	**342**	P	P	10 07 27.2	-0.4	
	baz=20							
J55A				P	P	10 07 27.2	-0.4	
	baz=20							
F36A	**Milaca**	**95.85**	**353**	P	P	10 07 28.2	-0.3	
F36A				IAmb	IAmb	10 07 34.5		
	comp=Z,8.6nm,1.1s							
F36A	**Milaca**	**95.85**	**353**	P	P	10 07 27.6	-0.9	
	baz=7.7							
L59A	**Walton**	**95.94**	**339**	P	P	10 07 28.9	-0.2	
	baz=22							
L59A				P	P	10 07 28.9	-0.2	
	baz=22							
G40A	**Rib Lake**	**96.07**	**351**	P	P	10 07 29.5	0.0	
G40A				IAmb	IAmb	10 07 35.1		
	comp=Z,12nm,0.9s							
G40A	**Rib Lake**	**96.07**	**351**	P	P	10 07 28.6	-0.9	
	baz=10							
F33A	**5 Mile Ranch,**	**96.10**	**355**	P	P	10 07 29.9	+0.4	
F33A				IAmb	IAmb	10 07 34.6		
	comp=Z,8.1nm,1.1s							
F33A	**5 Mile Ranch,**	**96.10**	**355**	P	P	10 07 29.1	-0.5	
	baz=5.6							
BINY	**Binghamton**	**96.19**	**340**	P	P	10 07 29.6	-0.5	
	baz=21							
BINY	**Binghamton**	**96.19**	**340**	P	P	10 07 29.5	-0.6	
	baz=21							
SPMN	**Marine on St.**	**96.41**	**353**	P	P	10 07 31.2	+0.1	
SPMN				IAmb	IAmb	10 07 35.8		
	comp=Z,6.4nm,0.6s							
SPMN	**Marine on St.**	**96.41**	**353**	P	P	10 07 30.7	-0.3	
	baz=8.3							
SPMN	**Marine on St.**	**96.41**	**353**	P	P	10 07 30.4	-0.6	
	baz=8.3							
L56A	**Greenwood**	**96.67**	**341**	P	P	10 07 32.5	+0.2	
	baz=20							
L56A				P	P	10 07 32.5	+0.2	
	baz=20							
RLMT	**Red Lodge**	**96.89**	**4**	P	P	10 07 32.9	-0.6	
	baz=355							
AUMAG	**Moama Anglican**	**97.07**	**131**	P	P	10 07 31.6	-2.3	
J47A	**Sunmer**	**97.22**	**346**	P	Pdif	10 07 34.7	-0.1	
	baz=15							
J47A				P	Pdif	10 07 34.7	-0.1	
	baz=15							
M57A	**Sunshine Farm,**	**97.30**	**340**	P	P	10 07 34.2	-0.9	
	baz=20							
M57A				P	P	10 07 34.2	-0.9	
	baz=20							
I40A	**Norwalk**	**97.48**	**351**	P	Pdif	10 07 36.1	+0.1	
	baz=10.0							
I37B	**Waseca**	**97.67**	**353**	P	P	10 07 35.8	-0.9	
	baz=7.9							
ECSD	**EROS Data Cent**	**98.22**	**355**	P	Pdif	10 07 39.5	+0.3	
ECSD				IAmb	IAmb	10 07 44.3		
	comp=Z,13nm,1.6s							
ECSD	**EROS Data Cent**	**98.22**	**355**	P	P	10 07 38.2	-1.0	
	baz=5.3							
ECSD	**EROS Data Cent**	**98.22**	**355**	P	P	10 07 38.1	-1.1	
	baz=5.3							
JFWS	**Jewell Farm**	**98.39**	**350**	P	P	10 07 39.2	-0.8	
	baz=10							
JFWS	**Jewell Farm**	**98.39**	**350**	P	P	10 07 39.3	-0.8	
	baz=10							
YBH	**Yreka Blue Hor**	**98.50**	**15**	LR	LR	10 56 16.2		
	comp=Z,299nm,20.3s,baz=344,slow=38							
L42A	**Oliver, Polo**	**99.21**	**350**	P	**Pdif**	10 07 43.6	-0.1	
	baz=11							
PDAR	**Pinedale Array**	**99.21**	**5**	P	**Pdif**	10 07 43.6	-0.4	
	comp=Z,0.1nm,0.5s,baz=35,slow=3.3,SNR=1.9							
PDAR				PP	PP	10 11 36.0	-10	
	comp=Z,0.9nm,1.0s,baz=7.6,slow=2.2,SNR=3.9							
PDAR				LR	LR	10 57 27.1		
	comp=Z,146nm,19.2s,baz=348,slow=38							
	comp=Z,0.1nm,0.5s							
P57A	**Homestead Farm**	**99.27**	**340**	P	**Pdif**	10 07 43.6	-0.4	
	baz=20							
P57A				P	**Pdif**	10 07 43.6	-0.4	
	baz=20							
DZM	**Mont Dzumac**	**103.13**	**108**	*e*LR	LR	10 41 56.0		
	comp=Z,135nm,25.5s							
TXAR	**Lajitas Array**	**112.82**	**0**	PKKPbc	PKKPbc	10 23 24.7	-1.4	
	comp=Z,0.4nm,0.8s,baz=169,slow=7.3,SNR=4.8							
TROLL	**Troll, Antarti**	**121.23**	**290**	P	**PKiKP**	**10 12 54.7**	**+0.6**	
SNAA	**Sanae**	**122.60**	**202**	P	**PKiKP**	**10 12 56.6**	**-0.1**	
VNA2	**Neumayer--Watz**	**123.70**	**203**	P	**PKiKP**	**10 12 58.9**	**+0.1**	
	baz=39,slow=3.0							
SDV	**Santo Domingo**	**124.10**	**320**	PKP	**PKPdf**	**10 13 00.7**	**-0.6**	
	comp=Z,1.6nm,0.4s,baz=11,slow=4.5,SNR=4.0							
VNA3	**Neumayer Olymp**	**124.50**	**203**	P	**PKiKP**	**10 13 00.2**	**-0.1**	
VNDA	**Vanda**	**125.92**	**164**	PKP	**PKPdf**	**10 13 02.1**	**-0.5**	
	comp=Z,2.2nm,0.9s,baz=277,slow=6.3,SNR=8.8							
ROSC	**El Rosal**	**129.42**	**321**	PKP	**PKiKP**	**10 13 12.1**	**-0.4**	
	comp=Z,5.9nm,0.3s,baz=0.0,slow=20,SNR=3.6							
PPT2	**Papeete2**	**134.80**	**76**	*e*LR	LR	10 56 35.7		
	comp=Z,122nm,22.5s							
TAOE	**Nuku Hiva Isla**	**135.85**	**58**	*e*LR	LR	10 57 04.0		
	comp=Z,276nm,26.9s							
SIV	**San Ignacio**	**136.84**	**289**	PKP	**PKPdf**	**10 13 25.0**	**-0.1**	
	comp=Z,3.1nm,0.9s,baz=82,slow=2.6,SNR=12							
CPUP	**Villa Florida**	**139.72**	**273**	PKP	**PKPdf**	**10 13 28.4**	**-1.7**	
	comp=Z,1.8nm,0.7s,baz=349,slow=3.1,SNR=4.0							
LPAZ	**La Paz**	**142.18**	**295**	PKP	**PKPdf**	**10 13 34.5**	**-1.1**	
	comp=Z,1.1nm,0.7s,baz=44,slow=4.5,SNR=6.0							
PB16	**IPOC Station P**	**144.52**	**294**	PKPdf	**PKPab**	**10 13 37.8**	**-0.1**	
NNA	**Nana**	**144.79**	**311**	PKP	PKPbc	10 13 38.5	0.0	
	comp=Z,25nm,0.7s,baz=323,slow=2.9,SNR=18							
NNA	**Nana**	**144.79**	**311**		PKPbc	10 13 38.8	+0.3	
MNMC	**Minye Minye**	**145.09**	**293**		**PKPbc**	**10 13 39.4**	**-0.2**	
GO01	**Chusmiza**	**145.15**	**292**		**PKPbc**	**10 13 39.9**	**-0.2**	
PB12	**IPOC Station P**	**145.29**	**295**	PKPbc	**PKPbc**	**10 13 39.2**	**-0.8**	
PB11	**IPOC Station P**	**145.54**	**293**		**PKPdf**	**10 13 40.1**	**-0.7**	
PSGCX	**Pisagua**	**145.77**	**293**	PKPbc	**PKPdf**	**10 13 40.8**	**-0.3**	
TA02	**Huaiquique**	**146.21**	**292**	PKPbc	**PKPab**	**10 13 43.1**	**-0.3**	
PB01	**IPOC Station P**	**146.21**	**291**		**PKPbc**	**10 13 42.5**	**-0.4**	
TA01	**Diego Aracena**	**146.43**	**292**		**PKPbc**	**10 13 43.1**	**-0.2**	
PB09	**IPOC Station P**	**146.49**	**289**	PKPbc	**PKPab**	**10 13 44.7**	**0.0**	
PATCX	**Punta Patache**	**146.56**	**292**	PKPbc	**PKPbc**	**10 13 43.6**	**-0.3**	
PB02	**IPOC Station P**	**146.68**	**291**	PKPbc	**PKPab**	**10 13 44.8**	**-0.6**	
LVC	**Limon Verde**	**146.72**	**288**	PKPbc	**PKPbc**	**10 13 44.3**	**-0.4**	
LVC	**Limon Verde**	**146.72**	**288**	PKP2	**PKPbc**	**10 13 44.3**	**-0.4**	
PB07	**IPOC Station P**	**146.92**	**290**	PKPbc	**PKPbc**	**10 13 45.2**	**+0.2**	
PB03	**IPOC Station P**	**147.02**	**290**	PKPbc	**PKPbc**	**10 13 44.4**	**-0.9**	
PB04	**IPOC Station P**	**147.48**	**290**	PKPbc	**PKPbc**	**10 13 45.4**	**-1.2**	
TRQA	**Tornquist**	**147.67**	**257**		**PKPbc**	**10 13 46.6**	**+0.2**	
TRQA	**Tornquist**	**147.67**	**257**	PKP2	**PKPbc**	**10 13 46.6**	**+0.2**	
PB10	**IPOC Station P**	**148.47**	**288**	PKPbc	**PKiKP**	**10 13 49.8**	**-0.7**	
PB14	**IPOC Station P**	**148.99**	**286**		**PKPbc**	**10 13 51.1**	**+0.5**	
AC02	**Maricunga**	**149.18**	**281**	PKPbc	**PKiKP**	**10 13 51.9**	**-0.6**	
AC06	**Mina Casimiro**	**150.38**	**282**		**PKiKP**	**10 13 54.1**	**-0.3**	
GO03	**Copiap**	**150.41**	**281**		**PKiKP**	**10 13 54.2**	**-0.3**	
CFA	**Coronel Fontan**	**150.60**	**272**	PKPbc	**PKiKP**	**10 13 54.5**	**-0.3**	
	comp=Z,26nm,0.9s,baz=50,slow=1.4,SNR=43							
ZON	**Zonda**	**150.93**	**273**		**PKiKP**	**10 13 55.1**	**-0.3**	
ZON	**Zonda**	**150.93**	**273**	PKIKP	**PKiKP**	**10 13 55.1**	**-0.3**	
AC05	**El Transito**	**151.03**	**279**		**PKiKP**	**10 13 55.8**	**-0.1**	
LCO	**Las Campanas**	**151.44**	**279**		**PKiKP**	**10 13 56.8**	**0.0**	
LCO	**Las Campanas**	**151.44**	**279**	PKIKP	**PKiKP**	**10 13 56.8**	**0.0**	
CO03	**El Pedregal**	**152.22**	**275**		**PKPbc**	**10 13 57.6**	**-0.3**	
LMEL	**Las Melosas**	**152.94**	**269**		**PKiKP**	**10 13 60.0**	**+0.3**	
BO02	**Sierra Bellavi**	**153.69**	**267**		**PKiKP**	**10 14 01.1**	**0.0**	
PLCA	**Paso Flores**	**154.65**	**254**	PKP	**PKPdf**	**10 13 53.2**	**-1.1**	
	comp=Z,1.7nm,0.9s,baz=0.0,slow=20,SNR=4.7							
PLCA				PKPab	**PKPab**	**10 14 16.9**	**-0.9**	
	comp=Z,4.6nm,1.0s,baz=212,slow=1.0,SNR=4.2							
GO06	**Curarrehue**	**155.23**	**257**	PKPdf	**PKPdf**	**10 13 54.3**	**-0.9**	
GO06				PKPab	**PKPab**	**10 14 19.8**	**-0.5**	

IDC ***20*** *09:56:15.3±1.4, 19.°72N×63.°82W, h0km, mb3.5/4, mbtmp3.6/6, ML3.0/2, MS3.1/2, Error ellipse: s-maj=35.1km s-min=21.7km az=68.0*
NEIC ***20*** *09:56:18.7±1.2, 19.°78N±0.°06×63.°94W±0.°07, h56km±20km, mb4.0/4, ML3.6/42, Md3.6/27(RSPR), Error ellipse: s-maj=12.4km s-min=5.0km az=47.0*
RSPR ***20*** *09:56:20.6, 19.°72N×64.°07W, h80km±19km, MD3.6/9*
OSPL ***20*** *09:56:22.0±1.6, 19.°60N×63.°98W, h65km±56km, ML3.4*

ISC 20 09:56:15.6±3.1, 19.°76N±0.°05×63.°88W±0.°04, h14km±22km, n97,σ1°§46/109, mb3.6/4, 8C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**				*e*P	**Pn**	**09 56 47.6**	**+0.6**
SMRT	**St. Maarten**					**Pn**	**09 56 47.9**	**+0.8**
SMRT						**Sn**	**09 57 09.3**	**-1.0**
SMRT						IAML	09 57 17.8	
	comp=E,559nm,0.3s							
SMRT						IAML	09 57 19.8	
	comp=N,478nm,0.2s							
SMRT	**St. Maarten**				*e*P	**Pn**	**09 56 47.0**	**0.0**
SMRT					*e*S	**Sn**	**09 57 09.3**	**-1.0**
CUPR	**Culebra, Puert**				*i*P	**Pn**	**09 56 49.2**	**+0.9**
CUPR	**Culebra, Puert**				*e*S	**Sn**	**09 57 10.8**	**-2.0**
CUPR	**Culebra, Puert**					**Pn**	**09 56 48.9**	**+0.5**
CUPR						**Sn**	**09 57 10.6**	**-2.1**
CDVI	**St. Croix**				*i*P	**Pn**	**09 56 52.8**	**+1.6**
CDVI	**St. Croix**					**Pn**	**09 56 52.7**	**+1.6**
CDVI						**Sn**	**09 57 17.8**	**0.0**
CDVI	**St. Croix**				*i*P	**Pn**	**09 56 52.5**	**+1.4**
CDVI					*e*S	**Sn**	**09 57 17.9**	**+0.1**
SABA	**Saba**				*e*P	**Pn**	**09 56 52.9**	**+1.1**
SABA	**Saba**				*e*S	**Sb**	**09 57 22.7**	**+0.2**
SABA	**Saba**					**Pb**	**09 56 54.1**	**-1.2**
SABA						**Sb**	**09 57 22.5**	**-0.1**
SABA						IAML	09 57 49.8	
	comp=N,340nm,0.7s							
SABA						IAML	09 57 58.6	
	comp=E,440nm,0.8s							
SABA	**Saba**				*e*P	**Pn**	**09 56 53.8**	**+2.0**
MTP	**Monte Pirata**				*e*P	**Pn**	**09 56 53.6**	**+0.7**
MTP	**Monte Pirata**				*e*S	**Sn**	**09 57 20.5**	**-0.4**
MTP	**Monte Pirata**					**Pn**	**09 56 53.6**	**+0.7**
MTP						**Sn**	**09 57 20.2**	**-0.6**
MTP						IAML	09 57 22.2	
	comp=N,304nm,0.2s							
MTP						IAML	09 57 28.3	
	comp=E,304nm,0.3s							
CBYP	**Canovanas**				*e*P	**Pn**	**09 56 54.6**	**+0.3**
CBYP	**Canovanas**				*e*S	**Sn**	**09 57 22.1**	**-1.2**
CBYP	**Canovanas**					**Pn**	**09 56 54.6**	**+0.3**
CBYP	**Canovanas**					**Sn**	**09 57 22.1**	**-1.2**
SEUS	**St. Eustatius**				*e*P	**Pn**	**09 56 53.1**	**-1.4**
HUMP	**Col San Antoni**				*e*P	**Pn**	**09 56 55.9**	**+0.6**
HUMP	**Col San Antoni**				*e*S	**Sn**	**09 57 23.1**	**-2.0**
HUMP	**Col San Antoni**					**Pn**	**09 56 55.9**	**+0.6**
HUMP						IAML	09 57 31.8	
	comp=N,350nm,0.3s							
GCPR	**Guaynabo City**					**Pn**	**09 56 56.6**	**+0.3**
SJG	**San Juan**					**Pn**	**09 56 59.8**	**+1.2**
	comp=N,9.4nm,0.3s,baz=50,slow=11,SNR=14							
SJG						**Sn**	**09 57 28.7**	**-2.3**
	comp=N,16nm,0.3s,baz=173,slow=20,SNR=6.5							
	comp=N,25nm,0.3s							
SJG	**San Juan**					**Pn**	**09 56 59.1**	**+0.6**
SJG						IAML	09 57 37.8	
	comp=N,174nm,0.7s							
IGPR	**InterUniversit**				*e*P	**Pn**	**09 57 00.2**	**+0.8**
IGPR	**InterUniversit**				*e*S	**Sn**	**09 57 30.4**	**-2.1**
EMPR	**Esperanza - Ma**				*e*P	**Pn**	**09 57 01.1**	**+1.0**
EMPR	**Esperanza - Ma**				*e*S	**Sn**	**09 57 32.8**	**-0.9**
EMPR	**Esperanza - Ma**					**Pn**	**09 57 00.9**	**+0.8**
EMPR						IAML	09 57 32.8	
	comp=N,198nm,0.6s							
EMPR						IAML	09 57 41.2	
	comp=E,264nm,0.8s							
ANWB	**Willy Bob**				*e*P	**Pn**	**09 57 01.1**	**+0.1**
ANWB					*e*S	**Sn**	**09 57 33.4**	**-1.9**
CELP	**Cerrillos**				*e*P	**Pn**	**09 57 04.1**	**+0.7**
CELP	**Cerrillos**				*e*S	**Sn**	**09 57 37.9**	**-2.0**
CELP	**Cerrillos**					**Pn**	**09 57 04.0**	**+0.5**
AOPR	**Arecibo Observ**				*e*P	**Pn**	**09 57 04.3**	**+0.7**
AOPR	**Arecibo Observ**				*e*S	**Sn**	**09 57 39.1**	**-0.9**
AOPR	**Arecibo Observ**					**Pn**	**09 57 04.1**	**+0.6**
AOPR						IAML	09 57 44.2	
	comp=N,278nm,0.5s							
AOPR	**Arecibo Observ**				*e*P	**Pn**	**09 57 03.9**	**+0.4**
AOPR					*e*S	**Sn**	**09 57 37.5**	**-2.4**
UUPR	**Utuado, UPR, P**				*e*P	**Pn**	**09 57 04.6**	**+0.8**
UUPR	**Utuado, UPR, P**					**Pn**	**09 57 04.6**	**+0.8**
OBIP	**Obispado Ponce**					**Pn**	**09 57 04.7**	**+0.7**
OBIP						IAML	09 57 47.7	
	comp=N,121nm,0.9s							
AGPR	**Aguadilla, PR**					**Pn**	**09 57 07.5**	**+0.5**
AGPR						IAML	09 57 49.4	
	comp=N,107nm,0.8s							
AGPR						IAML	09 58 01.8	
	comp=E,106nm,0.5s							
AGPR	**Aguadilla, PR**				*i*P	**Pn**	**09 57 07.8**	**+0.7**
AGPR						IAML	09 57 34.8	
	comp=Z,49nm,0.8s							
AGPR					*e*S	**Sn**	**09 57 43.0**	**-3.2**
ANBD	**Bethesda, Anti**				*e*P	**Pn**	**09 57 04.3**	**+0.7**
ANBD					*e*S	**Sn**	**09 57 45.2**	**-2.1**
MBFL	**Flemmings, Mon**				*e*P	**Pn**	**09 57 09.6**	**+1.6**
MLYT	**Lee's Yard**				*e*P	**Pn**	**09 57 10.0**	**+1.5**
MLYT					*e*S	**Sn**	**09 57 49.6**	**+0.7**
PRSN	**Puerto Rico Se**					**Pn**	**09 57 09.6**	**+0.7**
MLPR	**Magueyes Islan**					**Pn**	**09 57 09.4**	**0.0**
CRPR	**Cabo Rojo, PR**				*e

comp=Z,25nm,1.0s
656A **Willston** 19.46 303 P **P** 10 00 38.6 -3.3
CMIG **Matias Romero** 29.51 270 LR LR 10 17 57.0
comp=Z,30nm,18.3s,baz=208,slow=44
TXAR **Lajitas Array** 37.27 293 P **P** **10 03 29.1 +1.8**
comp=Z,0.2nm,0.8s,baz=112,slow=9.8,SNR=2.5
comp=Z,0.2nm,0.8s
PDAR **Pinedale Array** 44.61 311 P P 10 04 31.0 +3.2
comp=Z,0.5nm,0.9s,baz=108,slow=4.8,SNR=3.5
comp=Z,0.5nm,0.9s
YKA **Yellowknife Ar** 54.94 334 P **P** **10 05 48.3 +2.5**
comp=Z,0.8nm,0.8s,baz=108,slow=7.0,SNR=12
comp=Z,0.8nm,0.8s
ILAR **Eielson Array** 69.34 333 P **P** **10 07 24.2 +1.8**
comp=Z,0.7nm,0.8s,baz=102,slow=4.3,SNR=1.7
comp=Z,0.7nm,0.8s

ATH 20 09:59:40.8, 38°46N×22°71E, h12km±4km, ML1.4/1, Error ellipse: s-maj=4.6km s-min=0.9km az=318.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLFA	**Delphi**	**0.17**	**275**	P	Pg	09 59 44.4	-0.3
DLFA				S	Sg	09 59 47.5	0.0
LKR	**Lokris**	**0.29**	**50**	P	Pg	09 59 46.5	-0.3
LKR				S	Sg	09 59 50.9	+0.1
LKR	comp=E,239μm,0.1s			AML	AML	09 59 53.0	
LKR	comp=N,206μm,0.2s			AML	AML	09 59 53.9	
AXAR	**Agios Charalam**	**0.30**	**352**	P	Pg	09 59 46.9	-0.2
AXAR				S	Sg	09 59 51.4	+0.2
THAL	**Thalero**	**0.43**	**185**	P	Pg	09 59 49.0	-0.3
THAL				S	Sg	09 59 55.5	+0.6
VIL2	**Platees**	**0.50**	**120**	P	Pg	09 59 51.4	-0.1
VIL2				S	Sb	09 59 59.7	+0.8
LOUT	**Loutraki**	**0.52**	**157**	P	Pg	09 59 50.7	-0.3
LOUT				S	Sg	09 59 57.5	-0.3
SERG	**Sergoula**	**0.52**	**265**	P	Pg	09 59 50.9	0.0
KLV	**Kalavryta, Ach**	**0.61**	**227**	P	Pg	09 59 52.4	-0.3
AGG	**Agios Georgios**	**0.63**	**332**	P	Pg	09 59 52.8	-0.3

*NNC **20** 10:03:13.3±0.8, 42°.92N×78°.29E, h0km, mpv3.0, Error ellipse: s-maj=4.8km s-min=3.5km az=57.0*

SOME 20 10:03:13.5, 42°.95N×78°.27E, h5km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.15**	**43**	P	Pg	10 03 16.7	+0.1
SATY	5.2nm,0.1s			S	Sg	10 03 18.9	+0.3
SATY	34nm,0.1s **Saty**	**0.15**	**43**	*eP*	Pg	10 03 16.7	+0.1
SATY	5.2nm,0.1s			*eS*	Sg	10 03 18.9	+0.3
ZHN	71nm,0.1s **Zhinishke**	**0.25**	**29**	P	Pg	10 03 18.5	+0.1
ZHN	10nm,0.0s			S	Sg	10 03 22.4	+0.7
ZHN	58nm,0.1s **Zhinishke**	**0.25**	**29**	*eP*	Pg	10 03 18.5	+0.1
ZHN	10nm,0.0s			*eS*	Sg	10 03 22.4	+0.7
UZB	58nm,0.1s **Uzunbulak**	**0.59**	**70**	P	Pg	10 03 24.8	0.0
UZB	6.7nm,0.1s			S	Sg	10 03 32.8	+0.4
UZB	20nm,0.2s **Uzynbulak**	**0.59**	**70**	*eP*	Pg	10 03 24.8	0.0
UZB	6.7nm,0.1s			*eS*	Sg	10 03 32.8	+0.4
	20nm,0.2s						

KRNET 20 10:03:36.1±0.1, 42°.94N×78°.29E, h17km, mb2.1, 12C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.46**	**170**	⇑*eP*	Pg	10 03 44.7	-0.9
PRZ	baz=69			⇑*eS*	Sg	10 03 51.1	-0.8
ANVS	baz=69 **Anan'yevo**	**0.48**	**251**	⇑*iP*	Pg	10 03 45.6	-0.3
ANVS	baz=52			⇑*iS*	Sg	10 03 52.2	-0.2
KDJ	baz=52 **Kajisay**	**1.15**	**226**	⇓*eP*	Pb	10 03 57.8	+0.1
KDJ	baz=25			⇓*eS*	Sn	10 04 13.2	+0.1
TARG	baz=25 **Taragay, Kyrgy**	**1.26**	**197**	⇓*iP*	Pb	10 03 59.7	0.0
TARG	baz=97			⇓*iS*	Sg	10 04 17.2	+0.2
ULHL	baz=97 **Ulahol**	**1.66**	**246**	⇑*eP*	Pb	10 04 06.7	+0.3
ULHL	baz=46			⇑*eS*	Sg	10 04 29.1	-0.6
BOOM	baz=46 **Boomskoye usch**	**1.79**	**256**	⇑*eP*	Pb	10 04 08.8	+0.3
BOOM	baz=56			⇑*eS*	Sg	10 04 32.8	-0.9
TKM2	baz=56 **Tokmak 2**	**1.98**	**270**	⇑*eP*	Pb	10 04 12.0	+0.2
TKM2	baz=70			⇑*eS*	Sg	10 04 38.0	-1.8
NRN	baz=70 **Naryn**	**2.27**	**229**	⇑*eP*	Pb	10 04 16.2	-0.6
NRN	baz=29			⇑*eS*	Sb	10 04 45.6	+0.9
	baz=29						

WEL 20 10:08:36.4±0.3, 43°S×2°×17°3E±°, h8km±3km, M3.4/17, ML3.6/18, MLv3.4/17, Error ellipse: s-maj=0.0km s-min=0.0km az=118.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.33**	**159**	P	Pb	10 08 44.0	-0.6
GVZ				S	Sb	10 08 49.9	-0.1
LTZ	**Lake Taylor**	**0.46**	**255**	P	Pg	10 08 45.7	+0.3
LTZ				S	Sb	10 08 52.7	-1.1
AMCZ	**Amberley**	**0.54**	**197**	P	Pb	10 08 48.2	+0.1
AMCZ				S	Sb	10 08 55.4	-0.7
KHZ	**Kahutara**	**0.55**	**64**	P	Pg	10 08 47.5	+0.4
KHZ				S	Sb	10 08 56.2	-0.2
THZ	**Tophouse**	**0.90**	**2**	P	Pg	10 08 53.2	-0.6
OXZ	**Oxford**	**0.90**	**222**	P	Pb	10 08 54.7	+0.3
OXZ				S	Sn	10 09 07.7	-1.0
INZ	**Inchbonnie**	**1.05**	**266**	P	Pg	10 08 56.5	-0.2
MQZ	**McQueen's Vall**	**1.06**	**189**	P	Pg	10 08 56.1	-0.6
MQZ				S	Sb	10 09 10.8	-0.1
RACZ	**Rakaia**	**1.19**	**206**	P	Pb	10 08 58.3	-1.0
RACZ				S	Sn	10 09 15.6	-0.1
BSWZ	**Blackbirch Sta**	**1.21**	**39**	P	Pb	10 08 59.3	-0.2
AKCZ	**Akaroa Harbour**	**1.21**	**179**	P	Pb	10 08 59.1	-0.5
AKCZ				S	Sg	10 09 14.7	-0.6
DSZ	**Denniston Nort**	**1.21**	**319**	P	Pb	10 08 59.6	-0.1
MRNZ	**Matariki Terra**	**1.27**	**356**	P	Pn	10 09 00.1	-0.3
CMWZ	**Cape Campbell**	**1.35**	**48**	P	Pb	10 09 02.2	+0.1
WACZ	**Wakanui South**	**1.48**	**210**	P	Pn	10 09 02.2	-1.2
NNZ	**Nelson**	**1.49**	**15**	P	Pn	10 09 03.5	-0.1
TKNZ	**Takaka Hill**	**1.63**	**2**	P	Pn	10 09 05.4	-0.1
ARCZ	**Arundel**	**1.78**	**223**	P	Pn	10 09 06.3	-1.2
ARCZ				S	Sn	10 09 29.3	-1.2
QRZ	**Quartz Range**	**1.85**	**352**	P	Pb	10 09 09.8	-0.7
DUWZ	**D'Urville Isla**	**2.02**	**23**	P	Pn	10 09 11.8	+1.0
PLWZ	**Palliser**	**2.08**	**59**	P	Pn	10 09 10.3	-1.4
TMZ	**Timaru**	**2.19**	**218**	P	Pn	10 09 11.1	-2.1
CAW	**Cannon Point**	**2.26**	**47**	P	Pn	10 09 13.2	-0.9
PAWZ	**Paruwai Farm**	**2.29**	**57**	P	Pn	10 09 13.1	-1.6
KIW	**Kapiti Island**	**2.36**	**41**	P	Pn	10 09 15.4	-0.1
FOZ	**Fox Glacier**	**2.40**	**248**	P	Pn	10 09 17.4	+1.4
OGWZ	**Otaki Gorge**	**2.52**	**44**	P	Pn	10 09 17.1	-0.6
HOWZ	**Holdsworth Sta**	**2.65**	**49**	P	Pn	10 09 18.1	-1.4
MRZ	**Mangatainoka R**	**2.85**	**46**	P	Pn	10 09 20.9	-1.3
ODZ	**Otahua Downs**	**2.88**	**213**	P	Pn	10 09 21.2	-1.4
PRWZ	**Pori Road**	**3.14**	**49**	P	Pn	10 09 24.6	-1.6
POWZ	**Post Office Ro**	**3.14**	**45**	P	Pn	10 09 24.9	-1.4
JCZ	**Jackson Bay**	**3.30**	**243**	P	Pn	10 09 28.5	0.0
WAZ	**Wanganui**	**3.31**	**29**	P	Pn	10 09 30.3	+1.6
DVHZ	**Dannevirke**	**3.42**	**47**	P	Pn	10 09 27.8	-2.3
NBEZ	**Newall Road No**	**3.47**	**13**	P	Pn	10 09 34.1	+3.3
TSZ	**Takapari Road**	**3.49**	**43**	P	Pn	10 09 29.6	-1.5
PKE	**Pukeiti**	**3.57**	**14**	P	Pn	10 09 31.2	-0.9
EAZ	**Earnscleugh**	**3.63**	**224**	P	Pn	10 09 31.9	-1.1
VRZ	**Vera Road**	**3.81**	**23**	P	Pn	10 09 37.4	+1.9
PKVZ	**Pokaka**	**3.85**	**30**	P	Pn	10 09 38.7	+2.6
WNVZ	**Wahianoa**	**3.92**	**33**	P	Pn	10 09 37.7	+0.6
TRVZ	**Turoa**	**3.92**	**32**	P	Pn	10 09 38.3	+1.1
TUVZ	**Tukino**	**3.99**	**33**	P	Pn	10 09 39.2	+1.1
NGZ	**Ngauruhoe**	**4.05**	**32**	P	Pn	10 09 39.7	+0.8
SNVZ	**South Ngauruho**	**4.06**	**32**	P	Pn	10 09 39.5	+0.5
OTVZ	**Oturere**	**4.09**	**32**	P	Pn	10 09 40.0	+0.6
NNVZ	**North Ngauruho**	**4.09**	**31**	P	Pn	10 09 40.2	+0.8
WTVZ	**West Tongariro**	**4.10**	**31**	P	Pn	10 09 41.6	+2.1
ETVZ	**East Tongariro**	**4.13**	**32**	P	Pn	10 09 41.3	+1.4
TMVZ	**Te Maari**	**4.14**	**32**	P	Pn	10 09 40.2	+0.1
HIZ	**Hauiti**	**4.41**	**21**	P	Pn	10 09 45.2	+1.5
BKZ	**Black Stump Fm**	**4.44**	**39**	P	Pn	10 09 42.7	-1.4
TLZ	**Tolley Road**	**4.78**	**26**	P	Pn	10 09 48.5	-0.3
TOZ	**Tahuroa Road**	**5.32**	**23**	P	Pn	10 09 58.5	+2.3
MKAZ	**Moumakai**	**5.82**	**18**	P	Pn	10 10 03.9	+0.9
WIAZ	**Waiheke Island**	**6.12**	**17**	P	Pn	10 10 09.6	+2.5

*IDC **20** 10:26:40.6±1.2, 1°.56S×120°.69E, h0km, mb3.5/4, mbtmp3.6/5, ML4.1/1, MS3.7/2, Error ellipse: s-maj=51.4km s-min=20.5km az=71.0*
*DJA **20** 10:26:43.8±1.0, 2°S±2°×12°0E±°, h20km±8km, M4.2/12, mb4.5/2, MLv4.1/12*

ISC 20 10:26:43.0±0.8, 1°.50S±0°.06×120°.49E±0°.06, h23km, n16, σ1s70/19, mb3.7/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.92**	**342**	P	**Pb**	**10 27 15.1**	**-2.3**
LUWI	**Luwuk**	**2.33**	**79**	P	**Pb**	**10 27 23.5**	**-0.8**
LUWI				S	**Sb**	**10 27 53.7**	**+1.1**
MRSI	**Marisa**	**2.44**	**36**	P	**Pb**	**10 27 25.3**	**-1.0**
MRSI				S	**Sb**	**10 27 57.6**	**+1.6**
SPSI	**Sidrap Palu**	**2.55**	**196**	P	**Pn**	**10 27 22.2**	**-0.8**
SPSI				S	**Sn**	**10 27 51.7**	**-1.6**
GTOI	**Gorontalo**	**3.30**	**50**	P	**Pb**	**10 27 37.8**	**-3.0**
KAPI	**Kappang**	**3.57**	**192**	Pn	**Pn**	**10 27 37.1**	**+0.2**
KAPI	16nm,0.3s,baz=342,slow=9.2,SNR=13			Sn	**Sn**	**10 28 20.9**	**+2.5**
	3.7nm,0.3s,baz=98,slow=18,SNR=3.5 50nm,0.5s						
BKB	**Balikpapan**	**3.60**	**274**	P	**Pn**	**10 27 36.3**	**-1.1**
BKSI	**Bulukumba**	**3.81**	**186**	P	**Pn**	**10 27 39.5**	**-0.8**
BSSI	**Bau Bau, Buton**	**4.61**	**180**	P	**Pn**	**10 27 50.5**	**-0.8**
SANI	**Sanana**	**5.52**	**96**	P	**Pn**	**10 28 02.2**	**-1.7**
WRA	**Warramunga Arr**	**22.79**	**144**	P	**P**	**10 31 43.3**	**-1.0**
	1.6nm,0.8s,baz=319,slow=11,SNR=10 1.6nm,0.8s						
ASAR	**Alice Springs**	**25.58**	**150**	P	**P**	**10 32 10.5**	**-0.1**
ASAR	0.3nm,0.7s,baz=327,slow=8.8,SNR=3.2			PcP	**PcP**	**10 35 42.0**	**+0.4**
	0.2nm,0.8s,baz=336,slow=1.1,SNR=1.7 0.3nm,0.7s						
SONM	**Songino Array**	**50.65**	**348**	LR	LR	10 57 28.6	
	comp=Z,65nm,18.4s,baz=16,slow=36						
MKAR	**Makanchi Array**	**58.61**	**330**	P	**P**	**10 36 40.7**	**+2.4**
	0.5nm,0.5s,baz=135,slow=8.5,SNR=5.5 0.5nm,0.5s						
RPZ	**Rata Peaks**	**61.42**	**140**	LR	LR	11 05 34.8	
	comp=Z,70nm,19.7s,baz=278,slow=38						
KURBB	**Kurchatov Arra**	**63.04**	**331**	P	**P**	**10 37 10.3**	**+2.1**
	0.3nm,0.4s,baz=137,slow=6.0,SNR=1.7 0.3nm,0.4s						

*IDC **20** 10:35:01.6±1.2, 24°.04N×126°.23E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=72.0km s-min=26.9km az=74.0*
*JMA **20** 10:35:07.5±0.2, 23°.9N±0°.8×125°.7E±0°.9, h41km, MV3.4/13, NEAR MIYAKOJIMA ISLAND*

ISC 20 10:35:07.2±1.1, 23°.92N±0°.08×125°.78E±0°.08, h35km, n16, σ0s65/21, mb3.4/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.90**	**338**	P	**Pn**	**10 35 23.5**	**+0.1**
JOGS				*eS*	**Sn**	**10 35 35.4**	**+0.1**
JMJ2	**Miyako jima3**	**0.92**	**334**	P	**Pn**	**10 35 23.6**	**0.0**
JIRB	**Irabujima**	**1.06**	**329**	P	**Pn**	**10 35 25.6**	**0.0**
JIKM	**Ikemajima**	**1.11**	**334**	*eP*	**Pn**	**10 35 26.5**	**+0.3**
JTJ	**Tarama**	**1.22**	**307**	P	**Pn**	**10 35 27.6**	**-0.1**
JISG	**Ishigakijimahi**	**1.49**	**297**	*eP*	**Pn**	**10 35 31.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.56**	**287**	P	**Pn**	**10 35 32.6**	**+0.2**
JIJ				*eS*	**Sn**	**10 35 50.5**	**-0.8**
JKRS	**Kuro-shima**	**1.65**	**281**	*eP*	**Pn**	**10 35 34.1**	**+0.5**
JKRS				*eS*	**Sn**	**10 35 53.2**	**-0.3**
HATJ	**Hateruma jima**	**1.81**	**275**	*eP*	**Pn**	**10 35 35.9**	**+0.1**
HATJ				*eS*	**Sn**	**10 35 57.2**	**-0.3**
IRIF	**Iriomote-Funau**	**1.91**	**283**	P	**Pn**	**10 35 37.6**	**+0.3**
IRIF				*eS*	**Sn**	**10 35 59.6**	**-0.6**
YOJ	**Yonaguni jima**	**2.58**	**283**	*eS*	**Sn**	**10 36 16.4**	**-0.3**
WRA	**Warramunga Arr**	**44.39**	**168**	P	**P**	**10 43 14.9**	**+0.4**
	0.6nm,0.9s,baz=348,slow=8.8,SNR=3.2 0.6nm,0.9s						
ASAR	**Alice Springs**	**47.95**	**170**	P	**P**	**10 43 41.9**	**-0.7**
	0.2nm,0.7s,baz=356,slow=15,SNR=4.4 0.2nm,0.7s						
FINES	**FINESS Array B**	**73.77**	**330**	P	**P**	**10 46 37.9**	**+0.3**
	0.8nm,0.6s,baz=88,slow=4.8,SNR=3.4 0.8nm,0.6s						
BRTR	**Keskin Array B**	**76.68**	**308**	P	**P**	**10 46 56.7**	**+1.7**
	0.8nm,0.7s,baz=83,slow=8.8,SNR=4.3 0.8nm,0.7s						
YKA	**Yellowknife Ar**	**81.54**	**24**	P	**P**	**10 47 19.4**	**-1.5**
	0.1nm,0.4s,baz=297,slow=5.6,SNR=1.5 0.1nm,0.4s						

*NNC **20** 10:39:31.3±1.9, 51°.62N×75°.46E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=67.9km s-min=12.1km az=26.0, Suspected Mining explosion.*
*IDC **20** 10:39:32.0±1.1, 51°.82N×75°.70E, h0km, mbtmp2.6/4, ML2.0/4, Error ellipse: s-maj=26.5km s-min=9.6km az=33.0*

ISC 20 10:39:31.9±1.1, 51°.7N±0°.1×75°.67E±0°.06, h0km, n10, σ0s51/9, 5C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.12**	**121**	Pn	**Pn**	**10 40 09.3**	**+0.7**
	0.3nm,0.3s,baz=304,slow=19,SNR=17						
KURBB				Lg	Lg	10 40 38.5	
	0.5nm,0.3s,baz=309,slow=29,SNR=13 1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**2.12**	**121**	⇓Pg	**Pg**	**10 40 12.5**	**0.0**
	3.4nm,0.5s						
KURBB				⇓Lg	Lg	10 40 41.0	
	34nm,0.6s						
KURK	**Kurchatov**	**2.12**	**118**	⇑Pg	**Pb**	**10 40 10.9**	**-0.3**
	3.0nm,0.6s						
KURK				⇑Lg	Lg	10 40 38.2	
	12nm,0.6s						
BVA0	**Borovoye Array**	**3.48**	**294**	⇑Pg	**Pb**	**10 40 35.1**	**+0.7**
	2.1nm,0.7s,baz=120,slow=21,SNR=3.6						
BVA0				⇓Lg	Lg	10 41 16.9	
	9.0nm,0.7s,baz=114,slow=25,SNR=6.2						
BVAR	**Borovoye Array**	**3.48**	**294**	Pn	**Pn**	**10 40 26.8**	**-0.5**
	0.1nm,0.3s,baz=112,slow=16,SNR=9.8						
BVAR				Lg	Lg	10 41 15.3	
	0.3nm,0.3s,baz=105,slow=23,SNR=12 2.1nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.97**	**65**	I	I	11 19 00.0	
	baz=252,slow=329,SNR=2.4						
ZALV	**Zalesovo Beam**	**5.97**	**65**	Pn	**Pn**	**10 41 01.2**	**-0.2**
	0.2nm,0.3s,baz=256,slow=14,SNR=5.0 0.9nm,0.5s						
MK31	**Makanchi Array**	**6.58**	**136**	⇑Sn	**Sn**	**10 42 25.8**	**+0.3**
	0.5nm,0.5s,baz=315,slow=22,SNR=3.9						
MK31				⇑Lg	Lg	10 42 59.1	
	3.5nm,0.7s,baz=321,slow=25,SNR=9.2						
MKAR	**Makanchi Array**	**6.58**	**136**	Pn	**Pn**	**10 41 09.9**	**+0.1**
	0.1nm,0.3s,baz=316,slow=10,SNR=4.4						
MKAR				Sn	**Sn**	**10 42 25.4**	**-0.2**
	0.2nm,0.3s,baz=315,slow=21,SNR=7.3						
MKAR				Lg	Lg	10 42 59.3	
	0.3nm,0.3s,baz=323,slow=26,SNR=12 0.2nm,0.5s						
AAK	**Ala-Archa**	**9.14**	**185**	Lg	Lg	10 44 21.4	
	0.2nm,0.3s,baz=61,slow=22,SNR=4.0						

IDC 20 10:45:06.3±999.0, 67°.83N×33°.37E, h0km, Error ellipse: s-maj=879.6km s-min=245.8km az=112.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**21.30**	**133**	I	I	12 54 00.0	
	baz=337,slow=331,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**27.62**	**94**	I	I	13 34 40.0	
	baz=319,slow=359,SNR=3.0						
I34MN	**SONGINO INFRAS**	**40.72**	**81**	I	I	14 55 20.0	
	baz=328,slow=339,SNR=0.6						

*NOU **20** 10:50:30.3, 43°.61S×173°.19E, h9km, MLv3.8/9, Off E. Coast of S. Island, N.Z.*
*WEL **20** 10:50:31.6±0.5, 43°.5S±3°×173°.3E±°, h9km±3km, M3.1/13, ML3.2/14, MLv3.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=113.4, confirmed*

ISC 20 10:50:31.6±1.0, 43°.49S±0°.03×172°.96E±0°.04, h16km±9km, n62, σ1s91/68, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCZ	**Okains Bay**	**0.25**	**163**	P	**Pg**	**10 50 38.4**	**+1.3**
MQZ	**McQueen's Vall**	**0.31**	**225**	P	**Pg**	**10 50 37.7**	**-0.4**
MQZ				S	**Sg**	**10 50 41.8**	**-0.8**
AMCZ	**Amberley**	**0.38**	**324**	P	**Pg**	**10 50 39.3**	**-0.1**
AKCZ	**Akaroa Harbour**	**0.39**	**185**	P	**Pb**	**10 50 40.3**	**+0.3**
GVZ	**Greta Valley S**	**0.52**	**6**	P	**Pb**	**10 50 42.9**	**+0.6**
GVZ				S	**Sb**	**10 50 51.0**	**+1.3**
RACZ	**Rakaia**	**0.64**	**248**	P	**Pg**	**10 50 43.8**	**-0.4**
OXZ	**Oxford**	**0.69**	**283**	P	**Pg**	**10 50 44.2**	**-0.9**
OXZ				S	**Sg**	**10 50 53.2**	**-1.1**
LTZ	**Lake Taylor**	**0.87**	**324**	P	**Pg**	**10 50 48.1**	**-0.3**
LTZ				S	**Sg**	**10 50 59.5**	**-0.4**
WACZ	**Wakanui South**	**0.93**	**240**	P	**Pg**	**10 50 49.2**	**-0.5**
WACZ				S	**Sg**	**10 51 02.1**	**+0.3**
KHZ	**Kahutara**	**1.15**	**22**	P	**Pb**	**10 50 52.8**	**-0.3**
KHZ	**Kahutara**	**1.15**	**22**	P	**Pb**	**10 50 52.7**	**-0.3**
INZ	**Inchbonnie**	**1.35**	**304**	P	**Pn**	**10 50 55.8**	**+0.1**
ARCZ	**Arundel**	**1.37**	**250**	P	**Pn**	**10 50 55.2**	**-0.9**
RPZ	**Rata Peaks**	**1.40**	**260**	P	**Pn**	**10 50 57.8**	**+1.3**
RPZ	**Rata Peaks**	**1.40**	**260**	P	**Pn**	**10 50 55.3**	**-1.1**
TMZ	**Timaru**	**1.67**	**237**	P	**Pn**	**10 50 59.7**	**-0.5**
TMZ				S	**Sb**	**10 51 23.2**	**+0.5**
WVZ	**Waitaha Valley**	**1.68**	**284**	P	**Pn**	**10 51 00.2**	**0.0**
THZ	**Tophouse**	**1.73**	**359**	P	**Pn**	**10 51 00.7**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.90**	**21**	P	**Pn**	**10 51 03.7**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**1.93**	**274**	P	**Pn**	**10 51 04.8**	**+1.1**
DSZ	**Denniston Nort**	**1.94**	**334**	P	**Pn**	**10 51 04.0**	**+0.1**
MRNZ	**Matariki Terra**	**2.09**	**356**	P	**Pn**	**10 51 07.1**	**+1.2**
LBZ	**Lake Benmore**	**2.20**	**245**	P	**Pn**	**10 51 08.8**	**+1.5**
ODZ	**Otahua Downs**	**2.28**	**226**	P	**Pn**	**10 51 09.5**	**+1.0**
ODZ	**Otahua Downs**	**2.28**	**226**	P	**Pn**	**10 51 07.9**	**-0.5**
FOZ	**Fox Glacier**	**2.29**	**268**	P	**Pn**	**10 51 09.2**	**+0.6**
NNZ	**Nelson**	**2.29**	**8**	P	**Pn**	**10 51 09.2**	**+0.6**
TKNZ	**Takaka Hill**	**2.45**	**0**	P	**Pn**	**10 51 12.0**	**+1.1**
TCW	**Tory Channel**	**2.48**	**24**	P	**Pn**	**10 51 11.0**	**-0.2**
SNZO	**South Karori**	**2.53**	**31**	P	**Pn**	**10 51 12.0**	**+0.1**
WEL	**Wellington**	**2.58**	**32**	P	**Pn**	**10 51 12.4**	**-0.2**
QRZ	**Quartz Range**	**2.68**	**353**	P	**Pn**	**10 51 15.5**	**+1.5**
QRZ	**Quartz Range**	**2.68**	**353**	P	**Pn**	**10 51 15.0**	**+1.0**
CAW	**Cannon Point**	**2.85**	**34**	P	**Pn**	**10 51 16.0**	**-0.3**
MTW	**Mount Morrison**	**3.00**	**40**	P	**Pn**	**10 51 17.5**	**-0.9**
KIW	**Kapiti Island**	**3.00**	**30**	P	**Pn**	**10 51 18.2**	**-0.2**
JCZ	**Jackson Bay**	**3.08**	**258**	P	**Pn**	**10 51 20.2**	**+0.6**
JCZ	**Jackson Bay**	**3.08**	**258**	P	**Pn**	**10 51 20.8**	**+1.2**
OGWZ	**Otaki Gorge**	**3.13**	**32**	P	**Pn**	**10 51 19.9**	**-0.3**
WKZ	**Wanaka**	**3.14**	**243**	P	**Pn**	**10 51 21.7**	**+1.4**
EAZ	**Earnscleugh**	**3.15**	**235**	P	**Pn**	**10 51 19.7**	**-0.7**
TUZ	**Tuapeka**	**3.42**	**223**	P	**Pn**	**10 51 24.8**	**+0.7**
MRZ	**Mangatainoka R**	**3.43**	**35**	P	**Pn**	**10 51 23.9**	**-0.4**
BFZ	**Birch Farm**	**3.72**	**42**	P	**Pn**	**10 51 27.0**	**-1.3**
BFZ	**Birch Farm**	**3.72**	**42**	P	**Pn**	**10 51 27.1**	**-1.3**
MLZ	**Mavora Lakes**	**3.94**	**240**	P	**Pn**	**10 51 31.6**	**+0.2**
KHEZ	**Kahui Hut**	**4.26**	**11**	P	**Pn**	**10 51 37.8**	**+1.9**
KHEZ	**Kahui Hut**	**4.26**	**11**	P	**Pn**	**10 51 38.3**	**+2.4**
PKE	**Pukeiti**	**4.36**	**11**	P	**Pn**	**10 51 39.0**	**+1.9**
VRZ	**Vera Road**	**4.56**	**18**	P	**Pn**	**10 51 41.9**	**+2.0**
WNVZ	**Wahianoa**	**4.61**	**26**	P	**Pn**	**10 51 42.1**	**+1.5**
TRVZ	**Turoa**	**4.62**	**26**	P	**Pn**	**10 51 42.3**	**+1.5**
TUVZ	**Tukino**	**4.68**	**27**	P	**Pn**	**10 51 43.1**	**+1.4**
OTVZ	**Oturere**	**4.78**	**26**	P	**Pn**	**10 51 43.3**	**+0.3**
NNVZ	**North Ngauruho**	**4.79**	**26**	P	**Pn**	**10 51 44.3**	**+1.2**
ETVZ	**East Tongariro**	**4.82**	**26**	P	**Pn**	**10 51 44.4**	**+0.9**
TMVZ	**Te Maari**	**4.83**	**26**	P	**Pn**	**10 51 44.7**	**+1.0**
NTVZ	**North Tongarir**	**4.84**	**26**	P	**Pn**	**10 51 44.8**	**+1.0**
BKZ	**Black Stump Fm**	**5.07**	**33**	P	**Pn**	**10 51 46.4**	**-0.5**
BKZ	**Black Stump Fm**	**5.07**	**33**	P	**Pn**	**10 51 45.4**	**-1.5**
MRHZ	**Matea Rd**	**5.33**	**30**	P	**Pn**	**10 51 49.1**	**-1.4**
GLKZ	**Green Lake**	**15.97**	**30**	P	**Pn**	**10 54 14.4**	**-1.0**

IDC 20 11:02:27.6±2.1, 0°.64N×126°.77E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=182.1km s-min=25.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.76**	**160**	P	P

	comp=E,11105µm,0.2s						
T1202				AML	AML		
	comp=N,16350µm,0.2s						
T1202				AML	AML		
	comp=E,1305µm,0.5s						
T1202				AML	AML		
	comp=N,2300µm,0.1s						
T1218	**Civita (PG)**	**0.05**	**226**	P	Pg	11 21 23.9	-0.2
T1218				S	Sg	11 21 26.1	+0.3
T1218				AML	AML		
	comp=E,1825µm,0.3s						
T1218				AML	AML		
	comp=N,2320µm,0.4s						
T1218				AML	AML		
	comp=E,1745µm,0.3s						
T1218				AML	AML		
	comp=N,2310µm,0.4s						
T1218				AML	AML		
	comp=E,346µm,0.4s						
T1218				AML	AML		
	comp=N,530µm,0.7s						
LNSS	**Leonessa**	**0.14**	**222**	AML	AML		
	comp=E,5500µm,0.9s						
LNSS				AML	AML		
	comp=E,5775µm,0.9s						
LNSS				AML	AML		
	comp=N,6695µm,0.1s						
NRCA	**Norcia**	**0.14**	**345**	P	Pg	11 21 25.5	+0.5
T1217	**Poggiodomo (PG**	**0.17**	**273**	P	Pg	11 21 26.2	+0.6
T1217				S	Sg	11 21 29.2	+0.9
T1217				AML	AML		
	comp=E,775µm,0.4s						
T1217				AML	AML		
	comp=N,944µm,0.3s						
RM33	**Pellescritta (**	**0.20**	**169**	P	Pb	11 21 28.0	+0.7
RM33				AML	AML		
	comp=E,21450µm,1.1s						
RM33				AML	AML		
	comp=N,17250µm,0.2s						
RM33				AML	AML		
	comp=N,17200µm,0.2s						
RM33				AML	AML		
	comp=E,21450µm,1.1s						
MC2	**Monte Cornacci**	**0.21**	**6**	P	Pg	11 21 26.4	+0.1
T1215	**Vallo di Nera,**	**0.24**	**295**	P	Pb	11 21 30.2	+2.2
CAMP	**Campotosto**	**0.25**	**133**	P	Pg	11 21 27.3	+0.4
CAMP				AML	AML		
	comp=E,4655µm,1.5s						
CAMP				AML	AML		
	comp=N,9820µm,0.4s						
T1247	**Pizzolo (AQ)**	**0.28**	**159**	⇑P	Pb	11 21 28.2	-0.6
T1247				AML	AML		
	comp=E,45100µm,1.2s						
T1247				AML	AML		
	comp=E,45100µm,0.8s						
T1247				AML	AML		
	comp=N,26500µm,0.6s						

ROM 20 11:21:25.0±0.1, 42°.491N±0°.007×13°.278E±0°.007, h10km, ML2.5/21, 9C-7D, Error ellipse: s-maj=0.9km s-min=0.4km az=208.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.11**	**65**	P	Pg	11 21 28.5	+0.7
CAMP				S	Sg	11 21 30.7	+0.8
AQU	**L'Aquila**	**0.17**	**146**	⇓P	Pg	11 21 29.6	+1.0
AQU				AML	AML		
	comp=N,2700µm,0.3s						
AQU				AML	AML		
	comp=N,2510µm,0.3s						
AQU				AML	AML		
	comp=E,2530µm,1.0s						
AQU				AML	AML		
	comp=E,2585µm,1.0s						
AQU	**L'Aquila**	**0.17**	**146**	P	Pg	11 21 29.6	+1.0
LNSS	**Leonessa**	**0.21**	**302**	P	Pg	11 21 30.1	+0.6
LNSS				S	Sg	11 21 33.9	+1.4
T1218	**Civita (PG)**	**0.21**	**326**	P	Pg	11 21 30.0	+0.5
T1218				S	Sg	11 21 33.6	+1.0
T1202	**Accumoli, Fraz**	**0.22**	**350**	P	Pg	11 21 30.2	+0.7
GIGS	**Gran Sasso**	**0.22**	**101**	P	Pg	11 21 30.0	+0.4
GIGS				AML	AML		
	comp=E,562µm,0.7s						
GIGS				AML	AML		
	comp=N,582µm,0.7s						
GIGS				AML	AML		
	comp=E,562µm,1.3s						
GIGS	**Gran Sasso**	**0.22**	**101**	P	Pg	11 21 30.1	+0.5
GIGS				S	Sg	11 21 33.6	+0.9
FIAM	**Fiamignano**	**0.25**	**208**	P	Pg	11 21 30.7	+0.5
FIAM				AML	AML		
	comp=E,1245µm,0.5s						
FIAM				AML	AML		
	comp=N,1100µm,0.5s						
FIAM				AML	AML		
	comp=E,1245µm,1.5s						
FIAM				AML	AML		
	comp=N,1100µm,1.5s						
FIAM	**Fiamignano**	**0.25**	**208**	P	Pb	11 21 31.0	-0.7
FAGN	**Fagnano**	**0.32**	**135**	P	Pg	11 21 31.9	+0.5
FAGN				AML	AML		
	comp=E,2315µm,1.1s						
FAGN				AML	AML		
	comp=N,2970µm,0.3s						
FAGN				AML	AML		
	comp=E,2315µm,0.9s						
FAGN				AML	AML		
	comp=N,2970µm,1.7s						
FAGN	**Fagnano**	**0.32**	**135**	P	Pb	11 21 32.4	-0.5
NRCA	**Norcia**	**0.36**	**341**	P	Pg	11 21 32.4	+0.1
NRCA				AML	AML		
	comp=N,3560µm,0.1s						
NRCA				AML	AML		
	comp=E,6210µm,0.8s						
ARRO	**Arrone**	**0.39**	**283**	P	Pn	11 21 38.0	+1.4
MC2	**Monte Cornacci**	**0.43**	**351**	P	Pg	11 21 33.5	+0.1
T1215	**Vallo di Nera,**	**0.43**	**316**	P	Pn	11 21 40.2	+2.8
T1215				AML	AML		
	comp=E,382µm,0.3s						
T1215				AML	AML		
	comp=N,338µm,1.2s						
T1215				AML	AML		
	comp=N,323µm,1.6s						
T1215				AML	AML		
	comp=E,382µm,0.3s						
T1215				AML	AML		
	comp=N,338µm,1.2s						
T1215				AML	AML		
	comp=N,323µm,1.6s						
T1215				AML	AML		
	comp=N,323µm,0.4s						
T1215				AML	AML		
	comp=E,394µm,1.0s						
T1215				AML	AML		
	comp=N,338µm,0.8s						
PTQR	**Pietraquaria**	**0.48**	**169**	⇓P	Pg	11 21 34.8	+0.4
PTQR				AML	AML		
	comp=E,302µm,0.4s						
PTQR				AML	AML		
	comp=N,278µm,0.4s						
CESX	**Cesi**	**0.53**	**283**	⇓P	Pn	11 21 43.5	+4.9
CESX				AML	AML		
	comp=N,572µm,0.4s						
CESX				AML	AML		
	comp=E,460µm,1.6s						
CESX				AML	AML		
	comp=E,460µm,0.4s						
OFFI	**Offida**	**0.54**	**34**	P	Pb	11 21 36.2	-0.3
OFFI				AML	AML		
	comp=N,1555µm,0.5s						
OFFI				AML	AML		
	comp=E,1100µm,0.7s						
FDMO	**Fiordimonte**	**0.56**	**346**	P	Pg	11 21 35.7	-0.2
FDMO				S	Sb	11 21 44.3	-0.8
FDMO				AML	AML		
	comp=E,417µm,0.3s						
FDMO				AML	AML		
	comp=E,418µm,0.3s						
FDMO				AML	AML		
	comp=N,491µm,0.2s						
FDMO				AML	AML		
	comp=E,418µm,1.7s						
TRTR	**Tortoreto Alta**	**0.57**	**56**	⇑P	Pb	11 21 36.9	-0.1
TRTR				S	Sn	11 21 47.0	-1.5
TRTR				AML	AML		
	comp=E,1320µm,1.4s						
TRTR				AML	AML		
	comp=N,1405µm,0.8s						
TRTR				AML	AML		
	comp=E,1005µm,1.2s						
TRTR				AML	AML		
	comp=N,1345µm,0.6s						
GUMA	**Gualdo di Mace**	**0.57**	**4**	P	Pg	11 21 36.3	+0.2
GUMA				S	Sb	11 21 45.4	0.0
GUMA				AML	AML		
	comp=E,1435µm,0.3s						
GUMA				AML	AML		
	comp=N,2630µm,0.6s						
GUMA				AML	AML		
	comp=E,2430µm,0.3s						
GUMA				AML	AML		
	comp=N,2100µm,0.5s						
GUMA				AML	AML		
	comp=N,2630µm,1.4s						
GUMA				AML	AML		
	comp=N,2100µm,1.5s						
CESI	**CESI - Serrava**	**0.58**	**332**	P	Pg	11 21 36.2	-0.1
CESI				S	Sb	11 21 45.3	-0.4
CESI				AML	AML		
	comp=E,706µm,1.3s						
CESI				AML	AML		
	comp=N,994µm,0.2s						
CESI				AML	AML		
	comp=E,706µm,0.7s						
CESI				AML	AML		
	comp=N,994µm,1.8s						
CERT	**Cerreto**	**0.58**	**202**	⇑P	Pg	11 21 36.6	+0.2
CERT				AML	AML		
	comp=E,386µm,0.3s						
CERT				AML	AML		
	comp=N,320µm,0.9s						
MOMA	**Monte Martano**	**0.61**	**301**	AML	AML		
	comp=N,442µm,0.3s						
MOMA				AML	AML		
	comp=E,449µm,1.2s						
MOMA				AML	AML		
	comp=E,449µm,0.8s						
T1220	**Camerino, Fraz**	**0.63**	**347**	P	Pg	11 21 37.0	-0.3
T1220				S	Sb	11 21 46.5	-0.6
T1220				AML	AML		
	comp=N,2225µm,0.2s						
T1220				AML	AML		
	comp=E,1925µm,1.1s						
T1220				AML	AML		
	comp=E,2005µm,1.1s						
T1220				AML	AML		
	comp=N,2250µm,0.2s						
ASSB	**Assisi San Ben**	**0.71**	**321**	P	Pg	11 21 39.1	+0.3
ASSB				S	Sb	11 21 49.6	+0.1
ASSB				AML	AML		
	comp=N,589µm,0.2s						
ASSB				AML	AML		
	comp=E,534µm,1.1s						
SNTG	**Esanatoglia**	**0.80**	**342**	P	Pg	11 21 40.0	-0.5
SNTG				S	Sb	11 21 52.1	+0.1
SNTG				AML	AML		
	comp=E,214µm,1.2s						
SNTG				AML	AML		
	comp=N,222µm,1.3s						
SNTG				AML	AML		
	comp=E,214µm,0.8s						
SNTG				AML	AML		
	comp=N,222µm,0.7s						
POFI	**Posta Fibreno**	**0.84**	**157**	⇓P	Pn	11 21 44.8	+1.8
POFI				AML	AML		
	comp=E,120µm,0.8s						
POFI				AML	AML		
	comp=N,110µm,0.6s						
EL6	**Elcito**	**0.85**	**351**	P	Pg	11 21 40.8	-0.5
EL6				AML	AML		
	comp=E,544µm,1.1s						
EL6				AML	AML		
	comp=N,730µm,0.2s						
EL6				AML	AML		
	comp=E,544µm,0.9s						
CING	**Cingoli**	**0.89**	**356**	P	Pg	11 21 41.5	-0.6
CING				AML	AML		
	comp=E,316µm,1.4s						
CING				AML	AML		
	comp=N,296µm,0.4s						
GIUL	**Giuliano Di Ro**	**0.93**	**181**	⇑P	Pn	11 21 45.5	+1.3
GIUL				AML	AML		
	comp=N,132µm,1.6s						
GIUL				AML	AML		
	comp=E,114µm,0.5s						
MGAB	**Montegabbione**	**0.96**	**296**	⇑P	Pn	11 21 45.2	+0.7
MGAB				S	Sb	11 21 56.4	-0.1
MGAB				AML	AML		
	comp=N,270µm,0.5s						
MGAB				AML	AML		
	comp=E,272µm,1.2s						
MGAB				AML	AML		
	comp=N,256µm,0.5s						
MGAB				AML	AML		
	comp=E,272µm,0.8s						
MGAB				AML	AML		
	comp=N,270µm,1.5s						
MGAB				AML	AML		
	comp=N,256µm,1.5s						
MGAB				AML	AML		
	comp=E,268µm,0.4s						
SSFR	**Montelago di S**	**1.01**	**339**	P	Pg	11 21 44.0	-0.5
SSFR				AML	AML		
	comp=E,530µm,0.3s						
SSFR				AML	AML		
	comp=N,352µm,0.2s						
SSFR				AML	AML		
	comp=N,478µm,1.5s						
SSFR				AML	AML		
	comp=E,422µm,0.2s						
SSFR				AML	AML		
	comp=N,478µm,0.5s						
SSFR				AML	AML		
	comp=E,530µm,0.2s						
ATVO	**AVT- Monte Val**	**1.10**	**325**	⇓P	Pn	11 21 48.7	+2.3
ATVO				AML	AML		
	comp=E,155µm,0.4s						
ATVO				AML	AML		
	comp=N,124µm,0.4s						
ATVO				AML	AML		
	comp=N,124µm,1.6s						
ATVO				AML	AML		
	comp=E,155µm,1.6s						
MPAG	**Monte Paganucc**	**1.20**	**342**	⇑P	Pb	11 21 47.5	-0.4
MPAG				AML	AML		
	comp=E,174µm,1.6s						
MPAG				AML	AML		
	comp=E,174µm,1.6s						
MPAG				AML	AML		
	comp=N,196µm,0.5s						
MPAG				AML	AML		
	comp=E,174µm,0.4s						
APEC	**Apecchio**	**1.24**	**330**	⇑P	Pg	11 21 52.0	+3.2
APEC				AML	AML		
	comp=E,190µm,0.5s						
APEC				AML	AML		
	comp=N,203µm,0.8s						
APEC				AML	AML		
	comp=E,190µm,0.5s						
APEC				AML	AML		
	comp=N,202µm,0.8s						
PE3	**Peglio**	**1.33**	**335**	P	Pn	11 21 49.6	-0.1
PE3				AML	AML		
	comp=E,416µm,0.5s						
PE3				AML	AML		
	comp=E,416µm,1.5s						
PE3				AML	AML		
	comp=N,8µm,0.1s						
MODR	**Mondragone**	**1.42**	**161**	P	Pg	11 21 57.5	+5.3
PIGN	**Pignataro Magg**	**1.46**	**152**	⇓P	Pg	11 21 55.5	+2.6
PTRJ	**Pietraroja**	**1.46**	**140**	S	Sg	11 22 16.9	+4.9
CRE	**Caprese Michel**	**1.49**	**320**	P	Pb	11 21 52.4	-0.4
CRE				AML	AML		
	comp=E,49µm,1.6s						
CRE				AML	AML		
	comp=N,69µm,0.8s						
CRE				AML	AML		
	comp=N,69µm,1.2s						
CRE				AML	AML		
	comp=E,49µm,0.4s						
MAIM	**Mastiano**	**2.48**	**306**	S	Sg	11 22 44.4	-0.4
PZUN	**Potenza**	**2.65**	**133**	⇓P	Pb	11 22 10.2	-2.2
NDIM	**Novi di Modena**	**2.95**	**325**	S	Sn	11 22 44.6	-2.8
SBPO	**S.Benedetto Po**	**3.08**	**327**	⇑P	Pg	11 22 23.5	-0.4
CRND	**Cornuda**	**3.45**	**346**	⇑P	Pn	11 22 20.6	+1.9
TDS	**Terranova Siba**	**3.65**	**140**	P	Pb	11 22 26.3	-3.3
VOBA	**Vobarno**	**3.73**	**329**	S	Sg	11 23 23.9	-0.9
CNCS	**Concesio**	**3.82**	**326**	S	Sg	11 23 23.1	-4.4
SARZ	**Sarezzano**	**3.96**	**308**	P	Pb	11 22 30.8	-4.1
CAPR	**Capriolo**	**3.96**	**324**	S	Sn	11 23 04.1	-8.2
VPL	**Vulcano Piano**	**4.31**	**162**	P	Pb	11 22 37.9	-2.9
BURY	**Giardini Botan**	**4.38**	**289**	S	Sn	11 23 21.2	-1.4
MFNL	**Monte Finestre**	**4.70**	**183**	⇑P	Pg	11 23 03.0	+7.9
VLO	**Vlora**	**5.09**	**111**	P	Pb	11 22 54.8	+0.7

*SNET **20** 11:22:21.5±1.0, 13°.17N×88°.26W, h124km±3km, ML3.6*
*IDC **20** 11:22:22.1±3.2, 13°.57N×87°.57W, h165km±59km, mb2.4/2, mbtmp3.0/3, Error ellipse: s-maj=107.4km s-min=39.1km az=45.0*
*INET **20** 11:22:22.0±0.9, 13°.20N×88°.21W, h123km±10km, ML3.6*

ISC 20 11:22:21.1±1.1, 13°.20N±0°.08×88°.23W±0°.05, h130km±7km, n42, σ0s74/53, 1C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.23**	**344**	*e*P	**Pn**	**11 22 39.3**	**+0.1**
VSM	**San Miguel**	**0.23**	**349**	*e*P	**Pn**	**11 22 39.2**	**-0.2**
VSM				*e*S	**Sn**	**11 22 54.5**	**+1.3**
PACA	**Pacayal**	**0.28**	**341**	*e*P	**Pn**	**11 22 39.5**	**+0.2**
PACA				*e*S	**Sn**	**11 22 53.5**	**+0.3**
PACA				IAML		11 23 04.7	
	comp=Z,6µm,0.1s						
PACA	**Pacayal**	**0.28**	**341**	*e*P	**Pn**	**11 22 39.6**	**+0.2**
LCND	**La Caada**	**0.35**	**72**	⇓*e*P	**Pn**	**11 22 39.7**	**+0.3**
LCND				IAML		11 22 40.5	
	comp=Z,1µm,0.5s						
LCND				*e*S	**Sn**	**11 22 52.6**	**-0.7**
ALJI	**Alcalda de J**	**0.35**	**291**	*e*P	**Pn**	**11 22 39.9**	**+0.4**
ALJI				IAML		11 22 59.2	
	comp=Z,1µm,0.1s						
CNCH	**Conchagua**	**0.39**	**79**	⇓*e*P	**Pn**	**11 22 39.8**	**0.0**
COEB	**Comit de Eme**	**0.42**	**315**	*e*P	**Pn**	**11 22 39.5**	**-0.3**
FAGO	**Alcalda de S**	**0.51**	**14**	⇓*e*P	**Pn**	**11 22 40.4**	**+0.1**
FAGO				*e*S	**Sn**	**11 22 54.5**	**-0.3**
PQSS	**Presa 15 de Se**	**0.53**	**323**	⇑*e*P	**Pn**	**11 22 40.4**	**+0.1**
PQSS				*e*S	**Sn**	**11 22 54.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.70**	**316**	*e*P	**Pn**	**11 22 41.8**	**+0.3**
COEG	**Centro de Oper**	**0.76**	**303**	*e*P	**Pn**	**11 22 42.3**	**+0.3**
PAVA	**Las Pavas**	**0.86**	**307**	*e*P	**Pn**	**11 22 43.0**	**+0.1**
PAVA				IAML		11 23 08.6	
	comp=Z,417nm,0.2s						
SJTE	**Alcalda de S**	**0.86**	**299**	*e*P	**Pn**	**11 22 42.8**	**0.0**
LFRS	**El Faro**	**0.91**	**298**	*e*P	**Pn**	**11 22 43.5**	**+0.1**
LFRS				*e*S	**Sn**	**11 23 00.3**	**+0.1**
P5NO	**Presa 5 de nov**	**0.94**	**327**	⇓*e*P	**Pn**	**11 22 43.6**	**+0.1**
P5NO				*e*S	**Sn**	**11 23 00.8**	**+0.4**
SNET	**Serv Nac Est T**	**1.09**	**296**	*e*P	**Pn**	**11 22 44.7**	**-0.3**
SNET				IAML		11 23 07.4	
	comp=Z,815nm,0.2s						
UEES	**Universidad Ev**	**1.11**	**298**	*e*P	**Pn**	**11 22 44.7**	**-0.5**
UEES				IAML		11 23 11.3	
	comp=Z,551nm,0.2s						
BOQS	**Boqueron**	**1.15**	**298**	*e*P	**Pn**	**11 22 46.8**	**+1.1**
BOQS				*e*S	**Sn**	**11 23 06.0**	**+1.6**
CRIN	**San Cristobal**	**1.25**	**113**	*e*P	**Pn**	**11 22 47.2**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.26**	**47**	*e*P	**Pn**	**11 22 47.5**	**+0.7**
TGUH	**Tegucigalpa,Un**	**1.26**	**47**	*e*P	**Pn**	**11 22 47.4**	**+0.7**
JAYA	**Jayaque - finc**	**1.27**	**291**	*e*P	**Pn**	**11 22 46.8**	**-0.1**
JAYA				*e*S	**Sn**	**11 23 05.5**	**-1.0**
JAYA				IAML		11 23 09.0	
	comp=Z,2µm,0.2s						
TELN	**Telica**	**1.49**	**113**	*e*P	**Pn**	**11 22 49.7**	**+0.6**
CEVE	**Cerro Verde**	**1.49**	**295**	*e*P	**Pn**	**11 22 50.4**	**+1.0**
CEVE				IAML		11 23 21.6	
	comp=Z,657nm,0.2s						
SBLS	**San Blas**	**1.50**	**295**	*e*P	**Pn**	**11 22 49.9**	**+0.4**
SBLS				*e*S	**Sn**	**11 23 12.6**	**+1.6**
RTR	**El Retiro**	**1.54**	**297**	*e*P	**Pn**	**11 22 50.0**	**+0.1**
MTO3	**Montecristo**	**1.62**	**317**	*e*P	**Pn**	**11 22 51.3**	**+0.5**
MTO3	**Montecristo**	**1.62**	**317**	*e*P	**Pn**	**11 22 51.4**	**+0.5**
CNGN	**Cerro Negro**	**1.65**	**115**	*e*P	**Pn**	**11 22 50.9**	**-0.1**
CNGN				IAML		11 23 18.5	
	comp=E,470nm,0.4s						
NUBE	**Las Nubes**	**1.66**	**295**	*e*P	**Pn**	**11 22 51.1**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.72**	**299**	*e*P	**Pn**	**11 22 51.6**	**-0.2**
ESQI	**Esquipulas**	**1.73**	**321**	*e*P	**Pn**	**11 22 52.9**	**+0.9**
MOMN	**Momotombo**	**1.83**	**115**	*e*P	**Pn**	**11 22 53.0**	**0.0**
COPN	**Copaltepe**	**1.89**	**122**	*e*P	**Pn**	**11 22 54.2**	**+0.4**
MATN	**Matagalpa**	**2.26**	**97**	*e*P	**Pn**	**11 22 58.8**	**+0.4**
HZTE	**Horizontes, Gu**	**3.57**	**134**	*e*P	**Pn**	**11 23 17.2**	**+2.0**
HZTE				*e*S	**Sn**	**11 23 57.4**	**+0.3**
HZTE				IAML		11 24 02.9	
	comp=N,60nm,0.2s						
DUNO	**Dulce Nombre,**	**4.10**	**139**	*e*P	**Pn**	**11 23 23.4**	**+1.2**
JTS	**Las Juntas de**	**4.32**	**132**	P	**Pn**	**11 23 26.2**	**+1.0**
	comp=N,6.7nm,0.4s,baz=118,slow=23,SNR=13						
JTS				S	**Sn**	**11 24 13.1**	**-1.8**
	comp=N,13nm,0.3s,baz=321,slow=21,SNR=9.1						
TXAR	**Lajitas Array**	**21.52**	**321**	P	**P**	**11 26 59.5**	**-0.4**
	comp=N,0.2nm,0.6s,baz=140,slow=10,SNR=5.6						
	comp=N,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**52.69**	**345**	P	P	11 31 17.7	-4.2
	comp=N,0.1nm,0.7s,baz=151,slow=6.4,SNR=3.7						
	comp=N,0.1nm,0.7s						
WRA	**Warramunga Arr**	**138.74**	**255**	PKP	**PKPdf**	**11 41 31.4**	**-1.3**
	comp=N,0.4nm,0.8s,baz=89,slow=3.1,SNR=3.3						

IDC 20 11:32:04.2±2.8, 5°.39S×154°.01E, h0km, mb3.1/3, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=51.9km s-min=33.4km az=71.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.25**	**299**	Pn	Pn	11 32 43.4	+0.7
	7.9nm,0.3s,baz=315,slow=2.9,SNR=6.6						
KRVT				Sn	Sn	11 33 12.3	+1.1
	18nm,0.3s,baz=342,slow=20,SNR=7.4						
	73nm,0.7s						
WRA	**Warramunga Arr**	**23.98**	**231**	P	P	11 37 20.6	-0.1
	0.3nm,0.7s,baz=54,slow=9.9,SNR=2.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**26.55**	**225**	P	P	11 37 44.1	0.0
	0.1nm,0.4s,baz=56,slow=8.9,SNR=1.8						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**81.56**	**319**	P	P	11 44 23.6	-0.3
	0.2nm,0.6s,baz=97,slow=6.2,SNR=3.9						
	0.2nm,0.6s						

*BER **20** 12:00:15.8±0.9, 67°.89N×33°.23E, h0km, ML1.5, Suspected explosion*

HEL 20 12:00:15.6±0.1, 68°.09N×33°.19E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.58**	**108**	PG	Pg	12 00 26.4	-0.4
LVZ				SG	Sg	12 00 33.7	-0.6
LVZ	**Lovozero**	**0.58**	**108**	PG	Pn	12 00 33.7	+2.5
VRF	**Varrio**	**1.39**	**258**	PG	Pg	12 00 40.9	-1.4
VRF				MSG		12 00 57.6	
	comp=Z,5.0nm,0.2s						
VRF				SG	Sg	12 00 59.2	-1.1
VRF	**Varrio**	**1.39**	**258**	PN	Pg	12 00 40.9	-1.4
VRF				MSG		12 00 55.2	
	comp=Z,5.0nm,0.2s						
VRF				SB	Sg	12 00 59.2	-1.1
OLKF	**Oulanka, Finla**	**2.31**	**221**	PB	Pn	12 00 55.6	+0.8
OLKF				MSG		12 01 23.8	
	comp=Z,1.9nm,0.2s						
OLKF				SB	Sb	12 01 25.8	-1.2
OLKF	**Oulanka, Finla**	**2.31**	**221**	PN	Pn	12 00 56.3	+1.5
	baz=31						
OLKF				SN	Sb	12 01 25.8	-1.2
OLKF				MSG		12 01 28.3	
	comp=Z,1.1nm,0.2s						
KU6	**Riekki**	**2.44**	**213**	PB	Pn	12 00 57.9	+1.3
	baz=34						
KU6				MSG		12 01 27.6	
	comp=Z,0.9nm,0.2s						
KU6				SG	Sb	12 01 31.0	+0.1

KU6	**Riekki**	**2.44 213**	PN	Pb	12 00 59.0	-1.2
KU6			SN	Sb	12 01 31.0	+0.1
KU6			MSG		12 01 33.8	
	comp=Z,0.9nm,0.2s					
VADS	**Vadso**	**2.46 328**	*e*P	Pn	12 00 58.3	+1.4
VADS			IAML		12 01 30.6	
	comp=Z,6.6nm,0.3s					
SGF	**Sodankyl**	**2.61 259**	PN	Pn	12 00 58.9	-0.1
SGF			SG	Sb	12 01 35.3	-0.5
SGF	**Sodankyl**	**2.61 259**	PB	Pn	12 00 58.9	-0.1
SGF			SG	Sb	12 01 35.3	-0.5
MSF	**Maaselka**	**2.72 219**	PB	Pn	12 01 01.8	+1.3
MSF	**Maaselka**	**2.72 219**	PN	Pb	12 01 03.8	-1.3
KEV	**Kevo**	**2.79 310**	*e*P	Pn	12 01 01.6	+0.1
KEV			*e*S	Sn	12 01 35.6	-0.2
KEV	**Kevo**	**2.79 310**	PN	Pn	12 01 01.7	+0.2
KEV			SB	Sn	12 01 36.8	+1.0
KEV			MSG		12 01 37.7	
	comp=Z,3.5nm,0.2s					
ARA0	**ARCESS Array S**	**3.15 301**	*e*P	Pn	12 01 06.3	0.0
ARA0			*e*S	Sn	12 01 43.3	-1.2
ARA0			IAML		12 01 51.7	
	comp=Z,1.9nm,0.2s					
ARA0	**ARCESS Array S** baz=114	**3.15 301**	PN	Pn	12 01 05.9	-0.4
ARA0			SN	Sn	12 01 43.2	-1.3
ARA0	**ARCESS Array S** baz=114	**3.15 301**	PG	Pn	12 01 05.9	-0.4
RNF	**Rovaniemi**	**3.15 245**	PN	Pn	12 01 06.3	0.0
RNF			SN	Sn	12 01 42.4	-2.1
RNF	**Rovaniemi**	**3.15 245**	PN	Pn	12 01 06.3	0.0
RNF			SN	Sn	12 01 42.4	-2.1
HEF	**Hetta**	**3.56 280**	*e*P	Pn	12 01 10.8	-1.3
HEF	**Hetta**	**3.56 280**	PN	Pn	12 01 11.4	-0.7
HEF	**Hetta**	**3.56 280**	PB	Pn	12 01 11.4	-0.7
KTK1	**Kautokeino**	**3.77 289**	*e*P	Pn	12 01 14.1	-0.8
KTK1	**Kautokeino**	**3.77 289**	PN	Pn	12 01 14.5	-0.4
KTK1			SG	Sb	12 02 12.5	+3.4
KTK1	**Kautokeino**	**3.77 289**	PB	Pn	12 01 14.5	-0.4
PAJU	**Pajala**	**4.01 259**	PN	Pn	12 01 18.2	0.0
PAJU	**Pajala**	**4.01 259**	PN	Pn	12 01 18.2	0.0
RMF	**Romuvaara**	**4.10 200**	PN	Pn	12 01 19.4	-0.1
KALU	**Kalix**	**4.46 245**	PN	Pn	12 01 24.3	0.0
KALU	**Kalix**	**4.46 245**	PN	Pn	12 01 24.3	0.0
ERTU	**Ertsjaerv**	**4.53 255**	PN	Pn	12 01 24.3	-0.9
ERTU	**Ertsjaerv**	**4.53 255**	PN	Pn	12 01 24.3	-0.9

HEL 20 12:01:07.1±0.2, 65°80'N × 24°68'E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.32**	**333**	PG	Pg	12 01 13.2	0.0
KALU	**Kalix**	**0.55**	**277**	PG	Pg	12 01 16.9	-0.7
OUL	**Oulu**	**0.88**	**144**	PG	Pg	12 01 22.6	-1.4
OUL				SG	Sg	12 01 33.3	-2.0
RNF	**Rovaniemi** baz=215	**0.98**	**33**	PB	Pn	12 01 28.1	0.0
OBF4	**Vikkela, Lumij**	**1.01**	**170**	PG	Pg	12 01 25.4	-1.0
OBF4				MSG		12 01 38.0	
	comp=Z,2.2nm,0.2s						
OBF4				SB	Sg	12 01 38.7	-0.7
ERTU	**Ertsjaerv**	**1.26**	**308**	PN	Pg	12 01 31.2	-0.1
ERTU				SN	Sn	12 01 51.1	+1.5
OBF0	**Syolatti, Pyha**	**1.32**	**188**	PG	Pg	12 01 30.8	-1.6
OBF0				MSG		12 01 47.0	
	comp=Z,2.3nm,0.2s						
OBF0				SN	Sn	12 01 52.4	+1.4
PAJU	**Pajala**	**1.38**	**334**	PN	Pg	12 01 32.9	-0.6
OUF	**Merijarvi** baz=356	**1.44**	**179**	PG	Pn	12 01 32.9	-1.5
OUF				MSG		12 01 50.4	
	comp=Z,2.2nm,0.2s						
OUF				SG	Sg	12 01 51.8	-1.4
MSF	**Maaselka**	**1.80**	**84**	PG	Pn	12 01 39.2	-0.1
MSF				SG	Sb	12 02 03.8	-0.1
OLKF	**Oulanka, Finla**	**2.00**	**73**	MSG		12 02 06.5	
	comp=Z,3.0nm,0.2s						
OLKF				SG	Sb	12 02 09.5	-0.2
KU6	**Riekki**	**2.15**	**82**	MSG		12 02 10.8	
	comp=Z,1.8nm,0.2s						
KU6				SG	Sb	12 02 13.4	-0.7
LANU	**Lannavaara**	**2.50**	**336**	PG	Pb	12 01 51.7	-1.0
UMAU	**Umeaa**	**2.57**	**223**	PN	Pn	12 01 50.1	+0.2
HEF	**Hetta**	**2.65**	**352**	PB	Pn	12 01 53.2	+2.1
HEF				MSG		12 02 25.1	
	comp=Z,1.0nm,0.2s						
JOF	**Joensuu**	**4.08**	**132**	SN	Sn	12 02 56.8	-2.3

*CRAAG **20** 12:26:02.1, 36°51'N × 3°16'E, Ml3.2, Algerie 04km SW Souhane*
*MDD **20** 12:26:05.1±1.3, 36°64'N × 2°93'E, h0km, Mb4.0/7, M_mb3.3/7, Error ellipse: s-maj=10.8km s-min=5.5km az=125.0*

ISC 20 12:26:02.7±1.0, 36°51'N±0°06 × 3°03'E±0°06, h18km, n11, σ1°94/18, 7C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.29**	**1**	P	**Pg**	**12 26 09.3**	**+0.1**
ABMS	**Boumerdes**	**0.44**	**56**	P	**Pg**	**12 26 11.8**	**+0.1**
ADJB	**Djebel Djouab**	**0.48**	**136**	P	**Pg**	**12 26 12.0**	**-0.5**
AKET	**Djebel Ketaf**	**0.83**	**123**	P	**Pb**	**12 26 18.7**	**0.0**
EIBI	**Ibiza**	**2.85**	**333**	Pn	**Pn**	**12 26 49.7**	**+2.4**
EIBI				⇑*i*Vmb_V		12 26 51.2	
	278nm,SNR=0.2						
EIBI				Sn	**Sn**	**12 27 20.6**	**-0.5**
ETOS	**Mallorca**	**3.26**	**357**	Pn	**Pn**	**12 26 54.0**	**+1.0**
ETOS				⇑*i*Vmb_V		12 26 58.9	
	276nm,SNR=0.3						
ETOS				Sn	**Sn**	**12 27 28.6**	**-2.8**
AFON	**Font Roja**	**3.56**	**308**	Pn	**Pn**	**12 26 59.5**	**+2.3**
AFON				⇑*i*Vmb_V		12 27 04.7	
	59nm,SNR=0.1						
AFON				Sn	**Sn**	**12 27 36.7**	**-2.1**
EMUR	**La Murta**	**3.66**	**293**	Pn	**Pn**	**12 26 59.7**	**+1.2**
EMUR				⇑*i*Vmb_V		12 27 01.6	
	204nm,SNR=0.9						
EMUR				Sn	**Sn**	**12 27 39.8**	**-1.4**
ETOB	**Tobarra**	**4.22**	**302**	Pn	**Pn**	**12 27 07.6**	**+1.5**
ETOB				⇑*i*Vmb_V		12 27 11.6	
	364nm,SNR=1.4						
ETOB				Sn	**Sn**	**12 27 53.7**	**-1.3**
ECHE	**Chera**	**4.41**	**316**	Pn	**Pn**	**12 27 10.9**	**+2.1**
ECHE				⇑*i*Vmb_V		12 27 11.8	
	365nm,SNR=0.8						
ECHE				Sn	**Sn**	**12 27 56.5**	**-3.2**
EMOS	**Mosqueruela**	**4.73**	**326**	Pn	**Pn**	**12 27 15.2**	**+1.8**
EMOS				⇑*i*Vmb_V		12 27 16.4	
	333nm,SNR=0.8						
EMOS				Sn	**Sn**	**12 28 05.2**	**-2.6**

*NEIC **20** 12:51:42.1±2.8, 17°39S±0°07 × 69°86W±0°09, h157km±7km, mb4.1/11, ML3.5(GUC), Error ellipse: s-maj=13.0km s-min=8.8km az=111.0*
*GUC **20** 12:51:43.1±0.7, 17°36S × 70°03W, h138km±5km, ML3.6*
*IDC **20** 12:51:43.9±1.6, 17°31S × 69°66W, h152km±12km, mb3.5/6, mbtmp4.0/8, Error ellipse: s-maj=24.8km s-min=16.6km az=107.0*
*VAO **20** 12:51:46.6±1.5, 17°24S × 69°50W, h153km±6km, mb4.0*

ISC 20 12:51:41.8±0.7, 17°38S±0°05 × 69°86W±0°07, h145km±6km, n70, σ1°32/76, mb4.0/9, 5C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**1.01**	**160**	Pn	**Pn**	**12 52 08.4**	**+1.5**
PB16				Sn	**Sn**	**12 52 27.6**	**+1.7**
PB16	**IPOC Station P**	**1.01**	**160**	⇓*e*P	**Pn**	**12 52 08.6**	**+1.7**
PB16				*e*S	**Sn**	**12 52 27.7**	**+1.7**
AP01	**Chacalluta**	**1.09**	**205**		**Pn**	**12 52 07.2**	**+0.3**
AP01	**Chacalluta**	**1.09**	**205**	⇑*e*P	**Pn**	**12 52 06.2**	**-0.7**
AP01				*e*S	**Sn**	**12 52 24.7**	**-1.3**
PB12	**IPOC Station P**	**1.31**	**200**	Pn	**Pn**	**12 52 08.9**	**-0.2**
PB12	**IPOC Station P**	**1.31**	**200**	⇑*e*P	**Pn**	**12 52 09.0**	**-0.2**
PB12				*e*S	**Sn**	**12 52 28.7**	**-1.3**
PB12				IAML		12 52 31.8	
	comp=E,2μm,0.2s						
MNMC	**Minye Minye**	**1.77**	**172**		**Pn**	**12 52 15.3**	**+1.1**
MNMC	**Minye Minye**	**1.77**	**172**	⇑*i*P	**Pn**	**12 52 15.7**	**+1.5**
MNMC				*i* S	**Sn**	**12 52 40.1**	**+1.0**
MNMC				IAML		12 52 42.4	
	comp=N,844nm,0.2s						
LPAZ	**La Paz**	**1.98**	**57**	P	**Pn**	**12 52 19.2**	**+2.2**
	comp=N,48nm,0.3s,baz=261,slow=7.9,SNR=181						
LPAZ				S	**Sn**	**12 52 43.1**	**-0.8**
	comp=N,83nm,0.6s,baz=347,slow=21,SNR=23						
LPAZ	**La Paz**	**1.98**	**57**	*e*P	**Pn**	**12 52 19.3**	**+2.2**
PSGC	**Pisagua**	**2.22**	**186**	*e*P	**Pn**	**12 52 18.4**	**-1.0**
PSGC				*e*S	**Sn**	**12 52 46.4**	**-2.0**
PSGC				IAML		12 52 49.1	
	comp=N,206nm,0.3s						
PSGCX	**Pisagua**	**2.22**	**186**		**Pn**	**12 52 19.3**	**-0.2**
GO01	**Chusmiza**	**2.37**	**165**		**Pn**	**12 52 20.2**	**-1.3**
PB11	**IPOC Station P**	**2.38**	**175**	Pn	**Pn**	**12 52 22.0**	**+0.6**
PB11	**IPOC Station P**	**2.38**	**175**	⇑*i*P	**Pn**	**12 52 22.2**	**+0.8**
PB11				*i* S	**Sn**	**12 52 52.1**	**+0.2**
PB11				IAML		12 52 54.2	
	comp=E,276nm,0.2s						
HMBC	**Humberstone**	**2.89**	**180**	⇑*i*P	**Pn**	**12 52 27.6**	**0.0**
HMBC				IAML		12 53 05.2	
	comp=N,161nm,0.3s						
TA01	**Diego Aracena**	**3.19**	**185**		**Pn**	**12 52 31.2**	**-0.2**
TA01	**Diego Aracena**	**3.19**	**185**	*e*P	**Pn**	**12 52 31.2**	**-0.2**
PATCX	**Punta Patache**	**3.44**	**185**		**Pn**	**12 52 34.8**	**+0.1**
PB01	**IPOC Station P**	**3.67**	**174**		**Pn**	**12 52 38.3**	**+0.7**
PB02	**IPOC Station P**	**3.92**	**180**		**Pn**	**12 52 41.5**	**+0.4**
PB07	**IPOC Station P**	**4.33**	**180**	Pn	**Pn**	**12 52 47.0**	**+0.5**
PB09	**IPOC Station P**	**4.44**	**173**		**Pn**	**12 52 48.9**	**+1.0**
PB03	**IPOC Station P**	**4.65**	**179**		**Pn**	**12 52 51.0**	**+0.3**
PB04	**IPOC Station P**	**4.94**	**183**	Pn	**Pn**	**12 52 54.3**	**-0.2**
LVC	**Limon Verde**	**5.29**	**170**	P	**Pn**	**12 53 00.6**	**+1.3**
	comp=N,6.8nm,0.4s,baz=0.0,slow=8.8,SNR=12						
LVC				S	**Sn**	**12 53 57.5**	**-2.2**
	comp=N,12nm,0.3s,baz=87,slow=23,SNR=17						
LVC	**Limon Verde**	**5.29**	**170**		**Pn**	**12 53 00.4**	**+1.2**
PB06	**IPOC Station P**	**5.31**	**177**	Pn	**Pn**	**12 52 59.1**	**-0.3**
PB10	**IPOC Station P**	**6.14**	**186**	Pn	**Pn**	**12 53 09.3**	**-1.0**
PB14	**IPOC Station P**	**7.23**	**184**	Pn	**Pn**	**12 53 23.4**	**-1.8**
ETMB	**Extrema**	**8.31**	**26**	Pn	**Pn**	**12 53 39.3**	**0.0**
ETMB	**Extrema**	**8.31**	**26**	*e*P	**Pn**	**12 53 39.4**	**0.0**
SIV	**San Ignacio**	**8.54**	**82**	P	**Pn**	**12 53 40.9**	**-1.6**
	comp=N,14nm,0.4s,baz=268,slow=10.0,SNR=83						
SIV				S	**Sn**	**12 55 12.2**	**-5.2**
	comp=N,2.9nm,0.7s,baz=351,slow=18,SNR=2.3						
NNA	**Nana**	**8.62**	**307**	Pn	**Pn**	**12 53 42.4**	**-1.1**
AC01	**Pan de Azucar**	**8.76**	**184**	Pn	**Pn**	**12 53 43.3**	**-2.0**
BBSD	**Serra de San D**	**8.84**	**90**	*e*P	**Pn**	**12 53 45.2**	**-1.4**
AC02	**Maricunga**	**9.44**	**176**	Pn	**Pn**	**12 53 53.3**	**-1.6**
VILB	**Vilhena**	**10.31**	**66**	Pn	**Pn**	**12 54 04.8**	**-1.3**
VILB	**Vilhena**	**10.31**	**66**	*e*P	**Pn**	**12 54 04.6**	**-1.6**
PTLB	**Pontes e Lacer**	**10.47**	**81**	Pn	**Pn**	**12 54 09.2**	**+1.1**
PTLB	**Pontes e Lacer**	**10.47**	**81**	*e*P	**Pn**	**12 54 08.5**	**+0.3**
NPGB	**Novo Progresso**	**17.49**	**56**	*e*P	**Pn**	**12 55 37.0**	**0.0**
CRSM	**Crissiumal (Br**	**17.74**	**127**	*e*P	**Pn**	**12 55 40.7**	**+0.9**
H03N1	**Juan Fernandez** baz=27,slow=73,SNR=13	**17.95**	**205**	T	T	13 13 33.1	
H03N2	**Juan Fernandez** baz=27,slow=73,SNR=13	**17.96**	**205**	T	T	13 13 33.1	
H03N3	**Juan Fernandez** baz=27,slow=73,SNR=15	**17.97**	**205**	T	T	13 13 29.2	
PTGB	**Pitanga**	**18.14**	**117**	*e*P	**Pn**	**12 55 45.3**	**+0.6**
ITTB	**Itaituba**	**18.94**	**49**	*e*P	**P**	**12 55 51.8**	**0.0**
ITAB	**Concordia**	**19.10**	**124**	P	**P**	**12 55 53.5**	**+0.1**
BI05	**Punta Hualpn**	**19.52**	**188**	P	**P**	**12 55 57.8**	**-0.1**
TULM	**Tulcn-Chalpat**	**19.60**	**336**	P	**P**	**12 55 58.7**	**-0.7**
TULM				IAmb	IAmb	12 56 01.5	
	comp=Z,5.4nm,0.8s						
CPSB	**Cacapava Do Su**	**19.81**	**134**	*e*P	**Pn**	**12 56 02.5**	**-1.6**
PLTB	**Pedras Altas**	**20.55**	**137**	P	**P**	**12 56 09.3**	**+0.3**
PLTB				IAmb	IAmb	12 56 35.9	
	comp=Z,8.0nm,1.1s						
IPMB	**Ipameri, GO**	**20.64**	**95**	*e*P	Pn	12 56 12.4	-1.8
BDFB	**Brasilia**	**21.02**	**88**	P	**P**	**12 56 14.0**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=269,slow=10.0,SNR=6.9						
	comp=Z,4.6nm,0.5s						
BDFB	**Brasilia**	**21.02**	**88**	P	**P**	**12 56 14.3**	**0.0**
BDFB				IAmb	IAmb	12 56 17.7	
	comp=Z,5.7nm,0.5s						
BOAV	**Boa Vista**	**21.70**	**26**	P	**P**	**12 56 19.8**	**-1.6**
BOAV				IAmb	IAmb	12 56 45.0	
	comp=Z,6.6nm,1.1s						
GO06	**Curarrehue**	**22.17**	**183**	P	**P**	**12 56 25.7**	**-0.5**
SMTB	**Santa Maria do**	**23.27**	**72**	*e*P	**P**	**12 56 37.4**	**+0.7**
PLCA	**Paso Flores**	**23.29**	**181**	P	**P**	**12 56 39.3**	**+2.7**
	comp=Z,2.1nm,0.8s,baz=354,slow=11,SNR=9.9						
	comp=Z,2.1nm,0.8s						
PLCA	**Paso Flores**	**23.29**	**181**	P	**P**	**12 56 39.4**	**+2.8**
PLCA				IAmb	IAmb	12 57 02.8	
	comp=Z,8.5nm,1.5s						
MCPB	**Macapa, AP**	**24.35**	**48**	*e*P	**P**	**12 56 47.5**	**+1.0**
JANB	**Januaria**	**24.64**	**88**	*e*P	**P**	**12 56 50.2**	**+1.0**
SDV	**Santo Domingo**	**26.10**	**358**	P	**P**	**12 57 01.9**	**-0.7**
SDV				IAmb	IAmb	12 57 30.2	
	comp=Z,4.4nm,1.1s						
BAUV	**El Baul**	**26.21**	**4**	P	**P**	**12 57 03.0**	**-0.2**
BAUV				IAmb	IAmb	12 57 04.4	
	comp=Z,5.2nm,0.7s						
TXAR	**Lajitas Array**	**56.76**	**324**	P	**P**	**13 01 12.0**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=146,slow=9.8,SNR=2.0						
	comp=Z,0.1nm,0.5s						
SNAA	**Sanae**	**66.45**	**161**	P	**P**	**13 02 14.7**	**-0.6**
SNAA				IAmb	IAmb	13 02 42.2	
	comp=Z,6.1nm,1.4s						
DBIC	**Dimbokro**	**68.50**	**75**	P	**P**	**13 02 29.4**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=258,slow=8.4,SNR=4.1						
	comp=Z,1.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.87**	**72**	P	**P**	**13 03 18.2**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=252,slow=4.9,SNR=4.0						
	comp=Z,1.1nm,0.4s						
YKA	**Yellowknife Ar**	**87.02**	**341**	P	**P**	**13 04 11.7**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=136,slow=4.7,SNR=14						
	comp=Z,0.6nm,0.7s						

*AEIC **20** 13:04:33.9±0.7, 51°7N±0°2 × 178°7E±0°1, h91km±5km, Error ellipse: s-maj=22.2km s-min=11.4km az=177.0*
*NEIC **20** 13:04:34.4±1.3, 51°6N±0°2 × 178°7E±0°1, h92km±5km, mb4.0/13, ML3.8/22(AEIC), Error ellipse: s-maj=26.3km s-min=9.4km az=177.0*
*IDC **20** 13:04:35.6±2.4, 51°88N × 178°63E, h111km±20km, mb3.4/15, mbtmp3.8/17, Error ellipse: s-maj=23.3km s-min=11.9km az=170.0*

ISC 20 13:04:33.7±0.7, 51°72N±0°10 × 178°62E±0°04, h97km±6km, n54, σ1°32/62, mb3.7/18, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.21**	**352**		**Pn**	**13 04 47.6**	**-0.1**
LSPA	**Little Sitkin**	**0.24**	**354**		**Pn**	**13 04 47.7**	**0.0**
LSPA					**Sn**	**13 04 58.1**	**-0.1**
AMKA	**Amchitka**	**0.55**	**128**		**Pn**	**13 04 49.1**	**-0.5**
AMKA					**Sn**	**13 05 00.3**	**-1.2**
CESW	**Semis' Southwe**	**0.62**	**73**		**Pn**	**13 04 49.6**	**-0.5**
CEPE	**Semis' Perret**	**0.69**	**69**		**Pn**	**13 04 50.6**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.69**	**74**		**Pn**	**13 04 50.3**	**-0.5**
GASW	**Gareloi Southw**	**1.57**	**87**		**Pn**	**13 05 00.5**	**-0.2**
GASW					**Sn**	**13 05 20.3**	**-1.0**
GALAA	**Gareloi Lava P**	**1.62**	**88**		**Pn**	**13 05 01.5**	**+0.1**
TAFP	**Tanaga Falls P**	**2.12**	**84**		**Pn**	**13 05 07.3**	**-0.5**
TAFP					**Sn**	**13 05 32.3**	**-1.4**
TAFL	**Tanaga Flats**	**2.17**	**88**		**Pn**	**13 05 08.2**	**-0.1**
TAPA	**Tanaga Point A**	**2.22**	**86**		**Pn**	**13 05 08.8**	**-0.3**
KIKV	**Kanaga Island**	**2.62**	**85**		**Pn**	**13 05 14.4**	**+0.1**
KIWB	**Kanaga Island**	**2.63**	**85**		**Pn**	**13 05 14.1**	**-0.4**
ADK	**Adak**	**2.92**	**85**		**Pn**	**13 05 17.8**	**-0.5**
ADK					**Sn**	**13 05 51.5**	**-1.2**
SHEM	**Shemya Is, Ala**	**2.96**	**292**	P	**Pn**	**13 05 19.5**	**+0.7**
	39nm,0.4s,baz=92,slow=22,SNR=1.9						
SHEM				S	**Sn**	**13 05 51.9**	**-1.5**
	61nm,0.3s,baz=305,slow=19,SNR=6.0						
GSMY	**Great Sitkin M**	**3.32**	**82**		**Pn**	**13 05 23.3**	**-0.4**
GSTR	**Great Sitkin T**	**3.32**	**81**	Pn	**Pn**	**13 05 23.2**	**-0.4**
NIKH	**Nikolski High**	**7.78**	**76**		**Pn**	**13 06 25.5**	**+1.4**
OKSP	**Okmok Steeple**	**8.14**	**74**		**Pn**	**13 06 30.8**	**+1.7**
SPIA	**Saint Paul Isl**	**8.48**	**46**	Pn	**Pn**	**13 06 35.6**	**+2.0**
UNV	**Unalaska Valle**	**9.27**	**71**	Pn	**Pn**	**13 06 45.5**	**+1.3**
PEA0B	**Petropavlovsk-**	**12.84**	**284**	Pn	**Pn**	**13 07 35.4**	**+3.0**
PETK	**Petropavlovsk-** 1.2nm,0.9s,baz=128,slow=4.5,SNR=1.2	**12.84**	**284**	P	**Pn**	**13 07 35.2**	**+2.8**
PETK				S	**Sn**	**13 09 49.1**	**-4.3**
	1.5nm,0.8s,baz=64,slow=41,SNR=1.3						
P18K	**Big Mountain,**	**16.58**	**52**		**Pn**	**13 08 20.5**	**+0.5**
O18K	**Koktuh Hills**	**16.73**	**51**		**P**	**13 08 22.8**	**+0.3**
O18K				IAmb	IAmb	13 08 25.5	
	comp=Z,22nm,1.4s						
OHAK	**Old Harbor**	**17.16**	**60**	P	**Pn**	**13 08 27.0**	**0.0**
N19K	**Bonanza Creek**	**17.37**	**48**	P	**P**	**13 08 33.0**	**+3.3**
N19K				IAmb	IAmb	13 08 57.9	
	comp=Z,12nm,1.4s						
BILL	**Bilibino**	**17.44**	**344**	P	**Pn**	**13 08 31.7**	**+1.4**
KDAK	**Kodiak Island**	**17.61**	**59**	P	**P**	**13 08 29.4**	**-2.7**
	comp=Z,4.8nm,0.3s,baz=227,slow=2.5,SNR=34						
K20K	**Telida**	**18.55**	**41**		**Pn**	**13 08 44.2**	**+0.4**
SPU	**Mount Spurr**	**18.61**	**48**	P	**Pn**	**13 08 44.6**	**0.0**
BRLK	**Bradley Lake**	**18.82**	**53**	P	**P**	**13 08 44.3**	**-1.1**
SKT	**Skwentna**	**19.10**	**46**	P	**P**	**13 08 49.5**	**+1.0**
SKT				IAmb	IAmb	13 08 54.0	
	comp=Z,9.1nm,0.8s						
IMAR	**Indian Mountai**	**19.96**	**34**	P	**P**	**13 08 58.8**	**+1.0**
BPAW	**Bear Paw Mtn.**	**20.11**	**40**	P	**P**	**13 09 00.9**	**+1.6**
BPAW				IAmb	IAmb	13 09 30.8	
	comp=Z,5.5nm,1.2s						
DHY	**Denali Highway**	**21.27**	**45**	P	**P**	**13 09 12.6**	**+0.6**
EYAK	**Cordova Ski Ar**	**21.48**	**52**	P	**P**	**13 09 14.9**	**+0.9**
EYAK				IAmb	IAmb	13 09 37.4	
	comp=Z,22nm,1.5s						
MDM	**Murphy Dome**	**21.54**	**39**	P	**P**	**13 09 15.2**	**+0.5**
MDM				IAmb	IAmb	13 09 56.1	
	comp=Z,7.5nm,1.2s						
ILAR	**Eielson Array**	**22.01**	**40**	P	**P**	**13 09 19.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=240,slow=8.1,SNR=10						
	comp=Z,0.5nm,0.6s						
N25K	**Chitina, Valde**	**22.20**	**49**	P	**P**	**13 09 22.4**	**+0.5**
N25K				IAmb	IAmb	13 10 02.1	
	comp=Z,9.5nm,1.2s						
INK	**Inuvik**	**28.11**	**36**	P	**P**	**13 10 15.7**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=258,slow=10,SNR=3.7						
	comp=Z,0.6nm,0.6s						
KLR	**Kul'dur**	**29.53**	**284**	P	**P**	**13 10 29.4**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=62,slow=8.1,SNR=8.0						
	comp=Z,2.4nm,0.6s						
YKA	**Yellowknife Ar**	**36.16**	**46**	P	**P**	**13 11 26.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=282,slow=8.0,SNR=13						
YKA				ScP	**ScP**	**13 17 25.1**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=295,slow=2.9,SNR=3.9						
	comp=Z,0.5nm,0.6s						
SONM	**Songino Array**	**45.04**	**295**	P	**P**	**13 12 40.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=65,slow=8.1,SNR=6.4						
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**45.10**	**81**	P	**P**	**13 12 41.3**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=284,slow=8.9,SNR=6.6						
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**47.73**	**71**	P	**P**	**13 12 59.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=296,slow=3.5,SNR=10						
	comp=Z,0.6nm,0.6s						
SPITS	**Spitsbergen Ar**	**49.91**	**355**	P	**P**	**13 13 13.9**	**-2.8**
	comp=Z,8.1nm,0.9s,baz=73,slow=5.0,SNR=5.7						
	comp=Z,8.1nm,0.9s						
ZALV	**Zalesovo Beam**	**52.61**	**312**	P	**P**	**13 13 37.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=44,slow=8.6,SNR=1.8						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.55**	**307**	P	**P**	**13 14 19.6**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=53,slow=6.4,SNR=22						
	comp=Z,0.8nm,0.4s						
TXAR	**Lajitas Array**	**60.19**	**80**	P	**P**	**13 14 31.2**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=305,slow=6.2,SNR=10						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**69.38**	**274**	P	**P**	**13 15 31.5**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=18,slow=7.0,SNR=2.2						
	comp=Z,0.3nm,0.4s						
AKASG	**Malin Array Be**	**74.70**	**340**	P	**P**	**13 16 01.1**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=18,slow=6.2,SNR=1.7						
	comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**81.17**	**222**	P	**P**	**13 16 39.0**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=31,slow=5.8,SNR=6.6						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**84.67**	**220**	P	**P**	**13 16 56.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=22,slow=

comp=Z,57nm,19.4s,baz=278,slow=37
RES Resolute Bay 41.02 338 LR LR 13 31 01.7
comp=Z,128nm,20.8s,baz=8.0,slow=32
OBN Obninsk 41.22 52 LR LR 13 33 47.5
comp=Z,36nm,19.3s,baz=306,slow=36
SJG San Juan 41.57 242 LR LR 13 30 57.1
comp=Z,76nm,19.9s,baz=48,slow=31
TKL Tuckaleechee C 42.74 277 LR LR 13 34 30.2
comp=Z,79nm,18.3s,baz=94,slow=35
DBIC Dimbokro 43.26 145 P **P** **13 17 21.8 +0.3**
1.5nm,0.7s,baz=339,slow=8.1,SNR=3.0
DBIC LR LR 13 33 33.9
comp=Z,287nm,21.1s,baz=346,slow=34
1.5nm,0.7s
ULM Lac du Bonnet 44.54 302 LR LR 13 34 06.7
comp=Z,380nm,20.9s,baz=70,slow=33
BRTR Keskin Array B 44.89 74 P **P** **13 17 35.1 +0.6**
1.8nm,1.0s,baz=309,slow=9.9,SNR=4.6
BRTR LR LR 13 36 46.7
comp=Z,133nm,20.0s,baz=308,slow=37
1.8nm,1.0s
KIRV Kirov 47.01 44 LR LR 13 36 50.2
comp=Z,87nm,18.3s,baz=350,slow=35
MMAI Mount Meron Ar 49.55 81 LR LR 13 41 15.1
comp=Z,46nm,18.6s,baz=183,slow=39
YKA Yellowknife Ar 49.84 323 P **P** **13 18 12.7 +0.1**
0.6nm,1.0s,baz=67,slow=7.0,SNR=4.2
YKA LR LR 13 36 37.7
comp=Z,146nm,18.1s,baz=54,slow=33
0.6nm,1.0s
RCBR Riachuelo 51.18 190 LR LR 13 35 31.8
comp=Z,44nm,19.1s,baz=140,slow=31
SDV Santo Domingo 51.42 239 LR LR 13 36 28.4
comp=Z,66nm,20.6s,baz=52,slow=32
ARU Arti 52.39 44 LR LR 13 39 55.8
comp=Z,96nm,19.3s,baz=178,slow=35
H10N2 ASCENSION HYDR 54.07 163 T T 14 16 45.2
baz=349
H10N3 ASCENSION HYDR 54.08 163 T T 14 16 56.6
baz=349
H10N1 ASCENSION HYDR 54.09 163 T T 14 16 40.7
baz=349
INK Inuvik 54.20 334 P **P** **13 18 44.5 -0.5**
1.9nm,1.2s,baz=29,slow=4.1,SNR=2.0
1.9nm,1.2s
AKTO Aktyubinsk 54.98 51 LR LR 13 41 36.1
comp=Z,86nm,21.0s,baz=190,slow=35
PDAR Pinedale Array 56.32 299 P **P** **13 19 00.6 -0.3**
0.9nm,0.9s,baz=54,slow=7.7,SNR=5.2
PDAR LR LR 13 41 50.1
comp=Z,286nm,19.1s,baz=68,slow=35
0.9nm,0.9s
ROSC El Rosal 56.84 239 LR LR 13 39 51.3
comp=Z,107nm,21.8s,baz=57,slow=32
NEW Newport 57.81 308 LR LR 13 41 51.1
comp=Z,151nm,19.2s,baz=40,slow=34
DLBC Dease Lake 58.47 323 LR LR 13 41 16.7
comp=Z,166nm,18.5s,baz=38,slow=33
ANMO Albuquerque 58.71 290 LR LR 13 44 27.2
comp=Z,283nm,18.3s,baz=48,slow=36
JTS Las Juntas de 59.61 253 LR LR 13 40 49.4
comp=Z,54nm,21.2s,baz=54,slow=32
BVAR Borovoye Array 60.01 44 LR LR 13 45 39.1
comp=Z,102nm,18.5s,baz=292,slow=36
TXAR Lajitas Array 60.16 283 P **P** **13 19 28.0 +0.2**
0.5nm,0.9s,baz=77,slow=6.8,SNR=4.1
TXAR LR LR 13 45 10.2
comp=Z,301nm,20.0s,baz=47,slow=36
0.5nm,0.9s
ILAR Eielson Array 60.57 334 P **P** **13 19 29.7 -0.3**
0.3nm,0.7s,baz=44,slow=7.0,SNR=4.2
ILAR LR LR 13 42 05.2
comp=Z,67nm,18.8s,baz=152,slow=32
0.3nm,0.7s
ELK Elko 60.97 300 LR LR 13 43 58.1
comp=Z,216nm,19.9s,baz=57,slow=34
BBB Bella Bella 61.32 316 LR LR 13 43 52.7
comp=Z,107nm,18.2s,baz=44,slow=34
CMIG Matias Romero 61.80 266 LR LR 13 43 18.6
comp=Z,89nm,21.6s,baz=19,slow=33
GEYT Alibeck 61.99 63 LR LR 13 47 47.1
comp=Z,55nm,20.3s,baz=328,slow=37
YBH Yreka Blue Hor 64.85 305 LR LR 13 46 36.4
comp=Z,167nm,19.4s,baz=24,slow=34
ZALV Zalesovo Beam 66.00 37 LR LR 13 48 31.0
comp=Z,67nm,20.8s,baz=292,slow=36
PFO Pinyon Flats O 66.09 294 LR LR 13 49 27.7
comp=Z,180nm,18.7s,baz=12,slow=36
KDAK Kodiak Island 67.61 331 LR LR 13 48 27.9
comp=Z,118nm,19.5s,baz=254,slow=35
SIV San Ignacio 67.80 214 LR LR 13 46 08.6
comp=Z,47nm,20.4s,baz=6.0,slow=33
LPIG La Paz 68.05 283 LR LR 13 49 59.5
comp=Z,144nm,18.4s,baz=20,slow=36
ATD Arta Tunnel 68.44 95 LR LR 13 51 09.4
comp=Z,60nm,18.9s,baz=144,slow=37
AAK Ala-Archa 68.72 51 LR LR 13 50 19.5
comp=Z,85nm,18.3s,baz=334,slow=36
ATAH Atahualpa 68.81 235 LR LR 13 47 55.2
comp=Z,64nm,21.2s,baz=23,slow=34
MBAR Mbarara 68.91 114 LR LR 13 49 52.0
comp=Z,63nm,18.4s,baz=262,slow=35
MKAR Makanchi Array 69.89 43 P **P** **13 20 30.6 -0.1**
0.5nm,1.0s,baz=316,slow=5.1,SNR=4.4
MKAR LR LR 13 51 29.9
comp=Z,61nm,18.5s,baz=290,slow=36
0.5nm,1.0s
LPAZ La Paz 71.11 221 LR LR 13 50 02.4
comp=Z,36nm,18.1s,baz=42,slow=34
WSAR Wadi Sarin 71.65 75 LR LR 13 56 26.0
comp=Z,26nm,18.1s,baz=340,slow=40
NNA Nana 71.89 231 LR LR 13 50 48.2
comp=Z,22nm,19.7s,baz=7.0,slow=35
CPUP Villa Florida 75.30 207 LR LR 13 52 16.6
comp=Z,20nm,18.1s,baz=21,slow=34
TSUM Tsumeb 76.27 136 LR LR 13 53 15.3
comp=Z,129nm,19.2s,baz=334,slow=35
LVC Limon Verde 76.99 218 LR LR 13 53 01.8
comp=Z,26nm,20.2s,baz=5.5,slow=34
SONM Songino Array 79.19 29 P **P** **13 21 25.2 +0.4**
1.0nm,0.9s,baz=332,slow=6.2,SNR=3.7
1.0nm,0.9s
PETK Petropavlovsk- 82.05 357 LR LR 13 59 30.8
comp=Z,50nm,18.4s,baz=35,slow=37
CFA Coronel Fontan 84.63 214 LR LR 13 55 36.4
comp=Z,22nm,21.7s,baz=354,slow=33
LBTB Lobatse 85.17 133 LR LR 14 00 01.9
comp=Z,68nm,18.2s,baz=354,slow=36
BOSA Boshof 87.94 135 LR LR 13 59 01.8
comp=Z,122nm,21.0s,baz=353,slow=34
SUR Sutherland 88.96 140 LR LR 13 58 38.9
comp=Z,59nm,20.7s,baz=341,slow=33
BRDH Bariadhala 93.06 53 LR LR 14 07 18.0
comp=Z,70nm,18.9s,baz=302,slow=37
PLCA Paso Flores 93.56 211 LR LR 14 03 57.9
comp=Z,18nm,18.2s,baz=145,slow=35
WRA Warramunga Arr 150.98 36 PKPbc **PKPbc** **13 29 12.5 -0.5**
0.3nm,0.6s,baz=334,slow=2.0,SNR=5.6
ASAR Alice Springs 154.06 41 PKPbc **PKPbc** **13 29 19.1 -0.6**
0.6nm,1.0s,baz=339,slow=2.3,SNR=3.0
ASAR PKPab **PKPab** **13 29 33.0 -0.2**
0.8nm,0.8s,baz=330,slow=3.5,SNR=6.1

*IDC **20** 13:13:53.6±2.4,3.°60S×151.°60E,h0km,mb3.7/2,*
mbtmp3.8/2,MS3.1/3,Error ellipse: s-maj=44.0km
s-min=20.7km az=37.0
*NEIC **20** 13:13:56.5±0.6,4.°1S±0.°1×153.°0E±0.°1,h60km±15km,*
mb4.0/11,Error ellipse: s-maj=27.5km s-min=4.7km
az=141.0
ISC 20 13:13:53.7±1.5,4.°1S±0.°2×153.°1E±0.°1,h35km,n21,
σ1$30/21,mb4.0/9,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.93**	**264**	Pn		**Pn**	**Pn**	**13 14 12.1**	**+1.9**
RABL				Sn		**Sn**	**Sn**	**13 14 23.4**	**+1.1**
KRVT	**Keravat (AS076**	**1.08**	**259**	Pn		**Pn**	**Pn**	**13 14 12.8**	**+0.5**
	52nm,0.3s,baz=247,slow=1.3,SNR=84								
KRVT				Sn		**Sn**	**Sn**	**13 14 25.2**	**-0.8**
	459nm,0.3s,baz=116,slow=5.8,SNR=12								
KRVT				LR		LR	LR	13 14 41.3	
	comp=Z,378nm,18.1s,baz=196,slow=58								
PMG	**Port Moresby**	**7.90**	**228**	Sn		Sn	Sn	13 17 05.8	-8.6
	0.5nm,0.3s,baz=16,slow=8.6,SNR=1.2								
PMG				LR		LR	LR	13 18 21.9	
	comp=Z,39nm,22.0s,baz=63,slow=37								
PMG	**Port Moresby**	**7.90**	**228**	Pn		**Pn**	**Pn**	**13 15 47.6**	**+1.5**

PMG Sn **Sn** **13 17 14.6 +0.2**
DZM Mont Dzumac 22.07 145 LR LR 13 27 15.2
comp=Z,58nm,18.5s,baz=31,slow=34
DZM Mont Dzumac 22.07 145 P **P** **13 18 46.7 +0.9**
DZM IAmb IAmb 13 18 47.9
comp=Z,12nm,1.2s
WB0 Warramunga Arr 23.98 228 P **P** **13 19 03.9 -1.2**
WB0 IAmb IAmb 13 19 06.6
comp=Z,10nm,1.2s
WR0 Warramunga Arr 23.98 227 P **P** **13 19 04.2 -1.0**
WR0 IAmb IAmb 13 19 31.0
comp=Z,3.2nm,0.9s
WRAB Tennant Creek 24.11 228 P **P** **13 19 05.3 -1.0**
WRAB IAmb IAmb 13 19 16.9
comp=Z,11nm,1.4s
WB2 Warramunga Arr 24.11 228 P **P** **13 19 05.5 -0.9**
WB2 IAmb IAmb 13 19 29.5
comp=Z,11nm,1.4s
WRA Warramunga Arr 24.12 228 P **P** **13 19 06.0 -0.5**
comp=Z,1.7nm,0.3s,baz=50,slow=10.0,SNR=32
comp=Z,1.7nm,0.3s
WRA Warramunga Arr 24.12 228 P **P** **13 19 05.8 -0.7**
KNRA Kununurra 26.54 243 P **P** **13 19 29.3 +0.9**
AS31 Alice Springs 26.86 222 P **P** **13 19 31.1 -0.2**
ASAR Alice Springs 26.86 222 P **P** **13 19 30.1 -1.2**
comp=Z,0.3nm,0.4s,baz=55,slow=9.2,SNR=9.4
comp=Z,0.3nm,0.4s
ASAR Alice Springs 26.86 222 P **P** **13 19 31.5 +0.2**
FITZ Fitzroy Crossi 30.25 240 P **P** **13 19 59.1 -2.4**
FITZ IAmb IAmb 13 20 40.1
comp=Z,1.2nm,1.4s
PSA00 Pilbara Seismi 36.63 239 P **P** **13 20 54.2 -2.9**
VNDA Vanda 73.52 178 P **P** **13 25 22.8 +0.4**
VNDA IAmb IAmb 13 25 26.2
comp=Z,1.6nm,1.1s
RES Resolute Bay 99.66 14 LR LR 14 16 46.7
comp=Z,22nm,19.2s,baz=24,slow=38
TORD Torodi Ar. Bea 150.35 289 PKPbc **PKPbc** **13 33 42.7 +0.3**
comp=Z,1.5nm,0.4s,baz=70,slow=2.7,SNR=2.8

NNC 20 13:17:40.8±6.8,36.°72N×70.°43E,h0km,mb3.6,mpv3.2,
3C-1D,Error ellipse: s-maj=64.6km s-min=41.2km
az=159.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.38**	**1**	⇑Pn		Pn	Pn	13 19 17.5	+1.5
	0.6nm,0.3s,baz=181,slow=13,SNR=23								
KK31				⇑Sn		Sn	Sn	13 20 29.9	+0.3
	1.6nm,0.3s,baz=177,slow=26,SNR=7.3								
TKM2	**Tokmak 2**	**7.36**	**31**	⇓Pn		Pn	Pn	13 19 29.2	-0.5
	0.7nm,0.5s								
TKM2				⇑Sn		Sn	Sn	13 20 55.6	+1.6
	2.7nm,0.9s								
AB31	**Akbulak array**	**14.68**	**332**	P		Pn	Pn	13 21 07.4	-2.1
	0.7nm,0.3s,baz=165,slow=11,SNR=59								

*SSNC **20** 13:30:30.7±0.7, 19.°51N×77.°86W,h60km±16km,MD2.6,*
ML2.7
*JSN **20** 13:30:34.8±0.3, 19.°40N×77.°51W,h12km±93km,MD3.5*
ISC 20 13:30:28.8±1.3,19.°59N±0.°05×77.°8W±0.°1,h10km,n6,
σ0$67/9,1D,Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.87**	**57**	*e*P		**Pn**	**Pn**	**13 30 47.1**	**-0.1**
LMGC				*e*S		**Sn**	**Sn**	**13 31 00.1**	**+0.2**
LMGC				IAML				13 31 02.2	
	comp=E,217nm,0.1s								
LMGC				IAML				13 31 02.2	
	comp=N,170nm,0.1s								
CCCC	**Cccc**	**1.60**	**1**	*e*P		**Pn**	**Pn**	**13 30 57.6**	**+0.4**
CCCC				*e*S		**Sn**	**Sn**	**13 31 17.0**	**-0.8**
MCJ	**Malvern**	**1.66**	**177**	*i* P		**Pb**	**Pb**	**13 30 59.8**	**+0.2**
MCJ				*i* S		**Sn**	**Sn**	**13 31 18.5**	**-1.1**
STH	**Stony Hill**	**1.77**	**148**	⇓*i*P		**Pn**	**Pn**	**13 30 59.7**	**+0.2**
GWJ	**Greenwich**	**1.81**	**146**	*i* P		**Pn**	**Pn**	**13 31 00.2**	**-0.1**
PCJ	**Portland Cotta**	**1.94**	**162**	*i* P		**Pn**	**Pn**	**13 31 02.6**	**+0.8**

IDC 20 13:32:58.3±1.3,29.°24N×102.°29E,h0km,mb3.3/4,
mbtmp3.3/5,ML3.5/1,MS2.4/1,Error ellipse:
s-maj=79.6km s-min=21.8km az=61.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.16**	**197**	LR		LR	LR	13 40 14.0	
	comp=Z,21nm,21.6s,baz=60,slow=39								
SONM	**Songino Array**	**18.84**	**9**	P		P	P	13 37 19.4	-0.4
	0.1nm,0.3s,baz=195,slow=11,SNR=3.7								
	1.0nm,1.0s								
MKAR	**Mainchi Array**	**23.46**	**324**	P		P	P	13 38 10.3	+0.9
	0.1nm,0.4s,baz=124,slow=12,SNR=2.7								
	0.1nm,0.4s								
KURBB	**Kurchatov Arra**	**27.86**	**327**	P		P	P	13 38 49.0	-0.5
	0.3nm,0.4s,baz=129,slow=10,SNR=5.5								
	0.3nm,0.4s								
WRA	**Warramunga Arr**	**57.85**	**144**	P		P	P	13 42 52.2	+0.2
	0.5nm,0.8s,baz=332,slow=7.9,SNR=7.8								
	0.5nm,0.8s								
ASAR	**Alice Springs**	**60.76**	**147**	P		P	P	13 43 11.7	-0.4
	0.2nm,0.6s,baz=320,slow=6.5,SNR=1.4								
	0.2nm,0.6s								

*GCG **20** 13:49:34.6±0.5, 13.°62N×91.°47W,h16km±7km,MD3.8*
*SNET **20** 13:49:36.2±0.9, 13.°74N×91.°28W,h15km±8km,ML3.7*
ISC 20 13:49:34.9±3.3,13.°6N±0.°1×91.°38W±0.°09,h16km±14km,
n11,σ0$63/16,1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.68**	**345**	*e*P		**Pn**	**Pn**	**13 49 50.5**	**+0.7**
SULM				*e*S		**Sb**	**Sb**	**13 49 57.0**	**-0.5**
FUG	**Fuego 3**	**0.95**	**33**	*e*P		**Pg**	**Pg**	**13 49 53.6**	**+0.1**
PCG	**Pacaya**	**1.06**	**45**	*e*P		**Pn**	**Pn**	**13 49 55.4**	**+0.2**
STG3	**Santiaguito 3,**	**1.08**	**350**	*e*P		**Pb**	**Pb**	**13 49 54.6**	**-0.6**
STG3				*e*S		**Sn**	**Sn**	**13 50 10.3**	**+0.2**
NBG	**Las Nubes**	**1.37**	**47**	*e*P		**Pb**	**Pb**	**13 50 00.8**	**+0.4**
NBG				*e*S		**Sg**	**Sg**	**13 50 19.3**	**-0.1**
NUBE	**Las Nubes**	**1.58**	**80**	*e*P		**Pn**	**Pn**	**13 50 01.4**	**-0.9**
SLOZ	**Alcaldia de Sa**	**1.60**	**76**	*e*P		**Pn**	**Pn**	**13 50 02.2**	**-0.3**
SLOZ				*e*S		**Sn**	**Sn**	**13 50 22.4**	**-0.4**
SLOZ				IAML				13 50 26.9	
	comp=Z,536nm,0.5s								
CEVE	**Cerro Verde**	**1.72**	**84**	⇓*i*P		**Pn**	**Pn**	**13 50 04.2**	**-0.1**
CEVE				*e*S		**Sn**	**Sn**	**13 50 26.5**	**+0.5**
CEVE				IAML				13 50 28.9	
	comp=Z,2μm,0.4s								
JAYA	**Jayaque - finc**	**1.88**	**89**	*e*P		**Pn**	**Pn**	**13 50 05.6**	**-0.8**
COEG	**Centro de Oper**	**2.43**	**90**	*e*P		**Pn**	**Pn**	**13 50 14.8**	**+0.9**
SCLA	**Alcaldia de Sa**	**2.58**	**88**	*e*P		**Pn**	**Pn**	**13 50 16.7**	**+0.7**

*ISK **20** 13:52:32.4, 41.°72N×42.°90E,h5km,ML4.2/17*
*IDC **20** 13:52:32.5±0.5,41.°70N×42.°84E,h0km,mb4.0/22,*
mbtmp4.0/32,ML4.1/10,MS3.2/19,Error ellipse:
s-maj=7.8km s-min=7.1km az=51.0
*CFUSG **20** 13:52:32.1,41.°37N×42.°34E,h5km,mb4.1/4,Georgia*
Magtype MSH 3.2 from 4 stations
*NORS **20** 13:52:32.5±0.0,41.°84N×42.°90E,h1km,MPVA5.3*
*TIF **20** 13:52:32.8,41.°74N×42.°93E,h17km*
*AZER **20** 13:52:33.6±0.5,42.°16N×43.°07E,h10km,Error ellipse:*
s-maj=3.9km s-min=3.3km az=9.0
*NSSP **20** 13:52:34.0,41.°65N×42.°93E,h10km,Ms4.1*
*MOS **20** 13:52:33.0±0.0,41.°81N×42.°80E,h9km,MPVA5.2*
*NEIC **20** 13:52:34.5±2.3,41.°75N±0.°05×42.°95E±0.°08,h10km±2km,*
mb4.4/21,Error ellipse: s-maj=9.7km s-min=8.3km
az=80.0
*DDA **20** 13:52:34.2±0.0,41.°76N×42.°86E,h10km,MW4.3*
ISC 20 13:52:33.8±0.6,41.°74N±0.°01×42.°92E±0.°01,h9km±3km,
n393,σ1$79/573,mb4.3/49,MS3.3/13,33C-26D,
Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABS	**Abastumani**	**0.09**	**284**	P		**Pg**	**Pg**	**13 52 36.5**	**+0.2**
ABS				S		**Sg**	**Sg**	**13 52 39.0**	**+0.9**
ABS	**Abastumani**	**0.09**	**284**	PG		**Pg**	**Pg**	**13 52 36.5**	**+0.2**
ABS				S		**Sg**	**Sg**	**13 52 38.9**	**+0.9**
EPOS	**Posof**	**0.27**	**212**	P		**Pg**	**Pg**	**13 52 39.5**	**+0.1**

EPOS S **Sg** **13 52 43.9 +0.9**
AKH Akhalkalaki 0.54 127 P **Pg** **13 52 44.2 -0.1**
AKH Akhalkalaki 0.54 127 P **Pg** **13 52 44.2 -0.1**
AKH S **Sg** **13 52 52.1 +0.7**
AKH Akhalkalaki 0.54 127 Pg **Pg** **13 52 44.2 -0.1**
AKH Sg **Sg** **13 52 52.1 +0.7**
AKH Akhalkalaki 0.54 127 PG **Pg** **13 52 44.2 -0.1**
TKB Tkibuli 0.62 5 P **Pg** **13 52 45.4 -0.4**
TKB S **Sg** **13 52 54.3 +0.4**
TKB Tkibuli 0.62 5 PG **Pg** **13 52 45.4 -0.4**
TKB S **Sg** **13 52 54.3 +0.4**
ALIG Mtskhetisjvari 0.66 55 P **Pg** **13 52 45.8 -0.7**
ALIG S **Sg** **13 52 54.5 -0.6**
ALIG Mtskhetisjvari 0.66 55 PG **Pg** **13 52 45.8 -0.7**
ALIG S **Sg** **13 52 54.5 -0.6**
BRNG Burnasheti 0.69 99 P **Pg** **13 52 46.9 -0.2**
BRNG S **Sb** **13 52 57.6 -0.1**
BRNG Burnasheti 0.69 99 PG **Pg** **13 52 46.9 -0.2**
BRNG S **Sb** **13 52 57.6 -0.1**
BGD Bogdanovka 0.69 133 P **Pg** **13 52 46.9 -0.4**
BGD S **Sg** **13 52 56.3 0.0**
BGD Bogdanovka 0.69 133 PG **Pg** **13 52 46.8 -0.4**
BGD S **Sg** **13 52 56.3 0.0**
TRLG Trialeti 0.91 102 P **Pg** **13 52 50.5 -0.7**
TRLG S **Sg** **13 53 03.2 +0.2**
TRLG Trialeti 0.91 102 PG **Pg** **13 52 50.5 -0.7**
TRLG S **Sg** **13 53 03.2 +0.2**
BATM Batumi 0.93 262 P **Pg** **13 52 50.5 -1.3**
BATM S **Sg** **13 53 03.0 -0.8**
BATM Batumi 0.93 262 PG **Pg** **13 52 50.4 -1.3**
BATM S **Sg** **13 53 03.0 -0.8**
ONI Oni 0.94 25 P **Pg** **13 52 51.1 -0.8**
ONI Oni 0.94 25 P **Pg** **13 52 51.1 -0.8**
ONI S **Sg** **13 53 04.2 0.0**
ONI Oni 0.94 25 PG **Pg** **13 52 51.0 -0.9**
ONI S **Sg** **13 53 04.2 0.0**
DRNR Artvin, Merkez 0.97 235 P **Pg** **13 52 51.4 -1.0**
DRNR S **Sg** **13 53 04.3 -0.8**
DAGI Agillar 1.00 229 P **Pg** **13 52 52.2 -0.9**
DAGI S **Sg** **13 53 05.5 -0.7**
DBOC Borcka 1.02 248 P **Pg** **13 52 52.3 -1.1**
DBOC S **Sg** **13 53 05.4 -1.2**
DMNI Dmanisi 1.03 113 P **Pg** **13 52 52.5 -1.2**
DMNI S **Sg** **13 53 06.7 -0.4**
DMNI Dmanisi 1.03 113 PG **Pg** **13 52 52.5 -1.2**
DMNI S **Sg** **13 53 06.4 -0.7**
KARS Kars 1.11 174 Pn **Pg** **13 52 55.1 -0.1**
KARS Kars 1.11 174 Pn **Pg** **13 52 55.2 -0.1**
KARS Sn **Sn** **13 53 11.3 +0.1**
KARS Kars 1.11 174 PG **Pg** **13 52 55.1 -0.1**
HOPA Hopa-Artvin 1.16 253 Pn **Pb** **13 52 55.0 -1.0**
HOPA Sn **Sg** **13 53 10.7 -0.5**
EAK Akyaka 1.17 154 P **Pg** **13 52 54.9 -1.4**
EAK S **Sg** **13 53 10.9 -0.6**
DBAD Bademkaya 1.17 233 P **Pg** **13 52 55.1 -1.2**
DBAD S **Sg** **13 53 10.2 -1.3**
DDEM Demirkent 1.22 227 P **Pb** **13 52 55.8 -1.3**
DDEM S **Sb** **13 53 12.6 -0.4**
SENK Senkaya-Erzuru 1.25 200 Pn **Pn** **13 52 57.0 -0.6**
SENK Sn **Sn** **13 53 15.2 +0.6**
DIGR Digorskoe uzhe 1.26 23 *i* Pg **Pn** **13 52 56.7 -1.1**
DIGR *e*Sg **Sn** **13 53 14.7 -0.3**
DIGR Digorskoe uzhe 1.26 23 *i* PG **Pn** **13 52 56.7 -1.1**
DIGR *e*S **Sn** **13 53 14.7 -0.3**
ZEI Tsey 1.28 34 *e*Pg **Pn** **13 52 57.2 -0.8**
ZEI *e*Sg **Sn** **13 53 17.1 +1.7**
ZEI Tsey 1.28 34 *e*PG **Pn** **13 52 57.2 -0.8**
ZEI *e*S **Sn** **13 53 17.1 +1.7**
STE Stepanavan 1.31 123 ⇑*i*P **Pn** **13 52 58.4 -0.1**
STE ⇓*i*S **Sg** **13 53 16.5 +0.4**
DIGO Kars 1.36 165 P **Pn** **13 52 58.4 -0.8**
DIGO S **Sg** **13 53 19.2 +1.5**
GUDG Gudauri 1.37 57 P **Pn** **13 52 58.5 -0.8**
GUDG S **Sg** **13 53 20.3 +2.5**
GUDG Gudauri 1.37 57 PG **Pn** **13 52 58.4 -0.8**
GUDG S **Sg** **13 53 20.3 +2.5**
BTNK Botanikuri 1.41 91 P **Pn** 13 52 52.9 -6.8
BTNK S **Sn** **13 53 12.2 -6.1**
BTNK Botanikuri 1.41 91 PG **Pn** 13 52 52.8 -6.8
LACR Lac 1.49 43 *e*Pg **Pb** **13 53 01.4 -0.4**
LACR *e*Sg **Sg** **13 53 22.6 +0.7**
LACR Lac 1.49 43 *e*PN **Pb** **13 53 01.4 -0.4**
LACR *e*S **Sg** **13 53 22.6 +0.7**
NEY Neytrino 1.52 354 *e*Pg **Pn** **13 53 01.5 +0.2**
NEY *e*Sg **Sg** **13 53 23.7 +0.9**
NEY Neytrino 1.52 354 *e*PG **Pn** **13 53 01.6 +0.2**
NEY pmax pmax
comp=Z,3μm,0.4s
PNSH Pansheti 1.55 54 P **Pn** **13 53 01.7 0.0**
PNSH S **Sb** **13 53 22.9 +0.4**
PNSH Pansheti 1.55 54 PN **Pn** **13 53 01.7 0.0**
KORR Kora 1.59 32 *i* Pg **Pb** **13 53 03.4 -0.1**
KORR *e*Sg **Sg** **13 53 27.0 +1.9**
KORR Kora 1.59 32 *i* PN **Pb** **13 53 03.3 -0.1**
KORR *e*S **Sg** **13 53 27.0 +1.9**
LSNR Lesken 1.68 23 *e*Pg **Pb** **13 53 04.8 -0.1**
LSNR *e*Sg **Sg** **13 53 29.5 +1.6**
LSNR Lesken 1.68 23 *e*PN **Pb** **13 53 04.8 -0.1**
LSNR *e*S **Sg** **13 53 29.5 +1.6**
ARUZ Aruch 1.70 148 ⇑*i*P **Pb** **13 53 05.8 +0.5**
ARUZ ⇑*i*S **Sb** **13 53 27.9 +1.1**
CHOM Cayeli-Rize 1.75 249 Pn **Pn** **13 53 04.9 +0.6**
CHOM Sn **Sb** **13 53 28.4 +0.4**
ARNR Ardon 1.76 34 *e*Pg **Pg** **13 53 07.4 -0.2**
ARNR *e*Sg **Sg** **13 53 33.0 +2.6**
ARNR Ardon 1.76 34 *e*PN **Pg** **13 53 07.4 -0.2**
ARNR *e*S **Sg** **13 53 33.0 +2.6**
VNNZ Vanand 1.77 157 ⇓*i*P **Pn** **13 53 05.6 +0.9**
VNNZ ⇑*i*S **Sn** **13 53 27.6 +0.4**
CHAY Cayeli-Rize 1.77 249 Pn **Pn** **13 53 05.0 +0.4**
METS Metsamor 1.81 151 P **Pb** **13 53 07.2 +0.1**
METS S **Sg** **13 53 31.8 -0.2**
DOMR Dombai 1.83 329 *e*Pg **Pn** **13 53 06.0 +0.5**
DOMR *i* Sg **Sg** **13 53 31.3 -1.3**
DOMR Dombai 1.83 329 *e*PN **Pn** **13 53 06.1 +0.5**
DOMR *i* S **Sg** **13 53 31.3 -1.3**
STDR Stavd-Durt 1.84 27 *e*Pg **Pb** **13 53 07.8 +0.2**
STDR *e*Sg **Sg** **13 53 35.7 +2.8**
STDR Stavd-Durt 1.84 27 *e*PN **Pb** **13 53 07.8 +0.2**
STDR *e*S **Sg** **13 53 35.7 +2.8**
VLKR Vladikavkaz 1.85 44 *i* Pg **Sg** **13 53 09.2 0.0**
VLKR *e*Sg **Sg** **13 53 35.3 +2.2**
VLKR Vladikavkaz 1.85 44 ⇑*i*PN **Pg** **13 53 09.2 0.0**
VLKR *e*S **Sg** **13 53 35.2 +2.0**
HOMI Horasan 1.86 205 P **Pb** **13 53 07.2 -0.8**
HOMI S **Sg** **13 53 35.9 +2.4**
SHTL Shatili 1.90 60 P **Pn** **13 53 07.3 +0.9**
SHTL S **Sb** **13 53 32.1 -0.4**
SHTL Shatili 1.90 60 PN **Pn** **13 53 07.3 +0.9**
EATA Eleskirt 1.90 190 P **Pn** **13 53 07.6 +1.0**
EATA S **Sb** **13 53 33.6 +0.9**
KOPR Koprukoy-ERZUR 1.92 205 Pn **Pn** **13 53 07.6 +0.8**
KOTA Agri, Merkez-K 1.94 174 P **Pb** **13 53 08.8 -0.6**
KOTA S **Sg** **13 53 37.0 +0.7**
KAPZ Kaputan 1.95 136 ⇑*i*P **Pb** **13 53 09.3 -0.2**
KAPZ ⇑*i*S **Sb** **13 53 34.5 +0.4**
KMGR Komgaron 1.95 47 *i* Pg **Pb** **13 53 10.2 +0.7**
KMGR *e*Sg **Sg** **13 53 38.1 +1.5**
KMGR Komgaron 1.95 47 ⇑*i*PN **Pg** **13 53 11.2 -0.1**
KMGR *e*S **Sg** **13 53 38.9 +2.3**
QZX Qazax, Azerbai 1.96 109 P **Pn** **13 53 08.0 +0.7**
SNR=68
QZX S **Sb** **13 53 35.3 +1.0**
KBZ Khabaz 1.99 359 Pn **Pb** **13 53 09.3 -0.9**
comp=Z,34nm,0.3s,baz=188,slow=9.9,SNR=227
KBZ Sn **Sb** **13 53 35.4 +0.3**
comp=Z,62nm,0.3s,baz=97,slow=14,SNR=7.7
comp=Z,287nm,0.6s
KBZ Khabaz 1.99 359 *i* Pg **Pb** **13 53 09.8 -0.4**
KBZ *e*Sg **Sb** **13 53 35.6 +0.6**
KBZ Khabaz 1.99 359 *d* iPN **Pn** **13 53 08.5 +0.9**
SHA1 Shidzhatmaz 2.01 355 *e*Pg **Pb** **13 53 10.3 -0.4**
SHA1 *e*Sg **Sg** **13 53 38.2 -0.3**
SHA1 Shidzhatmaz 2.01 355 *i* PN **Pb** **13 53 10.0 -0.7**
SHA1 *i* S **Sb** **13 53 36.7 +0.8**
TASB TASBURUN-IGDIR 2.01 150 Pn **Pn** **13 53 08.7 +0.7**
TASB Sn **Sb** **13 53 35.5 -0.3**
BTKR Batakoyurt 2.03 36 *e*Pg **Pg** **13 53 13.2 +0.5**
BTKR *e*Sg **Sg** **13 53 42.3 +3.3**
BTKR Batakoyurt 2.03 36 *e*PN **Pg** **13 53 13.2 +0.5**

BTKR eS Sg 13 53 42.3 +3.3
KRIK Erzurum-spir 2.06 228 P Pb 13 53 10.7 -0.7
KRIK S Sb 13 53 37.9 +0.7
IGDI IGDIR 2.06 154 P Pn 13 53 09.7 +1.1
IGDI S Sb 13 53 36.9 -0.2
GNI Garni 2.10 138 Pn Pb 13 53 11.9 -0.2
comp=Z,120nm,0.3s,baz=335,slow=1.0,SNR=294
GNI Sn Sb 13 53 39.2 +0.9
comp=Z,260nm,0.3s,baz=80,slow=12,SNR=9.6
GNI LR LR 13 54 17.6
comp=E,468nm,21.9s,baz=312,slow=50
comp=Z,470nm,0.4s
GNI Garni 2.10 138 Pn Pb 13 53 11.6 -0.5
GNI Garni 2.10 138⇑ *i*P Pb 13 53 12.0 -0.1
GNI ⇓ *i*S Sg 13 53 41.9 +0.6
GNI Garni 2.10 138 Pn Pn 13 53 10.6 +1.3
GNI Garni 2.10 138 *e*Pg Pb 13 53 11.6 -0.5
KBTC Kuba-Taba 2.11 10 *e*Pg Pb 13 53 11.3 -1.0
KBTC eSg Sg 13 53 40.0 -1.7
KBTC Kuba-Taba 2.11 10 *e*PN Pb 13 53 11.3 -1.0
KBTC eS Sg 13 53 40.0 -1.7
AGRB Hanur-Agry 2.16 179 Pn Pn 13 53 10.6 +0.5
NRKZ NAREK 2.18 142⇓ *i*P Pb 13 53 13.0 -0.4
NRKZ ⇑ *i*S Sb 13 53 42.3 +1.8
ARXR Arkhyz 2.19 327 *i*Pg Pb 13 53 12.1 -1.7
ARXR eSg Sb 13 53 39.5 -1.6
ARXR Arkhyz 2.19 327 *i*PN Pb 13 53 12.1 -1.7
ARXR eS Sb 13 53 39.5 -1.6
KIV Kislovodsk 2.23 356⇓P Pn 13 53 10.3 -0.6
KIV Kislovodsk 2.23 356 Pn Pn 13 53 12.2 +1.3
KIV Kislovodsk 2.23 356 Pn Pb 13 53 12.5 -1.8
KIV Kislovodsk 2.23 356 *e*Pg Pn 13 53 12.3 +1.3
KIV eSg Sb 13 53 41.4 -0.6
KIV Kislovodsk 2.23 356 *e*PN Pb 13 53 12.5 -1.8
KIV eS Sb 13 53 42.7 +0.8
KIV pmax pmax
comp=Z,1μm,1.1s
KVAR Kislovodsk Arr 2.23 356 Pn Pb 13 53 14.2 -0.1
baz=270,slow=21
KVAR Sn Sg 13 53 43.6 -1.7
baz=292,slow=21
comp=Z,159nm,0.4s
PRTR Priterechnaya 2.25 26 *e*Pg Pn 13 53 12.7 +1.5
PRTR eSg Sb 13 53 43.7 +1.2
PRTR Priterechnaya 2.25 26 *e*PN Pn 13 53 12.7 +1.5
PRTR eS Sb 13 53 43.7 +1.2
EMRE Erzurum,Aziziy 2.25 222 P Pb 13 53 13.6 -1.1
EMRE S Sg 13 53 47.4 +1.2
EJDE Erzurum, Palan 2.26 213 P Pn 13 53 13.3 +1.6
EJDE S Sg 13 53 49.8 +3.2
PYA1 Pyatigorsk 2.33 3 *e*Pn Pn 13 53 13.7 +1.4
PYA1 eSn Sb 13 53 43.5 -1.4
PYA1 Pyatigorsk 2.33 3 *e*PN Pn 13 53 13.7 +1.4
PYA1 eS Sb 13 53 43.5 -1.4
GDB GEDABAY 2.36 114 P Pn 13 53 13.9 +1.0
SNR=192
GDB S Sb 13 53 45.9 -0.1
TRKR Terskaya 2.39 33 *e*Pn Pg 13 53 18.8 -0.9
TRKR eSn Sb 13 53 48.6 +2.0
TRKR Terskaya 2.39 33 *e*PN Pg 13 53 18.8 -0.9
TRKR eS Sb 13 53 48.6 +2.0
DDFL Dedoflistskaro 2.41 96 P Pb 13 53 16.4 -1.0
DDFL Dedoflistskaro 2.41 96 PN Pb 13 53 16.4 -1.0
LGD Lagodekhi 2.48 87 P Pb 13 53 16.7 -2.0
LGD S Sb 13 53 51.2 +1.9
LGD Lagodekhi 2.48 87 PN Pb 13 53 16.6 -2.0
LGD S Sb 13 53 51.2 +1.9
KTUT Trabzon 2.49 254⇓P Pn 13 53 14.6 +0.1
KTUT ⇑ *i*S Sn 13 53 43.1 -1.9
KTUT Trabzon 2.49 254 Pn Pn 13 53 14.6 +0.1
HYR Heyderabad 2.49 143 P Pb 13 53 18.7 0.0
SNR=53
HYR S Sg 13 53 52.9 -0.9
BAYB BAYBURT 2.50 235 P Pn 13 53 16.2 +1.4
BAYB S Sb 13 53 51.4 +1.5
MACK Trabzon 2.50 253 P Pn 13 53 15.0 +0.3
MACK S Sn 13 53 46.9 +1.6
KOPT Kop Dagi 2.52 228 P Pb 13 53 17.2 -2.0
KOPT S Sg 13 53 55.2 +0.6
GROC Groznyy 2.58 54 *e*Pn Pb 13 53 18.7 -1.6
GROC eSn Sb 13 53 52.8 +0.7
GROC Groznyy 2.58 54 *e*PN Pn 13 53 16.4 +0.7
GROC *e* 13 53 20.4
GROC pmax pmax
comp=Z,144nm,0.5s
GROC pmax pmax
comp=Z,737nm,0.6s
GROC MLR MLR
comp=Z,186nm,2.0s
MLAZ Malazgirt-MUS 2.61 186 Pn Pn 13 53 17.1 +0.9
BTLR Botlikh 2.62 68 *e*Pn Pb 13 53 20.5 -0.5
BTLR eSn Sb 13 53 54.5 +1.2
BTLR Botlikh 2.62 68 *e*PN Pb 13 53 20.3 -0.7
BTLR eS Sb 13 53 54.2 +0.9
BTLR eS Sg 13 53 55.3 -2.7
BTLR pmax pmax
comp=Z,174nm,0.7s
BTLR smax smax
comp=N,500nm,0.5s
BTLR smax smax
comp=E,418nm,0.6s
BTLR smax smax
comp=N,413nm,0.9s
DVE Vedeno 2.67 62 *e*Pn Pb 13 53 20.0 -1.8
DVE eSn Sb 13 53 54.8 +0.1
DVE Vedeno 2.67 62 *e*PN Pb 13 53 20.0 -1.8
DVE eS Sb 13 53 54.8 +0.1
VSLR Vesyoloye 2.74 310 *i*Pn Pn 13 53 18.8 +0.8
VSLR eSn Sn 13 53 52.7 +1.4
VSLR Vesyoloye 2.74 310 *i*PN Pn 13 53 18.8 +0.8
VSLR eS Sn 13 53 52.7 +1.4
ZKTA Zakatala 2.77 91 P Pn 13 53 17.8 -0.6
SNR=40
ZKTA S Sn 13 53 50.4 -1.5
RPOR Krasnaya Polya 2.77 316 *i*Pn Pn 13 53 19.4 +1.0
RPOR eSn Sn 13 53 53.7 +1.7
RPOR Krasnaya Polya 2.77 316 *i*PN Pn 13 53 19.4 +1.0
RPOR eS Sn 13 53 53.7 +1.7
GANJ Ganja 2.79 112 P Pn 13 53 20.0 +1.4
SNR=37
GANJ S Sn 13 53 54.9 +2.6
AHMR Akhmetovskaya 2.79 331 *e*Pn Pn 13 53 19.9 +1.3
AHMR eSn Sn 13 53 54.7 +2.4
AHMR Akhmetovskaya 2.79 331 *e*PN Pn 13 53 19.9 +1.3
AHMR eS Sn 13 53 54.7 +2.4
VRTB Varto-Mus 2.80 204 Pn Pn 13 53 19.9 +0.9
YEDI Yedisu-Bingol 2.92 219 Pn Pn 13 53 21.6 +1.0
HNZR Khunzah 2.94 72 *e*PN Pb 13 53 24.3 -2.1
HNZR eS Sb 13 54 01.6 -0.9
HNZR pmax pmax
comp=Z,87nm,0.4s
HNZR smax smax
comp=E,137nm,0.5s
HNZR smax smax
comp=N,154nm,0.6s
HNZR smax smax
comp=N,45nm,0.4s
NVNR Nevinnomyssk 2.96 347 *e*Pn Pb 13 53 24.6 -2.1
NVNR eSn Sb 13 54 01.9 -1.1
NVNR Nevinnomyssk 2.96 347 *e*PN Pb 13 53 24.6 -2.1
NVNR eS Sb 13 54 01.9 -1.1
SOC Sochi 3.00 309 *i*Pn Pn 13 53 21.9 +0.4
SOC eSn Sn 13 53 57.6 0.0
SOC Sochi 3.00 309 *e*PN Pn 13 53 21.7 +0.2
SOC *e* 13 53 29.3
SOC *e*PPP PPP 13 53 32.7
SOC *e* 13 53 59.6
SOC pmax pmax
comp=Z,66nm,0.4s
SOC MLR MLR
comp=Z,255nm,9.0s
ALER Alexandrovskoy 3.03 360 *e*Pn Pb 13 53 26.1 -1.8
ALER eSn Sb 13 54 04.9 0.0
ALER Alexandrovskoy 3.03 360 *e*PN Pb 13 53 26.1 -1.8
ALER eS Sb 13 54 04.9 0.0
DLMR Dylym 3.05 63 *e*Pn Pn 13 53 20.7 -1.5
DLMR eSn Sn 13 53 56.8 -2.1
DLMR Dylym 3.05 63 *e*PN Pb 13 53 26.9 -1.4
DLMR eS Sb 13 54 05.3 -0.3
DLMR eS Sg 13 54 06.4 -5.4
DLMR pmax pmax
comp=Z,323nm,0.3s
DLMR smax smax
comp=N,824nm,0.4s
DLMR smax smax
comp=E,861nm,0.4s
DLMR smax smax
comp=N,331nm,0.7s
GUZR Guzeripl' 3.06 319 *i*Pn Pn 13 53 23.5 +1.1
GUZR eSn Sn 13 53 59.7 +0.6
GUZR Guzeripl' 3.06 319 *i*PN Pn 13 53 23.5 +1.1
GUZR eS Sn 13 53 59.7 +0.6
SBZ Shahbuz 3.08 139 P Pb 13 53 27.2 -1.6
SNR=142
SBZ S Sb 13 54 09.3 +2.8
GNBR Gunib 3.08 76 *e*Pn Pb 13 53 26.3 -2.5
GNBR eSn Sb 13 54 06.7 +0.3
GNBR Gunib 3.08 76 *e*PN Pb 13 53 26.5 -2.3
GNBR eS Sb 13 54 06.4 0.0
GNBR eS Sg 13 54 07.5 -5.2
GNBR pmax pmax
comp=Z,114nm,0.5s
GNBR smax smax
comp=N,215nm,0.6s
GNBR smax smax
comp=E,278nm,0.5s
GNBR smax smax
comp=E,239nm,0.8s
KMKR Kumukh 3.14 81 *e*Pn Pb 13 53 28.7 -1.2
KMKR eSn Sb 13 54 07.6 -0.7
KMKR Kumukh 3.14 81 *e*PN Pb 13 53 28.0 -1.9
KMKR eS Sb 13 54 07.8 -0.6
KMKR pmax pmax
comp=Z,2.0nm,0.4s
KMKR smax smax
comp=N,193nm,0.5s
KMKR smax smax
comp=E,212nm,0.5s
KMKR smax smax
comp=E,183nm,0.6s
ARKR Arakani 3.15 73 *e*Pn Pn 13 53 26.6 +3.0
ARKR eSn Sb 13 54 06.0 -2.4
ARKR Arakani 3.15 73 *e*PN Pb 13 53 28.0 -1.9
ARKR eS Sb 13 54 08.9 +0.5
ARKR eS Sg 13 54 10.0 -4.9
ARKR pmax pmax
comp=Z,1.0nm,0.6s
ARKR smax smax
comp=E,122nm,0.5s
ARKR smax smax
comp=N,182nm,0.6s
ARKR smax smax
comp=N,41nm,0.6s
KRNR Karanay 3.15 68 *e*Pn Pb 13 53 27.5 -2.5
KRNR eSn Sb 13 54 06.5 -2.1
KRNR Karanay 3.15 68 *e*PN Pb 13 53 27.3 -2.7
KRNR eS Sb 13 54 06.0 -2.6
KRNR pmax pmax
comp=Z,64nm,0.4s
KRNR smax smax
comp=E,70nm,0.6s
KRNR smax smax
comp=N,74nm,0.5s
KRNR smax smax
comp=N,29nm,0.6s
VANB Van 3.16 173 Pn Pn 13 53 26.2 +2.4
DBC Dubki 3.17 65 *e*Pn Pb 13 53 27.4 -2.9
DBC eSn Sb 13 54 07.9 -1.1
DBC Dubki 3.17 65 *e*PN Pb 13 53 27.3 -2.9
DBC eS Sb 13 54 08.2 -0.8
DBC pmax pmax
comp=Z,61nm,0.4s
DBC smax smax
comp=N,71nm,0.4s
DBC smax smax
comp=E,111nm,0.5s
DBC smax smax
comp=E,38nm,0.9s
KELT Kelkit 3.20 242 P Pn 13 53 26.9 +2.5
KELT S Sb 13 54 09.9 -0.1
NAX Nakhchivan 3.22 142 P Pb 13 53 29.1 -2.1
SNR=29
NAX S Sb 13 54 13.0 +2.4
BNGB Bingl 3.23 213 Pn Pn 13 53 25.8 +1.0
ERZN Erzincan 3.25 230 Pn Pn 13 53 26.0 +1.0
GURO Guroymak-BITLI 3.25 192 Pn Pn 13 53 26.4 +1.2
GURO Guroymak-BITLI 3.25 192 Pn Pn 13 53 26.1 +1.0
SEKA Sheki 3.25 98 P Pn 13 53 26.4 +1.3
SNR=9.1
SEKA S Sn 13 54 05.6 +1.7
MNGR Mingechevir, A 3.28 106 P Pn 13 53 26.9 +1.5
SNR=22
MNGR S Sn 13 54 05.5 +1.1
BUJR Buynaksk 3.29 69 *e*Pn Pb 13 53 33.7 +1.4
BUJR eSn Sb 13 54 13.3 +0.8
BUJR Buynaksk 3.29 69 *e*PN Pb 13 53 30.2 -2.2
BUJR eS Sb 13 54 12.3 -0.2
BUJR pmax pmax
comp=Z,88nm,0.4s
BUJR smax smax
comp=N,299nm,0.6s
BUJR smax smax
comp=E,323nm,0.6s
BUJR smax smax
comp=E,182nm,0.4s
LABN Labinsk 3.32 332 *e*Pn Pn 13 53 28.1 +2.2
LABN eSn Sn 13 54 06.2 +0.7
LABN Labinsk 3.32 332 *e*PN Pn 13 53 28.1 +2.2
LABN eS Sn 13 54 06.2 +0.7
AKDM Akdamar-Van 3.40 179 Pn Pn 13 53 28.6 +1.4
LZRR Lazarevskoye 3.41 311 *i*Pn Pn 13 53 27.7 +0.6
LZRR eSn Sn 13 54 07.4 -0.2
LZRR Lazarevskoye 3.41 311 *i*PN Pn 13 53 27.7 +0.6
LZRR eS Sn 13 54 07.4 -0.2
GEVA Gevas 3.42 178 Pn Pn 13 53 27.2 -0.3
URKR Urkarakh 3.54 81 *e*PN Pb 13 53 34.6 -2.1
URKR eS Sb 13 54 18.9 -0.9
URKR pmax pmax
comp=Z,46nm,0.3s
URKR smax smax
comp=E,45nm,0.5s
URKR smax smax
comp=N,56nm,0.5s
URKR smax smax
comp=N,45nm,0.3s
AGDM Agdam 3.56 116 P Pn 13 53 31.5 +2.2
SNR=22
AGDM S Sb 13 54 18.9 -1.4
MAK Makhachkala 3.61 69 *e*Pn Pn 13 53 32.1 +2.2
MAK eSn Sn 13 54 17.2 +4.6
MAK Makhachkala 3.61 69⇑ *i*PN Pn 13 53 29.6 -0.3
MAK *e* 13 53 40.5
MAK eS Sn 13 54 13.5 +0.9
MAK *e* 13 54 24.9
MAK *e* 13 54 35.9
MAK pmax pmax
comp=Z,110nm,0.8s
MAK smax smax
comp=E,405nm,0.4s
MAK smax smax
comp=E,332nm,0.7s
MAK MLR MLR
comp=Z,716nm,11.0s
AKT Akhty 3.61 92 *e*PN Pn 13 53 31.6 +1.6
AKT *e* 13 53 38.6
AKT *e* 13 53 43.8
AKT eS Sn 13 54 17.4 +4.6
AKT *e* 13 54 29.8
AKT *e* 13 54 39.3
AKT pmax pmax
comp=Z,49nm,0.6s
AKT smax smax
comp=N,184nm,0.6s
AKT smax smax
comp=N,176nm,0.6s
AKT smax smax
comp=E,99nm,0.4s
AKT MLR MLR
comp=Z,188nm,2.0s
GOYR Goytkh 3.62 315 *i*Pn Pn 13 53 30.8 +0.9
GOYR eSn Sn 13 54 14.2 +1.5
GOYR Goytkh 3.62 315 *i*PN Pn 13 53 30.8 +0.9
GOYR eS Sn 13 54 14.2 +1.5
ORD Ordubad 3.66 139 P Pb 13 53 36.2 -2.5
SNR=49
ORD S Sb 13 54 19.7 -3.3
QBL Gabala 3.78 100 P Pn 13 53 33.1 +0.8
SNR=23
QBL S Sn 13 54 17.7 +0.8
ZRD Zardab 3.88 110 P Pn 13 53 34.3 +0.6
SNR=6.6
KSMR Kasumkent 3.90 90 *e*PN Pn 13 53 38.3 +4.4
KSMR eS Sb 13 54 26.6 -3.5
KSMR pmax pmax
comp=Z,1.0nm,0.6s
KSMR smax smax
comp=E,214nm,0.5s
KSMR smax smax
comp=N,117nm,0.4s
KSMR smax smax
comp=N,88nm,0.4s
XNQ Khinaliq 3.96 96 P Pn 13 53 33.8 -1.1
SNR=5.7
XNQ S Sb 13 54 27.8 -4.2
QSAR Qusar 4.01 91 P Pn 13 53 34.2 -1.2
SNR=6.2
QSAR S Sb 13 54 29.3 -3.9
QRD Qoradiz 4.04 123 P Pb 13 53 42.2 -3.0
SNR=48
QRD S Sb 13 54 30.1 -4.1
DRN Derbent 4.05 84 *e*Pn Pn 13 53 40.3 +4.5
DRN eSn Sn 13 54 26.8 +3.5
DRN Derbent 4.05 84 *e*PN Pn 13 53 40.3 +4.5
DRN eS Sn 13 54 26.8 +3.5
IML Ismayilli 4.07 102 P Pn 13 53 36.9 +0.6
SNR=6.2
IML S Sn 13 54 25.5 +1.4
QUBA Quba, Azerbaij 4.20 93 P Pn 13 53 36.7 -1.3
SNR=5.3
ERBR Yeremizino-Bor 4.35 337 *e*Pn Pg 13 53 58.1 +0.9
ERBR eSn Sg 13 54 49.7 -3.9
ERBR Yeremizino-Bor 4.35 337 *e*PN Pg 13 53 58.1 +0.9
ERBR eS Sg 13 54 49.7 -3.9
SIZA Siyzn 4.54 96 P Pn 13 53 41.4 -1.4
SIZA S Sn 13 54 33.1 -2.6
SPGR Shapsug 4.65 312 *e*Pn Pn 13 53 45.4 +1.2
SPGR eSn Sn 13 54 38.6 +0.5
SPGR Shapsug 4.65 312 *e*PN Pn 13 53 45.3 +1.2
SPGR eS Sn 13 54 38.6 +0.5
GBS Qobustan 4.70 103 P Pn 13 53 44.9 0.0
MARD Mardin 4.72 201 Pn Pn 13 53 45.4 +0.2
YRD Yardimli 4.94 123 P Pn 13 53 50.3 +1.9
SNR=8.8
YRD S Sn 13 54 51.0 +5.2
ANN Anapa 5.04 309 *i*Pn Pn 13 53 51.4 +1.9
ANN eSn Sn 13 54 48.9 +1.0
ANN Anapa 5.04 309 *d i*PN Pn 13 53 50.9 +1.3
ANN eS Sn 13 54 52.1 +4.2
ANN pmax pmax
comp=Z,214nm,0.5s
LRK Lerik 5.17 125 P Pn 13 53 55.5 +4.0
SNR=5.2
LRK S Sn 13 54 56.6 +5.3
DIKM Dikmen 5.74 272⇓P Pn 13 53 57.9 -1.3
DIKM ⇓S Sn 13 54 59.4 -5.7
BNN Bunyan 6.13 244 Pn Pn 13 54 04.6 0.0
FEO Feodosiya 6.39 303 *e*P Pn 13 54 11.3 +3.2
FEO Pm 13 54 12.0
comp=Z,27nm,0.3s
FEO Feodosiya 6.39 303 *e*P Pn 13 54 11.3 +3.2
SUDU Sudak 6.58 301 *e*P Pn 13 54 10.0 -0.7
SUDU eS Sn 13 55 24.8 -1.0
SUDU Sudak 6.58 301 *e*P Pn 13 54 10.0 -0.7
SUDU Pm 13 54 11.1
comp=Z,61nm,0.3s
SUDU eS Sn 13 55 24.8 -1.0
SUDU Sm 13 55 26.6
comp=N,31nm,0.4s
SUDU Sm 13 55 26.6
comp=E,9.0nm,0.3s
BZK Bozkurt 6.67 275⇑P Pn 13 54 10.1 -1.7
BZK ⇑S Sn 13 55 22.4 -5.5
BZK Bozkurt 6.67 275 Pn Pn 13 54 10.3 -1.5
ALU Alushta 6.89 298 *e*P Pn 13 54 13.7 -1.1
ALU Pm 13 54 15.7
comp=Z,126nm,0.5s
ALU eS Sn 13 55 31.7 -1.6
ALU Sm 13 55 32.3
comp=N,154nm,0.3s
ALU Sm 13 55 32.3
comp=E,25nm,0.2s
ALU Alushta 6.89 298 *e*P Pn 13 54 13.7 -1.1
ALU eS Sn 13 55 31.7 -1.6
ILGA Ilgaz 6.96 267 Pn Pn 13 54 16.5 +0.4
YAL Yalta 6.98 296 *e*P Pn 13 54 14.6 -1.5
YAL Pm 13 54 15.8
comp=Z,102nm,0.5s
YAL eS Sn 13 55 31.1 -4.5
YAL Sm 13 55 34.3
comp=N,387nm,0.6s
YAL Sm 13 55 34.3
comp=E,43nm,0.3s
YAL Yalta 6.98 296 *e*P Pn 13 54 14.6 -1.5
YAL eS Sn 13 55 31.1 -4.5
SIM Simferopol' 7.18 300 eS Sn 13 55 39.4 -1.1
SIM Sm 13 55 43.5
comp=E,4.0nm,0.2s
SIM Sm 13 55 43.6
comp=N,33nm,0.5s
SIM Simferopol' 7.18 300 P Pn 13 54 19.2 +0.3
SIM S Sn 13 55 35.6 -4.9
SIM pmax pmax
comp=Z,20nm,0.8s
SIM smax smax
comp=N,53nm,0.8s
SIM smax smax
comp=E,96nm,1.2s
SEV Sevastopol' 7.33 296 *e*P Pn 13 54 19.2 -1.7
SEV Pm 13 54 22.2
comp=Z,27nm,0.3s
SEV eS Sn 13 55 39.2 -4.9
SEV Sm 13 55 45.1
comp=E,9.0nm,0.3s
SEV Sm 13 55 45.2
comp=N,28nm,0.4s
SEV Sevastopol' 7.33 296 *e*P Pn 13 54 19.2 -1.7
SEV eS Sn 13 55 39.2 -4.9
BR131 Keskin Array S 7.33 257 Pn 13 54 21.7 +0.6
BR131 Keskin Array S 7.33 257⇓ *i*P Pn 13 54 24.6 +3.5
BRTR Keskin Array B 7.33 257 Pn Pn 13 54 22.8 +1.7
comp=N,0.5nm,0.3s,baz=73,slow=9.4,SNR=16
BRTR Sn Sn 13 55 45.8 +1.3
comp=N,0.3nm,0.3s,baz=35,slow=30,SNR=1.9
comp=N,3.4nm,0.8s
BRTR Keskin Array B 7.33 257 *i*P Pn 13 54 23.7 +2.6
BRTR pmax pmax
comp=Z,4.0nm,0.8s
VRH Novokhopyorsk 9.51 355 *e*P Pn 13 55 00.5 +10
VRH pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 9.83 346 *e*P Pn 13 54 54.2 -1.0
VSR pmax pmax
comp=Z,20nm,1.7s
MMAI Mount Meron Ar 10.56 217 Pn Pn 13 55 04.9 -0.3
comp=Z,0.4nm,0.3s,baz=45,slow=14,SNR=1.4
MMAI LR LR 13 59 01.9
comp=Z,71nm,21.5s,baz=223,slow=37
comp=Z,0.3nm,0.3s
TLCR 10.82 293⇑P Pn 13 55 06.0 -2.7
TLCR 10.82 293 P Pn 13 55 06.0 -2.7
TIRR Tirgusor 10.96 289⇑P Pn 13 55 07.1 -3.5
TIRR Tirgusor 10.96 289 Pn Pn 13 55 06.9 -3.8
TIRR Tirgusor 10.96 289 P Pn 13 55 07.1 -3.5
TPGR Topolog 11.02 291⇓P Pn 13 55 08.4 -3.2
TPGR ⇑S Sn 13 57 07.0 -7.9
BELG Belogornoye 11.13 15 LR LR 14 00 01.9
comp=Z,137nm,18.2s,baz=113,slow=40
LPSR Galich'ya Gora 11.20 347 *e*P Pn 13 55 15.9 +1.9
LPSR pmax pmax
comp=Z,10.0nm,0.7s
CFR Carcaliu 11.29 293⇑P Pn 13 55 11.8 -3.3
CFR Carcaliu 11.29 293 P Pn 13 55 11.8 -3.3
HARR Harsova 11.33 290⇓P Pn 13 55 12.5 -3.3
HARR Harsova 11.33 290 P Pn 13 55 12.5 -3.3
ICOR Ion Corvin 11.34 287⇓P Pn 13 55 13.2 -2.7
SORM Soroca 12.14 307⇑P Pn 13 55 24.3 -2.5
SORM Soroca 12.14 307 P Pn 13 55 24.3 -2.5
GEYT Alibeck 12.28 103 Pn Pn 13 55 30.0 +1.1
comp=Z,0.2nm,0.3s,baz=285,slow=16,SNR=1.9
comp=Z,1.3nm,0.6s

GEYT Alibeck 12.28 103 P Pn 13 55 30.0 +1.1
BISRR Bisoca 12.35 293 ⇑P Pn 13 55 27.3 -2.5
ISR Istrita 12.38 291 ⇓P Pn 13 55 27.7 -2.4
ISR Istrita 12.38 291 P Pn 13 55 27.7 -2.4
VRI Vrincioaia 12.41 295 ⇑P Pn 13 55 28.2 -2.4
VRI Vrincioaia 12.41 295 P Pn 13 55 28.1 -2.4
TESR Tescani 12.63 298 ⇑P Pn 13 55 31.5 -2.0
COVR Voineasa-Covas 12.76 294 ⇑P Pn 13 55 32.7 -2.6
MLR Muntele Rosu 12.86 293 Pn Pn 13 55 35.5 -1.4
comp=Z,1.0nm,0.3s,baz=135,slow=10.0,SNR=3.4
MLR LR LR 14 01 17.5
comp=Z,57nm,21.1s,baz=74,slow=41
comp=Z,8.7nm,0.7s
MLR Muntele Rosu 12.86 293 ⇓P Pn 13 55 33.7 -3.1
AKASG Malin Array Be 13.04 318 Pn Pn 13 55 37.3 -1.7
comp=Z,2.1nm,0.3s,baz=140,slow=10,SNR=6.2
AKASG LR LR 14 01 54.6
comp=Z,84nm,19.3s,baz=154,slow=43
comp=Z,0.6nm,0.3s
AKASG Malin Array Be 13.04 318 Pn Pn 13 55 38.0 -1.0
AKASG Malin Array Be 13.04 318 P Pn 13 55 38.0 -1.0
DOPR Dopca 13.34 294 ⇓P Pn 13 55 40.4 -2.8
VOIR 13.47 292 ⇑P Pn 13 55 42.9 -2.2
VOIR 13.47 292 P Pn 13 55 42.9 -2.2
AKTO Aktyubinsk 13.60 45 Pn Pn 13 55 45.2 -1.5
comp=Z,0.5nm,0.3s,baz=242,slow=10,SNR=11
AKTO LR LR 14 02 22.0
comp=Z,97nm,18.0s,baz=292,slow=43
comp=Z,3.7nm,0.6s
BURAR Bucovina Array 13.89 301 ⇑P Pn 13 55 48.3 -2.5
BURAR Bucovina Array 13.89 301 Pn Pn 13 55 48.5 -2.3
BURAR Bucovina Array 13.89 301 P Pn 13 55 48.3 -2.5
BUR08 Bucovina Ar. S 13.91 301 Pn Pn 13 55 48.5 -2.6
OBN Obninsk 14.03 345 LR LR 14 01 27.8
comp=Z,48nm,20.4s,baz=96,slow=38
OBN Obninsk 14.03 345 eP Pn 13 55 54.6 +2.1
OBN pmax pmax
comp=Z,55nm,2.0s
OBN MLR MLR
comp=Z,207nm,17.0s
ABKAR Akbulak array 14.09 52 Pn Pn 13 55 52.2 -1.3
MARR Marisel-Cluj 15.03 296 ⇓P Pn 13 56 03.2 -3.1
GZR Gura Zlata 15.05 291 ⇓P Pn 13 56 03.3 -3.3
LVV L'vov 15.43 308 eP P 13 56 17.7 +1.6
IDI Anoyia 15.50 251 LR LR 14 02 55.5
comp=Z,44nm,20.6s,baz=84,slow=40
SIRR Siria 15.94 294 ⇓P Pn 13 56 16.0 -2.2
UZH Uzhgorod 16.07 302 eP Pn 13 56 12.0 -7.8
MNK Minsk 16.20 327 i P Pn 13 56 21.5 +0.1
comp=E,2.0nm,0.9s
MNK i P Pn 13 56 21.5 +0.1
comp=N,15nm,1.3s
MNK i P Pn 13 56 21.5 +0.1
comp=Z,8.0nm,0.9s,baz=136
MNK i PP PnPn 13 56 30.5 +0.3
MNK i PPP PPP 13 56 38.5
MNK i S Sn 13 59 23.9 +2.8
MNK i SS S 13 59 38.2 +4.0
MNK i SSS SSS 13 59 51.2
MNK i LQ LQ 14 01 11.3
MNK i LR LR 14 02 25.9
MNK i LRM MLR 14 03 13.5
comp=N,955nm,11.8s
MNK i LRM MLR 14 03 17.4
comp=E,6.0nm,9.6s
MNK i LRM MLR 14 03 21.5
comp=Z,137nm,12.2s
MNK Minsk 16.20 327 i P Pn 13 56 21.5 +0.1
MNK i S Sn 13 59 23.9 +2.8
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK pmax pmax
comp=N,15nm,1.3s
MNK MLR MLR
comp=N,955nm,12.0s
MNK MLR MLR
comp=E,6.0nm,10.0s
MNK MLR MLR
comp=Z,137nm,12.0s
CRVS Cervenica-Dubn 16.68 303 eP Pn 13 56 26.5 -1.1
CRVS Cervenica-Dubn 16.68 303 ePN Pn 13 56 26.5 -1.1
CRVS Cervenica-Dubn 16.68 303 eP P 13 56 30.8 +0.8
NACGM Naroch 16.94 327 eP P 13 56 33.2 +0.5
comp=Z,14nm,0.8s,baz=134
STHS Stebnicka Huta 16.97 304 eP P 13 56 34.1 +0.9
STHS Stebnicka Huta 16.97 304 eP P 13 56 34.1 +0.9
KIRV Kirov 17.36 11 P Pn 13 56 34.9 -1.1
comp=Z,1.1nm,0.3s,baz=127,slow=5.1,SNR=1.9
comp=Z,10.0nm,0.7s
KIRV Kirov 17.36 11⇓ eP P 13 56 37.8 +0.4
ARU Arti 17.85 29 P Pn 13 56 39.0 -3.2
comp=Z,2.3nm,0.5s,baz=234,slow=14,SNR=4.6
ARU Arti 17.85 29 i P P 13 56 40.0 -2.2
ARU Arti 17.85 29c i P P 13 56 43.4 +0.5
ARU S S 14 00 06.1 -1.8
ARU pmax pmax
comp=Z,39nm,3.4s
VYHS Vyhne 18.25 300 eP P 13 56 49.6 +2.3
VYHS Vyhne 18.25 300 eP P 13 56 49.6 +2.3
SVE Sverdlovsk 18.93 31 eP Pn 13 56 56.2 +0.9
SVE eS S 14 00 32.4 +2.8
SVE pmax pmax
comp=Z,24nm,1.1s
MODS Modra-Piesok 19.24 299 eP Pn 13 57 00.1 +0.9
MODS Modra-Piesok 19.24 299 eP Pn 13 57 00.1 +0.9
KLMR Klimovskoe 19.26 355 ePn P 13 56 52.7 -5.6
KLMR AMP 13 57 02.6
comp=Z,40nm,1.8s
KLMR Klimovskoe 19.26 355 eP P 13 56 52.7 -5.6
KLMR pmax pmax
comp=Z,40nm,1.8s
RONA Rosalia, Austr 19.79 297 ePn Pn 13 57 06.1 +0.3
comp=Z,6.0nm,1.0s
KRLC Kraliky 19.93 304 eP P 13 57 06.0 +0.2
KRLC Kraliky 19.93 304 eP P 13 57 06.0 +0.2
CONA Conrad Observa 20.11 297 ePn Pn 13 57 09.5 -0.1
comp=Z,6.0nm,1.3s
CHGR Chuyangaron 20.25 90 P P 13 57 09.6 +0.2
CHGR IAmb IAmb 13 57 18.7
comp=Z,21nm,0.8s
CHGR Chuyangaron 20.25 90 P P 13 57 09.6 +0.2
CHGR pmax pmax
comp=Z,21nm,0.8s
DPC Dobruska-Polom 20.29 304 eP Pn 13 57 10.6 -1.1
DPC Dobruska-Polom 20.29 304 eP Pn 13 57 10.6 -1.1
KK31 Karatay Array 20.38 77 P Pn 13 57 11.9 -0.9
KK31 Karatay Array 20.38 77 P Pn 13 57 11.9 -0.9
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 20.38 77 P Pn 13 57 12.2 -0.6
KKAR Karatay Array 20.38 77 P Pn 13 57 12.2 -0.6
OSTC Ostas 20.41 305 eP Pn 13 57 11.8 -1.2
CUC Castrocucco 20.55 274 P P 13 57 13.2 +0.6
CUC IAmb IAmb 13 57 14.7
comp=Z,23nm,1.1s
GAR Garm 21.02 88 P P 13 57 18.5 +0.7
CKRC Cesky Krumlov 21.26 299 eP P 13 57 21.6 +1.4
BRVK Borovoye 21.57 49 P P 13 57 24.0 +0.6
BRVK IAmb IAmb 13 57 31.3
comp=Z,13nm,0.9s
BRVK Borovoye 21.57 49⇓ eP P 13 57 24.1 +0.7
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 21.62 49 P P 13 57 23.8 -0.1
comp=Z,2.9nm,0.7s,baz=239,slow=8.7,SNR=18
comp=Z,2.9nm,0.7s
GEC2 GERESS Array S 21.66 299 P P 13 57 25.9 +1.4
GEC2 IAmb IAmb 13 57 26.6
comp=Z,18nm,1.1s
GERES GERESS Array B 21.66 299 P P 13 57 25.2 +0.6
comp=Z,6.9nm,1.0s,baz=119,slow=7.8,SNR=20
comp=Z,6.9nm,1.0s
GERES GERESS Array B 21.66 299 P P 13 57 25.0 +0.4
KBA Koelnbreinsper 21.72 294 eP P 13 57 27.1 +1.8
comp=Z,10.0nm,1.1s
KHC Kasperske Hory 21.78 300 P P 13 57 25.6 -0.1
KHC IAmb IAmb 13 57 27.9
comp=Z,9.7nm,0.9s
KHC Kasperske Hory 21.78 300 eP P 13 57 26.6 +0.8
KHC ex x 13 57 33.0
KHC Kasperske Hory 21.78 300⇑ eP P 13 57 26.7 +0.9
KHC pmax pmax
comp=Z,26nm,1.0s

BRG Berggiesshubel 21.89 305 eP P 13 57 28.1 +1.2
BRG Amp 13 57 28.9
comp=Z,13nm,1.2s
FIA1 FINESS Array S 22.21 338 P P 13 57 30.4 +0.2
FIA1 IAmb IAmb 13 57 40.2
comp=Z,13nm,0.9s
FINES FINESS Array B 22.21 338 P P 13 57 29.9 -0.3
comp=Z,3.0nm,0.5s,baz=143,slow=11,SNR=19
FINES LR LR 14 06 34.7
comp=Z,216nm,18.3s,baz=90,slow=38
comp=Z,3.0nm,0.5s
FINES FINESS Array B 22.21 338 P P 13 57 29.5 -0.6
FINES FINESS Array B 22.21 338 i P P 13 57 32.5 +2.3
FINES pmax pmax
comp=Z,3.0nm,0.5s
ABTA Abfaltersbach 22.28 293 eP P 13 57 31.0 -0.2
comp=Z,9.4nm,1.4s
CIMO Cimolais 22.32 292 P P 13 57 32.6 +1.1
CIMO IAmb IAmb 13 57 41.5
comp=Z,8.3nm,1.1s
CLL Collm 22.56 305 P P 13 57 34.8 +0.7
CLL IAmb IAmb 13 57 37.4
comp=Z,17nm,1.0s
CLL Collm 22.56 305⇑ iP P 13 57 34.5 +0.4
comp=Z,24nm,1.1s
CLL ex x 13 57 42.0
CLL Collm 22.56 305⇑ iP P 13 57 34.5 +0.4
CLL pmax pmax
comp=Z,24nm,1.1s
TEOL Teolo 22.86 290 P P 13 57 38.3 +1.0
WTTA Wattenberg 22.89 295 i P P 13 57 38.6 +0.7
comp=Z,11nm,0.9s
WATA Walderalm 22.94 295 eP P 13 57 39.7 +1.5
comp=Z,30nm,1.5s
SQTA Sankt Quirin 23.18 294 eP P 13 57 41.0 +0.2
comp=Z,7.6nm,0.7s
MOTA Moosalm 23.26 295 i P P 13 57 41.7 +0.1
comp=Z,11nm,0.9s
AAK Ala-Archa 23.35 77 P P 13 57 43.1 +0.6
comp=Z,0.7nm,0.6s,baz=211,slow=4.4,SNR=6.1
comp=Z,0.7nm,0.6s
AAK Ala-Archa 23.35 77⇑ eP P 13 57 43.8 +1.3
AAK pmax pmax
comp=Z,7.0nm,2.5s
GRF Grafenberg Arr 23.39 301 eP P 13 57 43.0 +0.3
comp=Z,14nm,1.2s,baz=98,slow=9.2
RETA Reutte 23.50 295 i P P 13 57 43.8 0.0
comp=Z,6.8nm,0.9s
FETA Feichten 23.51 294 eP P 13 57 44.5 +0.5
comp=Z,14nm,0.9s
FUORN Ofenpass-Fuorn 23.82 293 P P 13 57 47.9 +0.7
FUORN IAmb IAmb 13 57 49.8
comp=Z,6.3nm,0.8s
DAVOX Davos/Dischmat 24.09 293 P P 13 57 49.6 -0.1
comp=Z,5.8nm,0.6s,baz=88,slow=8.3,SNR=11
DAVOX LR LR 14 09 12.6
comp=Z,110nm,18.2s,baz=70,slow=42
comp=Z,5.8nm,0.6s
DAVA Damuels 24.09 295 eP P 13 57 49.4 -0.3
comp=Z,12nm,0.9s
MSSA Maissana 24.46 287 P P 13 57 53.1 +0.1
HFS Hagfors 25.70 326 P P 13 58 04.2 +0.2
comp=Z,14nm,0.6s,baz=128,slow=9.6,SNR=29
HFS LR LR 14 08 08.8
comp=Z,65nm,18.7s,baz=270,slow=36
comp=Z,14nm,0.6s
SENIN Lac Senin/Sane 25.88 292 P P 13 58 06.0 +0.1
KURBB Kurchatov Arra 25.99 58 P P 13 58 07.6 +0.9
comp=Z,3.9nm,0.7s,baz=270,slow=9.3,SNR=45
KURBB PcP PcP 14 01 34.5 -0.2
comp=Z,0.4nm,0.7s,baz=271,slow=3.4,SNR=4.5
comp=Z,3.9nm,0.7s
KURK Kurchatov 26.06 58 P P 13 58 08.2 +0.9
KURK IAmb IAmb 13 58 16.8
comp=Z,7.0nm,0.8s
KURK Kurchatov 26.06 58 d iP P 13 58 08.1 +0.8
KURK pmax pmax
comp=Z,5.0nm,0.8s
BNI Bardonecchia 26.41 290 P P 13 58 10.2 -0.5
BNI IAmb IAmb 13 58 27.8
comp=Z,8.0nm,0.8s
BNI Bardonecchia 26.41 290 P P 13 58 10.2 -0.5
BNI pmax pmax
comp=Z,8.0nm,0.9s
NC405 NORSAR Array S 27.05 326 P P 13 58 15.7 -0.5
NB2 NORSAR Subarra 27.22 326 P P 13 58 20.2 +2.5
comp=Z,2.1nm,0.6s,baz=128,slow=10
NOA NORSAR Array B 27.22 326 P P 13 58 18.4 +0.7
comp=Z,1.7nm,0.9s,baz=128,slow=9.6,SNR=5.0
NOA LR LR 14 09 07.5
comp=Z,24nm,19.5s,baz=40,slow=37
comp=Z,1.7nm,0.9s
MK31 Makanchi Array 28.43 66 P P 13 58 29.9 +1.2
MK31 Makanchi Array 28.43 66⇑ eP P 13 58 30.6 +1.9
MKAR Makanchi Array 28.43 66 P P 13 58 29.9 +1.3
comp=Z,0.3nm,0.5s,baz=271,slow=7.7,SNR=7.5
MKAR LR LR 14 10 58.6
comp=Z,43nm,18.4s,baz=284,slow=39
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 29.31 348 P P 13 58 36.3 +0.1
comp=Z,5.5nm,1.0s,baz=151,slow=11,SNR=1.7
ARCES LR LR 14 10 34.2
comp=Z,151nm,18.3s,baz=226,slow=37
comp=Z,5.5nm,1.0s
ZALV Zalesovo Beam 30.20 52 P P 13 58 44.3 0.0
comp=Z,0.9nm,0.6s,baz=258,slow=7.4,SNR=4.7
ZALV LR LR 14 13 31.1
comp=Z,24nm,18.7s,baz=270,slow=42
comp=Z,0.9nm,0.6s
DGZ Jazzator, Alta 31.69 60⇓ eP P 13 58 58.8 +1.2
DGZ pmax pmax
comp=Z,6.0nm,1.7s
WMQ Urumqi 32.63 71 eP P 13 59 05.8 0.0
WMQ pmax pmax
comp=Z,11nm,1.3s
WMQ LR LR
comp=Z,27nm,18.7s
ESDC Sonseca Array 35.26 283 P P 13 59 27.7 -1.1
comp=Z,2.0nm,0.9s,baz=64,slow=9.4,SNR=7.9
comp=Z,2.0nm,0.9s
NRIK Noril'sk 36.00 25 P P 13 59 35.1 +0.5
comp=Z,4.4nm,0.9s,baz=222,slow=6.0,SNR=6.9
comp=Z,4.4nm,0.9s
NRIK Noril'sk 36.00 25⇓ iP P 13 59 35.8 +1.2
NRIK pmax pmax
comp=Z,9.0nm,1.1s
SPITS Spitsbergen Ar 38.09 351 P P 13 59 53.4 +1.0
SPITS pmax pmax
comp=Z,116nm,1.5s
KMBO Kilima Mbogo 42.97 188 LR LR 14 18 18.1
comp=Z,5.5nm,18.3s,baz=281,slow=36
SONM Songino Array 44.33 60 P P 14 00 44.2 +0.1
comp=Z,0.5nm,0.6s,baz=282,slow=7.2,SNR=4.0
SONM LR LR 14 21 28.6
comp=Z,102nm,18.0s,baz=88,slow=39
comp=Z,0.5nm,0.6s
ULN Ulaanbaatar 44.75 59 P P 14 00 47.7 +0.2
ULN IAmb IAmb 14 00 56.2
comp=Z,4.9nm,0.8s
ULN Ulaanbaatar 44.75 59⇑ eP P 14 00 48.3 +0.8
ULN pmax pmax
comp=Z,8.0nm,1.7s
TORD Torodi Ar. Bea 45.72 244 P P 14 00 53.6 -1.7
comp=Z,1.8nm,0.4s,baz=47,slow=6.4,SNR=2.3
comp=Z,1.8nm,0.4s
BOD Bodaibo 46.36 44 eP P 14 00 59.7 -0.2
BOD pmax pmax
comp=Z,8.0nm,2.0s
PZH PanZhiHua 50.09 88 P P 14 01 31.6 +2.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.1s
HHC Hu-ho-hao-te 50.29 67 eP P 14 01 32.8 +2.2
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,290nm,4.8s
CMAR Chiang Mai Arr 52.72 98 P P 14 01 48.4 -0.5
comp=Z,0.4nm,0.3s,baz=302,slow=8.3,SNR=4.4
comp=Z,0.4nm,0.3s
CMAR Chiang Mai Arr 52.72 98 i P P 14 01 47.7 -1.2
YAK Yakutsk 52.78 36 LR LR 14 28 37.6
comp=Z,28nm,20.2s,baz=343,slow=41
DBIC Dimbokro 54.82 244 P P 14 02 03.0 -1.3
comp=Z,1.1nm,0.6s,baz=54,slow=10.0,SNR=1.4
comp=Z,1.1nm,0.6s
DBIC Dimbokro 54.82 244 P P 14 02 03.0 -1.3

HEH HeiHe 56.31 50 eP P 14 02 14.3 -0.3
HEH pmax pmax
comp=Z,6.0nm,0.7s
KLR Kul'dur 59.28 50⇑ eP P 14 02 35.4 -0.1
KLR pmax pmax
comp=Z,11nm,2.5s
SEY Seymchan 61.60 29⇓ iP P 14 02 52.2 +1.1
SEY pmax pmax
comp=Z,5.0nm,1.1s
BILL Bilibino 62.63 21 eP P 14 02 57.9 -0.1
BILL e*PP sP 14 03 03.1 +0.1
BILL e 14 03 38.9
BILL e 14 05 15.3
BILL pmax pmax
BILL MLR MLR
comp=Z,2.0nm,0.8s
comp=Z,44nm,17.0s
KSRS Korea Array 63.03 63 P P 14 03 01.1 0.0
comp=Z,1.4nm,0.9s,baz=297,slow=6.9,SNR=2.2
comp=Z,1.4nm,0.9s
SCHQ Schefferville 66.76 324 P P 14 03 23.9 -1.3
comp=Z,2.9nm,0.7s,baz=47,slow=8.4,SNR=6.4
comp=Z,2.9nm,0.7s
PETK Petropavlovsk- 70.12 36 LR LR 14 40 03.2
comp=Z,35nm,18.4s,baz=149,slow=41
BOSA Boshof 71.88 196 P P 14 03 56.6 -0.5
comp=Z,1.4nm,0.5s,baz=19,slow=7.4,SNR=4.8
comp=Z,1.4nm,0.5s
ILAR Eielson Array 73.55 4 P P 14 04 07.5 +0.9
comp=Z,0.4nm,1.0s,baz=343,slow=7.7,SNR=2.5
comp=Z,0.4nm,1.0s
YKA Yellowknife Ar 74.56 349 P P 14 04 12.3 -0.2
comp=Z,1.0nm,0.8s,baz=15,slow=6.1,SNR=21
comp=Z,1.0nm,0.8s

*IDC **20** 13:53:32.6±2.9, 17.°10S×177.°19W, h0km, mb4.1/4, mbtmp4.0/5, ML5.0/1, MS3.7/26, Error ellipse: s-maj=130.4km s-min=28.8km az=144.0*
ISC 20 13:53:38.4±1.7, 17.°0S±0.°5×177.°4W±0.°2, h35km, n33, σ0s88/7, mb4.1/4, MS3.7/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
MSVF	**Nonsavu**	**4.41**	**259**	Pn	**Pn**	**13 54 42.9**	**-0.1**
	2.3nm,0.3s,baz=55,slow=23,SNR=7.8						
MSVF				Sn	**Sn**	**13 55 33.1**	**-0.1**
	4.7nm,0.3s,baz=333,slow=24,SNR=11						
MSVF				LR	LR	13 56 04.2	
	comp=Z,633nm,18.0s,baz=43,slow=33						
	3.3nm,0.4s						
AFI	**Afiamalu**	**6.21**	**61**	LR	LR	13 56 56.5	
	comp=Z,534nm,18.1s,baz=252,slow=33						
DZM	**Mont Dzumac**	**16.05**	**249**	eLR	LR	14 02 27.9	
	comp=Z,204nm,20.9s,baz=38,slow=33						
DZM	**Mont Dzumac**	**16.05**	**249**	eLR	LR	14 01 16.4	
	comp=Z,332nm,26.2s						
RAR	**Rarotonga**	**17.18**	**107**	LR	LR	14 02 47.1	
	comp=Z,169nm,20.1s,baz=274,slow=33						
URZ	**Urewera**	**21.75**	**192**	LR	LR	14 05 40.6	
	comp=Z,196nm,18.6s,baz=140,slow=34						
HNR	**Honiara**	**23.27**	**286**	LR	LR	14 06 15.3	
	comp=Z,7μm,19.2s,baz=109,slow=32						
PPT2	**Papeete2**	**26.57**	**95**	eLR	LR	14 05 50.5	
	comp=Z,359nm,27.5s						
PPT2				eLR	LR	14 05 50.7	
	comp=Z,200nm,25.8s						
TBI	**Tubuai**	**26.96**	**108**	eLR	LR	14 06 10.0	
	comp=Z,2μm,28.8s						
TBI				eLR	LR	14 06 10.2	
	comp=Z,6μm,24.8s						
KRVT	**Keravat (AS076**	**32.51**	**289**	LR	LR	14 11 47.9	
	comp=Z,241nm,20.1s,baz=254,slow=33						
CTA	**Charters Tower**	**34.56**	**259**	LR	LR	14 12 58.1	
	comp=Z,188nm,18.1s,baz=88,slow=34						
PMG	**Port Moresby**	**35.27**	**278**	LR	LR	14 12 27.9	
	comp=Z,95nm,19.7s,baz=78,slow=32						
TAOE	**Nuku Hiva Isla**	**37.14**	**82**	eLR	LR	14 10 33.5	
	comp=Z,316nm,29.5s						
STKA	**Stephens Creek**	**39.93**	**240**	P	**P**	**14 01 08.6**	**-0.8**
	2.6nm,0.7s,baz=63,slow=4.5,SNR=2.3						
STKA				LR	LR	14 16 01.9	
	comp=Z,67nm,19.6s,baz=21,slow=34						
	2.6nm,0.7s						
WRA	**Warramunga Arr**	**45.76**	**258**	P	**P**	**14 01 57.0**	**+0.2**
	0.6nm,0.8s,baz=89,slow=7.0,SNR=5.5						
WRA				LR	LR	14 18 38.0	
	comp=Z,63nm,20.8s,baz=121,slow=33						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**45.98**	**253**	P	**P**	**14 02 00.1**	**+1.5**
	5.9nm,0.7s,baz=86,slow=8.5,SNR=71						
ASAR				LR	LR	14 20 12.3	
	comp=Z,166nm,18.6s,baz=90,slow=35						
	5.9nm,0.7s						
SIJI	**Sorong**	**52.97**	**282**	LR	LR	14 24 04.4	
	comp=Z,69nm,20.9s,baz=83,slow=34						
RPN	**Rapa Nui**	**63.25**	**112**	LR	LR	14 24 18.2	
	comp=Z,47nm,20.9s,baz=218,slow=29						
MJAR	**Matsushiro Arr**	**67.74**	**323**	LR	LR	14 30 35.9	
	comp=Z,26nm,18.8s,baz=164,slow=33						
JNU	**Nakatsue**	**70.14**	**316**	LR	LR	14 30 38.6	
	comp=Z,32nm,20.8s,baz=152,slow=32						
ASAJ	**Asahikawa**	**70.92**	**331**	LR	LR	14 34 50.4	
	comp=Z,29nm,18.1s,baz=158,slow=35						
LEM	**Lembang**	**73.71**	**268**	LR	LR	14 37 21.5	
	comp=Z,56nm,19.4s,baz=210,slow=36						
KLR	**Kul'dur**	**79.80**	**329**	LR	LR	14 34 15.4	
	comp=Z,28nm,21.0s,baz=122,slow=30						
DLBC	**Dease Lake**	**84.59**	**23**	LR	LR	14 41 20.4	
	comp=Z,109nm,18.1s,baz=240,slow=34						
ILAR	**Eielson Array**	**84.76**	**13**	P	**P**	**14 06 08.6**	**0.0**
	1.3nm,1.0s,baz=230,slow=6.6,SNR=7.1						
	1.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.48**	**289**	LR	LR	14 43 52.3	
	comp=Z,14nm,20.2s,baz=120,slow=34						
YKA	**Yellowknife Ar**	**93.08**	**24**	LR	LR	14 41 59.0	
	comp=Z,58nm,20.3s,baz=298,slow=31						
JTS	**Las Juntas de**	**95.26**	**81**	LR	LR	14 39 17.9	
	comp=Z,66nm,20.9s,baz=250,slow=29						
NNA	**Nana**	**96.41**	**105**	LR	LR	14 40 44.6	
	comp=Z,26nm,21.8s,baz=297,slow=29						
ATAH	**Atahualpa**	**96.48**	**99**	LR	LR	14 40 42.1	
	comp=Z,59nm,21.9s,baz=306,slow=29						
CFA	**Coronel Fontan**	**96.71**	**126**	LR	LR	14 41 21.7	
	comp=Z,26nm,20.8s,baz=120,slow=30						
LVC	**Limon Verde**	**99.76**	**117**	LR	LR	14 42 34.3	
	comp=Z,37nm,20.8s,baz=224,slow=30						
GERES	**GERESS Array B**	**146.94**	**347**	PKPbc	**PKPbc**	**14 13 17.0**	**-0.3**
	0.3nm,0.5s,baz=12,slow=5.0,SNR=1.9						

*IDC **20** 14:06:26.2±1.3, 15.°38S×178.°83W, h416km±14km, mb3.9/17, mbtmp4.7/20, Error ellipse: s-maj=19.0km s-min=10.2km az=134.0*
*NEIC **20** 14:06:26.5±1.5, 15.°42S±0.°10×178.°74W±0.°10, h417km±7km, mb4.5/54, Error ellipse: s-maj=14.7km s-min=13.0km az=46.0*
ISC 20 14:06:24.8±0.3, 15.°38S±0.°07×178.°83W±0.°06, h400km, n282, σ1s00/284, mb4.5/49, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
MSVF	**Nonsavu**	**3.80**	**232**	P	**Pn**	**14 07 39.3**	**+4.2**
	289nm,0.5s,baz=339,slow=21,SNR=393						
AFI	**Afiamalu**	**6.98**	**79**	P	**Pn**	**14 08 08.4**	**0.0**
	132nm,0.7s,baz=42,slow=0.7,SNR=39						
AFI				S	**S**	**14 09 32.4**	**-0.6**
	43nm,0.9s,baz=260,slow=21,SNR=1.8						
AFI	**Afiamalu**	**6.98**	**79**		**Pn**	**14 08 08.1**	**-0.3**
FUNA	**Funafuti**	**7.08**	**344**		**P**	**14 08 10.3**	**+0.2**
NIUE	**Niue**	**9.26**	**115**	P	**Pn**	**14 08 34.6**	**+0.2**
MARNC	**Mare, Loyalty**	**13.86**	**242**	P	**P**	**14 09 26.7**	**-0.9**
LIFNC	**LIFOU**	**14.29**	**246**	P	**P**	**14 09 29.9**	**+0.2**
DZM	**Mont Dzumac**	**15.45**	**242**	P	**P**	**14 09 44.9**	**+2.6**
	4.4nm,0.7s,baz=70,slow=21,SNR=2.3						
KOUNC	**Koumac, New Ca**	**16.86**	**250**	P	**P**	**14 10 00.6**	**+3.3**
MXZ	**Matakaoa Point**	**22.24**	**186**	P	**P**	**14 10 47.8**	**-1.7**
WMGZ	**Waiomatatini S**	**22.48**	**186**	P	**P**	**14 10 51.5**	**-0.2**
HAZ	**Te Kaha**	**22.49**	**187**	P	**P**	**14 10 50.2**	**-1.5**
TGRZ	**Tauranga**	**22.68**	**190**	P	**P**	**14 10 54.9**	**+1.4**
RUGZ	**Raukumara Rang**	**22.71**	**187**	P	**P**	**14 10 52.6**	**-1.3**
OPRZ	**Ohinepanea**	**22.75**	**189**	P	**P**	**14 10 55.1**	**+1.0**
PUZ	**Puketiti**	**22.75**	**186**	P	**P**	**14 10 52.3**	**-1.9**
TOZ	**Tahuroa Road**	**22.82**	**192**	P	**P**	**14 10 57.7**	**+2.9**
TWGZ	**Tauwhareparae**	**22.88**	**186**	P	**P**	**14 10 54.6**	**-0.8**
KARZ	**Kaharoa**	**22.97**	**190**	P	**P**	**14 10 57.4**	**+1.2**

OMRZ **Omania** 23.03 190 P P 14 10 59.0 +2.3
URZ **Urewera** 23.07 188 P P 14 10 54.0 -3.0
20nm,0.3s,baz=346,slow=2.5,SNR=73
URZ **Urewera** 23.07 188 P P 14 10 54.2 -2.8
MWZ **Matawai** 23.09 187 P P 14 10 55.0 -2.2
TKGZ **Te Karaka** 23.16 187 P P 14 10 57.7 -0.1
CNGZ **Carnagh Statio** 23.16 186 P P 14 10 56.8 -1.0
RAGZ **Rawiri** 23.26 187 P P 14 10 55.2 -3.7
HRRZ **Handcock Road** 23.32 190 P P 14 10 59.4 +0.1
PRRZ **Plateau Road** 23.41 189 P P 14 10 59.4 -0.7
RIGZ **Rimuhau** 23.43 187 P P 14 10 59.6 -0.7
RTZ **Ruatahuna** 23.44 188 P P 14 10 58.7 -1.7
RTZ IAmb IAmb 14 11 13.6
comp=Z,17nm,1.2s
SNGZ **Shannon Statio** 23.55 188 P P 14 10 59.8 -1.6
RAHZ **Arahi** 23.72 188 P P 14 11 02.1 -0.8
MRHZ **Matea Rd** 23.74 189 P P 14 11 01.4 -1.7
BKZ **Black Stump Fm** 24.05 189 P P 14 11 04.2 -1.7
BKZ IAmb IAmb 14 11 39.5
comp=Z,22nm,1.3s
BKZ **Black Stump Fm** 24.05 189 P P 14 11 04.0 -1.9
ETVZ **East Tongariro** 24.15 190 P P 14 11 06.8 0.0
BFZ **Birch Farm** 25.57 189 P P 14 11 18.6 -0.8
QRZ **Quartz Range** 26.44 195 P P 14 11 27.2 +0.1
NNZ **Nelson** 26.62 193 P P 14 11 28.1 -0.5
THZ **Tophouse** 27.24 194 P P 14 11 33.5 -0.8
PPT2 **Papeete2** 28.12 99 eLR LR 14 11 57.1
comp=Z,126nm,22.0s
LTZ **Lake Taylor** 28.36 194 P P 14 11 42.0 -2.0
LTZ IAmb IAmb 14 11 44.6
comp=Z,20nm,0.7s
OXZ **Oxford** 28.93 194 P P 14 11 47.9 -1.1
RPZ **Rata Peaks** 29.53 195 P P 14 11 52.7 -1.6
comp=Z,11nm,0.6s,baz=14,slow=3.1,SNR=11
comp=Z,11nm,0.6s
FQZ **Fox Glacier** 29.69 197 P P 14 11 54.6 -1.1
ARMA **Armidale** 30.94 236 P P 14 12 07.3 +0.4
ARMA IAmb IAmb 14 12 35.0
comp=Z,27nm,1.5s
MLZ **Mavora Lakes** 31.86 198 P P 14 12 14.9 +0.4
MLZ IAmb IAmb 14 12 15.3
comp=Z,28nm,0.7s
WHZ **Wether Hill Ro** 32.38 197 P P 14 12 19.0 0.0
CTAO **Charters Tower** 33.55 257 P P 14 12 30.1 +0.7
CTAO IAmb IAmb 14 12 30.8
comp=Z,13nm,0.6s
TOO **Toolangi** 38.50 228 P P 14 13 10.9 +0.3
TOO IAmb IAmb 14 13 54.5
comp=Z,23nm,1.2s
STKA **Stephens Creek** 39.55 238 P P 14 13 19.7 +0.4
comp=Z,6.5nm,0.7s,baz=88,slow=12,SNR=17
comp=Z,6.5nm,0.7s
STKA **Stephens Creek** 39.55 238 P P 14 13 19.8 +0.6
BBOO **Buckleboo** 44.32 239 P P 14 13 57.3 0.0
BBOO IAmb IAmb 14 14 37.5
comp=Z,28nm,1.4s
WR0 **Warramunga Arr** 44.56 257 P P 14 13 58.9 -0.5
WB0 **Warramunga Arr** 44.70 257 P P 14 14 00.0 -0.5
WB2 **Warramunga Arr** 44.74 257 P P 14 14 00.0 -0.7
WRAB **Tennant Creek** 44.74 257 P P 14 14 00.6 -0.1
WRA **Warramunga Arr** 44.75 257 P P 14 14 00.3 -0.5
comp=Z,1.8nm,0.4s,baz=95,slow=7.8,SNR=46
WRA S S 14 20 01.0 -6.4
comp=Z,0.2nm,0.6s,baz=128,slow=46,SNR=1.5
comp=Z,1.8nm,0.4s
WRA **Warramunga Arr** 44.75 257 P P 14 14 00.4 -0.4
AS31 **Alice Springs** 45.14 252 P P 14 14 04.1 +0.2
ASAR **Alice Springs** 45.14 252 P P 14 14 04.0 +0.1
comp=Z,42nm,0.5s,baz=84,slow=8.6,SNR=1365
ASAR PcP PcP 14 15 36.8 +0.2
comp=Z,0.8nm,0.6s,baz=92,slow=4.1,SNR=2.5
ASAR ScP ScP 14 18 48.5 -1.8
comp=Z,0.4nm,0.7s,baz=85,slow=5.7,SNR=3.4
ASAR S S 14 20 09.4 -3.5
comp=Z,1.2nm,0.8s,baz=87,slow=15,SNR=8.6
comp=Z,42nm,0.5s
ASAR **Alice Springs** 45.14 252 P P 14 14 04.0 +0.1
MTN **Manton Dam** 48.51 266 P P 14 14 29.5 -0.2
MTN IAmb IAmb 14 14 32.9
comp=Z,34nm,1.5s
KNRA **Kununurra** 50.39 262 P P 14 14 43.0 -0.7
KNRA IAmb IAmb 14 15 00.3
comp=Z,17nm,1.1s
FORT **Forrest** 50.76 243 P P 14 14 46.0 -0.2
FITZ **Fitzroy Crossi** 53.08 259 P P 14 15 03.7 +0.4
PSA00 **Pilbara Seismi** 58.19 254 P P 14 15 38.4 -0.7
PSA00 IAmb IAmb 14 15 43.9
comp=Z,27nm,1.2s
NWAO **Narrogin (SRO)** 60.06 241 P P 14 15 51.6 0.0
NWAO IAmb IAmb 14 16 19.7
comp=Z,24nm,1.4s
MORW **Morawa** 61.15 245 P P 14 15 58.5 -0.5
MORW IAmb IAmb 14 16 22.2
comp=Z,34nm,1.5s
VNDA **Vanda** 62.92 185 P P 14 16 10.0 +0.4
comp=Z,3.1nm,1.1s,baz=352,slow=7.5,SNR=5.5
comp=Z,3.1nm,1.1s
VNDA **Vanda** 62.92 185 P P 14 16 09.8 +0.1
UNV **Unalaska Valle** 69.75 8 P P 14 16 51.4 -1.2
PEA0B **Petropavlovsk-** 71.15 345 P P 14 17 01.1 0.0
PETK **Petropavlovsk-** 71.15 345 P P 14 17 00.7 -0.4
comp=Z,5.3nm,0.7s,baz=134,slow=8.5,SNR=12
comp=Z,5.3nm,0.7s
SDPT **Sand Point** 72.15 11 P P 14 17 05.8 -1.0
baz=198
QSPA **South Pole Qui** 74.66 180 P P 14 17 21.9 +0.4
SCZ2 **Santa Cruz Isl** 74.71 48 P P 14 17 23.4 +1.2
baz=239
Q17K **Contact Creek** 75.77 12 P P 14 17 27.3 -0.4
baz=203
NJ2 **Nanjing** 76.03 309 eP P 14 17 31.3 +1.7
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
VES **Vestal, Richgr** 76.04 46 P P 14 17 29.4 -0.2
baz=239
KDAK **Kodiak Island** 76.06 14 P P 14 17 29.3 +0.1
comp=Z,10.0nm,0.7s,baz=160,slow=5.1,SNR=8.2
comp=Z,10.0nm,0.7s
KDAK **Kodiak Island** 76.06 14 P P 14 17 29.3 +0.1
baz=206
P16K **Nushagak River** 76.08 11 P P 14 17 28.9 -0.3
baz=201
BFSC **Mount Baldy Ra** 76.25 48 P P 14 17 30.9 -0.1
baz=240
MURC **Murrieta** 76.27 49 P P 14 17 31.2 +0.3
baz=241
Q18K **Katmai Hardscr** 76.31 13 P P 14 17 30.0 -0.7
baz=204
EDW2 **Edwards Air Fo** 76.32 48 P P 14 17 32.0 +0.7
baz=240
ISA **Isabella, Lake** 76.38 47 P P 14 17 32.2 +0.6
baz=239
MONP2 **Monument Peak** 76.50 50 P P 14 17 32.8 +0.3
baz=241
P17K **Kvichak River** 76.52 12 P P 14 17 30.9 -0.8
baz=202
O16K **Kokwok River B** 76.59 11 P P 14 17 31.2 -0.9
baz=200
IKP **In-Ko-Pah, Jac** 76.61 50 P P 14 17 34.0 +1.0
baz=242
YBH **Yreka Blue Hor** 76.84 40 P P 14 17 34.7 +0.7
YBH IAmb IAmb 14 17 35.9
comp=Z,16nm,1.2s
O17K **Koliganek Bris** 76.94 11 P P 14 17 34.1 +0.1
baz=201
P18K **Big Mountain,** 76.94 12 P P 14 17 33.9 -0.2
baz=203
CWC **Cottonwood Cre** 77.04 46 P P 14 17 35.9 +0.6
baz=240
MLAC **Mammoth, Mammo** 77.13 45 P P 14 17 36.2 +0.3
baz=239
TIN **Tinemaha, Big** 77.25 46 P P 14 17 36.9 +0.5
baz=239
MPMC **Manual Prospec** 77.27 47 P P 14 17 37.4 +0.7
baz=240
O18K **Koktuh Hills** 77.38 12 P P 14 17 36.3 -0.2
baz=203
GSC **Goldstone, Bar** 77.38 48 P P 14 17 38.1 +0.9
baz=241
HEC **Hector,Ludlow** 77.49 48 P P 14 17 38.2 +0.5
baz=241
YERR **Yerington** 77.56 43 P P 14 17 38.6 +0.4
YERR IAmb IAmb 14 17 39.6
comp=Z,9.6nm,1.0s
GLA **Glamis** 77.76 51 P P 14 17 40.4 +1.2
baz=242

GRAC **Grapevine Rang** 77.82 46 P P 14 17 39.8 +0.4
GRAC **Grapevine Rang** 77.82 46 P P 14 17 40.6 +1.2
baz=240,SNR=6.8
O19K **Port Alsworth** 77.87 12 P P 14 17 39.1 0.0
baz=204,SNR=6.1
NVAR **Mina Array Bea** 77.90 44 P P 14 17 40.8 +0.7
comp=Z,5.5nm,0.7s,baz=226,slow=8.5,SNR=27
comp=Z,5.5nm,0.7s
FURC **Furnace Creek,** 77.91 47 P P 14 17 40.7 +0.9
baz=240
GMRC **Granite Mounta** 77.95 49 P P 14 17 40.7 +0.3
baz=242
IRM **Iron Mountain** 78.03 49 P P 14 17 41.2 +0.5
baz=242
TUQ **Turquoise Moun** 78.07 48 P P 14 17 41.8 +0.8
baz=241
BRSE **Bradley Lake S** 78.25 14 P P 14 17 41.4 +0.2
baz=208
N19K **Bonanza Creek** 78.40 12 P P 14 17 41.5 -0.6
baz=204
TPNV **Topopah Spring** 78.57 47 P P 14 17 44.8 +1.1
baz=241
MA2 **Magadan** 78.67 345 P P 14 17 42.5 -0.9
comp=Z,1.3nm,0.4s,baz=81,slow=7.7,SNR=4.3
comp=Z,1.3nm,0.4s
PDMCI **Parker Dam,Lak** 78.84 50 P P 14 17 44.9 0.0
baz=242
GAMB **Gambell** 79.10 3 P P 14 17 45.5 -0.1
baz=187
L19K **White Mountain** 79.59 11 P P 14 17 48.5 +0.1
baz=203
RC01 **Rabbit Creek A** 79.67 14 P P 14 17 48.1 -0.7
baz=208
R11A **Troy Canyon, C** 79.71 46 P P 14 17 49.5 -0.2
R11A **Troy Canyon, C** 79.71 46 P P 14 17 50.2 +0.4
baz=241
SUA **Susitna One** 79.78 13 P P 14 17 49.3 -0.2
baz=207,SNR=5.3
PWL **Port Wells** 79.80 15 P P 14 17 48.6 -1.0
baz=210
L20K **Farewell, AK** 80.04 11 P P 14 17 50.7 -0.1
baz=204
SKT **Skwentna** 80.07 13 P P 14 17 50.3 -0.6
baz=207
TTA **Tatalina** 80.07 10 P P 14 17 51.4 +0.4
baz=202
PMR **Palmer** 80.26 14 P P 14 17 51.7 -0.1
baz=209
KNK **Knik Glacier** 80.26 14 P P 14 17 51.6 -0.4
baz=210
BBB **Bella Bella** 80.31 29 P P 14 17 51.6 -0.7
comp=Z,5.8nm,0.6s,baz=270,slow=11,SNR=1.1
comp=Z,5.8nm,0.6s
ANM **Nome** 80.36 6 P P 14 17 53.1 +0.8
baz=193
TUC **Tucson** 80.49 53 P P 14 17 55.0 +1.1
baz=245
CUT **Chulitna** 80.72 13 P P 14 17 54.0 -0.3
baz=208,SNR=5.5
PPLA **Purkeypile** 80.75 12 P P 14 17 54.5 -0.2
baz=206
K20K **Telida** 80.81 11 P P 14 17 55.1 +0.3
baz=204
BMRM **Bremner River** 80.85 16 P P 14 17 55.2 +0.1
baz=213
SCM **Sheep Creek Mo** 80.89 15 P P 14 17 55.1 -0.2
baz=211
V35K **Ketchikan** 80.90 25 P P 14 17 55.0 -0.3
baz=226
TNA **Tin City** 81.12 5 P P 14 17 56.9 +0.7
TNA IAmb IAmb 14 17 57.8
comp=Z,11nm,0.7s
TNA **Tin City** 81.12 5 P P 14 17 56.9 +0.7
baz=190
SEY **Seymchan** 81.24 347 P P 14 17 56.8 -0.1
comp=Z,2.2nm,0.6s,baz=186,slow=22,SNR=9.7
comp=Z,2.2nm,0.6s
CAST **Castle Rocks** 81.25 12 P P 14 17 55.7 -1.4
baz=206
N25K **Chitina, Valde** 81.39 16 P P 14 17 57.9 -0.1
baz=213
M24K **Tolsona, Glenn** 81.41 15 P P 14 17 58.0 0.0
baz=212
WUAZ **Wupatki** 81.41 50 P P 14 17 59.9 +1.1
baz=244
WAT6 **Susitna Watana** 81.44 14 P P 14 17 57.7 -0.6
baz=210
WAT1 **Susitna Watana** 81.47 14 P P 14 17 57.6 -0.6
baz=209
GCSA **Galena City Sc** 81.62 9 P P 14 17 59.1 +0.3
baz=201
CHUM **Lake Minchumin** 81.62 12 P P 14 17 58.5 -0.4
baz=206
TRF **Thorofare Moun** 81.64 13 P P 14 17 58.6 -0.7
baz=208
HARP **HAARP** 81.91 15 P P 14 18 00.2 -0.3
baz=213
O28M **Mount Upton** 81.94 18 P P 14 18 01.1 +0.1
baz=217
DHY **Denali Highway** 81.95 14 P P 14 18 00.2 -0.7
baz=210
BPAW **Bear Paw Mtn.** 82.08 12 P P 14 18 00.5 -0.8
baz=207
MCK **McKinley** 82.18 13 P P 14 18 01.7 -0.2
baz=209,SNR=5.2
PAX **Paxson** 82.32 15 P P 14 18 01.4 -1.3
baz=212
P30M **Million Dollar** 82.44 20 P P 14 18 03.3 0.0
baz=220
W18A **Petrified Fore** 82.46 51 P P 14 18 04.5 +0.3
baz=245
M26K **Nabesna, AK** 82.47 16 P P 14 18 03.7 +0.3
baz=215
DUG **Dugway, Tooele** 82.48 45 P P 14 18 04.1 0.0
DUG **Dugway, Tooele** 82.48 45 P P 14 18 04.4 +0.3
baz=243,SNR=5.3
YUK8 **Steele Glacier** 82.48 18 P P 14 18 03.7 0.0
baz=218
B08A **Colville Reser** 82.52 35 P P 14 18 03.8 -0.2
B08A IAmb IAmb 14 18 04.5
comp=Z,5.4nm,0.8s
YUK3 **Moose Creek** 82.67 17 P P 14 18 05.1 +0.5
baz=217
M27K **Edge Creek, AK** 82.74 16 P P 14 18 05.5 +0.6
M27K IAmb IAmb 14 18 06.2
comp=Z,8.0nm,0.8s
M27K **Edge Creek, AK** 82.74 16 P P 14 18 05.1 +0.2
baz=216
I21K **Tanana** 82.86 11 P P 14 18 05.4 +0.1
baz=206
YUK4 **Talbot Arm** 82.86 18 P P 14 18 05.7 +0.1
baz=219
S34M **Telegraph Cree** 82.89 23 P P 14 18 06.4 +0.8
baz=226
121A **Cookes Peak, D** 82.90 54 P P 14 18 07.9 +1.4
baz=247
L26K **Log Cabin Wild** 82.90 15 P P 14 18 05.6 +0.1
baz=214
NEA2 **Nenana** 82.91 12 P P 14 18 05.0 -0.5
baz=209
K24K **Donnelly Dome** 82.95 14 P P 14 18 06.3 +0.5
baz=212,SNR=5.5
MLY **Manley** 82.96 12 P P 14 18 05.1 -0.8
baz=207
HLID **Hailey** 83.00 41 P P 14 18 07.5 +0.8
HLID IAmb IAmb 14 18 08.5
comp=Z,7.6nm,0.8s
HLID **Hailey** 83.00 41 P P 14 18 07.8 +1.1
baz=241
BVCY **Beaver Creek** 83.06 17 P P 14 18 06.7 +0.2
baz=217
RIDG **Independent Ri** 83.12 15 P P 14 18 06.6 -0.1
baz=213
H21K **Melozitna Rive** 83.14 11 P P 14 18 07.2 +0.5
H21K **Melozitna Rive** 83.14 11 P P 14 18 07.0 +0.3
baz=205
P32M **Atlin** 83.14 21 P P 14 18 07.3 +0.4
baz=223
HDA **Harding Lake** 83.20 13 P P 14 18 06.8 -0.3
baz=211,SNR=6.6
Q32M **Nakina River** 83.21 22 P P 14 18 08.1 +0.7
baz=225
O30N **Mendenhall** 83.22 20 P P 14 18 07.6 +0.4
baz=221
IMAR **Indian Mountai** 83.27 10 P P 14 18 07.3 -0.1
L27K **Beaver Creek,** 83.33 16 P P 14 18 07.5 -0.2
baz=216
BCAR **Beaver Creek A** 83.34 16 P P 14 18 07.5 -0.3

TCOL **CIGO, UAF Yank** 83.41 13 P P 14 18 07.9 -0.1
baz=210
IL31 83.53 13 P P 14 18 08.2 -0.4
IL31 IAmb IAmb 14 18 08.9
comp=Z,7.2nm,0.6s
ILAR **Eielson Array** 83.53 13 P P 14 18 07.8 -0.8
comp=Z,3.9nm,0.5s,baz=230,slow=5.4,SNR=127
comp=Z,3.9nm,0.5s
ILAR **Eielson Array** 83.53 13 P P 14 18 08.5 -0.2
SCRK **Sand Creek** 83.53 15 P P 14 18 08.7 -0.1
baz=214,SNR=10
WHY **Whitehorse** 83.53 20 P P 14 18 09.2 +0.3
baz=222
SRU **San Rafael Swe** 83.58 47 P P 14 18 09.9 +0.1
SRU IAmb IAmb 14 18 11.2
comp=Z,8.5nm,0.9s
POKR **Poker Plat Res** 83.71 13 P P 14 18 08.9 -0.7
baz=210
NEW **Newport** 83.72 36 P P 14 18 10.0 0.0
baz=238
M29M **Somme Creek** 83.77 18 P P 14 18 10.3 +0.2
baz=219
G21K **Allakaket** 83.80 10 P P 14 18 10.6 +0.7
baz=204
BCYI **Bear Canyon** 84.00 41 P P 14 18 12.1 +0.3
J26L **Joseph Creek** 84.07 15 P P 14 18 11.8 +0.3
J26L IAmb IAmb 14 18 12.8
comp=Z,12nm,0.8s
J26L **Joseph Creek** 84.07 15 P P 14 18 12.0 +0.5
baz=214
M30M **Minto, Yukon** 84.37 18 P P 14 18 12.8 -0.1
M30M IAmb IAmb 14 18 13.6
comp=Z,7.8nm,0.7s
M30M **Minto, Yukon** 84.37 18 P P 14 18 13.2 +0.3
baz=220
L29M **L29M** 84.39 17 P P 14 18 13.9 +0.8
baz=219
F21K **Alatna River** 84.45 10 P P 14 18 13.8 +0.6
baz=204
MNTX **Cornudas Mount** 84.46 55 P P 14 18 14.9 +0.7
baz=248
G23K **Bananza Creek** 84.59 11 P P 14 18 14.9 +0.9
baz=208
MCMT **McKenzie Canyo** 84.59 41 P P 14 18 15.2 +0.5
BELA **Belgrano 2** 84.71 173 P P 14 18 14.2 -0.3
BELA IAmb IAmb 14 18 15.0
comp=Z,9.2nm,0.8s
DAWY **Dawson** 84.78 16 P P 14 18 14.9 -0.1
DAWY **Dawson** 84.78 16 P P 14 18 15.1 +0.1
baz=218
M31M **Drury Creek, Y** 84.83 19 P P 14 18 14.9 -0.4
baz=223
ANMO **Albuquerque** 84.85 52 P P 14 18 16.7 +0.5
baz=247
EGAK **Eagle** 84.89 15 P P 14 18 15.5 +0.1
baz=216
TX31 **Lajitas Ar. Si** 84.99 58 P P 14 18 18.1 +1.2
TX31 IAmb IAmb 14 18 19.3
comp=Z,15nm,0.9s
TXAR **Lajitas Array** 84.99 58 P P 14 18 18.2 +1.3
comp=Z,3.1nm,0.8s,baz=221,slow=6.3,SNR=44
comp=Z,3.1nm,0.8s
COLD **Coldfoot** 85.02 11 P P 14 18 16.1 +0.1
baz=208
FARO **Faro, Yukon** 85.19 20 P P 14 18 16.2 -0.7
baz=224
HHC **Hu-ho-hao-te** 85.22 314 eP P 14 18 18.9 +1.1
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,210nm,5.8s
WTLY **Watson Lake, Y** 85.28 23 P P 14 18 17.3 -0.2
baz=228
MAYO **Mayo, Yukon** 85.41 18 P P 14 18 18.4 +0.4
baz=221
I27K **Kandik River** 85.45 15 P P 14 18 17.6 -0.6
baz=216
E22K **Anaktuvuk Pass** 85.55 10 P P 14 18 18.6 0.0
baz=206
O20A **White River Ci** 85.61 46 P P 14 18 19.8 +0.1
baz=246
S22A **4UR Ranch, Cre** 85.66 49 P P 14 18 20.5 +0.3
baz=247
F24K **Squaw Lake** 85.70 11 P P 14 18 18.3 -1.1
baz=210
BOZ **Bozeman (W)** 85.71 40 P P 14 18 20.2 +0.1
baz=243
BW06 **Boulder Array** 85.81 44 P P 14 18 20.8 +0.1
BW06 IAmb IAmb 14 18 21.5
comp=Z,4.4nm,0.6s
BW06 **Boulder Array** 85.81 44 P P 14 18 20.8 +0.1
baz=245,SNR=9.6
PD31 **Pinedale Array** 85.81 44 P P 14 18 20.8 0.0
PD31 IAmb IAmb 14 18 21.5
comp=Z,3.9nm,0.6s
PDAR **Pinedale Array** 85.81 44 P P 14 18 20.9 +0.2
comp=Z,3.5nm,0.5s,baz=206,slow=2.9,SNR=57
comp=Z,3.5nm,0.5s
H17A **Grant Village** 85.84 42 P P 14 18 22.5 +1.6
baz=244,SNR=6.8
LIRD **Liard River Hi** 85.86 24 P P 14 18 20.3 +0.1
baz=230
E23K **Chandalar** 85.86 11 P P 14 18 19.9 -0.3
baz=208
H27K **Steamboat Moun** 85.98 14 P P 14 18 20.7 -0.1
baz=216
MAW **Mawson** 86.09 200 P P 14 18 21.6 +0.3
comp=Z,7.8nm,0.7s,baz=150,slow=6.3,SNR=8.1
comp=Z,7.8nm,0.7s
HRY **Holter Researc** 86.09 39 P P 14 18 22.3 +0.4
F25K **Christian Rive** 86.21 12 P P 14 18 21.4 -0.4
baz=212
BMAR **Burnt Mountain** 86.29 13 P P 14 18 22.7 +0.4
D23K **Nanushuk River** 86.49 10 P P 14 18 23.3 +0.2
baz=207
F26K **Sheenjek River** 86.61 13 P P 14 18 23.4 -0.3
baz=213
SDCO **Great Sand Dun** 86.63 50 P P 14 18 25.1 +0.2
baz=248
E25K **Arctic Village** 86.68 12 P P 14 18 23.4 -0.6
baz=212
RLMT **Red Lodge** 87.00 42 P P 14 18 26.8 +0.4
baz=245
N23A **Red Feather La** 87.52 46 P P 14 18 29.7 +0.7
baz=247
E27K **Coleen River** 87.56 13 P P 14 18 28.2 0.0
baz=216
PZH **PanZhiHua** 87.62 298 P P 14 18 31.0 +1.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
G30M **tAoh Zraii Nji** 87.89 15 P P 14 18 29.3 -0.5
baz=221
C27K **Jago River** 88.31 12 P P 14 18 31.5 -0.1
baz=214
C26K **Camden Bay** 88.33 11 P P 14 18 31.9 +0.2
baz=212
F31M **Tsiigehtchic** 88.88 16 P P 14 18 34.0 -0.3
baz=223
INK **Inuvik** 89.56 15 P P 14 18 36.1 -1.4
comp=Z,0.7nm,0.5s,baz=193,slow=3.3,SNR=6.5
comp=Z,0.7nm,0.5s
INK **Inuvik** 89.56 15 P P 14 18 37.1 -0.4
baz=223
LAO **LASA Array** 89.58 41 P P 14 18 39.0 +0.8
baz=247
RSSD **Black Hills** 90.03 44 P P 14 18 40.2 -0.3
baz=248
DGMT **Dagmar** 91.52 40 P P 14 18 47.6 +0.5
baz=248
ELIB **Princess Elisa** 91.61 187 dP P 14 18 46.5 -0.8
comp=Z,2.6nm,0.7s
YKA **Yellowknife Ar** 92.22 25 P P 14 18 49.5 -0.4
comp=Z,0.7nm,0.8s,baz=247,slow=4.7,SNR=12
comp=Z,0.7nm,0.8s
C36M **Paulatuk** 92.81 17 P P 14 18 51.9 -0.6
baz=232
TROLL **Troll, Antarti** 92.82 180 P P 14 18 52.4 -0.5
SNAA **Sanae** 93.12 179 P P 14 18 53.5 -0.7
SNAA **Sanae** 93.12 179 P P 14 18 53.6 -0.6
SNAA IAmb IAmb 14 18 55.8
comp=Z,6.0nm,1.2s
VNA3 **Neumayer Olymp** 93.27 177 P P 14 18 54.1 -0.7
VNA2 **Neumayer--Watz** 93.71 177 P P 14 18 56.6 -0.1
baz=190,slow=4.0
A36M **Sachs Harbour** 94.15 15 P P 14 18 58.5 0.0
baz=231

ARCES	**ARCES Array B**	**123.77**	**350**	PKP		**PKPdf**	**14 24 34.0**	**-1.2**	
	comp=Z,7.5nm,1.0s,baz=17,slow=1.2,SNR=5.6								
NOA	**NORSAR Array B**	**133.83**	**353**	PKP		**PKPdf**	**14 24 55.4**	**+0.7**	
	comp=Z,0.4nm,0.7s,baz=15,slow=1.8,SNR=1.2								
BRTR	**Keskin Array B**	**142.70**	**317**	PKP		**PKPdf**	**14 25 08.6**	**-3.0**	
	comp=Z,1.4nm,0.8s,baz=5.7,slow=2.5,SNR=4.8								
DPC	**Dobruska-Polom**	**143.02**	**344**	*e*PKP	PKPbc		14 25 10.0	+0.9	
VYHS	**Vyhne**	**143.92**	**340**	*e*PKP	PKPbc		14 25 12.4	+0.4	
MODS	**Modra-Piesok**	**144.53**	**341**	*e*PKP	**PKPdf**		**14 25 14.8**	**+0.4**	
BTNL	**Ternell**	**144.66**	**355**	*e*PKP	PKPbc		14 25 14.1	-0.2	
KHC	**Kasperske Hory**	**144.84**	**346**	*e*PKP	**PKPab**		**14 25 15.7**	**+0.3**	
BCLA	**Clavier**	**144.89**	**355**	*d*PKP	**PKPdf**		**14 25 14.6**	**-0.3**	
CKRC	**Cesky Krumlov**	**144.95**	**345**	*e*PKP	PKPbc		14 25 15.6	+0.3	
GERES	**GERESS Array B**	**145.08**	**346**	PKPbc	**PKPdf**		**14 25 15.6**	**+0.2**	
	comp=Z,1.8nm,0.6s,baz=354,slow=4.0,SNR=8.4								
CONA	**Conrad Observa**	**145.35**	**343**	*i* PKP	**PKPbc**		**14 25 16.6**	**-0.1**	
	comp=Z,2.6nm,0.6s								
RONA	**Rosalia, Austr**	**145.42**	**342**	*i* PKP	**PKPdf**		**14 25 16.0**	**+0.1**	
	comp=Z,5.0nm,1.1s								
MOA	**Molln**	**145.86**	**344**	*i* PKP	**PKPdf**		**14 25 17.2**	**+0.5**	
	comp=Z,3.7nm,0.9s								
WATA	**Walderalm**	**146.99**	**347**	*i* PKP	**PKPbc**		**14 25 20.5**	**-0.9**	
	comp=Z,2.2nm,0.5s								
WTTA	**Wattenberg**	**147.04**	**347**	*i* PKP	**PKPdf**		**14 25 20.3**	**+1.4**	
	comp=Z,6.3nm,0.7s								
SQTA	**Sankt Quirin**	**147.17**	**347**	*i* PKP	**PKPdf**		**14 25 17.2**	**-1.8**	
	comp=Z,1.4nm,0.3s								
SQTA				*i* PKP	**PKPbc**		**14 25 20.4**	**-1.5**	
	comp=Z,0.9nm,0.3s								
SQTA				*e*PKiKP	**PKiKP**		**14 25 23.5**	**-0.3**	
	comp=Z,2.8nm,0.8s								

JMA 20 14:13:43.2±0.5,**30°N**×3°×**13°9E**±°,**h434**km,**MV3.5**/22,
NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.85**	**6**	*e*P	P	14 14 48.5	+0.8
BSO1	**Boso 1**	**4.55**	**16**	*e*P	P	14 15 03.3	+1.7
BSO1				*e*S	S	14 16 07.5	+1.7
BSO3	**Boso 3**	**4.61**	**11**	*e*P	P	14 15 03.9	+1.4
BSO3				*e*S	S	14 16 08.2	+0.9
JOD2	**Odawara 2**	**4.99**	**356**	*e*P	P	14 15 07.4	+0.8
JHU	**Hanno**	**5.57**	**358**	*e*P	P	14 15 12.7	+0.4
JHU				*e*S	S	14 16 24.0	-1.2
JRY	**Ryogami san**	**5.75**	**355**	P	P	14 15 15.4	+1.2
JHO	**Hitachi**	**6.39**	**8**	*e*P	P	14 15 22.3	+1.5
JHO				*e*S	S	14 16 40.2	-0.7

*SOME **20** 14:17:23.0,38°.35N×76°.68E,h0km*
*NNC **20** 14:17:28.4±2.5,38°.55N×76°.65E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=16.6km s-min=14.6km az=155.0
ISC 20 14:17:44.3±6.4,**39°.5N**±0°.4×**76°.69E**±0°.09,**h10**km,**n13,**
σ1s71/13,1C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**3.50**	**347**	⇑Pg	**Pb**	**14 18 48.0**	**+1.6**
	2.4nm,0.7s						
TKM2				⇓Lg	Lg	14 19 49.1	
	3.0nm,0.5s						
MDOK	**Medeo**	**3.65**	**4**	Pg	**Pb**	**14 18 50.9**	**+1.9**
	1.3nm,0.5s						
MDOK				Lg	Lg	14 19 54.8	
	5.1nm,0.8s						
KOTS	**Kotyrbulak**	**3.73**	**5**	Pg	**Pg**	**14 18 54.8**	**-0.9**
	0.6nm,0.2s						
KOTS				Lg	Lg	14 19 58.2	
	2.5nm,0.3s						
KOTS	**Kotyrbulak**	**3.73**	**5**	*e*Pg	**Pg**	**14 18 54.8**	**-0.9**
	0.6nm,0.2s						
KOTS				*e*Lg	Lg	14 19 58.2	
	2.5nm,0.3s						
DGS	**Degeres**	**3.79**	**350**	Pg	**Pg**	**14 18 56.0**	**-0.8**
	1.7nm,0.5s						
DGS				Lg	Lg	14 20 00.1	
	4.2nm,0.6s						
DGS	**Degeres**	**3.79**	**350**	*e*Pg	**Pg**	**14 18 56.0**	**-0.8**
	1.7nm,0.5s						
DGS				*e*Lg	Lg	14 20 00.1	
	4.2nm,0.6s						
UZB	**Uzynbulak**	**4.03**	**25**	Pg	**Pg**	**14 18 59.0**	**-2.4**
	1.3nm,0.1s						
UZB				Lg	Lg	14 20 05.2	
	1.8nm,0.5s						
UZB	**Uzynbulak**	**4.03**	**25**	*e*Pg	**Pg**	**14 18 59.0**	**-2.4**
	1.3nm,0.1s						
UZB				*e*Lg	Lg	14 20 05.2	
	1.8nm,0.5s						
MRKS	**Merke**	**4.15**	**322**	Pg	**Pb**	**14 18 58.6**	**+1.1**
	1.8nm,0.2s						
MRKS				Lg	Lg	14 20 04.6	
	2.4nm,0.4s						
MRKS	**Merke**	**4.15**	**322**	*e*Pg	**Pb**	**14 18 58.6**	**+1.1**
	1.8nm,0.2s						
MRKS				*e*Lg	Lg	14 20 04.6	
	2.4nm,0.4s						
SHLS	**Shalkode**	**4.19**	**29**	Pg	**Pg**	**14 19 04.0**	**-0.5**
	1.2nm,0.2s						
SHLS				Lg	Lg	14 20 13.9	
	20nm,0.5s						
SHLS	**Shalkode**	**4.19**	**29**	*e*Pg	**Pg**	**14 19 04.0**	**-0.5**
	1.2nm,0.2s						
SHLS				*e*Lg	Lg	14 20 13.9	
	20nm,0.5s						
SGDS	**Sogindy**	**4.22**	**339**	Pg	**Pg**	**14 19 02.9**	**-2.3**
	2.0nm,0.5s						
SGDS				Lg	Lg	14 20 11.7	
	2.5nm,0.5s						

*NEIC **20** 14:18:56.9±1.1,27°.1N±0°.1×141°.6E±0°.1,h38km,mb4.4/16,*
Error ellipse: s-maj=16.6km s-min=13.4km az=210.0
*IDC **20** 14:18:58.9±1.3,27°.07N×141°.63E,h62km±12km,mb3.8/12,*
mbtmp4.0/12,Error ellipse: s-maj=28.8km s-min=14.6km
az=97.0
*JMA **20** 14:18:59.3±0.1,27°.1N±0°.4×142°.2E±°,h60km,MV4.2/19,*
NEAR CHICHIJIMA ISLAND
JMA Felt I J1 at NEAR CHICHIJIMA ISLAND .
ISC 20 14:18:57.6±0.6,**27°.05N**±0°.06×**141°.61E**±0°.09,**h50**km,**n53,**
σ0s84/51,mb4.2/20,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.52**	**85**	P	**Pn**	**14 19 08.4**	**-0.6**
CBIJ				*e*S	**Sn**	**14 19 15.1**	**-2.2**
CBIJ	**Chichi jima**	**0.52**	**85**	A	A	14 19 08.4	
	comp=E,14nm,0.9s,comp=E,11nm,3.3s						
JCJ	**Chichijima**	**0.52**	**85**	P	**Pn**	**14 19 12.1**	**+3.0**
	2μm,0.3s,baz=8.8,slow=16,SNR=171						
JCJ				S	**Sn**	**14 19 18.0**	**+0.8**
	3μm,0.3s,baz=288,slow=22,SNR=16						
JCJ	**Chichijima**	**0.52**	**85**		**Pn**	**14 19 08.2**	**-0.8**
JHH2	**Haha-jima-NKT2**	**0.66**	**129**	P	**Pn**	**14 19 11.1**	**+0.3**
JHH2				*e*S	**Sn**	**14 19 20.4**	**+0.1**
JHH2	**Haha-jima-NKT2**	**0.66**	**129**	A	A	14 19 11.1	
	comp=E,31nm,0.3s,comp=E,26nm,0.4s						
BSO1	**Boso 1**	**7.60**	**356**	*e*P	**Pn**	**14 20 46.0**	**+0.8**
BSO1				*e*S	**Sn**	**14 22 09.1**	**-0.5**
JHU	**Hanno**	**9.00**	**348**	*e*P	**Pn**	**14 21 06.5**	**+1.7**
JHU				*e*S	**Sn**	**14 22 44.1**	**-0.6**
JMM	**Marumori**	**10.81**	**357**	Pn	**Pn**	**14 21 28.6**	**-1.0**
JKA	**Kamikawa-asahi**	**17.05**	**2**	P	**P**	**14 22 53.9**	**+0.3**
ASAJ	**Asahikawa**	**17.05**	**2**	P	**P**	**14 22 55.4**	**+1.9**
	5.8nm,1.0s,baz=235,slow=7.6,SNR=5.9						
KLR	**Kul'dur**	**23.42**	**344**	P	**P**	**14 24 03.0**	**+1.0**
	1.4nm,0.5s,baz=202,slow=4.5,SNR=11						
	1.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**24.30**	**102**	T	T	14 49 06.6	
	baz=292,slow=74						
H11N1	**WAKE ISLAND Hy**	**24.30**	**102**	T	T	14 49 02.2	
	baz=292						
H11N3	**WAKE ISLAND Hy**	**24.32**	**102**	T	T	14 49 10.0	
	baz=292,slow=74						
H11S3	**WAKE ISLAND Hy**	**24.61**	**105**	T	T	14 49 33.8	
	baz=296						
H11S1	**WAKE ISLAND Hy**	**24.61**	**105**	T	T	14 49 33.3	
	baz=296						
H11S2	**WAKE ISLAND Hy**	**24.62**	**105**	T	T	14 49 36.2	
	baz=296						
TIXI	**Tiksi**	**45.20**	**354**	P	**P**	**14 27 08.4**	**-0.8**
	2.6nm,0.4s,baz=270,slow=24,SNR=1.8						
	2.6nm,0.4s						

WB0	**Warramunga Arr**	**47.06**	**189**	P	**P**		**14 27 24.4**	**-0.1**	
WB0				IAmb	IAmb		14 27 25.4		
	comp=Z,6.2nm,0.7s								
WR0	**Warramunga Arr**	**47.23**	**189**	P	**P**		**14 27 25.6**	**-0.1**	
WR0				IAmb	IAmb		14 27 26.8		
	comp=Z,3.4nm,0.7s								
WRAB	**Tennant Creek**	**47.23**	**189**	P	**P**		**14 27 26.1**	**+0.3**	
WB2	**Warramunga Arr**	**47.24**	**189**	P	**P**		**14 27 26.5**	**+0.7**	
WRA	**Warramunga Arr**	**47.24**	**189**	P	**P**		**14 27 26.3**	**+0.5**	
	comp=Z,4.3nm,0.5s,baz=11,slow=8.6,SNR=63								
	comp=Z,4.3nm,0.5s								
WRA	**Warramunga Arr**	**47.24**	**189**	P	**P**		**14 27 26.1**	**+0.3**	
MKAR	**Makanchi Array**	**50.11**	**310**	P	**P**		**14 27 47.6**	**-0.1**	
	comp=Z,0.1nm,0.3s,baz=81,slow=9.2,SNR=1.5								
MKAR				PcP	**PcP**		**14 29 07.0**	**+0.4**	
	comp=Z,0.2nm,0.6s,baz=90,slow=5.9,SNR=2.7								
AS31	**Alice Springs**	**50.96**	**189**	P	**P**		**14 27 54.4**	**+0.1**	
ASAR	**Alice Springs**	**50.97**	**189**	P	**P**		**14 27 54.1**	**-0.1**	
	comp=Z,0.4nm,0.5s,baz=4.8,slow=5.1,SNR=21								
	comp=Z,0.4nm,0.5s								
K20K	**Telida**	**54.69**	**30**	P	**P**		**14 28 21.9**	**+0.6**	
K20K				IAmb	IAmb		14 28 53.1		
	comp=Z,7.5nm,1.4s								
IMAR	**Indian Mountai**	**55.32**	**27**	P	**P**		**14 28 26.2**	**+0.5**	
CAST	**Castle Rocks**	**55.58**	**30**	P	**P**		**14 28 28.1**	**+0.4**	
CAST				IAmb	IAmb		14 28 47.2		
	comp=Z,1.9nm,1.1s								
ILAR	**Eielson Array**	**58.00**	**29**	P	**P**		**14 28 44.5**	**-0.3**	
	comp=Z,1.2nm,0.8s,baz=268,slow=5.5,SNR=13								
	comp=Z,1.2nm,0.8s								
ILAR	**Eielson Array**	**58.00**	**29**	P	**P**		**14 28 44.4**	**-0.4**	
STKA	**Stephens Creek**	**58.60**	**180**	P	**P**		**14 28 49.2**	**-0.1**	
	comp=Z,1.2nm,0.5s,baz=359,slow=12,SNR=3.6								
	comp=Z,1.2nm,0.5s								
BMAR	**Burnt Mountain**	**59.12**	**26**	P	**P**		**14 28 53.8**	**+1.1**	
SCRK	**Sand Creek**	**59.22**	**30**	P	**P**		**14 28 53.6**	**+0.1**	
SCRK				IAmb	IAmb		14 28 54.7		
	comp=Z,3.5nm,0.8s								
J26L	**Joseph Creek**	**59.42**	**29**	P	**P**		**14 28 54.9**	**+0.1**	
J26L				IAmb	IAmb		14 28 56.1		
	comp=Z,4.4nm,0.8s								
INK	**Inuvik**	**63.28**	**24**	P	**P**		**14 29 20.5**	**-0.2**	
	comp=Z,0.4nm,0.3s,baz=275,slow=5.6,SNR=6.2								
	comp=Z,0.4nm,0.3s								
INK	**Inuvik**	**63.28**	**24**	P	**P**		**14 29 20.0**	**-0.7**	
INK				IAmb	IAmb		14 29 38.3		
	comp=Z,4.4nm,1.5s								
ABKAR	**Akbulak array**	**64.76**	**314**	P	**P**		**14 29 29.8**	**-1.0**	
EUNU	**Eureka**	**70.02**	**8**	P	**P**		**14 30 03.6**	**0.0**	
EUNU				IAmb	IAmb		14 30 21.5		
	comp=Z,3.7nm,1.1s								
YKA	**Yellowknife Ar**	**72.42**	**28**	P	**P**		**14 30 18.1**	**-0.1**	
	comp=Z,1.0nm,0.6s,baz=296,slow=6.5,SNR=16								
	comp=Z,1.0nm,0.6s								
FIA1	**FINESS Array S**	**77.76**	**334**	P	**P**		**14 30 48.8**	**-0.2**	
FINES	**FINESS Array B**	**77.76**	**334**	P	**P**		**14 30 49.0**	**0.0**	
	comp=Z,2.3nm,0.3s,baz=70,slow=4.5,SNR=30								
	comp=Z,2.3nm,0.3s								
FINES	**FINESS Array B**	**77.76**	**334**	P	**P**		**14 30 48.8**	**-0.2**	
WALA	**Waterton Lakes**	**78.81**	**40**	P	**P**		**14 30 55.9**	**+0.6**	
HRY	**Holter Researc**	**81.18**	**42**	P	**P**		**14 31 08.2**	**+0.1**	
NC405	**NORSAR Array S**	**83.24**	**338**	P	**P**		**14 31 17.1**	**-1.4**	
NB2	**NORSAR Subarra**	**83.46**	**338**	P	**P**		**14 31 19.0**	**-0.6**	
	comp=Z,1.2nm,0.8s,baz=43,slow=5.3								
NOA	**NORSAR Array B**	**83.46**	**338**	P	**P**		**14 31 18.8**	**-0.8**	
	comp=Z,0.8nm,0.6s,baz=56,slow=6.5,SNR=4.2								
	comp=Z,0.8nm,0.6s								
PDAR	**Pinedale Array**	**84.61**	**44**	P	**P**		**14 31 25.9**	**-0.2**	
	comp=Z,0.4nm,0.5s,baz=300,slow=4.0,SNR=7.1								
	comp=Z,0.4nm,0.5s								
TXAR	**Lajitas Array**	**96.04**	**53**	P	**P**		**14 32 20.2**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=284,slow=2.1,SNR=3.7								
	comp=Z,0.2nm,0.5s								
TORD	**Torodi Ar. Bea**	**124.22**	**311**	PKP	**PKPdf**		**14 37 51.2**	**-0.3**	
	comp=Z,2.1nm,0.3s,baz=66,slow=4.6,SNR=2.0								

*NEIC **20** 14:19:23.1±0.8,60°.28N±0°.03×152°.56W±0°.08,*
h111km±4km,Error ellipse: s-maj=5.8km s-min=4.9km
az=101.0
*AEIC **20** 14:19:24.1±1.1,60°.28N±0°.03×152°.58W±0°.07,*
h109km±4km,ML3.3,MLA3.6/124(NEIC),Error ellipse:
s-maj=5.3km s-min=3.7km az=50.0
ISC 20 14:19:23.7±1.3,**60°.29N**±0°.04×**152°.53W**±0°.05,
h110km±7km,**n255,σ0s75/237,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RED	**Redoubt Volcan**	**0.18**	**317**		**Pn**	**14 19 38.7**	**-0.3**
RED					**Sn**	**14 19 50.1**	**-0.6**
RDSO	**Redoubt South**	**0.20**	**327**		**Pn**	**14 19 38.5**	**-0.7**
RDSO					**Sn**	**14 19 50.5**	**-0.4**
RSO	**Redoubt South**	**0.20**	**327**		**Pn**	**14 19 39.2**	**-0.1**
O20K	**Slope Mountain**	**0.21**	**193**		**Pn**	**14 19 39.1**	**-0.1**
O20K					**Sn**	**14 19 51.2**	**+0.5**
O20K	**Slope Mountain**	**0.21**	**193**	P	**Pn**	**14 19 39.1**	**-0.1**
	baz=11						
O20K				S	**Sn**	**14 19 51.2**	**+0.5**
	baz=11						
DFR	**Drift River**	**0.31**	**346**		**Pn**	**14 19 39.2**	**-0.4**
DFR					**Sn**	**14 19 51.4**	**-0.1**
NCT	**North Crescent**	**0.34**	**324**		**Pn**	**14 19 39.2**	**-0.5**
NCT					**Sn**	**14 19 51.6**	**-0.1**
ILS	**Iliamna Low So**	**0.43**	**219**		**Pn**	**14 19 39.5**	**-0.7**
ILS					**Sn**	**14 19 52.0**	**-0.5**
ILSW	**Iliamna Southw**	**0.43**	**225**		**Pn**	**14 19 39.4**	**-0.8**
ILSW					**Sn**	**14 19 51.6**	**-1.0**
OPT	**Oil Point**	**0.73**	**209**		**Pn**	**14 19 42.0**	**-0.3**
OPT	**Oil Point**	**0.73**	**209**	P	**Pn**	**14 19 42.0**	**-0.3**
	baz=28						
P19K	**Oil Pt**	**0.73**	**209**		**Pn**	**14 19 42.0**	**-0.3**
P19K					**Sn**	**14 19 56.2**	**-0.1**
P19K	**Oil Pt**	**0.73**	**209**	P	**Pn**	**14 19 42.0**	**-0.3**
	baz=28						
P19K				S	**Sn**	**14 19 56.2**	**-0.1**
	baz=28						
HOM	**Homer**	**0.78**	**144**		**Pn**	**14 19 42.9**	**+0.2**
HOM	**Homer**	**0.78**	**144**	P	**Pn**	**14 19 42.8**	**+0.2**
	baz=325						
CAPN	**Captain Cook N**	**0.83**	**54**		**Pn**	**14 19 44.9**	**+1.8**
O19K	**Port Alsworth**	**0.90**	**265**		**Pn**	**14 19 42.8**	**-0.9**
O19K	**Port Alsworth**	**0.90**	**265**	IAML		14 19 58.6	
	comp=E,1μm,0.5s						
O19K				IAML		14 19 59.1	
	comp=N,2μm,0.5s						
O19K	**Port Alsworth**	**0.90**	**265**	P	**Pn**	**14 19 42.8**	**-0.9**
	baz=84						
SPU	**Mount Spurr**	**0.93**	**14**		**Pn**	**14 19 43.9**	**-0.2**
SPCR	**Spurr Chakacha**	**0.93**	**10**		**Pn**	**14 19 44.0**	**-0.1**
SPCR	**Spurr Chakacha**	**0.93**	**10**	P	**Pn**	**14 19 44.0**	**-0.1**
	baz=190						
BRLK	**Bradley Lake**	**0.98**	**122**		**Pn**	**14 19 44.2**	**-0.4**
BRLK	**Bradley Lake**	**0.98**	**122**	IAML		14 20 01.2	
	comp=E,1μm,0.2s						
BRLK				IAML		14 20 01.5	
	comp=N,1μm,0.1s						
SPCP	**Crater Peak Br**	**1.00**	**11**		**Pn**	**14 19 45.0**	**+0.1**
CNPM	**China Poot**	**1.01**	**139**		**Pn**	**14 19 44.7**	**-0.2**
CNPM					**Sn**	**14 20 01.0**	**0.0**
AU22	**Augustine Moun**	**1.01**	**205**		**Pn**	**14 19 44.6**	**-0.4**
AUL	**Augustine Lava**	**1.02**	**207**		**Pn**	**14 19 44.7**	**-0.3**
AUL					**Sn**	**14 20 01.4**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.04**	**14**		**Pn**	**14 19 45.3**	**-0.1**
AUH	**Augustine H**	**1.04**	**207**		**Pn**	**14 19 45.0**	**-0.3**
AUCH	**Augustine Cone**	**1.04**	**207**		**Pn**	**14 19 45.0**	**-0.3**
AUCH					**Sn**	**14 20 01.1**	**-0.6**
AUQ	**Augustine Qik'**	**1.04**	**206**		**Pn**	**14 19 44.9**	**-0.4**
AUQ					**Sn**	**14 20 01.1**	**-0.4**
BRSE	**Bradley Lake S**	**1.05**	**121**		**Pn**	**14 19 45.1**	**-0.3**
BRSE	**Bradley Lake S**	**1.05**	**121**	P	**Pn**	**14 19 45.1**	**-0.3**
	baz=302						
N19K	**Bonanza Creek**	**1.10**	**299**		**Pn**	**14 19 45.1**	**-0.8**
N19K	**Bonanza Creek**	**1.10**	**299**	IAML		14 20 02.6	
	comp=N,830nm,0.8s						
N19K	**Bonanza Creek**	**1.10**	**299**	P	**Pn**	**14 19 45.1**	**-0.8**
	baz=118						
SLKM	**Skilak Lake**	**1.17**	**78**		**Pn**	**14 19 46.2**	**-0.4**
STLK	**Strandline Lak**	**1.26**	**15**		**Pn**	**14 19 47.7**	**0.0**
O18K	**Koktuh Hills**	**1.41**	**253**		**Pn**	**14 19 48.5**	**-0.9**
O18K	**Koktuh Hills**	**1.41**	**253**	P	**Pn**	**14 19 48.5**	**-0.9**
	baz=71						
FIS	**Fire Island**	**1.42**	**52**		**Pn**	**14 19 49.5**	**0.0**
FIS				IAML		14 20 12.7	
	comp=E,728nm,0.8s						

SUA	**Susitna One**	**1.47**	**36**			**Pn**	**14 19 50.4**	**+0.2**	
SUA	**Susitna One**	**1.47**	**36**	IAML			14 20 11.8		
	comp=N,934nm,0.8s								
SUA	**Susitna One**	**1.47**	**36**	P		**Pn**	**14 19 50.4**	**+0.2**	
	baz=217								
Q19K	**Cape Douglas,**	**1.48**	**203**			**Pn**	**14 19 49.6**	**-0.6**	
Q19K	**Cape Douglas,**	**1.48**	**203**	IAML			14 20 16.5		
	comp=N,710nm,0.8s								
Q19K				IAML			14 20 35.3		
	comp=E,700nm,0.8s								
Q19K	**Cape Douglas,**	**1.48**	**203**	P		**Pn**	**14 19 49.6**	**-0.6**	
	baz=22								
SEW	**Seward**	**1.55**	**96**			**Pn**	**14 19 50.5**	**-0.5**	
SEW	**Seward**	**1.55**	**96**	P		**Pn**	**14 19 50.5**	**-0.5**	
	baz=278								
RC01	**Rabbit Creek A**	**1.59**	**59**			**Pn**	**14 19 51.3**	**-0.3**	
RC01	**Rabbit Creek A**	**1.59**	**59**	IAML			14 20 14.0		
	comp=N,658nm,0.4s								
RC01				IAML			14 20 14.7		
	comp=E,578nm,0.4s								
RC01	**Rabbit Creek A**	**1.59**	**59**	P		**Pn**	**14 19 51.3**	**-0.3**	
	baz=241								
M20K	**Styx River**	**1.62**	**350**			**Pn**	**14 19 52.1**	**+0.1**	
M20K	**Styx River**	**1.62**	**350**	P		**Pn**	**14 19 52.2**	**+0.1**	
	baz=170								
P18K	**Big Mountain,**	**1.63**	**238**			**Pn**	**14 19 51.1**	**-1.0**	
P18K	**Big Mountain,**	**1.63**	**238**	P		**Pn**	**14 19 51.1**	**-1.0**	
	baz=55								
Q20K	**Shuyak Island**	**1.69**	**178**	P		**Pn**	**14 19 52.0**	**-0.6**	
	baz=357								
SYI	**Shuyak Island**	**1.69**	**178**			**Pn**	**14 19 52.0**	**-0.6**	
SVW2	**Sparrevohn**	**1.71**	**300**			**Pn**	**14 19 52.0**	**-0.9**	
SKT	**Skwentna**	**1.76**	**16**			**Pn**	**14 19 53.5**	**-0.2**	
SKT	**Skwentna**	**1.76**	**16**	IAML			14 20 20.3		
	comp=N,314nm,0.3s								
SKT	**Skwentna**	**1.76**	**16**	P		**Pn**	**14 19 53.4**	**-0.2**	
	baz=196								
M22K	**Willow**	**1.88**	**38**			**Pn**	**14 19 55.1**	**+0.1**	
M22K	**Willow**	**1.88**	**38**	P		**Pn**	**14 19 55.1**	**+0.1**	
	baz=220								
KAPH	**Katmai Pasha**	**1.94**	**209**			**Pn**	**14 19 55.5**	**-0.4**	
KAHC	**Katmai Hardscr**	**2.08**	**219**			**Pn**	**14 19 57.0**	**-0.8**	
Q18K	**Katmai Hardscr**	**2.08**	**219**	P		**Pn**	**14 19 57.0**	**-0.8**	
	baz=36								
PMR	**Palmer**	**2.11**	**50**			**Pn**	**14 19 56.9**	**-1.1**	
PMR	**Palmer**	**2.11**	**50**	IAML			14 20 23.7		
	comp=E,223nm,0.5s								
PMR	**Palmer**	**2.11**	**50**	P		**Pn**	**14 19 56.9**	**-1.1**	
	baz=233								
PWL	**Port Wells**	**2.15**	**73**			**Pn**	**14 19 57.1**	**-1.4**	
PWL	**Port Wells**	**2.15**	**73**	IAML			14 20 24.8		
	comp=E,314nm,0.3s								
PWL				IAML			14 20 26.7		
	comp=N,481nm,0.5s								
PWL	**Port Wells**	**2.15**	**73**	P		**Pn**	**14 19 57.1**	**-1.4**	
	baz=256								
L19K	**White Mountain**	**2.21**	**330**			**Pn**	**14 19 58.9**	**-0.3**	
L19K	**White Mountain**	**2.21**	**330**	P		**Pn**	**14 19 58.9**	**-0.3**	
	baz=149								
P17K	**Kvichak River**	**2.26**	**243**			**Pn**	**14 19 59.5**	**-0.5**	
P17K	**Kvichak River**	**2.26**	**243**	P		**Pn**	**14 19 59.5**	**-0.5**	
	baz=59								
KNK	**Knik Glacier**	**2.29**	**59**			**Pn**	**14 19 59.3**	**-1.1**	
KNK	**Knik Glacier**	**2.29**	**59**	IAML			14 20 28.8		
	comp=E,317nm,0.5s								
KNK				IAML			14 20 35.8		
	comp=N,248nm,0.5s								
KNK	**Knik Glacier**	**2.29**	**59**	P		**Pn**	**14 19 59.3**	**-1.1**	
	baz=242								
L20K	**Farewell, AK**	**2.29**	**344**			**Pn**	**14 20 00.4**	**0.0**	
L20K	**Farewell, AK**	**2.29**	**344**	P		**Pn**	**14 20 00.4**	**0.0**	
	baz=163								
GHO	**Glory Hole Cre**	**2.30**	**48**			**Pn**	**14 19 59.6**	**-0.9**	
GHO	**Glory Hole Cre**	**2.30**	**48**	IAML			14 20 30.3		
	comp=E,340nm,0.6s								
GHO				IAML			14 20 30.4		
	comp=N,273nm,0.4s								
O17K	**Koliganek Bris**	**2.35**	**259**			**Pn**	**14 20 00.3**	**-0.7**	
O17K	**Koliganek Bris**	**2.35**	**259**	P		**Pn**	**14 20 00.

KTH	Kantishna Hill	3.36	12			Pn	14 20 13.8	-0.6
KTH	Kantishna Hill	3.36	12	IAML			14 20 53.9	
	comp=E,72nm,0.7s							
KTH				IAML			14 20 55.0	
	comp=N,90nm,0.7s							
EYAK	Cordova Ski Ar	3.37	83			Pn	14 20 12.4	-2.1
EYAK	Cordova Ski Ar	3.37	83	P		Pn	14 20 14.0	-0.5
	baz=268							
DIV	Divide	3.43	73			Pn	14 20 13.8	-1.6
KLU	Klutina	3.45	67			Pn	14 20 14.3	-1.3
KLU	Klutina	3.45	67	IAML			14 20 54.3	
	comp=E,149nm,0.2s							
KLU				IAML			14 20 55.4	
	comp=N,164nm,0.4s							
KLU	Klutina	3.45	67	P		Pn	14 20 14.3	-1.3
	baz=252							
M24K	Tolsona, Glenn	3.58	57			Pn	14 20 16.8	-0.5
M24K	Tolsona, Glenn	3.58	57	IAML			14 21 00.6	
	comp=N,156nm,0.7s							
M24K	Tolsona, Glenn	3.58	57	P		Pn	14 20 16.8	-0.5
	baz=242							
RND	Reindeer	3.58	28			Pn	14 20 17.3	-0.1
RND	Reindeer	3.58	28	IAML			14 21 17.2	
	comp=E,59nm,0.8s							
CHUM	Lake Minchumin	3.61	2			Pn	14 20 17.2	-0.5
CHUM	Lake Minchumin	3.61	2	P		Pn	14 20 17.2	-0.5
	baz=182							
DHY	Denali Highway	3.72	39			Pn	14 20 18.9	-0.4
DHY	Denali Highway	3.72	39	P		Pn	14 20 18.9	-0.4
	baz=224							
SII	Sitkinak Islan	3.84	194			Pn	14 20 19.4	-1.4
MCK	McKinley	3.85	25			Pn	14 20 21.1	+0.2
MCK	McKinley	3.85	25	IAML			14 21 05.1	
	comp=N,56nm,0.5s							
MCK				IAML			14 21 10.7	
	comp=E,55nm,0.4s							
MCK	McKinley	3.85	25	P		Pn	14 20 21.1	+0.2
	baz=208							
PS11	TAPS Pump St11	3.86	59			Pn	14 20 20.4	-0.6
BPAW	Bear Paw Mtn.	3.89	10			Pn	14 20 20.3	-1.1
BPAW	Bear Paw Mtn.	3.89	10	IAML			14 21 05.0	
	comp=N,53nm,0.8s							
BPAW	Bear Paw Mtn.	3.89	10	P		Pn	14 20 21.5	0.0
	baz=192							
BMRM	Bremner River	3.96	77			Pn	14 20 20.5	-2.0
BMRM	Bremner River	3.96	77	P		Pn	14 20 20.6	-1.9
	baz=264							
N25K	Chitina, Valde	4.09	68			Pn	14 20 22.9	-1.2
N25K	Chitina, Valde	4.09	68	IAML			14 21 11.3	
	comp=E,38nm,0.7s							
N25K				IAML			14 21 11.4	
	comp=N,54nm,0.3s							
N25K	Chitina, Valde	4.09	68	P		Pn	14 20 22.9	-1.2
	baz=255							
HARP	HAARP	4.13	56			Pn	14 20 24.0	-0.7
HARP	HAARP	4.13	56	P		Pn	14 20 24.0	-0.7
	baz=242							
BWN	Browne	4.15	19			Pn	14 20 25.2	+0.2
BWN	Browne	4.15	19	IAML			14 21 32.4	
	comp=N,73nm,0.7s							
BWN				IAML			14 21 42.1	
	comp=E,68nm,0.9s							
PAX	Paxson	4.31	48			Pn	14 20 26.8	-0.4
PAX	Paxson	4.31	48	P		Pn	14 20 26.7	-0.4
	baz=234							
WACK	Wrangell Chich	4.32	63			Pn	14 20 26.4	-1.1
WASW	Wrangell South	4.38	64			Pn	14 20 27.0	-1.2
GLB	Gilahina Butte	4.42	71			Pn	14 20 27.0	-1.6
GLB	Gilahina Butte	4.42	71	IAML			14 21 20.3	
	comp=N,41nm,0.4s							
GLB				IAML			14 21 20.5	
	comp=E,31nm,0.6s							
VRDI	Verde Repeater	4.55	74			Pn	14 20 28.8	-1.7
VRDI	Verde Repeater	4.55	74	IAML			14 21 23.0	
	comp=N,41nm,0.7s							
NEA2	Nenana	4.61	19			Pn	14 20 30.6	-0.5
NEA2	Nenana	4.61	19	P		Pn	14 20 30.6	-0.5
	baz=202							
WRH	Wood River Hil	4.68	24			Pn	14 20 31.5	-0.5
WRH	Wood River Hil	4.68	24	IAML			14 21 24.5	
	comp=E,43nm,0.6s							
WRH				IAML			14 21 24.8	
	comp=N,37nm,0.9s							
CHIR	Chirikof Islan	4.77	201	Pn		Pn	14 20 32.5	-0.8
MCARA	McCarthy VSAT	4.78	73			Pn	14 20 32.3	-1.1
MCARA	McCarthy VSAT	4.78	73	IAML			14 21 30.3	
	comp=N,62nm,0.3s							
MCARA				IAML			14 21 55.1	
	comp=E,42nm,0.8s							
MCARA	McCarthy VSAT	4.78	73	P		Pn	14 20 32.3	-1.1
	baz=261							
MLY	Manley	4.83	9			Pn	14 20 33.7	-0.4
MLY	Manley	4.83	9	P		Pn	14 20 33.7	-0.4
	baz=191							
SNH	Sunshine Point	4.83	87			Pn	14 20 33.8	-0.4
SNH	Sunshine Point	4.83	87	IAML			14 21 53.1	
	comp=E,59nm,2.8s							
HDA	Harding Lake	4.88	30			Pn	14 20 34.2	-0.6
CCB	Clear Creek Bu	4.89	25			Pn	14 20 34.2	-0.7
CCB	Clear Creek Bu	4.89	25	IAML			14 21 31.7	
	comp=E,49nm,0.5s							
CCB				IAML			14 21 32.3	
	comp=N,31nm,0.4s							
GCSA	Galena City Sc	4.90	338			Pn	14 20 35.0	-0.1
GCSA	Galena City Sc	4.90	338	P		Pn	14 20 35.0	-0.1
	baz=154							
I21K	Tanana	4.92	3			Pn	14 20 34.9	-0.3
I21K				IAML			14 21 31.4	
	comp=N,22nm,2.9s							
MENT	Mentasta	4.97	54			Pn	14 20 35.2	-0.8
MENT				IAML			14 21 52.1	
	comp=E,56nm,0.7s							
MENT				IAML			14 21 59.5	
	comp=N,56nm,0.6s							
RIDG	Independent Ri	5.01	43			Pn	14 20 36.6	+0.1
RIDG	Independent Ri	5.01	43	P		Pn	14 20 36.6	+0.1
	baz=230							
KIAG	Kiagna River	5.05	78			Pn	14 20 36.8	-0.4
M26K	Nabesna, AK	5.05	61			Pn	14 20 36.3	-0.9
M26K	Nabesna, AK	5.05	61	IAML			14 21 54.1	
	comp=N,23nm,0.6s							
M26K				IAML			14 22 04.5	
	comp=E,22nm,0.5s							
M26K	Nabesna, AK	5.05	61	P		Pn	14 20 36.3	-0.9
	baz=249							
CHGN	Chignik	5.06	220	Pn		Pn	14 20 36.6	-0.6
CHGN				IAML			14 21 32.1	
	comp=E,53nm,0.1s							
CHGN				IAML			14 21 33.4	
	comp=N,61nm,0.1s							
BALM	Baldy	5.07	77			Pn	14 20 36.8	-0.6
TCOL	CIGO, UAF Yank	5.08	23			Pn	14 20 37.2	-0.2
TCOL	CIGO, UAF Yank	5.08	23	P		Pn	14 20 37.2	-0.2
	baz=207							
MDM	Murphy Dome	5.09	21			Pn	14 20 37.1	-0.4
MDM	Murphy Dome	5.09	21	IAML			14 21 35.3	
	comp=N,20nm,0.7s							
L26K	Log Cabin Wild	5.16	54	Pn		Pn	14 20 38.1	-0.5
L26K				IAML			14 21 58.8	
	comp=N,47nm,0.4s							
L26K				IAML			14 22 01.9	
	comp=E,44nm,0.5s							
IL31		5.20	28			Pn	14 20 38.2	-0.8
ILAR	Eielson Array	5.20	28			Pn	14 20 38.1	-0.9
DOT	Dot Lake	5.22	46			Pn	14 20 39.0	-0.4
POKR	Poker Plat Res	5.38	24			Pn	14 20 41.2	-0.3
POKR	Poker Plat Res	5.38	24	P		Pn	14 20 41.2	-0.3
	baz=208							
H21K	Melozitna Rive	5.39	359			Pn	14 20 41.1	-0.5
H21K	Melozitna Rive	5.39	359	P		Pn	14 20 41.1	-0.5
	baz=179							
BARN	Barnard Glacie	5.40	77			Pn	14 20 41.6	-0.3
SCRK	Sand Creek	5.45	44			Pn	14 20 41.4	-1.2
SCRK	Sand Creek	5.45	44	P		Pn	14 20 41.4	-1.2
	baz=231							
M27K	Edge Creek, AK	5.53	63			Pn	14 20 43.4	-0.3
M27K	Edge Creek, AK	5.53	63	P		Pn	14 20 43.4	-0.3
	baz=253							
IM03		5.74	355			Pn	14 20 45.9	-0.4
IMAR	Indian Mountai	5.74	355	Pn		Pn	14 20 45.9	-0.5
L27K	Beaver Creek,	5.80	57			Pn	14 20 46.7	-0.5
BC03		5.82	57			Pn	14 20 46.9	-0.5
BCAR	Beaver Creek A	5.82	57	Pn		Pn	14 20 47.0	-0.5
SAMH	Samovar Hills	5.86	86			Pn	14 20 48.6	+0.5
J26L	Joseph Creek	5.93	41			Pn	14 20 48.3	-0.7
J26L	Joseph Creek	5.93	41	P		Pn	14 20 48.3	-0.7
	baz=229							
H24K	Noodor Dome	5.95	19			Pn	14 20 48.8	-0.5
H24K	Noodor Dome	5.95	19	P		Pn	14 20 48.8	-0.5
	baz=203							
PCA	Pinnacle	6.13	86			Pn	14 20 51.4	-0.2
PRP	Porcupine Dome	6.14	28			Pn	14 20 51.5	-0.4
BCPM	Bancas Point	6.46	87	Pn		Pn	14 20 56.4	+0.3
EGAK	Eagle	6.92	45	Pn		Pn	14 21 01.1	-1.2
COLD	Coldfoot	7.04	7	Pn		Pn	14 21 04.1	+0.1
FYU	Fort Yukon	7.09	24	Pn		Pn	14 21 04.0	-0.7
DAWY	Dawson	7.22	53	Pn		Pn	14 21 06.0	-0.4
ANM	Nome	7.33	311	Pn		Pn	14 21 07.9	0.0
HYT	Haines Junctio	7.43	79	Pn		Pn	14 21 08.5	-0.8
M30M	Minto, Yukon	7.88	66	Pn		Pn	14 21 14.9	-0.5
BMAR	Burnt Mountain	7.97	23	Pn		Pn	14 21 15.0	-1.6
N31M	Braeburn, Yuko	8.26	74	Pn		Pn	14 21 19.8	-0.7
SKAG	Skagway	8.69	88	Pn		Pn	14 21 26.5	+0.2
WHY	Whitehorse	8.72	80	Pn		Pn	14 21 25.9	-1.0
TNA	Tin City	8.77	314	Pn		Pn	14 21 28.1	+0.7
M31M	Drury Creek, Y	8.95	70	Pn		Pn	14 21 29.4	-0.4
FARO	Faro, Yukon	9.44	70	Pn		Pn	14 21 35.8	-0.6
JIS	Juneau Island	9.50	94	Pn		Pn	14 21 39.0	+1.7
WRAK	Wrangell Islan	11.27	101	Pn		Pn	14 22 03.5	+2.3
INK	Inuvik	11.46	38	Pn		Pn	14 22 02.5	-1.2

IDC 20 14:20:33.8±2.0, 13°.98N×146°.13E, h136km±55km, mb3.3/4, mbtmp3.7/4, Error ellipse: s-maj=174.9km s-min=34.4km az=2.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.29	252	P	Pn	14 21 01.1	+1.0
	77nm,0.3s,baz=359,slow=3.6,SNR=32						
GUMO				S	Sn	14 21 19.9	-0.1
	334nm,0.3s,baz=138,slow=23,SNR=15						
SONM	Songino Array	47.12	324	P	P	14 28 51.8	-0.6
	0.3nm,0.4s,baz=120,slow=8.7,SNR=2.2						
	0.3nm,0.4s						
MKAR	Makanchi Array	62.06	316	P	P	14 30 40.4	+0.4
	0.7nm,0.5s,baz=94,slow=8.6,SNR=15						
	0.7nm,0.5s						
ILAR	Eielson Array	67.69	25	P	P	14 31 16.4	+0.3
	0.3nm,0.4s,baz=253,slow=5.9,SNR=11						
	0.3nm,0.4s						
YKA	Yellowknife Ar	81.95	28	P	P	14 32 37.2	-0.9
	0.4nm,0.6s,baz=283,slow=5.0,SNR=6.7						
	0.4nm,0.6s						

*JMA **20** 14:25:50.6±0.4, 44°.N±1°.×14°.8E±°, h23km, MV3.7/26, E OFF HOKKAIDO*
*SKHL **20** 14:25:52.9±0.2, 43°.60N×147°.70E, h53km±6km, mb4.5/2*
*MOS **20** 14:25:54.0±1.3, 43°.82N×147°.40E, h63km, mb4.1/1, Error ellipse: s-maj=17.2km s-min=15.2km az=71.4*
*IDC **20** 14:25:59.2±5.1, 44°.30N×147°.25E, h61km±41km, mb3.3/6, mbtmp3.6/8, ML2.6/2, MS3.6/1, Error ellipse: s-maj=94.5km s-min=26.3km az=164.0*
ISC 20 14:25:53.7±1.0, 43°.67N±0°.07×147°.62E±0°.07, h45km, n38, σ1s44/43, mb3.5/6, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.32	287	*d i* PN		Pn	14 26 14.6	-1.1
YUK				*i* S		Sn	14 26 30.3	-1.8
YUK				pmax	pmax			
	comp=Z,577nm,0.3s							
YUK				pmax	pmax			
	comp=N,35nm,0.2s							
YUK				pmax	pmax			
	comp=E,98nm,0.2s							
YUK				smax	smax			
	comp=N,1μm,0.3s							
YUK				smax	smax			
	comp=E,563nm,0.1s							
YUK	Yuzh-Kuril'sk	1.32	287	*i* P		Pn	14 26 14.6	-1.1
YUK				AMB	AMB		14 26 15.2	
	comp=E,160nm,0.2s							
YUK				*i* S		Sn	14 26 30.9	-1.2
YUK				A	A		14 26 33.3	
	comp=E,1μm,0.5s							
YUK				A	A		14 26 33.3	
	comp=E,1μm,0.5s							
NEM2	Nemuro 2	1.40	258	*e* P		Pn	14 26 15.5	-1.2
NEM2				*e* S		Sn	14 26 33.7	-0.2
NMR	Nemuro--Hokkai	1.41	258	*c i* PN		Pn	14 26 15.1	-1.7
NMR				*e* S		Sn	14 26 33.6	-0.6
NMR	Nemuro--Hokkai	1.41	258	*i* P		Pn	14 26 15.9	-0.9
NMR				*e* S		Sn	14 26 33.2	-1.0
KUR	Kuril'sk	1.57	6	*e* PN		Pn	14 26 19.1	-0.1
KUR				*e* S		Sn	14 26 39.3	+1.0
KUR				pmax	pmax			
	comp=Z,78nm,0.8s							
KUR				smax	smax			
	comp=E,282nm,0.4s							
KUR				smax	smax			
	comp=N,216nm,0.5s							
KUR	Kuril'sk	1.57	6	*e* P		Pn	14 26 19.0	-0.1
KUR				AMB	AMB		14 26 21.3	
	comp=N,50nm,0.2s							
KUR				*e* S		Sn	14 26 37.6	-0.7
KUR				A	A		14 26 39.1	
	comp=N,130nm,0.3s							
KUR				A	A		14 26 39.1	
	comp=N,210nm,0.3s							
RUSJ	Misakicho	1.77	285	*e* PN		Pn	14 26 21.4	-0.4
RUSJ				*e* S		Sn	14 26 42.3	-0.7
JRA	Rausu	1.83	279	P		Pn	14 26 22.1	-0.4
JNSB	Nemuroshibetsu	1.90	274	*e* P		Pn	14 26 23.3	-0.2
JNK	Nakash	2.11	269	*e* P		Pn	14 26 25.6	-0.9
JNK				*e* S		Sn	14 26 51.4	0.0
AKK	Akkeshi	2.13	253	*e* P		Pn	14 26 26.1	-0.6
JAK	Akkeshi	2.23	253	*e* P		Pn	14 26 28.0	-0.2
JTKR	Abashiri--Toko	2.70	278	P		Pn	14 26 34.9	+0.4
JAR	Ashorobuto	2.83	264	*e* P		Pn	14 26 36.4	+0.1
JAR				*e* S		Sn	14 27 10.7	+1.6
JOB	Onbets	2.87	256	*e* P		Pn	14 26 37.0	+0.1
HRK	Horoka	3.27	268	*e* P		Pn	14 26 43.0	+0.6
JCH	Churui	3.29	253	*e* S		Sn	14 27 21.0	+0.5
MYR	Moyori	3.46	248	*e* P		Pn	14 26 45.3	+0.2
JKA	Kamikawa-asahi	3.65	279	*e* P		Pn	14 26 49.0	+1.3
ASAJ	Asahikawa	3.66	279	P		Pn	14 26 49.0	+1.3
	comp=N,0.3nm,0.3s,baz=290,slow=28,SNR=1.9							
ASAJ				S		Sn	14 27 36.4	+6.8
	comp=N,9.7nm,0.7s,baz=306,slow=6.0,SNR=3.7							
	comp=N,3.0nm,0.4s							
ASAJ	Asahikawa	3.66	279	PN		Pn	14 26 49.0	+1.3
YSS	Yuzh-Sakhalins	4.75	315	*e* P		Pn	14 27 03.2	+0.5
YSS				*e* S		Sn	14 27 54.9	-1.5
SEY	Seymchan	19.50	7	P		P	14 30 14.6	-2.1
	comp=N,0.1nm,0.3s,baz=165,slow=8.9,SNR=4.8							
	comp=N,0.7nm,0.4s							
H11N2	WAKE ISLAND Hy	28.82	140	T	T		15 02 23.4	
	baz=330,slow=76,SNR=36							
H11N1	WAKE ISLAND Hy	28.83	140	T	T		15 02 26.3	
	baz=330,slow=76,SNR=37							
H11N3	WAKE ISLAND Hy	28.84	140	T	T		15 02 25.3	
	baz=330,slow=76,SNR=34							
H11S1	WAKE ISLAND Hy	29.79	141	T	T		15 03 39.7	
	baz=331,slow=76,SNR=74							
H11S3	WAKE ISLAND Hy	29.80	141	T	T		15 03 36.9	
	baz=331,slow=76,SNR=62							
H11S2	WAKE ISLAND Hy	29.81	141	T	T		15 03 41.0	
	baz=331,slow=76,SNR=54							
ILAR	Eielson Array	41.35	36	P	P		14 33 35.6	+0.9
	comp=N,0.4nm,0.5s,baz=272,slow=8.8,SNR=7.2							
	comp=N,0.4nm,0.5s							
MKAR	Makanchi Array	44.92	298	P	P		14 34 03.8	-0.1
	comp=N,0.3nm,0.5s,baz=79,slow=9.7,SNR=4.7							
	comp=N,0.3nm,0.5s							
MKAR	Makanchi Array	44.92	298	*e* P	P		14 34 03.8	-0.1
INK	Inuvik	46.30	30	P	P		14 34 15.4	+1.1
	comp=N,1.7nm,0.9s,baz=286,slow=6.2,SNR=7.0							
	comp=N,1.7nm,0.9s							
YKA	Yellowknife Ar	55.68	34	P	P		14 35 25.7	+0.8
	comp=N,0.2nm,0.5s,baz=299,slow=7.7,SNR=4.1							
	comp=N,0.2nm,0.5s							
AKTO	Aktyubinsk	57.84	311	LR	LR		15 01 15.7	
	comp=N,43nm,18.0s,baz=186,slow=37							
FINES	FINESS Array B	65.10	333	P	P		14 36 28.0	-1.1
	comp=N,0.9nm,0.5s,baz=40,slow=9.2,SNR=8.8							
	comp=N,0.9nm,0.5s							
NOA	NORSAR Array B	69.80	339	P	P		14 36 58.7	-0.2
	comp=N,0.7nm,0.8s,baz=35,slow=6.3,SNR=2.2							
	comp=N,0.7nm,0.8s							

WEL 20 14:39:06.9±0.6, 40°.S±4°.×17°.9E±°, h33km, M3.3/23, ML3.6/24, MLv3.3/23, Error ellipse: s-maj=0.0km s-min=0.0km az=55.8, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	Mahia Peninsul	1.43	333	P	Pn	14 39 31.0	+0.5
CKHZ	Cape Kidnapper	1.50	300	P	Pn	14 39 32.4	+1.0
PXZ	Pawanui	1.50	285	P	Pn	14 39 31.3	-0.2
KAHZ	Kahuranaki	1.57	293	P	Pn	14 39 32.9	+0.4
KAHZ				S	Sn	14 39 50.4	-1.3
PRHZ	Porangahau	1.63	275	P	Pn	14 39 34.3	+1.0
KNZ	Kokohu	1.63	329	P	Pn	14 39 33.4	+0.1
KNZ				S	Sn	14 39 51.9	-1.2
ANWZ	Angora Road	1.74	268	P	Pn	14 39 36.3	+1.5
ARHZ	Aropaoanui	1.78	310	P	Pn	14 39 36.4	+1.1
WPHZ	Waipukurau	1.81	281	P	Pn	14 39 35.5	-0.2
WPHZ				S	Sn	14 39 54.7	-2.8
MCHZ	McNeill Hill	1.86	301	P	Pn	14 39 37.1	+0.7
RIGZ	Rimuhau	1.88	336	P	Pn	14 39 37.0	+0.3
BFZ	Birch Farm	1.93	262	P	Pn	14 39 37.4	+0.1
SNGZ	Shannon Statio	1.97	326	P	Pn	14 39 39.4	+1.4
SNGZ				S	Sn	14 40 01.0	-0.6
DVHZ	Dannevirke	1.98	273	P	Pn	14 39 39.5	+1.4
RAHZ	Arahi	1.98	319	P	Pn	14 39 38.8	+0.7
RAHZ				S	Sn	14 40 01.2	-0.6
CNGZ	Carnagh Statio	1.98	348	P	Pn	14 39 38.5	+0.4
KRHZ	Kereru	1.99	292	P	Pn	14 39 38.4	+0.2
NMHZ	Naumai	2.00	311	P	Pn	14 39 39.3	+0.9
NMHZ				S	Sn	14 40 01.9	-0.5
PNHZ	Pukenui	2.02	284	P	Pn	14 39 39.0	+0.3
KWHZ	Kaweka Forest	2.05	298	P	Pn	14 39 39.9	+0.8
TKGZ	Te Karaka	2.10	340	P	Pn	14 39 40.2	+0.4
PRWZ	Pori Road	2.12	266	P	Pn	14 39 40.5	+0.5
BKZ	Black Stump Fm	2.15	305	P	Pn	14 39 40.6	+0.1
BKZ				S	Sn	14 40 04.8	-1.2
MTHZ	Maungataniwha	2.16	316	P	Pn	14 39 40.8	+0.3
TSZ	Takapari Road	2.17	279	P	Pn	14 39 41.3	+0.6
RAGZ	Rawiri	2.19	331	P	Pn	14 39 41.1	+0.9
TIWZ	Tintock	2.21	260	P	Pn	14 39 41.6	+0.3
RTZ	Ruatahuna	2.27	322	P	Pn	14 39 42.8	+0.7
POWZ	Post Office Ro	2.28	270	P	Pn	14 39 43.6	+1.5
MWZ	Matawai	2.29	335	P	Pn	14 39 42.5	+0.1
TWGZ	Tauwhareparae	2.32	345	P	Pn	14 39 44.2	+1.3
PUZ	Puketiti	2.38	351	P	Pn	14 39 43.5	-0.2
MRHZ	Matea Rd	2.40	311	P	Pn	14 39 44.6	+0.7
MRZ	Mangatainoka R	2.43	263	P	Pn	14 39 42.8	-1.4
HOWZ	Holdsworth Sta	2.51	258	P	Pn	14 39 45.0	-0.3
URZ	Urewera	2.51	329	P	Pn	14 39 45.7	+0.4
MOVZ	Moawhango	2.52	293	P	Pn	14 39 47.1	+1.5
MTW	Mount Morrison	2.57	252	P	Pn	14 39 44.1	-2.1
RUGZ	Raukumara Rang	2.59	341	P	Pn	14 39 46.6	-0.1
WMGZ	Waiomatatini S	2.62	354	P	Pn	14 39 47.7	+0.8
ALRZ	Allen Road	2.63	314	P	Pn	14 39 48.1	+1.0
PRRZ	Plateau Road	2.65	316	P	Pn	14 39 48.0	+0.7
RITZ	Rihia Road	2.66	302	P	Pn	14 39 49.2	+1.8
WNVZ	Wahianoa	2.66	293	P	Pn	14 39 49.4	+1.8
ETVZ	East Tongariro	2.67	298	P	Pn	14 39 49.3	+1.5
TMVZ	Te Maari	2.69	298	P	Pn	14 39 49.0	+1.1
OTVZ	Oturere	2.69	297	P	Pn	14 39 49.2	+1.2
SNVZ	South Ngauruho	2.70	296	P	Pn	14 39 49.3	+1.2
NTVZ	North Tongarir	2.72	298	P	Pn	14 39 49.3	+1.0
FWVZ	Far West T-bar	2.73	294	P	Pn	14 39 49.7	+1.2
MTVZ	Mangateitei	2.73	291	P	Pn	14 39 50.5	+2.1
NGZ	Ngauruhoe	2.73	296	P	Pn	14 39 49.7	+1.2
NNVZ	North Ngauruho	2.74	297	P	Pn	14 39 49.8	+1.1
KRVZ	Karewarewa	2.74	298	P	Pn	14 39 50.4	+1.7
OGWZ	Otaki Gorge	2.75	261	P	Pn	14 39 48.4	-0.3
WPRZ	Whakapapatarin	2.76	313	P	Pn	14 39 49.6	+0.7
WTVZ	West Tongariro	2.77	297	P	Pn	14 39 51.3	+2.3
KATZ	Kakaramea	2.77	301	P	Pn	14 39 51.3	+2.3
HAZ	Te Kaha	2.77	344	P	Pn	14 39 49.1	+0.2
WHTZ	Whakaoro	2.79	308	P	Pn	14 39 51.2	+2.0
HRDZ	Handcock Road	2.79	316	P	Pn	14 39 52.6	+3.3
TARZ	Mount Tarawera	2.80	321	P	Pn	14 39 51.3	+1.9
PKVZ	Pokaka	2.86	292	P	Pn	14 39 53.0	+2.8
MXZ	Matakaoa Point	2.88	353	P	Pn	14 39 51.9	+1.4
CAW	Cannon Point	2.88	255	P	Pn	14 39 48.5	-2.0
KIW	Kapiti Island	2.96	260	P	Pn	14 39 51.5	0.0
WAZ	Wanganui	2.97	282	P	Pn	14 39 54.6	+2.9
KUTZ	Kaahu Road	2.98	310	P	Pn	14 39 52.8	+0.9
OPRZ	Ohinepanea	3.09	326	P	Pn	14 39 53.5	+0.1
WEL	Wellington	3.14	253	P	Pn	14 39 53.3	-0.7
TLZ	Tolley Road	3.25	309	P	Pn	14 39 56.1	+0.5
TCW	Tory Channel	3.49	256	P	Pn	14 39 57.7	-1.0
DUWZ	D'Urville Isla	3.70	263	P	Pn	14 40 02.7	+1.0
NEZ	North Egmont	3.77	286	P	Pn	14 40 06.1	+3.4
PKE	Pukeiti	3.87	287	P	Pn	14 40 06.8	+2.7
TKNZ	Takaka Hill	4.44	260	P	Pn	14 40 12.4	+0.4
ETAZ	East Tamaki Re	4.58	318	P	Pn	14 40 16.0	+2.2
WIAZ	Waiheke Island

	comp=Z,10nm,1.0s						
WRAB	**Tennant Creek**	**15.57 178**			**Pn**	**14 53 36.2**	**-0.8**
WRAB				IAmb	IAmb	14 53 46.2	
	comp=Z,8.7nm,0.7s						
WRAB	**Tennant Creek**	**15.57 178**		P	**Pn**	**14 53 35.4**	**-1.7**
WB2	**Warramunga Arr**	**15.58 178**		Pn	**Pn**	**14 53 35.9**	**-1.3**
WB2				IAmb	IAmb	14 53 46.3	
	comp=Z,8.8nm,0.8s						
WRA	**Warramunga Arr**	**15.58 178**		Pn	**Pn**	**14 53 33.2**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=356,slow=13,SNR=25						
WRA				Sn	Sn	14 56 15.2	-14
	comp=Z,0.2nm,0.3s,baz=359,slow=22,SNR=4.4						
WRA	**Warramunga Arr**	**15.58 178**			**Pn**	**14 53 35.0**	**-2.1**
WR0	**Warramunga Arr**	**15.60 177**			**Pn**	**14 53 35.8**	**-1.7**
WR0				IAmb	IAmb	14 53 46.6	
	comp=Z,10nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.82 209**			**Pn**	**14 53 39.1**	**-1.2**
QIS	**Mount Isa**	**17.17 161**		P	**P**	**14 53 58.4**	**-0.6**
MTSU	**Mount Surprise**	**17.26 144**		P	**Pn**	**14 53 56.7**	**-1.9**
AS01	**Alice Springs**	**19.27 179**		P	**Pn**	**14 54 24.4**	**+1.2**
AS31	**Alice Springs**	**19.27 179**			**Pn**	**14 54 23.3**	**+0.1**
ASAR	**Alice Springs**	**19.27 179**		P	**Pn**	**14 54 22.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=5.9,slow=13,SNR=37						
ASAR				S	Sn	14 57 44.6	-14
	comp=Z,0.7nm,0.9s,baz=2.0,slow=29,SNR=2.9						
ASAR				LR	LR	15 03 15.0	
	comp=Z,69nm,19.4s,baz=160,slow=42						
	comp=Z,7.9nm,0.8s						
ASAR	**Alice Springs**	**19.27 179**			**Pn**	**14 54 23.0**	**-0.1**
CTA	**Charters Tower**	**19.92 143**		P	**P**	**14 54 26.7**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=318,slow=12,SNR=6.2						
	comp=Z,5.6nm,0.6s						
CTAO	**Charters Tower**	**19.92 143**		P	**Pn**	**14 54 29.3**	**-1.7**
CTAO				IAmb	IAmb	14 54 41.6	
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**19.92 143**		P	**P**	**14 54 27.5**	**-1.8**
WRKA	**Warakurna**	**21.27 194**		P	**P**	**14 54 45.3**	**+1.4**
MBWA	**Marble Bar**	**21.56 218**		P	**P**	**14 54 46.4**	**-0.6**
MBWA				IAmb	IAmb	14 55 23.8	
	comp=Z,31nm,1.4s						
MBWA	**Marble Bar**	**21.56 218**		P	**P**	**14 54 49.5**	**+2.6**
PSA00	**Pilbara Seismi**	**21.80 217**		P	**Pn**	**14 54 51.2**	**+1.6**
PSA00				IAmb	IAmb	14 54 53.0	
	comp=Z,11nm,0.9s						
PSA00	**Pilbara Seismi**	**21.80 217**		P	**P**	**14 54 52.1**	**+2.5**
OOD	**Oodnadatta**	**23.46 176**		P	**P**	**14 55 08.4**	**+1.6**
INKA	**Innaminka**	**24.28 165**		P	**P**	**14 55 16.1**	**+1.5**
QLP	**Quilpie**	**24.37 157**		P	**P**	**14 55 16.7**	**+1.3**
MULG	**Mulgathing**	**25.86 179**		P	**P**	**14 55 30.6**	**+1.7**
LCRK	**Leigh Creek**	**26.37 171**		P	**P**	**14 55 35.9**	**+2.3**
BBOO	**Buckleboo**	**28.47 176**		P	**P**	**14 55 52.5**	**+0.1**
ARPS	**Mount Arapiles**	**33.19 168**		P	**P**	**14 56 35.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**41.01 305**		P	**P**	**14 57 41.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=135,slow=7.5,SNR=5.1						
	comp=Z,0.2nm,0.3s						
KS19	**Wonju Array Si**	**41.92 353**		P	**P**	**14 57 46.5**	**-1.4**
MK31	**Makanchi Array**	**68.06 325**		P	**P**	**15 00 58.0**	**+1.2**
MK31				IAmb	IAmb	15 01 07.5	
	comp=Z,2.2nm,1.4s						
MKAR	**Makanchi Array**	**68.06 325**		P	**P**	**15 00 58.8**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=111,slow=8.9,SNR=8.6						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**68.06 325**		P	**P**	**15 00 58.4**	**+1.7**
VNDA	**Vanda**	**74.71 174**		P	**P**	**15 01 36.7**	**+0.3**
VNDA				IAmb	IAmb	15 01 59.6	
	comp=Z,3.7nm,1.2s						
PPT	**Papeete**	**76.10 107**		LR	LR	15 34 19.9	
	comp=Z,42nm,18.1s,baz=280,slow=35						
QSPA	**South Pole Qui**	**85.67 180**		P	**P**	**15 02 35.5**	**-0.3**

*NEIC **20** 15:16:05.7±2.0,24°.93N±0°.07×125°.38E±0°.06,h33km±4km, mb4.3/13, Error ellipse: s-maj=10.0km s-min=7.4km az=190.0*

*JMA **20** 15:16:06.9±0.1,24°.8N±0°.5×125°.4E±0°.4,h50km, MV3.9/11, NEAR MIYAKOJIMA ISLAND*

JMA Felt II J1 at NEAR MIYAKOJIMA ISLAND .

*NIED **20** 15:16:06.9,24°.83N×125°.38E,h50km,MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr1.16; Mθθ-0.67; Mφφ-0.50; Mrθ0.30; Mrφ-0.81; Mθφ0.47; Fault plane solution: M₀1.40000×10¹⁵ NP1:φs41.00000°, δ57.00000°,λ81.00000°. NP2:φs237.00000°,δ34.00000°, λ103.00000°.*

*IDC **20** 15:16:08.1±2.9,24°.90N×125°.38E,h54km±27km, mb3.6/18, mbtmp3.9/20,ML3.3/2 Error ellipse: s-maj=18.6km s-min=17.1km az=161.0*

ISC 20 15:16:06.8±0.7,24°.85N±0°.08×125°.39E±0°.05,h48km±5km, n75,σ1°11/77,mb4.0/25,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JOGS	**Gusukube**	**0.09**	**173**	P		**Pn**	**15 16 14.5**	**+0.1**
JOGS				S		**Sn**	**15 16 20.0**	**+0.3**
JMJ	**Miyako jima 2**	**0.10**	**250**	P		Pn	15 16 20.2	+5.8
JMJ2	**Miyako jima3**	**0.12**	**209**	P		**Pn**	**15 16 14.6**	**+0.1**
JMJ2				S		**Sn**	**15 16 20.2**	**+0.3**
JIKM	**Ikemajima**	**0.15**	**299**	P		**Pn**	**15 16 14.9**	**+0.2**
JIKM				S		**Sn**	**15 16 20.7**	**+0.5**
JIRB	**Irabujima**	**0.20**	**264**	P		**Pn**	**15 16 14.9**	**0.0**
JIRB				S		**Sn**	**15 16 20.8**	**0.0**
JTJ	**Tarama**	**0.66**	**252**	P		**Pn**	**15 16 20.1**	**+0.2**
JTJ				*eS*		**Sn**	**15 16 29.2**	**-0.3**
JISG	**Ishigakijimahi**	**1.02**	**255**	P		**Pn**	**15 16 24.5**	**-0.2**
JISG				*eS*		**Sn**	**15 16 38.0**	**+0.1**
JIJ	**Ishigaki jima**	**1.24**	**247**	P		**Pn**	**15 16 27.7**	**0.0**
JIJ				*eS*		**Sn**	**15 16 43.7**	**+0.5**
JKRS	**Kuro-shima**	**1.40**	**245**	*eP*		**Pn**	**15 16 30.5**	**+0.6**
JKRS				*eS*		**Sn**	**15 16 47.6**	**+0.4**
IRIF	**Iriomote-Funau**	**1.60**	**252**	*eP*		**Pn**	**15 16 32.8**	**+0.2**
IRIF				*eS*		**Sn**	**15 16 52.0**	**-0.1**
HATJ	**Hateruma jima**	**1.65**	**242**	*eP*		**Pn**	**15 16 34.3**	**+1.0**
YOJ	**Yonaguni jima**	**2.20**	**260**	Pn		**Pn**	**15 16 38.9**	**-2.0**
JOW	**Kunigami**	**3.26**	**52**	P		**Pn**	**15 16 56.1**	**+0.7**
	8.1nm,0.3s,baz=326,slow=19,SNR=1.7							
JOW				S		**Sn**	**15 17 34.5**	**+1.5**
	24nm,0.3s,baz=137,slow=29,SNR=1.5							
	19nm,0.3s							
JOW	**Kunigami**	**3.26**	**52**	Pn		**Pn**	**15 16 53.9**	**-1.5**
NACB	**Ninganchiao**	**3.53**	**260**	Pn		**Pn**	**15 16 59.3**	**+0.2**
NACB	**Ninganchiao**	**3.53**	**260**	P		**Pn**	**15 16 59.2**	**+0.2**
TATO	**Taipei**	**3.55**	**273**	Pn		**Pn**	**15 17 00.6**	**+1.2**
YHNB	**Yeheng**	**3.66**	**268**	Pn		**Pn**	**15 17 03.0**	**+2.0**
YHNB	**Yeheng**	**3.66**	**268**	P		**Pn**	**15 17 03.2**	**+2.3**
YULB	**Yu-li**	**4.01**	**250**	Pn		**Pn**	**15 17 04.3**	**-1.4**
YULB	**Yu-li**	**4.01**	**250**	P		**Pn**	**15 17 04.4**	**-1.4**
SSLB	**Suanglung**	**4.19**	**256**	Pn		**Pn**	**15 17 06.1**	**-2.1**
SSLB	**Suanglung**	**4.19**	**256**	P		**Pn**	**15 17 08.8**	**+0.6**
TWGBT	**Beinan**	**4.44**	**244**	P		**Pn**	**15 17 09.9**	**-1.7**
TWG	**Pinlang**	**4.44**	**244**	Pn		**Pn**	**15 17 09.6**	**-2.1**
TPUB	**Ta-pu**	**4.62**	**251**	Pn		**Pn**	**15 17 13.5**	**-0.6**
TPUB	**Ta-pu**	**4.62**	**251**	P		**Pn**	**15 17 14.4**	**+0.3**
JMZ	**Minamidaito 2**	**5.36**	**78**	Pn		**Pn**	**15 17 23.5**	**-0.7**
KNMB	**Chin-men Tao**	**6.38**	**268**	Pn		**Pn**	**15 17 36.8**	**-1.5**
JMN	**Monobe**	**11.53**	**38**	Pn		**Pn**	**15 18 46.3**	**-2.5**
KSRS	**Korea Array**	**12.75**	**9**	P		**Pn**	**15 19 07.4**	**+2.1**
	0.1nm,0.3s,baz=196,slow=11,SNR=2.0							
	1.5nm,0.9s							
ASAJ	**Asahikawa**	**23.80**	**32**	P		**P**	**15 21 15.0**	**-0.1**
	5.4nm,0.8s,baz=240,slow=13,SNR=6.6							
	5.4nm,0.8s							
JKA	**Kamikawa-asahi**	**23.80**	**32**	P		**P**	**15 21 14.1**	**-0.9**
JKA				IAmb		IAmb	15 21 44.5	
	comp=Z,18nm,1.3s							
CMAR	**Chiang Mai Arr**	**25.37**	**261**	P		**P**	**15 21 30.9**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=64,slow=8.1,SNR=4.3							
	comp=Z,0.4nm,0.3s							
SONM	**Songino Array**	**27.43**	**332**	P		**P**	**15 21 46.9**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=150,slow=10,SNR=4.4							
	comp=Z,0.4nm,0.5s							
SONM	**Songino Array**	**27.43**	**332**	P		**P**	**15 21 46.7**	**-1.4**
PETK	**Petropavlovsk-**	**37.22**	**32**	P		**P**	**15 23 14.1**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=180,slow=5.2,SNR=4.6							
	comp=Z,1.7nm,0.8s							
PETK	**Petropavlovsk-**	**37.22**	**32**	P		**P**	**15 23 10.6**	**-2.8**
H11N1	**WAKE ISLAND Hy**	**38.63**	**89**	T		T	16 04 27.6	
	baz=283							
H11N2	**WAKE ISLAND Hy**	**38.63**	**89**	T		T	16 04 22.1	
	baz=283							
H11N3	**WAKE ISLAND Hy**	**38.65**	**89**	T		T	16 04 33.1	
	baz=283							
H11S3	**WAKE ISLAND Hy**	**38.78**	**91**	T		T	16 04 32.1	
	baz=289							
H11S1	**WAKE ISLAND Hy**	**38.79**	**91**	T		T	16 04 22.3	
	baz=289							
H11S2	**WAKE ISLAND Hy**	**38.80**	**91**	T		T	16 04 21.2	
	baz=289							
MK31	**Makanchi Array**	**40.59**	**314**	P		**P**	**15 23 41.2**	**-0.5**
MK31				IAmb		IAmb	15 23 43.0	
	comp=Z,5.7nm,1.5s							
MKAR	**Makanchi Array**	**40.59**	**314**	P		**P**	**15 23 41.9**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=101,slow=10.0,SNR=28							
	comp=Z,1.4nm,0.5s							
MKAR	**Makanchi Array**	**40.59**	**314**	P		**P**	**15 23 41.4**	**-0.3**
MAKZ	**Makanchi**	**40.80**	**314**	P		**P**	**15 23 42.9**	**-0.6**
MAKZ				IAmb		IAmb	15 23 44.2	
	comp=Z,2.5nm,0.7s							
ZALV	**Zalesovo Beam**	**41.84**	**325**	P		**P**	**15 23 51.2**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=120,slow=9.2,SNR=8.9							
	comp=Z,1.7nm,0.5s							
ZALV	**Zalesovo Beam**	**41.84**	**325**	P		**P**	**15 23 51.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**42.69**	**180**	P		P	15 23 54.6	-4.4
KURK	**Kurchatov**	**44.10**	**318**	P		**P**	**15 24 09.4**	**-0.7**
KURK				IAmb		IAmb	15 24 10.7	
	comp=Z,3.9nm,1.2s							
KURBB	**Kurchatov Arra**	**44.12**	**318**	P		**P**	**15 24 09.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=89,slow=7.5,SNR=4.7							
	comp=Z,0.5nm,0.3s							
WB0	**Warramunga Arr**	**45.20**	**168**	P		**P**	**15 24 20.3**	**+1.1**
WB0				IAmb		IAmb	15 24 33.7	
	comp=Z,3.9nm,0.8s							
WRA	**Warramunga Arr**	**45.37**	**168**	P		**P**	**15 24 20.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=349,slow=8.8,SNR=2.3							
	comp=Z,0.3nm,0.6s							
WR0	**Warramunga Arr**	**45.42**	**168**	P		**P**	**15 24 21.9**	**+1.0**
GAR	**Garm**	**48.15**	**301**	P		**P**	**15 24 40.0**	**-2.4**
AS31	**Alice Springs**	**48.93**	**170**	P		**P**	**15 24 48.9**	**+0.7**
ASAR	**Alice Springs**	**48.93**	**170**	P		**P**	**15 24 49.0**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=360,slow=9.2,SNR=4.3							
	comp=Z,0.2nm,0.7s							
ASAR	**Alice Springs**	**48.93**	**170**	P		**P**	**15 24 48.1**	**-0.1**
ABKAR	**Abulakh array**	**55.74**	**314**	P		**P**	**15 25 37.7**	**-0.8**
GEYT	**Alibeck**	**57.77**	**300**	P		**P**	**15 25 54.6**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=45,slow=2.2,SNR=5.0							
	comp=Z,1.6nm,0.5s							
ANM	**Nome**	**58.93**	**28**	P		**P**	**15 25 59.4**	**-1.3**
ANM				IAmb		IAmb	15 26 05.4	
	comp=Z,2.9nm,0.8s							
IMAR	**Indian Mountai**	**63.87**	**27**	P		**P**	**15 26 34.7**	**+0.6**
BPAW	**Bear Paw Mtn.**	**65.18**	**29**	P		**P**	**15 26 43.5**	**+0.8**
MLY	**Manley**	**65.19**	**28**	P		**P**	**15 26 44.1**	**+1.4**
MLY				IAmb		IAmb	15 26 48.0	
	comp=Z,2.5nm,0.7s							
ILAR	**Eielson Array**	**66.85**	**28**	P		**P**	**15 26 53.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=238,slow=5.0,SNR=13							
	comp=Z,0.5nm,0.6s							
BMAR	**Burnt Mountain**	**67.33**	**25**	P		**P**	**15 26 57.6**	**+1.2**
KBZ	**Khabaz**	**68.05**	**309**	P		**P**	**15 27 02.5**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=102,slow=4.5,SNR=6.5							
	comp=Z,2.3nm,0.7s							
FINES	**FINESS Array B**	**72.79**	**330**	P		**P**	**15 27 29.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=57,slow=7.0,SNR=5.4							
	comp=Z,1.3nm,0.6s							
AKASG	**Malin Array Be**	**74.90**	**319**	P		**P**	**15 27 42.3**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=63,slow=6.5,SNR=4.6							
	comp=Z,0.9nm,0.4s							
BRTR	**Keskin Array B**	**75.84**	**307**	P		**P**	**15 27 49.4**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=104,slow=7.0,SNR=9.1							
	comp=Z,2.5nm,0.9s							
NOA	**NORSAR Array B**	**79.40**	**333**	P		**P**	**15 28 07.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=89,slow=5.8,SNR=1.9							
	comp=Z,0.3nm,0.5s							
YKA	**Yellowknife Ar**	**80.84**	**24**	P		**P**	**15 28 16.3**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=303,slow=5.7,SNR=9.0							
	comp=Z,0.4nm,0.7s							
GERES	**GERESS Array B**	**84.73**	**322**	P		**P**	**15 28 36.5**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=29,slow=2.2,SNR=3.8							
	comp=Z,0.5nm,0.6s							

*IDC **20** 15:25:42.9±1.5,0°.05N×98°.42E,h0km,mb3.6/7, mbtmp3.6/9,ML3.7/2,MS2.9/3,Error ellipse: s-maj=54.0km s-min=18.8km az=63.0*

ISC 20 15:25:49.9±1.6,0°.2N±0°.1×98°.7E±0°.3,h48km,n13, σ1°21/10,mb3.9/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**2.59**	**6**	Pn		**Pn**	**15 26 27.3**	**-2.2**
	6.3nm,0.3s,baz=291,slow=3.5,SNR=12							
PSI				Sn		**Sn**	**15 27 01.6**	**+1.7**
	3.0nm,0.3s,baz=126,slow=19,SNR=1.7							
PSI				LR		LR	15 27 43.8	
	comp=Z,149nm,18.2s,baz=200,slow=45							
	14nm,0.3s							
CMAR	**Chiang Mai Arr**	**18.14**	**1**	P		**P**	**15 29 58.0**	**-0.3**
	0.2nm,0.3s,baz=188,slow=12,SNR=2.1							
CMAR				LR		LR	15 36 01.3	
	comp=Z,11nm,20.6s,baz=195,slow=34							
	0.4nm,0.4s							
H08S2	**Diego Garcia H**	**27.23**	**253**	T		T	15 58 57.1	
	baz=74,slow=76,SNR=43							
H08S3	**Diego Garcia H**	**27.23**	**253**	T		T	15 58 53.6	
	baz=74,slow=76,SNR=58							
H08S1	**Diego Garcia H**	**27.24**	**253**	T		T	15 58 57.2	
	baz=74,slow=76,SNR=45							
WRA	**Warramunga Arr**	**40.28**	**122**	P		**P**	**15 33 22.2**	**-0.4**
	0.2nm,0.5s,baz=304,slow=8.9,SNR=2.2							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**41.64**	**127**	P		**P**	**15 33 34.5**	**+0.6**
	0.2nm,0.4s,baz=294,slow=7.7,SNR=11							
	0.2nm,0.4s							
SONM	**Songino Array**	**47.92**	**7**	P		**P**	**15 34 24.6**	**+1.1**
	0.8nm,0.6s,baz=190,slow=8.2,SNR=6.7							
	0.8nm,0.6s							
MKAR	**Makanchi Array**	**48.56**	**345**	P		**P**	**15 34 29.0**	**+0.6**
	0.8nm,0.5s,baz=151,slow=7.7,SNR=14							
	0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**53.07**	**344**	P		**P**	**15 35 02.5**	**+0.2**
	0.4nm,0.5s,baz=170,slow=6.5,SNR=4.7							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**54.77**	**350**	P		**P**	**15 35 14.8**	**+0.2**
	0.6nm,0.4s,baz=160,slow=4.7,SNR=4.1							
	0.6nm,0.4s							
BVAR	**Borovoye Array**	**57.67**	**340**	P		**P**	**15 35 34.9**	**-0.4**
	1.1nm,0.6s,baz=153,slow=7.5,SNR=6.7							
	1.1nm,0.6s							
RPZ	**Rata Peaks**	**77.48**	**135**	LR		LR	16 11 24.1	
	comp=Z,28nm,19.3s,baz=324,slow=35							

*NSSP **20** 15:34:41.5,38°.98N×44°.13E,h10km,Ms3.4*

*IDC **20** 15:34:43.5±1.9,39°.00N×44°.27E,h0km,mb3.6/3, mbtmp3.4/4,ML1.9/1,MS2.7/1,Error ellipse: s-maj=31.0km s-min=17.7km az=91.0*

*ISK **20** 15:34:43.3,39°.00N×44°.18E,h5km,ML3.3/15*

*DDA **20** 15:34:43.4±0.0,38°.94N×44°.13E,h7km±6km,ML3.1*

*AZER **20** 15:34:43.9±0.0,39°.05N×44°.29E,h5km,Error ellipse: s-maj=1.1km s-min=0.7km az=279.0*

*TEH **20** 15:34:44.1,38°.96N×44°.23E,h6km±48km,ML3.2*

ISC 20 15:34:43.5±1.1,38°.98N±0°.02×44°.23E±0°.02,h3km±9km, n91,σ1°73/123,mb3.7/3,5C-3D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.36**	**210**	P		**Pg**	**15 34 49.0**	**-1.6**
MAKU	**Maku**	**0.52**	**43**	Pg		**Pg**	**15 34 54.0**	**+0.5**
ERCV	**ERCIS-VAN**	**0.69**	**274**	Pg		**Pb**	**15 34 57.3**	**-1.1**
ERCV				Sg		**Sb**	**15 35 07.1**	**-1.3**
ERCV	**ERCIS-VAN**	**0.69**	**274**	Pg		**Pb**	**15 34 57.6**	**-0.8**
VANB	**Van**	**0.76**	**240**	Pg		**Pb**	**15 34 59.5**	**+0.1**
VANB				Sg		**Sn**	**15 35 11.5**	**-1.8**
VANB	**Van**	**0.76**	**240**	Pg		**Pn**	**15 35 00.1**	**-1.1**
HYR	**Heyderabad**	**0.89**	**33**	P		**Pb**	**15 35 01.0**	**-0.7**
	SNR=52							
HYR				S		**Sn**	**15 35 14.7**	**-1.7**
HYR	**Heyderabad**	**0.89**	**33**	Pg		**Pb**	**15 35 00.9**	**-0.7**
IGDI	**IGDIR**	**0.90**	**353**	P		**Pb**	**15 35 01.2**	**-0.6**
IGDI	**IGDIR**	**0.90**	**353**	Pg		**Pb**	**15 35 01.2**	**-0.6**
NAX	**Nakhchivan**	**1.01**	**78**	P		**Pn**	**15 35 03.7**	**-0.9**
	SNR=78							
NAX				S		**Sn**	**15 35 18.5**	**-0.9**
NAX	**Nakhchivan**	**1.01**	**78**	Pg		**Pn**	**15 35 03.6**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.01**	**1**	Pg		**Pn**	**15 35 03.3**	**-1.3**
TASB				Sg		**Sn**	**15 35 18.3**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.01**	**1**	Pg		**Pn**	**15 35 04.7**	**+0.1**
NRKZ	**NAREK**	**1.08**	**18**	*iP*		**Pb**	**15 35 04.1**	**-0.8**
NRKZ				*iS*		**Sn**	**15 35 20.1**	**-1.1**
SBZ	**Shahbuz**	**1.11**	**67**	P		**Pn**	**15 35 05.2**	**-0.9**
	SNR=244							
SBZ				S		**Sn**	**15 35 21.9**	**-0.1**
SBZ	**Shahbuz**	**1.11**	**67**	Pg		**Pn**	**15 35 05.6**	**-0.5**
AGRB	**Hanur-Agry**	**1.13**	**302**	Pn		**Pg**	**15 35 04.8**	**-0.4**
AGRB				Sn		**Sn**	**15 35 21.4**	**-1.2**
AGRB	**Hanur-Agry**	**1.13**	**302**	Pg		**Pn**	**15 35 05.7**	**-0.7**
KOTA	**Agri, Merkez-K**	**1.14**	**317**	P		**Pb**	**15 35 05.2**	**-0.9**
AKDM	**Akdamar-Van**	**1.17**	**237**	Pn		**Pn**	**15 35 06.1**	**-0.9**
AKDM				Sn		**Sn**	**15 35 23.4**	**-0.1**
AKDM	**Akdamar-Van**	**1.17**	**237**	Pg		**Pn**	**15 35 06.4**	**-0.6**
IMRD	**Marand**	**1.18**	**102**	Pg		**Pb**	**15 35 05.8**	**-0.9**
IMRD				Sg		**Sn**	**15 35 24.2**	**+0.4**
ADCV	**BITLIS_Adilcev**	**1.18**	**262**	P		**Pb**	**15 35 04.4**	**-2.4**
ADCV				S		**Sn**	**15 35 24.2**	**+0.3**
ADCV				*i* AML		AML	15 35 28.0	
	comp=N,416nm,0.7s							
ADCV	**BITLIS_Adilcev**	**1.18**	**262**	Pg		**Pb**	**15 35 04.3**	**-2.4**
GNI	**Garni**	**1.24**	**19**	Pg		**Pg**	**15 35 07.0**	**-0.2**
	19nm,0.3s,baz=224,slow=3.2,SNR=48							
GNI				Lg		Lg	15 35 24.7	
	62nm,0.3s,baz=348,slow=20,SNR=7.6							
GNI	**Garni**	**1.24**	**19**	*iP*		**Pb**	**15 35 06.9**	**-0.8**
GNI				*iS*		**Sn**	**15 35 27.1**	**+1.9**
GNI	**Garni**	**1.24**	**19**	Pn		**Pg**	**15 35 07.1**	**-0.2**
ISHB	**Shabestar**	**1.29**	**122**	Pg		**Pn**	**15 35 06.6**	**-2.1**
MLAZ	**Malazgirt-MUS**	**1.32**	**278**	Pn		**Pg**	**15 35 08.9**	**+0.2**
MLAZ	**Malazgirt-MUS**	**1.32**	**278**	Pg		**Pg**	**15 35 09.1**	**+0.4**
ORD	**Ordubad**	**1.38**	**91**	P		**Pg**	**15 35 10.0**	**+0.1**
	SNR=9.6							
ORD				S		**Sg**	**15 35 32.0**	**+4.2**
ORD	**Ordubad**	**1.38**	**91**	Pg		**Pg**	**15 35 09.8**	**-0.1**
YOVA	**Hakkari_Yksek**	**1.39**	**178**	P		**Pg**	**15 35 10.3**	**+0.2**
YOVA				S		**Sg**	**15 35 31.7**	**+3.7**
YOVA				*i* AML		AML	15 35 38.0	
	comp=N,302nm,0.6s							
YOVA	**Hakkari_Yksek**	**1.39**	**178**	Pg		**Pg**	**15 35 10.3**	**+0.2**
KAPZ	**Kaputan**	**1.39**	**15**	*iP*		**Pg**	**15 35 09.9**	**-0.3**
KAPZ				*iS*		**Sg**	**15 35 30.0**	**+1.7**
PERV	**Siirt/Pervari-**	**1.68**	**233**	P		**Pn**	**15 35 13.9**	**-1.2**
ITBZ	**Tabriz**	**1.68**	**116**	Pg		**Pn**	**15 35 13.6**	**-0.3**
GRS	**Goris**	**1.72**	**72**	*iP*		**Pn**	**15 35 14.0**	**-0.5**
GRS				*iS*		**Sg**	**15 35 38.0**	**-0.7**
BLIS	**Bitlis-Merkez**	**1.75**	**252**	P		**Pn**	**15 35 14.7**	**-0.2**
BLIS	**Bitlis-Merkez**	**1.75**	**252**	Pg		**Pn**	**15 35 14.6**	**-0.2**
GURO	**Guroymak-BITLI**	**1.77**	**257**	Pn		**Pb**	**15 35 15.9**	**-0.7**
GURO	**Guroymak-BITLI**	**1.77**	**257**	Pg		**Pb**	**15 35 16.4**	**-0.2**
EAK	**Akyaka**	**1.77**	**345**	P		**Pg**	**15 35 17.9**	**+0.3**
EAK	**Akyaka**	**1.77**	**345**	Pg		**Pg**	**15 35 17.8**	**+0.3**
CUKT	**Cukurca**	**1.79**	**196**	Pn		**Pb**	**15 35 16.4**	**-0.7**
CUKT	**Cukurca**	**1.79**	**196**	Pg		**Pg**	**15 35 17.8**	**-0.1**
KARS	**Kars**	**1.87**	**332**	Pn		**Pb**	**15 35 17.2**	**-1.2**
IAZR	**Azarshahr**	**1.89**	**133**	Pn		**Pb**	**15 35 18.4**	**-0.4**
KOPR	**Koprukoy-ERZUR**	**2.10**	**300**	Pn		**Pb**	**15 35 20.4**	**-1

ASAR				S		Sn	15 50 22.3	-21
	0.2nm,0.6s,baz=353,slow=26,SNR=2.5							
	0.7nm,0.6s							
AS01	**Alice Springs**	**18.01**	**167**	P		**Pn**	**15 47 17.7**	**-4.4**
MKAR	**Makanchi Array**	**67.17**	**327**	P		**P**	**15 54 06.5**	**+0.8**
	0.5nm,0.4s,baz=118,slow=7.5,SNR=8.2							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**71.45**	**329**	P		**P**	**15 54 31.5**	**-0.5**
	0.2nm,0.5s,baz=121,slow=4.6,SNR=1.7							
	0.2nm,0.5s							

IDC 20 15:53:30.5±3.3, 31°17S×179°00W, h0km, mb3.7/2, mbtmp3.8/3, ML2.9/1, Error ellipse: s-maj=69.3km s-min=48.4km az=108.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.76**	**203**	Pn	Pn	15 55 23.9	-0.8
	0.2nm,0.3s,baz=268,slow=22,SNR=1.4						
URZ				Sn	Sn	15 56 44.3	-9.1
	0.2nm,0.3s,baz=144,slow=2.6,SNR=2.0						
	7.7nm,1.0s						
ASAR	**Alice Springs**	**42.22**	**268**	P	P	16 01 25.4	-0.1
	0.4nm,0.5s,baz=108,slow=7.6,SNR=13						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.27**	**274**	P	P	16 01 34.0	-0.1
	0.6nm,0.3s,baz=112,slow=7.8,SNR=21						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**145.56**	**339**	PKPbc	PKPdf	16 13 09.4	-0.6
	1.8nm,0.9s,baz=57,slow=5.1,SNR=3.4						

*NEIC **20** 16:03:51.1±1.4, 5°.5S±0°.3×150°.1E±0°.2, h181km±14km, mb4.1/11, Error ellipse: s-maj=50.4km s-min=5.9km az=137.0*
*IDC **20** 16:03:51.1±1.6, 5°.57S×150°.14E, h174km±21km, mb3.6/3, mbtmp3.9/5, MS3.5/1, Error ellipse: s-maj=64.4km s-min=15.8km az=127.0*

ISC 20 16:03:49.7±0.8, 5°.4S±0°.2×150°.0E±0°.2, h150km, n22, σ1§68/22, mb4.1/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.31**	**62**	P	**Pn**	**16 04 30.3**	**+1.8**
	62nm,0.6s,baz=255,slow=12,SNR=2.1						
KRVT				S	**Sn**	**16 04 57.4**	**-1.0**
	92nm,0.7s,baz=97,slow=8.9,SNR=3.8						
RABL	**Rabaul**	**2.48**	**62**	Pn	**Pn**	**16 04 32.9**	**+2.3**
PMG	**Port Moresby**	**4.88**	**215**	P	**Pn**	**16 05 03.0**	**+1.5**
	7.5nm,0.6s,baz=283,slow=7.5,SNR=2.2						
PMG				S	**Sn**	**16 06 00.0**	**+2.5**
	12nm,0.5s,baz=97,slow=16,SNR=4.0						
PMG	**Port Moresby**	**4.88**	**215**	Pn	**Pn**	**16 05 03.2**	**+1.7**
MTN	**Manton Dam**	**20.02**	**247**	P	**P**	**16 08 10.8**	**-0.2**
MTN				IAmb	IAmb	16 08 16.0	
	comp=Z,4.0nm,0.8s						
WB0	**Warramunga Arr**	**20.84**	**225**	P	**P**	**16 08 18.4**	**-1.4**
WB0				IAmb	IAmb	16 08 23.6	
	comp=Z,2.2nm,0.5s						
WR0	**Warramunga Arr**	**20.86**	**225**	P	**P**	**16 08 18.4**	**-1.7**
WR0				IAmb	IAmb	16 08 21.9	
	comp=Z,4.3nm,1.1s						
WRAB	**Tennant Creek**	**20.98**	**225**	P	**P**	**16 08 19.6**	**-1.7**
WRAB				IAmb	IAmb	16 08 20.5	
	comp=Z,5.4nm,0.6s						
WB2	**Warramunga Arr**	**20.99**	**225**	P	**P**	**16 08 20.0**	**-1.4**
WB2				IAmb	IAmb	16 08 20.6	
	comp=Z,7.0nm,0.6s						
WRA	**Warramunga Arr**	**21.00**	**225**	P	**P**	**16 08 19.7**	**-1.8**
	comp=Z,4.1nm,0.5s,baz=50,slow=10,SNR=72						
	comp=Z,4.1nm,0.5s						
WRA	**Warramunga Arr**	**21.00**	**225**	P	**P**	**16 08 19.0**	**-2.4**
KNRA	**Kununurra**	**23.20**	**242**	P	**P**	**16 08 41.8**	**-1.7**
KNRA				IAmb	IAmb	16 08 57.5	
	comp=Z,9.5nm,1.0s						
AS31	**Alice Springs**	**23.88**	**219**	P	**P**	**16 08 48.8**	**-0.8**
AS31				IAmb	IAmb	16 08 49.3	
	comp=Z,2.5nm,0.4s						
ASAR	**Alice Springs**	**23.88**	**219**	P	**P**	**16 08 48.6**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=50,slow=8.4,SNR=70						
	comp=Z,2.9nm,0.3s						
ASAR	**Alice Springs**	**23.88**	**219**	P	**P**	**16 08 48.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**26.92**	**240**	P	**P**	**16 09 15.6**	**-1.5**
FORT	**Forrest**	**32.60**	**217**	P	**P**	**16 10 05.9**	**-1.3**
NWAO	**Narrogin (SRO)**	**41.00**	**224**	P	**P**	**16 11 17.3**	**-0.8**
PSI	**Prapat**	**51.64**	**278**	LR	LR	16 37 36.6	
	comp=Z,41nm,19.2s,baz=190,slow=39						
SONM	**Songino Array**	**65.35**	**329**	P	**P**	**16 14 17.3**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=137,slow=8.1,SNR=2.4						
	comp=Z,0.2nm,0.4s						
MAW	**Mawson**	**83.95**	**203**	P	P	16 15 56.4	-6.2
QSPA	**South Pole Qui**	**84.58**	**180**	P	**P**	**16 16 05.4**	**-0.7**

*HVO **20** 16:15:50.1±1.4, 19°.36N±0°.04×156°.35W±0°.05, h31km±7km, ML3.0/14, ML3.0/34(NEIC), Error ellipse: s-maj=8.5km s-min=4.0km az=47.0*

NEIC 20 16:15:47.3±1.7, 19°.38N±0°.05×156°.36W±0°.05, h30km±9km, Error ellipse: s-maj=8.2km s-min=4.5km az=224.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKH	**Kailua Kona**	**0.42**	**49**		Pn	16 15 57.2	-0.1
CPH	**Captain Cook**	**0.43**	**75**		Pn	16 15 57.0	-0.4
KHLU	**Kahalu`u**	**0.48**	**64**		Pn	16 15 58.5	+0.2
KHLU					Sb	16 16 05.2	+0.6
HUH	**Hualalai**	**0.58**	**58**		Pn	16 15 59.9	+0.2
HUH					Sb	16 16 07.3	0.0
HUH				IAML		16 16 09.4	
	comp=N,676nm,0.2s						
ALEP	**Alea Permanent**	**0.69**	**76**		Pb	16 16 01.0	-0.1
KHU	**Kahuku**	**0.71**	**101**		Pn	16 16 01.8	+0.2
KHU					Sb	16 16 10.9	0.0
KHU				IAML		16 16 11.3	
	comp=N,574nm,0.2s						
MWH	**Moku'aweowe**	**0.72**	**82**		Pn	16 16 02.1	+0.1
MWH					Sb	16 16 11.3	-0.3
MWH				IAML		16 16 18.7	
	comp=N,603nm,0.3s						
MWH				IAML		16 16 21.8	
	comp=E,495nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.75**	**78**		Pn	16 16 02.5	+0.2
MLOA					Sb	16 16 11.8	-0.5
MLOA				IAML		16 16 12.2	
	comp=N,673nm,0.2s						
AIN	**Ainahou**	**0.85**	**90**		Pb	16 16 03.5	-0.1
AIN					Sb	16 16 13.8	-0.9
AIN				IAML		16 16 14.7	
	comp=N,587nm,0.2s						
HMH	**Humu'ula Sheep**	**0.85**	**75**		Pb	16 16 04.0	+0.2
HMH					Sb	16 16 14.9	-0.2
HMH				IAML		16 16 15.9	
	comp=N,405nm,0.5s						
HMH				IAML		16 16 32.2	
	comp=E,398nm,4.2s						
POHA	**Pohakuloa**	**0.86**	**64**		Pb	16 16 04.1	+0.2
POHA					Sb	16 16 14.1	-1.1
POHA				IAML		16 16 14.7	
	comp=E,483nm,0.3s						
POHA				IAML		16 16 30.7	
	comp=E,380nm,0.7s						
HPAH	**Hawaii Prepara**	**0.90**	**44**		Pn	16 16 04.2	+0.2
HPAH					Sn	16 16 13.9	-2.1
HPAH				IAML		16 16 14.9	
	comp=E,405nm,0.4s						
MLH	**Mauna Loa**	**0.92**	**83**		Pb	16 16 04.7	-0.2
MLH					Sn	16 16 15.9	-0.9
MLH				IAML		16 16 31.2	
	comp=E,409nm,4.2s						
HLP	**Hilina Pali**	**0.99**	**95**		Sn	16 16 17.4	-0.9
RSD	**Rainshed**	**1.02**	**85**		Pn	16 16 05.8	+0.1
RSD					Sn	16 16 18.2	-0.9
RSD				IAML		16 16 20.0	
	comp=N,414nm,0.7s						
RSD				IAML		16 16 24.6	
	comp=E,420nm,1.4s						
PUH	**Pauahi**	**1.08**	**90**		Pn	16 16 06.2	-0.2
PUH				IAML		16 16 19.4	
	comp=N,341nm,1.9s						
STCH	**Steam Cracks**	**1.16**	**90**		Pn	16 16 07.4	-0.2
STCH					Sn	16 16 20.7	-1.8
STCH				IAML		16 16 22.9	
	comp=E,361nm,0.5s						
STCH				IAML		16 16 46.5	
	comp=N,373nm,3.3s						
NPOC	**North of Pu'u**	**1.18**	**89**		Sn	16 16 21.4	-1.4
JCUZ	**Jacuzzi**	**1.18**	**90**		Sn	16 16 21.4	-1.7
HLK	**Haleakala**	**1.38**	**4**		Pn	16 16 11.1	+0.4
HLK					Sn	16 16 25.8	-2.2
KHLH	**Kahului Airpor**	**1.51**	**358**		Pn	16 16 13.4	+1.1
KHLH				IAML		16 16 49.4	
	comp=E,231nm,4.9s						
HON	**Honolulu**	**2.47**	**322**		Pn	16 16 26.0	+0.4
KIP	**Kipapa**	**2.56**	**323**	Pn	Pn	16 16 27.2	+0.5
KEKH	**Kekaha**	**4.07**	**310**		Pn	16 16 47.3	-0.2

*IDC **20** 16:30:04.2±6.4, 19°.27S×177°.88W, h582km±31km, mb2.8/5, mbtmp3.8/6, Error ellipse: s-maj=149.1km s-min=25.7km az=136.0*

ISC 20 16:30:07.1±4.1, 19°.0S±0°.7×178°.2W±0°.6, h600km, n6, σ1§15/6, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.75**	**288**	P	**P**	**16 31 29.6**	**-1.3**
	6.5nm,0.4s,baz=243,slow=23,SNR=15						
CTA	**Charters Tower**	**33.47**	**262**	P	**P**	**16 35 59.2**	**+0.8**
	0.8nm,0.3s,baz=83,slow=8.1,SNR=1.9						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**44.63**	**261**	P	**P**	**16 37 27.9**	**0.0**
	0.3nm,0.3s,baz=97,slow=7.5,SNR=16						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.69**	**255**	P	**P**	**16 37 28.3**	**-0.1**
	0.7nm,0.7s,baz=86,slow=8.1,SNR=22						
	0.7nm,0.7s						
PETK	**Petropavlovsk-**	**74.73**	**345**	P	**P**	**16 40 47.5**	**+1.1**
	1.5nm,0.8s,baz=157,slow=4.1,SNR=1.6						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**86.86**	**13**	P	**P**	**16 41 48.0**	**-0.5**
	0.1nm,0.5s,baz=229,slow=4.0,SNR=4.1						
	0.1nm,0.5s						

*SOME **20** 16:38:51.8, 38°.38N×71°.93E, h10km*

ISC 20 16:38:53.4±4.2, 38°.2N±0°.2×71°.8E±0°.2, h10km, n4, σ1§59/5, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**4.16**	**341**	*e*Pg	**Pb**	**16 40 07.5**	**+0.7**
	2.7nm,0.1s						
IUG				*e*Lg	Lg	16 41 01.8	
	14nm,0.2s						
MRKS	**Merke**	**4.65**	**13**	*e*Pg	**Pb**	**16 40 15.2**	**+0.2**
	1.4nm,0.3s						
MRKS				*e*Lg	Lg	16 41 15.6	
	3.9nm,0.3s						
KK31	**Karatay Array**	**4.99**	**349**	⇑P	**Pb**	**16 40 18.7**	**-2.0**
	0.8nm,0.3s,baz=173,slow=13,SNR=9.4						
KK31				⇓S	**Sb**	**16 41 21.2**	**+0.5**
	1.1nm,0.3s,baz=178,slow=23,SNR=4.3						
AB31	**Akbulak array**	**13.97**	**326**	⇓P	**Pn**	**16 42 11.5**	**+0.3**
	0.2nm,0.4s,baz=0.0,slow=0.1,SNR=9.3						

*IDC **20** 16:45:09.7±2.1, 38°.96N×20°.66E, h0km, mb3.6/6, mbtmp3.6/13, ML3.4/7, Error ellipse: s-maj=38.0km s-min=16.4km az=38.0*
*PDG **20** 16:45:09.5±0.6, 38°.66N×20°.51E, h14km, ML3.7/12, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0*
*BEO **20** 16:45:10.2±0.6, 38°.67N×20°.29E, h0km, ML3.2/5*
*THE **20** 16:45:10.8, 38°.62N×20°.60E, h6km±1km, ML3.7/11, Error ellipse: s-maj=1.3km s-min=0.6km az=282.0*
*ATH **20** 16:45:11.0, 38°.62N×20°.61E, h6km±1km, ML3.5/8, Error ellipse: s-maj=1.6km s-min=0.8km az=275.0*

ISC 20 16:45:09.7±0.7, 38°.65N±0°.02×20°.55E±0°.02, h13km±4km, n152, σ1§16/197, mb3.8/6, 8C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRAG	**Dragano-Lefkad**	**0.03**	**30**	P	**Pg**	**16 45 12.2**	**+0.2**
DRAG				S	**Sg**	**16 45 13.6**	**-0.1**
	351µm,0.1s						
EVGI	**Lefkada island**	**0.09**	**112**	P	**Pg**	**16 45 12.6**	**+0.1**
EVGI				S	**Sg**	**16 45 14.1**	**-0.4**
	397µm,0.1s						
EVGI	**Lefkada island**	**0.09**	**112**	P	**Pg**	**16 45 12.6**	**+0.1**
EVGI				S	**Sg**	**16 45 14.0**	**-0.5**
NYDR	**Nydri-Lefkada**	**0.13**	**62**	P	**Pg**	**16 45 13.1**	**+0.1**
NYDR				S	**Sg**	**16 45 15.2**	**-0.1**
	15µm,0.2s						
LKD2	**Lefkada island**	**0.16**	**31**	P	**Pb**	**16 45 15.2**	**+0.7**
LKD2				S	**Sb**	**16 45 17.7**	**0.0**
	36µm,0.3s						
LKD2	**Lefkada island**	**0.16**	**31**	P	**Pb**	**16 45 15.3**	**+0.7**
LKD2				S	**Sb**	**16 45 17.7**	**0.0**
LKD2				AML	AML	16 45 18.3	
	comp=E,71856µm,0.3s						
LKD2				AML	AML	16 45 18.4	
	comp=N,73158µm,0.3s						
TSLK	**Tsoukalades, L**	**0.19**	**25**	P	**Pb**	**16 45 14.5**	**-0.5**
TSLK				S	**Sb**	**16 45 17.8**	**-0.8**
	comp=N,35µm,0.2s						
TSLK	**Tsoukalades, L**	**0.19**	**25**	P	**Pb**	**16 45 14.6**	**-0.5**
TSLK				S	**Sb**	**16 45 17.8**	**-0.8**
TSLK				AML	AML	16 45 18.1	
	comp=N,73130µm,0.3s						
TSLK				AML	AML	16 45 18.3	
	comp=E,64676µm,0.4s						
FSK	**Fiskardo**	**0.20**	**178**	P	**Pg**	**16 45 14.4**	**+0.5**
FSK				S	**Sg**	**16 45 17.5**	**+0.6**
	comp=E,35µm,0.3s						
FSK	**Fiskardo**	**0.20**	**178**	P	**Pg**	**16 45 14.5**	**+0.5**
FSK				S	**Sg**	**16 45 17.6**	**+0.6**
FSK				AML	AML	16 45 18.1	
	comp=N,66450µm,0.4s						
FSK				AML	AML	16 45 19.2	
	comp=E,66482µm,0.2s						
KEF4	**Livadi, Kephal**	**0.41**	**194**	P	**Pg**	**16 45 18.2**	**+0.4**
KEF4				S	**Sb**	**16 45 24.9**	**0.0**
	comp=E,95µm,0.3s						
KEF4	**Livadi, Kephal**	**0.41**	**194**	P	**Pg**	**16 45 18.2**	**+0.4**
KEF4				S	**Sb**	**16 45 24.6**	**-0.2**
VLS	**Valsamata**	**0.48**	**177**	P	**Pg**	**16 45 18.9**	**-0.2**
VLS				S	**Sg**	**16 45 26.0**	**+0.6**
	comp=E,11µm,0.1s						
VLS	**Valsamata**	**0.48**	**177**	P	**Pg**	**16 45 19.1**	**0.0**
VLS				S	**Sg**	**16 45 25.9**	**+0.6**
VLS				AML	AML	16 45 27.8	
	comp=N,23731µm,0.2s						
VLS				AML	AML	16 45 28.2	
	comp=E,17972µm,0.2s						
KEF3	**Kipouria, Keph**	**0.48**	**200**	P	**Pg**	**16 45 18.9**	**-0.1**
KEF3				S	**Sg**	**16 45 26.3**	**+0.9**
	comp=E,17µm,0.3s						
KEF3	**Kipouria, Keph**	**0.48**	**200**	P	**Pg**	**16 45 19.0**	**-0.1**
KEF3				S	**Sg**	**16 45 26.1**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.54**	**177**	P	**Pg**	**16 45 20.1**	**-0.1**
PSDA				S	**Sb**	**16 45 28.2**	**-0.5**
	comp=E,14µm,0.2s						
PSDA	**Pessada-Kefalo**	**0.54**	**177**	P	**Pg**	**16 45 20.1**	**-0.1**
PSDA				S	**Sg**	**16 45 28.0**	**+0.6**
PVO	**Paravola**	**0.76**	**93**	P	**Pg**	**16 45 23.7**	**-0.7**
PVO				S	**Sb**	**16 45 35.0**	**-0.1**
	comp=E,8µm,0.3s						
PVO	**Paravola**	**0.76**	**93**	P	**Pg**	**16 45 23.8**	**-0.6**
IGT	**Igoumenitsa**	**0.89**	**349**	P	**Pg**	**16 45 26.8**	**-0.2**
IGT	**Igoumenitsa**	**0.89**	**349**	P	**Pg**	**16 45 26.8**	**-0.2**
RLS	**Riolos of Patr**	**0.93**	**129**	P	**Pg**	**16 45 27.1**	**-0.6**
RLS	**Riolos of Patr**	**0.93**	**129**	P	**Pg**	**16 45 27.1**	**-0.6**
RLS				AML	AML	16 45 47.6	
	comp=N,3466µm,0.3s						
RLS				AML	AML	16 45 48.1	
	comp=E,3699µm,0.5s						
LTHK	**Lithakia**	**0.97**	**167**	P	**Pb**	**16 45 27.1**	**-1.2**
LTHK	**Lithakia**	**0.97**	**167**	P	**Pb**	**16 45 27.2**	**-1.1**
EVR	**Evrytania**	**1.02**	**75**	P	**Pn**	**16 45 29.7**	**0.0**
EVR	**Evrytania**	**1.02**	**75**	P	**Pn**	**16 45 29.6**	**-0.1**
JAN	**Janina**	**1.03**	**13**	P	**Pn**	**16 45 30.2**	**+0.4**
JAN	**Janina**	**1.03**	**13**	P	**Pn**	**16 45 30.3**	**+0.4**
ANX	**Ano Chora**	**1.07**	**93**	P	**Pb**	**16 45 29.7**	**-0.5**
ANX	**Ano Chora**	**1.07**	**93**	P	**Pb**	**16 45 29.7**	**-0.5**
ANX				AML	AML	16 45 52.7	
	comp=N,7607µm,0.6s						
ANX				AML	AML	16 45 53.0	
	comp=E,5211µm,0.6s						
EFP	**Efpalio**	**1.08**	**102**	P	**Pb**	**16 45 29.3**	**-1.0**
EFP	**Efpalio**	**1.08**	**102**	P	**Pb**	**16 45 29.4**	**-1.0**
EFP				AML	AML	16 45 52.3	
	comp=N,4867µm,0.4s						
EFP				AML	AML	16 45 52.5	
	comp=E,5378µm,0.5s						
DRO	**Drossia**	**1.15**	**127**	P	**Pb**	**16 45 30.7**	**-0.7**
DRO	**Drossia**	**1.15**	**127**	P	**Pb**	**16 45 30.9**	**-0.5**
KASA	**Kassiopi**	**1.19**	**336**	P	**Pg**	**16 45 32.8**	**+0.2**
SERG	**Sergoula**	**1.20**	**101**	P	**Pg**	**16 45 32.4**	**-0.4**
SERG	**Sergoula**	**1.20**	**101**	P	**Pg**	**16 45 32.6**	**-0.2**
SERG				AML	AML	16 45 58.0	
	comp=N,3433µm,0.4s						
SERG				AML	AML	16 45 58.9	
	comp=E,1817µm,0.4s						
KEK	**Kerkira**	**1.21**	**331**	P	**Pg**	**16 45 34.6**	**+1.6**
KEK	**Kerkira**	**1.21**	**331**	P	**Pg**	**16 45 34.5**	**+1.6**
MAKR	**Makrakomi, Fth**	**1.28**	**73**	P	**Pb**	**16 45 33.7**	**0.0**
MAKR	**Makrakomi, Fth**	**1.28**	**73**	P	**Pb**	**16 45 33.8**	**0.0**
ALIK	**Aliki, Aigiali**	**1.28**	**107**	P	**Pn**	**16 45 33.2**	**-0.1**
SRN	**Sarande**	**1.30**	**341**	P	**Pn**	**16 45 33.7**	**+0.2**
KLV	**Kalavryta, Ach**	**1.40**	**115**	P	**Pn**	**16 45 34.5**	**-0.4**
KLV	**Kalavryta, Ach**	**1.40**	**115**	P	**Pn**	**16 45 34.5**	**-0.4**
AGG	**Agios Georgios**	**1.44**	**75**	P	**Pb**	**16 45 36.5**	**+0.2**
AGG	**Agios Georgios**	**1.44**	**75**	P	**Pb**	**16 45 36.5**	**+0.2**
KPRO	**Kipourio**	**1.44**	**26**	P	**Pg**	**16 45 38.4**	**+1.0**
KPRO	**Kipourio**	**1.44**	**26**	P	**Pg**	**16 45 38.6**	**+1.2**
THL	**Klokotos Trika**	**1.46**	**51**	P	**Pb**	**16 45 36.7**	**+0.1**
THL	**Klokotos Trika**	**1.46**	**51**	P	**Pg**	**16 45 37.0**	**-0.7**
LSK	**Leskovik**	**1.49**	**1**	P	**Pg**	**16 45 38.4**	**0.0**
GUR	**Goura**	**1.58**	**116**	P	**Pn**	**16 45 37.7**	**+0.2**
PENT	**Pentalofos**	**1.60**	**16**	P	**Pg**	**16 45 40.3**	**-0.2**
PENT	**Pentalofos**	**1.60**	**16**	P	**Pg**	**16 45 40.6**	**+0.1**
AXAR	**Agios Charalam**	**1.65**	**85**	P	**Pg**	**16 45 40.5**	**-0.9**
AXAR	**Agios Charalam**	**1.65**	**85**	P	**Pb**	**16 45 40.4**	**+0.4**
TYRN	**Tyrnavos**	**1.68**	**51**	P	**Pb**	**16 45 40.5**	**+0.1**
TYRN	**Tyrnavos**	**1.68**	**51**	P	**Pb**	**16 45 40.6**	**+0.2**
THAL	**Thalero**	**1.77**	**110**	P	**Pb**	**16 45 41.9**	**0.0**
ITM	**Ithomi**	**1.83**	**143**	P	**Pb**	**16 45 42.4**	**-0.6**
ITM	**Ithomi**	**1.83**	**143**	P	**Pb**	**16 45 42.8**	**-0.2**
PYL	**PYLOS**	**1.99**	**151**	P	**Pb**	**16 45 45.0**	**-0.8**
PYL	**PYLOS**	**1.99**	**151**	P	**Pb**	**16 45 44.7**	**-1.1**
LIT	**Litokhoron**	**2.08**	**45**	P	**Pb**	**16 45 46.6**	**-0.7**
LIT	**Litokhoron**	**2.08**	**45**	P	**Pb**	**16 45 47.1**	**-0.2**
VIL2	**Platees**	**2.18**	**101**	P	**Pb**	**16 45 48.9**	**0.0**
FNA	**Florina**	**2.22**	**16**	P	**Pb**	**16 45 48.8**	**-0.9**
FNA	**Florina**	**2.22**	**16**	*e*Pn	**Pb**	**16 45 48.9**	**-0.8**
FNA	**Florina**	**2.22**	**16**	P	**Pb**	**16 45 49.1**	**-0.6**
OHR	**Ohrid**	**2.46**	**4**	*e*Pn	**Pb**	**16 45 53.3**	**-0.5**
OHR	**Ohrid**	**2.46**	**4**	⇑*i*Pn	**Pb**	**16 45 53.2**	**-0.6**
DION	**Dionisos Attik**	**2.72**	**101**	P	**Pb**	**16 45 56.4**	**-1.7**
TIR	**Tirane**	**2.74**	**349**	*e*Pn	**Pn**	**16 45 55.7**	**+2.3**
TIR				*e*Sn	**Sb**	**16 46 29.7**	**-2.4**
VAY	**Valandovo**	**3.08**	**30**	*e*Pn	**Pb**	**16 46 01.8**	**-2.5**
VAY	**Valandovo**	**3.08**	**30**	*i* Pn	**Pb**	**16 46 01.1**	**-3.2**
KNT	**Kendrikon**	**3.09**	**35**	P	**Pn**	**16 45 59.9**	**+1.8**
STIP	**Stip**	**3.28**	**22**	*i* Pn	**Pb**	**16 46 05.2**	**-2.6**
STIP				*i* Pn	**Pb**	**16 46 05.3**	**-2.6**
SKO	**Skopje**	**3.38**	**11**	*e*Pn	**Pn**	**16 46 04.6**	**+2.4**
SRS	**Serrai**	**3.39**	**43**	*e*Pn	**Pn**	**16 46 05.6**	**+3.2**
ULC	**Ulcinj**	**3.45**	**344**	⇓*i*Pn	**Pn**	**16 46 04.0**	**+0.8**
ULC				*i* Sn	**Sn**	**16 46 45.8**	**+1.8**
DRME	**Dracevica, Mon**	**3.68**	**344**	*e*Pn	**Pn**	**16 46 07.0**	**+0.8**
DRME	**Dracevica, Mon**	**3.68**	**344**	⇑*i*Pn	**Pn**	**16 46 07.1**	**+0.8**
DRME				*i* Sn	**Sn**	**16 46 50.8**	**+1.3**
PDG	**Podgorica**	**3.90**	**346**	*e*Pn	**Pn**	**16 46 10.4**	**+1.1**
PDG				*e*Sn	**Sn**	**16 46 55.5**	**+0.6**
PDG	**Podgorica**	**3.90**	**346**	⇓*i*Pn	**Pn**	**16 46 10.3**	**+1.0**
PDG				*i* Sn	**Sn**	**16 46 55.5**	**+0.6**
PVY	**Plav**	**3.96**	**354**	⇑*i*Pn	**Pn**	**16 46 12.3**	**+2.0**
PVY				*i* Sn	**Sn**	**16 46 58.0**	**+1.3**
PRVS	**Prvonek**	**4.02**	**16**	*e*Pn	**Pn**	**16 46 12.9**	**+1.9**
PRVS				*e*Sn	**Sn**	**16 46 59.9**	**+1.9**
CEME	**Cevo**	**4.08**	**343**	⇑*i*Pn	**Pn**	**16 46 12.3**	**+0.4**
CEME				*i* Sn	**Sn**	**16 47 00.4**	**+0.8**
HCY	**Herceg Novi**	**4.10**	**338**	*e*Pn	**Pn**	**16 46 11.9**	**-0.2**
HCY	**Herceg Novi**	**4.10**	**338**	⇓*i*Pn	**Pn**	**16 46 11.9**	**-0.2**
HCY				*i* Sn	**Sn**	**16 46 59.9**	**0.0**
IVA	**Berane**	**4.24**	**353**	⇑*i*Pn	**Pn**	**16 46 15.1**	**+1.0**
IVA				*i* Sn	**Sn**	**16 47 05.1**	**+1.6**
KOME	**Kolasin**	**4.26**	**350**	⇓*i*Pn	**Pn**	**16 46 15.3**	**+0.9**
KOME				*i* Sn	**Sn**	**16 47 05.2**	**+1.1**
BARS	**Barje**	**4.27**	**13**	*e*Pn	**Pn**	**16 46 15.9**	**+1.6**
BARS				*e*Sn	**Sn**	**16 47 05.4**	**+1.4**
NKME	**Niksic**	**4.29**	**344**	⇑*i*Pn	**Pn**	**16 46 15.6**	**+1.0**
NKME				*i* Sn	**Sn**	**16 47 04.6**	**+0.1**
TREB	**Trebinje**	**4.39**	**338**	*e*Pn	**Pn**	**16 46 16.0**	**0.0**
TREB				*e*Sn	**Sn**	**16 47 05.6**	**-1.4**
TREB	**Trebinje**	**4.39**	**338**	*e*Pn	**Pn**	**16 46 15.8**	**-0.2**
VTS	**Vitosha**	**4.45**	**26**	*e*Pn	**Pn**	**16 46 19.9**	**+2.8**
VTS	**Vitosha**	**4.45**	**26**	*e*Pn	**Pn**	**16 46 19.9**	**+2.8**
VTS				*e*Sn	**

comp=E,0.3nm,0.3s,baz=300,slow=12,SNR=1.8
comp=E,0.3nm,0.4s
ASF Jabal al Asfar 14.80 111 Pn **P** **16 48 42.6 -2.2**
comp=E,0.3nm,0.3s,baz=20,slow=14,SNR=10
comp=E,5.9nm,0.9s
HFS Hagfors 21.93 351 P **P** **16 50 02.7 +0.1**
comp=E,1.4nm,0.3s,baz=155,slow=11,SNR=13
comp=E,1.4nm,0.3s
EKA Eskdalemuir Ar 23.06 324 P **P** **16 50 14.4 -0.2**
comp=E,2.1nm,0.7s,baz=114,slow=10,SNR=9.7
comp=E,2.1nm,0.7s
FINES FINESS Array B 23.07 7 P **P** **16 50 13.5 -1.2**
comp=E,1.9nm,0.6s,baz=173,slow=11,SNR=15
comp=E,1.9nm,0.6s
NB2 NORSAR Subarra 23.16 348 P **P** **16 50 15.0 -0.7**
comp=Z,1.3nm,0.9s,baz=153,slow=10
NOA NORSAR Array B 23.16 348 P **P** **16 50 14.9 -0.7**
comp=Z,0.5nm,0.6s,baz=171,slow=9.9,SNR=4.2
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 45.03 59 P **P** **16 53 24.4 -0.6**
comp=Z,0.2nm,0.4s,baz=278,slow=7.6,SNR=6.6
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 45.36 48 P **P** **16 53 26.9 -0.5**
comp=Z,0.9nm,0.4s,baz=280,slow=9.2,SNR=5.4
comp=Z,0.9nm,0.4s

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*IDC **20** 17:00:47.5±0.8, 32.°80N×93.°35E, h0km, mb3.8/11, mbtmp3.7/15, ML3.3/4, MS3.3/6, Error ellipse: s-maj=34.7km s-min=15.2km az=54.0*
ISC 20 17:00:52.5±0.8, 32.°8N±0.°1×93.°3E±0.°2, h35km, n18, σ1§16/16, mb3.9/10, MS3.5/3, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.19**	**159**	Pn	**Pn**	**17 04 23.4**	**-1.0**
	0.1nm,0.3s,baz=331,slow=12,SNR=8.8						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**16.29**	**332**	Pn	**Pn**	**17 04 35.9**	**-2.6**
	0.1nm,0.3s,baz=151,slow=13,SNR=4.4						
MKAR				LR	LR	17 11 54.7	
	comp=Z,40nm,19.9s,baz=32,slow=41						
	0.3nm,0.8s						
AAK	**Ala-Archa**	**17.79**	**309**	P	**P**	**17 04 57.6**	**-0.3**
	baz=12,slow=0.5,SNR=2.9						
AAK				LR	LR	17 12 41.1	
	comp=Z,74nm,18.3s,baz=102,slow=40						
	1.2nm,0.6s						
SONM	**Songino Array**	**17.95**	**30**	P	**Pn**	**17 04 59.1**	**-0.2**
	0.1nm,0.3s,baz=211,slow=13,SNR=7.3						
SONM				LR	LR	17 11 33.0	
	comp=Z,32nm,18.2s,baz=286,slow=36						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**20.85**	**333**	P	**P**	**17 05 31.4**	**+0.3**
	4.5nm,0.8s,baz=141,slow=11,SNR=29						
	4.5nm,0.8s						
ZALV	**Zalesovo Beam**	**21.96**	**346**	P	**P**	**17 05 43.7**	**+0.7**
	0.7nm,0.7s,baz=160,slow=6.0,SNR=2.7						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**26.05**	**328**	P	**P**	**17 06 24.5**	**+2.2**
	1.4nm,0.8s,baz=144,slow=10,SNR=6.1						
	1.4nm,0.8s						
DAV	**Davao City (W)**	**39.41**	**123**	LR	LR	17 26 36.4	
	comp=Z,63nm,18.4s,baz=298,slow=39						
BRTR	**Keskin Array B**	**47.84**	**296**	P	**P**	**17 09 26.8**	**-0.1**
	1.4nm,0.8s,baz=88,slow=6.1,SNR=8.5						
	1.4nm,0.8s						
AKASG	**Malin Array Be**	**49.43**	**311**	P	**P**	**17 09 39.0**	**+0.1**
	0.8nm,0.7s,baz=75,slow=7.0,SNR=5.8						
	0.8nm,0.7s						
FINES	**FINESS Array B**	**50.97**	**325**	P	**P**	**17 09 50.5**	**+0.2**
	1.6nm,0.6s,baz=104,slow=6.1,SNR=5.7						
	1.6nm,0.6s						
ARCES	**ARCESS Array B**	**51.90**	**336**	LR	LR	17 34 40.0	
	comp=Z,189nm,18.5s,baz=340,slow=39						
NB2	**NORSAR Subarra**	**58.15**	**325**	P	**P**	**17 10 44.5**	**+2.0**
	comp=Z,3.1nm,0.8s,baz=78,slow=6.9						
NOA	**NORSAR Array B**	**58.15**	**325**	P	**P**	**17 10 42.3**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=78,slow=6.9,SNR=4.3						
NOA				LR	LR	17 36 44.7	
	comp=Z,24nm,18.1s,baz=300,slow=37						
	comp=Z,1.3nm,0.9s						
WRA	**Warramunga Arr**	**65.50**	**137**	P	**P**	**17 11 32.5**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=327,slow=7.4,SNR=8.4						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**68.23**	**140**	P	**P**	**17 11 50.1**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=324,slow=6.5,SNR=17						
	comp=Z,1.7nm,0.7s						
ILAR	**Eielson Array**	**72.04**	**23**	P	**P**	**17 12 12.6**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=294,slow=4.6,SNR=3.4						
	comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**82.38**	**13**	P	**P**	**17 13 10.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=333,slow=5.5,SNR=3.5						
	comp=Z,0.2nm,0.6s						

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*NEIC **20** 17:04:37.9±2.8, 1.°7N±0.°1×122.°92E±0.°09, h398km±10km, mb4.1/19, Error ellipse: s-maj=16.2km s-min=11.0km az=212.0*
*IDC **20** 17:04:37.6±1.6, 1.°80N×122.°92E, h414km±17km, mb3.2/5, mbtmp4.2/8, Error ellipse: s-maj=28.0km s-min=13.6km az=66.0*
*DJA **20** 17:04:38.7±1.0, 2.°N±9.°×12.°3E±.°, h389km±14km, M4.0/9, mb4.3/2, mB4.7/1, MLv3.8/9, Mw(mB)4.0/1*
ISC 20 17:04:37.5±0.6, 1.79N±0.°07×122.95E±0.°07, h400km, n54, σ1§21/59, mb3.9/14, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**1.15**	**177**	P	**Pn**	**17 05 28.5**	**-0.7**
MRSI	**Marisa**	**1.65**	**218**	P	**Pn**	**17 05 31.8**	**+0.3**
TOLI2	**Tolitoli**	**2.27**	**253**		**Pn**	**17 05 35.4**	**+0.1**
TOLI2				Sn	**S**	**17 06 21.0**	**-0.8**
TOLI2	**Tolitoli**	**2.27**	**253**	P	**Pn**	**17 05 35.9**	**+0.7**
LUWI	**Luwuk**	**2.82**	**184**	Pn	**Pn**	**17 05 39.7**	**+0.4**
LUWI				Sn	**S**	**17 06 27.6**	**-1.6**
LUWI	**Luwuk**	**2.82**	**184**	P	**Pn**	**17 05 39.7**	**+0.4**
LUWI	**Luwuk**	**2.82**	**184**	P	**Pn**	**17 05 37.7**	**-1.6**
MPSI	**Mapaga**	**3.37**	**245**	P	**Pn**	**17 05 43.8**	**-0.1**
TNTI	**Ternate**	**4.53**	**103**	Pn	**Pn**	**17 05 55.4**	**+0.6**
TNTI	**Ternate**	**4.53**	**103**	P	**Pn**	**17 05 55.8**	**+1.0**
TNTI	**Ternate**	**4.53**	**103**	P	**Pn**	**17 05 54.9**	**+0.1**
SANI	**Sanana**	**4.88**	**141**	P	**Pn**	**17 05 57.6**	**-0.7**
SANI	**Sanana**	**4.88**	**141**	P	**Pn**	**17 05 57.6**	**-0.7**
MYLDM	**Lahad Datu**	**5.57**	**307**		**Pn**	**17 06 07.1**	**+1.6**
BIPH	**Bislig**	**7.20**	**28**	*eP*	**Pn**	**17 06 23.8**	**+0.4**
KAPI	**Kappang**	**7.48**	**205**	P	**P**	**17 06 26.9**	**-0.2**
	25nm,0.6s,baz=25,slow=6.6,SNR=11						
KAPI				S	**S**	**17 07 56.6**	**+0.8**
	3.3nm,0.3s,baz=88,slow=16,SNR=1.2						
KAPI	**Kappang**	**7.48**	**205**		**P**	**17 06 27.4**	**+0.3**
MSAI	**Masohi**	**7.86**	**130**	P	**P**	**17 06 33.7**	**+2.3**
KKM	**Kota Kinabalu**	**7.93**	**302**		**Pn**	**17 06 31.8**	**-0.1**
KKM	**Kota Kinabalu**	**7.93**	**302**	P	**Pn**	**17 06 32.0**	**+0.1**
SIJI	**Sorong**	**8.73**	**108**	P	**P**	**17 06 42.1**	**+1.0**
	4.3nm,0.3s,baz=296,slow=10,SNR=9.7						
FAKI	**Fak Fak**	**10.41**	**117**	P	**Pn**	**17 07 01.3**	**+0.9**
FAKI	**Fak Fak**	**10.41**	**117**	P	**Pn**	**17 07 01.2**	**+0.9**
SOEI	**Soe**	**11.55**	**173**	P	**Pn**	**17 07 13.4**	**-0.3**
PLAI	**Plampang**	**11.74**	**206**	P	**Pn**	**17 07 15.5**	**-0.3**
BATI	**Baumata**	**11.94**	**177**	P	**Pn**	**17 07 17.4**	**-0.8**
	16nm,0.3s,baz=352,slow=1.4,SNR=6.8						
SAUI	**Saumlaki**	**12.79**	**139**	P	**P**	**17 07 25.6**	**-0.4**
JAGI	**Jajag, Banyuwa**	**13.45**	**221**	P	**Pn**	**17 07 36.2**	**+0.7**
UGM	**Wanagama**	**15.70**	**232**	P	**P**	**17 07 59.9**	**+2.2**
MTN	**Manton Dam**	**16.66**	**151**	P	**P**	**17 08 07.4**	**-0.5**
KNRA	**Kununurra**	**18.28**	**162**	P	**P**	**17 08 24.1**	**-1.0**
KNRA				IAmb	IAmb	17 09 00.7	
	comp=Z,28nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.94**	**172**	P	**P**	**17 08 39.8**	**-1.7**
WB0	**Warramunga Arr**	**24.19**	**153**	P	**P**	**17 09 18.8**	**-1.2**
WB0				IAmb	IAmb	17 09 19.5	
	comp=Z,3.4nm,0.8s						
WRAB	**Tennant Creek**	**24.32**	**153**	P	**P**	**17 09 20.0**	**-1.2**
WRAB				IAmb	IAmb	17 09 20.9	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**24.32**	**153**	P	**P**	**17 09 19.4**	**-1.8**
	comp=Z,1.6nm,0.5s,baz=337,slow=9.8,SNR=68						
WRA				ScP	**ScP**	**17 15 45.5**	**-3.1**
	comp=Z,0.3nm,0.6s,baz=348,slow=2.8,SNR=2.5						
	comp=Z,1.6nm,0.5s						
WRA	**Warramunga Arr**	**24.32**	**153**	P	**P**	**17 09 18.8**	**-2.4**
WB2	**Warramunga Arr**	**24.33**	**153**	P	**P**	**17 09 20.0**	**-1.2**
WB2				IAmb	IAmb	17 09 20.9	
	comp=Z,9.6nm,1.1s						
WR0	**Warramunga Arr**	**24.43**	**153**	P	**P**	**17 09 20.8**	**-1.4**
WR0				IAmb	IAmb	17 09 26.0	
	comp=Z,5.8nm,1.1s						
LHMI	**Lhok Sumawe**	**26.17**	**278**	P	**P**	**17 09 39.1**	**+1.4**
AS31	**Alice Springs**	**27.46**	**158**	P	**P**	**17 09 47.8**	**-1.3**
ASAR	**Alice Springs**	**27.46**	**158**	P	**P**	**17 09 48.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=329,slow=8.6,SNR=47						
ASAR				ScP	**ScP**	**17 15 55.1**	**-2.7**
	comp=Z,0.2nm,0.4s,baz=336,slow=3.3,SNR=4.7						
	comp=Z,0.6nm,0.3s						
ASAR	**Alice Springs**	**27.46**	**158**	P	**P**	**17 09 48.5**	**-0.6**
RABL	**Rabaul**	**29.80**	**102**	P	**P**	**17 10 11.3**	**+1.5**
FORT	**Forrest**	**32.75**	**172**	P	**P**	**17 10 33.5**	**-1.6**
FORT				IAmb	IAmb	17 10 35.2	
	comp=Z,14nm,0.7s						
BBOO	**Buckleboo**	**36.58**	**161**	P	**P**	**17 11 06.8**	**-0.6**
BBOO				IAmb	IAmb	17 11 45.4	
	comp=Z,26nm,1.5s						
STKA	**Stephens Creek**	**37.87**	**154**	P	**P**	**17 11 18.2**	**+0.2**
	comp=Z,4.1nm,0.3s,baz=327,slow=7.7,SNR=34						
	comp=Z,4.1nm,0.3s						
STKA	**Stephens Creek**	**37.87**	**154**	P	**P**	**17 11 18.3**	**+0.2**
CAN	**Canberra**	**44.24**	**149**	P	**P**	**17 12 10.4**	**+1.0**
TOO	**Toolangi**	**44.39**	**154**	P	**P**	**17 12 11.6**	**+1.2**
TOO				IAmb	IAmb	17 12 12.9	
	comp=Z,21nm,1.4s						
SONM	**Songino Array**	**48.05**	**345**	P	**P**	**17 12 37.3**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=150,slow=11,SNR=2.7						
	comp=Z,0.4nm,0.8s						
MK31	**Makanchi Array**	**57.08**	**328**	P	**P**	**17 13 43.0**	**-0.7**
MK31				IAmb	IAmb	17 13 54.1	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**57.08**	**328**	P	**P**	**17 13 42.4**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=134,slow=7.8,SNR=10.0						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**57.08**	**328**	P	**P**	**17 13 43.0**	**-0.8**
KURK	**Kurchatov**	**61.41**	**330**	P	**P**	**17 14 11.7**	**-1.2**
KURK				IAmb	IAmb	17 14 12.8	
	comp=Z,3.9nm,1.1s						

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*IDC **20** 17:13:10.6±2.2, 3.°92N×124.°51E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=212.7km s-min=29.2km az=64.0*
*MAN **20** 17:13:17.8, 4.°53N×126.°05E, h16km, mb4.0, ML2.8, MS2.4*
ISC 20 17:13:14.1±1.3, 4.°24N±0.°08×125.°9E±0.°1, h10km, n11, σ2§65/16, mb3.1/3, 6C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.86**	**354**	*eP*	**Pn**	**17 13 44.6**	**-1.5**
DDMP				*eS*	**Sn**	**17 14 03.7**	**-6.1**
SKMP	**Bagumbayan, Su**	**2.64**	**329**	*eP*	**Pn**	**17 13 58.0**	**+1.2**
SKMP				*eS*	**Sn**	**17 14 27.1**	**-1.9**
MATI	**Mati**	**2.71**	**7**	*eP*	**Pb**	**17 14 02.1**	**-0.7**
MATI				*eS*	**Sn**	**17 14 33.6**	**+2.9**
KCP	**Kidapawan**	**2.87**	**344**	*iP*	**Pn**	**17 14 00.1**	**0.0**
KCP				*i* S	**Sn**	**17 14 33.3**	**-1.4**
CTBH	**Cotabato--PC H**	**3.40**	**331**	*eP*	**Pn**	**17 14 07.3**	**+0.1**
CTBH				*i* S	Sn	17 14 28.2	-19
BIPH	**Bislig**	**3.95**	**7**	*eP*	**Pn**	**17 14 17.4**	**+2.6**
BIPH				*eS*	**Sn**	**17 14 57.0**	**-4.1**
CGP	**Cagayan de Oro**	**4.36**	**344**	*eP*	**Pg**	**17 14 40.8**	**+3.1**
CGP				*eS*	**Sn**	**17 15 10.5**	**-0.9**
PAGZ	**Pagadian**	**4.38**	**325**	*eP*	**Pn**	**17 14 21.6**	**+0.9**
WRA	**Warramunga Arr**	**25.42**	**161**	P	**P**	**17 18 41.4**	**-0.8**
	0.3nm,0.7s,baz=337,slow=10,SNR=2.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**28.81**	**165**	P	**P**	**17 19 12.0**	**-0.6**
	0.1nm,0.6s,baz=336,slow=8.3,SNR=1.0						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**56.67**	**325**	P	P	17 22 52.0	-5.8
	0.1nm,0.5s,baz=118,slow=8.1,SNR=4.0						
	0.1nm,0.5s						

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*IDC **20** 17:35:05.5±6.0, 37.°27N×141.°69E, h0km, mb3.8/5, mbtmp3.7/7, ML3.1/2, MS3.7/2, Error ellipse: s-maj=117.7km s-min=30.0km az=140.0*
*JMA **20** 17:35:09.3±0.2, 37.°3N±0.°3×141.°5E±0.°9, h26km±1km, MV3.6/40, E OFF FUKUSHIMA PREF*
ISC 20 17:35:07.9±2.1, 37.°29N±0.°05×141.°55E±0.°09, h13km±10km, n24, σ0§74/26, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.54**	**278**	P	**Pb**	**17 35 19.1**	**-0.2**
JFK				S	**Sg**	**17 35 26.2**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.63**	**253**	P	**Pb**	**17 35 20.6**	**-0.1**
ONAJ				S	**Sg**	**17 35 28.7**	**+0.2**
JMST	**Minamisoumatoc**	**0.68**	**310**	P	**Pb**	**17 35 21.6**	**0.0**
JMST				S	**Sg**	**17 35 30.7**	**+0.5**
JFFD	**Fukushimafurud**	**0.81**	**256**	P	**Pg**	**17 35 23.7**	**+0.1**
JFFD				S	**Sb**	**17 35 34.0**	**-0.8**
JMM	**Marumori**	**0.83**	**314**	*i* P	**Pg**	**17 35 24.1**	**+0.1**
JMM				S	**Sb**	**17 35 34.5**	**-0.8**
JHO	**Hitachi**	**1.04**	**230**	P	**Pb**	**17 35 26.9**	**-0.8**
JHO				S	**Sb**	**17 35 40.1**	**-1.0**
JIO	**Ouri**	**1.18**	**352**	*i* P	**Pb**	**17 35 29.7**	**-0.3**
JIO				S	**Sn**	**17 35 45.3**	**-0.6**
JOU	**Okura**	**1.28**	**327**	*i* P	**Pg**	**17 35 32.2**	**-0.4**
JOU				S	**Sg**	**17 35 49.2**	**-0.1**
JSB	**Shiboa**	**1.34**	**257**	P	**Pb**	**17 35 33.0**	**+0.1**
JSB				*eS*	**Sb**	**17 35 50.2**	**+0.3**
MJAR	**Matsushiro Arr**	**2.78**	**255**	Pn	**Pn**	**17 35 52.8**	**+0.7**
	0.7nm,0.3s,baz=78,slow=16,SNR=32						
MJAR				Sn	**Sb**	**17 36 28.7**	**-2.6**
	0.8nm,0.3s,baz=53,slow=18,SNR=4.7						
	3.1nm,0.3s						
ASAJ	**Asahikawa**	**6.87**	**6**	Pn	**Pn**	**17 36 48.2**	**0.0**
	0.6nm,0.3s,baz=217,slow=11,SNR=9.1						
	1.7nm,0.3s						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**17 40 56.6**	**+0.5**
	0.4nm,0.7s,baz=101,slow=7.5,SNR=3.1						
	0.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	18 10 27.3	
	baz=314,slow=76,SNR=53						
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	18 10 28.7	
	baz=314,slow=76,SNR=67						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	18 10 30.8	
	baz=314,slow=76,SNR=55						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	18 11 22.0	
	baz=316,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	18 11 22.0	
	baz=316,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	18 11 22.8	
	baz=316,slow=76,SNR=30						
ZALV	**Zalesovo Beam**	**41.82**	**312**	P	**P**	**17 42 57.3**	**+0.2**
	0.6nm,0.4s,baz=73,slow=6.7,SNR=4.8						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**17 43 15.9**	**+0.4**
	0.7nm,0.7s,baz=89,slow=9.8,SNR=8.5						
	0.7nm,0.7s						
BATI	**Baumata**	**50.14**	**203**	LR	LR	18 03 03.8	
	comp=Z,121nm,21.7s,baz=58,slow=34						
ARU	**Arti**	**56.24**	**318**	LR	LR	18 09 54.3	
	comp=Z,55nm,18.6s,baz=160,slow=37						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**17 46 10.6**	**+0.2**
	3.4nm,0.9s,baz=41,slow=9.2,SNR=2.8						
	3.4nm,0.9s						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**17 46 44.3**	**+0.4**
	0.2nm,0.4s,baz=43,slow=5.6,SNR=4.1						
	0.2nm,0.4s						

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*IDC **20** 17:36:06.1±1.7, 17.°26S×174.°24W, h88km±16km, mb4.2/15, mbtmp4.5/18, MS3.9/36, Error ellipse: s-maj=20.8km s-min=10.5km az=134.0*
*BJI **20** 17:36:07.0±0.0, 17.°63S×174.°19W, h103km, mb4.7/12, mB5.5/9*
*NEIC **20** 17:36:08.6±2.2, 17.°24S±0.°04×174.°07W±0.°09, h110km±7km, mb5.1/45, Error ellipse: s-maj=13.0km s-min=3.3km az=72.0*
*NOU **20** 17:36:09.2, 16.°86S×173.°63W, h167km, mb4.6/26, Tonga Islands*
*GCMT **20** 17:36:15.6±0.1, 17.°41S±0.°01×173.°71W±0.°01, h150km±1km, MW5.3/139, Moment Tensor Solution. s97,c140; s139,c230; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.46±.02; $M_{\theta\theta}$-0.17±.02; $M_{\phi\phi}$0.63±.02; $M_{r\theta}$0.42±.01; $M_{\theta\phi}$0.08±.02; $M_{\phi r}$0.79±.01; Best double couple: $M_0$1.05700×10^{17} NP1:ϕ_s206.00000°, δ76.00000°, λ-75.00000°. NP2:ϕ_s340.00000°, δ21.00000°, λ-134.00000°. Principal axes: T 1.0990, Plg29.0000°, Azm284.0000°; N -0.0840, Plg14.0000°, Azm22.0000°; P -1.0150, Plg57.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 17:36:08.7±0.5, 17.31S±0.06×174.06W±0.04, h110km±3km, h110km:pP-P, n216, σ1§61/193, mb4.9/41, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.04**	**33**	P	**Pn**	**17 37 08.3**	**-0.3**
	424nm,0.4s,baz=321,slow=0.7,SNR=94						
AFI				S	**Sn**	**17 37 52.6**	**-2.5**
	2µm,0.5s,baz=66,slow=12,SNR=7.6						
NIUE	**Niue**	**4.30**	**115**		**Pn**	**17 37 13.3**	**+1.2**
NIUE				Sn	**Sn**	**17 38 00.8**	**-0.6**
MSVF	**Nonsavu**	**7.54**	**266**	P	Pn	17 38 03.2	+7.2
	28nm,0.6s,baz=95,slow=12,SNR=31						
MSVF	**Nonsavu**	**7.54**	**266**	Pn	Pn	17 38 02.5	+6.5
RAR	**Rarotonga**	**14.04**	**108**	P	**Pn**	**17 39 23.6**	**+0.8**
	42nm,0.8s,baz=275,slow=12,SNR=7.4						
RAR				S	**Sn**	**17 41 53.1**	**-4.4**
	10nm,0.6s,baz=133,slow=19,SNR=1.2						
RAR	**Rarotonga**	**14.04**	**108**	Pn	**Pn**	**17 39 21.8**	**-1.0**
MARNC	**Mare, Loyalty**	**17.39**	**253**	P	**P**	**17 40 03.2**	**-1.0**
MARNC	**Mare, Loyalty**	**17.39**	**253**	P	**P**	**17 40 04.3**	**+0.1**
LIFNC	**LIFOU**	**18.01**	**256**	P	**P**	**17 40 09.4**	**-1.6**
LIFNC	**LIFOU**	**18.01**	**256**	P	**Pn**	**17 40 13.6**	**+1.6**
PINNC	**Pines Island,**	**18.16**	**250**	P	**P**	**17 40 11.6**	**-1.0**
OUENC	**Ouen Island, N**	**18.66**	**251**	P	**P**	**17 40 17.9**	**-0.2**
OUENC	**Ouen Island, N**	**18.66**	**251**	P	**Pn**	**17 40 22.4**	**+2.7**
DZM	**Mont Dzumac**	**18.95**	**252**	P	**P**	**17 40 19.8**	**-1.6**
	3.6nm,0.9s,baz=77,slow=19,SNR=2.6						
DZM				LR	LR	17 46 40.0	
	comp=Z,515nm,21.0s,baz=54,slow=34						
DZM	**Mont Dzumac**	**18.95**	**252**	*e*Pn	**Pn**	**17 40 23.2**	**-0.1**
	70nm,1.7s						
DZM				*e*Sn	**S**	**17 43 49.4**	**-1.6**
DZM	**Mont Dzumac**	**18.95**	**252**	P	**P**	**17 40 21.4**	**0.0**
DZM	**Mont Dzumac**	**18.95**	**252**	P	**Pn**	**17 40 23.1**	**-0.2**
NOUC	**Port Laguerre**	**19.08**	**252**	P	**Pn**	**17 40 25.1**	**+0.4**
KOUNC	**Koumac, New Ca**	**20.73**	**258**	P	**P**	**17 40 39.7**	**-0.8**
MXZ	**Matakaoa Point**	**21.26**	**197**	P	**P**	**17 40 46.0**	**-0.1**
MXZ	**Matakaoa Point**	**21.26**	**197**	P	**P**	**17 40 48.1**	**+2.0**
KUZ	**Kuaotunu**	**21.36**	**203**	P	**P**	**17 40 49.0**	**+1.9**
KUZ	**Kuaotunu**	**21.36**	**203**	P	**P**	**17 40 48.6**	**+1.4**
WIAZ	**Waiheke Island**	**21.62**	**204**	P	**P**	**17 40 51.1**	**+1.1**
ETAZ	**East Tamaki Re**	**21.85**	**204**	P	**P**	**17 40 53.9**	**+1.6**
MKAZ	**Moumakai**	**21.89**	**204**	P	**P**	**17 40 53.5**	**+0.8**
AWAZ	**Awhitu Peninsu**	**22.05**	**205**	P	**P**	**17 40 55.3**	**+0.8**
URZ	**Urewera**	**22.25**	**199**	P	**P**	**17 40 54.7**	**-1.9**
	18nm,0.3s,baz=43,slow=2.4,SNR=41						
URZ				S	**S**	**17 44 47.8**	**-6.3**
	5.6nm,0.7s,baz=156,slow=20,SNR=1.5						
	18nm,0.3s						
URZ	**Urewera**	**22.25**	**199**	P	**P**	**17 40 55.6**	**-1.0**
KMRZ	**Kaimai**	**22.26**	**201**	P	**P**	**17 40 58.9**	**+2.2**
TOZ	**Tahuroa Road**	**22.31**	**202**	P	**P**	**17 40 59.3**	**+2.1**
OMRZ	**Omania**	**22.35**	**200**	P	**P**	**17 40 59.6**	**+2.0**
RTZ	**Ruatahuna**	**22.62**	**198**	P	**P**	**17 40 59.7**	**-0.7**
SNGZ	**Shannon Statio**	**22.67**	**198**	P	**P**	**17 41 03.0**	**+2.2**
RAHZ	**Arahi**	**22.87**	**198**	P	**P**	**17 41 05.5**	**+2.7**
MTHZ	**Maungataniwha**	**22.88**	**199**	P	**P**	**17 41 03.7**	**+0.8**
MTHZ				S	**S**	**17 44 59.9**	**-4.4**
WHHZ	**Waihua**	**22.97**	**198**	P	**P**	**17 41 06.4**	**+2.6**
NMHZ	**Naumai**	**23.12**	**198**	P	**P**	**17 41 07.8**	**+2.5**
NMHZ				S	**S**	**17 45 07.8**	**-0.3**
HIZ	**Hauiti**	**23.24**	**202**	P	**P**	**17 41 05.1**	**-1.1**
BKZ	**Black Stump Fm**	**23.28**	**199**	P	**P**	**17 41 05.8**	**-0.9**
BKZ	**Black Stump Fm**	**23.28**	**199**	P	**P**	**17 41 07.1**	**+0.4**
BKZ	**Black Stump Fm**	**23.28**	**199**	P	**P**	**17 41 06.7**	**+0.1**
BKZ				S	**S**	**17 45 04.6**	**-6.0**
PPT2	**Papeete2**	**23.36**	**94**	*eP*	**P**	**17 41 08.4**	**+0.7**
	473nm,28.2s						
PPT2				*eS*	**S**	**17 45 10.3**	**-2.0**
	2µm,31.2s						
PPT2	**Papeete2**	**23.36**	**94**	*eT*	T	18 04 56.1	
	14nm,0.3s						
PPT	**Papeete**	**23.36**	**94**	LR	LR	17 48 27.5	
	comp=Z,286nm,18.6s,baz=204,slow=32						
MCHZ	**McNeill Hill**	**23.47**	**198**	P	**P**	**17 41 08.7**	**+0.3**
TMVZ	**Te Maari**	**23.48**	**200**	P	**P**	**17 41 10.7**	**+2.1**
KWHZ	**Kaweka Forest**	**23.54**	**199**	P	**P**

ARMA IAmb IAmb 17 42 47.6
comp=Z,64nm,1.8s
ARMA Armidale 33.84 241 P P 17 42 40.2 -0.6
TAOE Nuku Hiva Isla 34.04 80 *e*P **P 17 42 44.3 +1.6**
comp=Z,126nm,28.8s
TAOE *e*S **S 17 48 01.4 +0.9**
comp=Z,125nm,33.6s
TAOE Nuku Hiva Isla 34.04 80 *e*T T 18 18 01.6
comp=Z,212nm,0.3s
TAOE Nuku Hiva Isla 34.04 80 P P 17 42 40.8 -1.9
NTLH Newcastle Hard 34.48 237 P P 17 42 44.6 -1.6
comp=Z,90nm,1.3s
RMQ Roma 35.58 249 P P 17 42 57.3 +1.6
CTA Charters Tower 37.63 259 P P 17 43 10.8 -2.4
comp=Z,4.7nm,0.7s,baz=78,slow=9.8,SNR=12
CTA LR LR 17 56 17.9
comp=Z,259nm,21.1s,baz=83,slow=32
comp=Z,4.7nm,0.7s
CTA Charters Tower 37.63 259 P P 17 43 11.3 -1.9
CTAO Charters Tower 37.63 259 P P 17 43 11.2 -2.0
CTAO Charters Tower 37.63 259 P P 17 43 11.3 -1.9
CTAO Charters Tower 37.63 259 P P 17 43 11.4 -1.8
CTAO sP **sP 17 43 50.3 +0.5**
CMSA Cobar Meteorol 39.05 241 P P 17 43 23.7 -1.3
H11S2 WAKE ISLAND Hy 40.30 331 T T 18 27 12.9
baz=148
H11S3 WAKE ISLAND Hy 40.31 331 T T 18 27 07.7
baz=148,slow=74
H11S1 WAKE ISLAND Hy 40.31 331 T T 18 27 18.0
baz=148,slow=74
TOO Toolangi 40.78 232 P P 17 43 39.4 +0.2
TOO IAmb IAmb 17 43 43.3
comp=Z,71nm,1.6s
TOO Toolangi 40.78 232 P P 17 43 39.0 -0.2
H11N3 WAKE ISLAND Hy 41.27 332 T T 18 28 27.1
baz=151,slow=76
H11N1 WAKE ISLAND Hy 41.28 332 T T 18 28 38.3
baz=151,slow=76
H11N2 WAKE ISLAND Hy 41.29 332 T T 18 28 27.2
baz=151,slow=76
STKA Stephens Creek 42.55 242 P P 17 43 52.4 -1.3
comp=Z,9.9nm,0.9s,baz=88,slow=11,SNR=19
comp=Z,9.9nm,0.9s
STKA Stephens Creek 42.55 242 P P 17 43 52.4 -1.3
STKA Stephens Creek 42.55 242 P P 17 43 52.7 -1.0
INKA Innaminka 42.81 248 P P 17 43 55.0 -0.8
ARPS Mount Arapiles 43.35 234 P P 17 43 59.7 -0.4
HTT Hallett 45.02 240 P P 17 44 13.0 -0.5
LCRK Leigh Creek 45.24 244 P P 17 44 14.6 -0.6
OOD Oodnadatta 47.28 248 P P 17 44 31.1 -0.2
BBOO Buckleboo 47.32 241 P P 17 44 29.8 -1.7
BBOO Buckleboo 47.32 241 P P 17 44 30.7 -0.8
WB0 Warramunga Arr 48.78 259 P P 17 44 41.0 -2.0
WB0 IAmb IAmb 17 44 44.1
comp=Z,35nm,1.6s
WB2 Warramunga Arr 48.80 258 P P 17 44 40.6 -2.4
WB2 IAmb IAmb 17 44 44.4
comp=Z,14nm,1.0s
WRAB Tennant Creek 48.80 258 P P 17 44 41.0 -2.1
WRA Warramunga Arr 48.81 258 P P 17 44 40.7 -2.5
comp=Z,3.8nm,0.4s,baz=96,slow=6.9,SNR=27
WRA ScP **ScP 17 49 50.6 -0.9**
comp=Z,0.9nm,0.9s,baz=94,slow=3.1,SNR=4.0
comp=Z,3.8nm,0.4s
WRA Warramunga Arr 48.81 258 P P 17 44 40.5 -2.7
AS31 Alice Springs 48.94 253 P P 17 44 42.0 -2.1
ASAR Alice Springs 48.94 253 P P 17 44 42.6 -1.5
comp=Z,26nm,0.6s,baz=89,slow=8.3,SNR=82
ASAR LR LR 18 03 00.6
comp=Z,147nm,20.9s,baz=94,slow=33
comp=Z,26nm,0.6s
ASAR Alice Springs 48.94 253 P P 17 44 42.4 -1.7
GUMO Guam 50.86 305 LR LR 18 04 41.5
comp=Z,24nm,18.6s,baz=110,slow=34
FORT Forrest 54.00 244 P P 17 45 20.9 -0.8
FORT IAmb IAmb 17 46 09.3
comp=Z,28nm,1.1s
KNRA Kununurra 54.67 263 P P 17 45 26.6 -0.1
SIJI Sorong 56.17 281 P P 17 45 36.3 -1.2
comp=Z,29nm,0.8s,baz=70,slow=8.5,SNR=9.6
comp=Z,29nm,0.8s
RPN Rapa Nui 60.16 112 LR LR 18 05 35.2
comp=Z,136nm,20.6s,baz=249,slow=29
SOEI Soe 60.22 269 P P 17 46 04.0 -1.9
SOEI IAmb IAmb 17 46 58.6
comp=Z,23nm,0.8s
SBA Scott Base 61.30 185 P P 17 46 11.4 -0.7
SBA Scott Base 61.30 185 P P 17 46 14.2 +2.2
SBA pP **pP 17 46 43.1 +4.4**
SBA sP **PcP 17 46 57.0 +3.6**
VNDA Vanda 61.42 186 P P 17 46 12.8 -0.1
comp=Z,0.9nm,0.7s,baz=8.0,slow=5.9,SNR=5.9
comp=Z,0.9nm,0.7s
VNDA Vanda 61.42 186 P P 17 46 11.9 -0.9
VNDA IAmb IAmb 17 48 06.7
comp=Z,18nm,1.8s
VNDA Vanda 61.42 186 P P 17 46 14.0 +1.2
VNDA pP **pP 17 46 41.3 +1.9**
PSA00 Pilbara Seismi 62.06 254 P P 17 46 18.3 +0.2
NWAO Narrogin (SRO) 63.14 241 LR LR 18 10 27.0
comp=Z,143nm,21.0s,slow=33
LUWI Luwuk 64.12 277 P P 17 46 31.3 -0.5
LUWI IAmb IAmb 17 46 35.4
comp=Z,28nm,0.8s
CCD Concordia, Ant 66.47 195 P P 17 46 46.9 +0.5
CCD pP **PcP 17 47 16.6 +1.5**
TOLI2 Tolitoli 66.70 279 P P 17 46 49.0 +0.6
MJAR Matsushiro Arr 69.99 321 LR LR 18 11 17.9
comp=Z,53nm,21.8s,baz=132,slow=30
SHEM Shemya Is, Ala 70.50 352 LR LR 18 10 37.4
comp=Z,83nm,22.0s,baz=110,slow=29
JNU Nakatsue 72.65 314 LR LR 18 12 52.8
comp=Z,48nm,20.0s,baz=103,slow=30
QSPA South Pole Qui 72.74 180 LR LR 18 15 48.0
comp=Z,38nm,19.9s,baz=74,slow=33
QSPA South Pole Qui 72.74 180 P P 17 47 25.2 +0.5
ASAJ Asahikawa 72.83 329 LR LR 18 12 53.4
comp=Z,64nm,21.9s,baz=334,slow=30
UGM Wanagama 73.81 267 P P 17 47 31.1 -0.8
CBX Cerro Bola 73.83 48 P P 17 47 30.8 -0.9
CBX IAmb IAmb 17 48 32.2
comp=Z,16nm,0.8s
PEA0B Petropavlovsk- 74.25 343 P P 17 47 32.7 -0.7
PEA0B IAmb IAmb 17 48 35.9
comp=Z,59nm,1.4s
PETK Petropavlovsk- 74.25 343 P P 17 47 33.1 -0.4
comp=Z,2.0nm,0.9s,baz=113,slow=8.4,SNR=4.6
PETK LR LR 18 13 01.2
comp=Z,60nm,21.5s,baz=153,slow=30
comp=Z,2.0nm,0.9s
LPIG La Paz 74.58 58 LR LR 18 14 21.9
comp=Z,71nm,18.0s,baz=190,slow=31
PFO Pinyon Flats O 74.69 47 LR LR 18 14 04.1
comp=Z,95nm,20.6s,baz=207,slow=30
YBH Yreka Blue Hor 75.50 37 LR LR 18 15 48.0
comp=Z,102nm,20.2s,baz=302,slow=32
NVAR Mina Array Bea 76.17 42 P P 17 47 46.0 +0.9
comp=Z,1.5nm,0.7s,baz=234,slow=9.4,SNR=4.6
comp=Z,1.5nm,0.7s
LEM Lembang 76.88 267 P P 17 47 48.8 -0.8
comp=Z,16nm,0.7s,baz=126,slow=8.9,SNR=5.3
comp=Z,16nm,0.7s
KSRS Korea Array 77.08 316 LR LR 18 18 45.6
comp=Z,19nm,19.5s,baz=120,slow=33
NJ2 Nanjing 80.81 308 ⍰P **P 17 48 12.6 +2.1**
NJ2 pP **pP 17 48 36.5 -1.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KLR Kul'dur 81.78 328 LR LR 18 17 17.5
comp=Z,36nm,21.1s,baz=137,slow=30
TXAR Lajitas Array 82.20 56 P P 17 48 18.9 +0.8
comp=Z,1.4nm,1.0s,baz=216,slow=10,SNR=9.1
TXAR LR LR 18 18 58.5
comp=Z,49nm,19.3s,baz=269,slow=31
comp=Z,1.4nm,1.0s
ANMO Albuquerque 82.51 50 LR LR 18 19 35.2
comp=Z,48nm,18.6s,baz=344,slow=32
NEW Newport 82.64 34 LR LR 18 19 59.2
comp=Z,104nm,18.9s,baz=252,slow=32
PMSA Palmer Station 82.69 156 LR LR 18 18 31.3
comp=Z,42nm,19.6s,baz=274,slow=31
SMCO Snowmass 84.09 46 P P 17 48 27.9 0.0
HDA Harding Lake 84.10 11 P P 17 48 27.0 +0.2
BW06 Boulder Array 84.11 42 P P 17 48 26.4 -1.3
BW06 IAmb IAmb 17 49 42.8
comp=Z,7.8nm,0.5s

PD31 Pinedale Array 84.11 42 P P 17 48 27.2 -0.5
PD31 IAmb IAmb 17 49 42.8
comp=Z,6.3nm,0.5s
PDAR Pinedale Array 84.11 42 P P 17 48 27.9 +0.2
comp=Z,2.6nm,0.8s,baz=209,slow=3.1,SNR=22
PDAR LR LR 18 19 51.6
comp=Z,62nm,20.4s,baz=286,slow=31
comp=Z,2.6nm,0.8s
PDAR Pinedale Array 84.11 42 P P 17 48 27.3 -0.3
CCB Clear Creek Bu 84.15 11 P P 17 48 26.4 -0.6
YMR Madison River 84.19 40 P P 17 48 28.4 +0.3
ILAR Eielson Array 84.44 11 P P 17 48 28.3 -0.2
comp=Z,0.9nm,0.8s,baz=235,slow=6.2,SNR=11
comp=Z,0.9nm,0.8s
CMIG Matias Romero 85.12 71 LR LR 18 19 25.0
comp=Z,92nm,18.1s,baz=200,slow=30
PLCA Paso Flores 88.70 132 LR LR 18 21 15.5
comp=Z,98nm,19.5s,baz=213,slow=30
HHC Hu-ho-hao-te 89.86 313 *e*P **P 17 48 57.8 +2.4**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.4s
ELIB Princess Elisa 90.18 185 *d*P **P 17 48 56.2 -0.3**
SNAA Sanae 91.04 177 LR LR 18 27 11.1
comp=Z,39nm,19.4s,baz=258,slow=34
JTS Las Juntas de 92.17 80 LR LR 18 22 33.8
comp=Z,104nm,18.2s,baz=270,slow=30
PZH PanZhiHua 92.56 297 P P 17 49 11.4 +3.1
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.9s
CMAR Chiang Mai Air 92.61 288 P P 17 49 08.9 +0.4
comp=Z,0.5nm,0.7s,baz=71,slow=2.1,SNR=7.7
CMAR LR LR 18 27 32.9
comp=Z,21nm,21.6s,baz=120,slow=33
comp=Z,0.5nm,0.7s
NNA Nana 93.24 104 LR LR 18 22 48.6
comp=Z,62nm,18.6s,baz=289,slow=30
ATAH Atahualpa 93.28 98 LR LR 18 21 49.9
comp=Z,135nm,19.8s,baz=262,slow=29
LZH Lanzhou 93.84 306 *e*P **P 17 49 17.1 +3.1**
LZH pmax pmax
comp=Z,11nm,1.0s
CFA Coronel Fontan 93.90 125 LR LR 18 22 41.4
comp=Z,112nm,19.8s,baz=182,slow=30
ULM Lac du Bonnet 95.81 39 LR LR 18 28 44.0
comp=Z,58nm,21.2s,baz=355,slow=33
SONM Songino Array 95.84 318 LR LR 18 27 16.6
comp=Z,18nm,19.6s,baz=83,slow=32
LVC Limon Verde 96.76 116 LR LR 18 23 32.1
comp=Z,86nm,20.8s,baz=226,slow=29
LPAZ La Paz 99.75 110 LR LR 18 25 29.3
comp=Z,66nm,21.1s,baz=258,slow=30
MKAR Makanchi Array 111.70 314 PKiKP **PKiKP 17 54 29.9 -0.5**
comp=Z,0.4nm,0.7s,baz=108,slow=0.5,SNR=4.0
KURBB Kurchatov Arra 114.21 318 PKiKP **PKiKP 17 54 35.7 +0.7**
comp=Z,0.3nm,0.3s,baz=82,slow=2.5,SNR=1.4
OSTC Ostas 145.83 348 *e*PKP **PKiKP 17 55 40.9 +2.4**
OSTC *ex* x 17 56 15.5
BRG Berggiesshubel 145.91 351 *e*PKP **PKiKP 17 55 40.7 +2.1**
BRG Amp 17 55 42.3
comp=Z,8.5nm,1.4s
BRG pPKP sPKPbc 17 56 15.3 -0.2
BRG Amp 17 56 18.3
comp=Z,5.5nm,1.1s
DPC Dobruska-Polom 146.00 348 *e*PKP **PKiKP 17 55 39.1 +0.2**
KRLC Kraliky 146.17 347 *e*PKP **PKiKP 17 55 39.0 -0.3**
BRTR Keskin Array B 147.20 319 PKPbc **PKPbc 17 55 38.4 -1.1**
comp=Z,1.8nm,0.9s,baz=116,slow=3.4,SNR=7.1
KHC Kasperske Hory 147.66 351 *e*PKP **PKiKP 17 55 42.2 -0.2**
KHC *es*PKP 17 56 20.2
KHC *ex* x 17 56 33.5
CKRC Cesky Krumlov 147.84 350 *e*PKP **PKPab 17 55 45.1 +1.5**
CKRC *ex* x 17 56 21.0
GERES GERESS Array B 147.92 350 PKPbc **PKPbc 17 55 41.0 -0.2**
comp=Z,0.9nm,0.8s,baz=62,slow=3.2,SNR=5.1
CONA Conrad Observa 148.40 347 *e*PKP **PKPdf 17 55 40.0 +1.2**
comp=Z,7.4nm,1.5s
CONA *ep*PKP **sPKPdf 17 56 19.3 -0.1**
comp=Z,3.8nm,1.1s
RONA Rosalia, Austr 148.52 347 *e*PKP **PKPbc 17 55 40.9 -1.8**
comp=Z,4.8nm,1.0s
RONA *ep*PKP **sPKPbc 17 56 21.9 -1.2**
comp=Z,4.9nm,0.8s
MOA Molln 148.79 349 *ep*PKP sPKPbc 17 56 24.2 +0.5
comp=Z,7.1nm,1.6s
BIOA Bad Ischl, Aus 149.05 350 *ep*PKP sPKPbc 17 56 24.6 +0.2
comp=Z,3.4nm,0.8s
ARSA Arzberg 149.12 347 *e*PKP **PKPbc 17 55 43.5 -0.7**
comp=Z,1.0nm,0.5s
ARSA *ep*PKP **sPKPbc 17 56 23.2 -1.4**
comp=Z,3.2nm,0.9s
RETA Reutte 149.65 354 *ep*PKP sPKPbc 17 56 24.7 -1.4
comp=Z,5.7nm,1.0s
MOTA Moosalm 149.75 353 *e*PKP **PKPbc 17 55 44.1 -1.8**
comp=Z,5.1nm,1.3s
MOTA *ep*PKP **sPKPbc 17 56 25.5 -0.8**
comp=Z,11nm,1.2s
SOKA Soboth 149.76 348 *ep*PKP sPKPbc 17 56 26.1 -0.2
comp=Z,6.0nm,1.5s
WTTA Wattenberg 149.76 352 *e*PKiKP **PKPbc 17 55 46.2 +0.2**
comp=Z,3.7nm,0.6s
SQTA Sankt Quirin 149.86 353 *ep*PKP sPKPbc 17 56 25.0 -1.6
comp=Z,7.5nm,1.4s
DAVA Damuels 149.93 355 *ep*PKP sPKPbc 17 56 25.1 -1.8
comp=Z,8.2nm,1.2s
FETA Feichten 150.11 353 *e*PKiKP **PKPbc 17 55 47.0 +0.2**
comp=Z,5.7nm,1.0s
ABTA Abfaltersbach 150.15 351 *e*PKiKP **PKPbc 17 55 46.8 0.0**
comp=Z,8.2nm,1.1s
ABTA *ep*PKP **sPKPbc 17 56 26.2 -1.0**
comp=Z,6.7nm,1.2s

*IDC **20** 17:37:07.1±5.2, 4.°06N×127.°78E, h117km±61km, mb3.1/5, mbtmp3.6/6, Error ellipse: s-maj=117.3km s-min=19.0km az=71.0*
ISC 20 17:37:05.8±1.0, **4.°0N**±0.°3×**127.°6E**±0.°4, **h100**km, **n6,**
σ1**9**38/7, **mb3.3**/5, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.10**	**143**	P	**Pn**	**17 38 35.4**	**+1.8**
	11nm,0.3s,baz=198,slow=23,SNR=32						
SIJI				S	**Sn**	**17 39 40.1**	**-2.0**
	3.8nm,0.4s,baz=129,slow=23,SNR=5.6						
WRA	**Warramunga Arr**	**24.72**	**165**	P	**P**	**17 42 17.8**	**-0.2**
	0.5nm,0.5s,baz=344,slow=10,SNR=8.9						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**28.20**	**168**	P	**P**	**17 42 49.1**	**-0.1**
	0.3nm,0.5s,baz=352,slow=7.2,SNR=26						
	0.3nm,0.5s						
SONM	**Songino Array**	**47.30**	**341**	P	**P**	**17 45 29.2**	**-0.2**
	0.2nm,0.4s,baz=144,slow=10.0,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**57.80**	**325**	P	**P**	**17 46 46.6**	**-0.2**
	0.4nm,0.5s,baz=119,slow=8.0,SNR=10						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**61.95**	**327**	P	**P**	**17 47 14.7**	**-0.4**
	0.3nm,0.5s,baz=122,slow=6.1,SNR=3.2						
	0.3nm,0.5s						

*IDC **20** 17:40:25.5±1.1, 8.°70S×125.°55E, h0km, mb4.1/6, mbtmp4.1/9, ML3.7/3, MS2.8/3, Error ellipse: s-maj=34.2km s-min=21.8km az=88.0*
*DJA **20** 17:40:30.5±0.3, 9.°S±3.°×12.°5E±.°, h10km, M4.2/13, mb4.3/10, mB5.5/2, MLv4.1/13, Mw(mB)4.9/2*
*NEIC **20** 17:40:32±2.0, 8.°96S±0.°07×125.°09E±0.°07, h40km±9km, mb4.3/8, Error ellipse: s-maj=10.8km s-min=9.4km az=121.0*
ISC 20 17:40:30.3±0.7, **8.°84S**±0.°07×**125.°48E**±0.°08, **h35**km, **n46,**
σ1**9**92/41, **mb4.2**/9, **Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.50**	**233**		**Pn**	**17 40 53.9**	**-1.0**
SOEI	**Soe**	**1.50**	**233**	P	**Pn**	**17 40 54.5**	**-0.4**
BATI	**Baumata**	**2.25**	**233**	Pn	**Pn**	**17 41 06.0**	**+0.9**
	20nm,0.3s,baz=82,slow=1.6,SNR=7.5						
BATI				Sn	**Sn**	**17 41 35.6**	**+4.0**
	14nm,0.3s,baz=231,slow=23,SNR=3.7						
BATI				LR	LR	17 42 07.5	
	comp=Z,108nm,18.3s,baz=121,slow=43						
	76nm,0.5s						
BATI	**Baumata**	**2.25**	**233**	P	**Pn**	**17 41 06.3**	**+1.3**
MMRI	**Maumere**	**3.21**	**273**		**Pn**	**17 41 14.3**	**-3.9**
MMRI	**Maumere**	**3.21**	**273**	P	**Pn**	**17 41 14.9**	**-3.4**
BASI	**Baing, Sumba**	**5.02**	**254**	P	**Pn**	**17 41 40.6**	**-2.6**
BSSI	**Bau Bau, Buton**	**5.63**	**298**	P	**Pn**	**17 41 48.9**	**-2.6**
	43nm,1.6s,0.2nm						
AAI	**Ambon**	**5.79**	**28**	P	Pn	17 42 00.7	+6.9
	16nm,0.8s,0.1nm						
NLAI	**Namlea**	**5.79**	**16**	P	Pn	17 42 00.7	+6.9
	11nm,0.5s,11µm0.1nm						
SAUI	**Saumlaki**	**5.82**	**82**	P	Pn	17 42 03.5	+9.3
	43nm,0.7s,0.3nm						
SANI	**Sanana**	**6.77**	**4**	P	**Pn**	**17 42 11.5**	**+4.3**
	14nm,1.0s,0.1nm						
MTN	**Manton Dam**	**6.83**	**126**		Pn	17 42 12.4	+4.3
KNRA	**Kununurra**	**7.51**	**155**	Pn	**Pn**	**17 42 19.0**	**+1.6**
PLAI	**Plampang**	**7.61**	**270**	P	**Pn**	**17 42 15.8**	**-3.0**
	38nm,0.7s,0.1nm						
LUWI	**Luwuk**	**8.20**	**341**	Pn	**Pn**	**17 42 26.8**	**-0.1**
LUWI	**Luwuk**	**8.20**	**341**	P	**Pn**	**17 42 27.9**	**+1.0**
	24nm,0.8s						
TWSI	**Taliwang, Sumb**	**8.50**	**270**	P	**Pn**	**17 42 28.3**	**-2.7**
	10nm,0.6s						
FAKI	**Fak Fak**	**8.94**	**49**	Pn	Pn	17 42 44.6	+7.6
FITZ	**Fitzroy Crossi**	**9.20**	**179**		**Pn**	**17 42 40.5**	**-0.1**
SIJI	**Sorong**	**9.79**	**36**	LR	LR	17 46 38.7	
	comp=Z,92nm,19.4s,baz=146,slow=39						
TOLI2	**Tolitoli**	**10.94**	**334**	Pn	**Pn**	**17 43 06.5**	**+2.0**
WB0	**Warramunga Arr**	**13.87**	**142**		**Pn**	**17 43 43.1**	**-1.4**
WRA	**Warramunga Arr**	**13.97**	**143**	Pn	**Pn**	**17 43 44.5**	**-1.5**
	0.5nm,0.3s,baz=316,slow=13,SNR=22						
WRA				Sn	**Sn**	**17 46 17.1**	**-2.7**
	0.2nm,0.3s,baz=96,slow=8.9,SNR=1.0						
	3.8nm,0.7s						
WRA	**Warramunga Arr**	**13.97**	**143**		**Pn**	**17 43 43.5**	**-2.5**
WB2	**Warramunga Arr**	**13.98**	**143**		**Pn**	**17 43 44.4**	**-1.6**
WR0	**Warramunga Arr**	**14.11**	**143**		**Pn**	**17 43 46.0**	**-1.7**
AS31	**Alice Springs**	**16.80**	**152**	P	**Pn**	**17 44 21.9**	**-1.1**
ASAR	**Alice Springs**	**16.80**	**152**	Pn	**Pn**	**17 44 22.5**	**-0.5**
	0.2nm,0.3s,baz=320,slow=10,SNR=18						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.70**	**316**	LR	LR	18 05 16.3	
	comp=Z,15nm,18.1s,baz=115,slow=40						
LSA	**Lhasa**	**50.59**	**321**	P	**P**	**17 49 26.3**	**-0.1**
LSA				IAmb	IAmb	17 49 29.5	
	comp=Z,3.7nm,1.2s						
SONM	**Songino Array**	**58.91**	**345**	P	**P**	**17 50 25.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=157,slow=9.2,SNR=1.6						
	comp=Z,1.1nm,0.7s						
MK31	**Makanchi Array**	**67.41**	**329**	P	**P**	**17 51 22.4**	**+0.1**
MKAR	**Makanchi Array**	**67.41**	**329**	P	**P**	**17 51 22.8**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=133,slow=6.8,SNR=60						
	comp=Z,3.3nm,0.5s						
MAKZ	**Makanchi**	**67.58**	**329**	P	**P**	**17 51 23.5**	**+0.1**
AAK	**Ala-Archa**	**69.14**	**322**	P	**P**	**17 51 33.9**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=125,slow=4.7,SNR=11						
	comp=Z,1.5nm,0.5s						
AAK	**Ala-Archa**	**69.14**	**322**	P	**P**	**17 51 33.3**	**-0.1**
AAK				IAmb	IAmb	17 51 34.9	
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**71.34**	**336**	P	**P**	**17 51 45.6**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=140,slow=5.2,SNR=6.7						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**71.34**	**336**	P	**P**	**17 51 46.2**	**-0.2**
KURBB	**Kurchatov Arra**	**71.82**	**331**	P	**P**	**17 51 49.4**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=142,slow=5.3,SNR=15						
	comp=Z,1.8nm,0.7s						
KURK	**Kurchatov**	**71.84**	**331**	P	**P**	**17 51 48.7**	**-0.7**
KURK				IAmb	IAmb	17 51 50.2	
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**77.30**	**329**	P	**P**	**17 52 20.7**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=123,slow=11,SNR=4.8						
	comp=Z,0.6nm,0.6s						
QSPA	**South Pole Qui**	**81.15**	**180**	P	**P**	**17 52 45.1**	**+3.0**
QSPA				IAmb	IAmb	17 53 16.3	
	comp=Z,4.2nm,1.4s						
ABKAR	**Akbulak array**	**81.21**	**323**	P	**P**	**17 52 41.9**	**-0.7**
ABKAR	**Akbulak array**	**81.21**	**323**	P	**P**	**17 52 42.2**	**-0.3**
CPUP	**Villa Florida**	**144.93**	**176**	PKPbc	**PKPdf**	**18 00 05.6**	**+1.0**
	comp=Z,3.0nm,0.7s,baz=116,slow=3.1,SNR=5.8						

*UPP **20** 18:05:06.6±0.1, 67.°08N×20.°94E, h0km, ML2.3, Suspected explosion*
*IDC **20** 18:05:06.7±1.0, 67.°03N×21.°52E, h0km, mbtmp3.0/4, ML1.9/4, Error ellipse: s-maj=17.6km s-min=7.2km az=106.0*
*HEL **20** 18:05:07.4±0.3, 67.°10N×21.°06E, h0km, ML2.1, Explosion*
ISC 20 18:05:06.3±0.8, **67.°09N**±0.°02×**20.°93E**±0.°03, **h0**km, **n43,**
σ1**9**26/61, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.14**	**283**	P	**Pg**	**18 05 09.8**	**+0.7**
DUNU				S	**Sg**	**18 05 11.8**	**+1.0**
MASU	**Masugnsbyn**	**0.56**	**48**	P	**Pg**	**18 05 17.3**	**+0.4**
ERTU	**Ertsjaerv**	**0.73**	**137**	P	**Pg**	**18 05 20.1**	**-0.2**
ERTU	**Ertsjaerv**	**0.73**	**137**	PG	**Pg**	**18 05 20.0**	**-0.3**
PAJU	**Pajala**	**0.86**	**93**	P	**Pg**	**18 05 22.5**	**-0.3**
RATU	**Laukkuluspa**	**0.90**	**326**	P	**Pg**	**18 05 23.5**	**0.0**
HARU	**Harads**	**0.93**	**179**	P	**Pg**	**18 05 23.6**	**-0.4**
SALU	**Saltoluokta**	**0.99**	**288**	P	**Pg**	**18 05 25.1**	**0.0**
LANU	**Lannavaara**	**1.05**	**22**	P	**Pg**	**18 05 25.9**	**-0.4**
LANU	**Lannavaara**	**1.05**	**22**	PG	**Pg**	**18 05 25.8**	**-0.5**
LANU				SN	**Sn**	**18 05 43.1**	**-0.5**
NIKU	**Nikkaluokta**	**1.07**	**318**	P	**Pg**	**18 05 26.5**	**-0.2**
KOVU	**Salmi**	**1.18**	**346**	P	**Pg**	**18 05 28.6**	**-0.2**
KALU	**Kalix**	**1.57**	**141**	P	**Pn**	**18 05 35.0**	**-0.3**
KALU	**Kalix**	**1.57**	**141**	PG	**Pn**	**18 05 35.1**	**-0.3**
	baz=323						
KALU				SN	**Sg**	**18 05 58.9**	**+2.1**
SJUU	**Sjulsmark**	**1.61**	**170**	P	**Pb**	**18 05 36.7**	**-0.2**
HEF	**Hetta**	**1.69**	**37**	*e*P	**Pn**	**18 05 37.2**	**+0.3**
HEF	**Hetta**	**1.69**	**37**	PG	**Pn**	**18 05 37.0**	**+0.1**
	baz=223						
HEF				MSG		18 05 56.6	
	comp=Z,19nm,0.2s						
TOF	**Tornio**	**1.69**	**125**	PG	**Pn**	**18 05 37.3**	**+0.3**
	baz=306						
TOF				MSG		18 05 56.9	
	comp=Z,12nm,0.2s						
TOF				SN	**Sb**	**18 06 00.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.93**	**359**	PG	**Pb**	**18 05 42.1**	**-0.1**
KIF				MSG		18 06 05.7	
	comp=Z,26nm,0.2s						
KIF				SG	**Sg**	**18 06 09.0**	**+1.0**
RNF	**Rovaniemi**	**2.07**	**101**	PG	**Pn**	**18 05 43.4**	**+1.2**
RNF				SG	**Sb**	**18 06 10.6**	**-0.3**
KTK1	**Kautokeino**	**2.12**	**23**	*e*P	**Pb**	**18 05 44.7**	**-0.8**
KTK1	**Kautokeino**	**2.12**	**23**	PG	**Pb**	**18 05 45.0**	**-0.5**
KTK1				SG	**Sg**	**18 06 14.2**	**0.0**
SGF	**Sodankyl**	**2.20**	**78**	PG	**Pn**	**18 05 45.4**	**+1.4**
SGF				SG	**Sn**	**18 06 12.5**	**+0.5**
BURU	**Burvik**	**2.52**	**176**	PB	**Pn**	**18 05 49.6**	**+1.1**
BURU				SG	**Sg**	**18 06 25.7**	**-1.5**
TRO	**Tromso**	**2.66**	**345**	PG	**Pb**	**18 05 54.6**	**-0.1**
TRO				SG	**Sg**	**18 06 30.3**	**-1.3**
OBF4	**Vikkela, Lumij**	**2.85**	**141**	PN	**Pn**	**18 05 54.1**	**+1.1**
OBF4				MSG		18 06 30.6	
	comp=Z,4.1nm,0.2s						
OUL	**Oulu**	**2.85**	**133**	PB	**Pn**	**18 05 54.9**	**+1.9**
	baz=313						
OUL				SG	**Sb**	**18 06 33.2**	**-0.3**
OBF0	**Syolatti, Pyha**	**2.94**	**151**	PB	**Pn**	**18 05 56.2**	**+2.1**
OBF0				MSG		18 06 33.2	
	comp=Z,4.7nm,0.2s						
ARCES	**ARCESS Array B**	**2.99**	**33**	Pn	**Pn**	**18 05 54.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=208,slow=14,SNR=16						
ARCES				Sn	**Sn**	**18 06 29.8**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=6.4						
ARCES				Lg	Lg	18 06 37.9	
	comp=Z,0.6nm,0.3s,baz=213,slow=26,SNR=6.9						
	comp=Z,0.8nm,0.3s						
ARA0	**ARCESS Array S**	**2.99**	**33**	PN	**Pn**	**18 05 55.3**	**+0.5**
	baz=214						
ARA0				SN	**Sn**	**18 06 30.3**	**-1.0**
OUF	**Merijarvi**	**3.15**	**148**	PB	**Pn**	**18 05 58.7**	**+1.6**
OUF				MSG		18 06 39

OLKF	**Oulanka, Finla**	**3.46 99**	PN	**Pn**	**18 06 02.6**	**+1.3**
OLKF			SB	**Sn**	**18 06 45.9**	**+3.1**
MSF	**Maaselka**	**3.46 106**	PB	**Pn**	**18 06 03.7**	**+2.4**
	baz=291					
KEV	**Kevo**	**3.50 37**	PN	**Pn**	**18 06 03.6**	**+1.8**
KEV			SG	**Sb**	**18 06 54.2**	**+2.4**
KU6	**Riekki**	**3.74 102**	PN	**Pn**	**18 06 06.2**	**+1.1**
	baz=294					
KU6			SG	**Sb**	**18 06 58.4**	**-0.4**
HUSU	**Husum**	**3.83 192**	PN	**Pn**	**18 06 07.7**	**+1.3**
VAF	**Ylistaro**	**4.13 169**	PN	**Pn**	**18 06 11.9**	**+1.4**
RMF	**Romuvaara**	**4.71 124**	PN	**Pn**	**18 06 20.5**	**+2.0**
FINES	**FINESS Array B**	**6.09 156**	Pn	**Pn**	**18 06 36.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=345,slow=13,SNR=8.8					
FINES			Sn	**Sn**	**18 07 44.5**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=346,slow=25,SNR=1.5					
FINES			Lg	Lg	18 08 12.5	
	comp=Z,0.2nm,0.3s,baz=346,slow=29,SNR=1.3					
	comp=Z,1.5nm,0.7s					
NOA	**NORSAR Array B**	**7.41 220**	Pn	**Pn**	**18 06 55.1**	**-0.5**
	baz=38,slow=5.8,SNR=4.8					
	comp=Z,0.6nm,0.9s					
HFS	**Hagfors**	**7.68 208**	Pn	**Pn**	**18 06 59.0**	**-0.3**
	baz=24,slow=14,SNR=1.2					
	comp=Z,3.4nm,1.0s					

ROM 20 18:39:36.5±0.1, 41°.709N±0'.006×14°.202E±0'.007, h10km, ML1.4/6, 5C-1D, Error ellipse: s-maj=0.7km s-min=0.5km az=201.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RNI2	**Rionero Sannit**	**0.04**	**260**	⇑*i* P	Pg	18 39 39.1	+0.4
RNI2				S	Sg	18 39 40.8	+0.7
RNI2				AML	AML		
	comp=N,2225μm,0.1s						
RNI2				AML	AML		
	comp=E,1250μm,0.1s						
RNI2				AML	AML		
	comp=N,2395μm,0.1s						
RNI2				AML	AML		
	comp=E,1175μm,0.1s						
MIDA	**Miranda**	**0.08**	**150**	⇑*i* P	Pg	18 39 39.3	+0.3
MIDA				S	Sg	18 39 40.6	-0.1
MIDA				AML	AML		
	comp=E,603μm,0.4s						
MIDA				AML	AML		
	comp=N,620μm,1.0s						
CERA	**Filignano**	**0.18**	**231**	⇑*i* P	Pg	18 39 41.1	+0.7
CERA				AML	AML		
	comp=E,112μm,0.7s						
CERA				AML	AML		
	comp=N,74μm,0.5s						
CERA				AML	AML		
	comp=N,74μm,0.5s						
CERA				AML	AML		
	comp=E,110μm,0.7s						
CERA				AML	AML		
	comp=E,110μm,1.3s						
CERA				AML	AML		
	comp=E,112μm,1.3s						
CERA				AML	AML		
	comp=N,84μm,0.5s						
TRIV	**Trivento**	**0.27**	**77**	*e*P	Pg	18 39 42.6	+0.6
TRIV				S	Sb	18 39 47.5	-0.5
VAGA	**Valle Agricola**	**0.29**	**175**	*e*P	Pg	18 39 43.0	+0.5
VAGA				AML	AML		
	comp=E,96μm,0.5s						
VAGA				AML	AML		
	comp=N,98μm,0.5s						
VAGA				AML	AML		
	comp=E,94μm,0.5s						
VAGA				AML	AML		
	comp=E,96μm,0.5s						
VAGA				AML	AML		
	comp=N,99μm,0.5s						
LPEL	**Lama dei Pelig**	**0.34**	**358**	*e*P	Pg	18 39 43.5	+0.2
LPEL				S	Sg	18 39 48.9	+1.0
LPEL				AML	AML		
	comp=E,139μm,1.4s						
LPEL				AML	AML		
	comp=N,136μm,1.4s						
SGG	**Gregorio Mates**	**0.35**	**158**	*e*P	Pg	18 39 44.1	+0.7
SGG				S	Sb	18 39 49.7	-0.7
POFI	**Posta Fibreno**	**0.37**	**272**	⇑*i* P	Pg	18 39 44.3	+0.5
POFI				S	Sb	18 39 49.9	-1.1
POFI				AML	AML		
	comp=E,47μm,0.5s						
POFI				AML	AML		
	comp=N,60μm,1.5s						
POFI				AML	AML		
	comp=N,60μm,0.5s						
POFI				AML	AML		
	comp=E,47μm,0.5s						
VVLD	**Villa Vallelon**	**0.46**	**291**	⇑*i* P	Pg	18 39 45.7	0.0
VVLD				S	Sb	18 39 53.0	-0.8
VVLD				AML	AML		
	comp=N,69μm,1.4s						
VVLD				AML	AML		
	comp=N,69μm,0.6s						
VVLD				AML	AML		
	comp=E,60μm,0.3s						
MODR	**Mondragone**	**0.61**	**204**	P	Pg	18 39 48.7	+0.2
FAGN	**Fagnano**	**0.72**	**321**	*e*P	Pb	18 39 51.1	-0.1
FAGN				S	Sb	18 40 00.9	-0.3
T1212	**Cascia, Frazio**	**1.35**	**321**	S	Sg	18 40 21.3	+1.3
T1217	**Poggiodomo (PG**	**1.38**	**317**	S	Sg	18 40 21.8	+1.0
MC2	**Monte Cornacci**	**1.42**	**328**	S	Sg	18 40 23.9	+1.7
T1216	**Preci, Frazion**	**1.47**	**324**	S	Sg	18 40 23.4	-0.5
T1215	**Vallo di Nera,**	**1.47**	**318**	S	Sb	18 40 23.4	+0.5
T1220	**Camerino, Fraz**	**1.62**	**330**	S	Sb	18 40 27.0	-0.2
TDS	**Terranova Siba**	**2.61**	**141**	S	Sb	18 40 54.7	-0.8
CSNT	**Castellina Chi**	**2.78**	**310**	S	Sb	18 40 58.9	-1.5
BRSN	**Barisano**	**3.01**	**330**	S	Sn	18 41 01.3	+1.1
GIB	**Gibilmanna**	**3.72**	**182**	S	Sn	18 41 15.1	-2.8
CLTA	**Licata**	**4.55**	**182**	P	Pn	18 40 45.4	+0.1
LEOD	**Capriano del C**	**4.78**	**323**	⇓P	Pn	18 40 46.8	-1.7
BURY	**Giardini Botan**	**5.31**	**295**	P	Pn	18 40 56.3	+0.4

*IDC **20** 18:39:42.0±4.0, 9°.23S×124°.22E, h118km±49km, mb3.2/1, mbtmp3.6/3, Error ellipse: s-maj=95.1km s-min=27.9km az=41.0*
*DJA **20** 18:39:43.2±1.4, 9°.S±3°×12°.4E±°, h19km±19km, M3.6/6, MLv3.6/6*
ISC 20 18:39:40.7±1.5, 9°.0S±0°.1×124°.3E±0°.1, h100km, n8, σ0s85/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.77**	**183**	P	**Pn**	**18 39 59.5**	**+0.6**
SOEI				S	**Sn**	**18 40 12.9**	**+0.4**
BATI	**Baumata**	**1.37**	**208**	P	**Pn**	**18 40 06.3**	**+0.9**
	70nm,0.3s,baz=33,slow=3.4,SNR=14						
BATI				S	**Sn**	**18 40 22.6**	**-1.6**
	142nm,0.4s,baz=36,slow=0.7,SNR=13						
BATI	**Baumata**	**1.37**	**208**	P	**Pn**	**18 40 05.6**	**+0.1**
BATI				S	**Sn**	**18 40 25.0**	**+0.8**
MMRI	**Maumere**	**2.08**	**279**	P	**Pn**	**18 40 14.8**	**+0.5**
BASI	**Baing, Sumba**	**3.88**	**251**	P	**Pn**	**18 40 38.6**	**+0.3**
WRA	**Warramunga Arr**	**14.58**	**139**	P	Pn	18 42 59.8	-2.4
	0.6nm,0.6s,baz=316,slow=15,SNR=14						
WRA				S	Sn	18 45 33.8	-9.4
	2.4nm,0.5s,baz=313,slow=24,SNR=10						
ASAR	**Alice Springs**	**17.25**	**149**	P	**P**	**18 43 34.9**	**-0.6**
	1.9nm,0.7s,baz=328,slow=12,SNR=20						
ASAR				S	Sn	18 46 35.7	-12
	0.8nm,0.4s,baz=325,slow=25,SNR=7.8						
MKAR	**Makanchi Array**	**66.95**	**330**	P	**P**	**18 50 22.4**	**-0.2**
	0.5nm,0.8s,baz=132,slow=6.5,SNR=4.6						
	0.5nm,0.8s						

*NEIC **20** 19:03:42.7±1.9, 4°.80S±0°.09×155°.09E±0°.04, h23km±6km, mb4.5/26, Error ellipse: s-maj=14.1km s-min=5.5km az=194.0*
*IDC **20** 19:03:49.8±1.8, 5°.02S×155°.07E, h74km±16km, mb3.5/9, mbtmp3.9/11, MS3.4/5, Error ellipse: s-maj=20.1km s-min=10.9km az=30.0*
ISC 20 19:03:45.1±0.6, 4°.90S±0°.07×155°.20E±0°.06, h35km, n48, σ1s86/45, mb4.3/16, MS3.0/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.11**	**283**		**Pn**	**19 04 33.8**	**+2.1**
RABL					**Sn**	**19 05 09.9**	**+2.3**
KRVT	**Keravat (AS076**	**3.22**	**280**	P	**Pn**	**19 04 36.1**	**+2.9**
	330nm,0.4s,baz=255,slow=2.3,SNR=104						
KRVT				S	**Sn**	**19 05 13.7**	**+3.4**
	536nm,0.4s,baz=236,slow=19,SNR=6.2						
KRVT				LR	LR	19 06 07.0	
	comp=Z,298nm,20.1s,baz=251,slow=44						
HNR	**Honiara**	**6.51**	**134**	P	Pn	19 05 24.2	+5.7
	2μm,0.5s,baz=243,slow=9.0,SNR=8.7						
HNR				S	**Sn**	**19 06 35.8**	**+4.2**
	4μm,0.5s,baz=147,slow=18,SNR=7.2						
HNR				LR	LR	19 08 15.5	
	comp=Z,2μm,20.4s,baz=314,slow=41						
HNR	**Honiara**	**6.51**	**134**	Pn	**Pn**	**19 05 18.9**	**+0.4**
HNR				Sn	**Sn**	**19 06 33.8**	**+2.1**
PMG	**Port Moresby**	**9.14**	**240**	P	**Pn**	**19 05 58.3**	**+3.7**
	15nm,0.4s,baz=61,slow=8.0,SNR=27						
PMG				S	**Sn**	**19 07 34.1**	**-2.3**
	14nm,0.8s,baz=132,slow=22,SNR=1.8						
CTA	**Charters Tower**	**17.43**	**209**	P	**P**	**19 07 48.1**	**+1.5**
	2.9nm,0.9s,baz=31,slow=12,SNR=6.2						
CTAO	**Charters Tower**	**17.43**	**209**	P	**P**	**19 07 47.1**	**+0.5**
LIFNC	**LIFOU**	**19.64**	**144**	P	**P**	**19 08 10.4**	**-0.5**
LIFNC				IAmb	IAmb	19 08 27.1	
	comp=Z,37nm,1.0s						
DZM	**Mont Dzumac**	**20.25**	**148**	P	Pn	19 08 20.3	+0.6
	comp=Z,6.7nm,0.8s,baz=280,slow=4.4,SNR=11						
DZM				LR	LR	19 14 14.9	
	comp=Z,58nm,19.2s,baz=67,slow=31						
	comp=Z,6.7nm,0.8s						
DZM	**Mont Dzumac**	**20.25**	**148**	P	**P**	**19 08 18.6**	**+1.0**
DZM				IAmb	IAmb	19 08 20.9	
	comp=Z,15nm,1.2s						
MARNC	**Mare, Loyalty**	**20.65**	**144**	P	**P**	**19 08 22.1**	**+0.3**
EIDS	**Eidsvold**	**20.73**	**191**	P	**P**	**19 08 21.3**	**-1.4**
EIDS				IAmb	IAmb	19 08 54.2	
	comp=Z,14nm,1.1s						
OUENC	**Ouen Island, N**	**20.74**	**148**	P	**P**	**19 08 23.3**	**+0.5**
OUENC				IAmb	IAmb	19 08 54.4	
	comp=Z,9.9nm,1.1s						
FAKI	**Fak Fak**	**22.98**	**274**	P	**P**	**19 08 45.2**	**-1.7**
SIJI	**Sorong**	**24.23**	**279**	P	**P**	**19 08 58.0**	**-1.0**
	comp=Z,5.0nm,0.5s,baz=75,slow=14,SNR=5.0						
	comp=Z,5.0nm,0.5s						
MTN	**Manton Dam**	**25.03**	**250**	P	**P**	**19 09 05.4**	**-0.8**
MTN				IAmb	IAmb	19 09 40.9	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**25.07**	**232**	P	**P**	**19 09 05.1**	**-1.4**
WB0	**Warramunga Arr**	**25.08**	**232**	P	**P**	**19 09 05.0**	**-1.6**
WB0				IAmb	IAmb	19 09 25.8	
	comp=Z,5.4nm,0.7s						
WB2	**Warramunga Arr**	**25.21**	**232**	P	**P**	**19 09 06.5**	**-1.3**
WB2				IAmb	IAmb	19 09 27.3	
	comp=Z,7.6nm,0.7s						
WRA	**Warramunga Arr**	**25.21**	**232**	P	**P**	**19 09 07.0**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=54,slow=9.6,SNR=10.0						
WRA				LR	LR	19 18 23.2	
	comp=Z,46nm,20.4s,baz=280,slow=35						
	comp=Z,1.5nm,0.9s						
WRA	**Warramunga Arr**	**25.21**	**232**	P	**P**	**19 09 06.0**	**-1.9**
ARMA	**Armidale**	**25.60**	**187**	P	**P**	**19 09 10.9**	**-0.4**
ARMA				IAmb	IAmb	19 09 31.7	
	comp=Z,31nm,1.4s						
MSVF	**Nonsavu**	**25.74**	**122**	LR	LR	19 17 01.4	
	comp=Z,53nm,20.6s,baz=38,slow=31						
H11S3	**WAKE ISLAND Hy**	**25.86**	**26**	T	T	19 36 55.7	
	baz=207,slow=73,SNR=31						
H11S2	**WAKE ISLAND Hy**	**25.87**	**26**	T	T	19 36 54.9	
	baz=207,slow=73,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**25.88**	**26**	T	T	19 36 56.9	
	baz=207,slow=73,SNR=14						
AS31	**Alice Springs**	**27.74**	**226**	P	**P**	**19 09 28.9**	**-1.7**
ASAR	**Alice Springs**	**27.74**	**226**	P	**P**	**19 09 29.3**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=57,slow=9.1,SNR=9.2						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**27.74**	**226**	P	**P**	**19 09 28.3**	**-2.3**
KNRA	**Kununurra**	**28.09**	**246**	P	**P**	**19 09 32.3**	**-1.4**
KNRA				IAmb	IAmb	19 10 01.5	
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**31.73**	**243**	P	**P**	**19 10 03.5**	**-2.4**
BBOO	**Buckleboo**	**33.02**	**210**	P	**P**	**19 10 14.4**	**-2.7**
FORT	**Forrest**	**36.26**	**222**	P	**P**	**19 10 42.7**	**-2.5**
RTZ	**Ruatahuna**	**38.96**	**152**	P	**P**	**19 11 07.6**	**-0.3**
RTZ				IAmb	IAmb	19 11 15.6	
	comp=Z,20nm,1.3s						
BKZ	**Black Stump Fm**	**39.19**	**153**	P	**P**	**19 11 10.1**	**+0.3**
THZ	**Tophouse**	**39.96**	**159**	P	**P**	**19 11 14.4**	**-1.9**
USA0B	**Ussuriysk Arsa**	**53.15**	**339**	P	**P**	**19 12 56.4**	**-3.1**
USRK	**Ussuriysk Ar.**	**53.15**	**339**	P	**P**	19 12 55.6	-3.9
PEA0B	**Petropavlovsk-**	**57.83**	**2**	P	**P**	**19 13 33.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.09**	**294**	P	**P**	**19 13 50.8**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=108,slow=5.7,SNR=1.4						
	comp=Z,0.2nm,0.3s						
SONM	**Songino Array**	**67.70**	**327**	P	**P**	**19 14 40.3**	**+1.3**
	comp=Z,1.0nm,1.0s,baz=145,slow=4.8,SNR=4.6						
	comp=Z,1.0nm,1.0s						
O18K	**Koktuh Hills**	**75.36**	**23**	P	**P**	**19 15 23.9**	**-0.9**
SVW2	**Sparrevohn**	**76.00**	**22**	P	P	19 15 25.1	-3.4
SVW2				IAmb	IAmb	19 15 45.1	
	comp=Z,12nm,1.3s						
L19K	**White Mountain**	**76.95**	**22**	P	**P**	**19 15 32.3**	**-1.5**
L19K				IAmb	IAmb	19 16 09.8	
	comp=Z,8.3nm,1.4s						
ILAR	**Eielson Array**	**81.37**	**22**	P	**P**	**19 15 57.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=239,slow=6.5,SNR=5.7						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**81.98**	**318**	P	**P**	**19 16 01.2**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=101,slow=6.9,SNR=5.0						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**94.40**	**28**	P	**P**	**19 17 01.6**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=263,slow=4.5,SNR=8.5						
	comp=Z,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.60**	**289**	PKPbc	**PKiKP**	**19 23 40.6**	**+1.4**
	comp=Z,4.3nm,1.1s,baz=100,slow=3.5,SNR=3.9						

*ISK **20** 19:21:34.1, 36°.09N×27°.13E, h27km, ML3.0/22*
*ATH **20** 19:21:34.7, 36°.14N×27°.13E, h73km±6km, ML2.9/3, Error ellipse: s-maj=7.1km s-min=1.4km az=24.0*
*DDA **20** 19:21:35.4±0.0, 36°.21N×27°.31E, h70km±2km, ML2.5*
*HLW **20** 19:21:35.9, 35°.79N×27°.35E, h33km±31km, Ml3.5*
*THE **20** 19:21:36.2, 36°.11N×27°.11E, h37km±14km, ML2.9/2, Error ellipse: s-maj=14.9km s-min=1.0km az=60.0*
*GII **20** 19:21:42.7±0.3, 35°.30N×27°.68E, h35km*
ISC 20 19:21:32.8±1.2, 36°.02N±0°.05×27°.23E±0°.05, h81km±12km, n72, σ1s95/91, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.75**	**74**	P	**Pn**	**19 21 51.1**	**+2.0**
ARG				S	**Sn**	**19 22 01.9**	**+0.7**
	1μm,0.2s						
ARG	**Arkhangelos**	**0.75**	**74**	Pg	**Pn**	**19 21 51.0**	**+2.0**
ARG	**Arkhangelos**	**0.75**	**74**	P	**Pn**	**19 21 51.1**	**+2.0**
ARG				S	**Sn**	**19 22 02.4**	**+1.2**
ARG				AML	AML	19 22 03.5	
	comp=N,2948μm,0.2s						
ARG				AML	AML	19 22 03.7	
	comp=E,2202μm,0.3s						
KOSK	**Kos Island**	**0.76**	**345**	Pg	**Pn**	**19 21 48.1**	**-1.1**
KOSK				Sg	**Sn**	**19 21 58.3**	**-3.1**
KOSK	**Kos Island**	**0.76**	**345**	P	**Pn**	**19 21 49.5**	**+0.3**
KOSK				S	**Sn**	**19 21 59.0**	**-2.4**
KOSK				AML	AML	19 22 03.3	
	comp=N,1082μm,0.4s						
KOSK				AML	AML	19 22 03.4	
	comp=E,1437μm,0.5s						
DAT	**Datca**	**0.77**	**21**	P	**Pn**	**19 21 50.0**	**+0.6**
DAT				S	**Sn**	**19 21 59.2**	**-2.5**
DAT	**Datca**	**0.77**	**21**	Pg	**Pn**	**19 21 49.4**	**0.0**
DAT				Sg	**Sn**	**19 21 59.9**	**-1.8**
BDRM	**Kayabasi**	**1.06**	**9**	P	**Pn**	**19 21 52.9**	**+0.2**
BDRM				S	**Sn**	**19 22 06.1**	**-1.5**
ZKR	**Zakros**	**1.22**	**223**	P	**Pn**	**19 21 56.9**	**+2.3**
ZKR				S	**Sn**	**19 22 11.8**	**+0.7**
	comp=E,392nm,0.2s						
ZKR	**Zakros**	**1.22**	**223**	Pn	**Pn**	**19 21 56.2**	**+1.6**
ZKR				Sn	**Sn**	**19 22 11.7**	**+0.7**
ZKR	**Zakros**	**1.22**	**223**	P	**Pn**	**19 21 56.9**	**+2.3**
MLSB	**Milas**	**1.35**	**19**	Pn	**Pn**	**19 21 57.2**	**+0.9**
MLSB				Sn	**Sn**	**19 22 13.6**	**-0.4**
DALY	**Dalyan (Mula)**	**1.40**	**55**	Pn	**Pn**	**19 21 58.8**	**+2.0**
DALY				Sn	**Sn**	**19 22 16.7**	**+1.8**
YER	**Yerkesik**	**1.40**	**37**	P	**Pn**	**19 21 58.5**	**+1.5**
YER	**Yerkesik**	**1.40**	**37**	Pn	**Pn**	**19 21 58.4**	**+1.5**
YER				Sn	**Sn**	**19 22 15.7**	**+0.5**
THR8	**Santorini-Mono**	**1.47**	**286**	P	**Pn**	**19 21 57.9**	**+0.2**
MULA	**Mugla, Merkez-**	**1.52**	**35**	P	**Pn**	**19 21 59.8**	**+1.3**
MULA				S	**Sn**	**19 22 16.9**	**-0.9**
MULA				*i* AML	AML	19 22 18.0	
	comp=E,46nm,0.7s						
MULA				*i* AML	AML	19 22 20.0	
	comp=E,103nm,0.4s						
THR6	**Thira Island,**	**1.52**	**283**	P	**Pn**	**19 21 58.7**	**+0.3**
THR6	**Thira Island,**	**1.52**	**283**	P	**Pn**	**19 21 58.6**	**+0.1**
THR3	**Thira Island,**	**1.53**	**285**	P	**Pn**	**19 21 58.3**	**-0.2**
THR5	**Thira Island,**	**1.57**	**285**	P	**Pn**	**19 21 59.4**	**+0.3**
FETY	**Fethiye**	**1.62**	**67**	Pn	**Pn**	**19 22 01.7**	**+2.0**
GCAM	**G?zelcaml?**	**1.68**	**0**	Pn	**Pn**	**19 22 01.3**	**+0.8**
AYDN	**Tasoluk**	**1.72**	**17**	P	**Pn**	**19 22 01.5**	**+0.4**
APE	**Apeiranthos**	**1.73**	**308**	Pn	**Pn**	**19 22 01.6**	**+0.5**
APE	**Apeiranthos**	**1.73**	**308**	P	**Pn**	**19 22 01.3**	**+0.1**
HRKL	**Herakleio**	**1.87**	**249**	Pn	**Pn**	**19 22 04.7**	**+1.7**
CAME	**Cameli-Denizli**	**1.91**	**60**	Pn	**Pn**	**19 22 05.9**	**+2.3**
KSL	**Kastellorizon**	**1.91**	**85**	P	**Pn**	**19 22 06.0**	**+2.5**
KSL	**Kastellorizon**	**1.91**	**85**	P	**Pn**	**19 22 06.0**	**+2.5**
KSL				AML	AML	19 22 31.6	
	comp=E,210μm,0.3s						
KSL				AML	AML	19 22 32.1	
	comp=N,112μm,0.3s						
AKAS	**Kas**	**1.93**	**83**	Pn	**Pn**	**19 22 06.5**	**+2.6**
AKAS	**Kas**	**1.93**	**83**	P	**Pn**	**19 22 06.3**	**+2.3**
TAVA	**DENIZLI_Tavas**	**1.98**	**43**	P	**Pn**	**19 22 06.8**	**+2.2**
TAVA				S	**Sn**	**19 22 28.3**	**-0.4**
CAEL	**Denizli, Camel**	**2.01**	**56**	P	**Pn**	**19 22 06.2**	**+1.2**
IDI	**Anoyia**	**2.04**	**250**	P	**Pn**	**19 22 06.2**	**+0.9**
IDI	**Anoyia**	**2.04**	**250**	Pn	**Pn**	**19 22 06.2**	**+0.9**
IDI	**Anoyia**	**2.04**	**250**	P	**Pn**	**19 22 06.2**	**+0.9**
APMY	**Acipayam-Deniz**	**2.21**	**48**	Pn	**Pn**	**19 22 09.2**	**+1.6**
TMBK	**Timbaki Herakl**	**2.22**	**246**	P	**Pn**	**19 22 09.8**	**+2.2**
GOLH	**Golhisar**	**2.24**	**56**	P	**Pn**	**19 22 10.3**	**+2.4**
ELL	**Elmali**	**2.28**	**70**	Pn	**Pn**	**19 22 11.5**	**+2.9**
BLCB	**Balcova**	**2.37**	**356**	Pn	**Pn**	**19 22 10.2**	**+0.6**
URLA	**Izmir**	**2.40**	**348**	Pn	**Pn**	**19 22 10.6**	**+0.6**
AKUM	**Antalya-Kumluc**	**2.54**	**82**	P	**Pn**	**19 22 14.0**	**+2.2**
KORT	**Korkueli**	**2.70**	**68**	Pn	**Pn**	**19 22 17.1**	**+2.9**
KORT	**Korkueli**	**2.70**	**68**	P	**Pn**	**19 22 17.0**	**+2.9**
IMMV	**Iera Moni Meta**	**2.70**	**259**	Pn	**Pn**	**19 22 16.2**	**+2.1**
IMMV	**Iera Moni Meta**	**2.70**	**259**	P	**Pn**	**19 22 15.2**	**+1.1**
KULA	**Kula-Manisa**	**2.74**	**24**	Pn	**Pn**	**19 22 16.3**	**+1.6**
GVD	**Gavdhos**	**2.82**	**246**	Pn	**Pn**	**19 22 18.2**	**+2.5**
GVD	**Gavdhos**	**2.82**	**246**	P	**Pn**	**19 22 18.3**	**+2.5**
RODP	**Rodopos**	**2.86**	**262**	Pn	**Pn**	**19 22 18.6**	**+2.4**
BASM	**Basmaki-Afyon**	**2.95**	**49**	Pn	**Pn**	**19 22 20.7**	**+3.2**
VLI	**Veliai**	**3.54**	**283**	P	**Pn**	**19 22 26.6**	**+1.2**
DOGA	**KONYA_Doganhis**	**4.12**	**58**	P	**Pn**	**19 22 33.9**	**+0.5**
SLUM	**Salum**	**4.81**	**201**	P	**Pn**	**19 22 43.9**	**+1.1**
	baz=204						
SLUM				S	**Sn**	**19 23 33.5**	**-3.8**
	baz=204						
SWA2		**6.92**	**193**	P	**Pn**	**19 23 12.8**	**+1.3**
	baz=195						
HSAF	**As Saff**	**7.34**	**149**	P	**Pn**	**19 23 18.2**	**+0.9**
	baz=148						
MMC7	**Mount Meron ar**	**7.37**	**112**	Pn	**Pn**	**19 23 20.6**	**+2.9**
MMC7				Sn	**Sn**	**19 24 37.6**	**-2.2**
RYAN	**Fayoum**	**7.38**	**159**	P	**Pn**	**19 23 18.7**	**+1.0**
	baz=158						
NATI	**Neve Ativ**	**7.53**	**109**	Pn	**Pn**	**19 23 22.9**	**+3.1**
NATI				Sn	**Sn**	**19 24 40.9**	**-2.7**
MMLI	**Mount Malkishu**	**7.66**	**115**	Pn	**Pn**	**19 23 24.5**	**+2.8**
HMDT	**Nahal Hemdat**	**7.83**	**116**	Pn	**Pn**	**19 23 26.6**	**+2.6**
HMDT				Sn	**Sn**	**19 24 46.9**	**-4.1**
KZIT	**Kziot**	**7.86**	**128**	Pn	**Pn**	**19 23 24.8**	**+0.4**
YTIR	**Yattir**	**8.04**	**123**	Pn	**Pn**	**19 23 27.8**	**+0.9**
ZFRI	**Zfri**	**8.60**	**127**	Pn	**Pn**	**19 23 35.3**	**+0.9**
KRMI	**Paran Flat**	**8.61**	**131**	Pn	**Pn**	**19 23 35.1**	**+0.5**
PRNI	**Paran**	**8.62**	**129**	Pn	**Pn**	**19 23 35.2**	**+0.5**
HRFI	**Mount Harif**	**8.86**	**130**	Pn	**Pn**	**19 23 38.7**	**+0.7**
HFRF	**Wahat Farafira**	**8.89**	**174**	P	**Pn**	**19 23 38.8**	**+0.4**
	baz=174						
HFRF				S	Sn	19 25 09.8	-7.1
	baz=174						
MBRI	**Mt Berech**	**8.95**	**132**	Pn	**Pn**	**19 23 40.3**	**+1.0**
EIL	**Elat**	**9.06**	**132**	Pn	**Pn**	**19 23 41.8**	**+1.0**
EIL				Sn	**Sn**	**19 25 14.6**	**-6.6**

*NEIC **20** 19:25:47.6±2.7, 15°.36N±0°.06×93°.70W±0°.05, h60km±18km, mb4.2/12, Md4.3/38(MEX), Error ellipse: s-maj=8.5km s-min=6.4km az=193.0*
*MEX **20** 19:25:48.3±0.4, 15°.34N×93°.73W, h70km±7km, MD4.4*
*IDC **20** 19:25:51.1±3.1, 15°.83N×93°.40W, h76km±37km, mb3.3/2, mbtmp3.8/4, ML3.9/2, MS3.3/2, Error ellipse: s-maj=191.0km s-min=19.2km az=40.0*
ISC 20 19:25:47.6±0.8, 15°.33N±0°.05×93°.74W±0°.03, h66km±10km, n79, σ2s13/115, mb4.0/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.62**	**53**		**Pn**	**19 26 00.7**	**-0.6**
PCIG

SCIG	**Sabancuy**	**4.36**	**34**	*eP*		**Pn**	19 26 50.2	**-1.1**
SCIG				*eS*		**Sn**	19 27 37.0	**-4.0**
HLIG	**Huajuapan de L**	**4.62**	**303**			**Pn**	19 26 58.6	**+3.5**
HLIG						**Sn**	19 27 42.8	**-4.8**
HLIG	**Huajuapan de L**	**4.62**	**303**	*eP*		**Pn**	19 26 58.6	**+3.5**
HLIG				*eS*		**Sn**	19 27 42.8	**-4.8**
FTIG	**Fresnillo de T**	**4.93**	**302**			**Pn**	19 27 01.9	**+2.7**
FTIG						**Sn**	19 27 53.1	**-1.9**
FTIG	**Fresnillo de T**	**4.93**	**302**	*eP*		**Pn**	19 27 01.9	**+2.7**
FTIG				*eS*		**Sn**	19 27 53.1	**-1.9**
TLIG	**Tlapa**	**5.13**	**296**			**Pn**	19 27 03.7	**+1.6**
TLIG	**Tlapa**	**5.13**	**296**	*eP*		**Pn**	19 27 05.6	**+3.6**
PPM	**Popocatepetl**	**5.97**	**309**	*eP*		**Pn**	19 27 16.7	**+2.9**
MEIG	**Mezcala**	**6.20**	**295**			**Pn**	19 27 19.4	**+2.8**
MEIG						**Sn**	19 28 25.1	**-1.0**
MEIG	**Mezcala**	**6.20**	**295**	*eP*		**Pn**	19 27 19.4	**+2.8**
MEIG				*eS*		**Sn**	19 28 25.1	**-1.0**
PLIG	**Platanillo**	**6.30**	**300**			**Pn**	19 27 22.7	**+4.7**
PLIG						**Sn**	19 28 27.4	**-1.2**
PLIG	**Platanillo**	**6.30**	**300**	*eP*		**Pn**	19 27 22.7	**+4.7**
PLIG				*eS*		**Sn**	19 28 27.4	**-1.2**
ARIG	**Puente Sto Nin**	**6.97**	**296**			**Pn**	19 27 30.3	**+3.2**
ARIG						**Sn**	19 28 39.5	**-5.6**
ARIG	**Puente Sto Nin**	**6.97**	**296**	*eP*		**Pn**	19 27 30.3	**+3.2**
ARIG				*eS*		**Sn**	19 28 45.4	**+0.3**
CRIN	**San Cristobal**	**7.00**	**111**		Pn	**Pn**	19 27 26.5	**-1.0**
TEIG	**Tepich**	**7.13**	**46**			**Pn**	19 27 27.2	**-2.0**
MATN	**Matagalpa**	**7.95**	**107**		Pn	**Pn**	19 27 39.2	**-1.4**
ORTG	**Ortega, Santa**	**9.46**	**120**			**Pn**	19 28 01.0	**-0.3**
DUNO	**Dulce Nombre,**	**9.59**	**122**			**Pn**	19 28 03.8	**+0.9**
JTS	**Las Juntas de**	**9.93**	**119**	P		Pn	19 28 11.5	+3.9
	1.7nm,0.3s,baz=312,slow=17,SNR=4.0 4.6nm,0.3s							
RIMA	**Rio Macho**	**11.11**	**119**		Pn	**Pn**	19 28 24.2	**+0.3**
SRBA	**San Rafael, Bu**	**11.81**	**120**			**Pn**	19 28 31.9	**-1.5**
833A	**Chaparral WMA,**	**13.95**	**339**	P		**Pn**	19 29 04.6	**+2.4**
JCT	**Junction City**	**16.07**	**341**	P		**Pn**	19 29 29.9	**+0.4**
TXAR	**Lajitas Array**	**16.67**	**328**	P		**P**	19 29 39.1	**+0.7**
	0.1nm,0.3s,baz=148,slow=13,SNR=25 2.4nm,0.8s							
TXAR	**Lajitas Array**	**16.67**	**328**	P		**P**	19 29 38.2	**-0.3**
TX31	**Lajitas Ar. Si**	**16.68**	**328**	P		**P**	19 29 38.3	**-0.2**
TX31				IAmb	IAmb		19 29 40.6	
	comp=Z,8.5nm,0.9s							
TX32	**Lajitas Array**	**16.68**	**328**	P		**P**	19 29 38.4	**-0.1**
WHTX	**Lake Whitney,**	**16.93**	**349**	P		**Pn**	19 29 40.0	**-0.1**
WHTX				IAmb	IAmb		19 30 20.0	
	comp=Z,7.8nm,0.5s							
LOOK	**Love County**	**18.84**	**351**	P		**P**	19 30 00.3	**-1.9**
LOOK				IAmb	IAmb		19 30 02.0	
	comp=Z,25nm,1.1s							
MIAR	**Mount Ida**	**19.13**	**0**	P		**P**	19 30 03.2	**-2.1**
CLNB	**Carlsbad**	**19.22**	**333**	P		**P**	19 30 04.8	**-1.6**
HTMS	**Hat Mesa**	**19.29**	**334**	P		**P**	19 30 07.4	**+0.1**
GDL2	**Guadalupe Moun**	**19.38**	**332**	P		**P**	19 30 08.4	**+0.1**
X48A	**Hartselle**	**19.97**	**16**	P		**P**	19 30 13.4	**-1.1**
X48A				IAmb	IAmb		19 30 18.6	
	comp=Z,12nm,0.8s							
RLO	**Rose Lookout**	**20.78**	**357**	P		**P**	19 30 22.6	**-0.7**
RLO				IAmb	IAmb		19 30 35.4	
	comp=Z,14nm,0.8s							
OK046	**Pawnee Station**	**21.17**	**353**	P		**P**	19 30 26.1	**-1.3**
OK046				IAmb	IAmb		19 30 36.9	
	comp=Z,12nm,1.0s							
ROSC	**El Rosal**	**21.75**	**117**	LR		LR	19 38 59.3	
	comp=Z,60nm,18.2s,baz=322,slow=36							
CRNM	**Carthage**	**21.94**	**330**	P		**P**	19 30 37.4	**+1.5**
JSC	**Jenkinsville**	**21.97**	**29**	P		**P**	19 30 34.7	**-1.3**
BNM	**Barren Site**	**22.05**	**330**	P		**P**	19 30 37.7	**+0.5**
LENM	**Lemitar**	**22.23**	**330**	P		**P**	19 30 40.4	**+1.4**
S44A	**Carbondale**	**22.63**	**9**	P		**P**	19 30 45.8	**+2.8**
SIUC	**Southern Illin**	**22.65**	**9**	P		**P**	19 30 45.9	**+2.6**
NEW	**Newport**	**38.07**	**335**	LR		LR	19 49 52.6	
	comp=Z,39nm,18.7s,baz=267,slow=38							
YKA	**Yellowknife Ar**	**49.36**	**347**	P		**P**	19 34 28.9	**-1.2**
	comp=Z,1.3nm,0.8s,baz=154,slow=7.3,SNR=16 comp=Z,1.3nm,0.8s							
ILAR	**Eielson Array**	**60.96**	**337**	P		**P**	19 35 54.2	**+0.6**
	comp=Z,0.4nm,0.9s,baz=133,slow=6.6,SNR=4.0 comp=Z,0.4nm,0.9s							

*NEIC **20** 19:36:46.0±1.7,26.11N±0.05×128.69E±0.05, h9km±4km, mb4.4/37, Error ellipse: s-maj=8.2km s-min=5.4km az=220.0*
*IDC **20** 19:36:46.3±1.2,26.29N×128.55E, h0km, mb4.0/10, mbtmp4.0/11, ML4.2/1, MS2.9/4, Error ellipse: s-maj=51.6km s-min=14.2km az=73.0*
*JMA **20** 19:36:49.6±0.3,26.3N±0.1×12.9E±°, h39km±4km, MV3.8/12, NEAR OKINAWAJIMA ISLAND*
*NIED **20** 19:36:49.6,26.28N×128.68E, h39km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.94; Mθθ-4.47; Mφφ 1.53; Mrθ 1.84; Mθφ 5.93; Mφr4.12; Fault plane solution: Mo8.42000×10¹⁴ NP1: φs340.00000°, δ67.00000°, λ149.00000°. NP2: φs83.00000°, δ61.00000°, λ26.00000°.*

ISC 20 19:36:47.0±1.6, 26.16N±0.05×128.71E±0.04, h17km±9km, n92, σ1°46/103, mb4.3/22, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.71**	**300**	*i* P	**Pn**	**19 37 02.0**	**-0.4**
JNTH				*eS*	**Sb**	**19 37 11.8**	**+1.2**
JOW	**Kunigami**	**0.77**	**330**	Pn	**Pg**	**19 37 02.6**	**+0.4**
	749nm,0.3s,baz=153,slow=23,SNR=302						
JOW				Sn	**Sg**	**19 37 11.6**	**-0.9**
	746nm,0.3s,baz=114,slow=25,SNR=17						
JOW	**Kunigami**	**0.77**	**330**		**Pg**	**19 37 02.5**	**+0.4**
JOW					**Sg**	**19 37 12.1**	**-0.4**
JOW	**Kunigami**	**0.77**	**330**	P	**Pg**	**19 37 02.6**	**+0.4**
JOW	**Kunigami**	**0.77**	**330**	*i* P	**Pg**	**19 37 02.6**	**+0.4**
JOW				*eS*	**Sg**	**19 37 11.9**	**-0.5**
JJT3	**Tamagusuku3**	**0.83**	**269**	*i* P	**Pn**	**19 37 05.0**	**+1.0**
JJT3				*eS*	**Sn**	**19 37 16.0**	**+0.1**
JYRO	**Yoronjima**	**0.89**	**345**	P	**Pb**	**19 37 04.2**	**+0.2**
JYRO				S	**Sb**	**19 37 13.9**	**-1.8**
JIH	**Iheya**	**1.10**	**323**	P	**Pb**	**19 37 07.7**	**+0.2**
JIH				S	**Sb**	**19 37 21.1**	**-0.4**
JOKE	**Okinoerabujima**	**1.20**	**354**	P	**Pn**	**19 37 09.0**	**-0.1**
JOKE				*eS*	**Sb**	**19 37 22.9**	**-1.8**
JTK	**Tokunoshima**	**1.63**	**7**	*i* P	**Pn**	**19 37 18.4**	**-0.1**
JTK				S	**Sn**	**19 37 32.5**	**-3.1**
JKE	**Kume jima 2**	**1.74**	**276**	P	**Pn**	**19 37 16.8**	**+0.4**
JKE				S	**Sn**	**19 37 36.5**	**-1.7**
JMZ	**Minamidaito 2**	**2.28**	**98**		**Pn**	**19 37 24.4**	**+0.5**
JMZ				Sn	**Sn**	**19 37 48.9**	**-2.8**
JMZ	**Minamidaito 2**	**2.28**	**98**	P	**Pn**	**19 37 24.2**	**+0.2**
JMZ	**Minamidaito 2**	**2.28**	**98**	P	**Pn**	**19 37 24.1**	**+0.2**
JMZ				S	**Sn**	**19 37 49.0**	**-2.7**
JKDJ	**Kitadaitoujima**	**2.33**	**95**	P	**Pn**	**19 37 24.9**	**+0.3**
JKDJ				S	**Sn**	**19 37 50.5**	**-2.4**
JMJ	**Miyako jima 2**	**3.37**	**247**	P	**Pn**	**19 37 37.7**	**-1.2**
JSU	**Suzuyama**	**5.54**	**16**	Pn	**Pn**	**19 38 08.9**	**+0.1**
JSU	**Suzuyama**	**5.54**	**16**	P	**Pn**	**19 38 08.8**	**0.0**
NACB	**Ninganchiao**	**6.75**	**254**	Pn	**Pn**	**19 38 24.1**	**-1.2**
NACB				Sn	**Sn**	**19 39 33.9**	**-7.9**
NACB	**Ninganchiao**	**6.75**	**254**	P	**Pn**	**19 38 24.6**	**-0.7**
YHNB	**Yeheng**	**6.80**	**259**	Pn	**Pn**	**19 38 27.0**	**+0.9**
YHNB	**Yeheng**	**6.80**	**259**	P	**Pn**	**19 38 25.8**	**-0.3**
JNU	**Nakatsue**	**7.19**	**15**	Pn	**Pn**	**19 38 32.9**	**+1.4**
	4.4nm,0.3s,baz=194,slow=8.1,SNR=44 13nm,0.3s						
JNU	**Nakatsue**	**7.19**	**15**	Pn	**Pn**	**19 38 32.4**	**+1.0**
JNU	**Nakatsue**	**7.19**	**15**	P	**Pn**	**19 38 32.8**	**+1.4**
YULB	**Yu-li**	**7.28**	**249**	Pn	**Pn**	**19 38 29.8**	**-2.8**
YULB	**Yu-li**	**7.28**	**249**	P	**Pn**	**19 38 30.4**	**-2.3**
SSLB	**Suanglung**	**7.42**	**253**	Pn	**Pn**	**19 38 33.5**	**-1.2**
SSLB	**Suanglung**	**7.42**	**253**	P	**Pn**	**19 38 34.1**	**-0.6**
TWGBT	**Beinan**	**7.71**	**246**	P	**Pn**	**19 38 35.9**	**-2.6**
TWG	**Pinlang**	**7.71**	**246**	Pn	**Pn**	**19 38 35.6**	**-3.0**
TPUB	**Ta-pu**	**7.88**	**251**	Pn	**Pn**	**19 38 40.5**	**-0.4**
TPUB	**Ta-pu**	**7.88**	**251**	P	**Pn**	**19 38 40.7**	**-0.2**
JMN	**Monobe**	**8.77**	**29**		**Pn**	**19 38 51.9**	**-1.2**
JMN	**Monobe**	**8.77**	**29**	P	**Pn**	**19 38 52.6**	**-0.5**
JHS	**Saijyo**	**9.59**	**22**	Pn	**Pn**	**19 39 03.9**	**-0.4**
KSRS	**Korea Array**	**11.28**	**357**	LR	LR	19 43 43.3	
	comp=Z,48nm,18.3s,baz=180,slow=37						
DAV	**Davao City (W)**	**19.22**	**189**	LR	LR	19 49 58.9	
	comp=Z,23nm,18.6s,baz=350,slow=41						
JKA	**Kamikawa-asahi**	**21.16**	**29**	P	**P**	**19 41 30.4**	**-0.9**
JKA				IAmb	IAmb	19 41 34.9	
	comp=Z,24nm,1.3s						
ULN	**Ulaanbaatar**	**27.55**	**327**	P	**P**	**19 42 34.0**	**+0.9**
ULN				IAmb	IAmb	19 42 36.0	
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**27.85**	**327**	P	**P**	**19 42 37.6**	**+1.9**
	comp=Z,3.8nm,0.8s,baz=139,slow=10,SNR=25 comp=Z,3.8nm,0.8s						
SONM	**Songino Array**	**27.85**	**327**	P	**P**	**19 42 35.0**	**-0.7**
SONM				IAmb	IAmb	19 42 38.9	
	comp=Z,2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.54**	**261**	LR	LR	19 54 38.5	
	comp=Z,14nm,19.9s,baz=60,slow=38						
SHL	**Shillong**	**33.08**	**277**	P	**P**	**19 43 22.7**	**+0.4**
LSA	**Lhasa**	**33.28**	**285**	P	**P**	**19 43 24.1**	**-0.2**
LSA				IAmb	IAmb	19 43 25.9	
	comp=Z,1.4nm,0.6s						
BRDH	**Bariadhala**	**33.86**	**272**	LR	LR	20 00 08.1	
	comp=Z,41nm,21.4s,baz=272,slow=42						
PEA0B	**Petropavlovsk-**	**34.53**	**31**	P	**P**	**19 43 34.8**	**+0.4**
MK31	**Makanchi Array**	**41.90**	**312**	P	**P**	**19 44 35.6**	**-1.0**
MKAR	**Makanchi Array**	**41.90**	**312**	P	**P**	**19 44 36.2**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=93,slow=10.0,SNR=27						
MKAR				PcP	**PcP**	**19 46 33.5**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=78,slow=4.2,SNR=3.5 comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**41.90**	**312**	P	**P**	**19 44 35.6**	**-1.0**
MAKZ	**Makanchi**	**42.12**	**312**	P	**P**	**19 44 37.7**	**-0.6**
ZALV	**Zalesovo Beam**	**42.56**	**323**	P	**P**	**19 44 40.8**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=113,slow=7.6,SNR=5.2 comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**42.56**	**323**	P	**P**	**19 44 40.4**	**-1.4**
TARG	**Taragay, Kyrgy**	**44.36**	**304**	P	**P**	**19 44 56.6**	**-0.4**
KURK	**Kurchatov**	**45.17**	**317**	P	**P**	**19 45 02.3**	**-0.4**
WRA	**Warramunga Arr**	**46.15**	**173**	P	**P**	**19 45 12.7**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=353,slow=8.2,SNR=5.7 comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**46.15**	**173**	P	**P**	**19 45 09.2**	**-1.6**
ASAR	**Alice Springs**	**49.79**	**174**	P	**P**	**19 45 42.6**	**+3.6**
	comp=Z,0.2nm,0.5s,baz=11,slow=9.8,SNR=1.7 comp=Z,0.2nm,0.5s						
KK31	**Karatay Array**	**49.80**	**305**	P	**P**	**19 45 39.1**	**+0.1**
KKAR	**Karatay Array**	**49.80**	**305**	P	**P**	**19 45 38.8**	**-0.2**
KKAR	**Karatay Array**	**49.80**	**305**	P	**P**	**19 45 38.9**	**-0.1**
KKAR				IAmb	IAmb	19 45 52.0	
	comp=Z,1.0nm,0.7s						
CHGR	**Chuyangaron**	**51.00**	**300**	P	**P**	**19 45 49.0**	**+0.9**
KBL	**Kabul**	**51.53**	**294**	P	**P**	**19 45 52.0**	**-0.3**
KBL				IAmb	IAmb	19 45 55.3	
	comp=Z,3.6nm,0.7s						
ABKAR	**Akbulak array**	**57.01**	**313**	P	**P**	**19 46 31.5**	**-0.3**
ABKAR				IAmb	IAmb	19 46 33.6	
	comp=Z,2.2nm,0.6s						
ABKAR	**Akbulak array**	**57.01**	**313**	P	**P**	**19 46 32.0**	**+0.3**
KAAM	**Kaadhehdhoo**	**59.34**	**254**	P	**P**	**19 46 48.0**	**-0.6**
GEYT	**Alibeck**	**59.70**	**300**	P	**P**	**19 46 53.3**	**+2.4**
	comp=Z,1.7nm,0.5s,baz=90,slow=6.1,SNR=3.8 comp=Z,1.7nm,0.5s						
OUENC	**Ouen Island, N**	**60.80**	**139**	P	**P**	**19 46 56.8**	**-1.5**
OUENC				IAmb	IAmb	19 47 37.1	
	comp=Z,3.7nm,0.9s						
O18K	**Koktuh Hills**	**60.81**	**34**	P	**P**	**19 46 58.0**	**0.0**
CHIR	**Chirikof Islan**	**60.82**	**39**	P	**P**	**19 46 58.1**	**0.0**
P18K	**Big Mountain,**	**60.82**	**35**	P	**P**	**19 46 57.2**	**-0.9**
L19K	**White Mountain**	**60.91**	**31**	P	**P**	**19 47 00.3**	**+1.6**
K20K	**Telida**	**61.24**	**30**	P	**P**	**19 47 01.0**	**+0.1**
K20K				IAmb	IAmb	19 47 32.1	
	comp=Z,5.2nm,1.3s						
SII	**Sitkinak Islan**	**61.56**	**38**	P	**P**	**19 47 03.8**	**+0.6**
Q19K	**Cape Douglas,**	**61.66**	**35**	P	**P**	**19 47 05.0**	**+1.1**
M20K	**Styx River**	**61.73**	**32**	P	**P**	**19 47 06.2**	**+1.8**
CNPM	**China Poot**	**62.84**	**34**	P	**P**	**19 47 11.7**	**0.0**
MDM	**Murphy Dome**	**63.70**	**28**	P	**P**	**19 47 19.2**	**+1.9**
MDM				IAmb	IAmb	19 47 26.5	
	comp=Z,2.0nm,0.8s						
J26L	**Joseph Creek**	**65.75**	**28**	P	**P**	**19 47 30.8**	**0.0**
J26L				IAmb	IAmb	19 47 32.6	
	comp=Z,1.9nm,0.9s						
BCAR	**Beaver Creek A**	**66.80**	**30**	P	**P**	**19 47 38.1**	**+0.6**
INK	**Inuvik**	**68.78**	**23**	P	**P**	**19 47 49.7**	**0.0**
INK				IAmb	IAmb	19 48 31.2	
	comp=Z,5.3nm,1.4s						
KBZ	**Khabaz**	**69.54**	**309**	P	**P**	**19 47 56.3**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=338,slow=11,SNR=4.0 comp=Z,1.7nm,0.8s						
EUNU	**Eureka**	**72.30**	**6**	P	**P**	**19 48 12.4**	**+1.2**
FINES	**FINESS Array B**	**73.14**	**331**	P	**P**	**19 48 16.6**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=64,slow=4.4,SNR=7.1 comp=Z,2.5nm,0.8s						
AKASG	**Malin Array Be**	**75.86**	**320**	P	**P**	**19 48 32.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=58,slow=6.5,SNR=8.6 comp=Z,1.2nm,0.5s						
BR131	**Keskin Array S**	**77.42**	**308**	P	**P**	**19 48 42.0**	**+0.4**
BR131				IAmb	IAmb	19 49 02.0	
	comp=Z,6.9nm,1.4s						
BRTR	**Keskin Array B**	**77.42**	**308**	P	**P**	**19 48 42.8**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=100,slow=3.8,SNR=8.2 comp=Z,1.3nm,0.6s						
BRTR	**Keskin Array B**	**77.42**	**308**	P	**P**	**19 48 42.5**	**+0.9**
NC405	**NORSAR Array S**	**79.32**	**334**	P	**P**	**19 48 50.9**	**-0.7**
NC405				IAmb	IAmb	19 48 51.1	
	comp=Z,5.9nm,0.8s						
NB201	**NORSAR Array S**	**79.53**	**334**	P	**P**	**19 48 53.0**	**+0.3**
BUR08	**Bucovina Ar. S**	**79.57**	**318**	P	**P**	**19 48 53.9**	**+0.6**
BUR08				IAmb	IAmb	19 48 56.4	
	comp=Z,4.7nm,1.1s						
BURAR	**Bucovina Array**	**79.57**	**318**	P	**P**	**19 48 53.8**	**+0.5**

*IDC **20** 19:52:49.9±0.8, 42.54N×84.17E, h0km, mb3.8/9, mbtmp3.7/14, ML3.2/5, MS2.8/2, Error ellipse: s-maj=20.4km s-min=11.8km az=62.0*
*SOME **20** 19:52:54.7, 42.92N×83.90E, h0km*
*NNC **20** 19:52:57.5±1.6, 42.85N×83.89E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=13.9km s-min=6.6km az=147.0*

ISC 20 19:52:52.8±0.7, 42.75N±0.06×84.06E±0.04, h10km, n74, σ2°28/75, mb3.8/9, 6C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.80**	**286**	Pg	**Pg**	**19 53 46.6**	**+0.1**
	36nm,0.4s						
KTMS				Lg	Lg	19 54 22.2	
	266nm,0.5s						
KTMS	**Ketmen**	**2.80**	**286**	*e*Pg	**Pg**	**19 53 45.1**	**-1.4**
	25nm,0.2s						
KTMS				*e*Lg	Lg	19 54 21.5	
	238nm,0.2s						
WMQ	**Urumqi**	**2.86**	**67**	*e*Pn	**Pn**	**19 53 40.6**	**+2.0**
WMQ				Sn	**Sn**	**19 54 14.6**	**+1.4**
WMQ				Sg	**Sb**	**19 54 19.3**	**+0.1**
WMQ				smax	smax		
	comp=N,290nm,0.9s						
WMQ				smax	smax		
	comp=E,490nm,0.9s						
SHLS	**Shalkode**	**3.40**	**278**	Pg	**Pb**	**19 53 52.2**	**-0.9**
	comp=E,30nm,0.3s						
SHLS				Lg	Lg	19 54 31.4	
	comp=E,292nm,0.5s						
SHLS	**Shalkode**	**3.40**	**278**	*e*Pg	**Pb**	**19 53 51.3**	**-1.8**
	comp=E,31nm,0.3s						
SHLS				*e*Lg	Lg	19 54 31.4	
	comp=E,6μm,0.4s						
DJR	**Jarkent**	**3.48**	**298**	Pg	**Pg**	**19 53 58.1**	**-1.3**
	comp=E,25nm,0.2s						
DJR				Lg	Lg	19 54 41.8	
	comp=E,122nm,0.4s						
DJR	**Jarkent**	**3.48**	**298**	*e*Pg	**Pg**	**19 53 56.9**	**-2.5**
	comp=E,16nm,0.2s						
DJR				*e*Lg	Lg	19 54 41.2	
	comp=E,130nm,0.2s						
UZB	**Uzynbulak**	**3.71**	**278**	Pg	**Pg**	**19 54 03.0**	**-1.0**
	comp=E,13nm,0.2s						
UZB				Lg	Lg	19 54 49.8	
	comp=E,118nm,0.5s						
UZB	**Uzynbulak**	**3.71**	**278**	*e*Pg	**Pg**	**19 54 01.9**	**-2.1**
	comp=E,14nm,0.2s						
UZB				*e*Lg	Lg	19 54 49.8	
	comp=E,152nm,0.2s						
KPKS	**Kokpek**	**4.00**	**282**	Pg	**Pg**	**19 54 08.7**	**-0.6**
	comp=E,20nm,0.3s						
KPKS				Lg	Lg	19 54 59.4	
	comp=E,201nm,0.4s						
KPKS	**Kokpek**	**4.00**	**282**	*e*Pg	**Pg**	**19 54 06.7**	**-2.7**
	comp=E,14nm,0.1s						
KPKS				*e*Lg	Lg	19 54 57.6	
	comp=E,201nm,0.4s						
ZHN	**Zhinishke**	**4.14**	**278**	Pg	**Pg**	**19 54 09.8**	**-2.4**
	comp=E,24nm,0.4s						
ZHN				Lg	Lg	19 55 01.6	
	comp=E,160nm,0.2s						
ZHN	**Zhinishke**	**4.14**	**278**	*e*Pg	**Pg**	**19 54 09.9**	**-2.3**
	comp=E,9.9nm,0.1s						
ZHN				*e*Lg	Lg	19 55 03.7	
	comp=E,99nm,0.1s						
SATY	**Saty**	**4.16**	**276**	Pg	**Pg**	**19 54 12.4**	**-0.1**
	comp=E,19nm,0.3s						
SATY				Lg	Lg	19 55 05.9	
	comp=E,119nm,0.4s						
SATY	**Saty**	**4.16**	**276**	*e*Pg	**Pg**	**19 54 11.1**	**-1.4**
	comp=E,14nm,0.1s						
SATY				*e*Lg	Lg	19 55 05.2	
	comp=E,121nm,0.2s						
MK31	**Makanchi Array**	**4.23**	**343**	Pn	**Pn**	**19 54 00.4**	**+3.1**
	comp=E,0.9nm,0.2s,baz=158,slow=14,SNR=288						
MK31				⇓Pg	**Pg**	**19 54 11.9**	**-1.9**
	comp=E,15nm,0.5s,baz=154,slow=15,SNR=9.2						
MK31				⇓Sn	**Sb**	**19 54 54.0**	**-4.5**
	comp=E,19nm,0.8s,baz=161,slow=18,SNR=5.5						
MK31				⇑Lg	Lg	19 55 12.9	
	comp=E,32nm,0.8s,baz=181,slow=35,SNR=6.5						
MKAR	**Makanchi Array**	**4.23**	**343**	Pn	**Pn**	**19 54 00.8**	**+3.5**
	comp=E,4.9nm,0.3s,baz=167,slow=13,SNR=185						
MKAR				Sn	**Sn**	**19 54 47.8**	**+1.0**
	comp=E,6.3nm,0.3s,baz=154,slow=18,SNR=5.0						
MKAR				Lg	Lg	19 55 11.2	
	comp=E,15nm,0.3s,baz=180,slow=32,SNR=6.8						
MKAR				LR	LR	19 56 01.0	
	comp=E,53nm,18.5s,baz=30,slow=43 comp=E,7.0nm,0.3s						
BLB	**Baldybastay**	**4.28**	**290**	Pg	**Pg**	**19 54 14.1**	**-0.7**
	comp=E,46nm,0.4s						
BLB				Lg	Lg	19 55 08.5	
	comp=E,87nm,0.3s						
MAKZ	**Makanchi**	**4.32**	**341**	⇑Pn	**Pn**	**19 54 01.7**	**+3.2**
	comp=E,6.6nm,0.7s						
MAKZ				⇑Pg	**Pg**	**19 54 14.4**	**-1.0**
	comp=E,24nm,0.6s						
MAKZ				⇑Lg	Lg	19 55 13.8	
	comp=E,42nm,0.6s						
KURS	**Kuram**	**4.37**	**282**	Pg	**Pg**	**19 54 15.9**	**-0.6**
	comp=E,14nm,0.7s						
KURS				Lg	Lg	19 55 12.0	
	comp=E,58nm,0.4s						
KURS	**Kuram**	**4.37**	**282**	*e*Pg	**Pg**	**19 54 14.7**	**-1.8**
	comp=E,14nm,0.4s						
KURS				*e*Lg	Lg	19 55 11.7	
	comp=E,65nm,0.4s						
ZSN	**Zaisan**	**4.73**	**7**	Pg	**Pg**	**19 54 21.2**	**-2.2**
	comp=E,12nm,0.5s						
ZSN				Lg	Lg	19 55 21.6	
	comp=E,67nm,0.6s						
ZSN	**Zaisan**	**4.73**	**7**	*e*Pg	**Pg**	**19 54 20.2**	**-3.2**
	comp=E,5.6nm,0.2s						
ZSN				*e*Lg	Lg	19 55 21.5	
	comp=E,75nm,0.2s						
ARXS	**Arharly**	**4.76**	**290**	Pg	**Pg**	**19 54 23.2**	**-0.8**
	comp=E,13nm,0.4s						
ARXS				Lg	Lg	19 55 24.2	
	comp=E,36nm,0.3s						
ARXS	**Arharly**	**4.76**	**290**	*e*Pg	**Pg**	**19 54 21.7**	**-2.3**
	comp=E,12nm,0.2s						
ARXS				*e*Lg	Lg	19 55 24.0	
	comp=E,137nm,0.2s						
KOTS	**Kotyrbulak**	**5.12**	**278**	Pg	**Pg**	**19 54 30.5**	**-0.2**
	comp=E,12nm,0.4s						
KOTS				Lg	Lg	19 55 36.8	
	comp=E,294nm,0.6s						
KOTS	**Kotyrbulak**	**5.12**	**278**	*e*Pg	**Pg**	**19 54 28.6**	**-2.2**
	comp=E,12nm,0.0s						
KOTS				*e*Lg	Lg	19 55 35.3	
	comp=E,294nm,0.3s						
MDOK	**Medeo**	**5.16**	**277**	Pn	**Pn**	**19 54 13.9**	**+3.7**
	comp=E,4.7nm,0.6s						
MDOK				⇓Pg	**Pg**	**19 54 29.6**	**-2.0**
	comp=E,8.6nm,0.6s						
MDOK				Pg	Pb	19 54 32.6	+9.4

KRBS					*e*Lg		Lg	19 56 09.8	
	comp=E,13nm,0.2s								
TKM2	**Tokmak 2**	**6.22**	**274**	⇑Pn			**Pn**	**19 54 27.7**	**+2.8**
	comp=E,2.4nm,0.5s								
TKM2				⇓Pg			Pg	19 54 46.3	-5.6
	comp=E,4.3nm,0.5s								
TKM2				⇓Lg			Lg	19 56 11.1	
	comp=E,21nm,0.6s								
CHMS	**Chumysh**	**6.84**	**275**	⇓Pg			Pb	19 54 56.9	+5.2
	comp=E,2.5nm,0.5s								
CHMS				⇓Lg			Lg	19 56 33.1	
	comp=E,26nm,0.7s								
SGDS	**Sogindy**	**6.93**	**279**	Pg			**Pg**	**19 55 03.5**	**-2.0**
	comp=E,2.5nm,0.9s								
SGDS				Lg			Lg	19 56 33.7	
	comp=E,8.5nm,0.7s								
AAK	**Ala-Archa**	**7.05**	**272**	Pn			**Pn**	**19 54 38.2**	**+2.0**
	comp=E,0.2nm,0.3s,baz=144,slow=11,SNR=3.9								
	comp=E,0.8nm,0.4s								
BTLS	**Baital**	**7.58**	**291**	Pg			**Pg**	**19 55 17.4**	**-0.5**
	comp=E,2.6nm,0.6s								
BTLS				Lg			Lg	19 56 57.1	
	comp=E,5.0nm,0.7s								
BTLS	**Baital**	**7.58**	**291**	*e*Pg			Pg	19 55 12.8	-5.1
	comp=E,2.7nm,0.3s								
BTLS				*e*Lg			Lg	19 56 51.8	
	comp=E,3.9nm,0.3s								
MRKS	**Merke**	**7.97**	**274**	Pg			**Pb**	**19 55 15.5**	**+4.4**
	comp=E,2.8nm,0.7s								
MRKS				Lg			Lg	19 56 54.1	
	comp=E,28nm,0.4s								
MRKS	**Merke**	**7.97**	**274**	*e*Pg			Pg	19 55 19.9	-5.4
	comp=E,2.8nm,0.4s								
MRKS				*e*Lg			Lg	19 57 04.6	
	comp=E,16nm,0.3s								
KURBB	**Kurchatov Arra**	**8.74**	**336**	Pn			**Pn**	**19 55 00.7**	**+1.6**
	comp=E,0.2nm,0.3s,baz=143,slow=13,SNR=6.7								
KURBB				Sn			**Sn**	**19 56 41.9**	**+4.3**
	comp=E,0.3nm,0.3s,baz=161,slow=23,SNR=5.8								
KURBB				Lg			Lg	19 57 37.1	
	comp=E,0.2nm,0.3s,baz=150,slow=33,SNR=8.7								
	comp=E,1.1nm,0.5s								
KURBB	**Kurchatov Arra**	**8.74**	**336**	⇓Pn			**Pn**	**19 55 00.1**	**+1.0**
	comp=E,3.0nm,0.7s								
KURBB				⇓Lg			Lg	19 57 31.5	
	comp=E,38nm,0.7s								
GOMU	**GeErMu**	**10.58**	**125**	Pn			Pn	19 55 19.8	-5.0
GOMU				Sn			Sn	19 57 19.0	-4.5
GOMU				smax			smax		
	comp=N,9.0nm,0.9s								
GOMU				smax			smax		
	comp=E,6.0nm,0.9s								
ZALV	**Zalesovo Beam**	**11.21**	**2**	Pn			**Pn**	**19 55 34.2**	**+1.2**
	comp=E,0.6nm,0.3s,baz=188,slow=13,SNR=7.9								
ZALV				Sn			**Sn**	**19 57 39.9**	**+1.5**
	comp=E,0.6nm,0.3s,baz=172,slow=24,SNR=2.9								
ZALV				Lg			Lg	19 58 52.5	
	baz=189,slow=19								
	comp=E,1.2nm,0.3s								
GTA	**Gaotai**	**12.35**	**100**	*e*P			Pn	19 55 44.8	-4.0
GTA				sP				19 55 57.3	
GTA				pmax			pmax		
	comp=Z,2.0nm,1.0s								
BVAR	**Borovoye Array**	**13.75**	**323**	Lg			Lg	20 00 10.2	
	baz=303,slow=28,SNR=3.7								
SONM	**Songino Array**	**16.50**	**64**	Pn			**Pn**	**19 56 42.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=272,slow=11,SNR=6.4								
	comp=Z,0.6nm,0.6s								
NRIK	**Noril'sk**	**26.71**	**3**	P			**P**	**19 58 33.4**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=160,slow=7.0,SNR=3.8								
	comp=Z,2.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**27.31**	**148**	P			**P**	**19 58 35.3**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=321,slow=9.0,SNR=1.8								
	comp=Z,0.2nm,0.5s								
KLR	**Kul'dur**	**33.30**	**62**	P			**P**	**19 59 29.5**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=296,slow=8.2,SNR=2.5								
	comp=Z,1.0nm,0.5s								
TIXI	**Tiksi**	**36.19**	**22**	LR			LR	20 15 51.5	
	comp=Z,36nm,21.1s,baz=246,slow=38								
BRTR	**Keskin Array B**	**37.58**	**283**	P			**P**	**20 00 08.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=83,slow=8.0,SNR=4.1								
	comp=Z,0.4nm,0.6s								
FINES	**FINESS Array B**	**38.66**	**319**	P			**P**	**20 00 16.0**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=106,slow=10,SNR=4.4								
	comp=Z,1.9nm,0.9s								
ILAR	**Eielson Array**	**65.66**	**21**	P			**P**	**20 03 35.9**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=309,slow=5.0,SNR=2.8								
	comp=Z,0.4nm,0.9s								
TORD	**Torodi Ar. Bea**	**75.62**	**275**	P			**P**	**20 04 37.7**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=46,slow=5.0,SNR=5.1								
	comp=Z,1.0nm,0.3s								
WRA	**Warramunga Arr**	**77.68**	**132**	P			P	20 04 46.8	-2.9
	comp=Z,0.5nm,0.6s,baz=333,slow=5.7,SNR=7.1								
	comp=Z,0.5nm,0.6s								
ASAR	**Alice Springs**	**80.48**	**135**	P			P	20 05 02.3	-2.6
	comp=Z,0.4nm,0.7s,baz=324,slow=5.1,SNR=5.2								
	comp=Z,0.4nm,0.7s								

*OTT **20** 19:55:50.1±0.2,74.92N×69.34W,h18km,ML3.9/7, Baffin Bay Seismic Zone. 355km east from Craig Harbour, Nu*
*DNK **20** 19:55:52.5±2.3,75.01N×69.04W,h18km±35km,ML2.9*
ISC 20 19:55:46.7±0.8,74.91N±0.05×69.32W±0.05,h10km,n15,
σ2s87/26,1C-1D,Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TULEG	**Thule**	**1.64**	**4**	*e*		**Pb**	**19 56 17.5**		**+0.5**
	baz=184,slow=9.3								
TULEG				*i*	P	**Pg**	**19 56 18.0**		**-0.1**
TULEG					IAML		19 56 38.4		
	comp=Z,1μm,0.4s								
KULLO	**Kullorsuaq**	**3.22**	**90**	*i*	P	**Pn**	**19 56 40.4**		**+3.2**
KULLO				*i*	S	**Sn**	**19 57 15.4**		**-0.1**
KULLO					IAML		19 57 21.3		
	comp=Z,75nm,0.3s								
KULLO	**Kullorsuaq**	**3.22**	**90**		PN	**Pn**	**19 56 40.2**		**+3.0**
KULLO					SN	**Sn**	**19 57 15.3**		**-0.1**
KULLO					Trac		19 57 16.6		
	comp=Z,95nm,0.2s								
UPNV	**Upernavik**	**4.25**	**114**	⇑*i*	P	**Pn**	**19 56 54.7**		**+3.2**
UPNV				*i*	S	**Sn**	**19 57 38.0**		**-3.0**
UPNV					IAML		19 57 42.7		
	comp=Z,68nm,0.4s								
NEEM	**North Greenlan**	**5.04**	**51**	*e*	P	**Pn**	**19 57 05.0**		**+2.5**
NEEM				*i*	S	**Sn**	**19 57 58.6**		**-2.3**
NEEM					IAML		19 58 00.1		
	comp=Z,37nm,0.3s								
EUNU	**Eureka**	**6.32**	**332**		PN	**Pn**	**19 57 22.0**		**+2.2**
EUNU					SN	**Sn**	**19 58 28.8**		**-3.2**
EUNU					Trac		19 58 30.2		
	comp=Z,21nm,0.3s								
RES	**Resolute Bay**	**6.70**	**280**		PN	**Pn**	**19 57 26.6**		**+1.6**
RES					SN	**Sn**	**19 58 37.9**		**-3.3**
RES					Trac		19 58 41.6		
	comp=Z,8.2nm,0.2s								
ILON	**Igloolik, Nuna**	**6.75**	**221**		PN	**Pn**	**19 57 28.3**		**+2.7**
ILON					SN	**Sn**	**19 58 39.5**		**-2.9**
ILON				⇓	Trac		19 58 42.4		
	comp=Z,4.3nm,0.1s								
ILULI	**Ilulissat**	**7.98**	**127**		PN	**Pn**	**19 57 45.2**		**+2.7**
ILULI					SN	**Sn**	**19 59 09.2**		**-3.5**
ILULI					Trac		19 59 16.7		
	comp=Z,27nm,0.5s								
SUMG	**Summit**	**8.89**	**90**	*i*	P	**Pn**	**19 57 56.1**		**+0.8**
SUMG				*i*	S	**Sn**	**19 59 29.6**		**-6.0**
SUMG					IAML		19 59 32.7		
	comp=Z,17nm,0.4s								
SFJD	**Kangerlussuaq**	**9.96**	**133**	*i*	P	**Pn**	**19 58 12.8**		**+3.1**
SFJD	**Kangerlussuaq**	**9.96**	**133**		PN	**Pn**	**19 58 11.2**		**+1.5**
SFJD					SN	**Sn**	**19 59 57.1**		**-4.1**
SFJD					Trac		20 00 02.1		
	comp=Z,116nm,4.0s								
FRB	**Frobisher Bay**	**11.22**	**178**		PN	**Pn**	**19 58 29.4**		**+2.5**
FRB					SN	Sn	20 00 23.6		-8.6
FRB					Trac		20 00 30.6		
	comp=Z,7.1nm,0.5s								
DAG	**Danmarks Havn**	**12.21**	**57**	*i*	P	**Pn**	**19 58 41.1**		**+0.8**
DBG	**Daneborg**	**12.75**	**69**	*i*	P	**Pn**	**19 58 46.3**		**-1.4**

*IDC **20** 20:02:28.7±2.2,20.45S×177.73W,h495km±25km,mb3.2/8, mbtmp4.1/11,Error ellipse: s-maj=29.7km s-min=16.4km az=142.0*
*NEIC **20** 20:02:33.0±1.7,20.6S±0.1×177.7W±0.2,h554km±12km, mb4.6/19,Error ellipse: s-maj=25.3km s-min=20.6km az=112.0*
ISC 20 20:02:28.9±0.6,20.5S±0.1×177.7W±0.1,h500km,n41,
σ1s35/42,mb4.0/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
AFI	**Afiamalu**	**8.65**	**42**	P		**P**	**20 04 31.7**		**-0.6**
	20nm,0.3s,baz=143,slow=23,SNR=4.4								
PINNC	**Pines Island,**	**13.99**	**259**	P		**P**	**20 05 30.4**		**+1.8**
LIFNC	**LIFOU**	**14.12**	**266**	P		**P**	**20 05 32.8**		**+3.0**
OUENC	**Ouen Island, N**	**14.54**	**260**	P		**P**	**20 05 36.9**		**+2.6**
DZM	**Mont Dzumac**	**14.88**	**261**	P		**P**	**20 05 38.4**		**+0.5**
	2.3nm,0.7s,baz=98,slow=20,SNR=2.5								
URZ	**Urewera**	**18.26**	**193**	P		**P**	**20 06 11.4**		**0.0**
	8.3nm,0.3s,baz=4.9,slow=2.1,SNR=14								
RTZ	**Ruatahuna**	**18.63**	**193**	P		**P**	**20 06 14.9**		**0.0**
RTZ					IAmb	IAmb	20 06 41.5		
	comp=Z,20nm,1.4s								
BKZ	**Black Stump Fm**	**19.26**	**194**	P		**P**	**20 06 18.8**		**-1.8**
BKZ					IAmb	IAmb	20 06 30.4		
	comp=Z,30nm,1.5s								
MRZ	**Mangatainoka R**	**20.90**	**194**	P		**P**	**20 06 33.9**		**-1.5**
TCW	**Tory Channel**	**21.74**	**197**	P		**P**	**20 06 43.0**		**0.0**
NNZ	**Nelson**	**22.00**	**198**	P		**P**	**20 06 45.8**		**+0.4**
THZ	**Tophouse**	**22.64**	**199**	P		**P**	**20 06 51.6**		**+0.3**
THZ					IAmb	IAmb	20 07 13.3		
	comp=Z,31nm,1.4s								
LTZ	**Lake Taylor**	**23.76**	**199**	P		**P**	**20 06 59.7**		**-1.5**
LTZ					IAmb	IAmb	20 07 23.8		
	comp=Z,26nm,1.2s								
WHZ	**Wether Hill Ro**	**27.94**	**202**	P		**P**	**20 07 39.2**		**+1.2**
WHZ					IAmb	IAmb	20 07 42.7		
	comp=Z,24nm,1.2s								
CTAO	**Charters Tower**	**33.79**	**264**	P		**P**	**20 08 27.8**		**-1.0**
CTAO					IAmb	IAmb	20 08 47.5		
	comp=Z,7.0nm,1.4s								
TOO	**Toolangi**	**36.13**	**234**	P		**P**	**20 08 48.0**		**-0.2**
TOO					IAmb	IAmb	20 09 27.1		
	comp=Z,30nm,1.4s								
STKA	**Stephens Creek**	**38.05**	**244**	P		**P**	**20 09 04.3**		**+0.3**
	comp=Z,0.7nm,0.4s,baz=86,slow=12,SNR=4.9								
	comp=Z,0.7nm,0.4s								
STKA	**Stephens Creek**	**38.05**	**244**	P		**P**	**20 09 03.6**		**-0.4**
BBOO	**Buckleboo**	**42.81**	**244**	P		**P**	**20 09 39.8**		**-2.4**
BBOO					IAmb	IAmb	20 09 52.1		
	comp=Z,16nm,1.2s								
ASAR	**Alice Springs**	**44.81**	**257**	P		**P**	**20 09 58.0**		**+0.1**
	comp=Z,1.6nm,0.5s,baz=96,slow=7.5,SNR=36								
ASAR				PcP		**PcP**	**20 11 29.3**		**-0.1**
	comp=Z,0.3nm,0.8s,baz=104,slow=5.0,SNR=1.9								
	comp=Z,1.6nm,0.5s								
ASAR	**Alice Springs**	**44.81**	**257**	P		**P**	**20 09 57.6**		**-0.3**
WB0	**Warramunga Arr**	**44.87**	**262**	P		**P**	**20 09 57.2**		**-1.2**
WRA	**Warramunga Arr**	**44.90**	**262**	P		**P**	**20 09 57.7**		**-0.9**
	comp=Z,0.5nm,0.3s,baz=96,slow=7.6,SNR=15								
	comp=Z,0.5nm,0.3s								
WRA	**Warramunga Arr**	**44.90**	**262**	P		**P**	**20 09 56.8**		**-1.8**
MJAR	**Matsushiro Arr**	**70.39**	**323**	P		**P**	**20 12 51.9**		**-0.2**
	comp=Z,1.0nm,0.5s,baz=151,slow=6.0,SNR=1.8								
	comp=Z,1.0nm,0.5s								
NIKH	**Nikolski High**	**73.57**	**6**	P		**P**	**20 13 09.6**		**-0.6**
JKA	**Kamikawa-asahi**	**73.87**	**331**	P		**P**	**20 13 13.1**		**+0.9**
JKA					IAmb	IAmb	20 13 57.0		
	comp=Z,27nm,1.4s								
SSLB	**Suanglung**	**74.23**	**303**	P		**P**	**20 13 13.2**		**-1.4**
SSLB					IAmb	IAmb	20 13 32.5		
	comp=Z,29nm,1.2s								
TPUB	**Ta-pu**	**74.23**	**303**	P		**P**	**20 13 12.6**		**-2.1**
KSRS	**Korea Array**	**77.09**	**318**	P		**P**	**20 13 30.0**		**-0.2**
	comp=Z,1.0nm,0.6s,baz=126,slow=6.0,SNR=4.5								
	comp=Z,1.0nm,0.6s								
MAW	**Mawson**	**81.66**	**200**	P		**P**	**20 13 52.9**		**-1.0**
P18K	**Big Mountain,**	**81.72**	**11**	P		**P**	**20 13 54.0**		**-0.3**
P18K					IAmb	IAmb	20 14 32.0		
	comp=Z,19nm,1.4s								
TXAR	**Lajitas Array**	**86.81**	**57**	P		**P**	**20 14 21.7**		**+1.6**
	comp=Z,0.4nm,0.7s,baz=205,slow=5.5,SNR=3.9								
	comp=Z,0.4nm,0.7s								
ILAR	**Eielson Array**	**88.26**	**13**	P		**P**	**20 14 25.2**		**-0.7**
	comp=Z,0.4nm,0.3s,baz=215,slow=5.2,SNR=14								
	comp=Z,0.4nm,0.3s								
CMAR	**Chiang Mai Arr**	**90.40**	**289**	P		**P**	**20 14 38.1**		**+1.1**
	comp=Z,0.6nm,0.5s,baz=136,slow=3.1,SNR=4.5								
	comp=Z,0.6nm,0.5s								
BVAR	**Borovoye Array**	**119.28**	**320**	PKP		**PKPdf**	**20 20 19.5**		**-1.1**
	comp=Z,0.7nm,0.4s,baz=114,slow=2.2,SNR=5.2								
AKASG	**Malin Array Be**	**143.16**	**331**	PKhKP		PKPpre	20 21 02.0		
	comp=Z,1.9nm,0.4s,baz=42,slow=4.4,SNR=16								
EKA	**Eskdalemuir Ar**	**144.98**	**5**	PKP		**PKPdf**	**20 21 08.5**		**0.0**
	comp=Z,0.4nm,0.4s,baz=329,slow=2.8,SNR=4.5								
BRTR	**Keskin Array B**	**147.06**	**312**	PKPbc		**PKPdf**	**20 21 15.0**		**+2.3**
	comp=Z,0.5nm,0.5s,baz=140,slow=5.4,SNR=4.3								
CLL	**Collm**	**148.14**	**347**	*i* PKPbc		**PKPbc**	**20 21 17.7**		**-0.1**
	comp=Z,5.0nm,0.8s								
CLL				*e*	PKPab	**PKiKP**	**20 21 22.0**		**+2.9**
GERES	**GERESS Array B**	**150.29**	**345**		PKPbc	**PKPbc**	**20 21 23.0**		**-0.2**
	comp=Z,0.1nm,0.3s,baz=53,slow=4.1,SNR=4.2								

*IDC **20** 20:06:43.2±0.9,42.09N×81.30E,h0km,mb3.9/11, mbtmp3.8/16,ML3.2/5,MS3.2/2,Error ellipse: s-maj=15.0km s-min=12.9km az=89.0*
*SOME **20** 20:06:45.0,42.20N×81.08E,h0km*
*NNC **20** 20:06:47.3±1.0,42.20N×81.08E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=7.0km s-min=4.6km az=151.0*
*NEIC **20** 20:06:48.9±1.5,42.15N±0.08×81.3E±0.1,h33km±6km, mb4.4/21,Error ellipse: s-maj=13.5km s-min=10.2km az=130.0*
ISC 20 20:06:45.9±0.5,42.06N±0.05×81.28E±0.04,h16km,n118,
σ1s93/127,mb4.2/20,11C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KTMS	**Ketmen**	**1.55**	**334**	P		**Pn**	**20 07 11.8**		**-1.2**
	48nm,0.2s								
KTMS					S	**Sn**	**20 07 31.7**		**-1.1**
	274nm,0.3s								
KTMS	**Ketmen**	**1.55**	**334**	*e*	P	**Pn**	**20 07 11.8**		**-1.2**
	74nm,0.3s								
KTMS				*e*	S	**Sn**	**20 07 31.7**		**-1.1**
	274nm,0.3s								
SHLS	**Shalkode**	**1.74**	**310**	P		Pn	20 07 11.8		-3.8
	114nm,0.1s								
SHLS					S	**Sn**	**20 07 31.5**		**-5.9**
	4μm,0.4s								
SHLS	**Shalkode**	**1.74**	**310**	*e*	P	Pn	20 07 11.8		-3.8
	114nm,0.1s								
SHLS				*e*	S	**Sn**	**20 07 31.5**		**-5.9**
	5μm,0.2s								
UZB	**Uzunbulak**	**1.99**	**304**	Pg		**Pn**	**20 07 20.4**		**+1.3**
	285nm,0.4s								
UZB					Lg	Lg	20 07 46.4		
	372nm,0.4s								
UZB	**Uzunbulak**	**1.99**	**304**	*e*	P	**Pn**	**20 07 20.4**		**+1.3**
	285nm,0.4s								
UZB				*e*	S	**Sn**	**20 07 46.4**		**+2.6**
	372nm,0.4s								
SATY	**Saty**	**2.35**	**296**	Pg		**Pn**	**20 07 27.2**		**+3.2**
	178nm,0.4s								
SATY					Lg	Lg	20 07 57.8		
	594nm,0.4s								
SATY	**Saty**	**2.35**	**296**	*e*	Pg	**Pn**	**20 07 27.1**		**+3.2**
	178nm,0.4s								
SATY					eLg	Lg	20 07 57.8		
	594nm,0.4s								
KPKS	**Kokpek**	**2.38**	**307**	Pg		**Pn**	**20 07 27.0**		**+2.7**
	283nm,0.4s								
KPKS					Lg	Lg	20 07 57.8		
	1μm,0.5s								
KPKS	**Kokpek**	**2.38**	**307**	*e*	Pg	**Pn**	**20 07 27.0**		**+2.7**
	283nm,0.4s								
KPKS					eLg	Lg	20 07 57.8		
	1μm,0.5s								
ZHN	**Zhinishke**	**2.38**	**299**	Pg		**Pn**	**20 07 26.7**		**+2.4**
	116nm,0.3s								
ZHN					Lg	Lg	20 07 57.7		
	957nm,0.1s								
ZHN	**Zhinishke**	**2.38**	**299**	*e*	Pg	**Pn**	**20 07 26.7**		**+2.4**
	116nm,0.3s								
ZHN					eLg	Lg	20 07 57.7		
	957nm,0.1s								
DJR	**Jarkent**	**2.52**	**335**	Pg		**Pn**	**20 07 29.1**		**+2.8**
	158nm,0.4s								
DJR					Lg	Lg	20 08 01.4		
	758nm,0.5s								
DJR	**Jarkent**	**2.52**	**335**	*e*	Pg	**Pn**	**20 07 29.1**		**+2.8**
	158nm,0.4s								
DJR				*e*	Lg	Lg	20 08 01.4		
	758nm,0.5s								
TARG	**Taragay, Kyrgy**	**2.62**	**264**			**Pn**	**20 07 29.7**		**+1.8**
KURS	**Kuram**	**2.70**	**303**	Pg		**Pn**	**20 07 33.0**		**+4.2**
	140nm,0.6s								
KURS					Lg	Lg	20 08 07.4		
	448nm,0.5s								
KURS	**Kuram**	**2.70**	**303**	*e*	Pg	**Pn**	**20 07 33.0**		**+4.2**
	140nm,0.6s								
KURS				*e*	Lg	Lg	20 08 07.4		
	448nm,0.5s								
BLB	**Baldybastay**	**2.89**	**316**	Pg		**Pn**	**20 07 35.4**		**+3.9**
	202nm,0.3s								
BLB					Lg	Lg	20 08 11.8		
	980nm,0.4s								
KOTS	**Kotyrbulak**	**3.29**	**292**	Pg		**Pb**	**20 07 43.1**		**-0.9**
	42nm,0.3s								
KOTS					Lg	Lg	20 08 25.7		
	308nm,0.6s								
KOTS	**Kotyrbulak**	**3.29**	**292**	*e*	Pg	**Pb**	**20 07 43.1**		**-0.9**
	42nm,0.3s								
KOTS				*e*	Lg	Lg	20 08 25.7		
	308nm,0.6s								
MDOK	**Medeo**	**3.31**	**291**	⇑Pn		**Pn**	**20 07 40.1**		**+2.8**
	39nm,0.6s								
MDOK					Pg	**Pb**	**20 07 43.4**		**-1.0**
	45nm,0.4s								
MDOK				⇓	Lg	Lg	20 08 25.2		
	476nm,0.9s								
MDOK					Lg	Lg	20 08 26.1		
	343nm,0.6s								
ARXS	**Arharly**	**3.32**	**312**	Pg		**Pb**	**20 07 44.6**		**+0.1**
	84nm,0.4s								
ARXS					Lg	Lg	20 08 26.9		
	360nm,0.2s								
ARXS	**Arharly**	**3.32**	**312**	*e*	Pg	**Pb**	**20 07 44.6**		**+0.1**
	84nm,0.4s								
ARXS				*e*	Lg	Lg	20 08 26.9		
	360nm,0.2s								
TNSS	**Tian-Shan**	**3.35**	**288**	Pg		**Pb**	**20 07 44.5**		**-0.7**
	44nm,0.3s								
TNSS					Lg	Lg	20 08 27.7		
	150nm,0.7s								
TNSS	**Tian-Shan**	**3.35**	**288**	*e*	Pg	**Pb**	**20 07 44.5**		**-0.7**
	44nm,0.3s								
TNSS				*e*	Lg	Lg	20 08 27.9		
	150nm,0.7s								
KNDC	**Almaty**	**3.39**	**291**	⇑Pn		**Pn**	**20 07 41.4**		**+3.2**
	75nm,0.6s								
KNDC				⇑	Lg	Lg	20 08 27.4		
	428nm,0.7s								
AAA	**Alma-Ata**	**3.42**	**291**	Pg		**Pb**	**20 07 45.7**		**-0.5**
	28nm,0.2s								
AAA					Lg	Lg	20 08 28.4		
	286nm,0.6s								
AAA	**Alma-Ata**	**3.42**	**291**	*e*	Pg	**Pb**	**20 07 45.6**		**-0.5**
	28nm,0.2s								
AAA				*e*	Lg	Lg	20 08 28.4		
	286nm,0.6s								
IZV	**Izvestkoviy**	**3.58**	**287**	Pg		**Pb**	**20 07 48.6**		**-0.5**
	27nm,0.4s								
IZV					Lg	Lg	20 08 33.9		
	322nm,0.3s								
IZV	**Izvestkoviy**	**3.58**	**287**	*e*	Pg	**Pb**	**20 07 48.6**		**-0.5**
	27nm,0.4s								
IZV				*e*	Lg	Lg	20 08 33.9		
	322nm,0.3s								
CHKK	**Chushkaly**	**3.63**	**301**	Pg		**Pb**	**20 07 48.8**		**-0.9**
	42nm,0.5s								
CHKK					Lg	Lg	20 08 34.4		
	161nm,0.3s								
CHKK	**Chushkaly**	**3.63**	**301**	*e*	Pg	**Pb**	**20 07 48.8**		**-0.9**
	42nm,0.5s								
CHKK				*e*	Lg	Lg	20 08 34.4		
	161nm,0.3s								
MTBS	**Maitube**	**3.74**	**288**	Pg		**Pb**	**20 07 50.9**		**-0.7**
	22nm,0.4s								
MTBS					Lg	Lg	20 08 37.1		
	199nm,0.4s								
MTBS	**Maitube**	**3.74**	**288**	*e*	Pg	**Pb**	**20 07 50.9**		**-0.7**
	22nm,0.4s								
MTBS				*e*	Lg	Lg	20 08 37.1		
	199nm,0.4s								
KTBS	**Karatobe**	**3.76**	**298**	Pg		**Pb**	**20 07 51.8**		**-0.2**
	43nm,0.6s								
KTBS					Lg	Lg	20 08 39.6		
	391nm,0.4s								
KTBS	**Karatobe**	**3.76**	**298**	*e*	Pg	**Pb**	**20 07 51.8**		**-0.2**
	43nm,0.6s								
KTBS				*e*	Lg	Lg	20 08 39.6		
	391nm,0.4s								
KST	**Kastek**	**4.05**	**286**	Pg		**Pb**	**20 07 57.3**		**+0.3**
	18nm,0.4s								
KST					Lg	Lg	20 08 50.2		
	115nm,0.4s								
KST	**Kastek**	**4.05**	**286**	*e*	Pg	**Pb**	**20 07 57.2**		**+0.3**
	18nm,0.4s								
KST				*e*	Lg	Lg	20 08 50.2		
	115nm,0.4s								
KUU	**Kurty**	**4.06**	**298**	Pg		**Pb**	**20 07 57.1**		**0.0**
	41nm,0.5s						

comp=N,73nm,1.1s
WMQ smax smax
comp=E,91nm,1.1s
AAK Ala-Archa 5.06 279 Pn Pn 20 08 03.4 +2.1
comp=E,1.4nm,0.3s,baz=126,slow=9.6,SNR=21
AAK Pg Pb 20 08 19.2 +5.0
comp=E,3.7nm,0.3s,baz=125,slow=9.5,SNR=20
AAK Lg Lg 20 09 23.1
comp=E,6.3nm,0.3s,baz=274,slow=21,SNR=2.8
comp=E,2.6nm,0.3s
AAK Ala-Archa 5.06 279 Pn Pn 20 08 03.2 +1.9
SGDS Sogindy 5.09 288 Pg Pb 20 08 15.7 +1.1
comp=E,7.2nm,0.6s
SGDS Lg Lg 20 09 20.2
comp=E,22nm,0.6s
ZSN Zaisan 5.96 24 Pg Pb 20 08 32.1 +2.6
comp=E,6.4nm,0.3s
ZSN Lg Lg 20 09 49.2
comp=E,64nm,0.7s
ZSN Zaisan 5.96 24 *e*Pg **Pb 20 08 32.1 +2.6**
comp=E,6.4nm,0.3s
ZSN *e*Lg Lg 20 09 49.2
comp=E,64nm,0.7s
MRKS Merke 6.00 279 Pg Pb 20 08 32.4 +2.2
comp=E,16nm,0.5s
MRKS Lg Lg 20 09 50.2
comp=E,17nm,0.6s
MRKS Merke 6.00 279 *e*Pg **Pb 20 08 32.4 +2.2**
comp=E,16nm,0.5s
MRKS *e*Lg Lg 20 09 50.1
comp=E,17nm,0.6s
BTLS Baital 6.04 302 Pg Pb 20 08 32.7 +1.9
comp=E,5.1nm,0.7s
BTLS Lg Lg 20 09 48.5
comp=E,11nm,0.8s
BTLS Baital 6.04 302 *e*Pg **Pb 20 08 31.9 +1.1**
comp=E,5.1nm,0.7s
BTLS *e*Lg Lg 20 09 48.5
comp=E,12nm,0.3s
KK31 Karatay Array 8.02 281 Pn Pn 20 08 43.3 +1.6
KK31 Karatay Array 8.02 281 ⇑Pg Pb 20 09 11.4 +7.0
comp=E,3.5nm,0.6s,baz=95,slow=16,SNR=15
KK31 Lg Lg 20 10 55.2
comp=E,9.5nm,0.7s,baz=90,slow=26,SNR=3.9
KKAR Karatay Array 8.02 281 Pn Pn 20 08 43.1 +1.4
KKAR Karatay Array 8.02 281 Pn Pn 20 08 42.5 +0.8
IUG luzhnay 8.37 274 Pg Pb 20 09 19.5 +9.0
comp=E,5.2nm,0.3s
IUG Lg Lg 20 11 09.2
comp=E,26nm,0.8s
IUG luzhnay 8.37 274 *e*Pg Pb 20 09 19.0 +8.5
comp=E,5.3nm,0.3s
IUG *e*Lg Lg 20 11 09.2
comp=E,30nm,0.5s
KURBB Kurchatov Arra 8.78 348 Pn Pn 20 08 50.6 -1.5
comp=E,0.1nm,0.3s,baz=170,slow=12,SNR=13
KURBB Sn Sn **20 10 31.6 +1.0**
comp=E,0.4nm,0.3s,baz=228,slow=23,SNR=6.5
KURBB Lg Lg 20 11 21.7
comp=E,0.6nm,0.3s,baz=20,slow=27,SNR=1.8
comp=E,1.1nm,0.9s
KURK Kurchatov 8.85 349 Pn Pn 20 08 52.5 -0.6
KURK Kurchatov 8.85 349 ⇓Pn **Pn 20 08 52.9 -0.2**
comp=E,4.5nm,0.5s
KURK ⇓Lg Lg 20 11 19.9
comp=E,52nm,0.8s
NIL Nilore 10.52 220 Pn Pn 20 09 16.5 +0.5
GOMU GeErMu 12.02 115 Pn Pn 20 09 35.0 -1.9
GOMU Sn **Sn 20 11 46.3 -4.5**
GOMU smax smax
comp=N,4.0nm,0.9s
GOMU smax smax
comp=E,3.0nm,0.9s
ZAA0 Zalesovo Array 12.13 10 Pn Pn 20 09 36.0 -1.9
ZALV Zalesovo Beam 12.13 10 Pn Pn 20 09 37.0 -0.9
comp=E,0.3nm,0.3s,baz=199,slow=14,SNR=10
ZALV Sn **Sn 20 11 50.1 -2.7**
comp=E,0.3nm,0.3s,baz=192,slow=26,SNR=1.7
ZALV Lg Lg 20 13 05.2
comp=E,0.2nm,0.3s,baz=183,slow=22,SNR=2.7
comp=E,2.3nm,0.7s
ZALV Zalesovo Beam 12.13 10 Pn 20 09 35.8 -2.1
BVAR Borovoye Array 13.19 330 Pn Pn 20 09 53.0 +0.5
baz=128,slow=19,SNR=2.1
AB31 Akbulak array 16.53 303 P Pn 20 10 34.4 -2.5
comp=E,0.5nm,0.4s,baz=111,slow=13,SNR=32
ABKAR Akbulak array 16.53 303 Pn Pn 20 10 34.1 -2.8
ABKAR Akbulak array 16.53 303 Pn Pn 20 10 34.8 -2.1
SONM Songino Array 18.65 63 P P 20 11 02.6 -0.4
comp=E,0.2nm,0.3s,baz=259,slow=11,SNR=16
comp=E,1.5nm,0.6s
SONM Songino Array 18.65 63 P P 20 11 02.4 -0.6
ULN Ulaanbaatar 19.09 64 P P 20 11 08.1 +0.2
ARU Arti 20.52 322 P P 20 11 23.6 +0.4
comp=E,7.2nm,0.7s,baz=122,slow=8.6,SNR=12
ARU LR LR 20 20 02.3
comp=E,77nm,18.7s,baz=194,slow=39
comp=E,7.2nm,0.7s
ARU Arti 20.52 322 P P 20 11 23.1 -0.1
XAN Xi'an 23.12 101 P P 20 11 56.5 +5.3
XAN pmax pmax
comp=Z,3.0nm,0.9s
GNI Garni 27.47 278 P P 20 12 28.6 -2.8
GNI IAmb IAmb 20 13 01.3
comp=Z,7.0nm,1.0s
NRIK Noril'sk 27.54 5 P P 20 12 31.7 +0.1
ONI Oni 27.82 284 P P 20 12 34.3 -0.1
ONI IAmb IAmb 20 13 01.8
comp=Z,5.5nm,1.2s
CMAR Chiang Mai Arr 27.92 142 P P 20 12 36.2 +0.9
comp=Z,0.2nm,0.3s,baz=335,slow=7.9,SNR=2.1
comp=Z,0.2nm,0.3s
MARD Mardin 31.32 275 P P 20 13 07.0 +1.5
MARD IAmb IAmb 20 13 08.2
comp=Z,4.8nm,0.7s
BR131 Keskin Array S 35.73 283 P P 20 13 44.4 +0.5
BR131 IAmb IAmb 20 14 03.8
comp=Z,10nm,1.4s
BRTR Keskin Array B 35.73 283 P P 20 13 45.0 +1.1
comp=Z,0.9nm,0.5s,baz=97,slow=7.7,SNR=7.6
comp=Z,0.9nm,0.5s
BRTR Keskin Array B 35.73 283 P P 20 13 44.0 +0.1
FIA1 FINESS Array S 37.86 320 P P 20 13 59.6 -2.0
FIA1 IAmb IAmb 20 14 01.4
comp=Z,7.5nm,1.0s
FINES FINESS Array B 37.86 320 P P 20 14 01.1 -0.5
comp=Z,2.7nm,0.9s,baz=98,slow=10.0,SNR=4.1
comp=Z,2.7nm,0.9s
FINES FINESS Array B 37.86 320 P P 20 13 59.4 -2.2
GSI Gunungsitoli 43.14 156 P P 20 14 45.5 -0.2
GSI IAmb IAmb 20 15 17.2
comp=Z,13nm,1.4s
DIVS Divibare 43.90 294 P P 20 14 52.7 +1.0
DIVS IAmb IAmb 20 15 24.6
comp=Z,8.9nm,1.4s
HFS Hagfors 43.95 318 P P 20 14 51.3 -0.5
comp=Z,1.4nm,0.6s,baz=99,slow=8.9,SNR=5.8
comp=Z,1.4nm,0.6s
NC405 NORSAR Array S 44.79 320 P P 20 14 57.7 -0.8
NC303 NORSAR Array S 44.94 320 P P 20 14 60.0 +0.3
NB2 NORSAR Subarra 45.04 320 P P 20 15 00.3 -0.3
comp=Z,1.2nm,0.5s,baz=81,slow=7.9
NOA NORSAR Array B 45.04 320 P P 20 15 00.1 -0.5
comp=Z,1.3nm,0.5s,baz=72,slow=8.5,SNR=11
comp=Z,1.3nm,0.5s
NC204 NORSAR Array S 45.23 320 P P 20 15 01.8 -0.3
NC204 IAmb IAmb 20 15 05.4
comp=Z,2.1nm,0.6s
NBO00 NORSAR Array S 45.25 320 P P 20 15 01.3 -0.9
FUORN Ofenpass-Fuorn 49.42 301 P P 20 15 34.9 -0.3
FUORN IAmb IAmb 20 15 48.0
comp=Z,6.9nm,1.5s
BNI Bardonecchia 52.34 300 P P 20 15 57.3 +0.3
BNI IAmb IAmb 20 16 21.6
comp=Z,7.9nm,1.2s
EKA Eskdalemuir Ar 53.92 315 P P 20 16 08.1 -0.2
comp=Z,0.7nm,0.6s,baz=77,slow=6.8,SNR=5.7
comp=Z,0.7nm,0.6s
IMAR Indian Mountai 64.26 22 P P 20 17 19.2 -0.6
BMAR Burnt Mountain 65.45 18 P P 20 17 27.4 -0.1
K20K Telida 66.12 24 P P 20 17 32.0 +0.1
PPLA Purkeypile 67.03 24 P P 20 17 37.9 0.0
ILAR Eielson Array 67.04 20 P P 20 17 36.5 -1.2
comp=Z,0.4nm,0.7s,baz=307,slow=4.8,SNR=5.6
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 73.62 273 P P 20 18 17.8 -1.0
comp=Z,1.8nm,0.8s,baz=40,slow=5.3,SNR=3.5
comp=Z,1.8nm,0.8s
YKA Yellowknife Ar 75.02 8 P P 20 18 25.6 -0.5
comp=Z,0.6nm,0.7s,baz=340,slow=5.7,SNR=4.3
comp=Z,0.6nm,0.7s
ASAR Alice Springs 81.48 133 P P 20 19 02.5 0.0
comp=Z,0.3nm,0.6s,baz=320,slow=4.8,SNR=6.0
comp=Z,0.3nm,0.6s

IDC 20 20:46:47.8±2.2, 4°34N×127°46E, h0km, mb3.6/4, mbtmp3.6/4, MS2.9/3, Error ellipse: s-maj=157.6km s-min=28.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**22.70**	**241**	LR	LR	21 00 48.8	
	comp=Z,33nm,20.7s,baz=170,slow=37						
WRA	**Warramunga Arr**	**25.06**	**165**	P	P	20 52 13.4	-0.6
	1.1nm,0.7s,baz=345,slow=10,SNR=9.7						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**28.54**	**168**	P	P	20 52 45.3	-0.1
	0.3nm,0.7s,baz=345,slow=8.3,SNR=5.5						
	0.3nm,0.7s						
MJAR	**Matsushiro Arr**	**33.54**	**16**	LR	LR	21 09 49.9	
	comp=Z,3.3nm,18.2s,baz=203,slow=41						
STKA	**Stephens Creek**	**38.45**	**160**	P	P	20 54 12.2	+0.7
	2.6nm,1.0s,baz=337,slow=13,SNR=3.9						
	2.6nm,1.0s						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	20 56 38.7	0.0
	0.2nm,0.6s,baz=122,slow=7.4,SNR=3.0						
	0.2nm,0.6s						
WSAR	**Wadi Sarin**	**68.85**	**293**	LR	LR	21 30 07.1	
	comp=Z,24nm,20.3s,baz=228,slow=38						

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*IDC **20** 21:02:40.5±2.1, 43°.64N×105°.37W, h0km, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=46.6km s-min=10.0km az=150.0*
*NEIC **20** 21:02:42.4±0.9, 43°.81N±0°.05×105°.27W±0°.04, h0km±2km, ML3.3/62, Error ellipse: s-maj=9.2km s-min=5.2km az=347.0*
ISC 20 21:02:41.9±1.0, 43°.79N±0°.05×105°.32W±0°.04, h0km, n28, σ0s 87/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.99**	**70**		**Pg**	**21 03 00.4**	**-0.4**
K22A	**Casper**	**1.44**	**218**	Pn	**Pg**	**21 03 08.0**	**-1.4**
K22A				IAML		21 03 34.3	
	comp=N,458nm,0.3s						
K22A				IAML		21 03 36.5	
	comp=E,353nm,0.3s						
PHWY	**Pilot Hill**	**2.49**	**182**	Pn	**Pn**	**21 03 24.4**	**+0.5**
PHWY				IAML		21 04 03.3	
	comp=E,86nm,0.6s						
RWWY	**Rawlins**	**2.52**	**214**	Pn	**Pn**	**21 03 24.7**	**+0.5**
RWWY				IAML		21 03 59.9	
	comp=E,117nm,1.7s						
RWWY				IAML		21 04 00.8	
	comp=E,188nm,0.9s						
N23A	**Red Feather La**	**2.93**	**189**	Pn	**Pn**	**21 03 30.7**	**+0.7**
N23A				IAML		21 04 16.6	
	comp=E,66nm,0.7s						
N23A				IAML		21 04 29.7	
	comp=N,71nm,0.7s						
LAO	**LASA Array**	**2.97**	**348**		**Pn**	**21 03 30.4**	**0.0**
RLMT	**Red Lodge**	**3.12**	**297**		**Pn**	**21 03 33.5**	**+0.9**
RLMT				IAML		21 04 28.3	
	comp=N,85nm,1.8s						
RLMT				IAML		21 04 57.5	
	comp=N,59nm,2.1s						
PD31	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**21 03 35.2**	**+0.8**
PDAR	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**21 03 34.8**	**+0.4**
	comp=N,2.2nm,0.3s,baz=76,slow=15,SNR=40						
PDAR				Lg	Lg	21 04 20.7	
	comp=N,12nm,0.3s,baz=73,slow=32,SNR=4.2						
	comp=N,3.7nm,0.3s						
PDAR	**Pinedale Array**	**3.26**	**253**		**Pn**	**21 03 34.6**	**+0.2**
BW06	**Boulder Array**	**3.26**	**253**		**Pn**	**21 03 35.0**	**+0.6**
BW06				IAML		21 04 25.8	
	comp=N,42nm,0.3s						
BRIGG	**Briggsdale**	**3.29**	**167**	Pn	**Pn**	**21 03 35.7**	**+0.9**
YMP	**Mirror Lake Pl**	**3.60**	**287**		**Pb**	**21 03 47.9**	**+1.3**
YMP				IAML		21 04 42.1	
	comp=E,95nm,0.7s						
YMP				IAML		21 04 42.8	
	comp=N,79nm,0.4s						
GCMT	**Greycliff**	**3.69**	**304**	Pn	**Pn**	**21 03 40.7**	**+0.5**
LKWY	**Lake**	**3.73**	**284**		**Pb**	**21 03 50.1**	**+1.3**
LKWY				IAML		21 05 18.4	
	comp=N,46nm,1.8s						
LKWY				IAML		21 05 52.9	
	comp=N,39nm,4.9s						
OGNE	**Ogallala**	**3.74**	**138**		**Pn**	**21 03 41.4**	**+0.4**
H17A	**Grant Village**	**3.83**	**281**		**Pn**	**21 03 42.1**	**-0.3**
H17A				IAML		21 04 47.5	
	comp=E,28nm,2.6s						
H17A				IAML		21 05 06.0	
	comp=N,27nm,1.8s						
LOHW	**Long Hollow**	**3.83**	**269**		**Pn**	**21 03 43.0**	**+0.7**
LOHW				IAML		21 04 58.9	
	comp=N,29nm,2.2s						
FLWY	**Flagg Ranch**	**3.90**	**276**		**Pg**	**21 03 55.6**	**-0.9**
FLWY				IAML		21 04 59.6	
	comp=N,61nm,1.9s						
MOOW	**Moose Ponds**	**3.93**	**271**		**Pn**	**21 03 44.7**	**+1.1**
IMW	**Indian Meadow**	**4.06**	**273**	IAML		21 04 59.5	
	comp=N,33nm,1.8s						
IMW				IAML		21 05 12.5	
	comp=N,28nm,0.6s						
E28A	**Huff**	**4.30**	**48**	Pn	**Pn**	**21 03 49.1**	**+0.6**
AHID	**Auburn Hatcher**	**4.34**	**258**	IAML		21 05 30.8	
	comp=N,35nm,2.1s						
RDMU	**Red Mountain**	**4.50**	**226**	IAML		21 05 06.8	
	comp=E,35nm,1.7s						
RDMU				IAML		21 05 14.4	
	comp=N,32nm,1.6s						
HWUT	**Hardware Ranch**	**5.09**	**247**	IAML		21 05 34.8	
	comp=N,26nm,1.0s						
I10CA	**LAC DU BONNET**	**9.02**	**41**	I	I	22 01 00.0	
	baz=216,slow=314,SNR=1.7						
ULM	**Lac du Bonnet**	**9.13**	**42**	Pn	**Pn**	**21 04 53.5**	**-1.3**
	comp=N,1.1nm,0.3s,baz=238,slow=13,SNR=4.9						
ULM				Lg	Lg	21 07 26.6	
	comp=N,0.7nm,0.3s,baz=323,slow=20,SNR=3.5						
	comp=N,2.4nm,0.4s						
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**P**	**21 07 09.5**	**-0.9**
	baz=157,slow=11,SNR=2.6						
	comp=N,0.1nm,0.5s						

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*IDC **20** 21:04:42.9±0.8, 55°.33S×29°.68W, h0km, mb4.1/5, mbtmp4.1/6, ML4.1/1, MS3.5/24, Error ellipse: s-maj=38.5km s-min=20.5km az=68.0*
*NEIC **20** 21:04:45±1.2, 55°.5S±0°.1×29°.8W±0°.1, h10km±2km, mb4.6/32, Error ellipse: s-maj=25.8km s-min=7.9km az=26.0*
ISC 20 21:04:44.1±0.7, 55°.4S±0°.1×29°.7W±0°.1, h10km, n71, σ0s 91/47, mb4.6/18, MS3.5/23, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFI	**East Falkland**	**17.22**	**271**	Pn	**Pn**	**21 08 44.0**	**-0.4**
EFI				IAmb	IAmb	21 08 49.2	
	comp=Z,75nm,1.4s						
VNA1	**Neumayer--Stat**	**17.98**	**157**	P	**P**	**21 08 57.6**	**+3.4**
VNA3	**Neumayer Olymp**	**18.12**	**159**	P	**Pn**	**21 08 54.9**	**-0.7**
VNA2	**Neumayer--Watz**	**18.37**	**157**	P	**Pn**	**21 08 57.7**	**-1.0**
	baz=313,slow=13						
PMSA	**Palmer Station**	**19.31**	**227**	LR	LR	21 14 58.2	
	comp=Z,98nm,19.4s,baz=116,slow=32						
SNAA	**Sanae**	**19.95**	**155**	P	**P**	**21 09 15.2**	**-0.8**
SNAA	**Sanae**	**19.95**	**155**	P	**P**	**21 09 15.5**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=314,slow=12,SNR=11						
	comp=Z,4.7nm,0.6s						
SNAA	**Sanae**	**19.95**	**155**	P	**P**	**21 09 15.3**	**-0.7**
TROLL	**Troll, Antarti**	**21.50**	**153**	P	**P**	**21 09 31.3**	**-1.5**
BELA	**Belgrano 2**	**22.68**	**183**	P	**P**	**21 09 45.4**	**+0.1**
MG05	**Puerto Natales**	**25.42**	**260**	P	**P**	**21 10 11.3**	**-0.2**
GO08	**Villa O'Higgin**	**26.98**	**267**	P	**P**	**21 10 26.0**	**+0.3**
GO08				IAmb	IAmb	21 10 33.0	
	comp=Z,16nm,1.2s						
TRQA	**Tornquist**	**27.75**	**295**	P	**P**	**21 10 33.7**	**+0.9**
PLCA	**Paso Flores**	**30.49**	**281**	LR	LR	21 24 13.3	

comp=Z,47nm,18.3s,baz=124,slow=38
QSPA South Pole Qui 34.89 180 P P 21 11 36.5 +1.0
comp=Z,1.1nm,0.5s,baz=222,slow=6.9,SNR=5.6
QSPA LR LR 21 25 19.2
comp=Z,133nm,18.3s,baz=174,slow=35
comp=Z,1.1nm,0.5s
QSPA South Pole Qui 34.89 180 P P 21 11 35.1 -0.3
CPUP Villa Florida 35.31 314 P P 21 11 38.1 -1.0
comp=Z,1.9nm,0.6s,baz=146,slow=7.3,SNR=5.4
CPUP LR LR 21 26 59.6
comp=Z,29nm,19.0s,baz=182,slow=38
comp=Z,1.9nm,0.6s
CFA Coronel Fontan 35.99 295 LR LR 21 25 50.9
comp=Z,20nm,20.9s,baz=120,slow=35
MT02 Curacav 36.23 290 P P 21 11 47.6 +0.5
ZON Zonda 36.27 295 P P 21 11 47.8 +0.3
ZON IAmb IAmb 21 11 50.2
comp=Z,5.8nm,0.8s
VA06 Catapilco 36.85 291 P P 21 11 52.1 -0.3
CO02 Combarbal 37.75 292 P P 21 12 00.8 +0.6
CO03 El Pedregal 37.88 293 P P 21 12 01.2 0.0
CO03 IAmb IAmb 21 12 29.2
comp=Z,13nm,1.1s
CO01 Juntas del Tor 38.25 295 P P 21 12 05.2 +0.7
GO04 Tololo Observa 38.46 294 P P 21 12 07.5 +1.2
GO04 IAmb IAmb 21 12 35.8
comp=Z,21nm,1.3s
AC05 El Transito 39.26 296 P P 21 12 12.6 -0.2
LCO Las Campanas 39.34 295 P P 21 12 13.8 +0.2
LCO IAmb IAmb 21 12 15.1
comp=Z,13nm,1.1s
MAW Mawson 41.53 145 LR LR 21 29 01.9
comp=Z,48nm,18.6s,baz=186,slow=35
AC01 Pan de Azucar 41.61 298 P P 21 12 32.4 +0.1
AC01 IAmb IAmb 21 12 33.4
comp=Z,16nm,1.1s
SUR Sutherland 41.85 78 LR LR 21 26 33.1
comp=Z,50nm,19.1s,baz=193,slow=31
LVC Limon Verde 43.74 302 LR LR 21 32 20.4
comp=Z,26nm,19.8s,baz=204,slow=38
LVC Limon Verde 43.74 302 P P 21 12 49.8 -0.1
LVC IAmb IAmb 21 12 52.7
comp=Z,9.8nm,1.2s
PB06 IPOC Station P 43.98 301 P P 21 12 51.9 +0.3
PB06 IAmb IAmb 21 13 17.6
comp=Z,8.6nm,0.8s
PB02 IPOC Station P 45.31 302 P P 21 13 02.9 +0.8
PB01 IPOC Station P 45.35 303 P P 21 13 02.5 +0.1
PTLB Pontes e Lacer 45.83 319 P P 21 13 05.7 -0.4
PTLB IAmb IAmb 21 13 07.0
comp=Z,6.6nm,0.8s
SIV San Ignacio 46.09 316 LR LR 21 35 36.0
comp=Z,29nm,18.2s,baz=259,slow=40
GO01 Chusmiza 46.39 304 P P 21 13 11.7 +0.5
GO01 IAmb IAmb 21 13 15.0
comp=Z,9.0nm,1.2s
PB11 IPOC Station P 46.53 304 P P 21 13 12.1 +0.2
PB11 IAmb IAmb 21 13 30.6
comp=Z,6.7nm,0.9s
SBA Scott Base 46.66 185 P P 21 13 12.2 +0.1
SBA IAmb IAmb 21 13 31.7
comp=Z,5.4nm,1.1s
MNMC Minye Minye 47.04 304 P P 21 13 16.9 +0.8
VNDA Vanda 47.19 183 P P 21 13 17.7 +1.5
comp=Z,0.9nm,0.8s,baz=198,slow=4.8,SNR=2.6
comp=Z,0.9nm,0.8s
VNDA Vanda 47.19 183 P P 21 13 15.6 -0.6
VNDA IAmb IAmb 21 13 28.6
comp=Z,6.0nm,1.1s
BOSA Boshof 47.19 79 LR LR 21 29 04.8
comp=Z,76nm,18.3s,baz=202,slow=31
LPAZ La Paz 48.83 308 P P 21 13 31.1 +0.8
comp=Z,5.4nm,0.6s,baz=138,slow=5.9,SNR=19
LPAZ LR LR 21 36 22.6
comp=Z,29nm,18.8s,baz=199,slow=39
comp=Z,5.4nm,0.6s
LPAZ La Paz 48.83 308 P P 21 13 30.7 +0.4
LPAZ IAmb IAmb 21 13 36.1
comp=Z,6.0nm,0.7s
H10N1 ASCENSION HYDR 48.91 20 T T 22 06 26.4
baz=194
H10N3 ASCENSION HYDR 48.91 20 T T 22 06 30.2
baz=194,slow=74,SNR=6.4
H10N2 ASCENSION HYDR 48.92 20 T T 22 06 28.4
baz=194,slow=74,SNR=7.4
RCBR Riachuelo 49.64 352 LR LR 21 31 37.0
comp=Z,49nm,18.6s,baz=322,slow=32
LBTB Lobatse 50.18 76 LR LR 21 32 55.1
comp=Z,42nm,18.3s,baz=196,slow=34
TSUM Tsumeb 50.61 64 LR LR 21 30 58.2
comp=Z,38nm,20.1s,baz=210,slow=31
SAML Samuel 53.33 317 P P 21 14 01.6 -1.8
ETMB Extrema 53.76 313 P P 21 14 06.5 0.0
ETMB IAmb IAmb 21 14 07.8
comp=Z,3.8nm,1.0s
NNA Nana 56.68 301 LR LR 21 38 44.8
comp=Z,13nm,19.6s,baz=130,slow=36
LSZ Lusaka 59.47 72 LR LR 21 36 20.7
comp=Z,66nm,20.1s,baz=212,slow=32
MDP Montagnes des 63.18 334 LR LR 21 41 50.2
comp=Z,56nm,19.0s,baz=174,slow=35
MCRA Macar, Loja 64.79 302 P P 21 15 23.0 +0.1
MCRA IAmb IAmb 21 15 37.7
comp=Z,4.1nm,0.9s
SDV Santo Domingo 72.53 317 LR LR 21 50 53.1
comp=Z,126nm,18.0s,baz=157,slow=38
MBAR Mbarara 73.12 65 LR LR 21 44 29.1
comp=Z,44nm,19.9s,baz=199,slow=33
TORD Torodi Ar. Bea 73.18 32 P P 21 16 16.5 +1.6
comp=Z,0.6nm,0.6s,baz=199,slow=5.8,SNR=6.1
comp=Z,0.6nm,0.6s
SJG San Juan 79.45 325 LR LR 21 51 13.5
comp=Z,19nm,21.6s,baz=193,slow=35
MDT Midelt 90.42 21 LR LR 21 55 41.6
comp=Z,48nm,19.0s,baz=102,slow=34
STKA Stephens Creek 92.79 173 LR LR 21 56 35.7
comp=Z,22nm,20.6s,baz=202,slow=34
KEST Kesra 96.69 31 LR LR 21 55 16.7
comp=Z,53nm,19.5s,baz=308,slow=31
ESDC Sonseca Array 97.18 20 LR LR 21 55 21.7
comp=Z,56nm,21.3s,baz=304,slow=31
FINES FINESS Array B 124.44 29 PKP PKPdf 21 23 42.4 +0.5
comp=Z,4.8nm,1.1s,baz=242,slow=4.1,SNR=4.0
YKA Yellowknife Ar 134.72 319 PKP PKPdf 21 24 01.1 -0.3
comp=Z,0.4nm,0.7s,baz=131,slow=2.4,SNR=5.8
INK Inuvik 144.38 322 PKP PKPab 21 24 16.9 -0.1
comp=Z,2.4nm,0.9s,baz=84,slow=5.1,SNR=8.0
ILAR Eielson Array 148.61 313 PKPbc PKPbc 21 24 29.4 -0.4
comp=Z,2.5nm,0.6s,baz=118,slow=1.4,SNR=27
SONM Songino Array 152.10 87 PKPbc PKPbc 21 24 37.1 -1.8
comp=Z,0.5nm,0.5s,baz=224,slow=4.0,SNR=3.7

ROM 20 21:16:55.5±0.1, 41°.717N±0°.004×14°.206E±0°.006, h9km, Md1.9/2, ML1.4/4, 5C-2D, Error ellipse: s-maj=0.5km s-min=0.4km az=321.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CERA	**Filignano**	**0.18**	**230**	⇑P	Pg	21 17 00.1	+0.7
CERA				S	Sg	21 17 03.7	+1.5
CERA				AML	AML		
	comp=E,190μm,0.7s						
CERA				AML	AML		
	comp=N,159μm,0.9s						
CERA				AML	AML		
	comp=E,203μm,0.7s						
CERA				AML	AML		
	comp=N,152μm,0.5s						
CERA				AML	AML		
	comp=E,190μm,0.7s						
CERA				AML	AML		
	comp=N,159μm,1.1s						
CERA				END			
TRIV	**Trivento**	**0.26**	**79**	P	Pb	21 17 01.8	-0.7
TRIV				S	Sb	21 17 06.6	-0.5
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
	comp=E,120μm,1.0s						
TRIV				AML	AML		
	comp=N,139μm,1.2s						
TRIV				AML	AML		
	comp=N,139μm,0.8s						
TRIV				AML	AML		

	comp=E,120μm,1.0s							
TRIV					AML	AML		
TRIV					AML	AML		
TRIV					END			
VAGA	**Valle Agricola**	**0.30**	**176**	⇑P	Pg		21 17 02.1	+0.5
VAGA				S	Sb		21 17 07.2	-1.1
VAGA				AML	AML			
	comp=E,111μm,1.6s							
VAGA				AML	AML			
	comp=N,131μm,1.2s							
VAGA				AML	AML			
	comp=E,112μm,0.9s							
VAGA				AML	AML			
	comp=E,112μm,1.6s							
VAGA				AML	AML			
	comp=N,130μm,1.2s							
VAGA				AML	AML			
	comp=N,126μm,0.2s							
VAGA				AML	AML			
	comp=E,112μm,1.1s							
VAGA				AML	AML			
	comp=E,112μm,0.4s							
LPEL	**Lama dei Pelig**	**0.33**	**357**	P	Pg		21 17 02.5	+0.4
LPEL				S	Sb		21 17 07.9	-1.2
LPEL				AML	AML			
	comp=E,257μm,0.4s							
LPEL				AML	AML			
	comp=N,192μm,0.1s							
SGG	**Gregorio Mates**	**0.35**	**158**	P	Pg		21 17 03.1	+0.6
SGG				S	Sb		21 17 09.1	-0.7
SGG				AML	AML			
	comp=E,67μm,1.4s							
SGG				AML	AML			
	comp=N,60μm,1.0s							
POFI	**Posta Fibreno**	**0.37**	**270**	⇓P	Pg		21 17 03.4	+0.5
POFI				S	Sb		21 17 09.6	-0.6
POFI				AML	AML			
	comp=E,77μm,0.3s							
POFI				AML	AML			
	comp=N,77μm,0.5s							
POFI				AML	AML			
	comp=N,77μm,1.5s							
POFI				AML	AML			
	comp=E,77μm,0.3s							
FRES	**Fresagrandinar**	**0.43**	**53**	P	Pg		21 17 04.4	+0.4
FRES				S	Sb		21 17 11.6	-0.3
VVLD	**Villa Vallelon**	**0.46**	**290**	P	Pg		21 17 04.8	+0.1
VVLD				S	Sb		21 17 12.2	-0.7
VVLD				AML	AML			
	comp=E,90μm,0.3s							
VVLD				AML	AML			
	comp=N,99μm,1.5s							
VVLD				AML	AML			
	comp=N,99μm,1.5s							
VVLD				AML	AML			
	comp=N,99μm,0.5s							
VVLD				AML	AML			
	comp=E,90μm,0.3s							
PTQR	**Pietraquaria**	**0.68**	**297**	P	Pg		21 17 08.1	-0.5
PTQR				S	Sb		21 17 18.6	-0.4
FAGN	**Fagnano**	**0.72**	**320**	P	Pg		21 17 09.5	0.0
FAGN				S	Sb		21 17 20.1	-0.2
GIUL	**Giuliano Di Ro**	**0.73**	**258**	P	Pg		21 17 09.9	+0.2
GIUL				S	Sb		21 17 20.1	-0.4
GIGS	**Gran Sasso**	**0.87**	**327**	⇑P	Pn		21 17 13.7	-0.4
AQU	**L'Aquila**	**0.87**	**317**	⇑P	Pn		21 17 14.1	+0.1
FIAM	**Fiamignano**	**0.98**	**305**	P	Pn		21 17 15.2	-0.4
CESX	**Cesi**	**1.50**	**307**	S	Sg		21 17 44.3	+0.5
FDMO	**Fiordimonte**	**1.56**	**328**	⇓P	Pg		21 17 26.3	+0.8
FDMO				S	Sn		21 17 43.1	-0.7
FDMO				AML	AML			
	comp=E,55μm,0.3s							
FDMO				AML	AML			
	comp=N,49μm,1.0s							
FDMO				AML	AML			
	comp=E,55μm,1.7s							
FDMO				AML	AML			
	comp=N,49μm,1.0s							
CESI	**CESI - Serrava**	**1.61**	**324**	⇑P	Pg		21 17 26.5	0.0
CESI				AML	AML			
	comp=E,30μm,1.4s							
CESI				AML	AML			
	comp=E,30μm,0.6s							
CESI				AML	AML			
	comp=N,48μm,0.3s							
MOMA	**Monte Martano**	**1.63**	**312**	S	Sb		21 17 46.2	-0.3
MOMA				AML	AML			
	comp=N,44μm,1.2s							
MOMA				AML	AML			
	comp=E,58μm,0.2s							
MOMA				AML	AML			
	comp=N,44μm,0.8s							
ASSB	**Assisi San Ben**	**1.75**	**320**	S	Sn		21 17 49.1	+0.5
EL6	**Elcito**	**1.81**	**334**	S	Sb		21 17 52.4	+0.8
FAEN	**Faenza**	**3.09**	**327**	P	Pb		21 17 47.8	-2.8

KRSC 20 21:18:06.0±1.0, 48°76'N×156°20'E, h17km±17km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.93**	**358**	*e*P	Pn	21 18 39.1	+1.2
SKR				*e*S	Sb	21 19 03.6	-0.8
KDTR	**Khodutka, Kamc**	**3.28**	**21**	*e*P	Pn	21 19 00.1	+3.5
KDTR				*e*S	Sb	21 19 39.3	-4.0
MTVR	**Mutnovka**	**3.94**	**18**	*e*P	Pn	21 19 10.0	+4.3
MTVR				*e*S	Sn	21 19 56.7	+5.2
RUS	**Russkaya**	**3.96**	**21**	*e*P	Pn	21 19 09.0	+3.0
RUS				*e*S	Sn	21 19 56.2	+4.3
GRL	**Gorelyy**	**3.98**	**17**	*e*P	Pn	21 19 10.5	+4.2
UGLR	**Uglovaya**	**4.75**	**19**	*e*P	Pn	21 19 21.2	+4.3
KOK	**Koryaka**	**4.79**	**18**	*e*P	Pn	21 19 22.0	+4.6
SDLR	**Sedlovina**	**4.83**	**20**	*e*P	Pn	21 19 21.5	+3.5
KRX	**Arik**	**4.86**	**18**	*e*P	Pn	21 19 23.0	+4.6
GNL	**Ganaly**	**5.06**	**12**	*e*P	Pn	21 19 25.2	+4.0

DJA 20 21:54:34.8±0.5, 1°N±4°×112°3'E±°, h10km, M3.9/6, mb4.3/1, MLv3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.03**	**223**	P	Pg	21 54 54.2	-0.5
MRSI				S	Sb	21 55 08.7	+0.3
LUWI	**Luwuk**	**2.27**	**177**	P	Pn	21 55 13.2	+0.8
MPSI	**Mapaga**	**2.88**	**252**	P	Pn	21 55 21.1	+0.3
SANI	**Sanana**	**4.68**	**134**	P	Pn	21 55 45.7	+0.2

NOU 20 21:57:11.4, 16°16S×167°55E, h15km, MLv4.3/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.67**	**159**	P	Pn	21 57 40.5	+0.3
RTV	**Rentapao**	**1.83**	**153**	P	Pn	21 57 43.3	+1.0
LIFNC	**LIFOU**	**4.60**	**184**	P	Pn	21 58 19.1	-1.4
KOUNC	**Koumac, New Ca**	**5.36**	**215**	P	Pn	21 58 30.5	-0.3
DZM	**Mont Dzumac**	**5.97**	**190**	P	Pn	21 58 39.3	-0.1
NOUC	**Port Laguerre**	**6.03**	**191**	P	Pn	21 58 39.9	-0.2
OUENC	**Ouen Island, N**	**6.26**	**186**	P	Pn	21 58 43.9	+0.6

IDC 20 22:07:49.4±2.3, 7°04S×129°58E, h123km±25km, mb3.3/1, mbtmp3.6/5, Error ellipse: s-maj=29.1km s-min=20.5km az=121.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.36**	**15**	P	Pn	22 09 20.8	0.0
	2.7nm,0.3s,baz=114,slow=8.0,SNR=15						
SIJI				S	Sn	22 10 27.4	-4.6
	2.8nm,0.2s,baz=171,slow=22,SNR=1.7						
BATI	**Baumata**	**6.64**	**241**	P	Pn	22 09 25.8	+1.2
	25nm,0.3s,baz=71,slow=5.7,SNR=6.1						
BATI				S	Sn	22 10 38.6	-0.4
	6.8nm,0.3s,baz=296,slow=22,SNR=1.3						
WRA	**Warramunga Arr**	**13.63**	**161**	P	Pn	22 10 56.1	-1.8
	0.2nm,0.3s,baz=340,slow=13,SNR=7.5						
WRA				S	Sn	22 13 15.6	-13
	0.7nm,0.6s,baz=332,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**17.05**	**166**	P	Pn	22 11 41.8	+1.3
	0.2nm,0.5s,baz=343,slow=10.0,SNR=5.1						
ASAR				S	Sn	22 14 39.8	-11
	0.2nm,0.4s,baz=319,slow=21,SNR=2.0						
MKAR	**Makanchi Array**	**68.03**	**327**	P	P	22 18 35.6	0.0
	0.3nm,0.3s,baz=123,slow=8.1,SNR=12						
	0.3nm,0.3s						

*SCB **20** 22:22:09.5±1.2, 21°.14S×67°.35W, h184km±16km, ML3.5/1, Error ellipse: s-maj=7.9km s-min=5.3km az=0.0*
ISC 20 22:22:08.0±2.6, 21°.13S±0°.06×67°.34W±0°.06, h207km±22km, n23, σ1§13/40, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.59**	**95**	Pg	**Pn**	**22 22 44.2**	**+0.5**
MOCB				Sg	**S**	**22 23 09.3**	**-1.7**
MOCB				IAML		22 23 10.4	
	244nm,0.2s						
PB09	**IPOC Station P**	**1.89**	**249**	⇑*i*P	**Pn**	**22 22 47.6**	**+1.4**
PB09				*i* S	**S**	**22 23 16.4**	**+0.9**
PB01	**IPOC Station P**	**2.01**	**272**	*e*P	**Pn**	**22 22 47.7**	**+0.5**
PB01				*e*S	**S**	**22 23 16.7**	**-0.6**
PB01				IAML		22 23 18.9	
	comp=N,166nm,0.1s						
GO01	**Chusmiza**	**2.27**	**310**	*e*P	**Pn**	**22 22 51.5**	**+1.0**
GO01	**Chusmiza**	**2.27**	**310**	Pg	**Pn**	**22 22 51.6**	**+1.2**
PB02	**IPOC Station P**	**2.39**	**265**	⇑*i*P	**Pn**	**22 22 52.2**	**+0.9**
PB02				*e*S	**S**	**22 23 24.1**	**-0.5**
PB02				IAML		22 23 25.8	
	comp=E,209nm,0.1s						
PB02	**IPOC Station P**	**2.39**	**265**	Pg	**Pn**	**22 22 52.2**	**+0.9**
PB02				Sg	**S**	**22 23 23.7**	**-0.8**
PB03	**IPOC Station P**	**2.42**	**247**	⇓*i*P	**Pn**	**22 22 52.7**	**+1.0**
PB03				*i* S	**S**	**22 23 24.5**	**-0.8**
PB03				IAML		22 23 25.4	
	comp=E,139nm,0.1s						
PB07	**IPOC Station P**	**2.44**	**256**	⇑*i*P	**Pn**	**22 22 52.7**	**+0.7**
PB07				*i* S	**S**	**22 23 24.8**	**-0.9**
PB07				IAML		22 23 25.7	
	comp=E,184nm,0.3s						
PB11	**IPOC Station P**	**2.56**	**302**	⇑*e*P	**Pn**	**22 22 53.9**	**+0.6**
PB11				*e*S	**S**	**22 23 27.8**	**-0.3**
PB06	**IPOC Station P**	**2.60**	**233**	*i* P	**Pn**	**22 22 54.5**	**+0.9**
PB06				*i* S	**S**	**22 23 28.6**	**-0.1**
PB06				IAML		22 23 30.3	
	comp=E,136nm,0.5s						
PB06	**IPOC Station P**	**2.60**	**233**	Pg	**Pn**	**22 22 54.4**	**+0.8**
PATCX	**Punta Patache**	**2.65**	**276**	*e*P	**Pn**	**22 22 54.3**	**+0.2**
PATCX				*i* S	**S**	**22 23 27.9**	**-1.6**
PATCX				IAML		22 23 30.1	
	comp=N,135nm,0.2s						
TA01	**Diego Aracena**	**2.72**	**281**	*i* P	**Pn**	**22 22 55.0**	**+0.2**
TA01				*i* S	**S**	**22 23 29.1**	**-1.7**
TA01				IAML		22 23 31.6	
	comp=E,93nm,0.2s						
TA01	**Diego Aracena**	**2.72**	**281**	Pg	**Pn**	**22 22 54.8**	**0.0**
TA02	**Huaiquique**	**2.75**	**288**	Pg	**Pn**	**22 22 56.2**	**+1.0**
PB04	**IPOC Station P**	**2.87**	**245**	*e*P	**Pn**	**22 22 57.5**	**+0.8**
PB04				*e*S	**S**	**22 23 33.4**	**-1.0**
PB04				IAML		22 23 35.2	
	comp=N,74nm,0.1s						
PB04	**IPOC Station P**	**2.87**	**245**	Pg	**Pn**	**22 22 57.5**	**+0.8**
PB04				Sg	**S**	**22 23 32.9**	**-1.4**
MNMC	**Minye Minye**	**2.91**	**313**	⇑*i*P	**Pn**	**22 22 58.5**	**+1.2**
MNMC				*e*S	**S**	**22 23 35.7**	**+0.5**
MNMC				IAML		22 23 38.5	
	comp=N,190nm,0.2s						
PSGC	**Pisagua**	**3.02**	**300**	*e*P	**Pn**	**22 22 58.3**	**-0.2**
PSGC				*e*S	**S**	**22 23 35.4**	**-1.9**
PSGC				IAML		22 23 37.6	
	comp=E,68nm,0.2s						
SOET	**ToroToro**	**3.33**	**26**	Pg	**Pn**	**22 23 02.8**	**+0.5**
PB16	**IPOC Station P**	**3.45**	**323**	*i* P	**Pn**	**22 23 06.2**	**+2.2**
PB16				*i* S	**S**	**22 23 48.4**	**+1.1**
PB12	**IPOC Station P**	**3.77**	**311**	⇑*e*P	**Pn**	**22 23 06.9**	**-0.4**
PB12				*i* S	**S**	**22 23 50.7**	**-2.7**

IDC 20 22:23:00.2±405.0, 54°.16N×164°.98W, h0km, Error ellipse: s-maj=235.8km s-min=147.9km az=38.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I53US	**FAIRBANKS INFR**	**13.76**	**32**	*i*		23 46 20.0	
	0.1nm,1.9s,baz=232,slow=327,SNR=1.5						
I44RU	**PETROPAVLOVSK**	**21.98**	**283**	*i*		00 39 20.0	
	baz=74,slow=291,SNR=2.6						
I59US	**HAWAII INFRASO**	**35.20**	**165**	*i*		01 56 30.0	
	0.1nm,7.3s,baz=347,slow=322,SNR=0.7						

*SFS **20** 22:51:46.7, 35°.58N×2°.25W, h47km, ML2.6/4, MLv2.6/4*
*MDD **20** 22:51:47.5±0.6, 35°.59N×2°.23W, h32km±18km, mb_Lg2.4/8, Error ellipse: s-maj=8.7km s-min=4.3km az=148.0*
ISC 20 22:51:45.7±1.2, 35°.71N±0°.04×2°.20W±0°.05, h17km±9km, n15, σ1§50/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHAS	**Isla Isabel II**	**0.55**	**200**	S	**Sg**	**22 52 03.6**	**-0.5**
CHAS				P	**Pg**	**22 51 55.9**	**-0.8**
EALB	**Alboran**	**0.72**	**289**	S	**Sg**	**22 52 10.7**	**+1.5**
EALB				P	**Pg**	**22 52 00.6**	**+0.9**
EALB	**Alboran**	**0.72**	**289**	P	**Pg**	**22 51 59.7**	**0.0**
EALB				S	**Sg**	**22 52 10.1**	**+0.9**
EALB				*i* Vmb_Lg		22 52 11.2	
EMEL	**Melilla**	**0.74**	**237**	P	**Pb**	**22 52 00.7**	**+0.6**
EMEL				S	**Sg**	**22 52 09.6**	**-0.3**
ENIJ	**Nijar**	**1.26**	**360**	S	**Sg**	**22 52 25.3**	**-1.3**
ENIJ				P	**Pg**	**22 52 09.6**	**-0.5**
ENIJ	**Nijar**	**1.26**	**360**	P	**Pg**	**22 52 08.7**	**-1.4**
ENIJ				S	**Sg**	**22 52 24.6**	**-2.0**
ENIJ				*i* Vmb_Lg		22 52 26.2	
ELGU	**Los Guajares,**	**1.64**	**316**	P	**Pn**	**22 52 13.5**	**-0.2**
ELGU				S	**Sn**	**22 52 32.2**	**-2.3**
ELGU				*i* Vmb_Lg		22 52 36.3	
EQUE	**Quentar**	**1.80**	**327**	P	**Pn**	**22 52 17.0**	**+0.9**
EQUE				S	**Sn**	**22 52 37.8**	**-0.7**
EQUE				*i* Vmb_Lg		22 52 52.4	
EGOR	**Sierra Gorda,**	**2.08**	**313**	P	**Pn**	**22 52 21.7**	**+1.7**
EGOR				S	**Sn**	**22 52 45.9**	**+0.3**
EGOR				*i* Vmb_Lg		22 52 54.4	
EMIJ	**Mijas**	**2.25**	**293**	P	**Pn**	**22 52 22.3**	**+0.1**
EMIJ				S	**Sn**	**22 52 45.5**	**-4.1**
EMIJ				*i* Vmb_Lg		22 52 54.6	
EMUR	**La Murta**	**2.27**	**20**	P	**Pn**	**22 52 24.0**	**+1.5**
EMUR				S	**Sn**	**22 52 49.8**	**-0.3**
ETOB	**Tobarra**	**2.98**	**10**	P	**Pn**	**22 52 34.5**	**+2.2**
ETOB				S	**Sn**	**22 53 08.2**	**+0.6**
EADA	**Adamuz**	**3.11**	**323**	P	**Pn**	**22 52 35.8**	**+1.9**
EADA				S	**Sn**	**22 53 10.8**	**+0.1**
EADA				*i* Vmb_Lg		22 53 18.2	
EBAF	**El Cabril**	**3.50**	**313**	S	**Sn**	**22 53 18.5**	**-1.9**
PVAQ	**Vaqueiros**	**4.75**	**293**	*e*Pn	**Pn**	**22 52 56.9**	**+0.3**

*HVO **20** 22:56:19.2±1.5, 19°.21N±0°.05×155°.97W±0°.06, h51km±3km, ML2.9/23, ML3.0/45(NEIC), Error ellipse: s-maj=10.1km s-min=3.1km az=49.0*
NEIC 20 22:56:18.8±0.8, 19°.23N±0°.03×155°.90W±0°.06, h40km±4km, Error ellipse: s-maj=8.4km s-min=1.7km az=66.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPH	**Captain Cook**	**0.26**	**356**		Pn	22 56 26.2	-0.6
CPH					Sn	22 56 31.4	-0.9
KHU	**Kahuku**	**0.27**	**86**		Pn	22 56 27.8	+0.7
KHU					Sn	22 56 33.4	+0.6
KHLU	**Kahalu`u**	**0.36**	**1**		Pn	22 56 28.0	0.0
KHLU					Sn	22 56 34.1	-0.3
KHLU				IAML		22 56 34.6	
	comp=E,992nm,0.2s						
KHLU				IAML		22 56 34.8	
	comp=N,1μm,0.1s						
MWH	**Moku'aweowe**	**0.38**	**48**		Pn	22 56 28.9	+0.3
MWH					Sn	22 56 35.5	+0.1
MWH				IAML		22 56 35.9	
	comp=N,651nm,0.3s						
ALEP	**Alea Permanent**	**0.39**	**38**		Pn	22 56 28.3	-0.3
ALEP					Sn	22 56 34.9	-0.5
MLOA	**Mauna Loa Obse**	**0.43**	**45**		Pn	22 56 29.4	+0.2
MLOA					Sn	22 56 36.2	-0.2
MLOA				IAML		22 56 36.6	
	comp=N,1μm,0.2s						
AIN	**Ainahou**	**0.44**	**71**		Pn	22 56 29.5	+0.5
AIN					Sn	22 56 36.6	+0.4
AIN				IAML		22 56 37.9	
	comp=E,763nm,0.3s						
HUH	**Hualalai**	**0.46**	**8**		Pn	22 56 29.6	+0.3
HUH					Sn	22 56 36.7	0.0
HUH				IAML		22 56 39.7	
	comp=E,1μm,0.1s						
HTC	**Hot Caves**	**0.47**	**89**		Pn	22 56 29.0	-0.3
HMH	**Humu'ula Sheep**	**0.54**	**47**		Pn	22 56 30.9	+0.4
HMH					Sn	22 56 39.3	+0.6
MLH	**Mauna Loa**	**0.55**	**61**		Pn	22 56 30.9	+0.3
MLH				IAML		22 56 41.2	
	comp=N,444nm,0.1s						
HLP	**Hilina Pali**	**0.56**	**83**		Pn	22 56 31.1	+0.5
HLP					Sn	22 56 39.2	+0.4
HLP				IAML		22 56 39.6	
	comp=N,690nm,0.3s						
HLP				IAML		22 56 44.1	
	comp=E,596nm,0.8s						
SDHHI	**Sand Hill**	**0.59**	**74**		Pn	22 56 30.8	-0.2
SDHHI					Sn	22 56 39.8	+0.1
SDHHI				IAML		22 56 42.4	
	comp=E,800nm,0.2s						
UWE	**Uwekahuna**	**0.60**	**71**		Pn	22 56 31.2	0.0
UWE					Sn	22 56 39.9	0.0
UWE				IAML		22 56 41.7	
	comp=N,727nm,0.4s						
OBL	**Observatory Le**	**0.61**	**72**		Pn	22 56 31.2	0.0
NPH	**North Pit**	**0.61**	**73**		Pn	22 56 31.4	+0.1
NPH					Sn	22 56 39.7	-0.3
RIM	**Rim**	**0.61**	**74**	Pn	Pn	22 56 31.2	-0.1
RIM				IAML		22 56 45.8	
	comp=E,346nm,1.2s						
RIM				IAML		22 56 56.4	
	comp=N,459nm,2.0s						
UWB	**Uwekahuna B**	**0.62**	**72**		Pn	22 56 31.3	0.0
UWB					Sn	22 56 40.0	-0.2
KKO	**Keanakako`i**	**0.62**	**74**		Pn	22 56 31.6	+0.2
KKO				IAML		22 56 51.7	
	comp=E,341nm,1.4s						
KKO				IAML		22 56 56.7	
	comp=N,602nm,1.4s						
SBLHI	**Steaming Bluff**	**0.63**	**72**		Pn	22 56 31.3	-0.2
SBLHI					Sn	22 56 40.0	-0.4
SBLHI				IAML		22 56 40.4	
	comp=N,530nm,0.3s						
POHA	**Pohakuloa**	**0.63**	**33**		Pn	22 56 31.8	+0.2
POHA				Sn	Sn	22 56 40.3	-0.3
POHA				IAML		22 56 40.9	
	comp=N,786nm,0.2s						
POHA				IAML		22 56 43.7	
	comp=N,626nm,0.2s						
BYL	**Byron's Ledge**	**0.63**	**73**		Pn	22 56 30.8	-0.6
BYL				IAML		22 56 53.8	
	comp=N,333nm,1.3s						
RSD	**Rainshed**	**0.63**	**68**		Pn	22 56 31.7	+0.2
RSD					Sn	22 56 40.7	+0.1
HATHI	**Halema'uma'u T**	**0.63**	**72**		Pn	22 56 31.4	-0.1
HATHI				IAML		22 56 46.5	
	comp=E,437nm,1.3s						
PUH	**Pauahi**	**0.66**	**77**		Pn	22 56 31.8	-0.1
PUH					Sn	22 56 40.9	-0.3
PUH				IAML		22 56 46.4	
	comp=N,442nm,3.5s						
STCH	**Steam Cracks**	**0.75**	**78**		Pn	22 56 33.0	-0.1
STCH					Sn	22 56 42.7	-0.6
STCH				IAML		22 56 43.1	
	comp=E,526nm,0.1s						
STCH				IAML		22 56 59.8	
	comp=N,408nm,1.1s						
NPOC	**North of Pu'u**	**0.77**	**78**		Sn	22 56 43.1	-0.5

*IDC **20** 22:58:30.0±0.6, 29°.58N×51°.47E, h0km, mb4.1/29, mbtmp4.1/39, ML3.6/10, MS3.5/29, Error ellipse: s-maj=14.2km s-min=11.5km az=172.0*
*ISN **20** 22:58:31.1±0.6, 29°.46N×51°.57E, h11km±558km, ML4.3*
*MOS **20** 22:58:31.3±1.4, 29°.50N×51°.64E, h15km, mb4.8/30, Error ellipse: s-maj=6.6km s-min=4.0km az=112.3*
*TEH **20** 22:58:32.5, 29°.67N×51°.51E, h11km±12km, ML4.3*
*SGS **20** 22:58:33.0, 29°.89N×51°.53E, h7km, Ml4.3*
*NEIC **20** 22:58:33.0±1.9, 29°.67N±0°.07×51°.48E±0°.08, h10km±1km, mb4.5/65, Error ellipse: s-maj=12.4km s-min=11.8km az=167.0*
*DSN **20** 22:58:34.6±1.5, 29°.54N×51°.57E, h15km, ML4.2/15, Error ellipse: s-maj=20.5km s-min=6.7km az=6.0*
*GII **20** 22:58:34.3±0.0, 29°.65N×51°.62E, h10km*
*BJI **20** 22:58:35.0±0.0, 29°.85N×51°.80E, h10km, mb4.5/23, mB4.9/15, Ms4.5/2, Ms7 4.2/2*
ISC 20 22:58:32.7±0.6, 29°.62N±0°.03×51°.51E±0°.03, h13km±3km, h13km:pP-P, n504, σ2§04/494, mb4.6/107, MS3.5/24, 51C-44D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAZ1	**Kazerun**	**0.11**	**87**	Pg	**Pg**	**22 58 35.7**	**-0.1**
AHBU	**AHRAM**	**0.78**	**194**	Pg	**Pb**	**22 58 48.1**	**+0.1**
AHBU				Sg	**Sn**	**22 59 00.5**	**-0.4**
SHI	**Shiraz**	**0.87**	**88**	Pg	**Pg**	**22 58 49.2**	**-0.4**
SHI				Sg	**Sn**	**22 59 02.9**	**-0.6**
DSBU	**Dashti - Bushe**	**1.27**	**190**	Pg	**Pg**	**22 58 58.7**	**+1.6**
DSBU				Sg	**Sg**	**22 59 17.6**	**+3.9**
KLNJ	**Kolanjah**	**1.39**	**3**	Pg	**Pn**	**22 58 57.7**	**-0.4**
KLNJ				Sg	**Sg**	**22 59 18.6**	**+1.1**
ABEH	**Behbahan**	**1.47**	**312**	Pg	**Pb**	**22 58 59.5**	**-0.3**
ABEH				Sg	**Sg**	**22 59 21.0**	**+1.1**
QIR1	**Qir**	**1.76**	**130**	Pg	**Pb**	**22 59 05.4**	**+0.5**
GHIR	**Ghir-Karzin**	**1.85**	**135**	Pn	**Pb**	**22 59 06.2**	**-0.3**
JHRM	**Jahrom**	**2.12**	**121**	Pn	**Pb**	**22 59 10.2**	**-0.9**
IBRJ	**Brojen**	**2.29**	**355**	Pn	**Pn**	**22 59 11.5**	**+1.0**
IRAM	**Ramesheh**	**2.31**	**19**	Pn	**Pn**	**22 59 12.0**	**+1.3**
LMD1	**Lamerd**	**2.70**	**147**	Pn	**Pb**	**22 59 18.9**	**-1.9**
SHK1	**Shahrekord**	**2.75**	**349**	Pn	**Pn**	**22 59 17.8**	**+1.0**
AMIS	**Naft Sefid**	**2.80**	**317**	Pn	**Pn**	**22 59 18.6**	**+1.3**
IGAR	**Gharneh**	**2.81**	**9**	Pn	**Pn**	**22 59 19.1**	**+1.5**
ISAD	**Sadrabad**	**2.95**	**39**	Pn	**Pn**	**22 59 21.8**	**+2.2**
AHWZ	**Ahwaz**	**3.01**	**305**	Pn	**Pn**	**22 59 21.7**	**+1.7**
KFJS2	**Khafji**	**3.01**	**246**	P	**Pn**	**22 59 21.6**	**+1.5**
IPIR	**Pirpir**	**3.10**	**350**	Pn	**Pn**	**22 59 22.5**	**+0.8**
LAR1	**LAR**	**3.18**	**127**	Pn	**Pn**	**22 59 24.3**	**+1.8**
IMEH	**Mehriz**	**3.21**	**56**	Pn	**Pn**	**22 59 24.9**	**+1.9**
NASN	**Na'in**	**3.36**	**19**	Pn	**Pn**	**22 59 26.2**	**+1.0**
ICHK	**Chekchek**	**3.61**	**43**	Pn	**Pn**	**22 59 29.9**	**+1.3**
IKLH	**Kolahrood**	**3.69**	**1**	Pn	**Pn**	**22 59 30.7**	**+1.0**
SAKB	**Bahrain**	**3.73**	**194**	Pn	**Pn**	**22 59 31.8**	**+1.8**
YZKH	**Yazd**	**3.82**	**43**	Pn	**Pn**	**22 59 33.5**	**+2.1**
IBAF	**Bafgh**	**4.01**	**60**	Pn	**Pn**	**22 59 36.1**	**+2.1**
ANAR	**Anarak**	**4.03**	**27**	Pn	**Pn**	**22 59 35.7**	**+1.5**
QAMS	**Qamsar**	**4.11**	**359**	Pn	**Pn**

UMQ	Umm Al-Quwin	5.50	137		Pn		Pn		22 59 55.6	+1.4
SLWR	Sila	5.53	178		Pn		Pn		22 59 57.3	+2.5
HAGD	Aghdareh	5.56	339		Pn		Pn		22 59 56.2	+0.8
TPRV	Parvadeh(Tabas	5.58	51		Pn		Pn		22 59 57.8	+2.3
BANOM	Banah	5.62	130	*i*	P		Pn		22 59 56.8	+0.8
	SNR=18									
BANOM	Banah	5.62	130		Pn		Pn		22 59 57.1	+1.2
IKOM	Komasi	5.67	324		Pn		Pn		22 59 57.5	+0.6
KHNJ	Kahnooj	5.69	106		Pn		Pn		22 59 57.4	+0.4
GHWR	Ruwais	5.76	167		Pn		Pn		22 59 59.2	+1.3
IHSB	Hasanabad	5.80	358		Pn		Pn		22 59 58.4	-0.2
ILAS	Lasjerd	5.88	12		Pn		Pn		23 00 00.9	+1.2
IBDR	Badra	5.91	308	*eP*	Pn		Pn		23 00 04.0	+4.1
IBDR				*e*	Sn		Sn		23 01 12.0	+4.5
IBDR					AML		AML		23 02 01.0	
	comp=N,205nm,0.6s									
IBDR					AML		AML		23 02 01.4	
	comp=E,202nm,0.8s									
NAZ	Nazwa, Dubai	5.91	140	*i*	P		Pn		23 00 00.8	+0.9
	SNR=20									
NAZ	Nazwa, Dubai	5.91	140		Pn		Pn		23 00 01.2	+1.2
AJN	Ajban	5.91	148	*i*	P		Pn		23 00 01.4	+1.5
	SNR=15									
AJN	Ajban	5.91	148		Pn		Pn		23 00 01.5	+1.5
RMAH	Rumah	5.92	225		P		Pn		23 00 01.8	+1.6
MSFE	Esma-Masafi	5.92	135	*i*	P		Pn		23 00 00.4	+0.2
	SNR=19									
MSFE	Esma-Masafi	5.92	135		Pn		Pn		23 00 01.1	+1.0
IRAZ	Razeghan	5.92	347		Pn		Pn		23 00 01.6	+1.3
IDMV	Damavand	5.96	4		Pn		Pn		23 00 01.8	+1.0
KCHF	Cheshme Sefid,	6.00	322		Pn		Pn		23 00 02.4	+1.0
DAMV	Damavand	6.01	4		Pn		Pn		23 00 02.3	+0.8
ASUD	Al Ashush, Dub	6.03	145	*i*	P		Pn		23 00 02.7	+1.2
	SNR=64									
ASUD					P		Pn		23 00 02.8	+1.2
ASUD	Al Ashush, Dub	6.03	145		Pn		Pn		23 00 03.0	+1.4
ILBA	Ilam Banvizeh	6.03	313		Pn		Pn		23 00 01.5	-0.2
KEH	Kermanshah	6.03	323		Pn		Pn		23 00 03.2	+1.4
MDH	Madha	6.05	134	*i*	P		Pn		23 00 02.2	+0.3
	SNR=17									
MDH	Madha	6.05	134		Pn		Pn		23 00 02.3	+0.4
FAQ	Al Faqa, Dubai	6.06	142		P		Pn		23 00 02.7	+0.6
FAQ	Al Faqa, Dubai	6.06	142		Pn		Pn		23 00 02.8	+0.7
IFIR	Firoozkooh	6.10	10		Pn		Pn		23 00 03.3	+0.5
TNSJ	Nastanj	6.13	44		Pn		Pn		23 00 04.9	+1.8
IANJ	Anjilo	6.17	19		Pn		Pn		23 00 04.9	+1.1
MZWR	Madinat Zayed	6.21	160		Pn		Pn		23 00 05.6	+1.5
TKDS	Koohdasht(Taba	6.22	49		Pn		Pn		23 00 06.3	+1.9
TABS	Tabas	6.24	49		Pn		Pn		23 00 06.2	+1.5
UOSS	Minazif	6.25	137		Pn		Pn		23 00 04.7	0.0
UOSS					Sn		Sn		23 01 15.0	-1.1
UOSS	Minazif	6.25	137	*i*	P		Pn		23 00 05.0	+0.3
	SNR=19									
UOSS	Minazif	6.25	137		Pn		Pn		23 00 05.6	+0.9
CHTH	Charan	6.28	357		Pn		Pn		23 00 06.6	+1.4
IGHG	Ghaleghazi	6.30	319		Pn		Pn		23 00 06.3	+0.7
HATD	Hatta, Dubai	6.30	138		P		Pn		23 00 05.8	+0.4
HATD	Hatta, Dubai	6.30	138		Pn		Pn		23 00 06.7	+1.3
THKV	Tehran--Karaj	6.30	355		Pn		Pn		23 00 07.4	+1.9
ASHO	Ashiyiah	6.37	139	*i*	P		Pn		23 00 07.0	+0.7
	SNR=72									
ASHO	Ashiyiah	6.37	139		Pn		Pn		23 00 07.0	+0.7
SNGE	Sanandaj	6.50	328		Pn		Pn		23 00 09.0	+0.8
ILIN	Lien	6.54	325		Pn		Pn		23 00 08.5	-0.3
IDHR	Dehrash	6.67	321		Pn		Pn		23 00 10.6	0.0
ALNE	Al Ain	6.71	145	*i*	P		Pn		23 00 11.6	+0.6
	SNR=47									
ALNE	Al Ain	6.71	145		Pn		Pn		23 00 11.8	+0.8
JASK	Jask - Hormozg	6.76	122		Pn		Pn		23 00 11.5	-0.2
MZR	Muzera	6.82	165	*i*	P		Pn		23 00 13.5	+1.0
	SNR=23									
MZR	Muzera	6.82	165		Pn		Pn		23 00 13.6	+1.0
QALM	Alamut, Qazvin	6.83	354		Pn		Pn		23 00 13.8	+0.9
KLST	Kelardasht - M	6.89	357		Pn		Pn		23 00 14.9	+1.2
IKOO	Kooshah	7.01	65		Pn		Pn		23 00 17.7	+2.3
SOHO	SOHO	7.07	139	*i*	P		Pn		23 00 15.7	-0.1
	SNR=58									
SOHO	SOHO	7.07	139		Pn		Pn		23 00 16.3	+0.4
BHD	Baghdad	7.10	303	*eP*	n		Pn		23 00 20.0	+3.8
BHD				*e*	Sn		Sn		23 01 40.0	+3.2
BHD					AML		AML		23 03 01.4	
	comp=E,277nm,0.4s									
IGLO	Ghaloghah	7.13	15		Pn		Pn		23 00 19.3	+2.3
SHRO	Shahrood	7.39	30		Pn		Pn		23 00 21.8	+1.3
GIDE	GILAN DEYLAMAN	7.41	350		Pn		Pn		23 00 22.0	+1.3
ZNJK	Zanjan	7.42	342		Pn		Pn		23 00 21.6	+0.7
AFRZ	Afriz	7.44	57		Pn		Pn		23 00 22.7	+1.5
ZHSF	Zahedan	8.06	88		Pn		Pn		23 00 29.0	-0.7
RAYN	Ar Rayn	8.11	223		Pn		Pn		23 00 30.3	0.0
RAYN	Ar Rayn	8.11	223		P		Pn		23 00 30.3	0.0
RAYN	Ar Rayn	8.11	223	*i*	P		Pn		23 00 29.9	-0.4
	SNR=153									
SHRT	Shahrakht	8.49	60		Pn		Pn		23 00 37.6	+2.1
CHBR	Chabahar	8.91	115		Pn		Pn		23 00 40.8	-0.4
WSAR	Wadi Sarin	9.00	133		Pn		Pn		23 00 41.7	-0.8
	comp=E,3.6nm,0.3s,baz=5.7,slow=15,SNR=22									
WSAR					Sn		Sn		23 02 17.7	-6.0
	comp=E,2.3nm,0.3s,baz=65,slow=8.6,SNR=1.9									
	comp=E,18nm,0.5s									
IAKL	Akhelmad	9.24	39		Pn		Pn		23 00 47.8	+1.9
IHRS	Heris	9.44	338		Pn		Pn		23 00 48.9	+0.4
GRMI	Germi	9.64	343		Pn		Pn		23 00 52.5	+1.2
GEYT	Alibeck	9.94	32		Pn		Pn		23 00 56.1	+0.8
	comp=E,0.4nm,0.3s,baz=214,slow=12,SNR=4.4									
GEYT					Lg		Lg		23 03 41.1	
	comp=E,0.1nm,0.3s,baz=70,slow=38,SNR=1.7									
	comp=E,2.8nm,0.6s									
HRA	Herat	10.27	60		Pn		Pn		23 01 00.7	+0.6
GEVA	Gevas	11.15	323		Pn		Pn		23 01 10.4	-1.6
MARD	Mardin	11.79	313		Pn		Pn		23 01 18.4	-2.3
GURO	Guroymak-BITLI	11.87	321				Pn		23 01 20.0	-1.8
GNI	Garni	11.88	334		Pn		Pn		23 01 22.4	+0.4
	comp=E,0.1nm,0.3s,baz=171,slow=19,SNR=1.7									
GNI					LR		LR		23 06 24.6	
	comp=E,336nm,18.3s,baz=154,slow=40									
	comp=E,2.4nm,0.8s									
GNI	Garni	11.88	334		Pn		Pn		23 01 20.8	-1.1
AKT	Akhty	12.23	346	*eP*			Pn		23 01 29.9	+3.3
AKT					pmax		pmax			
	comp=Z,4.0nm,0.8s									
ASF	Jabal al Asfar	12.81	285		Pn		Pn		23 01 33.4	-1.2
	comp=Z,2.1nm,0.3s,baz=72,slow=9.6,SNR=15									
ASF					Sn		Sn		23 03 46.8	-10
	comp=Z,0.6nm,0.3s,baz=299,slow=17,SNR=1.6									
ASF					Lg		Lg		23 05 27.3	
	comp=Z,0.6nm,0.3s,baz=289,slow=23,SNR=1.6									
	comp=Z,4.3nm,0.3s									
KARS	Kars	12.96	330		Pn		Pn		23 01 34.3	-2.4
KARS	Kars	12.96	330		P		Pn		23 01 34.3	-2.4
AKH	Akhalkalaki	13.45	333		Pn		Pn		23 01 39.0	-4.3
AKH	Akhalkalaki	13.45	333		P		Pn		23 01 39.0	-4.3
GHAJ	Ghor Haditha	13.86	281				Pn		23 01 46.0	-2.8
NATI	Neve Ativ	13.95	289		Pn		Pn		23 01 53.2	+3.1
HMDT	Nahal Hemdat	13.97	285		Pn		Pn		23 01 53.5	+3.1
GEM	Giv'at Ha'Em	14.00	289		Pn		Pn		23 01 53.7	+2.9
DSI	Dead Sea	14.03	282		Pn		Pn		23 01 54.6	+3.4
MMLI	Mount Malkishu	14.08	286		Pn		Pn		23 01 54.6	+2.7
GAZ	Gaziantep	14.11	306				Pn		23 01 51.9	-0.5
MMAI	Mount Meron Ar	14.18	288		Pn		Pn		23 01 53.0	-0.4
	comp=Z,0.7nm,0.3s,baz=103,slow=18,SNR=10									
MMAI					Sn		Sn		23 04 24.0	-6.6
	comp=Z,0.7nm,0.3s,baz=107,slow=29,SNR=2.1									
MMAI					Lg		Lg		23 06 11.5	
	baz=94,slow=26									
MMAI					LR		LR		23 08 38.5	
	comp=Z,193nm,19.3s,baz=18,slow=43									
	comp=Z,0.9nm,0.4s									
YTIR	Yattir	14.25	281		Pn		Pn		23 01 57.8	+3.5
GROC	Groznyy	14.31	343	*eP*			Pn		23 01 54.8	-0.2
GROC				*e*	S		Sn		23 04 35.8	+2.3
GROC					pmax		pmax			
	comp=Z,3.0nm,0.5s									
BLGI	Bet Lehem HaGe	14.31	287		Pn		Pn		23 01 57.5	+2.4
PRNI	Paran	14.33	277		Pn		Pn		23 01 58.6	+3.3
HNTI	Hanita	14.38	288		Pn		P		23 01 59.7	-3.3
EIL	Elat	14.40	274		Pn		Pn		23 01 54.5	-1.9
	comp=Z,0.4nm,0.3s,baz=90,slow=3.0,SNR=2.1									
EIL					Sn		Sn		23 04 27.5	-8.5
	comp=Z,0.5nm,0.3s,baz=75,slow=10,SNR=2.0									
EIL					Lg		Lg		23 06 17.9	
	comp=Z,0.2nm,0.3s,baz=352,slow=11,SNR=3.8									
EIL					LR		LR		23 08 30.9	
	comp=Z,112nm,18.4s,baz=1.5,slow=42									
	comp=Z,1.3nm,0.4s									

ONI	Oni	14.48	336		P		P		23 02 02.2	-1.9
ONI	Oni	14.48	336		P		P		23 02 02.2	-1.9
ZEI	Tsey	14.50	337	*eP*			P		23 02 01.3	-3.1
ZEI					pmax		pmax			
	comp=Z,43nm,1.4s									
KRMI	Paran Flat	14.58	276		Pn		P		23 02 02.9	-2.3
KZIT	Kziot	14.85	279		Pn		Pn		23 02 04.8	+2.4
NEY	Neytrino	15.32	335⇓	*eP*			Pn		23 02 10.3	+1.5
KBL	Kabul	15.64	67		Pn		Pn		23 02 11.4	-1.7
KBL	Kabul	15.64	67		P		Pn		23 02 11.4	-1.7
KBL					pmax		pmax			
	comp=Z,6.0nm,1.0s									
KBZ	Khabaz	15.67	336		Pn		Pn		23 02 14.6	+1.5
	comp=Z,0.1nm,0.3s,baz=130,slow=9.8,SNR=4.1									
	comp=Z,2.5nm,0.9s									
KBZ	Khabaz	15.67	336⇑	*eP*			P		23 02 16.4	-0.8
KBZ					pmax		pmax			
	comp=Z,38nm,1.2s									
BNN	Bunyan	15.88	310				Pn		23 02 13.1	-2.9
BNN					IAmb		IAmb		23 02 26.6	
	comp=Z,32nm,0.8s									
KVAR	Kislovodsk Arr	15.94	336		Pn		P		23 02 19.1	-1.3
	baz=74,slow=20									
	comp=Z,5.7nm,1.0s									
KIV	Kislovodsk	15.94	336		P		P		23 02 20.5	+0.1
KIV					IAmb		IAmb		23 02 26.4	
	comp=Z,60nm,1.1s									
KIV	Kislovodsk	15.94	336	*eP*			Pn		23 02 16.2	-0.6
KIV					pmax		pmax			
	comp=Z,45nm,1.0s									
KIV					MLR		MLR			
	comp=Z,41nm,13.0s									
TOKA	Tokat	16.28	315				Pn		23 02 21.1	0.0
TOKA					IAmb		IAmb		23 02 31.8	
	comp=Z,31nm,1.4s									
SOC	Sochi	16.82	329	*eP*			Pn		23 02 23.4	-4.5
SOC				*e*	SS		S		23 05 43.8	-1.5
SOC					MLR		MLR			
	comp=Z,122nm,16.0s									
CHGR	Chuyangaron	17.14	54				Pn		23 02 31.4	-0.7
CHGR	Chuyangaron	17.14	54		P		Pn		23 02 31.4	-0.7
CHGR					pmax		pmax			
	comp=Z,12nm,0.8s									
BR131	Keskin Array S	17.80	309		Pn		Pn		23 02 38.2	-2.0
BR131	Keskin Array S	17.80	309⇑	*iP*			P		23 02 43.0	+2.0
BRTR	Keskin Array B	17.80	309		P		P		23 02 40.8	-0.2
	baz=126,slow=14,SNR=3.6									
BRTR					LR		LR		23 11 04.7	
	comp=Z,188nm,19.4s,baz=133,slow=42									
	comp=Z,3.1nm,0.7s									
BRTR	Keskin Array B	17.80	309		Pn		Pn		23 02 38.4	-1.9
BRTR	Keskin Array B	17.80	309		P		Pn		23 02 38.4	-1.9
GAR	Garm	18.11	54		Pn		Pn		23 02 42.8	-1.3
ILGA	Ilgaz	18.43	313				P		23 02 47.6	-0.4
ILGA					IAmb		IAmb		23 03 11.0	
	comp=Z,30nm,0.8s									
ANTO	Ankara	18.44	309		P		Pn		23 02 48.0	0.0
ANTO	Ankara	18.44	309		P		Pn		23 02 48.0	0.0
ANTO					pmax		pmax			
	comp=Z,13nm,0.8s									
BR231	Keskin MP Arra	18.44	309		P		Pn		23 02 48.5	+0.4
ANN	Anapa	18.81	328	*eP*			P		23 02 51.7	-0.2
ANN				*e*	S		S		23 06 24.6	-0.9
ANN					pmax		pmax			
	comp=Z,21nm,1.0s									
ANN					MLR		MLR			
	comp=Z,170nm,7.0s									
ANN					MLR		MLR			
	comp=E,81nm,6.0s									
ANN					MLR		MLR			
	comp=N,153nm,6.0s									
NIL	Nilore	18.94	72		P		Pn		23 02 54.0	-0.1
NIL	Nilore	18.94	72		P		Pn		23 02 54.0	-0.1
NIL					pmax		pmax			
	comp=Z,20nm,1.3s									
ELL	Elmali	19.41	297		P		P		23 02 57.7	-1.0
ELL					IAmb		IAmb		23 03 07.6	
	comp=Z,43nm,0.8s									
ELL	Elmali	19.41	297		P		P		23 02 57.7	-1.0
ELL					pmax		pmax			
	comp=Z,43nm,0.8s									
ATD	Arta Tunnel	19.73	206		P		P		23 03 01.2	-1.0
	comp=Z,0.2nm,0.3s,baz=0.0,slow=20,SNR=1.7									
ATD					LR		LR		23 11 30.5	
	comp=Z,119nm,19.1s,baz=15,slow=40									
	comp=Z,6.7nm,1.0s									
MDUB	Mudurnu	19.80	309		P		P		23 03 02.4	-0.5
BORA	Eskisehir	20.06	306		P		P		23 03 05.4	-0.3
BORA					IAmb		IAmb		23 03 27.0	
	comp=Z,23nm,1.4s									
KK31	Karatay Array	20.31	43		P		P		23 03 08.8	+0.4
KK31	Karatay Array	20.31	43		P		P		23 03 08.8	+0.4
KK31					pmax		pmax			
	comp=Z,4.0nm,0.8s									
KKAR	Karatay Array	20.31	43		P		P		23 03 08.8	+0.4
KKAR	Karatay Array	20.31	43		P		P		23 03 08.8	+0.4
KKAR					pmax		pmax			
	comp=Z,4.0nm,0.8s									
SIM	Simferopol'	20.57	323	*eP*			Pn		23 03 18.7	+5.3
SIM					pmax		pmax			
	comp=Z,28nm,1.0s									
ABKAR	Akbulak array	20.64	16		P		P		23 03 11.7	-0.2
ABKAR	Akbulak array	20.64	16		P		P		23 03 11.6	-0.2
ABKAR					IAmb		IAmb		23 03 26.8	
	comp=Z,4.8nm,0.9s									
MANT	Manisa	20.93	301		P		P		23 03 13.9	-1.6
MANT					IAmb		IAmb		23 03 27.4	
	comp=Z,22nm,0.8s									
AKTO	Aktyubinsk	21.36	11		P		P		23 03 19.9	+0.2
	comp=Z,2.9nm,0.5s,baz=208,slow=13,SNR=3.8									
	comp=Z,2.9nm,0.5s									
BALB	Balikesir	21.81	304		P		P		23 03 22.4	-2.1
BALB					IAmb		IAmb		23 03 28.4	
	comp=Z,39nm,1.4s									
KSH	Kashi	22.37	57		P		P		23 03 28.0	-2.8
KSH					pP		pP		23 03 33.3	-1.4
KSH					pmax		pmax			
	comp=Z,6.0nm,1.0s									
AAK	Ala-Archa	22.57	49		P		P		23 03 32.5	-0.4
	comp=Z,0.9nm,0.5s,baz=227,slow=12,SNR=3.2									
AAK					LR		LR		23 13 18.4	
	comp=Z,82nm,20.6s,baz=222,slow=39									
	comp=Z,0.9nm,0.5s									
AAK	Ala-Archa	22.57	49		P		P		23 03 32.4	-0.4
AAK	Ala-Archa	22.57	49⇓	*eP*			P		23 03 34.8	+1.9
AAK					pmax		pmax			
	comp=Z,6.0nm,1.1s									
VRH	Novokhopyorsk	22.77	344	*eP*			P		23 03 36.6	+1.9
VRH				*e*	S		S		23 07 38.9	-4.3
VRH					pmax		pmax			
	comp=Z,90nm,1.6s									
VRH					smax		smax			
	comp=N,80nm,0.8s									
IDI	Anoyia	23.13	291		P		P		23 03 37.6	-1.1
	comp=N,111nm,1.0s,baz=86,slow=15,SNR=1.6									
IDI					LR		LR		23 16 22.2	
	comp=N,62nm,21.6s,baz=119,slow=46									
	comp=N,11nm,1.0s									
MFTR	Murfatlar	23.39	315	⇓	P		P		23 03 43.6	+2.5
VSR	Storozhevoye	23.47	340	*eP*			P		23 03 40.2	-1.6
VSR				*e*	S		S		23 07 50.1	-4.9
VSR					pmax		pmax			
	comp=Z,40nm,1.4s									
VSR					smax		smax			
	comp=N,60nm,1.1s									
TIRR	Tirgusor	23.54	315	⇑	P		P		23 03 45.7	+3.1
TIRR	Tirgusor	23.54	315		P		P		23 03 43.3	+0.7
TIRR	Tirgusor	23.54	315	⇑	P		P		23 03 45.7	+3.1
TLCR		23.69	317	⇑	P		P		23 03 47.5	+3.5
TLCR		23.69	317	⇑	P		P		23 03 47.5	+3.5
TPGR	Topolog	23.75	316	⇑	P		P		23 03 46.9	+2.3
TLBR	Topalu	23.81	315	⇑	P		P		23 03 49.2	+4.0
VORR	Voronezh	23.86	341	*eP*			P		23 03 47.6	+2.0
VORR				*e*	S		S		23 07 59.5	-1.7
VORR					pmax		pmax			
	comp=Z,22nm,1.4s									
HARR	Harsova	23.95	315	⇓	P		P		23 03 36.0	-11
HARR	Harsova	23.95	315	⇓	P		P		23 03 36.0	-11
RDO	Rodhopi	24.01	306		P		P		23 03 47.9	+0.8
RDO					IAmb		IAmb		23 03 54.2	
	comp=Z,11nm,0.7s									
CFR	Carcaliu	24.09	317	⇑	P		P		23 03 49.0	+1.2
CFR	Carcaliu	24.09	317	⇑	P		P		23 03 49.0	+1.2
RAZG	Razgrad	24.31	312	⇑	P		P		23 03 51.2	+1.3
TARG	Taragay, Kyrgy	24.44	53		P		P		23 03 50.0	-1.6

TARG	Taragay, Kyrgy	24.44	53		P		P		23 03 50.0	-1.6
TARG					pmax		pmax			
	comp=Z,4.0nm,0.8s									
VLDR	Vladesti	24.48	318	⇓	P		P		23 03 53.4	+1.9
TUDR		24.59	317	⇑	P		P		23 03 55.4	+3.0
VARL	Varlezi	24.64	318	⇑	P		P		23 03 57.1	+4.2
MILM	Milestii Mici	24.68	321	⇓	P		P		23 03 56.4	+3.2
MILM	Milestii Mici	24.68	321	⇓	P		P		23 03 56.4	+3.2
LPSR	Galich'ya Gora	24.77	342	*eP*			P		23 03 54.5	+0.5
LPSR				*e*	S		S		23 08 16.9	+1.1
LPSR					pmax		pmax			
	comp=Z,40nm,1.0s									
LPSR					smax		smax			
	comp=E,60nm,1.6s									
GRER		24.89	316	⇑	P		P		23 03 60.0	+4.8
SULR		24.99	314	⇑	P		P		23 04 00.2	+4.2
GHRR		24.99	318	⇑	P		P		23 03 59.7	+3.7
ISR	Istrita	25.02	315	⇑	P		P		23 04 01.4	+5.0
ISR	Istrita	25.02	315	⇑	P		P		23 04 01.4	+5.0
ODBI	Odobesti	25.04	317	⇓	P		P		23 03 59.2	+2.7
PANC	Panciu	25.04	317	⇑	P		P		23 03 59.0	+2.4
VASR	Vaslui	25.09	319	⇑	P		P		23 03 58.0	+1.0
SECR		25.28	314	⇑	P		P		23 04 00.9	+2.3
VRI	Vrincioaia	25.29	317	⇓	P		P		23 04 02.3	+3.5
VRI	Vrincioaia	25.29	317	⇓	P		P		23 04 02.3	+3.5
NEHR	Nehoiu	25.33	315	⇓	P		P		23 04 03.0	+3.8
PLOR	Plostina	25.33	317	⇓	P		P		23 04 01.1	+1.9
PLOR	Plostina	25.33	317	⇓	P		P		23 04 01.1	+1.9
PLVB	Pleven	25.48	310	⇑	P		P		23 04 02.7	+2.2
MLR	Muntele Rosu	25.57	315		P		P		23 04 00.8	-0.7
	comp=E,3.3nm,0.7s,baz=159,slow=18,SNR=2.3									
MLR					LR		LR		23 16 25.3	
	comp=E,144nm,18.8s,baz=119,slow=42									
	comp=E,3.3nm,0.7s									
MLR	Muntele Rosu	25.57	315	⇑	P		P		23 04 05.3	+3.8
MLR	Muntele Rosu	25.57	315		P		P		23 04 02.1	+0.5
MLR	Muntele Rosu	25.57	315	⇑	P		P		23 04 05.3	+3.8
COVR	Voineasa-Covas	25.59	316	⇑	P		P		23 04 03.0	+1.5
SORM	Soroca	25.66	323	⇑	P		P		23 04 01.6	-0.5
SORM	Soroca	25.66	323	⇑	P		P		23 04 01.6	-0.5
TESR	Tescani	25.68	318	⇓	P		P		23 04 03.8	+1.5
HUMR	Humele	25.73	313	⇓	P		P		23 04 07.0	+4.2
VLAD	Vladila	25.87	311	⇑	P		P		23 04 10.2	+6.1
OZUR		25.97	316	⇓	P		P		23 04 06.4	+1.3
VOIR		26.10	315	⇓	P		P		23 04 07.6	+1.3
VOIR		26.10	315	⇓	P		P		23 04 07.6	+1.3
VTS	Vitosha	26.13	307	⇑	P		P		23 04 06.9	+0.3
VTS	Vitosha	26.13	307		P		P		23 04 06.5	-0.1
VTS					IAmb		IAmb		23 04 12.4	
	comp=Z,8.1nm,1.0s									
VTS	Vitosha	26.13	307	⇑	P		P		23 04 06.9	+0.3
DOPR	Dopca	26.15	316	⇓	P		P		23 04 08.4	+1.8
VAY	Valandovo	26.18	304	*iP*			P		23 04 08.8	+1.9
ARR	Arges	26.33	314	⇑	P		P		23 04 11.1	+2.9
STIP	Stip	26.57	305	*iP*			P		23 04 09.8	-0.6
BAIL	Bailesti	26.58	310	⇑	P		P		23 04 14.1	+3.6
MDB	Medias	26.85	315	⇑

LANS Liptovska Anna 31.18 318 *e*P **P 23 04 55.0 +3.5**
VYHS Vyhne 31.27 316 *e*P **P 23 04 54.7 +2.5**
VYHS pmax pmax
comp=Z,20nm,1.6s
VYHS Vyhne 31.27 316 *e*P **P 23 04 54.7 +2.5**
SRO Srobarova 31.31 315 *e*P **P 23 04 56.6 +4.1**
SRO pmax pmax
comp=Z,20nm,1.2s
SRO Srobarova 31.31 315 *e*P **P 23 04 56.6 +4.1**
OJC Ojcow 31.50 320 *e*P **P 23 04 56.9 +2.8**
OJC Ojcow 31.50 320 P **P 23 04 52.2 -2.0**
OJC lAmb lAmb 23 04 58.1
comp=Z,12nm,0.8s
OJC Ojcow 31.50 320 P **P 23 04 52.2 -2.0**
OJC pmax pmax
comp=Z,12nm,0.8s
WMQ Urumqi 32.01 54 *e*P **P 23 05 01.6 +2.8**
JAVC Velka Javorina 32.13 316 *e*P **P 23 05 03.9 +4.1**
MODS Modra-Piesok 32.17 315 *e*P **P 23 05 03.2 +3.1**
MODS pmax pmax
comp=Z,21nm,1.1s
MODS Modra-Piesok 32.17 315 *e*P **P 23 05 03.2 +3.1**
MAUC Maruska 32.24 317 *e*P **P 23 05 03.4 +2.6**
KLMR Klimovskoe 32.25 349 *e*P **P 23 05 01.1 +0.5**
KLMR AMP 23 05 02.8
comp=Z,48nm,1.9s
KLMR Klimovskoe 32.25 349 *e*P **P 23 05 01.1 +0.5**
KLMR pmax pmax
comp=Z,48nm,1.9s
RONA Rosalia, Austr 32.53 314 *e*pP pP 23 05 06.8 -0.6
comp=Z,6.2nm,0.6s,SNR=5.0
MORC Moravsky Berou 32.59 318 ⇑P **P 23 05 01.8 -2.0**
MORC Moravsky Berou 32.59 318 P **P 23 05 03.3 -0.5**
MORC lAmb lAmb 23 05 07.6
comp=Z,11nm,0.9s
MORC Moravsky Berou 32.59 318 *e*P **P 23 05 06.6 +2.8**
MORC Moravsky Berou 32.59 318 ⇑P **P 23 05 01.8 -2.0**
ARSA Arzberg 32.87 312 *i* pP pP 23 05 09.9 -0.5
comp=Z,9.3nm,0.9s
CONA Conrad Observa 32.88 314 *i* pP pP 23 05 09.8 -0.8
comp=Z,11nm,1.2s
VRAC Vranov 32.96 316 LR LR 23 19 59.3
comp=Z,34nm,18.3s,baz=135,slow=39
VRAC Vranov 32.96 316 *e*P **P 23 05 10.4 +3.4**
KRUC Moravsky 32.96 316 *e*P **P 23 05 10.5 +3.3**
AQU L'Aquila 33.08 303 P **P 23 05 09.3 +1.1**
AQU L'Aquila 33.08 303 P **P 23 05 09.3 +1.1**
AQU pmax pmax
comp=Z,49nm,0.5s
KRLC Kraliky 33.16 318 *e*P **P 23 05 09.4 +0.6**
KRLC Kraliky 33.16 318 *e*P **P 23 05 09.4 +0.6**
VSU Vasula 33.50 336⇓*e*P **P 23 05 12.1 +0.5**
DPC Dobruska-Polom 33.54 318 *e*P **P 23 05 12.8 +0.6**
DPC Dobruska-Polom 33.54 318 *e*P **P 23 05 12.8 +0.6**
OSTC Ostas 33.69 318 *e*P **P 23 05 14.7 +1.3**
DGZ Jazzator, Alta 33.71 43⇓*e*P **P 23 05 14.3 +0.5**
DGZ pmax pmax
comp=Z,1.0nm,0.6s
CESX Cesi 33.72 303 P **P 23 05 13.8 +0.1**
KSP Ksiaz 33.77 319 *e*P **P 23 05 16.6 +2.5**
UPC Upice 33.79 318 *e*P **P 23 05 16.6 +2.4**
UPC Upice 33.79 318 *e*P **P 23 05 16.6 +2.4**
MOA Molln 33.87 313 *e*pP pP 23 05 18.4 -0.7
comp=Z,15nm,1.0s,SNR=5.1
MURB Monte Urbino 33.88 304 P **P 23 05 16.2 +1.0**
PRED Cave del Predi 33.90 310 P **P 23 05 14.7 -0.6**
PRED lAmb lAmb 23 05 19.4
comp=Z,8.7nm,1.0s
CKRC Cesky Krumlov 34.17 315 *e*P **P 23 05 19.4 +1.8**
BIOA Bad Ischl, Aus 34.22 312 *e*pP pP 23 05 21.5 -0.7
comp=Z,11nm,0.5s,SNR=8.9
KBA Koelnbreinsper 34.22 311 *i* pP pP 23 05 21.8 -0.7
comp=Z,19nm,0.9s,SNR=7.1
ZAA0 Zalesovo Array 34.23 35 P **P 23 05 17.3 -0.7**
ZAA0 lAmb lAmb 23 05 23.9
comp=Z,9.3nm,1.3s
ZALV Zalesovo Beam 34.23 35 P **P 23 05 18.2 +0.2**
comp=Z,3.2nm,0.6s,baz=251,slow=8.7,SNR=16
comp=Z,3.2nm,0.6s
ZALV Zalesovo Beam 34.23 35 *i* P **P 23 05 17.7 -0.3**
ZALV Zalesovo Beam 34.23 35 *i* P **P 23 05 18.5 +0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
GOPC GO Pecny, Ondr 34.27 317 *e*P **P 23 05 20.9 +2.4**
GOPC GO Pecny, Ondr 34.27 317 *e*P **P 23 05 20.9 +2.4**
CLUD Cludinico 34.36 310 P **P 23 05 18.8 -0.5**
CLUD lAmb lAmb 23 05 23.3
comp=Z,7.4nm,0.9s
PRU Pruhonice 34.45 317 *e*P **P 23 05 22.0 +2.0**
PRU Pruhonice 34.45 317 *e*P **P 23 05 22.0 +2.0**
GEC2 GERESS Array S 34.55 314 P **P 23 05 20.1 -0.9**
GEC2 lAmb lAmb 23 05 26.3
comp=Z,5.0nm,0.8s
GERES GERESS Array B 34.55 314 P **P 23 05 20.3 -0.7**
comp=Z,0.8nm,0.5s,baz=104,slow=10,SNR=14
GERES LR LR 23 20 42.4
comp=Z,66nm,18.4s,baz=92,slow=39
comp=Z,0.8nm,0.5s
GERES GERESS Array B 34.55 314 P **P 23 05 20.8 -0.2**
GERES GERESS Array B 34.55 314 P **P 23 05 20.8 -0.2**
CIMO Cimolais 34.61 310 P **P 23 05 21.7 +0.2**
CIMO lAmb lAmb 23 05 25.1
comp=Z,6.6nm,0.9s
ABTA Abfaltersbach 34.68 310 *i* pP pP 23 05 25.2 -1.1
comp=Z,10nm,0.9s
KHC Kasperske Hory 34.73 315 P **P 23 05 22.6 +0.2**
KHC lAmb lAmb 23 05 26.1
comp=Z,9.5nm,0.7s
KHC Kasperske Hory 34.73 315 *e*P **P 23 05 22.8 +0.4**
KHC *e*pP **pP 23 05 25.7 -0.9**
KHC Kasperske Hory 34.73 315 *e*P **P 23 05 22.8 +0.4**
KHC *e* 23 05 25.7
CTI Castel Tesino 35.08 309 P **P 23 05 24.9 -0.7**
CTI lAmb lAmb 23 05 29.3
comp=Z,5.9nm,0.8s
CTI Castel Tesino 35.08 309 P **P 23 05 24.9 -0.7**
CTI pmax pmax
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 35.14 318 *i* P **P 23 05 28.7 +2.8**
BRG Amp 23 05 30.7
comp=Z,7.3nm,0.9s
WTTA Wattenberg 35.40 311 *e*pP pP 23 05 31.3 -1.3
comp=Z,21nm,0.8s,SNR=6.9
WATA Walderalm 35.45 311 *e*pP pP 23 05 31.5 -1.5
comp=Z,29nm,1.1s,SNR=9.2
SQTA Sankt Quirin 35.66 311 *i* P **P 23 05 30.0 -0.7**
SQTA *i* pP **pP 23 05 33.5 -1.3**
comp=Z,4.5nm,0.7s
comp=Z,31nm,0.8s,SNR=12
MOTA Moosalm 35.77 311 *i* P **P 23 05 30.9 -0.6**
MOTA *e*pP **pP 23 05 34.0 -1.7**
comp=Z,4.9nm,1.0s
comp=Z,20nm,0.9s,SNR=7.0
ROTZ Rotzenmuhle 35.78 315 *e*P **P 23 05 33.4 +2.0**
comp=Z,3.0nm,0.9s,baz=108,slow=8.7
NKC Novy Kostel 35.80 316 *e*P **P 23 05 32.7 +1.1**
NKC Novy Kostel 35.80 316 *e*P **P 23 05 32.7 +1.1**
CLL Collm 35.86 318 P **P 23 05 32.7 +0.7**
CLL lAmb lAmb 23 05 36.2
comp=Z,16nm,1.0s
CLL Collm 35.86 318 *i* P **P 23 05 33.3 +1.2**
comp=Z,19nm,1.1s
CLL Collm 35.86 318 *i* P **P 23 05 33.3 +1.2**
CLL pmax pmax
comp=Z,19nm,1.1s
CLL Collm 35.86 318 *e*P **P 23 05 33.8 +1.8**
comp=Z,19nm,1.1s,baz=108,slow=8.7
FUR Furstenfeldbru 35.88 312 *e*P **P 23 05 34.9 +2.6**
comp=Z,44nm,0.8s,baz=108,slow=8.7
MANZ Manzenberg 35.92 316 *e*P **P 23 05 35.0 +2.3**
comp=Z,2.2nm,1.6s,baz=108,slow=8.7
FETA Feichten 35.93 310 *e*pP pP 23 05 35.7 -1.5
comp=Z,18nm,0.9s,SNR=5.6
FINES FINESS Array B 35.99 339 P **P 23 05 31.7 -1.3**
comp=Z,2.1nm,0.8s,baz=145,slow=9.3,SNR=9.9
FINES LR LR 23 20 12.5
comp=Z,128nm,18.8s,baz=106,slow=36
comp=Z,2.1nm,0.8s
FINES FINESS Array B 35.99 339 *i* P **P 23 05 35.5 +2.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
MBAR Mbarara 36.01 217 LR LR 23 20 43.5
comp=Z,52nm,18.2s,baz=338,slow=37
MBAR Mbarara 36.01 217 P **P 23 05 33.7 -0.2**
MBAR lAmb lAmb 23 05 41.0
comp=Z,7.8nm,1.4s
MBAR Mbarara 36.01 217 P **P 23 05 33.7 -0.2**
MBAR pmax pmax
comp=Z,8.0nm,1.4s
RETA Reutte 36.03 311 *i* P **P 23 05 32.7 -0.9**
comp=Z,0.5nm,0.4s
RETA *i* pP **pP 23 05 36.0 -1.8**
comp=Z,8.1nm,0.5s
GRA1 Grafenberg Arr 36.36 315 P **P 23 05 36.7 +0.2**
GRF Grafenberg Arr 36.36 315 P **P 23 05 36.7 +0.2**
GRF pmax pmax
comp=Z,17nm,0.7s
GRF Grafenberg Arr 36.36 315 *e*P **P 23 05 39.1 +2.6**
comp=Z,21nm,0.8s,baz=108,slow=8.7
GRFO Grafenberg 36.37 315 P **P 23 05 36.9 +0.5**
GRFO Grafenberg 36.37 315 P **P 23 05 36.9 +0.5**
GRFO pmax pmax
comp=Z,17nm,0.8s
DAVOX Davos/Dischmat 36.44 310 LR LR 23 22 01.1
comp=Z,55nm,19.4s,baz=81,slow=39
UBR Ueberruh 36.51 311 *e*P **P 23 05 40.0 +2.3**
comp=Z,29nm,1.0s,baz=108,slow=8.7
NEUB Neuenburg 36.54 318 *e*P **P 23 05 40.5 +2.6**
comp=Z,14nm,0.9s,baz=108,slow=8.7
BRDH Bariadhala 36.54 91 LR LR 23 22 46.1
comp=Z,98nm,19.0s,baz=263,slow=40
DAVA Damuels 36.56 311 *i* P **P 23 05 37.6 -0.7**
comp=Z,3.4nm,0.5s
DAVA *e*pP **pP 23 05 41.0 -1.5**
comp=Z,43nm,0.8s,SNR=13
FLTG Flechtingen 37.26 319 *e*P **P 23 05 46.2 +2.2**
comp=Z,23nm,1.1s,baz=108,slow=8.7
ASSE Asse, Remlinge 37.51 319 *e*P **P 23 05 48.2 +2.2**
comp=Z,6.3nm,1.0s,baz=108,slow=8.7
CLZ Clausthal 37.58 318 *e*P **P 23 05 49.1 +2.3**
comp=Z,31nm,0.8s,baz=108,slow=8.7
GTTG Gottingen 37.72 317 *e*P **P 23 05 51.7 +3.8**
comp=Z,16nm,0.9s,baz=108,slow=8.7
NRDL Niedersach Rie 37.96 319 *e*P **P 23 05 53.1 +3.3**
comp=Z,32nm,0.9s,baz=108,slow=8.7
SENIN Lac Senin/Sane 38.10 308 P **P 23 05 52.2 +0.7**
TNS Taunus Mts 38.23 315 *e*P **P 23 05 55.4 +3.0**
comp=Z,34nm,2.0s,baz=108,slow=8.7
BNI Bardonecchia 38.32 306 P **P 23 05 53.2 -0.1**
BNI lAmb lAmb 23 05 56.3
comp=Z,9.1nm,0.8s
BNI Bardonecchia 38.32 306 P **P 23 05 53.2 -0.1**
BNI pmax pmax
comp=Z,9.0nm,0.8s
RETH Rethem/Aller, 38.47 319 *e*P **P 23 05 57.7 +3.5**
comp=Z,19nm,1.0s,baz=108,slow=8.7
KASTN Kahler Asten 38.53 316 *e*P **P 23 05 58.3 +3.5**
comp=Z,21nm,1.3s,baz=108,slow=8.7
ECH Echery 38.56 311 P **P 23 05 55.5 +0.4**
ECH lAmb lAmb 23 05 58.4
comp=Z,9.2nm,0.8s
ECH Echery 38.56 311 P **P 23 05 55.5 +0.4**
ECH pmax pmax
comp=Z,9.0nm,0.8s
IBBN Ibbenburen 39.26 318 *e*P **P 23 06 04.2 +3.4**
comp=Z,20nm,1.3s,baz=108,slow=8.7
BUG Bochum--Univer 39.29 316 *e*P **P 23 06 04.6 +3.5**
comp=Z,16nm,1.0s,baz=108,slow=8.7
WLF Walferdange 39.53 313 P **P 23 06 02.7 -0.4**
WLF lAmb lAmb 23 06 06.3
comp=Z,8.5nm,0.8s
WLF Walferdange 39.53 313 P **P 23 06 02.7 -0.4**
WLF pmax pmax
comp=Z,9.0nm,0.8s
WLF Walferdange 39.53 313 *d*P **P 23 06 03.4 +0.3**
WLF *dx* x 23 06 05.3
WLF Walferdange 39.53 313 *e*P **P 23 06 05.7 +2.6**
comp=Z,14nm,1.0s,baz=108,slow=8.7
HFS Hagfors 39.65 331 LR LR 23 24 10.1
comp=Z,143nm,18.3s,baz=80,slow=39
RCHB Rochefort 40.22 314 *d*P **P 23 06 08.4 -0.4**
RCHB *dx* x 23 06 12.0
BCLA Clavier 40.23 314 *dx* x 23 06 11.1
BGES Gesves 40.36 314 *dx* x 23 06 12.0
GTA Gaotai 40.57 63 *e*P **P 23 06 13.3 +1.2**
GTA pP sP 23 06 22.3 +4.2
NB2 NORSAR Subarra 41.17 331 P **P 23 06 14.7 -1.9**
comp=Z,4.3nm,0.9s,baz=123,slow=8.6
NOA NORSAR Array B 41.17 331 P **P 23 06 14.5 -2.1**
comp=Z,2.7nm,0.8s,baz=122,slow=8.4,SNR=9.4
NOA LR LR 23 24 50.4
comp=Z,63nm,18.6s,baz=130,slow=38
comp=Z,2.7nm,0.8s
MOY Mondy 42.52 44 *e*P P 23 06 34.8 +6.9
ARCES ARCESS Array B 42.65 347 P **P 23 06 27.3 -1.2**
comp=Z,1.2nm,0.5s,baz=147,slow=8.4,SNR=1.3
comp=Z,1.2nm,0.5s
PZH PanZhiHua 44.16 81 P **P 23 06 43.5 +2.0**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,70nm,3.9s
CMAR Chiang Mai Arr 44.45 93 P **P 23 06 44.6 +0.9**
comp=Z,0.7nm,0.3s,baz=291,slow=7.6,SNR=5.7
CMAR LR LR 23 29 54.7
comp=Z,36nm,18.1s,baz=270,slow=42
comp=Z,0.7nm,0.3s
NRIK Noril'sk 44.80 17 P **P 23 06 45.8 -0.1**
comp=Z,1.1nm,0.2s,baz=172,slow=7.1,SNR=2.0
comp=Z,1.1nm,0.2s
KMI Kunming 45.42 83 ⇓P **P 23 06 52.4 +0.7**
KMI pmax pmax
comp=Z,9.0nm,0.8s
SONM Songino Array 45.51 51 P **P 23 06 51.4 -0.5**
comp=Z,0.6nm,0.8s,baz=266,slow=8.7,SNR=4.2
SONM LR LR 23 29 36.8
comp=Z,48nm,19.7s,baz=202,slow=41
comp=Z,0.6nm,0.8s
SONM Songino Array 45.51 51 P **P 23 06 52.9 +0.9**
ESDC Sonseca Array 46.09 298 P **P 23 06 56.7 +0.2**
comp=Z,0.8nm,0.8s,baz=77,slow=7.8,SNR=10
comp=Z,0.8nm,0.8s
PBRG Braganca 48.00 301 *e*pP pP 23 07 16.8 +1.0
XAN Xi'an 48.44 69 P P 23 07 20.3 +5.3
XAN pmax pmax
comp=Z,5.0nm,0.7s
PBAR Barrancos 48.65 296 *e*P **P 23 07 17.8 +1.4**
PBAR *e*pP **pP 23 07 19.6 -1.1**
PCBR Castelo Branco 48.76 299 *e*pP **pP 23 07 21.1 -0.5**
PCBR A A 23 07 22.8
comp=Z,20nm,1.5s
PVRL Vila Real 48.78 301 *e*pP **pP 23 07 22.9 +1.1**
PVRL A A 23 07 45.0
comp=Z,26nm,1.4s
TORD Torodi Ar. Bea 48.82 261 P **P 23 07 17.4 -0.7**
comp=Z,5.5nm,0.6s,baz=61,slow=7.8,SNR=28
comp=Z,5.5nm,0.6s
TORD Torodi Ar. Bea 48.82 261 P **P 23 07 19.2 +1.2**
TORD lAmb lAmb 23 07 23.7
comp=Z,3.6nm,0.8s
POLO Lamas de Olo 48.83 301 *e*pP pP 23 07 22.3 +0.1
PVIS Viseu 48.98 300 *e*pP pP 23 07 23.4 +0.1
EVO Evora 49.35 297 *e*pP **pP 23 07 26.0 -0.1**
EVO A A 23 07 26.5
comp=Z,17nm,2.0s
PMTG Montargil 49.44 298 *e*pP pP 23 07 25.5 -1.3
HHC Hu-ho-hao-te 49.45 60 *e*P **P 23 07 25.0 +2.3**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,450nm,8.7s
WHN Wuhan 53.73 72 ⇑P **P 23 07 55.8 +1.1**
NJ2 Nanjing 57.01 69 *e*P **P 23 08 18.1 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
DBIC Dimbokro 57.60 258 P **P 23 08 22.8 0.0**
comp=Z,2.1nm,0.4s,baz=44,slow=6.2,SNR=9.5
comp=Z,2.1nm,0.4s
TIXI Tiksi 58.21 21 LR LR 23 39 16.5
comp=Z,25nm,18.7s,baz=181,slow=42
TSUM Tsumeb 58.53 218 LR LR 23 35 53.7
comp=Z,49nm,18.2s,baz=146,slow=38
YAK Yakutsk 58.81 33⇓*e*P **P 23 08 33.6 +3.1**
YAK pmax pmax
comp=Z,5.0nm,0.4s
CN2 Changchun 59.09 54 P P 23 08 40.1 +7.3
CN2 pmax pmax
comp=Z,10.0nm,0.5s
LBTB Lobatse 59.75 207 LR LR 23 34 38.5
comp=Z,42nm,20.5s,baz=66,slow=36
LBTB Lobatse 59.75 207 P **P 23 08 38.5 +1.0**
LBTB Lobatse 59.75 207 P **P 23 08 38.5 +1.0**
LBTB pmax pmax
comp=Z,15nm,1.5s
KLR Kul'dur 62.09 47 P **P 23 08 53.2 +0.1**
comp=Z,1.6nm,0.9s,baz=316,slow=16,SNR=2.4
KLR LR LR 23 38 43.8
comp=Z,62nm,19.4s,baz=260,slow=39
comp=Z,1.6nm,0.9s
KLR Kul'dur 62.09 47⇓*e*P **P 23 08 54.5 +1.4**
KLR pmax pmax
comp=Z,9.0nm,2.3s
KSRS Korea Array 62.58 61 P **P 23 08 55.6 -0.9**
comp=Z,1.3nm,0.6s,baz=284,slow=7.1,SNR=4.2
KSRS LR LR 23 38 48.3
comp=Z,28nm,18.3s,baz=215,slow=39
comp=Z,1.3nm,0.6s
BOSA Boshof 63.11 206 P **P 23 08 58.8 -1.4**
comp=Z,3.1nm,1.0s,baz=7.1,slow=9.4,SNR=2.1
comp=Z,3.1nm,1.0s
SUR Sutherland 68.20 208 LR LR 23 38 29.8
comp=Z,70nm,19.4s,baz=356,slow=35
SEY Seymchan 68.77 29⇓*i* P **P 23 09 36.6 +0.5**
SEY pmax pmax
comp=Z,11nm,2.8s
ASAJ Asahikawa 70.78 50 LR LR 23 44 16.4
comp=Z,44nm,18.7s,baz=232,slow=39
BILL Bilibino 71.43 21⇑*e*P **P 23 09 52.6 +0.2**
BILL pmax pmax
comp=Z,6.0nm,1.7s
KAPI Kappang 73.81 106 LR LR 23 44 01.6
comp=Z,22nm,20.4s,baz=266,slow=37
FRB Frobisher Bay 75.73 337 LR LR 23 46 54.9
comp=Z,42nm,18.8s,baz=293,slow=38
SCHQ Schefferville 80.68 329 P **P 23 10 44.4 -1.0**
comp=Z,3.7nm,0.8s,baz=44,slow=5.5,SNR=8.4
comp=Z,3.7nm,0.8s
BMAR Burnt Mountain 82.49 6 P **P 23 10 54.6 -0.1**
ILAR Eielson Array 84.83 8 P **P 23 11 05.9 -0.8**
comp=Z,0.2nm,0.5s,baz=317,slow=4.4,SNR=2.5
comp=Z,0.2nm,0.5s
BCAR Beaver Creek A 87.03 6 P **P 23 11 17.6 -0.1**
SML Sawmill 87.49 9 P **P 23 11 20.1 +0.2**
YKA Yellowknife Ar 87.53 354 P **P 23 11 19.3 -0.7**
comp=Z,0.3nm,0.6s,baz=8.1,slow=5.2,SNR=17
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 87.53 354 P **P 23 11 21.1 +1.1**
YKA Yellowknife Ar 87.53 354 *i* P **P 23 11 22.2 +2.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
HOM Homer 89.02 12 P **P 23 11 26.3 -0.8**
RCBR Riachuelo 90.60 264 LR LR 23 51 25.3
comp=Z,25nm,20.4s,baz=313,slow=35
WRA Warramunga Arr 93.69 111 P **P 23 11 47.8 -1.7**
comp=Z,0.2nm,0.5s,baz=315,slow=3.8,SNR=6.8
comp=Z,0.2nm,0.5s
WRA Warramunga Arr 93.69 111 *i* P **P 23 11 49.5 0.0**
ASAR Alice Springs 95.20 114 P **P 23 11 54.4 -2.0**
comp=Z,0.2nm,0.5s,baz=306,slow=4.7,SNR=6.3
comp=Z,0.2nm,0.5s
O53A New Philadelph 97.80 325 P **P 23 12 04.1 -3.8**
N51A Ashland 97.85 327 P **P 23 12 04.6 -3.5**

ROM 20 23:01:18.2±0.1, 42°546N±0'004×13°348E±0'006,
h10km, ML1.7/18, 10C-4D, Error ellipse: s-maj=0.5km
s-min=0.5km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.05**	**102**	P	Pg	23 01 20.6	+0.2
CAMP				S	Sg	23 01 21.9	-0.1
CAMP				AML	AML		
	comp=E,1075μm,0.3s						
CAMP				AML	AML		
	comp=N,979μm,0.4s						
CAMP				AML	AML		
	comp=E,1075μm,1.7s						
SMA1	**SAN MARTINO**	**0.09**	**354**	P	Pg	23 01 21.1	+0.3
RM33	**Pellescritta (**	**0.10**	**250**	⇑P	Pg	23 01 21.4	+0.4
RM33				S	Sg	23 01 23.5	+0.4
RM33				AML	AML		
	comp=N,1150μm,1.2s						
RM33				AML	AML		
	comp=E,1560μm,0.3s						
RM33				AML	AML		
	comp=N,1106μm,1.2s						
RM33				AML	AML		
	comp=N,1106μm,0.8s						
RM33				AML	AML		
	comp=N,1150μm,0.8s						
RM33				AML	AML		
	comp=E,1605μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.11**	**199**	⇑P	Pg	23 01 21.7	+0.6
T1247				S	Sg	23 01 23.9	+0.8
T1247				AML	AML		
	comp=E,3935μm,0.2s						
T1247				AML	AML		
	comp=N,3135μm,0.2s						
T1247				AML	AML		
	comp=E,3935μm,1.8s						
T1202	**Accumoli, Fraz**	**0.18**	**330**	P	Pb	23 01 23.0	-0.7
GIGS	**Gran Sasso**	**0.19**	**120**	P	Pg	23 01 22.8	+0.5
GIGS				S	Sg	23 01 25.9	+0.8
GIGS				AML	AML		
	comp=N,126μm,0.4s						
GIGS				AML	AML		
	comp=E,148μm,0.2s						
GIGS				AML	AML		
	comp=N,126μm,0.4s						
AQU	**L'Aquila**	**0.20**	**168**	P	Pb	23 01 23.4	-0.5
AQU				AML	AML		
	comp=N,222μm,0.7s						
AQU				AML	AML		
	comp=E,201μm,1.0s						
AQU				AML	AML		
	comp=N,216μm,0.2s						
AQU				AML	AML		
	comp=E,188μm,1.3s						
AQU				AML	AML		
	comp=N,222μm,1.3s						
AQU				AML	AML		
	comp=E,201μm,1.0s						
T1218	**Civita (PG)**	**0.21**	**306**	P	Pg	23 01 23.1	+0.4
T1218				AML	AML		
	comp=E,254μm,0.4s						
T1218				AML	AML		
	comp=N,388μm,0.2s						
T1218				AML	AML		
	comp=N,388μm,0.2s						
T1218				AML	AML		
	comp=E,254μm,0.4s						
T1218				AML	AML		
	comp=N,388μm,1.8s						
LNSS	**Leonessa**	**0.23**	**284**	⇑P	Pg	23 01 23.6	+0.5
LNSS				S	Sg	23 01 27.6	+1.2
LNSS				AML	AML		
	comp=N,1430μm,0.1s						
LNSS				AML	AML		
	comp=E,1170μm,0.4s						
T1222	**Castel Sant'An**	**0.27**	**238**	P	Pg	23 01 24.2	+0.4
T1222				S	Sb	23 01 29.2	-0.7
T1222				AML	AML		
	comp=N,170μm,1.4s						
T1222				AML	AML		
	comp=N,170μm,0.6s						
T1222				AML	AML		
	comp=E,270μm,0.4s						
T1212	**Cascia, Frazio**	**0.30**	**313**	P	Pg	23 01 24.8	+0.4
T1212				S	Sg	23 01 29.5	+1.0
T1212				AML	AML		
	comp=E,173μm,1.4s						
T1212				AML	AML		
	comp=N,213μm,0.3s						
T1212				AML	AML		
	comp=E,145μm,0.6s						
T1212				AML	AML		
	comp=N,214μm,1.3s						
T1212				AML	AML		
	comp=E,173μm,0.6s						
FIAM	**Fiamignano**	**0.33**	**212**	⇑P	Pg	23 01 25.2	+0.5
FIAM				AML	AML		
	comp=N,85μm,0.3s						
FIAM				AML	AML		
	comp=N,85μm,1.7s						
FIAM				AML	AML		
	comp=E,109μm,1.4s						
FAGN	**Fagnano**	**0.33**	**148**	⇓P	Pb	23 01 25.6	-0.6
FAGN				AML	AML		

	comp=N,294μm,0.3s							
FAGN					AML	AML		
	comp=N,294μm,1.7s							
FAGN					AML	AML		
	comp=E,329μm,0.4s							
T1217	**Poggiodomo (PG**	**0.35**	**299**		P	Pg	23 01 25.5	+0.3
T1217					S	Sb	23 01 31.4	-0.8
T1216	**Preci, Frazion**	**0.42**	**325**		P	Pg	23 01 26.9	+0.4
T1216					AML	AML		
	comp=E,122μm,1.4s							
T1216					AML	AML		
	comp=N,138μm,0.4s							
T1216					AML	AML		
	comp=E,122μm,0.6s							
ARRO	**Arrone**	**0.43**	**275**	⇑	P	Pg	23 01 26.9	+0.2
ARRO					AML	AML		
	comp=E,76μm,1.0s							
ARRO					AML	AML		
	comp=N,97μm,0.2s							
ARRO					AML	AML		
	comp=N,97μm,1.8s							
T1215	**Vallo di Nera,**	**0.44**	**306**		P	Pg	23 01 26.9	+0.1
T1215					AML	AML		
	comp=E,62μm,1.3s							
T1215					AML	AML		
	comp=N,73μm,0.9s							
T1215					AML	AML		
	comp=N,73μm,1.1s							
T1215					AML	AML		
	comp=E,62μm,0.7s							
OFFI	**Offida**	**0.46**	**33**		P	Pb	23 01 28.5	+0.1
TRTR	**Tortoreto Alta**	**0.49**	**58**	⇓	P	Pb	23 01 29.5	+0.6
GUMA	**Gualdo di Mace**	**0.52**	**359**	⇑	P	Pb	23 01 29.0	-0.4
GUMA					AML	AML		
	comp=E,248μm,1.6s							
GUMA					AML	AML		
	comp=N,169μm,1.3s							
GUMA					AML	AML		
	comp=N,169μm,0.7s							
GUMA					AML	AML		
	comp=E,248μm,0.4s							
CESI	**CESI - Serrava**	**0.56**	**325**		P	Pb	23 01 30.0	-0.2
T1220	**Camerino, Fraz**	**0.59**	**341**	⇓	P	Pg	23 01 29.9	+0.1
T1220					AML	AML		
	comp=N,212μm,1.4s							
T1220					AML	AML		
	comp=N,212μm,0.6s							
T1220					AML	AML		
	comp=E,212μm,0.6s							
MOMA	**Monte Martano**	**0.63**	**294**	⇑	P	Pg	23 01 30.6	+0.1
MOMA					S	Sb	23 01 40.3	+0.1
MOMA					AML	AML		
	comp=E,220μm,1.5s							
MOMA					AML	AML		
	comp=N,396μm,1.5s							
MOMA					AML	AML		
	comp=E,104μm,0.2s							
MOMA					AML	AML		
	comp=N,84μm,0.2s							
MOMA					AML	AML		
	comp=E,220μm,0.5s							
MOMA					AML	AML		
	comp=N,396μm,0.5s							
CERT	**Cerreto**	**0.66**	**205**	⇓	P	Pg	23 01 31.1	+0.2
CERT					AML	AML		
	comp=N,34μm,1.6s							
CERT					AML	AML		
	comp=N,34μm,0.4s							
CERT					AML	AML		
	comp=E,68μm,0.5s							
EL6	**Elcito**	**0.80**	**347**	⇑	P	Pg	23 01 33.8	+0.1
CING	**Cingoli**	**0.84**	**352**	⇑	P	Pb	23 01 34.7	-0.1
NARO	**Abbazia di Nar**	**1.20**	**332**	⇑	P	Pn	23 01 40.6	-0.4

ROM 20 23:01:43.1±0.1, 42°.582N±0°.004×13°.328E±0°.007, h10km, Md0.7/3, 4C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=277.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.05**	**6**	P	Pg	23 01 45.4	+0.2
SMA1				S	Sg	23 01 46.8	+0.2
SMA1				END			
RM33	**Pellescritta (**	**0.11**	**229**	⇑P	Pg	23 01 46.4	+0.5
RM33				S	Sg	23 01 48.4	+0.6
RM33				END			
T1247	**Pizzolo (AQ)**	**0.14**	**189**	⇓P	Pg	23 01 47.1	+0.8
T1202	**Accumoli, Fraz**	**0.14**	**328**	P	Pg	23 01 47.0	+0.6
T1202				S	Sg	23 01 49.8	+1.1
T1218	**Civita (PG)**	**0.18**	**299**	⇑P	Pg	23 01 47.3	+0.3
LNSS	**Leonessa**	**0.21**	**276**	⇑P	Pg	23 01 48.0	+0.5
GIGS	**Gran Sasso**	**0.22**	**126**	P	Pg	23 01 48.2	+0.5
T1212	**Cascia, Frazio**	**0.27**	**309**	⇑P	Pg	23 01 49.0	+0.4
T1217	**Poggiodomo (PG**	**0.32**	**294**	P	Pg	23 01 50.0	+0.5

ROM 20 23:02:08.8±0.0, 43°.038N±0°.001×13°.108E±0°.004, h10km, ML1.8/11, 3C-1D, Error ellipse: s-maj=0.3km s-min=0.0km az=93.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.01**	**263**	P	Pg	23 02 10.8	+0.2
FDMO				S	Sg	23 02 11.9	0.0
FDMO				AML	AML		
	comp=E,2460μm,0.2s						
FDMO				AML	AML		
	comp=N,4495μm,0.2s						
T1220	**Camerino, Fraz**	**0.07**	**349**	P	Pg	23 02 11.5	+0.4
T1220				S	Sg	23 02 13.2	+0.5
T1220				AML	AML		
	comp=E,2520μm,0.3s						
T1220				AML	AML		
	comp=N,3275μm,0.8s						
T1220				AML	AML		
	comp=E,2500μm,0.3s						
T1220				AML	AML		
	comp=N,3265μm,0.8s						
T1220				AML	AML		
	comp=N,3280μm,0.8s						
FEMA	**Monte Fema**	**0.09**	**209**	P	Pg	23 02 11.8	+0.5
FEMA				S	Sg	23 02 13.8	+0.6
MC2	**Monte Cornacci**	**0.14**	**154**	P	Pg	23 02 12.6	+0.4
MC2				S	Sg	23 02 15.1	+0.6
CESI	**CESI - Serrava**	**0.15**	**257**	⇑P	Pg	23 02 13.0	+0.7
CESI				S	Sg	23 02 15.8	+1.1
CESI				AML	AML		
	comp=E,410μm,0.5s						
CESI				AML	AML		
	comp=N,506μm,0.2s						
CESI				AML	AML		
	comp=N,506μm,1.8s						
CESI				AML	AML		
	comp=E,410μm,1.5s						
MDAR	**Monte D'Aria**	**0.16**	**9**	P	Pg	23 02 12.8	+0.5
MDAR				S	Sg	23 02 15.5	+0.7
T1216	**Preci, Frazion**	**0.16**	**204**	P	Pg	23 02 13.0	+0.6
T1216				S	Sg	23 02 15.9	+1.0
T1216				AML	AML		
	comp=E,1315μm,0.3s						
T1216				AML	AML		
	comp=N,1300μm,1.2s						
T1216				AML	AML		
	comp=E,1315μm,0.3s						
T1216				AML	AML		
	comp=N,1300μm,1.2s						
GUMA	**Gualdo di Mace**	**0.17**	**82**	⇑P	Pb	23 02 13.3	-0.8
GUMA				S	Sg	23 02 16.2	+1.2
GUMA				AML	AML		
	comp=E,612μm,0.5s						
GUMA				AML	AML		
	comp=N,672μm,0.3s						
GUMA				AML	AML		
	comp=E,732μm,0.3s						
GUMA				AML	AML		
	comp=N,745μm,0.3s						
SSM1	**San Severino M**	**0.20**	**15**	P	Pg	23 02 13.6	+0.7
SSM1				S	Sg	23 02 17.0	+1.2
GAG1	**Gagliole**	**0.20**	**352**	P	Pg	23 02 13.7	+0.7
GAG1				S	Sg	23 02 17.1	+1.2
SNTG	**Esanatoglia**	**0.25**	**331**	P	Pg	23 02 14.4	+0.5
SNTG				S	Sg	23 02 18.5	+1.1
SNTG				AML	AML		
	comp=E,157μm,0.4s						
SNTG				AML	AML		
	comp=N,142μm,0.2s						
T1212	**Cascia, Frazio**	**0.29**	**189**	P	Pg	23 02 15.3	+0.6
T1212				S	Sb	23 02 20.0	-1.1
T1212				AML	AML		
	comp=E,305μm,0.1s						
T1212				AML	AML		
	comp=N,322μm,1.0s						
T1212				AML	AML		
	comp=N,301μm,1.0s						
T1212				AML	AML		
	comp=E,321μm,0.1s						
EL6	**Elcito**	**0.29**	**359**	P	Pg	23 02 15.2	+0.5
EL6				S	Sb	23 02 20.0	-1.1
EL6				AML	AML		
	comp=N,454μm,0.7s						
EL6				AML	AML		
	comp=N,454μm,1.3s						
EL6				AML	AML		
	comp=E,350μm,0.3s						
T1215	**Vallo di Nera,**	**0.29**	**217**	P	Pg	23 02 15.4	+0.6
T1215				S	Sg	23 02 19.8	+1.1
T1215				AML	AML		
	comp=N,263μm,0.3s						
T1215				AML	AML		
	comp=E,138μm,0.2s						
ASSB	**Assisi San Ben**	**0.33**	**271**	P	Pg	23 02 15.9	+0.5
ASSB				S	Sb	23 02 21.0	-1.1
ASSB				AML	AML		
	comp=E,147μm,1.3s						
ASSB				AML	AML		
	comp=N,162μm,0.1s						
ASSB				AML	AML		
	comp=E,147μm,0.7s						
CING	**Cingoli**	**0.34**	**11**	P	Pg	23 02 16.2	+0.5
CING				S	Sb	23 02 21.5	-1.0
T1202	**Accumoli, Fraz**	**0.34**	**166**	P	Pg	23 02 16.2	+0.5
T1202				S	Sb	23 02 21.9	-0.7
T1202				AML	AML		
	comp=N,928μm,0.8s						
T1202				AML	AML		
	comp=E,505μm,0.2s						
T1217	**Poggiodomo (PG**	**0.35**	**202**	P	Pg	23 02 16.3	+0.5
T1217				S	Sb	23 02 21.8	-1.0
T1217				AML	AML		
	comp=E,142μm,1.1s						
T1217				AML	AML		
	comp=N,208μm,0.1s						
FOSV	**Fossato di Vic**	**0.36**	**315**	P	Pg	23 02 16.5	+0.6
FOSV				S	Sb	23 02 22.3	-0.8
FOSV				AML	AML		
	comp=E,61μm,0.9s						
FOSV				AML	AML		
	comp=N,77μm,0.3s						
T1218	**Civita (PG)**	**0.37**	**179**	P	Pg	23 02 16.5	+0.4
T1218				S	Sb	23 02 22.3	-1.0
T1218				AML	AML		
	comp=E,669μm,1.5s						
T1218				AML	AML		
	comp=N,458μm,0.2s						
T1218				AML	AML		
	comp=E,304μm,1.1s						
T1218				AML	AML		
	comp=N,472μm,0.2s						
T1218				AML	AML		
	comp=E,669μm,0.5s						
T1218				AML	AML		
	comp=N,472μm,1.8s						
T1218				AML	AML		
	comp=N,458μm,1.8s						
LNSS	**Leonessa**	**0.44**	**187**	⇑P	Pg	23 02 17.8	+0.4
LNSS				AML	AML		
	comp=E,198μm,1.0s						
LNSS				AML	AML		
	comp=N,260μm,0.1s						
LNSS				AML	AML		
	comp=N,260μm,1.9s						
SMA1	**SAN MARTINO**	**0.44**	**158**	⇓P	Pg	23 02 17.5	0.0
SMA1				AML	AML		
	comp=N,139μm,0.3s						
SMA1				AML	AML		
	comp=E,123μm,0.1s						
MOMA	**Monte Martano**	**0.46**	**240**	P	Pb	23 02 18.6	-0.5
MOMA				AML	AML		
	comp=N,100μm,0.7s						
MOMA				AML	AML		
	comp=E,125μm,0.2s						
MOMA				AML	AML		
	comp=N,100μm,1.3s						
SSFR	**Montelago di S**	**0.46**	**329**	P	Pb	23 02 18.5	-0.6
SSFR				S	Sb	23 02 25.5	-0.6
SSFR				AML	AML		
	comp=E,116μm,0.1s						
SSFR				AML	AML		
	comp=N,132μm,0.7s						
SSFR				AML	AML		
	comp=N,132μm,1.3s						
ARVD	**Arcevia**	**0.47**	**345**	P	Pg	23 02 18.6	+0.6
ARVD				S	Sb	23 02 26.0	-0.4
ARVD				AML	AML		
	comp=E,54μm,0.5s						
ARVD				AML	AML		
	comp=N,59μm,1.5s						
ARRO	**Arrone**	**0.52**	**209**	S	Sb	23 02 27.4	-0.2
RM33	**Pellescritta (**	**0.54**	**172**	P	Pg	23 02 19.4	+0.2
PIEI	**Pieia**	**0.65**	**320**	P	Pb	23 02 22.4	+0.2
NARO	**Abbazia di Nar**	**0.69**	**326**	S	Sb	23 02 33.4	+0.9
APEC	**Apecchio**	**0.72**	**316**	S	Sg	23 02 32.7	+0.5

IDC 20 23:03:05.6±6.7, 12°.73S×167°.73E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=339.2km s-min=34.5km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.78**	**253**	P	P	23 09 40.4	-0.4
	0.2nm,0.4s,baz=86,slow=9.5,SNR=2.3 0.2nm,0.4s						
ASAR	**Alice Springs**	**33.83**	**246**	P	P	23 09 50.2	+0.2
	0.2nm,0.4s,baz=74,slow=9.5,SNR=5.6 0.2nm,0.4s						
ILAR	**Eielson Array**	**84.50**	**18**	P	P	23 15 40.0	0.0
	0.4nm,0.7s,baz=238,slow=6.0,SNR=6.7 0.4nm,0.7s						

ROM 20 23:05:05.0±0.1, 42°.593N±0°.003×13°.311E±0°.004, h8km, ML1.8/23, 13C-10D, Error ellipse: s-maj=0.3km s-min=0.2km az=250.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.04**	**25**	P	Pg	23 05 07.0	+0.2
SMA1				S	Sg	23 05 08.3	+0.2
SMA1				AML	AML		
	comp=E,36300μm,0.4s						
SMA1				AML	AML		
	comp=N,12650μm,0.2s						
CAMP	**Campotosto**	**0.09**	**128**	P	Pg	23 05 07.9	+0.5
CAMP	**Campotosto**	**0.09**	**128**	⇑P	Pg	23 05 07.7	+0.3
CAMP				S	Sg	23 05 09.4	+0.4
CAMP				AML	AML		
	comp=E,1630μm,0.3s						
CAMP				AML	AML		
	comp=N,1390μm,0.4s						
RM33	**Pellescritta (**	**0.11**	**220**	⇑P	Pg	23 05 08.0	+0.4
RM33				S	Sg	23 05 10.1	+0.7
RM33				AML	AML		
	comp=E,1870μm,0.7s						
RM33				AML	AML		
	comp=N,1685μm,1.1s						
RM33				AML	AML		
	comp=E,1905μm,0.7s						
RM33				AML	AML		
	comp=N,1725μm,1.1s						
T1202	**Accumoli, Fraz**	**0.13**	**330**	⇑P	Pg	23 05 08.5	+0.5
T1202				AML	AML		
	comp=E,2095μm,0.2s						
T1202				AML	AML		
	comp=N,2440μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.15**	**184**	⇑P	Pg	23 05 08.7	+0.5
T1247				S	Sg	23 05 11.7	+1.2
T1247				AML	AML		
	comp=E,1605μm,1.5s						
T1247				AML	AML		
	comp=N,1785μm,0.2s						
T1247				AML	AML		
	comp=E,1605μm,0.5s						
T1218	**Civita (PG)**	**0.16**	**298**	⇑P	Pg	23 05 08.8	+0.3
T1218				S	Sg	23 05 11.8	+0.8
T1218				AML	AML		
	comp=N,1675μm,0.2s						
T1218				AML	AML		
	comp=E,634μm,0.4s						
LNSS	**Leonessa**	**0.20**	**273**	⇑P	Pg	23 05 09.6	+0.4
LNSS				AML	AML		
	comp=N,875μm,0.3s						
LNSS				AML	AML		
	comp=E,840μm,0.4s						
LNSS				AML	AML		
	comp=N,875μm,1.7s						
GIGS	**Gran Sasso**	**0.24**	**127**	P	Pg	23 05 10.0	+0.2
GIGS				AML	AML		
	comp=E,124μm,0.1s						
GIGS				AML	AML		
	comp=N,116μm,0.1s						
AQU	**L'Aquila**	**0.25**	**164**	⇓P	Pg	23 05 10.4	+0.4
AQU				S	Sg	23 05 14.9	+1.5
AQU				AML	AML		
	comp=E,273μm,1.1s						
AQU				AML	AML		
	comp=N,292μm,1.1s						
AQU				AML	AML		
	comp=E,246μm,1.6s						
AQU				AML	AML		
	comp=N,292μm,1.1s						
AQU				AML	AML		
	comp=N,292μm,0.9s						
AQU				AML	AML		
	comp=N,292μm,0.9s						
AQU				AML	AML		
	comp=E,246μm,0.4s						
T1212	**Cascia, Frazio**	**0.25**	**309**	⇓P	Pg	23 05 10.4	+0.3
T1212				AML	AML		
	comp=E,264μm,0.2s						
T1212				AML	AML		
	comp=N,298μm,0.3s						
T1212				AML	AML		
	comp=E,280μm,0.2s						
T1212				AML	AML		
	comp=N,299μm,0.3s						
T1222	**Castel Sant'An**	**0.28**	**227**	⇑P	Pg	23 05 10.8	+0.3
T1222				AML	AML		
	comp=N,178μm,1.5s						
T1222				AML	AML		
	comp=N,177μm,1.5s						
T1222				AML	AML		
	comp=E,280μm,0.3s						
T1222				AML	AML		
	comp=N,177μm,0.5s						
T1217	**Poggiodomo (PG**	**0.30**	**293**	⇓P	Pg	23 05 11.3	+0.2
T1217				AML	AML		
	comp=E,157μm,1.4s						
T1217				AML	AML		
	comp=N,296μm,0.7s						
T1217				AML	AML		
	comp=E,157μm,0.6s						
T1217				AML	AML		
	comp=N,296μm,1.3s						
FIAM	**Fiamignano**	**0.35**	**204**	⇓P	Pg	23 05 12.3	+0.3
FIAM				AML	AML		
	comp=N,100μm,0.4s						
FIAM				AML	AML		
	comp=E,113μm,1.3s						
FIAM				AML	AML		
	comp=N,100μm,1.6s						
T1216	**Preci, Frazion**	**0.37**	**324**	⇑P	Pg	23 05 12.6	+0.3
T1216				AML	AML		
	comp=E,186μm,0.3s						
T1216				AML	AML		
	comp=N,186μm,1.5s						
T1216				AML	AML		
	comp=E,186μm,1.7s						
T1216				AML	AML		
	comp=N,186μm,0.5s						
FAGN	**Fagnano**	**0.38**	**148**	⇑P	Pg	23 05 12.7	+0.2
FAGN				AML	AML		
	comp=E,368μm,0.5s						
FAGN				AML	AML		
	comp=N,402μm,1.0s						
FAGN				AML	AML		
	comp=E,368μm,1.5s						
T1215	**Vallo di Nera,**	**0.39**	**303**	⇑P	Pg	23 05 12.7	+0.1
T1215				AML	AML		
	comp=N,156μm,0.3s						
T1215				AML	AML		
	comp=N,140μm,0.3s						
T1215				AML	AML		
	comp=E,117μm,0.7s						
T1215				AML	AML		
	comp=N,140μm,1.7s						
T1215				AML	AML		
	comp=N,156μm,1.7s						
T1215				AML	AML		
	comp=E,113μm,1.4s						
ARRO	**Arrone**	**0.40**	**268**	⇑P	Pg	23 05 12.9	+0.1
ARRO				AML	AML		
	comp=E,104μm,0.2s						
ARRO				AML	AML		
	comp=N,110μm,1.4s						
ARRO				AML	AML		
	comp=E,104μm,1.8s						
OFFI	**Offida**	**0.44**	**39**	⇓P	Pb	23 05 14.8	-0.2
OFFI				AML	AML		
	comp=E,506μm,1.6s						
OFFI				AML	AML		
	comp=N,463μm,1.0s						
OFFI				AML	AML		
	comp=N,463μm,1.0s						
OFFI				AML	AML		
	comp=E,506μm,0.4s						
GUMA	**Gualdo di Mace**	**0.47**	**2**	⇑P	Pg	23 05 14.7	+0.6
GUMA				AML	AML		
	comp=E,216μm,0.4s						
GUMA				AML	AML		
	comp=N,258μm,0.5s						
GUMA				AML	AML		
	comp=N,258μm,1.5s						
GUMA				AML	AML		
	comp=E,216μm,1.6s						
FDMO	**Fiordimonte**	**0.47**	**340**	⇓P	Pg	23 05 14.4	+0.2
FDMO				AML	AML		
	comp=E,53μm,1.1s						
FDMO				AML	AML		
	comp=N,67μm,0.8s						
FDMO				AML	AML		
	comp=N,67μm,1.2s						
FDMO				AML	AML		
	comp=E,53μm,0.9s						
CESI	**CESI - Serrava**	**0.51**	**324**	P	Pg	23 05 15.2	+0.3
CESI				AML	AML		
	comp=E,86μm,0.7s						
CESI				AML	AML		
	comp=N,101μm,0.5s						
CESX	**Cesi**	**0.54**	**272**	⇓P	Pg	23 05 15.3	-0.1
CESX				AML	AML		
	comp=E,71μm,0.3s						
CESX				AML	AML		
	comp=N,97μm,1.4s						
T1220	**Camerino, Fraz**	**0.54**	**343**	⇓P	Pg	23 05 15.4	-0.1
T1220				AML	AML		
	comp=N,317μm,1.6s						
T1220				AML	AML		
	comp=E,254μm,0.4s						
MOMA	**Monte Martano**	**0.59**	**291**	⇓P	Pg	23 05 16.2	-0.2
MOMA				AML	AML		
	comp=E,152μm,1.0s						
MOMA				AML	AML		
	comp=N,240μm,0.2s						
MOMA				AML	AML		
	comp=E,152μm,1.0s						
SRES	**S.Oreste - Sor**	**0.69**	**239**	⇑P	Pg	23 05 18.4	+0.1
EL6	**Elcito**	**0.75**	**348**	P	Pg	23 05 19.3	-0.2
ATCC	**AVT- Casa Cast**	**0.77**	**320**	S	Sb	23 05 32.3	+1.1
CING	**Cingoli**	**0.79**	**354**	⇓P	Pg	23 05 20.3	+0.1

*JMA **20** 23:13:53.6±0.1, 23°.7N±0°.3×121°.7E±0°.4, h27km, MV3.5/10, TAIWAN REGION*
*TAP **20** 23:13:54.1, 23°.77N×121°.62E, h33km, ML3.8, C*
*IDC **20** 23:14:00.8±8.2, 23°.59N×121°.51E, h104km±77km, mb3.1/3,*

mbtmp3.5/4,ML3.5/1, Error ellipse: s-maj=50.9km s-min=29.2km az=72.0

ISC 20 23:13:53.9±0.8,**23°76N**±0˙01×**121°66E**±0˙02,**h34**km±1km, **n159**,σ1**s11**/281,**mb3.3**/3,**12C-19D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.12**	**246**	⇑	*i*	P	**Pb**	**23 13 59.9**	**0.0**
	baz=229								
TEGC					*i*	S	**Sb**	**23 14 04.4**	**+0.4**
	baz=229								
TEYL	**Yanliau Villag**	**0.12**	**334**		*i*	P	**Pb**	**23 14 00.1**	**+0.2**
	baz=352								
TEYL						S	**Sb**	**23 14 05.3**	**+1.2**
	baz=352								
ESL	**Shilin**	**0.21**	**285**	⇑	*i*	P	**Pb**	**23 14 00.2**	**-0.5**
	baz=285								
ESL					*i*	S	**Sb**	**23 14 04.8**	**-0.7**
	baz=285								
HWA	**Hwalien**	**0.22**	**348**		*i*	P	**Pb**	**23 14 00.7**	**-0.1**
	baz=358								
HWA						S	**Sb**	**23 14 06.1**	**+0.5**
	baz=358								
EGFH	**Guangfu**	**0.23**	**247**	⇑	*i*	P	**Pb**	**23 14 00.6**	**-0.3**
	baz=241								
EGFH					*i*	S	**Sb**	**23 14 05.2**	**-0.4**
	baz=241								
ETM	**Tongmen**	**0.26**	**324**	⇑	*i*	P	**Pn**	**23 14 00.9**	**0.0**
	baz=329								
ETM					*e*	S	**Sn**	**23 14 05.5**	**+1.1**
	baz=329								
TWD	**Chiawan**	**0.33**	**350**		*i*	P	**Pn**	**23 14 01.6**	**-0.6**
	baz=357								
TWD					*e*	S	**Sn**	**23 14 07.6**	**+0.4**
	baz=357								
HGSD	**Ruisui**	**0.34**	**219**	⇑	*i*	P	**Pn**	**23 14 02.4**	**-0.1**
	baz=214								
HGSD						S	**Sn**	**23 14 09.3**	**+1.6**
	baz=214								
EHY	**Hungye**	**0.40**	**231**	⇑	*i*	P	**Pb**	**23 14 02.4**	**-0.7**
	baz=226								
EHY					*e*	S	**Sb**	**23 14 08.4**	**-0.9**
	baz=226								
ETL	**Fush Village**	**0.40**	**356**			P	**Pb**	**23 14 02.6**	**-0.5**
ETL						eS	**Sb**	**23 14 08.9**	**-0.5**
NACB	**Ninganchiao**	**0.42**	**352**			P	**Pn**	**23 14 03.2**	**-0.4**
NACB	**Ninganchiao**	**0.42**	**352**		*i*	P	**Pb**	**23 14 02.8**	**-0.6**
	baz=356								
NACB					*e*	S	**Sb**	**23 14 09.2**	**-0.6**
	baz=356								
VWDT	**VWDT**	**0.47**	**270**	⇑	*i*	P	**Pn**	**23 14 03.9**	**-0.3**
	baz=268								
VWDT						S	**Sb**	**23 14 10.6**	**-0.6**
	baz=268								
ETLH	**Xiulin Townshi**	**0.47**	**340**	⇓	*i*	P	**Pb**	**23 14 03.5**	**-0.7**
	baz=344								
ETLH						S	**Sb**	**23 14 10.0**	**-1.4**
	baz=344								
ECBN	**Changbin**	**0.48**	**203**		*e*	P	**Pn**	**23 14 04.7**	**+0.3**
	baz=199								
ECBN					*e*	S	**Sn**	**23 14 12.5**	**+0.9**
	baz=199								
OWD	**Renai**	**0.48**	**294**	⇑	*i*	P	**Pb**	**23 14 03.7**	**-0.7**
	baz=294								
OWD						S	**Sb**	**23 14 10.1**	**-1.5**
	baz=294								
YULB	**Yu-li**	**0.49**	**222**			P	**Pb**	**23 14 03.9**	**-0.5**
YULB	**Yu-li**	**0.49**	**222**	⇑	*i*	P	**Pb**	**23 14 03.7**	**-0.7**
	baz=219								
YULB					*e*	S	**Sb**	**23 14 10.4**	**-1.2**
	baz=219								
EYUL	**Yuli**	**0.51**	**217**	⇑	*i*	P	**Pb**	**23 14 04.3**	**-0.5**
	baz=214								
EYUL					*e*	S	**Sn**	**23 14 12.0**	**-0.4**
	baz=214								
TWF1	**Yuli**	**0.52**	**219**	⇑	*i*	P	**Pb**	**23 14 04.2**	**-0.7**
	baz=215								
TWF1						S	**Sb**	**23 14 11.7**	**-0.8**
	baz=215								
WHF	**Hehuan Shan**	**0.53**	**317**	⇓	*i*	P	**Pb**	**23 14 04.4**	**-0.9**
	baz=319								
WHF						S	**Sb**	**23 14 11.6**	**-1.6**
	baz=319								
CHGB	**Renai**	**0.54**	**304**		*i*	P	**Pb**	**23 14 04.8**	**-0.5**
	baz=305								
CHGB						S	**Sb**	**23 14 12.1**	**-1.1**
	baz=305								
WUSB	**Renai**	**0.55**	**295**	⇑	*i*	P	**Pb**	**23 14 05.0**	**-0.4**
	baz=296								
WUSB						S	**Sb**	**23 14 12.1**	**-1.2**
	baz=296								
EHP	**Heping Village**	**0.56**	**8**			P	**Pb**	**23 14 05.0**	**-0.4**
	baz=12								
EHP					*e*	S	**Sn**	**23 14 15.0**	**+1.6**
	baz=12								
SSLB	**Suanglung**	**0.65**	**273**			P	**Pb**	**23 14 06.4**	**-0.5**
SSLB	**Suanglung**	**0.65**	**273**		*i*	P	**Pb**	**23 14 06.1**	**-0.8**
	baz=272								
SSLB					*e*	S	**Sb**	**23 14 14.6**	**-1.2**
	baz=272								
FULB	**Fuli**	**0.65**	**211**			P	**Pn**	**23 14 06.8**	**+0.2**
	baz=208								
FULB					*e*	S	**Sn**	**23 14 18.1**	**+2.3**
	baz=208								
TWT	**Tachien**	**0.66**	**318**			P	**Pn**	**23 14 07.0**	**0.0**
	baz=319								
TWT					*e*	S	**Sb**	**23 14 15.2**	**-1.2**
	baz=319								
ENA	**Nanau**	**0.67**	**7**			P	**Pn**	**23 14 07.0**	**0.0**
	baz=10.0								
ENA					*e*	S	**Sn**	**23 14 17.2**	**+0.9**
	baz=10.0								
TDCB	**Techi**	**0.67**	**317**			P	**Pb**	**23 14 06.9**	**-0.5**
	baz=319								
TDCB					*e*	S	**Sb**	**23 14 15.2**	**-1.4**
	baz=319								
WPL	**Puli Township**	**0.69**	**292**		*e*	P	**Pb**	**23 14 07.1**	**-0.6**
	baz=292								
WPL					*e*	S	**Sb**	**23 14 15.9**	**-1.0**
	baz=292								
EWUT	**Wuta**	**0.69**	**9**			P	**Pb**	**23 14 07.2**	**-0.5**
	baz=12								
EWUT					*e*	S	**Sb**	**23 14 16.9**	**-0.2**
	baz=12								
SMLT	**Sun Moon Lake**	**0.70**	**280**	⇓	*i*	P	**Pb**	**23 14 07.4**	**-0.6**
	baz=280								
SMLT					*e*	S	**Sb**	**23 14 16.6**	**-0.9**
	baz=280								
CHKT	**Chengkung**	**0.71**	**202**		*e*	P	**Pn**	**23 14 07.7**	**+0.2**
	baz=199								
CHKT					*e*	S	**Sn**	**23 14 18.6**	**+1.4**
	baz=199								
NNSB	**Datong**	**0.71**	**339**	⇓	*e*	P	**Pb**	**23 14 07.3**	**-0.8**
	baz=342								
NNSB					*e*	S	**Sb**	**23 14 16.4**	**-1.3**
	baz=342								
NNSH	**Datong**	**0.71**	**339**	⇓		P	**Pb**	**23 14 07.2**	**-0.9**
	baz=342								
NNSH					*e*	S	**Sb**	**23 14 16.2**	**-1.6**
	baz=342								
DPDB	**Guoxing**	**0.72**	**292**	⇓		P	**Pb**	**23 14 07.7**	**-0.5**
	baz=292								
DPDB					*e*	S	**Sb**	**23 14 17.0**	**-1.0**
	baz=292								
NNS	**Nan Shan**	**0.73**	**339**	⇓	*e*	P	**Pb**	**23 14 07.6**	**-0.7**
	baz=342								
NNS					*e*	S	**Sb**	**23 14 17.0**	**-1.1**
	baz=342								
EHD	**Haiduan**	**0.73**	**214**			P	**Pb**	**23 14 06.8**	**-1.6**
	baz=212								
EHD					*e*	S	**Sb**	**23 14 16.8**	**-1.4**
	baz=212								
WCS	**Beigang Elemen**	**0.74**	**294**	⇓	*i*	P	**Pb**	**23 14 07.9**	**-0.6**
	baz=294								
WCS					*e*	S	**Sb**	**23 14 17.3**	**-1.2**
	baz=294								
TYC	**Yuchr**	**0.75**	**281**	⇓	*i*	P	**Pb**	**23 14 07.9**	**-0.7**
	baz=281								
TYC					*e*	S	**Sb**	**23 14 17.9**	**-0.7**
	baz=281								
ECS	**Chishang**	**0.77**	**211**		*e*	P	**Pn**	**23 14 09.6**	**+1.2**
	baz=209								
ECS					*e*	S	**Sn**	**23 14 19.3**	**+0.5**
	baz=209								
LATG	**Datong**	**0.78**	**351**			P	**Pb**	**23 14 08.3**	**-1.0**
	baz=353								
LATG					*e*	S	**Sb**	**23 14 18.5**	**-1.2**
	baz=353								
ELDTW	**Lidau**	**0.82**	**226**		*e*	P	**Pb**	**23 14 08.4**	**-1.4**
	baz=223								
ELDTW					*e*	S	**Sn**	**23 14 20.7**	**+0.7**
	baz=223								
ALS	**Alishan**	**0.82**	**253**	⇓		P	**Pn**	**23 14 09.6**	**+0.3**
	baz=251								
ALS					*e*	S	**Sb**	**23 14 20.2**	**-0.6**
	baz=251								
WHP	**Taichung City**	**0.83**	**309**		*e*	P	**Pn**	**23 14 09.5**	**+0.2**
	baz=309								
WHP					*e*	S	**Sb**	**23 14 20.4**	**-0.6**
	baz=309								
EDH	**Donghe**	**0.85**	**203**		*e*	P	**Pb**	**23 14 09.3**	**-1.0**
	baz=200								
EDH					*e*	S	**Sn**	**23 14 21.5**	**+0.9**
	baz=200								
WJS	**Zhushan**	**0.85**	**274**			P	**Pn**	**23 14 10.5**	**+1.0**
	baz=274								
WJS					*e*	S	**Sn**	**23 14 22.0**	**+1.2**
	baz=274								
TWC	**Suao**	**0.87**	**12**		*e*	P	**Pn**	**23 14 10.4**	**+0.8**
	baz=15								
TWC					*e*	S	**Sb**	**23 14 21.4**	**-0.4**
	baz=15								
NDS	**Dongshan**	**0.87**	**4**		*e*	P	**Pn**	**23 14 10.6**	**+0.8**
	baz=6.0								
NDS					*e*	S	**Sb**	**23 14 21.4**	**-0.7**
	baz=6.0								
ENTT	**Nioudou**	**0.88**	**355**		*e*	P	**Pb**	**23 14 09.9**	**-0.9**
	baz=357								
ENTT					*e*	S	**Sb**	**23 14 21.4**	**-1.0**
	baz=357								
WNT	**Mingjian**	**0.90**	**278**	⇓	*e*	P	**Pn**	**23 14 11.3**	**+1.1**
	baz=277								
WNT					*e*	S	**Sn**	**23 14 23.4**	**+1.5**
	baz=277								
WNT1	**Nantou City**	**0.91**	**280**		*e*	P	**Pn**	**23 14 11.5**	**+1.3**
	baz=279								
WNT1					*e*	S	**Sn**	**23 14 24.2**	**+2.0**
	baz=279								
CHN5	**Tsauling**	**0.91**	**260**	⇓	*e*	P	**Pn**	**23 14 11.2**	**+0.9**
	baz=259								
CHN5					*e*	S	**Sn**	**23 14 23.5**	**+1.1**
	baz=259								
WWF	**Wufeng**	**0.92**	**288**		*e*	P	**Pn**	**23 14 11.8**	**+1.4**
	baz=288								
WWF					*e*	S	**Sn**	**23 14 24.4**	**+1.9**
	baz=288								
YHNB	**Yeheng**	**0.94**	**344**			P	**Pn**	**23 14 11.4**	**+0.6**
YHNB	**Yeheng**	**0.94**	**344**	⇓		P	**Pb**	**23 14 11.1**	**-0.8**
	baz=346								
YHNB					*e*	S	**Sb**	**23 14 23.1**	**-1.1**
	baz=346								
NSK	**Sanguang**	**0.95**	**343**	⇓	*e*	P	**Pb**	**23 14 11.2**	**-0.9**
	baz=345								
NSK					*e*	S	**Sb**	**23 14 23.0**	**-1.4**
	baz=345								
TWE	**Neicheng**	**0.96**	**1**		*e*	P	**Pn**	**23 14 11.4**	**+0.5**
	baz=3.0								
TWE					*e*	S	**Sn**	**23 14 25.2**	**+1.8**
	baz=3.0								
LONT	**Longtian**	**0.98**	**210**		*e*	P	**Pb**	**23 14 10.3**	**-2.1**
	baz=208								
LONT					*e*	S	**Sb**	**23 14 23.4**	**-1.6**
	baz=208								
TCU	**Taichung**	**0.98**	**294**		*e*	P	**Pn**	**23 14 12.7**	**+1.5**
	baz=294								
TCU					*e*	S	**Sn**	**23 14 25.9**	**+2.0**
	baz=294								
STYH	**Taoyuan**	**1.00**	**234**		*e*	P	**Pn**	**23 14 12.1**	**+0.6**
	baz=233								
STYH					*e*	S	**Sb**	**23 14 24.6**	**-1.0**
	baz=233								
FUSB	**Fushanzhiwuyua**	**1.00**	**356**		*e*	P	**Pb**	**23 14 11.9**	**-0.9**
	baz=358								
FUSB					*e*	S	**Sb**	**23 14 25.1**	**-0.6**
	baz=358								
TWQ1	**Liyutan**	**1.00**	**306**		*e*	P	**Pn**	**23 14 12.9**	**+1.4**
	baz=307								
TWQ1					*e*	S	**Sn**	**23 14 25.9**	**+1.4**
	baz=307								
NFF	**Wufeng Townshi**	**1.00**	**331**		*e*	P	**Pn**	**23 14 12.2**	**+0.6**
	baz=332								
NFF					*e*	S	**Sb**	**23 14 24.5**	**-1.3**
	baz=332								
WGK	**Gukeng**	**1.01**	**266**		*e*	P	**Pn**	**23 14 12.7**	**+1.1**
	baz=265								
WGK					*e*	S	**Sn**	**23 14 26.3**	**+1.7**
	baz=265								
ILA	**Ilan**	**1.01**	**5**		*e*	P	**Pn**	**23 14 13.2**	**+1.6**
	baz=7.0								
ILA					*e*	S	**Sn**	**23 14 27.3**	**+2.7**
	baz=7.0								
WYL	**Yuanlin Townsh**	**1.01**	**282**		*e*	P	**Pb**	**23 14 13.1**	**+0.2**
	baz=281								
WYL					*e*	S	**Sn**	**23 14 26.6**	**+2.0**
	baz=281								
WCKO	**Fanlu**	**1.02**	**252**		*e*	P	**Pb**	**23 14 13.1**	**0.0**
	baz=251								
WCKO					*e*	S	**Sn**	**23 14 26.6**	**+1.8**
	baz=251								
STYT	**Tauyuan**	**1.02**	**235**		*e*	P	**Pn**	**23 14 12.4**	**+0.6**
	baz=232								
STYT					*e*	S	**Sn**	**23 14 25.7**	**+0.7**
	baz=232								
NWLT	**Wulai**	**1.02**	**352**		*e*	P	**Pn**	**23 14 12.2**	**+0.3**
	baz=354								
NWLT					*e*	S	**Sb**	**23 14 24.8**	**-1.7**
	baz=354								
WDLH	**Douliu**	**1.03**	**266**		*e*	P	**Pb**	**23 14 12.9**	**-0.3**
	baz=265								
WDLH					*e*	S	**Sn**	**23 14 26.7**	**+1.5**
	baz=265								
TPUB	**Ta-pu**	**1.05**	**244**			P	**Pb**	**23 14 13.0**	**-0.6**
TPUB	**Ta-pu**	**1.05**	**244**		*e*	P	**Pb**	**23 14 13.3**	**-0.3**
	baz=243								
TPUB					*e*	S	**Sn**	**23 14 27.1**	**+1.5**
	baz=243								
WCHH	**Zhanghua**	**1.05**	**288**		*e*	P	**Pb**	**23 14 13.6**	**-0.1**
	baz=288								
WCHH					*e*	S	**Sn**	**23 14 27.2**	**+1.5**
	baz=288								
NSTT	**Nanjuang**	**1.06**	**326**		*e*	P	**Pb**	**23 14 13.6**	**-0.1**
	baz=327								
NSTT					*e*	S	**Sn**	**23 14 27.0**	**+1.1**
	baz=327								
CHN4	**Tsaushan**	**1.06**	**248**		*e*	P	**Pb**	**23 14 13.6**	**-0.2**
	baz=246								
CHN4					*e*	S	**Sn**	**23 14 28.0**	**+2.1**
	baz=246								
LIOB	**Emei**	**1.06**	**327**		*e*	P	**Pb**	**23 14 13.8**	**0.0**
	baz=328								
LIOB					*e*	S	**Sn**	**23 14 27.4**	**+1.4**
	baz=328								
TWGBT	**Beinan**	**1.08**	**210**			P	**Pn**	**23 14 11.8**	**-0.8**
TWGBT	**Beinan**	**1.08**	**210**		*e*	P	**Pn**	**23 14 11.7**	**-0.8**
	baz=208								
TWG	**Pinlang**	**1.08**	**210**		*e*	P	**Pn**	**23 14 11.4**	**-1.2**
	baz=208								
TWG					*e*	S	**Sb**	**23 14 25.1**	**-2.8**
	baz=208								
WTP	**Ta-pu**	**1.08**	**242**	⇓	*e*	P	**Pb**	**23 14 13.9**	**-0.3**
	baz=240								
WTP					*e*	S	**Sn**	**23 14 28.7**	**+2.1**
	baz=240								
LDUT	**Ludao**	**1.09**	**189**		*e*	P	**Pn**	**23 14 12.1**	**-0.7**
	baz=187								
WDJ	**Dajia District**	**1.10**	**302**		*e*	P	**Pb**	**23 14 14.2**	**-0.3**
	baz=303								
WDJ					*e*	S	**Sn**	**23 14 29.5**	**+2.6**
	baz=303								
CHN2	**Minshiung**	**1.11**	**259**		*e*	P	**Pb**	**23 14 14.9**	**+0.4**
	baz=257								
CHN2					*e*	S	**Sn**	**23 14 28.4**	**+1.4**
	baz=257								
NMLH	**Miaoli**	**1.11**	**315**	⇓	*e*	P	**Pb**	**23 14 14.4**	**-0.2**
	baz=315								
NMLH					*e*	S	**Sn**	**23 14 29.2**	**+2.1**
	baz=315								
CHY	**Chiayi**	**1.16**	**257**		*e*	P	**Pb**	**23 14 15.2**	**-0.3**
	baz=256								
CHY					*e*	S	**Sn**	**23 14 30.6**	**+2.2**
	baz=256								
WTK	**Tuku**	**1.17**	**267**		*e*	P	**Pb**	**23 14 15.1**	**-0.4**
	baz=266								
WTK					*e*	S	**Sn**	**23 14 30.8**	**+2.3**
	baz=266								
TWK	**Hsinying**	**1.18**	**246**		*e*	P	**Pb**	**23 14 15.2**	**-0.6**
	baz=244								
TWK					*e*	S	**Sn**	**23 14 31.3**	**+2.4**
	baz=244								
WRL	**Guolierlin Hig**	**1.18**	**277**		*e*	P	**Pb**	**23 14 15.1**	**-0.7**
	baz=277								
WRL					*e*	S	**Sb**	**23 14 30.5**	**-0.3**
	baz=277								
CHN1	**Nanshi**	**1.18**	**241**		*e*	P	**Pb**	**23 14 15.3**	**-0.6**
	baz=240								
CHN1					*e*	S	**Sb**	**23 14 31.6**	**+0.7**
	baz=240								
SNST	**Tainan City**	**1.19**	**244**		*e*	P	**Pb**	**23 14 17.2**	**+1.2**
	baz=242								
SNST					*e*	S	**Sb**	**23 14 34.4**	**+3.2**
	baz=242								
SGST	**Jiashian**	**1.19**	**236**		*e*	P	**Pb**	**23 14 15.0**	**-1.1**
	baz=234								
SGST					*e*	S	**Sb**	**23 14 31.4**	**+0.2**
	baz=234								
SBCB	**Hsinchu**	**1.20**	**329**		*e*	P	**Pn**	**23 14 15.1**	**+0.8**
	baz=330								
SLGT	**Liugui**	**1.20**	**231**		*e*	P	**Pb**	**23 14 16.4**	**+0.2**
	baz=229								
SLGT					*e*	S	**Sb**	**23 14 32.1**	**+0.7**
	baz=229								
NHDH	**Xindian Distri**	**1.21**	**354**		*e*	P	**Pb**	**23 14 15.4**	**-0.8**
	baz=356								
NHDH					*e*	S	**Sb**	**23 14 31.0**	**-0.6**
	baz=356								
HSN	**Hsinchu**	**1.21**	**329**		*e*	P	**Pb**	**23 14 17.3**	**+0.9**
	baz=332								
HSN					*e*	S	**Sb**	**23 14 33.0**	**+1.3**
	baz=332								
TIPB	**Shuangxi**	**1.22**	**7**		*e*	P	**Pb**	**23 14 15.6**	**-0.8**
	baz=9.0								
TIPB					*e*	S	**Sb**	**23 14 32.1**	**+0.2**
	baz=9.0								
TWA	**Mucha**	**1.22**	**357**		*e*	P	**Pb**	**23 14 15.8**	**-0.7**
	baz=359								
TWA					*e*	S	**Sn**	**23 14 30.9**	**+1.0**
	baz=359								
WTCT	**Ta-ch'eng**	**1.27**	**275**		*e*	P	**Pb**	**23 14 16.5**	**-0.7**
	baz=274								
WTCT					*e*	S	**Sb**	**23 14 33.6**	**+0.4**
	baz=274								
NCUH	**Zhongli**	**1.28**	**340**		*e*	P	**Pb**	**23 14 17.2**	**-0.2**
	baz=342								
NCUH					*e*	S	**Sb**	**23 14 34.0**	**+0.3**
	baz=342								
NTY	**Taoyuan**	**1.28**	**345**		*e*	P	**Pb**	**23 14 17.3**	**-0.2**
	baz=346								
NTY					*e*	S	**Sb**	**23 14 34.4**	**+0.7**
	baz=346								
NCU	**National Centr**	**1.28**	**341**		*e*	P	**Pb**	**23 14 17.4**	**-0.1**
	baz=342								
NCU					*e*	S	**Sb**	**23 14 34.2**	**+0.5**
	baz=342								
TWB1	**Santiao Chiao**	**1.28**	**14**		*e*	P	**Pb**	**23 14 17.3**	**-0.2**
	baz=15								
TWB1					*e*	S	**Sb**	**23 14 33.9**	**+0.2**
	baz=15								
NWF	**Wu-fen Shan**	**1.31**	**5**		*e*	P	**Pn**	**23 14 16.6**	**+0.7**
	baz=6.0								
NWF					*e*	S	**Sb**	**23 14 34.7**	**0.0**
	baz=6.0								
WFSB	**Wu-fen Shan**	**1.31**	**5**		*e*	P	**Pn**	**23 14 16.5**	**+0.7**
	baz=6.0								
WFSB					*e*	S	**Sb**	**23 14 35.0**	**+0.4**
	baz=6.0								
WSF	**Szhu**	**1.32**	**265**		*e*	P	**Pb**	**23 14 17.4**	**-0.7**
	baz=264								
WSF					*e*	S	**Sb**	**23 14 35.2**	**+0.4**
	baz=264								
ECL	**Taimali**	**1.32**	**209**		*e*	P	**Pn**	**23 14 15.5**	**-0.4**
	baz=208								
ICHU	**Yijhu**	**1.32**	**253**		*e*	P	**Pb**	**23 14 17.4**	**-0.8**
	baz=252								
ICHU					*e*	S	**Sb**	**23 14 34.4**	**-0.5**
	baz=252								
SXI1	**Grass Mountain**	**1.34**	**8**		*e*	P	**Pb**	**23 14 17.8**	**-0.8**
	baz=10.0								
SXI1					*e*	S	**Sb**	**23 14 37.8**	**+2.1**
	baz=10.0								
TWS1	**Kuangyinshan**	**1.35**	**351**		*e*	P	**Pb**	**23 14 17.7**	**-1.1**
	baz=352								
TWS1					*e*	S	**Sb**	**23 14 35.3**	**-0.5**
	baz=352								
NHW	**Xinwu Township**	**1.36**	**336**		*e*	P	**Pb**	**23 14 18.2**	**-0.7**
	baz=337								
JYNG	**Yonagunijimaku**	**1.36**	**59**			S	**Sb**	**23 14 34.9**	**-1.1**
SCST	**Cishan**	**1.38**	**231**		*e*	P	**Pb**	**23 14 19.2**	**+0.1**
	baz=230								
SCST					*e*	S	**Sb**	**23 14 39.4**	**+3.0**
	baz=230								
SSD	**Sandimen**	**1.38**	**223**		*e*	P	**Pb**	**23 14 18.7**	**-0.4**
	baz=222								
SSD					*e*	S	**Sb**	**23 14 36.6**	**+0.1**
	baz=222								
YM01	**YM01**	**1.39**	**357**		*e*	P	**Pn**	**23 14 17.4**	**+0.6**
	baz=358								
YM01					*e*	S	**Sb**	**23 14 35.7**	**-1.0**
	baz=358								
CHN8	**Yiju**	**1.39**	**253**		*e*	P	**Pb**	**23 14 18.2**	**-1.1**
	baz=252								
CHN8					*e*	S	**Sb**	**23 14 36.5**	**-0.2**
	baz=252								
TNOU	**National Taiwa**	**1.39**	**4**		*e*	P	**Pb**	**23 14 19.1**	**-0.3**
	baz=6.0								
TNOU					*e*	S	**Sn**	**23 14 34.4**	**+0.3**
	baz=6.0								
NTST	**Danshui**	**1.41**	**352**		*e*	P	**Pb**	**23 14 19.1**	**-0.6**
	baz=354								
YOJ	**Yonaguni jima**	**1.42**	**60**			P	**Pb**	**23 14 18.8**	**-1.1**
YOJ	**Yonaguni jima**	**1.42**	**60**			P	**Pb**	**23 14 18.5**	**-1.4**
YOJ						eS	**Sn**	**23 14 36.0**	**+1.1**
YM08	**YM08**	**1.43**	**358**		*e*	P	**Pn**	**23 14 17.7**	**+0.3**
	baz=359								
YM08					*e*	S	**Sn**	**23 14 35.5**	**+0.5**
	baz=359								
ANP	**Anpu**	**1.43**	**355**		*e*	P	**Pn**	**23 14 17.9**	**+0.4**
	baz=357								
NWRT	**Kuosheng**	**1.44**	**0**		*e*	P	**Pb**	**23 14 20.4**	**+0.2**
	baz=1.0								
NWRT					*e*	S	**Sb**	**23 14 38.2**	**+0.1**
	baz=1.0								
TWM1	**Shoushan**	**1.47**	**231**		*e*	P	**Pb**	**23 14 21.2**	**+0.6**
	baz=229								
TWM1					*e*	S	**Sb**	**23 14 42.8**	**+3.8**
	baz=229								
MASBT	**Mashibuluo**	**1.48**	**220**		*e*	P	**Pn**	**23 14 18.7**	**+0.5**
	baz=218								
MASBT					*e*	S	**Sb**	**23 14 39.0**	**-0.4**
	baz=218								
EAST	**Anshuo**	**1.56**	**209**		*e*	P	**Pb**	**23 14 20.8**	**-1.4**
	baz=207								
TSCK	**Chigu Township**	**1.57**	**247**	⇓	*e*	P	**Pb**	**23 14 20.7**	**-1.6**
	baz=246								
TSCK					*e*	S	**Sb**	**23 14 40.3**	**-1.5**
	baz=246								
TAWH	**Dawu Township**	**1.58**	**207**		*e*	P	**Pb**	**23 14 22.6**	**0.0**
	baz=205						

JIJ				S		Sn	23 14 58.4	+0.6
JISG	**Ishigakijimahi**	**2.56**	**71**	P		Pn	23 14 33.9	+0.9
JISG				S		Sn	23 15 03.4	+0.5
PTMZ	**Houxiangcun**	**2.64**	**299**	*eP*		Pn	23 14 34.0	-0.1
	baz=299							
PTMZ				*eS*		Sn	23 15 03.6	-1.3
	baz=299							
JTJ	**Tarama**	**2.92**	**72**	P		Pn	23 14 39.3	+1.4
JTJ				*eS*		Sn	23 15 13.3	+1.5
KNM	**Kinmen**	**3.02**	**283**	*eP*		Pn	23 14 41.1	+1.8
	baz=282							
KNM				*eS*		Sn	23 15 15.6	+1.3
	baz=282							
KNMB	**Chin-men Tao**	**3.07**	**284**	⇓ *eP*		Pn	23 14 40.0	+0.1
	baz=283							
KNMB				*eS*		Sn	23 15 13.9	-1.6
	baz=283							
LYJJ	**Jianjiangzhen**	**3.27**	**329**	*eP*		Pn	23 14 42.6	-0.1
	baz=329							
LYJJ				*eS*		Sn	23 15 18.6	-1.9
	baz=329							
MHZQ	**Yeshan**	**3.33**	**315**	*eP*		Pn	23 14 43.7	0.0
	baz=315							
XPSS	**Dashiqiu**	**3.43**	**338**	*eP*		Pn	23 14 44.6	-0.3
	baz=338							
XPSS				*eS*		Sn	23 15 22.3	-2.0
	baz=338							
AXDP	**Jialang**	**3.55**	**289**	⇓ *eP*		Pn	23 14 46.9	+0.3
	baz=289							
AXDP				*eS*		Sn	23 15 25.9	-1.5
	baz=289							
ZPLA	**Ao Xicun**	**3.58**	**274**	*eP*		Pn	23 14 47.8	+0.8
	baz=273							
KSRS	**Korea Array**	**14.67**	**20**	P		**P**	**23 17 25.6**	**+0.8**
	0.2nm,0.3s,baz=194,slow=11,SNR=2.9							
	1.1nm,0.5s							
MKAR	**Makanchi Array**	**38.94**	**316**	P		**P**	**23 21 16.6**	**0.0**
	0.3nm,0.7s,baz=102,slow=9.6,SNR=4.8							
	0.3nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**42.08**	**86**	T		T	00 06 48.1	
	baz=283,slow=74,SNR=4.1							
H11N2	**WAKE ISLAND Hy**	**42.08**	**86**	T		T	00 06 45.3	
	baz=283,slow=74,SNR=4.5							
H11N3	**WAKE ISLAND Hy**	**42.10**	**86**	T		T	00 06 51.0	
	baz=283,slow=74,SNR=4.1							
H11S3	**WAKE ISLAND Hy**	**42.20**	**88**	T		T	00 06 56.1	
	baz=284,slow=75,SNR=9.8							
H11S1	**WAKE ISLAND Hy**	**42.21**	**88**	T		T	00 06 56.3	
	baz=284,slow=75,SNR=8.6							
H11S2	**WAKE ISLAND Hy**	**42.22**	**88**	T		T	00 06 57.0	
	baz=284,slow=75,SNR=6.5							
WRA	**Warramunga Ar**	**45.16**	**163**	P		**P**	**23 22 06.3**	**-1.2**
	0.4nm,1.0s,baz=346,slow=8.9,SNR=2.0							
	0.4nm,1.0s							
YKA	**Yellowknife Ar**	**83.19**	**23**	P		**P**	**23 26 16.3**	**0.0**
	0.4nm,0.6s,baz=311,slow=5.0,SNR=11							
	0.4nm,0.6s							

*IDC **20** 23:18:27.3±1.3,21°.33S×68°.49W,h108km±14km,mb3.4/2, mbtmp3.7/4,Error ellipse: s-maj=38.0km s-min=15.6km az=118.0*

*GUC **20** 23:18:27.2±0.8,21°.29S×68°.89W,h116km±4km,ML3.7*

ISC 20 23:18:25.9±0.9,**21°.26S**±0°.04×**68°.86W**±0°.07,**h120**km±8km, **n23,σ1§41/41,9C-6D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.63**	**290**	⇑ *iP*	**Pn**	**23 18 44.9**	**+0.1**
PB01				*i* S	**Sn**	**23 18 58.4**	**-0.6**
PB09	**IPOC Station P**	**0.64**	**214**	⇑ *iP*	**Pn**	**23 18 45.3**	**+0.3**
PB09				*i* S	**Sn**	**23 18 59.4**	**0.0**
PB02	**IPOC Station P**	**0.97**	**266**	⇑ *iP*	**Pn**	**23 18 48.0**	**+0.3**
PB02				*i* S	**Sn**	**23 19 03.8**	**-0.5**
PB02				IAML		23 19 06.0	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**1.06**	**244**	⇑ *iP*	**Pn**	**23 18 48.9**	**+0.2**
PB07				*i* S	**Sn**	**23 19 05.4**	**-0.6**
PB07				IAML		23 19 06.7	
	comp=E,866nm,0.3s						
PB03	**IPOC Station P**	**1.14**	**227**	⇑ *iP*	**Pn**	**23 18 49.7**	**+0.2**
PB03				*i* S	**Sn**	**23 19 06.8**	**-0.6**
PB03				IAML		23 19 07.3	
	comp=E,2μm,0.2s						
PATCX	**Punta Patache**	**1.29**	**290**	⇑ *iP*	**Pn**	**23 18 51.5**	**+0.4**
PATCX				*i* S	**Sn**	**23 19 09.9**	**-0.2**
PATCX				IAML		23 19 10.9	
	comp=E,2μm,0.1s						
LVC	**Limon Verde**	**1.34**	**182**	P	**Pn**	**23 18 52.7**	**+0.8**
	comp=E,46nm,0.2s,baz=1.4,slow=8.0,SNR=165						
LVC				S	**Sn**	**23 19 11.3**	**-0.3**
	comp=E,125nm,0.4s,baz=19,slow=4.5,SNR=17						
LVC				LR	LR	23 19 28.8	
	comp=E,50nm,19.9s,baz=11,slow=46						
HMBC	**Humberstone**	**1.38**	**315**	⇓ *iP*	**Pn**	**23 18 52.1**	**+0.1**
HMBC				*i* S	**Sn**	**23 19 11.4**	**-0.4**
HMBC				IAML		23 19 13.4	
	comp=E,1μm,0.4s						
TA01	**Diego Aracena**	**1.42**	**299**	⇑ *iP*	**Pn**	**23 18 52.6**	**+0.2**
TA01				*i* S	**Sn**	**23 19 12.0**	**-0.5**
TA01				IAML		23 19 12.9	
	comp=E,2μm,0.2s						
TA02	**Huaiquique**	**1.55**	**309**	*eP*	**Pn**	**23 18 54.0**	**+0.1**
TA02				*eS*	**Sn**	**23 19 14.5**	**-0.6**
TA02				IAML		23 19 16.8	
	comp=N,2μm,0.1s						
PB06	**IPOC Station P**	**1.58**	**205**	⇑ *iP*	**Pn**	**23 18 54.9**	**+0.4**
PB06				*i* S	**Sn**	**23 19 15.9**	**-0.3**
PB06				IAML		23 19 18.2	
	comp=E,1μm,0.1s						
PB04	**IPOC Station P**	**1.61**	**228**	⇑ *iP*	**Pn**	**23 18 54.8**	**+0.1**
PB04				*i* S	**Sn**	**23 19 15.7**	**-1.0**
PB04				IAML		23 19 20.3	
	comp=E,683nm,0.3s						
GO01	**Chusmiza**	**1.62**	**349**	⇓ *iP*	**Pn**	**23 18 56.1**	**+0.9**
GO01				*i* S	**Sn**	**23 19 19.0**	**+1.6**
PB11	**IPOC Station P**	**1.67**	**333**	⇓ *iP*	**Pn**	**23 18 55.9**	**+0.4**
PB11				*i* S	**Sn**	**23 19 18.5**	**+0.4**
PB11				IAML		23 19 19.8	
	comp=N,1μm,0.5s						
PSGC	**Pisagua**	**2.04**	**324**	⇓ *iP*	**Pn**	**23 18 59.6**	**-0.4**
PSGC				*i* S	**Sn**	**23 19 24.9**	**-1.0**
PSGC				IAML		23 19 29.2	
	comp=E,263nm,0.2s						
MNMC	**Minye Minye**	**2.23**	**342**	⇓ *iP*	**Pn**	**23 19 03.3**	**+0.7**
MNMC				*i* S	**Sn**	**23 19 32.0**	**+1.4**
MNMC				IAML		23 19 40.0	
	comp=N,620nm,0.1s						
PB10	**IPOC Station P**	**2.74**	**215**	*eP*	**Pn**	**23 19 08.5**	**-0.3**
PB10				*eS*	**Sn**	**23 19 38.4**	**-3.3**
PB10				IAML		23 19 44.5	
	comp=E,94nm,0.1s						
PB12	**IPOC Station P**	**2.98**	**332**	⇓ *iP*	**Pn**	**23 19 11.2**	**-0.8**
PB12				IAML		23 20 13.1	
	comp=E,118nm,0.4s						
LPAZ	**La Paz**	**5.00**	**8**	P	**Pn**	**23 19 41.7**	**+2.3**
	comp=E,1.7nm,0.3s,baz=198,slow=7.5,SNR=12						
SIV	**San Ignacio**	**9.05**	**56**	P	**Pn**	**23 20 31.4**	**-2.3**
	comp=E,2.4nm,0.5s,baz=250,slow=13,SNR=15						
SIV				S	**Sn**	**23 22 07.8**	**-6.1**
	comp=E,0.3nm,0.4s,baz=193,slow=13,SNR=1.9						
BDFB	**Brasilia**	**20.54**	**78**	P	**P**	**23 22 55.5**	**+0.3**
	comp=E,1.8nm,0.4s,baz=265,slow=9.6,SNR=5.2						
	comp=E,1.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	**P**	**23 30 07.8**	**+0.5**
	comp=E,0.8nm,1.0s,baz=253,slow=5.4,SNR=6.2						
	comp=E,0.8nm,1.0s						
MKAR	**Makanchi Array**	**145.41**	**36**	PKPbc	**PKPab**	**23 37 51.3**	**+1.1**
	comp=E,0.1nm,0.5s,baz=294,slow=1.4,SNR=4.0						

*NOU **20** 23:49:06.6,10°.28S×161°.41E,h0km,mb4.8/11,Solomon Islands*

*NEIC **20** 23:49:06.9±1.9,9°.9S±0°.2×161°.8E±0°.1,h65km±16km, mb4.2/7,Error ellipse: s-maj=29.4km s-min=12.6km az=196.0*

*IDC **20** 23:49:11.1±2.3,10°.39S×161°.37E,h66km±19km,mb3.6/9, mbtmp4.0/11,MS3.3/8,Error ellipse: s-maj=22.7km s-min=14.1km az=72.0*

ISC 20 23:49:10.4±0.7,**10°.35S**±0°.08×**161°.43E**±0°.09,**h61**km,**n36,** σ**1§50/34,mb3.9/12,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**		**1.72**	**302**	P	**Pn**	**23 49 36.9**	**-1.2**
	6μm,0.3s,baz=178,slow=5.0,SNR=38							
HNR					S	**Sn**	**23 49 59.6**	**+0.5**
	21μm,0.3s,baz=57,slow=22,SNR=12							
HNR					LR	LR	23 50 33.6	
	comp=Z,4μm,20.5s,baz=148,slow=49							
HNR	**Honiara**		**1.72**	**302**	Pn	**Pn**	**23 49 36.3**	**-1.8**
HNR					Sn	**Sn**	**23 50 00.5**	**+1.4**
HNR	**Honiara**		**1.72**	**302**	P	**Pn**	**23 49 36.5**	**-1.6**
DVP	**Devils Point**		**9.83**	**139**	P	**Pn**	**23 51 30.2**	**+1.1**
	460nm,0.9s							
KOUNC	**Koumac, New Ca**		**10.51**	**165**		**Pn**	**23 51 39.4**	**+1.1**
KOUNC	**Koumac, New Ca**		**10.51**	**165**	P	**Pn**	**23 51 38.9**	**+0.6**
	15nm,1.1s							
LIFNC	**LIFOU**		**11.78**	**152**	Pn	**Pn**	**23 51 54.0**	**-1.6**
LIFNC	**LIFOU**		**11.78**	**152**	P	**Pn**	**23 51 54.4**	**-1.3**
	38nm,0.9s							
NOUC	**Port Laguerre**		**12.58**	**159**	P	**Pn**	**23 52 10.2**	**+3.5**
	16nm,0.5s							
DZM	**Mont Dzumac**		**12.61**	**158**	P	**Pn**	**23 52 07.6**	**+0.5**
	4.1nm,0.4s,baz=14,slow=8.7,SNR=25							
DZM					S	**Sn**	**23 54 24.9**	**-1.0**
	2.0nm,0.6s,baz=135,slow=20,SNR=1.2							
DZM	**Mont Dzumac**		**12.61**	**158**	P	**Pn**	**23 52 07.9**	**+0.8**
	14nm,2.3s							
MARNC	**Mare, Loyalty**		**12.75**	**151**	P	**Pn**	**23 52 11.5**	**+2.5**
	0.6nm,0.9s							
OUENC	**Ouen Island, N**		**13.07**	**157**	Pn	**Pn**	**23 52 14.3**	**+1.0**
PMG	**Port Moresby**		**14.09**	**273**	LR	LR	23 57 31.4	
	comp=Z,161nm,18.4s,baz=70,slow=36							
CTA	**Charters Tower**		**17.54**	**235**	P	**Pn**	**23 53 11.1**	**+0.2**
	6.1nm,0.7s,baz=55,slow=12,SNR=12							
CTA					LR	LR	23 58 44.3	
	comp=Z,50nm,18.5s,baz=72,slow=33							
CTAO	**Charters Tower**		**17.54**	**235**	P	**P**	**23 53 13.7**	**+2.5**
CTAO					IAmb	IAmb	23 53 14.9	
	comp=Z,6.1nm,0.6s							
MSVF	**Nonsavu**		**17.71**	**116**	LR	LR	23 58 54.6	
	comp=Z,96nm,18.2s,baz=59,slow=33							
WB0	**Warramunga Arr**		**27.70**	**247**	P	**P**	**23 54 52.5**	**-0.6**
WB0					IAmb	IAmb	23 54 59.3	
	comp=Z,3.9nm,1.0s							
WRA	**Warramunga Arr**		**27.79**	**247**	P	**P**	**23 54 52.8**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=76,slow=9.1,SNR=10							
WRA					LR	LR	00 05 01.8	
	comp=Z,55nm,18.5s,baz=85,slow=34							
	comp=Z,0.8nm,0.5s							
STKA	**Stephens Creek**		**28.20**	**218**	P	**P**	**23 54 58.8**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=31,slow=12,SNR=1.7							
	comp=Z,0.5nm,0.3s							
ASAR	**Alice Springs**		**29.39**	**240**	P	**P**	**23 55 07.4**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=61,slow=10,SNR=1.7							
ASAR					LR	LR	00 06 16.7	
	comp=Z,71nm,18.9s,baz=88,slow=35							
	comp=Z,0.2nm,0.5s							
BKZ	**Black Stump Fm**		**31.69**	**157**	P	**P**	**23 55 26.4**	**-1.9**
BKZ					IAmb	IAmb	23 55 29.7	
	comp=Z,13nm,1.1s							
KNRA	**Kununurra**		**32.24**	**257**	P	**P**	**23 55 32.9**	**-0.4**
KNRA					IAmb	IAmb	23 55 39.7	
	comp=Z,7.9nm,1.0s							
BBOO	**Buckleboo**		**32.33**	**222**	P	**P**	**23 55 33.8**	**-0.1**
TCW	**Tory Channel**		**32.76**	**162**	P	**P**	**23 55 36.9**	**-0.7**
THZ	**Tophouse**		**32.88**	**164**	P	**P**	**23 55 35.1**	**-3.5**
KAPI	**Kappang**		**41.61**	**274**	LR	LR	00 14 55.6	
	comp=Z,20nm,18.6s,baz=160,slow=37							
PPT	**Papeete**		**47.98**	**104**	LR	LR	00 15 30.4	
	comp=Z,25nm,18.3s,baz=16,slow=33							
VNDA	**Vanda**		**67.15**	**180**	P	**P**	**23 59 57.5**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=340,slow=5.9,SNR=7.8							
	comp=Z,1.5nm,0.8s							
VNDA	**Vanda**		**67.15**	**180**	P	**P**	**23 59 58.0**	**+0.6**
VNDA					IAmb	IAmb	23 59 58.9	
	comp=Z,1.5nm,0.8s							
SONM	**Songino Array**		**75.64**	**325**	P	**P**	**00 00 49.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=138,slow=5.0,SNR=8.4							
	comp=Z,0.8nm,0.7s							
ILAR	**Eielson Array**		**84.25**	**20**	P	**P**	**00 01 35.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=246,slow=5.2,SNR=13							
	comp=Z,0.7nm,0.6s							
RPN	**Rapa Nui**		**84.69**	**116**	LR	LR	00 36 40.6	
	comp=Z,31nm,18.2s,baz=300,slow=34							
NVAR	**Mina Array Bea**		**88.85**	**51**	P	**P**	**00 02 00.1**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=241,slow=6.8,SNR=3.8							
	comp=Z,0.5nm,0.6s							
MKAR	**Manchi Array**		**90.13**	**318**	P	**P**	**00 02 02.9**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=85,slow=3.6,SNR=1.6							
	comp=Z,0.2nm,0.5s							
YKA	**Yellowknife Ar**		**96.32**	**28**	P	**P**	**00 02 32.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=261,slow=5.0,SNR=7.4							
	comp=Z,0.4nm,0.6s							

*HEL **20** 23:51:54.5±0.4,67°.86N×20°.07E,h0km,ML1.1,Explosion*

*UPP **20** 23:51:55.0±0.0,67°.82N×20°.21E,h0km,ML3.0,Confirmed Induced event*

*DNK **20** 23:51:55.4±0.4,67°.82N×20°.22E,h0km,ML3.0(UPP), Suspected explosion*

ISC 20 23:51:54.5±0.8,**67.79N**±0°.03×**20°.26E**±0°.02,**h0**km,**n28,** σ**0§83/42,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.26**	**278**	P	**Pg**	**23 51 59.7**	**+0.4**
RATU				S	**Sg**	**23 52 02.9**	**+0.2**
RATU	**Laukkuluspa**	**0.26**	**278**	P	**Pg**	**23 51 59.7**	**+0.4**
RATU				S	**Sg**	**23 52 02.9**	**+0.2**
KOVU	**Salmi**	**0.44**	**355**	P	**Pg**	**23 52 02.7**	**-0.2**
KOVU				S	**Sg**	**23 52 08.2**	**-0.4**
KOVU	**Salmi**	**0.44**	**355**	P	**Pg**	**23 52 02.7**	**-0.2**
KOVU				S	**Sg**	**23 52 08.2**	**-0.4**
NIKU	**Nikkaluokta**	**0.47**	**280**	P	**Pg**	**23 52 03.7**	**+0.2**
NIKU				S	**Sg**	**23 52 09.8**	**+0.3**
NIKU	**Nikkaluokta**	**0.47**	**280**	P	**Pg**	**23 52 03.7**	**+0.2**
NIKU				S	**Sg**	**23 52 09.8**	**+0.3**
DUNU	**Dundret**	**0.68**	**170**	P	**Pb**	**23 52 08.3**	**-0.9**
DUNU	**Dundret**	**0.68**	**170**	P	**Pb**	**23 52 08.3**	**-0.9**
LANU	**Lannavaara**	**0.70**	**67**	P	**Pg**	**23 52 08.5**	**+0.5**
LANU	**Lannavaara**	**0.70**	**67**	P	**Pg**	**23 52 08.5**	**+0.5**
LANU	**Lannavaara**	**0.70**	**67**	PG	**Pg**	**23 52 08.2**	**+0.2**
LANU				SB	**Sg**	**23 52 18.2**	**+1.1**
MASU	**Masugnsbyn**	**0.74**	**116**	P	**Pb**	**23 52 09.8**	**-0.6**
MASU	**Masugnsbyn**	**0.74**	**116**	P	**Pb**	**23 52 09.8**	**-0.6**
KIF	**Kilpisjarvi**	**1.24**	**9**	PN	**Pg**	**23 52 18.3**	**+0.1**
KIF				MSG		23 52 31.3	
	comp=Z,2.0nm,0.2s						
KIF				SN	**Sn**	**23 52 35.8**	**-0.5**
PAJU	**Pajala**	**1.34**	**124**	P	**Pg**	**23 52 20.1**	**-0.1**
PAJU	**Pajala**	**1.34**	**124**	P	**Pg**	**23 52 20.1**	**-0.1**
PAJU	**Pajala**	**1.34**	**124**	PG	**Pg**	**23 52 20.1**	**-0.1**
PAJU				SG	**Sn**	**23 52 38.8**	**-0.3**
HEF	**Hetta**	**1.42**	**62**	PG	**Pn**	**23 52 21.3**	**-0.3**
HEF				MSG		23 52 38.0	
	comp=Z,1.1nm,0.2s						
HEF				SN	**Sn**	**23 52 43.8**	**+2.9**
ERTU	**Ertsjaerv**	**1.45**	**148**	P	**Pb**	**23 52 22.4**	**0.0**
ERTU	**Ertsjaerv**	**1.45**	**148**	P	**Pb**	**23 52 22.4**	**0.0**
ERTU	**Ertsjaerv**	**1.45**	**148**	PG	**Pb**	**23 52 22.5**	**+0.2**
ERTU				SG	**Sn**	**23 52 42.4**	**+0.7**
KTK1	**Kautokeino**	**1.65**	**41**	PG	**Pg**	**23 52 25.9**	**-0.2**
KTK1				SN	**Sg**	**23 52 49.1**	**+1.6**
HARU	**Harads**	**1.66**	**170**	P	**Pb**	**23 52 25.7**	**-0.2**
HARU	**Harads**	**1.66**	**170**	P	**Pb**	**23 52 25.7**	**-0.2**
KALU	**Kalix**	**2.29**	**146**	SG	**Sg**	**23 53 08.3**	**+0.3**
TOF	**Tornio**	**2.35**	**135**	PN	**Pb**	**23 52 36.6**	**-1.0**
TOF				MSG		23 53 07.1	
	comp=Z,0.5nm,0.2s						
TOF				SB	**Sg**	**23 53 08.8**	**-1.0**
RNF	**Rovaniemi**	**2.54**	**115**	PN	**Pb**	**23 52 39.7**	**-1.1**
RNF				SB	**Sb**	**23 53 13.3**	**+0.8**
OLKF	**Oulanka, Finla**	**3.87**	**108**	PB	**Pb**	**23 53 01.2**	**-2.4**

*NAO **21** 00:19:16.9±1.9,74°.59N×7°.97E,ML3.3*

*IDC **21** 00:19:20.9±1.4,74°.65N×9°.27E,h0km,mb3.3/4, mbtmp3.5/7,ML2.7/2,Error ellipse: s-maj=32.4km s-min=14.0km az=80.0*

*BER **21** 00:19:21.4±2.5,74°.66N×8°.32E,h25km±22km,ML2.0, ML3.3(NAO),Confirmed Earthquake*

*KOLA **21** 00:19:24.5,75°.13N×10°.01E,h0km,ML1.9,Error ellipse: s-maj=18.6km s-min=13.5km az=120.0,Norwegian sea*

*IEPN **21** 00:19:25.0,74°.72N×9°.61E,h10km*

ISC 21 00:19:21.1±1.0,**74.74N**±0°.06×**9°.6E**±0°.1,**h10**km,**n35,** σ**1§82/44,mb3.3/4,1C,Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**2.69**	**30**	Pn	**Pn**	**00 20 05.0**	**+0.6**
HSPB				Sn	Sn	00 20 34.3	-2.6
HSPB	**Hornsund (broa**	**2.69**	**30**	*eP*	**Pn**	**00 20 04.7**	**+0.3**
HSPB				*eS*	Sn	00 20 34.1	-2.8
HSPB	**Hornsund (broa**	**2.69**	**30**	*eP*	**Pn**	**00 20 05.0**	**+0.6**
HSPB				*e*		00 20 34.6	
HSPB				IAML		00 20 39.2	
	comp=Z,6.6nm,0.2s						
HSPB	**Hornsund (broa**	**2.69**	**30**	P	**Pn**	**00 20 05.6**	**+1.2**
HSPB				S	Sn	00 20 32.4	-4.6
BRBA	**Barentsburg A**	**3.50**	**16**	Pn	**Pn**	**00 20 15.7**	**+0.2**
BRBA				Sn	**Sn**	**00 20 56.1**	**-0.9**
BRBA	**Barentsburg A**	**3.50**	**16**	*eP*	**Pn**	**00 20 15.8**	**+0.2**
BRBA				*eS*	**Sn**	**00 20 54.8**	**-2.2**
BRBA				IAML		00 21 00.8	
	comp=Z,11nm,0.1s						
BRBB	**Barentsburg B**	**3.54**	**16**	Pn	**Pn**	**00 20 16.2**	**+0.2**
BRBB				Sn	**Sn**	**00 20 56.1**	**-1.7**
BRBB	**Barentsburg B**	**3.54**	**16**	*eP*	**Pn**	**00 20 16.1**	**+0.1**
BRBB				*eS*	**Sn**	**00 20 56.1**	**-1.7**
BRBB	**Barentsburg B**	**3.54**	**16**	P	**Pn**	**00 20 15.8**	**-0.2**
BRBB				S	**Sn**	**00 20 54.1**	**-3.7**
SPA0	**Spitsbergen Ar**	**3.80**	**21**	Pn	**Pn**	**00 20 20.7**	**+1.1**
	baz=203,slow=14						
SPA0				Sn	**Sn**	**00 21 02.4**	**-1.8**
	baz=212,slow=22						
SPA0	**Spitsbergen Ar**	**3.80**	**21**	⇑ *iP*	**Pn**	**00 20 20.6**	**+1.1**
SPA0				*i* S	**Sn**	**00 21 02.4**	**-1.8**
SPA0	**Spitsbergen Ar**	**3.80**	**21**	*eP*	**Pn**	**00 20 20.7**	**+1.1**
SPA0				*eS*	**Sn**	**00 21 02.7**	**-1.5**
SPA0				IAML		00 21 09.8	
	comp=Z,5.8nm,0.3s						
SPITS	**Spitsbergen Ar**	**3.80**	**21**	Pn	**Pn**	**00 20 20.6**	**+1.1**
	comp=Z,12nm,0.3s,baz=204,slow=16,SNR=277						
SPITS				Sn	**Sn**	**00 21 02.1**	**-2.1**
	baz=219,slow=16						
SPITS	**Spitsbergen Ar**	**3.80**	**21**	P	**Pn**	**00 20 20.6**	**+1.0**
SPITS				S	Sn	00 20 55.9	-8.3
HOPEN	**Hopen**	**4.22**	**58**	Pn	**Pn**	**00 20 26.6**	**+1.3**
HOPEN				Sn	Sn	00 21 13.6	-0.9
HOPEN	**Hopen**	**4.22**	**58**	*eP*	**Pn**	**00 20 26.7**	**+1.3**
HOPEN				*i* S	Sn	00 21 12.2	-2.3
HOPEN	**Hopen**	**4.22**	**58**	*eP*	**Pn**	**00 20 26.6**	**+1.3**
HOPEN				IAML		00 21 17.2	
	comp=Z,13nm,0.2s						
KBS	**Kingsbay**	**4.24**	**6**	Pn	**Pn**	**00 20 24.5**	**-1.1**
KBS	**Kingsbay**	**4.24**	**6**	*eP*	**Pn**	**00 20 24.8**	**-0.8**
KBS				*eS*	**Sn**	**00 21 11.3**	**-3.7**
KBS				IAML		00 21 12.9	
	comp=Z,7.8nm,1.1s						
KBS	**Kingsbay**	**4.24**	**6**	P	**Pn**	**00 20 24.9**	**-0.8**
KBS				S	Sn	00 21 07.8	-7.3
KIF	**Kilpisjarvi**	**6.72**	**143**	Pn	**Pn**	**00 21 00.9**	**+1.2**
KIF				Sn	**Sn**	**00 22 11.8**	**-4.4**
KIF	**Kilpisjarvi**	**6.72**	**143**	Pn	**Pn**	**00 21 00.9**	**+1.2**
KIF				Sn	**Sn**	**00 22 11.8**	**-4.4**
ARA0	**ARCESS Array S**	**7.13**	**129**	Pn	**Pn**	**00 21 04.9**	**-0.4**
	baz=324,slow=11						
ARA0				Sn	Sn	00 22 21.9	-4.3
	baz=321,slow=22						
ARA0	**ARCESS Array S**	**7.13**	**129**	Pn	**Pn**	**00 21 04.9**	**-0.4**
	slow=11						
ARA0				Sn	Sn	00 22 21.9	-4.3
	slow=22						
ARCES	**ARCESS Array B**	**7.13**	**129**	Pn	**Pn**	**00 21 04.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=20,slow=12,SNR=1.1						
ARCES				Sn	Sn	00 22 20.6	-5.6
	comp=Z,0.3nm,0.3s,baz=319,slow=18,SNR=2.1						
	comp=Z,2.8nm,0.3s						
DAG	**Danmarks Havn**	**7.21**	**300**	*eP*	Pn	00 20 56.9	-10
DAG				*eS*	Sn	00 22 12.1	-16
DBG	**Daneborg**	**7.94**	**281**	Pn	Pn	00 21 08.3	-8.1
DBG				Sn	Sn	00 22 25.9	-20
DBG	**Daneborg**	**7.94**	**281**	*eP*	Pn	00 21 07.2	-9.2
DBG				*eS*	Sn	00 22 26.3	-20
ZFI	**Zemlya Franca-**	**9.84**	**35**	P	**Pn**	**00 21 44.9**	**+2.5**
ZFI				*eS*	Sn	00 23 26.4	-6.2
OMEGA	**Omega**	**9.84**	**36**	*eP*	**Pn**	**00 21 44.9**	**+2.5**
OMEGA				*eS*	Sn	00 23 27.4	-5.3
FINES	**FINESS Array B**	**14.60**	**147**	Pn	**Pn**	**00 22 46.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=3.8						
	comp=Z,0.6nm,0.6s						
AKASG	**Malin Array Be**	**25.46**	**150**	P	**P**	**00 24 48.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=342,slow=8.8,SNR=1.2						
	comp=Z,0.3nm,0.5s		

RATU	**Laukkuluspa**	**0.29**	**277**	P	**Pg**	**00 29 59.9**	**0.0**
RATU				S	**Sg**	**00 30 03.2**	**-0.4**
NIKU	**Nikkaluokta**	**0.50**	**279**	P	**Pg**	**00 30 03.9**	**-0.1**
LANU	**Lannavaara**	**0.67**	**67**	P	**Pb**	**00 30 08.7**	**-0.3**
LANU	**Lannavaara**	**0.67**	**67**	PG	**Pb**	**00 30 08.5**	**-0.5**
LANU				SG	**Sb**	**00 30 17.9**	**-1.0**
DUNU	**Dundret**	**0.68**	**173**	P	**Pb**	**00 30 08.7**	**-0.4**
DUNU				S	**Sb**	**00 30 19.1**	**+0.1**
MASU	**Masugnsbyn**	**0.72**	**117**	P	**Pb**	**00 30 10.0**	**+0.3**
SALU	**Saltoluokta**	**0.82**	**241**	P	**Pg**	**00 30 10.1**	**+0.1**
KIF	**Kilpisjarvi**	**1.23**	**8**	*eP*	**Pn**	**00 30 18.5**	**-0.3**
KIF	**Kilpisjarvi**	**1.23**	**8**	PN	**Pn**	**00 30 18.6**	**-0.3**
KIF				MSG		00 30 32.3	
	comp=Z,7.2nm,0.2s						
KIF				SN	**Sb**	**00 30 34.4**	**-0.4**
PAJU	**Pajala**	**1.32**	**125**	P	**Pn**	**00 30 20.5**	**+0.5**
PAJU	**Pajala**	**1.32**	**125**	PG	**Pn**	**00 30 20.3**	**+0.2**
PAJU				SG	**Sn**	**00 30 38.9**	**+0.6**
HEF	**Hetta**	**1.39**	**62**	*eP*	**Pb**	**00 30 21.3**	**+0.1**
HEF	**Hetta**	**1.39**	**62**	PG	**Pb**	**00 30 21.4**	**+0.2**
	baz=246						
HEF				MSG		00 30 38.8	
	comp=Z,3.9nm,0.2s						
HEF				SG	**Sn**	**00 30 40.6**	**+0.5**
ERTU	**Ertsjaerv**	**1.44**	**149**	P	**Pb**	**00 30 22.4**	**+0.4**
ERTU	**Ertsjaerv**	**1.44**	**149**	PG	**Pb**	**00 30 22.4**	**+0.4**
ERTU				SN	**Sn**	**00 30 42.9**	**+1.7**
KTK1	**Kautokeino**	**1.63**	**40**	PN	**Pb**	**00 30 25.3**	**0.0**
KTK1				SN	**Sg**	**00 30 47.4**	**+0.8**
HARU	**Harads**	**1.65**	**171**	P	**Pb**	**00 30 25.9**	**+0.3**
KALU	**Kalix**	**2.28**	**147**	PG	**Pb**	**00 30 35.9**	**-0.4**
KALU				SG	**Sg**	**00 31 07.8**	**+0.4**
TOF	**Tornio**	**2.33**	**136**	PB	**Pb**	**00 30 36.9**	**-0.2**
TOF				MSG		00 31 07.0	
	comp=Z,1.4nm,0.2s						
TOF				SG	**Sg**	**00 31 08.5**	**-0.5**
SGF	**Sodankyl**	**2.39**	**96**	PB	**Pb**	**00 30 38.4**	**+0.2**
	baz=281						
SGF				SG	**Sg**	**00 31 11.0**	**-0.1**
RNF	**Rovaniemi**	**2.51**	**116**	PB	**Pb**	**00 30 39.7**	**-0.5**
RNF				SG	**Sg**	**00 31 14.2**	**-0.7**
ARA0	**ARCESS Array S**	**2.58**	**45**	PG	**Pg**	**00 30 43.0**	**-0.7**
ARA0				SB	**Sb**	**00 31 13.4**	**-0.1**
KEV	**Kevo**	**3.12**	**48**	SN	**Sn**	**00 31 24.9**	**+2.1**
BURU	**Burvik**	**3.25**	**172**	SB	**Sb**	**00 31 30.6**	**-2.3**

*HEL **21** 00:36:07.2±0.3,67°.86N×20°.02E,h0km,ML1.8,Explosion*
*UPP **21** 00:36:07.9±0.1,67°.85N×20°.20E,h0km,ML2.5,Suspected explosion*
*IDC **21** 00:36:09.2±1.3,67°.77N×20°.59E,h0km,mbtmp2.8/3, ML1.9/3,Error ellipse: s-maj=18.9km s-min=9.3km az=115.0*

ISC 21 00:36:06.6±0.8,**67°.83N**±0°.02×**20°.35E**±0°.03,**h0**km,**n32,** σ1§**14**/49,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RATU	**Laukkuluspa**	**0.29**	**269**	P		**Pg**	**00 36 12.5**	**+0.4**
RATU				S		**Sg**	**00 36 15.8**	**-0.4**
NIKU	**Nikkaluokta**	**0.50**	**275**	P		**Pg**	**00 36 16.4**	**-0.2**
LANU	**Lannavaara**	**0.66**	**69**	P		**Pb**	**00 36 21.2**	**+0.3**
LANU	**Lannavaara**	**0.66**	**69**	PG		**Pb**	**00 36 21.2**	**+0.3**
LANU				SG		**Sb**	**00 36 30.5**	**-0.1**
DUNU	**Dundret**	**0.71**	**173**	P		**Pb**	**00 36 21.8**	**-0.1**
MASU	**Masugnsbyn**	**0.73**	**120**	P		**Pb**	**00 36 22.9**	**+0.7**
SALU	**Saltoluokta**	**0.84**	**238**	P		**Pg**	**00 36 22.9**	**+0.3**
KIF	**Kilpisjarvi**	**1.19**	**8**	*eP*		**Pn**	**00 36 30.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.19**	**8**	PN		**Pn**	**00 36 30.7**	**+0.3**
KIF				MSG			00 36 44.3	
	comp=Z,12nm,0.2s							
KIF				SN		**Sb**	**00 36 46.2**	**+0.3**
PAJU	**Pajala**	**1.34**	**126**	P		**Pn**	**00 36 33.4**	**+0.9**
PAJU	**Pajala**	**1.34**	**126**	PG		**Pn**	**00 36 33.1**	**+0.7**
	baz=302							
PAJU				SG		**Sn**	**00 36 51.9**	**+1.0**
HEF	**Hetta**	**1.37**	**63**	*eP*		**Pb**	**00 36 34.0**	**+1.0**
HEF	**Hetta**	**1.37**	**63**	PG		**Pb**	**00 36 33.8**	**+0.8**
HEF				MSG			00 36 51.3	
	comp=Z,6.2nm,0.2s							
HEF				SG		**Sn**	**00 36 52.3**	**+0.6**
ERTU	**Ertsjaerv**	**1.47**	**150**	P		**Pb**	**00 36 35.5**	**+0.8**
ERTU	**Ertsjaerv**	**1.47**	**150**	PG		**Pb**	**00 36 35.4**	**+0.8**
ERTU				SG		**Sn**	**00 36 56.5**	**+2.4**
KTK1	**Kautokeino**	**1.60**	**41**	PN		**Pg**	**00 36 37.8**	**+0.7**
KTK1				SN		**Sg**	**00 36 59.2**	**+1.4**
HARU	**Harads**	**1.69**	**171**	P		**Pg**	**00 36 39.1**	**+0.2**
KALU	**Kalix**	**2.31**	**148**	PB		**Pb**	**00 36 48.6**	**-0.3**
	baz=333							
KALU				SG		**Sg**	**00 37 19.7**	**-0.8**
TOF	**Tornio**	**2.35**	**136**	PB		**Pb**	**00 36 49.8**	**+0.1**
	baz=315							
TOF				MSG			00 37 20.0	
	comp=Z,3.4nm,0.2s							
TOF				SB		**Sg**	**00 37 21.7**	**-0.3**
SGF	**Sodankyl**	**2.39**	**96**	PB		**Pb**	**00 36 50.2**	**-0.3**
SGF				SB		**Sb**	**00 37 21.2**	**+0.8**
RNF	**Rovaniemi**	**2.52**	**116**	PB		**Pb**	**00 36 52.6**	**0.0**
RNF				SB		**Sg**	**00 37 26.6**	**-0.8**
ARA0	**ARCESS Array S**	**2.55**	**45**	PB		**Pb**	**00 36 52.0**	**-1.1**
ARA0				SB		**Sb**	**00 37 24.2**	**-0.7**
ARCES	**ARCESS Array B**	**2.55**	**45**	Pn		**Pb**	**00 36 51.3**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=226,slow=15,SNR=8.8							
ARCES				Sn		**Sb**	**00 37 24.7**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=226,slow=26,SNR=13							
	comp=Z,0.8nm,0.3s							
KEV	**Kevo**	**3.10**	**48**	SB		**Sb**	**00 37 39.4**	**-1.2**
BURU	**Burvik**	**3.29**	**172**	PB		**Pb**	**00 37 03.0**	**-2.6**
VRF	**Varrio**	**3.52**	**87**	PG		**Pg**	**00 37 12.5**	**-1.3**
VRF				SB		**Sb**	**00 37 55.7**	**+2.9**
OUL	**Oulu**	**3.54**	**138**	PG		**Pg**	**00 37 14.3**	**0.0**
OLKF	**Oulanka, Finla**	**3.85**	**109**	PG		**Pg**	**00 37 20.1**	**-0.2**
MSF	**Maaselka**	**3.93**	**115**	PG		**Pg**	**00 37 20.2**	**-1.5**
KUG	**Riekki**	**4.17**	**111**	PG		**Pg**	**00 37 23.9**	**-2.4**
KU6				SN		**Sn**	**00 37 59.4**	**-1.2**
FINES	**FINESS Array B**	**6.86**	**156**	Pn		**Pn**	**00 37 50.0**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=346,slow=11,SNR=1.7							
FINES				Sn		**Sn**	**00 39 07.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=340,slow=22,SNR=1.1							
FINES				Lg		Lg	00 39 42.9	
	comp=Z,0.3nm,0.3s,baz=349,slow=28,SNR=1.9							
	comp=Z,1.8nm,0.8s							
NOA	**NORSAR Array B**	**7.87**	**214**	Pn		**Pn**	**00 38 02.9**	**+0.8**
	baz=26,slow=11,SNR=1.9							
NOA				Sn		**Sn**	**00 39 29.3**	**-2.5**
	baz=34,slow=22,SNR=1.9							
NOA				Lg		Lg	00 40 12.9	
	baz=30,slow=21,SNR=1.1							
	comp=Z,0.6nm,1.1s							

*HEL **21** 00:40:14.7±0.2,67°.86N×20°.13E,h0km,ML1.1,Explosion*
*UPP **21** 00:40:14.7±0.1,67°.83N×20°.20E,h0km,ML2.9,Suspected explosion*
*DNK **21** 00:40:15.0±0.5,67°.84N×20°.20E,h0km,ML2.9(UPP), Explosion*

ISC 21 00:40:14.6±0.8,**67°.80N**±0°.03×**20°.24E**±0°.02,**h0**km,**n29,** σ0§**76**/40,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RATU	**Laukkuluspa**	**0.25**	**276**	P		**Pg**	**00 40 19.3**	**0.0**
RATU				S		**Sg**	**00 40 22.2**	**-0.3**
RATU	**Laukkuluspa**	**0.25**	**276**	P		**Pg**	**00 40 19.3**	**0.0**
RATU				S		**Sg**	**00 40 22.2**	**-0.3**
NIKU	**Nikkaluokta**	**0.46**	**279**	P		**Pg**	**00 40 23.1**	**-0.3**
NIKU				S		**Sg**	**00 40 29.2**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**279**	P		**Pg**	**00 40 23.1**	**-0.3**
NIKU				S		**Sg**	**00 40 29.2**	**-0.2**
DUNU	**Dundret**	**0.69**	**169**	P		**Pg**	**00 40 28.2**	**+0.4**
DUNU	**Dundret**	**0.69**	**169**	P		**Pg**	**00 40 28.2**	**+0.4**
LANU	**Lannavaara**	**0.71**	**68**	P		**Pg**	**00 40 28.0**	**-0.1**
LANU	**Lannavaara**	**0.71**	**68**	P		**Pg**	**00 40 28.0**	**-0.1**
LANU	**Lannavaara**	**0.71**	**68**	PG		**Pg**	**00 40 27.9**	**-0.2**
LANU				SG		**Sg**	**00 40 37.3**	**+0.1**
MASU	**Masugnsbyn**	**0.76**	**116**	P		**Pg**	**00 40 29.5**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**116**	P		**Pg**	**00 40 29.5**	**+0.5**
SALU	**Saltoluokta**	**0.79**	**238**	P		**Pg**	**00 40 29.5**	**-0.1**
SALU	**Saltoluokta**	**0.79**	**238**	P		**Pg**	**00 40 29.5**	**-0.1**
KIF	**Kilpisjarvi**	**1.23**	**9**	PN		**Pb**	**00 40 38.7**	**0.0**
KIF				MSG			00 40 51.5	
	comp=Z,2.4nm,0.2s							
KIF				SB		**Sg**	**00 40 53.1**	**-0.9**
PAJU	**Pajala**	**1.35**	**124**	P		**Pg**	**00 40 40.0**	**-0.5**
PAJU	**Pajala**	**1.35**	**124**	P		**Pg**	**00 40 40.0**	**-0.5**
PAJU	**Pajala**	**1.35**	**124**	PG		**Pg**	**00 40 39.9**	**-0.5**
PAJU				SG		**Sb**	**00 40 58.5**	**-0.1**
HEF	**Hetta**	**1.42**	**63**	PG		**Pn**	**00 40 40.6**	**-1.0**
HEF				MSG			00 40 57.7	
	comp=Z,0.9nm,0.2s							
HEF				SN		**Sn**	**00 41 03.0**	**+2.0**
ERTU	**Ertsjaerv**	**1.46**	**148**	P		**Pb**	**00 40 42.6**	**0.0**
ERTU	**Ertsjaerv**	**1.46**	**148**	P		**Pb**	**00 40 42.6**	**0.0**
ERTU	**Ertsjaerv**	**1.46**	**148**	PG		**Pb**	**00 40 42.7**	**+0.1**
ERTU				SN		**Sn**	**00 41 03.6**	**+1.6**
KTK1	**Kautokeino**	**1.65**	**41**	PN		**Pb**	**00 40 45.8**	**0.0**
HARU	**Harads**	**1.67**	**170**	P		**Pb**	**00 40 45.7**	**-0.4**
HARU	**Harads**	**1.67**	**170**	P		**Pb**	**00 40 45.7**	**-0.4**
KALU	**Kalix**	**2.31**	**146**	PB		**Pb**	**00 40 55.7**	**-1.2**
	baz=327							
KALU				SG		**Sg**	**00 41 27.6**	**-0.9**
TOF	**Tornio**	**2.36**	**135**	MSG			00 41 26.5	
	comp=Z,0.7nm,0.2s							
TOF				SG		**Sg**	**00 41 29.1**	**-1.1**
SGF	**Sodankyl**	**2.43**	**96**	SG		**Sg**	**00 41 31.9**	**-0.7**
RNF	**Rovaniemi**	**2.55**	**115**	SG		**Sb**	**00 41 33.3**	**+0.5**
ARA0	**ARCESS Array S**	**2.60**	**45**	PB		**Pn**	**00 40 59.4**	**+1.6**
	baz=229							
ARA0				SB		**Sb**	**00 41 32.5**	**-1.9**

*UPP **21** 00:46:08.3±0.1,67°.84N×20°.21E,h0km,ML3.0,Suspected explosion*
*DNK **21** 00:46:08.7±0.3,67°.84N×20°.22E,h0km,ML3.0(UPP), Explosion*
*HEL **21** 00:46:08.9±0.1,67°.83N×20°.23E,h0km,ML1.5,Explosion*

ISC 21 00:46:07.4±0.8,**67°.83N**±0°.03×**20°.36E**±0°.02,**h0**km,**n34,** σ0§**91**/52,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RATU	**Laukkuluspa**	**0.29**	**269**	P		**Pg**	**00 46 13.0**	**0.0**
RATU				S		**Sg**	**00 46 16.4**	**-0.4**
RATU	**Laukkuluspa**	**0.29**	**269**	P		**Pg**	**00 46 13.0**	**0.0**
RATU				S		**Sg**	**00 46 16.4**	**-0.4**
NIKU	**Nikkaluokta**	**0.50**	**275**	P		**Pg**	**00 46 16.9**	**-0.2**
NIKU				S		**Sg**	**00 46 23.0**	**-0.5**
NIKU	**Nikkaluokta**	**0.50**	**275**	P		**Pg**	**00 46 16.9**	**-0.2**
NIKU				S		**Sg**	**00 46 23.0**	**-0.5**
LANU	**Lannavaara**	**0.66**	**69**	P		**Pb**	**00 46 21.6**	**-0.1**
LANU				S		**Sb**	**00 46 31.0**	**-0.4**
LANU	**Lannavaara**	**0.66**	**69**	P		**Pb**	**00 46 21.6**	**-0.1**
LANU				S		**Sb**	**00 46 31.0**	**-0.4**
LANU	**Lannavaara**	**0.66**	**69**	PG		**Pb**	**00 46 21.6**	**-0.1**
LANU				SG		**Sb**	**00 46 30.7**	**-0.7**
DUNU	**Dundret**	**0.71**	**173**	P		**Pb**	**00 46 22.1**	**-0.6**
DUNU	**Dundret**	**0.71**	**173**	P		**Pb**	**00 46 22.1**	**-0.6**
MASU	**Masugnsbyn**	**0.73**	**120**	P		**Pb**	**00 46 23.2**	**+0.2**
MASU	**Masugnsbyn**	**0.73**	**120**	P		**Pb**	**00 46 23.2**	**+0.2**
SALU	**Saltoluokta**	**0.84**	**238**	P		**Pg**	**00 46 23.4**	**-0.1**
SALU	**Saltoluokta**	**0.84**	**238**	P		**Pg**	**00 46 23.4**	**-0.1**
KIF	**Kilpisjarvi**	**1.19**	**8**	*eP*		**Pn**	**00 46 33.0**	**+0.7**
KIF	**Kilpisjarvi**	**1.19**	**8**	PG		**Pn**	**00 46 31.4**	**+0.1**
KIF				MSG			00 46 46.5	
	comp=Z,6.0nm,0.2s							
KIF				SG		**Sb**	**00 46 46.7**	**-0.1**
PAJU	**Pajala**	**1.33**	**126**	P		**Pb**	**00 46 33.8**	**+0.4**
PAJU	**Pajala**	**1.33**	**126**	P		**Pb**	**00 46 33.8**	**+0.4**
PAJU	**Pajala**	**1.33**	**126**	PG		**Pb**	**00 46 33.5**	**+0.2**
	baz=304							
PAJU				SB		**Sn**	**00 46 52.5**	**+0.8**
HEF	**Hetta**	**1.37**	**63**	*eP*		**Pb**	**00 46 34.4**	**+0.5**
HEF	**Hetta**	**1.37**	**63**	PG		**Pb**	**00 46 34.3**	**+0.5**
	baz=251							
HEF				MSG			00 46 51.4	
	comp=Z,2.7nm,0.2s							
HEF				SB		**Sn**	**00 46 52.8**	**+0.2**
ERTU	**Ertsjaerv**	**1.47**	**150**	P		**Pb**	**00 46 35.7**	**+0.2**
ERTU	**Ertsjaerv**	**1.47**	**150**	P		**Pb**	**00 46 35.7**	**+0.2**
ERTU	**Ertsjaerv**	**1.47**	**150**	PG		**Pb**	**00 46 35.7**	**+0.2**
	baz=328							
ERTU				SN		**Sn**	**00 46 56.8**	**+1.9**
KTK1	**Kautokeino**	**1.60**	**41**	PG		**Pg**	**00 46 38.1**	**+0.1**
KTK1				SN		**Sg**	**00 47 01.6**	**+2.9**
HARU	**Harads**	**1.69**	**171**	P		**Pb**	**00 46 39.5**	**+0.2**
HARU	**Harads**	**1.69**	**171**	P		**Pb**	**00 46 39.5**	**+0.2**
TRO	**Tromso**	**1.89**	**345**	PG		**Pb**	**00 46 42.5**	**-0.2**
TRO				SN		**Sb**	**00 47 06.5**	**-0.3**
KALU	**Kalix**	**2.31**	**148**	PG		**Pb**	**00 46 49.1**	**-0.7**
KALU				SG		**Sb**	**00 47 20.3**	**+1.6**
TOF	**Tornio**	**2.35**	**137**	PB		**Pb**	**00 46 50.1**	**-0.5**
TOF				MSG			00 47 19.4	
	comp=Z,1.7nm,0.2s							
TOF				SG		**Sg**	**00 47 22.8**	**+0.1**
SGF	**Sodankyl**	**2.39**	**96**	PG		**Pb**	**00 46 51.5**	**+0.2**
	baz=278							
SGF				SG		**Sg**	**00 47 24.8**	**+0.7**
RNF	**Rovaniemi**	**2.52**	**116**	PG		**Pb**	**00 46 53.2**	**-0.2**
RNF				SG		**Sg**	**00 47 27.5**	**-0.7**
ARA0	**ARCESS Array S**	**2.54**	**45**	PB		**Pb**	**00 46 52.4**	**-1.5**
	baz=229							
ARA0				SG		**Sb**	**00 47 26.6**	**+0.9**
KEV	**Kevo**	**3.10**	**48**	SN		**Sb**	**00 47 38.4**	**-3.1**
KEV				MSG			00 47 40.9	
	comp=Z,1.3nm,0.2s							
KU6	**Riekki**	**4.17**	**111**	PG		**Pg**	**00 47 24.6**	**-2.6**

*IDC **21** 00:52:01.3±5.1,14°.44S×167°.40E,h155km±45km,mb3.4/6, mbtmp3.8/7,Error ellipse: s-maj=35.3km s-min=32.4km az=157.0*
*NEIC **21** 00:52:02.0±1.8,14°.65S±0°.1×167°.55E±0°.2,h141km±10km, mb4.2/10,Error ellipse: s-maj=24.1km s-min=14.6km az=97.0*
*NOU **21** 00:52:06.7,14°.70S×167°.24E,h93km,MLv4.5/7,Vanuatu Islands*

ISC 21 00:52:03.7±1.0,**14°.68S**±0°.09×**167°.4E**±0°.1,**h170**km,**n24,** σ1§**39**/25,**mb4.0**/11,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DVP	**Devils Point**	**3.13**	**166**	P		**Pn**	**00 52 53.6**	**+0.1**
LIFNC	**LIFOU**	**6.07**	**181**	Pn		**Pn**	**00 53 29.3**	**-2.2**
KOUNC	**Koumac, New Ca**	**6.54**	**206**	Pn		**Pn**	**00 53 36.9**	**-0.8**
KOUNC				Sn		**Sn**	**00 54 50.5**	**-1.1**
KOUNC	**Koumac, New Ca**	**6.54**	**206**	P		**Pn**	**00 53 38.6**	**+0.9**
DZM	**Mont Dzumac**	**7.41**	**187**	P		**Pn**	**00 53 50.0**	**+0.7**
	4.7nm,0.5s,baz=342,slow=20,SNR=10.0							
DZM				S		**Sn**	**00 55 11.1**	**-1.4**
	1.7nm,0.5s,baz=288,slow=20,SNR=1.0							
DZM	**Mont Dzumac**	**7.41**	**187**	Pn		**Pn**	**00 53 48.3**	**-1.0**
DZM	**Mont Dzumac**	**7.41**	**187**	P		**Pn**	**00 53 52.5**	**+3.2**
EIDS	**Eidsvold**	**18.61**	**233**	P		**Pn**	**00 56 09.8**	**-0.9**
ARMA	**Armidale**	**21.33**	**220**	P		**P**	**00 56 39.4**	**+1.9**
ARMA				IAmb		IAmb	00 56 43.3	
	comp=Z,9.1nm,1.1s							
BKZ	**Black Stump Fm**	**25.68**	**163**	P		**P**	**00 57 19.2**	**+1.2**
BKZ				IAmb		IAmb	00 57 28.1	
	comp=Z,6.8nm,0.9s							
STKA	**Stephens Creek**	**29.10**	**230**	P		**P**	**00 57 49.8**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=59,slow=12,SNR=4.5							
	comp=Z,1.6nm,0.5s							
WB0	**Warramunga Arr**	**31.86**	**256**	P		**P**	**00 58 12.2**	**-0.9**
WB0				IAmb		IAmb	00 58 18.3	
	comp=Z,3.1nm,1.1s							
WRAB	**Tennant Creek**	**31.92**	**256**	P		**P**	**00 58 14.5**	**+1.0**
WRA	**Warramunga Arr**	**31.93**	**256**	P		**P**	**00 58 12.6**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=85,slow=8.9,SNR=1.9							
	comp=Z,0.3nm,0.7s							
ASAR	**Alice Springs**	**32.78**	**249**	P		**P**	**00 58 20.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=78,slow=9.1,SNR=6.4							
	comp=Z,0.4nm,0.5s							
BBOO	**Buckleboo**	**33.68**	**232**	P		**P**	**00 58 29.2**	**+0.5**
BBOO				IAmb		IAmb	00 58 45.3	
	comp=Z,8.9nm,1.1s							
KNRA	**Kununurra**	**37.24**	**263**	P		**P**	**00 59 00.6**	**+1.4**
VNDA	**Vanda**	**62.91**	**181**	P		**P**	**01 02 11.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=347,slow=7.0,SNR=6.1							
	comp=Z,0.7nm,0.6s							
VNDA	**Vanda**	**62.91**	**181**	P		**P**	**01 02 12.1**	**+0.7**
VNDA				IAmb		IAmb	01 02 24.4	
	comp=Z,2.3nm,1.1s							
ILAR	**Eielson Array**	**86.45**	**18**	P		**P**	**01 04 24.8**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=218,slow=5.7,SNR=4.2							
	comp=Z,0.3nm,0.7s							
PRP	**Porcupine Dome**	**87.39**	**18**	P		**P**	**01 04 32.7**	**+1.3**
PRP				IAmb		IAmb	01 04 50.4	
	comp=Z,5.0nm,1.1s							
MK31	**Makanchi Array**	**97.23**	**316**	P		Pdif	01 05 19.2	+2.0
MKAR	**Makanchi Array**	**97.23**	**316**	P		**P**	**01 05 16.0**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=106,slow=4.7,SNR=3.6							
	comp=Z,0.4nm,0.8s							
MKAR	**Makanchi Array**	**97.23**	**316**	P		**P**	**01 05 16.1**	**-1.0**

PRE 21 00:55:02.8±1.1,**18°.82S**×**34°.94E**,**h10**km,**ML2.3, Mozambique**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOPA	**Mopani**	**5.73**	**215**	*eP*		Pn	00 56 28.3	+0.3
MOPA				*eS*		Sn	00 57 32.8	-1.0
MOPA				IAML			00 58 06.7	
	comp=Z,2.6nm,0.4s							
MUSN	**Musina, Limpop**	**5.88**	**233**	*eP*		Pn	00 56 31.6	+1.6
MUSN				*eS*		Sn	00 57 35.4	-2.2
MUSN				IAML			00 58 01.2	
	comp=Z,7.8nm,0.4s							
MMAL	**MMAL**	**7.98**	**205**	*eP*		Pn	00 57 01.5	+2.5
MMAL				*eS*		Sn	00 58 27.1	-2.4
MMAL				IAML			00 58 48.8	
	comp=Z,2.1nm,0.2s							
LEPH	**Lephalale, Lim**	**8.33**	**232**	*eP*		Pn	00 57 04.2	+0.4
LEPH				*eS*		Sn	00 58 35.1	-3.0
LEPH				IAML			00 59 24.2	
	comp=Z,5.1nm,0.4s							

*WEL **21** 01:37:44.1±0.5,42°.5S±3°.×17°.4E±°,h9km±3km,M3.2/24, ML3.4/24,MLv3.2/24,Error ellipse: s-maj=0.0km s-min=0.0km az=126.1,confirmed*
*NOU **21** 01:37:44.2,42°.40S×173°.87E,h11km,MLv3.9/11,South Island, New Zealand*

ISC 21 01:37:43.5±1.3,**42°.34S**±0°.03×**173°.88E**±0°.04,**h8**km±11km, **n61,** σ0§**89**/67,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHZ	**Kahutara**	**0.27**	**253**	P		**Pb**	**01 37 50.4**	**-0.2**
KHZ	**Kahutara**	**0.27**	**253**	P		**Pb**	**01 37 50.2**	**-0.4**
KHZ				S		**Sg**	**01 37 54.4**	**+2.0**
BSWZ	**Blackbirch Sta**	**0.62**	**359**	P		**Pg**	**01 37 55.7**	**+0.1**
BSWZ				S		**Sg**	**01 38 03.9**	**+0.1**
CMWZ	**Cape Campbell**	**0.64**	**23**	P		**Pb**	**01 37 57.9**	**+0.9**
GVZ	**Greta Valley S**	**0.89**	**225**	P		**Pn**	**01 38 02.8**	**+0.4**
GVZ				S		**Sn**	**01 38 16.7**	**+1.3**
THZ	**Tophouse**	**0.93**	**308**	P		**Pg**	**01 38 00.6**	**-0.8**
THZ				S		**Sg**	**01 38 11.7**	**-1.7**
TCW	**Tory Channel**	**1.17**	**15**	P		**Pb**	**01 38 05.7**	**-0.2**
NNZ	**Nelson**	**1.18**	**341**	P		**Pb**	**01 38 05.1**	**-1.1**
SNZO	**South Karori**	**1.20**	**31**	P		**Pn**	**01 38 06.7**	**+0.1**
AMCZ	**Amberley**	**1.23**	**227**	P		**Pg**	**01 38 07.4**	**+0.2**
WEL	**Wellington**	**1.25**	**32**	P		**Pn**	**01 38 07.6**	**+0.3**
MRNZ	**Matariki Terra**	**1.26**	**318**	P		**Pn**	**01 38 06.7**	**-0.8**
LTZ	**Lake Taylor**	**1.27**	**249**	P		**Pn**	**01 38 08.0**	**+0.2**
LTZ				S		**Sn**	**01 38 25.2**	**+0.2**
PLWZ	**Palliser**	**1.28**	**53**	P		**Pn**	**01 38 07.7**	**-0.1**
TKNZ	**Takaka Hill**	**1.48**	**332**	P		**Pn**	**01 38 10.3**	**-0.2**
PAWZ	**Paruwai Farm**	**1.50**	**51**	P		**Pn**	**01 38 10.3**	**-0.5**
OKCZ	**Okains Bay**	**1.51**	**203**	P		**Pn**	**01 38 11.2**	**+0.2**
CAW	**Cannon Point**	**1.52**	**36**	P		**Pn**	**01 38 10.8**	**-0.2**
DUWZ	**D'Urville Isla**	**1.54**	**1**	P		**Pn**	**01 38 11.6**	**+0.3**
DUWZ				S		**Sn**	**01 38 31.7**	**+0.2**
MQZ	**McQueen's Vall**	**1.64**	**213**	P		**Pn**	**01 38 12.0**	**-0.7**
DSZ	**Denniston Nort**	**1.66**	**290**	P		**Pn**	**01 38 13.5**	**+0.5**
KIW	**Kapiti Island**	**1.67**	**28**	P		**Pn**	**01 38 13.3**	**+0.3**
OXZ	**Oxford**	**1.68**	**233**	P		**Pn**	**01 38 12.6**	**-0.6**
AKCZ	**Akaroa Har

CTAO Charters Tower 15.84 201 P **Pn** **01 56 09.8 -2.4**
CTAO pmax pmax
comp=Z,19nm,1.0s
SRPI Serui, Papua 16.34 281 P **Pn** **01 56 14.8 -3.8**
KOUNC Koumac, New Ca 19.16 144 P **P** **01 56 49.3 -2.6**
KOUNC Koumac, New Ca 19.16 144 P **Pn** **01 56 54.0 +0.9**
QIS Mount Isa 19.55 218 P **Pn** **01 56 58.4 +0.6**
baz=20,SNR=86
QIS Mount Isa 19.55 218 P **Pn** **01 56 58.3 +0.5**
EIDS Eidsvold 20.01 183 P **Pn** **01 57 06.3 +3.1**
baz=20,SNR=3.0
EIDS Eidsvold 20.01 183 P **P** **01 57 00.8 -0.4**
FAKI Fak Fak 20.10 276 P Pn 01 57 03.8 -0.6
FAKI Fak Fak 20.10 276 P Pn 01 57 03.8 -0.6
GUMO Guam 20.13 339 LR LR 02 04 05.3
comp=Z,57nm,20.5s,baz=117,slow=34
KDU Kakadu 20.88 248 P **P** **01 57 11.5 +0.8**
baz=21,SNR=125
KDU Kakadu 20.88 248 P **P** **01 57 11.4 +0.8**
LIFNC LIFOU 21.19 138 P **P** **01 57 12.8 -1.2**
LIFNC IAmb IAmb 01 57 18.8
comp=Z,95nm,0.8s
LIFNC LIFOU 21.19 138 P **P** **01 57 14.1 +0.1**
RMQ Roma 21.36 189 P **P** **01 57 17.7 +2.0**
baz=22,SNR=10
RMQ Roma 21.36 189 P **P** **01 57 17.4 +1.6**
SIJI Sorong 21.41 281 P **P** **01 57 18.2 +1.7**
comp=Z,15nm,0.3s,baz=76,slow=9.3,SNR=10
comp=Z,15nm,0.3s
NOUC Port Laguerre 21.55 142 P **P** **01 57 18.6 +0.8**
DZM Mont Dzumac 21.61 142 P **P** **01 57 19.7 +1.1**
comp=Z,59nm,0.8s,baz=317,slow=8.0,SNR=54
DZM LR LR 02 04 31.2
comp=Z,366nm,21.5s,baz=36,slow=33
comp=Z,59nm,0.8s
DZM Mont Dzumac 21.61 142 *e*Pn **P** **01 57 18.9 +0.3**
comp=Z,120nm,1.0s
DZM *e*S **S** **02 01 11.2 -4.8**
comp=Z,295nm,25.1s
DZM *e*LR LR 02 02 29.5
comp=Z,1μm,26.8s
DZM Mont Dzumac 21.61 142 P **P** **01 57 19.0 +0.3**
DZM Mont Dzumac 21.61 142 P **P** **01 57 19.8 +1.1**
OUENC Ouen Island, N 22.12 142 P **P** **01 57 23.0 -0.9**
OUENC Ouen Island, N 22.12 142 P **P** **01 57 24.9 +1.0**
MTN Manton Dam 22.17 249 P **P** **01 57 24.3 -0.2**
baz=22,SNR=33
MTN Manton Dam 22.17 249 P **P** **01 57 24.9 +0.3**
MTN Manton Dam 22.17 249 P **P** **01 57 24.9 +0.3**
QLP Quilpie 22.54 199 P **P** **01 57 29.5 +1.1**
baz=23,SNR=28
QLP Quilpie 22.54 199 P **P** **01 57 29.3 +0.9**
WR0 Warramunga Arr 22.59 228 P **P** **01 57 29.6 +0.5**
WRAB Tennant Creek 22.72 229 P **P** **01 57 30.8 +0.4**
WRAB Tennant Creek 22.72 229 *c i*P **P** **01 57 30.8 +0.4**
WRAB pmax pmax
comp=Z,238nm,1.7s
WB2 Warramunga Arr 22.72 229 P **P** **01 57 31.0 +0.5**
WRA Warramunga Arr 22.73 229 P **P** **01 57 30.9 +0.4**
comp=Z,64nm,0.5s,baz=54,slow=9.9,SNR=170
WRA S **S** **02 01 36.6 +0.2**
comp=Z,4.4nm,0.7s,baz=48,slow=18,SNR=7.1
WRA ScP **ScP** **02 04 57.1 +1.1**
comp=Z,0.9nm,0.8s,baz=256,slow=27,SNR=3.4
WRA LR LR 02 06 30.7
comp=Z,162nm,20.2s,baz=41,slow=37
comp=Z,64nm,0.5s
WRA Warramunga Arr 22.73 229 P **P** **01 57 31.0 +0.4**
WB1 Warramunga Ar. 22.74 228 P **P** **01 57 31.1 +0.5**
AULRC Lightning Ridg 24.37 189 P **P** **01 57 46.5 +0.4**
INKA Innaminka 24.89 205 P **P** **01 57 51.4 +0.5**
NLAI Namlea 25.17 274 P P 01 58 13.1 +19
KNRA Kununurra 25.28 244 P **P** **01 57 55.4 +0.8**
baz=25,SNR=68
KNRA Kununurra 25.28 244 P **P** **01 57 54.7 +0.1**
KNRA Kununurra 25.28 244 P **P** **01 57 55.3 +0.7**
AS01 Alice Springs 25.41 222 P **P** **01 57 56.3 +0.6**
AS31 Alice Springs 25.44 222 P **P** **01 57 56.6 +0.6**
AS31 IAmb IAmb 01 57 59.7
comp=Z,26nm,0.4s
ASAR Alice Springs 25.44 222 P **P** **01 57 56.5 +0.5**
comp=Z,32nm,0.5s,baz=57,slow=9.1,SNR=110
ASAR PcP **PcP** **02 01 28.0 +0.6**
comp=Z,2.5nm,0.7s,baz=28,slow=4.2,SNR=4.2
ASAR ScP **ScP** **02 05 04.7 +1.2**
comp=Z,0.7nm,0.6s,baz=34,slow=2.3,SNR=2.1
ASAR LR LR 02 08 13.3
comp=Z,167nm,20.1s,baz=82,slow=37
comp=Z,32nm,0.5s
ASAR Alice Springs 25.44 222 P **P** **01 57 55.8 -0.2**
SANI Sanana 26.41 276 P **P** **01 58 05.5 +0.6**
SANI Sanana 26.41 276 P **P** **01 58 08.6 +3.7**
comp=Z,108nm,0.7s,comp=Z,976nm
CMSA Cobar Meteorol 26.84 192 P **P** **01 58 08.9 +0.4**
baz=27,SNR=6.2
CMSA Cobar Meteorol 26.84 192 P **P** **01 58 08.7 +0.1**
OOD Oodnadatta 27.39 213 P **P** **01 58 14.1 +0.6**
MSVF Nonsavu 28.09 118 P **P** **01 58 21.0 +1.0**
comp=Z,4.3nm,0.7s,baz=262,slow=12,SNR=5.3
MSVF LR LR 02 09 05.0
comp=Z,193nm,21.7s,baz=274,slow=35
comp=Z,4.3nm,0.7s
SOEI Soe 28.10 259 P **P** **01 58 20.4 +0.2**
SOEI IAmb IAmb 01 58 33.0
comp=Z,39nm,0.7s
SOEI Soe 28.10 259 P **P** **01 58 21.2 +1.0**
SOEI Soe 28.10 259 P P 01 58 32.2 +12
STKA Stephens Creek 28.29 199 P **P** **01 58 21.5 -0.1**
comp=Z,10.0nm,0.8s,baz=360,slow=9.0,SNR=30
STKA LR LR 02 09 44.7
comp=Z,132nm,19.4s,baz=19,slow=36
comp=Z,10.0nm,0.8s
STKA Stephens Creek 28.29 199 P **P** **01 58 21.5 -0.1**
baz=28,SNR=25
STKA Stephens Creek 28.29 199 P **P** **01 58 21.0 -0.5**
STKA Stephens Creek 28.29 199 P **P** **01 58 21.4 -0.1**
STKA Stephens Creek 28.29 199 ⇓*i*P **P** **01 58 21.8 +0.3**
LCRK Leigh Creek 28.32 206 P **P** **01 58 22.4 +0.6**
BATI Baumata 28.75 258 P **P** **01 58 27.5 +1.7**
comp=Z,80nm,0.6s,baz=102,slow=1.4,SNR=12
BATI LR LR 02 12 31.8
comp=Z,585nm,19.9s,baz=101,slow=42
FITZ Fitzroy Crossi 28.96 242 P **P** **01 58 27.7 0.0**
DGTI Dogotuki 29.08 114 P **P** **01 58 28.8 0.0**
DAV Davao City (W) 29.32 294 LR LR 02 09 59.3
comp=Z,178nm,19.0s,baz=110,slow=36
LUWI Luwuk 29.74 277 P **P** **01 58 34.2 -0.4**
LUWI IAmb IAmb 01 58 39.7
comp=Z,36nm,0.7s
GTOI Gorontalo 29.80 281 P **P** **01 58 36.4 +1.3**
comp=Z,21nm,0.7s
MMRI Maumere 29.98 262 P **P** **01 58 36.1 -0.7**
MULG Mulgathing 30.22 212 P **P** **01 58 38.8 +0.1**
WRKA Warakurna 30.25 227 P **P** **01 58 39.0 0.0**
baz=30,SNR=149
WRKA Warakurna 30.25 227 P **P** **01 58 39.1 +0.1**
FUTU Fugatoga 30.50 109 P **P** **01 58 42.2 +0.9**
FUTU Fugatoga 30.50 109 P **P** **01 58 42.5 +1.2**
HTT Hallett 30.64 202 P **P** **01 58 42.9 +0.4**
baz=31,SNR=8.5
HTT Hallett 30.64 202 P **P** **01 58 42.8 +0.4**
WHYH Whyalla 30.83 205 P **P** **01 58 45.0 +1.0**
BBOO Buckleboo 31.29 207 P **P** **01 58 48.4 +0.3**
baz=32,SNR=22
BBOO Buckleboo 31.29 207 P **P** **01 58 47.6 -0.5**
BBOO Buckleboo 31.29 207 P **P** **01 58 48.0 -0.1**
TOLI2 Tolitoli 32.08 281 P **P** **01 58 55.4 +0.1**
TOLI2 Tolitoli 32.08 281 P **P** **01 58 55.8 +0.6**
KAPI Kappang 32.38 269 LR LR 02 13 30.8
comp=Z,131nm,21.2s,baz=100,slow=39
ARPS Mount Arapiles 32.77 196 P **P** **01 59 01.7 +0.7**
baz=33,SNR=14
ARPS Mount Arapiles 32.77 196 P **P** **01 59 01.3 +0.3**
MPSI Mapaga 32.80 279 P **P** **01 59 01.0 -0.6**
comp=Z,22nm,0.6s
FORT Forrest 34.09 219 P **P** **01 59 12.8 +0.2**
baz=34,SNR=16
FORT Forrest 34.09 219 P **P** **01 59 11.7 -0.9**
FORT IAmb IAmb 01 59 13.2
comp=Z,40nm,1.1s
FORT Forrest 34.09 219 P **P** **01 59 12.8 +0.2**
PLAI Plampang 34.40 262 P **P** **01 59 13.8 -1.7**
PLAI Plampang 34.40 262 P **P** **01 59 14.3 -1.2**
comp=Z,67nm,0.7s
MBWA Marble Bar 35.27 240 P **P** **01 59 22.7 -0.3**
MBWA Marble Bar 35.27 240 P **P** **01 59 23.3 +0.3**
MBWA Marble Bar 35.27 240 P **P** **01 59 23.0 0.0**
MBWA pP **pP** **01 59 33.0 -1.9**
MYLDM Lahad Datu 35.28 287 P **P** **01 59 23.4 +0.3**
MYLDM IAmb IAmb 01 59 32.1
comp=Z,32nm,1.0s
PSA00 Pilbara Seismi 35.33 240 P **P** **01 59 22.6 -0.8**
PSA00 Pilbara Seismi 35.33 240 P **P** **01 59 23.2 -0.3**
JAGI Jajag, Banyuwa 37.96 263 P **P** **01 59 45.0 -1.0**
MEEK Meekatharra 38.49 233 P **P** **01 59 50.7 +0.4**
baz=39,SNR=50
MEEK Meekatharra 38.49 233 P **P** **01 59 50.7 +0.4**
KMBL Kambalda 38.54 224 P **P** **01 59 50.8 +0.1**
baz=39,SNR=6.3
KMBL Kambalda 38.54 224 P **P** **01 59 50.7 +0.1**
JOW Kunigami 39.47 325 LR LR 02 14 15.7
comp=Z,61nm,20.9s,baz=7.0,slow=33
URZ Urewera 39.85 149 LR LR 02 15 55.4
comp=Z,96nm,19.6s,baz=48,slow=35
PWJI Pagerwojo 40.27 264 P **P** **02 00 05.2 0.0**
comp=Z,46nm,0.8s
GIRL Giralia 40.57 241 P **P** **02 00 08.8 +1.2**
baz=41,SNR=8.4
KLBR Kellerberrin 41.59 227 P **P** **02 00 15.4 -0.5**
baz=42,SNR=11
KLBR Kellerberrin 41.59 227 P **P** **02 00 15.8 -0.2**
MORW Morawa 41.63 231 P **P** **02 00 16.3 -0.1**
baz=42,SNR=18
MORW Morawa 41.63 231 P **P** **02 00 15.7 -0.6**
MORW IAmb IAmb 02 00 17.3
comp=Z,31nm,0.9s
MORW Morawa 41.63 231 P **P** **02 00 16.4 +0.1**
RPZ Rata Peaks 41.72 159 LR LR 02 16 03.5
comp=Z,174nm,19.6s,baz=327,slow=34
BLDU Ballidu 41.87 229 P **P** **02 00 17.9 -0.3**
baz=42,SNR=11
BLDU Ballidu 41.87 229 P **P** **02 00 17.8 -0.4**
NWAO Narrogin (SRO) 42.68 225 LR LR 02 18 59.7
comp=Z,195nm,18.7s,slow=37
NWAO Narrogin (SRO) 42.68 225 P **P** **02 00 23.7 -1.0**
NWAO pP **pP** **02 00 33.1 -3.0**
MUN Mundaring 42.92 227 P **P** **02 00 26.9 +0.2**
baz=43,SNR=3.8
MUN Mundaring 42.92 227 P **P** **02 00 26.7 0.0**
KPJI Karang Pucung 43.11 265 P **P** **02 00 28.8 +0.3**
comp=Z,78nm,0.6s
JNU Nakatsue 43.24 333 P **P** **02 00 29.5 +0.2**
comp=Z,15nm,0.7s,baz=184,slow=0.9,SNR=5.6
JNU LR LR 02 17 36.3
comp=Z,47nm,20.2s,baz=152,slow=35
comp=Z,15nm,0.7s
CMJI Cimerak 43.59 264 P **P** **02 00 31.4 -1.0**
comp=Z,179nm,0.7s
MJAR Matsushiro Arr 43.63 344 PcP **PcP** **02 02 19.5 +0.3**
comp=Z,3.9nm,0.9s,baz=162,slow=4.2,SNR=4.3
MJAR LR LR 02 17 02.2
comp=Z,79nm,19.6s,baz=170,slow=34
RKGY Rocky Gully 43.77 224 P **P** **02 00 34.5 +0.9**
baz=44,SNR=8.5
BBJI Bungbulang 44.38 265 P **P** **02 00 37.6 -1.2**
LEM Lembang 44.41 266 LR LR 02 24 36.2
comp=Z,66nm,18.1s,baz=174,slow=43
CNJI Cibinong 44.89 265 P **P** **02 00 41.8 -1.0**
comp=Z,70nm,0.7s,comp=Z,724nm
SKJI Sukabumi 45.46 265 P **P** **02 00 47.5 +0.1**
comp=Z,173nm,0.5s
PPBI Pangkal Pinang 46.12 272 P **P** **02 00 54.0 +1.4**
comp=Z,19nm,0.5s,comp=Z,15μm
CGJI Cibinong 46.33 266 P **P** **02 00 53.6 -0.6**
comp=Z,64nm,0.5s
KASI Kota Agung 47.55 267 P **P** **02 01 04.9 +1.2**
comp=Z,37nm,1.0s
DSRI Dabo 47.85 274 P **P** **02 01 06.5 +0.5**
comp=Z,37nm,1.0s
MDSI Maura Dua 47.91 269 P **P** **02 01 06.1 -0.4**
comp=Z,22nm,1.1s
KSRS Korea Array 48.18 334 P **P** **02 01 07.8 -0.4**
comp=Z,1.6nm,0.6s,baz=158,slow=9.2,SNR=6.5
KSRS PcP **PcP** **02 02 35.7 +0.6**
comp=Z,2.5nm,0.6s,baz=158,slow=3.4,SNR=7.3
comp=Z,1.6nm,0.6s
NJ2 Nanjing 48.88 322 *e*P **P** **02 01 15.8 +2.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
RAR Rarotonga 49.08 113 LR LR 02 19 49.9
comp=Z,52nm,20.0s,baz=283,slow=33
ASAJ Asahikawa 49.93 351 LR LR 02 19 46.2
comp=Z,20nm,21.5s,baz=190,slow=33
WHN Wuhan 50.83 317 ⇓P **P** **02 01 30.1 +1.6**
SDSI Sungai Dareh 50.93 273 P **P** **02 01 28.8 -0.8**
comp=Z,68nm,0.8s,comp=Z,777nm
PDSI Padang 51.89 273 P **P** **02 01 34.9 -1.9**
comp=Z,82nm,0.6s,comp=Z,892nm
IPM Ipoh 52.08 280 P **P** **02 01 38.1 -0.1**
IPM IAmb IAmb 02 01 38.7
comp=Z,25nm,0.9s
IPM Ipoh 52.08 280 P **P** **02 01 38.1 -0.1**
USA0B Ussuriysk Arra 52.52 342 P **P** **02 01 43.3 +2.4**
USA0B IAmb IAmb 02 01 52.0
comp=Z,55nm,1.9s
USA0B Ussuriysk Arra 52.52 342 P **P** **02 01 43.3 +2.4**
USA0B pmax pmax
comp=Z,55nm,1.9s
KULM Kulim 52.60 281 P **P** **02 01 41.7 -0.3**
KULM IAmb IAmb 02 01 42.4
comp=Z,20nm,0.9s
TIA Tai'an 52.78 324 *e*P **P** **02 01 43.0 0.0**
TIA pmax pmax
comp=Z,7.0nm,0.8s
NONG Nongkai 53.71 297 P **P** **02 01 50.8 +0.7**
RPSI Rantau Prapat 53.87 277 P **P** **02 01 50.5 -0.9**
RPSI IAmb IAmb 02 01 51.9
comp=Z,16nm,0.7s
PSI Prapat 53.88 277 LR LR 02 29 16.8
comp=Z,82nm,18.4s,baz=106,slow=41
PSI Prapat 53.88 277 P **P** **02 01 50.3 -1.3**
PSI Prapat 53.88 277 P **P** **02 01 50.5 -1.1**
PSI pmax pmax
comp=Z,17nm,0.7s
ENH Enshi 54.09 313 P **P** **02 01 52.8 0.0**
ENH PcP **PcP** **02 02 57.0 -0.2**
ENH Enshi 54.09 313 P **P** **02 01 53.3 +0.6**
comp=Z,46nm,1.0s
ENH Enshi 54.09 313 P **P** **02 01 53.1 +0.4**
ENH pP **pP** **02 02 02.6 -2.0**
GYA Guiyang 54.26 308 *e*P **P** **02 01 55.0 +0.8**
GYA pmax pmax
comp=Z,17nm,1.3s
LYN LuoYang 54.55 320 ⇑P **P** **02 01 57.1 +1.1**
HNS HongShan 55.01 324 ⇑P **P** **02 01 59.4 +0.2**
HNS pmax pmax
comp=Z,13nm,1.5s
GSI Gunungsitoli 55.01 275 P **P** **02 01 58.5 -1.2**
GSI Gunungsitoli 55.01 275 P **P** **02 01 58.6 -1.2**
GSI Gunungsitoli 55.01 275 P **P** **02 01 58.4 -1.3**
comp=Z,67nm,1.1s
KCSI Kotacane, Aceh 55.13 278 P **P** **02 01 59.1 -1.5**
comp=Z,30nm,0.6s
MLSI Meulaboh, Aceh 56.59 279 P **P** **02 02 09.6 -1.4**
comp=Z,93nm,0.6s
XAN Xi'an 56.60 317 ⇑P **P** **02 02 10.8 0.0**
XAN pmax pmax
comp=Z,47nm,0.6s
XAN pmax pmax
comp=Z,330nm,4.3s
XAN Xi'an 56.60 317 P **P** **02 02 10.8 0.0**
KMI Kunming 56.81 305 ⇑P **P** **02 02 14.3 +1.7**
KMI pmax pmax
comp=Z,25nm,0.8s
CRAI Chiangrai 56.92 298 P **P** **02 02 13.5 +0.3**
KLR Kul'dur 57.15 344 P **P** **02 02 14.0 -0.3**
comp=Z,1.8nm,0.5s,baz=131,slow=5.3,SNR=7.6
KLR PcP **PcP** **02 03 09.0 +0.4**
comp=Z,4.1nm,0.7s,baz=164,slow=2.5,SNR=3.9
KLR LR LR 02 24 06.3
comp=Z,44nm,22.0s,baz=182,slow=33
comp=Z,1.8nm,0.5s
CM31 Chiang Mai Arr 57.60 296 P **P** **02 02 19.1 +1.0**
CM31 IAmb IAmb 02 02 20.7
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 57.60 296 P **P** **02 02 19.1 +1.1**
comp=Z,10nm,0.8s,baz=109,slow=5.2,SNR=49
CMAR PcP **PcP** **02 03 11.7 +0.6**
comp=Z,3.4nm,0.7s,baz=99,slow=2.6,SNR=5.4
CMAR LR LR 02 25 01.2
comp=Z,31nm,21.5s,baz=95,slow=34
comp=Z,10nm,0.8s
CHTO Chiang Mai 57.71 296 P **P** **02 02 19.4 +0.5**
CHTO Chiang Mai 57.71 296 P **P** **02 02 19.4 +0.5**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
PPT Papeete 58.09 107 LR LR 02 24 33.7
comp=Z,43nm,18.4s,baz=348,slow=33
PPT2 Papeete2 58.09 107 *e*LR LR 02 19 24.0
comp=Z,94nm,26.0s
PZH PanZhiHua 58.21 306 P **P** **02 02 22.4 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,200nm,5.5s
PETK Petropavlovsk- 58.34 4 P **P** **02 02 22.6 0.0**
comp=Z,1.9nm,0.5s,baz=171,slow=9.0,SNR=5.5
PETK PcP **PcP** **02 03 13.2 -0.1**
comp=Z,5.2nm,0.8s,baz=178,slow=10,SNR=4.7
PETK LR LR 02 22 27.9
comp=Z,38nm,19.8s,baz=164,slow=31
comp=Z,1.9nm,0.5s
CD2 Chengdu 58.64 311 P **P** **02 02 25.8 +0.6**
CD2 pmax pmax
comp=Z,50nm,0.7s
XLT XiLinHaoTe 58.81 330 *e*P **P** **02 02 26.3 +0.2**
XLT pP pP 02 02 37.3 -0.4
XLT sP pwP 02 02 41.5 +0.1
XLT pmax pmax
comp=Z,16nm,0.7s
XLT pmax pmax
comp=Z,150nm,4.3s
TBI Tubuai 58.85 114 *e*P **P** **02 02 28.9 +2.1**
comp=Z,1μm,32.2s
TBI Tubuai 58.85 114 *e*LR LR 02 19 44.7
comp=Z,4μm,25.8s
TBI *e*LR LR 02 19 44.9
comp=Z,2μm,31.8s
HHC Hu-ho-hao-te 59.12 325 *e*P **P** **02 02 29.0 +0.6**
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,220nm,6.0s
SHEM Shemya Is, Ala 60.68 15 LR LR 02 24 49.7
comp=Z,73nm,20.2s,baz=158,slow=32
LZH Lanzhou 61.20 316 *e*P **P** **02 02 43.9 +1.1**
LZH pP pP 02 02 55.3 +0.3
LZH sP sP 02 02 59.3 -0.5
LZH pmax pmax
comp=Z,53nm,1.0s
DRV Dumont d'Urvil 61.88 186 P **P** **02 02 47.4 +0.8**
DRV sP **pwP** **02 03 02.0 +0.4**
ZEA Zeya 62.44 344 *e*P **P** **02 02 53.6 +3.0**
MA2 Magadan 64.66 359 P **P** **02 03 04.9 -0.2**
comp=Z,4.6nm,0.5s,baz=160,slow=8.3,SNR=6.7
MA2 LR LR 02 30 15.1
comp=Z,21nm,19.4s,baz=129,slow=35
comp=Z,4.6nm,0.5s
BRDH Bariadhala 65.40 298 LR LR 02 32 11.5
comp=Z,47nm,19.6s,baz=104,slow=36
GTA Gaotai 65.64 318 ⇑P **P** **02 03 12.9 +0.8**
GTA pP pP 02 03 22.6 -1.8
GTA sP sP 02 03 27.5 -1.7
GTA PcP **PcP** **02 03 44.3 +1.0**
GTA pmax pmax
comp=Z,21nm,0.7s
GTA pmax pmax
comp=Z,110nm,6.5s
ULN Ulaanbaatar 66.12 328 P **P** **02 03 15.7 +0.7**
ULN Ulaanbaatar 66.12 328 P **P** **02 03 15.7 +0.7**
ULN pmax pmax
comp=Z,17nm,1.3s
ULN Ulaanbaatar 66.12 328 P **P** **02 03 15.6 +0.6**
SONM Songino Array 66.44 328 P **P** **02 03 17.5 +0.5**
comp=Z,6.4nm,0.6s,baz=149,slow=6.5,SNR=46
SONM PcP **PcP** **02 03 46.3 -0.2**
comp=Z,1.8nm,0.4s,baz=148,slow=4.3,SNR=8.0
SONM LR LR 02 31 00.9
comp=Z,52nm,21.1s,baz=131,slow=35
comp=Z,6.4nm,0.6s
SONM Songino Array 66.44 328 P **P** **02 03 17.4 +0.4**
GOMU GeErMu 67.69 313 P **P** **02 03 24.6 -0.9**
GOMU pmax pmax
comp=Z,7.0nm,0.8s
GOMU pmax pmax
comp=Z,88nm,5.4s
SEY Seymchan 68.02 0 P **P** **02 03 26.8 +0.3**
comp=Z,0.9nm,0.4s,baz=204,slow=12,SNR=3.9
comp=Z,0.9nm,0.4s
LSA Lhasa 68.07 305 P **P** **02 03 28.8 +0.7**
LSA IAmb IAmb 02 03 29.9
comp=Z,20nm,0.7s
LSA Lhasa 68.07 305 P **P** **02 03 28.5 +0.4**
LSA Lhasa 68.07 305 P **P** **02 03 28.8 +0.7**
LSA pmax pmax
comp=Z,19nm,0.7s
LSA Lhasa 68.07 305 P **P** **02 03 28.9 +0.7**
YAK Yakutsk 69.33 349 LR LR 02 33 29.7
comp=Z,28nm,19.8s,baz=70,slow=35
ZAK Zakamensk 69.62 329 *e*P **P** **02 03 36.2 -0.7**
ZAK pmax pmax
comp=Z,15nm,1.1s
TAPN Taplejung 70.19 301 *e*P **P** **02 03 41.5 +0.3**
comp=Z,60nm,0.8s
ODAN Odare 70.32 301 *e*P **P** **02 03 42.0 +0.1**
comp=Z,7.9nm,0.7s
RAMN Ramite 71.03 301 *e*P **P** **02 03 46.0 -0.2**
comp=Z,15nm,0.5s
MOY Mondy 71.54 329 *e*P **P** **02 03 48.8 +0.2**
MOY pmax pmax
comp=Z,19nm,1.4s
JIRN Jiri 71.58 301 *e*P **P** **02 03 49.7 0.0**
CCD Concordia, Ant 71.73 188 P **P** **02 03 50.9 +1.1**
CCD pP **pP** **02 04 02.1 +0.5**
PKI Pulchoki 72.22 301 *e*P **P** **02 03 53.1 -0.4**
PKIN Phulchoki 72.23 301 *e*P **P** **02 03 52.9 -0.6**
VNDA Vanda 72.38 178 P **P** **02 03 53.7 +0.6**
comp=Z,1.5nm,0.7s,baz=299,slow=6.5,SNR=4.8
comp=Z,1.5nm,0.7s
KKN Kakani 72.39 301 *e*P **P** **02 03 54.3 0.0**
DMN Daman 72.48 301 *e*P **P** **02 03 55.0 0.0**
GKN Gorkha 72.99 301 *e*P **P** **02 03 57.7 -0.1**
BILL Bilibino 73.81 5 ⇑*e*P **P** **02 04 02.2 +0.6**
BILL *e* 02 06 49.2
BILL *e*S S 02 13 53.9 +24
BILL pmax pmax
comp=Z,6.0nm,1.0s
KOLN Koldanda 73.81 301 *e*P **P** **02 04 02.6 -0.2**
comp=Z,9.8nm,0.8s
DANN Dangsing 73.83 301 *e*P **P** **02 04 02.5 -0.4**
comp=Z,65nm,0.7s
GAMB Gambell 73.98 16 IAmb IAmb 02 04 04.8
comp=Z,33nm,1.4s
GAMB Gambell 73.98 16 P **P** **02 04 03.6 +1.0**
baz=217
R16K Pilot Point 74.52 25 P **P** **02 04 06.4 +0.5**
baz=232
R17K Ugashik Creek 75.08 26 P **P** **02 04 09.6 +0.4**
baz=233
SII Sitkinak Islan 75.43 27 P **P** **02 04 12.2 +0.9**
baz=236
O16K Kokwok River B 75.56 24 P **P** **02 04 12.3 +0.4**
baz=231
Q17K Contact Creek 75.66 25 P **P** **02 04 13.3 +0.6**
baz=234
WMQ Urumqi 75.73 318 *e*P **P** **02 04 14.1 +0.8**
WMQ pP PcP 02 04 25.5 -0.4
WMQ pmax pmax
comp=Z,23nm,1.3s
P17K Kvichak River 75.98 24 P **P** **02 04 13.3 -1.0**
baz=233
O17K Koliganek Bris 76.07 24 P **P** **02 04 14.7 -0.1**
baz=232
OHAK Old Harbor 76.21 27 P **P** **02 04 15.1 -0.5**
baz=236
Q18K Katmai Hardscr 76.26 25 P **P** **02 04 15.9 -0.2**
baz=234
ANM Nome 76.39 17 IAmb IAmb 02 04 18.3
comp=Z,14nm,0.7s
ANM Nome 76.39 17 P **P** **02 04 17.2 +0.7**
baz=224,SNR=13
TNA Tin City 76.40 16 P **P** **02 04 16.4 -0.1**
baz=221
P18K Big Mountain, 76.60 25 P **P** **02 04 18.4 +0.5**
baz=234
KDAK Kodiak Island 76.84 27 P **P** **02 04 19.9 +0.8**
comp=Z,12nm,1.0s,baz=172,slow=5.2,SNR=6.8

KDAK LR LR 02 30 33.2
comp=Z,81nm,21.3s,baz=215,slow=30
comp=Z,12nm,1.0s
O18K Koktuh Hills 76.88 24 P **P** 02 04 19.4 -0.1
baz=234
Q19K Cape Douglas, 77.01 26 P **P** 02 04 19.8 -0.4
baz=236
P19K Oil Pt 77.59 25 P **P** 02 04 23.6 +0.2
baz=236
N19K Bonanza Creek 77.73 24 P **P** 02 04 24.1 -0.2
baz=235
O20K Slope Mountain 78.08 25 P **P** 02 04 25.7 -0.5
baz=236
DGZ Jazzator, Alta 78.14 323 *eP* **P** 02 04 26.7 -0.2
DGZ pmax pmax
comp=Z,15nm,0.7s
L19K White Mountain 78.39 22 IAmb IAmb 02 04 29.8
comp=Z,30nm,0.9s
L19K White Mountain 78.39 22 P **P** 02 04 27.7 -0.2
baz=234
TTA Tatalina 78.40 22 P **P** 02 04 27.9 -0.1
TTA IAmb IAmb 02 04 29.7
comp=Z,15nm,0.9s
TTA Tatalina 78.40 22 P **P** 02 04 27.5 -0.4
baz=233,SNR=8.9
TTA Tatalina 78.40 22 P **P** 02 04 27.9 -0.1
TTA pmax pmax
comp=Z,15nm,0.9s
BRSE Bradley Lake S 78.70 26 P **P** 02 04 29.4 -0.2
baz=238
M20K Styx River 78.88 23 IAmb IAmb 02 04 32.3
comp=Z,15nm,0.8s
M20K Styx River 78.88 23 P **P** 02 04 30.6 -0.1
baz=236
L20K Farewell, AK 78.93 22 P **P** 02 04 30.5 -0.3
baz=235
CAPN Captain Cook N 79.07 25 P **P** 02 04 30.6 -0.8
baz=238
GCSA Galena City Sc 79.21 20 P **P** 02 04 32.4 +0.2
baz=232,SNR=6.1
K20K Telida 79.37 22 IAmb IAmb 02 04 35.2
comp=Z,22nm,0.8s
K20K Telida 79.37 22 P **P** 02 04 33.8 +0.6
baz=234,SNR=14
SKT Skwentna 79.57 24 P **P** 02 04 33.6 -0.7
baz=237
SUA Susitna One 79.61 24 IAmb IAmb 02 04 35.7
comp=Z,20nm,0.8s
SUA Susitna One 79.61 24 P **P** 02 04 33.9 -0.7
baz=238
PPLA Purkeypile 79.81 23 P **P** 02 04 35.0 -0.7
baz=236
RC01 Rabbit Creek A 79.83 25 IAmb IAmb 02 04 36.7
comp=Z,39nm,1.1s
RC01 Rabbit Creek A 79.83 25 P **P** 02 04 36.2 +0.5
baz=239
M22K Willow 80.01 24 P **P** 02 04 36.3 -0.3
baz=238
CAST Castle Rocks 80.14 22 IAmb IAmb 02 04 38.6
comp=Z,22nm,0.8s
CAST Castle Rocks 80.14 22 P **P** 02 04 36.5 -0.9
baz=236,SNR=17
CUT Chulitna 80.30 23 P **P** 02 04 38.3 +0.2
baz=238
PWL Port Wells 80.30 25 P **P** 02 04 39.0 +0.7
baz=240
CHUM Lake Minchumin 80.31 22 P **P** 02 04 38.4 +0.2
baz=236,SNR=28
MK31 Makanchi Array 80.33 319 P **P** 02 04 38.7 0.0
MK31 Makanchi Array 80.33 319 P **P** 02 04 38.7 0.0
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MKAR Makanchi Array 80.33 319 P **P** 02 04 38.8 0.0
comp=Z,12nm,0.8s,baz=99,slow=6.9,SNR=80
MKAR LR LR 02 38 44.2
comp=Z,57nm,21.6s,baz=74,slow=34
comp=Z,12nm,0.8s
PMR Palmer 80.33 24 IAmb IAmb 02 04 56.1
comp=Z,65nm,1.9s
PMR Palmer 80.33 24 P **P** 02 04 38.7 +0.4
baz=239
GHO Glory Hole Cre 80.51 24 IAmb IAmb 02 04 40.5
comp=Z,13nm,0.6s
KNK Knik Glacier 80.52 25 P **P** 02 04 39.9 +0.5
baz=240
MAKZ Makanchi 80.54 319 P **P** 02 04 39.9 0.0
MAKZ IAmb IAmb 02 04 41.4
comp=Z,16nm,0.7s
MAKZ Makanchi 80.54 319 P **P** 02 04 39.9 0.0
MAKZ pmax pmax
comp=Z,16nm,0.7s
KTH Kantishna Hill 80.65 22 IAmb IAmb 02 04 40.9
comp=Z,26nm,1.0s
SML Sawmill 80.77 24 P **P** 02 04 40.5 -0.3
baz=240,SNR=13
TRF Thorofare Moun 80.84 23 P **P** 02 04 40.1 -1.2
TRF Thorofare Moun 80.84 23 P **P** 02 04 40.8 -0.4
baz=238,SNR=10
BPAW Bear Paw Mtn. 80.92 22 P **P** 02 04 41.2 -0.3
baz=237,SNR=8.4
M23K Glacier View 81.02 25 P **P** 02 04 42.2 +0.1
baz=241
H21K Melozitna Rive 81.14 20 P **P** 02 04 43.3 +0.7
baz=235
I21K Tanana 81.16 21 IAmb IAmb 02 04 45.1
comp=Z,34nm,1.0s
I21K Tanana 81.16 21 P **P** 02 04 43.5 +0.8
baz=236
WAT1 Susitna Watana 81.20 24 P **P** 02 04 43.0 -0.1
baz=240
SCM Sheep Creek Mo 81.20 25 IAmb IAmb 02 04 45.1
comp=Z,22nm,0.9s
SCM Sheep Creek Mo 81.20 25 P **P** 02 04 43.3 +0.2
baz=241
ZAA0 Zalesovo Array 81.25 326 P **P** 02 04 42.5 -1.0
ZAA0 IAmb IAmb 02 04 43.9
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 81.25 326 P **P** 02 04 42.4 -1.1
comp=Z,11nm,0.5s,baz=112,slow=6.3,SNR=62
ZALV LR LR 02 43 20.6
comp=Z,47nm,18.3s,baz=69,slow=38
comp=Z,11nm,0.5s
EYAK Cordova Ski Ar 81.27 26 P **P** 02 04 43.0 -0.4
baz=243
RND Reindeer 81.37 23 IAmb IAmb 02 04 44.5
comp=Z,20nm,0.7s
G21K Allakaket 81.39 19 P **P** 02 04 44.8 +0.8
baz=235
WAT6 Susitna Watana 81.40 24 P **P** 02 04 44.1 -0.1
baz=241,SNR=5.9
MCK McKinley 81.50 23 P **P** 02 04 44.3 -0.3
baz=239,SNR=29
MLY Manley 81.52 21 P **P** 02 04 45.1 +0.4
baz=237,SNR=43
DIV Divide 81.53 26 IAmb IAmb 02 04 46.9
comp=Z,33nm,1.2s
KLU Klutina 81.63 25 P **P** 02 04 46.2 +0.8
KLU IAmb IAmb 02 04 47.7
comp=Z,29nm,0.9s
KLU Klutina 81.63 25 P **P** 02 04 45.9 +0.5
baz=242,SNR=13
DHY Denali Highway 81.78 24 IAmb IAmb 02 04 47.5
comp=Z,15nm,0.9s
DHY Denali Highway 81.78 24 P **P** 02 04 46.4 +0.1
baz=241,SNR=8.1
M24K Tolsona, Glenn 81.81 25 P **P** 02 04 46.8 +0.5
baz=242,SNR=6.3
F21K Alatna River 81.81 19 P **P** 02 04 46.5 +0.3
baz=235
NEA2 Nenana 81.89 22 P **P** 02 04 46.5 -0.1
baz=239,SNR=13
BMRM Bremner River 81.96 26 P **P** 02 04 47.2 0.0
baz=244
I23K Minto, Yukon-K 82.07 21 IAmb IAmb 02 04 49.4
comp=Z,12nm,0.6s
I23K Minto, Yukon-K 82.07 21 P **P** 02 04 47.6 +0.1
baz=239,SNR=13
WRH Wood River Hil 82.20 22 IAmb IAmb 02 04 49.1
comp=Z,35nm,1.2s
N25K Chitina, Valde 82.25 25 IAmb IAmb 02 04 51.1
comp=Z,37nm,1.6s
N25K Chitina, Valde 82.25 25 P **P** 02 04 49.0 +0.3
baz=244,SNR=5.2
HARP HAARP 82.37 25 P **P** 02 04 49.5 +0.3
baz=243
TCOL CIGO, UAF Yank 82.48 22 P **P** 02 04 48.9 -0.8
baz=240,SNR=7.0
COLA College 82.49 22 P **P** 02 04 49.4 -0.3
baz=240
COLA College 82.49 22 P **P** 02 04 49.1 -0.6
COLA College 82.49 22 P **P** 02 04 49.4 -0.3
COLA pmax pmax
comp=Z,44nm,0.8s
PAX Paxson 82.50 24 P **P** 02 04 49.8 -0.2
baz=243
HDA Harding Lake 82.60 22 IAmb IAmb 02 04 50.5
comp=Z,9.5nm,0.6s
HDA Harding Lake 82.60 22 P **P** 02 04 50.6 +0.3
baz=241,SNR=9.8
G23K Bananza Creek 82.66 20 P **P** 02 04 50.8 +0.1
baz=238
POKR Poker Plat Res 82.76 22 IAmb IAmb 02 04 51.3
comp=Z,12nm,0.6s
POKR Poker Plat Res 82.76 22 P **P** 02 04 50.6 -0.6
baz=240,SNR=8.7
K24K Donnelly Dome 82.76 23 P **P** 02 04 51.1 -0.2
baz=242
ILAR Eielson Array 82.80 22 P **P** 02 04 50.2 -1.1
comp=Z,20nm,0.7s,baz=247,slow=5.5,SNR=290
ILAR LR LR 02 37 43.7
comp=Z,57nm,20.8s,baz=196,slow=33
comp=Z,20nm,0.7s
MCARA McCarthy VSAT 82.83 26 IAmb IAmb 02 04 54.4
comp=Z,20nm,1.0s
MCARA McCarthy VSAT 82.83 26 P **P** 02 04 51.7 +0.1
baz=245
KSH Kashi 82.84 311 P **P** 02 04 54.8 +2.5
KSH sP sP 02 05 11.8 +2.6
KSH pmax pmax
comp=Z,13nm,0.9s
COLD Coldfoot 82.88 19 P **P** 02 04 51.4 -0.3
COLD IAmb IAmb 02 04 53.6
comp=Z,12nm,0.9s
COLD Coldfoot 82.88 19 P **P** 02 04 52.0 +0.3
baz=238
MDOK Medeo 82.89 315 P **P** 02 04 53.0 +0.5
H24K Noodor Dome 82.96 21 IAmb IAmb 02 04 53.7
comp=Z,13nm,0.6s
H24K Noodor Dome 82.96 21 P **P** 02 04 52.2 -0.1
baz=240
RIDG Independent Ri 83.10 24 P **P** 02 04 52.8 -0.3
baz=243,SNR=5.2
M26K Nabesna, AK 83.28 25 P **P** 02 04 53.5 -0.5
baz=245
BARN Barnard Glacie 83.30 27 IAmb IAmb 02 04 56.6
comp=Z,17nm,0.6s
DOT Dot Lake 83.38 24 IAmb IAmb 02 04 55.7
comp=Z,22nm,0.8s
L26K Log Cabin Wild 83.39 24 IAmb IAmb 02 04 56.5
comp=Z,13nm,0.7s
L26K Log Cabin Wild 83.39 24 P **P** 02 04 54.6 +0.1
baz=244,SNR=14
A21K Barrow 83.40 15 P **P** 02 04 54.2 -0.1
baz=231
E23K Chandalar 83.51 19 P **P** 02 04 54.9 -0.2
baz=238
G24K Hadweenzic Riv 83.53 20 P **P** 02 04 55.4 +0.3
baz=240
SCRK Sand Creek 83.55 23 P **P** 02 04 55.7 +0.3
baz=244,SNR=11
PINM Pinnacle 83.57 28 P **P** 02 04 55.6 +0.1
baz=248
PRP Porcupine Dome 83.66 22 P **P** 02 04 55.8 -0.1
baz=242
M27K Edge Creek, AK 83.73 25 P **P** 02 04 57.6 +1.2
baz=246
F24K Squaw Lake 83.80 20 P **P** 02 04 57.5 +1.0
baz=240
NIL Nilore 83.80 305 P **P** 02 04 57.2 0.0
NIL IAmb IAmb 02 04 59.0
comp=Z,31nm,1.1s
NIL Nilore 83.80 305 P **P** 02 04 57.2 0.0
NIL pmax pmax
comp=Z,31nm,1.1s
PNL Peninsula 83.81 28 P **P** 02 04 57.7 +1.0
baz=248
KURK Kurchatov 83.81 322 P **P** 02 04 56.7 -0.1
KURK IAmb IAmb 02 04 58.5
comp=Z,34nm,1.5s
KURK Kurchatov 83.81 322 *d iP* **P** 02 04 57.1 +0.3
KURK pmax pmax
comp=Z,19nm,1.3s
O28M Mount Upton 83.85 27 P **P** 02 04 57.8 +0.5
baz=248
TKM2 Tokmak 2 83.87 314 P **P** 02 04 58.2 +0.5
SNR=27
E24K Your Creek 83.88 19 P **P** 02 04 57.4 +0.4
baz=239
J26L Joseph Creek 83.94 23 P **P** 02 04 57.7 +0.3
baz=244
G25K Bearman Lake 84.04 21 P **P** 02 04 58.4 +0.7
baz=242
L27K Beaver Creek, 84.04 25 IAmb IAmb 02 05 00.2
comp=Z,17nm,1.1s
L27K Beaver Creek, 84.04 25 P **P** 02 04 58.2 +0.4
baz=246
YUK3 Moose Creek 84.11 26 P **P** 02 04 58.9 +0.4
baz=247,SNR=5.5
BVCY Beaver Creek 84.19 25 P **P** 02 04 59.4 +0.8
baz=247,SNR=6.1
YUK8 Steele Glacier 84.24 27 P **P** 02 04 59.9 +0.8
baz=248,SNR=6.8
FYU Fort Yukon 84.25 21 IAmb IAmb 02 05 00.4
comp=Z,20nm,0.7s
KBK Karagaybulak 84.28 314 P **P** 02 05 00.3 +0.6
SNR=10
O29M Mount Kennedy 84.42 28 P **P** 02 05 00.5 +0.6
baz=249
CHMS Chumysh 84.50 314 P **P** 02 05 01.1 +0.5
SNR=14
UCH Uchtor 84.50 313 P **P** 02 05 02.4 +1.2
SNR=16
F25K Christian Rive 84.59 20 P **P** 02 05 01.9 +1.3
baz=242
AAK Ala-Archa 84.60 314 P **P** 02 05 02.0 +0.7
SNR=12
AAK Ala-Archa 84.60 314 LR LR 02 43 18.2
comp=Z,67nm,20.3s,baz=96,slow=36
AAK Ala-Archa 84.60 314 P **P** 02 05 02.0 +0.7
AAK Ala-Archa 84.60 314 P **P** 02 05 02.0 +0.7
AAK pmax pmax
comp=Z,66nm,2.0s
C24K Franklin Bluff 84.66 17 P **P** 02 05 01.8 +1.0
baz=239
QSPA South Pole Qui 84.69 180 P **P** 02 05 01.3 +0.1
USP Ospenovka 84.73 314 P **P** 02 05 02.4 +0.6
SNR=23
YUK6 Outpost Mounta 84.75 27 P **P** 02 05 02.3 +0.6
baz=249
YUK4 Talot Arm 84.76 27 P **P** 02 05 03.3 +1.6
baz=249
E25K Arctic Village 84.86 19 P **P** 02 05 02.1 +0.3
baz=242
MAW Mawson 84.93 203 LR LR 02 40 15.1
comp=Z,35nm,20.5s,baz=118,slow=34
G26K Porcupine Rive 84.94 21 P **P** 02 05 03.0 +0.8
baz=244
EGAK Eagle 85.00 23 IAmb IAmb 02 05 04.8
comp=Z,16nm,0.8s
EGAK Eagle 85.00 23 P **P** 02 05 03.0 +0.4
baz=246,SNR=10
AML Almayashu 85.08 313 P **P** 02 05 05.1 +1.1
SNR=38
HYT Haines Junctio 85.10 28 IAmb IAmb 02 05 06.7
comp=Z,16nm,0.8s
HYT Haines Junctio 85.10 28 P **P** 02 05 04.1 +0.8
baz=250,SNR=13
P30M Million Dollar 85.12 28 P **P** 02 05 04.2 +0.8
baz=250
EKS2 Erkin-Say 85.13 313 P **P** 02 05 04.8 +0.9
SNR=15
F26K Sheenjek River 85.14 20 P **P** 02 05 04.5 +1.2
baz=243
I27K Kandik River 85.16 22 P **P** 02 05 04.1 +0.6
baz=246
M29M Somme Creek 85.23 26 P **P** 02 05 04.5 +0.5
baz=249
DAWY Dawson 85.44 24 IAmb IAmb 02 05 06.9
comp=Z,12nm,1.1s
DAWY Dawson 85.44 24 P **P** 02 05 05.6 +0.8
baz=248,SNR=10
H27K Steamboat Moun 85.45 22 P **P** 02 05 06.1 +1.2
baz=246
N30M Aishikik Lake 85.50 27 P **P** 02 05 06.0 +0.8
baz=250
L29M L29M 85.61 25 P **P** 02 05 06.7 +0.9
baz=249
G27K Doyon Strip 85.64 21 P **P** 02 05 06.7 +0.9
baz=246
O30N Mendenhall 85.74 28 P **P** 02 05 07.3 +0.9
baz=251
M30M Minto, Yukon 86.01 26 IAmb IAmb 02 05 09.9
comp=Z,7.4nm,0.8s
M30M Minto, Yukon 86.01 26 P **P** 02 05 08.7 +1.0
baz=250,SNR=5.4
J29M Klondike Camp 86.06 24 P **P** 02 05 08.6 +0.6
baz=249
N31M Braeburn, Yuko 86.11 27 P **P** 02 05 09.6 +1.3
N31M IAmb IAmb 02 05 12.0
comp=Z,12nm,0.8s
N31M Braeburn, Yuko 86.11 27 P **P** 02 05 08.9 +0.7
baz=252,SNR=5.1
C27K Jago River 86.15 18 P **P** 02 05 09.1 +0.9
baz=244
E27K Coleen River 86.22 20 P **P** 02 05 10.0 +1.4
baz=246
NRIK Noril'sk 86.24 341 P **P** 02 05 08.0 -0.6
comp=Z,7.3nm,0.5s,baz=126,slow=4.6,SNR=23
comp=Z,7.3nm,0.5s
NRIK Noril'sk 86.24 341 IAmb IAmb 02 05 10.1
comp=Z,7.6nm,0.6s
NRIK Noril'sk 86.24 341 P **P** 02 05 08.0 -0.6
WHY Whitehorse 86.27 28 P **P** 02 05 09.6 +0.5
baz=252
I29M Ogilvie Camp, 86.34 23 P **P** 02 05 10.5 +1.2
baz=249
V35K Ketchikan 86.47 34 P **P** 02 05 10.8 +0.7
baz=255
MAYO Mayo, Yukon 86.73 25 P **P** 02 05 12.2 +1.0
baz=251
M31M Drury Creek, Y 86.95 27 IAmb IAmb 02 05 29.9
comp=Z,12nm,1.1s
M31M Drury Creek, Y 86.95 27 P **P** 02 05 13.3 +1.0
baz=253,SNR=5.9
Q32M Nakina River 87.05 30 P **P** 02 05 13.8 +0.7
baz=255
P33M Teslin, Yukon 87.12 29 P **P** 02 05 13.8 +0.5
baz=254
N32M Quiet Lake 87.25 28 P **P** 02 05 14.4 +0.6
baz=254
S34M Telegraph Cree 87.37 31 P **P** 02 05 15.3 +0.9
baz=256
KBL Kabul 87.39 305 P **P** 02 05 14.3 -1.0
KBL Kabul 87.39 305 P **P** 02 05 14.3 -1.0
KBL pmax pmax
comp=Z,3.0nm,0.7s
FARO Faro, Yukon 87.43 27 IAmb IAmb 02 05 34.7
comp=Z,25nm,1.4s
FARO Faro, Yukon 87.43 27 P **P** 02 05 15.2 +0.5
baz=254,SNR=6.8
KK31 Karatay Array 87.57 313 P **P** 02 05 15.8 +0.1
KK31 IAmb IAmb 02 05 17.9
comp=Z,14nm,1.3s
KK31 Karatay Array 87.57 313 P **P** 02 05 15.9 +0.1
KK31 pmax pmax
comp=Z,14nm,1.3s
KKAR Karatay Array 87.57 313 P **P** 02 05 15.8 +0.1
KKAR IAmb IAmb 02 05 17.9
comp=Z,14nm,1.3s
KKAR Karatay Array 87.57 313 P **P** 02 05 15.9 +0.1
KKAR pmax pmax
comp=Z,14nm,1.3s
G30M tAoh Zraii Nji 87.69 22 P **P** 02 05 16.6 +0.8
baz=251
R33M Jennings River 87.81 30 P **P** 02 05 17.5 +0.8
baz=256
DLBC Dease Lake 88.06 31 P **P** 02 05 19.0 +1.2
comp=Z,3.8nm,0.7s,baz=262,slow=5.5,SNR=6.4
DLBC LR LR 02 38 36.8
comp=Z,81nm,20.2s,baz=212,slow=31
comp=Z,3.8nm,0.7s
DLBC Dease Lake 88.06 31 P **P** 02 05 19.3 +1.5
baz=257
MMPY Sheldon Lake, 88.47 27 P **P** 02 05 21.1 +1.5
baz=255,SNR=5.1
F31M Tsiigehtchic 88.76 22 P **P** 02 05 21.4 +0.6
baz=253
INK Inuvik 89.08 21 P **P** 02 05 22.1 -0.2
comp=Z,12nm,1.0s,baz=232,slow=7.5,SNR=27
comp=Z,12nm,1.0s
INK Inuvik 89.08 21 IAmb IAmb 02 05 23.9
comp=Z,15nm,1.1s
INK Inuvik 89.08 21 P **P** 02 05 22.7 +0.4
baz=253
BVA0 Borovoye Array 89.30 323 *i* P **P** 02 05 22.1 -1.6
BRVK Borovoye 89.37 323 P **P** 02 05 23.3 -0.7
BRVK Borovoye 89.37 323 *d iP* **P** 02 05 23.4 -0.6
BRVK pmax pmax
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 89.77 48 LR LR 02 38 02.7
comp=Z,108nm,21.1s,baz=288,slow=30
LIRD Liard River Hi 90.25 30 P **P** 02 05 28.3 +0.3
baz=260
KOTAN Kotaneelee Air 91.39 30 P **P** 02 05 33.7 +0.4
baz=262
WRGLY Wrigley 92.09 27 P **P** 02 05 37.6 +1.2
baz=262
A36M Sachs Harbour 92.65 18 P **P** 02 05 38.8 0.0
baz=261
C36M Paulatuk 92.66 21 P **P** 02 05 38.5 -0.3
C36M IAmb IAmb 02 05 40.0
comp=Z,13nm,1.1s
C36M Paulatuk 92.66 21 P **P** 02 05 39.1 +0.3
baz=262
NVAR Mina Array Bea 92.80 52 P **P** 02 05 41.8 +1.2
comp=Z,0.6nm,0.7s,baz=258,slow=7.2,SNR=4.6
comp=Z,0.6nm,0.7s
NVAR Mina Array Bea 92.80 52 P **P** 02 05 40.9 +0.3
PFO Pinyon Flats O 93.95 57 LR LR 02 40 00.5
comp=Z,84nm,21.6s,baz=242,slow=30
NEW Newport 94.31 42 LR LR 02 42 54.3
comp=Z,52nm,18.4s,baz=302,slow=32
MFID Camas Ranch 94.97 47 P **P** 02 05 50.8 +0.5
MFID IAmb IAmb 02 05 55.6
comp=Z,11nm,1.2s
RPN Rapa Nui 95.06 118 LR LR 02 40 47.6
comp=Z,27nm,21.6s,baz=268,slow=30
ELK Elko 95.30 50 LR LR 02 43 15.1
comp=Z,98nm,19.8s,baz=316,slow=32
WSAR Wadi Sarin 95.39 293 LR LR 02 54 27.2
comp=Z,17nm,18.1s,baz=107,slow=39
AB31 Akbulak array 95.47 319 *i* P **P** 02 05 50.3 -2.0
ABKAR Akbulak array 95.47 319 P **P** 02 05 50.5 -1.8
YKA Yellowknife Ar 96.09 28 P **P** 02 05 54.8 0.0
comp=Z,1.8nm,0.6s,baz=271,slow=5.1,SNR=40
YKA PKKPbc **PKKPbc** 02 22 41.6 -3.1
comp=Z,0.1nm,0.4s,baz=92,slow=2.5,SNR=5.6
YKA LR LR 02 43 26.9
comp=Z,71nm,21.9s,baz=31,slow=32
comp=Z,1.8nm,0.6s
YKA Yellowknife Ar 96.09 28 P **P** 02 05 54.9 +0.1
ELIB Princess Elisa 96.22 194 *d*P **P** 02 05 55.3 -0.1
ELIB *dx* x 02 06 13.6
ARU Arti 96.41 326 LR LR 02 50 23.2
comp=Z,84nm,20.6s,baz=186,slow=36
ARU Arti 96.41 326 P **P** 02 05 54.8 -1.6
ARU IAmb IAmb 02 05 55.5
comp=Z,8.4nm,1.0s
ARU Arti 96.41 326 *d iP* **P** 02 05 54.8 -1.6
ARU 02 09 50.1
ARU S **SKSac** 02 16 28.9 -0.6
ARU SP **SP** 02 18 33.3 +0.5
ARU pmax pmax
comp=Z,13nm,1.2s
GEYT Alibeck 96.48 307 P **P** 02 05 56.7 -0.5
comp=Z,1.7nm,0.8s,baz=218,slow=9.4,SNR=3.7
comp=Z,1.7nm,0.8s
AKTO Aktyubinsk 96.74 320 LR LR 02 49 43.2
comp=Z,47nm,20.8s,baz=15,slow=36
YMR Madison River 98.50 46 P **P** 02 06 06.3 -0.1
YMR IAmb IAmb 02 06 15.2
comp=Z,3.8nm,0.8s
LPIG La Paz 98.90 67 LR LR 02 41 58.4
comp=Z,114nm,22.0s,baz=244,slow=30
PDAR Pinedale Array 99.56 48 P **Pdif** 02 06 11.9 +0.7
comp=Z,0.3nm,0.7s,baz=251,slow=2.8,SNR=2.8
PDAR LR LR 02 46 04.9
comp=Z,89nm,19.8s,baz=312,slow=32
comp=Z,0.3nm,0.7s
RES Resolute Bay 101.00 14 P **Pdif** 02 06 16.8 +0.3
comp=Z,1.5nm,0.7s,baz=308,slow=5.7,SNR=7.5
TXAR Lajitas Array 104.83 61 PKKPbc PKKPbc 02 22 18.3 -0.3

comp=Z,0.3nm,0.8s,baz=123,slow=4.6,SNR=3.9
ARCES ARCESS Array B 107.16 343 PKiKP **PKiKP** 02 10 53.2 +0.2
comp=Z,5.9nm,1.0s,baz=48,slow=5.4,SNR=5.6
FINES FINESS Array B 111.26 335 PKiKP **PKiKP** 02 11 01.2 +0.4
comp=Z,3.3nm,0.9s,baz=85,slow=4.0,SNR=5.6
MNK Minsk 113.71 328 *i* PKP **PKiKP** 02 10 59.3 -6.5
comp=E,1.0nm,0.8s
MNK *i* PKP **PKiKP** 02 10 59.3 -6.5
comp=N,24nm,0.8s
MNK *i* PKP **PKiKP** 02 10 59.3 -6.5
comp=Z,5.0nm,0.8s,baz=244
MNK *i* PP **PP** 02 11 56.0 -2.4
MNK *i* PPP PPP 02 14 20.2
MNK *i* SKS **SKSdf** 02 18 12.6 -1.8
MNK *i* PS **PS** 02 21 33.2 -2.6
MNK *i* SS **SS** 02 27 43.6 +0.4
MNK *i* SSS SSS 02 31 57.5
MNK *i* LR LR 02 59 59.5
MNK *i* LRM MLR 03 01 32.8
comp=Z,30nm,5.8s
MNK *i* LRM MLR 03 01 49.4
comp=E,23nm,14.4s
MNK *i* LRM MLR 03 01 55.1
comp=N,2μm,16.9s
MNK Minsk 113.71 328 *i* PKIKP **PKiKP** 02 10 59.2 -6.5
MNK *i* 02 11 56.0
MNK *i* PPP PPP 02 14 20.1
MNK *i* 02 18 12.5
MNK *i* PS **PS** 02 21 33.2 -2.6
MNK *i* SS SS 02 27 43.5 +0.3
MNK *i* SSS SSS 02 31 57.5
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK MLR MLR
comp=Z,30nm,6.0s
MNK MLR MLR
comp=E,23nm,14.0s
MNK MLR MLR
comp=N,2μm,17.0s
AKASG Malin Array Be 114.56 324 PKP **PKiKP** 02 11 06.9 -0.6
comp=N,0.3nm,0.3s,baz=58,slow=2.2,SNR=4.1
BRTR Keskin Array B 115.22 312 PKP **PKiKP** 02 11 08.7 -0.7
comp=N,1.0nm,0.7s,baz=147,slow=3.0,SNR=7.4
HFS Hagfors 116.92 338 PKP **PKPdf** 02 11 11.1 -0.7
comp=N,1.4nm,0.6s,baz=132,slow=6.6,SNR=6.3
NB2 NORSAR Subarra117.17 340 PKPdf **PKPdf** 02 11 11.2 -1.1
comp=Z,0.9nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 117.17 340 PKP **PKPdf** 02 11 11.9 -0.4
comp=Z,1.7nm,0.7s,baz=46,slow=1.8,SNR=9.9
BOSA Boshof 118.91 233 PKP **PKiKP** 02 11 17.0 +0.2
comp=Z,1.1nm,0.6s,baz=24,slow=8.1,SNR=3.3
PLCA Paso Flores 119.72 144 PKP **PKPdf** 02 11 17.7 -0.2
comp=Z,1.0nm,0.8s,baz=328,slow=2.8,SNR=3.4
PLCA PKKPbc **PKKPbc** 02 21 28.5 -0.9
comp=Z,2.8nm,0.9s,baz=45,slow=4.0,SNR=8.0
SCHQ Schefferville 121.44 25 PKP **PKPdf** 02 11 20.3 -0.4
comp=Z,1.6nm,0.7s,baz=327,slow=3.3,SNR=5.3
KRLC Kraliky 121.83 328 *e*PKPDF **PKiKP** 02 11 22.1 +0.3
KRLC Kraliky 121.83 328 *e*PKIKP **PKiKP** 02 11 22.1 +0.3
OSTC Ostas 121.84 329 *e*PKPDF **PKPdf** 02 11 21.5 -0.1
CLL Collm 123.00 331 **PKPdf** 02 11 22.6 -1.1
CLL Collm 123.00 331 *i* PKPdf **PKiKP** 02 11 23.9 0.0
comp=Z,4.0nm,0.8s
CLL Collm 123.00 331 *i* PKIKP **PKiKP** 02 11 23.9 0.0
CLL pmax pmax
comp=Z,4.0nm,0.8s
PRU Pruhonice 123.05 329 *e*PKPDF **PKiKP** 02 11 25.3 +1.2
PRU Pruhonice 123.05 329 *e*PKIKP **PKiKP** 02 11 25.3 +1.2
RONA Rosalia, Austr 123.43 326 *e*PKP **PKiKP** 02 11 25.2 +0.2
comp=Z,4.4nm,1.3s
CONA Conrad Observa 123.54 326 *e*PKP **PKiKP** 02 11 25.4 +0.2
comp=Z,1.4nm,0.8s
FNA Florina 123.67 316 **PKPdf** 02 11 24.8 -0.6
FNA Florina 123.67 316 PKIKP **PKPdf** 02 11 24.8 -0.6
CKRC Cesky Krumlov 123.87 328 *e*PKPDF **PKiKP** 02 11 26.0 +0.2
NKC Novy Kostel 123.96 330 *e*PKPDF **PKiKP** 02 11 26.1 +0.2
NKC Novy Kostel 123.96 330 *e*PKIKP **PKiKP** 02 11 26.1 +0.2
KHC Kasperske Hory 124.06 328 *e*PKPDF **PKiKP** 02 11 26.1 -0.1
KHC *ep*PKP **sPKPdf** 02 11 41.8 -1.6
KHC Kasperske Hory 124.06 328 *e*PKIKP **PKiKP** 02 11 26.1 -0.1
KHC *e* 02 11 41.8
ARSA Arzberg 124.12 326 *e*PKP **PKiKP** 02 11 26.6 +0.3
comp=Z,7.4nm,1.5s
GERES GERESS Array B 124.17 328 PKP **PKPdf** 02 11 26.2 0.0
comp=Z,1.7nm,0.6s,baz=90,slow=1.5,SNR=18
GERES GERESS Array B 124.17 328 PKIKP **PKPdf** 02 11 26.3 +0.1
MOA Molln 124.47 327 *i* PKP **PKiKP** 02 11 27.4 +0.4
comp=Z,3.1nm,1.2s
ABTA Abfaltersbach 126.08 327 *i* PKP **PKPdf** 02 11 29.5 -0.4
comp=Z,4.5nm,1.2s
WTTA Wattenberg 126.24 328 *e*PKP **PKiKP** 02 11 30.5 -0.2
comp=Z,5.6nm,0.9s
EKA Eskdalemuir Ar 126.33 343 PKP **PKPdf** 02 11 30.1 +0.2
comp=Z,1.1nm,0.4s,baz=15,slow=2.7,SNR=16
CIMO Cimolais 126.39 326 **PKPdf** 02 11 28.9 -1.5
MOTA Moosalm 126.47 328 *e*PKP **PKPdf** 02 11 30.8 0.0
comp=Z,4.4nm,0.8s
SQTA Sankt Quirin 126.49 328 *e*PKP **PKiKP** 02 11 31.1 -0.1
comp=Z,5.7nm,1.1s
FETA Feichten 126.87 328 *e*PKP **PKiKP** 02 11 32.0 -0.1
comp=Z,5.4nm,1.1s
DAVA Damuels 127.15 329 *e*PKP **PKiKP** 02 11 32.4 -0.1
comp=Z,3.5nm,0.8s
DAVOX Davos/Dischmat 127.48 328 PKP **PKiKP** 02 11 33.0 -0.2
baz=135,slow=1.4
LPAZ La Paz 134.66 119 PKP **PKiKP** 02 11 48.6 -0.5
comp=Z,1.1nm,0.6s,baz=202,slow=2.9,SNR=5.8
ESDC Sonseca Array 139.59 331 PKhKP PKPpre 02 11 46.4
comp=Z,0.2nm,0.5s,baz=6.7,slow=3.6,SNR=6.0
UUPR Utuado, UPR, P 139.82 68 **PKPdf** 02 11 53.3 -3.1
MDT Midelt 145.13 325 PKPbc **PKPdf** 02 12 05.7 +0.1
comp=Z,5.9nm,0.3s,baz=324,slow=0.3,SNR=77
AVE Averroes 146.30 328 PKPbc **PKPdf** 02 12 07.8 +0.3
BOAV Boa Vista 147.17 94 PKPbc **PKPdf** 02 12 10.3 +0.9
TORD Torodi Ar. Bea 149.94 287 PKPbc **PKPbc** 02 12 18.3 -0.5
comp=Z,11nm,0.6s,baz=64,slow=2.8,SNR=16
TORD PKPab **PKPab** 02 12 24.4 -0.1
comp=Z,14nm,0.6s,baz=69,slow=4.3,SNR=15
TORD Torodi Ar. Bea 149.94 287 **PKPbc** 02 12 17.2 -1.6
BDFB Brasilia 151.10 136 PKPbc **PKPbc** 02 12 21.7 +0.1
comp=Z,5.0nm,0.6s,baz=266,slow=1.3,SNR=12
KIC Kosan Boka 157.10 274↑↑ *eP* **PKPab** 02 12 54.3 -0.5
comp=Z,13nm,0.6s
DBIC Dimbokro 157.20 275 PKPab **PKPab** 02 12 55.4 +0.2
comp=Z,16nm,0.9s,baz=91,slow=5.3,SNR=13
DBIC Dimbokro 157.20 275 PKPdf **PKPdf** 02 12 22.5 -1.8
DBIC PKPab **PKPab** 02 12 54.6 -0.6
TIC Toumodi 157.37 275↑↑ *eP* **PKPab** 02 12 55.5 -0.5
comp=Z,17nm,0.6s
LIC Lamto 157.39 274↑↑ *eP* **PKPab** 02 12 55.6 -0.5
comp=Z,41nm,0.7s

PRU 21 02:28:51.0±0.0, 50.12N×19.27E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**1.17 254**		*e*PG	Pg	02 29 13.1	-0.3
MORC				*e*SG	Sg	02 29 28.7	+0.2
KRLC	**Kraliky**	**1.60 269**		*e*PG	Pn	02 29 19.3	-1.3
KRLC				*e*SG	Sn	02 29 40.9	-1.1
KRLC	**Kraliky**	**1.60 269**		*e*	Sn	02 29 40.9	-1.1
VYHS	**Vyhne**	**1.65 190**		*e*PN	Pn	02 29 19.8	-1.5
VYHS				*e*SN	Sn	02 29 41.2	-2.0
DPC	**Dobruska-Polom**	**1.91 278**		*e*SG	Sb	02 29 51.3	+0.3

IDC 21 02:44:34.2±3.0, 22.69N×144.63E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=141.5km s-min=27.1km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.55 194**		P	P	02 52 39.9	-0.1
	0.3nm,0.3s,baz=17,slow=9.2,SNR=19						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**47.25 193**		P	P	02 53 09.1	-0.2
	0.1nm,0.3s,baz=12,slow=6.7,SNR=4.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**55.02 312**		P	P	02 54 07.2	-0.3
	0.1nm,0.6s,baz=88,slow=11,SNR=2.0						
	0.1nm,0.6s						

FINES FINESS Array B 82.86 335 P P 02 57 00.5 +0.1
4.4nm,1.0s,baz=64,slow=4.4,SNR=7.7
4.4nm,1.0s

*IPEC **21** 02:56:11.6±0.2, 50.25N×18.80E, h1km, ML2.7/4, Error ellipse: s-maj=2.3km s-min=1.1km az=165.0*
*VIE **21** 02:56:11.5, 50.26N×18.79E, h0km, mb2.4/2, ml2.8/3 14 km W of Katowice Suspected Mining induced.*
*PRU **21** 02:56:12.2±0.0, 50.25N×18.73E, h0km*
ISC 21 02:56:10.5±0.8, 50.27N±0.03×18.82E±0.02, h0km, n43, σ1s43/79, 8C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.44 245**		*e*PG	**Pb**	**02 56 21.1**	**-0.1**
RAC				*e*SG	**Sb**	**02 56 28.0**	**-0.4**
OKC	**Ostrava-Krasne**	**0.61 225**		*e*PG	**Pb**	**02 56 23.5**	**-0.6**
OKC				*e*SG	**Sg**	**02 56 31.0**	**+0.8**
	comp=Z,100nm,0.3s						
OJC	**Ojcow**	**0.63 94**		*i* Pg	**Pb**	**02 56 24.0**	**-0.4**
OJC				*e*Sg	**Sb**	**02 56 34.4**	**+0.5**
MORC	**Moravsky Berou**	**0.96 239**		↑P	**Pg**	**02 56 29.5**	**+0.7**
MORC				↓S	**Sg**	**02 56 41.7**	**+0.3**
MORC	**Moravsky Berou**	**0.96 239**		*e*PG	**Pg**	**02 56 29.6**	**+0.7**
MORC				*e*SG	**Sg**	**02 56 41.3**	**-0.1**
MORC	**Moravsky Berou**	**0.96 239**		*e*Pg	**Pg**	**02 56 29.6**	**+0.7**
	baz=59						
MORC				*e*Sg	**Sg**	**02 56 41.2**	**-0.1**
	140nm,0.3s,baz=59						
NIE	**Niedzica**	**1.29 131**		*e*Pg	**Pb**	**02 56 35.8**	**+0.2**
NIE				*e*Sg	**Sn**	**02 56 54.7**	**+1.0**
KRLC	**Kraliky**	**1.32 262**		*e*PG	**Pg**	**02 56 35.6**	**-0.3**
KRLC				*e*SG	**Sg**	**02 56 52.7**	**-0.3**
	comp=Z,57nm,0.3s						
DPC	**Dobruska-Polom**	**1.60 274**		*e*PG	**Pn**	**02 56 40.7**	**+0.6**
DPC				*e*SG	**Sn**	**02 57 01.7**	**+0.2**
	comp=Z,54nm,0.7s						
OSTC	**Ostas**	**1.69 281**		*e*PG	**Pn**	**02 56 41.9**	**+0.6**
OSTC				*e*SG	**Sb**	**02 57 04.5**	**+0.2**
	comp=Z,45nm,0.8s						
KSP	**Ksiaz**	**1.71 290**		*e*Pb	**Pn**	**02 56 42.4**	**+0.9**
KSP				*e*Pg	**Pg**	**02 56 44.1**	**+0.8**
KSP				*e*Sg	**Sg**	**02 57 06.7**	**+1.4**
VRAC	**Vranov**	**1.73 237**		↑P	**Pn**	**02 56 42.7**	**+0.8**
VRAC				↑S	**Sn**	**02 57 04.5**	**-0.3**
VRAC	**Vranov**	**1.73 237**		*e*PN	**Pn**	**02 56 42.5**	**+0.5**
VRAC				*e*SG	**Sn**	**02 57 05.2**	**+0.4**
VRAC	**Vranov**	**1.73 237**		*e*Pn	**Pn**	**02 56 42.4**	**+0.5**
	baz=56						
VRAC				*e*Sg	**Sn**	**02 57 05.1**	**+0.3**
	51nm,0.3s,baz=56						
VYHS	**Vyhne**	**1.78 180**		*e*PN	**Pn**	**02 56 42.4**	**-0.2**
VYHS				*e*SN	**Sn**	**02 57 04.4**	**-1.5**
STHS	**Stebnicka Huta**	**1.79 118**		*e*PN	**Pb**	**02 56 44.5**	**+0.3**
STHS				*e*SN	**Sb**	**02 57 07.0**	**-0.2**
STHS				*e*LG	Lg	02 57 16.1	
UPC	**Upice**	**1.81 279**		*e*PG	**Pb**	**02 56 44.7**	**+0.2**
KRUC	**Moravsky**	**1.99 233**		*e*PN	**Pn**	**02 56 45.7**	**+0.3**
KRUC				*e*SG	**Sb**	**02 57 12.9**	**+0.1**
KRUC	**Moravsky**	**1.99 233**		*e*Pn	**Pn**	**02 56 45.7**	**+0.3**
	baz=52						
KRUC				*e*Sg	**Sb**	**02 57 12.8**	**0.0**
	37nm,0.6s,baz=52						
KECS	**Kecovo**	**2.10 148**		*e*PN	**Pb**	**02 56 49.9**	**+0.5**
KECS				*e*SN	**Sn**	**02 57 12.0**	**-1.7**
KECS				*e*LG	Lg	02 57 23.5	
MODS	**Modra-Piesok**	**2.15 208**		*e*PN	**Pn**	**02 56 48.8**	**+1.1**
MODS				*e*SN	**Sn**	**02 57 14.3**	**-0.7**
CRVS	**Cervenica-Dubn**	**2.20 128**		*e*PN	**Pg**	**02 56 52.3**	**-0.4**
CRVS				*e*SG	**Sg**	**02 57 22.7**	**+1.5**
GOPC	**GO Pecny, Ondr**	**2.62 264**		*e*PN	**Pn**	**02 56 54.3**	**+0.2**
GOPC				*e*PG	**Pb**	**02 56 57.7**	**-0.6**
PRU	**Pruhonice**	**2.77 266**		*e*SG	**Sb**	**02 57 36.5**	**+1.3**
	comp=Z,13nm,0.4s						
CONA	**Conrad Observa**	**3.05 221**		*e*Pn	**Pn**	**02 57 00.6**	**+0.6**
	0.4nm,0.1s						
CONA				*e*Sn	**Sn**	**02 57 36.0**	**-1.2**
	9.3nm,0.3s						
RONA	**Rosalia, Austr**	**3.06 214**		*i* Pn	**Pn**	**02 57 00.6**	**+0.4**
	1.1nm,0.2s						
RONA				*i* Sn	**Sn**	**02 57 37.1**	**-0.5**
	5.6nm,0.3s						
BRG	**Berggiesshubel**	**3.17 283**		Pg	**Pg**	**02 57 12.2**	**+1.1**
BRG				Sg	**Sg**	**02 57 52.1**	**-0.1**
BRG				Amp		02 58 04.1	
	comp=Z,12nm,0.4s						
TRPA	**Tarpa**	**3.25 130**		↑P	**Pn**	**02 57 02.9**	**+0.2**
CKRC	**Cesky Krumlov**	**3.28 245**		*e*PN	**Pn**	**02 57 04.7**	**+1.6**
CKRC				*e*PG	**Pb**	**02 57 10.9**	**+1.4**
KHC	**Kasperske Hory**	**3.59 253**		*e*PN	**Pn**	**02 57 07.7**	**+0.3**
KHC				*e*PG	**Pb**	**02 57 16.1**	**+1.3**
KHC				*e*SG	**Sg**	**02 58 04.3**	**-1.4**
	comp=Z,13nm,0.3s						
CLL	**Collm**	**3.83 288**		*e*Pn	**Pn**	**02 57 13.0**	**+2.3**
CLL				*e*Pg	**Pg**	**02 57 23.0**	**-0.9**
CLL				*e*Sg	**Sg**	**02 58 13.0**	**-0.6**
	comp=Z,15nm,0.5s						
MOA	**Molln**	**3.85 233**		*i* Pn	**Pn**	**02 57 11.0**	**-0.1**
	comp=Z,0.5nm,0.2s						
MORH	**Mrgy, Hungar**	**4.06 182**		↑P	**Pn**	**02 57 13.5**	**-0.4**
MORH				↑S	**Sn**	**02 57 58.5**	**-3.6**
SIRR	**Siria**	**4.43 154**		↓P	**Pn**	**02 57 18.8**	**-0.2**
MARR	**Marisel-Cluj**	**4.60 140**		↑P	**Pn**	**02 57 21.8**	**+0.5**
MARR				↓S	**Sn**	**02 58 14.1**	**-1.3**
BURAR	**Bucovina Array**	**4.99 120**		↓P	**Pn**	**02 57 27.7**	**+1.0**
BZS	**Buzias**	**5.02 157**		↑P	**Pn**	**02 57 26.9**	**-0.2**
BSD	**Bornholm Skovb**	**5.40 335**		*i* S	**Sn**	**02 58 31.1**	**-3.9**
BSD				IAML		02 58 37.3	
	comp=Z,10nm,0.8s						
GZR	**Gura Zlata**	**5.56 150**		↓P	**Pn**	**02 57 35.0**	**+0.4**
LUNU	**Lund**	**6.27 331**		*i* P	**Pn**	**02 57 44.9**	**+0.7**
LUNU				*i* S	**Sn**	**02 58 52.4**	**-4.1**
BLEU	**Blekinge**	**6.30 345**		*i* P	**Pn**	**02 57 44.9**	**+0.3**
BLEU				*e*S	**Sn**	**02 58 52.7**	**-4.6**
BJUU	**Bjuv**	**6.77 331**		*i* P	**Pn**	**02 57 54.0**	**+3.0**
DEL	**Delary**	**6.88 336**		*i* P	**Pn**	**02 57 53.3**	**+0.8**
DEL				*e*S	**Sn**	**02 59 05.3**	**-6.0**

*IDC **21** 03:03:52.9±6.1, 4.94S×144.44E, h140km±68km, mb3.6/5, mbtmp4.0/7, Error ellipse: s-maj=53.5km s-min=24.4km az=135.0*
ISC 21 03:03:53.7±0.9, 5.05S±0.1×144.75E±0.2, h150km, n7, σ0s57/8, mb3.8/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.14 149**		P	**Pn**	**03 05 08.6**	**-0.4**
	10.0nm,0.3s,baz=350,slow=8.9,SNR=4.6						
PMG				S	**Sn**	**03 06 08.3**	**+0.4**
	7.3nm,0.4s,baz=307,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**17.85 213**		P	**P**	**03 07 51.5**	**0.0**
	3.3nm,0.8s,baz=34,slow=12,SNR=24						
ASAR	**Alice Springs**	**21.19 208**		P	**P**	**03 08 27.9**	**+0.3**
	2.6nm,0.7s,baz=37,slow=9.5,SNR=29						
	2.6nm,0.7s						
PETK	**Petropavlovsk-**	**58.94 9**		P	**P**	**03 13 37.5**	**+0.5**
	1.2nm,0.7s,baz=167,slow=7.5,SNR=6.0						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**75.12 321**		P	**P**	**03 15 19.7**	**+0.3**
	0.4nm,0.3s,baz=98,slow=9.4,SNR=11						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**76.82 328**		P	**P**	**03 15 27.9**	**-0.9**
	1.1nm,0.6s,baz=117,slow=7.3,SNR=5.8						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**85.55 24**		P	**P**	**03 16 14.7**	**0.0**
	1.1nm,0.6s,baz=255,slow=5.1,SNR=19						
	1.1nm,0.6s						

*SFS **21** 03:16:47.6, 35.60N×2.22W, h38km, ML2.6/5, MLv2.6/5*
*MDD **21** 03:16:48.2±0.6, 35.60N×2.25W, h35km, mb_Lg2.7/3, Error ellipse: s-maj=5.5km s-min=3.8km az=117.0*
*CNRM **21** 03:16:49.1, 35.65N×2.20W, h34km*
ISC 21 03:16:44.9±1.3, 35.76N±0.04×2.16W±0.05, h13km±10km, n27, σ1s67/49, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.74 284**		S	**Sb**	**03 17 10.8**	**+1.3**
EALB				P	**Pn**	**03 17 00.8**	**-0.1**
EALB	**Alboran**	**0.74 284**		Pg	**Pn**	**03 17 00.9**	**-0.1**
EALB				Sg	**Sb**	**03 17 10.4**	**+0.8**
EALB				*i* Vmb_Lg		03 17 11.3	
EMEL	**Melilla**	**0.80 235**		Pg	**Pb**	**03 17 01.5**	**+0.9**
EMEL				Sg	**Sg**	**03 17 08.9**	**-2.0**
ENIJ	**Nijar**	**1.21 358**		P	**Pg**	**03 17 09.6**	**+1.3**
ENIJ				S	**Sn**	**03 17 25.7**	**+1.8**
ENIJ	**Nijar**	**1.21 358**		Pn	**Pg**	**03 17 09.4**	**+1.2**
ENIJ				Sn	**Sn**	**03 17 25.2**	**+1.4**
ENIJ				*i* Vmb_Lg		03 17 27.6	
ELGU	**Los Guajares,**	**1.62 313**		P	**Pn**	**03 17 13.7**	**+0.4**
ELGU				S	**Sn**	**03 17 33.5**	**-0.6**
ELGU	**Los Guajares,**	**1.62 313**		Pn	**Pn**	**03 17 13.5**	**+0.2**
ELGU				Sn	**Sn**	**03 17 32.6**	**-1.5**
ELGU				*i* Vmb_Lg		03 17 36.6	
EQUE	**Quentar**	**1.77 325**		Pn	**Pb**	**03 17 18.0**	**+0.6**
EQUE				Sn	**Sn**	**03 17 37.6**	**-0.3**
CART	**Cartagena**	**2.05 27**		P	**Pb**	**03 17 21.4**	**-0.5**
CART				S	**Sg**	**03 17 49.5**	**-1.2**
EGOR	**Sierra Gorda,**	**2.07 311**		S	**Sn**	**03 17 45.4**	**+0.1**
EGOR	**Sierra Gorda,**	**2.07 311**		Pn	**Pb**	**03 17 22.0**	**-0.5**
EGOR				Sn	**Sn**	**03 17 44.7**	**-0.6**
EMAL	**Malaga-Limoner**	**2.09 299**		S	**Sn**	**03 17 43.6**	**-1.9**
EMAL				P	**Pn**	**03 17 20.2**	**+0.5**
EMUR	**La Murta**	**2.20 19**		Pn	**Pb**	**03 17 24.1**	**-0.6**
EMUR				Sn	**Sb**	**03 17 51.1**	**-0.8**
EMIJ	**Mijas**	**2.26 292**		S	**Sn**	**03 17 47.0**	**-2.9**
EMIJ				P	**Pn**	**03 17 22.7**	**+0.6**
EMIJ	**Mijas**	**2.26 292**		Pn	**Pn**	**03 17 22.5**	**+0.4**
EMIJ				Sn	**Sn**	**03 17 46.1**	**-3.8**
CHEFC	**Chefchaouen**	**2.68 257**		P	**Pn**	**03 17 30.4**	**+2.6**
CHEFC				S	**Sn**	**03 17 59.6**	**-0.7**
ETOB	**Tobarra**	**2.92 9**		Pn	**Pb**	**03 17 34.6**	**-2.3**
ETOB				Sn	**Sb**	**03 18 09.3**	**-3.2**
EADA	**Adamuz**	**3.09 322**		Pn	**Pn**	**03 17 35.1**	**+1.7**
EADA				Sn	**Sn**	**03 18 11.7**	**+1.5**
PSIM	**Granatula de C**	**3.31 338**		Pn	**Pb**	**03 17 40.4**	**-3.1**
PSIM				Sn	**Sn**	**03 18 16.0**	**+0.3**
ECAB	**El Cabril**	**3.49 312**		Pn	**Pn**	**03 17 40.9**	**+2.0**
ECAB				Sn	**Sn**	**03 18 19.1**	**-1.0**
MDT	**Midelt**	**3.57 215**		P	**Pn**	**03 17 40.8**	**+0.7**
MDT				S	**Sn**	**03 18 20.0**	**-2.2**
MD31	**MD31**	**3.60 217**		P	**Pn**	**03 17 41.1**	**+0.6**
MD31				S	**Sn**	**03 18 23.5**	**+0.5**
PAB	**San Pablo**	**4.16 336**		Pn	**Pn**	**03 17 52.1**	**+3.9**
PBAR	**Barrancos**	**4.59 303**		*e*Sn	**Sn**	**03 18 47.9**	**+0.6**
PVAQ	**Vaqueiros**	**4.77 292**		*e*Pn	**Pn**	**03 17 57.7**	**+1.3**
PVAQ				*e*Sn	**Sn**	**03 18 51.0**	**-0.5**
EVO	**Evora**	**5.43 302**		*e*Pn	**Pn**	**03 18 07.9**	**+2.3**
PNCL	**Nicolau / Gran**	**5.62 297**		*e*Pn	**Pn**	**03 18 10.5**	**+2.4**

*MOS **21** 03:22:21.6±2.4, 44.64N×132.32E, h14km, mb4.4/1, Error ellipse: s-maj=29.0km s-min=14.4km az=82.5*
MOS Felt (III) at Spassk-Dal'niy.
*IDC **21** 03:22:21.1±1.2, 44.66N×132.64E, h0km, mb3.3/3, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=13.1km s-min=9.4km az=121.0*
*SKHL **21** 03:22:22.7±0.2, 44.63N×132.56E, h14km±7km, mb4.2/4, Ms3.3/2, msh3.3/2, Felt (IV) at rec center on Lake Khanka; (III) at Voskresenka, Prohory, Spasskoe, Novosel'skoe, Spassk-Dal'niy; (II) at Kamen'-Rybolov*
ISC 21 03:22:24.8±0.8, 44.54N±0.04×132.32E±0.07, h10km, n18, σ2s76/21, mb3.5/3, 2C-1D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**0.41 215**		Pg	**Pg**	**03 22 34.2**	**+1.3**
	131nm,0.3s,baz=42,slow=18,SNR=1275						
USRK				Lg	Lg	03 22 42.5	
	186nm,0.3s,baz=45,slow=29,SNR=21						
GRTR	**Gornotajezhnoj**	**0.84 188**		↓*i* Pg	**Pg**	**03 22 40.5**	**-0.4**
GRTR				AMB	AMB	03 22 40.9	
	83nm,0.2s						
GRTR				*e*Sg	**Sg**	**03 22 53.8**	**+2.0**
GRTR				A	A	03 22 55.5	
	812nm,0.4s						
VLA	**Vladivostok**	**1.45 193**		↑*i* Pg	**Pn**	**03 22 51.9**	**+0.8**
VLA				*e*Sg	**Sn**	**03 23 12.8**	**+2.7**
MSHR	**Mys Shultsa**	**2.13 204**		*e*P	**Pn**	**03 23 00.7**	**+0.3**
TEY	**Ternei**	**3.09 79**		↑*e*P	**Pn**	**03 23 14.7**	**+1.1**
TEY				*e*		03 23 52.3	
TEY				pmax	pmax		
	comp=Z,20nm,0.5s						
TEY				pmax	pmax		
	comp=E,30nm,0.5s						
TEY	**Ternei**	**3.09 79**		*e*Pn	Pn	03 23 09.6	-4.0
TEY				*e*Pg	Pb	03 23 14.7	-5.1
TEY				AMB	AMB	03 23 15.7	
	comp=E,36nm,0.5s						
TEY				*e*Sg	**Sn**	**03 23 52.9**	**+2.3**
TEY				A	A	03 23 55.7	
	comp=E,232nm,0.5s						
TEY				AMS	AMS	03 24 53.4	
	comp=E,100nm,3.0s						
TEY				AMS	AMS	03 24 53.4	
	comp=E,133nm,3.0s						
KHBR	**Khabarovsk**	**4.37 25**		*e*Pn	**Pn**	**03 23 27.7**	**-3.5**
KHBR				*e*Pg	**Pb**	**03 23 40.0**	**-1.6**
KHBR				AMB	AMB	03 23 42.0	
	comp=E,36nm,0.4s						
KHBR				*e*Sg	**Sb**	**03 24 33.3**	**-1.0**
KHBR				A	A	03 24 37.1	
	comp=E,108nm,0.6s						
KHBR				AMS	AMS	03 25 34.4	
	comp=E,89nm,5.0s						
KHBR				AMS	AMS	03 25 34.4	
	comp=E,91nm,5.0s						
KLR	**Kul'dur**	**4.71 355**		Pn	**Pn**	**03 23 32.6**	**-3.3**
	comp=E,1.0nm,0.3s,baz=177,slow=16,SNR=17						
KLR				Lg	Lg	03 24 48.4	
	comp=E,2.1nm,0.3s,baz=92,slow=21,SNR=2.4						
	comp=E,2.6nm,0.3s						
KLR	**Kul'dur**	**4.71 355**		*e*Pn	**Pn**	**03 23 32.6**	**-3.3**
KLR				*e*Sg	**Sb**	**03 24 48.2**	**+4.0**
GRNR	**Gornyy**	**6.82 22**		*e*Sg	**Sb**	**03 25 51.8**	**+6.9**
GRNR				A	A	03 26 02.4	
	comp=E,18nm,0.7s						
EKMR	**Ekimchan**	**8.55 3**		*e*Sg	Sg	03 26 49.2	-10
EKMR				A	A	03 27 06.8	
	comp=E,5.0nm,0.8

1.0nm,0.6s
TXAR Lajitas Array 84.58 57 P **P** **03 50 41.9 +2.1**
0.4nm,0.8s,baz=205,slow=7.0,SNR=5.3
0.4nm,0.8s
ILAR Eielson Array 85.11 12 P **P** **03 50 40.8 -0.7**
0.7nm,0.5s,baz=227,slow=5.4,SNR=32
0.7nm,0.5s
YKA Yellowknife Ar 93.32 24 P **P** **03 51 18.3 -1.7**
0.3nm,0.7s,baz=247,slow=4.9,SNR=5.0
0.3nm,0.7s
BRTR Keskin Array B 145.40 316 PKPbc **PKPdf** **03 57 42.0 +0.4**
1.7nm,0.9s,baz=152,slow=4.0,SNR=9.0
TORD Torodi Ar. Bea 175.56 163 PKPab **PKPab** **03 59 53.4 0.0**
1.1nm,0.3s,baz=225,slow=1.8,SNR=1.4

*ANF **21** 03:57:54.9±1.5,36°.85N×104°.85W,h5km,ML3.8/8, Error ellipse: s-maj=17.1km s-min=13.2km az=41.0*
*NEIC **21** 03:57:54.3±1.6,36°.96N±0°.03×104°.84W±0°.04,h6km±6km, mb_Lg2.8/58,ML3.1/30, Error ellipse: s-maj=5.2km s-min=3.6km az=137.0*
ISC 21 03:57:54.5±1.2,**36°.99N**±0°.02×**104°.90W**±0°.02,**h1**km±12km, **n68**,σ1°**29**/67,**New Mexico**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.42**	**68**	Pg	**Pg**	**03 58 02.5**	**0.0**
T25A				Sg	**Sg**	**03 58 08.1**	**+0.2**
T25A	**Trinidad**	**0.42**	**68**	P	**Pg**	**03 58 02.6**	**+0.1**
	baz=242						
T25A				S	**Sg**	**03 58 08.2**	**+0.2**
	baz=242						
SDCO	**Great Sand Dun**	**0.90**	**328**	Pg	**Pg**	**03 58 11.6**	**-0.1**
SDCO				Sg	**Sg**	**03 58 23.4**	**0.0**
SDCO				IAML		03 58 24.0	
	491nm,0.2s						
SDCO				IAML		03 58 24.2	
	434nm,0.1s						
SDCO	**Great Sand Dun**	**0.90**	**328**	P	**Pg**	**03 58 11.7**	**-0.1**
	baz=146						
SDCO				S	**Sg**	**03 58 23.7**	**+0.3**
	baz=146						
SDCO	**Great Sand Dun**	**0.90**	**328**	P	**Pg**	**03 58 11.6**	**-0.1**
	baz=146						
SDCO				S	**Sg**	**03 58 23.8**	**+0.5**
	baz=146						
S22A	**4UR Ranch, Cre**	**1.72**	**297**		**Pb**	**03 58 27.0**	**0.0**
S22A					**Sb**	**03 58 48.9**	**-0.3**
S22A				IAML		03 58 52.0	
	comp=N,249nm,0.1s						
Q24A	**Divide**	**1.98**	**354**		**Pb**	**03 58 31.4**	**-0.1**
Q24A				IAML		03 58 59.5	
	comp=N,204nm,0.2s						
Q24A	**Divide**	**1.98**	**354**	Pb	**Pb**	**03 58 31.4**	**-0.1**
	baz=173						
Q24A				S	**Sb**	**03 58 57.1**	**+0.1**
	baz=173						
ANMO	**Albuquerque**	**2.40**	**212**	Pn	**Pn**	**03 58 35.8**	**+0.7**
ANMO	**Albuquerque**	**2.40**	**212**	P	**Pn**	**03 58 35.4**	**+0.4**
	baz=33						
ANMO				S	**Sn**	**03 59 03.7**	**-1.5**
	baz=33						
ANMO	**Albuquerque**	**2.40**	**212**	P	**Pb**	**03 58 36.2**	**-2.4**
	baz=33						
ANMO				S	**Sb**	**03 59 08.7**	**0.0**
	baz=33						
KSCO	**Kaye Shedlock'**	**2.70**	**41**	Pn	**Pb**	**03 58 41.9**	**-1.7**
KSCO	**Kaye Shedlock'**	**2.70**	**41**	P	**Pn**	**03 58 40.4**	**+1.3**
	baz=221						
KSCO				S	**Sb**	**03 59 15.4**	**-2.0**
	baz=221						
KSCO	**Kaye Shedlock'**	**2.70**	**41**	Pb	**Pb**	**03 58 42.9**	**-0.7**
	baz=221						
KSCO				Sb	**Sb**	**03 59 17.8**	**+0.4**
	baz=221						
SMCO	**Snowmass**	**2.73**	**324**		**Pn**	**03 58 41.6**	**+1.7**
SMCO				IAML		03 59 24.6	
	comp=N,64nm,0.4s						
ISCO	**Idaho Springs**	**2.87**	**349**		**Pn**	**03 58 43.2**	**+1.6**
ISCO					**Sb**	**03 59 22.1**	**-0.2**
ISCO	**Idaho Springs**	**2.87**	**349**	P	**Pn**	**03 58 42.4**	**+0.9**
	baz=168						
ISCO				S	**Sb**	**03 59 21.2**	**-1.0**
	baz=168						
ISCO	**Idaho Springs**	**2.87**	**349**	P	**Pb**	**03 58 44.2**	**-2.4**
	baz=168						
ISCO				Sb	**Sb**	**03 59 24.0**	**+1.8**
	baz=168						
MVCO	**Mesa Verde**	**2.89**	**276**		**Pn**	**03 58 40.6**	**-1.3**
MVCO				IAML		03 59 32.7	
	comp=N,86nm,0.6s						
MVCO	**Mesa Verde**	**2.89**	**276**	Pb	**Pb**	**03 58 48.4**	**+1.5**
	baz=94						
MVCO				Sb	**Sb**	**03 59 25.7**	**-1.6**
	baz=94						
PV15	**Paradox Valley**	**3.15**	**297**		**Pn**	**03 58 46.9**	**+1.4**
BNM	**Barren Site**	**3.16**	**207**		**Pn**	**03 58 46.1**	**+0.5**
PV07	**Paradox Valley**	**3.31**	**297**		**Pn**	**03 58 49.6**	**+2.0**
AMTX	**Amarillo**	**3.35**	**128**		**Pn**	**03 58 49.5**	**+1.4**
AMTX	**Amarillo**	**3.35**	**128**	P	**Pn**	**03 58 46.9**	**-1.1**
	baz=310						
AMTX	**Amarillo**	**3.35**	**128**	S	**Sb**	**03 59 36.3**	**+0.4**
	baz=310						
PV11	**David Mesa, Pa**	**3.42**	**294**		**Pn**	**03 58 50.1**	**+1.1**
MSTX	**Muleshoe**	**3.47**	**149**		**Pn**	**03 58 51.7**	**+2.0**
MSTX	**Muleshoe**	**3.47**	**149**	P	**Pn**	**03 58 48.9**	**-0.9**
	baz=331						
MSTX	**Muleshoe**	**3.47**	**149**	S	**Sb**	**03 59 41.5**	**+2.0**
	baz=331						
Y22A	**Socorro**	**3.48**	**210**	P	**Pn**	**03 58 49.4**	**-0.5**
	baz=29						
PV21	**Cone Mtn., Par**	**3.59**	**297**	Pn	**Pn**	**03 58 52.5**	**+1.0**
PV21				IAML		04 00 01.1	
	comp=N,32nm,0.9s						
BRIGG	**Briggsdale**	**3.62**	**7**	Pn	**Pn**	**03 58 53.8**	**+2.1**
BRIGG				lAmb_Lg		03 59 51.0	
	comp=Z,32nm,0.8s						
N23A	**Red Feather La**	**3.99**	**348**	S	**Sg**	**04 00 01.1**	**-1.4**
	baz=167						
PHWY	**Pilot Hill**	**4.33**	**354**	Pn	**Pn**	**03 59 03.1**	**+1.4**
PHWY				IAML		04 00 13.4	
	comp=Z,17nm,0.5s						
PHWY				IAML		04 00 13.9	
	comp=Z,24nm,0.5s						
CBKS	**Cedar Bluff**	**4.47**	**64**		**Pn**	**03 59 03.8**	**+0.4**
CBKS				lAmb_Lg		04 00 15.3	
	comp=Z,25nm,0.8s						
CBKS	**Cedar Bluff**	**4.47**	**64**	P	**Pn**	**03 59 02.8**	**-0.6**
	baz=247						
ELIS	**Ellis County**	**4.51**	**100**		**Pn**	**03 59 05.8**	**+1.9**
ELIS				lAmb_Lg		04 00 27.7	
	comp=Z,24nm,0.9s						
OGNE	**Ogallala**	**4.54**	**29**		**Pn**	**03 59 06.1**	**+1.8**
OGNE				lAmb_Lg		04 00 20.1	
	comp=Z,27nm,0.8s						
OGNE	**Ogallala**	**4.54**	**29**	P	**Pn**	**03 59 06.9**	**+2.6**
	baz=210						
HTMS	**Hat Mesa**	**4.62**	**167**	Pn	**Pn**	**03 59 06.1**	**+0.5**
U32A	**Winter Ranch,**	**4.78**	**96**		**Pn**	**03 59 07.8**	**+0.3**
U32A				lAmb_Lg		04 00 33.4	
	comp=Z,15nm,0.8s						
GDL2	**Guadalupe Moun**	**4.79**	**175**		**Pn**	**03 59 07.2**	**-0.8**
P18A	**Preston Nutter**	**4.96**	**304**	Pn	**Pn**	**03 59 09.2**	**-1.3**
OK038	**West end E0370**	**4.97**	**94**	lAmb_Lg		04 00 32.3	
	comp=Z,30nm,1.1s						
121A	**Cookes Peak, D**	**5.04**	**209**		**Pn**	**03 59 11.6**	**+0.3**
121A	**Cookes Peak, D**	**5.04**	**209**	P	**Pn**	**03 59 12.5**	**+1.2**
	baz=28						
R32A	**Long Quarter,**	**5.11**	**72**		**Pn**	**03 59 11.3**	**-0.9**
R32A				lAmb_Lg		04 00 49.3	
	comp=Z,18nm,0.7s						
MNTX	**Cornudas Mount**	**5.29**	**184**	Pb	**Pb**	**03 59 30.3**	**+2.6**
	baz=4.7						
OK032	**Salt Plains WL**	**5.36**	**90**	Pn	**Pn**	**03 59 14.9**	**-0.7**
OK032				lAmb_Lg		04 00 51.2	
	comp=Z,12nm,0.7s						
WUAZ	**Wupatki**	**5.44**	**256**		**Pn**	**03 59 18.1**	**+1.3**
KAN14	**Manchester OK**	**5.55**	**88**	lAmb_Lg		04 01 02.0	
	comp=Z,11nm,0.8s						
CROK	**Carrier**	**5.57**	**93**	lAmb_Lg		04 00 54.6	
	comp=Z,23nm,1.2s						
DUN6	**Lazy B Ranch**	**5.61**	**219**		**Pn**	**03 59 19.2**	**+0.1**
KAN09	**Caldwell North**	**5.82**	**86**	lAmb_Lg		04 00 59.3	
	comp=Z,14nm,0.9s						
U15A	**North Rim**	**5.97**	**267**	Pn	**Pn**	**03 59 26.8**	**+2.6**
OK025	**Westminster Rd**	**6.26**	**101**	lAmb_Lg		04 01 15.3	
	comp=Z,9.5nm,0.8s						
FNO	**Franklin**	**6.31**	**104**	lAmb_Lg		04 01 19.1	
	comp=Z,13nm,0.7s						
OK044	**Pawnee Station**	**6.54**	**93**	lAmb_Lg		04 01 29.6	
	comp=Z,11nm,1.0s						
T35A	**Sooner Cattle**	**6.71**	**88**	lAmb_Lg		04 01 29.0	
	comp=Z,18nm,1.2s						
KSU1	**Kansas State U**	**6.87**	**70**	lAmb_Lg		04 01 47.0	
	comp=Z,14nm,0.9s						
N33A	**J Bar K, Exete**	**6.91**	**55**	lAmb_Lg		04 01 35.7	
	comp=Z,19nm,0.7s						
LOOK	**Love County**	**6.97**	**113**	lAmb_Lg		04 01 51.6	
	comp=Z,9.2nm,0.7s						
FW06	**Azle**	**7.23**	**121**	lAmb_Lg		04 01 49.8	
	comp=Z,12nm,1.1s						
TUL1	**Leonard**	**7.42**	**96**	lAmb_Lg		04 01 58.1	
	comp=Z,8.5nm,1.1s						
JCT	**Junction City**	**7.75**	**145**	lAmb_Lg		04 02 17.1	
	comp=Z,12nm,1.0s						
X37A	**Clayton**	**8.10**	**104**	lAmb_Lg		04 02 23.7	
	comp=Z,11nm,0.9s						
ECSD	**EROS Data Cent**	**9.24**	**41**	lAmb_Lg		04 02 53.4	
	comp=Z,7.2nm,0.9s						

*IDC **21** 04:12:31.2±1.4,6°.44S×128°.61E,h321km±14km,mb3.2/5, mbtmp4.1/9,Error ellipse: s-maj=20.0km s-min=11.2km az=77.0*
ISC 21 04:12:31.3±0.7,**6°.37S**±0°.06×**128°.68E**±0°.08,**h334**km,**n22**, σ1°**88**/27,**mb3.6/5,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.94**	**46**	P	**Pn**	**04 13 49.1**	**-0.5**
SANI	**Sanana**	**5.06**	**328**	P	**Pn**	**04 13 50.8**	**-0.1**
SIJI	**Sorong**	**6.05**	**25**	P	**Pn**	**04 14 01.4**	**-0.8**
	6.3nm,0.2s,baz=182,slow=23,SNR=9.4						
SIJI				S	**S**	**04 15 10.1**	**-5.7**
	15nm,0.2s,baz=157,slow=22,SNR=16						
BATI	**Baumata**	**6.25**	**232**	P	**Pn**	**04 14 04.7**	**0.0**
	26nm,0.3s,baz=80,slow=1.9,SNR=5.7						
BATI				S	**S**	**04 15 16.0**	**-4.1**
	23nm,0.3s,baz=73,slow=22,SNR=7.6						
MTN	**Manton Dam**	**6.87**	**160**	P	**Pn**	**04 14 11.1**	**-0.7**
KNRA	**Kununurra**	**9.25**	**179**	P	**Pn**	**04 14 39.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**12.03**	**194**	P	**Pn**	**04 15 12.8**	**-0.8**
WRAB	**Tennant Creek**	**14.56**	**158**	P	**P**	**04 15 42.1**	**+0.2**
WRA	**Warramunga Arr**	**14.57**	**158**	P	**P**	**04 15 42.4**	**+0.4**
	4.2nm,0.4s,baz=339,slow=12,SNR=86						
WRA				S	**S**	**04 18 16.9**	**-3.4**
	2.4nm,0.7s,baz=334,slow=21,SNR=5.1						
COEN	**Coen**	**16.13**	**119**	P	**P**	**04 16 00.4**	**+1.3**
MBWA	**Marble Bar**	**17.06**	**210**	P	**P**	**04 16 09.0**	**-0.1**
PSA00	**Pilbara Seismi**	**17.36**	**209**	P	**P**	**04 16 12.6**	**+0.3**
QIS	**Mount Isa**	**17.64**	**144**	P	**P**	**04 16 16.8**	**+1.5**
ASAR	**Alice Springs**	**17.91**	**164**	P	**P**	**04 16 19.1**	**+0.8**
	16nm,0.4s,baz=346,slow=12,SNR=259						
ASAR				S	**S**	**04 19 26.3**	**-0.2**
	3.4nm,0.8s,baz=344,slow=19,SNR=23						
ASAR				ScP	**ScP**	**04 23 41.2**	**+1.0**
	0.4nm,0.5s,baz=353,slow=1.9,SNR=6.1						
AS01	**Alice Springs**	**17.93**	**164**	P	**P**	**04 16 19.6**	**+1.2**
WRKA	**Warakurna**	**18.56**	**181**	P	**P**	**04 16 25.8**	**+0.7**
CTA	**Charters Tower**	**21.84**	**130**	P	**P**	**04 16 59.9**	**+2.5**
	1.7nm,0.6s,baz=304,slow=12,SNR=4.6						
	1.7nm,0.6s						
MULG	**Mulgathing**	**24.32**	**169**	P	**P**	**04 17 20.3**	**+0.6**
STKA	**Stephens Creek**	**28.10**	**156**	P	**P**	**04 17 54.0**	**+0.7**
	1.3nm,0.4s,baz=331,slow=10,SNR=4.8						
	1.3nm,0.4s						
SONM	**Songino Array**	**57.44**	**342**	P	**P**	**04 21 47.6**	**+1.5**
	0.2nm,0.5s,baz=155,slow=6.6,SNR=2.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**66.99**	**327**	P	**P**	**04 22 50.1**	**+1.2**
	0.8nm,0.6s,baz=123,slow=6.8,SNR=8.9						
	0.8nm,0.6s						
SEY	**Seymchan**	**71.44**	**11**	P	**P**	**04 23 17.3**	**+1.7**
	0.7nm,0.4s,baz=254,slow=5.4,SNR=4.3						
	0.7nm,0.4s						

*DJA **21** 04:27:37.6±0.4,6°.5S×13°.0E±°,h10km,M4.6/7,mb4.6/3, mB5.2/2,MLv4.5/7,Mw(mB)4.7/2*
*IDC **21** 04:27:39.9±2.4,6°.24S×130°.62E,h121km±23km,mb3.4/4, mbtmp4.0/7,Error ellipse: s-maj=32.1km s-min=19.8km az=74.0*
ISC 21 04:27:37.8±0.6,**6°.23S**±0°.06×**130°.56E**±0°.07,**h100**km,**n27**, σ1°**69**/29,**mb3.8**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.82**	**339**	P	**Pn**	**04 28 05.4**	**-2.7**
SAUI	**Saumlaki**	**1.89**	**157**	P	**Pn**	**04 28 13.1**	**+4.1**
FAKI	**Fak Fak**	**3.70**	**27**	P	**Pn**	**04 28 35.4**	**+2.4**
FAKI	**Fak Fak**	**3.70**	**27**	P	**Pn**	**04 28 33.8**	**+0.8**
FAKI				S	**Sn**	**04 29 15.7**	**0.0**
NLAI	**Namlea**	**4.55**	**311**	P	**Pn**	**04 28 42.6**	**-1.9**
SIJI	**Sorong**	**5.37**	**8**	P	**Pn**	**04 28 58.0**	**+2.3**
	20nm,0.2s,baz=228,slow=22,SNR=14						
SIJI				S	**Sn**	**04 29 55.2**	**-1.1**
	26nm,0.2s,baz=228,slow=22,SNR=14						
RKPI	**Ransiki, Papua**	**5.92**	**38**	P	**Pn**	**04 29 05.2**	**+2.1**
	92nm,0.8s,3µm1.4nm						
MTN	**Manton Dam**	**6.60**	**175**	P	**Pn**	**04 29 12.4**	**+0.1**
KDU	**Kakadu**	**6.69**	**164**	P	**Pn**	**04 29 12.7**	**-0.8**
SOEI	**Soe**	**7.14**	**240**	P	**Pn**	**04 29 22.0**	**+2.2**
BATI	**Baumata**	**7.88**	**239**	P	**Pn**	**04 29 32.4**	**+2.6**
	24nm,0.4s,baz=153,slow=2.0,SNR=4.8						
BATI				S	**Sn**	**04 30 57.1**	**-0.4**
	61nm,0.4s,baz=297,slow=21,SNR=11						
KNRA	**Kununurra**	**9.55**	**190**	P	**Pn**	**04 29 51.1**	**-1.4**
PLAI	**Plampang**	**12.93**	**258**	P	**Pn**	**04 30 38.1**	**+0.2**
WRA	**Warramunga Arr**	**14.12**	**165**	P	Pn	04 30 48.6	-4.8
	2.3nm,0.5s,baz=353,slow=13,SNR=35						
WRA				S	Sn	04 33 15.7	-13
	4.5nm,0.4s,baz=337,slow=22,SNR=8.9						
COEN	**Coen**	**14.60**	**123**	P	**Pn**	**04 30 59.0**	**-0.6**
QIS	**Mont Isa**	**16.73**	**149**	P	**Pn**	**04 31 24.5**	**-1.8**
ASAR	**Alice Springs**	**17.63**	**170**	P	**P**	**04 31 35.7**	**-1.1**
	1.0nm,0.6s,baz=354,slow=9.4,SNR=18						
ASAR				S	Sn	04 34 40.0	-14
	4.4nm,0.7s,baz=356,slow=28,SNR=9.6						
AS01	**Alice Springs**	**17.64**	**170**	P	**P**	**04 31 36.0**	**-0.9**
PSA00	**Pilbara Seismi**	**18.44**	**213**	P	**P**	**04 31 46.1**	**+0.5**
WRKA	**Warakurna**	**18.83**	**186**	P	**P**	**04 31 49.9**	**0.0**
CTA	**Charters Tower**	**20.55**	**134**	P	**P**	**04 32 09.7**	**+1.1**
	1.3nm,0.6s,baz=314,slow=11,SNR=3.0						
	1.3nm,0.6s						
MULG	**Mulgathing**	**24.15**	**173**	P	**P**	**04 32 44.0**	**-0.7**
BBOO	**Buckleboo**	**26.94**	**170**	P	**P**	**04 33 08.2**	**-1.7**
SONM	**Songino Array**	**57.90**	**341**	P	**P**	**04 37 19.9**	**+0.4**
	0.4nm,0.8s,baz=160,slow=7.4,SNR=3.6						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**67.89**	**326**	P	**P**	**04 38 26.0**	**+0.3**
	2.1nm,0.6s,baz=125,slow=7.8,SNR=27						
	2.1nm,0.6s						
ILAR	**Eielson Array**	**92.42**	**25**	P	**P**	**04 40 34.8**	**-2.2**
	0.4nm,0.8s,baz=258,slow=5.5,SNR=4.6						
	0.4nm,0.8s						
LPAZ	**La Paz**	**150.97**	**141**	PKPbc	**PKPbc**	**04 47 20.3**	**-0.5**
	0.9nm,0.5s,baz=153,slow=4.5,SNR=4.9						

*UPA **21** 04:54:22.3±0.7,8°.39N×83°.07W,h10km±4km,MW4.2*
*UCR **21** 04:54:23.3±0.8,8°.40N×83°.06W,h28km±2km,MW4.7*
*IDC **21** 04:54:23.9±3.1,9°.30N×82°.60W,h0km,mb3.8/4, mbtmp3.8/6,ML2.9/2,MS3.0/3,Error ellipse: s-maj=109.8km s-min=34.0km az=35.0*
*INET **21** 04:54:25.1±3.0,8°.60N×83°.07W,h6km±8km,MW4.5*
ISC 21 04:54:24.2±0.9,**8°.41N**±0°.04×**83°.07W**±0°.03,**h29**km±6km, **n125**,σ1°**63**/141,**mb3.7**/4,**5C-5D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCOL	**Caracol de Cor**	**0.09**	**94**	eS	**Sb**	**04 54 33.3**	**+0.5**
FITO	**Golfito**	**0.23**	**337**	eS	**Sb**	**04 54 33.6**	**-1.4**
JIME	**Puerto Jimenez**	**0.28**	**296**	eP	**Pb**	**04 54 30.5**	**-0.9**
BRU2	**Volcan**	**0.53**	**44**	i/P	**Pb**	**04 54 33.9**	**-1.3**
BRU2				*i* S	**Sb**	**04 54 42.4**	**-0.3**
BRU2	**Volcan**	**0.53**	**44**	i/P	**Pb**	**04 54 33.8**	**-1.3**
BRU2				*eS*	**Sb**	**04 54 42.4**	**-0.3**
BRU2				*i*		04 54 45.1	
	comp=Z,3µm,0.5s						
BRU2	**Volcan**	**0.53**	**44**	*eP*	**Pb**	**04 54 33.8**	**-1.3**
BRU2				*eS*	**Sb**	**04 54 42.2**	**-0.4**
CTCR	**Cotoan**	**0.57**	**32**	*eP*	**Pb**	**04 54 34.3**	**-1.5**
CTCR				*eS*	**Sb**	**04 54 43.0**	**-0.7**
DVD3	**San Pablo Viej**	**0.61**	**88**	i/eP	**Pb**	**04 54 34.7**	**-1.7**
DVD3				*eS*	**Sb**	**04 54 43.9**	**-0.8**
BCO2	**Palmira**	**0.61**	**60**	i/iP	**Pb**	**04 54 35.1**	**-1.4**
BCO2				*i* S	**Sb**	**04 54 44.6**	**-0.4**
PTAR3	**Potrerillos Ar**	**0.63**	**64**	*i* P	**Pb**	**04 54 35.3**	**-1.5**
POTG	**Potrero Grande**	**0.64**	**355**	*eP*	**Pb**	**04 54 35.5**	**-1.4**
POTG				*eS*	**Sn**	**04 54 45.7**	**-0.9**
PEZE	**Perez Zeledon,**	**1.14**	**328**	*eP*	**Pn**	**04 54 43.0**	**-1.3**
PEZE				*eS*	**Sn**	**04 55 00.7**	**+1.7**
PEZE	**Perez Zeledon,**	**1.14**	**328**	*eP*	**Pn**	**04 54 42.8**	**-1.5**
CNI2	**El Empalme, Bo**	**1.16**	**30**	i/iP	**Pn**	**04 54 43.2**	**-1.3**
CNI2				*i* S	**Sn**	**04 54 59.1**	**-0.4**
BRIBI	**Bribri**	**1.22**	**10**	*eP*	**Pb**	**04 54 45.8**	**-0.9**
REME3	**Remedios, Chir**	**1.23**	**99**	*i* P	**Pn**	**04 54 44.0**	**-1.5**
REME3				*i* S	**Sn**	**04 55 02.5**	**+1.2**
RGM0	**Gandoca**	**1.25**	**21**	*eP*	**Pb**	**04 54 46.4**	**-0.9**
RGM0	**Gandoca**	**1.25**	**21**	*eP*	**Pb**	**04 54 46.1**	**-1.1**
BUS1	**Rivas**	**1.32**	**329**	*eP*	**Pn**	**04 54 45.9**	**-1.2**
BUS1				*eS*	**Sn**	**04 54 55.4**	**-8.6**
CDM	**Cerro de Muert**	**1.33**	**329**	*eP*	**Pn**	**04 54 46.1**	**-1.2**
CDM	**Cerro de Muert**	**1.33**	**329**	*eP*	**Pn**	**04 54 46.0**	**-1.2**
CDM				*eS*	**Sb**	**04 55 03.8**	**-1.7**
TURIB	**Turrialba**	**1.60**	**338**	*eP*	**Pn**	**04 54 50.4**	**-0.4**
PCAYA	**Pacayas**	**1.67**	**334**	*eP*	**Pn**	**04 54 51.4**	**-0.3**
RITA	**Parrita**	**1.67**	**311**	*eP*	**Pn**	**04 54 51.9**	**+0.4**
TAGO	**Cartago**	**1.67**	**330**	*eP*	**Pn**	**04 54 51.1**	**-0.6**
RAFA	**San Farael, Vo**	**1.70**	**334**	*eP*	**Pn**	**04 54 51.8**	**-0.5**
CVTV	**Tajo**	**1.72**	**337**	*eP*	**Pn**	**04 54 52.6**	**0.0**
ICR3	**Volcano Irazu**	**1.73**	**334**	*eP*	**Pn**	**04 54 52.7**	**0.0**
VTR0	**Volcan Turrial**	**1.73**	**337**	*eP*	**Pn**	**04 54 52.7**	**-0.1**
HAYA	**Volcan Irazu**	**1.73**	**334**	*eP*	**Pn**	**04 54 52.7**	**-0.2**
CVTR	**Volcan Turrial**	**1.74**	**337**	*eP*	**Pn**	**04 54 52.7**	**-0.2**
TRIO	**Tres Rios**	**1.74**	**328**	*eP*	**Pn**	**04 54 52.1**	**-0.6**
ACOS	**Acosta**	**1.75**	**322**	*eP*	**Pn**	**04 54 52.7**	**-0.1**
AMPA	**Desamparados**	**1.77**	**326**	*eP*	**Pn**	**04 54 53.5**	**+0.4**
CORON	**Coronado**	**1.80**	**329**	*eP*	**Pn**	**04 54 53.7**	**+0.1**
CENT	**San Jose**	**1.81**	**326**	*eP*	**Pb**	**04 54 54.5**	**-2.3**
DOMI	**Santo Domingo**	**1.86**	**327**	*eP*	**Pn**	**04 54 54.6**	**+0.3**
HDC3	**Heredia 3**	**1.89**	**327**	*eP*	**Pn**	**04 54 55.0**	**+0.3**
HDC3				*eS*	**Sb**	**04 55 20.8**	**-0.5**
HDC	**Heredia**	**1.89**	**327**	*i* P	**Pn**	**04 54 55.1**	**+0.4**
HDC				*i* S	**Sb**	**04 55 21.4**	**0.0**
BELE	**Belen**	**1.91**	**325**	*eP*	**Pn**	**04 54 55.6**	**+0.7**
BITO	**Garabito Jaco**	**1.95**	**308**	*eP*	**Pn**	**04 54 54.8**	**-0.6**
JACO	**JACO, Garabito**	**2.00**	**308**	*eP*	**Pn**	**04 54 55.4**	**-0.8**
ARZA	**Esparza**	**2.23**	**315**	*eP*	**Pn**	**04 55 00.6**	**+1.3**
CPMI	**Catarata Coope**	**2.27**	**325**	*eP*	**Pn**	**04 55 00.5**	**+0.5**
LAFE	**Finca La Fe, P**	**2.29**	**307**	*eP*	**Pn**	**04 54 59.4**	**-0.6**
LAFE	**Finca La Fe, P**	**2.29**	**307**	*eP*	**Pn**	**04 54 59.1**	**-0.9**
CBL1	**Cabuya**	**2.32**	**300**	i/eP	**Pn**	**04 54 59.3**	**-1.2**
ITAL	**Pital**	**2.35**	**330**	*eP*	**Pn**	**04 55 01.9**	**+1.0**
CACAO	**El Cacao, Vera**	**2.43**	**116**	*eP*	**Pn**	**04 55 00.9**	**-1.0**
CACAO				*i*		04 55 38.6	
	comp=Z,4µm,0.3s						
FORC	**Fortuna**	**2.58**	**322**	*eP*	**Pn**	**04 55 05.8**	**+1.7**
CASO	**Castillo**	**2.60**	**321**	*eP*	**Pn**	**04 55 05.4**	**+1.1**
CEDE	**Laguna Cedeo**	**2.62**	**322**	*eP*	**Pn**	**04 55 05.7**	**+1.0**
JTS	**Las Juntas de**	**2.64**	**315**	*i* P	**Pn**	**04 55 04.7**	**-0.2**
JTS				*i* S	**Sn**	**04 55 36.6**	**+0.6**
JTS	**Las Juntas de**	**2.64**	**315**	*eP*	**Pn**	**04 55 04.7**	**-0.2**
JTS	**Las Juntas de**	**2.64**	**315**	*eP*	**Pn**	**04 55 04.9**	**0.0**
JTS				*eS*	**Sn**	**04 55 36.5**	**+0.6**
TABAC	**Tabacon**	**2.67**	**321**	*eP*	**Pn**	**04 55 07.5**	**+2.1**
COTE	**Lago Cote**	**2.82**	**320**	*eP*	**Pn**	**04 55 08.5**	**+1.1**
AZU	**Azuero**	**2.83**	**102**	*eP*	**Pn**	**04 55 08.0**	**+0.5**
AZU				*eS*	**Sn**	**04 55 41.3**	**+0.6**
AZU				*i*		04 55 57.0	
	comp=Z,584nm,0.5s						
AZU	**Azuero**	**2.83**	**102**	*eP*	**Pn**	**04 55 07.8**	**+0.3**
DUNO	**Dulce Nombre,**	**2.91**	**305**	*eP*	**Pn**	**04 55 08.4**	**-0.3**
ACAL	**Aguas Claras**	**2.94**	**319**	i/eP	**Pn**	**04 55 10.2**	**+1.1**
SAAN	**San Antonio**	**2.94**	**307**	*eP*	**Pn**	**04 55 09.7**	**+0.6**
PTEN	**Parque Tenorio**	**2.97**	**320**	*eP*	**Pn**	**04 55 11.6**	**+2.1**
MOTZ	**Rio Naranjo**	**3.00**	**

comp=Z,0.4nm,0.6s

IDC ***21*** *05:00:24.8±2.4,6˙83S×109˙29E,h194km±41km,mb3.2/5, mbtmp3.7/5,Error ellipse: s-maj=92.2km s-min=15.7km az=50.0*

DJA ***21*** *05:00:25.8±0.6,7˚S±9˚×10˚9E±˚,h176km±7km,M3.2/12, MLv3.2/12*

ISC 21 05:00:24.4±0.8,7˚2S±0˙1×109˚12E±0˙06,h200km,n17, σ1§26/20,mb3.5/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
KPJI	**Karang Pucung**	**0.26 227**		P	**Pn**	**05 01 50.1**	**-0.7**
CMJI	**Cimerak**	**0.91 227**		P	**Pn**	**05 00 52.6**	**-1.0**
CMJI				S	**Sn**	**05 01 13.4**	**-2.9**
JCJI	**Jatiwangi**	**1.07 308**		P	**Pn**	**05 00 53.6**	**-1.1**
YOGI	**Yogyakarta**	**1.34 119**		P	**Pn**	**05 00 55.7**	**-1.1**
LEM	**Lembang**	**1.53 282**		P	**Pn**	**05 00 59.2**	**+0.7**
	85nm,0.6s,baz=59,slow=9.3,SNR=14						
LEM				S	**Sn**	**05 01 26.8**	**+1.8**
	63nm,0.9s,baz=332,slow=18,SNR=7.1						
UGM	**Wanagama**	**1.58 118**		P	**Pn**	**05 00 58.2**	**-0.7**
UWJI	**Ujung Watu**	**1.96 68**		P	**Pn**	**05 01 02.5**	**0.0**
CNJI	**Cibinong**	**1.98 266**		P	**Pn**	**05 01 02.3**	**-0.4**
NGJI	**Ngawi**	**2.33 95**		P	**Pn**	**05 01 06.0**	**-0.5**
CBJI	**Citeko**	**2.37 288**		P	**Pn**	**05 01 05.9**	**-1.0**
SKJI	**Sukabumi**	**2.55 273**		P	**Pn**	**05 01 09.3**	**+0.4**
PWJI	**Pagerwojo**	**2.80 108**		P	**Pn**	**05 01 11.0**	**-0.7**
WRA	**Warramunga Arr**	**27.56 120**		P	**P**	**05 05 53.9**	**+0.8**
	0.4nm,0.5s,baz=301,slow=9.2,SNR=8.8						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**28.90 127**		P	**P**	**05 06 06.5**	**+1.5**
	1.0nm,0.5s,baz=303,slow=8.4,SNR=20						
	1.0nm,0.5s						
STKA	**Stephens Creek**	**38.99 133**		P	**P**	**05 07 33.5**	**+1.9**
	0.8nm,0.3s,baz=307,slow=11,SNR=4.9						
	0.8nm,0.3s						
SONM	**Songino Array**	**54.81 358**		P	**P**	**05 09 33.2**	**-0.6**
	0.3nm,0.5s,baz=171,slow=8.9,SNR=2.5						
SONM				PcP	**PcP**	**05 10 32.6**	**-0.9**
	0.3nm,0.5s,baz=175,slow=5.4,SNR=2.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.77 339**		P	**P**	**05 10 00.6**	**-1.0**
	0.2nm,0.4s,baz=153,slow=7.5,SNR=4.6						
	0.2nm,0.4s						

MAN ***21*** *05:16:26.5,2˙43N×128˙28E,h65km,mb6.0,ML5.1,MS5.6*

IDC ***21*** *05:16:29.1±1.4,2˙94N×128˙17E,h30km±9km,mb5.1/45, mbtmp5.2/47,ML5.4/2,MS4.8/62,Error ellipse: s-maj=12.7km s-min=7.5km az=72.0*

MOS ***21*** *05:16:30.3±1.2,2˙89N×128˙13E,h52km,mb5.8/71, MS4.8/16,Error ellipse: s-maj=7.1km s-min=4.0km az=113.8*

NEIC ***21*** *05:16:31.8±2.1,2˙83N±0˙06×128˙21E±0˙06,h47km±5km, mb5.7/164,Ms_20 5.1/95,Mww5.6/22,Error ellipse: s-maj=9.9km s-min=7.9km az=57.0*

KLM ***21*** *05:16:31,2˙87N×128˙43E,h44km,mb5.9*

GCMT ***21*** *05:16:32.8±0.1,2˙99N±0˙01×128˙23E±0˙01,h33km, MW5.6/140,Moment Tensor Solution. s124,c221; s140,c237; Duration: 1§5 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.04±.04; Mθθ 1.79±.04; Mφφ-1.75±.04; Mrθ-0.56±.07; Mrφ-2.15±.03; Mθφ 0.87±.07; Best double couple: M₀2.96700×10¹⁷ NP1:φs341.00000°,δ87.00000°, λ20.00000°. NP2:φs250.00000°,δ70.00000°,λ177.00000°. Principal axes: T 3.0590, Plg16.0000°, Azm207.0000°; N -0.1840, Plg70.0000°, Azm350.0000°; P -2.8750, Plg11.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***21*** *05:16:34.1±0.2,3˚N±2˚×12˚8E±˚,h55km±2km,M5.6/117, mB6.0/91,mb5.8/117,MLv5.9/18,Mw(mB)5.7/91, MwMwp5.2/30,Mwp5.5/30*

NEIC ***21*** *05:16:35.3,2˙95N×128˙41E,h46km,Moment Tensor Solution. Duration: 3§3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.41; Mθθ2.02; Mφφ-1.61; Mrθ0.14; Mrφ-2.54; Mθφ0.70; Fault plane solution: M₀3.21000×10¹⁷ NP1: φs161.31000°,δ82.01000°,λ-12.50000°. NP2: φs253.08000°,δ77.63000°,λ-171.82000°. Principal axes: T 3.3348, Plg3.0000°, Azm208.0000°; N -0.2431, Plg75.0000°, Azm309.0000°; P -3.0916, Plg14.0000°, Azm117.0000°;*

ISC 21 05:16:33.4±0.2,2˙82N±0˙03×128˙21E±0˙03,h61km±1km, h62km:pP-P,n1354,σ1§61/1507,mb5.6/226,59C-26D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.20 203**		Pn	**Pn**	**05 17 06.8**	**-0.9**
TNTI	**Ternate**	**2.20 203**		P	**Pn**	**05 17 07.7**	**0.0**
TNTI	**Ternate**	**2.20 203**		P	**Pn**	**05 17 06.9**	**-0.8**
TNTI				S	**Sn**	**05 17 34.9**	**+1.0**
SGSI	**Sangihe**	**2.82 288**		P	**Pn**	**05 17 14.2**	**-1.8**
SGSI				S	**Sn**	**05 17 49.8**	**+1.0**
SWI	**Sorong**	**4.76 140**		P	**Pn**	**05 17 41.6**	**-1.1**
SIJI	**Sorong**	**4.77 140**		Pn	**Pn**	**05 17 41.6**	**-1.1**
	239nm,0.3s,baz=337,slow=9.4,SNR=412						
SIJI				Sn	**Sn**	**05 18 34.9**	**-1.9**
	106nm,0.3s,baz=107,slow=22,SNR=8.8						
	963nm,0.3s						
DAV	**Davao City (W)**	**4.97 328**		Pn	**Pn**	**05 17 43.8**	**-1.8**
	71nm,0.3s,baz=62,slow=2.4,SNR=18						
DAV	**Davao City (W)**	**4.97 328**			**Pn**	**05 17 45.2**	**-0.3**
DAV	**Davao City (W)**	**4.97 328**		P	**Pn**	**05 17 47.9**	**+2.3**
KCP	**Kidapawan**	**5.20 323**	↑	*iP*	**Pn**	**05 17 49.2**	**+0.5**
KCP				*i* S	**Sn**	**05 18 51.4**	**+4.0**
CDOP	**Cateel, Davao**	**5.24 340**	↓	*iP*	**Pn**	**05 17 47.8**	**-1.4**
CDOP				*i* S	**Sn**	**05 18 45.6**	**-2.7**
SANI	**Sanana**	**5.33 205**		P	**Pn**	**05 17 50.5**	**+0.1**
SANI	**Sanana**	**5.33 205**		P	**Pn**	**05 17 49.7**	**-0.7**
	1μm,0.9s,15μm24μm5.0nm						
GTOI	**Gorontalo**	**5.64 247**		P	**Pn**	**05 17 53.8**	**-0.8**
	671nm,0.7s,9μm2μm3.3nm						
BIPH	**Bislig**	**5.64 341**	↑	*eP*	**Pn**	**05 17 52.9**	**-1.8**
BIPH				*eS*	**Sn**	**05 18 58.3**	**+0.2**
CTBH	**Cotabato--PC H**	**5.89 318**	↓	*eP*	**Pn**	**05 17 58.0**	**-0.2**
CTBH				*i* S	**Sn**	**05 19 05.6**	**+1.2**
BUKP	**Musuan**	**5.92 328**	↑	*iP*	**Pn**	**05 17 58.9**	**+0.2**
BUKP				*i* S	**Sn**	**05 19 08.1**	**+2.9**
TASP	**Talacogon, Agu**	**6.08 337**	↑	*iP*	Pn	05 18 10.1	+9.3
TASP				*i* S	**Sn**	**05 19 14.2**	**+5.1**
NLAI	**Namlea**	**6.12 190**		P	**Pn**	**05 18 03.0**	**+1.7**
	691nm,0.7s,10μm2.2nm						
AAI	**Ambon**	**6.46 180**		P	**Pn**	**05 18 09.3**	**+3.3**
	902nm,0.9s,12μm11μm3.8nm						
CGP	**Cagayan de Oro**	**6.60 328**	↓	*eP*	**Pn**	**05 18 09.7**	**+1.8**
CGP				*eS*	**Sn**	**05 19 26.9**	**+5.1**
LUWI	**Luwuk**	**6.66 235**		Pn	**Pn**	**05 18 08.7**	**0.0**
LUWI	**Luwuk**	**6.66 235**		P	**Pn**	**05 18 10.8**	**+2.1**
LUWI	**Luwuk**	**6.66 235**		P	**Pn**	**05 18 10.2**	**+1.5**
	1μm,0.7s,19μm10μm22nm						
MRSI	**Marisa**	**6.69 250**		P	**Pn**	**05 18 10.2**	**+1.1**
	4μm,0.8s,36μm9μm13nm						
PAGZ	**Pagadian**	**6.93 316**	↑	*iP*	**Pn**	**05 18 11.3**	**-1.2**
PAGZ				*i* S	**Sn**	**05 19 32.7**	**+2.8**
FAKI	**Fak Fak**	**6.98 145**		Pn	**Pn**	**05 18 12.7**	**-0.4**
FAKI	**Fak Fak**	**6.98 145**		P	**Pn**	**05 18 13.5**	**+0.4**
FAKI	**Fak Fak**	**6.98 145**		P	**Pn**	**05 18 12.3**	**-0.8**
	1μm,1.1s,14μm15μm4.6nm						
RKPI	**Ransiki, Papua**	**7.35 126**		P	**Pn**	**05 18 20.8**	**+2.6**
	3μm,1.0s,25μm13μm9.5nm						
ZCP	**Zamboanga City**	**7.36 304**	↑	*eP*	**Pn**	**05 18 16.9**	**-1.3**
ZCP				*eS*	**Sn**	**05 19 38.1**	**-2.2**
SCPH	**Surigao**	**7.43 339**		*eP*	**Pn**	**05 18 20.4**	**+1.2**
SCPH				*eS*	**Sn**	**05 19 41.8**	**-0.2**
BNDI	**Bandanaira**	**7.49 167**		P	**Pn**	**05 18 24.3**	**+4.3**
BNDI	**Bandanaira**	**7.49 167**		P	**Pn**	**05 18 23.9**	**+3.9**
	2μm,0.9s,23μm10μm6.6nm						
DCPH	**Dipolog City**	**7.49 320**	↓	*iP*	**Pn**	**05 18 20.7**	**+0.6**
DCPH				*i* S	Sn	05 19 59.0	+15
DCPH	**Dipolog City**	**7.49 320**	↓	*iP*	**Pn**	**05 18 20.7**	**+0.6**
DCPH				*i* S	Sn	05 19 59.0	+15
TOLI2	**Tolitoli**	**7.62 257**		Pn	**Pn**	**05 18 19.3**	**-2.6**
TOLI2	**Tolitoli**	**7.62 257**		P	**Pn**	**05 18 20.8**	**-1.0**
GHBP	**Garcia Hernand**	**7.79 330**	↑	*iP*	**Pn**	**05 18 23.8**	**-0.4**
GHBP				*i* S	**Sn**	**05 19 56.8**	**+5.7**
I39PW	**PALAU INFRASON**	**7.86 53**		I	I	06 05 40.0	
	baz=231,slow=312,SNR=1.3						

MSLP	**Maasin**	**7.99 336**	↑	*eP*	**Pn**	**05 18 25.9**	**-1.1**
SNPH	**Sibulan**	**8.15 323**	↓	*eP*	**Pn**	**05 18 27.6**	**-1.6**
SNPH				*eS*	**sPb**	**05 19 10.9**	**+3.8**
TABP	**Talibon, Bohol**	**8.19 332**	↓	*iP*	**Pn**	**05 18 29.4**	**-0.2**
TABP				*i* S	**Sn**	**05 20 00.0**	**-0.7**
LLP	**Lapu-Lapu**	**8.56 331**	↓	*eP*	**Pn**	**05 18 37.8**	**+3.1**
LLP				*eS*	**Sn**	**05 20 13.6**	**+3.8**
MPSI	**Mapaga**	**8.67 254**		P	**Pn**	**05 18 36.1**	**-0.1**
	585nm,0.8s,6μm5μm1.8nm						
CNOP	**Candoni, Negro**	**8.89 322**	↑	*eP*	**Pn**	**05 18 37.9**	**-1.4**
CNOP				*eS*	**Sn**	**05 20 18.6**	**+0.5**
SRPI	**Serui, Papua**	**9.28 120**		P	**Pn**	**05 18 48.0**	**+3.4**
	1μm,1.4s,17μm7μm						
MYLDM	**Lahad Datu**	**9.97 284**		Pn	**Pn**	**05 18 53.5**	**-0.5**
RCP	**Roxas**	**10.24 328**	↓	*eP*	**Pn**	**05 18 57.5**	**-0.2**
SPSI	**Sidrap Palu**	**10.80 231**		P	**Pn**	**05 19 05.8**	**+0.4**
	524nm,0.7s,5μm						
SAUI	**Saumlaki**	**11.16 164**		Pn	**Pn**	**05 19 09.9**	**-0.4**
SAUI	**Saumlaki**	**11.16 164**		P	**Pn**	**05 19 12.2**	**+1.9**
SAUI	**Saumlaki**	**11.16 164**		P	**Pn**	**05 19 12.0**	**+1.7**
	586nm,1.2s						
BKSI	**Bulukumba**	**11.44 225**		P	**Pn**	**05 19 13.3**	**-0.7**
	291nm,0.6s,3μm8μm						
SMKI	**Samarinda**	**11.47 254**		P	**Pn**	**05 19 15.6**	**+1.1**
	830nm,0.8s,14μm						
KAPI	**Kappang**	**11.49 227**		Pn	**Pn**	**05 19 13.6**	**-1.2**
	15nm,0.3s,baz=27,slow=4.6,SNR=16						
	40nm,0.4s						
KAPI	**Kappang**	**11.49 227**		P	**Pn**	**05 19 15.2**	**+0.4**
SMPI	**Sarmi**	**11.53 114**		P	**Pn**	**05 19 18.6**	**+3.3**
	525nm,1.1s,7μm						
BSSI	**Bau Bau, Buton**	**11.78 221**		P	**Pn**	**05 19 19.3**	**+0.6**
	328nm,0.8s,4μm7μm						
SPMM	**Sapulut**	**11.87 279**		P	**Pn**	**05 19 21.0**	**+0.9**
BKB	**Balikpapan**	**12.02 250**			**Pn**	**05 19 20.2**	**-1.8**
BKB	**Balikpapan**	**12.02 250**		P	**Pn**	**05 19 22.9**	**+0.9**
BKB	**Balikpapan**	**12.02 250**		P	**Pn**	**05 19 23.3**	**+1.3**
	439nm,1.0s,4μm4μm						
KKM	**Kota Kinabalu**	**12.38 285**		Pn	**Pn**	**05 19 26.5**	**-0.6**
KKM	**Kota Kinabalu**	**12.38 285**		P	**Pn**	**05 19 28.9**	**+1.8**
JCNP	**Jose Panganiba**	**12.63 335**	↑	*eP*	**Pn**	**05 19 33.0**	**+2.7**
MMRI	**Maumere**	**12.85 208**		Pn	**Pn**	**05 19 33.0**	**-0.4**
MMRI	**Maumere**	**12.85 208**		P	**Pn**	**05 19 35.4**	**+2.1**
	604nm,0.9s,9μm8μm						
LQP	**Lukban**	**13.01 330**	↑	*eP*	**Pn**	**05 19 35.8**	**+0.1**
SOEI	**Soe**	**13.10 197**		Pn	**Pn**	**05 19 38.1**	**+1.3**
SOEI	**Soe**	**13.10 197**		P	**Pn**	**05 19 39.7**	**+2.9**
SOEI	**Soe**	**13.10 197**		P	**Pn**	**05 19 40.3**	**+3.5**
	966nm,1.0s,17μm11μm						
GENI	**Genyem**	**13.10 114**		P	**Pn**	**05 19 40.4**	**+3.6**
	2μm,1.1s						
GENI	**Genyem**	**13.10 114**		P	**Pn**	**05 19 40.2**	**+3.4**
	2μm,1.1s,22μm10μm						
LUBP	**Lubang**	**13.40 324**	↑	*eP*	**Pn**	**05 19 41.1**	**+0.3**
BATI	**Baumata**	**13.71 199**		Pn	**Pn**	**05 19 45.9**	**+0.9**
	23nm,0.3s,baz=169,slow=0.7,SNR=50						
BATI				LR	LR	05 26 06.0	
	comp=Z,6μm,20.1s,baz=17,slow=42						
BATI	**Baumata**	**13.71 199**		P	**Pn**	**05 19 47.6**	**+2.5**
	437nm,0.6s,10μm8μm						
MTKI	**Muara Teweh, K**	**13.83 255**		P	**Pn**	**05 19 45.8**	**-0.8**
	751nm,1.3s						
PCPH	**Palayan**	**14.47 331**	↓	*eP*	**P**	**05 20 02.1**	**+2.0**
BBKI	**Banjar Baru**	**14.75 245**		P	**Pn**	**05 19 57.9**	**-0.8**
	345nm,1.2s						
BASI	**Baing, Sumba**	**15.02 210**		P	**P**	**05 20 07.2**	**+0.9**
	953nm,0.9s,10μm7μm						
PLAI	**Plampang**	**15.56 222**		P	**P**	**05 20 12.6**	**+0.3**
PLAI	**Plampang**	**15.56 222**		P	**P**	**05 20 11.9**	**-0.4**
	1μm,1.0s,22μm6μm						
MTN	**Manton Dam**	**15.83 170**		P	**Pn**	**05 20 11.8**	**-0.8**
	baz=16,SNR=24						
MTN	**Manton Dam**	**15.83 170**		Pn	**Pn**	**05 20 10.8**	**-1.8**
MTN	**Manton Dam**	**15.83 170**		P	**Pn**	**05 20 12.7**	**+0.2**
KDU	**Kakadu**	**15.98 165**		P	**Pn**	**05 20 12.2**	**-2.2**
	baz=16,SNR=32						
KDU	**Kakadu**	**15.98 165**		P	**Pn**	**05 20 14.0**	**-0.4**
SBUM	**Sibu**	**15.98 269**		Pn	**Pn**	**05 20 13.8**	**-0.7**
SBUM				IAmb	IAmb	05 20 19.5	
	comp=Z,433nm,0.9s						
SBUM	**Sibu**	**15.98 269**		P	**Pn**	**05 20 15.0**	**+0.5**
APYP	**Conner**	**16.44 336**	↑	*eP*	**Pn**	**05 20 19.4**	**-0.8**
SRBI	**Singaraja**	**16.90 230**		P	**P**	**05 20 27.7**	**+0.6**
	comp=Z,834nm,1.0s,comp=Z,9μmcomp=Z,5μm						
IGBI	**Denpasar**	**17.42 228**		P	**P**	**05 20 36.3**	**+3.4**
	comp=Z,848nm,0.8s,comp=Z,13μm						
PBKI	**Pangkalan Bun**	**17.43 252**		P	**Pn**	**05 20 32.3**	**-0.2**
	comp=Z,274nm,1.1s						
ABJI	**Asem Bagus**	**17.48 233**		P	**P**	**05 20 33.9**	**+0.3**
	comp=Z,681nm,1.1s,comp=Z,8μm						
JAGI	**Jajag, Banyuwa**	**17.96 231**			**Pn**	**05 20 39.0**	**0.0**
JAGI				IAmb	IAmb	05 20 48.2	
	comp=Z,520nm,0.7s						
JAGI	**Jajag, Banyuwa**	**17.96 231**		P	**Pn**	**05 20 40.9**	**+1.9**
JAGI	**Jajag, Banyuwa**	**17.96 231**		P	**Pn**	**05 20 40.1**	**+1.1**
	comp=Z,967nm,1.0s,comp=Z,11μmcomp=Z,6μm						
BLJI	**Banyuglugur**	**17.97 234**		P	**Pn**	**05 20 40.5**	**+1.4**
	comp=Z,799nm,0.8s,comp=Z,9μmcomp=Z,4μm						
KNRA	**Kununurra**	**18.39 178**		P	**P**	**05 20 43.6**	**+0.1**
	baz=18,SNR=200						
KNRA	**Kununurra**	**18.39 178**		P	**P**	**05 20 43.1**	**-0.4**
KNRA				IAmb	IAmb	05 20 47.6	
	comp=Z,518nm,0.9s						
KNRA	**Kununurra**	**18.39 178**		P	**Pn**	**05 20 44.5**	**+0.4**
GMJI	**Gumukmas**	**18.40 233**		P	**Pn**	**05 20 45.8**	**+1.5**
	comp=Z,993nm,1.0s,comp=Z,9μm						
TBJI	**Tambak Boyo**	**18.94 240**		P	**Pn**	**05 20 51.6**	**+0.8**
	comp=Z,706nm,1.0s,comp=Z,7μm						
UWJI	**Ujung Watu**	**19.53 242**		P	**Pn**	**05 20 57.3**	**-0.6**
	comp=Z,419nm,1.3s,comp=Z,4μm						
NGJI	**Ngawi**	**19.54 239**		P	**Pn**	**05 20 58.5**	**+0.5**
	comp=Z,619nm,1.0s						
PWJI	**Pagerwojo**	**19.59 237**		P	**P**	**05 20 57.0**	**+0.2**
	comp=Z,558nm,1.0s,comp=Z,5μm						
GUMO	**Guam**	**19.63 56**		P	**Pn**	**05 20 58.5**	**-0.6**
	comp=Z,258nm,0.9s,baz=170,slow=5.7,SNR=6.8						
GUMO				LR	LR	05 27 13.1	
	comp=Z,7μm,21.3s,baz=238,slow=33						
GUMO	**Guam**	**19.63 56**		P	**P**	**05 20 58.1**	**+0.9**
GUMO				IAmb	IAmb	05 20 59.7	
	comp=Z,349nm,1.1s						
GUMO	**Guam**	**19.63 56**		P	**P**	**05 20 58.1**	**+0.9**
GUMO				pmax	pmax		
	comp=Z,349nm,1.1s						
MANU	**Manus Island**	**19.75 104**		P	**Pn**	**05 20 59.9**	**-0.5**
MANU				IAmb	IAmb	05 21 02.9	
	comp=Z,557nm,1.1s						
MANU	**Manus Island**	**19.75 104**		P	**Pn**	**05 21 01.9**	**+1.5**
SMRI	**Semarang**	**20.27 241**		P	**P**	**05 21 02.4**	**-1.8**
SMRI				IAmb	IAmb	05 21 15.0	
	comp=Z,461nm,1.0s						
SMRI	**Semarang**	**20.27 241**		P	**P**	**05 21 04.4**	**+0.3**
SMRI	**Semarang**	**20.27 241**		P	**P**	**05 21 05.0**	**+0.9**
	comp=Z,486nm,1.1s,comp=Z,6μm						
UGM	**Wanagama**	**20.62 239**		P	**P**	**05 21 07.6**	**-0.3**
UGM	**Wanagama**	**20.62 239**		P	**P**	**05 21 08.5**	**+0.6**
UGM	**Wanagama**	**20.62 239**		P	Pn	05 21 10.7	0.0
	comp=Z,634nm,1.4s,comp=Z,8μm						
YOGI	**Yogyakarta**	**20.77 239**		P	Pn	05 21 11.9	-0.6
	comp=Z,495nm,0.8s,comp=Z,6μm						
FITZ	**Fitzroy Crossi**	**20.94 187**		P	**P**	**05 21 10.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.94 187**		P	**P**	**05 21 10.8**	**-0.5**
TWGBT	**Beinan**	**21.05 341**		P	**P**	**05 21 14.8**	**+2.4**
TWG	**Pinlang**	**21.05 341**		P	**P**	**05 21 10.2**	**-2.3**
YULB	**Yu-li**	**21.52 342**		P	**P**	**05 21 15.2**	**-2.2**
YULB	**Yu-li**	**21.52 342**		P	**P**	**05 21 16.1**	**-1.4**
DLV	**T Lat**	**21.54 296**		P	**P**	**05 21 19.4**	**+1.4**
TPUB	**Ta-pu**	**21.64 341**		P	**P**	**05 21 17.3**	**-1.5**
TPUB				IAmb	IAmb	05 21 30.1	
	comp=Z,319nm,0.8s						
TPUB				IAMs_20	IAMs_20	05 31 14.8	
	comp=Z,4μm,20.0s						
TPUB	**Ta-pu**	**21.64 341**		P	**P**	**05 21 17.1**	**-1.7**
KPJI	**Karang Pucung**	**21.73 242**		P	**P**	**05 21 19.5**	**-0.3**
	comp=Z,681nm,0.9s,comp=Z,6μm						
JCJI	**Jatiwangi**	**21.95 245**		P	**P**	**05 21 26.7**	**+4.5**
	comp=Z,277nm,0.6s,comp=Z,7μm						
SSLB	**Suanglung**	**22.00 342**		P	**P**	**05 21 21.6**	**-1.0**
SSLB				IAmb	IAmb	05 21 42.2	
	comp=Z,339nm,0.9s						
SSLB	**Suanglung**	**22.00 342**		P	**P**	**05 21 22.5**	**-0.1**
YOJ	**Yonaguni jima**	**22.09 347**		P	**P**	**05 21 25.0**	**+1.4**
NACB	**Ninganchiao**	**22.17 344**		P	**P**	**05 21 23.1**	**-1.4**
NACB	**Ninganchiao**	**22.17 344**		P	**P**	**05 21 26.1**	**+1.7**
COEN	**Coen**	**22.32 139**		P	**P**	**05 21 25.5**	**-0.6**
COEN				IAmb	IAmb	05 21 44.5	
	comp=Z,425nm,1.6s						
COEN	**Coen**	**22.32 139**		P	**P**	**05 21 27.1**	**+1.0**
CMJI	**Cimerak**	**22.36 242**		P	**P**	**05 21 27.9**	**+1.3**
	comp=Z,310nm,0.9s,comp=Z,3μm						
PMG	**Port Moresby**	**22.45 123**		P	**P**	**05 21 26.9**	**-0.7**
	comp=Z,96nm,0.9s,baz=350,slow=5.2,SNR=20						
PMG				LR	LR	05 30 14.4	
	comp=Z,1μm,21.6s,baz=301,slow=37						
	comp=Z,96nm,0.9s						
PMG	**Port Moresby**	**22.45 123**		P	**P**	**05 21 25.9**	**-1.7**
PMG				IAmb	IAmb	05 21 37.6	
	comp=Z,397nm,1.1s						
PMG	**Port Moresby**	**22.45 123**		P	**P**	**05 21 28.1**	**+0.6**
PMG	**Port Moresby**	**22.45 123**		P	**P**	**05 21 28.2**	**+0.7**
PMG	**Port Moresby**	**22.45 123**	*ce*	P	**P**	**05 21 28.2**	**+0.7**
PMG				pmax	pmax		
	comp=Z,214nm,1.7s						
PPBI	**Pangkal Pinang**	**22.62 258**		P	**P**	**05 21 30.7**	**+1.3**
	comp=Z,84nm,0.6s,comp=Z,10μm						
LEM	**Lembang**	**22.68 245**		P	**P**	**05 21 32.9**	**+2.6**
	comp=Z,466nm,1.1s,baz=65,slow=9.0,SNR=30						
LEM				LR	LR	05 32 50.8	
	comp=Z,1μm,18.7s,baz=74,slow=43						
YHNB	**Yeheng**	**22.70 344**		P	**P**	**05 21 28.5**	**-1.7**
YHNB	**Yeheng**	**22.70 344**		P	**P**	**05 21 30.2**	**0.0**
BBJI	**Bungbulang**	**22.92 243**		P	**P**	**05 21 32.9**	**+0.3**
TATO	**Taipei**	**22.96 344**		P	**P**	**05 21 32.3**	**-0.4**
TATO				IAmb	IAmb	05 21 52.6	
	comp=Z,388nm,1.4s						
CBJI	**Citeko**	**23.22 247**		P	**P**	**05 21 38.2**	**+2.7**
	comp=Z,610nm,1.1s						
WB0	**Warramunga Arr**	**23.25 165**		P	**P**	**05 21 33.5**	**-2.2**
TNG	**Tangerang**	**23.32 247**		P	**P**	**05 21 39.3**	**+2.9**
	comp=Z,691nm,0.6s,comp=Z,15μm						
CNJI	**Cibinong**	**23.32 244**		P	**P**	**05 21 36.5**	**+0.1**
	comp=Z,280nm,1.0s,comp=Z,2μm						
WRAB	**Tennant Creek**	**23.40 165**		P	**P**	**05 21 35.2**	**-1.9**
WRAB				IAmb	IAmb	05 21 47.3	
	comp=Z,367nm,0.9s						
WRAB	**Tennant Creek**	**23.40 165**		P	**P**	**05 21 35.8**	**-1.3**
WRAB	**Tennant Creek**	**23.40 165**	*ce*	P	**P**	**05 21 35.5**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,403nm,1.0s						
WRA	**Warramunga Arr**	**23.41 165**		P	**P**	**05 21 35.1**	**-2.1**
	comp=Z,20nm,0.6s,baz=347,slow=10.0,SNR=152						
WRA				S	**S**	**05 25 44.3**	**-1.6**
	comp=Z,7.9nm,0.9s,baz=345,slow=16,SNR=2.5						
WRA				ScP	**ScP**	**05 28 55.7**	**+0.5**
	comp=Z,5.4nm,0.7s,baz=345,slow=2.9,SNR=5.5						
WRA				LR	LR	05 32 14.1	
	comp=Z,3μm,21.9s,baz=336,slow=40						
WRA	**Warramunga Arr**	**23.41 165**		P	**P**	**05 21 35.5**	**-1.7**
WB2	**Warramunga Arr**	**23.41 165**		P	**P**	**05 21 35.1**	**-2.1**
WB1	**Warramunga Ar.**	**23.43 165**		P	**P**	**05 21 35.7**	**-1.6**
WR0	**Warramunga Arr**	**23.48 165**		P	**P**	**05 21 35.6**	**-2.1**
WR0				IAmb	IAmb	05 22 05.8	
	comp=Z,341nm,0.8s						
KNMB	**Chin-men Tao**	**23.52 337**		P	**P**	**05 21 36.4**	**-1.7**
KNMB				IAmb	IAmb	05 22 00.3	
	comp=Z,585nm,1.3s						
HKPS	**Hong Kong Po S**	**23.68 326**		P	**P**	**05 21 40.4**	**+0.8**
HKPS				IAmb	IAmb	05 21 41.8	
	comp=Z,524nm,1.6s						
HKPS	**Hong Kong Po S**	**23.68 326**		P	**P**	**05 21 41.0**	**+1.3**
SKJI	**Sukabumi**	**23.72 246**		P	**P**	**05 21 44.4**	**+4.3**
	comp=Z,233nm,0.9s						
TPRI	**Tanjung Pinang**	**23.75 266**		P	**P**	**05 21 42.2**	**+1.8**
	comp=Z,319nm,1.1s						
SBJI	**Serang**	**23.77 248**		P	**P**	**

comp=Z,147nm,1.0s
WRKA Warakurna 27.69 180 P **P** **05 22 14.0 -1.9**
baz=28,SNR=134
WRKA Warakurna 27.69 180 P **P** **05 22 15.4 -0.5**
PDSI Padang 27.99 263 P **P** **05 22 19.0 +0.2**
comp=Z,75nm,1.0s,comp=Z,1μm
TV1H Townsville Har 28.55 141 P **P** **05 22 24.6 +1.0**
MNSI Mandalilng Nat 28.69 267 P **P** **05 22 27.5 +2.6**
comp=Z,89nm,0.9s,comp=Z,2μm
PPSI Pulau Pagai 28.73 259 P **P** **05 22 27.6 +2.3**
comp=Z,183nm,1.1s,comp=Z,3μm
GIRL Giralia 28.75 208 P **P** **05 22 25.7 +0.4**
baz=29,SNR=14
GIRL Giralia 28.75 208 P **P** **05 22 25.8 +0.4**
GIRL Giralia 28.75 208 P **P** **05 22 27.1 +1.7**
CTA Charters Tower 28.84 143 P **P** **05 22 26.5 +0.3**
comp=Z,34nm,1.0s,baz=327,slow=9.4,SNR=17
CTA LR LR 05 36 06.7
comp=Z,3μm,18.0s,baz=313,slow=41
comp=Z,34nm,1.0s
CTA Charters Tower 28.84 143 P **P** **05 22 27.1 +0.9**
CTAO Charters Tower 28.84 143 P **P** **05 22 24.9 -1.3**
CTAO Charters Tower 28.84 143 IAms_20 IAms_20 05 35 05.9
comp=Z,4μm,22.0s
CTAO Charters Tower 28.84 143 P **P** **05 22 27.2 +1.0**
CTAO Charters Tower 28.84 143 P **P** **05 22 24.9 -1.3**
CTAO pmax pmax
comp=Z,83nm,1.1s
CTAO MLR MLR
comp=Z,4μm,22.0s
NONG Nongkai 28.87 303 P **P** **05 22 27.2 +0.7**
SSE Sheshan 28.90 347 P **P** **05 22 27.6 +1.1**
SSE pP **pP** **05 22 40.8 +0.2**
SSE S **S** **05 27 13.4 +0.7**
SSE pmax pmax
comp=Z,10.0nm,0.9s
SSE pmax pmax
comp=Z,140nm,4.8s
SSE LR LR
comp=Z,520nm,19.6s
NAYO Nakonayok 28.90 295 P **P** **05 22 29.1 +2.3**
SRIT Nakonsritamara 29.03 283 P **P** **05 22 27.3 -0.7**
SRIT Nakonsritamara 29.03 283 P **P** **05 22 29.5 +1.5**
SURA Surathani 29.10 284 P **P** **05 22 30.1 +1.5**
CNSH ChangSha 29.13 331 ⇓P **P** **05 22 30.5 +1.8**
CNSH S **S** **05 27 18.8 +2.3**
CNSH LR LR
comp=Z,2μm,28.0s
CNSH LR LR
comp=Z,2μm,29.2s
CNSH LR LR
comp=Z,2μm,24.1s
PSI Prapat 29.25 271 P **P** **05 22 27.5 -2.6**
comp=Z,87nm,1.1s,baz=97,slow=2.3,SNR=30
PSI LR LR 05 35 39.4
comp=Z,1μm,21.8s,baz=109,slow=39
comp=Z,87nm,1.1s
PSI Prapat 29.25 271 P **P** **05 22 30.6 +0.5**
PSI Prapat 29.25 271 P **P** **05 22 27.5 -2.6**
PSI pmax pmax
comp=Z,272nm,1.3s
PSI MLR MLR
comp=Z,1μm,22.0s
RPSI Rantau Prapat 29.26 270 P **P** **05 22 29.7 -0.3**
RPSI IAmb IAmb 05 22 44.6
comp=Z,272nm,1.3s
RPSI Rantau Prapat 29.26 270 P **P** **05 22 27.5 -2.5**
PBSI Pulau Batu 30.06 265 P **P** **05 22 38.2 +1.1**
comp=Z,141nm,1.2s
JNU Nakatsue 30.25 4 P **P** **05 22 37.1 -1.5**
comp=Z,65nm,0.9s,baz=155,slow=4.1,SNR=21
JNU LR LR 05 34 09.3
comp=Z,3μm,20.9s,baz=185,slow=35
comp=Z,65nm,0.9s
JNU Nakatsue 30.25 4 P **P** **05 22 37.3 -1.2**
JNU Nakatsue 30.25 4 P **P** **05 22 39.0 +0.5**
NJ2 Nanjing 30.38 344 *e*P **P** **05 22 41.8 +2.1**
NJ2 pP **pP** **05 22 53.3 -0.4**
NJ2 sP **sP** **05 23 04.4 +3.8**
NJ2 pmax pmax
comp=Z,21nm,0.7s
NJ2 LR LR
comp=Z,1μm,15.0s
NJ2 LR LR
comp=Z,780nm,11.8s
NJ2 LR LR
comp=Z,2μm,19.1s
KCSI Kotacane, Aceh 30.40 272 P **P** **05 22 40.4 +0.2**
comp=Z,117nm,1.3s,comp=Z,1μm
WHN Wuhan 30.54 336 ⇑P **P** **05 22 43.1 +2.0**
WHN pP **pP** **05 22 56.1 +0.8**
WHN sP **sP** **05 23 06.0 +3.8**
WHN pmax pmax
comp=Z,240nm,0.8s
WHN LR LR
comp=Z,6μm,17.0s
GSI Gunungsitoli 30.66 268 P **P** **05 22 41.4 -1.0**
GSI Gunungsitoli 30.66 268 P **P** **05 22 41.8 -0.6**
GSI Gunungsitoli 30.66 268 P **P** **05 22 42.2 -0.2**
comp=Z,252nm,1.0s,comp=Z,3μm
MEEK Meekatharra 30.72 197 P **P** **05 22 42.4 -0.4**
baz=31,SNR=43
MEEK Meekatharra 30.72 197 P **P** **05 22 42.6 -0.2**
JMN Monobe 31.20 9 P **P** **05 22 45.7 -1.2**
JMN IAmb IAmb 05 23 56.2
comp=Z,188nm,1.5s
JMN Monobe 31.20 9 P **P** **05 22 47.8 +0.8**
OOD Oodnadatta 31.28 167 P **P** **05 22 47.7 +0.1**
LHMI Lhok Sumawe 31.28 275 P **P** **05 22 48.3 +0.4**
LHMI Lhok Sumawe 31.28 275 P **P** **05 22 48.6 +0.7**
comp=Z,206nm,1.1s
GYA Guiyang 31.30 321 ⇑*i*P **P** **05 22 50.5 +2.5**
GYA pP pP 05 23 02.0 -0.3
GYA S **S** **05 27 53.4 +2.6**
GYA ScP **ScP** **05 29 21.9 +2.8**
GYA pmax pmax
comp=Z,54nm,1.5s
GYA pmax pmax
comp=Z,630nm,5.3s
GYA LR LR
comp=Z,1μm,21.5s
GYA LR LR
comp=Z,1μm,21.7s
GYA LR LR
comp=Z,2μm,22.6s
PHRA Phrae 31.52 302 P **P** **05 22 49.0 -0.9**
MLSI Meulaboh, Aceh 31.78 274 P **P** **05 22 52.7 +0.4**
comp=Z,123nm,0.9s
SNSI Sinabang, Aceh 31.86 270 P **P** **05 22 55.1 +2.2**
comp=Z,169nm,1.2s
JHJ Hachijo jima 2 32.03 19 LR LR 05 35 35.3
comp=Z,4μm,19.5s,baz=206,slow=36
CRAI Chiangrai 32.20 305 P **P** **05 22 55.1 -0.8**
CRAI IAmb IAmb 05 23 11.8
comp=Z,83nm,0.9s
JHS Saijyo 32.34 8 P **P** **05 22 56.4 -0.5**
JHS Saijyo 32.34 8 P **P** **05 22 58.5 +1.6**
ENH Enshi 32.56 329 P **P** **05 22 57.8 -1.2**
ENH IAmb IAmb 05 23 04.2
comp=Z,134nm,0.9s
ENH IAMs_20 IAMs_20 05 38 19.7
comp=Z,2μm,18.0s
ENH Enshi 32.56 329 P **P** **05 23 00.0 +1.1**
ENH Enshi 32.56 329 P **P** **05 22 59.8 +0.9**
ENH PcP **PcP** **05 25 47.2 +2.8**
CM31 Chiang Mai Arr 32.61 301 P **P** **05 22 59.2 -0.2**
CM31 IAmb IAmb 05 23 15.5
comp=Z,80nm,0.9s
CMAR Chiang Mai Arr 32.61 301 P **P** **05 22 58.8 -0.7**
comp=Z,22nm,0.8s,baz=116,slow=7.0,SNR=50
CMAR ScP **ScP** **05 29 26.4 +2.8**
comp=Z,3.8nm,0.8s,baz=152,slow=1.7,SNR=5.5
CMAR LR LR 05 37 48.9
comp=Z,633nm,19.1s,baz=115,slow=39
comp=Z,22nm,0.8s
CMAR Chiang Mai Arr 32.61 301 P **P** **05 22 59.2 -0.3**
INKA Innaminka 32.70 159 P **P** **05 23 00.4 +0.3**
CHTO Chiang Mai 32.76 301 P **P** **05 22 59.9 -0.9**
CHTO IAmb IAmb 05 23 16.6
comp=Z,84nm,0.8s
CHTO Chiang Mai 32.76 301 P **P** **05 22 59.9 -0.9**
CHTO pmax pmax
comp=Z,84nm,0.9s
CHTO MLR MLR
comp=Z,800nm,21.0s
KMI Kunming 33.07 314 ⇓P **P** **05 23 05.6 +1.9**

KMI pP pP 05 23 15.6 -2.4
KMI sP sP 05 23 24.3 -0.3
KMI PP **PnPn** **05 24 15.3 +0.2**
KMI S **S** **05 28 22.1 +3.5**
KMI pmax pmax
comp=Z,140nm,1.0s
KMI pmax pmax
comp=Z,820nm,4.3s
KMI LR LR
comp=Z,890nm,20.2s
KMI LR LR
comp=Z,1μm,24.4s
KMI LR LR
comp=Z,2μm,24.7s
KMI Kunming 33.07 314 P **P** **05 23 05.8 +2.1**
KMI pP **pP** **05 23 15.9 -2.1**
QLP Quilpie 33.08 153 P **P** **05 23 03.7 +0.2**
baz=33,SNR=3.9
QLP Quilpie 33.08 153 P **P** **05 23 02.9 -0.6**
INU Inuyama 33.38 13 IAMs_20 IAMs_20 05 36 51.4
comp=Z,5μm,20.0s
INU Inuyama 33.38 13 P **P** **05 23 05.2 -0.8**
INU Inuyama 33.38 13 P **P** **05 23 05.9 0.0**
INU sP **pP** **05 23 21.6 +1.5**
INU ScP **ScP** **05 29 28.1 +2.2**
MULG Mulgathing 33.39 171 P **P** **05 23 06.3 +0.2**
TJN Taejon 33.40 359 P **P** **05 23 06.2 +0.1**
TJN Taejon 33.40 359 *ce*P **P** **05 23 05.3 -0.8**
FORT Forrest 33.41 180 P **P** **05 23 05.7 -0.6**
baz=34,SNR=62
FORT Forrest 33.41 180 P **P** **05 23 05.9 -0.4**
FORT Forrest 33.41 180 P **P** **05 23 05.9 -0.4**
JGF Kuroka 33.70 13 P **P** **05 23 08.7 -0.1**
MORW Morawa 33.79 199 P **P** **05 23 08.5 -1.1**
baz=34,SNR=48
MORW Morawa 33.79 199 P **P** **05 23 09.5 -0.1**
MORW IAmb IAmb 05 23 10.7
comp=Z,74nm,0.8s
MORW Morawa 33.79 199 P **P** **05 23 08.8 -0.8**
HNR Honiara 33.88 111 LR LR 05 36 36.4
comp=Z,10μm,20.5s,baz=303,slow=36
RK1H Rockhampton Ha 33.91 141 P **P** **05 23 11.7 +1.0**
LCRK Leigh Creek 34.43 165 P **P** **05 23 14.4 -0.8**
KSAR Wonju Array Be 34.46 360 P **P** **05 23 13.7 -1.6**
KSAR Wonju Array Be 34.46 360 P **P** **05 23 13.7 -1.6**
KSRS Korea Array 34.47 360 P **P** **05 23 13.3 -2.0**
comp=Z,36nm,0.8s,baz=176,slow=9.3,SNR=52
KSRS PcP **PcP** **05 25 50.5 +1.0**
comp=Z,7.4nm,0.9s,baz=174,slow=2.5,SNR=5.6
KSRS ScP **ScP** **05 29 31.0 +1.4**
comp=Z,4.4nm,0.8s,baz=184,slow=3.9,SNR=7.0
KSRS LR LR 05 36 49.6
comp=Z,3μm,21.7s,baz=180,slow=36
comp=Z,36nm,0.8s
KS19 Wonju Array Si 34.52 360 P **P** **05 23 13.9 -1.9**
INCN Inchon 34.53 358 IAMs_20 IAMs_20 05 37 01.3
comp=Z,3μm,21.0s
INCN Inchon 34.53 358 P **P** **05 23 17.6 +1.7**
KMBL Kambalda 34.53 190 P **P** **05 23 15.1 -0.9**
baz=35,SNR=12
KMBL Kambalda 34.53 190 P **P** **05 23 15.2 -0.8**
COCO West Island 34.56 244 P **P** **05 23 15.4 -1.1**
COCO West Island 34.56 244 P **P** **05 23 15.4 -1.1**
COCO pmax pmax
comp=Z,287nm,1.0s
PZH PanZhiHua 34.62 315 P **P** **05 23 18.0 +0.9**
PZH pP **pwP** **05 23 33.6 -1.7**
PZH sP **sP** **05 23 39.0 +0.7**
PZH S **S** **05 28 43.4 +0.9**
PZH ScS **ScS** **05 33 34.4 +0.4**
PZH pmax pmax
comp=Z,70nm,1.6s
PZH pmax pmax
comp=Z,540nm,3.7s
PZH LR LR
comp=Z,3μm,21.8s
PZH LR LR
comp=Z,4μm,21.0s
PZH LR LR
comp=Z,5μm,20.6s
GD1S Gladstone Soft 34.66 141 P **P** **05 23 19.9 +2.7**
TIA Tai'an 34.77 344 P **P** **05 23 17.6 -0.4**
TIA PcP **PcP** **05 25 49.4 -1.1**
TIA S **S** **05 28 42.6 -1.6**
TIA ScP **ScP** **05 29 34.3 +3.5**
TIA pmax pmax
comp=Z,41nm,0.8s
TIA pmax pmax
comp=Z,57nm,3.5s
TIA LR LR
comp=Z,530nm,18.7s
TIA LR LR
comp=Z,2μm,25.2s
TIA LR LR
comp=Z,2μm,20.8s
MJAR Matsushiro Arr 34.80 14 P **P** **05 23 15.1 -3.3**
comp=Z,22nm,0.7s,baz=184,slow=8.9,SNR=34
MJAR ScP **ScP** **05 29 32.9 +1.9**
comp=Z,4.7nm,0.8s,baz=184,slow=4.1,SNR=4.4
MJAR LR LR 05 35 36.7
comp=Z,5μm,21.3s,baz=201,slow=33
comp=Z,22nm,0.7s
MAJO Matsushiro 34.80 14 P **P** **05 23 17.1 -1.1**
MAJO IAmb IAmb 05 23 34.3
comp=Z,75nm,0.9s
MAJO Matsushiro 34.80 14 IAMs_20 IAMs_20 05 35 03.0
comp=Z,6μm,22.0s
MAJO Matsushiro 34.80 14 P **P** **05 23 16.5 -1.8**
MAJO Matsushiro 34.80 14 P **P** **05 23 17.2 -1.1**
MAJO pmax pmax
comp=Z,75nm,0.9s
MAJO Matsushiro 34.80 14 P **P** **05 23 16.6 -1.8**
MAJO sP **pP** **05 23 32.8 +0.3**
MAJO PcP **PcP** **05 25 50.8 +0.2**
MAJO ScP **ScP** **05 29 33.5 +2.6**
MJB9 Matsu-Tunnel 34.80 14 P **P** **05 23 17.7 -0.7**
MJB9 IAmb IAmb 05 23 35.3
comp=Z,73nm,0.9s
LYN LuoYang 34.81 337 ⇑*i*P **P** **05 23 19.5 +1.1**
LYN sP sP 05 23 41.8 +2.4
LYN PP **PP** **05 24 38.3 -0.1**
LYN S **S** **05 28 47.8 +3.0**
LYN SS **SnSn** **05 31 04.0 0.0**
LYN pmax pmax
comp=Z,20nm,1.5s
LYN pmax pmax
comp=Z,440nm,3.9s
LYN LR LR
comp=Z,960nm,21.4s
LYN LR LR
comp=Z,3μm,27.1s
LYN LR LR
comp=Z,1μm,22.6s
BLDU Ballidu 35.02 197 P **P** **05 23 19.0 -1.2**
baz=35,SNR=49
BLDU Ballidu 35.02 197 P **P** **05 23 19.3 -0.9**
RMQ Roma 35.26 147 P **P** **05 23 22.0 -0.4**
baz=35,SNR=6.9
RMQ Roma 35.26 147 P **P** **05 23 22.2 -0.2**
KLBR Kellerberrin 35.64 195 P **P** **05 23 24.4 -1.2**
baz=36,SNR=80
KLBR Kellerberrin 35.64 195 P **P** **05 23 24.3 -1.2**
EIDS Eidsvold 35.73 143 P **P** **05 23 25.9 -0.5**
baz=36,SNR=24
EIDS Eidsvold 35.73 143 P **P** **05 23 25.9 -0.5**
EIDS IAmb IAmb 05 23 29.5
comp=Z,69nm,1.0s
EIDS Eidsvold 35.73 143 P **P** **05 23 27.1 +0.7**
XAN Xi'an 35.90 332 ⇑P **P** **05 23 25.8 -2.0**
XAN pP pP 05 23 41.8 -0.3
XAN sP sP 05 23 49.8 +0.9
XAN PP **PnPn** **05 24 48.8 -1.2**
XAN S **S** **05 28 59.0 -2.7**
XAN sS sS 05 29 25.5 -0.8
XAN SS **SnSn** **05 31 24.8 -5.7**
XAN ScS **ScS** **05 33 35.5 -5.0**
XAN pmax pmax
comp=Z,220nm,1.0s
XAN pmax pmax
comp=Z,600nm,3.8s
XAN LR LR
comp=Z,1μm,19.1s
XAN LR LR
comp=Z,1μm,18.0s
XAN LR LR

comp=Z,2μm,18.9s
XAN Xi'an 35.90 332 P **P** **05 23 26.1 -1.7**
XAN sP **pP** **05 23 42.6 +0.5**
XAN ScP **ScP** **05 29 37.5 +2.5**
TNCH TengChong 36.13 310 P **P** **05 23 29.8 -0.3**
TNCH pP pP 05 23 45.0 +0.6
TNCH sP sP 05 23 51.9 +0.8
TNCH PP **PnPn** **05 24 50.6 -2.5**
TNCH S **S** **05 29 06.5 +0.8**
TNCH sS sS 05 29 29.3 -1.1
TNCH pmax pmax
comp=Z,120nm,1.5s
TNCH pmax pmax
comp=Z,660nm,2.9s
TNCH LR LR
comp=Z,710nm,19.1s
TNCH LR LR
comp=Z,550nm,21.6s
TNCH LR LR
comp=Z,1μm,24.5s
BBOO Buckleboo 36.21 169 P **P** **05 23 28.6 -1.8**
baz=36,SNR=127
BBOO Buckleboo 36.21 169 P **P** **05 23 28.7 -1.7**
BBOO IAmb IAmb 05 23 31.6
comp=Z,56nm,0.7s
BBOO Buckleboo 36.21 169 P **P** **05 23 29.2 -1.2**
JSD Sado 36.24 13 P **P** **05 23 30.2 -0.4**
CD2 Chengdu 36.25 323 P **P** **05 23 31.8 +0.9**
CD2 PP **PP** **05 24 55.3 +0.9**
CD2 S **S** **05 29 08.6 +1.4**
CD2 pmax pmax
comp=Z,140nm,1.1s
CD2 pmax pmax
comp=Z,500nm,5.3s
CD2 LR LR
comp=Z,650nm,16.7s
CD2 LR LR
comp=Z,470nm,9.2s
CD2 LR LR
comp=Z,2μm,19.6s
DL2 Dalian 36.42 351 P **P** **05 23 35.8 +3.7**
DL2 pmax pmax
comp=Z,68nm,1.1s
DL2 LR LR
comp=Z,880nm,18.4s
DL2 LR LR
comp=Z,2μm,20.8s
DL2 LR LR
comp=Z,2μm,15.9s
MUN Mundaring 36.44 197 P **P** **05 23 31.3 -1.1**
baz=37,SNR=20
MUN Mundaring 36.44 197 P **P** **05 23 31.4 -1.0**
HNS HongShan 36.58 342 ⇑P **P** **05 23 33.5 0.0**
HNS S **S** **05 29 12.0 +0.1**
HNS pmax pmax
comp=Z,43nm,0.7s
HNS LR LR
comp=Z,1μm,19.0s
HNS LR LR
comp=Z,1μm,18.0s
JMM Marumori 36.74 17 P **P** **05 23 35.2 +0.3**
JMM Marumori 36.74 17 P **P** **05 23 35.9 +1.1**
WHYH Whyalla 36.74 167 P **P** **05 23 33.8 -1.1**
STKA Stephens Creek 36.77 161 P **P** **05 23 34.1 -1.1**
comp=Z,53nm,0.3s,baz=340,slow=8.1,SNR=88
STKA S **S** **05 29 14.9 -0.1**
comp=Z,5.8nm,1.0s,baz=252,slow=22,SNR=1.7
STKA ScP **ScP** **05 29 40.9 +2.7**
comp=Z,22nm,1.0s,baz=82,slow=10,SNR=3.5
STKA LR LR 05 39 44.9
comp=Z,2μm,21.0s,baz=328,slow=38
comp=Z,53nm,0.3s
STKA Stephens Creek 36.77 161 P **P** **05 23 33.6 -1.6**
baz=37,SNR=70
STKA Stephens Creek 36.77 161 P **P** **05 23 35.4 +0.1**
STKA Stephens Creek 36.77 161 P **P** **05 23 35.0 -0.2**
STKA Stephens Creek 36.77 161 *i*P **P** **05 23 35.8 +0.6**
NWAO Narrogin (SRO) 37.04 195 P **P** **05 23 36.7 -0.8**
comp=Z,98nm,0.8s
NWAO LR LR 05 40 27.7
comp=Z,1μm,20.3s,slow=39
comp=Z,98nm,0.8s
NWAO Narrogin (SRO) 37.04 195 P **P** **05 23 36.7 -0.8**
baz=37,SNR=40
NWAO P **P** **05 23 36.7 -0.8**
baz=37,SNR=40
NWAO Narrogin (SRO) 37.04 195 P **P** **05 23 36.5 -0.9**
NWAO IAmb IAmb 05 23 38.9
comp=Z,175nm,1.1s
NWAO Narrogin (SRO) 37.04 195 P **P** **05 23 37.0 -0.5**
NWAO Narrogin (SRO) 37.04 195 P **P** **05 23 36.5 -0.9**
NWAO PcP **PcP** **05 25 59.6 +2.4**
NWAO ScP **ScP** **05 29 40.6 +1.5**
AULRC Lightning Ridg 37.24 151 P **P** **05 23 39.2 0.0**
HTT Hallett 37.45 165 P **P** **05 23 41.2 +0.3**
baz=38,SNR=50
HTT Hallett 37.45 165 P **P** **05 23 41.3 +0.3**
TIY Taiyuan 37.62 339 *e*P **P** **05 23 44.4 +1.9**
TIY S **S** **05 29 31.3 +3.4**
TIY SS **SnSn** **05 32 01.1 -11**
TIY pmax pmax
comp=Z,28nm,0.5s
TIY pmax pmax
comp=Z,260nm,5.7s
TIY LR LR
comp=Z,990nm,23.4s
TIY LR LR
comp=Z,2μm,24.7s
TIY LR LR
comp=Z,2μm,22.7s
CMSA Cobar Meteorol 38.00 155 P **P** **05 23 45.6 0.0**
baz=38,SNR=19
CMSA Cobar Meteorol 38.00 155 P **P** **05 23 45.7 +0.1**
AUWSH Wavell State H 38.41 143 P **P** **05 23 50.2 +1.1**
BJT Baijiatuan 38.61 345 P **P** **05 23 49.3 -1.3**
BJT IAmb IAmb 05 24 11.7
comp=Z,164nm,1.0s
BJT Baijiatuan 38.61 345 P **P** **05 23 51.1 +0.5**
BJT Baijiatuan 38.61 345 P **P** **05 23 49.3 -1.3**
BJT pmax pmax
comp=Z,164nm,1.0s
BJT MLR MLR
comp=Z,1μm,20.0s
BJT Baijiatuan 38.61 345 P **P** **05 23 50.5 -0.1**
BJT sP **pP** **05 24 07.1 +2.3**
BJT ScP **ScP** **05 29 48.5 +3.6**
BJI Beijing 38.62 345 P **P** **05 23 52.8 +2.1**
BJI sP **sP** **05 24 15.3 +3.6**
BJI S **S** **05 29 44.5 +1.8**
BJI SS **SS** **05 32 25.8 -9.4**
BJI pmax pmax
comp=Z,19nm,1.0s
BJI LR LR
comp=Z,460nm,18.5s
BJI LR LR
comp=Z,350nm,19.9s
BJI LR LR
comp=Z,740nm,18.8s
RKGY Rocky Gully 38.70 195 P **P** **05 23 51.7 +0.2**
baz=39,SNR=34
RKGY Rocky Gully 38.70 195 P **P** **05 23 52.0 +0.5**
AUALB St Joseph's Co 38.85 194 P **P** **05 23 54.2 +1.6**
SNY Shenyang 39.06 354 ⇓P **P** **05 23 55.8 +1.5**
SNY pmax pmax
comp=Z,31nm,1.0s
SNY pmax pmax
comp=Z,510nm,3.5s
SNY LR LR
comp=Z,2μm,16.9s
SNY LR LR
comp=Z,940nm,16.7s
SNY LR LR
comp=Z,3μm,23.0s
JTM Tenmabayashi 39.54 15 P **P** **05 23 59.5 +1.1**
H01W3 Cape Leeuwin H 39.77 198 P **P** **05 24 01.5 +1.4**
baz=30,slow=4.9,SNR=6.1
H01W1 Cape Leeuwin H 39.77 198 P **P** **05 24 01.7 +1.6**
baz=30,slow=4.9,SNR=6.7
H01W2 Cape Leeuwin H 39.78 198 P **P** **05 24 02.0 +1.8**
baz=30,slow=4.9,SNR=7.9
AUDCS Dubbo College 39.88 153 P **P** **05 24 02.1 +0.8**
ARMA Armidale 39.90 148 P **P** **05 24 01.1 -0.6**
baz=40,SNR=31
ARMA Armidale 39.90 148 P **P** **05 24 00.5 -1.2**
ARMA Armidale 39.90 148 P **P** **05 24 01.7 0.0**

LZH Lanzhou 40.04 329 ⇑P **P** **05 24 02.6 -0.2**
LZH pP pP 05 24 14.6 -2.7
LZH PP **PnPn** **05 25 43.8 +3.9**
LZH ScP **ScP** **05 29 53.8 +3.0**
LZH S **S** **05 30 06.8 +2.3**
LZH sS sS 05 30 25.9 -3.5
LZH pmax pmax
comp=Z,230nm,1.2s
LZH pmax pmax
comp=Z,820nm,4.2s
LZH LR LR
comp=Z,2µm,16.5s
LZH LR LR
comp=Z,2µm,15.1s
LZH LR LR
comp=Z,2µm,17.2s
AUPHS Peel High Scho 40.06 149 P **P** **05 24 04.0 +1.2**
BRDH Bariadhala 40.57 302 P **P** **05 24 08.6 +1.4**
comp=Z,91nm,0.4s,baz=90,slow=7.5,SNR=14
HHC Hu-ho-hao-te 40.73 341 *e*P **P** **05 24 08.9 +0.5**
HHC S **S** **05 30 12.3 -2.3**
HHC SS **SS** **05 33 15.5 -1.9**
HHC pmax pmax
comp=Z,57nm,1.1s
HHC LR LR
comp=Z,2µm,21.6s
HHC LR LR
comp=Z,3µm,20.3s
HHC LR LR
comp=Z,3µm,20.3s
H11S3 WAKE ISLAND Hy 40.76 65 T T 06 07 28.4
baz=252,slow=75,SNR=87
H11S2 WAKE ISLAND Hy 40.77 65 T T 06 07 29.6
baz=252,slow=75,SNR=83
H11S1 WAKE ISLAND Hy 40.77 65 T T 06 07 29.7
baz=252,slow=75,SNR=92
CN2 Changchun 40.88 357 *e*P **P** **05 24 10.8 +1.4**
CN2 *es*P sP 05 24 33.3 +2.8
CN2 *e*S **S** **05 30 18.4 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,1µm,19.0s
CN2 LR LR
comp=Z,2µm,20.0s
BTO Baotou 41.05 339 *e*P **P** **05 24 12.5 +1.5**
BTO S **S** **05 30 12.4 -6.9**
BTO LR LR
comp=Z,6µm,21.0s
BTO LR LR
comp=Z,6µm,19.8s
ERM Erimo 41.26 17 IAMs_20 IAMs_20 05 42 09.8
comp=Z,4µm,20.0s
ERM Erimo 41.26 17 *i*P **P** **05 24 12.7 +0.2**
ERM pmax pmax
comp=Z,34nm,0.6s
H11N1 WAKE ISLAND Hy 41.32 63 T T 06 08 07.5
baz=250,slow=75,SNR=142
H11N2 WAKE ISLAND Hy 41.33 63 T T 06 08 04.0
baz=250,slow=75,SNR=88
H11N3 WAKE ISLAND Hy 41.34 63 T T 06 08 06.4
baz=250,slow=75,SNR=132
USA0B Ussuriysk Arra 41.34 4 P **P** **05 24 12.3 -0.9**
USA0B IAmb IAmb 05 24 17.4
comp=Z,103nm,0.8s
USA0B Ussuriysk Arra 41.34 4 *i*P **P** **05 24 12.8 -0.4**
USRK Ussuriysk Ar. 41.34 4 P **P** **05 24 11.2 -2.0**
comp=Z,82nm,0.6s,baz=188,slow=7.4,SNR=64
USRK LR LR 05 41 13.9
comp=Z,1µm,20.5s,baz=174,slow=36
comp=Z,82nm,0.6s
USRK Ussuriysk Ar. 41.34 4 P **P** **05 24 11.5 -1.7**
USRK Ussuriysk Ar. 41.34 4 P **P** **05 24 11.5 -1.7**
ARPS Mount Arapiles 41.38 163 P **P** **05 24 12.9 -0.8**
baz=42,SNR=195
ARPS Mount Arapiles 41.38 163 P **P** **05 24 13.4 -0.2**
SHL Shillong 41.60 306 P **P** **05 24 14.8 -1.1**
SHL Shillong 41.60 306 P **P** **05 24 14.8 -1.1**
SHL pmax pmax
comp=Z,211nm,0.8s
MDJ Mudanjiang 41.64 1 P **P** **05 24 14.4 -1.2**
MDJ IAmb IAmb 05 24 19.7
comp=Z,115nm,0.9s
MDJ IAMs_20 IAMs_20 05 40 23.9
comp=Z,2µm,20.0s
MDJ Mudanjiang 41.64 1 P **P** **05 24 14.4 -1.2**
MDJ S **S** **05 30 28.0 +0.3**
MDJ pmax pmax
comp=Z,38nm,1.9s
MDJ pmax pmax
comp=Z,410nm,4.1s
MDJ LR LR
comp=Z,2µm,20.2s
MDJ LR LR
comp=Z,1µm,23.3s
MDJ LR LR
comp=Z,2µm,18.6s
MDJ Mudanjiang 41.64 1 P **P** **05 24 14.5 -1.1**
MDJ Mudanjiang 41.64 1 P **P** **05 24 14.8 -0.9**
CAN Canberra 42.65 155 P **P** **05 24 24.3 +0.2**
CAN Canberra 42.65 155 P **P** **05 24 24.3 +0.2**
CAN pmax pmax
comp=Z,97nm,1.2s
CAN Canberra 42.65 155 P **P** **05 24 24.8 +0.7**
CAN sP **pP** **05 24 40.0 +0.3**
TEY Ternei 42.69 9⇑*e*P **P** **05 24 22.8 -1.3**
TEY *e* 05 30 38.2
TEY pmax pmax
comp=Z,20nm,1.2s
TEY pmax pmax
comp=N,50nm,0.7s
TEY pmax pmax
comp=Z,50nm,0.7s
BRAT Ballarat 42.73 162 P **P** **05 24 25.7 +1.1**
BNX BinXian 42.75 359 ⇓P **P** **05 24 25.4 +0.7**
BNX pP **pP** **05 24 40.6 +1.5**
BNX sP **sP** **05 24 47.8 +2.0**
BNX PP **PP** **05 26 05.1 +0.2**
BNX S **S** **05 30 47.6 +3.6**
BNX sS **sS** **05 31 14.8 +5.7**
BNX pmax pmax
comp=Z,17nm,0.9s
BNX pmax pmax
comp=Z,160nm,4.6s
BNX LR LR
comp=Z,2µm,19.0s
BNX LR LR
comp=Z,940nm,11.9s
BNX LR LR
comp=Z,2µm,20.6s
ASAJ Asahikawa 43.05 15 P **P** **05 24 25.8 -1.3**
comp=Z,38nm,0.6s,baz=245,slow=9.5,SNR=18
ASAJ LR LR 05 40 37.3
comp=Z,4µm,21.4s,baz=210,slow=34
comp=Z,38nm,0.6s
TOO Toolangi 43.27 160 P **P** **05 24 29.7 +0.7**
baz=43,SNR=16
TOO Toolangi 43.27 160 P **P** **05 24 29.7 +0.7**
TOO Toolangi 43.27 160 P **P** **05 24 30.4 +1.4**
TOO Toolangi 43.27 160 P **P** **05 24 29.7 +0.7**
TOO pmax pmax
comp=Z,87nm,1.3s
MLBS Spotswood, Mel 43.30 161 P **P** **05 24 29.8 +0.6**
AUSMG Snowy Mountain 43.43 156 P **P** **05 24 29.0 -1.4**
GEXS Deakin Univers 43.44 162 P **P** **05 24 32.9 +2.6**
LSA Lhasa 44.15 311 P **P** **05 24 36.5 -0.3**
LSA IAmb IAmb 05 24 54.8
comp=Z,214nm,1.2s
LSA Lhasa 44.15 311 P **P** **05 24 37.0 +0.2**
LSA S **S** **05 31 05.3 -0.6**
LSA LR LR
comp=Z,710nm,26.5s
LSA LR LR
comp=Z,790nm,29.4s
LSA LR LR
comp=Z,1µm,21.1s
LSA Lhasa 44.15 311 P **P** **05 24 36.5 -0.3**
LSA pmax pmax
comp=Z,214nm,1.2s
LSA MLR MLR
comp=Z,700nm,22.0s
LSA Lhasa 44.15 311 *i*P **P** **05 24 38.8 +2.0**
SNR=37
LSA Lhasa 44.15 311 P **P** **05 24 39.0 +2.2**
LSA pP **pP** **05 24 50.5 -1.0**
MILA Mila 44.20 156 P **P** **05 24 37.5 +1.0**
baz=44,SNR=3.9
GTA Gaotai 44.64 328 *e*P **P** **05 24 38.6 -1.5**
GTA pP pP 05 24 56.0 +1.2
GTA sP sP 05 25 01.9 +0.4
GTA PP **PP** **05 26 30.4 +5.0**
GTA ScP **ScP** **05 30 11.8 +2.7**
GTA S **S** **05 31 11.5 -0.6**
GTA sS sS 05 31 36.3 -0.9
GTA pmax pmax
comp=Z,48nm,1.2s
GTA pmax pmax
comp=Z,430nm,4.0s
GTA LR LR
comp=Z,810nm,23.3s
GTA LR LR
comp=Z,960nm,20.4s
GTA LR LR
comp=Z,2µm,21.4s
DZM Mont Dzumac 44.80 125 P **P** **05 24 41.0 -0.6**
comp=Z,9.2nm,0.9s,baz=333,slow=7.0,SNR=4.7
DZM LR LR 05 41 25.9
comp=Z,504nm,21.8s,baz=9.5,slow=33
comp=Z,9.2nm,0.9s
DZM Mont Dzumac 44.80 125 *e*P **P** **05 24 39.4 -2.2**
comp=Z,85nm,1.3s
DZM *e*S **S** **05 31 15.4 +0.6**
comp=Z,1µm,32.1s
DZM *e*LR LR 05 37 19.7
comp=Z,1µm,24.5s
DZM Mont Dzumac 44.80 125 P **P** **05 24 41.5 -0.1**
DZM Mont Dzumac 44.80 125 P **P** **05 24 42.9 +1.3**
DZM Mont Dzumac 44.80 125 P **P** **05 24 41.8 +0.1**
LIFNC LIFOU 44.86 123 P **P** **05 24 41.3 -0.7**
LIFNC IAmb IAmb 05 25 13.6
comp=Z,100nm,0.9s
LIFNC LIFOU 44.86 123 P **P** **05 24 39.2 -2.8**
GOMU GeErMu 45.31 321 P **P** **05 24 45.9 +0.1**
GOMU S **S** **05 31 20.3 -2.1**
GOMU SS **ScS** **05 34 35.8 -1.7**
GOMU pmax pmax
comp=Z,14nm,1.0s
GOMU LR LR
comp=Z,790nm,20.6s
GOMU LR LR
comp=Z,370nm,20.1s
GOMU LR LR
comp=Z,730nm,19.0s
YSS Yuzh-Sakhalins 45.74 14 P **P** **05 24 46.6 -1.9**
YSS IAmb IAmb 05 24 52.7
comp=Z,71nm,0.9s
YSS IAMs_20 IAMs_20 05 41 23.6
comp=Z,4µm,22.0s
YSS Yuzh-Sakhalins 45.74 14 P **P** **05 24 47.9 -0.6**
YSS Yuzh-Sakhalins 45.74 14 *e*P **P** **05 24 48.7 +0.2**
YSS *e* 05 27 24.0
YSS *e*S **S** **05 31 26.5 -0.9**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS pmax pmax
comp=Z,300nm,5.1s
YSS pmax pmax
comp=N,100nm,3.2s
YSS pmax pmax
comp=E,200nm,2.8s
TAPN Taplejung 45.74 306 *e*P **P** **05 24 50.3 +1.0**
ODAN Odare 45.80 305 *e*P **P** **05 24 48.6 -1.1**
KLR Kul'dur 46.34 3 *ce*P **P** **05 24 51.1 -2.1**
comp=E,32nm,0.6s,baz=188,slow=6.7,SNR=50
KLR LR LR 05 42 23.0
comp=E,2µm,21.6s,baz=188,slow=34
comp=E,32nm,0.6s
KLR Kul'dur 46.34 3 *ce*P **P** **05 24 51.6 -1.6**
KLR pmax pmax
comp=Z,51nm,1.0s
RAMN Ramite 46.48 305 *e*P **P** **05 24 54.2 -0.8**
comp=Z,142nm,0.8s
HIA Hailar 46.84 352 IAMs_20 IAMs_20 05 45 05.0
comp=Z,2µm,20.0s
HIA Hailar 46.84 352 P **P** **05 24 59.6 +2.4**
JIRN Jiri 47.10 306 *e*P **P** **05 25 00.8 +0.8**
comp=Z,83nm,0.6s
AULHS Lilydale High 47.16 160 P **P** **05 25 01.2 +1.5**
HEH HeiHe 47.27 359 *e*P **P** **05 24 58.0 -2.4**
HEH sP **pwP** **05 25 18.8 -1.3**
HEH S **S** **05 31 45.5 -3.7**
HEH pmax pmax
comp=Z,31nm,0.8s
HEH pmax pmax
comp=Z,330nm,4.8s
HEH LR LR
comp=Z,2µm,20.9s
HEH LR LR
comp=Z,1µm,20.1s
HEH LR LR
comp=Z,3µm,22.6s
CORO Coronation Par 47.31 161 P **P** **05 25 02.0 +1.1**
PALK Pallekele 47.51 277 P **P** **05 25 03.8 +0.7**
PALK IAmb IAmb 05 25 18.8
comp=Z,159nm,1.5s
PALK Pallekele 47.51 277 P **P** **05 25 03.8 +0.7**
PALK pmax pmax
comp=Z,159nm,1.5s
PALK Pallekele 47.51 277 P **P** **05 25 04.7 +1.7**
PALK pP **pP** **05 25 16.6 -1.2**
PALK ScP **ScP** **05 30 23.4 +1.9**
UGL Uglegorsk 47.59 12 *e*P **P** **05 25 04.2 +1.3**
UGL *e*S **S** **05 31 51.3 -2.4**
UGL pmax pmax
comp=Z,870nm,3.5s
UGL pmax pmax
comp=Z,170nm,0.8s
PKI Pulchoki 47.70 305 *e*P **P** **05 25 04.8 +0.2**
PKIN Phulchoki 47.71 305 *e*P **P** **05 25 04.9 +0.2**
KKN Kakani 47.89 306 *e*P **P** **05 25 05.7 -0.3**
DMN Daman 47.96 305 *e*P **P** **05 25 06.0 -0.6**
comp=Z,259nm,1.0s
MOO Moorlands 48.22 161 P **P** **05 25 09.8 +1.9**
baz=48,SNR=5.3
GRNR Gornyy 48.28 7⇓*i*P **P** **05 25 07.7 -0.6**
GRNR pmax pmax
comp=N,6.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 48.45 341 P **P** **05 25 07.8 -1.9**
ULN IAmb IAmb 05 25 37.9
comp=Z,76nm,0.9s
ULN Ulaanbaatar 48.45 341 IAMs_20 IAMs_20 05 46 35.3
comp=Z,1µm,22.0s
ULN Ulaanbaatar 48.45 341 P **P** **05 25 07.9 -1.9**
ULN pmax pmax
comp=Z,76nm,0.9s
ULN MLR MLR
comp=Z,1µm,22.0s
ULN Ulaanbaatar 48.45 341 P **P** **05 25 08.1 -1.8**
ULN ScP **ScP** **05 30 28.2 +3.3**
GKN Gorkha 48.50 306 *e*P **P** **05 25 11.2 +0.6**
SONM Songino Array 48.63 341 P **P** **05 25 08.8 -2.5**
comp=Z,9.2nm,0.9s,baz=143,slow=8.3,SNR=30
SONM PcP **PcP** **05 26 36.9 +0.9**
comp=Z,16nm,0.8s,baz=153,slow=4.5,SNR=3.8
SONM ScP **ScP** **05 30 28.7 +3.0**
comp=Z,4.2nm,0.9s,baz=167,slow=5.1,SNR=4.0
SONM LR LR 05 46 42.6
comp=Z,2µm,21.8s,baz=158,slow=37
comp=Z,9.2nm,0.9s
SONM Songino Array 48.63 341 P **P** **05 25 09.6 -1.6**
TAU Tasmania Unive 48.68 161 P **P** **05 25 12.5 +1.0**
TAU Tasmania Unive 48.68 161 P **P** **05 25 13.2 +1.7**
TAU Tasmania Unive 48.68 161 P **P** **05 25 12.5 +1.0**
TAU pmax pmax
comp=Z,43nm,1.0s
KOLN Koldanda 49.26 305 *e*P **P** **05 25 15.6 -0.8**
DANN Dangsing 49.35 306 *e*P **P** **05 25 18.2 +1.0**
comp=Z,334nm,0.7s
TYV Tymovskoe 49.40 12 *e*P **P** **05 25 16.0 -0.8**
TYV *e*S **S** **05 32 20.8 +1.6**
TYV pmax pmax
comp=Z,23nm,1.1s
TYV pmax pmax
comp=Z,400nm,3.9s
TYV smax smax
comp=N,600nm,7.5s
TYV smax smax
comp=E,400nm,7.5s
CIT Chita 50.54 348 *e*P **P** **05 25 26.5 +0.9**
CIT *e* 05 25 49.1
CIT *e* 05 26 47.7
CIT pmax pmax
comp=Z,173nm,1.5s
ZEA Zeya 50.76 359 *e*P **P** **05 25 24.9 -2.2**
ZEA *e* 05 25 41.7
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
HYB Hyderabad 50.82 290 *e*P **P** **05 25 27.8 -0.4**
HYB IVmB_BB 05 25 30.7
comp=Z,847nm,1.8s
ZAK Zakamensk 51.87 340 *e*P **P** **05 25 34.9 -0.8**
ZAK pmax pmax
comp=Z,21nm,1.1s
PCHI Peechi 52.02 281⇓*e*P **P** **05 25 37.2 0.0**
PCHI *e*S **S** **05 33 00.5 +3.7**
IRK Irkutsk 53.14 342 *e*P **P** **05 25 42.3 -2.6**
IRK *e* 05 26 01.4
MSVF Nonsavu 53.19 115 P **P** **05 25 45.7 -0.2**
MSVF Nonsavu 53.19 115 P **P** **05 25 46.9 +1.0**
MSVF Nonsavu 53.19 115 *i*P **P** **05 25 47.2 +1.3**
MSVF Nonsavu 53.19 115 P **P** **05 25 46.4 +0.6**
MSVF pP **pP** **05 25 58.0 -4.0**
MOY Mondy 53.74 339 *e*P **P** **05 25 49.9 +0.5**
MOY pmax pmax
comp=Z,103nm,2.0s
WMQ Urumqi 54.32 325 *e*P **P** **05 25 56.8 +3.1**
WMQ Urumqi 54.32 325 P **P** **05 25 53.1 -0.6**
WMQ sP **pP** **05 26 10.5 +1.7**
DGTI Dogotuki 54.33 112 P **P** **05 25 54.5 +0.4**
NDI New Delhi 54.85 303 *e*P **P** **05 25 59.0 +1.2**
MNCI Minicoy 55.12 278 P **P** **05 26 00.3 +0.4**
PEA0B Petropavlovsk- 55.72 21 P **P** **05 26 02.6 -1.0**
PEA0B Petropavlovsk- 55.72 21 *ce*P **P** **05 26 04.6 +1.0**
PETK Petropavlovsk- 55.72 21 P **P** **05 26 01.5 -2.1**
comp=Z,13nm,0.5s,baz=189,slow=4.3,SNR=38
PETK LR LR 05 49 07.7
comp=Z,803nm,20.0s,baz=210,slow=35
comp=Z,13nm,0.5s
BOD Bodaibo 55.98 351 *e*P **P** **05 26 03.2 -2.1**
BOD pmax pmax
comp=Z,100nm,1.2s
PET Petropavlovsk 56.00 22 P **P** **05 26 05.3 -0.3**
PET IAmb IAmb 05 26 21.7
comp=Z,64nm,1.0s
PET IAMs_20 IAMs_20 05 51 55.0
comp=Z,1µm,19.0s
PET Petropavlovsk 56.00 22 P **P** **05 26 06.5 +0.9**
PET Petropavlovsk 56.00 22 *e*P **P** **05 26 05.9 +0.3**
PET *e**PP **pP** **05 26 20.8 +0.2**
PET *e*S **S** **05 33 51.8 +2.6**
PET pmax pmax
comp=Z,54nm,1.3s
PET pmax pmax
comp=Z,200nm,13.3s
PET MLR MLR
comp=Z,1µm,19.0s
PET MLR MLR
comp=Z,1µm,18.0s
DGAR Diego Garcia 56.56 259 *ce*P **P** **05 26 07.6 -2.6**
DGAR pmax pmax
comp=Z,255nm,1.7s
ZSN Zaisan 58.07 327 *e*P **P** **05 26 20.1 -0.2**
baz=327
ZSN Zaisan 58.07 327 *e*P **P** **05 26 20.1 -0.2**
DGZ Jazzator, Alta 58.11 330 *i*P **P** **05 26 18.9 -1.9**
DGZ pmax pmax
comp=Z,46nm,1.0s
WUS Wushi 58.23 318 P **P** **05 26 22.7 +1.0**
WUS sP **pP** **05 26 39.1 +2.3**
SHLS Shalkode 58.99 320 *e*P **P** **05 26 24.1 -2.9**
comp=Z,32nm,1.1s,baz=320
SHLS Shalkode 58.99 320 *e*P **P** **05 26 24.1 -2.9**
SHLS pmax pmax
comp=Z,32nm,1.1s
YAK Yakutsk 59.08 1 P **P** **05 26 26.9 -0.1**
comp=Z,35nm,0.6s,baz=351,slow=2.9,SNR=12
YAK LR LR 05 50 50.3
comp=Z,2µm,21.9s,baz=184,slow=35
comp=Z,35nm,0.6s
YAK Yakutsk 59.08 1 P **P** **05 26 26.1 -0.9**
YAK IAMs_20 IAMs_20 05 50 16.1
comp=Z,2µm,22.0s
YAK Yakutsk 59.08 1 *e*P **P** **05 26 26.8 -0.2**
YAK *e**PP **pP** **05 26 42.3 +0.1**
YAK *e* 05 27 22.2
YAK *e* 05 28 45.8
YAK *e*S **S** **05 34 28.0 -1.2**
YAK *e**SS **sS** **05 34 56.6 +0.6**
YAK *e* 05 36 10.5
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,31nm,0.8s
YAK smax smax
comp=N,77nm,9.1s
YAK smax smax
comp=E,170nm,12.9s
YAK Yakutsk 59.08 1 P **P** **05 26 26.8 -0.2**
YAK sP **pP** **05 26 42.6 +0.4**
MK31 Makanchi Array 59.14 325 P **P** **05 26 26.0 -1.9**
MK31 IAmb IAmb 05 26 45.6
comp=Z,96nm,1.1s
MK31 Makanchi Array 59.14 325 P **P** **05 26 26.0 -1.9**
MK31 pmax pmax
comp=Z,96nm,1.1s
MKAR Makanchi Array 59.14 325 P **P** **05 26 26.1 -1.7**
comp=Z,18nm,0.5s,baz=119,slow=7.6,SNR=64
MKAR ScP **ScP** **05 31 12.6 +1.2**
comp=Z,6.5nm,0.8s,baz=128,slow=3.7,SNR=5.5
MKAR LR LR 05 54 41.5
comp=Z,750nm,18.9s,baz=124,slow=39
MKAR PKPPKP **P'P'df** **05 55 53.1 -7.7**
comp=Z,0.9nm,0.9s,baz=226,slow=3.2,SNR=3.6
comp=Z,18nm,0.5s
MKAR Makanchi Array 59.14 325 P **P** **05 26 26.6 -1.2**
MA2 Magadan 59.23 13 LR LR 05 49 38.6
comp=Z,1µm,21.8s,baz=199,slow=34
MA2 Magadan 59.23 13 P **P** **05 26 27.7 -0.5**
MA2 IAmb IAmb 05 26 48.1
comp=Z,47nm,0.9s
MA2 IAMs_20 IAMs_20 05 49 38.3
comp=Z,1µm,20.0s
MA2 Magadan 59.23 13 P **P** **05 26 29.9 +1.7**
MA2 Magadan 59.23 13 *ce*P **P** **05 26 29.4 +1.2**
MA2 pmax pmax
comp=Z,36nm,0.8s
MA2 Magadan 59.23 13 P **P** **05 26 29.1 +1.0**
MA2 pP **pP** **05 26 41.0 -2.4**
UZB Uzynbulak 59.27 320 *e*P **P** **05 26 27.8 -1.1**
comp=Z,34nm,0.7s,baz=320
UZB Uzynbulak 59.27 320 *e*P **P** **05 26 27.8 -1.1**
UZB pmax pmax
comp=Z,34nm,0.7s
MAKZ Makanchi 59.33 325 P **P** **05 26 27.7 -1.5**
MAKZ IAMs_20 IAMs_20 05 52 42.4
comp=Z,938nm,22.0s
MAKZ Makanchi 59.33 325 P **P** **05 26 27.7 -1.5**
MAKZ pmax pmax
comp=Z,120nm,0.9s
MAKZ MLR MLR
comp=Z,900nm,22.0s
MAKZ Makanchi 59.33 325 P **P** **05 26 27.6 -1.6**
MAKZ ScP **ScP** **05 31 13.1 +0.8**
TARG Taragay, Kyrgy 59.41 318 P **P** **05 26 29.0 -1.3**
TARG IAmb IAmb 05 26 55.7
comp=Z,63nm,0.9s
TARG Taragay, Kyrgy 59.41 318 P **P** **05 26 29.0 -1.3**
TARG pmax pmax
comp=Z,63nm,0.9s
SATY Saty 59.62 320 *e*P **P** **05 26 30.2 -1.2**
comp=Z,44nm,0.7s,baz=320
SATY *e*S **S** **05 34 36.8 -0.5**
baz=320
SATY Saty 59.62 320 *e*P **P** **05 26 30.2 -1.2**
SATY *e*S **S** **05 34 36.7 -0.5**

SATY pmax pmax
comp=Z,44nm,0.7s
KPKS Kokpek 59.63 320 *e*P **P 05 26 29.9 -1.6**
comp=Z,42nm,0.8s,baz=320
KPKS *e*S **S 05 34 35.6 -1.7**
baz=320
KPKS Kokpek 59.63 320 *e*P **P 05 26 29.8 -1.6**
KPKS *e*S **S 05 34 35.6 -1.7**
KPKS pmax pmax
comp=Z,42nm,0.8s
NIL Nilore 59.65 308 P **P 05 26 30.7 -0.9**
NIL Nilore 59.65 308 P **P 05 26 30.7 -0.9**
NIL pmax pmax
comp=Z,180nm,1.2s
NIL Nilore 59.65 308 P **P 05 26 32.4 +0.8**
NIL pP **pP 05 26 43.6 -3.2**
NIL sP **pwP 05 26 47.5 -4.2**
ZHN Zhinishke 59.66 320 *e*P **P 05 26 30.8 -0.7**
comp=Z,27nm,0.9s,baz=320
ZHN Zhinishke 59.66 320 *e*P **P 05 26 30.8 -0.7**
ZHN pmax pmax
comp=Z,27nm,0.9s
KSH Kashi 59.73 315 P **P 05 26 32.6 +0.4**
KSH pP pP 05 26 46.9 -0.5
KSH sS sS 05 35 05.3 +0.5
KSH pmax pmax
comp=Z,60nm,1.1s
KSH LR LR
comp=Z,530nm,16.5s
KSH LR LR
comp=Z,720nm,16.8s
KSH LR LR
comp=Z,1µm,21.6s
LBZ Lake Benmore 60.11 146 P **P 05 26 34.2 -0.2**
LBZ IAmb IAmb 05 26 39.9
comp=Z,60nm,1.0s
RPZ Rata Peaks 60.17 145 LR LR 05 54 25.6
comp=Z,1µm,18.4s,baz=308,slow=38
RPZ Rata Peaks 60.17 145 P **P 05 26 34.8 -0.1**
RPZ IAmb IAmb 05 27 13.7
comp=Z,89nm,1.1s
MDOK Medeo 60.55 319 *e*P **P 05 26 37.0 -0.8**
baz=319
MDOK Medeo 60.55 319 *e*P **P 05 26 37.0 -0.8**
TNSS Tian-Shan 60.56 319 *e*P **P 05 26 37.1 -1.0**
baz=319
TNSS Tian-Shan 60.56 319 *e*P **P 05 26 37.1 -1.0**
AAA Alma-Ata 60.66 319 *e*P **P 05 26 37.8 -0.7**
baz=319
AAA Alma-Ata 60.66 319 *e*P **P 05 26 37.7 -0.7**
ULHL Ulahol 60.69 318 P **P 05 26 37.5 -1.2**
SNR=18
URZ Urewera 60.87 137 LR LR 05 53 10.6
comp=Z,1µm,20.2s,baz=36,slow=36
CHKK Chushkaly 60.91 320 *e*P **P 05 26 38.2 -1.8**
baz=320
CHKK Chushkaly 60.91 320 *e*P **P 05 26 38.2 -1.8**
BKZ Black Stump Fm 60.92 138 P **P 05 26 40.0 -0.1**
BKZ IAmb IAmb 05 27 00.4
comp=Z,49nm,1.0s
RTZ Ruatahuna 60.96 138 P **P 05 26 40.1 -0.4**
RTZ IAmb IAmb 05 27 09.4
comp=Z,74nm,1.3s
KUU Kurty 61.34 320 *e*P **P 05 26 41.0 -1.9**
baz=320
KUU *e*S **S 05 34 57.3 -1.8**
baz=320
KUU Kurty 61.34 320 *e*P **P 05 26 41.0 -1.9**
KUU *e*S **S 05 34 57.2 -1.8**
TKM2 Tokmak 2 61.41 318 P **P 05 26 42.4 -1.2**
SNR=51
TKM2 Tokmak 2 61.41 318 *i*P **P 05 26 42.0 -1.6**
TKM2 pmax pmax
comp=Z,71nm,0.8s
KBK Karagaybulak 61.73 318 P **P 05 26 47.0 +1.3**
SNR=13
AFI Afiamalu 61.76 107 LR LR 05 51 07.3
comp=Z,486nm,19.4s,baz=284,slow=34
AIS Amsterdam Isla 61.84 224 P **P 05 26 48.5 +2.2**
UCH Uchtor 61.84 317 P **P 05 26 48.9 +2.1**
SNR=24
CHMS Chumysh 62.00 318 P **P 05 26 48.5 +1.1**
SNR=16
AAK Ala-Archa 62.02 318 P **P 05 26 49.3 +1.6**
SNR=12
AAK Ala-Archa 62.02 318 P **P 05 26 47.3 -0.4**
comp=Z,8.8nm,0.7s,baz=147,slow=6.4,SNR=15
AAK LR LR 05 55 40.9
comp=Z,1µm,21.8s,baz=100,slow=38
comp=Z,8.8nm,0.7s
AAK Ala-Archa 62.02 318 P **P 05 26 48.1 +0.4**
AAK Ala-Archa 62.02 318 IAMs_20 IAMs_20 05 55 27.8
comp=Z,1µm,20.0s
AAK Ala-Archa 62.02 318 P **P 05 26 48.1 +0.4**
AAK pmax pmax
comp=Z,202nm,1.8s
AAK MLR MLR
comp=Z,1µm,20.0s
AAK Ala-Archa 62.02 318 *i*P **P 05 26 48.2 +0.5**
SNR=12
AAK Ala-Archa 62.02 318 P **P 05 26 48.7 +1.0**
ZAA0 Zalesovo Array 62.07 333 P **P 05 26 47.5 -0.1**
ZAA0 IAmb IAmb 05 27 03.7
comp=Z,65nm,0.9s
ZALV Zalesovo Beam 62.07 333 P **P 05 26 44.6 -2.9**
comp=Z,5.0nm,0.4s,baz=108,slow=4.8,SNR=28
ZALV LR LR 05 55 36.6
comp=Z,454nm,20.6s,baz=135,slow=38
ZALV PKPPKP **P'P'df 05 55 55.9 +0.1**
comp=Z,0.5nm,0.4s,baz=130,slow=2.3,SNR=2.1
comp=Z,5.0nm,0.4s
SEM Semipalatinsk 62.26 328 *e*P **P 05 26 48.5 -0.7**
baz=328
SEM Semipalatinsk 62.26 328 *e*P **P 05 26 48.5 -0.7**
SGDS Sogindy 62.27 319 *e*P **P 05 26 48.9 -0.3**
baz=318
SGDS Sogindy 62.27 319 *e*P **P 05 26 48.9 -0.3**
USP Ospenovka 62.28 318 P **P 05 26 47.0 -2.2**
SNR=55
AML Almayashu 62.36 317 P **P 05 26 49.3 -1.0**
SNR=74
SHEM Shemya Is, Ala 62.51 29 LR LR 05 50 05.4
comp=Z,1µm,20.8s,baz=247,slow=32
EKS2 Erkin-Say 62.52 317 P **P 05 26 52.8 +1.8**
SNR=41
MCQ Macquarie Isla 62.55 160 P **P 05 26 51.6 +0.9**
baz=63,SNR=4.9
MCQ Macquarie Isla 62.55 160 P **P 05 26 51.6 +0.9**
MCQ IAmb IAmb 05 26 54.2
comp=Z,88nm,0.9s
MCQ Macquarie Isla 62.55 160 P **P 05 26 51.7 +1.1**
MCQ Macquarie Isla 62.55 160 P **P 05 26 51.6 +0.9**
MCQ pmax pmax
comp=Z,88nm,0.9s
SEY Seymchan 62.59 12 P **P 05 26 50.1 -0.7**
comp=Z,5.5nm,0.7s,baz=204,slow=5.2,SNR=20
SEY LR LR 05 51 34.6
comp=Z,606nm,21.6s,baz=200,slow=34
comp=Z,5.5nm,0.7s
SEY Seymchan 62.59 12*ce*P **P 05 26 50.9 0.0**
SEY pmax pmax
comp=Z,46nm,2.5s
KBL Kabul 63.25 307 P **P 05 26 55.0 -1.1**
KURBB Kurchatov Arra 63.30 327 P **P 05 26 53.5 -2.3**
comp=Z,34nm,0.8s,baz=124,slow=6.0,SNR=80
KURBB S **S 05 35 27.6 +4.3**
comp=Z,1.3nm,0.9s,baz=123,slow=10,SNR=5.4
comp=Z,34nm,0.8s
KURBB Kurchatov Arra 63.30 327 P **P 05 26 51.7 -4.1**
KURK Kurchatov 63.30 327 P **P 05 26 53.3 -2.5**
KURK Kurchatov 63.30 327*ce*P **P 05 26 53.9 -1.9**
KURK pmax pmax
comp=Z,90nm,1.3s
KURK Kurchatov 63.30 327 P **P 05 26 53.6 -2.2**
BTLS Baital 63.32 320 *e*P **P 05 26 54.0 -2.1**
baz=320
BTLS Baital 63.32 320 *e*P **P 05 26 54.0 -2.1**
DZA Taraz 64.27 317 *e*P **P 05 27 00.6 -1.8**
comp=Z,30nm,0.8s,baz=317
DZA Taraz 64.27 317 *e*P **P 05 27 00.6 -1.8**
DZA pmax pmax
comp=Z,30nm,0.8s
CHGR Chuyangaron 64.37 312 P **P 05 27 02.0 -1.3**
CHGR Chuyangaron 64.37 312 P **P 05 27 02.0 -1.3**
CHGR pmax pmax
comp=Z,176nm,1.2s

AMKA Amchitka 64.45 33 P **P 05 27 03.1 -0.3**
IUG Iuzhnay 64.89 316 *e*P **P 05 27 05.9 -0.7**
baz=316
IUG Iuzhnay 64.89 316 *e*P **P 05 27 05.9 -0.7**
KK31 Karatay Array 64.90 317 P **P 05 27 05.0 -1.6**
KK31 IAmb IAmb 05 27 24.0
comp=Z,123nm,1.0s
KK31 Karatay Array 64.90 317 P **P 05 27 05.0 -1.6**
KK31 pmax pmax
comp=Z,123nm,1.0s
KKAR Karatay Array 64.90 317 P **P 05 27 04.9 -1.6**
KKAR IAmb IAmb 05 27 24.0
comp=Z,123nm,1.0s
KKAR Karatay Array 64.90 317 P **P 05 27 04.9 -1.6**
KKAR pmax pmax
comp=Z,123nm,1.0s
KIWB Kanaga Island 66.61 33 P **P 05 27 16.5 -0.8**
ADK Adak 66.89 34 P **P 05 27 19.3 +0.3**
ADK IAmb IAmb 05 27 39.1
comp=Z,69nm,0.9s
ADK Adak 66.89 34 P **P 05 27 19.8 +0.8**
ADK Adak 66.89 34 P **P 05 27 19.3 +0.3**
ADK pmax pmax
comp=Z,69nm,1.0s
ADK Adak 66.89 34 P **P 05 27 19.0 0.0**
HRA Herat 68.66 306 P **P 05 27 29.4 -1.5**
TIXI Tiksi 68.73 0 P **P 05 27 27.4 -3.0**
comp=Z,26nm,0.6s,baz=270,slow=4.2,SNR=28
TIXI LR LR 05 57 13.0
comp=Z,2µm,21.9s,baz=92,slow=36
comp=Z,26nm,0.6s
TIXI Tiksi 68.73 0 IAMs_20 IAMs_20 05 57 01.8
comp=Z,2µm,21.0s
TIXI Tiksi 68.73 0 *i*P **P 05 27 30.3 0.0**
TIXI pmax pmax
comp=Z,18nm,0.9s
TIXI Tiksi 68.73 0 P **P 05 27 27.3 -3.0**
TIXI pP **pP 05 27 39.2 -6.6**
TIXI sP **pwP 05 27 44.4 -6.4**
BVA0 Borovoye Array 68.89 327 *i*P **P 05 27 27.1 -4.5**
BVAR Borovoye Array 68.89 327 P **P 05 27 29.2 -2.4**
comp=Z,20nm,0.6s,baz=116,slow=6.6,SNR=45
BVAR LR LR 05 59 51.9
comp=Z,532nm,20.9s,baz=105,slow=38
comp=Z,20nm,0.6s
BRVK Borovoye 68.96 327 P **P 05 27 30.3 -1.8**
BRVK IAmb IAmb 05 27 36.6
comp=Z,63nm,0.7s
BRVK IAMs_20 IAMs_20 05 58 20.0
comp=Z,656nm,22.0s
BRVK Borovoye 68.96 327 P **P 05 27 30.3 -1.8**
BRVK pmax pmax
comp=Z,63nm,0.7s
BRVK MLR MLR
comp=Z,700nm,22.0s
BRVK Borovoye 68.96 327 P **P 05 27 29.6 -2.4**
DRV Dumont d'Urvil 69.84 175 P **P 05 27 35.4 -1.8**
BILL Bilibino 70.06 14 IAMs_20 IAMs_20 05 56 17.1
comp=Z,1µm,22.0s
BILL Bilibino 70.06 14⇑*e*P **P 05 27 36.8 -1.7**
BILL *e* 05 30 14.1
BILL *i*S **S 05 36 49.1 +4.8**
BILL pmax pmax
comp=Z,25nm,2.5s
WSAR Wadi Sarin 70.14 294 P **P 05 27 39.3 -0.7**
comp=Z,19nm,0.8s,baz=141,slow=5.9,SNR=9.3
WSAR LR LR 06 00 01.1
comp=Z,105nm,21.7s,baz=109,slow=37
comp=Z,19nm,0.8s
NRIK Noril'sk 71.66 346 P **P 05 27 45.5 -2.8**
comp=Z,21nm,0.6s,baz=128,slow=6.0,SNR=30
NRIK LR LR 06 01 47.8
comp=Z,702nm,20.1s,baz=146,slow=38
comp=Z,21nm,0.6s
NRIK Noril'sk 71.66 346 P **P 05 27 46.2 -2.1**
NRIK IAmb IAmb 05 28 06.1
comp=Z,74nm,0.8s
NRIK Noril'sk 71.66 346*ce*P **P 05 27 46.4 -1.8**
NRIK pmax pmax
comp=Z,40nm,1.0s
NIKH Nikolski High 71.71 35 P **P 05 27 48.7 -0.2**
baz=250
SOHO SOHO 72.14 294 *i*P **P 05 27 53.2 +1.1**
SNR=6.6
UOSS Minazif 72.51 295 P **P 05 27 52.0 -2.2**
SPIA Saint Paul Isl 72.53 30 P **P 05 27 53.7 0.0**
baz=247
HATD Hatta, Dubai 72.56 295 P **P 05 27 56.4 +1.8**
GEYT Alibeck 72.61 309 P **P 05 27 53.5 -1.1**
comp=Z,20nm,0.9s,baz=132,slow=2.2,SNR=28
GEYT LR LR 06 05 26.6
comp=Z,357nm,18.4s,baz=81,slow=40
comp=Z,20nm,0.9s
ASHO Ashiyiah 72.62 295 P **P 05 27 55.2 +0.3**
ALNE Al Ain 72.85 294 *i*P **P 05 27 57.0 +0.7**
SNR=16
NAZ Nazwa, Dubai 73.00 295 *i*P **P 05 27 58.4 +1.3**
SNR=7.2
FAQ Al Faqa, Dubai 73.05 295 *i*P **P 05 27 57.8 +0.4**
SNR=6.6
ASUD Al Ashush, Dub 73.28 295 *i*P **P 05 28 00.3 +1.5**
SNR=9.8
UNV Unalaska Valle 73.33 34 P **P 05 27 59.0 +0.6**
UNV IAmb IAmb 05 28 08.4
comp=Z,50nm,0.7s
UNV Unalaska Valle 73.33 34 P **P 05 27 59.1 +0.7**
baz=251
AJN Ajban 73.58 295 *i*P **P 05 28 01.7 +1.1**
SNR=5.5
AB31 Akbulak array 73.79 321 *i*P **P 05 27 58.0 -3.3**
ABKAR Akbulak array 73.79 321 P **P 05 27 58.7 -2.6**
ABKAR Akbulak array 73.79 321 P **P 05 27 58.7 -2.6**
ABKAR IAmb IAmb 05 28 18.7
comp=Z,143nm,1.6s
KIP Kipapa 73.87 69 P **P 05 28 03.1 +0.8**
KIP IAmb IAmb 05 28 04.9
comp=Z,96nm,0.9s
KIP Kipapa 73.87 69 P **P 05 28 04.1 +1.8**
KIP Kipapa 73.87 69 P **P 05 28 03.1 +0.8**
KIP pmax pmax
comp=Z,96nm,1.0s
HON Honolulu 73.88 69 P **P 05 28 03.1 +0.8**
HON Honolulu 73.88 69 P **P 05 28 03.1 +0.8**
HON pmax pmax
comp=Z,339nm,1.2s
RAR Rarotonga 74.32 113 LR LR 05 57 55.2
comp=Z,236nm,20.7s,baz=274,slow=33
GAMB Gambell 74.63 24 P **P 05 28 06.2 +0.4**
baz=244
MZR Muzera 74.85 293 *i*P **P 05 28 09.3 +1.3**
SNR=9.6
AKTO Aktyubinsk 75.29 322 P **P 05 28 07.7 -2.2**
comp=Z,20nm,1.0s,baz=97,slow=6.7,SNR=21
AKTO LR LR 06 04 36.2
comp=Z,564nm,19.3s,baz=94,slow=38
comp=Z,20nm,1.0s
SVE Sverdlovsk 75.51 328 *e*P **P 05 28 09.3 -1.7**
SVE pmax pmax
comp=Z,98nm,1.2s
MHA Mahukona 75.78 70 P **P 05 28 14.0 +0.7**
MHA Mahukona 75.78 70 P **P 05 28 14.0 +0.7**
POHA Pohakuloa 76.11 70 P **P 05 28 17.1 +1.5**
KKO Keanakako`i 76.36 71 P **P 05 28 17.9 +1.1**
PUH Pauahi 76.40 71 P **P 05 28 17.7 +0.7**
ARU Arti 76.49 328 P **P 05 28 15.9 -0.8**
comp=Z,13nm,0.5s,baz=141,slow=8.2,SNR=27
comp=Z,13nm,0.5s
ARU Arti 76.49 328 P **P 05 28 15.6 -1.1**
ARU Arti 76.49 328*ce*P **P 05 28 16.0 -0.7**
ARU pmax pmax
comp=Z,62nm,1.7s
TNA Tin City 76.85 23 P **P 05 28 19.6 +1.2**
baz=247
SDPT Sand Point 77.12 34 P **P 05 28 20.4 +0.2**
baz=256
ANM Nome 77.49 24 P **P 05 28 22.4 +0.4**
baz=250
N16K Nishlik Lake 79.22 29 P **P 05 28 32.4 +0.6**
baz=256
P16K Nushagak River 79.28 30 P **P 05 28 32.1 +0.1**
baz=257
O16K Kokwok River B 79.35 30 P **P 05 28 32.4 0.0**
baz=257
R17K Ugashik Creek 79.83 32 P **P 05 28 35.7 +0.6**
baz=259
O17K Koliganek Bris 79.89 30 P **P 05 28 35.4 +0.1**
baz=258
P17K Kvichak River 80.10 30 P **P 05 28 36.2 -0.3**
baz=259
Q17K Contact Creek 80.21 31 P **P 05 28 36.6 -0.7**
baz=259
Q18K Katmai Hardscr 80.73 31 P **P 05 28 39.6 -0.5**
baz=260
P18K Big Mountain, 80.75 30 P **P 05 28 39.3 -0.8**
P18K Big Mountain, 80.75 30 P **P 05 28 39.7 -0.4**
baz=260
SII Sitkinak Islan 80.83 33 P **P 05 28 41.7 +1.2**
SII Sitkinak Islan 80.83 33 P **P 05 28 39.7 -0.8**
baz=261
O18K Koktuh Hills 80.84 30 P **P 05 28 39.6 -0.9**
baz=260
AKT Akhty 81.01 311 *e*P **P 05 28 42.1 +0.2**
AKT *e* 05 31 49.9
AKT pmax pmax
comp=Z,47nm,1.1s
TTA Tatalina 81.04 27 P **P 05 28 40.5 -1.1**
baz=259
GCSA Galena City Sc 81.04 25 P **P 05 28 41.5 0.0**
baz=258
MAK Makhachkala 81.28 313 *e*P **P 05 28 39.6 -3.6**
MAK *e**PP **pP 05 28 56.3 -2.8**
MAK *e**SP **pwP 05 29 03.4 -0.5**
MAK *i*S **S 05 38 44.8 -4.3**
MAK pmax pmax
comp=Z,204nm,1.7s
O19K Port Alsworth 81.34 30 P **P 05 28 43.1 0.0**
baz=260
N19K Bonanza Creek 81.36 29 P **P 05 28 42.6 -0.8**
baz=260
OHAK Old Harbor 81.41 33 P **P 05 28 43.2 -0.3**
baz=262
L19K White Mountain 81.42 28 P **P 05 28 43.3 -0.3**
baz=260
Q19K Cape Douglas, 81.47 31 P **P 05 28 43.3 -0.7**
baz=261
KIRV Kirov 81.76 329 P **P 05 28 45.4 0.0**
comp=Z,72nm,0.8s,baz=216,slow=1.5,SNR=11
KIRV LR LR 06 06 46.1
comp=Z,579nm,21.8s,baz=92,slow=37
comp=Z,72nm,0.8s
KDAK Kodiak Island 81.86 32 P **P 05 28 44.3 -1.6**
comp=Z,48nm,0.8s,baz=211,slow=2.3,SNR=24
KDAK LR LR 06 01 51.8
comp=Z,906nm,20.9s,baz=269,slow=33
comp=Z,48nm,0.8s
KDAK Kodiak Island 81.86 32 P **P 05 28 44.8 -1.1**
KDAK IAmb IAmb 05 29 04.3
comp=Z,86nm,0.9s
KDAK Kodiak Island 81.86 32 P **P 05 28 44.7 -1.1**
baz=262
KDAK Kodiak Island 81.86 32 *i*P **P 05 28 46.7 +0.8**
L20K Farewell, AK 81.92 27 P **P 05 28 45.2 -1.1**
baz=260
K20K Telida 81.98 26 P **P 05 28 45.9 -0.6**
baz=260
BELG Belogornoye 82.03 322 *i*P **P 05 28 45.4 -1.5**
BELG pmax pmax
comp=Z,26nm,1.2s
Q20K Shuyak Island 82.07 31 P **P 05 28 46.8 -0.3**
baz=262
M20K Styx River 82.18 28 P **P 05 28 46.8 -0.8**
baz=261
RAYN Ar Rayn 82.20 293 P **P 05 28 48.0 -0.5**
RAYN IAmb IAmb 05 29 06.6
comp=Z,67nm,0.9s
RAYN Ar Rayn 82.20 293 ⇑P **P 05 28 49.1 +0.6**
RAYN Ar Rayn 82.20 293 *i*P **P 05 28 48.3 -0.2**
SNR=34
VNDA Vanda 82.35 173 P **P 05 28 46.6 -1.4**
comp=Z,52nm,0.8s,baz=319,slow=6.0,SNR=66
VNDA LR LR 06 03 38.4
comp=Z,572nm,21.9s,baz=338,slow=34
comp=Z,52nm,0.8s
VNDA Vanda 82.35 173 P **P 05 28 47.1 -1.0**
VNDA IAmb IAmb 05 28 51.7
comp=Z,52nm,0.7s
VNDA Vanda 82.35 173 P **P 05 28 47.1 -1.0**
VNDA pmax pmax
comp=Z,52nm,0.7s
ABPO Ambohimpanom 82.40 251 P **P 05 28 49.4 -0.4**
ABPO Ambohimpanom 82.40 251 P **P 05 28 49.4 -0.4**
ABPO pmax pmax
comp=Z,23nm,1.0s
SPCR Spurr Chakacha 82.52 29 P **P 05 28 49.0 -0.4**
baz=262
GROC Groznyy 82.55 313 *e*P **P 05 28 50.1 +0.3**
GROC *e**PP **pP 05 29 05.3 -0.5**
GROC *e**SP **sP 05 29 13.6 +1.5**
GROC *e*S **S 05 39 02.5 +0.3**
GROC pmax pmax
comp=Z,18nm,0.4s
A21K Barrow 82.61 18 P **P 05 28 48.5 -1.0**
A21K Barrow 82.61 18 P **P 05 28 49.5 0.0**
baz=257,SNR=26
G21K Allakaket 82.76 23 P **P 05 28 49.4 -1.1**
baz=260
PPLA Purkeypile 82.76 27 P **P 05 28 50.5 -0.2**
baz=262,SNR=13
CHUM Lake Minchumin 82.84 26 P **P 05 28 49.9 -1.0**
baz=262,SNR=29
CAST Castle Rocks 82.88 26 P **P 05 28 50.5 -0.7**
CAST Castle Rocks 82.88 26 P **P 05 28 50.2 -1.0**
baz=262,SNR=40
F21K Alatna River 82.89 23 P **P 05 28 50.3 -0.9**
baz=260
H21K Melozitna Rive 82.90 24 P **P 05 28 50.0 -1.2**
baz=261
SKT Skwentna 82.94 28 IAMs_20 IAMs_20 06 01 35.9
comp=Z,1µm,22.0s
SKT Skwentna 82.94 28 P **P 05 28 50.5 -1.0**
baz=263,SNR=9.6
BRSE Bradley Lake S 83.06 30 P **P 05 28 51.4 -0.8**
baz=264,SNR=5.4
VOI Vohitsoka 83.09 248 P **P 05 28 52.7 -0.6**
VOI IAmb IAmb 05 29 19.0
comp=Z,56nm,1.0s
VOI Vohitsoka 83.09 248 P **P 05 28 54.1 +0.8**
I21K Tanana 83.17 25 P **P 05 28 52.3 -0.3**
I21K IAmb IAmb 05 29 11.6
comp=Z,64nm,0.9s
I21K Tanana 83.17 25 P **P 05 28 51.3 -1.3**
baz=262
GNI Garni 83.20 310 P **P 05 28 52.1 -1.4**
comp=Z,7.0nm,0.7s,baz=112,slow=6.7,SNR=2.9
GNI LR LR 06 12 13.5
comp=Z,112nm,19.2s,baz=82,slow=40
comp=Z,7.0nm,0.7s
GNI Garni 83.20 310 P **P 05 28 52.3 -1.2**
GNI IAmb IAmb 05 29 31.4
comp=Z,91nm,1.1s
GNI Garni 83.20 310 P **P 05 28 52.3 -1.2**
GNI pmax pmax
comp=Z,91nm,1.1s
SBA Scott Base 83.24 172 P **P 05 28 53.3 +0.6**
SBA Scott Base 83.24 172 P **P 05 28 53.3 +0.6**
SBA pmax pmax
comp=Z,34nm,0.9s
SUA Susitna One 83.25 29 P **P 05 28 52.6 -0.7**
SUA IAmb IAmb 05 29 00.1
comp=Z,56nm,0.9s
SUA Susitna One 83.25 29 P **P 05 28 52.1 -1.1**
baz=264,SNR=19
KTH Kantishna Hill 83.41 26 P **P 05 28 53.6 -0.4**
MAW Mawson 83.42 201 P **P 05 28 54.0 +0.3**
comp=Z,23nm,0.9s,baz=30,slow=6.5,SNR=5.2
MAW LR LR 06 03 14.9
comp=Z,354nm,21.5s,baz=66,slow=34
comp=Z,23nm,0.9s
PPT Papeete 83.43 108 LR LR 06 02 01.3
comp=Z,245nm,20.2s,baz=289,slow=33
PPT2 Papeete2 83.43 108 *e*P **P 05 28 55.8 +0.8**
comp=Z,58nm,21.2s
PPT2 Papeete2 83.43 108 *e*S **S 05 39 10.8 -1.3**
comp=Z,184nm,24.5s
PPT2 *e*SS **SS 05 44 39.2 +0.1**
comp=Z,239nm,28.2s
PPT2 Papeete2 83.43 108 *e*LR LR 05 55 13.0
comp=Z,500nm,23.5s
PPT2 *e*LR LR 05 55 14.2
comp=Z,450nm,27.0s
BPAW Bear Paw Mtn. 83.45 26 IAMs_20 IAMs_20 06 05 43.8
comp=Z,853nm,20.0s
BPAW Bear Paw Mtn. 83.45 26 P **P 05 28 53.1 -1.0**

baz=263,SNR=20
CUT Chulitna 83.58 28 P P 05 28 54.1 -0.6
baz=264
M22K Willow 83.58 28 P P 05 28 53.7 -1.0
M22K Willow 83.58 28 P P 05 28 54.4 -0.3
baz=264
MLY Manley 83.67 25 P P 05 28 53.9 -1.4
baz=263,SNR=44
TRF Thorofare Moun 83.68 27 P P 05 28 53.9 -1.6
baz=264,SNR=20
RC01 Rabbit Creek A 83.69 29 P P 05 28 54.3 -1.1
RC01 IAmb IAmb 05 29 00.0
comp=Z,46nm,0.8s
RC01 Rabbit Creek A 83.69 29 P P 05 28 54.5 -0.9
baz=264,SNR=13
SEW Seward 83.74 30 P P 05 28 54.5 -1.1
baz=265
ZEI Tsey 83.92 313 *e*P P 05 28 55.2 -2.0
ZEI pmax pmax
comp=Z,65nm,1.3s
PMR Palmer 84.03 28 P P 05 28 55.9 -1.2
baz=265,SNR=19
TBI Tubuai 84.07 114 *e*LR LR 05 55 30.8
comp=Z,12µm,27.8s
TBI *e*LR LR 05 55 30.9
comp=Z,5µm,32.2s
GHO Glory Hole Cre 84.14 28 P P 05 28 57.6 -0.2
GHO IAmb IAmb 05 29 34.2
comp=Z,55nm,0.9s
COLD Coldfoot 84.15 23 P P 05 28 56.6 -1.0
baz=263,SNR=28
G23K Bananza Creek 84.16 23 P P 05 28 56.5 -1.2
baz=264
AKH Akhalkalaki 84.18 311 P P 05 28 57.5 -1.1
AKH Akhalkalaki 84.18 311 P P 05 28 57.5 -1.1
AKH pmax pmax
comp=Z,212nm,1.1s
ONI Oni 84.24 312 P P 05 28 58.9 +0.2
ONI Oni 84.24 312 P P 05 28 58.9 +0.2
ONI pmax pmax
comp=Z,35nm,0.9s
I23K Minto, Yukon-K 84.26 25 P P 05 28 56.8 -1.4
I23K IAmb IAmb 05 29 17.3
comp=Z,80nm,1.0s
I23K Minto, Yukon-K 84.26 25 P P 05 28 57.4 -0.8
baz=264,SNR=46
MCK McKinley 84.31 26 P P 05 28 56.9 -1.6
baz=265,SNR=26
NEA2 Nenana 84.33 25 P P 05 28 57.3 -1.3
NEA2 Nenana 84.33 25 P P 05 28 57.3 -1.3
baz=265,SNR=23
KNK Knik Glacier 84.34 29 P P 05 28 57.8 -0.9
baz=266,SNR=22
PWL Port Wells 84.35 29 P P 05 28 57.8 -1.0
baz=266,SNR=11
WAT1 Susitna Watana 84.41 27 P P 05 28 57.3 -1.7
baz=265
SML Sawmill 84.43 28 P P 05 28 58.0 -1.2
baz=266,SNR=20
E23K Chandalar 84.47 22 P P 05 28 58.6 -0.7
baz=264
KARS Kars 84.48 310 P P 05 28 58.7 -1.4
KARS Kars 84.48 310 P P 05 28 58.7 -1.4
KARS pmax pmax
comp=Z,209nm,0.9s
KBZ Khabaz 84.68 313 P P 05 28 59.0 -1.7
comp=Z,9.0nm,1.1s,baz=142,slow=2.0,SNR=12
comp=Z,9.0nm,1.1s
KBZ Khabaz 84.68 313 P P 05 28 59.0 -1.7
M23K Glacier View 84.71 28 P P 05 29 00.1 -0.5
baz=266,SNR=21
P23K Montague Islan 84.76 30 P P 05 29 00.6 -0.1
baz=267
WAT6 Susitna Watana 84.76 28 P P 05 29 00.0 -1.0
baz=266,SNR=37
KIV Kislovodsk 84.83 314 P P 05 29 01.4 -0.3
KIV IAmb IAmb 05 29 33.3
comp=Z,55nm,1.2s
KIV Kislovodsk 84.83 314 *e*P P 05 29 02.3 +0.6
KIV *e* 05 39 20.1
KIV pmax pmax
comp=Z,23nm,1.1s
TCOL CIGO, UAF Yank 84.87 25 P P 05 29 01.2 0.0
baz=266
COLA College 84.88 25 P P 05 29 01.4 +0.1
COLA College 84.88 25 P P 05 29 00.7 -0.6
baz=266
COLA College 84.88 25 P P 05 29 02.3 +1.0
CCB Clear Creek Bu 84.88 25 P P 05 28 58.9 -2.4
E24K Your Creek 84.89 22 P P 05 29 00.6 -0.8
baz=265
SCM Sheep Creek Mo 84.91 28 P P 05 29 00.9 -0.7
SCM Sheep Creek Mo 84.91 28 P P 05 29 00.6 -1.0
baz=266,SNR=23
SCM Sheep Creek Mo 84.91 28 P P 05 29 00.9 -0.7
SCM pmax pmax
comp=Z,124nm,1.0s
ATD Arta Tunnel 84.91 281 LR LR 06 07 06.2
comp=Z,67nm,20.0s,baz=42,slow=36
H24K Noodor Dome 84.94 24 P P 05 29 01.1 -0.6
baz=266,SNR=12
DHY Denali Highway 84.96 27 P P 05 29 02.0 0.0
DHY IAMs_20 IAMs_20 05 59 51.3
comp=Z,1µm,20.0s
DHY Denali Highway 84.96 27 P P 05 29 01.1 -0.9
baz=266,SNR=13
C24K Franklin Bluff 84.97 20 P P 05 29 01.2 -0.4
baz=264,SNR=29
F24K Squaw Lake 85.07 23 P P 05 29 03.1 +0.8
baz=265
POKR Poker Plat Res 85.07 25 P P 05 29 03.4 +1.1
baz=266
G24K Hadweenzic Riv 85.17 23 P P 05 29 03.0 +0.2
baz=266
HDA Harding Lake 85.23 26 P P 05 29 01.7 -1.4
HDA Harding Lake 85.23 26 P P 05 29 03.8 +0.7
baz=267,SNR=14
GURO Guroymak-BITLI 85.27 308 P P 05 29 03.1 -0.9
IL31 85.28 25 P P 05 29 03.0 -0.2
ILAR Eielson Array 85.28 25 P P 05 29 01.3 -2.0
comp=Z,3.5nm,0.8s,baz=250,slow=5.1,SNR=30
ILAR PKKPbc **PKKPbc** 05 47 10.3 -0.9
comp=Z,1.1nm,0.9s,baz=51,slow=2.4,SNR=8.0
ILAR LR LR 06 06 15.4
comp=Z,205nm,20.4s,baz=239,slow=35
comp=Z,3.5nm,0.8s
ILAR Eielson Array 85.28 25 P P 05 29 02.8 -0.6
ILAR Eielson Array 85.28 25 P P 05 29 02.8 -0.6
M24K Toisona, Glenn 85.46 28 P P 05 29 04.7 +0.3
baz=267,SNR=14
KLU Klutina 85.56 29 P P 05 29 04.0 -0.9
KLU IAmb IAmb 05 29 33.7
comp=Z,41nm,0.8s
KLU Klutina 85.56 29 P P 05 29 05.2 +0.3
baz=268,SNR=8.6
EYAK Cordova Ski Ar 85.61 30 P P 05 29 04.6 -0.4
baz=268
EYAK Cordova Ski Ar 85.61 30 P P 05 29 06.0 +1.0
VRH Novokhopyorsk 85.62 321 *e*P P 05 29 04.5 -0.7
VRH 05 39 21.4
VRH pmax pmax
comp=Z,90nm,0.8s
DIV Divide 85.62 29 P P 05 29 04.4 -0.8
G25K Bearman Lake 85.72 23 P P 05 29 04.6 -0.8
baz=267,SNR=9.2
K24K Donnelly Dome 85.72 26 P P 05 29 05.8 +0.2
baz=268
PAX Paxson 85.83 27 P P 05 29 05.0 -1.2
PAX IAmb IAmb 05 29 34.9
comp=Z,45nm,1.1s
PAX Paxson 85.83 27 P P 05 29 06.3 +0.1
baz=268,SNR=14
PAX Paxson 85.83 27 P P 05 29 05.0 -1.2
PAX pmax pmax
comp=Z,45nm,1.1s
PRP Porcupine Dome 85.90 25 P P 05 29 07.1 +0.6
baz=268
F25K Christian Rive 85.93 23 P P 05 29 07.6 +1.0
baz=268
HARP HAARP 85.95 28 P P 05 29 07.5 +0.7
baz=268,SNR=9.0
E25K Arctic Village 85.98 22 P P 05 29 07.5 +0.7
baz=268,SNR=29
RIDG Independent Ri 86.13 26 P P 05 29 07.9 +0.2
baz=268,SNR=6.2
BMRM Bremner River 86.18 29 P P 05 29 07.3 -0.6
baz=269,SNR=12
N25K Chitina, Valde 86.19 29 P P 05 29 07.6 -0.4
baz=269,SNR=12
MARD Mardin 86.27 307 P P 05 29 08.9 -0.1
MARD IAmb IAmb 05 29 25.4
comp=Z,49nm,0.8s
F26K Sheenjek River 86.51 22 P P 05 29 09.4 0.0
baz=269
SCRK Sand Creek 86.52 26 P P 05 29 09.4 -0.2
SCRK Sand Creek 86.52 26 P P 05 29 09.4 -0.2
baz=269
MENT Mentasta 86.62 27 P P 05 29 09.7 -0.4
G26K Porcupine Rive 86.64 23 P P 05 29 09.6 -0.4
baz=269
C27K Jago River 86.70 21 P P 05 29 10.8 +0.5
baz=269
J26L Joseph Creek 86.70 26 P P 05 29 10.2 -0.3
baz=270
L26K Log Cabin Wild 86.80 27 P P 05 29 10.7 -0.2
baz=270
KLMR Klimovskoe 86.92 331 *e*P P 05 29 08.0 -3.4
KLMR AMP 05 29 14.4
comp=Z,42nm,0.9s
KLMR *e*PP **PP** 05 32 35.3 +0.4
KLMR LQ LQ 05 58 42.6
KLMR LQ LQ 05 58 42.6
KLMR LR LR 06 04 50.4
KLMR Klimovskoe 86.92 331 *e*P P 05 29 08.0 -3.4
KLMR *e* 05 32 35.3
KLMR pmax pmax
comp=Z,42nm,0.9s
MCARA McCarthy VSAT 86.95 29 P P 05 29 12.0 +0.4
baz=270
M26K Nabesna, AK 86.96 28 P P 05 29 11.8 +0.1
baz=270
VORR Voronezh 87.19 321 *e*P P 05 29 14.9 +1.9
VORR pmax pmax
comp=Z,91nm,1.8s
VSR Storozhevoye 87.22 321 *e*P P 05 29 12.0 -1.1
VSR pmax pmax
comp=Z,30nm,0.8s
LPSR Galich'ya Gora 87.34 322 *e*P P 05 29 12.0 -1.7
LPSR 05 39 30.9
ADZR Andozero 87.45 334 *e*P P 05 29 15.7 +1.7
ADZR *e**PP **pwP** 05 29 33.2 -1.7
ADZR pmax pmax
comp=Z,42nm,1.3s
E27K Coleen River 87.47 22 P P 05 29 13.9 -0.2
baz=271
G27K Doyon Strip 87.48 23 P P 05 29 13.8 -0.3
baz=271
M27K Edge Creek, AK 87.48 28 P P 05 29 14.2 -0.1
baz=271
L27K Beaver Creek, 87.49 27 IAMs_20 IAMs_20 06 05 06.1
comp=Z,976nm,20.0s
L27K Beaver Creek, 87.49 27 P P 05 29 14.3 0.0
baz=271
BCAR Beaver Creek A 87.51 27 P P 05 29 14.5 +0.2
I27K Kandik River 87.52 25 P P 05 29 13.9 -0.5
baz=271
H27K Steamboat Moun 87.54 24 P P 05 29 14.1 -0.3
baz=271
EGAK Eagle 87.74 25 P P 05 29 14.9 -0.5
baz=272
BVCY Beaver Creek 87.95 28 P P 05 29 16.3 -0.2
baz=272
MOS Moscow 88.02 326 *e*P P 05 29 15.5 -1.4
MOS *e* 05 29 25.6
MOS *e* 05 32 41.4
MOS *e*S **S** 05 39 52.7 -2.9
MOS pmax pmax
comp=Z,56nm,1.0s
YUK3 Moose Creek 88.17 28 P P 05 29 17.3 -0.4
baz=272
O28M Mount Upton 88.34 29 P P 05 29 18.9 +0.2
baz=273
PINM Pinnacle 88.34 30 P P 05 29 18.4 0.0
baz=273
YUK8 Steele Glacier 88.52 29 P P 05 29 19.4 0.0
baz=273
DAWY Dawson 88.54 26 P P 05 29 19.2 0.0
baz=273
ANN Anapa 88.59 315 *e*P P 05 29 13.0 -6.8
ANN *e**PP **PcP** 05 29 28.2 +6.9
ANN *e*S **SKSac** 05 39 35.4 -8.4
ANN pmax pmax
comp=Z,43nm,0.9s
OBN Obninsk 88.65 325 P P 05 29 18.0 -1.8
comp=Z,5.9nm,0.6s,baz=72,slow=3.0,SNR=10.0
OBN LR LR 06 11 41.3
comp=Z,140nm,20.2s,baz=80,slow=37
comp=Z,5.9nm,0.6s
OBN Obninsk 88.65 325 ⇑P P 05 29 18.1 -1.8
OBN Obninsk 88.65 325 P P 05 29 18.2 -1.7
OBN Obninsk 88.65 325 ⇓*e*P P 05 29 18.4 -1.4
OBN *e* 05 32 47.0
OBN *i* SS SS 05 45 55.7 +2.1
OBN pmax pmax
comp=Z,133nm,1.7s
OBN MLR MLR
comp=Z,573nm,19.0s
I29M Ogilvie Camp, 88.91 25 P P 05 29 21.0 0.0
baz=274
YUK4 Talbot Arm 89.06 29 P P 05 29 22.4 +0.4
baz=274
M29M Somme Creek 89.06 28 P P 05 29 21.7 -0.1
baz=274
L29M L29M 89.17 27 P P 05 29 21.5 -0.7
baz=274
O29M Mount Kennedy 89.17 30 P P 05 29 22.1 -0.3
baz=274
TOKA Tokat 89.52 310 P P 05 29 23.3 -1.1
G30M tAoh Zraii Nji 89.61 23 P P 05 29 22.5 -1.7
baz=276
ASF Jal al Asfar 89.63 302 P P 05 29 23.7 -1.4
comp=Z,16nm,1.1s,baz=103,slow=3.6,SNR=9.4
comp=Z,16nm,1.1s
HYT Haines Junctio 89.65 29 P P 05 29 23.7 -0.9
baz=275
N30M Aishikik Lake 89.79 29 P P 05 29 25.6 +0.5
baz=276
M30M Minto, Yukon 89.82 27 P P 05 29 25.0 -0.2
baz=276
MAYO Mayo, Yukon 90.12 26 P P 05 29 27.4 +0.8
MAYO IAmb IAmb 05 29 54.8
comp=Z,48nm,0.8s
MAYO Mayo, Yukon 90.12 26 P P 05 29 27.3 +0.8
baz=276
KIBK Kibwezi 90.28 268 P P 05 29 26.1 -2.5
KIBK IAmb IAmb 05 29 54.2
comp=Z,53nm,1.0s
O30N Mendenhall 90.35 29 P P 05 29 28.6 +0.8
baz=276
PLBC Pleasant Camp 90.35 31 P P 05 29 28.8 +1.1
baz=276
N31M Braeburn, Yuko 90.42 29 P P 05 29 27.8 -0.3
N31M Braeburn, Yuko 90.42 29 P P 05 29 28.6 +0.5
baz=277
INK Inuvik 90.46 22 LR LR 06 10 21.8
comp=Z,467nm,20.6s,baz=270,slow=36
INK Inuvik 90.46 22 P P 05 29 26.2 -1.8
baz=279
F31M Tsiigehtchic 90.51 22 P P 05 29 26.8 -1.4
baz=278
MMAI Mount Meron Ar 90.84 303 P P 05 29 32.2 +1.5
comp=Z,6.8nm,0.8s,baz=83,slow=6.8,SNR=6.0
SKAG Skagway 90.88 30 P P 05 29 29.8 -0.3
baz=277
SIM Simferopol' 90.93 315 *e*P P 05 29 29.3 -1.5
SIM *e* 05 33 09.8
SIM pmax pmax
comp=Z,34nm,0.8s
SIM MLR MLR
comp=Z,231nm,20.0s
WHY Whitehorse 90.95 29 P P 05 29 30.1 -0.5
baz=277
M31M Drury Creek, Y 90.98 28 P P 05 29 30.0 -0.7
baz=278
KMBO Kilima Mbogo 91.02 269 P P 05 29 32.5 +0.4
comp=Z,0.2nm,0.8s,baz=14,slow=24,SNR=4.9
EIL Elat 91.46 300 P P 05 29 33.6 0.0
comp=Z,4.9nm,0.7s,baz=50,slow=6.0,SNR=3.0
comp=Z,4.9nm,0.7s
FARO Faro, Yukon 91.46 28 P P 05 29 32.5 -0.4
baz=279
SPITS Spitsbergen Ar 91.65 349 LR LR 06 14 49.3
comp=Z,423nm,21.8s,baz=30,slow=38
BR131 Keskin Array S 91.74 310 P P 05 29 33.5 -1.3
BR131 IAmb IAmb 05 29 57.6
comp=Z,21nm,0.8s
BR131 Keskin Array S 91.74 310 P P 05 29 33.5 -1.3
BR131 pmax pmax
comp=Z,21nm,0.9s
BRTR Keskin Array B 91.74 310 P P 05 29 33.4 -1.3
comp=Z,3.5nm,0.9s,baz=103,slow=5.1,SNR=16
BRTR PKKPbc **PKKPbc** 05 46 54.3 -0.3
comp=Z,1.1nm,0.9s,baz=263,slow=2.3,SNR=3.4
BRTR LR LR 06 17 38.8
comp=Z,226nm,20.7s,baz=68,slow=40
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 91.74 310 P P 05 29 33.9 -0.9
BRTR Keskin Array B 91.74 310 *i* P P 05 29 36.5 +1.7
BRTR pmax pmax
comp=Z,3.0nm,0.8s
N32M Quiet Lake 91.75 29 P P 05 29 33.8 -0.5
baz=279
ARCES ARCESS Array B 91.81 340 P P 05 29 32.5 -1.9
comp=Z,9.7nm,0.7s,baz=76,slow=5.4,SNR=9.1
ARCES LR LR 06 16 42.4
comp=Z,273nm,18.7s,baz=82,slow=39
comp=Z,9.7nm,0.7s
P33M Teslin, Yukon 92.03 30 P P 05 29 35.1 -0.5
baz=279
TAOE Nuku Hiva Isla 92.05 99 *e*LR LR 05 59 12.8
comp=Z,813nm,24.4s
MMPY Sheldon Lake, 92.35 27 P P 05 29 36.8 -0.2
baz=281
A36M Sachs Harbour 92.41 17 P P 05 29 37.1 +0.1
baz=287
QSPA South Pole Qui 92.73 180 LR LR 06 12 30.8
comp=Z,521nm,19.2s,baz=348,slow=36
QSPA South Pole Qui 92.73 180 P P 05 29 38.6 -0.2
QSPA South Pole Qui 92.73 180 IAMs_20 IAMs_20 06 10 33.9
comp=Z,785nm,22.0s
WRAK Wrangell Islan 92.89 33 P P 05 29 39.4 -0.1
baz=279
R33M Jennings River 93.09 30 P P 05 29 40.5 -0.1
baz=281
S34M Telegraph Cree 93.28 32 P P 05 29 41.2 -0.1
baz=281
FINES FINESS Array B 93.33 332 P P 05 29 39.7 -1.7
comp=Z,4.0nm,0.5s,baz=55,slow=5.3,SNR=26
FINES LR LR 06 16 60.0
comp=Z,646nm,18.6s,baz=78,slow=39
comp=Z,4.0nm,0.5s
FINES FINESS Array B 93.33 332 *ce*P P 05 29 42.0 +0.6
FINES pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 93.53 321 P P 05 29 39.4 -3.2
comp=Z,6.6nm,0.8s,baz=64,slow=5.1,SNR=13
AKASG Malin Array Be 93.53 321 P P 05 29 40.5 -2.2
AKASG Malin Array Be 93.53 321 *ce*P P 05 29 41.5 -1.1
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 93.53 321 *ce*P P 05 29 41.4 -1.2
AKBB pmax pmax
comp=Z,12nm,1.2s
C36M Paulatuk 93.56 20 P P 05 29 41.5 -0.9
baz=288
PURM Purcari 93.71 317 ⇑P P 05 29 45.0 +1.5
MNK Minsk 93.71 325 *i* P P 05 29 40.7 -2.7
comp=E,3.0nm,1.0s
MNK *i* P P 05 29 40.7 -2.7
comp=N,18nm,0.7s
MNK *i* P P 05 29 40.7 -2.7
comp=Z,14nm,0.8s,baz=260
MNK *i* PP **PP** 05 33 26.0 -2.9
MNK *i* PPP PPP 05 35 26.6
MNK *i* S **SKSac** 05 40 09.5 -3.2
MNK *i* PS **PS** 05 42 06.8 -2.5
MNK *i* SS **SS** 05 47 04.8 -1.7
MNK *i* SSS SSS 05 50 45.9
MNK *i* LR LR 06 10 09.2
MNK *i* LRM MLR 06 12 19.6
comp=N,501nm,17.9s
MNK *i* LRM MLR 06 12 27.2
comp=E,77nm,20.4s
MNK *i* LRM MLR 06 13 24.7
comp=Z,421nm,20.4s
MNK Minsk 93.71 325 *i* P P 05 29 40.7 -2.7
MNK *i* 05 33 26.0
MNK *i* PPP PPP 05 35 26.6
MNK *i* S **SKSac** 05 40 09.4 -3.2
MNK *i* PS **PS** 05 42 06.7 -2.5
MNK *i* SS **SS** 05 47 04.8 -1.7
MNK *i* SSS SSS 05 50 45.9
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,18nm,0.6s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=N,501nm,18.0s
MNK MLR MLR
comp=E,77nm,20.0s
MNK MLR MLR
comp=Z,421nm,20.0s
DLBC Dease Lake 93.75 31 LR LR 06 06 48.0
comp=Z,919nm,21.5s,baz=272,slow=32
DLBC Dease Lake 93.75 31 P P 05 29 44.0 +0.3
DLBC Dease Lake 93.75 31 P P 05 29 43.3 -0.3
baz=282
T35M Bob Quinn 93.92 33 P P 05 29 43.6 -0.8
baz=281
NOR Nord 94.12 355 *i* P P 05 29 42.5 -2.2
NOR IAmb IAmb 05 29 48.5
comp=Z,2.3nm,0.8s
NACGM Naroch 94.27 325 *e*P P 05 29 48.4 +2.5
comp=Z,13nm,1.0s,baz=79
SORM Soroca 94.49 319 ⇑P P 05 29 48.1 +1.0
SORM Soroca 94.49 319 ⇑P P 05 29 48.1 +1.0
CFR Carcaliu 95.11 316 ⇑P P 05 29 48.6 -1.4
CFR Carcaliu 95.11 316 ⇑P P 05 29 48.6 -1.4
VARL Varlezi 95.19 316 ⇓P P 05 29 50.8 +0.5
HARR Harsova 95.33 315 ⇑P P 05 29 49.4 -1.6
HARR Harsova 95.33 315 ⇑P P 05 29 49.4 -1.6
LIRD Liard River Hi 95.52 30 P P 05 29 51.5 0.0
baz=285
WRGLY Wrigley 95.66 26 P P 05 29 51.9 -0.2
baz=288
PANC Panciu 95.68 316 ⇓P P 05 29 51.5 -1.1
VRI Vrincioaia 95.97 316 ⇑P P 05 29 53.0 -0.9
VRI Vrincioaia 95.97 316 ⇑P P 05 29 53.0 -0.9
PLOR Plostina 96.03 316 ⇑P P 05 29 53.2 -1.0
PLOR Plostina 96.03 316 ⇑P P 05 29 53.2 -1.0
BBB Bella Bella 96.13 37 LR LR 06 05 32.8
comp=Z,666nm,21.6s,baz=278,slow=31
KOTAN Kotaneelee Air 96.31 29 P P 05 29 54.8 -0.3
baz=287
MLR Muntele Rosu 96.58 316 P P 05 29 56.0 -0.9
comp=Z,6.4nm,0.8s,baz=84,slow=16,SNR=7.6
MLR LR LR 06 18 51.0
comp=Z,503nm,21.8s,baz=62,slow=39
comp=Z,6.4nm,0.8s
MLR Muntele Rosu 96.58 316 ⇓P P 05 29 55.4 -1.5
MLR Muntele Rosu 96.58 316 P P 05 29 55.7 -1.2
MLR IAmb IAmb 05 30 20.3
comp=Z,19nm,0.8s
MLR Muntele Rosu 96.58 316 P P 05 29 56.0 -0.9
BURAR Bucovina Array 96.66 318 ⇑P P 05 29 57.5 +0.3
BURAR Bucovina Array 96.66 318 P P 05 29 56.2 -1.0
BURAR IAmb IAmb 05 30 21.5
comp=Z,25nm,0.8s
BURAR Bucovina Array 96.66 318 ⇑P P 05 29 57.5 +0.3
BUR08 Bucovina Ar. S 96.67 318 P P 05 29 56.2 -1.0
BUR08 IAmb IAmb 05 30 21.2
comp=Z,26nm,1.0s
VOIR 97.21 316 ⇑P P 05 29 57.9 -1.8
VOIR 97.21 316 ⇑P P 05 29 57.9 -1.8
ELIB Princess Elisa 97.26 198 *d*P Pdif 05 29 60.0 +0.6
comp=Z,14nm,1.0s
ARR Arges 97.51 316 ⇑P P 05 30 00.3 -0.7
MARR Marisel-Cluj 98.26 318 ⇓P Pdif 05 30 04.6 +0.2
TRPA Tarpa 98.31 319 ⇑P P 05 30 04.1 -0.3
DAG Danmarks Havn 98.34 353 *i* P P 05 30 01.3 -2.6
DAG IAmb IAmb 05 30 08.0
comp=Z,6.9nm,0.6s
UZH Uzhgorod 98.35 320 *di*P P 05 30 04.5 -0.1
UZH *e* 05 30 20.0
UZH *i* 05 30 25.0
RES Resolute Bay 98.43 11 LR LR 06 17 36.2
comp=Z,410nm,19.6s,baz=320,slow=37
RES Resolute Bay 98.43 11 P P 05 30 03.2 -1.2

RES Resolute Bay 98.43 11 P **P** 05 30 03.2 -1.2
RES pmax pmax
comp=Z,12nm,0.8s
GZR Gura Zlata 98.78 317 ⇑P **P** 05 30 06.1 -0.6
GZR Gura Zlata 98.78 317 ⇑P **P** 05 30 06.1 -0.6
CRVS Cervenica-Dubn 98.81 320 *i* P **P** 05 30 06.7 0.0
CRVS *e* 05 30 29.3
CRVS Cervenica-Dubn 98.81 320 *e*PDIFF **P** 05 30 06.7 0.0
CRVS *e* 05 30 29.3
SIRR Siria 99.33 318 ⇑P **Pdif** 05 30 08.8 -0.3
HFS Hagfors 99.51 333 LR LR 06 20 51.2
comp=Z,656nm,19.1s,baz=64,slow=39
YKA Yellowknife Ar 99.70 25 P **Pdif** 05 30 08.2 -2.1
comp=Z,3.3nm,0.9s,baz=298,slow=5.0,SNR=33
YKA PKiKP **PKiKP** 05 34 39.5 +0.8
comp=Z,0.6nm,0.6s,baz=306,slow=2.2,SNR=6.9
YKA PKKPbc **PKKPbc** 05 46 29.8 -3.9
comp=Z,1.5nm,0.8s,baz=111,slow=2.2,SNR=10
YKA LR LR 06 16 09.7
comp=Z,262nm,18.6s,baz=292,slow=36
comp=Z,3.3nm,0.9s
NEEM North Greenlan 99.83 360 *i* P **Pdif** 05 30 10.0 -1.1
NEEM IAmb IAmb 05 30 15.7
comp=Z,5.4nm,0.8s
PSZ Piszkesteto 100.08 320 ⇑P Pdif 05 30 30.9 +18
PSZ Piszkesteto 100.08 320 IAMs_20 IAMs_20 06 17 18.5
comp=Z,390nm,20.0s
NB2 NORSAR Subarra 100.25 334 P **Pdif** 05 30 10.9 -2.0
comp=Z,17nm,1.2s,baz=65,slow=4.6
NB2 PKKP **PKKPbc** 05 46 30.7 -1.6
comp=Z,2.4nm,1.0s,baz=246,slow=2.6
NB2 NORSAR Subarra 100.25 334 P **Pdif** 05 30 10.9 -2.0
baz=65,slow=4.6
NOA NORSAR Array B 100.25 334 P **Pdif** 05 30 10.7 -2.2
comp=Z,4.0nm,0.9s,baz=66,slow=4.6,SNR=13
NOA PP **PP** 05 34 21.9 +2.9
comp=Z,3.5nm,1.0s,baz=68,slow=7.3,SNR=4.8
NOA PKKPbc **PKKPbc** 05 46 29.0 -3.2
comp=Z,1.7nm,0.9s,baz=71,slow=3.1,SNR=5.2
VYHS Vyhne 100.60 320 *i* P **Pdif** 05 30 15.3 +0.6
DBG Daneborg 100.64 352 *i* P **Pdif** 05 30 11.3 -2.9
DBG IAmb IAmb 05 30 20.9
comp=Z,4.1nm,0.8s
MORC Moravsky Berou 101.03 322 ⇓P **Pdif** 05 30 15.9 -0.7
MORC Moravsky Berou 101.03 322 *e*P **Pdif** 05 30 16.6 0.0
MORC *e*PP **PP** 05 34 27.9 +2.6
MORC Moravsky Berou 101.03 322 ⇓P **Pdif** 05 30 15.9 -0.7
JAVC Velka Javorina 101.23 321 *e*P **Pdif** 05 30 21.1 +3.6
KRLC Kraliky 101.41 322 *e*PDIFF **Pdif** 05 30 19.4 +1.1
KRLC *e*sP pwP 05 30 39.9 +0.4
KRLC Kraliky 101.41 322 *e*P **Pdif** 05 30 19.4 +1.1
DPC Dobruska-Polom 101.60 323 *e*PDIFF **Pdif** 05 30 19.3 +0.2
DPC *e*sP pwP 05 30 40.5 +0.1
DPC AMS AMS 06 17 30.0
comp=Z,800nm,22.3s
DPC Dobruska-Polom 101.60 323 *e*P **Pdif** 05 30 19.3 +0.2
DPC MLR MLR
comp=Z,800nm,22.3s
VRAC Vranov 101.77 322 *e*P **Pdif** 05 30 21.0 +1.2
VRAC *e*PP **PP** 05 34 31.4 +0.6
KRUC Moravsky 101.97 321 *e*P **Pdif** 05 30 21.8 +1.1
PDG Podgorica 101.97 314 IAMs_20 IAMs_20 06 20 18.8
comp=Z,508nm,22.0s
RONA Rosalia, Austr 102.46 320 *e*Pdiff **Pdif** 05 30 26.4 +3.4
comp=Z,4.8nm,1.6s
RONA *e*PKiKP **PP** 05 34 40.0 +3.9
comp=Z,9.8nm,1.3s
CONA Conrad Observa 102.67 320 *e*Pdiff **Pdif** 05 30 28.4 +4.4
comp=Z,5.4nm,1.8s
CONA *e*PKiKP **PKiKP** 05 34 41.3 -3.3
comp=Z,10nm,1.2s
PRU Pruhonice 102.80 323 *e*PDIFF **Pdif** 05 30 25.8 +1.4
PRU AMS AMS 06 19 50.0
comp=Z,700nm,16.1s
PRU Pruhonice 102.80 323 *e*P **Pdif** 05 30 25.8 +1.4
PRU MLR MLR
comp=Z,700nm,16.1s
BRG Berggiesshubel 102.84 324 ⇓*e*Pif 05 30 26.5
BRG Amp 05 30 27.8
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 102.84 324 *e*P **Pdif** 05 30 26.5 +1.9
CLL Collm 103.24 324 *e*Pdif **Pdif** 05 30 27.0 +0.7
CLL *i* x x 05 30 50.0
CLL *e*PP **PP** 05 34 38.0 -3.7
CLL *e*x x 05 34 49.0
CLL *e*Sdif Sdif 05 42 24.0 +15
CLL *e*PPS PPS 05 45 00.0
CLL *e*SS **SS** 05 49 24.0 +3.9
CLL *e*x x 05 51 30.0
CLL *e*SSS SSS 05 53 24.0
CLL *e*(SSSS) 05 56 06.0
CLL LmV 06 29 00.0
comp=Z,500nm,20.4s
CLL Collm 103.24 324 *e*P **Pdif** 05 30 27.0 +0.7
CLL *e* 05 34 38.0
CLL MLR MLR
comp=Z,500nm,20.4s
CKRC Cesky Krumlov 103.34 322 *e*PP **PKiKP** 05 34 46.1 +0.3
SOKA Soboth 103.61 319 *e*PKiKP **PKiKP** 05 34 49.6 +3.2
comp=Z,16nm,1.4s
KHC Kasperske Hory 103.69 322 *e*sP **sPdif** 05 30 50.7 -0.1
KHC *e*PP **PP** 05 34 45.0 -0.2
KHC AMS AMS 06 26 40.0
comp=Z,700nm,16.7s
MOA Molln 103.71 321 *e*Pdiff **Pdif** 05 30 31.4 +2.9
comp=Z,2.1nm,0.8s
GERES GERESS Array B 103.71 322 Pdiff **Pdif** 05 30 27.9 -0.7
comp=Z,0.9nm,0.9s,baz=86,slow=5.5,SNR=3.6
GERES PP **PKiKP** 05 34 48.8 +2.2
comp=Z,2.2nm,0.9s,baz=69,slow=5.4,SNR=6.8
GERES PKKPbc **PKKPbc** 05 46 20.7 -1.1
comp=Z,0.4nm,0.6s,baz=241,slow=4.4,SNR=3.7
OBKA Obir 103.98 319 *e*PP **PP** 05 34 50.1 +2.5
comp=Z,10nm,1.4s
NEW Newport 104.01 39 P **Pdif** 05 30 29.4 -0.5
baz=291
BIOA Bad Ischl, Aus 104.16 321 *e*Pdiff **Pdif** 05 30 33.9 +3.3
comp=Z,8.1nm,1.5s
SUMG Summit 104.25 356 *i* P **PP** 05 34 52.0 +3.0
MOX Moxa 104.30 324 *e*L L 06 31 00.7
comp=Z,480nm,19.5s
KBA Koelnbreinsper 104.56 320 *e*PP **PP** 05 34 52.2 +0.3
comp=Z,17nm,1.4s
SNAA Sanae 104.71 194 PKKPbc PKKPbc 05 46 16.6 -3.0
comp=Z,3.0nm,0.7s,baz=303,slow=8.1,SNR=10.0
GRF Grafenberg Arr 104.91 323 *e*PP **PP** 05 35 00.2 +6.0
GRF *e*L L 06 21 38.8
comp=Z,457nm,21.0s
ABTA Abfaltersbach 105.21 320 *e*sPdiff sPdif 05 30 58.2 +0.4
comp=Z,6.5nm,1.3s
WTTA Wattenberg 105.58 321 *e*Pdiff **Pdif** 05 30 39.2 +2.1
comp=Z,6.0nm,1.2s
WTTA *i* sPdiff **sPdif** 05 31 00.8 +1.3
comp=Z,13nm,1.1s
WTTA *e*PKiKP **PKiKP** 05 34 51.4 +1.2
comp=Z,14nm,0.9s
WTTA *i* PKKP **PKKPab** 05 46 33.4 +0.6
comp=Z,11nm,1.1s
WATA Walderalm 105.59 321 *e*Pdiff **Pdif** 05 30 39.0 +1.9
comp=Z,3.7nm,0.7s
WATA *e*sPdiff **sPdif** 05 31 00.7 +1.2
comp=Z,6.6nm,1.0s
WATA *e*PKiKP **PKiKP** 05 34 52.7 +2.6
comp=Z,27nm,1.4s
WATA *i* PKKP **PKKPab** 05 46 32.9 +0.3
comp=Z,9.0nm,1.1s
SQTA Sankt Quirin 105.86 321 *i* Pdiff **Pdif** 05 30 40.3 +2.0
comp=Z,2.0nm,0.4s
SQTA *i* sPdiff **sPdif** 05 31 02.0 +1.3
comp=Z,6.2nm,0.7s
SQTA *e*PKiKP **PKiKP** 05 34 54.5 +3.9
comp=Z,12nm,1.1s
SQTA *i* PKKP **PKKPab** 05 46 32.3 +0.9
comp=Z,7.7nm,1.0s
MOTA Moosalm 105.88 321 *e*Pdiff **Pdif** 05 30 38.5 +0.1
comp=Z,10nm,1.4s
MOTA *i* sPdiff **sPdif** 05 31 01.4 +0.6
comp=Z,6.2nm,0.9s
MOTA *e*PKiKP **PKiKP** 05 34 54.4 +3.8
comp=Z,19nm,1.1s
RETA Reutte 106.04 321 *i* PKKP 05 46 31.4
AQU L'Aquila 106.13 316 IAMs_20 IAMs_20 06 22 28.0
comp=Z,477nm,21.0s
FETA Feichten 106.24 321 *i* sPdiff **sPdif** 05 31 04.1 +1.7
comp=Z,8.3nm,1.2s
FETA *e*PKiKP **PKiKP** 05 34 55.6 +4.2
comp=Z,13nm,1.4s
FETA *i* PKKP **PKKPab** 05 46 30.8 +1.0
comp=Z,7.1nm,1.0s
NVAR Mina Array Bea 106.40 49 Pdiff **Pdif** 05 30 40.9 -0.1
comp=Z,1.1nm,0.8s,baz=260,slow=5.5,SNR=7.3
NVAR PKKPbc **PKKPbc** 05 46 13.8 +0.3
comp=Z,0.8nm,0.8s,baz=135,slow=3.3,SNR=4.1
DAVA Damuels 106.67 321 *e*Pdiff **Pdif** 05 30 39.0 -2.9
comp=Z,6.5nm,1.1s
DAVOX Davos/Dischmat 106.87 321 PKKPab PKKPab 05 46 26.7 -0.3
comp=Z,4.2nm,0.9s,baz=305,slow=6.8,SNR=5.6
RRX Edison Barstow 108.45 52 P **PKiKP** 05 34 54.3 -1.4
baz=287
EKA Eskdalemuir Ar 109.70 333 PKKPbc PKKPbc 05 46 01.5 -1.8
comp=Z,0.7nm,0.5s,baz=240,slow=3.2,SNR=8.6
EKA PKKPab **PKKPab** 05 46 13.6 -0.5
comp=Z,2.5nm,0.9s,baz=245,slow=3.6,SNR=3.8
DUG Dugway, Tooele 109.83 45 P **PKiKP** 05 34 57.2 -1.1
baz=292
PDAR Pinedale Array 111.05 42 PKiKP **PKiKP** 05 34 58.5 -2.1
comp=Z,0.5nm,0.9s,baz=328,slow=3.2,SNR=2.4
PDAR PKKPbc **PKKPbc** 05 45 57.4 -1.5
comp=Z,1.8nm,0.9s,baz=122,slow=4.0,SNR=10
LAO LASA Array 111.37 37 P **PKiKP** 05 35 01.7 +0.8
baz=299
LAO LASA Array 111.37 37 P **PKiKP** 05 35 00.4 -0.5
baz=299
O20A White River Ci 113.06 44 P **PKiKP** 05 35 03.7 -0.7
baz=295
K22A Casper 113.11 41 P **PKiKP** 05 35 04.1 -0.3
baz=298
RSSD Black Hills 113.98 39 P **PKiKP** 05 35 05.1 -1.0
baz=300
RSSD Black Hills 113.98 39 P **PKiKP** 05 35 05.5 -0.7
baz=300
MVCO Mesa Verde 114.09 47 P PKPdf 05 35 05.6 -0.9
baz=294
N23A Red Feather La 114.30 42 P PKPdf 05 35 06.3 -0.6
baz=297
ISCO Idaho Springs 115.02 43 P **PKiKP** 05 35 08.2 -0.2
baz=297
ISCO Idaho Springs 115.02 43 P **PKiKP** 05 35 07.6 -0.8
baz=297
S22A AUR Ranch, Cre 115.08 46 P **PKiKP** 05 35 07.9 -0.6
baz=295
SDCO Great Sand Dun 116.03 45 P **PKPdf** 05 35 08.9 -1.5
baz=296
SDCO Great Sand Dun 116.03 45 P **PKPdf** 05 35 09.9 -0.5
baz=296
D32B Dogwood Acres, 116.39 33 P **PKPdf** 05 35 09.7 -0.7
baz=308
ANMO Albuquerque 116.53 49 IAMs_20 IAMs_20 06 17 23.4
comp=Z,747nm,19.0s
ANMO Albuquerque 116.53 49 P **PKPdf** 05 35 11.2 0.0
baz=294
ANMO Albuquerque 116.53 49 P **PKPdf** 05 35 11.1 -0.2
baz=294
ANMO Albuquerque 116.53 49*c* *i*PKIKP **PKiKP** 05 35 12.8 +1.5
ANMO pmax pmax
comp=Z,10.0nm,2.5s
Y22A Socorro 116.55 50 P **PKiKP** 05 35 11.6 +0.3
baz=294
OGNE Ogilala 116.87 41 P **PKiKP** 05 35 12.4 +0.8
baz=301
T25A Trinidad 117.07 45 P **PKiKP** 05 35 12.4 +0.1
baz=297
B35A Bob, Littlefor 117.33 30 P **PKPdf** 05 35 11.6 -0.5
baz=311
KSCO Kaye Shedlock' 117.44 43 P **PKPdf** 05 35 11.9 -0.9
baz=299
KSCO Kaye Shedlock' 117.44 43 P **PKPdf** 05 35 12.5 -0.3
baz=299
K31A O'Neill 118.04 38 P **PKPdf** 05 35 12.5 -1.2
baz=304
MNTX Cornudas Mount 118.67 51 P **PKPdf** 05 35 14.7 -0.5
baz=294
MNTX Cornudas Mount 118.67 51 P **PKiKP** 05 35 15.3 0.0
baz=294
ECSD EROS Data Cent 118.67 36 IAMs_20 IAMs_20 06 17 32.6
comp=Z,921nm,22.0s
ECSD EROS Data Cent 118.67 36 P **PKPdf** 05 35 12.8 -2.1
baz=307
ECSD EROS Data Cent 118.67 36 P **PKPdf** 05 35 14.9 0.0
baz=307
F36A Milaca 119.07 32 P **PKiKP** 05 35 15.6 0.0
baz=311
BGNE Belgrade 119.09 39 P **PKiKP** 05 35 16.0 +0.2
baz=304
BGNE Belgrade 119.09 39 P **PKPdf** 05 35 15.4 -0.3
baz=304
ESDC Sonseca Array 119.11 319 PKP **PKPdf** 05 35 15.3 -0.6
comp=Z,1.0nm,0.6s,baz=40,slow=1.6,SNR=10
ESDC PKKPbc **PKKPbc** 05 45 30.6 -0.2
comp=Z,2.6nm,0.9s,baz=238,slow=3.9,SNR=11
E38A The Farm, Brul 119.60 30 P **PKPdf** 05 35 15.4 -1.1
baz=313
MSTX Muleshoe 119.69 48 P **PKPdf** 05 35 16.8 -0.5
baz=297
MSTX Muleshoe 119.69 48 P **PKPdf** 05 35 17.2 -0.1
baz=297
L34A Svendsen Farm, 119.86 37 P **PKPdf** 05 35 16.8 -0.4
baz=306
SPMN Marine on St. 119.87 32 P **PKPdf** 05 35 16.6 -0.5
baz=311
SPMN Marine on St. 119.87 32 P **PKPdf** 05 35 17.1 0.0
baz=311
N33B J Bar K, Exete 119.91 39 P **PKPdf** 05 35 16.6 -0.8
baz=305
AMTX Amarillo 120.08 47 P **PKPdf** 05 35 17.5 -0.5
baz=298
AMTX Amarillo 120.08 47 P **PKPdf** 05 35 17.9 -0.1
baz=298
MVO Moncorvo 120.23 322 *e*PKPdf **PKiKP** 05 35 20.2 +2.1
I37B Waseca 120.33 34 P **PKiKP** 05 35 18.2 +0.1
baz=310
R32A Long Quarter, 120.37 42 P **PKPdf** 05 35 18.4 0.0
baz=302
PGAV Gavieira, Arco 120.50 323 *e*PKPdf **PKiKP** 05 35 20.9 +2.2
POLO Lagoa de Olo 120.57 323 *e*PKPdf **PKiKP** 05 35 20.7 +1.9
PVRL Vila Real 120.58 322 *e*PKPdf **PKiKP** 05 35 20.8 +2.0
D41A Chassel 120.75 28 P **PKPdf** 05 35 18.3 -0.4
baz=316
TX31 Lajitas Ar. Si 120.97 53 P **PKPdf** 05 35 19.4 -0.4
baz=294
TXAR Lajitas Array 120.97 53 PKP **PKiKP** 05 35 20.6 +0.7
comp=Z,1.7nm,0.7s,baz=215,slow=1.3,SNR=17
TXAR PKKPbc **PKKPbc** 05 45 23.5 -0.2
comp=Z,2.0nm,0.9s,baz=134,slow=7.2,SNR=7.8
MTE Manteigas 120.99 322 *e*PKPdf **PKiKP** 05 35 21.5 +1.9
PVIS Viseu 121.02 322 *e*PKPdf **PKiKP** 05 35 21.2 +1.5
G40A Rib Lake 121.20 31 P **PKPdf** 05 35 19.2 -0.5
baz=314
PTO Porto 121.20 323 *e*PKPdf **PKiKP** 05 35 21.4 +1.5
SCHQ Schefferville 121.21 10 PKP **PKiKP** 05 35 20.6 +1.1
comp=Z,4.0nm,0.8s,baz=333,slow=1.7,SNR=14
SCHQ PKKPbc **PKKPab** 05 45 21.9 -1.5
comp=Z,2.2nm,0.8s,baz=161,slow=6.7,SNR=4.4
U32A Winter Ranch, 121.24 44 P **PKiKP** 05 35 20.7 +0.6
baz=301
PCBR Castelo Branco 121.27 321 *e*PKPdf **PKiKP** 05 35 20.4 +0.3
KSU1 Kansas State U 121.37 40 P **PKPdf** 05 35 19.9 -0.3
baz=305
KSU1 Kansas State U 121.37 40 P **PKiKP** 05 35 20.3 0.0
baz=305
OK038 West end E0370 121.37 44 IAMs_20 IAMs_20 06 10 47.9
comp=Z,382nm,20.0s
PMRV Marv??o 121.46 321 *e*PKPdf **PKiKP** 05 35 22.0 +1.5
COI Coimbra 121.64 322 *e*PKPdf **PKiKP** 05 35 22.9 +2.1
PCAS Casmilo, Conde 121.78 322 *e*PKPdf **PKiKP** 05 35 23.1 +2.0
F42A Maple Grove Fa 121.89 29 P **PKPdf** 05 35 20.8 -0.2
baz=316
PESTR Estremoz 121.90 320 *e*PKPdf **PKiKP** 05 35 24.2 +2.8
I40A Norwalk 121.92 32 P **PKPdf** 05 35 20.2 -0.9
baz=313
PBAR Barrancos 121.94 319 *e*PKPdf **PKiKP** 05 35 23.6 +2.2
E43A Lone Tree Farm 121.99 28 P **PKiKP** 05 35 21.4 +0.1
baz=317
WMOK Wichita Mounta 122.23 45 P **PKPdf** 05 35 21.9 0.0
baz=300
WMOK Wichita Mounta 122.23 45 P **PKPdf** 05 35 22.0 0.0
baz=300
EVO Evora 122.37 320 *e*PKPdf **PKiKP** 05 35 23.4 +1.1
N38A Joes South For 122.45 37 P **PKPdf** 05 35 21.4 -0.8
baz=308
PBEJ Beja 122.56 319 *e*PKPdf **PKiKP** 05 35 25.4 +2.7
OK050 Pawnee Station 122.62 43 IAMs_20 IAMs_20 06 21 02.8
comp=Z,568nm,19.0s
OK048 Pawnee Station 122.63 43 IAMs_20 IAMs_20 06 11 12.2
comp=Z,356nm,19.0s
ABTX Abilene, Hawle 122.64 48 P **PKPdf** 05 35 22.4 -0.5
baz=299
ABTX Abilene, Hawle 122.64 48 P **PKPdf** 05 35 22.2 -0.6
baz=299
T35B Sooner Cattle 122.65 42 P **PKPdf** 05 35 21.7 -1.1
baz=304
OK046 Pawnee Station 122.67 43 IAMs_20 IAMs_20 06 20 59.1
comp=Z,658nm,22.0s
JFWS Jewell Farm 122.78 33 P **PKPdf** 05 35 21.1 -1.6
baz=312
JFWS Jewell Farm 122.78 33 P **PKPdf** 05 35 22.7 -0.1
baz=312
L40A Anamosa 122.81 34 P **PKPdf** 05 35 22.4 -0.4
baz=311
PVAQ Vaqueiros 122.81 319 *e*PKPdf **PKiKP** 05 35 25.4 +2.2
I42A Draeger Farm, 122.82 31 P **PKPdf** 05 35 22.6 -0.2
baz=314
MESJ Messejana 122.90 319 *e*PKPdf **PKiKP** 05 35 23.9 +0.5
MESJ Messejana 122.90 319 *e*PKPdf **PKPdf** 05 35 23.2 +0.1
PCVE Castro Verde 122.90 319 *e*PKPdf **PKiKP** 05 35 24.3 +0.9
PNCL Nicolau / Gran 122.94 320 *e*PKPdf **PKiKP** 05 35 25.3 +1.9
OK031 S. Brethren Rd 122.95 43 IAMs_20 IAMs_20 06 21 34.8
comp=Z,635nm,22.0s
P38A Dawn 122.99 38 P **PKPdf** 05 35 23.2 -0.1
baz=308
E46A Sault Ste Mari 123.22 26 P **PKPdf** 05 35 23.0 -0.5
baz=320
PTEO Sao Teotonio 123.39 319 *e*PKPdf **PKiKP** 05 35 27.5 +3.2
MORF Marmelete 123.48 319 *e*PKPdf **PKiKP** 05 35 25.0 +0.4
MORF Marmelete 123.48 319 *e*PKPdf **PKiKP** 05 35 27.3 +2.7
JCT Junction City 123.51 50 P **PKPdf** 05 35 24.2 -0.4
baz=297
JCT Junction City 123.51 50 P **PKiKP** 05 35 25.3 +0.5
baz=297
G45A Suttons Bay 123.61 28 P **PKPdf** 05 35 23.6 -0.7
baz=318
G45A P **PKPdf** 05 35 23.6 -0.7
baz=318
TUL1 Leonard 123.69 43 P **PKPdf** 05 35 23.6 -1.1
baz=304
TUL1 Leonard 123.69 43 P **PKiKP** 05 35 25.0 +0.1
baz=304
PFVI Vila Bisbo 123.70 319 *e*PKPdf **PKiKP** 05 35 25.5 +0.5
L42A Oliver, Polo 123.71 33 P **PKPdf** 05 35 23.3 -1.3
baz=313
N41A Harden Midland 123.90 35 P **PKPdf** 05 35 23.6 -1.3
baz=311
K43A Burlington 123.95 32 P **PKPdf** 05 35 24.1 -1.0
baz=314
P40A Paris 123.95 37 P **PKPdf** 05 35 24.6 -0.5
baz=309
Z35A Perchaven, San 124.04 46 P **PKPdf** 05 35 24.7 -0.8
baz=301
S39A Bolivar 124.29 40 P **PKPdf** 05 35 25.5 -0.4
baz=307
U38A Gravette 124.33 41 P **PKPdf** 05 35 26.1 +0.1
baz=305
WHTX Lake Whitney, 124.56 48 P **PKPdf** 05 35 25.5 -1.0
baz=300
WHTX Lake Whitney, 124.56 48 P **PKiKP** 05 35 26.8 0.0
baz=300
R40A Maddies Statio 124.59 38 P **PKPdf** 05 35 25.7 -0.7
baz=308
TORD Torodi Ar. Bea 124.61 288 PKP **PKPdf** 05 35 26.6 -0.4
comp=Z,12nm,0.7s,baz=102,slow=0.7,SNR=5.3
X37A Clayton 124.70 44 P **PKPdf** 05 35 26.6 -0.1
baz=303
833A Chaparral WMA, 124.79 52 P **PKiKP** 05 35 27.7 +0.4
baz=296
833A Chaparral WMA, 124.79 52 P **PKiKP** 05 35 28.1 +0.7
baz=296
HDIL Hopedale 124.89 34 P **PKPdf** 05 35 26.6 -0.3
baz=312
HDIL Hopedale 124.89 34 P **PKPdf** 05 35 26.8 -0.1
baz=312
M44A Midewin, Midew 125.02 33 P **PKPdf** 05 35 26.1 -1.0
baz=314
435B Jarrell 125.06 49 P **PKPdf** 05 35 27.0 -0.5
baz=299
J47A Sunmer 125.35 29 P **PKPdf** 05 35 27.4 -0.3
baz=318
J47A P **PKPdf** 05 35 27.4 -0.3
baz=318
CCM Cathedral Cave 125.36 38 P **PKPdf** 05 35 25.7 -2.1
baz=309
CCM Cathedral Cave 125.36 38 P **PKPdf** 05 35 27.7 -0.1
baz=309
P43A Skaggs, Pawnee 125.37 35 P **PKPdf** 05 35 26.3 -1.6
baz=312
Z38A Mt. Pleasant 125.69 45 P **PKPdf** 05 35 26.6 -2.0
baz=303
237A Washetta, Mont 125.76 47 P **PKPdf** 05 35 26.9 -1.9
baz=301
MIAR Mount Ida 125.95 43 P **PKPdf** 05 35 29.2 +0.1
baz=305
MIAR Mount Ida 125.95 43 P **PKiKP** 05 35 29.4 -0.1
baz=305
SFIN Lafayette 126.23 33 P **PKPdf** 05 35 29.1 -0.3
baz=314
SFIN Lafayette 126.23 33 P **PKPdf** 05 35 29.6 +0.1
baz=314
L48A N Adams 126.50 30 P **PKPdf** 05 35 28.7 -1.2
baz=318
L48A P **PKPdf** 05 35 28.7 -1.2
baz=318
N47A Urbana 126.63 32 P **PKPdf** 05 35 28.5 -1.8
baz=316
N47A P **PKPdf** 05 35 28.5 -1.8
baz=316
NATX Nacogdoches 126.72 46 P **PKiKP** 05 35 30.9 -0.2
baz=302
HKT Hockley 126.78 49 P **PKPdf** 05 35 30.9 +0.2
baz=300
OLIL Olney 126.80 35 P **PKPdf** 05 35 30.2 -0.4
baz=312
S44A Carbondale 126.81 37 P **PKiKP** 05 35 31.3 +0.2
baz=311
O48B Farmland 127.36 32 P **PKPdf** 05 35 30.4 -1.3
baz=316
O48B Farmland 127.36 32 P **PKiKP** 05 35 32.0 -0.2
baz=316
N49A Columbus Grove 127.39 31 P **PKPdf** 05 35 30.9 -0.7
baz=318
N49A P **PKPdf** 05 35 30.9 -0.7
baz=318
M50A Fremont 127.60 30 P **PKPdf** 05 35 31.3 -0.7
baz=319
M50A P **PKPdf** 05 35 31.3 -0.7
baz=319
P48A Milroy 127.79 33 P **PKPdf** 05 35 30.8 -1.6
baz=316
P48A P **PKPdf** 05 35 30.8 -1.6
baz=316
O49A Covington 127.85 31 P **PKPdf** 05 35 30.9 -1.6
baz=317
O49A P **PKPdf** 05 35 30.9 -1.6
baz=317
D62A Allapoint, All 128.03 15 P **PKPdf** 05 35 31.7 -1.0
baz=338
D62A P **PKPdf** 05 35 31.7 -1.0
baz=338
P49A Miami Univ. Ec 128.12 32 P **PKPdf** 05 35 32.5 -0.6
baz=316
P49A Miami Univ. Ec 128.12 32 P **PKPdf** 05 35 32.8 -0.3
baz=316
WCI Wyandotte Cave 128.18 35 P **PKPdf** 05 35 32.3 -1.0
baz=314
WCI Wyandotte Cave 128.18 35 P **PKPdf** 05 35 33.3 0.0
baz=314
N51A Ashland 128.29 29 P **PKPdf** 05 35 33.0 -0.4
baz=320
N51A P **PKPdf** 05 35 33.0 -0.4
baz=320
M52A Chesterland 128.30 28 P **PKPdf** 05 35 33.4 -0.1
baz=321
M52A P **PKPdf** 05 35 33.4 -0.1
baz=321
E62A Clayton Lake 128.34 16 P **PKPdf** 05 35 32.6 -0.7
baz=337
E62A P **PKPdf** 05 35 32.6 -0.7
baz=337
BMNY Brushton-Moira 128.40 21 P **PKPdf** 05 35 32.6 -0.8
baz=331
J55A Hilton 128.48 24 P **PKPdf** 05 35 33.5 -0.2
baz=326
J55A P **PKPdf** 05 35 33.5 -0.2

baz=326
ERPA Erie 128.48 27 P PKPdf 05 35 33.7 0.0
baz=323
ERPA Erie 128.48 27 P PKPdf 05 35 33.6 -0.1
baz=323
ACSO Alum Creek Sta 128.51 30 P PKPdf 05 35 33.4 -0.4
baz=319
ACSO Alum Creek Sta 128.51 30 P PKPdf 05 35 34.1 +0.3
baz=319
T47A Sharon Grove 128.55 36 P PKPdf 05 35 34.2 +0.2
baz=312
342B Flagon Creek P 128.60 45 P PKPdf 05 35 33.5 -0.7
baz=304
WVT Waverly 128.69 38 P PKPdf 05 35 34.1 -0.1
baz=311
WVT Waverly 128.69 38 P PKPdf 05 35 34.2 -0.1
baz=311
M53A WI Miller and 128.70 28 P PKPdf 05 35 34.2 0.0
baz=322
FRNY Flat Rock 128.72 20 P PKPdf 05 35 33.7 -0.3
baz=332
WCNY West Carthage 128.72 22 P PKPdf 05 35 34.1 0.0
baz=329
R49A Shelbyville 128.76 34 P PKPdf 05 35 34.4 +0.1
baz=315
R49A P PKPdf 05 35 34.4 +0.1
baz=315
E63A Oxbow 128.81 15 P PKPdf 05 35 34.0 -0.1
baz=338
E63A P PKPdf 05 35 34.0 -0.1
baz=338
WVNY West Valley, N 128.85 25 P PKPdf 05 35 34.2 -0.2
baz=325
F62A Pittston Farm, 128.88 16 P PKiKP 05 35 35.1 0.0
baz=336
F62A P PKiKP 05 35 35.1 0.0
baz=336
P51A Williamsport 129.03 31 P PKPdf 05 35 35.1 +0.3
baz=318
P51A P PKPdf 05 35 35.1 +0.3
baz=318
Y45A Yeager Farm, C 129.05 41 P PKPdf 05 35 34.8 -0.2
baz=308
J57A Williamstown 129.08 23 P PKiKP 05 35 35.8 +0.3
baz=328
J57A P PKiKP 05 35 35.8 +0.3
baz=328
PAOC Oil Creek Stat 129.10 27 P PKPdf 05 35 34.3 -0.6
baz=323
N53A Lisbon 129.12 28 P PKPdf 05 35 34.0 -1.0
baz=321
N53A P PKPdf 05 35 34.0 -1.0
baz=321
O52A Adamsville 129.17 30 P PKPdf 05 35 34.6 -0.4
baz=320
O52A P PKPdf 05 35 34.6 -0.4
baz=320
Q51A Peebles 129.22 32 P PKPdf 05 35 34.4 -0.8
baz=318
Q51A P PKPdf 05 35 34.4 -0.8
baz=318
NCB Newcomb 129.25 21 P PKiKP 05 35 36.0 +0.1
baz=331
PLAL Pickwick Lake 129.28 39 IAMs_20 IAMs_20 06 27 55.9
comp=Z,709nm,22.0s
G62A West of Eustis 129.34 17 P PKPdf 05 35 34.9 -0.4
baz=336
G62A P PKPdf 05 35 34.9 -0.4
baz=336
F64A Sherman 129.35 15 P PKPdf 05 35 33.7 -1.5
baz=338
F64A P PKPdf 05 35 33.7 -1.5
baz=338
PAMR Moraine State 129.36 28 P PKPdf 05 35 35.0 -0.4
baz=322
O53A New Philadelph 129.37 29 P PKPdf 05 35 35.7 +0.2
baz=321
P52A Corning 129.39 30 P PKPdf 05 35 35.8 +0.2
baz=319
J58A Remsen 129.39 22 P PKPdf 05 35 34.7 -0.8
baz=329
J58A P PKPdf 05 35 34.7 -0.8
baz=329
K57A Scipio Center 129.45 24 P PKPdf 05 35 34.4 -1.1
baz=327
L56A Greenwood 129.52 25 P PKPdf 05 35 35.6 -0.1
baz=326
L56A P PKPdf 05 35 35.6 -0.1
baz=326
J59A Piesco 129.59 21 P PKPdf 05 35 35.7 -0.1
baz=330
J59A P PKPdf 05 35 35.7 -0.1
baz=330
PKME Peaks-Kenny Pk 129.65 16 P PKPdf 05 35 36.0 +0.2
baz=337
PKME Peaks-Kenny Pk 129.65 16 P PKPdf 05 35 36.2 +0.4
baz=337
U49A Red Boiling Sp 129.66 36 P PKPdf 05 35 34.9 -1.2
baz=314
MCVT Middlebury Col 129.70 20 P PKPdf 05 35 35.9 -0.1
baz=332
UPAO U. Pittsburgh 129.76 28 P PKPdf 05 35 36.5 +0.3
baz=322
LBNH Lisbon 129.79 19 P PKiKP 05 35 38.2 +1.3
baz=334
PSDB Penn State Uni 129.83 26 P PKPdf 05 35 35.2 -1.2
baz=324
O54A Avella 129.83 29 P PKPdf 05 35 36.2 -0.1
baz=322
O54A P PKPdf 05 35 36.2 -0.1
baz=322
T50A Nancy 129.85 35 P PKPdf 05 35 35.3 -1.2
baz=315
T50A P PKPdf 05 35 35.3 -1.2
baz=315
P53A Whipple 129.87 30 P PKiKP 05 35 37.2 0.0
baz=320
P53A P PKiKP 05 35 37.2 0.0
baz=320
ACCN Adirondack Com 129.96 21 P PKiKP 05 35 37.3 0.0
baz=331
S51A Beattyville 130.10 33 P PKPdf 05 35 36.8 -0.2
baz=317
S51A P PKPdf 05 35 36.8 -0.2
baz=317
BINY Binghamton 130.11 23 P PKiKP 05 35 37.6 0.0
baz=328
BINY Binghamton 130.11 23 P PKPdf 05 35 37.0 +0.1
baz=328
X48A Hartselle 130.27 39 P PKPdf 05 35 36.8 -0.6
baz=311
HCNY Howe Caverns 130.29 22 P PKiKP 05 35 38.1 +0.2
baz=330
M57A Sunshine Farm, 130.36 25 P PKPdf 05 35 36.7 -0.6
baz=326
M57A P PKPdf 05 35 36.7 -0.6
baz=326
J61A Chester 130.38 20 P PKPdf 05 35 35.3 -2.0
baz=332
J61A P PKPdf 05 35 35.3 -2.0
baz=332
R53A Hurricane 130.46 31 P PKPdf 05 35 37.4 -0.2
baz=319
R53A P PKPdf 05 35 37.4 -0.2
baz=319
Q54A Coxs Mills 130.53 30 P PKPdf 05 35 37.2 -0.5
baz=320
Q54A P PKPdf 05 35 37.2 -0.5
baz=320
SSPA Standing Stone 130.61 26 P PKPdf 05 35 36.6 -1.2
baz=325
SSPA Standing Stone 130.61 26 P PKiKP 05 35 38.3 -0.4
baz=325
W50A Signal Mountai 130.83 37 P PKPdf 05 35 37.8 -0.7
baz=313
TZTN Tazewell 130.91 34 P PKPdf 05 35 36.7 -1.9
baz=316
N58A Sunbury 130.95 25 P PKPdf 05 35 36.0 -2.4
baz=326
N58A P PKPdf 05 35 36.0 -2.4
baz=326
Y49A Blount Mountai 131.06 39 P PKPdf 05 35 37.9 -0.9
baz=311
K62A Royalston 131.09 20 P PKPdf 05 35 37.2 -1.5
baz=332
K62A P PKPdf 05 35 37.2 -1.5
baz=332
L61B Northampton 131.13 21 P PKPdf 05 35 35.9 -2.8
baz=332

LRAL Lakeview Retre 131.22 40 P PKPdf 05 35 38.6 -0.5
baz=310
LRAL Lakeview Retre 131.22 40 P PKPdf 05 35 39.1 0.0
baz=310
V52A Sevierville 131.39 35 P PKPdf 05 35 38.4 -1.1
baz=316
TKL Tuckaleechee C 131.41 35 P PKPdf 05 35 38.4 -1.1
baz=315
P57A Homestead Farm 131.49 27 P PKPdf 05 35 38.7 -0.8
baz=324
P57A P PKPdf 05 35 38.7 -0.8
baz=324
ODNJ Ogdensburg 131.60 23 P PKPdf 05 35 38.9 -0.8
baz=329
W52A Murphy 131.72 36 P PKPdf 05 35 40.1 0.0
baz=315
PAL Palisades 131.94 23 P PKPdf 05 35 39.8 -0.5
baz=330
PAL Palisades 131.94 23 P PKPdf 05 35 40.5 +0.2
baz=330
V53A Saluda 131.95 34 P PKPdf 05 35 38.2 -2.4
baz=316
V53A P PKPdf 05 35 38.2 -2.4
baz=316
BLA Blacksburg 132.10 31 P PKPdf 05 35 40.6 -0.2
baz=320
Z51A Franklin 132.19 38 P PKPdf 05 35 39.1 -1.9
baz=312
DBIC Dimbokro 132.21 282 PKP PKPdf 05 35 41.0 -0.5
comp=Z,6.0nm,0.7s,baz=114,slow=4.8,SNR=3.4
DBIC SKPbc SKPab 05 39 04.7 +0.7
comp=Z,9.2nm,0.7s,baz=73,slow=4.6,SNR=9.0
PSUB Penn St. - Bra 132.24 25 P PKPdf 05 35 39.8 -1.1
baz=327
250A Grady 132.37 41 P PKPdf 05 35 38.4 -3.0
baz=310
Y52A Lilburn 132.50 37 P PKPdf 05 35 41.7 +0.1
baz=314
Y52A P PKPdf 05 35 41.7 +0.1
baz=314
V55A Taylorsville 132.71 33 P PKPdf 05 35 42.2 +0.3
baz=318
V55A P PKPdf 05 35 42.2 +0.3
baz=318
R58B Mineral 132.77 28 P PKPdf 05 35 40.4 -1.6
baz=323
R58B P PKPdf 05 35 40.4 -1.6
baz=323
CBN Corbin Frederi 132.81 28 P PKPdf 05 35 42.0 -0.1
baz=324
CBN Corbin Frederi 132.81 28 P PKPdf 05 35 41.9 -0.1
baz=324
152A Waverly Hall 132.91 39 P PKPdf 05 35 41.1 -1.3
baz=312
KMSC Kings Mountain 133.16 34 P PKPdf 05 35 42.2 -0.5
baz=318
KMSC Kings Mountain 133.16 34 P PKPdf 05 35 42.6 -0.2
baz=318
HODGE Hodges 133.30 35 P PKPdf 05 35 42.1 -1.0
baz=316
352A Blakely 133.56 40 P PKPdf 05 35 42.4 -1.3
baz=311
T59A Double "B" Far 133.72 29 P PKPdf 05 35 43.0 -0.8
baz=323
T59A P PKPdf 05 35 43.0 -0.8
baz=323
T60A Surry 133.97 28 P PKPdf 05 35 43.9 -0.4
baz=324
T60A P PKPdf 05 35 43.9 -0.4
baz=324
HAW Hawthorne Fire 134.30 36 P PKPdf 05 35 42.6 -2.4
baz=316
TIGA Tifton 134.44 39 P PKPdf 05 35 44.7 -0.6
baz=313
NHSC New Hope 135.31 35 P PKPdf 05 35 47.1 +0.2
baz=318
TEIG Tepich 137.50 56 IAMs_20 IAMs_20 06 31 29.7
comp=Z,429nm,20.0s
PLCA Paso Flores 138.63 158 PKhKP PKPpre 05 35 44.1
comp=Z,4.4nm,0.9s,baz=253,slow=3.8,SNR=8.8
PLCA Paso Flores 138.63 158 eP PKPdf 05 35 53.2 +0.3
TGUH Tegucigalpa,Un 141.03 64 IAMs_20 IAMs_20 06 41 33.1
comp=Z,361nm,20.0s
JTS Las Juntas de 144.50 68 PKPab 05 36 01.3 -1.2
JTS IAMs_20 IAMs_20 06 29 12.7
comp=Z,374nm,20.0s
JTS Las Juntas de 144.50 68 PKIKP PKPab 05 36 01.3 -1.2
JTS Las Juntas de 144.50 68 eP PKPab 05 36 01.9 -0.6
MT05 Renca 144.79 152 PKPdf PKPab 05 36 01.3 -1.7
HDC Heredia 145.38 68 IAMs_20 IAMs_20 06 29 17.9
comp=Z,439nm,20.0s
HDC Heredia 145.38 68 eP PKPbc 05 36 04.0 -1.7
PRVC Isla de Provid 146.53 61 eP PKPab 05 36 10.7 +0.7
BRU2 Volcan 147.10 69 eP PKPab 05 36 12.1 -0.4
MTDJ Mount Denham 147.12 50 IAMs_20 IAMs_20 06 51 39.9
comp=Z,315nm,20.0s
CFA Coronel Fontan 147.44 153 PKPbc PKPdf 05 36 09.6 +1.0
comp=Z,54nm,0.6s,baz=226,slow=2.4,SNR=87
GTBY Guantanamo Bay 147.82 44 IAMs_20 IAMs_20 06 37 59.5
comp=Z,584nm,21.0s
MAPC Malpelo 149.44 77 eP PKiKP 05 36 17.4 -0.5
BCIP Isla Barro Col 149.61 67 IAMs_20 IAMs_20 06 31 54.0
comp=Z,604nm,22.0s
BCIP Isla Barro Col 149.61 67 eP PKPbc 05 36 15.3 -1.9
PLTB Pedras Altas 151.16 177 eP PKPdf 05 36 17.0 +2.4
UPD2 Meteti 151.51 66 eP PKPbc 05 36 21.6 -0.1
RODS Rosario do Sul 152.43 174 eP PKPdf 05 36 18.2 +1.7
CPSB Cacapava Do Su 152.52 177 eP PKPdf 05 36 18.9 +2.3
ITQB Itaqui 152.90 171 eP PKPdf 05 36 19.6 +2.4
APAC Apartado, Choc 153.07 67 eP PKPbc 05 36 24.8 -0.4
ATAH Atahualpa 153.15 100 PKP PKPdf 05 36 20.7 +2.3
comp=Z,12nm,0.9s,baz=11,slow=1.1,SNR=9.0
ATAH PKPbc PKiKP 05 36 28.1 +2.0
comp=Z,18nm,0.7s,baz=84,slow=1.0,SNR=13
OTAV Otavalo 153.17 84 IAMs_20 IAMs_20 06 35 59.6
comp=Z,427nm,21.0s
OTAV Otavalo 153.17 84 eP PKPdf 05 36 18.5 -0.1
SJCC San Jacinto, C 153.50 61 eP PKPdf 05 36 19.9 +1.4
NNA Nana 153.56 111 PKP PKPdf 05 36 19.4 +0.8
comp=Z,4.5nm,0.5s,baz=295,slow=4.4,SNR=3.6
CNLB Canela 153.64 182 eP PKPdf 05 36 19.5 +1.1
CMBC Cumbal 153.70 82 eP PKiKP 05 36 27.9 +0.6
VACA Villa Angela C 153.89 162 eP PKPdf 05 36 20.2 +1.6
UREC San Jos de Ur 154.09 66 eP PKPbc 05 36 26.5 -1.0
ALGR Alto Alegre (B 154.14 178 eP PKPdf 05 36 20.3 +1.2
LVC Limon Verde 154.25 141 IAMs_20 IAMs_20 06 45 02.8
comp=Z,383nm,20.0s
LVC Limon Verde 154.25 141 eP PKPdf 05 36 20.4 +0.7
CBOC Ciudad Bolivar 154.31 70 eP PKPdf 05 36 21.5 +1.7
PLMC San Jos del P 154.35 73 eP PKPdf 05 36 22.7 -1.1
SCCA Sayetano, 154.53 166 eP PKPdf 05 36 20.9 +1.4
AZCA Azaras, Argent 154.56 171 eP PKPdf 05 36 20.5 +1.0
ZARC Zaragoza, Cauc 154.80 66 eP PKPdf 05 36 20.9 +0.6
SJG San Juan 154.84 34 PKPab PKPab 05 36 43.7 -0.3
comp=Z,11nm,0.7s,baz=319,slow=0.9,SNR=4.7
SJG San Juan 154.84 34 IAMs_20 IAMs_20 06 47 33.1
comp=Z,470nm,22.0s
TICA Tres Isletas 155.16 161 eP PKPdf 05 36 21.7 +1.3
CRSM Crissiumal (Br 155.37 175 eP PKPdf 05 36 22.2 +1.5
PTBC PUERTO BERRIO 155.53 68 eP PKPdf 05 36 18.5 -2.8
ORTC Ortega, Tolima 155.62 74 eP PKPdf 05 36 29.4 +7.9
ITAB Concordia 155.72 179 eP PKPdf 05 36 23.2 +2.0
FLOC Florencia 155.74 80 eP PKPdf 05 36 32.2 +11
GARC Garzon, Huila 155.78 78 eP PKPdf 05 36 32.3 +10
CPUP Villa Florida 156.03 168 PKPab PKPab 05 36 50.6 +1.8
comp=Z,11nm,0.8s,baz=170,slow=2.5,SNR=8.9
CPUP Villa Florida 156.03 168 eP PKPdf 05 36 23.4 +1.8
ROSC El Rosal 156.24 71 PP PP 05 40 27.5 -1.1
comp=Z,2.3nm,0.3s,baz=34,slow=5.5,SNR=4.0
ROSC El Rosal 156.24 71 eP PKPab 05 36 36.8 -14
BARC Barichara 156.68 66 eP PKPab 05 36 38.9 -14
SABA Saba 156.76 29 IAMs_20 IAMs_20 06 39 06.1
comp=Z,410nm,19.0s
CHIC Chingaza 156.86 71 eP PKPdf 05 36 24.6 +1.0
FRBT Francisco Belt 156.94 177 eP PKPdf 05 36 23.4 +0.5
RUSC La Rusia 157.04 68 eP PKPdf 05 36 23.6 -0.3
ESFA Espinillo Form 157.06 164 eP PKPdf 05 36 25.3 +2.4
HATO Hato, Curacao 157.34 49 IAMs_20 IAMs_20 06 42 06.5
comp=Z,341nm,22.0s
SDV Santo Domingo 157.90 58 PKP PKPdf 05 36 23.9 -0.7
comp=Z,7.7nm,0.9s,baz=90,slow=3.6,SNR=9.4
SDV Santo Domingo 157.90 58 IAMs_20 IAMs_20 06 48 58.6
comp=Z,246nm,20.0s
SDV Santo Domingo 157.90 58 eP PKPdf 05 36 23.9 -0.7
PTGB Pitanga 158.23 179 eP PKPdf 05 36 25.9 +1.4
SPB Sao Paulo 158.93 191 eP PKPdf 05 36 28.3 +3.0

LPAZ La Paz 159.08 131 PKP PKPdf 05 36 26.4 0.0
comp=Z,2.9nm,0.8s,baz=18,slow=3.1,SNR=7.9
LPAZ PKPab PKPab 05 37 04.2 +1.0
comp=Z,11nm,0.8s,baz=224,slow=3.3,SNR=9.5
LPAZ La Paz 159.08 131 eP PKPdf 05 36 27.1 +0.7
LPAZ La Paz 159.08 131 eP PKPdf 05 36 26.1 -0.3
VAO Valinhos 159.40 193 eP PKPdf 05 36 28.8 +2.8
AMBA Amambai (Brazi 159.77 171 eP PKPdf 05 36 28.7 +2.3
RCLB Rio Claro- Sao 160.09 192 eP PKPdf 05 36 29.4 +2.6
ABR01 Abrolhos, BA 160.22 220 eP PKPdf 05 36 29.7 +2.9
MURT Porto Murtinho 160.44 164 eP PKPdf 05 36 29.3 +2.2
SJMB Sao Joao De Ma 161.11 213 eP PKPdf 05 36 30.3 +2.5
PCMB Pacaembu 161.32 182 eP PKPdf 05 36 30.1 +2.0
BDQN Bodoquena, MS 161.82 165 eP PKPdf 05 36 30.2 +1.6
TBTG Tabatinga, AM 161.86 95 eP PKPdf 05 36 30.0 +1.2
GUA01 Guaratinga, BA 161.95 220 eP PKPdf 05 36 31.3 +2.5
AQDB Aquidauana 162.04 168 eP PKPdf 05 36 30.7 +1.9
DIAM Diamantina, MG 162.69 207 eP PKPdf 05 36 31.3 +1.6
BBRB Robore, Bolivi 162.74 153 eP PKPdf 05 36 31.5 +2.0
ITRB Iturama 163.16 185 eP PKPdf 05 36 32.1 +2.2
BBSD Serra de San D 163.30 149 eP PKPdf 05 36 31.9 +1.8
RCBR Riachuelo 163.88 259 PKPab PKPab 05 37 24.2 +0.5
comp=Z,22nm,0.9s,baz=220,slow=3.8,SNR=5.5
RCBR Riachuelo 163.88 259 eP PKPdf 05 36 34.6 +3.8
SIV San Ignacio 164.04 146 PKP PKPdf 05 36 30.0 -0.9
comp=Z,3.3nm,0.8s,baz=203,slow=2.0,SNR=9.6
SIV PKPab PKPab 05 37 25.1 +1.1
comp=Z,15nm,1.0s,baz=223,slow=3.5,SNR=9.3
ETMB Extrema 164.07 117 eP PKPdf 05 36 31.8 +0.9
C2SB Chapadao do Su 164.12 176 eP PKPdf 05 36 33.3 +2.5
SGCB SΣo Gabriel d 164.53 80 eP PKPdf 05 36 32.6 +1.2
IPMB Ipameri, GO 164.53 193 eP PKPdf 05 36 32.8 +1.6
PP1B Ponte de Pedra 165.00 169 eP PKPdf 05 36 33.4 +1.8
PTLB Pontes e Lacer 165.51 150 eP PKPdf 05 36 34.3 +2.2
JANB Januaria 165.78 211 eP PKPdf 05 36 33.3 +0.9
SALV Santo Antonio 166.44 164 eP PKPdf 05 36 34.8 +1.9
BDFB Brasilia 166.73 196 PKP PKPdf 05 36 32.0 -1.2
comp=Z,3.2nm,0.9s,baz=42,slow=2.8,SNR=5.4
BDFB PKPab PKPab 05 37 37.4 +1.6
comp=Z,5.0nm,0.9s,baz=290,slow=3.0,SNR=4.2
BDFB Brasilia 166.73 196 PKIKP PKPdf 05 36 32.0 -1.2
VILB Vilhena 166.94 141 eP PKPdf 05 36 35.2 +1.9
TEFE Tefe 167.15 93 eP PKPdf 05 36 33.1 -0.4
ARAG Araguaiana, MT 167.20 180 eP PKPdf 05 36 35.2 +1.8
SDBA SAO DESIDERIO 168.29 215 eP PKPdf 05 36 35.8 +1.5
BOAV Boa Vista 169.84 59 eP PKPdf 05 36 35.0 -0.3
BOAV Boa Vista 169.84 59 eP PKPdf 05 36 36.1 +0.8
SNDB Serra Nova Dou 170.89 183 eP PKPdf 05 36 36.4 +0.6
CLDB Colider 171.06 154 eP PKPdf 05 36 37.9 +2.0
MACA Manacapuru-AM 171.11 92 eP PKPdf 05 36 36.2 +0.2
ROSB Rosrio 172.35 269 eP PKPdf 05 36 37.5 +1.0
NPGB Novo Progresso 174.50 140 eP PKPdf 05 36 38.2 +0.9
ITTB Itaituba 175.77 111 eP PKPdf 05 36 38.2 +0.5
PRPB Parauapebas 176.13 210 eP PKPdf 05 36 38.3 +0.5

IDC 21 05:28:32.8±1.3,2°.84N×127°.87E,h0km,mb3.8/5,
mbtmp3.9/6,ML4.2/1,Error ellipse: s-maj=92.0km
s-min=19.6km az=63.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.01**	**137**	Pn	Pn	05 29 49.3	0.0
	8.7nm,0.3s,baz=109,slow=12,SNR=19						
SIJI				Sn	Sn	05 30 42.2	-5.8
	4.4nm,0.3s,baz=174,slow=23,SNR=8.8						
	16nm,0.3s						
WRA	**Warramunga Arr**	**23.52**	**165**	P	P	05 33 43.3	-1.4
	4.3nm,0.6s,baz=344,slow=10,SNR=16						
	4.3nm,0.6s						
ASAR	**Alice Springs**	**27.00**	**168**	P	P	05 34 17.5	+0.9
	0.6nm,0.7s,baz=351,slow=12,SNR=4.8						
	0.6nm,0.7s						
STKA	**Stephens Creek**	**36.91**	**160**	P	P	05 35 43.7	+0.2
	1.7nm,0.7s,baz=337,slow=12,SNR=2.9						
	1.7nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**41.62**	**63**	T	T	06 20 13.4	
	baz=258,slow=74,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**41.63**	**63**	T	T	06 20 14.5	
	baz=259						
H11N3	**WAKE ISLAND Hy**	**41.64**	**63**	T	T	06 20 14.4	
	baz=258,slow=74,SNR=6.4						
MKAR	**Makanchi Array**	**58.93**	**325**	P	P	05 38 34.0	+0.1
	0.4nm,0.4s,baz=115,slow=7.7,SNR=5.7						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.09**	**327**	P	P	05 39 02.1	0.0
	0.2nm,0.2s,baz=127,slow=6.0,SNR=2.1						
	0.2nm,0.2s						

DJA 21 05:38:16.8±0.3,3°N±3°×9°8E±°,h10km,M3.7/13,
MLv3.7/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSI	**Tuntungan**	**0.21**	**20**	P	Pg	05 38 21.3	+0.1
KCSI	**Kotacane, Aceh**	**0.75**	**287**	P	Pg	05 38 30.2	-1.1
GSI	**Gunungsitoli**	**2.18**	**205**	P	Pn	05 38 53.7	+0.5
MLSI	**Meulaboh, Aceh**	**2.29**	**295**	P	Pn	05 38 54.9	+0.2
SNSI	**Sinabang, Aceh**	**2.33**	**248**	P	Pn	05 38 55.2	-0.1
LHMI	**Lhok Sumawe**	**2.46**	**321**	P	Pn	05 38 57.2	+0.2
MNSI	**Mandailing Nat**	**2.72**	**156**	P	Pn	05 39 00.7	+0.2
PBSI	**Pulau Batu**	**3.34**	**184**	P	Pn	05 39 09.3	+0.2
BKNI	**Bangkinang**	**3.90**	**139**	P	Pn	05 39 17.2	+0.4

IDC 21 05:41:58.0±1.4,0°.91S×24°.50W,h0km,mb3.8/3,
mbtmp3.9/3,MS4.3/2,Error ellipse: s-maj=68.7km
s-min=32.5km az=161.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N3	**ASCENSION HYDR**	**12.11**	**125**	T	T	05 57 12.2	
	baz=304,slow=74,SNR=156						
H10N2	**ASCENSION HYDR**	**12.12**	**125**	T	T	05 57 12.5	
	baz=304,slow=74,SNR=206						
H10N1	**ASCENSION HYDR**	**12.13**	**125**	T	T	05 57 13.7	
	baz=304,slow=74,SNR=262						
H10S3	**ASCENSION HYDR**	**12.64**	**130**	T	T	05 57 54.9	
	baz=307,slow=74,SNR=45						
H10S2	**ASCENSION HYDR**	**12.66**	**129**	T	T	05 57 56.2	
	baz=273,slow=74,SNR=20						
DBIC	**Dimbokro**	**21.00**	**69**	P	P	05 46 43.8	+0.4
	6.8nm,1.0s,baz=245,slow=11,SNR=4.4						
	6.8nm,1.0s						
LPAZ	**La Paz**	**45.62**	**248**	P	P	05 50 21.4	+0.2
	1.4nm,0.8s,baz=70,slow=8.9,SNR=4.5						
	1.4nm,0.8s						
BOSA	**Boshof**	**54.87**	**125**	LR	LR	06 10 03.3	
	comp=Z,98nm,21.3s,baz=92,slow=31						
CMIG	**Matias Romero**	**71.55**	**288**	LR	LR	06 23 16.1	
	comp=Z,722nm,22.0s,baz=249,slow=35						
YKA	**Yellowknife Ar**	**90.85**	**332**	P	P	05 55 03.0	-0.2
	0.3nm,0.7s,baz=99,slow=4.9,SNR=6.0						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**147.79**	**141**	PKPbc	PKPbc	06 01 44.8	-1.1
	0.3nm,0.6s,baz=208,slow=2.0,SNR=4.6						

*IDC **21** 06:07:06.2±1.1,23°.95N×126°.83E,h0km,mb3.6/5,*
mbtmp3.6/6,ML3.2/1,Error ellipse: s-maj=50.8km
s-min=18.9km az=73.0
*JMA **21** 06:07:10.2±0.2,24°N±2°×12°7E±°,h107km±4km,MV3.1/25,*
NEAR MIYAKOJIMA ISLAND

ISC 21 06:07:06.2±2.0,24°.04N±0°.07×126°.65E±0°.04,h9km±11km,
n25,σ1°37/36,mb3.7/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.35**	**303**	P	Pg	06 07 32.6	+0.6
JOGS				eS	Sg	06 07 48.9	-0.6
JMJ2	**Miyako jima3**	**1.40**	**300**	P	Pg	06 07 33.0	-0.1
JMJ2				S	Sg	06 07 50.3	-0.9
JIKM	**Ikemajima**	**1.56**	**305**	P	Pb	06 07 35.1	-0.1
JIKM				eS	Sb	06 07 53.7	-1.3
JIRB	**Irabujima**	**1.56**	**301**	P	Pb	06 07 35.0	-0.3
JIRB				eS	Sn	06 07 53.6	-0.9
JTJ	**Tarama**	**1.88**	**289**	P	Pn	06 07 39.4	+0.8
JTJ				S	Sn	06 08 00.9	-1.5
JISG	**Ishigakijimahi**	**2.21**	**285**	P	Pn	06 07 43.7	+0.7
JISG				eS	Sn	06 08 09.0	-1.5
JKE	**Kume jima 2**	**2.28**	**3**	P	Pn	06 07 44.7	+0.6
JIJ	**Ishigaki jima**	**2.31**	**279**	P	Pn	06 07 45.4	+0.8
JIJ				eS	Sn	06 08 10.8	-2.3
JJT3	**Tamagusuku3**	**2.34**	**26**	eS	Sn	06 08 13.6	-0.1

JKRS	Kuro-shima	2.42	275	P	Pn	06 07 47.3	+1.2
JKRS				eS	Sn	06 08 13.9	-2.0
HATJ	Hateruma jima	2.60	271	eS	Sn	06 08 16.8	-3.4
IRIF	Iriomote-Funau	2.69	277	P	Pn	06 07 50.5	+0.8
IRIF				eS	Sn	06 08 20.6	-1.7
JNTH	Nagotoyohara	2.77	26	P	Pn	06 07 50.8	+0.1
JNTH				eS	Sn	06 08 22.3	-2.0
JOW	Kunigami	3.15	27	Pn	Pn	06 07 56.8	+0.7
	5.4nm,0.3s,baz=142,slow=25,SNR=9.8						
JOW				Sn	Sn	06 08 33.1	-0.6
	3.4nm,0.3s,baz=115,slow=26,SNR=1.6						
	12nm,0.3s						
JOW	Kunigami	3.15	27	P	Pn	06 07 56.7	+0.7
JYRO	Yoronjima	3.39	28	P	Pn	06 07 59.8	+0.5
JYRO				eS	Sn	06 08 37.9	-1.8
JOKE	Okinoerabujima	3.74	27	P	Pn	06 08 05.0	+0.8
JTK	Tokunoshima	4.27	28	P	Pn	06 08 11.7	+0.2
JMZ	Minamidaito 2	4.51	66	eP	Pn	06 08 12.7	-2.0
JAMN	Amaminishikomi	4.76	28	P	Pn	06 08 18.3	0.0
SONM	Songino Array	28.69	331	P	P	06 13 08.3	+4.5
	0.3nm,0.5s,baz=151,slow=10,SNR=4.4						
	0.3nm,0.5s						
MKAR	Makanchi Array	41.98	314	P	P	06 14 59.8	+2.2
	0.3nm,0.6s,baz=98,slow=10.0,SNR=5.8						
	0.3nm,0.6s						
ZALV	Zalesovo Beam	43.17	325	P	P	06 15 08.8	+1.7
	0.8nm,0.5s,baz=111,slow=8.1,SNR=5.0						
	0.8nm,0.5s						
WRA	Warramunga Arr	44.35	170	P	P	06 15 16.9	-0.1
	1.7nm,0.7s,baz=352,slow=8.6,SNR=12						
	1.7nm,0.7s						
ASAR	Alice Springs	47.94	171	P	P	06 15 46.2	+0.9
	0.4nm,0.5s,baz=355,slow=14,SNR=11						
	0.4nm,0.5s						

DDA ***21*** *06:07:37.2±0.0, 37.21N×31.09E, h7km±1km, ML1.6*
ISK ***21*** *06:07:37.8, 37.35N×31.11E, h14km, ML2.5/9*
ISC 21 06:07:37.4±1.3**, 37.27N**±0.03×**31.10E**±0.02**, h11**km±12km**,**
n19, σ**0.66**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUCA	Burdur, Bucak-	0.44	278	P	Pg	06 07 46.1	+0.1
BUCA				S	Sb	06 07 52.9	-0.9
BUCA				i AML	AML	06 07 58.0	
	comp=N,53nm,0.6s						
BCK	Bucak	0.45	295	Pg	Pg	06 07 46.8	+0.5
BCK				Sg	Sb	06 07 53.5	-0.7
ANTB	Antalya	0.52	224	Pg	Pb	06 07 48.9	+0.5
ANTB				Sg	Sn	06 07 58.3	-1.1
KEPZ	Antalya-Kepez	0.55	132	P	Pg	06 07 47.5	-0.5
SEDI	Konya, Seydise	0.55	71	P	Pg	06 07 48.4	+0.3
SEDI				S	Sb	06 07 57.2	+0.2
SEDI				i AML	AML	06 07 59.0	
	comp=E,70nm,0.4s						
SEDI				i AML	AML	06 08 01.0	
	comp=N,35nm,0.3s						
SEYD	Seydisehir-KON	0.60	77	Pg	Pg	06 07 49.6	+0.5
SEYD				Sg	Sb	06 07 58.2	-0.3
KORT	Korkueli	0.66	246	P	Pg	06 07 49.5	-0.7
KORT				i AML	AML	06 08 03.0	
	comp=E,54nm,0.5s						
BAGO	Egridir - ISPA	0.76	341	P	Pb	06 07 52.8	+0.1
DOGA	KONYA_Doganhis	0.95	28	P	Pg	06 07 55.0	-0.6
DOGA				i AML	AML	06 08 12.0	
	comp=E,15nm,0.3s						
DOGA				i AML	AML	06 08 18.0	
	comp=N,22nm,0.5s						
YVAC	Isparta, Yalva	1.00	6	P	Pg	06 07 55.6	-1.2
YVAC				S	Sn	06 08 11.9	+0.1
KMER	Konya-Meram	1.12	63	P	Pb	06 07 58.2	-0.7
KMER				S	Sn	06 08 15.4	+0.8
KMER				i AML	AML	06 08 18.0	
	comp=E,17nm,0.6s						
KMER				i AML	AML	06 08 21.0	
	comp=N,12nm,0.6s						
KONT	Konya--Tatoy	1.21	56	Pn	Pb	06 08 00.1	-0.1
GOLH	Golhisar	1.23	269	P	Pg	06 08 01.2	+0.1
KZIL	AFYON_Kizioren	1.25	323	P	Pg	06 08 02.4	+1.0
LADK	Ladik-KONYA	1.36	47	Pn	Pn	06 08 02.3	-0.2
CAME	Cameli-Denizli	1.48	258	Pn	Pb	06 08 04.9	0.0
KDHN	Kadinhani	1.48	32	P	Pb	06 08 05.0	0.0
AKAS	Kas	1.59	230	Pn	Pb	06 08 06.9	+0.1
BERE	Bereket-Mersin	1.94	118	Pn	Pn	06 08 11.5	+1.2

ROM 21 06:16:41.9±0.2**, 42.59N**±0.02×**13.40E**±0.02**, h8**km±1km**,**
ML1.7/8**, 7C, Error ellipse: s-maj=2.2km s-min=0.5km**
az=216.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	SAN MARTINO	0.06	310	⇑P	Pg	06 16 43.1	-0.8
CAMP	Campotosto	0.06	170	P	Pg	06 16 44.9	+1.0
CAMP				S	Sg	06 16 46.1	+0.8
RM33	Pellescritta (	0.16	238	P	Pg	06 16 45.8	+0.5
RM33				S	Sg	06 16 47.9	+0.2
RM33				AML	AML		
	comp=E,1335μm,0.3s						
RM33				AML	AML		
	comp=N,1060μm,0.2s						
RM33				AML	AML		
	comp=E,1310μm,0.3s						
RM33				AML	AML		
	comp=N,1050μm,0.2s						
RM33				AML	AML		
	comp=E,1310μm,1.7s						
RM33				AML	AML		
	comp=E,1335μm,1.7s						
T1202	Accumoli, Fraz	0.17	311	P	Pg	06 16 44.9	-0.5
T1247	Pizzolo (AQ)	0.17	205	⇑P	Pg	06 16 45.7	+0.3
T1247				AML	AML		
	comp=E,1940μm,0.5s						
T1247				AML	AML		
	comp=N,1830μm,1.1s						
T1247				AML	AML		
	comp=E,1940μm,1.5s						
T1247				AML	AML		
	comp=N,1830μm,0.9s						
GIGS	Gran Sasso	0.19	138	P	Pg	06 16 46.8	+1.0
GIGS				S	Sg	06 16 49.7	+1.1
GIGS				AML	AML		
	comp=E,97μm,1.4s						
GIGS				AML	AML		
	comp=N,90μm,0.2s						
GIGS				AML	AML		
	comp=E,97μm,0.6s						
T1218	Civita (PG)	0.22	290	P	Pg	06 16 47.8	+1.4
T1218				S	Sg	06 16 51.6	+2.2
AQU	L'Aquila	0.24	179	P	Pg	06 16 47.3	+0.6
AQU				AML	AML		
	comp=N,170μm,1.4s						
AQU				AML	AML		
	comp=N,170μm,1.4s						
AQU				AML	AML		
	comp=N,170μm,0.6s						
AQU				AML	AML		
	comp=E,159μm,0.7s						
LNSS	Leonessa	0.26	272	⇑P	Pb	06 16 48.2	-0.8
LNSS				S	Sb	06 16 52.4	-1.3
LNSS				AML	AML		
	comp=E,466μm,0.4s						
LNSS				AML	AML		
	comp=N,412μm,0.5s						
T1212	Cascia, Frazio	0.30	302	⇑P	Pb	06 16 49.4	-0.2
T1212				S	Sb	06 16 54.4	-0.4
T1212				AML	AML		
	comp=E,222μm,0.9s						
T1212				AML	AML		
	comp=N,228μm,0.2s						
T1222	Castel Sant'An	0.33	234	P	Pg	06 16 48.5	+0.1
T1222				AML	AML		
	comp=E,119μm,0.3s						
T1222				AML	AML		
	comp=N,104μm,1.4s						
FAGN	Fagnano	0.36	157	P	Pg	06 16 49.6	+0.7
FAGN				AML	AML		
	comp=E,294μm,0.3s						
FAGN				AML	AML		
	comp=N,185μm,1.0s						
T1217	Poggiodomo (PG	0.36	289	P	Pb	06 16 50.1	-0.6
T1216	Preci, Frazion	0.41	317	⇑P	Pb	06 16 51.8	+0.4
T1215	Vallo di Nera,	0.44	298	P	Pb	06 16 51.6	-0.3
FDMO	Fiordimonte	0.50	333	⇑P	Pb	06 16 53.5	+0.6
CESI	CESI - Serrava	0.55	319	P	Pb	06 16 54.3	+0.5
MOMA	Monte Martano	0.64	289	⇑P	Pb	06 16 55.4	-0.1
MOMA				AML	AML		
	comp=E,96μm,1.6s						
MOMA				AML	AML		
	comp=N,132μm,0.2s						
MOMA				AML	AML		
	comp=E,96μm,0.4s						
EL6	Elcito	0.77	344	S	Sn	06 17 11.8	+1.0

ROM ***21*** *06:17:34.4±0.1, 42.866N±0.003×13.204E±0.005, h10km, ML3.1/53, Error ellipse: s-maj=0.4km s-min=0.2km az=268.0*
LDG ***21*** *06:17:34.1±0.1, 42.85N×13.22E, h10km, Ml2.7/15, Error ellipse: s-maj=4.1km s-min=3.0km az=48.0*
PRU ***21*** *06:17:36.7±0.0, 42.86N×13.76E, h10km*
BEO ***21*** *06:17:37.6±0.7, 42.89N×13.27E, h0km, ML3.3/8*
ISC 21 06:17:35.7±0.8**, 42.85N**±0.01×**13.17E**±0.02**, h9**km±5km**,**
n124, σ**1.66**/182**, 27C-26D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.04	245	⇑P	Pg	06 17 36.9	-0.7
NRCA				S	Sg	06 17 38.8	-0.2
NRCA				AML	AML		
	comp=N,85150μm,0.4s						
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,85150μm,0.4s						
T1216	Preci, Frazion	0.12	290	P	Pg	06 17 38.1	-0.4
T1216				S	Sg	06 17 41.0	+0.5
T1216				AML	AML		
	comp=E,40000μm,1.6s						
T1216				AML	AML		
	comp=N,29150μm,1.2s						
T1216				AML	AML		
	comp=E,39950μm,1.6s						
T1216				AML	AML		
	comp=N,29200μm,1.2s						
T1216				AML	AML		
	comp=E,40000μm,0.4s						
T1216				AML	AML		
	comp=N,29200μm,0.8s						
T1212	Cascia, Frazio	0.14	222	P	Pg	06 17 38.7	-0.1
T1212				S	Sg	06 17 41.5	+0.5
T1212				AML	AML		
	comp=E,23150μm,1.6s						
T1212				AML	AML		
	comp=N,21750μm,0.7s						
T1212				AML	AML		
	comp=E,25300μm,1.6s						
T1212				AML	AML		
	comp=N,21800μm,0.7s						
T1212				AML	AML		
	comp=E,25300μm,1.6s						
T1212				AML	AML		
	comp=E,23150μm,1.6s						
T1212				AML	AML		
	comp=N,21700μm,0.7s						
T1212				AML	AML		
	comp=E,25300μm,0.4s						
T1212				AML	AML		
	comp=E,23150μm,0.4s						
FEMA	Monte Fema	0.14	322	⇑P	Pg	06 17 38.3	-0.7
FEMA				S	Sg	06 17 41.0	-0.2
FEMA				AML	AML		
	comp=E,21450μm,0.5s						
FEMA				AML	AML		
	comp=N,14400μm,0.5s						
FEMA				AML	AML		
	comp=E,21450μm,0.5s						
FEMA				AML	AML		
	comp=N,14400μm,0.4s						
T1202	Accumoli, Fraz	0.15	164	⇓P	Pg	06 17 38.7	-0.5
T1202				S	Sg	06 17 41.8	+0.3
T1202				AML	AML		
	comp=E,85950μm,0.8s						
T1202				AML	AML		
	comp=E,85900μm,0.8s						
T1202				AML	AML		
	comp=N,99000μm,0.3s						
T1202				AML	AML		
	comp=N,98950μm,0.3s						
T1218	Civita (PG)	0.19	192	⇓P	Pg	06 17 39.4	-0.3
T1218				S	Sg	06 17 42.9	+0.6
T1218				AML	AML		
	comp=E,15200μm,0.8s						
T1218				AML	AML		
	comp=E,15000μm,0.8s						
T1218				AML	AML		
	comp=E,15200μm,0.8s						
T1218				AML	AML		
	comp=N,16900μm,1.4s						
T1218				AML	AML		
	comp=E,15050μm,0.8s						
T1218				AML	AML		
	comp=N,16900μm,1.4s						
T1218				AML	AML		
	comp=E,15050μm,0.8s						
T1218				AML	AML		
	comp=N,16950μm,0.7s						
T1218				AML	AML		
	comp=N,16900μm,0.6s						
FDMO	Fiordimonte	0.19	342	⇑P	Pg	06 17 38.8	-1.0
FDMO				S	Sg	06 17 42.1	-0.5
FDMO				AML	AML		
	comp=E,7250μm,1.4s						
FDMO				AML	AML		
	comp=N,8180μm,1.4s						
FDMO				AML	AML		
	comp=E,7250μm,0.6s						
FDMO				AML	AML		
	comp=N,8180μm,0.6s						
T1217	Poggiodomo (PG	0.22	231	⇓P	Pg	06 17 40.3	0.0
T1217				S	Sg	06 17 44.8	+1.3
T1217				AML	AML		
	comp=E,7955μm,0.6s						
T1217				AML	AML		
	comp=E,8825μm,0.6s						
T1217				AML	AML		
	comp=N,7365μm,0.8s						
T1217				AML	AML		
	comp=N,7090μm,0.7s						
T1217				AML	AML		
	comp=N,7090μm,0.7s						
T1217				AML	AML		
	comp=N,7360μm,0.8s						
T1217				AML	AML		
	comp=N,7090μm,1.3s						
T1217				AML	AML		
	comp=E,8820μm,0.6s						
T1217				AML	AML		
	comp=N,7360μm,1.2s						
T1215	Vallo di Nera,	0.23	257	⇓P	Pg	06 17 40.3	0.0
T1215				S	Sg	06 17 45.0	+1.5
T1215				AML	AML		
	comp=E,4820μm,1.1s						
T1215				AML	AML		
	comp=E,4785μm,1.1s						
T1215				AML	AML		
	comp=N,3745μm,0.8s						
T1215				AML	AML		
	comp=E,4820μm,0.9s						
T1215				AML	AML		
	comp=N,3670μm,0.8s						
T1215				AML	AML		
	comp=E,4785μm,0.9s						
GUMA	Gualdo di Mace	0.24	30	⇑P	Pg	06 17 39.6	-1.1
GUMA				S	Sg	06 17 43.7	-0.4
GUMA				AML	AML		
	comp=E,23900μm,0.7s						
GUMA				AML	AML		
	comp=N,22500μm,1.5s						
GUMA				AML	AML		
	comp=N,20150μm,0.6s						
GUMA				AML	AML		
	comp=E,23300μm,0.6s						
GUMA				AML	AML		
	comp=E,23900μm,1.3s						
CESI	CESI - Serrava	0.25	309	⇓P	Pg	06 17 40.3	-0.5
CESI				S	Sg	06 17 44.8	+0.7
CESI				AML	AML		
	comp=N,7025μm,1.5s						
CESI				AML	AML		
	comp=E,5475μm,0.4s						
SMA1	SAN MARTINO	0.25	151	⇓P	Pg	06 17 40.1	-0.8
SMA1				S	Sg	06 17 44.3	0.0
SMA1				AML	AML		
	comp=E,20650μm,0.5s						
SMA1				AML	AML		
	comp=N,18050μm,0.5s						
SMA1				AML	AML		
	comp=N,18050μm,1.5s						
LNSS	Leonessa	0.27	201	⇓P	Pg	06 17 40.8	-0.3
LNSS				S	Sg	06 17 46.3	+1.6
LNSS				AML	AML		
	comp=E,11350μm,0.2s						
LNSS				AML	AML		
	comp=N,8430μm,0.3s						
LNSS				AML	AML		
	comp=N,8430μm,1.7s						
SEF1	Sefro	0.34	331	P	Pg	06 17 41.6	-0.8
SEF1				AML	AML		
	comp=E,9410μm,0.2s						
SEF1				AML	AML		
	comp=N,6725μm,0.7s						
SEF1				AML	AML		
	comp=E,9410μm,0.3s						
SEF1				AML	AML		
	comp=N,6730μm,0.7s						
RM33	Pellescritta (	0.34	174	⇓P	Pg	06 17 42.1	-0.5
RM33				S	Sg	06 17 48.2	+1.1
RM33				AML	AML		
	comp=E,7235μm,0.4s						
RM33				AML	AML		
	comp=N,7310μm,1.0s						
RM33				AML	AML		
	comp=N,7390μm,1.0s						
RM33				AML	AML		
	comp=N,7310μm,1.0s						
RM33				AML	AML		
	comp=E,7185μm,0.4s						
RM33				AML	AML		
	comp=E,7235μm,0.4s						
RM33				AML	AML		
	comp=N,7310μm,1.0s						
RM33				AML	AML		
	comp=N,7390μm,1.0s						
MNTP	Montappone	0.36	38	P	Pg	06 17 42.1	-0.8
CAMP	Campotosto	0.36	150	⇓P	Pg	06 17 41.9	-1.0
CAMP				S	Sg	06 17 47.7	0.0
CAMP				AML	AML		
	comp=N,5170μm,0.8s						
CAMP				AML	AML		
	comp=E,6760μm,0.8s						
OFFI	Offida	0.39	78	⇑P	Pg	06 17 42.8	-0.6
OFFI				AML	AML		
	comp=N,14400μm,0.6s						
OFFI				AML	AML		
	comp=E,11575μm,0.5s						
OFFI				AML	AML		
	comp=E,11575μm,1.5s						
GAG1	Gagliole	0.39	349	⇑P	Pg	06 17 42.7	-0.8
GAG1				S	Sg	06 17 49.0	+0.4
GAG1				AML	AML		
	comp=E,8960μm,0.5s						
GAG1				AML	AML		
	comp=N,8080μm,0.4s						
GAG1				AML	AML		
	comp=N,8080μm,1.6s						
GAG1				AML	AML		
	comp=E,8955μm,0.5s						
ARRO	Arrone	0.40	227	⇓P	Pg	06 17 43.4	-0.2
ARRO				AML	AML		
	comp=E,2780μm,1.6s						
ARRO				AML	AML		
	comp=N,2050μm,1.4s						
ASSB	Assisi San Ben	0.42	297	⇓P	Pg	06 17 43.4	-0.6
ASSB				AML	AML		
	comp=N,2805μm,0.7s						
ASSB				AML	AML		
	comp=N,2805μm,1.3s						
ASSB				AML	AML		
	comp=E,2095μm,0.4s						
T1247	Pizzolo (AQ)	0.42	167	⇓P	Pg	06 17 43.3	-0.7
T1247				S	Sg	06 17 51.4	+1.8
T1247				AML	AML		
	comp=N,5950μm,1.0s						
T1247				AML	AML		
	comp=E,4945μm,1.3s						
T1247				AML	AML		
	comp=N,5950μm,1.0s						
SNTG	Esanatoglia	0.44	338	⇑P	Pg	06 17 43.2	-1.0
SNTG				AML	AML		
	comp=E,1750μm,0.2s						
SNTG				AML	AML		
	comp=N,1930μm,1.0s						
MOMA	Monte Martano	0.44	264	⇓P	Pg	06 17 44.1	-0.3
MOMA				AML	AML		
	comp=E,1730μm,1.4s						
MOMA				AML	AML		
	comp=N,1770μm,1.6s						
MOMA				AML	AML		
	comp=E,1775μm,1.4s						
MOMA				AML	AML		
	comp=N,1710μm,1.6s						
MOMA				AML	AML		
	comp=N,1775μm,1.6s						
MOMA				AML	AML		
	comp=N,1775μm,0.4s						
MOMA				AML	AML		
	comp=N,1710μm,0.4s						
MOMA				AML	AML		
	comp=E,1775μm,0.6s						
MOMA				AML	AML		
	comp=E,1730μm,0.6s						
T1222	Castel Sant'An	0.46	192	⇑P	Pg	06 17 44.0	-0.7
T1222				AML	AML		
	comp=N,4115μm,1.4s						
T1222				AML	AML		
	comp=N,3605μm,1.4s						
T1222				AML	AML		
	comp=E,3535μm,0.7s						
T1222				AML	AML		
	comp=N,3605μm,0.6s						
T1222				AML	AML		
	comp=E,3375μm,0.6s						
T1222				AML	AML		
	comp=N,4115μm,0.6s						
EL6	Elcito	0.48	354	⇑P	Pg	06 17 43.8	-1.3
EL6				S	Sg	06 17 52.2	+0.7
EL6				AML	AML		
	comp=E,3780μm,0.4s						
EL6				AML	AML		
	comp=N,3800μm,0.7s						
EL6				AML	AML		
	comp=N,3710μm,0.6s						
EL6				AML	AML		
	comp=N,3710μm,1.4s						
CESX	Cesi	0.50	241	⇓P	Pg	06 17 44.9	-0.5
CESX				AML	AML		
	comp=E,2160μm,0.5s						
CESX				AML	AML		
	comp=N,2160μm,0.6s						
CESX				AML	AML		
	comp=E,2160μm,1.5s						
CESX				AML	AML		
	comp=N,2160μm,1.4s						
GIGS	Gran Sasso	0.50	143	⇑P	Pg	06 17 44.2	-1.3
GIGS				AML	AML		
	comp=E,1345μm,0.3s						
GIGS				AML	AML		
	comp=N,1385μm,0.5s						
GIGS				AML	AML		
	comp=N,1385μm,1.5s						
GIGS				AML	AML		
	comp=E,1345μm,1.7s						
ATCC	AVT- Casa Cast	0.51	311	⇓P	Pg	06 17 45.0	-0.7
ATCC				S	Sg	06 17 53.9	+1.5
ATCC				AML	AML		
	comp=E,3675μm,1.1s						
ATCC				AML	AML		
	comp=E,3670μm,1.1s						
ATCC				AML	AML		
	comp=N,2735μm,1.1s						
ATCC				AML	AML		
	comp=E,3670μm,0.9s						
CING	Cingoli	0.52	2	⇑P	Pg	06 17 44.5	-1.4
CING				AML	AML		
	comp=E,1530μm,1.3s						
CING				AML	AML		
	comp=N,995μm,1.6s						

CING				AML	AML			
	comp=N,995µm,0.4s							
CING				AML	AML			
	comp=E,1530µm,0.7s							
AQU	**L'Aquila**	**0.53**	**161**	⇓P	**Pg**	**06 17 45.0**	**-1.0**	
AQU				S	**Sg**	**06 17 53.6**	**+0.7**	
AQU				AML	AML			
	comp=E,3930µm,1.4s							
AQU				AML	AML			
	comp=N,3420µm,0.8s							
AQU				AML	AML			
	comp=E,3925µm,1.4s							
AQU				AML	AML			
	comp=N,3115µm,0.8s							
AQU				AML	AML			
	comp=E,3600µm,1.4s							
AQU				AML	AML			
	comp=N,3115µm,1.2s							
AQU				AML	AML			
	comp=N,3420µm,1.2s							
FOSV	**Fossato di Vic**	**0.53**	**326**	⇓P	**Pg**	**06 17 45.1**	**-1.0**	
FOSV				S	**Sg**	**06 17 54.2**	**+1.1**	
FOSV				AML	AML			
	comp=E,1815µm,0.3s							
FOSV				AML	AML			
	comp=N,2035µm,0.5s							
FOSV				AML	AML			
	comp=N,2035µm,1.5s							
TRTR	**Tortoreto Alta**	**0.55**	**94**	⇑P	**Pg**	**06 17 46.3**	**-0.1**	
TRTR				AML	AML			
	comp=N,15400µm,0.4s							
TRTR				AML	AML			
	comp=E,14500µm,0.4s							
TRTR				AML	AML			
	comp=N,15400µm,1.6s							
CADA	**Capodarco di F**	**0.55**	**52**	P	**Pg**	**06 17 46.2**	**-0.2**	
PP3	**Marolino**	**0.62**	**31**	⇓P	**Pg**	**06 17 47.4**	**-0.3**	
PP3				AML	AML			
	comp=E,4045µm,1.1s							
PP3				AML	AML			
	comp=E,3850µm,1.1s							
PP3				AML	AML			
	comp=N,3445µm,1.1s							
PP3				AML	AML			
	comp=N,3340µm,0.7s							
PP3				AML	AML			
	comp=E,3850µm,0.9s							
PP3				AML	AML			
	comp=E,4045µm,0.9s							
PP3				AML	AML			
	comp=N,3340µm,1.3s							
PP3				AML	AML			
	comp=N,3445µm,0.9s							
MURB	**Monte Urbino**	**0.62**	**311**	⇑P	**Pg**	**06 17 47.2**	**-0.6**	
MURB				S	**Sg**	**06 17 58.2**	**+2.2**	
MURB				AML	AML			
	comp=E,3025µm,0.7s							
MURB				AML	AML			
	comp=N,2240µm,0.3s							
SSFR	**Montelago di S**	**0.65**	**334**	⇑P	**Pg**	**06 17 47.1**	**-1.2**	
SSFR				AML	AML			
	comp=E,2645µm,0.7s							
SSFR				AML	AML			
	comp=N,2895µm,0.3s							
SSFR				AML	AML			
	comp=E,2750µm,0.7s							
SSFR				AML	AML			
	comp=N,2695µm,0.3s							
SSFR				AML	AML			
	comp=N,2895µm,1.7s							
SSFR				AML	AML			
	comp=N,2695µm,1.7s							
SSFR				AML	AML			
	comp=E,2750µm,1.3s							
SSFR				AML	AML			
	comp=E,2645µm,1.3s							
FAGN	**Fagnano**	**0.66**	**152**	⇑P	**Pg**	**06 17 47.2**	**-1.3**	
FAGN				S	**Sg**	**06 17 58.2**	**+1.1**	
FAGN				AML	AML			
	comp=N,3955µm,0.3s							
FAGN				AML	AML			
	comp=E,5445µm,0.4s							
ARVD	**Arcevia**	**0.67**	**346**	P	**Pg**	**06 17 47.2**	**-1.4**	
ARVD				S	**Sg**	**06 17 58.6**	**+1.2**	
ARVD				AML	AML			
	comp=N,688µm,0.7s							
ARVD				AML	AML			
	comp=N,688µm,0.7s							
ARVD				AML	AML			
	comp=E,861µm,0.9s							
ATFO	**Monte Foce - G**	**0.67**	**320**	⇑P	**Pg**	**06 17 47.9**	**-0.9**	
ATFO				AML	AML			
	comp=N,1275µm,1.4s							
ATFO				AML	AML			
	comp=E,1295µm,0.9s							
ATFO				AML	AML			
	comp=N,1275µm,0.6s							
FRON	**Frontone**	**0.74**	**334**	⇑P	**Pg**	**06 17 48.6**	**-1.4**	
FRON				S	**Sg**	**06 18 01.6**	**+1.9**	
FRON				AML	AML			
	comp=E,872µm,1.4s							
FRON				AML	AML			
	comp=N,1295µm,1.0s							
FRON				AML	AML			
	comp=E,872µm,0.6s							
AOI	**Ancona**	**0.77**	**24**	⇓P	**Pg**	**06 17 50.2**	**-0.3**	
AOI				AML	AML			
	comp=E,696µm,0.7s							
AOI				AML	AML			
	comp=N,794µm,1.2s							
AOI				AML	AML			
	comp=N,794µm,0.8s							
AOI				AML	AML			
	comp=E,696µm,1.3s							
ATVO	**AVT- Monte Val**	**0.77**	**314**	⇓P	**Pg**	**06 17 49.4**	**-1.1**	
ATVO				S	**Sg**	**06 18 02.6**	**+2.0**	
ATVO				AML	AML			
	comp=N,684µm,0.4s							
ATVO				AML	AML			
	comp=E,723µm,0.9s							
MGAB	**Montegabbione**	**0.78**	**275**	⇑P	**Pg**	**06 17 50.2**	**-0.5**	
MGAB				AML	AML			
	comp=N,1405µm,1.2s							
MGAB				AML	AML			
	comp=E,1240µm,0.6s							
MGAB				AML	AML			
	comp=E,1300µm,0.6s							
MGAB				AML	AML			
	comp=N,1375µm,0.6s							
MGAB				AML	AML			
	comp=N,1405µm,0.8s							
COR1	**Corinaldo**	**0.79**	**351**	⇓P	**Pg**	**06 17 50.6**	**-0.3**	
COR1				AML	AML			
	comp=E,1290µm,0.9s							
COR1				AML	AML			
	comp=N,1985µm,0.9s							
COR1				AML	AML			
	comp=N,1980µm,0.9s							
COR1				AML	AML			
	comp=N,1980µm,1.1s							
COR1				AML	AML			
	comp=E,1295µm,0.9s							
PIEI	**Pieia**	**0.82**	**326**	P	**Pg**	**06 17 50.5**	**-1.1**	
PIEI				AML	AML			
	comp=E,527µm,0.7s							
PIEI				AML	AML			
	comp=N,434µm,0.5s							
MPAG	**Monte Paganucc**	**0.83**	**339**	⇓P	**Pg**	**06 17 50.5**	**-1.2**	
MPAG				S	**Sg**	**06 18 04.0**	**+1.3**	
MPAG				AML	AML			
	comp=N,824µm,1.5s							
MPAG				AML	AML			
	comp=E,736µm,0.7s							
MPAG				AML	AML			
	comp=E,746µm,1.5s							
MPAG				AML	AML			
	comp=N,824µm,1.5s							
MPAG				AML	AML			
	comp=N,792µm,0.7s							
MPAG				AML	AML			
	comp=N,824µm,0.5s							
MPAG				AML	AML			
	comp=E,736µm,1.3s							
NARO	**Abbazia di Nar**	**0.87**	**331**	⇓P	**Pg**	**06 17 51.1**	**-1.3**	
NARO				AML	AML			
	comp=E,644µm,1.6s							
NARO				AML	AML			
	comp=N,529µm,1.3s							
NARO				AML	AML			
	comp=N,529µm,0.7s							
NARO				AML	AML			
	comp=E,644µm,0.4s							
MTCE	**Montecelio**	**0.89**	**201**	⇑P	**Pg**	**06 17 53.3**	**+0.5**	
MTCE				AML	AML			
	comp=E,1210µm,0.5s							
MTCE				AML	AML			
	comp=N,666µm,0.7s							
APEC	**Apecchio**	**0.89**	**323**	⇑P	**Pg**	**06 17 50.6**	**-2.3**	
APEC				AML	AML			
	comp=E,1115µm,1.1s							
APEC				AML	AML			
	comp=N,1020µm,1.6s							
CERT	**Cerreto**	**0.91**	**189**	⇑P	**Pg**	**06 17 53.2**	**-0.1**	
CERT				AML	AML			
	comp=E,1425µm,1.5s							
CERT				AML	AML			
	comp=N,1055µm,0.5s							
CERT				AML	AML			
	comp=N,1055µm,1.5s							
CERT				AML	AML			
	comp=E,1425µm,0.5s							
BADI	**Badiali**	**0.94**	**315**	⇓P	**Pg**	**06 17 53.1**	**-0.8**	
PE3	**Peglio**	**0.98**	**330**	P	**Pg**	**06 17 53.8**	**-0.7**	
RCAV	**Rocca di Cave**	**1.02**	**189**	P	**Pg**	**06 17 55.4**	**+0.1**	
RCAV				AML	AML			
	comp=E,1071µm,0.7s							
RCAV				AML	AML			
	comp=N,1015µm,1.6s							
RCAV				AML	AML			
	comp=N,1015µm,0.4s							
LPEL	**Lama dei Pelig**	**1.10**	**137**	⇑P	**Pg**	**06 17 55.5**	**-1.4**	
LPEL				AML	AML			
	comp=E,1220µm,0.3s							
LPEL				AML	AML			
	comp=N,1104µm,1.0s							
SF04	**Casetta**	**1.11**	**270**	⇑P	**Pb**	**06 17 57.4**	**+0.4**	
SF04				AML	AML			
	comp=E,448µm,1.2s							
SF04				AML	AML			
	comp=N,379µm,1.5s							
SF04				AML	AML			
	comp=E,448µm,0.8s							
SF04				AML	AML			
	comp=N,379µm,0.5s							
TOLF	**Tolfa**	**1.17**	**228**	⇑P	**Pn**	**06 17 58.0**	**-0.2**	
TOLF				AML	AML			
	comp=E,490µm,1.1s							
TOLF				AML	AML			
	comp=N,336µm,0.8s							
CRE	**Caprese Michel**	**1.17**	**311**	⇓P	**Pn**	**06 17 58.5**	**+0.1**	
GIUL	**Giuliano Di Ro**	**1.29**	**177**	⇑P	**Pn**	**06 18 00.8**	**+0.8**	
MIDA	**Miranda**	**1.45**	**146**	⇑P	**Pb**	**06 18 03.3**	**+0.4**	
RUFI	**Rufina**	**1.56**	**310**	⇓P	**Pn**	**06 18 04.7**	**+1.0**	
GATE	**Gambatesa**	**1.86**	**135**	S	**Sg**	**06 18 35.8**	**+0.3**	
SKDS	**Skadanscina**	**2.76**	**12**	*e*Pn	**Pn**	**06 18 18.8**	**-1.4**	
A050A	**Klekovaca**	**2.94**	**55**	*e*Pn	**Pn**	**06 18 23.4**	**+0.8**	
CEY	**Cerknica**	**3.02**	**17**	*e*Pn	**Pn**	**06 18 22.5**	**-1.3**	
BOJS	**Bojanci**	**3.05**	**29**	⇑P	**Pb**	**06 18 31.7**	**+1.6**	
BOJS	**Bojanci**	**3.05**	**29**	*e*Pn	**Pn**	**06 18 24.1**	**+0.1**	
PGF	**Pioggiola**	**3.09**	**266**	*e*P	**Pn**	**06 18 24.2**	**-0.5**	
PGF				*e*Sn	**Sn**	**06 18 57.2**	**-4.6**	
	comp=N,20nm,0.4s							
SRKY	**Kupres RS**	**3.15**	**66**	*e*Pn	**Pn**	**06 18 27.2**	**+1.6**	
STON	**Ston**	**3.33**	**88**	*e*Pn	**Pn**	**06 18 29.1**	**+1.2**	
STON				*e*Sn	**Sn**	**06 19 07.0**	**-0.6**	
A051A	**Mrakovica**	**3.46**	**50**	*e*Pn	**Pn**	**06 18 27.3**	**-2.5**	
BLY	**Banja Luka**	**3.47**	**56**	*e*Pn	**Pn**	**06 18 32.5**	**+2.6**	
OBKA	**Obir**	**3.79**	**15**	*i* Pn	**Pn**	**06 18 34.9**	**+0.6**	
	comp=N,0.7nm,0.3s							
OBKA				Sg	**Sg**	**06 19 41.7**	**+4.4**	
	comp=N,36nm,1.0s							
OBKA	**Obir**	**3.79**	**15**	*e*Pn	**Pn**	**06 18 33.6**	**-0.7**	
MYKA	**Terra Mystica**	**3.79**	**5**	*i* Pn	**Pn**	**06 18 34.2**	**-0.2**	
	comp=N,0.7nm,0.1s							
MYKA				*e*Sn	**Sn**	**06 19 19.2**	**0.0**	
	comp=N,3.0nm,0.3s							
TREB	**Trebinje**	**3.82**	**90**	*e*Pn	**Pn**	**06 18 35.5**	**+0.9**	
TREB				*e*Sn	**Sn**	**06 19 19.7**	**+0.1**	
TREB	**Trebinje**	**3.82**	**90**	*e*Pn	**Pn**	**06 18 33.6**	**-1.0**	
ABTA	**Abfaltersbach**	**3.92**	**353**	*i* Pn	**Pn**	**06 18 36.8**	**+0.6**	
	comp=N,16nm,0.4s,SNR=7.3							
ABTA				*i* Sn	**Sn**	**06 19 21.3**	**-1.1**	
	comp=N,3.8nm,0.4s							
BRY	**Bratogost**	**3.95**	**87**	*e*Pn	**Pn**	**06 18 36.2**	**-0.4**	
UPM	**Unac-Piva**	**4.22**	**83**	*e*Pn	**Pn**	**06 18 42.1**	**+1.7**	
KBA	**Koelnbreinsper**	**4.23**	**2**	*i* Pn	**Pn**	**06 18 41.3**	**+0.9**	
	comp=N,2.7nm,0.3s,SNR=10							
KBA				*i* Sn	**Sn**	**06 19 29.9**	**-0.1**	
	comp=N,4.7nm,0.4s							
SBF	**Sospel**	**4.30**	**286**	*e*P	**Pn**	**06 18 42.1**	**+0.8**	
SBF				*e*Sn	**Sn**	**06 19 25.7**	**-5.9**	
	comp=N,3.6nm,0.3s							
PDG	**Podgorica**	**4.51**	**93**	*e*Pn	**Pn**	**06 18 45.4**	**+1.3**	
PDG				*e*Sn	**Sn**	**06 19 38.0**	**+1.3**	
FETA	**Feichten**	**4.51**	**338**	*i* Pn	**Pn**	**06 18 46.5**	**+2.1**	
	comp=N,1.7nm,0.3s							
FETA				*i* Sn	**Sn**	**06 19 37.1**	**+0.1**	
	comp=N,2.3nm,0.3s							
WTTA	**Wattenberg**	**4.54**	**347**	*i* Pn	**Pn**	**06 18 46.6**	**+1.8**	
	comp=N,1.0nm,0.2s							
WTTA				*e*Sn	**Sn**	**06 19 38.1**	**+0.4**	
	comp=N,6.4nm,0.4s							
SQTA	**Sankt Quirin**	**4.58**	**343**	*e*Pn	**Pn**	**06 18 47.1**	**+1.8**	
	comp=N,4.9nm,0.4s,SNR=11							
SQTA				*e*Sn	**Sn**	**06 19 39.0**	**+0.4**	
	comp=N,3.0nm,0.3s							
RUDO	**Rudo**	**4.60**	**78**	*e*Pn	**Pn**	**06 18 46.6**	**+1.2**	
WATA	**Walderalm**	**4.62**	**346**	*i* Pn	**Pn**	**06 18 47.7**	**+1.9**	
	comp=N,3.2nm,0.3s							
WATA				*e*Sn	**Sn**	**06 19 39.5**	**-0.2**	
	comp=N,8.2nm,0.5s							
BBLS	**Lazići**	**4.66**	**75**	*e*Pn	**Pn**	**06 18 49.1**	**+2.8**	
ARSA	**Arzberg**	**4.70**	**20**	*i* Sn	**Sn**	**06 19 40.2**	**-1.3**	
	comp=N,1.8nm,0.3s							
MOTA	**Moosalm**	**4.72**	**343**	*i* Pn	**Pn**	**06 18 49.1**	**+1.9**	
	comp=N,1.2nm,0.3s,SNR=6.1							
MOTA				*i* Sn	**Sn**	**06 19 43.6**	**+1.4**	
	comp=N,3.5nm,0.4s							
BIOA	**Bad Ischl, Aus**	**4.85**	**4**	*i* Pn	**Pn**	**06 18 49.5**	**+0.7**	
	comp=N,2.7nm,0.3s,SNR=5.0							
BIOA				*e*Sn	**Sn**	**06 19 45.7**	**+0.5**	
	comp=N,6.0nm,0.5s							
LMR	**La Mourre**	**4.90**	**278**	*e*P	**Pn**	**06 18 50.0**	**+0.5**	
LMR				*e*Sn	**Sn**	**06 19 40.5**	**-5.8**	
	comp=N,1.3nm,0.4s							
RETA	**Reutte**	**4.94**	**341**	*i* Pn	**Pn**	**06 18 51.7**	**+1.7**	
	comp=N,2.4nm,0.3s,SNR=6.2							
RETA				*i* Sn	**Sn**	**06 19 47.6**	**+0.3**	
	comp=N,1.2nm,0.2s							
MBDF	**Montbardon**	**5.00**	**294**	*e*P	**Pn**	**06 18 53.2**	**+2.2**	
MBDF				*e*Sn	**Sn**	**06 19 43.9**	**-5.0**	
	comp=N,1.2nm,0.5s							
SJES	**Sjenica**	**5.00**	**83**	*e*Pn	**Pn**	**06 18 52.0**	**+1.0**	
SJES				*e*Sn	**Sn**	**06 19 48.4**	**-0.6**	
DAVA	**Damuels**	**5.01**	**333**	*e*Pn	**Pn**	**06 18 51.9**	**+0.8**	
	comp=N,2.8nm,0.3s							
DAVA				*i* Sn	**Sn**	**06 19 49.9**	**+0.7**	
	comp=N,1.7nm,0.3s							
MOA	**Molln**	**5.06**	**8**	*i* Pn	**Pn**	**06 18 52.3**	**+0.6**	
	comp=N,0.7nm,0.2s							
MOA				*e*Sn	**Sn**	**06 19 50.3**	**+0.1**	
	comp=N,1.5nm,0.3s							
MOA	**Molln**	**5.06**	**8**	*e*Pn	**Pn**	**06 18 52.7**	**+1.0**	
MOA				*e*Sn	**Sn**	**06 19 50.0**	**-0.2**	
DIVS	**Divibare**	**5.12**	**74**	*e*Pn	**Pn**	**06 18 55.3**	**+2.7**	
DIVS	**Divibare**	**5.12**	**74**	*e*Pn	**Pn**	**06 18 54.8**	**+2.2**	
IVAS	**Ivanjica**	**5.16**	**80**	*e*Pn	**Pn**	**06 18 53.7**	**+0.6**	
IVAS				*e*Sn	**Sn**	**06 19 52.6**	**-0.1**	
LPL	**La Plagne**	**5.34**	**302**	*e*P	**Pn**	**06 18 57.7**	**+2.0**	
LPL				*e*Sn	**Sn**	**06 19 51.1**	**-6.3**	
	comp=N,1.3nm,0.4s							
CONA	**Conrad Observa**	**5.42**	**20**	*i* Pn	**Pn**	**06 18 56.6**	**-0.1**	
	comp=N,0.6nm,0.2s							
CONA				*e*Sn	**Sn**	**06 19 57.7**	**-1.5**	
	comp=N,3.1nm,0.7s							
TRUS	**Trudelj**	**5.44**	**73**	*e*Pn	**Pn**	**06 18 57.9**	**+1.0**	
SMRF	**Simiane la Rot**	**5.64**	**284**	*e*P	**Pn**	**06 19 02.1**	**+2.3**	
SMRF				*e*Sn	**Sn**	**06 19 58.4**	**-6.3**	
	comp=N,0.6nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.66**	**294**	*e*P	**Pn**	**06 19 01.2**	**+1.2**	
ORIF				*e*Sn	**Sn**	**06 19 58.6**	**-6.5**	
	comp=N,0.8nm,0.4s							
SELS	**Selova**	**5.84**	**84**	*e*Pn	**Pn**	**06 19 02.5**	**+0.1**	
KHC	**Kasperske Hory**	**6.29**	**2**	*e*PN	**Pn**	**06 19 07.4**	**-1.2**	
KHC				*e*SN	**Sn**	**06 20 18.0**	**-2.5**	
CABF	**La Chapelle**	**6.29**	**309**	*e*P	**Pn**	**06 19 09.6**	**+0.9**	
CABF				*e*Sn	Sn	06 20 13.2	-7.4	
	comp=N,0.7nm,0.4s							
BARS	**Barje**	**6.36**	**87**	*e*Pn	**Pn**	**06 19 09.9**	**+0.3**	
BARS				*e*Sn	**Sn**	**06 20 21.0**	**-1.3**	
VIVF	**Saint-Julien-l**	**6.46**	**291**	*e*P	**Pn**	**06 19 13.4**	**+2.4**	
FNA	**Florina**	**6.47**	**106**	*e*Pn	**Pn**	**06 19 12.8**	**+1.6**	
FNA				*e*Sn	**Sn**	**06 20 22.6**	**-2.5**	
HINF	**Hinteralfeld**	**6.67**	**320**	*e*P	**Pn**	**06 19 14.5**	**+0.7**	
HINF				*e*Sn	Sn	06 20 22.0	-7.8	
	comp=N,2.0nm,0.3s							
CDF	**Champ du Feu**	**6.92**	**325**	*e*P	**Pn**	**06 19 16.9**	**-0.5**	
CDF				*e*Sn	Sn	06 20 27.8	-8.5	
	comp=N,0.9nm,0.3s							
HAU	**Haudompre**	**7.04**	**319**	*e*P	**Pn**	**06 19 19.9**	**+1.0**	
HAU				*e*Sn	Sn	06 20 31.7	-7.3	
	comp=N,2.7nm,0.3s							
VTS	**Vitosha**	**7.42**	**88**	*e*Pn	**Pn**	**06 19 26.0**	**+1.8**	
VTS	**Vitosha**	**7.42**	**88**	*e*Pn	**Pn**	**06 19 26.0**	**+1.8**	
VTS				*e*Sn	**Sn**	**06 20 45.7**	**-2.8**	
SMF	**Signal de Mont**	**7.64**	**303**	*e*P	**Pn**	**06 19 28.6**	**+1.4**	
SMF				*e*Sn	Sn	06 20 46.5	-7.4	
	comp=N,0.5nm,0.2s							
PAGF	**Fort de Pagny**	**7.72**	**320**	*e*P	**Pn**	**06 19 29.2**	**+1.0**	
LOR	**Lormes**	**7.93**	**307**	*e*P	**Pn**	**06 19 32.8**	**+1.7**	
	baz=127							
LOR				*e*Sn	Sn	06 20 52.8	-8.1	
	comp=N,0.9nm,0.3s							
SRS	**Serrai**	**7.96**	**99**	*e*Pn	**Pn**	**06 19 32.2**	**+0.7**	
AVF	**Avril sur Loir**	**8.01**	**303**	*e*P	**Pn**	**06 19 33.5**	**+1.3**	
CAF	**Calviac**	**8.28**	**288**	*e*P	**Pn**	**06 19 37.7**	**+1.7**	

*DNK **21** 06:22:57.5±0.8, 67.18N×20.61E, h0km, ML3.0(UPP), Suspected explosion*
*HEL **21** 06:22:57.9±0.4, 67.16N×20.63E, h0km, ML1.2, Explosion*
*UPP **21** 06:22:57.1±0.1, 67.18N×20.62E, h0km, ML3.0, Confirmed Induced event*

ISC 21 06:22:56.3±0.9, **67.19N**±0.02×**20.73E**±0.03, **h0km, n26,** σ**0**§**57**/34, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**224**	P	**Pg**		**06 22 58.5**	**+0.5**
DUNU				S	**Sg**		**06 22 59.5**	**+0.3**
DUNU	**Dundret**	**0.09**	**224**	P	**Pg**		**06 22 58.5**	**+0.5**
DUNU				S	**Sg**		**06 22 59.5**	**+0.3**
MASU	**Masugnsbyn**	**0.56**	**61**	P	**Pb**		**06 23 08.6**	**-0.4**
MASU	**Masugnsbyn**	**0.56**	**61**	P	**Pb**		**06 23 08.6**	**-0.4**
RATU	**Laukkuluspa**	**0.77**	**326**	P	**Pg**		**06 23 11.3**	**+0.2**
RATU	**Laukkuluspa**	**0.77**	**326**	P	**Pg**		**06 23 11.3**	**+0.2**
ERTU	**Ertsjaerv**	**0.86**	**137**	P	**Pg**		**06 23 13.1**	**+0.3**
ERTU	**Ertsjaerv**	**0.86**	**137**	P	**Pg**		**06 23 13.1**	**+0.3**
ERTU	**Ertsjaerv**	**0.86**	**137**	PG	**Pg**		**06 23 13.0**	**+0.3**
ERTU				SB	**Sb**		**06 23 25.4**	**-0.7**
SALU	**Saltoluokta**	**0.89**	**284**	P	**Pg**		**06 23 13.0**	**-0.2**
SALU	**Saltoluokta**	**0.89**	**284**	P	**Pg**		**06 23 13.0**	**-0.2**
NIKU	**Nikkaluokta**	**0.94**	**317**	P	**Pg**		**06 23 14.1**	**-0.2**
NIKU	**Nikkaluokta**	**0.94**	**317**	P	**Pg**		**06 23 14.1**	**-0.2**
PAJU	**Pajala**	**0.95**	**99**	PG	**Pb**		**06 23 15.0**	**-0.5**
PAJU				SB	**Sb**		**06 23 28.4**	**-0.2**
LANU	**Lannavaara**	**0.99**	**28**	PG	**Pb**		**06 23 16.2**	**-0.1**
LANU				SB	**Sn**		**06 23 31.5**	**-0.6**
HEF	**Hetta**	**1.66**	**41**	MSG			06 23 48.7	
	comp=Z,1.2nm,0.2s							
HEF				SN	**Sg**		**06 23 50.2**	**+0.8**
KALU	**Kalix**	**1.70**	**141**	P	**Pg**		**06 23 28.6**	**-0.2**
KALU	**Kalix**	**1.70**	**141**	P	**Pg**		**06 23 28.6**	**-0.2**
KALU	**Kalix**	**1.70**	**141**	PG	**Pb**		**06 23 28.5**	**+0.2**
	baz=317							
KALU				SN	**Sg**		**06 23 52.3**	**+1.6**
SJUU	**Sjulsmark**	**1.72**	**168**	P	**Pg**		**06 23 29.2**	**-0.1**
SJUU	**Sjulsmark**	**1.72**	**168**	P	**Pg**		**06 23 29.2**	**-0.1**
TOF	**Tornio**	**1.81**	**126**	PG	**Pg**		**06 23 31.1**	**+0.1**
	baz=304							
TOF				MSG			06 23 52.6	
	comp=Z,0.9nm,0.2s							
TOF				SN	**Sg**		**06 23 54.9**	**+0.5**
KIF	**Kilpisjarvi**	**1.82**	**1**	PG	**Pg**		**06 23 31.8**	**+0.5**
KIF				MSG			06 23 54.4	
	comp=Z,2.2nm,0.2s							
KIF				SG	**Sg**		**06 23 56.7**	**+1.9**
KTK1	**Kautokeino**	**2.06**	**26**	SG	**Sg**		**06 24 02.4**	**+0.1**
RNF	**Rovaniemi**	**2.16**	**103**	SG	**Sg**		**06 24 06.1**	**+0.4**
SGF	**Sodankyl**	**2.26**	**81**	SG	**Sg**		**06 24 08.7**	**-0.2**

*BJI **21** 06:30:47.8±0.0, 6.51S×130.26E, h140km, mb4.9/50, mB5.1/22*
*MOS **21** 06:30:49.0±0.9, 6.20S×130.33E, h135km, mb4.8/34, Error ellipse: s-maj=11.9km s-min=5.9km az=124.3*
*DJA **21** 06:30:49.5±0.2, 6°S±2'×13°0E±°, h124km±2km, M5.1/43, mb5.1/43, mB5.6/31, MLv5.6/15, Mw(mB)5.0/31*
*KLM **21** 06:30:49, 6.27S×130.27E, h96km, mb5.3*
*NEIC **21** 06:30:49.5±1.5, 6.12S±0.05×130.33E±0.07, h118km±7km, mb5.0/39, Error ellipse: s-maj=11.2km s-min=6.2km az=108.0*
*IDC **21** 06:30:50.5±1.5, 6.20S×130.27E, h127km±12km, mb4.3/19, mbtmp4.7/21, MS3.3/11, Error ellipse: s-maj=14.1km s-min=8.6km az=62.0*

ISC 21 06:30:48.4±0.4, **6.19S**±0.04×**130.34E**±0.04, **h116**km±4km, **h117**km:**pP-P, n363,** σ**1**§**37**/382, **mb4.8**/76, **16C-7D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.71**	**345**	P	**Pn**		**06 31 20.5**	**+2.4**
BNDI	**Bandanaira**	**1.71**	**345**	P	**Pn**		**06 31 20.6**	**+2.4**
SAUI	**Saumlaki**	**2.02**	**152**		**Pn**		**06 31 24.3**	**+2.3**
SAUI	**Saumlaki**	**2.02**	**152**	P	**Pn**		**06 31 24.6**	**+2.6**
SAUI	**Saumlaki**	**2.02**	**152**	P	**Pn**		**06 31 24.5**	**+2.6**
SAUI				S	**Sn**		**06 31 48.3**	**+0.7**
AAI	**Ambon**	**3.28**	**319**	P	**Pn**		**06 31 40.6**	**+2.3**
FAKI	**Fak Fak**	**3.76**	**30**	Pn	**Pn**		**06 31 44.8**	**0.0**
FAKI	**Fak Fak**	**3.76**	**30**	P	**Pn**		**06 31 44.8**	**0.0**
FAKI	**Fak Fak**	**3.76**	**30**	P	**Pn**		**06 31 44.9**	**+0.1**
NLAI	**Namlea**	**4.36**	**312**	P	**Pn**		**06 31 55.5**	**+2.7**
SIJI	**Sorong**	**5.36**	**10**	P	**Pn**		**06 32 06.0**	**-0.3**
	334nm,0.3s,baz=194,slow=7.7,SNR=154							
SIJI				S	**Sn**		**06 33 02.5**	**-4.5**
	561nm,0.2s,baz=16,slow=20,SNR=13							
SWI	**Sorong**	**5.37**	**10**	P	**Pn**		**06 32 05.8**	**-0.6**
	558nm,0.7s,36µm8.6nm							
SANI	**Sanana**	**5.98**	**313**	P	**Pn**		**06 32 17.3**	**+2.7**
**SAN

	59nm,0.9s,580nm							
KAPI	**Kappang**	**10.60**	**276**	P		**Pn**	**06 33 18.7**	**+1.5**
	4.7nm,0.4s,baz=113,slow=12,SNR=1.6							
KAPI				LR		LR	06 38 19.0	
	comp=Z,47nm,19.8s,baz=102,slow=43							
MRSI	**Marisa**	**10.68**	**308**	P		**Pn**	**06 33 20.5**	**+2.2**
	139nm,0.8s,1µm							
SPSI	**Sidrap Palu**	**10.76**	**281**	P		**Pn**	**06 33 21.6**	**+2.3**
	49nm,0.8s							
TOLI2	**Tolitoli**	**11.98**	**307**	Pn		**Pn**	**06 33 37.4**	**+1.8**
TOLI2	**Tolitoli**	**11.98**	**307**	P		**Pn**	**06 33 38.0**	**+2.4**
MPSI	**Mapaga**	**12.27**	**302**	P		**Pn**	**06 33 42.8**	**+3.4**
	28nm,0.9s							
PLAI	**Plampang**	**12.73**	**257**	P		**Pn**	**06 33 44.9**	**-0.4**
PLAI	**Plampang**	**12.73**	**257**	P		**Pn**	**06 33 45.0**	**-0.4**
	69nm,0.5s,1µm							
TWSI	**Taliwang, Sumb**	**13.58**	**258**	P		**Pn**	**06 33 57.7**	**+1.2**
	42nm,0.9s,676nm							
DAV	**Davao City (W)**	**14.00**	**340**	LR		LR	06 40 21.1	
	comp=Z,95nm,21.9s,baz=98,slow=41							
WRA	**Warramunga Arr**	**14.21**	**164**	P		**Pn**	**06 34 01.4**	**-3.2**
	115nm,0.5s,baz=348,slow=13,SNR=146							
WRA				S		Sn	06 36 31.1	-10
	93nm,0.6s,baz=348,slow=22,SNR=14							
WRA				LR		LR	06 40 10.6	
	comp=Z,207nm,19.5s,baz=10.0,slow=39							
WR0	**Warramunga Arr**	**14.29**	**164**	Pn		**Pn**	**06 34 01.8**	**-3.7**
COEN	**Coen**	**14.80**	**122**	P		**Pn**	**06 34 11.6**	**-0.4**
	baz=15,SNR=22							
COEN	**Coen**	**14.80**	**122**	Pn		**Pn**	**06 34 12.7**	**+0.7**
COEN	**Coen**	**14.80**	**122**	P		**Pn**	**06 34 12.8**	**+0.7**
SRBI	**Singaraja**	**15.13**	**262**	P		**P**	**06 34 17.6**	**-1.0**
	54nm,1.2s							
BBKI	**Banjar Baru**	**15.68**	**279**	P		**P**	**06 34 25.5**	**+0.8**
	401nm,1.0s							
JAGI	**Jajag, Banyuwa**	**16.21**	**261**			**Pn**	**06 34 29.6**	**-0.1**
MTKI	**Muara Teweh, K**	**16.27**	**288**	P		**P**	**06 34 34.6**	**+3.4**
	163nm,0.8s,15µm							
MYLDM	**Lahad Datu**	**16.35**	**313**			**Pn**	**06 34 29.6**	**-1.7**
BLJI	**Banyuglugur**	**16.69**	**264**	P		**P**	**06 34 37.9**	**+2.0**
	159nm,0.6s,4µm							
QIS	**Mount Isa**	**16.88**	**149**	P		**Pn**	**06 34 36.0**	**-1.8**
	baz=17,SNR=96							
QIS	**Mount Isa**	**16.88**	**149**	P		**Pn**	**06 34 36.8**	**-1.0**
PMG	**Port Moresby**	**16.97**	**102**	P		**P**	**06 34 41.8**	**+2.9**
	18nm,0.3s,baz=292,slow=9.8,SNR=7.1							
PMG				S		Sn	06 37 37.0	-11
	10.0nm,0.4s,baz=330,slow=20,SNR=1.5							
PMG	**Port Moresby**	**16.97**	**102**	P		**P**	**06 34 39.7**	**+0.8**
PMG	**Port Moresby**	**16.97**	**102**	P		**P**	**06 34 39.9**	**+1.0**
PMG	**Port Moresby**	**16.97**	**102**	P		**P**	**06 34 39.7**	**+0.8**
AS31	**Alice Springs**	**17.71**	**169**	P		**P**	**06 34 47.2**	**+0.1**
ASAR	**Alice Springs**	**17.71**	**169**	P		**Pn**	**06 34 47.6**	**-0.3**
	111nm,0.5s,baz=353,slow=12,SNR=590							
ASAR				S		**S**	**06 37 56.2**	**-9.1**
	18nm,0.4s,baz=348,slow=12,SNR=6.5							
ASAR				LR		LR	06 42 23.6	
	comp=Z,156nm,18.0s,baz=349,slow=39							
ASAR	**Alice Springs**	**17.71**	**169**	P		**P**	**06 34 47.2**	**+0.1**
ASAR	**Alice Springs**	**17.71**	**169**	P		**P**	**06 34 47.2**	**+0.1**
AS01	**Alice Springs**	**17.72**	**169**	P		**P**	**06 34 47.3**	**+0.1**
MTSU	**Mount Surprise**	**18.08**	**132**	P		**P**	**06 34 51.6**	**+0.4**
	baz=18,SNR=21							
MTSU	**Mount Surprise**	**18.08**	**132**	P		**Pn**	**06 34 53.0**	**+0.6**
MBWA	**Marble Bar**	**18.09**	**214**	P		**P**	**06 34 51.4**	**+0.3**
MBWA	**Marble Bar**	**18.09**	**214**	P		**P**	**06 34 51.7**	**+0.5**
PSA00	**Pilbara Seismi**	**18.36**	**213**	P		**P**	**06 34 54.5**	**+0.4**
PSA00	**Pilbara Seismi**	**18.36**	**213**	P		**Pn**	**06 34 55.0**	**-0.6**
KKM	**Kota Kinabalu**	**18.61**	**310**	P		**P**	**06 34 57.3**	**+0.2**
WRKA	**Warakurna**	**18.84**	**186**	P		**P**	**06 34 59.7**	**+0.2**
	baz=19,SNR=604							
WRKA	**Warakurna**	**18.84**	**186**	P		**P**	**06 35 00.1**	**+0.6**
UGM	**Wanagama**	**19.74**	**264**	P		**P**	**06 35 10.0**	**+0.7**
SBUM	**Sibu**	**20.02**	**295**	P		**P**	**06 35 13.3**	**+1.0**
SBUM	**Sibu**	**20.02**	**295**	P		Pn	06 35 14.0	-1.2
TV1H	**Townsville Har**	**20.62**	**131**	P		Pn	06 35 20.7	-1.4
CTA	**Charters Tower**	**20.73**	**133**	P		Pn	06 35 22.2	-1.2
	18nm,0.6s,baz=318,slow=12,SNR=26							
CTA				S		**S**	**06 39 06.5**	**+1.4**
	5.0nm,0.6s,baz=53,slow=22,SNR=5.6							
	18nm,0.6s							
CTA	**Charters Tower**	**20.73**	**133**	P		Pn	06 35 22.3	-1.1
CTAO	**Charters Tower**	**20.73**	**133**	P		**P**	**06 35 20.8**	**+0.9**
CTAO	**Charters Tower**	**20.73**	**133**	P		Pn	06 35 22.2	-1.2
CTAO	**Charters Tower**	**20.73**	**133**	P		**P**	**06 35 20.8**	**+0.9**
KPJI	**Karang Pucung**	**21.29**	**266**	P		**P**	**06 35 24.4**	**-1.6**
	84nm,0.7s							
OOD	**Oodnadatta**	**22.08**	**167**	P		**P**	**06 35 34.4**	**+0.2**
GIRL	**Giralia**	**22.56**	**222**	P		**P**	**06 35 39.8**	**+0.7**
	baz=23,SNR=7.7							
GIRL	**Giralia**	**22.56**	**222**	P		**P**	**06 35 39.9**	**+0.7**
LEM	**Lembang**	**22.58**	**267**	P		**P**	**06 35 40.7**	**+1.0**
	87nm,0.8s,baz=68,slow=5.9,SNR=12							
	87nm,0.8s							
CNJI	**Cibinong**	**23.07**	**266**	P		**P**	**06 35 43.3**	**-0.9**
	186nm,1.2s,2µm							
MEEK	**Meekatharra**	**23.21**	**207**	P		**P**	**06 35 45.3**	**0.0**
	baz=23,SNR=14							
MEEK	**Meekatharra**	**23.21**	**207**	P		**P**	**06 35 45.3**	**0.0**
CBJI	**Citeko**	**23.35**	**268**	P		**P**	**06 35 46.5**	**-0.2**
	172nm,0.9s							
INKA	**Innaminka**	**23.60**	**156**	P		**P**	**06 35 50.3**	**+1.4**
MULG	**Mulgathing**	**24.22**	**172**	P		**P**	**06 35 55.7**	**+1.3**
QLP	**Quilpie**	**24.22**	**148**	P		**P**	**06 35 54.1**	**-0.4**
PPBI	**Pangkal Pinang**	**24.46**	**278**	P		**P**	**06 35 55.5**	**-1.3**
CGJI	**Cibinong**	**24.50**	**268**	P		**P**	**06 35 56.4**	**-0.7**
	144nm,1.1s							
FORT	**Forrest**	**24.56**	**185**	P		**P**	**06 35 57.9**	**+0.5**
	baz=25,SNR=56							
FORT	**Forrest**	**24.56**	**185**	P		**P**	**06 35 56.5**	**-1.0**
FORT	**Forrest**	**24.56**	**185**	P		**P**	**06 35 58.1**	**+0.6**
LCRK	**Leigh Creek**	**25.24**	**164**	P		**P**	**06 36 04.9**	**+1.2**
MDSI	**Maura Dua**	**26.10**	**272**	P		**P**	**06 36 11.8**	**+0.1**
	15nm,1.0s							
KMBL	**Kambalda**	**26.27**	**197**	P		**P**	**06 36 13.6**	**+0.6**
	baz=26,SNR=14							
KMBL	**Kambalda**	**26.27**	**197**	P		**P**	**06 36 13.6**	**+0.6**
MORW	**Morawa**	**26.47**	**209**	P		**P**	**06 36 15.6**	**+0.8**
	baz=27,SNR=6.8							
MORW	**Morawa**	**26.47**	**209**	P		**P**	**06 36 14.7**	**-0.1**
MORW				IAmb		IAmb	06 36 48.4	
	comp=Z,22nm,0.6s							
BBOO	**Buckleboo**	**27.02**	**169**	P		**P**	**06 36 20.0**	**+0.3**
	baz=27,SNR=50							
BBOO	**Buckleboo**	**27.02**	**169**	P		**P**	**06 36 20.5**	**+0.8**
BBOO				IAmb		IAmb	06 37 19.7	
	comp=Z,33nm,0.7s							
BBOO	**Buckleboo**	**27.02**	**169**	P		**P**	**06 36 20.1**	**+0.4**
BLDU	**Balidu**	**27.47**	**206**	P		**P**	**06 36 24.2**	**+0.5**
	baz=28,SNR=9.9							
WHYH	**Whyalla**	**27.55**	**167**	P		**P**	**06 36 25.2**	**+0.8**
STKA	**Stephens Creek**	**27.64**	**159**	P		**P**	**06 36 26.0**	**+0.8**
	comp=Z,11nm,0.5s,baz=333,slow=8.9,SNR=34							
STKA				LR		LR	06 48 34.8	
	comp=Z,110nm,19.8s,baz=21,slow=38							
	comp=Z,11nm,0.5s							
STKA	**Stephens Creek**	**27.64**	**159**	P		**P**	**06 36 26.1**	**+0.8**
	baz=28,SNR=20							
STKA	**Stephens Creek**	**27.64**	**159**	P		**P**	**06 36 25.9**	**+0.6**
STKA	**Stephens Creek**	**27.64**	**159**	P		**P**	**06 36 26.0**	**+0.8**
KLBR	**Kellerberrin**	**27.88**	**203**	P		**P**	**06 36 28.0**	**+0.6**
	baz=28,SNR=11							
HTT	**Hallett**	**28.25**	**165**	P		**P**	**06 36 31.2**	**+0.5**
	baz=28,SNR=7.9							
HTT	**Hallett**	**28.25**	**165**	P		**P**	**06 36 31.5**	**+0.7**
AULRC	**Lightning Ridg**	**28.49**	**146**	P		**P**	**06 36 33.7**	**+0.9**
MUN	**Mundaring**	**28.86**	**205**	P		**P**	**06 36 36.5**	**+0.4**
	baz=29,SNR=3.3							
CMSA	**Cobar Meteorol**	**29.03**	**152**	P		**P**	**06 36 39.2**	**+1.7**
	baz=29,SNR=22							
CMSA	**Cobar Meteorol**	**29.03**	**152**	P		**P**	**06 36 39.3**	**+1.7**
NWAO	**Narrogin (SRO)**	**29.27**	**203**	P		**P**	**06 36 40.1**	**+0.5**
	comp=Z,3.4nm,0.3s							
NWAO				LR		LR	06 48 41.3	
	comp=Z,82nm,18.1s,slow=37							
	comp=Z,3.4nm,0.3s							
NWAO	**Narrogin (SRO)**	**29.27**	**203**	P		**P**	**06 36 40.2**	**+0.5**
	baz=29,SNR=13							
NWAO				P		**P**	**06 36 40.2**	**+0.5**
	baz=29,SNR=13							
NWAO	**Narrogin (SRO)**	**29.27**	**203**	P		**P**	**06 36 39.9**	**+0.2**
NWAO				IAmb		IAmb	06 37 27.6	
	comp=Z,76nm,1.6s							
NWAO	**Narrogin (SRO)**	**29.27**	**203**	P		**P**	**06 36 39.9**	**+0.2**
NWAO				pmax		pmax		
	comp=Z,76nm,1.7s							

SDSI	**Sungai Dareh**	**29.31**	**279**	P		**P**	**06 36 40.7**	**+0.3**
GHSS	**Government Hou**	**29.59**	**166**	P		**P**	**06 36 43.5**	**+1.0**
AUDCS	**Dubbo College**	**31.03**	**149**	P		**P**	**06 36 57.3**	**+2.0**
ARPS	**Mount Arapiles**	**32.20**	**163**	P		**P**	**06 37 07.0**	**+1.5**
	baz=32,SNR=17							
ARPS	**Mount Arapiles**	**32.20**	**163**	P		**P**	**06 37 07.2**	**+1.7**
RPSI	**Rantau Prapat**	**32.59**	**285**	P		**P**	**06 37 08.0**	**-1.2**
RPSI	**Rantau Prapat**	**32.59**	**285**	P		**P**	**06 37 09.0**	**-0.1**
PSI	**Prapat**	**32.62**	**285**	P		**P**	**06 37 09.0**	**-0.5**
	comp=Z,7.2nm,0.5s,baz=75,slow=5.3,SNR=9.7							
	comp=Z,7.2nm,0.5s							
PSI	**Prapat**	**32.62**	**285**	P		**P**	**06 37 10.0**	**+0.4**
CAN	**Canberra**	**33.70**	**152**	P		**P**	**06 37 20.5**	**+1.9**
TOO	**Toolangi**	**34.15**	**158**	P		**P**	**06 37 23.5**	**+1.0**
	baz=34,SNR=6.7							
NONG	**Nongkai**	**36.07**	**312**	P		**P**	**06 37 39.2**	**+0.1**
DZM	**Mont Dzumac**	**38.27**	**118**	LR		LR	06 53 38.5	
	comp=Z,39nm,21.3s,baz=36,slow=36							
DZM	**Mont Dzumac**	**38.27**	**118**	P		**P**	**06 37 54.1**	**-3.7**
DZM				pP		**pP**	**06 38 19.8**	**-2.9**
DZM				sP		**sP**	**06 38 33.9**	**-1.5**
MOO	**Moorlands**	**39.07**	**160**	P		**P**	**06 38 05.4**	**+1.3**
	baz=39,SNR=3.9							
CRAI	**Chiangrai**	**39.46**	**312**	P		**P**	**06 38 07.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**39.48**	**309**	P		**P**	**06 38 08.0**	**+0.2**
	comp=Z,5.7nm,0.7s,baz=137,slow=7.3,SNR=31							
CMAR				PcP		**PcP**	**06 40 14.8**	**+1.3**
	comp=Z,2.1nm,0.3s,baz=157,slow=2.5,SNR=7.3							
CMAR				ScP		**ScP**	**06 43 51.5**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=151,slow=3.3,SNR=4.7							
CMAR				LR		LR	06 57 25.9	
	comp=Z,18nm,18.7s,baz=295,slow=40							
	comp=Z,5.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**39.48**	**309**	*i* P		**P**	**06 38 08.3**	**+0.5**
CMAR				pmax		pmax		
	comp=Z,5.0nm,0.5s							
NJ2	**Nanjing**	**39.57**	**345**	*e*P		**P**	**06 38 10.8**	**+2.4**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
WHN	**Wuhan**	**39.61**	**338**	⇑P		**P**	**06 38 10.5**	**+1.8**
KMI	**Kunming**	**41.10**	**320**	⇑P		**P**	**06 38 22.3**	**+0.9**
KMI				pmax		pmax		
	comp=Z,14nm,0.8s							
ENH	**Enshi**	**41.40**	**332**	P		**P**	**06 38 23.4**	**-0.1**
ENH				IAmb		IAmb	06 38 24.3	
	comp=Z,16nm,0.9s							
ENH	**Enshi**	**41.40**	**332**	P		**P**	**06 38 23.5**	**-0.1**
ENH	**Enshi**	**41.40**	**332**	P		**P**	**06 38 23.4**	**-0.1**
PZH	**PanZhiHua**	**42.72**	**321**	P		**P**	**06 38 34.3**	**-0.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,110nm,5.5s							
MJAR	**Matsushiro Arr**	**43.14**	**9**	P		**P**	**06 38 38.5**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=177,slow=8.9,SNR=4.9							
	comp=Z,3.5nm,0.9s							
KSRS	**Korea Array**	**43.47**	**357**	P		**P**	**06 38 41.0**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=172,slow=10,SNR=2.6							
KSRS				LR		LR	06 55 38.8	
	comp=Z,30nm,21.5s,baz=355,slow=34							
	comp=Z,0.8nm,0.5s							
KSRS	**Korea Array**	**43.47**	**357**	P		**P**	**06 38 41.0**	**+0.9**
KSRS	**Korea Array**	**43.47**	**357**	P		**P**	**06 38 41.0**	**+0.9**
TNCH	**TengChong**	**43.83**	**316**	P		P	06 38 50.4	+6.9
TNCH				pP		pwP	06 39 13.6	-0.3
TNCH				pmax		pmax		
	comp=Z,250nm,4.3s							
CD2	**Chengdu**	**44.81**	**327**	P		**P**	**06 38 50.5**	**-0.5**
XAN	**Xi'an**	**44.85**	**335**	⇑P		**P**	**06 38 50.8**	**-0.5**
XAN				S		**S**	**06 45 18.6**	**-1.7**
XAN				pmax		pmax		
	comp=Z,21nm,0.7s							
XAN				pmax		pmax		
	comp=Z,100nm,4.5s							
XAN	**Xi'an**	**44.85**	**335**	P		**P**	**06 38 50.6**	**-0.6**
XAN				pP		**pP**	**06 39 18.6**	**+1.6**
HNS	**HongShan**	**45.75**	**343**	⇑P		**P**	**06 38 58.4**	**+0.2**
HNS				pmax		pmax		
	comp=Z,13nm,1.0s							
BJT	**Baijiatuao**	**47.80**	**345**	P		**P**	**06 39 13.8**	**-0.3**
BJT				IAmb		IAmb	06 39 15.3	
	comp=Z,11nm,0.6s							
BJT	**Baijiatuao**	**47.80**	**345**	P		**P**	**06 39 14.8**	**+0.7**
BJT	**Baijiatuao**	**47.80**	**345**	P		**P**	**06 39 13.8**	**-0.3**
BJT				pmax		pmax		
	comp=Z,11nm,0.6s							
BJT	**Baijiatuao**	**47.80**	**345**	P		**P**	**06 39 14.5**	**+0.4**
BJT				pP		**pP**	**06 39 41.9**	**+1.1**
BJI	**Beijing**	**47.82**	**345**	P		**P**	**06 39 14.8**	**+0.5**
BJI				pmax		pmax		
	comp=Z,7.0nm,0.6s							
LZH	**Lanzhou**	**48.85**	**331**	*e*P		**P**	**06 39 23.4**	**+0.9**
LZH				pmax		pmax		
	comp=Z,23nm,1.2s							
SHL	**Shillong**	**48.91**	**312**	P		**P**	**06 39 22.4**	**-0.7**
SHL				IAmb		IAmb	06 39 23.3	
	comp=Z,26nm,0.9s							
SHL	**Shillong**	**48.91**	**312**	P		**P**	**06 39 22.4**	**-0.7**
SHL				pmax		pmax		
	comp=Z,26nm,0.9s							
HHC	**Hu-ho-hao-te**	**49.88**	**341**	*e*P		**P**	**06 39 34.6**	**+4.4**
CN2	**Changchun**	**49.95**	**355**	*e*P		**P**	**06 39 34.6**	**+4.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
USA0B	**Ussuriysk Arra**	**50.18**	**2**	P		**P**	**06 39 32.3**	**+0.1**
USA0B				IAmb		IAmb	06 40 59.8	
	comp=Z,44nm,1.8s							
USA0B	**Ussuriysk Arra**	**50.18**	**2**	P		**P**	**06 39 32.3**	**+0.1**
USA0B				pmax		pmax		
	comp=Z,44nm,1.8s							
USRK	**Ussuriysk Ar.**	**50.18**	**2**	P		**P**	**06 39 32.8**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=180,slow=7.2,SNR=3.4							
	comp=Z,2.1nm,0.5s							
USRK	**Ussuriysk Ar.**	**50.18**	**2**	P		**P**	**06 39 32.2**	**0.0**
USRK	**Ussuriysk Ar.**	**50.18**	**2**	P		**P**	**06 39 32.2**	**0.0**
XLT	**XiLinHaoTe**	**51.49**	**347**	*e*P		P	06 39 47.5	+5.3
XLT				pP		pwP	06 40 13.8	+2.5
XLT				sP		sP	06 40 26.8	+5.0
XLT				pmax		pmax		
	comp=Z,4.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,150nm,4.8s							
LSA	**Lhasa**	**51.85**	**316**	P		**P**	**06 39 45.1**	**-0.5**
LSA	**Lhasa**	**51.85**	**316**	P		**P**	**06 39 45.1**	**-0.5**
LSA				pmax		pmax		
	comp=Z,20nm,0.6s							
LSA	**Lhasa**	**51.85**	**316**	P		**P**	**06 39 46.3**	**+0.7**
LSA	**Lhasa**	**51.85**	**316**	P		**P**	**06 39 46.5**	**+0.9**
ODAN	**Odare**	**52.99**	**310**	*e*P		**P**	**06 39 53.7**	**-0.1**
	comp=Z,7.3nm,0.5s							
GTA	**Gaotai**	**53.43**	**331**	⇑P		**P**	**06 39 57.4**	**+0.8**
GTA				pmax		pmax		
	comp=Z,12nm,0.8s							
RAMN	**Ramite**	**53.63**	**310**	*e*P		**P**	**06 39 58.8**	**+0.3**
	comp=Z,160nm,0.4s							
JIRN	**Jiri**	**54.31**	**310**	*e*P		**P**	**06 40 03.5**	**-0.1**
	comp=Z,50nm,0.5s							
PKI	**Pulchoki**	**54.86**	**310**	*e*P		**P**	**06 40 06.9**	**-0.6**
	comp=Z,26nm,0.5s							
PKIN	**Phulchoki**	**54.88**	**310**	*e*P		**P**	**06 40 07.0**	**-0.5**
	comp=Z,12nm,0.3s							
DMN	**Daman**	**55.11**	**310**	*e*P		**P**	**06 40 09.1**	**-0.1**
KLR	**Kul'dur**	**55.20**	**1**	P		**P**	**06 40 09.8**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=198,slow=5.5,SNR=6.9							
	comp=Z,2.3nm,0.8s							
KLR	**Kul'dur**	**55.20**	**1**⇓	*e*P		**P**	**06 40 10.1**	**+1.0**
KLR				pmax		pmax		
	comp=Z,7.0nm,1.7s							
GKN	**Gorkha**	**55.67**	**310**	*e*P		**P**	**06 40 13.0**	**-0.1**
HYB	**Hyderabad**	**56.27**	**296**	*e*P		**P**	**06 40 16.8**	**-0.6**
KOLN	**Koldanda**	**56.35**	**309**	*e*P		**P**	**06 40 18.1**	**+0.1**
DANN	**Dangsing**	**56.51**	**310**	*e*P		**P**	**06 40 18.9**	**-0.3**
	comp=Z,8.0nm,0.3s							
AFI	**Afiamalu**	**57.39**	**102**	LR		LR	07 04 27.9	
	comp=Z,47nm,18.1s,baz=308,slow=35							
DGAR	**Diego Garcia**	**57.46**	**265**	*ce*P		**P**	**06 40 27.8**	**+2.0**
DGAR				pmax		pmax		
	comp=Z,347nm,1.7s							
DGAR	**Diego Garcia**	**57.46**	**265**	P		**P**	**06 40 27.0**	**+1.2**
DGAR				pP		**pwP**	**06 40 58.2**	**+1.2**
ULN	**Ulaanbaatar**	**57.60**	**342**	P		**P**	**06 40 27.2**	**+0.9**
ULN				IAmb		IAmb	06 40 28.5	
	comp=Z,14nm,0.8s							
ULN	**Ulaanbaatar**	**57.60**	**342**	*ce*P		**P**	**06 40 27.6**	**+1.3**
ULN				pmax		pmax		

	comp=Z,14nm,0.7s							
ULN	**Ulaanbaatar**	**57.60**	**342**	P		**P**	**06 40 27.7**	**+1.3**
ULN				pP		**pwP**	**06 40 56.0**	**-1.5**
SONM	**Songino Array**	**57.79**	**341**	P		**P**	**06 40 28.7**	**+1.1**
	comp=Z,4.7nm,0.6s,baz=162,slow=6.5,SNR=40							
	comp=Z,4.7nm,0.6s							
SONM	**Songino Array**	**57.79**	**341**	P		**P**	**06 40 28.7**	**+1.1**
ZEA	**Zeya**	**59.76**	**358**	*e*P		**P**	**06 40 41.7**	**+0.7**
ZEA				pmax		pmax		
	comp=N,10.0nm,0.6s							
ZEA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ZAK	**Zakamensk**	**61.02**	**341**	*e*P		**P**	**06 40 49.7**	**0.0**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
MOY	**Mondy**	**62.87**	**340**	*e*P		**P**	**06 41 03.7**	**+1.5**
MOY				pmax		pmax		
	comp=Z,16nm,1.8s							
WMQ	**Urumqi**	**62.91**	**327**	*e*P		**P**	**06 41 06.0**	**+3.5**
WMQ	**Urumqi**	**62.91**	**327**	P		**P**	**06 41 03.6**	**+1.2**
PETK	**Petropavlovsk-**	**63.45**	**18**	P		**P**	**06 41 07.0**	**+1.1**
	comp=Z,2.4nm,0.6s,baz=160,slow=3.6,SNR=12							
	comp=Z,2.4nm,0.6s							
WUS	**Wushi**	**66.38**	**320**	P		**P**	**06 41 26.1**	**+0.9**
ZSN	**Zaisan**	**66.76**	**328**	*e*P		**P**	**06 41 28.1**	**+0.8**
	baz=328							
ZSN				*i* S		**S**	**06 50 11.0**	**+0.7**
	baz=328							
ZSN	**Zaisan**	**66.76**	**328**	*e*P		**P**	**06 41 28.1**	**+0.8**
ZSN				*i* S		**S**	**06 50 11.0**	**+0.7**
NIL	**Nilore**	**66.95**	**310**	P		**P**	**06 41 28.4**	**-0.5**
NIL	**Nilore**	**66.95**	**310**	P		**P**	**06 41 28.4**	**-0.5**
NIL				pmax		pmax		
	comp=Z,22nm,0.6s							
NIL	**Nilore**	**66.95**	**310**	P		**P**	**06 41 29.0**	**+0.1**
DGZ	**Jazzator, Alta**	**66.96**	**331**	*c i*P		**P**	**06 41 29.7**	**+1.0**
DGZ				pmax		pmax		
	comp=Z,26nm,1.3s							
SHLS	**Shalkode**	**67.29**	**322**	*e*P		**P**	**06 41 30.1**	**-0.8**
	baz=322							
SHLS	**Shalkode**	**67.29**	**322**	*e*P		**P**	**06 41 30.1**	**-0.8**
MA2	**Magadan**	**67.54**	**11**⇓	*e*P		**P**	**06 41 33.3**	**+1.3**
MA2				pmax		pmax		
	comp=Z,29nm,2.5s							
UZB	**Uzynbulak**	**67.55**	**322**	*e*P		**P**	**06 41 33.5**	**+0.8**
	baz=322							
UZB	**Uzynbulak**	**67.55**	**322**	*e*P		**P**	**06 41 33.4**	**+0.8**
TARG	**Taragay, Kyrgy**	**67.56**	**320**	P		**P**	**06 41 32.4**	**-0.6**
TARG	**Taragay, Kyrgy**	**67.56**	**320**	P		**P**	**06 41 32.4**	**-0.6**
TARG				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KSH	**Kashi**	**67.65**	**317**	P		**P**	**06 41 35.0**	**+1.7**
KSH				pmax		pmax		
	comp=Z,14nm,0.6s							
MK31	**Makanchi Array**	**67.74**	**326**	P		**P**	**06 41 34.2**	**+0.6**
MK31				IAmb		IAmb	06 41 35.3	
	comp=Z,21nm,0.8s							
MK31	**Makanchi Array**	**67.74**	**326**	P		**P**	**06 41 34.2**	**+0.6**
MK31				pmax		pmax		
	comp=Z,21nm,0.8s							
MKAR	**Makanchi Array**	**67.74**	**326**	P		**P**	**06 41 34.4**	**+0.8**
	comp=Z,28nm,0.7s,baz=126,slow=7.7,SNR=322							
	comp=Z,28nm,0.7s							
MKAR	**Makanchi Array**	**67.74**	**326**	P		**P**	**06 41 33.8**	**+0.2**
SATY	**Saty**	**67.89**	**321**	*e*P		**P**	**06 41 35.5**	**+0.8**
	comp=Z,11nm,0.8s,baz=322							
SATY	**Saty**	**67.89**	**321**	*e*P		**P**	**06 41 35.5**	**+0.8**
SATY				pmax		pmax		
	comp=Z,11nm,0.8s							
MAKZ	**Mak

KKAR IAmb IAmb 06 42 07.0
comp=Z,17nm,1.0s
KKAR Karatay Array 72.96 319 P **P** **06 42 06.0 +0.6**
KKAR pmax pmax
comp=Z,17nm,1.0s
VNDA Vanda 73.21 173 P **P** **06 42 07.0 +0.8**
comp=Z,2.6nm,0.8s,baz=320,slow=7.3,SNR=13
comp=Z,2.6nm,0.8s
VNDA Vanda 73.21 173 P **P** **06 42 07.3 +1.1**
VNDA IAmb IAmb 06 42 28.5
comp=Z,31nm,1.9s
VNDA Vanda 73.21 173 P **P** **06 42 07.4 +1.1**
VNDA pmax pmax
comp=Z,31nm,2.0s
CHM Chimkent 73.22 317 *e*P **P** **06 42 07.7 +0.7**
comp=Z,13nm,0.4s,baz=318
CHM Chimkent 73.22 317 *e*P **P** **06 42 07.6 +0.7**
CHM pmax pmax
comp=Z,13nm,0.4s
MAW Mawson 75.82 201 P **P** **06 42 22.6 +1.1**
comp=Z,14nm,1.0s,baz=76,slow=8.3,SNR=3.1
comp=Z,14nm,1.0s
BRVK Borovoye 77.63 328 P **P** **06 42 31.6 -0.3**
BRVK Borovoye 77.63 328*c i*P **P** **06 42 32.0 +0.1**
BRVK pmax pmax
comp=Z,18nm,1.3s
SOHO SOHO 77.89 296 P **P** **06 42 34.0 +0.1**
BILL Bilibino 78.25 13⇑*e*P **P** **06 42 37.5 +2.5**
BILL *e* 06 45 32.4
BILL pmax pmax
comp=Z,1.0nm,0.9s
UOSS Minazif 78.36 297 P **P** **06 42 36.9 +0.3**
UOSS Minazif 78.36 297 P **P** **06 42 36.6 +0.1**
HATD Hatta, Dubai 78.39 297 P **P** **06 42 37.1 +0.3**
ASHO Ashiyiah 78.43 297 P **P** **06 42 37.6 +0.6**
BANOM Banah 78.48 298 P **P** **06 42 38.1 +0.9**
MSFE Esma-Masafi 78.48 297 P **P** **06 42 38.0 +0.7**
ALNE Al Ain 78.57 296 P **P** **06 42 38.3 +0.6**
FAQ Al Faqa, Dubai 78.86 297 P **P** **06 42 39.6 +0.3**
ASUD Al Ashush, Dub 79.07 296 P **P** **06 42 41.1 +0.7**
GEYT Alibeck 79.95 310 P **P** **06 42 45.7 +0.7**
comp=Z,7.7nm,0.6s,baz=134,slow=4.3,SNR=14
comp=Z,7.7nm,0.6s
MZR Muzera 80.41 294 P **P** **06 42 48.1 +0.4**
NRIK Noril'sk 80.86 346 P **P** **06 42 49.6 +0.5**
comp=Z,4.0nm,0.3s,baz=130,slow=5.0,SNR=9.8
comp=Z,4.0nm,0.3s
NRIK Noril'sk 80.86 346 P **P** **06 42 49.5 +0.4**
NRIK Noril'sk 80.86 346 P **P** **06 42 49.5 +0.4**
NRIK pmax pmax
comp=Z,9.0nm,0.8s
VOI Vohitsoka 81.75 249 P **P** **06 42 55.3 +0.3**
VOI IAmb IAmb 06 42 55.7
comp=Z,15nm,0.5s
AB31 Akbulak array 82.09 321 *i*P **P** **06 42 55.3 -0.7**
ABKAR Akbulak array 82.09 321 P **P** **06 42 55.9 -0.1**
AKTO Aktyubinsk 83.64 322 P **P** **06 43 03.7 -0.3**
QSPA South Pole Qui 83.78 180 P **P** **06 43 04.9 +0.3**
SVE Sverdlovsk 84.25 329 *e*P **P** **06 43 07.6 +0.6**
SVE pmax pmax
comp=Z,23nm,1.1s
TNA Tin City 84.35 22 P **P** **06 43 08.0 +0.8**
baz=242
ANM Nome 84.85 23 P **P** **06 43 11.6 +1.8**
baz=244
ARU Arti 85.20 328 P **P** **06 43 11.5 -0.2**
ARU IAmb IAmb 06 43 12.1
comp=Z,9.3nm,0.6s
ARU Arti 85.20 328⇑*e*P **P** **06 43 11.5 -0.2**
ARU pmax pmax
comp=Z,19nm,1.7s
P16K Nushagak River 85.98 29 P **P** **06 43 16.2 +0.7**
baz=251
N16K Nishlik Lake 86.09 28 P **P** **06 43 17.9 +1.8**
baz=250
RAYN Ar Rayn 87.73 294 P **P** **06 43 25.1 +0.2**
RAYN Ar Rayn 87.73 294 P **P** **06 43 25.1 +0.2**
RAYN pmax pmax
comp=Z,31nm,0.8s
RAYN Ar Rayn 87.73 294 P **P** **06 43 25.2 +0.2**
TTA Tatalina 88.12 26 P **P** **06 43 27.4 +1.5**
baz=253
ELIB Princess Elisa 89.36 197 *d*P **P** **06 43 32.9 +1.2**
comp=Z,6.9nm,0.7s
CHUM Lake Minchumin 89.98 26 P **P** **06 43 35.5 +1.1**
baz=256
SUA Susitna One 90.12 28 P **P** **06 43 36.0 +0.7**
baz=257
H21K Melozitna Rive 90.21 24 P **P** **06 43 36.4 +0.8**
baz=256
BELG Belogornoye 90.42 323‖*e*P **P** **06 43 35.4 -1.3**
KIRV Kirov 90.52 329‖*e*P **P** **06 43 35.8 -1.3**
MLY Manley 90.91 25 P **P** **06 43 39.1 +0.2**
baz=257
WAT1 Susitna Watana 91.41 27 P **P** **06 43 41.1 -0.1**
baz=259
MCK McKinley 91.41 26 P **P** **06 43 40.8 -0.4**
baz=259
I23K Minto, Yukon-K 91.50 25 P **P** **06 43 42.0 +0.5**
baz=259
G23K Bananza Creek 91.56 23 P **P** **06 43 42.5 +0.7**
baz=258
COLD Coldfoot 91.59 23 P **P** **06 43 42.7 +0.8**
baz=258
COLA College 92.08 25⇑*e*P **P** **06 43 43.9 -0.3**
COLA pmax pmax
comp=Z,3.0nm,0.7s
H24K Noodor Dome 92.24 24 P **P** **06 43 45.6 +0.5**
baz=260
KBZ Khabaz 92.38 314 P P 06 43 51.1 +5.1
comp=Z,1.0nm,0.7s,baz=74,slow=3.9,SNR=3.8
ILAR Eielson Array 92.47 25 P **P** **06 43 44.7 -1.3**
comp=Z,1.6nm,0.7s,baz=270,slow=4.3,SNR=22
ILAR Eielson Array 92.47 25 P **P** **06 43 44.5 -1.5**
ILAR Eielson Array 92.47 25 P **P** **06 43 44.5 -1.5**
F24K Squaw Lake 92.53 22 P **P** **06 43 47.3 +1.0**
baz=260
G24K Hadweenzic Riv 92.55 23 P **P** **06 43 47.1 +0.8**
baz=260
KIV Kislovodsk 92.56 314 *e*P **P** **06 43 44.7 -2.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
F25K Christian Rive 93.39 22 P **P** **06 43 51.3 +1.0**
baz=262
E25K Arctic Village 93.49 22 P **P** **06 43 51.5 +0.8**
baz=262
BMAR Burnt Mountain 93.78 23 P **P** **06 43 52.3 +0.3**
J26L Joseph Creek 93.86 26 P **P** **06 43 52.6 +0.1**
baz=264
F26K Sheenjek River 93.97 22 P **P** **06 43 54.3 +1.4**
baz=264
G26K Porcupine Rive 94.03 23 P **P** **06 43 54.2 +1.1**
baz=264
C27K Jago River 94.34 21 P **P** **06 43 55.3 +0.8**
baz=264
L27K Beaver Creek, 94.49 27 P **P** **06 43 56.3 +0.9**
baz=265
I27K Kandik River 94.78 25 P **P** **06 43 57.3 +0.6**
baz=266
H27K Steamboat Moun 94.86 24 P **P** **06 43 58.2 +1.2**
baz=266
E27K Coleen River 94.98 22 P **P** **06 43 58.2 +0.6**
baz=266
KLMR Klimovskoe 95.76 331 *e*P **P** **06 43 57.5 -3.7**
KLMR AMP 06 44 06.3
comp=Z,53nm,2.2s
KLMR Klimovskoe 95.76 331 *e*P **P** **06 43 57.5 -3.7**
KLMR pmax pmax
comp=Z,53nm,2.2s
I29M Ogilvie Camp, 96.15 25 P **P** **06 44 03.2 +0.3**
baz=269
BR131 Keskin Array S 99.07 309‖*e*P **Pdif** **06 44 14.5 -2.3**
BRTR Keskin Array B 99.07 309 P **Pdif** **06 44 15.7 -1.2**
comp=Z,1.1nm,0.9s,baz=133,slow=5.4,SNR=5.0
comp=Z,1.1nm,0.9s
FINES FINESS Array B 102.22 332 P **Pdif** **06 44 29.2 -0.9**
comp=Z,1.8nm,0.8s,baz=207,slow=2.1,SNR=3.5
MNK Minsk 102.24 324 *i*P **Pdif** **06 44 27.9 -2.4**
comp=E,4.0nm,0.8s
MNK *i*P **Pdif** **06 44 27.9 -2.4**
comp=N,32nm,0.8s
MNK *i*P **Pdif** **06 44 27.9 -2.4**
comp=Z,7.0nm,0.8s,baz=83
MNK *i*pP **pPdif** **06 44 59.1 -0.3**
MNK *i*PP **PP** **06 48 41.3 -2.4**
MNK *i*PPP PPP 06 50 51.6

MNK *i*S **SKSac** **06 54 55.9 -3.1**
MNK *i*sS SKKSac 06 55 52.8 +15
MNK *i*SS **SS** **07 03 10.1 -1.6**
MNK *i*SSS SSS 07 07 04.3
MNK *i*LRM MLR 07 30 60.0
comp=E,68nm,17.2s
MNK *i*LRM MLR 07 31 05.1
comp=N,583nm,22.4s
MNK *i*LRM MLR 07 31 22.3
comp=Z,82nm,17.9s
MNK Minsk 102.24 324 *i*P **Pdif** **06 44 27.9 -2.4**
MNK *i* 06 48 41.3
MNK *i*S **SKSac** **06 54 55.9 -3.1**
MNK *i*^SS SKKSac 06 55 52.7 +15
MNK *i*SS **SS** **07 03 10.0 -1.6**
MNK *i*SSS SSS 07 07 04.3
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=N,32nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=E,68nm,17.0s
MNK MLR MLR
comp=N,583nm,22.0s
MNK MLR MLR
comp=Z,82nm,18.0s
YKA Yellowknife Ar 106.88 26 Pdiff **Pdif** **06 44 50.7 -0.1**
comp=Z,0.2nm,0.5s,baz=135,slow=5.8,SNR=3.6
YKA PKiKP **PKiKP** **06 49 00.1 +0.1**
comp=Z,0.5nm,0.7s,baz=295,slow=2.0,SNR=12
GERES GERESS Array B 112.02 320 PKiKP **PKiKP** **06 49 10.2 -0.1**
comp=Z,0.8nm,0.6s,baz=90,slow=2.7,SNR=6.5
TORD Torodi Ar. Bea 128.98 282 PKP **PKPdf** **06 49 43.7 +0.1**
comp=Z,1.2nm,0.6s,baz=74,slow=1.5,SNR=7.7
PLCA Paso Flores 129.51 159 PKP **PKiKP** **06 49 45.0 +0.2**
comp=Z,1.6nm,0.7s,baz=343,slow=4.7,SNR=5.4
SCHQ Schefferville 129.56 13 PKP **PKiKP** **06 49 44.4 0.0**
comp=Z,2.4nm,1.0s,baz=268,slow=5.9,SNR=3.8
DBIC Dimbokro 135.49 273 PKP **PKiKP** **06 49 56.9 -0.7**
comp=Z,2.3nm,0.8s,baz=41,slow=4.1,SNR=2.0
DBIC SKPbc **SKPbc** **06 53 14.8 -2.0**
comp=Z,2.9nm,1.0s,baz=106,slow=4.1,SNR=4.5
JTS Las Juntas de 144.85 81 PKP **PKPdf** **06 50 13.7 +0.8**
comp=Z,7.7nm,0.7s,baz=211,slow=2.0,SNR=8.2
CPUP Villa Florida 146.83 167 PKPbc **PKPbc** **06 50 18.3 +0.4**
comp=Z,7.5nm,0.7s,baz=191,slow=2.0,SNR=21
CPUP SKPbc **SKPbc** **06 53 44.9 -1.1**
comp=Z,1.2nm,0.6s,baz=84,slow=0.7,SNR=4.3
LPAZ La Paz 151.14 141 PKPbc **PKiKP** **06 50 31.2 +0.8**
comp=Z,6.7nm,0.4s,baz=14,slow=3.0,SNR=47

*IDC **21** 06:34:04.2±1.5,4.°58N×74.°55W,h41km±13km, mb3.0/2, mbtmp3.2/2,ML3.2/1,Error ellipse: s-maj=36.8km s-min=22.4km az=115.0*
*NEIC **21** 06:34:05.8±2.6,4.°51N±0.°06×74.°11W±0.°07,h32km±5km, mb4.0/6,Error ellipse: s-maj=10.5km s-min=9.1km az=108.0*
*RSNC **21** 06:34:06.8±1.0,4.°45N×74.°35W,h25km±4km,ML3.8, Mw3.8,Fault plane solution: NP1:ϕs38.00000°, δ90.00000°,λ-162.00000°.*
ISC 21 06:34:04.2±0.8,4.°54N±0.°03×74.°30W±0.°02,h31km±6km, n60,σ2s07/79,3C-5D,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BOG	**Bogota**	**0.25**	**70**	*e*P		**Sg**	**06 34 14.3**	**-2.1**
BOG				*e*S		**Sn**	**06 34 20.7**	**+3.6**
ROSC	**El Rosal**	**0.30**	**356**	P		**Pn**	**06 34 14.8**	**+1.9**
	3μm,0.4s,baz=143,slow=10,SNR=2435							
ROSC				S		**Sn**	**06 34 22.8**	**+4.3**
	10μm,0.4s,baz=29,slow=23,SNR=36							
ROSC	**El Rosal**	**0.30**	**356**	Pg		**Pn**	**06 34 14.6**	**+1.7**
ROSC				Sg		**Sn**	**06 34 21.3**	**+2.8**
ROSC	**El Rosal**	**0.30**	**356**	↑*i*P		**Pn**	**06 34 14.8**	**+1.9**
ROSC				*e*S		**Sn**	**06 34 21.7**	**+3.2**
ROSC				*i*			06 34 25.0	
	comp=Z,10μm,0.5s							
CHIC	**Chingaza**	**0.57**	**81**	↓*i*P		**Pn**	**06 34 18.8**	**+2.2**
CHIC				*e*S		**Sn**	**06 34 28.4**	**+3.2**
CHIC				*i*			06 34 32.6	
	comp=Z,3μm,0.4s							
ORTC	**Ortega, Tolima**	**1.13**	**237**	*e*P		**Pb**	**06 34 24.7**	**-0.6**
ORTC				*e*S		**Sn**	**06 34 39.9**	**+1.4**
ORTC				*i*			06 34 41.1	
	comp=Z,3μm,0.1s							
NIZA	**Niza - Manizal**	**1.28**	**294**	‖*e*P		**Pb**	**06 34 28.0**	**+0.1**
NIZA				*e*S		**Sn**	**06 34 44.1**	**+1.6**
CMAN1	**Manizales, Cal**	**1.33**	**294**	*e*P		**Pb**	**06 34 28.2**	**-0.6**
CMAN1				*e*S		**Sb**	**06 34 46.9**	**+1.3**
RUSC	**La Rusia**	**1.81**	**42**	Pn		**Pb**	**06 34 36.4**	**-0.7**
RUSC	**La Rusia**	**1.81**	**42**	‖*e*P		**Pb**	**06 34 37.5**	**+0.5**
RUSC				*e*S		**Sb**	**06 35 01.7**	**+2.1**
RUSC				*i*			06 35 10.4	
	comp=Z,614nm,0.5s							
PTBC	**PUERTO BERRIO,**	**2.00**	**356**	*e*P		**Pn**	**06 34 35.7**	**-0.2**
PTBC				*e*S		**Sn**	**06 35 01.7**	**+1.8**
PTBC				*i*			06 35 08.9	
	comp=Z,1μm,0.5s							
PLMC	**San Jos del P**	**2.01**	**281**	*e*P		**Pb**	**06 34 38.6**	**-1.6**
PLMC				*e*S		**Sb**	**06 35 04.6**	**-0.3**
PLMC				*i*			06 35 08.5	
	comp=Z,346nm,0.3s							
YOTC	**Yotoco, Valle**	**2.11**	**255**	*e*P		**Pn**	**06 34 38.4**	**+0.8**
YOTC				*e*S		**Sb**	**06 35 05.3**	**-2.6**
YOTC				*i*			06 35 09.0	
	comp=Z,189nm,0.5s							
MEDEC	**Medellin, Ant**	**2.15**	**323**	*e*P		**Pb**	**06 34 40.8**	**-1.9**
MEDEC				*e*S		**Sb**	**06 35 07.3**	**-1.8**
CBOC	**Ciudad Bolivar**	**2.16**	**308**	‖*e*P		**Pb**	**06 34 40.4**	**-2.3**
CBOC				*e*S		**Sb**	**06 35 07.7**	**-1.5**
CBOC				*i*			06 35 10.3	
	comp=Z,424nm,0.7s							
BETC	**Betania**	**2.17**	**212**	*e*P		**Pn**	**06 34 38.6**	**+0.4**
PTGC	**Puerto Gaitan,**	**2.19**	**99**	‖*e*P		**Pb**	**06 34 40.9**	**-2.2**
PTGC				*e*S		**Sn**	**06 35 04.3**	**-0.2**
PTGC				*i*			06 35 16.3	
	comp=Z,785nm,0.3s							
BARC	**Barichara**	**2.33**	**29**	⇑*e*P		**Pb**	**06 34 43.0**	**-2.7**
BARC				*i*			06 35 24.6	
	comp=Z,546nm,0.5s							
MACC	**Macarena, Meta**	**2.42**	**169**	*e*P		**Pn**	**06 34 42.6**	**+0.9**
MACC				*e*S		**Sb**	**06 35 16.4**	**-0.2**
MACC				*i*			06 35 22.0	
	comp=Z,911nm,0.6s							
BRRC	**Barranca, Sant**	**2.62**	**13**	⇑*e*P		**Pn**	**06 34 45.2**	**+0.8**
BRRC				*e*S		**Sn**	**06 35 15.9**	**+0.7**
BRRC				*i*			06 35 33.0	
	comp=Z,308nm,0.3s							
GARC	**Garzon, Huila**	**2.62**	**207**	*e*P		**Pn**	**06 34 44.6**	**-0.1**
GARC				*e*S		**Sb**	**06 35 26.0**	**+3.4**
GARC				*i*			06 35 40.1	
	comp=Z,860nm,0.3s							
ZARC	**Zaragoza, Cauc**	**2.99**	**349**	*e*P		**Pn**	**06 34 50.8**	**+1.3**
ZARC				*e*S		**Sn**	**06 35 28.2**	**+3.8**
ZARC				*i*			06 35 42.0	
	comp=Z,305nm,0.4s							
DBBC	**Dabeiba**	**3.11**	**322**	*e*P		**Pb**	**06 34 56.5**	**-2.5**
TAMC	**Tame, Arauca**	**3.13**	**53**	*e*P		**Pb**	**06 34 55.2**	**-4.0**
TAMC				*i*			06 35 51.1	
	comp=Z,231nm,0.7s							
PAMC	**Pamplona, Colo**	**3.21**	**30**	*e*P		**Pn**	**06 34 54.9**	**+1.9**
PAMC				*e*S		**Sb**	**06 35 45.2**	**+5.5**
PAMC				*i*			06 35 54.4	
	comp=Z,212nm,0.3s							
FLOC	**Florencia**	**3.23**	**205**	*e*P		**Pn**	**06 34 53.3**	**+0.4**
FLOC				*i*			06 35 56.7	
	comp=Z,186nm,0.4s							
UREC	**San Jos de Ur**	**3.42**	**339**	*e*P		**Pn**	**06 34 56.1**	**+0.6**
UREC				*e*S		**Sb**	**06 35 42.5**	**-2.9**
UREC				*i*			06 35 54.2	
	comp=Z,134nm,0.4s							
APAC	**Apartado, Choc**	**4.04**	**326**	*e*P		**Pn**	**06 35 07.7**	**+3.7**
TULM	**Tulcn-Chalpat**	**5.15**	**223**	Pn		Pn	06 35 23.9	+4.2
LLSC	**La Loma 6 Bece**	**5.26**	**11**	*e*P		Pn	06 35 04.4	-16
SJCC	**San Jacinto, C**	**5.40**	**351**	*e*P		**Pn**	**06 35 22.6**	**-0.1**
SDV	**Santo Domingo**	**5.65**	**40**	P		**Pn**	**06 35 28.3**	**+2.0**
	comp=Z,7.1nm,0.3s,baz=219,slow=6.1,SNR=33							
SDV				S		**Sn**	**06 36 33.2**	**+2.9**
	comp=Z,20nm,0.3s,baz=78,slow=23,SNR=7.4							
SDV	**Santo Domingo**	**5.65**	**40**	Pn		**Pn**	**06 35 27.1**	**+0.8**

IMBA Imbabura, San 5.75 223 Pn **Pn** **06 35 31.0 +3.0**
OTAV Otavalo 5.95 224 Pn **Pn** **06 35 33.2 +2.5**
OTAV Otavalo 5.95 224 *e*P Pn 06 35 34.9 +4.2
PULU Pululahua 6.14 223 Pn **Pn** **06 35 35.1 +1.9**
CRJC Cerrejon, Guaj 6.59 12 *e*P **Pn** **06 35 40.3 +1.1**
CRJC *e*S **Sn** **06 36 55.1 +1.7**
CRJC *i* 06 37 03.7
comp=Z,34nm,0.4s
SLOR San Lorenzo - 6.70 219 Pn **Pn** **06 35 43.6 +2.5**
PORT Chimborazo Vol 7.45 217 Pn **Pn** **06 35 52.5 +1.1**
URIC Uribia, Colomb 7.48 18 Pn **Pn** **06 35 50.4 -0.8**
URIC Uribia, Colomb 7.48 18 *e*P **Pn** **06 35 50.7 -0.5**
CHSH Refugio Sur-Vo 7.53 217 Pn **Pn** **06 35 55.2 +2.6**
BAUV El Baul 7.60 55 Pn **Pn** **06 35 50.7 -2.3**
TBTG Tabatinga, AM 9.71 153 **Pn** **06 36 22.6 +0.7**
SRBA San Rafael, Bu 10.13 298 Pn Pn 06 36 33.2 +5.4
CZSB Cruzeiro do Su 12.29 173 Pn **Pn** **06 36 58.5 +1.3**
BOAV Boa Vista 13.91 98 Pn **Pn** **06 37 16.6 -2.8**
SDDR Presa de Saban 14.66 11 Pn **Pn** **06 37 30.8 +1.2**
CRPR Cabo Rojo, PR 15.12 27 Pn **Pn** **06 37 36.0 +0.3**
CRPR IAmb IAmb 06 37 55.0
comp=Z,12nm,0.9s
OBIP Obispado Ponce 15.39 29 P **P** **06 37 42.8 -0.8**
OBIP IAmb IAmb 06 37 57.4
comp=Z,10.0nm,1.1s
CELP Cerrillos 15.43 29 P **P** **06 37 43.6 -0.4**
CELP IAmb IAmb 06 38 16.1
comp=Z,11nm,1.1s
GCPR Guaynabo City 15.87 30 P **P** **06 37 49.5 +0.5**
GCPR IAmb IAmb 06 38 07.6
comp=Z,6.3nm,0.7s
ETMB Extrema 16.38 151 **Pn** **06 37 49.7 -2.3**
ETMB IAmb IAmb 06 38 16.3
comp=Z,4.4nm,1.0s
ANBD Bethesda, Anti 17.48 44 *e*P **P** **06 38 06.8 +0.1**
SIV San Ignacio 24.23 148 P **P** **06 39 18.9 +0.3**
comp=Z,0.5nm,0.6s,baz=324,slow=12,SNR=4.2
comp=Z,0.5nm,0.6s
Y49A Blount Mountai 31.28 340 P **P** **06 40 22.8 +1.4**
YKA Yellowknife Ar 65.00 341 P **P** **06 44 38.9 -2.1**
comp=Z,0.1nm,0.5s,baz=134,slow=5.8,SNR=4.8
comp=Z,0.1nm,0.5s
ASAR Alice Springs 146.81 232 PKPbc **PKPdf** **06 53 41.8 -0.7**
comp=Z,0.2nm,0.6s,baz=102,slow=3.9,SNR=2.2
WRA Warramunga Arr 148.19 239 PKPbc **PKPdf** **06 53 45.2 +0.4**
comp=Z,0.2nm,0.6s,baz=107,slow=3.3,SNR=2.2

*IDC **21** 06:34:25.9±4.6,30.°39S×178.°46W,h300km±38km, mbtmp4.5/3,Error ellipse: s-maj=76.2km s-min=31.7km az=83.0*
ISC 21 06:34:26.8±0.7,30.°43S±0.°07×179.°0W±0.°2,h300km,n39, σ2s11/61,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.48**	**39**	P		Pn	06 35 13.7	+3.8
GLKZ				S		**S**	**06 35 45.4**	**+1.2**
RIZ	**Raoul Island**	**1.49**	**38**	P		Pn	06 35 14.1	+4.1
RIZ				S		**S**	**06 35 46.5**	**+2.2**
MXZ	**Matakaoa Point**	**7.46**	**197**	P		Pn	06 36 19.0	+5.4
MXZ				S		**S**	**06 37 41.9**	**+1.7**
WMGZ	**Waiomatatini S**	**7.68**	**196**	P		Pn	06 36 22.7	+6.4
WMGZ				S		**S**	**06 37 46.9**	**+1.8**
HAZ	**Te Kaha**	**7.78**	**199**	P		**Pn**	**06 36 19.5**	**+2.0**
HAZ				S		**S**	**06 37 50.2**	**+2.8**
PUZ	**Puketiti**	**7.96**	**196**	P		**Pn**	**06 36 21.3**	**+1.6**
PUZ				S		**S**	**06 37 52.0**	**+0.6**
RUGZ	**Raukumara Rang**	**8.01**	**199**	P		**Pn**	**06 36 24.0**	**+3.5**
RUGZ				S		**S**	**06 37 53.6**	**+0.9**
TWGZ	**Tauwhareparae**	**8.12**	**197**	P		**Pn**	**06 36 25.9**	**+4.1**
TWGZ				S		**S**	**06 37 57.1**	**+2.0**
URZ	**Urewera**	**8.45**	**201**	P		**Pn**	**06 36 28.0**	**+2.3**
	6.2nm,0.5s,baz=346,slow=4.3,SNR=21							
URZ				S		**S**	**06 38 03.9**	**+1.5**
	29nm,0.3s,baz=78,slow=8.0,SNR=18							
RAHZ	**Arahi**	**9.06**	**200**	P		**P**	**06 36 37.9**	**0.0**
RAHZ				S		**S**	**06 38 17.1**	**+0.9**
TLZ	**Tolley Road**	**9.09**	**208**	P		P	06 36 43.6	+5.3
NMHZ	**Naumai**	**9.31**	**201**	P		**Pn**	**06 36 40.1**	**+3.7**
NMHZ				S		**S**	**06 38 23.0**	**+1.0**
ARHZ	**Aropaoanui**	**9.41**	**199**	P		**Pn**	**06 36 40.2**	**+2.7**
ARHZ				S		**S**	**06 38 24.4**	**+0.3**
BKZ	**Black Stump Fm**	**9.47**	**202**	S		**S**	**06 38 27.2**	**+1.6**
MCHZ	**McNeill Hill**	**9.66**	**200**	P		**P**	**06 36 44.5**	**-0.1**
MCHZ				S		**S**	**06 38 30.4**	**+0.6**
KWHZ	**Kaweka Forest**	**9.73**	**202**	P		**P**	**06 36 45.2**	**-0.3**
KWHZ				S		**S**	**06 38 30.6**	**-0.9**
BHHZ	**Black Hill Sta**	**9.91**	**203**	P		**Pn**	**06 36 47.0**	**+3.3**
BHHZ				S		**S**	**06 38 33.9**	**-1.6**
KAHZ	**Kahuranaki**	**9.94**	**199**	P		**P**	**06 36 47.6**	**-0.1**
KAHZ				S		**S**	**06 38 36.5**	**+0.4**
PXZ	**Pawanui**	**10.16**	**198**	P		**Pn**	**06 36 48.7**	**+1.9**
PXZ				S		**S**	**06 38 38.9**	**-2.2**
PNHZ	**Pukenui**	**10.25**	**201**	P		**Pn**	**06 36 50.1**	**+2.2**
PNHZ				S		**S**	**06 38 40.4**	**-2.7**
WPHZ	**Waipukurau**	**10.31**	**200**	P		**P**	**06 36 52.3**	**+0.5**
WPHZ				S		**S**	**06 38 42.9**	**-1.6**
PRHZ	**Porangahau**	**10.44**	**199**	P		**Pn**	**06 36 49.2**	**-1.0**
PRHZ				S		**S**	**06 38 45.9**	**-1.6**
DVHZ	**Dannevirke**	**10.61**	**201**	P		**Pn**	**06 36 54.0**	**+1.8**
DVHZ				S		**S**	**06 38 47.2**	**-4.1**
ANWZ	**Angora Road**	**10.67**	**199**	P		**P**	**06 36 55.9**	**+0.1**
ANWZ				S		**S**	**06 38 50.4**	**-2.1**
PRWZ	**Pori Road**	**10.90**	**201**	P		**Pn**	**06 36 57.9**	**+2.1**
PRWZ				S		**S**	**06 38 54.6**	**-3.3**
BFZ	**Birch Farm**	**10.94**	**199**	P		**Pn**	**06 36 57.8**	**+1.6**
BFZ				S		**S**	**06 38 55.8**	**-2.9**
MRZ	**Mangatainoka R**	**11.12**	**202**	P		**Pn**	**06 36 59.4**	**+0.8**
MRZ				S		**S**	**06 38 58.2**	**-4.7**
TIWZ	**Tintock**	**11.13**	**201**	P		**Pn**	**06 37 00.4**	**+1.8**
TIWZ				S		**S**	**06 39 00.0**	**-3.1**
OGWZ	**Otaki Gorge**	**11.40**	**203**	P		**Pn**	**06 37 01.6**	**-0.3**
OGWZ				S		S	06 39 03.6	-5.5
KIW	**Kapiti Island**	**11.53**	**204**	P		**Pn**	**06 37 04.6**	**+1.1**
KIW				S		S	06 39 07.1	-4.9
CAW	**Cannon Point**	**11.69**	**203**	P		**Pn**	**06 37 05.8**	**+0.3**
CAW				S		**S**	**06 39 11.3**	**-4.5**
MSVF	**Nonsavu**	**12.93**	**347**	P		**Pn**	**06 37 20.0**	**-0.7**
	9.3nm,0.5s,baz=184,slow=11,SNR=6.6							
DZM	**Mont Dzumac**	**15.49**	**299**	P		**P**	**06 37 52.7**	**+3.3**
	11nm,0.6s,baz=170,slow=15,SNR=19							
MKAR	**Makanchi Array**	**117.14**	**310**	PKP		**PKPdf**	**06 52 35.0**	**-1.1**
	0.2nm,0.4s,baz=183,slow=1.0,SNR=5.2							
FINES	**FINESS Array B**	**144.88**	**339**	PKPbc		**PKPdf**	**06 53 26.1**	**-1.3**
	5.6nm,0.4s,baz=54,slow=4.2,SNR=79							
NB2	**NORSAR Subarra**	**148.65**	**350**	PKP		**PKPbc**	**06 53 37.2**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=16,slow=2.5							
NOA	**NORSAR Array B**	**148.65**	**350**	PKPbc		**PKPbc**	**06 53 37.1**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=16,slow=4.1,SNR=7.4							
AKASG	**Malin Array Be**	**150.81**	**322**	PKPbc		**PKPbc**	**06 53 42.8**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=48,slow=3.0,SNR=16							
BRTR	**Keskin Array B**	**151.87**	**298**	PKPbc		**PKPbc**	**06 53 45.8**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=138,slow=4.4,SNR=2.3							

IDC 21 06:53:54.2±4.9,12.°12S×115.°22E,h0km,mb3.2/2, mbtmp3.1/3,ML3.0/1,Error ellipse: s-maj=278.2km s-min=27.8km az=44.0,Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.95**	**115**	P		P	06 58 27.5	-0.5
	baz=288,slow=12,SNR=2.4							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**21.14**	**125**	P		P	06 58 41.4	+0.4
	0.1nm,0.3s,baz=302,slow=10.0,SNR=4.2							
	0.1nm,0.3s							
MKAR	**Makanchi Array**	**65.64**	**336**	P		P	07 04 40.2	0.0
	0.3nm,0.4s,baz=146,slow=7.3,SNR=10.0							
	0.3nm,0.4s							

*UCR **21** 06:56:51.6±0.7,8.°32N×83.°07W,h19km±3km,MW3.6*
*UPA **21** 06:56:51.7±0.5,8.°43N×83.°04W,h4km±4km,MW3.5*
*INET **21** 06:56:52.2,8.°41N×83.°12W,h4km,MW3.5*
**ISC 21 06:56:51.7±1.7,8

CDITO	Canoas	0.26	50	eP	Pb	06 56 58.6	+0.6
JIME	Puerto Jimenez	0.28	298	eP	Pb	06 56 59.6	+1.2
BRU2	Volcan	0.54	44	iP	Pb	06 57 03.0	0.0
BRU2				iS	Sb	06 57 11.4	+0.8
BRU2	Volcan	0.54	44	eP	Pb	06 57 03.1	+0.1
BC3P	Paso Ancho	0.61	48	iP	Pb	06 57 03.9	-0.4
DVD	David	0.62	87	iP	Pb	06 57 03.9	-0.3
DVD				iS	Sb	06 57 12.9	+0.3
BCO2	Palmira	0.62	60	iP	Pb	06 57 04.3	-0.1
BCO2				iS	Sb	06 57 13.6	+0.7
POTG	Potrero Grande	0.65	356	eP	Pb	06 57 05.1	+0.4
SRBA	San Rafael, Bu	0.87	341	eP	Pg	06 57 08.0	-0.7
PEZE	Perez Zeledon,	1.14	328	eP	Pb	06 57 12.3	-0.8
CNI2	El Empalme, Bo	1.18	30	iP	Pb	06 57 18.4	-1.3
CNI2				iS	Sb	06 57 28.4	-0.3
BRIBI	Bribri	1.23	10	eP	Pg	06 57 14.8	-0.7
BUS1	Rivas	1.32	330	eP	Pn	06 57 15.2	-0.7
CDM	Cerro de Muert	1.33	329	eP	Pn	06 57 15.3	-0.7
MRVA	Moravia de Chi	1.46	346	eP	Pn	06 57 17.5	-0.1
RAZU	San Marcos de	1.56	323	eP	Pb	06 57 20.4	+0.1
TURIB	Turrialba	1.61	338	eP	Pn	06 57 19.8	+0.2
REPA	Paraso	1.62	331	eP	Pn	06 57 20.4	+0.7
VINA	Juan Vinas	1.62	336	eP	Pn	06 57 20.3	+0.4
VERB	Verbena	1.65	338	eP	Pn	06 57 20.5	+0.3
VTCV	VTCV, Calle Va	1.70	338	eP	Pn	06 57 21.5	+0.6
RAFA	San Farael, Vo	1.71	335	eP	Pn	06 57 21.5	+0.3
OCM	Ochomogo	1.72	329	eP	Pn	06 57 21.4	+0.2
CVTV	Tajo	1.72	337	eP	Pb	06 57 22.4	-0.9
VTLA	Turrialba Volc	1.73	336	eP	Pn	06 57 22.2	+0.6
ICR3	Volcano Irazu	1.73	334	eP	Pn	06 57 22.3	+0.7
VTRT	Volcan Turrial	1.74	336	eP	Pb	06 57 22.8	-0.7
VICA	Volcano Irazu	1.75	334	eP	Pg	06 57 24.1	-1.2
VTLO	VTLO	1.75	338	eP	Pn	06 57 22.3	+0.5
ACOS	Acosta	1.75	322	eP	Pn	06 57 22.4	+0.8
VIRE	VIRE	1.75	332	eP	Pb	06 57 23.1	-0.6
CVIMO	Finca Echandi	1.82	332	eP	Pb	06 57 24.8	-0.1
HDC	Heredia	1.89	327	eP	Pb	06 57 25.2	-0.7
HDC3	Heredia 3	1.89	327	eP	Pb	06 57 25.4	-0.6
BELE	Belen	1.91	325	eP	Pn	06 57 24.6	+0.8
JACO	JACO, Garabito	2.00	309	eP	Pn	06 57 24.4	-0.5
VPTE	Poasito	2.08	328	eP	Pn	06 57 27.7	+1.5
CBL1	Cabuya	2.31	301	eP	Pn	06 57 28.7	-0.6
FORC	Fortuna	2.58	323	eP	Pb	06 57 36.1	-1.6
VACR	Volcan Arenal	2.59	323	eP	Pb	06 57 36.2	-1.7
CASO	Castillo	2.60	321	eP	Pb	06 57 37.0	-1.0
CEDE	Laguna Cedeo	2.62	322	eP	Pb	06 57 35.9	-2.5
JTS	Las Juntas de	2.64	315	eP	Pn	06 57 33.9	+0.2
TABAC	Tabacon	2.67	321	eP	Pn	06 57 38.2	-1.0
POPE	POPE, Guanacas	2.72	307	eP	Pn	06 57 36.8	+1.0
CMARA	Lajas Hojancha	2.82	305	eP	Pn	06 57 36.9	+0.6
COTE	Lago Cote	2.82	320	eP	Pn	06 57 38.5	+2.2
ACAL	Aguas Claras	2.94	319	eP	Pn	06 57 40.2	+2.2
SAAN	San Antonio	2.94	307	eP	Pn	06 57 38.9	+1.0
CUI	Cuipilapa	3.04	318	eP	Pn	06 57 41.4	+2.0
SAJU	San Juanillo,	3.08	303	eP	Pn	06 57 40.0	+0.2
HORNC	Hornillas	3.09	318	eP	Pn	06 57 41.4	+1.4
GUAB	Guayabo de Bag	3.12	317	eP	Pn	06 57 43.2	+2.7
MESS	Mesas	3.12	318	eP	Pn	06 57 42.4	+1.9
GP14	Hacienda Santa	3.24	316	iP	Pn	06 57 44.4	+2.4
GPS2	Hotel Rincn d	3.24	316	eP	Pn	06 57 44.6	+2.5
LAPC	Finca la Perla	3.31	315	eP	Pn	06 57 44.9	+2.0
BUEV	Buena Vista	3.31	316	eP	Pb	06 57 45.2	+2.2
GB1A	Borinquen Arri	3.32	316	eP	Pn	06 57 45.6	+2.5
HZTE	Horizontes, Gu	3.38	313	eP	Pn	06 57 46.5	+2.6

UCR ***21*** *07:31:05.4±1.6, 14°.62N×90°.38W, h20km±999km, MW4.4, mb4.4(NEIC)*

GCG ***21*** *07:31:25.4±0.5, 13°.18N×89°.06W, h104km±54km, MD4.4*

IDC ***21*** *07:31:28.7±1.3, 13°.41N×89°.10W, h60km±10km, mb3.9/14, mbtmp4.2/17, MS3.6/24, Error ellipse: s-maj=23.1km s-min=8.7km az=52.0*

INET ***21*** *07:31:29.2, 13°.24N×89°.27W, h35km, MW4.9*

SNET ***21*** *07:31:29.5±2.4, 13°.19N×89°.30W, h28km, ML5.0*

NEIC ***21*** *07:31:29.5±1.5, 13°.20N±0°.06×89°.31W±0°.07, h61km±10km, mb4.4/86, Error ellipse: s-maj=11.5km s-min=7.4km az=49.0*

ISC 21 07:31:29.0±0.7, 13°.27N±0°.05×89°.25W±0°.03, h62km±5km, n342, σ1933/355, mb4.4/38, 12D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LFRS	El Faro	0.40	28	⇓iP		Pn	07 31 40.6	+0.3
ITCA	Escuela Especi	0.40	357	iP		Pn	07 31 40.3	0.0
ITCA				eS		Sn	07 31 49.4	+0.9
SNET	Serv Nac Est T	0.41	3			Pn	07 31 40.5	+0.1
SNET	Serv Nac Est T	0.41	3	⇓iP		Pn	07 31 34.3	-6.1
SNET				eS		Sn	07 31 43.5	-5.1
SNET				AML		AML	07 31 45.7	
SJTE	Alcalda de S	0.42	35	⇓iP		Pn	07 31 40.7	+0.3
JAYA	Jayaque - finc	0.43	334	⇓iP		Pn	07 31 40.2	-0.4
JAYA				eS		Sn	07 31 49.0	0.0
SEMO	Seminario San	0.43	4	eP		Pn	07 31 40.7	+0.1
SEMO				eP		Pn	07 31 40.7	+0.1
SEMO				eS		Sn	07 31 49.9	+1.0
UTEC	Universidad Te	0.43	7	iP		Pn	07 31 40.8	+0.3
PMON	Piamonte	0.44	352	eP		Pn	07 31 40.8	+0.1
UEES	Universidad Ev	0.44	2	iP		Pn	07 31 41.0	+0.3
AEIL	Aeropuerto Ilo	0.45	17	iP		Pn	07 31 41.4	+0.7
AEIL				eS		Sn	07 31 50.7	+1.6
IGN	Direccin Gen	0.45	10	eP		Pn	07 31 41.1	+0.4
IGN				eS		Sn	07 31 50.7	+1.5
BOQS	Boqueron	0.46	357	iP		Pn	07 31 41.4	+0.4
LFU	La Fuente	0.49	16	⇓iP		Pn	07 31 42.0	+0.8
COEG	Centro de Oper	0.50	46	⇓iP		Pn	07 31 41.6	+0.3
COEG				eS		Sn	07 31 51.2	+1.1
LBRS	Las Brisas	0.51	24	eP		Pn	07 31 42.2	+0.9
PAVA	Las Pavas	0.54	35	eP		Pn	07 31 42.4	+0.8
CEDA	San Andres	0.55	346	eP		Pn	07 31 41.8	+0.1
CEDA				eS		Sn	07 31 52.3	+1.4
ALJI	Alcalda de J	0.67	85	eP		Pn	07 31 43.0	+0.1
ALJI				eS		Sn	07 31 55.0	+1.8
SCLA	Alcaldia de Sa	0.67	50	⇓iP		Pn	07 31 44.0	+1.0
SCLA				eS		Sn	07 31 56.1	+2.8
SBLS	San Blas	0.67	328	⇓iP		Pn	07 31 43.2	+0.8
RTR	El Retiro	0.73	329	⇓iP		Pn	07 31 44.1	+0.2
COEB	Comit de Eme	0.74	72	iP		Pn	07 31 44.3	+0.4
COEB				eS		Sn	07 31 56.7	+1.8
PQSS	Presa 15 de Se	0.76	62	eP		Pn	07 31 44.9	+0.8
PQSS				eS		Sn	07 31 57.3	+2.1
TECA	Tecapa	0.77	73	⇓iP		Pn	07 31 44.8	+0.5
NUBE	Las Nubes	0.81	321	eP		Pn	07 31 44.6	-0.3
NUBE				eS		Sn	07 31 56.4	-0.1
P5NO	Presa 5 de nov	0.86	34	iP		Pn	07 31 46.1	+0.8
LOAL	Lomas de Alarc	0.89	325	eP		Pn	07 31 46.1	+0.4
SLOZ	Alcaldia de Sa	0.91	326	eP		Pn	07 31 46.1	0.0
PACA	Pacayal	0.93	78	eP		Pn	07 31 47.8	+1.5
PACA				eS		Sn	07 32 01.6	+2.6
LLGN	La Laguna	0.94	19	eS		Sn	07 32 02.2	+2.9
LCY	Lacayo	0.95	81	⇓iP		Pn	07 31 47.2	+0.7
VSM	San Miguel	0.97	81	⇓iP		Pn	07 31 47.3	+0.9
CNRM	Centro Naciona	1.07	79	eP		Pn	07 31 48.9	+0.8
MTO3	Montecristo	1.13	355			Pn	07 31 49.6	+0.6
MTO3	Montecristo	1.13	355	eP		Pn	07 31 49.6	+0.6
MTO3				eS		Sn	07 32 05.8	+1.9
FAGO	Alcalda de S	1.19	69	iP		Pn	07 31 50.1	+0.4
FAGO				eS		Sn	07 32 06.8	+1.7
ESQI	Esquipulas	1.28	356			Pn	07 31 52.0	+1.1
ESQI	Esquipulas	1.28	356	eP		Pn	07 31 52.1	+1.1
ESQI				eS		Sn	07 32 09.6	+2.2
LCND	La Caada	1.33	88	eP		Pn	07 31 52.1	+0.6
CNCH	Conchagua	1.38	90	iP		Pn	07 31 53.0	+0.7
NBG	Las Nubes	1.69	321	eP		Pn	07 31 57.8	+1.3
NBG				eS		Sn	07 32 23.1	+5.9
PCG	Pacaya	1.72	310	eP		Pn	07 31 59.8	+2.8
FUG	Fuego 3	1.94	307	eP		Pn	07 32 00.6	+0.8
TGUH	Tegucigalpa,Un	2.08	68			Pn	07 32 02.7	+1.0
TGUH	Tegucigalpa,Un	2.08	68	eP		Pn	07 32 02.7	+1.0
CRIN	San Cristobal	2.22	105			Pn	07 32 04.3	+0.7
SULM	Suchitepequez,	2.47	295	eP		Pn	07 32 07.5	+0.6
SULM				eS		Sn	07 32 42.2	+6.3
CNGN	Cerro Negro	2.61	107			Pn	07 32 09.2	+0.4
STG3	Santiaguito 3,	2.67	303	eP		Pn	07 32 10.9	+1.1
STG3				eS		Sn	07 32 46.0	+5.0
RTAL	Retalhuleu	2.68	298			Pn	07 32 09.5	-0.3
HUEH	Huehuetenango	2.98	313	Pn		Pn	07 32 14.8	+0.7
MATN	Matagalpa	3.26	96			Pn	07 32 18.1	+0.3
BOAB	BOACO BROADBAN	3.59	103	Pn		Pn	07 32 21.9	-0.3
PETF	Flores	3.67	351			Pn	07 32 25.6	+2.2
CCIG	Comitan	4.09	317			Pn	07 32 29.8	+0.6
ACON	Acoyapa	4.19	108			Pn	07 32 29.8	-0.6
HZTE	Horizontes, Gu	4.39	125			Pn	07 32 34.6	+1.4
GBS2	Las Lilas	4.43	123	eP		Pn	07 32 35.7	+1.8
GBS3	Finca Las Img	4.46	123	eP		Pn	07 32 35.4	+1.1
GB1A	Borinquen Arri	4.49	122	eP		Pn	07 32 35.4	+0.8
LAPC	Finca la Perla	4.49	123	eP		Pn	07 32 35.2	+0.7
BUEV	Buena Vista	4.49	123	eP		Pn	07 32 35.1	+0.4
BUAI	Buenos Aires	4.51	121	eP		Pn	07 32 37.5	+2.6
GPS3	Bodega del ICE	4.55	123	eP		Pn	07 32 37.1	+1.6
GPS1	Guardaparques	4.55	123	eP		Pn	07 32 36.8	+1.3
GPS2	Hotel Rincn d	4.56	123	eP		Pn	07 32 37.4	+1.8
GP14	Hacienda Santa	4.57	123	eP		Pn	07 32 36.9	+1.2
REF1	Hacienda Santa	4.58	123	eP		Pn	07 32 37.6	+1.7
LIM1	Limonal	4.68	123	eP		Pn	07 32 38.6	+1.4
GUAB	Guayabo de Bag	4.69	122	eP		Pn	07 32 38.6	+1.3
CLARA	Aguas Claras	4.69	121	eP		Pn	07 32 37.7	+0.4
MESS	Mesas	4.70	122	eP		Pn	07 32 37.9	+0.4
ORTG	Ortega, Santa	4.71	127			Pn	07 32 38.9	+1.3
HORNC	Hornillas	4.73	122	eP		Pn	07 32 38.6	+0.7
VMAR	Armenia, Volca	4.73	121	eP		Pn	07 32 38.3	+0.4
CANAL	Canalete	4.77	120	eP		Pn	07 32 38.1	-0.3
CUI	Cuipilapa	4.77	123	eP		Pn	07 32 39.2	+0.8
SAAN	San Antonio	4.82	129	eP		Pn	07 32 40.6	+1.5
MOTZ	Rio Naranjo	4.83	122	eP		Pn	07 32 40.5	+1.2
DUNO	Dulce Nombre,	4.86	130			Pn	07 32 40.1	+0.4
PTEN	Parque Tenorio	4.89	121	eP		Pn	07 32 40.7	+0.7
ACAL	Aguas Claras	4.89	122	eP		Pn	07 32 40.7	+0.6
VERA	Finca Concepci	4.92	119	eP		Pn	07 32 39.5	-0.9
ESPN	Las Esperanzas	4.95	102			Pn	07 32 41.1	+0.3
CMARA	Lajas Hojancha	4.95	130	eP		Pn	07 32 42.0	+1.0
COTE	Lago Cote	5.02	122	eP		Pn	07 32 43.0	+1.1
POPE	POPE, Guanacas	5.04	129	eP		Pn	07 32 43.5	+1.4
NYURE	Nandayure	5.09	129	eP		Pn	07 32 44.0	+1.2
JTS	Las Juntas de	5.15	125	P		Pn	07 32 44.3	+0.7
	26nm,0.3s,baz=306,slow=21,SNR=47							
JTS				S		Sn	07 33 42.2	+0.4
	24nm,0.3s,baz=318,slow=21,SNR=1.1							
TABAC	Tabacon	5.18	122	eP		Pn	07 32 46.8	+2.6
CEDE	Laguna Cedeo	5.24	121	eP		Pn	07 32 47.1	+2.1
CASO	Castillo	5.25	122	eP		Pn	07 32 46.6	+1.6
FORC	Fortuna	5.28	121	eP		Pn	07 32 47.6	+2.2
COVE	Coope Vega, Sa	5.38	118			Pn	07 32 47.3	+0.5
LAFE	Finca La Fe, P	5.47	128	eP		Pn	07 32 49.0	+1.0
JACO	JACO, Garabito	5.76	128			Pn	07 32 52.6	+0.7
JACO	JACO, Garabito	5.76	128	eP		Pn	07 32 53.8	+1.9
TCS1	Tacares	5.82	123	eP		Pn	07 32 56.0	+3.2
HDC	Heredia	5.99	122			Pn	07 32 55.9	+0.6
OCM	Ochomogo	6.18	122	eP		Pn	07 32 59.8	+2.0
REPA	Paraso	6.29	122	eP		Pn	07 33 03.0	+3.6
VTLO	VTLO	6.29	120	eP		Pn	07 33 01.5	+1.9
RIMA	Rio Macho	6.33	123			Pn	07 33 00.6	+0.7
VERB	Verbena	6.37	121	eP		Pn	07 33 03.4	+3.0
CDM	Cerro de Muert	6.53	124	eP		Pn	07 33 05.7	+2.8
BUS1	Rivas	6.54	124	eP		Pn	07 33 05.5	+2.4
BATAN	Batan	6.56	118			Pn	07 33 04.4	+1.4
CMIG	Matias Romero	6.63	306	P		Pn	07 33 04.9	+1.0
	18nm,0.4s,baz=95,slow=8.8,SNR=31							
CMIG				S		Sn	07 34 19.2	+1.1
	169nm,0.6s,baz=276,slow=21,SNR=9.2							
MRVA	Moravia de Chi	6.64	120	eP		Pn	07 33 05.5	+1.2
PEZE	Perez Zeledon,	6.70	125			Pn	07 33 06.4	+1.5
PEZE	Perez Zeledon,	6.70	125	eP		Pn	07 33 07.2	+2.3
TEIG	Tepich	6.98	8	Pn		Pn	07 33 10.2	+1.6
SRBA	San Rafael, Bu	7.04	124	Pn		Pn	07 33 11.2	+1.7
SRBA	San Rafael, Bu	7.04	124	eP		Pn	07 33 11.5	+1.9
POTG	Potrero Grande	7.33	124	eP		Pn	07 33 15.9	+2.3
JIME	Puerto Jimenez	7.48	128	eP		Pn	07 33 19.0	+3.5
FITO	Golfito	7.56	127	eP		Pn	07 33 19.4	+2.8
CDITO	Canoas	7.81	126			Pn	07 33 20.9	+0.9
BRU2	Volcan	7.83	124			Pn	07 33 22.2	+1.8
CCOL	Caracol de Cor	7.83	127	eP		Pn	07 33 23.8	+3.4
ICCO	Coco Island	7.98	164	eP		Pn	07 33 23.6	+1.3
TLIG	Tlapa	9.94	297			Pn	07 33 49.0	-0.3
BCIP	Isla Barro Col	10.10	113	Pn		Pn	07 33 51.2	-0.1
SOR	Soroa	11.18	31	Pn		Pn	07 34 08.4	+2.3
MTDJ	Mount Denham	12.31	65	Pn		Pn	07 34 23.6	+2.0
DWPF	Disney Wildern	16.47	25	P		P	07 35 20.2	+2.4
	baz=208							
OTAV	Otavalo	16.80	140			Pn	07 35 20.6	-0.2
URIC	Uribia, Colomb	16.93	93	P		P	07 35 22.9	-0.1
URIC				IAmb	IAmb		07 35 50.9	
	comp=Z,32nm,1.3s							
ROSC	El Rosal	16.95	118	P		Pn	07 35 21.7	-0.9
656A	Willston	17.19	20	P		P	07 35 25.9	+0.1
656A				IAmb	IAmb		07 35 39.5	
	comp=Z,51nm,1.2s							
BRAL	Brewton	17.93	6	P		Pn	07 35 35.3	+1.2
	baz=187							
PORT	Chimborazo Vol	17.95	144	P		Pn	07 35 37.0	+1.9
PORT				IAmb	IAmb		07 35 40.6	
	comp=Z,50nm,1.4s							
342A	Flagon Creek P	18.24	352			Pn	07 35 38.8	+0.9
342A				IAmb	IAmb		07 35 41.7	
	comp=Z,33nm,0.9s							
352A	Blakely	18.56	12	P		Pn	07 35 42.5	+0.8
352A				IAmb	IAmb		07 35 58.6	
	comp=Z,52nm,1.2s							
SDV	Santo Domingo	18.78	101	P		P	07 35 43.0	-0.7
	comp=Z,4.6nm,0.6s,baz=291,slow=7.2,SNR=7.3							
SDV				LR		LR	07 44 45.1	
	comp=Z,60nm,18.4s,baz=260,slow=43							
SDV	Santo Domingo	18.78	101	P		P	07 35 42.2	-1.5
TIGA	Tifton	18.82	15	P		Pn	07 35 44.8	0.0
TIGA	Tifton	18.82	15	P		Pn	07 35 46.9	+2.0
	baz=197,SNR=9.9							
VBMS	Vicksburg	18.90	357	P		Pn	07 35 46.4	+0.7
ARNL	Arenillas	19.04	151	P		P	07 35 45.1	-1.2
435B	Jarrell	19.05	338	P		P	07 35 46.8	+0.5
435B				IAmb	IAmb		07 35 48.6	
	comp=Z,22nm,0.9s							
435B	Jarrell	19.05	338	P		Pn	07 35 47.7	+0.1
	baz=155							
NATX	Nacogdoches	19.06	346	P		P	07 35 46.3	-0.1
NATX				IAmb	IAmb		07 35 57.8	
	comp=Z,24nm,0.9s							
NATX	Nacogdoches	19.06	346	P		Pn	07 35 47.5	-0.2
	baz=164							
143A	Socs Landing,	19.44	355	P		Pn	07 35 51.6	-0.6
143A				IAmb	IAmb		07 36 08.3	
	comp=Z,32nm,1.1s							
255A	Hazlehurst	19.58	17	P		Pn	07 35 53.3	-0.6
255A				IAmb	IAmb		07 35 55.4	
	comp=Z,29nm,0.9s							
JCT	Junction City	19.70	332	P		P	07 35 53.8	+0.3
JCT	Junction City	19.70	332	P		P	07 35 54.2	+0.7
	baz=148,SNR=5.8							
152A	Waverly Hall	19.75	11	P		Pn	07 35 55.7	-0.2
152A				IAmb	IAmb		07 35 57.5	
	comp=Z,17nm,1.1s							
LRAL	Lakeview Retre	19.78	6	P		Pn	07 35 55.6	-0.6
LRAL	Lakeview Retre	19.78	6	P		Pn	07 35 56.3	0.0
	baz=187,SNR=8.2							
Z47A	Carrollton	19.87	3	P		P	07 35 56.1	+0.9
Z47A				IAmb	IAmb		07 35 58.4	
	comp=Z,15nm,0.8s							
154A	Montrose	20.06	15	P		Pn	07 35 58.8	-0.7
WHTX	Lake Whitney,	20.10	339	P		P	07 35 58.1	+0.5
WHTX	Lake Whitney,	20.10	339	P		P	07 35 58.8	+1.2
	baz=156							
Z51A	Franklin	20.30	10	P		Pn	07 36 01.8	-0.5
Z51A				IAmb	IAmb		07 36 05.9	
	comp=Z,13nm,0.9s							
Y45A	Yeager Farm, C	20.51	359	P		Pn	07 36 03.6	-1.1
WLAR	White Oak Lake	20.63	351	P		P	07 36 04.5	+1.1
WLAR				IAmb	IAmb		07 36 33.0	
	comp=Z,24nm,0.9s							
Y49A	Blount Mountai	20.66	7	P		P	07 36 04.6	+0.9
Y49A				IAmb	IAmb		07 36 06.8	
	comp=Z,16nm,0.7s							
TX32	Lajitas Array	20.84	322	P		P	07 36 06.4	+0.5
TXAR	Lajitas Array	20.84	322	P		P	07 36 07.1	+1.2
	comp=Z,6.0nm,0.7s,baz=143,slow=9.5,SNR=46							
TXAR				PcP		PcP	07 40 11.9	-0.6
	comp=Z,1.1nm,1.1s,baz=129,slow=1.8,SNR=4.3							
TXAR				ScP		ScP	07 43 43.6	-0.5
	comp=Z,0.5nm,0.7s,baz=152,slow=4.1,SNR=4.1							
TXAR				LR		LR	07 45 16.2	
	comp=Z,117nm,18.6s,baz=216,slow=40							
	comp=Z,6.0nm,0.7s							
TXAR	Lajitas Array	20.84	322	P		P	07 36 06.2	+0.3
TX31	Lajitas Ar. Si	20.84	322	P		P	07 36 06.4	+0.5
TX31				IAmb	IAmb		07 36 09.8	
	comp=Z,17nm,0.8s							
FW07	Weatherford	20.86	339	P		P	07 36 06.0	+0.1
FW07				IAmb	IAmb		07 36 21.4	
	comp=Z,23nm,0.9s							
FW06	Azle	21.03	340	P		P	07 36 08.0	+0.3
FW06				IAmb	IAmb		07 36 25.5	
	comp=Z,10nm,0.8s							
Y52A	Lilburn	21.04	12	P		P	07 36 08.6	+0.8
Y52A				IAmb	IAmb		07 36 24.4	
	comp=Z,16nm,0.8s							
X48A	Hartselle	21.18	5	P		P	07 36 10.5	+1.1
X48A				IAmb	IAmb		07 36 26.3	
	comp=Z,18nm,1.2s							
BAUV	El Baul	21.25	99	P		P	07 36 09.8	-0.4
BAUV				IAmb	IAmb		07 36 27.3	
	comp=Z,20nm,0.8s							
FW03	Perrin-Whitt E	21.26	339	P		P	07 36 10.2	0.0
FW03				IAmb	IAmb		07 36 36.5	
	comp=Z,15nm,0.8s							
Z35A	Perchaven, San	21.26	341	P		P	07 36 10.1	-0.1
Z35A				IAmb	IAmb		07 36 25.2	
	comp=Z,25nm,1.1s							
X40A	Basin Creek Fa	21.37	352	P		P	07 36 11.8	+0.4
NHSC	New Hope	21.41	21	P		P	07 36 14.4	+2.6
	baz=205							
FPAL	Fort Paine	21.43	8	P		P	07 36 13.2	+1.1
FPAL				IAmb	IAmb		07 36 28.2	
	comp=Z,11nm,0.8s							
ABTX	Abilene, Hawle	21.48	335	P		P	07 36 11.8	-0.8
ABTX				IAmb	IAmb		07 36 15.0	
	comp=Z,12nm,0.7s							
ABTX	Abilene, Hawle	21.48	335	P		P	07 36 12.5	-0.1
	baz=152,SNR=11							
MIAR	Mount Ida	21.54	350	P		P	07 36 14.4	+1.3
MIAR				IAmb	IAmb		07 36 17.1	
	comp=Z,15nm,0.8s							
MIAR	Mount Ida	21.54	350	P		P	07 36 14.7	+1.5
	baz=169,SNR=24							
UALR	University of	21.59	353	P		P	07 36 13.7	0.0
UALR				IAmb	IAmb		07 36 32.6	
	comp=Z,21nm,0.9s							
PLAL	Pickwick Lake	21.64	3	P		P	07 36 14.6	+0.4
HODGE	Hodges	21.81	16	P		P	07 36 17.4	+1.3
HODGE				IAmb	IAmb		07 36 33.9	
	comp=Z,13nm,0.9s							
LOOK	Love County	21.85	342			P	07 36 16.1	-0.5
SWET	Sewanee	22.06	7	P		P	07 36 19.3	+0.6
SWET				IAmb	IAmb		07 36 36.3	
	comp=Z,11nm,0.8s							
WHAR	Wooly Hollow	22.10	353	P		P	07 36 19.6	+0.5
WHAR				IAmb	IAmb		07 36 37.1	
	comp=Z,14nm,1.0s							
V48A	Smith Brothers	22.48	5	P		P	07 36 23.4	+0.1
GNAR	Gosnell	22.61	358	P		P	07 36 25.2	+0.6
LPIG	La Paz	22.64	301	LR		LR	07 46 18.5	
	comp=Z,97nm,20.8s,baz=3.0,slow=39							
FCAR	Ozark Folk Cen	22.67	354	P		P	07 36 25.7	+0.5
FCAR				IAmb	IAmb		07 36 42.3	
	comp=Z,12nm,0.9s							
SJG	San Juan	22.75	75	LR		LR	07 45 42.3	
	comp=Z,152nm,20.6s,baz=270,slow=38							
PEBM	Pemiscott Bayo	22.75	359	P		P	07 36 26.9	+0.8
WVT	Waverly	22.80	3	P		P	07 36 26.3	-0.3
	baz=184

comp=Z,31nm,1.0s
M65A Busby, Falmout 32.52 26 P **P** **07 37 55.2 +1.3**
baz=215
SADO Sadowa 32.56 13 LR LR 07 51 42.0
comp=Z,108nm,19.8s,baz=291,slow=38
HEC Hector,Ludlow 32.56 316 P **P** **07 37 55.9 +1.4**
baz=125
K22A Casper 32.87 336 P **P** **07 37 57.1 -0.2**
baz=148
SHOC Shoshone, Teco 33.14 318 P **P** **07 38 00.5 +1.0**
baz=126
RSSD Black Hills 33.25 340 P **P** **07 38 00.7 0.0**
baz=153
DUG Dugway, Tooele 33.88 327 P **P** **07 38 06.8 +0.8**
baz=136
BW06 Boulder Array 34.23 333 P **P** **07 38 09.4 +0.2**
baz=143
PDAR Pinedale Array 34.23 333 P **P** **07 38 08.8 -0.4**
comp=Z,1.0nm,0.7s,baz=130,slow=10,SNR=14
PDAR PcP **PcP** **07 40 43.5 -1.2**
comp=Z,0.4nm,0.6s,baz=133,slow=5.4,SNR=4.0
PDAR ScP **ScP** **07 44 24.3 -0.3**
comp=Z,0.5nm,0.8s,baz=161,slow=5.7,SNR=4.5
comp=Z,1.0nm,0.7s
EYMN Ely 34.62 357 P **P** **07 38 10.7 -1.5**
baz=176
AHID Auburn Hatcher 34.93 331 P **P** **07 38 15.4 +0.2**
AHID IAmb IAmb 07 38 17.0
comp=Z,5.7nm,0.7s
HVU Hansel Valley 35.01 329 P **P** **07 38 16.7 +0.9**
ECR Eagle Creek 35.28 331 P **P** **07 38 18.7 +0.5**
REDW Red Top Meadow 35.28 332 P **P** **07 38 18.7 +0.5**
SNOW Snow King Moun 35.32 333 P **P** **07 38 19.3 +0.7**
AGMN Agassiz Nation 35.35 352 P **P** **07 38 17.4 -1.1**
baz=169,SNR=5.6
LOHW Long Hollow 35.37 333 P **P** **07 38 20.1 +1.1**
MDND Maddock 35.54 348 P **P** **07 38 19.6 -0.5**
baz=163,SNR=12
FXWY Fox Creek 35.58 332 P **P** **07 38 21.6 +0.8**
ELK Elko 35.58 325 ScP **ScP** **07 44 29.2 -0.3**
comp=Z,1.1nm,0.8s,baz=136,slow=5.4,SNR=4.0
IMW Indian Meadow 35.74 333 P **P** **07 38 23.6 +1.4**
IMW IAmb IAmb 07 38 25.0
comp=Z,3.4nm,0.7s
NVAR Mina Array Bea 35.94 319 P **P** **07 38 25.3 +1.4**
comp=Z,0.7nm,0.6s,baz=145,slow=8.4,SNR=7.1
NVAR PcP **PcP** **07 40 49.7 -0.1**
comp=Z,1.1nm,0.7s,baz=151,slow=3.5,SNR=6.1
NVAR ScP **ScP** **07 44 30.5 -0.3**
comp=Z,1.0nm,0.7s,baz=132,slow=5.2,SNR=6.9
comp=Z,0.7nm,0.6s
H17A Grant Village 35.98 334 P **P** **07 38 24.6 +0.4**
baz=143
RLMT Red Lodge 36.02 336 P **P** **07 38 24.4 -0.1**
baz=146,SNR=6.1
LPAZ La Paz 36.03 144 P **P** **07 38 25.0 -0.3**
comp=Z,1.7nm,0.7s,baz=327,slow=10,SNR=6.6
LPAZ LR LR 07 52 36.4
comp=Z,93nm,21.4s,baz=284,slow=35
comp=Z,1.7nm,0.7s
LAO LASA Array 36.24 340 P **P** **07 38 27.3 +1.1**
LAO LASA Array 36.24 340 P **P** **07 38 26.6 +0.4**
baz=152
PB16 IPOC Station P 36.95 148 P **P** **07 38 33.1 0.0**
PB16 IAmb IAmb 07 38 34.9
comp=Z,4.1nm,0.8s
MDP Montagnes des 37.00 99 LR LR 07 55 34.0
comp=Z,64nm,18.1s,baz=300,slow=39
HLID Hailey 37.13 329 P **P** **07 38 34.1 +0.2**
baz=137
DGMT Dagmar 37.22 344 P **P** **07 38 34.2 -0.3**
DGMT Dagmar 37.22 344 P **P** **07 38 34.7 +0.2**
baz=156,SNR=11
ULM Lac du Bonnet 37.27 353 P **P** **07 38 32.5 -2.3**
comp=Z,3.0nm,0.5s,baz=160,slow=9.9,SNR=4.8
ULM LR LR 07 55 26.2
comp=Z,154nm,20.7s,baz=170,slow=39
comp=Z,3.0nm,0.5s
MCMT McKenzie Canyo 37.33 332 P **P** **07 38 36.2 +0.5**
BOZ Bozeman (W) 37.39 334 P **P** **07 38 36.7 +0.7**
baz=143
EGMT Eagleton 38.62 338 P **P** **07 38 46.5 +0.1**
baz=147,SNR=5.3
VILB Vilhena 38.84 131 P **P** **07 38 47.7 -0.7**
VILB IAmb IAmb 07 39 04.9
comp=Z,10.0nm,0.8s
PLID Pearl Lake 39.02 330 P **P** **07 38 50.1 +0.2**
MSO Missoula 39.35 333 P **P** **07 38 52.3 -0.2**
baz=140
F10A Beach Ranch, E 40.26 330 P **P** **07 38 59.7 -0.3**
F10A IAmb IAmb 07 39 01.1
comp=Z,7.2nm,1.3s
SIV San Ignacio 40.27 135 P **P** **07 38 59.6 -0.8**
comp=Z,2.7nm,0.9s,baz=311,slow=8.7,SNR=14
SIV LR LR 07 55 01.4
comp=Z,46nm,19.1s,baz=300,slow=35
comp=Z,2.7nm,0.9s
LVC Limon Verde 40.85 151 P **P** **07 39 05.9 +0.5**
comp=Z,4.6nm,0.8s,baz=249,slow=5.7,SNR=4.4
comp=Z,4.6nm,0.8s
NEW Newport 41.86 332 LR LR 07 59 31.9
comp=Z,202nm,19.6s,baz=282,slow=40
FFC Flin Flon 42.55 349 P **P** **07 39 17.9 -0.6**
EDM Edmonton 44.22 339 P **P** **07 39 31.6 -0.4**
RPN Rapa Nui 44.64 206 LR LR 07 53 33.2
comp=Z,50nm,19.6s,baz=32,slow=30
SCHQ Schefferville 45.03 18 P **P** **07 39 36.5 -1.9**
comp=Z,2.5nm,0.6s,baz=219,slow=6.9,SNR=11
SCHQ LR LR 07 59 48.7
comp=Z,28nm,21.5s,baz=264,slow=38
comp=Z,2.5nm,0.6s
CFA Coronel Fontan 48.96 156 P **P** **07 40 09.4 0.0**
comp=Z,1.6nm,0.5s,baz=349,slow=6.1,SNR=5.5
comp=Z,1.6nm,0.5s
YKA Yellowknife Ar 52.37 345 P **P** **07 40 33.2 -1.4**
comp=Z,6.5nm,0.8s,baz=146,slow=7.4,SNR=71
YKA LR LR 08 05 24.4
comp=Z,129nm,19.8s,baz=236,slow=39
comp=Z,6.5nm,0.8s
FRB Frobisher Bay 52.46 11 LR LR 08 02 37.3
comp=Z,135nm,21.5s,baz=199,slow=36
DLBC Dease Lake 54.42 335 P **P** **07 40 49.5 -0.3**
baz=129
RCBR Riachuelo 56.28 106 LR LR 08 07 16.9
comp=Z,33nm,19.1s,baz=122,slow=38
PLCA Paso Flores 56.46 163 P **P** **07 41 04.2 -0.4**
comp=Z,3.0nm,0.9s,baz=335,slow=8.8,SNR=6.3
PLCA LR LR 07 59 52.8
comp=Z,46nm,20.4s,baz=350,slow=30
comp=Z,3.0nm,0.9s
MMPY Sheldon Lake, 57.54 338 P **P** **07 41 11.5 -0.5**
baz=130
O30N Mendenhall 58.29 335 P **P** **07 41 14.5 -2.7**
baz=124
M29M Somme Creek 60.15 336 P **P** **07 41 28.8 -1.4**
baz=122
C36M Paulatuk 60.21 347 P **P** **07 41 28.1 -2.2**
baz=140
F31M Tsiigehtchic 61.42 342 P **P** **07 41 36.8 -1.7**
baz=129
INK Inuvik 61.91 343 P **P** **07 41 40.4 -1.3**
comp=Z,3.2nm,0.9s,baz=120,slow=6.9,SNR=7.8
INK LR LR 08 11 53.9
comp=Z,140nm,19.4s,baz=179,slow=39
comp=Z,3.2nm,0.9s
INK Inuvik 61.91 343 P **P** **07 41 40.2 -1.5**
baz=130
A36M Sachs Harbour 62.49 348 P **P** **07 41 43.6 -2.0**
baz=140
KLU Klutina 62.82 333 P **P** **07 41 48.0 -0.1**
baz=114
I27K Kandik River 62.97 338 P **P** **07 41 48.0 -1.1**
baz=120
SCRK Sand Creek 63.08 336 P **P** **07 41 48.5 -1.4**
baz=117
J26L Joseph Creek 63.16 337 P **P** **07 41 49.2 -1.1**
baz=118
H27K Steamboat Moun 63.26 339 P **P** **07 41 49.7 -1.2**
baz=120
G27K Doyon Strip 63.60 339 P **P** **07 41 51.4 -1.8**
baz=121
E27K Coleen River 64.29 341 P **P** **07 41 56.3 -1.3**
baz=121
G26K Porcupine Rive 64.40 339 P **P** **07 41 57.4 -0.9**
baz=118
BRSE Bradley Lake S 64.40 330 P **P** **07 41 58.0 -0.5**
baz=109
HDA Harding Lake 64.44 336 P **P** **07 41 57.6 -1.1**
baz=114
ILAR Eielson Array 64.57 336 P **P** **07 41 57.6 -1.8**
comp=Z,1.8nm,1.0s,baz=125,slow=4.7,SNR=14
comp=Z,1.8nm,1.0s
MCK McKinley 64.98 335 P **P** **07 42 01.1 -1.1**
baz=112
F25K Christian Rive 65.34 339 P **P** **07 42 03.5 -1.0**
baz=117
H24K Noodor Dome 65.39 337 P **P** **07 42 03.6 -1.2**
baz=114
SKT Skwentna 65.48 333 P **P** **07 42 03.6 -1.9**
baz=109
E25K Arctic Village 65.55 340 P **P** **07 42 04.8 -1.1**
baz=117
G24K Hadweenzic Riv 65.59 338 P **P** **07 42 04.9 -1.2**
I23K Minto, Yukon-K 65.68 336 P **P** **07 42 05.8 -0.9**
baz=112
F24K Squaw Lake 66.08 339 P **P** **07 42 08.0 -1.2**
baz=115
MLY Manley 66.18 336 P **P** **07 42 08.3 -1.7**
baz=111
CAST Castle Rocks 66.19 334 P **P** **07 42 07.2 -2.9**
baz=109
E24K Your Creek 66.52 339 P **P** **07 42 09.7 -2.4**
baz=114
G23K Bananza Creek 66.53 338 P **P** **07 42 11.6 -0.6**
baz=112
O18K Koktuh Hills 66.60 330 P **P** **07 42 11.5 -1.2**
baz=104
L20K Farewell, AK 66.69 333 P **P** **07 42 11.9 -1.3**
baz=107
I21K Tanana 66.73 336 P **P** **07 42 12.5 -0.9**
baz=110
PPT Papeete 66.96 244 LR LR 08 03 10.1
comp=Z,122nm,18.9s,baz=18,slow=28
K20K Telida 67.02 334 P **P** **07 42 13.6 -1.8**
baz=107
C24K Franklin Bluff 67.27 341 P **P** **07 42 15.8 -1.0**
baz=115
G21K Allakaket 67.76 337 P **P** **07 42 18.8 -1.1**
baz=109
F21K Alatna River 67.98 338 P **P** **07 42 20.0 -1.3**
baz=109
SPIA Saint Paul Isl 74.08 326 P **P** **07 42 56.2 -2.2**
baz=90
EKA Eskdalemuir Ar 76.99 36 LR LR 08 16 28.8
comp=Z,68nm,18.0s,baz=340,slow=35
MDT Midelt 78.49 59 LR LR 08 11 08.8
comp=Z,65nm,20.4s,baz=292,slow=30
NOA NORSAR Array B 83.50 29 LR LR 08 23 42.9
comp=Z,15nm,18.3s,baz=335,slow=38
WRA Warramunga Arr 137.79 255 PKP **PKPdf** **07 50 46.4 -0.9**
comp=Z,1.7nm,0.9s,baz=88,slow=1.6,SNR=12
WRA SKPbc **SKPbc** **07 54 16.8 +0.8**
comp=Z,2.7nm,0.9s,baz=89,slow=2.6,SNR=15
ASAR Alice Springs 137.92 249 PKhKP PKPpre 07 50 39.5
comp=Z,0.2nm,0.5s,baz=101,slow=2.8,SNR=2.0
ASAR PKP **PKPdf** **07 50 47.1 -0.3**
comp=Z,1.1nm,1.0s,baz=82,slow=2.1,SNR=8.1
ASAR SKPbc **SKPbc** **07 54 16.9 +0.6**
comp=Z,2.0nm,1.1s,baz=119,slow=4.6,SNR=7.2
PZH PanZhiHua 139.04 345 PKP **PKPdf** **07 50 49.1 -0.5**
CMAR Chiang Mai Arr 147.45 345 PKPbc **PKPdf** **07 51 05.0 +0.6**
comp=Z,1.4nm,0.4s,baz=343,slow=3.1,SNR=8.3

*DNK **21** 07:42:28.9±1.8,51°.48N×16°.16E,h10km,ML2.8*
*IPEC **21** 07:42:29.7±0.2,51°.57N×16°.24E,h1km,ML2.2/5,Error ellipse: s-maj=1.7km s-min=1.0km az=34.0*
*PRU **21** 07:42:31.2±0.0,51°.52N×16°.10E,h0km*
*VIE **21** 07:42:32.1,51°.42N×16°.17E,h0km,mb2.4/3,ml2.4/3 69 km WNW of Wroclaw Successful Mining induced.*

ISC 21 07:42:29.3±0.8,51°.59N±0°.03×16°.14E±0°.03,h0km,n29,
σ0s97/57,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**173**	*e*Pg	**Pg**	**07 42 43.9**	**+0.2**
KSP				*e*Sg	**Sg**	**07 42 53.2**	**-0.3**
OSTC	**Ostas**	**1.04**	**177**	*e*PG	**Pg**	**07 42 49.4**	**+0.2**
OSTC				*e*SG	**Sg**	**07 43 02.3**	**-0.3**
comp=Z,21nm,0.4s							
UPC	**Upice**	**1.09**	**184**	*e*PG	**Pg**	**07 42 50.1**	**0.0**
UPC				*e*SG	**Sg**	**07 43 03.8**	**-0.5**
comp=Z,48nm,0.6s							
DPC	**Dobruska-Polom**	**1.25**	**175**	*e*PG	**Pg**	**07 42 52.9**	**-0.3**
DPC				*e*SG	**Sg**	**07 43 08.4**	**-1.0**
comp=Z,20nm,0.5s							
PVCC	**Panska Ves**	**1.46**	**223**	*e*PG	**Pg**	**07 42 57.4**	**+0.3**
PVCC				*e*SG	**Sg**	**07 43 16.4**	**+0.4**
comp=Z,57nm,0.5s							
BRG	**Berggiesshubel**	**1.56**	**243**	Pg	**Pg**	**07 42 59.4**	**+0.3**
BRG				Sg	**Sb**	**07 43 19.7**	**+0.6**
BRG				Amp		07 43 21.2	
comp=Z,34nm,0.4s							
KRLC	**Kraliky**	**1.57**	**165**	*e*PG	**Pn**	**07 42 58.7**	**+0.2**
KRLC				*e*SG	**Sn**	**07 43 18.2**	**-1.4**
comp=Z,16nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.89**	**208**	*e*SG	**Sb**	**07 43 28.6**	**-0.1**
PRU	**Pruhonice**	**1.90**	**213**	*e*SG	**Sb**	**07 43 29.3**	**+0.3**
comp=Z,16nm,0.3s							
CLL	**Collm**	**1.98**	**263**	*e*Pn	**Pn**	**07 43 04.0**	**0.0**
CLL				*e*Pg	**Pg**	**07 43 07.0**	**-0.2**
CLL				*ex*		07 43 11.0	
CLL				*e*Sg	**Sb**	**07 43 32.0**	**+0.6**
comp=Z,12nm,0.4s							
MORC	**Moravsky Berou**	**2.03**	**153**	*e*PN	**Pn**	**07 43 04.5**	**-0.3**
MORC				*e*SG	**Sb**	**07 43 31.9**	**-0.8**
MORC	**Moravsky Berou**	**2.03**	**153**	*e*Pn	**Pn**	**07 43 04.4**	**-0.3**
baz=336							
MORC				*e*Sg	**Sb**	**07 43 31.8**	**-0.9**
comp=Z,15nm,0.4s,baz=336							
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*SG	**Sb**	**07 43 37.5**	**+0.6**
VRAC	**Vranov**	**2.31**	**173**	*e*PN	**Pn**	**07 43 08.5**	**0.0**
VRAC				*e*SG	**Sb**	**07 43 41.1**	**+0.3**
VRAC	**Vranov**	**2.31**	**173**	*e*Pn	**Pn**	**07 43 08.5**	**0.0**
baz=354							
VRAC				*e*Sg	**Sb**	**07 43 41.1**	**+0.3**
comp=Z,7.5nm,0.5s,baz=354							
KRUC	**Moravsky**	**2.54**	**176**	*e*PN	**Pn**	**07 43 11.8**	**+0.1**
KRUC				*e*SG	**Sb**	**07 43 48.6**	**+1.1**
KRUC	**Moravsky**	**2.54**	**176**	*e*Pn	**Pn**	**07 43 11.8**	**+0.1**
baz=358							
KRUC				*e*Sg	**Sb**	**07 43 48.6**	**+1.1**
comp=Z,10.0nm,0.4s,baz=358							
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**07 43 21.5**	**+0.6**
OJC				*e*Sg	**Sg**	**07 43 57.3**	**+1.5**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN	**Pn**	**07 43 14.7**	**+0.7**
NKC				*e*PG	**Pg**	**07 43 20.8**	**-0.3**
NKC				*e*SG	**Sg**	**07 43 55.7**	**-0.4**
comp=Z,25nm,0.2s							
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**07 43 17.6**	**+0.1**
KHC				*e*PG	**Pb**	**07 43 23.3**	**+0.4**
KHC				*e*SN	**Sn**	**07 43 53.7**	**-0.1**
KHC				*e*SG	**Sb**	**07 44 02.6**	**+3.0**
MODS	**Modra-Piesok**	**3.31**	**167**	*e*SG	**Sg**	**07 44 15.9**	**+0.5**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**07 43 26.5**	**+0.3**
BSD				*i* S	**Sn**	**07 44 09.6**	**+0.1**
BSD				IAML		07 44 13.6	
comp=Z,11nm,0.8s							
CONA	**Conrad Observa**	**3.67**	**183**	*i* Pn	**Pn**	**07 43 28.1**	**+0.8**
comp=Z,0.3nm,0.1s							
CONA				*e*Sg	**Sg**	**07 44 25.1**	**-2.2**
comp=Z,5.5nm,0.4s							
MOA	**Molln**	**3.94**	**199**	*i* Pn	**Pn**	**07 43 31.5**	**+0.5**
comp=Z,1.0nm,0.2s							
MOA				Sg	**Sg**	**07 44 34.2**	**-1.6**
comp=Z,2.4nm,0.3s							
LUNU	**Lund**	**4.35**	**339**	*i* P	**Pn**	**07 43 36.7**	**+0.1**
LUNU				*i* S	**Sn**	**07 44 27.8**	**-0.2**
ARSA	**Arzberg**	**4.37**	**186**	Sg	**Sg**	**07 44 50.2**	**+0.7**
comp=Z,3.7nm,0.5s							
BLEU	**Blekinge**	**4.72**	**358**	*i* P	**Pn**	**07 43 43.6**	**+1.9**
BLEU				*i* S	**Sn**	**07 44 34.8**	**-2.3**
BJUU	**Bjuv**	**4.85**	**339**	*i* P	**Pn**	**07 43 44.2**	**+0.8**
BJUU				*i* S	**Sn**	**07 44 37.8**	**-2.5**
DEL	**Delary**	**5.07**	**346**	*i* P	**Pn**	**07 43 45.8**	**-0.6**
DEL				*i* S	**Sn**	**07 44 43.7**	**-1.8**

IDC 21 08:11:22.4±5.6,17°.66S×66°.55E,h0km,mb4.1/3,
mbtmp4.1/3,MS3.4/5,Error ellipse: s-maj=152.8km
s-min=38.0km az=66.0,Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**11.51**	**31**	T	T	08 25 51.2	
baz=211,slow=76,SNR=183							
H08S2	**Diego Garcia H**	**11.53**	**31**	T	T	08 25 47.8	
baz=211,slow=76,SNR=130							
H08S3	**Diego Garcia H**	**11.53**	**31**	T	T	08 25 55.0	
baz=211,slow=76,SNR=346							
LSZ	**Lusaka**	**36.82**	**268**	LR	LR	08 30 57.1	
comp=Z,34nm,20.6s,baz=126,slow=32							
LBTB	**Lobatse**	**38.73**	**252**	LR	LR	08 32 57.7	
comp=Z,42nm,19.7s,baz=322,slow=33							
BOSA	**Boshof**	**39.33**	**246**	LR	LR	08 31 43.0	
comp=Z,42nm,20.0s,baz=207,slow=31							
H01W2	**Cape Leeuwin H**	**45.55**	**122**	T	T	09 08 37.9	
baz=280,slow=75,SNR=41							
H01W3	**Cape Leeuwin H**	**45.55**	**122**	T	T	09 08 39.0	
baz=280,slow=75,SNR=47							
H01W1	**Cape Leeuwin H**	**45.56**	**122**	T	T	09 08 41.8	
baz=280,slow=75,SNR=55							
CMAR	**Chiang Mai Arr**	**47.98**	**43**	P	P	08 20 03.2	-0.1
1.6nm,0.3s,baz=231,slow=9.0,SNR=4.2							
1.6nm,0.3s							
ASAR	**Alice Springs**	**62.81**	**108**	P	P	08 21 50.3	-0.1
1.2nm,0.7s,baz=264,slow=5.8,SNR=20							
ASAR				LR	LR	08 44 28.8	
comp=Z,71nm,21.1s,baz=267,slow=32							
1.2nm,0.7s							
WRA	**Warramunga Arr**	**63.81**	**104**	P	P	08 21 57.2	+0.1
1.7nm,0.8s,baz=268,slow=6.0,SNR=15							
WRA				LR	LR	08 47 16.2	
comp=Z,49nm,19.6s,baz=43,slow=34							
1.7nm,0.8s							
MKAR	**Makanchi Array**	**65.70**	**12**	P	P	08 22 08.8	0.0
0.1nm,0.5s,baz=211,slow=7.8,SNR=2.1							

*BJI **21** 08:23:10.0±0.0,29°.18N×56°.48E,h13km,mb4.2/14, mB4.9/5*
*MOS **21** 08:23:12.6±1.1,29°.03N×56°.51E,h38km,mb4.7/23,Error ellipse: s-maj=7.3km s-min=4.7km az=84.8*
*TEH **21** 08:23:13.3,29°.15N×56°.61E,h19km±22km,ML4.6*
*DSN **21** 08:23:15.7±1.9,29°.04N×56°.56E,h10km,ML4.8/15,Error ellipse: s-maj=29.2km s-min=15.0km az=75.0*
*NEIC **21** 08:23:16.8±2.1,29°.21N±0°.04×56°.51E±0°.07,h54km±5km, mb4.5/44,Error ellipse: s-maj=8.9km s-min=5.1km az=74.0*
*IDC **21** 08:23:17.8±1.2,29°.12N×56°.53E,h67km±9km,mb4.1/33, mbtmp4.3/39,MS3.7/36,Error ellipse: s-maj=11.8km s-min=10.1km az=110.0*
*OMAN **21** 08:23:18.1±0.2,29°.01N×56°.54E,h33km,mb5.8/21, ml5.0/12,ms3.0/3,Error ellipse: s-maj=3.0km s-min=2.0km az=227.0*

ISC 21 08:23:14.5±0.3,29°.14N±0°.03×56°.55E±0°.03,h35km,n341,
σ2s09/370,mb4.4/65,MS3.7/34,4C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.53**	**17**	Pg	**Pn**	**08 23 24.4**	**-1.6**
KRBR	**Kerman**	**0.86**	**12**	Pg	**Pn**	**08 23 30.0**	**-0.5**
TVBK	**TV Kerman**	**0.87**	**12**	Pg	**Pn**	**08 23 30.0**	**-0.6**
CHMN	**Cheshme madani**	**1.13**	**50**		**Pn**	**08 23 33.7**	**-0.5**
CHMN	**Cheshme madani**	**1.13**	**50**	Pg	**Pn**	**08 23 33.6**	**-0.5**
KHGB	**Koh Gabri**	**1.24**	**357**		**Pn**	**08 23 35.9**	**+0.3**
KHGB	**Koh Gabri**	**1.24**	**357**	Pg	**Pn**	**08 23 35.7**	**+0.1**
KHNJ	**Kahnooj**	**1.56**	**139**	Pg	**Pn**	**08 23 40.4**	**+0.5**
IBND	**Bandar-abas**	**1.68**	**180**	Pg	**Pn**	**08 23 45.0**	**+3.6**
GENO	**Geno**	**1.76**	**191**		**Pn**	**08 23 46.5**	**+3.7**
GENO	**Geno**	**1.76**	**191**	Pg	**Pn**	**08 23 46.4**	**+3.7**
ZRDN	**Zarand Kerman**	**1.83**	**360**	Pn	**Pn**	**08 23 45.1**	**+1.5**
LAR1	**LAR**	**2.41**	**233**	Pn	**Pn**	**08 23 54.3**	**+2.7**
IBAF	**Bafgh**	**2.59**	**341**	Pn	**Pn**	**08 23 55.5**	**+1.4**
JHRM	**Jahrom**	**2.68**	**257**	Pn	**Pn**	**08 23 58.6**	**+3.3**
IMEH	**Mehriz**	**2.80**	**324**	Pn	**Pn**	**08 23 59.4**	**+2.2**
QIR1	**Qir**	**3.14**	**259**	Pn	**Pn**	**08 24 04.5**	**+2.8**
BANOM	**Banah**	**3.21**	**184**	*i* P	**Pn**	**08 24 05.5**	**+2.9**
SNR=199							
BANOM				S	**Sn**	**08 24 43.3**	**+3.8**
BANOM	**Banah**	**3.21**	**184**	P	**Pn**	**08 24 05.5**	**+2.9**
SNR=199							
BANOM				S	**Sn**	**08 24 41.7**	**+2.2**
BANOM	**Banah**	**3.21**	**184**	Pn	**Pn**	**08 24 05.4**	**+2.9**
GHIR	**Ghir-Karzin**	**3.24**	**256**	Pn	**Pn**	**08 24 06.0**	**+3.0**
JASK	**Jask - Hormozg**	**3.46**	**160**	P	**Pn**	**08 24 08.6**	**+2.6**
SNR=56							
JASK	**Jask - Hormozg**	**3.46**	**160**	Pn	**Pn**	**08 24 08.0**	**+2.0**
LMD1	**Lamerd**	**3.48**	**240**	Pn	**Pn**	**08 24 08.4**	**+2.2**
SHI	**Shiraz**	**3.56**	**279**	Pn	**Pn**	**08 24 09.6**	**+2.2**
BSRN	**Basiran**	**3.59**	**38**	Pn	**Pn**	**08 24 08.4**	**+0.6**
ICHK	**Chekchek**	**3.61**	**330**	Pn	**Pn**	**08 24 10.2**	**+2.1**
YZKH	**Yazd**	**3.66**	**333**	Pn	**Pn**	**08 24 10.9**	**+2.2**
UMQ	**Umm Al-Quwin**	**3.68**	**193**	*i* P	Pn	08 24 13.5	+4.6
SNR=15							
UMQ	**Umm Al-Quwin**	**3.68**	**193**	P	Pn	08 24 13.6	+4.6
SNR=15							
UMQ				S	**Sn**	**08 24 55.3**	**+4.1**
UMQ	**Umm Al-Quwin**	**3.68**	**193**	Pn	Pn	08 24 13.6	+4.7
ISAD	**Sadrabad**	**3.71**	**319**	Pn	**Pn**	**08 24 12.6**	**+2.9**
ZTSF	**Zahedan**	**3.72**	**82**	Pn	**Pn**	**08 24 12.0**	**+2.3**
ZHDN	**Zahedan**	**3.73**	**85**	Pn	**Pn**	**08 24 11.5**	**+1.7**
MASF	**Masafi**	**3.77**	**185**	P	**Pn**	**08 24 13.8**	**+3.6**
SNR=170							
MASF				S	**Sn**	**08 24 55.9**	**+2.6**
NHDN	**Nehbandan**	**3.77**	**53**	Pn	**Pn**	**08 24 11.7**	**+1.3**
MSFE	**Esma-Masafi**	**3.78**	**185**	*i* P	**Pn**	**08 24 13.3**	**+2.9**
SNR=168							
MSFE	**Esma-Masafi**	**3.78**	**185**	Pn	**Pn**	**08 24 12.8**	**+2.4**
MDH	**Madha**	**3.83**	**183**	*i* P	**Pn**	**08 24 13.0**	**+2.0**
SNR=27							
MDH	**Madha**	**3.83**	**183**	P	**Pn**	**08 24 12.0**	**+1.0**
MDH				S	**Sn**	**08 24 57.5**	**+2.7**
MDH	**Madha**	**3.83**	**183**	Pn	**Pn**	**08 24 12.2**	**+1.2**
TPRV	**Parvadeh(Tabas**	**3.88**	**2**	Pn	**Pn**	**08 24 13.2**	**+1.4**
IKOO	**Kooshah**	**3.90**	**32**	Pn	**Pn**	**08 24 12.8**	**+0.5**
UOSS	**Minazif**	**4.18**	**184**	Pn	**Pn**	**08 24 18.1**	**+2.2**
UOSS					Sn	**Sn**	**08 25 05.2**	**+1.6**
UOSS	**Minazif**	**4.18**	**184**	*i* P	**Pn**	**08 24 18.5**	**+2.5**
SNR=28							
UOSS	**Minazif**	**4.18**	**184**	P	**Pn**	**08 24 17.3**	**+1.4**
UOSS				S	**Sn**	**08 25 05.5**	**+1.8**
UOSS	**Minazif**	**4.18**	**184**	Pn	**Pn**	**08 24 17.2**	**+1.3**
ITEG	**Tejag**	**4.20**	**26**	Pn	**Pn**	**08 24 17.1**	**+0.8**
NAZ	**Nazwa, Dubai**	**4.21**	**191**	*i* P	**Pn**	**08 24 19.7**	**+3.5**
SNR=50							
NAZ	**Nazwa, Dubai**	**4.21**	**191**	P	**Pn**	**08 24 20.2**	**+4.0**
SNR=50							
NAZ	**Nazwa, Dubai**	**4.21**	**191**	Pn	**Pn**	**08 24 20.1**	**+3.9**
BAGH	**Bagheran - Bir**	**4.29**	**31**	Pn	**Pn**	**08 24 18.4**	**+0.8**
HATD	**Hatta, Dubai**	**4.31**	**185**	*i* P	**Pn**	**08 24 20.2**	**+2.6**
SNR=37							
HATD	**Hatta, Dubai**	**4.31**	**185**	P	**Pn**	**08 24 20.6**	**+2.9**
SNR=18							
HATD				S	**Sn**	**08 25 08.9**	**+2.2**
HATD	**Hatta, Dubai**	**4.31**	**185**	Pn	**Pn**	**08 24 19.1**	**+1.5**
KAZ1	**Kazerun**	**4.31**	**278**	Pn	**Pn**	**08 24 20.7**	**+3.0**
ESRB	**Sir Abu**	**4.41**	**208**	Pn	**Pn**	**08 24 22.1**	**+3.1**
ASHO	**Ashiyiah**	**4.46**	**186**	*i* P	**Pn**	**08 24 22.8**	**+3.1**
SNR=230							
ASHO	**Ashiyiah**	**4.46**	**186**	P	**Pn**	**08 24 22.8**	**+3.1**
SNR=230							
ASHO				S	**Sn**	**08 25 12.7**	**+2.4**
ASHO	**Ashiyiah**	**4.46**	**186**	Pn	**Pn**	**08 24 22.9**	**+3.3**
FAQ	**Al Faqa, Dubai**	**4.46**	**191**	*i* P	**Pn**	**08 24 23.0**	**+3.4**
SNR=40							
FAQ	**Al Faqa, Dubai**	**4.46**	**191**	P	**Pn**	**08 24 23.1**	**+3.4**
SNR=40							
FAQ				S	**Sn**	**08 25 13.2**	**+2.9**
SNR=13							
FAQ	**Al Faqa, Dubai**	**4.46**	**191**	Pn	**Pn**	**08 24 23.1**	**+3.4**
IRAM	**Ramesheh**	**4.48**	**308**	Pn	**Pn**	**08 24 22.6**	**+2.5**
TKDS	**Koohdasht(Taba**	**4.49**	**6**	Pn	**Pn**	**08 24 21.2**	**+1.0**
TABS	**Tabas**	**4.53**	**6**	Pn	**Pn**	**08 24 22.1**	**+1.4**
IDAH	**Dahanechah**	**4.59**	**38**	Pn	**Pn**	**08 24 22.0**	**+0.3**
AHBU	**AHRAM**	**4

ANAR Anarak 4.71 330 Pn **Pn** **08 24 25.3 +2.1**
AJN Ajban 4.76 197 *i* P **Pn** **08 24 27.6 +3.8**
SNR=43
AJN Ajban 4.76 197 P **Pn** **08 24 27.6 +3.8**
SNR=43
AJN S **Sn** **08 25 19.6 +1.7**
SNR=14
AJN Ajban 4.76 197 Pn **Pn** **08 24 27.5 +3.6**
AFRZ Afriz 4.77 26 Pn **Pn** **08 24 24.7 +0.7**
TNSJ Nastanj 4.81 1 Pn **Pn** **08 24 26.3 +1.6**
IMON Monand 4.85 33 Pn **Pn** **08 24 27.9 +2.7**
NASN Na'in 4.86 320 Pn **Pn** **08 24 28.2 +2.7**
CHBR Chabahar 4.97 134 Pn **Pn** **08 24 28.1 +1.4**
SOHO SOHO 4.98 180 *i* P **Pn** **08 24 26.6 -0.2**
SNR=22
SOHO SOHO 4.98 180 P **Pn** **08 24 27.0 +0.2**
SOHO S **Sn** **08 25 23.9 +0.7**
SOHO SOHO 4.98 180 Pn **Pn** **08 24 26.9 0.0**
ALNE Al Ain 5.11 188 *i* P **Pn** **08 24 31.6 +3.0**
SNR=23
ALNE Al Ain 5.11 188 P **Pn** **08 24 31.6 +3.0**
SNR=23
ALNE S **Sn** **08 25 27.1 +0.7**
ALNE Al Ain 5.11 188 Pn **Pn** **08 24 31.7 +3.1**
IZEF Zefreh 5.21 317 Pn **Pn** **08 24 32.6 +2.4**
IBRJ Brojen 5.33 303 Pn **Pn** **08 24 34.6 +2.7**
SRVN Saravan 5.44 107 Pn **Pn** **08 24 35.0 +1.7**
SHRT Shahrakht 5.52 34 Pn **Pn** **08 24 36.2 +1.9**
NGCH Negor - Chabah 5.55 132 Pn **Pn** **08 24 36.3 +1.6**
HOQ Hoqain 5.57 173 P **Pn** **08 24 35.7 +0.6**
SNR=23
HOQ S **Sn** **08 25 37.5 -0.3**
SNR=6.5
ARQ Araqi 5.78 180 P **Pn** **08 24 40.5 +2.7**
SNR=74
ARQ S **Sn** **08 25 45.0 +2.1**
SHK1 Shahrekord 5.82 305 Pn **Pn** **08 24 40.8 +2.2**
MZWR Madinat Zayed 5.86 205 P **Pn** **08 24 42.0 +3.0**
MZWR S **Sn** **08 25 44.7 -0.2**
MZWR Madinat Zayed 5.86 205 Pn **Pn** **08 24 42.0 +3.0**
SHMA Al-Shehemyia 5.94 238 P **Pn** **08 24 43.4 +3.5**
SHMA S **Sn** **08 25 48.6 +1.8**
IKLH Kolahrood 5.96 316 Pn Pn 08 24 45.0 +4.5
IPIR Pirpir 6.01 307 Pn **Pn** **08 24 44.9 +3.6**
GHWR Ruwais 6.11 213 P **Pn** **08 24 45.3 +2.9**
GHWR S **Sn** **08 25 51.1 0.0**
GHWR Ruwais 6.11 213 Pn **Pn** **08 24 44.6 +2.2**
KRSH Karshahi 6.12 323 Pn Pn 08 24 47.3 +4.8
WSAR Wadi Sarin 6.16 162 P **Pn** **08 24 45.2 +2.1**
33nm,0.3s,baz=346,slow=5.7,SNR=178
WSAR S **Sn** **08 25 51.8 -0.6**
98nm,0.5s,baz=232,slow=19,SNR=9.9
WSAR Wadi Sarin 6.16 162 P **Pn** **08 24 45.3 +2.2**
SNR=260
WSAR S **Sn** **08 25 51.6 -0.8**
SAKB Bahrain 6.19 241 P **Pn** **08 24 45.4 +1.9**
SAKB S **Sn** **08 25 53.5 +0.4**
SMDO Samad 6.20 167 P **Pn** **08 24 45.7 +2.0**
SNR=25
ISFB Sefidab 6.36 326 Pn **Pn** **08 24 48.0 +2.0**
BSY Bisya 6.39 175 P **Pn** **08 24 49.0 +2.7**
SNR=36
BSY S **Sn** **08 25 59.3 +1.3**
UMZA Um Al Zommool 6.52 191 P **Pn** **08 24 50.1 +2.2**
UMZA S **Sn** **08 25 59.4 -1.6**
UMZA Um Al Zommool 6.52 191 Pn **Pn** **08 24 50.1 +2.2**
SLWR Sila 6.66 222 P **Pn** **08 24 51.8 +1.9**
SLWR S **Sn** **08 26 05.7 +1.1**
SLWR Sila 6.66 222 Pn **Pn** **08 24 51.8 +1.9**
IANJ Anjilo 6.70 341 Pn **Pn** **08 24 52.1 +1.5**
MZR Muzera 6.70 205 *i* P **Pn** **08 24 52.5 +1.9**
SNR=6.4
MZR Muzera 6.70 205 P **Pn** **08 24 52.4 +1.9**
SNR=6.5
MZR S **Sn** **08 26 05.0 -0.7**
SNR=7.0
MZR Muzera 6.70 205 Pn **Pn** **08 24 54.7 +4.2**
SMRA Abu-Samra 6.72 231 P **Pn** **08 24 53.4 +2.6**
SMRA S **Sn** **08 26 07.9 +1.8**
AMIS Naft Sefid 6.76 294 Pn **Pn** **08 24 52.6 +1.3**
SHRO Shahrood 6.85 356 Pn **Pn** **08 24 54.5 +1.9**
WBK Wadi Bani Khal 6.85 161 P **Pn** **08 24 54.2 +1.6**
SNR=57
WBK S **Sn** **08 26 08.5 -1.0**
JMDO Jabal Madar 6.88 168 P **Pn** **08 24 55.7 +2.7**
SNR=27
JMDO S **Sn** **08 26 12.6 +2.5**
TBJM Torbat-e-JAM 6.90 27 Pn **Pn** **08 24 54.5 +1.1**
IVRN Varamin 7.13 326 Pn **Pn** **08 24 58.7 +2.2**
HRA Herat 7.13 41 Pn **Pn** **08 24 57.0 +0.4**
ISHM Shahmirzad 7.20 338 Pn Pn 08 24 41.4 -16
IFIR Firoozkooh 7.24 335 Pn **Pn** **08 24 60.0 +1.9**
KHMZ Khomeyn 7.26 311 Pn **Pn** **08 25 00.6 +2.3**
JLN Jalan Bani Buh 7.42 159 P **Pn** **08 25 01.8 +1.4**
SNR=48
IDMV Damavand 7.47 330 Pn **Pn** **08 25 04.3 +3.0**
JRKH Jarkhoshk 7.48 24 Pn **Pn** **08 25 03.3 +2.1**
DAMV Damavand 7.54 330 Pn **Pn** **08 25 04.7 +2.4**
IPAY Payeh 7.58 15 Pn **Pn** **08 25 04.7 +2.0**
IGLO Ghaloghah 7.69 343 Pn **Pn** **08 25 06.9 +2.6**
ASAO Ashtian 7.74 316 Pn **Pn** **08 25 07.7 +2.7**
IMYA Miami 7.78 22 Pn **Pn** **08 25 07.3 +1.8**
ISFR Sfrayin 7.99 8 Pn **Pn** **08 25 09.8 +1.4**
CHTH Charan 8.16 327 Pn **Pn** **08 25 13.3 +2.6**
MHTO MHTO 8.21 171 P **Pn** **08 25 13.4 +2.1**
SNR=167
IEMG Emamgholi 8.44 11 Pn **Pn** **08 25 16.4 +1.8**
HSAM Samen 8.45 309 Pn **Pn** **08 25 16.2 +1.4**
HAGD Aghdareh 8.47 314 Pn **Pn** **08 25 18.4 +3.5**
MRVT Maraveh tapeh 8.51 358 Pn **Pn** **08 25 17.6 +2.3**
IDOB Doab 8.52 305 Pn **Pn** **08 25 18.0 +2.4**
IKFM Kafar-mosalman 8.63 303 Pn **Pn** **08 25 18.0 +1.1**
KLST Kelardasht - M 8.69 329 Pn Pn 08 25 22.8 +4.8
QALM Alamut, Qazvin 8.81 327 Pn Pn 08 25 25.9 +6.3
GEYT Alibeck 8.87 8 P **Pn** **08 25 23.0 +2.8**
5.9nm,0.8s,baz=182,slow=10,SNR=9.7
GEYT LR LR 08 29 18.8
comp=Z,943nm,18.5s,baz=186,slow=41
GEYT Alibeck 8.87 8 P **Pn** **08 25 23.0 +2.8**
IKOM Komasi 9.19 305 Pn **Pn** **08 25 25.8 +1.0**
DQM DQM 9.21 174 P **Pn** **08 25 26.6 +1.7**
DQM P **Pn** **08 25 26.6 +1.7**
GIDE GILAN DEYLAMAN 9.55 326 Pn Pn 08 25 35.5 +5.7
SNGE Sanandaj 9.80 310 Pn **Pn** **08 25 34.6 +1.4**
ILBA Ilam Banvizeh 9.90 299 Pn **Pn** **08 25 33.8 -0.7**
IGHG Ghaleghazi 9.95 304 Pn **Pn** **08 25 37.2 +2.0**
ZNJK Zanjan 10.00 321 Pn **Pn** **08 25 38.0 +2.1**
IDHR Dehrash 10.26 305 Pn **Pn** **08 25 40.1 +0.7**
DOK Doka 10.70 192 P **Pn** **08 25 45.7 +0.3**
SNR=18
RAYN Ar Rayn 11.37 243 Pn **Pn** **08 25 53.2 -1.4**
RAYN Ar Rayn 11.37 243 P **Pn** **08 25 53.2 -1.4**
WHFO Wadi Hawf 11.45 193 P **Pn** **08 25 56.3 +0.6**
SNR=22
DMTO DMTO 11.46 188 P **Pn** **08 25 55.3 -0.4**
SNR=14
DMTO P **Pn** **08 25 55.3 -0.4**
SNR=14
GRMI Germi 12.02 326 Pn P 08 26 09.2 -6.8
ABTO Aybut 12.10 195 P **Pn** **08 26 04.2 -0.4**
SNR=15
ABTO P **Pn** **08 26 04.2 -0.4**
SNR=15
CHGR Chuyangaron 14.12 44 Pn **Pn** **08 26 31.3 -0.8**
CHGR Chuyangaron 14.12 44 P **Pn** **08 26 31.3 -0.8**
AKT Akhty 14.26 332 *e*P **P** **08 26 37.4 -3.4**
AKT pmax pmax
comp=Z,6.0nm,1.2s
GNI Garni 14.65 322 P **P** **08 26 47.6 +2.3**
comp=Z,34nm,0.8s,baz=226,slow=0.7,SNR=21
GNI LR LR 08 32 53.8
comp=Z,298nm,19.3s,baz=138,slow=39
NIL Nilore 14.96 68 **Pn** **08 26 44.5 +1.1**
NIL Nilore 14.96 68 P **Pn** **08 26 44.5 +1.1**
GAR Garm 15.05 46 **Pn** **08 26 46.7 +2.0**
GAR IAmb IAmb 08 26 51.5
comp=Z,26nm,1.0s
MARD Mardin 15.50 306 Pn **Pn** **08 26 48.6 -2.0**
AKH Akhalkalaki 16.21 323 **Pn** **08 26 59.4 -0.4**
AKH IAmb IAmb 08 27 06.3
comp=Z,46nm,0.8s
AKH Akhalkalaki 16.21 323 P **Pn** **08 26 59.4 -0.4**
AKH pmax pmax
comp=Z,47nm,0.8s
GROC Groznyy 16.48 331 *e*P **Pn** **08 27 00.7 -2.3**
GROC pmax pmax
comp=Z,30nm,0.4s
IUG luzhnay 16.96 36 *e*P **P** **08 27 11.1 +0.3**
ZEI Tsey 17.01 327 *e*P **P** **08 27 11.0 -0.5**
ZEI pmax pmax
comp=Z,61nm,1.5s
ONI Oni 17.09 325 P **Pn** **08 27 10.3 -0.4**
ONI Oni 17.09 325 P **Pn** **08 27 10.3 -0.4**
ONI pmax pmax
comp=Z,9.0nm,1.0s
ASF Jabal al Asfar 17.18 285 S **Sn** **08 30 11.7 -10**
comp=Z,4.4nm,0.7s,baz=250,slow=17,SNR=3.2
KK31 Karatay Array 17.90 35 P **P** **08 27 20.9 -0.1**
KK31 Karatay Array 17.90 35 P **P** **08 27 20.9 -0.1**
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 17.90 35 P **P** **08 27 21.0 0.0**
KKAR Karatay Array 17.90 35 P **P** **08 27 21.0 0.0**
KKAR pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 18.20 327 P **P** **08 27 26.8 +2.5**
comp=Z,2.1nm,0.6s,baz=146,slow=4.1,SNR=7.8
KBZ ScP **ScP** **08 35 25.7 -3.0**
comp=Z,2.6nm,0.7s,baz=142,slow=0.8,SNR=5.9
KBZ LR LR 08 36 28.9
comp=Z,62nm,18.1s,baz=106,slow=43
SHA1 Shidzhatmaz 18.33 326 *i* P **Pn** **08 27 26.9 +0.8**
KVAR Kislovodsk Arr 18.47 327 P **Pn** **08 27 30.1 +2.4**
comp=Z,5.6nm,0.7s,baz=73,slow=19,SNR=2.7
KIV Kislovodsk 18.48 327 P **P** **08 27 25.9 -1.6**
KIV Kislovodsk 18.48 327 *e*P **Pn** **08 27 28.6 +0.8**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,50nm,14.0s
MMAI Mount Meron Ar 18.52 287 P **Pn** **08 27 29.5 +1.1**
comp=Z,1.9nm,0.5s,baz=96,slow=15,SNR=2.9
MMAI LR LR 08 35 41.1
comp=Z,54nm,18.7s,baz=304,slow=40
AML Almayashu 18.99 42 P **Pn** **08 27 33.9 -0.5**
SNR=12
KSH Kashi 19.06 52 P **P** **08 27 31.1 -2.8**
KSH pP Pn 08 27 36.4 +1.5
KSH pmax pmax
comp=Z,11nm,1.0s
EKS2 Erkin-Say 19.37 41 P **Pn** **08 27 39.3 +0.7**
SNR=9.9
BNN Bunyan 19.68 305 P **P** **08 27 39.9 -0.8**
BNN IAmb IAmb 08 27 48.0
comp=Z,44nm,1.1s
SOC Sochi 19.73 321 *e*P **P** **08 27 39.1 -2.0**
SOC *e* 08 31 19.6
SOC MLR MLR
comp=Z,79nm,14.0s
AAK Ala-Archa 19.77 42 P **Pn** **08 27 44.3 +0.9**
SNR=8.2
AAK Ala-Archa 19.77 42 P **Pn** **08 27 44.0 +0.6**
comp=Z,9.5nm,0.9s,baz=229,slow=11,SNR=18
AAK LR LR 08 36 36.4
comp=Z,180nm,20.6s,baz=251,slow=40
AAK Ala-Archa 19.77 42 P **Pn** **08 27 42.3 -1.1**
AAK IAmb IAmb 08 27 45.5
comp=Z,24nm,1.2s
AAK Ala-Archa 19.77 42 P **Pn** **08 27 44.0 +0.6**
USP Ospenovka 20.16 41 P Pn 08 27 47.8 0.0
SNR=7.2
ABKAR Akbulak array 20.26 6 **P** **08 27 47.3 +0.5**
ABKAR Akbulak array 20.26 6 P **P** **08 27 46.7 -0.1**
ABKAR IAmb IAmb 08 27 52.7
comp=Z,20nm,0.8s
SGDS Sogindy 20.35 41 *e*P **P** **08 27 47.7 -0.2**
CSS Mathiatis 20.50 292 P **P** **08 27 47.4 -2.2**
CSS IAmb IAmb 08 27 55.1
comp=Z,23nm,1.0s
TKM2 Tokmak 2 20.59 43 P Pn 08 27 52.4 -0.7
SNR=12
ULHL Ulahol 20.60 45 P Pn 08 27 53.0 -0.3
SNR=7.5
BTLS Baital 21.07 36 *e*P **P** **08 27 55.1 -0.5**
AKTO Aktyubinsk 21.30 3 P **P** **08 27 59.0 +1.0**
comp=Z,47nm,0.8s,baz=187,slow=9.5,SNR=86
AKTO ScP **ScP** **08 35 32.2 -3.7**
comp=Z,3.1nm,0.8s,baz=150,slow=3.4,SNR=6.8
AKTO LR LR 08 37 48.7
comp=Z,360nm,19.4s,baz=166,slow=41
comp=Z,47nm,0.8s
TARG Taragay, Kyrgy 21.33 48 P **P** **08 27 58.6 -0.3**
TARG IAmb IAmb 08 28 01.3
comp=Z,16nm,0.9s
TARG Taragay, Kyrgy 21.33 48 P **P** **08 27 58.6 -0.3**
TARG pmax pmax
comp=Z,16nm,0.9s
BRTR Keskin Array B 21.59 305 P **P** **08 28 02.6 +1.2**
comp=Z,17nm,0.9s,baz=118,slow=13,SNR=53
BRTR ScP **ScP** **08 35 33.0 -4.0**
comp=Z,0.7nm,0.6s,baz=155,slow=4.0,SNR=4.8
BRTR LR LR 08 37 19.8
comp=Z,261nm,19.9s,baz=122,slow=39
comp=Z,17nm,0.9s
BRTR Keskin Array B 21.59 305 P **P** **08 28 01.5 0.0**
BR131 Keskin Array S 21.59 305 P **P** **08 28 01.9 +0.5**
BR131 IAmb IAmb 08 28 03.5
comp=Z,24nm,0.8s
BR131 Keskin Array S 21.59 305 P **P** **08 28 01.9 +0.5**
BR131 pmax pmax
comp=Z,24nm,0.9s
BR131 Keskin Array S 21.59 305 P **P** **08 28 03.0 +1.6**
SNR=7.6
ATD Arta Tunnel 21.68 219 P **P** **08 28 03.3 +0.8**
comp=Z,13nm,0.8s,baz=66,slow=20,SNR=3.5
ATD LR LR 08 38 26.7
comp=Z,179nm,18.4s,baz=10,slow=42
comp=Z,13nm,0.8s
ANN Anapa 21.77 321 *e*P **P** **08 28 02.0 -1.1**
ANN *e*S **S** **08 32 05.8 +3.8**
ANN pmax pmax
comp=Z,23nm,1.0s
BR231 Keskin MP Arra 22.25 305 P **P** **08 28 08.9 +0.4**
UZB Uzynbulak 22.82 46 *e*P **P** **08 28 13.8 -0.7**
SHLS Shalkode 23.10 47 *e*P **P** **08 28 20.6 +3.2**
AKAS Kas 23.71 294 P **P** **08 28 23.2 -0.2**
BORA Eskisehir 23.95 303 P **P** **08 28 24.9 -0.6**
BORA IAmb IAmb 08 28 38.5
comp=Z,8.6nm,0.7s
BELG Belogornoye 24.16 347 P **P** **08 28 27.8 +0.6**
comp=Z,34nm,0.9s,baz=151,slow=1.6,SNR=17
BELG LR LR 08 40 49.3
comp=Z,121nm,19.0s,baz=164,slow=44
comp=Z,34nm,0.9s
BELG Belogornoye 24.16 347 *i* P **P** **08 28 28.7 +1.5**
BELG pmax pmax
comp=Z,6.0nm,1.0s
VRH Novokhopyorsk 24.69 337 *e*P **P** **08 28 32.1 0.0**
VRH pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 25.62 334 *e*P **P** **08 28 40.0 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
BRVK Borovoye 25.95 19 P **P** **08 28 43.8 +0.3**
BRVK IAmb IAmb 08 28 45.0
comp=Z,13nm,0.8s
BRVK Borovoye 25.95 19 *i* P **P** **08 28 43.9 +0.3**
BRVK pmax pmax
comp=Z,14nm,0.8s
BVAR Borovoye Array 25.95 19 P **P** **08 28 44.3 +0.8**
comp=Z,25nm,0.7s,baz=201,slow=7.8,SNR=99
BVAR PcP **PcP** **08 32 10.6 -0.8**
comp=Z,1.6nm,0.5s,baz=206,slow=1.5,SNR=4.2
BVAR ScP **ScP** **08 35 44.2 -4.1**
comp=Z,2.8nm,0.8s,baz=222,slow=2.0,SNR=8.6
BVAR LR LR 08 40 29.1
comp=Z,285nm,18.2s,baz=233,slow=40
comp=Z,25nm,0.7s
VORR Voronezh 25.97 335 P **P** **08 28 44.8 +1.1**
VORR pmax pmax
comp=Z,10.0nm,0.4s
MAKZ Makanchi 26.52 41 P **P** **08 28 48.9 +0.1**
MAKZ IAmb IAmb 08 28 54.1
comp=Z,14nm,0.8s
MAKZ Makanchi 26.52 41 P **P** **08 28 48.9 +0.1**
MAKZ pmax pmax
comp=Z,14nm,0.9s
MK31 Makanchi Array 26.70 42 P **P** **08 28 50.9 +0.5**
MK31 Makanchi Array 26.70 42 P **P** **08 28 50.9 +0.5**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 26.70 42 P **P** **08 28 51.4 +1.0**
comp=Z,5.7nm,0.8s,baz=228,slow=8.5,SNR=26
MKAR ScP **ScP** **08 35 46.6 -4.1**
comp=Z,0.4nm,0.7s,baz=240,slow=1.4,SNR=4.0
MKAR LR LR 08 41 04.2
comp=Z,144nm,19.1s,baz=288,slow=40
comp=Z,5.7nm,0.8s
MKAR Makanchi Array 26.70 42 P **P** **08 28 50.9 +0.5**
LPSR Galich'ya Gora 26.82 336 P **P** **08 28 53.7 +2.3**
LPSR pmax pmax
comp=Z,9.0nm,0.9s
KURBB Kurchatov Arra 27.11 32 P **P** **08 28 54.8 +0.8**
comp=Z,3.5nm,0.9s,baz=232,slow=8.8,SNR=25
KURBB PcP **PcP** **08 32 12.9 -1.2**
comp=Z,0.5nm,0.6s,baz=227,slow=2.8,SNR=8.7
KURBB ScP **ScP** **08 35 48.0 -3.8**
comp=Z,0.4nm,0.6s,baz=233,slow=3.4,SNR=7.0
KURBB LR LR 08 41 10.2
comp=Z,189nm,18.4s,baz=170,slow=40
comp=Z,3.5nm,0.9s
KURK Kurchatov 27.21 31 P **P** **08 28 55.9 +1.0**
KURK Kurchatov 27.21 31 P **P** **08 28 54.8 -0.1**
KURK 08 32 12.9
ARU Arti 27.32 2 P **P** **08 28 56.3 +0.5**
comp=Z,2.6nm,0.4s,baz=107,slow=19,SNR=3.2
ARU LR LR 08 40 27.2
comp=Z,182nm,21.5s,baz=180,slow=38
comp=Z,2.6nm,0.4s
ARU Arti 27.32 2 P **P** **08 28 57.0 +1.2**
ARU 08 29 39.3
ARU S **S** **08 33 38.1 +5.2**
ARU SS **SnSn** **08 34 49.1 +5.9**
IDI Anoyia 27.41 291 P **P** **08 28 58.0 +1.1**
comp=Z,8.9nm,0.7s,baz=40,slow=7.9,SNR=2.2
IDI LR LR 08 43 26.1
comp=Z,29nm,18.9s,baz=72,slow=44
comp=Z,8.9nm,0.7s
IDI Anoyia 27.41 291 P **P** **08 28 57.7 +0.8**
MLR Muntele Rosu 29.08 313 LR LR 08 43 39.1
comp=Z,96nm,18.9s,baz=124,slow=42
OBN Obninsk 29.68 337 *e*P **P** **08 29 17.5 +0.7**
OBN *e* 08 30 14.1
OBN *e*S **S** **08 34 18.2 +8.2**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,96nm,15.0s
AKASG Malin Array Be 29.76 324 P **P** **08 29 17.1 -0.5**
comp=Z,0.8nm,0.6s,baz=129,slow=8.8,SNR=5.2
AKASG ScP **ScP** **08 35 55.6 -4.5**
comp=Z,1.5nm,0.7s,baz=85,slow=3.0,SNR=6.3
AKASG LR LR 08 41 25.8
comp=Z,93nm,19.3s,baz=86,slow=36
comp=Z,0.8nm,0.6s
KIRV Kirov 29.85 352 LR LR 08 44 05.4
comp=Z,267nm,19.0s,baz=172,slow=42
ITM Ithomi 29.95 295 P **P** **08 29 18.6 -0.8**
DGZ Jazzator, Alta 31.14 40 *i* P **P** **08 29 31.3 +1.3**
DGZ pmax pmax
comp=Z,9.0nm,1.6s
ZAA0 Zalesovo Array 32.20 32 P **P** **08 29 39.4 +0.3**
ZAA0 IAmb IAmb 08 29 40.1
comp=Z,7.6nm,0.8s
ZALV Zalesovo Beam 32.20 32 P **P** **08 29 39.5 +0.4**
comp=Z,4.7nm,0.6s,baz=238,slow=9.7,SNR=22
ZALV ScP **ScP** **08 36 02.7 -5.4**
comp=Z,0.9nm,0.5s,baz=229,slow=2.9,SNR=4.4
ZALV LR LR 08 44 40.5
comp=Z,143nm,18.5s,baz=297,slow=40
comp=Z,4.7nm,0.6s
ZALV Zalesovo Beam 32.20 32 P **P** **08 29 39.3 +0.2**
MNK Minsk 32.73 329 *i* P **P** **08 29 41.6 -2.1**
comp=E,4.0nm,0.9s
MNK *i* P **P** **08 29 41.6 -2.1**
comp=N,39nm,1.0s
MNK *i* P **P** **08 29 41.6 -2.1**
comp=Z,6.0nm,0.5s,baz=129
MNK *i* PP **PnPn** **08 30 50.9 -1.6**
MNK *i* PPP PPP 08 31 01.8
MNK *i* S **S** **08 34 57.6 -0.3**
MNK *i* SS **SnSn** **08 36 57.0 +1.9**
MNK *i* SSS SSS 08 37 13.3
MNK *i* LR LR 08 43 04.9
MNK *i* LRM MLR 08 44 09.4
comp=E,20nm,16.1s
MNK *i* LRM MLR 08 44 23.9
comp=N,811nm,22.6s
MNK *i* LRM MLR 08 44 34.4
comp=Z,27nm,6.1s
MNK Minsk 32.73 329 *i* P **P** **08 29 41.6 -2.1**
MNK *i* 08 30 50.8
MNK *i* 08 32 25.5
MNK *i* S **S** **08 34 57.6 -0.3**
MNK *i* SS **SnSn** **08 36 56.9 +1.9**
MNK *i* 08 40 11.8
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,39nm,1.0s
MNK pmax pmax
comp=Z,6.0nm,0.5s
MNK MLR MLR
comp=E,20nm,16.0s
MNK MLR MLR
comp=N,811nm,23.0s
MNK MLR MLR
comp=Z,27nm,6.0s
GOMU GeErMu 32.82 68 P **P** **08 29 46.9 +1.8**
GOMU pP pP 08 29 50.1 -5.8
GOMU sP sP 08 29 51.4 -9.1
GOMU pmax pmax
comp=Z,3.0nm,1.2s
GOMU pmax pmax
comp=Z,38nm,4.9s
KLMR Klimovskoe 33.71 345 *e*P **P** **08 29 51.3 -0.9**
KLMR AMP 08 29 53.3
comp=Z,34nm,1.5s
KLMR Klimovskoe 33.71 345 *e*P **P** **08 29 51.2 -0.9**
KLMR pmax pmax
comp=Z,34nm,1.5s
VYHS Vyhne 34.71 314 *e*P **P** **08 30 00.7 -0.3**
VYHS Vyhne 34.71 314 *e*P **P** **08 30 00.7 -0.3**
CUC Castrocucco 34.98 299 P **P** **08 30 04.3 +0.8**
DPC Dobruska-Polom 36.88 316 *e*P **P** 08 30 13.1 -6.6
GTA Gaotai 36.89 62 *e*P **P** **08 30 20.6 +0.6**
GTA pP pP 08 30 27.8 -3.0
GTA sP sP 08 30 31.4 -3.9
GTA pmax pmax
comp=Z,5.0nm,1.0s
OSTC Ostas 37.02 317 *e*P **P** **08 30 16.7 -4.1**
CKRC Cesky Krumlov 37.67 313 *e*P **P** **08 30 26.4 +0.1**
GERES GERESS Array B 38.06 313 P **P** **08 30 29.0 -0.8**
comp=Z,0.8nm,0.6s,baz=107,slow=8.8,SNR=8.0
GERES ScP **ScP** **08 36 25.7 -3.8**
comp=Z,0.5nm,0.8s,baz=153,slow=4.5,SNR=4.4
comp=Z,0.8nm,0.6s
GERES GERESS Array B 38.06 313 P **P** **08 30 28.6 -1.1**
FIA1 FINESS Array S 38.08 337 P **P** **08 30 30.0 +0.4**
FINES FINESS Array B 38.08 337 P **P** **08 30 29.4 -0.2**
comp=Z,2.0nm,0.5s,baz=149,slow=9.3,SNR=16
FINES LR LR 08 50 15.2
comp=Z,106nm,19.1s,baz=90,slow=42
comp=Z,2.0nm,0.5s
FINES FINESS Array B 38.08 337 *e*P **P** **08 30 29.9 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KHC Kasperske Hory 38.21 314 *e*P **P** **08 30 29.6 -1.3**
KHC *ex* x 08 30 43.0
KHC Kasperske Hory 38.21 314 *e*P **P** **08 30 29.6 -1.3**
KHC *e* 08 30 43.0
MBAR Mbarara 38.51 224 LR LR 08 48 47.3
comp=Z,117nm,18.8s,baz=54,slow=40
CLL Collm 39.19 317 *e*P **P** **08 30 38.0 -1.0**
CLL *e*PP **PP** **08 32 09.0 -0.1**
CLL Collm 39.19 317 *e*P **P** **08 30 38.0 -1.0**
MOY Mondy 39.83 43 *e*P **P** **08 30 46.7 +2.2**
FUORN Ofenpass-Fuorn 39.85 309 P **P** **08 30 43.9 -1.1**
FUORN IAmb IAmb 08 31 02.6
comp=Z,8.6nm,1.5s
CMAR Chiang Mai Arr 40.03 96 LR LR 08 49 47.9
comp=Z,28nm,19.2s,baz=255,slow=40
HFS Hagfors 42.24 330 LR LR 08 51 46.4
comp=Z,103nm,18.4s,baz=63,slow=40
SONM Songino Array 42.44 50 P **P** **08 31 07.0 +1.0**

comp=Z,3.2nm,0.9s,baz=256,slow=8.7,SNR=18
SONM LR LR 08 51 07.1
comp=Z,88nm,18.6s,baz=188,slow=39
comp=Z,3.2nm,0.9s
SONM Songino Array 42.44 50 *e*P **P 08 31 07.4 +1.4**
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 42.88 50 P **P 08 31 09.5 -0.1**
ULN IAmb IAmb 08 31 11.6
comp=Z,5.4nm,0.8s
ULN Ulaanbaatar 42.88 50*ce*P **P 08 31 10.4 +0.8**
ULN pmax pmax
comp=Z,10.0nm,2.5s
NB2 NORSAR Subarra 43.74 330 P **P 08 31 15.7 -0.6**
comp=Z,0.9nm,0.6s,baz=114,slow=7.9
NOA NORSAR Array B 43.74 330 P **P 08 31 15.7 -0.6**
comp=Z,0.6nm,0.7s,baz=118,slow=5.4,SNR=4.1
NOA LR LR 08 52 20.3
comp=Z,69nm,19.4s,baz=320,slow=40
comp=Z,0.6nm,0.7s
NRIK Noril'sk 44.03 15 P **P 08 31 19.6 +1.2**
comp=Z,1.4nm,0.4s,baz=226,slow=9.7,SNR=1.9
NRIK LR LR 08 52 56.9
comp=Z,115nm,19.4s,baz=214,slow=40
comp=Z,1.4nm,0.4s
NRIK Noril'sk 44.03 15 *i*P **P 08 31 19.7 +1.3**
NRIK pmax pmax
comp=Z,8.0nm,1.7s
ARCES ARCESS Array B 44.19 345 P **P 08 31 19.9 +0.2**
comp=Z,6.2nm,1.0s,baz=145,slow=8.5,SNR=1.6
ARCES LR LR 08 53 08.9
comp=Z,179nm,18.6s,baz=330,slow=40
comp=Z,6.2nm,1.0s
XAN Xi'an 44.49 70 P **P** 08 31 16.3 -6.3
XAN pmax pmax
comp=Z,5.0nm,0.9s
OPO Ambohidratompo 48.28 192 P **P 08 31 53.3 +0.7**
comp=Z,8.5nm,0.6s,baz=4.7,slow=4.9,SNR=15
comp=Z,8.5nm,0.6s
BOD Bodaibo 48.62 37 *e*P **P 08 31 54.6 0.0**
BOD pmax pmax
comp=Z,10.0nm,1.6s
ESDC Sonseca Array 50.18 299 P **P 08 32 06.7 -0.2**
comp=Z,2.0nm,1.0s,baz=82,slow=7.7,SNR=5.8
comp=Z,2.0nm,1.0s
VOI Vohitsoka 51.61 192 P **P 08 32 18.9 +1.2**
SPITS Spitsbergen Ar 52.28 350 LR LR 08 57 38.7
comp=Z,94nm,18.3s,baz=286,slow=39
TORD Torodi Ar. Bea 53.12 265 P **P 08 32 28.9 -0.2**
comp=Z,4.0nm,0.5s,baz=60,slow=7.1,SNR=2.8
comp=Z,4.0nm,0.5s
YAK Yakutsk 56.85 33 LR LR 08 59 50.6
comp=Z,94nm,18.6s,baz=274,slow=39
YAK Yakutsk 56.85 33 *i*P **P 08 32 55.0 -0.3**
YAK pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 57.07 21 LR LR 09 00 32.3
comp=Z,80nm,18.8s,baz=352,slow=39
TIXI Tiksi 57.07 21 *i*P **P 08 32 58.4 +1.7**
TIXI pmax pmax
comp=Z,10.0nm,1.1s
KSRS Korea Array 58.96 62 P **P 08 33 09.7 -0.9**
comp=Z,1.7nm,0.7s,baz=280,slow=6.9,SNR=5.2
KSRS LR LR 09 01 22.9
comp=Z,17nm,20.8s,baz=50,slow=39
comp=Z,1.7nm,0.7s
KLR Kul'dur 59.19 48*ce*P **P 08 33 12.8 +0.9**
KLR pmax pmax
comp=Z,6.0nm,2.5s
LBTB Lobatse 61.51 212 LR LR 09 03 20.0
comp=Z,48nm,18.9s,baz=34,slow=39
LBTB Lobatse 61.51 212 P **P 08 33 28.3 +0.2**
LBTB Lobatse 61.51 212 P **P 08 33 28.3 +0.2**
LBTB pmax pmax
comp=Z,10.0nm,1.0s
DBIC Dimbokro 61.85 262 P **P 08 33 30.1 -0.4**
comp=Z,2.0nm,0.4s,baz=60,slow=9.3,SNR=4.5
comp=Z,2.0nm,0.4s
DBIC Dimbokro 61.85 262 P **P 08 33 29.8 -0.8**
DBIC IAmb IAmb 08 33 41.8
comp=Z,7.2nm,1.0s
BOSA Boshof 64.75 210 P **P 08 33 49.5 -0.1**
comp=Z,4.5nm,0.4s,baz=20,slow=5.8,SNR=22
BOSA LR LR 09 02 52.1
comp=Z,48nm,18.5s,baz=15,slow=37
comp=Z,4.5nm,0.4s
BOSA Boshof 64.75 210 P **P 08 33 49.4 -0.2**
BOSA IAmb IAmb 08 33 57.5
comp=Z,16nm,1.4s
SEY Seymchan 67.04 30 P **P 08 34 03.9 +0.1**
comp=Z,2.5nm,0.6s,baz=272,slow=8.0,SNR=11
comp=Z,2.5nm,0.6s
ASAJ Asahikawa 67.70 51 LR LR 09 06 38.3
comp=Z,58nm,19.2s,baz=166,slow=38
EUNU Eureka 69.17 354 P **P 08 34 16.6 -0.4**
TULEG Thule 69.38 348 P **P 08 34 16.2 -2.0**
TULEG IAmb IAmb 08 34 29.7
comp=Z,6.2nm,0.8s
SUR Sutherland 69.96 212 LR LR 09 04 53.8
comp=Z,58nm,18.5s,baz=14,slow=36
SUR Sutherland 69.96 212 P **P 08 34 23.1 +0.5**
BILL Bilibino 70.26 22*e*P **P 08 34 24.9 +1.1**
BILL *e* 08 37 02.9
BILL pmax pmax
comp=Z,2.0nm,1.3s
BILL MLR MLR
comp=Z,41nm,15.0s
PET Petropavlovsk 74.03 38 *i*P **P 08 34 49.1 +2.6**
PET pmax pmax
comp=Z,18nm,1.0s
RES Resolute Bay 74.77 352 P **P 08 34 49.8 -0.7**
comp=Z,0.5nm,0.2s,baz=14,slow=4.0,SNR=8.4
comp=Z,0.5nm,0.2s
FRB Frobisher Bay 77.87 338 P **P 08 35 07.5 -0.7**
comp=Z,2.1nm,0.8s,baz=58,slow=9.6,SNR=9.7
comp=Z,2.1nm,0.8s
A36M Sachs Harbour 79.15 1 P **P 08 35 14.5 -0.7**
IMAR Indian Mountai 82.37 12 P **P 08 35 31.4 -1.1**
BMAR Burnt Mountain 82.42 8 P **P 08 35 33.2 +0.3**
INK Inuvik 82.56 4 P **P 08 35 32.6 -0.8**
comp=Z,0.9nm,0.8s,baz=3.3,slow=5.4,SNR=4.0
comp=Z,0.9nm,0.8s
KNRA Kununurra 82.68 112 P **P 08 35 34.0 -0.9**
SCHQ Schefferville 83.31 331 P **P 08 35 36.5 -1.0**
comp=Z,1.8nm,0.8s,baz=32,slow=7.2,SNR=5.1
comp=Z,1.8nm,0.8s
H24K Noodor Dome 83.48 10 P **P 08 35 38.6 +0.3**
NWAO Narrogin (SRO) 84.36 133 P **P 08 35 42.7 -0.5**
comp=Z,3.9nm,0.5s
NWAO LR LR 09 09 10.5
comp=Z,28nm,20.2s,slow=33
comp=Z,3.9nm,0.5s
NWAO Narrogin (SRO) 84.36 133 P **P 08 35 41.9 -1.3**
BPAW Bear Paw Mtn. 84.58 12 P **P 08 35 43.3 -0.6**
BPAW IAmb IAmb 08 35 55.6
comp=Z,9.7nm,1.5s
ILAR Eielson Array 84.63 10 P **P 08 35 43.0 -1.1**
comp=Z,0.5nm,0.6s,baz=328,slow=4.6,SNR=9.3
ILAR PKKPbc **PKKPbc 08 53 52.9 -2.1**
comp=Z,0.2nm,0.6s,baz=194,slow=2.2,SNR=5.7
comp=Z,0.5nm,0.6s
ILAR Eielson Array 84.63 10 P **P 08 35 42.7 -1.5**
BWN Browne 84.78 11 P **P 08 35 44.8 -0.1**
CAST Castle Rocks 85.00 12 P **P 08 35 45.1 -0.9**
CAST IAmb IAmb 08 35 50.2
comp=Z,4.5nm,0.8s
J26L Joseph Creek 85.35 9 P **P 08 35 46.7 -1.2**
J26L IAmb IAmb 08 35 48.5
comp=Z,2.7nm,0.8s
SCRK Sand Creek 85.80 9 P **P 08 35 49.9 -0.2**
SCRK IAmb IAmb 08 36 11.3
comp=Z,5.8nm,1.4s
YKA Yellowknife Ar 88.42 356 P **P 08 36 02.0 -0.7**
comp=Z,1.5nm,0.8s,baz=356,slow=4.9,SNR=34
comp=Z,1.5nm,0.8s
WRA Warramunga Arr 89.44 113 P **P 08 36 06.9 -1.3**
comp=Z,0.8nm,0.5s,baz=316,slow=4.1,SNR=22
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 89.44 113 *e*P **P 08 36 07.6 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.5s
KDAK Kodiak Island 90.02 15 LR LR 09 21 29.6
comp=Z,101nm,18.4s,baz=122,slow=39
ASAR Alice Springs 91.02 117 P **P 08 36 14.3 -1.2**
comp=Z,1.7nm,0.6s,baz=307,slow=5.1,SNR=36
comp=Z,1.7nm,0.6s
CPUP Villa Florida 122.11 256 PKP **PKPdf 08 42 04.6 -1.3**
comp=Z,1.2nm,0.7s,baz=143,slow=5.1,SNR=3.6

*ISU **21** 08:28:33.5, 41˚.58N×69˚.98E, h5km*
*SOME **21** 08:28:34.6, 41˚.70N×70˚.13E, h0km*
*KRNET **21** 08:28:35.9±0.1, 41˚.68N×70˚.27E, h12km±mb2.5*
ISC 21 08:28:33.9±0.8, 41˚.65N±0˚.03×70˚.08E±0˚.03, h10km, n11,
σ1§59/21, 8C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHRV	**Charvak**	**0.10**	**265**	P	**Pg**	**08 28 35.0**	**-1.5**
CHRV				S	**Sg**	**08 28 36.4**	**-2.0**
CHMG	**Chimgan**	**0.11**	**208**	P	**Pg**	**08 28 35.1**	**-1.6**
CHMG				S	**Sg**	**08 28 36.2**	**-2.6**
IUG	**Iuzhnay**	**0.50**	**356**	*e*P	**Pb**	**08 28 44.0**	**-0.8**
	42nm,0.2s						
IUG				*e*S	**Sb**	**08 28 51.7**	**-0.5**
	64nm,0.3s						
TAS	**Tashkent**	**0.67**	**241**	⇑*i*P	**Pn**	**08 28 51.4**	**+1.9**
	baz=44						
TAS				⇑*e*S	**Sn**	**08 29 02.9**	**+2.8**
	baz=44						
TRKS	**Terek-Say**	**0.80**	**98**	⇑*i*P	**Pb**	**08 28 49.5**	**-0.5**
	baz=8.0						
TRKS				⇑*i*S	**Sg**	**08 28 59.6**	**-0.3**
	baz=8.0						
ARK	**Arkit**	**1.42**	**83**	⇓*i*P	**Pg**	**08 29 00.4**	**-0.7**
	baz=84						
ARK				⇓*i*S	**Sb**	**08 29 18.2**	**-0.4**
	baz=84						
KK31	**Karatay Array**	**1.49**	**12**	P	**Pg**	**08 29 02.9**	**+0.5**
	0.3nm,0.3s,baz=196,slow=14,SNR=9.3						
KK31				⇓S	**Sg**	**08 29 22.5**	**+0.8**
	1.4nm,0.3s,baz=198,slow=28						
KKAR	**Karatay Array**	**1.49**	**12**	⇓*i*P	**Pg**	**08 29 02.8**	**+0.4**
	baz=7.0						
KKAR				⇓*i*S	**Sg**	**08 29 22.5**	**+0.8**
	baz=7.0						
BTK	**Batken**	**1.69**	**160**	⇑*i*P	**Pg**	**08 29 07.4**	**+1.2**
	baz=65						
BTK				⇑*i*S	**Sg**	**08 29 30.1**	**+2.1**
	baz=65						
MRKS	**Merke**	**2.58**	**64**	*e*Pg	**Pg**	**08 29 22.3**	**-1.0**
	2.9nm,0.5s						
MRKS				*e*Lg	Lg	08 29 56.5	
	4.3nm,0.4s						
AML	**Almayashu**	**2.74**	**79**	⇑*i*P	**Pb**	**08 29 21.2**	**-2.0**
	baz=79						
AML				⇑*i*S	**Sb**	**08 29 55.0**	**-2.0**
	baz=79						

IDC 21 08:32:13.7±2.5, 2.67N×128.06E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=186.7km s-min=27.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.30**	**165**	P	P	08 37 23.7	+0.3
	0.1nm,0.3s,baz=344,slow=10,SNR=1.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**26.79**	**168**	P	P	08 37 54.9	-0.8
	0.2nm,0.5s,baz=357,slow=8.6,SNR=4.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.18**	**325**	P	P	08 42 16.9	+0.4
	0.3nm,0.6s,baz=125,slow=8.1,SNR=5.0						
	0.3nm,0.6s						

*IDC **21** 08:33:31.0±2.8, 19˚.92S×178˚.26W, h563km±24km, mb2.9/6, mbtmp3.8/7, Error ellipse: s-maj=58.7km s-min=20.2km az=148.0*
ISC 21 08:33:29.7±1.4, 20.0S±0˚.3×178˚.1W±0˚.2, h550km, n9,
σ1§12/9, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.28**	**302**	P	**P**	**08 34 54.9**	**+1.1**
	5.1nm,0.5s,baz=168,slow=6.0,SNR=12						
ASAR	**Alice Springs**	**44.50**	**256**	P	**P**	**08 40 52.5**	**-0.3**
	1.0nm,0.5s,baz=92,slow=7.7,SNR=20						
ASAR				PcP	**PcP**	**08 42 23.6**	**-0.7**
	0.3nm,0.5s,baz=104,slow=3.5,SNR=4.2						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**08 40 52.6**	**-0.5**
	0.4nm,0.3s,baz=97,slow=7.7,SNR=15						
	0.4nm,0.3s						
MJAR	**Matsushiro Arr**	**69.76**	**324**	P	**P**	**08 43 44.0**	**-1.0**
	1.5nm,0.9s,baz=145,slow=8.7,SNR=4.5						
	1.5nm,0.9s						
TXAR	**Lajitas Array**	**86.92**	**57**	P	**P**	**08 45 17.1**	**+0.2**
	0.3nm,0.7s,baz=206,slow=5.0,SNR=5.0						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**87.90**	**13**	P	**P**	**08 45 19.9**	**-0.5**
	0.4nm,0.4s,baz=216,slow=5.3,SNR=8.5						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**88.72**	**43**	P	**P**	**08 45 25.0**	**-0.1**
	0.2nm,0.5s,baz=203,slow=2.3,SNR=3.5						
	0.2nm,0.5s						
AKASG	**Malin Array Be**	**142.55**	**331**	PKhKP	PKPpre	08 51 56.3	
	1.0nm,0.5s,baz=45,slow=4.5,SNR=9.2						
BRTR	**Keskin Array B**	**146.43**	**313**	PKPbc	**PKPdf**	**08 52 09.4**	**+2.0**
	0.4nm,0.4s,baz=130,slow=4.5,SNR=2.4						

*IDC **21** 08:35:24.4±1.6, 10˚.11S×161˚.40E, h0km, mb3.7/5, mbtmp3.7/6, ML3.7/1, MS3.3/1, Error ellipse: s-maj=33.6km s-min=27.7km az=146.0*
ISC 21 08:35:31.5±1.3, 10.1S±0˚.2×161˚.3E±0˚.1, h50km, n7,
σ1§30/8, mb3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.49**	**298**	Pn	**Pn**	**08 35 54.3**	**-1.5**
	804nm,0.3s,baz=148,slow=7.0,SNR=7.7						
HNR				Sn	**Sn**	**08 36 15.7**	**+1.5**
	2µm,0.3s,baz=154,slow=14,SNR=13						
CTA	**Charters Tower**	**17.55**	**234**	P	**Pn**	**08 39 32.4**	**-0.4**
	0.2nm,0.3s,baz=69,slow=11,SNR=5.1						
CTA				LR	LR	08 45 38.7	
	comp=Z,82nm,18.1s,baz=86,slow=35						
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**27.75**	**246**	P	**P**	**08 41 14.6**	**-1.2**
	0.4nm,0.5s,baz=74,slow=9.6,SNR=2.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**29.38**	**239**	P	**P**	**08 41 31.6**	**+1.3**
	0.3nm,0.5s,baz=64,slow=10,SNR=5.4						
	0.3nm,0.5s						
SONM	**Songino Array**	**75.38**	**325**	P	**P**	**08 47 10.5**	**+0.5**
	1.4nm,0.6s,baz=143,slow=6.0,SNR=12						
	1.4nm,0.6s						
ILAR	**Eielson Array**	**84.09**	**20**	P	**P**	**08 47 56.9**	**+0.2**
	0.1nm,0.4s,baz=250,slow=5.9,SNR=1.0						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**89.87**	**318**	P	**P**	**08 48 24.9**	**-0.3**
	0.3nm,0.7s,baz=94,slow=5.8,SNR=2.6						
	0.3nm,0.7s						

*JMA **21** 08:39:35.4±0.0, 33.0N±0˚.1×130.8E±0˚.1, h10km, MV3.0/20, NW KUMAMOTO PREF*
JMA Felt II J1 at NW KUMAMOTO PREF .
ISC 21 08:39:35.3±1.1, 33.00N±0˚.05×130.78E±0˚.06, h11km±10km, n6, σ0§87/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.15**	**35**	*i*P	**Pg**	**08 39 38.9**	**+0.2**
JNU				S	**Sg**	**08 39 41.5**	**+0.3**
JTA	**Tamana**	**0.21**	**260**	P	**Pg**	**08 39 39.6**	**0.0**
JTA				S	**Sg**	**08 39 42.6**	**0.0**
JIU3	**Izumi3**	**0.45**	**176**	*i*P	**Pg**	**08 39 44.2**	**+0.1**
JIU3				S	**Sg**	**08 39 50.4**	**+0.4**
JMN	**Monobe**	**2.70**	**73**	P	**Pb**	**08 40 22.1**	**-1.5**
JHS	**Saijyo**	**2.79**	**44**	P	**Pn**	**08 40 20.7**	**+0.9**
MAJO	**Matsushiro**	**7.06**	**58**	P	**Pn**	**08 41 19.4**	**+0.8**

*IDC **21** 08:53:10.3±3.1, 9˚.37S×114˚.12E, h0km, mb3.0/3, mbtmp3.0/3, MS2.5/1, Error ellipse: s-maj=178.0km s-min=28.0km az=47.0*
*DJA **21** 08:53:15.4±0.7, 10˚S±7˚×11˚4E±˚, h10km, M3.6/10, MLv3.6/10*
ISC 21 08:53:11.0±1.2, 9.89S±0˚.10×113.94E±0˚.07, h10km, n14,
σ1§52/14, mb3.0/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.43**	**9**	P	**Pn**	**08 53 38.5**	**+1.5**
IGBI	**Denpasar**	**1.60**	**48**	P	**Pn**	**08 53 38.8**	**-0.6**
IGBI				S	**Sn**	**08 53 57.1**	**-3.0**
GMJI	**Gumukmas**	**1.68**	**343**	P	**Pb**	**08 53 42.6**	**+0.6**
ABJI	**Asem Bagus**	**2.10**	**8**	P	**Pb**	**08 53 49.4**	**+0.1**
BLJI	**Banyuglugur**	**2.16**	**351**	P	**Pb**	**08 53 51.4**	**+1.2**
SRBI	**Singaraja**	**2.19**	**35**	P	**Pn**	**08 53 48.7**	**+1.2**
PWJI	**Pagerwojo**	**2.81**	**311**	P	**Pb**	**08 54 01.1**	**-0.2**
TWSI	**Taliwang, Sumb**	**3.12**	**69**	P	**Pn**	**08 54 00.6**	**+0.2**
UGM	**Wanagama**	**3.91**	**300**	P	**Pb**	**08 54 19.1**	**-0.9**
PLAI	**Plampang**	**3.93**	**75**	P	**Pn**	**08 54 11.5**	**0.0**
KAPI	**Kappang**	**7.53**	**50**	LR	LR	08 58 14.9	
	comp=Z,40nm,21.1s,baz=282,slow=43						
WRA	**Warramunga Arr**	**22.08**	**119**	P	**P**	**08 58 07.9**	**+1.5**
	0.2nm,0.6s,baz=296,slow=11,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**23.47**	**128**	P	**P**	**08 58 23.4**	**+2.4**
	0.4nm,0.8s,baz=303,slow=8.0,SNR=4.7						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**63.11**	**336**	P	**P**	**09 03 37.5**	**-1.4**
	0.1nm,0.4s,baz=153,slow=7.9,SNR=4.6						
	0.1nm,0.4s						

IDC 21 08:58:32.3±15.0, 27.86S×64.42E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=825.8km s-min=57.2km az=35.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**61.96**	**103**	P	P	09 08 54.4	0.0
	0.5nm,0.6s,baz=249,slow=5.9,SNR=7.6						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**63.66**	**100**	P	P	09 09 05.7	0.0
	0.3nm,0.7s,baz=248,slow=5.9,SNR=2.6						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**145.36**	**359**	PKPbc	PKPbc	09 18 10.4	-0.9
	0.1nm,0.6s,baz=348,slow=3.5,SNR=4.1						

*NEIC **21** 09:03:13.9±1.8, 14˚.80S±0˚.10×167˚.5E±0˚.1, h114km±9km, mb4.4/18, Error ellipse: s-maj=21.5km s-min=3.0km az=49.0*
*NOU **21** 09:03:14.6, 14˚.84S×167˚.50E, h130km, mb4.5/31, Vanuatu Islands*
*IDC **21** 09:03:17.7±2.4, 14˚.96S×167˚.31E, h148km±20km, mb3.9/12, mbtmp4.3/14, Error ellipse: s-maj=17.3km s-min=16.8km az=100.0*
ISC 21 09:03:15.0±0.6, 14.89S±0˚.08×167.43E±0˚.09, h129km, n68,
σ0§89/70, mb4.3/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.92**	**166**	P	**Pn**	**09 04 00.6**	**+0.1**
RTV	**Rentapao**	**3.04**	**162**	P	**Pn**	**09 04 02.9**	**+0.7**
LIFNC	**LIFOU**	**5.86**	**182**	Pn	**Pn**	**09 04 37.6**	**-2.1**
LIFNC	**LIFOU**	**5.86**	**182**	P	**Pn**	**09 04 37.5**	**-2.1**
KOUNC	**Koumac, New Ca**	**6.38**	**208**	Pn	**Pn**	**09 04 47.6**	**+1.0**
KOUNC	**Koumac, New Ca**	**6.38**	**208**	P	**Pn**	**09 04 47.5**	**+0.8**
MARNC	**Mare, Loyalty**	**6.58**	**175**	Pn	**Pn**	**09 04 47.9**	**-1.6**
MARNC	**Mare, Loyalty**	**6.58**	**175**	P	**Pn**	**09 04 47.7**	**-1.7**
DZM	**Mont Dzumac**	**7.21**	**187**	P	**Pn**	**09 04 58.4**	**+0.5**
	16nm,0.3s,baz=30,slow=14,SNR=96						
DZM	**Mont Dzumac**	**7.21**	**187**	Pn	**Pn**	**09 04 58.2**	**+0.3**
DZM	**Mont Dzumac**	**7.21**	**187**	P	**Pn**	**09 04 58.7**	**+0.8**
NOUC	**Port Laguerre**	**7.25**	**188**	P	**Pn**	**09 04 59.6**	**+1.1**
OUENC	**Ouen Island, N**	**7.51**	**184**	Pn	**Pn**	**09 05 01.6**	**-0.3**
OUENC	**Ouen Island, N**	**7.51**	**184**	P	**Pn**	**09 05 02.3**	**+0.4**
PINNC	**Pines Island,**	**7.69**	**180**		**Pn**	**09 05 04.1**	**-0.2**
HNR	**Honiara**	**9.10**	**306**	Pn	**Pn**	**09 05 21.8**	**-1.6**
MSVF	**Nonsavu**	**10.58**	**107**	P	Pn	09 05 48.5	+5.1
	3.8nm,0.9s,baz=291,slow=8.6,SNR=1.8						
EIDS	**Eidsvold**	**18.54**	**233**		**Pn**	**09 07 22.9**	**-0.6**
EIDS				IAmb	IAmb	09 07 24.7	
	comp=Z,20nm,0.7s						
EIDS	**Eidsvold**	**18.54**	**233**	P	**Pn**	**09 07 24.0**	**+0.5**
PMG	**Port Moresby**	**20.54**	**283**	P	**P**	**09 07 42.5**	**-1.1**
PMG				IAmb	IAmb	09 07 45.9	
	comp=Z,8.2nm,0.8s						
CTA	**Charters Tower**	**20.84**	**253**	P	**P**	**09 07 47.7**	**+1.0**
	comp=Z,9.1nm,0.8s,baz=81,slow=11,SNR=19						
	comp=Z,9.1nm,0.8s						
CTAO	**Charters Tower**	**20.84**	**253**	P	**P**	**09 07 48.1**	**+1.4**
CTAO				IAmb	IAmb	09 07 48.9	
	comp=Z,9.6nm,0.8s						
OUZ	**Omahuta**	**20.99**	**166**	P	**P**	**09 07 48.8**	**+0.7**
ARMA	**Armidale**	**21.21**	**221**	P	**P**	**09 07 50.0**	**-0.7**
ARMA				IAmb	IAmb	09 07 54.1	
	comp=Z,34nm,1.3s						
URZ	**Urewera**	**24.81**	**162**	P	**P**	**09 08 25.6**	**+0.5**
BKZ	**Black Stump Fm**	**25.47**	**163**	P	**P**	**09 08 31.5**	**+0.4**
BKZ	**Black Stump Fm**	**25.47**	**163**	P	**P**	**09 08 31.5**	**+0.4**
CMSA	**Cobar Meteorol**	**25.88**	**226**	P	**P**	**09 08 35.1**	**+0.2**
BFZ	**Birch Farm**	**26.83**	**165**	P	**P**	**09 08 42.1**	**-1.2**
INKA	**Innaminka**	**27.88**	**238**	P	**P**	**09 08 53.8**	**+0.9**
LTZ	**Lake Taylor**	**28.11**	**172**	P	**P**	**09 08 55.0**	**+0.3**
RPZ	**Rata Peaks**	**28.90**	**175**	P	**P**	**09 09 02.6**	**+0.9**
	comp=Z,10.0nm,0.7s,baz=352,slow=6.0,SNR=3.0						
	comp=Z,10.0nm,0.7s						
STKA	**Stephens Creek**	**29.01**	**230**	P	**P**	**09 09 03.5**	**+0.6**
	comp=Z,8.2nm,0.4s,baz=47,slow=8.7,SNR=37						
STKA				PcP	**PcP**	**09 12 08.3**	**0.0**
	comp=Z,1.0nm,0.8s,baz=348,slow=2.4,SNR=2.9						
	comp=Z,8.2nm,0.4s						
STKA	**Stephens Creek**	**29.01**	**230**	P	**P**	**09 09 04.1**	**+1.3**
STKA	**Stephens Creek**	**29.01**	**230**	P	**P**	**09 09 03.8**	**+0.9**
LCRK	**Leigh Creek**	**30.96**	**235**	P	**P**	**09 09 20.5**	**+0.4**
HTT	**Hallett**	**31.73**	**229**	P	**P**	**09 09 27.7**	**+0.8**
WB0	**Warramunga Arr**	**31.88**	**256**	P	**P**	**09 09 27.5**	**-0.8**
WB0				IAmb	IAmb	09 09 29.7	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**31.93**	**256**	P	**P**	**09 09 27.0**	**-1.7**
WB2				IAmb	IAmb	09 09 28.8	
	comp=Z,6.5nm,1.2s						
WRAB	**Tennant Creek**	**31.93**	**256**	P	**P**	**09 09 27.7**	**-1.0**
WRA	**Warramunga Arr**	**31.94**	**256**	P	**P**	**09 09 27.5**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=86,slow=8.5,SNR=9.7						
WRA				PcP	**PcP**	**09 12 16.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=87,slow=3.3,SNR=4.6						
	comp=Z,1.1nm,0.7s						
AS01	**Alice Springs**	**32.72**	**249**	P	**P**	**09 09 34.7**	**-0.9**
AS31	**Alice Springs**	**32.76**	**249**	P	**P**	**09 09 35.3**	**-0.7**
ASAR	**Alice Springs**	**32.76**	**249**	P	**P**	**09 09 35.0**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=78,slow=9.2,SNR=70						
ASAR				PcP	**PcP**	**09 12 18.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=77,slow=2.5,SNR=6.1						
ASAR				ScP	**ScP**	**09 15 49.0**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=90,slow=4.6,SNR=4.9						
	comp=Z,4.5nm,0.7s						
ASAR	**Alice Springs**	**32.76**	**249**	P	**P**	**09 09 35.4**	**-0.6**
BBOO	**Buckleboo**	**33.60**	**232**	P	**P**	**09 09 43.8**	**+0.6**
BBOO				IAmb	IAmb	09 09 44.2	
	comp=Z,7.5nm,0.6s						
BBOO	**Buckleboo**	**33.60**	**232**	P	**P**	**09 09 43.8**	**+0.6**
MULG	**Mulgathing**	**34.25**	**238**	P	**P**	**09 09 48.7**	**-0.1**
KNRA	**Kununurra**	**37.27**	**264**	P	**P**	**09 10 14.3**	**-0.4**
KNRA				IAmb	IAmb	09 10 15.7	
	comp=Z,7.1nm,0.9s						
KNRA	**Kununurra**	**37.27**	**264**	P	**P**	**09 10 14.1**	**-0.6**
WRKA	**Warakurna**	**38.02**	**248**	P	**P**	**09 10 20.4**	**-0.6**
FORT	**Forrest**	**39.35**	**239**	P	**P**	**09 10 32.4**	**+0.5**
FORT	**Forrest**	**39.35**	**239**	P	**P**	**09 10 32.0**	**0.0**
FITZ	**Fitzroy Crossi**	**40.14**	**259**	P	**P**	**09 10 38.8**	**+0.1**
MEEK	**Meekat

ILAR	**Eielson Array**	**86.63**	**18**	P		**P**	**09 15 43.9**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=235,slow=5.2,SNR=5.4							
	comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**96.22**	**61**	P		**P**	**09 16 29.8**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=198,slow=5.7,SNR=1.9							
	comp=Z,0.1nm,0.6s							
MKAR	**Makanchi Array**	**97.42**	**316**	P		Pdif	09 16 34.5	+0.4
	comp=Z,0.7nm,0.5s,baz=90,slow=6.2,SNR=8.7							
	comp=Z,0.7nm,0.5s							
ARCES	**ARCESS Array B**	**120.44**	**345**	PKP		**PKiKP**	**09 21 50.3**	**-0.4**
	comp=Z,6.5nm,1.0s,baz=48,slow=1.8,SNR=7.0							
FINES	**FINESS Array B**	**125.92**	**338**	PKP		**PKiKP**	**09 22 01.3**	**-0.4**
	comp=Z,2.6nm,1.0s,baz=50,slow=2.2,SNR=4.9							

IDC 21 09:06:52.8±6.1, 43.59N×105.86E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=62.0km s-min=34.6km az=127.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**4.23**	**5**	I		I	09 32 00.0	
	0.1nm,0.7s,baz=184,slow=330,SNR=2.9							
SONM	**Songino Array**	**4.26**	**5**	Pn		Pn	09 07 59.6	+0.5
	0.3nm,0.3s,baz=188,slow=14,SNR=7.9							
SONM				Pg		Pb	09 08 11.3	+2.5
	1.3nm,0.3s,baz=194,slow=19,SNR=19							
SONM				Sn		Sn	09 08 50.2	+0.6
	0.4nm,0.3s,baz=180,slow=25,SNR=5.1							
SONM				Lg		Lg	09 09 07.9	
	1.9nm,0.3s,baz=186,slow=29,SNR=13							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**16.91**	**289**	Pn		Pn	09 10 49.7	-1.0
	baz=93,slow=12,SNR=2.3							
	0.2nm,0.7s							

*IDC **21** 09:30:34.0±0.6, 33.78S×68.76W, h0km, mb4.4/9, mbtmp4.5/13, ML4.7/4, MS3.8/27, Error ellipse: s-maj=21.5km s-min=17.1km az=80.0*
*SJA **21** 09:30:35.7±0.8, 33.84S×68.53W, h21km±2km, ML5.1, MW4.8*
*VAO **21** 09:30:37.0±0.2, 33.69S×68.57W, h10km, mb4.7*
*GUC **21** 09:30:37.0±0.7, 33.84S×68.59W, h13km±11km, ML4.8*
*NEIC **21** 09:30:38.6±1.8, 33.80S±0.05°×68.63W±0.04, h22km±4km, mb4.8/76, Mwr4.5/4, Error ellipse: s-maj=7.3km s-min=4.5km az=200.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.40; $M_{\theta\theta}$5.05; $M_{\phi\phi}$-4.66; $M_{r\theta}$-1.77; $M_{\theta\phi}$-4.52; $M_{\phi r}$-2.78; Fault plane solution: $M_0$7.41000×10^{15} NP1:ϕ_s333.87000°, δ69.48000°, λ-13.27000°. NP2:ϕ_s68.59000°, δ77.59000°, λ-158.97000°. Principal axes: T 6.8910, Plg6.0000°, Azm200.0000°; N 0.9553, Plg66.0000°, Azm98.0000°; P -7.8463, Plg24.0000°, Azm293.0000°;*
ISC 21 09:30:37.2±0.6, 33.77S±0.02×68.65W±0.02, h17km±4km, n311, σ1$42/329, mb4.8/42, MS3.8/22, 1C-14D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAGR	**Agrelo**	**0.70**	**348**	*eP*		**Pg**	**09 30 51.1**	**+0.1**
AAGR	**Agrelo**	**0.70**	**348**	*eP*		**Pg**	**09 30 51.1**	**+0.1**
ARCO	**CERRO ARCO**	**0.96**	**346**	*eP*		**Pg**	**09 30 56.0**	**+0.1**
ARCO				*eS*		**Sn**	**09 31 11.1**	**+1.6**
ARCO	**CERRO ARCO**	**0.96**	**346**	*eP*		**Pg**	**09 30 56.0**	**+0.1**
ARCO				*eS*		**Sn**	**09 31 11.1**	**+1.6**
ASAL	**Salagasta**	**1.19**	**352**	*eP*		**Pb**	**09 31 00.0**	**+0.6**
ASAL	**Salagasta**	**1.19**	**352**	*eP*		**Pb**	**09 31 00.0**	**+0.6**
LMEL	**Las Melosas**	**1.30**	**266**			**Pb**	**09 31 01.2**	**-0.1**
LMEL					Sn	**Sn**	**09 31 18.0**	**+0.2**
LMEL	**Las Melosas**	**1.30**	**266**	||*iP*		**Pb**	**09 31 01.2**	**-0.1**
LMEL				*i* S		**Sn**	**09 31 18.0**	**+0.2**
LMEL				IAML			09 31 20.7	
	comp=E,17μm,0.6s							
FCH	**Farellones**	**1.44**	**288**	||*iP*		**Pb**	**09 31 03.9**	**0.0**
MT03	**Universidad Ad**	**1.58**	**280**			**Pb**	**09 31 05.9**	**-0.1**
MT03					Sn	**Sg**	**09 31 27.8**	**-0.3**
MT03	**Universidad Ad**	**1.58**	**280**	*i* P		**Pb**	**09 31 06.0**	**-0.1**
MT03				*eS*		**Sg**	**09 31 27.2**	**-0.9**
MT03				IAML			09 31 28.7	
	comp=N,15μm,0.4s							
MT03	**Universidad Ad**	**1.58**	**280**	*eP*		**Pb**	**09 31 06.0**	**-0.1**
MT03				*eS*		**Sg**	**09 31 27.3**	**-0.8**
MT03				IAML			09 31 29.9	
	comp=Z,10μm,0.3s							
MT03	**Universidad Ad**	**1.58**	**280**	*eP*		**Pb**	**09 31 06.0**	**-0.1**
MT03				*eS*		**Sg**	**09 31 27.3**	**-0.8**
MT03				IAML			09 31 29.9	
	comp=Z,10μm,0.3s							
BO04	**La Punta**	**1.65**	**262**			**Pb**	**09 31 07.2**	**+0.1**
BO04	**La Punta**	**1.65**	**262**	||*iP*		**Pb**	**09 31 07.2**	**+0.1**
BO04				*i* S		**Sb**	**09 31 28.9**	**+1.2**
BO04				IAML			09 31 31.1	
	comp=E,19μm,0.5s							
MT05	**Renca**	**1.79**	**282**			**Pb**	**09 31 09.4**	**-0.2**
MT05	**Renca**	**1.79**	**282**	*i* P		**Pb**	**09 31 09.3**	**-0.2**
MT05				*eS*		**Sg**	**09 31 33.6**	**-1.2**
MT05				IAML			09 31 35.0	
	comp=N,22μm,0.6s							
MT05	**Renca**	**1.79**	**282**	*eP*		**Pb**	**09 31 09.4**	**-0.2**
MT05				*eS*		**Sg**	**09 31 33.7**	**-1.0**
MT05				IAML			09 31 34.3	
	comp=Z,10μm,0.7s							
MT05	**Renca**	**1.79**	**282**	*eP*		**Pb**	**09 31 09.4**	**-0.2**
MT05				*eS*		**Sg**	**09 31 33.7**	**-1.0**
MT05				IAML			09 31 34.3	
	comp=Z,10μm,0.7s							
PEL	**Peldehue**	**1.81**	**290**			**Pb**	**09 31 10.4**	**+0.3**
PEL	**Peldehue**	**1.81**	**290**	||*iP*		**Pb**	**09 31 09.8**	**-0.3**
PEL	**Peldehue**	**1.81**	**290**	*eP*		**Pb**	**09 31 09.8**	**-0.3**
PEL				*eS*		**Sb**	**09 31 34.2**	**+1.6**
PEL	**Peldehue**	**1.81**	**290**	*eP*		**Pb**	**09 31 09.8**	**-0.3**
PEL				*eS*		**Sb**	**09 31 34.2**	**+1.6**
VA03	**San Esteban**	**1.89**	**302**			**Pb**	**09 31 11.3**	**0.0**
VA03	**San Esteban**	**1.89**	**302**	||*iP*		**Pb**	**09 31 11.2**	**0.0**
VA03				*eS*		**Sb**	**09 31 36.5**	**+1.8**
VA03	**San Esteban**	**1.89**	**302**	*eP*		**Pb**	**09 31 11.2**	**0.0**
VA03				*eS*		**Sg**	**09 31 36.7**	**-1.2**
VA03				IAML			09 31 37.3	
	comp=Z,24μm,0.8s							
VA03	**San Esteban**	**1.89**	**302**	*eP*		**Pb**	**09 31 11.2**	**0.0**
VA03				*eS*		**Sg**	**09 31 36.7**	**-1.2**
VA03				IAML			09 31 37.3	
	comp=Z,24μm,0.8s							
MT09	**Talagante**	**1.95**	**269**			**Pn**	**09 31 11.1**	**+1.3**
MT09	**Talagante**	**1.95**	**269**	||*iP*		**Pb**	**09 31 11.3**	**-1.1**
MT09				*eS*		**Sb**	**09 31 37.7**	**+1.2**
MT09				IAML			09 31 39.9	
	comp=N,10μm,0.4s							
BO02	**Sierra Bellavi**	**2.04**	**240**			**Pb**	**09 31 12.8**	**-1.1**
BO02	**Sierra Bellavi**	**2.04**	**240**	||*iP*		**Pb**	**09 31 14.5**	**+0.7**
BO02				*eS*		**Sg**	**09 31 41.2**	**-1.6**
BO02				IAML			09 31 44.8	
	comp=E,14μm,0.5s							
BO02	**Sierra Bellavi**	**2.04**	**240**	*eP*		**Pb**	**09 31 13.3**	**-0.6**
BO02				*eS*		**Sg**	**09 31 41.2**	**-1.6**
BO02				IAML			09 31 43.0	
	comp=Z,9μm,0.5s							
BO02	**Sierra Bellavi**	**2.04**	**240**	*eP*		**Pb**	**09 31 13.3**	**-0.6**
BO02				*eS*		**Sg**	**09 31 41.2**	**-1.6**
BO02				IAML			09 31 43.0	
	comp=Z,9μm,0.5s							
EDS3	**Malargue**	**2.08**	**197**	*eP*		**Pn**	**09 31 11.3**	**-0.2**
EDS3				*eS*		**Sg**	**09 31 43.8**	**-0.5**
EDS3	**Malargue**	**2.08**	**197**	*eP*		**Pn**	**09 31 11.3**	**-0.2**
EDS3				*eS*		**Sg**	**09 31 43.8**	**-0.5**
BO01	**Tunca**	**2.11**	**252**	Pn		**Pn**	**09 31 13.3**	**+1.5**
BO01	**Tunca**	**2.11**	**252**	||*iP*		**Pn**	**09 31 13.4**	**+1.5**
BO01				*eS*		**Sb**	**09 31 41.1**	**+0.1**
BO01				IAML			09 31 43.9	
	comp=E,6μm,0.5s							
BO01	**Tunca**	**2.11**	**252**	*eP*		**Pn**	**09 31 13.4**	**+1.5**
BO01				*eS*		**Sb**	**09 31 42.3**	**+1.2**
BO01				IAML			09 31 45.6	
	comp=Z,6μm,0.6s							
BO01	**Tunca**	**2.11**	**252**	*eP*		**Pn**	**09 31 13.4**	**+1.5**
BO01				*eS*		**Sb**	**09 31 42.3**	**+1.2**
BO01				IAML			09 31 45.6	
	comp=Z,6μm,0.6s							
ROCH	**El Roble**	**2.13**	**291**	||*iP*		**Pn**	**09 31 14.1**	**+1.7**
ROCH				*i* S		**Sb**	**09 31 43.3**	**+1.4**
ROCH				IAML			09 31 45.8	
	comp=N,11μm,0.4s							
ROC1	**El Roble**	**2.13**	**291**			**Pn**	**09 31 14.1**	**+1.8**
ROC1	**El Roble**	**2.13**	**291**	*eP*		**Pb**	**09 31 14.4**	**-1.2**
ROC1				*eS*		**Sb**	**09 31 43.9**	**+1.9**
ROC1	**El Roble**	**2.13**	**291**	*eP*		**Pb**	**09 31 14.4**	**-1.2**
ROC1				*eS*		**Sb**	**09 31 43.9**	**+1.9**
MT02	**Curacav**	**2.14**	**283**			**Pn**	**09 31 13.8**	**+1.5**
MT02	**Curacav**	**2.14**	**283**	||*iP*		**Pn**	**09 31 13.7**	**+1.5**
MT02				*eS*		**Sb**	**09 31 43.3**	**+1.4**
MT02	**Curacav**	**2.14**	**283**	*eP*		**Pn**	**09 31 14.0**	**+1.8**
MT02				*eS*		**Sb**	**09 31 43.1**	**+1.2**
MT02	**Curacav**	**2.14**	**283**	*eP*		**Pn**	**09 31 14.0**	**+1.8**
MT02				*eS*		**Sb**	**09 31 43.1**	**+1.2**
MT01	**Popeta**	**2.17**	**267**			**Pn**	**09 31 14.0**	**+1.4**
MT01	**Popeta**	**2.17**	**267**	*i* P		**Pn**	**09 31 14.0**	**+1.4**
MT01				*eS*		**Sb**	**09 31 43.8**	**+1.2**
MT01	**Popeta**	**2.17**	**267**	*eP*		**Pn**	**09 31 14.0**	**+1.4**
MT01				*eS*		**Sb**	**09 31 43.1**	**+0.5**
MT01	**Popeta**	**2.17**	**267**	*eP*		**Pn**	**09 31 14.0**	**+1.4**
MT01				*eS*		**Sb**	**09 31 43.1**	**+0.5**
CFA	**Coronel Fontan**	**2.19**	**9**	Pn		**Pn**	**09 31 14.3**	**+1.3**
	comp=N,415nm,0.3s,baz=183,slow=17,SNR=880							
CFA					LR	LR	09 31 44.0	
	comp=N,683nm,18.4s,baz=258,slow=32							
CFA					Lg	Lg	09 31 44.8	
	comp=N,3μm,0.3s,baz=254,slow=9.2,SNR=17							
CFA	**Coronel Fontan**	**2.19**	**9**	*eP*		**Pn**	**09 31 14.3**	**+1.3**
CFA				*eS*		**Sb**	**09 31 42.0**	**-1.4**
CFA				IAML			09 31 48.7	
	comp=Z,8μm,0.3s							
CFA	**Coronel Fontan**	**2.19**	**9**	*eP*		**Pn**	**09 31 14.3**	**+1.3**
CFA				*eS*		**Sb**	**09 31 42.0**	**-1.4**
CFA				IAML			09 31 48.7	
	comp=Z,8μm,0.3s							
ZON	**Zonda**	**2.22**	**359**	Pn		**Pn**	**09 31 15.1**	**+1.7**
ZON	**Zonda**	**2.22**	**359**	*eP*		**Pn**	**09 31 14.8**	**+1.4**
ZON				*eS*		**Sb**	**09 31 42.8**	**-1.4**
ZON				IAML			09 31 48.8	
	comp=Z,15μm,0.5s							
ZON	**Zonda**	**2.22**	**359**	*eP*		**Pn**	**09 31 14.8**	**+1.4**
ZON				*eS*		**Sb**	**09 31 42.8**	**-1.4**
ZON				IAML			09 31 48.8	
	comp=Z,15μm,0.5s							
RTLL	**Cerro Villicun**	**2.44**	**3**	*eP*		**Pn**	**09 31 18.0**	**+1.6**
RTLL				*eS*		**Sn**	**09 31 46.9**	**+1.0**
RTLL	**Cerro Villicun**	**2.44**	**3**	*eP*		**Pn**	**09 31 18.0**	**+1.6**
RTLL				*eS*		**Sn**	**09 31 46.9**	**+1.0**
VA05	**Santo Domingo**	**2.48**	**272**			**Pn**	**09 31 17.8**	**+1.0**
VA05	**Santo Domingo**	**2.48**	**272**	*eP*		**Pn**	**09 31 17.4**	**+0.7**
VA05				*i* S		**Sb**	**09 31 51.8**	**+0.4**
VA05				IAML			09 31 57.2	
	comp=E,12μm,0.4s							
VA06	**Catapilco**	**2.53**	**298**			**Pn**	**09 31 18.9**	**+1.4**
VA06	**Catapilco**	**2.53**	**298**	||*iP*		**Pn**	**09 31 18.9**	**+1.4**
VA06				*eS*		**Sb**	**09 31 55.5**	**+2.5**
VA06				IAML			09 31 56.5	
	comp=N,11μm,0.3s							
VA01	**Torpederas**	**2.62**	**286**			**Pn**	**09 31 20.1**	**+1.4**
VA01	**Torpederas**	**2.62**	**286**	*eP*		**Pn**	**09 31 19.9**	**+1.1**
VA01				*eS*		**Sb**	**09 31 57.6**	**+2.0**
VA01				IAML			09 32 02.2	
	comp=N,3μm,0.6s							
VA01	**Torpederas**	**2.62**	**286**	*eP*		**Pn**	**09 31 20.1**	**+1.4**
VA01				*eS*		**Sb**	**09 31 55.0**	**-0.6**
VA01	**Torpederas**	**2.62**	**286**	*eP*		**Pn**	**09 31 20.1**	**+1.4**
VA01				*eS*		**Sb**	**09 31 55.0**	**-0.6**
MRA	**San Martin**	**2.81**	**62**	*eP*		**Pn**	**09 31 23.0**	**+1.5**
MRA				*eS*		**Sb**	**09 32 02.8**	**+1.6**
MRA				IAML			09 32 11.2	
	comp=Z,25μm,0.4s							
MRA	**San Martin**	**2.81**	**62**	*eP*		**Pn**	**09 31 23.0**	**+1.5**
MRA				*eS*		**Sb**	**09 32 02.8**	**+1.6**
MRA				IAML			09 32 11.2	
	comp=Z,25μm,0.4s							
BO03	**Pichilemu**	**2.84**	**254**	||*iP*		**Pn**	**09 31 22.9**	**+1.1**
BO03				*eS*		**Sb**	**09 32 03.9**	**+1.9**
BO03				IAML			09 32 09.9	
	comp=E,2μm,0.4s							
GO05	**Huala**	**2.98**	**245**			**Pn**	**09 31 24.7**	**+1.0**
GO05	**Huala**	**2.98**	**245**	||*iP*		**Pn**	**09 31 24.8**	**+1.0**
GO05				*eS*		**Sg**	**09 32 09.6**	**-3.4**
GO05				IAML			09 32 10.9	
	comp=N,3μm,0.5s							
GO05	**Huala**	**2.98**	**245**	*eP*		**Pn**	**09 31 25.4**	**+1.6**
GO05	**Huala**	**2.98**	**245**	*eP*		**Pn**	**09 31 25.4**	**+1.6**
ACHE	**Chepes**	**3.10**	**33**	*eP*		**Pn**	**09 31 26.8**	**+1.3**
ACHE	**Chepes**	**3.10**	**33**	*eP*		**Pn**	**09 31 26.8**	**+1.3**
CO02	**Combarbal**	**3.24**	**322**			**Pn**	**09 31 29.5**	**+2.0**
CO02	**Combarbal**	**3.24**	**322**	||*iP*		**Pn**	**09 31 29.4**	**+2.0**
CO02				*eS*		**Sg**	**09 32 18.5**	**-2.9**
CO02	**Combarbal**	**3.24**	**322**	*eP*		**Pn**	**09 31 29.6**	**+2.0**
CO02				*eS*		**Sg**	**09 32 20.8**	**-0.6**
CO02				IAML			09 32 22.2	
	comp=Z,5μm,0.6s							
CO02	**Combarbal**	**3.24**	**322**	*eP*		**Pn**	**09 31 29.6**	**+2.0**
CO02				*eS*		**Sg**	**09 32 20.8**	**-0.6**
CO02				IAML			09 32 22.2	
	comp=Z,5μm,0.6s							
AVFE	**Valle Fertil**	**3.27**	**18**	*eP*		**Pn**	**09 31 29.4**	**+1.6**
AVFE				*eS*		**Sg**	**09 32 20.4**	**-1.8**
AVFE				IAML			09 32 28.8	
	comp=Z,5μm,0.7s							
AVFE	**Valle Fertil**	**3.27**	**18**	*eP*		**Pn**	**09 31 29.4**	**+1.6**
AVFE				*eS*		**Sg**	**09 32 20.4**	**-1.8**
AVFE				IAML			09 32 28.8	
	comp=Z,5μm,0.7s							
CO03	**El Pedregal**	**3.40**	**329**	||*iP*		**Pn**	**09 31 32.3**	**+2.6**
CO03				*eS*		**Sg**	**09 32 23.0**	**-3.4**
CO03	**El Pedregal**	**3.40**	**329**	*eP*		**Pn**	**09 31 32.2**	**+2.6**
CO03				*eS*		**Sg**	**09 32 24.7**	**-1.7**
CO03				IAML			09 32 35.4	
	comp=Z,4μm,0.8s							
CO03	**El Pedregal**	**3.40**	**329**	*eP*		**Pn**	**09 31 32.2**	**+2.6**
CO03				*eS*		**Sg**	**09 32 24.7**	**-1.7**
CO03				IAML			09 32 35.4	
	comp=Z,4μm,0.8s							
CO01	**Juntas del Tor**	**3.98**	**342**			**Pn**	**09 31 41.5**	**+3.8**
CO01	**Juntas del Tor**	**3.98**	**342**	*eP*		**Pn**	**09 31 41.5**	**+3.8**
CO01				*eP*		Pb	09 31 42.0	-5.1
CO01				*eS*		**Sb**	**09 32 40.0**	**+4.9**
CO01				IAML			09 32 49.3	
	comp=Z,2μm,0.7s							
CO01	**Juntas del Tor**	**3.98**	**342**	*eP*		**Pn**	**09 31 41.5**	**+3.8**
CO01				*eP*		Pb	09 31 42.0	-5.1
CO01				*eS*		**Sb**	**09 32 40.0**	**+4.9**
CO01				IAML			09 32 49.3	
	comp=Z,2μm,0.7s							
GO04	**Tololo Observa**	**4.03**	**332**	*eP*		**Pn**	**09 31 40.3**	**+1.9**
GO04				*eS*		**Sb**	**09 32 39.5**	**+3.0**
GO04	**Tololo Observa**	**4.03**	**332**	*eP*		**Pn**	**09 31 40.3**	**+1.9**
GO04				*eS*		**Sb**	**09 32 39.5**	**+3.0**
TCA	**Tanti**	**4.20**	**56**	*eP*		**Pn**	**09 31 42.0**	**+1.4**
TCA				*eS*		**Sb**	**09 32 43.3**	**+2.2**
TCA				IAML			09 32 57.9	
	comp=Z,7μm,0.9s							
TCA	**Tanti**	**4.20**	**56**	*eP*		**Pn**	**09 31 42.0**	**+1.4**
TCA				*eS*		**Sb**	**09 32 43.3**	**+2.2**
TCA				IAML			09 32 57.9	
	comp=Z,7μm,0.9s							
CO05	**La Serena**	**4.43**	**329**	Pn		**Pn**	**09 31 44.4**	**+0.7**
LCO	**Las Campanas**	**5.06**	**339**	Pn		**Pn**	**09 31 54.1**	**+1.4**
LCO	**Las Campanas**	**5.06**	**339**	*eP*		**Pn**	**09 31 54.0**	**+1.4**
LCO	**Las Campanas**	**5.06**	**339**	*eP*		**Pn**	**09 31 54.0**	**+1.4**
AC04	**Llanos de Chal**	**5.93**	**339**	Pn		**Pn**	**09 32 04.9**	**+0.6**
GO06	**Curarrehue**	**6.23**	**201**	Pn		**Pn**	**09 32 11.8**	**+3.4**
LR03	**Panguipulli**	**6.56**	**206**			**Pn**	**09 32 16.3**	**+3.4**
TRQA	**Tornquist**	**6.89**	**130**			**Pn**	**09 32 17.8**	**+0.2**
PLCA	**Paso Flores**	**7.11**	**192**	Pn		**Pn**	**09 32 21.9**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=6.8,slow=12,SNR=27							
PLCA					Pg	**Pb**	**09 32 42.2**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=8.8,slow=15,SNR=12							
PLCA					Lg	Lg	09 34 19.5	
	comp=Z,32nm,0.3s,baz=357,slow=8.0,SNR=3.6							
PLCA					LR	LR	09 34 56.9	
	comp=Z,212nm,20.2s,baz=16,slow=37							
PLCA	**Paso Flores**	**7.11**	**192**	Pn		**Pn**	**09 32 23.3**	**+2.8**
PLCA	**Paso Flores**	**7.11**	**192**	*eP*		**Pn**	**09 32 23.4**	**+2.8**
LR04	**Corral**	**7.20**	**211**			**Pn**	**09 32 22.6**	**+0.9**
LL04	**Puerto Octay**	**7.72**	**202**			**Pn**	**09 32 30.3**	**+1.4**
LL03	**Petrohue**	**7.93**	**201**			**Pn**	**09 32 35.0**	**+3.3**
H03S1	**Juan Fernandez**	**8.54**	**267**	T		T	09 39 15.5	
	baz=96,slow=74,SNR=63							
H03S3	**Juan Fernandez**	**8.54**	**267**	T		T	09 39 15.1	
	baz=96,slow=74,SNR=54							
H03S2	**Juan Fernandez**	**8.55**	**267**	T		T	09 39 14.2	
	baz=96,slow=74,SNR=56							
H03N1	**Juan Fernandez**	**8.57**	**269**	T		T	09 40 02.4	
	baz=86,slow=73,SNR=251							
H03N3	**Juan Fernandez**	**8.58**	**269**	T		T	09 40 03.9	
	baz=86,slow=73,SNR=232							
H03N2	**Juan Fernandez**	**8.59**	**269**	T		T	09 40 05.1	
	baz=86,slow=73,SNR=375							
VACA	**Villa Angela C**	**9.17**	**50**	*eP*		**Pn**	**09 32 47.6**	**-1.2**
TICA	**Tres Isletas**	**10.26**	**46**	*eP*		**Pn**	**09 33 02.5**	**-1.3**
SCCA	**San Cayetano,**	**10.61**	**57**	*eP*		**Pn**	**09 33 08.3**	**-0.1**
AF01	**San Pedro de A**	**10.79**	**2**			**Pn**	**09 33 11.9**	**+0.6**
ITQB	**Itaqui**	**11.02**	**71**			**Pn**	**09 33 14.6**	**+0.5**
ITQB	**Itaqui**	**11.02**	**71**	*eP*		**Pn**	**09 33 14.2**	**0.0**
PB06	**IPOC Station P**	**11.06**	**356**			**Pn**	**09 33 13.5**	**-1.3**
LVC	**Limon Verde**	**11.12**	**359**	Pn		**Pn**	**09 33 13.9**	**-2.0**
	comp=Z,2.8nm,0.3s,baz=174,slow=8.9,SNR=16							
LVC					Lg	Lg	09 36 27.2	
	comp=Z,5.0nm,0.3s,baz=253,slow=8.6,SNR=3.0							
LVC					LR	LR	09 37 57.6	
	comp=Z,749nm,18.5s,baz=197,slow=40							
	comp=Z,10.0nm,0.4s							
LVC	**Limon Verde**	**11.12**	**359**			**Pn**	**09 33 14.2**	**-1.8**
LVC	**Limon Verde**	**11.12**	**359**	*eP*		**Pn**	**09 33 14.1**	**-1.8**
PB04	**IPOC Station P**	**11.47**	**353**			**Pn**	**09 33 17.5**	**-3.1**
PB03	**IPOC Station P**	**11.72**	**355**			**Pn**	**09 33 21.5**	**-2.4**
RODS	**Rosario do Sul**	**11.91**	**77**	*eP*		**Pn**	**09 33 26.9**	**+0.6**
COYC	**Coyhaique**	**12.07**	**192**			**Pn**	**09 33 32.7**	**+4.2**
AZCA	**Azaras, Argent**	**12.26**	**66**	*eP*		**Pn**	**09 33 30.2**	**-0.9**
CPUP	**Villa Florida**	**12.29**	**56**	Pn		**Pn**	**09 33 30.2**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=231,slow=12,SNR=25							
CPUP					Lg	Lg	09 37 06.6	
	comp=Z,5.4nm,0.3s,baz=25,slow=19,SNR=2.8							
CPUP					LR	LR	09 38 43.8	
	comp=Z,515nm,20.8s,baz=238,slow=40							
	comp=Z,7.9nm,0.5s							
CPUP	**Villa Florida**	**12.29**	**56**			**Pn**	**09 33 30.5**	**-1.0**
CPUP	**Villa Florida**	**12.29**	**56**	*eP*		**Pn**	**09 33 29.7**	**-1.8**
ESFA	**Espinillo Form**	**12.47**	**48**	*eP*		**Pn**	**09 33 34.4**	**+0.4**
PLTB	**Pedras Altas**	**12.82**	**85**			**Pn**	**09 33 38.2**	**-0.6**
PLTB	**Pedras Altas**	**12.82**	**85**	*eP*		**Pn**	**09 33 37.7**	**-1.1**
PATCX	**Punta Patache**	**12.97**	**354**			**Pn**	**09 33 42.0**	**+1.1**
CPSB	**Cacapava Do Su**	**13.32**	**80**	*eP*		**Pn**	**09 33 43.9**	**-1.7**
CRSM	**Crissiumal (Br**	**14.04**	**67**	*eP*		**Pn**	**09 33 54.0**	**-1.4**
ALGR	**Alto Alegre (B**	**14.24**	**74**	*eP*		**Pn**	**09 33 59.0**	**+0.7**
MURT	**Porto Murtinho**	**15.52**	**42**	*eP*		**Pn**	**09 34 15.2**	**-0.1**
FRBT	**Francisco Belt**	**15.58**	**64**	*eP*		**Pn**	**09 34 15.8**	**-0.4**
ITAB	**Concordia**	**15.65**	**70**			**Pn**	**09 34 16.4**	**-0.7**
ITAB	**Concordia**	**15.65**	**70**	*eP*		**Pn**	**09 34 17.4**	**+0.4**
MCR1	**Marechal Candi**	**15.77**	**58**	*eP*		**Pn**	**09 34 19.3**	**+0.6**
CNLB	**Canela**	**15.81**	**78**	*eP*		**Pn**	**09 34 19.2**	**+0.1**
AMBA	**Amambai (Brazi**	**16.15**	**52**	*eP*		**Pn**	**09 34 22.4**	**-1.0**
BDQN	**Bodoquena, MS**	**16.96**	**42**	*eP*		**Pn**	**09 34 34.8**	**+1.0**
PTGB	**Pitanga**	**17.04**	**62**	*eP*		**Pn**	**09 34 34.8**	**0.0**
BBRB	**Robore, Bolivi**	**17.34**	**29**	*eP*		**Pn**	**09 34 36.8**	**-1.8**
LPAZ	**La Paz**	**17.42**	**2**	P		**Pn**	**09 34 40.0**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=177,slow=7.3,SNR=64							
LPAZ					LR	LR	09 43 17.5	
	comp=Z,300nm,19.0s,baz=147,slow=44						

comp=Z,24nm,0.8s
RUSC La Rusia 39.67 353 *e*P **P 09 38 09.7 +0.6**
CBOC Ciudad Bolivar 40.03 349 *e*P **P 09 38 14.2 +2.5**
PTBC PUERTO BERRIO, 40.47 351 *e*P **P 09 38 13.8 -1.3**
NBCL Cascavel-CE 40.77 51 *e*P **P 09 38 17.8 +0.1**
RCBR Riachuelo 41.17 55 LR LR 09 57 10.3
comp=Z,352nm,18.4s,baz=358,slow=39
RCBR Riachuelo 41.17 55 *e*P **P 09 38 20.9 -0.1**
ZARC Zaragoza, Cauc 41.46 351 *e*P **P 09 38 22.4 -0.8**
MDP Montagnes des 41.53 24 LR LR 09 56 36.9
comp=Z,122nm,19.7s,baz=198,slow=38
SDV Santo Domingo 42.47 357 LR LR 09 59 45.6
comp=Z,117nm,18.0s,baz=203,slow=41
SDV Santo Domingo 42.47 357 *e*P **P 09 38 30.5 -1.2**
BAUV El Baul 42.48 1 P **P 09 38 30.2 -1.4**
BAUV IAmb IAmb 09 38 58.6
comp=Z,18nm,1.0s
SJCC San Jacinto, C 43.87 351 *i* P **P 09 38 42.9 0.0**
HDC Heredia 45.95 339 *e*P **P 09 39 00.2 +0.6**
BELA Belgrano 2 46.62 171 P **P 09 39 04.5 +0.4**
BELA IAmb IAmb 09 39 16.2
comp=Z,8.0nm,0.9s
ORTG Ortega, Santa 46.71 337 P **P 09 39 06.8 +1.2**
ORTG IAmb IAmb 09 39 07.2
comp=Z,11nm,0.7s
VNA3 Neumayer Olymp 48.51 158 P **P 09 39 19.4 +0.6**
VNA2 Neumayer--Watz 49.13 158 P **P 09 39 23.6 0.0**
baz=285,slow=7.2
MATN Matagalpa 49.27 338 P **P 09 39 25.2 -0.2**
SNAA Sanae 50.73 158 P **P 09 39 36.2 +0.4**
SNAA Sanae 50.73 158 P **P 09 39 36.0 +0.1**
comp=Z,3.6nm,0.9s,baz=299,slow=7.8,SNR=4.7
SNAA LR LR 09 59 20.5
comp=Z,85nm,21.0s,baz=314,slow=34
comp=Z,3.6nm,0.9s
SNAA Sanae 50.73 158 P **P 09 39 36.2 +0.4**
TGUH Tegucigalpa,Un 50.77 336 P **P 09 39 36.8 +0.1**
TGUH Tegucigalpa,Un 50.77 336 *e*P **P 09 39 36.5 -0.2**
OBIP Obispado Ponce 51.56 2 P **P 09 39 44.6 +2.1**
CELP Cerrillos 51.60 3 P **P 09 39 41.8 -0.9**
SJG San Juan 51.65 3 LR LR 10 04 09.1
comp=Z,87nm,19.6s,baz=186,slow=39
TROLL Troll, Antarti 52.45 158 P **P 09 39 49.2 +0.5**
CMIG Matias Romero 56.43 330 LR LR 09 59 28.9
comp=Z,96nm,19.9s,baz=200,slow=31
QSPA South Pole Qui 56.46 180 LR LR 10 03 40.9
comp=Z,97nm,20.2s,baz=120,slow=35
QSPA South Pole Qui 56.46 180 P **P 09 40 18.7 +0.7**
QSPA IAmb IAmb 09 41 06.6
comp=Z,7.3nm,0.9s
TEIG Tepich 56.87 338 P **P 09 40 21.0 -0.1**
TLIG Tlapa 58.48 326 P **P 09 40 33.6 +0.9**
TLIG IAmb IAmb 09 41 22.0
comp=Z,18nm,1.6s
061Z Ochoppi 60.45 347 P **P 09 40 45.6 -0.3**
JCT Junction City 70.36 332 IAmb IAmb 09 41 50.7
comp=Z,10nm,0.9s
W50A Signal Mountai 70.37 346 IAmb IAmb 09 42 25.1
comp=Z,11nm,0.9s
TKL Tuckaleechee C 70.51 347 LR LR 10 16 12.0
comp=Z,86nm,19.4s,baz=310,slow=39
TX32 Lajitas Array 70.98 328 IAmb IAmb 09 42 00.1
comp=Z,14nm,1.8s
TXAR Lajitas Array 70.98 328 P **P 09 41 53.6 -0.4**
comp=Z,1.7nm,0.6s,baz=158,slow=8.5,SNR=29
comp=Z,1.7nm,0.6s
V48A Smith Brothers 71.21 344 IAmb IAmb 09 42 07.3
comp=Z,8.6nm,0.8s
WVT Waverly 71.82 344 P **P 09 41 57.7 -1.0**
ABTX Abilene, Hawle 72.20 333 IAmb IAmb 09 42 01.6
comp=Z,8.9nm,1.0s
DBIC Dimbokro 72.45 69 P **P 09 42 03.1 0.0**
comp=Z,4.3nm,0.7s,baz=222,slow=5.9,SNR=6.6
comp=Z,4.3nm,0.7s
SUR Sutherland 72.45 117 LR LR 10 10 48.3
comp=Z,33nm,18.2s,baz=206,slow=33
MAW Mawson 72.57 162 LR LR 10 12 41.2
comp=Z,111nm,20.6s,baz=226,slow=35
LCAR Lake Charles 72.60 341 IAmb IAmb 09 42 03.2
comp=Z,8.2nm,0.8s
OK052 Battle Ridge R 74.23 337 IAmb IAmb 09 42 13.6
comp=Z,14nm,1.3s
CCM Cathedral Cave 74.49 342 P **P 09 42 13.8 -0.7**
CCM IAmb IAmb 09 42 52.1
comp=Z,8.0nm,0.9s
MSTX Muleshoe 74.61 331 IAmb IAmb 09 42 15.6
comp=Z,8.8nm,0.9s
OK050 Pawnee Station 74.65 337 IAmb IAmb 09 42 15.6
comp=Z,8.5nm,0.8s
OK048 Pawnee Station 74.66 337 IAmb IAmb 09 42 15.7
comp=Z,9.1nm,0.7s
ACSO Alum Creek Sta 74.82 349 IAmb IAmb 09 42 27.8
comp=Z,9.5nm,0.9s
R40A Maddies Statio 74.98 341 IAmb IAmb 09 42 17.1
comp=Z,8.7nm,0.8s
AMTX Amarillo 74.99 332 IAmb IAmb 09 42 31.6
comp=Z,9.1nm,0.8s
P40A Paris 76.09 342 IAmb IAmb 09 43 00.8
comp=Z,7.0nm,0.9s
TSUM Tsumeb 76.55 104 LR LR 10 11 31.4
comp=Z,64nm,19.1s,baz=324,slow=32
ANMO Albuquerque 76.99 329 LR LR 10 13 23.6
comp=Z,84nm,18.0s,baz=33,slow=33
ANMO Albuquerque 76.99 329 P **P 09 42 29.0 -0.2**
BOSA Boshof 77.66 116 P **P 09 42 34.7 +1.4**
comp=Z,3.5nm,0.9s,baz=254,slow=5.0,SNR=7.9
BOSA LR LR 10 14 14.7
comp=Z,44nm,18.3s,baz=192,slow=34
comp=Z,3.5nm,0.9s
T25A Trinidad 78.03 331 IAmb IAmb 09 42 36.2
comp=Z,7.6nm,0.9s
LBTB Lobatse 79.82 113 LR LR 10 13 32.3
comp=Z,27nm,19.6s,baz=255,slow=32
Q24A Divide 79.89 332 IAmb IAmb 09 44 36.4
comp=Z,6.6nm,0.8s
TORD Torodi Ar. Bea 81.50 68 P **P 09 42 54.1 +0.1**
comp=Z,7.4nm,0.7s,baz=252,slow=5.3,SNR=3.8
comp=Z,7.4nm,0.7s
TORD Torodi Ar. Bea 81.50 68 P **P 09 42 53.7 -0.3**
TORD IAmb IAmb 09 43 02.9
comp=Z,7.1nm,0.8s
SRU San Rafael Swe 82.25 328 IAmb IAmb 09 43 15.5
comp=Z,15nm,1.8s
D41A Chassel 82.44 346 P **P 09 42 57.2 -1.0**
PDAR Pinedale Array 84.88 331 P **P 09 43 10.4 -0.8**
comp=Z,0.7nm,0.8s,baz=131,slow=5.7,SNR=6.9
comp=Z,0.7nm,0.8s
NVAR Mina Array Bea 85.35 323 P **P 09 43 13.3 -0.3**
comp=Z,1.3nm,0.8s,baz=168,slow=5.7,SNR=7.7
comp=Z,1.3nm,0.8s
HVU Hansel Valley 85.42 329 IAmb IAmb 09 43 13.7
comp=Z,3.8nm,0.7s
KVN Kaiserville 85.73 324 P **P 09 43 15.5 0.0**
KVN IAmb IAmb 09 45 11.8
comp=Z,13nm,1.6s
IMW Indian Meadow 86.38 331 IAmb IAmb 09 43 19.4
comp=Z,5.0nm,1.1s
RLMT Red Lodge 86.74 333 P **P 09 43 20.3 0.0**
RLMT IAmb IAmb 09 44 11.9
comp=Z,12nm,1.7s
SCHQ Schefferville 88.26 1 LR LR 10 25 35.5
comp=Z,68nm,20.4s,baz=284,slow=37
MDT Midelt 89.51 49 LR LR 10 23 43.1
comp=Z,69nm,18.6s,baz=112,slow=36
ESDC Sonseca Array 94.42 44 LR LR 10 23 13.8
comp=Z,27nm,19.1s,baz=284,slow=33
YKA Yellowknife Ar 102.78 340 P **Pdif 09 44 29.0 -4.1**
comp=Z,0.1nm,0.7s,baz=138,slow=4.6,SNR=4.5
ASAR Alice Springs 118.98 204 PKP **PKPdf 09 49 23.6 -2.0**
comp=Z,0.5nm,0.6s,baz=129,slow=1.7,SNR=8.4
AKASG Malin Array Be 119.97 47 PKP **PKPdf 09 49 25.1 -1.3**
comp=Z,0.3nm,0.5s,baz=263,slow=1.9,SNR=1.9
WRA Warramunga Arr 122.26 206 PKP **PKPdf 09 49 30.4 -1.5**
comp=Z,1.2nm,0.6s,baz=159,slow=1.6,SNR=17
RPSI Rantau Prapat 146.97 157 **PKPdf 09 50 17.9 +0.3**
PSI Prapat 147.07 157 PKPbc **PKPdf 09 50 17.9 -0.1**
comp=Z,2.8nm,0.3s,baz=201,slow=6.4,SNR=2.1
YAK Yakutsk 149.40 343 PKPbc **PKPbc 09 50 23.6 -0.9**
comp=Z,6.1nm,0.4s,baz=218,slow=1.1,SNR=4.9
KURBB Kurchatov Arra 150.74 45 PKPbc **PKPbc 09 50 28.0 -0.1**
comp=Z,3.8nm,0.8s,baz=295,slow=2.9,SNR=34
KURBB PKPab **sPKPbc 09 50 36.4 +0.2**
comp=Z,10.0nm,0.9s,baz=294,slow=2.8,SNR=5.6
KSH Kashi 151.17 68 PKPbc **PKiKP 09 50 30.1 -0.1**
KSH pPKP sPKPbc 09 50 38.9 +1.1
ZALV Zalesovo Beam 152.48 35 PKPbc **PKPbc 09 50 31.7 -0.3**
comp=Z,4.5nm,0.6s,baz=306,slow=3.3,SNR=21
ZALV PKPab **sPKPbc 09 50 40.6 +0.5**
comp=Z,5.9nm,0.6s,baz=299,slow=3.1,SNR=15
MKAR Makanchi Array 154.46 51 PKP **PKPdf 09 50 28.0 -0.2**
comp=Z,0.2nm,0.7s,baz=222,slow=1.6,SNR=4.5
MKAR PKPbc **sPKPdf 09 50 36.0 -0.5**
comp=Z,1.0nm,0.8s,baz=289,slow=3.7,SNR=8.2
WMQ Urumqi 159.07 54 *e*P **PKPdf 09 50 35.1 +0.8**
SONM Songino Array 165.47 13 PKPab **PKPab 09 51 38.6 -0.2**
comp=Z,0.5nm,0.9s,baz=204,slow=1.5,SNR=3.6
PZH PanZhiHua 168.97 129 PKP **PKPdf 09 50 42.6 -1.3**
XLT XiLinHaoTe 169.24 341 *e*P **PKPdf 09 50 38.4 -5.1**
XLT XiLinHaoTe 169.24 341 pmax pmax
comp=Z,160nm,5.1s
XLT XiLinHaoTe 169.24 341 pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 172.94 359 *e*P **PKPdf 09 50 42.3 -3.2**
NJ2 Nanjing 173.46 257 *e*P **PKPdf 09 50 44.4 -1.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s

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*IDC **21** 09:31:24.8±2.2,6˚.08N×127˚.36E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=181.3km s-min=21.3km az=67.0*

ISC 21 09:31:37.0±1.9,5˚.9N±0˚.4×12˚7E±˚,h100km,n6,σ1s62/8, mb3.5/4,2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDOP	**Cateel, Davao**	**1.98**	**339**	*i*P	**Pn**	**09 32 10.6**	**+1.3**
CDOP				*i* S	**Sn**	**09 32 34.4**	**+0.5**
BIPH	**Bislig**	**2.38**	**341**	*i*P	**Pn**	**09 32 15.7**	**+1.2**
BIPH				*i* S	**Sn**	**09 32 40.3**	**-2.9**
WRA	**Warramunga Arr**	**26.66**	**165**	P	**P**	**09 37 07.2**	**+0.5**
	0.3nm,0.5s,baz=345,slow=10,SNR=8.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**30.14**	**168**	P	**P**	**09 37 36.8**	**-0.9**
	0.2nm,0.5s,baz=349,slow=7.2,SNR=7.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**56.01**	**324**	P	**P**	**09 41 05.5**	**+0.1**
	0.3nm,0.3s,baz=114,slow=7.5,SNR=16						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**60.13**	**327**	P	**P**	**09 41 33.7**	**-0.3**
	0.5nm,0.4s,baz=126,slow=6.1,SNR=5.9						
	0.5nm,0.4s						

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*PRU **21** 09:35:56.1±0.0,42˚.57N×13˚.18E,h10km,M4.1*
*ROM **21** 09:35:56.1±0.0,42˚.713N±0˚.002×13˚.208E±0˚.002, h10km,ML3.8/98,Mw3.7,Error ellipse: s-maj=0.2km s-min=0.1km az=239.0,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=3.53; Mθθ=0.95; Mφφ=2.58; Mrθ=0.18; Mθφ=-2.06; Mφr=2.13; Fault plane solution: Ms=4.34035×10^14^ NP1:φs=307.00000°,δ=36.00000°, λ=-121.00000°. NP2:φs=164.00000°,δ=60.00000°, λ=-69.00000°.*
*PDG **21** 09:35:56.7±0.6,42˚.74N×13˚.22E,h8km±1km,ML4.1/12 Error ellipse: s-maj=0.8km s-min=0.8km az=90.0*
*LDG **21** 09:35:57.3±0.1,42˚.63N×13˚.07E,h10km,Ml3.4/28,Error ellipse: s-maj=6.2km s-min=3.3km az=39.0*
*IDC **21** 09:35:57.0±0.9,42˚.85N×13˚.25E,h0km,mb4.0/10, mbtmp3.9/20,ML3.7/10,MS2.9/8,Error ellipse: s-maj=15.4km s-min=11.7km az=77.0*
*NEIC **21** 09:35:57.2±1.1,42˚.71N±0˚.03×13˚.13E±0˚.06,h10km±1km, mb4.1/11,Error ellipse: s-maj=8.3km s-min=3.3km az=125.0*
*BEO **21** 09:35:58.8±0.5,42˚.73N×13˚.32E,h0km,ML4.0/15*

ISC 21 09:35:57.0±0.6,42˚.70N±0˚.01×13˚.18E±0˚.02,h12km±3km, n426,σ1s86/509,mb4.2/17,71C-14D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.04**	**81**	⇓P	**Pg**	**09 35 57.9**	**-1.5**
T1213	**Norcia, Frazio**	**0.05**	**307**	⇑P	**Pg**	**09 35 58.5**	**-0.8**
T1213				S	**Sg**	**09 35 60.0**	**-1.0**
T1218	**Civita (PG)**	**0.05**	**238**	⇑P	**Pg**	**09 35 58.9**	**-0.5**
T1218				S	**Sg**	**09 36 00.8**	**-0.3**
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1212	**Cascia, Frazio**	**0.11**	**299**	⇑P	**Pg**	**09 35 59.6**	**-0.4**
T1212				S	**Sg**	**09 36 02.2**	**0.0**
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
T1212				AML	AML		
SMA1	**SAN MARTINO**	**0.14**	**120**	⇓P	**Pg**	**09 35 59.6**	**-0.8**
SMA1				S	**Sg**	**09 36 02.0**	**-0.8**
SMA1				AML	AML		
SMA1				AML	AML		
LNSS	**Leonessa**	**0.14**	**227**	⇑P	**Pg**	**09 36 00.5**	**+0.1**
LNSS				S	**Sg**	**09 36 03.7**	**+0.9**
LNSS				AML	AML		
	comp=N,82450μm,1.4s						
LNSS				AML	AML		
LNSS				AML	AML		
	comp=N,82450μm,0.6s						
LNSS				AML	AML		
NRCA	**Norcia**	**0.14**	**342**	P	**Pg**	**09 35 59.7**	**-0.8**
NRCA				S	**Sg**	**09 36 02.0**	**-1.0**
NRCA				AML	AML		
NRCA				AML	AML		
T1217	**Poggiodomo (PG**	**0.18**	**275**	⇑P	**Pg**	**09 36 01.0**	**-0.1**
T1217				S	**Sg**	**09 36 04.8**	**+1.0**
T1217				AML	AML		
	comp=N,99900μm,0.4s						
T1217				AML	AML		
	comp=N,98200μm,0.4s						
T1217				AML	AML		
T1217				AML	AML		
	comp=N,98200μm,1.6s						
T1217				AML	AML		
T1217				AML	AML		
	comp=E,55050μm,0.4s						
T1217				AML	AML		
	comp=E,62950μm,0.3s						
RM33	**Pellescritta (**	**0.19**	**171**	⇑P	**Pg**	**09 36 01.0**	**-0.2**
RM33				S	**Sg**	**09 36 05.1**	**+0.9**
RM33				AML	AML		
	comp=E,64650μm,1.1s						
RM33				AML	AML		
	comp=E,66350μm,1.0s						
RM33				AML	AML		
	comp=N,44850μm,0.8s						
RM33				AML	AML		
	comp=E,66350μm,1.0s						
RM33				AML	AML		
	comp=N,45100μm,0.8s						
MC2	**Monte Cornacci**	**0.21**	**3**	⇑P	**Pg**	**09 36 00.8**	**-1.0**
MC2				S	**Sg**	**09 36 04.3**	**-0.7**
T1216	**Preci, Frazion**	**0.23**	**329**	⇑P	**Pg**	**09 36 01.1**	**-0.7**
T1216				S	**Sg**	**09 36 04.8**	**-0.2**
T1216				AML	AML		
	comp=E,75150μm,0.4s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,75150μm,1.6s						
CAMP	**Campotosto**	**0.24**	**133**		**Pg**	**09 36 01.4**	**-0.7**
CAMP				Sg	**Sg**	**09 36 05.3**	**-0.1**
CAMP	**Campotosto**	**0.24**	**133**	⇓P	**Pg**	**09 36 01.3**	**-0.7**
CAMP				S	**Sg**	**09 36 05.3**	**-0.1**
CAMP				AML	AML		
	comp=E,33650μm,0.5s						
CAMP				AML	AML		
	comp=N,31850μm,0.4s						
CAMP				AML	AML		
	comp=E,33650μm,1.5s						
T1215	**Vallo di Nera,**	**0.25**	**295**	⇑P	**Pg**	**09 36 02.0**	**-0.2**
T1215				S	**Sg**	**09 36 06.8**	**+1.0**
T1215				AML	AML		
	comp=E,32300μm,1.0s						
T1215				AML	AML		
T1215				AML	AML		
	comp=N,31550μm,1.0s						
T1215				AML	AML		
	comp=E,31000μm,1.1s						
T1215				AML	AML		
	comp=N,31550μm,1.0s						
T1215				AML	AML		
	comp=E,31000μm,1.1s						
T1215				AML	AML		
	comp=N,32250μm,1.0s						
T1247	**Pizzolo (AQ)**	**0.27**	**160**	⇓P	**Pg**	**09 36 02.4**	**-0.2**
T1247				AML	AML		
	comp=E,55600μm,0.4s						
T1247				AML	AML		
	comp=N,44450μm,0.8s						
T1247				AML	AML		
	comp=N,44450μm,1.2s						
FEMA	**Monte Fema**	**0.28**	**341**	P	**Pg**	**09 36 02.1**	**-0.8**
FEMA				S	**Sg**	**09 36 06.6**	**-0.2**
FEMA				AML	AML		
	comp=E,64800μm,0.3s						
FEMA				AML	AML		
	comp=N,41350μm,0.4s						
FEMA				AML	AML		
	comp=N,41400μm,0.4s						
FEMA				AML	AML		
	comp=E,64800μm,0.3s						
T1211	**Morro Reatino**	**0.29**	**235**	⇑P	**Pg**	**09 36 03.0**	**+0.1**
T1211				S	**Sb**	**09 36 08.7**	**-0.3**
T1221	**Campello sul C**	**0.29**	**304**	⇑P	**Pg**	**09 36 02.8**	**-0.2**
T1221				S	**Sg**	**09 36 07.8**	**+0.8**
T1222	**Castel Sant'An**	**0.31**	**199**	⇑P	**Pg**	**09 36 03.3**	**-0.1**
T1222				AML	AML		
	comp=E,21200μm,0.6s						
T1222				AML	AML		
	comp=N,18600μm,0.4s						
T1222				AML	AML		
	comp=E,22800μm,0.6s						
T1222				AML	AML		
	comp=E,21200μm,0.6s						
T1222				AML	AML		
	comp=N,19850μm,0.4s						
T1222				AML	AML		
	comp=N,18600μm,0.4s						
ARRO	**Arrone**	**0.33**	**249**	⇑P	**Pg**	**09 36 03.6**	**+0.1**
ARRO				AML	AML		
	comp=N,19200μm,1.2s						
ARRO				AML	AML		
	comp=E,14950μm,0.3s						
FDMO	**Fiordimonte**	**0.34**	**349**		**Pg**	**09 36 03.1**	**-0.9**
FDMO				Sg	**Sg**	**09 36 08.8**	**+0.2**
FDMO	**Fiordimonte**	**0.34**	**349**	⇑P	**Pg**	**09 36 03.0**	**-0.9**
FDMO				S	**Sg**	**09 36 08.7**	**+0.1**
FDMO				AML	AML		
	comp=E,44400μm,1.1s						
FDMO				AML	AML		
	comp=N,54200μm,0.3s						
FDMO				AML	AML		
	comp=N,54200μm,1.7s						
FDMO				AML	AML		
	comp=E,44400μm,0.9s						
CESI	**CESI - Serrava**	**0.37**	**327**	⇑P	**Pg**	**09 36 03.7**	**-0.6**
CESI				S	**Sg**	**09 36 09.5**	**+0.2**
CESI				AML	AML		
	comp=E,34450μm,0.4s						
CESI				AML	AML		
	comp=N,54700μm,0.3s						
CESI				AML	AML		
	comp=N,54700μm,1.7s						
AQU	**L'Aquila**	**0.38**	**154**		**Pg**	**09 36 04.1**	**-0.5**
AQU	**L'Aquila**	**0.38**	**154**	P	**Pg**	**09 36 04.1**	**-0.5**
AQU				AML	AML		
	comp=E,25050μm,1.0s						
AQU				AML	AML		
	comp=N,24600μm,1.6s						
AQU				AML	AML		
	comp=E,24650μm,1.0s						
AQU				AML	AML		
	comp=N,26200μm,1.6s						
AQU				AML	AML		
	comp=N,26200μm,0.4s						
AQU				AML	AML		
	comp=N,24600μm,0.4s						
GIGS	**Gran Sasso**	**0.38**	**130**	⇓P	**Pg**	**09 36 03.5**	**-1.1**
GIGS				S	**Sg**	**09 36 09.4**	**-0.3**
GIGS				AML	AML		
	comp=E,11500μm,0.5s						
GIGS				AML	AML		
	comp=N,7075μm,0.4s						
GUMA	**Gualdo di Mace**	**0.38**	**18**		**Pg**	**09 36 03.9**	**-0.8**
GUMA				Sg	**Sg**	**09 36 10.7**	**+0.9**
GUMA	**Gualdo di Mace**	**0.38**	**18**	⇑P	**Pg**	**09 36 03.9**	**-0.8**
GUMA				S	**Sg**	**09 36 09.9**	**+0.2**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
FIAM	**Fiamignano**	**0.43**	**186**	⇑P	**Pg**	**09 36 05.2**	**-0.3**
FIAM				S	**Sg**	**09 36 12.2**	**+0.9**
FIAM				AML	AML		
	comp=E,18900μm,0.5s						
FIAM				AML	AML		
	comp=N,14000μm,0.7s						
OFFI	**Offida**	**0.44**	**58**	⇑P	**Pg**	**09 36 05.3**	**-0.4**
OFFI				AML	AML		
	comp=N,84200μm,0.4s						
OFFI				AML	AML		
	comp=N,84200μm,1.6s						
OFFI				AML	AML		
	comp=E,77300μm,0.6s						
CESX	**Cesi**	**0.45**	**259**		**Pg**	**09 36 05.6**	**-0.2**
CESX	**Cesi**	**0.45**	**259**	P	**Pg**	**09 36 05.6**	**-0.2**
CESX				AML	AML		
	comp=N,20800μm,1.1s						
CESX				AML	AML		
	comp=E,23100μm,0.5s						
MOMA	**Monte Martano**	**0.46**	**284**	⇑P	**Pg**	**09 36 05.8**	**-0.2**
MOMA				S	**Sg**	**09 36 13.1**	**+1.0**
MOMA				AML	AML		
	comp=N,22600μm,1.6s						
MOMA				AML	AML		
	comp=E,22700μm,1.0s						
MOMA				AML	AML		
	comp=N,22050μm,1.6s						
MOMA				AML	AML		
	comp=E,22750μm,1.0s						
MOMA				AML	AML		
	comp=N,22050μm,0.4s						
MOMA				AML	AML		
	comp=N,22600μm,0.4s						
SEF1	**Sefro**	**0.48**	**340**	P	**Pg**	**09 36 05.5**	**-0.9**
SEF1				AML	AML		
	comp=N,24900μm,0.2s						
SEF1				AML	AML		
	comp=E,43350μm,0.3s						
MNTP	**Montappone**	**0.49**	**26**	P	**Pg**	**09 36 06.0**	**-0.6**
MDAR	**Monte D'Aria**	**0.50**	**357**	P	**Pg**	**09 36 05.6**	**-1.1**
MDAR				S	**Sg**	**09 36 13.1**	**-0.2**
MDAR				AML	AML		
	comp=E,27450μm,0.5s						
MDAR				AML	AML		
	comp=N,25050μm,0.3s						
MDAR				AML	AML		
	comp=E,27450μm,0.5s						
MDAR				AML	AML		
	comp=N,25100μm,0.3s						
PIO1	**Pioraco**	**0.50**	**344**	P	**Pg**	**09 36 06.0**	**-0.8**
PIO1				S	**Sg**	**09 36 13.2**	**-0.2**
ASSB	**Assisi San Ben**	**0.51**	**312**	⇑P	**Pg**	**09 36 06.4**	**-0.7**
ASSB				S	**Sg**	**09 36 14.5**	**+0.6**
ASSB				AML	AML		
	comp=E,20250μm,0.3s						
ASSB				AML	AML		
	comp=N,20450μm,0.3s						
FIU1	**Fiuminata**	**0.52**	**340**	P	**Pg**	**09 36 06.5**	**-0.7**
FIU1				S	**Sg**	**09 36 14.6**	**+0.5**
FAGN	**Fagnano**	**0.53**	**145**	⇓P	**Pg**	**09 36 06.3**	**-1.0**
FAGN				S	**Sg**	**09 36 14.4**	**+0.1**
FAGN				AML	AML		
	comp=E,48250μm,0.6s						
FAGN				AML	AML		
	comp=N,36850μm,1.5s						
FAGN				AML	AML		
	comp=E,48250μm,1.4s						

SSM1	**San Severino M**	**0.53**	**0**	P	**Pg**	**09 36 06.3**	**-1.1**
SSM1				S	**Sg**	**09 36 14.4**	**0.0**
GAG1	**Gagliole**	**0.55**	**352**	P	**Pg**	**09 36 06.7**	**-1.0**
GAG1				AML	AML		
	comp=N,45800µm,0.4s						
GAG1				AML	AML		
	comp=E,41350µm,0.5s						
GAG1				AML	AML		
	comp=N,45750µm,0.4s						
GAG1				AML	AML		
	comp=E,41350µm,1.5s						
TRTR	**Tortoreto Alta**	**0.56**	**78**	⇑P	**Pg**	**09 36 07.7**	**-0.1**
TRTR				AML	AML		
	comp=E,63000µm,0.6s						
TRTR				AML	AML		
	comp=N,56350µm,1.1s						
MTL1	**Matelica**	**0.57**	**348**	P	**Pg**	**09 36 07.4**	**-0.8**
MTL1				S	**Sg**	**09 36 16.3**	**+0.6**
MTL1				AML	AML		
	comp=E,40250µm,0.5s						
MTL1				AML	AML		
	comp=N,31250µm,0.4s						
SNTG	**Esanatoglia**	**0.58**	**343**	⇑P	**Pg**	**09 36 07.3**	**-1.1**
SNTG				S	**Sg**	**09 36 16.6**	**+0.4**
SNTG				AML	AML		
	comp=N,6965µm,1.4s						
SNTG				AML	AML		
	comp=E,8320µm,0.4s						
SNTG				AML	AML		
	comp=N,6965µm,0.6s						
SNTG				AML	AML		
	comp=E,8320µm,1.6s						
SNTG				AML	AML		
	comp=E,8090µm,0.6s						
SNTG				AML	AML		
	comp=N,7075µm,0.8s						
ATCC	**AVT- Casa Cast**	**0.63**	**321**	⇑P	**Pg**	**09 36 08.4**	**-0.8**
ATCC				AML	AML		
	comp=N,13750µm,1.6s						
ATCC				AML	AML		
	comp=E,14950µm,0.4s						
ATCC				AML	AML		
	comp=N,13750µm,0.4s						
EL6	**Elcito**	**0.63**	**355**	P	**Pg**	**09 36 08.1**	**-1.2**
EL6				S	**Sb**	**09 36 18.6**	**-0.4**
EL6				AML	AML		
	comp=E,25450µm,0.3s						
EL6				AML	AML		
	comp=N,22150µm,0.4s						
T0110	**Collepietro**	**0.65**	**136**	P	**Pg**	**09 36 08.2**	**-1.4**
CADA	**Capodarco di F**	**0.66**	**41**	P	**Pg**	**09 36 09.6**	**-0.1**
CADA				AML	AML		
	comp=N,35200µm,0.6s						
CADA				AML	AML		
	comp=N,35200µm,0.6s						
CADA				AML	AML		
	comp=N,35200µm,1.4s						
CADA				AML	AML		
	comp=E,40900µm,0.7s						
FOSV	**Fossato di Vic**	**0.67**	**333**	⇑P	**Pg**	**09 36 08.9**	**-1.1**
FOSV				S	**Sg**	**09 36 19.2**	**+0.4**
FOSV				AML	AML		
	comp=E,7825µm,0.3s						
FOSV				AML	AML		
	comp=N,10950µm,1.5s						
FOSV				AML	AML		
	comp=N,10950µm,0.5s						
SRES	**S.Oreste - Sor**	**0.67**	**227**	⇑P	**Pg**	**09 36 09.5**	**-0.5**
SRES				AML	AML		
	comp=E,4210µm,0.7s						
SRES				AML	AML		
	comp=N,3730µm,0.4s						
CING	**Cingoli**	**0.68**	**1**	⇑P	**Pg**	**09 36 08.8**	**-1.4**
CING				AML	AML		
	comp=N,10170µm,0.3s						
CING				AML	AML		
	comp=E,12600µm,0.7s						
PTQR	**Pietraquaria**	**0.69**	**166**	P	**Pg**	**09 36 09.2**	**-1.3**
PTQR				AML	AML		
	comp=E,3720µm,0.7s						
PTQR				AML	AML		
	comp=N,3180µm,0.9s						
PTQR				AML	AML		
	comp=E,3720µm,1.3s						
PTQR				AML	AML		
	comp=N,3180µm,1.1s						
CIMA	**Civitanova Mar**	**0.71**	**31**	P	**Pg**	**09 36 10.2**	**-0.5**
MURB	**Monte Urbino**	**0.74**	**320**		**Pg**	**09 36 10.4**	**-0.9**
MURB	**Monte Urbino**	**0.74**	**320**	P	**Pg**	**09 36 10.4**	**-0.9**
MURB				AML	AML		
	comp=E,18150µm,0.2s						
MURB				AML	AML		
	comp=N,24050µm,0.9s						
MURB				AML	AML		
	comp=N,24350µm,1.0s						
MURB				AML	AML		
	comp=E,19750µm,0.2s						
MTCE	**Montecelio**	**0.75**	**206**	⇑P	**Pg**	**09 36 10.5**	**-1.0**
MTCE				AML	AML		
	comp=E,8100µm,0.5s						
MTCE				AML	AML		
	comp=N,3360µm,0.6s						
PP3	**Marolino**	**0.75**	**25**	P	**Pg**	**09 36 10.8**	**-0.7**
PP3				AML	AML		
	comp=E,40750µm,0.6s						
PP3				AML	AML		
	comp=N,35750µm,0.4s						
PP3				AML	AML		
	comp=E,39700µm,0.6s						
PP3				AML	AML		
	comp=E,39700µm,1.4s						
PP3				AML	AML		
	comp=N,36650µm,0.4s						
PP3				AML	AML		
	comp=E,40750µm,1.4s						
PP3				AML	AML		
	comp=N,35750µm,1.6s						
MMUR	**Monte Murano**	**0.76**	**350**	P	**Pg**	**09 36 10.4**	**-1.3**
CERT	**Cerreto**	**0.76**	**191**	⇑P	**Pg**	**09 36 10.4**	**-1.4**
SSFR	**Montelago di S**	**0.79**	**339**	P	**Pg**	**09 36 11.1**	**-1.2**
SSFR				AML	AML		
	comp=N,21400µm,0.7s						
SSFR				AML	AML		
	comp=E,15100µm,0.3s						
SSFR				AML	AML		
	comp=N,21050µm,0.7s						
SSFR				AML	AML		
	comp=N,21400µm,1.3s						
SSFR				AML	AML		
	comp=N,21050µm,1.3s						
SSFR				AML	AML		
	comp=E,14500µm,0.3s						
ATFO	**Monte Foce - G**	**0.80**	**327**	P	**Pg**	**09 36 11.4**	**-1.1**
ATFO				AML	AML		
	comp=E,8000µm,0.5s						
ATFO				AML	AML		
	comp=N,8090µm,0.6s						
ATSC	**Scheggia e Pas**	**0.81**	**334**	P	**Pg**	**09 36 11.2**	**-1.4**
MGAB	**Montegabbione**	**0.81**	**286**	⇑P	**Pg**	**09 36 12.0**	**-0.7**
ARVD	**Arcevia**	**0.82**	**348**	⇑P	**Pg**	**09 36 11.5**	**-1.4**
ARVD				AML	AML		
	comp=E,4420µm,0.5s						
ARVD				AML	AML		
	comp=N,4330µm,0.5s						
RCAV	**Rocca di Cave**	**0.87**	**191**	P	**Pg**	**09 36 12.4**	**-1.3**
RCAV				AML	AML		
	comp=E,6785µm,0.8s						
RCAV				AML	AML		
	comp=N,8755µm,0.9s						
RCAV				AML	AML		
	comp=E,6780µm,0.8s						
RCAV				AML	AML		
	comp=E,6780µm,1.2s						
TB01	**Gubbio**	**0.87**	**322**	P	**Pg**	**09 36 12.7**	**-1.2**
TB02	**Pietralunga**	**0.88**	**320**	P	**Pg**	**09 36 12.6**	**-1.3**
FRON	**Frontone**	**0.88**	**338**	⇑P	**Pg**	**09 36 12.5**	**-1.6**
FRON				AML	AML		
	comp=E,5825µm,0.7s						
FRON				AML	AML		
	comp=N,9210µm,0.5s						
ATVO	**AVT- Monte Val**	**0.89**	**321**	⇑P	**Pg**	**09 36 12.8**	**-1.3**
ATVO				AML	AML		
	comp=E,5805µm,1.2s						
ATVO				AML	AML		
	comp=N,5415µm,0.7s						
ATVO				AML	AML		
	comp=E,5805µm,0.8s						
ATVO				AML	AML		
	comp=N,5415µm,1.3s						
VVLD	**Villa Vallelon**	**0.89**	**158**	AML	AML		
	comp=N,7225µm,0.6s						
VVLD				AML	AML		
	comp=E,4720µm,0.8s						
VVLD				AML	AML		
	comp=N,7225µm,1.4s						
VVLD				AML	AML		
	comp=E,4720µm,1.2s						
TB03	**Pietralunga**	**0.90**	**322**	P	**Pg**	**09 36 13.2**	**-1.2**
ATBU	**Serra di Buran**	**0.90**	**330**	P	**Pg**	**09 36 13.3**	**-1.2**
AOI	**Ancona**	**0.91**	**20**	P	**Pg**	**09 36 13.0**	**-1.5**
AOI				AML	AML		
	comp=E,7615µm,1.0s						
AOI				AML	AML		
	comp=N,8575µm,0.5s						
GUAR	**Guarcino**	**0.91**	**174**	P	**Pg**	**09 36 14.2**	**-0.3**
GUAR				AML	AML		
	comp=N,7935µm,0.6s						
GUAR				AML	AML		
	comp=E,5295µm,0.5s						
ATMI	**Monte Miggiano**	**0.92**	**314**	P	**Pg**	**09 36 14.5**	**-0.3**
ATMI				AML	AML		
	comp=N,19600µm,0.8s						
ATMI				AML	AML		
	comp=E,17050µm,0.4s						
ATPC	**Poggio Castell**	**0.94**	**326**	P	**Pg**	**09 36 14.2**	**-1.0**
COR1	**Corinaldo**	**0.94**	**352**	P	**Pg**	**09 36 13.9**	**-1.3**
COR1				AML	AML		
	comp=E,20650µm,0.7s						
COR1				AML	AML		
	comp=N,15800µm,1.4s						
COR1				AML	AML		
	comp=E,10530µm,0.7s						
COR1				AML	AML		
	comp=N,15800µm,0.6s						
COR1				AML	AML		
	comp=N,12965µm,1.4s						
SACS	**San Casciano d**	**0.94**	**280**	P	**Pg**	**09 36 14.7**	**-0.6**
SACS				AML	AML		
	comp=E,5350µm,1.2s						
SACS				AML	AML		
	comp=N,6970µm,1.2s						
SACS				AML	AML		
	comp=N,6860µm,0.5s						
SACS				AML	AML		
	comp=E,5345µm,1.2s						
PCRO	**Pietralacroce**	**0.95**	**16**	P	**Pg**	**09 36 14.1**	**-1.1**
RMP	**Rome, Mte Porz**	**0.95**	**202**	P	**Pg**	**09 36 14.1**	**-1.2**
PIEI	**Pieia**	**0.96**	**331**	P	**Pg**	**09 36 13.9**	**-1.6**
PIEI				AML	AML		
	comp=N,3810µm,0.6s						
PIEI				AML	AML		
	comp=E,4000µm,1.6s						
PIEI				AML	AML		
	comp=E,4000µm,0.4s						
MPAG	**Monte Paganucc**	**0.98**	**342**	⇑P	**Pg**	**09 36 14.4**	**-1.5**
MPAG				AML	AML		
	comp=N,4355µm,0.8s						
MPAG				AML	AML		
	comp=E,5275µm,0.7s						
MPAG				AML	AML		
	comp=E,5315µm,0.4s						
MPAG				AML	AML		
	comp=N,4340µm,0.8s						
LPEL	**Lama dei Pelig**	**0.99**	**131**	P	**Pg**	**09 36 13.7**	**-2.4**
LPEL				AML	AML		
	comp=N,4040µm,1.1s						
LPEL				AML	AML		
	comp=E,4970µm,0.5s						
LPEL				AML	AML		
	comp=N,4040µm,0.9s						
LPEL				AML	AML		
	comp=E,4970µm,1.5s						
RDP	**Rocca di Papa**	**1.00**	**200**	P	**Pg**	**09 36 15.3**	**-1.0**
RDP				AML	AML		
	comp=E,14550µm,0.6s						
RDP				AML	AML		
	comp=N,16150µm,0.5s						
SENI	**Senigallia**	**1.01**	**2**	P	**Pg**	**09 36 15.4**	**-1.0**
SENI				AML	AML		
	comp=N,22300µm,0.3s						
SENI				AML	AML		
	comp=E,6810µm,1.3s						
SENI				AML	AML		
	comp=N,4275µm,0.9s						
SENI				AML	AML		
	comp=E,27050µm,0.4s						
SENI				AML	AML		
	comp=N,4275µm,1.1s						
SENI				AML	AML		
	comp=E,6810µm,0.7s						
NARO	**Abbazia di Nar**	**1.01**	**335**	P	**Pg**	**09 36 14.8**	**-1.7**
NARO				AML	AML		
	comp=E,3690µm,0.6s						
NARO				AML	AML		
	comp=N,4950µm,0.9s						
LATE	**Laterza**	**1.01**	**266**		**Pg**	**09 36 16.1**	**-0.4**
LATE	**Laterza**	**1.01**	**266**	P	**Pg**	**09 36 15.9**	**-0.6**
APEC	**Apecchio**	**1.02**	**328**	P	**Pg**	**09 36 15.6**	**-1.1**
APEC				AML	AML		
	comp=E,5285µm,0.4s						
APEC				AML	AML		
	comp=N,7295µm,0.5s						
APEC				AML	AML		
	comp=E,5600µm,0.6s						
APEC				AML	AML		
	comp=N,5940µm,0.5s						
ATMC	**Monte Cedrone**	**1.04**	**316**	P	**Pg**	**09 36 15.7**	**-1.3**
POFI	**Posta Fibreno**	**1.06**	**158**	P	**Pb**	**09 36 15.7**	**-1.6**
POFI				AML	AML		
	comp=E,3090µm,0.9s						
POFI				AML	AML		
	comp=E,3245µm,0.9s						
POFI				AML	AML		
	comp=E,3245µm,1.1s						
POFI				AML	AML		
	comp=N,3255µm,0.6s						
POFI				AML	AML		
	comp=N,3340µm,0.6s						
POFI				AML	AML		
	comp=E,3090µm,1.1s						
BADI	**Badiali**	**1.06**	**320**	P	**Pb**	**09 36 15.9**	**-1.4**
BADI				AML	AML		
	comp=E,198µm,0.6s						
BADI				AML	AML		
	comp=N,3270µm,0.4s						
BADI				AML	AML		
	comp=E,198µm,1.4s						
CAFI	**Castiglion Fio**	**1.09**	**306**	P	**Pb**	**09 36 16.7**	**-1.1**
CAFI				AML	AML		
	comp=N,5030µm,0.5s						
CAFI				AML	AML		
	comp=E,4005µm,0.4s						
CAFI				AML	AML		
	comp=N,5170µm,0.5s						
CAFI				AML	AML		
	comp=E,3940µm,0.4s						
MCIV	**Monte Civitell**	**1.11**	**275**	P	**Pb**	**09 36 17.3**	**-0.8**
MCIV				AML	AML		
	comp=N,2355µm,1.0s						
MCIV				AML	AML		
	comp=E,2645µm,0.7s						
MCIV				AML	AML		
	comp=N,2355µm,1.0s						
PE3	**Peglio**	**1.11**	**334**	P	**Pb**	**09 36 17.2**	**-1.0**
PE3				AML	AML		
	comp=E,13650µm,0.5s						
PE3				AML	AML		
	comp=N,20µm,0.5s						
PE3				AML	AML		
	comp=N,20µm,1.5s						
SF04	**Casetta**	**1.12**	**278**	P	**Pb**	**09 36 17.6**	**-0.9**
SF04				AML	AML		
	comp=N,3005µm,0.8s						
SF04				AML	AML		
	comp=N,3005µm,1.2s						
SF04				AML	AML		
	comp=E,3530µm,0.4s						
GIUL	**Giuliano Di Ro**	**1.14**	**177**	P	**Pb**	**09 36 18.5**	**-0.2**
GIUL				AML	AML		
	comp=N,3750µm,0.6s						
GIUL				AML	AML		
	comp=E,2710µm,0.7s						
SSP9	**Sansepolcro**	**1.16**	**319**	P	**Pb**	**09 36 18.9**	**-0.2**
SSP9				AML	AML		
	comp=E,2920µm,1.5s						
SSP9				AML	AML		
	comp=E,2920µm,0.5s						
SSP9				AML	AML		
	comp=N,3170µm,0.8s						
PARC	**Parchiule**	**1.17**	**325**	P	**Pb**	**09 36 18.0**	**-1.2**
PARC				AML	AML		
	comp=E,3710µm,1.1s						
PARC				AML	AML		
	comp=N,5695µm,1.0s						
SF01	**Poggio Pratacc**	**1.19**	**276**	P	**Pb**	**09 36 19.3**	**-0.3**
SF01				AML	AML		
	comp=E,3085µm,0.7s						
SF01				AML	AML		
	comp=N,3575µm,0.5s						
LIK	**San Giovanni I**	**1.23**	**166**	P	**Pn**	**09 36 19.4**	**-0.6**
LIK	**San Giovanni I**	**1.23**	**166**	AML	AML		
	comp=N,4855µm,0.8s						
LIK				AML	AML		
	comp=N,4855µm,1.2s						
LIK				AML	AML		
	comp=E,5100µm,1.0s						
RNI2	**Rionero Sannit**	**1.23**	**144**	P	**Pn**	**09 36 19.1**	**-1.1**
RNI2				AML	AML		
	comp=N,3725µm,1.5s						
RNI2				AML	AML		
	comp=E,3750µm,1.5s						
RNI2				AML	AML		
	comp=E,3725µm,0.9s						
RNI2				AML	AML		
	comp=N,3775µm,1.5s						
RNI2				AML	AML		
	comp=E,3750µm,0.5s						
ARCI	**Arcidosso**	**1.26**	**278**	P	**Pn**	**09 36 19.9**	**-0.6**
ARCI				AML	AML		
	comp=E,1166µm,0.7s						
ARCI				AML	AML		
	comp=N,784µm,0.7s						
ARCI				AML	AML		
	comp=N,784µm,1.3s						
ARCI				AML	AML		
	comp=E,1166µm,1.3s						
CERA	**Filignano**	**1.27**	**150**	P	**Pn**	**09 36 19.0**	**-1.6**
CERA				AML	AML		
	comp=N,3365µm,0.5s						
CERA				AML	AML		
	comp=N,3410µm,0.5s						
CERA				AML	AML		
	comp=N,3365µm,1.5s						
CERA				AML	AML		
	comp=E,4600µm,0.8s						
CERA				AML	AML		
	comp=E,4515µm,0.8s						
CERA				AML	AML		
	comp=N,3410µm,1.5s						
CPGN	**Carpegna, Ital**	**1.27**	**331**	P	**Pb**	**09 36 20.9**	**0.0**
CRE	**Caprese Michel**	**1.28**	**316**	P	**Pn**	**09 36 20.3**	**-0.6**
CRE				AML	AML		
	comp=E,2465µm,0.5s						
CRE				AML	AML		
	comp=N,2220µm,0.4s						
FRES	**Fresagrandinar**	**1.32**	**123**	P	**Pn**	**09 36 20.3**	**-1.1**
FRES				AML	AML		
	comp=E,1945µm,0.6s						
FRES				AML	AML		
	comp=E,1945µm,1.4s						
FRES				AML	AML		
	comp=N,1845µm,0.6s						
MIDA	**Miranda**	**1.32**	**142**	P	**Pn**	**09 36 20.2**	**-1.2**
MIDA				AML	AML		
	comp=N,2305µm,1.6s						
MIDA				AML	AML		
	comp=N,2375µm,1.6s						
MIDA				AML	AML		
	comp=N,2305µm,0.4s						
MIDA				AML	AML		
	comp=N,2375µm,0.4s						
MIDA				AML	AML		
	comp=E,2085µm,1.1s						
MIDA				AML	AML		
	comp=E,2005µm,1.1s						
TRIV	**Trivento**	**1.38**	**132**	P	**Pn**	**09 36 22.0**	**-0.2**
TRIV				AML	AML		
TRIV				AML	AML		
	comp=N,2270µm,0.9s						
TRIV				AML	AML		
TRIV				AML	AML		
	comp=N,2270µm,1.1s						
TRIV				AML	AML		
	comp=E,2365µm,0.7s						
VAGA	**Valle Agricola**	**1.50**	**148**	P	**Pn**	**09 36 23.8**	**-0.1**
VAGA				AML	AML		
	comp=E,1248µm,0.9s						
VAGA				AML	AML		
	comp=N,1590µm,0.6s						
VAGA				AML	AML		
	comp=N,1615µm,0.6s						
VAGA				AML	AML		
	comp=N,1615µm,1.4s						
VAGA				AML	AML		
	comp=E,1285µm,0.9s						
VAGA				AML	AML		
	comp=N,1590µm,1.4s						
MAON	**Monte Argentar**	**1.53**	**261**	P	**Pn**	**09 36 24.1**	**-0.1**
MAON				AML	AML		
	comp=E,892µm,1.0s						
MAON				AML	AML		
	comp=N,764µm,1.0s						
SFI	**Santa Sofia**	**1.55**	**322**	P	**Pn**	**09 36 24.9**	**+0.4**
SFI				AML	AML		
	comp=E,1260µm,0.6s						
SFI				AML	AML		
	comp=N,1480µm,0.9s						
FROS	**Frosini**	**1.57**	**290**	P	**Pn**	**09 36 24.7**	**0.0**
FROS				AML	AML		
	comp=E,1610µm,1.6s						
FROS				AML	AML		
	comp=E,1610µm,0.4s						
FROS				AML	AML		
	comp=N,1305µm,0.5s						
CSNT	**Castellina Chi**	**1.58**	**300**	P	**Pn**	**09 36 25.2**	**+0.3**
CSNT				AML	AML		
	comp=N,1155µm,0.8s						
CSNT				AML	AML		
	comp=E,868µm,0.9s						
SGG	**Gregorio Mates**	**1.59**	**145**	P	**Pn**	**09 36 25.7**	**+0.7**
SGG				AML	AML		
	comp=N,4.5nm,1.2s						
SGG				AML	AML		
	comp=N,1450µm,1.3s						
SGG				AML	AML		
	comp=N,4.5nm,0.8s						
SGG				AML	AML		
	comp=E,1990µm,0.7s						
SGG				AML	AML		
	comp=N,1450µm,0.7s						
SGG				AML	AML		
	comp=E,6.0nm,0.7s						
OSSC	**Osservatorio P**	**1.64**	**301**		**Pn**	**09 36 26.2**	**+0.5**
OSSC	**Osservatorio P**	**1.64**	**301**	P	**Pn**	**09 36 26.2**	**+0.5**
OSSC				AML	AML		
	comp=E,997µm,1.0s						
OSSC				AML	AML		
	comp=N,997µm,1.2s						
OSSC				AML	AML		
	comp=E,997µm,1.0s						
OSSC				AML	AML		
	comp=N,870µm,1.3s						
OSSC				AML	AML		
	comp=E,927µm,1.3s						
OSSC				AML	AML		
	comp=N,997µm,0.8s						
MODR	**Mondragone**	**1.64**	**161**	AML	AML		
	comp=E,794µm,1.5s						
MODR				AML	AML		
	comp=N,1285µm,1.0s						
MODR				AML	AML		
	comp=E,794µm,0.5s						
CIGN	**Sant'Elia a Pi**	**1.66**	**128**	P	**Pb**	**09 36 27.4**	**-0.1**
CIGN				AML	AML		
	comp=E,1355µm,0.7s						
CIGN				AML	AML		
	comp=E,1355µm,1.3s						
CIGN				AML	AML		
	comp=N,1034µm,1.2s						
RUFI	**Rufina**	**1.67**	**314**	P	**Pn**	**09 36 26.0**	**-0.1**

RUFI AML AML
comp=E,1101µm,0.6s
RUFI AML AML
comp=N,1440µm,0.6s
RUFI AML AML
comp=N,1440µm,1.4s
CASP Castiglione de 1.70 274 Pn 09 36 26.5 -0.1
CASP Castiglione de 1.70 274 ⇑P Pn 09 36 26.6 0.0
CASP AML AML
comp=E,282µm,0.9s
CASP AML AML
comp=N,338µm,1.0s
CASP AML AML
comp=N,338µm,1.0s
CASP AML AML
comp=E,282µm,1.1s
TRIF Trifonti 1.72 285 P Pn 09 36 27.0 +0.2
TRIF AML AML
comp=E,746µm,0.6s
TRIF AML AML
comp=N,666µm,0.6s
TRIF AML AML
comp=N,666µm,1.4s
TRIF AML AML
comp=E,746µm,1.4s
SACR S. Croce Del S 1.73 138 P Pb 09 36 28.6 -0.2
SACR AML AML
comp=E,974µm,1.4s
SACR AML AML
comp=N,868µm,1.2s
SACR AML AML
comp=E,974µm,0.6s
MELA Melanico ??? S 1.76 124 P Pn 09 36 27.8 +0.6
MELA AML AML
comp=E,3990µm,0.6s
MELA AML AML
comp=N,4555µm,0.5s
MELA AML AML
comp=N,4585µm,0.5s
MELA AML AML
comp=E,4000µm,0.6s
BRIS BRISIGHELLA 1.89 321 P Pb 09 36 31.4 -0.1
BRIS AML AML
comp=N,2095µm,1.5s
BRIS AML AML
comp=E,2145µm,0.9s
BRIS AML AML
comp=N,1935µm,1.5s
BRIS AML AML
comp=N,2095µm,0.5s
BRIS AML AML
comp=N,1935µm,0.5s
BRIS AML AML
comp=E,2215µm,0.9s
APRC Apricena 1.99 117 P Pn 09 36 30.6 0.0
APRC AML AML
comp=E,1285µm,0.6s
APRC AML AML
comp=E,1285µm,1.4s
APRC AML AML
comp=N,2075µm,0.5s
SGRT San Giovanni R 2.13 115 Pn 09 36 33.3 +0.8
SGRT San Giovanni R 2.13 115 P Pn 09 36 32.5 0.0
BRJN Brijuni 2.25 10 P Pn 09 36 33.7 -0.3
MSAG Monte S. Angel 2.26 115 P Pn 09 36 34.5 +0.2
MSAG AML AML
comp=N,4670µm,0.8s
MSAG AML AML
comp=E,1725µm,0.5s
MSAG AML AML
comp=N,4655µm,0.8s
MSAG AML AML
comp=E,1805µm,0.7s
ZCCA Zocca 2.30 317 Pb 09 36 37.5 -0.9
SNAL S. Angelo Dei 2.33 139 AML AML
SNAL AML AML
comp=N,898µm,1.1s
SNAL AML AML
comp=E,920µm,1.2s
VLC Villacollemand 2.50 307 Pn 09 36 38.0 +0.5
VLC Villacollemand 2.50 307 AML AML
VLC AML AML
comp=N,289µm,1.2s
VLC AML AML
comp=E,275µm,0.8s
VLC AML AML
comp=E,265µm,0.8s
VLC AML AML
comp=N,280µm,1.2s
SARO Sassorosso 2.51 307 P Pn 09 36 37.4 -0.4
SARO AML AML
comp=E,803µm,0.6s
SARO AML AML
comp=N,898µm,0.6s
SARO AML AML
comp=E,803µm,1.4s
EQUI Equi 2.65 305 P Pn 09 36 39.7 +0.2
EQUI AML AML
comp=E,240µm,1.0s
EQUI AML AML
comp=N,320µm,1.3s
EQUI AML AML
comp=N,320µm,0.7s
EQUI AML AML
comp=E,240µm,1.0s
PALZ Palazzo San Ge 2.72 129 AML AML
comp=N,1088µm,1.0s
PALZ AML AML
comp=E,1170µm,1.0s
MRVN Minervino Murg 2.79 125 AML AML
comp=E,321µm,0.5s
MRVN AML AML
comp=N,314µm,0.5s
ACER Acerenza 2.82 132 AML AML
comp=E,780µm,1.2s
ACER AML AML
comp=E,734µm,0.8s
ACER AML AML
comp=N,530µm,0.6s
ACER AML AML
comp=E,780µm,0.8s
ACER AML AML
comp=N,554µm,0.8s
ACER AML AML
comp=N,530µm,1.4s
ACER AML AML
comp=E,734µm,1.2s
TEOL Teolo 2.88 338 Pn 09 36 43.4 +0.7
GRAM Graiana 2.88 310 AML AML
comp=N,713µm,0.9s
GRAM AML AML
comp=E,906µm,1.0s
GRAM AML AML
comp=N,713µm,1.1s
SKDS Skadanscina 2.91 12 *i* Pn Pn 09 36 42.7 -0.6
SKDS *e*Sn **Sn 09 37 17.8 -0.4**
SKDS Skadanscina 2.91 12 *e*Pn Pn 09 36 42.6 -0.6
PRMA PARMA 2.93 316 Pn 09 36 43.6 +0.3
A050A Klekovaca 3.02 53 ePn Pn 09 36 45.1 +0.3
PGF Pioggiola 3.08 269 *e*P Pn 09 36 46.2 +0.5
PGF *e*Sn **Sn 09 37 18.7 -3.9**
comp=N,16nm,0.4s
MSSA Maissana 3.11 303 Pn 09 36 44.9 -1.1
AMUR Altamura 3.13 124 AML AML
comp=N,498µm,0.4s
AMUR AML AML
comp=N,498µm,1.6s
AMUR AML AML
comp=E,516µm,0.4s
CEY Cerknica 3.17 16 ePn Pn 09 36 47.0 +0.2
BOJS Bojanci 3.18 27 AML AML
comp=E,1212µm,1.1s
BOJS AML AML
comp=N,847µm,0.5s
BOJS AML AML
comp=N,847µm,1.5s
BOJS Bojanci 3.18 27 *e*Pn Pn 09 36 47.1 +0.2
SRKY Kupres RS 3.21 63 ⇑*i*Pn Pn 09 36 49.0 +1.6
SABO M.te Sabotino 3.30 5 Pn 09 36 48.6 +0.1
SABO M.te Sabotino 3.30 5 AML AML
comp=N,1002µm,0.9s
SABO AML AML
comp=E,4225µm,0.6s
SABO AML AML
comp=N,4015µm,0.9s
SABO AML AML
comp=E,1115µm,0.6s
SABO AML AML
comp=E,4225µm,1.4s

SABO AML AML
comp=E,1115µm,1.4s
ROVR Rover Verones 3.31 334 AML AML
comp=N,744µm,0.8s
ROVR AML AML
comp=E,167µm,0.5s
ROVR AML AML
comp=N,284µm,0.8s
ROVR AML AML
comp=E,397µm,0.5s
MGRS Mrkonjic Grad 3.32 57 *e*Pn Pn 09 36 50.2 +1.4
CGRP Cima Grappa 3.33 343 AML AML
comp=N,976µm,1.4s
CGRP AML AML
comp=E,675µm,0.8s
CGRP AML AML
comp=N,976µm,0.6s
CGRP AML AML
comp=E,683µm,0.8s
CGRP AML AML
comp=N,953µm,0.5s
CGRP AML AML
comp=N,953µm,1.5s
CGRP AML AML
comp=E,683µm,1.2s
CGRP AML AML
comp=E,675µm,1.2s
STON Ston 3.33 85 AML AML
comp=N,236µm,0.7s
STON AML AML
comp=E,264µm,1.4s
STON AML AML
comp=E,264µm,0.6s
STON AML AML
comp=N,236µm,1.3s
STON Ston 3.33 85 *e*Pn Pn 09 36 49.3 +0.3
STON *e*Sn **Sn 09 37 28.3 -0.2**
STON Ston 3.33 85⇑*i*Pn Pn 09 36 49.0 0.0
MATE Matera 3.34 127 ⇑P Pn 09 36 50.6 +1.5
MATE Matera 3.34 127 AML AML
comp=N,462µm,0.5s
MATE AML AML
comp=E,376µm,0.7s
CUC Castrocucco 3.35 143 Pn 09 36 47.4 -1.9
CUC Castrocucco 3.35 143 AML AML
comp=E,168µm,0.9s
CUC AML AML
comp=E,148µm,0.9s
CUC AML AML
comp=N,112µm,0.8s
CUC AML AML
comp=N,138µm,0.8s
LTRZ Laterza 3.44 126 AML AML
comp=E,467µm,0.4s
LTRZ AML AML
comp=N,163µm,1.6s
NOCI Noci 3.48 122 AML AML
comp=N,352µm,1.6s
NOCI AML AML
comp=E,371µm,1.6s
LJU Ljubljana 3.48 16 AML AML
comp=E,2295µm,0.6s
LJU AML AML
comp=N,3030µm,0.7s
DOSS Dosso del Somm 3.49 337 AML AML
comp=E,476µm,0.5s
DOSS AML AML
comp=N,446µm,0.5s
DOSS AML AML
comp=N,546µm,0.7s
DOSS AML AML
comp=E,520µm,0.6s
SALO Salr 3.49 328 Pn 09 36 52.0 +0.8
SALO Salr 3.49 328 AML AML
comp=E,534µm,0.4s
SALO AML AML
comp=N,664µm,0.8s
SALO AML AML
comp=N,664µm,1.2s
CTI Castel Tesino 3.52 342 Pn 09 36 52.4 +0.7
CRES Cresnjev 3.53 27 ePn Pn 09 36 52.1 +0.4
MPRI Monte Prat 3.55 358 AML AML
comp=N,758µm,0.8s
MPRI AML AML
comp=E,410µm,0.5s
MPRI AML AML
comp=E,523µm,0.5s
MPRI AML AML
comp=N,586µm,0.8s
A051A Mrakovica 3.56 48 *e*Pn Pn 09 36 52.4 +0.3
BLY Banja Luka 3.56 53 *e*Pn Pn 09 36 55.5 +3.5
BLY Banja Luka 3.56 53⇑*i*Pn Pb 09 36 58.1 -1.7
STAL STALIGIAL 3.58 355 Pn 09 36 52.6 +0.3
STAL STALIGIAL 3.58 355 AML AML
comp=N,470µm,0.7s
STAL AML AML
comp=E,510µm,0.8s
STAL AML AML
comp=N,470µm,1.3s
STAL AML AML
comp=E,574µm,0.8s
STAL AML AML
comp=N,419µm,0.3s
LUSI Trento, Gardas 3.63 335 AML AML
comp=N,434µm,1.1s
LUSI AML AML
comp=E,376µm,0.9s
LUSI AML AML
comp=E,376µm,1.1s
CIMO Cimolais 3.65 352 Pn 09 36 53.4 0.0
CIMO Cimolais 3.65 352 AML AML
comp=E,133µm,0.8s
CIMO AML AML
comp=N,145µm,0.4s
CIMO AML AML
comp=E,135µm,0.6s
CIMO AML AML
comp=N,150µm,0.4s
CIMO AML AML
comp=E,135µm,1.4s
PTCC Patocco-Chiusa 3.71 2 AML AML
comp=N,186µm,0.7s
PTCC AML AML
comp=E,244µm,0.8s
GAGG Gaggia 3.74 336 AML AML
comp=N,500µm,0.8s
GAGG AML AML
comp=E,360µm,0.8s
GAGG AML AML
comp=E,534µm,0.8s
GAGG AML AML
comp=N,378µm,0.8s
PRED Cave del Predi 3.75 4 Pn 09 36 55.3 +0.5
CLUD Cludinico 3.77 357 Pn 09 36 55.1 +0.1
TAR1 Taranto 3.77 124 AML AML
comp=N,316µm,0.9s
TAR1 AML AML
comp=E,294µm,0.9s
TAR1 AML AML
comp=N,316µm,1.1s
TAR1 AML AML
comp=E,294µm,1.1s
TREB Trebinje 3.81 88 *e*Pn Pn 09 36 56.2 +0.6
TREB *e*Sn **Sn 09 37 42.4 +2.0**
TREB Trebinje 3.81 88 *e*Pn Pn 09 36 55.9 +0.3
ACOM Acomizza, Ital 3.86 3 AML AML
comp=E,403µm,1.0s
ACOM AML AML
comp=E,424µm,1.0s
ACOM AML AML
comp=E,403µm,1.0s
ACOM AML AML
comp=N,374µm,0.6s
ACOM AML AML
comp=N,401µm,0.7s
ACOM AML AML
comp=E,424µm,1.0s
MABI Malga Bissina 3.86 331 AML AML
comp=E,143µm,1.2s
MABI AML AML
comp=N,158µm,0.5s
MABI AML AML
comp=E,143µm,0.8s
ZOU Zoufplan 3.86 358 AML AML
comp=E,362µm,0.9s
ZOU AML AML
comp=E,362µm,1.1s

ZOU AML AML
comp=N,406µm,1.0s
ZOU AML AML
comp=E,375µm,1.1s
ZOU AML AML
comp=N,368µm,1.0s
ZOU AML AML
comp=E,375µm,0.9s
FVI Forni Avoltri 3.91 356 AML AML
comp=N,258µm,0.4s
FVI AML AML
comp=E,252µm,0.8s
FVI AML AML
comp=N,258µm,1.6s
OBKA Obir 3.94 14 *i* Pn Pn 09 36 57.5 +0.2
comp=N,9.0nm,0.5s
OBKA Obir 3.94 14 *e*Pn Pn 09 36 56.9 -0.4
HCY Herceg Novi 3.94 92⇑*i*Pn Pn 09 36 57.9 +0.6
HCY Herceg Novi 3.94 92⇑*i*Pn Pn 09 36 57.9 +0.6
HCY *e*Sn **Sn 09 37 42.9 -0.5**
MYKA Terra Mystica 3.95 5 *e*Pn Pn 09 36 57.9 +0.4
comp=N,18nm,0.3s,SNR=13
MYKA *e*Sn **Sn 09 37 45.0 +1.3**
comp=N,43nm,0.4s
A052A Srbac 3.95 51 *e*Pn Pn 09 36 57.0 -0.4
BRY Bratogost 3.95 85 *e*Pn Pn 09 36 58.1 +0.5
BRY Bratogost 3.95 85⇑*i*Pn Pn 09 36 58.2 +0.6
BRY *e*Sn **Sn 09 37 46.0 +2.0**
ABTA Abfaltersbach 4.08 354 *i* Pn Pn 09 37 00.1 +0.8
comp=N,54nm,0.5s,SNR=40
ABTA *i* Sn **Sn 09 37 48.8 +1.9**
comp=N,54nm,0.5s
SOKA Soboth 4.20 18 *i* Pn Pn 09 37 01.2 +0.3
comp=N,8.3nm,0.3s
SOKA *e*Sn **Sn 09 37 50.3 +0.5**
comp=N,15nm,0.4s
UPM Unac-Piva 4.24 81⇑*i*Pn Pn 09 37 03.0 +1.4
UPM Unac-Piva 4.24 81⇑*i*Pn Pn 09 37 03.0 +1.4
UPM *e*Sn **Sn 09 37 52.6 +1.5**
CEME Cevo 4.24 90⇓*i*Pn Pn 09 37 02.3 +0.8
CEME *e*Sn **Sn 09 37 52.3 +1.3**
NKME Niksic 4.26 87⇑*i*Pn Pn 09 37 02.7 +1.0
NKME *e*Sn **Sn 09 37 52.5 +1.1**
RISI Rein 4.32 350 AML AML
comp=N,906µm,0.6s
RISI AML AML
comp=E,792µm,0.5s
RISI AML AML
comp=E,792µm,1.5s
SBF Sospel 4.35 287 *e*P Pn 09 37 03.9 +0.9
SBF *e*Sn **Sn 09 37 49.6 -4.1**
comp=E,36nm,0.4s
MUGIO Muggio 4.38 319 AML AML
comp=E,116µm,0.5s
MUGIO AML AML
comp=N,120µm,0.7s
MUGIO AML AML
comp=N,120µm,1.3s
KBA Koelnbreinsper 4.38 2 *i* Pn Pn 09 37 04.7 +1.2
comp=N,6.9nm,0.2s,SNR=16
KBA *e*Sn **Sn 09 37 54.5 -0.1**
comp=N,80nm,0.6s
FUORN Ofenpass-Fuorn 4.44 333 Pn 09 37 07.0 +2.6
TIP Timpagrande 4.44 141 ⇑P Pn 09 37 04.8 +0.6
TIP Timpagrande 4.44 141 Pn 09 37 04.8 +0.6
DRME Dracevica, Mon 4.48 95 *e*Pn Pn 09 37 05.7 +1.0
DRME Dracevica, Mon 4.48 95⇓*i*Pn Pn 09 37 05.8 +1.1
DRME *e*Sn **Sn 09 37 58.0 +1.3**
PDG Podgorica 4.50 91 ⇑P Pn 09 37 06.3 +1.4
PDG ⇑S **Sn 09 37 59.7 +2.5**
PDG Podgorica 4.50 91 Pn 09 37 06.1 +1.1
PDG Podgorica 4.50 91 *e*Pn Pn 09 37 06.1 +1.1
PDG *e*Sn **Sn 09 37 56.8 -0.4**
PDG Podgorica 4.50 91⇓*i*Pn Pn 09 37 06.0 +1.0
PDG *e*Sn **Sn 09 37 58.2 +1.0**
ULC Ulcinj 4.56 97⇑*i*Pn Pn 09 37 06.7 +0.9
ULC *e*Sn **Sn 09 37 59.9 +1.1**
PLE Pljevlja 4.60 80⇓*i*Pn Pn 09 37 07.2 +0.7
PLE *e*Sn **Sn 09 38 00.9 +1.0**
RUDO Rudo 4.62 76⇑*i*Pn Pn 09 37 07.0 +0.3
FETA Feichten 4.66 339 *i* Pn Pn 09 37 08.7 +1.4
comp=N,21nm,0.7s,SNR=8.4
FETA *e*Sn **Sn 09 38 03.1 +1.6**
comp=N,26nm,0.5s
TUE Stuetta 4.66 325 Pn 09 37 07.7 +0.3
KOME Kolasin 4.67 86⇓*i*Pn Pn 09 37 08.6 +1.2
KOME *e*Sn **Sn 09 38 02.7 +1.1**
WTTA Wattenberg 4.70 347 *i* Pn Pn 09 37 09.6 +1.7
comp=N,13nm,0.3s,SNR=15
WTTA *e*Sn **Sn 09 38 03.9 +1.5**
comp=N,106nm,0.7s
BBLS Lazići 4.70 73 *e*Pn Pn 09 37 09.2 +1.4
BBLS Lazići 4.70 73 *e*Pn Pn 09 37 08.4 +0.6
DAVOX Davos/Dischmat 4.71 331 Pn Pn 09 37 10.7 +2.6
comp=N,7.0nm,0.3s,baz=152,slow=18,SNR=58
DAVOX Sn **Sn 09 38 05.1 +2.4**
comp=N,5.2nm,0.3s,baz=101,slow=18,SNR=4.5
DAVOX LR LR 09 39 29.8
comp=N,92nm,19.1s,baz=238,slow=46
SQTA Sankt Quirin 4.73 344 *i* Pn Pn 09 37 10.2 +1.9
comp=N,45nm,0.4s,SNR=14
SQTA *i* Sn **Sn 09 38 04.1 +0.9**
comp=N,56nm,0.4s
SCTE Santa Cesarea 4.77 122 Pn Pn 09 37 08.7 +0.1
WATA Walderalm 4.77 347 *i* Pn Pn 09 37 11.2 +2.3
comp=N,26nm,0.5s,SNR=16
WATA *e*Sn **Sn 09 38 06.5 +2.2**
comp=N,36nm,0.3s
ARSA Arzberg 4.85 19 *e*Pn Pn 09 37 09.8 0.0
comp=N,10nm,0.4s,SNR=9.1
ARSA *e*Sn **Sn 09 38 03.8 -2.1**
comp=N,13nm,0.4s
MOTA Moosalm 4.87 343 *e*Pn Pn 09 37 12.3 +2.0
comp=N,22nm,0.6s,SNR=12
MOTA *e*Sn **Sn 09 38 08.5 +1.8**
comp=N,19nm,0.4s
CEL Celeste 4.89 154 Pn Pn 09 37 11.1 +0.6
LMR La Mourre 4.93 280 *e*P Pn 09 37 11.0 +0.1
LMR *e*Sn **Sn 09 38 04.1 -3.7**
IVA Berane 4.95 86⇓*i*Pn Pn 09 37 13.4 +2.2
IVA *e*Sn **Sn 09 38 09.4 +1.0**
BIOA Bad Ischl, Aus 5.00 4 *e*Pn Pn 09 37 12.8 +0.9
comp=N,15nm,0.3s,SNR=13
BIOA *i* Sn **Sn 09 38 09.9 +0.2**
comp=N,46nm,0.4s
PVY Plav 5.00 89⇓*i*Pn Pn 09 37 14.1 +2.0
PVY *e*Sn **Sn 09 38 10.7 +0.8**
SJES Sjenica 5.02 81 *e*Pn Pn 09 37 14.0 +1.8
MBDF Montbardon 5.07 296 *e*P Pn 09 37 14.3 +1.4
MBDF *e*Sn **Sn 09 38 07.7 -3.7**
comp=N,6.7nm,0.3s
RETA Reutte 5.08 341 *i* Pn Pn 09 37 15.1 +2.0
comp=N,8.9nm,0.3s,SNR=11
RETA *i* Sn **Sn 09 38 13.2 +1.4**
comp=N,17nm,0.3s
DAVA Damuels 5.15 334 *i* Pn Pn 09 37 16.5 +2.5
comp=N,16nm,0.4s,SNR=13
DAVA *i* Sn **Sn 09 38 14.1 +0.6**
comp=N,40nm,0.5s
DIVS Divibare 5.16 72 Pn 09 37 14.7 +0.5
DIVS Divibare 5.16 72 *e*Pn Pn 09 37 14.7 +0.5
DIVS Divibare 5.16 72 *e*Pn Pn 09 37 14.7 +0.5
TIR Tirane 5.16 103 ⇑P Pn 09 37 15.2 +1.0
TIR ⇓S **Sn 09 38 15.3 +1.7**
TIR Tirane 5.16 103 Pn 09 37 15.1 +1.0
TIR Tirane 5.16 103 P Pn 09 37 15.1 +1.0
TIR Tirane 5.16 103 *e*Pn Pn 09 37 15.1 +1.0
TIR *e*Sn **Sn 09 38 14.4 +0.8**
IVAS Ivanjica 5.18 78 *e*Pn Pn 09 37 15.1 +0.7
IVAS *e*Sn **Sn 09 38 13.2 -1.0**
MOA Molln 5.21 8 *i* Pn Pn 09 37 15.3 +0.5
comp=N,8.3nm,0.3s
MOA *e*Sn **Sn 09 38 14.3 -0.5**
comp=N,14nm,0.3s
MOA Molln 5.21 8 *e*Pn Pn 09 37 16.1 +1.3
MOA *e*Sn **Sn 09 38 16.0 +1.2**
MORH Mrgy, Hungar 5.26 46 ⇑P Pn 09 37 16.6 +1.2
VAE Valguarnera 5.30 169 Pn Pn 09 37 21.9 +5.9
comp=N,0.7nm,0.3s,baz=331,slow=13,SNR=1.0
FRGS Fruska Gora 5.39 61 ⇑P Pn 09 37 18.5 +1.4
FRGS Fruska Gora 5.39 61 *e*Pn Pn 09 37 17.9 +0.7
FRGS Fruska Gora 5.39 61 *e*Pn Pn 09 37 17.4 +0.2
LPL La Plagne 5.43 303 *e*P Pn 09 37 19.9 +1.9
LPL *e*Sn **Sn 09 38 17.3 -3.2**
comp=N,6.5nm,0.3s

RONA	**Rosalia, Austr**	**5.47**	**23**	*i* Pn		**Pn**	**09 37 18.4**	**0.0**
	comp=N,5.0nm,0.3s,SNR=7.9							
TRUS	**Trudelj**	**5.48**	**71**	*e*Pn		**Pn**	**09 37 19.1**	**+0.6**
CONA	**Conrad Observa**	**5.56**	**19**	*i* Pn		**Pn**	**09 37 19.8**	**+0.1**
	comp=N,15nm,0.3s,SNR=18							
CONA				*e*Sn		**Sn**	**09 38 20.8**	**-2.8**
	comp=N,22nm,0.6s							
SENIN	**Lac Senin/Sane**	**5.57**	**313**			**Pn**	**09 37 21.0**	**+1.0**
GRUS	**Gruza**	**5.63**	**75**	*e*Pn		**Pn**	**09 37 21.1**	**+0.6**
GRUS				*e*Sn		**Sn**	**09 38 24.7**	**-0.4**
SMRF	**Simiane la Rot**	**5.69**	**286**	*e*P		**Pn**	**09 37 22.6**	**+1.2**
SMRF				*e*Sn		**Sn**	**09 38 22.5**	**-4.1**
ORIF	**Oris-en-Rattie**	**5.73**	**295**	*e*P		**Pn**	**09 37 24.1**	**+2.2**
ORIF				*e*Sn		**Sn**	**09 38 22.7**	**-4.9**
KEK	**Kerkira**	**5.82**	**119**			**Pn**	**09 37 24.7**	**+1.6**
KEK	**Kerkira**	**5.82**	**119**	P		**Pn**	**09 37 24.1**	**+1.0**
KEK				S		**Sn**	**09 38 24.2**	**-5.6**
SELS	**Selova**	**5.85**	**82**	*e*Pn		**Pn**	**09 37 24.0**	**+0.4**
OHR	**Ohrid**	**5.91**	**103**	*e*Pn		**Pn**	**09 37 26.3**	**+1.9**
OHR				*e*Sn		**Sn**	**09 38 30.3**	**-1.7**
OHR	**Ohrid**	**5.91**	**103**	*i* Pn		**Pn**	**09 37 26.2**	**+1.9**
OHR				*i* Sg		**Sn**	**09 38 32.9**	**+0.9**
ZST	**Bratislava**	**6.15**	**25**	*e*PN		**Pn**	**09 37 28.5**	**+0.8**
ZST				*e*SN		**Sn**	**09 38 34.9**	**-3.1**
GEC2	**GERESS Array S**	**6.16**	**3**			**Pn**	**09 37 27.8**	**0.0**
GERES	**GERESS Array B**	**6.16**	**3**	Pn		**Pn**	**09 37 27.6**	**-0.3**
	comp=N,1.2nm,0.3s,baz=181,slow=12,SNR=30							
GERES				Sn		**Sn**	**09 38 36.7**	**-1.6**
	comp=N,4.6nm,0.3s,baz=162,slow=22,SNR=7.4							
GERES				LR		LR	09 40 33.0	
	comp=N,76nm,19.0s,baz=74,slow=46							
	comp=N,3.3nm,0.5s							
SKO	**Skopje**	**6.17**	**94**	*e*Pn		**Pn**	**09 37 29.3**	**+1.4**
SKO	**Skopje**	**6.17**	**94**	*i* Pn		**Pn**	**09 37 29.3**	**+1.4**
SKO				*i* Sg		**Sn**	**09 38 39.5**	**+1.1**
CKRC	**Cesky Krumlov**	**6.17**	**7**	*e*PN		**Pn**	**09 37 28.2**	**+0.2**
CKRC				*e*SN		**Sn**	**09 38 36.7**	**-1.8**
IGT	**Igoumenitsa**	**6.26**	**118**			**Pn**	**09 37 30.7**	**+1.5**
BOVS	**Bovan**	**6.31**	**79**	⇑P		**Pn**	**09 37 30.1**	**+0.3**
BOVS	**Bovan**	**6.31**	**79**	*e*Pn		**Pn**	**09 37 30.1**	**+0.3**
BOVS				*e*Sn		**Sn**	**09 38 40.0**	**-1.8**
BARS	**Barje**	**6.36**	**86**	*e*Pn		**Pn**	**09 37 31.2**	**+0.6**
BARS				*e*Sn		**Sn**	**09 38 41.6**	**-1.6**
MODS	**Modra-Piesok**	**6.37**	**25**	*e*PN		**Pn**	**09 37 30.3**	**-0.3**
MODS				*e*SN		**Sn**	**09 38 42.3**	**-0.9**
CABF	**La Chapelle**	**6.39**	**310**	*e*P		**Pn**	**09 37 32.9**	**+1.8**
CABF				*e*Sn		**Sn**	**09 38 39.8**	**-4.2**
	comp=N,2.7nm,0.2s							
FNA	**Florina**	**6.42**	**105**			**Pn**	**09 37 32.4**	**+0.9**
FNA	**Florina**	**6.42**	**105**	P		**Pn**	**09 37 32.4**	**+0.9**
FNA				S		**Sn**	**09 38 37.6**	**-7.2**
FNA	**Florina**	**6.42**	**105**	*e*Pn		**Pn**	**09 37 32.6**	**+1.1**
FNA				*e*Sn		**Sn**	**09 38 43.0**	**-1.8**
KHC	**Kasperske Hory**	**6.44**	**2**			**Pn**	**09 37 31.8**	**+0.1**
KHC	**Kasperske Hory**	**6.44**	**2**	*e*PN		**Pn**	**09 37 31.6**	**-0.1**
KHC				*e*SN		**Sn**	**09 38 43.5**	**-1.6**
PENT	**Pentalofos**	**6.48**	**110**	P		**Pn**	**09 37 33.6**	**+1.2**
VIVF	**Saint-Julien-l**	**6.52**	**292**	*e*P		**Pn**	**09 37 34.2**	**+1.4**
VIVF				*e*Sn		**Sn**	**09 38 42.0**	**-5.1**
	comp=N,1.3nm,0.3s							
MDVR	**Moldovita**	**6.53**	**68**	⇑P		**Pn**	**09 37 33.5**	**+0.7**
PRVS	**Prvonek**	**6.57**	**89**	*e*Pn		**Pn**	**09 37 34.2**	**+0.7**
PRVS				*e*Sn		**Sn**	**09 38 47.4**	**-1.0**
BFO	**Black Forest**	**6.58**	**331**			**Pn**	**09 37 33.7**	**+0.1**
ZAGS	**Zajecar**	**6.71**	**77**	*e*Pn		**Pn**	**09 37 35.6**	**+0.3**
BZS	**Buzias**	**6.74**	**61**	⇑P		**Pn**	**09 37 37.7**	**+2.0**
BZS	**Buzias**	**6.74**	**61**	*e*Pn		**Pn**	**09 37 37.1**	**+1.4**
KRUC	**Moravsky**	**6.75**	**18**	*e*PN		**Pn**	**09 37 35.5**	**-0.4**
STIP	**Stip**	**6.77**	**95**	*i* Pn		**Pn**	**09 37 39.0**	**+2.9**
STIP				*i* Sg		**Sn**	**09 38 55.9**	**+2.7**
HINF	**Hinteralfeld**	**6.79**	**321**	*e*P		**Pn**	**09 37 36.8**	**+0.3**
HINF				*e*Sn		**Sn**	**09 38 48.9**	**-4.8**
	comp=N,49nm,0.6s							
TSLK	**Tsoukalades, L**	**6.87**	**122**	P		**Pn**	**09 37 39.6**	**+2.0**
JAVC	**Velka Javorina**	**6.92**	**25**	*e*PN		**Pn**	**09 37 38.6**	**+0.4**
LASF	**Ste Croix**	**6.93**	**285**	*e*P		**Pn**	**09 37 39.7**	**+1.3**
LASF				*e*Sn		**Sn**	**09 38 50.6**	**-6.5**
	comp=N,0.2nm,0.1s							
ECH	**Echery**	**6.95**	**325**			**Pn**	**09 37 39.3**	**+0.6**
ZAPS	**Zavoj**	**6.96**	**82**	*e*Pn		**Pn**	**09 37 40.2**	**+1.4**
ZAPS				*e*Sn		**Sn**	**09 38 55.0**	**-3.0**
NYDR	**Nydri-Lefkada**	**6.96**	**122**	P		**Pn**	**09 37 39.8**	**+1.0**
VYHS	**Vyhne**	**7.02**	**32**	*e*PN		**Pn**	**09 37 40.9**	**+1.2**
VRAC	**Vranov**	**7.03**	**19**	Pn		**Pn**	**09 37 39.8**	**+0.1**
	comp=N,1.1nm,0.3s,baz=206,slow=12,SNR=6.7							
VRAC				Sn		**Sn**	**09 38 55.5**	**-4.0**
	comp=N,0.3nm,0.3s,baz=126,slow=22,SNR=3.2							
VRAC				LR		LR	09 40 58.6	
	comp=N,107nm,18.2s,baz=293,slow=44							
	comp=N,2.6nm,0.4s							
VRAC	**Vranov**	**7.03**	**19**	⇑P		**Pn**	**09 37 40.4**	**+0.7**
VRAC	**Vranov**	**7.03**	**19**	*e*PN		**Pn**	**09 37 40.0**	**+0.3**
HERR	**Herculane**	**7.03**	**69**	⇑P		**Pn**	**09 37 40.5**	**+0.7**
SIRR	**Siria**	**7.04**	**57**	⇑P		**Pn**	**09 37 42.2**	**+2.4**
CDF	**Champ du Feu**	**7.05**	**326**	*e*P		**Pn**	**09 37 40.4**	**+0.2**
CDF				*e*Sn		**Sn**	**09 38 56.0**	**-4.3**
	comp=N,34nm,0.6s							
DJES	**Djerdap**	**7.05**	**71**	⇑P		**Pn**	**09 37 41.5**	**+1.4**
SURR	**Surduc**	**7.12**	**62**	⇑P		**Pn**	**09 37 42.1**	**+1.1**
GRFO	**Grafenberg**	**7.12**	**350**	Pn		**Pn**	**09 37 40.4**	**-0.7**
VAY	**Valandovo**	**7.13**	**98**	*e*Pn		**Pn**	**09 37 42.2**	**+1.0**
VAY				*e*Sn		**Sn**	**09 39 00.0**	**-2.1**
VAY	**Valandovo**	**7.13**	**98**	*i* Pn		**Pn**	**09 37 42.1**	**+1.0**
VAY				*i* Sg		**Sn**	**09 39 00.1**	**-2.0**
HAU	**Haudompre**	**7.16**	**320**	*e*P		**Pn**	**09 37 42.3**	**+0.7**
HAU				*e*Sn		**Sn**	**09 38 57.2**	**-5.6**
	comp=N,92nm,0.6s							
VLS	**Valsamata**	**7.24**	**126**	P		**Pn**	**09 37 44.1**	**+1.5**
GOPC	**GO Pecny, Ondr**	**7.30**	**8**	*e*PN		**Pn**	**09 37 42.9**	**-0.6**
PRU	**Pruhonice**	**7.35**	**7**	*e*PN		**Pn**	**09 37 44.3**	**+0.1**
KKB	**Krupnik**	**7.39**	**93**	P		**Pn**	**09 37 46.4**	**+1.6**
VTS	**Vitosha**	**7.42**	**87**			**Pn**	**09 37 45.7**	**+0.5**
VTS	**Vitosha**	**7.42**	**87**	*e*Pn		**Pn**	**09 37 46.0**	**+0.8**
VTS	**Vitosha**	**7.42**	**87**	*e*Pn		**Pn**	**09 37 46.3**	**+1.1**
VTS				*e*Sn		**Sn**	**09 39 05.0**	**-4.3**
VTS				*e*Sn		**Sn**	**09 39 05.0**	**-4.3**
VTS	**Vitosha**	**7.42**	**87**	P		**Pn**	**09 37 46.3**	**+1.1**
GZR	**Gura Zlata**	**7.42**	**65**	⇑P		**Pn**	**09 37 47.4**	**+2.2**
LIT	**Litokhoron**	**7.47**	**107**	Pn		**Pn**	**09 37 46.4**	**+0.6**
SRE	**Strehaia**	**7.53**	**71**	⇑P		**Pn**	**09 37 47.2**	**+0.6**
NKC	**Novy Kostel**	**7.55**	**356**	*e*SN		**Sn**	**09 39 10.6**	**-1.9**
EVR	**Evrytania**	**7.56**	**117**	P		**Pn**	**09 37 49.2**	**+2.1**
KEST	**Kesra**	**7.56**	**204**	Pn		Pn	09 37 55.0	+7.8
	comp=N,0.7nm,0.3s,baz=291,slow=8.3,SNR=3.4							
MORC	**Moravsky Berou**	**7.70**	**22**	⇑P		**Pn**	**09 37 49.8**	**+0.8**
MORC	**Moravsky Berou**	**7.70**	**22**			**Pn**	**09 37 48.3**	**-0.7**
MORC	**Moravsky Berou**	**7.70**	**22**	*e*PN		**Pn**	**09 37 49.4**	**+0.4**
SMF	**Signal de Mont**	**7.73**	**304**	*e*P		**Pn**	**09 37 50.9**	**+1.5**
SMF				*e*Sn		**Sn**	**09 39 11.1**	**-5.8**
	comp=N,1.9nm,0.2s							
KRLC	**Kraliky**	**7.79**	**17**	*e*PN		**Pn**	**09 37 50.6**	**+0.4**
ANX	**Ano Chora**	**7.81**	**119**	P		**Pn**	**09 37 52.9**	**+2.3**
PAGF	**Fort de Pagny**	**7.84**	**321**	*e*P		**Pn**	**09 37 52.3**	**+1.4**
	baz=140							
PAGF				*e*Sn		**Sn**	**09 39 13.1**	**-6.5**
	comp=N,39nm,0.9s							
AGG	**Agios Georgios**	**7.85**	**115**	P		**Pn**	**09 37 52.5**	**+1.5**
EFP	**Efpalio**	**7.90**	**120**	P		**Pn**	**09 37 54.2**	**+2.6**
MMB	**Musomiste**	**7.92**	**94**	P		**Pn**	**09 37 52.5**	**+0.5**
SRS	**Serrai**	**7.93**	**98**	*e*Pn		**Pn**	**09 37 53.0**	**+0.9**
SRS				*e*Sn		**Sn**	**09 39 19.5**	**-2.2**
SFTF	**Sexfontaines**	**7.94**	**317**	*e*P		**Pn**	**09 37 53.6**	**+1.4**
	baz=129							
SFTF				*e*Sn		**Sn**	**09 39 19.6**	**-2.3**
	comp=N,7.0nm,0.3s							
DPC	**Dobruska-Polom**	**7.96**	**15**	*e*PN		**Pn**	**09 37 50.7**	**-1.8**
LOR	**Lormes**	**8.03**	**308**	*e*P		**Pn**	**09 37 53.5**	**0.0**
	baz=126							
LOR				*e*Sn		**Sn**	**09 39 17.4**	**-6.8**
	comp=N,19nm,0.8s							
MTLF	**Montolieu**	**8.06**	**278**	*e*P		**Pn**	**09 37 55.5**	**+1.7**
MTLF				*e*Sn		**Sn**	**09 39 17.8**	**-7.1**
	comp=N,0.5nm,0.2s							
NVR	**Nevrokopi**	**8.07**	**96**	P		**Pn**	**09 37 55.9**	**+1.8**
AVF	**Avril sur Loir**	**8.10**	**304**	*e*P		**Pn**	**09 37 56.0**	**+1.6**
AVF				*e*Sn		**Sn**	**09 39 22.6**	**-3.3**
	comp=N,0.8nm,0.2s							
MARR	**Marisel-Cluj**	**8.12**	**57**	⇑P		**Pn**	**09 37 56.6**	**+1.8**
MEZF	**Maizieres J'vi**	**8.13**	**318**	*e*P		**Pn**	**09 37 55.3**	**+0.5**
	baz=121							
MEZF				*e*Sn		**Sn**	**09 39 21.0**	**-5.6**
	comp=N,6.7nm,0.4s							

OSTC	**Ostas**	**8.13**	**14**	*e*PN		**Pn**	**09 37 54.7**	**-0.2**
SSF	**Saint Saulge**	**8.13**	**306**	*e*P		**Pn**	**09 37 57.0**	**+2.1**
SSF				*e*Sn		**Sn**	**09 39 20.3**	**-6.4**
	comp=N,2.4nm,0.3s							
SAVF	**Savonnieres en**	**8.17**	**319**	*e*P		**Pn**	**09 37 57.4**	**+2.0**
	baz=150							
SAVF				*e*Sn		**Sn**	**09 39 23.6**	**-4.0**
	comp=N,20nm,0.7s							
BRG	**Berggiesshubel**	**8.20**	**3**	*e*P		Pn	09 38 02.4	+6.7
BRG				Amp			09 38 11.4	
	comp=Z,2.4nm,0.5s							
BRG				S		**Sn**	**09 39 22.5**	**-5.7**
BRG				Amp			09 39 34.7	
	comp=Z,6.8nm,0.7s							
BRG				r			09 40 18.3	
BRG				Amp			09 40 41.6	
	comp=Z,16nm,1.1s							
KLV	**Kalavryta, Ach**	**8.28**	**121**	P		**Pn**	**09 37 59.2**	**+2.3**
CAF	**Calviac**	**8.34**	**289**	*e*P		**Pn**	**09 38 00.5**	**+2.8**
CAF				*e*Sn		**Sn**	**09 39 23.7**	**-8.1**
	comp=Z,1.2nm,0.2s							
PLVB	**Pleven**	**8.41**	**81**	⇑P		**Pn**	**09 37 59.6**	**+0.9**
PLD	**Plovdiv**	**8.55**	**90**	*e*Pn		**Pn**	**09 38 02.2**	**+1.6**
CLL	**Collm**	**8.62**	**359**			**Pn**	**09 38 01.2**	**-0.2**
CLL	**Collm**	**8.62**	**359**	*e*Pn		**Pn**	**09 38 01.0**	**-0.4**
CLL				*ex*	x		09 38 03.0	
CLL				*ex*	x		09 38 09.0	
CLL				*e*Sn	Sn		09 39 16.0	-22
CLL				*ex*	x		09 39 31.0	
CLL				*ex*	x		09 40 03.0	
CLL				*e*Sb	Sg		09 40 12.0	-21
CLL				*ex*	x		09 40 29.0	
CLL				*e*Sg	Sg		09 40 41.0	+7.8
	comp=Z,46nm,1.7s							
CLL				LmV			09 41 00.0	
	comp=Z,100nm,18.3s							
TCF	**Toulx Ste Croi**	**8.62**	**298**	*e*P		**Pn**	**09 38 03.3**	**+1.7**
TCF				*e*Sn		**Sn**	**09 39 30.7**	**-8.0**
	comp=Z,1.2nm,0.3s							
RZN	**Rozhen**	**8.63**	**93**	P		**Pn**	**09 38 03.4**	**+1.5**
ARR	**Arges**	**8.68**	**68**	⇑P		**Pn**	**09 38 03.8**	**+1.4**
STHS	**Stebnicka Huta**	**8.75**	**37**	*e*PN		Pn	09 38 08.5	+5.2
HYF	**Humbligny**	**8.75**	**305**	*e*P		**Pn**	**09 38 05.4**	**+2.0**
HYF				*e*Sn		**Sn**	**09 39 34.8**	**-7.1**
RJF	**Les Rejaudoux**	**8.80**	**291**	*e*P		**Pn**	**09 38 06.4**	**+2.4**
RJF				*e*Sn		**Sn**	**09 39 39.2**	**-3.9**
	comp=Z,0.2nm,0.1s							
VOIR		**8.98**	**68**	⇑P		**Pn**	**09 38 07.6**	**+1.1**
LFF	**La Frestale**	**9.27**	**288**	*e*P		**Pn**	**09 38 12.0**	**+1.6**
LFF				*e*Sn		**Sn**	**09 39 46.4**	**-8.1**
	comp=Z,3.1nm,0.4s							
RDO	**Rodhopi**	**9.35**	**95**			**Pn**	**09 38 11.9**	**+0.4**
GIVF	**Givet**	**9.38**	**325**	*e*P		**Pn**	**09 38 14.3**	**+2.3**
GIVF				*e*Sn		**Sn**	**09 39 50.3**	**-7.1**
	comp=Z,2.7nm,0.3s							
MLR	**Muntele Rosu**	**9.60**	**69**	Pn		**Pn**	**09 38 16.3**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=211,slow=11,SNR=3.7							
MLR				LR		LR	09 42 23.6	
	comp=Z,127nm,21.1s,baz=251,slow=41							
	comp=Z,1.6nm,0.4s							
MLR	**Muntele Rosu**	**9.60**	**69**	⇑P		**Pn**	**09 38 17.3**	**+2.1**
BAIF	**Baives**	**9.62**	**323**	*e*P		**Pn**	**09 38 19.0**	**+3.8**
OZUR		**9.64**	**65**	⇑P		**Pn**	**09 38 17.8**	**+2.2**
BURAR	**Bucovina Array**	**9.82**	**56**	⇑P		**Pn**	**09 38 19.8**	**+1.7**
ETSF	**Etsaut**	**10.10**	**276**	*e*P		**Pn**	**09 38 23.2**	**+1.3**
VRI	**Vrincioaia**	**10.22**	**67**	⇑P		**Pn**	**09 38 25.5**	**+2.0**
MFF	**Saint Martin d**	**10.26**	**297**	*e*P		**Pn**	**09 38 27.3**	**+3.3**
SJPF	**Ste Jean**	**10.58**	**277**	*e*Pn		Pn	09 38 23.4	-5.0
SJPF	**Ste Jean**	**10.58**	**277**	*e*P		**Pn**	**09 38 29.5**	**+1.1**
LDF	**La Druitiere**	**11.01**	**307**	*e*P		**Pn**	**09 38 37.3**	**+3.0**
GRR	**Gorron**	**11.36**	**305**	*e*P		**Pn**	**09 38 41.8**	**+2.7**
IDI	**Anoyia**	**11.73**	**125**	Pn		**Pn**	**09 38 46.5**	**+2.2**
	comp=Z,1.3nm,0.3s,baz=328,slow=13,SNR=1.9							
IDI				Sn		**Sn**	**09 40 48.9**	**-6.2**
	comp=Z,0.4nm,0.3s,baz=23,slow=17,SNR=1.5							
IDI				LR		LR	09 44 48.2	
	comp=Z,24nm,20.2s,baz=257,slow=45							
	comp=Z,5.2nm,0.4s							
IDI	**Anoyia**	**11.73**	**125**	Pn		**Pn**	**09 38 44.1**	**-0.1**
QUIF	**Quistinic**	**12.62**	**300**	*e*Pn		**Pn**	**09 38 53.7**	**-2.6**
ESDC	**Sonseca Array**	**13.26**	**263**	Pn		**Pn**	**09 39 05.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=69,slow=13,SNR=5.6							
ESDC				LR		LR	09 43 20.1	
	comp=Z,72nm,18.6s,baz=23,slow=33							
	comp=Z,1.0nm,0.7s							
BR131	**Keskin Array S**	**15.68**	**94**	Pn		**Pn**	**09 39 38.3**	**+0.4**
BRTR	**Keskin Array B**	**15.68**	**94**	Pn		**P**	**09 39 40.1**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=278,slow=9.8,SNR=2.8							
	comp=Z,0.4nm,0.5s							
EKA	**Eskdalemuir Ar**	**16.52**	**326**	Pn		**P**	**09 39 50.4**	**-0.6**
	baz=137,slow=14							
	comp=Z,0.9nm,0.6s							
HFS	**Hagfors**	**17.46**	**1**	P		**Pn**	**09 40 00.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=5.5							
	comp=Z,1.5nm,0.6s							
NB2	**NORSAR Subarra**	**18.41**	**357**	P		**Pn**	**09 40 12.7**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=174,slow=11							
NOA	**NORSAR Array B**	**18.41**	**357**	P		**Pn**	**09 40 12.5**	**+0.6**
	baz=174,slow=12,SNR=5.2							
NOA				LR		LR	09 47 18.6	
	comp=Z,37nm,18.8s,baz=350,slow=37							
	comp=Z,1.0nm,0.9s							
NBO00	**NORSAR Array S**	**18.42**	**356**	P		**P**	**09 40 11.0**	**-0.9**
NBO00				IAmb		IAmb	09 40 22.6	
	comp=Z,23nm,1.4s							
MMAI	**Mount Meron Ar**	**19.99**	**112**	P		**Pn**	**09 40 31.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=332,slow=10,SNR=4.7							
	comp=Z,2.8nm,0.6s							
FINES	**FINESS Array B**	**20.31**	**18**	P		**P**	**09 40 32.4**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=203,slow=9.5,SNR=6.2							
	comp=Z,3.1nm,0.8s							
FINES	**FINESS Array B**	**20.31**	**18**	P		**P**	**09 40 32.8**	**+0.2**
KBZ	**Khabaz**	**21.64**	**77**	P		**P**	**09 40 48.0**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=284,slow=7.0,SNR=8.2							
	comp=Z,3.9nm,0.8s							
BELG	**Belogornoye**	**24.98**	**55**	P		**P**	**09 41 21.3**	**+1.1**
	comp=Z,10nm,0.9s,baz=270,slow=3.0,SNR=5.0							
	comp=Z,10nm,0.9s							
TORD	**Torodi Ar. Bea**	**31.08**	**202**	P		**P**	**09 42 17.1**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=13,slow=8.2,SNR=1.6							
	comp=Z,1.6nm,0.3s							
TORD	**Torodi Ar. Bea**	**31.08**	**202**	P		**P**	**09 42 14.9**	**-0.2**
TORD				IAmb		IAmb	09 42 22.8	
	comp=Z,6.8nm,1.4s							
ARU	**Arti**	**31.85**	**49**	P		**P**	**09 42 21.7**	**+0.2**
ABKAR	**Akbulak array**	**32.72**	**62**	P		**P**	**09 42 29.4**	**+0.1**
BRVK	**Borovoye**	**38.71**	**54**	P		**P**	**09 43 21.3**	**+0.7**
KK31	**Karatay Array**	**41.28**	**69**	P		**P**	**09 43 43.3**	**+1.2**
KK31				IAmb		IAmb	09 43 50.5	
	comp=Z,2.4nm,0.9s							
KKAR	**Karatay Array**	**41.28**	**69**	P		**P**	**09 43 43.2**	**+1.1**
KKAR				IAmb		IAmb	09 43 50.5	
	comp=Z,2.4nm,0.9s							
WSAR	**Wadi Sarin**	**42.20**	**103**	LR		LR	10 07 01.4	
	comp=Z,15nm,18.5s,baz=39,slow=44							
KSH	**Kashi**	**46.46**	**72**	P		**P**	**09 44 25.9**	**+2.0**
ZAA0	**Zalesovo Array**	**46.98**	**50**	P		**P**	**09 44 28.1**	**+0.4**
ZAA0				IAmb		IAmb	09 44 29.0	
	comp=Z,3.2nm,1.1s							
ZALV	**Zalesovo Beam**	**46.98**	**50**	P		**P**	**09 44 28.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=292,slow=8.5,SNR=4.4							
	comp=Z,0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**46.98**	**50**	P		**P**	**09 44 28.5**	**+0.9**
MK31	**Makanchi Array**	**47.82**	**60**	P		**P**	**09 44 34.7**	**+0.4**
MK31				IAmb		IAmb	09 44 40.6	
	comp=Z,1.3nm,0.8s							
MKAR	**Makanchi Array**	**47.82**	**60**	P		**P**	**09 44 35.0**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=283,slow=6.6,SNR=18							
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**47.82**	**60**	P		**P**	**09 44 34.9**	**+0.6**
WMQ	**Urumqi**	**52.51**	**62**	*e*P		**P**	**09 45 12.1**	**+2.1**
WMQ				pP		sP	09 45 16.9	+1.3
WMQ				sP		pP	09 45 20.3	+6.3
WMQ				pmax		pmax		
	comp=Z,58nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,340nm,3.7s							
SONM	**Songino Array**	**61.88**	**50**	P		**P**	**09 46 17.7**	**+1.5**
	comp=Z,1.7nm,0.8s,baz=279,slow=8.3,SNR=8.2							
	comp=Z,1.7nm,0.8s							
FCC	**Fort Churchill**	**62.44**	**326**	P		**P**	**09 46 20.7**	**+1.1**
FCC				IAmb		IAmb	09 46 24.6	
	comp=Z,2.0nm,0.9s							
INK	**Inuvik**	**66.54**	**347**	P		**P**	**09 46 48.2**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=5.2,slow=4.8,SNR=5.5							
	comp=Z,0.4nm,0.5s							

YKA	**Yellowknife Ar**	**67.12**	**337**	P		**P**	**09 46 51.4**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=39,slow=6.0,SNR=15							
	comp=Z,1.8nm,0.9s							
HHC	**Hu-ho-hao-te**	**68.98**	**54**	*e*P		**P**	**09 47 02.5**	**+0.2**
HHC				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC				pmax		pmax		
	comp=Z,320nm,5.7s							
XLT	**XiLinHaoTe**	**69.64**	**49**	*e*P		**P**	**09 47 08.0**	**+1.7**
XLT				pmax		pmax		
	comp=Z,220nm,4.6s							
PZH	**PanZhiHua**	**71.55**	**71**	P		**P**	**09 47 19.3**	**+1.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,190nm,5.2s							
PDAR	**Pinedale Array**	**80.59**	**321**	P		**P**	**09 48 10.7**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=47,slow=4.0,SNR=3.0							
	comp=Z,0.3nm,0.7s							

*KRNET **21** 09:43:52.3±0.1, 39°.82N×71°.95E, h14km, mb3.2*
*NNC **21** 09:43:54.7±5.8, 39°.74N×71°.95E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=46.9km s-min=24.3km az=7.0
*ISU **21** 09:43:54.7, 39°.92N×72°.00E, h16km*
*SOME **21** 09:43:54.8, 40°.18N×72°.32E, h0km*
ISC 21 09:43:52.7±0.8, 39°.81N±0°.03×71°.94E±0°.02, h10km, n40,
α2s 90°/70°, 38C-14D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.34**	**199**	⇑*e*P		**Pg**	**Pg**	**09 43 59.2**	**-0.5**
	baz=98								
DRK				⇑*e*S		**Sg**	**Sg**	**09 44 04.4**	**+0.1**
	baz=98								
CHMI	**Chimion**	**0.56**	**325**	P		**Pg**	**Pg**	**09 44 03.9**	**+0.2**
CHMI				S		**Sg**	**Sg**	**09 44 11.4**	**+0.3**
FRG	**Fergana**	**0.58**	**348**	P		**Pb**	**Pb**	**09 44 04.4**	**-0.6**
FRG				S		**Sg**	**Sg**	**09 44 11.8**	**+0.1**
BTK	**Batken**	**0.90**	**287**	⇑*e*P		**Pg**	**Pg**	**09 44 09.4**	**-0.7**
	baz=86								
BTK				⇑*

3.0nm,0.7s
KST **Kastek** **4.43** **42** Pg **Pb** **09 45 08.3 -2.3**
1.0nm,0.4s
KST Lg Lg 09 46 01.0
3.3nm,0.9s
KST **Kastek** **4.43** **42** *e*Pg **Pb** **09 45 08.3 -2.3**
1.0nm,0.4s
KST *e*Lg Lg 09 46 01.0
3.3nm,0.9s

*IDC **21** 09:55:58.8±4.3,2˙.80N×128˙.23E, h59km±43km, mb3.7/12, mbtmp4.0/13, ML4.0/1, MS3.0/5, Error ellipse: s-maj=35.7km s-min=15.5km az=85.0*
*NEIC **21** 09:55:59.0±1.9,2˙.60N±0˙.07×128˙.10E±0˙.04, h71km±9km, mb4.2/23, Error ellipse: s-maj=11.5km s-min=4.6km az=157.0*
ISC 21 09:55:56.9±0.5,**2˙.64N**±0˙.06×**128˙.03E**±0˙.08,**h51**km,**n54,** σ1°**60**/47,**mb4.1**/22,**MS2.8**/4,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.97**	**200**	Pn		**Pn**	**09 56 30.1**	**+2.2**
SIJI	**Sorong**	**4.75**	**137**	P		**Pn**	**09 57 08.9**	**+2.8**
	6.6nm,0.3s,baz=328,slow=18,SNR=28							
SIJI				S		**Sn**	**09 58 01.5**	**+1.5**
	9.8nm,0.4s,baz=190,slow=23,SNR=11							
	12nm,0.3s							
DAV	**Davao City (W)**	**5.03**	**331**	LR		LR	09 59 12.7	
	comp=Z,167nm,20.1s,baz=155,slow=39							
LUWI	**Luwuk**	**6.41**	**235**	Pn		**Pn**	**09 57 29.2**	**+0.5**
FAKI	**Fak Fak**	**6.95**	**143**	Pn		**Pn**	**09 57 37.0**	**+0.8**
FAKI				Sn		**Sn**	**09 58 53.1**	**-0.8**
TOLI2	**Tolitoli**	**7.40**	**258**	Pn		**Pn**	**09 57 45.7**	**+3.2**
MYLDM	**Lahad Datu**	**9.84**	**285**	Pn		**Pn**	**09 58 19.2**	**+3.4**
MTN	**Manton Dam**	**15.69**	**169**	Pn		**Pn**	**09 59 34.7**	**0.0**
MTN				IAmb		IAmb	09 59 55.4	
	comp=Z,15nm,1.3s							
SBUM	**Sibu**	**15.80**	**270**	Pn		**P**	**09 59 37.5**	**-1.7**
KNRA	**Kununurra**	**18.21**	**178**	P		**P**	**10 00 02.7**	**-3.2**
KNRA				IAmb		IAmb	10 00 12.8	
	comp=Z,7.7nm,0.8s							
WB0	**Warramunga Arr**	**23.13**	**165**	P		**P**	**10 00 56.1**	**-2.8**
WB0				IAmb		IAmb	10 01 13.1	
	comp=Z,7.0nm,0.8s							
WRA	**Warramunga Arr**	**23.28**	**165**	P		**P**	**10 01 02.9**	**+2.6**
	comp=Z,5.0nm,0.9s,baz=344,slow=11,SNR=20							
WRA				LR		LR	10 11 12.4	
	comp=Z,36nm,19.3s,baz=40,slow=39							
	comp=Z,5.0nm,0.9s							
WRA	**Warramunga Arr**	**23.28**	**165**	P		**P**	**10 00 59.9**	**-0.4**
WB2	**Warramunga Arr**	**23.28**	**165**	P		**P**	**10 00 59.6**	**-0.8**
WB2				IAmb		IAmb	10 01 14.5	
	comp=Z,7.9nm,0.8s							
WR0	**Warramunga Arr**	**23.35**	**164**	P		**P**	**10 00 58.5**	**-2.5**
WR0				IAmb		IAmb	10 01 07.3	
	comp=Z,5.7nm,0.8s							
JOW	**Kunigami**	**24.06**	**1**	LR		LR	10 09 30.5	
	comp=Z,26nm,20.1s,baz=198,slow=34							
MBWA	**Marble Bar**	**25.01**	**199**	P		**P**	**10 01 14.3**	**-2.0**
MBWA				IAmb		IAmb	10 01 23.9	
	comp=Z,30nm,1.5s							
PSA00	**Pilbara Seismi**	**25.36**	**198**	P		**P**	**10 01 18.5**	**-0.9**
PSA00				IAmb		IAmb	10 01 46.1	
	comp=Z,15nm,1.1s							
AS31	**Alice Springs**	**26.77**	**168**	P		**P**	**10 01 31.7**	**-0.4**
ASAR	**Alice Springs**	**26.77**	**168**	P		**P**	**10 01 33.8**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=345,slow=7.2,SNR=6.4							
	comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**26.77**	**168**	P		**P**	**10 01 31.8**	**-0.3**
IPM	**Ipoh**	**27.01**	**275**	P		**P**	**10 01 35.0**	**+0.5**
IPM				IAmb		IAmb	10 01 46.8	
	comp=Z,22nm,1.5s							
GIRL	**Giralia**	**28.51**	**207**	P		**P**	**10 01 47.0**	**-0.7**
CTA	**Charters Tower**	**28.81**	**142**	LR		LR	10 16 06.7	
	comp=Z,65nm,18.8s,baz=80,slow=42							
JHJ	**Hachijo jima 2**	**32.26**	**19**	P		**P**	**10 02 19.3**	**-1.4**
	comp=Z,400nm,0.5s,baz=166,slow=17,SNR=8.8							
JHJ2	**Mitsune**	**32.26**	**19**	P		**P**	**10 02 19.4**	**-1.4**
KSRS	**Korea Array**	**34.65**	**360**	P		**P**	**10 02 41.0**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=175,slow=9.8,SNR=1.8							
KSRS				LR		LR	10 16 38.6	
	comp=Z,10nm,20.5s,baz=300,slow=36							
	comp=Z,0.5nm,0.4s							
BBOO	**Buckleboo**	**36.07**	**168**	P		**P**	**10 02 52.6**	**-1.1**
JSD	**Sado**	**36.45**	**14**	P		**P**	**10 02 55.5**	**-1.4**
STKA	**Stephens Creek**	**36.67**	**160**	P		**P**	**10 03 01.4**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=345,slow=7.0,SNR=5.1							
	comp=Z,0.6nm,0.3s							
STKA	**Stephens Creek**	**36.67**	**160**	P		**P**	**10 02 56.4**	**-2.5**
BJT	**Baijiatuan**	**38.73**	**345**	P		**P**	**10 03 14.8**	**-1.4**
ARMA	**Armidale**	**39.85**	**147**	P		**P**	**10 03 23.8**	**-2.0**
H11S3	**WAKE ISLAND Hy**	**41.00**	**65**	T		T	10 46 59.0	
	baz=252,slow=74							
H11S1	**WAKE ISLAND Hy**	**41.01**	**65**	T		T	10 46 58.9	
	baz=252							
H11S2	**WAKE ISLAND Hy**	**41.01**	**65**	T		T	10 46 59.5	
	baz=252,slow=74							
USRK	**Ussuriysk Ar.**	**41.53**	**4**	P		**P**	**10 03 38.9**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=178,slow=7.6,SNR=7.2							
	comp=Z,3.1nm,0.7s							
USRK	**Ussuriysk Ar.**	**41.53**	**4**	P		**P**	**10 03 38.6**	**-0.7**
H11N1	**WAKE ISLAND Hy**	**41.57**	**63**	T		T	10 47 32.7	
	baz=251,slow=74							
H11N2	**WAKE ISLAND Hy**	**41.58**	**63**	T		T	10 47 31.9	
	baz=251							
H11N3	**WAKE ISLAND Hy**	**41.59**	**63**	T		T	10 47 32.1	
	baz=251,slow=74							
ASAJ	**Asahikawa**	**43.27**	**15**	P		**P**	**10 03 53.1**	**-0.3**
	comp=Z,7.7nm,1.0s,baz=210,slow=8.9,SNR=8.1							
	comp=Z,7.7nm,1.0s							
JKA	**Kamikawa-asahi**	**43.27**	**15**	P		**P**	**10 03 52.9**	**-0.6**
KLR	**Kul'dur**	**46.53**	**3**	P		**P**	**10 04 19.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=216,slow=11,SNR=4.0							
	comp=Z,0.7nm,0.6s							
PETK	**Petropavlovsk-**	**55.96**	**21**	P		**P**	**10 05 29.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=193,slow=5.8,SNR=4.1							
	comp=Z,1.8nm,0.7s							
MK31	**Makanchi Array**	**59.19**	**325**	P		**P**	**10 05 53.5**	**+0.8**
MK31				IAmb		IAmb	10 05 54.1	
	comp=Z,1.1nm,0.8s							
MKAR	**Makanchi Array**	**59.19**	**325**	P		**P**	**10 05 53.6**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=119,slow=8.2,SNR=13							
	comp=Z,1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**63.35**	**327**	P		**P**	**10 06 21.2**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=125,slow=6.3,SNR=15							
	comp=Z,1.3nm,0.7s							
KURK	**Kurchatov**	**63.35**	**327**	P		**P**	**10 06 21.2**	**+0.4**
KURK				IAmb		IAmb	10 06 21.5	
	comp=Z,2.1nm,0.7s							
BVAR	**Borovoye Array**	**68.94**	**327**	P		**P**	**10 06 57.4**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=104,slow=6.1,SNR=4.7							
	comp=Z,0.9nm,0.5s							
ABKAR	**Akbulak array**	**73.81**	**321**	P		**P**	**10 07 26.3**	**+0.2**
IMAR	**Indian Mountai**	**82.81**	**24**	P		**P**	**10 08 16.0**	**+0.6**
MAW	**Mawson**	**83.19**	**201**	P		**P**	**10 08 18.1**	**+0.8**
MAW				IAmb		IAmb	10 08 25.9	
	comp=Z,6.1nm,1.4s							
ILAR	**Eielson Array**	**85.52**	**25**	P		**P**	**10 08 28.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=240,slow=5.0,SNR=6.0							
	comp=Z,0.2nm,0.4s							

*IDC **21** 10:03:37.9±0.7, 11˙.92N×143˙.79E, h0km, mb4.0/13, mbtmp4.0/13, MS3.5/2, Error ellipse: s-maj=24.1km s-min=16.0km az=89.0*
*NEIC **21** 10:03:39.4±2.0, 11˙.90N±0˙.08×143˙.9E±0˙.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=25.2km s-min=12.5km az=100.0*
ISC 21 10:03:41.5±0.5,**11˙.89N**±0˙.07×**143˙.9E**±0˙.1,**h26**km,**n36,** σ0°**90**/30,**mb4.1**/17,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.95**	**30**	Pn		**Pn**	**10 04 12.1**	**-0.9**
	140nm,0.3s,baz=224,slow=2.3,SNR=25							
GUMO				Sn		**Sn**	**10 04 35.8**	**-0.8**
	106nm,0.3s,baz=59,slow=18,SNR=13							
GUMO	**Guam**	**1.95**	**30**			**Pn**	**10 04 12.4**	**-0.6**
GUMO				Sn		**Sn**	**10 04 36.0**	**-0.6**
PMG	**Port Moresby**	**21.41**	**171**	P		**P**	**10 08 26.0**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**22.97**	**71**	T		T	10 32 55.2	
	baz=254,slow=74							
H11S1	**WAKE ISLAND Hy**	**22.98**	**71**	T		T	10 32 57.3	
	baz=254							
H11S2	**WAKE ISLAND Hy**	**22.98**	**71**	T		T	10 32 50.4	
	baz=254,slow=74							
H11N1	**WAKE ISLAND Hy**	**23.46**	**68**	T		T	10 33 32.6	
	baz=255							
H11N2	**WAKE ISLAND Hy**	**23.47**	**68**	T		T	10 33 30.9	
	baz=255							
H11N3	**WAKE ISLAND Hy**	**23.48**	**68**	T		T	10 33 26.2	
	baz=255							
MJAR	**Matsushiro Arr**	**25.07**	**349**	LR		LR	10 17 58.4	
	comp=Z,67nm,18.2s,baz=178,slow=34							
CTA	**Charters Tower**	**31.86**	**176**	P		**P**	**10 10 04.0**	**-0.6**
	2.4nm,0.9s,baz=339,slow=9.9,SNR=3.6							
	2.4nm,0.9s							
WRA	**Warramunga Arr**	**32.99**	**197**	P		**P**	**10 10 13.8**	**-0.8**
	1.1nm,0.8s,baz=20,slow=9.7,SNR=5.8							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**36.66**	**195**	P		**P**	**10 10 46.4**	**+0.2**
	0.7nm,0.8s,baz=13,slow=9.3,SNR=5.3							
	0.7nm,0.8s							
DZM	**Mont Dzumac**	**40.37**	**147**	P		**P**	**10 11 19.1**	**+1.6**
	8.1nm,1.0s,baz=334,slow=7.1,SNR=5.6							
	8.1nm,1.0s							
CMAR	**Chiang Mai Arr**	**43.76**	**284**	P		**P**	**10 11 46.0**	**+0.8**
	0.5nm,0.4s,baz=96,slow=8.3,SNR=1.4							
	0.5nm,0.4s							
BBOO	**Buckleboo**	**45.07**	**189**	P		**P**	**10 11 55.5**	**+0.1**
SONM	**Songino Array**	**47.57**	**326**	P		**P**	**10 12 15.1**	**0.0**
	0.3nm,0.5s,baz=145,slow=10,SNR=4.0							
	0.3nm,0.5s							
SONM	**Songino Array**	**47.57**	**326**	P		**P**	**10 12 15.8**	**+0.7**
PLWZ	**Palliser**	**60.55**	**153**	P		**P**	**10 13 48.8**	**-0.9**
MKAR	**Makanchi Array**	**62.04**	**317**	P		**P**	**10 14 00.0**	**+0.2**
	0.3nm,0.6s,baz=86,slow=8.5,SNR=4.0							
	0.3nm,0.6s							
MAKZ	**Makanchi**	**62.25**	**317**	P		**P**	**10 13 59.9**	**-1.3**
MAKZ				IAmb		IAmb	10 14 00.1	
	comp=Z,1.8nm,0.7s							
ZALV	**Zalesovo Beam**	**62.44**	**325**	P		**P**	**10 14 02.7**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=119,slow=5.0,SNR=2.7							
	comp=Z,0.5nm,0.5s							
KURK	**Kurchatov**	**65.26**	**321**	P		**P**	**10 14 20.0**	**-0.9**
KURK				IAmb		IAmb	10 14 24.0	
	comp=Z,1.9nm,0.8s							
ILAR	**Eielson Array**	**70.51**	**25**	P		**P**	**10 14 52.9**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=257,slow=5.8,SNR=11							
	comp=Z,1.3nm,0.9s							
ILAR	**Eielson Array**	**70.51**	**25**	P		**P**	**10 14 53.1**	**-0.7**
BVAR	**Borovoye Array**	**70.65**	**322**	P		**P**	**10 14 54.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=119,slow=6.9,SNR=3.8							
	comp=Z,0.8nm,0.5s							
J26L	**Joseph Creek**	**71.85**	**26**	P		**P**	**10 15 02.7**	**+0.7**
J26L				IAmb		IAmb	10 15 07.7	
	comp=Z,3.0nm,1.1s							
BMAR	**Burnt Mountain**	**72.04**	**23**	P		**P**	**10 15 04.2**	**+1.2**
INK	**Inuvik**	**76.30**	**22**	P		**P**	**10 15 28.2**	**+0.5**
ABKAR	**Akbulak array**	**77.14**	**318**	P		**P**	**10 15 32.1**	**-0.8**
ARU	**Arti**	**77.60**	**325**	LR		LR	10 52 13.5	
	comp=Z,44nm,18.2s,baz=266,slow=38							
A36M	**Sachs Harbour**	**79.06**	**18**	P		**P**	**10 15 43.3**	**+0.3**
A36M				IAmb		IAmb	10 15 45.5	
	comp=Z,4.0nm,1.0s							
YKA	**Yellowknife Ar**	**84.81**	**27**	P		**P**	**10 16 14.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=286,slow=5.5,SNR=11							
	comp=Z,0.8nm,0.7s							
NVAR	**Mina Array Bea**	**88.74**	**51**	P		**P**	**10 16 35.4**	**+1.9**
	comp=Z,1.8nm,0.8s,baz=262,slow=5.4,SNR=9.6							
	comp=Z,1.8nm,0.8s							
FINES	**FINESS Array B**	**92.28**	**335**	P		**P**	**10 16 48.6**	**-0.5**
	comp=Z,4.4nm,1.1s,baz=25,slow=6.3,SNR=6.3							
	comp=Z,4.4nm,1.1s							
LPAZ	**La Paz**	**148.68**	**102**	PKPbc		**PKiKP**	**10 23 29.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=258,slow=6.0,SNR=4.9							

*NNC **21** 10:04:58.9±0.7, 44˙.00N×75˙.05E, h1km±5km, mb3.6, mpv3.6, Error ellipse: s-maj=4.7km s-min=3.8km az=1.0*
*SOME **21** 10:04:59.6, 43˙.98N×75˙.05E, h10km*
*KRNET **21** 10:05:00.9±0.1, 43˙.91N×75˙.01E, h21km, mb3.4*
*KNET **21** 10:05:01.4±0.4, 43˙.88N×75˙.06E, h22km±2km, ml2.9, Error ellipse: s-maj=3.0km s-min=2.4km az=26.0*
ISC 21 10:04:59.4±1.1,**43˙.99N**±0˙.02×**75˙.04E**±0˙.02,**h2**km±9km, **n81,** σ0°**85**/144,**35C-38D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRBS	**Karabastau**	**0.55**	**122**	P		**Pg**	**10 05 10.3**	**+0.4**
	40nm,0.1s							
KRBS				S		**Sg**	**10 05 17.6**	**+0.7**
	6.6nm,0.1s							
KRBS	**Karabastau**	**0.55**	**122**	*e*P		**Pg**	**10 05 10.3**	**+0.4**
	49nm,0.1s							
KRBS				*e*S		**Sg**	**10 05 17.6**	**+0.7**
	493nm,0.1s							
SGDS	**Sogindy**	**0.61**	**209**	P		**Pg**	**10 05 11.5**	**+0.5**
	156nm,0.1s							
SGDS				S		**Sg**	**10 05 19.5**	**+0.6**
	227nm,0.1s							
USP	**Ospenovka**	**0.82**	**209**	⇓P		**Pg**	**10 05 15.2**	**+0.2**
	280nm,0.1s,SNR=99							
USP				⇑S		**Sg**	**10 05 26.0**	**+0.4**
	162nm,0.2s							
USP	**Ospenovka**	**0.82**	**209**	⇓*e*P		**Pg**	**10 05 15.2**	**+0.2**
	baz=10.0							
USP				⇓*e*S		**Sg**	**10 05 25.4**	**-0.2**
	baz=10.0							
DGS	**Degeres**	**0.92**	**144**	P		**Pg**	**10 05 16.9**	**-0.1**
	55nm,0.2s							
DGS				S		**Sg**	**10 05 29.2**	**+0.4**
	240nm,0.3s							
DGS	**Degeres**	**0.92**	**144**	*e*P		**Pg**	**10 05 16.8**	**-0.1**
	55nm,0.2s							
DGS				*e*S		**Sg**	**10 05 29.2**	**+0.4**
	240nm,0.3s							
KUU	**Kurty**	**0.95**	**95**	P		**Pg**	**10 05 17.5**	**-0.1**
	15nm,0.2s							
KUU				S		**Sg**	**10 05 29.7**	**-0.1**
	291nm,0.3s							
KUU	**Kurty**	**0.95**	**95**	*e*P		**Pg**	**10 05 17.4**	**-0.1**
	15nm,0.2s							
KUU				*e*S		**Sg**	**10 05 29.7**	**-0.1**
	291nm,0.3s							
CHMS	**Chumysh**	**1.01**	**192**	⇓P		**Pg**	**10 05 18.6**	**-0.1**
	84nm,0.1s,SNR=147							
CHMS				⇓S		**Sg**	**10 05 32.0**	**+0.2**
	91nm,0.1s							
CHMS	**Chumysh**	**1.01**	**192**	⇓P		**Pg**	**10 05 18.4**	**-0.3**
	12nm,0.2s							
CHMS				⇑S		**Sg**	**10 05 31.9**	**+0.2**
	37nm,0.3s							
CHMS	**Chumysh**	**1.01**	**192**	⇑*e*P		**Pg**	**10 05 18.4**	**-0.3**
	baz=92							
CHMS				⇑*e*S		**Sg**	**10 05 31.0**	**-0.7**
	baz=92							
TKM2	**Tokmak 2**	**1.14**	**159**	⇓P		**Pg**	**10 05 20.7**	**-0.5**
	65nm,0.1s,SNR=63							
TKM2				⇑S		**Sg**	**10 05 35.6**	**-0.4**
	448nm,0.1s							
TKM2	**Tokmak 2**	**1.14**	**159**	⇑P		**Pg**	**10 05 20.4**	**-0.8**
	11nm,0.2s							
TKM2				⇑S		**Sg**	**10 05 35.5**	**-0.5**
	65nm,0.2s							
TKM2	**Tokmak 2**	**1.14**	**159**	⇓*e*P		**Pg**	**10 05 20.7**	**-0.5**
	baz=57							
TKM2				⇓*e*S		**Sg**	**10 05 35.6**	**-0.4**
	baz=57							
KST	**Kastek**	**1.16**	**144**	P		**Pg**	**10 05 21.4**	**-0.2**
	15nm,0.3s							
KST				S		**Sg**	**10 05 36.6**	**0.0**
	57nm,0.3s							
KST	**Kastek**	**1.16**	**144**	*e*P		**Pg**	**10 05 21.4**	**-0.2**
	15nm,0.3s							
KST				*e*S		**Sg**	**10 05 36.6**	**0.0**
	57nm,0.3s							
FRU1	**Bishkek**	**1.21**	**194**	⇓*e*P		**Pg**	**10 05 21.7**	**-0.9**
	baz=94							
FRU1				⇓*e*S		**Sg**	**10 05 36.8**	**-1.5**
	baz=94							
KTBS	**Karatobe**	**1.22**	**102**	P		**Pg**	**10 05 22.2**	**-0.6**
	22nm,0.2s							
KTBS				S		**Sg**	**10 05 38.4**	**-0.3**
	274nm,0.3s							
KTBS	**Karatobe**	**1.22**	**102**	*e*P		**Pg**	**10 05 22.2**	**-0.6**
	22nm,0.2s							
KTBS				*e*S		**Sg**	**10 05 38.4**	**-0.3**
	274nm,0.3s							
BTLS	**Baital**	**1.27**	**326**	P		**Pg**	**10 05 23.1**	**-0.7**
	53nm,0.1s							
BTLS				S		**Sg**	**10 05 39.5**	**-0.8**
	179nm,0.2s							
BTLS	**Baital**	**1.27**	**326**	*e*P		**Pg**	**10 05 23.1**	**-0.7**
	40nm,0.1s							
BTLS				*e*S		**Sg**	**10 05 39.5**	**-0.8**
	179nm,0.2s							
MTBS	**Maitube**	**1.32**	**130**	P		**Pg**	**10 05 24.3**	**-0.5**
	48nm,0.1s							
MTBS				S		**Sg**	**10 05 41.4**	**-0.6**
	155nm,0.4s							
MTBS	**Maitube**	**1.32**	**130**	*e*P		**Pg**	**10 05 24.3**	**-0.5**
	48nm,0.1s							
MTBS				*e*S		**Sg**	**10 05 41.4**	**-0.6**
	155nm,0.4s							
KBK	**Karagaybulak**	**1.33**	**183**	⇓P		**Pg**	**10 05 24.5**	**-0.4**
	104nm,0.1s,SNR=71							
KBK				⇓S		**Sb**	**10 05 42.7**	**-0.1**
	708nm,0.3s							
KBK	**Karagaybulak**	**1.33**	**183**	⇓*e*P		**Pg**	**10 05 24.3**	**-0.6**
	baz=82							
KBK				⇓*e*S		**Sg**	**10 05 41.1**	**-1.0**
	baz=82							
AAK	**Ala-Archa**	**1.40**	**197**	⇓P		**Pn**	**10 05 26.0**	**-0.2**
	47nm,0.2s,SNR=72							
AAK				⇓S		**Sg**	**10 05 44.6**	**+0.1**
	342nm,0.4s							
AAK	**Ala-Archa**	**1.40**	**197**	⇑*e*P		**Pn**	**10 05 25.6**	**-0.6**
	baz=97							
AAK				⇑*e*S		**Sg**	**10 05 43.3**	**-1.2**
	baz=97							
CHKK	**Chushkaly**	**1.42**	**95**	P		**Pn**	**10 05 25.7**	**-0.6**
	11nm,0.2s							
CHKK				S		**Sg**	**10 05 44.3**	**-0.6**
	191nm,0.3s							
CHKK	**Chushkaly**	**1.42**	**95**	*e*P		**Pn**	**10 05 25.7**	**-0.6**
	11nm,0.2s							
CHKK				*e*S		**Sg**	**10 05 44.3**	**-0.6**
	191nm,0.3s							
IZV	**Izvestkoviy**	**1.49**	**129**	P		**Pn**	**10 05 27.3**	**-0.1**
	12nm,0.2s							
IZV				S		**Sb**	**10 05 46.6**	**-0.8**
	104nm,0.2s							
IZV	**Izvestkoviy**	**1.49**	**129**	*e*P		**Pn**	**10 05 27.3**	**-0.1**
	12nm,0.2s							
IZV				*e*S		**Sb**	**10 05 46.5**	**-0.8**
	104nm,0.2s							
AAA	**Alma-Ata**	**1.57**	**119**	P		**Pn**	**10 05 28.6**	**+0.2**
	37nm,0.1s							
AAA				S		**Sn**	**10 05 49.0**	**-0.4**
	111nm,0.2s							
AAA	**Alma-Ata**	**1.57**	**119**	*e*P		**Pn**	**10 05 28.6**	**+0.2**
	37nm,0.1s							
AAA				*e*S		**Sn**	**10 05 49.0**	**-0.4**
	111nm,0.2s							
EKS2	**Erkin-Say**	**1.61**	**215**	⇓P		**Pn**	**10 05 29.4**	**+0.3**
	51nm,0.2s,SNR=37							
EKS2				⇑S		**Sg**	**10 05 51.1**	**0.0**
	101nm,0.1s							
EKS2	**Erkin-Say**	**1.61**	**215**	⇑*e*P		**Pn**	**10 05 29.1**	**+0.1**
	baz=16							
EKS2				⇑*e*S		**Sn**	**10 05 49.6**	**-0.8**
	baz=16							
BOOM	**Boomskoye usch**	**1.63**	**156**	⇑*e*P		**Pn**	**10 05 29.6**	**+0.2**
	baz=54							
BOOM				⇑*e*S		**Sn**	**10 05 50.4**	**-0.7**
	baz=54							
MDOK	**Medeo**	**1.68**	**119**	⇑P		**Pn**	**10 05 29.5**	**-0.4**
	14nm,0.4s							
MDOK				Pg		**Pn**	**10 05 30.0**	**0.0**
	8.2nm,0.3s							
MDOK				Lg		Lg	10 05 51.9	
	42nm,0.2s							
MDOK				⇑S		**Sn**	**10 05 52.0**	**-0.2**
	13nm,0.3s							
MDOK	**Medeo**	**1.68**	**119**	*e*P		**Pn**	**10 05 30.0**	**0.0**
	8.2nm,0.3s							
MDOK				*e*S		**Sn**	**10 05 51.9**	**-0.2**
	42nm,0.2s							
TNSS	**Tian-Shan**	**1.68**	**124**	P		**Pn**	**10 05 30.5**	**+0.3**
	14nm,0.3s							
TNSS				S		**Sn**	**10 05 52.5**	**-0.2**
	92nm,0.3s							
TNSS	**Tian-Shan**	**1.68**	**124**	*e*P		**Pn**	**10 05 30.5**	**+0.3**
	14nm,0.3s							
TNSS				*e*S		**Sn**	**10 05 52.5**	**-0.2**
	92nm,0.3s							
KOTS	**Kotyrbulak**	**1.69**	**116**	P		**Pb**	**10 05 31.3**	**0.0**
	14nm,0.2s							
KOTS				S		**Sg**	**10 05 53.4**	**-0.1**
	80nm,0.5s							
KOTS	**Kotyrbulak**	**1.69**	**116**	*e*P		**Pb**	**10 05 31.3**	**0.0**
	14nm,0.2s							
KOTS				*e*S		**Sg**	**10 05 53.4**	**-0.1**
	80nm,0.5s							
UCH	**Uchtor**	**1.80**	**192**	⇓P		**Pb**	**10 05 32.8**	**-0.5**
	28nm,0.1s,SNR=165							
UCH				⇓S		**Sb**	**10 05 56.8**	**+0.3**
	81nm,0.2s							
UCH	**Uchtor**	**1.80**	**192**	⇓*e*P		**Pn**	**10 05 32.5**	**+0.6**
	baz=92							
UCH				⇓*e*S		**Sn**	**10 05 55.5**	**0.0**
	baz=92							
MRKS	**Merke**	**1.81**	**227**	P		**Pb**	**10 05 33.5**	**+0.1**
	15nm,0.2s							
MRKS				S		**Sb**	**10 05 56.8**	**+0.3**
	191nm,0.3s							
MRKS	**Merke**	**1.81**	**227**	*e*P		**Pb**	**10 05 33.5**

SATY					*e*Lg		Lg	10 06 20.7		
	64nm,0.1s									
NRN	**Naryn**	**2.65**	**164**	⇑	*e*P		**Pn**	**10 05 44.4**	**+1.0**	
	baz=64									
NRN				⇑	*e*S		**Sn**	**10 06 15.8**	**-0.5**	
	baz=64									
KPKS	**Kokpek**	**2.69**	**100**		Pg		**Pb**	**10 05 47.9**	**-0.5**	
KPKS	9.3nm,0.4s				Lg		Lg	10 06 21.9		
	44nm,0.5s									
KPKS	**Kokpek**	**2.69**	**100**		*e*Pg		**Pb**	**10 05 47.9**	**-0.5**	
KPKS	9.3nm,0.4s				*e*Lg		Lg	10 06 21.9		
	44nm,0.5s									
PRZ	**Przheval'sk**	**2.88**	**120**	⇓	*e*P		**Pn**	**10 05 47.7**	**+1.2**	
	baz=18									
PRZ				⇓	*e*S		**Sn**	**10 06 22.1**	**+0.2**	
	baz=18									
UZB	**Uzynbulak**	**3.02**	**105**		Pg		**Pb**	**10 05 53.7**	**-0.2**	
	6.1nm,0.5s									
UZB					Lg		Lg	10 06 31.8		
	18nm,0.3s									
UZB	**Uzynbulak**	**3.02**	**105**		*e*Pg		**Pb**	**10 05 53.7**	**-0.2**	
	6.1nm,0.5s									
UZB					*e*Lg		Lg	10 06 31.8		
	18nm,0.3s									
TARG	**Taragay, Kyrgy**	**3.04**	**137**	⇑	*e*P		**Pn**	**10 05 49.9**	**+1.0**	
	baz=36									
TARG				⇑	*e*S		**Sn**	**10 06 25.6**	**-0.5**	
	baz=36									
SHLS	**Shalkode**	**3.32**	**103**		Pg		**Pg**	**10 06 05.6**	**+2.5**	
	4.6nm,0.4s									
SHLS					Lg		Lg	10 06 52.1		
	233nm,0.6s									
SHLS	**Shalkode**	**3.32**	**103**		*e*Pg		**Pg**	**10 06 05.5**	**+2.5**	
	4.6nm,0.4s									
SHLS					*e*Lg		Lg	10 06 52.1		
	233nm,0.6s									
KK31	**Karatay Array**	**3.41**	**257**		Pn		**Pn**	**10 05 53.2**	**-0.4**	
	0.3nm,0.2s,baz=78,slow=12,SNR=20									
KK31				⇑	Pg		**Pb**	**10 06 02.2**	**+1.7**	
	2.2nm,0.3s,baz=74,slow=17,SNR=22									
KK31				⇓	Lg		Lg	10 06 44.1		
	20nm,0.5s,baz=71,slow=30,SNR=16									
KKAR	**Karatay Array**	**3.41**	**257**	⇑	*e*P		**Pn**	**10 05 54.9**	**+1.3**	
	baz=58									
KKAR				⇑	*e*S		**Sn**	**10 06 34.4**	**-0.2**	
	baz=58									
DJR	**Jarkent**	**3.44**	**83**		*e*Pg		**Pb**	**10 06 01.1**	**0.0**	
	5.4nm,0.3s									
DJR					*e*Lg		Lg	10 06 43.9		
	32nm,0.6s									
TRKS	**Terek-Say**	**3.77**	**231**	⇓	*e*P		**Pn**	**10 06 00.3**	**+1.5**	
	baz=30									
TRKS				⇓	*e*S		**Sn**	**10 06 43.5**	**-0.4**	
	baz=30									
KTMS	**Ketmen**	**3.89**	**96**		Pg		**Pb**	**10 06 10.0**	**+1.1**	
	0.8nm,0.3s									
KTMS					Lg		Lg	10 06 59.8		
	9.0nm,0.5s									
KTMS	**Ketmen**	**3.89**	**96**		*e*Pg		**Pb**	**10 06 10.0**	**+1.1**	
	0.8nm,0.3s									
KTMS					*e*Lg		Lg	10 06 59.8		
	9.0nm,0.5s									
MAKZ	**Makanchi**	**5.64**	**58**	⇑	Pn		**Pn**	**10 06 24.8**	**+0.5**	
	4.2nm,0.8s									
MAKZ				⇓	Sn		**Sn**	**10 07 33.3**	**+3.6**	
	4.4nm,0.8s									
MAKZ				⇑	Lg		Lg	10 07 50.6		
	7.4nm,0.8s									
MK31	**Makanchi Array**	**5.83**	**59**	⇑	Pn		**Pn**	**10 06 26.2**	**-0.7**	
	2.2nm,0.6s,baz=238,slow=13,SNR=14									
MK31				⇓	Sn		**Sn**	**10 07 31.5**	**-2.8**	
	1.4nm,0.2s,baz=232,slow=31,SNR=4.9									
MK31				⇑	Lg		Lg	10 08 01.3		
KURBB	**Kurchatov Arra**	**7.05**	**18**	⇓	Pg		Pn	10 06 48.9	+5.3	
	1.2nm,0.3s									
KURBB				⇓	Sn		**Sn**	**10 07 59.6**	**-4.8**	
	4.5nm,0.8s									
KURBB				⇑	Lg		Lg	10 08 41.4		
	14nm,0.7s									

IDC 21 10:18:25.9±2.6, 18°77S×171°93W, h0km, mb3.7/3, mbtmp3.9/5, ML4.9/1, MS3.2/2, Error ellipse: s-maj=72.8km s-min=32.0km az=136.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.83**	**2**		Pn	Pn	10 19 41.4	+1.4
	7.4nm,0.3s,baz=124,slow=24,SNR=1.8							
AFI					Sn	Sn	10 20 24.0	-13
	6.6nm,0.3s,baz=190,slow=13,SNR=8.2							
AFI					LR	LR	10 21 05.1	
	comp=Z,106nm,21.6s,baz=172,slow=33							
MSVF	**Nonsavu**	**9.58**	**275**		Pn	Pn	10 20 43.8	-1.5
	0.4nm,0.3s,baz=113,slow=15,SNR=14							
MSVF					LR	LR	10 23 26.0	
	comp=Z,300nm,18.9s,baz=91,slow=31							
	14nm,0.9s							
ASAR	**Alice Springs**	**50.49**	**254**		P	P	10 27 26.7	+0.6
	2.0nm,0.8s,baz=89,slow=8.5,SNR=35							
	2.0nm,0.8s							
WRA	**Warramunga Arr**	**50.52**	**259**		P	P	10 27 26.1	-0.3
	0.3nm,0.6s,baz=97,slow=8.5,SNR=4.7							
	0.3nm,0.6s							
YKA	**Yellowknife Ar**	**92.62**	**23**		P	P	10 31 38.1	-1.0
	0.3nm,1.0s,baz=230,slow=5.5,SNR=3.1							
	0.3nm,1.0s							

MAN 21 10:24:37.8, 8°77N×126°77E, h33km, mb4.5, ML3.3, MS3.1, Mindanao

*OSPL **21** 10:29:01.3±2.7, 19°83N×76°81W, h0km±137km, ML2.1*
*SSNC **21** 10:29:02.2±1.6, 19°72N×76°72W, h0km±7km, MD2.6, ML2.2, MW2.5*

ISC 21 10:29:00.5±1.5, 19°85N±0°05×76°78W±0°04, h16km±11km, n13, σ0°65/24, Cuba region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.30**	**315**		*e*P	**Pn**	**10 29 10.2**	**-0.1**
LMGC	**Las Mercedes**	**0.30**	**315**		*e*P	**Pn**	**10 29 10.2**	**-0.1**
RCC	**Rio Carpintero**	**1.03**	**82**		*e*P	**Pg**	**10 29 20.1**	**-0.3**
RCC					*e*S	**Sb**	**10 29 32.7**	**-0.5**
RCC					IAML		10 29 35.6	
	comp=E,28nm,0.1s							
RCC					IAML		10 29 35.8	
	comp=N,15nm,0.1s							
RCC	**Rio Carpintero**	**1.03**	**82**		*e*P	**Pg**	**10 29 20.1**	**-0.3**
RCC					*e*S	**Sb**	**10 29 32.7**	**-0.5**
RCC					IAML		10 29 35.8	
	comp=E,26nm,0.2s							
RCC					IAML		10 29 35.9	
	comp=N,50nm,0.1s							
HLGC	**Holguin**	**1.24**	**33**		*e*P	**Pg**	**10 29 24.6**	**+0.2**
HLGC					*e*S	**Sg**	**10 29 41.4**	**+0.8**
HLGC					IAML		10 29 43.5	
	comp=N,74nm,0.3s							
HLGC					IAML		10 29 43.8	
	comp=E,60nm,0.3s							
GTBY	**Guantanamo Bay**	**1.57**	**87**		*e*P	**Pb**	**10 29 28.8**	**-0.4**
GTBY					*e*S	**Sn**	**10 29 48.2**	**+0.5**
GTBY	**Guantanamo Bay**	**1.57**	**87**		*e*P	**Pn**	**10 29 28.5**	**+0.8**
GTBY					*e*S	**Sn**	**10 29 47.2**	**-0.5**
GTBY	**Guantanamo Bay**	**1.57**	**87**		*i* P	**Pb**	**10 29 28.6**	**-0.5**
GTBY					*e*S	**Sn**	**10 29 47.9**	**+0.2**
GTBY					IAML		10 29 51.9	
	comp=Z,22nm,0.5s							
CCCC	**Cccc**	**1.64**	**326**		*e*P	**Pb**	**10 29 29.9**	**-0.4**
CCCC					*e*S	**Sn**	**10 29 49.8**	**+0.5**
CCCC					IAML		10 29 52.1	
	comp=N,16nm,0.4s							
CCCC					IAML		10 29 53.1	
	comp=E,13nm,0.2s							
CCCC	**Cccc**	**1.64**	**326**		*e*P	**Pn**	**10 29 28.7**	**+0.1**
CCCC					*e*S	**Sn**	**10 29 50.2**	**+0.9**
CCCC					IAML		10 29 52.1	
	comp=N,16nm,0.5s							
CCCC					IAML		10 29 52.4	
	comp=E,13nm,0.2s							
MTDJ	**Mount Denham**	**1.77**	**204**		*i* P	**Pn**	**10 29 31.4**	**+0.9**
MTDJ					*e*S	**Sn**	**10 29 52.5**	**-0.2**
MASC	**Masc**	**2.42**	**82**		*e*P	**Pn**	**10 29 40.5**	**+1.2**
MASC					*e*S	**Sn**	**10 30 08.7**	**+0.2**
MASC					IAML		10 30 11.9	
	comp=E,1.8nm,0.1s							
MASC					IAML		10 30 12.1	
	comp=N,2.7nm,0.2s							
MASC	**Masc**	**2.42**	**82**		*i* P	**Pn**	**10 29 39.7**	**+0.3**
MASC					*e*S	**Sb**	**10 30 11.8**	**-1.4**

*NOU **21** 10:35:01.4, 41°85S×174°51E, h21km, MLv3.8/7, Cook Strait, New Zealand*
*WEL **21** 10:35:02.2±0.4, 42°S±5°×17°4E±°, h15km±3km, M3.1/19, ML3.4/21, MLv3.1/19, Error ellipse: s-maj=0.0km s-min=0.0km az=153.3, confirmed*

ISC 21 10:35:01.4±1.1, 41°83S±0°04×174°40E±0°03, h16km±8km, n56, σ0°86/59, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**301**		P	**Pg**	**10 35 05.8**	**+0.2**
CMWZ					S	**Sg**	**10 35 09.0**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.41**	**287**		P	**Pg**	**10 35 09.3**	**-0.4**
SNZO	**South Karori**	**0.57**	**24**		P	**Pb**	**10 35 13.0**	**0.0**
WEL	**Wellington**	**0.61**	**27**		P	**Pb**	**10 35 14.0**	**+0.2**
TCW	**Tory Channel**	**0.63**	**352**		P	**Pg**	**10 35 12.8**	**-1.0**
PLWZ	**Palliser**	**0.69**	**68**		P	**Pn**	**10 35 17.0**	**+0.4**
PLWZ					S	**Sn**	**10 35 28.9**	**+1.8**
KHZ	**Kahutara**	**0.86**	**227**		P	**Pn**	**10 35 19.5**	**+0.6**
KHZ	**Kahutara**	**0.86**	**227**		P	**Pn**	**10 35 19.4**	**+0.6**
KHZ					S	**Sn**	**10 35 32.6**	**+1.5**
CAW	**Cannon Point**	**0.88**	**35**		P	**Pn**	**10 35 18.8**	**-0.4**
PAWZ	**Paruwai Farm**	**0.89**	**60**		P	**Pn**	**10 35 19.7**	**+0.3**
NNZ	**Nelson**	**0.98**	**308**		P	**Pb**	**10 35 18.9**	**-1.1**
KIW	**Kapiti Island**	**1.04**	**22**		P	**Pg**	**10 35 21.1**	**-0.5**
TRWZ	**Traveller**	**1.06**	**66**		P	**Pn**	**10 35 21.6**	**0.0**
MTW	**Mount Morrison**	**1.07**	**51**		P	**Pg**	**10 35 21.8**	**-0.3**
DUWZ	**D'Urville Isla**	**1.09**	**341**		P	**Pb**	**10 35 20.8**	**-1.1**
THZ	**Tophouse**	**1.12**	**273**		P	**Pn**	**10 35 22.0**	**-0.4**
OGWZ	**Otaki Gorge**	**1.17**	**30**		P	**Pg**	**10 35 23.3**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.26**	**42**		P	**Pb**	**10 35 24.3**	**-0.5**
MRNZ	**Matariki Terra**	**1.30**	**289**		P	**Pn**	**10 35 25.0**	**0.0**
TMWZ	**Te Maipa**	**1.34**	**58**		P	**Pn**	**10 35 25.3**	**-0.1**
TKNZ	**Takaka Hill**	**1.34**	**306**		P	**Pn**	**10 35 24.9**	**-0.6**
MRZ	**Mangatainoka R**	**1.47**	**38**		P	**Pn**	**10 35 27.2**	**0.0**
GVZ	**Greta Valley S**	**1.52**	**221**		P	**Pn**	**10 35 28.4**	**+0.5**
TIWZ	**Tintock**	**1.54**	**47**		P	**Pn**	**10 35 28.1**	**-0.8**
QRZ	**Quartz Range**	**1.73**	**305**		P	**Pn**	**10 35 31.5**	**+0.7**
QRZ	**Quartz Range**	**1.73**	**305**		P	**Pn**	**10 35 31.6**	**+0.7**
PRWZ	**Pori Road**	**1.74**	**43**		P	**Pn**	**10 35 30.7**	**-0.2**
POWZ	**Post Office Ro**	**1.77**	**36**		P	**Pn**	**10 35 31.4**	**0.0**
BFZ	**Birch Farm**	**1.81**	**51**		P	**Pn**	**10 35 30.8**	**-1.1**
BFZ	**Birch Farm**	**1.81**	**51**		P	**Pn**	**10 35 31.1**	**-0.8**
LTZ	**Lake Taylor**	**1.84**	**238**		P	**Pn**	**10 35 32.6**	**+0.2**
AMCZ	**Amberley**	**1.86**	**223**		P	**Pn**	**10 35 32.6**	**-0.1**
DSZ	**Denniston Nort**	**1.94**	**272**		P	**Pn**	**10 35 34.2**	**+0.5**
DVHZ	**Dannevirke**	**2.03**	**42**		P	**Pn**	**10 35 34.2**	**-0.8**
ANWZ	**Angora Road**	**2.08**	**50**		P	**Pn**	**10 35 35.3**	**-0.3**
MQZ	**McQueen's Vall**	**2.27**	**214**		P	**Pn**	**10 35 37.2**	**-1.0**
OXZ	**Oxford**	**2.29**	**229**		P	**Pn**	**10 35 37.7**	**-0.9**
PNHZ	**Pukenui**	**2.35**	**36**		P	**Pn**	**10 35 38.8**	**-0.7**
INZ	**Inchbonnie**	**2.37**	**247**		P	**Pn**	**10 35 39.9**	**+0.3**
RACZ	**Rakaia**	**2.52**	**221**		P	**Pn**	**10 35 40.6**	**-1.0**
KRHZ	**Kereru**	**2.65**	**35**		P	**Pn**	**10 35 42.7**	**-0.8**
BHHZ	**Black Hill Sta**	**2.66**	**29**		P	**Pb**	**10 35 49.8**	**+1.1**
VRZ	**Vera Road**	**2.72**	**6**		P	**Pb**	**10 35 47.6**	**-2.0**
FWVZ	**Far West T-bar**	**2.72**	**19**		P	**Pb**	**10 35 50.7**	**+0.9**
WACZ	**Wakanui South**	**2.83**	**221**		P	**Pn**	**10 35 45.0**	**-0.8**
NTVZ	**North Tongarir**	**2.90**	**20**		P	**Pn**	**10 35 48.2**	**+1.2**
WVZ	**Waitaha Valley**	**2.98**	**244**		P	**Pn**	**10 35 49.0**	**+1.0**
RPZ	**Rata Peaks**	**3.10**	**231**		P	**Pn**	**10 35 48.9**	**-0.7**
RPZ	**Rata Peaks**	**3.10**	**231**		P	**Pn**	**10 35 49.0**	**-0.7**
ARCZ	**Arundel**	**3.17**	**227**		P	**Pn**	**10 35 49.9**	**-0.7**
HIZ	**Hauiti**	**3.33**	**6**		P	**Pn**	**10 35 52.4**	**-0.5**
HIZ	**Hauiti**	**3.33**	**6**		P	**Pn**	**10 35 54.9**	**+2.0**
TMZ	**Timaru**	**3.56**	**223**		P	**Pn**	**10 35 55.1**	**-0.8**
ODZ	**Otahua Downs**	**4.21**	**219**		P	**Pn**	**10 36 04.9**	**-0.1**
ODZ	**Otahua Downs**	**4.21**	**219**		P	**Pn**	**10 36 03.8**	**-1.2**
TKGZ	**Te Karaka**	**4.30**	**39**		P	**Pn**	**10 36 04.2**	**-1.9**

*ROM **21** 10:59:28.2±0.0, 42°458N±0°001×13°286E±0°002, h16km, ML3.5/91, Error ellipse: s-maj=0.2km s-min=0.0km az=258.0*
*LDG **21** 10:59:29.1±0.1, 42°43N×13°18E, h16km, Ml3.0/15, Error ellipse: s-maj=5.0km s-min=3.2km az=46.0*
*BEO **21** 10:59:30.5±0.5, 42°50N×13°41E, h0km, ML3.5/10*
*PRU **21** 10:59:31.4±0.0, 42°58N×13°27E, h10km*

ISC 21 10:59:28.3±0.8, 42°46N±0°02×13°25E±0°02, h18km±4km, n242, σ1°88/300, 11C-26D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.04**	**115**	⇓	P	**Pg**	**10 59 31.3**	**-0.2**
T1247					S	**Sg**	**10 59 33.4**	**-0.3**
T1247					AML	AML		
	comp=E,95000μm,0.5s							
T1247					AML	AML		
RM33	**Pellescritta (**	**0.06**	**332**	⇑	P	**Pg**	**10 59 31.6**	**-0.1**
RM33					S	**Sg**	**10 59 33.8**	**-0.2**
RM33					AML	AML		
RM33					AML	AML		
RM33					AML	AML		
	comp=N,80100μm,0.3s							
RM33					AML	AML		
	comp=N,75900μm,0.3s							
RM33					AML	AML		
	comp=N,80100μm,1.7s							
RM33					AML	AML		
	comp=N,75900μm,1.7s							
CAMP	**Campotosto**	**0.14**	**56**	⇑	P	**Pb**	**10 59 31.9**	**-0.3**
CAMP					S	**Sb**	**10 59 34.4**	**-0.5**
CAMP					AML	AML		
	comp=E,10525μm,0.6s							
CAMP					AML	AML		
	comp=N,10235μm,0.3s							
CAMP					AML	AML		
	comp=E,10525μm,1.4s							
AQU	**L'Aquila**	**0.15**	**133**		AML	AML		
	comp=N,12250μm,1.2s							
AQU					AML	AML		
	comp=E,10325μm,0.5s							
AQU					AML	AML		
	comp=E,10895μm,0.5s							
AQU					AML	AML		
	comp=N,12800μm,0.7s							
AQU					AML	AML		
	comp=N,12250μm,0.8s							
T1222	**Castel Sant'An**	**0.17**	**251**		AML	AML		
	comp=N,8720μm,0.4s							
T1222					AML	AML		
	comp=E,10950μm,0.3s							
T1222					AML	AML		
	comp=E,11300μm,0.3s							
T1222					AML	AML		
	comp=N,9155μm,0.4s							
LNSS	**Leonessa**	**0.21**	**313**	⇑	P	**Pb**	**10 59 33.7**	**0.0**
LNSS					S	**Sb**	**10 59 37.7**	**+0.4**
LNSS					AML	AML		
	comp=E,36300μm,0.8s							
LNSS					AML	AML		
	comp=N,35450μm,0.4s							
FIAM	**Fiamignano**	**0.21**	**208**	⇑	P	**Pb**	**10 59 33.7**	**+0.1**
FIAM					S	**Sb**	**10 59 37.8**	**+0.6**
FIAM					AML	AML		
	comp=E,14800μm,0.7s							
FIAM					AML	AML		
	comp=N,7015μm,0.5s							
FIAM					AML	AML		
	comp=E,14800μm,1.3s							
GIGS	**Gran Sasso**	**0.23**	**92**	⇓	P	**Pg**	**10 59 33.1**	**-0.7**
GIGS					S	**Sg**	**10 59 36.7**	**-0.8**
GIGS					AML	AML		
	comp=N,3745μm,1.6s							
GIGS					AML	AML		
	comp=E,3950μm,0.7s							
GIGS					AML	AML		
	comp=N,3745μm,0.4s							
T1218	**Civita (PG)**	**0.23**	**335**	⇓	P	**Pg**	**10 59 33.9**	**0.0**
T1218					S	**Sb**	**10 59 38.0**	**+0.1**
T1218					AML	AML		
	comp=N,89550μm,0.2s							
T1218					AML	AML		
	comp=E,72700μm,0.2s							
T1218					AML	AML		
	comp=N,87700μm,0.2s							
T1218					AML	AML		
	comp=E,73550μm,0.2s							
T1218					AML	AML		
	comp=N,89550μm,0.2s							
T1218					AML	AML		
	comp=N,87650μm,0.2s							
T1202	**Accumoli, Fraz**	**0.25**	**355**	⇓	P	**Pg**	**10 59 34.1**	**+0.1**
T1202					S	**Sb**	**10 59 38.5**	**+0.2**
T1202					AML	AML		
T1202					AML	AML		
T1213	**Norcia, Frazio**	**0.28**	**341**	⇓	P	**Pg**	**10 59 34.5**	**0.0**
T1213					S	**Sg**	**10 59 39.1**	**+0.2**
T1211	**Morro Reatino**	**0.30**	**285**	⇑	P	**Pb**	**10 59 35.1**	**-0.1**
T1211					S	**Sb**	**10 59 40.4**	**+0.5**
T1211					AML	AML		
	comp=N,21550μm,0.4s							
T1211					AML	AML		
	comp=E,14650μm,0.3s							
T1211					AML	AML		
	comp=N,21600μm,0.4s							
T1211					AML	AML		
	comp=E,14750μm,0.3s							
FAGN	**Fagnano**	**0.31**	**128**	⇓	P	**Pg**	**10 59 34.8**	**-0.3**
FAGN					AML	AML		
	comp=N,13000μm,1.4s							
FAGN					AML	AML		
	comp=E,19050μm,0.5s							
FAGN					AML	AML		
	comp=N,13000μm,0.6s							
T1212	**Cascia, Frazio**	**0.33**	**333**	⇓	P	**Pg**	**10 59 35.4**	**0.0**
T1212					S	**Sb**	**10 59 40.8**	**0.0**
T1212					AML	AML		
	comp=E,17800μm,0.3s							
T1212					AML	AML		
	comp=N,28400μm,0.2s							
T1212					AML	AML		
	comp=E,17200μm,0.3s							
T1212					AML	AML		
	comp=N,28450μm,0.2s							
T1212					AML	AML		
	comp=E,17800μm,0.3s							
T1212					AML	AML		
	comp=E,17200μm,0.3s							
T1212					AML	AML		
	comp=N,28400μm,0.2s							
T1217	**Poggiodomo (PG**	**0.35**	**317**	⇓	P	**Pg**	**10 59 35.8**	**+0.1**
T1217					S	**Sb**	**10 59 41.6**	**+0.3**
T1217					AML	AML		
	comp=E,14250μm,0.2s							
T1217					AML	AML		
	comp=N,15100μm,0.7s							
T1217					AML	AML		
	comp=E,14850μm,0.2s							
T1217					AML	AML		
	comp=N,15600μm,0.6s							
T1217					AML	AML		
	comp=E,14250μm,0.2s							
T1217					AML	AML		
	comp=N,15100μm,0.6s							
T1217					AML	AML		
	comp=E,14850μm,0.2s							
ARRO	**Arrone**	**0.38**	**289**	⇑	P	**Pb**	**10 59 36.4**	**-0.1**
ARRO					AML	AML		
	comp=E,6760μm,1.0s							
ARRO					AML	AML		
	comp=N,9230μm,0.6s							
NRCA	**Norcia**	**0.39**	**345**	⇓	P	**Pg**	**10 59 36.2**	**-0.2**
NRCA					S	**Sb**	**10 59 42.4**	**-0.1**
NRCA					AML	AML		
	comp=E,70950μm,0.2s							
NRCA					AML	AML		
	comp=E,70950μm,1.8s							
NRCA					AML	AML		
	comp=N,46500μm,0.2s							
T1215	**Vallo di Nera,**	**0.45**	**321**	⇓	P	**Pg**	**10 59 37.3**	**0.0**
T1215					S	**Sb**	**10 59 44.6**	**+0.6**
T1215					AML	AML		
	comp=E,3795μm,0.9s							
T1215					AML	AML		
	comp=N,3780μm,0.6s							
T1215					AML	AML		
	comp=N,3825μm,0.6s							
T1215					AML	AML		
	comp=N,3820μm,0.6s							
T1215					AML	AML		
	comp=E,3925μm,0.9s							
T1215					AML	AML		
	comp=N,3780μm,1.4s							
T1215					AML	AML		
	comp=N,3820μm,1.4s							
PTQR	**Pietraquaria**	**0.45**	**166**	⇓	P	**Pg**	**10 59 37.2**	**-0.2**
PTQR					AML	AML		
	comp=N,1222μm,1.4s							
PTQR					AML	AML		
	comp=N,1222μm,0.6s							
PTQR					AML	AML		
	comp=E,1765μm,0.4s							
MC2	**Monte Cornacci**	**0.46**	**354**	⇓	P	**Pg**	**10 59 37.4**	**-0.3**
MC2					S	**Sb**	**10 59 44.7**	**+0.1**
T1216	**Preci, Frazion**	**0.47**	**338**	⇓	P	**Pg**	**10 59 37.5**	**-0.2**
T1216					S	**Sb**	**10 59 44.9**	**+0.3**
T1216					AML	AML		
	comp=N,25250μm,0.7s							
T1216					AML	AML		
	comp=E,17550μm,0.8s							
T1221	**Campello sul C**	**0.50**	**324**	⇓	P	**Pg**	**10 59 38.3**	**-0.1**
T1221					S	**Sb**	**10 59 46.2**	**+0.5**
CESX	**Cesi**	**0.52**	**287**	⇑	P	**Pg**	**10 59 38.7**	**0.0**
CESX					AML	AML		
	comp=N,8995μm,0.3s							
CESX					AML	AML		
	comp=E,8260μm,0.5s							
FEMA	**Monte Fema**	**0.53**	**344**	⇓	P	**Pg**	**10 59 38.6**	**-0.3**
CERT	**Cerreto**	**0.55**	**202**	⇑	P	**Pg**	**10 59 39.2**	**0.0**
CERT					AML	AML		
	comp=E,4580μm,0.5s							
CERT					AML	AML		
	comp=N,2335μm,0.9s							
OFFI	**Offida**	**0.57**	**34**		P	**Pg**	**10 59 39.7**	**0.0**
OFFI					AML	AML		
	comp=E,11350μm,0.8s							
OFFI					AML	AML		
	comp=N,19300μm,1.0s							
MTCE	**Montecelio**	**0.58**	**221**	⇑	P	**Pg**	**10 59 39.7**	**-0.1**
MTCE					AML	AML		
	comp=E,1690μm,0.4s							
MTCE					AML	AML		
	comp=N,1710μm,1.0s							
FDMO	**Fiordimonte**	**0.59**	**348**	⇓	P	**Pg**	**10 59 39.6**	**-0.4**
FDMO					S	**Sb**	**10 59 48.6**	**+0.4**
FDMO					AML	AML		
	comp=E,8205μm,0.3s							
FDMO					AML	AML		
	comp=N,11450μm,0.2s							
SRES	**S.Oreste - Sor**	**0.59**	**248**		P	**Pg**	**10 59 40.0**	**0.0**
SRES					AML	AML		
	comp=E,1505μm,1.2s							
SRES					AML	AML		
	comp=N,2425μm,0.4s							
TRTR	**Tortoreto Alta**	**0.60**	**54**		P	**Pg**	**10 59 40.2**	**0.0**
TRTR					AML	AML		
	comp=E,10300μm,1.2s							
TRTR					AML	AML		
	comp=N,8635μm,1.0s							
TRTR					AML	AML		
	comp=N,8635μm,1.0s							
CESI	**CESI - Serrava**	**0.60**	**335**	⇓	P	**Pg**	**10 59

comp=E,31250µm,0.3s
MOMA Monte Martano 0.61 305 ⇓P **Pg 10 59 40.4 0.0**
MOMA AML AML
comp=E,6000µm,0.3s
MOMA AML AML
comp=N,6350µm,0.5s
MOMA AML AML
comp=N,6450µm,0.5s
MOMA AML AML
comp=E,6000µm,0.3s
MOMA AML AML
comp=E,6080µm,0.3s
VVLD Villa Vallelon 0.65 155 P **Pg 10 59 40.4 -0.6**
VVLD AML AML
comp=E,1770µm,0.8s
VVLD AML AML
comp=N,2175µm,0.7s
VVLD AML AML
comp=E,1770µm,1.2s
RCAV Rocca di Cave 0.65 201 P **Pb 10 59 41.5 +0.3**
RCAV AML AML
comp=N,4155µm,0.5s
RCAV AML AML
comp=E,3790µm,0.6s
RCAV AML AML
comp=N,4150µm,0.5s
T1220 Camerino, Fraz 0.66 350 ⇓P **Pb 10 59 40.9 -0.5**
T1220 S **Sb 10 59 50.8 +0.5**
T1220 AML AML
comp=N,40050µm,0.4s
T1220 AML AML
comp=N,39800µm,0.3s
T1220 AML AML
comp=N,39750µm,0.3s
T1220 AML AML
comp=E,32450µm,1.2s
T1220 AML AML
comp=N,39750µm,1.7s
T1220 AML AML
comp=E,32850µm,1.2s
T1220 AML AML
comp=N,40050µm,1.6s
GUAR Guarcino 0.66 176 P **Pb 10 59 41.2 -0.2**
GUAR AML AML
comp=N,4850µm,0.7s
GUAR AML AML
comp=E,3225µm,0.4s
MNTP Montappone 0.70 13 P **Pb 10 59 41.8 -0.2**
SEF1 Sefro 0.72 342 P **Pb 10 59 42.0 -0.4**
SEF1 AML AML
comp=E,10315µm,1.0s
SEF1 AML AML
comp=N,9270µm,0.2s
SEF1 AML AML
comp=E,10320µm,1.0s
ASSB Assisi San Ben 0.73 323 AML AML
comp=E,5775µm,0.5s
ASSB AML AML
comp=N,4475µm,1.1s
MDAR Monte D'Aria 0.74 354 P **Pb 10 59 42.2 -0.5**
MDAR AML AML
comp=E,8010µm,0.7s
MDAR AML AML
comp=N,5545µm,1.0s
MDAR AML AML
comp=E,8015µm,0.7s
MDAR AML AML
comp=N,5545µm,1.0s
MDAR AML AML
comp=E,8015µm,1.3s
PIO1 Pioraco 0.75 345 P **Pb 10 59 42.3 -0.5**
RMP Rome, Mte Porz 0.76 212 P **Pb 10 59 42.8 -0.3**
FIU1 Fiuminata 0.77 342 P **Pb 10 59 42.9 -0.3**
SSM1 San Severino M 0.77 356 P **Pb 10 59 42.7 -0.5**
GAG1 Gagliole 0.79 350 P **Pb 10 59 43.3 -0.3**
GAG1 AML AML
comp=N,18400µm,0.5s
GAG1 AML AML
comp=N,18400µm,1.5s
GAG1 AML AML
comp=E,16550µm,0.3s
LPEL Lama dei Pelig 0.80 120 P **Pb 10 59 42.3 -1.5**
LPEL AML AML
comp=N,2605µm,0.7s
LPEL AML AML
comp=E,2830µm,1.0s
POFI Posta Fibreno 0.81 155 P **Pb 10 59 43.5 -0.5**
POFI AML AML
comp=N,992µm,0.4s
POFI AML AML
comp=N,942µm,1.4s
POFI AML AML
comp=E,1635µm,0.7s
POFI AML AML
comp=E,1700µm,0.7s
POFI AML AML
comp=N,942µm,0.6s
POFI AML AML
comp=N,990µm,0.4s
POFI AML AML
comp=E,1700µm,1.3s
POFI AML AML
comp=E,1635µm,1.3s
MTL1 Matelica 0.82 348 P **Pb 10 59 43.7 -0.3**
CADA Capodarco di F 0.83 27 P **Pb 10 59 44.2 0.0**
SNTG Esanatoglia 0.83 344 ⇓P **Pb 10 59 43.7 -0.5**
SNTG AML AML
comp=E,2700µm,0.6s
SNTG AML AML
comp=N,2875µm,0.2s
SNTG AML AML
comp=E,2695µm,0.6s
SNTG AML AML
comp=E,2730µm,0.6s
SNTG AML AML
comp=N,2875µm,0.2s
SNTG AML AML
comp=E,2695µm,1.4s
SNTG AML AML
comp=E,2730µm,1.4s
SNTG AML AML
comp=N,2860µm,0.2s
SAMA S.Maria delle 0.84 216 P **Pg 10 59 44.6 +0.1**
LRP Arpino 0.85 163 P **Pb 10 59 43.7 -0.8**
LRP AML AML
comp=E,966µm,0.8s
LRP AML AML
comp=N,1300µm,0.5s
LRP AML AML
comp=E,967µm,0.8s
ATCC AVT- Casa Cast 0.85 328 P **Pb 10 59 44.5 -0.1**
ATCC AML AML
comp=E,3830µm,0.7s
ATCC AML AML
comp=N,3525µm,0.6s
ATCC AML AML
comp=E,3830µm,1.3s
EL6 Elcito 0.88 353 ⇓P **Pb 10 59 44.5 -0.5**
EL6 AML AML
comp=N,9860µm,0.3s
EL6 AML AML
comp=E,8150µm,0.2s
EL6 AML AML
comp=N,9855µm,0.3s
GIUL Giuliano Di Ro 0.90 180 P **Pb 10 59 45.2 -0.1**
GIUL AML AML
comp=E,1380µm,1.4s
GIUL AML AML
comp=N,1315µm,1.5s
GIUL AML AML
comp=E,1380µm,0.6s
GIUL AML AML
comp=N,1315µm,0.5s
CIMA Civitanova Mar 0.90 20 P **Pb 10 59 45.6 +0.1**
FOSV Fossato di Vic 0.91 337 ⇓P **Pb 10 59 45.3 -0.3**
FOSV AML AML
comp=N,2855µm,0.4s
FOSV AML AML
comp=E,2075µm,0.4s
CING Cingoli 0.92 357 ⇓P **Pb 10 59 45.2 -0.5**
CING AML AML
comp=E,6605µm,0.3s
CING AML AML
comp=N,7995µm,0.2s
MGAB Montegabbione 0.95 299 P **Pg 10 59 46.8 -0.1**
MGAB AML AML
comp=E,3540µm,1.4s
MGAB AML AML
comp=N,3850µm,0.4s
MGAB AML AML
comp=E,3990µm,1.4s
MGAB AML AML
comp=E,3990µm,0.6s
MGAB AML AML
comp=E,3540µm,0.6s
MGAB AML AML
comp=N,4080µm,0.4s
PP3 Marolino 0.96 16 P **Pn 10 59 46.6 -0.2**
PP3 AML AML
comp=E,15700µm,0.4s
PP3 AML AML
comp=N,8425µm,1.3s
PP3 AML AML
comp=E,16250µm,0.4s
PP3 AML AML
comp=N,8440µm,1.3s
PP3 AML AML
comp=N,8425µm,0.7s
PP3 AML AML
comp=N,8440µm,0.7s
MURB Monte Urbino 0.97 327 P **Pb 10 59 46.6 0.0**
MURB AML AML
comp=E,7600µm,0.3s
MURB AML AML
comp=N,7630µm,0.3s
MURB AML AML
comp=E,7595µm,0.3s
MURB AML AML
comp=N,7630µm,0.3s
MURB AML AML
comp=E,8780µm,0.3s
MURB AML AML
comp=E,7595µm,1.7s
MURB AML AML
comp=N,7630µm,1.7s
MURB AML AML
comp=E,8780µm,1.7s
MURB AML AML
comp=N,7135µm,0.3s
LATB Latina 0.99 193 P **Pb 10 59 46.7 -0.1**
TOLF Tolfa 1.01 247 P **Pb 10 59 47.4 +0.2**
TOLF AML AML
comp=E,1137µm,1.5s
TOLF AML AML
comp=N,914µm,0.6s
TOLF AML AML
comp=E,1137µm,0.5s
RNI2 Rionero Sannit 1.01 138 P **Pb 10 59 46.5 -0.8**
RNI2 AML AML
comp=E,1940µm,1.6s
RNI2 AML AML
comp=N,1830µm,0.9s
RNI2 AML AML
comp=E,1930µm,1.6s
RNI2 AML AML
comp=N,1835µm,0.9s
RNI2 AML AML
comp=E,1930µm,0.4s
RNI2 AML AML
comp=N,1830µm,1.1s
RNI2 AML AML
comp=N,1835µm,1.1s
RNI2 AML AML
comp=E,1940µm,0.4s
CERA Filignano 1.03 146 P **Pb 10 59 47.0 -0.7**
CERA AML AML
comp=N,1810µm,0.6s
CERA AML AML
comp=N,1850µm,0.6s
CERA AML AML
comp=E,1475µm,0.6s
CERA AML AML
comp=E,1450µm,0.6s
ATFO Monte Foce - G 1.04 331 P **Pb 10 59 47.5 -0.3**
SSFR Montelago di S 1.04 341 P **Pb 10 59 47.5 -0.2**
SSFR AML AML
comp=E,9100µm,0.2s
SSFR AML AML
comp=E,8095µm,0.2s
SSFR AML AML
comp=N,6275µm,0.2s
SSFR AML AML
comp=N,6485µm,0.2s
ATSC Scheggia e Pas 1.05 337 P **Pb 10 59 47.5 -0.5**
SACS San Casciano d 1.06 292 P **Pg 10 59 48.8 -0.2**
SACS AML AML
comp=N,1625µm,0.8s
SACS AML AML
comp=N,1580µm,0.8s
SACS AML AML
comp=E,1186µm,0.7s
SACS AML AML
comp=N,1625µm,1.2s
SACS AML AML
comp=E,1236µm,0.8s
SACS AML AML
comp=N,1580µm,1.2s
ARVD Arcevia 1.06 348 ⇓P **Pb 10 59 47.9 -0.3**
ARVD AML AML
comp=E,1593µm,0.5s
ARVD AML AML
comp=N,1240µm,1.1s
LATE Laterza 1.08 279 P **Pg 10 59 49.0 -0.2**
ATVA AVT- Monte Val 1.08 319 P **Pb 10 59 48.4 -0.2**
TB01 Gubbio 1.10 327 P **Pb 10 59 48.5 -0.3**
TB02 Pietralunga 1.10 326 P **Pb 10 59 48.7 -0.2**
MIDA Miranda 1.10 137 P **Pb 10 59 48.0 -0.9**
ATVO AVT- Monte Val 1.11 326 ⇓P **Pb 10 59 48.9 -0.1**
ATVO AML AML
comp=N,1195µm,0.4s
ATVO AML AML
comp=E,1191µm,1.3s
ATVO AML AML
comp=N,1195µm,1.6s
AOI Ancona 1.12 13 P **Pn 10 59 49.0 -0.1**
AOI AML AML
comp=E,3080µm,1.1s
AOI AML AML
comp=N,2745µm,0.4s
AOI AML AML
comp=E,3080µm,0.9s
FRON Frontone 1.13 340 ⇑P **Pn 10 59 49.0 -0.2**
FRON AML AML
comp=E,1610µm,0.4s
FRON AML AML
comp=E,1610µm,1.6s
FRON AML AML
comp=N,2145µm,0.3s
TB03 Pietralunga 1.13 327 P **Pn 10 59 48.8 -0.4**
ATMI Monte Miggiano 1.14 321 P **Pb 10 59 49.6 +0.2**
ATMI AML AML
comp=E,2350µm,0.6s
ATMI AML AML
comp=N,3680µm,0.6s
ATBU Serra di Buran 1.14 333 P **Pb 10 59 49.6 0.0**
FRES Fresagrandinar 1.16 114 P **Pn 10 59 49.4 -0.3**
FRES AML AML
comp=E,888µm,1.3s
FRES AML AML
comp=N,788µm,1.0s
FRES AML AML
comp=N,788µm,1.0s
FRES AML AML
comp=E,888µm,0.7s
PCRO Pietralacroce 1.17 10 P **Pb 10 59 50.3 +0.3**
ATPC Poggio Castell 1.18 331 P **Pb 10 59 50.3 +0.1**
COR1 Corinaldo 1.19 351 P **Pb 10 59 50.8 +0.5**
COR1 AML AML
comp=E,2885µm,0.5s
COR1 AML AML
comp=E,2885µm,1.5s
COR1 AML AML
comp=N,3550µm,0.2s
TRIV Trivento 1.19 125 P **Pg 10 59 51.2 0.0**
PIEI Pieia 1.20 334 P **Pn 10 59 50.3 +0.1**
PIEI AML AML
comp=E,1405µm,1.3s
PIEI AML AML
comp=N,904µm,0.9s
PIEI AML AML
comp=E,1405µm,0.7s
MCIV Monte Civitell 1.21 286 P **Pb 10 59 50.8 +0.1**
MCIV AML AML
comp=E,702µm,0.3s
MCIV AML AML
comp=N,604µm,1.1s
SF03 Valle Cupa 1.21 287 P **Pg 10 59 51.4 -0.2**
MPAG Monte Paganucc 1.23 343 ⇓P **Pn 10 59 50.8 +0.1**
MPAG AML AML
comp=E,1990µm,1.1s
MPAG AML AML
comp=N,2285µm,0.9s
MPAG AML AML
comp=E,1670µm,0.3s
MPAG AML AML
comp=N,2285µm,1.1s
MPAG AML AML
comp=N,1575µm,0.3s
SF11 Podere del Sol 1.23 290 P **Pg 10 59 52.0 -0.1**
SF14 Selvena 1.24 284 P **Pn 10 59 50.9 +0.1**
SENI Senigallia 1.25 359 P **Pb 10 59 51.7 +0.4**
SENI AML AML
comp=E,11210µm,1.5s
SENI AML AML
comp=E,3325µm,1.6s
SENI AML AML
comp=N,1940µm,1.6s
SENI AML AML
comp=N,1940µm,0.4s
SENI AML AML
comp=N,13250µm,0.3s
SENI AML AML
comp=E,11210µm,0.5s
SENI AML AML
comp=E,3325µm,0.4s
NARO Abbazia di Nar 1.25 337 ⇑P **Pb 10 59 51.2 -0.2**
NARO AML AML
comp=E,1244µm,1.5s
NARO AML AML
comp=N,1024µm,0.6s
SF13 Bagnolo 1.26 287 P **Pb 10 59 51.9 +0.4**
APEC Apecchio 1.26 331 P **Pn 10 59 51.0 0.0**
ATMC Monte Cedrone 1.26 322 P **Pb 10 59 51.9 +0.4**
VAGA Valle Agricola 1.27 145 P **Pb 10 59 52.1 +0.4**
VAGA AML AML
comp=E,460µm,1.0s
VAGA AML AML
comp=N,772µm,0.6s
VAGA AML AML
comp=E,465µm,1.0s
VAGA AML AML
comp=N,766µm,0.6s
BADI Badiali 1.28 325 P **Pn 10 59 51.5 +0.1**
BADI AML AML
comp=N,734µm,0.4s
BADI AML AML
comp=E,59µm,0.4s
CAFI Castiglion Fio 1.28 313 P **Pn 10 59 51.7 +0.3**
CAFI AML AML
comp=E,926µm,0.8s
CAFI AML AML
comp=N,632µm,1.0s
SF01 Poggio Pratacc 1.29 286 P **Pb 10 59 52.8 +0.6**
SF01 AML AML
comp=E,1044µm,0.8s
SF01 AML AML
comp=N,984µm,1.1s
SF01 AML AML
comp=N,984µm,0.9s
PE3 Peglio 1.36 336 P **Pb 10 59 52.8 -0.4**
SGG Gregorio Mates 1.36 141 P **Pg 10 59 54.3 -0.2**
ARCI Arcidosso 1.37 287 P **Pb 10 59 54.1 +0.6**
SSP9 Sansepolcro 1.39 324 P **Pb 10 59 53.8 +0.1**
MODR Mondragone 1.39 160 P **Pb 10 59 53.6 -0.2**
PARC Parchiule 1.40 328 P **Pb 10 59 54.0 0.0**
PARC AML AML
comp=E,1092µm,0.7s
PARC AML AML
comp=N,832µm,0.8s
PARC AML AML
comp=E,1092µm,1.3s
PARC AML AML
comp=N,832µm,1.2s
CRE Caprese Michel 1.50 321 P **Pn 10 59 55.1 +0.6**
CPGN Carpegna, Ital 1.51 333 P **Pn 10 59 55.2 +0.6**
PESA Pesaro 1.51 349 P **Pb 10 59 56.5 +0.7**
PESA AML AML
comp=E,2730µm,0.3s
PESA AML AML
comp=N,2915µm,0.3s
SACR S. Croce Del S 1.52 134 P **Pb 10 59 56.1 +0.2**
MAON Monte Argentar 1.57 270 P **Pb 10 59 56.1 -0.7**
MELA Melanico ??? S 1.58 118 P **Pb 10 59 56.4 -0.6**
MELA AML AML
comp=E,1084µm,0.7s
MELA AML AML
comp=N,1064µm,0.6s
MELA AML AML
comp=E,930µm,0.7s
MELA AML AML
comp=N,1050µm,0.6s
ASQU Asqua 1.71 322 P **Pn 10 59 57.9 +0.6**
FROS Frosini 1.71 297 P **Pb 10 59 58.4 -0.9**
SFI Santa Sofia 1.77 325 P **Pn 10 59 58.9 +0.7**
OSSC Osservatorio P 1.82 307 P **Pb 10 59 60.0 -1.1**
APRC Apricena 1.84 112 P **Pn 10 59 59.1 0.0**
APRC AML AML
comp=E,502µm,0.9s
APRC AML AML
comp=N,674µm,1.5s
APRC AML AML
comp=E,502µm,1.1s
APRC AML AML
comp=N,674µm,0.5s
RUFI Rufina 1.88 318 P **Pn 11 00 00.7 +1.1**
RUFI AML AML
comp=E,321µm,1.1s
RUFI AML AML
comp=N,302µm,0.8s
RUFI AML AML
comp=E,321µm,0.9s
SGRT San Giovanni R 1.98 110 P **Pn 11 00 01.5 +0.5**
SGTA Sant Agata di 2.06 129 P **Pb 11 00 05.4 +0.2**
MSAG Monte S. Angel 2.11 110 P **Pn 11 00 02.9 +0.1**
MSAG AML AML
comp=E,782µm,0.7s
MSAG AML AML
comp=E,812µm,0.7s
MSAG AML AML
comp=N,1129µm,0.4s
MSAG AML AML
comp=N,1131µm,0.4s
SNAL S. Angelo Dei 2.12 136 P **Pb 11 00 04.7 -1.5**
BRJN Brijuni 2.47 8 P **Pn 11 00 08.8 +1.1**
MAIM Mastiano 2.49 307 P **Pn 11 00 08.7 +0.8**
AMUR Altamura 2.95 121 P **Pn 11 00 15.8 +1.5**
AMUR AML AML
comp=E,130µm,0.7s
AMUR AML AML
comp=N,123µm,0.7s
AMUR AML AML
comp=E,130µm,1.3s
TEOL Teolo 3.12 339 AML AML
comp=E,404µm,1.5s
TEOL AML AML
comp=E,404µm,0.5s
TEOL AML AML
comp=N,242µm,1.1s
TEOL AML AML
comp=N,242µm,0.9s
A050A Klekovaca 3.13 49 *e*Pn **Pn 11 00 19.0 +2.2**
SKDS Skadanscina 3.14 10 *e*Pn **Pn 11 00 18.1 +1.2**
PGF Pioggiola 3.15 273 *e*P **Pn 11 00 17.7 +0.7**
PGF *e*Sn **Sn 11 00 50.8 -3.4**
comp=N,7.3nm,0.2s
SRKY Kupres RS 3.28 59 *e*Pn **Pn 11 00 21.7 +2.8**
STON Ston 3.31 81 *e*Pn **Pn 11 00 20.6 +1.5**
STON *e*Sn **Sn 11 00 58.7 +0.7**
STON Ston 3.31 81 *e*Pn **Pn 11 00 19.8 +0.7**
NOCI Noci 3.31 119 P **Pn 11 00 21.1 +1.9**
NOCI AML AML
comp=N,136µm,0.4s
NOCI AML AML
comp=N,136µm,1.6s
NOCI AML AML
comp=E,86µm,0.4s
BOJS Bojanci 3.37 25 *e*Pn **Pn 11 00 20.9 +0.9**
CEY Cerknica 3.39 14 *e*Pn **Pn 11 00 22.4 +2.1**
MGRS Mrkonjic Grad 3.41 54 *e*Pn **Pn 11 00 23.6 +3.0**
SABO M.te Sabotino 3.53 4 P **Pn 11 00 22.9 +0.7**

SABO					AML	AML			
	comp=E,854μm,0.7s								
SABO					AML	AML			
	comp=N,917μm,0.8s								
SABO					AML	AML			
	comp=E,210μm,0.5s								
SABO					AML	AML			
	comp=E,854μm,1.3s								
SABO					AML	AML			
	comp=N,242μm,0.8s								
ROVR	**Rover Verones**	**3.55**	**335**		P	**Pn**	**11 00 23.3**	**+0.6**	
ROVR					AML	AML			
	comp=N,71μm,0.3s								
ROVR					AML	AML			
	comp=E,36μm,0.4s								
CGRP	**Cima Grappa**	**3.58**	**344**		P	**Pn**	**11 00 24.2**	**+1.1**	
CGRP					AML	AML			
	comp=E,238μm,0.7s								
CGRP					AML	AML			
	comp=E,258μm,0.7s								
CGRP					AML	AML			
	comp=N,198μm,0.5s								
CGRP					AML	AML			
	comp=N,228μm,0.5s								
BLY	**Banja Luka**	**3.66**	**50**	*e*Pn		**Pn**	**11 00 26.1**	**+2.1**	
BLY	**Banja Luka**	**3.66**	**50**	*e*Pn		**Pb**	**11 00 29.1**	**-3.3**	
A051A	**Mrakovica**	**3.68**	**45**	*e*Pn		**Pn**	**11 00 26.6**	**+2.2**	
LJU	**Ljubljana**	**3.70**	**14**	AML	AML				
	comp=E,600μm,0.8s								
LJU					AML	AML			
	comp=N,789μm,0.6s								
LJU					AML	AML			
	comp=E,600μm,1.2s								
LJU					AML	AML			
	comp=N,789μm,1.4s								
CRES	**Cresnjev**	**3.72**	**24**	*e*Pn		**Pn**	**11 00 28.7**	**+3.8**	
CTI	**Castel Tesino**	**3.77**	**343**	P		**Pn**	**11 00 26.6**	**+1.0**	
CTI					AML	AML			
	comp=N,160μm,0.3s								
CTI					AML	AML			
	comp=E,164μm,0.5s								
CTI					AML	AML			
	comp=N,160μm,1.7s								
TREB	**Trebinje**	**3.77**	**84**	*e*Pn		**Pn**	**11 00 27.4**	**+1.8**	
TREB				*e*Sn		**Sn**	**11 01 09.4**	**-0.1**	
TREB	**Trebinje**	**3.77**	**84**	*e*Pn		**Pn**	**11 00 26.7**	**+1.1**	
MPRI	**Monte Prat**	**3.79**	**357**	P		**Pn**	**11 00 26.6**	**+0.8**	
MPRI					AML	AML			
	comp=N,246μm,1.2s								
MPRI					AML	AML			
	comp=E,170μm,1.2s								
STAL	**STALIGIAL**	**3.82**	**354**	P		**Pn**	**11 00 27.2**	**+0.9**	
STAL					AML	AML			
	comp=E,238μm,1.5s								
STAL					AML	AML			
	comp=N,291μm,1.3s								
STAL					AML	AML			
	comp=E,276μm,0.2s								
STAL					AML	AML			
	comp=N,235μm,0.2s								
STAL					AML	AML			
	comp=E,238μm,0.5s								
STAL					AML	AML			
	comp=N,291μm,0.7s								
LUSI	**Trento, Gardas**	**3.87**	**335**	P		**Pn**	**11 00 28.4**	**+1.3**	
LUSI					AML	AML			
	comp=E,96μm,0.8s								
LUSI					AML	AML			
	comp=N,140μm,0.2s								
HCY	**Herceg Novi**	**3.88**	**88**	*e*Pn		**Pn**	**11 00 28.6**	**+1.6**	
CIMO	**Cimolais**	**3.90**	**352**	P		**Pn**	**11 00 28.1**	**+0.8**	
CIMO					AML	AML			
	comp=E,49μm,1.6s								
CIMO					AML	AML			
	comp=N,43μm,1.4s								
CIMO					AML	AML			
	comp=N,43μm,0.6s								
CIMO					AML	AML			
	comp=E,49μm,0.4s								
BRY	**Bratogost**	**3.92**	**82**	*e*Pn		**Pn**	**11 00 29.5**	**+1.7**	
CLUD	**Cludinico**	**4.01**	**356**	P		**Pn**	**11 00 29.8**	**+1.0**	
CLUD					AML	AML			
	comp=E,62μm,0.8s								
CLUD					AML	AML			
	comp=N,85μm,0.9s								
CLUD					AML	AML			
	comp=E,62μm,1.2s								
ACOM	**Acomizza, Ital**	**4.09**	**3**	P		**Pn**	**11 00 31.2**	**+1.0**	
ZOU	**Zoufplan**	**4.10**	**357**	P		**Pn**	**11 00 31.0**	**+0.7**	
FVI	**Forni Avoltri**	**4.15**	**356**	P		**Pn**	**11 00 31.5**	**+0.7**	
FVI					AML	AML			
	comp=E,62μm,0.4s								
FVI					AML	AML			
	comp=N,82μm,0.6s								
FVI					AML	AML			
	comp=E,62μm,1.6s								
OBKA	**Obir**	**4.16**	**12**	*i* Pn		**Pn**	**11 00 31.8**	**+0.9**	
	comp=E,0.9nm,0.2s								
OBKA				*i* Sn		**Sn**	**11 01 20.5**	**+1.5**	
	comp=E,17nm,0.3s								
OBKA	**Obir**	**4.16**	**12**	*e*Pn		**Pn**	**11 00 32.0**	**+1.1**	
MYKA	**Terra Mystica**	**4.18**	**4**	*i* Pn		**Pn**	**11 00 33.4**	**+2.2**	
	comp=E,2.1nm,0.2s								
MYKA				*e*Sn		**Sn**	**11 01 20.8**	**+1.1**	
	comp=E,7.2nm,0.4s								
UPM	**Unac-Piva**	**4.22**	**78**	*e*Pn		**Pn**	**11 00 34.3**	**+2.3**	
ABTA	**Abfaltersbach**	**4.32**	**353**	*i* Pn		**Pn**	**11 00 35.1**	**+1.9**	
	comp=E,5.5nm,0.3s								
ABTA				*i* Sn		**Sn**	**11 01 25.2**	**+2.0**	
	comp=E,11nm,0.3s								
DRME	**Dracevica, Mon**	**4.41**	**92**	*e*Pn		**Pn**	**11 00 36.6**	**+2.3**	
SOKA	**Soboth**	**4.41**	**16**	*i* Pn		**Pn**	**11 00 36.5**	**+2.1**	
	comp=E,1.0nm,0.2s,SNR=5.1								
SOKA				*i* Sn		**Sn**	**11 01 25.8**	**+0.5**	
	comp=E,5.3nm,0.5s								
PDG	**Podgorica**	**4.44**	**88**	AML	AML				
	comp=E,80μm,0.3s								
PDG					AML	AML			
	comp=N,93μm,0.4s								
PDG	**Podgorica**	**4.44**	**88**	*e*Pn		**Pn**	**11 00 37.2**	**+2.4**	
PDG				*e*Sn		**Sn**	**11 01 27.7**	**+1.7**	
SBF	**Sospel**	**4.48**	**290**	*e*P		**Pn**	**11 00 37.6**	**+2.2**	
KBA	**Koelnbreinsper**	**4.62**	**1**	*i* Pn		**Pn**	**11 00 41.5**	**+4.1**	
	comp=N,4.7nm,0.5s								
KBA				*i* Sn		**Sn**	**11 01 31.7**	**+1.0**	
	comp=N,14nm,0.5s								
RUDO	**Rudo**	**4.63**	**73**	*e*Pn		**Pn**	**11 00 39.3**	**+1.9**	
ROSI	**Rosskopf**	**4.66**	**344**	P		**Pn**	**11 00 38.8**	**+0.9**	
BBLS	**Lazići**	**4.72**	**71**	*e*Pn		**Pn**	**11 00 41.0**	**+2.4**	
BBLS				*e*Sn		**Sn**	**11 01 35.3**	**+2.4**	
BBLS	**Lazići**	**4.72**	**71**	*e*Pn		**Pn**	**11 00 40.9**	**+2.4**	
FETA	**Feichten**	**4.90**	**339**	*e*Pn		**Pn**	**11 00 43.6**	**+2.3**	
	comp=N,1.4nm,0.2s,SNR=6.2								
FETA				*e*Sn		**Sn**	**11 01 38.1**	**+0.4**	
	comp=N,3.5nm,0.3s								
WTTA	**Wattenberg**	**4.94**	**347**	*i* Pn		**Pn**	**11 00 45.1**	**+3.4**	
	comp=N,2.6nm,0.3s								
WTTA				*e*Sn		**Sn**	**11 01 40.7**	**+2.1**	
	comp=N,14nm,0.3s								
SQTA	**Sankt Quirin**	**4.98**	**344**	*i* Pn		**Pn**	**11 00 45.3**	**+3.1**	
	comp=N,1.9nm,0.2s,SNR=8.2								
SQTA				*e*Sn		**Sn**	**11 01 42.0**	**+2.5**	
	comp=N,16nm,0.4s								
SJES	**Sjenica**	**5.01**	**78**	*e*Pn		**Pn**	**11 00 45.3**	**+2.7**	
SJES				*e*Sn		**Sn**	**11 01 40.7**	**+0.6**	
WATA	**Walderalm**	**5.02**	**347**	*i* Pn		**Pn**	**11 00 45.5**	**+2.7**	
	comp=N,1.3nm,0.1s								
WATA				*e*Sn		**Sn**	**11 01 43.3**	**+2.8**	
	comp=N,16nm,0.3s								
LMR	**La Mourre**	**5.03**	**282**	*e*P		**Pn**	**11 00 45.8**	**+3.0**	
LMR				*e*Sn		**Sn**	**11 01 35.4**	**-5.1**	
	comp=N,1.6nm,0.3s								
ARSA	**Arzberg**	**5.06**	**18**	*i* Pn		**Pn**	**11 00 44.1**	**+0.9**	
	comp=N,0.7nm,0.2s								
ARSA				Sg		**Sn**	**11 01 39.4**	**-1.8**	
	comp=N,2.2nm,0.3s								
TIR	**Tirane**	**5.06**	**100**	*e*Pn		**Pn**	**11 00 45.3**	**+2.1**	
MOTA	**Moosalm**	**5.12**	**343**	*i* Pn		**Pn**	**11 00 47.4**	**+3.2**	
	comp=N,1.1nm,0.2s								
MOTA				*e*Sn		**Sn**	**11 01 46.6**	**+3.7**	
	comp=N,7.5nm,0.4s								
IVAS	**Ivanjica**	**5.18**	**75**	*e*Pn		**Pn**	**11 00 46.6**	**+1.6**	
IVAS				*e*Sn		**Sn**	**11 01 44.3**	**0.0**	
DIVS	**Divibare**	**5.19**	**69**	*e*Pn		**Pn**	**11 00 46.7**	**+1.6**	
DIVS	**Divibare**	**5.19**	**69**	*e*Pn		**Pn**	**11 00 46.3**	**+1.2**	
MBDF	**Montbardon**	**5.22**	**298**	*e*P		**Pn**	**11 00 47.6**	**+1.9**	
MBDF				*e*Sn		**Sn**	**11 01 42.6**	**-2.9**	
	comp=N,1.3nm,0.3s								
BIOA	**Bad Ischl, Aus**	**5.24**	**3**	*i* Pn		**Pn**	**11 00 48.3**	**+2.5**	
	comp=N,1.9nm,0.2s								
BIOA				*e*Sn		**Sn**	**11 01 47.7**	**+2.0**	
	comp=N,9.3nm,0.4s								
RETA	**Reutte**	**5.33**	**342**	*i* Pn		**Pn**	**11 00 49.8**	**+2.8**	
	comp=N,0.3nm,0.1s								
RETA				*i* Sn		**Sn**	**11 01 51.5**	**+3.5**	
	comp=N,3.1nm,0.3s								
DAVA	**Damuels**	**5.39**	**335**	*i* Pn		**Pn**	**11 00 51.0**	**+3.1**	
	comp=N,0.9nm,0.1s								
DAVA				*i* Sn		**Sn**	**11 01 53.1**	**+3.5**	
	comp=N,8.3nm,0.3s								
MOA	**Molln**	**5.44**	**7**	*e*Pn		**Pn**	**11 00 51.2**	**+2.7**	
	comp=N,2.2nm,0.3s,SNR=6.0								
MOA				*e*Sn		**Sn**	**11 01 52.1**	**+1.5**	
	comp=N,6.5nm,0.3s								
MOA	**Molln**	**5.44**	**7**	*e*Pn		**Pn**	**11 00 51.8**	**+3.3**	
MOA				*e*Sn		**Sn**	**11 01 52.1**	**+1.5**	
FRGS	**Fruska Gora**	**5.46**	**58**	*e*Pn		**Pn**	**11 00 51.0**	**+2.2**	
FRGS	**Fruska Gora**	**5.46**	**58**	*e*Pn		**Pn**	**11 00 49.1**	**+0.3**	
TRUS	**Trudelj**	**5.51**	**69**	*e*Pn		**Pn**	**11 00 51.0**	**+1.6**	
LPL	**La Plagne**	**5.61**	**305**	*e*Pn		**Pn**	**11 00 49.4**	**-1.6**	
LPL				*e*Sn		**Sn**	**11 01 51.6**	**-3.5**	
	comp=N,2.2nm,0.2s								
GRUS	**Gruza**	**5.64**	**73**	*e*Pn		**Pn**	**11 00 53.2**	**+2.0**	
GRUS				*e*Sn		**Sn**	**11 01 55.1**	**-0.5**	
KEK	**Kerkira**	**5.66**	**117**	P		**Pn**	**11 00 55.4**	**+4.0**	
RONA	**Rosalia, Austr**	**5.67**	**21**	*i* Pn		**Pn**	**11 00 53.7**	**+2.1**	
	comp=N,0.2nm,0.0s								
CONA	**Conrad Observa**	**5.77**	**18**	*i* Pn		**Pn**	**11 00 55.0**	**+1.9**	
	comp=N,0.6nm,0.1s,SNR=4.2								
CONA				*i* Sn		**Sn**	**11 01 58.4**	**-0.6**	
	comp=N,5.0nm,0.5s								
OHR	**Ohrid**	**5.80**	**101**	*e*Pn		**Pn**	**11 00 56.6**	**+3.1**	
OHR				*e*Sn		**Sn**	**11 01 59.7**	**+0.1**	
OHR	**Ohrid**	**5.80**	**101**	*i* Pn		**Pn**	**11 00 56.0**	**+2.5**	
OHR				*i* Sg		**Sn**	**11 01 59.8**	**+0.2**	
SMRF	**Simiane la Rot**	**5.81**	**288**	*e*P		**Pn**	**11 00 56.1**	**+2.5**	
SELS	**Selova**	**5.83**	**80**	*e*Pn		**Pn**	**11 00 55.3**	**+1.4**	
SELS				*e*Sn		**Sn**	**11 01 59.4**	**-1.0**	
ORIF	**Oris-en-Rattie**	**5.88**	**297**	*e*P		**Pn**	**11 00 56.7**	**+2.1**	
ORIF				*e*Sn		**Sn**	**11 01 56.5**	**-5.2**	
	comp=N,1.3nm,0.4s								
SKO	**Skopje**	**6.10**	**92**	*e*Pn		**Pn**	**11 01 00.1**	**+2.6**	
SKO	**Skopje**	**6.10**	**92**	*i* Pn		**Pn**	**11 00 58.6**	**+1.0**	
IGT	**Igoumenitsa**	**6.10**	**116**	P		**Pn**	**11 01 00.1**	**+2.5**	
BOVS	**Bovan**	**6.31**	**76**	*e*Pn		**Pn**	**11 01 01.5**	**+1.2**	
FNA	**Florina**	**6.31**	**103**	P		**Pn**	**11 01 01.9**	**+1.4**	
FNA	**Florina**	**6.31**	**103**	*e*Pn		**Pn**	**11 01 02.8**	**+2.3**	
FNA				*e*Sn		**Sn**	**11 02 10.3**	**-1.9**	
BARS	**Barje**	**6.33**	**84**	*e*Pn		**Pn**	**11 01 02.7**	**+2.0**	
BARS				*e*Sn		**Sn**	**11 02 12.3**	**-0.2**	
PENT	**Pentalofos**	**6.35**	**108**	P		**Pn**	**11 01 04.7**	**+3.6**	
CKRC	**Cesky Krumlov**	**6.41**	**6**	*e*PN		**Pn**	**11 01 02.5**	**+0.8**	
CKRC				*e*SN		**Sn**	**11 02 12.3**	**-2.1**	
PRVS	**Prvonek**	**6.53**	**87**	*e*Pn		**Pn**	**11 01 05.2**	**+1.8**	
PRVS				*e*Sn		**Sn**	**11 02 16.8**	**-0.6**	
CABF	**La Chapelle**	**6.59**	**311**	*e*Pn		**Pn**	**11 01 02.8**	**-1.6**	
CABF	**La Chapelle**	**6.59**	**311**	*e*P		**Pn**	**11 01 07.6**	**+3.2**	
CABF				*e*Sn		**Sn**	**11 02 13.6**	**-5.5**	
	comp=N,1.2nm,0.3s								
VIVF	**Saint-Julien-l**	**6.67**	**294**	*e*P		**Pn**	**11 01 08.2**	**+2.8**	
KHC	**Kasperske Hory**	**6.68**	**2**	*e*PN		**Pn**	**11 01 07.1**	**+1.6**	
KHC				*e*SN		**Sn**	**11 02 18.8**	**-2.3**	
STIP	**Stip**	**6.69**	**94**	*i* Pn		**Pn**	**11 01 09.6**	**+3.9**	
STIP				*i* Pn		**Pn**	**11 01 09.7**	**+4.0**	
TSLK	**Tsoukalades, L**	**6.70**	**120**	P		**Pn**	**11 01 09.3**	**+3.6**	
ZAGS	**Zajecar**	**6.71**	**75**	*e*Pn		**Pn**	**11 01 07.1**	**+1.2**	
LKD2	**Lefkada island**	**6.72**	**121**	P		Pn	11 01 11.6	+5.5	
EVGI	**Lefkada island**	**6.82**	**122**	P		Pn	11 01 12.6	+5.2	
ZAPS	**Zavoj**	**6.94**	**80**	*e*Sn		**Sn**	**11 02 25.4**	**-2.3**	
KRUC	**Moravsky**	**6.96**	**17**	*e*PN		**Pn**	**11 01 09.2**	**-0.1**	
HINF	**Hinteralfeld**	**7.01**	**322**	*e*P		**Pn**	**11 01 11.7**	**+1.6**	
HINF				*e*Sn		**Sn**	**11 02 24.6**	**-4.7**	
	comp=N,4.0nm,0.3s								
LASF	**Ste Croix**	**7.05**	**286**	*e*P		**Pn**	**11 01 12.6**	**+2.1**	
VAY	**Valandovo**	**7.05**	**96**	*e*Pn		**Pn**	**11 01 12.9**	**+2.4**	
VAY	**Valandovo**	**7.05**	**96**	*i* Pn		Pn	11 01 02.5	-8.0	
VLS	**Valsamata**	**7.05**	**125**	P		**Pn**	**11 01 13.9**	**+3.3**	
PSDA	**Pessada-Kefalo**	**7.09**	**125**	P		Pn	11 01 18.7	+7.6	
VYHS	**Vyhne**	**7.20**	**31**	*e*PN		**Pn**	**11 01 15.8**	**+3.2**	
VYHS				*e*SN		**Sn**	**11 02 32.9**	**-1.0**	
CDF	**Champ du Feu**	**7.29**	**327**	*e*P		**Pn**	**11 01 14.0**	**+0.1**	
CDF				*e*Sn		**Sn**	**11 02 30.1**	**-6.1**	
	comp=N,3.2nm,0.3s								
VTS	**Vitosha**	**7.38**	**85**	*e*Pn		**Pn**	**11 01 17.4**	**+2.3**	
VTS	**Vitosha**	**7.38**	**85**	*e*Pn		**Pn**	**11 01 17.5**	**+2.3**	
VTS				*e*Sn		**Sn**	**11 02 37.7**	**-0.8**	
VTS				*e*Sn		**Sn**	**11 02 38.2**	**-0.3**	
HAU	**Haudompre**	**7.38**	**321**	*e*P		**Pn**	**11 01 15.5**	**+0.4**	
HAU				*e*Sn		**Sn**	**11 02 32.7**	**-5.7**	
	comp=N,4.5nm,0.2s								
SMF	**Signal de Mont**	**7.92**	**305**	*e*P		**Pn**	**11 01 26.2**	**+3.7**	
LOR	**Lormes**	**8.22**	**309**	*e*P		**Pn**	**11 01 26.4**	**-0.3**	
	baz=118								
LOR				*e*Sn		**Sn**	**11 02 51.6**	**-7.5**	
	comp=N,1.9nm,0.3s								
AVF	**Avril sur Loir**	**8.28**	**305**	*e*Pn		**Pn**	**11 01 24.3**	**-3.1**	
AVF				*e*Sn		**Sn**	**11 02 53.2**	**-7.3**	
	comp=N,0.7nm,0.3s								
MEZF	**Maizieres J'vi**	**8.35**	**319**	*e*P		**Pn**	**11 01 31.8**	**+3.5**	
MEZF				*e*Sn		**Sn**	**11 02 54.8**	**-7.3**	
	comp=N,2.5nm,0.3s,baz=120								
CLL	**Collm**	**8.86**	**359**	*e*x		**Sn**	**11 03 14.0**	**-0.6**	
CLL				*e*Sg			11 04 13.0		

*IDC **21** 11:00:43.8±0.9, 17.°12S×175.°72E, h0km, mb3.8/7, mbtmp3.8/8, ML4.5/1, MS3.7/20, Error ellipse: s-maj=40.0km s-min=19.7km az=176.0*

ISC 21 11:00:49.3±0.7, 17.°0S±0.°2×175.°74E±0.°08, h35km, n34, σ1§83/13, mb3.8/7, MS3.7/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**2.32**	**108**	Pn		**Pn**	**11 01 22.0**	**-3.0**
	6.3nm,0.3s,baz=271,slow=14,SNR=28							
MSVF				Sn		**Sn**	**11 01 55.5**	**+3.1**
	11nm,0.3s,baz=18,slow=23,SNR=7.6 71nm,0.8s							
DZM	**Mont Dzumac**	**10.10**	**239**	Pn		**Pn**	**11 03 12.8**	**+0.8**
	0.1nm,0.3s,baz=69,slow=10,SNR=6.5							
DZM				LR		LR	11 06 34.0	
	comp=Z,583nm,18.7s,baz=44,slow=35							
DZM	**Mont Dzumac**	**10.10**	**239**	*e*Pn		**Pn**	**11 03 13.0**	**+1.1**
	49nm,1.3s							
DZM				*e*LR		LR	11 05 27.7	
	comp=Z,661nm,25.4s							
AFI	**Afiamalu**	**12.43**	**77**	LR		LR	11 07 19.6	
	comp=Z,106nm,18.9s,baz=242,slow=32							
URZ	**Urewera**	**21.20**	**177**	LR		LR	11 11 40.5	
	comp=Z,172nm,21.3s,baz=78,slow=31							
RAR	**Rarotonga**	**23.50**	**104**	LR		LR	11 13 10.4	
	comp=Z,94nm,21.8s,baz=260,slow=32							
KRVT	**Keravat (AS076**	**26.46**	**296**	LR		LR	11 16 10.2	
	comp=Z,207nm,19.4s,baz=243,slow=35							
RPZ	**Rata Peaks**	**26.91**	**188**	LR		LR	11 15 54.3	
	comp=Z,141nm,19.8s,baz=15,slow=34							
CTA	**Charters Tower**	**28.10**	**259**	LR		LR	11 16 30.2	
	comp=Z,106nm,18.2s,baz=80,slow=34							
PMG	**Port Moresby**	**28.80**	**282**	LR		LR	11 17 12.9	
	comp=Z,294nm,18.3s,baz=75,slow=34							
PPT2	**Papeete2**	**33.09**	**96**	*e*LR		LR	11 16 07.7	
	comp=Z,208nm,30.8s							
PPT2				*e*LR		LR	11 16 08.2	
	comp=Z,241nm,26.0s							
PPT	**Papeete**	**33.10**	**96**	LR		LR	11 17 38.6	
	comp=Z,108nm,21.3s,baz=302,slow=31							
TBI	**Tubuai**	**33.21**	**107**	*e*LR		LR	11 16 07.7	
	comp=Z,3μm,25.2s							
TBI				*e*LR		LR	11 16 07.7	
	comp=Z,1μm,31.2s							
STKA	**Stephens Creek**	**34.25**	**238**	P		**P**	**11 07 32.2**	**+0.2**
	0.5nm,0.2s,baz=37,slow=7.2,SNR=1.7							
STKA				LR		LR	11 20 31.2	
	comp=Z,129nm,19.8s,baz=34,slow=35 0.5nm,0.2s							
H11S2	**WAKE ISLAND Hy**	**36.39**	**345**	T		T	11 45 57.2	
	baz=166,slow=76,SNR=40							
H11S3	**WAKE ISLAND Hy**	**36.40**	**345**	T		T	11 45 57.1	
	baz=166,slow=76,SNR=25							
H11S1	**WAKE ISLAND Hy**	**36.41**	**345**	T		T	11 45 56.9	
	baz=166,slow=76,SNR=30							
H11N3	**WAKE ISLAND Hy**	**37.52**	**346**	T		T	11 47 23.9	
	baz=164,slow=74							
H11N1	**WAKE ISLAND Hy**	**37.52**	**346**	T		T	11 47 24.3	
	baz=164,slow=74							
H11N2	**WAKE ISLAND Hy**	**37.54**	**346**	T		T	11 47 24.7	
	baz=164							
WRA	**Warramunga Arr**	**39.30**	**259**	P		**P**	**11 08 13.2**	**-2.0**
	0.7nm,0.9s,baz=93,slow=8.1,SNR=3.5							
WRA				LR		LR	11 23 18.7	
	comp=Z,93nm,18.1s,baz=82,slow=34 0.7nm,0.9s							
ASAR	**Alice Springs**	**39.67**	**253**	P		**P**	**11 08 16.8**	**-1.5**
	1.8nm,0.9s,baz=80,slow=9.3,SNR=13							
ASAR				PcP		**PcP**	**11 10 24.2**	**-0.5**
	0.7nm,0.9s,baz=88,slow=2.3,SNR=4.9 1.8nm,0.9s							
GUMO	**Guam**	**43.06**	**313**	LR		LR	11 24 38.8	
	comp=Z,56nm,21.2s,baz=140,slow=33							
BATI	**Baumata**	**50.94**	**271**	LR		LR	11 32 27.8	
	comp=Z,209nm,18.3s,baz=263,slow=37							
DAV	**Davao City (W)**	**55.05**	**292**	LR		LR	11 32 27.8	
	comp=Z,38nm,20.6s,baz=106,slow=35							
RPN	**Rapa Nui**	**69.29**	**113**	LR		LR	11 34 52.7	
	comp=Z,60nm,21.2s,baz=264,slow=30							
KDAK	**Kodiak Island**	**79.02**	**17**	LR		LR	11 43 37.7	
	comp=Z,123nm,18.5s,baz=131,slow=32							
CMAR	**Chiang Mai Arr**	**83.34**	**292**	P		**P**	**11 13 14.8**	**+1.6**
	0.8nm,0.3s,baz=126,slow=4.6,SNR=1.7							
CMAR				LR		LR	11 47 04.1	
	comp=Z,24nm,21.8s,baz=100,slow=33 0.8nm,0.3s							
ILAR	**Eielson Array**	**86.39**	**15**	P		**P**	**11 13 26.4**	**-1.1**
	0.5nm,0.9s,baz=231,slow=5.7,SNR=2.9 0.5nm,0.9s							
SONM	**Songino Array**	**89.29**	**321**	P		**P**	**11 13 42.6**	**+0.7**
	0.6nm,1.0s,baz=95,slow=3.5,SNR=2.4 0.6nm,1.0s							
ANMO	**Albuquerque**	**89.99**	**53**	LR		LR	11 49 43.5	
	comp=Z,55nm,18.4s,baz=38,slow=33							
TXAR	**Lajitas Array**	**90.30**	**59**	P		**P**	**11 13 48.5**	**+1.5**
	0.4nm,1.0s,baz=202,slow=6.8,SNR=2.6							
TXAR				LR		LR	11 45 09.5	
	comp=Z,87nm,21.2s,baz=314,slow=30 0.4nm,1.0s							
PLCA	**Paso Flores**	**95.93**	**136**	LR		LR	11 51 45.2	
	comp=Z,36nm,18.2s,baz=184,slow=32							
GERES	**GERESS Array B**	**145.04**	**339**	PKPbc		**PKPbc**	**11 20 22.6**	**+0.1**
	0.6nm,0.8s,baz=95,slow=4.2,SNR=4.1							

*ROM **21** 11:05:44.0±0.2, 39.°542N±0.°010×15.°68E±0.°03, h271km±1km, ML3.2/29, Error ellipse: s-maj=2.2km s-min=0.5km az=94.0*

*IDC **21** 11:05:44.9±1.6, 39.°75N×15.°42E, h257km±19km, mb3.2/8, mbtmp3.7/13, Error ellipse: s-maj=16.8km s-min=15.1km az=35.0*

ISC 21 11:05:44.8±0.7, 39.°57N±0.°05×15.°58E±0.°07, h265km±6km, n63, σ0§98/75, mb3.5/8, 2D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CET2	**Cetraro**	**0.29**	**99**	P		**Pn**	**11 06 19.4**	**+0.4**
CET2				S		**S**	**11 06 45.1**	**-0.7**
CET2				AML	AML			
	comp=E,753μm,0.8s							
CET2				AML	AML			
	comp=N,554μm,1.3s							
CET2				AML	AML			
	comp=N,554μm,1.3s							
CET2				AML	AML			
	comp=N,554μm,0.7s							
CET2				AML	AML			
	comp=E,752μm,0.8s							
MMN	**Mormanno**	**0.45**	**45**	P		**Pn**	**11 06 19.6**	**+0.5**
CUC	**Castrocucco**	**0.46**	**23**	AML	AML			
	comp=N,138μm,0.4s							
CUC				AML	AML			
	comp=N,122μm,0.4s							
CUC				AML	AML			
	comp=E,158μm,0.5s							
CUC				AML	AML			
	comp=N,122μm,0.4s							
CUC				AML	AML			
	comp=E,194μm,0.5s							
CUC				AML	AML			
	comp=E,194μm,1.5s							
CUC				AML	AML			
	comp=E,158μm,1.5s							
MGR	**Morigerati**	**0.56**	**358**	P		**Pn**	**11 06 20.2**	**+0.8**
MGR				AML	AML			
	comp=E,121μm,0.6s							
MGR				AML	AML			
	comp=N,139μm,0.8s							
CAR1	**CAROLEI**	**0.58**	**123**	P		**Pn**	**11 06 19.8**	**+0.1**
CAR1				S		**S**	**11 06 46.0**	**-1.1**
TDS	**Terranova Siba**	**0.59**	**81**	P		**Pn**	**

	comp=N,472μm,1.0s						
MCEL					AML	AML	
	comp=N,458μm,1.0s						
CMPR	**Campora**	**0.78**	**344**		P	**Pn**	**11 06 21.2 +0.9**
CMPR					AML	AML	
	comp=E,90μm,0.7s						
CMPR					AML	AML	
	comp=N,152μm,1.1s						
CMPR					AML	AML	
	comp=N,153μm,1.1s						
CMPR					AML	AML	
	comp=E,90μm,0.7s						
AG11	**Viggiano (PZ)**	**0.81**	**20**		P	**Pn**	**11 06 21.8 +1.3**
SLCN	**Sala Consilina**	**0.82**	**3**	⇓	P	**Pn**	**11 06 21.7 +1.1**
SLCN					AML	AML	
	comp=E,304μm,0.3s						
SLCN					AML	AML	
	comp=N,208μm,1.5s						
SLCN					AML	AML	
	comp=N,208μm,0.5s						
IST3	**Stromboli F**	**0.82**	**200**		P	**Pn**	**11 06 21.1 +0.6**
ORI	**Oriolo Calabro**	**0.83**	**53**		P	**Pn**	**11 06 21.6 +1.1**
ORI					S	**S**	**11 06 47.7 -1.0**
ORI					AML	AML	
	comp=E,733μm,0.4s						
ORI					AML	AML	
	comp=N,684μm,0.5s						
ORI					AML	AML	
	comp=N,684μm,1.5s						
CDRU	**Civita di Ruta**	**0.94**	**347**		P	**Pn**	**11 06 22.2 +1.1**
GRI	**Girifalco**	**0.99**	**139**		P	**Pn**	**11 06 22.2 +0.8**
JOPP	**Joppolo**	**0.99**	**166**		P	**Pn**	**11 06 21.5 +0.1**
JOPP					S	**S**	**11 06 49.1 -1.2**
SERS	**Sersale**	**1.01**	**122**		P	**Pn**	**11 06 22.4 +0.8**
LADO	**San Nicola del**	**1.12**	**105**		P	**Pn**	**11 06 22.8 +0.8**
MRLC	**Muro Lucano**	**1.18**	**356**		P	**Pn**	**11 06 23.4 +1.1**
LLI	**Lipari**	**1.23**	**204**		P	**Pn**	**11 06 23.6 +0.9**
VPL	**Vulcano Piano**	**1.28**	**202**		P	**Pn**	**11 06 24.3 +1.2**
IFIL	**Filicudi I Eol**	**1.28**	**219**		P	**Pn**	**11 06 24.4 +1.3**
PLAC	**Placanica**	**1.30**	**149**		P	**Pn**	**11 06 23.4 +0.1**
PLAC					S	**S**	**11 06 52.3 -1.3**
MSRU	**Castanea**	**1.31**	**183**		P	**Pn**	**11 06 23.4 +0.1**
MILZ	**Milazzo**	**1.33**	**192**		P	**Pn**	**11 06 24.0 +0.7**
CEL	**Celeste**	**1.33**	**169**		P	**Pn**	**11 06 21.8 -1.6**
LIO3	**Lioni**	**1.36**	**347**		P	**Pn**	**11 06 24.7 +1.2**
MATE	**Matera**	**1.38**	**38**		P	**Pn**	**11 06 23.6 +0.1**
MATE					S	**S**	**11 06 52.6 -1.6**
MATE					AML	AML	
	comp=E,242μm,1.2s						
MATE					AML	AML	
	comp=N,376μm,0.6s						
MATE					AML	AML	
	comp=E,242μm,0.8s						
SNAL	**S. Angelo Dei**	**1.38**	**348**		P	**Pn**	**11 06 25.0 +1.4**
LTRZ	**Laterza**	**1.40**	**42**		P	**Pn**	**11 06 23.7 0.0**
LTRZ					AML	AML	
	comp=E,176μm,1.2s						
LTRZ					AML	AML	
	comp=N,143μm,1.6s						
LTRZ					AML	AML	
	comp=E,176μm,0.8s						
LTRZ					AML	AML	
	comp=N,143μm,0.4s						
CAFE	**Carife**	**1.48**	**350**		P	**Pn**	**11 06 25.0 +0.7**
SOI	**Samo**	**1.54**	**166**		P	**Pn**	**11 06 25.5 +0.6**
AMUR	**Altamura**	**1.54**	**30**		P	**Pn**	**11 06 25.0 +0.3**
AMUR					AML	AML	
	comp=N,100μm,1.5s						
AMUR					AML	AML	
	comp=E,99μm,0.6s						
TAR1	**Taranto**	**1.61**	**53**		P	**Pn**	**11 06 25.4 +0.1**
TAR1					AML	AML	
	comp=E,194μm,0.5s						
TAR1					AML	AML	
	comp=N,276μm,0.5s						
AIO	**Antillo**	**1.62**	**190**		P	**Pn**	**11 06 26.2 +0.6**
NOCI	**Noci**	**1.66**	**43**		P	**Pn**	**11 06 25.8 +0.2**
NOCI					AML	AML	
	comp=E,212μm,0.7s						
NOCI					AML	AML	
	comp=N,224μm,1.2s						
NOCI					AML	AML	
	comp=N,224μm,0.8s						
NOCI					AML	AML	
	comp=E,212μm,1.3s						
MSFR	**San Fratello**	**1.72**	**207**		P	**Pn**	**11 06 27.0 +0.7**
IFOR	**Ischia Forio P**	**1.75**	**311**		P	**Pn**	**11 06 27.4 +1.2**
EPZF	**Pizzo Felice**	**1.84**	**198**		P	**Pn**	**11 06 27.6 +0.3**
CSLB	**Castelbuono**	**2.02**	**217**		P	**Pn**	**11 06 29.3 +0.6**
GALF	**Gagliano Caste**	**2.02**	**204**		P	**Pn**	**11 06 29.6 +0.8**
EPOZ	**Pozzillo**	**2.09**	**191**		P	**Pn**	**11 06 28.2 -1.1**
CAGR	**Agira**	**2.12**	**204**		P	**Pn**	**11 06 31.2 +1.5**
VAE	**Valguarnera**	**2.29**	**204**		P	**Pn**	**11 06 31.9 +0.7**
	comp=E,7.0nm,0.3s,baz=37,slow=12,SNR=1.7						
BRTR	**Keskin Array B**	**13.92**	**84**		P	**P**	**11 08 54.5 +2.7**
	comp=E,0.9nm,0.8s,baz=271,slow=10,SNR=4.7						
ESDC	**Sonseca Array**	**15.07**	**277**		P	**P**	**11 09 04.8 +0.3**
	comp=E,0.9nm,0.8s,baz=86,slow=12,SNR=2.0						
MMAI	**Mount Meron Ar**	**17.25**	**106**		P	**Pn**	**11 09 31.3 +0.4**
	comp=E,1.8nm,0.5s,baz=313,slow=8.7,SNR=5.4						
EKA	**Eskdalemuir Ar**	**20.12**	**328**		P	**P**	**11 09 57.1 -1.8**
	comp=E,0.6nm,0.4s,baz=129,slow=9.6,SNR=8.1						
HFS	**Hagfors**	**20.62**	**357**		P	**P**	**11 10 02.6 -1.4**
	comp=E,4.5nm,0.6s,baz=171,slow=10,SNR=28						
	comp=E,4.5nm,0.6s						
NB2	**NORSAR Subarra**	**21.66**	**354**		P	**P**	**11 10 13.6 -0.6**
	comp=Z,0.3nm,0.5s,baz=170,slow=11						
NOA	**NORSAR Array B**	**21.66**	**354**		P	**P**	**11 10 12.2 -2.0**
	comp=Z,0.5nm,0.6s,baz=156,slow=9.7,SNR=5.0						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**22.83**	**13**		P	**P**	**11 10 24.8 0.0**
	comp=Z,3.0nm,0.5s,baz=188,slow=8.3,SNR=27						
	comp=Z,3.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.04**	**209**		P	**P**	**11 11 21.6 +0.8**
	comp=Z,3.3nm,0.3s,baz=35,slow=11,SNR=1.9						
ARCES	**ARCESS Array B**	**30.49**	**7**		P	**P**	**11 11 31.8 -1.1**
	comp=Z,6.9nm,1.2s,baz=285,slow=8.1,SNR=1.4						
	comp=Z,6.9nm,1.2s						
ZALV	**Zalesovo Beam**	**47.64**	**48**		P	**P**	**11 13 54.2 -0.1**
	comp=Z,0.4nm,0.3s,baz=299,slow=6.3,SNR=2.4						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**47.85**	**58**		P	**P**	**11 13 56.7 +0.6**
	comp=Z,0.2nm,0.3s,baz=279,slow=7.7,SNR=7.9						
	comp=Z,0.2nm,0.3s						
SCHQ	**Schefferville**	**54.79**	**315**		P	**P**	**11 14 46.5 -0.7**
	comp=Z,0.9nm,0.3s,baz=66,slow=6.6,SNR=11						
	comp=Z,0.9nm,0.3s						
YKA	**Yellowknife Ar**	**70.71**	**338**		P	**P**	**11 16 31.9 +0.3**
	comp=Z,0.3nm,0.5s,baz=39,slow=5.4,SNR=6.3						
	comp=Z,0.3nm,0.5s						

*TAP **21** 11:05:56.9,24°.59N×122°.67E,h83km,ML2.8,D*
*JMA **21** 11:05:58.0±0.2,25°.N±2°×122°.6E±0°.6,h72km±1km,NW*
OFF ISHIGAKIJIMA IS
ISC 21 11:05:59.3±1.4,24°.51N±0°.04×122°.64E±0°.03,h58km±12km,
n76,σ1s06/139,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
YOJ	**Yonaguni jima**	**0.34**	**98**	P		**Pn**	**11 06 10.1**	**+0.6**
YOJ				S		**Sn**	**11 06 18.5**	**+1.6**
EGS		**0.73**	**298**	P		**Pn**	**11 06 13.3**	**-0.4**
	baz=288							
EGS				*e*S		**Sn**	**11 06 24.5**	**+0.1**
	baz=288							
TWC	**Suao**	**0.73**	**278**	*i* P		**Pn**	**11 06 13.0**	**-0.8**
	baz=274							
TWC				*i* S		**Sn**	**11 06 24.7**	**+0.3**
	baz=274							
TWB1	**Santiao Chiao**	**0.78**	**310**	*e*P		**Pn**	**11 06 13.3**	**-1.0**
	baz=299							
TWB1				*e*S		**Sn**	**11 06 23.6**	**-1.8**
	baz=299							
EWUT	**Wuta**	**0.79**	**266**	*e*P		**Pn**	**11 06 14.3**	**-0.2**
	baz=259							
EWUT				*e*S		**Sn**	**11 06 26.8**	**+1.1**
	baz=259							
ENA	**Nanau**	**0.83**	**265**	*i* P		**Pn**	**11 06 14.9**	**0.0**
	baz=255							
ENA				*i* S		**Sn**	**11 06 27.6**	**+1.1**
	baz=255							
NDS	**Dongshan**	**0.85**	**279**	P		**Pn**	**11 06 15.5**	**+0.2**
	baz=272							
NDS				S		**Sn**	**11 06 25.8**	**-1.4**
	baz=272							
TIPB	**Shuangxi**	**0.88**	**302**	*e*P		**Pn**	**11 06 14.2**	**-1.4**
	baz=292							
TIPB				*e*S		**Sn**	**11 06 26.8**	**-1.0**
	baz=292							
SXI1	**Grass Mountain**	**0.91**	**310**	P		**Pn**	**11 06 15.0**	**-1.2**
	baz=304							
SXI1				S		**Sn**	**11 06 28.4**	**-0.2**
	baz=304							
TWE	**Neicheng**	**0.91**	**284**	*i* P		**Pn**	**11 06 15.4**	**-0.6**
	baz=274							
TWE				*i* S		**Sn**	**11 06 30.2**	**+1.7**
	baz=274							
NWF	**Wu-fen Shan**	**0.96**	**306**	*i* P		**Pn**	**11 06 15.7**	**-1.1**
	baz=293							
NWF				S		**Sn**	**11 06 29.8**	**0.0**
	baz=293							
WFSB	**Wu-fen Shan**	**0.96**	**306**	*e*P		**Pn**	**11 06 15.7**	**-1.0**
	baz=293							
WFSB				*e*S		**Sn**	**11 06 30.3**	**+0.6**
	baz=293							
ENTT	**Nioudou**	**0.99**	**278**	*i* P		**Pn**	**11 06 16.8**	**-0.3**
	baz=272							
ENTT				S		**Sn**	**11 06 31.7**	**+1.3**
	baz=272							
ETL	**Fush Village**	**0.99**	**250**	P		**Pn**	**11 06 16.3**	**-0.9**
	baz=236							
ETL				S		**Sn**	**11 06 30.8**	**+0.3**
	baz=236							
FUSB	**Fushanzhiwuyua**	**0.99**	**285**	P		**Pn**	**11 06 16.7**	**-0.5**
	baz=279							
FUSB				S		**Sn**	**11 06 29.9**	**-0.6**
	baz=279							
IRIF	**Iriomote-Funau**	**1.00**	**100**	*e*P		**Pn**	**11 06 17.0**	**-0.3**
IRIF				S		**Sn**	**11 06 31.1**	**+0.5**
NACB	**Ninganchiao**	**1.01**	**251**	P		**Pn**	**11 06 16.8**	**-0.6**
NACB	**Ninganchiao**	**1.01**	**251**	P		**Pn**	**11 06 16.4**	**-1.0**
	baz=239							
NACB				*e*S		**Sn**	**11 06 32.2**	**+1.4**
	baz=239							
LATG	**Datong**	**1.02**	**272**	P		**Pn**	**11 06 17.2**	**-0.4**
	baz=270							
LATG				S		**Sn**	**11 06 32.0**	**+0.9**
	baz=270							
TWD	**Chiawan**	**1.05**	**246**	*i* P		**Pn**	**11 06 17.1**	**-0.7**
	baz=233							
TWD				*i* S		**Sn**	**11 06 31.3**	**-0.3**
	baz=233							
NWLT	**Wulai**	**1.07**	**285**	*e*P		**Pn**	**11 06 17.4**	**-0.8**
	baz=285							
NWLT				*e*S		**Sn**	**11 06 31.9**	**-0.3**
	baz=285							
ETLH	**Xiulin Townshi**	**1.10**	**254**	P		**Pn**	**11 06 17.8**	**-0.8**
	baz=250							
ETLH				S		**Sn**	**11 06 34.1**	**+1.0**
	baz=250							
NHDH	**Xindian Distri**	**1.11**	**294**	P		**Pn**	**11 06 18.2**	**-0.5**
	baz=281							
NHDH				*e*S		**Sn**	**11 06 32.5**	**-0.7**
	baz=281							
NNSB	**Datong**	**1.15**	**266**	P		**Pn**	**11 06 18.8**	**-0.6**
	baz=253							
NNSB				S		**Sn**	**11 06 34.1**	**-0.2**
	baz=253							
NNS	**Nan Shan**	**1.16**	**267**	P		**Pn**	**11 06 19.3**	**-0.1**
	baz=254							
NNS				S		**Sn**	**11 06 33.9**	**-0.6**
	baz=254							
YHNB	**Yeheng**	**1.17**	**278**	P		**Pn**	**11 06 19.1**	**-0.4**
YHNB	**Yeheng**	**1.17**	**278**	P		**Pn**	**11 06 19.2**	**-0.3**
	baz=273							
YHNB				S		**Sn**	**11 06 34.6**	**+0.1**
	baz=273							
YM01	**YM01**	**1.17**	**303**	P		**Pn**	**11 06 19.2**	**-0.2**
	baz=292							
YM01				S		**Sn**	**11 06 34.8**	**+0.3**
	baz=292							
NSK	**Sanguang**	**1.18**	**278**	*i* P		**Pn**	**11 06 19.3**	**-0.4**
	baz=273							
NSK				*i* S		**Sn**	**11 06 35.1**	**+0.1**
	baz=273							
JKRS	**Kuro-shima**	**1.27**	**102**	P		**Pn**	**11 06 21.2**	**+0.4**
JKRS				S		**Sn**	**11 06 37.9**	**+0.8**
ESL	**Shilin**	**1.30**	**238**	*i* P		**Pn**	**11 06 20.1**	**-1.1**
	baz=235							
ESL				S		**Sn**	**11 06 37.1**	**-0.6**
	baz=235							
WHF	**Hehuan Shan**	**1.31**	**254**	*i* P		**Pn**	**11 06 20.9**	**-0.8**
	baz=250							
WHF				S		**Sn**	**11 06 37.6**	**-0.9**
	baz=250							
JIJ	**Ishigaki jima**	**1.37**	**96**	P		**Pn**	**11 06 22.0**	**-0.2**
JIJ				S		**Sn**	**11 06 38.7**	**-0.7**
EGFH	**Guangfu**	**1.39**	**233**	*e*P		**Pn**	**11 06 21.4**	**-1.1**
	baz=230							
EGFH				*e*S		**Sn**	**11 06 40.1**	**+0.3**
	baz=230							
NFF	**Wufeng Townshi**	**1.40**	**275**	*e*P		**Pn**	**11 06 21.5**	**-1.0**
	baz=271							
NFF				*e*S		**Sn**	**11 06 40.2**	**+0.1**
	baz=271							
NCU	**National Centr**	**1.40**	**290**	*e*P		**Pn**	**11 06 22.3**	**-0.3**
	baz=285							
CHGB	**Renai**	**1.41**	**252**	P		**Pn**	**11 06 22.3**	**-0.7**
	baz=240							
CHGB				S		**Sn**	**11 06 39.9**	**-0.8**
	baz=240							
OWD	**Renai**	**1.45**	**248**	*e*P		**Pn**	**11 06 22.6**	**-0.7**
	baz=238							
OWD				*e*S		**Sn**	**11 06 40.6**	**-0.8**
	baz=238							
WUSB	**Renai**	**1.48**	**250**	P		**Pn**	**11 06 23.5**	**-0.3**
	baz=241							
WUSB				*e*S		**Sn**	**11 06 41.5**	**-0.7**
	baz=241							
LIOB	**Emei**	**1.49**	**276**	P		**Pn**	**11 06 24.3**	**+0.5**
	baz=271							
LIOB				S		**Sn**	**11 06 43.9**	**+1.7**
	baz=271							
NSTT	**Nanjuang**	**1.50**	**275**	P		**Pn**	**11 06 23.6**	**-0.3**
	baz=271							
NSTT				*e*S		**Sn**	**11 06 42.7**	**+0.3**
	baz=271							
HGSD	**Ruisui**	**1.50**	**228**	*e*P		**Pn**	**11 06 23.5**	**-0.5**
	baz=222							
HGSD				*e*S		**Sn**	**11 06 42.1**	**-0.5**
	baz=222							
JISG	**Ishigakijimahi**	**1.52**	**87**	*e*S		**Sn**	**11 06 42.4**	**-0.6**
VWDT	**VWDT**	**1.56**	**242**	P		**Pn**	**11 06 24.3**	**-0.5**
	baz=232							
VWDT				S		**Sn**	**11 06 43.8**	**-0.2**
	baz=232							
WHP	**Taichung City**	**1.56**	**262**	P		**Pn**	**11 06 25.4**	**+0.5**
	baz=254							
WHP				*e*S		**Sn**	**11 06 45.1**	**+1.0**
	baz=254							
EHY	**Hungye**	**1.57**	**231**	P		**Pn**	**11 06 23.4**	**-1.4**
	baz=228							
EHY				S		**Sn**	**11 06 43.7**	**-0.4**
	baz=228							
WCS	**Beigang Elemen**	**1.64**	**255**	*e*P		**Pn**	**11 06 25.6**	**-0.2**
	baz=247							
WCS				*e*S		**Sn**	**11 06 47.4**	**+1.5**
	baz=247							
YULB	**Yu-li**	**1.66**	**228**	P		**Pn**	**11 06 24.7**	**-1.4**
YULB	**Yu-li**	**1.66**	**228**	P		**Pn**	**11 06 24.9**	**-1.2**
	baz=234							
YULB				*e*S		**Sn**	**11 06 45.4**	**-0.9**
	baz=234							
EYUL	**Yuli**	**1.67**	**227**	*e*P		**Pn**	**11 06 25.0**	**-1.2**
	baz=233							
EYUL				*e*S		**Sn**	**11 06 48.1**	**+1.4**
	baz=233							
SSLB	**Suanglung**	**1.70**	**245**	P		**Pn**	**11 06 25.7**	**-1.0**
SSLB	**Suanglung**	**1.70**	**245**	P		**Pn**	**11 06 25.9**	**-0.8**
	baz=236							
SMLT	**Sun Moon Lake**	**1.71**	**249**	P		**Pn**	**11 06 27.9**	**+1.1**
	baz=241							
SMLT				S		**Sn**	**11 06 49.3**	**+1.6**
	baz=241							
TYC	**Yuchr**	**1.74**	**250**	P		**Pn**	**11 06 27.5**	**+0.4**
	baz=242							
FULB	**Fuli**	**1.79**	**224**	P		**Pn**	**11 06 27.1**	**-0.9**
	baz=215							
FULB				S		**Sn**	**11 06 49.5**	**-0.2**
	baz=215							
CHKT	**Chengkung**	**1.83**	**220**	P		**Pn**	**11 06 27.8**	**-0.5**
	baz=214							
CHKT				S		**Sn**	**11 06 48.6**	**-1.7**
	baz=214							
WJS	**Zhushan**	**1.88**	**249**	P		**Pn**	**11 06 29.9**	**+0.9**
	baz=238							
WJS				S		**Sn**	**11 06 54.8**	**+3.2**
	baz=238							
EHD	**Haiduan**	**1.89**	**225**	*e*P		**Pn**	**11 06 28.2**	**-1.0**
	baz=231							
EHD				*e*S		**Sn**	**11 06 50.7**	**-1.2**
	baz=231							
WNT	**Mingjian**	**1.90**	**251**	P		**Pn**	**11 06 30.0**	**+0.7**
	baz=259							
WNT				S		**Sn**	**11 06 54.4**	**+2.3**
	baz=259							
ALS	**Alishan**	**1.95**	**240**	P		**Pn**	**11 06 30.7**	**+0.3**
	baz=230							
EDH	**Donghe**	**1.96**	**219**	*e*P		**Pn**	**11 06 28.6**	**-1.5**
	baz=213							
EDH				*e*S		**Sn**	**11 06 52.0**	**-1.7**
	baz=213							
ELDTW	**Lidau**	**1.98**	**229**	*e*S		**Sn**	**11 06 53.6**	**-0.8**
	baz=226							
CHN5	**Tsauling**	**2.01**	**244**	P		**Pn**	**11 06 31.9**	**+0.9**
	baz=233							
CHN5				S		**Sn**	**11 06 58.0**	**+3.0**
	baz=233							
LONT	**Longtian**	**2.11**	**221**	*e*P		**Pn**	**11 06 32.2**	**0.0**
	baz=228							
LONT				*e*S		**Sn**	**11 06 58.0**	**+0.6**
	baz=228							
LDUT	**Ludao**	**2.12**	**211**	*e*P		**Pn**	**11 06 31.2**	**-1.1**
	baz=209							
WCKO	**Fanlu**	**2.15**	**241**	*e*S		**Sn**	**11 06 59.2**	**+1.0**
	baz=238							
STYH	**Taoyuan**	**2.17**	**232**	*e*P		**Pn**	**11 06 33.1**	**+0.1**
	baz=227							
STYH				*e*S		**Sn**	**11 06 59.6**	**+0.9**
	baz=227							
TPUB	**Ta-pu**	**2.20**	**237**	P		**Pn**	**11 06 33.1**	**-0.4**
TPUB	**Ta-pu**	**2.20**	**237**	*e*P		**Pn**	**11 06 34.4**	**+0.9**
	baz=230							
TPUB				*e*S		**Sn**	**11 07 00.6**	**+1.1**
	baz=230							
CHN4	**Tsaushan**	**2.20**	**239**	*e*P		**Pn**	**11 06 34.6**	**+1.2**
	baz=236							
CHN4				*e*S		**Sn**	**11 07 01.3**	**+1.7**
	baz=236							
TWGBT	**Beinan**	**2.21**	**221**	*e*P		**Pn**	**11 06 32.8**	**-0.8**
	baz=225							
TWGBT				*e*S		**Sn**	**11 06 58.4**	**-1.4**
	baz=225							
TWG	**Pinlang**	**2.21**	**221**	*e*P		**Pn**	**11 06 32.4**	**-1.2**
	baz=225							
TWG				*e*S		**Sn**	**11 06 57.3**	**-2.5**
	baz=225							
WTP	**Ta-pu**	**2.24**	**236**	*e*P		**Pn**	**11 06 35.5**	**+1.4**
	baz=226							
WTP				*e*S		**Sn**	**11 07 03.4**	**+2.8**
	baz=226							
TWK	**Hsinying**	**2.33**	**238**	*e*P		**Pn**	**11 06 35.9**	**+0.7**
	baz=235							
TWK				*e*S		**Sn**	**11 07 04.8**	**+2.1**
	baz=235							
CHN1	**Nanshi**	**2.34**	**236**	*e*P		**Pn**	**11 06 36.8**	**+1.4**
	baz=234							
CHN1				*e*S		**Sn**	**11 07 05.6**	**+2.6**
	baz=234							
MASBT	**Mashibuluo**	**2.64**	**225**	*e*P		**Pn**	**11 06 39.0**	**-0.5**
	baz=223							
MASBT				*e*S		**Sn**	**11 07 10.4**	**+0.1**
	baz=223							

*KOLA **21** 11:20:53.9,67°.33N×30°.43E,h0km,ML2.1,Error ellipse:*
s-maj=28.7km s-min=5.9km az=10.0,Murmansk region,
Kandalsksha district,Murmansk region, Kovdor district
HEL 21 11:20:54.3±0.3,67°.58N×30°.50E,h0km,ML1.7,
Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
VRF	**Varrio**	**0.38**	**296**	PG		Pg	11 21 01.0	-0.5
VRF				SG		Sg	11 21 06.0	-0.4
APA0	**Apatity Array**	**0.95**	**87**	S		Sg	11 21 24.7	-0.2
APA	**Apatity**	**1.11**	**89**	S		Sb	11 21 31.7	+0.3
SGF	**Sodankyl**	**1.54**	**267**	PG		Pn	11 21 22.0	-0.9
SGF				SN		Sn	11 21 42.2	-1.4
KU6	**Riekki**	**1.58**	**189**	PG		Pn	11 21 22.6	-0.9
	baz=13							
KU6				MSG			11 21 41.7	
	comp=Z,3.6nm,0.2s							
KU6				SG		Sn	11 21 43.1	-1.6
LVZ	**Lovozero**	**1.61**	**77**	P		Pn	11 21 24.4	+0.4
LVZ				S		Sb	11 21 45.8	0.0
LVZ	**Lovozero**	**1.61**	**77**	SN		Sn	11 21 45.6	+0.1
MSF	**Maaselka**	**1.78**	**200**	PG		Pn	11 21 26.0	-0.2
MSF				SG		Sn	11 21 49.2	-0.2
RNF	**Rovaniemi**	**2.01**	**243**	PG		Pn	11 21 29.6	+0.2
RNF				SG		Sb	11 21 56.2	-1.0
KEV	**Kevo**	**2.53**	**331**	*e*P		Pn	11 21 37.2	+0.7
KEV	**Kevo**	**2.53**	**331**	PB		Pn	11 21 37.5	+0.9
KEV				MSG			11 22 08.9	
	comp=Z,4.9nm,0.2s							
KEV				SB		Sn	11 22 09.5	+1.5
ARCES	**ARCESS Array B**	**2.69**	**319**	P		Pn	11 21 39.7	+1.0
ARCES				S		Sb	11 22 14.8	-1.9
HEF	**Hetta**	**2.71**	**291**	*e*P		Pn	11 21 38.5	-0.5
HEF	**Hetta**	**2.71**	**291**	PN		Pn	11 21 39.1	+0.1
HEF				MSG			11 22 13.8	
	comp=Z,3.6nm,0.2s							
HEF				SB		Sb	11 22 15.6	-1.6
TOF	**Tornio**	**2.87**	**241**	PN		Pn	11 21 40.5	-0.7
TOF				MSG			11 22 18.8	
	comp=Z,1.4nm,0.2s							
KTK1	**Kautokeino**	**3.06**	**301**	PB		Pn	11 21 45.0	+1.2
OUL	**Oulu**	**3.12**	**219**	PG		Pb	11 21 50.3	-0.2
LANU	**Lannavaara**	**3.26**	**282**	PN		Pn	11 21 46.2	-0.5
RMF	**Romuvaara**	**3.39**	**184**	PN		Pn	11 21 48.2	-0.1
ERTU	**Ertsjaerv**	**3.41**	**256**	PN		Pn	11 21 48.7	0.0
	baz=73							
OBF4	**Vikkela, Lumij**	**3.54**	**221**	PN		Pn	11 21 50.3	-0.1
	baz=37							
KIF	**Kilpisjarvi**	**3.88**	**296**	PN		Pn	11 21 55.8	+0.8
OUF	**Merijarvi**	**4.00**	**219**	PN		Pn	11 21 56.6	-0.1
OBF0	**Syolatti, Pyha**	**4.01**	**222**	PN		Pn	11 21 57.3	+0.4

*SJA **21** 11:23:06.1±0.7,20°.54S×71°.07W,h30km±2km,ML3.6,*
MW4.0
*VAO **21** 11:23:07.8±2.1,20°.45S×71°.08W,h10km,mb3.9*
*GUC **21** 11:23:10.1±0.7,20°.54S×70°.96W,h19km±9km,ML3.4*
ISC 21 11:23:09.5±1.1,20°.52S±0°.02×70°.96W±0°.06,h22km±7km,
n61,σ1s35/92,6C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TA01	**Diego Aracena**	**0.73**	**94**	*e*P		**Pb**	**11 23 22.7**	**-1.0**
TA01				*i* S		**Sb**	**11 23 32.1**	**-1.1**
TA01				IAML			11 23 33.0	
	comp=N,3μm,0.5s							
TA01	**Diego Aracena**	**0.73**	**94**	*e*P		**

PSGC	**Pisagua**	**1.21**	**41**	⇑*iP*		**Pn**	**11 23 29.9**	**-1.4**
PSGC				*i* S		**Sn**	**11 23 46.2**	**-0.8**
PSGC				IAML			11 23 48.7	
	comp=N,1μm,0.4s							
PSGCX	**Pisagua**	**1.21**	**41**	*eP*		**Pn**	**11 23 30.0**	**-1.2**
PSGCX				IAML			11 23 52.0	
	comp=Z,774nm,0.4s							
PSGCX	**Pisagua**	**1.21**	**41**	*eP*		**Pn**	**11 23 30.0**	**-1.2**
PSGCX				IAML			11 23 52.0	
	comp=Z,774nm,0.4s							
PB02	**IPOC Station P**	**1.27**	**129**	*eP*		**Pn**	**11 23 31.6**	**-0.6**
PB02				*i* S		**Sn**	**11 23 47.3**	**-1.4**
PB02				IAML			11 23 55.5	
	comp=N,970nm,0.4s							
PB02	**IPOC Station P**	**1.27**	**129**	*eP*		**Pn**	**11 23 31.0**	**-1.2**
PB02				*eS*		**Sn**	**11 23 49.2**	**+0.5**
PB02				IAML			11 23 56.0	
	comp=Z,1μm,0.4s							
PB02	**IPOC Station P**	**1.27**	**129**	*eP*		**Pn**	**11 23 31.0**	**-1.2**
PB02				*eS*		**Sn**	**11 23 49.2**	**+0.5**
PB02				IAML			11 23 56.0	
	comp=Z,1μm,0.4s							
PB11	**IPOC Station P**	**1.44**	**59**	*eP*		**Pn**	**11 23 33.5**	**-1.0**
PB11				*i* S		**Sn**	**11 23 52.9**	**0.0**
PB11				IAML			11 23 56.1	
	comp=N,2μm,0.5s							
PB11	**IPOC Station P**	**1.44**	**59**	*eP*		**Pn**	**11 23 33.6**	**-0.9**
PB11				IAML			11 23 59.7	
	comp=Z,754nm,0.6s							
PB11	**IPOC Station P**	**1.44**	**59**	*eP*		**Pn**	**11 23 33.6**	**-0.9**
PB11				IAML			11 23 59.7	
	comp=Z,754nm,0.6s							
PB01	**IPOC Station P**	**1.48**	**111**	*eP*		**Pn**	**11 23 34.3**	**-0.6**
PB01				*i* S		**Sn**	**11 23 53.5**	**-0.1**
PB01				IAML			11 23 55.8	
	comp=N,2μm,0.6s							
PB01	**IPOC Station P**	**1.48**	**111**	*eP*		**Pn**	**11 23 34.0**	**-0.9**
PB01				IAML			11 23 57.7	
	comp=Z,780nm,0.6s							
PB01	**IPOC Station P**	**1.48**	**111**	*eP*		**Pn**	**11 23 34.0**	**-0.9**
PB01				IAML			11 23 57.7	
	comp=Z,780nm,0.6s							
PB07	**IPOC Station P**	**1.56**	**140**	⇑*iP*		**Pn**	**11 23 35.6**	**-0.6**
PB07				IAML			11 24 09.3	
	comp=E,525nm,0.5s							
PB07	**IPOC Station P**	**1.56**	**140**	*eP*		**Pn**	**11 23 35.0**	**-1.2**
PB07				*eS*		Sn	11 23 47.0	-8.9
PB07				IAML			11 24 05.5	
	comp=Z,334nm,0.7s							
PB07	**IPOC Station P**	**1.56**	**140**	*eP*		**Pn**	**11 23 35.0**	**-1.2**
PB07				*eS*		Sn	11 23 47.0	-8.9
PB07				IAML			11 24 05.5	
	comp=Z,334nm,0.7s							
GO01	**Chusmiza**	**1.87**	**63**	*eP*		**Pn**	**11 23 40.0**	**-0.6**
GO01				*eS*		**Sb**	**11 24 06.8**	**+0.5**
GO01	**Chusmiza**	**1.87**	**63**	*eP*		**Pn**	**11 23 40.0**	**-0.6**
GO01				*eS*		**Sb**	**11 24 06.8**	**+0.5**
MNMC	**Minye Minye**	**1.89**	**43**	*eP*		**Pn**	**11 23 41.5**	**+0.7**
MNMC				*i* S		**Sn**	**11 24 06.2**	**+2.1**
MNMCX	**Minye Minye**	**1.89**	**43**	*eP*		**Pn**	**11 23 40.0**	**-0.8**
MNMCX				*eS*		**Sn**	**11 24 02.9**	**-1.2**
MNMCX				IAML			11 24 10.6	
	comp=Z,2μm,0.4s							
MNMCX	**Minye Minye**	**1.89**	**43**	*eP*		**Pn**	**11 23 40.0**	**-0.8**
MNMCX				*eS*		**Sn**	**11 24 02.9**	**-1.2**
MNMCX				IAML			11 24 10.6	
	comp=Z,2μm,0.4s							
PB03	**IPOC Station P**	**1.89**	**144**	⇑*iP*		**Pn**	**11 23 40.1**	**-0.7**
PB03	**IPOC Station P**	**1.89**	**144**	*eP*		**Pn**	**11 23 40.0**	**-0.7**
PB03				*eS*		**Sb**	**11 24 11.2**	**+4.4**
PB03				IAML			11 24 32.2	
	comp=Z,240nm,0.5s							
PB03	**IPOC Station P**	**1.89**	**144**	*eP*		**Pn**	**11 23 40.0**	**-0.7**
PB03				*eS*		**Sb**	**11 24 11.2**	**+4.4**
PB03				IAML			11 24 32.2	
	comp=Z,240nm,0.5s							
PB04	**IPOC Station P**	**1.96**	**157**	⇑*iP*		**Pn**	**11 23 40.7**	**-0.9**
PB04	**IPOC Station P**	**1.96**	**157**	*eP*		**Pn**	**11 23 40.0**	**-1.6**
PB04				IAML			11 24 20.5	
	comp=Z,242nm,0.7s							
PB04	**IPOC Station P**	**1.96**	**157**	*eP*		**Pn**	**11 23 40.0**	**-1.6**
PB04				IAML			11 24 20.5	
	comp=Z,242nm,0.7s							
PB12	**IPOC Station P**	**1.99**	**18**	*iP*		**Pn**	**11 23 41.0**	**-1.0**
PB12				*i* S		**Sb**	**11 24 08.9**	**-0.6**
PB12				IAML			11 24 19.6	
	comp=E,725nm,0.8s							
PB12	**IPOC Station P**	**1.99**	**18**	*eP*		**Pn**	**11 23 41.0**	**-1.0**
PB12				*eS*		**Sn**	**11 24 07.9**	**+1.6**
PB12				IAML			11 24 15.6	
	comp=Z,436nm,0.6s							
PB12	**IPOC Station P**	**1.99**	**18**	*eP*		**Pn**	**11 23 41.0**	**-1.0**
PB12				*eS*		**Sn**	**11 24 07.9**	**+1.6**
PB12				IAML			11 24 15.6	
	comp=Z,436nm,0.6s							
PB09	**IPOC Station P**	**2.05**	**129**	*eP*		**Pn**	**11 23 43.6**	**+0.7**
PB09				*i* S		**Sn**	**11 24 09.9**	**+2.1**
PB09				IAML			11 24 18.7	
	comp=N,329nm,0.3s							
PB09	**IPOC Station P**	**2.05**	**129**	*eP*		**Pn**	**11 23 43.0**	**+0.2**
PB09				*eS*		**Sn**	**11 24 06.9**	**-0.9**
PB09				IAML			11 24 19.3	
	comp=Z,339nm,1.0s							
PB09	**IPOC Station P**	**2.05**	**129**	*eP*		**Pn**	**11 23 43.0**	**+0.2**
PB09				*eS*		**Sn**	**11 24 06.9**	**-0.9**
PB09				IAML			11 24 19.3	
	comp=Z,339nm,1.0s							
AP01	**Chacalluta**	**2.22**	**15**	*iP*		**Pb**	**11 23 48.2**	**-0.7**
AP01				*i* S		**Sb**	**11 24 18.1**	**+2.1**
PB06	**IPOC Station P**	**2.53**	**149**	⇑*iP*		**Pn**	**11 23 48.8**	**-0.7**
PB06	**IPOC Station P**	**2.53**	**149**	*eP*		**Pn**	**11 23 48.0**	**-1.5**
PB06				*eS*		**Sn**	**11 24 21.2**	**+1.5**
PB06				IAML			11 24 43.2	
	comp=Z,202nm,1.3s							
PB06	**IPOC Station P**	**2.53**	**149**	*eP*		**Pn**	**11 23 48.0**	**-1.5**
PB06				*eS*		**Sn**	**11 24 21.2**	**+1.5**
PB06				IAML			11 24 43.2	
	comp=Z,202nm,1.3s							
PB16	**IPOC Station P**	**2.57**	**33**	*iP*		**Pn**	**11 23 52.3**	**+1.8**
PB16				*i* S		**Sn**	**11 24 23.9**	**+2.6**
PB16				IAML			11 24 34.5	
	comp=N,360nm,0.5s							
PB16	**IPOC Station P**	**2.57**	**33**	*eP*		**Pn**	**11 23 50.8**	**+0.4**
PB16				*eS*		**Sn**	**11 24 21.4**	**+0.1**
PB16				IAML			11 24 36.2	
	comp=Z,306nm,0.5s							
PB16	**IPOC Station P**	**2.57**	**33**	*eP*		**Pn**	**11 23 50.8**	**+0.4**
PB16				*eS*		**Sn**	**11 24 21.4**	**+0.1**
PB16				IAML			11 24 36.2	
	comp=Z,306nm,0.5s							
LVC	**Limon Verde**	**2.82**	**138**	⇑*iP*		**Pn**	**11 23 54.6**	**+0.9**
LVC	**Limon Verde**	**2.82**	**138**	*eP*		**Pn**	**11 23 54.7**	**+0.9**
PB10	**IPOC Station P**	**3.00**	**173**	*eP*		**Pn**	**11 23 54.4**	**-1.5**
PB10				*eS*		**Sn**	**11 24 28.4**	**-2.8**
PB10	**IPOC Station P**	**3.00**	**173**	*eP*		**Pn**	**11 23 54.4**	**-1.5**
PB10				*eS*		**Sn**	**11 24 28.4**	**-2.8**
LPAZ	**La Paz**	**5.00**	**33**	*eP*		**Pn**	**11 24 23.3**	**-0.5**
BBSD	**Serra de San D**	**10.35**	**73**	*eP*		**Pn**	**11 25 36.5**	**-0.2**
BBRB	**Robore, Bolivi**	**10.76**	**80**	*eP*		**Pn**	**11 25 43.5**	**+1.1**
PTLB	**Pontes e Lacer**	**12.33**	**68**	*eP*		**Pn**	**11 26 05.3**	**+1.4**
MURT	**Porto Murtinho**	**12.52**	**98**	*eP*		**Pn**	**11 26 07.8**	**+1.4**
VILB	**Vilhena**	**12.76**	**56**	*eP*		**Pn**	**11 26 11.1**	**+1.4**
BDQN	**Bodoquena, MS**	**13.32**	**92**	*eP*		**Pn**	**11 26 18.8**	**+1.4**
PDRB	**Porto dos Gac**	**16.29**	**59**	*eP*		**Pn**	**11 26 55.4**	**-1.6**

SOME ***21*** *11:24:52.4,41°.68N×72°.85E,h15km*
KRNET ***21*** *11:24:52.6±0.1,41°.75N×72°.77E,h24km,mb3.5*
NNC ***21*** *11:24:52.4±1.2,41°.82N×72°.66E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=8.7km s-min=7.0km az=9.0
ISU ***21*** *11:24:53.3,41°.68N×72°.76E,h23km*
KNET ***21*** *11:24:55.0±0.4,41°.83N×72°.93E,h8km±2km,ml3.3, Error ellipse: s-maj=4.1km s-min=2.4km az=165.0*

ISC 21 11:24:51.8±1.1,**41°.77N**±0°.02×**72.78E**±0°.02,**h5**km±9km,
n94,σ1**s27**/132,**44C-20D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARK	**Arkit**	**0.61**	**273**	⇑*eP*		**Pb**	**11 25 04.4**	**-0.6**
	baz=76							
ARK				⇑*eS*		**Sb**	**11 25 12.9**	**-0.9**
	baz=76							
ARK	**Arkit**	**0.61**	**273**	P		**Pg**	**11 25 04.1**	**+0.6**
ARK				S		**Sb**	**11 25 13.0**	**-0.9**
AML	**Almayashu**	**0.77**	**62**	⇑P		**Pb**	**11 25 07.9**	**-0.1**
	180nm,0.2s,SNR=878							
AML				⇑S		**Sb**	**11 25 18.6**	**-0.3**
	485nm,0.2s							
AML	**Almayashu**	**0.77**	**62**	⇑*eP*		**Pb**	**11 25 07.9**	**-0.1**
	baz=60							
AML				⇑*eS*		**Sb**	**11 25 18.5**	**-0.3**
	baz=60							
MRKS	**Merke**	**1.03**	**19**	P		**Pn**	**11 25 12.7**	**-0.2**
	52nm,0.2s							
MRKS				S		**Sn**	**11 25 27.0**	**-0.8**
	367nm,0.2s							
MRKS	**Merke**	**1.03**	**19**	⇓*eP*		**Pn**	**11 25 12.7**	**-0.2**
	52nm,0.2s							
MRKS				*eS*		**Sn**	**11 25 26.7**	**-1.0**
	367nm,0.2s							
ANR	**Andizhan**	**1.06**	**197**	P		**Pn**	**11 25 13.8**	**+0.5**
ANR				S		**Sn**	**11 25 28.2**	**-0.2**
KSNS	**Kasansay**	**1.12**	**237**	P		**Pn**	**11 25 14.1**	**-0.1**
ARLS	**Aral**	**1.16**	**85**	⇓*eP*		**Pb**	**11 25 14.1**	**-0.3**
	baz=84							
ARLS				⇓*eS*		**Sb**	**11 25 29.8**	**0.0**
	baz=84							
EKS2	**Erkin-Say**	**1.16**	**40**	⇓P		**Pn**	**11 25 15.0**	**+0.2**
	28nm,0.1s,SNR=30							
EKS2				⇑S		**Sn**	**11 25 30.7**	**-0.4**
	54nm,0.2s							
EKS2	**Erkin-Say**	**1.16**	**40**	⇑*eP*		**Pn**	**11 25 14.4**	**-0.3**
	baz=39							
EKS2				⇑*eS*		**Sn**	**11 25 30.3**	**-0.7**
	baz=39							
OHH	**Osh**	**1.25**	**180**	⇑*eP*		**Pg**	**11 25 15.1**	**-0.6**
	baz=79							
OHH				⇑*eS*		**Sg**	**11 25 31.2**	**-0.6**
	baz=79							
OHH	**Osh**	**1.25**	**180**	P		**Pn**	**11 25 15.8**	**-0.1**
OHH				S		**Sb**	**11 25 31.9**	**-0.3**
TRKS	**Terek-Say**	**1.25**	**259**	⇓*eP*		**Pg**	**11 25 15.3**	**-0.5**
	baz=57							
TRKS				⇓*eS*		**Sg**	**11 25 31.8**	**-0.2**
	baz=57							
UCH	**Uchtor**	**1.37**	**70**	⇓P		**Pg**	**11 25 18.6**	**+0.5**
	42nm,0.1s,SNR=159							
UCH				⇓S		**Sn**	**11 25 37.6**	**+0.8**
	463nm,0.3s							
UCH	**Uchtor**	**1.37**	**70**	⇓*eP*		**Pg**	**11 25 18.2**	**+0.1**
	baz=69							
UCH				⇑*eS*		**Sn**	**11 25 36.8**	**+0.1**
	baz=69							
AAK	**Ala-Archa**	**1.54**	**55**	⇑P		**Pg**	**11 25 21.7**	**+0.4**
	55nm,0.2s,SNR=45							
AAK				⇓S		**Sg**	**11 25 42.6**	**+1.2**
	100nm,0.2s							
AAK	**Ala-Archa**	**1.54**	**55**	⇑*eP*		**Pg**	**11 25 21.1**	**-0.3**
	baz=55							
AAK				⇑*eS*		**Sg**	**11 25 41.7**	**+0.3**
	baz=55							
DZA	**Taraz**	**1.55**	**317**	*eP*		**Pg**	**11 25 22.9**	**+1.4**
	133nm,0.1s							
DZA				*eS*		**Sg**	**11 25 44.3**	**+2.7**
	730nm,0.3s							
FRG	**Fergana**	**1.58**	**209**	P		**Pg**	**11 25 22.3**	**+0.1**
FRG				S		**Sg**	**11 25 43.1**	**+0.4**
FRU1	**Bishkek**	**1.72**	**52**	⇑*eP*		**Pb**	**11 25 24.1**	**+0.2**
	baz=52							
FRU1				⇑*eS*		**Sg**	**11 25 47.1**	**-0.1**
	baz=52							
CHMI	**Chimion**	**1.78**	**213**	P		**Pg**	**11 25 26.2**	**+0.4**
CHMI				S		**Sg**	**11 25 49.5**	**+0.7**
KBK	**Karagaybulak**	**1.84**	**61**	⇓P		**Pg**	**11 25 27.2**	**+0.1**
	52nm,0.2s,SNR=84							
KBK				⇑S		**Sg**	**11 25 51.6**	**+0.7**
	242nm,0.2s							
KBK	**Karagaybulak**	**1.84**	**61**	⇑*eP*		**Pb**	**11 25 25.8**	**-0.2**
	baz=60							
KBK				⇑*eS*		**Sb**	**11 25 49.8**	**+0.4**
	baz=60							
CHMS	**Chumysh**	**1.91**	**49**	⇓P		**Pg**	**11 25 28.4**	**0.0**
	55nm,0.2s,SNR=32							
CHMS				⇑S		**Sg**	**11 25 54.5**	**+1.4**
	232nm,0.3s							
CHMS	**Chumysh**	**1.91**	**49**	Pg		Pg	11 25 38.2	+10
	140nm,0.2s							
CHMS				Lg		Lg	11 26 10.1	
	439nm,0.3s							
CHMS	**Chumysh**	**1.91**	**49**	⇑*eP*		**Pb**	**11 25 26.6**	**-0.5**
	baz=49							
CHMS				⇑*eS*		**Sb**	**11 25 51.4**	**+0.2**
	baz=49							
USP	**Ospenovka**	**1.96**	**40**	⇑P		**Pg**	**11 25 29.3**	**-0.1**
	87nm,0.3s,SNR=73							
USP				⇓S		**Sg**	**11 25 55.9**	**+1.0**
	195nm,0.3s							
USP	**Ospenovka**	**1.96**	**40**	⇑*eP*		**Pb**	**11 25 27.5**	**-0.5**
	baz=39							
USP				⇑*eS*		**Sb**	**11 25 52.7**	**-0.1**
	baz=39							
IUG	**Iuzhnay**	**2.08**	**281**	*ePg*		**Pg**	**11 25 32.0**	**+0.3**
	92nm,0.2s							
IUG				*eLg*		Lg	11 25 59.9	
	593nm,0.4s							
CHMG	**Chimgan**	**2.08**	**265**	P		**Sg**	**11 25 58.8**	**0.0**
CHRV	**Charvak**	**2.12**	**267**	P		**Sg**	**11 26 00.0**	**+0.1**
SGDS	**Sogindy**	**2.17**	**39**	Pg		**Pg**	**11 25 33.1**	**-0.3**
	71nm,0.4s							
SGDS				Lg		Lg	11 26 01.8	
	211nm,0.3s							
BTK	**Batken**	**2.27**	**222**	⇑*eP*		**Pn**	**11 25 30.9**	**+1.0**
	baz=22							
BTK				⇑*eS*		**Sn**	**11 25 59.0**	**+0.8**
	baz=22							
BTK	**Batken**	**2.27**	**222**	P		**Sb**	**11 26 00.7**	**-0.8**
TKM2	**Tokmak 2**	**2.38**	**60**	⇑P		**Pb**	**11 25 36.1**	**+0.8**
	43nm,0.3s,SNR=63							
TKM2	**Tokmak 2**	**2.38**	**60**	⇑*eP*		**Pb**	**11 25 33.4**	**-1.9**
	baz=60							
TKM2				⇑*eS*		**Sb**	**11 26 03.0**	**-2.1**
	baz=60							
DRK	**Karamyk**	**2.41**	**198**	⇓*eP*		**Pn**	**11 25 33.1**	**+1.1**
	baz=98							
DRK				⇓*eS*		**Sn**	**11 26 02.5**	**+0.5**
	baz=98							
CHM	**Chimkent**	**2.43**	**284**	*ePg*		**Pg**	**11 25 38.2**	**-0.1**
	140nm,0.2s							
CHM				*eLg*		Lg	11 26 10.1	
	439nm,0.3s							
NRN	**Naryn**	**2.44**	**97**	⇑*eP*		**Pn**	**11 25 33.7**	**+1.2**
	baz=97							
NRN				⇑*eS*		**Sn**	**11 26 03.5**	**+0.6**
	baz=97							
BOOM	**Boomskoye usch**	**2.46**	**72**	⇑*eP*		**Pb**	**11 25 34.5**	**-2.1**
	baz=71							
BOOM				⇑*eS*		**Sn**	**11 26 04.7**	**+1.5**
	baz=71							
TGS	**TashGRES**	**2.47**	**263**	P		**Sn**	**11 26 03.3**	**+0.2**
ULHL	**Ulahol**	**2.62**	**78**	⇓*eP*		**Pn**	**11 25 36.6**	**+1.6**
	baz=78							
ULHL				⇓*eS*		**Sn**	**11 26 08.4**	**+1.1**
	baz=78							
TAS	**Tashkent**	**2.65**	**261**	⇑*eP*		**Pn**	**11 25 36.6**	**+1.5**
	baz=62							
TAS				⇑*eS*		**Sn**	**11 26 08.4**	**+0.8**
	baz=62							
DGS	**Degeres**	**2.66**	**55**	Pg		**Pg**	**11 25 42.1**	**-0.6**
	40nm,0.5s							
DGS				Lg		Lg	11 26 16.8	
	138nm,0.7s							
DGS	**Degeres**	**2.66**	**55**	*ePg*		**Pg**	**11 25 42.1**	**-0.6**
	40nm,0.5s							
DGS				*eLg*		Lg	11 26 16.8	
	138nm,0.7s							
KST	**Kastek**	**2.68**	**61**	Pg		**Pg**	**11 25 42.3**	**-0.9**
	20nm,0.4s							
KST				Lg		Lg	11 26 17.6	
	173nm,0.4s							
KST	**Kastek**	**2.68**	**61**	*ePg*		**Pg**	**11 25 42.3**	**-0.9**
	20nm,0.4s							
KST				*eLg*		Lg	11 26 17.6	
	173nm,0.4s							
KRBS	**Karabastau**	**2.87**	**47**	Pg		**Pb**	**11 25 44.8**	**+1.2**
	14nm,0.3s							
KRBS				Lg		Lg	11 26 21.4	
	54nm,0.5s							
KRBS	**Karabastau**	**2.87**	**47**	*ePg*		**Pb**	**11 25 43.7**	**+0.2**
	14nm,0.3s							
KRBS				*eLg*		Lg	11 26 19.7	
	54nm,0.5s							
MTBS	**Maitube**	**3.02**	**62**	Pg		**Pg**	**11 25 49.1**	**-0.6**
	19nm,0.3s							
MTBS				Lg		Lg	11 26 28.9	
	102nm,0.4s							
MTBS	**Maitube**	**3.02**	**62**	*ePg*		**Pg**	**11 25 49.1**	**-0.6**
	19nm,0.3s							
MTBS				*eLg*		Lg	11 26 28.9	
	102nm,0.4s							
IZV	**Izvestkoviy**	**3.11**	**65**	Pg		**Pg**	**11 25 50.5**	**-0.9**
	13nm,0.4s							
IZV				Lg		Lg	11 26 31.2	
	62nm,0.7s							
IZV	**Izvestkoviy**	**3.11**	**65**	*ePg*		**Pg**	**11 25 50.5**	**-0.9**
	13nm,0.4s							
IZV				*eLg*		Lg	11 26 31.2	
	62nm,0.7s							
KDJ	**Kajisay**	**3.30**	**82**	⇑*eP*		**Pn**	**11 25 46.2**	**+1.9**
	baz=82							
KDJ				⇑*eS*		**Sn**	**11 26 25.1**	**+1.1**
	baz=82							
TNSS	**Tian-Shan**	**3.34**	**66**	Pg		**Pg**	**11 25 54.9**	**-0.8**
	16nm,0.4s							
TNSS				Lg		Lg	11 26 39.0	
	37nm,0.5s							
TNSS	**Tian-Shan**	**3.34**	**66**	*ePg*		**Pg**	**11 25 54.9**	**-0.8**
	16nm,0.4s							
TNSS				*eLg*		Lg	11 26 39.0	
	37nm,0.5s							
GAR	**Garm**	**3.34**	**215**	⇓*eP*		**Pn**	**11 25 46.0**	**+1.2**
	baz=15							
GAR				⇓*eS*		**Sn**	**11 26 25.1**	**+0.2**
	baz=15							
KUU	**Kurty**	**3.37**	**50**	Pg		**Pg**	**11 25 54.6**	**-1.8**
	8.1nm,0.5s							
KUU				Lg		Lg	11 26 38.3	
	45nm,0.5s							
KUU	**Kurty**	**3.37**	**50**	*ePg*		**Pg**	**11 25 54.6**	**-1.8**
	8.1nm,0.5s							
KUU				*eLg*		Lg	11 26 38.3	
	45nm,0.5s							
AAA	**Alma-Ata**	**3.38**	**63**	Pg		**Pg**	**11 25 55.7**	**-0.9**
	64nm,0.3s							
AAA				Lg		Lg	11 26 40.0	
	97nm,0.4s							
AAA	**Alma-Ata**	**3.38**	**63**	*ePg*		**Pg**	**11 25 55.7**	**-0.9**
	64nm,0.3s							
AAA				*eLg*		Lg	11 26 40.0	
	97nm,0.4s							
BTLS	**Baital**	**3.40**	**15**	Pg		**Pg**	**11 25 54.5**	**-2.3**
	8.1nm,0.3s							
BTLS				Lg		Lg	11 26 38.4	
	41nm,0.5s							
BTLS	**Baital**	**3.40**	**15**	*ePg*		**Pg**	**11 25 54.5**	**-2.3**
	8.1nm,0.3s							
BTLS				*eLg*		Lg	11 26 38.4	
	41nm,0.5s							
MDOK	**Medeo**	**3.45**	**65**	Pg		**Pg**	**11 25 56.4**	**-1.6**
	19nm,0.3s							
MDOK				Lg		Lg	11 26 41.4	
	79nm,0.8s							
MDOK	**Medeo**	**3.45**	**65**	*ePg*		**Pg**	**11 25 56.4**	**-1.6**
	19nm,0.3s							
MDOK				*eLg*		Lg	11 26 41.4	
	79nm,0.8s							
KTBS	**Karatobe**	**3.47**	**55**	Pg		**Pg**	**11 25 57.3**	**-0.9**
	8.8nm,0.4s							
KTBS				Lg		Lg	11 26 42.9	
	64nm,0.5s							
KTBS	**Karatobe**	**3.47**	**55**	*ePg*		**Pg**	**11 25 57.3**	**-0.9**
	8.8nm,0.4s							
KTBS				*eLg*		Lg	11 26 42.9	
	64nm,0.5s							
KOTS	**Kotyrbulak**	**3.52**	**64**	Pg		**Pg**	**11 25 58.1**	**-1.2**
	12nm,0.5s							
KOTS				Lg		Lg	11 26 44.2	
	82nm,0.7s							
KOTS	**Kotyrbulak**	**3.52**	**64**	*ePg*		**Pg**	**11 25 58.1**	**-1.2**
	12nm,0.5s							
KOTS				*eLg*		Lg	11 26 44.2	
	82nm,0.7s							
CHKK	**Chushkaly**	**3.73**	**55**	Pg		**Pg**	**11 26 01.5**	**-1.8**
	6.9nm,0.3s							
CHKK				Lg		Lg	11 26 49.9	
	37nm,0.3s							
CHKK	**Chushkaly**	**3.73**	**55**	*ePg*		**Pg**	**11 26 01.5**	**-1.8**
	6.9nm,0.3s							
CHKK				*eLg*		Lg	11 26 49.9	
	37nm,0.3s							
ANVS	**Anan'yevo**	**3.77**	**73**	⇑*eP*		**Pn**	**11 25 52.6**	**+2.0**
	baz=72							
ANVS				⇑*eS*		**Sn**	**11 26 36.3**	**+0.9**
	baz=72							
CHGR	**Chuyangaron**	**4.17**	**223**	⇓*eP*		**Pn**	**11 25 57.4**	**+1.4**
	baz=23							
CHGR				⇓*eS*		**Sn**	**11 26 44.6**	**-0.5**
	baz=23							
PRZ	**Przheval'sk**	**4.24**	**78**	⇑*eP*		**Pn**	**11 25 59.1**	**+1.9**
	baz=78							
PRZ				⇑*eS*		**Sn**	**11 26 47.7**	**+0.6**
	baz=78							
KURS	**Kuram**	**4.33**	**65**	Pg		**Pg**	**11 26 14.1**	**-0.7**
	9.6nm,0.5s							
KURS				Lg		Lg	11 27 11.4	
	19nm,0.6s							
KURS	**Kuram**	**4.33**	**65**	*ePg*		**Pg**	**11 26 14.1**	**-0.7**
	9.6nm,0.5s							
KURS				*eLg*		Lg	11 27 11.4	
	19nm,0.6s							
SATY	**Saty**	**4.36**	**71**	Pg		**Pg**	**11 26 14.5**	**-0.8**
	7.7nm,1.0s							
SATY				Lg		Lg	11 27 12.2	
	40nm,0.3s							
SATY	**Saty**	**4.36**	**71**	*ePg*		**Pg**	**11 26 14.5**	**-0.8**
	7.7nm,1.0s							
SATY				*eLg*		Lg	11 27 12.2	
	40nm,0.3s							
ZHN	**Zhinishke**	**4.41**	**70**	Pg		**Pg**	**11 26

JMA ***21*** *11:54:31.1±0.1, 40.6°N±0.3×142.5°E±0.6, h29km±1km, MD4.5/39,MW4.5/39,E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
MOS ***21*** *11:54:31.6±0.8, 40.65°N×142.50E, h49km, mb4.9/37, Error ellipse: s-maj=7.4km s-min=4.5km az=102.9*
BJI ***21*** *11:54:31.5±0.0, 40.66°N×142.50E, h61km, mb4.6/54, mB5.0/30,Ms4.2/16,Ms7 4.0/17*
NIED ***21*** *11:54:31.1, 40.56°N×142.54E, h29km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.89; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-2.53; $M_{r\theta}$2.30; $M_{\theta\phi}$-1.63; $M_{\phi r}$5.28; Fault plane solution: $M_0$6.57000×10^{15} NP1:ϕ_s24.00000°, δ76.00000°, λ87.00000°. NP2:ϕ_s214.00000°, δ14.00000°, λ100.00000°.*
NEIC ***21*** *11:54:32.9±1.6, 40.65N±0.06×142.40E±0.08, h39km±7km, mb4.8/68 Error ellipse: s-maj=10.4km s-min=7.2km az=133.0*
IDC ***21*** *11:54:32.7±1.4, 40.65N×142.50E, h47km±12km, mb4.1/25, mbtmp4.3/33, ML3.5/7, MS3.7/46, Error ellipse: s-maj=15.2km s-min=8.8km az=115.0*
ISC 21 11:54:32.9±0.4, 40.58N±0.03×142.50E±0.04, h48km±3km, h48km:pP-P, n416, σ1$48/378, mb4.7/120, MS3.9/46, 38C-24D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
JKEN	**Kujiedanarisaw**	**0.71**	**239**	*i*	P	**Pn**	**11 54 44.7**	**-1.9**
JKEN				⇓	S	**Sn**	**11 54 54.1**	**-2.4**
JKEN	**Kujiedanarisaw**	**0.71**	**239**		A		11 54 44.7	
	comp=E,16nm,0.9s,comp=E,27nm,0.4s							
JANG	**Nango**	**0.78**	**255**	⇓*i*	P	**Pn**	**11 54 46.1**	**-1.4**
JANG				⇓	S	**Sn**	**11 54 56.2**	**-1.9**
JANG	**Nango**	**0.78**	**255**		A		11 54 46.1	
	comp=E,14nm,0.6s,comp=E,9.0nm,1.8s							
JTH	**Tanohata**	**0.80**	**217**	⇓*i*	P	**Pn**	**11 54 46.0**	**-1.8**
JTH				⇓	S	**Sn**	**11 54 56.6**	**-2.1**
JTH	**Tanohata**	**0.80**	**217**		A		11 54 46.0	
	comp=E,6.0nm,0.6s,comp=E,8.0nm,1.5s							
JARK	**Aomorirokkasho**	**0.96**	**297**	⇓*i*	P	**Pn**	**11 54 48.7**	**-1.2**
JARK				⇓	S	**Sn**	**11 55 01.1**	**-1.4**
JARK	**Aomorirokkasho**	**0.96**	**297**		A	A	11 54 48.7	
	comp=E,20nm,0.5s,comp=E,15nm,0.4s							
JKZ	**Kuzumaki**	**1.07**	**237**	⇓*i*	P	**Pn**	**11 54 50.4**	**-1.2**
JKZ				⇓	S	**Sn**	**11 55 04.6**	**-0.8**
JKZ	**Kuzumaki**	**1.07**	**237**		A	A	11 54 50.4	
	comp=E,12nm,1.0s,comp=E,14nm,0.5s							
JTM	**Tenmabayashi**	**1.11**	**281**			**Pn**	**11 54 51.0**	**-0.9**
JTM	**Tenmabayashi**	**1.11**	**281**		P	**Pn**	**11 54 51.5**	**-0.4**
JTM	**Tenmabayashi**	**1.11**	**281**	⇓*i*	P	**Pn**	**11 54 51.0**	**-0.9**
JTM				⇓	S	**Sn**	**11 55 05.5**	**-0.6**
JTM	**Tenmabayashi**	**1.11**	**281**		A	A	11 54 51.0	
	comp=E,13nm,1.4s,comp=E,10.0nm,1.5s							
JAHD	**Aomorihigashid**	**1.12**	**308**		A	A	11 54 51.5	
	comp=E,22nm,0.5s,comp=E,30nm,1.2s							
MIYJ	**Miyakonagasawa**	**1.13**	**208**		A	A	11 54 51.1	
	comp=E,9.0nm,1.6s,comp=E,6.0nm,1.6s							
JOT	**Ohata**	**1.36**	**307**	⇓*i*	P	**Pn**	**11 54 54.5**	**-0.9**
JOT				⇓*e*	S	**Sn**	**11 55 11.4**	**-0.8**
JOT	**Ohata**	**1.36**	**307**		A	A	11 54 54.5	
	comp=E,7.0nm,0.2s,comp=E,9.0nm,1.6s							
JOM	**Ohasama**	**1.44**	**220**	⇓*i*	P	**Pn**	**11 54 56.0**	**-0.5**
JOM				⇓	S	**Sn**	**11 55 14.3**	**+0.1**
JOM	**Ohasama**	**1.44**	**220**		A	A	11 54 56.0	
	comp=E,19nm,1.7s,comp=E,10.0nm,1.7s							
JSZI	**Iwateshizukuis**	**1.45**	**235**		A	A	11 54 56.7	
	comp=E,23nm,2.0s,comp=E,26nm,1.3s							
JAH	**Hinai**	**1.47**	**255**	⇓*i*	P	**Pn**	**11 54 57.0**	**+0.1**
JAH				⇓	S	**Sn**	**11 55 16.1**	**+1.0**
JAH	**Hinai**	**1.47**	**255**		A	A	11 54 57.0	
	comp=E,14nm,1.5s,comp=E,20nm,1.3s							
ERM	**Erimo**	**1.52**	**19**		Pn	**Pn**	**11 54 57.6**	**0.0**
ERM	**Erimo**	**1.52**	**19**		P	**Pn**	**11 54 58.5**	**+0.9**
ERM	**Erimo**	**1.52**	**19**		P	**Pn**	**11 54 57.6**	**0.0**
JEM	**Erimo**	**1.52**	**19**		P	**Pn**	**11 54 58.6**	**+1.0**
JEM	**Erimo**	**1.52**	**19**		P	**Pn**	**11 54 57.2**	**-0.4**
JEM					*e*S	**Sn**	**11 55 16.2**	**0.0**
JEM	**Erimo**	**1.52**	**19**		A	A	11 54 57.2	
	comp=E,4.0nm,2.7s,comp=E,7.0nm,3.7s							
OFUJ	**Ofunato**	**1.63**	**203**		A	A	11 54 58.5	
	comp=E,11nm,2.0s,comp=E,6.0nm,2.9s							
JHHS	**Hirosakihyakuz**	**1.63**	**273**		A	A	11 54 59.1	
	comp=E,15nm,4.8s,comp=E,14nm,3.0s							
JSI2	**Shiura 2**	**1.65**	**288**		A	A	11 54 59.6	
	comp=E,30nm,2.2s,comp=E,11nm,4.5s							
JNBK	**Urakawa-nobuka**	**1.71**	**6**		P	**Pn**	**11 55 00.2**	**0.0**
JNBK					S	**Sn**	**11 55 21.8**	**+0.9**
JNBK	**Urakawa-nobuka**	**1.71**	**6**		A	A	11 55 00.2	
	comp=E,9.0nm,1.1s,comp=E,10.0nm,6.7s							
JKB	**Kayabe**	**1.71**	**320**	*i*	P	**Pn**	**11 54 59.5**	**-0.7**
JKB					S	**Sn**	**11 55 20.0**	**-0.9**
JKB	**Kayabe**	**1.71**	**320**		A	A	11 54 59.5	
	comp=E,7.0nm,0.6s,comp=E,7.0nm,1.4s							
JNTW	**Noshirotokiwa**	**1.81**	**261**		A	A	11 55 01.7	
	comp=E,29nm,3.2s,comp=E,34nm,1.8s							
JSHD	**Hidakashinhida**	**1.83**	**359**		A	A	11 55 01.9	
	comp=E,11nm,5.7s,comp=E,9.0nm,2.0s							
JSR	**Shiriuchi**	**1.84**	**302**		A	A	11 55 02.3	
	comp=E,6.0nm,2.1s,comp=E,7.0nm,1.1s							
JRG	**Rokugo**	**1.85**	**231**		A	A	11 55 02.1	
	comp=E,18nm,0.7s,comp=E,18nm,0.7s							
JIW	**Iwasaki**	**1.90**	**271**		A	A	11 55 03.1	
	comp=E,6.0nm,4.0s,comp=E,6.0nm,1.3s							
JMK	**Ichinoseki**	**1.90**	**212**		A	A	11 55 02.6	
	comp=E,13nm,1.9s,comp=E,5.0nm,1.9s							
JYW	**Yuwa**	**2.04**	**240**		A	A	11 55 04.9	
	comp=E,15nm,1.0s,comp=E,21nm,1.3s							
JIAM	**Iburiatsuma**	**2.09**	**348**		A	A	11 55 05.7	
	comp=E,19nm,0.9s,comp=E,21nm,1.0s							
JNB	**Noboribetsu**	**2.18**	**330**		A	A	11 55 07.2	
	comp=E,5.0nm,1.3s,comp=E,3.0nm,1.5s							
JBT2	**Biratori 2**	**2.20**	**357**		A	A	11 55 07.3	
	comp=E,5.0nm,3.4s,comp=E,4.0nm,1.9s							
JYM2	**Yakumo 2**	**2.22**	**315**		A	A	11 55 07.8	
	comp=E,3.0nm,0.6s,comp=E,4.0nm,0.6s							
JOFO	**Osakifurukawao**	**2.32**	**212**		A	A	11 55 08.7	
	comp=E,41nm,3.9s,comp=E,25nm,2.6s							
JEW	**Eniwo**	**2.39**	**341**		A	A	11 55 10.2	
	comp=E,11nm,1.0s,comp=E,8.0nm,4.1s							
JOB	**Onbets**	**2.53**	**23**		A	A	11 55 11.8	
	comp=E,5.0nm,4.3s,comp=E,4.0nm,1.0s							
JOG3	**Oga3**	**2.70**	**257**		A	A	11 55 06.7	
	comp=E,6.0nm,2.3s,comp=E,6.0nm,2.6s							
JISS	**Ishikarishitsu**	**2.81**	**344**		A	A	11 55 16.1	
	comp=E,6.0nm,1.9s,comp=E,6.0nm,2.5s							
JYA	**Atsumi**	**2.92**	**228**		A	A	11 55 17.4	
	comp=E,5.0nm,3.6s,comp=E,7.0nm,1.1s							
JAB	**Ashibetsu**	**2.93**	**356**		A	A	11 55 17.8	
	comp=E,5.0nm,2.3s,comp=E,7.0nm,2.2s							
JMM	**Marumori**	**3.01**	**207**			**Pn**	**11 55 18.8**	**+0.8**
JMM	**Marumori**	**3.01**	**207**		P	**Pn**	**11 55 19.5**	**+1.4**
JYS	**Shirataka**	**3.02**	**219**		A	A	11 55 18.6	
	comp=E,8.0nm,1.2s,comp=E,8.0nm,2.1s							
JYAR	**Yonezawaarcadi**	**3.23**	**215**		A	A	11 55 21.6	
	comp=E,9.0nm,1.1s,comp=E,10.0nm,1.2s							
ASAJ	**Asahikawa**	**3.54**	**1**		P	**Pn**	**11 55 25.2**	**0.0**
	8.9nm,0.3s,baz=201,slow=13,SNR=90							
ASAJ					S	**Sn**	**11 56 02.8**	**-3.0**
	71nm,0.3s,baz=178,slow=27,SNR=2.2							
ASAJ					LR	LR	11 56 37.1	
	comp=Z,219nm,18.1s,baz=196,slow=36 74nm,0.4s							
JKA	**Kamikawa-asahi**	**3.54**	**1**		Pn	**Pn**	**11 55 25.1**	**-0.1**
NMR	**Nemuro--Hokkai**	**3.69**	**40**	*e*	P	**Pn**	**11 55 25.0**	**-2.2**
NMR				*e*	S	**Sn**	**11 56 03.7**	**-5.7**
RUSJ	**Misakicho**	**4.07**	**29**	*e*	P	**Pn**	**11 55 32.6**	**+0.1**
RUSJ				*e*	S	**Sn**	**11 56 16.3**	**-2.6**
JSD	**Sado**	**4.15**	**234**		Pn	**Pn**	**11 55 35.0**	**+1.3**
JSD	**Sado**	**4.15**	**234**		P	**Pn**	**11 55 35.2**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**4.26**	**35**	⇑*i*	P	**Pn**	**11 55 34.4**	**-0.7**
YUK				*i*	S	**Sn**	**11 56 18.9**	**-4.6**
YUK					pmax	pmax		
	comp=N,159nm,0.5s							
YUK					pmax	pmax		
	comp=Z,292nm,0.5s							
YUK					pmax	pmax		
	comp=E,96nm,0.2s							
YUK					smax	smax		
	comp=N,1μm,0.3s							
YUK					smax	smax		
	comp=E,971nm,0.5s							
MAJO	**Matsushiro**	**5.25**	**221**		Pn	**Pn**	**11 55 51.0**	**+2.3**
MAJO	**Matsushiro**	**5.25**	**221**		P	**Pn**	**11 55 50.6**	**+1.9**
MAJO	**Matsushiro**	**5.25**	**221**		P	**Pn**	**11 55 51.0**	**+2.3**
MJAR	**Matsushiro Arr**	**5.25**	**221**		P	**Pn**	**11 55 50.6**	**+1.9**
	comp=E,0.5nm,0.3s,baz=34,slow=14,SNR=91							
MJAR					S	**Sn**	**11 56 50.7**	**+2.8**
	comp=E,5.8nm,0.5s,baz=230,slow=22,SNR=1.1							
MJAR					LR	LR	11 58 07.7	
	comp=E,567nm,21.7s,baz=40,slow=40 comp=E,33nm,0.7s							
KUR	**Kuril'sk**	**6.10**	**38**	*e*	P	**Pn**	**11 55 59.6**	**-0.7**
KUR				*e*	S	**Sn**	**11 57 05.4**	**-3.3**
KUR					pmax	pmax		
	comp=Z,122nm,0.6s							
KUR					pmax	pmax		
	comp=N,62nm,0.5s							
KUR					pmax	pmax		
	comp=E,60nm,0.6s							
KUR					smax	smax		
	comp=E,182nm,0.5s							
KUR					smax	smax		
	comp=N,130nm,0.4s							
TEY	**Ternei**	**6.21**	**318**	⇑*e*	P	**Pn**	**11 56 02.1**	**+0.2**
TEY					pmax	pmax		
	comp=E,20nm,0.7s							
TEY					pmax	pmax		
	comp=Z,20nm,0.7s							
YSS	**Yuzh-Sakhalins**	**6.38**	**2**		Pn	**Pn**	**11 56 02.7**	**-1.4**
YSS	**Yuzh-Sakhalins**	**6.38**	**2**	⇓*i*	P	**Pn**	**11 56 04.5**	**+0.4**
YSS				*e*	S	**Sn**	**11 57 13.8**	**-1.8**
YSS					pmax	pmax		
	comp=Z,40nm,0.8s							
YSS					MLR	MLR		
	comp=Z,500nm,17.0s							
YSS					MLR	MLR		
	comp=N,400nm,15.0s							
JGF	**Kuroka**	**6.41**	**221**		Pn	**Pn**	**11 56 07.0**	**+2.3**
JGF	**Kuroka**	**6.41**	**221**		P	**Pn**	**11 56 07.5**	**+2.8**
INU	**Inuyama**	**6.78**	**221**			**Pn**	**11 56 12.4**	**+2.6**
INU	**Inuyama**	**6.78**	**221**		P	**Pn**	**11 56 12.3**	**+2.6**
USA0B	**Ussuriysk Arra**	**8.58**	**298**			**Pn**	**11 56 37.4**	**+3.1**
USA0B	**Ussuriysk Arra**	**8.58**	**298**		P	**Pn**	**11 56 37.4**	**+3.1**
USRK	**Ussuriysk Ar.**	**8.58**	**298**		P	**Pn**	**11 56 34.9**	**+0.6**
	comp=N,1.4nm,0.3s,baz=96,slow=15,SNR=17							
USRK					LR	LR	11 59 49.5	
	comp=N,492nm,19.2s,baz=92,slow=37 comp=N,17nm,0.6s							
USRK	**Ussuriysk Ar.**	**8.58**	**298**		Pn	**Pn**	**11 56 37.0**	**+2.7**
USRK	**Ussuriysk Ar.**	**8.58**	**298**		P	**Pn**	**11 56 37.0**	**+2.7**
JMN	**Monobe**	**9.69**	**228**		Pn	**Pn**	**11 56 50.7**	**+1.0**
MDJ	**Mudanjiang**	**10.33**	**297**		Pn	**Pn**	**11 56 58.4**	**0.0**
MDJ	**Mudanjiang**	**10.33**	**297**		P	**Pn**	**11 57 02.5**	**+4.1**
MDJ					pmax	pmax		
	comp=N,25nm,1.6s							
MDJ					pmax	pmax		
	comp=N,240nm,5.0s							
MDJ					LR	LR		
	comp=N,220nm,11.7s							
MDJ					LR	LR		
	comp=N,590nm,14.0s							
MDJ					LR	LR		
	comp=N,810nm,18.5s							
KLR	**Kul'dur**	**11.52**	**322**		P	**Pn**	**11 57 14.7**	**+0.2**
	comp=N,0.3nm,0.3s,baz=135,slow=12,SNR=10							
KLR					LR	LR	12 01 56.3	
	comp=N,429nm,18.4s,baz=134,slow=39 comp=N,2.0nm,0.5s							
KSRS	**Korea Array**	**11.76**	**259**		P	**Pn**	**11 57 19.5**	**+1.6**
	comp=N,0.3nm,0.3s,baz=80,slow=14,SNR=5.2							
KSRS					S	**Sn**	**11 59 26.8**	**-0.8**
	comp=N,0.5nm,0.6s,baz=69,slow=23,SNR=1.2							
KSRS					LR	LR	12 01 33.7	
	comp=N,526nm,18.3s,baz=70,slow=36 comp=N,4.2nm,1.1s							
JNU	**Nakatsue**	**11.91**	**235**		P	**Pn**	**11 57 19.8**	**-0.2**
	comp=N,0.3nm,0.3s,baz=333,slow=9.0,SNR=3.0							
JNU					LR	LR	12 02 18.8	
	comp=N,195nm,19.8s,baz=70,slow=39 comp=N,14nm,1.1s							
BNX	**BinXian**	**12.16**	**300**	⇓	P	**Pn**	**11 57 25.0**	**+1.7**
BNX					pmax	pmax		
	comp=N,10.0nm,0.9s							
BNX					pmax	pmax		
	comp=N,140nm,5.4s							
JCJ	**Chichijima**	**13.45**	**181**		LR	LR	12 02 22.2	
	comp=N,61nm,21.6s,baz=338,slow=35							
HEH	**HeiHe**	**14.32**	**318**	*e*	P	**Pn**	**11 57 51.8**	**-0.8**
HEH					pmax	pmax		
	comp=N,5.0nm,0.5s							
HEH					LR	LR		
	comp=N,310nm,11.9s							
HEH					LR	LR		
	comp=N,360nm,12.4s							
HEH					LR	LR		
	comp=N,550nm,11.7s							
PETK	**Petropavlovsk-**	**16.24**	**34**		P	**Pn**	**11 58 17.7**	**+0.2**
	comp=N,0.1nm,0.3s,baz=228,slow=14,SNR=2.1							
PETK					LR	LR	12 04 48.0	
	comp=N,99nm,18.5s,baz=217,slow=38 comp=N,2.3nm,0.9s							
ZEA	**Zeya**	**16.71**	**327**	*e*	P	**Pn**	**11 58 20.6**	**-2.8**
ZEA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
ZEA					MLR	MLR		
	comp=Z,200nm,13.0s							
JMZ	**Minamidaito 2**	**17.46**	**216**		P	**P**	**11 58 36.0**	**+2.4**
MA2	**Magadan**	**19.72**	**13**		P	**P**	**11 58 56.0**	**-2.1**
	comp=Z,8.6nm,0.6s,baz=200,slow=9.8,SNR=13							
MA2					LR	LR	12 07 37.0	
	comp=Z,125nm,18.0s,baz=206,slow=40							
MA2	**Magadan**	**19.72**	**13**			**P**	**11 58 57.1**	**-1.0**
MA2	**Magadan**	**19.72**	**13**	*ce*	P	**P**	**11 58 57.6**	**-0.5**
MA2					pmax	pmax		
	comp=Z,9.0nm,0.6s							
BJI	**Beijing**	**20.06**	**277**		P	**P**	**11 58 59.8**	**-2.2**
BJI					pP	**pP**	**11 59 10.8**	**-2.3**
BJI					PcP	**PcP**	**12 03 16.3**	**+0.4**
BJI					pmax	pmax		
	comp=Z,5.0nm,0.9s							
BJT	**Baijiatuau**	**20.07**	**277**		P	**P**	**11 59 00.4**	**-1.7**
BJT	**Baijiatuau**	**20.07**	**277**		P	**P**	**11 59 00.4**	**-1.7**
BJT					pmax	pmax		
	comp=Z,15nm,1.0s							
TIA	**Tai'an**	**20.33**	**266**	*e*	P	**P**	**11 59 03.6**	**-1.4**
TIA					pmax	pmax		
	comp=Z,6.0nm,0.4s							
NJ2	**Nanjing**	**20.82**	**253**	*e*	P	**P**	**11 59 09.4**	**-0.9**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
HNS	**HongShan**	**21.80**	**271**	⇑	P	**P**	**11 59 19.8**	**-0.9**
HNS					pmax	pmax		
	comp=Z,20nm,0.9s							
YAK	**Yakutsk**	**22.84**	**344**		P	**P**	**11 59 29.4**	**-2.2**
	comp=Z,18nm,0.8s,baz=143,slow=4.4,SNR=13							
YAK					LR	LR	12 08 26.2	
	comp=Z,80nm,21.9s,baz=142,slow=37 comp=Z,18nm,0.8s							
YAK	**Yakutsk**	**22.84**	**344**		P	**P**	**11 59 29.4**	**-2.2**
YAK					IAmb	IAmb	11 59 31.0	
	comp=Z,28nm,0.8s							
YAK	**Yakutsk**	**22.84**	**344**	*e*	P	**P**	**11 59 29.0**	**-2.6**
YAK				*e*	*PP	**sP**	**11 59 49.1**	**+0.7**
YAK				*e*	S	**S**	**12 03 35.8**	**-1.5**
YAK					pmax	pmax		
	comp=Z,30nm,0.9s							
YAK					pmax	pmax		
	comp=N,7.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,3.0nm,0.9s							
YAK					smax	smax		
	comp=N,85nm,2.3s							
YAK					smax	smax		
	comp=E,122nm,3.3s							
SEY	**Seymchan**	**23.16**	**12**		P	**P**	**11 59 32.7**	**-2.1**
	comp=E,16nm,1.0s,baz=193,slow=8.6,SNR=22 comp=E,16nm,1.0s							
SEY	**Seymchan**	**23.16**	**12**	*ce*	P	**P**	**11 59 34.1**	**-0.7**
SEY					pmax	pmax		
	comp=Z,22nm,1.0s							
HHC	**Hu-ho-hao-te**	**23.39**	**281**	*e*	P	**P**	**11 59 34.4**	**-3.0**
HHC					pmax	pmax		
	comp=Z,28nm,0.9s							
HHC					pmax	pmax		
	comp=Z,290nm,6.5s							
HHC					LR	LR		
	comp=Z,640nm,9.8s							
HHC					LR	LR		
	comp=Z,610nm,12.7s							
BTO	**Baotou**	**24.59**	**281**	*e*	P	**P**	**11 59 46.3**	**-2.2**
BTO					LR	LR		
	comp=Z,700nm,11.3s							
BTO					LR	LR		
	comp=Z,2μm,16.2s							
BOD	**Bodaibo**	**25.09**	**323**	*e*	P	**P**	**11 59 51.9**	**-0.8**
BOD					pmax	pmax		
	comp=Z,29nm,1.0s							
ULN	**Ulaanbaatar**	**26.25**	**298**		P	**P**	**12 00 03.5**	**0.0**
ULN	**Ulaanbaatar**	**26.25**	**298**		P	**P**	**12 00 03.5**	**0.0**
ULN					pmax	pmax		
	comp=Z,5.0nm,0.7s							
SONM	**Songino Array**	**26.69**	**298**		P	**P**	**12 00 06.2**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=87,slow=8.9,SNR=13							
SONM					LR	LR	12 11 25.2	
	comp=Z,268nm,18.5s,baz=133,slow=38 comp=Z,3.0nm,0.7s							
SONM	**Songino Array**	**26.69**	**298**		P	**P**	**12 00 07.5**	**0.0**
SONM	**Songino Array**	**26.69**	**298**		P	**P**	**12 00 07.5**	**0.0**
SONM					pmax	pmax		
	comp=Z,12nm,1.6s							
GUMO	**Guam**	**26.97**	**175**		LR	LR	12 09 21.7	
	comp=Z,83nm,22.0s,baz=82,slow=33							
XAN	**Xi'an**	**27.38**	**267**		P	**P**	**12 00 12.4**	**-1.3**
XAN					sP	sP	12 00 31.3	-0.3
XAN					pmax	pmax		
	comp=Z,11nm,0.7s							
ENH	**Enshi**	**28.65**	**259**		P	**P**	**12 00 23.8**	**-1.2**
ENH					IAmb	IAmb	12 00 26.2	
	comp=Z,23nm,1.5s							
ZAK	**Zakamensk**	**28.89**	**303**	*e*	P	**P**	**12 00 26.0**	**-1.0**
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**29.44**	**128**		T	T	12 31 32.5	
	baz=318,slow=75,SNR=281							
H11N1	**WAKE ISLAND Hy**	**29.45**	**128**		T	T	12 31 30.3	
	baz=318,slow=75,SNR=168							
H11N3	**WAKE ISLAND Hy**	**29.46**	**128**		T	T	12 31 31.6	
	baz=318,slow=75,SNR=161							
H11S1	**WAKE ISLAND Hy**	**30.27**	**129**		T	T	12 32 58.3	
	baz=322,slow=76,SNR=78							
H11S3	**WAKE ISLAND Hy**	**30.27**	**130**		T	T	12 33 14.3	
	baz=322,slow=76,SNR=75							
H11S2	**WAKE ISLAND Hy**	**30.28**	**129**		T	T	12 32 59.9	
	baz=322,slow=76,SNR=80							
BILL	**Bilibino**	**30.39**	**17**		P	**P**	**12 00 39.9**	**-0.2**
BILL	**Bilibino**	**30.39**	**17**	*de*	P	**P**	**12 00 39.2**	**-0.8**
BILL				*e*			12 01 38.2	
BILL				*e*	S	**S**	**12 05 41.5**	**+4.5**
BILL					pmax	pmax		
	comp=Z,15nm,2.5s							
BILL					MLR	MLR		
	comp=Z,59nm,17.0s							
BILL	**Bilibino**	**30.39**	**17**		P	**P**	**12 00 39.8**	**-0.2**
MOY	**Mondy**	**30.43**	**305**	*e*	P	**P**	**12 00 39.9**	**-0.8**
LZH	**Lanzhou**	**30.48**	**274**	*e*	P	**P**	**12 00 41.8**	**+0.4**
LZH					pmax	pmax		
	comp=Z,12nm,1.0s							
TIXI	**Tiksi**	**31.89**	**352**		LR	LR	12 16 42.0	
	comp=Z,76nm,18.5s,baz=171,slow=42							
TIXI	**Tiksi**	**31.89**	**352**	*i*	P	**P**	**12 00 53.3**	**+0.2**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.9s							
GTA	**Gaotai**	**32.49**	**282**	*e*	P	**P**	**12 00 58.4**	**-0.5**
GTA					pP	pP	12 01 08.8	-2.5
GTA					pmax	pmax		
	comp=Z,5.0nm,0.8s							
GTA					pmax	pmax		
	comp=Z,160nm,4.4s							
GTA					LR	LR		
	comp=Z,170nm,18.5s							
GTA					LR	LR		
	comp=Z,280nm,16.9s							
GTA					LR	LR		
	comp=Z,300nm,16.7s							
CD2	**Chengdu**	**32.67**	**265**		P	**P**	**12 00 59.3**	**-1.2**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
GYA	**Guiyang**	**32.78**	**256**	⇓	P	**P**	**12 01 01.1**	**-0.5**
GYA					pmax	pmax		
	comp=Z,34nm,0.9s							
PZH	**PanZhiHua**	**36.43**	**260**		P	**P**	**12 01 32.6**	**-0.5**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PZH					pmax	pmax		
	comp=Z,120nm,4.9s							
KMI	**Kunming**	**36.45**	**257**	⇑	P	**P**	**12 01 37.3**	**+3.9**
KMI					pmax	pmax		
	comp=Z,10.0nm,0.9s							
DAV	**Davao City (W)**	**36.63**	**209**		LR	LR	12 14 23.1	
	comp=Z,39nm,19.8s,baz=26,slow=32							
GOMU	**GeErMu**	**37.27**	**279**		P	**P**	**12 01 40.1**	**-0.4**
GOMU					pmax	pmax		
	comp=Z,13nm,0.9s							
GOMU					pmax	pmax		
	comp=Z,71nm,4.9s							
DGZ	**Jazzator, Alta**	**39.10**	**302**	*i*	P	**P**	**12 01 56.2**	**+0.7**
DGZ					pmax	pmax		
	comp=Z,23nm,1.1s							
TNCH	**TengChong**	**39.66**	**261**		P	**P**	**12 02 01.0**	**+0.6**
TNCH					pP	pP	12 02 11.3	-1.6
TNCH					S	**S**	**12 07 54.3**	**-6.3**
TNCH					SS	**SS**	**12 10 45.1**	**-12**
TNCH					pmax	pmax		
	comp=Z,31nm,1.0s							
TNCH					pmax	pmax		
	comp=Z,140nm,4.9s							
TNCH					LR	LR		
	comp=Z,160nm,4.3s							
TNCH					LR	LR		
	comp=Z,150nm,5.0s							
TNCH					LR	LR		
	comp=Z,130nm,5.8s							
WMQ	**Urumqi**	**40.11**	**293**	*e*	P	**P**	**12 02 03.5**	**-0.3**
WMQ					pP	p

comp=Z,1.4nm,0.6s
KDAK Kodiak Island 43.94 44 LR LR 12 18 47.4
comp=Z,123nm,20.6s,baz=131,slow=33
KDAK Kodiak Island 43.94 44 P **P** **12 02 38.0 +3.3**
KDAK Kodiak Island 43.94 44 P **P** **12 02 38.0 +3.3**
KDAK pmax pmax
comp=Z,295nm,2.0s
KURK Kurchatov 44.49 305 P **P** **12 02 38.7 -0.5**
KURK IAmb IAmb 12 02 39.7
comp=Z,18nm,0.8s
KURK Kurchatov 44.49 305 P **P** **12 02 38.7 -0.5**
KURK pmax pmax
comp=Z,18nm,0.9s
KURK Kurchatov 44.49 305 P **P** **12 02 38.7 -0.5**
NEA2 Nenana 45.14 34 P **P** **12 02 46.4 +2.2**
NEA2 IAmb IAmb 12 03 04.4
comp=Z,5.0nm,0.6s
ILAR Eielson Array 46.07 34 P **P** **12 02 51.7 +0.1**
comp=Z,1.0nm,0.9s,baz=272,slow=5.8,SNR=9.2
comp=Z,1.0nm,0.9s
BMAR Burnt Mountain 46.84 30 P **P** **12 02 56.9 -0.7**
WUS Wushi 46.87 293 P **P** **12 02 58.6 +0.2**
SCRK Sand Creek 47.40 35 P **P** **12 03 02.3 +0.1**
SCRK IAmb IAmb 12 03 20.4
comp=Z,21nm,1.7s
TARG Taragay, Kyrgy 47.67 294 P **P** **12 03 05.1 +0.2**
TARG IAmb IAmb 12 03 08.7
comp=Z,8.4nm,0.8s
TARG Taragay, Kyrgy 47.67 294 P **P** **12 03 05.1 +0.2**
TARG pmax pmax
comp=Z,8.0nm,0.8s
BCAR Beaver Creek A 48.51 36 P **P** **12 03 11.5 +0.9**
BVAR Borovoye Array 48.87 310 LR LR 12 25 02.2
comp=Z,143nm,18.1s,baz=50,slow=38
BRVK Borovoye 48.92 310 P **P** **12 03 13.8 -0.1**
BRVK IAmb IAmb 12 03 14.8
comp=Z,9.1nm,1.1s
BRVK Borovoye 48.92 310*ce*P **P** **12 03 14.0 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 48.92 310 P **P** **12 03 13.7 -0.2**
BRVK pP **pP** **12 03 26.1 -0.5**
AAK Ala-Archa 49.62 296 LR LR 12 25 31.2
comp=Z,147nm,19.9s,baz=58,slow=38
AAK Ala-Archa 49.62 296*ce*P **P** **12 03 20.0 +0.4**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 49.62 296 P **P** **12 03 22.5 +2.9**
AAK pP **pP** **12 03 34.3 +1.8**
KSH Kashi 49.81 292 P **P** **12 03 24.9 +3.9**
KSH pP pP 12 03 36.1 +2.2
KSH pmax pmax
comp=Z,5.0nm,0.8s
PMG Port Moresby 49.92 174*ce*P **P** **12 03 23.0 +1.2**
PMG pmax pmax
comp=Z,7.0nm,1.3s
INK Inuvik 50.86 28 P **P** **12 03 28.9 +0.5**
comp=Z,1.6nm,0.7s,baz=300,slow=6.8,SNR=11
comp=Z,1.6nm,0.7s
INK Inuvik 50.86 28 P **P** **12 03 29.0 +0.7**
INK Inuvik 50.86 28 P **P** **12 03 29.0 +0.7**
INK pmax pmax
comp=Z,4.0nm,0.9s
HYT Haines Junctio 50.98 38 P **P** **12 03 30.5 +1.0**
KKAR Karatay Array 52.14 298 P **P** **12 03 37.5 -0.8**
KKAR Karatay Array 52.14 298 P **P** **12 03 37.5 -0.8**
A36M Sachs Harbour 52.66 23 P **P** **12 03 43.1 +1.4**
SVE Sverdlovsk 53.09 317 *eP* **P** **12 03 45.8 +0.7**
SVE pmax pmax
comp=Z,21nm,0.9s
C36M Paulatuk 53.87 26 P **P** **12 03 52.0 +1.4**
C36M IAmb IAmb 12 03 55.5
comp=Z,18nm,1.7s
GAR Garm 54.00 294 P **P** **12 03 52.0 -0.2**
GAR IAmb IAmb 12 03 52.1
comp=Z,7.5nm,0.9s
ARU Arti 54.30 317 LR LR 12 29 05.5
comp=Z,210nm,18.1s,baz=28,slow=38
ARU Arti 54.30 317 P **P** **12 03 53.9 -0.1**
ARU IAmb IAmb 12 03 54.8
comp=Z,9.9nm,1.0s
ARU Arti 54.30 317*c i*P **P** **12 03 54.6 +0.6**
ARU *PP **pP** **12 04 06.7 -0.2**
ARU 12 04 51.3
ARU S **S** **12 11 32.6 +4.5**
ARU SS **SS** **12 15 14.9 +5.0**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 54.30 317 P **P** **12 03 52.6 -1.3**
ARU pP **pP** **12 04 05.5 -1.5**
ARU sP **sP** **12 04 10.4 -2.0**
NIL Nilore 54.37 286 P **P** **12 03 55.9 +1.0**
NIL Nilore 54.37 286 P **P** **12 03 55.9 +1.0**
NIL pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 54.37 286 P **P** **12 03 55.6 +0.7**
NIL pP **pP** **12 04 07.4 -0.5**
CHGR Chuyangaron 54.97 294 P **P** **12 03 59.0 -0.2**
CHGR Chuyangaron 54.97 294 P **P** **12 03 59.0 -0.2**
CHGR pmax pmax
comp=Z,29nm,0.8s
ABKAR Akbulak array 56.35 309 P **P** **12 04 08.6 -0.1**
ABKAR IAmb IAmb 12 04 09.4
comp=Z,11nm,0.7s
ALE Alert 56.52 4 P **P** **12 04 09.8 +0.2**
EUNU Eureka 56.56 9 P **P** **12 04 09.9 -0.1**
EUNU IAmb IAmb 12 04 10.6
comp=Z,7.1nm,0.8s
AKTO Aktyubinsk 56.98 311 LR LR 12 28 25.0
comp=Z,95nm,20.0s,baz=40,slow=36
SPITS Spitsbergen Ar 57.22 349 LR LR 12 30 07.9
comp=Z,104nm,19.3s,baz=294,slow=37
KNRA Kunumurra 57.40 196 P **P** **12 04 17.2 +0.8**
KIRV Kirov 57.96 322*ce*P **P** **12 04 20.2 +0.2**
RES Resolute Bay 58.96 15 P **P** **12 04 26.4 -0.3**
RES IAmb IAmb 12 04 44.5
comp=Z,5.1nm,0.7s
RES Resolute Bay 58.96 15 P **P** **12 04 26.5 -0.3**
RES pmax pmax
comp=Z,5.0nm,0.7s
BBB Bella Bella 58.96 46 LR LR 12 30 14.7
comp=Z,316nm,19.1s,baz=177,slow=36
HOLB Holberg 59.67 48 P **P** **12 04 33.0 +0.9**
YKA Yellowknife Ar 60.33 31 P **P** **12 04 35.6 -0.8**
comp=Z,0.5nm,0.8s,baz=301,slow=6.7,SNR=7.2
comp=Z,0.5nm,0.8s
WB0 Warramunga Arr 60.51 189 P **P** **12 04 37.5 -0.4**
WB0 IAmb IAmb 12 05 14.2
comp=Z,21nm,1.8s
WRAB Tennant Creek 60.67 189 P **P** **12 04 38.4 -0.7**
WRAB pP **pP** **12 04 52.3 +0.1**
WR0 Warramunga Arr 60.68 189 P **P** **12 04 38.9 -0.2**
WB2 Warramunga Arr 60.68 189 P **P** **12 04 39.2 0.0**
WB2 IAmb IAmb 12 04 53.5
comp=Z,6.7nm,1.1s
WRA Warramunga Arr 60.69 189 P **P** **12 04 38.1 -1.0**
comp=Z,2.0nm,0.7s,baz=5.9,slow=7.1,SNR=18
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 60.69 189 P **P** **12 04 38.8 -0.4**
WRA Warramunga Arr 60.69 189 P **P** **12 04 38.8 -0.4**
ARCES ARCESS Array B 60.99 339 P **P** **12 04 40.0 -0.8**
comp=Z,14nm,1.1s,baz=56,slow=6.5,SNR=5.0
ARCES LR LR 12 32 38.9
comp=Z,49nm,21.6s,baz=19,slow=38
comp=Z,14nm,1.1s
ARCES ARCESS Array B 60.99 339 P **P** **12 04 40.6 -0.1**
ARCES ARCESS Array B 60.99 339 P **P** **12 04 40.6 -0.1**
ARCES pmax pmax
comp=Z,172nm,1.7s
KLMR Klimovskoe 61.23 327 *eP* **P** **12 04 39.7 -2.8**
KLMR AMP 12 04 46.7
comp=Z,31nm,1.6s
KLMR *epP **pP** **12 04 54.9 -0.7**
KLMR *ePP **PP** **12 06 53.6 -3.6**
KLMR Klimovskoe 61.23 327 *eP* **P** **12 04 39.7 -2.8**
KLMR *e*PP **pP** **12 04 54.8 -0.8**
KLMR *e* 12 06 53.6
KLMR pmax pmax
comp=Z,31nm,1.6s
BELG Belogornoye 61.81 316 LR LR 12 33 59.4
comp=Z,219nm,18.4s,baz=13,slow=38
GEYT Alibeck 62.90 298 P **P** **12 04 53.8 -0.3**
comp=Z,9.0nm,0.8s,baz=15,slow=2.3,SNR=11
GEYT LR LR 12 34 26.3
comp=Z,100nm,18.0s,baz=1.0,slow=38
comp=Z,9.0nm,0.8s
PALK Pallekele 63.98 257*ce*P **P** **12 05 02.1 +0.5**
AS31 Alice Springs 64.41 189 P **P** **12 05 04.1 +0.1**
ASAR Alice Springs 64.41 189 P **P** **12 05 03.8 -0.3**
comp=Z,1.8nm,0.8s,baz=12,slow=6.7,SNR=21
comp=Z,1.8nm,0.8s
ASAR Alice Springs 64.41 189 P **P** **12 05 04.9 +0.8**
ASAR Alice Springs 64.41 189 P **P** **12 05 04.9 +0.8**
VRH Novokhopyorsk 65.54 317 *eP* **P** **12 05 09.9 -1.2**
VRH pmax pmax
comp=Z,20nm,1.0s
OBN Obninsk 65.78 323⇑*eP* **P** **12 05 12.0 -0.6**
OBN *e* 12 05 44.2
OBN *e* 12 07 37.6
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,129nm,18.0s
FIA1 FINESS Array S 66.08 332 P **P** **12 05 14.4 0.0**
FINES FINESS Array B 66.08 332 P **P** **12 05 14.0 -0.4**
comp=Z,17nm,0.7s,baz=40,slow=9.0,SNR=59
FINES LR LR 12 36 02.8
comp=Z,142nm,18.6s,baz=27,slow=38
comp=Z,17nm,0.7s
FINES FINESS Array B 66.08 332 P **P** **12 05 14.4 +0.1**
FINES FINESS Array B 66.08 332 P **P** **12 05 14.5 +0.1**
LPSR Galich'ya Gora 66.14 320 P **P** **12 05 14.2 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
DZM Mont Dzumac 66.19 156 LR LR 12 29 46.5
comp=Z,54nm,21.5s,baz=28,slow=32
DZM Mont Dzumac 66.19 156 *e*LR LR 12 25 14.8
comp=Z,85nm,21.9s
VORR Voronezh 66.55 319 *eP* **P** **12 05 16.9 -0.7**
VORR pmax pmax
comp=Z,50nm,0.4s
MSVF Nonsavu 66.77 143 LR LR 12 28 04.6
comp=Z,67nm,21.2s,baz=8.9,slow=30
VSR Storozhevoye 66.84 318 *eP* **P** **12 05 19.1 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.5s
SUMG Summit 67.14 0 *i*P **P** **12 05 21.0 -0.5**
AFI Afiamalu 68.80 132 LR LR 12 31 25.3
comp=Z,52nm,21.8s,baz=323,slow=32
ZEI Tsey 69.22 309 *eP* **P** **12 05 33.6 -1.2**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 69.24 310 P **P** **12 05 35.2 +0.4**
KIV Kislovodsk 69.24 310 *eP* **P** **12 05 36.2 +1.4**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,56nm,17.0s
KIV Kislovodsk 69.24 310 P **P** **12 05 35.9 +1.1**
KBZ Khabaz 69.25 310 P **P** **12 05 35.4 +0.7**
comp=Z,9.6nm,0.8s,baz=33,slow=4.5,SNR=19
KBZ LR LR 12 41 35.0
comp=Z,92nm,18.0s,baz=21,slow=41
comp=Z,9.6nm,0.8s
SHA1 Shidzhatmaz 69.39 310 *i*P **P** **12 05 36.8 +0.9**
ONI Oni 69.61 309 P **P** **12 05 38.1 +1.1**
ONI IAmb IAmb 12 05 38.9
comp=Z,9.9nm,1.1s
ONI Oni 69.61 309 P **P** **12 05 38.1 +1.1**
ONI pmax pmax
comp=Z,10.0nm,1.1s
MNK Minsk 70.04 326 *i*P **P** **12 05 40.3 +0.9**
comp=E,2.0nm,0.9s
MNK *i*P **P** **12 05 40.3 +0.9**
comp=N,28nm,0.9s
MNK *i*P **P** **12 05 40.3 +0.9**
comp=Z,20nm,0.8s,baz=227
MNK *i*pP **pP** **12 05 54.5 +1.7**
MNK *i*PP **PP** **12 08 15.3 +1.1**
MNK *i*PPP PPP 12 09 57.4
MNK *i*S **S** **12 14 47.3 +1.0**
MNK *i*sS **sS** **12 15 11.6 +3.0**
MNK *i*SS **SS** **12 19 18.1 +2.7**
MNK *i*SSS SSS 12 22 36.2
MNK *i*LQ LQ 12 33 26.8
MNK *i*LR LR 12 36 32.5
MNK *i*LRM MLR 12 39 02.8
comp=E,35nm,18.6s
MNK *i*LRM MLR 12 39 02.8
comp=Z,165nm,17.8s
MNK *i*LRM MLR 12 39 22.1
comp=N,859nm,20.4s
MNK Minsk 70.04 326 *i*P **P** **12 05 40.2 +0.9**
MNK *i**PP **pP** **12 05 54.4 +1.7**
MNK *i* 12 06 02.0
MNK *i* 12 08 15.2
MNK *i*PPP PPP 12 09 57.4
MNK *i*S **S** **12 14 47.2 +1.0**
MNK *i**SS **sS** **12 15 11.6 +3.0**
MNK *i* 12 15 37.9
MNK *i*SS **SS** **12 19 18.1 +2.7**
MNK pmax pmax
comp=Z,20nm,0.9s
MNK pmax pmax
comp=N,28nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,35nm,19.0s
MNK MLR MLR
comp=Z,165nm,18.0s
MNK MLR MLR
comp=N,859nm,20.0s
NACGM Naroch 70.24 326⇑*i*P **P** **12 05 40.5 0.0**
comp=Z,34nm,0.9s,baz=47
FFC Flin Flon 70.28 34 P **P** **12 05 41.0 +0.2**
WSAR Wadi Sarin 70.79 284 LR LR 12 39 45.1
comp=Z,30nm,18.2s,baz=344,slow=38
NC405 NORSAR Array S 71.04 337 P **P** **12 05 44.4 -1.0**
NC204 NORSAR Array S 71.19 338 P **P** **12 05 46.5 +0.1**
NC204 IAmb IAmb 12 05 47.3
comp=Z,18nm,0.9s
HFS Hagfors 71.21 336 LR LR 12 44 36.8
comp=Z,52nm,18.2s,baz=33,slow=42
NB2 NORSAR Subarra 71.25 337 P **P** **12 05 46.2 -0.5**
comp=Z,15nm,1.0s,baz=39,slow=6.2
NOA NORSAR Array B 71.25 337 P **P** **12 05 46.0 -0.6**
comp=Z,5.7nm,0.8s,baz=38,slow=6.1,SNR=23
NOA LR LR 12 39 58.7
comp=Z,36nm,21.9s,baz=20,slow=38
comp=Z,5.7nm,0.8s
BOZ Bozeman (W) 71.63 45 P **P** **12 05 50.4 +1.0**
BOZ Bozeman (W) 71.63 45 P **P** **12 05 50.4 +1.0**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 72.02 322 P **P** **12 05 51.0 -0.4**
comp=Z,3.8nm,0.5s,baz=44,slow=6.4,SNR=32
AKASG LR LR 12 40 42.9
comp=Z,70nm,19.1s,baz=62,slow=38
comp=Z,3.8nm,0.5s
AKASG Malin Array Be 72.02 322 P **P** **12 05 51.3 -0.1**
AKASG Malin Array Be 72.02 322 P **P** **12 05 51.3 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,1.2s
AKBB Malin Array Si 72.02 322 P **P** **12 05 51.0 -0.4**
AKBB IAmb IAmb 12 05 51.9
comp=Z,12nm,0.8s
AKBB Malin Array Si 72.02 322 P **P** **12 05 51.0 -0.4**
AKBB pmax pmax
comp=Z,12nm,0.8s
STKA Stephens Creek 72.10 181 LR LR 12 37 27.3
comp=Z,28nm,21.3s,baz=24,slow=36
NVAR Mina Array Bea 72.22 55 P **P** **12 05 53.9 +0.8**
comp=Z,0.7nm,0.7s,baz=304,slow=6.2,SNR=4.4
comp=Z,0.7nm,0.7s
GURO Guroymak-BITLI 72.92 306 P **P** **12 05 58.6 +1.3**
GURO IAmb IAmb 12 05 59.0
comp=Z,11nm,0.8s
FRB Frobisher Bay 73.14 14 LR LR 12 41 52.2
comp=Z,97nm,18.2s,baz=288,slow=39
SORM Soroca 74.19 321⇑P **P** **12 06 04.1 -0.3**
SORM Soroca 74.19 321 P **P** **12 06 04.0 -0.3**
MARD Mardin 74.47 306 P **P** **12 06 06.8 +0.5**
PDAR Pinedale Array 74.60 47 P **P** **12 06 07.0 -0.2**
comp=Z,0.3nm,0.6s,baz=265,slow=2.5,SNR=5.2
comp=Z,0.3nm,0.6s
TLCR 76.01 318 P **P** **12 06 14.8 0.0**
TLCR 76.01 318 P **P** **12 06 14.8 0.0**
BUR08 Bucovina Ar. S 76.05 322 P **P** **12 06 15.5 +0.3**
BUR08 IAmb IAmb 12 06 16.3
comp=Z,7.5nm,0.9s
BURAR Bucovina Array 76.06 322⇑P **P** **12 06 15.6 +0.4**
BURAR Bucovina Array 76.06 322 P **P** **12 06 15.6 +0.4**
BURAR IAmb IAmb 12 06 16.7
comp=Z,6.9nm,0.9s
BURAR Bucovina Array 76.06 322 P **P** **12 06 15.6 +0.4**
SCTR Scanteiesti 76.08 319⇑P **P** **12 06 15.0 -0.2**
TESR Tescani 76.16 320⇑P **P** **12 06 15.8 +0.2**
ILGA Ilgaz 76.20 312 P **P** **12 06 16.2 -0.1**
CFR Carcaliu 76.36 318⇑P **P** **12 06 16.5 -0.3**
CFR Carcaliu 76.36 318 P **P** **12 06 16.5 -0.3**
TPGR Topolog 76.44 318⇑P **P** **12 06 17.8 +0.5**
BNN Bunyan 76.44 318 P **P** **12 06 17.0 -0.6**
STHS Stebnicka Huta 76.55 325 *eP* **P** **12 06 16.9 -1.0**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 76.55 325 *eP* **P** **12 06 16.9 -1.0**
OJC Ojcow 76.57 326 *eP* **P** **12 06 18.1 +0.2**
OJC Ojcow 76.57 326 P **P** **12 06 18.4 +0.4**
OJC IAmb IAmb 12 06 19.3
comp=Z,17nm,1.0s
OJC Ojcow 76.57 326 P **P** **12 06 18.4 +0.4**
OJC pmax pmax
comp=Z,17nm,1.0s
VRI Vrincioaia 76.58 320⇑P **P** **12 06 19.2 +1.1**
VRI Vrincioaia 76.58 320 P **P** **12 06 19.2 +1.1**
GAZ Gaziantep 76.74 308 P **P** **12 06 19.9 +0.6**
GAZ IAmb IAmb 12 06 21.2
comp=Z,12nm,0.6s
HARR Harsova 76.81 318⇑P **P** **12 06 19.8 +0.4**
HARR Harsova 76.81 318 P **P** **12 06 19.7 +0.4**
BISRR Bisoca 76.81 319 P **P** **12 06 20.2 +0.7**
TLBR Topalu 76.85 318 P **P** **12 06 19.2 -0.3**
OZUR 76.87 320⇑P **P** **12 06 21.0 +1.3**
TRPA Tarpa 76.92 323⇑P Pn 12 06 20.8 +1.8
BR131 Keskin Array S 77.14 312 P **P** **12 06 21.9 +0.4**
BR131 IAmb IAmb 12 06 22.1
comp=Z,5.1nm,0.7s
BR131 Keskin Array S 77.14 312 P **P** **12 06 21.9 +0.4**
BR131 pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 77.14 312 P **P** **12 06 21.7 +0.2**
comp=Z,3.3nm,0.7s,baz=84,slow=4.2,SNR=15
comp=Z,3.3nm,0.7s
BRTR Keskin Array B 77.14 312 P **P** **12 06 21.1 -0.4**
DOPR Dopca 77.16 320⇑P **P** **12 06 22.6 +1.2**
MLR Muntele Rosu 77.23 320 LR LR 12 41 18.4
comp=Z,124nm,18.7s,baz=34,slow=36
ICOR Ion Corvin 77.27 318⇑P **P** **12 06 23.2 +1.2**
BSEG Bad Segeberg 77.28 333 *eP* **P** **12 06 22.4 +0.6**
comp=Z,13nm,1.1s,baz=35,slow=4.5
KSP Ksiaz 77.53 328 *eP* **P** **12 06 23.7 +0.4**
VOIR 77.71 320 P **P** **12 06 25.6 +1.1**
VOIR 77.71 320⇑P Pn 12 06 25.6 +1.4
MARR Marisel-Cluj 77.72 322⇑P **P** **12 06 25.1 +0.5**
OSTC Ostas 77.79 328 *eP* **P** **12 06 25.3 +0.5**
MORC Moravsky Berou 77.85 327 P **P** **12 06 25.0 -0.1**
MORC IAmb IAmb 12 06 26.7
comp=Z,8.4nm,0.9s
MORC Moravsky Berou 77.85 327 P **P** **12 06 25.8 +0.6**
MORC Moravsky Berou 77.85 327⇑P Pn 12 06 25.9 +1.9
MORC Moravsky Berou 77.85 327 *eP* Pn 12 06 25.6 +1.6
DPC Dobruska-Polom 77.91 328 *eP* **P** **12 06 25.4 -0.1**
DPC Dobruska-Polom 77.91 328 *eP* **P** **12 06 25.4 -0.1**
KRLC Kraliky 77.93 328 *eP* **P** **12 06 26.1 +0.5**
KRLC Kraliky 77.93 328 *eP* **P** **12 06 26.1 +0.5**
ARR Arges 77.96 320⇑P **P** **12 06 27.2 +1.3**
MDUB Mudurnu 78.00 313 P **P** **12 06 26.4 +0.1**
FLTG Flechtingen 78.27 332 *eP* **P** **12 06 27.0 -0.3**
comp=Z,10nm,0.8s,baz=36,slow=4.5
VYHS Vyhne 78.29 326 *eP* **P** **12 06 28.1 +0.5**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 78.29 326 *eP* Pg 12 06 28.1 +3.1
CLL Collm 78.44 330 P **P** **12 06 28.1 -0.2**
CLL IAmb IAmb 12 06 29.1
comp=Z,7.3nm,0.9s
CLL Collm 78.44 330 *i*P **P** **12 06 28.2 -0.1**
comp=Z,8.0nm,0.9s
CLL *epP **pP** **12 06 43.0 +1.1**
CLL Collm 78.44 330 *i*P **P** **12 06 28.2 -0.1**
CLL *e**PP **pP** **12 06 43.0 +1.1**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 78.44 330 *eP* **P** **12 06 28.3 -0.1**
comp=Z,7.9nm,0.8s,baz=36,slow=4.5
JAVC Velka Javorina 78.51 326 *eP* Pg 12 06 30.1 +0.6
RETH Rethem/Aller, 78.59 333 *eP* **P** **12 06 29.3 +0.2**
comp=Z,9.5nm,0.9s,baz=36,slow=4.5
VRAC Vranov 78.61 327 LR LR 12 44 10.9
comp=Z,98nm,18.4s,baz=3.0,slow=38
VRAC Vranov 78.61 327 P **P** **12 06 29.6 +0.3**
VRAC Vranov 78.61 327⇑P Pg 12 06 29.7 +2.3
VRAC Vranov 78.61 327 *eP* Pg 12 06 29.8 +2.2
FBE Freiberg 78.62 330 *eP* **P** **12 06 30.0 +0.6**
comp=Z,6.3nm,0.9s,baz=36,slow=4.5
SIRR Siria 78.71 323⇑P Pg 12 06 30.5 +0.5
GZR Gura Zlata 78.83 321⇑P **P** **12 06 30.8 +0.1**
GZR Gura Zlata 78.83 321 P **P** **12 06 30.7 +0.1**
GOPC GO Pecny, Ondr 78.86 329 *eP* **P** **12 06 31.5 +0.8**
GOPC GO Pecny, Ondr 78.86 329 *eP* **P** **12 06 31.5 +0.8**
SURR Surduc 78.87 322⇑P Pg 12 06 31.0 +0.2
KRUC Moravsky 78.88 327 *eP* Pb 12 06 31.1 +2.6
PRU Pruhonice 78.90 329 *eP* **P** **12 06 31.6 +0.7**
PRU Pruhonice 78.90 329 *eP* **P** **12 06 31.6 +0.7**
CLZ Clausthal 78.98 332 *eP* **P** **12 06 31.4 0.0**
comp=Z,9.5nm,0.9s,baz=36,slow=4.5
NEUB Neuenburg 78.98 331 *eP* **P** **12 06 31.4 +0.1**
baz=36,slow=4.5
SRO Srobarova 79.03 325 *eP* **P** **12 06 32.6 +0.9**
SRO Srobarova 79.04 325 *eP* Pg 12 06 32.5 +1.0
MODS Modra-Piesok 79.05 326 *eP* **P** **12 06 32.8 +1.0**
MODS Modra-Piesok 79.05 326 *eP* Pg 12 06 32.8 +0.1
PLVB Pleven 79.41 319⇑P Pn 12 06 34.3 +2.6
IBBN Ibbenburen 79.50 334 *eP* **P** **12 06 34.1 +0.1**
comp=Z,9.0nm,0.9s,baz=36,slow=4.5
MDVR Moldovita 79.79 322⇑P Pg 12 06 35.9 +3.1
CKRC Cesky Krumlov 79.92 328 *eP* **P** **12 06 36.9 +0.4**
KHC Kasperske Hory 79.96 329 *eP* **P** **12 06 37.3 +0.5**
KHC *ex* x 12 06 58.4
KHC Kasperske Hory 79.96 329 *eP* **P** **12 06 37.3 +0.5**
KHC *e* 12 06 58.4
RONA Rosalia, Austr 79.98 326 *i*P **P** **12 06 38.0 +1.0**
comp=Z,16nm,1.4s,SNR=5.4
ROTZ Rotzenmuhle 79.99 330 *eP* **P** **12 06 37.2 +0.4**
comp=Z,4.4nm,1.8s,baz=36,slow=4.5
CONA Conrad Observa 79.99 327 *eP* **P** **12 06 37.9 +0.9**
comp=Z,5.4nm,1.0s,SNR=4.9
RAYN Ar Rayn 80.09 292 P **P** **12 06 36.7 -1.2**
RAYN IAmb IAmb 12 06 38.6
comp=Z,15nm,1.6s
RAYN Ar Rayn 80.09 292 P **P** **12 06 37.8 -0.1**
MORH Mrgy, Hungar 80.12 324⇑P **P** **12 06 37.3 -0.2**
GEC2 GERESS Array S 80.14 328 *eP* **P** **12 06 37.9 0.0**
comp=Z,4.4nm,0.9s,baz=36,slow=4.5
GERES GERESS Array B 80.14 328 *eP* **P** **12 06 37.9 0.0**
comp=Z,2.0nm,0.8s,baz=27,slow=4.5,SNR=12
comp=Z,2.0nm,0.8s
GERES GERESS Array B 80.14 328 P **P** **12 06 37.5 -0.3**
KASTN Kahler Asten 80.19 333 *eP* **P** **12 06 38.0 +0.1**
comp=Z,8.0nm,1.1s,baz=36,slow=4.5
GRA1 Grafenberg Arr 80.42 330 P **P** **12 06 39.3 +0.1**
GRA1 IAmb IAmb 12 06 40.8
comp=Z,11nm,0.9s
GRF Grafenberg Arr 80.42 330 P **P** **12 06 39.3 +0.1**
GRF pmax pmax
comp=Z,11nm,0.9s
GRF Grafenberg Arr 80.42 330 *eP* **P** **12 06 39.3 +0.1**
comp=Z,19nm,1.1s,baz=36,slow=4.5
GRFO Grafenberg 80.42 330 P **P** **12 06 39.0 -0.2**
GRFO Grafenberg 80.42 330 P **P** **12 06 39.0 -0.2**
GRFO pmax pmax
comp=Z,47nm,1.8s
RDO Rodhopi 80.56 317 P **P** **12 06 40.1 0.0**
RDO IAmb IAmb 12 06 41.6
comp=Z,16nm,0.9s
VTS Vitosha 80.66 319 P **P** **12 06 40.7 -0.1**
VTS IAmb IAmb 12 06 42.4
comp=Z,7.5nm,0.7s
VTS Vitosha 80.66 319 P **P** **12 06 40.7 -0.1**
VTS pmax pmax
comp=Z,7.0nm,0.7s
MOA Molln 80.71 328 *i*P **P** **12 06 41.2 +0.4**
comp=Z,8.5nm,2.0s
BIOA Bad Ischl, Aus 81.09 328 *i*P **P** **12 06 43.3 +0.4**

	comp=Z,4.4nm,0.6s							
SOKA	**Soboth**	**81.32**	**326**	*i* P		**P**	**12 06 44.4**	**+0.3**
	comp=Z,10nm,0.8s							
RJOB	**Jochberg**	**81.39**	**328**	*e*P		**P**	**12 06 45.1**	**+0.7**
	comp=Z,9.0nm,1.0s,baz=36,slow=4.5							
RAR	**Rarotonga**	**81.58**	**127**	LR		LR	12 36 05.8	
	comp=Z,57nm,21.0s,baz=235,slow=30							
OBKA	**Obir**	**81.66**	**327**	*e*P		**P**	**12 06 45.7**	**-0.3**
	comp=Z,5.8nm,0.7s,SNR=4.2							
KBA	**Koelnbreinsper**	**81.70**	**328**	*i* P		**P**	**12 06 46.3**	**+0.1**
	comp=Z,7.1nm,0.8s							
SCHQ	**Schefferville**	**81.70**	**17**	P		**P**	**12 06 45.7**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=17,slow=14,SNR=2.1							
	comp=Z,1.9nm,0.8s							
BCLA	**Clavier**	**81.92**	**334**	*d*P		**P**	**12 06 46.6**	**-0.5**
MYKA	**Terra Mystica**	**81.94**	**327**	*i* P		**P**	**12 06 47.0**	**-0.4**
	comp=Z,5.2nm,0.9s							
BMRD	**Maredsous**	**82.20**	**334**	*d*P		**P**	**12 06 47.5**	**-1.1**
	comp=Z,3.9nm,0.9s							
WTTA	**Wattenberg**	**82.24**	**329**	*i* P		**P**	**12 06 49.5**	**+0.4**
	comp=Z,5.5nm,0.7s							
MOTA	**Moosalm**	**82.38**	**329**	*e*P		**P**	**12 06 50.1**	**+0.3**
	comp=Z,12nm,0.9s,SNR=7.1							
RETA	**Reutte**	**82.40**	**329**	*e*P		**P**	**12 06 50.1**	**+0.4**
	comp=Z,9.4nm,0.9s,SNR=6.0							
SQTA	**Sankt Quirin**	**82.44**	**329**	*i* P		**P**	**12 06 50.3**	**+0.2**
	comp=Z,3.2nm,0.7s							
BFO	**Black Forest**	**82.62**	**331**	*e*P		**P**	**12 06 50.9**	**+0.1**
	comp=Z,13nm,1.3s,baz=36,slow=4.5							
PDG	**Podgorica**	**82.74**	**321**	⇑P		**P**	**12 06 51.7**	**+0.2**
FETA	**Feichten**	**82.79**	**329**	*e*P		**P**	**12 06 52.2**	**+0.2**
	comp=Z,7.5nm,1.0s,SNR=5.2							
DAVA	**Damuels**	**82.91**	**330**	*i* P		**P**	**12 06 52.6**	**+0.1**
	comp=Z,10nm,1.1s							
EIL	**Elat**	**83.15**	**303**	LR		LR	12 48 49.1	
	comp=Z,21nm,19.1s,baz=240,slow=39							
PPT	**Papeete**	**85.49**	**118**	LR		LR	12 39 35.2	
	comp=Z,92nm,20.3s,baz=224,slow=32							
PPT2	**Papeete2**	**85.50**	**118**	*e*LR		LR	12 34 11.7	
	comp=Z,128nm,27.8s							
PPT2				*e*LR		LR	12 34 11.8	
	comp=Z,142nm,23.5s							
TAOE	**Nuku Hiva Isla**	**86.23**	**105**	*e*LR		LR	12 34 31.7	
	comp=Z,211nm,23.6s							
TXAR	**Lajitas Array**	**87.30**	**53**	P		**P**	**12 07 14.9**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=254,slow=2.8,SNR=4.7							
	comp=Z,0.4nm,0.8s							
RPZ	**Rata Peaks**	**87.77**	**160**	LR		LR	12 41 46.5	
	comp=Z,48nm,21.8s,baz=348,slow=32							
TBI	**Tubuai**	**89.63**	**122**	*e*T		T	13 46 57.4	
	comp=Z,5.0nm,0.3s							
ESDC	**Sonseca Array**	**94.47**	**335**	P		**P**	**12 07 47.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=27,slow=4.2,SNR=5.0							
	comp=Z,0.8nm,0.7s							
H03N2	**Juan Fernandez**	**146.40**	**91**	T		T	14 59 14.1	
	baz=300,slow=77,SNR=7.9							
H03N3	**Juan Fernandez**	**146.41**	**91**	T		T	14 59 16.9	
	baz=300,slow=77,SNR=8.5							
H03N1	**Juan Fernandez**	**146.41**	**91**	T		T	14 59 19.6	
	baz=300,slow=77,SNR=10							

ROM 21 12:04:15.2±0.1, 42°.534N±0°.004×13°.310E±0°.006, h12km, ML1.3/1, 3D, Error ellipse: s-maj=0.4km s-min=0.4km az=332.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.07**	**89**	P	Pg	12 04 18.1	+0.3
CAMP				S	Sg	12 04 19.9	+0.1
RM33	**Pellescritta (**	**0.07**	**250**	P	Pg	12 04 18.2	+0.4
RM33				S	Sg	12 04 20.1	+0.3
RM33				AML	AML		
	comp=E,216μm,0.1s						
RM33				AML	AML		
	comp=N,301μm,0.2s						
RM33				AML	AML		
	comp=E,216μm,0.1s						
T1202	**Accumoli, Fraz**	**0.18**	**340**	⇓P	Pg	12 04 19.9	+0.6
T1202				S	Sg	12 04 23.3	+1.1
T1218	**Civita (PG)**	**0.20**	**313**	⇓P	Pg	12 04 19.9	+0.3
T1218				S	Sg	12 04 23.2	+0.6
LNSS	**Leonessa**	**0.21**	**289**	⇓P	Pg	12 04 20.3	+0.5
LNSS				S	Sg	12 04 23.9	+1.0
T1222	**Castel Sant'An**	**0.24**	**237**	P	Pg	12 04 20.7	+0.5
T1222				S	Sg	12 04 24.7	+1.1
T1212	**Cascia, Frazio**	**0.29**	**318**	P	Pg	12 04 21.4	+0.2
T1212				S	Sg	12 04 26.1	+0.9
T1217	**Poggiodomo (PG**	**0.33**	**303**	P	Pg	12 04 22.2	+0.3
T1215	**Vallo di Nera,**	**0.42**	**310**	P	Pg	12 04 23.5	0.0
T1215				AML	AML		
	comp=E,98μm,1.3s						
T1215				AML	AML		
	comp=N,145μm,0.1s						
T1215				AML	AML		
	comp=E,98μm,1.3s						
T1215				AML	AML		
	comp=N,145μm,0.1s						
T1215				AML	AML		
	comp=E,98μm,0.7s						
FDMO	**Fiordimonte**	**0.53**	**342**	AML	AML		
	comp=E,132μm,0.3s						
FDMO				AML	AML		
	comp=N,160μm,0.2s						

ROM 21 12:04:34.1±0.1, 42°.919N±0°.002×13°.065E±0°.005, h9km, ML1.4/3, 1C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=93.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1216	**Preci, Frazion**	**0.04**	**230**	P	Pg	12 04 36.3	+0.3
T1216				S	Sg	12 04 37.7	+0.4
T1216				AML	AML		
	comp=E,1196μm,0.1s						
T1216				AML	AML		
	comp=N,988μm,0.3s						
T1216				AML	AML		
	comp=E,1197μm,0.1s						
T1216				AML	AML		
	comp=N,984μm,0.3s						
MC2	**Monte Cornacci**	**0.09**	**94**	P	Pg	12 04 37.1	+0.4
CESI	**CESI - Serrava**	**0.15**	**306**	P	Pg	12 04 37.9	+0.5
CESI				S	Sg	12 04 40.6	+1.0
CESI				AML	AML		
	comp=E,196μm,0.2s						
CESI				AML	AML		
	comp=N,344μm,0.1s						
CESI				AML	AML		
	comp=E,196μm,1.8s						
T1212	**Cascia, Frazio**	**0.17**	**185**	P	Pg	12 04 38.4	+0.6
T1212				S	Sg	12 04 41.3	+1.1
T1215	**Vallo di Nera,**	**0.19**	**231**	⇑P	Pg	12 04 38.6	+0.6
T1215				S	Sg	12 04 41.8	+1.1
T1220	**Camerino, Fraz**	**0.19**	**5**	P	Pg	12 04 38.7	+0.5
T1220				S	Sg	12 04 42.1	+1.2
T1220				AML	AML		
	comp=E,218μm,1.3s						
T1220				AML	AML		
	comp=N,215μm,0.4s						
T1220				AML	AML		
	comp=N,214μm,0.4s						
T1220				AML	AML		
	comp=N,214μm,1.6s						
T1220				AML	AML		
	comp=E,219μm,1.3s						
T1217	**Poggiodomo (PG**	**0.23**	**205**	⇓P	Pg	12 04 39.4	+0.6
T1202	**Accumoli, Fraz**	**0.24**	**151**	P	Pg	12 04 36.4	-2.7
ASSB	**Assisi San Ben**	**0.32**	**293**	P	Pg	12 04 40.9	+0.4
ASSB				AML	AML		
	comp=N,76μm,0.2s						
ASSB				AML	AML		
	comp=E,59μm,1.4s						
EL6	**Elcito**	**0.41**	**4**	S	Sb	12 04 49.6	-0.4

*NEIC **21** 12:12:19.7±1.4, 22°.5N±0°.1×144°.0E±0°.2, h82km±13km, mb4.3/8, Error ellipse: s-maj=27.7km s-min=15.6km az=74.0*
*IDC **21** 12:12:20.1±3.3, 22°.45N×143°.86E, h87km±27km, mb3.6/8, mbtmp4.0/10, Error ellipse: s-maj=56.6km s-min=16.6km az=79.0*
*JMA **21** 12:12:22.0±0.3, 23°N±2°×14°4E±°, h142km, IOTO ISLANDS REGION*

ISC 21 12:12:21.8±1.1, 22°.82N±0°.08×144°.1E±0°.2, h100km, n34, σ2§41/30, mb4.1/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.18**	**336**	*e*P	**Pn**	**12 13 24.6**	**+1.2**
JHH2				*e*S	**Sn**	**12 14 12.3**	**+1.2**
JCJ	**Chichijima**	**4.59**	**338**	P	**Pn**	**12 13 32.1**	**+3.2**
	59nm,0.3s,baz=299,slow=23,SNR=1.3						
JCJ				S	**Sn**	**12 14 26.3**	**+5.0**
	353nm,0.4s,baz=316,slow=22,SNR=9.2						
JCJ	**Chichijima**	**4.59**	**338**	Pn	**Pn**	**12 13 30.6**	**+1.6**
JMZ	**Minamidaito 2**	**12.11**	**287**	Pn	**Pn**	**12 15 08.4**	**-2.5**
JMZ	**Minamidaito 2**	**12.11**	**287**	*e*P	**Pn**	**12 15 12.1**	**+1.2**
JOD2	**Odawara 2**	**13.14**	**342**	*e*P	**Pn**	**12 15 24.4**	**-0.1**
JHU	**Hanno**	**13.64**	**343**	*e*S	**Sn**	**12 17 55.7**	**-5.5**
JRY	**Ryogami san**	**13.90**	**342**	*e*P	**Pn**	**12 15 35.5**	**+1.1**
JHO	**Hitachi**	**14.08**	**348**	*e*S	**Sn**	**12 18 07.2**	**-4.4**
JAG	**Ashikaga**	**14.14**	**345**	*e*P	**Pn**	**12 15 35.6**	**-1.9**
JAG				*e*S	**Sn**	**12 18 08.1**	**-5.1**
MJAR	**Matsushiro Arr**	**14.59**	**341**	P	**P**	**12 15 45.1**	**-1.9**
	1.0nm,0.5s,baz=166,slow=11,SNR=1.2						
JMM	**Marumori**	**15.26**	**350**		**P**	**12 15 54.4**	**+0.1**
KSRS	**Korea Array**	**20.16**	**320**	P	Pn	12 16 54.0	+3.1
	3.4nm,0.7s,baz=148,slow=8.9,SNR=12						
SSLB	**Suanglung**	**21.27**	**277**	P	**P**	**12 16 59.6**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**21.57**	**97**	T	T	12 39 42.3	
	baz=283						
H11S1	**WAKE ISLAND Hy**	**21.58**	**97**	T	T	12 39 47.5	
	baz=283						
H11S2	**WAKE ISLAND Hy**	**21.59**	**97**	T	T	12 39 46.4	
	baz=283						
USRK	**Ussuriysk Ar.**	**23.54**	**338**	P	**P**	**12 17 26.3**	**+3.3**
	2.5nm,0.8s,baz=149,slow=8.4,SNR=1.7						
	2.5nm,0.8s						
KLR	**Kul'dur**	**28.11**	**343**	P	**P**	**12 18 05.9**	**+1.9**
	1.1nm,0.4s,baz=163,slow=11,SNR=7.7						
	1.1nm,0.4s						
SONM	**Songino Array**	**39.03**	**319**	P	**P**	**12 19 39.6**	**+0.9**
	0.5nm,0.4s,baz=128,slow=8.1,SNR=6.8						
	0.5nm,0.4s						
SONM	**Songino Array**	**39.03**	**319**	P	**P**	**12 19 39.4**	**+0.7**
WB2	**Warramunga Arr**	**43.55**	**193**	P	P	12 20 11.6	-4.2
WB2				IAmb	IAmb	12 20 43.3	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**43.55**	**193**	P	P	12 20 11.4	-4.5
	comp=Z,0.6nm,0.6s,baz=14,slow=8.8,SNR=8.1						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**43.55**	**193**	P	P	12 20 12.3	-3.6
ASAR	**Alice Springs**	**47.26**	**193**	P	P	12 20 42.0	-3.1
	comp=Z,0.2nm,0.5s,baz=13,slow=8.6,SNR=5.2						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**47.26**	**193**	P	**P**	**12 20 42.7**	**-2.4**
ZALV	**Zalesovo Beam**	**53.86**	**321**	P	**P**	**12 21 35.0**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=98,slow=6.2,SNR=4.2						
	comp=Z,0.6nm,0.3s						
MK31	**Makanchi Array**	**54.57**	**312**	P	**P**	**12 21 40.5**	**+0.8**
MK31				IAmb	IAmb	12 21 41.3	
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**54.57**	**312**	P	**P**	**12 21 40.5**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=89,slow=9.0,SNR=42						
MKAR				PcP	**PcP**	**12 22 41.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=90,slow=4.3,SNR=1.4						
	comp=Z,1.9nm,0.5s						
MAKZ	**Makanchi**	**54.78**	**312**	P	**P**	**12 21 42.2**	**+1.0**
MAKZ				IAmb	IAmb	12 21 43.0	
	comp=Z,2.9nm,0.8s						
KURK	**Kurchatov**	**57.23**	**317**	P	**P**	**12 21 59.1**	**+0.5**
KURK				IAmb	IAmb	12 22 00.2	
	comp=Z,2.1nm,0.8s						
ABKAR	**Akbulak array**	**69.33**	**316**	P	**P**	**12 23 18.6**	**+0.1**
FINES	**FINESS Array B**	**82.53**	**335**	P	**P**	**12 24 33.6**	**+0.4**
	comp=Z,4.0nm,1.0s,baz=74,slow=5.9,SNR=9.6						
	comp=Z,4.0nm,1.0s						
PLCA	**Paso Flores**	**145.84**	**130**	PKPbc	**PKPdf**	**12 31 49.2**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=256,slow=4.2,SNR=4.9						

ROM 21 12:30:01.8±0.1, 42°.531N±0°.004×13°.285E±0°.009, h12km, ML0.9/2, Error ellipse: s-maj=0.6km s-min=0.5km az=118.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.06**	**247**	P	Pg	12 30 04.5	+0.2
RM33				S	Sg	12 30 06.3	+0.2
RM33				AML	AML		
	comp=N,73μm,1.5s						
RM33				AML	AML		
	comp=E,76μm,0.6s						
LNSS	**Leonessa**	**0.19**	**292**	P	Pg	12 30 06.5	+0.4
LNSS				S	Sg	12 30 10.2	+1.1
T1222	**Castel Sant'An**	**0.23**	**235**	P	Pg	12 30 06.9	+0.3
T1222				S	Sg	12 30 10.9	+1.1
T1212	**Cascia, Frazio**	**0.28**	**321**	P	Pg	12 30 08.0	+0.4
T1212				S	Sg	12 30 12.4	+0.8
T1212				AML	AML		
	comp=E,55μm,1.6s						
T1212				AML	AML		
	comp=N,70μm,1.6s						
T1212				AML	AML		
	comp=E,55μm,0.4s						
T1212				AML	AML		
	comp=N,70μm,0.4s						
T1211	**Morro Reatino**	**0.32**	**270**	P	Pb	12 30 08.8	-0.6
T1211				S	Sg	12 30 13.4	+0.9

IDC 21 12:30:11.0±3.0, 42°.14N×129°.45E, h0km, mbtmp2.6/1, ML2.2/1, Error ellipse: s-maj=50.0km s-min=15.6km az=119.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**2.76**	**41**	I	I	12 46 10.0	
	baz=222,slow=326,SNR=2.4						
USRK	**Ussuriysk Ar.**	**2.77**	**41**	Pg	Pb	12 31 01.2	-0.2
	0.7nm,0.3s,baz=223,slow=14,SNR=14						
USRK				Lg	Lg	12 31 39.2	
	1.0nm,0.3s,baz=239,slow=26,SNR=8.8						
KSRS	**Korea Array**	**4.83**	**195**	Pn	Pn	12 31 25.7	+0.8
	0.1nm,0.3s,baz=11,slow=13,SNR=1.5						
KSRS				Lg	Lg	12 32 44.5	
	0.1nm,0.3s,baz=12,slow=25,SNR=2.5						
	0.6nm,0.5s						

IDC 21 12:30:26.3±4.2, 7°.01S×133°.46E, h0km, mb3.3/1, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=244.2km s-min=29.7km az=78.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.48**	**340**	Pn	Pn	12 32 03.1	+0.1
	1.1nm,0.3s,baz=233,slow=23,SNR=2.1						
SIJI				Sn	Sn	12 33 07.9	-10
	0.2nm,0.3s,baz=194,slow=22,SNR=1.1						
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**12.88**	**176**	Pn	Pn	12 33 30.7	-0.1
	baz=353,slow=13,SNR=1.6						
WRA				Sn	Sn	12 35 52.4	-2.6
	0.3nm,0.3s,baz=82,slow=13,SNR=6.1						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**16.56**	**179**	Pn	Pn	12 34 20.3	+0.2
	baz=12,slow=13,SNR=4.4						
ASAR				Sn	Sn	12 37 16.8	-8.1
	0.1nm,0.3s,baz=1.1,slow=26,SNR=4.0						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**70.15**	**325**	P	P	12 41 40.8	0.0
	0.2nm,0.7s,baz=112,slow=6.8,SNR=2.4						
	0.2nm,0.7s						

*LJU **21** 12:30:37.3±0.4, 46°.46N×13°.40E, h11km±1km, ML1.1*
VIE 21 12:30:37.5, 46°.47N×13°.38E, h9km, mb0.9/2, ml1.3/4, 2C-2D 7 km SE of Pontebba, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSR	**Lussari**	**0.10**	**85**	⇑*e*Pg	Pg	12 30 39.9	-0.2
LSR				*e*Sg	Sg	12 30 41.9	-0.2
ACOM	**Acomizza, Ital**	**0.12**	**48**	⇓*e*Pg	Pg	12 30 40.5	+0.1
ACOM				*e*Sg	Sg	12 30 42.8	+0.3
PLRO	**Paularo**	**0.18**	**297**	*e*Pg	Pg	12 30 41.8	+0.4
PLRO				*e*Sg	Sg	12 30 44.9	+0.9
VINO	**Villanova**	**0.22**	**198**	⇓*e*Pg	Pg	12 30 41.9	-0.1
VINO				*e*Sg	Sg	12 30 45.5	+0.4

ROBS	**Robic**	**0.24**	**158**	*i* Pg		Pg	12 30 41.9	-0.4
ROBS				*i* Sg		Sg	12 30 45.7	+0.1
ROBS				IAML			12 30 46.1	
	comp=Z,15nm,0.1s							
BOO	**Bordano**	**0.24**	**233**	*e*Pg		Pg	12 30 42.5	+0.1
MYKA	**Terra Mystica**	**0.24**	**48**	*i* Pg		Pg	12 30 42.7	+0.3
	comp=Z,2.1nm,0.1s							
MYKA				*e*Sg		Sg	12 30 46.4	+0.6
	comp=Z,9.6nm,0.1s							
BAD	**Bernadia**	**0.25**	**202**	*e*Pg		Pg	12 30 42.4	-0.1
FUSE	**Fusea**	**0.27**	**259**	*e*Pg		Pg	12 30 43.6	+0.7
FUSE				*e*Sg		Sb	12 30 47.9	-1.3
ZOU	**Zoufplan**	**0.29**	**288**	⇑*e*Pg		Pg	12 30 43.9	+0.4
ZOU				*e*Sg		Sg	12 30 48.8	+1.4
COLI	**Coloredo**	**0.33**	**180**	*e*Pg		Pg	12 30 44.0	0.0
CADS	**Cadrg**	**0.34**	**134**	*i* Pg		Pg	12 30 43.9	-0.4
CADS				*i* Sg		Sg	12 30 49.0	+0.2
CADS				IAML			12 30 50.3	
	comp=Z,18nm,0.1s							
CLUD	**Cludinico**	**0.34**	**269**	*e*Pg		Pg	12 30 44.5	+0.2
CLUD				*e*Sg		Sb	12 30 50.3	-1.1
DRE	**Drenchia**	**0.34**	**148**	*e*Pg		Pg	12 30 44.1	-0.2
MPRI	**Monte Prat**	**0.35**	**230**	*e*Pg		Pg	12 30 44.7	+0.2
MPRI				*e*Sg		Sg	12 30 50.0	+0.8
GORS	**Gorjuse**	**0.45**	**109**	*i* Pg		Pg	12 30 46.0	-0.3
GORS				*i* Sg		Sg	12 30 52.9	+0.6
GORS				IAML			12 30 54.9	
	comp=Z,6.7nm,0.1s							
SABO	**M.te Sabotino**	**0.51**	**163**	*e*Pg		Pg	12 30 47.3	0.0
VOJS	**Vojsko**	**0.56**	**141**	*i* Pg		Pg	12 30 48.0	-0.3
VOJS				*e*Sg		Sg	12 30 56.5	+0.9
VOJS				IAML			12 30 57.2	
	comp=Z,4.3nm,0.2s							
KBA	**Koelnbreinsper**	**0.61**	**358**	*e*Pg		Pg	12 30 49.8	+0.4
	comp=Z,0.4nm,0.1s							
KBA				*e*Sg		Sg	12 30 58.2	+0.8
	comp=Z,0.6nm,0.1s							
ABTA	**Abfaltersbach**	**0.66**	**295**	*e*Pg		Pg	12 30 50.4	+0.1
	comp=Z,0.3nm,0.1s							
ABTA				*e*Sg		Sg	12 30 59.4	+0.4
	comp=Z,1.2nm,0.2s							
OBKA	**Obir**	**0.81**	**87**	*e*Pg		Pg	12 30 53.4	+0.3
	comp=Z,0.8nm,0.1s							
OBKA				*e*Sg		Sg	12 31 04.0	+0.4
	comp=Z,6.2nm,0.4s							

AAE 21 12:31:48.3±9.7, 9°.80N×41°.66E, h0km±81km, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKE	**Ethiopia-Afar**	**1.91**	**264**	*e*P	Pn	12 32 18.7	-3.7
ANKE				*e*S	Sn	12 32 44.6	-2.7
ANKE	**Ethiopia-Afar**	**1.91**	**264**	*e*P	Pn	12 32 22.5	+0.1
ANKE				*e*S	Sn	12 32 46.9	-0.4
ATD	**Arta Tunnel**	**2.08**	**34**	*e*P	Pn	12 32 22.9	-1.6
ATD				*e*S	Sg	12 32 56.3	+1.1
AAE	**Adis Abeba**	**2.95**	**255**	*e*P	Pn	12 32 34.7	-2.0
AAE				*e*S	Sn	12 33 15.6	+2.5
AAE	**Adis Abeba**	**2.95**	**255**	*e*P	Pn	12 32 36.6	-0.2
AAE				*e*S	Sb	12 33 16.5	-2.3
AAE				IAML		12 33 21.9	
	comp=N,658nm,0.6s						
FURI	**Furi**	**3.07**	**253**	*e*P	Pb	12 32 41.6	-2.5
FURI				*e*S	Sb	12 33 20.6	-1.7
FURI	**Furi**	**3.07**	**253**	*e*P	Pn	12 32 40.6	+2.2
FURI				*e*S	Sb	12 33 19.5	-2.7
FURI				IAML		12 33 28.8	
	comp=N,190nm,0.4s						
DILA	**Dilla**	**4.72**	**225**	*e*P	Pn	12 32 54.9	-6.2

IDC 21 12:48:53.5±1.2, 0°.38N×124°.80E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=145.0km s-min=20.2km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.26**	**156**	P	P	12 53 51.5	-0.7
	2.4nm,0.4s,baz=333,slow=11,SNR=32						
	2.4nm,0.4s						
ASAR	**Alice Springs**	**25.49**	**160**	P	P	12 54 24.2	+0.6
	0.6nm,0.4s,baz=346,slow=10,SNR=21						
	0.6nm,0.4s						
SONM	**Songino Array**	**49.89**	**344**	P	P	12 57 48.6	-0.3
	0.3nm,0.5s,baz=148,slow=8.5,SNR=4.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.25**	**327**	P	P	12 58 57.0	+0.3
	1.2nm,0.9s,baz=123,slow=8.5,SNR=12						
MKAR				PcP	PcP	12 59 44.3	-0.8
	0.6nm,0.9s,baz=112,slow=3.1,SNR=2.3						
	1.2nm,0.9s						

*JMA **21** 13:13:02.8±0.0, 36°.82N±0°.09×140°.6E±0°.2, h5km, MV2.6/20, NORTHERN IBARAKI PREF*
*IDC **21** 13:13:03.5±2.3, 36°.54N×140°.49E, h0km, mb3.1/2, mbtmp3.1/2, MS3.1/1, Error ellipse: s-maj=31.9km s-min=19.4km az=14.0*
ISC 21 13:13:02.9±1.2, 36°.81N±0°.03×140°.59E±0°.04, h3km±11km, n12, σ0§49/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.20**	**184**	P	**Pg**	**13 13 06.9**	**+0.1**
JHO				S	**Sg**	**13 13 09.8**	**+0.4**
JFFD	**Fukushimafurud**	**0.28**	**356**	P	**Pg**	**13 13 08.3**	**-0.1**
JFFD				S	**Sg**	**13 13 11.9**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.34**	**30**	P	**Pg**	**13 13 09.4**	**0.0**
ONAJ				*e*S	**Sg**	**13 13 14.1**	**+0.3**
JSB	**Shiboa**	**0.56**	**286**	P	**Pg**	**13 13 14.2**	**+0.6**
JFK	**Kawauchi**	**0.60**	**22**	P	**Pg**	**13 13 14.0**	**-0.4**
JFK				S	**Sg**	**13 13 22.1**	**-0.1**
JYT	**Yasato**	**0.66**	**209**	*i* P	**Pg**	**13 13 15.4**	**-0.3**
JYT				S	**Sg**	**13 13 24.5**	**+0.3**
JFY	**Yanaizu**	**0.92**	**310**	P	**Pg**	**13 13 20.4**	**-0.2**
JFY				S	**Sg**	**13 13 32.4**	**-0.1**
JAG	**Ashikaga**	**0.99**	**247**	*i* P	**Pg**	**13 13 20.9**	**-1.0**
JAG				S	**Sg**	**13 13 34.9**	**+0.2**
MJAR	**Matsushiro Arr**	**1.93**	**263**	Pg	**Pn**	**13 13 36.4**	**-0.2**
	0.9nm,0.3s,baz=87,slow=15,SNR=32						
MJAR				Lg	Lg	13 14 01.2	
	0.6nm,0.3s,baz=92,slow=26,SNR=9.6						
MKAR	**Makanchi Array**	**43.68**	**302**	P	**P**	**13 21 09.9**	**+1.0**
	0.1nm,0.4s,baz=66,slow=7.9,SNR=1.8						
	0.1nm,0.4s						
KAPI	**Kappang**	**45.94**

KNZ	Kokohu	8.66	195	P		P		13 18 28.1	+0.4
ARHZ	Aropaoanui	9.06	198	P		P		13 18 33.7	+1.6
MCHZ	McNeill Hill	9.31	199	P		Pn		13 18 36.7	+1.7
MCHZ				P		S		13 20 24.2	+2.5
PNHZ	Pukenui	9.89	200	P		Pn		13 18 41.9	+0.1
PNHZ				S		S		13 20 33.5	-0.1
WPHZ	Waipukurau	9.96	199	P		Pn		13 18 44.5	+2.0
WPHZ				S		S		13 20 35.0	-0.1
DVHZ	Dannevirke	10.26	199	P		Pn		13 18 46.0	0.0
DVHZ				S		S		13 20 40.2	-0.9
ANWZ	Angora Road	10.32	198	S		S		13 20 42.2	-0.1
POWZ	Post Office Ro	10.46	201	P		Pn		13 18 49.0	+0.7
POWZ				S		S		13 20 46.1	+0.9
PRWZ	Pori Road	10.55	200	P		Pn		13 18 50.3	+0.9
PRWZ				S		S		13 20 47.7	+0.6
BFZ	Birch Farm	10.59	198	P		Pn		13 18 50.1	+0.3
BFZ				S		S		13 20 46.2	-1.7
MRZ	Mangatainoka R	10.76	201	P		P		13 18 49.5	-1.5
MRZ				S		S		13 20 49.3	-2.1
TIWZ	Tintock	10.78	199	P		Pn		13 18 53.3	+1.2
TIWZ				S		S		13 20 51.4	-0.3
ASAR	Alice Springs 0.1nm,0.4s,baz=104,slow=7.3,SNR=4.3 0.1nm,0.4s	41.88	268	P		P		13 23 38.4	-0.1
WRA	Warramunga Arr 0.3nm,0.7s,baz=109,slow=8.0,SNR=5.6 0.3nm,0.7s	42.89	273	P		P		13 23 46.6	+0.1
NVAR	Mina Array Bea 0.3nm,0.6s,baz=180,slow=2.7,SNR=2.1 0.3nm,0.6s	89.27	43	P		P		13 28 37.6	+0.4
MKAR	Makanchi Array 0.2nm,0.9s,baz=129,slow=3.9,SNR=1.4	117.02	310	PKP		PKPdf		13 34 22.4	-0.5
FINES	FINESS Array B 2.4nm,0.4s,baz=46,slow=4.0,SNR=29	144.97	339	PKPbc		PKPdf		13 35 14.2	-0.4
NOA	NORSAR Array B 0.5nm,0.5s,baz=16,slow=4.1,SNR=2.2	148.82	350	PKPbc		PKPbc		13 35 25.2	-0.4
HFS	Hagfors 2.3nm,0.8s,baz=5.7,slow=2.9,SNR=7.0	149.25	347	PKPbc		PKPbc		13 35 26.2	-0.4
AKASG	Malin Array Be 0.5nm,0.4s,baz=43,slow=2.0,SNR=1.7	150.76	321	PKPbc		PKPbc		13 35 30.6	+0.1

*TEH **21** 13:35:40.7, 38°.54N×46°.76E, h13km±16km, ML3.3*
*NSSP **21** 13:35:44.4, 38°.62N×46°.78E, h13km, Ms3.1*

ISC 21 13:35:41.4±1.0, 38°.53N±0°.03×46°.77E±0°.03, h12km±11km, n19,σ1ᵒ20/29, 4C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IHRS	Heris	0.30	135	Pg		Pg	13 35 47.4	-0.2
IHRS				Sg		Sg	13 35 52.6	+0.8
ITBZ	Tabriz	0.57	239	Pg		Pb	13 35 51.6	-1.8
ITBZ				Sg		Sb	13 35 59.8	-1.7
TAB1	Tabriz	0.59	216	Pg		Pb	13 35 53.0	-0.8
IMRD	Marand	0.85	283	Pg		Pb	13 35 57.1	-1.2
IMRD				Sg		Sb	13 36 09.3	-0.4
GRMI	Germi	0.92	72	Pg		Pb	13 35 58.4	-1.0
ISRB	Sarab	1.00	135	Pg		Pb	13 35 59.8	-0.9
ISRB				Sg		Sb	13 36 14.2	+0.3
GRS	Goris	1.03	341	eP		Pb	13 36 00.3	-0.9
GRS				eS		Sb	13 36 13.8	-0.8
IAZR	Azarshahr	1.05	216	Pg		Pb	13 36 01.7	0.0
STKZ		1.28	359	⇑*i*P		Pg	13 36 05.7	-0.3
STKZ				⇑*i*S		Sg	13 36 21.4	-1.3
IHSH	Hashtrud	1.28	162	Pg		Pn	13 36 04.6	-0.8
GAS1	Astara - Iran	1.63	94	Pg		Pb	13 36 11.3	-0.1
MAKU	Maku	1.82	298	Pn		Pn	13 36 13.3	+0.6
MAHB	Mahabad	1.95	206	Pn		Pn	13 36 16.5	+2.0
NRKZ	NAREK	2.20	313	eP		Pb	13 36 21.6	+0.5
NRKZ				eS		Sg	13 36 52.5	+0.4
GNI	Garni	2.25	316	⇑*i*P		Pb	13 36 23.2	+1.1
GNI				⇑*i*S		Sg	13 36 55.8	+1.9
ZNJK	Zanjan	2.40	140	Pn		Pn	13 36 22.2	+1.4
KAPZ	Kaputan	2.40	319	eP		Pb	13 36 24.9	+0.3
KAPZ				eS		Sg	13 36 57.5	-1.1
ARUZ	Aruch	2.71	311	eP		Pg	13 36 32.6	-0.8
ARUZ				eS		Sg	13 37 11.0	+2.4
SNGE	Sanandaj	3.46	172	Pn		Pn	13 36 36.5	+1.2

*IDC **21** 13:51:27.5±1.8, 5°.72S×151°.05E, h74km±17km, mb3.5/4, mbtmp3.8/5, Error ellipse: s-maj=98.0km s-min=13.6km az=129.0*

ISC 21 13:51:25.4±1.3, 6°.0S±0°.2×151°.4E±0°.3, h50km, n7,σ2ᵒ15/9, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	Keravat (AS076 172nm,0.3s,baz=198,slow=1.8,SNR=26	1.79	22	P		Pn	13 51 54.2	+0.2
KRVT				S		Sn	13 52 16.8	+1.1
PMG	Port Moresby 7.6nm,0.4s,baz=51,slow=6.5,SNR=2.9	5.37	231	P		Pn	13 52 45.2	+2.1
PMG				S		Sn	13 53 41.7	-2.0
WRA	Warramunga Arr 1.1nm,0.5s,baz=54,slow=10,SNR=18 1.1nm,0.5s	21.59	228	P		P	13 56 10.2	-1.1
ASAR	Alice Springs 1.5nm,0.6s,baz=55,slow=9.4,SNR=40 1.5nm,0.6s	24.31	222	P		P	13 56 38.4	-0.2
ILAR	Eielson Array 0.5nm,0.9s,baz=245,slow=5.9,SNR=2.7 0.5nm,0.9s	83.79	22	P		P	14 03 46.2	-2.9
NVAR	Mina Array Bea 0.4nm,0.5s,baz=262,slow=5.4,SNR=2.8 0.4nm,0.5s	93.94	52	P		P	14 04 39.0	+0.5
TORD	Torodi Ar. Bea 1.6nm,0.3s,baz=70,slow=3.2,SNR=2.6	149.28	286	PKPbc		PKPdf	14 11 08.3	+2.9

*NEIC **21** 14:09:00.8±2.1, 58°.5S±0°.1×25°.0W±0°.2, h10km±1km, mb4.6/33, Error ellipse: s-maj=22.1km s-min=9.8km az=214.0*
*IDC **21** 14:09:03.2±3.4, 58°.59S×25°.20W, h28km±22km, mb4.3/11, mbtmp4.5/12, ML5.0/1, MS3.6/19, Error ellipse: s-maj=21.6km s-min=16.7km az=55.0*

ISC 21 14:09:02.3±3.1, 58°.63S±0°.08×25°.1W±0°.1, h23km±21km, n183,σ0ᵒ93/172, mb4.6/24, MS3.6/17, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	Neumayer--Stat	13.97	156	P		Pn	14 12 18.1	-0.4
VNA3	Neumayer Olymp	14.17	159	P		Pn	14 12 19.8	-1.4
VNA3				S		Sn	14 14 42.5	-15
VNA2	Neumayer--Watz baz=320,slow=14	14.37	156	P		Pn	14 12 23.0	-1.0
VNA2				S		Sn	14 14 48.6	-14
SNAA	Sanae	15.92	154	P		Pn	14 12 44.2	-0.3
SNAA				S		Sn	14 15 25.9	-14
SNAA	Sanae 5.4nm,0.3s,baz=318,slow=14,SNR=80	15.92	154	Pn		Pn	14 12 43.8	-0.7
SNAA				Sn		Sn	14 15 26.3	-14
SNAA	0.3nm,0.3s,baz=252,slow=20,SNR=2.0			LR		LR	14 18 16.3	
	comp=Z,169nm,18.3s,baz=306,slow=35 11nm,0.3s							
SNAA	Sanae	15.92	154	P		Pn	14 12 44.0	-0.5
TROLL	Troll, Antarti	17.43	151	P		Pn	14 13 03.6	-0.1
TROLL				S		Sn	14 16 02.4	-14
PMSA	Palmer Station comp=Z,148nm,21.0s,baz=101,slow=33	19.19	235	LR		LR	14 19 40.1	
BELA	Belgrano 2	19.59	186	P		P	14 13 29.1	+0.7
GO09	Cerro Castillo	27.59	265	P		P	14 14 45.7	-1.7
QSPA	South Pole Qui comp=Z,131nm,21.9s,baz=194,slow=34	31.61	180	LR		LR	14 27 04.7	
QSPA	South Pole Qui	31.61	180	P		P	14 15 24.0	+0.9
QSPA				IAmb		IAmb	14 15 24.9	
	comp=Z,6.5nm,0.7s							
QSPA				PcP		PcP	14 18 13.6	-1.0
PLTB	Pedras Altas	33.06	312	P		P	14 15 34.8	-1.1
PLTB				IAmb		IAmb	14 15 36.3	
	comp=Z,4.8nm,0.8s							
PLTB	Pedras Altas	33.06	312	eP		P	14 15 35.4	-0.6
PLCA	Paso Flores comp=Z,3.2nm,0.7s,baz=151,slow=5.2,SNR=14	33.60	282	P		P	14 15 40.4	-0.2
PLCA				LR		LR	14 29 35.7	
	comp=Z,104nm,18.2s,baz=158,slow=37 comp=Z,3.2nm,0.7s							
PLCA	Paso Flores	33.60	282	P		P	14 15 40.2	-0.4
PLCA				IAmb		IAmb	14 15 41.3	
	comp=Z,8.9nm,1.1s							
PLCA	Paso Flores	33.60	282	eP		P	14 15 40.7	0.0
ALGR	Alto Alegre (B	35.50	315	eP		P	14 15 57.1	0.0
ITAB	Concordia	36.60	317	P		P	14 16 03.5	-2.9
ITAB				IAmb		IAmb	14 16 15.8	
	comp=Z,20nm,1.3s							
ITAB	Concordia	36.60	317	eP		P	14 16 07.2	+0.8
CRSM	Crissiumal (Br	37.06	315	eP		P	14 16 07.2	-3.2
PET01	Itanhaem-SP	37.75	326	eP		P	14 16 17.5	+1.3
BI05	Punta Hualpn	37.96	284	P		P	14 16 17.4	-0.5
BO02	Sierra Bellavi	38.29	288	P		P	14 16 20.5	-0.3
BO02				IAmb		IAmb	14 16 34.1	
	comp=Z,9.6nm,0.8s							
BO02				PcP		PcP	14 18 34.6	+0.2
DUB01	Friburgo-RJ	38.57	334	eP		P	14 16 22.4	-0.8
VAS01	Vassouras-RJ	38.63	332	eP		P	14 16 24.3	+0.6
BO04	La Punta	38.84	289	P		P	14 16 24.6	-0.9
BO04				IAmb		IAmb	14 16 57.5	
	comp=Z,18nm,1.1s							
VAO	Valinhos	38.88	327	eP		P	14 16 26.0	+0.2
PTGB	Pitanga	38.88	319	eP		P	14 16 25.7	-0.1
MT09	Talagante	39.20	289	P		P	14 16 27.6	-0.9
MT09				IAmb		IAmb	14 16 32.8	
	comp=Z,14nm,0.8s							
MT01	Popeta	39.26	289	P		P	14 16 28.0	-0.8
MT01				IAmb		IAmb	14 16 33.1	
	comp=Z,23nm,1.4s							
CPUP	Villa Florida	39.37	311	P		P	14 16 28.2	-1.5
	comp=Z,1.8nm,0.8s,baz=153,slow=9.0,SNR=3.2							
CPUP				LR		LR	14 31 09.0	
	comp=Z,56nm,19.6s,baz=201,slow=34 comp=Z,1.8nm,0.8s							
ALF01	Guarapari-ES	39.63	337	eP		P	14 16 31.9	-0.1
CFA	Coronel Fontan	39.63	294	LR		LR	14 32 09.6	
	comp=Z,186nm,21.4s,baz=148,slow=35							
MT02	Curacav	39.69	289	P		P	14 16 31.7	-0.8
MT02				IAmb		IAmb	14 16 32.7	
	comp=Z,25nm,1.2s							
SUR	Sutherland	40.35	70	LR		LR	14 29 27.1	
	comp=Z,114nm,18.2s,baz=206,slow=30							
RIB01	Linhares ES	40.83	338	eP		P	14 16 43.2	+1.3
CO02	Combarbal	41.29	291	P		P	14 16 46.6	+0.8
CO02				IAmb		IAmb	14 17 00.2	
	comp=Z,13nm,1.0s							
AMBA	Amambai (Brazi	41.56	316	eP		P	14 16 47.2	-0.8
SJMB	Sao Joao De Ma	41.58	337	eP		P	14 16 48.7	+0.6
CO01	Juntas del Tor	41.87	293	P		P	14 16 51.0	+0.3
AC04	Llanos de Chal	43.81	294	P		P	14 17 05.0	-1.2
IPMB	Ipameri, GO	43.99	327	eP		P	14 17 08.3	+0.6
VNDA	Vanda	44.03	182	P		P	14 17 09.1	+1.7
	comp=Z,7.4nm,0.8s,baz=186,slow=6.6,SNR=24							
VNDA				PcP		PcP	14 18 53.2	+0.9
	comp=Z,0.6nm,0.5s,baz=183,slow=3.5,SNR=3.4							
VNDA				LR		LR	14 34 20.7	
	comp=Z,71nm,18.8s,baz=178,slow=34 comp=Z,7.4nm,0.8s							
VNDA	Vanda	44.03	182	P		P	14 17 08.7	+1.3
VNDA				IAmb		IAmb	14 17 10.3	
	comp=Z,7.3nm,0.8s							
AC02	Maricunga	44.05	297	P		P	14 17 07.1	-1.5
BDQN	Bodoquena, MS	44.47	315	eP		P	14 17 11.5	0.0
BOSA	Boshof	45.62	71	P		P	14 17 20.9	+0.1
	comp=Z,2.2nm,0.6s,baz=209,slow=7.9,SNR=7.5							
BOSA				LR		LR	14 31 43.5	
	comp=Z,68nm,19.9s,baz=196,slow=30 comp=Z,2.2nm,0.6s							
BOSA	Boshof	45.62	71	P		P	14 17 18.6	-2.2
BOSA				IAmb		IAmb	14 17 53.3	
	comp=Z,14nm,1.5s							
JANB	Januaria	45.79	334	eP		P	14 17 22.8	+0.7
BDFB	Brasilia	46.17	329	P		P	14 17 25.5	+0.4
	comp=Z,1.8nm,0.3s,baz=132,slow=2.7,SNR=5.0 comp=Z,1.8nm,0.3s							
BDFB	Brasilia	46.17	329	eP		P	14 17 26.1	+1.0
LVC	Limon Verde	47.57	300	LR		LR	14 38 27.9	
	comp=Z,28nm,20.6s,baz=208,slow=37							
LVC	Limon Verde	47.57	300	P		P	14 17 36.2	-0.2
LVC				IAmb		IAmb	14 17 53.5	
	comp=Z,4.5nm,1.1s							
LVC	Limon Verde	47.57	300	eP		P	14 17 35.3	-1.1
BBRB	Robore, Bolivi	47.60	313	eP		P	14 17 34.6	-1.6
SALV	Santo Antonio	48.29	319	eP		P	14 17 40.6	-1.0
SDBA	SAO DESIDERIO	48.49	334	eP		P	14 17 43.9	+0.7
LBTB	Lobatse	48.78	69	LR		LR	14 34 34.8	
	comp=Z,118nm,19.4s,baz=184,slow=31							
BBSD	Serra de San D	48.90	313	eP		P	14 17 44.5	-1.7
PTLB	Pontes e Lacer	49.94	315	eP		P	14 17 53.2	-0.8
SIV	San Ignacio	50.17	313	LR		LR	14 38 31.5	
	comp=Z,45nm,19.8s,baz=126,slow=35							
H10S2	ASCENSION HYDR baz=187,slow=74,SNR=45	50.21	14	T		T	15 12 14.7	
H10S3	ASCENSION HYDR baz=33,slow=74,SNR=84	50.21	13	T		T	15 12 15.0	
GO01	Chusmiza	50.27	302	P		P	14 17 55.3	-1.9
SNDB	Serra Nova Dou	50.58	326	eP		P	14 18 01.7	+2.7
PSGCX	Pisagua	50.74	301	P		P	14 17 58.5	-1.8
PSGCX				IAmb		IAmb	14 18 07.9	
	comp=Z,8.2nm,1.4s							
PSGCX				PcP		PcP	14 19 16.9	-0.4
MNMC	Minye Minye	50.92	301	P		P	14 17 59.9	-2.0
MNMC				IAmb		IAmb	14 18 02.8	
	comp=Z,4.8nm,0.7s							
MNMC				PcP		PcP	14 19 18.6	+0.6
H10N1	ASCENSION HYDR baz=181,slow=72,SNR=26	51.33	14	T		T	15 13 37.2	
H10N3	ASCENSION HYDR baz=181,slow=72,SNR=62	51.33	14	T		T	15 13 40.1	
H10N2	ASCENSION HYDR baz=181,slow=72,SNR=68	51.34	14	T		T	15 13 40.8	
SMTB	Santa Maria do	52.55	332	eP		P	14 18 14.3	+0.5
VILB	Vilhena	52.62	315	eP		P	14 18 15.2	+0.9
PDRB	Porto dos Gac	52.64	320	eP		P	14 18 13.8	-0.6
LPAZ	La Paz	52.78	305	P		P	14 18 14.8	-1.3
	comp=Z,2.2nm,0.4s,baz=161,slow=4.7,SNR=10							
LPAZ				PcP		PcP	14 19 25.9	+0.4
	comp=Z,2.0nm,0.5s,baz=90,slow=2.0,SNR=2.7 comp=Z,2.2nm,0.4s							
LPAZ				LR		LR	14 43 01.8	
	comp=Z,44nm,18.7s,baz=143,slow=39 comp=Z,2.2nm,0.4s							
LPAZ	La Paz	52.78	305	P		P	14 18 14.5	-1.7
LPAZ	La Paz	52.78	305	eP		P	14 18 16.1	-0.1
CLDB	Colider	53.02	321	eP		P	14 18 17.0	-0.2
RCBR	Riachuelo	53.34	347	LR		LR	14 37 50.9	
	comp=Z,54nm,18.1s,baz=331,slow=32							
NBCL	Cascavel-CE	55.23	344	eP		P	14 18 33.3	0.0
PRPB	Parauapebas	55.70	330	eP		P	14 18 36.9	+0.1
NPGB	Novo Progresso	56.47	323	eP		P	14 18 42.3	0.0
SAML	Samuel	57.42	314	P		P	14 18 46.1	-2.8
ROSB	Rosrio	57.54	337	eP		P	14 18 51.2	+1.4
ETMB	Extrema	57.80	310	P		P	14 18 50.2	-1.5
ETMB				IAmb		IAmb	14 18 51.2	
	comp=Z,2.1nm,1.0s							
ETMB				PcP		PcP	14 19 43.4	-0.7
ETMB	Extrema	57.80	310	eP		P	14 18 52.5	+0.8
TMAB	Tom-Au,PA,Br	58.93	333	eP		P	14 18 59.7	+0.2
ITTB	Itaituba	59.12	324	eP		P	14 19 01.0	+0.2
NNA	Nana	60.47	298	LR		LR	14 43 15.4	
	comp=Z,51nm,21.9s,baz=188,slow=34							
MALB	Monte Alegre	61.06	326	eP		P	14 19 14.0	-0.1
MCPB	Macapa, AP	61.86	329	eP		P	14 19 20.0	+0.5
MACA	Manacapuru-AM	61.87	319	eP		P	14 19 20.2	+0.7
TEFE	Tefe	62.97	315	eP		P	14 19 27.6	+0.7
TBTG	Tabatinga, AM	64.41	309	eP		P	14 19 37.3	+0.9
BOAV	Boa Vista	67.01	321	P		P	14 19 51.9	-1.3
BOAV				IAmb		IAmb	14 20 05.7	
	comp=Z,4.7nm,1.1s							
BOAV	Boa Vista	67.01	321	eP		P	14 19 53.3	+0.1
DBIC	Dimbokro comp=Z,3.3nm,0.5s,baz=202,slow=7.6,SNR=5.9 comp=Z,3.3nm,0.5s	67.10	22	P		P	14 19 54.0	+0.3
DBIC	Dimbokro	67.10	22	P		P	14 19 52.6	-1.1
OTAV	Otavalo	72.02	302	eP		P	14 20 25.6	+0.9
MBAR	Mbarara comp=Z,44nm,18.3s,baz=82,slow=34	72.39	60	LR		LR	14 49 33.2	
TORD	Torodi Ar. Bea comp=Z,4.6nm,0.4s,baz=201,slow=6.4,SNR=11 comp=Z,4.6nm,0.4s	74.80	27	P		P	14 20 41.0	+0.6
SDV	Santo Domingo	76.62	314	LR		LR	14 55 40.3	
	comp=Z,50nm,20.8s,baz=120,slow=36							
SDV	Santo Domingo	76.62	314	eP		P	14 20 50.6	-0.5
MRNZ	Matariki Terra	79.22	194	P		P	14 21 05.4	+0.3
MRZ	Mangatainoka R	79.58	196	P		P	14 21 06.9	-0.1
HIZ	Hauiti	81.79	196	P		P	14 21 18.5	-0.4
HDC	Heredia	83.21	302	eP		P	14 21 27.6	+1.0
JTS	Las Juntas de comp=Z,37nm,20.5s,baz=312,slow=37	83.84	301	LR		LR	15 00 23.1	
STKA	Stephens Creek comp=Z,1.6nm,0.5s,baz=173,slow=8.1,SNR=4.1 comp=Z,1.6nm,0.5s	89.15	169	P		P	14 21 55.5	-0.2
ASAR	Alice Springs comp=Z,1.4nm,0.8s,baz=185,slow=4.1,SNR=22	96.17	161	P		P	14 22 27.7	-0.6
ASAR				PKKP		PKKPbc	14 39 14.2	+2.3
	comp=Z,0.4nm,0.7s,baz=18,slow=2.7,SNR=7.2 comp=Z,1.4nm,0.8s							
WRA	Warramunga Arr comp=Z,0.3nm,0.8s,baz=186,slow=4.3,SNR=2.5	99.89	160	P		Pdif	14 22 44.2	-0.8
WRA				LR		LR	15 05 59.5	
	comp=Z,89nm,19.6s,baz=128,slow=34 comp=Z,0.3nm,0.8s							
SCHQ	Schefferville comp=Z,1.1nm,0.6s,baz=256,slow=4.2,SNR=6.4	117.99	334	PKP		PKPdf	14 27 44.9	-0.8
PDAR	Pinedale Array comp=Z,0.4nm,0.4s,baz=119,slow=5.6,SNR=11	122.64	299	PKP		PKPdf	14 27 54.5	-0.8
ULM	Lac du Bonnet comp=Z,1.4nm,0.5s,baz=154,slow=16,SNR=3.5	122.88	314	PKP		PKPdf	14 27 54.7	-0.5
CMAR	Chiang Mai Arr comp=Z,0.5nm,0.3s,baz=235,slow=3.6,SNR=6.7	123.11	110	PKP		PKPdf	14 27 56.2	-0.4
NVAR	Mina Array Bea comp=Z,1.3nm,0.7s,baz=141,slow=3.0,SNR=7.1	123.40	290	PKP		PKPdf	14 27 57.6	+0.8
FINES	FINESS Array B comp=Z,0.9nm,0.5s,baz=234,slow=4.8,SNR=13	126.15	28	PKP		PKPdf	14 28 00.4	-0.6
MKAR	Makanchi Array comp=Z,0.2nm,0.4s,baz=251,slow=4.4,SNR=3.8	136.61	73	PKhKP		PKPpre	14 28 09.8	
MKAR				PKP		PKPdf	14 28 21.2	-0.1
	comp=Z,0.5nm,0.8s,baz=234,slow=3.9,SNR=5.6							
YKA	Yellowknife Ar comp=Z,0.2nm,0.5s,baz=128,slow=2.5,SNR=6.5	138.83	315	PKhKP		PKPpre	14 28 13.6	
YKA				PKP		PKPdf	14 28 24.9	0.0
	comp=Z,3.2nm,0.7s,baz=134,slow=2.1,SNR=32							
YKA				SKPbc		SKPbc	14 31 56.3	-1.6
	comp=Z,0.2nm,0.7s,baz=126,slow=2.2,SNR=4.1							
ZALV	Zalesovo Beam comp=Z,0.9nm,0.4s,baz=205,slow=3.7,SNR=5.2	142.45	66	PKhKP		PKPpre	14 28 26.6	
P33M	Teslin, Yukon	144.87	304	PKPdf		PKPab	14 28 35.6	+0.5
C36M	Paulatuk	145.67	322	PKPdf		PKPdf	14 28 37.0	+0.2
FARO	Faro, Yukon	146.07	307	PKPdf		PKPbc	14 28 39.1	+0.3
M31M	Drury Creek, Y	146.49	307	PKPdf		PKPbc	14 28 40.2	+0.2
N31M	Braeburn, Yuko	146.76	305	PKPbc		PKPbc	14 28 41.2	+0.4
A36M	Sachs Harbour	147.00	326	PKPbc		PKPbc	14 28 41.5	+0.3
M30M	Minto, Yukon	147.66	306	PKPbc		PKPbc	14 28 43.4	+0.1
INK	Inuvik	148.50	318	PKPbc		PKPbc	14 28 45.4	+0.1
DAWY	Dawson	149.32	308	PKPbc		PKPbc	14 28 47.7	+0.1
SONM	Songino Array comp=Z,3.9nm,0.5s,baz=222,slow=3.7,SNR=21	149.69	89	PKPbc		PKPbc	14 28 49.0	-0.1
SONM	Songino Array	149.69	89	PKPbc		PKPbc	14 28 49.2	+0.1
M27K	Edge Creek, AK	149.75	304	PKPbc		PKPbc	14 28 49.1	+0.3
MCARA	McCarthy VSAT	149.87	302	PKPbc		PKPbc	14 28 49.8	+0.9
BCAR	Beaver Creek A	149.97	306	PKPbc		PKPbc	14 28 49.8	+0.6
L27K	Beaver Creek,	149.98	306	PKPbc		PKPbc	14 28 49.9	+0.7
VRDI	Verde Repeater	150.00	302	PKPbc		PKPbc	14 28 50.1	+0.6
BMRM	Bremner River	150.42	301	PKPbc		PKiKP	14 28 51.7	+0.6
L26K	Log Cabin Wild	150.62	305	PKPbc		PKPbc	14 28 51.4	+0.7
N25K	Chitina, Valde	150.66	302	PKPbc		PKPbc	14 28 51.7	+0.8
EYAK	Cordova Ski Ar	150.77	299	PKPbc		PKiKP	14 28 52.2	+0.5
DOT	Dot Lake	151.13	306	PKPbc		PKiKP	14 28 52.8	+0.4
J26L	Joseph Creek	151.19	308	PKPbc		PKiKP	14 28 53.2	+0.6
SCRK	Sand Creek	151.20	307	PKPbc		PKPbc	14 28 53.1	+0.9
KLU	Klutina	151.21	301	PKPbc		PKiKP	14 28 53.3	+0.6
RIDG	Independent Ri	151.49	306	PKPbc		PKiKP	14 28 53.7	+0.5
PAX	Paxson	151.51	304	PKPbc		PKPbc	14 28 53.6	+0.7
M24K	Tolsona, Glenn	151.53	302	PKPbc		PKiKP	14 28 54.5	+1.2
SCM	Sheep Creek Mo	151.95	301	PKPbc		PKiKP	14 28 54.9	+0.7
PWL	Port Wells	152.07	299	PKPbc		PKiKP	14 28 55.0	+0.5
KNK	Knik Glacier	152.32	300	PKPbc		PKPbc	14 28 55.2	+0.6
BMAR	Burnt Mountain	152.32	314	PKPbc		PKPbc	14 28 55.2	+0.7
FYU	Fort Yukon	152.39	312	PKPbc		PKiKP	14 28 55.7	+0.8
SML	Sawmill	152.39	301	PKPbc		PKPbc	14 28 55.6	+0.7
IL31		152.64	308	PKPbc		PKPbc	14 28 55.4	+0.2
ILAR	Eielson Array comp=Z,5.1nm,0.4s,baz=117,slow=1.4,SNR=90	152.64	308	PKPbc		PKPbc	14 28 55.4	+0.2
ILAR	Eielson Array	152.64	308	PKPbc		PKPbc	14 28 55.7	+0.4
RC01	Rabbit Creek A	152.79	299	PKPbc		PKiKP	14 28 56.6	+0.7
BRLK	Bradley Lake	152.85	296	PKPbc		PKPbc	14 28 56.2	+0.3
KDAK	Kodiak Island

PB06 IPOC Station P 1.64 335⇑ *eP* **Pn 15 07 52.4 +1.0**
PB06 *eS* **Sn 15 08 12.4 -0.6**
PB06 IAML 15 08 18.0
comp=E,4µm,0.1s
PB06 IPOC Station P 1.64 335 *eP* **Pn 15 07 52.0 +0.6**
PB06 *eS* **Sn 15 08 14.3 +1.3**
PB06 IAML 15 08 18.8
comp=Z,3µm,0.2s
PB06 IPOC Station P 1.64 335 *eP* **Pn 15 07 52.0 +0.6**
PB06 *eS* **Sn 15 08 14.3 +1.3**
PB06 IAML 15 08 18.8
comp=Z,3µm,0.2s
PB10 IPOC Station P 1.73 293 Pn 15 07 53.0 +0.7
PB10 IPOC Station P 1.73 293⇑ *eP* **Pn 15 07 53.5 +1.2**
PB10 *i* S **Sn 15 08 14.5 -0.1**
PB10 IAML 15 08 19.1
comp=N,4µm,0.4s
PB10 IPOC Station P 1.73 293 *eP* **Pn 15 07 53.0 +0.7**
PB10 *eS* **Sn 15 08 15.5 +0.9**
PB10 IAML 15 08 19.0
comp=Z,2µm,0.5s
PB10 IPOC Station P 1.73 293 *eP* **Pn 15 07 53.0 +0.7**
PB10 *eS* **Sn 15 08 15.5 +0.9**
PB10 IAML 15 08 19.0
comp=Z,2µm,0.5s
PB04 IPOC Station P 2.22 327 Pn 15 07 57.2 -1.6
PB04 IPOC Station P 2.22 327 *eP* **Pn 15 07 58.9 +0.1**
PB04 *eS* **Sn 15 08 22.9 -3.4**
PB04 IPOC Station P 2.22 327 *eP* **Pn 15 07 59.0 +0.1**
PB04 *eS* **Sn 15 08 26.9 +0.7**
PB04 IAML 15 08 32.9
comp=Z,3µm,0.4s
PB04 IPOC Station P 2.22 327 *eP* **Pn 15 07 59.0 +0.1**
PB04 *eS* **Sn 15 08 26.9 +0.7**
PB04 IAML 15 08 32.9
comp=Z,3µm,0.4s
PB03 IPOC Station P 2.31 338 Pn 15 07 60.0 0.0
PB03 IPOC Station P 2.31 338⇑ *eP* **Pn 15 08 00.1 +0.1**
PB03 *eS* **Sn 15 08 25.0 -3.2**
PB03 IAML 15 08 31.4
comp=N,3µm,0.6s
PB03 IPOC Station P 2.31 338 *eP* **Pn 15 08 00.8 +0.9**
PB03 *eS* **Sn 15 08 28.2 0.0**
PB03 IAML 15 08 33.4
comp=Z,2µm,0.2s
PB03 IPOC Station P 2.31 338 *eP* **Pn 15 08 00.8 +0.9**
PB03 *eS* **Sn 15 08 28.2 0.0**
PB03 IAML 15 08 33.4
comp=Z,2µm,0.2s
PB09 IPOC Station P 2.42 351 Pn 15 08 02.3 +0.8
PB09 IPOC Station P 2.42 351⇑ *eP* **Pn 15 08 02.8 +1.3**
PB09 *eS* **Sn 15 08 29.6 -1.3**
PB09 IAML 15 08 40.3
comp=N,2µm,0.5s
PB09 IPOC Station P 2.42 351 *eP* **Pn 15 08 03.0 +1.5**
PB09 *eS* **Sn 15 08 32.4 +1.5**
PB09 IAML 15 08 38.5
comp=Z,2µm,0.5s
PB09 IPOC Station P 2.42 351 *eP* **Pn 15 08 03.0 +1.5**
PB09 *eS* **Sn 15 08 32.4 +1.5**
PB09 IAML 15 08 38.5
comp=Z,2µm,0.5s
AC01 Pan de Azucar 2.52 219 Pn **Pn 15 08 02.8 +0.3**
AC01 Pan de Azucar 2.52 219 *eP* **Pn 15 08 03.0 +0.5**
AC01 *eS* **Sn 15 08 30.5 -2.4**
AC01 IAML 15 08 33.5
comp=Z,2µm,0.4s
AC01 Pan de Azucar 2.52 219 *eP* **Pn 15 08 03.0 +0.5**
AC01 *eS* **Sn 15 08 30.5 -2.4**
AC01 IAML 15 08 33.5
comp=Z,2µm,0.4s
AC02 Maricunga 2.64 186 Pn 15 08 04.5 -0.1
AC02 Maricunga 2.64 186 *eP* **Pn 15 08 06.0 +1.5**
AC02 *eS* **Sn 15 08 37.2 +0.8**
AC02 Maricunga 2.64 186 *eP* **Pn 15 08 06.0 +1.5**
AC02 *eS* **Sn 15 08 37.2 +0.8**
PB07 IPOC Station P 2.65 338 Pn **Pn 15 08 04.1 -0.3**
PB07 IPOC Station P 2.65 338⇑ *eP* **Pn 15 08 04.1 -0.3**
PB07 *i* S **Sn 15 08 31.0 -5.2**
PB07 IAML 15 09 02.3
comp=E,2µm,0.5s
PB07 IPOC Station P 2.65 338 *eP* **Pn 15 08 04.9 +0.4**
PB07 *eS* **Sn 15 08 34.4 -1.9**
PB07 IAML 15 08 37.0
comp=Z,2µm,0.5s
PB07 IPOC Station P 2.65 338 *eP* **Pn 15 08 04.9 +0.4**
PB07 *eS* **Sn 15 08 34.4 -1.9**
PB07 IAML 15 08 37.0
comp=Z,2µm,0.5s
PB02 IPOC Station P 3.03 341 Pn 15 08 08.0 -1.5
PB02 IPOC Station P 3.03 341 *i* P **Pn 15 08 09.8 +0.3**
PB01 IPOC Station P 3.20 349 Pn 15 08 11.9 +0.2
PB01 IPOC Station P 3.20 349⇓ *i* P **Pn 15 08 11.9 +0.2**
AC06 Mina Casimiro 3.43 203 Pn 15 08 13.0 -1.7
AZAP Zapla 3.43 91 *eP* **Pn 15 08 16.8 +2.0**
AZAP Zapla 3.43 91 *eP* **Pn 15 08 16.8 +2.0**
PATCX Punta Patache 3.58 340 Pn 15 08 16.1 -0.6
PATCX Punta Patache 3.58 340 *i* P **Pn 15 08 16.2 -0.6**
GO03 Copiap 3.61 200 Pn 15 08 16.9 -0.2
GO03 Copiap 3.61 200 *eP* **Pn 15 08 17.1 +0.1**
GO03 *eS* **Sn 15 09 00.2 +1.3**
GO03 Copiap 3.61 200 *eP* **Pn 15 08 17.1 +0.1**
GO03 *eS* **Sn 15 09 00.2 +1.3**
YJA Yavi 3.65 57 *eP* **Pn 15 08 20.0 +2.0**
YJA Yavi 3.65 57 *eP* **Pn 15 08 20.0 +2.0**
TA01 Diego Aracena 3.83 341 Pn 15 08 19.1 -1.0
TA01 Diego Aracena 3.83 341 *eP* **Pn 15 08 19.0 -1.0**
TA01 Diego Aracena 3.83 341 *eP* **Pn 15 08 19.0 -1.0**
ASTB Santa Barbara 4.00 87 *eP* **Pn 15 08 23.9 +1.4**
ASTB *eP* **Pn 15 08 24.0 +1.5**
ASTB Santa Barbara 4.00 87 *eP* **Pn 15 08 23.9 +1.4**
ASTB *eP* **Pn 15 08 24.0 +1.5**
HMBC Humberstone 4.03 346 *i* P **Pn 15 08 21.8 -1.0**
ALOL LOMAS DE OLMED 4.45 86 *eP* **Pn 15 08 23.9 -4.4**
ALOL *eP* **Pn 15 08 29.0 +0.7**
ALOL LOMAS DE OLMED 4.45 86 *eP* **Pn 15 08 23.9 -4.4**
ALOL *eP* **Pn 15 08 29.0 +0.7**
AC04 Llanos de Chal 4.47 206 Pn **Pn 15 08 26.5 -2.0**
AC04 Llanos de Chal 4.47 206⇑ *iP* **Pn 15 08 26.4 -2.2**
AC04 Llanos de Chal 4.47 206 *eP* **Pn 15 08 26.0 -2.6**
AC04 *eS* **Sn 15 08 19.9 +0.4**
AC04 IAML 15 09 59.3
comp=Z,345nm,0.6s
AC04 Llanos de Chal 4.47 206 *eP* **Pn 15 08 26.0 -2.6**
AC04 *eS* **Sn 15 09 19.9 +0.4**
AC04 IAML 15 09 59.3
comp=Z,345nm,0.6s
PB11 IPOC Station P 4.49 350 Pn **Pn 15 08 27.8 -1.2**
GO01 Chusmiza 4.52 356 Pn 15 08 29.4 -0.4
GO01 Chusmiza 4.52 356 *eP* **Pn 15 08 29.0 -0.8**
GO01 Chusmiza 4.52 356 *eP* **Pn 15 08 29.0 -0.8**
PSGCX Pisagua 4.74 345 Pn 15 08 30.5 -1.9
AC05 El Transito 4.79 195 Pn 15 08 32.7 -0.4
AC05 El Transito 4.79 195 *eP* **Pn 15 08 33.0 -0.1**
AC05 El Transito 4.79 195 *eP* **Pn 15 08 33.0 -0.1**
CYA Choya 5.02 148 *eP* **Pn 15 08 38.0 +2.0**
CYA Choya 5.02 148 *eP* **Pn 15 08 38.0 +2.0**
LCO Las Campanas 5.08 199 Pn **Pn 15 08 35.2 -1.8**
LCO Las Campanas 5.08 199 *eP* **Pn 15 08 35.8 -1.2**
LCO *eS* **Sn 15 09 33.6 -1.0**
LCO Las Campanas 5.08 199 *eP* **Pn 15 08 35.8 -1.2**
LCO *eS* **Sn 15 09 33.6 -1.0**
MNMC Minye Minye 5.10 352 Pn 15 08 36.0 -1.4
MNMCX Minye Minye 5.10 352 *eP* **Pn 15 08 36.0 -1.4**
MNMCX Minye Minye 5.10 352 *eP* **Pn 15 08 36.0 -1.4**
PB12 IPOC Station P 5.73 346 Pn 15 08 43.5 -2.4
CO01 Juntas del Tor 5.86 191 Pn 15 08 48.0 +0.3
PB16 IPOC Station P 5.87 354 Pn **Pn 15 08 49.0 +0.9**
CO05 La Serena 6.09 200 Pn **Pn 15 08 48.3 -2.2**
GO04 Tololo Observa 6.20 196 Pn **Pn 15 08 50.3 -2.0**
CO03 El Pedregal 6.82 194 Pn **Pn 15 08 58.3 -2.2**
CO02 Combarbal 7.24 195 Pn **Pn 15 09 03.2 -3.0**
CFA Coronel Fontan 7.39 176 P **Pn 15 09 07.9 -0.3**
comp=Z,13nm,0.3s,baz=339,slow=12,SNR=154
CFA S **Sn 15 10 26.1 -4.4**
comp=Z,13nm,0.4s,baz=248,slow=16,SNR=1.5
LPAZ La Paz 7.90 5 P **Pn 15 09 16.4 +0.7**
comp=Z,5.2nm,0.4s,baz=172,slow=3.8,SNR=19
LPAZ S **Sn 15 10 45.5 +1.6**
comp=Z,8.0nm,0.8s,baz=230,slow=22,SNR=0.8
LPAZ La Paz 7.90 5 Pn **Pn 15 09 13.1 -2.6**
VA06 Catapilco 8.61 194 Pn **Pn 15 09 20.5 -4.1**

VA03 San Esteban 8.66 190 Pn **Pn 15 09 22.8 -2.7**
ROC1 El Roble 8.95 192 Pn **Pn 15 09 26.5 -3.1**
MT02 Curacav 9.25 192 Pn **Pn 15 09 28.9 -4.6**
ESFA Espinillo Form 9.44 97 *eP* **Pn 15 09 31.6 -4.4**
MT09 Talagante 9.73 191 Pn **Pn 15 09 34.7 -5.3**
SCCA San Cayetano, 9.77 112 *eP* **Pn 15 09 37.9 -2.6**
MT01 Popeta 9.86 192 Pn **Pn 15 09 36.1 -5.6**
BBRB Robore, Bolivi 10.27 57 *eP* **Pn 15 09 40.9 -6.4**
BO01 Tunca 10.34 190 Pn **Pn 15 09 42.7 -5.5**
BBSD Serra de San D 10.38 49 *eP* **Pn 15 09 42.4 -6.5**
CPUP Villa Florida 10.62 104 P **Pn 15 09 51.9 -0.1**
comp=Z,3.8nm,0.6s,baz=279,slow=12,SNR=14
CPUP Villa Florida 10.62 104 Pn **Pn 15 09 52.2 +0.2**
MURT Porto Murtinho 10.64 78 *eP* **Pn 15 09 47.6 -4.8**
SIV San Ignacio 10.94 43 P **Pn 15 09 52.9 -3.6**
comp=Z,26nm,0.5s,baz=244,slow=9.5,SNR=83
SIV LR LR 15 14 35.4
comp=Z,117nm,18.5s,baz=280,slow=40
AZCA Azaras, Argent 12.16 111 *eP* **Pn 15 10 10.6 -2.2**
PTLB Pontes e Lacer 12.60 48 Pn **Pn 15 10 16.5 -2.1**
PTLB Pontes e Lacer 12.60 48 *eP* **Pn 15 10 13.5 -5.0**
RODS Rosario do Sul 13.57 120 *eP* **Pn 15 10 29.6 -1.5**
CRSM Crissiumal (Br 13.71 107 *eP* **Pn 15 10 31.2 -1.8**
VILB Vilhena 13.85 38 Pn **Pn 15 10 32.4 -2.5**
VILB Vilhena 13.85 38 *eP* **Pn 15 10 30.2 -4.7**
FRBT Francisco Belt 14.39 100 *eP* **Pn 15 10 40.9 -1.0**
ETMB Extrema 14.52 10 Pn **Pn 15 10 38.0 -5.5**
ETMB Extrema 14.52 10 *eP* **Pn 15 10 38.7 -4.8**
SALV Santo Antonio 14.84 59 *eP* **Pn 15 10 43.6 -3.9**
ALGR Alto Alegre (B 14.86 111 *eP* **Pn 15 10 46.6 -1.3**
TRQA Tornquist 15.00 159 Pn **Pn 15 10 49.6 +0.2**
CPSB Cacapava Do Su 15.00 118 *eP* **Pn 15 10 48.2 -1.3**
PTGB Pitanga 15.27 95 *eP* **Pn 15 10 52.1 -0.9**
ITAB Concordia 15.35 105 Pn **Pn 15 10 53.1 -0.7**
ITAB IAmb IAmb 15 10 56.5
comp=Z,38nm,0.6s
ITAB Concordia 15.35 105 *eP* **Pn 15 10 52.1 -1.7**
PLTB Pedras Altas 15.40 123 Pn 15 10 55.4 +0.9
PLTB Pedras Altas 15.40 123 *eP* **P 15 10 55.9 -0.9**
SAML Samuel 16.10 21 Pn **Pn 15 10 58.4 -4.9**
PLCA Paso Flores 16.55 185 P **P 15 11 10.6 +1.1**
comp=Z,2.4nm,0.9s,baz=12,slow=12,SNR=5.0
PLCA LR LR 15 18 02.0
comp=Z,100nm,18.2s,baz=252,slow=38
CZSB Cruzeiro do Su 16.80 347 *eP* **Pn 15 11 11.2 -0.7**
CNLB Canela 16.84 111 *eP* **P 15 11 12.6 -0.1**
FRTB Fartura 17.65 91 *eP* **P 15 11 21.2 -0.6**
ITRB Iturama 17.70 79 *eP* **P 15 11 21.6 -0.8**
TIJ01 Guaruva-PR 18.04 98 *eP* **P 15 11 25.8 -0.2**
CLDB Colider 18.15 45 *eP* **P 15 11 25.1 -2.0**
TER01 Tubaro-SC 18.16 108 *eP* **P 15 11 26.7 -0.6**
BB19B Bebedouro 18.99 85 *eP* **P 15 11 35.6 -0.9**
SPB Sao Paulo 19.57 93 *eP* **P 15 11 42.1 -0.5**
RCLB Rio Claro- Sao 19.64 89 *eP* **P 15 11 42.5 -1.0**
PET01 Itanhaem-SP 19.65 95 *eP* **P 15 11 43.1 -0.4**
TBTG Tabatinga, AM 19.93 357 *eP* **Pn 15 11 48.5 -0.7**
VAO Valinhos 20.07 91 *eP* **P 15 11 46.6 -1.5**
IPMB Ipameri, GO 20.19 76 *eP* **P 15 11 47.3 -2.2**
SNDB Serra Nova Dou 20.60 57 *eP* **P 15 11 51.2 -2.6**
TEFE Tefe 20.97 12 *eP* **P 15 11 58.3 +0.6**
PARB Paraibuna 21.25 92 *eP* **P 15 12 00.4 -0.5**
BDFB Brasilia 21.32 70 P **P 15 11 59.5 -2.2**
comp=Z,33nm,0.5s,baz=240,slow=12,SNR=71
BDFB Brasilia 21.32 70 P **P 15 12 00.5 -1.2**
BDFB IAmb IAmb 15 12 02.2
comp=Z,48nm,0.7s
BDFB Brasilia 21.32 70 *eP* **P 15 11 59.0 -2.7**
NPGB Novo Progresso 21.40 39 *eP* **P 15 12 00.6 -1.8**
PMNB Patos De Minas 21.59 79 *eP* **P 15 12 03.6 -0.9**
MACA Manacapuru-AM 22.34 22 P **P 15 12 10.5 -1.9**
MACA IAmb IAmb 15 12 14.3
comp=Z,50nm,0.5s
MACA Manacapuru-AM 22.34 22 *eP* **P 15 12 11.0 -1.4**
BSCB Bom Sucesso 22.43 87 *eP* **P 15 12 12.2 -1.1**
VAS01 Vassouras-RJ 23.39 90 *eP* **P 15 12 22.7 +0.1**
ITTB Itaituba 23.41 35 *eP* **P 15 12 21.0 -1.7**
SGCB SÃo Gabriel d 24.00 4 *eP* **P 15 12 28.1 +0.1**
DIAM Diamantina, MG 24.15 81 *eP* **P 15 12 29.8 +0.2**
DUB01 Friburgo-RJ 24.40 90 *eP* **P 15 12 32.2 +0.4**
MC01 Montes Claros 24.45 77 *eP* **P 15 12 31.6 -0.6**
JANB Januaria 24.78 73 *eP* **P 15 12 34.5 -0.7**
CAM01 Campos-RJ 25.10 90 *eP* **P 15 12 38.5 +0.5**
SMTB Santa Maria do 25.38 57 *eP* **P 15 12 39.3 -1.3**
SDBA SAO DESIDERIO 25.51 67 *eP* **P 15 12 39.8 -2.1**
PRPB Parauapebas 25.59 49 *eP* **P 15 12 42.8 +0.3**
OTAV Otavalo 26.03 338 *eP* **P 15 12 50.4 +3.4**
ALF01 Guarari-ES 26.20 88 *eP* **P 15 12 48.2 +0.3**
SJMB Sao Joao De Ma 26.28 83 *eP* **P 15 12 48.7 0.0**
MALB Monte Alegre 26.30 35 *eP* **P 15 12 48.8 -0.1**
BOAV Boa Vista 27.64 18 P **P 15 13 00.2 -0.7**
BOAV IAmb IAmb 15 13 05.6
comp=Z,5.3nm,0.7s
BOAV Boa Vista 27.64 18 *eP* **P 15 13 03.3 +2.4**
GUA01 Guaratinga, BA 28.20 80 *eP* **P 15 13 06.1 +0.2**
MG02 Cerro Sombrero 28.54 181 P **P 15 13 05.3 -3.2**
MCPB Macapa, AP 28.74 37 *eP* **P 15 13 10.6 0.0**
CMC01 Camacan, BA 28.90 78 *eP* **P 15 13 12.1 0.0**
ROSB Rosrio 31.90 52 *eP* **P 15 13 40.3 +1.8**
SDV Santo Domingo 32.93 357 LR LR 15 27 14.1
comp=Z,62nm,18.7s,baz=269,slow=36
RCBR Riachuelo 36.52 65 LR LR 15 29 48.6
comp=Z,60nm,19.3s,baz=108,slow=37
RCBR Riachuelo 36.52 65 P **P 15 14 19.2 +0.6**
RCBR IAmb IAmb 15 14 21.2
comp=Z,13nm,0.7s
CELP Cerrillos 42.08 3 P **P 15 15 02.5 -2.0**
CELP IAmb IAmb 15 15 19.3
comp=Z,13nm,0.7s
MLPR Magueyes Islan 41.95 3 P **P 15 15 00.6 -2.9**
MLPR IAmb IAmb 15 15 18.4
comp=Z,25nm,1.1s
CRPR Cabo Rojo, PR 41.98 2 P **P 15 15 00.5 -3.3**
CRPR IAmb IAmb 15 15 17.9
comp=Z,9.5nm,0.8s
TEIG Tepich 48.05 335 P **P 15 15 50.1 -1.7**
TEIG IAmb IAmb 15 16 09.3
comp=Z,17nm,1.0s
VNA3 Neumayer Olymp 57.51 161 P **P 15 17 02.5 +1.6**
VNA1 Neumayer--Stat 57.73 160 P **P 15 17 01.2 -1.1**
VNA2 Neumayer--Watz 58.09 160 P **P 15 17 06.6 +1.7**
baz=293,slow=6.8
250A Grady 58.30 343 P **P 15 17 05.0 -1.7**
250A IAmb IAmb 15 17 23.9
comp=Z,9.6nm,0.9s
SNAA Sanae 59.72 160 P **P 15 17 17.8 +1.6**
833A Chaparral WMA, 59.95 329 P **P 15 17 15.7 -2.6**
V58A Windy Hill, Pi 60.46 350 P **P 15 17 20.6 -1.0**
V58A IAmb IAmb 15 17 23.2
comp=Z,7.6nm,0.6s
X48A Hartselle 60.84 343 P **P 15 17 23.8 -0.4**
SWET Sewanee 61.28 344 P **P 15 17 25.5 -1.7**
TROLL Troll, Antarti 61.43 160 P **P 15 17 29.9 +1.9**
WVT Waverly 62.64 343 P **P 15 17 36.0 -0.2**
WVT IAmb IAmb 15 17 37.2
comp=Z,12nm,0.7s
TXAR Lajitas Array 62.89 326 P **P 15 17 39.8 +1.6**
comp=Z,0.9nm,0.5s,baz=146,slow=9.1,SNR=5.6
comp=Z,0.9nm,0.5s
TXAR Lajitas Array 62.89 326 P **P 15 17 37.4 -0.8**
MIAR Mount Ida 62.97 337 P **P 15 17 38.0 -0.5**
MIAR IAmb IAmb 15 17 40.5
comp=Z,7.7nm,1.0s
LCAR Lake Charles 63.55 340 P **P 15 17 39.4 -2.8**
LCAR IAmb IAmb 15 17 43.6
comp=Z,5.7nm,0.8s
FCAR Ozark Folk Cen 63.70 339 P **P 15 17 40.4 -2.8**
P49A Miami Univ. Ec 65.12 347 P **P 15 17 51.4 -1.0**
P49A IAmb IAmb 15 17 52.8
comp=Z,5.7nm,0.6s
QSPA South Pole Qui 66.00 180 P **P 15 17 59.8 +1.7**
P38A Dawn 67.56 340 P **P 15 18 07.3 -0.6**
ANMO Albuquerque 68.80 327 P **P 15 18 18.4 +2.3**
comp=Z,4.3nm,0.7s,baz=194,slow=4.2,SNR=21
ANMO pP **pP 15 18 44.8 +1.4**
comp=Z,1.4nm,0.6s,baz=117,slow=4.5,SNR=2.8
comp=Z,4.3nm,0.7s
DBIC Dimbokro 69.45 72 P **P 15 18 22.7 +2.4**
comp=Z,5.9nm,0.9s,baz=248,slow=7.9,SNR=5.7
DBIC pP **pP 15 18 48.9 +1.0**
comp=Z,9.5nm,0.8s,baz=246,slow=5.4,SNR=5.2
comp=Z,5.9nm,0.9s
ECSD EROS Data Cent 72.26 339 P **P 15 18 35.3 -1.4**
VNDA Vanda 74.22 190 P **P 15 18 50.1 +2.3**
comp=Z,2.5nm,1.1s,baz=103,slow=5.5,SNR=2.0
comp=Z,2.5nm,1.1s
PDAR Pinedale Array 76.48 330 P **P 15 19 03.1 +1.7**
comp=Z,0.8nm,0.4s,baz=133,slow=7.8,SNR=16
comp=Z,0.8nm,0.4s
PDAR Pinedale Array 76.48 330 P **P 15 19 01.7 +0.2**
NVAR Mina Aray Bea 77.67 322 P **P 15 19 10.4 +2.2**
comp=Z,0.4nm,0.5s,baz=146,slow=6.6,SNR=0.8
comp=Z,0.4nm,0.5s
ELK Elko 77.69 326 P **P 15 19 10.7 +2.4**
comp=Z,3.2nm,0.8s,baz=128,slow=5.6,SNR=14
ELK pP **pP 15 19 37.8 +1.7**
comp=Z,1.1nm,0.6s,baz=129,slow=7.5,SNR=3.9
comp=Z,3.2nm,0.8s
ULM Lac du Bonnet 77.91 343 P **P 15 19 09.9 +0.9**
comp=Z,4.6nm,0.5s,baz=163,slow=6.2,SNR=6.9
comp=Z,4.6nm,0.5s
ULM Lac du Bonnet 77.91 343 P **P 15 19 06.2 -2.7**
TORD Torodi Ar. Bea 78.20 70 P **P 15 19 12.1 +0.7**
comp=Z,6.7nm,0.6s,baz=260,slow=5.4,SNR=32
TORD pP **pP 15 19 39.1 -0.3**
comp=Z,6.5nm,0.6s,baz=253,slow=5.3,SNR=5.8
comp=Z,6.7nm,0.6s
SCHQ Schefferville 78.73 1 P **P 15 19 14.6 +1.2**
comp=Z,7.7nm,0.7s,baz=207,slow=2.3,SNR=8.2
comp=Z,2.7nm,0.7s
MAW Mawson 81.73 163 P **P 15 19 31.6 +2.1**
comp=Z,5.9nm,0.6s,baz=224,slow=6.2,SNR=7.5
comp=Z,5.9nm,0.6s
BOSA Boshof 82.12 118 P **P 15 19 33.5 +1.0**
comp=Z,4.8nm,1.0s,baz=272,slow=5.4,SNR=4.3
comp=Z,4.8nm,1.0s
YKA Yellowknife Ar 93.75 341 P **P 15 20 28.8 +1.3**
comp=Z,3.9nm,0.9s,baz=139,slow=4.4,SNR=66
YKA pP **pP 15 20 56.3 +0.4**
comp=Z,1.2nm,0.9s,baz=140,slow=4.3,SNR=3.0
YKA sP **sP 15 21 08.0 +0.6**
comp=Z,0.6nm,0.6s,baz=139,slow=4.2,SNR=2.9
comp=Z,3.9nm,0.9s
KBZ Ishabaz 121.72 52 PKP **PKiKP 15 26 05.4 +0.8**
comp=Z,2.4nm,0.9s,baz=304,slow=2.9,SNR=5.2
ASAR Alice Springs 127.55 207 PKhKP PKPpre 15 26 11.6
comp=Z,0.3nm,0.9s,baz=136,slow=1.7,SNR=5.1
ASAR PKP **PKiKP 15 26 17.6 +0.6**
comp=Z,3.0nm,0.7s,baz=146,slow=2.0,SNR=51
ASAR pPKP pPKPdf 15 26 46.2 -0.1
comp=Z,1.0nm,0.7s,baz=144,slow=2.4,SNR=5.1
WRA Warramunga Arr 130.66 209 PKP **PKiKP 15 26 23.6 +0.3**
comp=Z,1.7nm,0.5s,baz=153,slow=1.5,SNR=24
WRA pPKP **pPKPdf 15 26 52.5 +0.3**
comp=Z,0.8nm,0.7s,baz=155,slow=1.5,SNR=3.3
ZAA0 Zalesovo Array 144.34 27 PKPdf **PKPdf 15 26 46.9 +0.6**
ZALV Zalesovo Beam 144.34 27 PKP **PKPdf 15 26 46.7 +0.3**
comp=Z,10nm,0.7s,baz=305,slow=4.3,SNR=52
ZALV pPKP **pPKPdf 15 27 15.2 -1.1**
comp=Z,2.5nm,0.6s,baz=311,slow=4.6,SNR=3.3
ZALV Zalesovo Beam 144.34 27 PKPdf **PKPdf 15 26 46.9 +0.6**
AAK Ala-Archa 144.64 50 PKPdf **PKPdf 15 26 47.1 -0.4**
KSH Kashi 146.67 54 PKPbc **PKPab 15 26 53.9 -0.2**
KSH pPKP pPKPab 15 27 23.1 -0.1
MAKZ Makanchi 147.54 39 PKiKP 15 26 56.7 -0.2
MK31 Makanchi Array 147.73 38 PKPab **PKiKP 15 26 56.7 -0.5**
MKAR Makanchi Array 147.73 38 PKP **PKPbc 15 26 54.0 -1.4**
comp=Z,6.6nm,0.7s,baz=310,slow=3.0,SNR=56
MKAR PKPbc **PKiKP 15 26 56.9 -0.4**
comp=Z,6.6nm,0.7s,baz=313,slow=2.8,SNR=63
MKAR pPKPbc **pPKPbc 15 27 25.0 0.0**
comp=Z,2.8nm,0.7s,baz=320,slow=2.8,SNR=4.4
MKAR Makanchi Array 147.73 38 PKPbc 15 26 54.4 -0.9
MKAR PKPab **PKiKP 15 26 57.0 -0.2**
MJAR Matsushiro Arr 153.73 304 PKPbc **PKiKP 15 27 11.3 +1.3**
comp=Z,1.2nm,0.7s,baz=75,slow=2.8,SNR=3.4
MJAR PKPab **PKPab 15 27 25.6 +2.5**
comp=Z,3.0nm,1.0s,baz=64,slow=5.7,SNR=5.2
SONM Songino Array 156.11 8 PKP **PKPdf 15 27 06.8 +1.7**
comp=Z,0.5nm,0.9s,baz=318,slow=1.9,SNR=3.8
SONM PKPab **pPKPdf 15 27 34.8 -0.2**
comp=Z,1.5nm,0.7s,baz=329,slow=3.3,SNR=8.1
SONM pPKPab **pPKPab 15 28 02.1 +0.3**
comp=Z,0.9nm,0.7s,baz=325,slow=5.2,SNR=3.7
PZH PanZhiHua 171.16 73 PKP **PKPdf 15 27 16.9 -2.7**

*MAN **21** 15:34:12.8, 11˚.49N×125˚.55E, h43km, mb5.2, ML4.2, MS4.4*
MAN INTENSITY III - BORONGAN & LLORENTE EASTERN SAMAR; TACLOBAN CITY; INTENSITY II - SULAT & LAWAAN EASTERN SAMAR; DULAG & PALO LEYTE.
*IDC **21** 15:34:15.5±0.8, 11˚.42N×125˚.38E, h71km±7km, mb4.1/25, mbtmp4.4/25, MS3.2/20, Error ellipse: s-maj=18.2km s-min=9.3km az=70.0*
*NEIC **21** 15:34:17.9±1.6, 11˚.43N±0˚.09×125˚.5E±0˚.1, h92km±7km, mb4.5/47, Error ellipse: s-maj=18.1km s-min=12.7km az=94.0*
ISC 21 15:34:15.7±0.5, 11˚.47N±0˚.03×125˚.47E±0˚.05, h76km±4km, h76km:pP-P,n156,σ1s37/176, mb4.5/56, 13C-10D, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
MSLP	**Maasin**	**1.46**	**205⇑**	*iP*	**Pn**	ISC	**h m s** 15 34 38.4	ISC -1.9
MSLP				*i* S	**Sn**	ISC	15 34 59.3	+0.5
SCPH	**Surigao**	**1.67**	**179**	*eP*	**Pn**	ISC	15 34 40.6	-2.6
SCPH				*eS*	**Sn**	ISC	15 35 00.7	-3.2
TABP	**Talibon, Bohol**	**1.77**	**219⇓**	*iP*	**Pn**	ISC	15 34 42.7	-1.8
TABP				*i* S	**Sn**	ISC	15 35 04.5	-1.7
MMPH	**Masbate**	**2.02**	**296⇑**	*iP*	**Pn**	ISC	15 34 46.2	-1.5
MMPH				*i* S	**Sn**	ISC	15 35 13.8	+1.7
GHBP	**Garcia Hernand**	**2.15**	**212⇓**	*iP*	**Pn**	ISC	15 34 48.7	-0.9
GHBP				*i* S	**Sn**	ISC	15 35 15.3	0.0
RCP	**Roxas**	**2.68**	**272⇓**	*eP*	**Pn**	ISC	15 34 55.4	-1.3
SNPH	**Sibulan**	**3.05**	**226⇓**	*iP*	**Pn**	ISC	15 35 01.1	-0.7
SNPH				*i* S	Sn	ISC	15 35 46.9	+10
CGP	**Cagayan de Oro**	**3.09**	**194⇑**	*iP*	**Pn**	ISC	15 35 01.9	-0.4
CGP				*i* S	**Sn**	ISC	15 35 37.8	-0.3
CNOP	**Candoni, Negro**	**3.23**	**240⇓**	*iP*	**Pn**	ISC	15 35 02.9	-1.2
CNOP				*eS*	**Sn**	ISC	15 35 39.4	-2.0
IBAJ	**Ibajay, Aklan**	**3.25**	**276⇑**	*eP*	**Pn**	ISC	15 35 03.8	-0.7
BIPH	**Bislig**	**3.38**	**165⇑**	*eP*	**Pn**	ISC	15 35 04.3	-1.9
BIPH				*eS*	**Sn**	ISC	15 35 40.8	-4.3
DCPH	**Dipolog City**	**3.55**	**216⇓**	*iP*	**Pn**	ISC	15 35 07.2	-1.3
DCPH	**Dipolog City**	**3.55**	**216⇓**	*iP*	**Pn**	ISC	15 35 07.2	-1.3
BUKP	**Musuan**	**3.59**	**187⇑**	*eP*	**Pn**	ISC	15 35 10.3	+1.2
BUKP				*eS*	**Sn**	ISC	15 35 55.0	+4.6
CDOP	**Cateel, Davao**	**3.78**	**165⇑**	*eP*	**Pn**	ISC	15 35 10.6	-1.1
CDOP				*eS*	**Sn**	ISC	15 35 52.9	-2.0
GQP	**Guinayangan**	**3.82**	**310⇑**	*eP*	**Pn**	ISC	15 35 10.4	-1.8
GQP				*eS*	**Sn**	ISC	15 35 57.1	+1.1
JCNP	**Jose Panganiba**	**3.90**	**316⇓**	*iP*	**Pn**	ISC	15 35 11.9	-1.3
JCNP				*i* S	**Sn**	ISC	15 35 56.2	-1.6
PAGZ	**Pagadian**	**4.14**	**210⇑**	*iP*	**Pn**	ISC	15 35 16.3	-0.4
PAGZ				*i* S	**Sn**	ISC	15 36 03.3	-0.6
DAV	**Davao City (W)**	**4.37**	**179**	LR	LR	ISC	15 37 31.4	
	comp=Z,429nm,19.0s,baz=4.0,slow=45							
CTBH	**Cotabato--PC H**	**4.39**	**196⇑**	*iP*	**Pn**	ISC	15 35 20.9	+0.9
CTBH				*i* S	**Sn**	ISC	15 36 09.6	-0.3
KCP	**Kidapawan**	**4.45**	**185⇑**	*eP*	**Pn**	ISC	15 35 24.1	+3.3
KCP				*i* S	**Sn**	ISC	15 36 16.6	+5.3
LQP	**Lukban**	**4.65**	**305⇓**	*eP*	**Pn**	ISC	15 35 22.1	-1.7
LQP				*eS*	Sn	ISC	15 36 32.0	+15
PCPH	**Palayan**	**5.89**	**314⇑**	*eP*	**Pn**	ISC	15 35 39.8	-0.7
MYLDM	**Lahad Datu**	**9.31**	**228**	Pn	**Pn**	ISC	15 36 28.9	+1.7
TPUB	**Ta-pu**	**12.64**	**339**	Pn	**P**	ISC	15 37 20.2	-0.9
SIJI	**Sorong**	**13.54**	**154**	LR	LR	ISC	15 42 42.

MTN IAmb IAmb 15 39 47.8
comp=Z,21nm,1.3s
MTN Manton Dam 24.80 167 P **P** **15 39 31.5 +0.7**
KDU Kakadu 24.98 164 P **P** **15 39 33.2 +0.7**
IPM Ipoh 25.17 256 P **P** **15 39 34.1 -0.3**
IPM IAmb IAmb 15 39 37.0
comp=Z,10nm,0.8s
JHJ Hachijo jima 2 25.23 29 LR LR 15 50 29.0
comp=Z,43nm,18.9s,baz=276,slow=38
KULM Kulim 25.30 258 P **P** **15 39 36.8 +1.3**
KULM IAmb IAmb 15 39 57.1
comp=Z,26nm,1.3s
LEM Lembang 25.41 225 LR LR 15 49 51.4
comp=Z,91nm,18.6s,baz=359,slow=37
CRAI Chiangrai 25.64 293 P **P** **15 39 38.4 -0.1**
CRAI IAmb IAmb 15 39 58.9
comp=Z,14nm,1.2s
KSRS Korea Array 25.97 4 P **P** **15 39 42.1 +0.9**
comp=Z,3.4nm,0.8s,baz=185,slow=10,SNR=7.0
KSRS LR LR 15 50 21.2
comp=Z,20nm,21.2s,baz=195,slow=37
comp=Z,3.4nm,0.8s
CMAR Chiang Mai Arr 26.54 288 P **P** **15 39 46.9 +0.3**
comp=Z,5.8nm,0.8s,baz=98,slow=7.4,SNR=48
CMAR PcP **PcP** **15 43 10.3 +0.6**
comp=Z,0.6nm,0.6s,baz=90,slow=1.0,SNR=4.8
CMAR LR LR 15 50 49.2
comp=Z,15nm,19.0s,baz=125,slow=38
comp=Z,5.8nm,0.8s
CMAR Chiang Mai Arr 26.54 288 P **P** **15 39 46.4 -0.3**
PZH PanZhiHua 26.89 307 P **P** **15 39 48.9 -1.0**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,130nm,6.1s
XAN Xi'an 27.08 329 ⇑P **P** **15 39 50.9 -0.5**
XAN pmax pmax
comp=Z,11nm,0.7s
KNRA Kununurra 27.16 173 P **P** **15 39 50.0 -2.2**
KNRA IAmb IAmb 15 40 17.5
comp=Z,24nm,1.4s
KNRA Kununurra 27.16 173 P **P** **15 39 52.1 -0.1**
MJAR Matsushiro Arr 27.48 23 PcP **PcP** **15 43 12.1 +0.4**
comp=Z,0.7nm,0.9s,baz=206,slow=5.4,SNR=4.1
MJAR LR LR 15 48 49.2
comp=Z,52nm,21.8s,baz=176,slow=32
PSI Prapat 27.69 254 P **P** **15 39 56.6 -0.5**
comp=Z,3.4nm,0.5s,baz=63,slow=6.5,SNR=3.8
PSI LR LR 15 51 05.7
comp=Z,71nm,20.3s,baz=94,slow=37
comp=Z,3.4nm,0.5s
TNCH TengChong 28.86 302 P **P** **15 40 09.3 +1.8**
TNCH pmax pmax
comp=Z,11nm,0.4s
FITZ Fitzroy Crossi 29.38 180 P **P** **15 40 10.4 -1.5**
GSI Gununguitoli 29.47 252 P **P** 15 40 00.3 -13
HHC Hu-ho-hao-te 31.73 340 *eP* **P** **15 40 35.8 +3.2**
WB0 Warramunga Arr 32.26 164 P **P** **15 40 33.9 -3.4**
WB0 PcP **PcP** **15 43 24.6 +0.3**
WRA Warramunga Arr 32.41 164 P **P** **15 40 36.8 -1.8**
comp=Z,0.8nm,0.6s,baz=344,slow=9.8,SNR=9.2
WRA PcP **PcP** **15 43 24.6 0.0**
comp=Z,2.2nm,0.6s,baz=343,slow=3.0,SNR=19
WRA ScP **ScP** **15 47 01.6 -0.3**
comp=Z,0.5nm,0.9s,baz=342,slow=3.8,SNR=4.7
WRA LR LR 15 56 41.4
comp=Z,46nm,18.8s,baz=280,slow=42
comp=Z,0.8nm,0.6s
WRA Warramunga Arr 32.41 164 P **P** **15 40 36.0 -2.6**
WRA PcP **PcP** **15 43 23.4 -1.3**
WB2 Warramunga Arr 32.41 164 P **P** **15 40 36.1 -2.5**
WR0 Warramunga Arr 32.48 164 P **P** **15 40 37.7 -1.6**
USRK Ussuriysk Ar. 33.10 9 P **P** **15 40 45.4 +1.0**
comp=Z,5.7nm,0.7s,baz=211,slow=8.8,SNR=7.3
USRK LR LR 15 56 09.0
comp=Z,42nm,18.1s,baz=263,slow=40
comp=Z,5.7nm,0.7s
BNX BinXian 34.20 2 ⇓P **P** **15 40 54.5 +0.6**
BNX pmax pmax
comp=Z,17nm,0.9s
BNX pmax pmax
comp=Z,430nm,5.2s
QIS Mount Isa 34.73 156 P **P** **15 40 58.6 -0.2**
ASAJ Asahikawa 35.73 21 LR LR 15 55 25.1
comp=Z,29nm,20.9s,baz=265,slow=36
AS31 Alice Springs 35.88 167 P **P** **15 41 08.3 -0.4**
AS31 PcP **PcP** **15 43 34.4 -0.1**
ASAR Alice Springs 35.88 167 P **P** **15 41 08.2 -0.4**
comp=Z,1.9nm,0.4s,baz=343,slow=7.0,SNR=64
ASAR PcP **PcP** **15 43 34.5 0.0**
comp=Z,2.1nm,0.6s,baz=342,slow=2.8,SNR=17
ASAR ScP **ScP** **15 47 13.9 -0.3**
comp=Z,0.6nm,0.9s,baz=345,slow=2.9,SNR=4.6
comp=Z,1.9nm,0.4s
ASAR Alice Springs 35.88 167 P **P** **15 41 08.0 -0.6**
ASAR PcP **PcP** **15 43 34.8 +0.2**
AS01 Alice Springs 35.89 167 P **P** **15 41 09.2 +0.5**
GTA Gaotai 35.96 325 *eP* **P** **15 41 10.1 +0.8**
GTA pP sP 15 41 35.1 -1.1
GTA sP pP 15 41 50.8 +23
GTA PcP **PcP** **15 43 34.8 +0.1**
GTA pmax pmax
comp=Z,5.0nm,1.0s
WRKA Warakurna 36.39 176 P **P** **15 41 13.2 +0.2**
GOMU GeErMu 37.04 317 P **P** **15 41 18.1 -0.8**
GOMU pP pP 15 41 23.1 -14
GOMU sP sP 15 41 24.3 -22
GOMU pmax pmax
comp=Z,5.0nm,1.2s
GOMU pmax pmax
comp=Z,77nm,5.7s
CTA Charters Tower 37.44 147 P **P** **15 41 22.0 +0.1**
comp=Z,1.4nm,0.5s,baz=325,slow=8.9,SNR=6.1
comp=Z,1.4nm,0.5s
KLR Kul'dur 38.01 7 LR LR 16 00 33.1
comp=Z,24nm,18.1s,baz=132,slow=41
HEH HeiHe 38.70 2 *eP* **P** **15 41 33.1 +0.9**
HEH pmax pmax
comp=Z,11nm,1.0s
HEH pmax pmax
comp=Z,350nm,6.0s
ULN Ulaanbaatar 39.44 340 P **P** **15 41 36.8 -1.8**
SONM Songino Array 39.63 340 P **P** **15 41 40.9 +0.7**
comp=Z,6.3nm,0.8s,baz=158,slow=9.7,SNR=42
SONM pP **pP** **15 41 57.8 -0.7**
comp=Z,1.1nm,0.7s,baz=161,slow=9.4,SNR=2.6
SONM PcP **PcP** **15 43 45.8 -0.1**
comp=Z,0.4nm,0.5s,baz=162,slow=4.8,SNR=3.9
SONM LR LR 15 57 08.9
comp=Z,54nm,18.9s,baz=16,slow=35
comp=Z,6.3nm,0.8s
SONM Songino Array 39.63 340 P **P** **15 41 39.2 -0.9**
SONM IAmb IAmb 15 41 42.1
comp=Z,5.3nm,0.8s
HNR Honiara 40.07 120 LR LR 15 54 55.5
comp=Z,1μm,20.8s,baz=318,slow=31
OOD Oodnadatta 40.26 166 P **P** **15 41 45.7 +0.3**
H11S3 WAKE ISLAND Hy 40.35 75 T T 16 24 56.6
baz=260,slow=77
H11S1 WAKE ISLAND Hy 40.36 75 T T 16 24 53.7
baz=260,slow=77
H11S2 WAKE ISLAND Hy 40.37 75 T T 16 24 51.2
baz=260,slow=77
H11N1 WAKE ISLAND Hy 40.64 73 T T 16 25 15.0
baz=265,slow=74,SNR=102
H11N2 WAKE ISLAND Hy 40.65 73 T T 16 25 09.4
baz=265,slow=74,SNR=89
H11N3 WAKE ISLAND Hy 40.66 73 T T 16 25 11.4
baz=265,slow=74,SNR=83
FORT Forrest 42.08 177 P **P** **15 42 00.1 -0.1**
FORT Forrest 42.08 177 P **P** **15 42 00.3 +0.1**
MULG Mulgathing 42.32 169 P **P** **15 42 01.8 -0.4**
KMBL Kambalda 42.73 185 P **P** **15 42 04.6 -0.9**
LCRK Leigh Creek 43.44 164 P **P** **15 42 12.2 +0.9**
BBOO Buckleboo 45.17 167 P **P** **15 42 24.9 -0.3**
BBOO IAmb IAmb 15 42 25.6
comp=Z,7.7nm,0.8s
BBOO Buckleboo 45.17 167 P **P** **15 42 25.4 +0.3**
STKA Stephens Creek 45.78 161 P **P** **15 42 30.4 +0.4**
comp=Z,6.8nm,0.6s,baz=331,slow=7.8,SNR=14
comp=Z,6.8nm,0.6s
STKA Stephens Creek 45.78 161 P **P** **15 42 29.0 -1.0**
WMQ Urumqi 45.80 322 *eP* **P** **15 42 32.9 +2.8**
HTT Hallett 46.45 164 P **P** **15 42 35.6 +0.4**
CMSA Cobar Meteorol 46.95 156 P **P** **15 42 40.2 +1.1**
PETK Petropavlovsk- 48.89 25 P **P** **15 42 55.5 +1.7**
comp=Z,2.1nm,0.7s,baz=209,slow=3.4,SNR=12
comp=Z,2.1nm,0.7s
ARPS Mount Arapiles 50.39 163 P **P** **15 43 06.1 +0.7**
MK31 Makanchi Array 50.61 323 P **P** **15 43 06.6 -0.4**
MK31 IAmb IAmb 15 43 08.5
comp=Z,4.2nm,0.8s
MK31 PcP **PcP** **15 44 23.4 -0.2**
MKAR Makanchi Array 50.61 323 P **P** **15 43 07.7 +0.7**
comp=Z,2.6nm,0.3s,baz=114,slow=7.0,SNR=83
MKAR pP **pP** **15 43 25.0 -1.0**
comp=Z,1.9nm,0.7s,baz=110,slow=10,SNR=4.9
MKAR PcP **PcP** **15 44 23.6 -0.1**
comp=Z,1.3nm,0.6s,baz=105,slow=4.8,SNR=5.2
comp=Z,2.6nm,0.3s
MKAR Makanchi Array 50.61 323 P **P** **15 43 07.5 +0.5**
MKAR PcP **PcP** **15 44 23.3 -0.4**
MAKZ Makanchi 50.80 322 P **P** **15 43 08.8 +0.3**
MAKZ IAmb IAmb 15 43 10.1
comp=Z,4.9nm,1.0s
MAKZ PcP **PcP** **15 44 24.1 -0.3**
DZM Mont Dzumac 52.21 130 P **P** **15 43 20.6 +1.2**
comp=Z,3.0nm,0.6s,baz=310,slow=17,SNR=7.1
comp=Z,3.0nm,0.6s
TOO Toolangi 52.27 160 P **P** **15 43 19.2 -0.3**
ZAA0 Zalesovo Array 53.21 331 P **P** **15 43 26.0 -0.2**
ZAA0 IAmb IAmb 15 43 27.1
comp=Z,7.1nm,0.8s
ZAA0 PcP **PcP** **15 44 32.5 -0.6**
ZALV Zalesovo Beam 53.21 331 P **P** **15 43 26.4 +0.2**
comp=Z,4.2nm,0.5s,baz=118,slow=7.0,SNR=28
comp=Z,4.2nm,0.5s
ZALV Zalesovo Beam 53.21 331 P **P** **15 43 24.9 -1.3**
ZALV PcP **PcP** **15 44 32.6 -0.6**
KURK Kurchatov 54.65 325 P **P** **15 43 36.7 0.0**
GAR Garm 55.93 309 P **P** **15 43 45.0 -1.3**
GAR IAmb IAmb 15 43 49.8
comp=Z,7.3nm,0.9s
KKAR Karatay Array 56.86 314 P **P** **15 43 53.1 +0.4**
BRVK Borovoye 60.31 325 P **P** **15 44 16.2 -0.4**
NRIK Noril'sk 62.67 346 P **P** **15 44 32.8 +0.7**
comp=Z,11nm,0.6s,baz=125,slow=6.2,SNR=23
comp=Z,11nm,0.6s
NRIK Noril'sk 62.67 346 P **P** **15 44 31.7 -0.4**
GEYT Alibeck 65.21 306 P **P** **15 44 50.2 +0.8**
comp=Z,2.2nm,0.6s,baz=64,slow=3.4,SNR=7.5
comp=Z,2.2nm,0.6s
ABKAR Akbulak array 65.47 319 P **P** **15 44 49.4 -1.4**
ABKAR IAmb IAmb 15 44 51.1
comp=Z,3.4nm,0.7s
AKTO Aktyubinsk 66.91 320 LR LR 16 14 02.6
comp=Z,87nm,18.6s,baz=40,slow=36
ARU Arti 67.80 326 P **P** **15 45 04.4 -1.1**
ARU IAmb IAmb 15 45 07.1
comp=Z,5.8nm,0.7s
IMAR Indian Mountai 75.85 25 P **P** **15 45 54.8 +1.2**
H21K Melozitna Rive 76.22 25 P **P** **15 45 57.9 +2.2**
CAST Castle Rocks 76.44 27 P **P** **15 45 57.4 +0.3**
CAST IAmb IAmb 15 45 60.0
comp=Z,11nm,1.3s
KBZ Khabaz 76.83 312 P **P** **15 45 59.2 -0.3**
comp=Z,3.8nm,0.9s,baz=82,slow=7.1,SNR=6.4
comp=Z,3.8nm,0.9s
BPAW Bear Paw Mtn. 76.94 27 P **P** **15 46 00.5 +0.7**
BPAW IAmb IAmb 15 46 02.2
comp=Z,7.0nm,0.8s
SUA Susitna One 77.04 29 P **P** **15 46 00.8 +0.3**
MLY Manley 77.06 26 P **P** **15 46 01.7 +1.2**
MLY IAmb IAmb 15 46 02.6
comp=Z,4.7nm,0.7s
TRF Thorofare Moun 77.25 27 P **P** **15 46 01.7 -0.1**
TRF IAmb IAmb 15 46 03.5
comp=Z,5.4nm,0.9s
I23K Minto, Yukon-K 77.65 26 P **P** **15 46 04.6 +0.9**
I23K IAmb IAmb 15 46 06.6
comp=Z,4.0nm,0.7s
MCK McKinley 77.85 27 P **P** **15 46 05.6 +0.7**
WRH Wood River Hil 78.20 26 P **P** **15 46 05.4 -1.4**
ILAR Eielson Array 78.71 26 P **P** **15 46 09.7 0.0**
comp=Z,1.5nm,0.8s,baz=244,slow=5.9,SNR=29
comp=Z,1.5nm,0.8s
BMAR Burnt Mountain 79.48 23 P **P** **15 46 15.2 +1.4**
RIDG Independent Ri 79.67 27 P **P** **15 46 15.0 +0.1**
RIDG IAmb IAmb 15 46 16.6
comp=Z,7.9nm,1.0s
ARCES ARCESS Array B 82.81 340 P **P** **15 46 31.5 +0.1**
comp=Z,4.1nm,0.7s,baz=83,slow=6.9,SNR=14
ARCES pP **pP** **15 46 50.5 -1.3**
comp=Z,7.9nm,1.0s,baz=73,slow=6.0,SNR=1.5
comp=Z,4.1nm,0.7s
INK Inuvik 83.47 22 P **P** **15 46 34.4 -0.4**
VOI Vohitsoka 83.95 246 P **P** **15 46 36.5 -1.8**
BRTR Keskin Array B 84.17 309 P **P** **15 46 38.6 -0.6**
comp=Z,1.4nm,0.7s,baz=94,slow=4.1,SNR=10
comp=Z,1.4nm,0.7s
FIA1 FINESS Array S 84.47 332 P **P** **15 46 39.1 -0.9**
FIA1 IAmb IAmb 15 47 01.9
comp=Z,3.7nm,1.1s
FINES FINESS Array B 84.47 332 P **P** **15 46 40.0 0.0**
comp=Z,2.7nm,0.5s,baz=68,slow=4.5,SNR=30
comp=Z,2.7nm,0.5s
FINES FINESS Array B 84.47 332 P **P** **15 46 39.0 -1.0**
M31M Drury Creek, Y 84.63 28 P **P** **15 46 41.7 +0.9**
M31M IAmb IAmb 15 46 42.8
comp=Z,7.6nm,1.5s
FARO Faro, Yukon 85.09 27 P **P** **15 46 44.9 +1.7**
FARO IAmb IAmb 15 46 46.0
comp=Z,6.8nm,0.8s
MNK Minsk 85.13 325 *i* P **P** **15 46 42.3 -1.2**
comp=E,2.0nm,0.8s
MNK *i* P **P** **15 46 42.3 -1.2**
comp=N,37nm,0.8s
MNK *i* P **P** **15 46 42.3 -1.2**
comp=Z,17nm,0.9s,baz=257
MNK *i* pP **sP** **15 47 10.7 -1.5**
MNK *i* PP **PP** **15 50 00.7 -0.6**
MNK *i* PPP PPP 15 51 54.2
MNK *i* S S 15 56 55.8 -11
MNK *i* sS **sS** **15 57 47.5 +5.4**
MNK *i* SS **SS** **16 02 40.2 -1.5**
MNK *i* SSS SSS 16 06 11.7
MNK *i* LRM MLR 16 26 14.1
comp=E,67nm,12.8s
MNK *i* LRM MLR 16 26 22.5
comp=E,18nm,12.1s
MNK *i* LRM MLR 16 26 22.5
comp=N,446nm,17.2s
AKASG Malin Array Be 85.15 321 P **P** **15 46 42.8 -0.9**
comp=N,2.1nm,0.5s,baz=66,slow=4.4,SNR=18
comp=N,2.1nm,0.5s
AKBB Malin Array Si 85.15 321 P **P** **15 46 42.4 -1.2**
C36M Paulatuk 86.38 19 P **P** **15 46 49.9 +0.5**
EUNU Eureka 87.15 5 P **P** **15 46 53.7 +0.6**
EUNU IAmb IAmb 15 47 20.8
comp=Z,8.4nm,1.5s
BURAR Bucovina Array 88.43 318 P **P** **15 46 59.8 0.0**
BURAR IAmb IAmb 15 47 00.7
comp=Z,3.3nm,0.7s
MAW Mawson 90.55 200 P **P** **15 47 10.1 +1.1**
VNDA Vanda 91.21 173 P **P** **15 47 11.7 -0.2**
comp=Z,2.7nm,1.0s,baz=332,slow=6.9,SNR=3.6
comp=Z,2.7nm,1.0s
NOA NORSAR Array B 91.35 334 LR LR 16 31 09.5
comp=Z,23nm,18.9s,baz=35,slow=37
YKA Yellowknife Ar 92.99 24 P **P** **15 47 21.2 +0.7**
comp=Z,1.2nm,0.9s,baz=297,slow=4.8,SNR=12
comp=Z,1.2nm,0.9s
GERES GERESS Array B 95.27 322 P **P** **15 47 31.2 -0.3**
comp=Z,0.4nm,0.7s,baz=77,slow=8.6,SNR=4.1
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 119.10 292 PKP **PKPdf** **15 52 55.8 -1.1**
comp=Z,0.4nm,0.5s,baz=71,slow=2.2,SNR=5.9
PLCA Paso Flores 147.61 157 PKPbc **PKPbc** **15 53 52.9 +1.0**
comp=Z,4.9nm,0.7s,baz=228,slow=4.1,SNR=16
CPUP Villa Florida 164.98 170 PKPab **PKPab** **15 55 08.8 +0.5**
comp=Z,1.4nm,0.8s,baz=180,slow=7.1,SNR=3.2

*IDC **21** 15:38:30.3±2.0,6°.71S×154°.35E, h0km, mb3.7/4, mbtmp3.8/6, ML1.4/1, Error ellipse: s-maj=49.5km s-min=27.1km az=117.0*
ISC 21 15:38:36.9±1.6,6°.60S±0°.10×154°.3E±0°.2, h48km, n7, σt 1.2 12/10, mb3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.19**	**316**		Pn	**Pn**	**15 39 24.5**	**-0.1**
KRVT					Sn	**Sn**	**15 40 00.8**	**-0.6**
	21nm,0.3s,baz=242,slow=22,SNR=7.6							
PMG	**Port Moresby 7.57 248**			Pn	**Pn**	**15 40 23.7**	**-1.0**	
	0.3nm,0.3s,baz=66,slow=19,SNR=2.2							
PMG					Sn	**Sn**	**15 41 51.0**	**+1.8**
	0.6nm,0.3s,baz=336,slow=20,SNR=1.2							
	6.3nm,0.8s							
WRA	**Warramunga Arr 23.45 234**			P	**P**	**15 43 40.6**	**-1.6**	
	3.0nm,1.1s,baz=57,slow=10,SNR=7.9							
	3.0nm,1.1s							
ASAR	**Alice Springs 25.90 227**			P	**P**	**15 44 04.4**	**-0.2**	
	0.5nm,0.6s,baz=55,slow=8.9,SNR=5.4							
	0.5nm,0.6s							
MKAR	**Makanchi Array 82.64 319**			P	**P**	**15 50 56.5**	**+1.2**	
	0.3nm,0.5s,baz=105,slow=5.5,SNR=7.1							
	0.3nm,0.5s							
ZALV	**Zalesovo Beam 83.45 326**			P	**P**	**15 50 59.5**	**+0.3**	
	0.6nm,0.6s,baz=122,slow=5.2,SNR=2.5							
	0.6nm,0.6s							
TORD	**Torodi Ar. Bea 152.23 286**			PKPbc	**PKPbc**	**15 58 28.6**	**+0.2**	
	0.8nm,0.8s,baz=96,slow=1.9,SNR=3.0							
TORD					PKPab	**pPKPbc**	**15 58 40.4**	**0.0**
	0.7nm,0.7s,baz=105,slow=4.3,SNR=3.1							

*IDC **21** 15:45:44.5±2.3,1°.61S×135°.64E, h0km, mb3.3/2, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=49.2km s-min=25.9km az=63.0, Irian Jaya region*

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong 4.44 279**				Pn	**Pn**	15 46 52.6	-0.5
	1.2nm,0.3s,baz=112,slow=16,SNR=4.7							
SIJI					Pg	Pb	15 47 05.3	+1.9
	1.3nm,0.3s,baz=52,slow=12,SNR=3.1							
SIJI					Sn	Sn	15 47 43.3	-2.3
	0.5nm,0.3s,baz=143,slow=20,SNR=1.6							
SIJI					Lg	Lg	15 47 58.0	
	2.0nm,0.3s,baz=180,slow=20,SNR=4.2							
	2.7nm,0.3s							
WRA	**Warramunga Arr 18.27 184**			P	Pn		15 49 57.8	-1.8
	0.1nm,0.3s,baz=4.2,slow=12,SNR=5.5							
WRA					S	Sn	15 53 13.2	-11
	0.3nm,0.6s,baz=12,slow=24,SNR=2.5							
	0.3nm,0.4s							
ASAR	**Alice Springs 21.99 184**			P	P		15 50 41.2	+0.8
	0.9nm,0.5s,baz=9.2,slow=11,SNR=30							
	0.9nm,0.5s							
MKAR	**Makanchi Array 67.07 323**			P	P		15 56 40.0	+0.2
	0.1nm,0.5s,baz=110,slow=7.8,SNR=4.3							
	0.1nm,0.5s							

*IDC **21** 16:34:55.7±1.7,2°.82S×129°.14E, h0km, mb3.2/2, mbtmp3.4/4, ML3.4/2, MS3.4/1, Error ellipse: s-maj=46.1km s-min=26.8km az=87.0*
*DJA **21** 16:34:59.2±1.3,3°.5±7°×12°.9E±°, h14km±12km, M3.4/8, mb4.0/1, MLv3.1/8*
ISC 21 16:34:58.1±1.0,2°.76S±0°.09×129°.45E±0°.06, h10km, n10, σt 1.3 13/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi 0.78 222**				P	**Pb**	**16 35 14.7**	**+1.0**
AAI	**Ambon 1.55 234**				P	**Pn**	**16 35 27.2**	**+1.4**
NLAI	**Namlea 2.39 258**				P	**Pn**	**16 35 37.9**	**+0.6**
SIJI	**Sorong 2.62 44**				Pn	**Pn**	**16 35 41.8**	**+1.3**
	9.9nm,0.3s,baz=217,slow=20,SNR=45							
SIJI					Sn	**Sn**	**16 36 13.2**	**+0.9**
	4.1nm,0.3s,baz=233,slow=22,SNR=12							
	20nm,0.3s							
FAKI	**Fak Fak 2.80 93**			P		**Pn**	**16 35 42.9**	**-0.1**
SANI	**Sanana 3.53 281**			P		**Pn**	**16 35 52.4**	**-0.6**
WRA	**Warramunga Arr 17.73 165**			P		**Pn**	**16 39 04.3**	**-1.0**
	0.1nm,0.3s,baz=340,slow=12,SNR=4.9							
	0.4nm,0.5s							
ASAR	**Alice Springs 21.23 169**			P	P		**16 39 43.6**	**-0.7**
	0.8nm,0.5s,baz=348,slow=9.9,SNR=13							
	0.8nm,0.5s							
LEM	**Lembang 22.12 259**			LR	LR		16 50 56.5	
	comp=Z,94nm,18.1s,baz=274,slow=44							
MKAR	**Makanchi Array 64.41 326**			P	P		**16 45 33.5**	**-1.1**
	0.1nm,0.6s,baz=110,slow=7.8,SNR=1.6							
	0.1nm,0.6s							

*IDC **21** 16:41:11.1±4.2,5°.77S×153°.77E, h35km±31km, mb3.5/6, mbtmp3.8/8, ML3.0/2, MS3.2/5, Error ellipse: s-maj=28.8km s-min=19.1km az=73.0*
ISC 21 16:41:11.1±1.0,5°.75S±0°.09×153°.8E±0°.1, h35km, n13, σt 0.9 63/12, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.24**	**310**		Pn	**Pn**	**16 41 46.4**	**+0.7**
	19nm,0.3s,baz=139,slow=12,SNR=72							
KRVT					Sn	**Sn**	**16 42 11.4**	**-0.7**
	21nm,0.3s,baz=90,slow=8.5,SNR=4.2							
KRVT					Lg	Lg	16 42 24.8	
	41nm,0.3s,baz=182,slow=21,SNR=5.8							
KRVT					LR	LR	16 43 02.8	
	comp=Z,209nm,18.2s,baz=260,slow=49							
	66nm,0.4s							
HNR	**Honiara 7.14 121**			LR	LR		16 45 54.5	
	comp=Z,1μm,18.1s,baz=252,slow=40							
PMG	**Port Moresby 7.48 241**			Pn	**Pn**	**16 42 57.9**	**+0.1**	
	4.0nm,0.3s,baz=63,slow=6.8,SNR=8.4							
PMG					Sn	**Sn**	**16 44 21.5**	**0.0**
	0.4nm,0.3s,baz=45,slow=17,SNR=1.5							
PMG					LR	LR	16 45 49.0	
	comp=Z,98nm,21.3s,baz=72,slow=37							
	10nm,0.5s							
DZM	**Mont Dzumac 20.34 144**			P	P		**16 45 44.8**	**+0.1**
	2.6nm,0.4s,baz=329,slow=12,SNR=12							
	2.6nm,0.4s							
WRA	**Warramunga Arr 23.57 231**			P	P		**16 46 18.6**	**-0.1**
	0.6nm,0.4s,baz=56,slow=10.0,SNR=11							
WRA					PcP	**PcP**	**16 50 03.0**	**-0.5**
	0.4nm,0.3s,baz=56,slow=2.7,SNR=6.6							
WRA					LR	LR	16 54 57.5	
	comp=Z,31nm,20.7s,baz=350,slow=35							
	0.6nm,0.4s							
ASAR	**Alice Springs 26.13 225**			P	P		**16 46 42.5**	**+0.3**
	2.0nm,0.9s,baz=55,slow=9.9,SNR=14							
ASAR					PcP	**PcP**	**16 50 08.6**	**-0.6**
	0.4nm,0.5s,baz=70,slow=2.6,SNR=6.1							
	2.0nm,0.9s							
H11S3	**WAKE ISLAND Hy 27.25**		**28**	T	T		17 15 01.8	
	baz=208,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy 27.26**		**28**	T	T		17 15 02.1	
	baz=208,slow=76,SNR=7.7							
H11S1	**WAKE ISLAND Hy 27.27**		**28**	T	T		17 15 06.5	
	baz=208,slow=76,SNR=7.5							
KAPI	**Kappang 33.86 270**			LR	LR		17 04 14.1	
	comp=Z,46nm,18.5s,baz=124,slow=41							
CMAR	**Chiang Mai Arr 59.14 295**			P	P		**16 51 09.6**	**+0.8**
	0.1nm,0.3s,baz=127,slow=6.0,SNR=1.3							
	0.1nm,0.3s							
MKAR	**Makanchi Array 81.66 319**			P	P		**16 53 24.8**	**-1.1**
	0.2nm,0.5s,baz=101,slow=6.5,SNR=4.4							
	0.2nm,0.5s							
YKA	**Yellowknife Ar 95.81**		**28**	P	P		**16 54 33.9**	**+0.3**
	0.2nm,0.8s,baz=270,slow=4.3,SNR=2.2							
	0.2nm,0.8s							

*IDC **21** 16:43:32.0±0.8,51°.85N×119°.96E, h0km, mb3.5/12, mbtmp3.5/17, ML3.5/4, MS3.1/7, Error ellipse: s-maj=16.0km s-min=12.7km az=12.0*
*MOS **21** 16:43:32.3±1.3,51°.99N×119°.90E, h12km, mb4.1/5, Error ellipse: s-maj=9.5km s-min=7.0km az=113.4*
*BJI **21** 16:43:34.0±0.0,52°.00N×119°.90E, h10km, mb3.7/2, ML4.6/6, Ms4.0/2, Ms7 3.7/2*
*BYKL **21** 16:43:35.4±0.7,52°.07N×119°.85E*
ISC 21 16:43:34.3±0.5,51°.95N±0°.03×120°.02E±0°.03, h10km, n82, σt 3.9 15/120, mb3.8/13, MS3.1/5, 8C-3D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**2.48**	**359**	⇑*i* P	Pn	**Pn**	**16 44 12.9**	**-1.9**
TUP				*e* Pg	**Pb**		**16 44 17.4**	**-1.5**
TUP				Pmax			16 44 20.8	
	491nm,0.6s							
TUP				*e* Sn		**Sn**	**16 44 42.5**	**-2.6**
TUP				*e* Sg		**Sb**	**16 44 48.0**	**-1.5**

TUP					Smax			16 44 53.0
	3µm,0.5s							
TUP	**Tupik**		**2.48 359**	⇑*i*	PN	**Pn**	**16 44 12.8**	**-1.9**
TUP				*e*			16 44 17.7	
TUP				*e*			16 44 48.3	
TUP					pmax	pmax		
	comp=Z,485nm,0.7s							
TUP					smax	smax		
	comp=E,3µm,0.8s							
HIA	**Hailar**		**2.69 184**	*i*	PN	**Pn**	**16 44 17.9**	**+0.3**
CIT	**Chita**		**4.00 274**	*e*	Pn	**Pn**	**16 44 36.0**	**+0.3**
CIT				*e*	Pg	**Pb**	**16 44 45.3**	**+0.5**
CIT					Pmax		16 44 52.5	
	comp=E,210nm,0.9s							
CIT				*e*	Sn	**Sn**	**16 45 19.8**	**-2.8**
CIT				*e*	Sg	**Sb**	**16 45 35.0**	**+1.7**
CIT					Smax		16 45 38.7	
	comp=E,3µm,1.6s							
CIT	**Chita**		**4.00 274**	*e*	PN	**Pb**	**16 44 46.6**	**+1.8**
CIT				*e*			16 45 34.8	
CIT					pmax	pmax		
	comp=Z,149nm,0.3s							
CIT					smax	smax		
	comp=N,3µm,0.4s							
ZEA	**Zeya**		**4.73 65**	*e*	PN	**Pn**	**16 44 46.1**	**+0.5**
ZEA				*e*			16 45 02.5	
ZEA				*e*	S	**Sn**	**16 45 45.0**	**+4.5**
ZEA				*e*			16 46 05.7	
ZEA					pmax	pmax		
	comp=N,20nm,0.5s							
ZEA					pmax	pmax		
	comp=E,30nm,0.5s							
ZEA					pmax	pmax		
	comp=Z,60nm,0.5s							
ZEA					pmax	pmax		
	comp=Z,100nm,0.8s							
ZEA					pmax	pmax		
	comp=E,60nm,0.7s							
ZEA					pmax	pmax		
	comp=Z,80nm,0.7s							
ZEA					smax	smax		
	comp=E,500nm,1.2s							
ZEA					smax	smax		
	comp=N,1µm,1.3s							
ZEA					smax	smax		
	comp=N,1µm,1.3s							
YKLR	**Yuktali**		**4.75 11**	*e*	Pn	**Pn**	**16 44 44.3**	**-1.6**
YKLR				*e*	Pg	**Pb**	**16 44 59.6**	**+2.1**
YKLR				*e*	Sn	**Sn**	**16 45 36.7**	**-4.2**
YKLR				*e*	Sg	**Sb**	**16 45 59.5**	**+4.8**
HEH	**HeiHe**		**4.96 107**	*e*	Pn	**Pn**	**16 44 49.4**	**+0.7**
HEH					Sg	**Sg**	**16 46 13.0**	**-0.3**
HEH					smax	smax		
	comp=N,2µm,0.8s							
HEH					smax	smax		
	comp=N,830nm,0.8s							
KHNR	**Khani**		**4.98 360**	*e*	Pg	**Pb**	**16 45 03.2**	**+1.7**
KHNR				*e*	Sn	**Sn**	**16 45 43.4**	**-3.3**
KHNR				*e*	Sg	**Sb**	**16 46 05.7**	**+4.2**
CRS	**Chara**		**5.07 349**	*e*	Pn	**Pn**	**16 44 48.5**	**-1.7**
CRS				*e*	Pg	**Pb**	**16 45 04.5**	**+1.5**
CRS					Pmax		16 45 11.8	
	comp=N,260nm,1.0s							
CRS				*e*	Sn	**Sn**	**16 45 46.0**	**-2.8**
CRS				*e*	Sg	**Sb**	**16 46 09.1**	**+5.2**
CRS					Smax		16 46 17.5	
	comp=N,1µm,1.1s							
CRS	**Chara**		**5.07 349**	*e*	PN	**Pn**	**16 44 47.9**	**-2.3**
CRS				*e*			16 45 04.9	
CRS				*e*			16 46 08.2	
CRS					pmax	pmax		
	comp=Z,189nm,1.0s							
CRS					smax	smax		
	comp=E,653nm,1.0s							
UKT	**Uakit**		**5.20 316**	⇓*i*	Pn	**Pn**	**16 44 50.2**	**-1.9**
UKT				*e*			16 44 57.9	
UKT				*e*	Pg	**Pb**	**16 45 05.9**	**+0.7**
UKT					Pmax		16 45 09.1	
	comp=E,110nm,0.5s							
UKT				*e*	Sn	**Sn**	**16 45 47.1**	**-5.0**
UKT				*e*	Sg	**Sb**	**16 46 09.7**	**+2.1**
UKT					Smax		16 46 13.1	
	comp=E,959nm,1.1s							
UKT	**Uakit**		**5.20 316**	⇓*i*	PN	**Pn**	**16 44 50.0**	**-2.1**
UKT				*e*			16 45 07.6	
UKT				*e*			16 46 11.8	
UKT					pmax	pmax		
	comp=Z,111nm,0.7s							
UKT					smax	smax		
	comp=E,954nm,1.4s							
NLYR	**Nelyaty**		**5.21 333**	*e*	Pn	**Pn**	**16 44 49.8**	**-2.4**
NLYR				*e*	Pg	**Pb**	**16 45 06.8**	**+1.4**
NLYR					Pmax		16 45 10.5	
	comp=E,230nm,0.3s							
NLYR				*e*	Sg	**Sb**	**16 46 12.9**	**+5.0**
NLYR					Smax		16 46 29.9	
	comp=E,2µm,0.9s							
NLYR	**Nelyaty**		**5.21 333**	*e*	PN	**Pn**	**16 44 49.7**	**-2.4**
NLYR				*e*			16 45 06.4	
NLYR				*e*			16 46 11.9	
NLYR					pmax	pmax		
	comp=Z,229nm,0.5s							
NLYR					smax	smax		
	comp=N,2µm,0.9s							
KPC	**Khapcheranga**		**5.34 248**	*e*	Pn	**Pn**	**16 44 54.0**	**-0.1**
KPC				*e*			16 44 58.1	
KPC				*e*			16 45 01.2	
KPC				*e*	Pg	**Pb**	**16 45 09.6**	**+1.9**
KPC					Pmax		16 45 12.4	
	comp=N,34nm,0.6s							
KPC				*e*	Sn	**Sn**	**16 45 51.7**	**-3.9**
KPC				*e*	Sg	**Sb**	**16 46 17.0**	**+5.2**
KPC					Smax		16 46 34.6	
	comp=N,426nm,0.9s							
KPC	**Khapcheranga**		**5.34 248**	⇑*i*	PN	**Pn**	**16 44 54.0**	**-0.1**
KPC				*e*			16 45 08.6	
KPC				*e*	S	**Sn**	**16 45 50.0**	**-5.6**
KPC				*e*			16 46 15.6	
KPC					pmax	pmax		
	comp=Z,34nm,0.6s							
KPC					smax	smax		
	comp=N,421nm,1.0s							
CLNS	**Chul'man**		**5.66 28**	*e*	Pn	**Pn**	**16 44 57.2**	**-1.2**
CLNS				*e*			16 45 04.8	
CLNS				*e*			16 45 57.6	
CLNS				*e*			16 46 12.1	
CLNS				*e*	Sg	**Sb**	**16 46 28.5**	**+7.5**
YLYR	**Ulyunkhan**		**6.06 302**	⇑*i*	Pn	**Pn**	**16 45 01.8**	**-2.0**
YLYR				*e*			16 45 11.3	
YLYR				*e*	Pg	**Pb**	**16 45 21.6**	**+1.8**
YLYR					Pmax		16 45 24.3	
	comp=N,57nm,0.6s							
YLYR				*e*	Sn	**Sn**	**16 46 07.9**	**-5.2**
YLYR				*e*	Sg	**Sb**	**16 46 37.5**	**+5.2**
YLYR					Smax		16 46 42.3	
	comp=N,1µm,0.9s							
YLYR	**Ulyunkhan**		**6.06 302**	*e*	PN	**Pn**	**16 45 02.1**	**-1.7**
YLYR				*e*	S	**Sb**	**16 46 35.7**	**+3.4**
YLYR					smax	smax		
	comp=N,1µm,1.1s							
SYVR	**Suvo**		**6.32 290**	*e*	Pn	**Pn**	**16 45 05.5**	**-1.9**
SYVR				*e*	Pg	**Pb**	**16 45 25.8**	**+1.6**
SYVR					Pmax		16 45 29.5	
	comp=N,30nm,0.5s							
SYVR				*e*	Sg	**Sb**	**16 46 46.2**	**+6.4**
SYVR					Smax		16 47 00.0	
	comp=N,1µm,1.3s							
SYVR	**Suvo**		**6.32 290**	*e*	PN	**Pn**	**16 45 05.5**	**-1.9**
SYVR				*e*			16 45 25.0	
SYVR				*e*			16 46 44.8	
SYVR					pmax	pmax		
	comp=Z,31nm,0.7s							
SYVR					smax	smax		
	comp=E,1µm,1.1s							
YOA	**Uoyan**		**6.44 314**	*e*	Pn	**Pn**	**16 45 07.2**	**-1.8**
YOA				*e*	Pg	**Pb**	**16 45 28.6**	**+2.3**
YOA					Pmax		16 45 37.3	
	comp=E,296nm,1.2s							
YOA				*e*	Sg	**Sb**	**16 46 49.7**	**+6.5**
YOA					Smax		16 46 59.2	
	comp=E,5µm,0.7s							
KMO	**Kumora**		**6.54 311**	*e*	Pn	**Pn**	**16 45 08.4**	**-2.0**
KMO				*e*	Pg	**Pb**	**16 45 30.8**	**+2.9**
KMO					Pmax		16 45 34.4	
	comp=E,55nm,0.4s							
KMO				*e*	Sn	**Sn**	**16 46 19.8**	**-5.1**
KMO				*e*	Sg	**Sb**	**16 46 53.6**	**+7.6**
KMO					Smax		16 46 59.3	
	comp=E,2µm,1.2s							
BOD	**Bodaibo**		**6.83 332**	*e*		**Pn**	**16 45 11.3**	**-3.1**
BOD				*e*	Pg	**Pb**	**16 45 35.5**	**+2.6**
BOD					Pmax		16 45 38.5	
	comp=E,89nm,1.8s							
BOD				*e*	Sg	**Sb**	**16 47 01.5**	**+7.1**
BOD					Smax		16 47 12.4	
	comp=E,672nm,0.9s							
BOD	**Bodaibo**		**6.83 332**	*e*	PG	**Pb**	**16 45 36.5**	**+3.6**
BOD				*e*			16 47 01.4	
BOD					pmax	pmax		
	comp=Z,90nm,2.1s							
BOD					smax	smax		
	comp=E,673nm,0.9s							
MXMB	**Maximikha**		**7.00 285**	*e*	Pn	**Pn**	**16 45 15.1**	**-1.6**
MXMB				*e*	Sn	**Sn**	**16 46 31.6**	**-4.7**
MXMB				*e*	Sg	**Sb**	**16 47 07.3**	**+8.0**
KELR	**Kotokel**		**7.36 281**	*e*	Pn	**Pn**	**16 45 21.6**	**-0.1**
KELR				*e*			16 45 32.8	
KELR				*e*	Sg	**Sb**	**16 47 18.3**	**+8.5**
OGRR	**Ongureny**		**7.72 288**	*e*	PN	**Pn**	**16 45 27.5**	**+0.8**
OGRR				*e*			16 45 53.3	
BNX	**BinXian**		**7.89 139**	⇑	Pg	Pb	16 46 01.0	+10
BNX					Sg	**Sg**	**16 47 47.9**	**+0.6**
BNX					smax	smax		
	comp=N,210nm,0.9s							
BNX					smax	smax		
	comp=E,230nm,0.9s							
ZRHB	**Zarechye**		**7.93 279**	*e*	Pn	**Pn**	**16 45 30.5**	**+1.0**
ZRHB				*e*	Sg	Sb	16 47 37.4	+11
ZRHB					Smax		16 47 51.2	
	comp=E,4µm,1.1s							
KLR	**Kul'dur**		**7.94 105**		Pn	Pn	16 45 27.9	-1.9
	comp=E,0.6nm,0.3s,baz=303,slow=13,SNR=16							
KLR					Sn	**Sn**	**16 46 55.5**	**-4.1**
	comp=E,1.4nm,0.3s,baz=298,slow=15,SNR=2.2							
KLR					Lg	Lg	16 47 44.0	
	comp=E,2.4nm,0.3s,baz=331,slow=13,SNR=5.4							
KLR					LR	LR	16 48 24.1	
	comp=E,65nm,18.1s,baz=281,slow=37							
	comp=E,2.1nm,0.5s							
KLR	**Kul'dur**		**7.94 105**	*ce*	PN	**Pn**	**16 45 30.1**	**+0.4**
KLR					pmax	pmax		
	comp=Z,5.0nm,0.5s							
FFNB	**Fofonovo**		**8.19 276**	*e*	Sg	Sb	16 47 44.4	+11
KAB	**Kabansk**		**8.26 276**	*e*	Sg	Sb	16 47 46.7	+11
KAB					Smax		16 48 09.9	
	comp=Z,2µm,1.1s							
TRG	**Tyrgan**		**8.41 281**	*e*	Pn	**Pn**	**16 45 34.0**	**-2.2**
TRG				*e*			16 45 38.5	
TRG					max		16 45 38.8	
	comp=Z,15nm,0.4s							
TRG				*e*	Sn	**Sn**	**16 47 06.2**	**-5.0**
TRG				*e*	Sg	Sg	16 47 53.0	-11
TRG					Smax		16 48 01.0	
	comp=Z,606nm,1.2s							
TRG	**Tyrgan**		**8.41 281**	*e*	PN	**Pn**	**16 45 33.5**	**-2.7**
TRG				*e*			16 46 02.0	
XLT	**XiLinHaoTe**		**8.48 200**	*e*	P	Pn	16 45 44.5	+7.4
XLT					pP	Pg	16 45 47.8	-29
XLT					sP		16 45 50.3	
XLT					pmax	pmax		
	comp=Z,2.0nm,0.7s							
XLT					smax	smax		
	comp=Z,62nm,0.8s							
XLT					LR	LR		
	comp=Z,450nm,4.9s							
XLT					LR	LR		
	comp=Z,200nm,4.9s							
VTMR	**Vitim**		**8.61 334**	*e*		**Pn**	**16 45 35.6**	**-3.1**
VTMR				*e*	Sg	Sg	16 47 57.9	-12
BGT	**Bolshoye Golou**		**9.02 276**	*e*	Pn	**Pn**	**16 45 45.2**	**+0.7**
BGT				*e*	Pg		16 46 16.2	
BGT					Pmax		16 46 23.8	
	comp=Z,16nm,0.8s							
BGT				*e*	Sg		16 48 11.7	
BGT					Smax		16 48 20.7	
	comp=Z,460nm,1.6s							
ULN	**Ulaanbaatar**		**9.31 249**	*i*	P	**Pn**	**16 45 48.6**	**0.0**
IVK	**Ivanovka**		**9.66 275**	*e*	Pn	**Pn**	**16 45 54.6**	**+1.4**
IVK				*e*	Sg	Sn	16 48 30.4	+49
IVK					Smax		16 48 42.2	
	comp=Z,146nm,0.8s							
SONM	**Songino Array**		**9.71 250**		Pn	**Pn**	**16 45 52.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=64,slow=13,SNR=11							
SONM					Lg	Lg	16 48 38.6	
	comp=Z,11nm,0.3s,baz=50,slow=25,SNR=15							
SONM					LR	LR	16 49 54.4	
	comp=Z,146nm,20.5s,baz=7.0,slow=40							
	comp=Z,0.4nm,0.3s							
TLY	**Talaya**		**10.15 275**	*e*	Pn	**Pn**	**16 46 01.0**	**+1.1**
TLY					max		16 46 15.0	
	comp=Z,8.0nm,0.6s							
TLY				*e*	Sg	Sn	16 48 46.1	+52
TLY					Smax		16 49 07.9	
	comp=Z,67nm,0.6s							
GRNR	**Gornyy**		**10.33 90**	⇓*i*	P	**Pn**	**16 46 06.5**	**+4.1**
GRNR					eS	Sn	16 48 08.4	+10
GRNR					pmax	pmax		
	comp=E,3.0nm,0.3s							
GRNR					pmax	pmax		
	comp=N,5.0nm,0.5s							
GRNR					pmax	pmax		
	comp=Z,3.0nm,0.6s							
GRNR					smax	smax		
	comp=E,1.0nm,0.6s							
GRNR					MLR	MLR		
	comp=N,250nm,18.0s							
GRNR					MLR	MLR		
	comp=E,300nm,18.0s							
GRNR					MLR	MLR		
	comp=Z,90nm,14.0s							
ZAK	**Zakamensk**		**10.63 268**	*e*	P	**Pn**	**16 46 08.3**	**+1.7**
ZAK				*e*			16 48 11.4	
ZAK					pmax	pmax		
	comp=Z,3.0nm,0.8s							
ARS	**Arshan**		**10.87 277**	*e*	Pn	**Pn**	**16 46 12.3**	**+2.5**
ARS					max		16 46 26.1	
	comp=Z,15nm,0.5s							
ARS				*e*	Sg	Sn	16 49 07.1	+56
ARS					Smax		16 49 30.1	
	comp=Z,295nm,1.0s							
USA0B	**Ussuriysk Arra**		**11.13 129**	*i*	P	**Pn**	**16 46 17.7**	**+4.3**
USRK	**Ussuriysk Ar.**		**11.13 129**		Pn	Pn	16 46 10.9	-2.5
	baz=340,slow=25,SNR=1.4							
USRK					Lg	Lg	16 49 23.8	
	comp=Z,0.3nm,0.3s,baz=334,slow=17,SNR=5.5							
	comp=Z,0.3nm,0.5s							
YAK	**Yakutsk**		**11.38 24**		Pn	**Pn**	**16 46 14.7**	**-1.9**
	baz=181,slow=7.0,SNR=5.0							
YAK					Sn	Sn	16 48 12.9	-11
	comp=Z,0.1nm,0.3s,baz=1.0,slow=4.7,SNR=1.5							
YAK					Lg	Lg	16 49 27.7	
	comp=Z,0.2nm,0.3s,baz=144,slow=19,SNR=12							
	comp=Z,3.4nm,0.5s							
YAK	**Yakutsk**		**11.38 24**	*e*	P	Pn	16 46 10.0	-6.7
YAK					pmax	pmax		
	comp=Z,10.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,8.0nm,1.4s							
YAK					pmax	pmax		
	comp=N,7.0nm,1.1s							
YAK					pmax	pmax		
	comp=N,140nm,0.9s							
YAK					pmax	pmax		
	comp=E,205nm,1.0s							
YAK					MLR	MLR		
	comp=Z,86nm,1.0s							
MOY	**Mondy**		**11.79 276**	*e*	P	**Pn**	**16 46 23.4**	**+1.0**
MOY				*e*	S	**Sn**	**16 48 36.4**	**+2.5**
KSRS	**Korea Array**		**15.53 156**		Pn	**Pn**	**16 47 12.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=269,slow=23,SNR=1.5							
ASAJ	**Asahikawa**		**16.96 109**		Pn	**Pn**	**16 47 35.4**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=311,slow=3.6,SNR=4.4							
MA2	**Magadan**		**18.77 54**		LR	LR	16 55 17.1	
	comp=Z,40nm,20.0s,baz=282,slow=37							
GTA	**Gaotai**		**18.80 236**	*e*	P	**Pn**	**16 48 00.6**	**+6.2**
GTA					pP	sP	16 48 04.0	+5.7
GTA					sP	pP	16 48 06.3	+9.4
GTA					LR	LR		
	comp=Z,190nm,8.7s							
GTA					LR	LR		
	comp=Z,190nm,10.5s							
GTA					LR	LR		
	comp=Z,170nm,9.5s							
MJAR	**Matsushiro Arr**		**20.09 133**		P	**P**	**16 48 07.7**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=26,slow=37,SNR=1.7							
	comp=Z,0.9nm,0.9s							
TIXI	**Tiksi**		**20.16 8**		Lg	Lg	16 54 13.9	
	comp=Z,43nm,0.3s,baz=270,slow=23,SNR=3.3							
TIXI	**Tiksi**		**20.16 8**	*ce*	P	**P**	**16 48 09.9**	**+1.6**
TIXI					pmax	pmax		
	comp=Z,10.0nm,0.6s							
SEY	**Seymchan**		**20.35 45**		P	**P**	**16 48 10.6**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=263,slow=11,SNR=10							
SEY					Lg	Lg	16 54 13.0	
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=4.3							
	comp=Z,2.4nm,0.8s							
SEY	**Seymchan**		**20.35 45**	*ce*	P	**P**	**16 48 11.5**	**+1.1**
SEY					pmax	pmax		
	comp=Z,12nm,2.8s							
DGZ	**Jazzator, Alta**		**20.62 277**	*i*	P	**P**	**16 48 13.6**	**-0.1**
DGZ					pmax	pmax		
	comp=Z,5.0nm,0.9s							
ZALV	**Zalesovo Beam**		**21.18 289**		P	**P**	**16 48 19.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=120,slow=16,SNR=2.2							
ZALV					Lg	Lg	16 54 35.9	
	comp=Z,0.1nm,0.3s,baz=94,slow=29,SNR=5.5							
	comp=Z,0.4nm,0.3s							
PETK	**Petropavlovsk-**		**22.78 72**		P	**P**	**16 48 37.8**	**+1.1**
	comp=Z,5.0nm,0.9s,baz=279,slow=5.1,SNR=8.9							
PETK					LR	LR	16 58 54.4	
	comp=Z,57nm,20.5s,baz=356,slow=40							
	comp=Z,5.0nm,0.9s							
WMQ	**Urumqi**		**23.00 262**	*e*	P	**P**	**16 48 37.3**	**-1.8**
NRIK	**Noril'sk**		**23.13 331**		P	**P**	**16 48 39.0**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=73,slow=11,SNR=2.5							
	comp=Z,1.6nm,0.8s							
NRIK	**Noril'sk**		**23.13 331**	*i*	P	**P**	**16 48 40.4**	**+0.3**
NRIK					pmax	pmax		
	comp=Z,6.0nm,1.0s							
MKAR	**Makanchi Array**		**24.90 273**		P	**P**	**16 48 56.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=72,slow=7.6,SNR=3.2							
MKAR					LR	LR	16 58 09.9	
	comp=Z,19nm,19.1s,baz=72,slow=35							
	comp=Z,0.4nm,0.8s							
KURK	**Kurchatov**		**25.65 284**		P	**P**	**16 49 03.7**	**-0.1**
KURBB	**Kurchatov Arra**		**25.74 284**		P	**P**	**16 49 03.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=72,slow=10,SNR=1.5							
	comp=Z,0.4nm,0.3s							
BRVK	**Borovoye**		**29.81 292**	*i*	P	**P**	**16 49 41.4**	**+0.3**
BRVK					pmax	pmax		
	comp=Z,2.0nm,1.2s							
CMAR	**Chiang Mai Arr**		**37.31 214**		LR	LR	17 07 49.4	
	comp=Z,26nm,18.1s,baz=115,slow=39							
ILAR	**Eielson Array**		**45.94 37**		P	**P**	**16 51 57.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=296,slow=7.4,SNR=12							
	comp=Z,0.8nm,0.6s							
FINES	**FINESS Array B**		**48.06 320**		P	**P**	**16 52 11.7**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=38,slow=13,SNR=1.9							
	comp=Z,1.9nm,0.9s							
MNK	**Minsk**		**51.35 312**	*i*	P	P	16 52 34.2	-4.2
	comp=E,2.0nm,0.8s							
MNK				*i*	P	P	16 52 34.2	-4.2
	comp=N,19nm,0.7s							
MNK				*i*	P	P	16 52 34.2	-4.2
	comp=Z,4.0nm,0.8s,baz=232							
MNK				*i*	PcP	**PcP**	**16 53 49.2**	**-3.8**
MNK				*i*	PP	**PP**	**16 54 31.2**	**-3.9**
MNK				*i*	PPP	PPP	16 55 29.7	
MNK				*i*	S	**S**	**16 59 53.6**	**-3.8**
MNK				*i*	ScS	**ScS**	**17 02 24.9**	**-3.6**
MNK				*i*	SS	**SS**	**17 03 30.5**	**-1.8**
MNK				*i*	SSS	SSS	17 05 04.0	
MNK				*i*	LQ	LQ	17 10 12.2	
MNK				*i*	LR	LR	17 14 32.4	
MNK				*i*	LRM	MLR	17 16 50.4	
	comp=E,13nm,10.3s							
MNK				*i*	LRM	MLR	17 16 50.4	
	comp=Z,65nm,12.2s							
MNK				*i*	LRM	MLR	17 16 56.4	
	comp=N,382nm,16.1s							
AKASG	**Malin Array Be**		**53.08 307**		P	**P**	**16 52 50.0**	**-1.4**
	comp=N,0.1nm,0.3s,baz=31,slow=1.0,SNR=1.6							
	comp=N,0.1nm,0.3s							
AKASG	**Malin Array Be**		**53.08 307**		P	**P**	**16 52 50.0**	**-1.4**
HFS	**Hagfors**		**53.64 323**		LR	LR	17 18 54.9	
	comp=N,70nm,18.5s,baz=18,slow=40							
YKA	**Yellowknife Ar**		**58.04 27**		P	**P**	**16 53 25.6**	**-1.2**
	comp=N,0.3nm,0.7s,baz=323,slow=6.7,SNR=6.3							
	comp=N,0.3nm,0.7s							
YKA	**Yellowknife Ar**		**58.04 27**	*e*	P	**P**	**16 53 27.1**	**+0.3**
HNR	**Honiara**		**70.09 138**		P	P	16 54 44.5	-2.0
	comp=N,915nm,0.5s,baz=140,slow=21,SNR=2.6							
WRA	**Warramunga Arr**		**72.67 166**		P	**P**	**16 55 01.6**	**-0.4**
	comp=N,0.4nm,0.9s,baz=350,slow=6.4,SNR=1.9							
	comp=N,0.4nm,0.9s							

ROM 21 16:47:23.4±0.1,42°613N±0°004×13°221E±0°006,
h11km,ML1.5/5,4C-1D,Error ellipse: s-maj=0.5km
s-min=0.5km az=94.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.09**	**2**	P	Pg	16 47 26.7	+0.4
T1202				S	Sg	16 47 29.0	+0.7
T1218	**Civita (PG)**	**0.10**	**306**	⇑P	Pg	16 47 26.6	+0.3
T1218				S	Sg	16 47 28.6	+0.3
T1218				AML	AML		
	comp=E,325µm,0.9s						
T1218				AML	AML		
	comp=E,244µm,0.2s						
T1218				AML	AML		
	comp=N,274µm,0.2s						
T1218				AML	AML		
	comp=N,303µm,0.2s						
T1218				AML	AML		
	comp=N,274µm,0.2s						
T1218				AML	AML		
	comp=E,244µm,0.2s						
T1218				AML	AML		
	comp=E,326µm,0.9s						
RM33	**Pellescritta (**	**0.10**	**183**	⇑P	Pg	16 47 26.8	+0.4
RM33				S	Sg	16 47 28.9	+0.4
RM33				AML	AML		
	comp=E,808µm,0.1s						
RM33				AML	AML		
	comp=N,520µm,0.9s						
RM33				AML	AML		
	comp=N,520µm,0.9s						
RM33				AML	AML		
	comp=E,778µm,0.4s						
RM33				AML	AML		
	comp=N,490µm,1.2s						
RM33				AML	AML		
	comp=N,490µm,0.8s						
RM33				AML	AML		
	comp=E,806µm,0.1s						
LNSS	**Leonessa**	**0.13**	**266**	⇑P	Pg	16 47 27.3	+0.6
LNSS				S	Sg	16 47 30.0	+0.8
LNSS				AML	AML		
	comp=E,216µm,0.3s						
LNSS				AML	AML		
	comp=N,238µm,0.8s						
LNSS				AML	AML		
	comp=E,217µm,0.3s						
LNSS				AML	AML		
	comp=N,238µm,1.2s						
T1247	**Pizzolo (AQ)**	**0.18**	**162**	S	Sg	16 47 31.1	+0.9
T1247				AML	AML		
	comp=E,232µm,0.3s						
T1247				AML	AML		
	comp=N,212µm,0.5s						
T1247				AML	AML		
	comp=N,212µm,1.5s						
T1212	**Cascia, Frazio**	**0.19**	**317**	⇓P	Pg	16 47 28.1	+0.5
T1212				S	Sg	16 47 31.3	+0.8
T1217	**Poggiodomo (PG**	**0.24**	**295**	P	Pg	16 47 28.9	+0.5
T1217				S	Sg	16 47 32.6

MC2	Monte Cornacci	0.30 356	S	Sg	16 47 34.6	+0.8
GIGS	Gran Sasso	0.30 122	P	Pg	16 47 29.7	+0.1
T1215	Vallo di Nera,	0.32 306	P	Pg	16 47 30.2	+0.3
T1215			S	Sb	16 47 35.4	-1.1

*ROM **21** 16:48:20.3±0.1, 42°.518N±0°.003×13°.264E±0°.005, h12km, ML2.8/46, Error ellipse: s-maj=0.4km s-min=0.1km az=67.0*

ISC 21 16:48:20.4±0.8, **42°.54N**±0°.02×**13°.28E**±0°.02, **h14**km±4km, **n56**, σ0**83**/73, **18C-8D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**240**	P	**Pg**	**16 48 23.1**	**-0.2**
RM33				S	**Sg**	**16 48 24.6**	**-0.5**
RM33				AML	AML		
	comp=E,39850μm,1.2s						
RM33				AML	AML		
	comp=N,27700μm,0.6s						
RM33				AML	AML		
	comp=E,39250μm,1.2s						
RM33				AML	AML		
	comp=N,27700μm,0.6s						
RM33				AML	AML		
	comp=N,28000μm,0.6s						
RM33				AML	AML		
	comp=E,39850μm,1.2s						
RM33				AML	AML		
	comp=N,28000μm,1.4s						
RM33				AML	AML		
	comp=N,27700μm,1.4s						
T1247	**Pizzolo (AQ)**	**0.10**	**170**	P	**Pg**	**16 48 23.5**	**-0.1**
T1247				S	**Sg**	**16 48 25.3**	**-0.4**
T1247				AML	AML		
	comp=E,15850μm,0.8s						
T1247				AML	AML		
	comp=N,29950μm,0.2s						
T1247				AML	AML		
	comp=E,15850μm,1.2s						
CAMP	**Campotosto**	**0.10**	**90**	P	**Pg**	**16 48 23.7**	**0.0**
CAMP				S	**Sg**	**16 48 25.7**	**-0.2**
CAMP				AML	AML		
	comp=E,7920μm,0.5s						
CAMP				AML	AML		
	comp=N,13950μm,0.3s						
T1202	**Accumoli, Fraz**	**0.17**	**347**	P	**Pg**	**16 48 25.1**	**+0.4**
T1202				S	**Sb**	**16 48 28.6**	**-0.2**
T1202				AML	AML		
	comp=E,21150μm,1.3s						
T1202				AML	AML		
	comp=N,28900μm,0.3s						
T1202				AML	AML		
	comp=N,28900μm,1.7s						
T1202				AML	AML		
	comp=E,21150μm,0.7s						
T1218	**Civita (PG)**	**0.18**	**318**	⇓P	**Pg**	**16 48 24.9**	**+0.2**
T1218				S	**Sg**	**16 48 28.0**	**+0.2**
T1218				AML	AML		
	comp=E,12150μm,0.4s						
T1218				AML	AML		
	comp=E,13000μm,0.4s						
T1218				AML	AML		
	comp=N,18950μm,0.2s						
T1218				AML	AML		
	comp=E,12150μm,0.4s						
T1218				AML	AML		
	comp=N,18950μm,0.2s						
T1218				AML	AML		
	comp=E,13000μm,0.4s						
LNSS	**Leonessa**	**0.19**	**291**	P	**Pg**	**16 48 25.1**	**+0.2**
LNSS				S	**Sg**	**16 48 28.2**	**+0.3**
LNSS				AML	AML		
	comp=N,17100μm,0.8s						
LNSS				AML	AML		
	comp=E,22250μm,0.2s						
LNSS				AML	AML		
	comp=N,17100μm,1.2s						
AQU	**L'Aquila**	**0.20**	**153**	P	**Pg**	**16 48 25.0**	**-0.1**
AQU				AML	AML		
	comp=E,2465μm,0.3s						
AQU				AML	AML		
	comp=N,2820μm,0.3s						
AQU				AML	AML		
	comp=E,2390μm,0.3s						
AQU				AML	AML		
	comp=N,2920μm,0.3s						
AQU				AML	AML		
	comp=E,2465μm,1.7s						
AQU				AML	AML		
	comp=E,2390μm,1.7s						
T1222	**Castel Sant'An**	**0.22**	**233**	⇑P	**Pg**	**16 48 25.3**	**-0.1**
T1222				S	**Sg**	**16 48 28.8**	**0.0**
T1222				AML	AML		
	comp=E,10900μm,0.3s						
T1222				AML	AML		
	comp=E,11700μm,0.3s						
T1222				AML	AML		
	comp=N,8490μm,0.2s						
T1222				AML	AML		
	comp=N,8490μm,0.2s						
T1222				AML	AML		
	comp=N,9850μm,0.3s						
GIGS	**Gran Sasso**	**0.23**	**112**	P	**Pg**	**16 48 25.4**	**-0.2**
GIGS				AML	AML		
	comp=E,762μm,0.3s						
GIGS				AML	AML		
	comp=E,763μm,0.3s						
GIGS				AML	AML		
	comp=N,823μm,0.3s						
T1212	**Cascia, Frazio**	**0.28**	**322**	⇑P	**Pg**	**16 48 26.5**	**+0.2**
T1212				S	**Sg**	**16 48 30.6**	**+0.3**
T1212				AML	AML		
	comp=N,4450μm,0.2s						
T1212				AML	AML		
	comp=E,3605μm,0.9s						
T1212				AML	AML		
	comp=N,4460μm,0.1s						
T1212				AML	AML		
	comp=E,3570μm,0.6s						
T1212				AML	AML		
	comp=E,3605μm,1.1s						
FIAM	**Fiamignano**	**0.29**	**204**	⇑P	**Pg**	**16 48 26.4**	**-0.2**
FIAM				AML	AML		
	comp=N,1615μm,0.3s						
FIAM				AML	AML		
	comp=E,2970μm,0.5s						
T1217	**Poggiodomo (PG**	**0.31**	**305**	P	**Pg**	**16 48 27.0**	**+0.1**
T1217				S	**Sg**	**16 48 31.8**	**+0.5**
T1217				AML	AML		
	comp=E,3970μm,0.2s						
T1217				AML	AML		
	comp=E,3410μm,0.2s						
T1217				AML	AML		
	comp=E,3970μm,0.2s						
T1217				AML	AML		
	comp=N,3230μm,0.3s						
T1217				AML	AML		
	comp=N,3175μm,0.3s						
T1217				AML	AML		
	comp=E,3410μm,0.2s						
NRCA	**Norcia**	**0.32**	**338**	S	**Sg**	**16 48 26.2**	**-5.4**
NRCA				P	**Pg**	**16 48 27.3**	**+0.2**
NRCA				AML	AML		
	comp=E,6130μm,1.3s						
NRCA				AML	AML		
	comp=N,4520μm,0.1s						
NRCA				AML	AML		
	comp=E,6125μm,1.3s						
NRCA				AML	AML		
	comp=E,6125μm,1.3s						
NRCA				AML	AML		
	comp=N,4525μm,0.1s						
NRCA				AML	AML		
	comp=E,6125μm,0.7s						
FAGN	**Fagnano**	**0.35**	**140**	⇑P	**Pg**	**16 48 27.4**	**-0.2**
FAGN				AML	AML		
	comp=E,3265μm,0.4s						
FAGN				AML	AML		
	comp=N,3735μm,0.3s						
ARRO	**Arrone**	**0.38**	**277**	⇑P	**Pg**	**16 48 28.1**	**0.0**
ARRO				AML	AML		
	comp=N,1665μm,0.3s						
ARRO				AML	AML		
	comp=N,1665μm,1.7s						
ARRO				AML	AML		
	comp=E,2060μm,0.2s						
MC2	**Monte Cornacci**	**0.38**	**350**	⇑P	**Pg**	**16 48 28.5**	**+0.3**
T1215	**Vallo di Nera,**	**0.40**	**312**	⇑P	**Pg**	**16 48 28.5**	**0.0**
T1215				AML	AML		
	comp=E,1001μm,0.2s						
T1215				AML	AML		
	comp=N,806μm,0.5s						
T1215				AML	AML		
	comp=E,1009μm,0.2s						
T1215				AML	AML		
	comp=N,900μm,0.5s						
T1216	**Preci, Frazion**	**0.40**	**332**	P	**Pg**	**16 48 28.6**	**+0.1**
T1216				AML	AML		
	comp=E,2000μm,0.2s						
T1216				AML	AML		
	comp=E,2000μm,0.1s						
T1216				AML	AML		
	comp=N,3785μm,0.2s						
T1216				AML	AML		
	comp=N,3785μm,1.8s						
FEMA	**Monte Fema**	**0.46**	**339**	P	**Pg**	**16 48 29.6**	**0.0**
FEMA				S	**Sb**	**16 48 36.6**	**-0.4**
FEMA				AML	AML		
	comp=N,2030μm,1.2s						
FEMA				AML	AML		
	comp=N,2030μm,0.8s						
FEMA				AML	AML		
	comp=E,2110μm,0.9s						
OFFI	**Offida**	**0.50**	**37**	P	**Pb**	**16 48 31.2**	**+0.2**
OFFI				AML	AML		
	comp=N,1950μm,0.5s						
OFFI				AML	AML		
	comp=E,1945μm,0.3s						
OFFI				AML	AML		
	comp=N,1950μm,1.5s						
CESX	**Cesi**	**0.52**	**278**	P	**Pg**	**16 48 30.2**	**-0.5**
CESX				AML	AML		
	comp=E,640μm,0.7s						
CESX				AML	AML		
	comp=N,645μm,0.9s						
FDMO	**Fiordimonte**	**0.52**	**344**	⇑P	**Pg**	**16 48 30.7**	**0.0**
FDMO				S	**Sb**	**16 48 39.2**	**+0.5**
FDMO				AML	AML		
	comp=N,859μm,0.2s						
FDMO				AML	AML		
	comp=E,590μm,1.4s						
FDMO				AML	AML		
	comp=E,590μm,0.6s						
FDMO				AML	AML		
	comp=N,859μm,1.8s						
PTQR	**Pietraquaria**	**0.52**	**170**	P	**Pg**	**16 48 30.4**	**-0.3**
PTQR				AML	AML		
	comp=E,184μm,0.4s						
PTQR				AML	AML		
	comp=N,178μm,0.6s						
GUMA	**Gualdo di Mace**	**0.53**	**5**	⇑P	**Pb**	**16 48 31.3**	**-0.2**
GUMA				AML	AML		
	comp=E,1265μm,1.3s						
GUMA				AML	AML		
	comp=N,2365μm,0.7s						
GUMA				AML	AML		
	comp=E,2210μm,0.7s						
GUMA				AML	AML		
	comp=N,1880μm,0.6s						
CESI	**CESI - Serrava**	**0.54**	**330**	P	**Pg**	**16 48 31.1**	**-0.1**
CESI				AML	AML		
	comp=E,1080μm,0.2s						
CESI				AML	AML		
	comp=N,1300μm,1.0s						
TRTR	**Tortoreto Alta**	**0.54**	**60**	⇓P	**Pb**	**16 48 32.1**	**+0.4**
TRTR				AML	AML		
	comp=E,1270μm,1.5s						
TRTR				AML	AML		
	comp=N,1380μm,0.6s						
TRTR				AML	AML		
	comp=E,1270μm,0.5s						
MOMA	**Monte Martano**	**0.59**	**297**	⇑P	**Pg**	**16 48 31.7**	**-0.3**
MOMA				AML	AML		
	comp=E,1555μm,0.2s						
MOMA				AML	AML		
	comp=E,1545μm,0.2s						
MOMA				AML	AML		
	comp=N,1375μm,0.2s						
MOMA				AML	AML		
	comp=N,1440μm,0.2s						
T1220	**Camerino, Fraz**	**0.59**	**347**	⇑P	**Pg**	**16 48 32.0**	**0.0**
T1220				AML	AML		
	comp=E,1900μm,0.7s						
T1220				AML	AML		
	comp=E,1900μm,0.7s						
T1220				AML	AML		
	comp=N,2395μm,0.2s						
T1220				AML	AML		
	comp=E,1860μm,0.3s						
T1220				AML	AML		
	comp=N,2375μm,0.2s						
CERT	**Cerreto**	**0.63**	**201**	⇑P	**Pg**	**16 48 31.9**	**-0.8**
SRES	**S.Oreste - Sor**	**0.64**	**243**	⇑P	**Pg**	**16 48 32.6**	**-0.3**
SRES				S	**Sb**	**16 48 42.4**	**+0.3**
SRES				AML	AML		
	comp=E,351μm,1.1s						
SRES				AML	AML		
	comp=N,360μm,1.3s						
SRES				AML	AML		
	comp=N,360μm,0.7s						
MTCE	**Montecelio**	**0.65**	**218**	⇑P	**Pn**	**16 48 34.9**	**-0.2**
ASSB	**Assisi San Ben**	**0.68**	**318**	P	**Pg**	**16 48 33.4**	**-0.3**
ASSB				S	**Sb**	**16 48 44.2**	**+0.9**
ASSB				AML	AML		
	comp=N,1540μm,0.2s						
ASSB				AML	AML		
	comp=E,1004μm,1.1s						
ASSB				AML	AML		
	comp=E,1004μm,0.9s						
VVLD	**Villa Vallelon**	**0.71**	**159**	P	**Pb**	**16 48 34.6**	**0.0**
VVLD				AML	AML		
	comp=E,164μm,0.6s						
VVLD				AML	AML		
	comp=N,312μm,0.9s						
VVLD				AML	AML		
	comp=E,164μm,1.4s						
VVLD				AML	AML		
	comp=N,312μm,1.1s						
SNTG	**Esanatoglia**	**0.76**	**341**	P	**Pg**	**16 48 34.8**	**-0.4**
SNTG				AML	AML		
	comp=E,232μm,0.4s						
SNTG				AML	AML		
	comp=N,242μm,0.2s						
SNTG				AML	AML		
	comp=E,232μm,1.6s						
ATCC	**AVT- Casa Cast**	**0.80**	**324**	P	**Pg**	**16 48 35.7**	**-0.3**
ATCC				AML	AML		
	comp=E,588μm,0.5s						
ATCC				AML	AML		
	comp=N,552μm,1.5s						
ATCC				AML	AML		
	comp=N,552μm,0.5s						
ATCC				AML	AML		
	comp=E,588μm,1.5s						
LPEL	**Lama dei Pelig**	**0.83**	**126**	P	**Pg**	**16 48 35.3**	**-1.3**
LPEL				S	**Sg**	**16 48 47.4**	**-0.1**
LPEL				AML	AML		
	comp=E,506μm,0.4s						
LPEL				AML	AML		
	comp=N,384μm,0.3s						
LPEL				AML	AML		
	comp=N,384μm,1.7s						
CING	**Cingoli**	**0.84**	**356**	⇓P	**Pg**	**16 48 36.7**	**-0.1**
CING				AML	AML		
	comp=N,368μm,0.3s						
CING				AML	AML		
	comp=E,230μm,0.7s						
FOSV	**Fossato di Vic**	**0.85**	**334**	P	**Pg**	**16 48 36.5**	**-0.4**
FOSV				AML	AML		
	comp=N,289μm,0.8s						
FOSV				AML	AML		
	comp=E,195μm,0.2s						
POFI	**Posta Fibreno**	**0.88**	**158**	P	**Pb**	**16 48 37.2**	**-0.2**
POFI				AML	AML		
	comp=E,164μm,0.8s						
POFI				AML	AML		
	comp=N,119μm,0.5s						
MGAB	**Montegabbione**	**0.94**	**294**	⇓P	**Pb**	**16 48 38.1**	**-0.3**
MGAB				AML	AML		
	comp=E,485μm,0.4s						
MGAB				AML	AML		
	comp=N,426μm,0.5s						
MGAB				AML	AML		
	comp=E,546μm,0.5s						
MGAB				AML	AML		
	comp=N,439μm,0.3s						
SSFR	**Montelago di S**	**0.97**	**338**	⇓P	**Pb**	**16 48 38.9**	**-0.1**
SSFR				AML	AML		
	comp=E,646μm,0.2s						
SSFR				AML	AML		
	comp=N,560μm,0.3s						
SSFR				AML	AML		
	comp=N,460μm,0.3s						
SSFR				AML	AML		
	comp=E,614μm,0.2s						
GIUL	**Giuliano Di Ro**	**0.98**	**181**	⇑P	**Pb**	**16 48 39.1**	**+0.1**
GIUL				AML	AML		
	comp=N,112μm,0.6s						
GIUL				AML	AML		
	comp=E,90μm,1.4s						
ARVD	**Arcevia**	**0.99**	**346**	⇑P	**Pb**	**16 48 36.9**	**-2.4**
ARVD				S	**Sn**	**16 48 55.3**	**+1.6**
ARVD				AML	AML		
	comp=N,266μm,0.4s						
ARVD				AML	AML		
	comp=N,266μm,1.6s						
ARVD				AML	AML		
	comp=E,280μm,0.5s						
SACS	**San Casciano d**	**1.05**	**288**	⇓P	**Pb**	**16 48 40.4**	**-0.1**
SACS				AML	AML		
	comp=N,132μm,0.6s						
SACS				AML	AML		
	comp=E,131μm,1.0s						
SACS				AML	AML		
	comp=N,132μm,1.4s						
FRON	**Frontone**	**1.06**	**338**	P	**Pb**	**16 48 39.5**	**-1.0**
FRON				AML	AML		
	comp=N,376μm,0.4s						
FRON				AML	AML		
	comp=E,215μm,0.7s						
ATMI	**Monte Miggiano**	**1.09**	**317**	P	**Pg**	**16 48 42.1**	**+0.7**
ATMI				AML	AML		
	comp=E,475μm,0.4s						
ATMI				AML	AML		
	comp=N,556μm,0.3s						
ATMI				AML	AML		
	comp=N,556μm,1.7s						
MPAG	**Monte Paganucc**	**1.16**	**341**	P	**Pn**	**16 48 41.6**	**-0.6**
MPAG				AML	AML		
	comp=E,2728μm,1.5s						
MPAG				AML	AML		
	comp=N,2664μm,1.5s						
MPAG				AML	AML		
	comp=N,145μm,1.1s						
MPAG				AML	AML		
	comp=N,145μm,0.9s						
MPAG				AML	AML		
	comp=E,164μm,0.4s						
SF04	**Casetta**	**1.23**	**285**	P	**Pb**	**16 48 43.4**	**0.0**
CAFI	**Castiglion Fio**	**1.25**	**310**	⇑P	**Pg**	**16 48 44.2**	**-0.2**
CAFI				AML	AML		
	comp=N,116μm,0.5s						
CAFI				AML	AML		
	comp=E,138μm,0.5s						
SF01	**Poggio Pratacc**	**1.29**	**283**	⇑P	**Pg**	**16 48 45.0**	**-0.3**
CRE	**Caprese Michel**	**1.46**	**319**	P	**Pb**	**16 48 47.7**	**+0.4**
BRSN	**Barisano**	**1.95**	**334**	S	**Sb**	**16 49 20.0**	**+0.1**
MSAG	**Monte S. Angel**	**2.12**	**112**	⇓P	**Pb**	**16 48 59.2**	**+0.5**
HVAR	**Hvar**	**2.42**	**74**	P	**Pn**	**16 48 59.5**	**0.0**
PZUN	**Potenza**	**2.68**	**134**	⇓P	**Pg**	**16 49 11.6**	**-0.1**
ABTA	**Abfaltersbach**	**4.25**	**353**	*i*Pn	**Pn**	**16 49 25.5**	**+0.9**
ABTA	comp=E,0.4nm,0.1s						
				*e*Sn	**Sn**	**16 50 14.7**	**+0.7**
	comp=E,1.6nm,0.3s						

*IDC **21** 16:54:23.5±1.0, 30°.37N×31°.90E, h0km, mb4.0/22, mbtmp4.0/30, ML3.7/8, MS3.3/6, Error ellipse: s-maj=20.4km s-min=10.5km az=13.0*

*NEIC **21** 16:54:23.1±2.2, 30°.20N±0°.09×31°.83E±0°.05, h10km±2km, mb4.3/31, Error ellipse: s-maj=14.9km s-min=7.3km az=181.0*

*ISK **21** 16:54:24.1, 30°.29N×31°.79E, h29km, ML4.7/5*

*GII **21** 16:54:24.2±0.0, 30°.31N×31°.90E, h8km, mb4.5/3, MD4.4/3, Mm4.2/6*

ISC 21 16:54:22.9±1.6, **30°.32N**±0°.05×**31°.87E**±0°.04, **h2**km±10km, **n246**, σ1**50**/257, **mb4.1**/54, **MS3.5**/5, **19C, Egypt**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZIT	**Kziot**	**2.26**	**74**	Pn	**Pn**	**16 55 01.8**	**+0.6**
KZIT				Sn	**Sn**	**16 55 29.1**	**-0.5**
KZIT	**Kziot**	**2.26**	**74**	P	**Pn**	**16 55 01.2**	**0.0**
KRMI	**Paran Flat**	**2.48**	**94**	Pn	**Pn**	**16 55 04.1**	**-0.2**
MBRI	**Mt Berech**	**2.69**	**100**	Pn	**Pn**	**16 55 07.1**	**-0.1**
MBRI				Sn	**Sn**	**16 55 40.7**	**+0.3**
MBRI	**Mt Berech**	**2.69**	**100**	P	**Pn**	**16 55 07.1**	**-0.1**
PRNI	**Paran**	**2.71**	**88**	Pn	**Pn**	**16 55 07.6**	**+0.1**
PRNI				Sn	**Sn**	**16 55 40.0**	**-0.9**
EIL	**Elat**	**2.75**	**103**	Pn	**Pn**	**16 55 08.2**	**+0.2**
	9.2nm,0.3s,baz=358,slow=7.2,SNR=77						
EIL				Pg	**Pg**	**16 55 15.0**	**-0.6**
	39nm,0.3s,baz=324,slow=9.8,SNR=35						
EIL				Sn	**Sn**	**16 55 39.8**	**-2.0**
	36nm,0.3s,baz=324,slow=14,SNR=6.7						
EIL				Lg	Lg	16 55 49.3	
	69nm,0.3s,baz=28,slow=18,SNR=8.5						
	28nm,0.3s						
EIL	**Elat**	**2.75**	**103**	Pn	**Pn**	**16 55 08.8**	**+0.8**
EIL	**Elat**	**2.75**	**103**	Pn	**Pn**	**16 55 07.8**	**-0.2**
EIL				Sn	**Sn**	**16 55 40.7**	**-1.1**
EIL	**Elat**	**2.75**	**103**	P	**Pb**	**16 55 14.3**	**+1.5**
EIL				S	**Sb**	**16 55 48.3**	**+1.3**
HRFI	**Mount Harif**	**2.76**	**95**	Pn	**Pn**	**16 55 08.0**	**-0.1**
HRFI				Sn	**Sn**	**16 55 41.8**	**-0.2**
AQBJ	**Aqaba**	**2.82**	**101**	P	**Pn**	**16 55 08.9**	**0.0**
AQBJ				S	**Sg**	**16 55 54.2**	**+0.6**
ZFRI	**Zfri**	**2.87**	**84**	Pn	**Pn**	**16 55 09.6**	**0.0**
ZFRI				Sn	**Sn**	**16 55 43.6**	**-1.0**
AMAZ	**Amatzia**	**2.89**	**64**	Pn	**Pn**	**16 55 10.5**	**+0.6**
AMAZ				Sn	**Sn**	**16 55 44.2**	**-0.9**
AMAZ	**Amatzia**	**2.89**	**64**	P	**Pn**	**16 55 10.7**	**+0.8**
YTIR	**Yattir**	**2.98**	**69**	Pn	**Pn**	**16 55 11.5**	**+0.3**
YTIR				Sn	**Sn**	**16 55 46.9**	**-0.7**
YTIR	**Yattir**	**2.98**	**69**	P	**Pn**	**16 55 11.6**	**+0.3**
MDBI	**Mazsada**	**3.16**	**71**	Pn	**Pn**	**16 55 13.7**	**+0.1**
MDBI	**Mazsada**	**3.16**	**71**	P	**Pn**	**16 55 13.4**	**-0.2**
MSBI	**Mazada**	**3.16**	**71**	Pn	**Pn**	**16 55 13.6**	**0.0**
DAMI2	**DAM2**	**3.20**	**74**	Pn	**Pn**	**16 55 14.6**	**+0.6**
LISJ	**El Lisan**	**3.24**	**73**	P	**Pn**	**16 55 15.6**	**+0.9**
DSI	**Dead Sea**	**3.27**	**67**	Pn	**Pn**	**16 55 16.4**	**+1.3**
DSI	**Dead Sea**	**3.27**	**67**	P	**Pn**	**16 55 17.0**	**+1.9**
HSNJ	**Maan**	**3.31**	**90**	P	**Pn**	**16 55 16.4**	**+0.7**
GHAJ	**Ghor Haditha**	**3.33**	**72**		**Pn**	**16 55 16.4**	**+0.4**
GHAJ				Sn	**Sn**	**16 55 53.5**	**-2.6**
GHAJ	**Ghor Haditha**	**3.33**	**72**	Pn	**Pn**	**16 55 16.3**	**+0.4**
SALP	**Salfit**	**3.34**	**58**	Pn	**Pn**	**16 55 17.0**	**+0.9**
SALP				Sn	**Sn**	**16 55 55.8**	**-0.6**
KARJ	**KARJ**	**3.36**	**75**	P	**Pb**	**16 55 20.5**	**-2.6**
UJAP	**Al Uja**	**3.49**	**61**	Pn	**Pn**	**16 55 19.1**	**+1.0**
UJAP				Sn	**Sn**	**16 55 58.4**	**-1.5**
UJAP	**Al Uja**	**3.49**	**61**	Pn	**Pn**	**16 55 19.2**	**+1.1**
UJAP				Sn	**Sn**	**16 55 59.5**	**-0.4**
UJAP	**Al Uja**	**3.49**	**61**	P	**Pn**	**16 55 19.5**	**+1.4**
OFRI	**`Ofer**	**3.52**	**48**	Pn	**Pn**	**16 55 18.3**	**-0.3**
OFRI	**`Ofer**	**3.52**	**48**	P	**Pn**	**16 55 18.2**	**-0.3**
WALJ	**Wala**	**3.61**	**69**	P	**Pn**	**16 55 20.4**	**+0.7**
HMDT	**Nahal Hemdat**	**3.68**	**57**	Pn	**Pn**	**16 55 21.6**	**+0.9**
HMDT				Sn	**Sn**	**16 56 03.6**	**-1.1**
HMDT	**Nahal Hemdat**	**3.68**	**57**	P	**Pn**	**16 55 21.6**	**+0.9**
HMDT				S	**Sn**	**16 55 59.8**	**-4.9**
MMLI	**Mount Malkishu**	**3.70**	**54**	Pn	**Pn**	**16 55 21.7**	**+0.6**
MMLI				Sn	**Sn**	**16 56 04.7**	**-0.6**
MMLI	**Mount Malkishu**	**3.70**	**54**	Pn	**Pn**	**16 55 22.0**	**+0.9**
BLGI	**Bet Lehem HaGe**	**3.72**	**49**	Pn	**Pn**	**16 55 22.0**	**+0.7**
SWQJ	**Swaqa**	**3.73**	**75**	P	**Pn**	**16 55 22.9**	**+1.5**
HNTI	**Hanita**	**3.94**	**45**	Pn	**Pn**	**16 55 24.8**	**+0.4**
HNTI	**Hanita**	**3.94**	**45**	P	**Pn**	**16 55 25.0**	**+0.6**
MMA0B	**Mount Meron ar**	**4.04**	**47**	Pn	**Pn**	**16 55 26.1**	**+0.3**
MMAI	**Mount Meron Ar**	**4.04**	**47**	Pn	**Pn**	**16 55 25.8**	**0.0**
	32nm,0.3s,baz=212,slow=11,SNR=82						
MMAI				Sn	**Sn**	**16 56 09.8**	**-3.9**
	75nm,0.3s,baz=231,slow=24,SNR=13						
MMAI				LR	LR	16 57 27.0	
	comp=Z,184nm,19.9s,baz=66,slow=46						

16nm,0.3s
SHMJ Saham 4.11 53 P **Pn** 16 55 27.8 +1.2
HSUJ Al Zarqa 4.11 63 P **Pn** 16 55 28.3 +1.6
GEM Giv'at Ha'Em 4.33 47 P **Pn** 16 55 30.8 +1.1
GEM S **Sn** 16 56 19.1 -1.7
NATI Neve Ativ 4.41 47 Pn **Pn** 16 55 32.0 +1.2
NATI Neve Ativ 4.41 47 P **Pn** 16 55 32.0 +1.2
DQRL Deir Qamar 4.62 42 *e*P **Pn** 16 55 34.6 +0.9
RCY Rachaya 4.63 46 *e*P **Pn** 16 55 34.9 +1.0
ASF Jabal al Asfar 4.69 65 Pn **Pn** 16 55 35.5 +0.8
5.4nm,0.3s,baz=228,slow=6.1,SNR=38
ASF Sn **Sn** 16 56 27.2 -2.5
7.3nm,0.3s,baz=213,slow=5.6,SNR=3.3
11nm,0.3s
ASF Jabal al Asfar 4.69 65 P **Pn** 16 55 35.0 +0.3
CSS Mathiatis 4.79 15 Pn **Pn** 16 55 37.6 +1.5
CSS Sn **Sn** 16 56 33.2 +1.0
CSS Mathiatis 4.79 15 Pn **Pn** 16 55 37.3 +1.2
CSS Mathiatis 4.79 15 Pn **Pn** 16 55 37.2 +1.2
CSS Sn **Sn** 16 56 33.1 +1.0
BHL Bhannes 4.81 41 *e*P **Pn** 16 55 36.6 +0.3
LEF Lefka 4.87 10 Pn **Pn** 16 55 38.2 +1.2
ZAHL Zahle 4.91 43 *e*P **Pn** 16 55 38.8 +1.1
AKDN Akdeniz- Kıbrı 5.05 10 Pn **Pn** 16 55 41.1 +1.5
LFK Lefkose 5.14 15 Pn **Pn** 16 55 42.6 +1.7
HWQ Hawqa 5.25 40 *e*P **Pn** 16 55 43.9 +1.5
BEIL Beino 5.57 40 *e*P **Pn** 16 55 48.1 +1.3
GAZI Gazipasa 5.91 4 Pn **Pn** 16 55 53.1 +1.6
AKKU Akkuyu-Mersin 6.00 13 Pn **Pn** 16 55 54.3 +1.8
IKL Isikli 6.10 14 Pn **Pn** 16 55 55.5 +1.5
AKAS Kas 6.20 343 **Pn** 16 55 55.8 +0.3
AKAS Kas 6.20 343 Pn **Pn** 16 56 56.5 +1.1
SILI Silifke-Mersin 6.28 15 Pn **Pn** 16 55 58.5 +2.1
KIZK Mersin 6.43 17 Pn **Pn** 16 56 00.5 +1.9
ELL Elmali 6.62 346 **Pn** 16 56 03.4 +2.2
ELL Elmali 6.62 346 Pn **Pn** 16 56 02.5 +1.3
ANTB Antalya 6.64 352 Pn **Pn** 16 56 03.1 +1.7
HDMB Hadim 6.65 4 Pn **Pn** 16 56 03.4 +1.7
ARG Arkhangelos 6.66 333 **Pn** 16 56 02.8 +1.1
ARG Arkhangelos 6.66 333 Pn **Pn** 16 56 02.7 +1.0
FETY Fethiye 6.72 340 Pn **Pn** 16 56 03.4 +0.9
YAYL Yayladag 6.72 31 Pn **Pn** 16 56 04.2 +1.6
ZKR Zakros 6.75 317 Pn **Pn** 16 56 02.9 0.0
KORT Korkueli 6.79 350 Pn **Pn** 16 56 05.0 +1.5
CAME Cameli-Denizli 6.95 343 Pn **Pn** 16 56 06.7 +1.0
DALY Dalyan (Mula) 7.01 338 Pn **Pn** 16 56 07.4 +0.9
SEYD Seydisehir-KON 7.07 360 Pn **Pn** 16 56 09.4 +2.0
BCK Bucak 7.20 352 Pn **Pn** 16 56 10.4 +1.2
DAT Datca 7.33 332 Pn **Pn** 16 56 11.3 +0.3
KARA Karaisali 7.42 20 Pn **Pn** 16 56 13.4 +1.3
YER Yerkesik 7.43 337 Pn **Pn** 16 56 13.9 +1.6
APMY Acipayam-Deniz 7.45 344 Pn **Pn** 16 56 13.9 +1.3
ISP Isparta 7.57 352 **Pn** 16 56 16.7 +2.4
YESY Yesilyurt 7.61 11 Pn **Pn** 16 56 16.5 +1.7
KONT Konya--Tatoy 7.62 3 Pn **Pn** 16 56 16.2 +1.3
IDI Anoyia 7.68 312 Pn **Pn** 16 56 16.4 +0.6
5.6nm,0.3s,baz=139,slow=14,SNR=20
IDI Sn **Sn** 16 57 40.7 -2.7
10nm,0.3s,baz=231,slow=17,SNR=10
21nm,0.3s
IDI Anoyia 7.68 312 ⇑P Pn 16 56 20.7 +4.9
IDI Anoyia 7.68 312 **Pn** 16 56 17.0 +1.2
IDI Anoyia 7.68 312 Pn **Pn** 16 56 16.8 +1.0
BASM Basmaki-Afyon 7.73 349 Pn **Pn** 16 56 17.8 +1.3
MLSB Milas 7.75 335 Pn **Pn** 16 56 17.6 +1.0
KOZT Kozan 7.87 24 Pn **Pn** 16 56 19.4 +1.1
LADK Ladik-KONYA 7.88 3 Pn **Pn** 16 56 19.7 +1.2
GVD Gavdhos 7.96 307 Pn **Pn** 16 56 19.6 0.0
GVDS Gavdos 7.96 307 Pn **Pn** 16 56 19.9 +0.3
GAZ Gaziantep 8.16 32 Pn **Pn** 16 56 22.3 0.0
GCAM G?zelcami? 8.31 334 Pn **Pn** 16 56 24.9 +0.6
IMMV Iera Moni Meta 8.38 310 Pn **Pn** 16 56 25.0 -0.3
APE Apeiranthos 8.55 324 Pn **Pn** 16 56 26.6 -1.1
MANT Manisa 8.60 342 **Pn** 16 56 29.1 +0.6
BRTR Keskin Array B 9.50 8 Pn **Pn** 16 56 42.1 +1.3
0.1nm,0.3s,baz=192,slow=18,SNR=4.3
1.1nm,0.6s
BORA Eskisehir 9.61 353 Pn **Pn** 16 56 42.7 +0.4
BALB Balikesir 9.86 342 Pn **Pn** 16 56 45.1 -0.4
ITM Ithomi 10.73 312 Pn **Pn** 16 56 56.1 -1.4
ALN Alexandroupoli 11.57 337 Pn **Pn** 16 57 09.0 +0.1
AGG Agios Georgios 11.70 320 Pn **Pn** 16 57 10.3 -0.5
RDO Rodhopi 11.96 336 Pn **Pn** 16 57 15.4 +1.0
LIT Litokhoron 12.40 324 **Pn** 16 57 20.2 -0.2
FNA Florina 13.48 324 Pn **Pn** 16 57 34.4 -0.7
KEK Kerkira 13.61 317 Pn **Pn** 16 57 36.0 -0.9
STIP Stip 13.78 328 *i* P **Pn** 16 57 37.1 -2.0
VTS Vitosha 14.09 333 Pn **Pn** 16 57 42.5 -1.1
GNI Garni 14.37 43 Pn **Pn** 16 57 48.4 +1.0
0.4nm,0.3s,baz=256,slow=8.9,SNR=1.7
GNI LR LR 17 03 57.2
comp=Z,37nm,19.0s,baz=256,slow=40
2.0nm,0.5s
TIP Timpagrande 15.23 310 P **P** 16 58 01.9 -2.2
TIP Timpagrande 15.23 310 Pn **Pn** 16 57 56.4 -2.6
TIP IAmb IAmb 16 58 10.9
comp=Z,50nm,1.5s
BOVS Bovan 15.56 331 ⇑P **P** 16 58 08.9 +1.2
PDG Podgorica 15.77 323 ⇑P **P** 16 58 10.9 +1.0
MLR Muntele Rosu 15.85 345 ⇑P **P** 16 58 13.6 +2.7
KBZ Khabaz 16.00 30 Pn **Pn** 16 58 10.2 +1.3
baz=243,slow=22,SNR=1.0
comp=Z,0.6nm,0.7s
VOIR 16.02 342 ⇑P **P** 16 58 15.3 +2.5
PLOR Plostina 16.04 347 ⇑P **P** 16 58 15.3 +2.3
ARR Arges 16.06 341 ⇑P **P** 16 58 15.7 +2.4
CUC Castrocucco 16.27 311 Pn **Pn** 16 58 10.4 -2.1
CUC IAmb IAmb 16 58 17.1
comp=Z,23nm,0.6s
DOPR Dopca 16.43 344 ⇑P **P** 16 58 19.5 +2.3
OZUR 16.45 345 ⇑P **P** 16 58 19.7 +2.1
MDVR Moldovita 16.51 334 ⇑P **P** 16 58 19.8 +1.5
GZR Gura Zlata 16.66 337 ⇑P **P** 16 58 22.1 +2.3
DIVS Divibare 16.67 329 Pn **Pn** 16 58 17.4 -0.1
SURR Surduc 17.19 336 ⇑P **P** 16 58 27.2 +1.5
BZS Buzias 17.26 335 ⇑P **P** 16 58 28.2 +1.7
SGRT San Giovanni R 17.30 316 Pn **Pn** 16 58 23.0 -2.5
SGRT IAmb IAmb 16 58 37.1
comp=Z,39nm,1.3s
ARCR ARCALIA 17.73 343 ⇑P **P** 16 58 34.3 +2.6
SIRR Siria 17.80 336 ⇑P **P** 16 58 34.5 +2.0
SORM Soroca 18.00 352 ⇑P **P** 16 58 35.8 +1.2
BURAR Bucovina Array 18.02 345 ⇑P **P** 16 58 37.4 +2.4
BURAR Bucovina Array 18.02 345 **P** 16 58 34.7 -0.2
BUR08 Bucovina Ar. S 18.05 345 **P** 16 58 36.9 +1.6
TRPA Tarpa 19.17 341 ⇑P **Pn** 16 58 49.9 +1.6
KEST Kesra 19.62 292 P **Pn** 16 58 54.0 0.0
comp=Z,0.3nm,0.3s,baz=23,slow=16,SNR=2.1
comp=Z,5.1nm,0.7s
KEST Kesra 19.62 292 P **P** 16 58 48.1 -4.6
KEST IAmb IAmb 16 58 57.6
comp=Z,15nm,1.0s
CRES Cresnjev 20.10 325 *i* P Pn 16 58 59.0 -0.5
CRVS Cervenica-Dubn 20.18 340 *e*P Pn 16 59 01.0 +0.6
SRO Srobarova 20.34 333 *e*P Pn 16 59 02.3 0.0
VISS Visnje 20.40 324 *i* P Pn 16 59 02.5 -0.5
AKASG Malin Array Be 20.46 355 P **P** 16 59 02.0 +0.5
comp=Z,4.6nm,0.4s,baz=183,slow=9.6,SNR=21
comp=Z,4.6nm,0.4s
AKASG Malin Array Be 20.46 355 P **P** 16 59 01.2 -0.3
AKBB Malin Array Si 20.46 355 P **P** 16 59 01.4 -0.1
AKBB IAmb IAmb 16 59 06.8
comp=Z,41nm,1.3s
VYHS Vyhne 20.70 335 *e*P Pn 16 59 06.0 -0.6
STHS Stebnicka Huta 20.71 340 *e*P Pn 16 59 06.5 -0.1
SOKA Soboth 20.91 326 *e*P Pn 16 59 10.9 +1.8
comp=Z,2.6nm,0.7s
OBKA Obir 21.03 325 *e*Pn **P** 16 59 11.4 +3.4
comp=Z,7.5nm,1.1s
RONA Rosalia, Austr 21.09 330 *e*pP pP 16 59 11.2 +2.0
comp=Z,4.9nm,1.1s
ARSA Arzberg 21.10 328 *e*Pn **P** 16 59 12.7 +4.2
comp=Z,9.4nm,1.6s
SABO M.te Sabotino 21.16 323 P **P** 16 59 09.3 +0.1
SABO IAmb IAmb 16 59 14.0
comp=Z,11nm,0.7s
MODS Modra-Piesok 21.21 332 *e*P **P** 16 59 11.1 +1.4
JAVC Velka Javorina 21.44 334 *e*P **P** 16 59 13.8 +1.5
CONA Conrad Observa 21.45 330 *e*pP pP 16 59 15.5 +2.3
comp=Z,11nm,1.9s
PRED Cave del Predi 21.48 324 P **P** 16 59 11.0 -1.8
MYKA Terra Mystica 21.57 324 *e*pP pP 16 59 16.3 +1.9
comp=Z,11nm,1.6s
MAUC Maruska 21.80 335 *e*P **P** 16 59 18.5 +2.4
STAL STALIGIAL 21.81 322 P **P** 16 59 17.0 +0.8
STAL IAmb IAmb 16 59 22.3
comp=Z,14nm,0.9s
CLUD Cludinico 21.85 323 P **P** 16 59 17.5 +0.9
CLUD IAmb IAmb 16 59 23.1
comp=Z,21nm,0.9s
OJC Ojcow 21.86 339 P **P** 16 59 16.8 +0.2
OJC IAmb IAmb 16 59 23.2
comp=Z,8.4nm,1.0s
CIMO Cimolais 21.98 322 P **P** 16 59 19.4 +1.3
CIMO IAmb IAmb 16 59 24.9
comp=Z,18nm,1.0s
KBA Koelnbreinsper 22.02 325 *e*P **P** 16 59 20.1 +1.4
comp=Z,8.3nm,0.9s
KRUC Moravsky 22.11 332 *e*P **P** 16 59 21.1 +1.8
MOA Molln 22.12 327 *e*P **P** 16 59 23.3 +3.8
comp=Z,6.2nm,1.6s
VRAC Vranov 22.23 333 P **P** 16 59 20.6 0.0
comp=Z,2.0nm,0.6s,baz=135,slow=9.0,SNR=4.2
comp=Z,2.0nm,0.6s
VRAC Vranov 22.23 333 ⇑P **P** 16 59 20.5 0.0
VRAC Vranov 22.23 333 *e*P **P** 16 59 23.0 +2.4
ABTA Abfaltersbach 22.23 323 *e*pP pP 16 59 23.2 +1.7
comp=Z,8.2nm,0.7s
MORC Moravsky Berou 22.24 335 *e*P **P** 16 59 23.0 +2.1
CTI Castel Tesino 22.25 321 P **P** 16 59 22.0 +1.0
CTI IAmb IAmb 16 59 30.6
comp=Z,6.1nm,0.8s
BIOA Bad Ischl, Aus 22.30 326 *e*P **P** 16 59 25.1 +3.6
comp=Z,8.7nm,1.1s
KRLC Kraliky 22.77 334 *e*P **P** 16 59 28.7 +2.2
CKRC Cesky Krumlov 22.81 329 *e*P **P** 16 59 31.7 +4.9
GEYT Alibeck 22.97 64 P **P** 16 59 28.6 -0.1
comp=Z,2.2nm,0.7s,baz=245,slow=14,SNR=5.5
comp=Z,2.2nm,0.7s
WTTA Wattenberg 23.02 323 *i* pP pP 16 59 32.0 +2.0
comp=Z,10.0nm,0.8s
WATA Walderalm 23.10 323 *e*P **P** 16 59 31.5 +1.5
comp=Z,3.3nm,1.2s
GEC2 GERESS Array S 23.10 328 P **P** 16 59 27.9 -2.0
GEC2 IAmb IAmb 16 59 36.5
comp=Z,6.5nm,1.0s
GERES GERESS Array B 23.10 328 P **P** 16 59 30.4 +0.5
comp=Z,1.8nm,0.5s,baz=139,slow=8.8,SNR=27
comp=Z,1.8nm,0.5s
GERES GERESS Array B 23.10 328 P **P** 16 59 28.7 -1.3
DPC Dobruska-Polom 23.17 334 *e*P **P** 16 59 30.7 +0.1
SQTA Sankt Quirin 23.22 322 *e*P **P** 16 59 33.1 +1.9
comp=Z,10nm,0.9s
FETA Feichten 23.35 321 *e*pP pP 16 59 35.1 +1.7
comp=Z,14nm,1.0s
MOTA Moosalm 23.35 323 *e*P **P** 16 59 34.1 +1.5
comp=Z,9.7nm,1.0s
FUORN Ofenpass-Fuorn 23.36 320 P **P** 16 59 30.3 -2.5
FUORN IAmb IAmb 17 00 00.1
comp=Z,7.1nm,1.1s
KHC Kasperske Hory 23.36 329 *e*P **P** 16 59 34.4 +1.8
OSTC Ostas 23.37 334 *e*P **P** 16 59 32.1 -0.6
RETA Reute 23.62 322 *e*P **P** 16 59 36.7 +1.5
comp=Z,4.3nm,0.7s
DAVOX Davos/Dischmat 23.67 320 P **P** 16 59 37.0 +1.2
comp=Z,4.4nm,0.7s
comp=Z,4.4nm,0.7s
DAVA Damuels 23.97 321 *i* pP pP 16 59 40.9 +1.4
comp=Z,6.4nm,0.5s
MNK Minsk 24.34 354 *i* P **P** 16 59 39.2 -2.7
comp=E,3.0nm,1.0s
MNK *i* P **P** 16 59 39.2 -2.7
comp=N,42nm,0.9s
MNK *i* P **P** 16 59 39.2 -2.7
comp=Z,11nm,0.9s,baz=172
MNK *i* PP **PnPn** 17 00 09.5 -2.1
MNK *i* PPP PPP 17 00 17.5
MNK *i* S **S** 17 03 59.9 -1.7
MNK *i* SS **SnSn** 17 04 44.8 +0.6
MNK *i* SSS SSS 17 04 58.4
MNK *i* LQ LQ 17 07 15.9
MNK *i* LR LR 17 09 07.4
MNK *i* LRM MLR 17 10 33.1
comp=N,1μm,24.5s
MNK *i* LRM MLR 17 10 33.1
comp=Z,30nm,15.5s
MNK *i* LRM MLR 17 10 52.5
comp=E,10.0nm,16.8s
BNI Bardonecchia 24.64 314 P **P** 16 59 43.2 -1.7
BNI IAmb IAmb 17 00 19.2
comp=Z,24nm,1.4s
NACGM Naroch 24.84 353 *e*P **P** 16 59 47.9 +1.5
comp=Z,12nm,0.8s,baz=169
GRF Grafenberg Arr 24.85 327 *e*P **P** 16 59 47.9 +1.4
comp=Z,7.3nm,1.0s,baz=133,slow=9.1
SENIN Lac Senin/Sane 24.91 317 P **P** 16 59 48.8 +1.4
BELG Belogornoye 24.92 23 P **P** 16 59 47.2 +0.1
comp=Z,22nm,0.7s,baz=310,slow=1.7,SNR=14
comp=Z,22nm,0.7s
OBN Obninsk 25.01 6 P **P** 16 59 48.2 +0.4
comp=Z,2.2nm,0.4s,baz=152,slow=15,SNR=1.7
comp=Z,2.2nm,0.4s
CLL Collm 25.23 332 P **P** 16 59 48.9 -1.0
CLL Collm 25.23 332 *e*Px Px 16 59 52.0
BFO Black Forest 25.43 322 P **P** 16 59 52.6 +0.8
PABE Paberze 25.80 350 P **P** 16 59 53.8 -1.1
AKTO Aktyubinsk 28.05 37 P **P** 17 00 16.0 +0.6
comp=Z,1.8nm,0.7s,baz=252,slow=9.4,SNR=4.5
comp=Z,1.8nm,0.7s
ABKAR Akbulak array 28.44 40 P **P** 17 00 17.6 -1.3
ABKAR IAmb IAmb 17 00 55.0
comp=Z,4.1nm,1.4s
ABKAR Akbulak array 28.44 40 P **P** 17 00 17.6 -1.3
ESDC Sonseca Array 30.63 298 P **P** 17 00 39.8 +1.3
comp=Z,1.8nm,0.8s,baz=82,slow=7.5,SNR=7.3
comp=Z,1.8nm,0.8s
FINES FINESS Array B 31.37 355 P **P** 17 00 45.1 +0.5
comp=Z,2.7nm,0.7s,baz=146,slow=14,SNR=8.4
comp=Z,2.7nm,0.7s
FINES FINESS Array B 31.37 355 P **P** 17 00 44.2 -0.4
FIA1 FINESS Array S 31.37 355 P **P** 17 00 44.2 -0.4
KMBO Kilima Mbogo 31.69 170 P **P** 17 00 45.4 -2.7
KMBO IAmb IAmb 17 00 50.3
comp=Z,3.4nm,1.4s
TORD Torodi Ar. Bea 32.67 245 P **P** 17 00 57.3 +0.7
comp=Z,0.3nm,0.4s,baz=71,slow=2.8,SNR=5.8
comp=Z,0.3nm,0.4s
KKAR Karatay Array 33.22 57 P **P** 17 01 00.5 -0.6
NAO01 NORSAR Array S 33.56 342 P **P** 17 01 03.8 -0.1
NC405 NORSAR Array S 33.56 342 P **P** 17 01 02.8 -1.1
NB2 NORSAR Subarra 33.64 342 P **P** 17 01 02.1 -2.5
comp=Z,7.2nm,1.4s,baz=143,slow=9.3
NOA NORSAR Array B 33.64 342 P **P** 17 01 04.4 -0.2
comp=Z,0.6nm,0.7s,baz=138,slow=8.6,SNR=2.0
comp=Z,0.6nm,0.7s
ARCES ARCESS Array B 39.43 356 P **P** 17 01 54.1 +0.3
comp=Z,3.2nm,0.7s,baz=179,slow=5.8,SNR=5.9
comp=Z,3.2nm,0.7s
KURBB Kurchatov Arra 40.08 46 P **P** 17 02 00.3 +0.9
comp=Z,2.1nm,0.6s,baz=264,slow=8.6,SNR=21
comp=Z,2.1nm,0.6s
KURK Kurchatov 40.15 46 P **P** 17 01 59.6 -0.5
KURK IAmb IAmb 17 02 04.7
comp=Z,3.7nm,0.9s
MAKZ Makanchi 41.76 52 P **P** 17 02 13.7 +0.2
MK31 Makanchi Array 41.97 52 P **P** 17 02 16.2 +1.0
MKAR Makanchi Array 41.97 52 P **P** 17 02 15.8 +0.5
comp=Z,0.4nm,0.5s,baz=258,slow=7.7,SNR=9.7
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 41.97 52 P **P** 17 02 16.3 +1.1
ZALV Zalesovo Beam 44.52 42 P **P** 17 02 35.6 0.0
comp=Z,1.2nm,0.6s,baz=268,slow=9.7,SNR=4.9
ZALV LR LR 17 25 01.6
comp=Z,31nm,19.7s,baz=5.5,slow=41
comp=Z,1.2nm,0.6s
LSZ Lusaka 45.47 185 LR LR 17 22 45.6
comp=Z,59nm,19.8s,baz=306,slow=37
WMQ Urumqi 45.73 57 *e*P **P** 17 02 47.5 +2.0
NRIK Noril'sk 50.02 22 P **P** 17 03 19.6 +1.3
comp=Z,4.7nm,0.6s,baz=225,slow=3.6,SNR=15
comp=Z,4.7nm,0.6s
NRIK Noril'sk 50.02 22 P **P** 17 03 19.1 +0.8
TSUM Tsumeb 51.12 197 LR LR 17 26 11.5
comp=Z,61nm,19.1s,baz=328,slow=37
GTA Gaotai 55.31 61 *e*P **P** 17 03 59.3 +1.2
GTA pP sP 17 04 04.5 +5.2
GTA pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 58.23 50 P **P** 17 04 19.4 +0.8
comp=Z,1.1nm,1.0s,baz=274,slow=13,SNR=5.9
comp=Z,1.1nm,1.0s
PZH PanZhiHua 60.69 75 P **P** 17 04 34.8 -1.2
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,4.5s
CMAR Chiang Mai Arr 61.46 84 P **P** 17 04 41.2 0.0
comp=Z,1.0nm,0.3s,baz=291,slow=7.6,SNR=4.0
comp=Z,1.0nm,0.3s
HHC Hu-ho-hao-te 63.60 56 *e*P **P** 17 04 55.8 +0.4
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,310nm,5.5s
SCHQ Schefferville 70.49 323 P **P** 17 05 39.8 +1.0
comp=Z,2.4nm,0.8s,baz=80,slow=4.1,SNR=4.9
comp=Z,2.4nm,0.8s
USRK Ussuriysk Ar. 76.14 47 LR LR 17 42 24.1
comp=Z,51nm,19.0s,baz=296,slow=38
YKA Yellowknife Ar 83.68 345 P **P** 17 06 53.7 +1.0
comp=Z,0.4nm,0.6s,baz=27,slow=5.3,SNR=7.4
comp=Z,0.4nm,0.6s
ILAR Eielson Array 85.22 359 P **P** 17 07 02.1 +1.5
comp=Z,0.6nm,0.7s,baz=334,slow=4.4,SNR=9.0
comp=Z,0.6nm,0.7s

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*IDC **21** 16:55:24.4±1.9, 7.°00S×129.°69E, h100km±18km, mb3.4/4, mbtmp3.9/8, MS3.3/1, Error ellipse: s-maj=21.1km s-min=13.5km az=105.0*
*NEIC **21** 16:55:26.1±2.8, 6.°98S±0.°05×129.°7E±0.°1, h126km±11km, mb4.1/6, Error ellipse: s-maj=14.8km s-min=6.3km az=79.0*
ISC 21 16:55:26.8±0.6, **6.°98S**±0.°06×**129.°65E**±0.°08, **h139**km, **n30,** σ2§**24**/31, **mb3.8**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.92**	**121**	Pn	**Pn**	**16 56 00.0**	**-0.3**
FAKI	**Fak Fak**	**4.79**	**33**	Pn	**Pn**	**16 56 35.9**	**-1.5**
SOEI	**Soe**	**6.00**	**242**	Pn	**Pn**	**16 56 53.7**	**+0.2**
MTN	**Manton Dam**	**6.01**	**166**	Pn	**Pn**	**16 56 51.5**	**-2.0**
SIJI	**Sorong**	**6.28**	**15**	P	**Pn**	**16 56 55.6**	**-1.6**
	10nm,0.3s,baz=269,slow=23,SNR=26						
SIJI				S	**Sn**	**16 58 05.6**	**-2.3**
	7.8nm,0.2s,baz=221,slow=20,SNR=8.5						
BATI	**Baumata**	**6.73**	**241**	P	**Pn**	**16 57 02.0**	**-1.3**
	15nm,0.3s,baz=91,slow=3.5,SNR=9.6						
BATI				S	**Sn**	**16 58 16.9**	**-1.9**
	26nm,0.3s,baz=112,slow=22,SNR=17						
KNRA	**Kununurra**	**8.69**	**186**		**Pn**	**16 57 26.1**	**-3.4**
FITZ	**Fitzroy Crossi**	**11.72**	**199**	Pn	**Pn**	**16 58 06.0**	**-3.9**
TOLI2	**Tolitoli**	**11.95**	**312**	Pn	**Pn**	**16 58 11.1**	**-1.8**
WB0	**Warramunga Arr**	**13.52**	**161**	Pn	**Pn**	**16 58 29.9**	**-3.2**
WRAB	**Tennant Creek**	**13.66**	**161**	Pn	**Pn**	**16 58 31.6**	**-3.3**
WRA	**Warramunga Arr**	**13.67**	**161**	P	**Pn**	**16 58 31.7**	**-3.3**
	1.2nm,0.5s,baz=344,slow=10,SNR=25						
WRA				S	Sn	17 00 53.1	-13
	1.5nm,0.3s,baz=330,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.67**	**161**	Pn	**Pn**	**16 58 31.2**	**-3.9**
WB2	**Warramunga Arr**	**13.67**	**161**	Pn	**Pn**	**16 58 31.7**	**-3.4**
WR0	**Warramunga Arr**	**13.75**	**160**	Pn	**Pn**	**16 58 32.7**	**-3.4**
AS31	**Alice Springs**	**17.09**	**167**		**Pn**	**16 59 16.6**	**-0.8**
ASAR	**Alice Springs**	**17.09**	**167**	P	**Pn**	**16 59 16.6**	**-0.9**
	0.9nm,0.3s,baz=338,slow=8.9,SNR=32						
ASAR				S	Sn	17 02 11.8	-17
	0.7nm,0.7s,baz=332,slow=16,SNR=4.3						
ASAR	**Alice Springs**	**17.09**	**167**		**Pn**	**16 59 17.1**	**-0.4**
PSA00	**Pilbara Seismi**	**17.33**	**212**		**Pn**	**16 59 20.1**	**-0.2**
LEM	**Lembang**	**21.87**	**269**	LR	LR	17 11 24.1	
	comp=Z,79nm,18.7s,baz=226,slow=44						
FORT	**Forrest**	**23.72**	**183**	P	**P**	**17 00 27.1**	**+0.9**
FORT				IAmb	IAmb	17 00 43.4	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**25.45**	**209**	P	**P**	**17 00 42.2**	**+0.3**
MORW				IAmb	IAmb	17 00 59.2	
	comp=Z,6.3nm,1.0s						
BBOO	**Buckleboo**	**26.38**	**168**	P	**P**	**17 00 50.5**	**+0.2**
BBOO				IAmb	IAmb	17 01 09.7	
	comp=Z,4.8nm,0.8s						
STKA	**Stephens Creek**	**27.16**	**157**	P	**P**	**17 00 58.5**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=307,slow=7.0,SNR=3.3						
	comp=Z,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**39.45**	**310**	P	**P**	**17 02 45.4**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=131,slow=6.6,SNR=4.4						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**58.31**	**342**	P	**P**	**17 05 08.7**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=143,slow=5.2,SNR=1.5						
	comp=Z,0.4nm,0.9s						
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**17 06 13.4**	**+2.2**
	comp=Z,0.6nm,0.4s,baz=117,slow=8.5,SNR=16						
	comp=Z,0.6nm,0.4s						
ABKAR	**Akbulak array**	**82.28**	**322**	P	**P**	**17 07 33.6**	**+0.9**
QSPA	**South Pole Qui**	**83.00**	**180**	P	**P**	**17 07 37.5**	**+1.2**
QSPA				IAmb	IAmb	17 07 49.6	
	comp=Z,0.8nm,0.9s						
LPAZ	**La Paz**	**150.95**	**143**	PKPbc	**PKiKP**	**17 15 07.7**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=231,slow=6.5,SNR=2.1						

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*VAO **21** 17:03:45.5±3.2, 31.°08S×71.°69W, h10km, mb4.3*
*SJA **21** 17:03:53.6±0.6, 30.°61S×71.°43W, h34km±2km, ML4.1, MW4.1*
*GUC **21** 17:03:55.5±0.7, 30.°64S×71.°30W, h52km±2km, ML4.5*
*NEIC **21** 17:03:55.1±2.4, 30.°67S±0.°03×71.°44W±0.°08, h49km±6km, mb4.2/9, Mwr4.1/33, Mwr4.5(GUC), Error ellipse: s-maj=9.7km s-min=4.5km az=86.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.25; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-1.19; $M_{r\theta}$0.25; $M_{r\phi}$-0.00; $M_{\theta\phi}$-1.02; Fault plane solution: $M_0$1.61000×10^{15} NP1:ϕ_s171.29000°, δ65.39000°, λ82.95000°. NP2:ϕ_s7.82000°, δ25.54000°, λ105.00000°. Principal axes: T 1.6527, Plg69.0000°, Azm67.0000°; N -0.0861, Plg6.0000°, Azm174.0000°; P -1.5665, Plg20.0000°, Azm267.0000°;*
*IDC **21** 17:03:55.9±2.8, 30.°61S×71.°48W, h65km±21km, mb4.3/4, mbtmp4.2/8, MS3.0/4 Error ellipse: s-maj=25.9km s-min=15.5km az=64.0*
ISC 21 17:03:54.9±0.6, **30.°61S**±0.°02×**71.°42W**±0.°05, **h51**km±6km, **n162,** σ1§**95**/193, **mb4.3**/6, **1C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**0.67**	**110**	Pn	**Pn**	**17 04 07.7**	**-0.8**
CO03				Sn	**Sn**	**17 04 16.6**	**-1.7**
CO03	**El Pedregal**	**0.67**	**110**	⇓*i*P	**Pn**	**17 04 07.8**	**-0.7**
CO03				*i* S	**Sn**	**17 04 16.7**	**-1.6**
CO03	**El Pedregal**	**0.67**	**110**	*e*P	**Pn**	**17 04 07.4**	**-1.0**
CO03	**El Pedregal**	**0.67**	**110**	*e*P	**Pn**	**17 04 07.4**	**-1.0**
GO04	**Tololo Observa**	**0.69**	**51**		**Pn**	**17 04 09.0**	**+0.2**
GO04				Sn	**Sn**	**17 04 18.9**	**-0.1**
GO04	**Tololo Observa**	**0.69**	**51**	*i* P	**Pn**	**17 04 08.9**	**0.0**
GO04				*i* S	**Sn**	**17 04 19.0**	**0.0**
GO04				IAML		17 04 20.8	
	comp=E,62μm,0.4s						
GO04	**Tololo Observa**	**0.69**	**51**	*e*P	**Pn**	**17 04 08.3**	**-0.5**
GO04				*e*S	**Sn**	**17 04 19.0**	**0.0**
GO04	**Tololo Observa**	**0.69**	**51**	*e*P	**Pn**	**17 04 08.3**	**-0.5**
GO04				*e*S	**Sn**	**17 04 19.0**	**0.0**
CO02	**Combarbal**	**0.69**	**149**		**Pn**	**17 04 08.3**	**-0.5**
CO02				Sn	**Sn**	**17 04 17.7**	**-1.1**
CO02	**Combarbal**	**0.69**	**149**	⇓*i*P	**Pn**	**17 04 08.4**	**-0.4**
CO02				*i* S	**Sn**	**17 04 17.8**	**-1.1**
CO02	**Combarbal**	**0.69**	**149**	*e*P	**Pn**	**17 04 08.2**	**-0.6**
CO02				IAML		17 04 18.4	
	comp=Z,17μm,0.2s						
CO02				*e*S	**Sn**	**17 04 19.0**	**+0.2**
CO02	**Combarbal**	**0.69**	**149**	*e*P	**Pn**	**17 04 08.2**	**-0.6**
CO02				IAML		17 04 18.4	
	comp=Z,17μm,0.2s						
CO02				*e*S	**Sn**	**17 04 19.0**	**+0.2**
CO05	**La Serena**	**0.71**	**13**	Pn	**Pn**	**17 04 09.9**	**+1.1**
CO05				Sn	**Sn**	**17 04 20.1**	**+1.2**
CO05	**

	comp=Z,3μm,0.2s									
CO01					*eS*		**Sn**	**17 04 34.4**	**+0.8**	
CO01	**Juntas del Tor**	**1.31**	**62**	*eP*			**Pn**	**17 04 17.9**	**+0.8**	
CO01					IAML			17 04 34.4		
	comp=Z,3μm,0.2s									
CO01					*eS*		**Sn**	**17 04 34.4**	**+0.8**	
LCO	**Las Campanas**	**1.71**	**22**	Pn			**Pn**	**17 04 23.5**	**+0.9**	
LCO				Sn			**Sn**	**17 04 44.7**	**+1.2**	
LCO	**Las Campanas**	**1.71**	**22**	*iP*			**Pn**	**17 04 23.6**	**+0.9**	
LCO				*eS*			**Sn**	**17 04 45.1**	**+1.7**	
VA06	**Catapilco**	**1.95**	**177**	Pn			**Pn**	**17 04 26.1**	**+0.6**	
VA06	**Catapilco**	**1.95**	**177**	*iP*			**Pn**	**17 04 26.3**	**+0.7**	
VA06					IAML			17 05 06.2		
	comp=E,5μm,0.4s									
AC05	**El Transito**	**2.03**	**30**				**Pn**	**17 04 28.4**	**+1.7**	
AC05	**El Transito**	**2.03**	**30**	*iP*			**Pn**	**17 04 28.5**	**+1.7**	
AC05	**El Transito**	**2.03**	**30**	*eP*			**Pn**	**17 04 22.9**	**-3.9**	
AC05				*eP*				17 04 27.6		
AC05				*eS*			**Sn**	**17 04 55.6**	**+4.6**	
AC05					IAML			17 05 05.4		
	comp=Z,1μm,0.5s									
AC05	**El Transito**	**2.03**	**30**	*eP*			**Pn**	**17 04 22.9**	**-3.9**	
AC05				*eP*				17 04 27.6		
AC05				*eS*			**Sn**	**17 04 55.6**	**+4.6**	
AC05					IAML			17 05 05.4		
	comp=Z,1μm,0.5s									
VA03	**San Esteban**	**2.27**	**161**				**Pn**	**17 04 28.5**	**-1.6**	
VA03	**San Esteban**	**2.27**	**161**	*eP*			**Pn**	**17 04 28.8**	**-1.3**	
VA03				*eS*			**Sn**	**17 04 57.6**	**+0.6**	
VA03					IAML			17 05 02.6		
	comp=E,5μm,0.2s									
ROC1	**El Roble**	**2.38**	**172**				**Pn**	**17 04 31.7**	**-0.1**	
ROC1	**El Roble**	**2.38**	**172**	*eP*			Pn	17 04 35.7	+4.0	
ROC1				*eS*			**Sn**	**17 05 04.3**	**+4.4**	
ROC1	**El Roble**	**2.38**	**172**	*eP*			Pn	17 04 35.7	+4.0	
ROC1				*eS*			**Sn**	**17 05 04.3**	**+4.4**	
VA01	**Torpederas**	**2.41**	**184**				**Pn**	**17 04 31.4**	**-0.5**	
VA01	**Torpederas**	**2.41**	**184**	*eP*			**Pn**	**17 04 32.0**	**+0.1**	
VA01				*eS*			Sn	17 04 43.4	-17	
VA01					IAML			17 05 09.5		
	comp=Z,500nm,0.8s									
VA01	**Torpederas**	**2.41**	**184**	*eP*			**Pn**	**17 04 32.0**	**+0.1**	
VA01				*eS*			Sn	17 04 43.4	-17	
VA01					IAML			17 05 09.5		
	comp=Z,500nm,0.8s									
AC04	**Llanos de Chal**	**2.42**	**7**	Pn			**Pn**	**17 04 33.7**	**+1.8**	
AC04	**Llanos de Chal**	**2.42**	**7**	*eP*			**Pn**	**17 04 33.8**	**+1.8**	
AC04	**Llanos de Chal**	**2.42**	**7**	*eP*			**Pn**	**17 04 33.0**	**+1.0**	
AC04				*eS*			Sn	17 05 12.6	+12	
AC04					IAML			17 05 14.3		
	comp=Z,874nm,0.5s									
AC04	**Llanos de Chal**	**2.42**	**7**	*eP*			**Pn**	**17 04 33.0**	**+1.0**	
AC04				*eS*			Sn	17 05 12.6	+12	
AC04					IAML			17 05 14.3		
	comp=Z,874nm,0.5s									
ZON	**Zonda**	**2.53**	**112**				**Pn**	**17 04 34.8**	**+1.2**	
ZON	**Zonda**	**2.53**	**112**	*eP*			**Pn**	**17 04 35.2**	**+1.5**	
ZON					IAML			17 05 20.7		
	comp=Z,441nm,0.7s									
ZON	**Zonda**	**2.53**	**112**	*eP*			**Pn**	**17 04 35.2**	**+1.5**	
ZON					IAML			17 05 20.7		
	comp=Z,441nm,0.7s									
PEL	**Peldehue**	**2.60**	**166**				**Pn**	**17 04 35.0**	**+0.4**	
PEL	**Peldehue**	**2.60**	**166**	*eP*			**Pn**	**17 04 35.3**	**+0.7**	
PEL				*eS*			**Sn**	**17 05 06.1**	**+1.0**	
PEL					IAML			17 05 12.6		
	comp=N,1μm,0.3s									
PEL	**Peldehue**	**2.60**	**166**	*eP*			Pn	17 04 22.9	-12	
PEL				*eS*			**Sn**	**17 05 08.9**	**+3.9**	
PEL	**Peldehue**	**2.60**	**166**	*eP*			Pn	17 04 22.9	-12	
PEL				*eS*			**Sn**	**17 05 08.9**	**+3.9**	
RTLL	**Cerro Villicun**	**2.63**	**107**	*eP*			**Pn**	**17 04 36.3**	**+1.3**	
RTLL	**Cerro Villicun**	**2.63**	**107**	*eP*			**Pn**	**17 04 36.3**	**+1.3**	
MT02	**Curacav**	**2.65**	**175**	Pn			**Pn**	**17 04 35.5**	**+0.3**	
MT02	**Curacav**	**2.65**	**175**	*eP*			**Pn**	**17 04 36.5**	**+1.3**	
MT02				*eS*			**Sn**	**17 05 12.0**	**+5.9**	
MT02					IAML			17 05 19.2		
	comp=Z,737nm,0.6s									
MT02	**Curacav**	**2.65**	**175**	*eP*			**Pn**	**17 04 36.5**	**+1.3**	
MT02				*eS*			**Sn**	**17 05 12.0**	**+5.9**	
MT02					IAML			17 05 19.2		
	comp=Z,737nm,0.6s									
MT05	**Renca**	**2.83**	**168**	Pn			**Pn**	**17 04 38.6**	**+0.8**	
FCH	**Farellones**	**2.88**	**161**	*eP*			**Pn**	**17 04 39.7**	**+1.2**	
FCH				*eS*			**Sn**	**17 05 13.9**	**+1.8**	
FCH					IAML			17 05 22.1		
	comp=N,1000nm,0.3s									
CFA	**Coronel Fontan**	**2.91**	**111**	P			**Pn**	**17 04 40.0**	**+1.3**	
	comp=N,370nm,0.3s,baz=293,slow=9.3,SNR=1058									
CFA				S			**Sn**	**17 05 15.8**	**+3.3**	
	comp=N,534nm,0.5s,baz=252,slow=20,SNR=13									
ASAL	**Salagasta**	**2.96**	**132**	*eP*			**Pn**	**17 04 41.3**	**+1.7**	
ASAL				*eS*			Sn	17 05 01.2	-13	
ASAL					IAML			17 05 03.5		
	comp=Z,401nm,0.8s									
ASAL	**Salagasta**	**2.96**	**132**	*eP*			**Pn**	**17 04 41.3**	**+1.7**	
ASAL				*eS*			Sn	17 05 01.2	-13	
ASAL					IAML			17 05 03.5		
	comp=Z,401nm,0.8s									
MT03	**Universidad Ad**	**2.98**	**165**				**Pn**	**17 04 40.6**	**+0.8**	
MT03	**Universidad Ad**	**2.98**	**165**	*eP*			**Pn**	**17 04 41.5**	**+1.7**	
MT03				*eS*			**Sn**	**17 05 15.9**	**+1.6**	
MT03					IAML			17 05 31.8		
	comp=Z,1μm,0.5s									
MT03	**Universidad Ad**	**2.98**	**165**	*eP*			**Pn**	**17 04 41.5**	**+1.7**	
MT03				*eS*			**Sn**	**17 05 15.9**	**+1.6**	
MT03					IAML			17 05 31.8		
	comp=Z,1μm,0.5s									
VA05	**Santo Domingo**	**3.04**	**183**				**Pn**	**17 04 40.2**	**-0.3**	
VA05	**Santo Domingo**	**3.04**	**183**		IAML			17 05 33.9		
	comp=E,2μm,0.4s									
ARCO	**CERRO ARCO**	**3.08**	**137**	*eP*			**Pn**	**17 04 42.8**	**+1.7**	
ARCO				*eS*			**Sn**	**17 05 22.9**	**+6.1**	
ARCO	**CERRO ARCO**	**3.08**	**137**	*eP*			**Pn**	**17 04 42.8**	**+1.7**	
ARCO				*eS*			**Sn**	**17 05 22.9**	**+6.1**	
MT09	**Talagante**	**3.18**	**173**				**Pn**	**17 04 43.2**	**+0.6**	
MT09	**Talagante**	**3.18**	**173**	*eP*			**Pn**	**17 04 44.0**	**+1.4**	
MT09					IAML			17 05 29.8		
	comp=N,2μm,0.3s									
GO03	**Copiap**	**3.18**	**19**				**Pn**	**17 04 44.0**	**+1.4**	
GO03	**Copiap**	**3.18**	**19**	*eP*			**Pn**	**17 04 44.2**	**+1.7**	
GO03				*eS*			**Sn**	**17 05 21.9**	**+2.7**	
GO03				*eS*				17 05 34.4		
GO03	**Copiap**	**3.18**	**19**	*eP*			**Pn**	**17 04 44.2**	**+1.7**	
GO03				*eS*			**Sn**	**17 05 21.9**	**+2.7**	
GO03				*eS*				17 05 34.4		
MT01	**Popeta**	**3.25**	**177**				**Pn**	**17 04 43.6**	**+0.2**	
MT01	**Popeta**	**3.25**	**177**	*eP*			**Pn**	**17 04 43.9**	**+0.5**	
MT01					IAML			17 05 30.7		
	comp=E,1μm,0.3s									
AAGR	**Agrelo**	**3.31**	**139**	*eP*			**Pn**	**17 04 46.0**	**+1.6**	
AAGR				*eS*			Sn	17 05 06.4	-16	
AAGR	**Agrelo**	**3.31**	**139**	*eP*			**Pn**	**17 04 46.0**	**+1.6**	
AAGR				*eS*			Sn	17 05 06.4	-16	
AC06	**Mina Casimiro**	**3.37**	**16**				**Pn**	**17 04 46.3**	**+1.1**	
AC06	**Mina Casimiro**	**3.37**	**16**	*eP*			**Pn**	**17 04 46.5**	**+1.4**	
AC06					IAML			17 05 40.6		
	comp=E,759nm,0.6s									
LMEL	**Las Melosas**	**3.39**	**163**				**Pn**	**17 04 47.5**	**+2.0**	
BO04	**La Punta**	**3.44**	**169**				**Pn**	**17 04 46.7**	**+0.6**	
BO04	**La Punta**	**3.44**	**169**	*eP*			**Pn**	**17 04 46.9**	**+0.9**	
BO04				*eS*			**Sn**	**17 05 25.9**	**+0.3**	
BO04					IAML			17 05 42.9		
	comp=E,797nm,0.6s									
BO01	**Tunca**	**3.78**	**176**	Pn			**Pn**	**17 04 51.5**	**+0.8**	
BO03	**Pichilemu**	**3.90**	**187**	*eP*			**Pn**	**17 04 51.5**	**-0.8**	
BO02	**Sierra Bellavi**	**4.21**	**173**				**Pn**	**17 04 56.9**	**+0.3**	
BO02	**Sierra Bellavi**	**4.21**	**173**	*eP*			**Pn**	**17 04 57.4**	**+0.8**	
BO02				*eS*			**Sn**	**17 05 44.2**	**-0.3**	
BO02	**Sierra Bellavi**	**4.21**	**173**	*eP*			**Pn**	**17 04 58.8**	**+2.2**	
BO02				*eS*			**Sn**	**17 05 43.9**	**-0.5**	
BO02					IAML			17 05 57.8		
	comp=Z,426nm,0.7s									
BO02	**Sierra Bellavi**	**4.21**	**173**	*eP*			**Pn**	**17 04 58.8**	**+2.2**	
BO02				*eS*			**Sn**	**17 05 43.9**	**-0.5**	
BO02					IAML			17 05 57.8		
	comp=Z,426nm,0.7s									
AC02	**Maricunga**	**4.27**	**29**	Pn			**Pn**	**17 04 57.6**	**-0.2**	
AC02	**Maricunga**	**4.27**	**29**	*eP*			**Pn**	**17 05 00.1**	**+2.3**	
AC02				*eS*			**Sn**	**17 05 53.9**	**+7.4**	
AC02					IAML			17 06 10.0		
	comp=Z,267nm,1.4s									
AC02	**Maricunga**	**4.27**	**29**	*eP*			**Pn**	**17 05 00.1**	**+2.3**	
AC02				*eS*			**Sn**	**17 05 53.9**	**+7.4**	
AC02					IAML			17 06 10.0		
	comp=Z,267nm,1.4s									
GO05	**Huala**	**4.41**	**185**				**Pn**	**17 04 58.2**	**-1.1**	
AC01	**Pan de Azucar**	**4.50**	**9**	Pn			**Pn**	**17 05 00.2**	**-0.4**	
AC01	**Pan de Azucar**	**4.50**	**9**	*eP*			**Pn**	**17 05 00.7**	**+0.1**	
AC01					IAML			17 06 22.6		
	comp=Z,212nm,0.7s									
AC01	**Pan de Azucar**	**4.50**	**9**	*eP*			**Pn**	**17 05 00.7**	**+0.1**	
AC01					IAML			17 06 22.6		
	comp=Z,212nm,0.7s									
PB14	**IPOC Station P**	**6.03**	**9**	Pn			**Pn**	**17 05 20.1**	**-1.7**	
BI05	**Punta Hualpn**	**6.30**	**193**	Pn			**Pn**	**17 05 23.2**	**-2.0**	
H03N1	**Juan Fernandez**	**6.96**	**244**	P			**Pn**	**17 05 35.2**	**+1.2**	
	baz=119,slow=19,SNR=94									
H03N1					T		T	17 12 32.1		
	baz=73,slow=72,SNR=1503									
H03N3	**Juan Fernandez**	**6.97**	**244**	P			**Pn**	**17 05 34.5**	**+0.3**	
	baz=119,slow=19,SNR=72									
H03N3					T		T	17 12 25.0		
	baz=73,slow=72,SNR=1339									
VA04	**Juan Fernndez**	**6.97**	**242**	Pn			**Pn**	**17 05 34.6**	**+0.1**	
H03N2	**Juan Fernandez**	**6.97**	**244**	P			**Pn**	**17 05 35.6**	**+1.4**	
	baz=119,slow=19,SNR=103									
H03N2					T		T	17 12 35.6		
	baz=73,slow=72,SNR=1772									
PB10	**IPOC Station P**	**7.11**	**6**	Pn			**Pn**	**17 05 34.2**	**-2.2**	
PB06	**IPOC Station P**	**8.04**	**12**	Pn			**Pn**	**17 05 48.3**	**-1.1**	
LVC	**Limon Verde**	**8.28**	**16**	P			**Pn**	**17 05 51.8**	**-0.9**	
	comp=Z,2.1nm,0.3s,baz=180,slow=6.0,SNR=6.6									
LVC					S		**Sn**	**17 07 29.5**	**+4.5**	
	comp=Z,10nm,0.5s,baz=200,slow=16,SNR=3.4									
LVC	**Limon Verde**	**8.28**	**16**	Pn			**Pn**	**17 05 51.5**	**-1.2**	
PB04	**IPOC Station P**	**8.32**	**8**	Pn			**Pn**	**17 05 51.1**	**-2.1**	
PB03	**IPOC Station P**	**8.66**	**10**	Pn			**Pn**	**17 05 57.8**	**+0.1**	
PB07	**IPOC Station P**	**8.95**	**9**	Pn			**Pn**	**17 05 59.5**	**-2.3**	
GO06	**Curarrehue**	**8.95**	**180**	Pn			**Pn**	**17 05 59.7**	**-2.0**	
PB09	**IPOC Station P**	**8.99**	**13**	Pn			**Pn**	**17 06 01.5**	**-0.8**	
PB02	**IPOC Station P**	**9.35**	**9**	Pn			**Pn**	**17 06 05.2**	**-2.0**	
PB01	**IPOC Station P**	**9.69**	**11**				**Pn**	**17 06 08.3**	**-3.4**	
PATCX	**Punta Patache**	**9.81**	**7**	Pn			**Pn**	**17 06 13.1**	**-0.4**	
TA01	**Diego Aracena**	**10.06**	**7**	Pn			**Pn**	**17 06 17.7**	**+0.9**	
PLCA	**Paso Flores**	**10.13**	**176**	P			**Pn**	**17 06 17.8**	**+0.1**	
	comp=Z,0.6nm,0.6s,baz=7.6,slow=15,SNR=2.1									
PLCA					LR		LR	17 09 32.6		
	comp=Z,30nm,20.7s,baz=323,slow=33									
PLCA	**Paso Flores**	**10.13**	**176**	Pn			**Pn**	**17 06 17.2**	**-0.4**	
LL04	**Puerto Octay**	**10.31**	**184**	Pn			**Pn**	**17 06 19.5**	**-0.6**	
TRQA	**Tornquist**	**10.77**	**136**				**Pn**	**17 06 23.9**	**-2.6**	
PB11	**IPOC Station P**	**10.92**	**9**	Pn			**Pn**	**17 06 26.4**	**-2.3**	
PSGCX	**Pisagua**	**11.03**	**6**	Pn			**Pn**	**17 06 28.2**	**-1.9**	
GO01	**Chusmiza**	**11.08**	**11**	Pn			Pn	17 06 22.5	-8.6	
MNMC	**Minye Minye**	**11.55**	**9**				**Pn**	**17 06 37.9**	**+0.5**	
LL06	**Loncomilla**	**11.72**	**188**	Pn			**Pn**	**17 06 38.1**	**-1.2**	
PB12	**IPOC Station P**	**11.98**	**5**	Pn			**Pn**	**17 06 40.5**	**-2.7**	
PB16	**IPOC Station P**	**12.34**	**9**	Pn			**Pn**	**17 06 47.5**	**-1.0**	
ITQB	**Itaqui**	**12.85**	**90**				**Pn**	**17 06 51.5**	**-3.3**	
ITQB	**Itaqui**	**12.85**	**90**	*eP*			**Pn**	**17 06 51.5**	**-3.3**	
CPUP	**Villa Florida**	**13.11**	**74**	P			**Pn**	**17 06 54.8**	**-3.7**	
	comp=Z,0.9nm,0.4s,baz=228,slow=12,SNR=2.3									
CPUP					S		Sn	17 09 14.5	-8.2	
	comp=Z,4.0nm,0.8s,baz=280,slow=6.1,SNR=2.0									
CPUP					LR		LR	17 11 48.9		
	comp=Z,50nm,19.7s,baz=220,slow=36									
LPAZ	**La Paz**	**14.57**	**13**	P			**Pn**	**17 07 19.5**	**+0.7**	
	comp=Z,3.0nm,0.9s,baz=182,slow=8.9,SNR=7.2									
LPAZ	**La Paz**	**14.57**	**13**	Pn			**Pn**	**17 07 18.7**	**-0.1**	
PLTB	**Pedras Altas**	**15.30**	**99**	Pn			Pn	17 07 20.2	-7.4	
PLTB				IAmb			IAmb	17 07 42.0		
	comp=Z,13nm,1.3s									
SIV	**San Ignacio**	**17.36**	**35**	P			**Pn**	**17 07 53.5**	**-0.2**	
	comp=Z,7.3nm,0.9s,baz=212,slow=9.6,SNR=26									
PTGB	**Pitanga**	**18.12**	**76**	*eP*			**P**	**17 08 02.1**	**-0.7**	
PTLB	**Pontes e Lacer**	**18.83**	**39**				**P**	**17 08 09.6**	**-1.0**	
PTLB				IAmb			IAmb	17 08 29.9		
	comp=Z,8.4nm,0.9s									
PTLB	**Pontes e Lacer**	**18.83**	**39**	*eP*			**P**	**17 08 10.6**	**0.0**	
NNA	**Nana**	**19.20**	**344**	LR			LR	17 14 23.9		
	comp=Z,47nm,18.6s,baz=194,slow=33									
PCMB	**Pacaembu**	**20.18**	**68**	*eP*			**P**	**17 08 24.9**	**-0.4**	
VILB	**Vilhena**	**20.40**	**33**	P			**P**	**17 08 27.3**	**-0.5**	
VILB				IAmb			IAmb	17 08 47.1		
	comp=Z,13nm,0.9s									
VILB	**Vilhena**	**20.40**	**33**	*eP*			**P**	**17 08 28.0**	**+0.3**	
SALV	**Santo Antonio**	**20.54**	**48**	*eP*			**P**	**17 08 29.3**	**+0.1**	
FRTB	**Fartura**	**20.76**	**75**	*eP*			**P**	**17 08 30.2**	**-1.4**	
ETMB	**Extrema**	**21.25**	**14**	P			**P**	**17 08 36.4**	**-0.4**	
ETMB				IAmb			IAmb	17 08 41.7		
	comp=Z,4.4nm,0.7s									
ETMB	**Extrema**	**21.25**	**14**	*eP*			**P**	**17 08 38.4**	**+1.5**	
SAML	**Samuel**	**22.88**	**21**	P			**P**	**17 08 52.4**	**-1.9**	
PDRB	**Porto dos Gac**	**23.30**	**39**	*eP*			**P**	**17 08 58.5**	**0.0**	
BDFB	**Brasilia**	**26.10**	**60**	P			**P**	**17 09 23.1**	**-1.1**	
	comp=Z,9.3nm,0.7s,baz=243,slow=8.8,SNR=19									
	comp=Z,9.3nm,0.7s									
BDFB	**Brasilia**	**26.10**	**60**	P			**P**	**17 09 22.9**	**-1.3**	
BDFB				IAmb			IAmb	17 09 24.0		
	comp=Z,9.0nm,0.7s									
SNDB	**Serra Nova Dou**	**26.29**	**49**	*eP*			**P**	**17 09 25.2**	**-0.6**	
JANB	**Januaria**	**29.29**	**64**	*eP*			**P**	**17 09 51.4**	**-1.2**	
SJMB	**Sao Joao De Ma**	**29.83**	**74**	*eP*			**P**	**17 09 56.0**	**-1.4**	
BOAV	**Boa Vista**	**34.43**	**20**	P			**P**	**17 10 37.3**	**-0.4**	
BOAV				IAmb			IAmb	17 10 38.3		
	comp=Z,2.9nm,0.8s									
RUSC	**La Rusia**	**36.33**	**357**	P			**P**	**17 10 54.7**	**+0.2**	
CELP	**Cerrillos**	**48.63**	**6**	P			**P**	**17 12 33.6**	**-0.1**	
VNA2	**Neumayer--Watz**	**52.94**	**158**	P			**P**	**17 13 05.5**	**-0.1**	
	baz=282,slow=5.0									
SNAA	**Sanae**	**54.53**	**159**	P			**P**	**17 13 17.1**	**-0.3**	
DBIC	**Dimbokro**	**73.61**	**72**	P			**P**	**17 15 22.9**	**-0.4**	
	comp=Z,7.0nm,0.6s,baz=242,slow=5.9,SNR=7.7									
DBIC					LR		LR	17 44 43.7		
	comp=Z,31nm,21.4s,baz=330,slow=33									
	comp=Z,7.0nm,0.6s									
PDAR	**Pinedale Array**	**80.99**	**333**	P			**P**	**17 16 04.7**	**+0.5**	
	comp=Z,2nm,0.5s,baz=148,slow=8.6,SNR=2.3									
BOSA	**Boshof**	**81.19**	**118**	P			**P**	**17 16 05.2**	**-0.4**	
	comp=Z,1.3nm,0.5s,baz=179,slow=6.8,SNR=3.2									
	comp=Z,1.3nm,0.5s									
TORD	**Torodi Ar. Bea**	**82.57**	**70**	P			**P**	**17 16 12.2**	**-0.6**	
	comp=Z,3.0nm,0.5s,baz=279,slow=6.4,SNR=28									
	comp=Z,3.0nm,0.5s									
WRA	**Warramunga Arr**	**123.96**	**210**	PKP			**PKPdf**	**17 22 47.3**	**-0.8**	
	comp=Z,0.3nm,0.7s,baz=157,slow=1.3,SNR=2.2									
H11S2	**WAKE ISLAND Hyl**	**26.28**	**271**	T			T	19 41 41.2		
	baz=115,slow=75,SNR=20									
H11S1	**WAKE ISLAND Hyl**	**26.29**	**271**	T			T	19 41 42.2		
	baz=115,slow=75,SNR=27									
H11S3	**WAKE ISLAND Hyl**	**26.30**	**271**	T			T	19 41 42.3		
	baz=115,slow=75,SNR=27									
H11N3	**WAKE ISLAND Hyl**	**26.61**	**273**	T			T	19 42 08.1		
	baz=154,slow=74,SNR=4.7									
H11N2	**WAKE ISLAND Hyl**	**26.62**	**273**	T			T	19 42 09.0		
	baz=120,slow=74,SNR=6.0									
ZALV	**Zalesovo Beam**	**151.06**	**29**	PKPbc			**PKPbc**	**17 23 41.7**	**0.0**	
	comp=Z,6.4nm,0.4s,baz=309,slow=3.1,SNR=36									
MKAR	**Makanchi Array**	**154.06**	**44**	PKPbc			**PKPbc**	**17 23 46.4**	**-2.3**	
	comp=Z,0.2nm,0.6s,baz=308,slow=4.7,SNR=3.2									
MKAR				PKPab			**sPKPdf**	**17 24 02.1**	**+0.3**	
	comp=Z,0.5nm,0.7s,baz=278,slow=3.6,SNR=4.6									
PZH	**PanZhiHua**	**172.73**	**123**	PKP			**PKPdf**	**17 23 57.3**	**-1.5**	

MAN 21 17:21:35.4, 11°.41N×125°.65E, h19km, mb4.0, ML2.8, MS2.4, Samar

*NEIC **21** 17:21:21.0±0.6, 36°.878N±0°.009×89°.13W±0°.01, h7km±3km, Error ellipse: s-maj=1.5km s-min=0.9km az=214.0*
*SLM **21** 17:21:20.8±0.8, 36°.88N±0°.01×89°.120W±0°.007, h9km±3km, Md2.8/36, mb_Lg2.8/95(NEIC), ML3.0/32(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=176.0*
*ANF **21** 17:21:20.2±0.2, 36°.88N×89°.15W, h6km±4km, ML3.1/11, Error ellipse: s-maj=3.0km s-min=2.0km az=109.0*
ISC 21 17:31:20.5±0.9, 36°.87N±0°.02×89°.12W±0°.02, h9km±7km, n167, σ0°96/185, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHRM	**Charleston**	**0.20**	**264**			**Pg**	**17 31 24.5**	**0.0**
CHRM						**Sg**	**17 31 27.6**	**+0.3**
FMKY	**Fulgham**	**0.27**	**141**			**Pg**	**17 31 25.8**	**-0.1**

DWDM	**Dogwood**	**0.31**	**256**				**Pg**	**17 31 26.6**	**-0.1**	
DWDM							**Sg**	**17 31 31.4**	**+0.7**	
HENM	**Henderson Moun**	**0.32**	**241**				**Pg**	**17 31 26.8**	**-0.1**	
HENM							**Sg**	**17 31 31.6**	**+0.4**	
HICK	**Hickman**	**0.34**	**195**				**Pg**	**17 31 27.1**	**-0.2**	
HICK	**Hickman**	**0.34**	**195**	Sg			**Sg**	**17 31 32.1**	**+0.3**	
HICK				IAML				17 31 38.0		
	comp=E,873nm,0.4s									
HICK				IAML				17 31 40.8		
	comp=N,1μm,0.3s									
MATM	**Matthews**	**0.40**	**256**				**Pg**	**17 31 28.3**	**-0.1**	
T45B	**Paducah**	**0.41**	**69**	P			**Pg**	**17 31 28.5**	**0.0**	
T45B	baz=251			S			**Sg**	**17 31 34.1**	**+0.3**	
	baz=251									
T45A	**Paducah**	**0.41**	**69**				**Pg**	**17 31 28.3**	**-0.3**	
T45A				Sg			**Sg**	**17 31 34.4**	**+0.5**	
KEWM	**Kewanee**	**0.42**	**245**				**Pg**	**17 31 28.6**	**-0.1**	
NMMO	**New Madrid**	**0.45**	**231**				**Pg**	**17 31 29.3**	**0.0**	
WALK	**Watson Lake**	**0.47**	**226**				**Pg**	**17 31 29.8**	**0.0**	
NMEM	**New Madrid Sch**	**0.48**	**231**				**Pg**	**17 31 29.9**	**+0.1**	
FLPT	**Flippin**	**0.49**	**199**				**Pg**	**17 31 30.3**	**+0.3**	
CATM	**Catron**	**0.50**	**239**				**Pg**	**17 31 29.9**	**-0.2**	
CATM							**Sg**	**17 31 37.2**	**+0.5**	
COKM	**Charter Oak**	**0.51**	**252**				**Pg**	**17 31 30.3**	**-0.2**	
MCIL	**McClure**	**0.52**	**325**				**Pg**	**17 31 30.9**	**+0.3**	
MCIL							**Sg**	**17 31 37.5**	**+0.1**	
PARMO	**Parma**	**0.55**	**248**				**Pg**	**17 31 30.9**	**-0.3**	
PARMO				Sg			**Sg**	**17 31 38.4**	**0.0**	
PARMO				IAML				17 31 43.2		
	comp=N,695nm,0.5s									
MARMO	**Marston**	**0.56**	**232**				**Pg**	**17 31 31.2**	**-0.2**	
MARMO							**Sg**	**17 31 38.9**	**+0.2**	
UTMT	**University of**	**0.57**	**159**				**Pg**	**17 31 31.6**	**+0.1**	
UTMT				Sg			**Sg**	**17 31 39.1**	**+0.1**	
UTMT				IAML				17 31 43.9		
	comp=N,661nm,0.7s									
GUAMO	**Guam**	**0.58**	**272**				**Pg**	**17 31 31.5**	**-0.2**	
PENMO	**Penman**	**0.59**	**224**				**Pg**	**17 31 31.6**	**-0.3**	
PPLM	**Point Pleasant**	**0.60**	**219**				**Pg**	**17 31 31.8**	**-0.3**	
CGM3	**Cape Girardeau**	**0.60**	**315**				**Pg**	**17

WCI	**Wyandotte Cave**	**2.62**	**58**	Pn		**Pn**	**17 32 04.7**	**+1.6**	
WCI	**Wyandotte Cave**	**2.62**	**58**	P		**Pn**	**17 32 04.3**	**+1.3**	
	baz=240								
WCI				S		**Sn**	**17 32 36.8**	**+1.8**	
	baz=240								
U49A	**Red Boiling Sp**	**2.71**	**97**			**Pn**	**17 32 05.8**	**+1.5**	
U49A	**Red Boiling Sp**	**2.71**	**97**	P		**Pn**	**17 32 04.9**	**+0.7**	
	baz=279,SNR=22								
P43A	**Skaggs, Pawnee**	**2.78**	**354**			**Pn**	**17 32 06.2**	**+1.0**	
R40A	**Maddies Statio**	**2.87**	**300**			**Pn**	**17 32 07.8**	**+1.3**	
X48A	**Hartselle**	**2.95**	**144**			Pn	17 32 03.3	-4.3	
X48A	**Hartselle**	**2.95**	**144**			**Pn**	**17 32 08.0**	**+0.5**	
X48A				IAmb_Lg			17 32 52.7		
	comp=Z,23nm,0.8s								
WHAR	**Wooly Hollow**	**3.01**	**239**			**Pn**	**17 32 08.2**	**-0.3**	
WHAR				IAmb_Lg			17 33 02.5		
	comp=Z,25nm,0.7s								
Y45A	**Yeager Farm, C**	**3.02**	**187**	Pn		**Pn**	**17 32 08.2**	**-0.3**	
SWET	**Sewanee**	**3.07**	**122**	Pn		**Pn**	**17 32 08.9**	**-0.3**	
BLO	**Bloomington**	**3.08**	**41**	Pn		**Pn**	**17 32 08.6**	**-0.8**	
P46A	**Rosedale**	**3.13**	**28**	Pn		**Pn**	**17 32 09.0**	**-1.0**	
O44A	**Mansfield**	**3.31**	**9**	Pn		**Pn**	**17 32 12.1**	**-0.4**	
O44A				IAmb_Lg			17 33 07.5		
	comp=Z,30nm,0.7s								
UALR	**University of**	**3.35**	**232**	Pn		**Pn**	**17 32 12.6**	**-0.5**	
T50A	**Nancy**	**3.43**	**86**			**Pn**	**17 32 14.1**	**-0.1**	
R49A	**Shelbyville**	**3.44**	**65**			**Pn**	**17 32 14.5**	**+0.2**	
R49A				IAmb_Lg			17 33 15.3		
	comp=Z,20nm,0.7s								
S39A	**Bolivar**	**3.45**	**285**	Pn		**Pn**	**17 32 14.6**	**+0.1**	
S39A				IAmb_Lg			17 33 11.3		
	comp=Z,22nm,0.7s								
W50A	**Signal Mountai**	**3.51**	**117**			**Pn**	**17 32 15.8**	**+0.5**	
W50A				IAmb_Lg			17 33 16.2		
	comp=Z,27nm,0.7s								
P40A	**Paris**	**3.51**	**320**			**Pn**	**17 32 15.8**	**+0.5**	
P40A				IAmb_Lg			17 33 15.3		
	comp=Z,20nm,0.8s								
CCAR	**Cane Creek**	**3.66**	**217**	Pn		**Pn**	**17 32 17.9**	**+0.6**	
CCAR				IAmb_Lg			17 33 25.3		
	comp=Z,19nm,0.7s								
HDIL	**Hopedale**	**3.68**	**358**	Pn		**Pn**	**17 32 17.4**	**-0.2**	
FPAL	**Fort Paine**	**3.68**	**128**			**Pn**	**17 32 17.9**	**+0.2**	
FPAL				IAmb_Lg			17 33 23.4		
	comp=Z,19nm,0.7s								
Y49A	**Blount Mountai**	**3.73**	**143**			**Pn**	**17 32 18.4**	**+0.1**	
Y49A				IAmb_Lg			17 33 24.3		
	comp=Z,27nm,0.8s								
Z47A	**Carrollton**	**3.77**	**166**	Pn		**Pn**	**17 32 19.0**	**+0.2**	
Z47A				IAmb_Lg			17 33 20.6		
	comp=Z,20nm,0.8s								
SFIN	**Lafayette**	**3.84**	**24**			**Pn**	**17 32 20.2**	**+0.4**	
X40A	**Basin Creek Fa**	**3.85**	**233**			**Pn**	**17 32 20.4**	**+0.5**	
P48A	**Milroy**	**3.89**	**47**			**Pn**	**17 32 21.9**	**+1.4**	
P48A				IAmb_Lg			17 33 27.4		
	comp=Z,25nm,0.8s								
HHAR	**Hobbs**	**3.92**	**263**			**Pn**	**17 32 22.2**	**+1.2**	
CPCT	**Cooper Cave**	**3.98**	**110**			**Pn**	**17 32 23.4**	**+1.6**	
V51A	**Loudon**	**4.00**	**104**	Pn		**Pn**	**17 32 23.6**	**+1.7**	
R50A	**Paris**	**4.06**	**68**	Pn		**Pn**	**17 32 23.4**	**+0.6**	
R50A				IAmb_Lg			17 33 31.5		
	comp=Z,28nm,0.9s								
X51A	**Calhoun**	**4.16**	**122**	Pn		**Pn**	**17 32 24.3**	**+0.1**	
LRAL	**Lakeview Retre**	**4.21**	**155**	Pn		**Pn**	**17 32 24.1**	**-0.8**	
U38A	**Gravette**	**4.25**	**266**	Pn		**Pn**	**17 32 24.7**	**-0.8**	
U38A				IAmb_Lg			17 33 33.5		
	comp=Z,19nm,1.0s								
MIAR	**Mount Ida**	**4.31**	**239**	Pn		**Pn**	**17 32 25.6**	**-0.6**	
MIAR				IAmb_Lg			17 33 41.0		
	comp=Z,22nm,0.8s								
P49A	**Miami Univ. Ec**	**4.37**	**51**	IAmb_Lg			17 33 39.1		
	comp=Z,28nm,0.7s								
P38A	**Dawn**	**4.43**	**310**	Pn		**Pn**	**17 32 27.6**	**-0.2**	
S51A	**Beattyville**	**4.47**	**79**			**Pn**	**17 32 27.4**	**-1.2**	
S51A				IAmb_Lg			17 33 50.2		
	comp=Z,27nm,0.7s								
TKL	**Tuckaleechee C**	**4.49**	**104**	Pn		**Pn**	**17 32 27.3**	**-1.4**	
TZTN	**Tazewell**	**4.49**	**93**	Pn		**Pn**	**17 32 27.8**	**-1.0**	
WLAR	**White Oak Lake**	**4.56**	**227**	Pn		**Pn**	**17 32 29.3**	**-0.3**	
143A	**Socs Landing,**	**4.56**	**205**	Pn		**Pn**	**17 32 30.0**	**+0.2**	
W52A	**Murphy**	**4.57**	**111**	Pn		**Pn**	**17 32 29.2**	**-0.6**	
V52A	**Sevierville**	**4.58**	**101**	Pn		**Pn**	**17 32 29.4**	**-0.5**	
M44A	**Midewin, Midew**	**4.59**	**10**	Pn		**Pn**	**17 32 28.8**	**-1.2**	
VBMS	**Vicksburg**	**4.78**	**194**	Pn		**Pn**	**17 32 32.2**	**-0.6**	
RLO	**Rose Lookout**	**4.81**	**263**	Pn		**Pn**	**17 32 31.4**	**-1.7**	
N47A	**Urbana**	**4.81**	**33**	Pn		**Pn**	**17 32 31.7**	**-1.4**	
N47A				IAmb_Lg			17 34 01.4		
	comp=Z,16nm,0.8s								
O49A	**Covington**	**5.00**	**47**	Pn		**Pn**	**17 32 34.7**	**-1.1**	
HQIL	**Hanson Quary C**	**5.02**	**11**	Pn		**Pn**	**17 32 34.8**	**-1.2**	
Q51A	**Peebles**	**5.04**	**63**	Pn		**Pn**	**17 32 34.8**	**-1.6**	
Q51A				IAmb_Lg			17 33 56.9		
	comp=Z,13nm,0.7s								
N38A	**Joes South For**	**5.06**	**322**	Pn		**Pn**	**17 32 35.2**	**-1.4**	
Y52A	**Lilburn**	**5.11**	**125**	Pn		**Pn**	**17 32 35.8**	**-1.5**	
Y52A				IAmb_Lg			17 34 03.4		
	comp=Z,14nm,0.9s								
L42A	**Oliver, Polo**	**5.14**	**355**	IAmb_Lg			17 34 05.4		
	comp=Z,14nm,0.8s								
V53A	**Saluda**	**5.24**	**101**	Pn		**Pn**	**17 32 38.6**	**-0.4**	
V53A				IAmb_Lg			17 34 05.9		
	comp=Z,23nm,0.8s								
BG3	**Lake Jocassee**	**5.36**	**109**	IAmb_Lg			17 34 11.9		
	comp=Z,16nm,0.9s								
250A	**Grady**	**5.42**	**153**	Pn		**Pn**	**17 32 42.7**	**+1.2**	
250A				IAmb_Lg			17 34 13.9		
	comp=Z,20nm,0.8s								
L40A	**Anamosa**	**5.43**	**343**	Pn		**Pn**	**17 32 39.9**	**-1.7**	
P51A	**Williamsport**	**5.44**	**60**	Pn		**Pn**	**17 32 40.5**	**-1.2**	
P51A				IAmb_Lg			17 34 09.9		
	comp=Z,22nm,0.9s								
152A	**Waverly Hall**	**5.54**	**138**	Pn		**Pn**	**17 32 43.9**	**+0.7**	
152A				IAmb_Lg			17 34 24.1		
	comp=Z,21nm,1.1s								
344A	**Westbrook Farm**	**5.57**	**194**	Pn		**Pn**	**17 32 42.5**	**-1.0**	
L46A	**Eue Claire**	**5.58**	**22**	IAmb_Lg			17 34 22.3		
	comp=Z,21nm,0.9s								
N49A	**Columbus Grove**	**5.58**	**42**	Pn		**Pn**	**17 32 42.0**	**-1.7**	
Q52A	**Bidwell**	**5.81**	**67**	Pn		**Pn**	**17 32 44.9**	**-1.9**	
Q52A				IAmb_Lg			17 34 34.8		
	comp=Z,18nm,0.9s								
K43A	**Burlington**	**5.86**	**6**	Pn		**Pn**	**17 32 46.3**	**-1.1**	
ACSO	**Alum Creek Sta**	**5.86**	**53**	Pn		**Pn**	**17 32 46.0**	**-1.6**	
ACSO				IAmb_Lg			17 34 26.7		
	comp=Z,16nm,0.8s								
R53A	**Hurricane**	**5.88**	**74**	Pn		**Pn**	**17 32 47.2**	**-0.6**	
R53A				IAmb_Lg			17 34 32.3		
	comp=Z,19nm,0.8s								
U54A	**Nelsons Funny**	**5.88**	**91**	Pn		**Pn**	**17 32 46.3**	**-1.5**	
T35A	**Sooner Cattle**	**5.92**	**273**	IAmb_Lg			17 34 37.3		
	comp=Z,13nm,0.7s								
SCIA	**State Center**	**5.94**	**329**	Pn		**Pn**	**17 32 46.3**	**-2.4**	
SCIA				IAmb_Lg			17 34 26.1		
	comp=Z,20nm,0.8s								
DEOK	**Depew**	**6.04**	**262**	Pn		**Pn**	**17 32 46.0**	**-4.1**	
DEOK				IAmb_Lg			17 34 40.6		
	comp=Z,18nm,0.8s								
JFWS	**Jewell Farm**	**6.10**	**352**	Pn		**Pn**	**17 32 51.3**	**+0.5**	
JFWS				IAmb_Lg			17 34 35.7		
	comp=Z,15nm,0.8s								
QUOK	**Quay**	**6.15**	**266**	Pn		**Pn**	**17 32 53.3**	**+1.8**	
P52A	**Corning**	**6.15**	**61**	Pn		**Pn**	**17 32 53.4**	**+1.9**	
HODGE	**Hodges**	**6.18**	**113**	Pn		**Pn**	**17 32 52.4**	**+0.4**	
HODGE				IAmb_Lg			17 34 42.3		
	comp=Z,13nm,1.0s								
OK044	**Pawnee Station**	**6.19**	**268**	IAmb_Lg			17 34 40.7		
	comp=Z,17nm,0.8s								
L48A	**N Adams**	**6.23**	**34**	Pn		**Pn**	**17 32 53.4**	**+0.8**	
L48A				IAmb_Lg			17 34 36.6		
	comp=Z,15nm,0.8s								
OK053	**SW of W Deep R**	**6.24**	**264**	Pn		**Pn**	**17 32 52.5**	**-0.3**	
OK030	**Cody Creek RV**	**6.25**	**264**	IAmb_Lg			17 34 48.2		
	comp=Z,18nm,0.8s								
OK046	**Pawnee Station**	**6.28**	**268**	IAmb_Lg			17 34 44.1		
	comp=Z,13nm,0.8s								
OK031	**S. Brethren Rd**	**6.29**	**264**	IAmb_Lg			17 34 55.5		
	comp=Z,17nm,0.8s								
S54A	**Dingess, Beckl**	**6.29**	**79**			**Pn**	**17 32 53.7**	**+0.2**	
OK033	**Mehan**	**6.35**	**265**	IAmb_Lg			17 34 58.4		
	comp=Z,17nm,0.9s								
V55A	**Taylorsville**	**6.46**	**97**	IAmb_Lg			17 34 50.7		
	comp=Z,18nm,1.1s								
KMSC	**Kings Mountain**	**6.54**	**103**	Pn		**Pn**	**17 32 56.2**	**-0.7**	
P53A	**Whipple**	**6.62**	**64**	Pn		**Pn**	**17 32 57.2**	**-0.9**	

N51A	**Ashland**	**6.63**	**50**	Pn		**Pn**	**17 32 58.4**	**+0.3**	
N51A				IAmb_Lg			17 34 51.5		
	comp=Z,17nm,0.8s								
Q54A	**Coxs Mills**	**6.88**	**70**	Pn		**Pn**	**17 33 04.4**	**+2.8**	
JSC	**Jenkinsville**	**6.91**	**110**	IAmb_Lg			17 34 58.5		
	comp=Z,9.9nm,0.7s								
KAN12	**Harper NE Stat**	**7.11**	**276**			**Pn**	**17 33 04.2**	**-0.5**	
CROK	**Carrier**	**7.13**	**270**	IAmb_Lg			17 35 21.5		
	comp=Z,15nm,0.9s								
M52A	**Chesterland**	**7.62**	**50**	IAmb_Lg			17 35 25.3		
	comp=Z,13nm,0.8s								

*NOU **21** 17:53:29.0,33˚.40S×176˚.99W,h0km,mb4.9/24, South of Kermadec Islands*

*BJI **21** 17:53:31.7±0.0,33˚.49S×177˚.98W,h9km,mb5.2/20, mB5.9/10,Ms5.4/2,Ms7 4.9/2*

*NEIC **21** 17:53:32.3±3.0,33˚.06S±0˚.07×177˚.7W±0˚.1,h10km±1km, mb5.0/48,Error ellipse: s-maj=19.2km s-min=10.8km az=100.0*

*WEL **21** 17:53:32.7±0.9,33˚.S±12˚×17˚8W±3˚1,h173km±25km, M4.9/16,mB5.0/9,MLv5.6/16,Mw(mB)4.3/9,Error ellipse: s-maj=0.0km s-min=0.0km az=111.1,confirmed*

*MOS **21** 17:53:32.7±1.9,33˚.03S×177˚.94W,h12km,mb5.2/11, Error ellipse: s-maj=13.5km s-min=9.8km az=98.0*

*GCMT **21** 17:53:35.3±0.4,33˚.18S±0˚.04×177˚.29W±0˚.03,h22km±1km, MW4.9/68,Moment Tensor Solution. s21,c22; s68,c96; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.95±.27; Mθθ-0.40±.16; Mϕϕ3.34±.16; Mrθ0.26±.32; Mϕθ0.49±.11; Mϕr-0.60±.20; Best double couple: Mo3.24700×10¹⁶ NP1:ϑθ0.00000°,δ50.00000°,λ-99.00000°. NP2: ϕs195.00000°,δ41.00000°,λ-79.00000°. Principal axes: T 3.4520, Plg5.0000°, Azm97.0000°; N -0.4150, Plg7.0000°, Azm6.0000°; P -3.0420, Plg81.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **21** 17:53:35.6±2.8,33˚.07S×177˚.71W,h25km±18km,mb4.4/13, mbtmp4.6/15,ML5.1/2,MS3.8/36 Error ellipse: s-maj=17.9km s-min=15.9km az=23.0*

ISC 21 17:53:34.6±0.4,33˚.12S±0˚.04×177˚.67W±0˚.07,h26km, n293,σ1ϑ92/287,mb5.0/49,MS3.9/37,23C-3D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.85**	**357**	P		**Pn**		**17 54 28.7**	**-3.5**
GLKZ				S		**Sn**		**17 55 11.8**	**-4.8**
RAO	**Raoul Island**	**3.86**	**357**	Pn		**Pn**		**17 54 28.8**	**-3.5**
RAO	**Raoul Island**	**3.86**	**357**	P		**Pn**		**17 54 28.8**	**-3.5**
RIZ	**Raoul Island**	**3.87**	**357**	S		**Sn**		**17 55 13.8**	**-3.3**
MXZ	**Matakaoa Point**	**5.51**	**215**	Pn		**Pn**		**17 54 52.1**	**-2.9**
MXZ	**Matakaoa Point**	**5.51**	**215**	P		**Pn**		**17 54 53.6**	**-1.4**
MXZ				S		**Sn**		**17 55 57.6**	**0.0**
WMGZ	**Waiomatatini S**	**5.67**	**213**	P		**Pn**		**17 54 55.8**	**-1.3**
WMGZ				S		**Sn**		**17 56 01.6**	**+0.2**
PKGZ	**Pakihiroa**	**5.88**	**215**	P		**Pn**		**17 54 58.7**	**-1.5**
PKGZ				S		**Sn**		**17 56 06.3**	**-0.5**
HAZ	**Te Kaha**	**5.93**	**217**	P		**Pn**		**17 54 60.0**	**-0.7**
HAZ				S		**Sn**		**17 56 08.7**	**+1.0**
PUZ	**Puketiti**	**5.95**	**213**	P		**Pn**		**17 54 58.9**	**-2.1**
PUZ				S		**Sn**		**17 56 07.5**	**-0.8**
RUGZ	**Raukumara Rang**	**6.14**	**217**	P		**Pn**		**17 55 02.7**	**-1.0**
RUGZ				S		**Sn**		**17 56 13.8**	**+0.6**
TWGZ	**Tauwhareparae**	**6.16**	**214**	P		**Pn**		**17 55 02.7**	**-1.2**
TWGZ				S		**Sn**		**17 56 14.2**	**+0.7**
CNGZ	**Carnagh Statio**	**6.31**	**211**	P		**Pn**		**17 55 03.6**	**-2.3**
CNGZ				S		**Sn**		**17 56 17.2**	**+0.1**
TKGZ	**Te Karaka**	**6.43**	**213**	P		**Pn**		**17 55 05.7**	**-1.9**
TKGZ				S		**Sn**		**17 56 19.5**	**-0.7**
MWZ	**Matawai**	**6.50**	**216**	P		**Pn**		**17 55 06.9**	**-1.6**
MWZ				S		**Sn**		**17 56 21.5**	**-0.4**
URZ	**Urewera**	**6.65**	**218**	Pn		**Pn**		**17 55 08.0**	**-2.6**
	2.4nm,0.3s,baz=358,slow=5.2,SNR=17								
URZ				Sn		**Sn**		**17 56 25.1**	**-0.5**
	32nm,0.3s,baz=287,slow=20,SNR=5.3								
URZ				LR		LR		17 57 51.4	
	comp=Z,401nm,19.3s,baz=84,slow=38								
URZ	**Urewera**	**6.65**	**218**	P		**Pn**		**17 55 09.4**	**-1.2**
RTZ	**Ruatahuna**	**6.99**	**217**	Pn		**Pn**		**17 55 13.7**	**-1.7**
RAHZ	**Arahi**	**7.17**	**215**	P		**Pn**		**17 55 17.6**	**-0.2**
RAHZ				S		**Sn**		**17 56 37.8**	**-0.6**
NMHZ	**Naumai**	**7.45**	**215**	P		**Pn**		**17 55 19.6**	**-2.0**
NMHZ				S		**Sn**		**17 56 45.3**	**0.0**
ARHZ	**Aropaoanui**	**7.49**	**214**	P		**Pn**		**17 55 19.4**	**-2.7**
ARHZ				S		**Sn**		**17 56 45.5**	**-0.7**
OUZ	**Omahuta**	**7.53**	**251**	P		Pn		17 55 27.9	+5.2
BKZ	**Black Stump Fm**	**7.66**	**216**	Pn		**Pn**		**17 55 24.2**	**-0.2**
MCHZ	**McNeill Hill**	**7.78**	**214**	P		**Pn**		**17 55 23.6**	**-2.5**
KWHZ	**Kaweka Forest**	**7.89**	**215**	P		**Pn**		**17 55 25.7**	**-2.0**
KWHZ				S		**Sn**		**17 56 52.2**	**-3.9**
KAHZ	**Kahuranaki**	**7.97**	**212**	P		**Pn**		**17 55 25.6**	**-3.2**
KAHZ				S		**Sn**		**17 56 55.4**	**-2.8**
KRHZ	**Kereru**	**8.09**	**215**	P		**Pn**		**17 55 27.2**	**-3.2**
KRHZ				S		**Sn**		**17 56 58.1**	**-2.8**
HIZ	**Hauiti**	**8.11**	**226**	Pn		**Pn**		**17 55 27.7**	**-2.9**
BHHZ	**Black Hill Sta**	**8.12**	**217**	P		**Pn**		**17 55 28.6**	**-2.2**
BHHZ				S		**Sn**		**17 56 59.0**	**-2.8**
PNHZ	**Pukenui**	**8.38**	**214**	P		**Pn**		**17 55 30.5**	**-3.9**
PNHZ				S		**Sn**		**17 57 04.2**	**-4.0**
BFZ	**Birch Farm**	**8.98**	**211**	Pn		**Pn**		**17 55 39.8**	**-2.7**
BFZ	**Birch Farm**	**8.98**	**211**	P		**Pn**		**17 55 39.1**	**-3.4**
MRZ	**Mangatainoka R**	**9.26**	**214**	Pn		**Pn**		**17 55 42.9**	**-3.5**
PLWZ	**Palliser**	**10.13**	**212**	Pn		**Pn**		**17 55 55.8**	**-2.7**
BHW	**Baring Head**	**10.18**	**214**	Pn		**Pn**		**17 55 56.1**	**-2.9**
SNZO	**South Karori**	**10.18**	**214**	Pn		**Pn**		**17 55 54.8**	**-4.2**
TCW	**Tory Channel**	**10.31**	**216**	Pn		**Pn**		**17 55 57.6**	**-3.2**
CTZ	**Chatham Island**	**10.63**	**176**	P		Pn		17 55 59.8	-5.3
TKNZ	**Takaka Hill**	**10.87**	**221**	Pn		Pn		17 56 02.8	-5.7
BSWZ	**Blackbirch Sta**	**10.89**	**216**	Pn		Pn		17 56 02.8	-6.0
MRNZ	**Matariki Terra**	**11.23**	**220**	Pn		**Pn**		**17 56 09.1**	**-4.3**
THZ	**Tophouse**	**11.41**	**218**	Pn		**Pn**		**17 56 13.1**	**-2.9**
KHZ	**Kahutara**	**11.59**	**214**	Pn		**Pn**		**17 56 15.3**	**-2.9**
GVZ	**Greta Valley S**	**12.25**	**214**	Pn		**Pn**		**17 56 24.4**	**-2.9**
LTZ	**Lake Taylor**	**12.48**	**217**	Pn		**Pn**		**17 56 26.9**	**-3.5**
MQZ	**McQueen's Vall**	**13.00**	**213**	Pn		**Pn**		**17 56 33.7**	**-3.8**
OXZ	**Oxford**	**13.00**	**215**	Pn		**Pn**		**17 56 34.2**	**-3.3**
RPZ	**Rata Peaks**	**13.77**	**217**	Pn		**Pn**		**17 56 44.5**	**-3.5**
	2.0nm,0.3s,baz=101,slow=1.3,SNR=8.5								
RPZ				Sn		Sn		17 59 06.7	-13
	2.6nm,0.3s,baz=134,slow=23,SNR=13								
RPZ	**Rata Peaks**	**13.77**	**217**	Pn		**Pn**		**17 56 44.8**	**-3.3**
RPZ	**Rata Peaks**	**13.77**	**217**	P		**Pn**		**17 56 46.2**	**-1.8**
LBZ	**Lake Benmore**	**14.69**	**217**	Pn		**Pn**		**17 56 58.4**	**-2.2**
ODZ	**Otahua Downs**	**14.95**	**214**	P		**Pn**		**17 57 01.2**	**-2.9**
WKZ	**Wanaka**	**15.59**	**218**	Pn		**Pn**		**17 57 07.2**	**-5.3**
WKZ				IAmb		IAmb		17 57 15.1	
	comp=Z,196nm,1.5s								
MSVF	**Nonsavu**	**15.80**	**345**	Pn		**Pn**		**17 57 14.2**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=165,slow=12,SNR=5.7								
MSVF				LR		LR		18 02 09.7	
	comp=Z,316nm,20.7s,baz=170,slow=33 comp=Z,6.7nm,0.7s								
MSVF	**Nonsavu**	**15.80**	**345**			**Pn**		**17 57 14.4**	**-1.0**
MSVF	**Nonsavu**	**15.80**	**345**	P		**Pn**		**17 57 16.7**	**+1.3**
MSVF	**Nonsavu**	**15.80**	**345**	P		**Pn**		**17 57 14.5**	**-1.0**
MSVF				pmax		pmax			
	comp=Z,70nm,1.8s								
SYZ	**Scrubby Hill**	**16.76**	**213**	P		**Pn**		**17 57 27.4**	**0.0**
PINNC	**Pines Island,**	**16.79**	**305**	P		**Pn**		**17 57 24.5**	**-3.5**
WHZ	**Wether Hill Ro**	**16.87**	**217**	P		**Pn**		**17 57 25.1**	**-3.7**
OUENC	**Ouen Island, N**	**17.34**	**304**	P		**Pn**		**17 57 33.9**	**-0.9**
OUENC	**Ouen Island, N**	**17.34**	**304**	P		**P**		**17 57 40.9**	**+4.8**
DZM	**Mont Dzumac**	**17.85**	**304**	P		**P**		**17 57 43.9**	**+2.1**
	comp=Z,13nm,0.9s,baz=113,slow=12,SNR=6.3								
DZM				LR		LR		18 03 13.5	
	comp=Z,498nm,19.6s,baz=140,slow=32								
DZM	**Mont Dzumac**	**17.85**	**304**	*e*Pn		**P**		**17 57 41.6**	**-0.1**
	comp=Z,108nm,1.5s								
DZM				eLR		LR		18 01 47.4	
	comp=Z,975nm,28.1s								
DZM	**Mont Dzumac**	**17.85**	**304**	P		**Pn**		**17 57 39.7**	**-1.5**
DZM	**Mont Dzumac**	**17.85**	**304**	P		**P**		**17 57 46.3**	**+4.5**
NOUC	**Port Laguerre**	**17.93**	**304**	P		**P**		**17 57 47.2**	**+4.7**
LIFNC	**LIFOU**	**18.20**	**309**	P		**Pn**		**17 57 44.3**	**-1.1**
LIFNC				IAmb		IAmb		17 57 53.6	
	comp=Z,48nm,1.0s								
RAR	**Rarotonga**	**19.82**	**58**	LR		LR		18 05 29.2	
	comp=Z,210nm,18.2s,baz=236,slow=36								

AFI	**Afiamalu**	**19.87**	**17**	P		**Pn**		**17 58 05.2**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=200,slow=12,SNR=5.2								
AFI				S					
	comp=Z,52nm,0.9s								
AFI	**Afiamalu**	**19.87**	**17**	P		**P**		**17 58 03.8**	**-0.1**
AFI				IAmb		IAmb		17 58 16.6	
	comp=Z,54nm,0.9s								
KOUNC	**Koumac, New Ca**	**20.36**	**303**	P		**P**		**17 58 09.7**	**+0.6**
KOUNC				IAmb		IAmb		17 58 19.0	
	comp=Z,49nm,0.8s								
KOUNC	**Koumac, New Ca**	**20.36**	**303**	P		Pn		17 58 14.0	+2.7
TBI	**Tubuai**	**26.62**	**76**	*e*LR		LR		18 05 48.6	
	comp=Z,1μm,27.2s								
TBI				*e*LR		LR		18 05 51.1	
	comp=Z,4μm,25.0s								
TBI	**Tubuai**	**26.62**	**76**	*e*T		T		18 27 47.2	
	comp=Z,7.7nm,0.3s								
MCQ	**Macquarie Isla**	**26.99**	**211**	P		**P**		**17 59 10.8**	**-3.2**
MCQ	**Macquarie Isla**	**26.99**	**211**	P		**P**		**17 59 10.8**	**-3.2**
MCQ				pmax		pmax			
	comp=Z,379nm,1.9s								
EIDS	**Eidsvold**	**28.26**	**278**	P		**P**		**17 59 22.8**	**-3.0**
EIDS				IAmb		IAmb		17 59 56.4	
	comp=Z,35nm,1.4s								
TAU	**Tasmania Unive**	**29.08**	**240**	P		**P**		**17 59 30.4**	**-2.4**
TAU				IAmb		IAmb		17 59 34.9	
	comp=Z,91nm,1.8s								
TAU	**Tasmania Unive**	**29.08**	**240**	P		**P**		**17 59 34.0**	**+1.2**
TAU	**Tasmania Unive**	**29.08**	**240**	P		**P**		**17 59 30.4**	**-2.4**
TAU				pmax		pmax			
	comp=Z,91nm,1.8s								
MOO	**Moorlands**	**29.11**	**241**	P		**P**		**17 59 34.9**	**+1.7**
PPT2	**Papeete2**	**29.60**	**65**	*e*LR		LR		18 07 14.1	
	comp=Z,268nm,26.8s								
PPT2				*e*LR		LR		18 07 14.4	
	comp=Z,126nm,24.0s								
PPT	**Papeete**	**29.62**	**65**	LR		LR		18 09 28.2	
	comp=Z,162nm,18.7s,baz=223,slow=32								
TOO	**Toolangi**	**30.25**	**251**	P		**P**		**17 59 41.9**	**-1.4**
TOO	**Toolangi**	**30.25**	**251**	P		**P**		**17 59 46.3**	**+3.0**
TOO	**Toolangi**	**30.25**	**251**	P		**P**		**17 59 41.9**	**-1.4**
TOO				pmax		pmax			
	comp=Z,9.0nm,1.1s								
CMSA	**Cobar Meteorol**	**30.90**	**263**	P		**P**		**17 59 52.3**	**+3.2**
HNR	**Honiara**	**31.33**	**314**	LR		LR		18 09 44.6	
	comp=Z,1μm,19.7s,baz=150,slow=31								
VAH	**Vaihoa**	**32.52**	**64**	*e*T		T		18 34 31.4	
	comp=Z,11nm,0.3s								
ARPS	**Mount Arapiles**	**33.22**	**252**	P		**P**		**18 00 11.1**	**+1.7**
STKA	**Stephens Creek**	**34.23**	**261**	P		**P**		**18 00

SIJI	Sorong	57.62 293	LR	LR	18 29 30.8			
	comp=Z,66nm,18.1s,baz=140,slow=37							
SOEI	Soe	58.05 280	P	P	18 03 24.3	-1.5		
SOEI			IAmb	IAmb	18 03 40.9			
	comp=Z,25nm,0.9s							
BATI	Baumata	58.31 279	LR	LR	18 28 55.4			
	comp=Z,144nm,18.3s,baz=149,slow=36							
RPN	Rapa Nui	58.48 104	LR	LR	18 24 46.8			
	comp=Z,79nm,18.1s,baz=261,slow=32							
LUWI	Luwuk	64.22 287	P	P	18 04 05.9	-1.6		
KAPI	Kappang	64.39 281	LR	LR	18 31 36.4			
	comp=Z,73nm,19.2s,baz=128,slow=35							
DAV	Davao City (W)	67.03 296	LR	LR	18 33 14.2			
	comp=Z,22nm,19.3s,baz=117,slow=36							
BELA	Belgrano 2	67.06 172	P	P	18 04 24.2	-0.8		
BELA			IAmb	IAmb	18 04 37.4			
	comp=Z,8.9nm,1.0s							
MAW	Mawson	69.87 201	LR	LR	18 35 16.5			
	comp=Z,63nm,18.8s,baz=152,slow=36							
LEM	Lembang	73.50 273	LR	LR	18 38 24.5			
	comp=Z,112nm,18.7s,baz=152,slow=37							
ELIB	Princess Elisa	74.19 187	*d*P	P	18 05 09.5	+0.9		
ELIB			*dx*	x	18 05 20.9			
ELIB			*dx*	x	18 05 26.9			
TROLL	Troll, Antarti	75.16 180	P	P	18 05 15.4	+1.1		
TROLL	Troll, Antarti	75.16 180	PcP	PcP	18 05 27.1	-0.7		
SNAA	Sanae	75.44 178	P	P	18 05 16.5	+0.7		
SNAA	Sanae	75.44 178	PcP	PcP	18 05 28.2	-0.7		
SNAA	Sanae	75.44 178	P	P	18 05 15.6	-0.2		
SNAA			IAmb	IAmb	18 05 29.1			
	comp=Z,17nm,1.1s							
SNAA	Sanae	75.44 178	P	P	18 05 15.6	-0.2		
SNAA			pmax	pmax				
	comp=Z,17nm,1.1s							
VNA3	Neumayer Olymp	75.58 176	P	P	18 05 17.0	+0.4		
VNA3	Neumayer Olymp	75.58 176	PcP	PcP	18 05 28.6	-0.8		
VNA2	Neumayer--Watz	76.02 177	P	P	18 05 19.9	+0.9		
	baz=183,slow=5.0							
VNA2	Neumayer--Watz	76.02 177	PcP	PcP	18 05 31.5	+0.2		
	baz=180,slow=5.0							
VNA1	Neumayer--Stat	76.24 176	P	P	18 05 21.2	+0.9		
H03N3	Juan Fernandez	78.95 123	T	T	19 34 56.3			
	baz=240,slow=72,SNR=8.1							
H03N2	Juan Fernandez	78.95 123	T	T	19 35 03.0			
	baz=240,slow=72,SNR=5.2							
H03N1	Juan Fernandez	78.96 123	T	T	19 35 00.2			
	baz=240,slow=72,SNR=12							
JGF	Kuroka	80.29 324	P	P	18 05 41.6	-1.5		
EFI	East Falkland	80.36 147	P	P	18 05 42.7	-0.7		
EFI	East Falkland	80.36 147	P	P	18 05 42.7	-0.7		
EFI			pmax	pmax				
	comp=Z,112nm,1.6s							
PLCA	Paso Flores	80.46 133	LR	LR	18 33 15.6			
	comp=Z,60nm,19.5s,baz=244,slow=30							
MJA0	Matsu Arr-Jizo	80.61 325	*e*P	P	18 05 46.0	+1.1		
MJA0			pmax	pmax				
	comp=Z,6.0nm,1.0s							
MJAR	Matsushiro Arr	80.63 325	P	P	18 05 45.6	+0.7		
	comp=Z,5.3nm,1.0s,baz=165,slow=6.0,SNR=7.5							
MJAR			LR	LR	18 38 23.2			
	comp=Z,34nm,18.1s,baz=148,slow=33							
	comp=Z,5.3nm,1.0s							
JNU	Nakatsue	81.77 318	LR	LR	18 38 42.0			
	comp=Z,36nm,20.0s,baz=135,slow=33							
ASAJ	Asahikawa	84.98 332	P	P	18 06 08.3	+1.1		
	comp=Z,4.8nm,0.8s,baz=157,slow=7.7,SNR=2.5							
	comp=Z,4.8nm,0.8s							
RPSI	Rantau Prapat	85.93 276	P	P	18 06 11.1	-1.7		
RPSI			IAmb	IAmb	18 06 13.8			
	comp=Z,13nm,1.1s							
PSI	Prapat	85.99 276	LR	LR	18 45 05.9			
	comp=Z,66nm,20.0s,baz=99,slow=36							
PSI	Prapat	85.99 276	P	P	18 06 11.1	-2.1		
PSI			pmax	pmax				
	comp=Z,13nm,1.1s							
GSI	Gunungsitoli	86.31 274	P	P	18 06 14.6	-0.1		
KSRS	Korea Array	86.59 320	P	P	18 06 17.0	+1.6		
	comp=Z,4.6nm,0.8s,baz=140,slow=5.1,SNR=11							
KSRS			LR	LR	18 40 32.7			
	comp=Z,20nm,21.8s,baz=40,slow=32							
	comp=Z,4.6nm,0.8s							
KSRS	Korea Array	86.59 320	*e*P	P	18 06 18.0	+2.6		
KSRS			pmax	pmax				
	comp=Z,5.0nm,0.8s							
YSS	Yuzh-Sakhalins	87.31 334	*i* P	P	18 06 19.2	+0.5		
YSS			pmax	pmax				
	comp=Z,10.0nm,1.0s							
CFA	Coronel Fontan	87.40 126	LR	LR	18 36 31.4			
	comp=Z,75nm,20.6s,baz=101,slow=30							
NJ2	Nanjing	88.22 311	*e*P	P	18 06 24.8	+1.4		
NJ2			pmax	pmax				
	comp=Z,9.0nm,0.6s							
USRK	Ussuriysk Ar.	89.58 326	P	P	18 06 31.1	+1.6		
	comp=Z,5.6nm,0.8s,baz=155,slow=3.8,SNR=5.1							
	comp=Z,5.6nm,0.8s							
NVAR	Mina Array Bea	90.05 43	P	P	18 06 32.6	+0.5		
	comp=Z,1.5nm,0.7s,baz=213,slow=8.5,SNR=7.5							
	comp=Z,1.5nm,0.7s							
TPH	Tonopah	90.42 43	P	P	18 06 32.8	-1.1		
TPH	Tonopah	90.42 43	P	P	18 06 32.8	-1.1		
TPH			pmax	pmax				
	comp=Z,45nm,1.3s							
TYV	Tymovskoe	90.65 336	*e*P	P	18 06 33.2	-1.1		
TYV			*e*S	S	18 17 29.3	+1.1		
TYV			pmax	pmax				
	comp=Z,13nm,1.1s							
TYV			pmax	pmax				
	comp=Z,300nm,3.3s							
TYV			smax	smax				
	comp=N,200nm,5.0s							
TYV			smax	smax				
	comp=E,200nm,5.0s							
PB03	IPOC Station P	92.10 118	P	P	18 06 41.5	-0.7		
LVC	Limon Verde	92.38 119	LR	LR	18 40 35.4			
	comp=E,49nm,19.6s,baz=234,slow=30							
NNA	Nana	92.41 106	LR	LR	18 42 43.7			
	comp=E,46nm,18.0s,baz=216,slow=32							
CN2	Changchun	92.47 323	*e*P	P	18 06 44.9	+2.0		
CN2			pmax	pmax				
	comp=E,10.0nm,0.7s							
GYA	Guiyang	93.14 300	⇑P	P	18 06 48.9	+2.3		
GYA			pmax	pmax				
	comp=E,10.0nm,0.8s							
ENH	Enshi	93.36 304	P	P	18 06 47.2	-0.3		
KLR	Kul'dur	93.52 330	LR	LR	18 42 15.3			
	comp=E,40nm,20.6s,baz=133,slow=31							
KLR	Kul'dur	93.52 330	*i* P	P	18 06 48.1	+0.5		
PB11	IPOC Station P	93.54 116	P	P	18 06 48.3	-0.5		
PB11			IAmb	IAmb	18 06 53.2			
	comp=Z,6.6nm,0.9s							
TXAR	Lajitas Array	93.62 57	LR	LR	18 41 42.6			
	comp=Z,88nm,18.5s,baz=311,slow=31							
ATAH	Atahualpa	93.85 101	LR	LR	18 42 01.6			
	comp=Z,47nm,18.8s,baz=228,slow=31							
MNMC	Minye Minye	93.96 116	P	P	18 06 50.3	-0.6		
MNMC			IAmb	IAmb	18 06 55.2			
	comp=Z,5.7nm,0.9s							
CMAR	Chiang Mai Arr	94.55 289	P	P	18 06 52.2	-0.9		
	comp=Z,0.4nm,0.6s,baz=148,slow=4.1,SNR=2.9							
	comp=Z,0.4nm,0.6s							
ANMO	Albuquerque	95.06 51	LR	LR	18 43 57.9			
	comp=Z,101nm,18.4s,baz=26,slow=32							
XAN	Xi'an	95.97 307	P	P	18 06 58.9	-0.5		
XAN			pmax	pmax				
	comp=Z,4.0nm,0.9s							
MA2	Magadan	95.98 344	LR	LR	18 43 58.4			
	comp=Z,37nm,21.2s,baz=88,slow=32							
LPAZ	La Paz	96.78 114	P	P	18 07 05.8	+1.6		
	comp=Z,1.2nm,0.8s,baz=296,slow=2.7,SNR=3.7							
LPAZ			LR	LR	18 40 49.1			
	comp=Z,25nm,20.9s,baz=256,slow=29							
	comp=Z,1.2nm,0.8s							
PZH	PanZhiHua	96.80 297	P	P	18 07 05.8	+2.4		
PZH			pmax	pmax				
	comp=Z,10.0nm,0.7s							
PZH			pmax	pmax				
	comp=Z,130nm,4.8s							
XLT	XiLinHaoTe	97.55 318	*e*P	Pdif	18 07 08.3	+1.9		
XLT			pP	sP	18 07 15.1	+0.8		
XLT			sP	pwP	18 07 18.5	-4.0		
XLT			pmax	pmax				
	comp=Z,6.0nm,1.8s							
XLT			pmax	pmax				
	comp=Z,170nm,6.0s							
CPUP	Villa Florida	98.08 129	LR	LR	18 46 57.1			
	comp=Z,45nm,18.2s,baz=220,slow=33							

HHC	Hu-ho-hao-te	98.31 314	*e*P	Pdif	18 07 11.9	+2.0		
HHC			pmax	pmax				
	comp=Z,11nm,0.9s							
HHC			pmax	pmax				
	comp=Z,180nm,5.2s							
HHC			LR	LR				
	comp=Z,560nm,14.6s							
HHC			LR	LR				
	comp=Z,530nm,15.2s							
TNCH	TengChong	98.44 294	P	Pdif	18 07 11.8	+0.9		
TNCH			pP	pP	18 07 15.3	-1.5		
TNCH			sP	sP	18 07 17.8	-1.1		
TNCH			PP	PP	18 11 15.6	+4.0		
TNCH			S	S	18 18 35.4	-2.7		
TNCH			sS	pS	18 18 43.8	-1.8		
TNCH			pmax	pmax				
	comp=Z,6.0nm,1.4s							
TNCH			pmax	pmax				
	comp=Z,73nm,4.6s							
TNCH			LR	LR				
	comp=Z,110nm,5.7s							
TNCH			LR	LR				
	comp=Z,140nm,4.6s							
TNCH			LR	LR				
	comp=Z,59nm,6.7s							
ILAR	Eielson Array	100.51 13	P	Pdif	18 07 21.5	+2.5		
	comp=Z,0.1nm,0.5s,baz=225,slow=8.9,SNR=2.4							
BILL	Bilibino	101.57 354	⇑*e*P	Pdif	18 07 24.5	+1.0		
BILL			*e*		18 11 31.0			
BILL			*e*SS	SS	18 26 13.2	+8.1		
BILL			pmax	pmax				
	comp=Z,2.0nm,1.3s							
BILL			MLR	MLR				
	comp=Z,40nm,16.0s							
WMQ	Urumqi	115.11 307	*e*PKP	PKiKP	18 12 13.6	+0.4		
DGZ	Jazzator, Alta	117.39 313	*i* PKIKP	PKiKP	18 12 17.7	+0.1		
DGZ			pmax	pmax				
	comp=Z,1.0nm,1.0s							
MK31	Makanchi Array	119.71 309		PKiKP	18 12 21.9	-0.1		
MK31	Makanchi Array	119.71 309	PKIKP	PKiKP	18 12 21.9	-0.1		
MKAR	Makanchi Array	119.71 309	PKP	PKiKP	18 12 22.4	+0.3		
	comp=Z,2.2nm,0.9s,baz=67,slow=4.1,SNR=15							
MKAR	Makanchi Array	119.71 309		PKPdf	18 12 21.6	-0.3		
MKAR	Makanchi Array	119.71 309	*e*PKIKP	PKiKP	18 12 22.5	+0.5		
MKAR			pmax	pmax				
	comp=Z,2.0nm,0.9s							
MAKZ	Makanchi	119.92 309	PKPdf	PKPdf	18 12 21.3	-1.1		
MAKZ	Makanchi	119.92 309	⇑PKIKP	PKiKP	18 12 23.1	+0.7		
ZALV	Zalesovo Beam	120.23 317	PKP	PKiKP	18 12 23.0	+0.3		
	comp=Z,0.5nm,0.4s,baz=202,slow=2.7,SNR=4.9							
ZALV	Zalesovo Beam	120.23 317	*e*PKIKP	PKiKP	18 12 23.9	+1.2		
ZALV			pmax	pmax				
	comp=Z,1.0nm,0.4s							
NRIK	Noril'sk	122.22 335	PKP	PKiKP	18 12 26.7	+0.5		
	comp=Z,3.0nm,0.8s,baz=139,slow=3.5,SNR=2.2							
AAK	Ala-Archa	123.83 302	*i* PKIKP	PKPdf	18 12 30.0	-0.2		
BRVK	Borovoye	128.59 314	*i* PKIKP	PKiKP	18 12 39.0	-0.4		
ARU	Arti	135.34 319	*i* PKIKP	PKPdf	18 12 51.7	+0.4		
ARU					18 15 25.8			
ARU			SS	SS	18 33 23.1	+0.7		
ARCES	ARCESS Array B	141.30 347	PKP	PKiKP	18 13 03.2	-1.5		
	comp=Z,8.8nm,1.0s,baz=354,slow=1.2,SNR=4.5							
GROC	Groznyy	144.72 299	*e*PKHKP	PKPpre	18 13 00.0			
GROC			pmax	pmax				
	comp=Z,18nm,0.5s							
ZEI	Tsey	146.12 299	*i* PKP2	PKPab	18 13 13.1	0.0		
ZEI			pmax	pmax				
	comp=Z,19nm,1.1s							
VRH	Novokhopyorsk	146.17 314	*e*PKP2	PKPab	18 13 13.2	+0.5		
VRH			pmax	pmax				
	comp=Z,50nm,0.9s							
MOS	Moscow	146.71 323	*e*PKP2	PKPbc	18 13 13.1	-0.3		
MOS			pmax	pmax				
	comp=Z,36nm,0.7s							
KBZ	Khabaz	146.79 301	PKPbc	PKPab	18 13 14.9	-0.4		
	comp=Z,15nm,0.9s,baz=164,slow=1.4,SNR=18							
KBZ	Khabaz	146.79 301	PKP2	PKPab	18 13 15.0	-0.4		
KIV	Kislovodsk	146.93 301	⇑P	PKPab	18 13 16.3	+0.2		
KIV	Kislovodsk	146.93 301	⇑PKP2	PKPab	18 13 16.3	+0.2		
SHA1	Shidzhatmaz	146.97 301	*i* PKP2	PKPbc	18 13 14.6	-0.3		
LPSR	Galich'ya Gora	147.34 318	*e*PKP2	PKPab	18 13 16.8	-0.4		
LPSR			pmax	pmax				
	comp=Z,30nm,0.9s							
VORR	Voronezh	147.51 316	PKP2	PKPab	18 13 18.0	0.0		
VORR			pmax	pmax				
	comp=Z,45nm,1.7s							
OBN	Obninsk	147.53 323	⇑*e*PKIKP	PKPdf	18 13 14.1	+1.0		
OBN			*e*		18 16 42.5			
OBN			*e*		18 20 11.4			
OBN			pmax	pmax				
	comp=Z,17nm,0.9s							
VSR	Storozhevoye	147.70 315	*e*PKP2	PKiKP	18 13 17.2	-1.1		
VSR			pmax	pmax				
	comp=Z,20nm,1.0s							
FINES	FINESS Array B	147.78 339	PKPbc	PKPbc	18 13 16.9	+0.6		
	comp=Z,20nm,0.8s,baz=47,slow=3.6,SNR=72							
FINES	FINESS Array B	147.78 339	*e*PKP2	PKPbc	18 13 17.0	+0.7		
FINES			pmax	pmax				
	comp=Z,20nm,0.8s							
MEF	Metsahovi	149.26 338	*e*P	PKiKP	18 13 20.9	-0.3		
VSU	Vasula	149.81 334	*e*P	PKiKP	18 13 22.3	-0.1		
MTSE	Matsula	150.62 337	*e*P	PKiKP	18 13 24.7	+0.6		
NB2	NORSAR Subarra	151.47 351	PKP	PKiKP	18 13 26.3	+0.4		
	comp=Z,3.0nm,0.7s,baz=17,slow=2.6							
NOA	NORSAR Array B	151.47 351	PKPbc	PKiKP	18 13 25.9	0.0		
	comp=Z,5.9nm,0.8s,baz=14,slow=4.1,SNR=22							
IDID	Didziasalis	152.01 330	*e*P	PKPdf	18 13 18.1	-2.1		
MNK	Minsk	152.05 328	*i* PKiKP	PKiKP	18 13 28.8	+1.6		
	comp=E,4.0nm,1.0s							
MNK			*i* PKiKP	PKiKP	18 13 28.8	+1.6		
	comp=N,16nm,0.8s							
MNK			*i* PKiKP	PKiKP	18 13 28.8	+1.6		
	comp=Z,26nm,1.0s,baz=230							
MNK			*i* PP	PP	18 17 09.6	+1.3		
MNK			*i* SKS	SKSdf	18 20 28.8	+3.1		
MNK			*i* PPP	PPP	18 20 34.5			
MNK			*i* SKKS	SKKSdf	18 29 15.2	+1.9		
MNK			*i* SS	SS	18 36 38.6	+4.6		
MNK			*i* SSS	SSS	18 42 24.3			
MNK			*i* LQ	LQ	19 16 03.1			
MNK			*i* LR	LR	19 18 30.7			
MNK			*i* LRM	MLR	19 20 57.6			
	comp=E,24nm,16.6s							
MNK			*i* LRM	MLR	19 21 11.0			
MNK			*i* LRM	MLR	19 21 11.0			
	comp=Z,102nm,12.8s							
MNK	Minsk	152.05 328	*i* PKIKP	PKiKP	18 13 28.8	+1.6		
MNK			*i*		18 17 09.6			
MNK			*i*		18 20 28.7			
MNK			*i* PPP	PPP	18 20 34.5			
MNK			*i* SS	SS	18 36 38.5	+4.5		
MNK			*i* SSS	SSS	18 42 24.2			
MNK			pmax	pmax				
	comp=N,16nm,0.9s							
MNK			pmax	pmax				
	comp=Z,26nm,1.0s							
MNK			pmax	pmax				
	comp=E,4.0nm,1.0s							
ISAL	Salakas	152.09 331	*e*P	PKiKP	18 13 30.0	+2.7		
IIGN	Ignalina	152.21 330	*e*P	PKPdf	18 13 11.3	-9.2		
NACGM	Naroch	152.27 329	*e*PKiKP	PKiKP	18 13 28.2	+0.5		
	comp=Z,44nm,1.0s,baz=47							
VSVD	Vaisvydziai	152.67 333	*e*P	PKiKP	18 13 29.8	+1.3		
DBIC	Dimbokro	152.85 164	PKPbc	PKPbc	18 13 29.9	0.0		
	comp=Z,6.4nm,0.9s,baz=135,slow=1.4,SNR=4.2							
PABE	Paberze	153.00 332	*e*P	PKiKP	18 13 29.8	+0.6		
AKASG	Malin Array Be	153.59 320	PKPbc	PKiKP	18 13 30.8	+0.3		
	comp=Z,2.2nm,0.8s,baz=46,slow=2.2,SNR=9.4							
BRTR	Keskin Array B	154.04 294	PKPbc	PKiKP	18 13 33.0	+0.9		
	comp=Z,4.0nm,1.1s,baz=132,slow=1.8,SNR=9.3							
BRTR	Keskin Array B	154.04 294	PKIKP	PKiKP	18 13 33.0	+0.9		
TPGR	Topolog	156.68 308	⇑P	PKPab	18 13 58.6	+2.1		
HARR	Harsova	157.07 308	P	PKPab	18 13 58.6	+0.5		
HARR	Harsova	157.07 308	PKP2	PKPab	18 13 58.6	+0.5		
TESR	Tescani	157.14 313	⇑P	PKPab	18 14 00.0	+1.6		
VRI	Vrincioaia	157.38 311	⇑P	PKPab	18 14 00.6	+1.1		
VRI	Vrincioaia	157.38 311	⇑PKP2	PKPab	18 14 00.6	+1.1		
PLOR	Plostina	157.43 311	⇑P	PKPab	18 14 00.4	+0.7		
PLOR	Plostina	157.43 311	⇑PKP2	PKPab	18 14 00.4	+0.7		
BURAR	Bucovina Array	157.45 317	⇑P	PKPab	18 14 02.0	+2.2		
BURAR	Bucovina Array	157.45 317	⇑PKP2	PKPab	18 14 02.0	+2.2		
SECR		158.15 310	⇑P	PKPab	18 14 04.9	+2.1		
DOPR	Dopca	158.16 313	⇑P	PKPab	18 14 05.4	+2.5		
STHS	Stebnicka Huta	158.48 325	*e*PKP2	PKPab	18 14 05.4	+1.3		

STHS	Stebnicka Huta	158.48 325	*e*PKP	PKPab	18 14 05.4	+1.3		
VOIR		158.62 312	⇑P	PKPab	18 14 08.2	+3.2		
VOIR		158.62 312	⇑PKP2	PKPab	18 14 08.2	+3.2		
TRPA	Tarpa	158.64 321	⇑P	PKPab	18 14 06.1	+1.3		
CRVS	Cervenica-Dubn	158.72 323	*e*PKP2	PKPab	18 14 07.1	+2.0		
CRVS	Cervenica-Dubn	158.72 323	*e*PKP	PKPab	18 14 07.1	+2.0		
ARR	Arges	158.91 312	⇑P	PKPab	18 14 08.9	+2.7		
HUMR	Humele	159.07 310	⇑P	PKPab	18 14 08.6	+1.7		
TORD	Torodi Ar. Bea	160.11 178	PKP	PKPdf	18 13 32.7	+0.5		
	comp=Z,0.4nm,0.4s,baz=214,slow=1.0,SNR=7.4							
TORD			PKPab	PKPab	18 14 11.6	-0.3		
	comp=Z,2.7nm,0.9s,baz=153,slow=2.8,SNR=4.1							
CLL	Collm	160.22 340	*e*PKPab	PKPab	18 14 12.0	+0.5		
	comp=Z,23nm,1.8s							
SURR	Surduc	160.24 315	⇑P	PKPab	18 14 12.6	+0.7		
VYHS	Vyhne	160.27 326	*e*PKP2	PKPab	18 14 13.7	+1.8		
VYHS	Vyhne	160.27 326	*e*PKP	PKPab	18 14 13.7	+1.8		
JAVC	Velka Javorina	160.53 328	*e*PKP	PKPab	18 14 15.4	+2.3		
VRAC	Vranov	160.65 331	*e*PKP	PKPab	18 14 14.8	+1.3		
KRUC	Moravsky	160.92 331	*e*PKP	PKPab	18 14 16.0	+1.3		
MDVR	Moldovita	161.00 313	⇑P	PKPab	18 14 17.4	+2.1		
MODS	Modra-Piesok	161.07 328	*e*PKP2	PKPab	18 14 17.3	+1.9		
MODS	Modra-Piesok	161.07 328	*e*PKP	PKPab	18 14 17.3	+1.9		
RONA	Rosalia, Austr	162.01 328	*i* pPKP	PKPab	18 14 21.5	+1.9		
	comp=Z,6.8nm,0.9s							
CONA	Conrad Observa	162.03 329	*i* pPKP	PKPab	18 14 21.6	+1.9		
	comp=Z,4.3nm,0.9s							
GERES	GERESS Array B	162.13 335	PKPab	PKPab	18 14 20.6	+0.5		
	comp=Z,0.9nm,0.8s,baz=58,slow=5.0,SNR=5.6							
BIOA	Bad Ischl, Aus	163.12 333	PKP	PKPab	18 14 24.4	0.0		
	comp=Z,8.1nm,1.2s							
SOKA	Soboth	163.35 328	*e*PKP	PKPab	18 14 26.6	+1.1		
	comp=Z,4.2nm,1.0s							
MOTA	Moosalm	164.31 337	*ep*PKP	PKPab	18 14 31.1	+1.3		
	comp=Z,1.8nm,1.7s							
ABTA	Abfaltersbach	164.33 333	*i* PKP	PKPab	18 14 30.1	+0.3		
	comp=Z,5.1nm,1.2s							
SQTA	Sankt Quirin	164.38 337	*e*PKP	PKPab	18 14 30.4	+0.4		
	comp=Z,4.5nm,1.0s							

IDC ***21*** *18:10:59.0±0.5, 41.16N×142.31E, h0km, mb4.5/29, mbtmp4.5/30, ML5.4/1, MS3.7/40, Error ellipse: s-maj=14.9km s-min=12.0km az=115.0*
MOS ***21*** *18:11:03.6±0.9, 41.04N×142.40E, h44km, mb5.1/57, Error ellipse: s-maj=5.9km s-min=4.1km az=108.8*
JMA ***21*** *18:11:05.6±0.1, 41.1N±0.4×142.4E±0.7, h37km±3km, MD4.5/40, MW4.5/40, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
NIED ***21*** *18:11:05.6, 41.07N×142.44E, h37km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr2.93; Mθθ0.17; Mθφ-3.10; Mrθ2.62; Mrφ-0.43; Mφφ4.03; Fault plane solution: M05.69000×1015 NP1:φ28.00000°, δ75.00000°, λ102.00000°. NP2:φ169.00000°, δ19.00000°, λ52.00000°.*
BJI ***21*** *18:11:05.7±0.0, 41.04N×142.38E, h71km, mb4.7/62, mB5.0/33, Ms4.4/10, Ms7 4.0/13*
NEIC ***21*** *18:11:07.5±1.8, 41.15N±0.06×142.36E±0.10, h57km±6km, mb4.8/160, Error ellipse: s-maj=11.6km s-min=7.0km az=122.0*
BGR ***21*** *18:11:12.4, 41.62N×142.05E, h57km, mb4.5*
ISC 21 18:11:06.2±0.3, 41°09N±0°03×142°45E±0°03, h52km±2km, h52km:pP-P, n759, σ1$39/764, mb4.8/186, MS3.8/39, 50C-28D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JARK	Aomorirokkasho	0.82	264	⇓*i*P		Pn	18 11 20.8	-0.8
JARK				⇓S		Sn	18 11 31.4	-1.5
JARK	Aomorirokkasho	0.82	264	A		A	18 11 20.8	
	comp=E,30nm,0.8s,comp=E,31nm,0.6s							
JAHD	Aomorihigashid	0.86	282	⇓*i*P		Pn	18 11 21.2	-0.9
JAHD				⇓*e*S		Sn	18 11 32.9	-0.8
JAHD	Aomorihigashid	0.86	282	A		A	18 11 21.2	
	comp=E,52nm,0.8s,comp=E,43nm,0.6s							
JANG	Nango	1.01	225	*i* P		Pn	18 11 23.2	-0.9
JANG				S		Sn	18 11 36.1	-1.2
JANG	Nango	1.01	225	A		A	18 11 23.2	
	comp=E,18nm,1.3s,comp=E,16nm,1.6s							
JKEN	Kujiedanarisaw	1.05	213	*i* P		Pn	18 11 23.3	-1.3
JKEN				S		Sn	18 11 36.0	-2.2
JKEN	Kujiedanarisaw	1.05	213	A		A	18 11 23.3	
	comp=E,27nm,0.4s,comp=E,23nm,0.3s							
ERM	Erimo	1.06	30	Pn		Pn	18 11 25.2	+0.4
ERM	Erimo	1.06	30	P		Pn	18 11 25.6	+0.8
ERM	Erimo	1.06	30	*ce*P		Pn	18 11 25.3	+0.5
ERM				pmax	pmax			
	comp=Z,591nm,0.8s							
JEM	Erimo	1.06	30	Pn		Pn	18 11 25.3	+0.5
JEM	Erimo	1.06	30	P		Pn	18 11 25.6	+0.8
JEM	Erimo	1.06	30	*i* P		Pn	18 11 25.2	+0.4
JEM				*e*S		Sn	18 11 39.1	+0.5
JEM	Erimo	1.06	30	A		A	18 11 25.2	
	comp=Z,8.0nm,2.4s,comp=Z,6.0nm,1.5s							
JTM	Tenmabayashi	1.09	254			Pn	18 11 25.0	-0.2
JTM						Sn	18 11 38.5

JEW ⇓S **Sn** **18 12 00.5 +1.6**
JEW Eniwo 1.90 337 A A 18 11 36.9
comp=Z,42nm,1.1s,comp=Z,20nm,1.2s
JIW Iwasaki 1.92 256 A A 18 11 36.8
comp=Z,9.0nm,0.5s,comp=Z,8.0nm,1.8s
JNTW Noshirotokiwa 1.93 246 A A 18 11 36.8
comp=Z,18nm,3.6s,comp=Z,22nm,2.7s
JFR Furan 2.07 3 A A 18 11 39.5
comp=Z,6.0nm,8.7s,comp=Z,7.0nm,0.9s
JOB Onbets 2.08 29 A A 18 11 39.7
comp=Z,7.0nm,1.4s,comp=Z,7.0nm,1.4s
OFUJ Ofunato 2.10 197 A A 18 11 39.1
comp=Z,4.0nm,2.3s,comp=Z,4.0nm,2.0s
JRG Rokugo 2.19 220 A A 18 11 40.5
comp=Z,9.0nm,0.6s,comp=Z,8.0nm,3.5s
JISS Ishikarishitsu 2.31 341 A A 18 11 42.9
comp=Z,10.0nm,1.2s,comp=Z,10.0nm,0.6s
JYW Yuwa 2.31 229 A A 18 11 42.3
comp=Z,9.0nm,0.7s,comp=Z,10.0nm,3.9s
JAR Ashorobuto 2.41 24 A A 18 11 44.4
comp=Z,8.0nm,1.0s,comp=Z,7.0nm,3.4s
JAB Ashibetsu 2.42 356 A A 18 11 44.5
comp=Z,7.0nm,3.2s,comp=Z,13nm,3.5s
JAK Akkeshi 2.53 41 A A 18 11 46.1
comp=Z,6.0nm,1.5s,comp=Z,4.0nm,0.6s
JHR Hokuryu 2.70 349 A A 18 11 48.5
comp=Z,8.0nm,2.6s,comp=Z,7.0nm,2.8s
JYK Kaneyama 2.70 217 A A 18 11 47.8
comp=Z,4.0nm,1.3s,comp=Z,4.0nm,2.1s
JKA Kamikawa-asahi 3.02 2 Pn **Pn** **18 11 52.6 +1.0**
ASAJ Asahikawa 3.02 2 Pn **Pn** **18 11 52.6 +1.1**
comp=Z,85nm,0.3s,baz=207,slow=12,SNR=965
ASAJ Sn **Sn** **18 12 32.1 +5.6**
comp=Z,90nm,0.3s,baz=316,slow=30,SNR=7.9
JYA Atsumi 3.27 221 A A 18 11 55.8
comp=Z,5.0nm,1.4s,comp=Z,4.0nm,1.4s
JNSB Nemuroshibetsu 3.28 34 A A 18 11 56.7
comp=Z,6.0nm,2.3s,comp=Z,6.0nm,1.4s
NMR Nemuro--Hokkai 3.33 46 ⇓*i*P **Pn** **18 11 54.3 -1.4**
NMR *i* S **Sn** **18 12 30.9 -3.1**
JYS Shirataka 3.41 213 A A 18 11 57.8
comp=Z,6.0nm,1.9s,comp=Z,7.0nm,2.1s
JMM Marumori 3.47 202 **Pn** **18 11 57.9 +0.2**
JMM Marumori 3.47 202 P **Pn** **18 11 58.9 +1.2**
RUSJ Misakicho 3.65 34 *e*P **Pn** **18 12 00.7 +0.6**
RUSJ *i* S **Sn** **18 12 42.9 +1.1**
YUK Yuzh-Kuril'sk 3.87 39 *e*P **Pn** **18 12 02.8 -0.3**
YUK *i* S **Sn** **18 12 44.6 -2.7**
YUK pmax pmax
comp=Z,742nm,0.2s
YUK pmax pmax
comp=N,510nm,0.3s
YUK pmax pmax
comp=E,89nm,0.3s
YUK smax smax
comp=N,3μm,0.5s
YUK smax smax
comp=E,2μm,0.4s
JSD Sado 4.45 228 Pn **Pn** **18 12 12.2 +1.1**
JSD Sado 4.45 228 P **Pn** **18 12 13.0 +1.9**
MAJO Matsushiro 5.62 217 Pn **Pn** **18 12 29.6 +2.4**
MAJO Matsushiro 5.62 217 P **Pn** **18 12 29.8 +2.5**
MAJO Matsushiro 5.62 217 P **Pn** **18 12 29.7 +2.4**
MJAR Matsushiro Arr 5.62 217 Pn **Pn** **18 12 28.8 +1.5**
comp=E,1.7nm,0.3s,baz=35,slow=12,SNR=145
MJAR LR LR 18 15 04.2
comp=E,404nm,19.2s,baz=39,slow=44
KUR Kuril'sk 5.73 42 ⇑*i*P **Pn** **18 12 29.2 +0.6**
KUR *i* S **Sn** **18 13 32.2 -0.7**
KUR pmax pmax
comp=Z,207nm,0.7s
KUR pmax pmax
comp=N,70nm,0.2s
KUR pmax pmax
comp=E,57nm,0.2s
KUR smax smax
comp=N,323nm,0.6s
KUR smax smax
comp=E,132nm,0.4s
TEY Ternei 5.82 315 ⇑*e*P **Pn** **18 12 30.0 +0.2**
TEY pmax pmax
comp=N,60nm,0.6s
TEY pmax pmax
comp=E,50nm,0.6s
TEY pmax pmax
comp=Z,60nm,0.6s
YSS Yuzh-Sakhalins 5.86 2 Pn **Pn** **18 12 31.9 +1.5**
YSS Yuzh-Sakhalins 5.86 2 P **Pn** **18 12 32.3 +1.9**
YSS Yuzh-Sakhalins 5.86 2*ce*P **Pn** **18 12 31.7 +1.3**
YSS pmax pmax
comp=Z,123nm,1.0s
JGF Kuroka 6.79 218 Pn **Pn** **18 12 45.1 +1.8**
JGF Kuroka 6.79 218 P **Pn** **18 12 45.4 +2.2**
INU Inuyama 7.15 218 Pn **Pn** **18 12 49.9 +1.7**
INU Inuyama 7.15 218 P **Pn** **18 12 50.1 +1.9**
JSG Sagara 7.24 209 Pn **Pn** **18 12 51.4 +2.0**
UGL Uglegorsk 7.99 358 *e*P Pn 18 13 13.8 +14
JHJ2 Mitsune 8.24 196 Pn **Pn** **18 13 04.2 +1.2**
USA0B Ussuriysk Arra 8.31 295 **Pn** **18 13 04.4 +0.3**
USA0B Ussuriysk Arra 8.31 295 *i* P **Pn** **18 13 05.9 +1.9**
USRK Ussuriysk Ar. 8.31 295 Pn **Pn** **18 13 03.6 -0.4**
comp=Z,3.6nm,0.3s,baz=99,slow=15,SNR=36
USRK LR LR 18 16 05.2
comp=Z,500nm,21.8s,baz=95,slow=37
USRK Ussuriysk Ar. 8.31 295 Pn **Pn** **18 13 04.5 +0.5**
USRK Ussuriysk Ar. 8.31 295 P **Pn** **18 13 04.5 +0.5**
JHS Saijyo 9.55 233 Pn **Pn** **18 13 22.2 +1.2**
JHS Saijyo 9.55 233 P **Pn** **18 13 23.7 +2.7**
TYV Tymovskoe 9.77 1 *e*P **Pn** **18 13 25.1 +1.2**
TYV *e*S **Sn** **18 15 15.1 +3.0**
TYV pmax pmax
comp=Z,100nm,2.6s
TYV pmax pmax
comp=Z,14nm,1.1s
TYV smax smax
comp=N,5.0nm,1.1s
TYV smax smax
comp=E,6.0nm,1.1s
TYV smax smax
comp=N,300nm,5.5s
JMN Monobe 10.02 226 Pn **Pn** **18 13 28.2 +0.7**
MDJ Mudanjiang 10.08 295 Pn **Pn** **18 13 26.4 -1.8**
MDJ Mudanjiang 10.08 295 P **Pn** **18 13 31.9 +3.7**
MDJ pmax pmax
comp=N,56nm,1.3s
MDJ Mudanjiang 10.08 295 P **Pn** **18 13 30.1 +1.9**
GRNR Gornyy 10.54 339 ⇑*i*P **Pn** **18 13 38.9 +4.4**
GRNR *e*S Sn 18 15 40.4 +9.4
GRNR pmax pmax
comp=E,7.0nm,0.6s
GRNR pmax pmax
comp=N,7.0nm,0.7s
GRNR pmax pmax
comp=Z,7.0nm,0.7s
GRNR smax smax
comp=N,1.0nm,0.6s
GRNR MLR MLR
comp=N,210nm,17.0s
GRNR MLR MLR
comp=E,170nm,17.0s
GRNR MLR MLR
comp=Z,180nm,19.0s
KLR Kul'dur 11.09 321 Pn **Pn** **18 13 40.8 -1.2**
baz=166,slow=20,SNR=7.3
KLR LR LR 18 17 57.4
comp=Z,323nm,21.0s,baz=141,slow=38
KLR Kul'dur 11.09 321*ce*P **Pn** **18 13 45.0 +3.0**
KLR pmax pmax
comp=Z,13nm,1.3s
KSRS Korea Array 11.83 257 Pn **Pn** **18 13 53.9 +1.8**
comp=Z,1.6nm,0.3s,baz=63,slow=14,SNR=20
KSRS Sn **Sn** **18 16 08.4 +5.8**
comp=Z,0.9nm,0.3s,baz=70,slow=24,SNR=6.0
KSRS LR LR 18 17 58.7
comp=Z,332nm,19.7s,baz=65,slow=36
KS19 Wonju Array Si 11.86 257 **Pn** **18 13 51.7 -0.8**
KSAR Wonju Array Be 11.87 257 Pn **Pn** **18 13 52.4 -0.2**
KSAR Wonju Array Be 11.87 257 P **Pn** **18 13 52.4 -0.2**
BNX BinXian 11.88 298 ⇓P **Pn** **18 13 55.8 +3.0**
BNX pmax pmax
comp=Z,14nm,0.8s
BNX pmax pmax
comp=Z,250nm,4.6s
JNU Nakatsue 12.18 233 Pn **Pn** **18 13 56.5 -0.5**
comp=Z,0.6nm,0.3s,baz=96,slow=3.3,SNR=6.0
JNU LR LR 18 18 18.2
comp=Z,198nm,20.6s,baz=58,slow=36
JTU Tsushima 12.22 242 Pn **Pn** **18 13 58.6 +1.1**
TJN Taejon 12.68 253 Pn **Pn** **18 14 02.0 -1.8**
TJN Taejon 12.68 253 P **Pn** **18 14 02.0 -1.8**
JSU Suzuyama 13.59 229 Pn **Pn** **18 14 16.5 +0.2**
HEH HeiHe 13.92 316 *e*P **Pn** **18 14 21.8 +1.2**
HEH pmax pmax
comp=Z,6.0nm,0.6s
HEH pmax pmax
comp=Z,410nm,5.3s
PEA0B Petropavlovsk- 15.84 36 Pn **Pn** **18 14 43.0 -2.5**
PEA0B Petropavlovsk- 15.84 36 P **Pn** **18 14 43.0 -2.5**
PEA0B pmax pmax
comp=Z,46nm,1.4s
PETK Petropavlovsk- 15.84 36 Pn **Pn** **18 14 43.6 -1.9**
comp=Z,0.1nm,0.3s,baz=202,slow=8.5,SNR=6.1
PETK LR LR 18 21 03.0
comp=Z,80nm,20.1s,baz=226,slow=38
PETK Petropavlovsk- 15.84 36 Pn **Pn** **18 14 44.1 -1.4**
PETK Petropavlovsk- 15.84 36 P **Pn** **18 14 44.1 -1.4**
DL2 Dalian 16.11 269 P **P** **18 14 51.5 0.0**
DL2 pmax pmax
comp=Z,58nm,1.5s
PET Petropavlovsk 16.21 37 *i* P **Pn** **18 14 50.0 -0.2**
PET pmax pmax
comp=Z,55nm,1.6s
ZEA Zeya 16.26 326 *e*P **Pn** **18 14 48.9 -1.9**
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=Z,200nm,16.0s
HIA Hailar 17.93 305 P **Pn** **18 15 08.9 -2.7**
HIA Hailar 17.93 305 P **Pn** **18 15 11.0 -0.6**
HIA Hailar 17.93 305 P **Pn** **18 15 08.9 -2.7**
HIA pmax pmax
comp=Z,13nm,0.6s
JOW Kunigami 18.42 224 LR LR 18 22 36.0
comp=Z,133nm,21.4s,baz=41,slow=38
MA2 Magadan 19.22 13 P **P** **18 15 23.3 -2.4**
comp=Z,1.1nm,0.3s,baz=185,slow=10,SNR=12
MA2 LR LR 18 23 21.1
comp=Z,69nm,19.7s,baz=218,slow=39
comp=Z,8.2nm,0.6s
MA2 Magadan 19.22 13 P **P** **18 15 23.0 -2.7**
MA2 Magadan 19.22 13*ce*P **P** **18 15 25.9 +0.2**
MA2 pmax pmax
comp=Z,10.0nm,0.6s
XLT XiLinHaoTe 19.62 287 *e*P **P** **18 15 28.6 -1.7**
XLT sP sP 18 15 54.0 +5.7
XLT pmax pmax
comp=Z,11nm,0.9s
BJI Beijing 19.97 276 P **P** **18 15 31.9 -2.1**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJT Baijiatuau 19.98 276 P **P** **18 15 31.0 -3.1**
BJT Baijiatuau 19.98 276 P **P** **18 15 32.8 -1.3**
BJT Baijiatuau 19.98 276 P **P** **18 15 31.0 -3.1**
BJT pmax pmax
comp=Z,9.0nm,0.7s
TIA Tai'an 20.34 264 *e*P **P** **18 15 36.4 -1.7**
TIA pmax pmax
comp=Z,20nm,0.6s
NJ2 Nanjing 20.94 252 *e*P **P** **18 15 43.8 -0.8**
NJ2 pP **pP** **18 15 57.1 +0.8**
NJ2 pmax pmax
comp=Z,39nm,0.7s
HNS HongShan 21.76 269 ⇑P **P** **18 15 50.1 -3.2**
HNS pmax pmax
comp=Z,17nm,1.2s
YAK Yakutsk 22.34 344 P **P** **18 15 56.0 -3.2**
comp=Z,13nm,0.3s,baz=342,slow=1.3,SNR=20
YAK S **S** **18 19 54.6 -6.6**
comp=Z,1.6nm,0.5s,baz=176,slow=18,SNR=1.4
YAK LR LR 18 24 55.2
comp=Z,84nm,18.1s,baz=80,slow=38
comp=Z,13nm,0.3s
YAK Yakutsk 22.34 344 P **P** **18 15 55.3 -3.9**
YAK Yakutsk 22.34 344 *e*P **P** **18 15 56.4 -2.9**
YAK *e**PP **pP** **18 16 07.3 -3.6**
YAK *e*S **S** **18 19 56.7 -4.5**
YAK *e**SS Sn 18 20 14.2 -1.9
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.6s
YAK pmax pmax
comp=N,15nm,0.9s
YAK smax smax
comp=E,14nm,1.4s
YAK smax smax
comp=N,14nm,0.8s
SEY Seymchan 22.66 12 P **P** **18 15 59.8 -2.9**
comp=N,3.5nm,0.6s,baz=212,slow=9.5,SNR=9.9
comp=N,3.5nm,0.6s
SEY Seymchan 22.66 12 *i* P **P** **18 16 02.2 -0.5**
SEY pmax pmax
comp=Z,6.0nm,0.8s
YOJ Yonaguni jima 23.20 230 P **P** **18 16 05.0 -3.5**
YOJ Yonaguni jima 23.20 230 P **P** **18 16 05.0 -3.5**
YOJ pmax pmax
comp=Z,79nm,0.8s
HHC Hu-ho-hao-te 23.27 280 *e*P **P** **18 16 06.6 -2.6**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,340nm,5.1s
HHC LR LR
comp=Z,560nm,13.3s
HHC LR LR
comp=Z,530nm,11.7s
YHNB Yeheng 24.02 233 P **P** **18 16 14.0 -2.2**
YHNB IAmb IAmb 18 16 17.6
comp=Z,27nm,0.9s
NACB Ninganchiao 24.26 232 P **P** **18 16 20.7 +2.4**
BTO Baotou 24.46 280 *e*P **P** **18 16 18.8 -1.5**
BOD Bodaibo 24.66 322 *e*P **P** **18 16 21.6 -0.2**
BOD pmax pmax
comp=Z,36nm,0.8s
SSLB Suanglung 24.93 233 P **P** **18 16 24.3 -0.2**
YULB Yu-li 25.02 232 P **P** **18 16 25.7 +0.3**
TPUB Ta-pu 25.49 233 P **P** **18 16 30.9 +1.3**
TWG Pinlang 25.59 231 P **P** **18 16 28.5 -2.0**
TWG IAmb IAmb 18 16 37.6
comp=Z,29nm,1.1s
ULN Ulaanbaatar 25.98 297 P **P** **18 16 32.5 -1.5**
ULN Ulaanbaatar 25.98 297 P **P** **18 16 38.4 +4.4**
SONM Songino Array 26.42 297 P **P** **18 16 36.1 -1.8**
comp=Z,5.7nm,0.5s,baz=99,slow=8.8,SNR=36
SONM LR LR 18 27 42.5
comp=Z,193nm,19.2s,baz=122,slow=38
comp=Z,5.7nm,0.5s
SONM Songino Array 26.42 297 P **P** **18 16 37.0 -1.0**
SONM Songino Array 26.42 297 P **P** **18 16 37.0 -1.0**
SONM pmax pmax
comp=Z,7.0nm,0.6s
XAN Xi'an 27.38 266 P **P** **18 16 44.9 -1.7**
XAN pP pP 18 16 57.8 -1.7
XAN pmax pmax
comp=Z,14nm,0.8s
GUMO Guam 27.48 175 P **P** **18 16 47.2 -0.3**
GUMO Guam 27.48 175 P **P** **18 16 47.2 -0.3**
GUMO pmax pmax
comp=Z,413nm,1.3s
ZAK Zakamensk 28.58 302 *e*P **P** **18 16 56.7 -0.5**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
ENH Enshi 28.71 258 P **P** **18 16 56.9 -1.7**
ENH IAmb IAmb 18 17 00.2
comp=Z,14nm,0.7s
ENH Enshi 28.71 258 P **P** **18 16 58.5 0.0**
H11N2 WAKE ISLAND Hy 29.78 128 T T 18 49 05.8
baz=320,slow=75,SNR=332
H11N3 WAKE ISLAND Hy 29.80 128 T T 18 49 07.5
baz=314,slow=75,SNR=295
BILL Bilibino 29.91 18 P **P** **18 17 08.3 -0.4**
BILL Bilibino 29.91 18 ⇑*e*P **P** **18 17 08.8 +0.1**
BILL *e* 18 18 06.7
BILL pmax pmax
comp=Z,7.0nm,0.7s
BILL MLR MLR
comp=Z,68nm,17.0s
MOY Mondy 30.11 305 *e*P **P** **18 17 09.7 -1.1**
MOY pmax pmax
comp=Z,30nm,2.1s
LZH Lanzhou 30.41 273 *e*P **P** **18 17 13.5 -0.2**
LZH pmax pmax
comp=Z,14nm,1.2s
H11S1 WAKE ISLAND Hy 30.62 130 T T 18 49 54.7
baz=323,slow=76,SNR=296
H11S3 WAKE ISLAND Hy 30.63 130 T T 18 49 54.5
baz=323,slow=76,SNR=194
H11S2 WAKE ISLAND Hy 30.64 130 T T 18 49 54.8
baz=323,slow=76,SNR=207
TIXI Tiksi 31.38 352 LR LR 18 30 29.9
comp=Z,45nm,20.4s,baz=160,slow=37
TIXI Tiksi 31.38 352*ce*P **P** **18 17 23.8 +2.3**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
GTA Gaotai 32.35 281 *e*P **P** **18 17 30.0 -0.6**
GTA pP pP 18 17 42.9 -0.8
GTA PcP **PcP** **18 20 18.5 +1.2**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA pmax pmax
comp=Z,52nm,5.8s
GTA LR LR
comp=Z,130nm,13.1s
GTA LR LR
comp=Z,220nm,17.8s
GTA LR LR
comp=Z,250nm,17.4s
GYA Guiyang 32.88 255 *e*P **P** **18 17 34.8 -0.6**
GYA pmax pmax
comp=Z,18nm,0.9s
UNV Unalaska Valle 36.00 52 P **P** **18 18 03.1 +1.2**
PZH PanZhiHua 36.48 259 P **P** **18 18 05.9 -0.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,60nm,3.7s
KMI Kunming 36.53 257 ⇓P **P** **18 18 07.4 +0.4**
KMI pmax pmax
comp=Z,10.0nm,0.7s
TNA Tin City 36.95 32 P **P** **18 18 10.8 +0.9**
TNA Tin City 36.95 32 P **P** **18 18 11.4 +1.6**
baz=253
GOMU GeErMu 37.16 278 P **P** **18 18 12.3 -0.1**
GOMU pmax pmax
comp=Z,11nm,0.7s
GOMU pmax pmax
comp=Z,57nm,5.1s
ANM Nome 37.74 34 P **P** **18 18 18.1 +1.5**
ANM Nome 37.74 34 P **P** **18 18 18.7 +2.1**
baz=257
ANM Nome 37.74 34 P **P** **18 18 18.1 +1.5**
ANM pmax pmax
comp=Z,7.0nm,0.9s
DGZ Jazzator, Alta 38.80 302 *i* P **P** **18 18 26.2 +0.4**
DGZ pmax pmax
comp=Z,21nm,1.0s
TNCH TengChong 39.71 260 P **P** **18 18 34.3 +0.6**
TNCH pP pP 18 18 49.3 +2.2
TNCH sP sP 18 18 57.8 +4.7
TNCH S S 18 24 22.6 -11
TNCH pmax pmax
comp=Z,34nm,1.1s
TNCH pmax pmax
comp=Z,170nm,5.0s
TNCH LR LR
comp=Z,170nm,4.9s
TNCH LR LR
comp=Z,140nm,5.2s
TNCH LR LR
comp=Z,130nm,8.4s
WMQ Urumqi 39.87 293 *e*P **P** **18 18 35.3 +0.6**
WMQ pP pP 18 18 49.6 +1.6
WMQ PcP **PcP** **18 20 39.9 +0.3**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ LR LR
comp=Z,84nm,16.5s
ZAA0 Zalesovo Array 39.89 309 P **P** **18 18 34.0 -0.6**
ZALV Zalesovo Beam 39.89 309 P **P** **18 18 34.0 -0.6**
comp=Z,30nm,0.7s,baz=92,slow=9.5,SNR=69
ZALV PcP **PcP** **18 20 40.0 +0.6**
comp=Z,2.4nm,0.3s,baz=103,slow=3.2,SNR=5.1
ZALV LR LR 18 35 48.9
comp=Z,134nm,18.4s,baz=96,slow=38
comp=Z,30nm,0.7s
ZALV Zalesovo Beam 39.89 309 P **P** **18 18 34.1 -0.5**
ZALV Zalesovo Beam 39.89 309 P **P** **18 18 34.0 -0.6**
ZALV 18 20 40.0
NRIK Noril'sk 39.97 333 P **P** **18 18 33.1 -2.0**
comp=Z,8.1nm,0.8s,baz=107,slow=7.9,SNR=12
NRIK LR LR 18 35 44.9
comp=Z,177nm,20.2s,baz=140,slow=37
comp=Z,8.1nm,0.8s
NRIK Noril'sk 39.97 333 P **P** **18 18 34.0 -1.1**
NRIK IAmb IAmb 18 18 35.9
comp=Z,13nm,1.0s
NRIK Noril'sk 39.97 333 P **P** **18 18 34.0 -1.1**
NRIK pmax pmax
comp=Z,13nm,1.0s
P16K Nushagak River 40.67 43 P **P** **18 18 44.0 +2.9**
baz=271,SNR=5.7
NONG Nongkai 40.70 248 P **P** **18 18 42.6 +0.9**
ZSN Zaisan 40.90 299 ⇑*i*P **P** **18 18 43.7 +0.5**
baz=299
ZSN Zaisan 40.90 299*c i*P **P** **18 18 43.6 +0.5**
CRAI Chiangrai 41.25 253 P **P** **18 18 45.2 -1.0**
CRAI IAmb IAmb 18 18 49.4
comp=Z,20nm,0.9s
GCSA Galena City Sc 41.38 34 P **P** **18 18 48.5 +1.8**
baz=266
SVW2 Sparrevohn 41.85 40 P **P** **18 18 51.1 +0.4**
SVW2 IAmb IAmb 18 19 44.6
comp=Z,65nm,2.0s
O18K Koktuh Hills 42.07 42 P **P** **18 18 53.2 +0.7**
O18K IAmb IAmb 18 19 00.8
comp=Z,48nm,1.6s
P18K Big Mountain, 42.08 43 P **P** **18 18 52.7 0.0**
L19K White Mountain 42.19 38 P **P** **18 18 55.2 +1.7**
L19K IAmb IAmb 18 20 26.9
comp=Z,29nm,1.8s
PHRA Phrae 42.47 251 P **P** **18 18 56.9 +0.7**
K20K Telida 42.56 37 P **P** **18 18 58.6 +2.2**
K20K Telida 42.56 37 P **P** **18 18 58.2 +1.7**
baz=270
MK31 Makanchi Array 42.77 299 P **P** **18 18 58.7 +0.3**
MK31 IAmb IAmb 18 18 59.4
comp=Z,14nm,0.8s
MK31 Makanchi Array 42.77 299 P **P** **18 18 58.7 +0.3**
MK31 pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 42.77 299 P **P** **18 18 56.9 -1.4**
comp=Z,10nm,0.6s,baz=82,slow=13,SNR=159
MKAR PcP **PcP** **18 20 49.4 +0.4**
comp=Z,1.8nm,0.7s,baz=47,slow=5.3,SNR=2.7
MKAR LR LR 18 37 48.8
comp=Z,108nm,20.0s,baz=77,slow=38
comp=Z,10nm,0.6s
MKAR Makanchi Array 42.77 299 P **P** **18 18 58.5 +0.2**
IMAR Indian Mountai 42.78 33 P **P** **18 18 59.5 +1.3**
LSA Lhasa 42.78 271 P **P** **18 18 59.0 -0.2**
LSA IAmb IAmb 18 19 01.9
comp=Z,10nm,0.6s
LSA Lhasa 42.78 271 P **P** **18 18 59.0 -0.2**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 42.78 271 P **P** **18 19 00.5 +1.3**
LSA Lhasa 42.78 271 P **P** **18 19 00.3 +1.1**
LSA pP **pP** **18 19 14.6 +2.0**
G21K Allakaket 42.91 32 P **P** **18 19 01.3 +2.1**
baz=267
Q19K Cape Douglas, 42.92 43 P **P** **18 18 59.9 +0.4**
F21K Alatna River 42.96 31 P **P** **18 19 01.0 +1.3**
baz=266
MAKZ Makanchi 42.97 299 P **P** **18 19 00.3 +0.3**
MAKZ IAmb IAmb 18 19 01.2
comp=Z,21nm,0.9s
MAKZ Makanchi 42.97 299 P **P** **18 19 00.3 +0.3**
MAKZ pmax pmax
comp=Z,21nm,0.9s

MAKZ **Makanchi** 42.97 299 P P 18 19 00.2 +0.1
M20K **Styx River** 43.01 39 P P 18 19 00.8 +0.6
M20K IAmb IAmb 18 19 37.2
comp=Z,46nm,1.9s
H21K **Melozitna Rive** 43.15 33 P P 18 19 03.0 +1.8
H21K **Melozitna Rive** 43.15 33 P P 18 19 03.2 +2.0
baz=268
CHTO **Chiang Mai** 43.19 252 P P 18 19 02.4 +0.3
CHTO **Chiang Mai** 43.19 252 P P 18 19 02.4 +0.3
RSO **Redoubt South** 43.26 41 P P 18 19 03.1 +0.7
CHUM **Lake Minchumin** 43.34 36 P P 18 19 04.9 +2.2
baz=271
PPLA **Purkeypile** 43.41 37 P P 18 19 05.3 +1.8
PPLA IAmb IAmb 18 19 59.6
comp=Z,32nm,1.5s
CM31 **Chiang Mai Arr** 43.42 252 P P 18 19 03.0 -0.9
CMAR **Chiang Mai Arr** 43.42 252 P P 18 19 04.2 +0.3
comp=Z,1.4nm,0.4s,baz=42,slow=7.0,SNR=6.2
CMAR PcP PcP 18 20 52.4 +0.9
comp=Z,1.2nm,0.7s,baz=31,slow=3.4,SNR=4.5
CMAR LR LR 18 37 01.5
comp=Z,57nm,21.7s,baz=100,slow=36
comp=Z,1.4nm,0.4s
CMAR **Chiang Mai Arr** 43.42 252 P P 18 19 04.3 +0.4
CAST **Castle Rocks** 43.45 37 P P 18 19 05.5 +1.8
CAST **Castle Rocks** 43.45 37 P P 18 19 06.1 +2.5
baz=271,SNR=6.6
I21K **Tanana** 43.48 34 P P 18 19 05.9 +2.0
I21K **Tanana** 43.48 34 P P 18 19 05.6 +1.8
baz=270
SPU **Mount Spurr** 43.56 40 P P 18 19 05.0 +0.4
KDAK **Kodiak Island** 43.59 45 P P 18 19 05.8 +1.0
comp=Z,6.6nm,0.8s,baz=342,slow=3.2,SNR=2.1
comp=Z,6.6nm,0.8s
BPAW **Bear Paw Mtn.** 43.92 36 P P 18 19 08.1 +0.6
BPAW **Bear Paw Mtn.** 43.92 36 P P 18 19 09.3 +1.9
baz=272
KTH **Kantishna Hill** 43.97 36 P P 18 19 08.3 +0.5
MLY **Manley** 44.01 34 P P 18 19 09.8 +1.7
MLY **Manley** 44.01 34 P P 18 19 10.4 +2.2
baz=271,SNR=6.4
CNPM **China Poot** 44.10 42 P P 18 19 09.1 +0.2
KURK **Kurchatov** 44.16 305 P P 18 19 09.5 0.0
KURK **Kurchatov** 44.16 305 P P 18 19 09.5 0.0
KURK pmax pmax
comp=Z,41nm,0.8s
KURK **Kurchatov** 44.16 305 P P 18 19 09.5 0.0
SUA **Susitna One** 44.17 39 P P 18 19 08.9 -0.7
SUA IAmb IAmb 18 19 29.5
comp=Z,56nm,1.9s
SUA **Susitna One** 44.17 39 P P 18 19 12.2 +2.6
baz=274
COLD **Coldfoot** 44.24 31 P P 18 19 10.0 +0.1
COLD **Coldfoot** 44.24 31 P P 18 19 11.2 +1.3
baz=269
KURBB **Kurchatov Arra** 44.24 305 LR LR 18 38 32.2
comp=Z,60nm,18.4s,baz=163,slow=38
KURBB **Kurchatov Arra** 44.24 305 P P 18 19 08.9 -1.2
BRLK **Bradley Lake** 44.25 42 P P 18 19 11.8 +1.6
TRF **Thorofare Moun** 44.26 36 P P 18 19 11.6 +1.3
TRF IAmb IAmb 18 19 19.7
comp=Z,26nm,1.6s
TRF **Thorofare Moun** 44.26 36 P P 18 19 11.7 +1.4
baz=273
G23K **Bananza Creek** 44.30 32 P P 18 19 12.1 +1.6
baz=270
TOLI2 **Tolitoli** 44.37 212 P P 18 19 10.5 -1.0
SHL **Shillong** 44.39 266 P P 18 19 10.6 -1.2
SHL IAmb IAmb 18 19 32.2
comp=Z,12nm,0.9s
SHL **Shillong** 44.39 266 P P 18 19 10.6 -1.2
SHL pmax pmax
comp=Z,12nm,0.9s
E23K **Chandalar** 44.48 30 P P 18 19 13.9 +1.9
baz=269
BWN **Browne** 44.59 35 P P 18 19 14.3 +1.6
BWN IAmb IAmb 18 19 34.3
comp=Z,27nm,1.1s
I23K **Minto, Yukon-K** 44.59 34 P P 18 19 13.8 +1.1
I23K **Minto, Yukon-K** 44.59 34 P P 18 19 14.1 +1.3
baz=272
RC01 **Rabbit Creek A** 44.69 40 P P 18 19 13.8 +0.2
RC01 IAmb IAmb 18 19 58.4
comp=Z,40nm,1.7s
RC01 **Rabbit Creek A** 44.69 40 P P 18 19 14.5 +0.9
baz=276
NEA2 **Nenana** 44.74 35 P P 18 19 15.1 +1.1
NEA2 IAmb IAmb 18 19 33.1
comp=Z,15nm,0.6s
NEA2 **Nenana** 44.74 35 P P 18 19 15.9 +1.9
baz=273,SNR=12
FAKI **Fak Fak** 44.78 195 P P 18 19 15.0 +0.3
FAKI IAmb IAmb 18 19 17.3
comp=Z,16nm,1.0s
FAKI **Fak Fak** 44.78 195 P P 18 19 15.2 +0.4
MCK **McKinley** 44.84 36 P P 18 19 15.2 +0.4
MCK IAmb IAmb 18 19 16.4
comp=Z,36nm,1.7s
MCK **McKinley** 44.84 36 P P 18 19 16.1 +1.3
baz=274,SNR=5.0
MCK **McKinley** 44.84 36 P P 18 19 15.2 +0.4
MCK pmax pmax
comp=Z,36nm,1.7s
C24K **Franklin Bluff** 44.86 27 P P 18 19 15.8 +0.9
baz=268
RND **Reindeer** 44.90 36 P P 18 19 15.2 -0.1
RND IAmb IAmb 18 19 18.7
comp=Z,40nm,2.0s
RND **Reindeer** 44.90 36 P P 18 19 15.2 -0.1
RND pmax pmax
comp=Z,40nm,2.0s
E24K **Your Creek** 44.90 30 P P 18 19 16.7 +1.4
baz=270
PMR **Palmer** 44.93 39 P P 18 19 14.8 -0.6
PMR IAmb IAmb 18 20 48.0
comp=Z,40nm,1.7s
PMR **Palmer** 44.93 39 P P 18 19 16.4 +1.0
baz=276
PMR **Palmer** 44.93 39 P P 18 19 14.8 -0.6
PMR pmax pmax
comp=Z,40nm,1.7s
GHO **Glory Hole Cre** 45.01 39 P P 18 19 17.1 +0.9
GHO PcP PcP 18 20 55.2 -1.1
MDM **Murphy Dome** 45.08 34 P P 18 19 17.8 +1.1
WAT1 **Susitna Watana** 45.08 37 P P 18 19 17.4 +0.7
baz=275
F24K **Squaw Lake** 45.13 31 P P 18 19 18.4 +1.3
baz=271
WRH **Wood River Hil** 45.17 35 P P 18 19 18.0 +0.7
WRH IAmb IAmb 18 19 59.5
comp=Z,22nm,1.8s
WRH PcP PcP 18 20 57.2 +0.4
H24K **Noodor Dome** 45.18 33 P P 18 19 19.1 +1.6
H24K PcP PcP 18 20 58.0 +1.1
H24K **Noodor Dome** 45.18 33 P P 18 19 19.6 +2.1
baz=273,SNR=5.9
TCOL **CIGO, UAF Yank** 45.24 34 P P 18 19 18.4 +0.5
TCOL IAmb IAmb 18 19 37.2
comp=Z,11nm,0.7s
TCOL **CIGO, UAF Yank** 45.24 34 P P 18 19 19.3 +1.4
baz=274
COLA **College** 45.24 34 P P 18 19 18.2 +0.3
COLA IAmb IAmb 18 19 37.2
comp=Z,12nm,0.8s
COLA **College** 45.24 34 P P 18 19 19.4 +1.5
baz=274
COLA **College** 45.24 34 P P 18 19 18.2 +0.3
COLA pmax pmax
comp=Z,12nm,0.8s
COLA **College** 45.24 34 P P 18 19 19.7 +1.8
COLA pP sP 18 19 35.6 -1.6
KNK **Knik Glacier** 45.27 39 P P 18 19 18.4 +0.2
CCB **Clear Creek Bu** 45.28 35 P P 18 19 19.1 +0.9
CCB IAmb IAmb 18 20 25.1
comp=Z,25nm,2.0s
SML **Sawmill** 45.28 39 P P 18 19 17.8 -0.6
SML IAmb IAmb 18 19 37.0
comp=Z,12nm,0.8s
SML PcP PcP 18 20 58.5 +1.2
G24K **Hadweenzic Riv** 45.31 32 P P 18 19 20.5 +2.0
baz=272
POKR **Poker Plat Res** 45.41 34 P P 18 19 20.9 +1.6
POKR IAmb IAmb 18 19 22.3
comp=Z,14nm,1.1s
POKR **Poker Plat Res** 45.41 34 P P 18 19 21.0 +1.8
baz=274,SNR=5.9
WAT6 **Susitna Watana** 45.48 38 P P 18 19 21.1 +1.1
baz=276
M23K **Glacier View** 45.57 39 P P 18 19 21.9 +1.3
baz=277
LUWI **Luwuk** 45.59 208 P P 18 19 20.9 -0.3
DHY **Denali Highway** 45.60 37 P P 18 19 22.0 +1.1
DHY IAmb IAmb 18 19 42.1
comp=Z,11nm,1.1s
DHY **Denali Highway** 45.60 37 P P 18 19 22.5 +1.5
baz=276,SNR=6.2
IL31 **45.66 34** P P 18 19 21.5 +0.3
IL31 IAmb IAmb 18 19 53.9
comp=Z,9.3nm,1.0s
ILAR **Eielson Array** 45.66 34 P P 18 19 21.4 +0.1
comp=Z,4.5nm,0.8s,baz=260,slow=5.5,SNR=60
ILAR LR LR 18 40 05.3
comp=Z,116nm,18.1s,baz=206,slow=38
comp=Z,4.5nm,0.8s
ILAR **Eielson Array** 45.66 34 P P 18 19 22.1 +0.8
ILAR **Eielson Array** 45.66 34 P P 18 19 22.1 +0.8
HDA **Harding Lake** 45.67 35 P P 18 19 21.6 +0.3
HDA **Harding Lake** 45.67 35 P P 18 19 22.7 +1.4
baz=275,SNR=6.1
SCM **Sheep Creek Mo** 45.75 39 P P 18 19 22.3 +0.2
SCM IAmb IAmb 18 19 40.2
comp=Z,17nm,1.0s
SCM **Sheep Creek Mo** 45.75 39 P P 18 19 22.3 +0.2
SCM pmax pmax
comp=Z,17nm,1.0s
SHLS **Shalkode** 45.78 295⇑ *i* P P 18 19 20.3 -2.3
comp=Z,4.8nm,0.4s,baz=294
SHLS **Shalkode** 45.78 295 *c i* P P 18 19 20.3 -2.3
SHLS pmax pmax
comp=Z,5.0nm,0.4s
G25K **Bearman Lake** 45.86 32 P P 18 19 24.6 +1.9
baz=273
F25K **Christian Rive** 45.99 30 P P 18 19 25.6 +1.7
baz=273
E25K **Arctic Village** 46.00 30 P P 18 19 25.7 +1.8
baz=272
UZB **Uzunbulak** 46.08 295 *e*P P 18 19 25.1 +0.1
baz=295
UZB **Uzunbulak** 46.08 295 *e*P P 18 19 25.1 +0.1
PRP **Porcupine Dome** 46.18 33 P P 18 19 25.9 +0.4
PRP IAmb IAmb 18 19 29.0
comp=Z,8.9nm,0.6s
PRP **Porcupine Dome** 46.18 33 P P 18 19 27.4 +2.0
baz=275,SNR=12
KPKS **Kokpek** 46.20 295 *i* P P 18 19 26.2 +0.2
baz=295
KPKS **Kokpek** 46.20 295 *i* P P 18 19 26.1 +0.2
FYU **Fort Yukon** 46.22 32 P P 18 19 27.8 +2.3
FYU IAmb IAmb 18 19 28.6
comp=Z,13nm,0.7s
K24K **Donnelly Dome** 46.23 36 P P 18 19 27.0 +1.2
baz=276
M24K **Tolsona, Glenn** 46.26 38 P P 18 19 27.0 +1.0
M24K **Tolsona, Glenn** 46.26 38 P P 18 19 28.0 +2.0
baz=278
BMAR **Burnt Mountain** 46.41 31 P P 18 19 29.1 +1.9
KLU **Klutina** 46.46 39 P P 18 19 28.3 +0.6
KLU IAmb IAmb 18 19 49.6
comp=Z,18nm,1.3s
KLU **Klutina** 46.46 39 P P 18 19 29.4 +1.7
baz=278
PAX **Paxson** 46.47 37 P P 18 19 27.8 +0.1
PAX IAmb IAmb 18 20 07.1
comp=Z,22nm,1.8s
PAX **Paxson** 46.47 37 P P 18 19 29.2 +1.4
baz=277
PAX **Paxson** 46.47 37 P P 18 19 27.8 +0.1
PAX pmax pmax
comp=Z,22nm,1.8s
ZHN **Zhinishke** 46.48 295 *e*P P 18 19 28.3 +0.2
comp=Z,5.0nm,0.7s,baz=295
ZHN **Zhinishke** 46.48 295 *e*P P 18 19 28.3 +0.2
ZHN pmax pmax
comp=Z,5.0nm,0.7s
SATY **Saty** 46.54 295⇑ *i* P P 18 19 28.9 +0.3
comp=Z,5.1nm,0.6s,baz=295
SATY **Saty** 46.54 295 *c i* P P 18 19 28.9 +0.3
SATY pmax pmax
comp=Z,5.0nm,0.6s
F26K **Sheenjek River** 46.56 30 P P 18 19 30.2 +1.9
baz=274
TAPN **Taplejung** 46.58 271 *e*P P 18 19 29.6 +0.3
comp=Z,12nm,0.3s
C27K **Jago River** 46.61 28 P P 18 19 30.6 +1.9
baz=273
WUS **Wushi** 46.65 292 P P 18 19 30.1 +0.6
WUS pP pP 18 19 45.5 +2.5
RIDG **Independent Ri** 46.65 36 P P 18 19 28.4 -0.7
RIDG IAmb IAmb 18 19 38.2
comp=Z,11nm,1.3s
HARP **HAARP** 46.69 38 P P 18 19 31.0 +1.6
baz=278
G26K **Porcupine Rive** 46.76 31 P P 18 19 32.2 +2.4
baz=275
SCRK **Sand Creek** 47.00 35 P P 18 19 32.4 +0.5
SCRK IAmb IAmb 18 19 50.5
comp=Z,9.8nm,0.6s
SCRK **Sand Creek** 47.00 35 P P 18 19 33.2 +1.3
baz=278,SNR=10.0
DOT **Dot Lake** 47.01 36 P P 18 19 32.0 +0.1
DOT PcP PcP 18 21 04.9 +1.6
N25K **Chitina, Valde** 47.07 39 P P 18 19 33.9 +1.4
N25K IAmb IAmb 18 20 53.9
comp=Z,45nm,2.0s
ODAN **Odare** 47.08 270 *e*P P 18 19 33.6 +0.4
J26L **Joseph Creek** 47.12 35 P P 18 19 32.5 -0.3
J26L **Joseph Creek** 47.12 35 P P 18 19 34.1 +1.3
baz=278
BMRM **Bremner River** 47.18 39 P P 18 19 33.2 0.0
BMRM IAmb IAmb 18 20 05.2
comp=Z,28nm,1.5s
BMRM PcP PcP 18 21 05.6 +1.6
CHKK **Chushkaly** 47.23 296 *e*P P 18 19 33.9 0.0
baz=296
CHKK **Chushkaly** 47.23 296 *e*P P 18 19 33.8 0.0
MENT **Mentasta** 47.27 37 P P 18 19 35.0 +1.1
MENT IAmb IAmb 18 20 19.3
comp=Z,34nm,1.8s
L26K **Log Cabin Wild** 47.42 37 P P 18 19 36.4 +1.3
L26K IAmb IAmb 18 19 53.8
comp=Z,8.3nm,0.8s
L26K **Log Cabin Wild** 47.42 37 P P 18 19 37.0 +2.0
baz=279
MDOK **Medeo** 47.43 295 *i* P P 18 19 36.1 +0.5
baz=295
MDOK **Medeo** 47.43 295 *i* P P 18 19 36.1 +0.5
TARG **Taragay, Kyrgy** 47.43 293 P P 18 19 36.5 +0.6
TARG **Taragay, Kyrgy** 47.43 293 P P 18 19 36.5 +0.6
TARG pmax pmax
comp=Z,15nm,0.7s
E27K **Coleen River** 47.48 29 P P 18 19 37.2 +1.7
baz=276
AAA **Alma-Ata** 47.50 295 *e*P P 18 19 36.5 +0.4
comp=Z,13nm,0.6s,baz=295
AAA **Alma-Ata** 47.50 295 *e*P P 18 19 36.4 +0.4
AAA pmax pmax
comp=Z,13nm,0.6s
TNSS **Tian-Shan** 47.54 295 *e*P P 18 19 37.4 +0.6
baz=295
TNSS **Tian-Shan** 47.54 295 *e*P P 18 19 37.4 +0.6
JIRN **Jiri** 47.57 272 *e*P P 18 19 37.5 +0.4
G27K **Doyon Strip** 47.61 31 P P 18 19 38.4 +1.9
baz=277
RAMN **Ramite** 47.63 271 *e*P P 18 19 37.7 +0.2
comp=Z,76nm,0.5s
KUU **Kurty** 47.65 297⇑ *i* P P 18 19 36.8 -0.4
comp=Z,19nm,0.7s,baz=296
KUU **Kurty** 47.65 297 *c i* P P 18 19 36.7 -0.4
KUU pmax pmax
comp=Z,19nm,0.7s
GUN **Gumba** 47.67 273 *e*P P 18 19 38.2 +0.3
comp=Z,175nm,0.5s
VRDI **Verde Repeater** 47.68 39 P P 18 19 38.1 +0.8
M26K **Nabesna, AK** 47.69 37 P P 18 19 38.2 +1.1
M26K IAmb IAmb 18 19 59.9
comp=Z,10.0nm,1.1s
M26K **Nabesna, AK** 47.69 37 P P 18 19 38.7 +1.5
baz=280
H27K **Steamboat Moun** 47.73 32 P P 18 19 39.6 +2.1
baz=278
I27K **Kandik River** 47.78 33 P P 18 19 39.6 +1.7
baz=278
MCARA **McCarthy VSAT** 47.86 39 P P 18 19 38.6 +0.2
MCARA IAmb IAmb 18 19 58.9
comp=Z,28nm,1.5s
MCARA **McCarthy VSAT** 47.86 39 P P 18 19 40.6 +2.2
baz=281
EGAK **Eagle** 48.10 34 P P 18 19 42.6 +2.4
EGAK IAmb IAmb 18 20 05.5
comp=Z,6.6nm,0.8s
EGAK **Eagle** 48.10 34 P P 18 19 41.9 +1.6
baz=279
L27K **Beaver Creek,** 48.10 36 P P 18 19 42.3 +1.9
L27K IAmb IAmb 18 19 59.2
comp=Z,9.6nm,0.8s
L27K **Beaver Creek,** 48.10 36 P P 18 19 42.1 +1.7
baz=280
BCAR **Beaver Creek A** 48.12 36 P P 18 19 41.9 +1.4
KKN **Kakani** 48.19 273 *e*P P 18 19 41.5 -0.2
PKI **Pulchoki** 48.20 272 *e*P P 18 19 41.7 -0.3
M27K **Edge Creek, AK** 48.21 37 P P 18 19 42.7 +1.4
M27K IAmb IAmb 18 20 00.1
comp=Z,7.5nm,0.8s
M27K **Edge Creek, AK** 48.21 37 P P 18 19 42.9 +1.6
baz=281
PKIN **Phulchoki** 48.21 272 *e*P P 18 19 41.8 -0.2
comp=Z,40nm,0.5s
ULHL **Ulahol** 48.32 295 P P 18 19 42.5 -0.1
SNR=5.1
DMN **Daman** 48.41 273 *e*P P 18 19 43.7 +0.2
TKM2 **Tokmak 2** 48.51 296 P P 18 19 44.7 +0.7
SNR=67
TKM2 **Tokmak 2** 48.51 296 *i* P P 18 19 44.3 +0.3
TKM2 pmax pmax
comp=Z,23nm,0.5s
BVA0 **Borovoye Array** 48.51 310 *i* P P 18 19 43.6 0.0
BVAR **Borovoye Array** 48.51 310 LR LR 18 41 06.8
comp=Z,83nm,19.5s,baz=56,slow=37
GKN **Gorkha** 48.56 273 *e*P P 18 19 44.5 0.0
comp=Z,55nm,0.5s
BRVK **Borovoye** 48.57 310 P P 18 19 43.9 -0.1
BRVK **Borovoye** 48.57 310 *c e*P P 18 19 44.6 +0.6
BRVK pmax pmax
comp=Z,24nm,0.8s
BRVK **Borovoye** 48.57 310 P P 18 19 44.3 +0.3
BRVK pP sP 18 20 00.3 -3.2
BTLS **Baital** 48.78 299⇑ *i* P P 18 19 45.5 -0.3
baz=299
BTLS **Baital** 48.78 299 *c i* P P 18 19 45.4 -0.3
SGDS **Sogindy** 48.97 297 *e*P P 18 19 47.4 +0.1
baz=297
SGDS **Sogindy** 48.97 297 *e*P P 18 19 47.4 +0.1
YUK3 **Moose Creek** 48.98 38 P P 18 19 48.3 +0.9
baz=283
DANN **Dangsing** 49.04 274 *e*P P 18 19 48.9 +0.5
comp=Z,157nm,0.6s
KBK **Karagaybulak** 49.05 296 P P 18 19 48.8 +0.6
SNR=28
USP **Ospenovka** 49.12 296 P P 18 19 48.8 +0.3
SNR=19
I29M **Ogilvie Camp,** 49.19 33 P P 18 19 50.2 +1.6
I29M IAmb IAmb 18 20 08.1
comp=Z,6.8nm,0.8s
I29M **Ogilvie Camp,** 49.19 33 P P 18 19 50.6 +2.0
baz=281,SNR=7.0
AAK **Ala-Archa** 49.37 296 P P 18 19 50.8 +0.2
SNR=13
AAK **Ala-Archa** 49.37 296 LR LR 18 43 03.9
comp=Z,86nm,18.7s,baz=57,slow=39
AAK **Ala-Archa** 49.37 296 P P 18 19 50.0 -0.5
AAK **Ala-Archa** 49.37 296 *c e*P P 18 19 50.7 +0.2
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK **Ala-Archa** 49.37 296 P P 18 19 50.7 +0.2
AAK **Ala-Archa** 49.37 296 P P 18 19 50.7 +0.2
KSH **Kashi** 49.59 291 P P 18 19 56.4 +4.2
KSH pmax pmax
comp=Z,9.0nm,0.8s
G30M **tAoh Zraii Nji** 49.70 31 P P 18 19 54.4 +1.8
baz=282
L29M **L29M** 49.74 36 P P 18 19 55.1 +2.2
baz=283
EKS2 **Erkin-Say** 49.84 296 P P 18 19 54.4 +0.3
SNR=21
AML **Almayashu** 50.11 295 P P 18 19 57.2 +0.7
SNR=17
INK **Inuvik** 50.42 29 P P 18 19 59.2 +1.3
comp=Z,8.0nm,0.5s,baz=295,slow=6.8,SNR=77
comp=Z,8.0nm,0.5s
INK **Inuvik** 50.42 29 P P 18 19 58.8 +0.9
INK IAmb IAmb 18 20 00.3
comp=Z,10nm,0.8s
INK **Inuvik** 50.42 29 P P 18 19 59.6 +1.8
baz=283,SNR=14
M30M **Minto, Yukon** 50.46 36 P P 18 19 59.7 +1.3
M30M **Minto, Yukon** 50.46 36 P P 18 20 00.4 +2.0
baz=285
F31M **Tsiigehtchic** 50.54 30 P P 18 20 00.5 +1.7
baz=283,SNR=8.5
HYT **Haines Junctio** 50.59 39 P P 18 20 00.6 +1.1
HYT IAmb IAmb 18 20 23.2
comp=Z,13nm,0.8s
HYT **Haines Junctio** 50.59 39 P P 18 20 02.6 +3.1
baz=286,SNR=7.2
P30M **Million Dollar** 51.05 39 P P 18 20 04.7 +1.8
baz=287
N31M **Braeburn, Yuko** 51.22 38 P P 18 20 05.1 +1.1
N31M IAmb IAmb 18 20 23.4
comp=Z,10.0nm,0.8s
N31M **Braeburn, Yuko** 51.22 38 P P 18 20 05.9 +1.9
baz=286
DZA **Taraz** 51.41 297 *e*P P 18 20 05.6 -0.2
comp=Z,12nm,0.6s,baz=297
DZA **Taraz** 51.41 297 *e*P P 18 20 05.5 -0.2
DZA pmax pmax
comp=Z,12nm,0.6s
M31M **Drury Creek, Y** 51.64 36 P P 18 20 09.4 +2.2
baz=287
KK31 **Karatay Array** 51.87 298 P P 18 20 08.8 -0.3
KK31 IAmb IAmb 18 20 10.0
comp=Z,13nm,0.8s
KK31 **Karatay Array** 51.87 298 *i* P P 18 20 08.9 -0.3
KKAR **Karatay Array** 51.87 298 P P 18 20 08.4 -0.7
KKAR **Karatay Array** 51.87 298 P P 18 20 08.6 -0.6
KKAR IAmb IAmb 18 20 09.9
comp=Z,13nm,0.8s
KKAR **Karatay Array** 51.87 298 P P 18 20 08.6 -0.6
KKAR pmax pmax
comp=Z,13nm,0.8s
WHY **Whitehorse** 51.88 38 P P 18 20 11.2 +2.1
baz=288
FARO **Faro, Yukon** 52.10 36 P P 18 20 11.9 +1.3
baz=288
A36M **Sachs Harbour** 52.20 23 P P 18 20 12.7 +1.6
A36M **Sachs Harbour** 52.20 23 P P 18 20 13.2 +2.1
baz=287,SNR=16
IUG **Iuzhnay** 52.59 297⇑ *i* P P 18 20 14.9 +0.3
comp=Z,4.9nm,0.6s,baz=297
IUG **Iuzhnay** 52.59 297 *c i* P P 18 20 14.9 +0.3
IUG pmax pmax
comp=Z,5.0nm,0.6s
SVE **Sverdlovsk** 52.69 317⇑ *e*P P 18 20 16.0 +1.0
SVE pmax pmax
comp=Z,19nm,0.8s
HNR **Honiara** 52.80 158 LR LR 18 40 43.8
comp=Z,820nm,21.4s,baz=302,slow=34
CHM **Chimkent** 52.80 297 *e*P P 18 20 16.1 0.0
comp=Z,6.0nm,0.5s,baz=297
CHM **Chimkent** 52.80 297 *e*P P 18 20 16.1 0.0
CHM pmax pmax
comp=Z,6.0nm,0.5s
P33M **Teslin, Yukon** 52.99 39 P P 18 20 19.1 +1.8
baz=290
SOEI **Soe** 53.30 203 P P 18 20 19.4 -0.7
SOEI **Soe** 53.30 203 P P 18 20 20.0 -0.1
SOEI **Soe** 53.30 203 P P 18 20 19.0 -1.1
comp=Z,23nm,0.8s
C36M **Paulatuk** 53.42 26 P P 18 20 21.0 +0.9
C36M **Paulatuk** 53.42 26 P P 18 20 21.6 +1.4
baz=290,SNR=11
GAR **Garm** 53.77 293 P P 18 20 22.4 -0.9
ARU **Arti** 53.90 317 LR LR 18 45 49.0
comp=Z,143nm,20.4s,baz=65,slow=39
ARU **Arti** 53.90 317 P P 18 20 23.7 -0.2
ARU PcP PcP 18 21 29.0 +0.2
ARU **Arti** 53.90 317 *c e*P P 18 20 23.3 -0.6
ARU pmax pmax

comp=Z,39nm,1.7s
ARU Arti 53.90 317 P P 18 20 24.0 +0.1
BATI Baumata 53.91 203 P P 18 20 24.4 0.0
comp=Z,8.8nm,0.5s,baz=351,slow=8.1,SNR=4.7
comp=Z,8.8nm,0.5s
NIL Nilore 54.20 286 P P 18 20 26.3 -0.1
NIL Nilore 54.20 286 P P 18 20 26.3 -0.1
NIL pmax pmax
comp=Z,35nm,0.9s
NIL Nilore 54.20 286 P P 18 20 27.3 +0.8
CHGR Chuyangaron 54.73 293 P P 18 20 29.3 -1.0
CHGR Chuyangaron 54.73 293 P P 18 20 29.3 -1.0
CHGR pmax pmax
comp=Z,42nm,0.8s
T35M Bob Quinn 55.43 42 P P 18 20 37.2 +2.2
baz=294
SDSI Sungai Dareh 55.98 232 P P 18 20 40.0 +0.6
comp=Z,24nm,1.0s
AB31 Akbulak array 56.00 308 *i* P **P 18 20 39.0 -0.2**
ABKAR Akbulak array 56.00 308 P P 18 20 39.1 0.0
ABKAR Akbulak array 56.00 308 P P 18 20 39.3 +0.1
ABKAR IAmb IAmb 18 20 40.3
comp=Z,36nm,0.6s
ALE Alert 56.01 4 P P 18 20 39.5 +0.6
ALE pP **sP 18 20 55.7 -2.7**
EUNU Eureka 56.06 9 P **P 18 20 39.2 0.0**
EUNU IAmb IAmb 18 20 40.0
comp=Z,7.7nm,0.7s
PDSI Padang 56.54 233 P P 18 20 43.6 +0.2
AKTO Aktyubinsk 56.62 310 LR LR 18 45 00.5
comp=Z,106nm,18.4s,baz=139,slow=36
AKTO Aktyubinsk 56.62 310 P P 18 20 43.1 -0.4
GSI Gunungsitoli 56.62 238 P P 18 20 44.6 +0.6
GSI Gunungsitoli 56.62 238 P P 18 20 44.1 +0.1
comp=Z,18nm,0.4s
SPA0 Spitsbergen Ar 56.71 348 *e*P **P 18 20 44.3 +0.5**
SPA0 IAmb IAmb 18 20 47.9
comp=Z,72nm,1.3s
KBL Kabul 56.79 289 P P 18 20 44.1 -1.2
KBL Kabul 56.79 289 P P 18 20 44.1 -1.2
KBL pmax pmax
comp=Z,17nm,0.9s
NOR Nord 57.06 356 *i* P **P 18 20 45.5 -0.7**
NOR IAmb IAmb 18 20 46.3
comp=Z,1.6nm,0.6s
KPJI Karang Pucung 57.18 221 P P 18 20 47.3 -0.6
comp=Z,22nm,0.6s
MDSI Maura Dua 57.27 227 P P 18 20 48.6 +0.1
MASI Maura Aman, Be 57.27 230 P P 18 20 49.3 +0.7
comp=Z,15nm,1.1s
KIRV Kirov 57.53 322 *ce*P **P 18 20 50.2 +0.4**
KNRA Kununurra 57.89 196 P P 18 20 53.3 +0.5
RES Resolute Bay 58.48 15 P P 18 20 56.6 +0.4
comp=Z,9.1nm,0.5s,baz=312,slow=6.0,SNR=54
comp=Z,9.1nm,0.5s
RES Resolute Bay 58.48 15 P P 18 20 56.3 +0.1
RES IAmb IAmb 18 20 57.3
comp=Z,11nm,0.8s
VADS Vadso 59.08 338 *e* **P 18 21 00.8 +0.3**
YKA Yellowknife Ar 59.91 32 P P 18 21 06.7 +0.3
comp=Z,1.7nm,0.9s,baz=304,slow=6.7,SNR=16
comp=Z,1.7nm,0.9s
YKA Yellowknife Ar 59.91 32 *ce*P **P 18 21 07.3 +1.0**
YKA pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 60.49 339 P P 18 21 08.5 -1.7
comp=Z,2.9nm,0.8s,baz=18,slow=8.1,SNR=5.3
comp=Z,2.9nm,0.8s
KLMR Klimovskoe 60.78 327 *e*P **P 18 21 16.6 +4.3**
KLMR AMP 18 21 30.8
comp=Z,43nm,1.7s
KLMR Klimovskoe 60.78 327 *e*P **P 18 21 16.5 +4.3**
KLMR pmax pmax
comp=Z,43nm,1.7s
TULEG Thule 60.97 8 P P 18 21 12.2 -1.2
TULEG Thule 60.97 8 *i* P **P 18 21 11.4 -2.0**
TULEG IAmb IAmb 18 21 13.6
comp=Z,14nm,0.6s
WB0 Warramunga Arr 61.01 189 P P 18 21 12.6 -1.7
WB0 IAmb IAmb 18 21 14.7
comp=Z,5.0nm,0.8s
WRAB Tennant Creek 61.18 189 P P 18 21 15.1 -0.3
WRAB Tennant Creek 61.18 189 P P 18 21 15.0 -0.4
WRAB pP **pP 18 21 31.1 +1.7**
WRAB sP **sP 18 21 37.7 +2.5**
WR0 Warramunga Arr 61.18 188 P P 18 21 15.0 -0.5
WR0 IAmb IAmb 18 21 32.0
comp=Z,14nm,1.5s
WRA Warramunga Arr 61.19 189 P P 18 21 14.9 -0.6
comp=Z,2.8nm,0.7s,baz=5.6,slow=7.0,SNR=34
WRA LR LR 18 46 42.6
comp=Z,45nm,21.9s,baz=2.0,slow=35
comp=Z,2.8nm,0.7s
WRA Warramunga Arr 61.19 189 P P 18 21 14.9 -0.6
BELG Belogornoye 61.42 316 LR LR 18 50 00.7
comp=Z,161nm,19.6s,baz=358,slow=38
BELG Belogornoye 61.42 316 *i* P **P 18 21 17.1 +0.4**
BELG pmax pmax
comp=Z,4.0nm,0.7s
NEEM North Greenlan 61.44 3 *i* P **P 18 21 15.4 -1.5**
NEEM IAmb IAmb 18 21 18.4
comp=Z,7.2nm,0.7s
KTK1 Kautokeino 61.45 339 *e* **P 18 21 17.1 +0.4**
HRA Herat 61.68 292 P **P 18 21 18.7 -0.4**
HRA IAmb IAmb 18 21 19.9
comp=Z,6.5nm,0.6s
DAG Danmarks Havn 61.80 355 *i* P **P 18 21 17.4 -1.6**
DAG IAmb IAmb 18 21 20.2
comp=Z,4.6nm,0.7s
JETT Jettan, Norway 61.83 340 *e* **P 18 21 19.7 +0.4**
TRO Tromso 62.15 341 *e*P **P 18 21 21.4 0.0**
TRO IAmb IAmb 18 21 22.5
comp=Z,94nm,1.4s
GEYT Alibeck 62.62 298 P P 18 21 24.6 -0.5
comp=Z,13nm,0.8s,baz=29,slow=3.4,SNR=28
GEYT LR LR 18 50 42.6
comp=Z,69nm,18.8s,baz=347,slow=38
comp=Z,13nm,0.8s
FAUS Fauske 64.71 340 *e*P **P 18 21 38.3 0.0**
FAUS IAmb IAmb 18 21 45.8
comp=Z,28nm,1.0s
AS31 Alice Springs 64.92 189 P P 18 21 40.6 +0.5
ASAR Alice Springs 64.92 189 P P 18 21 40.0 -0.1
comp=Z,1.9nm,0.7s,baz=9.7,slow=6.3,SNR=26
comp=Z,1.9nm,0.7s
VRH Novokhopyorsk 65.14 317 *e*P **P 18 21 41.4 +0.1**
VRH pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 65.35 323 LR LR 18 53 12.3
comp=Z,20nm,19.0s,baz=72,slow=39
OBN Obninsk 65.35 323 *e*P **P 18 21 43.1 +0.5**
OBN *e* 18 24 04.4
OBN *e*S **S 18 30 20.7 -1.7**
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,107nm,16.0s
FINES FINESS Array B 65.61 332 P P 18 21 43.3 -1.0
comp=Z,5.9nm,0.5s,baz=41,slow=7.9,SNR=65
FINES LR LR 18 51 51.2
comp=Z,114nm,20.1s,baz=44,slow=37
comp=Z,5.9nm,0.5s
FINES FINESS Array B 65.61 332 *ce*P **P 18 21 44.0 -0.2**
FINES pmax pmax
comp=Z,6.0nm,0.5s
LPSR Galich'ya Gora 65.73 319 *e*P **P 18 21 45.3 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MOR8 Moi Rana 65.84 339 *e*P **P 18 21 44.5 -1.2**
MOR8 IAmb IAmb 18 21 56.5
comp=Z,227nm,2.4s
VORR Voronezh 66.14 318 P P 18 21 47.7 -0.1
VORR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 66.43 318 *e*P **P 18 21 49.4 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 66.63 0 *i* P **P 18 21 51.3 +0.2**
SUMG IAmb IAmb 18 21 52.3
comp=Z,13nm,0.6s
DZM Mont Dzumac 66.68 156 LR LR 18 51 34.1
comp=Z,33nm,18.6s,baz=41,slow=36
MSVF Nonsavu 67.20 143 LR LR 18 44 47.4
comp=Z,68nm,21.3s,baz=18,slow=30
AKT Akhty 67.34 306 *e*P **P 18 21 56.1 +0.3**
AKT *e**PP **pP 18 22 11.8 +1.8**
AKT *e* 18 22 23.7
AKT pmax pmax
comp=Z,25nm,0.7s
VSU Vasula 67.38 329 *e*P **P 18 21 55.9 +0.4**
RAF Rauma 67.41 333 *e*P **P 18 21 55.2 -0.5**
MTSE Matsula 68.31 330 *e*P **P 18 22 01.5 +0.1**
ZEI Tsey 68.87 309 *e*P **P 18 22 04.4 -1.1**
ZEI pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 68.88 310 ⇑P **P 18 22 06.6 +1.2**
KIV Kislovodsk 68.88 310 P **P 18 22 06.0 +0.7**
KIV Kislovodsk 68.88 310 *e*P **P 18 22 07.2 +1.8**
KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,44nm,17.0s
KIV Kislovodsk 68.88 310 P **P 18 22 07.1 +1.7**
KIV Kislovodsk 68.88 310 P **P 18 22 07.0 +1.7**
KBZ Khabaz 68.89 310 P **P 18 22 05.7 +0.3**
comp=Z,17nm,0.8s,baz=35,slow=4.1,SNR=36
comp=Z,17nm,0.8s
KBZ Khabaz 68.89 310 *ce*P **P 18 22 06.6 +1.3**
KBZ pmax pmax
comp=Z,18nm,0.9s
SHA1 Shidzhatmaz 69.03 310 *i* P **P 18 22 06.1 -0.4**
AFI Afiamalu 69.17 132 LR LR 18 46 09.3
comp=Z,36nm,21.7s,baz=317,slow=30
ONI Oni 69.25 309 P **P 18 22 08.0 +0.3**
ONI IAmb IAmb 18 22 10.1
comp=Z,16nm,1.0s
ONI Oni 69.25 309 P **P 18 22 08.0 +0.3**
ONI pmax pmax
comp=Z,15nm,1.0s
IDID Didziasalis 69.53 327 *e*P P 18 21 59.9 -9.1
MNK Minsk 69.60 326 *i* P **P 18 22 07.6 -1.9**
comp=E,3.0nm,0.8s
MNK *i* P **P 18 22 07.6 -1.9**
comp=N,19nm,0.8s
MNK *i* P **P 18 22 07.6 -1.9**
comp=Z,14nm,0.9s,baz=227
MNK *i* pP **pP 18 22 24.0 +0.2**
MNK *i* PP **PP 18 24 41.7 -1.5**
MNK *i* PPP PPP 18 26 23.3
MNK *i* S **S 18 31 11.4 -2.1**
MNK *i* sS **sS 18 31 39.7 +2.1**
MNK *i* SS **SS 18 35 41.0 -0.1**
MNK *i* SSS SSS 18 38 58.8
MNK *i* LQ LQ 18 47 54.6
MNK *i* LR LR 18 53 20.0
MNK *i* LRM MLR 18 54 57.5
comp=Z,80nm,20.4s
MNK *i* LRM MLR 18 55 19.9
comp=E,19nm,21.2s
MNK *i* LRM MLR 18 55 28.9
comp=N,558nm,20.4s
MNK Minsk 69.60 326 *i* P **P 18 22 07.5 -1.9**
MNK *i* *PP **pP 18 22 23.9 +0.2**
MNK *i* 18 22 30.1
MNK *i* 18 24 41.7
MNK *i* PPP PPP 18 26 23.3
MNK *i* S **S 18 31 11.4 -2.1**
MNK *i* *SS **sS 18 31 39.6 +2.1**
MNK *i* 18 32 03.5
MNK *i* SS **SS 18 35 40.9 -0.1**
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=Z,80nm,20.0s
MNK MLR MLR
comp=E,19nm,21.0s
MNK MLR MLR
comp=N,558nm,20.0s
ISAL Salakas 69.60 327 *e*P **P 18 22 10.8 +1.3**
IIGN Ignalina 69.72 327 *e*P P 18 21 55.9 -14
NACGM Naroch 69.79 326 *e*P **P 18 22 11.4 +0.7**
comp=Z,13nm,1.1s,baz=47
FFC Flin Flon 69.87 34 P P 18 22 11.9 +0.7
FFC Flin Flon 69.87 34 P **P 18 22 11.9 +0.7**
FFC pmax pmax
comp=Z,10.0nm,1.4s
FFC Flin Flon 69.87 34 P P 18 22 11.8 +0.7
FFC pP **pwP 18 22 27.1 +1.7**
FFC sP **PcP 18 22 34.2 +0.9**
AKH Akhalkalaki 69.94 308 P P 18 22 12.9 +0.8
AKH Akhalkalaki 69.94 308 P P 18 22 12.9 +0.8
AKH pmax pmax
comp=Z,28nm,0.9s
GNI Garni 69.95 306 LR LR 18 55 06.4
comp=Z,47nm,18.9s,baz=49,slow=38
FCC Fort Churchill 70.02 28 P P 18 22 12.2 +0.2
FCC IAmb IAmb 18 22 35.3
comp=Z,25nm,2.0s
FCC Fort Churchill 70.02 28 P P 18 22 12.2 +0.2
FCC pmax pmax
comp=Z,25nm,2.0s
ICESG Greenland Ices 70.12 1 *i* P **P 18 22 12.2 -0.7**
ICESG IAmb IAmb 18 22 13.8
comp=Z,11nm,0.6s
PABE Paberze 70.52 328 *e*P **P 18 22 15.2 +0.1**
NC405 NORSAR Array S 70.56 337 P P 18 22 14.2 -1.1
DOMB Dombas 70.56 339 *e*P **P 18 22 15.3 0.0**
DOMB IAmb IAmb 18 22 23.2
comp=Z,130nm,1.9s
KARS Kars 70.67 307 P P 18 22 16.4 0.0
KARS Kars 70.67 307 P P 18 22 16.5 0.0
HFS Hagfors 70.73 336 LR LR 18 55 17.7
comp=Z,76nm,20.1s,baz=37,slow=38
NB2 NORSAR Subarra 70.76 337 P P 18 22 16.6 0.0
comp=Z,2.2nm,0.6s,baz=36,slow=6.5
NB2 NORSAR Subarra 70.76 337 P P 18 22 16.6 0.0
slow=6.5
NOA NORSAR Array B 70.76 337 P P 18 22 15.8 -0.7
comp=Z,3.1nm,0.6s,baz=52,slow=6.9,SNR=18
NOA LR LR 18 56 29.5
comp=Z,38nm,21.8s,baz=25,slow=39
comp=Z,3.1nm,0.6s
NC602 NORSAR Array S 70.91 337 *e*P **P 18 22 17.2 -0.1**
HLID Hailey 71.05 48 P P 18 22 19.8 +1.0
baz=309
BOZ Bozeman (W) 71.29 45 P P 18 22 20.1 -0.1
BOZ IAmb IAmb 18 22 39.2
comp=Z,16nm,1.7s
BOZ Bozeman (W) 71.29 45 P P 18 22 21.8 +1.6
baz=310
BOZ Bozeman (W) 71.29 45 P P 18 22 20.1 -0.1
BOZ pmax pmax
comp=Z,16nm,1.7s
UOSS Minazif 71.36 287 P P 18 22 19.5 -1.3
UOSS Minazif 71.36 287 P P 18 22 20.9 +0.1
HATD Hatta, Dubai 71.49 287 P P 18 22 22.1 +0.6
AKASG Malin Array Be 71.59 322 P P 18 22 21.1 -0.5
comp=Z,1.8nm,0.4s,baz=44,slow=6.8,SNR=34
comp=Z,1.8nm,0.4s
AKASG Malin Array Be 71.59 322 P P 18 22 21.2 -0.5
AKASG Malin Array Be 71.59 322 *ce*P **P 18 22 21.5 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 71.59 322 P P 18 22 21.6 -0.1
AKBB IAmb IAmb 18 22 41.0
comp=Z,10nm,0.8s
AKBB Malin Array Si 71.59 322 P P 18 22 21.6 -0.1
AKBB pmax pmax
comp=Z,10.0nm,0.9s
SOHO SOHO 71.62 286 P P 18 22 22.1 -0.2
ASHO Ashiyiah 71.63 287 P P 18 22 20.9 -1.5
SKAR Skarslia 71.89 338 *e*P **P 18 22 23.2 -0.2**
NVAR Mina Array Bea 71.94 55 P P 18 22 24.9 +0.6
comp=Z,1.2nm,0.8s,baz=285,slow=4.9,SNR=4.7
comp=Z,1.2nm,0.8s
ALNE Al Ain 72.23 287 P P 18 22 25.9 -0.1
KONO Kongsberg 72.36 337 P P 18 22 26.6 +0.5
DY2G Dye2 72.55 4 *i* P **P 18 22 28.1 +0.7**
DY2G IAmb IAmb 18 22 28.5
comp=Z,7.0nm,0.6s
GURO Guroymak-BITLI 72.59 306 P P 18 22 28.5 +0.4
GURO IAmb IAmb 18 22 30.3
comp=Z,14nm,0.7s
STKA Stephens Creek 72.61 181 P P 18 22 29.1 +1.3
comp=Z,1.6nm,1.0s,baz=59,slow=19,SNR=2.1
comp=Z,1.6nm,1.0s
H17A Grant Village 72.64 46 P P 18 22 31.2 +2.7
H17A Grant Village 72.64 46 P P 18 22 31.5 +3.0
baz=311
FRB Frobisher Bay 72.64 14 LR LR 18 58 31.4
comp=Z,68nm,18.6s,baz=330,slow=39
IMW Indian Meadow 72.77 46 P P 18 22 30.9 +1.6
IMW IAmb IAmb 18 22 48.6
comp=Z,16nm,1.8s
ASK Askoy 72.90 339 *e*P **P 18 22 29.8 +0.5**
MOOW Moose Ponds 72.97 47 P P 18 22 32.1 +1.7
MOOW IAmb IAmb 18 22 59.8
comp=Z,24nm,2.0s
ISA Isabella, Lake 73.56 57 P P 18 22 36.4 +2.6
baz=309
R11A Troy Canyon, C 73.66 53 P P 18 22 35.5 +1.1
baz=310
SORM Soroca 73.77 320 ⇑P **P 18 22 35.3 +0.6**
SORM Soroca 73.77 320 P P 18 22 35.2 +0.6
HOMB Homborsund 73.82 337 *e*P **P 18 22 35.0 +0.3**
MORW Morawa 73.97 204 P P 18 22 37.0 +1.1
MARD Mardin 74.14 306 P P 18 22 38.1 +0.9
BSD Bornholm Skovb 74.25 332 *e*P **P 18 22 38.3 +0.9**
BW06 Boulder Array 74.27 47 P P 18 22 38.8 +0.9
BW06 Boulder Array 74.27 47 P P 18 22 38.9 +0.9
baz=312
PD31 Pinedale Array 74.27 47 P P 18 22 39.0 +0.9
PDAR Pinedale Array 74.27 47 P P 18 22 38.3 +0.3
comp=Z,1.2nm,0.8s,baz=268,slow=2.0,SNR=14
comp=Z,1.2nm,0.8s
MZR Muzera 74.52 287 P P 18 22 39.0 -0.4
BFSC Mount Baldy Ra 74.98 58 P P 18 22 43.6 +1.4
baz=310
BLDU Ballidu 75.22 203 P P 18 22 43.5 +0.4
BUR08 Bucovina Ar. S 75.62 322 P P 18 22 45.8 +0.3
BURAR Bucovina Array 75.63 322 ⇑P **P 18 22 46.2 +0.5**
BURAR Bucovina Array 75.63 322 P P 18 22 46.1 +0.5
RDMU Red Mountain 75.73 48 P P 18 22 48.1 +1.6
TESR Tescani 75.74 320 ⇑P **P 18 22 46.1 0.0**
CFR Carcaliu 75.95 318 ⇑P **P 18 22 47.7 +0.4**
CFR Carcaliu 75.95 318 P P 18 22 47.7 +0.4
TPGR Topolog 76.03 318 ⇑P **P 18 22 48.0 +0.1**
BNN Bunyan 76.09 310 P P 18 22 49.4 +1.0
STHS Stebnicka Huta 76.11 325 *e*P **P 18 22 48.9 +0.7**
STHS Stebnicka Huta 76.11 325 *e*P **P 18 22 48.8 +0.6**
OJC Ojcow 76.12 326 *e*P **P 18 22 48.7 +0.5**
OJC Ojcow 76.12 326 P P 18 22 48.9 +0.7
OJC IAmb IAmb 18 23 06.0
comp=Z,12nm,0.9s
OJC Ojcow 76.12 326 P P 18 22 48.9 +0.7
OJC pmax pmax
comp=Z,12nm,0.9s
VRI Vrincioaia 76.16 320 ⇑P **P 18 22 49.4 +0.9**
VRI Vrincioaia 76.16 320 P P 18 22 49.4 +0.9
PLOR Plostina 76.21 320 P P 18 22 49.5 +0.6
PLOR Plostina 76.21 320 P P 18 22 49.4 +0.6
RSSD Black Hills 76.28 43 P P 18 22 50.0 +0.5
baz=315
GAZ Gaziantep 76.39 308 P P 18 22 50.5 +0.4
GAZ IAmb IAmb 18 22 52.5
comp=Z,9.1nm,0.8s
BISRR Bisoca 76.40 319 P P 18 22 51.5 +1.5
HARR Harsova 76.40 318 P P 18 22 50.6 +0.7
HARR Harsova 76.40 318 P P 18 22 50.5 +0.7
TRPA Tarpa 76.49 323 ⇑P **P 18 22 51.3 +1.0**
NIE Niedzica 76.51 325 *e*P **P 18 22 54.0 +3.5**
MONP2 Monument Peak 76.63 58 P P 18 22 53.0 +1.4
baz=311
DOPR Dopca 76.74 320 ⇑P **P 18 22 51.7 -0.2**
BR131 Keskin Array S 76.77 311 P P 18 22 52.4 +0.1
BR131 IAmb IAmb 18 23 57.6
comp=Z,15nm,1.6s
BR131 Keskin Array S 76.77 311 P P 18 22 52.4 +0.1
BR131 pmax pmax
comp=Z,15nm,1.7s
BRTR Keskin Array B 76.77 311 P P 18 22 51.7 -0.6
comp=Z,1.6nm,0.7s,baz=114,slow=3.6,SNR=9.6
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 76.77 311 *ce*P **P 18 22 52.9 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 76.81 320 ⇑P **P 18 22 53.0 +0.5**
MLR Muntele Rosu 76.81 320 P P 18 22 52.9 +0.5
ICOR Ion Corvin 76.87 318 ⇑P **P 18 22 53.8 +1.2**
KSP Ksiaz 77.08 328 *e*P **P 18 22 54.5 +0.9**
NWAO Narrogin (SRO) 77.24 202 P P 18 22 55.3 +0.8
VOIR 77.29 320 ⇑P **P 18 22 56.6 +1.5**
VOIR 77.29 320 P P 18 22 56.5 +1.5
MORC Moravsky Berou 77.40 327 ⇑P **P 18 22 56.7 +1.1**
MORC Moravsky Berou 77.40 327 P P 18 22 55.7 +0.2
MORC IAmb IAmb 18 23 13.1
comp=Z,17nm,1.3s
MORC Moravsky Berou 77.40 327 *e*P **P 18 22 56.3 +0.8**
MORC *e* 18 23 12.5
MORC Moravsky Berou 77.40 327 P P 18 22 56.6 +1.1
DPC Dobruska-Polom 77.45 328 *e*P **P 18 22 56.8 +1.0**
DPC Dobruska-Polom 77.45 328 *e*P **P 18 22 56.8 +1.0**
KRLC Kraliky 77.48 328 *e*P **P 18 22 56.8 +0.9**
KRLC Kraliky 77.48 328 *e*P **P 18 22 56.8 +0.9**
VYHS Vyhne 77.84 325 *e*P **P 18 22 59.6 +1.6**
VYHS Vyhne 77.84 325 *e*P **P 18 22 59.5 +1.6**
CLL Collm 77.98 330 *e*P **P 18 22 58.0 -0.6**
CLL epP **pP 18 23 15.0 +2.0**
CLL *e*PP **PP 18 25 55.0 +0.6**
CLL Collm 77.98 330 *e*P **P 18 22 58.0 -0.6**
CLL *e*PP **pP 18 23 15.0 +2.0**
JAVC Velka Javorina 78.06 326 *e*P **P 18 23 00.9 +1.7**
JAVC *e* 18 23 17.3
VRAC Vranov 78.15 327 LR LR 19 00 11.5
comp=Z,77nm,19.4s,baz=8.5,slow=38
VRAC Vranov 78.15 327 ⇑P **P 18 23 00.4 +0.8**
VRAC Vranov 78.15 327 *e*P **P 18 23 00.5 +0.8**
VRAC *e* 18 23 16.5
VRAC Vranov 78.15 327 P P 18 23 00.4 +0.8
GZR Gura Zlata 78.41 321 ⇑P **P 18 23 01.6 +0.4**
GZR Gura Zlata 78.41 321 P P 18 23 01.6 +0.4
KRUC Moravsky 78.43 327 *e*P **P 18 23 01.8 +0.6**
KRUC *e* 18 23 18.3
PRU Pruhonice 78.44 329 *e*P **P 18 23 01.9 +0.7**
PRU epP **pP 18 23 18.0 +2.4**
PRU Pruhonice 78.44 329 *e*P **P 18 23 01.9 +0.7**
PRU *e* 18 23 18.0
SURR Surduc 78.44 322 ⇑P **P 18 23 02.6 +1.3**
ISCO Idaho Springs 78.47 47 P P 18 23 02.7 +0.8
baz=314
SUSD Miller 78.59 40 P P 18 23 03.6 +1.4
baz=318
MODS Modra-Piesok 78.60 326 *e*P **P 18 23 03.9 +1.8**
MODS Modra-Piesok 78.60 326 *e*P **P 18 23 03.9 +1.8**
MVCO Mesa Verde 78.62 50 P P 18 23 04.3 +1.6
baz=313
EYMN Ely 79.30 34 P P 18 23 05.8 -0.1
baz=322
CKRC Cesky Krumlov 79.46 328 *e*P **P 18 23 07.6 +0.7**
KHC Kasperske Hory 79.50 329 P P 18 23 07.4 +0.3
KHC Kasperske Hory 79.50 329 *e*P **P 18 23 07.7 +0.6**
KHC epP **pP 18 23 23.5 +1.9**
KHC Kasperske Hory 79.50 329 *e*P **P 18 23 07.7 +0.6**
KHC *e* 18 23 23.5
RONA Rosalia, Austr 79.54 326 *e*P **P 18 23 08.5 +1.2**
comp=Z,5.5nm,0.9s
RONA epP **sP 18 23 25.2 -2.3**
comp=Z,8.3nm,1.0s
CONA Conrad Observa 79.54 327 *i* P **P 18 23 08.6 +1.3**
comp=Z,6.7nm,1.4s
CONA *i* pP **sP 18 23 24.9 -2.6**
comp=Z,8.9nm,1.4s
EKA Eskdalemuir Ar 79.57 341 LR LR 19 02 07.7
comp=Z,37nm,18.3s,baz=313,slow=39
MORH Mrgy, Hungar 79.68 324 ⇑P **P 18 23 08.3 +0.3**
GERES GERESS Array B 79.69 328 P P 18 23 07.5 -0.6
comp=Z,1.1nm,0.7s,baz=42,slow=6.4,SNR=10
GERES LR LR 19 04 48.6
comp=Z,33nm,18.3s,baz=28,slow=41
comp=Z,1.1nm,0.7s
RAYN Ar Rayn 79.87 292 P P 18 23 09.1 -0.4
RAYN IAmb IAmb 18 23 10.4
comp=Z,35nm,1.9s
RAYN Ar Rayn 79.87 292 P P 18 23 09.1 -0.4
RAYN pmax pmax
comp=Z,35nm,1.9s
RAYN Ar Rayn 79.87 292 P P 18 23 09.6 +0.1
GRF Grafenberg Arr 79.96 330 *e*P **P 18 23 10.3 +0.8**
comp=Z,5.6nm,1.0s,baz=33,slow=4.5
GRF *e*pP **pP 18 23 26.3 +2.4**

RDO	**Rodhopi**	**80.17**	**317**	P	**P**	**18 23 11.3**	**+0.6**
RDO				IAmb	IAmb	18 23 12.8	
	comp=Z,12nm,1.1s						
ARSA	**Arzberg**	**80.21**	**326**	*e*P	**P**	**18 23 10.7**	**-0.2**
	comp=Z,4.5nm,1.3s						
ARSA				*i* pP	**sP**	**18 23 28.2**	**-3.0**
	comp=Z,4.5nm,0.9s						
ECSD	**EROS Data Cent**	**80.25**	**39**	P	**P**	**18 23 11.3**	**+0.1**
ECSD	**EROS Data Cent**	**80.25**	**39**	P	**P**	**18 23 11.7**	**+0.5**
	baz=319						
VTS	**Vitosha**	**80.25**	**319**	P	**P**	**18 23 11.6**	**+0.2**
VTS				IAmb	IAmb	18 23 29.5	
	comp=Z,8.3nm,0.8s						
VTS	**Vitosha**	**80.25**	**319**	P	**P**	**18 23 11.6**	**+0.2**
VTS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MOA	**Molln**	**80.26**	**328**	*e*P	**P**	**18 23 12.3**	**+1.1**
	comp=Z,3.9nm,1.3s						
MOA				*i* pP	**sP**	**18 23 28.3**	**-3.0**
	comp=Z,3.2nm,1.1s						
TUC	**Tucson**	**80.58**	**55**	P	**P**	**18 23 15.4**	**+2.2**
	baz=313						
BIOA	**Bad Ischl, Aus**	**80.64**	**328**	*i* P	**P**	**18 23 13.8**	**+0.6**
	comp=Z,2.7nm,0.7s						
BIOA				*i* pP	**sP**	**18 23 30.5**	**-2.9**
	comp=Z,8.2nm,1.3s						
SOKA	**Soboth**	**80.87**	**326**	*i* P	**P**	**18 23 15.2**	**+0.6**
	comp=Z,12nm,1.4s,SNR=11						
SOKA				*e*pP	**sP**	**18 23 31.8**	**-3.0**
	comp=Z,12nm,1.0s						
T25A	**Trinidad**	**81.01**	**48**	P	**P**	**18 23 16.6**	**+0.9**
	baz=316						
OBKA	**Obir**	**81.21**	**327**	*e*P	**P**	**18 23 16.4**	**0.0**
	comp=Z,4.8nm,0.9s,SNR=5.2						
SCHQ	**Schefferville**	**81.22**	**17**	P	**P**	**18 23 16.1**	**0.0**
	comp=Z,3.8nm,0.7s,baz=354,slow=6.5,SNR=8.1						
SCHQ				LR	LR	19 03 47.5	
	comp=Z,98nm,18.4s,baz=259,slow=39						
	comp=Z,3.8nm,0.7s						
KBA	**Koelnbreinsper**	**81.25**	**328**	*e*P	**P**	**18 23 17.0**	**+0.3**
	comp=Z,5.2nm,0.9s						
KBA				*e*pP	**pP**	**18 23 32.7**	**+1.5**
	comp=Z,12nm,1.2s						
ANMO	**Albuquerque**	**81.38**	**51**	P	**P**	**18 23 18.8**	**+1.2**
	baz=315						
MYKA	**Terra Mystica**	**81.49**	**327**	*i* pP	pP	18 23 34.4	+2.1
	comp=Z,3.9nm,0.6s						
BMRD	**Maredsous**	**81.72**	**334**	*d*P	**P**	**18 23 19.1**	**+0.2**
	comp=Z,4.2nm,1.0s						
WATA	**Walderalm**	**81.75**	**329**	*i* P	**P**	**18 23 19.1**	**-0.2**
	comp=Z,6.4nm,1.0s						
WATA				*i* pP	**sP**	**18 23 36.3**	**-3.1**
	comp=Z,5.6nm,0.6s						
WTTA	**Wattenberg**	**81.78**	**329**	*i* P	**P**	**18 23 20.2**	**+0.7**
	comp=Z,4.0nm,0.6s						
WTTA				*e*pP	**sP**	**18 23 36.9**	**-2.8**
	comp=Z,4.3nm,0.6s						
MOTA	**Moosalm**	**81.92**	**329**	*i* P	**P**	**18 23 20.6**	**+0.4**
	comp=Z,9.3nm,1.0s,SNR=5.6						
MOTA				*e*pP	**pP**	**18 23 35.7**	**+1.0**
	comp=Z,12nm,0.9s						
CLUD	**Cludinico**	**81.94**	**327**	P	**P**	**18 23 19.4**	**-0.7**
CLUD				IAmb	IAmb	18 23 40.3	
	comp=Z,8.7nm,0.8s						
RETA	**Reutte**	**81.94**	**329**	*e*P	**P**	**18 23 20.7**	**+0.5**
	comp=Z,8.4nm,1.0s,SNR=4.5						
RETA				*i* pP	**sP**	**18 23 37.4**	**-2.9**
	comp=Z,9.9nm,1.1s						
STAL	**STALIGIAL**	**82.17**	**327**	P	**P**	**18 23 20.5**	**-0.8**
STAL				IAmb	IAmb	18 23 41.7	
	comp=Z,7.4nm,0.8s						
121A	**Cookes Peak, D**	**82.27**	**53**	P	**P**	**18 23 20.9**	**-1.4**
	baz=314						
DAVA	**Damuels**	**82.44**	**330**	*e*P	**P**	**18 23 22.0**	**-0.9**
	comp=Z,11nm,1.0s						
DAVA				*i* pP	**sP**	**18 23 40.0**	**-3.1**
	comp=Z,9.0nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**82.85**	**329**	P	**P**	**18 23 26.0**	**+0.8**
DAVOX	**Davos/Dischmat**	**82.86**	**329**	LR	LR	19 02 57.0	
	comp=Z,63nm,18.1s,baz=8.0,slow=38						
JFWS	**Jewell Farm**	**83.81**	**36**	P	**P**	**18 23 29.2**	**-0.7**
	baz=323						
AMTX	**Amarillo**	**84.16**	**48**	P	**P**	**18 23 31.8**	**-0.1**
GLMI	**Grayling**	**84.62**	**32**	P	**P**	**18 23 34.9**	**+0.9**
	baz=326						
L44A	**Lake County Fo**	**85.43**	**35**	P	**P**	**18 23 38.3**	**+0.3**
	baz=324						
P40A	**Paris**	**85.66**	**39**	P	**P**	**18 23 39.6**	**+0.4**
P40A				IAmb	IAmb	18 23 40.4	
	comp=Z,4.8nm,0.7s						
PPT	**Papeete**	**85.76**	**118**	LR	LR	18 53 39.1	
	comp=Z,77nm,21.5s,baz=350,slow=30						
WMOK	**Wichita Mounta**	**85.88**	**46**	P	**P**	**18 23 40.6**	**+0.2**
	baz=319						
HDIL	**Hopedale**	**86.13**	**37**	P	**P**	**18 23 40.8**	**-0.7**
	baz=324						
S39A	**Bolivar**	**86.48**	**41**	P	**P**	**18 23 42.4**	**-0.9**
TXAR	**Lajitas Array**	**87.02**	**53**	P	**P**	**18 23 46.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=242,slow=5.3,SNR=3.0						
	comp=Z,0.9nm,0.8s						
CCM	**Cathedral Cave**	**87.21**	**40**	P	**P**	**18 23 47.1**	**+0.3**
	baz=323						
O48B	**Farmland**	**88.19**	**34**	P	**P**	**18 23 51.7**	**+0.2**
	baz=326						
MIAR	**Mount Ida**	**88.80**	**43**	P	**P**	**18 23 55.2**	**+0.7**
	baz=321						
M53A	**WI Miller and**	**89.03**	**31**	P	**P**	**18 23 56.1**	**+0.7**
	baz=329						
ACSO	**Alum Creek Sta**	**89.13**	**33**	P	**P**	**18 23 56.5**	**+0.6**
	baz=328						
WCI	**Wyandotte Cave**	**89.37**	**36**	P	**P**	**18 23 57.5**	**+0.4**
	baz=326						
M55A	**Ridgway**	**89.73**	**30**	P	**P**	**18 23 59.0**	**+0.2**
O53A	**New Philadelph**	**89.83**	**32**	P	**P**	**18 23 58.8**	**-0.4**
	baz=329						
BINY	**Binghamton**	**90.10**	**28**	P	**P**	**18 24 00.4**	**0.0**
	baz=332						
WVT	**Waverly**	**90.38**	**39**	P	**P**	**18 24 02.5**	**+0.6**
	baz=325						
M57A	**Sunshine Farm,**	**90.45**	**29**	P	**P**	**18 24 02.6**	**+0.5**
SSPA	**Standing Stone**	**90.78**	**30**	P	**P**	**18 24 04.5**	**+0.8**
	baz=331						
LRAL	**Lakeview Retre**	**93.30**	**40**	P	**P**	**18 24 15.6**	**+0.3**
	baz=325						
ESDC	**Sonseca Array**	**93.99**	**335**	P	**P**	**18 24 17.1**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=23,slow=4.7,SNR=2.6						
ESDC				LR	LR	19 15 15.8	
	comp=Z,14nm,21.6s,baz=351,slow=41						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**114.97**	**317**	PKKPbc	PKKPbc	18 40 18.9	+2.5
	comp=Z,6.6nm,0.4s,baz=273,slow=3.8,SNR=2.5						
TORD				PKKP	**PKKPdf**	**18 40 36.5**	**-2.7**
	comp=Z,12nm,0.4s,baz=234,slow=4.8,SNR=3.5						
TROLL	**Troll, Antarti**	**143.33**	**200**	P	PKPbc	18 30 31.5	+0.7
LPAZ	**La Paz**	**143.84**	**56**	PKP	PKPbc	18 30 35.4	+1.0
	comp=Z,0.4nm,0.3s,baz=346,slow=6.0,SNR=4.2						
SNAA	**Sanae**	**144.86**	**198**	P	**PKPdf**	**18 30 35.9**	**-0.2**
SNAA	**Sanae**	**144.86**	**198***c*	*i* PKIKP	**PKPdf**	**18 30 36.3**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
VNA2	**Neumayer--Watz**	**146.43**	**197**	P	**PKPbc**	**18 30 40.5**	**+0.3**
	baz=139,slow=2.0						
H03N2	**Juan Fernandez**	**146.44**	**90**	T	T	21 15 47.1	
	baz=300,slow=76,SNR=22						
H03N3	**Juan Fernandez**	**146.45**	**90**	T	T	21 15 47.9	
	baz=300,slow=76,SNR=29						
H03N1	**Juan Fernandez**	**146.46**	**90**	T	T	21 15 48.4	
	baz=300,slow=76,SNR=30						
VNA3	**Neumayer Olymp**	**146.69**	**196**	P	**PKPbc**	**18 30 40.8**	**-0.1**
BDFB	**Brasilia**	**153.06**	**23**	PKP	**PKPdf**	**18 30 49.5**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=39,slow=7.4,SNR=1.9						

*INET **21** 19:00:39.4±0.8, 12°.17N×88°.03W, h18km±11km, MW3.8*
*SNET **21** 19:00:40.7±1.1, 12°.31N×88°.07W, h23km±5km, ML3.3*

ISC 21 19:00:37.5±2.5, 12°.2N±0°.1×88°.05W±0°.06, h15km±14km, n23, σ0°53/29, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.11**	**61**	*e*P	**Pb**	**19 00 58.6**	**+0.2**
CRIN				*e*S	**Sn**	**19 01 14.6**	**+1.0**
CNCH	**Conchagua**	**1.12**	**11**	*e*P	**Pb**	**19 00 58.4**	**-0.3**
LCND	**La Caada**	**1.15**	**8**	*e*P	**Pg**	**19 00 59.6**	**-0.1**
LCND				IAML		19 01 20.3	
	comp=Z,997nm,0.4s						
TELN	**Telica**	**1.26**	**70**	*e*P	**Pn**	**19 01 00.6**	**-0.1**
LCY	**Lacayo**	**1.27**	**349**	*e*P	**Pb**	**19 01 01.6**	**+0.3**
RANC	**El Ranchito**	**1.28**	**349**	*e*P	**Pn**	**19 01 01.2**	**+0.1**
PACA	**Pacayal**	**1.32**	**348**	*e*P	**Pn**	**19 01 02.0**	**+0.4**
PACA				*e*S	**Sb**	**19 01 18.2**	**-0.7**
PACA	**Pacayal**	**1.32**	**348**	*e*P	**Pn**	**19 01 02.0**	**+0.4**
CNGN	**Cerro Negro**	**1.36**	**76**	*e*P	**Pn**	**19 01 01.8**	**-0.2**
TECA	**Tecapa**	**1.39**	**341**	*e*P	**Pn**	**19 01 02.9**	**+0.3**
COEB	**Comit de Eme**	**1.41**	**340**	*e*P	**Pn**	**19 01 02.8**	**+0.1**
COPN	**Copaltepe**	**1.42**	**89**	*e*P	**Pn**	**19 01 02.7**	**-0.1**
MOMN	**Momotombo**	**1.49**	**81**	*e*P	**Pn**	**19 01 03.5**	**-0.4**
FAGO	**Alcalda de S**	**1.52**	**358**	*e*P	**Pn**	**19 01 04.6**	**+0.4**
PQSS	**Presa 15 de Se**	**1.53**	**341**	*e*P	**Pn**	**19 01 04.6**	**+0.2**
PQSS				*e*S	**Sn**	**19 01 23.3**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.67**	**337**	*e*P	**Pn**	**19 01 07.0**	**+0.8**
SCLA				*e*S	**Sn**	**19 01 27.1**	**-0.2**
LFRS	**El Faro**	**1.75**	**326**	*e*P	**Pn**	**19 01 07.9**	**+0.4**
HUEN		**1.84**	**84**	*e*P	**Pn**	**19 01 08.9**	**+0.3**
P5NO	**Presa 5 de nov**	**1.94**	**339**	*e*P	**Pn**	**19 01 10.3**	**+0.4**
P5NO				*e*S	**Sn**	**19 01 34.1**	**0.0**
JAYA	**Jayaque - finc**	**2.01**	**317**	*e*P	**Pn**	**19 01 11.6**	**+0.5**
JAYA				*e*S	**Sn**	**19 01 35.2**	**-0.9**
JAYA				IAML		19 01 43.4	
	comp=Z,190nm,0.2s						
TGUH	**Tegucigalpa,Un**	**2.02**	**22**	*e*P	**Pn**	**19 01 12.2**	**+0.9**
MATN	**Matagalpa**	**2.21**	**70**	*e*P	**Pn**	**19 01 14.2**	**+0.5**
NUBE	**Las Nubes**	**2.42**	**316**	*e*P	**Pn**	**19 01 17.5**	**+0.9**

*NEIC **21** 19:02:32.5±1.6, 0°.24N±0°.10×121°.9E±0°.1, h208km±8km, mb4.1/21, Error ellipse: s-maj=19.8km s-min=8.1km az=48.0*
*DJA **21** 19:02:33.3±0.6, 0°N±7°×12°.2E±°, h198km±8km, M4.1/10, mb4.2/4, mB4.5/2, MLv4.1/10, Mw(mB)3.7/2*
*IDC **21** 19:02:36.2±3.9, 0°.26N×122°.15E, h258km±40km, mb3.2/9, mbtmp3.8/10, Error ellipse: s-maj=33.9km s-min=12.1km az=68.0*

ISC 21 19:02:31.6±0.5, 0°.24N±0°.07×121°.93E±0°.08, h202km, n62, σ1$17/64, mb4.0/20, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.24**	**3**	P	**Pn**	**19 02 59.7**	**+1.4**
GTOI	**Gorontalo**	**1.15**	**70**	P	**Pn**	**19 03 04.3**	**+1.7**
TOLI2	**Tolitoli**	**1.44**	**307**		**Pn**	**19 03 06.3**	**+1.3**
TOLI2				Sn	**S**	**19 03 30.6**	**+0.1**
LUWI	**Luwuk**	**1.52**	**146**		**Pn**	**19 03 07.7**	**+1.9**
LUWI				Sn	**S**	**19 03 34.2**	**+2.3**
LUWI	**Luwuk**	**1.52**	**146**	P	**Pn**	**19 03 07.9**	**+2.2**
LUWI	**Luwuk**	**1.52**	**146**	P	**Pn**	**19 03 07.9**	**+2.2**
MPSI	**Mapaga**	**2.03**	**273**	P	**Pn**	**19 03 11.7**	**+1.1**
SANI	**Sanana**	**4.65**	**119**	P	**Pn**	**19 03 41.2**	**-0.5**
SANI	**Sanana**	**4.65**	**119**	P	**Pn**	**19 03 41.2**	**-0.5**
TNTI	**Ternate**	**5.46**	**84**		**Pn**	**19 03 52.5**	**+0.4**
TNTI	**Ternate**	**5.46**	**84**	P	**Pn**	**19 03 52.8**	**+0.7**
	44nm,0.8s						
TNTI	**Ternate**	**5.46**	**84**	P	**Pn**	**19 03 52.7**	**+0.7**
	47nm,0.8s,755nm0.2nm						
MYLDM	**Lahad Datu**	**5.99**	**325**	Pn	**Pn**	**19 04 01.7**	**+3.0**
NLAI	**Namlea**	**6.21**	**124**	P	**Pn**	**19 04 03.4**	**+1.7**
KKM	**Kota Kinabalu**	**8.11**	**315**	P	Pn	19 04 39.2	+13
	30nm,1.5s						
SIJI	**Sorong**	**9.40**	**97**	P	**Pn**	**19 04 44.7**	**+1.5**
	3.4nm,0.4s,baz=335,slow=22,SNR=5.1						
FAKI	**Fak Fak**	**10.78**	**107**	Pn	**Pn**	**19 05 02.3**	**+1.4**
FAKI	**Fak Fak**	**10.78**	**107**	P	**Pn**	**19 05 02.6**	**+1.6**
	12nm,1.2s						
MTN	**Manton Dam**	**15.88**	**145**		**Pn**	**19 06 04.6**	**+0.1**
MTN				IAmb	IAmb	19 06 05.4	
	comp=Z,9.9nm,0.5s						
MTN	**Manton Dam**	**15.88**	**145**	P	**Pn**	**19 06 04.8**	**+0.3**
	comp=Z,18nm,1.1s						
KNRA	**Kununurra**	**17.19**	**157**	P	**P**	**19 06 18.5**	**-0.1**
KNRA				IAmb	IAmb	19 06 19.2	
	comp=Z,27nm,1.4s						
KNRA	**Kununurra**	**17.19**	**157**	P	**P**	**19 06 19.0**	**+0.4**
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.58**	**169**	P	**P**	**19 06 33.1**	**-0.6**
TPUB	**Ta-pu**	**22.96**	**357**	P	**P**	**19 07 18.6**	**0.0**
WB0	**Warramunga Arr**	**23.33**	**149**	P	**P**	**19 07 20.7**	**-1.2**
WRA	**Warramunga Arr**	**23.45**	**149**	P	**P**	**19 07 21.9**	**-1.1**
	comp=Z,3.1nm,0.6s,baz=326,slow=11,SNR=82						
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**23.45**	**149**	P	**P**	**19 07 21.4**	**-1.7**
WRKA	**Warakurna**	**25.87**	**167**	P	**P**	**19 07 44.4**	**-0.5**
	comp=Z,13nm,2.7s						
AS31	**Alice Springs**	**26.45**	**155**	P	**P**	**19 07 48.9**	**-1.3**
AS31				IAmb	IAmb	19 07 51.5	
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**26.45**	**155**	P	**P**	**19 07 49.5**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=344,slow=14,SNR=56						
ASAR				PcP	**PcP**	**19 11 07.3**	**-2.7**
	comp=Z,0.3nm,0.4s,baz=357,slow=2.2,SNR=5.5						
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**26.45**	**155**	P	**P**	**19 07 48.6**	**-1.5**
QIS	**Mount Isa**	**26.95**	**141**	P	**P**	**19 07 54.2**	**-0.4**
	comp=Z,5.1nm,1.7s						
CMAR	**Chiang Mai Arr**	**28.94**	**310**	P	**P**	**19 08 13.1**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=140,slow=7.2,SNR=2.4						
	comp=Z,0.4nm,0.7s						
FORT	**Forrest**	**31.39**	**170**	P	**P**	**19 08 32.8**	**-0.9**
STKA	**Stephens Creek**	**36.97**	**152**	P	**P**	**19 09 20.6**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=319,slow=10,SNR=8.0						
	comp=Z,2.7nm,0.6s						
STKA	**Stephens Creek**	**36.97**	**152**	P	**P**	**19 09 20.5**	**-1.2**
MJAR	**Matsushiro Arr**	**39.15**	**21**	P	**P**	**19 09 38.3**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=199,slow=9.1,SNR=5.1						
	comp=Z,1.1nm,0.6s						
LSA	**Lhasa**	**41.45**	**318**	P	**P**	**19 10 00.1**	**+0.8**
LSA				IAmb	IAmb	19 10 01.8	
	comp=Z,2.4nm,0.6s						
TAPN	**Taplejung**	**42.49**	**312**	*e*P	**P**	**19 10 07.9**	**+0.3**
	comp=Z,4.5nm,0.5s						
RAMN	**Ramite**	**43.11**	**311**	*e*P	**P**	**19 10 12.6**	**+0.1**
	comp=Z,2.1nm,0.3s						
TOO	**Toolangi**	**43.46**	**153**	P	**P**	**19 10 15.4**	**+0.5**
TOO				IAmb	IAmb	19 10 44.2	
	comp=Z,7.2nm,1.2s						
CAN	**Canberra**	**43.46**	**147**	P	**P**	**19 10 14.8**	**-0.2**
CAN				IAmb	IAmb	19 10 37.2	
	comp=Z,21nm,1.4s						
JIRN	**Jiri**	**43.79**	**312**	*e*P	**P**	**19 10 18.7**	**+0.6**
JTM	**Tenmabayashi**	**43.94**	**21**	P	**P**	**19 10 18.8**	**+0.2**
GUN	**Gumba**	**44.16**	**312**	*e*P	**P**	**19 10 21.4**	**+0.4**
	comp=Z,7.7nm,0.4s						
GKN	**Gorkha**	**45.14**	**311**	*e*P	**P**	**19 10 29.1**	**+0.6**
	comp=Z,6.0nm,0.3s						
DANN	**Dangsing**	**45.98**	**311**	*e*P	**P**	**19 10 35.8**	**+0.5**
JKA	**Kamikawa-asahi**	**47.41**	**20**	P	**P**	**19 10 45.6**	**0.0**
SONM	**Songino Array**	**49.30**	**346**	P	**P**	**19 10 59.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=168,slow=7.8,SNR=4.0						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**49.30**	**346**	P	**P**	**19 10 60.0**	**-0.2**
MK31	**Makanchi Array**	**57.85**	**329**	P	**P**	**19 12 02.1**	**-0.2**
MKAR	**Makanchi Array**	**57.85**	**329**	P	**P**	**19 12 02.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=122,slow=9.3,SNR=14						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**57.85**	**329**	P	**P**	**19 12 02.0**	**-0.3**
MAKZ	**Makanchi**	**58.03**	**329**	P	**P**	**19 12 03.1**	**-0.3**
MAKZ				IAmb	IAmb	19 12 14.6	
	comp=Z,1.8nm,1.3s						
KURBB	**Kurchatov Arra**	**62.23**	**330**	P	**P**	**19 12 31.4**	**-0.4**
	comp=Z,0.4nm,0.2s,baz=140,slow=7.1,SNR=1.3						
	comp=Z,0.4nm,0.2s						
KURK	**Kurchatov**	**62.24**	**330**	P	**P**	**19 12 30.7**	**-1.2**
KURK				IAmb	IAmb	19 12 55.3	
	comp=Z,3.1nm,1.4s						
KKAR	**Karatay Array**	**62.64**	**320**	P	**P**	**19 12 33.6**	**-1.2**
N19K	**Bonanza Creek**	**86.66**	**29**	P	**P**	**19 14 52.1**	**-0.3**
N19K				IAmb	IAmb	19 15 14.5	
	comp=Z,12nm,1.4s						
K20K	**Telida**	**87.09**	**27**	P	**P**	**19 14 54.2**	**-0.1**
K20K				IAmb	IAmb	19 15 06.5	
	comp=Z,5.3nm,1.4s						
IMAR	**Indian Mountai**	**87.46**	**24**	P	**P**	**19 14 55.3**	**-0.6**
MLY	**Manley**	**88.65**	**25**	P	**P**	**19 15 00.3**	**-1.4**
MLY				IAmb	IAmb	19 15 10.4	
	comp=Z,3.2nm,1.4s						
ILAR	**Eielson Array**	**90.29**	**25**	P	**P**	**19 15 07.2**	**-2.1**
	comp=Z,0.1nm,0.5s,baz=243,slow=5.6,SNR=4.9						
	comp=Z,0.1nm,0.5s						

ROM 21 19:02:44.0±0.5, 42°.599N±0°.009×13°.35E±0°.05, h10km±1km,

ML1.5/3, 4C-3D, Error ellipse: s-maj=3.7km s-min=0.4km az=275.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.13**	**228**	⇑P	Pg	19 02 47.8	+0.7
RM33				S	Sg	19 02 50.0	+0.7
RM33				AML	AML		
	comp=E,185μm,0.2s						
RM33				AML	AML		
	comp=E,184μm,0.2s						
RM33				AML	AML		
	comp=N,200μm,0.5s						
T1202	**Accumoli, Fraz**	**0.14**	**319**	⇑P	Pg	19 02 48.1	+0.9
T1202				S	Sg	19 02 50.5	+0.9
T1202				AML	AML		
	comp=N,344μm,1.2s						
T1202				AML	AML		
	comp=E,335μm,0.2s						
GIGS	**Gran Sasso**	**0.22**	**132**	P	Pg	19 02 50.2	+1.6
LNSS	**Leonessa**	**0.23**	**271**	⇑P	Pg	19 02 49.6	+0.8
T1212	**Cascia, Frazio**	**0.27**	**304**	⇓P	Pg	19 02 50.0	+0.5
T1217	**Poggiodomo (PG**	**0.33**	**290**	⇑P	Pb	19 02 51.3	-0.7
MC2	**Monte Cornacci**	**0.34**	**340**	⇓P	Pg	19 02 50.7	-0.1
T1216	**Preci, Frazion**	**0.38**	**320**	⇓P	Pb	19 02 52.6	-0.3
T1216				AML	AML		
	comp=E,135μm,0.1s						
T1216				AML	AML		
	comp=N,172μm,1.6s						
T1215	**Vallo di Nera,**	**0.41**	**300**	P	Pg	19 02 52.6	+0.6
T1215				AML	AML		
	comp=E,131μm,1.6s						
T1215				AML	AML		
	comp=N,152μm,1.0s						
T1215				AML	AML		
	comp=N,108μm,0.6s						
T1215				AML	AML		
	comp=E,130μm,1.6s						
T1215				AML	AML		
	comp=E,131μm,1.1s						
T1215				AML	AML		
	comp=N,109μm,0.6s						
ABTA	**Abfaltersbach**	**4.19**	**352**	*i* Pn	Pg	19 04 08.1	+3.9
	comp=N,0.4nm,0.1s						
ABTA				*i* Sn	Sg	19 04 57.2	-1.3
	comp=N,1.9nm,0.4s						

ROM 21 19:03:01.9±0.1, 42°.535N±0°.004×13°.275E±0°.005, h14km, ML2.7/37, 15C-16D, Error ellipse: s-maj=0.5km s-min=0.1km az=232.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**240**	⇓P	Pg	19 03 05.0	+0.2
RM33				S	Sg	19 03 06.8	+0.1
RM33				AML	AML		
	comp=N,12600μm,0.3s						
RM33				AML	AML		
	comp=N,12550μm,0.3s						
RM33				AML	AML		
	comp=E,17850μm,0.2s						
RM33				AML	AML		
	comp=N,12950μm,0.3s						
RM33				AML	AML		
	comp=N,12550μm,0.2s						
RM33				AML	AML		
	comp=E,18400μm,0.2s						
RM33				AML	AML		
	comp=N,12950μm,1.7s						
T1247	**Pizzolo (AQ)**	**0.10**	**170**	⇓P	Pg	19 03 05.5	+0.4
T1247				AML	AML		
	comp=N,10900μm,0.4s						
T1247				AML	AML		
	comp=E,8800μm,0.3s						
T1247				AML	AML		
	comp=N,10900μm,1.6s						
CAMP	**Campotosto**	**0.10**	**90**	P	Pg	19 03 05.5	+0.2
CAMP				S	Sg	19 03 07.6	+0.2
CAMP				AML	AML		
	comp=E,7770μm,0.3s						
CAMP				AML	AML		
	comp=N,11350μm,0.3s						
T1202	**Accumoli, Fraz**	**0.17**	**348**	⇑P	Pb	19 03 06.6	-0.3
T1202				S	Sb	19 03 09.9	-0.5
T1202				AML	AML		
	comp=N,12075μm,0.2s						
T1202				AML	AML		
	comp=N,12085μm,0.2s						
T1202				AML	AML		
	comp=E,18250μm,0.8s						
T1218	**Civita (PG)**	**0.18**	**319**	⇓P	Pg	19 03 06.5	+0.2
T1218				S	Sg	19 03 09.4	+0.2
T1218				AML	AML		
	comp=N,3710μm,0.2s						
T1218				AML	AML		
	comp=E,2760μm,1.3s						
T1218				AML	AML		
	comp=E,2830μm,0.1s						
T1218				AML	AML		
	comp=E,2760μm,1.3s						
T1218				AML	AML		
	comp=N,3670μm,0.2s						
T1218				AML	AML		
	comp=E,2825μm,0.2s						
T1218				AML	AML		
	comp=E,2760μm,0.7s						
LNSS	**Leonessa**	**0.19**	**291**	⇓P	Pg	19 03 06.7	+0.3
LNSS				S	Sg	19 03 09.8	+0.4
LNSS				AML	AML		
	comp=N,7560μm,0.6s						
LNSS				AML	AML		
	comp=E,9100μm,0.4s						
AQU	**L'Aquila**	**0.20**	**153**	P	Pg	19 03 07.0	+

	comp=N,1650μm,0.7s							
T1212				AML	AML			
	comp=E,1380μm,0.7s							
T1212				AML	AML			
	comp=N,1680μm,0.7s							
T1212				AML	AML			
	comp=E,1430μm,0.7s							
FIAM	**Fiamignano**	**0.29**	**204**	⇑P	Pg	19 03 08.5	+0.4	
FIAM				AML	AML			
	comp=E,5425μm,0.3s							
FIAM				AML	AML			
	comp=N,3695μm,0.3s							
T1217	**Poggiodomo (PG**	**0.31**	**305**	P	Pg	19 03 08.6	+0.2	
T1217				AML	AML			
	comp=E,1430μm,0.5s							
T1217				AML	AML			
	comp=N,1540μm,0.2s							
T1217				AML	AML			
	comp=E,1260μm,1.2s							
T1217				AML	AML			
	comp=N,1585μm,0.2s							
T1217				AML	AML			
	comp=N,1540μm,0.2s							
T1217				AML	AML			
	comp=E,1260μm,1.2s							
T1217				AML	AML			
	comp=N,1580μm,0.2s							
T1217				AML	AML			
	comp=E,1430μm,0.5s							
T1217				AML	AML			
	comp=E,1260μm,0.8s							
FAGN	**Fagnano**	**0.35**	**140**	⇑P	Pb	19 03 09.8	-0.2	
FAGN				AML	AML			
	comp=E,2290μm,0.3s							
FAGN				AML	AML			
	comp=N,1815μm,0.3s							
ARRO	**Arrone**	**0.38**	**277**	⇑P	Pg	19 03 09.8	+0.2	
ARRO				AML	AML			
	comp=E,1240μm,0.7s							
ARRO				AML	AML			
	comp=E,1240μm,1.3s							
ARRO				AML	AML			
	comp=N,2315μm,0.2s							
MC2	**Monte Cornacci**	**0.38**	**351**	⇑P	Pg	19 03 09.9	+0.2	
MC2				S	Sb	19 03 15.8	-0.6	
T1215	**Vallo di Nera,**	**0.40**	**312**	P	Pg	19 03 10.0	0.0	
T1215				AML	AML			
	comp=E,578μm,0.7s							
T1215				AML	AML			
	comp=N,470μm,0.3s							
T1215				AML	AML			
	comp=E,586μm,0.7s							
T1215				AML	AML			
	comp=E,578μm,0.7s							
T1215				AML	AML			
	comp=N,470μm,0.3s							
T1215				AML	AML			
	comp=E,587μm,0.7s							
T1215				AML	AML			
	comp=N,458μm,0.1s							
T1215				AML	AML			
	comp=E,578μm,1.3s							
T1215				AML	AML			
	comp=E,587μm,1.3s							
T1216	**Preci, Frazion**	**0.40**	**332**	⇑P	Pg	19 03 10.2	+0.2	
T1216				AML	AML			
	comp=N,3115μm,0.6s							
T1216				AML	AML			
	comp=E,2090μm,1.5s							
T1216				AML	AML			
	comp=N,3115μm,0.6s							
T1216				AML	AML			
	comp=E,2090μm,0.5s							
OFFI	**Offida**	**0.50**	**37**	⇑P	Pb	19 03 12.8	+0.3	
OFFI				AML	AML			
	comp=E,2735μm,1.6s							
OFFI				AML	AML			
	comp=N,2270μm,0.3s							
OFFI				AML	AML			
	comp=E,2735μm,0.4s							
CESX	**Cesi**	**0.52**	**279**	⇓P	Pg	19 03 12.1	-0.1	
CESX				AML	AML			
	comp=N,696μm,0.8s							
CESX				AML	AML			
	comp=E,558μm,1.0s							
CESX				AML	AML			
	comp=N,696μm,1.2s							
CESX				AML	AML			
	comp=E,558μm,1.0s							
FDMO	**Fiordimonte**	**0.52**	**345**	⇑P	Pg	19 03 12.2	0.0	
FDMO				S	Sb	19 03 20.6	+0.4	
FDMO				AML	AML			
	comp=E,779μm,1.4s							
FDMO				AML	AML			
	comp=N,640μm,0.7s							
FDMO				AML	AML			
	comp=E,779μm,0.6s							
GUMA	**Gualdo di Mace**	**0.53**	**5**	⇑P	Pb	19 03 12.7	-0.3	
GUMA				AML	AML			
	comp=E,3875μm,0.7s							
GUMA				AML	AML			
	comp=E,3490μm,0.7s							
GUMA				AML	AML			
	comp=N,3290μm,0.2s							
GUMA				AML	AML			
	comp=N,2855μm,0.3s							
CESI	**CESI - Serrava**	**0.54**	**330**	⇓P	Pg	19 03 12.8	+0.1	
CESI				AML	AML			
	comp=N,1615μm,0.4s							
CESI				AML	AML			
	comp=E,841μm,0.1s							
TRTR	**Tortoreto Alta**	**0.54**	**60**	P	Pb	19 03 13.7	+0.5	
TRTR				AML	AML			
	comp=N,1195μm,0.8s							
TRTR				AML	AML			
	comp=E,1011μm,1.0s							
TRTR				AML	AML			
	comp=N,1195μm,1.2s							
MOMA	**Monte Martano**	**0.58**	**298**	P	Pg	19 03 13.3	-0.1	
MOMA				S	Sb	19 03 22.7	+0.5	
MOMA				AML	AML			
	comp=E,1305μm,1.4s							
MOMA				AML	AML			
	comp=E,1285μm,1.4s							
MOMA				AML	AML			
	comp=E,1285μm,0.6s							
MOMA				AML	AML			
	comp=E,1305μm,0.6s							
MOMA				AML	AML			
	comp=N,1735μm,0.8s							
MOMA				AML	AML			
	comp=N,1735μm,0.8s							
T1220	**Camerino, Fraz**	**0.59**	**347**	⇓P	Pg	19 03 13.4	-0.1	
T1220				AML	AML			
	comp=E,2885μm,0.6s							
T1220				AML	AML			
	comp=N,3340μm,0.8s							
T1220				AML	AML			
	comp=N,3355μm,0.8s							
T1220				AML	AML			
	comp=N,3345μm,0.8s							
T1220				AML	AML			
	comp=E,2885μm,0.6s							
CERT	**Cerreto**	**0.62**	**200**	⇓P	Pg	19 03 14.0	-0.2	
CERT				AML	AML			
	comp=N,572μm,0.4s							
CERT				AML	AML			
	comp=E,598μm,0.5s							
SRES	**S.Oreste - Sor**	**0.64**	**243**	⇓P	Pb	19 03 14.8	-0.1	
SRES				AML	AML			
	comp=E,226μm,0.8s							
SRES				AML	AML			
	comp=N,198μm,1.2s							
ASSB	**Assisi San Ben**	**0.68**	**318**	P	Pb	19 03 15.6	0.0	
ASSB				AML	AML			
	comp=E,384μm,0.5s							
ASSB				AML	AML			
	comp=N,409μm,0.3s							
ASSB				AML	AML			
	comp=E,384μm,1.5s							
VVLD	**Villa Vallelon**	**0.71**	**159**	P	Pn	19 03 17.6	0.0	
VVLD				AML	AML			
	comp=N,171μm,0.5s							
VVLD				AML	AML			
	comp=E,226μm,0.5s							
SNTG	**Esanatoglia**	**0.76**	**341**	⇑P	Pg	19 03 16.4	-0.3	
SNTG				S	Sb	19 03 28.4	+1.2	
SNTG				AML	AML			
	comp=E,226μm,0.3s							
SNTG				AML	AML			
	comp=N,296μm,1.0s							
SNTG				AML	AML			
	comp=N,296μm,1.0s							
LPEL	**Lama dei Pelig**	**0.83**	**126**	P	Pg	19 03 16.4	-1.7	
LPEL				S	Sb	19 03 29.7	+0.5	
CING	**Cingoli**	**0.84**	**356**	⇑P	Pg	19 03 18.1	-0.2	
CING				AML	AML			
	comp=E,629μm,1.4s							
CING				AML	AML			
	comp=E,629μm,0.6s							
CING				AML	AML			
	comp=N,450μm,0.2s							
FOSV	**Fossato di Vic**	**0.85**	**334**	⇓P	Pg	19 03 18.2	-0.1	
FOSV				AML	AML			
	comp=E,191μm,0.4s							
FOSV				AML	AML			
	comp=N,269μm,0.3s							
MURB	**Monte Urbino**	**0.91**	**323**	P	Pb	19 03 19.6	0.0	
MURB				S	Sn	19 03 34.1	+0.8	
MURB				AML	AML			
	comp=E,778μm,0.3s							
MURB				AML	AML			
	comp=N,773μm,0.3s							
MURB				AML	AML			
	comp=E,851μm,0.3s							
MURB				AML	AML			
	comp=N,695μm,0.2s							
MURB				AML	AML			
	comp=N,772μm,0.3s							
MURB				AML	AML			
	comp=E,851μm,1.7s							
MURB				AML	AML			
	comp=E,778μm,1.7s							
GIUL	**Giuliano Di Ro**	**0.98**	**181**	⇓P	Pn	19 03 22.1	+1.0	
GIUL				AML	AML			
	comp=E,172μm,1.4s							
GIUL				AML	AML			
	comp=N,120μm,1.0s							
GIUL				AML	AML			
	comp=E,172μm,0.6s							
AOI	**Ancona**	**1.04**	**13**	⇓P	Pn	19 03 22.3	+0.2	
AOI				AML	AML			
	comp=N,254μm,1.0s							
AOI				AML	AML			
	comp=E,426μm,0.4s							
TOLF	**Tolfa**	**1.06**	**244**	⇑P	Pb	19 03 21.9	-0.1	
FRON	**Frontone**	**1.06**	**338**	⇓P	Pb	19 03 22.1	0.0	
FRON				AML	AML			
	comp=E,129μm,0.8s							
FRON				AML	AML			
	comp=N,244μm,1.6s							
FRON				AML	AML			
	comp=N,244μm,0.4s							
MPAG	**Monte Paganucc**	**1.16**	**341**	⇓P	Pg	19 03 24.9	+0.7	
MPAG				AML	AML			
	comp=N,138μm,1.3s							
MPAG				AML	AML			
	comp=N,138μm,0.7s							
MPAG				AML	AML			
	comp=E,146μm,0.8s							
SF01	**Poggio Pratacc**	**1.29**	**283**	P	Pn	19 03 25.4	-0.2	
BRSN	**Barisano**	**1.95**	**334**	S	Sn	19 03 57.0	-1.9	
VULT	**Monte Vulture**	**2.36**	**131**	P	Pb	19 03 43.8	-0.4	
HVAR	**Hvar**	**2.42**	**74**	⇓P	Pn	19 03 42.5	+1.5	
CDRU	**Civita di Ruta**	**2.55**	**143**	S	Sn	19 04 15.4	+1.6	
GROG	**Isola di Gorgo**	**2.64**	**291**	S	Sb	19 04 20.4	-0.7	
NDIM	**Novi di Modena**	**2.92**	**325**	⇑P	Pb	19 03 54.1	+0.5	
SBPO	**S.Benedetto Po**	**3.04**	**327**	⇓P	Pb	19 03 55.2	-0.6	

*WEL **21** 19:08:00, 42˚.29S×173˚.73E, h27km, ML4.3, Mw4.2, Moment Tensor Solution. s5 Moment tensor: Scale 10^{15} Nm; M_{rr}1.73; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-1.63; $M_{r\theta}$-0.23; $M_{\theta\phi}$-1.36; $M_{\phi r}$1.32; Fault plane solution: M_o2.53000×10^{15} NP1: ϕ_s236.00000°, δ38.00000°, λ133.00000°. NP2:ϕ_s7.00000°, δ63.00000°, λ62.00000°. Principal axes: T -267.0600, Plg62.0000°, Azm234.0000°; N 28.4400, Plg24.0000°, Azm20.0000°; P 238.6300, Plg14.0000°, Azm117.0000°;*

*IDC **21** 19:08:41.5±1.1, 42˚.05S×173˚.63E, h0km, mb3.8/4, mbtmp3.9/6, ML4.0/2, MS3.4/10 Error ellipse: s-maj=29.5km s-min=24.5km az=123.0*

*WEL **21** 19:08:44.3±0.4, 42˚.S±2˚×17˚.4E±˚, h15km±3km, M4.3/26, ML4.5/26, MLv4.3/26, Error ellipse: s-maj=0.0km s-min=0.0km az=123.2, confirmed*

*NOU **21** 19:08:44.2, 42˚.46S×173˚.81E, h16km, MLv4.6/9, South Island, New Zealand*

*NEIC **21** 19:08:44.7±2.1, 42˚.28S±0˚.04×173˚.63E±0˚.03, h16km±4km, mb4.2/8, Mwr4.1/26, Error ellipse: s-maj=5.5km s-min=3.0km az=162.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.97; $M_{\theta\theta}$-0.59; $M_{\phi\phi}$-0.38; $M_{r\theta}$-0.13; $M_{\theta\phi}$-1.61; $M_{\phi r}$0.87; Fault plane solution: M_o2.02000×10^{15} NP1:ϕ_s264.45000°, δ53.17000°, λ152.86000°. NP2:ϕ_s11.54000°, δ68.58000°, λ40.09000°. Principal axes: T 1.8076, Plg43.0000°, Azm234.0000°; N 0.3759, Plg45.0000°, Azm35.0000°; P -2.1835, Plg10.0000°, Azm135.0000°:*

ISC 21 19:08:43.5±1.2, 42˚.29S±0˚.02×173˚.72E±0˚.03, h14km±7km, n146, σ1$23/158, mb4.0/7, MS3.4/9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**228**			**Pb**	**19 08 50.0**	**+1.3**
KHZ						**Sb**	**19 08 53.5**	**+1.3**
KHZ	**Kahutara**	**0.18**	**228**	P		**Pb**	**19 08 50.4**	**+1.7**
KHZ	**Kahutara**	**0.18**	**228**	P		**Pb**	**19 08 50.0**	**+1.3**
KHZ				S		**Sb**	**19 08 53.8**	**+1.6**
BSWZ	**Blackbirch Sta**	**0.59**	**11**			**Pb**	**19 08 56.1**	**+0.5**
BSWZ						**Sg**	**19 09 03.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.59**	**11**	P		**Pb**	**19 08 56.1**	**+0.5**
BSWZ				S		**Sb**	**19 09 04.9**	**+1.1**
CMWZ	**Cape Campbell**	**0.66**	**34**			**Pb**	**19 08 58.5**	**+1.8**
CMWZ						**Sn**	**19 09 09.3**	**+0.7**
CMWZ	**Cape Campbell**	**0.66**	**34**	P		**Pn**	**19 08 59.2**	**+0.7**
THZ	**Tophouse**	**0.81**	**311**			**Pb**	**19 08 59.2**	**-0.2**
THZ						**Sb**	**19 09 09.3**	**-0.9**
THZ	**Tophouse**	**0.81**	**311**	P		**Pb**	**19 08 59.2**	**-0.2**
THZ				S		**Sb**	**19 09 09.5**	**-0.6**
GVZ	**Greta Valley S**	**0.84**	**217**			**Pn**	**19 09 01.9**	**+0.9**
GVZ				Sn		**Sn**	**19 09 14.4**	**+1.1**
GVZ	**Greta Valley S**	**0.84**	**217**	P		**Pn**	**19 09 02.0**	**+0.9**
GVZ				S		**Sn**	**19 09 15.0**	**+1.8**
NNZ	**Nelson**	**1.10**	**346**			**Pn**	**19 09 04.7**	**+0.1**
NNZ	**Nelson**	**1.10**	**346**	P		**Pn**	**19 09 04.8**	**+0.2**
MRNZ	**Matariki Terra**	**1.15**	**321**			**Pg**	**19 09 05.4**	**-0.2**
MRNZ	**Matariki Terra**	**1.15**	**321**	P		**Pg**	**19 09 05.4**	**-0.2**
MRNZ				S		**Sn**	**19 09 21.4**	**+0.7**
TCW	**Tory Channel**	**1.16**	**21**			**Pn**	**19 09 05.9**	**+0.5**
TCW	**Tory Channel**	**1.16**	**21**	P		**Pn**	**19 09 06.0**	**+0.7**
TCW				S		**Sn**	**19 09 21.9**	**+0.9**
LTZ	**Lake Taylor**	**1.18**	**245**			**Pg**	**19 09 06.1**	**-0.1**
LTZ				Sn		**Sg**	**19 09 21.4**	**-0.1**
LTZ	**Lake Taylor**	**1.18**	**245**	P		**Pg**	**19 09 06.0**	**-0.2**
LTZ				S		**Sg**	**19 09 22.2**	**+0.7**
AMCZ	**Amberley**	**1.18**	**221**			**Pg**	**19 09 06.2**	**-0.1**
AMCZ	**Amberley**	**1.18**	**221**	P		**Pg**	**19 09 06.2**	**-0.1**
SNZO	**South Karori**	**1.23**	**37**			**Pn**	**19 09 07.1**	**+0.8**
SNZO	**South Karori**	**1.23**	**37**	P		**Pn**	**19 09 07.2**	**+1.0**
BHW	**Baring Head**	**1.23**	**45**			**Pn**	**19 09 06.9**	**+0.6**
WEL	**Wellington**	**1.28**	**38**	P		**Pn**	**19 09 07.8**	**+0.9**
PLWZ	**Palliser**	**1.35**	**58**			**Pn**	**19 09 08.2**	**+0.2**
PLWZ	**Palliser**	**1.35**	**58**	P		**Pn**	**19 09 08.4**	**+0.3**
TKNZ	**Takaka Hill**	**1.38**	**335**			**Pb**	**19 09 09.4**	**+0.3**
TKNZ	**Takaka Hill**	**1.38**	**335**	P		**Pb**	**19 09 09.4**	**+0.3**
TKNZ				S		**Sg**	**19 09 27.2**	**-0.8**
MSWZ	**Moikau Station**	**1.44**	**53**			**Pn**	**19 09 09.7**	**+0.5**
DUWZ	**D'Urville Isla**	**1.50**	**6**	P		**Pn**	**19 09 11.0**	**-0.1**
OKCZ	**Okains Bay**	**1.51**	**199**	P		**Pn**	**19 09 10.7**	**+0.5**
OKCZ				S		**Sb**	**19 09 30.3**	**-0.1**
DSZ	**Denniston Nort**	**1.53**	**290**			**Pb**	**19 09 11.2**	**-0.5**
DSZ	**Denniston Nort**	**1.53**	**290**	P		**Pb**	**19 09 11.6**	**-0.1**
DSZ				S		**Sg**	**19 09 32.0**	**-0.8**
CAW	**Cannon Point**	**1.56**	**41**	P		**Pn**	**19 09 11.3**	**+0.5**
PAWZ	**Paruwai Farm**	**1.57**	**55**	P		**Pn**	**19 09 11.0**	**0.0**
OXZ	**Oxford**	**1.61**	**230**			**Pn**	**19 09 11.3**	**-0.3**
OXZ	**Oxford**	**1.61**	**230**	P		**Pn**	**19 09 11.1**	**-0.5**
MQZ	**McQueen's Vall**	**1.61**	**209**			**Pn**	**19 09 11.2**	**-0.4**
MQZ	**McQueen's Vall**	**1.61**	**209**	P		**Pn**	**19 09 11.0**	**-0.6**
KIW	**Kapiti Island**	**1.69**	**32**	P		**Pn**	**19 09 13.6**	**+1.0**
AKCZ	**Akaroa Harbour**	**1.69**	**200**	P		**Pn**	**19 09 12.8**	**+0.2**
QRZ	**Quartz Range**	**1.72**	**328**			**Pb**	**19 09 14.7**	**-0.1**
QRZ	**Quartz Range**	**1.72**	**328**	P		**Pb**	**19 09 15.0**	**+0.1**
QRZ	**Quartz Range**	**1.72**	**328**	P		**Pb**	**19 09 14.7**	**-0.1**
TRWZ	**Traveller**	**1.72**	**59**	P		**Pn**	**19 09 13.0**	**-0.1**
INZ	**Inchbonnie**	**1.74**	**255**			**Pb**	**19 09 14.1**	**-1.2**
INZ	**Inchbonnie**	**1.74**	**255**	P		**Pb**	**19 09 13.9**	**-1.3**
MTW	**Mount Morrison**	**1.75**	**50**	P		**Pn**	**19 09 13.5**	**0.0**
OGWZ	**Otaki Gorge**	**1.83**	**37**	P		**Pn**	**19 09 15.0**	**+0.4**
RACZ	**Rakaia**	**1.84**	**218**	P		**Pn**	**19 09 14.4**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.94**	**45**	P		**Pn**	**19 09 16.1**	**0.0**
TMWZ	**Te Maipa**	**2.01**	**55**	P		**Pn**	**19 09 16.9**	**-0.2**
MRZ	**Mangatainoka R**	**2.15**	**41**			**Pn**	**19 09 19.0**	**0.0**
MRZ	**Mangatainoka R**	**2.15**	**41**	P		**Pn**	**19 09 18.9**	**0.0**
WACZ	**Wakanui South**	**2.15**	**219**	P		**Pn**	**19 09 18.6**	**-0.3**
TIWZ	**Tintock**	**2.22**	**48**	P		**Pn**	**19 09 19.9**	**-0.1**
WVZ	**Waitaha Valley**	**2.34**	**249**	P		**Pn**	**19 09 22.0**	**+0.5**
RPZ	**Rata Peaks**	**2.42**	**233**	Pn		**Pn**	**19 09 22.5**	**-0.2**
	146nm,0.3s,baz=78,slow=2.5,SNR=608							
RPZ					Sn	**Sn**	**19 09 50.7**	**-1.4**
	61nm,0.3s,baz=153,slow=23,SNR=12							
RPZ					LR	LR	19 10 19.4	
	comp=Z,197nm,18.2s,baz=346,slow=39 621nm,0.5s							
RPZ	**Rata Peaks**	**2.42**	**233**			**Pn**	**19 09 22.3**	**-0.4**
RPZ	**Rata Peaks**	**2.42**	**233**	P		**Pn**	**19 09 22.4**	**-0.2**
RPZ	**Rata Peaks**	**2.42**	**233**	P		**Pn**	**19 09 22.3**	**-0.4**
PRWZ	**Pori Road**	**2.42**	**45**	P		**Pn**	**19 09 22.5**	**-0.2**
POWZ	**Post Office Ro**	**2.44**	**40**	P		**Pn**	**19 09 23.0**	**-0.1**
BFZ	**Birch Farm**	**2.49**	**51**			**Pn**	**19 09 22.8**	**-0.8**
BFZ	**Birch Farm**	**2.49**	**51**	P		**Pn**	**19 09 24.2**	**+0.6**
BFZ	**Birch Farm**	**2.49**	**51**	P		**Pn**	**19 09 22.9**	**-0.7**
ARCZ	**Arundel**	**2.49**	**228**	P		**Pn**	**19 09 23.1**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.70**	**247**	P		**Pn**	**19 09 27.3**	**+0.8**
WAZ	**Wanganui**	**2.71**	**21**	P		**Pn**	**19 09 29.6**	**+2.9**
DVHZ	**Dannevirke**	**2.71**	**44**	P		**Pn**	**19 09 25.9**	**-0.8**
TSZ	**Takapari Road**	**2.80**	**38**	P		**Pn**	**19 09 27.8**	**-0.2**
TMZ	**Timaru**	**2.88**	**223**	P		**Pn**	**19 09 28.6**	**-0.5**
KHEZ	**Kahui Hut**	**3.00**	**4**	P		**Pn**	**19 09 33.8**	**+3.0**
KHEZ	**Kahui Hut**	**3.00**	**4**	P		**Pb**	**19 09 37.2**	**+0.3**
NBEZ	**Newall Road No**	**3.02**	**2**	P		**Pn**	**19 09 35.9**	**-1.2**
PNHZ	**Pukenui**	**3.03**	**39**	P		**Pn**	**19 09 30.5**	**-0.6**
WPHZ	**Waipukurau**	**3.03**	**44**	P		**Pn**	**19 09 30.7**	**-0.3**
PKE	**Pukeiti**	**3.10**	**4**	P		**Pb**	**19 09 36.4**	**-2.1**
FOZ	**Fox Glacier**	**3.13**	**245**			**Pn**	**19 09 32.8**	**+0.4**
FOZ	**Fox Glacier**	**3.13**	**245**	P		**Pn**	**19 09 33.0**	**+0.6**
VRZ	**Vera Road**	**3.26**	**14**	P		**Pn**	**19 09 37.1**	**+2.9**
MOVZ	**Moawhango**	**3.27**	**29**	P		**Pn**	**19 09 35.4**	**+0.9**
WNVZ	**Wahianoa**	**3.29**	**26**	P		**Pb**	**19 09 40.2**	**-1.5**
BHHZ	**Black Hill Sta**	**3.31**	**33**	P		**Pn**	**19 09 35.3**	**+0.2**
KRHZ	**Kereru**	**3.32**	**38**	P		**Pn**	**19 09 34.3**	**-0.8**
LBZ	**Lake Benmore**	**3.32**	**230**			**Pn**	**19 09 35.0**	**-0.1**
LBZ	**Lake Benmore**	**3.32**	**230**	P		**Pn**	**19 09 34.7**	**-0.4**
OTVZ	**Oturere**	**3.46**	**26**	P		**Pn**	**19 09 35.3**	**-1.8**
NNVZ	**North Ngauruho**	**3.47**	**25**	P		**Pn**	**19 09 40.3**	**+3.0**
TMVZ	**Te Maari**	**3.51**	**26**	P		**Pn**	**19 09 39.9**	**+2.0**
NTVZ	**North Tongarir**	**3.52**	**26**	P		**Pn**	**19 09 40.4**	**+2.4**
ODZ	**Otahua Downs**	**3.54**	**218**			**Pn**	**19 09 37.7**	**-0.4**
ODZ	**Otahua Downs**	**3.54**	**218**	P		**Pn**	**19 09 37.4**	**-0.7**
ODZ	**Otahua Downs**	**3.54**	**218**	P		**Pn**	**19 09 37.4**	**-0.7**
BKZ	**Black Stump Fm**	**3.77**	**35**			**Pn**	**19 09 41.9**	**+0.7**
BKZ	**Black Stump Fm**	**3.77**	**35**	P		**Pn**	**19 09 43.5**	**+2.2**
BKZ	**Black Stump Fm**	**3.77**	**35**	P		**Pb**	**19 09 48.1**	**-1.8**
HIZ	**Hauiti**	**3.87**	**13**			**Pn**	**19 09 45.1**	**+2.4**
HIZ	**Hauiti**	**3.87**	**13**	P		**Pn**	**19 09 45.9**	**+3.2**
HIZ	**Hauiti**	**3.87**	**13**	P		**Pn**	**19 09 45.8**	**+3.1**
HHSZ	**Highcliff Hill**	**4.24**	**211**	P		**Pn**	**19 09 47.2**	**-0.4**
WKZ	**Wanaka**	**4.25**	**232**			**Pn**	**19 09 47.1**	**-0.8**
WKZ	**Wanaka**	**4.25**	**232**	P		**Pn**	**19 09 47.7**	**-0.2**
EAZ	**Earnscleugh**	**4.34**	**226**	P		**Pn**	**19 09 48.4**	**-0.7**
RTZ	**Ruatahuna**	**4.43**	**35**			**Pn**	**19 09 53.2**	**+2.7**
TUZ	**Tuapeka**	**4.70**	**217**	P		**Pn**	**19 09 53.9**	**-0.1**
TOZ	**Tahuroa Road**	**4.76**	**17**	P		**Pn**	**19 09 56.1**	**+1.4**
URZ	**Urewera**	**4.79**	**34**	Pn		**Pn**	**19 09 53.2**	**-2.0**
	1.4nm,0.3s,baz=112,slow=19,SNR=1.3							
URZ					Sn	**Sn**	**19 10 46.9**	**-3.7**
	3.7nm,0.3s,baz=4.1,slow=8.5,SNR=3.8 3.8nm,0.3s							
MLZ	**Mavora Lakes**	**5.09**	**231**			**Pn**	**19 09 58.6**	**-0.7**
MLZ	**Mavora Lakes**	**5.09**	**231**	P		**Pn**	**19 09 58.8**	**-0.6**
AWAZ	**Awhitu Peninsu**	**5.27**	**8**	P		**Pn**	**19 10 04.0**	**+2.1**
MKAZ	**Moumakai**	**5.30**	**13**	P		**Pn**	**19 10 03.8**	**+1.5**
SYZ	**Scrubby Hill**	**5.36**	**216**	P		**Pn**	**19 10 03.3**	**+0.1**
WTAZ	**Waiatarua**	**5.39**	**7**	P		**Pn**	**19 10 06.4**	**+2.8**
ETAZ	**East Tamaki Re**	**5.41**	**10**	P		**Pn**	**19 10 06.1**	**+2.2**
WHZ	**Wether Hill Ro**	**5.50**	**227**			**Pn**	**19 10 03.2**	**-1.8**
WHZ	**Wether Hill Ro**	**5.50**	**227**	P		**Pn**	**19 10 03.2**	**-1.8**
DCZ	**Deep Cove**	**5.71**	**234**	Pn		**Pn**	**19 10 05.9**	**-1.9**
DCZ	**Deep Cove**	**5.71**	**234**	P		**Pn**	**19 10 06.1**	**-1.8**
APZ	**The Paps**	**6.11**	**220**	P		**Pn**	**19 10 12.4**	**-1.0**
CTZ	**Chatham Island**	**7.23**	**105**	P		**Pn**	**19 10 28.2**	**-0.5**
DZM	**Mont Dzumac**	**21.07**	**341**	P		**P**	**19 13 29.5**	**+2.1**
DZM					IAmb	IAmb	19 13 37.8	
	comp=E,6.3nm,1.0s							
TOO	**Toolangi**	**22.11**	**273**	P		**P**	**19 13 39.5**	**+1.0**
TOO					IAmb	IAmb	19 13 56.7	
	comp=Z,24nm,1.5s							
STKA	**Stephens Creek**	**27.51**	**282**	LR		LR	19 23 38.2	
	comp=Z,63nm,20.6s,baz=55,slow=33							
RAR	**Rarotonga**	**30.60**	**55**	LR		LR	19 24 36.2	
	comp=Z,35nm,21.4s,baz=278,slow=31							
BBOO	**Buckleboo**	**31.11**	**275**	P		**P**	**19 15 01.4**	**-0.1**
CTA	**Charters Tower**	**32.04**	**305**	P		**P**	**19 15 08.1**	**-1.7**
	comp=Z,3.2nm,1.2s,baz=186,slow=5.6,SNR=2.5							
CTA					LR	LR	19 26 11.8	
	comp=Z,60nm,19.4s,baz=108,slow=33 comp=Z,3.2nm,1.2s							
AS31	**Alice Springs**	**37.80**	**287**	P		**P**	**19 15 59.5**	**-0.1**
ASAR	**Alice Springs**	**37.80**	**287**	P		**P**	**19 15 58.7**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=128,slow=6.4,SNR=18							
ASAR					LR	LR	19 31 43.1	
	comp=Z,92nm,19.0s,baz=112,slow=

0.2nm,0.6s,baz=125,slow=7.8,SNR=6.2
0.2nm,0.6s

*IDC **21** 19:19:43.2±0.9,54˚.37S×29˚.95W,h0km,mb4.0/6, mbtmp4.1/6,MS3.5/1,Error ellipse: s-maj=48.2km s-min=19.4km az=63.0*
*NEIC **21** 19:19:44.5±1.7,54˚.4S±0˚.1×30˚.0W±0˚.3,h10km±1km, mb4.6/12,Error ellipse: s-maj=31.0km s-min=16.6km az=80.0*
ISC 21 19:19:44.7±0.7,54˚27S±0˚.1×30˚.1W±0˚.1,h10km,n28, σ1945/27,mb4.3/9,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESPZ	**Base Esperanza**	**16.53**	**226**		**Pn**	**19 23 36.7**	**+0.4**
ESPZ				IAmb	IAmb	19 23 55.7	
	comp=Z,48nm,1.3s						
VNA3	**Neumayer Olymp**	**19.23**	**160**	P	Pn	19 24 18.6	+9.0
VNA2	**Neumayer--Watz**	**19.47**	**158**	P	**Pn**	**19 24 17.2**	**+4.8**
	baz=321,slow=12						
SNAA	**Sanae**	**21.05**	**156**	P	**P**	**19 24 27.5**	**-0.9**
SNAA	**Sanae**	**21.05**	**156**	P	**P**	**19 24 26.7**	**-1.7**
	comp=Z,1.9nm,0.5s,baz=303,slow=13,SNR=17						
	comp=Z,1.9nm,0.5s						
SNAA	**Sanae**	**21.05**	**156**	P	**P**	**19 24 26.8**	**-1.6**
TROLL	**Troll, Antarti**	**22.58**	**154**	P	**P**	**19 24 46.4**	**+1.5**
BELA	**Belgrano 2**	**23.76**	**182**	P	**P**	**19 24 55.3**	**-1.4**
CPUP	**Villa Florida**	**34.38**	**313**	P	**P**	**19 26 32.4**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=162,slow=8.3,SNR=3.7						
	comp=Z,3.1nm,0.8s						
MT05	**Renca**	**35.31**	**289**	P	**P**	**19 26 38.9**	**-1.0**
QSPA	**South Pole Qui**	**35.98**	**180**	P	**P**	**19 26 44.6**	**-0.8**
	comp=Z,4.6nm,1.0s,baz=190,slow=2.5,SNR=14						
QSPA				LR	LR	19 39 24.5	
	comp=Z,74nm,21.1s,baz=189,slow=33						
	comp=Z,4.6nm,1.0s						
QSPA	**South Pole Qui**	**35.98**	**180**	P	**P**	**19 26 44.0**	**-1.4**
QSPA				IAmb	IAmb	19 26 46.2	
	comp=Z,5.7nm,0.9s						
LVC	**Limon Verde**	**42.95**	**302**	P	**P**	**19 27 45.1**	**+1.0**
	comp=Z,3.4nm,0.7s,baz=304,slow=7.6,SNR=3.0						
	comp=Z,3.4nm,0.7s						
PB11	**IPOC Station P**	**45.73**	**303**	P	**P**	**19 28 06.9**	**+0.7**
PB11				IAmb	IAmb	19 28 09.7	
	comp=Z,3.9nm,0.8s						
MNMC	**Minye Minye**	**46.23**	**304**	P	**P**	**19 28 10.6**	**+0.3**
MNMC				IAmb	IAmb	19 28 12.3	
	comp=Z,5.6nm,1.0s						
LPAZ	**La Paz**	**47.98**	**307**	P	**P**	**19 28 25.3**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=208,slow=8.8,SNR=4.7						
	comp=Z,0.8nm,0.4s						
LPAZ	**La Paz**	**47.98**	**307**	P	**P**	**19 28 24.3**	**0.0**
VNDA	**Vanda**	**48.26**	**183**	P	**P**	**19 28 24.4**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=181,slow=5.5,SNR=5.9						
	comp=Z,0.9nm,0.7s						
VNDA	**Vanda**	**48.26**	**183**	P	**P**	**19 28 24.5**	**-0.6**
VNDA				IAmb	IAmb	19 28 47.3	
	comp=Z,10nm,1.4s						
DBIC	**Dimbokro**	**64.31**	**28**	P	**P**	**19 30 19.7**	**-0.5**
SVN	**Savane Anatole**	**73.76**	**329**	P	**P**	**19 31 18.5**	**-0.4**
CELP	**Cerrillos**	**78.53**	**325**	P	**P**	**19 31 48.0**	**+2.0**
CELP				IAmb	IAmb	19 31 52.1	
	comp=Z,10nm,1.1s						
FINES	**FINESS Array B**	**123.60**	**29**	PKP	**PKiKP**	**19 38 41.9**	**+0.8**
	comp=Z,2.6nm,1.0s,baz=129,slow=5.2,SNR=4.5						
YKA	**Yellowknife Ar**	**133.73**	**320**	PKP	**PKPdf**	**19 39 00.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=134,slow=2.0,SNR=7.1						
BVAR	**Borovoye Array**	**135.23**	**57**	PKP	**PKPdf**	**19 39 01.7**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=225,slow=0.2,SNR=1.6						
ZALV	**Zalesovo Beam**	**143.07**	**63**	PKhKP	PKPpre	19 39 11.6	
	comp=Z,0.7nm,0.6s,baz=238,slow=2.7,SNR=1.3						
ZALV				PKP	**PKPdf**	**19 39 16.1**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=242,slow=3.1,SNR=3.9						
ILAR	**Eielson Array**	**147.68**	**314**	PKPbc	**PKPbc**	**19 39 27.8**	**-0.1**
	comp=Z,2.0nm,1.1s,baz=129,slow=2.0,SNR=6.0						
SONM	**Songino Array**	**152.26**	**85**	PKPbc	**PKiKP**	**19 39 39.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=225,slow=2.9,SNR=4.6						

*IDC **21** 19:22:48.4±1.0,6˚.99N×73˚.23W,h152km±26km,mb3.4/2, mbtmp3.9/4,Error ellipse: s-maj=72.1km s-min=8.9km az=131.0*
*RSNC **21** 19:22:50.2±1.2,6˚.79N×73˚.17W,h150km±5km,ML3.3, Mw3.7*
ISC 21 19:22:48.2±0.9,6˚80N±0˚.04×73˚16W±0˚.04,h160km±6km, n23,σ1993/43,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.21**	**186**	⇓*i*P	**Pn**	**19 23 10.1**	**0.0**
BARC				*e*P	**Pn**	**19 23 10.1**	**0.0**
BARC				*e*S	**Sn**	**19 23 25.6**	**-1.2**
BARC				*i*		19 23 26.4	
	comp=Z,525nm,0.2s						
BRRC	**Barranca, Sant**	**0.63**	**299**	⇑*i*P	**Pn**	**19 23 11.9**	**+0.6**
BRRC				*e*S	**Sn**	**19 23 29.3**	**+0.2**
BRRC				*i*		19 23 32.1	
	comp=Z,231nm,0.3s						
PAMC	**Pamplona, Colo**	**0.70**	**40**	*e*P	**Pn**	**19 23 13.0**	**+0.6**
PAMC				*e*S	**Sn**	**19 23 30.3**	**-0.6**
PAMC				*i*		19 23 33.4	
	comp=Z,205nm,0.4s						
RUSC	**La Rusia**	**0.91**	**175**	*e*P	**Pn**	**19 23 14.1**	**+0.3**
RUSC				*e*S	**Sn**	**19 23 33.1**	**-0.4**
PTBC	**PUERTO BERRIO,**	**1.31**	**259**	*e*P	**Pn**	**19 23 16.6**	**-0.2**
PTBC				*e*S	**Sn**	**19 23 37.6**	**-1.0**
PTBC				*i*		19 23 44.7	
	comp=Z,200nm,0.5s						
TAMC	**Tame, Arauca**	**1.41**	**105**	⇓*i*P	**Pn**	**19 23 18.6**	**+0.9**
TAMC				*e*S	**Sn**	**19 23 38.8**	**-1.5**
TAMC				*i*		19 23 39.5	
	comp=Z,149nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P	**Pn**	**19 23 22.7**	**+0.7**
ZARC				*e*S	**Sn**	**19 23 47.6**	**-0.3**
ZARC				*i*		19 23 54.4	
	comp=Z,218nm,0.4s						
NORC	**Norcasia**	**2.10**	**234**	*e*P	**Pn**	**19 23 26.0**	**+0.8**
NORC				*e*S	**Sn**	**19 23 54.0**	**+0.3**
NORC				*i*		19 23 59.7	
	comp=Z,102nm,0.2s						
CHIC	**Chingaza**	**2.23**	**195**	*e*P	**Pn**	**19 23 28.2**	**+1.1**
CHIC				*e*S	**Sn**	**19 23 57.7**	**+0.5**
CHIC				*i*		19 24 02.8	
	comp=Z,150nm,0.4s						
ROSC	**El Rosal**	**2.27**	**211**	P	**Pn**	**19 23 30.1**	**+2.6**
	comp=Z,52nm,0.3s,baz=80,slow=12,SNR=19						
ROSC				S	**Sn**	**19 23 59.7**	**+1.9**
	comp=Z,198nm,0.4s,baz=209,slow=23,SNR=3.8						
ROSC	**El Rosal**	**2.27**	**211**	*e*P	**Pn**	**19 23 29.4**	**+1.9**
ROSC				*e*S	**Sn**	**19 24 01.0**	**+3.3**
UREC	**San Jos de Ur**	**2.54**	**292**	*e*P	**Pn**	**19 23 30.5**	**+0.2**
UREC				*e*S	**Sn**	**19 23 58.7**	**-4.2**
UREC				*i*		19 24 09.3	
	comp=Z,123nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.75**	**352**	*e*P	**Pn**	**19 23 35.3**	**+2.4**
LL1C				*e*S	**Sn**	**19 24 11.0**	**+3.4**
PTGC	**Puerto Gaitan,**	**2.78**	**158**	*e*P	**Pn**	**19 23 33.3**	**0.0**
PTGC				*e*S	**Sn**	**19 24 06.9**	**-1.3**
PTGC				*i*		19 24 09.4	
	comp=Z,82nm,0.4s						
DBBC	**Dabeiba**	**3.04**	**274**	*e*P	**Pn**	**19 23 38.2**	**+1.6**
DBBC				*e*S	**Sn**	**19 24 07.8**	**-6.2**
SDV	**Santo Domingo**	**3.25**	**50**	P	**Pn**	**19 23 39.7**	**+0.4**
	comp=Z,41nm,0.3s,baz=238,slow=13,SNR=62						
SDV				S	**Sn**	**19 24 17.0**	**-1.9**
	comp=Z,32nm,0.3s,baz=75,slow=21,SNR=11						
ORTC	**Ortega, Tolima**	**3.55**	**216**	*e*P	**Pn**	**19 23 44.4**	**+1.4**
ORTC				*e*S	**Sn**	**19 24 28.0**	**+2.4**
ORTC				*i*		19 24 31.6	
	comp=Z,70nm,0.2s						
PLMC	**San Jos del P**	**3.63**	**239**	*e*P	**Pn**	**19 23 45.6**	**+1.5**
PLMC				*e*S	**Sn**	**19 24 27.9**	**+0.3**
YOTC	**Yotoco, Valle**	**4.23**	**229**	*e*P	**Pn**	**19 23 49.5**	**-2.4**
MACC	**Macarena, Meta**	**4.68**	**188**	*e*P	**Pn**	**19 23 57.4**	**-0.3**
MACC				*e*S	**Sn**	**19 24 48.5**	**-3.4**
SCHQ	**Schefferville**	**48.16**	**5**	P	**P**	**19 31 13.0**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=211,slow=5.9,SNR=2.8						
	comp=Z,2.7nm,0.9s						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**19 32 58.6**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=130,slow=6.5,SNR=8.0						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**150.29**	**241**	PKPbc	**PKiKP**	**19 42 22.0**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=99,slow=4.0,SNR=1.6						

ROM 21 19:26:35.0±0.1,42˚.802N±0˚.004×13˚.103E±0˚.004, h11km,ML0.8/2,3C,Error ellipse: s-maj=0.3km s-min=0.3km az=167.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1212	**Cascia, Frazio**	**0.07**	**220**	⇑P	**Pg**	**19 26 37.7**	**+0.4**
T1212				S	**Sg**	**19 26 39.3**	**+0.3**
T1212				AML	AML		
	comp=E,49μm,0.1s						
T1212				AML	AML		
	comp=E,55μm,0.1s						
T1212				AML	AML		
	comp=N,99μm,0.2s						
T1212				AML	AML		
	comp=N,105μm,0.2s						
MC2	**Monte Cornacci**	**0.13**	**30**	⇑P	**Pg**	**19 26 38.7**	**+0.5**
MC2				S	**Sg**	**19 26 41.0**	**+0.5**
T1202	**Accumoli, Fraz**	**0.13**	**138**	P	**Pg**	**19 26 38.6**	**+0.4**
T1202				S	**Sg**	**19 26 41.2**	**+0.7**
T1202				AML	AML		
	comp=E,68μm,0.3s						
T1202				AML	AML		
	comp=N,116μm,0.2s						
T1217	**Poggiodomo (PG**	**0.16**	**235**	P	**Pg**	**19 26 39.1**	**+0.6**
T1217				S	**Sg**	**19 26 42.0**	**+1.0**
T1215	**Vallo di Nera,**	**0.17**	**270**	⇑P	**Pg**	**19 26 39.4**	**+0.6**
T1215				S	**Sg**	**19 26 42.4**	**+1.0**
T1220	**Camerino, Fraz**	**0.31**	**358**	P	**Pg**	**19 26 41.1**	**-0.1**
T1220				S	**Sb**	**19 26 46.6**	**-1.0**

*PRU **21** 19:27:21.2±0.0,42˚.82N×13˚.31E,h0km*
ROM 21 19:27:15.0±0.1,42˚.596N±0˚.004×13˚.313E±0˚.006, h9km,ML2.6/20,12C-7D,Error ellipse: s-maj=0.5km s-min=0.3km az=231.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.09**	**130**	P	**Pg**	**19 27 17.9**	**+0.4**
CAMP				S	**Sg**	**19 27 19.7**	**+0.4**
CAMP				AML	AML		
	comp=N,6130μm,0.7s						
CAMP				AML	AML		
	comp=E,11895μm,0.6s						
CAMP				AML	AML		
	comp=E,11895μm,1.4s						
RM33	**Pellescritta (**	**0.11**	**220**	P	**Pg**	**19 27 18.5**	**+0.7**
RM33				S	**Sg**	**19 27 20.7**	**+0.9**
RM33				AML	AML		
	comp=E,14650μm,1.2s						
RM33				AML	AML		
	comp=E,14650μm,1.2s						
RM33				AML	AML		
	comp=N,11015μm,0.3s						
RM33				AML	AML		
	comp=N,11110μm,0.3s						
RM33				AML	AML		
	comp=N,11010μm,0.3s						
RM33				AML	AML		
	comp=N,11010μm,1.7s						
RM33				AML	AML		
	comp=N,11110μm,1.7s						
T1202	**Accumoli, Fraz**	**0.12**	**329**	⇓P	**Pg**	**19 27 18.6**	**+0.7**
T1202				S	**Sg**	**19 27 21.1**	**+1.0**
T1202				AML	AML		
	comp=E,32900μm,1.5s						
T1202				AML	AML		
	comp=N,34150μm,0.5s						
T1202				AML	AML		
	comp=N,34150μm,1.5s						
T1202				AML	AML		
	comp=E,32900μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.15**	**184**	P	**Pg**	**19 27 19.2**	**+0.8**
T1247				S	**Sg**	**19 27 22.2**	**+1.5**
T1218	**Civita (PG)**	**0.16**	**297**	⇑P	**Pg**	**19 27 19.1**	**+0.5**
T1218				S	**Sg**	**19 27 21.9**	**+0.9**
T1218				AML	AML		
	comp=E,3630μm,0.3s						
T1218				AML	AML		
	comp=N,12200μm,0.3s						
T1218				AML	AML		
	comp=E,3645μm,0.3s						
T1218				AML	AML		
	comp=N,12050μm,0.3s						
T1218				AML	AML		
	comp=E,3640μm,0.3s						
T1218				AML	AML		
	comp=E,3630μm,0.3s						
T1218				AML	AML		
	comp=N,12200μm,0.3s						
T1218				AML	AML		
	comp=E,3640μm,0.3s						
T1218				AML	AML		
	comp=N,12050μm,0.3s						
LNSS	**Leonessa**	**0.20**	**272**	⇑P	**Pg**	**19 27 19.9**	**+0.7**
LNSS				S	**Sg**	**19 27 23.6**	**+1.5**
LNSS				AML	AML		
	comp=N,2940μm,0.3s						
LNSS				AML	AML		
	comp=E,5135μm,0.7s						
LNSS				AML	AML		
	comp=E,5135μm,1.3s						
LNSS				AML	AML		
	comp=N,2940μm,1.7s						
GIGS	**Gran Sasso**	**0.24**	**128**	P	**Pg**	**19 27 20.3**	**+0.4**
GIGS				S	**Sg**	**19 27 24.2**	**+1.0**
GIGS				AML	AML		
	comp=E,1135μm,0.4s						
GIGS				AML	AML		
	comp=N,664μm,1.6s						
AQU	**L'Aquila**	**0.25**	**165**	P	**Pb**	**19 27 21.0**	**-0.7**
AQU				S	**Sb**	**19 27 25.2**	**-1.0**
AQU				AML	AML		
	comp=E,2045μm,0.5s						
AQU				AML	AML		
	comp=E,2180μm,0.5s						
AQU				AML	AML		
	comp=N,1825μm,0.6s						
AQU				AML	AML		
	comp=N,1840μm,0.6s						
T1212	**Cascia, Frazio**	**0.25**	**308**	⇑P	**Pg**	**19 27 20.6**	**+0.5**
T1212				S	**Sg**	**19 27 24.7**	**+1.1**
T1212				AML	AML		
	comp=E,3070μm,0.4s						
T1212				AML	AML		
	comp=N,2720μm,0.5s						
T1212				AML	AML		
	comp=N,2735μm,0.5s						
T1212				AML	AML		
	comp=E,2975μm,0.8s						
NRCA	**Norcia**	**0.28**	**328**	P	**Pg**	**19 27 21.2**	**+0.5**
NRCA				S	**Sg**	**19 27 25.7**	**+1.3**
NRCA				AML	AML		
	comp=N,2285μm,0.2s						
NRCA				AML	AML		
	comp=E,3205μm,0.1s						
T1222	**Castel Sant'An**	**0.28**	**226**	⇑P	**Pg**	**19 27 21.3**	**+0.7**
T1222				S	**Sb**	**19 27 26.1**	**-0.9**
T1222				AML	AML		
	comp=N,2260μm,0.5s						
T1222				AML	AML		
	comp=N,2115μm,0.5s						
T1222				AML	AML		
	comp=E,2480μm,0.3s						
T1222				AML	AML		
	comp=E,2375μm,0.3s						
T1222				AML	AML		
	comp=N,2120μm,0.5s						
T1217	**Poggiodomo (PG**	**0.30**	**292**	⇑P	**Pg**	**19 27 21.5**	**+0.4**
T1217				S	**Sg**	**19 27 26.4**	**+1.2**
T1217				AML	AML		
	comp=N,1695μm,0.6s						
T1217				AML	AML		
	comp=E,1545μm,0.4s						
T1217				AML	AML		
	comp=N,1715μm,0.6s						
T1217				AML	AML		
	comp=N,1695μm,0.6s						
T1217				AML	AML		
	comp=N,1434μm,0.3s						
T1217				AML	AML		
	comp=E,1545μm,0.4s						
T1217				AML	AML		
	comp=E,1660μm,0.4s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.33**	**344**	P	**Pg**	**19 27 21.9**	**+0.3**
MC2				S	**Sb**	**19 27 28.1**	**-0.5**
FIAM	**Fiamignano**	**0.36**	**204**	⇑P	**Pg**	**19 27 22.6**	**+0.5**
FIAM				AML	AML		
	comp=N,1140μm,0.5s						
FIAM				AML	AML		
	comp=E,1305μm,0.7s						
T1216	**Preci, Frazion**	**0.36**	**324**	P	**Pg**	**19 27 22.5**	**+0.3**
T1216				S	**Sb**	**19 27 28.7**	**-0.8**
T1216				AML	AML		
	comp=E,2580μm,0.6s						
T1216				AML	AML		
	comp=N,2490μm,0.4s						
T1216				AML	AML		
	comp=E,2580μm,1.4s						
FAGN	**Fagnano**	**0.39**	**149**	⇓P	**Pg**	**19 27 23.0**	**+0.4**
FAGN				AML	AML		
	comp=E,3230μm,0.5s						
FAGN				AML	AML		
	comp=N,2095μm,0.5s						
T1215	**Vallo di Nera,**	**0.39**	**302**	⇑P	**Pg**	**19 27 22.9**	**+0.2**
T1215				S	**Sb**	**19 27 29.0**	**-1.2**
T1215				AML	AML		
	comp=E,649μm,0.7s						
T1215				AML	AML		
	comp=N,603μm,0.5s						
T1215				AML	AML		
	comp=N,652μm,0.5s						
T1215				AML	AML		
	comp=E,650μm,0.7s						
T1215				AML	AML		
	comp=E,634μm,0.3s						
ARRO	**Arrone**	**0.40**	**268**	P	**Pg**	**19 27 23.4**	**+0.4**
ARRO				S	**Sb**	**19 27 29.7**	**-0.8**
ARRO				AML	AML		
	comp=E,577μm,0.8s						
ARRO				AML	AML		
	comp=N,756μm,0.6s						
OFFI	**Offida**	**0.44**	**39**	P	**Pb**	**19 27 24.6**	**-0.2**
OFFI				AML	AML		
	comp=E,3725μm,0.6s						
OFFI				AML	AML		
	comp=N,7695μm,0.7s						
GUMA	**Gualdo di Mace**	**0.47**	**2**	⇓P	**Pg**	**19 27 24.6**	**+0.5**
GUMA				S	**Sb**	**19 27 32.6**	**+0.2**
GUMA				AML	AML		
	comp=E,2060μm,0.5s						
GUMA				AML	AML		
	comp=E,2160μm,0.4s						
GUMA				AML	AML		
	comp=N,2135μm,1.3s						
GUMA				AML	AML		
	comp=N,2575μm,0.5s						
FDMO	**Fiordimonte**	**0.47**	**339**	P	**Pg**	**19 27 24.3**	**+0.1**
FDMO				S	**Sb**	**19 27 32.2**	**-0.4**
FDMO				AML	AML		
	comp=N,766μm,0.3s						
FDMO				AML	AML		
	comp=E,480μm,0.4s						
TRTR	**Tortoreto Alta**	**0.49**	**64**	⇑P	**Pb**	**19 27 26.1**	**+0.3**
TRTR				AML	AML		
	comp=N,3520μm,0.7s						
TRTR				AML	AML		
	comp=E,4375μm,0.4s						
CESI	**CESI - Serrava**	**0.51**	**324**	P	**Pg**	**19 27 25.1**	**+0.2**
CESI				S	**Sb**	**19 27 33.2**	**-0.4**
CESI				AML	AML		
	comp=E,1094μm,0.9s						
CESI				AML	AML		
	comp=N,1335μm,0.3s						
T1220	**Camerino, Fraz**	**0.54**	**342**	⇓P	**Pg**	**19 27 25.6**	**+0.1**
T1220				S	**Sb**	**19 27 34.5**	**0.0**
T1220				AML	AML		
	comp=E,3880μm,0.5s						
T1220				AML	AML		
	comp=N,2870μm,0.4s						
T1220				AML	AML		
	comp=E,3835μm,0.5s						
T1220				AML	AML		
	comp=N,2910μm,0.4s						
T1220				AML	AML		
	comp=E,3880μm,0.5s						
T1220				AML	AML		
	comp=E,3835μm,0.5s						
T1220				AML	AML		
	comp=N,2905μm,0.4s						
MOMA	**Monte Martano**	**0.58**	**291**	⇓P	**Pb**	**19 27 26.9**	**-0.5**
MOMA				S	**Sb**	**19 27 36.2**	**+0.3**
MOMA				AML	AML		
	comp=E,840μm,1.4s						
MOMA				AML	AML		
	comp=E,786μm,1.4s						
MOMA				AML	AML		
	comp=E,840μm,0.6s						
MOMA				AML	AML		
	comp=N,987μm,0.3s						
MOMA				AML	AML		
	comp=E,786μm,0.6s						
ASSB	**Assisi San Ben**	**0.66**	**313**	P	**Pg**	**19 27 28.1**	**+0.4**
ASSB				S	**Sb**	**19 27 38.0**	**+0.1**
ASSB				AML	AML		
	comp=E,710μm,0.3s						
ASSB				AML	AML		
	comp=N,667μm,1.2s						
ASSB				AML	AML		
	comp=N,667μm,0.8s						
SNTG	**Esanatoglia**	**0.71**	**338**	⇓P	**Pg**	**19 27 28.6**	**-0.2**
SNTG				AML	AML		
	comp=N,242μm,0.9s						
SNTG				AML	AML		
	comp=E,200μm,1.1s						
CING	**Cingoli**	**0.78**	**354**	⇓P	**Pg**	**19 27 30.2**	**+0.1**
CING				AML	AML		
	comp=E,282μm,0.5s						
CING				AML	AML		
	comp=N,342μm,0.4s						
FOSV	**Fossato di Vic**	**0.81**	**330**	⇑P	**Pg**	**19 27 30.5**	**-0.1**
FOSV				AML	AML		
	comp=N,300μm,0.7s						
FOSV				AML	AML		
	comp=E,287μm,0.6s						
LPEL	**Lama dei Pelig**	**0.85**	**130**	⇑P	**Pg**	**19 27 31.1**	**-0.2**
LPEL				AML	AML		
	comp=N,240μm,0.6s						
LPEL				AML	AML		
	comp=E,262μm,0.7s						
SSFR	**Montelago di S**	**0.93**	**335**	⇑P	**Pb**	**19 27 33.0**	**-0.2**
SSFR				AML	AML		
	comp=E,542μm,0.3s						
SSFR				AML	AML		
	comp=N,406μm,0.7s						
SSFR				AML	AML		
	comp=E,494μm,0.3s						
SSFR				AML	AML		
	comp=N,376μm,0.3s						
PIEI	**Pieia**	**1.10**	**329**	⇑P	**Pn**	**19 27 36.4**	**-0.2**
PIEI				AML	AML		
	comp=E,166μm,1.3s						
PIEI				AML	AML		
	comp=N,146μm,0.4s						
ABTA	**Abfaltersbach**	**4.19**	**352**	*i* Pn	**Pn**	**19 28 20.6**	**+1.5**
	comp=N,4.5nm,0.5s						
ABTA				*i* Sn	**Sn**	**19 29 11.1**	**+2.9**
	comp=N,0.8nm,0.2s						
KBA	**Koelnbreinsper**	**4.48**	**0**	*i* Pn	**Pn**	**19 28 24.9**	**+1.7**
	comp=N,1.1nm,0.5s						
KBA				*i* Sn	**Sn**	**19 29 16.2**	**+0.7**
	comp=N,1.7nm,0.3s						
KHC	**Kasperske Hory**	**6.54**	**2**	*e*PN	**Pn**	**19 28 54.3**	**+3.0**
KHC				*e*SN	**Sn**	**19 30 05.1**	**-0.9**

IDC 21 19:27:39.6±9.1,48˚.13N×153˚.69E,h213km±49km,mb3.4/5, mbtmp3.9/6,Error ellipse: s-maj=136.4km s-min=48.4km az=144.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.60**	**26**	P	**Pn**	**19 29 01.3**	**-0.5**
	1.2nm,0.6s,baz=225,slow=14,SNR=4.0						
PETK				S	**S**	**19 30 07.8**	**+1.1**
	2.1nm,0.9s,baz=246,slow=29,SNR=1.8						
MKAR	**Makanchi Array**	**46.66**	**296**	P	**P**	**19 35 46.9**	**+0.3**
	0.4nm,0.6s,baz=64,slow=9.3,SNR=4.3						
	0.4nm,0.6s						

KURBB **Kurchatov Arra** 47.02 303 P P 19 35 48.9 -0.3
0.7nm,0.2s,baz=72,slow=8.1,SNR=1.7
0.7nm,0.2s
BVAR **Borovoye Array** 50.29 309 P P 19 36 14.0 -0.1
0.7nm,0.4s,baz=58,slow=7.3,SNR=4.4
0.7nm,0.4s
FINES **FINESS Array B** 62.95 335 P P 19 37 42.5 -0.4
2.0nm,0.9s,baz=31,slow=7.6,SNR=1.9
2.0nm,0.9s
HFS **Hagfors** 67.29 340 P P 19 38 11.1 +0.2
2.5nm,0.9s,baz=42,slow=4.5,SNR=2.2
2.5nm,0.9s

IDC 21 19:32:45.6±7.0, 17.06S×174.38W, h0km, mb3.5/2, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=341.0km s-min=31.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.01**	**39**	Pn	Pn	19 33 47.7	-0.7
	4.4nm,0.3s,baz=319,slow=2.2,SNR=4.2						
AFI				Sn	Sn	19 34 24.4	-12
	3.8nm,0.3s,baz=337,slow=23,SNR=3.9 12nm,0.3s						
WRA	**Warramunga Arr**	**48.57**	**258**	P	P	19 41 30.3	-0.9
	0.4nm,0.8s,baz=96,slow=7.5,SNR=1.7 0.4nm,0.8s						
ASAR	**Alice Springs**	**48.72**	**253**	P	P	19 41 32.6	+0.2
	0.7nm,0.7s,baz=90,slow=8.7,SNR=15 0.7nm,0.7s						
GERES	**GERESS Array B**	**147.62**	**350**	PKPbc	PKPbc	19 52 32.0	-0.2
	0.4nm,0.8s,baz=0.0,slow=4.3,SNR=2.3						

IDC 21 19:39:12.8±1.0, 25.04N×142.06E, h254km±56km, mb3.0/3, mbtmp3.7/5, Error ellipse: s-maj=183.4km s-min=17.0km az=69.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.05**	**3**	P	Pn	19 39 57.8	+1.8
	75nm,0.5s,baz=307,slow=23,SNR=1.6						
JCJ				S	S	19 40 30.4	+0.2
	292nm,0.4s,baz=290,slow=23,SNR=19						
KSRS	**Korea Array**	**17.27**	**319**	P	P	19 42 57.7	+0.5
	1.4nm,0.5s,baz=133,slow=12,SNR=8.1						
WRA	**Warramunga Arr**	**45.34**	**190**	P	P	19 47 06.4	+0.3
	1.2nm,0.4s,baz=11,slow=8.7,SNR=17 1.2nm,0.4s						
ASAR	**Alice Springs**	**49.06**	**190**	P	P	19 47 33.7	-1.0
	0.2nm,0.8s,baz=12,slow=6.4,SNR=5.4 0.2nm,0.8s						
MKAR	**Makanchi Array**	**51.71**	**311**	P	P	19 47 54.0	-0.2
	0.4nm,0.4s,baz=91,slow=8.5,SNR=14 0.4nm,0.4s						

*IDC **21** 19:52:25.6±0.5, 15.53S×173.12W, h0km, mb4.7/18, mbtmp4.7/20, ML4.3/2, MS4.0/29, Error ellipse: s-maj=21.0km s-min=12.5km az=137.0*
*MOS **21** 19:52:29.6±1.3, 15.67S×173.05W, h36km, mb5.0/21, Error ellipse: s-maj=10.9km s-min=9.3km az=45.9*
*BGR **21** 19:52:30.5, 15.87S×173.07W, h33km*
*NEIC **21** 19:52:31.2±1.8, 15.61S±0.07×173.0W±0.1, h37km±7km, mb5.0/66, Error ellipse: s-maj=16.5km s-min=9.9km az=105.0*
*NOU **21** 19:52:33.4, 15.66S×172.63W, h38km, mb5.0/13, Samoa Islands Region*
*GCMT **21** 19:52:38.2±0.3, 15.65S±0.02×172.63W±0.02, h34km±2km, MW5.0/82, Moment Tensor Solution. s18,c18; s82,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.87±.24; Mθθ=0.76±.20; Mϕϕ=-1.64±.22; Mrθ=-4.02±.40; Mrϕ=0.75±.16; Mθϕ=2.18±.24; Best double couple: M0=4.62900×10^16 NP1:ϕs=304.00000°, δ89.00000°, λ79.00000°. NP2: ϕs=210.00000°, δ11.00000°, λ176.00000°. Principal axes: T 5.4570, Plg45.0000°, Azm204.0000°; N -1.6590, Plg11.0000°, Azm304.0000°; P -3.8010, Plg43.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 19:52:29.9±0.3, 15.56S±0.05×172.97W±0.06, h29km, n492, σ0.95/468, mb4.9/69, MS4.2/32, 40C-7D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.01**	**35**	Pn	**Pn**	**19 53 03.1**	**+1.1**
	584nm,0.3s,baz=224,slow=4.3,SNR=1154						
AFI				Sn	**Sn**	**19 53 24.2**	**-2.0**
	2μm,0.3s,baz=46,slow=21,SNR=7.7						
AFI				LR	LR	19 53 46.4	
	comp=Z,3μm,21.5s,baz=248,slow=39 2μm,0.3s						
AFI	**Afiamalu**	**2.01**	**35**	Pn	**Pn**	**19 53 03.3**	**+1.3**
AFI				Sn	**Sn**	**19 53 24.8**	**-1.4**
NIUE	**Niue**	**4.55**	**141**	Pn	**Pn**	**19 53 36.9**	**0.0**
MSVF	**Nonsavu**	**8.87**	**255**	Pn	Pn	19 54 45.8	+9.5
	0.8nm,0.3s,baz=108,slow=12,SNR=56						
MSVF	**Nonsavu**	**8.87**	**255**	P	Pn	19 54 44.3	+8.0
RAR	**Rarotonga**	**13.73**	**116**	Pn	**Pn**	**19 55 41.8**	**-1.0**
	2.8nm,0.3s,baz=257,slow=9.0,SNR=3.8						
RAR				Sn	Sn	19 58 03.5	-11
	1.2nm,0.3s,baz=167,slow=16,SNR=1.8						
RAR				LR	LR	20 00 36.0	
	comp=Z,72nm,18.4s,baz=308,slow=35 11nm,0.4s						
RAR	**Rarotonga**	**13.73**	**116**		**Pn**	**19 55 41.2**	**-1.5**
RAR	**Rarotonga**	**13.73**	**116**	P	**Pn**	**19 55 42.0**	**-0.7**
MARNC	**Mare, Loyalty**	**18.94**	**249**	P	**P**	**19 56 48.9**	**+0.1**
PINNC	**Pines Island,**	**19.78**	**246**	P	**P**	**19 56 57.9**	**0.0**
OUENC	**Ouen Island, N**	**20.26**	**247**	P	**P**	**19 57 03.0**	**-0.2**
OUENC	**Ouen Island, N**	**20.26**	**247**	P	Pn	19 57 09.4	+4.2
DZM	**Mont Dzumac**	**20.52**	**248**	P	**P**	**19 57 05.7**	**-0.4**
	8.6nm,0.8s,baz=98,slow=21,SNR=6.0						
DZM				LR	LR	20 03 05.4	
	comp=Z,216nm,21.9s,baz=103,slow=31 8.6nm,0.8s						
DZM	**Mont Dzumac**	**20.52**	**248**	*e*P	**P**	**19 57 06.6**	**+0.5**
	130nm,1.2s						
DZM				*e*LR	LR	20 02 00.3	
	comp=Z,1μm,28.6s						
DZM	**Mont Dzumac**	**20.52**	**248**	P	**P**	**19 57 05.7**	**-0.4**
DZM				IAmb	IAmb	19 57 13.2	
	comp=Z,51nm,1.0s						
DZM	**Mont Dzumac**	**20.52**	**248**	P	Pn	19 57 12.7	+4.3
NOUC	**Port Laguerre**	**20.65**	**248**	P	Pn	19 57 12.1	+2.2
PPT	**Papeete**	**22.51**	**98**	LR	LR	20 04 01.1	
	comp=Z,59nm,20.9s,baz=234,slow=31						
PPT2	**Papeete2**	**22.51**	**98**	*e*LR	LR	20 02 45.5	
	comp=Z,244nm,25.2s						
PPT2				*e*LR	LR	20 02 54.5	
	comp=Z,178nm,42.5s						
TVO	**Taravao**	**22.83**	**99**	*e*T	T	20 21 02.0	
	comp=Z,2.7nm,0.3s						
OUZ	**Omahuta**	**22.98**	**209**	P	**P**	**19 57 35.2**	**+2.9**
KUZ	**Kuaotunu**	**23.37**	**203**	P	**P**	**19 57 38.6**	**+2.5**
TBI	**Tubuai**	**23.46**	**113**	*e*LR	LR	20 03 18.4	
	comp=Z,486nm,22.5s						
TBI				*e*LR	LR	20 03 21.2	
	comp=Z,2μm,22.2s						
TBI	**Tubuai**	**23.46**	**113**	*e*T	T	20 21 53.4	
	comp=Z,5.9nm,0.2s						
URZ	**Urewera**	**24.24**	**199**	P	**P**	**19 57 44.2**	**-0.1**
	comp=Z,39nm,0.6s,baz=222,slow=20,SNR=5.0 comp=Z,39nm,0.6s						
URZ	**Urewera**	**24.24**	**199**	P	**P**	**19 57 46.5**	**+2.1**
VAH	**Vaihoa**	**24.44**	**93**	*e*T	T	20 23 17.8	
	comp=Z,6.6nm,0.3s						
BFZ	**Birch Farm**	**26.73**	**198**	P	**P**	**19 58 07.3**	**+0.4**
RPZ	**Rata Peaks**	**31.19**	**203**	P	**P**	**19 58 46.3**	**-0.3**
	comp=Z,16nm,0.9s,baz=102,slow=18,SNR=1.8						
RPZ				LR	LR	20 11 50.9	
	comp=Z,161nm,19.5s,baz=46,slow=37 comp=Z,16nm,0.9s						
TAOE	**Nuku Hiva Isla**	**32.74**	**82**	*e*LR	LR	20 07 40.1	
	comp=Z,338nm,23.5s						
TAOE	**Nuku Hiva Isla**	**32.74**	**82**	*e*T	T	20 33 39.3	
	comp=Z,42nm,0.2s						
EIDS	**Eidsvold**	**34.97**	**248**	P	**P**	**19 59 17.6**	**-2.1**
EIDS				IAmb	IAmb	19 59 22.3	
	comp=Z,44nm,1.7s						
ARMA	**Armidale**	**35.61**	**239**	P	**P**	**19 59 23.5**	**-1.9**
ARMA				IAmb	IAmb	20 00 34.1	
	comp=Z,34nm,1.4s						
CTA	**Charters Tower**	**39.01**	**257**	P	**P**	**19 59 52.3**	**-2.0**
	comp=Z,2.4nm,0.7s,baz=105,slow=6.8,SNR=6.3 comp=Z,2.4nm,0.7s						
CTAO	**Charters Tower**	**39.01**	**257**	P	**P**	**19 59 52.2**	**-2.0**
CTAO	**Charters Tower**	**39.01**	**257**	P	**P**	**19 59 52.2**	**-2.0**
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CTAO	**Charters Tower**	**39.01**	**257**	P	**P**	**19 59 52.5**	**-1.7**
CTAO				pP	**pP**	**20 00 01.7**	**-0.7**
CAN	**Canberra**	**39.26**	**233**	P	**P**	**19 59 55.1**	**-1.1**
CAN				IAmb	IAmb	20 01 20.4	
	comp=Z,70nm,1.7s						
CAN	**Canberra**	**39.26**	**233**	P	**P**	**19 59 55.1**	**-1.1**
CAN				pmax	pmax		
	comp=Z,70nm,1.7s						
CAN	**Canberra**	**39.26**	**233**	P	**P**	**19 59 56.5**	**+0.3**
CAN				pP	**pP**	**20 00 05.7**	**+1.3**
CAN				sP	**sP**	**20 00 09.8**	**+2.0**
H11S2	**WAKE ISLAND Hy**	**39.31**	**329**	T	T	20 41 29.2	
	baz=146,slow=74						
H11S3	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	20 41 42.1	
	baz=146,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	20 41 21.9	
	baz=146						
PMG	**Port Moresby**	**39.36**	**274**	*i* P	**P**	**19 59 59.3**	**+2.2**
PMG				pmax	pmax		
	comp=Z,16nm,1.2s						
H11N3	**WAKE ISLAND Hy**	**40.26**	**330**	T	T	20 42 53.4	
	baz=148						
H11N1	**WAKE ISLAND Hy**	**40.26**	**330**	T	T	20 42 53.8	
	baz=148						
H11N2	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	20 43 02.6	
	baz=148						
COEN	**Coen**	**42.38**	**266**	P	**P**	**20 00 21.3**	**-0.8**
TOO	**Toolangi**	**42.68**	**231**	P	**P**	**20 00 23.5**	**-0.8**
TOO				IAmb	IAmb	20 00 25.0	
	comp=Z,28nm,1.1s						
TOO	**Toolangi**	**42.68**	**231**	P	**P**	**20 00 23.5**	**-0.8**
TOO				pmax	pmax		
	comp=Z,28nm,1.1s						
STKA	**Stephens Creek**	**44.31**	**240**	P	**P**	**20 00 36.3**	**-1.2**
	comp=Z,19nm,0.9s,baz=92,slow=9.8,SNR=39						
STKA				PcP	**PcP**	**20 02 22.2**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=0.0,slow=1.0,SNR=2.4 comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**44.31**	**240**	P	**P**	**20 00 36.8**	**-0.7**
BBOO	**Buckleboo**	**49.09**	**240**	P	**P**	**20 01 13.6**	**-1.3**
BBOO				IAmb	IAmb	20 01 14.5	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**50.02**	**257**	P	**P**	**20 01 20.9**	**-1.3**
WB0	**Warramunga Arr**	**50.17**	**257**	P	**P**	**20 01 21.8**	**-1.5**
WB0				IAmb	IAmb	20 01 22.6	
	comp=Z,39nm,1.9s						
WRAB	**Tennant Creek**	**50.20**	**257**	*i* P	**P**	**20 01 21.4**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,16nm,1.8s						
WRAB	**Tennant Creek**	**50.20**	**257**	P	**P**	**20 01 21.8**	**-1.8**
WRAB				pP	**pP**	**20 01 31.5**	**-0.4**
WRA	**Warramunga Arr**	**50.21**	**257**	P	**P**	**20 01 22.0**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=86,slow=6.9,SNR=34						
WRA				PcP	**PcP**	**20 02 42.1**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=88,slow=4.4,SNR=6.6						
WRA				LR	LR	20 19 01.0	
	comp=Z,256nm,21.7s,baz=68,slow=32 comp=Z,1.4nm,0.4s						
WRA	**Warramunga Arr**	**50.21**	**257**	P	**P**	**20 01 21.8**	**-1.9**
AS31	**Alice Springs**	**50.45**	**252**	P	**P**	**20 01 23.9**	**-1.6**
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**	**20 01 24.0**	**-1.5**
	comp=Z,14nm,0.5s,baz=85,slow=7.9,SNR=284 comp=Z,14nm,0.5s						
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**	**20 01 23.9**	**-1.5**
GUMO	**Guam**	**50.77**	**303**	P	**P**	**20 01 27.2**	**-0.6**
	comp=Z,91nm,1.0s,baz=261,slow=20,SNR=1.4 comp=Z,91nm,1.0s						
MTN	**Manton Dam**	**54.13**	**265**	P	**P**	**20 01 51.1**	**-1.8**
MTN				IAmb	IAmb	20 02 22.2	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**55.71**	**243**	P	**P**	**20 02 02.4**	**-1.6**
KNRA	**Kununurra**	**55.95**	**261**	P	**P**	**20 02 05.8**	**-0.2**
KNRA				IAmb	IAmb	20 02 26.6	
	comp=Z,11nm,0.8s						
SIJI	**Sorong**	**56.89**	**279**	P	**P**	**20 02 11.9**	**-0.8**
	comp=Z,6.8nm,0.7s,baz=72,slow=7.6,SNR=5.6 comp=Z,6.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**58.58**	**258**	P	**P**	**20 02 24.3**	**-0.2**
DRV	**Dumont d'Urvil**	**59.58**	**200**	P	**P**	**20 02 30.9**	**+0.2**
SOEI	**Soe**	**61.33**	**267**	P	**P**	**20 02 44.0**	**+0.3**
SBA	**Scott Base**	**63.12**	**185**	P	**P**	**20 02 55.7**	**+1.2**
SBA	**Scott Base**	**63.12**	**185**	P	**P**	**20 02 55.7**	**+1.2**
SBA				pmax	pmax		
	comp=Z,16nm,0.8s						
SBA	**Scott Base**	**63.12**	**185**	P	**P**	**20 02 57.0**	**+2.5**
VNDA	**Vanda**	**63.26**	**186**	P	**P**	**20 02 56.3**	**+0.9**
	comp=Z,10nm,0.8s,baz=4.8,slow=6.8,SNR=22 comp=Z,10nm,0.8s						
VNDA	**Vanda**	**63.26**	**186**	P	**P**	**20 02 56.4**	**+1.0**
VNDA				IAmb	IAmb	20 02 57.9	
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**63.26**	**186**	P	**P**	**20 02 56.4**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**63.26**	**186**	P	**P**	**20 02 57.1**	**+1.8**
VNDA				sP	**sP**	**20 03 12.5**	**+5.4**
PSA00	**Pilbara Seismi**	**63.55**	**253**	P	**P**	**20 02 57.6**	**-0.7**
PSA00				IAmb	IAmb	20 03 36.3	
	comp=Z,14nm,1.1s						
NWAO	**Narrogin (SRO)**	**64.90**	**241**	P	**P**	**20 03 06.3**	**-0.7**
NWAO				sP	**sP**	**20 03 21.4**	**+2.6**
LUWI	**Luwuk**	**64.95**	**276**	P	**P**	**20 03 07.5**	**-0.1**
NIKH	**Nikolski High**	**68.34**	**3**	P	**P**	**20 03 28.7**	**+0.4**
	baz=184						
CCD	**Concordia, Ant**	**68.41**	**194**	P	**P**	**20 03 29.4**	**+0.3**
SHEM	**Shemya Is, Ala**	**68.92**	**352**	LR	LR	20 28 00.8	
	comp=Z,100nm,19.6s,baz=342,slow=31						
MJAR	**Matsushiro Arr**	**69.33**	**320**	P	**P**	**20 03 33.8**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=142,slow=6.0,SNR=3.3 comp=Z,2.0nm,0.9s						
CASY	**Casey**	**70.43**	**205**	P	**P**	**20 03 41.8**	**+0.6**
PKM	**Mcpherson Peak**	**71.14**	**44**	P	**P**	**20 03 46.9**	**+0.7**
	baz=234						
CIS	**Catalina Islan**	**71.25**	**46**	P	**P**	**20 03 47.0**	**+0.3**
	baz=236						
OSI	**Osito Audit: C**	**71.72**	**45**	P	**P**	**20 03 50.5**	**+0.9**
	baz=235						
109C	**Camp Elliot, M**	**71.89**	**47**	P	**P**	**20 03 50.5**	**0.0**
	baz=237						
ARVC	**Arvin**	**71.94**	**44**	P	**P**	**20 03 51.5**	**+0.7**
	baz=235						
VES	**Vestal, Richgr**	**72.17**	**44**	P	**P**	**20 03 52.8**	**+0.6**
	baz=235						
EDW2	**Edwards Air Fo**	**72.36**	**45**	P	**P**	**20 03 54.3**	**+0.8**
	baz=236,SNR=5.4						
MONP2	**Monument Peak**	**72.37**	**47**	P	**P**	**20 03 54.2**	**+0.5**
	baz=237						
IKP	**In-Ko-Pah, Jac**	**72.46**	**48**	P	**P**	**20 03 54.6**	**+0.5**
	baz=238						
ISA	**Isabella, Lake**	**72.48**	**44**	P	**P**	**20 03 55.6**	**+1.5**
	baz=235,SNR=6.9						
PFO	**Pinyon Flats O**	**72.73**	**47**	LR	LR	20 28 31.6	
	comp=Z,171nm,20.8s,baz=258,slow=30						
PFO	**Pinyon Flats O**	**72.73**	**47**	P	**P**	**20 03 56.6**	**+0.9**
	baz=237						
TPFO	**Pinon Flats**	**72.73**	**47**	P	**P**	**20 03 55.9**	**+0.2**
	baz=237						
LPIG	**La Paz**	**72.77**	**58**	LR	LR	20 26 48.1	
	comp=Z,200nm,20.8s,baz=240,slow=28						
SWSC	**Sam W. Stewart**	**72.84**	**48**	P	**P**	**20 03 56.7**	**+0.4**
	baz=238						
PEA0B	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**20 03 56.8**	**+0.6**
PEA0B	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**20 03 56.8**	**+0.6**
PEA0B				pmax	pmax		
	comp=Z,102nm,1.9s						
PETK	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**20 03 55.9**	**-0.3**
	comp=Z,8.3nm,0.8s,baz=163,slow=11,SNR=10 comp=Z,8.3nm,0.8s						
PETK	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**20 03 56.4**	**+0.2**
PETK	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**20 03 56.4**	**+0.2**
CWC	**Cottonwood Cre**	**73.18**	**44**	P	**P**	**20 03 59.4**	**+1.0**
	baz=235						
MPMC	**Manual Prospec**	**73.36**	**44**	P	**P**	**20 04 00.5**	**+1.0**
	baz=236,SNR=12						
BC3	**Big Chuckawall**	**73.46**	**47**	P	**P**	**20 04 01.1**	**+1.1**
	baz=238						
HEC	**Hector,Ludlow**	**73.47**	**46**	P	**P**	**20 04 00.9**	**+0.8**
	baz=237						
YBH	**Yreka Blue Hor**	**73.48**	**37**	LR	LR	20 28 15.3	
	comp=Z,230nm,20.6s,baz=258,slow=29						
YBH	**Yreka Blue Hor**	**73.48**	**37**	P	**P**	**20 04 01.0**	**+1.1**
YBH	**Yreka Blue Hor**	**73.48**	**37**	P	**P**	**20 04 01.0**	**+1.1**
YBH				pmax	pmax		
	comp=Z,109nm,2.0s						
GLA	**Glamis**	**73.59**	**48**	P	**P**	**20 04 02.0**	**+1.2**
	baz=238						
DSP	**Deep Springs**	**73.78**	**43**	P	**P**	**20 04 02.7**	**+1.0**
DSP				IAmb	IAmb	20 04 04.1	
	comp=Z,19nm,1.2s						
YSS	**Yuzh-Sakhalins**	**73.83**	**330**	*i* P	**P**	**20 04 02.5**	**+0.8**
YSS				pmax	pmax		
	comp=Z,13nm,1.0s						
GMRC	**Granite Mounta**	**73.92**	**46**	P	**P**	**20 04 03.4**	**+0.6**
	baz=237						
LCH	**Last Change Ra**	**73.92**	**43**	P	**P**	**20 04 02.9**	**+0.2**
IRM	**Iron Mountain**	**73.94**	**47**	P	**P**	**20 04 03.7**	**+1.0**
	baz=238						
GRAC	**Grapevine Rang**	**73.97**	**43**	P	**P**	**20 04 04.6**	**+1.7**
	baz=236,SNR=5.1						
GWY	**Greenwater Val**	**73.99**	**44**	P	**P**	**20 04 03.7**	**+0.6**
GWY				IAmb	IAmb	20 04 04.7	
	comp=Z,26nm,1.3s						
FURC	**Furnace Creek,**	**74.01**	**44**	P	**P**	**20 04 04.1**	**+1.1**
	baz=236						
TUQ	**Turquoise Moun**	**74.09**	**45**	P	**P**	**20 04 04.9**	**+1.2**
	baz=237,SNR=5.5						
SHOC	**Shoshone, Teco**	**74.10**	**45**	P	**P**	**20 04 04.7**	**+1.1**
	baz=237						
NVAR	**Mina Array Bea**	**74.17**	**42**	P	**P**	**20 04 05.2**	**+0.9**
	comp=Z,15nm,0.8s,baz=227,slow=10.0,SNR=59 comp=Z,15nm,0.8s						
QSPA	**South Pole Qui**	**74.48**	**180**	LR	LR	20 30 10.7	
	comp=Z,69nm,21.9s,baz=55,slow=30						
QSPA	**South Pole Qui**	**74.48**	**180**	P	**P**	**20 04 05.8**	**+0.3**
TPNV	**Topopah Spring**	**74.69**	**44**	P	**P**	**20 04 07.7**	**+0.5**
TPNV				IAmb	IAmb	20 04 09.3	
	comp=Z,11nm,0.8s						
TPNV	**Topopah Spring**	**74.69**	**44**	P	**P**	**20 04 08.2**	**+1.0**
	baz=236						
TPNV	**Topopah Spring**	**74.69**	**44**	P	**P**	**20 04 07.7**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,11nm,0.9s						
PDMCI	**Parker Dam,Lak**	**74.73**	**47**	P	**P**	**20 04 08.7**	**+1.5**
	baz=239						
KDAK	**Kodiak Island**	**75.00**	**11**	LR	LR	20 28 54.0	
	comp=Z,216nm,21.3s,baz=211,slow=29						
P16K	**Nushagak River**	**75.33**	**8**	P	**P**	**20 04 11.0**	**+0.8**
	baz=195						
Q18K	**Katmai Hardscr**	**75.40**	**10**	P	**P**	**20 04 10.9**	**+0.2**
	baz=198						
P17K	**Kvichak River**	**75.70**	**9**	P	**P**	**20 04 12.7**	**+0.5**
	baz=196						
R11A	**Troy Canyon, C**	**75.90**	**43**	P	**P**	**20 04 14.7**	**+0.6**
	baz=237,SNR=8.8						
BMN	**Battle Mountai**	**76.01**	**41**	P	**P**	**20 04 14.8**	**+0.1**
BMN				IAmb	IAmb	20 04 16.7	
	comp=Z,14nm,0.9s						
BMN	**Battle Mountai**	**76.01**	**41**	P	**P**	**20 04 14.8**	**+0.1**
BMN				pmax	pmax		
	comp=Z,14nm,0.9s						
P18K	**Big Mountain,**	**76.08**	**9**	P	**P**	**20 04 15.1**	**+0.6**
	baz=198						
O17K	**Koliganek Bris**	**76.17**	**8**	P	**P**	**20 04 14.9**	**0.0**
	baz=196						
TUC	**Tucson**	**76.17**	**50**	P	**P**	**20 04 16.2**	**+0.5**
	baz=241						
O18K	**Koktuh Hills**	**76.52**	**9**	P	**P**	**20 04 17.5**	**+0.5**
	baz=198						
KSRS	**Korea Array**	**76.56**	**315**	LR	LR	20 34 49.1	
	comp=Z,24nm,19.9s,baz=95,slow=33						
P19K	**Oil Pt**	**76.65**	**10**	P	**P**	**20 04 18.2**	**+0.5**
	baz=200						
TYV	**Tymovskoe**	**76.68**	**333**	*e*P	**P**	**20 04 18.6**	**+0.6**
TYV				*e*S	**S**	**20 14 04.4**	**+1.6**
TYV				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,4.0s						
TYV				smax	smax		
	comp=N,200nm,5.8s						
TYV				smax	smax		
	comp=E,600nm,5.8s						
U15A	**North Rim**	**77.11**	**46**	P	**P**	**20 04 21.6**	**+0.4**
U15A				IAmb	IAmb	20 04 23.7	
	comp=Z,27nm,1.1s						
ELK	**Elko**	**77.43**	**41**	LR	LR	20 31 45.8	
	comp=Z,230nm,19.3s,baz=251,slow=30						
ELK	**Elko**	**77.43**	**41**	P	**P**	**20 04 23.0**	**+0.1**
ELK				IAmb	IAmb	20 04 24.7	
	comp=Z,16nm,1.2s						
ELK	**Elko**	**77.43**	**41**	P	**P**	**20 04 23.0**	**+0.1**
ELK				pmax	pmax		
	comp=Z,16nm,1.2s						
N19K	**Bonanza Creek**	**77.55**	**9**	P	**P**	**20 04 22.8**	**0.0**
	baz=198						
PGC	**Sidney**	**77.56**	**31**	P	**P**	**20 04 23.7**	**+0.7**
SEW	**Seward**	**77.76**	**12**	P	**P**	**20 04 24.4**	**+0.5**
	baz=203						
P23K	**Montague Islan**	**78.09**	**13**	P	**P**	**20 04 26.5**	**+0.8**
	baz=205						
MSU	**Marysvale**	**78.25**	**44**	P	**P**	**20 04 28.3**	**+0.8**
MSU	**Marysvale**	**78.25**	**44**	P	**P**	**20 04 28.3**	**+0.8**
BMO	**Blue Mountains**	**78.51**	**37**	P	**P**	**20 04 28.6**	**+0.1**
BMO				IAmb	IAmb	20 04 30.2	
	comp=Z,14nm,1.0s						
BMO	**Blue Mountains**	**78.51**	**37**	P	**P**	**20 04 28.6**	**+0.1**
BMO				pmax	pmax		
	comp=Z,14nm,1.0s						
121A	**Cookes Peak, D**	**78.52**	**51**	P	**P**	**20 04 30.0**	**+0.9**
	baz=243						
RC01	**Rabbit Creek A**	**78.62**	**11**	P	**P**	**20 04 29.1**	**+0.4**
	baz=203						
DUG	**Dugway, Tooele**	**78.70**	**43**	P	**P**	**20 04 30.9**	**+1.1**
	baz=238,SNR=9.4						
M20K	**Styx River**	**78.77**	**9**	P	**P**	**20 04 30.3**	**+0.7**
	baz=199						
V35K	**Ketchikan**	**78.78**	**23**	P	**P**	**20 04 30.5**	**+0.9**
	baz=220						
SUA	**Susitna One**	**78.78**	**11**	P	**P**	**20 04 29.7**	**0.0**
	baz=202						
L19K	**White Mountain**	**78.80**	**9**	P	**P**	**20 04 30.1**	**+0.4**
	baz=198						
SKT	**Skwentna**	**79.13**	**10**	P	**P**	**20 04 31.4**	**-0.1**
	baz=201						
Q16A	**Castle Valley**	**79.14**	**44**	P	**P**	**20 04 32.9**	**+0.7**
Q16A				IAmb	IAmb	20 04 34.8	
	comp=Z,11nm,0.9s						
M22K	**Willow**	**79.16**	**11**	P	**P**	**20 04 31.6**	**0.0**
	baz=202						
PMR	**Palmer**	**79.20**	**11**	P	**P**	**20 04 32.1**	**+0.3**
	baz=203						
F10A	**Beach Ranch, E**	**79.21**	**36**	P	**P**	**20 04 32.1**	**-0.3**
L20K	**Farewell, AK**	**79.22**	**9**	P	**P**	**20 04 32.4**	**+0.4**
	baz=199	

baz=187
N25K **Chitina, Valde** 80.14 13 P P 20 04 37.6 +0.5
N25K **Chitina, Valde** 80.14 13 P P 20 04 37.5 +0.5
baz=208
MVCO **Mesa Verde** 80.15 47 P P 20 04 38.1 +0.2
baz=242
M24K **Tolsona, Glenn** 80.25 12 P P 20 04 38.7 +1.0
baz=206
MCARA **McCarthy VSAT** 80.31 14 P P 20 04 38.6 +0.7
baz=209
TXAR **Lajitas Array** 80.36 56 P P 20 04 40.0 +1.0
comp=Z,6.1nm,1.0s,baz=229,slow=5.8,SNR=11
TXAR LR LR 20 30 50.9
comp=Z,107nm,21.4s,baz=296,slow=29
comp=Z,6.1nm,1.0s
TXAR **Lajitas Array** 80.36 56 P P 20 04 40.0 +1.0
WAT6 **Susitna Watana** 80.37 12 P P 20 04 38.5 +0.1
baz=205
PV23 **Carpenter Ridg** 80.38 46 P P 20 04 39.9 +0.8
CAST **Castle Rocks** 80.39 9 P P 20 04 36.9 -1.4
CAST **Castle Rocks** 80.39 9 P P 20 04 37.6 -0.7
baz=200
MA2 **Magadan** 80.44 342 LR LR 20 33 19.6
comp=Z,40nm,21.9s,baz=133,slow=30
WAT1 **Susitna Watana** 80.44 11 P P 20 04 38.5 0.0
baz=204
PLBC **Pleasant Camp** 80.45 18 P P 20 04 39.1 +0.4
baz=216
O28M **Mount Upton** 80.48 16 P P 20 04 39.4 +0.2
baz=212
O29M **Mount Kennedy** 80.52 17 P P 20 04 40.0 +0.9
baz=213
T35M **Bob Quinn** 80.53 22 P P 20 04 40.6 +1.4
baz=221
NJ2 **Nanjing** 80.59 307 *e*P P 20 04 38.3 -1.7
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ANMO **Albuquerque** 80.59 50 LR LR 20 31 27.2
comp=Z,162nm,20.5s,baz=13,slow=29
ANMO **Albuquerque** 80.59 50 P P 20 04 40.8 +0.6
baz=244
NEW **Newport** 80.61 34 P P 20 04 40.3 +0.4
baz=234,SNR=5.5
KTH **Kantishna Hill** 80.70 10 P P 20 04 39.5 -0.5
KTH IAmb IAmb 20 04 41.4
comp=Z,21nm,1.2s
TRF **Thorofare Moun** 80.71 10 P P 20 04 39.8 -0.3
TRF IAmb IAmb 20 04 42.2
comp=Z,15nm,1.2s
TRF **Thorofare Moun** 80.71 10 P P 20 04 40.0 -0.2
baz=202
SKAG **Skagway** 80.76 18 P P 20 04 39.6 -0.7
baz=217
CHUM **Lake Minchumin** 80.79 9 P P 20 04 40.4 0.0
baz=200
P30M **Million Dollar** 80.82 17 P P 20 04 41.3 +0.6
baz=215
KLR **Kul'dur** 80.88 327 *i* P P 20 04 40.8 -0.4
KLR pmax pmax
comp=Z,16nm,3.5s
DHY **Denali Highway** 80.89 11 P P 20 04 41.3 +0.1
baz=205
S34M **Telegraph Cree** 80.92 21 P P 20 04 42.3 +1.2
baz=221
TNA **Tin City** 80.97 2 P P 20 04 42.3 +1.0
TNA IAmb IAmb 20 05 06.6
comp=Z,32nm,1.6s
TNA **Tin City** 80.97 2 P P 20 04 42.8 +1.6
baz=185
GCSA **Galena City Sc** 81.00 7 P P 20 04 42.9 +1.5
baz=196
YUK8 **Steele Glacier** 81.03 16 P P 20 04 42.5 +0.5
baz=212
YUK6 **Outpost Mounta** 81.11 16 P P 20 04 42.6 +0.1
baz=214
PAX **Paxson** 81.17 12 P P 20 04 43.1 +0.5
baz=207
BPAW **Bear Paw Mtn.** 81.20 10 P P 20 04 42.8 +0.2
baz=201
M26K **Nabesna, AK** 81.20 14 P P 20 04 43.0 +0.3
M26K IAmb IAmb 20 04 44.2
comp=Z,15nm,1.1s
M26K **Nabesna, AK** 81.20 14 P P 20 04 43.1 +0.4
baz=209
MCK **McKinley** 81.20 11 P P 20 04 42.7 +0.1
MCK IAmb IAmb 20 04 43.7
comp=Z,21nm,1.0s
MCK **McKinley** 81.20 11 P P 20 04 42.8 +0.2
baz=203,SNR=12
MCK **McKinley** 81.20 11 P P 20 04 42.7 +0.1
MCK pmax pmax
comp=Z,21nm,1.0s
HYT **Haines Junctio** 81.25 17 P P 20 04 44.0 +1.0
baz=214
YUK3 **Moose Creek** 81.27 15 P P 20 04 44.0 +0.8
baz=212
BNX **BinXian** 81.31 322 ⇑P P 20 04 44.8 +1.2
BNX pmax pmax
comp=Z,4.0nm,0.8s
BNX pmax pmax
comp=Z,300nm,5.4s
Q32M **Nakina River** 81.34 20 P P 20 04 44.2 +0.6
baz=219
YUK4 **Talbot Arm** 81.37 16 P P 20 04 44.6 +0.8
baz=213
M27K **Edge Creek, AK** 81.43 14 P P 20 04 44.4 +0.5
M27K IAmb IAmb 20 04 46.0
comp=Z,20nm,1.1s
M27K **Edge Creek, AK** 81.43 14 P P 20 04 45.2 +1.2
baz=210
MSO **Missoula** 81.56 37 P P 20 04 45.4 +0.4
baz=237,SNR=8.1
S22A **4UR Ranch, Cre** 81.58 47 P P 20 04 46.8 +1.2
baz=243
O30N **Mendenhall** 81.60 17 P P 20 04 46.2 +1.4
baz=216
L26K **Log Cabin Wild** 81.67 13 P P 20 04 46.2 +1.0
baz=209
DLBC **Dease Lake** 81.70 21 LR LR 20 37 29.7
comp=Z,158nm,19.6s,baz=184,slow=33
DLBC **Dease Lake** 81.70 21 P P 20 04 46.3 +0.9
baz=222
O20A **White River Ci** 81.71 44 P P 20 04 46.2 +0.1
baz=242
BVCY **Beaver Creek** 81.72 14 P P 20 04 46.0 +0.6
baz=211
K24K **Donnelly Dome** 81.86 12 P P 20 04 47.1 +1.0
baz=206,SNR=6.0
WHY **Whitehorse** 81.86 18 P P 20 04 46.6 +0.4
baz=217
N30M **Aishikik Lake** 81.88 17 P P 20 04 47.2 +0.9
baz=215
MDSI **Maura Dua** 81.93 268 P P 20 04 46.3 -1.3
comp=Z,5.0nm,0.7s
NEA2 **Nenana** 81.97 10 P P 20 04 46.5 -0.2
baz=203,SNR=6.1
RIDG **Independent Ri** 81.99 12 P P 20 04 47.0 +0.2
RIDG IAmb IAmb 20 05 10.5
comp=Z,14nm,1.2s
RIDG **Independent Ri** 81.99 12 P P 20 04 47.6 +0.8
baz=207
WRH **Wood River Hil** 82.03 11 P P 20 04 46.8 -0.2
L27K **Beaver Creek,** 82.05 14 P P 20 04 47.4 +0.3
baz=210
I21K **Tanana** 82.06 9 P P 20 04 47.9 +0.8
baz=200
BCAR **Beaver Creek A** 82.06 14 P P 20 04 47.7 +0.5
DOT **Dot Lake** 82.07 13 P P 20 04 47.0 -0.2
DOT IAmb IAmb 20 04 48.5
comp=Z,11nm,1.0s
R33M **Jennings River** 82.10 20 P P 20 04 48.1 +0.5
baz=221
MLY **Manley** 82.11 9 P P 20 04 47.1 -0.3
MLY **Manley** 82.11 9 P P 20 04 47.5 +0.1
baz=202,SNR=8.8
BW06 **Boulder Array** 82.11 42 P P 20 04 48.7 +0.5
baz=240
PDAR **Pinedale Array** 82.11 42 P P 20 04 48.4 +0.2
comp=Z,4.8nm,0.9s,baz=218,slow=3.0,SNR=31
PDAR LR LR 20 36 29.7
comp=Z,154nm,18.8s,baz=278,slow=32
comp=Z,4.8nm,0.9s
PDAR **Pinedale Array** 82.11 42 P P 20 04 47.9 -0.3
HDA **Harding Lake** 82.18 11 P P 20 04 47.7 -0.1
baz=205,SNR=10.0
CCB **Clear Creek Bu** 82.25 11 P P 20 04 48.0 0.0
CCB IAmb IAmb 20 04 49.0
comp=Z,16nm,0.9s
BOZ **Bozeman (W)** 82.26 38 P P 20 04 50.0 +1.2
baz=238,SNR=13
N31M **Braeburn, Yuko** 82.27 17 P P 20 04 49.3 +1.0
baz=216
H17A **Grant Village** 82.28 40 P P 20 04 50.7 +1.6
baz=239,SNR=5.7
M29M **Somme Creek** 82.34 15 P P 20 04 49.4 +0.6
baz=213
SCRK **Sand Creek** 82.38 12 P P 20 04 49.2 +0.3
baz=208,SNR=6.2
H21K **Melozitna Rive** 82.39 8 P P 20 04 49.3 +0.5
baz=200
I23K **Minto, Yukon-K** 82.44 10 P P 20 04 49.8 +0.8
baz=203
MDM **Murphy Dome** 82.46 10 P P 20 04 48.7 -0.5
MDM IAmb IAmb 20 04 50.2
comp=Z,23nm,1.4s
SDCO **Great Sand Dun** 82.52 48 P P 20 04 50.3 -0.2
baz=244
IL31 82.52 11 P P 20 04 49.0 -0.5
ILAR **Eielson Array** 82.52 11 P P 20 04 49.3 -0.2
comp=Z,2.6nm,0.7s,baz=229,slow=6.3,SNR=42
ILAR LR LR 20 37 25.3
comp=Z,93nm,19.3s,baz=183,slow=33
comp=Z,2.6nm,0.7s
ILAR **Eielson Array** 82.52 11 P P 20 04 49.4 -0.1
IMAR **Indian Mountai** 82.58 8 P P 20 04 50.2 +0.4
POKR **Poker Plat Res** 82.74 11 P P 20 04 50.8 +0.2
baz=205,SNR=14
SEY **Seymchan** 82.78 345 *i* P P 20 04 51.2 +0.3
SEY pmax pmax
comp=Z,10.0nm,1.0s
N32M **Quiet Lake** 82.79 18 P P 20 04 52.0 +1.0
baz=218
M30M **Minto, Yukon** 82.88 16 P P 20 04 51.9 +0.4
baz=215
J26L **Joseph Creek** 82.93 12 P P 20 04 53.0 +1.2
baz=208
MSTX **Muleshoe** 82.93 52 P P 20 04 51.1 -1.4
baz=246
L29M **L29M** 82.98 15 P P 20 04 52.9 +0.9
baz=214
T25A **Trinidad** 83.04 49 P P 20 04 53.0 -0.1
baz=244
G21K **Allakaket** 83.11 8 P P 20 04 53.5 +1.0
baz=199,SNR=8.3
M31M **Drury Creek, Y** 83.24 17 P P 20 04 53.5 +0.2
baz=217
Q24A **Divide** 83.30 47 P P 20 04 55.1 +0.5
baz=244
H24K **Noodor Dome** 83.32 10 P P 20 04 53.1 -0.6
baz=204
ISCO **Idaho Springs** 83.35 46 P P 20 04 55.2 +0.4
baz=244
PRP **Porcupine Dome** 83.45 11 P P 20 04 55.0 +0.6
baz=206,SNR=14
RLMT **Red Lodge** 83.46 40 P P 20 04 56.0 +0.9
baz=240,SNR=8.9
DAWY **Dawson** 83.48 14 P P 20 04 54.9 +0.4
DAWY IAmb IAmb 20 04 56.3
comp=Z,11nm,0.9s
DAWY **Dawson** 83.48 14 P P 20 04 55.2 +0.7
baz=212,SNR=13
CMIG **Matias Romero** 83.55 70 LR LR 20 33 28.8
comp=Z,91nm,20.6s,baz=198,slow=29
FARO **Faro, Yukon** 83.56 17 P P 20 04 55.4 +0.4
baz=218
N23A **Red Feather La** 83.61 45 P P 20 04 56.9 +0.9
baz=243
EGAK **Eagle** 83.68 13 P P 20 04 56.0 +0.5
EGAK IAmb IAmb 20 04 57.1
comp=Z,9.5nm,1.1s
EGAK **Eagle** 83.68 13 P P 20 04 56.4 +0.9
baz=211,SNR=5.5
BELA **Belgrano 2** 83.78 172 P P 20 04 55.3 -0.7
G23K **Bananza Creek** 83.78 9 P P 20 04 56.7 +0.7
baz=202,SNR=9.4
F21K **Alatna River** 83.79 8 P P 20 04 56.4 +0.3
baz=199
LIRD **Liard River Hi** 83.81 22 P P 20 04 56.8 +0.5
baz=225
PMSA **Palmer Station** 83.86 156 LR LR 20 35 29.6
comp=Z,135nm,20.6s,baz=352,slow=31
K22A **Casper** 84.02 43 P P 20 04 57.2 -0.8
baz=243
G24K **Hadweenzic Riv** 84.18 10 P P 20 04 58.5 +0.5
baz=205
COLD **Coldfoot** 84.24 9 P P 20 04 59.8 +1.5
baz=202,SNR=7.0
I27K **Kandik River** 84.30 13 P P 20 04 59.6 +0.9
baz=210,SNR=6.0
G25K **Bearman Lake** 84.47 10 P P 20 05 00.2 +0.8
baz=206
MMPY **Sheldon Lake,** 84.48 18 P P 20 04 60.0 +0.3
baz=220,SNR=6.7
EGMT **Eagleton** 84.61 37 P P 20 05 01.5 +0.8
baz=240
BILL **Bilibino** 84.72 352 ⇑*e*P P 20 05 00.8 +0.1
BILL *e* 20 08 18.8
BILL *e*S PnS 20 16 25.3 +1.7
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,31nm,15.0s
I29M **Ogilvie Camp,** 84.82 14 P P 20 05 01.0 -0.3
I29M IAmb IAmb 20 05 02.6
comp=Z,7.6nm,0.8s
I29M **Ogilvie Camp,** 84.82 14 P P 20 05 01.5 +0.2
baz=213,SNR=7.9
ABTX **Abilene, Hawle** 84.82 54 P P 20 05 01.4 -0.7
ABTX **Abilene, Hawle** 84.82 54 P P 20 05 02.1 +0.1
baz=248
F24K **Squaw Lake** 84.86 9 P P 20 05 02.5 +1.0
baz=204
H27K **Steamboat Moun** 84.86 12 P P 20 05 02.5 +1.0
baz=210
G26K **Porcupine Rive** 85.05 11 P P 20 05 03.7 +1.3
baz=208
KOTAN **Kotaneelee Air** 85.06 22 P P 20 05 03.0 +0.5
baz=227
E23K **Chandalar** 85.10 9 P P 20 05 03.6 +0.9
baz=202
E24K **Your Creek** 85.28 9 P P 20 05 04.8 +1.2
baz=204
F25K **Christian Rive** 85.30 10 P P 20 05 04.7 +1.0
baz=206
BMAR **Burnt Mountain** 85.33 11 P P 20 05 04.8 +0.9
G27K **Doyon Strip** 85.34 12 P P 20 05 04.6 +0.8
baz=210
F26K **Sheenjek River** 85.65 11 P P 20 05 06.6 +1.2
baz=208
ZEA **Zeya** 85.77 329 *e*P P 20 05 08.1 +1.8
E25K **Arctic Village** 85.78 10 P P 20 05 07.4 +1.3
baz=206
LAO **LASA Array** 86.07 39 P P 20 05 08.5 +0.5
baz=242
WMOK **Wichita Mounta** 86.27 53 P P 20 05 09.1 -0.1
baz=248
RSSD **Black Hills** 86.30 42 P P 20 05 08.8 -0.7
baz=244
E27K **Coleen River** 86.55 11 P P 20 05 11.2 +1.4
baz=210
C24K **Franklin Bluff** 86.76 8 P P 20 05 12.1 +1.3
baz=203
CBKS **Cedar Bluff** 87.09 49 P P 20 05 13.1 -0.1
baz=247
WRGLY **Wrigley** 87.38 20 P P 20 05 14.0 +0.1
baz=227
C27K **Jago River** 87.44 10 P P 20 05 14.8 +0.7
baz=208
XLT **XiLinHaoTe** 87.52 317 *e*P P 20 05 15.9 +0.7
XLT sP sP 20 05 35.3 +7.9
XLT pmax pmax
comp=Z,7.0nm,1.5s
XLT pmax pmax
comp=Z,160nm,4.5s
F31M **Tsiigehtchic** 87.59 14 P P 20 05 15.6 +0.8
baz=218
MAW **Mawson** 87.77 199 LR LR 20 44 11.7
comp=Z,82nm,18.8s,baz=162,slow=35
DGMT **Dagmar** 88.10 38 P P 20 05 17.8 0.0
baz=244
INK **Inuvik** 88.33 14 LR LR 20 42 22.7
comp=Z,85nm,18.4s,baz=222,slow=34
INK **Inuvik** 88.33 14 P P 20 05 18.6 +0.3
baz=218
XAN **Xi'an** 89.06 306 P P 20 05 23.8 +1.1
XAN pmax pmax
comp=Z,5.0nm,1.2s
BGNE **Belgrade** 89.19 47 P P 20 05 23.0 -0.1
baz=248
YAK **Yakutsk** 89.42 337 LR LR 20 38 51.1
comp=Z,40nm,21.6s,baz=136,slow=31
YAK **Yakutsk** 89.42 337 P P 20 05 23.2 -0.4
YAK IAmb IAmb 20 05 24.3
comp=Z,6.5nm,0.8s
YAK **Yakutsk** 89.42 337 *i* P P 20 05 23.6 0.0
YAK pmax pmax
comp=Z,6.0nm,0.9s
HHC **Hu-ho-hao-te** 89.44 313 *e*P P 20 05 24.8 +0.4
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,370nm,5.0s
GSI **Gunungsitoli** 89.82 271 P 20 05 27.0 +0.4
GSI **Gunungsitoli** 89.82 271 P P 20 05 28.3 +1.7
YKA **Yellowknife Ar** 90.08 23 P P 20 05 26.6 -0.1
comp=Z,2.7nm,0.9s,baz=238,slow=4.8,SNR=34
YKA LR LR 20 38 50.8
comp=Z,130nm,19.4s,baz=278,slow=31
comp=Z,2.7nm,0.9s
ELIB **Princess Elisa** 92.01 185 *d*P P 20 05 34.8 -1.1
comp=Z,23nm,0.8s
ATAH **Atahualpa** 92.49 98 LR LR 20 37 33.0
comp=Z,50nm,21.8s,baz=271,slow=29
TROLL **Troll, Antarti** 92.59 179 P P 20 05 39.2 +0.6
VNA3 **Neumayer Olymp** 92.66 175 P P 20 05 38.9 +0.2
PZH **PanZhiHua** 92.71 297 P P 20 05 38.8 -1.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,4.6s
SNAA **Sanae** 92.72 177 P P 20 05 38.0 -1.1
A36M **Sachs Harbour** 92.96 13 P P 20 05 40.3 +0.4
A36M **Sachs Harbour** 92.96 13 P P 20 05 41.1 +1.2
baz=226
CMAR **Chiang Mai Arr** 93.06 288 P P 20 05 42.6 +1.1
comp=Z,0.6nm,0.3s,baz=113,slow=3.4,SNR=9.6
comp=Z,0.6nm,0.3s
CMAR **Chiang Mai Arr** 93.06 288 *e*P P 20 05 44.1 +2.6
CMAR pmax pmax
comp=Z,1.0nm,0.6s
VNA2 **Neumayer--Watz** 93.16 175 P P 20 05 41.4 +0.4
baz=187,slow=2.6
VNA1 **Neumayer--Stat** 93.36 175 P P 20 05 41.3 -0.5
LZH **Lanzhou** 93.65 306 *e*P P 20 05 45.0 +0.9
LZH pP sP 20 05 57.8 +1.5
LZH sP pP 20 06 04.8 +12
LZH pmax pmax
comp=Z,10.0nm,1.0s
ULM **Lac du Bonnet** 93.80 39 LR LR 20 40 41.2
comp=Z,180nm,20.0s,baz=250,slow=31
SPMN **Marine on St.** 94.15 44 P P 20 05 46.0 0.0
baz=252
TNCH **TengChong** 95.13 294 *e*P P 20 05 51.6 +0.4
TNCH pP PcP 20 05 54.8 +3.3
TNCH pmax pmax
comp=Z,6.0nm,0.6s
JFWS **Jewell Farm** 95.23 47 P P 20 05 50.1 -0.9
baz=254
SONM **Songino Array** 95.24 318 P P 20 05 51.2 +0.1
comp=Z,0.2nm,0.8s,baz=111,slow=7.9,SNR=1.8
TIXI **Tiksi** 95.27 344 LR LR 20 45 08.0
comp=Z,31nm,19.5s,baz=1.0,slow=33
TIXI **Tiksi** 95.27 344 *i* P P 20 05 51.2 +0.8
TIXI pmax pmax
comp=Z,2.0nm,1.2s
EYMN **Ely** 95.82 42 P P 20 05 54.1 +0.6
baz=253
MKAR **Makanchi Array** 111.23 315 PKiKP PKiKP 20 10 59.3 -1.8
comp=Z,0.2nm,0.6s,baz=75,slow=2.3,SNR=3.6
BRVK **Borovoye** 118.32 322 *i* PKIKP PKiKP 20 11 14.4 0.0
BRVK pmax pmax
comp=Z,1.0nm,1.0s
FINES **FINESS Array B** 132.19 348 PKP PKPdf 20 11 40.5 -0.1
comp=Z,4.1nm,1.2s,baz=21,slow=2.6,SNR=6.4
OBN **Obninsk** 134.42 337 ⇑*e*PKIKP PKPdf 20 11 42.6 -2.4
OBN *e* 20 14 18.1
OBN *e*SS SS 20 32 31.9 +27
OBN pmax pmax
comp=Z,3.0nm,0.9s
VSU **Vasula** 134.73 346 *i* PKIKP PKPdf 20 11 45.8 +0.3
VSU pmax pmax
comp=Z,27nm,1.2s
MNK **Minsk** 137.89 342 *i* PKiKP PKPdf 20 11 51.7 +0.2
comp=E,1.0nm,0.8s
MNK *i* PKiKP PKPdf 20 11 51.7 +0.2
comp=N,30nm,0.8s
MNK *i* PKiKP PKPdf 20 11 51.7 +0.2
comp=Z,5.0nm,0.6s,baz=211
MNK *i* PP PP 20 14 37.8 -0.8
MNK *i* SKP 20 15 21.4
MNK *i* PKS PKSdf 20 15 25.4 -2.0
MNK *i* PPP PPP 20 17 38.4
MNK *i* SKS SKSdf 20 18 57.2 -2.9
MNK *i* PS PS 20 25 05.7 -1.8
MNK *i* SKKS SKKSdf 20 28 31.0 -5.9
MNK *i* SS SS 20 32 47.5 +1.2
MNK *i* SSS SSS 20 37 46.8
MNK *i* LQ LQ 21 05 16.1
MNK *i* LR LR 21 11 02.5
MNK *i* LRM MLR 21 13 05.7
comp=N,347nm,16.1s
MNK *i* LRM MLR 21 13 06.9
comp=E,30nm,14.8s
MNK *i* LRM MLR 21 13 08.9
comp=Z,71nm,11.6s
MNK **Minsk** 137.89 342 *i* PKIKP PKPdf 20 11 51.6 +0.2
MNK *i* 20 14 37.7
MNK *i* PPP PPP 20 17 38.3
MNK *i* 20 18 57.1
MNK *i* PS PS 20 25 05.6 -1.8
MNK *i* SS SS 20 32 47.4 +1.2
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=N,30nm,0.9s
MNK MLR MLR
comp=N,347nm,16.0s
MNK MLR MLR
comp=E,30nm,15.0s
MNK MLR MLR
comp=Z,71nm,12.0s
KBZ **Khabaz** 138.57 320 *i* PKIKP PKPdf 20 11 53.8 +0.7
KBZ pmax pmax
comp=Z,2.0nm,1.1s
CLL **Collm** 144.02 354 *e*PKPdf PKPbc 20 12 01.0 +0.5
comp=Z,7.0nm,1.0s
CLL *ex* x 20 12 28.0
comp=Z,7.0nm,1.2s
CLL **Collm** 144.02 354 *e*PKIKP PKPbc 20 12 01.0 +0.5
CLL pmax pmax
comp=Z,7.0nm,1.0s
STHS **Stebnicka Huta** 144.30 344 *e*PKIKP PKPbc 20 12 01.7 +0.2
STHS **Stebnicka Huta** 144.30 344 *e*PKP PKPbc 20 12 01.7 +0.2
STHS *e* 20 12 25.9
OSTC **Ostas** 144.31 350 *e*PKP PKPbc 20 12 02.3 +0.8
OSTC *ex* x 20 12 26.1
KASTN **Kahler Asten** 144.43 358 *e*PKPbc PKPab 20 12 01.7 +0.1
baz=7.4,slon=3.1
DPC **Dobruska-Polom** 144.49 350 *e*PKP PKPbc 20 12 02.5 +0.4
DPC **Dobruska-Polom** 144.49 350 *e*PKIKP PKPbc 20 12 02.5 +0.4
BURAR **Bucovina Array** 144.67 339 ⇑P PKPdf 20 12 03.5 -0.6
BURAR **Bucovina Array** 144.67 339 ⇑PKIKP PKPdf 20 12 03.5 -0.6
KRLC **Kraliky** 144.68 349 *e*PKP PKPab 20 12 02.6 0.0
KRLC **Kraliky** 144.68 349 *e*PKIKP PKPab 20 12 02.6 0.0
UZH **Uzhgorod** 144.72 342 *e*PKIKP PKPab 20 12 02.1 -0.6
UZH *e* 20 12 15.3
MOX **Moxa** 144.81 355 *e*PKPbc PKPab 20 12 03.0 0.0
baz=7.4,slon=3.1
MORC **Moravsky Berou** 144.82 348 ⇑P PKPab 20 12 01.0 -2.1
MORC **Moravsky Berou** 144.82 348 *e*PKP PKPbc 20 12 03.4 +0.2
MORC **Moravsky Berou** 144.82 348 ⇑PKIKP PKPab 20 12 01.0 -2.1
WERD **Werda** 144.94 354 *e*PKPbc PKPab 20 12 03.4 -0.1
baz=7.4,slon=3.1
TANN **Tannenbergstha** 144.96 354 *e*PKPbc PKPab 20 12 03.6 -0.1
baz=7.4,slon=3.1
LANS **Liptovska Anna** 144.99 346 *e*PKIKP PKPdf 20 12 05.0 +0.5
LANS **Liptovska Anna** 144.99 346 *e*PKP PKPdf 20 12 05.0 +0.5
GUNZ **Gunzen** 145.02 354 *e*PKPbc PKPab 20 12 03.9 +0.1

baz=7.4,slow=3.1
SNF Seneffe 145.07 3 *d*PKP **PKPbc 20 12 03.5 -0.3**
TRPA Tarpa 145.09 342 ⇑P **PKPdf 20 12 04.5 -0.1**
WERN Wernitzgruen 145.09 354 *e*PKPbc **PKPbc 20 12 03.9 -0.1**
baz=7.4,slow=3.1
AHRW Bad Neuenahr-A 145.11 360 *e*PKPbc **PKPdf 20 12 04.4 -0.2**
baz=7.4,slow=3.1
PRU Pruhonice 145.12 352 *e*PKP **PKPab 20 12 04.3 +0.1**
PRU Pruhonice 145.12 352 *e*PKIKP **PKPab 20 12 04.3 +0.1**
GHRR 145.13 335 ⇑P **PKPdf 20 12 04.9 +0.2**
MAUC Maruska 145.15 348 *e*PKP **PKPdf 20 12 04.7 0.0**
MAUC *ex* x 20 12 32.1
GOPC GO Pecny, Ondr 145.16 351 *e*PKP **PKPbc 20 12 04.1 -0.2**
GOPC GO Pecny, Ondr 145.16 351 *e*PKIKP **PKPbc 20 12 04.1 -0.2**
BGES Gesves 145.23 2 *d*PKP **PKPbc 20 12 03.8 -0.6**
BMRD Maredsous 145.30 3 *d*PKP **PKPbc 20 12 03.0 -1.7**
TNS Taunus Mts 145.41 358 *e*PKPbc **PKPbc 20 12 05.0 -0.1**
baz=7.4,slow=3.1
MANZ Manzenberg 145.42 354 *e*PKPbc **PKPab 20 12 05.3 0.0**
baz=7.4,slow=3.1
ARCR ARCALIA 145.42 339 ⇑P **PKPab 20 12 05.9 +0.6**
VRAC Vranov 145.45 349 *e*PKP **PKPab 20 12 05.6 +0.2**
RCHB Rochefort 145.47 2 *d*PKP **PKPdf 20 12 05.3 +0.1**
DOU Dourbes 145.50 3 *d*PKP **PKPdf 20 12 04.9 -0.3**
VRI Vrincioaia 145.56 335 ⇑P **PKPab 20 12 06.2 +0.3**
VRI Vrincioaia 145.56 335 ⇑PKP2 **PKPab 20 12 06.2 +0.3**
PLOR Plostina 145.61 335 ⇑P **PKPdf 20 12 05.4 -0.2**
PLOR Plostina 145.61 335 ⇑PKP2 **PKPdf 20 12 05.4 -0.2**
ROTZ Rotzenmuhle 145.62 354 *e*PKPbc **PKPab 20 12 05.9 -0.1**
baz=7.4,slow=3.1
TPGR Topolog 145.66 333 ⇑P **PKPab 20 12 06.8 +0.5**
JAVC Velka Javorina 145.66 348 *e*PKP **PKPab 20 12 07.3 +1.0**
KRUC Moravsky 145.72 349 *e*PKP **PKPbc 20 12 06.0 0.0**
OZUR 145.74 337 ⇑P **PKPab 20 12 07.3 +0.6**
VYHS Vyhne 145.75 346 *e*PKP2 **PKPab 20 12 06.7 +0.1**
VYHS Vyhne 145.75 346 *e*PKP **PKPab 20 12 06.7 +0.1**
VYHS *e* 20 12 35.7
GRF Grafenberg Arr 145.79 355 *e*PKPbc **PKPbc 20 12 06.4 +0.1**
baz=7.4,slow=3.1
WLF Walferdange 145.98 1 *d*PKP **PKPab 20 12 07.2 -0.1**
WLF Walferdange 145.98 1 *e*PKPbc **PKPab 20 12 07.5 +0.2**
baz=7.4,slow=3.1
DOPR Dopca 146.00 337 ⇑P **PKiKP 20 12 09.4 -1.0**
HARR Harsova 146.00 333 ⇑P **PKPbc 20 12 07.1 +0.1**
HARR Harsova 146.00 333 ⇑PKP2 **PKPbc 20 12 07.1 +0.1**
KHC Kasperske Hory 146.09 352 *e*PKP **PKPab 20 12 07.4 +0.1**
KHC *ex* x 20 12 26.1
KHC Kasperske Hory 146.09 352 *e*PKP2 **PKPbc 20 12 07.4 +0.1**
MLR Muntele Rosu 146.18 336 ⇑P **PKPab 20 12 08.2 -0.2**
MLR Muntele Rosu 146.18 336 ⇑PKP2 **PKPab 20 12 08.2 -0.2**
MARR Marisel-Cluj 146.20 340 ⇑P **PKPbc 20 12 07.6 -0.1**
MODS Modra-Piesok 146.21 348 *e*PKP2 **PKiKP 20 12 10.1 -0.7**
MODS Modra-Piesok 146.21 348 *e*PKP **PKiKP 20 12 10.1 -0.7**
MODS *e* 20 12 38.2
CKRC Cesky Krumlov 146.30 351 *e*PKP **PKPbc 20 12 08.0 +0.2**
CKRC *ex* x 20 12 26.8
GERES GERESS Array B 146.36 352 PKPbc **PKPbc 20 12 08.0 -0.1**
comp=Z,1.0nm,0.7s,baz=17,slow=1.8,SNR=8.6
GERES GERESS Array B 146.36 352 *e*PKP2 **PKPbc 20 12 08.2 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 146.54 321 PKPbc **PKPbc 20 12 09.3 +0.3**
comp=Z,4.1nm,1.0s,baz=132,slow=1.8,SNR=15
VOIR 146.58 337 ⇑P **PKPab 20 12 09.8 -0.1**
VOIR 146.58 337 ⇑PKP2 **PKPab 20 12 09.8 -0.1**
ARR Arges 146.79 337 ⇑P **PKPab 20 12 11.0 +0.3**
STU Stuttgart 146.83 357 *e*PKPbc **PKPab 20 12 10.2 -0.4**
baz=7.4,slow=3.1
CONA Conrad Observa 146.91 349 *e*PKiKP **PKPab 20 12 10.5 -0.6**
comp=Z,9.8nm,0.9s
DEV Deva 146.97 339 ⇑P **PKPab 20 12 10.6 -0.6**
DEV Deva 146.97 339 ⇑PKP2 **PKPab 20 12 10.6 -0.6**
SIRR Siria 147.03 341 ⇑P **PKPbc 20 12 10.4 +0.3**
RONA Rosalia, Austr 147.05 348 *e*PKiKP **PKPbc 20 12 10.8 +0.7**
comp=Z,13nm,1.1s
MOA Molln 147.25 351 *e*PKP **PKPbc 20 12 10.9 +0.3**
comp=Z,8.4nm,1.0s,SNR=5.8
FUR Furstenfeldbru 147.30 355 *e*PKPbc **PKPbc 20 12 11.0 +0.2**
baz=7.4,slow=3.1
BFO Black Forest 147.31 358 *e*PKPbc **PKPbc 20 12 10.9 +0.2**
baz=7.4,slow=3.1
SURR Surduc 147.34 340 ⇑P **PKPbc 20 12 10.7 -0.1**
GZR Gura Zlata 147.44 339 ⇑P **PKPdf 20 12 08.7 -0.1**
GZR Gura Zlata 147.44 339 ⇑PKIKP **PKPdf 20 12 08.7 -0.1**
BIOA Bad Ischl, Aus 147.50 352 *e*PKP **PKPbc 20 12 11.4 +0.1**
comp=Z,6.2nm,1.0s
RJOB Jochberg 147.56 353 *e*PKPbc **PKPbc 20 12 11.8 +0.3**
baz=7.4,slow=3.1
BZS Buzias 147.62 341 ⇑P **PKPbc 20 12 11.9 +0.2**
BZS Buzias 147.62 341 ⇑PKP2 **PKPbc 20 12 11.9 +0.2**
ARSA Arzberg 147.62 349 *e*PKP **PKPbc 20 12 12.0 +0.3**
comp=Z,5.3nm,0.9s
UBR Ueberruh 147.87 356 *e*PKPbc **PKPbc 20 12 12.3 -0.1**
baz=7.4,slow=3.1
MORH Mrgy, Hungar 147.93 345 ⇑P **PKPbc 20 12 12.4 0.0**
HERR Herculane 148.01 339 ⇑P **PKPbc 20 12 12.3 -0.5**
RETA Reutte 148.02 355 *e*PKiKP **PKPbc 20 12 13.0 +0.2**
comp=Z,7.7nm,1.1s
WATA Walderalm 148.09 354 *e*PKiKP **PKPbc 20 12 13.3 +0.2**
comp=Z,5.1nm,1.0s
MOTA Moosalm 148.13 355 *e*PKiKP **PKPbc 20 12 13.3 +0.2**
comp=Z,12nm,0.9s
KBA Koelnbreinsper 148.14 352 *e*PKiKP **PKPbc 20 12 12.7 -0.5**
comp=Z,5.7nm,0.9s
WTTA Wattenberg 148.16 354 *i* PKiKP **PKPbc 20 12 13.5 +0.1**
comp=Z,7.7nm,1.2s
SQTA Sankt Quirin 148.24 355 *i* PKiKP **PKPbc 20 12 13.7 +0.2**
comp=Z,4.2nm,0.9s
SOKA Soboth 148.26 349 *i* PKiKP **PKPbc 20 12 13.0 -0.4**
comp=Z,7.0nm,1.0s
DAVA Damuels 148.28 356 *i* PKiKP **PKPbc 20 12 13.9 +0.3**
comp=Z,7.2nm,1.1s
MDVR Moldovita 148.33 340 ⇑P **PKPdf 20 12 11.2 +0.9**
PLVB Pleven 148.46 335 ⇑P **PKPbc 20 12 14.5 +0.6**
FETA Feichten 148.48 355 *i* PKiKP **PKPbc 20 12 14.4 +0.3**
comp=Z,7.0nm,1.1s
OBKA Obir 148.51 350 *i* PKiKP **PKPbc 20 12 13.5 -0.6**
comp=Z,4.8nm,1.1s
MYKA Terra Mystica 148.54 351 *i* PKiKP **PKPbc 20 12 13.5 -0.7**
comp=Z,3.6nm,0.7s
ABTA Abfaltersbach 148.57 353 *e*PKiKP **PKPbc 20 12 13.9 -0.3**
comp=Z,7.6nm,0.9s,SNR=7.2
FRGS Fruska Gora 148.59 343 ⇑P **PKiKP 20 12 15.4 -0.4**
PGAV Gavieira, Arco 150.57 24 *e*PKPbc **PKiKP 20 12 19.9 -0.2**
PCAB Cabril 150.88 24 *e*PKPbc **PKPbc 20 12 20.2 +0.2**
PCAB *i* LQ LQ 20 12 38.8
PDG Podgorica 151.23 341 ⇑P **PKPbc 20 12 19.7 -1.1**
POLO Lamas de Olo 151.26 24 *e*PKPbc **PKiKP 20 12 21.4 -0.1**
POLO *i* LQ LQ 20 12 39.9
PBRG Braganca 151.27 22 *e*PKPbc **PKPbc 20 12 21.1 +0.1**
MVO Moncorvo 151.73 23 *e*PKPbc **PKiKP 20 12 22.3 -0.2**
PMRV Marv??o 153.08 25 *e*PKPbc **PKPbc 20 12 23.2 -1.9**
ESDC Sonseca Array 154.12 20 PKPbc **PKPbc 20 12 27.4 0.0**
comp=Z,1.5nm,1.2s,baz=128,slow=12,SNR=4.9
ESDC PKPab **PKPab 20 12 41.2 +0.3**
comp=Z,0.9nm,0.9s,baz=339,slow=3.3,SNR=5.0

*SLM **21** 19:52:59.1±0.8, 36°.88N±0°.01×89°.114W±0°.004, h7km±6km, Md2.5/11, ML2.2/24(NEIC), Error ellipse: s-maj=1.6km s-min=0.6km az=183.0*

NEIC 21 19:52:58.8±0.8, 36°.881N±0°.004×89°.13W±0°.02, h9km±5km, Error ellipse: s-maj=1.8km s-min=0.6km az=91.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
CHRM	**Charleston**	**0.19**	**261**			Pg	19	53 02.8	+0.1
FMKY	**Fulgham**	**0.28**	**140**			Pg	19	53 04.1	-0.3
DWDM	**Dogwood**	**0.30**	**254**			Pg	19	53 05.0	+0.2
HICK	**Hickman**	**0.35**	**193**	Pg		Pg	19	53 05.3	-0.3
MATM	**Matthews**	**0.39**	**254**			Pg	19	53 06.6	0.0
KEWM	**Kewanee**	**0.41**	**244**			Sg	19	53 12.8	+0.5
T45A	**Paducah**	**0.41**	**70**	Pg		Pg	19	53 06.7	-0.2
T45A				Sg		Sg	19	53 12.8	+0.4
NMMO	**New Madrid**	**0.45**	**229**			Pg	19	53 07.5	-0.1
WALK	**Watson Lake**	**0.47**	**224**			Pg	19	53 08.0	-0.1
CATM	**Catron**	**0.49**	**237**			Pg	19	53 08.3	-0.1
CATM						Sg	19	53 15.3	+0.5
FLPT	**Flippin**	**0.49**	**198**			Pg	19	53 08.2	-0.2
COKM	**Charter Oak**	**0.51**	**251**			Pg	19	53 08.8	+0.1
PARMO	**Parma**	**0.54**	**247**	Pg		Pg	19	53 09.2	-0.1
PARMO				Sg		Sg	19	53 16.7	+0.3
PARMO						IAML	19	53 17.0	
	comp=N,157nm,0.1s								
PARMO						IAML	19	53 18.4	
	comp=E,127nm,0.2s								
MARMO	**Marston**	**0.56**	**231**			Pg	19	53 09.5	-0.1
GUAMO	**Guam**	**0.57**	**271**			Pg	19	53 09.8	0.0
UTMT	**University of**	**0.58**	**158**	Pg		Pg	19	53 10.1	0.0
UTMT				Sg		Sg	19	53 17.4	-0.2
UTMT						IAML	19	53 22.1	
	comp=N,152nm,0.7s								
CGM3	**Cape Girardeau**	**0.59**	**315**			Pg	19	53 10.2	-0.1
CGM3				Sg		Sg	19	53 18.2	+0.1
CGM3						IAML	19	53 19.3	
	comp=N,180nm,0.1s								
GLAT	**Glass**	**0.62**	**192**	Pg		Pg	19	53 10.4	-0.4
GLAT				Sg		Sg	19	53 19.4	+0.3
GLAT						IAML	19	53 28.4	
	comp=N,141nm,0.3s								
GLST	**Glass**	**0.62**	**192**			Pg	19	53 10.8	-0.1
PGVM	**Portageville**	**0.64**	**229**			Pg	19	53 10.9	-0.3
TOPM	**Tallapoosa**	**0.70**	**240**			Pg	19	53 12.2	-0.2
BETM	**Bethany**	**0.79**	**250**			Pg	19	53 13.6	-0.4
S44A	**Carbondale**	**0.82**	**353**	Pg		Pg	19	53 14.3	-0.3
S44A						IAML	19	53 26.5	
	comp=E,80nm,0.1s								
S44A						IAML	19	53 31.7	
	comp=N,66nm,0.2s								
LNXT	**Lenox**	**0.83**	**201**	Pg		Pg	19	53 14.7	-0.1
LNXT				Sg		Sb	19	53 26.2	-0.5
LNXT						IAML	19	53 39.4	
	comp=E,109nm,0.5s								
LNXT						IAML	19	53 41.2	
	comp=N,95nm,1.1s								
SIUC	**Southern Illin**	**0.83**	**355**			Pg	19	53 14.4	-0.5
SIUC				Sg		Sg	19	53 25.6	-0.2
SIUC						IAML	19	53 26.9	
	comp=E,78nm,0.1s								
PBMO	**Poplar Bluff**	**1.05**	**265**	Pg		Pg	19	53 18.2	-0.7
PBMO				Sg		Sg	19	53 31.9	-0.7
PBMO						IAML	19	53 37.5	
	comp=E,70nm,0.3s								
WVT	**Waverly**	**1.29**	**125**	Pn		Pn	19	53 21.7	-1.3
WVT				Sn		Sb	19	53 38.6	-1.3
WVT						IAML	19	53 42.2	
	comp=E,57nm,0.1s								
T47A	**Sharon Grove**	**1.63**	**86**			Pn	19	53 27.8	+0.1
W45A	**Hickory Valley**	**1.72**	**181**	Pn		Pn	19	53 28.6	-0.3
LCAR	**Lake Charles**	**1.82**	**244**	Pn		Pn	19	53 31.0	+0.7
Q44A	**Meyer Farm, Va**	**2.02**	**3**	Pn		Pn	19	53 33.6	+0.5
CCM	**Cathedral Cave**	**2.05**	**306**			Pn	19	53 34.6	+1.1
PLAL	**Pickwick Lake**	**2.08**	**155**	Pn		Pn	19	53 33.5	-0.4
CLTN	**Cedars of Leba**	**2.39**	**108**	Pn		Pn	19	53 38.7	+0.6
FCAR	**Ozark Folk Cen**	**2.61**	**249**	Pn		Pn	19	53 40.9	-0.3
U49A	**Red Boiling Sp**	**2.72**	**97**	Pn		Pn	19	53 43.3	+0.6
R40A	**Maddies Statio**	**2.86**	**300**	Pn		Pn	19	53 45.9	+1.3
WHAR	**Wooly Hollow**	**3.01**	**239**	Pn		Pn	19	53 47.3	+0.7
S39A	**Bolivar**	**3.44**	**285**	Pn		Pn	19	53 53.6	+1.0
T50A	**Nancy**	**3.44**	**86**	Pn		Pn	19	53 54.2	+1.6

*NEIC **21** 20:03:55.4±2.2, 4°.25S±0°.08×152°.79E±0°.06, h25km±4km, mb4.9/55, Error ellipse: s-maj=11.5km s-min=8.2km az=180.0*

*IDC **21** 20:03:56.4±1.8, 4°.24S×152°.76E, h35km±13km, mb4.2/26, mbtmp4.4/27, ML4.1/1, MS3.7/8, Error ellipse: s-maj=12.5km s-min=9.7km az=69.0*

*DJA **21** 20:03:57.2±0.4, 4°.5±4°×15°.3E±°, h51km±5km, M5.2/26, mb4.9/26, mB5.4/6, MLv5.7/3, Mw(mB)4.8/6, MwMwp5.0/1, Mwp5.3/1*

ISC 21 20:03:56.5±0.3, 4°.25S±0°.05×152°.81E±0°.05, h35km, n187, σ1s32/190, mb4.8/63, MS3.8/11, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
RABL	**Rabaul**	**0.65**	**275**			**Pn**	**20**	**04 09.2**	**-0.1**
RABL						**Sn**	**20**	**04 18.5**	**+0.1**
RABL	**Rabaul**	**0.65**	**275**	P		**Pn**	**20**	**04 09.5**	**+0.2**
KRVT	**Keravat (AS076**	**0.79**	**266**	Pn		**Pn**	**20**	**04 10.4**	**-0.8**
	2μm,0.3s,baz=297,slow=0.5,SNR=1377								
KRVT						**Sn**	**20**	**04 21.4**	**-0.3**
	9μm,0.3s,baz=223,slow=24,SNR=25								
KRVT					LR	LR	20	04 38.6	
	comp=Z,6μm,21.5s,baz=201,slow=57								
PMG	**Port Moresby**	**7.60**	**227**	Pn		**Pn**	**20**	**05 47.7**	**+2.8**
	6.0nm,0.3s,baz=67,slow=9.3,SNR=20								
PMG						**Sn**	**20**	**07 09.2**	**-0.7**
	6.8nm,0.3s,baz=94,slow=21,SNR=9.8								
PMG	**Port Moresby**	**7.60**	**227**			**Pn**	**20**	**05 45.0**	**+0.1**
PMG	**Port Moresby**	**7.60**	**227**	P		**Pn**	**20**	**05 48.6**	**+3.7**
PMG	**Port Moresby**	**7.60**	**227**	P		**Pn**	**20**	**05 48.5**	**+3.7**
HNR	**Honiara**	**8.76**	**126**	Pn		**Pn**	**20**	**06 03.4**	**+2.6**
	250nm,0.3s,baz=295,slow=10,SNR=2.5								
HNR						**Sn**	**20**	**07 40.8**	**+2.5**
	300nm,0.3s,baz=156,slow=24,SNR=6.0								
HNR					LR	LR	20	09 40.7	
	comp=Z,16μm,18.0s,baz=306,slow=39								
PATS	**Pohnpei**	**12.30**	**27**	Pn		**Pn**	**20**	**06 49.0**	**-0.4**
GENI	**Genyem**	**12.73**	**277**	P		**Pn**	**20**	**06 58.0**	**+2.8**
	126nm,1.5s,3μm								
COEN	**Coen**	**13.54**	**224**	Pn		**Pn**	**20**	**07 05.5**	**-0.8**
SMPI	**Sarmi**	**14.26**	**279**	P		**Pn**	**20**	**07 17.2**	**+1.1**
	82nm,1.5s								
MTSU	**Mount Surprise**	**16.11**	**210**	P		**P**	**20**	**07 44.5**	**+1.0**
SRPI	**Serui, Papua**	**16.72**	**278**	P		**Pn**	**20**	**07 47.7**	**-0.5**
	46nm,0.9s								
CTA	**Charters Tower**	**16.99**	**202**	Pn		**Pn**	**20**	**07 52.4**	**+0.7**
	0.4nm,0.3s,baz=21,slow=13,SNR=14								
	6.3nm,0.7s								
CTAO	**Charters Tower**	**16.99**	**202**			**Pn**	**20**	**07 51.0**	**-0.7**
CTAO	**Charters Tower**	**16.99**	**202**	P		**Pn**	**20**	**07 53.0**	**+1.4**
RKPI	**Ransiki, Papua**	**18.81**	**278**	P		**P**	**20**	**08 14.4**	**+1.1**
	109nm,1.2s,4μm								
KOUNC	**Koumac, New Ca**	**19.68**	**146**	P		**P**	**20**	**08 23.3**	**+0.5**
KOUNC						IAmb	IAmb	20 08 31.9	
	comp=Z,91nm,0.9s								
KOUNC	**Koumac, New Ca**	**19.68**	**146**	P		**P**	**20**	**08 25.0**	**+2.2**
FAKI	**Fak Fak**	**20.57**	**273**	P		**P**	**20**	**08 32.5**	**0.0**
FAKI	**Fak Fak**	**20.57**	**273**	P		**P**	**20**	**08 32.9**	**+0.4**
	comp=Z,37nm,1.0s,comp=Z,2μm								
QIS	**Mount Isa**	**20.69**	**217**	P		**P**	**20**	**08 34.1**	**+0.3**
EIDS	**Eidsvold**	**21.07**	**184**	P		**P**	**20**	**08 37.8**	**0.0**
EIDS	**Eidsvold**	**21.07**	**184**	P		**P**	**20**	**08 38.6**	**+0.8**
LIFNC	**LIFOU**	**21.61**	**141**	P		**P**	**20**	**08 42.3**	**-1.3**
LIFNC						IAmb	IAmb	20 08 45.2	
	comp=Z,54nm,0.8s								
LIFNC	**LIFOU**	**21.61**	**141**	P		**P**	**20**	**08 43.0**	**-0.6**
KDU	**Kakadu**	**21.78**	**246**	P		**P**	**20**	**08 43.8**	**-1.7**
SIJI	**Sorong**	**21.78**	**278**	P		**P**	**20**	**08 45.3**	**-0.3**
	comp=Z,13nm,0.4s,baz=92,slow=8.5,SNR=13								
SIJI					LR	LR	20	16 07.0	
	comp=Z,413nm,21.3s,baz=86,slow=34								
	comp=Z,13nm,0.4s								
NOUC	**Port Laguerre**	**22.04**	**145**	P		**P**	**20**	**08 48.0**	**-0.3**
DZM	**Mont Dzumac**	**22.10**	**144**	P		**P**	**20**	**08 49.2**	**+0.2**
	comp=Z,220nm,0.5s,baz=234,slow=8.1,SNR=64								
DZM					LR	LR	20	15 44.4	
	comp=Z,280nm,21.9s,baz=34,slow=32								
	comp=Z,22nm,0.5s								
DZM	**Mont Dzumac**	**22.10**	**144**	*e*Pn		**P**	**20**	**08 48.8**	**-0.3**
	comp=Z,111nm,1.1s								
DZM					*e*LR	LR	20	14 12.0	
	comp=Z,491nm,25.4s								
DZM	**Mont Dzumac**	**22.10**	**144**	P		**P**	**20**	**08 48.8**	**-0.3**
DZM						IAmb	IAmb	20 08 57.9	
	comp=Z,46nm,1.0s								
DZM	**Mont Dzumac**	**22.10**	**144**	P		**P**	**20**	**08 49.0**	**-0.1**
RMQ	**Roma**	**22.45**	**190**	P		**P**	**20**	**08 52.9**	**+0.2**
OUENC	**Ouen Island, N**	**22.60**	**144**	P		**P**	**20**	**08 53.2**	**-1.1**
OUENC						IAmb	IAmb	20 09 15.9	
	comp=Z,36nm,0.8s								
OUENC	**Ouen Island, N**	**22.60**	**144**	P		**P**	**20**	**08 53.5**	**-0.8**
MARNC	**Mare, Loyalty**	**22.62**	**141**	P		**P**	**20**	**08 54.0**	**-0.5**
MTN	**Manton Dam**	**23.06**	**247**	P		**P**	**20**	**08 57.9**	**-1.2**
PINNC	**Pines Island,**	**23.11**	**144**	P		**P**	**20**	**08 58.9**	**-0.6**
PINNC						IAmb	IAmb	20 09 20.6	
	comp=Z,47nm,1.1s								
WB0	**Warramunga Arr**	**23.67**	**228**	P		**P**	**20**	**09 03.3**	**-1.8**
WB0						IAmb	IAmb	20 09 16.1	
	comp=Z,29nm,0.8s								
QLP	**Quilpie**	**23.68**	**199**	P		**P**	**20**	**09 05.4**	**+0.3**
WR0	**Warramunga Arr**	**23.68**	**227**	P		**P**	**20**	**09 02.9**	**-2.3**
WR0						IAmb	IAmb	20 09 05.4	
	comp=Z,35nm,0.8s								
WRAB	**Tennant Creek**	**23.81**	**228**	P		**P**	**20**	**09 04.9**	**-1.5**
WRA	**Warramunga Arr**	**23.82**	**228**	P		**P**	**20**	**09 05.0**	**-1.6**
	comp=Z,29nm,0.7s,baz=51,slow=10,SNR=121								
WRA					PcP	**PcP**	**20**	**12 48.8**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=44,slow=2.5,SNR=4.9								
WRA					S	S	20	13 05.6	-15
	comp=Z,0.9nm,1.0s,baz=51,slow=16,SNR=1.7								
WRA					ScP	**ScP**	**20**	**16 24.4**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=52,slow=3.3,SNR=8.9								
	comp=Z,29nm,0.7s								
WRA	**Warramunga Arr**	**23.82**	**228**	P		**P**	**20**	**09 03.9**	**-2.6**
INKA	**Innaminka**	**26.04**	**205**	P		**P**	**20**	**09 26.5**	**-0.2**
ARMA	**Armidale**	**26.05**	**182**	P		**P**	**20**	**09 26.9**	**0.0**
ARMA						IAmb	IAmb	20 09 37.4	
	comp=Z,53nm,1.4s								
KNRA	**Kununurra**	**26.23**	**243**	P		**P**	**20**	**09 28.0**	**-0.5**
AS31	**Alice Springs**	**26.56**	**222**	P		**P**	**20**	**09 30.3**	**-1.2**
ASAR	**Alice Springs**	**26.57**	**222**	P		**P**	**20**	**09 30.0**	**-1.5**
	comp=Z,5.9nm,0.8s,baz=55,slow=9.2,SNR=94								
ASAR					PcP	**PcP**	**20**	**12 54.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=45,slow=3.3,SNR=2.3								
ASAR					S	S	20	13 52.0	-12
	comp=Z,0.8nm,0.7s,baz=44,slow=15,SNR=3.6								
ASAR					ScP	**ScP**	**20**	**16 32.5**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=48,slow=3.8,SNR=9.7								
	comp=Z,5.9nm,0.8s								
ASAR	**Alice Springs**	**26.57**	**222**	P		**P**	**20**	**09 29.6**	**-1.9**
SANI	**Sanana**	**26.87**	**274**	P		**P**	**20**	**09 35.1**	**+0.8**
	comp=Z,62nm,1.3s								
CMSA	**Cobar Meteorol**	**27.96**	**193**	P		**P**	**20**	**09 42.9**	**-1.0**
MSVF	**Nonsavu**	**28.11**	**120**	P		**P**	**20**	**09 45.2**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=270,slow=14,SNR=4.3								
MSVF					LR	LR	20	20 56.9	
	comp=Z,275nm,18.1s,baz=301,slow=36								
	comp=Z,3.7nm,0.6s								
MSVF	**Nonsavu**	**28.11**	**120**	P		**P**	**20**	**09 45.2**	**-0.3**
MSVF						IAmb	IAmb	20 09 55.9	
	comp=Z,19nm,1.2s								
OOD	**Oodnadatta**	**28.54**	**213**	P		**P**	**20**	**09 47.9**	**-1.2**
STKA	**Stephens Creek**	**29.43**	**200**	P		**P**	**20**	**09 55.7**	**-1.4**
	comp=Z,3.6nm,0.6s,baz=8.9,slow=9.6,SNR=18								
STKA					ScP	**ScP**	**20**	**16 42.5**	**+0.8**
	comp=Z,8.9nm,1.1s,baz=348,slow=2.8,SNR=8.2								
	comp=Z,3.6nm,0.6s								
STKA	**Stephens Creek**	**29.43**	**200**	P		**P**	**20**	**09 55.5**	**-1.5**
STKA	**Stephens Creek**	**29.43**	**200**	P		**P**	**20**	**09 55.6**	**-1.4**
LCRK	**Leigh Creek**	**29.48**	**206**	P		**P**	**20**	**09 56.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**29.94**	**241**	P		**P**	**20**	**09 59.4**	**-2.2**
GTOI	**Gorontalo**	**30.17**	**279**	P		**P**	**20**	**10 06.3**	**+2.5**
	comp=Z,16nm,1.0s								
CAN	**Canberra**	**31.12**	**186**	P		**P**	**20**	**10 11.3**	**-0.6**
CAN						IAmb	IAmb	20 10 33.4	
	comp=Z,37nm,1.4s								
WRKA	**Warakurna**	**31.34**	**226**	P		**P**	**20**	**10 11.9**	**-2.1**
MULG	**Mulgathing**	**31.37**	**212**	P		**P**	**20**	**10 12.7**	**-1.5**
HTT	**Hallett**	**31.80**	**202**	P		**P**	**20**	**10 16.9**	**-1.0**
BBOO	**Buckleboo**	**32.45**	**207**	P		**P**	**20**	**10 21.6**	**-2.0**
BBOO						IAmb	IAmb	20 11 03.6	
	comp=Z,42nm,1.6s								
BBOO	**Buckleboo**	**32.45**	**207**	P		**P**	**20**	**10 22.2**	**-1.4**
TOO	**Toolangi**	**33.84**	**190**	P		**P**	**20**	**10 36.2**	**+0.6**
TOO						IAmb	IAmb	20 10 55.0	
	comp=Z,17nm,1.4s								
ARPS	**Mount Arapiles**	**33.90**	**196**	P		**P**	**20**	**10 35.7**	**-0.5**
FORT	**Forrest**	**35.22**	**219**	P		**P**	**20**	**10 46.1**	**-1.6**
FORT	**Forrest**	**35.22**	**219**	P		**P**	**20**	**10 46.1**	**-1.6**
AFI	**Afiamalu**	**36.21**	**108**	LR		LR	20	23 51.7	
	comp=Z,132nm,18.0s,baz=272,slow=33								
MBWA	**Marble Bar**	**36.26**	**239**	P		**P**	**20**	**10 53.9**	**-2.8**
MBWA	**Marble Bar**	**36.26**	**239**	P		**P**	**20**	**10 54.3**	**-2.4**
PSA00	**Pilbara Seismi**	**36.32**	**239**	P		**P**	**20**	**10 54.9**	**-2.4**
PSA00						IAmb	IAmb	20 10 55.9	
	comp=Z,27nm,1.0s								
JOW	**Kunigami**	**38.96**	**324**	LR		LR	20	27 13.4	
	comp=Z,48nm,19.0s,baz=218,slow=36								
MEEK

PZH				pmax	pmax		
	comp=Z,120nm,6.2s						
XLT	**XiLinHaoTe**	**58.20**	**329**	*eP*	**P**	**20 13 47.3**	**-0.1**
XLT				pP	pP	20 13 59.0	+0.9
XLT				sP	sP	20 14 06.5	+4.2
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,240nm,6.3s						
CD2	**Chengdu**	**58.39**	**310**	P	P	20 13 57.4	+8.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HEH	**HeiHe**	**58.54**	**341**	*eP*	**P**	**20 13 49.4**	**-0.1**
HEH				pmax	pmax		
	comp=Z,12nm,0.8s						
HEH				pmax	pmax		
	comp=Z,200nm,4.2s						
HHC	**Hu-ho-hao-te**	**58.61**	**324**	*eP*	**P**	**20 13 53.3**	**+3.0**
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
TBI	**Tubuai**	**58.77**	**115**	*e*LR	LR	20 31 11.4	
	comp=Z,3µm,24.2s						
TNCH	**TengChong**	**60.19**	**302**	P	**P**	**20 14 03.0**	**+1.4**
TNCH				pP	sP	20 14 16.9	+0.4
TNCH				PP	**PP**	**20 16 16.0**	**+1.3**
TNCH				pmax	pmax		
	comp=Z,7.0nm,3.4s						
TNCH				pmax	pmax		
	comp=Z,110nm,4.6s						
LZH	**Lanzhou**	**60.85**	**316**	*eP*	P	20 14 15.0	+9.1
LZH				pP	sP	20 14 26.5	+5.5
LZH				sP	PcP	20 14 35.1	-14
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH				pmax	pmax		
	comp=Z,83nm,5.1s						
MA2	**Magadan**	**63.65**	**359**	P	**P**	**20 14 23.8**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=169,slow=3.9,SNR=7.2						
	comp=Z,4.9nm,0.7s						
MA2	**Magadan**	**63.65**	**359**	P	**P**	**20 14 23.7**	**-0.2**
MA2				IAmb	IAmb	20 14 45.4	
	comp=Z,10nm,1.1s						
GTA	**Gaotai**	**65.26**	**317**	*eP*	**P**	**20 14 37.5**	**+2.4**
GTA				pP	pP	20 14 47.9	+1.8
GTA				sP	sP	20 14 53.8	+3.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**65.87**	**328**	P	**P**	**20 14 39.0**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=149,slow=5.6,SNR=12						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**65.87**	**328**	P	**P**	**20 14 38.8**	**0.0**
SONM				IAmb	IAmb	20 15 24.5	
	comp=Z,8.6nm,1.4s						
SEY	**Seymchan**	**67.00**	**360**	P	**P**	**20 14 45.4**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=101,slow=2.2,SNR=4.9						
	comp=Z,1.0nm,0.5s						
UNV	**Unalaska Valle**	**67.12**	**25**	P	**P**	**20 14 45.5**	**-1.0**
GOMU	**GeErMu**	**67.41**	**312**	P	P	20 14 59.0	+10
GOMU				pP	pP	20 15 02.3	+2.3
GOMU				sP	sP	20 15 04.1	+0.1
GOMU				pmax	pmax		
	comp=Z,110nm,4.9s						
BILL	**Bilibino**	**72.74**	**5**	P	**P**	**20 15 21.1**	**+0.3**
BILL				IAmb	IAmb	20 15 22.1	
	comp=Z,5.5nm,0.8s						
VNDA	**Vanda**	**73.38**	**178**	P	**P**	**20 15 24.6**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=336,slow=6.0,SNR=17						
	comp=Z,5.4nm,0.8s						
VNDA	**Vanda**	**73.38**	**178**	P	**P**	**20 15 24.3**	**-0.1**
VNDA				IAmb	IAmb	20 15 38.6	
	comp=Z,12nm,1.1s						
ANM	**Nome**	**75.25**	**17**	P	**P**	**20 15 36.0**	**+0.5**
ANM				IAmb	IAmb	20 16 08.6	
	comp=Z,13nm,1.5s						
WMQ	**Urumqi**	**75.35**	**317**	*eP*	**P**	**20 15 36.8**	**+0.2**
SVW2	**Sparrevohn**	**76.31**	**23**	P	**P**	**20 15 42.1**	**+0.4**
K20K	**Telida**	**78.22**	**22**	P	**P**	**20 15 52.4**	**+0.1**
K20K				IAmb	IAmb	20 17 29.3	
	comp=Z,33nm,1.9s						
SUA	**Susitna One**	**78.45**	**24**	P	**P**	**20 15 53.2**	**-0.6**
SUA				IAmb	IAmb	20 17 11.0	
	comp=Z,39nm,1.7s						
CAST	**Castle Rocks**	**78.99**	**22**	P	**P**	**20 15 55.8**	**-0.8**
CAST				IAmb	IAmb	20 16 10.7	
	comp=Z,38nm,2.0s						
IMAR	**Indian Mountai**	**79.86**	**20**	P	**P**	**20 16 01.3**	**+0.1**
MK31	**Makanchi Array**	**79.92**	**319**	P	**P**	**20 16 01.3**	**-0.7**
MKAR	**Makanchi Array**	**79.92**	**319**	P	**P**	**20 16 01.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=94,slow=7.8,SNR=9.5						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**79.92**	**319**	P	**P**	**20 16 00.6**	**-1.4**
MLY	**Manley**	**80.37**	**21**	P	**P**	**20 16 03.7**	**-0.4**
MLY				IAmb	IAmb	20 16 04.7	
	comp=Z,7.7nm,0.8s						
DHY	**Denali Highway**	**80.63**	**24**	P	**P**	**20 16 05.8**	**+0.1**
ZALV	**Zalesovo Beam**	**80.70**	**326**	P	**P**	**20 16 05.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=121,slow=5.7,SNR=3.6						
ZALV				LR	LR	20 52 28.9	
	comp=Z,40nm,19.9s,baz=25,slow=36						
	comp=Z,0.7nm,0.6s						
IL31		**81.65**	**22**	P	**P**	**20 16 09.6**	**-1.1**
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**20 16 09.4**	**-1.4**
	comp=Z,3.4nm,0.8s,baz=241,slow=6.2,SNR=39						
	comp=Z,3.4nm,0.8s						
BARN	**Barnard Glacie**	**82.15**	**27**	P	**P**	**20 16 13.8**	**0.0**
BARN				IAmb	IAmb	20 16 49.6	
	comp=Z,25nm,1.6s						
BCAR	**Beaver Creek A**	**82.90**	**25**	P	**P**	**20 16 17.5**	**0.0**
KURK	**Kurchatov**	**83.34**	**322**	P	**P**	**20 16 19.8**	**-0.2**
KURK				IAmb	IAmb	20 16 51.1	
	comp=Z,12nm,1.8s						
NIL	**Nilore**	**83.68**	**304**	P	**P**	**20 16 21.2**	**-1.0**
NIL				IAmb	IAmb	20 16 36.9	
	comp=Z,5.2nm,0.7s						
BMAR	**Burnt Mountain**	**83.73**	**20**	P	**P**	**20 16 22.2**	**+0.5**
H02S1	**DAWSON INLET T**	**84.29**	**36**	T	T	21 49 22.2	
	SNR=16						
AAK	**Ala-Archa**	**84.30**	**313**	P	**P**	**20 16 25.7**	**+0.4**
QSPA	**South Pole Qui**	**85.71**	**180**	P	**P**	**20 16 31.2**	**-0.6**
KKAR	**Karatay Array**	**87.26**	**313**	P	**P**	**20 16 38.9**	**-0.9**
KKAR	**Karatay Array**	**87.26**	**313**	P	**P**	**20 16 38.8**	**-0.9**
KKAR				IAmb	IAmb	20 17 15.3	
	comp=Z,1.9nm,1.0s						
INK	**Inuvik**	**87.94**	**21**	P	**P**	**20 16 41.8**	**-0.6**
INK				IAmb	IAmb	20 16 42.9	
	comp=Z,6.6nm,1.1s						
NVAR	**Mina Array Bea**	**91.73**	**52**	P	**P**	**20 17 01.0**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=258,slow=4.5,SNR=2.4						
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**94.94**	**28**	P	**P**	**20 17 14.8**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=271,slow=5.0,SNR=22						
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**98.47**	**48**	P	**P**	**20 17 31.0**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=222,slow=2.0,SNR=3.7						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**114.06**	**325**	PKP	PKPdf	20 22 30.9	-1.1
	comp=Z,0.6nm,0.5s,baz=51,slow=2.7,SNR=6.6						
PLCA	**Paso Flores**	**120.21**	**143**	PKP	**PKPdf**	**20 22 44.0**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=335,slow=3.3,SNR=4.5						
SCHQ	**Schefferville**	**120.28**	**25**	PKP	**PKPdf**	**20 22 43.8**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=33,slow=7.2,SNR=4.5						
DPC	**Dobruska-Polom**	**121.32**	**329**	*e*PKPDF	**PKiKP**	**20 22 50.4**	**+4.1**
CLL	**Collm**	**122.38**	**331**	*e*PKPdf	**PKPdf**	**20 22 48.0**	**-0.1**
CLL				*ep*PKPdf	**pPKPdf**	**20 22 56.0**	**-3.9**
CKRC	**Cesky Krumlov**	**123.29**	**328**	*e*PKPDF	**PKPdf**	**20 22 49.6**	**-0.4**
KHC	**Kasperske Hory**	**123.48**	**329**	*e*PKPDF	**PKPdf**	**20 22 49.7**	**-0.7**
GERES	**GERESS Array B**	**123.59**	**329**	PKP	**PKPdf**	**20 22 50.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=81,slow=1.8,SNR=8.1						
LCO	**Las Campanas**	**126.72**	**131**	PKPdf	**PKPdf**	**20 22 57.7**	**+0.2**
PB16	**IPOC Station P**	**132.64**	**120**	PKPdf	**PKPdf**	**20 23 09.4**	**+0.1**
ROSC	**El Rosal**	**133.02**	**87**	PKP	**PKPdf**	**20 23 08.7**	**-1.3**
	comp=Z,5.7nm,0.3s,baz=303,slow=21,SNR=2.2						
RUSC	**La Rusia**	**134.26**	**86**	PKPdf	**PKPdf**	**20 23 11.5**	**-1.0**
LPAZ	**La Paz**	**134.66**	**118**	PKP	**PKPdf**	**20 23 14.1**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=288,slow=2.4,SNR=16						
LPAZ	**La Paz**	**134.66**	**118**	PKPdf	**PKPdf**	**20 23 12.2**	**-1.0**
SDV	**Santo Domingo**	**136.62**	**82**		**PKPdf**	**20 23 14.7**	**-1.7**
CPUP	**Villa Florida**	**137.86**	**138**	PKP	**PKPdf**	**20 23 16.4**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=174,slow=0.6,SNR=3.2						
PTLB	**Pontes e Lacer**	**142.80**	**122**	PKPdf	**PKPdf**	**20 23 26.9**	**-0.4**
BOAV	**Boa Vista**	**146.67**	**92**		**PKPdf**	**20 23 34.2**	**0.0**
TORD	**Torodi Ar. Bea**	**150.14**	**289**	PKPbc	**PKPdf**	**20 23 44.1**	**+4.3**
	comp=Z,4.7nm,0.5s,baz=60,slow=2.5,SNR=2.4						
BDFB	**Brasilia**	**151.44**	**134**	PKP	**PKPdf**	**20 23 41.7**	**-0.2**
	comp=Z,12nm,0.6s,baz=124,slow=5.8,SNR=5.1						
BDFB				PKPbc	**PKPbc**	**20 23 48.0**	**0.0**
	comp=Z,12nm,0.6s,baz=293,slow=1.2,SNR=26						
BDFB	**Brasilia**	**151.44**	**134**		**PKPdf**	**20 23 41.3**	**-0.6**
BDFB				PKPbc	**PKPbc**	**20 23 47.9**	**0.0**
DBIC	**Dimbokro**	**157.64**	**277**	PKPab	**PKPab**	**20 24 21.9**	**-0.8**
	comp=Z,6.9nm,1.2s,baz=303,slow=6.6,SNR=2.0						

IDC 21 20:05:54.0±9.2, 6.18S×150.57E, h0km, mb3.8/3, mbtmp3.9/3, Error ellipse: s-maj=285.6km s-min=38.6km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.88**	**228**	P	P	20 10 37.9	-0.1
	2.5nm,0.6s,baz=50,slow=9.5,SNR=0.7						
	2.5nm,0.6s						
ASAR	**Alice Springs**	**23.65**	**221**	P	P	20 11 07.3	0.0
	2.7nm,0.9s,baz=58,slow=9.3,SNR=1.2						
	2.7nm,0.9s						
MKAR	**Makanchi Array**	**79.92**	**320**	P	P	20 18 05.0	+0.1
	0.4nm,0.4s,baz=116,slow=7.4,SNR=5.5						
	0.4nm,0.4s						

*ISK **21** 20:09:50.5, 40.15N×34.28E, h5km, ML1.8/3*
DDA 21 20:09:49.7±0.0, 40.26N×34.28E, h7km±2km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CORM	**Corum**	**0.28**	**106**	Pg	Pb	20 09 56.8	-0.4
CORM				Sg	Sb	20 10 02.1	-0.1
DELI	**KIRIKKALE**	**0.38**	**226**	P	Pg	20 09 57.7	+0.6
DELI				S	Sb	20 10 03.5	-1.4
CTAK	**Corum_Osmancik**	**0.55**	**45**	P	Pg	20 10 00.4	0.0
CTAK				S	Sg	20 10 08.3	+0.6
CTAK				*i* AML	AML	20 10 25.0	
	comp=N,8.7nm,2.3s						
CDAG	**Cicekdag**	**0.64**	**173**	P	Pb	20 10 03.3	+0.1
CDAG				S	Sb	20 10 11.9	-0.5
BR131	**Keskin Array S**	**0.72**	**223**	Pg	Pb	20 10 04.4	-0.3
BR131				Sg	Sb	20 10 14.5	-0.4
AKPI	**Kirsehir/Akpin**	**0.78**	**196**	P	Pb	20 10 05.6	-0.2
AKPI				S	Sb	20 10 16.2	-0.4
YOZ	**Yozgat**	**1.01**	**127**	Pg	Pb	20 10 09.8	+0.1
YOZ				Sg	Sb	20 10 24.1	+0.9
KIRS	**Kirsehir-Merke**	**1.16**	**194**	P	Pb	20 10 12.1	0.0
KIRS				S	Sn	20 10 28.2	-0.4
KIRS				*i* AML	AML	20 10 42.0	
	comp=Z,4.7nm,2.4s						
KIRS				*i* AML	AML	20 10 58.0	
	comp=N,4.0nm,1.7s						
KIRS				*i* AML	AML	20 10 58.0	
	comp=E,4.4nm,1.4s						

*TAP **21** 20:11:04.0, 23.85N×122.55E, h21km±1km, ML2.7, D*
*JMA **21** 20:11:04.6±0.1, 24.1N×122.6E±0.4, h36km±3km, MV2.0/10, NW OFF ISHIGAKIJIMA IS*
ISC 21 20:11:02.7±1.2, 23.85N±0.03×122.64E±0.02, h20km±5km, n79, σ0.59/125, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.66**	**25**	*i* P	**Pb**	**20 11 15.0**	**-0.6**
JYNG				S	**Sb**	**20 11 22.4**	**-1.9**
YOJ	**Yonaguni jima**	**0.70**	**29**	P	**Pb**	**20 11 15.7**	**-0.5**
YOJ				*e*S	**Sb**	**20 11 23.5**	**-1.8**
TEYL	**Yanliau Villag**	**0.95**	**271**	*e*P	**Pb**	**20 11 19.3**	**-1.2**
	baz=273						
HWA	**Hwalien**	**0.95**	**278**	*e*P	**Pn**	**20 11 21.3**	**+0.4**
	baz=278						
ETL	**Fush Village**	**0.98**	**288**	*e*P	**Pn**	**20 11 21.6**	**+0.3**
	baz=290						
TWD	**Chiawan**	**0.98**	**284**	P	**Pb**	**20 11 21.1**	**+0.1**
	baz=285						
TWD				S	**Sb**	**20 11 34.0**	**+0.6**
	baz=285						
EWUT	**Wuta**	**0.98**	**307**	P	**Pn**	**20 11 21.3**	**0.0**
	baz=310						
EWUT				*e*S	**Sn**	**20 11 35.0**	**+0.4**
	baz=310						
ENA	**Nanau**	**1.00**	**305**	P	**Pn**	**20 11 21.7**	**+0.2**
	baz=308						
ENA				*e*S	**Sn**	**20 11 35.7**	**+0.6**
	baz=308						
NACB	**Ninganchiao**	**1.01**	**289**	P	**Pn**	**20 11 21.6**	**-0.1**
	baz=290						
NACB				S	**Sb**	**20 11 34.5**	**+0.2**
	baz=290						
TWC	**Suao**	**1.04**	**316**	P	**Pn**	**20 11 22.2**	**+0.1**
	baz=320						
TWC				*i* S	**Sn**	**20 11 36.1**	**0.0**
	baz=320						
ETM	**Tongmen**	**1.05**	**276**	P	**Pb**	**20 11 22.2**	**-0.1**
	baz=277						
ETM				*e*S	**Sb**	**20 11 36.0**	**+0.4**
	baz=277						
HATJ	**Hateruma jima**	**1.09**	**79**	P	**Pb**	**20 11 23.6**	**+0.8**
HATJ				S	**Sn**	**20 11 37.2**	**+0.1**
ESL	**Shilin**	**1.10**	**268**	*e*P	**Pb**	**20 11 23.1**	**0.0**
	baz=268						
ESL				*e*S	**Sb**	**20 11 36.0**	**-1.1**
	baz=268						
IRIF	**Iriomote-Funau**	**1.11**	**64**	P	**Pb**	**20 11 23.2**	**+0.1**
IRIF				S	**Sb**	**20 11 37.0**	**-0.1**
ETLH	**Xiulin Townshi**	**1.11**	**289**	↑ *i*P	**Pn**	**20 11 23.3**	**+0.1**
	baz=290						
ETLH				*e*S	**Sn**	**20 11 37.9**	**-0.2**
	baz=290						
EGFH	**Guangfu**	**1.12**	**261**	*e*P	**Pb**	**20 11 23.8**	**+0.4**
	baz=260						
EGFH				*e*S	**Sn**	**20 11 38.4**	**+0.3**
	baz=260						
NDS	**Dongshan**	**1.15**	**313**	*e*P	**Pb**	**20 11 24.5**	**+0.7**
	baz=315						
HGSD	**Ruisui**	**1.17**	**252**	P	**Pb**	**20 11 24.2**	**0.0**
	baz=251						
HGSD				*e*S	**Sn**	**20 11 39.2**	**-0.1**
	baz=251						
ECBN	**Changbin**	**1.21**	**244**	*e*P	**Pb**	**20 11 26.4**	**+1.4**
	baz=242						
ILA	**Ilan**	**1.22**	**318**	*e*P	**Pb**	**20 11 25.4**	**+0.3**
	baz=321						
LATG	**Datong**	**1.22**	**304**	P	**Pb**	**20 11 25.2**	**0.0**
	baz=306						
LATG				*e*S	**Sn**	**20 11 41.5**	**+0.8**
	baz=306						
TWE	**Neicheng**	**1.24**	**314**	*e*P	**Pb**	**20 11 25.4**	**0.0**
	baz=317						
TWE				*e*S	**Sb**	**20 11 41.3**	**+0.3**
	baz=317						
ENTT	**Nioudou**	**1.25**	**309**	P	**Pb**	**20 11 25.6**	**-0.1**
	baz=311						
ENTT				*e*S	**Sb**	**20 11 42.1**	**+0.7**
	baz=311						
EHY	**Hungye**	**1.25**	**254**	*e*P	**Pb**	**20 11 25.6**	**-0.1**
	baz=253						
EHY				*e*S	**Sn**	**20 11 41.0**	**-0.3**
	baz=253						
NNSB	**Datong**	**1.28**	**297**	P	**Pb**	**20 11 26.0**	**-0.2**
	baz=298						
NNSB				*e*S	**Sn**	**20 11 41.8**	**-0.4**
	baz=298						
NNSH	**Datong**	**1.28**	**297**	*e*P	**Pb**	**20 11 26.0**	**-0.2**
	baz=298						
NNSH				*e*S	**Sn**	**20 11 41.9**	**-0.3**
	baz=298						
WHF	**Hehuan Shan**	**1.29**	**283**	P	**Pb**	**20 11 26.4**	**-0.1**
	baz=284						
WHF				*e*S	**Sn**	**20 11 41.8**	**-1.0**
	baz=284						
TWB1	**Santiao Chiao**	**1.29**	**333**	P	**Pb**	**20 11 26.5**	**+0.1**
	baz=336						
TWB1				*e*S	**Sb**	**20 11 42.8**	**+0.2**
	baz=336						
NNS	**Nan Shan**	**1.30**	**297**	*e*P	**Pb**	**20 11 26.1**	**-0.3**
	baz=298						
EYUL	**Yuli**	**1.31**	**248**	*e*P	**Pb**	**20 11 26.5**	**-0.2**
	baz=246						
EYUL				*e*S	**Sn**	**20 11 41.6**	**-1.1**
	baz=246						
JKRS	**Kuro-shima**	**1.31**	**73**	*e*P	**Pb**	**20 11 27.3**	**+0.7**
JKRS				S	**Sb**	**20 11 43.8**	**+0.8**
YULB	**Yu-li**	**1.31**	**250**	P	**Pb**	**20 11 26.6**	**0.0**
	baz=248						
YULB				S	**Sn**	**20 11 42.8**	**0.0**
	baz=248						
FUSB	**Fushanzhiwuyua**	**1.32**	**314**	*e*P	**Pb**	**20 11 26.9**	**+0.1**
	baz=315						
FUSB				S	**Sb**	**20 11 43.9**	**+0.6**
	baz=315						
TWF1	**Yuli**	**1.33**	**248**	*e*P	**Pn**	**20 11 26.2**	**+0.1**
	baz=246						
FUSS	**Fushou**	**1.33**	**287**	*e*P	**Pb**	**20 11 27.1**	**0.0**
	baz=288						
FUSS				*e*S	**Sn**	**20 11 43.3**	**-0.4**
	baz=288						
TIPB	**Shuangxi**	**1.34**	**327**	*e*P	**Pb**	**20 11 27.3**	**+0.2**
	baz=329						
TIPB				*e*S	**Sb**	**20 11 44.3**	**+0.5**
	baz=329						
OWD	**Renai**	**1.34**	**275**	*e*P	**Pb**	**20 11 27.0**	**-0.3**
	baz=274						
OWD				*e*S	**Sn**	**20 11 42.6**	**-1.1**
	baz=274						
CHGB	**Renai**	**1.36**	**279**	P	**Pb**	**20 11 27.4**	**-0.2**
	baz=279						
CHGB				*e*S	**Sn**	**20 11 44.0**	**-0.2**
	baz=279						
VWDT	**VWDT**	**1.38**	**266**	*e*P	**Pb**	**20 11 27.5**	**-0.2**
	baz=265						
VWDT				*e*S	**Sn**	**20 11 44.2**	**-0.1**
	baz=265						
NWLT	**Wulai**	**1.39**	**312**	*e*P	**Pb**	**20 11 27.6**	**-0.3**
	baz=314						
CHKT	**Chengkung**	**1.39**	**238**	*e*P	**Pn**	**20 11 27.1**	**+0.2**
	baz=235						
CHKT				*e*S	**Sn**	**20 11 44.1**	**-0.6**
	baz=235						
FULB	**Fuli**	**1.40**	**242**	*e*P	**Pn**	**20 11 27.5**	**+0.4**
	baz=240						
FULB				*e*S	**Sn**	**20 11 44.8**	**-0.1**
	baz=240						
WUSB	**Renai**	**1.40**	**276**	*e*P	**Pb**	**20 11 27.8**	**-0.4**
	baz=276						
TDCB	**Techi**	**1.41**	**287**	*e*P	**Pb**	**20 11 28.1**	**-0.3**
	baz=287						
YHNB	**Yeheng**	**1.41**	**305**	P	**Pb**	**20 11 28.1**	**-0.3**
	baz=307						
YHNB				*e*S	**Sb**	**20 11 46.0**	**0.0**
	baz=307						
SXI1	**Grass Mountain**	**1.42**	**331**	*e*P	**Pb**	**20 11 28.1**	**-0.4**
	baz=333						
SXI1				*e*S	**Sn**	**20 11 45.9**	**+0.3**
	baz=333						
NSK	**Sanguang**	**1.43**	**305**	P	**Pb**	**20 11 28.2**	**-0.5**
	baz=307						
NWF	**Wu-fen Shan**	**1.44**	**327**	*e*P	**Pb**	**20 11 28.6**	**-0.3**
	baz=330						
WFSB	**Wu-fen Shan**	**1.44**	**327**	*e*P	**Pb**	**20 11 28.8**	**-0.1**
	baz=330						
JIJ	**Ishigaki jima**	**1.47**	**69**	P	**Pn**	**20 11 28.4**	**+0.4**
JIJ				S	**Sn**	**20 11 46.3**	**-0.3**
TWA	**Mucha**	**1.48**	**320**	*e*P	**Pb**	**20 11 29.2**	**-0.3**
	baz=322						
EHD	**Haiduan**	**1.49**	**242**	P	**Pb**	**20 11 29.0**	**-0.7**
	baz=240						
EHD				S	**Sn**	**20 11 47.2**	**0.0**
	baz=240						
NHDH	**Xindian Distri**	**1.50**	**318**	*e*P	**Pn**	**20 11 28.8**	**+0.4**
	baz=319						
EDH	**Donghe**	**1.51**	**235**	P	**Pn**	**20 11 28.7**	**+0.2**
	baz=232						
EDH				*e*S	**Sn**	**20 11 47.1**	**-0.5**
	baz=232						
SSLB	**Suanglung**	**1.54**	**268**	*e*P	**Pb**	**20 11 30.6**	**0.0**
	baz=267						
DPDB	**Guoxing**	**1.58**	**277**	*e*P	**Pb**	**20 11 30.6**	**-0.7**
	baz=277						
NFF	**Wufeng Townshi**	**1.59**	**300**	*e*P	**Pb**	**20 11 31.3**	**-0.2**
	baz=300						
NFF				*e*S	**Sn**	**20 11 49.8**	**0.0**
	baz=300						
LDUT	**Ludao**	**1.59**	**223**	*e*P	**Pn**	**20 11 28.2**	**-1.5**
	baz=220						
LDUT				*e*S	**Sn**	**20 11 49.2**	**-0.4**
	baz=220						
SMLT	**Sun Moon Lake**	**1.59**	**271**	*e*P	**Pb**	**20 11 31.0**	**-0.5**
	baz=271						
WCS	**Beigang Elemen**	**1.59**	**278**	*e*P	**Pb**	**20 11 30.9**	**-0.5**
	baz=277						
WHP	**Taichung City**	**1.60**	**286**	*e*P	**Pb**	**20 11 32.3**	**+0.6**
	baz=286						
ELDTW	**Lidau**	**1.63**	**246**	P	**Pn**	**20 11 30.7**	**+0.4**
	baz=244						
ELDTW				*e*S	**Sn**	**20 11 50.0**	**-0.8**
	baz=244						
TYC	**Yuchr**	**1.63**	**272**	*e*P	**Pb**	**20 11 32.0**	**-0.1**
	baz=272						
YM08	**YM08**	**1.64**	**325**	*e*P	**Pb**	**20 11 32.0**	**-0.2**
	baz=326						
LONT	**Longtian**	**1.68**	**236**	*e*P	**Pn**	**20 11 31.3**	**+0.4**
	baz=234						
LIOB	**Emei**	**1.68**	**298**	*e*P	**Pb**	**20 11 32.6**	**-0.4**
	baz=299						
NSTT	**Nanjuang**	**1.68**	**298**	*e*P	**Pb**	**20 11 32.1**	**-0.9**
	baz=298						
JISG	**Ishigakijimahi**	**1.69**	**64**	P	**Pn**	**20 11 31.2**	**+0.1**
JISG				S	**Sn**	**20 11 51.2**	**-0.9**
ALS	**Alishan**	**1.71**	**259**	*e*P	**Pb**	**20 11 33.2**	**-0.5**
	baz=258						
WJS	**Zhushan**	**1.75**	**269**	*e*P	**Pb**	**20 11 34.3**	**+0.2**
	baz=269						
TWGBT	**Beinan**	**1.76**	**235**	*e*P	**Pn**	**20 11 33.1**	**+1.0**
	baz=232						
TWGBT				S	**Sn**	**20 11 53.6**	**-0.3**
	baz=232						
TWG	**Pinlang**	**1.77**	**235**	*e*P	**Pn**	**20 11 32.6**	**+0.5**
	baz=232						
STYH	**Taoyuan**	**1.84**	**249**	*e*P	**Pb**	**20 11 34.5**	**-1.1**
	baz=247						
TPUB	**Ta-pu**	**1.92**	**254**	*e*P	**Pb**	**20 11 36.3**	**-0.8**
	baz=252						
ECL	**Taimali**	**1.99**	**231**	*e*P	**Pn**	**20 11 35.6**	**+0.4**
	baz=229						
LYUB	**Lan-yu**	**2.08**	**208**	*e*P	**Pn**	**20 11 36.3**	**-0.2**
	baz=205						
LYUB				*e*S	**Sn**	**20 12 00.8**	**-1.0**
	baz=205						
MASBT	**Mashib

QSPA South Pole Qui 31.55 180 P **P** **20 31 05.2 +1.2**
comp=Z,0.7nm,0.7s,baz=5.0,slow=6.9,SNR=2.5
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 31.55 180 P **P** **20 31 04.9 +0.9**
QSPA IAmb IAmb 20 31 30.5
comp=Z,6.3nm,1.4s
PLTB Pedras Altas 33.20 312 P **P** **20 31 19.5 +0.9**
PLTB IAmb IAmb 20 31 32.9
comp=Z,4.5nm,0.8s
PLCA Paso Flores 33.74 282 LR LR 20 44 09.3
comp=Z,78nm,18.4s,baz=200,slow=35
GO05 Huala 38.82 287 P **P** **20 32 06.2 -0.6**
GO05 IAmb IAmb 20 32 08.5
comp=Z,50nm,1.5s
CFA Coronel Fontan 39.77 294 P **P** **20 32 14.2 -0.4**
comp=Z,0.7nm,0.4s,baz=252,slow=6.4,SNR=1.6
CFA LR LR 20 50 36.2
comp=Z,50nm,18.6s,baz=134,slow=39
comp=Z,0.7nm,0.4s
SUR Sutherland 40.25 70 LR LR 20 45 29.9
comp=Z,96nm,19.9s,baz=182,slow=31
VNDA Vanda 43.97 182 P **P** **20 32 49.2 +0.8**
comp=Z,2.1nm,1.1s,baz=34,slow=7.2,SNR=2.9
comp=Z,2.1nm,1.1s
VNDA Vanda 43.97 182 P **P** **20 32 51.1 +2.7**
BOSA Boshof 45.52 71 P **P** **20 33 01.8 +0.3**
comp=Z,1.1nm,0.7s,baz=151,slow=10,SNR=1.5
comp=Z,1.1nm,0.7s
BOSA Boshof 45.52 71 P **P** **20 33 01.6 +0.1**
BOSA IAmb IAmb 20 33 23.2
comp=Z,4.4nm,1.1s
BDFB Brasilia 46.29 328 P **P** **20 33 07.2 -0.4**
comp=Z,0.9nm,0.4s,baz=167,slow=20,SNR=2.1
comp=Z,0.9nm,0.4s
H10S2 ASCENSION HYDR 50.24 13 T T 21 28 07.8
baz=187,slow=74,SNR=8.6
H10S3 ASCENSION HYDR 50.24 13 T T 21 28 09.1
baz=33,slow=74,SNR=13
H10N1 ASCENSION HYDR 51.36 13 T T 21 29 33.2
baz=181,slow=71,SNR=5.3
H10N3 ASCENSION HYDR 51.36 13 T T 21 29 31.4
baz=181,slow=71,SNR=13
H10N2 ASCENSION HYDR 51.37 13 T T 21 29 35.7
baz=181,slow=71,SNR=10
LPAZ La Paz 52.92 304 P **P** **20 33 58.2 -0.5**
comp=Z,0.7nm,0.4s,baz=102,slow=8.1,SNR=2.5
comp=Z,0.7nm,0.4s
DBIC Dimbokro 67.11 22 P **P** **20 35 35.5 +0.3**
comp=Z,4.2nm,1.1s,baz=206,slow=8.0,SNR=1.5
comp=Z,4.2nm,1.1s
DBIC Dimbokro 67.11 22 P **P** **20 35 35.3 0.0**
BOAV Boa Vista 67.14 321 P **P** **20 35 33.8 -1.7**
BOAV IAmb IAmb 20 35 49.2
comp=Z,5.9nm,1.3s
TORD Torodi Ar. Bea 74.80 27 P **P** **20 36 22.8 +0.9**
comp=Z,3.0nm,0.3s,baz=197,slow=6.2,SNR=1.6
comp=Z,3.0nm,0.3s
ASAR Alice Springs 96.07 160 P **P** **20 38 10.0 +0.7**
comp=Z,0.2nm,0.6s,baz=182,slow=4.0,SNR=1.8
comp=Z,0.2nm,0.6s
PDAR Pinedale Array 122.78 299 PKP **PKPdf** **20 43 35.4 -1.6**
comp=Z,0.2nm,0.6s,baz=129,slow=2.4,SNR=1.5
CMAR Chiang Mai Arr 122.97 110 PKP **PKPdf** **20 43 37.3 -0.4**
comp=Z,0.3nm,0.5s,baz=289,slow=2.8,SNR=2.6
FINES FINESS Array B 126.15 28 PKP **PKPdf** **20 43 41.7 -0.8**
comp=Z,1.1nm,0.8s,baz=284,slow=7.7,SNR=3.6
MKAR Makanchi Array 136.51 73 PKP **PKPdf** **20 44 01.8 -0.8**
comp=Z,0.2nm,0.8s,baz=182,slow=1.7,SNR=1.2
YKA Yellowknife Ar 138.96 315 PKP **PKPdf** **20 44 06.4 -0.2**
comp=Z,0.5nm,0.6s,baz=134,slow=1.9,SNR=4.3
SONM Songino Array 149.57 89 PKPbc **PKPbc** **20 44 30.0 -0.2**
comp=Z,0.4nm,0.7s,baz=226,slow=3.7,SNR=4.1
ILAR Eielson Array 152.77 307 PKPbc **PKiKP** **20 44 37.5 +0.4**
comp=Z,1.8nm,0.8s,baz=130,slow=2.5,SNR=15

*IDC **21** 20:35:18.2±6.5, 50.°03N×113.°84W, h0km, mbtmp3.4/1, ML3.4/1, Error ellipse: s-maj=103.7km s-min=54.4km az=70.0*
*PGC **21** 20:35:21.5, 50.°12N×114.°91W, h0km, ML3.2/9, 92km northeast of Cranbrook, Bc Alberta, Canada Mining explosion.*
ISC 21 20:35:18.5±0.8, 50.°26N±0.°03×114.°79W±0.°04, h0km, n23, σ1s51/36, Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPGA	**Hill Springs,**	**1.17**	**140**	P	**Pg**	**20 35 41.3**	**+0.5**
WALA	**Waterton Lakes**	**1.33**	**154**	P	**Pg**	**20 35 43.7**	**-0.3**
MKRVA	**Milk River, Al**	**2.25**	**119**	Pn	**Pb**	**20 35 59.5**	**-0.6**
MKRVA				Sg	**Sb**	**20 36 29.7**	**+1.1**
SLEB	**Sale Mountain**	**2.31**	**294**	Pn	**Pn**	**20 36 00.4**	**+2.4**
SLEB				Sg	**Sg**	**20 36 33.7**	**+1.0**
BSMT	**Bassoo Peak**	**2.41**	**180**	Pn	**Pn**	**20 35 59.6**	**+0.3**
BSMT				Sg	**Sn**	**20 36 31.2**	**+1.5**
YBMT	**Yellow Bay**		**245 168**	Pn	**Pn**	**20 36 00.8**	**+0.9**
YBMT				Sg	**Sb**	**20 36 33.8**	**-0.5**
I56US	**NEWPORT INFRAS**	**2.52**	**218**	I	I	20 54 50.0	
	0.1nm,2.3s,baz=45,slow=277,SNR=4.3						
JTMT	**Jette**	**2.54**	**172**	Pn	**Pn**	**20 36 01.7**	**+0.6**
JTMT				Sg	**Sb**	**20 36 37.4**	**+0.6**
MNB	**Mounoet Dainar**	**2.98**	**312**	Pn	**Pb**	**20 36 11.0**	**-1.6**
MNB				Sg	**Sg**	**20 36 54.8**	**+0.6**
EDM	**Edmonton**	**3.10**	**16**	Pn	**Pn**	**20 36 10.4**	**+1.3**
EDM				Sn	**Sg**	**20 36 57.3**	**-0.7**
PNT	**Penticton**	**3.27**	**255**	Pn	**Pn**	**20 36 11.6**	**+0.6**
PNT				Sn	**Sn**	**20 36 49.4**	**-1.2**
BLBC	**Blue River**	**3.32**	**304**	Pn	**Pn**	**20 36 14.5**	**+2.6**
OVMT	**Ovando**	**3.41**	**159**	Pn	**Pn**	**20 36 14.8**	**+1.7**
OVMT				Sg	**Sb**	**20 37 02.1**	**+0.1**
B08A	**Colville Reser**	**3.53**	**239**	Pn	**Pn**	**20 36 15.1**	**+0.5**
LYMT	**Lyon Mountain**	**3.69**	**152**	Pn	**Pn**	**20 36 18.8**	**+1.8**
LYMT				Sg	**Sg**	**20 37 15.5**	**-1.4**
BRLDA	**Berland Lookou**	**4.16**	**338**	Pn	**Pn**	**20 36 25.8**	**+2.4**
BRLDA				Sg	**Sg**	**20 37 32.0**	**-0.2**
LLLB	**Lillooet**	**4.55**	**277**	Pn	**Pn**	**20 36 30.7**	**+2.1**
SWHSA	**Sweathouse Loo**	**4.80**	**346**	Pn	**Pn**	**20 36 34.5**	**+2.5**
SWHSA				Sn	**Sn**	**20 37 27.6**	**-0.8**
SWHSA				Sg	**Sg**	**20 37 49.8**	**-2.8**
LTY	**Liberty**	**4.91**	**235**	Pn	**Pn**	**20 36 34.0**	**+0.3**
HNBB	**Haney**	**5.13**	**262**	Pn	**Pn**	**20 36 37.7**	**+1.0**
STPRA	**Salt Prairie L**	**5.45**	**354**	Pn	**Pn**	**20 36 43.7**	**+2.7**
STPRA				Sn	**Sn**	**20 37 43.5**	**-0.8**
STPRA				Sg	**Sg**	**20 38 11.2**	**-2.1**
I10CA	**LAC DU BONNET**	**12.02**	**83**	I	I	21 47 50.0	
	baz=268,slow=314,SNR=1.3						
YKA	**Yellowknife Ar**	**12.27**	**0**	Pn	**Pn**	**20 38 12.9**	**-1.3**
	0.2nm,0.3s,baz=182,slow=13,SNR=11						
YKA				Sn	Sn	20 40 22.6	-8.9
	baz=181,slow=23,SNR=4.2						
YKA				Lg	Lg	20 41 47.0	
	baz=172,slow=27,SNR=5.5						
	0.5nm,0.5s						

*IDC **21** 20:40:05.9±1.4, 3.°34S×122.°20E, h0km, mb3.2/4, mbtmp3.3/5, ML3.7/1, MS2.6/2, Error ellipse: s-maj=33.6km s-min=22.1km az=58.0*
*DJA **21** 20:40:07.0±0.2, 3.°3±2.°×12.°2E±.°, h10km, M4.0/12, mb4.1/3, MLv3.9/12*
ISC 21 20:40:07.2±0.9, 3.°44S±0.°06×122.°30E±0.°06, h10km, n17, σ1s01/17, mb3.6/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBSI	**Bau Bau**	**2.05**	**173**	P	**Pn**	**20 40 41.7**	**-0.1**
LUWI	**Luwuk**	**2.42**	**11**	P	**Pn**	**20 40 47.1**	**+0.2**
SPSI	**Sidrap Palu**	**2.58**	**258**	P	**Pn**	**20 40 49.0**	**0.0**
BKSI	**Bulukumba**	**2.87**	**229**	P	**Pn**	**20 40 52.9**	**-0.1**
KAPI	**Kappang**	**2.99**	**238**	Pn	**Pn**	**20 40 54.3**	**-0.3**
	11nm,0.3s,baz=53,slow=6.8,SNR=43						
KAPI				Sn	**Sn**	**20 41 30.3**	**-0.2**
	8.9nm,0.3s,baz=287,slow=22,SNR=8.1						
KAPI				LR	LR	20 41 54.7	
	comp=Z,38nm,18.6s,baz=121,slow=37						
	34nm,0.3s						
BSSI	**Bau Bau, Buton**	**3.24**	**214**	P	**Pn**	**20 40 57.5**	**-0.6**
MRSI	**Marisa**	**3.91**	**355**	P	**Pn**	**20 41 07.4**	**+0.1**
SANI	**Sanana**	**3.93**	**70**	P	**Pn**	**20 41 06.3**	**-1.3**
GTOI	**Gorontalo**	**4.11**	**10**	P	**Pn**	**20 41 12.0**	**+2.0**
MPSI	**Mapaga**	**4.45**	**327**	P	**Pn**	**20 41 15.1**	**+0.3**
TNTI	**Ternate**	**6.57**	**51**	P	**Pn**	**20 41 44.0**	**+0.1**
SOEI	**Soe**	**6.57**	**163**	P	**Pn**	**20 41 43.7**	**-0.4**
	18nm,0.8s,0.1nm						

WRA Warramunga Arr 20.18 145 P **P** **20 44 44.0 +2.0**
0.3nm,0.8s,baz=319,slow=10,SNR=1.5
0.3nm,0.8s
ASAR Alice Springs 23.03 152 P **P** **20 45 14.2 +1.6**
0.4nm,0.6s,baz=334,slow=12,SNR=10.0
0.4nm,0.6s
GUMO Guam 28.07 52 LR LR 20 57 50.0
comp=Z,30nm,18.0s,baz=101,slow=38
CMAR Chiang Mai Arr 31.67 314 P **P** **20 46 30.8 -0.2**
0.5nm,0.6s,baz=139,slow=7.0,SNR=7.9
0.5nm,0.6s
MKAR Makanchi Array 61.18 330 P **P** **20 50 20.9 -1.3**
0.4nm,0.7s,baz=134,slow=8.1,SNR=4.6
0.4nm,0.7s

*NOU **21** 20:46:54.4, 20.°99S×174.°99W, h0km, MLv4.7/6, Tonga Islands*
*NEIC **21** 20:46:55.8±2.0, 20.°8S±0.°1×175.°2W±0.°1, h79km±9km, mb4.6/29, Error ellipse: s-maj=19.7km s-min=15.5km az=171.0*
*IDC **21** 20:47:05.6±3.6, 20.°93S×175.°64W, h153km±30km, mb3.8/12, mbtmp4.3/14, Error ellipse: s-maj=23.5km s-min=17.2km az=128.0*
ISC 21 20:47:04.9±0.6, 20.°87S±0.°10×175.°58W±0.°09, h150km, n69, σ0s95/62, mb4.3/22, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**4.02**	**310**	P	**Pn**	**20 48 03.7**	**-1.7**
NIUE	**Niue**	**5.61**	**72**	Pn	Pn	20 48 11.8	-15
NIUE	**Niue**	**5.61**	**72**	P	Pn	20 48 12.2	-14
	426nm,0.7s						
TAVE	**Taveuni**	**5.82**	**315**	P	**Pn**	**20 48 28.4**	**-0.9**
	86nm,0.7s						
DGTI	**Dogotuki**	**6.35**	**315**	P	**Pn**	**20 48 35.5**	**-0.8**
MSVF	**Nonsavu**	**6.78**	**296**	P	**Pn**	**20 48 43.4**	**+1.3**
	50nm,0.8s,baz=124,slow=15,SNR=53						
MSVF	**Nonsavu**	**6.78**	**296**		**Pn**	**20 48 43.0**	**+1.0**
MSVF	**Nonsavu**	**6.78**	**296**	P	**Pn**	**20 48 43.1**	**+1.1**
	91nm,0.9s						
AFI	**Afiamalu**	**7.82**	**28**	P	Pn	20 48 42.7	-13
	15nm,0.4s,baz=253,slow=7.9,SNR=7.2						
AFI				S	Sn	20 50 00.3	-23
	22nm,0.9s,baz=182,slow=23,SNR=1.5						
AFI	**Afiamalu**	**7.82**	**28**	Pn	Pn	20 48 42.4	-14
RAR	**Rarotonga**	**14.77**	**94**	S	Sn	20 52 45.1	-25
	5.3nm,0.3s,baz=98,slow=18,SNR=2.3						
MARNC	**Mare, Loyalty**	**15.30**	**265**		**P**	**20 50 36.1**	**+1.7**
PINNC	**Pines Island,**	**15.87**	**261**		**P**	**20 50 41.7**	**+1.0**
PINNC				IAmb	IAmb	20 51 07.7	
	comp=Z,26nm,1.1s						
LIFNC	**LIFOU**	**16.06**	**267**	P	**P**	**20 50 42.8**	**-0.1**
LIFNC				IAmb	IAmb	20 50 48.2	
	comp=Z,25nm,0.6s						
OUENC	**Ouen Island, N**	**16.41**	**261**	P	**P**	**20 50 47.6**	**+0.8**
DZM	**Mont Dzumac**	**16.77**	**263**	P	**Pn**	**20 50 54.5**	**+3.3**
	comp=Z,14nm,0.8s,baz=74,slow=20,SNR=14						
DZM	**Mont Dzumac**	**16.77**	**263**		**Pn**	**20 50 52.4**	**+1.2**
DZM				IAmb	IAmb	20 50 56.9	
	comp=Z,17nm,0.9s						
URZ	**Urewera**	**18.44**	**198**	P	**P**	**20 51 06.9**	**-1.9**
	comp=Z,13nm,0.6s,baz=160,slow=12,SNR=1.9						
KOUNC	**Koumac, New Ca**	**18.84**	**267**	P	**Pn**	**20 51 14.7**	**-0.8**
KOUNC				IAmb	IAmb	20 51 42.6	
	comp=Z,17nm,1.0s						
THZ	**Tophouse**	**22.99**	**202**	P	**P**	**20 51 56.4**	**-0.1**
LTZ	**Lake Taylor**	**24.11**	**202**	P	**P**	**20 52 05.2**	**-1.5**
RPZ	**Rata Peaks**	**25.36**	**203**	P	**P**	**20 52 19.0**	**+1.1**
	comp=Z,35nm,1.1s,baz=24,slow=11,SNR=2.3						
	comp=Z,35nm,1.1s						
EIDS	**Eidsvold**	**30.94**	**255**	P	**P**	**20 53 06.7**	**-1.1**
EIDS				IAmb	IAmb	20 53 27.3	
	comp=Z,18nm,1.4s						
CAN	**Canberra**	**34.20**	**237**	P	**P**	**20 53 34.6**	**-1.6**
CAN				IAmb	IAmb	20 53 57.3	
	comp=Z,18nm,1.3s						
CTA	**Charters Tower**	**35.71**	**264**	P	**P**	**20 53 49.5**	**+0.3**
	comp=Z,4.9nm,0.5s,baz=96,slow=10.0,SNR=25						
	comp=Z,4.9nm,0.5s						
CTAO	**Charters Tower**	**35.71**	**264**	P	**P**	**20 53 49.6**	**+0.3**
CTAO				IAmb	IAmb	20 53 50.6	
	comp=Z,6.1nm,0.5s						
TOO	**Toolangi**	**37.52**	**235**	P	**P**	**20 54 03.5**	**-0.9**
TOO				IAmb	IAmb	20 54 32.9	
	comp=Z,12nm,1.4s						
PMG	**Port Moresby**	**37.63**	**282**	P	**P**	**20 54 05.8**	**+0.2**
	comp=Z,13nm,0.6s,baz=65,slow=6.1,SNR=5.4						
	comp=Z,13nm,0.6s						
PMG	**Port Moresby**	**37.63**	**282**	P	**P**	**20 54 06.0**	**+0.4**
STKA	**Stephens Creek**	**39.67**	**245**	P	**P**	**20 54 22.2**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=95,slow=11,SNR=12						
	comp=Z,2.4nm,0.5s						
STKA	**Stephens Creek**	**39.67**	**245**	P	**P**	**20 54 22.5**	**+0.1**
COEN	**Coen**	**39.86**	**273**	P	**P**	**20 54 23.1**	**-1.0**
COEN				IAmb	IAmb	20 54 26.7	
	comp=Z,5.5nm,0.8s						
BBOO	**Buckleboo**	**44.41**	**244**	P	**P**	**20 54 59.7**	**-1.1**
BBOO				IAmb	IAmb	20 55 05.9	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**46.60**	**262**	P	**P**	**20 55 17.6**	**-0.6**
WR0				IAmb	IAmb	20 55 18.5	
	comp=Z,7.1nm,1.4s						
AS31	**Alice Springs**	**46.64**	**257**	P	**P**	**20 55 18.0**	**-0.5**
ASAR	**Alice Springs**	**46.64**	**257**	P	**P**	**20 55 18.0**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=91,slow=8.4,SNR=27						
ASAR				PcP	**PcP**	**20 56 51.0**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=112,slow=4.0,SNR=5.4						
	comp=Z,2.8nm,0.8s						
ASAR	**Alice Springs**	**46.64**	**257**	P	**P**	**20 55 17.6**	**-0.9**
WRA	**Warramunga Arr**	**46.79**	**262**	P	**P**	**20 55 18.9**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=96,slow=7.7,SNR=34						
WRA				PcP	**PcP**	**20 56 50.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=99,slow=4.2,SNR=2.5						
	comp=Z,1.6nm,0.5s						
WRA	**Warramunga Arr**	**46.79**	**262**	P	**P**	**20 55 18.4**	**-1.2**
FORT	**Forrest**	**51.23**	**247**	P	**P**	**20 55 52.5**	**-0.8**
FORT				IAmb	IAmb	20 56 09.2	
	comp=Z,17nm,1.1s						
MTN	**Manton Dam**	**51.43**	**270**	P	**P**	**20 55 54.8**	**-0.2**
KNRA	**Kununurra**	**52.89**	**266**	P	**P**	**20 56 05.2**	**-0.6**
KNRA				IAmb	IAmb	20 56 12.6	
	comp=Z,13nm,1.1s						
FITZ	**Fitzroy Crossi**	**55.22**	**262**	P	**P**	**20 56 22.4**	**-0.2**
PSA00	**Pilbara Seismi**	**59.79**	**257**	P	**P**	**20 56 54.8**	**+0.2**
QSPA	**South Pole Qui**	**69.20**	**180**	P	**P**	**20 57 55.4**	**+0.3**
MJAR	**Matsushiro Arr**	**71.87**	**322**	P	**P**	**20 58 11.0**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=125,slow=6.8,SNR=4.4						
	comp=Z,1.0nm,0.6s						
SSLB	**Suanglung**	**76.07**	**302**	P	**P**	**20 58 35.6**	**-0.6**
SSLB				IAmb	IAmb	20 58 43.6	
	comp=Z,25nm,1.3s						
TPUB	**Ta-pu**	**76.09**	**302**	P	**P**	**20 58 35.0**	**-1.3**
PEA0B	**Petropavlovsk-**	**77.23**	**344**	P	**P**	**20 58 41.4**	**-0.6**
PETK	**Petropavlovsk-**	**77.23**	**344**	P	**P**	**20 58 42.4**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=134,slow=8.5,SNR=6.5						
	comp=Z,1.5nm,0.6s						
PETK	**Petropavlovsk-**	**77.23**	**344**	P	**P**	**20 58 41.5**	**-0.5**
BELA	**Belgrano 2**	**78.89**	**172**	P	**P**	**20 58 50.8**	**-0.2**
BELA				IAmb	IAmb	20 59 06.8	
	comp=Z,9.9nm,1.5s						
NVAR	**Mina Array Bea**	**79.76**	**42**	P	**P**	**20 58 57.5**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=222,slow=9.3,SNR=5.3						
	comp=Z,1.0nm,0.7s						
H03S2	**Juan Fernandez**	**83.91**	**124**	T	T	22 31 42.9	
	baz=248,slow=74,SNR=54						
H03S1	**Juan Fernandez**	**83.92**	**124**	T	T	22 31 44.0	
	baz=248,slow=74,SNR=76						
H03S3	**Juan Fernandez**	**83.93**	**124**	T	T	22 31 42.7	
	baz=248,slow=74,SNR=71						
H03N2	**Juan Fernandez**	**84.05**	**123**	T	T	22 31 49.6	
	baz=258,slow=71,SNR=119						
H03N3	**Juan Fernandez**	**84.05**	**123**	T	T	22 31 50.4	
	baz=258,slow=71,SNR=94						
H03N1	**Juan Fernandez**	**84.06**	**123**	T	T	22 31 53.7	
	baz=258,slow=71,SNR=50						
TXAR	**Lajitas Array**	**85.36**	**56**	P	**P**	**20 59 26.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=184,slow=6.1,SNR=3.6						
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**88.19**	**12**	P	**P**	**20 59 39.3**	**+1.0**
	comp=Z,0.4nm,1.0s,baz=224,slow=6.2,SNR=1.9						
	comp=Z,0.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.37**	**289**	P	**P**	**20 59 59.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=129,slow=3.0,SNR=5.1						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**113.10**	**313**	PKiKP	**PKiKP**	**21 05 24.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=148,slow=1.0,SNR=12						
FINES	**FINESS Array B**	**136.74**	**345**	PKhKP	PKPpre	21 05 58.4	
	comp=Z,0.9nm,0.9s,baz=39,slow=5.3,SNR=0.7						
FINES				PKP	**PKPdf**	**21 06 09.2**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=45,slow=2.2,SNR=1.8						
AKASG	**Malin Array Be**	**144.41**	**333**	PKP	**PKPab**	**21 06 21.4**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=41,slow=4.2,SNR=10						
BRTR	**Keskin Array B**	**148.75**	**313**	PKP	**PKPdf**	**21 06 30.7**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=75,slow=1.6,SNR=2.8						
BRTR				PKPbc	**PKPbc**	**21 06 35.5**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=150,slow=7.0,SNR=9.4						
CLL	**Collm**	**148.89**	**350**	*e*PKPbc	**PKPbc**	**21 06 35.0**	**+0.3**
GERES	**GERESS Array B**	**151.11**	**347**	PKP	**PKPdf**	**21 06 34.6**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=66,slow=1.2,SNR=1.7						
GERES				PKPbc	**PKiKP**	**21 06 40.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=38,slow=2.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**171.89**	**161**	PKPab	**PKPab**	**21 08 19.1**	**-0.4**
	comp=Z,6.4nm,0.7s,baz=207,slow=5.4,SNR=2.4						

*IDC **21** 20:47:19.1±1.1, 31.°65N×40.°93W, h0km, mb3.9/8, mbtmp3.9/8, MS3.7/14, Error ellipse: s-maj=31.8km s-min=24.6km az=174.0*
ISC 21 20:47:21.2±1.0, 31.7°N±0.°2×40.°9W±0.°2, h14km, n26, σ0s49/9, mb3.9/8, MS3.7/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**26.48**	**245**	LR	LR	21 01 19.0	
	comp=Z,30nm,21.2s,baz=356,slow=32						
SCHC	**Schefferville**	**29.56**	**329**	LR	LR	21 04 05.7	
	comp=Z,112nm,20.8s,baz=125,slow=34						
MDT	**Midelt**	**30.65**	**78**	LR	LR	21 02 45.6	
	comp=Z,86nm,21.9s,baz=344,slow=30						
SADO	**Sadowa**	**32.45**	**305**	LR	LR	21 05 22.8	
	comp=Z,85nm,18.8s,baz=304,slow=33						
TKL	**Tuckaleechee C**	**35.68**	**288**	LR	LR	21 05 52.4	
	comp=Z,145nm,19.9s,baz=324,slow=31						
DBIC	**Dimbokro**	**41.85**	**119**	LR	LR	21 11 55.3	
	comp=Z,78nm,18.1s,baz=307,slow=35						
TORD	**Torodi Ar. Bea**	**43.17**	**105**	P	**P**	**20 55 22.2**	**+0.4**
	2.9nm,0.3s,baz=312,slow=8.0,SNR=1.7						
	2.9nm,0.3s						
GERES	**GERESS Array B**	**44.09**	**51**	P	**P**	**20 55 29.0**	**0.0**
	0.5nm,0.6s,baz=248,slow=5.6,SNR=6.1						
	0.5nm,0.6s						
H10N2	**ASCENSION HYDR**	**46.70**	**143**	T	T	21 45 28.0	
	baz=328,slow=75,SNR=67						
H10N3	**ASCENSION HYDR**	**46.70**	**143**	T	T	21 45 16.7	
	baz=328,slow=75,SNR=66						
H10N1	**ASCENSION HYDR**	**46.72**	**143**	T	T	21 45 17.4	
	baz=328,slow=75,SNR=68						
H10S3	**ASCENSION HYDR**	**47.56**	**144**	T	T	21 46 22.6	
	baz=328,slow=74,SNR=157						
H10S2	**ASCENSION HYDR**	**47.58**	**144**	T	T	21 46 23.7	
	baz=252,slow=74,SNR=48						
FINES	**FINESS Array B**	**51.82**	**34**	P	**P**	**20 56 28.1**	**-0.4**
	1.6nm,0.9s,baz=260,slow=5.5,SNR=2.1						
	1.6nm,0.9s						
ARCES	**ARCESS Array B**	**52.49**	**24**	LR	LR	21 14 25.1	
	comp=Z,73nm,19.6s,baz=2.0,slow=31						
MLR	**Muntele Rosu**	**52.64**	**54**	LR	LR	21 17 38.2	
	comp=Z,90nm,19.2s,baz=1.5,slow=35						
ANMO	**Albuquerque**	**53.98**	**292**	LR	LR	21 18 23.6	
	comp=Z,66nm,19.1s,baz=52,slow=34						
AKASG	**Malin Array Be**	**54.04**	**48**	P	**P**	**20 56 44.8**	**-0.2**
	0.8nm,0.6s,baz=279,slow=6.8,SNR=6.3						
	0.8nm,0.6s						
LPAZ	**La Paz**	**54.35**	**213**	P	**P**	**20 56 48.2**	**-0.1**
	0.7nm,0.7s,baz=25,slow=1.1,SNR=2.5						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**54.40**	**302**	P	**P**	**20 56 47.7**	**-0.3**
	0.9nm,0.8s,baz=74,slow=9.1,SNR=6.7						
PDAR				LR	LR	21 19 32.1	
	comp=Z,120nm,18.4s,baz=279,slow=36						
	0.9nm,0.8s						
INK	**Inuvik**	**61.93**	**335**	P	**P**	**20 57 40.9**	**+0.8**
	1.0nm,0.8s,baz=74,slow=7.6,SNR=3.5						
	1.0nm,0.8s						
PFO	**Pinyon Flats O**	**62.25**	**294**	LR	LR	21 25 56.4	
	comp=Z,202nm,18.1s,baz=250,slow=37						
ILAR	**Eielson Array**	**68.20**	**334**	P	**P**	**20 58 21.3**	**+0.4**
	0.7nm,0.9s,baz=56,slow=3.6,SNR=6.0						
ILAR				LR	LR	21 29 16.0	
	comp=Z,90nm,19.0s,baz=189,slow=37						
	0.7nm,0.9s						
KDAK	**Kodiak Island**	**74.19**	**329**	LR	LR	21 31 57.5	
	comp=Z,114nm,18.6s,baz=126,slow=36						
MBAR	**Mbarara**	**74.77**	**100**	LR	LR	21 30 37.1	
	comp=Z,56nm,19.9s,baz=276,slow=35						
ASAR	**Alice Springs**	**170.82**	**31**	PKPab	**PKPab**	**21 08 47.3**	**-0.3**
	0.7nm,0.9s,baz=324,slow=4.6,SNR=5.0						

*IDC **21** 20:49:24.6±5.7, 4.°31S×153.°49E, h361km±17km, **mb2.4**/3, **mbtmp3.0**/3, Error ellipse: s-maj=129.4km s-min=32.4km az=102.0, New Ireland region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.46**	**270**	P	Pn	20 50 13.7	0.0
	58nm,0.4s,baz=92,slow=0.6,SNR=4.4						
KRVT				S	S	20 50 53.2	+0.2
	24nm,0.5s,baz=354,slow=19,SNR=1.3				

WRA Warramunga Arr 52.65 189 P P 21 37 23.6 -1.8
0.6nm,0.6s,baz=5.0,slow=7.7,SNR=11
0.6nm,0.6s

*NEIC **21** 21:28:42.9±2.4, 52.57N±0.08×170.71W±0.07, h110km±6km, mb3.9/34, ML3.7/6, ML3.4(AEIC), Error ellipse: s-maj=12.1km s-min=5.8km az=187.0*
*AEIC **21** 21:28:44.4±3.1, 52.7N±0.1×170.70W±0.09, h103km±6km, Error ellipse: s-maj=14.9km s-min=7.4km az=170.0*
*IDC **21** 21:28:49.1±5.3, 53.02N×170.89W, h145km±47km, mb3.4/13, mbtmp3.8/15, Error ellipse: s-maj=29.2km s-min=15.2km az=177.0*

ISC 21 21:28:43.5±0.6, 52.8N±0.1×170.78W±0.05, h100km, n80, σ1s49/80, mb3.8/19, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLES	**Cleveland East**	**0.54**	**83**		**Pn**	**21 29 01.1**	**+1.6**
CLES				Sn	**Sn**	**21 29 13.7**	**+2.1**
CLES				IAML		21 29 15.0	
	comp=N,6μm,0.9s						
CLES				IAML		21 29 16.2	
	comp=E,4μm,0.4s						
NIKH	**Nikolski High**	**1.19**	**79**		**Pn**	**21 29 07.1**	**+1.1**
NIKH				Sn	**Sn**	**21 29 23.9**	**+0.9**
UNV	**Unalaska Valle**	**2.79**	**65**		**Pn**	**21 29 28.1**	**+1.8**
UNV	**Unalaska Valle**	**2.79**	**65**		**Sn**	**21 30 01.5**	**+2.2**
AKUT	**Akutan**	**3.30**	**63**	Pn	**Pn**	**21 29 36.0**	**+2.8**
AKUT				IAML		21 30 29.9	
	comp=E,113nm,2.6s						
ADK	**Adak**	**3.73**	**259**	Pn	**Pn**	**21 29 40.4**	**+1.5**
ADK				IAML		21 30 39.8	
	comp=E,125nm,3.2s						
ADK				IAML		21 31 49.1	
	comp=E,106nm,3.6s						
SPIA	**Saint Paul Isl**	**4.44**	**4**		**Pn**	**21 29 51.8**	**+3.3**
SDPT	**Sand Point**	**6.60**	**63**	Pn	**Pn**	**21 30 18.4**	**+0.6**
GAMB	**Gambell**	**11.06**	**358**	Pn	**Pn**	**21 31 21.4**	**+3.2**
O18K	**Koktuh Hills**	**11.17**	**44**	Pn	**Pn**	**21 31 21.5**	**+1.6**
Q19K	**Cape Douglas,**	**11.42**	**50**	Pn	**Pn**	**21 31 23.0**	**-0.3**
KDAK	**Kodiak Island**	**11.52**	**57**	P	**Pn**	**21 31 21.9**	**-2.6**
	comp=E,8.2nm,0.9s,baz=254,slow=7.4,SNR=1.6						
KDAK				S	**Sn**	**21 33 25.1**	**-5.9**
	comp=E,5.5nm,1.0s,baz=343,slow=23,SNR=0.7						
KDAK	**Kodiak Island**	**11.52**	**57**	Pn	**Pn**	**21 31 23.9**	**-0.6**
ANM	**Nome**	**12.16**	**11**	Pn	**Pn**	**21 31 35.2**	**+2.1**
CNPM	**China Poot**	**12.80**	**50**	Pn	**Pn**	**21 31 40.0**	**-1.5**
BRLK	**Bradley Lake**	**13.06**	**50**	Pn	**Pn**	**21 31 43.8**	**-1.1**
SKT	**Skwentna**	**13.84**	**41**	Pn	**Pn**	**21 31 57.8**	**+2.7**
SUA	**Susitna One**	**13.89**	**43**	Pn	**Pn**	**21 31 57.2**	**+1.4**
PPLA	**Purkeypile**	**14.12**	**37**	Pn	**Pn**	**21 32 00.2**	**+1.3**
RC01	**Rabbit Creek A**	**14.14**	**46**	Pn	**Pn**	**21 31 58.0**	**-0.9**
GHO	**Glory Hole Cre**	**14.80**	**44**	Pn	**Pn**	**21 32 07.0**	**-0.4**
KTH	**Kantishna Hill**	**14.98**	**36**		**Pn**	**21 32 11.5**	**+1.8**
KTH				IAmb	IAmb	21 32 28.9	
	comp=Z,11nm,1.4s						
BPAW	**Bear Paw Mtn.**	**15.29**	**34**	Pn	**Pn**	**21 32 13.8**	**+0.2**
SCM	**Sheep Creek Mo**	**15.51**	**45**	Pn	**Pn**	**21 32 15.8**	**-0.5**
SCM				IAmb	IAmb	21 32 43.6	
	comp=Z,12nm,1.2s						
IMAR	**Indian Mountai**	**15.76**	**26**		**Pn**	**21 32 21.0**	**+1.6**
MCK	**McKinley**	**15.80**	**37**		**Pn**	**21 32 21.2**	**+1.2**
KLU	**Klutina**	**15.99**	**47**	Pn	**Pn**	**21 32 19.8**	**-2.6**
KLU				IAmb	IAmb	21 32 23.9	
	comp=Z,12nm,1.4s						
M24K	**Tolsona, Glenn**	**16.12**	**45**	Pn	**Pn**	**21 32 23.8**	**-0.2**
N25K	**Chitina, Valde**	**16.62**	**48**		**Pn**	**21 32 29.0**	**-1.1**
N25K				IAmb	IAmb	21 32 45.1	
	comp=Z,13nm,1.5s						
MDM	**Murphy Dome**	**16.76**	**34**		**Pn**	**21 32 31.0**	**-0.9**
MDM				IAmb	IAmb	21 32 45.3	
	comp=Z,7.3nm,1.4s						
GLB	**Gilahina Butte**	**16.92**	**48**		**Pn**	**21 32 32.6**	**-1.2**
GLB				IAmb	IAmb	21 32 48.9	
	comp=Z,8.0nm,1.4s						
VRDI	**Verde Repeater**	**17.02**	**49**	P	**Pn**	**21 32 34.4**	**-0.7**
VRDI				IAmb	IAmb	21 32 39.7	
	comp=Z,11nm,1.3s						
ILAR	**Eielson Array**	**17.13**	**36**	P	**Pn**	**21 32 36.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=228,slow=10,SNR=6.1						
RIDG	**Independent Ri**	**17.38**	**41**	P	**P**	**21 32 39.0**	**-0.3**
RIDG				IAmb	IAmb	21 32 53.7	
	comp=Z,6.9nm,1.3s						
H24K	**Noodor Dome**	**17.41**	**32**	P	**P**	**21 32 40.4**	**+0.8**
M26K	**Nabesna, AK**	**17.61**	**46**	P	**P**	**21 32 41.5**	**-0.2**
BARN	**Barnard Glacie**	**17.80**	**51**	P	**P**	**21 32 44.4**	**+0.3**
BARN				IAmb	IAmb	21 32 49.9	
	comp=Z,11nm,1.3s						
SCRK	**Sand Creek**	**17.82**	**41**	P	**P**	**21 32 42.6**	**-1.6**
M27K	**Edge Creek, AK**	**18.08**	**47**	P	**P**	**21 32 47.2**	**+0.1**
M27K				IAmb	IAmb	21 33 04.6	
	comp=Z,7.2nm,1.5s						
J26L	**Joseph Creek**	**18.23**	**39**	P	**P**	**21 32 48.9**	**+0.3**
PETK	**Petropavlovsk-**	**18.93**	**284**	P	**P**	**21 32 57.1**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=82,slow=14,SNR=2.1						
BMAR	**Burnt Mountain**	**19.42**	**31**	P	**P**	**21 33 02.5**	**+1.0**
HYT	**Haines Junctio**	**19.74**	**53**	P	**P**	**21 33 03.5**	**-1.7**
HYT				IAmb	IAmb	21 33 24.1	
	comp=Z,4.1nm,1.0s						
SEY	**Seymchan**	**21.77**	**312**	P	**P**	**21 33 27.0**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=101,slow=13,SNR=5.9						
	comp=Z,0.9nm,0.6s						
DLBC	**Dease Lake**	**23.43**	**60**	P	**P**	**21 33 45.3**	**+1.8**
	comp=Z,2.9nm,0.5s,baz=233,slow=10,SNR=5.6						
	comp=Z,2.9nm,0.5s						
INK	**Inuvik**	**23.50**	**34**	P	**P**	**21 33 43.2**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=246,slow=6.4,SNR=4.9						
	comp=Z,0.5nm,0.5s						
INK	**Inuvik**	**23.50**	**34**	P	**P**	**21 33 43.0**	**-0.9**
INK				IAmb	IAmb	21 33 57.3	
	comp=Z,5.1nm,1.4s						
YKA	**Yellowknife Ar**	**30.64**	**49**	PcP	**PcP**	**21 37 44.3**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=274,slow=3.5,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**38.44**	**216**	T	T	22 17 10.8	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.45**	**216**	T	T	22 17 32.3	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.45**	**216**	T	T	22 17 23.8	
	baz=22						
FFC	**Flin Flon**	**39.26**	**59**	P	**P**	**21 36 02.4**	**+0.6**
JHJ2	**Mitsune**	**40.21**	**261**	P	**P**	**21 36 08.0**	**-1.9**
TPNV	**Topopah Spring**	**40.73**	**90**	P	**P**	**21 36 16.0**	**+1.5**
TPNV				IAmb	IAmb	21 36 35.7	
	comp=Z,5.1nm,1.2s						
PDAR	**Pinedale Array**	**41.17**	**79**	P	**P**	**21 36 19.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=328,slow=5.3,SNR=7.0						
	comp=Z,0.5nm,0.7s						
FCC	**Fort Churchill**	**41.35**	**50**	P	**P**	**21 36 19.5**	**+0.5**
FCC				IAmb	IAmb	21 36 20.3	
	comp=Z,1.3nm,0.8s						
TMUT	**Trail Mountain**	**42.29**	**84**	P	**P**	**21 36 27.4**	**+0.1**
SONM	**Songino Array**	**50.36**	**300**	PcP	**PcP**	**21 38 46.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=72,slow=2.9,SNR=4.2						
TXAR	**Lajitas Array**	**53.60**	**88**	P	**P**	**21 37 55.6**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=316,slow=6.3,SNR=2.9						
	comp=Z,0.4nm,0.4s						
SCHQ	**Schefferville**	**55.74**	**43**	P	**P**	**21 38 08.9**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=327,slow=6.7,SNR=3.7						
	comp=Z,3.5nm,1.0s						
SADO	**Sadowa**	**56.98**	**58**	P	**P**	**21 38 17.6**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=354,slow=6.4,SNR=3.7						
	comp=Z,2.2nm,0.5s						
KURK	**Kurchatov**	**61.50**	**317**	P	**P**	**21 38 48.4**	**-0.9**
KURK				IAmb	IAmb	21 38 59.0	
	comp=Z,3.5nm,1.4s						
FINES	**FINESS Array B**	**65.35**	**351**	P	**P**	**21 39 13.1**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=17,slow=9.8,SNR=5.2						
	comp=Z,1.3nm,0.7s						
NB2	**NORSAR Subarra**	**66.54**	**359**	P	**P**	**21 39 21.5**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=1.3,slow=6.9						
NOA	**NORSAR Array B**	**66.54**	**359**	P	**P**	**21 39 21.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=1.3,slow=6.6,SNR=4.5						
	comp=Z,0.8nm,0.6s						
ABKAR	**Akbulak array**	**69.64**	**327**	P	**P**	**21 39 40.3**	**-1.3**
ABKAR	**Akbulak array**	**69.64**	**327**	P	**P**	**21 39 40.4**	**-1.3**
ABKAR				IAmb	IAmb	21 39 49.3	
	comp=Z,1.8nm,1.4s						
KKAR	**Karatay Array**	**70.92**	**317**	P	**P**	**21 39 48.6**	**-1.0**
KKAR	**Karatay Array**	**70.92**	**317**	P	**P**	**21 39 48.5**	**-1.1**
KKAR				IAmb	IAmb	21 39 59.0	
	comp=Z,1.2nm,1.2s						
PABE	**Paberze**	**71.41**	**351**	P	**P**	**21 39 51.8**	**-0.4**
GAR	**Garm**	**74.40**	**315**	P	**P**	**21 40 09.8**	**-0.7**
CHGR	**Chuyangaron**	**75.18**	**315**	P	**P**	**21 40 14.1**	**-0.8**
AKASG	**Malin Array Be**	**75.54**	**347**	P	**P**	**21 40 14.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=17,slow=5.8,SNR=4.0						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**75.54**	**347**	P	**P**	**21 40 15.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**75.69**	**282**	P	**P**	**21 40 17.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=34,slow=6.6,SNR=5.1						
	comp=Z,0.3nm,0.3s						
GERES	**GERESS Array B**	**78.70**	**357**	P	**P**	**21 40 34.2**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=335,slow=6.6,SNR=2.3						
	comp=Z,0.3nm,0.5s						
BUR08	**Bucovina Ar. S**	**79.05**	**349**	P	**P**	**21 40 35.8**	**-0.6**
BUR08				IAmb	IAmb	21 40 41.0	
	comp=Z,5.5nm,1.5s						
BURAR	**Bucovina Array**	**79.07**	**349**	P	**P**	**21 40 36.0**	**-0.5**
BURAR				IAmb	IAmb	21 40 58.5	
	comp=Z,2.0nm,1.4s						
ASAR	**Alice Springs**	**89.99**	**229**	P	**P**	**21 41 32.0**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=28,slow=4.6,SNR=7.2						
	comp=Z,0.6nm,0.7s						
BOSA	**Boshof**	**153.11**	**328**	PKPbc	**PKPbc**	**21 48 29.1**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=33,slow=1.9,SNR=7.0						

IDC 21 21:34:36.3±2.1, 1.99N×124.92E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=196.7km s-min=27.7km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.68**	**157**	P	P	21 39 50.0	+0.2
	1.3nm,0.4s,baz=336,slow=10,SNR=31						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**26.96**	**162**	P	P	21 40 19.5	-0.3
	0.3nm,0.6s,baz=345,slow=7.2,SNR=5.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**57.98**	**327**	P	P	21 44 30.8	0.0
	0.3nm,0.9s,baz=128,slow=7.3,SNR=1.9						
	0.3nm,0.9s						

*IDC **21** 21:39:17.7±2.3, 43.59N×105.25W, h0km, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=48.7km s-min=10.8km az=150.0*
*NEIC **21** 21:39:19.3±2.0, 43.61N±0.05×105.17W±0.07, h0km±2km, ML3.1/32, Error ellipse: s-maj=10.2km s-min=6.9km az=139.0*

ISC 21 21:39:17.5±1.0, 43.64N±0.05×105.09W±0.06, h0km, n35, σ1s22/34, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.91**	**57**		**Pn**	**21 39 37.5**	**-0.2**
RSSD	**Black Hills**	**0.91**	**57**	P	**Pn**	**21 39 37.6**	**-0.2**
	baz=238						
K22A	**Casper**	**1.44**	**227**	Pn	**Pn**	**21 39 43.6**	**-1.3**
K22A				IAML		21 40 07.7	
	comp=N,235nm,0.3s						
K22A				IAML		21 40 13.7	
	comp=E,181nm,0.3s						
K22A	**Casper**	**1.44**	**227**	P	**Pn**	**21 39 43.7**	**-1.3**
	baz=46						
PHWY	**Pilot Hill**	**2.35**	**187**	Pn	**Pn**	**21 39 59.2**	**+1.6**
PHWY				IAML		21 40 40.5	
	comp=E,108nm,0.5s						
RWWY	**Rawlins**	**2.50**	**219**		**Pn**	**21 40 00.8**	**+1.2**
RWWY				IAML		21 40 42.5	
	comp=E,148nm,1.2s						
RWWY				IAML		21 40 45.2	
	comp=E,107nm,1.0s						
N23A	**Red Feather La**	**2.81**	**193**		**Pn**	**21 40 05.8**	**+1.9**
N23A				IAML		21 40 59.4	
	comp=N,91nm,0.7s						
N23A				IAML		21 41 02.9	
	comp=E,77nm,0.9s						
N23A	**Red Feather La**	**2.81**	**193**	P	**Pb**	**21 40 08.4**	**-0.4**
	baz=12						
LAO	**LASA Array**	**3.15**	**346**		**Pn**	**21 40 09.6**	**+1.1**
RLMT	**Red Lodge**	**3.34**	**298**		**Pn**	**21 40 11.7**	**+0.5**
RLMT				IAML		21 41 19.6	
	comp=E,37nm,1.1s						
RLMT				IAML		21 42 10.3	
	comp=E,37nm,4.5s						
RLMT	**Red Lodge**	**3.34**	**298**	P	**Pn**	**21 40 12.7**	**+1.5**
	baz=116						
BW06	**Boulder Array**	**3.38**	**257**		**Pn**	**21 40 11.8**	**0.0**
BW06				IAML		21 41 09.8	
	comp=E,28nm,1.6s						
BW06	**Boulder Array**	**3.38**	**257**	S	**Sb**	**21 40 59.9**	**-0.2**
	baz=74						
PD31	**Pinedale Array**	**3.38**	**257**		**Pn**	**21 40 12.7**	**+1.0**
PDAR	**Pinedale Array**	**3.38**	**257**	Pn	**Pn**	**21 40 13.4**	**+1.7**
	comp=E,1.4nm,0.3s,baz=78,slow=18,SNR=22						
PDAR				Lg	Lg	21 40 59.0	
	comp=E,5.6nm,0.3s,baz=75,slow=35,SNR=3.1						
	comp=E,1.7nm,0.4s						
PDAR	**Pinedale Array**	**3.38**	**257**		**Pn**	**21 40 13.3**	**+1.6**
YMP	**Mirror Lake PI**	**3.80**	**289**	Pn	**Pn**	**21 40 17.1**	**-0.6**
YMP				IAML		21 41 22.1	
	comp=E,48nm,1.2s						
ISCO	**Idaho Springs**	**3.85**	**186**		**Pn**	**21 40 20.0**	**+1.7**
ISCO				IAML		21 42 27.5	
	comp=E,19nm,4.5s						
ISCO	**Idaho Springs**	**3.85**	**186**	S	**Sg**	**21 41 19.5**	**-1.9**
	baz=5.1						
GCMT	**Greycliff**	**3.91**	**305**	Pn	**Pn**	**21 40 19.2**	**+0.3**
LKWY	**Lake**	**3.93**	**285**		**Pn**	**21 40 20.5**	**+1.1**
LKWY				IAML		21 40 56.6	
	comp=E,38nm,1.3s						
LKWY				IAML		21 41 37.0	
	comp=E,27nm,1.6s						
MOOW	**Moose Ponds**	**4.10**	**273**		**Pn**	**21 40 22.7**	**+1.1**
O20A	**White River Ci**	**4.21**	**215**		**Pn**	**21 40 24.8**	**+1.6**
AHID	**Auburn Hatcher**	**4.48**	**261**	Pn	**Pn**	**21 40 28.1**	**+1.3**
AHID				IAML		21 41 48.7	
	comp=E,28nm,2.2s						
AHID				IAML		21 41 52.7	
	comp=E,30nm,3.7s						
KSCO	**Kaye Shedlock'**	**4.98**	**157**		**Pn**	**21 40 34.0**	**+0.3**
HWUT	**Hardware Ranch**	**5.19**	**249**		**Pn**	**21 40 36.4**	**-0.2**
EGMT	**Eagleton**	**5.46**	**325**		**Pn**	**21 40 42.3**	**+2.1**
P18A	**Preston Nutter**	**5.56**	**226**		**Pn**	**21 40 43.7**	**+1.9**
P17A	**Butcher Ranch,**	**5.94**	**227**	Pn	**Pn**	**21 40 48.0**	**+1.1**
S22A	**4UR Ranch, Cre**	**6.03**	**193**	Pn	**Pn**	**21 40 48.8**	**+0.5**
ECSD	**EROS Data Cent**	**6.15**	**86**	Pn	**Pn**	**21 40 49.8**	**+0.2**
PV13	**Radium Mtn., P**	**6.16**	**209**	Pn	**Pn**	**21 40 49.6**	**-0.3**
I10CA	**LAC DU BONNET**	**9.03**	**40**	I	I	22 31 50.0	
	comp=E,0.1nm,2.1s,baz=216,slow=316,SNR=4.3						
ULM	**Lac du Bonnet**	**9.13**	**40**	Pn	**Pn**	**21 41 29.3**	**-1.2**
	comp=E,0.6nm,0.3s,baz=229,slow=12,SNR=2.8						
ULM				Lg	Lg	21 44 03.7	
	comp=E,0.1nm,0.3s,baz=285,slow=20,SNR=1.5						
	comp=E,1.7nm,0.3s						
YKA	**Yellowknife Ar**	**19.69**	**347**	P	**Pn**	**21 43 49.7**	**+0.3**
	baz=158,slow=10.0,SNR=2.0						
	comp=E,0.4nm,1.0s						

*DJA **21** 21:44:43.8±0.4, 6.3S±3.3×15.2E±.°, h63km±6km, M4.9/15, mB4.7/3, mb4.6/15, MLv5.1/3, Mw(mB)3.9/3*
*NEIC **21** 21:44:43.5±1.3, 5.54S±0.07×151.9E±0.1, h55km±3km, mb4.5/33, Error ellipse: s-maj=17.3km s-min=7.7km az=110.0*
*IDC **21** 21:44:43.2±1.2, 5.54S×151.77E, h57km±9km, mb4.0/18, mbtmp4.3/20, MS3.9/37, Error ellipse: s-maj=18.0km s-min=7.8km az=118.0*

ISC 21 21:44:42.1±0.5, 5.59S±0.05×151.91E±0.08, h45km, n110, σ1s20/91, mb4.4/34, MS3.9/34, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.28**	**5**	P	**Pn**	**21 45 03.8**	**+0.2**
	6μm,0.4s,baz=187,slow=2.4,SNR=666						
KRVT				S	**Sn**	**21 45 20.4**	**+0.9**
	9μm,0.3s,baz=299,slow=24,SNR=9.5						
RABL	**Rabaul**	**1.41**	**10**		**Pn**	**21 45 06.4**	**+1.0**
RABL				Sn	**Sn**	**21 45 25.7**	**+2.9**
RABL	**Rabaul**	**1.41**	**10**	P	**Pn**	**21 45 07.6**	**+2.2**
MANU	**Manus Island**	**5.74**	**308**		**Pn**	**21 46 08.4**	**+3.5**
PMG	**Port Moresby**	**6.05**	**231**	P	**Pn**	**21 46 10.7**	**+1.7**
	120nm,0.9s,baz=42,slow=8.7,SNR=25						
PMG				S	**Sn**	**21 47 15.9**	**-1.1**
	79nm,0.7s,baz=140,slow=21,SNR=6.2						
PMG				LR	LR	21 47 44.6	
	comp=Z,139nm,20.1s,baz=37,slow=30						
PMG	**Port Moresby**	**6.05**	**231**		**Pn**	**21 46 10.3**	**+1.3**
PMG	**Port Moresby**	**6.05**	**231**	P	**Pn**	**21 46 11.5**	**+2.5**
HNR	**Honiara**	**8.83**	**116**	LR	LR	21 49 45.9	
	comp=Z,6μm,20.5s,baz=287,slow=34						
MTSU	**Mount Surprise**	**14.51**	**210**	P	**Pn**	**21 48 06.8**	**+2.1**
CTA	**Charters Tower**	**15.43**	**200**	P	**Pn**	**21 48 16.1**	**-0.7**
	1.5nm,0.2s,baz=29,slow=13,SNR=1.4						
CTA				LR	LR	21 54 00.9	
	comp=Z,499nm,18.6s,baz=35,slow=36						
CTAO	**Charters Tower**	**15.43**	**200**	P	**P**	**21 48 20.1**	**-0.5**
QIS	**Mount Isa**	**19.08**	**218**	P	**Pn**	**21 49 02.8**	**+0.6**
EIDS	**Eidsvold**	**19.68**	**182**	P	**P**	**21 49 08.2**	**+0.7**
EIDS				IAmb	IAmb	21 49 09.5	
	comp=Z,22nm,0.8s						
EIDS	**Eidsvold**	**19.68**	**182**	P	**P**	**21 49 08.8**	**+1.3**
GUMO	**Guam**	**20.30**	**340**	LR	LR	21 56 57.6	
	comp=Z,81nm,20.0s,baz=90,slow=36						
KDU	**Kakadu**	**20.44**	**248**	P	Pn	21 49 17.3	-1.0
RMQ	**Roma**	**21.00**	**188**	P	**P**	**21 49 23.5**	**+1.7**
SIJI	**Sorong**	**21.14**	**282**	P	**P**	**21 49 24.4**	**+0.9**
	comp=Z,10nm,0.7s,baz=111,slow=6.5,SNR=4.1						
SWI	**Sorong**	**21.14**	**282**	P	**P**	**21 49 24.5**	**+1.0**
	comp=Z,21nm,1.3s						
DZM	**Mont Dzumac**	**21.59**	**141**	P	**P**	**21 49 28.6**	**+0.4**
	comp=Z,6.4nm,1.0s,baz=338,slow=19,SNR=6.1						
DZM				LR	LR	21 57 11.5	
	comp=Z,420nm,19.2s,baz=248,slow=34						
	comp=Z,6.4nm,1.0s						
DZM	**Mont Dzumac**	**21.59**	**141**	P	**P**	**21 49 28.8**	**+0.5**
MTN	**Manton Dam**	**21.73**	**249**	P	**P**	**21 49 30.6**	**+0.9**
MTN				IAmb	IAmb	21 49 45.7	
	comp=Z,25nm,1.1s						
WB0	**Warramunga Arr**	**22.11**	**229**	P	**P**	**21 49 33.1**	**-0.8**
WB0				IAmb	IAmb	21 49 51.3	
	comp=Z,32nm,1.1s						
WR0	**Warramunga Arr**	**22.12**	**228**	P	**P**	**21 49 33.2**	**-0.8**
WR0				IAmb	IAmb	21 49 51.3	
	comp=Z,27nm,1.1s						
QLP	**Quilpie**	**22.12**	**199**	P	**P**	**21 49 35.4**	**+1.5**
WRAB	**Tennant Creek**	**22.25**	**229**	P	**P**	**21 49 35.5**	**+0.2**
WB2	**Warramunga Arr**	**22.25**	**229**	P	**P**	**21 49 34.8**	**-0.6**
WB2				IAmb	IAmb	21 49 51.3	
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**22.26**	**229**	P	**P**	**21 49 34.6**	**-0.9**
	comp=Z,4.3nm,0.9s,baz=53,slow=9.9,SNR=20						
WRA				PcP	**PcP**	**21 53 30.1**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=55,slow=2.1,SNR=3.2						
WRA				S	**S**	**21 53 35.2**	**-2.7**
	comp=Z,5.1nm,1.1s,baz=54,slow=18,SNR=9.6						
WRA				LR	LR	21 59 04.5	
	comp=Z,232nm,19.1s,baz=50,slow=39						
	comp=Z,4.3nm,0.9s						
WRA	**Warramunga Arr**	**22.26**	**229**	P	**P**	**21 49 35.0**	**-0.4**
WB1	**Warramunga Ar.**	**22.27**	**229**	P	**P**	**21 49 35.3**	**-0.2**
INKA	**Innaminka**	**24.45**	**204**	P	**P**	**21 49 57.9**	**+1.1**
KNRA	**Kununurra**	**24.83**	**244**		**P**	**21 50 00.0**	**-0.4**
KNRA	**Kununurra**	**24.83**	**244**	P	**P**	**21 50 02.9**	**+2.5**
AS01	**Alice Springs**	**24.94**	**222**	P	**P**	**21 50 03.1**	**+1.7**
AS31	**Alice Springs**	**24.97**	**222**		**P**	**21 50 01.5**	**-0.2**
ASAR	**Alice Springs**	**24.97**	**222**	P	**P**	**21 50 01.7**	**0.0**
	comp=Z,13nm,0.8s,baz=56,slow=9.2,SNR=122						
ASAR				LR	LR	22 01 35.0	
	comp=Z,225nm,18.3s,baz=86,slow=41						
	comp=Z,13nm,0.8s						
AUPHS	**Peel High Scho**	**25.39**	**182**	P	**P**	**21 50 07.8**	**+2.4**
OOD	**Oodnadatta**	**26.93**	**213**	P	**P**	**21 50 21.9**	**+2.6**
STKA	**Stephens Creek**	**27.88**	**199**	P	**P**	**21 50 28.4**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=13,slow=10,SNR=4.9						
STKA				LR	LR	22 02 03.0	
	comp=Z,243nm,18.4s,baz=25,slow=37						
	comp=Z,1.6nm,0.6s						
STKA	**Stephens Creek**	**27.88**	**199**	P	**P**	**21 50 28.7**	**+0.9**
BATI	**Baumata**	**28.34**	**259**	P	**P**	**21 50 32.4**	**+0.3**
	comp=Z,23nm,0.8s,baz=75,slow=18,SNR=5.4						
BATI				LR	LR	22 04 57.7	
	comp=Z,401nm,18.7s,baz=98,slow=43						
	comp=Z,23nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.51**	**242**	P	**P**	**21 50 32.8**	**-0.7**
DAV	**Davao City (W)**	**29.13**	**295**	LR	LR	22 02 05.2	
	comp=Z,241nm,18.1s,baz=98,slow=36						
WRKA	**Warakurna**	**29.78**	**227**	P	**P**	**21 50 44.3**	**-0.5**
TOLI2	**Tolitoli**	**31.79**	**281**	P	**P**	**21 51 01.8**	**-0.8**
TOLI2				IAmb	IAmb	21 51 09.8	
	comp=Z,13nm,1.0s						
KAPI	**Kappang**	**32.03**	**269**	LR	LR	22 07 15.0	
	comp=Z,79nm,18.2s,baz=88,slow=42						
FORT	**Forrest**	**33.62**	**219**	P	**P**	**21 51 17.7**	**-0.7**
PSA00	**Pilbara Seismi**	**34.87**	**240**	P

ZALV	**Zalesovo Beam**	**81.32**	**327**	P		**P**	**21 56 52.2**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=97,slow=4.9,SNR=6.1							
ZALV				LR		LR	22 32 47.8	
	comp=Z,60nm,19.9s,baz=109,slow=36							
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**81.32**	**327**	P		**P**	**21 56 52.9**	**-0.8**
IMAR	**Indian Mountai**	**81.42**	**20**	P		**P**	**21 56 54.2**	**+0.3**
MLY	**Manley**	**81.94**	**21**	P		**P**	**21 56 56.7**	**-0.1**
MLY				IAmb		IAmb	21 57 12.9	
	comp=Z,6.2nm,1.2s							
IL31		**83.22**	**22**	P		**P**	**21 57 02.7**	**-0.6**
IL31				IAmb		IAmb	21 57 29.0	
	comp=Z,3.6nm,0.9s							
ILAR	**Eielson Array**	**83.22**	**22**	P		**P**	**21 57 02.5**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=247,slow=5.2,SNR=18							
ILAR				LR		LR	22 33 02.4	
	comp=Z,84nm,19.7s,baz=225,slow=35							
	comp=Z,1.7nm,0.7s							
ILAR	**Eielson Array**	**83.22**	**22**	P		**P**	**21 57 02.3**	**-1.1**
DOT	**Dot Lake**	**83.80**	**24**	P		**P**	**21 57 06.3**	**-0.2**
DOT				IAmb		IAmb	21 57 22.7	
	comp=Z,11nm,1.4s							
KURK	**Kurchatov**	**83.85**	**322**	P		**P**	**21 57 05.5**	**-1.3**
M27K	**Edge Creek, AK**	**84.17**	**25**	P		**P**	**21 57 09.4**	**+0.9**
QSPA	**South Pole Qui**	**84.37**	**180**	P		**P**	**21 57 09.1**	**-0.4**
QSPA				IAmb		IAmb	21 57 22.6	
	comp=Z,2.3nm,0.8s							
MAW	**Mawson**	**84.50**	**203**	LR		LR	22 33 22.2	
	comp=Z,69nm,18.9s,baz=175,slow=34							
AAK	**Ala-Archa**	**84.57**	**314**	P		**P**	**21 57 10.3**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=18,slow=2.8,SNR=6.1							
AAK				LR		LR	22 34 56.8	
	comp=Z,39nm,20.0s,baz=58,slow=36							
	comp=Z,2.6nm,0.8s							
AAK	**Ala-Archa**	**84.57**	**314**	P		**P**	**21 57 10.3**	**-0.7**
AAK				IAmb		IAmb	21 57 11.8	
	comp=Z,3.7nm,1.0s							
NRIK	**Noril'sk**	**86.42**	**341**	P		**P**	**21 57 17.9**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=206,slow=9.0,SNR=1.7							
	comp=Z,1.0nm,0.5s							
DLBC	**Dease Lake**	**88.51**	**31**	LR		LR	22 34 12.5	
	comp=Z,130nm,18.3s,baz=130,slow=34							
BVAR	**Borovoye Array**	**89.34**	**323**	LR		LR	22 40 24.1	
	comp=Z,42nm,18.4s,baz=43,slow=37							
INK	**Inuvik**	**89.50**	**21**	P		**P**	**21 57 33.5**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=246,slow=5.8,SNR=3.5							
	comp=Z,1.6nm,0.8s							
YBH	**Yreka Blue Hor**	**90.24**	**48**	LR		LR	22 31 54.4	
	comp=Z,118nm,19.1s,baz=267,slow=31							
NVAR	**Mina Array Bea**	**93.27**	**52**	P		**P**	**21 57 52.5**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=258,slow=7.9,SNR=6.8							
	comp=Z,1.6nm,0.8s							
NEW	**Newport**	**94.77**	**42**	LR		LR	22 35 12.3	
	comp=Z,165nm,19.0s,baz=242,slow=32							
ELK	**Elko**	**95.77**	**50**	LR		LR	22 37 22.5	
	comp=Z,194nm,18.4s,baz=255,slow=33							
ARU	**Arti**	**96.48**	**326**	LR		LR	22 42 17.7	
	comp=Z,113nm,19.7s,baz=106,slow=36							
YKA	**Yellowknife Ar**	**96.53**	**28**	P		**P**	**21 58 07.0**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=272,slow=4.8,SNR=10							
	comp=Z,0.9nm,0.9s							
AKTO	**Aktyubinsk**	**96.76**	**320**	LR		LR	22 42 44.2	
	comp=Z,75nm,19.1s,baz=71,slow=36							
PDAR	**Pinedale Array**	**100.03**	**48**	P		**Pdif**	**21 58 21.9**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=282,slow=1.4,SNR=6.9							
CLL	**Collm**	**123.11**	**330**	*e*PKPdf		**PKPdf**	**22 03 33.0**	**-0.8**
GERES	**GERESS Array B**	**124.26**	**328**	PKP		**PKPdf**	**22 03 36.1**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=64,slow=3.1,SNR=9.5							
LPAZ	**La Paz**	**134.81**	**119**	PKP		**PKPdf**	**22 03 58.6**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=242,slow=2.6,SNR=3.8							
SIV	**San Ignacio**	**140.94**	**124**	PKP		**PKPdf**	**22 04 06.7**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=301,slow=6.5,SNR=1.9							
TORD	**Torodi Ar. Bea**	**149.70**	**286**	PKPbc		**PKPbc**	**22 04 27.0**	**-1.1**
	comp=Z,12nm,0.7s,baz=64,slow=2.2,SNR=7.1							
BDFB	**Brasilia**	**151.11**	**137**	PKPbc		**PKPbc**	**22 04 30.5**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=190,slow=5.5,SNR=6.9							

*IDC **21** 21:49:01.4±4.3,30.˚73S×72.˚77E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=170.3km s-min=32.5km az=37.0*

ISC 21 21:49:02.4±4.8,**31.˚S**±1.˚×**72.˚7E**±0.˚8,**h10**km,**n9**,**c0**%**36**/6, **mb4.0**/5,**South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**23.06**	**359**	T	T	22 18 08.0	
	baz=180						
H08S2	**Diego Garcia H**	**23.06**	**360**	T	T	22 18 04.6	
	baz=180,slow=74						
H08S3	**Diego Garcia H**	**23.08**	**359**	T	T	22 18 07.6	
	baz=180,slow=74						
ASAR	**Alice Springs**	**54.31**	**98**	P	**P**	**21 58 29.6**	**+0.2**
	0.4nm,0.6s,baz=247,slow=6.6,SNR=5.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**56.14**	**94**	P	**P**	**21 58 42.4**	**-0.2**
	1.1nm,0.8s,baz=245,slow=6.7,SNR=6.8						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**77.75**	**7**	P	**P**	**22 00 59.1**	**-0.2**
	0.4nm,0.8s,baz=176,slow=6.6,SNR=2.8						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**85.08**	**7**	P	**P**	**22 01 38.3**	**+0.3**
	1.0nm,0.6s,baz=193,slow=5.9,SNR=5.3						
	1.0nm,0.6s						
BELG	**Belogornoye**	**85.72**	**345**	P	**P**	**22 01 41.3**	**+0.1**
	3.4nm,0.7s,baz=84,slow=9.2,SNR=6.6						
	3.4nm,0.7s						
YKA	**Yellowknife Ar**	**147.97**	**6**	PKPbc	**PKPbc**	**22 08 46.9**	**-0.4**
	0.8nm,0.7s,baz=327,slow=3.5,SNR=15						

*BJI **21** 21:49:16.1±0.0, 19.˚63N×94.˚55E, h82km, mb4.2/28, mB4.8/15, Ms4.1/2, Ms7 4.0/3*

*NEIC **21** 21:49:18.5±1.6, 19.˚81N±0.˚06×94.˚76E±0.˚07, h72km±3km, mb4.3/37, Error ellipse: s-maj=10.3km s-min=7.3km az=61.0*

*IDC **21** 21:49:19.1±0.7, 19.˚92N×94.˚89E, h79km±5km, mb3.8/21, mbtmp4.1/22, MS3.2/2, Error ellipse: s-maj=19.1km s-min=8.9km az=38.0*

ISC 21 21:49:19.7±0.4,**19.˚77N**±0.˚05×**94.˚77E**±0.˚05,**h97**km,**n96**, σ1ᵗ**89**/107,**mb4.2**/35,**1C**,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MND	**Mandalay**	**2.57**	**29**		**Pn**	**21 49 56.5**	**-3.2**
CHTO	**Chiang Mai**	**4.06**	**103**	Pn	**Pn**	**21 50 18.7**	**-1.0**
BRDH	**Bariadhala**	**4.11**	**315**	P	**Pn**	**21 50 19.2**	**-1.1**
	165nm,0.3s,baz=270,slow=3.3,SNR=1.6						
BRDH				S	**Sn**	**21 51 06.9**	**-0.4**
	475nm,0.3s,baz=90,slow=22,SNR=4.1						
CM31	**Chiang Mai Arr**	**4.16**	**108**		**Pn**	**21 50 19.4**	**-1.6**
CMAR	**Chiang Mai Arr**	**4.16**	**108**	P	**Pn**	**21 50 20.4**	**-0.6**
	18nm,0.7s,baz=283,slow=14,SNR=89						
CMAR				S	**Sn**	**21 51 06.2**	**-2.5**
	14nm,0.6s,baz=281,slow=33,SNR=3.3						
CMAR	**Chiang Mai Arr**	**4.16**	**108**	Pn	**Pn**	**21 50 19.9**	**-1.1**
CRAI	**Chiangrai**	**5.29**	**84**	Pn	**Pn**	**21 50 35.4**	**-1.0**
PHRA	**Phrae**	**5.32**	**103**	Pn	**Pn**	**21 50 36.4**	**-0.3**
TNCH	**TengChong**	**6.28**	**33**	P	**Pn**	**21 50 50.5**	**+0.5**
TNCH				S	**Sn**	**21 51 58.5**	**-2.0**
TNCH				smax	smax		
	comp=N,190nm,1.3s						
TNCH				smax	smax		
	comp=E,120nm,1.4s						
SHL	**Shillong**	**6.36**	**336**	Pn	**Pn**	**21 50 47.5**	**-3.5**
SHL	**Shillong**	**6.36**	**336**	*e*P	**Pn**	**21 50 48.0**	**-3.0**
SHL				*e*S	Sn	21 51 51.9	-10
PBA	**Port Blair**	**8.30**	**194**	Pn	**Pn**	**21 51 16.3**	**-1.0**
KMI	**Kunming**	**9.10**	**53**	⇑P	**Pn**	**21 51 32.6**	**+4.2**
KMI				S	**Sn**	**21 53 07.4**	**-1.7**
KMI				smax	smax		
	comp=N,25nm,1.1s						
KMI				smax	smax		
	comp=E,17nm,1.3s						
KMI				LR	LR		
	comp=N,190nm,5.4s						
KMI				LR	LR		
	comp=E,200nm,5.1s						
KMI				LR	LR		
	comp=Z,140nm,4.6s						
PZH	**PanZhiHua**	**9.28**	**42**	P	**Pn**	**21 51 34.9**	**+4.2**
PZH				pmax	pmax		
	comp=Z,130nm,5.1s						
ODAN	**Odare**	**9.78**	**318**	*e*P	**Pn**	**21 51 34.4**	**-3.3**
TAPN	**Taplejung**	**9.94**	**321**	*e*P	**Pn**	**21 51 35.6**	**-4.3**
	13nm,0.3s						
RAMN	**Ramite**	**10.36**	**315**	*e*P	**Pn**	**21 51 41.5**	**-4.1**
	14nm,0.4s						
LSA	**Lhasa**	**10.42**	**342**		**Pn**	**21 51 44.7**	**-1.9**
LSA	**Lhasa**	**10.42**	**342**	P	**Pn**	**21 51 45.0**	**-1.6**
JIRN	**Jiri**	**11.11**	**317**	*e*P	**Pn**	**21 51 52.2**	**-3.6**
	11nm,0.3s						
GUN	**Gumba**	**11.48**	**317**	*e*P	**Pn**	**21 51 56.8**	**-4.0**
	5.3nm,0.3s						
PKI	**Pulchoki**	**11.56**	**314**	*e*P	**Pn**	**21 51 57.6**	**-4.4**
PKIN	**Phulchoki**	**11.58**	**314**	*e*P	**Pn**	**21 51 57.7**	**-4.4**
	6.8nm,0.2s						
DMN	**Daman**	**11.80**	**313**	*e*P	**Pn**	**21 52 01.2**	**-3.8**
	3.0nm,0.3s						
GKN	**Gorkha**	**12.37**	**313**	*e*P	**Pn**	**21 52 08.1**	**-4.4**
	15nm,0.4s						
DANN	**Dangsing**	**13.19**	**312**	*e*P	Pn	21 52 18.3	-5.2
LGTI	**Lohaghat**	**16.33**	**309**	*e*P	**Pn**	**21 53 00.5**	**-2.8**
LGTI				IAmb	IAmb	21 53 05.1	
	comp=Z,5.8nm,0.6s						
GOMU	**GeErMu**	**16.37**	**0**	P	**Pn**	**21 53 03.3**	**-0.8**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,70nm,5.1s						
ENH	**Enshi**	**16.93**	**49**		**Pn**	**21 53 09.1**	**-1.6**
ENH				IAmb	IAmb	21 53 11.9	
	comp=Z,8.8nm,0.8s						
GSI	**Gunungsitoli**	**18.56**	**171**	P	**Pn**	**21 53 30.1**	**-0.3**
GSI				IAmb	IAmb	21 53 50.5	
	comp=Z,7.1nm,0.7s						
XAN	**Xi'an**	**18.98**	**39**	P	**P**	**21 53 32.4**	**-1.2**
XAN				pP	pP	21 53 49.6	-2.5
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA	**Gaotai**	**20.05**	**11**	*e*P	**P**	**21 53 45.3**	**0.0**
GTA				pP	pP	21 54 02.0	-2.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NIL	**Nilore**	**23.61**	**310**	P	**P**	**21 54 21.3**	**-0.7**
WMQ	**Urumqi**	**24.70**	**348**	*e*P	**P**	**21 54 32.8**	**+1.0**
HHC	**Hu-ho-hao-te**	**25.44**	**31**	*e*P	**P**	**21 54 40.8**	**+2.2**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,5.3s						
HHC				LR	LR		
	comp=Z,340nm,13.3s						
HHC				LR	LR		
	comp=Z,350nm,14.6s						
HHC				LR	LR		
	comp=Z,350nm,15.2s						
TARG	**Taragay, Kyrgy**	**26.20**	**330**	P	**P**	**21 54 46.5**	**+0.7**
KBL	**Kabul**	**27.11**	**308**	P	**P**	**21 54 54.6**	**+0.8**
KBL				IAmb	IAmb	21 54 59.6	
	comp=Z,6.4nm,0.8s						
AAK	**Ala-Archa**	**28.50**	**328**	P	**P**	**21 55 07.5**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=168,slow=13,SNR=2.5						
AAK				LR	LR	22 09 06.0	
	comp=Z,32nm,18.7s,baz=38,slow=42						
	comp=Z,0.8nm,0.6s						
AAK	**Ala-Archa**	**28.50**	**328**	P	**P**	**21 55 07.0**	**+0.9**
MK31	**Makanchi Array**	**28.83**	**342**	P	**P**	**21 55 08.4**	**-0.3**
MKAR	**Makanchi Array**	**28.83**	**342**	P	**P**	**21 55 08.8**	**0.0**
	comp=Z,1.7nm,0.5s,baz=149,slow=9.6,SNR=40						
MKAR				ScP	**ScP**	**22 01 52.3**	**+3.4**
	comp=Z,0.7nm,0.9s,baz=145,slow=4.4,SNR=4.7						
	comp=Z,1.7nm,0.5s						
MAKZ	**Makanchi**	**28.93**	**342**	P	**P**	**21 55 09.8**	**+0.1**
SONM	**Songino Array**	**29.55**	**16**	P	**P**	**21 55 15.5**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=198,slow=9.4,SNR=8.4						
SONM				ScP	**ScP**	**22 01 54.7**	**+3.4**
	comp=Z,1.4nm,0.8s,baz=203,slow=3.9,SNR=10						
	comp=Z,0.8nm,0.7s						
SONM	**Songino Array**	**29.55**	**16**	P	**P**	**21 55 15.7**	**+0.5**
XLT	**XiLinHaoTe**	**29.94**	**32**	*e*P	P	21 55 25.9	+7.2
XLT				pmax	pmax		
	comp=Z,5.0nm,2.5s						
XLT				pmax	pmax		
	comp=Z,170nm,4.7s						
KKAR	**Karatay Array**	**30.93**	**324**	P	**P**	**21 55 27.5**	**+0.1**
KKAR	**Karatay Array**	**30.93**	**324**	P	**P**	**21 55 27.9**	**+0.5**
KKAR				IAmb	IAmb	21 55 31.8	
	comp=Z,1.1nm,1.1s						
KURK	**Kurchatov**	**33.42**	**341**	P	**P**	**21 55 49.1**	**+0.1**
KURK				IAmb	IAmb	21 56 16.3	
	comp=Z,2.8nm,0.7s						
KS19	**Wonju Array Si**	**33.77**	**51**	P	**P**	**21 55 53.6**	**+1.4**
ZAA0	**Zalesovo Array**	**34.97**	**350**	P	**P**	**21 56 02.4**	**+0.1**
ZAA0				IAmb	IAmb	21 56 03.1	
	comp=Z,2.7nm,0.6s						
ZALV	**Zalesovo Beam**	**34.97**	**350**	P	**P**	**21 56 02.6**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=175,slow=8.3,SNR=14						
ZALV				pP	**pP**	**21 56 21.1**	**-3.3**
	comp=Z,1.7nm,0.5s,baz=172,slow=8.0,SNR=3.9						
ZALV				ScP	**ScP**	**22 02 12.3**	**+2.9**
	comp=Z,0.7nm,0.7s,baz=160,slow=4.6,SNR=2.0						
	comp=Z,2.7nm,0.5s						
ZALV	**Zalesovo Beam**	**34.97**	**350**	P	**P**	**21 56 02.5**	**+0.1**
ABKAR	**Akbulak array**	**40.49**	**325**	P	**P**	**21 56 49.7**	**+0.8**
ABKAR	**Akbulak array**	**40.49**	**325**	P	**P**	**21 56 49.7**	**+0.8**
ABKAR				IAmb	IAmb	21 57 11.4	
	comp=Z,6.2nm,1.3s						
ARU	**Arti**	**45.43**	**333**	P	**P**	**21 57 29.1**	**+0.4**
	comp=Z,2.0nm,0.4s,baz=170,slow=6.1,SNR=3.4						
	comp=Z,2.0nm,0.4s						
ARU	**Arti**	**45.43**	**333**	P	**P**	**21 57 29.1**	**+0.4**
ARU				IAmb	IAmb	21 57 38.5	
	comp=Z,10.0nm,1.5s						
RAYN	**Ar Rayn**	**45.77**	**284**	P	**P**	**21 57 32.9**	**+1.0**
RAYN				IAmb	IAmb	21 57 34.5	
	comp=Z,4.3nm,1.1s						
NRIK	**Noril'sk**	**49.77**	**357**	P	**P**	**21 58 02.5**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=116,slow=4.4,SNR=4.1						
	comp=Z,2.2nm,0.5s						
NRIK	**Noril'sk**	**49.77**	**357**	P	**P**	**21 58 03.4**	**+1.4**
NRIK				IAmb	IAmb	21 58 07.1	
	comp=Z,7.4nm,1.4s						
WB0	**Warramunga Arr**	**55.24**	**133**	P	**P**	**21 58 44.0**	**+0.9**
WB0				IAmb	IAmb	21 58 45.2	
	comp=Z,2.5nm,0.7s						
WRA	**Warramunga Arr**	**55.32**	**133**	P	**P**	**21 58 45.1**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=318,slow=7.6,SNR=7.1						
WRA				pP	**pP**	**21 59 05.3**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=325,slow=7.3,SNR=3.5						
	comp=Z,0.7nm,0.5s						
WRA	**Warramunga Arr**	**55.32**	**133**	P	**P**	**21 58 44.8**	**+1.1**
WR0	**Warramunga Arr**	**55.47**	**133**	P	**P**	**21 58 45.9**	**+1.1**
WR0				IAmb	IAmb	21 58 47.1	
	comp=Z,6.2nm,1.2s						
TIXI	**Tiksi**	**55.53**	**12**	P	**P**	**21 58 44.1**	**-0.3**
	comp=Z,4.4nm,0.4s,baz=128,slow=20,SNR=13						
	comp=Z,4.4nm,0.4s						
TIXI	**Tiksi**	**55.53**	**12**	P	**P**	**21 58 44.1**	**-0.3**
BRTR	**Keskin Array B**	**55.62**	**305**	P	**P**	**21 58 46.4**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=104,slow=6.1,SNR=3.8						
BRTR				LR	LR	22 26 35.7	
	comp=Z,32nm,18.1s,baz=310,slow=40						
	comp=Z,0.5nm,0.8s						
MA2	**Magadan**	**56.12**	**31**	P	**P**	**21 58 48.6**	**-0.2**
	comp=Z,4.5nm,0.5s,baz=248,slow=6.3,SNR=5.7						
	comp=Z,4.5nm,0.5s						
MA2	**Magadan**	**56.12**	**31**	P	**P**	**21 58 48.5**	**-0.4**
MA2				IAmb	IAmb	21 58 49.7	
	comp=Z,5.6nm,0.8s						
ASAR	**Alice Springs**	**57.62**	**137**	P	**P**	**21 59 02.1**	**+2.2**
	comp=Z,0.6nm,0.5s,baz=358,slow=10,SNR=4.7						
	comp=Z,0.6nm,0.5s						
SEY	**Seymchan**	**58.01**	**27**	P	**P**	**21 59 01.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=270,slow=17,SNR=5.1						
	comp=Z,1.5nm,0.8s						
ELL	**Elmali**	**58.56**	**302**	P	**P**	**21 59 07.6**	**+1.1**
AKASG	**Malin Array Be**	**59.51**	**318**	P	**P**	**21 59 12.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=80,slow=7.0,SNR=4.1						
AKASG				pP	**pP**	**21 59 33.2**	**-3.5**
	comp=Z,0.3nm,0.4s,baz=86,slow=6.1,SNR=2.6						
	comp=Z,0.2nm,0.3s						
NACGM	**Naroch**	**61.42**	**322**	*e*P	**P**	**21 59 26.6**	**+1.0**
	comp=Z,11nm,1.1s,baz=96						
MLR	**Muntele Rosu**	**61.43**	**312**	P	**P**	**21 59 27.8**	**+1.8**
	comp=Z,1.3nm,0.6s,baz=129,slow=6.5,SNR=4.1						
MLR				pP	**pP**	**21 59 47.6**	**-2.8**
	comp=Z,1.4nm,0.6s,baz=49,slow=18,SNR=2.8						
	comp=Z,1.3nm,0.6s						
BURAR	**Bucovina Array**	**61.95**	**314**	P	**P**	**21 59 30.3**	**+0.8**
BURAR				IAmb	IAmb	21 59 41.1	
	comp=Z,2.7nm,1.5s						
FINES	**FINESS Array B**	**62.66**	**330**	P	**P**	**21 59 34.3**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=104,slow=6.1,SNR=6.4						
	comp=Z,3.6nm,1.0s						
FINES	**FINESS Array B**	**62.66**	**330**	P	**P**	**21 59 35.2**	**+1.4**
IDI	**Anoyia**	**62.72**	**300**	P	**P**	**21 59 35.4**	**+0.7**
ARCES	**ARCESS Array B**	**64.40**	**339**	P	**P**	**21 59 45.5**	**+0.3**
	comp=Z,8.3nm,1.0s,baz=103,slow=6.7,SNR=1.8						
	comp=Z,8.3nm,1.0s						
ITM	**Ithomi**	**64.90**	**303**	P	**P**	**21 59 48.8**	**-0.1**
BBOO	**Buckleboo**	**65.51**	**142**	P	**P**	**21 59 53.6**	**+0.8**
GERES	**GERESS Array B**	**69.57**	**316**	P	**P**	**22 00 19.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=102,slow=5.6,SNR=5.7						
GERES				pP	**PcP**	**22 00 40.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=72,slow=6.3,SNR=4.6						
	comp=Z,0.6nm,0.6s						
GERES	**GERESS Array B**	**69.57**	**316**	P	**P**	**22 00 19.2**	**+0.8**
NB2	**NORSAR Subarra**	**69.81**	**329**	P	**P**	**22 00 19.9**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=86,slow=6.5						
NOA	**NORSAR Array B**	**69.81**	**329**	P	**P**	**22 00 20.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=90,slow=6.0,SNR=3.5						
NOA				pP	**PcP**	**22 00 40.1**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=86,slow=6.4,SNR=2.9						
	comp=Z,0.5nm,0.7s						
NC204	**NORSAR Array S**	**70.01**	**329**	P	**P**	**22 00 21.4**	**+0.6**
IMAR	**Indian Mountai**	**80.47**	**23**	P	**P**	**22 01 21.2**	**+0.6**
MLY	**Manley**	**82.03**	**23**	P	**P**	**22 01 29.5**	**+0.5**
BOSA	**Boshof**	**82.55**	**236**	P	**P**	**22 01 34.6**	**+2.3**
	comp=Z,3.6nm,0.8s,baz=75,slow=3.8,SNR=7.0						
	comp=Z,3.6nm,0.8s						
BOSA	**Boshof**	**82.55**	**236**	P	**P**	**22 01 33.4**	**+1.0**
MCK	**McKinley**	**83.37**	**24**	P	**P**	**22 01 36.5**	**+0.6**
MCK				IAmb	IAmb	22 01 44.0	
	comp=Z,6.6nm,1.5s						
ILAR	**Eielson Array**	**83.56**	**22**	P	**P**	**22 01 37.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=288,slow=5.3,SNR=5.7						
	comp=Z,0.3nm,0.6s						
RIDG	**Independent Ri**	**84.88**	**23**	P	**P**	**22 01 44.1**	**+0.5**
RIDG				IAmb	IAmb	22 01 45.6	
	comp=Z,6.9nm,1.3s						
SCRK	**Sand Creek**	**85.05**	**22**	P	**P**	**22 01 45.4**	**+0.9**
SCRK				IAmb	IAmb	22 02 07.0	
	comp=Z,2.7nm,1.3s						
INK	**Inuvik**	**85.46**	**16**	P	**P**	**22 01 46.7**	**+0.5**
YKA	**Yellowknife Ar**	**94.78**	**13**	P	**P**	**22 02 30.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=324,slow=4.2,SNR=8.3						
	comp=Z,0.3nm,0.6s						

*NEIC **21** 21:49:58.0±1.2, 58.˚0S±0.˚1×23.˚9W±0.˚4, h10km±2km, mb4.5/9, Error ellipse: s-maj=43.6km s-min=8.3km az=60.0*

*IDC **21** 21:50:00.4±1.9, 58.˚63S×25.˚32W, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=89.1km s-min=51.9km az=9.0*

ISC 21 21:49:59.5±1.0,**58.˚2S**±0.˚1×**24.˚5W**±0.˚2,**h10**km,**n24**, σ1ᵗ**16**/18,**mb4.5**/7,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.27**	**158**	P	**Pn**	**21 53 21.0**	**-0.3**
VNA3	**Neumayer Olymp**	**14.49**	**161**	P	**Pn**	**21 53 23.4**	**-1.0**
VNA2	**Neumayer--Watz**	**14.66**	**158**	P	**Pn**	**21 53 25.7**	**-1.0**
	baz=326,slow=14						
SNAA	**Sanae**	**16.19**	**155**	P	**Pn**	**21 53 46.7**	**-0.2**
SNAA	**Sanae**	**16.19**	**155**	Pn	**Pn**	**21 53 46.2**	**-0.6**
TROLL	**Troll, Antarti**	**17.68**	**152**	P	**P**	**21 54 06.3**	**-0.2**
BELA	**Belgrano 2**	**20.10**	**186**		**Pn**	**21 54 34.6**	**0.0**
GO10	**Punta Arenas**	**26.32**	**261**	P	**P**	**21 55 35.8**	**+0.7**
QSPA	**South Pole Qui**	**32.08**	**180**	P	**P**	**21 56 26.2**	**-0.1**
QSPA				IAmb	IAmb	21 56 50.5	
	comp=Z,3.3nm,1.4s						
PLCA	**Paso Flores**	**33.85**	**281**	P	**P**	**21 56 41.6**	**-0.3**
PLCA				IAmb	IAmb	21 56 52.0	
	comp=Z,10nm,1.4s						
SPB	**Sao Paulo**	**38.27**	**325**	P	**P**	**21 57 17.5**	**-2.2**
MT09	**Talagante**	**39.38**	**288**	P	**P**	**21 57 29.2**	**0.0**
MT09				IAmb	IAmb	21 57 32.1	
	comp=Z,23nm,1.4s						
VA06	**Catapilco**	**40.50**	**288**	P	**P**	**21 57 38.2**	**-0.1**
VA06				IAmb	IAmb	21 58 04.4	
	comp=Z,26nm,1.3s						
H10S2	**ASCENSION HYDR**	**49.67**	**13**	T	T	22 53 18.7	
	baz=187,slow=74						
H10S3	**ASCENSION HYDR**	**49.68**	**13**	T	T	22 53 17.9	
	baz=33,slow=74						

ENR			AML	AML	
	comp=E,99μm,0.1s				
ENR			AML	AML	
	comp=N,129μm,0.1s				
ENR	**Entracque**	**0.37 284**	P	Pg	21 55 47.0 +0.6
ENR			S	Sg	21 55 52.2 +0.8
TURF	**col de Turini**	**0.41 247**	P	Pb	21 55 47.9 -0.5
TURF			S	Sb	21 55 53.9 -0.8
TURF	**col de Turini**	**0.41 247**	Pg	Pb	21 55 47.9 -0.5
TURF			Sg	Sb	21 55 53.8 -1.0
BURY	**Giardini Botan**	**0.44 217**	P	Pn	21 55 54.8 +3.6
STV	**Sant Anna di V**	**0.44 284** ⇑	P	Pg	21 55 48.1 +0.4
STV			S	Sg	21 55 54.0 +0.5
STV	**Sant Anna di V**	**0.44 284**	P	Pg	21 55 48.1 +0.4
STV			S	Sg	21 55 54.0 +0.4
SBF	**Sospel**	**0.44 232**	*e*Pg	Pg	21 55 48.3 +0.5
SBF			*e*Sg	Sg	21 55 54.5 +0.9
	comp=N,19nm,0.2s				
ESCA	**l'Escarene**	**0.50 232**	Pg	Pb	21 55 50.1 +0.3
ESCA			Sg	Sb	21 55 56.9 -0.2
SPIF	**crte de Spivo**	**0.50 261**	Pg	Pb	21 55 49.4 -0.4
SPIF			Sg	Sg	21 55 56.2 +0.8
MVIF	**Mont Vial**	**0.60 247**	Pg	Pb	21 55 51.7 +0.1
MVIF			Sg	Sb	21 55 59.9 -0.3
PCP	**Piancastagn**	**0.60 48**	P	Pg	21 55 51.0 +0.2
PCP			S	Sb	21 55 59.8 -0.5
PCP	**Piancastagn**	**0.60 48**	P	Pg	21 55 51.1 +0.3
PCP			S	Sb	21 55 59.8 -0.4
ISO	**Isola**	**0.63 275**	Pg	Pb	21 55 51.9 -0.2
ISO			Sg	Sg	21 55 59.8 +0.3
PZZ	**Stroppo**	**0.68 303**	P	Pg	21 55 52.5 +0.2
PZZ			S	Sg	21 56 01.7 +0.3
PZZ	**Stroppo**	**0.68 303**	P	Pg	21 55 52.6 +0.3
PZZ			S	Sg	21 56 01.8 +0.5
ROTM	**Rocchetta Tana**	**0.78 23**	AML	AML	
	comp=N,828μm,3.0s				
ROTM	**Rocchetta Tana**	**0.78 23**	P	Pb	21 55 55.0 +0.5
CALF	**Calern**	**0.82 242**	Pg	Pb	21 55 55.8 +0.5
CALF			Sg	Sb	21 56 07.2 +0.8
ENAUX	**Enaux**	**0.82 268**	Pg	Pb	21 55 55.3 -0.1
ENAUX			Sg	Sg	21 56 05.8 +0.1
SURF	**Saint Ours**	**0.86 294**	Pg	Pg	21 55 55.9 +0.2
SURF			Sg	Sg	21 56 07.4 +0.3
JAUF	**Jausiers**	**0.89 290**	Pg	Pg	21 55 56.3 +0.1
JAUF			Sg	Sb	21 56 08.2 -0.3
MONC	**Moncucco Torin**	**0.94 0**	P	Pb	21 55 57.6 +0.3
MBDF	**Montbardon**	**1.01 306**	*e*Pg	Pg	21 55 58.0 -0.5
MBDF			*e*Sg	Sg	21 56 11.2 -0.5
	comp=N,1.7nm,0.2s				
CREF	**Crivoux**	**1.02 294**	Pg	Pg	21 55 58.7 0.0
CREF			Sg	Sb	21 56 12.6 +0.4
TRIGF	**Trigance**	**1.16 251**	Pg	Pg	21 56 02.1 +0.8
TRIGF			Sg	Sn	21 56 18.4 +1.2
LMR	**La Mourre**	**1.30 232**	*e*Pg	Pg	21 56 04.0 0.0
LMR			*e*Sg	Sg	21 56 21.3 +0.5
	comp=N,5.9nm,0.2s				
FLAF	**Flassans-sur-I**	**1.42 239**	Pn	Pg	21 56 06.2 -0.1
FLAF			Sn	Sg	21 56 25.5 +0.7
ORIF	**Oris-en-Rattie**	**1.65 299**	*e*Pg	Pb	21 56 09.7 +0.1
ORIF			*e*Sg	Sg	21 56 31.4 -0.8
	comp=N,0.6nm,0.2s				
BSTF	**la Bastide-des**	**1.66 262**	Pn	Pb	21 56 09.5 -0.1
BSTF			Sn	Sb	21 56 31.1 +0.6
SMRF	**Simiane la Rot**	**1.70 265**	*e*Pg	Pb	21 56 10.9 +0.6
SMRF			*e*Sg	Sb	21 56 32.6 +1.0
	comp=N,0.9nm,0.2s				

ROM 21 21:57:17.1±0.2, 42°.586N±0°.010×13°.27E±0°.01, h12km±1km, ML1.6/11, 2D, Error ellipse: s-maj=1.2km s-min=0.3km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.09**	**208**	P	Pg	21 57 20.8	+0.8
RM33				S	Sg	21 57 23.1	+1.0
CAMP	**Campotosto**	**0.12**	**116**	P	Pg	21 57 20.4	+0.1
CAMP				S	Sg	21 57 22.2	-0.4
T1202	**Accumoli, Fraz**	**0.12**	**344**	P	Pb	21 57 21.3	-0.2
T1202				S	Sg	21 57 23.9	+1.0
T1202				AML	AML		
	comp=E,600μm,0.2s						
T1202				AML	AML		
	comp=N,701μm,0.8s						
T1218	**Civita (PG)**	**0.14**	**306**	P	Pg	21 57 21.2	+0.5
T1218				S	Sg	21 57 23.5	+0.2
T1218				AML	AML		
	comp=E,174μm,0.4s						
T1218				AML	AML		
	comp=N,242μm,0.2s						
LNSS	**Leonessa**	**0.17**	**276**	P	Pg	21 57 21.6	+0.4
LNSS				S	Sg	21 57 24.4	+0.5
LNSS				AML	AML		
	comp=E,212μm,1.3s						
LNSS				AML	AML		
	comp=N,204μm,0.4s						
LNSS				AML	AML		
	comp=E,212μm,0.7s						
T1212	**Cascia, Frazio**	**0.23**	**315**	P	Pg	21 57 22.5	+0.4
T1212				S	Sg	21 57 26.0	+0.4
GIGS	**Gran Sasso**	**0.26**	**121**	P	Pg	21 57 22.8	+0.2
GIGS				S	Sg	21 57 26.6	+0.3
GIGS				AML	AML		
	comp=E,40μm,1.6s						
GIGS				AML	AML		
	comp=N,46μm,1.6s						
GIGS				AML	AML		
	comp=N,46μm,0.4s						
GIGS				AML	AML		
	comp=E,40μm,0.4s						
T1217	**Poggiodomo (PG**	**0.28**	**297**	P	Pg	21 57 23.2	+0.2
T1217				S	Sg	21 57 27.3	+0.4
MC2	**Monte Cornacci**	**0.33**	**350** ⇓	P	Pn	21 57 28.8	+0.9
T1216	**Preci, Frazion**	**0.36**	**329** ⇓	P	Pb	21 57 25.8	+0.4
T1216				AML	AML		
	comp=E,84μm,1.4s						
T1216				AML	AML		
	comp=N,75μm,1.2s						
T1216				AML	AML		
	comp=E,84μm,0.6s						
T1215	**Vallo di Nera,**	**0.37**	**306**	P	Pg	21 57 24.6	+0.1
ARRO	**Arrone**	**0.37**	**269**	P	Pg	21 57 24.7	+0.2
FDMO	**Fiordimonte**	**0.47**	**343**	AML	AML		
	comp=E,88μm,0.2s						
FDMO				AML	AML		
	comp=N,147μm,0.2s						
GUMA	**Gualdo di Mace**	**0.48**	**6**	P	Pb	21 57 27.6	+0.1
GUMA				AML	AML		
	comp=E,119μm,1.4s						
GUMA				AML	AML		
	comp=N,148μm,1.6s						
GUMA				AML	AML		
	comp=E,119μm,0.6s						
GUMA				AML	AML		
	comp=N,148μm,0.4s						
T1220	**Camerino, Fraz**	**0.54**	**346**	P	Pb	21 57 28.5	-0.1
T1220				AML	AML		
	comp=N,176μm,0.3s						
T1220				AML	AML		
	comp=E,148μm,0.9s						

IDC 21 21:58:56.2±2.5, 3°.94N×126°.22E, h0km, mb3.1/3, mbtmp3.1/3, MS3.7/1, Error ellipse: s-maj=210.4km s-min=30.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.04**	**162**	P	P	22 04 21.6	-0.7
	0.3nm,0.7s,baz=340,slow=11,SNR=4.5 0.3nm,0.7s						
PSI	**Prapat**	**27.27**	**268**	LR	LR	22 17 43.7	
	comp=Z,128nm,18.3s,baz=122,slow=41						
ASAR	**Alice Springs**	**28.45**	**165**	P	P	22 04 53.7	+0.7
	0.2nm,0.7s,baz=347,slow=7.6,SNR=1.6 0.2nm,0.7s						
MKAR	**Makanchi Array**	**57.09**	**325**	P	P	22 08 44.5	+0.1
	0.1nm,0.4s,baz=128,slow=7.3,SNR=1.6 0.1nm,0.4s						

IDC 21 22:08:18.0±1.3, 4°.39S×152°.69E, h93km±9km, mb3.4/6, mbtmp3.8/6, Error ellipse: s-maj=28.1km s-min=19.7km az=101.0

NEIC 21 22:08:18.7±1.2, 4°.4S±0°.1×152°.7E±0°.1, h96km±7km, mb4.2/14, Error ellipse: s-maj=20.3km s-min=12.1km az=217.0

ISC 21 22:08:18.4±0.7, 4°.5S±0°.1×152°.7E±0°.1, h100km, n27, σ0s.82/33, mb4.1/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.60**	**298**	Pn	Pn	22 08 35.2	+0.2
RABL				Sn	Sn	22 08 46.0	-1.5
KRVT	**Keravat (AS076**	**0.69**	**284**	P	Pn	22 08 35.4	-0.3
	130nm,0.3s,baz=146,slow=3.6,SNR=23						
KRVT				S	Sn	22 08 48.0	-0.7
	295nm,0.4s,baz=0.0,slow=20,SNR=8.2						
DZM	**Mont Dzumac**	**21.98**	**144**	P	P	22 13 05.7	+1.2
	1.8nm,0.4s,baz=276,slow=7.9,SNR=9.9 1.8nm,0.4s						
DZM	**Mont Dzumac**	**21.98**	**144**	P	P	22 13 04.8	+0.3
DZM				IAmb	IAmb	22 13 33.3	
	comp=Z,8.3nm,1.1s						
MTN	**Manton Dam**	**22.86**	**247**	P	P	22 13 14.7	+1.1
MTN				IAmb	IAmb	22 13 22.5	
	comp=Z,21nm,1.2s						
WB0	**Warramunga Arr**	**23.43**	**228**	P	P	22 13 19.4	+0.5
WB0				IAmb	IAmb	22 13 20.4	
	comp=Z,9.8nm,1.2s						
WRA	**Warramunga Arr**	**23.58**	**228**	P	P	22 13 20.5	+0.3
	comp=Z,1.9nm,0.4s,baz=53,slow=10,SNR=48						
WRA				pP	**pP**	22 13 41.3	+0.2
	comp=Z,0.9nm,0.7s,baz=52,slow=11,SNR=2.6						
WRA				sP	**sP**	22 13 52.4	-0.5
	comp=Z,1.7nm,0.8s,baz=52,slow=10,SNR=3.9 comp=Z,1.9nm,0.4s						
WRA	**Warramunga Arr**	**23.58**	**228**	P	P	22 13 20.0	-0.3
KNRA	**Kununurra**	**26.02**	**243**	P	P	22 13 43.2	+0.9
AS31	**Alice Springs**	**26.32**	**222**	P	P	22 13 45.9	+0.9
ASAR	**Alice Springs**	**26.32**	**222**	P	P	22 13 46.0	+1.0
	comp=Z,0.4nm,0.4s,baz=56,slow=8.7,SNR=9.5						
ASAR				pP	**pP**	22 14 07.5	+1.0
	comp=Z,1.4nm,0.7s,baz=57,slow=11,SNR=8.6						
ASAR				sP	**sP**	22 14 18.7	+0.7
	comp=Z,0.7nm,0.6s,baz=50,slow=8.7,SNR=4.2 comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**26.32**	**222**	P	P	22 13 46.4	+1.4
FITZ	**Fitzroy Crossi**	**29.72**	**241**	P	P	22 14 15.3	-0.1
TOO	**Toolangi**	**33.59**	**190**	P	P	22 14 47.5	-1.6
TOO				IAmb	IAmb	22 14 57.6	
	comp=Z,13nm,1.4s						
PEA0B	**Petropavlovsk-**	**57.53**	**4**	P	P	22 17 57.4	+0.2
PETK	**Petropavlovsk-**	**57.53**	**4**	P	P	22 17 57.6	+0.4
	comp=Z,0.7nm,0.5s,baz=165,slow=6.9,SNR=7.3 comp=Z,0.7nm,0.5s						
PETK	**Petropavlovsk-**	**57.53**	**4**	P	P	22 17 57.4	+0.3
CNPM	**China Poot**	**77.47**	**26**	P	P	22 20 03.1	+0.5
CAST	**Castle Rocks**	**79.25**	**22**	P	P	22 20 12.8	+0.4
CAST				IAmb	IAmb	22 20 21.9	
	comp=Z,4.0nm,1.3s						
SML	**Sawmill**	**79.87**	**24**	P	P	22 20 15.6	-0.2
SML				IAmb	IAmb	22 20 16.8	
	comp=Z,5.3nm,0.9s						
MKAR	**Makanchi Array**	**80.02**	**319**	P	P	22 20 17.6	+0.7
	comp=Z,0.2nm,0.6s,baz=90,slow=5.8,SNR=2.6 comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**80.02**	**319**	P	P	22 20 16.5	-0.4
IMAR	**Indian Mountai**	**80.11**	**20**	P	P	22 20 17.1	+0.1
H21K	**Melozitna Rive**	**80.25**	**20**	P	P	22 20 17.9	+0.2
H21K				IAmb	IAmb	22 20 31.5	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**81.90**	**22**	P	P	22 20 25.4	-1.1
	comp=Z,0.5nm,0.6s,baz=238,slow=5.4,SNR=7.0 comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**85.48**	**180**	P	P	22 20 43.3	-1.6
QSPA				IAmb	IAmb	22 20 57.9	
	comp=Z,5.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**150.11**	**289**	PKPbc	**PKPbc**	22 27 58.9	+0.3
	comp=Z,3.2nm,0.3s,baz=76,slow=1.7,SNR=2.1						

KRSC 21 22:23:53.3±0.5, 52°.62N×158°.77E, h88km±3km, Ml3.8
IDC 21 22:23:53.3±3.6, 52°.57N×158°.53E, h95km±19km, mb3.0/4, mbtmp3.4/4, Error ellipse: s-maj=83.7km s-min=31.8km az=177.0

ISC 21 22:23:53.9±0.9, 52°.62N±0°.05×158°.77E±0°.06, h90km±6km, n37, σ0s.93/42, mb3.2/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.24**	**220**	*e*P	**Pn**	22 24 07.0	+0.1
RUS				*e*S	**Sn**	22 24 16.3	-0.3
PET	**Petropavlovsk**	**0.41**	**350**	*e*P	**Pn**	22 24 08.0	+0.1
PET				*e*S	**Sn**	22 24 18.5	+0.2
DALK	**Dalny**	**0.41**	**359**	*e*P	**Pn**	22 24 07.9	0.0
DALK				*e*S	**Sn**	22 24 18.6	+0.2
GRL	**Gorelyy**	**0.43**	**261**	*e*P	**Pn**	22 24 09.1	+0.9
GRL				*e*S	**Sn**	22 24 20.5	+1.7
KRMR	**Karymshinskiy**	**0.44**	**299**	*e*P	**Pn**	22 24 08.1	0.0
INSR	**Institute**	**0.46**	**347**	*e*P	**Pn**	22 24 08.4	+0.2
INSR				*e*S	**Sn**	22 24 19.3	+0.4
UGLR	**Uglovaya**	**0.59**	**3**	*e*P	**Pn**	22 24 09.8	+0.3
UGLR				*e*S	**Sn**	22 24 21.7	+0.6
SMAR	**Somma**	**0.65**	**2**	*e*P	**Pn**	22 24 10.0	0.0
AVH	**Avacha**	**0.65**	**358**	*e*P	**Pn**	22 24 10.5	+0.6
AVH				*e*S	**Sn**	22 24 23.0	+1.1
NLC	**Nalytchevo**	**0.65**	**32**	*e*P	**Pn**	22 24 10.4	+0.5
NLC				*e*S	**Sn**	22 24 22.7	+0.9
SDLR	**Sedlovina**	**0.67**	**6**	*e*P	**Pn**	22 24 10.1	0.0
KOK	**Koryaka**	**0.68**	**353**	*e*P	**Pn**	22 24 10.8	+0.6
KRER	**Koryakskii**	**0.69**	**359**	*e*P	**Pn**	22 24 10.8	+0.4
KRER				*e*S	**Sn**	22 24 23.7	+0.9
KRX	**Arik**	**0.75**	**354**	*e*P	**Pn**	22 24 11.3	+0.3
PETK	**Petropavlovsk-**	**0.81**	**308**	P	**Pn**	22 24 10.6	-0.9
	144nm,0.4s,baz=118,slow=15,SNR=2214						
PETK				S	**Sn**	22 24 25.0	+0.3
	48nm,0.4s,baz=99,slow=22,SNR=6.5						
SPN	**Mys Shipunski**	**0.90**	**57**	*e*P	**Pn**	22 24 12.4	0.0
SPN				*e*S	**Sn**	22 24 26.6	+0.4
KDTR	**Khodutka, Kamc**	**0.92**	**208**	*e*P	**Pn**	22 24 12.9	+0.4
KDTR				*e*S	**Sn**	22 24 27.6	+1.1
APC	**Apacha**	**1.03**	**288**	*e*P	**Pn**	22 24 14.7	+0.9
APC				*e*S	**Sn**	22 24 30.3	+1.5
GNL	**Ganaly**	**1.19**	**336**	*e*P	**Pn**	22 24 15.7	-0.1
GNL				*e*S	**Sn**	22 24 32.3	-0.1
SKR	**Severo-Kuril's**	**2.55**	**222**	*e*P	**Pn**	22 24 34.6	+1.4
TUMD	**Tumrok D**	**2.76**	**20**	*e*P	**Pn**	22 24 36.8	+0.6
TUMR	**Tumrok**	**2.79**	**16**	*e*P	**Pn**	22 24 38.5	+1.9
KMNR	**Kamenistaya**	**3.26**	**15**	*e*P	**Pn**	22 24 44.6	+1.7
ESO	**Esso**	**3.31**	**359**	*e*P	**Pn**	22 24 45.6	+2.1
ILAR	**Eielson Array**	**29.72**	**45**	P	**P**	22 29 50.1	-0.9
	0.3nm,0.7s,baz=262,slow=6.7,SNR=1.4 0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.43**	**166**	T	T	23 06 06.3	
	baz=352,slow=76,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**33.44**	**166**	T	T	23 06 01.6	
	baz=352,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**33.44**	**166**	T	T	23 06 30.7	
	baz=352,slow=76,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**34.60**	**167**	T	T	23 07 08.4	
	baz=350,slow=74						
H11S3	**WAKE ISLAND Hy**	**34.61**	**167**	T	T	23 07 08.3	
	baz=350,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.62**	**167**	T	T	23 07 12.0	
	baz=350						
MKAR	**Makanchi Array**	**47.63**	**295**	P	**P**	22 32 18.5	-2.2
	0.1nm,0.5s,baz=59,slow=6.6,SNR=1.8 0.1nm,0.5s						
PDAR	**Pinedale Array**	**58.46**	**60**	P	**P**	22 33 40.9	+0.4
	0.4nm,0.6s,baz=294,slow=2.7,SNR=6.1 0.4nm,0.6s						
TXAR	**Lajitas Array**	**71.56**	**66**	P	**P**	22 35 05.6	+0.2
	0.3nm,0.6s,baz=332,slow=5.6,SNR=2.8 0.3nm,0.6s						
H03N2	**Juan Fernandez**	**135.00**	**88**	T	T	01 13 54.2	
	baz=314,slow=77,SNR=4.5						
H03N1	**Juan Fernandez**	**135.02**	**88**	T	T	01 13 58.6	
	baz=314,slow=77,SNR=7.5						
H03N3	**Juan Fernandez**	**135.02**	**88**	T	T	01 13 54.9	
	baz=314,slow=77,SNR=2.6						

JMA 21 22:33:19.4±0.3, 36°.N±1°.×137°.7E±°, h282km±2km, MV2.9/25, TOYAMA GIFU BORDER REG
IDC 21 22:33:20.3±0.8, 36°.37N×137°.32E, h291km±10km, mb3.1/3, mbtmp3.9/4, Error ellipse: s-maj=52.1km s-min=18.9km az=87.0

ISC 21 22:33:18.9±1.0, 36°.37N±0°.09×137°.1E±0°.1, h300km, n15, σ2s.58/19, mb3.2/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.61**	**262**	P	**Pn**	22 33 55.8	-1.9
JYTA	**Yamagatataniai**	**0.82**	**200**	P	**Pn**	22 33 56.4	-2.2
JYTA				S	**S**	22 34 25.1	-5.0
MAT	**Matsushiro**	**0.92**	**79**	P	**Pn**	22 33 58.6	-0.3
MJAR	**Matsushiro Arr**	**0.93**	**79**	P	**Pn**	22 33 58.2	-0.7
	2.1nm,0.5s,baz=262,slow=3.7,SNR=8.4						
MJAR				S	**S**	22 34 30.2	-0.6
	1.5nm,0.6s,baz=261,slow=5.9,SNR=4.8						
JWT	**Wachi**	**1.74**	**232**	P	**Pn**	22 34 01.1	-2.7
JAG	**Ashikaga**	**1.91**	**88**	P	**Pn**	22 34 04.5	-0.4
JAG				S	**S**	22 34 39.2	-2.5
JSD	**Sado**	**1.92**	**29**	P	**Pn**	22 34 05.2	+0.3
JIE	**Ise**	**1.99**	**189**	P	**Pn**	22 34 04.2	-1.6
JNS	**Sasagawa**	**2.30**	**50**	P	**Pn**	22 34 08.9	+0.8
JWY	**Kouya**	**2.46**	**210**	P	**Pn**	22 34 07.7	-2.0
JTNC	**Tanabenakahech**	**2.81**	**206**	P	**Pn**	22 34 10.7	-2.2
ASAJ	**Asahikawa**	**8.81**	**27**	P	**Pn**	22 35 22.1	-0.2
	4.1nm,0.3s,baz=223,slow=11,SNR=24						
ASAJ				S	**S**	22 36 57.7	-5.0
	3.9nm,0.9s,baz=114,slow=30,SNR=1.7						
WRA	**Warramunga Arr**	**56.06**	**183**	P	**P**	22 42 29.4	+2.1
	0.4nm,0.4s,baz=2.0,slow=7.4,SNR=8.2 0.4nm,0.4s						
ASAR	**Alice Springs**	**59.78**	**183**	P	**P**	22 42 55.6	+2.6
	0.2nm,0.5s,baz=14,slow=13,SNR=5.6 0.2nm,0.5s						
FINES	**FINESS Array B**	**67.75**	**331**	P	**P**	22 43 47.3	+3.1
	3.5nm,1.1s,baz=64,slow=6.3,SNR=6.5 3.5nm,1.1s						

ROM 21 22:56:39.0±0.1, 42°.766N±0°.004×13°.090E±0°.006, h10km, ML1.2/1, Error ellipse: s-maj=0.4km s-min=0.4km az=253.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1212	**Cascia, Frazio**	**0.04**	**247**	P	Pg	22 56 41.3	+0.3
T1212				S	Sg	22 56 42.9	+0.5
T1212				AML	AML		
	comp=E,268μm,0.1s						
T1212				AML	AML		
	comp=N,314μm,0.2s						
T1212				AML	AML		
	comp=N,316μm,0.2s						
T1212				AML	AML		
	comp=N,314μm,0.2s						
T1212				AML	AML		
	comp=N,316μm,0.2s						
T1212				AML	AML		
	comp=E,268μm,0.1s						
T1212				AML	AML		
	comp=E,251μm,0.1s						
T1218	**Civita (PG)**	**0.10**	**169**	P	Pg	22 56 41.8	+0.2
T1218				S	Sg	22 56 44.0	+0.4
T1217	**Poggiodomo (PG**	**0.13**	**245**	P	Pg	22 56 42.5	+0.4
T1217				S	Sg	22 56 45.1	+0.8
T1216	**Preci, Frazion**	**0.14**	**337**	P	Pg	22 56 42.5	+0.4
T1216				S	Sg	22 56 45.2	+0.8
MC2	**Monte Cornacci**	**0.16**	**27**	P	Pg	22 56 42.9	+0.2
MC2				S	Sg	22 56 46.2	+0.9
T1215	**Vallo di Nera,**	**0.17**	**283**	P	Pg	22 56 43.1	+0.4
T1215				S	Sg	22 56 46.1	+1.0
FDMO	**Fiordimonte**	**0.27**	**360**	P	Pb	22 56 45.5	-0.5
FDMO				S	Sg	22 56 49.1	+1.0
T1220	**Camerino, Fraz**	**0.34**	**360**	P	Pb	22 56 46.7	-0.5
T1220				S	Sb	22 56 52.0	-0.8
MOMA	**Monte Martano**	**0.38**	**276**	S	Sb	22 56 53.5	-0.5
GIGS	**Gran Sasso**	**0.47**	**132**	P	Pg	22 56 48.7	+0.4

DDA 21 22:56:45.4±0.0, 38°.97N×25°.98E, h33km±2km, MW3.4
THE 21 22:56:46.3, 39°.02N×26°.04E, h3km±31km, ML3.2/4, Error ellipse: s-maj=31.6km s-min=1.0km az=0.0
ATH 21 22:56:46.7, 39°.01N×26°.08E, h12km±2km, ML3.1/4, Error ellipse: s-maj=4.8km s-min=1.4km az=276.0
ISK 21 22:56:46.0, 39°.02N×26°.07E, h1km, ML3.3/22
BEO 21 22:56:49.7±0.8, 39°.19N×25°.91E, h0km, ML2.5/4

ISC 21 22:56:46.5±0.9, 39°.00N±0°.02×26°.06E±0°.02, h14km±7km, n107, σ0s.78/143, 19C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.27**	**324**	P	**Pg**	**22 56 51.9**	**-0.2**
SIGR	**SIGRI**	**0.27**	**324**	Pg	**Pg**	**22 56 51.9**	**-0.2**
SIGR				Sg	**Sg**	**22 56 56.0**	**+0.1**
SIGR	**SIGRI**	**0.27**	**324**	P	**Pg**	**22 56 51.8**	**-0.2**
SIGR				S	**Sg**	**22 56 56.0**	**+0.1**
SIGR				AML	AML	22 56 56.5	
	comp=E,20441μm,0.5s						
SIGR				AML	AML	22 56 56.8	
	comp=N,27587μm,0.3s						
GPNR	**Gulpinar-Canak**	**0.46**	**8**	Pg	**Pg**	**22 56 55.1**	**-0.6**
KOCA	**Canakkale, Ayv**	**0.51**	**7**	P	**Pg**	**22 56 56.1**	**-0.4**
KOCA				S	**Sb**	**22 57 06.2**	**+1.7**
KOCA				*i* AML	AML	22 57 08.0	
	comp=N,808nm,0.3s						
KOCA				*i* AML	AML	22 57 09.0	
	comp=N,2μm,0.3s						
KOCA				*i* AML	AML	22 57 10.0	
	comp=N,758nm,0.2s						
AYVA	**Ayvalik**	**0.58**	**58**	P	**Pg**	**22 56 57.2**	**-0.7**
AYVA				S	**Sg**	**22 57 05.5**	**-0.2**
AYVA				*i* AML	AML	22 57 09.0	
	comp=N,2μm,0.5s						
AYVA				*i* AML	AML	22 57 10.0	
	comp=N,608nm,0.2s						
AYVA				*i* AML	AML	22 57 12.0	
	comp=N,696nm,0.5s						
PSRA	**Psara**	**0.59**	**220**	P	**Pb**	**22 56 59.0**	**+0.4**
PSRA				S	**Sb**	**22 57 07.0**	**+0.1**
PSRA				AML	AML	22 57 07.8	
	comp=E,8896μm,0.2s						
PSRA				AML	AML	22 57 09.1	
	comp=N,6822μm,0.2s						
DKL	**Dikili**	**0.67**	**83**	Pg	**Pg**	**22 56 59.0**	**-0.5**
URLA	**Izmir**	**0.76**	**146**	Pg	**Pg**	**22 57 01.1**	**-0.2**
URLA	**Izmir**	**0.76**	**146**	P	**Pg**	**22 57 00.6**	**-0.7**
URLA				S	**Sb**	**22 57 12.7**	**+0.9**
URLA				*i* AML	AML	22 57 14.0	
	comp=N,302nm,0.3s						
URLA				*i* AML	AML	22 57 14.0	
	comp=N,602nm,0.6s						
URLA				*i* AML	AML	22 57 15.0	
	comp=N,579nm,0.5s						
ZEDA	**zmir-Bergama**	**0.80**	**92**	P	**Pb**	**22 57 02.5**	**+0.4**
ZEDA				S	**Sn**	**22 57 14.4**	**-0.5**
ZEDA				*i* AML	AML	22 57 15.0	
	comp=N,166nm,0.2

BOZC				*i* AML	AML	22 57 16.0		
	comp=N,1µm,0.2s							
BOZC				*i* AML	AML	22 57 16.0		
	comp=N,1µm,0.2s							
BOZC				*i* AML	AML	22 57 16.0		
	comp=N,898nm,0.3s							
BOZC				*i* AML	AML	22 57 16.0		
	comp=N,2µm,0.2s							
EZN	**Ezine**	**0.85**	**14**	P	**Pg**	**22 57 02.0**	**-1.0**	
EZN				S	**Sg**	**22 57 14.2**	**-0.1**	
	comp=N,5µm,0.4s							
EZN	**Ezine**	**0.85**	**14**	Pg	**Pg**	**22 57 02.5**	**-0.5**	
EZN				Sg	**Sg**	**22 57 14.2**	**-0.1**	
BUHA	**Balikesir, Bur**	**0.94**	**57**	P	**Pb**	**22 57 03.9**	**-0.6**	
BUHA				S	**Sb**	**22 57 16.4**	**-0.5**	
BUHA				*i* AML	AML	22 57 18.0		
	comp=N,901nm,0.5s							
BUHA				*i* AML	AML	22 57 19.0		
	comp=N,556nm,0.8s							
BUHA				*i* AML	AML	22 57 19.0		
	comp=N,915nm,0.4s							
BLCB	**Balcova**	**0.98**	**128**	P	**Pb**	**22 57 05.2**	**-0.1**	
BLCB	**Balcova**	**0.98**	**128**	Pg	**Pn**	**22 57 05.6**	**-0.2**	
ECEA	**Canakkale, Ece**	**1.05**	**5**	P	**Pb**	**22 57 06.2**	**-0.2**	
ECEA				S	**Sn**	**22 57 21.8**	**+0.6**	
ECEA				*i* AML	AML	22 57 23.0		
	comp=N,3µm,0.4s							
ECEA				*i* AML	AML	22 57 24.0		
	comp=N,867nm,0.3s							
ECEA				*i* AML	AML	22 57 24.0		
	comp=N,2µm,0.6s							
DGB	**zmir**	**1.15**	**145**	P	**Pg**	**22 57 08.3**	**-0.2**	
DGB				S	**Sb**	**22 57 22.7**	**0.0**	
DGB				*i* AML	AML	22 57 26.0		
	comp=N,79nm,0.4s							
DGB				*i* AML	AML	22 57 26.0		
	comp=N,138nm,0.4s							
DGB				*i* AML	AML	22 57 27.0		
	comp=N,271nm,0.5s							
GOKA	**anakkale-Gk**	**1.20**	**355**	P	**Pn**	**22 57 08.5**	**-0.3**	
GOKA				*i* AML	AML	22 57 25.0		
	comp=N,1µm,0.6s							
GOKA				S	**Sg**	**22 57 25.0**	**-0.1**	
GOKA				*i* AML	AML	22 57 27.0		
	comp=N,909nm,0.4s							
GOKA				*i* AML	AML	22 57 55.0		
	comp=N,0.6nm,1.2s							
GADA	**Gvkgeada**	**1.20**	**354**	Pn	**Pn**	**22 57 08.4**	**-0.4**	
GADA				Sn	**Sn**	**22 57 25.0**	**+0.1**	
STEP	**BALIKESIR_Sava**	**1.35**	**73**	P	**Pb**	**22 57 11.4**	**-0.1**	
STEP				S	**Sn**	**22 57 28.9**	**+0.3**	
STEP				*i* AML	AML	22 57 35.0		
	comp=N,369nm,0.7s							
STEP				*i* AML	AML	22 57 36.0		
	comp=N,455nm,1.0s							
STEP				*i* AML	AML	22 57 37.0		
	comp=N,243nm,0.4s							
AKHS	**Akhisar**	**1.38**	**94**	P	**Pg**	**22 57 12.7**	**-0.3**	
AKHS				S	**Sn**	**22 57 29.1**	**-0.1**	
AKHS				*i* AML	AML	22 57 33.0		
	comp=N,69nm,0.3s							
AKHS				*i* AML	AML	22 57 38.0		
	comp=N,126nm,0.6s							
AKHS				*i* AML	AML	22 58 12.0		
	comp=N,0.9nm,1.7s							
BALY	**Balya**	**1.42**	**58**	P	**Pn**	**22 57 11.9**	**0.0**	
BALY				S	**Sn**	**22 57 30.4**	**-0.1**	
BALY				*i* AML	AML	22 57 34.0		
	comp=N,218nm,0.5s							
BALY				*i* AML	AML	22 57 34.0		
	comp=N,186nm,0.4s							
BALY				*i* AML	AML	22 57 35.0		
	comp=N,339nm,0.7s							
GELI	**Tayfur-Gelibol**	**1.44**	**13**	Pn	**Pn**	**22 57 12.0**	**-0.1**	
LPK	**Lapseki**	**1.48**	**21**	Pn	**Pn**	**22 57 12.9**	**+0.2**	
SMTH	**Samothraki Isl**	**1.53**	**345**	P	**Pn**	**22 57 12.9**	**-0.4**	
SMTH				S	**Sb**	**22 57 33.5**	**-0.3**	
	comp=N,242nm,0.4s							
SMTH	**Samothraki Isl**	**1.53**	**345**	P	**Pn**	**22 57 13.0**	**-0.4**	
SMTH				AML	AML	22 57 37.9		
	comp=N,466µm,0.3s							
SMTH				AML	AML	22 57 38.5		
	comp=E,495µm,0.5s							
BALB	**Balikesir**	**1.56**	**65**	Pn	**Pb**	**22 57 14.3**	**-0.7**	
KYMI	**Kymi, Euboea I**	**1.57**	**257**	P	**Pn**	**22 57 12.8**	**-1.1**	
KYMI	**Kymi, Euboea I**	**1.57**	**257**	P	**Pn**	**22 57 13.6**	**-0.3**	
KYMI				AML	AML	22 57 42.4		
	comp=E,265µm,0.3s							
KYMI				AML	AML	22 57 42.4		
	comp=N,440µm,0.4s							
GCAM	**G?zelcaml?**	**1.59**	**144**	Pn	**Pn**	**22 57 14.6**	**+0.4**	
GCAM	**G?zelcaml?**	**1.59**	**144**	P	**Pg**	**22 57 16.4**	**-0.7**	
GCAM				S	**Sg**	**22 57 38.0**	**+0.2**	
GCAM				*i* AML	AML	22 57 41.0		
	comp=N,205nm,0.8s							
GCAM				*i* AML	AML	22 57 43.0		
	comp=N,66nm,0.8s							
GCAM				*i* AML	AML	22 57 43.0		
	comp=N,107nm,0.6s							
GONE	**Gonen-Balikesi**	**1.64**	**50**	Pn	**Pn**	**22 57 15.2**	**+0.3**	
KRBG	**Karabiga-Canak**	**1.69**	**34**	Pn	**Pn**	**22 57 15.7**	**+0.1**	
CAVK	**Edirne/Enez-Ca**	**1.69**	**3**	P	**Pn**	**22 57 16.1**	**+0.4**	
CAVK				S	**Sn**	**22 57 37.6**	**+0.5**	
CAVK				*i* AML	AML	22 57 46.0		
	comp=N,209nm,0.4s							
CAVK				*i* AML	AML	22 57 46.0		
	comp=N,193nm,0.7s							
CAVK				*i* AML	AML	22 57 47.0		
	comp=N,266nm,0.6s							
KNL	**Balıkesir**	**1.71**	**41**	P	**Pn**	**22 57 15.6**	**-0.1**	
KNL				S	**Sb**	**22 57 38.9**	**0.0**	
KNL				*i* AML	AML	22 57 44.0		
	comp=N,205nm,0.5s							
KNL				*i* AML	AML	22 57 48.0		
	comp=N,140nm,0.7s							
KNL				*i* AML	AML	22 57 58.0		
	comp=N,238nm,0.6s							
ERIK	**Erikli-Kesan**	**1.71**	**12**	Pn	**Pn**	**22 57 16.5**	**+0.7**	
ENEZ	**Enez**	**1.74**	**2**	P	**Pn**	**22 57 16.6**	**+0.3**	
ENEZ				S	**Sn**	**22 57 38.6**	**+0.4**	
	comp=N,435nm,0.4s							
ENEZ	**Enez**	**1.74**	**2**	Pn	**Pn**	**22 57 16.5**	**+0.3**	
KESN	**Edirne-Kesan**	**1.89**	**15**	P	**Pn**	**22 57 18.5**	**-0.2**	
KESN				S	**Sn**	**22 57 43.5**	**+1.0**	
KESN				*i* AML	AML	22 57 50.0		
	comp=N,57nm,0.2s							
KESN				*i* AML	AML	22 57 51.0		
	comp=N,191nm,0.3s							
KESN				*i* AML	AML	22 57 54.0		
	comp=N,189nm,0.5s							
RKY	**Sarkoy-Tekirda**	**1.90**	**27**	Pn	**Pn**	**22 57 18.6**	**+0.1**	
ALN	**Alexandroupoli**	**1.90**	**360**	P	**Pn**	**22 57 18.3**	**-0.1**	
ALN	**Alexandroupoli**	**1.90**	**360**	Pn	**Pn**	**22 57 18.8**	**+0.4**	
ALN	**Alexandroupoli**	**1.90**	**360**	P	**Pn**	**22 57 18.3**	**-0.1**	
SART	**Tekirdag**	**1.90**	**27**	P	**Pn**	**22 57 18.9**	**+0.3**	
SART				S	**Sn**	**22 57 43.2**	**+0.9**	
SART				*i* AML	AML	22 57 49.0		
	comp=N,70nm,0.4s							
SART				*i* AML	AML	22 57 49.0		
	comp=N,146nm,0.3s							
SART				*i* AML	AML	22 57 55.0		
	comp=N,253nm,0.5s							
DION	**Dionisos Attik**	**1.90**	**242**	P	**Pn**	**22 57 19.2**	**+0.7**	
THAS	**Thassos island**	**1.91**	**328**	P	**Pn**	**22 57 18.4**	**-0.2**	
THAS	**Thassos island**	**1.91**	**328**	P	**Pn**	**22 57 18.3**	**-0.2**	
EDC	**Edincik**	**1.94**	**45**	Pn	**Pn**	**22 57 19.4**	**+0.4**	
APE	**Apeiranthos**	**1.97**	**192**	⇑P	**Pn**	**22 57 18.9**	**-0.5**	
APE				⇓S	**Sn**	**22 57 42.6**	**-1.3**	
APE	**Apeiranthos**	**1.97**	**192**	Pn	**Pn**	**22 57 18.9**	**-0.5**	
APE	**Apeiranthos**	**1.97**	**192**	P	**Pn**	**22 57 18.8**	**-0.6**	
PAIG	**Paliouri**	**2.06**	**298**	P	**Pn**	**22 57 20.8**	**+0.1**	
PAIG	**Paliouri**	**2.06**	**298**	P	**Pn**	**22 57 20.7**	**+0.1**	
OUR	**Ouranopolis**	**2.08**	**311**	P	**Pn**	**22 57 21.4**	**+0.4**	
OUR	**Ouranopolis**	**2.08**	**311**	Pn	**Pn**	**22 57 21.4**	**+0.4**	
OUR	**Ouranopolis**	**2.08**	**311**	P	**Pn**	**22 57 21.3**	**+0.3**	
KULA	**Kula-Manisa**	**2.09**	**102**	P	**Pn**	**22 57 21.8**	**+0.6**	
UKOP	**Uzunkopru-Edir**	**2.17**	**12**	Pn	**Pn**	**22 57 22.6**	**+0.4**	
KCTX	**Karacabey (Bur**	**2.18**	**54**	Pn	**Pn**	**22 57 22.6**	**+0.2**	
RDO	**Rodhopi**	**2.18**	**350**	P	**Pn**	**22 57 22.4**	**+0.1**	
RDO	**Rodhopi**	**2.18**	**350**	Pn	**Pn**	**22 57 22.8**	**+0.5**	
RDO	**Rodhopi**	**2.18**	**350**	P	**Pn**	**22 57 22.5**	**+0.1**	
KAVA	**Kavala**	**2.32**	**330**	P	**Pn**	**22 57 24.1**	**-0.1**	
ULDT	**Uludag**	**2.64**	**63**	P	**Pb**	**22 57 35.0**	**+1.3**	
SRS	**Serrai**	**2.84**	**319**	P	**Pn**	**22 57 31.8**	**+0.4**	
SRS	**Serrai**	**2.84**	**319**	*e*Pn	**Pn**	**22 57 31.9**	**+0.5**	
SRS				*e*Sn	**Sn**	**22 58 04.0**	**-1.4**	
NVR	**Nevrokopi**	**2.89**	**325**	P	**Pn**	**22 57 32.7**	**+0.6**	
KIRK	**Kırklareli**	**2.89**	**16**	P	**Pn**	**22 57 32.3**	**+0.2**	
KIRK				*i* AML	AML	22 58 17.0		
	comp=N,16nm,0.8s							
KIRK				*i* AML	AML	22 58 18.0		
	comp=N,19nm,0.7s							
KIRK				*i* AML	AML	22 58 21.0		
	comp=N,23nm,0.6s							
EDRB	**Edirne**	**2.90**	**10**	P	**Pn**	**22 57 32.1**	**0.0**	
ARMN	**Kirklareli, Me**	**3.05**	**20**	P	**Pn**	**22 57 34.2**	**-0.1**	
ARMN				*i* AML	AML	22 58 22.0		
	comp=N,30nm,0.8s							
ARMN				*i* AML	AML	22 58 23.0		
	comp=N,18nm,0.8s							
ARMN				*i* AML	AML	22 58 28.0		
	comp=N,9.8nm,0.3s							
PLD	**Plovdiv**	**3.27**	**342**	*e*Pn	**Pn**	**22 57 38.5**	**+1.2**	
FNA	**Florina**	**4.02**	**298**	*e*Pn	**Pn**	**22 57 49.9**	**+2.3**	
FNA				*e*Sn	**Sn**	**22 58 34.6**	**+0.1**	
VTS	**Vitosha**	**4.20**	**330**	*e*Pn	**Pn**	**22 57 52.0**	**+1.7**	
VTS	**Vitosha**	**4.20**	**330**	*e*Pn	**Pn**	**22 57 52.0**	**+1.7**	
VTS				*e*Sn	**Sn**	**22 58 38.2**	**-1.0**	
VTS				*e*Sn	Sb	22 58 38.3	-13	
PLVB	**Pleven**	**4.52**	**347**	⇑P	**Pn**	**22 57 55.1**	**+0.7**	
RAZG	**Razgrad**	**4.58**	**4**	⇑P	**Pn**	**22 57 55.3**	**0.0**	
PRVS	**Prvonek**	**4.63**	**321**	*e*Pn	**Pn**	**22 57 57.7**	**+1.7**	
PRVS				*e*Sn	**Sn**	**22 58 49.7**	**+0.1**	
BARS	**Barje**	**4.99**	**321**	*e*Pn	**Pn**	**22 58 02.5**	**+1.6**	
ZAPS	**Zavoj**	**4.99**	**330**	*e*Pn	**Pn**	**22 58 03.5**	**+2.5**	
ICOR	**Ion Corvin**	**5.28**	**14**	⇑P	**Pn**	**22 58 05.6**	**+0.7**	
ZAGS	**Zajecar**	**5.60**	**330**	*e*Pn	**Pn**	**22 58 10.2**	**+0.9**	
SELS	**Selova**	**5.63**	**320**	*e*Pn	**Pn**	**22 58 10.6**	**+0.9**	
BOVS	**Bovan**	**5.67**	**326**	*e*Pn	**Pn**	**22 58 11.4**	**+1.1**	
TIRR	**Tirgusor**	**5.74**	**17**	⇑P	**Pn**	**22 58 11.2**	**+0.1**	
HARR	**Harsova**	**5.86**	**13**	⇑P	**Pn**	**22 58 13.3**	**+0.5**	
CFR	**Carcaliu**	**6.37**	**13**	⇑P	**Pn**	**22 59 19.8**	**0.0**	
IVAS	**Ivanjica**	**6.38**	**318**	*e*Pn	**Pn**	**22 58 21.1**	**+1.1**	
ARR	**Arges**	**6.45**	**351**	⇑P	**Pn**	**22 58 20.7**	**-0.4**	
VOIR		**6.48**	**354**	⇑P	**Pn**	**22 58 22.0**	**+0.5**	
MLR	**Muntele Rosu**	**6.49**	**359**	⇑P	**Pn**	**22 58 22.8**	**+1.2**	
MDVR	**Moldovita**	**6.62**	**332**	⇑P	**Pn**	**22 58 24.4**	**+0.9**	
DIVS	**Divibare**	**6.83**	**320**	*e*Pn	**Pn**	**22 58 27.4**	**+1.1**	
DIVS				*e*Sn	**Sn**	**22 59 39.8**	**-4.0**	
GZR	**Gura Zlata**	**6.84**	**340**	⇑P	**Pn**	**22 58 26.6**	**+0.2**	
PLOR	**Plostina**	**6.86**	**3**	⇑P	**Pn**	**22 58 28.1**	**+1.4**	
VRI	**Vrincioaia**	**6.88**	**4**	⇓P	**Pn**	**22 58 28.1**	**+1.2**	
DOPR	**Dopca**	**6.98**	**356**	⇑P	**Pn**	**22 58 29.2**	**+0.9**	
SURR	**Surduc**	**7.35**	**338**	⇑P	**Pn**	**22 58 34.3**	**+0.9**	
BZS	**Buzias**	**7.39**	**335**	⇑P	**Pn**	**22 58 33.9**	**+0.1**	
BZS	**Buzias**	**7.39**	**335**	*e*Pn	**Pn**	**22 58 34.2**	**+0.4**	
TESR	**Tescani**	**7.52**	**3**	⇑P	**Pn**	**22 58 36.1**	**+0.4**	
SIRR	**Siria**	**7.96**	**337**	⇑P	**Pn**	**22 58 41.7**	**+0.1**	
BURAR	**Bucovina Array**	**8.64**	**356**	⇑P	**Pn**	**22 58 51.7**	**+0.6**	

IDC 21** 23:05:57.0±3.4, 15°.76S×174°.50W, h0km, **mb3.6**/3, **mbtmp3.6**/4, **ML3.6**/1, **Error ellipse: s-maj=176.8km s-min=27.7km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.21**	**55**	Pn	Pn	23 06 50.4	+1.5
	6.1nm,0.3s,baz=228,slow=16,SNR=2.5						
AFI				Sn	Sn	23 07 19.7	-8.3
	3.6nm,0.3s,baz=153,slow=17,SNR=2.4						
	17nm,0.4s						
WRA	**Warramunga Arr**	**48.73**	**257**	P	P	23 14 44.4	+0.5
	0.3nm,0.6s,baz=96,slow=7.3,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**48.99**	**252**	P	P	23 14 45.9	0.0
	1.1nm,0.7s,baz=92,slow=8.2,SNR=12						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**83.01**	**12**	P	P	23 18 23.0	-0.8
	0.3nm,0.7s,baz=224,slow=6.3,SNR=2.1						
	0.3nm,0.7s						
BRTR	**Keskin Array B**	**145.76**	**320**	PKPbc	PKPdf	23 25 37.2	-1.0
	0.7nm,0.9s,baz=72,slow=4.7,SNR=3.8						

*IDC **21** 23:09:05.0±7.4, 14°.02N×92°.00W, h0km, mb3.4/2, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=177.1km s-min=73.9km az=25.0*
*MEX **21** 23:09:20.7±0.5, 14°.56N×92°.75W, h33km±50km, MD4.0*
ISC 21 23:09:19.0±2.2, 14°.6N±0°.2×92°.69W±0°.06, h59km±14km, n13, σ1s25/23, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATR	**El Naranjo**	**0.68**	**40**	*e*P	**Pn**	**23 09 32.9**	**-0.3**
PATR				*e*S	**Sn**	**23 09 43.0**	**-0.5**
CHUJ	**Union Juarez**	**0.74**	**49**	*e*P	**Pn**	**23 09 34.0**	**0.0**
CHUJ				*i* S	**Sn**	**23 09 44.8**	**-0.2**
PAVE	**Pavencul**	**0.77**	**40**	*e*P	**Pn**	**23 09 34.3**	**0.0**
PAVE				*e*S	**Sn**	**23 09 45.1**	**-0.4**
PCIG		**1.21**	**335**	*i* P	**Pn**	**23 09 40.0**	**+0.1**
PCIG				*i* S	**Sn**	**23 09 54.5**	**-0.9**
CCIG	**Comitan**	**1.76**	**18**	*i* P	**Pn**	**23 09 49.0**	**+1.7**
CCIG				*i* S	**Sn**	**23 10 09.1**	**+0.3**
TGIG		**2.21**	**349**	*i* P	**Pn**	**23 09 53.1**	**-0.3**
TGIG				*i* S	**Sn**	**23 10 17.9**	**-1.7**
NILT	**Santiago Nilte**	**2.70**	**317**	*i* P	**Pn**	**23 10 01.2**	**+1.2**
NILT				*i* S	**Sn**	**23 10 30.3**	**-1.2**
CMIG	**Matias Romero**	**3.26**	**320**	Pn	**Pn**	**23 10 08.1**	**+0.5**
	5.5nm,0.3s,baz=139,slow=12,SNR=28						
CMIG				Sn	**Sn**	**23 10 44.9**	**-0.3**
	20nm,0.3s,baz=123,slow=12,SNR=6.6						
	16nm,0.3s						
CMIG	**Matias Romero**	**3.26**	**320**	*i* P	**Pn**	**23 10 08.1**	**+0.5**
CMIG				*i* S	**Sn**	**23 10 44.9**	**-0.3**
NEUV	**Arroyo Zacate**	**4.31**	**316**	*i* P	**Pn**	**23 10 22.6**	**+0.6**
NEUV				*i* S	**Sn**	**23 11 09.2**	**-1.7**
TXAR	**Lajitas Array**	**17.83**	**327**	P	**Pn**	**23 13 26.8**	**+3.6**
	baz=144,slow=14,SNR=4.7						
	0.9nm,0.9s						
YKA	**Yellowknife Ar**	**50.29**	**347**	P	**P**	**23 18 07.8**	**-1.5**
	0.3nm,0.6s,baz=156,slow=7.2,SNR=5.8						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**62.03**	**337**	P	**P**	**23 19 32.4**	**-0.7**
	0.6nm,1.0s,baz=117,slow=7.2,SNR=3.9						
	0.6nm,1.0s						

IDC 21 23:10:17.9±2.6, 11°.57S×115°.71E, h0km, mb3.3/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=136.7km s-min=26.7km az=46.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.76**	**117**	P	P	23 14 49.9	+0.2
	0.1nm,0.3s,baz=292,slow=12,SNR=2.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**21.08**	**127**	P	P	23 15 03.8	-0.2
	0.2nm,0.5s,baz=302,slow=10.0,SNR=6.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**65.34**	**335**	P	P	23 21 02.0	0.0
	0.4nm,0.4s,baz=147,slow=6.9,SNR=17						
	0.4nm,0.4s						

*WEL **21** 23:12:00, 42°.25S×173°.61E, h8km, ML3.9, Mw3.8, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}1.98; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-1.44; $M_{r\theta}$1.31; $M_{\theta\phi}$-6.02; $M_{r\phi}$-0.32; Fault plane solution: $M_0$6.27000×10^{14} NP1: ϕ_s179.00000°, δ74.00000°, λ11.00000°. NP2:ϕ_s86.00000°, δ80.00000°, λ163.00000°. Principal axes: T -70.7900, Plg19.0000°, Azm42.0000°; N 54.5200, Plg71.0000°, Azm235.0000°; P 16.2700, Plg4.0000°, Azm133.0000°;*
*IDC **21** 23:12:09.3±2.0, 42°.08S×173°.52E, h0km, mb3.1/2, mbtmp3.5/4, ML3.5/2, MS2.4/1 Error ellipse: s-maj=51.1km s-min=31.3km az=135.0*
*WEL **21** 23:12:11.4±0.3, 42°.3S±2°×17°.4E±°, h15km±3km, M3.9/22, ML4.1/22, MLv3.9/22, Error ellipse: s-maj=0.0km s-min=0.0km az=117.6, confirmed*
*NOU **21** 23:12:11.5, 42°.41S×173°.74E, h16km, MLv4.4/12, South Island, New Zealand*
ISC 21 23:12:11.8±0.9, 42°.27S±0°.03×173°.63E±0°.03, h23km±7km, n83, σ1s32/95, South Island

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

KHZ	**Kahutara**	**0.16**	**205**	P	**Pb**	**23 12 16.6**	**-0.2**	
KHZ	**Kahutara**	**0.16**	**205**	P	**Pb**	**23 12 16.7**	**-0.2**	
KHZ				S	**Sb**	**23 12 20.3**	**+0.1**	
BSWZ	**Blackbirch Sta**	**0.58**	**18**	P	**Pb**	**23 12 22.7**	**-0.6**	
BSWZ				S	**Sb**	**23 12 31.5**	**+0.3**	
CMWZ	**Cape Campbell**	**0.68**	**40**	P	**Pn**	**23 12 25.9**	**-0.1**	
THZ	**Tophouse**	**0.74**	**313**	P	**Pb**	**23 12 24.5**	**-1.5**	
GVZ	**Greta Valley S**	**0.83**	**212**	P	**Pn**	**23 12 28.8**	**+0.7**	
GVZ				S	**Sn**	**23 12 41.9**	**+2.3**	
NNZ	**Nelson**	**1.07**	**350**	P	**Pn**	**23 12 30.7**	**-0.6**	
NNZ				S	**Sb**	**23 12 45.1**	**0.0**	
MRNZ	**Matariki Terra**	**1.09**	**323**	P	**Pn**	**23 12 30.9**	**-0.7**	
MRNZ				S	**Sb**	**23 12 45.6**	**0.0**	
LTZ	**Lake Taylor**	**1.13**	**242**	P	**Pn**	**23 12 32.2**	**0.0**	
LTZ				S	**Sb**	**23 12 46.5**	**-0.5**	
AMCZ	**Amberley**	**1.16**	**218**	P	**Pn**	**23 12 33.2**	**+0.5**	
TCW	**Tory Channel**	**1.16**	**25**	P	**Pn**	**23 12 33.0**	**+0.3**	
SNZO	**South Karori**	**1.25**	**40**	P	**Pb**	**23 12 34.7**	**0.0**	
WEL	**Wellington**	**1.30**	**41**	P	**Pb**	**23 12 35.4**	**-0.1**	
WEL				S	**Sb**	**23 12 53.2**	**+1.4**	
TKNZ	**Takaka Hill**	**1.33**	**338**	P	**Pn**	**23 12 35.3**	**+0.3**	
TKNZ				S	**Sn**	**23 12 52.3**	**+0.3**	
PLWZ	**Palliser**	**1.40**	**61**	P	**Pn**	**23 12 36.2**	**+0.3**	
DSZ	**Denniston Nort**	**1.46**	**290**	P	**Pn**	**23 12 37.7**	**+1.0**	
DSZ				S	**Sb**	**23 12 56.8**	**+0.3**	
DUWZ	**D'Urville Isla**	**1.48**	**9**	P	**Pn**	**23 12 37.8**	**+0.8**	
OKCZ	**Okains Bay**	**1.52**	**196**	P	**Pn**	**23 12 38.0**	**+0.4**	
CAW	**Cannon Point**	**1.58**	**43**	P	**Pn**	**23 12 38.9**	**+0.5**	
OXZ	**Oxford**	**1.58**	**227**	P	**Pn**	**23 12 37.9**	**-0.5**	
PAWZ	**Paruwai Farm**	**1.61**	**57**	P	**Pn**	**23 12 38.8**	**0.0**	
MQZ	**McQueen's Vall**	**1.61**	**206**	P	**Pn**	**23 12 38.1**	**-0.7**	
MQZ				S	**Sn**	**23 12 58.9**	**+0.2**	
QRZ	**Quartz Range**	**1.66**	**330**	P	**Pn**	**23 12 40.8**	**+1.3**	
QRZ	**Quartz Range**	**1.66**	**330**	P	**Pn**	**23 12 40.6**	**+1.1**	
INZ	**Inchbonnie**	**1.68**	**253**	P	**Pn**	**23 12 40.6**	**+0.8**	
AKCZ	**Akaroa Harbour**	**1.69**	**198**	P	**Pn**	**23 12 40.0**	**+0.1**	
KIW	**Kapiti Island**	**1.70**	**35**	P	**Pn**	**23 12 41.0**	**+0.9**	
TRWZ	**Traveller**	**1.77**	**61**	P	**Pn**	**23 12 40.7**	**-0.2**	
MTW	**Mount Morrison**	**1.79**	**52**	P	**Pn**	**23 12 41.1**	**-0.1**	
RACZ	**Rakaia**	**1.82**	**216**	P	**Pn**	**23 12 41.2**	**-0.6**	
OGWZ	**Otaki Gorge**	**1.85**	**39**	P	**Pn**	**23 12 42.7**	**+0.5**	
HOWZ	**Holdsworth Sta**	**1.97**	**47**	P	**Pb**	**23 12 48.5**	**+1.5**	
TMWZ	**Te Maipa**	**2.05**	**56**	P	**Pn**	**23 12 44.5**	**-0.4**	
WACZ	**Wakanui South**	**2.13**	**217**	P	**Pn**	**23 12 45.4**	**-0.5**	
MRZ	**Mangatainoka R**	**2.17**	**43**	P	**Pn**	**23 12 46.6**	**0.0**	
WVZ	**Waitaha Valley**	**2.28**	**248**	P	**Pn**	**23 12 48.9**	**+0.8**	
RPZ	**Rata Peaks**	**2.38**	**232**	Pn	**Pn**	**23 12 49.1**	**-0.3**	
	20nm,0.3s,baz=356,slow=19,SNR=62							
RPZ				Sn	**Sn**	**23 13 17.3**	**-0.6**	
	25nm,0.3s,baz=12,slow=14,SNR=12							
	83nm,0.4s							
RPZ	**Rata Peaks**	**2.38**	**232**	P	**Pn**	**23 12 49.3**	**-0.2**	
RPZ	**Rata Peaks**	**2.38**	**232**	P	**Pn**	**23 12 49.1**	**-0.3**	
PRWZ	**Pori Road**	**2.45**	**47**	P	**Pn**	**23 12 50.1**	**-0.3**	
ARCZ	**Arundel**	**2.46**	**226**	P	**Pn**	**23 12 50.0**	**-0.5**	
POWZ	**Post Office Ro**	**2.47**	**41**	P	**Pn**	**23 12 50.8**	**+0.1**	
BFZ	**Birch Farm**	**2.52**	**52**	P	**Pn**	**23 12 52.5**	**+1.1**	
BFZ	**Birch Farm**	**2.52**	**52**	Pn	**Pn**	**23 12 50.7**	**-0.7**	
GCSZ	**Gaunt Creek Bo**	**2.65**	**246**	P	**Pn**	**23 12 54.2**	**+1.1**	
WAZ	**Wanganui**	**2.71**	**23**	P	**Pn**	**23 12 56.5**	**+2.6**	
DVHZ	**Dannevirke**	**2.74**	**45**	P	**Pb**	**23 13 00.8**	**+0.7**	
TSZ	**Takapari Road**	**2.82**	**39**	P	**Pn**	**23 12 55.3**	**-0.3**	
TMZ	**Timaru**	**2.85**	**221**	P	**Pn**	**23 12 55.5**	**-0.5**	
KHEZ	**Kahui Hut**	**2.98**	**6**	P	**Pn**	**23 13 01.1**	**+3.3**	
KHEZ	**Kahui Hut**	**2.98**	**6**	P	**Pb**	**23 13 03.3**	**-1.0**	
NBEZ	**Newall Road No**	**3.00**	**3**	P	**Pb**	**23 13 01.7**	**-2.8**	
PNHZ	**Pukenui**	**3.05**	**40**	P	**Pn**	**23 12 58.0**	**-0.7**	
FOZ	**Fox Glacier**	**3.08**	**244**	P

ROSC				*i*				23 19 29.1	
	comp=Z,504nm,0.5s								
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P		**Pn**		**23 18 54.9**	**0.0**
UREC				*e*S		**Sn**		**23 19 25.8**	**-1.8**
UREC				*i*				23 19 29.2	
	comp=Z,143nm,0.1s								
LL1C	**La Loma 1 Cana**	**2.74**	**351**	*e*P		**Pn**		**23 18 59.1**	**+2.1**
LL1C				*e*S		**Sn**		**23 19 34.5**	**+3.0**
LL1C				*i*				23 19 40.3	
	comp=Z,442nm,0.6s								
PTGC	**Puerto Gaitan,**	**2.78**	**159**⇑	*i*P		**Pn**		**23 18 57.2**	**-0.4**
PTGC				*e*S		**Sn**		**23 19 30.2**	**-2.2**
PTGC				*i*				23 19 32.5	
	comp=Z,129nm,0.6s								
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*e*P		**Pn**		**23 19 01.7**	**+1.0**
CBOC				*e*S		**Sn**		**23 19 38.8**	**+0.8**
CBOC				*i*				23 19 44.4	
	comp=Z,65nm,0.4s								
DBBC	**Dabeiba**	**3.07**	**274**	*e*P		**Pn**		**23 19 01.6**	**+0.4**
DBBC				*e*S		**Sn**		**23 19 38.8**	**-0.2**
DBBC				*i*				23 19 48.7	
	comp=Z,84nm,0.3s								
SDV	**Santo Domingo**	**3.21**	**50**	P		**Pn**		**23 19 03.5**	**+0.5**
	comp=Z,76nm,0.3s,baz=240,slow=15,SNR=145								
SDV				S		**Sn**		**23 19 40.9**	**-1.3**
	comp=Z,61nm,0.4s,baz=278,slow=19,SNR=16								
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*S		**Sn**		**23 19 43.0**	**+0.8**
ARGC				*i*				23 19 54.8	
	comp=Z,46nm,0.3s								
ORTC	**Ortega, Tolima**	**3.58**	**216**	*e*P		**Pn**		**23 19 08.4**	**+0.7**
ORTC				*e*S		**Sn**		**23 19 50.7**	**+0.2**
ORTC				*i*				23 19 57.5	
	comp=Z,179nm,0.7s								
APAC	**Apartado, Choc**	**3.60**	**288**⇓	*i*P		**Pn**		**23 19 08.1**	**+0.3**
APAC				*e*S		**Sn**		**23 19 50.2**	**-0.6**
APAC				*i*				23 19 52.8	
	comp=Z,52nm,0.3s								
PLMC	**San Jos del P**	**3.68**	**239**	*e*P		**Pn**		**23 19 09.8**	**+0.9**
PLMC				*e*S		**Sn**		**23 19 52.3**	**-0.4**
PLMC				*i*				23 20 02.7	
	comp=Z,71nm,0.3s								
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P		**Pn**		**23 19 09.0**	**+0.1**
SJCC				*e*S		**Sn**		**23 19 48.6**	**-4.2**
SJCC				*i*				23 19 53.7	
	comp=Z,60nm,0.6s								
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	*e*P		**Sn**		**23 19 14.6**	**-0.9**
CRJC				*e*S		**Sn**		**23 20 02.9**	**-1.7**
CRJC				*i*				23 20 10.3	
	comp=Z,76nm,0.2s								
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P		**Pn**		**23 19 16.9**	**+0.2**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P		**Pn**		**23 19 19.4**	**+0.4**
SMRC				*e*S		**Sn**		**23 20 07.6**	**-3.2**
SMRC				*i*				23 20 10.7	
	comp=Z,45nm,0.3s								
MACC	**Macarena, Meta**	**4.70**	**189**⇑	*e*P		**Pn**		**23 19 20.9**	**-1.3**
MACC				*e*S		**Sn**		**23 20 12.0**	**-4.5**
MACC				*i*				23 20 18.8	
	comp=Z,27nm,0.3s								
URIC	**Uribia, Colomb**	**4.98**	**13**	*e*P		**Pn**		**23 19 24.5**	**-1.3**
URIC				*e*S		**Sn**		**23 20 20.1**	**-3.1**
GARC	**Garzon, Huila**	**5.17**	**207**	*e*P		**Pn**		**23 19 28.3**	**-0.4**
GARC				*e*S		**Sn**		**23 20 24.8**	**-3.4**
GARC				*i*				23 20 31.0	
	comp=Z,48nm,0.2s								
FLOC	**Florencia**	**5.78**	**206**	*e*P		**Pn**		**23 19 36.6**	**+0.1**
FLOC				*e*S		**Sn**		**23 20 40.4**	**-1.9**
FLOC				*i*				23 21 10.6	
	comp=Z,11nm,0.5s								
PDAR	**Pinedale Array**	**48.08**	**324**	P		**P**		**23 26 37.2**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=125,slow=8.9,SNR=2.3								
	comp=Z,0.1nm,0.5s								
SCHQ	**Schefferville**	**48.14**	**5**	P		**P**		**23 26 37.2**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=217,slow=6.2,SNR=3.8								
	comp=Z,1.4nm,0.5s								
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**		**23 28 24.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=134,slow=6.5,SNR=12								
	comp=Z,0.4nm,0.5s								
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**		**23 37 45.4**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=104,slow=2.8,SNR=1.4								

*MAN **21** 23:45:45.0,6.63N×126.37E,h47km,mb4.5,ML3.3,MS3.1*
*IDC **21** 23:45:46.7±2.5,6.73N×126.36E,h72km±21km,mb3.5/9,*
mbtmp3.9/10,Error ellipse: s-maj=67.0km s-min=13.2km
az=60.0
*NEIC **21** 23:45:47.4±1.3,6.7N±0.1×126.3E±0.1,h76km±10km,*
mb4.2/9,Error ellipse: s-maj=22.0km s-min=11.0km
az=223.0

ISC 21 23:45:46.7±0.9,**6.68N**±0.05×**126.30E**±0.07,**h75**km±9km,
n32,σ0**83**/37,**mb4.0**/14,**2C-1D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.81**	**298**	P		P	**Pn**	**23 46 03.1**	**-0.2**
	871nm,0.4s,baz=58,slow=0.8,SNR=36								
DAV					LR		LR	23 46 03.4	
	comp=Z,66nm,21.3s,baz=20,slow=20								
DAV					S		**Sn**	**23 46 16.9**	**+1.3**
	598nm,0.4s,baz=73,slow=20,SNR=18								
CDOP	**Cateel, Davao**	**1.10**	**7**⇓	*i*P			**Pn**	**23 46 05.6**	**-1.1**
CDOP				*i*	S		**Sn**	**23 46 20.4**	**-1.2**
BIPH	**Bislig**	**1.49**	**2**⇑	*i*P			**Pn**	**23 46 11.2**	**-0.5**
BIPH				*i*	S		**Sn**	**23 46 29.7**	**-0.9**
CTBH	**Cotabato--PC H**	**2.11**	**285**	*e*P			**Pn**	**23 46 19.3**	**-0.7**
CTBH				*i*	S		**Sn**	**23 46 44.1**	**-1.2**
CGP	**Cagayan de Oro**	**2.38**	**318**⇑	*e*P			**Pn**	**23 46 23.8**	**+0.3**
CGP				*e*S			**Sn**	**23 46 52.6**	**+0.9**
TNTI	**Ternate**	**5.97**	**170**	Pn			**Pn**	**23 47 12.9**	**+0.5**
TOLI2	**Tolitoli**	**7.81**	**225**	Pn			**Pn**	**23 47 35.4**	**-2.2**
SIJI	**Sorong**	**8.99**	**146**	P			**Pn**	**23 47 54.4**	**+0.6**
	4.2nm,0.4s,baz=345,slow=16,SNR=4.9								
KNRA	**Kununurra**	**22.35**	**174**	P			**P**	**23 50 38.4**	**-0.3**
WRA	**Warramunga Arr**	**27.61**	**164**	P			**P**	**23 51 27.6**	**+0.3**
	0.3nm,0.7s,baz=344,slow=10,SNR=2.0								
	0.3nm,0.7s								
WRA	**Warramunga Arr**	**27.61**	**164**	P			**P**	**23 51 27.5**	**+0.2**
WR0	**Warramunga Arr**	**27.69**	**163**	P			**P**	**23 51 28.0**	**+0.1**
WR0					IAmb		IAmb	23 51 52.5	
	comp=Z,4.7nm,1.2s								
GSI	**Gunungsitoli**	**29.14**	**261**	P			**P**	**23 51 41.0**	**+0.1**
GSI					IAmb		IAmb	23 52 06.1	
	comp=Z,13nm,1.3s								
ASAR	**Alice Springs**	**31.07**	**166**	P			**P**	**23 51 58.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=345,slow=7.2,SNR=7.1								
ASAR					PcP		**PcP**	**23 54 52.6**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=350,slow=3.8,SNR=1.5								
	comp=Z,0.3nm,0.5s								
ASAR	**Alice Springs**	**31.07**	**166**	P			**P**	**23 51 58.0**	**+0.2**
BBOO	**Buckleboo**	**40.36**	**167**	P			**P**	**23 53 17.8**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**41.02**	**70**	T			T	00 37 29.7	
	baz=257								
STKA	**Stephens Creek**	**41.03**	**160**	P			**P**	**23 53 23.4**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=345,slow=9.6,SNR=3.3								
	comp=Z,0.9nm,0.4s								
STKA	**Stephens Creek**	**41.03**	**160**	P			**P**	**23 53 23.5**	**+0.7**
H11S1	**WAKE ISLAND Hy**	**41.04**	**70**	T			T	00 37 28.3	
	baz=257								
H11S2	**WAKE ISLAND Hy**	**41.04**	**70**	T			T	00 37 23.0	
	baz=257								
SONM	**Songino Array**	**44.38**	**341**	P			**P**	**23 53 50.8**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=163,slow=8.5,SNR=1.7								
SONM					PcP		**PcP**	**23 55 33.2**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=135,slow=5.2,SNR=2.2								
	comp=Z,0.2nm,0.4s								
MK31	**Makanchi Array**	**54.91**	**324**	P			**P**	**23 55 09.9**	**+0.1**
MK31					IAmb		IAmb	23 55 11.9	
	comp=Z,0.7nm,0.5s								
MKAR	**Makanchi Array**	**54.91**	**324**	P			**P**	**23 55 09.7**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=117,slow=7.2,SNR=30								
MKAR					PcP		**PcP**	**23 56 11.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=93,slow=4.3,SNR=1.1								
	comp=Z,1.0nm,0.4s								
MAKZ	**Makanchi**	**55.10**	**324**	P			**P**	**23 55 10.4**	**-0.7**
MAKZ					IAmb		IAmb	23 55 14.1	
	comp=Z,3.5nm,1.4s								
ZALV	**Zalesovo Beam**	**57.78**	**332**	P			**P**	**23 55 30.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=134,slow=4.3,SNR=3.5								
	comp=Z,0.7nm,0.5s								
ZALV	**Zalesovo Beam**	**57.78**	**332**	P			**P**	**23 55 29.8**	**-0.3**
KURK	**Kurchatov**	**59.05**	**327**	P			**P**	**23 55 38.7**	**-0.2**
KURK					IAmb		IAmb	23 55 41.2	
	comp=Z,3.1nm,1.0s								
KURBB	**Kurchatov Arra**	**59.05**	**327**	P			**P**	**23 55 40.0**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=124,slow=7.5,SNR=8.8								
	comp=Z,1.3nm,0.7s								
KKAR	**Karatay Array**	**60.81**	**316**	P			**P**	**23 55 50.3**	**-0.9**
BVAR	**Borovoye Array**	**64.63**	**326**	P			**P**	**23 56 16.2**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=109,slow=5.2,SNR=5.4								
	comp=Z,0.8nm,0.5s								
FINES	**FINESS Array B**	**89.05**	**332**	P			**P**	**23 58 31.6**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=55,slow=7.2,SNR=4.2								
	comp=Z,1.8nm,0.9s								

IDC 21 23:51:00.4±17.0,**26.00N**×**142.08E**,**h0**km,**mb4.0**/5,
mbtmp4.0/5,**MS2.7**/1,**Error ellipse: s-maj=526.5km**
s-min=112.0km az=4.0,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**24.54**	**223**				LR	00 08 00.9	
	comp=Z,14nm,18.2s,baz=124,slow=42								
ZALV	**Zalesovo Beam**	**50.26**	**320**	P			P	23 59 58.1	-0.2
	0.3nm,0.3s,baz=112,slow=7.4,SNR=2.4								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**51.10**	**310**	P			P	00 00 04.9	0.0
	0.1nm,0.4s,baz=91,slow=8.1,SNR=4.7								
	0.1nm,0.4s								
KURBB	**Kurchatov Arra**	**53.74**	**315**	P			P	00 00 24.1	-0.2
	1.1nm,0.3s,baz=92,slow=7.8,SNR=13								
	1.1nm,0.3s								
BVAR	**Borovoye Array**	**58.79**	**318**	P			P	00 01 00.3	0.0
	2.0nm,0.4s,baz=87,slow=7.0,SNR=23								
	2.0nm,0.4s								
FINES	**FINESS Array B**	**78.89**	**334**	P			P	00 03 05.3	0.0
	1.3nm,0.5s,baz=65,slow=4.0,SNR=18								
	1.3nm,0.5s								

*YARS **22** 00:09:42.5,57.18N×127.71E,h26km*
*MOS **22** 00:09:43.7±1.9,57.23N×127.71E,h15km,mb4.2/1,Error*
ellipse: s-maj=19.0km s-min=9.2km az=82.1
*IDC **22** 00:09:43.6±1.0,57.22N×127.46E,h0km,mb3.6/7,*
mbtmp3.7/12,ML3.8/5,MS3.3/3,Error ellipse:
s-maj=20.8km s-min=13.2km az=108.0
*NEIC **22** 00:09:44.1±1.4,57.27N±0.08×127.5E±0.2,h10km±2km,*
mb4.2/7,Error ellipse: s-maj=23.7km s-min=11.7km
az=251.0

ISC 22 00:09:43.3±0.5,**57.21N**±0.02×**127.63E**±0.03,**h10**km,**n49**,
σ1**99**/78,**mb3.8**/10,**Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLNS	**Chul'man**	**1.54**	**257**	P			**Pb**	**00 10 11.1**	**-0.8**
CLNS								00 10 30.8	
CLNS	**Chul'man**	**1.54**	**257**	*i*	Pg		**Pg**	**00 10 11.8**	**-1.0**
	119nm,0.2s								
CLNS					*e*Sg		**Sg**	**00 10 32.0**	**-0.7**
	2µm,0.3s								
ALDR	**Aldan**	**1.84**	**321**	*i*	Pg		**Pg**	**00 10 17.1**	**-1.5**
	53nm,0.1s								
ALDR					*e*Sg		**Sg**	**00 10 41.7**	**-0.7**
	2µm,0.2s								
CGD	**Chagda**	**2.22**	**45**	P			**Pb**	**00 10 22.8**	**-0.7**
CGD								00 10 50.9	
CGD	**Chagda**	**2.22**	**45**	*e*Pn			**Pn**	**00 10 18.6**	**-1.6**
CGD				*i*	Pg		**Pb**	**00 10 22.9**	**-0.6**
CGD				*i*	Pg		**Pb**	**00 10 22.9**	**-0.6**
CGD				*i*	Pg		**Pb**	**00 10 23.0**	**-0.6**
	44nm,0.2s								
CGD					*e*Sg		**Sb**	**00 10 51.7**	**+0.6**
	1µm,0.3s								
BMKR	**Bomnak**	**2.59**	**164**	*e*Pg			**Pb**	**00 10 29.7**	**-0.1**
	380nm,0.4s								
BMKR					*e*Sg		**Sb**	**00 11 02.8**	**+1.1**
	2µm,0.4s								
TNDR	**Tynda**	**2.62**	**219**	*e*Pg			**Pb**	**00 10 30.7**	**+0.3**
	4.9nm,0.2s								
TNDR					*e*Sg		**Sg**	**00 11 05.6**	**-2.0**
	2µm,0.4s								
YKLR	**Yuktali**	**3.33**	**262**	P			**Pb**	**00 10 42.0**	**-0.5**
YKLR								00 11 25.2	
YKLR	**Yuktali**	**3.33**	**262**	*e*Pn			**Pn**	**00 10 34.4**	**-1.0**
YKLR				*e*Pg			**Pb**	**00 10 43.5**	**+1.0**
	10nm,0.1s								
YKLR					*e*Sn		**Sn**	**00 11 13.2**	**-1.9**
YKLR					*e*Sn		**Sn**	**00 11 13.2**	**-1.9**
YKLR					*e*Sg		**Sg**	**00 11 27.8**	**-2.5**
	629nm,0.5s								
ZEA	**Zeya**	**3.48**	**184**	*e*P			**Pn**	**00 10 37.9**	**+0.4**
ZEA				*e*S			**Sn**	**00 11 18.4**	**-0.3**
ZEA					pmax	pmax			
	comp=Z,30nm,0.5s								
ZEA					pmax	pmax			
	comp=E,100nm,0.3s								
ZEA					pmax	pmax			
	comp=Z,300nm,0.3s								
ZEA					pmax	pmax			
	comp=E,100nm,0.5s								
ZEA					pmax	pmax			
	comp=N,90nm,0.4s								
ZEA					pmax	pmax			
	comp=Z,330nm,0.4s								
ZEA					smax	smax			
	comp=E,2µm,1.2s								
ZEA					smax	smax			
	comp=N,1µm,0.5s								
ZEA					smax	smax			
	comp=E,1µm,0.7s								
ZEA	**Zeya**	**3.48**	**184**	*e*Pg			**Pb**	**00 10 45.1**	**+0.1**
	comp=E,30nm,0.5s								
ZEA					*e*Sg		**Sb**	**00 11 29.9**	**+2.6**
	comp=E,1µm,0.5s								
BLSR	**Buluus**	**4.23**	**9**	*e*Pn			**Pn**	**00 10 47.4**	**-0.3**
BLSR				*e*Pg			**Pb**	**00 10 59.5**	**+1.7**
	comp=E,39nm,0.5s								
BLSR					*e*Sg		**Sg**	**00 11 55.7**	**-3.3**
	comp=E,880nm,0.4s								
BLSR					*e*Sg		**Sg**	**00 11 55.7**	**-3.3**
	comp=E,916nm,0.5s								
KHN	**Khani**	**4.29**	**269**	*e*Pn			**Pn**	**00 10 46.1**	**-2.5**
KHN				*e*Pg			**Pb**	**00 10 58.9**	**+0.2**
	comp=E,2.0nm,0.1s								
KHN					*e*Sn		**Sn**	**00 11 33.8**	**-4.9**
KHN					*e*Sn		**Sn**	**00 11 33.8**	**-4.9**
KHN					*e*Sg		**Sb**	**00 11 54.4**	**+3.9**
	comp=E,438nm,0.1s								
KHN					*e*Sg		**Sb**	**00 11 54.4**	**+3.9**
TBGR	**Tabaga**	**4.74**	**12**	*e*Pn			**Pn**	**00 10 53.8**	**-1.0**
TBGR				*e*Pg			**Pb**	**00 11 08.6**	**+2.2**
	comp=E,10nm,0.1s								
TBGR					*e*Sn		**Sn**	**00 11 47.2**	**-2.5**
TBGR					*e*Sn		**Sn**	**00 11 47.2**	**-2.5**
TBGR					*e*Sg		**Sg**	**00 12 10.8**	**-4.7**
	comp=E,484nm,0.3s								
OLMR	**Olekminsk**	**4.90**	**313**	*e*Pn			**Pn**	**00 10 56.3**	**-0.6**
OLMR				*e*Pg			**Pb**	**00 11 11.9**	**+2.9**
	comp=E,5.0nm,0.1s								
OLMR					*e*Sn		**Sn**	**00 11 52.8**	**-0.7**
OLMR					*e*Sn		**Sn**	**00 11 52.8**	**-0.7**
OLMR					*e*Sg		**Sg**	**00 12 17.4**	**-3.0**
	comp=E,781nm,0.7s								
YAK	**Yakutsk**	**4.95**	**11**	Pn			**Pn**	**00 10 59.1**	**+1.5**
	comp=E,0.4nm,0.3s,baz=191,slow=5.9,SNR=12								
YAK					Sn		**Sn**	**00 11 54.4**	**-0.5**
	comp=E,3.5nm,0.3s,baz=101,slow=16,SNR=21								
YAK					Lg	Lg		00 12 13.0	
	comp=E,5.3nm,0.3s,baz=346,slow=22,SNR=25								
	comp=E,12nm,0.3s								
YAK	**Yakutsk**	**4.95**	**11**				**Pn**	**00 10 57.9**	**+0.3**
YAK	**Yakutsk**	**4.95**	**11**	*e*P			**Pn**	**00 10 59.0**	**+1.3**
YAK				*e*				00 11 52.9	
YAK					pmax	pmax			
	comp=Z,129nm,0.7s								
YAK					pmax	pmax			
	comp=Z,136nm,0.6s								
YAK					smax	smax			
	comp=E,131nm,0.4s								
YAK					smax	smax			
	comp=N,261nm,0.5s								
YAK					smax	smax			
	comp=E,433nm,0.6s								
YAK					smax	smax			
	comp=N,758nm,0.8s								
CRS	**Chara**	**5.12**	**271**	*e*Sg			**Sg**	**00 12 23.9**	**-3.6**
	comp=N,311nm,0.7s								
TUP	**Tupik**	**5.14**	**240**	*e*Pg			**Pb**	**00 11 15.9**	**+2.5**
	comp=N,60nm,0.6s								
TUP					*e*Sg		**Sg**	**00 12 24.7**	**-3.7**
	comp=N,176nm,0.6s								
KLR	**Kul'dur**	**8.36**	**161**	Pn			**Pn**	**00 11 45.8**	**+1.3**
	comp=N,4.4nm,0.3s,baz=340,slow=14,SNR=73								
KLR					Sn		**Sn**	**00 13 19.5**	**+0.6**
	comp=N,1.5nm,0.3s,baz=278,slow=19,SNR=3.9								
KLR					Lg	Lg		00 14 01.1	
	comp=N,2.1nm,0.3s,baz=52,slow=23,SNR=2.5								
	comp=N,8.1nm,0.3s								
USRK	**Ussuriysk Ar.**	**13.31**	**166**	Pn			**P**	**00 12 57.8**	**-4.1**
	comp=N,0.2nm,0.3s,baz=343,slow=15,SNR=2.1								
SEY	**Seymchan**	**13.57**	**55**	Pn			**Pn**	**00 12 57.1**	**+1.6**
	comp=N,0.3nm,0.3s,baz=266,slow=12,SNR=4.2								
SEY					Lg	Lg		00 16 50.5	
	comp=N,0.3nm,0.3s,baz=184,slow=24,SNR=8.5								
	comp=N,1.1nm,0.5s								
TIXI	**Tiksi**	**14.51**	**2**	Pn			**Pn**	**00 13 08.3**	**-0.1**
	comp=N,42nm,0.3s,baz=270,slow=24,SNR=1.6								
TIXI					Sn		Sn	00 15 38.2	-11
	comp=N,44nm,0.3s,baz=90,slow=24,SNR=1.2								
TIXI					Lg	Lg		00 17 25.2	
	comp=N,38nm,0.3s,baz=270,slow=23,SNR=4.3								
TIXI	**Tiksi**	**14.51**	**2**	Pn			**Pn**	**00 13 07.2**	**-1.3**
TIXI	**Tiksi**	**14.51**	**2**	P			**Pn**	**00 13 07.2**	**-1.3**
SONM	**Songino Array**	**15.90**	**243**	Pn			**Pn**	**00 13 27.9**	**+0.7**
	comp=N,0.2nm,0.3s,baz=12,slow=41,SNR=1.4								
SONM					Lg	Lg		00 18 05.0	
	comp=N,0.5nm,0.3s,baz=35,slow=16,SNR=7.4								
SONM					LR	LR		00 19 53.5	
	comp=N,61nm,19.4s,baz=228,slow=38								
	comp=N,0.1nm,0.3s								
ASAJ	**Asahikawa**	**16.13**	**138**	Pn			**P**	**00 13 31.2**	**-2.0**
	comp=N,0.2nm,0.3s,baz=199,slow=17,SNR=1.7								
	comp=N,4.6nm,0.8s								
BILL	**Bilibino**	**20.41**	**42**	P			Pn	00 14 21.3	-0.9
BILL					IAmb		IAmb	00 14 39.3	
	comp=Z,4.9nm,1.2s								
JMM	**Marumori**	**21.22**	**150**	P			**P**	**00 14 31.2**	**+2.1**
NRIK	**Noril'sk**	**21.23**	**321**	P			**P**	**00 14 29.2**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=102,slow=14,SNR=6.0								
	comp=Z,1.4nm,0.3s								
NRIK	**Noril'sk**	**21.23**	**321**	P			**P**	**00 14 27.9**	**-1.0**
NRIK					IAmb		IAmb	00 14 38.3	
	comp=Z,7.2nm,0.9s								
KURK	**Kurchatov**	**29.01**	**278**	P			**P**	**00 15 45.2**	**+2.2**
KURBB	**Kurchatov Arra**	**29.11**	**278**	P			**P**	**00 15 45.2**	**+1.4**
	comp=Z,0.3nm,0.2s,baz=54,slow=9.5,SNR=2.0								
	comp=Z,0.3nm,0.2s								
MKAR	**Makanchi Array**	**29.26**	**269**	LR			LR	00 28 06.1	
	comp=Z,33nm,18.1s,baz=336,slow=38								
TRF	**Thorofare Moun**	**38.45**	**46**	P			**P**	**00 17 05.9**	**+1.0**
TRF					IAmb		IAmb	00 17 14.1	
	comp=Z,14nm,1.4s								
WRH	**Wood River Hil**	**38.78**	**44**	P			**P**	**00 17 08.6**	**+1.1**
WRH					IAmb		IAmb	00 17 31.1	
	comp=Z,4.1nm,1.2s								
ILAR	**Eielson Array**	**39.07**	**43**	P			**P**	**00 17 11.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=293,slow=6.4,SNR=7.3								
	comp=Z,0.4nm,0.7s								
ILAR	**Eielson Array**	**39.07**	**43**	P			**P**	**00 17 11.3**	**+1.3**
ILAR	**Eielson Array**	**39.07**	**43**	P			**P**	**00 17 11.3**	**+1.3**
ABKAR	**Akbulak array**	**39.72**	**288**	P			**P**	**00 17 16.0**	**+0.5**
AKTO	**Aktyubinsk**	**39.98**	**291**	LR			LR	00 35 03.4	
	comp=Z,80nm,18.5s,baz=258,slow=38								
SCM	**Sheep Creek Mo**	**40.47**	**47**	P			**P**	**00 17 22.4**	**+0.7**
SCM					IAmb		IAmb	00 17 31.7	
	comp=Z,13nm,1.2s								
SCM	**Sheep Creek Mo**	**40.47**	**47**	P			**P**	**00 17 22.4**	**+0.7**
FINES	**FINESS Array B**	**46.89**	**320**	P			**P**	**00 18 13.6**	**+0.4**
	comp=Z,3.1nm,1.1s,baz=50,slow=13,SNR=5.1								
	comp=Z,3.1nm,1.1s								
FINES	**FINESS Array B**	**46.89**	**320**	P			**P**	**00 18 13.0**	**-0.2**
YKA	**Yellowknife Ar**	**51.29**	**32**	P			**P**	**00 18 48.4**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=314,slow=7.8,SNR=5.6								
	comp=Z,0.2nm,0.7s								
PDAR	**Pinedale Array**	**69.49**	**41**	P			**P**	**00 20 52.8**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=35,slow=3.3,SNR=3.1								
	comp=Z,0.2nm,0.5s								
WRA	**Warramunga Arr**	**77.06**	**174**	P			P	00 21 40.1	+3.8
	comp=Z,0.3nm,0.6s,baz=353,slow=6.5,SNR=2.1								
	comp=Z,0.3nm,0.6s								

IDC 22 00:21:19.1±2.5,**3.24N**×**128.49E**,**h0**km,**mb3.2**/3,
mbtmp3.2/3,**Error ellipse: s-maj=174.5km**
s-min=28.3km az=68.0,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.

SGF	**Sodankyl**	**2.40**	**97**	*e*PB	**Pb**	**00 34 54.2 -0.2**
SGF				*e*SG	**Sg**	**00 35 26.9 -0.6**
RNF	**Rovaniemi**	**2.53**	**116**	*e*PB	**Pb**	**00 34 56.3 -0.4**

IDC ***22*** *00:39:42.8±1.2,42°.53N×13°.14E,h0km,mb3.3/3, mbtmp3.4/7,ML3.5/4,Error ellipse: s-maj=23.5km s-min=17.5km az=100.0*
ROM ***22*** *00:39:43.1±0.1,42°.471N±0°.004×13°.254E±0°.005, h16km,ML3.4/87,Error ellipse: s-maj=0.4km s-min=0.2km az=68.0*
PRU ***22*** *00:39:43.0±0.0,42°.45N×13°.10E,h10km*
BEO ***22*** *00:39:46.6±0.6,42°.57N×13°.48E,h0km,ML3.4/14*
ISC 22 00:39:43.8±0.8,42°.50N±0°.02×13°.24E±0°.02,h13km±5km, n205,σ1ş51/246,mb3.5/3,52C-41D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.02**	**291**		AML		AML		
	comp=N,76850μm,0.5s								
RM33					AML		AML		
RM33					AML		AML		
	comp=N,79150μm,0.3s								
RM33					AML		AML		
T1247	**Pizzolo (AQ)**	**0.07**	**146**	P	**Pg**		**00 39 46.3**		**-0.4**
T1247				S	**Sg**		**00 39 48.5**		**-0.1**
T1247					AML		AML		
T1247					AML		AML		
LNSS	**Leonessa**	**0.18**	**304**		AML		AML		
	comp=N,30050μm,0.8s								
LNSS					AML		AML		
	comp=E,48100μm,1.2s								
LNSS					AML		AML		
	comp=E,48100μm,0.8s								
T1222	**Castel Sant'An**	**0.18**	**237**	⇑P	**Pg**		**00 39 47.9**		**-0.2**
T1222				S	**Sg**		**00 39 51.1**		**+0.2**
T1222					AML		AML		
	comp=E,51800μm,0.4s								
T1222					AML		AML		
	comp=N,31100μm,0.6s								
T1222					AML		AML		
	comp=N,31050μm,0.6s								
T1222					AML		AML		
	comp=N,27750μm,0.9s								
T1222					AML		AML		
	comp=N,27750μm,1.1s								
T1222					AML		AML		
	comp=E,53850μm,0.3s								
AQU	**L'Aquila**	**0.19**	**141**	⇓P	**Pg**		**00 39 47.6**		**-0.5**
AQU					AML		AML		
	comp=N,26000μm,0.6s								
AQU					AML		AML		
	comp=N,25200μm,0.6s								
AQU					AML		AML		
	comp=E,20500μm,0.4s								
AQU					AML		AML		
	comp=E,20200μm,0.3s								
T1218	**Civita (PG)**	**0.19**	**331**		AML		AML		
	comp=N,70750μm,0.2s								
T1218					AML		AML		
	comp=E,49900μm,0.1s								
T1218					AML		AML		
	comp=N,72300μm,0.2s								
T1218					AML		AML		
	comp=E,50150μm,0.2s								
T1202	**Accumoli, Fraz**	**0.20**	**356**		AML		AML		
	comp=E,93300μm,0.6s								
T1202					AML		AML		
GIGS	**Gran Sasso**	**0.25**	**102**	⇑P	**Pg**		**00 39 48.4**		**-0.7**
GIGS				S	**Sg**		**00 39 52.5**		**-0.2**
GIGS					AML		AML		
	comp=N,8280μm,1.4s								
GIGS					AML		AML		
	comp=E,5780μm,0.6s								
FIAM	**Fiamignano**	**0.25**	**202**	⇑P	**Pg**		**00 39 48.7**		**-0.5**
FIAM				S	**Sg**		**00 39 52.7**		**-0.1**
FIAM					AML		AML		
	comp=N,18800μm,0.5s								
FIAM					AML		AML		
	comp=E,30600μm,0.3s								
FIAM					AML		AML		
	comp=E,30600μm,1.7s								
FIAM					AML		AML		
	comp=N,18800μm,1.5s								
T1212	**Cascia, Frazio**	**0.29**	**330**	⇑P	**Pg**		**00 39 49.9**		**+0.1**
T1212				S	**Sb**		**00 39 55.0**		**-0.7**
T1212					AML		AML		
	comp=E,10570μm,0.3s								
T1212					AML		AML		
	comp=E,10800μm,0.4s								
T1212					AML		AML		
	comp=N,11350μm,0.2s								
T1212					AML		AML		
	comp=E,10565μm,1.3s								
T1212					AML		AML		
	comp=E,10800μm,1.6s								
T1212					AML		AML		
	comp=E,10565μm,0.7s								
T1212					AML		AML		
	comp=N,11150μm,0.2s								
T1217	**Poggiodomo (PG**	**0.31**	**313**	⇑P	**Pg**		**00 39 50.3**		**0.0**
T1217				S	**Sb**		**00 39 55.6**		**-0.7**
T1217					AML		AML		
	comp=E,12445μm,0.5s								
T1217					AML		AML		
	comp=E,13400μm,0.5s								
T1217					AML		AML		
	comp=N,7245μm,1.0s								
T1217					AML		AML		
	comp=N,7245μm,1.0s								
T1217					AML		AML		
	comp=E,13400μm,1.5s								
T1217					AML		AML		
	comp=E,12445μm,1.5s								
T1217					AML		AML		
	comp=N,8115μm,0.8s								
FAGN	**Fagnano**	**0.34**	**133**	⇑P	**Pg**		**00 39 50.1**		**-0.7**
FAGN					AML		AML		
	comp=N,24550μm,0.3s								
FAGN					AML		AML		
	comp=E,30600μm,0.4s								
NRCA	**Norcia**	**0.35**	**344**		AML		AML		
	comp=N,20700μm,0.2s								
NRCA					AML		AML		
	comp=E,24000μm,0.1s								
ARRO	**Arrone**	**0.36**	**283**	⇑P	**Pg**		**00 39 51.0**		**-0.1**
ARRO					AML		AML		
	comp=E,9715μm,0.8s								
ARRO					AML		AML		
	comp=N,9995μm,0.6s								
ARRO					AML		AML		
	comp=N,9995μm,1.4s								
T1215	**Vallo di Nera,**	**0.41**	**318**	⇓P	**Pg**		**00 39 51.8**		**-0.2**
T1215				S	**Sb**		**00 39 58.6**		**-0.4**
T1215					AML		AML		
	comp=E,2725μm,0.5s								
T1215					AML		AML		
	comp=N,2385μm,0.7s								
T1215					AML		AML		
	comp=E,2805μm,0.5s								
T1215					AML		AML		
	comp=N,2340μm,1.6s								
T1215					AML		AML		
	comp=E,2725μm,0.5s								
T1215					AML		AML		
	comp=E,2805μm,0.5s								
T1215					AML		AML		
	comp=N,2385μm,1.3s								
T1216	**Preci, Frazion**	**0.42**	**337**	⇑P	**Pg**		**00 39 52.2**		**-0.1**
T1216					AML		AML		
	comp=E,7895μm,0.4s								
T1216					AML		AML		
	comp=N,12120μm,0.8s								
T1216					AML		AML		
	comp=N,12165μm,0.8s								
T1216					AML		AML		
	comp=E,7895μm,0.4s								
T1216					AML		AML		
	comp=N,12165μm,1.2s								
FEMA	**Monte Fema**	**0.48**	**343**	P	**Pg**		**00 39 53.3**		**-0.1**
FEMA				S	**Sb**		**00 40 01.2**		**0.0**
FEMA					AML		AML		
	comp=E,7500μm,0.4s								
FEMA					AML		AML		
	comp=N,6525μm,0.8s								
FEMA					AML		AML		
	comp=N,6525μm,1.2s								
PTQR	**Pietraquaria**	**0.49**	**166**	⇓P	**Pg**		**00 39 52.5**		**-1.0**
PTQR					AML		AML		
	comp=N,1660μm,0.7s								
PTQR					AML		AML		
	comp=E,1645μm,0.6s								
PTQR					AML		AML		
	comp=N,1660μm,1.3s								
CESX	**Cesi**	**0.50**	**283**	⇑P	**Pg**		**00 39 53.2**		**-0.5**
CESX					AML		AML		
	comp=E,5295μm,1.4s								
CESX					AML		AML		
	comp=N,5025μm,1.6s								
CESX					AML		AML		
	comp=N,5025μm,0.4s								
OFFI	**Offida**	**0.54**	**37**	P	**Pg**		**00 39 54.6**		**+0.2**
OFFI					AML		AML		
	comp=E,9360μm,1.0s								
OFFI					AML		AML		
	comp=E,9360μm,1.0s								
OFFI					AML		AML		
	comp=N,12150μm,0.4s								
FDMO	**Fiordimonte**	**0.55**	**348**	⇑P	**Pg**		**00 39 54.3**		**-0.3**
FDMO				S	**Sb**		**00 40 03.2**		**+0.2**
FDMO					AML		AML		
	comp=E,3925μm,1.2s								
FDMO					AML		AML		
	comp=N,2910μm,0.6s								
FDMO					AML		AML		
	comp=E,3925μm,0.8s								
CESI	**CESI - Serrava**	**0.56**	**334**	P	**Pg**		**00 39 54.7**		**-0.1**
CESI					AML		AML		
	comp=E,3260μm,0.4s								
CESI					AML		AML		
	comp=N,3665μm,0.3s								
GUMA	**Gualdo di Mace**	**0.56**	**7**	⇑P	**Pg**		**00 39 54.9**		**0.0**
GUMA					AML		AML		
	comp=E,13450μm,0.4s								
GUMA					AML		AML		
	comp=N,24000μm,0.6s								
GUMA					AML		AML		
	comp=E,22550μm,0.3s								
GUMA					AML		AML		
	comp=N,19450μm,0.6s								
GUMA					AML		AML		
	comp=N,24000μm,1.4s								
GUMA					AML		AML		
	comp=N,19450μm,1.4s								
MOMA	**Monte Martano**	**0.58**	**302**	⇑P	**Pg**		**00 39 54.8**		**-0.4**
MOMA				S	**Sb**		**00 40 04.4**		**+0.4**
MOMA					AML		AML		
	comp=E,3970μm,0.2s								
MOMA					AML		AML		
	comp=N,3435μm,0.2s								
MOMA					AML		AML		
	comp=N,3455μm,0.2s								
MOMA					AML		AML		
	comp=E,3970μm,0.2s								
MOMA					AML		AML		
	comp=N,3435μm,0.2s								
MOMA					AML		AML		
	comp=E,4150μm,0.2s								
TRTR	**Tortoreto Alta**	**0.58**	**58**	⇑P	**Pg**		**00 39 55.3**		**+0.1**
TRTR					AML		AML		
	comp=N,6515μm,1.1s								
TRTR					AML		AML		
	comp=N,6515μm,0.9s								
TRTR					AML		AML		
	comp=E,8260μm,0.4s								
SRES	**S.Oreste - Sor**	**0.60**	**244**	⇑P	**Pg**		**00 39 54.7**		**-0.9**
SRES					AML		AML		
	comp=E,2195μm,0.3s								
SRES					AML		AML		
	comp=N,3185μm,0.4s								
MTCE	**Montecelio**	**0.61**	**218**	⇑P	**Pg**		**00 39 54.5**		**-1.1**
MTCE					AML		AML		
	comp=N,2070μm,0.6s								
MTCE					AML		AML		
	comp=E,4855μm,0.4s								
T1220	**Camerino, Fraz**	**0.62**	**349**	⇑P	**Pg**		**00 39 55.4**		**-0.5**
T1220				S	**Sb**		**00 40 05.8**		**+0.7**
T1220					AML		AML		
	comp=E,16650μm,0.7s								
T1220					AML		AML		
	comp=N,16600μm,0.3s								
T1220					AML		AML		
	comp=N,16600μm,0.3s								
T1220					AML		AML		
	comp=E,16650μm,0.7s								
T1220					AML		AML		
	comp=N,16600μm,0.3s								
RCAV	**Rocca di Cave**	**0.69**	**199**	⇑P	**Pg**		**00 39 56.8**		**-0.4**
RCAV					AML		AML		
	comp=E,4275μm,0.5s								
RCAV					AML		AML		
	comp=N,5825μm,0.4s								
RCAV					AML		AML		
	comp=E,4280μm,0.5s								
RCAV					AML		AML		
	comp=N,5825μm,1.6s								
VVLD	**Villa Vallelon**	**0.69**	**156**	P	**Pb**		**00 39 58.0**		**+0.4**
VVLD					AML		AML		
	comp=E,1990μm,0.6s								
VVLD					AML		AML		
	comp=N,2300μm,0.5s								
VVLD					AML		AML		
	comp=E,1990μm,1.4s								
ASSB	**Assisi San Ben**	**0.69**	**322**	P	**Pg**		**00 39 56.6**		**-0.6**
ASSB					AML		AML		
	comp=E,2860μm,0.4s								
ASSB					AML		AML		
	comp=E,2860μm,1.6s								
ASSB					AML		AML		
	comp=N,2435μm,0.2s								
GUAR	**Guarcino**	**0.71**	**176**	⇓P	**Pg**		**00 39 57.1**		**-0.4**
GUAR					AML		AML		
	comp=N,2935μm,0.4s								
GUAR					AML		AML		
	comp=E,2295μm,0.3s								
SNTG	**Esanatoglia**	**0.79**	**344**	⇑P	**Pg**		**00 39 58.3**		**-0.7**
SNTG				S	**Sn**		**00 40 11.0**		**-1.2**
SNTG					AML		AML		
	comp=N,1510μm,0.4s								
SNTG					AML		AML		
	comp=N,1510μm,1.6s								
SNTG					AML		AML		
	comp=E,1150μm,0.8s								
CADA	**Capodarco di F**	**0.79**	**29**	⇓P	**Pn**		**00 39 60.0**		**-0.6**
CADA					AML		AML		
	comp=E,6460μm,0.6s								
CADA					AML		AML		
	comp=E,6460μm,1.4s								
CADA					AML		AML		
	comp=N,6165μm,0.6s								
RMP	**Rome, Mte Porz**	**0.80**	**210**	⇑P	**Pg**		**00 39 59.3**		**+0.1**
RMP					AML		AML		
	comp=E,3955μm,0.4s								
RMP					AML		AML		
	comp=N,5190μm,0.5s								
RMP					AML		AML		
	comp=N,5190μm,1.5s								
ATCC	**AVT- Casa Cast**	**0.81**	**327**	P	**Pg**		**00 39 59.4**		**-0.2**
ATCC					AML		AML		
	comp=E,2970μm,0.9s								
ATCC					AML		AML		
	comp=N,2530μm,0.5s								
ATCC					AML		AML		
	comp=E,2970μm,1.1s								
VIVA	**Pratoni del Vi**	**0.83**	**205**	⇑P	**Pn**		**00 40 00.9**		**-0.2**
VIVA					AML		AML		
	comp=N,6970μm,0.5s								
VIVA					AML		AML		
	comp=E,6895μm,0.4s								
LPEL	**Lama dei Pelig**	**0.83**	**123**	S	**Sg**		**00 40 09.8**		**-1.0**
RDP	**Rocca di Papa**	**0.84**	**208**	⇓P	**Pg**		**00 39 59.6**		**-0.4**
RDP					AML		AML		
	comp=N,6580μm,0.5s								
RDP					AML		AML		
	comp=E,6455μm,0.5s								
POFI	**Posta Fibreno**	**0.86**	**156**	⇑P	**Pg**		**00 39 59.6**		**-0.8**
POFI					AML		AML		
	comp=N,1355μm,0.8s								
POFI					AML		AML		
	comp=N,1325μm,0.8s								
POFI					AML		AML		
	comp=E,1610μm,0.5s								
POFI					AML		AML		
	comp=E,1660μm,0.5s								
FOSV	**Fossato di Vic**	**0.87**	**336**	⇓P	**Pg**		**00 40 00.1**		**-0.5**
FOSV					AML		AML		
	comp=E,1184μm,1.4s								
FOSV					AML		AML		
	comp=N,1715μm,0.5s								
FOSV					AML		AML		
	comp=E,1184μm,0.6s								
CING	**Cingoli**	**0.88**	**358**	⇑P	**Pg**		**00 39 59.9**		**-0.8**
CING				S	**Sn**		**00 40 14.2**		**-0.2**
CING					AML		AML		
	comp=N,2805μm,0.4s								
CING					AML		AML		
	comp=N,2805μm,1.6s								
CING					AML		AML		
	comp=E,2310μm,0.4s								
LRP	**Arpino**	**0.89**	**163**	⇓P	**Pn**		**00 40 01.6**		**-0.4**
LRP					AML		AML		
	comp=N,1390μm,0.6s								
LRP					AML		AML		
	comp=E,852μm,0.4s								
LAV9	**Lanuvio**	**0.92**	**206**	⇓P	**Pn**		**00 40 02.2**		**-0.1**
LAV9					AML		AML		
	comp=E,6410μm,0.5s								
LAV9					AML		AML		
	comp=N,6315μm,0.4s								
LAV9					AML		AML		
	comp=N,6425μm,0.4s								
LAV9					AML		AML		
	comp=E,6235μm,0.5s								
LAV9					AML		AML		
	comp=N,6315μm,1.6s								
LAV9					AML		AML		
	comp=N,6425μm,1.6s								
PP3	**Marolino**	**0.92**	**17**	⇓P	**Pg**		**00 40 01.7**		**+0.2**
PP3					AML		AML		
	comp=E,6290μm,0.5s								
PP3					AML		AML		
	comp=E,6425μm,0.5s								
PP3					AML		AML		
	comp=N,4000μm,0.7s								
PP3					AML		AML		
	comp=N,4110μm,0.7s								
PP3					AML		AML		
	comp=E,6290μm,0.5s								
MGAB	**Montegabbione**	**0.93**	**297**	⇓P	**Pb**		**00 40 01.4**		**-0.3**
MGAB					AML		AML		
	comp=E,2585μm,0.5s								
MGAB					AML		AML		
	comp=N,3515μm,0.5s								
MGAB					AML		AML		
	comp=N,3590μm,0.5s								
MGAB					AML		AML		
	comp=E,2760μm,0.5s								
GIUL	**Giuliano Di Ro**	**0.94**	**179**	⇓P	**Pb**		**00 40 01.3**		**-0.7**
GIUL					AML		AML		
	comp=E,1210μm,0.6s								
GIUL					AML		AML		
	comp=N,1098μm,1.2s								
SSFR	**Montelago di S**	**0.99**	**340**	⇑P	**Pb**		**00 40 02.5**		**-0.4**
SSFR					AML		AML		
	comp=E,3190μm,0.2s								
SSFR					AML		AML		
	comp=N,2430μm,1.2s								
SSFR					AML		AML		
	comp=E,3205μm,1.1s								
SSFR					AML		AML		
	comp=N,2585μm,0.9s								
SSFR					AML		AML		
	comp=E,3190μm,1.8s								
SSFR					AML		AML		
	comp=E,3205μm,0.9s								
SSFR					AML		AML		
	comp=N,2430μm,0.8s								
ATFO	**Monte Foce - G**	**1.00**	**331**	P	**Pb**		**00 40 02.9**		**0.0**
ATFO					AML		AML		
	comp=E,1286μm,0.6s								
ATFO					AML		AML		
	comp=N,970μm,0.4s								
ATFO					AML		AML		
	comp=E,1286μm,1.4s								
ARVD	**Arcevia**	**1.02**	**348**	⇑P	**Pb**		**00 40 02.6**		**-0.7**
ARVD				S	**Sn**		**00 40 18.7**		**+0.7**
ARVD					AML		AML		
	comp=E,2220μm,0.9s								
ARVD					AML		AML		
	comp=N,1165μm,0.5s								
ARVD					AML		AML		
	comp=E,2220μm,1.1s								
ARVD					AML		AML		
	comp=N,1165μm,1.5s								
TOLF	**Tolfa**	**1.02**	**245**	⇓P	**Pb**		**00 40 02.4**		**-0.8**
TOLF					AML		AML		
	comp=E,2010μm,0.6s								
TOLF					AML		AML		
	comp=N,1745μm,0.6s								
LIK	**San Giovanni I**	**1.02**	**167**	⇓P	**Pn**		**00 40 04.5**		**+0.7**
LIK					AML		AML		
	comp=E,1935μm,0.8s								
LIK					AML		AML		
	comp=N,2180μm,0.7s								
LIK					AML		AML		
	comp=E,1935μm,1.2s								
LATB	**Latina**	**1.03**	**192**	P	**Pb**		**00 40 02.1**		**-1.3**
LATB					AML		AML		
	comp=E,566μm,0.7s								
LATB					AML		AML		
	comp=N,448μm,0.7s								
SACS	**San Casciano d**	**1.04**	**290**	⇑P	**Pn**		**00 40 04.4**		**+0.2**
SACS					AML		AML		
	comp=E,810μm,1.0s								
SACS					AML		AML		
	comp=N,1355μm,0.7s								
SACS					AML		AML		
	comp=E,816μm,1.4s								
SACS					AML		AML		
	comp=N,1380μm,0.7s								
SACS					AML		AML		
	comp=E,810μm,1.0s								
CERA	**Filignano**	**1.07**	**147**	⇓P	**Pn**		**00 40 05.8**		**+1.3**
CERA					AML		AML		
	comp=E,1590μm,1.6s								
CERA					AML		AML		
	comp=E,1610μm,1.6s								
CERA					AML		AML		
	comp=N,1415μm,0.5s								
CERA					AML		AML		
	comp=E,1590μm,0.4s								
CERA					AML		AML		
	comp=E,1610μm,0.4s								
CERA					AML		AML		
	comp=N,1370μm,0.5s								
ATVO	**AVT- Monte Val**	**1.07**	**325**	⇑P	**Pb**		**00 40 03.8**		**-0.4**
ATVO					AML		AML		
	comp=E,1088μm,0.5s								
ATVO					AML		AML		
	comp=N,810μm,1.0s								
AOI	**Ancona**	**1.08**	**14**	⇓P	**Pb**		**00 40 04.0**		**-0.3**
AOI					AML		AML		
	comp=E,1860μm,0.3s								
AOI					AML		AML		
	comp=N,2005μm,0.4s								
FRON	**Frontone**	**1.08**	**340**	⇓P	**Pb**		**00 40 03.8**		**-0.7**
FRON					AML		AML		
	comp=E,1195μm,0.6s								
FRON					AML		AML		
	comp=N,1840μm,0.8s								
FRON					AML		AML		
	comp=N,1840μm,1.2s								
ATMI	**Monte Miggiano**	**1.10**	**320**	⇑P	**Pg**		**00 40 06.8**		**+1.8**
ATMI					AML		AML		
	comp=E,2870μm,0.6s								
ATMI					AML		AML		
	comp=N,2515μm,0.5s								
COR1	**Corinaldo**	**1.14**	**351**	P	**Pg**		**00 40 05.8**		**-0.1**
COR1					AML		AML		
	comp=E,3335μm,0.9s								
COR1					AML		AML		
	comp=N,6000μm,1.3s								
COR1					AML		AML		
	comp=E,1695μm,0.8s								
COR1					AML		AML		
	comp=N,6000μm,0.7s								
COR1					AML		AML		
	comp=N,2885μm,0.8s								
PIEI	**Pieia**	**1.16**	**334**	⇑P	**Pb**		**00 40 03.8**		**-1.9**
PIEI					AML		AML		

comp=E,710μm,0.4s
PIEI AML AML
comp=E,1070μm,0.5s
PIEI AML AML
comp=N,710μm,1.6s
MPAG Monte Paganucc 1.18 343 ⇓P Pn 00 40 05.6 -0.5
MPAG AML AML
comp=N,1165μm,1.1s
MPAG AML AML
comp=N,1165μm,0.9s
MPAG AML AML
comp=E,1344μm,1.0s
MPAG AML AML
comp=N,1095μm,0.5s
MPAG AML AML
comp=E,1400μm,1.0s
FRES Fresagrandinar 1.18 116 ⇓P Pg 00 40 07.0 +0.5
FRES AML AML
comp=E,636μm,0.5s
FRES AML AML
comp=N,474μm,0.7s
MCIV Monte Civitell 1.19 284 ⇑P Pb 00 40 06.3 +0.1
MCIV AML AML
comp=E,475μm,0.7s
MCIV AML AML
comp=N,479μm,1.5s
MCIV AML AML
comp=N,479μm,0.5s
SENI Senigallia 1.20 360 ⇓P Pb 00 40 06.5 +0.1
SENI AML AML
comp=N,4135μm,0.6s
SENI AML AML
comp=E,1595μm,1.0s
SENI AML AML
comp=N,1236μm,1.0s
SENI AML AML
comp=N,1236μm,1.0s
SENI AML AML
comp=E,1595μm,1.0s
SENI AML AML
comp=E,5220μm,0.5s
NARO Abbazia di Nar 1.21 337 P Pn 00 40 06.0 -0.3
NARO AML AML
comp=N,999μm,0.5s
NARO AML AML
comp=E,859μm,0.8s
SF04 Casetta 1.21 287 ⇑P Pb 00 40 06.9 +0.3
SF04 AML AML
comp=E,843μm,0.3s
SF04 AML AML
comp=N,586μm,0.8s
APEC Apecchio 1.22 331 ⇑P Pg 00 40 07.2 0.0
APEC AML AML
comp=N,1710μm,0.7s
APEC AML AML
comp=E,1054μm,0.7s
TRIV Trivento 1.22 127 ⇓P Pg 00 40 08.1 +0.9
TRIV AML AML
comp=E,1024μm,1.3s
TRIV AML AML
comp=N,858μm,0.7s
TRIV AML AML
comp=E,1024μm,0.7s
CAFI Castiglion Fio 1.25 312 ⇓P Pn 00 40 06.4 -0.6
CAFI AML AML
comp=E,693μm,0.7s
CAFI AML AML
comp=N,498μm,0.6s
CAFI AML AML
comp=E,695μm,0.6s
CAFI AML AML
comp=N,521μm,0.6s
VAGA Valle Agricola 1.31 145 P Pg 00 40 08.8 -0.2
VAGA AML AML
comp=E,442μm,1.0s
VAGA AML AML
comp=N,448μm,0.7s
VAGA AML AML
comp=E,442μm,1.0s
SSP9 Sansepolcro 1.35 323 ⇑P Pg 00 40 10.0 +0.3
SSP9 AML AML
comp=N,686μm,1.6s
SSP9 AML AML
comp=N,686μm,0.4s
SSP9 AML AML
comp=E,646μm,1.2s
PARC Parchiule 1.36 328 ⇓P Pg 00 40 10.7 +0.7
SGG Gregorio Mates 1.40 142 ⇓P Pg 00 40 10.6 -0.1
SGG AML AML
comp=E,2.0nm,0.6s
SGG AML AML
comp=N,2.0nm,0.9s
SGG AML AML
comp=E,580μm,0.6s
SGG AML AML
comp=N,484μm,0.9s
MODR Mondragone 1.44 160 ⇓P Pb 00 40 10.0 -0.3
MODR AML AML
comp=E,245μm,1.2s
MODR AML AML
comp=E,245μm,0.8s
MODR AML AML
comp=N,233μm,1.0s
CRE Caprese Michel 1.47 320 ⇓P Pn 00 40 10.3 +0.3
CRE AML AML
comp=E,309μm,0.4s
CRE AML AML
comp=N,407μm,0.3s
PESA Pesaro 1.47 349 ⇓P Pg 00 40 11.7 -0.4
PESA AML AML
comp=N,1180μm,1.4s
PESA AML AML
comp=N,1180μm,0.6s
PESA AML AML
comp=E,1280μm,1.0s
MAON Monte Argentar 1.56 268 ⇑P Pn 00 40 11.1 -0.1
MELA Melanico ??? S 1.61 119 ⇑P Pb 00 40 13.6 +0.2
MELA AML AML
comp=N,903μm,0.7s
MELA AML AML
comp=E,820μm,0.6s
MELA AML AML
comp=N,927μm,1.4s
MELA AML AML
comp=E,842μm,0.6s
MELA AML AML
comp=N,903μm,1.3s
MELA AML AML
comp=N,927μm,0.6s
RUFI Rufina 1.84 317 ⇓P Pn 00 40 16.0 +0.9
RUFI AML AML
comp=E,210μm,0.8s
RUFI AML AML
comp=N,306μm,0.9s
RUFI AML AML
comp=E,210μm,1.2s
RUFI AML AML
comp=N,306μm,1.1s
MSAG Monte S. Angel 2.13 111 ⇓P Pn 00 40 20.0 +0.8
MSAG AML AML
comp=N,876μm,0.6s
MSAG AML AML
comp=N,861μm,0.5s
MSAG AML AML
comp=E,514μm,0.4s
MSAG AML AML
comp=E,506μm,0.5s
VULT Monte Vulture 2.35 130 P Pn 00 40 23.5 +1.3
VULT AML AML
comp=E,212μm,1.3s
VULT AML AML
comp=N,329μm,0.6s
HVAR Hvar 2.45 73 ⇓P Pn 00 40 24.1 +0.6
AMUR Altamura 2.98 121 ⇑P Pn 00 40 31.8 +1.2
AMUR AML AML
comp=E,108μm,0.4s
AMUR AML AML
comp=N,93μm,0.7s
AMUR AML AML
comp=N,93μm,1.3s
SKDS Skadanscina 3.10 10 eP Pn 00 40 32.1 -0.2
A050A Klekovaca 3.11 49 eP Pn 00 40 34.0 +1.5
MATE Matera 3.19 124 ⇑P Pn 00 40 35.0 +1.5
SRKY Kupres RS 3.26 60 eP Pn 00 40 36.7 +2.0
LTRZ Laterza 3.29 124 ⇓P Pn 00 40 35.6 +0.7
STON Ston 3.31 82 ⇓P Pn 00 40 36.0 +0.9
STON AML AML
comp=E,68μm,1.4s
STON AML AML
comp=N,56μm,0.4s
STON Ston 3.31 82 eP Pn 00 40 36.0 +0.9
STON eSn **Sn 00 41 13.8 -0.5**
STON Ston 3.31 82 eP Pn 00 40 35.8 +0.7
BOJS Bojanci 3.33 25 P Pn 00 40 36.9 +1.3
BOJS AML AML
comp=E,232μm,1.4s
BOJS AML AML
comp=N,188μm,0.6s
BOJS AML AML
comp=N,188μm,1.4s
BOJS Bojanci 3.33 25 eP Pn 00 40 36.1 +0.6
NOCI Noci 3.34 120 ⇑P Pn 00 40 36.9 +1.3
NOCI AML AML
comp=E,89μm,0.4s
NOCI AML AML
comp=N,118μm,0.7s
NOCI AML AML
comp=N,118μm,1.3s
CEY Cerknica 3.35 14 eP Pn 00 40 36.3 +0.5
MGRS Mrkonjic Grad 3.39 54 eP Pn 00 40 38.9 +2.6
SABO M.te Sabotino 3.49 4 ⇑P Pn 00 40 38.3 +0.6
SABO AML AML
comp=N,580μm,0.4s
SABO AML AML
comp=N,144μm,0.4s
SABO AML AML
comp=N,144μm,1.6s
SABO AML AML
comp=N,580μm,1.6s
SABO AML AML
comp=E,166μm,0.6s
SABO AML AML
comp=E,698μm,0.6s
ROVR Rover Verones 3.51 334 ⇑P Pn 00 40 39.3 +1.2
ROVR AML AML
comp=E,39μm,0.4s
ROVR AML AML
comp=N,68μm,0.7s
CGRP Cima Grappa 3.53 343 ⇑P Pn 00 40 40.0 +1.5
CGRP AML AML
comp=N,184μm,0.5s
CGRP AML AML
comp=E,208μm,0.5s
BLY Banja Luka 3.64 51 eP Pn 00 40 42.3 +2.6
BLY Banja Luka 3.64 51 eP Pn 00 40 41.3 +1.6
A051A Mrakovica 3.65 45 eP Pn 00 40 40.9 +0.9
SALO Salr 3.68 329 P Pn 00 40 43.0 +2.6
CRES Cresnjev 3.69 25 eP Pn 00 40 39.6 -0.8
CTI Castel Tesino 3.73 343 P Pn 00 40 42.6 +1.5
CTI AML AML
comp=E,132μm,0.9s
CTI AML AML
comp=N,136μm,0.2s
TREB Trebinje 3.78 85 eP Pn 00 40 42.7 +1.1
TREB eSn **Sn 00 41 24.9 -1.0**
STAL STALIGIAL 3.78 354 P Pn 00 40 42.2 +0.5
STAL S **Sn 00 41 21.6 -4.4**
STAL AML AML
comp=N,146μm,0.3s
STAL AML AML
comp=E,210μm,0.4s
LUSI Trento, Gardas 3.83 335 ⇓P Pn 00 40 44.8 +2.3
CIMO Cimolais 3.85 352 ⇑P Pn 00 40 43.7 +1.0
CIMO AML AML
comp=N,38μm,0.4s
CIMO AML AML
comp=E,35μm,1.0s
CIMO AML AML
comp=N,38μm,1.6s
HCY Herceg Novi 3.88 89 eP Pn 00 40 43.5 +0.4
BRY Bratogost 3.92 82 eP Pn 00 40 45.0 +1.2
GAGG Gaggia 3.94 336 ⇓P Pn 00 40 46.7 +2.7
ACOM Acomizza, Ital 4.05 3 ⇓P Pn 00 40 47.1 +1.5
ACOM AML AML
comp=E,111μm,0.3s
ACOM AML AML
comp=N,73μm,0.4s
FVI Forni Avoltri 4.11 356 ⇓P Pn 00 40 47.4 +1.2
OBKA Obir 4.12 13 eP Pn 00 40 46.6 +0.2
comp=N,1.4nm,0.1s
OBKA Obir 4.12 13 eP Pn 00 40 46.3 -0.1
MYKA Terra Mystica 4.14 4 eP Pn 00 40 48.0 +1.3
MYKA comp=N,1.2nm,0.2s eSn **Sn 00 41 36.2 +1.3**
comp=N,11nm,0.5s
UPM Unac-Piva 4.22 79 eP Pn 00 40 49.8 +1.9
BOSI Bolzano 4.22 342 P Pn 00 40 47.5 -0.2
ABTA Abfaltersbach 4.28 353 i Pn Pn 00 40 49.4 +0.8
comp=N,12nm,0.6s
ABTA eSn **Sn 00 41 39.8 +1.4**
comp=N,8.7nm,0.3s
BRES Bressanone 4.33 346 ⇑P Pn 00 40 52.6 +3.0
DRME Dracevica, Mon 4.42 92 eP Pn 00 40 51.0 +1.5
PDG Podgorica 4.45 89 ⇑P Pn 00 40 52.7 +1.9
PDG Podgorica 4.45 89 ⇓P Pn 00 40 52.8 +1.9
PDG AML AML
comp=E,148μm,0.4s
PDG AML AML
comp=N,123μm,1.6s
PDG AML AML
comp=E,106μm,0.4s
PDG AML AML
comp=N,96μm,0.4s
PDG AML AML
comp=N,96μm,1.6s
PDG AML AML
comp=E,106μm,1.6s
PDG AML AML
comp=E,148μm,1.6s
PDG AML AML
comp=N,123μm,0.4s
PDG Podgorica 4.45 89 eP Pn 00 40 52.8 +1.9
PDG eSn **Sn 00 41 42.0 -0.4**
HAPS Han Pijesak,Bl 4.46 67 eP Pn 00 40 52.3 +1.2
KOGS Kog 4.50 28 P Pn 00 40 51.8 +0.3
RISI Rein 4.52 350 ⇓P Pn 00 40 54.3 +2.3
MSRU Castanea 4.57 157 P Pb 00 41 06.6 +2.8
KBA Koelnbreinsper 4.58 1 ePn Pn 00 40 53.6 +0.8
comp=N,1.6nm,0.2s,SNR=13
KBA eSn **Sn 00 41 46.0 +0.1**
comp=N,18nm,0.6s
ROSI Rosskopf 4.62 344 ⇓P Pn 00 40 55.2 +1.9
RUDO Rudo 4.63 74 ePn Pn 00 40 54.3 +1.0
NOV Novara 4.70 161 S Sn 00 41 42.3 -6.4
CRJA Costa Raja 4.70 182 ⇑P Pn 00 40 57.2 +2.9
BBLS Lazići 4.71 71 ePn Pn 00 40 56.2 +1.7
BBLS Lazići 4.71 71 ePn Pn 00 40 55.3 +0.8
FETA Feichten 4.86 339 ePn Pn 00 40 59.5 +2.9
comp=N,2.7nm,0.3s
FETA eSn **Sn 00 41 55.3 +2.5**
comp=N,4.8nm,0.5s
WTTA Wattenberg 4.90 347 ePn Pn 00 40 59.1 +1.9
comp=N,2.7nm,0.3s
WTTA eSn **Sn 00 41 56.4 +2.6**
comp=N,18nm,0.4s
DAVOX Davos/Dischmat 4.91 332 Pn Pn 00 40 58.5 +1.1
comp=N,1.8nm,0.3s,baz=350,slow=13,SNR=21
DAVOX Sn **Sn 00 41 57.0 +3.0**
comp=N,1.2nm,0.3s,baz=117,slow=22,SNR=3.6
comp=N,2.6nm,0.3s
SQTA Sankt Quirin 4.94 344 ePn Pn 00 41 00.0 +2.3
comp=N,1.8nm,0.1s,SNR=8.7
SQTA eSn **Sn 00 41 56.6 +2.0**
comp=N,15nm,0.3s
WATA Walderalm 4.98 347 ePn Pn 00 41 00.7 +2.4
comp=N,2.5nm,0.2s,SNR=10
WATA eSn **Sn 00 41 58.2 +2.5**
comp=N,13nm,0.3s
SJES Sjenica 5.00 79 ePn Pn 00 41 00.9 +2.3
ARSA Arzberg 5.02 18 ePn Pn 00 40 57.8 -0.9
comp=N,2.9nm,0.4s
ARSA eSn **Sn 00 41 55.3 -1.2**
comp=N,8.2nm,0.7s,SNR=6.0
TIR Tirane 5.07 101 ePn Pn 00 41 00.8 +1.4
TIR eSn **Sn 00 41 57.7 -0.2**
MOTA Moosalm 5.08 343 ePn Pn 00 40 60.0 +0.4
comp=N,2.3nm,0.4s
MOTA eSn **Sn 00 42 00.5 +2.3**
comp=N,5.9nm,0.4s
DIVS Divibare 5.18 70 ePn Pn 00 41 01.9 +0.9
DIVS eSn **Sn 00 42 00.9 +0.3**
DIVS Divibare 5.18 70 ePn Pn 00 41 01.7 +0.7
IVAS Ivanjica 5.18 76 ePn Pn 00 41 02.1 +1.2
IVAS eSn **Sn 00 41 57.8 -2.7**
BIOA Bad Ischl, Aus 5.20 3 ePn Pn 00 41 01.6 +0.4
comp=N,4.1nm,0.4s,SNR=6.3
RETA Reutte 5.29 341 ePn Pn 00 41 04.5 +2.1
comp=N,2.4nm,0.3s,SNR=8.2
DAVA Damuels 5.35 335 ePn Pn 00 41 05.5 +2.2
comp=N,2.8nm,0.3s
DAVA eSn **Sn 00 42 07.1 +2.2**
comp=N,8.8nm,0.5s
MORH Mrgy, Hungar 5.36 44 ⇑P Pg 00 41 24.9 -1.6
MOA Molln 5.40 7 i Pn Pn 00 41 05.3 +1.4
comp=N,0.8nm,0.1s,SNR=12
MOA eSn **Sn 00 42 06.6 +0.7**
comp=N,11nm,0.4s
MOA Molln 5.40 7 ePn Pn 00 41 05.9 +2.0
MOA eSn **Sn 00 42 06.6 +0.7**
FRGS Fruska Gora 5.44 59 ePn Pn 00 41 05.8 +1.3
FRGS Fruska Gora 5.44 59 ePn Pn 00 41 05.0 +0.5
TRUS Trudelj 5.50 69 ePn Pn 00 41 06.3 +1.0
RONA Rosalia, Austr 5.63 22 ePn Pn 00 41 07.3 +0.2
comp=N,0.8nm,0.2s,SNR=4.3
RONA eSn **Sn 00 42 11.6 0.0**
comp=N,2.6nm,0.5s
GRUS Gruza 5.64 73 ePn Pn 00 41 08.4 +1.2
GRUS eSn **Sn 00 42 11.0 -0.7**
CONA Conrad Observa 5.73 18 i Pn Pn 00 41 08.5 -0.1
comp=N,0.6nm,0.2s,SNR=7.6
CONA eSn **Sn 00 42 12.9 -1.3**
comp=N,4.2nm,0.5s
OHR Ohrid 5.81 101 ePn Pn 00 41 12.1 +2.4
OHR eSn **Sn 00 42 14.4 -1.8**
OHR Ohrid 5.81 101 ePn Pn 00 41 11.4 +1.7
SELS Selova 5.83 80 ePn Pn 00 41 10.8 +0.9
SKO Skopje 6.11 92 ePn Pn 00 41 15.8 +2.1
SKO Skopje 6.11 92 ePn Pn 00 41 20.3 +6.7
BOVS Bovan 6.30 77 ⇑P Pn 00 41 16.7 +0.4
BOVS Bovan 6.30 77 ePn Pn 00 41 16.8 +0.4
BARS Barje 6.33 84 ePn Pn 00 41 18.1 +1.4
BARS eSn **Sn 00 42 25.8 -3.0**
FNA Florina 6.33 103 ePn Pn 00 41 18.9 +2.1
FNA eSn **Sn 00 42 26.2 -2.7**
GERES GERESS Array B 6.35 3 Pn Pn 00 41 17.4 +0.3
comp=N,0.4nm,0.3s,baz=170,slow=13,SNR=11
GERES Sn **Sn 00 42 27.0 -2.5**
comp=N,0.9nm,0.3s,baz=172,slow=23,SNR=4.3
comp=N,0.7nm,0.3s
CKRC Cesky Krumlov 6.36 6 ePN Pn 00 41 17.3 +0.1
CKRC eSN **Sn 00 42 27.7 -2.0**
MODS Modra-Piesok 6.52 24 ePN Pn 00 41 19.6 +0.3
PRVS Prvonek 6.53 87 ePn Pn 00 41 20.7 +1.2
PRVS eSn **Sn 00 42 30.5 -3.3**
MDVR Moldovita 6.55 67 ⇓P Pn 00 41 20.7 +0.9
KHC Kasperske Hory 6.63 2 ePN Pn 00 41 20.2 -0.7
KHC eSN **Sn 00 42 33.7 -2.7**
STIP Stip 6.70 94 ePn Pn 00 41 25.2 +3.4
ZAGS Zajecar 6.70 76 ePn Pn 00 41 22.6 +0.8
BZS Buzias 6.79 60 ⇑P Pn 00 41 23.5 +0.6
BZS Buzias 6.79 60 ePn Pn 00 41 23.6 +0.6
KRUC Moravsky 6.92 17 ePN Pn 00 41 25.0 +0.2
KRUC eSN **Sn 00 42 40.0 -2.5**
ZAPS Zavoj 6.94 80 eSn Sn 00 42 41.3 -2.6
VAY Valandovo 7.06 96 ePn Pn 00 41 26.8 +0.1
VYHS Vyhne 7.17 31 ePN Pn 00 41 29.5 +1.3
SURR Surduc 7.17 60 ⇑P Pn 00 41 29.1 +0.9
VRAC Vranov 7.20 18 Pn Pn 00 41 27.6 -1.1
comp=N,0.3nm,0.3s,baz=271,slow=23,SNR=2.0
VRAC Sn **Sn 00 42 43.8 -6.3**
baz=231,slow=17
VTS Vitosha 7.38 86 ePn Pn 00 41 32.5 +1.3
VTS Vitosha 7.38 86 ePn Pn 00 41 32.6 +1.3
VTS eSn **Sn 00 42 51.7 -3.2**
VTS eSn **Sn 00 42 52.3 -2.6**
KEST Kesra 7.41 205 Pn Pn 00 41 33.8 +2.2
comp=N,1.2nm,0.3s,baz=327,slow=4.9,SNR=29
comp=N,4.1nm,0.5s
GZR Gura Zlata 7.46 64 ⇑P Pn 00 41 32.2 -0.1
PRU Pruhonice 7.54 6 ePN Pn 00 41 32.8 -0.5
PRU eSN **Sn 00 42 55.7 -2.9**
NKC Novy Kostel 7.75 356 eSN Sn 00 43 01.0 -2.9
SRS Serrai 7.85 97 ePn Pn 00 41 38.4 +0.7
DPC Dobruska-Polom 8.13 14 ePN Pn 00 41 41.3 -0.2
OSTC Ostas 8.31 13 ePN Pn 00 41 43.2 -0.7
BRG Berggiesshubel 8.39 3 r 00 43 11.6
BRG Amp 00 43 18.6
comp=Z,2.4nm,0.8s
ARR Arges 8.71 67 ⇑P Pn 00 41 52.1 +2.8
VOIR 9.01 67 ⇑P Pn 00 41 55.5 +2.0
MLR Muntele Rosu 9.63 68 Pn Pn 00 42 05.3 +3.2
comp=Z,0.1nm,0.3s,baz=283,slow=16,SNR=2.6
comp=Z,1.4nm,0.6s
MLR Muntele Rosu 9.63 68 ⇑P Pn 00 42 04.8 +2.7
RAZG Razgrad 9.77 79 ⇓P Pn 00 42 05.4 +1.4
FINES FINESS Array B 20.48 18 P Pn 00 44 23.1 0.0
comp=Z,1.7nm,0.8s,baz=185,slow=19,SNR=2.4
comp=Z,1.7nm,0.8s
TORD Torodi Ar. Bea 30.91 202 P P 00 46 00.6 +0.4
comp=Z,4.0nm,0.4s,baz=23,slow=9.3,SNR=2.3
MKAR Makanchi Array 47.87 60 P P 00 48 21.4 +0.2
comp=Z,0.3nm,0.7s,baz=266,slow=7.1,SNR=4.0
comp=Z,0.3nm,0.7s
YKA Yellowknife Ar 67.33 337 P P 00 50 38.4 +0.6
comp=Z,0.1nm,0.6s,baz=36,slow=5.6,SNR=2.8
comp=Z,0.1nm,0.6s

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*JMA **22** 00:40:58.8±0.1, 29.2°N±0.4×130.7°E±0.6, h42km, MV3.4/25, NEAR AMAMI-OSHIMA ISLAND*
*IDC **22** 00:41:03.5±1.9, 29.5°53N×130.1°58E, h60km±17km, mb3.5/12, mbtmp3.7/17, MS3.2/6, Error ellipse: s-maj=24.2km s-min=12.0km az=107.0*
ISC 22 00:40:59.7±0.7, 29°30N±0.05×130°58E±0.07, h34km, n33, σ1s14, mb3.9/13, MS3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.82**	**312**	*i* P		**Pb**		**00 41 15.5**	**-0.1**
JNN				*e*S		**Sb**		**00 41 28.7**	**+2.3**
JYAK	**Yakushimahirau**	**0.94**	**356**	*i* P		**Pb**		**00 41 17.1**	**-0.5**
JMTN	**Minamitane**	**1.13**	**14**	*e*P		**Pb**		**00 41 19.6**	**-1.2**
JKC	**Kuchinoerabu**	**1.21**	**344**	P		**Pb**		**00 41 21.0**	**-1.0**
JTAJ	**Takarajima**	**1.21**	**264**	*e*P		**Pb**		**00 41 21.0**	**-1.1**
JAM	**Amami Oshima**	**1.23**	**224**	P		**Pn**		**00 41 20.1**	**-0.4**
JTN	**Tanegashima 3**	**1.40**	**14**	P		**Pb**		**00 41 23.5**	**-1.8**
JAMN	**Amaminishikomi**	**1.62**	**230**	*e*P		**Pn**		**00 41 25.6**	**-0.2**
JTSR	**Tashiro 2**	**1.89**	**9**	*e*P		**Pb**		**00 41 31.2**	**-2.3**
JTK	**Tokunoshima**	**2.08**	**224**	*e*P		**Pn**		**00 41 32.0**	**-0.2**
JSU	**Suzuyama**	**2.21**	**357**	*e*P		**Pn**		**00 41 34.6**	**+0.7**
JNAR	**Kushima--Naru**	**2.30**	**15**	*e*P		**Pn**		**00 41 36.5**	**+1.3**
JOKE	**Okinoerabujima**	**2.62**	**223**	*e*P		**Pn**		**00 41 40.2**	**+0.6**
JOW	**Kunigami**	**3.19**	**220**	P		**Pb**		**00 41 53.9**	**-1.8**
	39nm,0.3s,baz=98,slow=12,SNR=6.9								
JOW				S		**Sb**		**00 42 33.8**	**-0.3**
	105nm,0.2s,baz=107,slow=23,SNR=2.5								
JOW				LR		LR		00 43 20.2	
	comp=Z,130nm,21.4s,baz=299,slow=40								
JNU	**Nakatsue**	**3.82**	**4**	P		**Pn**		**00 41 56.1**	**-0.1**
	7.1nm,0.4s,baz=109,slow=14,SNR=2.9								
JNU				S		**Sn**		**00 42 38.8**	**-1.2**
	10nm,0.7s,baz=52,slow=23,SNR=1.4								
KSRS	**Korea Array**	**8.43**	**345**	P		**Pn**		**00 42 58.8**	**-0.6**
	1.3nm,0.8s,baz=162,slow=16,SNR=1.4								
KSRS				LR		LR		00 46 24.2	
	comp=Z,52nm,18.8s,baz=155,slow=39								
MJAR	**Matsushiro Arr**	**9.65**	**40**	P		**Pn**		**00 43 17.5**	**+1.3**
	0.5nm,0.5s,baz=201,slow=15,SNR=1.6								
KLR	**Kul'dur**	**19.93**	**2**	P		**P**		**00 45 28.2**	**-0.3**
	3.5nm,0.7s,baz=187,slow=6.9,SNR=11								
SONM	**Songino Array**	**26.29**	**321**	P		**P**		**00 46 30.7**	**-1.4**
	0.4nm,0.6s,baz=136,slow=11,SNR=4.3								
SONM				LR		LR		00 57 58.3	
	comp=Z,39nm,18.9s,baz=127,slow=39								
	0.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**30.79**	**257**	LR		LR		00 59 58.8	
	comp=Z,19nm,18.5s,baz=55,slow=37								
MKAR	**Makanchi Array**	**41.15**	**309**	P		**P**		**00 48 40.8**	**+0.2**
	0.3nm,0.4s,baz=88,slow=9.9,SNR=14								
MKAR				PcP		**PcP**		**00 50 40.1**	**+0.6**
	0.2nm,0.7s,baz=98,slow=4.4,SNR=2.3								
	0.3nm,0.4s								
ZALV	**Zalesovo Beam**	**41.16**	**320**	P		**P**		**00 48 40.0**	**-0.6**
	0.4nm,0.3s,baz=119,slow=9.6,SNR=3.0								
	0.4nm,0.3s								
NRIK	**Noril'sk**	**47.02**	**341**	P		**P**		**00 49 26.4**	**-0.9**

	1.4nm,0.4s,baz=125,slow=8.4,SNR=7.7								
	1.4nm,0.4s								
WRA	**Warramunga Arr**	**49.09**	**175**	P		**P**	**00 49 46.2**	**+2.4**	
	0.3nm,0.8s,baz=6.0,slow=8.3,SNR=1.7								
	0.3nm,0.8s								
ASAR	**Alice Springs**	**52.76**	**176**	P		**P**	**00 50 12.6**	**+1.2**	
	0.2nm,0.8s,baz=12,slow=13,SNR=1.6								
	0.2nm,0.8s								
INK	**Inuvik**	**65.25**	**24**	P		**P**	**00 51 38.4**	**+0.9**	
	0.6nm,0.5s,baz=319,slow=6.7,SNR=8.1								
	0.6nm,0.5s								
KBZ	**Khabaz**	**68.84**	**309**	P		**P**	**00 52 01.4**	**+0.7**	
	1.5nm,0.8s,baz=337,slow=6.9,SNR=2.0								
	1.5nm,0.8s								
FINES	**FINESS Array B**	**71.23**	**331**	P		**P**	**00 52 14.3**	**-0.7**	
	0.9nm,0.5s,baz=52,slow=5.1,SNR=12								
	0.9nm,0.5s								
AKASG	**Malin Array Be**	**74.55**	**320**	P		**P**	**00 52 34.6**	**-0.3**	
	1.5nm,0.6s,baz=58,slow=6.2,SNR=5.8								
AKASG				LR		LR	01 28 42.5		
	comp=Z,76nm,18.7s,baz=356,slow=38								
	1.5nm,0.6s								
YKA	**Yellowknife Ar**	**74.87**	**26**	P		P	00 52 40.6	+4.0	
	0.2nm,0.6s,baz=304,slow=5.3,SNR=4.3								
BRTR	**Keskin Array B**	**76.79**	**308**	P		**P**	**00 52 48.6**	**+0.4**	
	0.8nm,0.7s,baz=106,slow=4.4,SNR=5.1								
	0.8nm,0.7s								
HFS	**Hagfors**	**77.07**	**333**	P		**P**	**00 52 49.0**	**-0.1**	
	3.6nm,1.0s,baz=352,slow=4.5,SNR=5.3								
	3.6nm,1.0s								
MLR	**Muntelu Rosu**	**79.00**	**316**	LR		LR	01 32 43.8		
	comp=Z,47nm,18.1s,baz=332,slow=39								

*ISK **22** 00:52:48.2, 38.99N×26.00E, h10km, ML3.3/26*
*DDA **22** 00:52:48.6±0.0, 39.01N×26.06E, h26km±1km, ML3.4*
*THE **22** 00:52:49.4, 38.99N×26.05E, h5km±1km, ML2.8/6, Error ellipse: s-maj=2.8km s-min=1.0km az=284.0*
*ATH **22** 00:52:49.7, 39.01N×26.04E, h14km±1km, ML3.2/3, Error ellipse: s-maj=5.0km s-min=1.2km az=278.0*
*BEO **22** 00:52:52.3±0.7, 39.01N×26.25E, h50km±4km, ML2.7/4*
*SOF **22** 00:52:54.0, 39.54N×25.98E, h5km, MD3.1*

ISC 22 00:52:49.0±0.9, 39°02'N±0.02×26°06'E±0.02, h14km±7km, n135, σ1s10/192, 5C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIGR	**SIGRI**	**0.25**	**320**	P		**Pg**	**00 52 54.6**	**+0.1**
SIGR				S		**Sb**	**00 52 59.3**	**-0.3**
	12μm,0.4s							
SIGR	**SIGRI**	**0.25**	**320**	Pg		**Pg**	**00 52 54.5**	**+0.1**
SIGR				Sg		**Sg**	**00 52 58.0**	**-0.1**
SIGR	**SIGRI**	**0.25**	**320**	P		**Pg**	**00 52 54.6**	**+0.1**
SIGR				S		**Sg**	**00 52 58.4**	**+0.3**
SIGR				AML		AML	00 52 59.3	
	comp=E,20140μm,0.4s							
SIGR				AML		AML	00 52 59.6	
	comp=N,29200μm,0.3s							
KOCA	**Canakkale, Ayv**	**0.49**	**7**	P		**Pg**	**00 52 58.8**	**+0.1**
KOCA				S		**Sb**	**00 53 06.4**	**0.0**
AYVA	**Ayvalik**	**0.57**	**59**	P		**Pg**	**00 52 59.8**	**-0.4**
AYVA				S		**Sg**	**00 53 07.5**	**-0.2**
AYVA				*i* AML		AML	00 53 08.0	
	comp=N,937nm,0.3s							
PSRA	**Psara**	**0.62**	**220**	P		**Pb**	**00 53 01.9**	**+0.3**
PSRA				S		**Sg**	**00 53 09.3**	**+0.1**
PSRA				AML		AML	00 53 11.5	
	comp=E,7642μm,0.3s							
PSRA				AML		AML	00 53 13.3	
	comp=N,7668μm,0.3s							
DKL	**Dikili**	**0.66**	**85**	Pg		**Pb**	**00 53 02.3**	**0.0**
DKL				Sg		**Sn**	**00 53 12.8**	**-1.2**
URLA	**Izmir**	**0.78**	**148**	Pg		**Pg**	**00 53 03.8**	**-0.4**
URLA				Sg		**Sb**	**00 53 15.2**	**+0.4**
URLA	**Izmir**	**0.78**	**148**	P		**Pg**	**00 53 03.5**	**-0.7**
URLA				S		**Sb**	**00 53 15.2**	**+0.4**
URLA				*i* AML		AML	00 53 17.0	
	comp=N,1μm,0.3s							
ZEDA	**zmir-Bergama**	**0.79**	**93**	P		**Pb**	**00 53 04.6**	**+0.1**
ZEDA				S		**Sb**	**00 53 15.1**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.81**	**27**	P		**Pb**	**00 53 05.5**	**+0.5**
BAYC				S		**Sn**	**00 53 17.8**	**-0.2**
BAYC				*i* AML		AML	00 53 19.0	
	comp=N,1μm,0.5s							
BOZC	**Bozcaada**	**0.82**	**359**	Pg		**Pg**	**00 53 04.8**	**-0.2**
BOZC				Sg		**Sb**	**00 53 17.1**	**+1.1**
BOZC	**Bozcaada**	**0.82**	**359**	P		**Pg**	**00 53 04.8**	**-0.2**
BOZC				S		**Sb**	**00 53 16.6**	**+0.6**
BOZC				*i* AML		AML	00 53 17.0	
	comp=N,942nm,0.4s							
EZN	**Ezine**	**0.83**	**14**	Pg		**Pg**	**00 53 04.9**	**-0.3**
EZN				Sg		**Sn**	**00 53 18.4**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**0.85**	**156**	P		**Pg**	**00 53 05.2**	**-0.4**
ZEYE				S		**Sb**	**00 53 17.3**	**+0.5**
ZEYE				*i* AML		AML	00 53 18.0	
	comp=N,1μm,0.4s							
BUHA	**Balikesir, Bur**	**0.92**	**58**	P		**Pg**	**00 53 06.6**	**-0.3**
BUHA				S		**Sb**	**00 53 19.0**	**+0.1**
BUHA				*i* AML		AML	00 53 24.0	
	comp=N,1μm,0.5s							
BLCB	**Balcova**	**0.99**	**129**	Pg		**Pg**	**00 53 08.2**	**0.0**
BLCB				Sg		**Sn**	**00 53 22.5**	**+0.2**
ECEA	**Canakkale, Ece**	**1.03**	**5**	P		**Pb**	**00 53 08.6**	**0.0**
ECEA				S		**Sn**	**00 53 24.5**	**+1.3**
ECEA				*i* AML		AML	00 53 25.0	
	comp=N,3μm,0.4s							
DGB	**zmir**	**1.16**	**146**	P		**Pb**	**00 53 09.7**	**-1.1**
DGB				S		**Sg**	**00 53 26.2**	**-0.3**
GOKA	**anakkale-Gk**	**1.18**	**354**	P		**Pb**	**00 53 11.2**	**+0.1**
GOKA				*i* AML		AML	00 53 28.0	
	comp=N,2μm,1.0s							
GOKA				S		**Sn**	**00 53 28.2**	**+1.3**
GADA	**Gvkgeada**	**1.18**	**354**	Pn		**Pn**	**00 53 11.1**	**0.0**
GADA				Sn		**Sn**	**00 53 27.7**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.33**	**74**	P		**Pn**	**00 53 13.6**	**+0.3**
STEP				S		**Sg**	**00 53 31.6**	**-0.5**
STEP				*i* AML		AML	00 53 38.0	
	comp=N,633nm,1.0s							
AKHS	**Akhisar**	**1.37**	**95**	P		**Pb**	**00 53 14.7**	**+0.2**
AKHS				S		**Sg**	**00 53 33.3**	**0.0**
BALY	**Balya**	**1.41**	**59**	P		**Pn**	**00 53 14.5**	**+0.2**
BALY				S		**Sg**	**00 53 34.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.41**	**13**	Pn		**Pb**	**00 53 15.0**	**-0.2**
LPK	**Lapseki**	**1.46**	**21**	Pn		**Pb**	**00 53 15.7**	**-0.2**
LPK				Sn		**Sg**	**00 53 35.8**	**-0.1**
GOMA	**Golmarmara-Man**	**1.48**	**102**	Pn		**Pb**	**00 53 16.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.51**	**344**	P		**Pn**	**00 53 15.8**	**+0.2**
SMTH				S		**Sg**	**00 53 37.2**	**-0.4**
	comp=N,298nm,0.5s							
SMTH	**Samothraki Isl**	**1.51**	**344**	P		**Pn**	**00 53 15.3**	**-0.3**
SMTH				S		**Sn**	**00 53 34.7**	**-0.4**
SMTH				AML		AML	00 53 39.6	
	comp=E,568μm,0.5s							
SMTH				AML		AML	00 53 42.5	
	comp=N,616μm,0.5s							
BALB	**Balikesir**	**1.54**	**66**	Pn		**Pn**	**00 53 16.6**	**+0.6**
KYMI	**Kymi, Euboea I**	**1.58**	**257**	P		**Pn**	**00 53 16.5**	**-0.1**
KYMI				S		**Sn**	**00 53 37.2**	**+0.3**
	comp=N,178nm,0.6s							
KYMI	**Kymi, Euboea I**	**1.58**	**257**	P		**Pn**	**00 53 16.4**	**-0.3**
GCAM	**G?zelcami?**	**1.61**	**145**	Pn		**Pn**	**00 53 17.4**	**+0.4**
GCAM	**G?zelcami?**	**1.61**	**145**	P		**Pg**	**00 53 19.6**	**-0.3**
GCAM				S		**Sb**	**00 53 39.4**	**+0.8**
GCAM				*i* AML		AML	00 53 43.0	
	comp=N,312nm,0.9s							
GONE	**Gonen-Balikesi**	**1.62**	**50**	Pn		**Pb**	**00 53 18.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.67**	**34**	Pn		**Pb**	**00 53 18.9**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**1.67**	**3**	P		**Pn**	**00 53 18.4**	**+0.6**
CAVK				S		**Sb**	**00 53 40.5**	**0.0**
KNL	**Balıkesir**	**1.68**	**42**	P		**Pn**	**00 53 18.5**	**+0.5**
KNL				S		**Sb**	**00 53 41.6**	**+0.8**
ERIK	**Erikli-Kesan**	**1.69**	**12**	Pn		**Pb**	**00 53 19.2**	**-0.6**
ENEZ	**Enez**	**1.72**	**2**	Pn		**Pn**	**00 53 19.4**	**+0.9**
KESN	**Edirne-Kesan**	**1.87**	**15**	P		**Pn**	**00 53 21.3**	**+0.4**
KESN				S		**Sb**	**00 53 46.1**	**-0.3**
KESN				*i* AML		AML	00 53 53.0	
	comp=N,259nm,0.5s							
RKY	**Sarkoy-Tekirda**	**1.87**	**27**	Pn		**Pn**	**00 53 21.9**	**+1.2**
ALN	**Alexandroupoli**	**1.88**	**360**	P		**Pn**	**00 53 21.1**	**+0.4**
ALN				S		**Sb**	**00 53 46.8**	**+0.4**
	comp=N,185nm,0.4s							
ALN	**Alexandroupoli**	**1.88**	**360**	Pn		**Pn**	**00 53 21.6**	**+0.9**
ALN	**Alexandroupoli**	**1.88**	**360**	P		**Pn**	**00 53 21.0**	**+0.3**
SART	**Tekirdag**	**1.88**	**27**	P		**Pb**	**00 53 22.6**	**-0.5**
SART				S		**Sg**	**00 53 49.1**	**-0.3**
SART				*i* AML		AML	00 53 58.0	
	comp=N,268nm,0.5s							
THAS	**Thassos island**	**1.89**	**327**	P		**Pn**	**00 53 20.9**	**-0.1**
THAS				S		**Sn**	**00 53 44.3**	**-0.3**
	comp=N,138nm,0.8s							
THAS	**Thassos island**	**1.89**	**327**	P		**Pn**	**00 53 20.8**	**-0.1**
DION	**Dionisos Attik**	**1.92**	**241**	P		**Pn**	**00 53 21.7**	**+0.4**
DION	**Dionisos Attik**	**1.92**	**241**	P		**Pn**	**00 53 21.4**	**+0.2**
EDC	**Edincik**	**1.92**	**46**	Pn		**Pn**	**00 53 22.6**	**+1.3**
AYDN	**Tasoluk**	**1.97**	**133**	P		**Pn**	**00 53 22.3**	**+0.3**
AYDN				S		**Sn**	**00 53 45.3**	**-1.2**
APE	**Apeiranthos**	**1.99**	**192**	⇑P		**Pn**	**00 53 21.3**	**-1.0**
APE	**Apeiranthos**	**1.99**	**192**	P		**Pn**	**00 53 21.3**	**-1.0**
APE				S		**Sb**	**00 53 49.0**	**-0.7**
	comp=N,198nm,0.6s							
APE	**Apeiranthos**	**1.99**	**192**	Pn		**Pn**	**00 53 21.7**	**-0.6**
APE	**Apeiranthos**	**1.99**	**192**	P		**Pn**	**00 53 21.4**	**-1.0**
MANT	**Manisa**	**2.02**	**104**	P		**Pb**	**00 53 25.1**	**-0.5**
MANT				S		**Sg**	**00 53 53.7**	**-0.4**
PAIG	**Paliouri**	**2.06**	**297**	P		**Pn**	**00 53 23.5**	**+0.3**
DEMI	**Demirci**	**2.07**	**89**	P		**Pn**	**00 53 23.9**	**+0.5**
DEMI				S		**Sn**	**00 53 50.4**	**+1.4**
ATHU	**Athens Univers**	**2.07**	**240**	P		**Pn**	**00 53 22.8**	**-0.6**
OUR	**Ouranopolis**	**2.08**	**310**	P		**Pn**	**00 53 24.3**	**+0.9**
OUR	**Ouranopolis**	**2.08**	**310**	Pn		**Pn**	**00 53 23.1**	**+0.1**
KULA	**Kula-Manisa**	**2.09**	**103**	Pn		**Pn**	**00 53 24.7**	**+1.0**
VLY	**Voula,Athens**	**2.13**	**238**	P		**Pn**	**00 53 23.8**	**-0.4**
UKOP	**Uzunkopru-Edir**	**2.15**	**12**	Pn		**Pn**	**00 53 25.7**	**+1.2**
RDO	**Rodhopi**	**2.16**	**349**	P		**Pn**	**00 53 25.4**	**+0.8**
RDO	**Rodhopi**	**2.16**	**349**	Pn		**Pn**	**00 53 25.3**	**+0.7**
RDO	**Rodhopi**	**2.16**	**349**	P		**Pn**	**00 53 24.9**	**+0.3**
KCTX	**Karacabey (Bur**	**2.16**	**54**	Pn		**Pn**	**00 53 26.0**	**+1.3**
SIMA	**Simav-Kutahya**	**2.27**	**87**	Pn		**Pn**	**00 53 27.7**	**+1.5**
KAVA	**Kavala**	**2.31**	**329**	P		**Pn**	**00 53 27.1**	**+0.5**
USAK	**Uak-Merkez**	**2.33**	**97**	P		**Pn**	**00 53 27.7**	**+0.8**
USAK				S		**Pg**	**00 53 36.3**	**+2.6**
CRLT	**Corlu**	**2.47**	**31**	Pn		**Pn**	**00 53 30.4**	**+1.6**
ULDT	**Uludag**	**2.63**	**64**	P		**Pn**	**00 53 31.8**	**+0.6**
ULDT				S		**Pg**	**00 53 39.9**	**+0.5**
GDZ	**Gediz**	**2.66**	**87**	P		**Pb**	**00 53 35.6**	**-0.9**
GDZ				S		**Sg**	**00 54 13.9**	**-0.6**
KDZ	**Kurdzhali**	**2.67**	**350**	Pn		**Pn**	**00 53 32.3**	**+0.6**
KDZ	**Kurdzhali**	**2.67**	**350**	*i* P		**Pn**	**00 53 32.0**	**+0.3**
EPID	**Epidavros**	**2.71**	**240**	P		**Pn**	**00 53 31.8**	**-0.3**
TAVA	**DENIZLI_Tavas**	**2.73**	**124**	P		**Pn**	**00 53 32.0**	**-0.5**
PASA	**Karahalli, USA**	**2.76**	**103**	P		**Pn**	**00 53 33.4**	**+0.5**
HORT	**Hortiatis**	**2.77**	**306**	P		**Pn**	**00 53 34.3**	**+1.2**
HORT	**Hortiatis**	**2.77**	**306**	Pn		**Pn**	**00 53 33.2**	**+0.1**
SRS	**Serrai**	**2.83**	**319**	P		**Pn**	**00 53 34.4**	**+0.6**
SRS	**Serrai**	**2.83**	**319**	*e*Pn		**Pn**	**00 53 34.4**	**+0.6**
RZN	**Rozhen**	**2.86**	**339**	*i* P		**Pn**	**00 53 35.4**	**+1.0**
KIRK	**Kırklareli**	**2.87**	**16**	P		**Pn**	**00 53 34.8**	**+0.5**
KIRK				S		**Sg**	**00 54 18.4**	**-2.8**
NVR	**Nevrokopi**	**2.88**	**325**	P		**Pn**	**00 53 36.2**	**+1.7**
VIZE	**Kirklareli, Vi**	**2.90**	**27**	P		**Pn**	**00 53 34.6**	**-0.1**
VIZE				S		**Sg**	**00 54 19.1**	**-3.0**
AGG	**Agios Georgios**	**2.91**	**271**	P		**Pn**	**00 53 36.2**	**+1.3**
KZIL	**AFYON_Kizioren**	**3.28**	**102**	P		**Pn**	**00 53 40.8**	**+0.6**
GRG	**Griva**	**3.42**	**306**	P		**Pn**	**00 53 43.7**	**+1.8**
JMB	**Yambol**	**3.47**	**6**	*i* P		**Pn**	**00 53 43.7**	**+1.1**
BORA	**Eskisehir**	**3.50**	**74**	P		**Pn**	**00 53 44.1**	**+0.9**
BORA				S		**Sb**	**00 54 34.5**	**+1.2**
VAY	**Valandovo**	**3.53**	**312**	*e*Pn		**Pn**	**00 53 45.1**	**+1.7**
VAY				*e*Sn		**Sn**	**00 54 25.4**	**+0.5**
GEYV	**SAKARYA_Geyve**	**3.58**	**65**	P		**Pn**	**00 53 47.1**	**+3.1**
GEYV				S		**Sg**	**00 54 41.6**	**-2.2**
SGAZ	**Eskisehir, Sey**	**3.74**	**81**	P		**Pn**	**00 53 46.2**	**-0.2**
SGAZ				S		**Sg**	**00 54 46.1**	**-3.0**
KAND	**Kocaeli-Kandir**	**3.79**	**55**	P		**Pn**	**00 53 46.9**	**0.0**
KAND				S		**Sb**	**00 54 43.5**	**+2.2**
KAYN	**Sakarya, Kayna**	**3.82**	**58**	P		**Pn**	**00 53 46.7**	**-0.7**
KAYN				S		**Sg**	**00 54 48.8**	**-2.8**
FNA	**Florina**	**4.01**	**298**	*e*Pn		**Pn**	**00 53 52.8**	**+2.7**
FNA				*e*Sn		**Sn**	**00 54 36.0**	**-1.0**
SAHE	**Sakarya_HENDEK**	**4.11**	**62**	P		**Pn**	**00 53 51.3**	**-0.1**
SAHE				S		**Sn**	**00 54 40.4**	**+1.0**
VTS	**Vitosha**	**4.19**	**330**	*e*Pn		**Pn**	**00 53 54.4**	**+1.8**
VTS	**Vitosha**	**4.19**	**330**	*e*Pn		**Pn**	**00 53 54.5**	**+1.8**
VTS				*e*Sn		**Sn**	**00 54 39.5**	**-1.9**
VTS				*e*Lg		Lg	00 55 07.3	
VTS	**Vitosha**	**4.19**	**330**	*i* P		**Pn**	**00 53 55.3**	**+2.7**
SZH	**Strazhica**	**4.25**	**359**	*i* P		**Pn**	**00 53 54.0**	**+0.7**
PRD	**Provadia**	**4.30**	**13**	*i* P		**Pn**	**00 53 54.7**	**+0.8**
RAZG	**Razgrad**	**4.55**	**4**	P		**Pn**	**00 53 58.4**	**+0.9**
PRVS	**Prvonek**	**4.62**	**320**	*e*Pn		**Pn**	**00 54 00.5**	**+2.1**
KIBS	**BOLU**	**4.68**	**71**	P		**Pn**	**00 53 59.6**	**+0.3**
KDHN	**Kadinhani**	**4.76**	**94**	P		**Pn**	**00 53 59.0**	**-1.4**
BARS	**Barje**	**4.97**	**321**	*e*Pn		**Pn**	**00 54 05.2**	**+1.9**
BBAL	**Bala**	**5.50**	**82**	P		Pn	00 54 05.6	-5.1
ZAGS	**Zajecar**	**5.59**	**330**	*e*Pn		**Pn**	**00 54 13.2**	**+1.5**
SELS	**Selova**	**5.62**	**320**	*e*Pn		**Pn**	**00 54 13.3**	**+1.2**
BOVS	**Bovan**	**5.66**	**326**	*e*Pn		**Pn**	**00 54 13.8**	**+1.1**
TIRR	**Tirgusor**	**5.71**	**17**	⇓P		**Pn**	**00 54 14.3**	**+0.9**
TPGR	**Topolog**	**6.09**	**16**	⇑P		**Pn**	**00 54 18.9**	**+0.2**
SJES	**Sjenica**	**6.25**	**315**	*e*Pn		**Pn**	**00 54 23.3**	**+2.4**
GRUS	**Gruza**	**6.31**	**322**	*e*Pn		**Pn**	**00 54 23.3**	**+1.7**
IVAS	**Ivanjica**	**6.37**	**318**	*e*Pn		**Pn**	**00 54 23.8**	**+1.3**
VOIR		**6.46**	**354**	⇓P		**Pn**	**00 54 25.1**	**+1.4**
DIVS	**Divibare**	**6.82**	**320**	*e*Pn		**Pn**	**00 54 30.0**	**+1.3**
VRI	**Vrincioaia**	**6.86**	**4**	⇓P		**Pn**	**00 54 29.2**	**+0.1**
VLDR	**Vladesti**	**6.98**	**12**	⇑P		**Pn**	**00 54 32.5**	**+1.7**
BZS	**Buzias**	**7.37**	**335**	*e*Pn		**Pn**	**00 54 36.9**	**+0.8**
TESR	**Tescani**	**7.50**	**3**	⇑P		**Pn**	**00 54 39.1**	**+1.2**
SIRR	**Siria**	**7.94**	**337**	⇑P		**Pn**	**00 54 43.5**	**-0.5**

IDC 22 00:53:31.3±1.1, 4.82S×150.94E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/1, Error ellipse: s-maj=41.9km s-min=16.5km az=146.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	**Keravat (AS076**	**1.20**	**65**	Pn		Pn	00 53 56.5	+1.1
	194nm,0.3s,baz=268,slow=1.3,SNR=40							
KRVT				Sn		Sn	00 54 13.4	+1.1
	451nm,0.3s,baz=277,slow=23,SNR=36							
WRA	**Warramunga Arr**	**22.08**	**226**	P		P	00 58 29.5	+1.3
	1.7nm,0.7s,baz=52,slow=9.9,SNR=20							
	1.7nm,0.7s							
ASAR	**Alice Springs**	**24.92**	**220**	P		P	00 58 56.1	-0.3
	0.9nm,0.6s,baz=55,slow=9.0,SNR=19							
	0.9nm,0.6s							
DAV	**Davao City (W)**	**27.93**	**295**	LR		LR	01 08 55.3	
	comp=Z,38nm,21.4s,baz=312,slow=33							
SONM	**Songino Array**	**65.36**	**329**	P		P	01 04 16.7	+1.0
	0.4nm,0.6s,baz=135,slow=6.5,SNR=2.5							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**82.88**	**22**	P		P	01 05 55.9	-1.7
	0.7nm,1.1s,baz=234,slow=5.4,SNR=4.1							
	0.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**148.54**	**287**	PKPbc		PKPbc	01 13 19.6	-1.8
	1.8nm,0.3s,baz=88,slow=3.0,SNR=1.1							

*INET **22** 01:04:51.7±1.1, 9.97N×84.17W, h8km±13km, MW2.6*
*UCR **22** 01:04:51.9±0.9, 10.03N×84.21W, h6km±2km, MW3.5*
*UPA **22** 01:04:52.7±0.6, 9.07N×84.63W, h0km±7km, MW3.6*

ISC 22 01:04:51.7±0.8, 10.01N±0.02×84.21W±0.02, h13km±4km, n65, σ0s52/82, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BELE	**Belen**	**0.04**	**142**	*e*P		**Pg**	**01 04 53.8**	**-0.4**
BELE				*e*S		**Sg**	**01 04 55.0**	**-1.0**
EDIA	**Heredia**	**0.09**	**95**	*e*P		**Pg**	**01 04 54.6**	**-0.1**
EDIA				*e*S		**Sg**	**01 04 56.5**	**-0.3**
TCS1	**Tacares**	**0.09**	**292**	*e*P		**Pg**	**01 04 54.8**	**0.0**
TCS1				*e*S		**Sg**	**01 04 57.0**	**+0.1**
HDC	**Heredia**	**0.10**	**93**	*e*P		**Pg**	**01 04 54.7**	**-0.1**
HDC3	**Heredia 3**	**0.10**	**92**	*e*P		**Pg**	**01 04 54.7**	**-0.1**
HDC3				*e*S		**Sg**	**01 04 56.7**	**-0.4**
HDC3	**Heredia 3**	**0.10**	**92**	*e*P		**Pg**	**01 04 54.7**	**-0.1**
HDC3				*e*S		**Sg**	**01 04 56.7**	**-0.4**
GREC	**Grecia**	**0.12**	**305**	*e*S		**Sg**	**01 04 57.6**	**+0.2**
DOMI	**Santo Domingo**	**0.12**	**101**	*e*P		**Pg**	**01 04 55.4**	**+0.3**
DOMI				*e*S		**Sg**	**01 04 57.9**	**+0.4**
MEXI	**Barrio Mexico**	**0.14**	**118**	*e*S		**Sg**	**01 04 58.5**	**+0.6**
TIBA	**Tibas**	**0.14**	**108**	*e*S		**Sg**	**01 04 58.6**	**+0.5**
CENT	**San Jose**	**0.15**	**120**	*e*P		**Pg**	**01 04 55.8**	**+0.2**
SARCI	**Sarchi**	**0.16**	**302**	*e*S		**Sg**	**01 04 59.0**	**+0.8**
LUJA	**Lujan**	**0.16**	**120**	*e*P		**Pg**	**01 04 56.9**	**+1.2**
LUJA				*e*S		**Sg**	**01 04 59.9**	**+1.5**
VPTE	**Poasito**	**0.17**	**5**	*e*P		**Pg**	**01 04 55.9**	**0.0**
VPTE				*e*S		**Sg**	**01 04 58.8**	**+0.1**
SJS3	**Mercedes San J**	**0.17**	**113**	*e*P		**Pg**	**01 04 56.3**	**+0.4**
AMPA	**Desamparados**	**0.18**	**127**	*e*P		**Pg**	**01 04 56.2**	**+0.2**
VPS6	**Volcano Poas**	**0.18**	**354**	*e*P		**Pg**	**01 04 57.0**	**+0.8**
VPS6				*e*S		**Sg**	**01 05 00.0**	**+0.8**
CRPO	**Crater poas**	**0.19**	**356**	*e*P		**Pg**	**01 04 56.0**	**-0.2**
CRPO				*e*S		**Sg**	**01 04 59.0**	**-0.3**
POA5	**Crater Von Fra**	**0.20**	**355**	*e*P		**Pg**	**01 04 56.1**	**-0.3**
CORON	**Coronado**	**0.21**	**99**	*e*P		**Pg**	**01 04 57.0**	**+0.5**
CORON				*e*S		**Sg**	**01 05 01.0**	**+1.3**
ACOS	**Acosta**	**0.21**	**167**	*e*P		**Pg**	**01 04 56.9**	**+0.4**
ACOS				*e*S		**Sg**	**01 05 00.6**	**+0.8**
TRIO	**Tres Rios**	**0.24**	**115**	*e*P		**Pg**	**01 04 57.1**	**+0.2**
ZARE	**Zarcero**	**0.25**	**315**	*e*S		**Sg**	**01 05 02.1**	**+1.3**
CVIMO	**Finca Echandi**	**0.27**	**86**	*e*P		**Pg**	**01 04 57.9**	**+0.5**
CVIMO				*e*S		**Sb**	**01 05 02.5**	**-0.6**
OCM	**Ochomogo**	**0.27**	**114**	*e*P		**Pg**	**01 04 57.6**	**+0.1**
SRA1	**San Ramn**	**0.28**	**287**	*e*P		**Pg**	**01 04 57.7**	**+0.2**
VIRE	**VIRE**	**0.31**	**97**	*e*P		**Pg**	**01 04 58.6**	**+0.2**
CPMI	**Catarata Coope**	**0.32**	**329**	*e*P		**Pg**	**01 04 58.3**	**-0.1**
CPMI				*e*S		**Sg**	**01 05 03.1**	**+0.2**
VICA	**Volcano Irazu**	**0.36**	**93**	*e*P		**Pg**	**01 04 59.3**	**+0.1**
HAYA	**Volcan Irazu**	**0.36**	**94**	*e*P		**Pg**	**01 04 59.4**	**+0.2**
ICR3	**Volcano Irazu**	**0.38**	**94**	*e*P		**Pg**	**01 05 00.1**	**+0.7**
RAFA	**San Farael, Vo**	**0.40**	**97**	*e*P		**Pg**	**01 04 59.9**	**+0.1**
PCAYA	**Pacayas**	**0.41**	**103**	*e*S		**Sg**	**01 05 06.2**	**+0.8**
RIFO	**Rio Frio, Sara**	**0.42**	**43**	*e*P		**Pg**	**01 05 00.3**	**+0.1**
VTLA	**Turrialba Volc**	**0.43**	**90**	*e*P		**Pg**	**01 05 00.5**	**+0.1**
VTR0	**Volcan Turrial**	**0.45**	**89**	*e*P		**Pg**	**01 05 01.1**	**+0.4**
CVTR	**Volcan Turrial**	**0.45**	**88**	*e*P		**Pg**	**01 05 01.0**	**+0.3**
VTCG	**Tajo**	**0.45**	**89**	*e*P		**Pg**	**01 05 01.1**	**+0.3**
VTCE	**Turrialba Volc**	**0.45**	**88**	*e*P		**Pg**	**01 05 01.0**	**+0.2**
CVTV	**Tajo**	**0.46**	**90**	*e*P		**Pg**	**01 05 01.1**	**+0.2**
VTLO	**VTLO**	**0.48**	**86**	*e*P		**Pg**	**01 05 01.4**	**+0.1**
SARA	**Sarapiqu**	**0.48**	**23**	*e*P		**Pg**

JHO				S		Sn	01 19 51.2	-2.9	
JHYU	**Hitachinakayam**	**1.08**	**256**	*i* P		Pn	01 19 38.9	-1.8	
JHYU				*e*S		Sn	01 19 51.8	-2.7	
JFK	**Kawauchi**	**1.11**	**314**	P		Pn	01 19 38.8	-2.5	
JFK				*e*S		Sn	01 19 52.7	-2.7	
JFFD	**Fukushimafurud**	**1.17**	**295**	*i* P		Pn	01 19 39.7	-2.3	
JFFD				*e*S		Sn	01 19 54.4	-2.4	
JMM	**Marumori**	**1.53**	**326**	P		Pn	01 19 45.2	-1.8	
JMM	**Marumori**	**1.53**	**326**	P		Pn	01 19 45.1	-1.9	
JMM				*e*S		Sn	01 20 03.4	-2.3	
JIO	**Ouri**	**1.90**	**347**	*i* P		Pn	01 19 50.4	-1.6	
JIO				*e*S		Sn	01 20 12.3	-2.4	
JAG	**Ashikaga**	**1.97**	**266**	*i* P		Pn	01 19 51.3	-1.7	
JOU	**Okura**	**2.01**	**331**	*i* P		Pn	01 19 52.7	-0.8	
MJAR	**Matsushiro Arr**	**2.96**	**270**	Pn		Pn	01 20 06.4	-0.2	
	2.0nm,0.3s,baz=109,slow=11,SNR=96								
MJAR				Sn		Sn	01 20 40.5	-0.6	
	1.6nm,0.3s,baz=110,slow=13,SNR=6.7								
MJAR				LR		LR	01 21 19.2		
	comp=Z,62nm,20.1s,baz=182,slow=41								
	20nm,0.5s								
MAJO	**Matsushiro**	**2.96**	**270**	P		Pn	01 20 07.0	+0.3	
JSD	**Sado**	**3.23**	**297**	P		Pn	01 20 10.3	+0.1	
JSG	**Sagara**	**3.58**	**239**	P		Pn	01 20 17.3	+2.2	
JGF	**Kuroka**	**3.80**	**256**	P		Pn	01 20 19.9	+1.7	
JHJ	**Hachijo jima 2**	**3.88**	**207**	Pn		Pn	01 20 17.7	-1.6	
	182nm,0.7s,baz=82,slow=14,SNR=1.8								
JHJ				Sn		Sn	01 21 00.7	-3.0	
	33nm,0.3s,baz=262,slow=23,SNR=1.6								
INU	**Inuyama**	**4.14**	**254**	P		Pn	01 20 24.2	+1.3	
JTM	**Tenmabayashi**	**4.23**	**352**	P		Pn	01 20 23.5	-0.5	
ERM	**Erimo**	**5.49**	**10**	P		Pn	01 20 39.2	-2.2	
JEM	**Erimo**	**5.49**	**10**	P		Pn	01 20 39.1	-2.3	
JHS	**Saijyo**	**7.30**	**260**	P		Pn	01 21 07.8	+1.5	
ASAJ	**Asahikawa**	**7.52**	**4**	Pn		Pn	01 21 08.6	-0.7	
	0.6nm,0.3s,baz=335,slow=17,SNR=2.5								
ASAJ				Sn		Sn	01 22 35.0	+1.6	
	0.3nm,0.3s,baz=280,slow=26,SNR=1.7								
	5.8nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**27.60**	**121**	T		T	01 54 24.4		
	baz=313,slow=75,SNR=21								
H11N1	**WAKE ISLAND Hy**	**27.61**	**121**	T		T	01 54 33.3		
	baz=313,slow=75,SNR=24								
H11N3	**WAKE ISLAND Hy**	**27.62**	**121**	T		T	01 54 25.5		
	baz=313,slow=75,SNR=19								
H11S1	**WAKE ISLAND Hy**	**28.31**	**123**	T		T	01 55 08.6		
	baz=315,slow=76,SNR=18								
H11S3	**WAKE ISLAND Hy**	**28.31**	**123**	T		T	01 55 09.5		
	baz=315,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy**	**28.32**	**123**	T		T	01 55 15.6		
	baz=315,slow=76,SNR=6.9								
SONM	**Songino Array**	**28.34**	**305**	P		**P**	**01 25 12.2**	**-0.5**	
	0.8nm,0.8s,baz=108,slow=8.7,SNR=4.9								
	0.8nm,0.8s								
TIXI	**Tiksi**	**35.76**	**353**	LR		LR	01 44 27.5		
	comp=Z,31nm,18.1s,baz=358,slow=42								
ZALV	**Zalesovo Beam**	**42.48**	**313**	P		**P**	**01 27 13.9**	**+0.2**	
	0.8nm,0.6s,baz=83,slow=12,SNR=4.0								
	0.8nm,0.6s								
MKAR	**Makanchi Array**	**44.67**	**303**	P		**P**	**01 27 30.5**	**-0.9**	
	0.4nm,0.8s,baz=95,slow=8.6,SNR=4.7								
	0.4nm,0.8s								
WRA	**Warramunga Arr**	**56.69**	**189**	P		**P**	**01 29 01.1**	**-1.0**	
	0.3nm,0.4s,baz=4.7,slow=7.1,SNR=8.2								
	0.3nm,0.4s								
ASAR	**Alice Springs**	**60.42**	**188**	P		**P**	**01 29 27.6**	**-0.6**	
	0.5nm,0.7s,baz=17,slow=6.4,SNR=7.0								
	0.5nm,0.7s								
YKA	**Yellowknife Ar**	**63.99**	**30**	P		**P**	**01 29 51.3**	**-0.3**	
	0.3nm,0.7s,baz=296,slow=6.4,SNR=3.7								
	0.3nm,0.7s								
NOA	**NORSAR Array B**	**74.73**	**338**	P		**P**	**01 30 57.6**	**-0.5**	
	0.4nm,0.6s,baz=39,slow=5.9,SNR=3.3								
	0.4nm,0.6s								
AKASG	**Malin Array Be**	**74.87**	**323**	P		**P**	**01 30 58.1**	**-0.9**	
	0.7nm,0.5s,baz=46,slow=5.0,SNR=5.0								
	0.7nm,0.5s								
LPAZ	**La Paz**	**146.58**	**61**	PKPbc		**PKPbc**	**01 39 00.7**	**-0.4**	
	0.8nm,0.9s,baz=208,slow=5.6,SNR=3.9								
SIV	**San Ignacio**	**151.07**	**51**	PKPbc		**PKPbc**	**01 39 10.8**	**-1.2**	
	0.7nm,0.6s,baz=306,slow=2.6,SNR=5.6								

NEIC ***22*** *01:25:49.3±1.2,43.17°S±0.04°×74.26°W±0.08,h16km±4km, mb4.1/3,ML4.0(GUC),Error ellipse: s-maj=8.8km s-min=5.4km az=113.0*
GUC ***22*** *01:25:49.6±0.7,43.26°S×74.21°W,h29km±4km,ML4.0*
IDC ***22*** *01:25:52.8±2.7,41.48°S×75.01°W,h0km,mb4.2/2, mbtmp4.1/3,ML3.9/1,MS3.1/1,Error ellipse: s-maj=114.2km s-min=29.5km az=171.0*

ISC 22 01:25:49.6±1.6,43.19°S±0.04°×74.21°W±0.08,h19km±4km, n32,σ1%56/38,mb4.1/3,1C-1D,Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.41**	**80**		**Pg**	**01 25 58.3**	**+0.2**
GO07	**Milladeo Hill,**	**0.41**	**80**	*i* P	**Pg**	**01 25 58.3**	**+0.2**
GO07				*e*S	**Sg**	**01 26 04.1**	**+0.3**
GO07				IAML		01 26 08.9	
	comp=E,46μm,0.4s						
LL07	**Hotel Espejo d**	**0.65**	**57**		**Pg**	**01 26 02.2**	**-0.1**
LL07	**Hotel Espejo d**	**0.65**	**57**	*i* P	**Pg**	**01 26 02.2**	**-0.1**
LL07				*e*S	**Sg**	**01 26 11.1**	**+0.1**
LL06	**Loncomilla**	**1.06**	**24**		**Pb**	**01 26 08.9**	**-0.4**
LL06	**Loncomilla**	**1.06**	**24**	*e*P	**Pb**	**01 26 08.8**	**-0.6**
LL06				*e*S	**Sb**	**01 26 23.4**	**+0.5**
LL06				IAML		01 26 26.8	
	comp=N,4μm,0.5s						
LL01	**San Ignacio de**	**1.55**	**59**		**Pn**	**01 26 16.1**	**0.0**
LL01	**San Ignacio de**	**1.55**	**59**	*e*P	**Pn**	**01 26 15.4**	**-0.7**
LL01				*e*S	**Sn**	**01 26 36.3**	**+0.6**
AY01	**Puyuhuapi**	**1.67**	**138**		**Pn**	**01 26 17.6**	**-0.2**
AY01	**Puyuhuapi**	**1.67**	**138**	*e*P	**Pn**	**01 26 17.5**	**-0.3**
AY01				*e*S	**Sn**	**01 26 37.3**	**-1.4**
AY01				IAML		01 26 41.5	
	comp=N,5μm,0.5s						
LL05	**Los Muermos**	**1.86**	**17**		**Pn**	**01 26 20.1**	**-0.3**
LL05	**Los Muermos**	**1.86**	**17**	*e*P	**Pn**	**01 26 20.3**	**-0.1**
LL05				*e*S	**Sn**	**01 26 43.9**	**+0.5**
LL05				IAML		01 26 54.1	
	comp=E,970nm,0.6s						
LL03	**Petrohue**	**2.45**	**34**		**Pn**	**01 26 28.8**	**+0.3**
LL03	**Petrohue**	**2.45**	**34**	*e*P	**Pn**	**01 26 28.7**	**+0.3**
LL03				*e*S	**Sn**	**01 26 59.4**	**+1.5**
LL03				IAML		01 27 06.3	
	comp=E,2μm,0.4s						
LL04	**Puerto Octay**	**2.64**	**31**		**Pn**	**01 26 31.1**	**0.0**
LL04	**Puerto Octay**	**2.64**	**31**	*e*P	**Pn**	**01 26 31.1**	**0.0**
LL04				*e*S	**Sn**	**01 27 02.1**	**-0.6**
LL04				IAML		01 27 06.5	
	comp=N,697nm,0.1s						
COYC	**Coyhaique**	**2.83**	**148**		**Pn**	**01 26 34.6**	**+0.9**
COYC	**Coyhaique**	**2.83**	**148**	*e*P	**Pn**	**01 26 34.8**	**+1.1**
LR04	**Corral**	**3.36**	**10**		**Pn**	**01 26 42.0**	**+1.1**
PLCA	**Paso Flores**	**3.67**	**49**	Pn	**Pn**	**01 26 46.8**	**+1.4**
	comp=N,2.4nm,0.3s,baz=233,slow=14,SNR=47						
PLCA				Lg	Lg	01 27 43.3	
	comp=N,5.8nm,0.3s,baz=323,slow=17,SNR=6.2						
	comp=N,12nm,0.6s						
PLCA	**Paso Flores**	**3.67**	**49**		**Pn**	**01 26 47.1**	**+1.8**
LR03	**Panguipulli**	**3.82**	**22**		**Pn**	**01 26 49.4**	**+2.1**
GO06	**Curarrehue**	**4.15**	**31**		**Pn**	**01 26 52.9**	**+0.9**
GO06	**Curarrehue**	**4.15**	**31**	*e*P	**Pn**	**01 26 53.2**	**+1.2**
AC02	**Maricunga**	**16.83**	**16**	Pn	**Pn**	**01 29 41.6**	**-3.0**
AC02				IAmb	IAmb	01 29 51.3	
	comp=Z,8.3nm,1.3s						
PB10	**IPOC Station P**	**19.86**	**10**	P	**P**	**01 30 17.0**	**-2.4**
PB10				IAmb	IAmb	01 30 21.4	
	comp=Z,15nm,0.9s						
LVC	**Limon Verde**	**20.99**	**14**	LR	LR	01 38 10.8	
	comp=Z,53nm,18.3s,baz=240,slow=38						
CPUP	**Villa Florida**	**21.73**	**45**	P	**P**	**01 30 37.5**	**-2.1**
	comp=Z,1.4nm,0.7s,baz=223,slow=8.6,SNR=4.7						
	comp=Z,1.4nm,0.7s						
PTLB	**Pontes e Lacer**	**30.51**	**30**	P	**P**	**01 32 01.0**	**-0.5**
PTLB				IAmb	IAmb	01 32 05.1	
	comp=Z,2.5nm,0.8s						
VNDA	**Vanda**	**54.77**	**193**	P	**P**	**01 35 17.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**88.89**	**71**	P	P	01 38 48.7	+6.0
	comp=Z,2.7nm,0.3s,baz=225,slow=5.3,SNR=2.0						
	comp=Z,2.7nm,0.3s						
MKAR	**Makanchi Array**	**163.01**	**70**	PKPab	**PKPab**	**01 46 46.2**	**+6.4**
	comp=Z,0.1nm,0.5s,baz=274,slow=3.1,SNR=4.5						

DSN ***22*** *01:32:48.1±2.1,26.72°N×60.28E,h10km,ML3.1/4,Error ellipse: s-maj=78.4km s-min=17.6km az=157.0*
IDC ***22*** *01:32:50.4±0.9,26.98°N×59.82E,h0km,mb3.8/11, mbtmp3.7/13,ML3.5/2,MS3.0/2,Error ellipse: s-maj=22.6km s-min=20.0km az=132.0*
OMAN ***22*** *01:32:55.1±0.4,26.68°N×59.85E,h10km,mb5.3/2, ml3.4/17,Error ellipse: s-maj=6.3km s-min=4.9km az=41.0*

ISC 22 01:32:51.5±0.6,26.89°N±0.05×59.99E±0.06,h10km,n40, σ1%60/57,mb3.7/11,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**1.84**	**146**	P	**Pb**	**01 33 25.9**	**+0.7**
JASK	**Jask - Hormozg**	**2.16**	**242**	P	**Pn**	**01 33 28.5**	**+0.9**
SHME	**Shamm**	**3.55**	**257**	P	**Pn**	**01 33 48.1**	**+1.4**
MDH	**Madha**	**3.68**	**245**	P	**Pn**	**01 33 46.6**	**-1.9**
MDH	**Madha**	**3.68**	**245**	P	**Pn**	**01 33 47.7**	**-0.8**
MASF	**Masafi**	**3.76**	**247**	P	**Pn**	**01 33 51.4**	**+1.7**
MASF				S	**Sn**	**01 34 36.0**	**+1.9**
MSFE	**Esma-Masafi**	**3.77**	**247**	P	**Pn**	**01 33 50.9**	**+1.1**
MSFE				S	**Sn**	**01 34 35.6**	**+1.4**
WSAR	**Wadi Sarin**	**3.84**	**199**	Pn	**Pn**	**01 33 50.7**	**0.0**
	5.3nm,0.3s,baz=46,slow=5.1,SNR=59						
WSAR				Sn	**Sn**	**01 34 35.0**	**-0.9**
	4.1nm,0.3s,baz=324,slow=21,SNR=6.7						
	22nm,0.5s						
WSAR	**Wadi Sarin**	**3.84**	**199**	P	**Pn**	**01 33 50.9**	**+0.2**
WSAR				S	**Sn**	**01 34 35.0**	**-0.9**
UOSS	**Minazif**	**3.92**	**241**	P	**Pn**	**01 33 49.7**	**-2.2**
UOSS	**Minazif**	**3.92**	**241**	P	**Pn**	**01 33 50.4**	**-1.5**
UOSS				S	**Sn**	**01 34 35.8**	**-2.2**
HATD	**Hatta, Dubai**	**4.04**	**240**	P	**Pn**	**01 33 50.8**	**-2.6**
HATD	**Hatta, Dubai**	**4.04**	**240**	P	**Pn**	**01 33 51.7**	**-1.8**
HATD				S	**Sn**	**01 34 37.2**	**-3.6**
HOQ	**Hoqain**	**4.09**	**217**	P	**Pn**	**01 33 52.7**	**-1.5**
HOQ				S	**Sn**	**01 34 39.1**	**-3.0**
SOHO	**SOHO**	**4.16**	**229**	P	**Pn**	**01 33 54.2**	**-0.9**
ASHO	**Ashiyiah**	**4.17**	**239**	P	**Pn**	**01 33 54.7**	**-0.6**
ASHO				S	**Sn**	**01 34 45.8**	**+1.7**
ASHO	**Ashiyiah**	**4.17**	**239**	P	**Pn**	**01 33 56.6**	**+1.3**
	SNR=9.2						
SMDO	**Samad**	**4.20**	**205**	P	**Pn**	**01 33 57.1**	**+1.3**
	SNR=13						
SMDO				S	**Sn**	**01 34 42.1**	**-2.9**
WBK	**Wadi Bani Khal**	**4.36**	**193**	P	**Pn**	**01 33 57.7**	**-0.2**
	SNR=8.1						
WBK				S	**Sn**	**01 34 48.1**	**-0.7**
FAQ	**Al Faqa, Dubai**	**4.50**	**243**	P	**Pn**	**01 34 01.8**	**+2.0**
FAQ				S	**Sn**	**01 34 52.3**	**0.0**
ARQ	**Araqi**	**4.73**	**222**	P	**Pn**	**01 34 05.3**	**+2.3**
ARQ				S	**Sn**	**01 35 00.5**	**+2.5**
JLN	**Jalan Bani Buh**	**4.75**	**187**	P	**Pn**	**01 34 02.4**	**-0.8**
	SNR=9.4						
JLN				S	**Sn**	**01 34 56.2**	**-2.1**
ALNE	**Al Ain**	**4.76**	**235**	P	**Pn**	**01 34 05.1**	**+1.7**
ALNE				S	**Sn**	**01 34 59.3**	**+0.7**
ASUD	**Al Ashush, Dub**	**4.77**	**243**	P	**Pn**	**01 34 05.6**	**+2.1**
JMDO	**Jabal Madar**	**4.81**	**201**	P	**Pn**	**01 34 05.2**	**+1.0**
JMDO				S	**Sn**	**01 35 00.6**	**+0.5**
BSY	**Bisya**	**4.84**	**212**	P	**Pn**	**01 34 06.7**	**+2.1**
BSY				S	**Sn**	**01 35 02.7**	**+2.0**
UMZA	**Um Al Zommool**	**6.04**	**228**	P	**Pn**	**01 34 21.6**	**+0.6**
UMZA				S	**Sn**	**01 35 29.5**	**-0.8**
MHTO	**MHTO**	**6.16**	**198**	P	**Pn**	**01 34 24.7**	**+2.1**
AAK	**Ala-Archa**	**19.67**	**33**	P	**Pn**	**01 37 21.8**	**-0.5**
	0.1nm,0.3s,baz=184,slow=7.1,SNR=1.2						
AAK				LR	LR	01 46 26.4	
	comp=Z,48nm,20.1s,baz=112,slow=42						
	0.5nm,0.4s						
BRTR	**Keskin Array B**	**25.37**	**307**	P	**P**	**01 38 18.3**	**-0.8**
	1.2nm,0.7s,baz=131,slow=11,SNR=8.5						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**26.55**	**36**	P	**P**	**01 38 30.0**	**+0.5**
	0.5nm,0.6s,baz=231,slow=8.2,SNR=7.5						
MKAR				LR	LR	01 50 31.5	
	comp=Z,35nm,20.0s,baz=328,slow=40						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**27.24**	**14**	P	**P**	**01 38 35.1**	**-0.5**
	1.3nm,0.8s,baz=190,slow=5.9,SNR=5.6						
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**27.61**	**26**	P	**P**	**01 38 39.4**	**+0.5**
	0.7nm,1.0s,baz=221,slow=8.9,SNR=8.9						
	0.7nm,1.0s						
ZALV	**Zalesovo Beam**	**32.65**	**27**	P	**P**	**01 39 23.3**	**-0.3**
	1.1nm,0.5s,baz=238,slow=8.3,SNR=5.1						
	1.1nm,0.5s						
FINES	**FINESS Array B**	**41.35**	**336**	P	**P**	**01 40 35.1**	**-2.3**
	1.3nm,0.8s,baz=138,slow=11,SNR=3.7						
	1.3nm,0.8s						
SONM	**Songino Array**	**41.64**	**47**	P	**P**	**01 40 41.5**	**+1.4**
	0.4nm,0.8s,baz=255,slow=12,SNR=3.3						
	0.4nm,0.8s						
GERES	**GERESS Array B**	**41.81**	**314**	P	**P**	**01 40 40.8**	**-0.6**
	0.1nm,0.4s,baz=96,slow=10,SNR=1.9						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**56.02**	**268**	P	**P**	**01 42 30.4**	**-0.5**
	3.9nm,0.4s,baz=66,slow=6.0,SNR=1.7						
	3.9nm,0.4s						
WRA	**Warramunga Arr**	**85.75**	**115**	P	**P**	**01 45 32.6**	**+1.2**
	0.3nm,0.6s,baz=321,slow=4.1,SNR=5.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**87.29**	**118**	P	**P**	**01 45 40.2**	**+1.3**
	0.7nm,0.8s,baz=306,slow=5.2,SNR=7.8						
	0.7nm,0.8s						

IDC ***22*** *01:53:38.7±1.4,15.73°N×92.42W,h134km±20km,mb3.2/6, mbtmp3.7/9,MS3.3/2,Error ellipse: s-maj=59.5km s-min=12.3km az=42.0*
NEIC ***22*** *01:53:39.1±1.3,15.61°N±0.04°×92.59W±0.07,h162km±6km, mb4.0/7,Md4.2/35(MEX),Error ellipse: s-maj=10.1km s-min=4.3km az=65.0*
MEX ***22*** *01:53:40.3±0.5,15.71°N×92.49W,h159km±7km,MD4.2*

ISC 22 01:53:38.7±0.7,15.59°N±0.06×92.65W±0.05,h162km±6km, n63,σ1%91/93,mb3.6/9,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.56**	**282**		**Pn**	**01 54 02.4**	**+0.6**
PCIG					**Sn**	**01 54 19.3**	**0.0**
PCIG		**0.56**	**282**	*i* P	**Pn**	**01 54 02.4**	**+0.6**
PCIG				*i* S	**Sn**	**01 54 19.3**	**0.0**
PAVE	**Pavencul**	**0.60**	**131**	*e*P	**Pn**	**01 54 02.1**	**-0.2**
PAVE				*e*S	**Sn**	**01 54 18.8**	**-1.4**
PATR	**El Naranjo**	**0.61**	**140**	*e*P	**Pn**	**01 54 01.8**	**-0.6**
PATR				*e*S	**Sn**	**01 54 19.1**	**-1.3**
CHUJ	**Union Juarez**	**0.71**	**134**	*e*P	**Pn**	**01 54 02.5**	**-0.5**
CHUJ				*e*S	**Sn**	**01 54 20.5**	**-1.0**
THIG		**0.77**	**152**		**Pn**	**01 54 03.4**	**+0.4**
THIG					**Sn**	**01 54 21.5**	**-0.1**
THIG		**0.77**	**152**	*i* P	**Pn**	**01 54 03.4**	**+0.4**
THIG				*i* S	**Sn**	**01 54 21.5**	**-0.1**
CCIG	**Comitan**	**0.84**	**35**		**Pn**	**01 54 03.7**	**0.0**
HUEH	**Huehuetenango**	**1.13**	**104**		**Pn**	**01 54 05.5**	**-0.6**
TGIG		**1.27**	**339**		**Pn**	**01 54 07.6**	**+0.6**
TGIG		**1.27**	**339**	*i* P	**Pn**	**01 54 07.6**	**+0.6**
TGIG				*i* S	**Sn**	**01 54 28.4**	**-0.5**
RTAL	**Retalhuleu**	**1.40**	**139**		**Pn**	**01 54 08.6**	**+0.3**
UXUV	**UXUV**	**2.24**	**320**	*i* P	**Pn**	**01 54 18.1**	**+0.7**
UXUV				*e*S	**Sn**	**01 54 45.9**	**-1.4**
CMIG	**Matias Romero**	**2.62**	**305**	P	**Pn**	**01 54 23.0**	**+1.1**
	56nm,0.4s,baz=126,slow=8.6,SNR=123						
CMIG				S	**Sn**	**01 54 55.2**	**-0.1**
	269nm,0.6s,baz=342,slow=18,SNR=28						
CMIG	**Matias Romero**	**2.62**	**305**		**Pn**	**01 54 22.9**	**+1.0**
CMIG					**Sn**	**01 54 54.4**	**-0.9**
CMIG	**Matias Romero**	**2.62**	**305**	*i* P	**Pn**	**01 54 22.9**	**+1.0**
CMIG				*e*S	**Sn**	**01 54 54.4**	**-0.9**
HUIG	**Huatulco**	**3.34**	**274**		**Pn**	**01 54 31.4**	**+0.5**
HUIG					**Sn**	**01 55 08.3**	**-3.1**
HUIG	**Huatulco**	**3.34**	**274**	*i* P	**Pn**	**01 54 31.4**	**+0.5**
HUIG				*e*S	**Sn**	**01 55 08.3**	**-3.1**
ESQI	**Esquipulas**	**3.35**	**107**		**Pn**	**01 54 30.2**	**-1.0**
MTO3	**Montecristo**	**3.39**	**110**		**Pn**	**01 54 31.2**	**-0.5**
NEUV	**Arroyo Zacate**	**3.69**	**305**	*e*P	**Pn**	**01 54 36.1**	**+0.7**
NEUV				*e*S	**Sn**	**01 55 17.0**	**-2.4**
OXIG	**Oaxaca**	**4.19**	**291**		**Pn**	**01 54 45.0**	**+2.9**
OXIG					**Sn**	**01 55 29.6**	**-1.7**
VHO	**Vista Hermosa**	**4.19**	**291**	*e*P	**Pn**	**01 54 45.0**	**+2.9**
VHO				*e*S	**Sn**	**01 55 29.6**	**-1.7**
PEIG	**Puerto Escondi**	**4.35**	**276**		**Pn**	**01 54 44.8**	**+0.8**
PEIG					**Sn**	**01 55 34.1**	**-0.7**
PEIG	**Puerto Escondi**	**4.35**	**276**	*e*P	**Pn**	**01 54 44.8**	**+0.8**
PEIG				*e*S	**Sn**	**01 55 34.1**	**-0.7**
TOIG	**Toxpalan**	**4.91**	**301**		**Pn**	**01 54 53.3**	**+2.0**
TOIG					**Sn**	**01 55 46.9**	**-1.1**
TOIG	**Toxpalan**	**4.91**	**301**	*e*P	**Pn**	**01 54 53.3**	**+2.0**
TOIG				*e*S	**Sn**	**01 55 46.9**	**-1.1**
TXIG	**Tlaxiaco**	**5.19**	**289**		**Pn**	**01 54 58.4**	**+3.3**
TXIG					**Sn**	**01 55 52.8**	**-2.0**
TXIG	**Tlaxiaco**	**5.19**	**289**	*e*P	**Pn**	**01 54 58.4**	**+3.3**
TXIG				*e*S	**Sn**	**01 55 52.8**	**-2.0**
TPIG	**Tehuac#an**	**5.32**	**303**		**Pn**	**01 54 57.2**	**+0.5**
TPIG					**Sn**	**01 55 54.7**	**-3.1**
TPIG	**Tehuac#an**	**5.32**	**303**	*e*P	**Pn**	**01 54 57.2**	**+0.5**
TPIG				*e*S	**Sn**	**01 55 54.7**	**-3.1**
PNIG	**Pinotepa**	**5.33**	**279**		**Pn**	**01 54 58.7**	**+1.9**
PNIG					**Sn**	**01 55 53.4**	**-4.5**
PNIG	**Pinotepa**	**5.33**	**279**	*e*P	**Pn**	**01 54 58.7**	**+1.9**
PNIG				*i* S	**Sn**	**01 55 54.7**	**-3.1**
HLIG	**Huajuapan de L**	**5.42**	**295**		**Pn**	**01 55 00.7**	**+2.6**
HLIG					**Sn**	**01 55 56.3**	**-4.0**
HLIG	**Huajuapan de L**	**5.42**	**295**	*e*P	**Pn**	**01 55 00.7**	**+2.6**
HLIG				*e*S	**Sn**	**01 55 56.3**	**-4.0**
FTIG	**Fresnillo de T**	**5.74**	**294**		**Pn**	**01 55 05.8**	**+3.5**
FTIG					**Sn**	**01 56 03.2**	**-4.5**
FTIG	**Fresnillo de T**	**5.74**	**294**	*e*P	**Pn**	**01 55 05.8**	**+3.5**
FTIG				*e*S	**Sn**	**01 56 03.2**	**-4.5**
TLIG	**Tlapa**	**6.01**	**290**		**Pn**	**01 55 07.1**	**+1.3**
MATN	**Matagalpa**	**7.03**	**111**	Pn	**Pn**	**01 55 19.7**	**+0.3**
ORTG	**Ortega, Santa**	**8.72**	**126**		**Pn**	**01 55 41.4**	**-0.4**
ESPN	**Las Esperanzas**	**8.78**	**112**	Pn	**Pn**	**01 55 42.1**	**-0.3**
JTS	**Las Juntas de**	**9.16**	**124**	P	**Pn**	**01 55 47.9**	**+0.3**
	4.8nm,0.3s,baz=321,slow=16,SNR=11						
JTS				S	**Sn**	**01 57 26.8**	**-2.7**
	1.4nm,0.5s,baz=306,slow=21,SNR=1.6						
RIMA	**Rio Macho**	**10.34**	**123**		**Pn**	**01 56 02.3**	**-1.0**
SRBA	**San Rafael, Bu**	**11.05**	**124**		**Pn**	**01 56 11.6**	**-0.9**
TXAR	**Lajitas Array**	**17.04**	**325**	P	**Pn**	**01 57 30.5**	**+3.0**
	1.9nm,0.9s,baz=156,slow=12,SNR=7.3						
TXAR	**Lajitas Array**	**17.04**	**325**	P	**P**	**01 57 26.3**	**-0.5**
TX31	**Lajitas Ar. Si**	**17.04**	**325**	P	**Pn**	**01 57 28.9**	**+1.4**
TX31				IAmb	IAmb	01 57 32.8	
	comp=Z,7.0nm,1.1s						
MNTX	**Cornudas Mount**	**19.80**	**326**	P	**Pn**	**01 57 58.0**	**-2.1**
MNTX				IAmb	IAmb	01 58 01.1	
	comp=Z,4.2nm,0.8s						
WMOK	**Wichita Mounta**	**19.85**	**345**	P	**P**	**01 57 56.5**	**-0.7**
ROSC	**El Rosal**	**20.94**	**119**	LR	LR	02 06 31.6	
	comp=Z,58nm,18.5s,baz=211,slow=37						
RUSC	**La Rusia**	**21.48**	**115**	P	**P**	**01 58 13.5**	**-1.8**
RUSC				IAmb	IAmb	01 58 17.0	
	comp=Z,8.3nm,1.5s						
KS20	**Mayfield South**	**21.99**	**349**	P	**P**	**01 58 18.7**	**-1.1**
S39A	**Bolivar**	**22.02**	**359**	P	**P**	**01 58 19.8**	**-0.4**
S39A				IAmb	IAmb	01 58 21.6	
	comp=Z,6.2nm,1.2s						
BNM	**Barren Site**	**22.37**	**328**	P	**P**	**01 58 23.9**	**0.0**
ANMO	**Albuquerque**	**22.92**	**330**	P	**P**	**01 58 31.3**	**+2.4**
	comp=Z,0.7nm,0.5s,baz=246,slow=13,SNR=4.3						
ANMO				LR	LR	02 09 22.4	
	comp=Z,110nm,21.1s,baz=13,slow=41						
	comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	**32.05**	**320**	P	P	01 59 55.2	+4.7
	comp=Z,1.8nm,0

MLYT eS Sn 02 24 24.5 +1.1
MBFL Flemmings, Mon 3.79 308 eP Pn 02 23 42.4 +1.6
MBFL eS Sn 02 24 25.7 +1.5
ANWB Willy Bob 4.14 322 eP Pn 02 23 46.9 +1.3
ANWB Willy Bob 4.14 322 eS Sn 02 24 33.2 +0.5
TRN Trinidad (W) 4.37 211 eP Pn 02 23 50.7 +2.0
AOPR Arecibo Observ 8.32 299 eP Pn 02 24 44.1 +1.3

IDC ***22*** *02:27:37.5±3.4, 36°.34N×70°.94E, h183km±31km, mb2.8/4, mbtmp3.4/10, Error ellipse: s-maj=30.3km s-min=22.7km az=165.0*

ISC 22 02:27:38.5±1.1, 36°.5N±0°.1×71°.0E±0°.1, h188km, n13, σ1§71/16, mb3.0/4, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.58**	**357**	⇓Pn	**Pn**	**02 29 15.3**	**+2.3**
	0.8nm,0.3s,baz=173,slow=12,SNR=71						
KK31				⇑Sn	**Sn**	**02 30 23.9**	**-3.9**
	1.5nm,0.5s,baz=176,slow=23,SNR=3.0						
AAK	**Ala-Archa**	**6.68**	**23**	P	**Pn**	**02 29 16.1**	**+1.6**
	1.9nm,0.3s,baz=191,slow=5.1,SNR=13						
AAK				S	**Sn**	**02 30 29.6**	**-0.9**
	3.7nm,0.6s,baz=125,slow=20,SNR=9.9						
TKM2	**Tokmak 2**	**7.31**	**28**	⇑Pn	**Pn**	**02 29 23.6**	**+0.7**
	6.9nm,0.7s						
TKM2				⇑Sn	**Sn**	**02 30 43.4**	**-2.1**
	2.0nm,0.6s						
GEYT	**Alibeck**	**10.35**	**282**	P	**Pn**	**02 30 02.3**	**-0.2**
	0.4nm,0.3s,baz=90,slow=13,SNR=2.6						
MKAR	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**02 30 39.2**	**-0.6**
	0.3nm,0.7s,baz=215,slow=12,SNR=3.1						
KURBB	**Kurchatov Array**	**15.10**	**19**	P	**P**	**02 31 03.6**	**+0.5**
	0.1nm,0.3s,baz=204,slow=11,SNR=2.3						
BVAR	**Borovoye Array**	**16.50**	**359**	P	**Pn**	**02 31 20.0**	**+0.8**
	0.4nm,0.5s,baz=163,slow=10,SNR=4.8						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**02 31 22.3**	**+1.2**
	2.0nm,0.7s,baz=143,slow=8.6,SNR=7.7						
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**02 31 57.1**	**+1.8**
	0.5nm,0.3s,baz=205,slow=6.4,SNR=2.6						
	0.5nm,0.3s						
TORD	**Torodi Ar. Bea**	**65.69**	**269**	P	**P**	**02 38 01.8**	**-1.3**
	4.5nm,0.4s,baz=36,slow=8.6,SNR=1.9						
YKA	**Yellowknife Ar**	**81.22**	**3**	P	**P**	**02 39 33.6**	**+0.7**
	0.2nm,0.6s,baz=348,slow=5.7,SNR=6.8						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**02 39 36.9**	**-0.9**
	0.1nm,0.5s,baz=326,slow=5.0,SNR=1.1						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**02 39 48.8**	**-0.5**
	0.2nm,0.8s,baz=317,slow=5.1,SNR=5.0						
	0.2nm,0.8s						

UPP ***22*** *02:31:30.3±0.1, 67°.82N×20°.21E, h0km, ML2.7, Confirmed Induced event*

HEL ***22*** *02:31:30.1±0.3, 67°.77N×20°.27E, h0km, ML1.1, Explosion*

ISC 22 02:31:29.3±0.8, 67°.80N±0°.03×20°.32E±0°.04, h0km, n21, σ1§05/29, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.28**	**276**	P	**Pg**	**02 31 34.8**	**+0.2**
RATU				S	**Sg**	**02 31 38.2**	**0.0**
NIKU	**Nikkaluokta**	**0.49**	**279**	P	**Pg**	**02 31 38.9**	**+0.1**
LANU	**Lannavaara**	**0.68**	**67**	P	**Pb**	**02 31 43.7**	**-0.3**
LANU	**Lannavaara**	**0.68**	**67**	PB	**Pb**	**02 31 43.6**	**-0.5**
LANU				SG	**Sb**	**02 31 53.1**	**-0.9**
DUNU	**Dundret**	**0.68**	**172**	P	**Pb**	**02 31 43.5**	**-0.6**
MASU	**Masugnsbyn**	**0.73**	**117**	P	**Pb**	**02 31 45.0**	**+0.1**
SALU	**Saltoluokta**	**0.81**	**240**	P	**Pg**	**02 31 45.2**	**+0.4**
KIF	**Kilpisjarvi**	**1.23**	**8**	PG	**Pn**	**02 31 53.6**	**-0.1**
	baz=190						
KIF				MSG		02 32 09.2	
	comp=Z,2.0nm,0.2s						
KIF				SB	**Sb**	**02 32 10.2**	**+0.6**
PAJU	**Pajala**	**1.33**	**124**	P	**Pn**	**02 31 55.5**	**+0.4**
PAJU	**Pajala**	**1.33**	**124**	PN	**Pn**	**02 31 55.4**	**+0.3**
	baz=304						
PAJU				SN	**Sn**	**02 32 13.9**	**+0.4**
HEF	**Hetta**	**1.40**	**62**	PN	**Pb**	**02 31 56.6**	**+0.4**
HEF				SG	**Sg**	**02 32 12.7**	**-1.4**
HEF				MSG		02 32 13.1	
	comp=Z,1.1nm,0.2s						
ERTU	**Ertsjaerv**	**1.45**	**149**	PN	**Pb**	**02 31 57.7**	**+0.6**
ERTU				SN	**Sn**	**02 32 18.4**	**+2.1**
KTK1	**Kautokeino**	**1.63**	**40**	PG	**Pb**	**02 32 00.3**	**0.0**
KTK1				SN	**Sg**	**02 32 23.1**	**+1.5**
HARU	**Harads**	**1.66**	**171**	P	**Pg**	**02 32 01.1**	**0.0**
TRO	**Tromso**	**1.91**	**345**	SG	**Sg**	**02 32 30.5**	**-0.2**
KALU	**Kalix**	**2.29**	**147**	PG	**Pb**	**02 32 10.9**	**-0.4**
TOF	**Tornio**	**2.34**	**136**	PG	**Pb**	**02 32 11.8**	**-0.4**
TOF				MSG		02 32 39.0	
	comp=Z,0.6nm,0.2s						
RNF	**Rovaniemi**	**2.52**	**116**	PG	**Pb**	**02 32 15.0**	**-0.3**
	baz=298						
ARA0	**ARCESS Array S**	**2.58**	**45**	PB	**Pb**	**02 32 14.6**	**-1.8**
	baz=226						
ARA0				SG	**Sb**	**02 32 49.8**	**+1.3**
VRF	**Varrio**	**3.53**	**86**	PN	**Pn**	**02 32 25.9**	**+0.6**
OBF8	**Ulkokalla**	**3.71**	**158**	SN	**Sn**	**02 33 08.5**	**-3.5**

IDC ***22*** *02:38:49.3±2.1, 16°.37N×147°.95E, h0km, mb3.5/5, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=62.8km s-min=22.4km az=92.0*

ISC 22 02:38:54.0±1.8, 16°.4N±0°.2×148°.0E±0°.3, h35km, n6, σ1§07/7, mb3.7/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.07**	**227**	Pn	**Pn**	**02 39 53.5**	**-0.4**
	5.4nm,0.3s,baz=290,slow=19,SNR=1.2						
GUMO				Sn	**Sn**	**02 40 40.8**	**+0.4**
	7.8nm,0.3s,baz=17,slow=20,SNR=1.3						
	45nm,0.6s						
WRA	**Warramunga Arr**	**38.50**	**201**	P	**P**	**02 46 12.7**	**-0.5**
	1.1nm,0.8s,baz=25,slow=9.5,SNR=15						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**42.11**	**199**	P	**P**	**02 46 43.7**	**+0.7**
	0.3nm,0.5s,baz=23,slow=7.6,SNR=9.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**61.61**	**315**	P	**P**	**02 49 08.2**	**+0.1**
	0.2nm,0.6s,baz=106,slow=6.5,SNR=1.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**64.47**	**319**	P	**P**	**02 49 28.9**	**+1.9**
	0.3nm,0.4s,baz=98,slow=7.3,SNR=4.5						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**69.62**	**321**	P	**P**	**02 49 59.5**	**-0.2**
	0.4nm,0.5s,baz=47,slow=6.3,SNR=2.8						
	0.4nm,0.5s						

VAO ***22*** *02:50:17.7±0.4, 32°.49S×69°.88W, h10km, mb4.6*

SJA ***22*** *02:50:35.4±0.7, 31°.68S×68°.91W, h132km±3km, ML4.4, MW4.3*

IDC ***22*** *02:50:37.8±0.6, 31°.60S×68°.86W, h112km±3km, mb4.1/12, mbtmp4.4/17, MS3.0/3, Error ellipse: s-maj=15.8km s-min=13.8km az=50.0*

NEIC ***22*** *02:50:37.8±1.8, 31°.61S±0°.05×68°.97W±0°.07, h115km±4km, mb4.7/82, Error ellipse: s-maj=9.0km s-min=7.8km az=91.0*

GUC ***22*** *02:50:38.0±0.8, 31°.64S×69°.33W, h152km±9km, ML4.5*

ISC 22 02:50:37.4±0.5, 31°.59S±0°.03×68°.97W±0°.03, h114km±4km, n274, σ1§58/306, mb4.7/52, 8C-11D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.25**	**79**	Pn	**Pn**	**02 50 53.8**	**+0.3**
ZON				Sn	**Sn**	**02 51 05.1**	**-0.6**
ZON	**Zonda**	**0.25**	**79**	eP	**Pn**	**02 50 54.1**	**+0.6**
ZON				eS	**Sn**	**02 51 08.0**	**+2.4**
ZON				IAML		02 51 08.3	
	comp=Z,5μm,0.5s						
ZON	**Zonda**	**0.25**	**79**	eP	**Pn**	**02 50 54.1**	**+0.6**
ZON				eS	**Sn**	**02 51 08.0**	**+2.4**
ZON				IAML		02 51 08.3	
	comp=Z,5μm,0.5s						
SJA	**San Juan**	**0.35**	**79**	eP	Pn	02 51 05.1	+11
SJA				eS	Sn	02 51 20.6	+14
SJA				IAML		02 51 22.7	
	comp=Z,6μm,0.3s						
SJA	**San Juan**	**0.35**	**79**	eP	Pn	02 51 05.1	+11
SJA				eS	Sn	02 51 20.6	+14
SJA				IAML		02 51 22.7	
	comp=Z,6μm,0.3s						
RTLL	**Cerro Villicun**	**0.50**	**58**	eP	**Pn**	**02 50 55.2**	**+0.5**
RTLL				eS	**Sn**	**02 51 09.9**	**+2.2**
RTLL	**Cerro Villicun**	**0.50**	**58**	eP	**Pn**	**02 50 55.2**	**+0.5**
RTLL				eS	**Sn**	**02 51 09.9**	**+2.2**
CFA	**Coronel Fontan**	**0.62**	**91**	P	**Pn**	**02 50 55.9**	**+0.3**
	comp=Z,3μm,0.3s,baz=232,slow=6.8						
CFA				S	**Sn**	**02 51 09.6**	**+0.3**
	comp=Z,8μm,0.3s,baz=172,slow=23,SNR=34						
CFA				LR	LR	02 51 11.3	
	comp=Z,172nm,19.0s,baz=222,slow=63						
CFA	**Coronel Fontan**	**0.62**	**91**	eP	**Pn**	**02 50 55.8**	**+0.3**
CFA				eS	**Sn**	**02 51 10.0**	**+0.7**
CFA				IAML		02 51 10.7	
	comp=Z,7μm,0.1s						
CFA	**Coronel Fontan**	**0.62**	**91**	eP	**Pn**	**02 50 55.8**	**+0.3**
CFA				eS	**Sn**	**02 51 10.0**	**+0.7**
CFA				IAML		02 51 10.7	
	comp=Z,7μm,0.1s						
ASAL	**Salagasta**	**1.00**	**174**	eP	**Pn**	**02 50 58.4**	**-0.6**
ASAL	**Salagasta**	**1.00**	**174**	eP	**Pn**	**02 50 58.4**	**-0.6**
ARCO	**CERRO ARCO**	**1.25**	**179**	eP	**Pn**	**02 51 01.5**	**-0.2**
ARCO				eS	**Sn**	**02 51 21.0**	**+0.9**
ARCO	**CERRO ARCO**	**1.25**	**179**	eP	**Pn**	**02 51 01.5**	**-0.2**
ARCO				eS	**Sn**	**02 51 21.0**	**+0.9**
AAGR	**Agrelo**	**1.49**	**176**	eP	**Pn**	**02 51 03.9**	**-0.6**
AAGR				eP	**Pn**	**02 51 04.8**	**+0.3**
AAGR				eS	**Pn**	**02 51 04.8**	**+0.3**
AAGR	**Agrelo**	**1.49**	**176**	eP	**Pn**	**02 51 03.9**	**-0.6**
AAGR				eP	**Pn**	**02 51 04.8**	**+0.3**
AAGR				eS	**Pn**	**02 51 04.8**	**+0.3**
CO03	**El Pedregal**	**1.66**	**297**	Pn	**Pn**	**02 51 07.8**	**+1.4**
CO03				Sn	**Sn**	**02 51 28.3**	**-0.2**
CO03	**El Pedregal**	**1.66**	**297**	⇑iP	**Pn**	**02 51 08.0**	**+1.6**
CO03				iS	**Sn**	**02 51 29.7**	**+1.2**
CO03				IAML		02 51 31.9	
	comp=N,12μm,0.1s						
CO03	**El Pedregal**	**1.66**	**297**	eP	**Pn**	**02 51 07.0**	**+0.6**
CO03				eS	**Sn**	**02 51 31.8**	**+3.3**
CO03				IAML		02 51 34.5	
	comp=Z,4μm,0.2s						
CO03	**El Pedregal**	**1.66**	**297**	eP	**Pn**	**02 51 07.0**	**+0.6**
CO03				eS	**Sn**	**02 51 31.8**	**+3.3**
CO03				IAML		02 51 34.5	
	comp=Z,4μm,0.2s						
VA03	**San Esteban**	**1.78**	**229**		**Pn**	**02 51 08.7**	**+0.8**
VA03				Sn	**Sn**	**02 51 30.6**	**-0.6**
VA03	**San Esteban**	**1.78**	**229**	⇓iP	**Pn**	**02 51 08.6**	**+0.7**
VA03				iS	**Sn**	**02 51 31.9**	**+0.7**
VA03				IAML		02 51 35.6	
	comp=E,6μm,0.3s						
VA03	**San Esteban**	**1.78**	**229**	eP	**Pn**	**02 51 07.6**	**-0.3**
VA03				eS	**Sn**	**02 51 35.6**	**+4.4**
VA03				IAML		02 51 37.3	
	comp=Z,3μm,0.3s						
VA03	**San Esteban**	**1.78**	**229**	eP	**Pn**	**02 51 07.6**	**-0.3**
VA03				eS	**Sn**	**02 51 35.6**	**+4.4**
VA03				IAML		02 51 37.3	
	comp=Z,3μm,0.3s						
CO02	**Combarbal**	**1.78**	**282**		**Pn**	**02 51 08.9**	**+0.9**
CO02	**Combarbal**	**1.78**	**282**	⇑iP	**Pn**	**02 51 08.8**	**+0.9**
CO02				iS	**Sn**	**02 51 32.8**	**+1.5**
CO02	**Combarbal**	**1.78**	**282**	eP	**Pn**	**02 51 08.8**	**+0.9**
CO02				eS	**Sn**	**02 51 33.3**	**+2.1**
CO02				IAML		02 51 34.3	
	comp=Z,7μm,0.7s						
CO02	**Combarbal**	**1.78**	**282**	eP	**Pn**	**02 51 08.8**	**+0.9**
CO02				eS	**Sn**	**02 51 33.3**	**+2.1**
CO02				IAML		02 51 34.3	
	comp=Z,7μm,0.7s						
CO01	**Juntas del Tor**	**1.88**	**329**		**Pn**	**02 51 11.7**	**+2.4**
CO01	**Juntas del Tor**	**1.88**	**329**	⇑iP	**Pn**	**02 51 11.7**	**+2.4**
CO01				iS	**Sn**	**02 51 36.2**	**+2.5**
CO01				IAML		02 51 38.5	
	comp=E,4μm,0.4s						
CO01	**Juntas del Tor**	**1.88**	**329**	eP	**Pn**	**02 51 10.1**	**+0.7**
CO01				eS	**Sn**	**02 51 32.3**	**-1.3**
CO01				IAML		02 51 38.8	
	comp=Z,2μm,0.3s						
CO01	**Juntas del Tor**	**1.88**	**329**	eP	**Pn**	**02 51 10.1**	**+0.7**
CO01				eS	**Sn**	**02 51 32.3**	**-1.3**
CO01				IAML		02 51 38.8	
	comp=Z,2μm,0.3s						
FCH	**Farellones**	**2.06**	**213**	⇓iP	**Pn**	**02 51 12.7**	**+1.0**
FCH				iS	**Sn**	**02 51 39.9**	**+2.2**
FCH				IAML		02 51 43.5	
	comp=E,2μm,0.3s						
GO04	**Tololo Observa**	**2.12**	**311**		**Pn**	**02 51 13.1**	**+0.8**
GO04	**Tololo Observa**	**2.12**	**311**	⇑iP	**Pn**	**02 51 12.9**	**+0.6**
GO04	**Tololo Observa**	**2.12**	**311**	eP	**Pn**	**02 51 13.2**	**+0.9**
GO04				eS	**Sn**	**02 51 43.5**	**+4.5**
GO04	**Tololo Observa**	**2.12**	**311**	eP	**Pn**	**02 51 13.2**	**+0.9**
GO04				eS	**Sn**	**02 51 43.5**	**+4.5**
PEL	**Peldehue**	**2.12**	**223**	Pn	**Pn**	**02 51 12.4**	**+0.2**
PEL	**Peldehue**	**2.12**	**223**	iP	**Pn**	**02 51 12.2**	**+0.1**
PEL				iS	**Sn**	**02 51 38.5**	**-0.3**
PEL				IAML		02 51 40.7	
	comp=N,2μm,0.3s						
VA06	**Catapilco**	**2.20**	**243**		**Pn**	**02 51 12.3**	**-0.7**
VA06	**Catapilco**	**2.20**	**243**	iP	**Pn**	**02 51 12.3**	**-0.7**
VA06				iS	**Sn**	**02 51 38.7**	**-1.7**
VA06				IAML		02 51 43.9	
	comp=E,5μm,0.4s						
ROCH	**El Roble**	**2.21**	**231**	⇓iP	**Pn**	**02 51 13.2**	**-0.2**
ROCH				iS	**Sn**	**02 51 40.6**	**-0.5**
ROCH				IAML		02 51 44.2	
	comp=N,5μm,0.5s						
ROC1	**El Roble**	**2.22**	**231**		**Pn**	**02 51 13.3**	**-0.2**
ROC1	**El Roble**	**2.22**	**231**	eP	**Pn**	**02 51 13.0**	**-0.5**
ROC1				eS	**Sn**	**02 51 41.0**	**-0.2**
ROC1	**El Roble**	**2.22**	**231**	eP	**Pn**	**02 51 13.0**	**-0.5**
ROC1				eS	**Sn**	**02 51 41.0**	**-0.2**
MT03	**Universidad Ad**	**2.30**	**214**		**Pn**	**02 51 15.2**	**+0.7**
MT03	**Universidad Ad**	**2.30**	**214**	⇓iP	**Pn**	**02 51 15.2**	**+0.7**
MT03				iS	**Sn**	**02 51 43.9**	**+1.0**
MT03				IAML		02 51 46.5	
	comp=N,3μm,0.6s						
MT03	**Universidad Ad**	**2.30**	**214**	eP	**Pn**	**02 51 13.7**	**-0.8**
MT03				IAML		02 51 46.6	
	comp=Z,2μm,0.2s						
MT03	**Universidad Ad**	**2.30**	**214**	eP	**Pn**	**02 51 13.7**	**-0.8**
MT03				IAML		02 51 46.6	
	comp=Z,2μm,0.2s						
MT05	**Renca**	**2.34**	**219**	Pn	**Pn**	**02 51 15.3**	**+0.4**
MT05	**Renca**	**2.34**	**219**	⇓iP	**Pn**	**02 51 15.3**	**+0.4**
MT05				iS	**Sn**	**02 51 44.3**	**+0.6**
MT05	**Renca**	**2.34**	**219**	eP	**Pn**	**02 51 14.0**	**-0.8**
MT05				eS	**Sn**	**02 51 45.4**	**+1.8**
MT05				IAML		02 51 46.4	
	comp=Z,2μm,0.2s						
MT05	**Renca**	**2.34**	**219**	eP	**Pn**	**02 51 14.0**	**-0.8**
MT05				eS	**Sn**	**02 51 45.4**	**+1.8**
MT05				IAML		02 51 46.4	
	comp=Z,2μm,0.2s						
MT02	**Curacav**	**2.48**	**227**		**Pn**	**02 51 16.1**	**-0.6**
MT02	**Curacav**	**2.48**	**227**	⇓iP	**Pn**	**02 51 15.8**	**-0.8**
MT02				iS	**Sn**	**02 51 45.6**	**-1.2**
MT02	**Curacav**	**2.48**	**227**	eP	**Pn**	**02 51 16.0**	**-0.6**
MT02				eS	**Sn**	**02 51 48.6**	**+1.8**
MT02				IAML		02 51 50.7	
	comp=Z,768nm,0.3s						
MT02	**Curacav**	**2.48**	**227**	eP	**Pn**	**02 51 16.0**	**-0.6**
MT02				eS	**Sn**	**02 51 48.6**	**+1.8**
MT02				IAML		02 51 50.7	
	comp=Z,768nm,0.3s						
LMEL	**Las Melosas**	**2.48**	**205**		**Pn**	**02 51 17.5**	**+0.7**
LMEL	**Las Melosas**	**2.48**	**205**	iP	**Pn**	**02 51 17.6**	**+0.8**
LMEL				iS	**Sn**	**02 51 52.8**	**+5.7**
LMEL				IAML		02 51 56.2	
	comp=N,1μm,0.1s						
CO05	**La Serena**	**2.57**	**310**	Pn	**Pn**	**02 51 18.0**	**+0.1**
CO05	**La Serena**	**2.57**	**310**	⇑iP	**Pn**	**02 51 18.0**	**+0.1**
CO05				iS	**Sn**	**02 51 44.6**	**-4.4**
CO05				IAML		02 51 47.2	
	comp=E,3μm,0.3s						
VA01	**Torpederas**	**2.68**	**237**	Pn	**Pn**	**02 51 18.2**	**-1.0**
VA01	**Torpederas**	**2.68**	**237**	iP	**Pn**	**02 51 18.1**	**-1.2**
VA01	**Torpederas**	**2.68**	**237**	eP	Pn	02 51 13.0	-6.2
VA01				eP	**Pn**	**02 51 18.4**	**-0.9**
VA01				eS	**Sn**	**02 51 42.8**	**-8.6**
VA01				IAML		02 51 54.2	
	comp=Z,976nm,0.6s						
VA01	**Torpederas**	**2.68**	**237**	eP	Pn	02 51 13.0	-6.2
VA01				eP	**Pn**	**02 51 18.4**	**-0.9**
VA01				eS	**Sn**	**02 51 42.8**	**-8.6**
VA01				IAML		02 51 54.2	
	comp=Z,976nm,0.6s						
BO04	**La Punta**	**2.76**	**210**		**Pn**	**02 51 20.8**	**+0.4**
BO04	**La Punta**	**2.76**	**210**	⇓iP	**Pn**	**02 51 20.8**	**+0.4**
BO04				iS	**Sn**	**02 51 53.0**	**-0.4**
BO04				IAML		02 51 59.9	
	comp=N,1μm,0.6s						
MT09	**Talagante**	**2.77**	**218**		**Pn**	**02 51 19.9**	**-0.6**
MT09	**Talagante**	**2.77**	**218**	⇓iP	**Pn**	**02 51 20.0**	**-0.6**
MT09				iS	**Sn**	**02 51 52.4**	**-1.3**
MT09				IAML		02 51 54.8	
	comp=E,2μm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.77**	**39**	eP	**Pn**	**02 51 21.3**	**+0.6**
ACLC				eS	**Sn**	**02 51 53.8**	**-0.2**
ACLC				IAML		02 52 24.5	
	comp=Z,2μm,0.8s						
ACLC	**CERRO LA CRUZ**	**2.77**	**39**	eP	**Pn**	**02 51 21.3**	**+0.6**
ACLC				eS	**Sn**	**02 51 53.8**	**-0.2**
ACLC				IAML		02 52 24.5	
	comp=Z,2μm,0.8s						
MRA	**San Martin**	**2.88**	**107**	eP	**Pn**	**02 51 22.2**	**+0.2**
MRA				eS	**Sn**	**02 51 55.9**	**-0.5**
MRA				IAML		02 52 18.9	
	comp=Z,5μm,0.7s						
MRA	**San Martin**	**2.88**	**107**	eP	**Pn**	**02 51 22.2**	**+0.2**
MRA				eS	**Sn**	**02 51 55.9**	**-0.5**
MRA				IAML		02 52 18.9	
	comp=Z,5μm,0.7s						
AC05	**El Transito**	**2.97**	**337**	⇑iP	**Pn**	**02 51 25.2**	**+1.9**
AC05	**El Transito**	**2.97**	**337**	eP	**Pn**	**02 51 24.2**	**+0.9**
AC05				eS	**Sn**	**02 52 01.8**	**+3.2**
AC05				IAML		02 52 05.4	
	comp=Z,2μm,0.2s						
AC05	**El Transito**	**2.97**	**337**	eP	**Pn**	**02 51 24.2**	**+0.9**
AC05				eS	**Sn**	**02 52 01.8**	**+3.2**
AC05				IAML		02 52 05.4	
	comp=Z,2μm,0.2s						
MT01	**Popeta**	**2.97**	**220**		**Pn**	**02 51 22.0**	**-1.1**
MT01	**Popeta**	**2.97**	**220**	⇓iP	**Pn**	**02 51 21.9**	**-1.1**
MT01				IAML		02 52 02.4	
	comp=E,938nm,0.2s						
MT01	**Popeta**	**2.97**	**220**	eP	**Pn**	**02 51 22.0**	**-1.1**
MT01				eS	**Sn**	**02 51 57.9**	**-0.5**
MT01	**Popeta**	**2.97**	**220**	eP	**Pn**	**02 51 22.0**	**-1.1**
MT01				eS	**Sn**	**02 51 57.9**	**-0.5**
LCO	**Las Campanas**	**2.98**	**329**	Pn	**Pn**	**02 51 24.0**	**+0.5**
VA05	**Santo Domingo**	**3.04**	**227**	iP	**Pn**	**02 51 22.6**	**-1.4**
VA05				iS	**Sn**	**02 51 58.3**	**-1.5**
BO01	**Tunca**	**3.31**	**212**	iP	**Pn**	**02 51 26.3**	**-1.3**
BO01	**Tunca**	**3.31**	**212**	eP	**Pn**	**02 51 26.5**	**-1.0**
BO01				eS	**Sn**	**02 52 05.8**	**-0.5**
BO01	**Tunca**	**3.31**	**212**	eP	**Pn**	**02 51 26.5**	**-1.0**
BO01				eS	**Sn**	**02 52 05.8**	**-0.5**
BO02	**Sierra Bellavi**	**3.54**	**205**	⇓iP	**Pn**	**02 51 30.6**	**-0.1**
BO02				iS	**Sn**	**02 52 11.3**	**-0.5**
BO02	**Sierra Bellavi**	**3.54**	**205**	eP	**Pn**	**02 51 29.2**	**-1.5**
BO02				IAML		02 52 20.4	
	comp=Z,456nm,0.4s						
BO02	**Sierra Bellavi**	**3.54**	**205**	eP	**Pn**	**02 51 29.2**	**-1.5**
BO02				IAML		02 52 20.4	
	comp=Z,456nm,0.4s						
BO03	**Pichilemu**	**3.83**	**220**	iP	**Pn**	**02 51 31.8**	**-2.8**
AC04	**Llanos de Chal**	**3.84**	**331**	Pn	**Pn**	**02 51 34.8**	**+0.1**
AC04	**Llanos de Chal**	**3.84**	**331**	eP	**Pn**	**02 51 35.4**	**+0.7**
AC04	**Llanos de Chal**	**3.84**	**331**	eP	**Pn**	**02 51 35.4**	**+0.7**
EDS3	**Malargue**	**4.18**	**185**	eP	**Pn**	**02 51 38.1**	**-1.2**
EDS3	**Malargue**	**4.18**	**185**	eP	**Pn**	**02 51 38.1**	**-1.2**
AC06	**Mina Casimiro**	**4.39**	**344**		**Pn**	**02 51 42.2**	**+0.1**
VACA	**Villa Angela C**	**8.20**	**63**	eP	**Pn**	**02 52 31.9**	**-1.7**
GO06	**Curarrehue**	**8.23**	**194**		**Pn**	**02 52 32.1**	**-1.9**
H03N1	**Juan Fernandez**	**8.60**	**255**	P	**Pn**	**02 52 39.0**	**+0.3**
	baz=5.9,slow=76,SNR=11						
H03N1				T	T	02 59 52.5	
	baz=85,slow=73,SNR=227						
H03N3	**Juan Fernandez**	**8.61**	**255**	P	**Pn**	**02 52 39.2**	**+0.4**
	baz=5.9,slow=76,SNR=13						
H03N3				T	T	02 59 42.5	
	baz=85,slow=73,SNR=257						
H03N2	**Juan Fernandez**	**8.62**	**255**	P	**Pn**	**02 52 39.1**	**+0.2**
	baz=5.9,slow=76,SNR=9.3						
H03N2				T	T	02 59 50.5	
	baz=85,slow=73,SNR=195						
TRQA	**Tornquist**	**8.63**	**140**		**Pn**	**02 52 38.2**	**-1.2**
TRQA	**Tornquist**	**8.63**	**140**	eP	Pn	02 52 20.8	-19
LVC	**Limon Verde**	**8.95**	**0**	P	**Pn**	**02 52 42.4**	**-1.6**
	comp=Z,11nm,0.3s,baz=176,slow=7.8,SNR=40						
LVC				S	**Sn**	**02 54 17.3**	**-6.0**
	comp=Z,13nm,0.5s,baz=338,slow=23,SNR=2.1						
LVC	**Limon Verde**	**8.95**	**0**		**Pn**	**02 52 41.9**	**-2.2**
LVC	**Limon Verde**	**8.95**	**0**	eP	**Pn**	**02 52 42.0**	**-2.1**
TICA	**Tres Isletas**	**9.13**	**58**	eP	**Pn**	**02 52 44.5**	**-1.7**
PLCA	**Paso Flores

comp=Z,3.4nm,0.7s,baz=216,slow=10,SNR=9.7
comp=Z,3.4nm,0.7s

BDFB	**Brasilia**	**24.84**	**55**	P	**P**	**02 55 48.6**	**-0.8**
BDFB	**Brasilia**	**24.84**	**55**	*e*P	**P**	**02 55 49.4**	**0.0**
TBTG	**Tabatinga, AM**	**27.28**	**358**	P	**P**	**02 56 11.0**	**-0.2**
TBTG				IAmb	IAmb	02 56 13.0	
	comp=Z,42nm,0.9s						
JANB	**Januaria**	**27.89**	**59**	*e*P	**P**	**02 56 16.5**	**-0.2**
MCRA	**Macar, Loja**	**28.98**	**337**	P	**P**	**02 56 25.2**	**-1.2**
ITTB	**Itaituba**	**29.80**	**27**	*e*P	**P**	**02 56 35.6**	**+2.1**
PRPB	**Parauapebas**	**31.00**	**39**	*e*P	**P**	**02 56 46.2**	**+2.0**
SGCB	**SÃo Gabriel d**	**31.35**	**4**	*e*P	**P**	**02 56 46.9**	**-0.4**
MALB	**Monte Alegre**	**32.68**	**28**	*e*P	**P**	**02 56 59.4**	**+0.6**
OTAV	**Otavalo**	**32.91**	**342**	*e*P	**P**	**02 56 58.7**	**-2.7**
BOAV	**Boa Vista**	**34.74**	**15**	P	**P**	**02 57 15.6**	**-1.1**
BOAV				IAmb	IAmb	02 57 17.9	
	comp=Z,13nm,0.8s						
BOAV	**Boa Vista**	**34.74**	**15**	*e*P	**P**	**02 57 17.1**	**+0.3**
BOAV	**Boa Vista**	**34.74**	**15**	*e*P	**P**	**02 57 16.9**	**+0.2**
MCPB	**Macapa, AP**	**34.95**	**31**	*e*P	**P**	**02 57 19.1**	**+0.6**
TMAB	**Tom-Au,PA,Br**	**35.10**	**38**	*e*P	**P**	**02 57 21.6**	**+1.7**
RPN	**Rapa Nui**	**35.32**	**267**	LR	LR	03 09 02.0	
	comp=Z,50nm,18.8s,baz=343,slow=31						
ORTC	**Ortega, Tolima**	**35.81**	**349**	*e*P	**P**	**02 57 28.3**	**+2.4**
YOTC	**Yotoco, Valle**	**36.07**	**347**	*e*P	**P**	**02 57 29.5**	**+1.3**
CHIC	**Chingaza**	**36.31**	**352**	*e*P	**P**	**02 57 31.9**	**+1.4**
PLMC	**San Jos del P**	**36.96**	**348**	*e*P	**P**	**02 57 37.4**	**+1.7**
NORC	**Norcasia**	**37.38**	**350**	*e*P	**P**	**02 57 41.6**	**+2.3**
RUSC	**La Rusia**	**37.48**	**353**	*e*P	**P**	**02 57 42.0**	**+1.3**
CBOC	**Ciudad Bolivar**	**37.85**	**349**	*e*P	**P**	**02 57 45.4**	**+2.0**
PTBC	**PUERTO BERRIO,**	**38.28**	**351**	*e*P	**P**	**02 57 46.0**	**-0.8**
PAMC	**Pamplona, Colo**	**38.88**	**354**	*e*P	**P**	**02 57 51.5**	**-0.8**
ZARC	**Zaragoza, Cauc**	**39.27**	**351**	*e*P	**P**	**02 57 55.3**	**+0.2**
UREC	**San Jos de Ur**	**39.62**	**350**	*e*P	**P**	**02 57 58.2**	**+0.3**
NBCL	**Cascavel-CE**	**39.63**	**53**	*e*P	**P**	**02 57 58.8**	**+0.7**
RCBR	**Riachuelo**	**40.17**	**57**	*e*P	**P**	**02 58 04.2**	**+1.6**
SDV	**Santo Domingo**	**40.28**	**357**	P	**P**	**02 58 02.1**	**-1.5**
SDV	**Santo Domingo**	**40.28**	**357**	*e*P	**P**	**02 58 02.9**	**-0.7**
BAUV	**El Baul**	**40.32**	**1**	P	**P**	**02 58 02.4**	**-1.3**
SJCC	**San Jacinto, C**	**41.68**	**351**	*e*P	**P**	**02 58 16.2**	**+1.3**
TGUH	**Tegucigalpa,Un**	**48.67**	**336**	P	**P**	**02 59 10.1**	**-0.2**
MLPR	**Magueyes Islan**	**49.31**	**2**	P	**P**	**02 59 13.3**	**-1.6**
VNA3	**Neumayer Olymp**	**50.64**	**159**	P	**P**	**02 59 25.7**	**+1.3**
VNA2	**Neumayer--Watz**	**51.25**	**158**	P	**P**	**02 59 30.5**	**+1.5**
	baz=283,slow=7.0						
SNAA	**Sanae**	**52.86**	**159**	P	**P**	**02 59 42.2**	**+1.3**
SNAA	**Sanae**	**52.86**	**159**	P	**P**	**02 59 41.5**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=287,slow=12,SNR=8.5						
	comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**03 00 22.8**	**+0.5**
QSPA				IAmb	IAmb	03 00 24.5	
	comp=Z,4.9nm,0.9s						
833A	**Chaparral WMA,**	**66.26**	**331**	P	**P**	**03 01 14.2**	**+1.0**
NATX	**Nacogdoches**	**67.55**	**336**	P	**P**	**03 01 21.0**	**-0.3**
NATX				IAmb	IAmb	03 01 24.1	
	comp=Z,12nm,0.9s						
X48A	**Hartselle**	**67.86**	**344**	IAmb	IAmb	03 01 24.5	
	comp=Z,8.4nm,0.8s						
CPCT	**Cooper Cave**	**68.27**	**346**	IAmb	IAmb	03 01 27.1	
	comp=Z,10.0nm,0.8s						
PLAL	**Pickwick Lake**	**68.62**	**343**	IAmb	IAmb	03 01 29.1	
	comp=Z,7.2nm,0.9s						
TX31	**Lajitas Ar. Si**	**68.99**	**328**	IAmb	IAmb	03 01 32.9	
	comp=Z,8.3nm,0.7s						
TXAR	**Lajitas Array**	**68.99**	**328**	P	**P**	**03 01 32.1**	**+1.5**
	comp=Z,2.3nm,0.6s,baz=154,slow=8.4,SNR=20						
	comp=Z,2.3nm,0.6s						
TXAR	**Lajitas Array**	**68.99**	**328**	P	**P**	**03 01 31.9**	**+1.4**
WVT	**Waverly**	**69.65**	**344**	P	**P**	**03 01 34.0**	**-0.3**
T47A	**Sharon Grove**	**70.31**	**345**	IAmb	IAmb	03 01 39.4	
	comp=Z,7.8nm,0.8s						
FCAR	**Ozark Folk Cen**	**70.56**	**340**	IAmb	IAmb	03 01 40.8	
	comp=Z,5.6nm,0.8s						
WCI	**Wyandotte Cave**	**71.32**	**346**	P	**P**	**03 01 44.6**	**+0.2**
WCI				IAmb	IAmb	03 01 45.2	
	comp=Z,9.2nm,0.8s						
HHAR	**Hobbs**	**71.46**	**339**	IAmb	IAmb	03 01 46.6	
	comp=Z,6.5nm,0.6s						
S44A	**Carbondale**	**71.49**	**343**	IAmb	IAmb	03 01 46.5	
	comp=Z,11nm,0.7s						
LIC	**Lamto**	**71.54**	**70⇑**	*i*P	**P**	**03 01 46.9**	**+0.5**
	comp=Z,24nm,0.6s						
MGMO	**Mountain Grove**	**71.78**	**341**	P	**P**	**03 01 48.0**	**+0.7**
MGMO				IAmb	IAmb	03 01 49.1	
	comp=Z,9.2nm,0.9s						
TIC	**Toumodi**	**71.80**	**70⇑**	*e*P	**P**	**03 01 48.6**	**+0.7**
	comp=Z,8.4nm,0.6s						
KIC	**Kosan Boka**	**71.85**	**70⇓**	*e*P	**P**	**03 01 48.6**	**+0.4**
	comp=Z,8.4nm,0.5s						
DBIC	**Dimbokro**	**71.94**	**70**	P	**P**	**03 01 49.3**	**+0.6**
	comp=Z,9.6nm,0.7s,baz=229,slow=6.0,SNR=19						
	comp=Z,9.6nm,0.7s						
CPNY	**Central Park**	**72.17**	**356**	P	**P**	**03 01 48.1**	**-1.4**
CPNY				IAmb	IAmb	03 01 50.4	
	comp=Z,16nm,1.1s						
OK029	**Liberty Lake**	**72.17**	**336**	IAmb	IAmb	03 01 51.2	
	comp=Z,16nm,1.0s						
CCM	**Cathedral Cave**	**72.34**	**342**	P	**P**	**03 01 50.1**	**-0.4**
CCM				IAmb	IAmb	03 01 51.8	
	comp=Z,12nm,0.6s						
OK046	**Pawnee Station**	**72.53**	**337**	IAmb	IAmb	03 01 53.6	
	comp=Z,10.0nm,1.0s						
OK050	**Pawnee Station**	**72.55**	**337**	IAmb	IAmb	03 01 53.7	
	comp=Z,13nm,1.0s						
OK048	**Pawnee Station**	**72.56**	**337**	IAmb	IAmb	03 01 53.7	
	comp=Z,14nm,1.0s						
S39A	**Bolivar**	**72.58**	**340**	IAmb	IAmb	03 01 53.9	
	comp=Z,23nm,1.1s						
ACSO	**Alum Creek Sta**	**72.64**	**349**	IAmb	IAmb	03 01 53.4	
	comp=Z,13nm,0.8s						
O49A	**Covington**	**72.83**	**348**	IAmb	IAmb	03 01 54.5	
	comp=Z,14nm,1.0s						
P43A	**Skaggs, Pawnee**	**73.40**	**344**	P	**P**	**03 01 56.5**	**-0.2**
N49A	**Columbus Grove**	**73.51**	**348**	IAmb	IAmb	03 01 58.5	
	comp=Z,22nm,1.2s						
WVNY	**West Valley, N**	**74.17**	**353**	IAmb	IAmb	03 02 03.2	
	comp=Z,8.5nm,0.8s						
P38A	**Dawn**	**74.44**	**341**	IAmb	IAmb	03 02 03.7	
	comp=Z,9.5nm,0.5s						
ANMO	**Albuquerque**	**74.99**	**329**	P	**P**	**03 02 06.9**	**+0.5**
ANMO				IAmb	IAmb	03 02 09.1	
	comp=Z,12nm,1.5s						
N38A	**Joes South For**	**75.44**	**341**	IAmb	IAmb	03 02 09.8	
	comp=Z,10nm,0.7s						
I37A	**Lemond, Waseca**	**78.49**	**342**	IAmb	IAmb	03 02 26.9	
	comp=Z,14nm,0.7s						
PV13	**Radium Mtn., P**	**78.72**	**329**	P	**P**	**03 02 28.3**	**+1.1**
BOSA	**Boshof**	**78.86**	**117**	P	**P**	**03 02 28.9**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=194,slow=2.6,SNR=11						
	comp=Z,5.7nm,0.8s						
ECSD	**EROS Data Cent**	**79.12**	**340**	IAmb	IAmb	03 02 30.5	
	comp=Z,11nm,0.9s						
PHWY	**Pilot Hill**	**79.97**	**333**	IAmb	IAmb	03 02 36.4	
	comp=Z,5.6nm,0.8s						
CCUT	**Cedar City**	**80.32**	**326**	P	**P**	**03 02 36.2**	**+0.3**
P17A	**Butcher Ranch,**	**80.65**	**328**	IAmb	IAmb	03 02 40.0	
	comp=Z,15nm,1.5s						
TORD	**Torodi Ar. Bea**	**80.94**	**69**	P	**P**	**03 02 40.1**	**+0.7**
	comp=Z,4.8nm,0.4s,baz=288,slow=6.3,SNR=3.1						
	comp=Z,4.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**80.94**	**69**	P	**P**	**03 02 38.9**	**-0.6**
RDMU	**Red Mountain**	**81.04**	**330**	IAmb	IAmb	03 02 41.8	
	comp=Z,6.7nm,0.9s						
K22A	**Casper**	**81.54**	**333**	IAmb	IAmb	03 02 44.9	
	comp=Z,12nm,1.2s						
RSSD	**Black Hills**	**81.88**	**335**	P	**P**	**03 02 44.4**	**+0.4**
PDAR	**Pinedale Array**	**82.85**	**331**	P	**P**	**03 02 49.8**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=135,slow=6.3,SNR=14						
	comp=Z,1.6nm,0.7s						
PDAR	**Pinedale Array**	**82.85**	**331**	P	**P**	**03 02 49.5**	**+0.4**
NVAR	**Mina Array Bea**	**83.45**	**323**	P	**P**	**03 02 53.9**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=158,slow=5.5,SNR=7.9						
	comp=Z,1.1nm,0.7s						
LAO	**LASA Array**	**84.87**	**335**	IAmb	IAmb	03 03 00.8	
	comp=Z,7.8nm,0.9s						
ULM	**Lac du Bonnet**	**84.91**	**343**	P	**P**	**03 02 58.8**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=145,slow=3.0,SNR=7.2						
	comp=Z,3.8nm,0.7s						
HLID	**Hailey**	**85.57**	**329**	P	**P**	**03 03 03.6**	**+0.7**
DGMT	**Dagmar**	**85.71**	**337**	IAmb	IAmb	03 03 05.3	
	comp=Z,9.9nm,0.7s						
SCHQ	**Schefferville**	**86.09**	**1**	P	**P**	**03 03 04.5**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=175,slow=5.4,SNR=7.6						
	comp=Z,1.8nm,0.5s						
J08A	**Circle Bar Ran**	**87.28**	**326**	IAmb	IAmb	03 03 13.7	
	comp=Z,9.7nm,0.8s						

PLID	**Pearl Lake**	**87.47**	**329**	IAmb	IAmb	03 03 14.3		
	comp=Z,5.6nm,0.9s							
ESDC	**Sonseca Array**	**93.05**	**44**	P	**P**	**03 03 38.4**	**+0.4**
	comp=Z,0.7nm,1.1s,baz=132,slow=9.4,SNR=4.4							
	comp=Z,0.7nm,1.1s							
BRTR	**Keskin Array B**	**118.39**	**59**	PKP	**PKPdf**	**03 09 11.4**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=232,slow=5.2,SNR=2.3							
AKASG	**Malin Array Be**	**118.66**	**46**	PKP	**PKPdf**	**03 09 11.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=3.5,slow=0.3,SNR=1.6							
FINES	**FINESS Array B**	**119.56**	**33**	PKP	**PKPdf**	**03 09 12.8**	**0.0**
	comp=Z,1.4nm,0.9s,baz=318,slow=2.6,SNR=4.4							
ASAR	**Alice Springs**	**120.85**	**205**	PKP	**PKPdf**	**03 09 15.9**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=152,slow=2.1,SNR=8.7							
ASAR				pPKP	**pPKPdf**	**03 09 47.5**	**-1.2**	
	comp=Z,1.1nm,0.7s,baz=143,slow=2.1,SNR=9.5							
WRA	**Warramunga Arr**	**124.09**	**207**	PKP	**PKPdf**	**03 09 22.6**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=167,slow=1.7,SNR=13							
WRA				pPKP	**pPKPdf**	**03 09 54.4**	**-0.6**	
	comp=Z,2.7nm,0.7s,baz=160,slow=1.6,SNR=14							
ABKAR	**Akbulak array**	**138.16**	**50**	PKPdf	**PKPdf**	**03 09 48.1**	**-0.4**
KBL	**Kabul**	**144.87**	**74**	PKPdf	PKPbc	03 10 00.6	-0.2	
CHGR	**Chuyangaron**	**145.27**	**67**	PKPbc	**PKPbc**	**03 10 01.1**	**-0.6**
KK31	**Karatay Array**	**146.10**	**59**	PKPbc	**PKPdf**	**03 10 03.3**	**+0.4**
KKAR	**Karatay Array**	**146.10**	**59**	PKPbc	**PKPdf**	**03 10 03.3**	**+0.4**
YAK	**Yakutsk**	**147.24**	**344**	PKPbc	**PKPbc**	**03 10 06.4**	**-0.2**
NIL	**Nilore**	**148.22**	**76**	PKPbc	**PKPdf**	**03 10 08.2**	**+1.5**
TOLI2	**Tolitoli**	**148.31**	**199**	PKPbc	**PKPdf**	**03 10 09.2**	**+1.7**
AAK	**Ala-Archa**	**149.07**	**59**	PKPbc	**PKPbc**	**03 10 11.5**	**-0.8**
KURK	**Kurchatov**	**149.36**	**42**	PKPbc	**PKPbc**	**03 10 11.4**	**-1.1**
KSH	**Kashi**	**150.54**	**65**	PKPbc	**PKiKP**	**03 10 16.8**	**+0.2**
KSH				pPKPbc	pPKiKP	03 10 48.0	+0.9	
ZALV	**Zalesovo Beam**	**150.81**	**32**	PKPbc	**PKiKP**	**03 10 16.6**	**+0.2**
	comp=Z,17nm,0.7s,baz=305,slow=3.2,SNR=65							
ZALV				pPKPbc	**pPKPbc**	**03 10 47.5**	**+0.3**	
	comp=Z,2.9nm,0.6s,baz=302,slow=3.2,SNR=3.2							
ASAJ	**Asahikawa**	**152.30**	**306**	PKPbc	**PKiKP**	**03 10 20.3**	**+0.4**
	comp=Z,7.7nm,0.7s,baz=44,slow=4.9,SNR=4.7							
MKAR	**Makanchi Array**	**153.24**	**47**	PKPbc	**PKiKP**	**03 10 22.1**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=311,slow=2.1,SNR=20							
MKAR				PKPab	**PKPab**	**03 10 34.4**	**+0.5**	
	comp=Z,3.3nm,0.6s,baz=296,slow=3.9,SNR=18							
MKAR				pPKPab	**pPKPab**	**03 11 03.6**	**-0.6**	
	comp=Z,2.0nm,0.8s,baz=291,slow=3.3,SNR=4.2							
MJAR	**Matsushiro Arr**	**156.99**	**290**	PKPab	**PKPab**	**03 10 51.0**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=102,slow=2.5,SNR=4.6							
SONM	**Songino Array**	**163.40**	**11**	PKPab	**PKPab**	**03 11 18.6**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=339,slow=3.4,SNR=7.7							
PZH	**PanZhiHua**	**170.42**	**120**	PKP	**PKPdf**	**03 10 29.4**	**-2.9**

*IDC **22** 02:55:21.8±1.8, 10.°50S×160.°64E, h0km, mb4.0/6, mbtmp3.9/7, ML3.5/1, Error ellipse: s-maj=39.1km s-min=19.8km az=94.0*

ISC 22 02:55:27.7±1.4, 10.°5S±0.°1×160.°6E±0.°2, h42km, n8, σ1s39/9, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.24**	**330**	Pn	**Pn**	**02 55 46.7**	**-2.0**
	552nm,0.3s,baz=175,slow=6.8,SNR=8.7						
HNR				Sn	**Sn**	**02 56 06.1**	**+1.9**
	418nm,0.3s,baz=112,slow=9.1,SNR=9.1						
HNR				LR	LR	02 56 25.7	
	comp=Z,874nm,18.3s,baz=128,slow=51						
CTA	**Charters Tower**	**16.77**	**234**	Pn	**Pn**	**02 59 19.6**	**-0.1**
	0.1nm,0.3s,baz=81,slow=7.7,SNR=1.9						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**26.96**	**247**	P	**P**	**03 01 06.4**	**+0.7**
	7.0nm,1.0s,baz=77,slow=9.4,SNR=26						
	7.0nm,1.0s						
STKA	**Stephens Creek**	**27.57**	**217**	P	**P**	**03 01 12.1**	**+1.2**
	3.0nm,0.9s,baz=19,slow=10.0,SNR=6.8						
	3.0nm,0.9s						
ASAR	**Alice Springs**	**28.59**	**239**	P	**P**	**03 01 18.9**	**-1.3**
	2.0nm,1.0s,baz=72,slow=9.0,SNR=13						
	2.0nm,1.0s						
SONM	**Songino Array**	**75.30**	**326**	P	**P**	**03 07 07.4**	**+0.7**
	0.5nm,0.6s,baz=140,slow=6.8,SNR=3.8						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**89.69**	**318**	P	**P**	**03 08 21.6**	**+0.1**
	0.3nm,0.7s,baz=106,slow=4.8,SNR=2.9						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**96.85**	**28**	P	**P**	**03 08 54.2**	**+0.2**
	0.1nm,0.6s,baz=262,slow=4.9,SNR=2.0						
	0.1nm,0.6s						

IDC 22 02:59:16.1±4.6, 0.°69S×136.°06E, h0km, mb3.1/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=215.0km s-min=29.3km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.20**	**185**	P	P	03 03 40.7	-1.0
	0.1nm,0.3s,baz=5.3,slow=12,SNR=2.4						
	0.9nm,1.2s						
ASAR	**Alice Springs**	**22.93**	**185**	P	P	03 04 22.6	+0.6
	0.4nm,1.0s,baz=7.4,slow=9.5,SNR=4.1						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**66.59**	**323**	P	P	03 10 08.3	0.0
	0.1nm,0.3s,baz=120,slow=8.1,SNR=5.3						
	0.1nm,0.3s						

*IDC **22** 03:04:08.3±3.9, 5.°13S×11.°43W, h0km, mb4.0/6, mbtmp4.0/7, ML3.5/1, MS3.6/30, Error ellipse: s-maj=119.8km s-min=78.4km az=122.0*

ISC 22 03:04:11.7±2.5, 5.°1S±0.°5×11.°4W±0.°7, h18km, n36, σ0s83/7, mb4.0/6, MS3.6/29, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**4.11**	**228**	T	T	03 09 19.4	
	baz=44,slow=74,SNR=912						
H10N1	**ASCENSION HYDR**	**4.12**	**227**	T	T	03 09 20.0	
	baz=44,slow=74,SNR=1034						
H10N3	**ASCENSION HYDR**	**4.13**	**228**	T	T	03 09 19.1	
	baz=44,slow=74,SNR=815						
DBIC	**Dimbokro**	**13.36**	**29**	Pn	**Pn**	**03 07 20.7**	**+0.2**
	0.2nm,0.3s,baz=194,slow=12,SNR=4.6						
DBIC				LR	LR	03 11 29.9	
	comp=Z,292nm,19.5s,baz=226,slow=33						
	5.7nm,0.9s						
BBTS	**Babate**	**20.23**	**346**	LR	LR	03 15 17.4	
	comp=Z,164nm,21.2s,baz=154,slow=33						
TORD	**Torodi Ar. Bea**	**22.28**	**36**	P	**P**	**03 09 07.5**	**-0.7**
	3.5nm,0.3s,baz=223,slow=11,SNR=2.0						
	3.5nm,0.3s						
TSUM	**Tsumeb**	**31.58**	**119**	LR	LR	03 22 28.1	
	comp=Z,69nm,18.1s,baz=300,slow=35						
MDT	**Midelt**	**38.20**	**9**	LR	LR	03 26 28.9	
	comp=Z,143nm,20.1s,baz=167,slow=35						
SUR	**Sutherland**	**40.58**	**136**	LR	LR	03 26 28.3	
	comp=Z,75nm,18.7s,baz=266,slow=33						
BOSA	**Boshof**	**41.92**	**128**	LR	LR	03 27 29.5	
	comp=Z,39nm,18.4s,baz=206,slow=34						
MBAR	**Mbarara**	**42.33**	**85**	LR	LR	03 28 06.1	
	comp=Z,59nm,18.8s,baz=230,slow=34						
KEST	**Kesra**	**45.01**	**24**	LR	LR	03 31 29.2	
	comp=Z,141nm,19.7s,baz=250,slow=36						
ESDC	**Sonseca Array**	**45.03**	**8**	LR	LR	03 30 49.4	
	comp=Z,59nm,19.1s,baz=160,slow=36						
IDI	**Anoyia**	**52.67**	**38**	LR	LR	03 37 54.9	
	comp=Z,48nm,19.2s,baz=292,slow=38						
H05S1	**Guadeloupe/Mar**	**52.68**	**292**	T	T	04 09 44.7	
DAVOX	**Davos/Dischmat**	**54.95**	**18**	LR	LR	03 36 46.3	
	comp=Z,118nm,20.7s,baz=237,slow=36						
EIL	**Elat**	**56.28**	**49**	LR	LR	03 38 24.4	
	comp=Z,24nm,19.1s,baz=241,slow=36						
GERES	**GERESS Array B**	**57.98**	**19**	P	**P**	**03 14 04.0**	**+0.7**
	1.1nm,0.7s,baz=190,slow=6.8,SNR=9.9						
GERES				LR	LR	03 38 57.5	
	comp=Z,74nm,18.4s,baz=251,slow=36						
	1.1nm,0.7s						
MMAI	**Mount Meron Ar**	**58.31**	**46**	LR	LR	03 41 22.7	
	comp=Z,28nm,18.1s,baz=271,slow=38						
SJG	**San Juan**	**58.66**	**295**	LR	LR	03 36 07.2	
	comp=Z,31nm,20.2s,baz=60,slow=33						
VRAC	**Vranov**	**59.37**	**21**	LR	LR	03 39 34.2	
	comp=Z,57nm,18.0s,baz=198,slow=36						
MLR	**Muntele Rosu**	**60.34**	**29**	LR	LR	03 41 33.1	
	comp=Z,64nm,20.0s,baz=219,slow=37						
EKA	**Eskdalemuir Ar**	**60.56**	**5**	LR	LR	03 38 45.0	
	comp=Z,66nm,20.4s,baz=231,slow=34						
BRTR	**Keskin Array B**	**60.85**	**39**	P	**P**	**03 14 24.4**	**+1.0**
	0.7nm,1.0s,baz=215,slow=8.1,SNR=2.1						
BRTR				LR	LR	03 43 38.5	
	comp=Z,32nm,18.2s,baz=290,slow=39						
	0.7nm,1.0s						
AKASG	**Malin Array Be**	**65.59**	**27**	P	**P**	**03 14 53.7**	**-0.7**
	1.2nm,0.8s,baz=228,slow=7.4,SNR=5.4						
AKASG				LR	LR	03 45 33.5	
	comp=Z,45nm,19.4s,baz=254,slow=38						
	1.2nm,0.8s						
HFS	**Hagfors**	**67.93**	**13**	LR	LR	03 44 34.9	
	comp=Z,56nm,20.1s,baz=258,slow=36						
NOA	**NORSAR Array B**	**68.21**	**12**	LR	LR	03 46 28.4	
	comp=Z,36nm,18.2s,baz=305,slow=37						
GNI	**Garni**	**68.34**	**43**	LR	LR	03 46 47.9	
	comp=Z,19nm,19.3s,baz=296,slow=37						
KBZ	**Khabaz**	**68.84**	**39**	LR	LR	03 48 17.0	
	comp=Z,36nm,18.4s,baz=14,slow=38						
BORG	**Borgarnes**	**70.00**	**355**	LR	LR	03 40 07.5	
	comp=Z,55nm,20.6s,baz=202,slow=31						
OBN	**Obninsk**	**71.85**	**27**	LR	LR	03 49 33.5	
	comp=Z,12nm,19.2s,baz=356,slow=38						
FINES	**FINESS Array B**	**72.36**	**18**	P	**P**	**03 15 35.8**	**-0.4**
	3.9nm,1.2s,baz=221,slow=7.4,SNR=1.1						
	3.9nm,1.2s						
GEYT	**Alibeck**	**77.18**	**49**	P	**P**	**03 16 04.6**	**-0.2**
	0.4nm,0.4s,baz=253,slow=4.4,SNR=1.5						
GEYT				LR	LR	03 50 31.4	
	comp=Z,19nm,19.4s,baz=95,slow=36						
	0.4nm,0.4s						
ARU	**Arti**	**83.30**	**32**	LR	LR	03 55 48.9	
	comp=Z,32nm,18.7s,baz=259,slow=37						
MKAR	**Makanchi Array**	**96.19**	**44**	LR	LR	04 06 55.0	
	comp=Z,30nm,18.1s,baz=304,slow=39						
NRIK	**Norilʹsk**	**97.87**	**21**	LR	LR	04 06 04.6	
	comp=Z,37nm,18.3s,baz=314,slow=38						

*JMA **22** 03:08:51.6±0.4, 29.°2N±0.°5×130.°7E±0.°7, h12km±4km, MV2.7/11, NEAR AMAMI-OSHIMA ISLAND*
*IDC **22** 03:08:57.7±9.0, 29.°39N×130.°65E, h68km±64km, mb3.4/3, mbtmp3.6/4, ML2.5/1, Error ellipse: s-maj=109.6km s-min=62.1km az=103.0*

ISC 22 03:08:53.9±1.4, 29.°21N±0.°07×130.°7E±0.°1, h40km, n11, σ0s60/14, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.95**	**312**	P	**Pn**	**03 09 10.1**	**-0.6**
JNN				*e*S	**Sn**	**03 09 23.7**	**+0.6**
JYAK	**Yakushimahirau**	**1.04**	**352**	*e*P	**Pn**	**03 09 11.6**	**-0.4**
JYAK				*e*S	**Sn**	**03 09 25.6**	**+0.3**
JMTN	**Minamitane**	**1.20**	**9**	*e*P	**Pn**	**03 09 14.2**	**0.0**
JAM	**Amami Oshima**	**1.24**	**230**	P	**Pn**	**03 09 14.5**	**-0.1**
JTAJ	**Takarajima**	**1.30**	**268**	*e*P	**Pn**	**03 09 16.1**	**+0.6**
JKC	**Kuchinoerabu**	**1.32**	**341**	*e*P	**Pn**	**03 09 16.2**	**+0.4**
JTK	**Tokunoshima**	**2.08**	**228**	*e*P	**Pn**	**03 09 26.8**	**+0.5**
JNU	**Nakatsue**	**3.91**	**2**	P	**Pn**	**03 09 52.6**	**+1.2**
	0.6nm,0.3s,baz=191,slow=14,SNR=14						
JNU				S	**Sn**	**03 10 36.1**	**+0.1**
	12nm,0.9s,baz=128,slow=18,SNR=1.3						
	13nm,1.0s						
MKAR	**Makanchi Array**	**41.27**	**309**	P	**P**	**03 16 35.1**	**-0.1**
	0.2nm,0.7s,baz=91,slow=9.1,SNR=4.1						
	0.2nm,0.7s					

CRIN				*e*S	**Sn**	**03 36 20.0**	**+0.8**
LCND	**La Caada**	**0.74**	**349**	*e*P	**Pn**	**03 36 08.4**	**-0.5**
LCND				*e*S	**Sn**	**03 36 20.5**	**+0.3**
LCND				IAML		03 36 23.5	
	comp=Z,398nm,0.3s						
FAGO	**Alcalda de S**	**1.17**	**342**	*e*P	**Pn**	**03 36 14.1**	**-0.2**
PQSS	**Presa 15 de Se**	**1.31**	**323**	*e*P	**Pn**	**03 36 16.2**	**0.0**
PQSS				*e*S	**Sn**	**03 36 32.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.47**	**319**	*e*P	**Pn**	**03 36 18.4**	**0.0**
SJTE	**Alcalda de S**	**1.61**	**310**	*e*P	**Pn**	**03 36 20.0**	**-0.2**

IDC ***22*** *03:44:26.1±0.9,2˚.73S×128˚.96E, h0km, mb3.8/6, mbtmp4.0/10, ML4.1/4, MS3.5/2, Error ellipse: s-maj=24.6km s-min=17.5km az=79.0*
NEIC ***22*** *03:44:28.9±3.0,2˚.46S±0˚.05×128˚.71E±0˚.06, h36km±9km, mb4.2/14, Error ellipse: s-maj=9.8km s-min=5.1km az=52.0*
DJA ***22*** *03:44:30.0±0.5,3˚S±2˚×12˚9E±˚, h14km±4km, M4.3/12, mb4.4/4, mB4.5/1, MLv4.2/12, Mw(mB)3.6/1*
ISC 22 03:44:23.7±1.3,2˚.37S±0˚.04×129˚.02E±0˚.03, h9km±9km, n54, σ1§22/52, mb4.1/10, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.97**	**185**	P	**Pn**	**03 44 43.6**	**0.0**
MSAI				S	**Sg**	**03 44 54.0**	**-1.1**
AAI	**Ambon**	**1.54**	**212**	P	**Pg**	**03 44 53.9**	**+0.6**
AAI				S	**Sb**	**03 45 12.0**	**-0.2**
NLAI	**Namlea**	**2.10**	**246**	P	**Pb**	**03 45 02.7**	**+0.7**
NLAI				S	**Sb**	**03 45 27.8**	**-0.4**
BNDI	**Bandanaira**	**2.31**	**157**	P	**Pg**	**03 45 08.5**	**+0.4**
BNDI	**Bandanaira**	**2.31**	**157**	P	**Pb**	**03 45 06.2**	**+0.5**
BNDI				S	**Sb**	**03 45 32.5**	**-1.9**
SIJI	**Sorong**	**2.70**	**56**	Pn	**Pg**	**03 45 16.4**	**+0.9**
	17nm,0.3s,baz=205,slow=23,SNR=58						
SIJI				Sn	**Sg**	**03 45 51.1**	**+0.5**
	28nm,0.3s,baz=28,slow=24,SNR=15						
	49nm,0.2s						
SANI	**Sanana**	**3.04**	**276**	P	**Pb**	**03 45 16.9**	**-1.2**
SANI	**Sanana**	**3.04**	**276**	P	**Pb**	**03 45 17.0**	**-1.2**
SANI				S	**Sn**	**03 45 48.8**	**+0.1**
FAKI	**Fak Fak**	**3.28**	**100**		**Pb**	**03 45 19.7**	**-2.5**
FAKI	**Fak Fak**	**3.28**	**100**	P	**Pb**	**03 45 22.6**	**+0.5**
FAKI	**Fak Fak**	**3.28**	**100**	P	**Pb**	**03 45 22.0**	**-0.1**
FAKI				S	**Sb**	**03 46 00.2**	**-2.0**
TNTI	**Ternate**	**3.53**	**332**	Pn	**Pn**	**03 45 19.0**	**+0.1**
RKPI	**Ransiki, Papua**	**5.23**	**81**	P	Pb	03 45 49.8	-5.6
	44nm,0.7s,1.4nm						
LUWI	**Luwuk**	**6.38**	**282**	Pn	**Pn**	**03 45 55.5**	**-2.5**
GTOI	**Gorontalo**	**6.71**	**296**	P	Pb	03 46 11.9	-8.7
	16nm,0.9s,288nm0.1nm						
SOEI	**Soe**	**8.72**	**213**	Pn	**Pn**	**03 46 29.4**	**-0.9**
TOLI2	**Tolitoli**	**8.93**	**293**	Pn	**Pn**	**03 46 31.8**	**-1.3**
TOLI2	**Tolitoli**	**8.93**	**293**	P	Pn	03 46 40.0	+6.9
BATI	**Baumata**	**9.43**	**214**	Pn	**Pn**	**03 46 39.4**	**-0.5**
	4.1nm,0.3s,baz=329,slow=5.9,SNR=2.3						
BATI				LR	LR	03 50 30.7	
	comp=Z,317nm,19.6s,baz=12,slow=40						
	31nm,0.6s						
KAPI	**Kappang**	**9.61**	**254**	Pn	**Pn**	**03 46 45.5**	**+3.1**
	0.5nm,0.3s,baz=66,slow=12,SNR=1.5						
	4.7nm,0.5s						
MTN	**Manton Dam**	**10.61**	**169**	P	Pn	03 47 00.4	+4.3
KDU	**Kakadu**	**10.80**	**162**	P	**Pn**	**03 47 00.2**	**+1.4**
KNRA	**Kununurra**	**13.22**	**181**		**Pn**	**03 47 31.4**	**-0.4**
KNRA	**Kununurra**	**13.22**	**181**	P	**Pn**	**03 47 33.7**	**+1.8**
WB0	**Warramunga Arr**	**18.07**	**163**	P	**P**	**03 48 35.1**	**-0.6**
WB0				IAmb	IAmb	03 48 50.9	
	comp=Z,14nm,0.9s						
COEN	**Coen**	**18.12**	**130**	P	**P**	**03 48 38.2**	**+1.9**
WRAB	**Tennant Creek**	**18.21**	**164**	P	**P**	**03 48 36.9**	**-0.4**
WRA	**Warramunga Arr**	**18.22**	**164**	P	**P**	**03 48 36.9**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=346,slow=12,SNR=31						
	comp=Z,4.8nm,0.6s						
WRA	**Warramunga Arr**	**18.22**	**164**	P	**P**	**03 48 37.0**	**-0.4**
WB2	**Warramunga Arr**	**18.22**	**164**	P	**P**	**03 48 37.2**	**-0.2**
WB2				IAmb	IAmb	03 48 52.7	
	comp=Z,17nm,1.1s						
PMG	**Port Moresby**	**19.34**	**112**	LR	LR	03 57 21.7	
	comp=Z,106nm,18.9s,baz=262,slow=40						
MBWA	**Marble Bar**	**20.75**	**205**	P	**P**	**03 49 02.9**	**-2.1**
MBWA				IAmb	IAmb	03 49 15.6	
	comp=Z,25nm,1.4s						
QIS	**Mount Isa**	**20.82**	**151**	P	Pn	03 49 08.0	-0.2
PSA00	**Pilbara Seismi**	**21.07**	**204**	P	**P**	**03 49 08.5**	**0.0**
PSA00				IAmb	IAmb	03 49 26.9	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**21.69**	**168**	P	**P**	**03 49 16.0**	**+0.8**
AS31				IAmb	IAmb	03 49 24.1	
	comp=Z,7.8nm,0.8s						
ASAR	**Alice Springs**	**21.69**	**168**	P	**P**	**03 49 16.5**	**+1.3**
	comp=Z,13nm,0.5s,baz=349,slow=11,SNR=194						
	comp=Z,13nm,0.5s						
ASAR	**Alice Springs**	**21.69**	**168**	P	**P**	**03 49 15.8**	**+0.6**
AS01	**Alice Springs**	**21.70**	**168**	P	**P**	**03 49 16.1**	**+0.8**
WRKA	**Warakurna**	**22.54**	**182**	P	**P**	**03 49 24.4**	**+0.1**
CTA	**Charters Tower**	**24.36**	**138**	P	**P**	**03 49 44.3**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=326,slow=12,SNR=2.6						
	comp=Z,1.4nm,0.7s						
CTAO	**Charters Tower**	**24.36**	**138**	P	**P**	**03 49 42.9**	**+0.5**
CTAO				IAmb	IAmb	03 50 02.8	
	comp=Z,6.4nm,1.1s						
STKA	**Stephens Creek**	**31.65**	**159**	P	**P**	**03 50 46.7**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=322,slow=14,SNR=1.5						
	comp=Z,0.6nm,0.5s						
SHL	**Shillong**	**45.43**	**310**	P	**P**	**03 52 42.6**	**-0.9**
SHL				IAmb	IAmb	03 53 05.0	
	comp=Z,4.5nm,0.8s						
HIA	**Hailar**	**52.06**	**352**	P	**P**	**03 53 34.9**	**+1.0**
SONM	**Songino Array**	**53.77**	**341**	P	P	03 53 52.0	+5.3
	comp=Z,0.3nm,0.6s,baz=132,slow=2.1,SNR=2.3						
	comp=Z,0.3nm,0.6s						
MK31	**Makanchi Array**	**63.85**	**326**	P	**P**	**03 54 56.8**	**0.0**
MKAR	**Makanchi Array**	**63.85**	**326**	P	P	03 55 02.4	+5.7
	comp=Z,1.2nm,0.9s,baz=125,slow=6.1,SNR=9.8						
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**63.85**	**326**	P	**P**	**03 54 58.4**	**+1.6**
AAK	**Ala-Archa**	**66.41**	**319**	P	**P**	**03 55 13.1**	**-0.6**
AAK				IAmb	IAmb	03 55 23.4	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**67.03**	**333**	P	P	03 55 22.6	+5.5
	comp=Z,0.3nm,0.3s,baz=131,slow=6.5,SNR=1.8						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**68.09**	**328**	P	**P**	**03 55 24.9**	**+1.0**
VNDA	**Vanda**	**77.13**	**173**	P	**P**	**03 56 18.1**	**+0.8**
ABKAR	**Akbulak array**	**78.30**	**321**	P	**P**	**03 56 22.8**	**-1.5**
CPUP	**Villa Florida**	**150.81**	**168**	PKPbc	**PKiKP**	**04 04 19.4**	**+1.2**
	comp=Z,1.7nm,1.1s,baz=80,slow=6.1,SNR=2.0						

DJA ***22*** *03:47:50.8±0.3,3˚S±2˚×12˚9E±˚, h10km, M4.2/10, mb4.3/3, mB5.4/1, MLv4.2/10, Mw(mB)4.9/1*
IDC ***22*** *03:47:54.0±2.5,2˚.77S×128˚.99E, h52km±25km, mb3.6/4, mbtmp4.0/7, ML4.0/3, MS3.2/2, Error ellipse: s-maj=23.2km s-min=15.5km az=118.0*
ISC 22 03:47:52.9±0.8,2˚.74S±0˚.06×128˚.98E±0˚.07, h35km, n16, σ1§69/17, mb3.7/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.61**	**185**	P	**Pn**	**03 48 04.8**	**-0.3**
MSAI				S	**Sn**	**03 48 15.1**	**+1.5**
AAI	**Ambon**	**1.23**	**220**	P	**Pn**	**03 48 15.2**	**+1.6**
AAI				S	**Sn**	**03 48 32.9**	**+3.9**
NLAI	**Namlea**	**1.94**	**255**	P	**Pn**	**03 48 23.4**	**-0.1**
SIJI	**Sorong**	**2.94**	**51**	P	**Pn**	**03 48 38.3**	**+1.1**
	18nm,0.3s,baz=272,slow=23,SNR=36						
SIJI				S	**Sn**	**03 49 13.3**	**+2.0**
	318nm,0.6s,baz=44,slow=21,SNR=20						
	46nm,0.3s						
FAKI	**Fak Fak**	**3.27**	**93**	P	**Pn**	**03 48 42.9**	**+1.2**
LUWI	**Luwuk**	**6.43**	**285**	P	**Pn**	**03 49 23.8**	**-1.4**
	24nm,0.6s,3μm0.3nm						
GTOI	**Gorontalo**	**6.85**	**299**	P	**Pn**	**03 49 32.1**	**+1.2**
	7.3nm,0.5s,0.1nm						
KAPI	**Kappang**	**9.48**	**256**	P	**Pn**	**03 50 08.4**	**+1.3**
	0.6nm,0.3s,baz=75,slow=14,SNR=2.1						
	7.0nm,0.7s						
WRA	**Warramunga Arr**	**17.88**	**163**	P	**Pn**	**03 51 57.4**	**-1.7**
	0.8nm,0.3s,baz=341,slow=12,SNR=9.4						
	2.3nm,0.5s						
ASAR	**Alice Springs**	**21.34**	**168**	P	**P**	**03 52 36.9**	**-0.4**
	9.4nm,0.6s,baz=348,slow=12,SNR=34						
	9.4nm,0.6s						
CTA	**Charters Tower**	**24.12**	**137**	P	**P**	**03 53 05.3**	**-0.3**
	0.9nm,0.6s,baz=309,slow=12,SNR=1.4						
	0.9nm,0.6s						
JNU	**Nakatsue**	**35.71**	**3**	LR	LR	04 10 39.1	
	comp=Z,27nm,18.0s,baz=157,slow=38						
MJAR	**Matsushiro Arr**	**40.01**	**12**	LR	LR	04 10 01.1	
	comp=Z,42nm,20.7s,baz=181,slow=33						
MKAR	**Makanchi Array**	**64.13**	**326**	P	**P**	**03 58 23.5**	**-0.4**
	0.7nm,0.7s,baz=124,slow=7.3,SNR=6.8						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**89.95**	**25**	P	**P**	**04 00 47.5**	**-0.9**
	0.2nm,0.7s,baz=260,slow=5.4,SNR=2.0						
	0.2nm,0.7s						
CPUP	**Villa Florida**	**150.46**	**168**	PKPbc	**PKPbc**	**04 07 39.6**	**-2.0**
	3.1nm,1.1s,baz=221,slow=9.3,SNR=3.5						

TAP ***22*** *03:58:06.3,24˚.15N×122˚.78E, h97km±1km, ML2.3, D*
JMA 22 03:58:04.7±0.1,24˚N±2˚×123˚.0E±0˚.3, h47km±1km, MV2.0/8, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.14**	**351**	*i* P	Pn	03 58 12.2	-0.1
JYNG				S	Sn	03 58 17.6	-0.1
YOJ	**Yonaguni jima**	**0.15**	**14**	P	Pn	03 58 12.4	0.0
YOJ				S	Sn	03 58 17.8	-0.1
IRIF	**Iriomote-Funau**	**0.69**	**88**	P	Pn	03 58 18.3	0.0
IRIF				S	Sn	03 58 28.2	+0.2
JKRS	**Kuro-shima**	**0.95**	**94**	*e*P	Pn	03 58 21.9	+0.2
JKRS				S	Sn	03 58 34.4	+0.3
TWC	**Suao**	**1.06**	**286**	*e*S	Sn	03 58 41.0	+4.1
	baz=294						
JIJ	**Ishigaki jima**	**1.07**	**87**	P	Pn	03 58 23.4	+0.1
JIJ				S	Sn	03 58 36.9	-0.2
JISG	**Ishigakijimahi**	**1.25**	**77**	*e*P	Pn	03 58 26.3	+0.5
JISG				*e*S	Sn	03 58 41.9	+0.4
NACB	**Ninganchiao**	**1.26**	**264**	S	Sn	03 58 41.9	+0.2
	baz=265						
ETLH	**Xiulin Townshi**	**1.36**	**266**	*e*S	Sn	03 58 44.0	-0.3
	baz=277						
ETM	**Tongmen**	**1.39**	**256**	S	Sn	03 58 44.6	-0.4
	baz=262						
EGFH	**Guangfu**	**1.55**	**246**	*e*S	Sn	03 58 47.9	-0.9
	baz=246						
HGSD	**Ruisui**	**1.63**	**240**	S	Sn	03 58 49.1	-1.8
	baz=239						
CHGB	**Renai**	**1.66**	**262**	*i* P	Pn	03 58 32.0	+0.5
	baz=262						
CHGB				*e*S	Sn	03 58 52.1	+0.3
	baz=262						
OWD	**Renai**	**1.68**	**258**	S	Sn	03 58 51.0	-1.1
	baz=268						
EHY	**Hungye**	**1.71**	**242**	*e*S	Sn	03 58 51.0	-1.7
	baz=254						
WUSB	**Renai**	**1.72**	**260**	P	Pn	03 58 32.9	+0.5
	baz=265						
WUSB				*e*S	Sn	03 58 52.9	-0.3
	baz=265						
VWDT	**VWDT**	**1.76**	**252**	P	Pn	03 58 33.0	+0.3
	baz=256						
VWDT				*e*S	Sn	03 58 53.8	-0.2
	baz=256						
YULB	**Yu-li**	**1.78**	**240**	P	Pn	03 58 32.5	-0.6
	baz=239						
YULB				S	Sn	03 58 52.8	-1.8
	baz=239						
EHD	**Haiduan**	**1.99**	**235**	*e*S	Sn	03 58 57.4	-2.2
	baz=245						
EDH	**Donghe**	**2.03**	**229**	*e*S	Sn	03 58 57.0	-3.5
	baz=227						

TAP 22 03:58:41.3,22˚.68N×121˚.06E, h8km, ML1.4, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung**	**0.11**	**47**	*e*P	Pg	03 58 44.6	+0.7
	baz=47						
ECL	**Taimali**	**0.12**	**230**	P	Pg	03 58 44.3	+0.2
	baz=234						
ECL				S	Sg	03 58 46.4	+0.5
	baz=234						
TWGBT	**Beinan**	**0.14**	**9**	P	Pg	03 58 44.9	+0.5
	baz=357						
TWGBT				S	Sg	03 58 47.6	+1.2
	baz=357						
TWG	**Pinlang**	**0.14**	**6**	P	Pg	03 58 44.8	+0.4
	baz=357						
TWG				S	Sg	03 58 47.6	+1.1
	baz=357						
LONT	**Longtian**	**0.24**	**16**	*e*P	Pg	03 58 46.7	+0.6
	baz=357						
LONT				*e*S	Sg	03 58 51.1	+1.7
	baz=357						
EAST	**Anshuo**	**0.35**	**213**	*e*P	Pg	03 58 48.7	+0.5
	baz=228						
TAWH	**Dawu Township**	**0.37**	**205**	*e*S	Sb	03 58 55.1	-1.0
	baz=222						
MASBT	**Mashibuluo**	**0.40**	**261**	P	Pg	03 58 49.5	+0.4
	baz=263						
MASBT				S	Sg	03 58 54.8	+0.5
	baz=263						
SLIU	**Shizi**	**0.52**	**208**	*e*P	Pg	03 58 51.8	+0.4
	baz=226						
SLIU				*e*S	Sb	03 58 59.7	-0.6
	baz=226						

ATH ***22*** *04:00:00.8, 36˚.54N×26˚.36E, h97km±15km, ML2.4/2, Error ellipse: s-maj=16.9km s-min=1.9km az=161.0*
ISK ***22*** *04:00:01.1, 36˚.45N×26˚.43E, h100km±1km, ML2.5/9*
THE ***22*** *04:00:01.8, 36˚.55N×26˚.39E, h95km±10km, ML2.4/3, Error ellipse: s-maj=10.5km s-min=0.9km az=159.0*
DDA ***22*** *04:00:02.6±0.0, 36˚.33N×27˚.03E, h6km±4km, ML2.3*
ISC 22 03:59:59.1±1.4, 36˚.56N±0˚.05×26˚.40E±0˚.04, h16km±10km, n31, σ1§60/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.96**	**80**	Pg	**Pn**	**04 00 22.1**	**+4.0**
DAT				Sg	**Sn**	**04 00 36.7**	**+5.2**
ARG	**Arkhangelos**	**1.43**	**103**	P	**Pg**	**04 00 26.5**	**-0.2**
ARG				S	**Sg**	**04 00 45.0**	**-0.3**
	55nm,0.2s						
ARG	**Arkhangelos**	**1.43**	**103**	Pn	**Pg**	**04 00 26.5**	**-0.2**
ARG				Sn	**Sg**	**04 00 45.6**	**+0.3**
ARG	**Arkhangelos**	**1.43**	**103**	P	**Pg**	**04 00 26.4**	**-0.2**
ARG				S	**Sg**	**04 00 45.4**	**+0.1**
ZKR	**Zakros**	**1.45**	**186**	P	**Pb**	**04 00 26.1**	**+0.4**
ZKR				S	**Sg**	**04 00 45.4**	**-0.5**
	108nm,0.3s						
ZKR	**Zakros**	**1.45**	**186**	Pn	**Pb**	**04 00 26.1**	**+0.4**
ZKR				Sn	**Sb**	**04 00 44.6**	**+0.7**
ZKR	**Zakros**	**1.45**	**186**	P	**Pb**	**04 00 25.9**	**+0.2**
ZKR				S	**Sb**	**04 00 44.7**	**+0.7**
ZKR				AML	AML	04 00 47.7	
	comp=E,310μm,0.3s						
ZKR				AML	AML	04 00 48.5	
	comp=N,122μm,0.3s						
YER	**Yerkesik**	**1.61**	**69**	Pn	**Pg**	**04 00 29.9**	**-0.2**
YER				Sn	**Sg**	**04 00 50.9**	**-0.2**
HRKL	**Herakleio**	**1.63**	**221**	P	**Pb**	**04 00 28.5**	**-0.3**
HRKL				S	**Sb**	**04 00 49.5**	**+0.3**
HRKL	**Herakleio**	**1.63**	**221**	P	**Pn**	**04 00 27.8**	**+0.6**
KSTL	**Kastelli Herak**	**1.66**	**221**	P	**Pn**	**04 00 28.0**	**+0.5**
KSTL	**Kastelli Herak**	**1.66**	**221**	P	**Pn**	**04 00 28.0**	**+0.5**
KSTL				S	**Sn**	**04 00 47.5**	**-0.9**
IDI	**Anoyia**	**1.77**	**224**	P	**Pn**	**04 00 29.8**	**+0.7**
IDI				S	**Sn**	**04 00 51.6**	**+0.3**
	comp=N,60nm,0.4s						
IDI	**Anoyia**	**1.77**	**224**	P	**Pn**	**04 00 29.8**	**+0.7**
IDI				S	**Sn**	**04 00 50.8**	**-0.5**
IDI				AML	AML	04 00 51.7	
	comp=N,97μm,0.3s						
IDI				AML	AML	04 00 53.7	
	comp=E,118μm,0.4s						
DALY	**Dalyan (Mula)**	**1.83**	**81**	Pn	**Pb**	**04 00 32.4**	**+0.2**
DALY				Sn	**Sb**	**04 00 55.2**	**+0.4**
FETY	**Fethiye**	**2.16**	**87**	Pn	**Pb**	**04 00 36.7**	**-1.1**
TAVA	**DENİZLİ_Tavas**	**2.20**	**65**	P	Pg	04 00 46.7	+5.3
TAVA				S	**Sb**	**04 01 04.4**	**-1.3**
IMMV	**Iera Moni Meta**	**2.25**	**241**	P	**Pn**	**04 00 36.8**	**+1.1**
IMMV	**Iera Moni Meta**	**2.25**	**241**	P	**Pn**	**04 00 36.6**	**+0.9**
CAEL	**Denizli, Camel**	**2.41**	**76**	P	**Sn**	**04 01 02.2**	**-5.0**
CAEL				S	**Sb**	**04 01 09.6**	**-2.1**
APMY	**Acipayam-Deniz**	**2.49**	**68**	Pn	**Pn**	**04 00 41.3**	**+2.2**
GVD	**Gavdhos**	**2.55**	**228**	P	**Pn**	**04 00 40.7**	**+0.9**
KSL	**Kastellorizon**	**2.60**	**98**	P	**Pn**	**04 00 41.0**	**+0.5**
AKAS	**Kas**	**2.60**	**96**	Pn	**Pn**	**04 00 41.0**	**+0.3**
AKAS	**Kas**	**2.60**	**96**	P	**Pn**	**04 00 41.1**	**+0.3**
AKAS				S	**Sn**	**04 01 10.2**	**-1.9**
AKAS				*i* AML	AML	04 01 14.0	
	comp=E,24nm,0.4s						
GOLH	**Golhisar**	**2.62**	**74**	P	**Pn**	**04 00 42.9**	**+2.0**
GOLH				S	**Sn**	**04 01 11.6**	**-0.8**
GOLH				*i* AML	AML	04 01 19.0	
	comp=E,16nm,0.8s						
VLI	**Veliai**	**2.79**	**274**	P	**Pn**	**04 00 43.8**	**+0.7**
VLI	**Veliai**	**2.79**	**274**	P	**Pn**	**04 00 43.8**	**+0.7**
ELL	**Elmali**	**2.83**	**85**	Pn	**Pn**	**04 00 45.5**	**+1.8**
AKUM	**Antalya-Kumluc**	**3.19**	**93**	P	**Pn**	**04 00 48.7**	**+0.2**
AKUM				S	**Sn**	**04 01 23.6**	**-2.6**
AKUM				*i* AML	AML	04 01 27.0	
	comp=E,16nm,0.3s						
KORT	**Korkueli**	**3.20**	**81**	Pn	**Pn**	**04 00 50.7**	**+1.8**

IDC 22 04:15:22.1±3.5,14˚.93S×167˚.94E, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1, MS2.8/1, Error ellipse: s-maj=78.6km s-min=39.8km az=97.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.24**	**191**	Pn	Pn	04 17 09.0	-0.3
	1.1nm,0.3s,baz=30,slow=17,SNR=18						
DZM				Sn	Sn	04 18 28.9	-3.5
	0.6nm,0.3s,baz=130,slow=24,SNR=4.2						
DZM				LR	LR	04 19 27.8	
	comp=Z,74nm,19.4s,baz=86,slow=34						
	4.6nm,0.5s						
WRA	**Warramunga Arr**	**32.41**	**256**	P	P	04 21 53.9	-0.1
	0.4nm,0.8s,baz=86,slow=8.5,SNR=2.9						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**33.21**	**250**	P	P	04 22 01.1	0.0
	1.6nm,0.6s,baz=77,slow=9.1,SNR=28						
	1.6nm,0.6s						
SONM	**Songino Array**	**83.05**	**323**	P	P	04 27 49.7	+0.1
	0.5nm,0.9s,baz=113,slow=3.9,SNR=3.7						
	0.5nm,0.9s						

DJA 22 04:23:30.1±1.9, 0˚N±8˚×12˚1E±˚, h28km±16km, M3.0/4, MLv3.0/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.36**	**269**	P	Pn	04 23 54.0	+0.7
MPSI				S	Sn	04 24 10.5	+0.1
GTOI	**Gorontalo**	**1.77**	**81**	P	Pn	04 23 57.5	-1.4
GTOI				S	Sn	04 24 18.5	-2.0

IDC ***22*** *04:29:37.5±4.7, 36˚.24N×70˚.85E, h148km±27km, mb3.6/8, mbtmp3.9/14, Error ellipse: s-maj=55.9km s-min=16.4km az=168.0*
NNC ***22*** *04:29:39.4±6.4, 36˚.95N×70˚.49E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=50.6km s-min=36.9km az=175.0*
NEIC ***22*** *04:29:41.4±2.1, 36˚.57N±0˚.05×70˚.83E±0˚.08, h182km±6km, mb4.0/4, Error ellipse: s-maj=10.2km s-min=6.2km az=69.0*
ISC 22 04:29:41.3±0.6, 36˚.58N±0˚.06×70˚.81E±0˚.05, h188km, n42, σ1§69/49, mb3.9/7, 6C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR	**Chuyangaron**	**2.46**	**328**		**Pn**	**04 30 24.5**	**+0.5**
KBL	**Kabul**	**2.49**	**216**	Pn	**Pn**	**04 30 24.7**	**+0.1**
NIL	**Nilore**	**3.54**	**145**	Pn	**Pn**	**04 30 37.4**	**+0.4**
KK31	**Karatay Array**	**6.52**	**358**	Pn	**Pn**	**04 31 15.7**	**+0.6**
KK31	**Karatay Array**	**6.52**	**358**	⇑P	**Pn**	**04 31 13.5**	**-1.7**
	3.1nm,0.4s,baz=189,slow=13,SNR=93						
KK31				⇑S	**Sn**	**04 32 25.3**	**-4.0**
	9.7nm,0.7s,baz=185,slow=22,SNR=8.6						
KKAR	**Karatay Array**	**6.52**	**358**	Pn	**Pn**	**04 31 15.7**	**+0.6**
KKAR	**Karatay Array**	**6.52**	**358**		**Pn**	**04 31 15.7**	**+0.6**
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**04 31 18.8**	**+1.4**
	2.7nm,0.3s,baz=176,slow=2.7,SNR=11						
AAK				S	**Sn**	**04 32 31.2**	**-2.3**
	11nm,0.7s,baz=324,slow=22,SNR=12						
AAK	**Ala-Archa**	**6.69**	**24**	Pn	**Pn**	**04 31 16.2**	**-1.3**
HRA	**Herat**	**7.32**	**255**	Pn	**Pn**	**04 31 24.9**	**-1.0**
TKM2	**Tokmak 2**	**7.33**	**29**	⇑P	**Pn**	**04 31 26.3**	**+0.4**
	2.9nm,0.8s						
TKM2				⇓S	**Sn**	**04 32 45.8**	**-3.0**
	6.0nm,0.8s						
GEYT	**Alibeck**	**10.21**	**281**	P	**Pn**	**04 32 01.2**	**-2.2**
	4.4nm,0.6s,baz=116,slow=13,SNR=9.2						
GEYT				S	**Sn**	**04 33 54.9**	**-2.2**
	1.8nm,0.5s,baz=148,slow=14,SNR=2.4						
MAKZ	**Makanchi**	**13.18**	**36**	Pn	**Pn**	**04 32 41.1**	**-0.3**
MK31	**Makanchi Array**	**13.32**	**36**	Pn	**Pn**	**04 32 42.1**	**-1.0**
MKAR	**Makanchi Array**	**13.32**	**36**	P	**Pn**	**04 32 43.4**	**+0.3**
	2.0nm,0.8s,baz=218,slow=9.2,SNR=20						
MKAR				S	**S**	**04 35 15.1**	**+1.5**
	0.1nm,0.3s,baz=215,slow=21,SNR=1.2						

BJI ***22*** *04:30:22.4±0.0, 6˚.19S×155˚.14E, h160km, mb6.6/80, mB7.8/68*

MOS ***22*** *04:30:22.7±0.9, 6˚.18S×155˚.00E, h155km, mb7.1/52, MS7.4/18, Error ellipse: s-maj=6.9km s-min=4.8km az=112.8 Broadband fault plane solution: P waves. NP1:φ=135.00000°, δ=58.00000°, λ=101.00000°. NP2: φ=294.00000°, δ=33.00000°, λ=73.00000°. Principal axes: T Plg74.0000°, Azm74.0000°; N Plg9.0000°, Azm309.0000°; P Plg13.0000°, Azm217.0000°;*

NEIC ***22*** *04:30:23.0±2.5, 6˚.25S±0˚.07×155˚.17E±0˚.06, h135km±1km, mb7.2/490, Mwb7.9/46, Mwc7.9/144, Mww7.9/54 Error ellipse: s-maj=12.4km s-min=10.0km az=214.0, Moment Tensor Solution. Moment tensor: Scale 10²⁰Nm; Mrr7.88; Mθθ-4.43; Mφφ-3.44; Mrθ 0.72; Mθφ 3.23; Mφr-0.95; Fault plane solution: M₀7.65000×10²⁰ NP1: φs132.34000°, δ49.40000°, λ92.16000°. NP2: φs309.02000°, δ40.65000°, λ87.48000°. Principal axes: T 7.9733, Plg85.0000°, Azm61.0000°; N -0.6821, Plg2.0000°, Azm311.0000°; P -7.2912, Plg4.0000°, Azm221.0000°;*

IDC ***22*** *04:30:23.5±0.9, 6˚.20S×155˚.07E, h148km±7km, mb6.2/52, mbtmp6.6/55, MS7.4/34 Error ellipse: s-maj=7.0km s-min=5.3km az=57.0*

DJA ***22*** *04:30:24.9±0.4, 6˚S×2˚×15˚5E±˚, h163km±4km, M7.9/140, mb7.2/140, mB7.8/139, MLv7.5/2, Mw7.9/99, Mw(mB)7.9/139, MwMwp7.8/135, Mwp7.4/135*

KLM ***22*** *04:30:25, 6˚.05S×155˚.29E, h166km, mb7.3*

GCMT ***22*** *04:30:38.0±0.1, 6˚.03S×154˚.94E, h150km, MW7.9/171, Moment Tensor Solution. s171,c495; s171,c975; Duration: 21±5 Moment tensor: Scale 10²¹Nm; Mrr0.84±.00; Mθθ-0.58±.00; Mφφ-0.25±.00; Mrθ 0.09±.00; Mθφ 0.39±.00; Mφr-0.17±.00; Best double couple: M₀0.86200×10²¹ NP1:φs129.90000°, δ51.00000°, λ97.00000°. NP2:φs298.00000°, δ40.00000°, λ81.00000°. Principal axes: T 0.8670, Plg82.0000°, Azm81.0000°; N -0.0110, Plg6.0000°, Azm305.0000°; P -0.8560, Plg6.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *04:30:54.2, 6˚.05S×154˚.39E, h145km, Moment Tensor Solution. Duration: 50±4 Moment tensor: Scale 10²⁰Nm; Mrr9.46; Mθθ-6.19; Mφφ-3.27; Mrθ 0.59; Mθφ 4.13; Mφr-1.29; Fault plane solution: M₀9.39000×10²⁰ NP1: φs301.23000°, δ41.39000°, λ83.86000°. NP2: φs129.39000°, δ48.90000°, λ95.39000°. Principal axes: T 9.5901, Plg84.0000°, Azm83.0000°; N -0.3982, Plg4.0000°, Azm306.0000°; P -9.1918, Plg4.0000°, Azm216.0000°;*

NEIC ***22*** *04:31:04.7, 6˚.21S×154˚.93E, h140km, Moment Tensor Solution. Duration: 46±2 Moment tensor: Scale 10²⁰Nm; Mrr9.01; Mθθ-5.93; Mφφ-3.09; Mrθ 0.73; Mθφ 3.78; Mφr-1.76; Fault plane solution: M₀8.98000×10²⁰ NP1: φs130.83000°, δ50.49000°, λ97.72000°. NP2: φs298.81000°, δ40.13000°, λ80.75000°. Principal axes: T 9.2674, Plg82.0000°, Azm84.0000°; N -0.5720, Plg6.0000°, Azm306.0000°; P -8.6953, Plg5.0000°, Azm215.0000°;*

ISC 22 04:30:24.6±0.2, 6˚23S±0˚.02×155˚.07E±0˚.03, h157km±1km, h157km:pP-P, n2693, σ1.9/92/2982, mb7.2/472, 401C-92D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.54**	**305**		**Pn**	**04 31 20.4**	**+1.3**
RABL	**Rabaul**	**3.54**	**305**	P	**Pn**	**04 31 20.6**	**+1.5**
RABL	**Rabaul**	**3.54**	**305**	⇑P	**Pn**	**04 31 19.9**	**+0.9**
KRVT	**Keravat (AS076**	**3.58**	**302**	P	**Pn**	**04 31 19.4**	**-0.4**
	30μm,0.5s,baz=283,slow=2.3,SNR=326						
HNR	**Honiara**	**5.78**	**124**	P	**Pn**	**04 31 48.1**	**-0.4**
	40μm,0.5s,baz=221,slow=2.8,SNR=97						
HNR	**Honiara**	**5.78**	**124**		**Pn**	**04 31 47.5**	**-1.0**
HNR	**Honiara**	**5.78**	**124**	P	**Pn**	**04 31 48.8**	**+0.3**
HNR	**Honiara**	**5.78**	**124**	⇑P	**Pn**	**04 31 47.5**	**-1.0**
PMG	**Port Moresby**	**8.45**	**248**	P	**Pn**	**04 32 25.9**	**+1.8**
	16μm,0.5s,baz=76,slow=0.5,SNR=1052						
PMG				LR	LR	04 35 58.6	
	comp=Z,342μm,18.7s,baz=20,slow=40						
PMG	**Port Moresby**	**8.45**	**248**	Pn	**Pn**	**04 32 26.4**	**+2.3**
PMG	**Port Moresby**	**8.45**	**248**	P	**Pn**	**04 32 27.0**	**+2.9**
PMG	**Port Moresby**	**8.45**	**248**	P	**Pn**	**04 32 26.9**	**+2.9**
PMG	**Port Moresby**	**8.45**	**248**	P	**Pn**	**04 32 26.4**	**+2.3**
MANU	**Manus Island**	**8.74**	**298**		**Pn**	**04 32 28.6**	**+0.6**
MANU	**Manus Island**	**8.74**	**298**	P	**Pn**	**04 32 28.9**	**+1.0**
MANU	**Manus Island**	**8.74**	**298**	⇑P	**Pn**	**04 32 28.6**	**+1.0**
PATS	**Pohnpei**	**13.37**	**14**	Pn	**Pn**	**04 33 26.7**	**-1.8**
PATS	**Pohnpei**	**13.37**	**14**	P	**Pn**	**04 33 28.9**	**+0.5**
AUCSH	**Cairns State H**	**13.99**	**220**	P	**P**	**04 33 39.1**	**-0.2**
	22μm,1.1s						
COEN	**Coen**	**14.00**	**236**	P	**P**	**04 33 38.6**	**-0.8**
	baz=14,SNR=1000						
COEN	**Coen**	**14.00**	**236**		**P**	**04 33 39.3**	**-0.1**
COEN	**Coen**	**14.00**	**236**	P	**P**	**04 33 40.0**	**+0.6**
TV1H	**Townsville Har**	**15.26**	**211**	P	**P**	**04 33 54.9**	**+1.6**
GENI	**Genyem**	**15.29**	**283**	P	**Pn**	**04 33 53.1**	**+0.6**
GENI	**Genyem**	**15.29**	**283**	P	**Pn**	**04 33 51.5**	**-1.0**
	10μm,1.4s,446μm						
MTSU	**Mount Surprise**	**15.82**	**221**	P	**P**	**04 34 01.1**	**+1.6**
	baz=16,SNR=1000						
MTSU	**Mount Surprise**	**15.82**	**221**	P	**P**	**04 34 02.0**	**+2.4**
CTA	**Charters Tower**	**16.23**	**211**	P	**P**	**04 34 05.8**	**+1.8**
	6μm,1.1s,baz=28,slow=13,SNR=1265						
CTA	**Charters Tower**	**16.23**	**211**	P	**P**	**04 34 05.4**	**+1.4**
	57μm,0.8s						
CTAO	**Charters Tower**	**16.23**	**211**		**Pn**	**04 34 04.0**	**+0.1**
CTAO				IAmb	IAmb	04 34 22.9	
	comp=Z,16μm,1.2s						
CTAO	**Charters Tower**	**16.23**	**211**	P	**P**	**04 34 05.6**	**+1.6**
CTAO	**Charters Tower**	**16.23**	**211**	⇓P	**P**	**04 34 05.6**	**+1.6**
CTAO	**Charters Tower**	**16.23**	**211**	P	**Pn**	**04 34 04.0**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,16μm,1.2s						
KOUNC	**Koumac, New Ca**	**16.81**	**149**	P	**P**	**04 34 09.7**	**-0.7**
KOUNC	**Koumac, New Ca**	**16.81**	**149**	P	**Pn**	**04 34 11.8**	**+0.9**
KOUNC	**Koumac, New Ca**	**16.81**	**149**	⇑P	**Pn**	**04 34 10.8**	**-0.1**
SMPI	**Sarmi**	**16.85**	**284**	P	**Pn**	**04 34 11.9**	**+0.4**
	comp=Z,25μm,1.5s,comp=Z,607μm						
DVP	**Devils Point**	**17.16**	**133**	P	**Pn**	**04 34 15.0**	**-0.2**
RTV	**Rentapao**	**17.38**	**133**	P	**Pn**	**04 34 18.2**	**+0.4**
GD1S	**Gladstone Soft**	**17.91**	**192**	P	**Pn**	**04 34 24.8**	**+0.8**
LIFNC	**LIFOU**	**18.66**	**142**	P	**P**	**04 34 29.3**	**-1.4**
LIFNC	**LIFOU**	**18.66**	**142**	P	**P**	**04 34 30.7**	**0.0**
NOUC	**Port Laguerre**	**19.15**	**147**	P	**P**	**04 34 36.3**	**+0.3**
DZM	**Mont Dzumac**	**19.20**	**146**	P	**P**	**04 34 37.2**	**+0.4**
	comp=Z,7μm,0.7s,baz=318,slow=12,SNR=1111						
DZM	**Mont Dzumac**	**19.20**	**146**	*e*Pn	**P**	**04 34 37.3**	**+0.6**
	comp=Z,71μm,1.6s						
DZM				*e*Sn	**S**	**04 38 06.2**	**+0.1**
DZM				*e*LR	LR	04 39 16.4	
	comp=Z,3325μm,32.5s						
DZM	**Mont Dzumac**	**19.20**	**146**	P	**P**	**04 34 36.7**	**-0.1**
DZM	**Mont Dzumac**	**19.20**	**146**	P	**P**	**04 34 37.1**	**+0.4**
DZM	**Mont Dzumac**	**19.20**	**146**	⇑P	**P**	**04 34 36.6**	**-0.1**
SRPI	**Serui, Papua**	**19.27**	**282**	P	**P**	**04 34 38.5**	**+1.0**
	comp=Z,9μm,0.7s,comp=Z,250μm						
TARA	**Tarawa**	**19.35**	**68**	P	**P**	**04 34 38.6**	**+0.3**
TARA	**Tarawa**	**19.35**	**68**	P	**P**	**04 34 38.9**	**+0.7**
	comp=Z,34μm,2.1s						
TARA	**Tarawa**	**19.35**	**68**	⇑P	**P**	**04 34 38.5**	**+0.3**
EIDS	**Eidsvold**	**19.41**	**191**	P	**P**	**04 34 39.7**	**+0.8**
	baz=20,SNR=478						
EIDS	**Eidsvold**	**19.41**	**191**	P	**P**	**04 34 39.5**	**+0.7**
EIDS				IAmb	IAmb	04 34 54.4	
	comp=Z,17μm,1.1s						
EIDS	**Eidsvold**	**19.41**	**191**	P	**Pn**	**04 34 40.5**	**-1.2**
EIDS	**Eidsvold**	**19.41**	**191**	⇓P	**P**	**04 34 39.6**	**+0.8**
KWAJ	**Kwajalein Atol**	**19.47**	**40**	P	**P**	**04 34 40.5**	**+1.0**
KWAJ	**Kwajalein Atol**	**19.47**	**40**	P	**Pn**	**04 34 41.5**	**-0.9**
	comp=Z,26μm,1.8s						
KWAJ	**Kwajalein Atol**	**19.47**	**40**	⇑P	**P**	**04 34 40.3**	**+0.7**
KWAJ	**Kwajalein Atol**	**19.47**	**40**	P	**P**	**04 34 40.6**	**+1.0**
MARNC	**Mare, Loyalty**	**19.68**	**142**	P	**P**	**04 34 40.9**	**-0.8**
MARNC	**Mare, Loyalty**	**19.68**	**142**	P	**P**	**04 34 42.1**	**+0.4**
MARNC	**Mare, Loyalty**	**19.68**	**142**	⇑P	**P**	**04 34 40.7**	**-1.0**
OUENC	**Ouen Island, N**	**19.70**	**146**	P	**P**	**04 34 41.8**	**-0.1**
OUENC	**Ouen Island, N**	**19.70**	**146**	P	**P**	**04 34 42.4**	**+0.4**
PINNC	**Pines Island,**	**20.20**	**145**	P	**P**	**04 34 46.8**	**-0.4**
PINNC	**Pines Island,**	**20.20**	**145**	P	**P**	**04 34 47.6**	**+0.3**
AUBSH	**Beerwah State**	**20.62**	**185**	P	**P**	**04 34 52.3**	**+0.6**
	comp=Z,8μm,1.2s						
QIS	**Mount Isa**	**20.69**	**225**	P	**P**	**04 34 52.7**	**+0.1**
	baz=21,SNR=1000						
QIS	**Mount Isa**	**20.69**	**225**	P	**P**	**04 34 52.8**	**+0.1**
RMQ	**Roma**	**21.03**	**196**	P	**P**	**04 34 56.6**	**+0.5**
	baz=21,SNR=1000						
RMQ	**Roma**	**21.03**	**196**	P	**P**	**04 34 56.6**	**+0.5**
AUWSH	**Wavell State H**	**21.15**	**185**	P	**P**	**04 34 58.2**	**+0.8**
RKPI	**Ransiki, Papua**	**21.36**	**282**	P	**P**	**04 35 00.3**	**+0.4**
	comp=Z,27μm,1.4s,comp=Z,667μm						
GC1S	**Gold Coast 1 S**	**21.87**	**184**	P	**P**	**04 35 06.4**	**+1.4**
GUMO	**Guam**	**22.14**	**333**	P	**P**	**04 35 07.6**	**-0.3**
	comp=Z,2μm,0.9s,baz=157,slow=6.4,SNR=438						
	comp=Z,2μm,0.9s						
GUMO	**Guam**	**22.14**	**333**	P	**P**	**04 35 07.8**	**0.0**
GUMO				IAmb	IAmb	04 35 21.0	
	comp=Z,10μm,1.1s						
GUMO	**Guam**	**22.14**	**333**	P	**P**	**04 35 07.9**	**0.0**
GUMO	**Guam**	**22.14**	**333**	⇑P	**P**	**04 35 06.5**	**-1.4**
GUMO	**Guam**	**22.14**	**333**	P	**P**	**04 35 07.8**	**0.0**
GUMO				pmax	pmax		
	comp=Z,10μm,1.1s						
QLP	**Quilpie**	**22.73**	**206**	P	**P**	**04 35 13.4**	**0.0**
	baz=23,SNR=1000						
QLP	**Quilpie**	**22.73**	**206**	P	**P**	**04 35 13.7**	**+0.3**
QLP	**Quilpie**	**22.73**	**206**	⇓P	**P**	**04 35 12.7**	**-0.6**
FAKI	**Fak Fak**	**22.99**	**277**	P	**P**	**04 35 14.9**	**-0.9**
FAKI				S	**S**	**04 39 16.3**	**+1.7**
FAKI	**Fak Fak**	**22.99**	**277**	P	**P**	**04 35 16.9**	**+1.0**
FAKI	**Fak Fak**	**22.99**	**277**	P	**P**	**04 35 15.3**	**-0.6**
	comp=Z,23μm,1.7s,comp=Z,573μm						
KDU	**Kakadu**	**23.19**	**252**	P	**P**	**04 35 16.6**	**-1.1**
	baz=23,SNR=1000						
KDU	**Kakadu**	**23.19**	**252**	P	**P**	**04 35 17.4**	**-0.3**
KDU	**Kakadu**	**23.19**	**252**	⇓P	**P**	**04 35 16.6**	**-1.1**
SAUI	**Saumlaki**	**23.66**	**264**	P	**P**	**04 35 22.9**	**+0.9**
SAUI	**Saumlaki**	**23.66**	**264**	P	**P**	**04 35 24.0**	**+2.0**
SAUI	**Saumlaki**	**23.66**	**264**	P	**P**	**04 35 23.6**	**+1.6**
	comp=Z,57μm,1.3s						
FUNA	**Funafuti**	**24.03**	**97**	P	**P**	**04 35 24.0**	**-1.4**
FUNA	**Funafuti**	**24.03**	**97**	P	**P**	**04 35 25.1**	**-0.3**
FUNA	**Funafuti**	**24.03**	**97**	⇑P	**P**	**04 35 23.8**	**-1.6**
WB0	**Warramunga Arr**	**24.19**	**234**	P	**P**	**04 35 27.1**	**+0.3**
WB0				IAmb	IAmb	04 35 38.6	
	comp=Z,8μm,0.7s						
ARMA	**Armidale**	**24.28**	**187**	P	**P**	**04 35 28.4**	**+0.8**
	baz=24,SNR=780						
ARMA	**Armidale**	**24.28**	**187**	P	**P**	**04 35 28.4**	**+0.8**
ARMA				IAmb	IAmb	04 35 38.7	
	comp=Z,7μm,0.9s						
ARMA	**Armidale**	**24.28**	**187**	P	**P**	**04 35 28.6**	**+1.0**
ARMA	**Armidale**	**24.28**	**187**	⇑P	**P**	**04 35 27.8**	**+0.2**
WRAB	**Tennant Creek**	**24.31**	**234**	P	**P**	**04 35 27.9**	**0.0**
WRAB				IAmb	IAmb	04 35 38.2	
	comp=Z,10μm,0.7s						
WRAB	**Tennant Creek**	**24.31**	**234**	P	**P**	**04 35 28.1**	**+0.2**
WRAB	**Tennant Creek**	**24.31**	**234**	⇓P	**P**	**04 35 27.5**	**-0.4**
WRAB	**Tennant Creek**	**24.31**	**234**	P	**P**	**04 35 27.9**	**0.0**
WRAB				pmax	pmax		
	comp=Z,10μm,0.7s						
WRA	**Warramunga Arr**	**24.32**	**234**	P	**P**	**04 35 28.5**	**+0.5**
	comp=Z,4μm,0.8s,baz=57,slow=10,SNR=753						
WRA				PcP	**PcP**	**04 39 02.6**	**-1.2**
	comp=Z,366nm,0.6s,baz=67,slow=2.5,SNR=3.1						
WRA				S	**S**	**04 39 35.9**	**-0.1**
	comp=Z,192nm,0.8s,baz=53,slow=14,SNR=1.7						
WRA				P3KPbc		05 08 39.2	
	comp=Z,50nm,1.0s,baz=243,slow=3.1,SNR=7.2						
	comp=Z,4μm,0.8s						
WRA	**Warramunga Arr**	**24.32**	**234**	P	**P**	**04 35 28.3**	**+0.3**
I07AU	**WARRAMUNGA INE**	**24.33**	**234**	P	**P**	**04 35 28.4**	**+0.4**
	baz=52,slow=9.5,SNR=1.8						
I07AU				I	I	06 43 10.0	
	baz=49,slow=304,SNR=1.8						
SIJI	**Sorong**	**24.34**	**282**	P	**P**	**04 35 27.8**	**-0.4**
	comp=Z,3μm,0.7s,baz=80,slow=7.4,SNR=194						
SIJI				S	**S**	**04 39 34.3**	**-2.1**
	comp=Z,188nm,0.8s,baz=228,slow=18,SNR=1.0						
	comp=Z,3μm,0.7s						
MTN	**Manton Dam**	**24.50**	**253**	P	**P**	**04 35 28.8**	**-0.8**
	baz=24,SNR=425						
MTN	**Manton Dam**	**24.50**	**253**	P	**P**	**04 35 28.7**	**-1.0**
MTN				IAmb	IAmb	04 35 40.6	
	comp=Z,16μm,1.4s						
MTN				S	**S**	**04 39 41.6**	**+2.9**
MTN	**Manton Dam**	**24.50**	**253**	P	**P**	**04 35 29.7**	**+0.1**
MTN	**Manton Dam**	**24.50**	**253**	⇓P	**P**	**04 35 28.6**	**-1.0**
I39PW	**PALAU INFRASON**	**24.62**	**303**	P	**P**	**04 35 38.3**	**+7.6**
	baz=97,slow=15,SNR=3.5						
I39PW				I	I	06 26 30.0	
	baz=128,slow=315,SNR=1.1						
BNDI	**Bandanaira**	**25.11**	**273**	P	**P**	**04 35 36.3**	**+1.0**
BNDI	**Bandanaira**	**25.11**	**273**	P	**P**	**04 35 34.9**	**-0.4**
	comp=Z,16μm,1.0s,comp=Z,661μm						
MSVF	**Nonsavu**	**25.18**	**119**	P	**P**	**04 35 34.9**	**-1.0**
	comp=Z,454nm,0.8s,baz=277,slow=8.8,SNR=56						
	comp=Z,454nm,0.8s						
MSVF	**Nonsavu**	**25.18**	**119**	P	**P**	**04 35 35.1**	**-0.8**
MSVF	**Nonsavu**	**25.18**	**119**	P	**P**	**04 35 34.9**	**-1.0**
MSVF	**Nonsavu**	**25.18**	**119**	⇑P	**P**	**04 35 34.0**	**-1.9**
MSVF	**Nonsavu**	**25.18**	**119**	P	**P**	**04 35 35.1**	**-0.8**
MSVF				pmax	pmax		
	comp=Z,1μm,0.8s						
INKA	**Innaminka**	**25.36**	**211**	P	**P**	**04 35 37.3**	**+0.1**
LHI	**Lord Howe Isla**	**25.44**	**172**	P	**P**	**04 35 38.1**	**+0.1**
	baz=26,SNR=50						
LHI	**Lord Howe Isla**	**25.44**	**172**	P	**P**	**04 35 38.0**	**+0.1**
LHI				IAmb	IAmb	04 35 57.2	
	comp=Z,7μm,1.0s						
LHI	**Lord Howe Isla**	**25.44**	**172**	P	**P**	**04 35 38.1**	**+0.1**
LHI	**Lord Howe Isla**	**25.44**	**172**	⇑P	**P**	**04 35 37.9**	**0.0**
NFK	**Norfolk Island**	**25.75**	**153**	P	**P**	**04 35 41.0**	**+0.2**
	baz=26,SNR=18						
NFK	**Norfolk Island**	**25.75**	**153**	P	**P**	**04 35 40.6**	**-0.2**
NFK	**Norfolk Island**	**25.75**	**153**	⇑P	**P**	**04 35 40.0**	**-0.8**
DGTI	**Dogotuki**	**26.14**	**115**	P	**P**	**04 35 43.4**	**-1.1**
MSAI	**Masohi**	**26.21**	**275**	P	**P**	**04 35 45.3**	**+0.2**
	comp=Z,1μm,0.7s,comp=Z,9μmcomp=Z,6μm						
AUDCS	**Dubo College**	**26.56**	**192**	P	**P**	**04 35 47.9**	**-0.2**
	comp=Z,5μm,1.0s						
TAVE	**Taveuni**	**26.61**	**115**	P	**P**	**04 35 48.1**	**-0.5**
CMSA	**Cobar Meteorol**	**26.67**	**198**	P	**P**	**04 35 48.4**	**-0.6**
	baz=27,SNR=1000						
CMSA	**Cobar Meteorol**	**26.67**	**198**	P	**P**	**04 35 49.0**	**0.0**
AS01	**Alice Springs**	**26.71**	**227**	P	**P**	**04 35 49.3**	**-0.2**
NTLH	**Newcastle Hard**	**26.72**	**186**	P	**P**	**04 35 50.9**	**+1.4**
AS31	**Alice Springs**	**26.74**	**227**	P	**P**	**04 35 48.8**	**-1.0**
ASAR	**Alice Springs**	**26.74**	**227**	P	**P**	**04 35 49.7**	**-0.2**
	comp=Z,196nm,0.4s,baz=57,slow=8.4,SNR=1155						
ASAR				PcP	**PcP**	**04 39 08.7**	**-0.5**
	comp=Z,444nm,0.7s,baz=52,slow=2.8,SNR=2.3						
ASAR				S	**S**	**04 40 17.3**	**+3.1**
	comp=Z,287nm,0.9s,baz=41,slow=17,SNR=3.0						
ASAR				P3KPbc		05 08 23.8	
	comp=Z,12nm,0.7s,baz=220,slow=3.6,SNR=13						
	comp=Z,196nm,0.4s						
AAI	**Ambon**	**26.89**	**274**	P	**P**	**04 35 50.4**	**-0.9**
	comp=Z,8μm,0.9s,comp=Z,309μm						
MGCD	**Mangrove Creek**	**27.10**	**187**	P	**P**	**04 35 53.3**	**+0.5**
	baz=27,SNR=54						
MGCD	**Mangrove Creek**	**27.10**	**187**	P	**P**	**04 35 53.4**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**27.11**	**25**	P	**P**	04 35 45.6	-7.2
	baz=227,slow=7.2,SNR=796						
H11S3				T	T	05 04 54.6	
	baz=202,slow=75						
H11S2	**WAKE ISLAND Hy**	**27.11**	**25**	P	**P**	**04 35 53.8**	**+0.9**
	baz=227,slow=7.2,SNR=484						
H11S2				T	T	05 04 47.5	
	baz=202,slow=75						
H11S1	**WAKE ISLAND Hy**	**27.12**	**25**	P	**P**	**04 35 53.8**	**+0.8**
	baz=227,slow=7.2,SNR=499						
H11S1				T	T	05 04 56.3	
	baz=202,slow=75						
KNRA	**Kununurra**	**27.45**	**248**	P	**P**	**04 35 55.3**	**-0.9**
	baz=28,SNR=1000						
KNRA	**Kununurra**	**27.45**	**248**	P	**P**	**04 35 55.3**	**-0.9**
KNRA	**Kununurra**	**27.45**	**248**	P	**P**	**04 35 56.2**	**0.0**
FUTU	**Fugatoga**	**27.55**	**109**	P	**P**	**04 35 57.4**	**+0.4**
WAKE	**Wake Island**	**27.80**	**24**	P	**P**	**04 35 59.5**	**+0.3**
WAKE				IAmb	IAmb	04 36 16.3	
	comp=Z,5μm,1.1s						
WAKE	**Wake Island**	**27.80**	**24**	P	**P**	**04 36 00.0**	**+0.8**
WAKE	**Wake Island**	**27.80**	**24**	⇑P	**P**	**04 35 59.2**	**0.0**
NLAI	**Namlea**	**28.03**	**275**	P	**P**	**04 36 01.5**	**+0.1**
	comp=Z,4μm,1.1s,comp=Z,138μm						
LKBA	**Tubou, Lakemba**	**28.12**	**117**	P	**P**	**04 36 01.8**	**-0.3**
OOD	**Oodnadatta**	**28.26**	**218**	P	**P**	**04 36 03.0**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**28.28**	**24**	T	T	05 06 21.7	
	baz=197,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.29**	**24**	T	T	05 06 15.2	
	baz=197,slow=75						
H11N2	**WAKE ISLAND Hy**	**28.30**	**24**	T	T	05 06 28.2	
	baz=197,slow=75						
WOLH	**Wollongong Har**	**28.31**	**187**	P	**P**	**04 36 03.7**	**+0.1**
STKA	**Stephens Creek**	**28.46**	**205**	P	**P**	**04 36 04.8**	**-0.2**
	comp=Z,986nm,0.8s,baz=11,slow=8.7,SNR=239						
STKA				PcP	**PcP**	**04 39 12.8**	**-0.3**
	comp=Z,479nm,0.9s,baz=360,slow=2.6,SNR=1.7						
STKA				LR	LR	04 48 23.9	
	comp=Z,679μm,19.4s,baz=345,slow=38						
STKA				P3KPbc		05 08 19.9	
	comp=Z,47nm,0.9s,baz=154,slow=4.1,SNR=10.0						
	comp=Z,986nm,0.8s						
STKA	**Stephens Creek**	**28.46**	**205**	P	**P**	**04 36 04.0**	**-0.9**
	baz=29,SNR=1000						
STKA	**Stephens Creek**	**28.46**	**205**	P	**P**	**04 36 04.4**	**-0.6**
STKA	**Stephens Creek**	**28.46**	**205**	P	**P**	**04 36 05.0**	**0.0**
TNTI	**Ternate**	**28.52**	**283**	P	**P**	**04 36 05.5**	**-0.3**
TNTI	**Ternate**	**28.52**	**283**	P	**P**	**04 36 06.4**	**+0.7**
TNTI	**Ternate**	**28.52**	**283**	P	**P**	**04 36 05.1**	**-0.6**
	comp=Z,12μm,1.1s,comp=Z,200μm						
LCRK	**Leigh Creek**	**28.84**	**211**	P	**P**	**04 36 08.3**	**0.0**
SANI	**Sanana**	**29.30**	**277**	P	**P**	**04 36 13.5**	**+0.9**
SANI	**Sanana**	**29.30**	**277**	P	**P**	**04 36 11.8**	**-0.8**
	comp=Z,12μm,1.4s,comp=Z,286μm						
AUUHS	**Ulladulla High**	**29.30**	**188**	P	**P**	**04 36 12.9**	**+0.6**
	comp=Z,3μm,1.1s						
CNB	**Canberra Magne**	**29.42**	**190**	P	**P**	**04 36 14.2**	**+0.7**
SOEI	**Soe**	**30.70**	**261**	P	**P**	**04 36 25.8**	**+0.7**
SOEI	**Soe**	**30.70**	**261**	P	**P**	**04 36 24.7**	**-0.4**
	comp=Z,12μm,0.9s,comp=Z,245μm						
HTT	**Hallett**	**30.95**	**207**	P	**P**	**04 36 26.3**	**-0.7**
	baz=31,SNR=596						
HTT	**Hallett**	**30.95**	**207**	P	**P**	**04 36 27.1**	**+0.1**
HTT	**Hallett**	**30.95**	**207**	⇓P	**P**	**04 36 26.2**	**-0.7**
MULG	**Mulgathing**	**31.04**	**217**	P	**P**	**04 36 27.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**31.04**	**245**	P	**P**	**04 36 27.2**	**-0.7**
MILA	**Mila**	**31.16**	**189**	P	**P**	**04 36 29.7**	**+0.9**
	baz=31,SNR=59						
MILA	**Mila**	**31.16**	**189**	P	**P**	**04 36 29.8**	**+1.0**
MILA	**Mila**	**31.16**	**189**	⇑P	**P**	**04 36 29.5**	**+0.7**
PTPS	**Port Pirie**	**31.16**	**208**	P	**P**	**04 36 28.7**	**-0.1**
WHYH	**Whyalla**	**31.25**	**209**	P	**P**	**04 36 29.7**	**+0.2**
BATI	**Baumata**	**31.33**	**261**	P	**P**	**04 36 31.2**	**+0.7**
	comp=Z,3μm,0.9s,baz=141,slow=1.4,SNR=74						
BATI				LR	LR	04 51 22.1	
	comp=Z,1181μm,19.9s,baz=92,slow=40						
BATI				P3KPbc		05 08 12.3	
	comp=Z,173nm,0.9s,baz=172,slow=6.7,SNR=6.6						
	comp=Z,3μm,0.9s						
BATI	**Baumata**	**31.33**	**261**	P	**P**	**04 36 31.2**	**+0.7**
	comp=Z,9μm,0.9s,comp=Z,264μm						
WRKA	**Warakurna**	**31.74**	**231**	P	**P**	**04 36 32.5**	**-1.6**
	baz=32,SNR=1000						
WRKA	**Warakurna**	**31.74**	**231**	P	**P**	**04 36 33.5**	**-0.5**
WRKA	**Warakurna**	**31.74**	**231**	⇓P	**P**	**04 36 32.5**	**-1.6**
CDOP	**Cateel, Davao**	**31.77**	**296**	⇑P	**P**	**04 36 33.9**	**-0.5**
BBOO	**Buckleboo**	**31.83**	**211**	P	**P**	**04 36 33.5**	**-1.1**
	baz=32,SNR=542						
BBOO	**Buckleboo**	**31.83**	**211**	P	**P**	**04 36 33.7**	**-1.0**
BBOO	**Buckleboo**	**31.83**	**211**	P	**P**	**04 36 34.7**	**0.0**
BIPH	**Bislig**	**32.01**	**296**	⇑*e*P	**P**	**04 36 34.5**	**-2.0**
DAV	**Davao City (W)**	**32.26**	**294**	P	**P**	**04 36

RVAZ Riverhead Bore 35.24 152 P P 04 37 05.9 +1.8
SNPH Sibulan 35.30 296 eP P 04 37 05.6 +0.6
WTAZ Waiatarua 35.37 152 P P 04 37 06.8 +1.5
MBAZ Motutapu North 35.39 152 P P 04 37 07.0 +1.6
CBIJ Chichi jima 35.40 340 P P 04 37 03.4 -2.2
JCJ Chichijima 35.40 340 P P 04 37 05.6 0.0
comp=Z,294nm,0.5s,baz=206,slow=4.6,SNR=14
JCJ LR LR 04 50 43.9
comp=Z,284µm,20.5s,baz=168,slow=34
comp=Z,294nm,0.5s
JCJ Chichijima 35.40 340 P P 04 37 04.0 -1.5
JCJ Chichijima 35.40 340 P P 04 37 05.3 -0.3
JCJ Chichijima 35.40 340 ⇑P P 04 37 02.7 -2.9
EPAZ Eden Park BICE 35.41 152 P P 04 37 07.3 +1.8
ZCP Zamboanga City 35.43 291⇑ eP P 04 37 06.8 +0.8
AWAZ Awhitu Peninsu 35.51 153 P P 04 37 07.7 +1.3
WIAZ Waiheke Island 35.52 152 P P 04 37 08.1 +1.6
ETAZ East Tamaki Re 35.55 152 P P 04 37 08.3 +1.4
AULHS Lilydale High 35.57 190 P P 04 37 08.0 +1.1
comp=Z,3µm,1.2s
MPSI Mapaga 35.71 279 P P 04 37 07.1 -1.4
comp=Z,14µm,0.9s,comp=Z,210µm
KUZ Kuaotunu 35.76 151 P P 04 37 09.4 +0.8
comp=Z,10µm,1.0s
KUZ Kuaotunu 35.76 151 P P 04 37 09.1 +0.5
CORO Coronation Par 35.78 190 P P 04 37 10.1 +1.4
MKAZ Moumakai 35.79 152 P P 04 37 09.5 +0.8
CNOP Candoni, Negro 36.03 296⇑ iP P 04 37 09.8 -1.4
NIUE Niue 36.37 114 P P 04 37 13.5 -0.5
baz=36,SNR=27
NIUE Niue 36.37 114 IAmb IAmb 04 37 32.8
comp=Z,4µm,1.0s
NIUE Niue 36.37 114 P P 04 37 13.8 -0.2
NIUE Niue 36.37 114 ⇑P P 04 37 12.9 -1.1
MYRZ Mayor Island 36.44 151 P P 04 37 16.4 +2.0
TOZ Tahuroa Road 36.45 152 P P 04 37 15.5 +1.0
MOO Moorlands 36.74 190 P P 04 37 18.1 +1.3
baz=37,SNR=279
MOO Moorlands 36.74 190 P P 04 37 18.2 +1.4
TGRZ Tauranga 36.81 151 P P 04 37 18.6 +1.2
PLAI Plampang 37.06 264 P P 04 37 18.7 -1.2
PLAI Plampang 37.06 264 P P 04 37 17.6 -2.3
comp=Z,13µm,0.8s,comp=Z,208µm
KHEZ Kahui Hut 37.09 155 P P 04 37 21.6 +1.7
TAU Tasmania Unive 37.17 189 P P 04 37 19.7 -0.7
TAU IAmb IAmb 04 37 31.9
comp=Z,4µm,0.8s
TAU Tasmania Unive 37.17 189 P P 04 37 21.6 +1.2
comp=Z,6µm,1.1s
TAU Tasmania Unive 37.17 189 ⇑P P 04 37 21.6 +1.2
TAU Tasmania Unive 37.17 189 P P 04 37 19.7 -0.7
TAU pmax pmax
comp=Z,4µm,0.9s
TAU Tasmania Unive 37.17 189 P P 04 37 21.7 +1.3
MBWA Marble Bar 37.29 243 P P 04 37 20.6 -1.2
MBWA IAmb IAmb 04 37 36.9
comp=Z,3µm,0.6s
MBWA Marble Bar 37.29 243 S S 04 42 59.5 +1.8
MBWA Marble Bar 37.29 243 P P 04 37 20.4 -1.4
comp=Z,3µm,0.8s
MBWA Marble Bar 37.29 243 ⇓P P 04 37 20.2 -1.6
MBWA Marble Bar 37.29 243 P P 04 37 20.7 -1.1
IBAJ Ibajay, Aklan 37.32 299⇑ eP P 04 37 22.6 +0.5
PSA00 Pilbara Seismi 37.32 242 P P 04 37 21.5 -0.5
PSA00 IAmb IAmb 04 37 34.0
comp=Z,4µm,1.3s
PSA00 Pilbara Seismi 37.32 242 P P 04 37 21.2 -0.8
URZ Urewera 37.63 151 P P 04 37 24.1 -0.3
comp=Z,4µm,0.9s,baz=54,slow=1.2,SNR=149
URZ S S 04 43 04.9 +2.4
comp=Z,325nm,0.7s,baz=104,slow=23,SNR=7.8
comp=Z,4µm,0.9s
URZ Urewera 37.63 151 P P 04 37 25.4 +1.0
URZ Urewera 37.63 151 ⇑P P 04 37 24.1 -0.3
MXZ Matakaoa Point 37.69 149 P P 04 37 26.0 +1.2
SGKI Sangatta, Kali 37.81 277 P P 04 37 28.3 +2.0
comp=Z,19µm,1.2s,comp=Z,288µm
QRZ Quartz Range 37.83 158 IAmb IAmb 04 37 46.3
comp=Z,3µm,0.7s
QRZ Quartz Range 37.83 158 P P 04 37 27.8 +1.8
TWSI Taliwang, Sumb 37.94 264 P P 04 37 24.9 -2.4
comp=Z,7µm,1.0s,comp=Z,147µm
JCNP Jose Panganiba 38.04 303⇑ iP P 04 37 27.7 -0.4
GQP Guinayangan 38.06 302⇑ eP P 04 37 27.6 -0.7
BKZ Black Stump Fm 38.07 153 P P 04 37 27.9 -0.2
comp=Z,8µm,1.1s
SMKI Samarinda 38.22 277 P P 04 37 30.9 +1.2
comp=Z,15µm,1.0s,comp=Z,292µm
MYLDM Lahad Datu 38.23 286 ⇑P P 04 37 30.6 +0.9
BKB Balikpapan 38.40 276 P P 04 37 33.2 +2.0
BKB Balikpapan 38.40 276 P P 04 37 32.4 +1.2
comp=Z,16µm,1.4s,comp=Z,323µm
TCW Tory Channel 38.82 157 P P 04 37 34.4 +0.1
TCW S S 04 43 21.9 +1.6
LQP Lukban 38.93 301⇑ eP P 04 37 34.6 -1.2
SNZO South Karori 39.08 156 P P 04 37 35.5 -0.9
SNZO IAmb IAmb 04 37 49.8
comp=Z,6µm,0.8s
SNZO South Karori 39.08 156 P P 04 37 36.8 +0.4
comp=Z,12µm,1.9s
SNZO South Karori 39.08 156 ⇑P P 04 37 36.0 -0.4
SNZO South Karori 39.08 156 P P 04 37 36.3 -0.1
BFZ Birch Farm 39.19 154 P P 04 37 37.2 -0.2
JMZ Minamidaito 2 39.39 325 P P 04 37 41.4 +2.2
comp=Z,3µm,0.9s
JMZ Minamidaito 2 39.39 325 ⇓P P 04 37 39.0 -0.2
TGY Tagaytay City 39.44 301⇓ eP P 04 37 42.6 +2.8
LTZ Lake Taylor 39.45 160 P P 04 37 39.7 +0.1
LTZ IAmb IAmb 04 37 53.8
comp=Z,6µm,0.7s
JCZ Jackson Bay 39.57 164 P P 04 37 41.4 +0.8
KHZ Kahutara 39.58 158 ⇓P P 04 37 39.5 -1.1
SRBI Singaraja 39.58 265 P P 04 37 39.2 -1.8
comp=Z,5µm,0.9s,comp=Z,167µm
DNP Denpasar 39.59 264 P P 04 37 40.0 -1.1
comp=Z,13µm,1.2s,comp=Z,256µm
QVP Quezon City--P 39.63 302⇓ eP P 04 37 41.0 -0.3
LUBP Lubang 39.86 300⇑ iP P 04 37 42.2 -1.0
KMBL Kambalda 39.87 227 P P 04 37 42.6 -0.6
baz=40,SNR=599
KMBL Kambalda 39.87 227 P P 04 37 43.0 -0.2
RPZ Rata Peaks 39.89 162 P P 04 37 43.0 -0.1
comp=Z,4µm,1.1s,baz=330,slow=2.2,SNR=219
RPZ S S 04 43 35.3 -1.0
comp=Z,324nm,1.1s,baz=191,slow=14,SNR=2.9
RPZ LR LR 04 52 49.0
comp=Z,660µm,20.7s,baz=314,slow=34
comp=Z,4µm,1.1s
RPZ Rata Peaks 39.89 162 P P 04 37 44.0 +0.8
PCPH Palayan 40.02 303⇑ eP P 04 37 43.5 -1.0
SPMM Sapulut 40.05 285 P P 04 37 45.0 +0.1
BBKI Banjar Baru 40.17 272 P P 04 37 46.3 +0.4
comp=Z,19µm,1.4s,comp=Z,398µm
MEEK Meekatharra 40.21 235 P P 04 37 45.0 -1.0
baz=40,SNR=707
MEEK Meekatharra 40.21 235 P P 04 37 45.8 -0.3
LBZ Lake Benmore 40.24 163 P P 04 37 45.7 -0.3
LBZ IAmb IAmb 04 37 59.2
comp=Z,4µm,1.0s
ABJI Asem Bagus 40.55 265 P P 04 37 47.2 -1.8
comp=Z,4µm,1.0s,comp=Z,197µm
JAGI Jajag, Banyuwa 40.63 264 P P 04 37 48.0 -1.7
JAGI IAmb IAmb 04 37 57.3
comp=Z,6µm,0.9s
JAGI Jajag, Banyuwa 40.63 264 P P 04 37 49.5 -0.2
JAGI Jajag, Banyuwa 40.63 264 P P 04 37 48.0 -1.7
comp=Z,7µm,1.2s,comp=Z,162µm
KKM Kota Kinabalu 40.66 287 P P 04 37 49.6 -0.4
KKM IAmb IAmb 04 38 00.6
comp=Z,7µm,1.1s
KKM Kota Kinabalu 40.66 287 P P 04 37 49.4 -0.6
comp=Z,5µm,1.1s
KKM Kota Kinabalu 40.66 287 ⇑P P 04 37 47.9 -2.1
SGCP Gonzaga 40.66 307⇓ eP P 04 37 49.4 -0.4
ODZ Otahua Downs 40.98 163 P P 04 37 51.8 -0.3
ODZ Otahua Downs 40.98 163 ⇑P P 04 37 47.4 -4.7
APYP Conner 41.09 306⇓ eP P 04 38 02.2 +8.9
BLJI Banyuglugur 41.19 265 P P 04 37 52.1 -2.1
comp=Z,4µm,1.7s,comp=Z,146µm
PACPP Pamplona Cagay 41.33 307⇑ iP P 04 37 53.3 -2.0
GMJI Gumukmas 41.33 265 P P 04 37 52.8 -2.6
comp=Z,4µm,1.0s,comp=Z,103µm
CICP Calayan Island 41.67 308⇑ iP P 04 37 56.9 -1.1
JHJ2 Mitsune 41.72 341 ⇑P P 04 37 54.3 -3.9

JHJ Hachijo jima 2 41.74 341 P P 04 37 57.2 -1.1
comp=Z,469nm,0.6s,baz=167,slow=6.7,SNR=5.8
comp=Z,469nm,0.6s
JOHN Johnston Islan 41.78 56 P P 04 37 59.2 +0.3
JOHN Johnston Islan 41.78 56 P P 04 38 00.3 +1.4
comp=Z,6µm,1.2s
JOHN Johnston Islan 41.78 56 ⇑P P 04 37 59.7 +0.8
JOHN Johnston Islan 41.78 56 P P 04 37 59.4 +0.5
JOW Kunigami 41.88 323 P P 04 37 59.2 -0.5
comp=Z,266nm,0.4s,baz=158,slow=6.7,SNR=33
JOW S S 04 44 08.1 +2.0
comp=Z,149nm,0.3s,baz=121,slow=21,SNR=6.4
comp=Z,266nm,0.4s
JOW Kunigami 41.88 323 IAmb IAmb 04 38 12.7
comp=Z,5µm,1.1s
JOW Kunigami 41.88 323 P P 04 38 00.4 +0.8
comp=Z,5µm,1.5s
JOW Kunigami 41.88 323 ⇑P P 04 37 59.5 -0.1
SYZ Scrubby Hill 41.95 165 P P 04 38 00.9 +1.0
BWJI Baweaa 42.17 268 P P 04 38 01.5 -0.8
comp=Z,16µm,1.0s,comp=Z,287µm
JAM Amami Oshima 42.30 326 P P 04 38 02.8 -0.2
GRJI Gresik 42.31 267 P P 04 38 02.8 -0.5
comp=Z,5µm,1.1s,comp=Z,87µmcomp=Z,870µm
JMJ Miyako jima 2 42.34 318 P P 04 38 05.8 +2.4
comp=Z,29µm,0.9s
GIRL Giralia 42.60 243 P P 04 38 05.6 0.0
baz=43,SNR=371
GIRL Giralia 42.60 243 P P 04 38 05.7 +0.2
GIRL IAmb IAmb 04 38 15.7
comp=Z,11µm,1.1s
GIRL S S 04 44 20.0 +3.2
GIRL Giralia 42.60 243 P P 04 38 06.1 +0.5
comp=Z,11µm,1.2s
GIRL Giralia 42.60 243 ⇑P P 04 38 05.6 0.0
TBJI Tambak Boyo 42.94 267 P P 04 38 06.9 -1.5
comp=Z,5µm,0.9s,comp=Z,156µm
PWJI Pagerwojo 42.96 265 P P 04 38 06.6 -2.0
comp=Z,10µm,1.2s,comp=Z,158µm
KLBR Kellerberrin 43.04 229 P P 04 38 07.5 -1.6
baz=43,SNR=677
KLBR Kellerberrin 43.04 229 P P 04 38 07.4 -1.6
comp=Z,17µm,0.8s
MORW Morawa 43.27 234 P P 04 38 09.8 -1.1
baz=43,SNR=311
MORW Morawa 43.27 234 P P 04 38 09.8 -1.1
MORW Morawa 43.27 234 P P 04 38 09.7 -1.1
comp=Z,5µm,1.0s
MORW Morawa 43.27 234 ⇑P P 04 38 08.6 -2.3
NGJI Ngawi 43.31 266 P P 04 38 11.3 -0.1
comp=Z,6µm,0.9s,comp=Z,255µm
MIDW Midway 43.35 36 P P 04 38 11.9 +0.5
MIDW IAmb IAmb 04 38 29.9
comp=Z,3µm,0.8s
MIDW Midway 43.35 36 P P 04 38 12.7 +1.3
comp=Z,4µm,1.0s
MIDW Midway 43.35 36 ⇑P P 04 38 12.1 +0.6
MIDW Midway 43.35 36 P P 04 38 12.1 +0.6
MIDW ScP ScP 04 43 38.8 +4.6
BLDU Ballidu 43.40 231 P P 04 38 10.4 -1.5
baz=43,SNR=383
BLDU Ballidu 43.40 231 P P 04 38 10.6 -1.3
comp=Z,3µm,1.2s
PBKI Pangkalan Bun 43.40 273 P P 04 38 12.2 0.0
comp=Z,42µm,1.0s,comp=Z,456µm
SBUM Sibu 43.65 280 P P 04 38 14.4 +0.2
SBUM IAmb IAmb 04 38 21.7
comp=Z,9µm,1.6s
SBUM Sibu 43.65 280 ⇑P P 04 38 13.6 -0.5
SBUM Sibu 43.65 280 P P 04 38 15.0 +0.9
YOJ Yonaguni jima 43.66 316 P P 04 38 14.2 +0.2
YOJ IAmb IAmb 04 38 26.5
comp=Z,7µm,0.8s
YOJ Yonaguni jima 43.66 316 P P 04 38 14.6 +0.6
comp=Z,11µm,0.8s
YOJ Yonaguni jima 43.66 316 P P 04 38 17.2 +3.2
YOJ Yonaguni jima 43.66 316 ⇑P P 04 38 14.2 +0.2
YOJ Yonaguni jima 43.66 316 P P 04 38 14.2 +0.2
YOJ pmax pmax
comp=Z,7µm,0.8s
JSG Sagara 43.70 340 IAmb IAmb 04 38 26.6
comp=Z,11µm,2.0s
JSG Sagara 43.70 340 P P 04 38 16.7 +2.6
comp=Z,1µm,0.9s
JSG Sagara 43.70 340 ⇑P P 04 38 13.2 -1.0
UWJI Ujung Watu 43.85 267 P P 04 38 14.6 -1.1
comp=Z,11µm,1.4s,comp=Z,194µm
JIE Ise 43.97 338 P P 04 38 14.4 -2.0
TWGBT Beinan 44.03 312 P P 04 38 15.6 -1.4
comp=Z,3µm,1.0s
TWG Pinlang 44.04 312 P P 04 38 15.8 -1.2
NWAO Narrogin (SRO) 44.06 228 P P 04 38 16.3 -0.9
baz=44,SNR=180
NWAO P P 04 38 16.3 -0.9
baz=44,SNR=180
NWAO Narrogin (SRO) 44.06 228 P P 04 38 16.4 -0.7
NWAO S S 04 44 39.7 +1.8
NWAO Narrogin (SRO) 44.06 228 P P 04 38 16.3 -0.9
comp=Z,2µm,1.0s
NWAO Narrogin (SRO) 44.06 228 P P 04 38 16.2 -0.9
comp=Z,2µm,1.0s
NWAO Narrogin (SRO) 44.06 228 P P 04 38 16.4 -0.7
NWAO S S 04 44 39.7 +1.8
NWAO pmax pmax
comp=Z,2µm,1.0s
NWAO Narrogin (SRO) 44.06 228 P P 04 38 16.2 -0.9
YULB Yu-li 44.22 313 IAmb IAmb 04 38 31.6
comp=Z,6µm,1.0s
YULB Yu-li 44.22 313 P P 04 38 17.8 -0.7
comp=Z,7µm,1.0s
UGM Wanagama 44.23 265 P P 04 38 17.9 -0.9
UGM S S 04 44 42.0 +1.2
UGM Wanagama 44.23 265 P P 04 38 18.3 -0.5
comp=Z,16µm,1.1s
UGM Wanagama 44.23 265 P P 04 38 18.0 -0.8
comp=Z,16µm,1.1s,comp=Z,386µm
JSU Suzuyama 44.28 329 P P 04 38 20.5 +1.6
comp=Z,3µm,2.0s
JSU Suzuyama 44.28 329 ⇑P P 04 38 17.9 -0.9
SMRI Semarang 44.33 266 P P 04 38 19.5 -0.1
comp=Z,13µm,0.8s
SMRI Semarang 44.33 266 P P 04 38 18.7 -0.9
comp=Z,13µm,0.8s,comp=Z,333µm
MUN Mundaring 44.39 230 P P 04 38 18.9 -0.9
baz=44,SNR=409
MUN Mundaring 44.39 230 P P 04 38 19.0 -0.8
comp=Z,4µm,1.0s
YOGI Yogyakarta 44.46 265 P P 04 38 19.7 -0.9
comp=Z,12µm,1.5s,comp=Z,309µmcomp=Z,637µm
JYT Yasato 44.48 343 P P 04 38 19.2 -1.1
NACB Ninganchiao 44.48 314 P P 04 38 20.3 -0.3
NACB IAmb IAmb 04 38 28.4
comp=Z,8µm,1.0s
NACB Ninganchiao 44.48 314 P P 04 38 20.2 -0.3
comp=Z,8µm,0.9s
JMN Monobe 44.52 335 IAmb IAmb 04 38 34.2
comp=Z,7µm,1.2s
JMN Monobe 44.52 335 P P 04 38 21.6 +0.8
comp=Z,5µm,1.6s
JMN Monobe 44.52 335 P P 04 38 21.2 +0.4
JMN Monobe 44.52 335 ⇑P P 04 38 20.3 -0.5
AUALB St Joseph's Co 44.61 225 P P 04 38 21.5 0.0
comp=Z,3µm,1.5s
TPUB Ta-pu 44.65 312 IAmb IAmb 04 38 34.5
comp=Z,6µm,0.9s
TPUB Ta-pu 44.65 312 P P 04 38 20.7 -1.2
comp=Z,7µm,1.4s
JRY Ryogami san 44.68 341 P P 04 38 20.6 -1.3
MTKN Mount Kenneth 44.70 230 P P 04 38 23.9 +1.7
comp=Z,5µm,1.1s
SSLB Suanglung 44.71 313 IAmb IAmb 04 38 34.5
comp=Z,4µm,0.7s
SSLB Suanglung 44.71 313 P P 04 38 21.7 -0.7
comp=Z,6µm,0.9s
INU Inuyama 44.72 339 P P 04 38 22.0 -0.2
comp=Z,1µm,0.9s
INU Inuyama 44.72 339 ⇑P P 04 38 20.8 -1.4
INU Inuyama 44.72 339 P P 04 38 20.9 -1.3
JGF Kuroka 44.82 339 P P 04 38 22.9 -0.2
comp=Z,2µm,1.7s
JGF Kuroka 44.82 339 P P 04 38 22.8 -0.3
JGF Kuroka 44.82 339 ⇑P P 04 38 21.9 -1.2
CTZ Chatham Island 44.87 151 P P 04 38 24.3 +0.9
comp=Z,9µm,1.2s
YHNB Yeheng 44.95 314 IAmb IAmb 04 38 37.2
comp=Z,8µm,0.9s

YHNB Yeheng 44.95 314 P P 04 38 24.2 -0.1
comp=Z,12µm,1.1s
TATO Taipei 45.06 315 P P 04 38 24.9 -0.1
TATO IAmb IAmb 04 38 37.6
comp=Z,11µm,1.4s
TATO Taipei 45.06 315 P P 04 38 25.2 +0.1
comp=Z,7µm,1.2s
TATO Taipei 45.06 315 P P 04 38 25.0 -0.1
RKGY Rocky Gully 45.07 226 P P 04 38 25.1 +0.1
baz=45,SNR=188
RKGY Rocky Gully 45.07 226 P P 04 38 25.2 +0.1
comp=Z,11µm,0.8s
JWT Wachi 45.26 337 P P 04 38 26.9 +0.4
JNU Nakatsue 45.38 331 P P 04 38 26.7 -0.8
comp=Z,613nm,0.6s,baz=113,slow=2.2,SNR=126
JNU LR LR 04 55 07.2
comp=Z,201µm,21.8s,baz=121,slow=33
comp=Z,613nm,0.6s
JNU Nakatsue 45.38 331 IAmb IAmb 04 38 40.6
comp=Z,12µm,1.5s
JNU Nakatsue 45.38 331 P P 04 38 26.8 -0.8
comp=Z,5µm,1.1s
JNU Nakatsue 45.38 331 P P 04 38 26.6 -0.8
JNU Nakatsue 45.38 331 ⇑P P 04 38 26.6 -1.0
MJAR Matsushiro Arr 45.39 341 P P 04 38 25.9 -1.6
comp=Z,241nm,0.8s,baz=162,slow=8.1,SNR=118
MJAR LR LR 04 56 04.7
comp=Z,264µm,21.2s,baz=138,slow=34
MJAR P4KPbc 05 16 21.5
comp=Z,8.1nm,0.9s,baz=163,slow=5.2,SNR=7.8
comp=Z,241nm,0.8s
MAJO Matsushiro 45.39 341 P P 04 38 26.5 -1.0
MAJO Matsushiro 45.39 341 P P 04 38 26.0 -1.5
comp=Z,2µm,0.9s
MAJO Matsushiro 45.39 341 ⇑P P 04 38 25.7 -1.8
MAJO Matsushiro 45.39 341 P P 04 38 26.5 -1.0
MAJO pmax pmax
comp=Z,2µm,1.2s
MAJO Matsushiro 45.39 341 P P 04 38 26.2 -1.3
MAJO pP pP 04 39 01.1 -1.1
MAJO ScP ScP 04 43 47.9 +5.5
MAT Matsushiro 45.39 341 P P 04 38 25.7 -1.9
JGN Niukaw 45.40 340 P P 04 38 26.8 -0.9
JAD Aida 45.45 336 P P 04 38 27.0 -1.0
KPJI Karang Pucung 45.82 266 P P 04 38 30.3 -1.0
comp=Z,18µm,0.7s,comp=Z,246µm
JMM Marumori 45.84 344 IAmb IAmb 04 38 45.9
comp=Z,13µm,2.0s
JMM Marumori 45.84 344 P P 04 38 31.1 +0.1
comp=Z,3µm,1.5s
JMM Marumori 45.84 344 P P 04 38 30.4 -0.6
JMM Marumori 45.84 344 ⇑P P 04 38 30.4 -0.6
JHS Saijyo 45.94 335 P P 04 38 32.0 +0.1
comp=Z,3µm,2.0s
JHS Saijyo 45.94 335 P P 04 38 30.9 -1.0
JHS Saijyo 45.94 335 ⇑P P 04 38 30.8 -1.1
JFU Fukue jima 2 46.07 329 P P 04 38 33.9 +1.0
RAR Rarotonga 46.14 113 P P 04 38 33.6 0.0
comp=Z,391nm,1.0s,baz=246,slow=5.6,SNR=27
comp=Z,391nm,1.0s
RAR Rarotonga 46.14 113 P P 04 38 33.0 -0.7
RAR Rarotonga 46.14 113 P P 04 38 33.3 -0.4
comp=Z,1µm,1.4s
RAR Rarotonga 46.14 113 ⇑P P 04 38 32.7 -1.0
RAR Rarotonga 46.14 113 P P 04 38 32.8 -1.0
CMJI Cimerak 46.29 265 P P 04 38 32.7 -2.3
comp=Z,13µm,0.8s,comp=Z,320µm
JCJI Jatiwangi 46.50 267 P P 04 38 35.9 -0.8
comp=Z,30µm,0.8s,comp=Z,621µm
JSD Sado 46.74 342 IAmb IAmb 04 38 51.6
comp=Z,11µm,2.0s
JSD Sado 46.74 342 P P 04 38 40.0 +2.0
comp=Z,2µm,1.5s
JSD Sado 46.74 342 P P 04 38 39.8 +1.8
JSD Sado 46.74 342 ⇑P P 04 38 37.2 -0.8
JYA Atsumi 46.82 343 P P 04 38 39.0 +0.3
KNMB Chin-men Tao 46.99 312 IAmb IAmb 04 38 53.1
comp=Z,5µm,1.0s
BBJI Bungbulang 47.09 266 P P 04 38 39.6 -1.7
comp=Z,17µm,0.8s
LEM Lembang 47.14 266 P P 04 38 41.3 -0.5
comp=Z,6µm,0.7s,baz=54,slow=6.4,SNR=168
LEM S S 04 45 13.9 -8.9
comp=Z,1µm,0.9s,baz=123,slow=7.2,SNR=6.4
comp=Z,6µm,0.7s
LEM Lembang 47.14 266 P P 04 38 40.2 -1.6
comp=Z,15µm,1.1s,comp=Z,264µm
JOM Ohasama 47.23 345 P P 04 38 41.1 -0.7
JTU Tsushima 47.23 331 P P 04 38 44.0 +2.1
comp=Z,2µm,1.6s
JTU Tsushima 47.23 331 ⇑P P 04 38 41.0 -0.9
H01W1 Cape Leeuwin H 47.24 227 P P 04 38 43.4 +1.5
baz=84,slow=6.1,SNR=650
H01W3 Cape Leeuwin H 47.25 227 P P 04 38 43.1 +1.3
baz=84,slow=6.1,SNR=388
H01W2 Cape Leeuwin H 47.26 227 P P 04 38 43.2 +1.2
baz=84,slow=6.1,SNR=356
CNJI Cibinong 47.61 266 P P 04 38 43.2 -2.0
comp=Z,23µm,1.1s,comp=Z,257µmcomp=Z,583µm
CBJI Citeko 47.92 267 P P 04 38 45.3 -2.3
comp=Z,19µm,0.7s,comp=Z,233µm
XMAS Kiritimati 48.11 82 P P 04 38 48.6 -0.5
XMAS IAmb IAmb 04 38 59.8
comp=Z,10µm,1.4s
XMAS Kiritimati 48.11 82 P P 04 38 49.2 +0.1
TNG Tangerang 48.13 267 P P 04 38 48.6 -0.6
comp=Z,8µm,1.4s,comp=Z,183µm
SKJI Sukabumi 48.19 266 P P 04 38 48.1 -1.6
comp=Z,24µm,0.6s,comp=Z,195µmcomp=Z,13µm
MCQ Macquarie Isla 48.23 177 P P 04 38 50.3 +1.0
baz=48,SNR=121
MCQ Macquarie Isla 48.23 177 P P 04 38 49.4 +0.1
MCQ IAmb IAmb 04 38 58.9
comp=Z,5µm,0.9s
MCQ Macquarie Isla 48.23 177 P P 04 38 50.6 +1.3
comp=Z,6µm,1.0s
MCQ Macquarie Isla 48.23 177 ⇑P P 04 38 50.4 +1.1
MCQ Macquarie Isla 48.23 177 P P 04 38 49.4 +0.1
MCQ pmax pmax
comp=Z,5µm,0.9s
JTM Tenmabayashi 48.52 346 IAmb IAmb 04 38 58.9
comp=Z,3µm,0.9s
JTM Tenmayashi 48.52 346 P P 04 38 51.2 -0.5
comp=Z,4µm,1.1s
JTM Tenmabayashi 48.52 346 P P 04 38 51.2 -0.5
JTM Tenmabayashi 48.52 346 ⇑P P 04 38 51.2 -0.5
SBJI Serang 48.65 267 P P 04 38 52.2 -1.0
comp=Z,5µm,1.3s,comp=Z,124µm
PPBI Pangkal Pinang 48.96 273 P P 04 38 55.1 -0.5
XMI Christmas Isla 49.00 262 P P 04 38 56.4 +0.5
comp=Z,12µm,1.0s
XMI Christmas Isla 49.00 262 ⇑P P 04 38 55.7 -0.3
CGJI Cibinong 49.06 267 P P 04 38 53.8 -2.5
comp=Z,22µm,1.0s,comp=Z,261µm
HKC Hong Kong Obse 49.06 307 ⇑P P 04 38 57.0 +0.8
HKPS Hong Kong Po S 49.08 307 P P 04 38 57.2 +0.9
HKPS Hong Kong Po S 49.08 307 P P 04 38 57.5 +1.2
comp=Z,6µm,1.3s
JOT Ohata 49.09 346 P P 04 38 58.1 +2.0
ERM Erimo 49.23 348 P P 04 38 58.3 +1.2
ERM Erimo 49.23 348 ⇑P P 04 38 57.1 0.0
ERM Erimo 49.23 348 P P 04 38 58.3 +1.2
ERM pmax pmax
comp=Z,816nm,1.0s
ERM Erimo 49.23 348 P P 04 38 56.8 -0.2
SSE Sheshan 49.26 321 P P 04 38 57.4 -0.1
SSE S S 04 45 56.8 +5.0
SSE pmax pmax
comp=Z,540nm,2.0s
SSE LR LR
comp=Z,4µm,19.0s
SSE LR LR
comp=Z,7µm,17.2s
SSE Sheshan 49.26 321 P P 04 38 56.9 -0.7
MCO Taipa Grande 49.47 306 P P 04 39 02.0 +2.8
BLSI Bandar Lampung 49.57 268 P P 04 38 57.8 -2.4
comp=Z,4µm,1.4s,comp=Z,105µm
TJN Taejon 49.71 331 P P 04 39 00.3 -0.5
comp=Z,24µm,1.4s
TJN Taejon 49.71 331ce P P 04 39 00.6 -0.2
DLV T Lat 49.72 291 P P 04 39 01.4 -0.1
comp=Z,6µm,1.0s
DLV T Lat 49.72 291 ⇑P P 04 39 01.5 -0.1
KLI Kotabumi 49.99 269 P P 04 39 00.8 -2.6
comp=Z,6µm,1.4s,comp=Z,141µm
PMBI Palembang 50.23 271 P P 04 39 05.1 -0.1

PMBI S **S** **04 46 05.7 -0.2**
PMBI Palembang 50.23 271 P **P** **04 39 06.2 +1.0**
comp=Z,11μm,1.2s
PMBI Palembang 50.23 271 P **P** **04 39 05.5 +0.3**
comp=Z,11μm,1.2s,comp=Z,172μm
KASI Kota Agung 50.30 268 P **P** **04 39 02.5 -3.2**
comp=Z,15μm,1.0s,comp=Z,148μm
KSRS Korea Array 50.30 332 P **P** **04 39 04.7 -0.6**
comp=Z,324nm,0.7s,baz=148,slow=7.7,SNR=113
KSRS P4KPbc 05 16 39.5
comp=Z,2.0nm,0.8s,baz=156,slow=6.3,SNR=4.1
comp=Z,324nm,0.7s
KSAR Wonju Array Be 50.31 332 P **P** **04 39 04.8 -0.6**
KSAR Wonju Array Be 50.31 332 P **P** **04 39 04.8 -0.6**
JSH Shimam 50.53 346 P **P** **04 39 06.6 -0.2**
MDSI Maura Dua 50.69 269 P **P** **04 39 05.9 -2.7**
comp=Z,6μm,1.1s,comp=Z,137μm
DSRI Dabo 50.71 274 P **P** **04 39 07.7 -1.1**
comp=Z,6μm,1.0s,comp=Z,183μm
YUK Yuzh-Kuril'sk 50.72 351 *c iP* **P** **04 39 08.0 -0.2**
YUK *e* 04 41 11.9
YUK *e*PPP PPP 04 42 03.9
YUK *i* S **S** **04 46 08.2 -3.2**
YUK *e*SS **SS** **04 49 46.9 -1.3**
YUK *i* SSS SSS 04 51 30.8
YUK pmax pmax
comp=Z,16μm,6.9s
YUK pmax pmax
comp=Z,3μm,1.1s
YUK pmax pmax
comp=N,921nm,0.7s
YUK pmax pmax
comp=E,1μm,0.9s
LWLI Liwa 50.77 269 P **P** **04 39 07.8 -1.6**
comp=E,16μm,0.9s,comp=E,212μm
INCN Inchon 50.94 331 P **P** **04 39 09.9 -0.2**
INCN Inchon 50.94 331 P **P** **04 39 09.9 -0.2**
comp=E,7μm,1.2s
INCN Inchon 50.94 331 ⇑P **P** **04 39 09.8 -0.4**
INCN Inchon 50.94 331 P **P** **04 39 09.9 -0.2**
INCN Inchon 50.94 331 P **P** **04 39 10.1 -0.1**
INCN pP **pP** **04 39 46.5 +0.7**
TPRI Tanjung Pinang 50.95 276 P **P** **04 39 09.7 -0.9**
comp=E,4μm,1.5s,comp=E,165μm
QIZ Qiongzhong 51.14 300 IAmb IAmb 04 39 25.3
comp=Z,5μm,1.1s
QIZ Qiongzhong 51.14 300 ⇑*iP* **P** **04 39 11.8 -0.1**
QIZ pP **pP** **04 39 51.4 +4.1**
QIZ S **S** **04 46 18.3 +0.1**
QIZ sS **sS** **04 47 21.9 +1.8**
QIZ SS **SS** **04 49 47.6 -8.1**
QIZ pmax pmax
comp=Z,5μm,1.4s
QIZ pmax pmax
comp=Z,254μm,13.5s
QIZ LR LR
comp=Z,284μm,22.3s
QIZ LR LR
comp=Z,238μm,19.1s
QIZ LR LR
comp=Z,539μm,43.0s
QIZ Qiongzhong 51.14 300 P **P** **04 39 12.4 +0.5**
QIZ pP **pP** **04 39 47.9 +0.6**
JKA Kamikawa-asahi 51.36 349 IAmb IAmb 04 39 28.3
comp=Z,3μm,1.0s
ASAJ Asahikawa 51.36 349 P **P** **04 39 13.7 +0.6**
comp=Z,646nm,0.7s,baz=213,slow=9.8,SNR=92
ASAJ LR LR 04 57 43.5
comp=Z,236μm,20.8s,baz=168,slow=32
comp=Z,646nm,0.7s
ASAJ Asahikawa 51.36 349 P **P** **04 39 13.7 +0.6**
NJ2 Nanjing 51.38 320 ⇑*iP* **P** **04 39 13.5 +0.1**
NJ2 pP **pP** **04 39 53.1 +4.0**
NJ2 sP **sP** **04 40 08.3 +1.9**
NJ2 PcP **PcP** **04 40 25.1 -0.8**
NJ2 PP **PP** **04 41 11.5 -0.8**
NJ2 S **S** **04 46 25.3 +4.3**
NJ2 sS **sS** **04 47 22.6 -0.4**
NJ2 ScS **ScS** **04 48 41.5 -6.6**
NJ2 pmax pmax
comp=Z,3μm,1.1s
NJ2 pmax pmax
comp=Z,286μm,11.3s
JMBI JAMBI 51.49 273 P **P** **04 39 14.9 +0.2**
comp=Z,6μm,1.3s,comp=Z,132μmcomp=Z,652μm
KUR Kuril'sk 51.63 354 ⇑*iP* **P** **04 39 15.4 +0.3**
KUR 04 41 10.6
KUR *e*S **S** **04 46 29.5 +5.5**
KUR pmax pmax
comp=Z,8μm,1.6s
KUR pmax pmax
comp=Z,232μm,17.3s
KUR MLR MLR
comp=Z,113μm,15.0s
MYKOM Kota Tinggi 51.76 277 ⇑P **P** **04 39 15.5 -1.1**
MYKOM Kota Tinggi 51.76 277 P **P** **04 39 17.0 +0.4**
BTDF Bukit Timah Da 51.77 277 P **P** **04 39 15.9 -0.8**
comp=Z,2μm,0.8s
HJU Haeju 51.82 331 P **P** **04 39 16.6 0.0**
HJU pP **pP** **04 39 56.9 +4.5**
HJU S **S** **04 46 24.6 -2.3**
MNAI Manna 51.91 269 P **P** **04 39 16.7 -1.1**
MNAI Manna 51.91 269 P **P** **04 39 16.5 -1.3**
comp=Z,9μm,1.3s
MNAI Manna 51.91 269 P **P** **04 39 16.1 -1.7**
comp=Z,9μm,1.2s,comp=Z,176μm
KSI Kapahiang 52.33 270 P **P** **04 39 19.4 -1.6**
KEKH Kekaha 52.41 56 IAmb IAmb 04 39 41.2
comp=Z,6μm,1.5s
HHU Hamhung 52.49 333 P **P** **04 39 21.3 -0.2**
HHU pP **pP** **04 40 01.9 +4.5**
HHU S **S** **04 46 36.2 +0.4**
PYAG Pyongyang 52.60 331 P **P** **04 39 21.3 -1.0**
PYAG pP **pP** **04 40 02.7 +4.5**
PYAG S **S** **04 46 38.0 +0.6**
JWK2 Keihoku 52.65 348 P **P** **04 39 22.8 +0.2**
MASI Maura Aman, Be 52.73 271 P **P** **04 39 21.1 -2.8**
comp=Z,5μm,0.7s,comp=Z,70μmcomp=Z,557μm
CNSH ChangSha 53.12 312 ⇑P **P** **04 39 26.4 0.0**
CNSH S **S** **04 46 46.6 +1.7**
CNSH pmax pmax
comp=Z,238μm,12.2s
CNSH LR LR
comp=Z,186μm,18.2s
CNSH LR LR
comp=Z,163μm,19.7s
CNSH LR LR
comp=Z,293μm,20.0s
WHN Wuhan 53.45 316 ⇑P **P** **04 39 28.8 +0.1**
WHN pP **pP** **04 40 04.9 +0.4**
WHN pmax pmax
comp=Z,480μm,13.0s
WHN LR LR
comp=Z,508μm,15.1s
WHN LR LR
comp=Z,483μm,20.7s
WHN LR LR
comp=Z,1174μm,25.6s
JRMM Jerantut 53.47 279 P **P** **04 39 29.0 -0.2**
HON Honolulu 53.55 58 IAmb IAmb 04 39 40.7
comp=Z,5μm,1.1s
KIP Kipapa 53.58 58 P **P** **04 39 29.2 -0.6**
KIP IAmb IAmb 04 39 40.8
comp=Z,7μm,1.2s
KIP Kipapa 53.58 58 P **P** **04 39 30.9 +1.0**
comp=Z,6μm,1.4s
KIP Kipapa 53.58 58 *ce*P **P** **04 39 30.2 +0.4**
KIP pmax pmax
comp=Z,9μm,1.4s
KIP Kipapa 53.58 58 P **P** **04 39 30.3 +0.4**
TEY Ternei 53.66 344 ⇑*e*P **P** **04 39 29.4 -0.5**
SDSI Sungai Dareh 53.77 273 P **P** **04 39 29.8 -1.6**
comp=Z,10μm,0.7s,comp=Z,211μm
SUJ Sinuiju 54.03 331 P **P** **04 39 33.5 +0.8**
SUJ pP **pP** **04 40 12.4 +3.7**
SUJ S **S** **04 46 57.0 +0.3**
YSS Yuzh-Sakhalins 54.06 350 P **P** **04 39 32.7 -0.2**
YSS IAmb IAmb 04 39 41.3
comp=Z,5μm,1.4s
YSS Yuzh-Sakhalins 54.06 350 P **P** **04 39 32.7 -0.2**
comp=Z,3μm,1.1s
YSS Yuzh-Sakhalins 54.06 350 *oe*P **P** **04 39 33.0 +0.1**
YSS *e**PP **pP** **04 40 08.8 +0.3**
YSS *e**SP **sP** **04 40 27.3 +1.8**
YSS *e* 04 41 42.4
YSS *e*S **S** **04 46 55.4 -1.5**
YSS pmax pmax
comp=Z,2μm,0.8s
YSS pmax pmax
comp=Z,148μm,13.2s
YSS pmax pmax
comp=N,75μm,14.0s
YSS Yuzh-Sakhalins 54.06 350 P **P** **04 39 32.9 +0.1**
BKNI Bangkinang 54.32 275 P **P** **04 39 34.7 -0.7**
BKNI S **S** **04 47 01.4 -0.2**
BKNI Bangkinang 54.32 275 P **P** **04 39 35.1 -0.3**
comp=N,9μm,0.9s
BKNI Bangkinang 54.32 275 P **P** **04 39 34.7 -0.7**
comp=N,7μm,0.7s,comp=N,199μm
USA0B Ussuriysk Arra 54.34 340 IAmb IAmb 04 39 43.4
comp=Z,9μm,1.5s
USA0B Ussuriysk Arra 54.34 340 *c iP* **P** **04 39 34.5 -0.5**
USRK Ussuriysk Ar. 54.34 340 P **P** **04 39 34.8 -0.1**
comp=Z,360nm,0.7s,baz=175,slow=7.0,SNR=66
comp=Z,360nm,0.7s
DL2 Dalian 54.56 328 ⇑*iP* **P** **04 39 34.4 -2.2**
DL2 sP **sP** **04 40 26.1 -3.8**
DL2 PcP **PcP** **04 40 32.0 -5.9**
DL2 S **S** **04 47 04.8 +0.9**
DL2 pmax pmax
comp=Z,5μm,0.8s
DL2 pmax pmax
comp=Z,200μm,11.8s
KHLU Kahalu`u 54.65 61 P **P** **04 39 37.6 -0.1**
KHLU IAmb IAmb 04 39 47.1
comp=Z,6μm,1.0s
KHLH Kahului Airpor 54.71 59 IAmb IAmb 04 39 52.2
comp=Z,6μm,1.2s
PDSI Padang 54.73 273 P **P** **04 39 35.3 -3.1**
comp=Z,7μm,0.7s,comp=Z,154μm
KHU Kahuku 54.76 61 P **P** **04 39 39.1 +0.5**
KHU Kahuku 54.76 61 P **P** **04 39 39.2 +0.5**
KHU pmax pmax
comp=Z,11μm,0.9s
PPSI Pulau Pagai 54.98 271 P **P** **04 39 37.6 -2.6**
comp=Z,7μm,2.1s,comp=Z,155μm
IPM Ipoh 55.00 280 P **P** **04 39 38.6 -1.7**
IPM IAmb IAmb 04 39 49.2
comp=Z,6μm,1.4s
IPM Ipoh 55.00 280 P **P** **04 39 39.0 -1.3**
comp=Z,3μm,1.0s
IPM Ipoh 55.00 280 ⇑P **P** **04 39 38.6 -1.7**
IPM Ipoh 55.00 280 P **P** **04 39 39.0 -1.3**
POHA Pohakuloa 55.02 61 P **P** **04 39 40.4 -0.3**
POHA Pohakuloa 55.02 61 P **P** **04 39 41.7 +1.1**
comp=Z,8μm,1.1s
POHA Pohakuloa 55.02 61 ⇑P **P** **04 39 40.3 -0.3**
POHA Pohakuloa 55.02 61 P **P** **04 39 41.0 +0.4**
BYL Byron's Ledge 55.13 61 P **P** **04 39 41.1 -0.1**
PPT Papeete 55.14 107 P **P** **04 39 41.8 +0.6**
comp=Z,264nm,0.8s,baz=240,slow=6.0,SNR=13
comp=Z,264nm,0.8s
PPT2 Papeete2 55.14 107 *e*PKIKP **P** **04 39 42.3 +1.0**
comp=Z,2μm,1.3s
PPT2 *e*S **S** **04 47 13.3 +0.7**
comp=Z,797μm,25.2s
PPT2 *e*SS **SS** **04 51 01.4 +2.4**
comp=Z,399μm,30.0s
PPTF Pamatai, Papee 55.15 107 P **P** **04 39 40.7 -0.7**
PPTF IAmb IAmb 04 39 56.7
comp=Z,3μm,1.4s
PPTF Pamatai, Papee 55.15 107 P **P** **04 39 42.9 +1.5**
comp=Z,3μm,1.4s
PPTF Pamatai, Papee 55.15 107 ⇑P **P** **04 39 41.5 +0.1**
PPTF Pamatai, Papee 55.15 107 P **P** **04 39 41.5 +0.1**
TIA Tai'an 55.21 323 P **P** **04 39 40.3 -1.1**
TIA PP **PP** **04 41 44.8 -1.8**
TIA pmax pmax
comp=Z,188μm,11.7s
TIA LR LR
comp=Z,323μm,17.2s
TIA LR LR
comp=Z,319μm,23.5s
TIA LR LR
comp=Z,493μm,27.5s
JCUZ Jacuzzi 55.26 61 P **P** **04 39 42.3 +0.2**
JCUZ IAmb IAmb 04 39 54.2
comp=Z,8μm,1.7s
TIAR Tiarei 55.36 107 *e*PKIKP **P** **04 39 43.7 +0.9**
comp=Z,356nm,1.1s
TVO Taravao 55.47 107 *e*PKIKP **P** **04 39 45.0 +1.4**
comp=Z,3μm,1.6s
KULM Kulim 55.52 281 P **P** **04 39 42.2 -1.8**
KULM IAmb IAmb 04 39 52.8
comp=Z,5μm,1.2s
KULM Kulim 55.52 281 ⇑P **P** **04 39 42.2 -1.8**
KULM Kulim 55.52 281 P **P** **04 39 43.0 -1.0**
MDJ Mudanjiang 55.56 338 P **P** **04 39 43.3 -0.4**
MDJ IAmb IAmb 04 39 52.0
comp=Z,6μm,1.4s
MDJ Mudanjiang 55.56 338 P **P** **04 39 44.8 +1.1**
MDJ pP pP 04 40 16.8 -3.1
MDJ sS sS 04 48 21.0 +1.2
MDJ pmax pmax
comp=Z,930nm,2.4s
MDJ pmax pmax
comp=Z,236μm,11.3s
MDJ LR LR
comp=Z,404μm,23.5s
MDJ LR LR
comp=Z,384μm,23.8s
MDJ LR LR
comp=Z,120μm,22.8s
MDJ Mudanjiang 55.56 338 P **P** **04 39 43.4 -0.3**
SNY Shenyang 55.81 332 ⇑P **P** **04 39 44.1 -1.4**
SNY pP **pP** **04 40 17.8 -3.9**
SNY S **S** **04 47 15.4 -5.0**
SNY sS **sS** **04 48 26.1 +2.9**
SNY pmax pmax
comp=Z,900nm,2.0s
SNY pmax pmax
comp=Z,234μm,11.8s
SNY LR LR
comp=Z,496μm,21.2s
SNY LR LR
comp=Z,549μm,19.6s
SNY LR LR
comp=Z,464μm,21.0s
MNSI Mandailing Nat 55.83 275 P **P** **04 39 43.6 -2.6**
comp=Z,4μm,0.8s,comp=Z,128μm
TBI Tubuai 55.91 114 *e*PKP1 **P** **04 39 47.1 +0.5**
comp=Z,2μm,1.0s
TBI *ep*P **pP** **04 40 21.7 -1.2**
comp=Z,5μm,1.4s
TBI *e*S **S** **04 47 23.2 +0.7**
comp=Z,4026μm,35.8s
TBI *e*SS **SS** **04 51 13.0 +2.2**
comp=Z,1423μm,32.0s
TBI *e*LR LR 04 56 16.3
comp=Z,10000μm,32.8s
TBI *e*LR LR 04 56 16.8
comp=Z,9085μm,41.8s
TBI Tubuai 55.91 114 *e*T T 05 42 47.3
comp=Z,8.7nm,0.3s
SISI Saibi 56.05 273 P **P** **04 39 45.5 -2.3**
UGL Uglegorsk 56.24 350 *e*P **P** **04 39 43.8 -4.6**
UGL *e*S **S** **04 47 30.6 +4.8**
UGL pmax pmax
comp=Z,2μm,1.2s
UGL pmax pmax
comp=Z,183μm,14.0s
CN2 Changchun 56.54 335 *e*P **P** **04 39 49.6 -1.0**
CN2 PP **PP** **04 41 58.8 +0.5**
CN2 S **S** **04 47 28.5 -1.5**
CN2 pmax pmax
comp=Z,1μm,1.5s
CN2 pmax pmax
comp=Z,224μm,13.0s
CN2 LR LR
comp=Z,328μm,21.0s
CN2 LR LR
comp=Z,250μm,21.0s
CN2 LR LR
comp=Z,679μm,22.0s
MEH Mehetia 56.60 107 *e*PKIKP **P** **04 39 52.5 +0.9**
comp=Z,697nm,1.1s
NONG Nongkai 56.63 296 P **P** **04 39 51.4 -0.4**
comp=Z,15μm,0.8s
SKR Severo-Kuril's 56.69 1 *e*P **P** **04 39 51.9 +0.4**
SKR *e*S **S** **04 47 37.0 +5.4**
SKR pmax pmax
comp=Z,72μm,5.6s
SKR smax smax
comp=N,277μm,14.8s
SKR smax smax
comp=E,86μm,12.3s
RPSI Rantau Prapat 56.76 277 IAmb IAmb 04 40 01.1
comp=Z,7μm,1.9s
PSI Prapat 56.78 277 P **P** **04 39 51.5 -1.6**
comp=Z,302nm,0.6s,baz=87,slow=5.8,SNR=75
PSI S **S** **04 47 36.5 +2.1**
comp=Z,42nm,0.9s,baz=324,slow=19,SNR=6.8
PSI P4KPbc 05 17 05.7
comp=Z,2.4nm,0.5s,baz=90,slow=14,SNR=2.1
comp=Z,302nm,0.6s
PSI Prapat 56.78 277 P **P** **04 39 50.5 -2.6**
comp=Z,2μm,1.5s
ENH Enshi 56.78 312 P **P** **04 39 51.2 -1.5**
ENH S **S** **04 47 36.8 +3.1**
ENH Enshi 56.78 312 P **P** **04 39 52.0 -0.7**
ENH pP **pP** **04 40 30.2 +1.2**
VAH Vaihoa 56.87 104 *e*P **P** **04 39 53.7 +0.2**
comp=Z,3μm,1.0s
PBSI Pulau Batu 57.01 274 P **P** **04 39 51.9 -2.6**
comp=Z,3μm,0.8s,comp=Z,201μm
GYA Guiyang 57.05 307 ⇑*iP* **P** **04 39 54.3 -0.5**
GYA pP pP 04 40 35.4 +4.4
GYA PP **PP** **04 42 04.0 +0.6**
GYA S **S** **04 47 39.8 +2.1**
GYA sS sS 04 48 40.8 +0.8
GYA pmax pmax
comp=Z,660nm,2.0s
GYA pmax pmax
comp=Z,279μm,13.4s
GYA LR LR
comp=Z,217μm,22.3s
GYA LR LR
comp=Z,224μm,22.2s
GYA LR LR
comp=Z,396μm,23.7s
NAYO Nakonayok 57.09 291 P **P** **04 39 55.2 +0.1**
comp=Z,59μm,1.3s
LYN LuoYang 57.10 318 ⇑*iP* **P** **04 39 53.8 -1.0**
LYN pP pP 04 40 34.3 +3.2
LYN PP **PP** **04 42 08.6 +5.1**
LYN S **S** **04 47 36.1 -1.6**
LYN sS sS 04 48 39.8 0.0
LYN pmax pmax
comp=Z,730nm,2.0s
LYN pmax pmax
comp=Z,199μm,13.1s
SRIT Nakonsritamara 57.23 284 P **P** **04 39 55.4 -0.7**
SRIT IAmb IAmb 04 40 05.3
comp=Z,4μm,1.3s
SRIT Nakonsritamara 57.23 284 P **P** **04 39 55.1 -1.0**
comp=Z,3μm,1.9s
TSI Tuntungan 57.25 278 P **P** **04 39 54.2 -2.0**
comp=Z,4μm,1.2s,comp=Z,176μm
SURA Surathani 57.33 285 P **P** **04 39 56.1 -0.7**
comp=Z,3μm,1.2s
BNX BinXian 57.34 337 ⇑P **P** **04 39 55.0 -1.2**
BNX pP **pP** **04 40 31.6 -1.0**
BNX sP **PcP** **04 40 48.0 -0.5**
BNX PP **PP** **04 42 06.3 +0.9**
BNX S **S** **04 47 41.5 +1.1**
BNX sS **sS** **04 48 45.8 +4.5**
BNX pmax pmax
comp=Z,340nm,1.5s
BNX pmax pmax
comp=Z,123μm,7.1s
BNX LR LR
comp=Z,361μm,24.4s
BNX LR LR
comp=Z,289μm,29.8s
BNX LR LR
comp=Z,311μm,45.5s
HNS HongShan 57.45 322 ⇑P **P** **04 39 56.1 -1.1**
HNS S **S** **04 47 44.0 +1.9**
HNS pmax pmax
comp=Z,2μm,1.4s
HNS LR LR
comp=Z,311μm,21.5s
HNS LR LR
comp=Z,188μm,21.4s
HNS LR LR
comp=Z,380μm,22.6s
COCO West Island 57.71 260 P **P** **04 39 59.4 0.0**
COCO West Island 57.71 260 P **P** **04 39 59.4 0.0**
TYV Tymovskoe 57.86 351 *e*P **P** **04 40 00.5 +0.7**
TYV *e*S **S** **04 47 49.0 +2.0**
TYV pmax pmax
comp=Z,2μm,1.4s
TYV pmax pmax
comp=Z,124μm,7.6s
TYV smax smax
comp=N,247μm,11.5s
TYV smax smax
comp=E,77μm,11.5s
TYV smax smax
comp=N,176nm,2.0s
TYV smax smax
comp=E,140nm,2.0s
GSI Gunungsitoli 57.88 275 P **P** **04 39 58.3 -2.4**
comp=E,8μm,0.8s
GSI Gunungsitoli 57.88 275 P **P** **04 39 58.3 -2.4**
comp=E,8μm,0.8s,comp=E,159μm
KCSI Kotacane, Aceh 58.03 278 P **P** **04 39 58.4 -3.3**
comp=E,2μm,0.6s,comp=E,102μm
BJT Baijiatuao 58.32 325 P **P** **04 40 02.2 -1.0**
BJT Baijiatuao 58.32 325 P **P** **04 40 02.3 -1.0**
BJT pmax pmax
comp=Z,2μm,1.0s
BJT Baijiatuao 58.32 325 P **P** **04 40 02.7 -0.6**
BJI Beijing 58.34 326 P **P** **04 40 01.8 -1.5**
BJI S **S** **04 47 54.9 +1.3**
BJI sS **sS** **04 48 52.3 -3.6**
BJI pmax pmax
comp=Z,970nm,2.1s
BJI pmax pmax
comp=Z,101μm,12.0s
BJI LR LR
comp=Z,98μm,22.0s
BJI LR LR
comp=Z,140μm,20.6s
BJI LR LR
comp=Z,238μm,22.0s
KLR Kul'dur 58.86 342 P **P** **04 40 06.7 -0.1**
comp=Z,270nm,0.8s,baz=153,slow=4.5,SNR=136
KLR LR LR 05 04 24.2
comp=Z,126μm,21.3s,baz=144,slow=35
comp=Z,270nm,0.8s
GRNR Gornyy 59.01 346 ⇑*iP* **P** **04 40 08.0 +0.2**
GRNR *e*S **S** **04 48 04.3 +2.3**
GRNR pmax pmax
comp=E,60nm,1.2s
GRNR pmax pmax
comp=N,130nm,1.1s
GRNR pmax pmax
comp=Z,280nm,1.1s
GRNR smax smax
comp=E,20nm,1.1s
TIY Taiyuan 59.05 321 ⇑P **P** **04 40 07.4 -1.0**
TIY pP **pP** **04 40 48.8 +4.0**
TIY S **S** **04 48 06.5 +3.5**
TIY sS **sS** **04 49 10.1 +4.3**
TIY pmax pmax
comp=E,22μm,4.1s
TIY LR LR
comp=E,161μm,19.2s
TIY LR LR
comp=E,135μm,22.7s
TIY LR LR
comp=E,248μm,22.0s
PET Petropavlovsk 59.10 3 P **P** **04 40 08.2 -0.2**
PET Petropavlovsk 59.10 3 P **P** **04 40 08.3 0.0**
comp=E,23μm,0.9s
PET Petropavlovsk 59.10 3 ⇑P **P** **04 40 08.1 -0.2**
PET Petropavlovsk 59.10 3 *oe*P **P** **04 40 08.1 -0.2**
PET *e**PP **pP** **04 40 43.1 -1.4**
PET *e* 04 40 50.1
PET *e*S **S** **04 48 03.0 0.0**
PET *e*SS **SS** **04 51 55.1 -4.9**
PET pmax pmax
comp=Z,8μm,0.9s
PET pmax pmax
comp=Z,168μm,10.8s
PET pmax pmax

PET smax smax
comp=N,805µm,24.9s
PET Petropavlovsk 59.10 3 P **P** **04 40 08.3 0.0**
LHMI Lhok Sumawe 59.13 280 P **P** **04 40 08.0 -1.4**
LHMI S **S** **04 48 06.0 +1.2**
LHMI Lhok Sumawe 59.13 280 P **P** **04 40 08.2 -1.1**
comp=N,7µm,1.1s
LHMI Lhok Sumawe 59.13 280 P **P** **04 40 07.7 -1.6**
comp=N,7µm,1.1s,comp=N,219µm
I44RU PETROPAVLOVSK59.15 2 P **P** **04 40 10.0 +1.3**
baz=142,slow=8.0,SNR=3.7
PEA0B Petropavlovsk- 59.15 2 P **P** **04 40 09.2 +0.5**
PEA0B Petropavlovsk- 59.15 2 P **P** **04 40 09.2 +0.5**
PEA0B pmax pmax
comp=Z,8µm,1.0s
PETK Petropavlovsk- 59.15 2 P **P** **04 40 08.2 -0.6**
comp=Z,2µm,1.0s,baz=119,slow=5.2,SNR=296
PETK S **S** **04 48 05.9 +2.2**
comp=Z,64nm,1.1s,baz=120,slow=5.3,SNR=2.8
PETK LR LR 05 02 45.6
comp=Z,157µm,20.6s,baz=198,slow=33
PETK PKP2bc 05 09 51.1
comp=Z,44nm,1.1s,baz=72,slow=4.8,SNR=5.6
PETK P4KPbc 05 17 15.4
comp=Z,4.7nm,1.0s,baz=129,slow=5.7,SNR=7.6
comp=Z,2µm,1.0s
XAN Xi'an 59.21 316 ⇑P **P** **04 40 07.9 -1.7**
XAN pP pP 04 40 45.3 -0.8
XAN PcP **PcP** **04 40 51.3 -5.0**
XAN sP sP 04 41 03.3 +0.1
XAN PP **PP** **04 42 22.6 +0.3**
XAN PcS **PcS** **04 44 52.9 -5.6**
XAN S **S** **04 48 01.9 -3.4**
XAN sS sS 04 49 06.0 -2.1
XAN ScS **ScS** **04 49 42.9 -1.6**
XAN SS **SS** **04 52 00.8 -1.8**
XAN pmax pmax
comp=Z,4µm,1.1s
XAN pmax pmax
comp=Z,259µm,11.8s
XAN LR LR
comp=Z,243µm,19.4s
XAN LR LR
comp=Z,150µm,18.2s
XAN LR LR
comp=Z,464µm,23.7s
XAN Xi'an 59.21 316 P **P** **04 40 08.6 -0.9**
SNSI Sinabang, Aceh 59.28 277 P **P** **04 40 08.1 -2.3**
comp=Z,2µm,0.8s,comp=Z,81µmcomp=Z,767µm
MLSI Meulaboh, Aceh 59.50 279 P **P** **04 40 08.9 -3.0**
comp=Z,4µm,0.7s,comp=Z,34µmcomp=Z,9µm
KMI Kunming 59.66 304 ⇑P **P** **04 40 13.1 +0.1**
KMI ScP **ScP** **04 44 45.3 +0.5**
KMI S **S** **04 48 13.6 +2.0**
KMI pmax pmax
comp=Z,7µm,1.6s
KMI pmax pmax
comp=Z,200µm,12.0s
KMI LR LR
comp=Z,143µm,16.1s
KMI LR LR
comp=Z,231µm,19.7s
KMI LR LR
comp=Z,207µm,18.5s
KMI Kunming 59.66 304 P **P** **04 40 13.7 +0.6**
KMI pP **pP** **04 40 52.6 +3.1**
NKL Nikolayevsk 60.40 350 *e*P **P** **04 40 16.1 -1.1**
NKL *e* 04 40 48.3
NKL *e* 04 42 30.2
NKL *e*S **S** **04 48 16.7 -2.8**
NKL pmax pmax
comp=E,327nm,0.5s
NKL pmax pmax
comp=N,2µm,1.0s
NKL pmax pmax
comp=Z,7µm,0.9s
NKL pmax pmax
comp=Z,50µm,16.0s
NKL smax smax
comp=E,17µm,14.0s
NKL smax smax
comp=N,24µm,13.0s
CM31 Chiang Mai Arr 60.53 295 P **P** **04 40 19.1 +0.3**
CMAR Chiang Mai Arr 60.53 295 P **P** **04 40 19.0 +0.2**
comp=N,364nm,0.6s,baz=122,slow=5.1,SNR=219
CMAR S **S** **04 48 25.8 +3.2**
comp=N,52nm,1.2s,baz=123,slow=9.9,SNR=5.0
CMAR PKPPKP **P'P'df** **05 09 36.5 -3.0**
comp=N,133nm,1.2s,baz=311,slow=3.8,SNR=7.7
comp=N,364nm,0.6s
CHTO Chiang Mai 60.64 296 P **P** **04 40 18.9 -0.7**
CHTO Chiang Mai 60.64 296 P **P** **04 40 18.9 -0.7**
CHTO pmax pmax
comp=Z,9µm,1.4s
SHEM Shemya Is, Ala 60.92 13 P **P** **04 40 20.5 -0.2**
comp=Z,2µm,0.9s,baz=135,slow=0.5,SNR=69
SHEM LR LR 05 03 20.3
comp=Z,899µm,21.6s,baz=216,slow=32
comp=Z,2µm,0.9s
AMKA Amchitka 61.04 17 P **P** **04 40 22.1 +0.5**
PZH PanZhiHua 61.04 305 P **P** **04 40 21.1 -1.2**
PZH pP **pP** **04 40 58.6 -0.4**
PZH PcP **PcP** **04 41 04.3 +0.4**
PZH S **S** **04 48 24.8 -4.2**
PZH sS **sS** **04 49 32.8 +0.4**
PZH pmax pmax
comp=Z,2µm,1.2s
PZH pmax pmax
comp=Z,182µm,12.0s
PZH LR LR
comp=Z,115µm,18.4s
PZH LR LR
comp=Z,127µm,18.0s
PZH LR LR
comp=Z,191µm,20.8s
XLT XiLinHaoTe 61.05 329 ⇑*i*P **P** **04 40 21.4 -0.5**
XLT pP pP 04 40 55.3 -3.5
XLT PP **PP** **04 42 39.9 +1.5**
XLT S **S** **04 48 31.3 +2.9**
XLT SS **SS** **04 52 27.4 -3.7**
XLT pmax pmax
comp=Z,5µm,1.1s
XLT pmax pmax
comp=Z,226µm,8.5s
XLT LR LR
comp=Z,38µm,22.4s
XLT LR LR
comp=Z,223µm,22.4s
XLT LR LR
comp=Z,318µm,22.4s
HEH HeiHe 61.14 340 *e*P **P** **04 40 21.0 -1.3**
HEH pP **pP** **04 40 57.0 -2.1**
HEH PcP **PcP** **04 41 00.4 -3.2**
HEH PP **PP** **04 42 36.1 -2.9**
HEH S **S** **04 48 29.3 +0.1**
HEH sS **sS** **04 49 36.0 +5.3**
HEH pmax pmax
comp=Z,720nm,0.8s
HEH pmax pmax
comp=Z,164µm,7.8s
DRV Dumont d'Urvil 61.23 187 P **P** **04 40 23.1 +0.5**
DRV pP **PcP** **04 41 01.1 -2.6**
CD2 Chengdu 61.38 310 ⇑P **P** **04 40 23.5 -0.9**
CD2 PcP **PcP** **04 41 05.8 +0.7**
CD2 S **S** **04 48 34.3 +1.3**
CD2 pmax pmax
comp=Z,2µm,0.9s
CD2 pmax pmax
comp=Z,221µm,11.2s
CD2 LR LR
comp=Z,84µm,18.8s
CD2 LR LR
comp=Z,84µm,17.5s
CD2 LR LR
comp=Z,328µm,23.0s
HHC Hu-ho-hao-te 61.53 324 *e*P **P** **04 40 24.8 -0.4**
HHC pP pP 04 41 03.1 +1.0
HHC S **S** **04 48 33.8 -0.8**
HHC sS sS 04 49 35.3 -1.9
HHC ScS **SKKSac** **04 50 00.6 -1.1**
HHC pmax pmax
comp=Z,1µm,1.4s
HHC pmax pmax
comp=Z,303µm,8.7s
HHC LR LR
comp=Z,260µm,17.1s
HHC LR LR
comp=Z,427µm,17.1s
HHC LR LR
comp=Z,777µm,18.4s
BTO Baotou 62.30 323 *e*P **P** **04 40 30.6 +0.2**
BTO S **S** **04 48 44.8 +0.5**
BTO LR LR
comp=Z,793µm,21.6s
BTO LR LR
comp=Z,1124µm,23.7s
ADK Adak 62.72 19 P **P** **04 40 32.6 -0.2**
ADK Adak 62.72 19 P **P** **04 40 32.6 -0.2**
ADK pmax pmax
comp=Z,12µm,1.2s
ADK Adak 62.72 19 P **P** **04 40 33.1 +0.4**
TNCH TengChong 63.15 302 P **P** **04 40 36.3 -0.1**
TNCH pP pP 04 41 17.5 +4.1
TNCH sP sP 04 41 31.5 +1.2
TNCH PP **PP** **04 42 56.6 -0.7**
TNCH S **S** **04 48 50.8 -4.8**
TNCH SS **SS** **04 52 59.4 -5.4**
TNCH pmax pmax
comp=Z,4µm,2.3s
TNCH pmax pmax
comp=Z,152µm,12.4s
HIA Hailar 63.27 335 P **P** **04 40 36.2 -0.3**
HIA IAmb IAmb 04 40 44.7
comp=Z,3µm,1.0s
HIA Hailar 63.27 335 P **P** **04 40 36.2 -0.3**
HIA pmax pmax
comp=Z,3µm,1.0s
HIA Hailar 63.27 335 P **P** **04 40 36.2 -0.3**
HIA pP **pP** **04 41 15.2 +1.5**
LZH Lanzhou 63.83 315 ⇑P **P** **04 40 40.3 -0.4**
LZH pP pP 04 41 21.0 +3.3
LZH sP sP 04 41 32.3 -2.3
LZH PP **PP** **04 43 09.0 +5.9**
LZH S **S** **04 49 05.1 +1.4**
LZH sS sS 04 50 07.0 -1.4
LZH SS **SS** **04 53 15.8 +0.8**
LZH pmax pmax
comp=Z,2µm,1.5s
LZH pmax pmax
comp=Z,154µm,8.7s
LZH LR LR
comp=Z,217µm,15.8s
LZH LR LR
comp=Z,209µm,18.5s
LZH LR LR
comp=Z,327µm,20.3s
ZEA Zeya 64.17 342 *e*P **P** **04 40 42.4 +0.1**
ZEA *e* 04 41 17.9
ZEA *e*S **S** **04 49 01.6 -5.3**
ZEA *e* 04 50 16.3
ZEA pmax pmax
comp=E,800nm,2.2s
ZEA pmax pmax
comp=N,2µm,1.3s
ZEA pmax pmax
comp=Z,4µm,1.4s
ZEA pmax pmax
comp=E,29µm,16.8s
ZEA pmax pmax
comp=N,46µm,16.2s
ZEA pmax pmax
comp=Z,112µm,16.3s
ZEA smax smax
comp=N,57µm,13.1s
MND Mandalay 64.18 298 P **P** **04 40 42.2 -0.8**
comp=N,3µm,1.2s
TAOE Nuku Hiva Isla 64.20 97 *e*PKIKP **P** **04 40 42.5 -0.9**
comp=N,8µm,1.1s
TAOE *e*S **S** **04 49 11.0 +2.1**
TAOE Nuku Hiva Isla 64.20 97 *e*T T 05 50 10.9
comp=N,248nm,0.2s
TAOE Nuku Hiva Isla 64.20 97 P **P** **04 40 43.0 -0.5**
TAOE Nuku Hiva Isla 64.20 97 P **P** **04 40 43.5 +0.1**
comp=N,4µm,0.8s
TAOE Nuku Hiva Isla 64.20 97 ⇑P **P** **04 40 42.9 -0.6**
TAOE Nuku Hiva Isla 64.20 97 P **P** **04 40 42.9 -0.5**
PBA Port Blair 64.49 286 P **P** **04 40 44.8 -0.3**
PBA IAmb IAmb 04 41 01.7
comp=Z,4µm,1.3s
PBA Port Blair 64.49 286 ⇑P **P** **04 40 42.9 -2.2**
MA2 Magadan 65.68 358 P **P** **04 40 51.2 -0.7**
comp=Z,2µm,0.8s,baz=159,slow=6.4,SNR=251
comp=Z,2µm,0.8s
MA2 Magadan 65.68 358 P **P** **04 40 51.2 -0.7**
MA2 S **S** **04 49 26.0 +0.9**
MA2 Magadan 65.68 358 P **P** **04 40 51.3 -0.7**
comp=Z,8µm,0.8s
MA2 Magadan 65.68 358 ⇑P **P** **04 40 51.1 -0.8**
MA2 Magadan 65.68 358 P **P** **04 40 51.7 -0.3**
CLES Cleveland East 65.90 22 IAmb IAmb 04 41 05.2
comp=Z,17µm,1.2s
LKP Lekhapani 66.22 303 *e*P **P** **04 40 54.0 -2.0**
LKP *e*P **P** **04 40 55.9 -0.2**
NIKH Nikolski High 66.41 23 P **P** **04 40 56.2 -0.5**
baz=220,SNR=57
NIKH Nikolski High 66.41 23 P **P** **04 40 57.0 +0.3**
comp=Z,10µm,1.3s
IMP Imphal 66.97 300 *e*P **P** **04 40 59.5 -1.5**
IMP *e*P **P** **04 40 59.9 -1.1**
IMP IAmb IAmb 04 41 08.3
comp=Z,1µm,0.8s
MOKO MOKOCHONG 66.98 302 *e*P **P** **04 40 59.0 -2.1**
MOKO *e*P **P** **04 41 00.7 -0.4**
DIBR DIBRUGARH 67.04 303 *e*P **P** **04 41 00.2 -1.0**
DIBR IAmb IAmb 04 41 06.6
comp=Z,7µm,1.1s
CASY Casey 67.34 198 P **P** **04 41 02.5 +0.1**
CASY IAmb IAmb 04 41 13.6
comp=Z,4µm,1.5s
CASY S **S** **04 49 44.9 -0.1**
CASY Casey 67.34 198 ⇑P **P** **04 41 02.3 -0.1**
CASY Casey 67.34 198 P **P** **04 41 02.3 -0.1**
JORH JORHAT 67.34 302 *e*P **P** **04 41 02.9 -0.3**
JORH *e*P **P** **04 41 03.0 -0.3**
ITAN ITANAGAR 67.92 302 *e*P **P** **04 41 06.5 -0.3**
ZIRO ZIRO 67.95 303 *e*P **P** **04 41 06.7 -0.5**
CIT Chita 67.96 334 *e*P **P** **04 41 07.5 +0.9**
CIT *e* 04 41 4.0
CIT *e* 04 43 35.0
CIT *e* 04 45 21.7
CIT *e*S **S** **04 49 56.9 +4.0**
CIT pmax pmax
comp=Z,13µm,2.6s
UNV Unalaska Valle 67.99 23 IAmb IAmb 04 41 17.2
comp=Z,5µm,1.2s
UNV Unalaska Valle 67.99 23 P **P** **04 41 06.1 -0.6**
baz=222,SNR=87
UNV Unalaska Valle 67.99 23 P **P** **04 41 05.8 -0.8**
comp=Z,5µm,1.2s
GTA Gaotai 68.24 317 ⇑P **P** **04 41 08.0 -0.7**
GTA S **S** **04 49 59.0 +2.1**
GTA sS sS 04 51 05.0 +5.2
GTA SS **SS** **04 54 16.3 -6.9**
GTA pmax pmax
comp=Z,170nm,1.4s
GTA pmax pmax
comp=Z,211µm,11.6s
GTA LR LR
comp=Z,177µm,19.1s
GTA LR LR
comp=Z,93µm,23.1s
GTA LR LR
comp=Z,240µm,17.1s
BRDH Bariadhala 68.32 297 P **P** **04 41 09.4 0.0**
comp=Z,563nm,0.6s,baz=90,slow=9.0,SNR=31
BRDH PKPPKP **P'P'df** **05 09 24.9 -1.6**
comp=Z,84nm,0.3s,baz=90,slow=4.1,SNR=9.8
comp=Z,563nm,0.6s
ULN Ulaanbaatar 68.40 327 P **P** **04 41 09.3 -0.3**
ULN IAmb IAmb 04 41 18.3
comp=Z,2µm,0.9s
ULN Ulaanbaatar 68.40 327 ⇑P **P** **04 41 09.2 -0.4**
ULN Ulaanbaatar 68.40 327 ⇑P **P** **04 41 10.8 +1.2**
ULN Ulaanbaatar 68.40 327 P **P** **04 41 09.7 +0.1**
AKUT Akutan 68.50 24 ⇑P **P** **04 41 09.2 -0.5**
TEZP TEZPUR 68.53 302 *e*P **P** **04 41 09.2 -1.4**
TEZP *i* x S 04 49 48.5 -12
SONM Songino Array 68.74 327 P **P** **04 41 11.2 -0.5**
comp=Z,602nm,0.6s,baz=138,slow=6.5,SNR=492
SONM PKPPKP 05 09 22.5
comp=Z,8.5nm,0.8s,baz=312,slow=1.7,SNR=5.4
SONM LR LR 05 12 27.5
comp=Z,152µm,18.5s,baz=108,slow=37
comp=Z,602nm,0.6s
SONM Songino Array 68.74 327 P **P** **04 41 11.1 -0.6**
SONM IAmb IAmb 04 41 20.1
comp=Z,2µm,0.8s
SHL Shillong 68.98 300 P **P** **04 41 12.6 -1.0**
SHL S **S** **04 50 08.1 +1.9**
SHL Shillong 68.98 300 P **P** **04 41 12.6 -1.0**
SHL S **S** **04 50 08.1 +1.9**
SHL pmax pmax
comp=Z,12µm,1.5s
SEY Seymchan 68.99 359 P **P** **04 41 12.3 -0.3**
comp=Z,752nm,1.1s,baz=173,slow=5.8,SNR=289
comp=Z,752nm,1.1s
SPIA Saint Paul Isl 69.21 19 P **P** **04 41 14.1 0.0**
baz=217,SNR=36
GOMU GeErMu 70.39 312 P **P** **04 41 22.3 0.0**
GOMU S **S** **04 50 25.0 +2.2**
GOMU SS **SS** **04 54 51.0 -6.0**
GOMU pmax pmax
comp=Z,320nm,2.1s
GOMU pmax pmax
comp=Z,171µm,11.2s
GOMU LR LR
comp=Z,68µm,18.0s
GOMU LR LR
comp=Z,143µm,19.5s
GOMU LR LR
comp=Z,212µm,18.8s
YAK Yakutsk 70.83 348 P **P** **04 41 23.8 -0.1**
comp=Z,448nm,0.6s,baz=146,slow=2.4,SNR=81
YAK PKPPKP 05 09 16.8
comp=Z,4.7nm,0.3s,baz=178,slow=4.4,SNR=1.3
YAK LR LR 05 15 12.9
comp=Z,82µm,18.0s,baz=142,slow=38
comp=Z,448nm,0.6s
YAK Yakutsk 70.83 348 P **P** **04 41 23.8 -0.1**
YAK IAmb IAmb 04 41 35.2
comp=Z,7µm,1.1s
YAK Yakutsk 70.83 348 ⇑P **P** **04 41 23.3 -0.6**
YAK Yakutsk 70.83 348 *e*P **P** **04 41 23.6 -0.3**
YAK *e* 04 41 43.1
YAK *e* 04 43 58.7
YAK *e*PPP PPP 04 45 45.9
YAK *e*S **S** **04 50 25.2 -0.7**
YAK *e* 04 51 10.9
YAK *e*SS **SS** **04 55 04.5 +2.7**
YAK pmax pmax
comp=Z,5µm,1.0s
YAK pmax pmax
comp=N,3µm,1.5s
YAK pmax pmax
comp=E,1µm,1.8s
YAK pmax pmax
comp=Z,23µm,6.2s
YAK pmax pmax
comp=N,8µm,4.3s
YAK pmax pmax
comp=E,4µm,3.4s
YAK smax smax
comp=N,205µm,13.1s
YAK smax smax
comp=E,79µm,8.3s
YAK Yakutsk 70.83 348 P **P** **04 41 23.8 -0.1**
LSA Lhasa 70.91 304 P **P** **04 41 25.5 -0.2**
LSA S **S** **04 50 31.3 +2.1**
LSA Lhasa 70.91 304 P **P** **04 41 25.3 -0.4**
LSA S **S** **04 50 23.5 -5.6**
LSA LR LR
comp=E,243µm,25.6s
LSA LR LR
comp=E,253µm,29.9s
LSA LR LR
comp=E,395µm,26.3s
LSA Lhasa 70.91 304 P **P** **04 41 25.5 -0.2**
LSA S **S** **04 50 31.3 +2.1**
LSA pmax pmax
comp=Z,2µm,0.8s
LSA Lhasa 70.91 304 P **P** **04 41 25.8 +0.1**
LSA pP **pP** **04 42 07.1 +3.7**
S12K Black Hills 71.12 24 P **P** **04 41 25.2 -0.6**
baz=226,SNR=78
CCD Concordia, Ant 71.17 188 P **P** **04 41 26.6 +0.3**
CAL Calcutta 71.22 296 *e*P **P** **04 41 27.2 +0.1**
CAL *e*P **P** **04 41 28.8 +1.6**
VNDA Vanda 71.34 178 P **P** **04 41 26.6 -0.3**
comp=Z,568nm,0.8s,baz=331,slow=6.7,SNR=265
VNDA LR LR 05 06 31.8
comp=Z,138µm,21.2s,baz=352,slow=30
comp=Z,568nm,0.8s
VNDA Vanda 71.34 178 P **P** **04 41 26.4 -0.5**
VNDA IAmb IAmb 04 41 45.2
comp=Z,6µm,1.5s
VNDA Vanda 71.34 178 P **P** **04 41 26.6 -0.3**
SDPT Sand Point 71.52 25 IAmb IAmb 04 41 39.4
comp=Z,6µm,1.0s
SDPT Sand Point 71.52 25 P **P** **04 41 27.0 -1.2**
baz=227,SNR=46
I55US WINDLESS BIGHT 71.77 177 P **P** **04 41 33.6 +4.3**
baz=14,slow=14,SNR=3.2
SBA Scott Base 71.85 177 P **P** **04 41 30.7 +0.9**
SBA IAmb IAmb 04 41 50.3
comp=Z,6µm,1.4s
SBA Scott Base 71.85 177 P **P** **04 41 30.7 +0.9**
SBA pmax pmax
comp=Z,6µm,1.4s
SBA Scott Base 71.85 177 P **P** **04 41 30.9 +1.0**
ZAK Zakamensk 71.89 328 *e*P **P** **04 41 30.5 -0.2**
ZAK pmax pmax
comp=Z,4µm,1.1s
BOD Bodaibo 71.94 338 *e*P **P** **04 41 29.7 -0.9**
BOD pmax pmax
comp=Z,3µm,2.1s
IRK Irkutsk 72.46 330 *e*P **P** **04 41 32.6 -1.3**
IRK *e* 04 50 48.1
IRK pmax pmax
comp=Z,4µm,1.4s
BWNR Bhubaneshwar 72.95 293 *e*P **P** **04 41 35.7 -1.7**
CHGN Chignik 73.03 25 P **P** **04 41 36.3 -0.8**
baz=229
TAPN Taplejung 73.08 301 *e*P **P** **04 41 37.9 -0.6**
ODAN Odare 73.21 300 *e*P **P** **04 41 38.6 -0.6**
comp=Z,866nm,0.6s
PTCN Pitcairn Islan 73.66 114 P **P** **04 41 41.6 0.0**
MOY Mondy 73.80 328 *e*P **P** **04 41 41.5 -0.5**
MOY pmax pmax
comp=Z,7µm,3.8s
RAMN Ramite 73.92 300 *e*P **P** **04 41 42.3 -1.0**
comp=Z,584nm,0.3s
CHIR Chirikof Islan 73.92 26 IAmb IAmb 04 41 53.4
comp=Z,9µm,1.4s
CHIR Chirikof Islan 73.92 26 P **P** **04 41 41.8 -0.6**
baz=232
GAMB Gambell 74.16 15 IAmb IAmb 04 41 55.1
comp=Z,4µm,1.3s
GAMB Gambell 74.16 15 P **P** **04 41 43.6 0.0**
baz=214,SNR=245
R16K Pilot Point 74.20 24 P **P** **04 41 43.7 -0.3**
baz=229
JIRN Jiri 74.46 301 *e*P **P** **04 41 46.2 -0.4**
comp=Z,4µm,0.7s
BILL Bilibino 74.52 4 P **P** **04 41 45.3 -0.3**
BILL IAmb IAmb 04 41 54.7
comp=Z,4µm,0.8s
BILL Bilibino 74.52 4*d* *i*P **P** **04 41 45.2 -0.4**
BILL *i* *PP **pP** **04 42 24.7 +0.9**
BILL *i* 04 44 35.1
BILL *i* S **S** **04 51 03.2 -4.4**
BILL *i* *SS **sS** **04 52 08.6 -4.0**
BILL *i* SS **SS** **04 56 02.7 +4.8**
BILL pmax pmax
comp=Z,6µm,1.0s
BILL pmax pmax
comp=Z,5µm,0.9s
BILL MLR MLR
comp=Z,107µm,17.0s
R17K Ugashik Creek 74.74 25 P **P** **04 41 46.8 -0.3**
baz=230
RAGD RAYAGADA 74.88 292 *e*P **P** **04 41 48.1 -0.6**
RAGD *e*P **P** **04 41 48.5 -0.2**
RAGD IAmb IAmb 04 41 58.4
comp=Z,3µm,1.1s
P16K Nushagak River 75.00 23 P **P** **04 41 47.6 -0.9**

baz=229,SNR=51
SII **Sitkinak Islan** 75.01 26 P P 04 41 48.4 -0.3
baz=233
SII **Sitkinak Islan** 75.01 26 P P 04 41 49.3 +0.6
comp=Z,11µm,1.2s
PKIN **Phulchoki** 75.12 301 eP P 04 41 49.1 -1.2
comp=Z,3µm,0.6s
JHSG **JHARSUGUGA** 75.13 294 eP P 04 41 49.4 -0.8
JHSG eP P 04 41 49.9 -0.2
JHSG IAmb IAmb 04 41 59.6
comp=Z,4µm,1.1s
KKN **Kakani** 75.27 301 eP P 04 41 49.7 -1.4
Q16K **King Salmon** 75.30 24 P P 04 41 49.2 -1.0
baz=230,SNR=68
O16K **Kokwok River B** 75.33 23 P P 04 41 49.7 -0.8
baz=228
Q17K **Contact Creek** 75.34 24 P P 04 41 49.9 -0.7
baz=231,SNR=315
PALK **Pallekele** 75.40 279 P P 04 41 51.3 -0.5
PALK IAmb IAmb 04 42 01.8
comp=Z,12µm,1.6s
PALK **Pallekele** 75.40 279 ⇑P P 04 41 50.9 -1.0
PALK **Pallekele** 75.40 279 ⇓P P 04 41 54.2 +2.4
N16K **Nishlik Lake** 75.67 22 P P 04 41 53.2 +0.9
baz=228,SNR=717
OHAK **Old Harbor** 75.81 26 P P 04 41 53.1 0.0
baz=233,SNR=44
O17K **Koliganek Bris** 75.83 23 P P 04 41 52.9 -0.4
baz=229
GKN **Gorkha** 75.88 301 eP P 04 41 53.4 -1.0
comp=Z,10µm,0.9s
Q18K **Katmai Hardscr** 75.95 24 P P 04 41 53.4 -0.7
baz=232,SNR=396
P18K **Big Mountain,** 76.32 24 IAmb IAmb 04 42 07.4
comp=Z,7µm,1.4s
P18K **Big Mountain,** 76.32 24 P P 04 41 55.0 -1.1
baz=231,SNR=155
AIS **Amsterdam Isla** 76.34 233 P P 04 41 56.9 +0.2
AIS **Amsterdam Isla** 76.34 233 ⇑P P 04 41 57.1 +0.5
VLK **Valmikinagar** 76.36 300 eP P 04 41 56.3 -0.6
VLK IAmb IAmb 04 42 13.5
comp=Z,2µm,0.7s
VLK *i* x S 04 51 21.2 -8.3
KDAK **Kodiak Island** 76.44 26 P P 04 41 56.6 -0.1
comp=Z,897nm,0.9s,baz=242,slow=2.7,SNR=119
KDAK LR LR 05 11 28.2
comp=Z,622µm,21.6s,baz=257,slow=32
comp=Z,897nm,0.9s
KDAK **Kodiak Island** 76.44 26 P P 04 41 56.6 -0.1
KDAK IAmb IAmb 04 42 08.7
comp=Z,5µm,1.1s
KDAK **Kodiak Island** 76.44 26 P P 04 41 56.7 -0.1
baz=234
KDAK **Kodiak Island** 76.44 26 ⇑P P 04 41 56.6 -0.1
KDAK **Kodiak Island** 76.44 26 P P 04 41 56.6 -0.1
KDAK pmax pmax
comp=Z,5µm,1.1s
ANM **Nome** 76.48 16 IAmb IAmb 04 42 08.6
comp=Z,5µm,1.2s
ANM **Nome** 76.48 16 P P 04 41 57.3 +0.4
baz=220,SNR=674
TNA **Tin City** 76.57 15 P P 04 41 57.4 +0.1
baz=218,SNR=328
TNA **Tin City** 76.57 15 ⇑P P 04 41 56.9 -0.4
VAR **Varanasi** 76.62 298 ⇑*i*P P 04 41 56.7 -1.7
VAR eP P 04 41 56.8 -1.7
VAR IAmb IAmb 04 42 08.4
comp=Z,3µm,0.7s
VAR *i* x S 04 51 28.5 -3.9
O18K **Koktuh Hills** 76.62 23 P P 04 41 56.8 -1.0
baz=231
Q19K **Cape Douglas,** 76.68 25 P P 04 41 57.3 -0.8
baz=233,SNR=149
BLSP **Bilaspur** 76.70 294 eP P 04 41 58.4 -0.7
BLSP IAmb IAmb 04 42 08.4
comp=Z,4µm,1.3s
DANN **Dangsing** 76.71 301 eP P 04 41 57.9 -1.4
Q20K **Shuyak Island** 77.01 25 P P 04 41 59.8 -0.2
baz=234
O19K **Port Alsworth** 77.18 23 P P 04 41 60.0 -0.9
baz=232,SNR=150
P19K **Oil Pt** 77.29 24 P P 04 42 01.0 -0.5
P19K **Oil Pt** 77.29 24 P P 04 42 01.0 -0.5
baz=233
N19K **Bonanza Creek** 77.50 23 P P 04 42 02.6 -0.2
baz=232
O20K **Slope Mountain** 77.79 24 P P 04 42 03.6 -0.8
baz=234,SNR=179
HOM **Homer** 77.94 25 P P 04 42 05.1 +0.1
baz=234,SNR=48
L19K **White Mountain** 78.22 22 IAmb IAmb 04 42 19.3
comp=Z,8µm,1.2s
L19K **White Mountain** 78.22 22 P P 04 42 07.2 +0.5
baz=231,SNR=752
TTA **Tatalina** 78.28 21 P P 04 42 07.2 +0.2
baz=230,SNR=656
TTA **Tatalina** 78.28 21 ⇑P P 04 42 06.7 -0.3
BRLK **Bradley Lake** 78.32 25 IAmb IAmb 04 42 19.0
comp=Z,8µm,1.2s
WMQ **Urumqi** 78.32 317 P P 04 42 07.1 -0.5
WMQ PcP PcP 04 42 14.8 -1.6
WMQ pP pP 04 42 50.0 +3.9
WMQ S S 04 51 48.1 -2.1
WMQ pmax pmax
comp=Z,660nm,1.5s
WMQ pmax pmax
comp=Z,92µm,8.9s
WMQ LR LR
comp=Z,55µm,16.9s
WMQ LR LR
comp=Z,59µm,17.9s
WMQ LR LR
comp=Z,101µm,24.1s
BRSE **Bradley Lake S** 78.36 25 P P 04 42 07.2 -0.2
baz=235,SNR=149
BRCI **Bahraich** 78.39 300 eP P 04 42 07.2 -1.1
BRCI eP P 04 42 08.5 +0.2
BRCI IAmb IAmb 04 42 17.5
comp=Z,6µm,1.1s
SALM **Salem** 78.49 283 eP P 04 42 08.9 -0.1
SALM eP P 04 42 09.0 -0.1
SALM IAmb IAmb 04 42 19.8
comp=Z,7µm,1.1s
SALM *i* x S 04 51 49.0 -3.8
N20K **Mount Spurr** 78.62 23 P P 04 42 07.7 -1.2
baz=234,SNR=193
SPCR **Spurr Chakacha** 78.62 23 P P 04 42 07.6 -1.3
baz=234,SNR=94
M20K **Styx River** 78.67 22 IAmb IAmb 04 42 21.5
comp=Z,7µm,1.2s
M20K **Styx River** 78.67 22 P P 04 42 09.1 -0.1
baz=233
L20K **Farewell, AK** 78.76 22 P P 04 42 10.0 +0.5
baz=232,SNR=598
CAPN **Captain Cook N** 78.78 24 P P 04 42 10.5 +0.8
baz=235,SNR=197
KOD **Kodaikanal** 78.99 282 eP P 04 42 11.1 -1.1
KOD eP P 04 42 12.0 -0.2
KOD IAmb IAmb 04 42 21.9
comp=Z,4µm,1.2s
HYB **Hyderabad** 79.09 289⇑eP P 04 42 10.6 -1.8
HYB IVmB_BB 04 42 18.2
comp=Z,40µm,4.5s
HYB IVMs_BB IVMs_BB 05 09 36.8
comp=Z,46µm,58.2s
SEW **Seward** 79.11 25 IAmb IAmb 04 42 23.4
comp=Z,8µm,1.1s
SEW **Seward** 79.11 25 P P 04 42 11.2 -0.2
baz=236,SNR=335
GCSA **Galena City Sc** 79.18 19 P P 04 42 11.8 +0.1
baz=229
K20K **Telida** 79.24 21 IAmb IAmb 04 42 24.8
comp=Z,6µm,1.4s
K20K **Telida** 79.24 21 P P 04 42 12.5 +0.4
baz=232,SNR=887
SKT **Skwentna** 79.34 23 P P 04 42 11.1 -1.7
baz=234,SNR=214
SUA **Susitna One** 79.35 23 IAmb IAmb 04 42 24.1
comp=Z,6µm,1.3s
SUA **Susitna One** 79.35 23 P P 04 42 11.7 -1.2
baz=235,SNR=383
RC01 **Rabbit Creek A** 79.54 24 IAmb IAmb 04 42 25.6
comp=Z,8µm,1.0s
RC01 **Rabbit Creek A** 79.54 24 P P 04 42 13.2 -0.5
baz=236,SNR=795
TIXI **Tiksi** 79.61 352 P P 04 42 13.2 -0.8
comp=Z,130nm,0.6s,baz=89,slow=22,SNR=102
TIXI S S 04 52 07.0 +4.4
comp=Z,74nm,1.1s,baz=270,slow=24,SNR=10
TIXI PKPPKP P'P'df 05 09 03.8 +0.4
comp=Z,5.7nm,1.0s,baz=90,slow=24,SNR=2.8
comp=Z,130nm,0.6s
TIXI **Tiksi** 79.61 352 P P 04 42 12.4 -1.5
TIXI **Tiksi** 79.61 352 ⇑P P 04 42 12.4 -1.5
TIXI **Tiksi** 79.61 352 ⇑P P 04 42 14.8 +0.9
PPLA **Purkeypile** 79.63 22 IAmb IAmb 04 42 25.9
comp=Z,9µm,1.6s
PPLA **Purkeypile** 79.63 22 P P 04 42 13.6 -0.9
baz=233,SNR=155
M22K **Willow** 79.76 23 P P 04 42 14.2 -0.7
baz=236
P23K **Montague Islan** 79.91 26 P P 04 42 15.8 -0.1
baz=238
LGTI **Lohaghat** 79.97 301 eP P 04 42 16.1 -0.6
LGTI eP P 04 42 17.0 +0.2
PWL **Port Wells** 79.98 25 P P 04 42 16.0 -0.2
baz=237,SNR=451
CAST **Castle Rocks** 79.98 21 IAmb IAmb 04 42 27.5
comp=Z,9µm,1.6s
CAST **Castle Rocks** 79.98 21 P P 04 42 15.4 -0.8
baz=234,SNR=715
PTH **Pithoragarh** 80.01 301 eP P 04 42 15.9 -1.3
PTH eP P 04 42 16.5 -0.8
PTH *i* x S 04 52 10.6 +1.7
PMR **Palmer** 80.06 24 IAmb IAmb 04 42 28.2
comp=Z,6µm,1.1s
PMR **Palmer** 80.06 24 P P 04 42 16.1 -0.5
baz=236,SNR=464
CUT **Chulitna** 80.07 23 IAmb IAmb 04 42 28.2
comp=Z,9µm,1.2s
CUT **Chulitna** 80.07 23 P P 04 42 15.4 -1.1
baz=235,SNR=212
Q23K **Middleton Isla** 80.08 26 P P 04 42 17.0 +0.4
baz=239,SNR=19
MID **Middleton Isla** 80.08 26 P P 04 42 17.3 +0.6
MID **Middleton Isla** 80.08 26 P P 04 42 17.3 +0.6
MID pmax pmax
comp=Z,12µm,1.4s
PCHI **Peechi** 80.12 282⇑eP P 04 42 17.6 -0.4
PCHI eS S 04 52 08.9 -1.3
CHUM **Lake Minchumin** 80.18 21 P P 04 42 17.0 -0.2
baz=233,SNR=646
KNK **Knik Glacier** 80.23 24 IAmb IAmb 04 42 32.2
comp=Z,11µm,1.4s
KNK **Knik Glacier** 80.23 24 P P 04 42 17.4 -0.1
baz=237,SNR=340
KTH **Kantishna Hill** 80.49 22 IAmb IAmb 04 42 34.4
comp=Z,5µm,1.2s
SML **Sawmill** 80.50 24 P P 04 42 18.8 -0.2
baz=237,SNR=670
DGZ **Jazzator, Alta** 80.58 323*c* *i*P P 04 42 18.5 -1.4
DGZ pmax pmax
comp=Z,3µm,1.1s
DGZ MLR MLR
comp=Z,224µm,19.0s
JHNI **Jhansi** 80.61 297 eP P 04 42 17.4 -2.9
JHNI eP P 04 42 17.7 -2.6
JHNI IAmb IAmb 04 42 27.8
comp=Z,4µm,1.5s
JHNI *i* x S 04 52 07.0 -7.9
TRF **Thorofare Moun** 80.66 22 P P 04 42 18.9 -1.1
baz=235,SNR=468
M23K **Glacier View** 80.73 24 P P 04 42 19.7 -0.5
baz=238,SNR=372
BPAW **Bear Paw Mtn.** 80.78 21 IAmb IAmb 04 42 31.6
comp=Z,6µm,1.7s
BPAW **Bear Paw Mtn.** 80.78 21 P P 04 42 19.5 -1.0
baz=234,SNR=179
EYAK **Cordova Ski Ar** 80.91 25 IAmb IAmb 04 42 33.3
comp=Z,5µm,1.3s
EYAK **Cordova Ski Ar** 80.91 25 P P 04 42 21.1 0.0
baz=240,SNR=196
EYAK **Cordova Ski Ar** 80.91 25 P P 04 42 21.1 0.0
comp=Z,4µm,1.5s
SCM **Sheep Creek Mo** 80.91 24 P P 04 42 21.3 +0.1
baz=238,SNR=583
WAT1 **Susitna Watana** 80.97 23 P P 04 42 20.8 -0.6
baz=237
I21K **Tanana** 81.07 20 IAmb IAmb 04 42 34.4
comp=Z,13µm,1.9s
I21K **Tanana** 81.07 20 P P 04 42 22.0 +0.1
baz=233
H21K **Melozitna Rive** 81.09 19 P P 04 42 21.8 -0.2
H21K IAmb IAmb 04 42 34.4
comp=Z,7µm,1.6s
H21K **Melozitna Rive** 81.09 19 P P 04 42 22.2 +0.2
baz=232
AKL **Akola** 81.10 292 eP P 04 42 21.1 -2.0
AKL eP P 04 42 21.8 -1.3
AKL IAmb IAmb 04 42 30.9
comp=Z,6µm,1.3s
AKL *i* x pP 04 43 04.1 +2.4
AKL *i* x S 04 52 15.2 -4.9
LATR **Latur** 81.14 290 eP P 04 42 21.0 -2.2
WAT6 **Susitna Watana** 81.15 23 P P 04 42 22.0 -0.6
baz=238,SNR=462
RND **Reindeer** 81.17 22 IAmb IAmb 04 42 33.7
comp=Z,7µm,1.5s
DIV **Divide** 81.19 25 IAmb IAmb 04 42 34.9
comp=Z,4µm,1.0s
KLU **Klutina** 81.31 25 IAmb IAmb 04 42 35.7
comp=Z,5µm,1.0s
KLU **Klutina** 81.31 25 P P 04 42 23.5 +0.1
baz=240,SNR=965
MCK **McKinley** 81.32 22 IAmb IAmb 04 42 35.0
comp=Z,9µm,1.1s
MCK **McKinley** 81.32 22 P P 04 42 22.3 -0.9
baz=236,SNR=1000
G21K **Allakaket** 81.39 18 P P 04 42 23.6 +0.1
baz=232
MLY **Manley** 81.41 20 P P 04 42 23.0 -0.8
MLY IAmb IAmb 04 42 35.6
comp=Z,8µm,1.7s
MLY **Manley** 81.41 20 P P 04 42 23.4 -0.4
baz=234,SNR=522
ZSN **Zaisan** 81.41 320⇑*i*P P 04 42 22.7 -1.5
comp=Z,2µm,3.1s,baz=320
ZSN *e*S S 04 52 21.0 -1.4
baz=320
ZSN **Zaisan** 81.41 320*c* *i*P P 04 42 22.6 -1.5
ZSN *e*S S 04 52 20.9 -1.4
ZSN pmax pmax
comp=Z,2µm,3.1s
M24K **Tolsona, Glenn** 81.52 24 P P 04 42 24.8 +0.4
baz=239,SNR=541
DHY **Denali Highway** 81.55 23 IAmb IAmb 04 42 36.6
comp=Z,6µm,1.3s
DHY **Denali Highway** 81.55 23 P P 04 42 24.3 -0.4
baz=238,SNR=506
BMRM **Bremner River** 81.60 25 IAmb IAmb 04 42 41.8
comp=Z,11µm,1.4s
BMRM **Bremner River** 81.60 25 P P 04 42 24.7 -0.1
baz=241,SNR=286
NEA2 **Nenana** 81.75 21 IAmb IAmb 04 42 36.5
comp=Z,6µm,1.3s
NEA2 **Nenana** 81.75 21 P P 04 42 24.3 -1.2
baz=236,SNR=751
F21K **Alatna River** 81.83 18 P P 04 42 25.6 -0.3
baz=232
N25K **Chitina, Valde** 81.92 25 IAmb IAmb 04 42 39.1
comp=Z,7µm,1.2s
N25K **Chitina, Valde** 81.92 25 P P 04 42 26.8 +0.3
baz=241,SNR=453
DGAR **Diego Garcia** 81.93 263 P P 04 42 27.1 -0.4
DGAR IAmb IAmb 04 42 36.7
comp=Z,4µm,1.1s
DGAR **Diego Garcia** 81.93 263 ⇑P P 04 42 27.1 -0.4
DGAR **Diego Garcia** 81.93 263 P P 04 42 27.1 -0.4
DGAR pmax pmax
comp=Z,4µm,1.1s
ASOR **Ausora** 81.93 300 eP P 04 42 32.4 +5.2
MNGI **Mangalore** 81.94 284 eP P 04 42 25.7 -1.8
MNGI eP P 04 42 26.7 -0.8
I23K **Minto, Yukon-K** 81.96 21 P P 04 42 25.7 -0.8
baz=236,SNR=256
PAF **Port-aux-Franc** 81.97 221 P P 04 42 27.6 +0.7
PAF **Port-aux-Franc** 81.97 221 ⇑P P 04 42 27.1 +0.1
PAF **Port-aux-Franc** 81.97 221 P P 04 42 27.6 +0.7
PAF pmax pmax
comp=Z,10µm,1.1s
SNH **Sunshine Point** 81.99 26 IAmb IAmb 04 42 39.7
comp=Z,9µm,1.2s
WRH **Wood River Hil** 82.04 21 IAmb IAmb 04 42 37.9
comp=Z,4µm,1.2s
HARP **HAARP** 82.08 24 P P 04 42 27.3 0.0
baz=240,SNR=151
KAAM **Kaadhehdhoo** 82.18 271 P P 04 42 28.7 -0.2
VRDI **Verde Repeater** 82.22 25 IAmb IAmb 04 42 40.4
comp=Z,7µm,1.2s
PAX **Paxson** 82.24 23 IAmb IAmb 04 42 40.1
comp=Z,5µm,1.5s
PAX **Paxson** 82.24 23 P P 04 42 27.7 -0.5
baz=240,SNR=203
MDM **Murphy Dome** 82.25 21 IAmb IAmb 04 42 39.0
comp=Z,7µm,1.5s
TCOL **CIGO, UAF Yank** 82.34 21 IAmb IAmb 04 42 39.4
comp=Z,11µm,1.6s
TCOL **CIGO, UAF Yank** 82.34 21 P P 04 42 27.1 -1.4
baz=237,SNR=148
I53US **FAIRBANKS INFR** 82.34 21 P P 04 42 26.9 -1.6
baz=215,slow=7.4,SNR=3.0
COLA **College** 82.34 21 P P 04 42 27.1 -1.4
COLA IAmb IAmb 04 42 39.3
comp=Z,11µm,1.6s
COLA **College** 82.34 21 P P 04 42 27.4 -1.1
baz=237
COLA **College** 82.34 21 P P 04 42 26.9 -1.6
comp=Z,4µm,0.9s
COLA **College** 82.34 21 ⇑P P 04 42 26.8 -1.7
COLA **College** 82.34 21 ⇑P P 04 42 27.6 -0.9
NDI **New Delhi** 82.40 300 eP P 04 42 27.0 -2.7
NDI eP P 04 42 27.1 -2.5
NDI eP P 04 42 27.4 -2.3
NDI eS S 04 52 32.0 -1.2
HDA **Harding Lake** 82.42 22 IAmb IAmb 04 42 40.1
comp=Z,7µm,1.5s
HDA **Harding Lake** 82.42 22 P P 04 42 28.0 -1.0
baz=238,SNR=498
MCARA **McCarthy VSAT** 82.47 25 P P 04 42 29.3 -0.1
baz=242,SNR=481
K24K **Donnelly Dome** 82.55 23 P P 04 42 29.3 -0.4
baz=239,SNR=714
G23K **Bananza Creek** 82.62 19 P P 04 42 30.1 +0.1
baz=235
POKR **Poker Plat Res** 82.62 21 IAmb IAmb 04 42 40.8
comp=Z,7µm,1.7s
POKR **Poker Plat Res** 82.62 21 P P 04 42 28.6 -1.4
baz=238,SNR=114
IL31 **82.64 22** P P **04 42 29.3 -0.7**
IL31 IAmb IAmb 04 42 40.7
comp=Z,7µm,1.6s
ILAR **Eielson Array** 82.64 22 P P 04 42 29.4 -0.7
comp=Z,238nm,0.8s,baz=232,slow=5.4,SNR=569
ILAR S S 04 52 33.8 -0.3
comp=Z,8.4nm,0.8s,baz=237,slow=6.3,SNR=1.7
ILAR PKKPbc PKKPbc 05 00 56.5 -1.1
comp=Z,14nm,0.8s,baz=347,slow=1.5,SNR=4.7
ILAR LR LR 05 15 57.8
comp=Z,742µm,21.0s,baz=212,slow=33
comp=Z,238nm,0.8s
HMDM **Hanimaadhoo** 82.72 278 P P 04 42 31.4 -0.2
HMDM IAmb IAmb 04 42 42.2
comp=Z,5µm,1.0s
H24K **Noodor Dome** 82.85 20 P P 04 42 30.1 -1.2
baz=237
COLD **Coldfoot** 82.86 19 IAmb IAmb 04 42 43.7
comp=Z,5µm,1.4s
COLD **Coldfoot** 82.86 19 P P 04 42 31.6 +0.4
baz=235,SNR=382
RIDG **Independent Ri** 82.87 23 P P 04 42 31.1 -0.3
baz=240,SNR=469
MK31 **Makanchi Array** 82.88 319 P P 04 42 31.6 -0.2
MK31 IAmb IAmb 04 42 42.2
comp=Z,3µm,1.1s
MK31 **Makanchi Array** 82.88 319 P P 04 42 31.6 -0.2
MK31 pmax pmax
comp=Z,3µm,1.1s
MKAR **Makanchi Array** 82.88 319 P P 04 42 31.2 -0.6
comp=Z,841nm,0.7s,baz=103,slow=5.2,SNR=902
MKAR S S 04 52 38.0 +0.6
comp=Z,12nm,0.8s,baz=120,slow=8.5,SNR=2.2
MKAR PKKPbc PKKPbc 05 00 57.2 +1.1
comp=Z,17nm,0.8s,baz=298,slow=2.6,SNR=3.7
MKAR LR LR 05 17 03.2
comp=Z,77µm,21.7s,baz=119,slow=34
comp=Z,841nm,0.7s
MKAR **Makanchi Array** 82.88 319 P P 04 42 31.5 -0.3
BARN **Barnard Glacie** 82.91 26 IAmb IAmb 04 42 44.3
comp=Z,6µm,1.0s
KUDL **Kundal** 82.92 299 eP P 04 42 29.1 -3.3
KUDL eP P 04 42 30.1 -2.3
M26K **Nabesna, AK** 82.96 24 IAmb IAmb 04 42 44.3
comp=Z,5µm,1.4s
M26K **Nabesna, AK** 82.96 24 P P 04 42 31.8 -0.1
baz=242
KKR **Kurukshetra** 82.99 301 eP P 04 42 34.5 +1.9
MAKZ **Makanchi** 83.09 319 P P 04 42 32.2 -0.7
MAKZ IAmb IAmb 04 42 43.2
comp=Z,6µm,1.1s
MAKZ **Makanchi** 83.09 319 ⇑P P 04 42 31.2 -1.6
MAKZ ⇑P P 04 42 31.4 -1.5
MAKZ **Makanchi** 83.09 319 ⇑P P 04 42 32.4 -0.5
L26K **Log Cabin Wild** 83.11 24 P P 04 42 32.7 0.0
baz=242,SNR=353
PINM **Pinnacle** 83.12 27 P P 04 42 32.9 +0.1
baz=245,SNR=219
KAD **Karad** 83.19 288 eP P 04 42 30.8 -3.2
SCRK **Sand Creek** 83.32 23 IAmb IAmb 04 42 45.8
comp=Z,4µm,1.2s
SCRK **Sand Creek** 83.32 23 P P 04 42 33.6 -0.2
baz=241,SNR=585
PNL **Peninsula** 83.33 28 P P 04 42 33.8 0.0
baz=246,SNR=150
PNL **Peninsula** 83.33 28 P P 04 42 34.0 +0.2
comp=Z,8µm,1.3s
M27K **Edge Creek, AK** 83.41 25 P P 04 42 34.7 +0.4
baz=243
O28M **Mount Upton** 83.43 27 P P 04 42 34.8 +0.1
baz=245
G24K **Hadweenzic Riv** 83.46 20 P P 04 42 34.5 +0.2
baz=237
PRP **Porcupine Dome** 83.52 21 P P 04 42 32.6 -2.2
baz=239,SNR=140
E23K **Chandalar** 83.52 18 P P 04 42 34.8 +0.1
baz=235
ZALV **Zalesovo Beam** 83.59 326 P P 04 42 33.6 -1.6
comp=Z,461nm,0.6s,baz=110,slow=5.5,SNR=275
ZALV S S 04 52 43.1 -1.0
comp=Z,68nm,1.1s,baz=89,slow=2.1,SNR=3.8
ZALV PKKPbc PKKPbc 05 00 54.2 -0.6
comp=Z,7.1nm,0.6s,baz=273,slow=2.9,SNR=1.5
comp=Z,461nm,0.6s
ZALV **Zalesovo Beam** 83.59 326 P P 04 42 34.0 -1.3
BHK **Bhakra** 83.61 302 eP P 04 42 34.3 -1.5
BHK eP P 04 42 34.4 -1.5
BHK IAmb IAmb 04 42 50.6
comp=Z,2µm,0.5s
BHK *i* x S 04 52 46.0 +0.6
A21K **Barrow** 83.62 14 IAmb IAmb 04 42 50.3
comp=Z,9µm,1.5s
A21K **Barrow** 83.62 14 P P 04 42 34.8 -0.2
baz=228
D23K **Nanushuk River** 83.73 17 P P 04 42 36.4 +0.7
baz=234
J26L **Joseph Creek** 83.74 22 P P 04 42 35.8 0.0
baz=241
QSPA **South Pole Qui** 83.74 180 P P 04 42 35.7 -0.3
comp=Z,2µm,0.9s,baz=299,slow=0.5,SNR=1218
QSPA S S 04 52 45.4 -0.2
comp=Z,69nm,1.2s,baz=192,slow=23,SNR=2.1
comp=Z,2µm,0.9s
QSPA **South Pole Qui** 83.74 180 P P 04 42 34.9 -1.0
QSPA IAmb IAmb 04 42 53.1
comp=Z,4µm,0.9s
QSPA **South Pole Qui** 83.74 180 ⇑P P 04 42 35.0 -1.0
L27K **Beaver Creek,** 83.75 24 IAmb IAmb 04 42 48.6
comp=Z,6µm,1.4s
L27K **Beaver Creek,** 83.75 24 P P 04 42 36.1 +0.2
baz=243
YUK3 **Moose Creek** 83.75 26 P P 04 42 36.3 +0.1
baz=244,SNR=372
F24K **Squaw Lake** 83.77 19 P P 04 42 36.4 +0.5
baz=237
SHLS **Shalkode** 83.84 315⇑*i*P P 04 42 34.0 -3.0
comp=Z,842nm,2.4s,baz=315
SHLS **Shalkode** 83.84 315*c* *i*P P 04 42 33.9 -3.0
SHLS pmax pmax
comp=Z,842nm,2.4s
YUK8 **Steele Glacier** 83.84 26 P P 04 42 37.1 +0.4
baz=245,SNR=625
BVCY **Beaver Creek** 83.86 25 P P 04 42 36.8 +0.4

baz=244
E24K Your Creek 83.88 18 P P 04 42 36.3 -0.2
baz=236
G25K Bearman Lake 83.96 20 P P 04 42 36.8 0.0
baz=239
O29M Mount Kennedy 83.97 27 P P 04 42 37.7 +0.6
baz=246
UZB Uzynbulak 84.15 314⇑ iP P 04 42 37.5 -1.0
comp=Z,1µm,2.4s,baz=314
UZB Uzynbulak 84.15 314c iP P 04 42 37.5 -1.0
UZB pmax pmax
comp=Z,1µm,2.4s
FYU Fort Yukon 84.15 20 IAmb IAmb 04 42 50.1
comp=Z,8µm,1.6s
S31K Pelican 84.18 30 P P 04 42 38.6 +0.5
baz=248,SNR=102
AJM Ajmer 84.24 297 eP P 04 42 36.8 -2.4
AJM eP P 04 42 37.2 -2.0
AJM IAmb IAmb 04 42 48.9
comp=Z,3µm,1.2s
AJM IAmb IAmb 04 42 49.5
comp=Z,4µm,1.3s
AJM i x SKSac 04 52 49.5 +1.0
SIT Sitka 84.31 31 P P 04 42 39.2 +0.4
baz=249,SNR=64
YUK6 Outpost Mounta 84.32 27 P P 04 42 39.6 +0.6
baz=246,SNR=315
YUK4 Talbot Arm 84.36 26 P P 04 42 40.2 +1.0
baz=246,SNR=585
THN Thein Dam 84.39 303 eP P 04 42 37.5 -2.3
THN ⇑iP P 04 42 38.5 -1.2
F25K Christian Rive 84.54 19 P P 04 42 40.3 +0.5
baz=239,SNR=391
SATY Saty 84.56 314⇑ iP P 04 42 39.7 -1.0
comp=Z,1µm,2.7s,baz=314
SATY Saty 84.56 314c iP P 04 42 39.6 -1.0
SATY pmax pmax
comp=Z,1µm,2.7s
ZHN Zhinishke 84.57 314⇑ iP P 04 42 39.4 -1.2
comp=Z,958nm,2.6s,baz=314
ZHN Zhinishke 84.57 314c iP P 04 42 39.4 -1.2
ZHN pmax pmax
comp=Z,958nm,2.6s
R31K City Hall, Gus 84.59 30 P P 04 42 40.3 +0.2
baz=249,SNR=24
DIB Dawson Inlet, 84.59 35 IAmb IAmb 04 42 55.7
comp=Z,7µm,1.3s
P30M Million Dollar 84.64 28 P P 04 42 40.9 +0.5
baz=248,SNR=400
HYT Haines Junctio 84.66 27 IAmb IAmb 04 42 53.5
comp=Z,7µm,1.0s
HYT Haines Junctio 84.66 27 P P 04 42 41.3 +0.7
baz=247,SNR=901
PLBC Pleasant Camp 84.67 29 P P 04 42 40.6 +0.1
baz=248,SNR=222
BOM Bombay 84.72 290 i x x 04 52 47.9
BOM eP P 04 42 38.9 -2.7
BOM eP P 04 42 39.6 -2.0
C24K Haines Bluff 84.74 17 P P 04 42 40.9 +0.3
baz=236
EGAK Eagle 84.78 23 IAmb IAmb 04 42 58.0
comp=Z,3µm,1.1s
EGAK Eagle 84.78 23 P P 04 42 41.3 +0.3
baz=244,SNR=754
E25K Arctic Village 84.83 19 P P 04 42 41.8 +0.5
baz=239,SNR=338
G26K Porcupine Rive 84.84 20 P P 04 42 42.0 +0.7
baz=241
MOBC Moresby Island 84.86 35 P P 04 42 42.0 +0.3
MOBC IAmb IAmb 04 42 57.2
comp=Z,6µm,1.3s
M29M Somme Creek 84.88 25 P P 04 42 42.0 +0.4
baz=246
CRAG Craig 84.94 33 IAmb IAmb 04 42 55.0
comp=Z,5µm,1.4s
CRAG Craig 84.94 33 P P 04 42 42.6 +0.7
baz=251,SNR=28
CRAG Craig 84.94 33 ⇑P P 04 42 42.4 +0.5
I27K Kandik River 84.98 22 P P 04 42 42.4 +0.3
baz=243,SNR=749
HG4B Hotspring 85.06 36 IAmb IAmb 04 42 55.4
comp=Z,3µm,1.0s
BESE Bessie Mountai 85.08 30 IAmb IAmb 04 42 55.5
comp=Z,7µm,1.2s
F26K Sheenjek River 85.09 20 P P 04 42 43.2 +0.7
baz=240
JMU Jammu 85.12 304 eP P 04 42 43.2 -0.2
JMU eP P 04 42 43.4 0.0
MAW Mawson 85.13 203 P P 04 42 42.5 -0.3
comp=Z,1µm,0.6s,baz=98,slow=6.2,SNR=61
MAW PKKPbc PKKPbc 05 00 47.2 -4.0
comp=Z,15nm,0.6s,baz=105,slow=5.3,SNR=6.5
MAW LR LR 05 16 34.4
comp=Z,107µm,21.9s,baz=84,slow=32
comp=Z,1µm,0.6s
MAW Mawson 85.13 203 P P 04 42 42.1 -0.6
baz=85,SNR=173
MAW Mawson 85.13 203 P P 04 42 42.6 -0.1
MAW Mawson 85.13 203 ⇓P P 04 42 42.3 -0.5
MAW ⇑P PcP 04 42 50.5 +4.9
MAW Mawson 85.13 203 P P 04 42 42.6 -0.1
MAW pmax pmax
comp=Z,1µm,0.9s
R32K Eaglecrest 85.14 30 P P 04 42 43.8 +0.9
baz=250,SNR=86
U33K Whale Pass 85.15 32 P P 04 42 43.6 +0.6
baz=251,SNR=95
SKAG Skagway 85.16 29 IAmb IAmb 04 42 55.9
comp=Z,7µm,1.3s
SKAG Skagway 85.16 29 P P 04 42 43.5 +0.5
baz=249,SNR=153
SKAG Skagway 85.16 29 ⇑P P 04 42 43.2 +0.2
DAWY Dawson 85.17 24 IAmb IAmb 04 42 56.0
comp=Z,10µm,1.7s
DAWY Dawson 85.17 24 P P 04 42 43.5 +0.5
baz=245,SNR=479
DAWY Dawson 85.17 24 ⇑P P 04 42 43.0 0.0
JIS Juneau Island 85.21 30 IAmb IAmb 04 42 58.7
comp=Z,4µm,1.3s
JIS Juneau Island 85.21 30 P P 04 42 44.0 +0.8
comp=Z,3µm,1.7s
O30N Mendenhall 85.28 27 P P 04 42 44.0 +0.4
baz=248,SNR=479
L29M L29M 85.29 25 P P 04 42 44.4 +0.8
baz=246,SNR=725
H27K Steamboat Moun 85.30 21 P P 04 42 44.3 +0.7
baz=243
T33K Petersburg 85.46 32 P P 04 42 45.2 +0.7
baz=251,SNR=88
G27K Doyon Strip 85.52 21 P P 04 42 45.3 +0.6
baz=243
MDOK Medeo 85.56 314 i P P 04 42 44.6 -1.0
baz=314
MDOK LR LR 05 23 17.3
baz=314
MDOK Medeo 85.56 314 P P 04 42 45.5 -0.1
KSH Kashi 85.58 310 P P 04 42 46.6 +0.9
KSH pP pP 04 43 29.8 +4.9
KSH S S 04 53 00.6 -4.1
KSH pmax pmax
comp=Z,98nm,1.0s
KSH pmax pmax
comp=Z,218µm,11.7s
KSH LR LR
comp=Z,222µm,21.8s
KSH LR LR
comp=Z,155µm,24.7s
KSH LR LR
comp=Z,195µm,31.6s
TNSS Tian-Shan 85.60 314 eP P 04 42 45.3 -0.9
baz=314
TNSS Tian-Shan 85.60 314 eP P 04 42 45.2 -0.9
KNDC Almaty 85.63 314 P P 04 42 47.2 +1.4
M30M Minto, Yukon 85.64 26 P P 04 42 45.9 +0.5
baz=248,SNR=654
WRAK Wrangell Islan 85.65 32 P P 04 42 45.9 +0.5
baz=252,SNR=150
AAA Alma-Ata 85.66 314⇑ iP P 04 42 45.0 -0.9
baz=314
AAA Alma-Ata 85.66 314 eP P 04 42 45.5 -0.5
N31M Braeburn, Yuko 85.68 27 P P 04 42 46.2 +0.6
baz=249,SNR=549
V35K Ketchikan 85.71 33 P P 04 42 46.0 +0.2
baz=253,SNR=187
CHKK Chushkaly 85.75 315⇑ iP P 04 42 44.7 -1.6
baz=315
CHKK Chushkaly 85.75 315⇑ iP P 04 42 44.7 -1.6

J29M Klondike Camp 85.79 24 P P 04 42 46.8 +0.7
J29M IAmb IAmb 04 42 59.4
comp=Z,7µm,1.2s
J29M Klondike Camp 85.79 24 P P 04 42 47.1 +0.9
baz=246,SNR=576
WHY Whitehorse 85.80 28 P P 04 42 46.4 +0.1
baz=250,SNR=311
ULHL Ulahol 85.94 313 P P 04 42 46.8 -0.7
SNR=27
P32M Atlin 85.98 29 P P 04 42 47.4 +0.3
baz=251,SNR=184
I29M Ogilvie Camp, 86.13 23 IAmb IAmb 04 42 59.9
comp=Z,4µm,1.0s
I29M Ogilvie Camp, 86.13 23 P P 04 42 47.7 0.0
baz=246,SNR=361
E27K Coleen River 86.17 20 P P 04 42 48.4 +0.6
baz=243
C27K Jago River 86.17 18 P P 04 42 48.3 +0.5
baz=241
RUBB Prince Rupert 86.18 34 IAmb IAmb 04 43 00.8
comp=Z,4µm,1.2s
GRNB Grenville Isla 86.22 35 IAmb IAmb 04 43 01.1
comp=Z,3µm,1.2s
KUU Kurty 86.22 315⇑ iP P 04 42 47.2 -1.5
baz=315
KUU LR LR 05 22 47.9
comp=Z,69µm,17.5s,baz=315
KUU Kurty 86.22 315c iP P 04 42 47.1 -1.5
KUU MLR MLR
comp=Z,69µm,18.0s
KURK Kurchatov 86.28 322 P P 04 42 48.4 -0.3
KURK S SKSac 04 53 00.5 +0.3
KURBB Kurchatov Arra 86.31 322 P P 04 42 48.4 -0.5
comp=Z,140nm,0.6s,baz=108,slow=3.9,SNR=150
KURBB S SKSac 04 53 00.5 +0.1
comp=Z,17nm,1.2s,baz=104,slow=6.7,SNR=1.8
comp=Z,140nm,0.6s
KURBB Kurchatov Arra 86.31 322 P P 04 42 47.0 -1.9
MAYO Mayo, Yukon 86.41 25 P P 04 42 49.9 +0.8
baz=248,SNR=490
HOLB Holberg 86.47 38 IAmb IAmb 04 43 02.9
comp=Z,4µm,1.2s
Q32M Nakina River 86.48 30 P P 04 42 50.4 +0.6
baz=252
TKM2 Tokmak 2 86.55 314 P P 04 42 49.4 -1.1
SNR=116
M31M Drury Creek, Y 86.55 26 IAmb IAmb 04 43 01.9
comp=Z,4µm,1.1s
M31M Drury Creek, Y 86.55 26 P P 04 42 49.9 0.0
baz=250,SNR=1000
P33M Teslin, Yukon 86.61 28 IAmb IAmb 04 43 01.7
comp=Z,4µm,1.4s
P33M Teslin, Yukon 86.61 28 P P 04 42 50.2 0.0
baz=251,SNR=305
NIL Nilore 86.64 304 P P 04 42 49.3 -1.7
NIL Nilore 86.64 304 P P 04 42 49.3 -1.7
NIL pmax pmax
comp=Z,1µm,0.9s
S34M Telegraph Cree 86.73 31 P P 04 42 51.4 +0.7
baz=253,SNR=729
N32M Quiet Lake 86.79 27 P P 04 42 51.4 +0.3
baz=251
BBB Bella Bella 86.86 37 LR LR 05 16 17.5
comp=Z,470µm,21.1s,baz=247,slow=32
BBB Bella Bella 86.86 37 ⇑P P 04 42 50.8 -0.7
BBB ⇓P P 04 42 51.6 +0.1
T35M Bob Quinn 86.92 32 P P 04 42 52.4 +0.7
baz=254,SNR=299
KBK Karagaybulak 86.96 313 P P 04 42 51.4 -1.1
SNR=28
FARO Faro, Yukon 87.02 26 IAmb IAmb 04 43 04.2
comp=Z,6µm,1.3s
FARO Faro, Yukon 87.02 26 P P 04 42 52.0 -0.1
baz=251,SNR=492
KMPM Mount Pierce 87.04 49 P P 04 42 52.6 -0.1
CHMS Chumysh 87.17 314 P P 04 42 51.9 -1.4
baz=57
UCH Uchtor 87.19 313 P P 04 42 52.6 -1.4
SNR=89
R33M Jennings River 87.25 29 P P 04 42 54.1 +0.7
baz=253,SNR=516
AAK Ala-Archa 87.29 313 P P 04 42 52.6 -1.4
SNR=36
AAK Ala-Archa 87.29 313 LR LR 05 22 48.5
comp=Z,135µm,20.7s,baz=92,slow=36
AAK Ala-Archa 87.29 313 P P 04 42 52.9 -1.1
AAK Ala-Archa 87.29 313 P P 04 42 52.9 -1.1
AAK pmax pmax
comp=Z,666nm,0.9s
AAK Ala-Archa 87.29 313 P P 04 42 52.9 -1.1
KBO Bosley Butte 87.29 47 IAmb IAmb 04 43 08.3
comp=Z,3µm,1.3s
KCPM Cahto Peak 87.31 50 P P 04 42 54.4 +0.3
KCPM IAmb IAmb 04 43 03.7
comp=Z,3µm,1.1s
KMRM Mail Ridge 87.31 49 IAmb IAmb 04 43 08.8
comp=Z,6µm,1.8s
SGDS Sogindy 87.34 314⇑ iP P 04 42 52.0 -2.2
comp=Z,529nm,2.3s,baz=314
SGDS Sogindy 87.34 314c iP P 04 42 51.9 -2.2
SGDS pmax pmax
comp=Z,529nm,2.3s
USP Ospenovka 87.40 314 P P 04 42 53.2 -1.2
SNR=75
DLBC Dease Lake 87.44 31 LR LR 05 16 58.4
comp=Z,468µm,20.6s,baz=230,slow=32
DLBC Dease Lake 87.44 31 P P 04 42 55.0 +0.7
baz=254,SNR=584
G30M tAoh Zraii Nji 87.54 22 P P 04 42 54.3 -0.2
baz=248,SNR=1000
HOPS Hopland Field 87.58 51 P P 04 42 55.7 +0.4
HOPS IAmb IAmb 04 43 08.5
comp=Z,2µm,1.1s
MCCM Marconi Confer 87.58 51 ⇑P P 04 42 54.8 -0.5
JASL Jaisalmer 87.61 297 eP P 04 42 55.2 -0.5
OZB Mount Ozzard 87.76 40 IAmb IAmb 04 43 08.6
comp=Z,2µm,1.2s
AML Almayashu 87.78 313 P P 04 42 55.4 -1.3
SNR=112
EKS2 Erkin-Say 87.81 313 P P 04 42 55.0 -1.4
SNR=51
NRIK Noril'sk 88.04 341 P P 04 42 56.4 -0.4
comp=Z,108nm,0.6s,baz=115,slow=4.6,SNR=91
NRIK S SKSac 04 53 10.8 +0.6
comp=Z,28nm,0.9s,baz=314,slow=18,SNR=2.0
NRIK PKPPKP P'P'df 05 08 47.3 -1.0
comp=Z,2.5nm,0.4s,baz=26,slow=5.6,SNR=1.9
NRIK LR LR 05 20 20.3
comp=Z,198µm,21.7s,baz=102,slow=34
comp=Z,108nm,0.6s
NRIK Noril'sk 88.04 341 P P 04 42 55.1 -1.7
NRIK IAmb IAmb 04 43 06.4
comp=Z,5µm,1.4s
BTLS Baital 88.06 316⇑ iP P 04 42 55.4 -2.0
comp=Z,740nm,2.7s,baz=316
BTLS Baital 88.06 316c iP P 04 42 55.4 -2.0
BTLS pmax pmax
comp=Z,740nm,2.7s
MMPY Sheldon Lake, 88.07 26 P P 04 42 57.5 +0.4
baz=253,SNR=283
C03A Quillayute Air 88.16 42 P P 04 42 57.5 -0.2
YBH Yreka Blue Hor 88.32 48 LR LR 05 19 41.0
comp=Z,372µm,18.5s,baz=254,slow=34
RADR Rader Ridge 88.38 43 IAmb IAmb 04 43 12.3
comp=Z,4µm,1.2s
COR Corvallis 88.39 45 P P 04 42 59.5 +0.6
COR IAmb IAmb 04 43 14.6
comp=Z,6µm,1.8s
COR Corvallis 88.39 45 ⇑P P 04 42 59.5 +0.6
COR Corvallis 88.39 45 P P 04 42 59.5 +0.6
COR pmax pmax
comp=Z,6µm,1.8s
SAO San Andreas Ge 88.48 53 ⇑P P 04 42 59.0 -0.6
SAO ⇓P PcP 04 43 00.8 -0.3
WTLY Watson Lake, Y 88.50 29 P P 04 42 59.7 +0.5
baz=255,SNR=464
NLWA Neilton Lookou 88.51 42 IAmb IAmb 04 43 13.4
comp=Z,3µm,1.4s
NLWA Neilton Lookou 88.51 42 ⇑P P 04 42 59.3 -0.3
BUCK Buck Mountain 88.54 45 IAmb IAmb 04 43 14.2
comp=Z,4µm,1.6s
E03A Lebam 88.56 43 IAmb IAmb 04 43 19.4
comp=Z,3µm,0.9s
F31M Tsiigehtchic 88.61 21 P P 04 42 59.0 -0.4
baz=250,SNR=353
BBGB Big Mountain B 88.78 53 P P 04 43 01.4 +0.3
ORV Oroville 88.87 50 IAmb IAmb 04 43 16.5

comp=Z,5µm,2.0s
B04A Port Angeles 88.88 42 IAmb IAmb 04 43 15.0
comp=Z,7µm,2.0s
INK Inuvik 88.98 21 P P 04 43 00.2 -0.9
comp=Z,159nm,0.5s,baz=278,slow=3.8,SNR=442
INK LR LR 05 20 17.6
comp=Z,720µm,20.8s,baz=204,slow=34
comp=Z,159nm,0.5s
INK Inuvik 88.98 21 IAmb IAmb 04 43 19.2
comp=Z,3µm,1.4s
INK Inuvik 88.98 21 P P 04 43 00.6 -0.5
baz=250,SNR=514
PGC Sidney 89.02 41 IAmb IAmb 04 43 14.4
comp=Z,2µm,1.1s
AFDM Forest Hills D 89.19 51 IAmb IAmb 04 43 18.2
comp=Z,2µm,0.9s
SMMC Simmler 89.44 55 P P 04 43 05.3 +1.2
baz=262,SNR=62
ROCAM Rodrigues Isla 89.52 250 P P 04 43 06.0 +1.2
ROCAM IAmb IAmb 04 43 19.3
comp=Z,2µm,0.9s
PKM Mcpherson Peak 89.53 55 P P 04 43 05.9 +1.2
baz=262,SNR=181
SNCC San Nicolas Is 89.54 57 P P 04 43 05.8 +1.2
baz=262,SNR=22
SBC Santa Barbara 89.55 55 P P 04 43 06.0 +1.3
baz=262
SCZ2 Santa Cruz Isl 89.55 56 P P 04 43 05.7 +1.0
baz=262,SNR=38
DZA Taraz 89.62 313 eP P 04 43 03.1 -1.7
baz=313
DZA Taraz 89.62 313 eP P 04 43 03.1 -1.7
LIRD Liard River Hi 89.66 30 P P 04 43 04.8 +0.2
baz=257,SNR=338
HOOD Mount Hood Mea 89.67 44 P P 04 43 04.7 -0.4
HOOD IAmb IAmb 04 43 17.4
comp=Z,2µm,1.2s
D05A Enumclaw 89.74 43 IAmb IAmb 04 43 17.8
comp=Z,5µm,1.4s
K05A Summer Lake 89.81 47 IAmb IAmb 04 43 22.2
comp=Z,2µm,1.1s
VOG Valley Oaks Go 90.07 54 P P 04 43 07.1 +0.1
baz=262,SNR=41
KBL Kabul 90.23 305 P P 04 43 05.6 -2.5
KBL Kabul 90.23 305 P P 04 43 05.6 -2.5
KBL pmax pmax
comp=Z,481nm,1.1s
VES Vestal, Richgr 90.24 54 P P 04 43 07.9 0.0
baz=262,SNR=73
KK31 Karatay Array 90.25 313 P P 04 43 05.9 -1.9
KK31 Karatay Array 90.25 313 i P P 04 43 06.0 -1.7
KKAR Karatay Array 90.25 313 P P 04 43 05.9 -1.8
KKAR Karatay Array 90.25 313 ⇑P P 04 43 05.6 -2.2
KKAR ⇑P P 04 43 05.9 -1.8
KKAR ⇑P PcP 04 43 09.5 +0.7
KKAR ⇓P PcP 04 43 12.3 +3.5
KKAR ⇑P PcP 04 43 12.5 +3.7
KKAR Karatay Array 90.25 313 P P 04 43 05.9 -1.8
KKAR pmax pmax
comp=Z,544nm,1.1s
VCNR Virginia City 90.25 51 IAmb IAmb 04 43 25.0
comp=Z,2µm,1.0s
PNTR Pine Nut 90.27 51 IAmb IAmb 04 43 25.3
comp=Z,3µm,1.0s
ARVC Arvin 90.36 55 P P 04 43 09.4 +1.0
baz=263,SNR=305
OSI Osito Audit: C 90.38 55 P P 04 43 09.4 +0.8
baz=263
IUG luzhnay 90.47 312 eP P 04 43 07.4 -1.6
baz=312
IUG eS SKSac 04 53 23.0 -2.8
baz=312
IUG luzhnay 90.47 312 eP P 04 43 07.3 -1.6
IUG eS SKSac 04 53 23.0 -2.8
MDPB Devils Postpil 90.48 52 IAmb IAmb 04 43 26.1
comp=Z,2µm,1.2s
CIS Catalina Islan 90.48 57 P P 04 43 09.6 +0.5
baz=263,SNR=89
YERR Yerington 90.53 51 IAmb IAmb 04 43 22.7
comp=Z,3µm,1.3s
PLTX Planet X, Gerl 90.58 49 IAmb IAmb 04 43 19.1
comp=Z,3µm,1.2s
FMP Fort Macarthur 90.62 56 P P 04 43 10.4 +0.8
baz=263
LTY Liberty 90.64 43 IAmb IAmb 04 43 21.4
comp=Z,2µm,1.3s
DECC Green Verdugo 90.65 56 P P 04 43 10.5 +0.6
baz=263,SNR=147
MLAC Mammoth, Mammo 90.67 52 P P 04 43 10.8 +0.7
baz=263,SNR=39
ISA Isabella, Lake 90.71 54 P P 04 43 10.0 -0.1
ISA IAmb IAmb 04 43 23.7
comp=Z,3µm,1.4s
ISA Isabella, Lake 90.71 54 P P 04 43 10.6 +0.4
baz=263,SNR=306
ISA Isabella, Lake 90.71 54 P P 04 43 10.0 -0.1
ISA pmax pmax
comp=Z,3µm,1.4s
CHM Chimkent 90.81 312 eP P 04 43 08.9 -1.5
comp=Z,2µm,2.6s,baz=312
CHM Chimkent 90.81 312 eP P 04 43 08.8 -1.5
CHM pmax pmax
comp=Z,2µm,2.6s
KOTAN Kotaneelee Air 90.82 30 P P 04 43 10.0 0.0
baz=259,SNR=436
TAS Tashkent 90.90 311 IAmb IAmb 04 43 20.9
comp=Z,1µm,1.1s
F07A Phinny Hill Vi 90.95 44 IAmb IAmb 04 43 25.9
comp=Z,5µm,1.9s
EDW2 Edwards Air Fo 91.01 55 P P 04 43 12.3 +0.8
baz=263,SNR=589
CCAC Calif City Air 91.02 55 IAmb IAmb 04 43 25.8
comp=Z,5µm,1.5s
RYN Ryan 91.04 51 IAmb IAmb 04 43 25.1
comp=Z,4µm,1.1s
TIN Tinemaha, Big 91.08 53 P P 04 43 12.5 +0.6
baz=263,SNR=80
CWC Cottonwood Cre 91.12 54 P P 04 43 12.5 +0.3
baz=263
NVAR Mina Array Bea 91.19 52 P P 04 43 12.6 +0.1
comp=Z,1µm,1.1s,baz=249,slow=7.1,SNR=658
NVAR PKKPbc PKKPdf 05 00 30.6 -1.9
comp=Z,3.8nm,0.6s,baz=87,slow=4.0,SNR=5.3
NVAR PKPPKP P'P'df 05 08 47.2 +2.5
comp=Z,12nm,0.9s,baz=108,slow=3.0,SNR=7.0
NVAR LR LR 05 21 12.2
comp=Z,142µm,18.3s,baz=293,slow=33
NVAR Mina Array Bea 91.19 52 P P 04 43 13.1 +0.6
BFSC Mount Baldy Ra 91.21 56 P P 04 43 13.0 +0.4
baz=263,SNR=353
HAWA Hanford 91.29 44 IAmb IAmb 04 43 24.9
comp=Z,2µm,1.1s
HAWA Hanford 91.29 44 ⇑P P 04 43 11.6 -0.9
DSP Deep Springs 91.32 53 IAmb IAmb 04 43 26.8
comp=Z,3µm,1.3s
ELS Elsinore Mount 91.33 56 IAmb IAmb 04 43 30.3
comp=Z,1µm,1.4s
LRMC Laurel Mtn Rad 91.33 55 P P 04 43 13.8 +0.7
baz=263,SNR=375
KVN Kaiserville 91.42 51 IAmb IAmb 04 43 26.8
comp=Z,2µm,1.1s
WVOR Wild Horse Val 91.42 48 ⇑P P 04 43 12.9 -0.4
109C Camp Elliot, M 91.51 57 P P 04 43 14.5 +0.7
baz=264,SNR=86
MURC Murrieta 91.52 57 P P 04 43 14.4 +0.6
baz=264,SNR=145
G08A Pilot Rock 91.55 45 IAmb IAmb 04 43 26.1
comp=Z,2µm,1.3s
MPMC Manual Prospec 91.55 54 P P 04 43 14.9 +0.7
baz=263,SNR=715
LCH Last Change Ra 91.56 53 IAmb IAmb 04 43 30.9
comp=Z,2µm,1.6s
E08A Dider Farm, El 91.63 44 IAmb IAmb 04 43 26.5
comp=Z,2µm,1.1s
J08A Circle Bar Ran 91.65 47 IAmb IAmb 04 43 33.3
comp=Z,1µm,0.8s
WRGLY Wrigley 91.68 27 P P 04 43 13.9 +0.1
baz=260
B08A Colville Reser 91.68 42 P P 04 43 13.0 -1.3
BVA0 Borovoye Array 91.73 323 i P P 04 43 12.0 -2.4
BVAR Borovoye Array 91.73 323 P P 04 43 12.6 -1.8
comp=Z,235nm,0.8s,baz=98,slow=6.1,SNR=157
comp=Z,235nm,0.8s
GRAC Grapevine Rang 91.76 53 P P 04 43 15.5 +0.6
baz=264,SNR=329
CCX Cicese 91.77 58 IAmb IAmb 04 43 29.2
comp=Z,2µm,1.4s

D08A	**Wollman Farm,**	**91.79**	**43**	IAmb	IAmb	04 43 27.1				
	comp=Z,2µm,1.3s									
BRVK	**Borovoye**	**91.80**	**323**	P	**P**	**04 43 12.8**	**-1.9**			
BRVK	**Borovoye**	**91.80**	**323**	P	**P**	**04 43 12.8**	**-1.9**			
BRVK				pmax	pmax					
	comp=Z,965nm,0.9s									
BBRC	**Big Bear Solar**	**91.82**	**56**	P	**P**	**04 43 15.7**	**+0.2**			
	baz=264,SNR=102									
RRX	**Edison Barstow**	**91.82**	**55**	P	**P**	**04 43 16.0**	**+0.8**			
	baz=264,SNR=21									
MZP	**Montezuma Peak**	**91.82**	**52**	IAmb	IAmb	04 43 28.9				
	comp=Z,2µm,1.2s									
TKX	**Tecate**	**91.90**	**58**	P	**P**	**04 43 15.8**	**+0.2**			
TKX				IAmb	IAmb	04 43 29.6				
	comp=Z,3µm,1.3s									
GSC	**Goldstone, Bar**	**92.02**	**55**	IAmb	IAmb	04 43 30.0				
	comp=Z,3µm,1.3s									
GSC	**Goldstone, Bar**	**92.02**	**55**	P	**P**	**04 43 16.7**	**+0.5**			
	baz=264,SNR=266									
VA02	**Isla de Pascua**	**92.05**	**117**	P	**P**	**04 43 16.6**	**+0.2**			
VA02				IAmb	IAmb	04 43 26.6				
	comp=Z,3µm,1.3s									
FURC	**Furnace Creek,**	**92.10**	**54**	P	**P**	**04 43 17.1**	**+0.7**			
	baz=264,SNR=732									
PFO	**Pinyon Flats O**	**92.13**	**57**	PKiKP	**PKiKP**	**04 48 05.9**	**-0.1**			
	comp=Z,22nm,0.9s,baz=249,slow=17,SNR=1.0									
PFO				PKKPbc	**PKKPbc**	**05 00 34.2**	**+1.1**			
	comp=Z,29nm,0.7s,baz=287,slow=1.9,SNR=14									
PFO				LR	LR	05 17 40.8				
	comp=Z,155µm,21.7s,baz=266,slow=31									
PFO	**Pinyon Flats O**	**92.13**	**57**	P	**P**	**04 43 16.9**	**+0.1**			
PFO	**Pinyon Flats O**	**92.13**	**57**	P	**P**	**04 43 17.5**	**+0.7**			
	baz=264,SNR=223									
PFO	**Pinyon Flats O**	**92.13**	**57**	*c iP*	**P**	**04 43 17.3**	**+0.5**			
PFO				pmax	pmax					
	comp=Z,5µm,1.1s									
TPFO	**Pinon Flats**	**92.13**	**57**	P	**P**	**04 43 17.5**	**+0.7**			
	baz=264,SNR=238									
RPN	**Rapa Nui**	**92.15**	**117**	P	**P**	**04 43 18.5**	**+1.6**			
	comp=Z,814nm,1.0s,baz=322,slow=4.7,SNR=18									
RPN				PKKPbc	**PKKPbc**	**05 00 32.1**	**-0.3**			
	comp=Z,19nm,0.4s,baz=106,slow=3.6,SNR=2.7									
RPN				PKPPKP	**P'P'df**	**05 08 38.5**	**-5.3**			
	comp=Z,48nm,0.9s,baz=203,slow=5.2,SNR=2.1									
RPN				LR	LR	05 19 08.3				
	comp=Z,29µm,21.1s,baz=247,slow=32									
	comp=Z,814nm,1.0s									
RPN	**Rapa Nui**	**92.15**	**117**	P	**P**	**04 43 17.1**	**+0.2**			
RPN				IAmb	IAmb	04 43 27.0				
	comp=Z,3µm,1.1s									
PMD	**Palm Desert**	**92.20**	**57**	IAmb	IAmb	04 43 30.8				
	comp=Z,3µm,1.1s									
GWY	**Greenwater Val**	**92.23**	**54**	IAmb	IAmb	04 43 30.9				
	comp=Z,2µm,1.2s									
BMN	**Battle Mountai**	**92.25**	**50**	IAmb	IAmb	04 43 30.5				
	comp=Z,2µm,1.1s									
E09A	**Wood Farm, Sta**	**92.26**	**44**	IAmb	IAmb	04 43 32.5				
	comp=Z,2µm,1.1s									
C09A	**Chrisman Ranch**	**92.32**	**42**	IAmb	IAmb	04 43 29.6				
	comp=Z,1µm,1.1s									
IKP	**In-Ko-Pah, Jac**	**92.32**	**58**	P	**P**	**04 43 18.7**	**+1.0**			
	baz=264,SNR=48									
RMX	**La Rumorosa**	**92.34**	**58**	P	**P**	**04 43 18.4**	**+0.6**			
RMX				IAmb	IAmb	04 43 32.3				
	comp=Z,3µm,1.2s									
HEC	**Hector Ludlow**	**92.36**	**55**	P	**P**	**04 43 18.1**	**+0.3**			
	baz=264,SNR=407									
ESJX	**Sierra Juarez**	**92.39**	**58**	IAmb	IAmb	04 43 32.9				
	comp=Z,3µm,1.4s									
YUH	**Yuha Desert**	**92.48**	**58**	IAmb	IAmb	04 43 32.5				
	comp=Z,3µm,1.3s									
SHOC	**Shoshone, Teco**	**92.52**	**54**	P	**P**	**04 43 18.9**	**+0.5**			
	baz=264,SNR=552									
C36M	**Paulatuk**	**92.56**	**21**	IAmb	IAmb	04 43 28.3				
	comp=Z,3µm,1.4s									
C36M	**Paulatuk**	**92.56**	**21**	P	**P**	**04 43 17.1**	**-0.6**			
	baz=259,SNR=431									
SWSC	**Sam W. Stewart**	**92.61**	**57**	P	**P**	**04 43 19.5**	**+0.7**			
	baz=264,SNR=119									
TPNV	**Topopah Spring**	**92.64**	**53**	P	**P**	**04 43 19.6**	**+0.5**			
	baz=264,SNR=582									
TPNV	**Topopah Spring**	**92.64**	**53**	⇑P	**P**	**04 43 19.2**	**0.0**			
BMO	**Blue Mountains**	**92.66**	**45**	IAmb	IAmb	04 43 31.1				
	comp=Z,2µm,1.3s									
A36M	**Sachs Harbour**	**92.69**	**18**	P	**P**	**04 43 17.4**	**-0.9**			
A36M				IAmb	IAmb	04 43 28.9				
	comp=Z,2µm,1.1s									
A36M	**Sachs Harbour**	**92.69**	**18**	P	**P**	**04 43 17.9**	**-0.5**			
	baz=258									
TUQ	**Turquoise Moun**	**92.75**	**55**	P	**P**	**04 43 20.1**	**+0.5**			
	baz=264,SNR=601									
F10A	**Beach Ranch, E**	**92.83**	**44**	IAmb	IAmb	04 43 31.7				
	comp=Z,2µm,1.1s									
GMRC	**Granite Mounta**	**92.91**	**55**	P	**P**	**04 43 21.0**	**+0.6**			
	baz=264,SNR=802									
BC3	**Big Chuckawall**	**92.97**	**57**	P	**P**	**04 43 21.6**	**+0.9**			
	baz=264,SNR=462									
CPBX	**Cerro Prieto**	**92.98**	**58**	IAmb	IAmb	04 43 34.3				
	comp=Z,2µm,1.3s									
S11A	**Rachel**	**93.11**	**53**	IAmb	IAmb	04 43 40.4				
	comp=Z,2µm,1.1s									
NEW	**Newport**	**93.14**	**42**	LR	LR	05 19 46.8				
	comp=Z,829µm,21.2s,baz=265,slow=32									
NEW	**Newport**	**93.14**	**42**	IAmb	IAmb	04 43 33.4				
	comp=Z,1µm,1.1s									
NEW	**Newport**	**93.14**	**42**	P	**P**	**04 43 20.4**	**-0.7**			
	baz=264,SNR=373									
SFX	**San Felipe**	**93.23**	**59**	IAmb	IAmb	04 43 39.8				
	comp=Z,3µm,1.9s									
IRM	**Iron Mountain**	**93.27**	**56**	P	**P**	**04 43 22.9**	**+0.9**			
	baz=265,SNR=1000									
R11A	**Troy Canyon, C**	**93.30**	**52**	IAmb	IAmb	04 43 35.7				
	comp=Z,2µm,1.1s									
R11A	**Troy Canyon, C**	**93.30**	**52**	P	**P**	**04 43 22.5**	**+0.3**			
	baz=265,SNR=1000									
GLA	**Glamis**	**93.44**	**57**	P	**P**	**04 43 22.5**	**-0.2**			
GLA	**Glamis**	**93.44**	**57**	P	**P**	**04 43 23.7**	**+1.0**			
	baz=265,SNR=138									
GLA	**Glamis**	**93.44**	**57**	P	**P**	**04 43 22.5**	**-0.2**			
GLA				pmax	pmax					
	comp=Z,5µm,1.5s									
SHPR	**Sheep Range**	**93.47**	**54**	IAmb	IAmb	04 43 37.1				
	comp=Z,2µm,1.1s									
PRN	**Pahroc Range**	**93.64**	**53**	⇑P	**P**	**04 43 24.1**	**+0.4**			
PRN				⇑P	**P**	**04 43 24.2**	**+0.5**			
V12A	**Nelson**	**93.65**	**55**	IAmb	IAmb	04 43 37.6				
	comp=Z,2µm,1.0s									
NEE2	**Needles Airpor**	**93.76**	**56**	P	**P**	**04 43 24.6**	**+0.5**			
	baz=265,SNR=118									
ELK	**Elko**	**93.78**	**50**	P	**P**	**04 43 24.2**	**-0.2**			
ELK				IAmb	IAmb	04 43 42.6				
	comp=Z,1µm,1.1s									
ELK	**Elko**	**93.78**	**50**	P	**P**	**04 43 24.2**	**-0.2**			
ELK				pmax	pmax					
	comp=Z,1µm,1.1s									
PDMCI	**Parker Dam,Lak**	**94.11**	**56**	P	**P**	**04 43 26.1**	**+0.4**			
	baz=265,SNR=293									
CRZF	**Crozet Islands**	**94.55**	**222**	P	**P**	**04 43 27.4**	**-0.1**			
CRZF				IAmb	IAmb	04 43 45.1				
	comp=Z,4µm,1.7s									
CRZF	**Crozet Islands**	**94.55**	**222**	⇑P	**P**	**04 43 26.2**	**-1.3**			
CRZF				⇑P	**PcP**	**04 43 28.1**	**+0.3**			
CRZF				⇑P	**PcP**	**04 43 31.3**	**+3.5**			
HLID	**Hailey**	**94.61**	**47**	P	**P**	**04 43 27.6**	**-0.5**			
	baz=266,SNR=194									
PSUT	**Pine Spring**	**94.67**	**52**	IAmb	IAmb	04 43 44.3				
	comp=Z,975nm,1.1s									
214A	**Organ Pipe Nat**	**95.05**	**59**	IAmb	IAmb	04 43 45.0				
	comp=Z,2µm,1.6s									
214A	**Organ Pipe Nat**	**95.05**	**59**	P	**P**	**04 43 30.5**	**+0.3**			
	baz=266,SNR=83									
MSO	**Missoula**	**95.17**	**44**	P	**P**	**04 43 29.4**	**-1.1**			
MSO	**Missoula**	**95.17**	**44**	P	**P**	**04 43 28.6**	**-1.9**			
	baz=266,SNR=69									
SZCU	**Shurtz Canyon**	**95.21**	**53**	IAmb	IAmb	04 43 45.0				
	comp=Z,2µm,1.4s									
WALA	**Waterton Lakes**	**95.32**	**41**	IAmb	IAmb	04 43 43.5				
	comp=Z,1µm,1.0s									
DUG	**Dugway, Tooele**	**95.59**	**50**	P	**P**	**04 43 32.4**	**-0.2**			
	baz=267,SNR=120									
YKA	**Yellowknife Ar**	**95.62**	**28**	P	**P**	**04 43 31.4**	**-0.6**			
	comp=Z,296nm,0.6s,baz=265,slow=4.6,SNR=1278									
YKA				PKiKP	**PKiKP**	**04 48 10.6**	**-0.4**			
	comp=Z,18nm,0.8s,baz=292,slow=2.0,SNR=1.0									
YKA				PKKPbc	**PKKPdf**	**05 00 22.4**	**-2.5**			
	comp=Z,15nm,0.5s,baz=77,slow=2.5,SNR=7.9									
YKA				LR	LR	05 22 47.3				
	comp=Z,390µm,21.1s,baz=302,slow=33									
	comp=Z,296nm,0.6s									
HVU	**Hansel Valley**	**95.71**	**49**	IAmb	IAmb	04 43 41.5				
	comp=Z,736nm,1.0s									
TCRU	**Three Creeks R**	**95.78**	**52**	IAmb	IAmb	04 43 52.2				
	comp=Z,903nm,1.1s									
HRA	**Herat**	**95.81**	**304**	P	**P**	**04 43 31.1**	**-2.7**			
BELA	**Belgrano 2**	**95.84**	**178**	P	**P**	**04 43 31.3**	**-1.5**			
BELA				IAmb	IAmb	04 43 50.4				
	comp=Z,2µm,1.3s									
MTPU	**Mount Pierson**	**95.95**	**52**	IAmb	IAmb	04 43 49.0				
	comp=Z,2µm,1.1s									
ELIB	**Princess Elisa**	**95.97**	**194**	*d*P	**P**	**04 43 31.5**	**-2.1**			
	comp=Z,691nm,1.2s									
ELIB				*d*PP	**PP**	**04 47 32.8**	**+5.3**			
ELIB				*d*SKS	**SKSac**	**04 53 57.2**	**+2.2**			
ELIB				*d*S	**ScS**	**04 54 42.9**	**+4.1**			
ELIB				*d*SP	**SP**	**04 55 53.6**	**-3.6**			
NLU	**North Lily Min**	**96.14**	**51**	IAmb	IAmb	04 43 54.6				
	comp=Z,991nm,1.2s									
HSIG		**96.45**	**62**	IAmb	IAmb	04 43 51.0				
	comp=Z,1µm,1.4s									
WUAZ	**Wupatki**	**96.46**	**55**	P	**P**	**04 43 36.7**	**0.0**			
WUAZ				IAmb	IAmb	04 43 50.8				
	comp=Z,2µm,1.2s									
WUAZ	**Wupatki**	**96.46**	**55**	P	**P**	**04 43 37.5**	**+0.9**			
	baz=267,SNR=140									
WUAZ	**Wupatki**	**96.46**	**55**	⇑P	**P**	**04 43 37.4**	**+0.7**			
WUAZ				⇓P	**PcP**	**04 43 38.3**	**+1.5**			
WUAZ				⇑P	**PcP**	**04 43 42.0**	**+5.2**			
BOZ	**Bozeman (W)**	**96.71**	**45**	P	**P**	**04 43 37.0**	**-0.5**			
	baz=268,SNR=146									
LPIG	**La Paz**	**96.71**	**67**	P	**P**	**04 43 38.0**	**+0.2**			
	comp=Z,114nm,1.0s,baz=108,slow=3.2,SNR=6.3									
LPIG				PP	**PP**	**04 47 36.1**	**+1.4**			
	comp=Z,264nm,1.2s,baz=83,slow=2.7,SNR=6.2									
LPIG				LR	LR	05 25 32.8				
	comp=Z,140µm,18.0s,baz=280,slow=34									
	comp=Z,114nm,1.0s									
TMUT	**Trail Mountain**	**96.78**	**51**	IAmb	IAmb	04 43 58.0				
	comp=Z,1µm,0.9s									
TUC	**Tucson**	**96.78**	**58**	P	**P**	**04 43 39.0**	**+0.9**			
TUC	**Tucson**	**96.78**	**58**	P	**P**	**04 43 38.8**	**+0.7**			
	baz=267									
TUC	**Tucson**	**96.78**	**58**	⇑P	**P**	**04 43 38.8**	**+0.7**			
TUC				⇓P	**PcP**	**04 43 39.8**	**+1.6**			
TUC				⇑P	**PcP**	**04 43 43.6**	**+5.5**			
TUC	**Tucson**	**96.78**	**58**	P	**P**	**04 43 39.0**	**+0.9**			
TUC				pmax	pmax					
	comp=Z,441nm,1.3s									
Q16A	**Castle Valley**	**96.79**	**52**	IAmb	IAmb	04 43 55.3				
	comp=Z,658nm,1.0s									
SLBS	**Sierra La Lagu**	**97.02**	**67**	P	Pdif	04 43 39.5	+0.1			
SLBS	**Sierra La Lagu**	**97.02**	**67**	⇑P	Pdif	04 43 39.9	+0.5			
SLBS				⇓P	**PcP**	**04 43 40.4**	**+1.0**			
P17A	**Butcher Ranch,**	**97.15**	**51**	IAmb	IAmb	04 43 59.2				
	comp=Z,685nm,1.0s									
IMW	**Indian Meadow**	**97.15**	**47**	IAmb	IAmb	04 43 56.5				
	comp=Z,1µm,1.8s									
REDW	**Red Top Meadow**	**97.19**	**47**	IAmb	IAmb	04 43 54.6				
	comp=Z,1µm,1.8s									
SRU	**San Rafael Swe**	**97.30**	**51**	IAmb	IAmb	04 43 55.3				
	comp=Z,492nm,0.8s									
YNM	**Yellowstone No**	**97.34**	**46**	IAmb	IAmb	04 43 54.9				
	comp=Z,628nm,1.0s									
H17A	**Grant Village**	**97.42**	**46**	P	Pdif	04 43 41.3	+0.3			
H17A	**Grant Village**	**97.42**	**46**	P	Pdif	04 43 41.6	+0.7			
	baz=268,SNR=171									
P18A	**Preston Nutter**	**97.53**	**51**	IAmb	IAmb	04 44 01.1				
	comp=Z,642nm,0.9s									
SVE	**Sverdlovsk**	**97.60**	**326**	*d iP*	**P**	**04 43 38.4**	**-2.7**			
SVE				*e*		04 47 37.7				
SVE				*e*S	**SKSac**	**04 54 00.2**	**-3.3**			
SVE				*e*		04 56 22.7				
SVE				*e*		05 01 32.4				
SVE				pmax	pmax					
	comp=Z,751nm,1.9s									
W18A	**Petrified Fore**	**97.78**	**55**	IAmb	IAmb	04 43 55.0				
	comp=Z,697nm,0.9s									
W18A	**Petrified Fore**	**97.78**	**55**	P	Pdif	04 43 43.0	+0.3			
	baz=268,SNR=120									
AB31	**Akbulak array**	**98.03**	**319**	P	**P**	**04 43 39.6**	**-3.6**			
ABKAR	**Akbulak array**	**98.03**	**319**	P	**P**	**04 43 40.2**	**-3.0**			
EGMT	**Eagleton**	**98.05**	**42**	IAmb	IAmb	04 43 55.1				
	comp=Z,1µm,1.2s									
EGMT	**Eagleton**	**98.05**	**42**	P	**P**	**04 43 42.7**	**-0.7**			
	baz=270,SNR=134									
BW06	**Boulder Array**	**98.13**	**48**	Pdiff	**P**	**04 43 43.1**	**-1.0**			
	baz=269									
PDAR	**Pinedale Array**	**98.13**	**48**	P	**P**	**04 43 42.9**	**-1.2**			
	comp=Z,55nm,0.7s,baz=231,slow=2.3,SNR=353									
PDAR				PP	**PP**	**04 47 44.7**	**-0.7**			
	comp=Z,37nm,0.9s,baz=251,slow=4.5,SNR=4.0									
PDAR				PKiKP	**PKiKP**	**04 48 15.9**	**-0.4**			
	comp=Z,28nm,1.0s,baz=242,slow=1.9,SNR=1.0									
PDAR				PKKPbc	**PKKPbc**	**05 00 18.9**	**+1.2**			
	comp=Z,10nm,0.6s,baz=124,slow=4.6,SNR=5.0									
PDAR				LR	LR	05 22 54.8				
	comp=Z,336µm,21.2s,baz=278,slow=32									
	comp=Z,55nm,0.7s									
WSAR	**Wadi Sarin**	**98.33**	**293**	P	**P**	**04 43 44.5**	**-0.6**			
	comp=Z,17nm,0.9s,baz=134,slow=3.6,SNR=14									
	comp=Z,17nm,0.9s									
RLMT	**Red Lodge**	**98.37**	**45**	Pdiff	Pdif	04 43 45.3	+0.2			
	baz=270									
PV11	**David Mesa, Pa**	**98.57**	**52**	IAmb	IAmb	04 44 01.6				
	comp=Z,1µm,1.2s									
PV13	**Radium Mtn., P**	**98.61**	**52**	IAmb	IAmb	04 43 59.7				
	comp=Z,699nm,1.2s									
PV07	**Paradox Valley**	**98.75**	**52**	IAmb	IAmb	04 44 06.4				
	comp=Z,654nm,1.0s									
ARU	**Arti**	**98.76**	**326**	P	**P**	**04 43 44.2**	**-2.0**			
	comp=Z,48nm,0.6s,baz=76,slow=1.7,SNR=24									
ARU				PP	**PP**	**04 47 47.5**	**-2.0**			
	comp=Z,135nm,1.1s,baz=28,slow=9.1,SNR=2.1									
ARU				LR	LR	05 30 46.9				
	comp=Z,136µm,19.4s,baz=83,slow=37									
	comp=Z,48nm,0.6s									
ARU	**Arti**	**98.76**	**326**	P	**P**	**04 43 44.2**	**-2.0**			
MVCO	**Mesa Verde**	**98.84**	**53**	IAmb	IAmb	04 44 01.5				
	comp=Z,834nm,1.1s									
MVCO	**Mesa Verde**	**98.84**	**53**	Pdiff	Pdif	04 43 48.1	+0.6			
	baz=269									
PV15	**Paradox Valley**	**98.88**	**52**	IAmb	IAmb	04 44 07.7				
	comp=Z,862nm,1.1s									
MSEY	**Mahe Island**	**99.00**	**264**	P	**Pdif**	**04 43 46.0**	**-2.4**			
MSEY				IAmb	IAmb	04 43 56.6				
	comp=Z,1µm,1.9s									
MSEY	**Mahe Island**	**99.00**	**264**	P	**Pdif**	**04 43 46.0**	**-2.4**			
MSEY				pmax	pmax					
	comp=Z,1µm,1.9s									
MSEY	**Mahe Island**	**99.00**	**264**	*i* P	**Pdif**	**04 43 46.7**	**-1.7**			
	SNR=12									
O20A	**White River Ci**	**99.08**	**50**	IAmb	IAmb	04 44 03.3				
	comp=Z,829nm,1.1s									
O20A	**White River Ci**	**99.08**	**50**	Pdiff	**Pdif**	**04 43 48.4**	**0.0**			
	baz=270									
AKTO	**Aktyubinsk**	**99.26**	**320**	P	**Pdif**	**04 43 47.0**	**-1.7**			
	comp=Z,30nm,0.9s,baz=86,slow=4.9,SNR=19									
AKTO				LR	LR	05 28 17.0				
	comp=Z,136µm,21.9s,baz=74,slow=35									
	comp=Z,30nm,0.9s									
AKTO	**Aktyubinsk**	**99.26**	**320**	P	**Pdif**	**04 43 47.0**	**-1.7**			
GEYT	**Alibeck**	**99.28**	**307**	P	**Pdif**	**04 43 49.0**	**0.0**			
	comp=Z,18nm,0.9s,baz=186,slow=1.5,SNR=17									
GEYT				PP	**PP**	**04 47 51.7**	**-2.3**			
	comp=Z,112nm,1.1s,baz=101,slow=7.7,SNR=3.7									
GEYT				PKPPKP		05 08 28.1				
	comp=Z,6.6nm,0.9s,baz=204,slow=3.3,SNR=4.2									
	comp=Z,18nm,0.9s									
121A	**Cookes Peak, D**	**99.33**	**58**	P	**Pdif**	**04 43 50.2**	**+0.6**			
	baz=268,SNR=84									
121A	**Cookes Peak, D**	**99.33**	**58**	Pdiff	**Pdif**	**04 43 49.4**	**-0.2**			
	baz=268									
NVL	**N'lazarevskaya**	**99.34**	**192**	⇓ *iP*	**Pdif**	**04 43 46.8**	**-1.8**			
NVL				*e*PPP	PPP	04 50 06.7				
NVL				*e*PS	**PS**	**04 56 41.0**	**-13**			
NVL				*e*SSS	SSS	05 05 51.2				
NVL				pmax	pmax					
	comp=Z,474nm,1.3s									
NVL				MLR	MLR					
	comp=Z,278µm,18.0s									
RWWY	**Rawlins**	**99.87**	**49**	Pdif	**Pdif**	**04 43 51.2**	**-0.7**			
RWWY				IAmb	IAmb	04 43 59.2				
	comp=Z,823nm,1.1s									
TROLL	**Troll, Antarti**	**99.89**	**188**	PKKPbc	PKKPbc	05 00 10.0	-3.4			
TROLL	**Troll, Antarti**	**99.89**	**188**	Pdiff	**Pdif**	**04 43 50.2**	**-1.0**			
Y22A	**Socorro**	**100.04**	**57**	P	**Pdif**	**04 43 53.9**	**+1.1**			
	baz=269									
Y22D	**IRIS PASSCAL I**	**100.08**	**57**	P	**Pdif**	**04 43 54.4**	**+1.5**			
	baz=269									
Y22D	**IRIS PASSCAL I**	**100.08**	**57**	Pdiff	**Pdif**	**04 43 54.2**	**+1.3**			
	baz=269									
Y22F	**Passcal Instru**	**100.08**	**57**	Pdiff	**Pdif**	**04 43 54.2**	**+1.3**			
	baz=269									
S22A	**4UR Ranch, Cre**	**100.18**	**53**	Pdiff	**Pdif**	**04 43 54.5**	**+1.1**			
	baz=270									
SOHO	**SOHO**	**100.29**	**293**	*i* P	**Pdif**	**04 43 51.1**	**-2.7**			
	SNR=24									
BNM	**Barren Site**	**100.32**	**57**	Pdif	**Pdif**	**04 43 55.1**	**+1.0**			
K22A	**Casper**	**100.36**	**48**	P	**Pdif**	**04 43 53.2**	**-0.8**			
	baz=271									
K22A	**Casper**	**100.36**	**48**	Pdiff	**Pdif**	**04 43 53.3**	**-0.7**			
	baz=271									
LAO	**LASA Array**	**100.47**	**44**	P	**Pdif**	**04 43 54.0**	**-0.2**			
	baz=272									
LAO	**LASA Array**	**100.47**	**44**	Pdiff	**Pdif**	**04 43 54.2**	**0.0**			
	baz=272									
ANMO	**Albuquerque**	**100.47**	**56**	P	**Pdif**	**04 43 55.5**	**+0.8**			
	comp=Z,45nm,0.8s,baz=4.0,slow=7.8,SNR=47									
ANMO				PP	**PP**	**04 48 00.9**	**-2.5**			
	comp=Z,80nm,1.0s,baz=349,slow=9.1,SNR=4.3									
ANMO	**Albuquerque**	**100.47**	**56**	P	**Pdif**	**04 43 55.5**	**+0.8**			
	baz=270									
ANMO	**Albuquerque**	**100.47**	**56**	Pdiff	**Pdif**	**04 43 55.7**	**+1.0**			
	baz=270									
MDH	**Madha**	**100.55**	**294**	*i* P	**Pdif**	**04 43 52.4**	**-2.6**			
	SNR=8.7									
BANOM	**Banah**	**100.57**	**295**	*i* P	**Pdif**	**04 43 53.3**	**-1.7**			
	SNR=8.1									
UOSS	**Minazif**	**100.62**	**294**	*i* P	**Pdif**	**04 43 52.5**	**-2.8**			
	SNR=15									
MSFE	**Esma-Masafi**	**100.68**	**295**	*i* P	**Pdif**	**04 43 52.7**	**-2.9**			
	SNR=26									
HATD	**Hatta, Dubai**	**100.69**	**294**	*i* P	**Pdif**	**04 43 53.3**	**-2.3**			
	SNR=26									
ASHO	**Ashiyiah**	**100.75**	**294**	*i* P	**Pdif**	**04 43 53.4**	**-2.5**			
	SNR=31									
N23A	**Red Feather La**	**100.83**	**50**	Pdiff	**Pdif**	**04 43 56.4**	**+0.2**			
	baz=271									
SNAA	**Sanae**	**100.91**	**187**	PKKPbc	PKKPbc	05 00 07.3	-3.1			
SNAA	**Sanae**	**100.91**	**187**	Pdiff	**Pdif**	**04 43 54.5**	**-1.2**			
SNAA	**Sanae**	**100.91**	**187**	P	**Pdif**	**04 43 55.1**	**-0.6**			
	comp=Z,34nm,1.0s,baz=153,slow=3.8,SNR=29									
SNAA				PP	**PP**	**04 48 04.8**	**-0.1**			
	comp=Z,69nm,0.9s,baz=121,slow=3.0,SNR=3.1									
SNAA				PKKPbc	**PKKPbc**	**05 00 10.4**	**-0.1**			
	comp=Z,66nm,0.8s,baz=290,slow=6.9,SNR=7.8									
SNAA	**Sanae**	**100.91**	**187**	Pdif	**Pdif**	**04 43 54.3**	**-1.4**			
ALNE	**Al Ain**	**101.01**	**293**	*i* P	**Pdif**	**04 43 55.0**	**-2.1**			
	SNR=76									
ISCO	**Idaho Springs**	**101.11**	**51**	Pdif	**Pdif**	**04 43 57.8**	**+0.3**			
ISCO	**Idaho Springs**	**101.11**	**51**	P	**Pdif**	**04 43 58.1**	**+0.6**			
	baz=271									
ISCO	**Idaho Springs**	**101.11**	**51**	Pdiff	**Pdif**	**04 43 58.0**	**+0.

KBS IVmB_BB 04 44 20.5
comp=Z,6µm,4.7s
KBS ePP PP 04 48 36.7 +0.8
KBS eSKSac SKSac 04 54 40.4 +2.0
KBS ePS PS 04 57 54.3 +0.6
KBS eSS SS 05 03 19.1 +1.6
KBS IVMs_BB IVMs_BB 05 21 09.9
comp=Z,78µm,34.4s
BELG Belogornoye 105.54 323 Pdiff Pdif 04 44 15.3 -1.1
comp=Z,50nm,0.8s,baz=315,slow=1.8,SNR=17
BELG PKiKP PKiKP 04 48 29.4 +0.4
comp=Z,265nm,0.9s,baz=11,slow=4.4,SNR=2.1
CBKS Cedar Bluff 105.71 52 Pdiff Pdif 04 44 17.8 +0.1
baz=275
SUSD Miller 105.73 46 Pdif Pdif 04 44 16.3 -1.4
SUSD Miller 105.73 46 P Pdif 04 44 16.5 -1.2
baz=277,SNR=20
SUSD Miller 105.73 46 Pdiff Pdif 04 44 14.7 -2.9
baz=277
TULEG Thule 105.82 10 Pdif Pdif 04 44 16.5 -0.8
TULEG Thule 105.82 10 *i* P Pdif 04 44 17.8 +0.5
TULEG IAmb IAmb 04 44 25.7
comp=Z,50nm,0.7s
HSPB Hornsund (broa 106.03 351 ePdif Pdif 04 44 18.5 +0.3
HSPB ePP PP 04 48 48.4 +5.2
HSPB eSP SP 04 57 39.3 -4.7
HSPB eSS SKKPbc 05 03 24.4 +0.2
HSPB eL L 05 21 11.7
comp=Z,453µm,45.1s
FCC Fort Churchill 106.04 30 Pdif Pdif 04 44 17.4 -1.2
FCC Fort Churchill 106.04 30 *i* P Pdif 04 44 17.4 -1.2
K31A O'Neill 106.08 48 P Pdif 04 44 18.6 -0.7
baz=276,SNR=50
JCT Junction City 106.16 60 P Pdif 04 44 19.3 -0.6
baz=272,SNR=12
JCT Junction City 106.16 60 Pdiff Pdif 04 44 19.1 -0.7
baz=272
ABTX Abilene, Hawle 106.20 58 P Pdif 04 44 20.4 +0.5
baz=273
ABTX Abilene, Hawle 106.20 58 Pdiff Pdif 04 44 20.8 +0.8
baz=273
R32A Long Quarter, 106.54 52 P Pdif 04 44 21.8 +0.4
baz=275,SNR=91
833A Chaparral WMA, 106.59 62 P Pdif 04 44 21.6 -0.2
baz=272,SNR=16
833A Chaparral WMA, 106.59 62 Pdiff Pdif 04 44 21.5 -0.3
baz=272
BGNE Belgrade 106.67 49 Pdif Pdif 04 44 20.2 -1.7
BGNE Belgrade 106.67 49 P Pdif 04 44 21.2 -0.6
baz=276,SNR=18
BGNE Belgrade 106.67 49 Pdiff Pdif 04 44 21.6 -0.2
baz=276
WMOK Wichita Mounta 106.79 56 P Pdif 04 44 22.3 -0.2
baz=274
WMOK Wichita Mounta 106.79 56 Pdiff Pdif 04 44 23.4 +0.9
baz=274
LVZ Lovozero 106.87 340 Pdif Pdif 04 44 22.3 +0.2
LVZ Lovozero 106.87 340 ⇑P Pdif 04 44 25.6 +3.4
ULM Lac du Bonnet 106.91 39 Pdiff Pdif 04 44 21.5 -1.2
comp=Z,56nm,1.0s,baz=293,slow=5.4,SNR=21
ULM PKiKP PKiKP 04 48 30.9 -0.8
comp=Z,80nm,0.6s,baz=216,slow=1.1,SNR=12
ULM PKKPbc PKKPbc 04 59 50.8 -1.0
comp=Z,29nm,0.7s,baz=131,slow=3.5,SNR=11
MAK Makhachkala 107.07 313 *d* iP Pdif 04 44 28.3 +4.8
MAK ePPP PPP 04 51 06.8
MAK *e* 04 54 50.2
MAK ePS PS 04 58 12.9 -2.9
MAK eSS SS 05 03 49.9 +3.0
MAK eSSS SSS 05 07 48.4
MAK pmax pmax
comp=Z,837nm,1.9s
AKT Akhty 107.08 311 *i* P Pdif 04 44 23.1 -0.7
AKT *e* 04 48 52.9
AKT *e* 04 54 48.9
AKT pmax pmax
comp=Z,102nm,0.9s
ADZR Andozero 107.14 336 *e*P Pdif 04 44 23.6 +0.3
ADZR *e* 04 54 46.9
ADZR pmax pmax
comp=Z,202nm,0.9s
BJO1 Bjornoya 107.24 349 *e*Pdif Pdif 04 44 23.4 -0.2
BJO1 ePP PP 04 48 52.2 +0.1
BJO1 eSKSac SKSac 04 54 50.3 +2.1
BJO1 eSP SP 04 57 57.6 +1.3
BJO1 eSS SS 05 03 50.2 +2.9
N33B J Bar K, Exete 107.27 49 P Pdif 04 44 23.7 -0.9
baz=277
AGMN Agassiz Nation 107.28 41 P Pdif 04 44 25.3 +1.0
baz=280
AGMN Agassiz Nation 107.28 41 Pdiff Pdif 04 44 22.7 -1.6
baz=280
GC02 Grant County # 107.36 53 Pdif Pdif 04 44 24.6 -0.5
F33A 5 Mile Ranch, 107.40 44 P Pdif 04 44 24.1 -0.9
baz=279
VADS Vadso 107.44 343 *e*Pdif Pdif 04 44 25.3 +0.7
VADS IVmB_BB 04 44 30.2
comp=Z,8µm,6.9s
VADS ePP PP 04 48 53.4 -0.2
VADS eSKSac SKSac 04 54 50.6 +1.3
VADS eSP SP 04 58 00.7 +2.1
VADS IVMs_BB IVMs_BB 05 29 25.4
comp=Z,51µm,26.9s
APA Apatity 107.45 340 ⇓*i* P Pdif 04 44 24.9 +0.2
APA *i* PS SP 04 58 00.0 +1.3
APA *i* SS SS 05 04 04.0 +14
APA pmax pmax
comp=Z,113nm,1.0s
NEEM North Greenlan 107.48 6 *i* P Pdif 04 44 24.6 -0.5
NEEM IAmb IAmb 04 44 34.7
comp=Z,49nm,0.7s
ECSD EROS Data Cent 107.50 46 P Pdif 04 44 24.5 -1.0
baz=278
ECSD EROS Data Cent 107.50 46 Pdiff Pdif 04 44 25.2 -0.2
baz=278
KLMR Klimovskoe 107.69 332 ⇑*i* Pdif Pdif 04 44 22.7 -3.2
KLMR *e*Pdif Pdif 04 44 22.7 -3.2
KLMR *e*Pdif Pdif 04 44 22.7 -3.2
KLMR AMP 04 44 38.1
comp=Z,696nm,1.4s
KLMR *e*pPdif pPdif 04 45 06.6 +0.6
KLMR PP PP 04 48 55.1 -0.6
KLMR SKSac SKSac 04 54 54.7 +4.0
KLMR SKSac SKSac 04 54 54.7 +4.0
KLMR SP SP 04 57 49.6 -12
KLMR PS SP 04 58 02.5 +0.9
KLMR PS SP 04 58 02.5 +0.9
KLMR *e*PKKPab PKKPbc 04 59 51.1 +1.4
KLMR SS SS 05 04 29.0 +35
KLMR SS SS 05 04 29.0 +35
KLMR Klimovskoe 107.69 332 *c* iP Pdif 04 44 22.7 -3.2
KLMR 04 48 55.0
KLMR 04 54 54.7
KLMR PS SP 04 58 02.4 +0.9
KLMR pmax pmax
comp=Z,696nm,1.4s
L34A Svendsen Farm, 107.92 48 P Pdif 04 44 26.9 -0.5
baz=278
435B Jarrell 108.05 60 P Pdif 04 44 30.5 +2.3
baz=274,SNR=13
435B Jarrell 108.05 60 Pdiff Pdif 04 44 28.3 +0.1
baz=274
WHTX Lake Whitney, 108.08 59 Pdiff Pdif 04 44 28.9 +0.6
baz=274
KSU1 Kansas State U 108.11 51 P Pdif 04 44 30.4 +2.1
baz=277,SNR=24
KSU1 Kansas State U 108.11 51 Pdiff Pdif 04 44 29.5 +1.2
baz=277
Z35A Perchaven, San 108.16 57 P Pdif 04 44 29.5 +0.9
baz=274,SNR=7.0
LOOK Love County 108.16 56 Pdif Pdif 04 44 28.9 +0.3
GROC Groznyy 108.27 313 *e*P Pdif 04 44 26.0 -2.9
GROC *e* 04 49 01.7
GROC *e* 04 54 49.8
GROC *e* 04 55 28.6
GROC *e*PS PS 04 58 28.5 +0.5
GROC pmax pmax
comp=Z,230nm,0.6s
T35B Sooner Cattle 108.43 53 P Pdif 04 44 30.9 +1.1
baz=276,SNR=14
B35A Bob, Littlefor 108.67 41 P Pdif 04 44 29.6 -1.0
baz=282,SNR=38
HAMF Hammerfest 108.71 345 *e*Pdif Pdif 04 44 30.2 0.0
HAMF IVmB_BB 04 44 36.7
comp=Z,5µm,3.8s
HAMF *e*PP PP 04 49 01.5 -1.3
HAMF *e*SKSac SKSac 04 54 54.2 -0.5
HAMF *e*SP SP 04 58 15.7 +4.3
HAMF *e*SS SS 05 04 08.3 +1.0
ARA0 ARCESS Array S 108.88 343 *e*Pdif Pdif 04 44 32.2 +1.2
ARA0 IVmB_BB 04 44 37.3
comp=Z,6µm,5.1s
ARA0 *e*PP PP 04 49 02.8 -1.3
ARA0 *e*SKSac SKSac 04 54 56.8 +1.3
ARA0 *e*SP SP 04 58 15.0 +1.7
ARA0 IVMs_BB IVMs_BB 05 23 35.0
comp=Z,68µm,37.6s
ARCES ARCESS Array B 108.88 343 Pdiff Pdif 04 44 30.2 -0.8
comp=Z,4.0nm,0.5s,baz=46,slow=4.5,SNR=15
ARCES PKiKP PKiKP 04 48 35.4 +0.5
comp=Z,48nm,0.6s,baz=36,slow=1.5,SNR=11
ARCES PKKPbc PKKPbc 04 59 47.0 +0.7
comp=Z,22nm,0.6s,baz=218,slow=3.0,SNR=6.1
ARCES ARCESS Array B 108.88 343 Pdif Pdif 04 44 31.0 0.0
ARCES ARCESS Array B 108.88 343 *i* P Pdif 04 44 31.0 0.0
TUL1 Leonard 109.11 54 Pdiff Pdif 04 44 32.9 +0.1
baz=276
KULLO Kullorsuaq 109.19 9 *i* P Pdif 04 44 32.5 +0.2
KULLO IAmb IAmb 04 44 42.9
comp=Z,18nm,0.7s
USHA Ushuaia 109.23 155 Pdiff Pdif 04 44 33.8 +0.9
comp=Z,15nm,0.6s,baz=242,slow=1.2,SNR=1.3
USHA PKiKP PKiKP 04 48 36.6 +0.7
comp=Z,20nm,0.5s,baz=222,slow=0.7,SNR=1.3
F36A Milaca 109.30 44 P Pdif 04 44 32.7 -0.7
baz=281,SNR=36
VRH Novokhopyorsk 109.37 322 P Pdif 04 44 32.4 -1.2
VRH SP SP 04 58 10.9 -8.2
VRH SS SS 05 04 10.9 -6.4
VRH pmax pmax
comp=Z,54µm,18.4s
DAG Danmarks Havn 109.42 358 *i* P Pdif 04 44 33.1 -0.2
DAG IAmb IAmb 04 44 40.1
comp=Z,66nm,0.8s
DAG Danmarks Havn 109.42 358 *e*P PKiKP 04 48 37.0 +1.3
237A Washetta, Mont 109.48 58 P Pdif 04 44 34.9 +0.4
baz=275
GNI Garni 109.51 310 Pdiff Pdif 04 44 34.0 -0.7
comp=Z,3.7nm,0.8s,baz=269,slow=1.1,SNR=6.2
GNI PKiKP PKiKP 04 48 37.6 +0.4
comp=Z,55nm,0.8s,baz=41,slow=8.4,SNR=2.9
GNI Garni 109.51 310 Pdif Pdif 04 44 33.6 -1.0
GNI Garni 109.51 310 *i* P Pdif 04 44 33.7 -1.0
X37A Clayton 109.60 56 P Pdif 04 44 35.7 +0.7
baz=276
HKT Hockley 109.62 61 P Pdif 04 44 35.6 +0.6
baz=274
ZEI Tsey 109.71 313 *e*P Pdif 04 44 30.6 -5.0
ZEI pmax pmax
comp=Z,107nm,1.3s
I37B Waseca 109.74 45 P Pdif 04 44 36.2 +0.8
baz=281
KTK1 Kautokeino 109.84 343 *e*Pdif Pdif 04 44 35.4 +0.1
KTK1 IVmB_BB 04 44 49.6
comp=Z,7µm,5.0s
KTK1 *e*PP PP 04 49 08.6 -2.4
KTK1 *e*SP SP 04 58 23.5 +0.9
KTK1 *e*SS SS 05 04 27.0 +4.5
KTK1 IVMs_BB IVMs_BB 05 24 00.5
comp=Z,67µm,40.3s
SPMN Marine on St. 109.93 44 P Pdif 04 44 36.1 -0.1
baz=282,SNR=20
SPMN Marine on St. 109.93 44 Pdiff Pdif 04 44 35.5 -0.8
baz=282
Z38A Mt. Pleasant 110.05 57 P Pdif 04 44 36.7 -0.3
baz=276
ONI Oni 110.07 313 Pdif Pdif 04 44 36.9 -0.1
ONI Oni 110.07 313 *i* P Pdif 04 44 36.9 -0.1
U38A Gravette 110.18 54 P Pdif 04 44 38.6 +1.0
baz=277,SNR=10
EYMN Ely 110.22 41 P Pdif 04 44 37.1 -0.4
baz=284,SNR=6.0
EYMN Ely 110.22 41 Pdiff Pdif 04 44 37.0 -0.4
baz=284
AKH Akhalkalaki 110.25 312 Pdif Pdif 04 44 36.9 -1.1
AKH Akhalkalaki 110.25 312 *i* P Pdif 04 44 36.9 -1.1
SCIA State Center 110.26 48 P Pdif 04 44 38.6 +0.9
baz=280
SCIA State Center 110.26 48 Pdiff Pdif 04 44 37.1 -0.7
baz=280
KBZ Khabaz 110.26 314 Pdiff Pdif 04 44 37.1 -0.6
comp=Z,2.4nm,0.8s,baz=125,slow=6.5,SNR=4.7
KBZ PKiKP PKiKP 04 48 38.8 +0.6
comp=Z,22nm,0.8s,baz=157,slow=4.6,SNR=2.6
KBZ PKKPbc PKKPbc 04 59 44.7 +3.8
comp=Z,25nm,0.8s,baz=290,slow=2.9,SNR=4.1
KBZ Khabaz 110.26 314 *i* P Pdif 04 44 35.4 -2.3
KBZ *i* 04 48 37.9
KBZ pmax pmax
comp=Z,19nm,1.0s
KBZ pmax pmax
comp=Z,106nm,1.0s
JETT Jettan, Norway 110.27 345 *e*Pdif Pdif 04 44 36.1 -1.1
JETT *e*PP PP 04 49 09.2 -4.9
JETT *e*SKSac SKSac 04 55 02.6 +1.2
JETT *e*SP SP 04 58 25.7 -0.9
JETT *e*SS SS 05 04 31.6 +3.3
KIV Kislovodsk 110.36 315 *i* P Pdif 04 44 36.8 -1.5
KIV *i* 04 48 36.6
KIV *e* 04 49 14.5
KIV *e*PPP PPP 04 51 36.0
KIV *e* 04 55 01.9
KIV *e*PS PS 04 58 47.4 -0.6
KIV *e*SS SS 05 04 31.8 +0.4
KIV *e*SSS SSS 05 08 40.7
KIV pmax pmax
comp=Z,107nm,1.1s
KIV MLR MLR
comp=Z,83µm,21.0s
MOS Moscow 110.37 328 *i* P Pdif 04 44 34.5 -3.4
MOS *e* 04 49 12.2
MOS *e* 04 54 59.9
MOS *i* PS SP 04 58 27.1 -1.1
MOS *e*PPS PPS 04 59 41.4
MOS *e*SS SS 05 04 36.0 +5.7
MOS *e*SSS SSS 05 08 42.5
MOS pmax pmax
comp=Z,279nm,1.1s
MOS MLR MLR
comp=Z,126µm,20.0s
MOS MLR MLR
comp=N,89µm,21.0s
MOS MLR MLR
comp=E,127µm,21.0s
RAYN Ar Rayn 110.39 293 ⇑PKIKP PKiKP 04 48 44.0 +4.9
P38A Dawn 110.40 50 P Pdif 04 44 38.1 -0.4
baz=279
SHA1 Shidzhatmaz 110.43 314 *i* P Pdif 04 44 36.0 -2.8
SHA1 *i* 04 48 38.2
N38A Joes South For 110.43 49 P Pdif 04 44 36.3 -2.2
baz=280
K38A Parkersburg 110.45 47 P Pdif 04 44 38.9 +0.3
baz=281
NATX Nacogdoches 110.47 59 P Pdif 04 44 40.5 +1.5
baz=275
NATX Nacogdoches 110.47 59 Pdiff Pdif 04 44 39.1 +0.1
baz=275
E38A The Farm, Brul 110.48 43 P Pdif 04 44 36.8 -1.9
baz=283,SNR=6.6
HHAR Hobbs 110.56 54 Pdif Pdif 04 44 37.7 -1.6
TRO Tromso 110.61 345 *e*Pdif Pdif 04 44 37.4 -1.2
TRO IVmB_BB 04 44 54.5
comp=Z,7µm,6.7s
TRO *e*PP PP 04 49 15.8 -0.6
TRO IVMs_BB IVMs_BB 05 39 01.3
comp=Z,64µm,22.1s
VORR Voronezh 110.76 323 P Pdif 04 44 39.1 -0.6
VORR 04 49 25.5
VORR SS SS 05 04 35.4 -0.4
VORR pmax pmax
comp=Z,55µm,17.0s
S39A Bolivar 110.85 52 P Pdif 04 44 41.2 +0.7
baz=278,SNR=21
UPNV Upernavik 110.86 10 *i* P Pdif 04 44 40.0 +0.2
UPNV IAmb IAmb 04 44 50.3
comp=Z,18nm,0.7s
VSR Storozhevoye 110.91 323 P Pdif 04 44 40.5 +0.1
VSR SP SP 04 58 24.1 -9.4
VSR SS SS 05 04 42.9 +5.0
VSR pmax pmax
comp=Z,75µm,18.2s
CMIG Matias Romero 110.94 74 PKiKP PKiKP 04 48 39.9 -0.3
comp=Z,30nm,0.7s,baz=0.4,slow=2.0,SNR=20
MIAR Mount Ida 111.08 55 P Pdif 04 44 43.2 +1.6
baz=277,SNR=18
MIAR Mount Ida 111.08 55 Pdiff Pdif 04 44 40.7 -0.8
baz=277
OBN Obninsk 111.15 327 Pdiff Pdif 04 44 40.0 -1.4
comp=Z,4.3nm,0.6s,baz=83,slow=7.1,SNR=7.2
OBN PKiKP PKiKP 04 48 39.1 -0.4
comp=Z,21nm,0.9s,baz=61,slow=18,SNR=2.7
OBN Obninsk 111.15 327 Pdif Pdif 04 44 40.1 -1.3
OBN Obninsk 111.15 327 *e*P Pdif 04 44 41.0 -0.4
OBN *i* 04 48 36.4
OBN *i* 04 49 20.9
OBN *i* PS SP 04 58 37.1 +1.7
OBN *i* SS SS 05 04 46.3 +5.6
OBN pmax pmax
comp=Z,337nm,1.5s
OBN pmax pmax
comp=Z,8µm,7.6s
OBN MLR MLR
comp=Z,204µm,20.0s
U40A Yellville 111.42 53 P Pdif 04 44 43.8 +0.7
baz=278,SNR=19
U40A P Pdif 04 44 43.8 +0.7
baz=278,SNR=19
P40A Paris 111.54 50 P Pdif 04 44 41.1 -2.5
baz=280,SNR=34
R40A Maddies Statio 111.58 51 P Pdif 04 44 45.2 +1.5
baz=279,SNR=19
L40A Anamosa 111.69 47 P Pdif 04 44 46.1 +2.0
baz=282,SNR=12
G40A Rib Lake 111.71 44 P Pdif 04 44 45.8 +1.6
baz=284,SNR=16
I40A Norwalk 111.73 45 P Pdif 04 44 45.4 +1.1
baz=283
441A DeRidder 111.83 59 P Pdif 04 44 48.2 +3.2
baz=276
GURO Guroymak-BITLI 111.84 309 Pdif Pdif 04 44 43.5 -1.6
DBG Daneborg 111.92 359 *i* P Pdif 04 44 44.3 -0.1
DBG IAmb IAmb 04 44 52.9
comp=Z,13nm,0.9s
JFWS Jewell Farm 112.21 46 P Pdif 04 44 47.0 +0.5
baz=283
JFWS Jewell Farm 112.21 46 Pdiff Pdif 04 44 44.9 -1.5
baz=283
N41A Harden Midland 112.23 49 P Pdif 04 44 47.4 +0.8
baz=281,SNR=14
D41A Chassel 112.36 41 P Pdif 04 44 47.5 +0.5
baz=286
NUUG Nuugaatsiaq 112.40 9 *e*P PKiKP 04 48 43.3 +1.9
CCM Cathedral Cave 112.42 51 P Pdif 04 44 48.3 +0.9
baz=280
CCM Cathedral Cave 112.42 51 Pdiff Pdif 04 44 46.9 -0.6
baz=280
342B Flagon Creek P 112.50 59 P Pdif 04 44 47.7 -0.3
baz=277
SOC Sochi 112.55 315 *i* P Pdif 04 44 45.4 -2.5
SOC *i* 04 48 39.8
SOC *e* 04 49 28.7
SOC *e*PPP PPP 04 51 51.4
SOC *e* 04 55 05.0
SOC *e*PS PS 04 59 01.8 -6.1
SOC *e*SS SS 05 04 51.5 -8.6
SOC *e*SSS SSS 05 09 05.9
STEI Steigen 112.76 345 *e*Pdif Pdif 04 44 48.2 0.0
STEI IVmB_BB 04 44 53.2
comp=Z,4µm,4.7s
STEI *e*PP PP 04 49 34.2 +2.4
STEI *e*SKSac SKSac 04 55 12.8 +1.5
STEI *e*SP SP 04 58 51.1 +1.7
STEI *e*SS SS 05 05 06.8 +5.6
STEI IVMs_BB IVMs_BB 05 38 15.8
comp=Z,54µm,24.5s
L42A Oliver, Polo 112.83 47 P Pdif 04 44 51.5 +2.3
baz=283
I42A Draeger Farm, 112.93 45 P Pdif 04 44 51.1 +1.5
baz=284
F42A Maple Grove Fa 113.00 43 P Pdif 04 44 52.4 +2.5
baz=285
MARD Mardin 113.03 308 Pdif Pdif 04 44 49.3 -1.1
LOF Lofoten 113.05 345 *e*Pdif Pdif 04 44 48.9 -0.6
LOF IVmB_BB 04 44 55.0
comp=Z,4µm,4.5s
LOF *e*PP PP 04 49 35.1 +1.2
LOF *e*SKSac SKSac 04 55 13.1 +0.6
LOF *e*SP SP 04 58 53.4 +1.4
LOF *e*SS SS 05 05 09.8 +4.8
LOF IVMs_BB IVMs_BB 05 26 58.3
comp=Z,43µm,36.2s
KTUT Trabzon 113.09 312 ⇑P PKiKP 04 48 45.8 +2.1
SLM Saint Louis 113.09 51 P Pdif 04 44 51.2 +0.7
baz=281
143A Socs Landing, 113.11 57 P Pdif 04 44 48.0 -2.6
baz=278
FAUS Fauske 113.14 344 *e*Pdif Pdif 04 44 48.7 -1.3
FAUS IVmB_BB 04 45 06.3
comp=Z,6µm,7.0s
FAUS *e*PP PP 04 49 35.6 +1.0
FAUS *e*SP SP 04 58 52.7 -0.2
FAUS *e*SS SS 05 05 08.9 +2.6
FAUS IVMs_BB IVMs_BB 05 32 59.9
comp=Z,47µm,21.2s
SUMG Summit 113.20 4 *i* P Pdif 04 44 53.5 +2.8
SUMG IAmb IAmb 04 45 04.9
comp=Z,16nm,0.8s
SUMG Summit 113.20 4 *e*P PKiKP 04 48 48.9 +5.4
FINES FINESS Array B 113.27 336 Pdiff Pdif 04 44 50.3 -0.4
comp=Z,6.4nm,0.6s,baz=70,slow=4.7,SNR=24
FINES PKiKP PKiKP 04 48 43.8 +0.4
comp=Z,109nm,0.8s,baz=50,slow=3.0,SNR=12
FINES PKKPbc PKKPbc 04 59 31.1 -0.5
comp=Z,33nm,0.8s,baz=225,slow=2.3,SNR=14
FINES FINESS Array B 113.27 336 Pdif Pdif 04 44 50.0 -0.7
PBMO Poplar Bluff 113.28 53 P Pdif 04 44 52.7 +1.4
baz=280
HDIL Hopedale 113.42 48 P Pdif 04 44 52.5 +0.7
baz=282
HDIL Hopedale 113.42 48 Pdiff Pdif 04 44 50.4 -1.5
baz=282
P43A Skaggs, Pawnee 113.44 49 P Pdif 04 44 50.9 -1.1
baz=282
CCIG Comitan 113.57 75 Pdif Pdif 04 44 53.7 +0.5
H43A Windswept, Lux 113.58 44 P Pdif 04 44 54.6 +2.1
baz=285
E43A Lone Tree Farm 113.59 42 P Pdif 04 44 53.7 +1.2
baz=287
K43A Burlington 113.63 46 P Pdif 04 44 52.7 -0.1
baz=284
GNAR Gosnell 113.75 53 Pdif Pdif 04 44 52.1 -1.2
ANN Anapa 113.83 316 *i* PKIKP PKiKP 04 48 47.2 +2.3
ANN *e* 04 49 27.7
ANN *e* 04 49 41.1
ANN *e* 04 55 19.4
ANN *e*SP SP 04 59 02.6 +1.9
ANN *e*SS SS 05 05 19.9 +3.0
ANN pmax pmax
comp=Z,247nm,1.3s
ANN pmax pmax
comp=N,98nm,1.4s
ANN pmax pmax
comp=E,65nm,1.2s
344A Westbrook Farm 113.84 58 P Pdif 04 44 54.8 +0.9
baz=278
VBMS Vicksburg 113.92 58 P Pdif 04 44 56.2 +2.0
baz=278
VBMS Vicksburg 113.92 58 Pdiff Pdif 04 44 54.4 +0.2
baz=278
Q44A Meyer Farm, Va 113.97 50 P Pdif 04 44 56.1 +1.7
baz=282
GO07 Milladeo Hill, 114.00 143 Pdif Pdif 04 44 55.3 +0.8
S44A Carbondale 114.03 52 P Pdif 04 44 55.5 +0.8
baz=281
SIUC Southern Illin 114.06 51 Pdif Pdif 04 44 54.8 0.0
L44A Lake County Fo 114.06 46 P Pdif 04 44 54.6 -0.1
baz=284
L44A Lake County Fo 114.06 46 Pdiff Pdif 04 44 54.7 0.0
baz=284
O44A Mansfield 114.12 49 P Pdif 04 44 56.2 +1.3
baz=283
M44A Midewin, Midew 114.16 47 P Pdif 04 44 56.4 +1.3
baz=284
MOR8 Moi Rana 114.25 344 *e*Pdif Pdif 04 44 55.9 +0.9
MOR8 IVmBBB 04 45 12.3
comp=Z,7µm,14.5s

MOR8 ePP PP 04 49 40.4 -2.0
MOR8 eSP SP 04 59 04.0 +0.8
MOR8 eSS SS 05 05 21.4 +0.5
MOR8 IVMs_BB IVMs_BB 05 34 32.2
comp=Z,62µm,22.1s
GLAT Glass 114.27 53 Pdif **Pdif 04 44 54.2 -1.5**
KONS Konsvik 114.37 344 ePdif **Pdif 04 44 56.4 +0.9**
KONS ePP **PP 04 49 44.5 +1.2**
PAYG Puerto Ayora 114.41 94 eP **PKiKP 04 48 52.5 +5.5**
JMIC Jan Mayen 114.48 354 ePdif **Pdif 04 44 55.1 -0.8**
JMIC IVmB_BB 04 45 24.9
comp=Z,10µm,4.5s
JMIC ePKPdf **PKiKP 04 48 46.1 +0.7**
JMIC eSP SP 04 59 04.1 -0.8
JMIC eSS **SS 05 05 25.2 +1.6**
JMIC IVMs_BB IVMs_BB 05 25 42.8
comp=Z,39µm,45.5s
Y45A Yeager Farm, C 114.48 56 P **Pdif 04 44 55.4 -1.3**
baz=279
STOK Stokkvaagen 114.53 344 ePKPdf **PKiKP 04 48 46.5 +0.9**
W45A Hickory Valley 114.55 54 P **Pdif 04 44 56.5 -0.5**
baz=280
VSU Vasula 114.57 333 *i* PKIKP PKPdf 04 48 44.5 -1.4
VSU pmax pmax
comp=Z,423nm,0.9s
VSU MLR MLR
comp=Z,436µm,21.0s
VSU Vasula 114.57 333 eP **PKiKP 04 48 47.1 +1.2**
MEF Metsahovi 114.64 335 eP PKPdf 04 48 47.7 +1.7
T45A Paducah 114.64 52 Pdif **Pdif 04 44 56.9 -0.4**
T45B Paducah 114.64 52 P **Pdif 04 44 55.9 -1.4**
baz=281
OLIL Olney 114.71 50 P **Pdif 04 44 55.6 -2.0**
baz=282
I45A Fountain 114.76 44 P **Pdif 04 44 56.0 -1.7**
baz=286
I45A P **Pdif 04 44 56.0 -1.7**
baz=286
ILULI Ilulissat 114.78 10 *i* P **Pdif 04 45 01.3 +4.0**
ILULI Ilulissat 114.78 10 eP **PKiKP 04 48 45.3 -0.8**
G45A Suttons Bay 114.87 43 P **Pdif 04 44 58.5 +0.3**
baz=287
G45A P **Pdif 04 44 58.5 +0.3**
baz=287
SFIN Lafayette 115.09 48 Pdif **Pdif 04 44 58.4 -0.9**
SFIN Lafayette 115.09 48 P **Pdif 04 44 59.8 +0.5**
baz=284
SFIN Lafayette 115.09 48 Pdiff **Pdif 04 44 58.2 -1.1**
baz=284
P46A Rosedale 115.19 49 PKiKP **PKPdf 04 48 47.8 0.0**
P46A Rosedale 115.19 49 P **Pdif 04 44 57.8 -1.9**
baz=284
USIN University of 115.21 51 PKiKP **PKiKP 04 48 47.8 0.0**
RAF Rauma 115.23 337 eP **PKPdf 04 48 47.7 +0.6**
L46A Eue Claire 115.27 46 P **Pdif 04 45 01.3 +1.3**
baz=285
L46A P **Pdif 04 45 01.3 +1.3**
baz=285
E46A Sault Ste Mari 115.36 41 P **Pdif 04 45 02.4 +2.1**
baz=289
WVT Waverly 115.46 53 PKPdf **PKPdf 04 48 48.5 +0.2**
WVT Waverly 115.46 53 P **Pdif 04 45 01.9 +0.9**
baz=281
WVT Waverly 115.46 53 Pdiff **Pdif 04 45 00.5 -0.6**
baz=281
WVT Waverly 115.46 53 PKIKP **PKPdf 04 48 48.5 +0.2**
GLMI Grayling 115.64 43 P **Pdif 04 44 59.8 -1.8**
baz=288
GLMI Grayling 115.64 43 Pdiff **Pdif 04 45 01.8 +0.2**
baz=288
EFI East Falkland 115.72 158 **PKPdf 04 48 48.9 +0.5**
EFI East Falkland 115.72 158 PKIKP **PKPdf 04 48 48.9 +0.5**
SCO Scoresbysund 115.80 359 *i* P **Pdif 04 45 03.2 +1.5**
SCO Scoresbysund 115.80 359 eP **PKPdf 04 48 48.5 +0.5**
NUBE Las Nubes 115.85 78 eP **PKPdf 04 48 49.1 -0.7**
T47A Sharon Grove 115.85 52 P **Pdif 04 45 04.9 +2.2**
baz=282
LL03 Petrohue 115.91 142 PKPdf **PKiKP 04 48 50.0 +0.9**
CNG Changalane 115.92 237 ⇑*i*P **Pdif 04 45 07.9 +4.6**
CNG IAMs_20 IAMs_20 05 25 07.8
comp=Z,220µm,45.3s
MNK Minsk 115.98 329 *i* P **Pdif 04 45 03.5 +0.6**
comp=E,2.0nm,0.9s
MNK *i* P **Pdif 04 45 03.5 +0.6**
comp=N,22nm,0.9s
MNK *i* P **Pdif 04 45 03.5 +0.6**
comp=Z,29nm,0.9s,baz=62
MNK *i* PKP **PKiKP 04 48 50.9 +2.1**
MNK *i* pPKP PP 04 49 33.0 -22
MNK *i* sPKP 04 49 49.6
MNK *i* PP **PP 04 49 57.6 +2.7**
MNK *i* SKP 04 52 10.9
MNK *i* PPP PPP 04 52 15.1
MNK *i* SKS **SKSac 04 55 24.7 +0.4**
MNK *i* SKKS **SKKSac 04 56 32.0 -8.5**
MNK *i* PS **PKKPab 04 59 26.4 +1.1**
MNK *i* SS SKKSdf 05 06 24.6 -20
MNK *i* SSS SSS 05 09 57.4
MNK *i* LRM MLR 05 39 37.9
comp=E,24µm,20.2s
MNK *i* LRM MLR 05 39 49.8
MNK *i* LRM MLR 05 40 35.3
comp=N,79µm,20.7s
MNK Minsk 115.98 329 *i* P **Pdif 04 45 03.4 +0.6**
MNK *i* 04 49 57.6
MNK *i* 04 55 24.7
MNK *i* SSS SSS 05 09 57.3
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK MLR MLR
comp=E,24µm,20.0s
MNK MLR MLR
comp=Z,148µm,20.0s
MNK MLR MLR
comp=N,79µm,21.0s
SIM Simferopol' 116.04 317 *i* P **Pdif 04 45 05.6 +2.2**
SIM *e* 04 50 01.0
SIM ePS **PKKPbc 04 59 23.0 +1.4**
SIM ePPS PPS 05 00 51.0
SIM pmax pmax
comp=Z,4µm,12.4s
IDID Didziasalis 116.16 330 eP PKPdf 04 48 41.0 -8.1
NSS Namsos 116.17 343 ePdif **Pdif 04 45 03.9 +0.4**
NSS IVmBBB 04 45 09.7
comp=Z,4µm,4.8s
NSS ePKPdf **PKiKP 04 48 48.9 +0.1**
NSS ePP **PP 04 49 53.0 -2.8**
NSS eSP SP 04 59 21.1 +0.5
NSS eSS **SS 05 05 47.6 +1.7**
NSS IVMs_BB IVMs_BB 05 41 01.4
comp=Z,57µm,23.2s
JAYA Jayaque - finc 116.17 78 eP **PKPdf 04 48 47.7 -2.8**
IZAR Zarasai 116.19 331 eP **PKiKP 04 48 52.1 +2.9**
WCI Wyandotte Cave 116.20 50 **PKPdf 04 48 48.6 -1.2**
WCI Wyandotte Cave 116.20 50 P **Pdif 04 45 03.6 -0.7**
baz=284
WCI Wyandotte Cave 116.20 50 Pdiff **Pdif 04 45 04.5 +0.2**
baz=284
WCI Wyandotte Cave 116.20 50 PKIKP **PKPdf 04 48 48.6 -1.2**
DIKM Dikmen 116.22 314 ⇑P **PKiKP 04 48 49.9 +0.2**
ISAL Salakas 116.34 330 eP **PKiKP 04 48 52.5 +3.1**
V48A Smith Brothers 116.34 53 P **Pdif 04 45 04.3 -0.6**
baz=282
NACGM Naroch 116.34 330 ⇑*i*P **Pdif 04 45 13.1 +8.6**
comp=Z,87nm,0.9s,baz=60
SNET Serv Nac Est T 116.38 78 PKPdf **PKPdf 04 48 50.3 -0.5**
ICESG Greenland Ices 116.47 6 *i* P **Pdif 04 45 05.8 +0.5**
ICESG Greenland Ices 116.47 6 eP **PKiKP 04 48 50.2 +0.4**
KSTD Kokstad 116.51 231 ⇑*i*P **Pdif 04 45 10.1 +4.0**
KSTD IAMs_20 IAMs_20 05 27 10.9
comp=Z,11900µm,94.7s
KIBK Kibwezi 116.55 264 PKPdf **PKiKP 04 48 51.5 +0.3**
O48B Farmland 116.56 48 P **Pdif 04 45 06.6 +0.8**
baz=285
O48B Farmland 116.56 48 Pdiff **Pdif 04 45 04.1 -1.7**
baz=285
P48A Milroy 116.56 49 P **Pdif 04 45 05.8 -0.1**
baz=285
P48A P **Pdif 04 45 05.8 -0.1**
baz=285

L48A N Adams 116.62 46 P **Pdif 04 45 06.3 +0.2**
baz=287
L48A P **Pdif 04 45 06.3 +0.2**
baz=287
LRAL Lakeview Retre 116.72 56 P **Pdif 04 45 04.6 -2.1**
baz=280
LRAL Lakeview Retre 116.72 56 Pdiff **Pdif 04 45 05.5 -1.2**
baz=280
SFJD Kangerlussuaq 116.82 11 **PKPdf 04 48 49.7 -0.3**
SFJD Kangerlussuaq 116.82 11 *i* P **Pdif 04 45 10.2 +3.9**
SFJD Kangerlussuaq 116.82 11 eP **PKiKP 04 48 50.4 +0.4**
SFJD Kangerlussuaq 116.82 11 PKIKP **PKPdf 04 48 49.7 -0.3**
SCLA Alcaldia de Sa 116.87 78 eP **PKPdf 04 48 50.6 -1.1**
FURI Furi 116.95 277 PKPdf **PKPdf 04 48 52.0 -0.3**
AKASG Malin Array Be 116.96 325 Pdiff **Pdif 04 45 07.0 -0.4**
comp=Z,4.7nm,0.8s,baz=54,slow=4.4,SNR=14
AKASG PKP **PKPdf 04 48 49.5 -1.3**
comp=Z,28nm,0.4s,baz=48,slow=2.6,SNR=36
AKASG PKKPbc **PKKPbc 04 59 15.2 -3.3**
comp=Z,10nm,0.7s,baz=260,slow=4.1,SNR=8.8
AKASG Malin Array Be 116.96 325 PKIKP **PKPdf 04 48 49.6 -1.2**
AKBB Malin Array Si 116.96 325*c* *i*PKIKP **PKPdf 04 48 50.2 -0.6**
BRAL Brewton 117.00 58 P **Pdif 04 45 11.3 +3.4**
baz=280
BRAL Brewton 117.00 58 Pdiff **Pdif 04 45 08.6 +0.6**
baz=280
U49A Red Boiling Sp 117.00 52 P **Pdif 04 45 06.8 -1.1**
baz=283
SLIT Slitere, Latvi 117.01 334 eP **PKiKP 04 48 51.4 +0.8**
BZK Bozkurt 117.03 314 ⇑P **PKPdf 04 48 49.2 -2.0**
BZK Bozkurt 117.03 314 **PKiKP 04 48 51.3 +0.1**
PQSS Presa 15 de Se 117.03 78 eP **PKPdf 04 48 49.6 -2.4**
Y49A Blount Mountai 117.05 55 P **Pdif 04 45 10.7 +2.5**
baz=281
R49A Shelbyville 117.05 50 P **Pdif 04 45 08.5 +0.5**
baz=284
R49A P **Pdif 04 45 08.5 +0.5**
baz=284
AAM Ann Arbor 117.07 45 P **Pdif 04 45 10.0 +2.0**
baz=287
AAM Ann Arbor 117.07 45 Pdiff **Pdif 04 45 09.7 +1.7**
baz=287
P49A Miami Univ. Ec 117.08 49 P **Pdif 04 45 06.5 -1.6**
baz=285
P49A Miami Univ. Ec 117.08 49 Pdiff **Pdif 04 45 07.7 -0.5**
baz=285
ASF Jabal al Asfar 117.08 303 Pdiff **Pdif 04 45 09.0 +0.5**
comp=Z,2.0nm,0.6s,baz=246,slow=8.1,SNR=3.0
ASF Jabal al Asfar 117.08 303 *i* P **Pdif 04 45 09.0 +0.5**
N49A Columbus Grove 117.09 47 P **Pdif 04 45 09.7 +1.5**
baz=286
N49A P **Pdif 04 45 09.7 +1.5**
baz=286
TEIG Tepich 117.12 71 **PKPdf 04 48 50.9 -1.1**
VSVD Vaisvydziai 117.18 332 eP **PKiKP 04 48 52.1 +1.1**
O49A Covington 117.18 48 P **Pdif 04 45 08.8 +0.2**
baz=286
O49A P **Pdif 04 45 08.8 +0.2**
baz=286
BEIL Beino 117.21 306 eP **PKPdf 04 48 51.4 -0.5**
NWCL Newcastle 117.25 235 ⇑*i*P **Pdif 04 45 13.3 +3.9**
NWCL IAMs_20 IAMs_20 05 26 22.6
comp=Z,700µm,38.5s
PLCA Paso Flores 117.28 142 Pdiff **Pdif 04 45 11.0 +1.8**
comp=Z,1.3nm,1.0s,baz=192,slow=21,SNR=1.7
PLCA PKP **PKPdf 04 48 51.5 -0.4**
comp=Z,37nm,0.9s,baz=253,slow=2.4,SNR=21
PLCA PKKPbc **PKKPbc 04 59 16.7 -0.7**
comp=Z,14nm,0.8s,baz=33,slow=3.5,SNR=4.0
PABE Paberze 117.42 331 eP **PKiKP 04 48 52.5 +1.0**
HWQ Hawqa 117.46 305 eP **PKiKP 04 48 53.6 +1.2**
HWQ eP **PKiKP 04 48 53.7 +1.2**
ILGA Ilgaz 117.50 313 **PKPdf 04 48 52.1 -0.4**
KMBO Kilima Mbogo 117.50 265 Pdiff **Pdif 04 45 12.9 +2.0**
comp=Z,0.1nm,0.7s,baz=21,slow=23,SNR=3.8
KMBO PKP **PKiKP 04 48 53.4 +0.1**
comp=Z,2.7nm,1.0s,baz=49,slow=24,SNR=7.2
KMBO PKKPbc **PKKPab 04 59 18.3 -1.7**
comp=Z,1.0nm,1.0s,baz=243,slow=24,SNR=7.5
KMBO Kilima Mbogo 117.50 265 ⇑*i*P **Pdif 04 45 12.6 +1.6**
KMBO IAMs_20 IAMs_20 05 25 48.0
comp=Z,1160µm,51.5s
GRHM Grahamstown, E 117.51 227 **PKiKP 04 48 52.8 +0.3**
GRHM Grahamstown, E 117.51 227 ⇑*i*P **Pdif 04 45 13.0 +2.7**
GRHM IAMs_20 IAMs_20 05 27 49.6
comp=Z,7485µm,89.0s
ZAHL Zahle 117.59 305 eP **PKiKP 04 48 53.3 +0.6**
MOPA Mopani 117.60 240 *i* P **PKiKP 04 48 55.1 +2.2**
MOPA Mopani 117.60 240 eP **Pdif 04 45 14.5 +3.6**
MOPA IAMs_20 IAMs_20 05 26 02.1
comp=Z,703µm,48.3s
T50A Nancy 117.61 51 P **Pdif 04 45 11.2 +0.6**
baz=284
T50A P **Pdif 04 45 11.2 +0.6**
baz=284
TBLU Trondheim 117.63 343 ePdif **Pdif 04 45 06.7 -3.4**
TBLU IVmB_BB 04 45 27.3
comp=Z,6µm,12.1s
TBLU ePKPdf **PKPdf 04 48 51.2 -0.5**
TBLU ePP **PP 04 50 06.0 -0.1**
TBLU eSS SS 05 06 05.1 +0.1
TBLU IVMs_BB IVMs_BB 05 40 53.8
comp=Z,46µm,22.9s
K50A Casco 117.65 45 P **Pdif 04 45 09.9 -0.7**
baz=288
K50A P **Pdif 04 45 09.9 -0.7**
baz=288
W50A Signal Mountai 117.66 53 P **Pdif 04 45 09.3 -1.5**
baz=283
LCND La Caada 117.68 78 eP **PKPdf 04 48 50.5 -2.7**
R50A Paris 117.69 50 P **Pdif 04 45 07.5 -3.4**
baz=285
R50A P **Pdif 04 45 07.5 -3.4**
baz=285
RCY Rachaya 117.71 305 eP **PKPdf 04 48 52.0 -1.0**
BHL Bhannes 117.77 305 eP **PKPdf 04 48 52.1 -0.9**
M50A Fremont 117.78 46 P **Pdif 04 45 07.4 -3.8**
baz=287
M50A P **Pdif 04 45 07.4 -3.8**
baz=287
BR131 Keskin Array S 117.94 312 PKPdf **PKPdf 04 48 52.5 -0.7**
BR131 Keskin Array S 117.94 312 PKIKP **PKPdf 04 48 52.5 -0.7**
BRTR Keskin Array B 117.94 312 Pdiff **Pdif 04 45 13.0 +0.8**
comp=Z,1.9nm,0.9s,baz=94,slow=5.9,SNR=6.3
BRTR PKP **PKPdf 04 48 52.4 -0.9**
comp=Z,47nm,0.6s,baz=134,slow=2.5,SNR=36
BRTR PKKPbc **PKKPbc 04 59 14.9 0.0**
comp=Z,18nm,1.0s,baz=226,slow=3.9,SNR=6.4
BRTR SKKPbc SKKPbc 05 02 45.1 -2.5
comp=Z,51nm,1.1s,baz=242,slow=2.7,SNR=3.7
DY2G Dye2 118.06 10 *i* P **Pdif 04 45 16.2 +4.0**
DY2G Dye2 118.06 10 eP **PKPdf 04 48 52.6 -0.2**
PBUR Paburge 118.09 332 eP **PKiKP 04 48 54.9 +2.1**
MMAI Mount Meron Ar 118.16 304 Pdiff **Pdif 04 45 14.5 +1.3**
comp=Z,1.4nm,0.6s,baz=42,slow=8.8,SNR=2.1
MMAI PKP **PKPdf 04 48 53.6 -0.2**
comp=Z,62nm,0.6s,baz=90,slow=5.0,SNR=18
X51A Calhoun 118.16 54 P **Pdif 04 45 10.1 -3.0**
baz=283
X51A P **Pdif 04 45 10.1 -3.0**
baz=283
Z51A Franklin 118.16 56 P **Pdif 04 45 12.3 -0.8**
baz=282
ACSO Alum Creek Sta 118.17 47 P **Pdif 04 45 09.3 -3.6**
baz=287
ACSO Alum Creek Sta 118.17 47 Pdiff **Pdif 04 45 11.3 -1.7**
baz=287
Q51A Peebles 118.24 49 P **Pdif 04 45 10.7 -2.7**
baz=286
Q51A P **Pdif 04 45 10.7 -2.7**
baz=286
PURM Purcari 118.27 320 ⇑P **PKiKP 04 48 54.0 +0.5**
PURM Purcari 118.27 320 ⇑P **PKKPbc 04 59 14.3 +0.5**
TGUH Tegucigalpa,Un 118.28 77 PKPdf **PKPdf 04 48 53.4 -1.1**
V51A Loudon 118.28 53 P **Pdif 04 45 13.9 +0.3**
baz=284
SOE Somerset East 118.38 228 eP **Pdif 04 45 20.7 +6.5**
N51A Ashland 118.40 47 P **Pdif 04 45 15.8 +1.7**
baz=288
N51A P **Pdif 04 45 15.8 +1.7**
baz=288
S51A Beattyville 118.42 50 P **Pdif 04 45 15.0 +0.8**
baz=285
S51A P **Pdif 04 45 15.0 +0.8**
baz=285
ANTO Ankara 118.52 312 ⇑P **PKiKP 04 48 54.9 +0.6**

ANTO Ankara 118.52 312 **PKPdf 04 48 53.6 -0.7**
ANTO Ankara 118.52 312 ⇑PKIKP **PKiKP 04 48 54.9 +0.6**
SORM Soroca 118.57 322 ⇑P **PKPdf 04 48 53.7 -0.3**
SORM Soroca 118.57 322 ⇑P **PKKPbc 04 59 11.7 -1.0**
SORM Soroca 118.57 322 ⇑PKIKP **PKPdf 04 48 53.7 -0.3**
SNKL Senekal, Frees 118.73 233 ⇑*i*P **Pdif 04 45 19.9 +3.9**
SNKL IAMs_20 IAMs_20 05 26 48.2
comp=Z,4390µm,57.3s
TZTN Tazewell 118.73 52 P **Pdif 04 45 11.7 -3.9**
baz=285
TZTN Tazewell 118.73 52 Pdiff **Pdif 04 45 15.5 -0.1**
baz=285
KIS Kishinev 118.75 321 ⇓*i*P **Pdif 04 45 21.0 +5.6**
KIS Kishinev 118.75 321 *i* PKP **PKiKP 04 48 55.0 +0.6**
KIS Kishinev 118.75 321 ePP PP 04 50 20.0 +5.5
KIS Kishinev 118.75 321 ePS PS 04 59 53.0 -11
KIS eL L 05 38 52.0
KIS LRM MLR 05 39 40.0
comp=Z,47µm,20.0s
KIS Kishinev 118.75 321 ⇑P **PKPdf 04 48 51.5 -2.9**
KIS Kishinev 118.75 321*d* *i*P **Pdif 04 45 21.0 +5.6**
KIS *i* 04 48 55.0
KIS *e* 04 49 38.0
KIS *e* 04 50 20.0
KIS *e* 05 00 03.0
TKL Tuckaleechee C 118.77 53 Pdiff **Pdif 04 45 17.9 +2.1**
comp=Z,8.7nm,1.0s,baz=42,slow=9.5,SNR=3.3
TKL PKP **PKPdf 04 48 54.6 -0.2**
comp=Z,303nm,0.9s,baz=150,slow=8.4,SNR=39
TKL Tuckaleechee C 118.77 53 P **Pdif 04 45 14.6 -1.2**
baz=284
MILM Milestii Mici 118.79 321 eP **Pdif 04 45 15.0 -0.5**
MILM Milestii Mici 118.79 321 ePKP **PKPdf 04 48 54.0 -0.4**
MILM esPKP 04 49 46.0
MILM Milestii Mici 118.79 321 ePP PP 04 50 20.0 +5.3
MILM Milestii Mici 118.79 321 ⇑P **PKPdf 04 48 54.3 -0.1**
MILM Milestii Mici 118.79 321 eP **Pdif 04 45 15.0 -0.5**
MILM *e* 04 48 54.0
MILM *e*'SP **sPKPdf 04 49 46.0 -6.2**
MILM *e* 04 50 20.0
MILM ePS **PKKPdf 04 59 46.0 +4.7**
W52A Murphy 118.79 53 P **Pdif 04 45 13.3 -2.6**
baz=284
HFS Hagfors 118.82 339 Pdiff **Pdif 04 45 16.9 +1.5**
comp=Z,5.8nm,0.7s,baz=55,slow=5.6,SNR=7.6
HFS PKP **PKPdf 04 48 53.2 -0.9**
comp=Z,44nm,0.5s,baz=108,slow=3.3,SNR=28
CNGN Cerro Negro 118.84 79 **PKPdf 04 48 54.2 -1.3**
V52A Sevierville 118.87 52 P **Pdif 04 45 14.6 -1.6**
baz=284
DOMB Dombas 118.92 342 ePdif **Pdif 04 45 15.2 -0.6**
DOMB IVmBBB 04 45 31.2
comp=Z,5µm,5.1s
DOMB ePKPdf **PKPdf 04 48 53.5 -0.8**
DOMB ePP **PP 04 50 15.2 +0.2**
DOMB ePS **PS 05 00 02.2 -2.7**
DOMB eSS SS 05 06 21.7 0.0
DOMB IVMs_BB IVMs_BB 05 28 53.7
comp=Z,70µm,40.1s
M52A Chesterland 118.94 46 P **Pdif 04 45 14.7 -1.6**
baz=289
M52A P **Pdif 04 45 14.7 -1.6**
baz=289
MOL Molde 118.94 343 ePdif **Pdif 04 45 14.5 -1.4**
MOL IVmBBB 04 45 33.3
comp=Z,4µm,7.9s
MOL ePKPdf **PKPdf 04 48 53.1 -1.2**
MOL ePP **PP 04 50 15.5 +0.5**
MOL ePS **PS 05 00 03.5 -1.4**
MOL eSS SS 05 06 23.0 +1.1
MOL IVMs_BB IVMs_BB 05 41 07.0
comp=Z,48µm,21.8s
P52A Corning 118.97 48 Pdiff **Pdif 04 45 15.9 -0.6**
baz=287
NB2 NORSAR Subarra 119.00 341 P **Pdif 04 45 16.0 -0.3**
comp=Z,10nm,1.0s,baz=46,slow=4.6
NB2 PKPdf **PKPdf 04 48 53.1 -1.4**
comp=Z,250nm,0.9s,baz=42,slow=2.0
NB2 PKKP **PKKPab 04 59 14.5 +2.5**
comp=Z,20nm,0.6s,baz=221,slow=4.6
NOA NORSAR Array B 119.00 341 Pdiff **Pdif 04 45 17.8 +1.5**
comp=Z,0.4nm,0.5s,baz=283,slow=3.7,SNR=2.5
NOA PKP **PKPdf 04 48 53.9 -0.6**
comp=Z,16nm,0.6s,baz=125,slow=22,SNR=38
O52A Adamsville 119.04 47 P **Pdif 04 45 13.2 -3.7**
baz=288
O52A P **Pdif 04 45 13.2 -3.7**
baz=288
NUUK Nuuk 119.04 13 *i* P **Pdif 04 45 21.2 +4.9**
NUUK Nuuk 119.04 13 eP **PKPdf 04 48 53.6 -0.8**
KDZE Karadeniz Ereo 119.06 314 ⇑P **PKPdf 04 48 53.1 -2.0**
Q52A Bidwell 119.06 49 P **Pdif 04 45 17.5 +0.5**
baz=287
Q52A P **Pdif 04 45 17.5 +0.5**
baz=287
NC602 NORSAR Array S 119.12 340 ePdif **Pdif 04 45 16.1 -0.7**
NC602 ePKPdf **PKiKP 04 48 55.0 +0.2**
NC602 ePS **PS 05 00 05.4 -1.3**
NC602 eSS SS 05 06 20.8 -3.6
NC602 IVMs_BB IVMs_BB 05 29 22.4
comp=Z,75µm,32.0s
EIL Elat 119.16 300 PKP **PKPdf 04 48 55.5 -0.2**
comp=Z,186nm,1.0s,baz=23,slow=2.9,SNR=9.9
KSLA Kassala 119.21 284 *i* P **Pdif 04 45 13.6 -4.5**
KSLA *i* 04 45 51.1
baz=79,slow=6.2
KSLA *i* S PP 04 50 10.9 -8.0
NAO01 NORSAR Array S 119.26 341 **PKPdf 04 48 54.0 -1.0**
LEOM Leova 119.32 321 ⇑P **PKiKP 04 48 55.9 +0.4**
LEOM Leova 119.32 321 ⇑PKIKP **PKiKP 04 48 55.9 +0.4**
MUSN Musina, Limpop 119.36 240 *i* P **PKiKP 04 49 02.1 +5.7**
MUSN Musina, Limpop 119.36 240 ⇑*i*P **Pdif 04 45 21.2 +2.4**
MUSN IAMs_20 IAMs_20 05 27 05.8
comp=Z,4025µm,54.8s
GRAF Camdeboo Natio 119.38 228 ⇑*i*P **Pdif 04 45 23.8 +5.1**
GRAF IAMs_20 IAMs_20 05 35 37.4
comp=Z,480µm,18.9s
553A Crawfordville 119.39 59 P **Pdif 04 45 15.6 -3.0**
baz=281
AKN Aaknes 119.41 343 ePdif **Pdif 04 45 18.2 +0.2**
AKN ePKPdf **PKPdf 04 48 54.0 -1.2**
AKN ePP **PP 04 50 20.3 +2.0**
AKN ePS PKKPdf 05 00 08.6 +28
AKN eSS SS 05 06 31.0 +3.0
AKN IVMs_BB IVMs_BB 05 29 06.6
comp=Z,66µm,37.1s
CSS Mathiatis 119.41 307 **PKPdf 04 48 54.9 -1.1**
HVD Gariep Dam 119.44 230 ⇑*i*P **Pdif 04 45 22.8 +3.7**
HVD IAMs_20 IAMs_20 05 36 49.7
comp=Z,597µm,18.8s
O53A New Philadelph 119.45 47 Pdiff **Pdif 04 45 18.9 +0.2**
baz=288
M53A WI Miller and 119.45 46 Pdiff **Pdif 04 45 20.5 +1.8**
baz=289
IAS Iasi 119.46 322 ⇑P **PKPdf 04 48 54.8 -0.9**
IAS Iasi 119.46 322 ⇑PKIKP **PKPdf 04 48 54.8 -0.9**
TLCR 119.47 319 ⇑P **PKPdf 04 48 55.3 -0.5**
TLCR 119.47 319 ⇑P **PKKPbc 04 59 06.4 -3.0**
TLCR 119.47 319 ⇑PKIKP **PKPdf 04 48 55.3 -0.5**
MDUB Mudurnu 119.50 313 **PKPdf 04 48 55.1 -1.0**
V53A Saluda 119.53 52 P **Pdif 04 45 17.0 -2.2**
baz=285
V53A P **Pdif 04 45 17.0 -2.2**
baz=285
VASR Vaslui 119.54 321 ⇑P **PKiKP 04 48 58.2 +2.2**
VASR Vaslui 119.54 321 ⇑P **PKKPbc 04 59 05.1 -4.1**
N53A Lisbon 119.55 46 P **Pdif 04 45 18.4 -0.7**
baz=289
N53A P **Pdif 04 45 18.4 -0.7**
baz=289
P53A Whipple 119.56 48 P **Pdif 04 45 16.9 -2.3**
baz=288
P53A P **Pdif 04 45 16.9 -2.3**
baz=288
DRBR Darabani 119.59 323 ⇑P **PKPdf 04 48 53.6 -2.4**
JURR Jurilovca 119.59 319 ⇓P **PKiKP 04 48 57.1 +1.0**
PRYS Parys 119.63 234 ⇑*i*P **Pdif 04 45 23.6 +3.5**
PRYS IAMs_20 IAMs_20 05 27 29.0
comp=Z,1028µm,48.4s
VLDR Vladesti 119.68 320 ⇑P **PKPdf 04 48 56.1 -0.1**
VLDR Vladesti 119.68 320 ⇑P **PKKPbc 04 59 05.7 -2.9**
ERPA Erie 119.71 45 P **Pdif 04 45 19.7 -0.1**
baz=290
ERPA Erie 119.71 45 Pdiff **Pdif 04 45 18.9 -0.9**

baz=290
GIUM Giurgiulesti 119.75 320 ⇓P PKiKP 04 48 56.9 +0.5
ALLY Alegheny Colle 119.76 45 P Pdif 04 45 16.4 -3.6
baz=290
WDLM Western Deep L 119.79 235 *eP* **Pdif 04 45 24.0 +3.2**
BIR Birlad 119.80 321 ⇑P PKiKP 04 48 57.5 +1.0
BIR Birlad 119.80 321 ⇑P PKKPbc 04 59 05.9 -2.3
BIR Birlad 119.80 321 ⇑PKIKP PKiKP 04 48 57.5 +1.0
TATR Tatarca 119.80 320 ⇑P PKKPbc 04 59 05.1 -3.1
SCTR Scanteiesti 119.81 320 ⇑P PKiKP 04 48 56.5 0.0
SCTR Scanteiesti 119.81 320 ⇑P PKKPbc 04 59 05.1 -3.1
VARL Varlezi 119.81 320 ⇑P PKiKP 04 48 58.3 +1.8
VARL Varlezi 119.81 320 ⇑P PKKPbc 04 59 07.9 -0.3
BOAB BOACO BROADBAN 119.85 79 PKPdf 04 48 56.4 -1.0
TIGA Tifton 119.86 57 P Pdif 04 45 18.8 -1.9
baz=282
TIGA Tifton 119.86 57 Pdiff **Pdif 04 45 20.8 +0.1**
baz=282
TPGR Topolog 119.86 319 ⇑P PKiKP 04 48 56.8 +0.1
TPGR Topolog 119.86 319 ⇑P PKKPbc 04 59 05.8 -2.2
CFR Carcaliu 119.92 319 ⇑P PKPdf 04 48 56.3 -0.4
CFR Carcaliu 119.92 319 ⇑P PKKPbc 04 59 04.9 -2.8
CFR Carcaliu 119.92 319 ⇑PKIKP PKPdf 04 48 56.3 -0.4
ROOI Rooidraai Farm 119.96 227 ⇑*iP* **Pdif 04 45 24.8 +3.5**
ROOI IAMs_20 IAMs_20 05 32 52.8
comp=Z,491μm,21.8s
ISOG Isortoq, Green 119.96 7 *iP* **Pdif 04 45 24.2 +3.8**
ISOG Isortoq, Green 119.96 7 *eP* **PKPdf 04 48 55.1 -1.0**
TSCT Constanta Port 119.97 318 ⇑P PKiKP 04 48 59.3 +2.4
SCHL Schela 119.98 320 ⇓P PKiKP 04 48 58.6 +1.8
SLCR Slobozia Conac 119.99 320 ⇑P PKiKP 04 48 57.9 +1.1
OSL Oslo 119.99 340 *e*Pdif **Pdif 04 45 20.7 +0.1**
OSL IVmBBB 04 45 37.2
comp=Z,4μm,7.4s
OSL *e*PKPdf **PKPdf 04 48 56.2 -0.1**
OSL *e*PP **PP 04 50 23.3 +1.0**
OSL *e*PS **PS 05 00 13.1 -1.2**
OSL *e*SS SS 05 06 34.5 -1.0
OSL IVMs_BB IVMs_BB 05 29 44.8
comp=Z,68μm,34.4s
IZVR Izvoarele 120.01 320 ⇑P PKPdf 04 48 54.1 -2.7
154A Montrose 120.01 56 P Pdif 04 45 18.0 -3.3
baz=283
TIRR Tirgusor 120.02 318 ⇑P PKiKP 04 48 57.6 +0.7
TIRR Tirgusor 120.02 318 ⇑P PKiKP 04 48 57.6 +0.7
TIRR Tirgusor 120.02 318 ⇑PKIKP PKiKP 04 48 57.6 +0.7
EFOR EFORIE 120.02 318 ⇑P PKiKP 04 48 57.9 +0.9
GHRR 120.02 320 ⇑P PKiKP 04 48 57.2 +0.3
GHRR 120.02 320 ⇓P PKKPbc 04 59 05.3 -2.0
ANGG Ammassalik, Gr 120.04 6 *iP* **Pdif 04 45 25.2 +4.5**
ANGG Ammassalik, Gr 120.04 6 *eP* **PKPdf 04 48 53.0 -3.3**
TUDR 120.05 320 ⇑P PKiKP 04 48 58.3 +1.3
O54A Avella 120.08 47 P Pdif 04 45 18.8 -2.7
baz=289
O54A P **Pdif 04 45 18.8 -2.7**
baz=289
U54A Nelsons Funny 120.08 51 P Pdif 04 45 22.8 +1.1
baz=286
U54A P **Pdif 04 45 22.8 +1.1**
baz=286
S54A Dingess, Beckl 120.12 50 P Pdif 04 45 20.2 -1.5
baz=287
S54A P **Pdif 04 45 20.2 -1.5**
baz=287
Q54A Coxs Mills 120.12 48 P Pdif 04 45 19.9 -1.8
baz=288
Q54A P **Pdif 04 45 19.9 -1.8**
baz=288
MFTR Murfatlar 120.12 318 ⇑P PKPdf 04 48 57.0 -0.1
MANR Mangalia 120.15 318 ⇑P PKPdf 04 48 56.5 -0.6
SKAR Skarslia 120.20 342 *e*Pdif **Pdif 04 45 21.7 0.0**
SKAR *e*PKPdf **PKiKP 04 48 57.1 +0.2**
SKAR *e*PP **PP 04 50 26.6 +2.7**
SKAR *e*PS PKKPdf 05 00 16.3 +37
SKAR *e*SS SS 05 06 35.5 -2.8
SKAR IVMs_BB IVMs_BB 05 29 30.5
comp=Z,55μm,32.6s
BFON Badsfontein, M 120.21 228 ⇑*iP* **Pdif 04 45 24.2 +1.7**
BFON IAMs_20 IAMs_20 05 39 44.8
comp=Z,451μm,17.8s
TLBR Topalu 120.23 319 ⇑P PKPdf 04 48 57.2 0.0
TLBR Topalu 120.23 319 ⇓P PKKPbc 04 59 07.3 +0.8
BORA Eskisehir 120.23 313 PKPdf 04 48 56.5 -1.0
HARR Harsova 120.25 319 ⇑P PKPdf 04 48 56.5 -0.8
HARR Harsova 120.25 319 ⇑PKIKP PKPdf 04 48 56.5 -0.8
PANC Panciu 120.27 320 ⇑P PKPdf 04 48 56.5 -0.8
PANC Panciu 120.27 320 ⇑P PKKPbc 04 59 05.5 -3.0
TESR Tescani 120.31 321 ⇑P PKiKP 04 48 58.0 +0.5
TESR Tescani 120.31 321 ⇑P PKKPbc 04 59 07.6 +1.2
CVDA Cernavoda 120.32 318 ⇑P PKPdf 04 48 54.2 -3.2
LVV L'vov 120.33 326 *eP* **Pdif 04 45 27.2 +4.8**
LVV *e* 04 50 27.4
LVV *e* 04 55 39.4
LVV *e* 05 00 17.4
LVV *e* 05 06 57.8
ODBI Odobesti 120.37 320 ⇓P PKPdf 04 48 57.1 -0.4
ODBI Odobesti 120.37 320 ⇑P PKKPbc 04 59 02.9 -3.2
KALB Balgarevo 120.42 317 ⇑P PKiKP 04 48 59.2 +1.4
FOO Floro 120.43 344 *e*Pdif **Pdif 04 45 19.1 -3.4**
FOO *e*PKPdf **PKPdf 04 48 52.1 -5.0**
FOO *e*PP **PP 04 50 24.7 -0.5**
FOO *e*PS **PS 05 00 18.0 -0.2**
FOO *e*SS SS 05 06 46.2 +5.4
FOO IVMs_BB IVMs_BB 05 29 40.4
comp=Z,60μm,30.6s
HYA Hoyanger 120.45 343 *e*Pdif **Pdif 04 45 22.5 -0.2**
HYA *e*PKPdf **PKPdf 04 48 55.0 -2.2**
HYA *e*PP **PP 04 50 27.7 +2.3**
JTS Las Juntas de 120.53 82 PKP **PKPdf 04 48 58.1 -0.7**
comp=Z,192nm,0.5s,baz=213,slow=2.7,SNR=68
JTS PKKPbc **PKKPab 04 59 06.4 +0.1**
comp=Z,15nm,0.6s,baz=62,slow=6.5,SNR=8.2
JTS Las Juntas de 120.53 82 PKPdf 04 48 57.4 -1.3
JTS Las Juntas de 120.53 82 *eP* **PKPdf 04 48 57.0 -1.8**
LEPH Lephalale, Lim 120.53 238 ⇑*iP* **Pdif 04 45 29.1 +5.1**
LEPH IAMs_20 IAMs_20 05 28 02.0
comp=Z,6282μm,82.0s
VRI Vrincioaia 120.54 320 ⇑P PKiKP 04 49 03.6 +5.6
VRI Vrincioaia 120.54 320 ⇑P PKKPbc 04 59 08.2 +2.6
VRI Vrincioaia 120.54 320 ⇑PKIKP PKiKP 04 49 03.6 +5.6
BOSA Boshof 120.56 232 PKP **PKPdf 04 48 58.2 -0.4**
comp=Z,52nm,0.6s,baz=117,slow=1.9,SNR=30
BOSA PKKPbc **PKKPbc 04 59 05.2 +0.1**
comp=Z,47nm,0.7s,baz=302,slow=3.9,SNR=15
BOSA Boshof 120.56 232 PKPdf 04 48 57.9 -0.8
BOSA Boshof 120.56 232 *iP* **Pdif 04 45 30.5 +6.4**
BOSA *iS* **PKiKP 04 49 04.5 +5.7**
BOSA Boshof 120.56 232 ⇑*iP* **Pdif 04 45 29.2 +5.2**
BOSA IAMs_20 IAMs_20 05 37 03.5
comp=Z,489μm,19.9s
ICOR Ion Corvin 120.56 318 ⇓P PKiKP 04 48 58.9 +0.9
WVNY West Valley, N 120.57 44 P Pdif 04 45 21.5 -2.1
baz=292
GRER 120.58 320 ⇑P PKiKP 04 49 01.2 +3.2
KONO Kongsberg 120.58 340 PKiKP 04 48 57.7 +0.1
KONO Kongsberg 120.58 340 PKIKP PKiKP 04 48 57.7 +0.1
KONO Kongsberg 120.58 340 *e*Pdif **Pdif 04 45 22.9 -0.4**
KONO IVmBBB 04 45 41.9
comp=Z,4μm,16.8s
KONO *e*PKPdf **PKPdf 04 48 57.3 -0.1**
KONO *e*PP **PP 04 50 25.6 -0.7**
KONO *e*PS PKKPdf 05 00 15.8 +38
KONO IVMs_BB IVMs_BB 05 29 56.6
comp=Z,66μm,41.8s
PLOR Plostina 120.59 320 ⇑P PKiKP 04 49 01.0 +2.9
PLOR ⇑P **PKiKP 04 49 01.3 +3.2**
PLOR Plostina 120.59 320 ⇑P PKKPbc 04 59 05.1 -0.3
PLOR Plostina 120.59 320 ⇑PKIKP PKiKP 04 49 01.3 +3.2
MCWV Mont Chateau 120.64 47 P Pdif 04 45 24.6 +0.6
baz=289
MCWV Mont Chateau 120.64 47 Pdiff **Pdif 04 45 23.8 -0.2**
baz=289
AMRR Amara 120.67 319 ⇓P PKPdf 04 48 58.0 -0.1
AMRR Amara 120.67 319 ⇓PKIKP PKPdf 04 48 58.0 -0.1
BISRR Bisoca 120.68 320 ⇓P PKiKP 04 48 59.5 +1.1
BISRR Bisoca 120.68 320 ⇑P PKKPbc 04 59 04.1 -1.0
BURAR Bucovina Array 120.69 323 ⇑P PKiKP 04 49 00.2 +1.8
BURAR Bucovina Array 120.69 323 ⇑P PKKPbc 04 59 04.4 -0.7
BURAR Bucovina Array 120.69 323 PKPdf **PKiKP 04 48 58.3 0.0**
BURAR Bucovina Array 120.69 323 ⇑PKIKP PKiKP 04 49 00.2 +1.8
V55A Taylorsville 120.74 52 P Pdif 04 45 23.5 -1.1
baz=286
V55A P **Pdif 04 45 23.5 -1.1**
baz=286
PGOR Pogoanele 120.77 319 ⇑P PKiKP 04 48 59.7 +1.3
PGOR Pogoanele 120.77 319 ⇑P PKKPbc 04 59 05.3 +0.8
J55A Hilton 120.78 43 P Pdif 04 45 22.9 -1.6
baz=293
J55A P **Pdif 04 45 22.9 -1.6**
baz=293
M55A Ridgway 120.79 45 P Pdif 04 45 23.2 -1.5
baz=291
M55A P **Pdif 04 45 23.2 -1.5**
baz=291
BRAK Brakfontein 120.80 227 ⇑*iP* **Pdif 04 45 29.1 +4.1**
BRAK IAMs_20 IAMs_20 05 36 10.2
comp=Z,497μm,19.0s
KMSC Kings Mountain 120.83 53 P Pdif 04 45 22.8 -2.1
baz=285
KMSC Kings Mountain 120.83 53 Pdiff **Pdif 04 45 24.7 -0.3**
baz=285
R55A Marlinton 120.87 49 P Pdif 04 45 24.3 -0.8
baz=288
R55A P **Pdif 04 45 24.3 -0.8**
baz=288
COVR Voineasa-Covas 120.88 321 ⇑P PKPdf 04 48 53.9 -4.7
COVR Voineasa-Covas 120.88 321 ⇑P PKKPbc 04 59 07.4 +3.1
MMNY Mt. Morris Dam 120.92 43 PKPdf 04 48 57.9 -0.8
RASA Rasa 120.95 319 ⇑P PKiKP 04 48 59.8 +1.1
SUE Sulen 120.95 344 *e*Pdif **Pdif 04 45 24.6 -0.2**
SUE IVmB_BB 04 46 12.1
comp=Z,7μm,9.4s
SUE *e*PKPdf **PKiKP 04 48 58.4 +0.2**
SUE *e*PP **PP 04 50 29.1 +0.3**
SUE *e*PS **PS 05 00 20.8 -2.0**
SUE *e*SS SS 05 06 51.2 +3.7
SUE IVMs_BB IVMs_BB 05 29 50.9
comp=Z,73μm,37.8s
BLA Blacksburg 120.97 50 P Pdif 04 45 24.2 -1.3
baz=287
BLA Blacksburg 120.97 50 Pdiff **Pdif 04 45 26.5 +0.9**
baz=287
ISR Istrita 120.97 320 ⇑P PKiKP 04 48 59.6 +0.7
ISR Istrita 120.97 320 ⇑PKIKP PKiKP 04 48 59.6 +0.7
NEHR Nehoiu 121.00 320 ⇓P PKPdf 04 48 56.2 -2.6
NEHR Nehoiu 121.00 320 ⇑P PKKPbc 04 59 06.4 +2.6
BEL Belsk 121.01 329 *e*Pdif **Pdif 04 45 25.8 +0.4**
BEL *e*PKiKP **PKiKP 04 48 59.5 +0.9**
BEL *e*PP **PP 04 50 35.9 +6.2**
BEL *e*SP SP 05 00 02.7 -2.1
BEL *e*SS **SS 05 06 51.3 +2.1**
BEL *e*L L 05 28 49.9
comp=Z,347μm,40.3s
OZUR 121.03 321 ⇑P PKPdf 04 48 58.7 -0.1
OZUR 121.03 321 ⇑P PKKPbc 04 59 03.0 -0.8
LEHL Lehliu 121.06 319 ⇑P PKiKP 04 49 00.1 +1.1
LEHL Lehliu 121.06 319 ⇓P PKKPbc 04 59 01.5 -2.0
SCHQ Schefferville 121.06 27 PKP **PKPdf 04 48 58.3 -0.3**
comp=Z,87nm,0.7s,baz=324,slow=1.3,SNR=27
SCHQ PKKPbc **PKKPab 04 59 03.2 +0.1**
comp=Z,75nm,0.6s,baz=162,slow=4.2,SNR=22
SCHQ Schefferville 121.06 27 PKPdf **PKPdf 04 48 57.7 -0.9**
SWZ Schweizer 121.15 233 ⇑*iP* **Pdif 04 45 33.8 +7.1**
SWZ IAMs_20 IAMs_20 05 39 29.6
comp=Z,1μm,15.8s
656A Willston 121.16 59 P Pdif 04 45 26.1 -0.4
baz=281
PRD Provadia 121.19 317 *eP* **PKiKP 04 48 59.9 +0.6**
MLR Muntele Rosu 121.19 320 PKP **PKPdf 04 48 59.1 -0.2**
comp=Z,59nm,0.6s,baz=260,slow=4.0,SNR=20
MLR Muntele Rosu 121.19 320 ⇑P PKPdf 04 48 57.5 -1.8
MLR Muntele Rosu 121.19 320 ⇑P PKKPbc 04 59 05.1 +1.9
U56A King 121.25 51 P Pdif 04 45 30.0 +3.2
baz=287
U56A P **Pdif 04 45 30.0 +3.2**
baz=287
ASK Askoy 121.30 343 *e*Pdif **Pdif 04 45 25.2 -1.1**
ASK *e*PKPdf **PKPdf 04 48 58.5 -0.3**
ASK *e*PP **PP 04 50 31.1 -0.1**
ASK *e*SP SP 05 00 08.6 +2.0
SECR 121.31 320 ⇑P PKPdf 04 48 59.2 -0.2
SECR 121.31 320 ⇑P PKKPbc 04 59 00.5 -2.1
Q56A Snyder Ridge, 121.32 48 P Pdif 04 45 30.6 +3.6
baz=289
Q56A P **Pdif 04 45 30.6 +3.6**
baz=289
MERW Merweville 121.32 226 ⇑*iP* **Pdif 04 45 32.0 +4.7**
MERW IAMs_20 IAMs_20 05 29 53.7
comp=Z,407μm,28.5s
456A Hilliard 121.32 58 P Pdif 04 45 30.7 +3.5
baz=282
ODD1 Odda 121.33 342 *e*Pdif **Pdif 04 45 26.1 -0.6**
ODD1 IVmB_BB 04 45 39.3
comp=Z,4μm,15.7s
ODD1 *e*PKPdf **PKiKP 04 49 01.0 +1.9**
ODD1 *e*PP **PP 04 50 33.4 +1.9**
ODD1 *e*PS **PS 05 00 26.7 +0.3**
ODD1 *e*SS SS 05 06 55.5 +2.9
ODD1 IVMs_BB IVMs_BB 05 30 01.6
comp=Z,44μm,39.3s
DOPR Dopca 121.33 321 ⇑P PKPdf 04 48 57.7 -1.7
DOPR Dopca 121.33 321 ⇓P PKKPbc 04 59 01.9 -0.7
BER Bergen 121.34 343 *e*Pdif **Pdif 04 45 25.1 -1.5**
BER *e*PKPdf **PKPdf 04 48 56.0 -2.8**
BER *e*PP **PP 04 50 31.8 +0.4**
BER *e*SP SP 05 00 08.7 +1.7
BER *e*SS **SS 05 06 55.8 +3.3**
BER IVMs_BB IVMs_BB 05 29 59.8
comp=Z,61μm,49.5s
SULR 121.34 319 ⇑P PKPdf 04 48 59.1 -0.3
SULR 121.34 319 ⇑P PKKPbc 04 59 01.9 -0.5
HDC Heredia 121.34 82 PKPdf 04 48 59.8 -0.7
HDC Heredia 121.34 82 *eP* **PKPdf 04 48 57.7 -2.7**
MT05 Renca 121.38 135 PKPdf 04 48 59.6 -0.4
L56A Greenwood 121.39 44 P Pdif 04 45 24.6 -2.7
baz=292
L56A P **Pdif 04 45 24.6 -2.7**
baz=292
PLAR PLOIESTI 121.39 320 ⇑P PKiKP 04 49 00.6 +0.9
J56A Wolcott 121.42 42 P Pdif 04 45 27.6 +0.3
baz=294
J56A P **Pdif 04 45 27.6 +0.3**
baz=294
ARCR ARCALIA 121.46 323 P PKiKP 04 49 02.7 +3.0
BORG Borgarnes 121.53 358 PKP **PKPdf 04 48 59.2 0.0**
comp=Z,44nm,0.6s,baz=21,slow=2.5,SNR=16
BORG Borgarnes 121.53 358 PKPdf 04 48 58.9 -0.3
TGMR Targu Mures 121.61 322 ⇑P PKiKP 04 49 01.2 +1.2
TGMR Targu Mures 121.61 322 ⇓P PKKPbc 04 59 03.4 +1.9
BUC1 Bucharest 121.63 319 ⇑P PKPdf 04 48 56.6 -3.4
BUC1 Bucharest 121.63 319 ⇑PKIKP PKPdf 04 48 56.6 -3.4
RAZG Razgrad 121.64 318 ⇑P PKiKP 04 49 00.7 +0.5
RAZG Razgrad 121.64 318 ⇑P PKKPbc 04 59 03.4 +2.0
MATJ Matjiesfontein 121.66 225 ⇑*iP* **Pdif 04 45 34.1 +5.2**
BMR Baia Mare 121.69 324 ⇓P PKPdf 04 48 59.6 -0.4
BMR Baia Mare 121.69 324 ⇓PKIKP PKPdf 04 48 59.6 -0.4
CVTR Volcan Turrial 121.69 82 PKPdf **PKPdf 04 49 01.3 -0.2**
SSPA Standing Stone 121.71 46 PKPdf 04 48 59.3 -0.9
SSPA Standing Stone 121.71 46 P Pdif 04 45 29.3 +0.6
baz=291
SSPA Standing Stone 121.71 46 Pdiff **Pdif 04 45 28.4 -0.3**
baz=291
BLS5 Blasjo 121.77 342 *e*Pdif **Pdif 04 45 26.7 -1.9**
BLS5 IVmB_BB 04 45 39.4
comp=Z,5μm,14.3s
BLS5 *e*PKPdf **PKPdf 04 48 57.2 -2.6**
BLS5 *e*PP **PP 04 50 34.6 +0.2**
BLS5 *e*PS **PS 05 00 28.2 -2.1**
BLS5 *e*SS SS 05 06 59.6 +1.4
BLS5 IVMs_BB IVMs_BB 05 30 15.1
comp=Z,75μm,36.3s
VOIR 121.78 321 ⇑P PKiKP 04 49 02.3 +1.8
VOIR 121.78 321 ⇓P PKKPbc 04 59 04.4 +3.5
VOIR 121.78 321 ⇑PKIKP PKiKP 04 49 02.3 +1.8
BSD Bornholm Skovb 121.79 334 *iP* **Pdif 04 45 31.2 +2.5**
BSD Bornholm Skovb 121.79 334 *eP* **PKPdf 04 48 59.4 -0.6**
BSD Bornholm Skovb 121.79 334 *eP* **PKiKP 04 49 00.6 +0.5**
FRAZ Fraserburg 121.80 226 ⇑*iP* **Pdif 04 45 34.4 +4.9**
FRAZ IAMs_20 IAMs_20 05 32 21.1
comp=Z,544μm,27.4s
VA03 San Esteban 121.86 135 PKPdf 04 49 00.2 -0.8
K57A Scipio Center 121.87 43 P Pdif 04 45 31.8 +2.4
baz=294
MTUR Matau 121.87 320 ⇓P PKiKP 04 49 02.6 +1.9
MTUR Matau 121.87 320 ⇓PKIKP PKiKP 04 49 02.6 +1.9
Y57A Sumter 121.88 54 P Pdif 04 45 29.2 -0.4
baz=285
Y57A P **Pdif 04 45 29.2 -0.4**
baz=285
MDB Medias 121.88 322 ⇑P PKPdf 04 49 00.3 -0.2
MDB Medias 121.88 322 ⇑PKIKP PKPdf 04 49 00.3 -0.2
LBTB Lobatse 121.88 236 PKPdf 04 49 00.4 -0.8
LBTB Lobatse 121.88 236 *iP* **PKPdf 04 49 00.9 -0.3**
LBTB Lobatse 121.88 236 ⇑*iP* **Pdif 04 45 33.8 +3.8**
LBTB IAMs_20 IAMs_20 05 28 21.0
comp=Z,877μm,54.3s
LBTB Lobatse 121.88 236 PKIKP **PKPdf 04 49 00.4 -0.8**
W57A Gilead 121.89 52 P Pdif 04 45 29.9 +0.3
baz=286
W57A P **Pdif 04 45 29.9 +0.3**
baz=286
S57A Dark Hollow, R 121.91 49 P Pdif 04 45 31.5 +1.8
baz=289
S57A P **Pdif 04 45 31.5 +1.8**
baz=289
UZH Uzhgorod 121.91 325 *de*P **Pdif 04 45 30.8 +1.4**
UZH *i* 04 50 39.8
UZH *e* 05 00 11.4
UZH MLR MLR
comp=N,25μm,18.0s
UZH MLR MLR
comp=E,20μm,18.0s
UZH MLR MLR
comp=Z,11μm,18.0s
T57A Hurt 121.92 50 P Pdif 04 45 30.9 +1.2
baz=288
T57A P **Pdif 04 45 30.9 +1.2**
baz=288
WCNY West Carthage 121.93 41 P Pdif 04 45 30.3 +0.7
baz=295
J57A Williamstown 121.94 42 P Pdif 04 45 31.1 +1.4
baz=294
J57A P **Pdif 04 45 31.1 +1.4**
baz=294
SUR Sutherland 121.98 226 PKP **PKiKP 04 49 02.0 +0.5**
comp=Z,82nm,0.6s,baz=169,slow=3.4,SNR=21
SUR PKKPbc **PKKPab 04 59 01.6 +0.9**
comp=Z,86nm,0.8s,baz=280,slow=3.0,SNR=10
SUR Sutherland 121.98 226 PKPdf 04 49 01.4 +0.1
M57A Sunshine Farm, 121.99 45 P Pdif 04 45 30.1 +0.1
baz=292
M57A P **Pdif 04 45 30.1 +0.1**
baz=292
HOMB Homborsund 122.00 340 *e*Pdif **Pdif 04 45 27.5 -2.1**
HOMB IVmB_BB 04 46 16.2
comp=Z,5μm,13.4s
HOMB *e*PKPdf **PKPdf 04 48 58.4 -1.8**
HOMB *e*PP **PP 04 50 37.6 +1.7**
HOMB *e*SP SP 05 00 15.2 +2.2
HOMB *e*SS **SS 05 07 02.4 +1.3**
HOMB IVMs_BB IVMs_BB 05 31 02.9
comp=Z,65μm,39.8s
TRPA Tarpa 122.02 324 ⇑P PKiKP 04 49 01.4 +0.6
JMB Yambol 122.03 317 *eP* **PKPdf 04 48 59.9 -0.9**
KSL Kastellorizon 122.03 309 P PKiKP 04 49 01.8 +0.6
ARR Arges 122.08 321 ⇓P PKiKP 04 49 02.0 +0.9
ARR Arges 122.08 321 ⇑P PKKPbc 04 58 57.7 -2.1
STHS Stebnicka Huta 122.09 326 *iP* **Pdif 04 45 35.6 +5.4**
STHS *e* 04 49 01.0
STHS Stebnicka Huta 122.09 326 *e*PDIFF **Pdif 04 45 35.6 +5.4**
STHS Stebnicka Huta 122.09 326 *e*PKP **PKiKP 04 49 01.0 +0.1**
STHS *e* 04 59 02.9
CJR Cluj-Napoca 122.09 323 ⇑P PKPdf 04 48 59.1 -1.8
CJR Cluj-Napoca 122.09 323 ⇑P PKKPbc 04 58 59.1 -0.6
CJR Cluj-Napoca 122.09 323 ⇑PKIKP PKPdf 04 48 59.1 -1.8
STFAR Stefanesti-Arg 122.09 320 ⇑P PKiKP 04 49 01.5 +0.4
OVD Ostervraa, Den 122.12 338 *iP* **Pdif 04 45 33.1 +3.0**
OVD Ostervraa, Den 122.12 338 *eP* **PKiKP 04 49 01.0 +0.3**
SZH Strazhica 122.14 318 *eP* **PKPdf 04 48 59.9 -1.1**
HUMR Humele 122.23 320 ⇑P PKPdf 04 49 00.4 -0.7
HUMR Humele 122.23 320 ⇑P PKKPbc 04 58 58.6 -0.5
CRVS Cervenica-Dubn 122.24 326 *iP* **Pdif 04 45 32.1 +1.2**
CRVS *e* 04 49 01.3
CRVS *e* 04 50 41.5
CRVS *e* 05 00 13.5
CRVS Cervenica-Dubn 122.24 326 *e*PDIFF **Pdif 04 45 32.1 +1.2**
CRVS Cervenica-Dubn 122.24 326 *e*PKP **PKiKP 04 49 01.3 +0.1**
CRVS *e*PP **PP 04 50 41.5 +3.4**
CRVS *e* 05 00 13.4
CRVS *e*SS SS 05 07 11.5 +6.4
CRVS *e*L L 05 30 29.1
CRVS *e* 05 59 02.7
COPA Copaceanca 122.25 319 ⇓P PKPdf 04 49 00.6 -0.6
COPA Copaceanca 122.25 319 ⇑P PKKPbc 04 58 56.6 -2.3
MESR Meseseni 122.27 323 ⇓P PKPdf 04 48 59.8 -1.4
MESR Meseseni 122.27 323 ⇓P PKKPbc 04 58 58.8 -0.2
NHSC New Hope 122.29 55 Pdiff **Pdif 04 45 33.1 +1.7**
baz=285
CEI Carei 122.29 324 ⇑P PKPdf 04 48 59.6 -1.5
CEI Carei 122.29 324 ⇑PKIKP PKPdf 04 48 59.6 -1.5
LONY Lake Ozonia 122.35 40 Pdiff **Pdif 04 45 31.7 +0.2**
baz=296
DWPF Disney Wildern 122.35 61 PKPdf 04 49 01.2 -0.6
DWPF Disney Wildern 122.35 61 P Pdif 04 45 35.2 +3.4
baz=281
DWPF Disney Wildern 122.35 61 Pdiff **Pdif 04 45 33.3 +1.5**
baz=281
SNART Snartemo 122.38 341 *e*Pdif **Pdif 04 45 30.5 -0.8**
SNART *e*PKPdf **PKPdf 04 49 00.6 -0.4**
SNART *e*PP **PP 04 50 39.5 +1.0**
SNART *e*SP SP 05 00 15.1 -1.2
V58A Windy Hill, Pi 122.39 51 P Pdif 04 45 30.6 -1.2
baz=287
V58A P **Pdif 04 45 30.6 -1.2**
baz=287
MARR Marisel-Cluj 122.40 323 ⇓P PKiKP 04 49 01.9 +0.2
MARR Marisel-Cluj 122.40 323 ⇓P PKKPbc 04 59 00.8 +2.1
J58A Remsen 122.43 42 PKPdf 04 49 00.9 -0.7
COP Copenhagen 122.43 336 *iP* **Pdif 04 45 34.1 +2.6**
COP Copenhagen 122.43 336 *eP* **PKiKP 04 49 01.8 +0.4**
OJC Ojcow 122.44 328 *e*Pdif **Pdif 04 45 31.9 +0.1**
OJC *e*PKiKP **PKiKP 04 49 01.5 -0.1**
OJC *e*PP **PP 04 50 43.3 +4.0**
OJC *e*SP SP 05 00 20.6 +3.0
OJC *e*SS **SS 05 07 13.4 +6.1**
OJC *e*L L 05 29 51.7
comp=Z,820μm,61.7s
BINY Binghamton 122.44 43 Pdiff **Pdif 04 45 31.8 -0.1**
baz=294
N58A Sunbury 122.46 45 P Pdif 04 45 31.3 -0.7
baz=292
N58A P **Pdif 04 45 31.3 -0.7**
baz=292
Y58A Scranton 122.49 54 P Pdif 04 45 34.0 +1.6
baz=286
Y58A P **Pdif 04 45 34.0 +1.6**
baz=286
CER Ceres 122.50 224 ⇑*iP* **Pdif 04 45 38.9 +6.4**
CER IAMs_20 IAMs_20 05 29 08.6
comp=Z,291μm,37.2s
X58A Rowland 122.57 53 P Pdif 04 45 32.5 -0.2
baz=286
X58A P **Pdif 04 45 32.5 -0.2**
baz=286
DRGR 122.59 323 ⇑P PKPdf 04 49 01.4 -0.5
DRGR 122.59 323 ⇓P PKKPbc 04 58 54.3 -3.6
DRGR 122.59 323 ⇑PKIKP PKPdf 04 49 01.4 -0.5
NIE Niedzica 122.61 327 *e*Pdif **Pdif 04 45 32.8 +0.3**
NIE *e*PKiKP **PKiKP 04 49 03.7 +1.7**
NIE *e*PP **PP 04 50 40.1 -0.5**
NIE *e*SP SP 05 00 14.5 -4.7
NIE *e*SS SS 05 07 25.9 +16
NIE *e*L L 05 30 00.4
comp=Z,344μm,44.3s
R58B Mineral 122.64 49 P Pdif 04 45 33.8 +0.9
baz=290
R58B P **Pdif 04 45 33.8 +0.9**
baz=290
BRU2 Volcan 122.72 84 ⇑*eP* **PKPdf 04 49 03.0 -0.1**
LLD Lille Linde 122.77 336 *eP* **PKiKP 04 49 02.1 +0.1**
VLAD Vladila 122.83 319 ⇑P PKiKP 04 49 04.9 +2.4
VLAD Vladila 122.83 319 ⇓P PKPbc 04 58 53.5 -3.2
NCB Newcomb 122.86 41 P Pdif 04 45 33.7 -0.1
baz=296
CO05 La Serena 122.87 132 PKPdf 04 49 02.3 -0.5
FRNY Flat Rock 122.88 40 P Pdif 04 45 35.1 +1.2
baz=297
J59A Piesco 122.90 41 P Pdif 04 45 34.5 +0.5
baz=296
J59A P **Pdif 04 45 34.5 +0.5**
baz=296

DEV	**Deva**	**122.91**	**322**	⇓P		**PKPdf**	**04 49 02.1**	**-0.3**
DEV	**Deva**	**122.91**	**322**	⇑P		**PKKPbc**	**04 58 55.4**	**-1.1**
DEV	**Deva**	**122.91**	**322**	⇓PKIKP		**PKPdf**	**04 49 02.1**	**-0.3**
CBN	**Corbin Frederi**	**122.94**	**48**	P		**Pdif**	**04 45 36.2**	**+2.0**
	baz=290							
CBN	**Corbin Frederi**	**122.94**	**48**	Pdiff		**Pdif**	**04 45 33.8**	**-0.4**
	baz=290							
PLVB	**Pleven**	**122.96**	**319**	⇑P		**PKPdf**	**04 49 02.6**	**+0.1**
BORR	**Bors**	**122.99**	**324**	⇑P		**PKiKP**	**04 49 04.0**	**+1.3**
BORR	**Bors**	**122.99**	**324**	⇓P		**PKKPbc**	**04 58 56.7**	**+0.5**
KECS	**Kecovo**	**123.01**	**326**	*e*PKIKP		**PKiKP**	**04 49 04.9**	**+2.2**
KECS	**Kecovo**	**123.01**	**326**	*e*PKP		**PKiKP**	**04 49 04.9**	**+2.2**
ALN	**Alexandroupoli**	**123.02**	**315**			**PKPdf**	**04 49 02.0**	**-0.7**
ALN	**Alexandroupoli**	**123.02**	**315**	P		**PKPdf**	**04 49 01.0**	**-1.7**
ALN	**Alexandroupoli**	**123.02**	**315**	PKIKP		**PKPdf**	**04 49 02.0**	**-0.7**
NRS	**Narsarsuaq**	**123.08**	**12**	*e*P		**PKPdf**	**04 49 00.9**	**-1.3**
L59A	**Walton**	**123.08**	**43**	P		**Pdif**	**04 45 36.5**	**+1.6**
	baz=294							
L59A				P		**Pdif**	**04 45 36.5**	**+1.6**
	baz=294							
ARG	**Arkhangelos**	**123.14**	**309**	P		**PKiKP**	**04 49 03.5**	**+0.1**
MUD	**Monsted U'grnd**	**123.14**	**338**	*i* P		**Pdif**	**04 45 37.1**	**+2.5**
MUD	**Monsted U'grnd**	**123.14**	**338**	*e*P		**PKiKP**	**04 49 02.9**	**+0.2**
KDZ	**Kurdzhali**	**123.15**	**316**	*e*P		**PKPdf**	**04 49 01.7**	**-1.3**
T59A	**Double "B" Far**	**123.22**	**50**	P		**Pdif**	**04 45 34.4**	**-1.1**
	baz=289							
T59A				P		**Pdif**	**04 45 34.4**	**-1.1**
	baz=289							
061Z	**Ochoppi**	**123.22**	**63**	P		**Pdif**	**04 45 38.9**	**+3.2**
	baz=280							
CVNA	**Calvinia**	**123.22**	**226**	⇑ *i*P		**Pdif**	**04 45 41.6**	**+5.8**
CVNA				IAMs_20	IAMs_20		05 31 55.5	
	comp=Z,540μm,27.1s							
GZR	**Gura Zlata**	**123.22**	**321**	⇑P		**PKiKP**	**04 49 04.2**	**+0.8**
GZR	**Gura Zlata**	**123.22**	**321**	⇑P		**PKKPbc**	**04 58 54.9**	**-0.5**
GZR	**Gura Zlata**	**123.22**	**321**	⇑PKIKP		**PKiKP**	**04 49 04.2**	**+0.8**
U59A	**Littleton**	**123.24**	**50**	P		**Pdif**	**04 45 36.4**	**+0.8**
	baz=289							
U59A				P		**Pdif**	**04 45 36.4**	**+0.8**
	baz=289							
RDO	**Rodhopi**	**123.27**	**316**	P		**PKPdf**	**04 49 01.7**	**-1.5**
SRE	**Strehaia**	**123.30**	**321**	⇑P		**PKiKP**	**04 49 03.4**	**-0.1**
SRE	**Strehaia**	**123.30**	**321**	⇓P		**PKKPbc**	**04 58 57.5**	**+2.6**
SRE	**Strehaia**	**123.30**	**321**	⇑PKIKP		**PKiKP**	**04 49 03.4**	**-0.1**
HCNY	**Howe Caverns**	**123.30**	**42**	P		**Pdif**	**04 45 38.9**	**+3.1**
	baz=295							
RAC	**Raciborz**	**123.36**	**328**	*e*PDIFF		**Pdif**	**04 45 34.3**	**-1.5**
RAC				*e*PKPDF		**PKPdf**	**04 49 02.7**	**-0.4**
RAC				*e*PP		**PP**	**04 50 44.3**	**-1.2**
RAC	**Raciborz**	**123.36**	**328**	*e*PKIKP		**PKPdf**	**04 49 02.7**	**-0.4**
RAC				*e*			04 50 44.3	
SURR	**Surduc**	**123.45**	**322**	⇑P		**PKiKP**	**04 49 04.1**	**+0.4**
SURR	**Surduc**	**123.45**	**322**	⇑P		**PKKPbc**	**04 58 56.1**	**+1.7**
SIRR	**Siria**	**123.48**	**323**	⇑P		**PKPdf**	**04 49 03.3**	**-0.2**
SIRR	**Siria**	**123.48**	**323**	⇑P		**PKKPbc**	**04 58 54.8**	**+0.5**
ACCN	**Adirondack Com**	**123.49**	**41**	PKPdf		**PKPdf**	**04 49 02.9**	**-0.7**
ACCN	**Adirondack Com**	**123.49**	**41**	P		**Pdif**	**04 45 38.3**	**+1.8**
	baz=296							
060A	**Indiantown**	**123.49**	**62**	P		**Pdif**	**04 45 39.1**	**+2.2**
	baz=281							
BAIL	**Bailesti**	**123.50**	**320**	⇑P		**PKiKP**	**04 49 03.7**	**-0.1**
BAIL	**Bailesti**	**123.50**	**320**	⇑P		**PKKPbc**	**04 58 53.0**	**-1.1**
CNNC	**Cliffs of the**	**123.51**	**52**	P		**Pdif**	**04 45 39.6**	**+2.8**
	baz=288							
CNNC	**Cliffs of the**	**123.51**	**52**	Pdiff		**Pdif**	**04 45 38.0**	**+1.2**
	baz=288							
MAPC	**Malpelo**	**123.52**	**89**	*e*P		**PKPdf**	**04 49 03.0**	**-1.5**
OKC	**Ostrava-Krasne**	**123.53**	**328**	*e*PDIFF		**Pdif**	**04 45 42.8**	**+6.2**
OKC				*e*PKP		**PKPdf**	**04 49 02.7**	**-0.8**
OKC				*e*PP		**PP**	**04 50 51.8**	**+5.1**
OKC				AMS	AMS		05 39 00.0	
	comp=Z,158μm,19.5s							
OKC	**Ostrava-Krasne**	**123.53**	**328**	*e*P		**Pdif**	**04 45 42.8**	**+6.2**
OKC				*e*			04 49 02.7	
OKC				*e*			04 50 51.8	
OKC				MLR	MLR			
	comp=Z,158μm,19.5s							
SMTH	**Samothraki Isl**	**123.54**	**315**	P		**PKPdf**	**04 49 03.2**	**-0.6**
RZN	**Rozhen**	**123.61**	**317**	*e*P		**PKPdf**	**04 49 02.6**	**-1.5**
GEDE	**Greenville**	**123.62**	**46**	P		**Pdif**	**04 45 39.8**	**+2.6**
	baz=292							
Y60A	**Bolivia**	**123.62**	**53**	P		**Pdif**	**04 45 40.8**	**+3.5**
	baz=287							
Y60A				P		**Pdif**	**04 45 40.8**	**+3.5**
	baz=287							
PGB	**Panagyurishte**	**123.62**	**318**	*e*P		**PKPdf**	**04 49 02.8**	**-1.2**
RMGR	**Halanga-Turnu**	**123.62**	**321**	⇑P		**PKiKP**	**04 49 10.0**	**+6.0**
PSZ	**Piszkesteto**	**123.65**	**325**	⇑P		**PKiKP**	**04 49 05.3**	**+1.1**
PSZ	**Piszkesteto**	**123.65**	**325**	⇑PKIKP		**PKiKP**	**04 49 05.3**	**+1.1**
PUNG	**Punghina**	**123.65**	**320**	⇑P		**PKPdf**	**04 49 03.8**	**-0.1**
PUNG	**Punghina**	**123.65**	**320**	⇑P		**PKKPbc**	**04 58 51.7**	**-1.9**
MCVT	**Middlebury Col**	**123.67**	**40**	P		**Pdif**	**04 45 38.6**	**+1.2**
	baz=297							
PPLP	**Puerto Lpez**	**123.71**	**96**	*e*P		**PKPdf**	**04 49 04.4**	**-0.5**
DJES	**Djerdap**	**123.73**	**321**	⇑P		**PKPdf**	**04 49 02.7**	**-1.3**
DJES	**Djerdap**	**123.73**	**321**	⇑P		**PKKPbc**	**04 58 51.2**	**-2.1**
LCO	**Las Campanas**	**123.74**	**131**			**PKPdf**	**04 49 04.4**	**-0.5**
LCO	**Las Campanas**	**123.74**	**131**	PKIKP		**PKPdf**	**04 49 04.4**	**-0.5**
UPI	**Upington**	**123.76**	**230**	⇑ *i*P		**Pdif**	**04 45 42.4**	**+4.1**
UPI				IAMs_20	IAMs_20		05 41 09.0	
	comp=Z,1μm,18.4s							
BSZH	**Besenyszg**	**123.77**	**324**	⇑P		**PKPdf**	**04 49 04.0**	**+0.1**
BSZH	**Besenyszg**	**123.77**	**324**	⇓P		**PKKPbc**	**04 58 55.2**	**+2.0**
T60A	**Surry**	**123.78**	**49**	P		**Pdif**	**04 45 40.1**	**+2.1**
	baz=290							
T60A				P		**Pdif**	**04 45 40.1**	**+2.1**
	baz=290							
SIGR	**SIGRI**	**123.79**	**314**	P		**PKPdf**	**04 49 03.9**	**-0.4**
BZS	**Buzias**	**123.83**	**322**	⇑P		**PKPdf**	**04 49 03.8**	**-0.4**
BZS	**Buzias**	**123.83**	**322**	⇑PKIKP		**PKPdf**	**04 49 03.8**	**-0.4**
ODNJ	**Ogdensburg**	**123.84**	**44**	PKPdf		**PKPdf**	**04 49 03.8**	**-0.5**
ODNJ	**Ogdensburg**	**123.84**	**44**	P		**Pdif**	**04 45 39.7**	**+1.5**
	baz=294							
KSP	**Ksiaz**	**123.88**	**330**	*e*Pdif		**Pdif**	**04 45 38.9**	**+0.8**
KSP				*e*PKiKP		**PKiKP**	**04 49 05.5**	**+1.1**
KSP				*e*PP		**PP**	**04 50 52.5**	**+3.5**
KSP				*e*SP		SP	05 00 30.0	-0.1
KSP				*e*SS		SS	05 07 37.6	+12
KSP				*e*L		L	05 30 10.7	
	comp=Z,323μm,50.4s							
MORC	**Moravsky Berou**	**123.88**	**328**	⇑P		**PKPdf**	**04 49 03.5**	**-0.7**
MORC	**Moravsky Berou**	**123.88**	**328**	⇑P		**PKKPbc**	**04 58 51.3**	**-1.6**
MORC	**Moravsky Berou**	**123.88**	**328**	*e*PDIFF		**Pdif**	**04 45 38.6**	**+0.4**
MORC	**Moravsky Berou**	**123.88**	**328**	*e*PKP		**PKPdf**	**04 49 03.4**	**-0.8**
MORC				*e*			04 50 53.6	
MORC				*e*SP		SP	05 00 30.3	0.0
MORC				*e*SS		**SS**	**05 07 27.5**	**+1.8**
MORC				*e*			05 21 40.3	
MORC	**Moravsky Berou**	**123.88**	**328**	⇑PKIKP		**PKPdf**	**04 49 03.5**	**-0.7**
VYHS	**Vyhne**	**123.92**	**326**	*i* P		**Pdif**	**04 45 39.7**	**+1.3**
VYHS				*e*			04 49 04.1	
VYHS				*e*			04 50 51.8	
VYHS				*e*			05 00 36.2	
VYHS				*e*SS		SS	05 07 38.1	+12
VYHS	**Vyhne**	**123.92**	**326**	*e*PDIFF		**Pdif**	**04 45 39.7**	**+1.3**
VYHS	**Vyhne**	**123.92**	**326**	*e*PKP		**PKPdf**	**04 49 04.1**	**-0.2**
VYHS				*e*PP		**PP**	**04 50 51.8**	**+2.4**
VYHS				*e*			05 00 36.2	
VYHS				*e*SS		SS	05 07 38.1	+12
VYHS				*e*L		L	05 31 21.8	
VYHS				*e*			05 58 56.6	
MAUC	**Maruska**	**123.97**	**328**	*e*PDIFF		**Pdif**	**04 45 45.1**	**+6.5**
MAUC				*e*PKP		**PKPdf**	**04 49 04.1**	**-0.3**
TIM	**Timisoara**	**124.01**	**322**	⇑P		**PKiKP**	**04 49 05.9**	**+1.1**
TIM	**Timisoara**	**124.01**	**322**	⇑PKIKP		**PKiKP**	**04 49 05.9**	**+1.1**
BRNJ	**Basking Ridge**	**124.03**	**44**	P		**Pdif**	**04 45 39.3**	**+0.3**
	baz=294							
MBAR	**Mbarara**	**124.03**	**265**	PKPdf		**PKPdf**	**04 49 05.6**	**-0.1**
MBAR	**Mbarara**	**124.03**	**265**	PKIKP		**PKPdf**	**04 49 05.6**	**-0.1**
PRVC	**Isla de Provid**	**124.03**	**78**	*e*P		**PKPdf**	**04 49 03.2**	**-2.2**
KAVA	**Kavala**	**124.04**	**316**	P		**PKPdf**	**04 49 03.3**	**-1.4**
RUE	**Ruedersdorf**	**124.04**	**333**	*e*P		**PKiKP**	**04 49 05.8**	**+1.2**
THAS	**Thassos island**	**124.06**	**316**	P		**PKPdf**	**04 49 04.8**	**+0.1**
MCRA	**Macar, Loja**	**124.06**	**100**	*e*P		**PKPdf**	**04 49 04.5**	**-1.1**
TRQA	**Tornquist**	**124.07**	**145**			**PKPdf**	**04 49 03.7**	**-1.2**
TRQA	**Tornquist**	**124.07**	**145**	PKIKP		**PKPdf**	**04 49 03.7**	**-1.2**
OSTC	**Ostas**	**124.09**	**330**	*e*PDIFF		**Pdif**	**04 45 42.7**	**+3.6**
OSTC				*e*PKP		**PKPdf**	**04 49 04.2**	**-0.4**
OSTC				*e*PP		**PP**	**04 50 50.4**	**-0.1**
OSTC				AMS	AMS		05 35 00.0	
	comp=Z,223μm,24.9s							
KRLC	**Kraliky**	**124.10**	**329**	*e*PKP		**PKPdf**	**04 49 03.7**	**-0.9**
KRLC				*e*PP	PP		04 50 58.4	+7.9
KRLC				AMS	AMS		05 36 00.0	
	comp=Z,142μm,20.5s							
KRLC	**Kraliky**	**124.10**	**329**	*e*PKIKP		**PKPdf**	**04 49 03.7**	**-0.9**
KRLC				*e*			04 50 58.4	
KRLC				MLR	MLR			
	comp=Z,142μm,20.5s							
BRNY	**Black Rk. Fore**	**124.11**	**43**	P		**Pdif**	**04 45 38.4**	**-0.9**
	baz=295							
CFA	**Coronel Fontan**	**124.13**	**135**	PKhKP	PKPpre		04 48 54.4	
	comp=Z,7.6nm,0.5s,baz=196,slow=4.8,SNR=4.7							
CFA				PKP		**PKPdf**	**04 49 05.1**	**-0.2**
	comp=Z,109nm,0.8s,baz=256,slow=2.8,SNR=30							
DPC	**Dobruska-Polom**	**124.17**	**329**	*e*PDIFF		**Pdif**	**04 45 39.7**	**+0.2**
DPC				*e*PKP		**PKPdf**	**04 49 03.7**	**-1.1**
DPC				*e*PP		**PP**	**04 50 55.6**	**+4.6**
DPC				AMS	AMS		05 35 00.0	
	comp=Z,172μm,24.3s							
DPC	**Dobruska-Polom**	**124.17**	**329**	*e*P		**Pdif**	**04 45 39.7**	**+0.2**
DPC				*e*			04 49 03.7	
DPC				*e*			04 50 55.6	
DPC				MLR	MLR			
	comp=Z,172μm,24.3s							
MDVR	**Moldovita**	**124.18**	**321**	⇑P		**PKPdf**	**04 49 04.5**	**-0.4**
MDVR	**Moldovita**	**124.18**	**321**	⇑P		**PKKPbc**	**04 58 48.3**	**-3.3**
VTS	**Vitosha**	**124.21**	**318**	⇑P		**PKPdf**	**04 49 05.1**	**-0.1**
VTS	**Vitosha**	**124.21**	**318**	⇑PKIKP		**PKPdf**	**04 49 05.1**	**-0.1**
VTS	**Vitosha**	**124.21**	**318**	*e*P		**PKPdf**	**04 49 04.3**	**-0.9**
LBNH	**Lisbon**	**124.21**	**39**	P		**Pdif**	**04 45 42.9**	**+3.1**
	baz=298							
LBNH	**Lisbon**	**124.21**	**39**	Pdiff		**Pdif**	**04 45 40.9**	**+1.1**
	baz=298							
UPC	**Upice**	**124.23**	**330**	*e*PDIFF		**Pdif**	**04 45 45.3**	**+5.6**
UPC				*e*PKP		**PKPdf**	**04 49 04.1**	**-0.7**
UPC				*e*PP		**PP**	**04 50 54.2**	**+2.9**
UPC				AMS	AMS		05 35 00.0	
	comp=Z,262μm,28.8s							
UPC	**Upice**	**124.23**	**330**	*e*P		**Pdif**	**04 45 45.3**	**+5.6**
UPC				*e*			04 49 04.1	
UPC				*e*			04 50 54.2	
J61A	**Chester**	**124.23**	**41**	P		**Pdif**	**04 45 43.4**	**+3.5**
	baz=297							
J61A				P		**Pdif**	**04 45 43.4**	**+3.5**
	baz=297							
BANR	**Banloc**	**124.24**	**322**	⇑P		**PKPdf**	**04 49 04.9**	**0.0**
P61A	**Hammonton**	**124.27**	**46**	P		**Pdif**	**04 45 41.5**	**+1.4**
	baz=293							
P61A				P		**Pdif**	**04 45 41.5**	**+1.4**
	baz=293							
MMB	**Musomiste**	**124.33**	**317**	*e*P		**PKPdf**	**04 49 03.6**	**-1.7**
AUGR	**Augrabies**	**124.33**	**229**	⇑ *i*P		**Pdif**	**04 45 47.4**	**+6.7**
AUGR				IAMs_20	IAMs_20		05 39 59.9	
	comp=Z,508μm,18.8s							
NVR	**Nevrokopi**	**124.34**	**317**	P		**PKPdf**	**04 49 04.8**	**-0.5**
PAL	**Palisades**	**124.35**	**44**	P		**Pdif**	**04 45 40.6**	**+0.2**
	baz=295							
PAL	**Palisades**	**124.35**	**44**	Pdiff		**Pdif**	**04 45 42.2**	**+1.8**
	baz=295							
V61A	**Roper**	**124.35**	**51**	P		**Pdif**	**04 45 42.7**	**+2.1**
	baz=289							
V61A				P		**Pdif**	**04 45 42.7**	**+2.1**
	baz=289							
JAVC	**Velka Javorina**	**124.35**	**327**	*e*PDIFF		**Pdif**	**04 45 41.7**	**+1.3**
JAVC	**Velka Javorina**	**124.35**	**327**	*e*PKP		**PKPdf**	**04 49 05.2**	**0.0**
JAVC				*e*			04 50 59.6	
JAVC				*e*SP		SP	05 00 37.8	+3.3
JAVC				*e*SS		**SS**	**05 07 34.6**	**+2.9**
JAVC				*e*			05 21 50.9	
S61A	**Accomac**	**124.38**	**48**	P		**Pdif**	**04 45 40.5**	**-0.2**
	baz=291							
S61A				P		**Pdif**	**04 45 40.5**	**-0.2**
	baz=291							
R61A	**Willards**	**124.39**	**47**	P		**Pdif**	**04 45 42.0**	**+1.3**
	baz=292							
R61A				P		**Pdif**	**04 45 42.0**	**+1.3**
	baz=292							
CPNY	**Central Park**	**124.40**	**44**			**PKPdf**	**04 49 04.7**	**-0.7**
FOR	**Fordham**	**124.42**	**44**	P		**Pdif**	**04 45 42.3**	**+1.5**
	baz=295							
D62A	**Allapoint, All**	**124.50**	**35**	P		**Pdif**	**04 45 42.4**	**+1.4**
	baz=303							
D62A				P		**Pdif**	**04 45 42.4**	**+1.4**
	baz=303							
L61B	**Northampton**	**124.55**	**42**	P		**Pdif**	**04 45 42.5**	**+1.2**
	baz=297							
L61B	**Northampton**	**124.55**	**42**	Pdiff		**Pdif**	**04 45 43.1**	**+1.8**
	baz=297							
F62A	**Pittston Farm,**	**124.59**	**37**	P		**Pdif**	**04 45 43.6**	**+2.1**
	baz=301							
F62A				P		**Pdif**	**04 45 43.6**	**+2.1**
	baz=301							
SRO	**Srobarova**	**124.59**	**326**	*e*PKIKP		**PKPdf**	**04 49 05.2**	**-0.3**
SRO	**Srobarova**	**124.59**	**326**	*e*PKP		**PKPdf**	**04 49 05.1**	**-0.4**
SRO				*e*			04 58 54.7	
G62A	**West of Eustis**	**124.60**	**38**	P		**Pdif**	**04 45 41.6**	**+0.1**
	baz=300							
G62A				P		**Pdif**	**04 45 41.6**	**+0.1**
	baz=300							
SRS	**Serrai**	**124.62**	**317**	P		**PKPdf**	**04 49 04.8**	**-1.1**
KKB	**Krupnik**	**124.64**	**318**	*e*P		**PKPdf**	**04 49 04.3**	**-1.6**
VRAC	**Vranov**	**124.66**	**328**	PKP	PKiKP			
	comp=Z,245nm,1.1s,baz=59,slow=1.4,SNR=17							
VRAC	**Vranov**	**124.66**	**328**	⇑P		**PKiKP**	**04 49 05.9**	**-0.1**
VRAC	**Vranov**	**124.66**	**328**	*e*PDIFF		**Pdif**	**04 45 41.4**	**-0.3**
VRAC	**Vranov**	**124.66**	**328**	*e*PKP		**PKPdf**	**04 49 04.9**	**-0.8**
VRAC				*e*			04 50 59.6	
VRAC				*e*SP		SP	05 00 37.5	+0.4
VRAC				*e*SS		**SS**	**05 07 38.4**	**+3.0**
VRAC				*e*			05 22 02.1	
OUR	**Ouranopolis**	**124.68**	**316**	P		**PKPdf**	**04 49 04.0**	**-1.9**
SMOL	**Smolenice**	**124.68**	**327**	*e*PKIKP		**PKiKP**	**04 49 07.0**	**+0.9**
SMOL				*e*			04 50 56.7	
SMOL				*e*			05 00 57.0	
N62A	**Caumsett State**	**124.68**	**44**	P		**Pdif**	**04 45 43.8**	**+1.9**
	baz=295							
N62A				P		**Pdif**	**04 45 43.8**	**+1.9**
	baz=295							
I62A	**Tamworth**	**124.76**	**40**	P		**Pdif**	**04 45 42.4**	**+0.2**
	baz=299							
I62A				P		**Pdif**	**04 45 42.4**	**+0.2**
	baz=299							
FLF1	**Flavio Alfaro-**	**124.80**	**95**	*e*P		**PKPdf**	**04 49 06.7**	**-0.3**
GO03	**Coniap**	**124.81**	**130**			**PKPdf**	**04 49 05.9**	**-0.9**
APE	**Apeiranthos**	**124.82**	**311**	⇑P		**PKPdf**	**04 49 02.3**	**-4.1**
APE	**Apeiranthos**	**124.82**	**311**	⇑PKIKP		**PKPdf**	**04 49 02.3**	**-4.1**
MODS	**Modra-Piesok**	**124.84**	**327**	*i* P		**Pdif**	**04 45 45.2**	**+2.7**
MODS				*e*			04 49 05.3	
MODS				*e*			04 51 02.6	
MODS	**Modra-Piesok**	**124.84**	**327**	*e*PDIFF		**Pdif**	**04 45 45.2**	**+2.7**
MODS	**Modra-Piesok**	**124.84**	**327**	*e*PKP		**PKPdf**	**04 49 05.3**	**-0.8**
MODS				*e*PP		**PP**	**04 51 02.6**	**+7.0**
MODS				*e*			05 00 44.9	
MODS				*e*L		L	05 31 37.4	
KRUC	**Moravsky**	**124.91**	**328**	*e*PDIFF		**Pdif**	**04 45 43.1**	**+0.3**
KRUC	**Moravsky**	**124.91**	**328**	*e*PKP		**PKPdf**	**04 49 05.4**	**-0.7**
KRUC				*e*			04 51 01.1	
KRUC				*e*SP		SP	05 00 40.1	+0.8
KRUC				*e*SS		**SS**	**05 07 42.0**	**+3.4**
KRUC				*e*			05 22 08.2	
SOH	**Sokhos**	**124.91**	**316**	P		**PKiKP**	**04 49 06.8**	**0.0**
PVCC	**Panska Ves**	**124.93**	**330**	*e*PDIFF		**Pdif**	**04 45 48.6**	**+5.8**
PVCC				*e*PKP		**PKPdf**	**04 49 05.4**	**-0.7**
PVCC				*e*PP		**PP**	**04 51 01.7**	**+5.7**
PVCC				AMS	AMS		05 38 00.0	
	comp=Z,192μm,26.8s							
PVCC	**Panska Ves**	**124.93**	**330**	*e*P		**Pdif**	**04 45 48.6**	**+5.8**
PVCC				*e*			04 49 05.4	
PVCC				*e*			04 51 01.7	
PVCC				MLR	MLR			
	comp=Z,192μm,26.8s							
ZKR	**Zakros**	**124.96**	**309**	P		**PKiKP**	**04 49 07.3**	**+0.3**
BRG	**Berggiesshubel**	**125.02**	**331**	⇓*e*Pif			04 45 48.8	
BRG				Amp			04 45 52.2	
	comp=Z,16nm,1.1s							
BRG	**Berggiesshubel**	**125.02**	**331**	PKP		**PKPdf**	**04 49 05.9**	**-0.4**
BRG				Amp			04 49 13.9	
	comp=Z,538nm,1.1s							
BRG				pPKP		**pPKPdf**	**04 49 42.1**	**-5.8**
BRG				Amp			04 49 45.3	
	comp=Z,165nm,1.0s							
BRG				sPKP			04 49 55.1	
BRG				Amp			04 49 59.8	
	comp=Z,225nm,1.0s							
BRG				PP		**PP**	**04 50 58.2**	**+1.6**
BRG				Amp			04 51 02.9	
	comp=Z,825nm,1.6s							
BRG	**Berggiesshubel**	**125.02**	**331**	SS		SS	05 07 50.0	+10
BRG	**Berggiesshubel**	**125.02**	**331**	PKIKP		**PKPdf**	**04 49 05.9**	**-0.4**
BRG				pmax	pmax			
	comp=Z,538nm,1.1s							
ATAH	**Atahualpa**	**125.03**	**103**	PKhKP	PKPpre		04 48 59.5	
	comp=Z,11nm,0.6s,baz=201,slow=10.0,SNR=5.1							
ATAH				PKP		**PKPdf**	**04 49 07.6**	**-0.3**
	comp=Z,192nm,0.7s,baz=155,slow=3.7,SNR=52							
ZST	**Bratislava**	**125.04**	**327**	*i* P		**Pdif**	**04 45 50.4**	**+7.0**
ZST				*e*			04 51 03.2	
ZST				*e*			05 00 59.0	
ZST				*e*SS		SS	05 07 39.8	-0.5
ZST	**Bratislava**	**125.04**	**327**	*e*PDIFF		**Pdif**	**04 45 50.4**	**+7.0**
ZST	**Bratislava**	**125.04**	**327**	*e*PKP		**PKiKP**	**04 49 07.9**	**+1.1**
ZST				*e*PP		**PP**	**04 51 03.2**	**+6.4**
ZST				*e*			05 00 59.0	
ZST				*e*SS		SS	05 07 39.8	-0.5
PNME	**Penonome**	**125.05**	**84**	*e*P		**PKPdf**	**04 49 05.7**	**-1.7**
PAIG	**Paliouri**	**125.06**	**315**	P		**PKPdf**	**04 49 06.4**	**-0.3**
KNT	**Kendrikon**	**125.08**	**317**	P		**PKPdf**	**04 49 05.7**	**-1.0**
THR8	**Santorini-Mono**	**125.09**	**311**	P		**PKPdf**	**04 49 05.4**	**-1.4**
THR3	**Thira Island,**	**125.15**	**311**	P		**PKPdf**	**04 49 06.1**	**-0.9**
I63A	**Otisfield**	**125.15**	**39**	P		**Pdif**	**04 45 44.1**	**+0.2**
	baz=300							
I63A				P		**Pdif**	**04 45 44.1**	**+0.2**
	baz=300							
FRGS	**Fruska Gora**	**125.16**	**322**	⇑P		**PKiKP**	**04 49 07.3**	**+0.2**
FRGS	**Fruska Gora**	**125.16**	**322**	*e*P		**PKPdf**	**04 49 05.8**	**-1.0**
THR6	**Thira Island,**	**125.17**	**311**	P		**PKPdf**	**04 49 04.4**	**-2.6**
CLL	**Collm**	**125.18**	**332**	*e*Pdif		**Pdif**	**04 45 46.0**	**+2.1**
	comp=Z,55nm,1.4s							
CLL				*ex*	x		04 46 40.0	
CLL				*e*PKPdf		**PKPdf**	**04 49 06.0**	**-0.6**
	comp=Z,445nm,1.1s							
CLL				*i* x	x		04 49 16.2	
	comp=Z,475nm,0.8s							
CLL				*e*pPKPdf		**pPKPdf**	**04 49 45.0**	**-3.1**
CLL				*e*sPKPdf		**sPKPdf**	**04 50 01.0**	**-3.2**
CLL				*ex*	x		04 50 29.0	
CLL				*e*PP		**PP**	**04 50 59.0**	**+1.4**
CLL				*ex*	x		04 51 12.0	
CLL				*e*sPP			04 51 50.0	
CLL				*e*(SKPdf)			04 52 22.0	
CLL				*e*PKSdf		**PKSdf**	**04 52 41.0**	**-2.0**
CLL				*ex*	x		04 53 00.0	
CLL				*e*PPP	PPP		04 53 42.0	
CLL				*e*SKSac		**SKSac**	**04 56 00.0**	**+3.9**
CLL				*e*PKKPbc		**PKKPbc**	**04 58 52.0**	**+4.2**
	comp=Z,127nm,1.3s							
CLL				*ex*	x		04 59 02.0	
	comp=Z,214nm,1.5s							
CLL				*e*pPKKPbc			04 59 27.0	
	comp=Z,92nm,1.5s							
CLL				*e*SP		**SP**	**05 00 44.0**	**+2.6**
CLL				*e*pSP			05 01 26.0	
CLL				*e*sPS			05 01 42.0	
CLL				*e*SPP	SPP		05 02 18.0	
CLL

CONA **Conrad Observa** 125.87 327 *e*Pdiff **Pdif** 04 45 49.0 +1.8
comp=Z,31nm,1.7s
CONA *e*PKP **PKPdf** 04 49 06.7 -1.4
comp=Z,278nm,1.1s,SNR=31
PAC1 Pacto, Paraso 125.93 94 *e*P **PKPdf** 04 49 08.1 -1.2
IDI Anoyia 125.93 309 ⇑P **PKiKP** 04 49 10.6 +1.5
IDI Anoyia 125.93 309 P **PKPdf** 04 49 08.3 -0.3
LINV Loch Inver, As 125.99 347 *e*P PKPpre 04 48 48.3
L64A Middleborough 126.00 41 P **Pdif** 04 45 49.2 +1.5
baz=298
L64A P **Pdif** 04 45 49.2 +1.5
baz=298
BATG Bathurst New B 126.07 34 PKPdf **PKPdf** 04 49 08.3 -0.1
BBLS Lazići 126.07 321 *e*P **PKPdf** 04 49 07.5 -1.1
CKRC Cesky Krumlov 126.14 329 *e*PDIFF **Pdif** 04 45 49.7 +1.4
CKRC *e*PKP **PKPdf** 04 49 07.9 -0.7
CKRC *e*PP **PP** 04 51 04.5 +0.4
NKC Novy Kostel 126.16 331 *e*PDIFF **Pdif** 04 45 54.6 +6.3
NKC *e*PKP **PKPdf** 04 49 08.1 -0.4
NKC *e*PP **PP** 04 51 10.6 +6.5
NKC AMS AMS 05 36 20.0
comp=Z,205µm,26.2s
NKC Novy Kostel 126.16 331 *e*P **Pdif** 04 45 54.6 +6.3
NKC *e* 04 49 08.1
NKC *e* 04 51 10.6
NKC MLR MLR
comp=Z,205µm,26.2s
TUMC Tumaco 126.18 92 **PKPdf** 04 49 08.9 -0.7
TUMC Tumaco 126.18 92 *e*P **PKPdf** 04 49 08.7 -0.9
KZN Kozani 126.22 316 P **PKPdf** 04 49 08.6 -0.4
RUDO Rudo 126.22 321 *e*P **PKPdf** 04 49 03.9 -4.9
HAPS Han Pijesak,BI 126.24 322 *e*P **PKPdf** 04 49 07.9 -1.1
OTAV Otavalo 126.26 94 ⇑PKIKP **PKPdf** 04 49 10.1 -0.2
OTAV Otavalo 126.26 94 *e*P **PKPdf** 04 49 09.3 -1.0
OTAV Otavalo 126.26 94 *e*P **PKPdf** 04 49 08.4 -1.9
IVA Berane 126.26 320 ⇑*i*PKP **PKPdf** 04 49 07.7 -1.3
FNA Florina 126.28 317 P **PKPdf** 04 49 07.8 -1.3
FNA Florina 126.28 317 *i* P **Pdif** 04 45 56.6 +7.5
PIAT Ana Tenorio 126.28 96 *e*P **PKPdf** 04 49 10.2 -0.1
M65A Busby, Falmout 126.31 42 Pdiff **Pdif** 04 45 48.5 -0.6
baz=298
KHC Kasperske Hory 126.32 330 *e*PDIFF **Pdif** 04 45 51.1 +2.0
KHC *e*PKP **PKPdf** 04 49 07.5 -1.4
KHC *e*PP **PP** 04 51 10.2 +4.9
KHC AMS AMS 05 38 10.0
comp=Z,181µm,23.0s
KHC Kasperske Hory 126.32 330 *e*P **Pdif** 04 45 51.1 +2.0
KHC *e* 04 49 07.5
KHC *e* 04 51 10.2
KHC MLR MLR
comp=Z,181µm,23.0s
CUSE Cuicocha Este 126.32 94⇑*e*P **PKPdf** 04 49 09.8 -0.7
LEWI Lewis, Hebride 126.34 348 *e*P PKPpre 04 48 47.1
PLE Pljevlja 126.35 321 ⇑*i*PKP **PKPdf** 04 49 07.8 -1.4
PVY Plav 126.36 320 ⇑*i*PKP **PKPdf** 04 49 07.6 -1.7
THL Klokotos Trika 126.38 315 P **PKPdf** 04 49 07.9 -1.3
AGG Agios Georgios 126.38 315 P **PKPdf** 04 49 08.1 -1.2
G65A Princeton 126.39 37 P **Pdif** 04 45 51.0 +1.6
baz=303
G65A P **Pdif** 04 45 51.0 +1.6
baz=303
BCI Bajram Curri 126.40 319 *i* P **Pdif** 04 46 06.0 +16
GEC2 GERESS Array S 126.44 329 PKPdf **PKPdf** 04 49 07.8 -1.5
GERES GERESS Array B 126.44 329 PKP **PKPdf** 04 49 08.9 -0.3
comp=Z,54nm,0.6s,baz=56,slow=3.4,SNR=12
GERES SKKP 05 02 42.7
comp=Z,28nm,1.0s,baz=166,slow=2.2,SNR=3.5
KRND KRANIDI 126.46 313 P **PKPdf** 04 49 07.8 -1.7
ARSA Arzberg 126.46 327 *e*Pdiff **Pdif** 04 45 50.0 +0.2
comp=Z,21nm,1.3s
ARSA *e*PKP **PKPdf** 04 49 07.9 -1.3
comp=Z,176nm,1.4s,SNR=12
OHR Ohrid 126.51 318 *i* P **PKPdf** 04 49 08.4 -1.1
OHR *i* S **PS** 05 01 02.2 -11
KOME Kolasin 126.51 320 ⇑*i*PKP **PKPdf** 04 49 08.1 -1.4
KOGS Kog 126.53 325 *e*Pdiff **Pdif** 04 45 51.2 +1.2
KOGS *e*PKPdf **PKPdf** 04 49 08.6 -0.7
KOGS *e* 04 49 17.3
KOGS *e* 04 52 32.3
A052A Srbac 126.56 323 *e*P **PKPdf** 04 49 07.8 -1.6
IMMV Iera Moni Meta 126.56 310 P **PKiKP** 04 49 10.4 +0.2
KPRO Kipourio 126.66 316 P **PKPdf** 04 49 09.2 -0.7
GVD Gavdhos 126.70 309 P **PKPdf** 04 49 09.5 -0.5
PENT Pentalofos 126.70 317 P **PKPdf** 04 49 08.5 -1.5
UPM Unac-Piva 126.72 321 *e*P **PKPdf** 04 49 05.5 -4.5
UPM Unac-Piva 126.72 321 ⇑*i*PKP **PKPdf** 04 49 08.3 -1.7
KBN Korca 126.75 317 *i* P **Pdif** 04 45 50.4 -0.9
MOA Molln 126.77 328 *e*Pdiff **Pdif** 04 45 50.2 -0.9
comp=Z,8.9nm,1.2s
MOA *e*PKP **PKPdf** 04 49 08.5 -1.3
comp=Z,162nm,1.0s
EVR Evrytania 126.80 315 P **PKPdf** 04 49 10.3 +0.1
GR1C Gorgona, Isla 126.85 91 *e*P **PKPdf** 04 49 09.7 -1.1
VLI Veliai 126.88 312 P **PKiKP** 04 49 10.9 +0.1
PDG Podgorica 126.89 320 ⇑P **PKPdf** 04 49 09.7 -0.4
PDG Podgorica 126.89 320 **PKPdf** 04 49 09.4 -0.7
PDG Podgorica 126.89 320 ⇑*i*PKP **PKPdf** 04 49 08.7 -1.4
NKME Niksic 126.91 320 ⇑*i*PKP **PKPdf** 04 49 09.0 -1.2
KLV Kalavryta, Ach 126.92 314 P **PKPdf** 04 49 09.2 -1.2
ANKY Antikythira Is 126.93 311 P **PKPdf** 04 49 10.3 -0.1
BLY Banja Luka 126.95 323 *e*P **PKPdf** 04 49 04.5 -5.7
CMBC Cumbal 126.97 94 *e*P **PKPdf** 04 49 11.3 -0.4
A051A Mrakovica 126.97 324 *e*P **PKPdf** 04 49 06.4 -3.9
TULM Tulcn-Chalpat 126.98 94 *e*P **PKPdf** 04 49 11.6 -0.2
TIR Tirane 127.02 318 ⇑P **PKiKP** 04 49 12.3 +1.4
TIR Tirane 127.02 318 P **Pdif** 04 45 55.9 +3.6
TIR Tirane 127.02 318 ⇑PKIKP **PKiKP** 04 49 12.3 +1.4
CEME Cevo 127.05 320 ⇑*i*PKP **PKPdf** 04 49 09.0 -1.5
DRME Dracevica, Mon 127.06 320 *e*P **PKPdf** 04 49 07.5 -3.0
DRME Dracevica, Mon 127.06 320 ⇑*i*PKP **PKPdf** 04 49 09.2 -1.3
SOKA Soboth 127.07 326 *e*Pdiff **Pdif** 04 45 53.3 +0.8
comp=Z,30nm,1.6s
SOKA *e*PKP **PKPdf** 04 49 09.0 -1.5
comp=Z,457nm,1.3s
LSK Leskovik 127.09 317 *i* P **Pdif** 04 45 49.0 -3.8
PRIJ Prijedor 127.10 324 *e*P **PKiKP** 04 49 11.1 +0.1
BRY Bratogost 127.11 321 *e*P **PKPdf** 04 49 07.5 -3.2
BRY Bratogost 127.11 321 ⇑*i*PKP **PKPdf** 04 49 08.7 -2.0
GRFO Grafenberg 127.11 331 **PKPdf** 04 49 10.1 -0.2
GRFO Grafenberg 127.11 331 PKIKP **PKPdf** 04 49 10.1 -0.2
ULC Ulcinj 127.13 319 ⇑*i*PKP **PKPdf** 04 49 08.0 -2.6
JAN Janina 127.14 316 P **PKPdf** 04 49 10.4 -0.4
MGRS Mrkonjic Grad 127.19 323 *e*P **PKPdf** 04 49 09.3 -1.4
BIOA Bad Ischl, Aus 127.20 328 *e*Pdiff **Pdif** 04 45 51.6 -1.4
comp=Z,14nm,1.5s
BIOA *i* PKP **PKPdf** 04 49 09.3 -1.3
comp=Z,363nm,1.3s,SNR=21
BONI La Bonita 127.20 94 *e*P **PKiKP** 04 49 12.4 0.0
MCJ Malvern 127.28 72 *i* P **PKPdf** 04 49 11.7 0.0
UPD2 Meteti 127.33 84⇑*e*P **PKPdf** 04 49 10.3 -1.5
SRKY Kupres RS 127.34 323 *e*P **PKPdf** 04 49 10.3 -0.8
CRES Cresnjev 127.34 325 *e*P **PKPdf** 04 49 07.8 -3.1
HCY Herceg Novi 127.37 320 *e*P **PKPdf** 04 49 09.2 -1.9
HCY Herceg Novi 127.37 320 ⇑*i*PKP **PKPdf** 04 49 08.9 -2.2
MTDJ Mount Denham 127.39 72 *e*P **PKPdf** 04 49 09.9 -2.0
RLS Riolos of Patr 127.40 314 P **PKiKP** 04 49 11.6 -0.2
ITM Ithomi 127.44 313 P **PKPdf** 04 49 08.1 -3.3
OBKA Obir 127.44 326 *e*Pdiff **Pdif** 04 45 54.7 +0.5
comp=Z,11nm,1.1s
OBKA *e*PKP **PKPdf** 04 49 09.6 -1.6
comp=Z,226nm,1.2s,SNR=19
OBKA Obir 127.44 326 *e*P **PKPdf** 04 49 09.4 -1.8
A050A Klekovaca 127.49 323 *e*P **PKPdf** 04 49 08.4 -2.9
EDI Edinburgh 127.51 345 *e*P PKPpre 04 48 50.4
IGT Igoumenitsa 127.56 316 P **PKPdf** 04 49 11.4 -0.1
SRN Sarande 127.62 317 *i* P **Pdif** 04 45 58.0 +3.0
BBJ Bamboo Saint A 127.63 72 *i* P **PKiKP** 04 49 13.1 +0.3
BOJS Bojanci 127.65 325 *e*P **PKPdf** 04 49 10.2 -1.3
STON Ston 127.65 321 *e*P **PKPdf** 04 49 09.1 -2.4
LKD2 Lefkada island 127.66 315 P **PKiKP** 04 49 12.4 +0.1
LKD2 Lefkada island 127.66 315 *i* P **Pdif** 04 45 53.8 -1.5
VLO Vlora 127.69 318 *i* P **Pdif** 04 45 58.0 +2.7
PB06 IPOC Station P 127.72 125 PKPdf **PKPdf** 04 49 11.8 -0.7
LJU Ljubljana 127.73 326 *e*Pdiff **Pdif** 04 45 55.8 +0.4
LJU *i* PKPdf **PKPdf** 04 49 11.1 -0.6
LJU *e* 04 49 19.8
LJU *i* 04 49 57.3
LJU *e*PP **PP** 04 51 20.3 +5.6
LJU *e* 04 51 53.6
LJU *e* 04 52 37.3
LJU *e* 05 32 07.2
KBA Koelnbreinsper 127.74 328 *e*Pdiff **Pdif** 04 45 55.9 +0.2
comp=Z,6.2nm,0.8s
KBA *e*PKP **PKPdf** 04 49 09.7 -2.1
comp=Z,400nm,1.2s,SNR=20
PCJ Portland Cotta 127.80 72 *i* P **PKPdf** 04 49 12.4 -0.1
PIZC Pizarro, Choco 127.82 89 *e*P **PKPdf** 04 49 12.6 -0.1
KEK Kerkira 127.84 317 P **PKPdf** 04 49 10.9 -1.1
GBAS Gorenja Brezov 127.85 326 *e*PP PP 04 51 20.7 +5.2
MYKA Terra Mystica 127.86 327 *e*Pdiff **Pdif** 04 45 55.1 -1.0
comp=Z,6.1nm,0.8s
MYKA *e*PKP **PKPdf** 04 49 10.2 -1.7
comp=Z,110nm,0.8s,SNR=14
CRUC La Cruz 127.91 93 *e*P **PKPdf** 04 49 12.4 -0.9
BNJ Bonny Gate 127.94 72 *i* P **PKPdf** 04 49 12.9 +0.1
PGBU Glenifferbraes 127.94 346 *e*P PKPpre 04 48 40.9
CEY Cerknica 127.97 326 *e*P **PKPdf** 04 49 10.2 -2.0
VLS Valsamata 127.98 314 P **PKPdf** 04 49 10.2 -2.2
EKA Eskdalemuir Ar 128.02 344 PKhKP PKPpre 04 49 01.1
comp=Z,2.9nm,0.5s,baz=18,slow=2.0,SNR=6.3
EKA PKP **PKPdf** 04 49 12.0 +0.1
comp=Z,60nm,0.6s,baz=26,slow=2.6,SNR=27
ESK Eskdalemuir 128.05 344 PKPdf **PKPdf** 04 49 10.6 -1.4
ESK Eskdalemuir 128.05 344 *e*P PKPpre 04 48 44.6
ESK Eskdalemuir 128.05 344 PKIKP **PKPdf** 04 49 10.6 -1.4
KEF4 Livadi, Kephal 128.06 315 P **PKPdf** 04 49 11.3 -1.2
JAVS Javornik 128.08 326 *e*Pdiff **Pdif** 04 45 57.5 +0.4
STH Stony Hill 128.10 72 *i* P **PKPdf** 04 49 12.5 -0.7
EDMD Edmundbyers 128.13 343 *e*P PKPpre 04 48 47.5
KEF3 Kipouria, Keph 128.14 315 P **PKPdf** 04 49 11.6 -1.0
HOJ Hope 128.16 72 *i* P **PKiKP** 04 49 15.6 +1.8
GWJ Greenwich 128.17 72 *i* P **PKPdf** 04 49 13.1 -0.3
LVC Limon Verde 128.30 125 PKhKP **PKPdf** 04 49 02.2
comp=Z,13nm,0.6s,baz=269,slow=0.6,SNR=7.3
LVC PKP **PKPdf** 04 49 14.2 +0.3
comp=Z,84nm,0.7s,baz=292,slow=2.1,SNR=24
LVC Limon Verde 128.30 125 PKPdf **PKPdf** 04 49 14.0 +0.1
SKDS Skadanscina 128.32 326 *e*P **PKPdf** 04 49 12.1 -0.7
ABTA Abfaltersbach 128.39 328 *e*Pdiff **Pdif** 04 45 56.6 -1.8
comp=Z,6.5nm,1.0s
ABTA *e*PKP **PKPdf** 04 49 11.2 -1.8
comp=Z,439nm,1.1s,SNR=20
NEWG New Galloway 128.50 345 *e*P PKPpre 04 48 47.5
WATA Walderalm 128.50 329 *e*Pdiff **Pdif** 04 45 59.3 +0.3
comp=Z,4.5nm,1.2s
WATA *e*PKP **PKPdf** 04 49 11.6 -1.7
comp=Z,1µm,1.6s,SNR=50
WTTA Wattenberg 128.52 329 *e*Pdiff **Pdif** 04 45 59.8 +0.7
comp=Z,3.8nm,0.9s
WTTA *e*PKP **PKPdf** 04 49 11.9 -1.4
comp=Z,1µm,1.3s,SNR=56
SCTE Santa Cesarea 128.57 318 *i* P **Pdif** 04 46 04.9 +5.6
KESW Keswick, Cumbr 128.67 344 *e*P PKPpre 04 48 42.6
APAC Apartado, Choc 128.74 85 *e*P **PKiKP** 04 49 16.1 +0.9
MOTA Moosalm 128.74 329 *e*Pdiff **Pdif** 04 46 00.2 +0.1
comp=Z,6.3nm,1.7s
MOTA *i* PKP **PKPdf** 04 49 12.6 -1.1
comp=Z,727nm,1.4s,SNR=36
BTNL Ternell 128.75 335 *dx* x 04 46 11.6
BTNL *d*PKP **PKPdf** 04 49 11.9 -1.6
YOTC Yotoco, Valle 128.75 90⇑*e*P **PKPdf** 04 49 13.1 -1.6
SQTA Sankt Quirin 128.77 329 *e*Pdiff **Pdif** 04 45 60.0 -0.2
comp=Z,7.2nm,1.4s
SQTA *i* PKP **PKPdf** 04 49 12.8 -1.0
comp=Z,571nm,1.0s,SNR=21
BEBN Eben Emael 128.78 336 *d*PKP **PKiKP** 04 49 15.5 +1.4
MEM Membach 128.78 335 *dx* x 04 46 07.6
MEM *d*PKP **PKPdf** 04 49 11.7 -1.8
HPK Haverah Park 128.79 343 *e*P PKPpre 04 48 48.3
RETA Reutte 128.82 329 *e*Pdiff **Pdif** 04 46 01.0 +0.7
comp=Z,4.8nm,1.5s
RETA *e*PKP **PKPdf** 04 49 12.7 -1.1
comp=Z,227nm,1.0s,SNR=16
GAL1 Galloway 128.85 345 *e*P PKPpre 04 48 46.7
PLMC San Jos del P 128.88 89 *e*P **PKPdf** 04 49 14.7 -0.2
LCBC Los crdobas, 128.97 84 *e*P **PKPdf** 04 49 15.1 +0.2
PB11 IPOC Station P 128.98 122 PKPdf **PKPdf** 04 49 15.0 0.0
BHOU Houvegnez 128.98 335 *d*PKP **PKPdf** 04 49 12.6 -1.3
BSTI Sart Tilman 128.99 335 *dx* x 04 46 09.9
BSTI *d*PKP **PKPdf** 04 49 13.3 -0.5
CLGH Cloghs, Cushen 129.00 346 *e*P PKPpre 04 48 50.8
DBBC Dabeiba 129.07 86 *e*P **PKPdf** 04 49 15.4 +0.2
FETA Feichten 129.14 329 *e*Pdiff **Pdif** 04 46 01.6 -0.2
comp=Z,10nm,1.6s
FETA *e*PKP **PKPdf** 04 49 13.7 -0.8
comp=Z,462nm,1.6s,SNR=20
FLOC Florencia 129.20 93⇑*i*P **PKPdf** 04 49 14.8 -0.7
CBOC Ciudad Bolivar 129.21 88 *e*P **PKPdf** 04 49 14.7 -0.9
BCLA Clavier 129.22 335 *d*PKP **PKiKP** 04 49 16.3 +1.2
LBWR Ladybower, Pea 129.31 342 *e*P PKPpre 04 48 49.5
BGES Gesves 129.34 336 *d*PKP **PKPdf** 04 49 13.8 -0.7
IOMK Kirk Michael 129.35 345 *e*P PKPpre 04 48 50.0
DAVA Damuels 129.40 330 *e*Pdiff **Pdif** 04 46 01.9 -1.0
comp=Z,15nm,1.5s
DAVA *i* PKP **PKPdf** 04 49 13.7 -1.3
comp=Z,332nm,0.7s
GARC Garzon, Huila 129.43 92 *e*P **PKiKP** 04 49 17.9 +1.0
WLF Walferdange 129.43 334 PKPdf **PKiKP** 04 49 16.1 +0.6
WLF Walferdange 129.43 334 PKIKP **PKiKP** 04 49 16.1 +0.6
WLF Walferdange 129.43 334 *dx* x 04 46 10.5
WLF *d*PKP **PKPdf** 04 49 13.9 -0.8
MATE Matera 129.44 319 ⇑P **PKPdf** 04 49 14.3 -0.7
GTBY Guantanamo Bay 129.45 69 *e*P **PKPdf** 04 49 13.8 -1.9
RCHB Rochefort 129.45 335 *d*Pdif **Pdif** 04 46 03.4 +0.4
RCHB *dx* x 04 46 15.2
RCHB *d*PKP **PKPdf** 04 49 14.3 -0.5
ARMEC Armenio, Quind 129.48 89 *e*P **PKiKP** 04 49 17.8 +0.9
BETC Betania 129.53 92 *e*P **PKPdf** 04 49 16.1 +0.1
BMRD Maredsous 129.53 336 *dx* x 04 46 10.9
BMRD *d*PKP **PKPdf** 04 49 14.2 -0.7
SNF Seneffe 129.57 336 *dx* x 04 46 12.5
SNF *d*PKP **PKPdf** 04 49 14.3 -0.6
STNC Stoke 129.72 342 *e*P PKPpre 04 49 00.6
DAVOX Davos/Dischmat 129.74 329 PKhKP PKPpre 04 49 04.8
comp=Z,38nm,0.6s,baz=235,slow=1.4,SNR=13
DAVOX PKP **PKiKP** 04 49 16.2 -0.3
comp=Z,133nm,0.6s,baz=246,slow=5.2,SNR=13
DOU Dourbes 129.76 336 *dx* x 04 46 11.0
DOU *d*PKP **PKPdf** 04 49 15.4 +0.1
UREC San Jos de Ur 129.77 85⇑*e*P **PKPdf** 04 49 15.1 -1.4
ORTC Ortega, Tolima 129.84 90 *e*P **PKPdf** 04 49 15.0 -1.7
WIN Windhoek 129.91 234⇑*i*P **Pdif** 04 46 12.0 +6.1
SJCC San Jacinto, C 130.15 82 *e*P **PKPdf** 04 49 15.8 -1.4
TIP Timpagrande 130.16 317 ⇑P **PKiKP** 04 49 19.3 +1.9
TIP Timpagrande 130.16 317 PKPdf **PKiKP** 04 49 17.2 -0.2
WLF1 Llynfaes 130.18 344 *e*P PKPpre 04 48 55.7
FOEL Foel Wylfa 130.19 343 *e*P PKPpre 04 48 52.8
ELSH Elham, Standar 130.26 339 *e*P PKPpre 04 48 48.3
NORC Norcasia 130.33 88 *e*P **PKPdf** 04 49 16.0 -1.6
LLW Llanuwychllyn 130.36 343 *e*P PKPpre 04 48 55.7
CZSB Cruzeiro do Su 130.37 106 PKPdf **PKPdf** 04 49 16.8 -0.8
CZSB Cruzeiro do Su 130.37 106 *e*P **PKPdf** 04 49 14.2 -3.4
HLM1 Long Mynd 130.42 342 *e*P PKPpre 04 48 52.4
ZARC Zaragoza, Cauc 130.43 85 *e*P **PKPdf** 04 49 13.3 -4.4
MURB Monte Urbino 130.55 324 PKPdf **PKiKP** 04 49 18.8 +0.7
HMNX Herstmonceux 130.78 339 *e*P PKPpre 04 48 54.9
PTBC PUERTO BERRIO 130.79 87 *e*P **PKPdf** 04 49 16.2 -2.1
ROSC El Rosal 130.83 89 PKhKP PKPpre 04 49 08.2
comp=Z,44nm,0.7s,baz=332,slow=23,SNR=10
ROSC PKP **PKPdf** 04 49 18.8 -0.1
comp=Z,436nm,0.5s,baz=332,slow=21,SNR=20
ROSC SKP 04 52 30.1
comp=Z,580nm,0.9s,baz=162,slow=3.6,SNR=5.9
ROSC El Rosal 130.83 89 *e*P **PKPdf** 04 49 18.4 -0.5
STRD Stroud 130.84 341 *e*P PKPpre 04 48 48.3
MCH1 Michaelchurch 130.91 342 *e*P PKPpre 04 48 55.7
WOL Wolverton 130.94 340 *e*P PKPpre 04 48 57.8
SWN1 Swindon 130.96 341 *e*P PKPpre 04 48 58.6
MONM Monmouth 130.99 342 *e*P PKPpre 04 48 47.5
MACC Macarena, Meta 131.06 93 *e*P **PKPdf** 04 49 17.6 -1.3
ARGC Ariguani, Magd 131.06 82 *e*P **PKPdf** 04 49 19.0 +0.1
SMRC Santa Marta, M 131.07 81 *e*P **PKPdf** 04 49 18.2 -0.6
TSUM Tsumeb 131.10 238 PKPdf **PKiKP** 04 49 20.1 +0.2
LPW Lampeter 131.13 343 *e*P PKPpre 04 48 57.8
LATE Laterza 131.37 324 PKPdf **PKiKP** 04 49 19.3 -0.4
RSBS Rosebush, Pemb 131.46 343 *e*P PKPpre 04 48 58.2
LLSC La Loma 5 El P 131.58 83 *e*P **PKPdf** 04 49 18.5 -1.3
LPAZ La Paz 131.75 118 PKhKP PKPpre 04 49 08.4
comp=Z,15nm,0.7s,baz=8.1,slow=3.9,SNR=20
LPAZ PKP **PKiKP** 04 49 21.9 0.0
comp=Z,178nm,0.6s,baz=304,slow=2.6,SNR=23
LPAZ SKP 04 52 32.9
comp=Z,70nm,0.6s,baz=26,slow=2.0,SNR=2.5
LPAZ SKKPbc SKKPbc 05 02 00.8 +0.4
comp=Z,141nm,1.3s,baz=32,slow=6.2,SNR=4.8
LPAZ La Paz 131.75 118 *e*P **PKPdf** 04 49 20.4 -0.4
BARC Barichara 132.06 87 *e*P **PKPdf** 04 49 20.4 -0.7
RUSC La Rusia 132.12 88 *e*P **PKPdf** 04 49 20.1 -1.4
HTL Hartland 132.24 343 *e*P PKPpre 04 49 00.6
PAMC Pamplona, Colo 132.56 86 *e*P PKPpre 04 49 13.7
SBD Saint Breward 132.68 343 *e*P PKPpre 04 49 04.3
PTGC Puerto Gaitan, 132.96 90 *e*P **PKPdf** 04 49 19.2 -3.3
SDDR Presa de Saban 133.16 70 *e*P **PKPdf** 04 49 20.2 -2.5
URIC Uribia, Colomb 133.24 80 PKPdf **PKiKP** 04 49 23.5 -0.6
URIC Uribia, Colomb 133.24 80⇑*e*P **PKPdf** 04 49 22.4 -0.6
TAMC Tame, Arauca 133.43 87 *e*P **PKPdf** 04 49 16.6 -6.8
SC01 Santiago de lo 133.61 69 PKPdf **PKPdf** 04 49 24.0 +0.4
TBTG Tabatinga, AM 133.91 102 PKPdf **PKPdf** 04 49 23.0 -1.3
TBTG Tabatinga, AM 133.91 102⇑*e*P **PKPdf** 04 49 23.2 -1.1
SDV Santo Domingo 134.63 84 PKhKP PKPpre 04 49 12.6
comp=Z,78nm,0.8s,baz=286,slow=3.6,SNR=16
SDV PKP **PKPdf** 04 49 26.2 +0.4
comp=Z,2µm,0.7s,baz=266,slow=3.2,SNR=52
SDV Santo Domingo 134.63 84 PKPdf **PKPdf** 04 49 23.8 -2.1
CPUP Villa Florida 134.89 137 PKhKP PKPpre 04 49 11.2
comp=Z,8.4nm,0.9s,baz=220,slow=4.0,SNR=3.5
PCDR Punta Cana, DR 135.96 70 PKPdf **PKPdf** 04 49 27.6 -0.3
KEST Kesra 136.98 318 PKhKP PKPpre 04 49 17.2
comp=Z,23nm,0.8s,baz=137,slow=1.1,SNR=17
BAUV El Baul 137.19 84 PKPdf **PKPdf** 04 49 28.3 -2.1
BAUV El Baul 137.19 84 *e*P PKPpre 04 49 17.2
MAHO Mahon 137.44 326 PKP PKPpre 04 49 17.6
MAHO PP **PP** 04 52 19.5 +2.9
ITAB Concordia 137.58 143 PKPdf **PKPdf** 04 49 29.8 -0.9
SIV San Ignacio 137.96 122 PKhKP PKPpre 04 49 19.1
comp=Z,29nm,0.8s,baz=252,slow=5.5,SNR=16
SIV SKPbc **SKPbc** 04 52 52.4 +1.0
comp=Z,113nm,0.9s,baz=156,slow=8.5,SNR=2.5
SJG San Juan 138.11 70 PKhKP PKPpre 04 49 21.9
comp=Z,725nm,1.0s,baz=340,slow=7.7,SNR=22
SJG SKPbc **SKPbc** 04 52 53.4 +1.8
comp=Z,1µm,1.0s,baz=254,slow=2.0,SNR=5.9
SJG San Juan 138.11 70 PKPdf **PKPdf** 04 49 29.7 -2.2
SJG San Juan 138.11 70 PKIKP **PKPdf** 04 49 29.7 -2.2
CKFL Kef-Lekhel 138.29 320 P **PKPdf** 04 49 25.2 -6.7
CASM Ain Smara 138.52 321 P PKPdf 04 49 23.8 -8.5
MTP Monte Pirata 138.67 70 PKPdf **PKPdf** 04 49 31.2 -1.7
DFRA Djebel Bou Aff 138.72 321 P **PKPdf** 04 49 26.7 -6.0
SET Setif 139.24 321 P **PKiKP** 04 49 35.0 -1.0
CDVI St. Croix 139.47 70 *e*P PKPpre 04 49 20.8
ECHE Chera 140.39 331 PKP PKPpre 04 49 23.6
ECHE PP **PP** 04 52 36.1 +1.3
UCM Universidad Co 140.89 333 PKP PKPpre 04 49 23.6
UCM PP **PP** 04 52 42.9 +5.2
SABA Saba 140.92 70 *e*P PKPpre 04 49 25.8
SMRT St. Maarten 140.99 69 *e*P PKPpre 04 49 25.7
PBRG Braganca 141.05 338 *e*PKPdf PKPpre 04 49 27.8
PBRG Braganca 141.05 338 *e*PP **PP** 04 52 39.1 +0.6
PGAV Gavieira, Arco 141.46 340 *e*PKPdf PKPpre 04 49 29.4
PGAV Gavieira, Arco 141.46 340 *e*PP **PP** 04 52 44.5 +3.5
PCAB Cabril 141.60 339 *e*PKPdf **PKPdf** 04 49 33.3 -4.4
PCAB Cabril 141.60 339 *e*PP **PP** 04 52 48.6 +6.8
MVO Moncorvo 141.72 338 *e*PKPdf **PKPdf** 04 49 31.6 -6.3
MVO *i* LQ LQ 04 50 16.0
MVO Moncorvo 141.72 338 *e*PP **PP** 04 52 49.5 +6.9
ESDC Sonseca Array 141.72 334 PKP **PKPdf** 04 49 35.9 -2.1
comp=Z,14nm,0.6s,baz=21,slow=3.6,SNR=26
POLO Lamas de Olo 141.81 339 *e*PKPdf PKPdf 04 49 30.1 -8.0
POLO *i* LQ LQ 04 50 15.4
POLO Lamas de Olo 141.81 339 *e*PP PP 04 52 51.2 +8.0
EMUR La Murta 141.87 329 PKP PKPpre 04 49 28.1
EMUR PP **PP** 04 52 44.4 +0.6
PVRL Vila Real 141.87 339 *e*PKPdf **PKPdf** 04 49 34.8 -3.6
PVRL *i* LQ LQ 04 50 23.8
PVRL Vila Real 141.87 339 *e*PP PP 04 52 53.9 +10
CART Cartagena 141.94 328 PKP PKPpre 04 49 26.6
CART PP **PP** 04 52 45.9 +1.7
EANR 'Ain N'Sour 141.99 325 P **PKPdf** 04 49 35.2 -3.4
PAB San Pablo 142.00 334 **PKPdf** 04 49 36.0 -2.5
PAB San Pablo 142.00 334 ⇑PKIKP **PKPdf** 04 49 37.1 -1.4
MBFL Flemmings, Mon 142.06 71 *e*P **PKiKP** 04 49 43.5 +1.3
MLYT Lee's Yard 142.09 71 *e*P PKPpre 04 49 29.4
ANWB Willy Bob 142.27 69 PKPdf **PKPdf** 04 49 37.7 -1.7
ANWB Willy Bob 142.27 69 *e*P PKPpre 04 49 27.3
ANWB Willy Bob 142.27 69 *e*P PKPpre 04 49 30.8
PTO Porto 142.30 340 *e*PKPdf **PKPdf** 04 49 37.7 -1.2
PTO *i* LQ LQ 04 49 44.4
ANDO Antigua, Disas 142.35 70 *e*P **PKiKP** 04 49 42.7 +0.1
PVIS Viseu 142.43 339 *e*PKPdf **PKPdf** 04 49 38.0 -1.2
PVIS *i* LQ LQ 04 50 23.0
MTE Manteigas 142.57 338 *e*PKPdf **PKPdf** 04 49 34.4 -4.7
MTE *i* LQ LQ 04 50 19.3
MTE Manteigas 142.57 338 *e*PP PP 04 52 55.8 +8.0
CBE Ff, Capester 142.77 72 *e*P PKPpre 04 49 30.8
ENIJ Nijar 143.03 329 P PKPab 04 49 32.8 -3.1
PCBR Castelo Branco 143.03 337 *e*PKPdf PKPab 04 49 36.0 +0.2
PCBR *i* LQ LQ 04 50 24.9
MDVC Dominica, Viel 143.04 72 *e*P PKPab 04 49 35.7 -0.8
COI Coimbra 143.06 339 *e*PKPdf PKPab 04 49 35.3 -0.6
COI Coimbra 143.06 339 *e*PP PP 04 52 58.7 +8.2
MAGL Barre de l'ile 143.10 72 *e*P PKPab 04 49 32.0 -4.7
ODJA Bouhanifia 143.14 325 P PKPbc 04 49 38.0 0.0
PCAS Casmilo, Conde 143.23 339 *e*PKPdf PKPab 04 49 37.1 +0.5
EADA Adamuz 143.23 333 P PKPab 04 49 34.9 -1.8
GRGR Grenville 143.30 78 *e*P PKPab 04 49 34.4 -3.1
PMRV Marv??o 143.36 337 *e*PKPdf PKPab 04 49 37.4 +0.2
PMRV *i* LQ LQ 04 50 21.5
PMRV Marv??o 143.36 337 *e*PP PP 04 53 00.7 +8.3
SVN Savane Anatole 143.40 74 PKPab 04 49 37.8 -0.2
FDF Fort de France 143.44 74 *e*P PKPab 04 49 33.5 -4.7
GCMP Grenada, Carri 143.48 77 *e*P PKPab 04 49 30.4 -7.9
OTSS Djebel Tessala 143.54 326 P **PKiKP** 04 49 45.0 +0.2
BIM Bigot 143.55 74 *e*P PKPab 04 49 36.5 -2.0
SVB Belmont 143.56 76 *e*P PKPab 04 49 36.8 -1.9
TRN Trinidad (W) 143.67 81 *e*P PKPab 04 49 32.2 -6.8
ECAB El Cabril 143.68 334 P PKPab 04 49 37.1 -1.4
SLBI Saint Lucia, B 143.72 75 *e*P PKPab 04 49 31.9 -7.3
MPOM Morne Pois Mar 143.76 74 PKPab 04 49 38.4 -0.9
MPOM Morne Pois Mar 143.76 74 *e*P PKPab 04 49 36.8 -2.6
MCLT Moule a Chique 143.79 75

BBGH	**Gun Hill**	**145.21**	**76**	*e*P		**PKPbc**	**04 49 42.5**	**-2.1**
BBGH	**Gun Hill**	**145.21**	**76**	*e*P		**PKiKP**	**04 49 47.1**	**-1.5**
BBGH	**Gun Hill**	**145.21**	**76**⇑	*e*P		**PKPab**	**04 49 45.5**	**+0.6**
PVAQ	**Vaqueiros**	**145.23**	**336**	*e*PKPdf		**PKPbc**	**04 49 43.8**	**-0.3**
PVAQ				*i* LQ	LQ		04 50 27.9	
PVAQ	**Vaqueiros**	**145.23**	**336**	*e*PP		**PP**	**04 53 07.3**	**+3.7**
PVAQ	**Vaqueiros**	**145.23**	**336**	PKP		**PKPbc**	**04 49 42.5**	**-1.6**
PVAQ	**Vaqueiros**	**145.23**	**336**	P		**PKPbc**	**04 49 43.3**	**-0.7**
SFS	**San Fernando**	**145.37**	**333**	PKPbc		**PKPdf**	**04 49 44.3**	**0.0**
SFS	**San Fernando**	**145.37**	**333**	P		**PKiKP**	**04 49 47.3**	**-1.1**
SFS	**San Fernando**	**145.37**	**333**	PKP2		**PKPdf**	**04 49 44.3**	**0.0**
PVLZ	**Peæn de**	**145.49**	**329**	PKP		**PKPdf**	**04 49 41.0**	**-3.6**
PVLZ	**Peæn de**	**145.49**	**329**	P		**PKPdf**	**04 49 42.1**	**-2.5**
PTEO	**Sao Teotonio**	**145.51**	**337**	*e*PKPdf		**PKPbc**	**04 49 44.8**	**-0.1**
PTEO				*i* LQ	LQ		04 49 54.5	
MORF	**Marmelete**	**145.69**	**337**	*e*PKPdf		**PKPdf**	**04 49 44.2**	**-0.7**
MORF	**Marmelete**	**145.69**	**337**	*e*PKPdf		**PKPbc**	**04 49 45.7**	**+0.1**
MORF				*i* LQ	LQ		04 50 29.4	
PFVI	**Vila Bisbo**	**145.91**	**337**	*e*PKPdf		**PKPbc**	**04 49 45.9**	**-0.3**
PFVI				*i* LQ	LQ		04 50 31.7	
PFVI	**Vila Bisbo**	**145.91**	**337**	*e*PP		**PP**	**04 53 14.0**	**+6.4**
PFVI	**Vila Bisbo**	**145.91**	**337**	P		**PKPdf**	**04 49 45.3**	**0.0**
FIGM	**Figuig**	**146.06**	**322**	P		**PKiKP**	**04 49 50.0**	**-0.1**
H07N1	**FLORES T-PHASE**	**46.22**	**9**	*e*PKP		**PKPbc**	**04 49 47.3**	**+0.2**
H07S1	**FLORES T-PHASE**	**46.51**	**9**	*e*PKP		**PKiKP**	**04 49 51.7**	**+1.0**
SRBC	**Serra Branca**	**147.22**	**4**	*e*PKP		**PKPbc**	**04 49 50.3**	**+0.4**
PGRA	**Graciosa**	**147.23**	**4**	*e*PKP		**PKiKP**	**04 49 52.3**	**+0.2**
MDT	**Midelt**	**147.48**	**327**	P		**PKPbc**	**04 49 51.1**	**+0.1**
ROSA	**Rosais**	**147.51**	**5**	*e*PKP		**PKPab**	**04 49 54.3**	**+1.2**
ROSA	**Rosais**	**147.51**	**5**	PKPbc		**PKPbc**	**04 49 50.7**	**0.0**
PAGU	**Agualva, Azore**	**147.54**	**3**	*e*PKP		**PKiKP**	**04 49 52.2**	**-0.6**
PCED	**Cedros**	**147.56**	**6**	*e*PKP		**PKPbc**	**04 49 51.7**	**+0.9**
CALA	**Caldeira**	**147.61**	**6**	*e*PKP		**PKiKP**	**04 49 52.3**	**-0.8**
PSCM	**Serra do Cume**	**147.61**	**3**	*e*PKP		**PKPbc**	**04 49 51.0**	**0.0**
PMAN	**Manadas**	**147.61**	**5**	*e*PKP		**PKPbc**	**04 49 51.8**	**+0.8**
ADH	**Angra Heroismo**	**147.65**	**3**	*e*PKP		**PKPbc**	**04 49 50.8**	**-0.2**
HOR	**Horta**	**147.67**	**5**	*e*PKP		**PKPbc**	**04 49 51.2**	**+0.1**
PICO	**Pico**	**147.72**	**5**	*e*PKP		**PKiKP**	**04 49 53.2**	**-0.1**
PCAN	**Candelaria**	**147.75**	**5**	*e*PKP		**PKPbc**	**04 49 52.0**	**+0.6**
PPNO	**Prainha do Nor**	**147.76**	**5**	*e*PKP		**PKiKP**	**04 49 52.7**	**-0.6**
PID	**Ribeirinha**	**147.80**	**5**	*e*PKP		**PKPbc**	**04 49 51.8**	**+0.3**
ARF	**Arif**	**148.30**	**325**	P		**PKPbc**	**04 49 53.0**	**-0.2**
BDFB	**Brasilia**	**148.46**	**134**	PKPbc		**PKPbc**	**04 49 53.1**	**-0.8**
	comp=Z,185nm,0.9s,baz=18,slow=0.3,SNR=90							
BDFB	**Brasilia**	**148.46**	**134**	PKPbc		**PKPdf**	**04 49 50.2**	**0.0**
GOLM	**Goulmima**	**148.51**	**326**	P		**PKPbc**	**04 49 54.0**	**+0.2**
AVE	**Averroes**	**148.53**	**331**	P		**PKPbc**	**04 49 53.2**	**-0.3**
AVE	**Averroes**	**148.53**	**331**	PKP		**PKPdf**	**04 49 47.8**	**-2.0**
AVE	**Averroes**	**148.53**	**331**	P		**PKPdf**	**04 49 49.3**	**-0.5**
PSET	**Sete Cidades**	**148.54**	**1**	*e*PKP		**PKPbc**	**04 49 53.6**	**+0.1**
PCALD	**Caldeiras da R**	**148.57**	**1**	*e*PKP		**PKiKP**	**04 49 55.4**	**+0.4**
BART	**Pico Bartolome**	**148.59**	**0**	*e*PKP		**PKiKP**	**04 49 54.7**	**-0.4**
PGRON	**Lagoa das Cont**	**148.60**	**1**	*e*PKP		**PKiKP**	**04 49 56.1**	**+1.0**
CMLA	**Cha da Macela**	**148.60**	**1**	*e*PKP		**PKiKP**	**04 49 54.9**	**-0.1**
CMLA	**Cha da Macela**	**148.60**	**1**	P		**PKiKP**	**04 49 55.5**	**+0.5**
PDA	**Ponta Delgada**	**148.62**	**1**	*e*PKP		**PKPbc**	**04 49 54.0**	**+0.4**
PSMN	**Pico do Norte,**	**149.37**	**0**	*e*PKP		**PKPbc**	**04 49 55.5**	**0.0**
PSMA	**Santa Maria**	**149.38**	**0**	*e*PKP		**PKPbc**	**04 49 55.2**	**-0.3**
SRHM	**Skhour des Reh**	**149.44**	**331**	P		**PKPbc**	**04 49 55.0**	**-1.0**
SHEL	**Horse Pasture**	**150.91**	**221**			**PKPdf**	**04 49 56.9**	**+2.9**
SHEL	**Horse Pasture**	**150.91**	**221**	PKIKP		**PKPdf**	**04 49 56.9**	**+2.9**
PMPST	**Porto Santo, M**	**152.11**	**344**	*e*PKPdf		**PKPdf**	**04 49 55.3**	**-0.1**
PMPST	**Porto Santo, M**	**152.11**	**344**	*e*PP		**PP**	**04 53 43.8**	**+0.5**
PMPS	**Porto Santo**	**152.13**	**344**	*e*PKPdf		**PKPdf**	**04 49 55.6**	**+0.2**
PMPS	**Porto Santo**	**152.13**	**344**	*e*PP		**PP**	**04 53 45.2**	**+1.8**
MDP	**Montagnes des**	**152.40**	**91**	PKP		**PKPdf**	**04 49 55.9**	**-0.4**
	comp=Z,446nm,1.0s,baz=227,slow=2.5,SNR=68							
MDP				PKPbc		**PKiKP**	**04 50 03.4**	**-0.1**
	comp=Z,1µm,0.6s,baz=240,slow=3.2,SNR=42							
PMOZ	**Porto Moniz, M**	**152.58**	**346**	*e*PKPdf		**PKPdf**	**04 49 56.0**	**-0.2**
PMOZ	**Porto Moniz, M**	**152.58**	**346**	*e*PP		**PP**	**04 53 47.7**	**+1.7**
PMOZ	**Porto Moniz, M**	**152.58**	**346**	P		**PKPbc**	**04 50 01.1**	**-2.1**
PMAR	**Madeira**	**152.60**	**345**	*e*PKPdf		**PKPdf**	**04 49 57.0**	**+0.7**
PMAR	**Madeira**	**152.60**	**345**	*e*PP		**PP**	**04 53 52.2**	**+5.9**
FUL	**Funchal**	**152.67**	**345**	*e*PKPdf		**PKPdf**	**04 49 59.6**	**+3.4**
TORD	**Torodi Ar. Bea**	**152.89**	**287**	PKP		**PKPdf**	**04 49 57.7**	**+0.7**
	comp=Z,134nm,0.9s,baz=45,slow=2.0,SNR=21							
TORD				PKPbc		**PKiKP**	**04 50 04.5**	**0.0**
	comp=Z,328nm,0.5s,baz=58,slow=1.9,SNR=24							
TORD	**Torodi Ar. Bea**	**152.89**	**287**	PKPdf		**PKPdf**	**04 49 56.7**	**-0.3**
TORD				PKPbc		**PKiKP**	**04 50 04.6**	**+0.2**
MACI	**Morro de la Ar**	**156.69**	**341**	PKPdf		**PKPdf**	**04 50 01.5**	**-0.6**
KIC	**Kosan Boka**	**159.94**	**271**	*e*PKP1		**PKPab**	**04 50 53.5**	**+7.1**
DBIC	**Dimbokro**	**160.05**	**272**	PKP		**PKPdf**	**04 50 06.6**	**+0.4**
	comp=Z,154nm,1.1s,baz=85,slow=1.9,SNR=20							
DBIC				PKPab		**PKPab**	**04 50 44.4**	**-2.5**
	comp=Z,78nm,0.4s,baz=89,slow=5.9,SNR=9.4							
DBIC	**Dimbokro**	**160.05**	**272**			**PKPdf**	**04 50 05.6**	**-0.7**
DBIC				PKPab		**PKPab**	**04 50 45.9**	**-1.0**
TIC	**Toumodi**	**160.22**	**272**	*e*PKP1		**PKPab**	**04 50 54.5**	**+6.8**
LIC	**Lamto**	**160.22**	**271**	*e*PKP1		**PKPab**	**04 50 54.2**	**+6.5**
RCBR	**Riachuelo**	**163.77**	**137**	PKP		**PKPdf**	**04 50 09.2**	**-1.0**
	comp=Z,181nm,1.0s,baz=272,slow=0.9,SNR=32							
RCBR				PKPab		**PKPab**	**04 51 01.3**	**-1.8**
	comp=Z,185nm,0.9s,baz=19,slow=9.3,SNR=4.2							
RCBR	**Riachuelo**	**163.77**	**137**			**PKPdf**	**04 50 08.3**	**-1.9**

JMA 22 04:37:52.6±0.1, 43°.6N±0°.5×144°.4E±0°.8, h0km, MV0.5/11, TESHIKAGA REGION, Hokkaido region

ISN 22 04:41:01.3±1.0, 33°.99N×46°.32E, h12km, ML2.4
TEH 22 04:41:01.5, 33°.98N×46°.26E, h12km±643km, ML2.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.36**	**187**	Pg	Pb	04 41 09.5	-0.4
IGHG	**Ghaleghazi**	**0.43**	**37**	Pg	Pb	04 41 10.6	-0.5
IDHR	**Dehrash**	**0.72**	**8**	Pg	Pg	04 41 15.8	+0.2
IDHR				Sg	Sb	04 41 26.9	+0.8
KER	**Kermanshah**	**0.83**	**61**	Pg	Pb	04 41 17.8	-0.1
IBDR	**Badra**	**0.91**	**198**	*e*Pg	Pg	04 41 18.0	-1.1
	baz=20						
IBDR				*e*Sg	Sb	04 41 32.0	+0.6
IBDR				AML	AML	04 41 42.6	
	comp=E,141nm,0.6s						
IBDR				AML	AML	04 41 45.0	
	comp=N,96nm,0.6s						
IKOM	**Komasi**	**1.05**	**79**	Pg	Pn	04 41 22.3	0.0
IBZA	**Bozab**	**1.41**	**69**	Pg	Pb	04 41 28.3	+0.3
HSAM	**Samen**	**1.96**	**83**	Pn	Pb	04 41 37.2	0.0

BJI 22 04:44:51.0±0.0, 6°.82S×153°.74E, h17km, mb5.3/24
IDC 22 04:44:51.4±0.6, 6°.75S×153°.56E, h0km, mb5.1/19, mbtmp5.2/21, ML5.1/1, Error ellipse: s-maj=21.7km s-min=12.3km az=70.0
MOS 22 04:44:51.4±0.9, 6°.76S×153°.60E, h14km, mb5.5/21, Error ellipse: s-maj=11.9km s-min=7.8km az=95.6
NEIC 22 04:44:52.8±2.0, 6°.74S±0°.06×153°.60E±0°.09, h10km±1km, mb5.6/59, Error ellipse: s-maj=15.4km s-min=10.7km az=85.0
DJA 22 04:44:56.8±1.0, 7°.5S±6°×15°.4E±1°.0, h43km±9km, M6.0/6, mb5.7/6, MLv6.2/2
ISC 22 04:44:52.8±0.4, 6°.76S±0°.05×153°.53E±0°.07, h10km, n208, σ2°.95/198, mb5.4/65, 11C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.86**	**328**	Pn	**Pn**	**04 45 38.5**	**0.0**
	913nm,0.5s,baz=192,slow=1.9						
KRVT				Sn	**Sn**	**04 46 09.0**	**-4.1**
	baz=192,slow=19						
RABL	**Rabaul**	**2.89**	**332**		**Pn**	**04 45 39.3**	**+0.3**
RABL				Sn	**Sn**	**04 46 13.6**	**-0.3**
PMG	**Port Moresby**	**6.83**	**247**		**Pn**	**04 46 34.8**	**+1.7**
PMG	**Port Moresby**	**6.83**	**247**⇑	*e*P	**Pn**	**04 46 34.9**	**+1.7**
CTAO	**Charters Tower**	**15.01**	**207**	Pn	**Pn**	**04 48 24.6**	**-0.6**
CTAO	**Charters Tower**	**15.01**	**207**	P	**Pn**	**04 48 24.6**	**-0.6**
EIDS	**Eidsvold**	**18.65**	**187**	P	**P**	**04 49 09.7**	**-1.2**
DZM	**Mont Dzumac**	**19.67**	**142**	P	**Pn**	**04 49 24.0**	**+0.3**
	5.4nm,0.3s,baz=347,slow=10,SNR=20						
	170nm,0.8s						
DZM	**Mont Dzumac**	**19.67**	**142**	P	**P**	**04 49 21.8**	**-0.4**
DZM				IAmb	IAmb	04 49 26.4	
	comp=Z,177nm,0.8s						
OUENC	**Ouen Island, N**	**20.18**	**142**	P	**P**	**04 49 27.9**	**+0.2**
MARNC	**Mare, Loyalty**	**20.27**	**138**	P	Pn	04 49 29.5	-1.1

PINNC	**Pines Island,**	**20.70**	**141**	P		**P**	**04 49 32.9**	**-0.3**
PINNC				IAmb		IAmb	04 49 40.3	
	comp=Z,628nm,1.7s							
FAKI	**Fak Fak**	**21.54**	**279**	P		**P**	**04 49 43.3**	**+0.8**
KDU	**Kakadu**	**21.56**	**253**	P		**P**	**04 49 43.5**	**+0.8**
	baz=22,SNR=11							
WR0	**Warramunga Arr**	**22.62**	**233**	P		**P**	**04 49 51.9**	**-2.2**
WB2	**Warramunga Arr**	**22.76**	**233**	P		**P**	**04 49 54.2**	**-1.4**
WRA	**Warramunga Arr**	**22.77**	**233**	P		**P**	**04 49 55.4**	**-0.3**
	comp=Z,21nm,0.6s,baz=58,slow=10,SNR=5.1							
	comp=Z,21nm,0.6s							
WRA	**Warramunga Arr**	**22.77**	**233**	*i* P		**P**	**04 49 57.7**	**+2.0**
WRA				pmax		pmax		
	comp=Z,23nm,0.6s							
MTN	**Manton Dam**	**22.87**	**253**	P		**P**	**04 49 57.5**	**+0.8**
	baz=23,SNR=4.4							
MTN	**Manton Dam**	**22.87**	**253**	P		**P**	**04 49 56.8**	**+0.1**
MTN				IAmb		IAmb	04 50 13.9	
	comp=Z,146nm,0.9s							
ARMA	**Armidale**	**23.60**	**184**	P		**P**	**04 50 05.5**	**+1.4**
	baz=24,SNR=5.0							
ARMA	**Armidale**	**23.60**	**184**	P		**P**	**04 50 03.1**	**-1.0**
ARMA				IAmb		IAmb	04 50 07.7	
	comp=Z,203nm,1.6s							
AS31	**Alice Springs**	**25.26**	**226**	P		**P**	**04 50 17.7**	**-1.7**
ASAR	**Alice Springs**	**25.26**	**226**	P		**P**	**04 50 19.0**	**-0.4**
	comp=Z,24nm,0.6s,baz=58,slow=9.7,SNR=13							
	comp=Z,24nm,0.6s							
ASAR	**Alice Springs**	**25.26**	**226**	P		**P**	**04 50 18.6**	**-0.8**
KNRA	**Kununurra**	**25.83**	**248**	P		**P**	**04 50 25.5**	**+0.9**
	baz=26,SNR=3.2							
MSVF	**Nonsavu**	**26.29**	**117**	P		**P**	**04 50 27.9**	**-0.9**
	comp=Z,19nm,0.7s,baz=262,slow=9.1,SNR=4.8							
	comp=Z,19nm,0.7s							
MSVF	**Nonsavu**	**26.29**	**117**	P		**P**	**04 50 28.1**	**-0.7**
MSVF				IAmb		IAmb	04 50 44.2	
	comp=Z,186nm,2.0s							
MSVF	**Nonsavu**	**26.29**	**117**	P		**P**	**04 50 28.2**	**-0.7**
MSVF				pmax		pmax		
	comp=Z,187nm,2.0s							
MGCD	**Mangrove Creek**	**26.41**	**185**	P		**P**	**04 50 32.8**	**+3.1**
	baz=27,SNR=6.2							
FITZ	**Fitzroy Crossi**	**29.42**	**245**	P		**P**	**04 50 56.2**	**-0.6**
WRKA	**Warakurna**	**30.21**	**230**	P		**P**	**04 51 03.8**	**-0.1**
	baz=30,SNR=4.9							
FORT	**Forrest**	**33.77**	**222**	P		**P**	**04 51 35.2**	**+0.2**
PLAI	**Plampang**	**35.47**	**264**	P		**P**	**04 51 47.6**	**-2.3**
	comp=Z,109nm,1.2s							
TWSI	**Taliwang, Sumb**	**36.36**	**264**	P		**P**	**04 51 56.7**	**-0.8**
TAU	**Tasmania Unive**	**36.41**	**188**	P		**P**	**04 51 56.8**	**-0.7**
TAU	**Tasmania Unive**	**36.41**	**188**	P		**P**	**04 51 56.8**	**-0.7**
TAU				pmax		pmax		
	comp=Z,19nm,0.9s							
URZ	**Urewera**	**37.94**	**149**	P		**P**	**04 52 10.5**	**0.0**
	comp=Z,18nm,0.8s,baz=324,slow=8.7,SNR=1.7							
	comp=Z,18nm,0.8s							
TCW	**Tory Channel**	**38.97**	**155**	P		**P**	**04 52 19.0**	**-0.2**
JAGI	**Jajag, Banyuwa**	**39.05**	**265**	P		**P**	**04 52 19.4**	**-1.0**
JAGI				IAmb		IAmb	04 52 31.8	
	comp=Z,100nm,1.0s							
SNZO	**South Karori**	**39.23**	**155**	P		**P**	**04 52 19.4**	**-2.0**
SNZO				IAmb		IAmb	04 52 38.1	
	comp=Z,210nm,1.4s							
RPZ	**Rata Peaks**	**39.89**	**160**	P		**P**	**04 52 27.4**	**+0.5**
	comp=Z,23nm,0.8s,baz=218,slow=6.1,SNR=2.7							
	comp=Z,23nm,0.8s							
RPZ	**Rata Peaks**	**39.89**	**160**	P		**P**	**04 52 28.1**	**+1.2**
RPZ				IAmb		IAmb	04 52 41.0	
	comp=Z,171nm,1.5s							
OXZ	**Oxford**	**39.89**	**159**	P		**P**	**04 52 27.6**	**+0.7**
OXZ				IAmb		IAmb	04 52 46.8	
	comp=Z,189nm,1.7s							
WHZ	**Wether Hill Ro**	**40.93**	**165**	P		**P**	**04 52 32.6**	**-2.9**
WHZ				IAmb		IAmb	04 52 49.6	
	comp=Z,161nm,1.9s							
KLBR	**Kellerberrin**	**41.53**	**229**	P		**P**	**04 52 40.4**	**-0.3**
	baz=42,SNR=9.0							
BLDU	**Ballidu**	**41.87**	**231**	P		**P**	**04 52 42.8**	**-0.6**
	baz=42,SNR=6.7							
NWAO	**Narrogin (SRO)**	**42.57**	**227**	P		**P**	**04 52 49.1**	**0.0**
NWAO	**Narrogin (SRO)**	**42.57**	**227**	P		**P**	**04 52 49.1**	**0.0**
NWAO				pmax		pmax		
	comp=Z,286nm,1.4s							
YULB	**Yu-li**	**43.48**	**315**	P		**P**	**04 52 54.8**	**-1.7**
NACB	**Ninganchiao**	**43.77**	**316**	P		**P**	**04 52 59.0**	**+0.2**
NACB				IAmb		IAmb	04 53 03.7	
	comp=Z,72nm,0.9s							
SSLB	**Suanglung**	**43.97**	**315**	P		**P**	**04 53 00.1**	**-0.5**
SSLB				IAmb		IAmb	04 53 14.2	
	comp=Z,53nm,0.9s							
YHNB	**Yeheng**	**44.24**	**316**	P		**P**	**04 53 02.3**	**-0.5**
JMN	**Monobe**	**44.37**	**336**	P		**P**	**04 53 05.2**	**+1.6**
INU	**Inuyama**	**44.68**	**341**	P		**P**	**04 53 07.8**	**+1.8**
JGF	**Kuroka**	**44.80**	**341**	P		**P**	**04 53 08.4**	**+1.4**
JNU	**Nakatsue**	**45.13**	**333**	IAmb		IAmb	04 53 13.3	
	comp=Z,89nm,1.0s							
MJA0	**Matsu Arr-Jizo**	**45.40**	**343**	*e*P		**P**	**04 53 11.6**	**-0.2**
MJA0				pmax		pmax		
	comp=Z,18nm,0.9s							
MJAR	**Matsushiro Arr**	**45.41**	**343**	P		**P**	**04 53 10.3**	**-1.5**
	comp=Z,17nm,0.9s,baz=170,slow=7.1,SNR=9.8							
	comp=Z,17nm,0.9s							
MAJO	**Matsushiro**	**45.41**	**343**	P		**P**	**04 53 11.2**	**-0.6**
MAJO				IAmb		IAmb	04 53 15.0	
	comp=Z,45nm,1.0s							
MAJO	**Matsushiro**	**45.41**	**343**⇑	*e*P		**P**	**04 53 12.3**	**+0.5**
MAJO				pmax		pmax		
	comp=Z,27nm,0.9s							
JHS	**Saijyo**	**45.79**	**336**	P		**P**	**04 53 14.2**	**-0.6**
JMM	**Marumori**	**45.96**	**346**	P		**P**	**04 53 15.2**	**-0.9**
JMM				IAmb		IAmb	04 53 18.2	
	comp=Z,159nm,1.8s							
JSD	**Sado**	**46.78**	**343**	P		**P**	**04 53 21.2**	**-1.4**
JTM	**Tenmabayashi**	**48.68**	**347**	P		**P**	**04 53 34.9**	**-2.4**
TJN	**Taejon**	**49.44**	**332**⇓	*e*P		**P**	**04 53 43.7**	**+0.6**
KSRS	**Korea Array**	**50.07**	**333**	P		**P**	**04 53 48.0**	**+0.1**
	comp=Z,19nm,0.9s,baz=153,slow=8.8,SNR=17							
	comp=Z,19nm,0.9s							
QIZ	**Qiongzhong**	**50.10**	**302**	P		**P**	**04 53 47.3**	**-1.2**
KS19	**Wonju Array Si**	**50.13**	**333**	P		**P**	**04 53 48.1**	**-0.4**
INCN	**Inchon**	**50.68**	**332**	P		**P**	**04 53 52.6**	**0.0**
INCN				IAmb		IAmb	04 53 57.4	
	comp=Z,70nm,0.9s							
INCN	**Inchon**	**50.68**	**332**	P		**P**	**04 53 52.6**	**0.0**
INCN				pmax		pmax		
	comp=Z,71nm,0.9s							
JKA	**Kamikawa-asahi**	**51.60**	**350**	P		**P**	**04 53 59.9**	**+0.6**
JKA				IAmb		IAmb	04 54 01.6	
	comp=Z,84nm,1.2s							
ASAJ	**Asahikawa**	**51.60**	**350**	P		**P**	**04 54 00.2**	**+0.9**
	comp=Z,34nm,0.8s,baz=227,slow=14,SNR=7.8							
	comp=Z,34nm,0.8s							
USA0B	**Ussuriysk Arra**	**54.33**	**341**	P		**P**	**04 54 18.5**	**-1.0**
USA0B				IAmb		IAmb	04 54 23.6	
	comp=Z,37nm,0.9s							
USA0B	**Ussuriysk Arra**	**54.33**	**341**⇓	*e*P		**P**	**04 54 19.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**54.33**	**341**	P		**P**	**04 54 19.5**	**0.0**
	comp=Z,18nm,0.8s,baz=177,slow=6.8,SNR=10							
	comp=Z,18nm,0.8s							
USRK	**Ussuriysk Ar.**	**54.33**	**341**	P		**P**	**04 54 18.7**	**-0.8**
YSS	**Yuzh-Sakhalins**	**54.33**	**351**⇑	*e*P		**P**	**04 54 18.9**	**-0.5**
YSS				pmax		pmax		
	comp=Z,27nm,1.0s							
BNX	**BinXian**	**57.25**	**338**	⇓P		**P**	**04 54 40.5**	**+0.1**
BNX				pmax		pmax		
	comp=Z,43nm,1.3s							
XAN	**Xi'an**	**58.54**	**317**	P		**P**	**04 54 49.6**	**-0.2**
XAN				pmax		pmax		
	comp=Z,44nm,1.2s							
KMI	**Kunming**	**58.69**	**305**	⇓P		**P**	**04 54 50.5**	**-0.7**
KMI				pmax		pmax		
	comp=Z,36nm,1.1s							
KLR	**Kul'dur**	**58.92**	**344**	P		**P**	**04 54 52.5**	**+0.4**
	comp=Z,25nm,0.8s,baz=166,slow=4.2,SNR=11							
	comp=Z,25nm,0.8s							
CMAR	**Chiang Mai Arr**	**59.37**	**296**	P		**P**	**04 54 56.8**	**+0.9**
	comp=Z,15nm,1.0s,baz=118,slow=5.1,SNR=8.5							
	comp=Z,15nm,1.0s							
CMAR	**Chiang Mai Arr**	**59.37**	**296**	*e*P		**P**	**04 54 57.6**	**+1.8**
CMAR				pmax		pmax		
	comp=Z,18nm,1.0s							
PETK	**Petropavlovsk-**	**59.75**	**3**	P		**P**	**04 54 58.3**	**+0.6**
	comp=Z,23nm,0.8s,baz=165,slow=6.0,SNR=8.2							
	comp=Z,23nm,0.8s							
PZH	**PanZhiHua**	**60.09**	**306**	P		**P**	**04 55 01.9**	**+1.1**
PZH				pmax		pmax		

	comp=Z,10.0nm,1.1s								
CD2	**Chengdu**	**60.56**	**311**	P		**P**	**04 55 04.8**	**+1.0**
CD2				pmax		pmax			
	comp=Z,90nm,1.1s								
XLT	**XiLinHaoTe**	**60.72**	**330**	*e*P		**P**	**04 55 05.1**	**+0.4**
XLT				pmax		pmax			
	comp=Z,39nm,1.0s								
HHC	**Hu-ho-hao-te**	**61.05**	**325**	*e*P		P	04 55 01.0	-6.1
HEH	**HeiHe**	**61.13**	**341**	*e*P		**P**	**04 55 07.4**	**+0.1**
HEH				pmax		pmax			
	comp=Z,35nm,1.1s								
TNCH	**TengChong**	**62.13**	**303**	P		**P**	**04 55 15.3**	**+0.5**
HIA	**Hailar**	**63.11**	**336**⇑	*e*P		**P**	**04 55 21.2**	**+0.6**
LZH	**Lanzhou**	**63.14**	**316**	*e*P		**P**	**04 55 22.8**	**+1.6**
LZH				pP		pwP	04 55 32.3	+2.9
LZH				pmax		pmax			
	comp=Z,16nm,1.3s								
MA2	**Magadan**	**66.16**	**358**	P		**P**	**04 55 39.4**	**-0.9**
MA2				IAmb		IAmb	04 55 47.7		
	comp=Z,95nm,1.7s								
MA2	**Magadan**	**66.16**	**358**⇑	*e*P		**P**	**04 55 40.3**	**0.0**
MA2				pmax		pmax			
	comp=Z,17nm,0.8s								
CASY	**Casey**	**66.37**	**198**	P		**P**	**04 55 40.2**	**-1.3**
BRDH	**Bariadhala**	**67.21**	**298**	P		**P**	**04 55 48.5**	**+0.8**
	comp=Z,53nm,0.3s,baz=269,slow=18,SNR=4.0								
	comp=Z,53nm,0.3s								
GTA	**Gaotai**	**67.58**	**318**	*e*P		**P**	**04 55 51.0**	**+1.0**
GTA				sP		pwP	04 56 00.8	+2.7	
GTA				pmax		pmax			
	comp=Z,23nm,1.1s								
SHL	**Shillong**	**67.93**	**301**	P		**P**	**04 55 51.7**	**-0.8**
SHL	**Shillong**	**67.93**	**301**	P		**P**	**04 55 51.7**	**-0.8**
SHL				pmax		pmax			
	comp=Z,143nm,1.0s								
ULN	**Ulaanbaatar**	**68.03**	**328**	P		**P**	**04 55 53.6**	**+0.9**
ULN				IAmb		IAmb	04 55 55.7		
	comp=Z,83nm,1.4s								
ULN	**Ulaanbaatar**	**68.03**	**328**	P		**P**	**04 55 53.6**	**+0.9**
ULN				pmax		pmax			
	comp=Z,83nm,1.4s								
SONM	**Songino Array**	**68.36**	**328**	P		**P**	**04 55 55.2**	**+0.6**
	comp=Z,55nm,1.0s,baz=147,slow=4.0,SNR=7.2								
	comp=Z,25nm,1.0s								
SONM	**Songino Array**	**68.36**	**328**	P		**P**	**04 55 55.6**	**+0.9**
SONM				IAmb		IAmb	04 55 56.9		
	comp=Z,38nm,1.1s								
SONM	**Songino Array**	**68.36**	**328**	*e*P		**P**	**04 55 56.4**	**+1.7**
SONM				pmax		pm

RIDG	**Independent Ri**	**83.96**	**23**	P		**P**	**04 57 24.8**	**+1.7**
	baz=241							
PINM	**Pinnacle**	**84.29**	**27**	P		**P**	**04 57 26.0**	**+1.2**
	baz=246							
M27K	**Edge Creek, AK**	**84.53**	**25**	P		**P**	**04 57 25.6**	**-0.5**
M27K	**Edge Creek, AK**	**84.53**	**25**	P		**P**	**04 57 27.8**	**+1.7**
	baz=244							
D23K	**Nanushuk River**	**84.69**	**17**	P		**P**	**04 57 28.4**	**+1.8**
	baz=236							
F24K	**Squaw Lake**	**84.77**	**19**	P		**P**	**04 57 28.5**	**+1.4**
	baz=238							
L27K	**Beaver Creek,**	**84.86**	**24**	P		**P**	**04 57 26.1**	**-1.4**
L27K				IAmb		IAmb	04 57 31.2	
	comp=Z,60nm,1.4s							
C24K	**Franklin Bluff**	**85.70**	**17**	P		**P**	**04 57 33.1**	**+1.5**
	baz=237							
BMAR	**Burnt Mountain**	**85.83**	**20**	P		**P**	**04 57 30.1**	**-2.3**
EGAK	**Eagle**	**85.87**	**23**	P		**P**	**04 57 34.6**	**+2.1**
	baz=245							
G26K	**Porcupine Rive**	**85.88**	**21**	P		**P**	**04 57 33.8**	**+1.3**
	baz=242							
I27K	**Kandik River**	**86.05**	**22**	P		**P**	**04 57 34.6**	**+1.1**
	baz=244							
C27K	**Jago River**	**87.16**	**18**	P		**P**	**04 57 40.1**	**+1.3**
	baz=242							
BRVK	**Borovoye**	**91.31**	**323**⇑	*e*P		**P**	**04 57 58.3**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,24nm,1.0s							
MAK	**Makhachkala**	**106.30**	**313**	*i* P		**Pdif**	**04 59 04.1**	**-2.4**
MAK				*e*			05 03 27.2	
MAK				*e*PPP		PPP	05 05 43.9	
MAK				*e*			05 09 43.8	
MAK				*e*			05 10 26.3	
MAK				*e*SS		SS	05 18 31.9	-1.4
MAK				*e*SSS		SSS	05 22 40.1	
MAK				pmax		pmax		
	comp=Z,264nm,2.1s							
APA	**Apatity**	**107.42**	**340**⇓	*i* P		**Pdif**	**04 59 03.0**	**-7.9**
APA				*i*			05 03 38.0	
APA				pmax		pmax		
	comp=Z,20nm,1.1s							
APA				MLR		MLR		
	comp=Z,108µm,23.0s							
KIV	**Kislovodsk**	**109.64**	**314**	*e*P		**Pdif**	**04 59 14.4**	**-7.1**
KIV				pmax		pmax		
	comp=Z,31nm,1.0s							
VSR	**Storozhevoye**	**110.40**	**322**	P		Pdif	04 59 44.7	+20
VSR				pmax		pmax		
	comp=Z,600nm,1.8s							
OBN	**Obninsk**	**110.76**	**327**⇑	*e*P		**Pdif**	**04 59 22.1**	**-3.9**
OBN				pmax		pmax		
	comp=Z,60nm,1.2s							
UPNV	**Upernavik**	**111.63**	**9**	*i*		**Pdif**	**04 59 36.3**	**+6.8**
DBG	**Daneborg**	**112.41**	**358**	*i*		**Pdif**	**04 59 36.3**	**+3.3**
ANN	**Anapa**	**113.15**	**316**	*i* PKiKP		**PKiKP**	**05 03 37.1**	**+6.3**
ANN				pmax		pmax		
	comp=Z,331nm,1.8s							
NUUG	**Nuugaatsiaq**	**113.17**	**9**	*i*		**Pdif**	**04 59 41.3**	**+4.9**
NACGM	**Naroch**	**116.02**	**329**	*e*PKP		**PKPdf**	**05 03 38.6**	**+2.7**
	comp=Z,98nm,1.1s,baz=62							
KIS	**Kishinev**	**118.19**	**320**	*e*PKP		PKiKP	05 03 50.0	+10
KIS				LRM		MLR	05 54 52.0	
	comp=Z,23µm,19.5s							
KIS	**Kishinev**	**118.19**	**320**	*e*PKIKP		PKiKP	05 03 50.0	+10
MILM	**Milestii Mici**	**118.22**	**320**	*e*PKP		PKiKP	05 03 49.0	+8.5
MILM				LRM		MLR	05 54 57.0	
	comp=Z,28µm,19.0s							
MILM	**Milestii Mici**	**118.22**	**320**	*e*PKIKP		PKiKP	05 03 49.0	+8.5
MILM				MLR		MLR		
	comp=Z,28µm,19.0s							
OKC	**Ostrava-Krasne**	**123.15**	**327**	*e*PDIFF		**Pdif**	**05 00 25.7**	**+4.4**
OKC	**Ostrava-Krasne**	**123.15**	**327**	*e*P		**Pdif**	**05 00 25.7**	**+4.4**
KRLC	**Kraliky**	**123.75**	**328**	*e*PDIFF		**Pdif**	**05 00 37.5**	**+13**
OSTC	**Ostas**	**123.76**	**329**	*e*PDIFF		Pdif	05 00 06.0	-18
DPC	**Dobruska-Polom**	**123.83**	**328**	*e*PDIFF		Pdif	05 00 06.0	-18
UPC	**Upice**	**123.90**	**329**	*e*PDIFF		Pdif	05 00 06.0	-19
PVCC	**Panska Ves**	**124.62**	**329**	*e*PDIFF		**Pdif**	**05 00 35.5**	**+7.7**
PVCC	**Panska Ves**	**124.62**	**329**	*e*P		**Pdif**	**05 00 35.8**	**+7.7**
BRG	**Berggiesshubel**	**124.72**	**330**	P		**Pdif**	**05 00 18.7**	**-10**
BRG				Amp			05 00 21.2	
	comp=Z,55nm,1.2s							
BRG	**Berggiesshubel**	**124.72**	**330**	x		x	05 00 25.0	
GOPC	**GO Pecny, Ondr**	**124.88**	**329**	*e*PDIFF		**Pdif**	**05 00 45.4**	**+16**
TREC	**Trest**	**124.88**	**328**	*e*PDIFF		**Pdif**	**05 00 17.8**	**-11**
TREC	**Trest**	**124.88**	**328**	*e*P		**Pdif**	**05 00 17.8**	**-11**
PRU	**Pruhonice**	**124.96**	**329**	*e*PDIFF		**Pdif**	**05 00 31.6**	**+2.3**
PRU	**Pruhonice**	**124.96**	**329**	*e*P		**Pdif**	**05 00 31.6**	**+2.3**
CKRC	**Cesky Krumlov**	**125.79**	**328**	*e*PDIFF		**Pdif**	**05 00 25.7**	**-7.4**
NKC	**Novy Kostel**	**125.87**	**330**	*e*PDIFF		**Pdif**	**05 00 27.7**	**-5.7**
NKC	**Novy Kostel**	**125.87**	**330**	*e*P		**Pdif**	**05 00 27.7**	**-5.7**
KHC	**Kasperske Hory**	**125.98**	**329**	*e*PDIFF		**Pdif**	**05 00 27.7**	**-6.3**
KHC	**Kasperske Hory**	**125.98**	**329**	*e*P		**Pdif**	**05 00 27.7**	**-6.3**
SVB	**Belmont**	**145.17**	**77**			**PKPbc**	**05 04 28.8**	**-2.5**
BOAV	**Boa Vista**	**145.79**	**96**			**PKPdf**	**05 04 31.5**	**-1.5**
TOSP	**Speyside**	**146.07**	**80**			**PKPdf**	**05 04 30.8**	**-2.5**
BDFB	**Brasilia**	**149.16**	**136**	PKPbc		**PKPbc**	**05 04 42.7**	**-0.1**
	comp=Z,11nm,0.5s,baz=204,slow=1.7,SNR=12							

VIE 22 04:46:23.4, 47.°63N×15.°92E, *h*12km, ml0.6/3 5 km SSW of Gloggnitz, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RONA	**Rosalia, Austr**	**0.26**	**75**	*e*Pg	Pg	04 46 28.9	0.0
	0.8nm,0.1s						
RONA				*e*Sg	Sg	04 46 33.1	+0.5
	1.6nm,0.1s						
CONA	**Conrad Observa**	**0.30**	**353**	*e*Pg	Pg	04 46 29.6	0.0
	0.1nm,0.1s						
CONA				*e*Sg	Sg	04 46 34.1	+0.5
	1.0nm,0.2s						
ARSA	**Arzberg**	**0.47**	**215**	Sg	Sg	04 46 39.2	+0.3
	0.2nm,0.1s						

*IDC **22** 04:49:31.1±4.4, 4.°29N×124.°67E, *h*312km±52km, mb3.8/10, mbtmp4.6/11, Error ellipse: s-maj=28.4km s-min=12.4km az=79.0*

ISC 22 04:49:30.6±0.7, 4.°32N±0.°08×124.°7E±0.°2, *h*300km, n13, σ1℘30/15, mb4.1/10, 2D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDOP	**Cateel, Davao**	**3.87**	**27**	*i* P	**Pn**	**04 50 37.9**	**+2.5**
CDOP				*i* S	**S**	**04 51 26.6**	**-0.8**
BIPH	**Bislig**	**4.20**	**24**	*i* P	**Pn**	**04 50 40.6**	**+1.6**
BIPH				*i* S	**S**	**04 51 33.3**	**-0.6**
KAPI	**Kappang**	**10.48**	**208**	P	**Pn**	**04 51 55.9**	**+1.2**
	36nm,1.0s,baz=332,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**25.92**	**159**	P	**P**	**04 54 34.5**	**-1.6**
	3.8nm,0.4s,baz=331,slow=11,SNR=20						
	3.8nm,0.4s						
ASAR	**Alice Springs**	**29.24**	**162**	P	**P**	**04 55 04.6**	**-0.9**
	2.2nm,0.5s,baz=343,slow=7.3,SNR=9.3						
	2.2nm,0.5s						
KSRS	**Korea Array**	**33.11**	**5**	P	**P**	**04 55 37.6**	**-1.4**
	2.2nm,0.8s,baz=180,slow=8.5,SNR=1.5						
	2.2nm,0.8s						
MJAR	**Matsushiro Arr**	**34.41**	**20**	P	**P**	**04 55 48.9**	**-1.3**
	4.3nm,0.6s,baz=196,slow=9.0,SNR=11						
	4.3nm,0.6s						
STKA	**Stephens Creek**	**39.44**	**157**	P	**P**	**04 56 32.5**	**+0.1**
	9.7nm,0.4s,baz=336,slow=6.4,SNR=4.4						
	9.7nm,0.4s						
ASAJ	**Asahikawa**	**42.67**	**19**	P	**P**	**04 56 58.8**	**+0.4**
	8.7nm,0.5s,baz=232,slow=6.5,SNR=8.0						
	8.7nm,0.5s						
SONM	**Songino Array**	**46.11**	**343**	P	**P**	**04 57 25.5**	**0.0**
	3.1nm,0.8s,baz=149,slow=6.0,SNR=1.4						
	3.1nm,0.8s						
PETK	**Petropavlovsk-**	**55.69**	**23**	P	**P**	**04 58 36.7**	**+0.5**
	4.1nm,0.7s,baz=182,slow=4.5,SNR=4.1						
	4.1nm,0.7s						
MKAR	**Makanchi Array**	**55.90**	**326**	P	**P**	**04 58 37.4**	**-0.5**
	5.4nm,0.6s,baz=122,slow=6.8,SNR=13						
	5.4nm,0.6s						
ZALV	**Zalesovo Beam**	**59.14**	**334**	P	**P**	**04 58 58.8**	**-1.3**
	5.0nm,0.9s,baz=145,slow=5.5,SNR=1.1						
	5.0nm,0.9s						

IDC 22 05:06:20.2±5.1, 6.°96S×154.°15E, *h*0km, mb4.2/2, mbtmp4.2/3, Error ellipse: s-maj=90.1km s-min=31.3km az=82.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.37**	**321**	Pn	Pn	05 07 14.1	-0.1
	94nm,0.5s,baz=191,slow=19						
KRVT				Sn	Sn	05 07 57.8	+2.9
	baz=192,slow=20						
WRA	**Warramunga Arr**	**23.15**	**234**	P	P	05 11 27.1	-1.3
	2.5nm,0.3s,baz=58,slow=9.9,SNR=7.5						
	2.5nm,0.3s						
ASAR	**Alice Springs**	**25.57**	**227**	P	P	05 11 52.4	+1.2
	5.3nm,1.1s,baz=59,slow=9.4,SNR=1.8						
	5.3nm,1.1s						
ESDC	**Sonseca Array**	**141.95**	**332**	PKP	PKPdf	05 25 54.0	-0.7
	1.8nm,0.8s,baz=21,slow=2.5,SNR=6.5						

IDC 22 05:07:42.7±7.8, 4.°42S×155.°13E, *h*127km±56km, mb3.8/2, mbtmp4.2/3, Error ellipse: s-maj=74.0km s-min=54.4km az=113.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.09**	**272**	P	Pn	05 08 30.3	-0.1
	126nm,0.6s,baz=12,slow=20						
KRVT				S	Sn	05 09 07.8	+0.5
	baz=192,slow=14						
WRA	**Warramunga Arr**	**25.46**	**231**	P	P	05 12 59.2	+0.1
	2.9nm,0.8s,baz=56,slow=9.2,SNR=2.9						
	2.9nm,0.8s						
ASAR	**Alice Springs**	**28.02**	**225**	P	P	05 13 21.9	-0.1
	3.2nm,1.0s,baz=58,slow=9.5,SNR=1.2						
	3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**152.37**	**290**	PKPbc	PKPbc	05 27 24.8	-0.1
	1.1nm,0.8s,baz=89,slow=4.2,SNR=1.9						

*IDC **22** 05:15:00.5±1.9, 6.°12S×154.°72E, *h*157km±18km, mb3.8/9, mbtmp4.3/12, Error ellipse: s-maj=27.8km s-min=13.0km az=64.0*

*NEIC **22** 05:15:01.3±0.6, 6.°01S±0.°04×154.°9E±0.°2, *h*165km±9km, mb4.5/15, Error ellipse: s-maj=21.8km s-min=6.2km az=90.0*

ISC 22 05:14:59.8±0.6, 6.°03S±0.°07×154.°92E±0.°09, *h*150km, n46, σ1℘09/47, mb4.3/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.30**	**303**		**Pn**	**05 15 52.9**	**+1.9**
KRVT	**Keravat (AS076**	**3.35**	**301**	P	**Pn**	**05 15 52.1**	**+0.4**
	410nm,0.3s						
KRVT				S	**Sn**	**05 16 30.1**	**-1.8**
PMG	**Port Moresby**	**8.39**	**246**		**Pn**	**05 16 59.7**	**+1.3**
MANU	**Manus Island**	**8.51**	**297**	Pn	**Pn**	**05 17 01.1**	**+1.0**
CTA	**Charters Tower**	**16.32**	**210**	P	**Pn**	**05 18 40.3**	**-0.2**
	4.1nm,0.6s,baz=36,slow=14,SNR=5.5						
CTAO	**Charters Tower**	**16.32**	**210**		**Pn**	**05 18 41.7**	**+1.2**
GD1S	**Gladstone Soft**	**18.08**	**191**	P	**Pn**	**05 19 03.9**	**+2.4**
LIFNC	**LIFOU**	**18.91**	**142**	P	**P**	**05 19 08.1**	**-1.0**
NOUC	**Port Laguerre**	**19.40**	**147**	P	**P**	**05 19 14.7**	**+0.3**
DZM	**Mont Dzumac**	**19.45**	**146**	P	**P**	**05 19 15.4**	**+0.4**
	39nm,0.8s,baz=312,slow=14,SNR=46						
DZM	**Mont Dzumac**	**19.45**	**146**	P	**P**	**05 19 15.1**	**0.0**
DZM	**Mont Dzumac**	**19.45**	**146**	P	**P**	**05 19 15.3**	**+0.3**
EIDS	**Eidsvold**	**19.58**	**190**	P	**P**	**05 19 16.3**	**0.0**
EIDS				IAmb	IAmb	05 19 19.1	
	comp=Z,22nm,1.4s						
MARNC	**Mare, Loyalty**	**19.93**	**142**	P	**P**	**05 19 19.8**	**-0.3**
OUENC	**Ouen Island, N**	**19.95**	**146**	P	**P**	**05 19 20.4**	**+0.1**
PINNC	**Pines Island,**	**20.45**	**145**	P	**P**	**05 19 25.7**	**+0.1**
RMQ	**Roma**	**21.18**	**195**	P	**P**	**05 19 33.2**	**-0.2**
FAKI	**Fak Fak**	**22.81**	**277**	P	**P**	**05 19 52.2**	**+2.2**
QLP	**Quilpie**	**22.84**	**205**	P	**P**	**05 19 51.1**	**+1.0**
WR0	**Warramunga Arr**	**24.17**	**233**	P	**P**	**05 20 01.9**	**-0.4**
WR0				IAmb	IAmb	05 20 16.1	
	comp=Z,36nm,1.4s						
WB0	**Warramunga Arr**	**24.18**	**234**	P	**P**	**05 20 02.2**	**-0.3**
WB0				IAmb	IAmb	05 20 02.9	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**24.30**	**233**	P	**P**	**05 20 03.2**	**-0.4**
WRAB				IAmb	IAmb	05 20 06.2	
	comp=Z,40nm,1.4s						
WB2	**Warramunga Arr**	**24.31**	**233**	P	**P**	**05 20 03.5**	**-0.2**
WB2				IAmb	IAmb	05 20 06.9	
	comp=Z,9.0nm,0.8s						
MTN	**Manton Dam**	**24.41**	**252**	P	**P**	**05 20 06.2**	**+1.6**
ARMA	**Armidale**	**24.46**	**187**	P	**P**	**05 20 05.1**	**+0.1**
ARMA	**Armidale**	**24.46**	**187**	P	**P**	**05 20 04.6**	**-0.4**
INKA	**Innaminka**	**25.45**	**210**	P	**P**	**05 20 13.6**	**-0.3**
ASAR	**Alice Springs**	**26.77**	**227**	P	**P**	**05 20 23.9**	**-1.9**
	comp=Z,1.3nm,0.9s,baz=58,slow=8.5,SNR=0.7						
	comp=Z,1.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.99**	**245**	P	**P**	**05 21 00.3**	**-2.9**
BBOO	**Buckleboo**	**31.92**	**211**	P	**P**	**05 21 09.3**	**-1.9**
BBOO				IAmb	IAmb	05 21 11.4	
	comp=Z,4.1nm,0.9s						
TAU	**Tasmania Unive**	**37.34**	**189**	P	**P**	**05 21 57.7**	**+0.1**
TAU				IAmb	IAmb	05 22 06.1	
	comp=Z,23nm,1.1s						
URZ	**Urewera**	**37.88**	**151**	P	**P**	**05 22 02.7**	**+0.4**
	comp=Z,8.5nm,0.3s,baz=9.1,slow=2.5,SNR=13						
	comp=Z,8.5nm,0.3s						
RPZ	**Rata Peaks**	**40.13**	**162**	P	**P**	**05 22 20.3**	**-0.7**
	comp=Z,9.8nm,0.6s,baz=318,slow=8.3,SNR=1.5						
	comp=Z,9.8nm,0.6s						
PEA0B	**Petropavlovsk-**	**58.96**	**2**	P	**P**	**05 24 42.3**	**-0.9**
PETK	**Petropavlovsk-**	**58.96**	**2**	P	**P**	**05 24 42.6**	**-0.6**
SONM	**Songino Array**	**68.49**	**327**	P	**P**	**05 25 46.5**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=144,slow=6.1,SNR=6.1						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**68.49**	**327**	P	**P**	**05 25 45.9**	**-0.1**
VNDA	**Vanda**	**71.54**	**178**	P	**P**	**05 26 03.0**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=348,slow=4.9,SNR=6.2						
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**71.54**	**178**	P	**P**	**05 26 03.8**	**-0.2**
SBA	**Scott Base**	**72.05**	**177**	P	**P**	**05 26 07.9**	**+0.9**
SBA				IAmb	IAmb	05 26 18.2	
	comp=Z,6.5nm,1.1s						
ILAR	**Eielson Array**	**82.51**	**22**	P	**P**	**05 27 05.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=230,slow=5.0,SNR=4.1						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**82.64**	**319**	P	**P**	**05 27 06.5**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=102,slow=4.9,SNR=3.6						
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**83.94**	**180**	P	**P**	**05 27 12.2**	**-0.7**
QSPA				IAmb	IAmb	05 27 29.4	
	comp=Z,8.5nm,0.9s						
NVAR	**Mina Array Bea**	**91.18**	**52**	P	**P**	**05 27 50.0**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=241,slow=5.0,SNR=4.1						
	comp=Z,1.4nm,0.8s						
YKA	**Yellowknife Ar**	**95.52**	**28**	P	**P**	**05 28 07.3**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=265,slow=4.7,SNR=2.0						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.69**	**287**	PKPbc	**PKPbc**	**05 34 38.4**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=95,slow=2.1,SNR=7.2						

*IDC **22** 05:15:54.0±2.8, 10.°12S×149.°69E, *h*0km, mb4.2/5, mbtmp4.2/6, ML4.6/1, Error ellipse: s-maj=105.3km s-min=30.3km az=125.0*

ISC 22 05:15:59.7±2.1, 10.°1S±0.°3×149.°5E±0.°4, *h*35km, n7, σ1℘19/7, mb4.4/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**16.88**	**260**	P	**P**	**05 19 54.6**	**-0.5**
WRA	**Warramunga Arr**	**17.58**	**235**	P	**P**	**05 20 03.3**	**+0.4**
	2.2nm,0.3s,baz=56,slow=10,SNR=56						
	2.4nm,0.3s						
ASAR	**Alice Springs**	**20.07**	**226**	P	**P**	**05 20 30.1**	**-0.1**
	1.4nm,0.5s,baz=58,slow=9.4,SNR=10						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**82.23**	**320**	P	**P**	**05 28 19.4**	**+2.0**
	0.9nm,0.7s,baz=114,slow=3.6,SNR=5.2						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**83.79**	**327**	P	**P**	**05 28 24.2**	**-1.0**
	1.4nm,0.4s,baz=121,slow=6.6,SNR=6.3						
	1.4nm,0.4s						
ILAR	**Eielson Array**	**88.29**	**23**	P	**P**	**05 28 47.2**	**0.0**
	2.9nm,1.2s,baz=248,slow=3.5,SNR=4.4						
	2.9nm,1.2s						
NRIK	**Noril'sk**	**89.93**	**342**	P	**P**	**05 28 54.5**	**-0.3**
	2.0nm,0.5s,baz=112,slow=4.9,SNR=3.5						
	2.0nm,0.5s						

*IDC **22** 05:25:46.0±0.6, 5.°80S×153.°37E, *h*0km, mb4.3/21, mbtmp4.3/23, ML3.1/2, Error ellipse: s-maj=19.4km s-min=12.9km az=94.0*

*NEIC **22** 05:25:48.4±1.4, 5.°71S±0.°08×153.°43E±0.°03, *h*10km±1km, mb4.4/18, Error ellipse: s-maj=14.2km s-min=3.2km az=200.0*

*DJA **22** 05:25:57.4±0.7, 5.°S±10.°×15.°2E±1.°0, *h*154km±7km, M4.8/5, mB6.7/1, mb4.8/5, MLv4.8/2, Mw(mB)6.5/1*

ISC 22 05:25:51.2±0.4, 5.°78S±0.°05×153.°37E±0.°08, *h*32km, n53, σ1℘10/61, mb4.3/27, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.98**	**318**	Pn	**Pn**	**05 26 21.4**	**-1.1**
KRVT				Sn	**Sn**	**05 26 46.6**	**+0.4**
RABL	**Rabaul**	**1.98**	**323**		**Pn**	**05 26 22.3**	**-0.2**
PMG	**Port Moresby**	**7.13**	**239**	Pn	**Pn**	**05 27 32.5**	**-0.8**
	5.8nm,0.3s,baz=12,slow=4.4,SNR=7.7						
PMG				Sn	**Sn**	**05 28 52.7**	**-0.6**
	3.1nm,0.3s,baz=24,slow=21,SNR=3.6						
	43nm,0.7s						
PMG	**Port Moresby**	**7.13**	**239**		**Pn**	**05 27 34.1**	**+0.7**
HNR	**Honiara**	**7.46**	**119**	Pn	**Pn**	**05 27 37.4**	**-0.5**
CTA	**Charters Tower**	**15.81**	**205**	Pn	**Pn**	**05 29 31.5**	**-0.1**
	0.2nm,0.3s,baz=6.7,slow=11,SNR=7.0						
	9.9nm,1.1s						
CTAO	**Charters Tower**	**15.81**	**205**	Pn	**Pn**	**05 29 32.1**	**+0.4**
EIDS	**Eidsvold**	**19.60**	**186**		**P**	**05 30 17.0**	**+0.2**
EIDS				IAmb	IAmb	05 30 17.9	
	comp=Z,26nm,1.1s						
LIFNC	**LIFOU**	**20.09**	**139**	P	**P**	**05 30 21.6**	**-0.5**
DZM	**Mont Dzumac**	**20.55**	**143**	P	**P**	**05 30 28.0**	**+0.7**
	comp=Z,25nm,1.1s,baz=347,slow=10,SNR=9.0						
	comp=Z,25nm,1.1s						
DZM	**Mont Dzumac**	**20.55**	**143**		**P**	**05 30 26.3**	**-1.0**
DZM				IAmb	IAmb	05 30 30.0	
	comp=Z,30nm,1.1s						
WR0	**Warramunga Arr**	**23.10**	**231**	P	**P**	**05 30 55.2**	**+0.6**
WR0				IAmb	IAmb	05 30 59.4	
	comp=Z,8.1nm,0.8s						
WB2	**Warramunga Arr**	**23.24**	**231**	P	**P**	**05 30 56.0**	**+0.2**
WB2				IAmb	IAmb	05 31 22.7	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**23.25**	**231**	P	**P**	**05 30 54.0**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=57,slow=11,SNR=6.9						
WRA				ScP	**ScP**	**05 38 22.8**	**+3.5**
	comp=Z,0.9nm,0.9s,baz=62,slow=3.6,SNR=4.9						
	comp=Z,1.6nm,0.7s						
ARMA	**Armidale**	**24.56**	**184**	P	**P**	**05 31 09.4**	**+1.1**
ARMA				IAmb	IAmb	05 31 19.9	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**25.83**	**225**	P	**P**	**05 31 19.6**	**-0.3**
ASAR	**Alice Springs**	**25.83**	**225**	P	**P**	**05 31 18.4**	**-1.4**
	comp=Z,4.3nm,0.8s,baz=55,slow=9.0,SNR=37						
ASAR				ScP	**ScP**	**05 38 31.1**	**+4.7**
	comp=Z,0.5nm,0.8s,baz=66,slow=2.3,SNR=2.9						
	comp=Z,4.3nm,0.8s						
ASAR	**Alice Springs**	**25.83**	**225**	P	**P**	**05 31 20.1**	**+0.2**
KNRA	**Kununurra**	**26.07**	**246**	P	**P**	**05 31 22.1**	**0.0**
STKA	**Stephens Creek**	**28.20**	**202**	P	**P**	**05 31 39.8**	**-1.3**
	comp=Z,5.5nm,1.0s,baz=2.2,slow=12,SNR=6.0						
	comp=Z,5.5nm,1.0s						
STKA	**Stephens Creek**	**28.20**	**202**	P	**P**	**05 31 40.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**29.70**	**243**	P	**P**	**05 31 53.6**	**-1.0**
FORT	**Forrest**	**34.40**	**221**	P	**P**	**05 32 34.5**	**-1.2**
KSRS	**Korea Array**	**49.12**	**333**	P	**P**	**05 34 35.9**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=151,slow=8.5,SNR=3.2						
	comp=Z,1.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.35**	**341**	P	**P**	**05 35 07.0**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=169,slow=8.5,SNR=2.2						
USRK				PKiKP	**PKiKP**	**05 42 52.3**	**+0.5**
	comp=Z,14nm,0.8s,baz=114,slow=6.5,SNR=12						
	comp=Z,1.4nm,0.4s						
KLR	**Kul'dur**	**57.94**	**343**	P	**P**	**05 35 40.0**	**-0.3**
	comp=Z,6.3nm,0.9s,baz=146,slow=5.1,SNR=17						
	comp=Z,6.3nm,0.9s						
PETK	**Petropavlovsk-**	**58.78**	**3**	P	**P**	**05 35 46.1**	**-0.1**
	comp=Z,7.2nm,0.8s,baz=176,slow=7.1,SNR=5.8						
	comp=Z,7.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.80**	**296**	P	**P**	**05 35 47.4**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=120,slow=5.6,SNR=12						
	comp=Z,2.3nm,0.8s						
MA2	**Magadan**	**65.18**	**359**	P	**P**	**05 36 28.7**	**-0.3**
	comp=Z,4.9nm,0.6s,baz=182,slow=17,SNR=6.1						
	comp=Z,4.9nm,0.6s						
SONM	**Songino Array**	**67.45**	**328**	P	**P**	**05 36 44.7**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=147,slow=5.5,SNR=17						
	comp=Z,2.7nm,0.7s						
SEY	**Seymchan**	**68.52**	**360**	P	**P**	**05 36 50.1**	**-0.1**

WRA	**Warramunga Arr**	**24.84**	**231**	P		**P**	**05 34 31.3**	**+0.1**
	1.7nm,0.5s,baz=57,slow=9.7,SNR=7.1							
	1.7nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**26.06**	**27**	T		T	06 02 18.3	
	baz=207							
H11S2	**WAKE ISLAND Hy**	**26.06**	**27**	T		T	06 02 12.1	
	baz=207							
H11S1	**WAKE ISLAND Hy**	**26.08**	**27**	T		T	06 02 19.1	
	baz=207							
ASAR	**Alice Springs**	**27.40**	**225**	P		**P**	**05 34 53.7**	**-0.6**
	0.3nm,0.4s,baz=49,slow=8.7,SNR=4.1							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**81.63**	**319**	P		**P**	**05 41 24.3**	**-0.7**
	0.3nm,0.6s,baz=92,slow=3.5,SNR=1.6							
	0.3nm,0.6s							
YKA	**Yellowknife Ar**	**94.61**	**28**	P		**P**	**05 42 28.3**	**+1.0**
	0.3nm,0.8s,baz=272,slow=5.4,SNR=3.3							
	0.3nm,0.8s							

IDC ***22*** *05:30:29.6±2.2,5˚.53S×153˚.86E,h0km,mb3.8/4, mbtmp3.8/5,Error ellipse: s-maj=45.1km s-min=27.1km az=89.0*

ISC 22 05:30:36.0±1.8,5˚.5S±0˚.2×153˚.8E±0˚.2,h50km,n5,σ2§03/6, mb3.6/4,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.16**	**303**	Pn	**Pn**	**05 31 07.4**	**-2.1**
	344nm,0.7s						
KRVT				Sn	**Sn**	**05 31 36.7**	**+1.6**
WRA	**Warramunga Arr**	**23.78**	**231**	P	**P**	**05 35 45.4**	**+1.2**
	3.4nm,0.4s,baz=59,slow=10,SNR=15						
	3.4nm,0.4s						
ASAR	**Alice Springs**	**26.35**	**225**	P	**P**	**05 36 07.0**	**-0.6**
	0.5nm,0.4s,baz=56,slow=9.3,SNR=6.0						
	0.5nm,0.4s						
SONM	**Songino Array**	**67.47**	**328**	P	**P**	**05 41 28.5**	**+1.7**
	0.3nm,0.4s,baz=142,slow=5.4,SNR=5.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**81.53**	**319**	P	**P**	**05 42 47.5**	**-0.8**
	0.4nm,0.7s,baz=88,slow=4.5,SNR=1.3						
	0.4nm,0.7s						

DJA ***22*** *05:37:37.7±1.7,6˚S±12˚×15˚5E±1˚6,h147km±16km, M5.5/7,mB5.0/1,mb4.9/7,MLv5.9/2,Mw(mB)4.4/1*

IDC ***22*** *05:37:39.0±0.8,5˚.84S×154˚.61E,h136km±6km,mb4.1/27, mbtmp4.5/31,Error ellipse: s-maj=11.8km s-min=9.3km az=71.0*

NEIC ***22*** *05:37:40.1±1.1,5˚.87S±0˚.09×154˚.7E±0˚.1,h139km±7km, mb4.6/70,Error ellipse: s-maj=16.2km s-min=12.3km az=58.0*

ISC 22 05:37:40.8±0.4,5˚.89S±0˚.05×154˚.59E±0˚.06,h150km,n274, σ1§08/269,mb4.5/66,2C-1D,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.94**	**305**	Pn	**Pn**	**05 38 26.0**	**-1.6**
RABL				Sn	**Sn**	**05 39 04.7**	**+1.0**
RABL	**Rabaul**	**2.94**	**305**	P	**Pn**	**05 38 29.8**	**+2.2**
KRVT	**Keravat (AS076**	**3.00**	**301**	P	**Pn**	**05 38 26.5**	**-1.7**
	792nm,0.7s						
KRVT				S	**Sn**	**05 39 02.3**	**-2.5**
PMG	**Port Moresby**	**8.15**	**244**	P	**Pn**	**05 39 36.4**	**+0.1**
	36nm,0.5s,baz=64,slow=12,SNR=10						
PMG				S	**Sn**	**05 41 07.0**	**-0.2**
	37nm,0.4s,baz=65,slow=11,SNR=2.2						
PMG	**Port Moresby**	**8.15**	**244**	Pn	**Pn**	**05 39 36.8**	**+0.4**
PMG	**Port Moresby**	**8.15**	**244**	P	**Pn**	**05 39 40.0**	**+3.6**
PMG	**Port Moresby**	**8.15**	**244**	P	**Pn**	**05 39 39.9**	**+3.6**
COEN	**Coen**	**13.80**	**234**	Pn	**Pn**	**05 40 51.5**	**+1.1**
COEN	**Coen**	**13.80**	**234**	P	**P**	**05 40 54.7**	**+0.8**
TV1H	**Townsville Har**	**15.31**	**209**	P	**P**	**05 41 13.0**	**+2.5**
MTSU	**Mount Surprise**	**15.77**	**219**	P	**P**	**05 41 16.7**	**+1.0**
CTA	**Charters Tower**	**16.28**	**209**	P	**P**	**05 41 21.3**	**0.0**
	19nm,0.8s,baz=33,slow=14,SNR=23						
CTA	**Charters Tower**	**16.28**	**209**	P	**P**	**05 41 24.1**	**+2.8**
CTAO	**Charters Tower**	**16.28**	**209**	P	**Pn**	**05 41 20.6**	**-0.4**
CTAO				IAmb	IAmb	05 41 24.7	
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	**16.28**	**209**	P	**P**	**05 41 23.9**	**+2.6**
EIDS	**Eidsvold**	**19.66**	**189**	P	**P**	**05 41 58.8**	**+0.6**
EIDS				IAmb	IAmb	05 42 03.2	
	comp=Z,26nm,0.8s						
EIDS	**Eidsvold**	**19.66**	**189**	P	**P**	**05 41 59.2**	**+1.0**
NOUC	**Port Laguerre**	**19.70**	**146**	P	**P**	**05 41 58.0**	**-0.7**
DZM	**Mont Dzumac**	**19.76**	**146**	P	**P**	**05 41 58.8**	**-0.5**
	comp=Z,14nm,0.9s,baz=326,slow=15,SNR=12						
DZM				pP	**pP**	**05 42 22.4**	**-3.1**
	comp=Z,6.3nm,0.7s,baz=301,slow=18,SNR=2.7						
DZM	**Mont Dzumac**	**19.76**	**146**	P	**P**	**05 41 58.4**	**-1.0**
DZM	**Mont Dzumac**	**19.76**	**146**	P	**P**	**05 41 59.1**	**-0.3**
QIS	**Mount Isa**	**20.60**	**224**	P	**P**	**05 42 09.1**	**+0.8**
RMQ	**Roma**	**21.23**	**195**	P	**P**	**05 42 15.7**	**+0.7**
FAKI	**Fak Fak**	**22.46**	**277**	P	**P**	**05 42 27.6**	**-0.2**
FAKI				IAmb	IAmb	05 42 29.4	
	comp=Z,24nm,1.0s						
QLP	**Quilpie**	**22.83**	**205**	P	**P**	**05 42 32.1**	**+1.0**
SIJI	**Sorong**	**23.80**	**281**	P	**P**	**05 42 38.8**	**-1.4**
	comp=Z,6.8nm,0.4s,baz=131,slow=19,SNR=3.0						
	comp=Z,6.8nm,0.4s						
WR0	**Warramunga Arr**	**23.99**	**232**	P	**P**	**05 42 42.5**	**+0.7**
WR0				IAmb	IAmb	05 42 45.9	
	comp=Z,16nm,0.9s						
WB0	**Warramunga Arr**	**24.00**	**233**	P	**P**	**05 42 42.6**	**+0.7**
WRAB	**Tennant Creek**	**24.12**	**233**	P	**P**	**05 42 44.0**	**+0.9**
WRAB	**Tennant Creek**	**24.12**	**233**	P	**P**	**05 42 43.9**	**+0.9**
WB2	**Warramunga Arr**	**24.13**	**233**	P	**P**	**05 42 43.4**	**+0.3**
WRA	**Warramunga Arr**	**24.14**	**233**	P	**P**	**05 42 43.4**	**+0.3**
	comp=Z,9.2nm,0.8s,baz=57,slow=10,SNR=45						
WRA				pP	**pP**	**05 43 10.2**	**-1.7**
	comp=Z,6.0nm,0.8s,baz=58,slow=10.0,SNR=4.0						
WRA				PcP	**PcP**	**05 46 20.2**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=57,slow=3.1,SNR=1.9						
	comp=Z,9.2nm,0.8s						
MTN	**Manton Dam**	**24.14**	**252**	P	**P**	**05 42 44.4**	**+1.2**
MTN				IAmb	IAmb	05 42 44.4	
	comp=Z,15nm,1.1s						
AULRC	**Lightning Ridg**	**24.24**	**194**	P	**P**	**05 42 45.0**	**+1.1**
ARMA	**Armidale**	**24.56**	**186**	P	**P**	**05 42 46.7**	**-0.3**
ARMA				IAmb	IAmb	05 42 48.4	
	comp=Z,15nm,0.9s						
INKA	**Innaminka**	**25.41**	**210**	P	**P**	**05 42 54.7**	**+0.2**
AS01	**Alice Springs**	**26.59**	**226**	P	**P**	**05 43 05.3**	**0.0**
AS31	**Alice Springs**	**26.62**	**226**	P	**P**	**05 43 05.2**	**-0.4**
ASAR	**Alice Springs**	**26.62**	**226**	P	**P**	**05 43 05.2**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=56,slow=9.2,SNR=38						
ASAR				pP	**pP**	**05 43 33.5**	**-1.8**
	comp=Z,3.4nm,0.8s,baz=58,slow=9.0,SNR=6.5						
ASAR				PcP	**PcP**	**05 46 25.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=65,slow=2.3,SNR=4.4						
ASAR				ScP	**ScP**	**05 49 54.9**	**+2.8**
	comp=Z,0.6nm,0.9s,baz=55,slow=3.8,SNR=3.1						
	comp=Z,2.5nm,0.5s						
ASAR	**Alice Springs**	**26.62**	**226**	P	**P**	**05 43 05.6**	**0.0**
CMSA	**Cobar Meteorol**	**26.85**	**197**	P	**P**	**05 43 08.4**	**+1.0**
KNRA	**Kununurra**	**27.14**	**247**	P	**P**	**05 43 10.2**	**-0.1**
KNRA				IAmb	IAmb	05 43 16.0	
	comp=Z,33nm,1.4s						
STKA	**Stephens Creek**	**28.57**	**204**	P	**P**	**05 43 22.3**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=28,slow=13,SNR=4.7						
STKA				pP	**pP**	**05 43 50.4**	**-2.1**
	comp=Z,2.8nm,0.6s,baz=24,slow=11,SNR=3.9						
	comp=Z,2.5nm,0.7s						
STKA	**Stephens Creek**	**28.57**	**204**	P	**P**	**05 43 22.6**	**-0.2**
BBOO	**Buckleboo**	**31.87**	**210**	P	**P**	**05 43 51.3**	**-0.6**
LUWI	**Luwuk**	**32.11**	**277**	P	**P**	**05 43 53.6**	**-0.6**
LUWI	**Luwuk**	**32.11**	**277**	P	**P**	**05 43 55.1**	**+0.9**
TOLI2	**Tolitoli**	**34.46**	**281**	P	**P**	**05 44 14.1**	**-0.6**
TOLI2				IAmb	IAmb	05 44 14.5	
	comp=Z,14nm,1.0s						
TOLI2	**Tolitoli**	**34.46**	**281**	P	**P**	**05 44 14.3**	**-0.3**
FORT	**Forrest**	**35.13**	**222**	P	**P**	**05 44 20.0**	**-0.1**
FORT				IAmb	IAmb	05 44 20.7	
	comp=Z,14nm,0.9s						
MBWA	**Marble Bar**	**37.01**	**242**	P	**P**	**05 44 35.9**	**-0.4**
MBWA				IAmb	IAmb	05 44 51.3	
	comp=Z,12nm,1.4s						
PSA00	**Pilbara Seismi**	**37.05**	**242**	P	**P**	**05 44 36.1**	**-0.5**
PSA00				IAmb	IAmb	05 44 52.5	
	comp=Z,9.0nm,1.1s						
BFZ	**Birch Farm**	**39.71**	**154**	P	**P**	**05 44 58.9**	**+0.4**
LTZ	**Lake Taylor**	**39.94**	**160**	P	**P**	**05 45 00.8**	**+0.3**
KKM	**Kota Kinabalu**	**40.10**	**287**	P	**P**	**05 45 01.9**	**-0.3**
RPZ	**Rata Peaks**	**40.37**	**162**	P	**P**	**05 45 04.1**	**+0.1**
	comp=Z,15nm,0.8s,baz=348,slow=9.3,SNR=2.1						
	comp=Z,15nm,0.8s						
NACB	**Ninganchiao**	**43.90**	**314**	P	**P**	**05 45 33.2**	**+0.4**
JNU	**Nakatsue**	**44.85**	**331**	P	**P**	**05 45 39.4**	**-0.9**
	comp=Z,17nm,0.8s,baz=174,slow=9.1,SNR=8.3						
	comp=Z,17nm,0.8s						
MJAR	**Matsushiro Arr**	**44.91**	**341**	P	**P**	**05 45 39.6**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=170,slow=6.7,SNR=2.6						
	comp=Z,1.4nm,0.7s						
KSRS	**Korea Array**	**49.77**	**332**	P	**P**	**05 46 17.6**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=144,slow=6.5,SNR=13						
	comp=Z,5.0nm,0.7s						
NJ2	**Nanjing**	**50.81**	**320**	*e*P	**P**	**05 46 28.0**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**53.86**	**340**	P	**P**	**05 46 45.6**	**-2.7**
	comp=Z,1.9nm,0.5s,baz=159,slow=43,SNR=3.1						
	comp=Z,1.9nm,0.5s						
KULM	**Kulim**	**54.98**	**281**	P	**P**	**05 46 56.5**	**-0.6**
KULM				IAmb	IAmb	05 47 14.3	
	comp=Z,7.1nm,1.0s						
BNX	**BinXian**	**56.84**	**338**	⇑P	**P**	**05 47 09.3**	**-0.3**
BNX				pmax	pmax		
	comp=Z,12nm,1.0s						
BJT	**Baijiatuan**	**57.77**	**326**	P	**P**	**05 47 16.7**	**+0.4**
BJT				IAmb	IAmb	05 47 18.9	
	comp=Z,5.0nm,0.7s						
KLR	**Kul'dur**	**58.39**	**343**	P	**P**	**05 47 20.4**	**-0.1**
	comp=Z,6.8nm,0.9s,baz=152,slow=5.0,SNR=12						
	comp=Z,6.8nm,0.9s						
XAN	**Xi'an**	**58.63**	**316**	P	**P**	**05 47 22.3**	**-0.2**
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
PETK	**Petropavlovsk-**	**58.83**	**2**	P	**P**	**05 47 23.4**	**0.0**
	comp=Z,4.3nm,0.7s,baz=144,slow=5.3,SNR=3.9						
	comp=Z,4.3nm,0.7s						
KMI	**Kunming**	**59.07**	**304**	⇑P	**P**	**05 47 27.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.95**	**295**	P	**P**	**05 47 32.1**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=115,slow=5.0,SNR=34						
	comp=Z,3.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**59.95**	**295**	P	**P**	**05 47 32.4**	**+0.6**
CHTO	**Chiang Mai**	**60.06**	**296**	P	**P**	**05 47 32.4**	**-0.2**
PZH	**PanZhiHua**	**60.45**	**305**	P	**P**	**05 47 35.1**	**-0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XLT	**XiLinHaoTe**	**60.51**	**329**	⇓*i*P	**P**	**05 47 34.8**	**-0.4**
XLT				pmax	pmax		
	comp=Z,42nm,0.7s						
CD2	**Chengdu**	**60.79**	**310**	P	**P**	**05 47 37.5**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**60.97**	**324**	*e*P	P	05 47 43.3	+4.9
TNCH	**TengChong**	**62.55**	**302**	*e*P	**P**	**05 47 51.3**	**+1.9**
TNCH				pmax	pmax		
	comp=Z,140nm,13.6s						
MA2	**Magadan**	**65.32**	**358**	P	**P**	**05 48 06.6**	**0.0**
	comp=Z,5.0nm,0.8s,baz=160,slow=12,SNR=2.6						
	comp=Z,5.0nm,0.8s						
GTA	**Gaotai**	**67.66**	**317**	*e*P	**P**	**05 48 22.3**	**+0.3**
GTA				pP	PcP	05 48 48.9	+1.0
GTA				sP	pwP	05 49 04.1	+3.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	**Ulaanbaatar**	**67.86**	**328**	P	**P**	**05 48 23.2**	**+0.1**
ULN				IAmb	IAmb	05 48 25.1	
	comp=Z,4.8nm,0.8s						
SONM	**Songino Array**	**68.19**	**327**	P	**P**	**05 48 25.2**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=146,slow=5.7,SNR=26						
	comp=Z,2.9nm,0.5s						
SONM	**Songino Array**	**68.19**	**327**	P	**P**	**05 48 24.9**	**-0.3**
SONM				IAmb	IAmb	05 48 27.5	
	comp=Z,7.7nm,1.2s						
SHL	**Shillong**	**68.39**	**300**	P	**P**	**05 48 26.4**	**-0.5**
SHL				IAmb	IAmb	05 48 27.1	
	comp=Z,7.0nm,0.9s						
SEY	**Seymchan**	**68.64**	**359**	P	**P**	**05 48 27.6**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=180,slow=20,SNR=5.5						
	comp=Z,1.9nm,0.8s						
YAK	**Yakutsk**	**70.39**	**348**	P	**P**	**05 48 38.8**	**+0.6**
	comp=Z,6.1nm,0.4s,baz=170,slow=3.2,SNR=4.2						
	comp=Z,6.1nm,0.4s						
YAK	**Yakutsk**	**70.39**	**348**	P	**P**	**05 48 38.6**	**+0.4**
S12K	**Black Hills**	**71.00**	**24**	P	**P**	**05 48 42.7**	**+0.7**
	baz=226						
VNDA	**Vanda**	**71.69**	**178**	P	**P**	**05 48 46.4**	**+0.5**
GAMB	**Gambell**	**73.95**	**15**	P	**P**	**05 49 00.7**	**+1.4**
	baz=215						
R16K	**Pilot Point**	**74.10**	**25**	P	**P**	**05 49 01.5**	**+1.2**
	baz=230						
BILL	**Bilibino**	**74.21**	**5**	P	**P**	**05 49 01.4**	**+0.7**
R17K	**Ugashik Creek**	**74.64**	**25**	P	**P**	**05 49 03.9**	**+0.5**
	baz=231						
PALK	**Palkele**	**74.86**	**279**	P	**P**	**05 49 05.0**	**-0.7**
Q16K	**King Salmon**	**75.18**	**24**	P	**P**	**05 49 06.8**	**+0.3**
	baz=231						
O16K	**Kokwok River B**	**75.21**	**23**	P	**P**	**05 49 07.8**	**+1.1**
	baz=229						
Q17K	**Contact Creek**	**75.23**	**25**	P	**P**	**05 49 07.2**	**+0.2**
	baz=231						
N16K	**Nishlik Lake**	**75.53**	**22**	P	**P**	**05 49 10.2**	**+1.7**
	baz=228						
O17K	**Koliganek Bris**	**75.71**	**23**	P	**P**	**05 49 09.9**	**+0.4**
	baz=230						
Q18K	**Katmai Hardscr**	**75.84**	**25**	P	**P**	**05 49 10.9**	**+0.4**
	baz=232						
P18K	**Big Mountain,**	**76.20**	**24**	P	**P**	**05 49 12.7**	**+0.3**
	baz=232						
ANM	**Nome**	**76.29**	**17**	P	**P**	**05 49 13.2**	**+0.4**
ANM				IAmb	IAmb	05 49 15.3	
	comp=Z,13nm,0.9s						
ANM	**Nome**	**76.29**	**17**	P	**P**	**05 49 14.2**	**+1.5**
	baz=221						
TNA	**Tin City**	**76.36**	**15**	IAmb	IAmb	05 49 14.7	
	comp=Z,8.4nm,1.0s						
TNA	**Tin City**	**76.36**	**15**	P	**P**	**05 49 14.5**	**+1.4**
	baz=218						
O18K	**Koktuh Hills**	**76.50**	**24**	P	**P**	**05 49 14.3**	**+0.2**
	baz=232						
Q19K	**Cape Douglas,**	**76.57**	**25**	P	**P**	**05 49 14.5**	**0.0**
Q19K	**Cape Douglas,**	**76.57**	**25**	P	**P**	**05 49 15.0**	**+0.5**
	baz=233						
O19K	**Port Alsworth**	**77.06**	**24**	P	**P**	**05 49 17.7**	**+0.6**
	baz=232						
P19K	**Oil Pt**	**77.17**	**24**	P	**P**	**05 49 18.5**	**+0.6**
	baz=234						
N19K	**Bonanza Creek**	**77.38**	**23**	P	**P**	**05 49 19.8**	**+0.8**
	baz=232						
O20K	**Slope Mountain**	**77.67**	**24**	P	**P**	**05 49 21.5**	**+0.8**
	baz=234						
WMQ	**Urumqi**	**77.74**	**317**	*e*P	**P**	**05 49 23.3**	**+1.9**
L19K	**White Mountain**	**78.08**	**22**	P	**P**	**05 49 24.1**	**+1.3**
	baz=232,SNR=15						
TTA	**Tatalina**	**78.14**	**21**	IAmb	IAmb	05 49 25.3	
	comp=Z,10nm,0.8s						
TTA	**Tatalina**	**78.14**	**21**	P	**P**	**05 49 24.1**	**+1.0**
	baz=230						
BRSE	**Bradley Lake S**	**78.26**	**25**	P	**P**	**05 49 24.5**	**+0.7**
	baz=236						
N20K	**Mount Spurr**	**78.50**	**23**	P	**P**	**05 49 25.5**	**+0.3**
	baz=234						
SPCR	**Spurr Chakacha**	**78.50**	**23**	P	**P**	**05 49 25.3**	**+0.1**
	baz=234						
M20K	**Styx River**	**78.54**	**22**	IAmb	IAmb	05 49 27.6	
	comp=Z,8.3nm,0.8s						
M20K	**Styx River**	**78.54**	**22**	P	**P**	**05 49 26.5**	**+1.0**
	baz=233						
L20K	**Farewell, AK**	**78.62**	**22**	P	**P**	**05 49 27.4**	**+1.7**
	baz=232,SNR=6.4						
CAPN	**Captain Cook N**	**78.67**	**24**	P	**P**	**05 49 27.9**	**+2.0**
	baz=235						
SEW	**Seward**	**79.00**	**25**	P	**P**	**05 49 27.8**	**0.0**
	baz=237						
GCSA	**Galena City Sc**	**79.01**	**19**	P	**P**	**05 49 28.6**	**+0.8**
	baz=229						
K20K	**Telida**	**79.09**	**21**	IAmb	IAmb	05 49 30.8	
	comp=Z,9.5nm,0.8s						
K20K	**Telida**	**79.09**	**21**	P	**P**	**05 49 29.9**	**+1.6**
	baz=232,SNR=6.6						
SKT	**Skwentna**	**79.21**	**23**	P	**P**	**05 49 28.4**	**-0.6**
	baz=235						
SUA	**Susitna One**	**79.23**	**24**	P	**P**	**05 49 28.8**	**-0.4**
	baz=236,SNR=11						
RC01	**Rabbit Creek A**	**79.42**	**24**	IAmb	IAmb	05 49 31.3	
	comp=Z,12nm,0.9s						
RC01	**Rabbit Creek A**	**79.42**	**24**	P	**P**	**05 49 30.2**	**0.0**
	baz=237						
M22K	**Willow**	**79.64**	**23**	P	**P**	**05 49 31.6**	**+0.3**
	baz=236						
CAST	**Castle Rocks**	**79.84**	**22**	P	**P**	**05 49 33.0**	**+0.6**
	baz=234						
PWL	**Port Wells**	**79.87**	**25**	P	**P**	**05 49 33.5**	**+1.0**
	baz=238,SNR=5.6						
CUT	**Chulitna**	**79.94**	**23**	P	**P**	**05 49 32.9**	**0.0**
	baz=236						
PMR	**Palmer**	**79.94**	**24**	P	**P**	**05 49 33.9**	**+1.0**
	baz=237,SNR=6.7						
CHUM	**Lake Minchumin**	**80.03**	**21**	P	**P**	**05 49 34.4**	**+1.1**
	baz=234,SNR=12						
KNK	**Knik Glacier**	**80.12**	**24**	P	**P**	**05 49 34.9**	**+1.0**
	baz=238						
SML	**Sawmill**	**80.38**	**24**	P	**P**	**05 49 36.2**	**+0.9**
	baz=238,SNR=6.7						
TRF	**Thorofare Moun**	**80.52**	**22**	IAmb	IAmb	05 49 38.7	
	comp=Z,9.8nm,0.7s						
TRF	**Thorofare Moun**	**80.52**	**22**	P	**P**	**05 49 36.4**	**+0.2**
	baz=236						
M23K	**Glacier View**	**80.62**	**24**	P	**P**	**05 49 37.1**	**+0.6**
	baz=238						
BPAW	**Bear Paw Mtn.**	**80.64**	**21**	P	**P**	**05 49 37.0**	**+0.4**
	baz=235						
SCM	**Sheep Creek Mo**	**80.80**	**24**	P	**P**	**05 49 38.8**	**+1.2**
	baz=239						
IMAR	**Indian Mountai**	**80.81**	**19**	P	**P**	**05 49 37.9**	**+0.4**
WAT1	**Susitna Watana**	**80.84**	**23**	P	**P**	**05 49 38.5**	**+0.8**
	baz=237						
I21K	**Tanana**	**80.92**	**20**	IAmb	IAmb	05 49 40.4	
	comp=Z,11nm,0.8s						
I21K	**Tanana**	**80.92**	**20**	P	**P**	**05 49 39.4**	**+1.4**
	baz=234						
H21K	**Melozitna Rive**	**80.93**	**19**	P	**P**	**05 49 38.9**	**+0.8**
	baz=233						
WAT6	**Susitna Watana**	**81.03**	**23**	P	**P**	**05 49 38.9**	**0.0**
	baz=238						
RND	**Reindeer**	**81.04**	**22**	IAmb	IAmb	05 49 39.8	
	comp=Z,10nm,0.8s						
MCK	**McKinley**	**81.19**	**22**	P	**P**	**05 49 39.6**	**+0.1**
	baz=237,SNR=15						
KLU	**Klutina**	**81.20**	**25**	IAmb	IAmb	05 49 41.9	
	comp=Z,16nm,1.0s						
KLU	**Klutina**	**81.20**	**25**	P	**P**	**05 49 40.5**	**+0.7**
	baz=240,SNR=5.8						
G21K	**Allakaket**	**81.22**	**19**	P	**P**	**05 49 40.3**	**+0.7**
	baz=232						
MLY	**Manley**	**81.26**	**21**	P	**P**	**05 49 40.6**	**+0.6**
	baz=235,SNR=9.3						
M24K	**Tolsona, Glenn**	**81.41**	**24**	P	**P**	**05 49 41.7**	**+0.9**
	baz=240						
DHY	**Denali Highway**	**81.43**	**23**	IAmb	IAmb	05 49 44.2	
	comp=Z,9.9nm,0.8s						
DHY	**Denali Highway**	**81.43**	**23**	P	**P**	**05 49 41.6**	**+0.6**
	baz=238,SNR=7.1						
NEA2	**Nenana**	**81.61**	**21**	P	**P**	**05 49 41.4**	**-0.3**
	baz=237,SNR=9.8						
F21K	**Alatna River**	**81.66**	**18**	P	**P**	**05 49 42.3**	**+0.3**
	baz=232						
I23K	**Minto, Yukon-K**	**81.81**	**21**	P	**P**	**05 49 42.9**	**+0.2**
	baz=236						
N25K	**Chitina, Valde**	**81.81**	**25**	P	**P**	**05 49 43.9**	**+1.0**
	baz=241						
HARP	**HAARP**	**81.97**	**24**	P	**P**	**05 49 44.6**	**+1.0**
	baz=241						
VRDI	**Verde Repeater**	**82.12**	**26**	P	**P**	**05 49 45.6**	**+0.9**
VRDI				IAmb	IAmb	05 49 46.8	
	comp=Z,9.3nm,0.9s						
PAX	**Paxson**	**82.12**	**24**	P	**P**	**05 49 45.1**	**+0.5**
	baz=240						
TCOL	**CIGO_AF Yank**	**82.19**	**21**	P	**P**	**05 49 44.2**	**-0.5**
	baz=238						
COLA	**College**	**82.20**	**21**	P	**P**	**05 49 43.9**	**-0.9**
COLA	**College**	**82.20**	**21**	P	**P**	**05 49 44.5**	**-0.3**
	baz=238						
HDA	**Harding Lake**	**82.29**	**22**	P	**P**	**05 49 44.8**	**-0.4**
	baz=239						
MK31	**Makanchi Array**	**82.31**	**319**	P	**P**	**05 49 45.6**	**-0.2**
MKAR	**Makanchi Array**	**82.31**	**319**	P	**P**	**05 49 45.2**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=101,slow=6.3,SNR=25						
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**82.31**	**319**	P	**P**	**05 49 45.1**	**-0.8**
MCARA	**McCarthy VSAT**	**82.37**	**25**	P	**P**	**05 49 46.7**	**+0.9**
	baz=243						
K24K	**Donnelly Dome**	**82.42**	**23**	P	**P**	**05 49 46.6**	**+0.6**
	baz=240						
G23K	**Bananza Creek**	**82.46**	**19**	P	**P**	**05 49 47.0**	**+0.8**
	baz=236						
POKR	**Poker Plat Res**	**82.48**	**21**	P	**P**	**05 49 46.6**	**+0.4**
	baz=238						
IL31		**82.50**	**22**	P	**P**	**05 49 45.9**	**-0.3**
IL31				IAmb	IAmb	05 49 46.8	
	comp=Z,7.6nm,0.8s						
ILAR	**Eielson Array**	**82.50**	**22**	P	**P**	**05 49 44.5**	**-1.8**
	comp=Z,4.6nm,0.7s,baz=246,slow=5.6,SNR=48						
	comp=Z,4.6nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=247						
I27K	Kandik River	84.85	22	P	P	05 49 59.6	+1.2
	baz=244						
F26K	Sheenjek River	84.93	20	P	P	05 50 00.2	+1.5
	baz=241						
KSH	Kashi	84.99	310	P	P	05 50 03.3	+3.5
DAWY	Dawson	85.05	24	P	P	05 50 00.8	+1.4
DAWY	Dawson	85.05	24	P	P	05 50 00.6	+1.2
	baz=246						
H27K	Steamboat Moun	85.16	21	P	P	05 50 01.1	+1.2
	baz=244						
L29M	L29M	85.18	25	P	P	05 50 01.4	+1.4
	baz=247						
O30N	Mendenhall	85.20	27	P	P	05 50 01.3	+1.1
	baz=249						
G27K	Doyon Strip	85.37	21	P	P	05 50 02.4	+1.5
	baz=243						
M30M	Minto, Yukon	85.55	26	P	P	05 50 03.3	+1.5
	baz=248						
J29M	Klondike Camp	85.68	24	IAmb	IAmb	05 50 06.6	
	comp=Z,6.5nm,0.8s						
J29M	Klondike Camp	85.68	24	P	P	05 50 04.3	+1.8
	baz=247						
KURBB	Kurchatov Arra	85.75	322	P	P	05 50 01.5	-1.6
	comp=Z,1.1nm,0.6s,baz=110,slow=2.7,SNR=4.2						
	comp=Z,1.1nm,0.6s						
I29M	Ogilvie Camp,	86.00	23	P	P	05 50 04.9	+0.9
	baz=247						
C27K	Jago River	86.00	18	P	P	05 50 05.3	+1.3
	baz=241						
E27K	Coleen River	86.01	20	P	P	05 50 05.5	+1.5
	baz=243						
M31M	Drury Creek, Y	86.46	26	P	P	05 50 07.0	+0.6
	baz=250						
S34M	Telegraph Cree	86.69	31	P	P	05 50 09.0	+1.5
	baz=254						
N32M	Quiet Lake	86.71	28	P	P	05 50 08.5	+0.9
	baz=252						
T35M	Bob Quinn	86.89	32	P	P	05 50 09.8	+1.3
	baz=254						
FARO	Faro, Yukon	86.93	27	P	P	05 50 09.5	+0.8
	baz=251						
G30M	tAoh Zraii Nji	87.40	22	P	P	05 50 11.3	+0.5
	baz=248						
NRIK	Noril'sk	87.56	341	P	P	05 50 10.3	-1.2
	comp=Z,2.4nm,0.5s,baz=117,slow=4.5,SNR=2.7						
	comp=Z,2.4nm,0.5s						
F31M	Tsiigehtchic	88.47	21	P	P	05 50 16.2	+0.4
	baz=251						
INK	Inuvik	88.83	21	P	P	05 50 16.7	-0.7
	comp=Z,3.1nm,0.9s,baz=267,slow=3.9,SNR=11						
	comp=Z,3.1nm,0.9s						
INK	Inuvik	88.83	21	P	P	05 50 17.3	-0.2
INK				IAmb	IAmb	05 50 18.4	
	comp=Z,3.7nm,0.9s						
INK	Inuvik	88.83	21	P	P	05 50 18.2	+0.8
	baz=251						
KKAR	Karatay Array	89.67	313	P	P	05 50 22.1	+0.1
VES	Vestal, Richgr	90.44	54	P	P	05 50 26.3	+0.6
	baz=263						
BVAR	Borovoye Array	91.17	323	P	P	05 50 26.9	-1.9
	comp=Z,2.2nm,0.5s,baz=104,slow=5.2,SNR=14						
	comp=Z,2.2nm,0.5s						
EDW2	Edwards Air Fo	91.21	55	P	P	05 50 30.2	+0.8
	baz=264						
TIN	Tinemaha, Big	91.26	53	P	P	05 50 30.4	+0.7
	baz=264						
CWC	Cottonwood Cre	91.31	54	P	P	05 50 30.9	+0.9
	baz=264						
NVAR	Mina Array Bea	91.35	52	P	P	05 50 31.2	+0.9
	comp=Z,4.9nm,0.8s,baz=256,slow=6.9,SNR=20						
	comp=Z,4.9nm,0.8s						
BFSC	Mount Baldy Ra	91.42	56	P	P	05 50 30.7	+0.2
	baz=264						
LRMC	Laurel Mtn Rad	91.53	55	P	P	05 50 31.3	+0.3
	baz=264						
MURC	Murrieta	91.73	57	P	P	05 50 32.2	+0.4
	baz=264						
109C	Camp Elliot, M	91.74	57	P	P	05 50 33.3	+1.5
	baz=264						
MPMC	Manual Prospec	91.75	54	P	P	05 50 32.8	+0.7
	baz=264						
GRAC	Grapevine Rang	91.94	53	P	P	05 50 33.6	+0.8
	baz=264						
FURC	Furnace Creek,	92.29	54	P	P	05 50 35.3	+1.0
	baz=264						
PFO	Pinyon Flats O	92.35	57	P	P	05 50 36.4	+1.6
	baz=264						
TPFO	Pinon Flats	92.35	57	P	P	05 50 35.6	+0.8
	baz=264						
C36M	Paulatuk	92.41	21	P	P	05 50 34.6	+0.5
	baz=260						
A36M	Sachs Harbour	92.52	18	P	P	05 50 35.3	+0.8
	baz=259						
HEC	Hector,Ludlow	92.56	55	P	P	05 50 36.2	+0.5
	baz=265						
SHOC	Shoshone, Teco	92.71	54	P	P	05 50 37.2	+0.9
	baz=265						
TPNV	Topopah Spring	92.83	53	P	P	05 50 38.2	+1.2
	baz=265						
SWSC	Sam W. Stewart	92.83	57	P	P	05 50 36.8	0.0
	baz=265						
TUQ	Turquoise Moun	92.95	55	P	P	05 50 38.8	+1.2
	baz=265						
GMRC	Granite Mounta	93.11	56	P	P	05 50 39.7	+1.4
	baz=265						
BC3	Big Chuckawall	93.19	57	P	P	05 50 40.3	+1.6
	baz=265						
NEW	Newport	93.21	42	P	P	05 50 37.7	-0.6
	comp=Z,1.5nm,0.9s,baz=270,slow=5.1,SNR=3.3						
	comp=Z,1.5nm,0.9s						
NEW	Newport	93.21	42	P	P	05 50 39.1	+0.7
	baz=265						
R11A	Troy Canyon, C	93.47	52	P	P	05 50 40.8	+0.8
	baz=265						
IRM	Iron Mountain	93.48	56	P	P	05 50 40.8	+0.9
	baz=265						
PDMCI	Parker Dam,Lak	94.32	56	P	P	05 50 45.0	+1.3
	baz=266						
YKA	Yellowknife Ar	95.55	28	P	P	05 50 48.2	-0.4
	comp=Z,0.7nm,0.7s,baz=268,slow=4.9,SNR=14						
YKA				pP	pP	05 51 24.1	-2.5
	comp=Z,0.7nm,0.8s,baz=266,slow=4.9,SNR=4.5						
	comp=Z,0.7nm,0.7s						
PDAR	Pinedale Array	98.26	48	P	Pdif	05 51 01.1	-0.5
	comp=Z,0.8nm,0.7s,baz=263,slow=2.8,SNR=9.0						
	comp=Z,0.8nm,0.7s						
TORD	Torodi Ar. Bea	152.33	287	PKPbc	PKiKP	05 57 19.7	-0.6
	comp=Z,1.2nm,0.6s,baz=92,slow=2.2,SNR=7.3						
TORD				PKPab	PKPab	05 57 30.4	-0.2
	comp=Z,1.2nm,0.7s,baz=74,slow=2.4,SNR=5.2						

IDC ***22*** *05:44:59.5±5.0, 5°.73S×154°.08E, h174km±34km, mb3.2/4, mbtmp3.6/5, Error ellipse: s-maj=61.8km s-min=25.5km az=108.0*

ISC 22 05:44:57.5±1.4**, 5°.9S**±0°.2×**154°.3E**±0°.2**, h150km, n6, σ1s.75**/7**, mb3.4**/4**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.73	304	P	Pn	05 45 42.5	+1.1
	40nm,0.4s						
KRVT				S	Sn	05 46 14.5	-0.8
WRA	Warramunga Arr	23.92	232	P	P	05 49 56.4	-1.4
	0.5nm,0.5s,baz=58,slow=9.5,SNR=4.7						
	0.5nm,0.5s						
ASAR	Alice Springs	26.43	226	P	P	05 50 20.6	+0.1
	0.4nm,0.7s,baz=60,slow=9.3,SNR=4.5						
	0.4nm,0.7s						
MKAR	Makanchi Array	82.09	319	P	P	05 57 00.4	-0.9
	0.6nm,0.6s,baz=97,slow=5.0,SNR=7.9						
	0.6nm,0.6s						
YKA	Yellowknife Ar	95.66	28	P	P	05 58 04.9	-0.9
	0.2nm,0.7s,baz=270,slow=4.9,SNR=2.8						
	0.2nm,0.7s						
TORD	Torodi Ar. Bea	152.03	287	PKPbc	PKPdf	06 04 32.0	+2.6
	0.4nm,0.6s,baz=69,slow=3.2,SNR=2.5						

IDC ***22*** *05:45:26.7±1.0, 5°.93S×155°.20E, h0km, mb3.8/7, mbtmp3.7/7, Error ellipse: s-maj=62.8km s-min=22.1km az=128.0*

ISC 22 05:45:37.9±1.0**, 6°.1S**±0°.3×**155°.2E**±0°.3**, h89km, n8, σ1s.07**/8**, mb3.7**/8**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.51	234	P	P	05 50 48.7	-0.5
	0.7nm,0.7s,baz=61,slow=9.7,SNR=3.1						
	0.7nm,0.7s						
ASAR	Alice Springs	26.94	227	P	P	05 51 10.4	-0.7
	0.3nm,0.8s,baz=57,slow=8.9,SNR=1.3						
	0.3nm,0.8s						
STKA	Stephens Creek	28.65	205	P	P	05 51 26.7	+0.5
	1.9nm,0.5s,baz=358,slow=5.8,SNR=5.2						
	1.9nm,0.5s						
ILAR	Eielson Array	82.45	21	P	P	05 57 50.5	+0.3
	0.3nm,0.6s,baz=240,slow=5.5,SNR=1.6						
	0.3nm,0.6s						
MKAR	Makanchi Array	82.86	319	P	P	05 57 53.4	+0.7
	0.1nm,0.6s,baz=104,slow=6.5,SNR=1.1						
	0.1nm,0.6s						
NVAR	Mina Array Bea	90.99	52	P	P	05 58 34.0	+1.3
	8.0nm,1.0s,baz=255,slow=6.2,SNR=22						
YKA	Yellowknife Ar	95.44	28	P	P	05 58 50.9	-1.3
	0.5nm,0.6s,baz=268,slow=4.7,SNR=15						
	0.5nm,0.6s						
PDAR	Pinedale Array	97.93	48	P	P	05 59 03.7	-0.7
	0.5nm,0.9s,baz=289,slow=2.8,SNR=4.1						
	0.5nm,0.9s						

IDC 22 06:01:57.3±5.6**, 18°.83S**×**176°.81W, h0km, mb3.7**/4**, mbtmp3.7**/4**, Error ellipse: s-maj=277.1km s-min=31.1km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.96	260	P	P	06 10 21.3	-1.2
	0.3nm,0.6s,baz=97,slow=7.1,SNR=4.9						
	0.3nm,0.6s						
ASAR	Alice Springs	46.01	255	P	P	06 10 23.4	+0.6
	1.9nm,0.5s,baz=90,slow=8.4,SNR=34						
	1.9nm,0.5s						
ILAR	Eielson Array	86.45	12	P	P	06 14 41.3	-0.1
	0.2nm,0.5s,baz=210,slow=5.1,SNR=5.8						
	0.2nm,0.5s						
YKA	Yellowknife Ar	94.54	24	P	P	06 15 19.0	-0.3
	0.2nm,0.8s,baz=240,slow=4.9,SNR=2.7						
	0.2nm,0.8s						
GERES	GERESS Array B	148.88	347	PKPbc	PKPbc	06 21 46.8	-0.3
	0.2nm,0.4s,baz=20,slow=3.7,SNR=4.1						

NEIC ***22*** *06:13:54.7±1.2, 5°.9S±0°.1×155°.2E±0°.1, h150km±5km, mb4.4/25, Error ellipse: s-maj=17.1km s-min=15.3km az=93.0*

IDC ***22*** *06:13:58.4±2.1, 6°.11S×155°.09E, h168km±18km, mb3.5/8, mbtmp4.2/12, Error ellipse: s-maj=20.5km s-min=13.9km az=92.0*

ISC 22 06:13:56.6±0.5**, 6°.09S**±0°.06×**155°.07E**±0°.07**, h150km, n65, σ1s.86**/64**, mb4.2**/17**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	3.46	303	Pn	Pn	06 14 48.9	-0.9
KRVT	Keravat (AS076	3.51	300	P	Pn	06 14 53.0	+2.5
	101nm,0.3s						
KRVT				S	Sn	06 15 35.7	+3.3
PMG	Port Moresby	8.50	247	P	Pn	06 15 59.6	+2.8
	10nm,0.3s,baz=40,slow=16,SNR=1.8						
PMG				S	Sn	06 17 38.3	+7.0
	11nm,0.3s,baz=162,slow=20,SNR=2.0						
PMG	Port Moresby	8.50	247	Pn	Pn	06 15 56.1	-0.7
PATS	Pohnpei	13.24	14	P	Pn	06 16 59.7	+0.7
COEN	Coen	14.07	235	Pn	Pn	06 17 09.3	-0.3
COEN	Coen	14.07	235	P	Pn	06 17 04.7	-4.9
AUCSH	Cairns State H	14.09	219	P	Pn	06 17 05.9	-3.9
TV1H	Townsville Har	15.37	211	P	Pn	06 17 22.9	-2.8
CTA	Charters Tower	16.34	211	P	Pn	06 17 39.1	+1.5
	11nm,0.8s,baz=29,slow=13,SNR=19						
CTAO	Charters Tower	16.34	211	P	Pn	06 17 36.1	-1.5
CTAO				IAmb	IAmb	06 17 41.1	
	comp=Z,19nm,1.1s						
CTAO	Charters Tower	16.34	211	P	Pn	06 17 34.7	-2.9
KOUNC	Koumac, New Ca	16.93	149	P	P	06 17 42.1	-2.1
KOUNC				IAmb	IAmb	06 17 56.1	
	comp=Z,7.0nm,0.8s						
LIFNC	LIFOU	18.77	142	P	P	06 18 02.6	-1.8
DZM	Mont Dzumac	19.32	146	P	P	06 18 10.9	+0.5
	comp=Z,24nm,0.5s,baz=340,slow=15,SNR=101						
DZM	Mont Dzumac	19.32	146	P	P	06 18 08.6	-1.9
DZM	Mont Dzumac	19.32	146	P	P	06 18 10.9	+0.5
EIDS	Eidsvold	19.55	191	P	P	06 18 11.3	-1.4
EIDS				IAmb	IAmb	06 18 21.3	
	comp=Z,7.1nm,1.0s						
MARNC	Mare, Loyalty	19.79	142	P	P	06 18 13.5	-1.8
OUENC	Ouen Island, N	19.82	146	P	P	06 18 13.7	-1.9
OUENC				IAmb	IAmb	06 18 16.5	
	comp=Z,23nm,0.6s						
OUENC	Ouen Island, N	19.82	146	P	P	06 18 15.9	+0.2
PINNC	Pines Island,	20.31	145	P	P	06 18 19.8	-1.1
PINNC				IAmb	IAmb	06 18 26.6	
	comp=Z,16nm,0.8s						
QIS	Mount Isa	20.78	225	P	P	06 18 24.2	-1.9
GUMO	Guam	22.02	333	P	P	06 18 35.3	-3.9
QLP	Quilpie	22.85	206	P	P	06 18 47.7	+0.7
KDU	Kakadu	23.23	252	P	P	06 18 50.2	-0.4
WR0	Warramunga Arr	24.25	233	P	P	06 18 59.6	-0.3
WB0	Warramunga Arr	24.26	234	P	P	06 18 59.5	-0.6
WRAB	Tennant Creek	24.38	234	P	P	06 18 59.8	-1.3
WRAB	Tennant Creek	24.38	234	P	P	06 19 01.6	+0.4
WB2	Warramunga Arr	24.39	234	P	P	06 19 01.1	-0.1
WRA	Warramunga Arr	24.40	234	P	P	06 19 01.3	0.0
	comp=Z,36nm,0.6s,baz=56,slow=10,SNR=108						
MTN	Manton Dam	24.53	252	P	P	06 19 01.6	-0.9
MTN				IAmb	IAmb	06 19 04.8	
	comp=Z,11nm,0.5s						
DGTI	Dogotuki	26.20	115	P	P	06 19 20.9	+3.2
CMSA	Cobar Meteorol	26.80	198	P	P	06 19 22.2	-0.6
AS31	Alice Springs	26.83	227	P	P	06 19 21.9	-1.3
ASAR	Alice Springs	26.83	227	P	P	06 19 22.4	-0.9
	comp=Z,1.6nm,0.4s,baz=58,slow=8.4,SNR=34						
	comp=Z,1.6nm,0.4s						
ASAR	Alice Springs	26.83	227	P	P	06 19 21.7	-1.6
KNRA	Kununurra	27.50	248	P	P	06 19 28.9	-0.3
OOD	Oodnadatta	28.36	218	P	P	06 19 36.4	-0.4
STKA	Stephens Creek	28.58	204	P	P	06 19 37.7	-0.9
	comp=Z,0.7nm,0.3s,baz=13,slow=13,SNR=1.7						
	comp=Z,0.7nm,0.3s						
CAN	Canberra	29.62	190	P	P	06 19 47.7	-0.2
FITZ	Fitzroy Crossi	31.09	245	P	P	06 20 00.1	-0.9
BBOO	Buckleboo	31.94	211	P	P	06 20 07.1	-1.1
BBOO				IAmb	IAmb	06 20 11.0	
	comp=Z,2.9nm,1.1s						
FORT	Forrest	35.30	223	P	P	06 20 36.1	-1.2
FORT				IAmb	IAmb	06 20 37.3	
	comp=Z,10nm,0.6s						
MBWA	Marble Bar	37.34	243	P	P	06 20 53.6	-1.3
MBWA				IAmb	IAmb	06 20 54.5	
	comp=Z,9.5nm,0.7s						
MBWA	Marble Bar	37.34	243	P	P	06 20 54.0	-0.9
PSA00	Pilbara Seismi	37.38	242	P	P	06 20 54.1	-1.0
PSA00				IAmb	IAmb	06 20 55.4	
	comp=Z,10nm,0.9s						
URZ	Urewera	37.75	151	P	P	06 21 00.3	+2.3
BKZ	Black Stump Fm	38.19	153	P	P	06 21 01.8	0.0
TCW	Tory Channel	38.95	157	P	P	06 21 06.3	-1.6
SNZO	South Karori	39.20	156	P	P	06 21 11.5	+1.4
RPZ	Rata Peaks	40.02	162	P	P	06 21 19.4	+2.5
MORW	Morawa	43.35	233	P	P	06 21 43.5	-0.7
MORW				IAmb	IAmb	06 21 44.4	
	comp=Z,12nm,1.1s						
NWAO	Narrogin (SRO)	44.15	228	P	P	06 21 50.2	-0.3
NWAO				IAmb	IAmb	06 22 05.8	
	comp=Z,16nm,0.9s						
RAR	Rarotonga	46.19	114	P	P	06 22 11.3	+4.5
BBJI	Bungbulang	47.09	265	P	P	06 22 11.9	-2.1
CMAR	Chiang Mai Arr	60.47	295	P	P	06 23 52.4	+1.4
	comp=Z,1.0nm,0.4s,baz=128,slow=5.8,SNR=1.9						
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	68.62	327	P	P	06 24 43.7	0.0
	comp=Z,0.7nm,0.7s,baz=151,slow=6.0,SNR=5.3						
	comp=Z,0.7nm,0.7s						
ILAR	Eielson Array	82.51	22	P	P	06 26 01.2	-1.0
	comp=Z,0.1nm,0.4s,baz=247,slow=5.1,SNR=4.9						
	comp=Z,0.1nm,0.4s						
MKAR	Makanchi Array	82.78	319	P	P	06 26 03.6	-0.4
	comp=Z,0.7nm,0.7s,baz=104,slow=5.1,SNR=6.0						
	comp=Z,0.7nm,0.7s						
QSPA	South Pole Qui	83.88	180	P	P	06 26 08.4	-1.0
HYT	Haines Junctio	84.54	27	P	P	06 26 09.3	-3.5
HYT				IAmb	IAmb	06 26 14.9	
	comp=Z,5.3nm,1.1s						
NVAR	Mina Array Bea	91.11	52	P	P	06 26 45.7	+0.8
	comp=Z,1.5nm,0.8s,baz=253,slow=6.7,SNR=6.4						
	comp=Z,1.5nm,0.8s						
YKA	Yellowknife Ar	95.51	28	P	P	06 27 03.9	-0.3
	comp=Z,0.3nm,0.6s,baz=262,slow=4.7,SNR=6.5						
	comp=Z,0.3nm,0.6s						

IDC ***22*** *06:17:08.0±0.6, 2°.88S×128°.94E, h0km, mb4.0/13, mbtmp4.1/16, ML4.3/3, Error ellipse: s-maj=21.4km s-min=9.7km az=75.0*

DJA ***22*** *06:17:11.9±0.3, 3°S±2°×12°9E±°, h10km, M4.7/13, mb5.0/4, mB6.0/1, MLv4.6/13, Mw(mB)5.6/1*

NEIC ***22*** *06:17:14.8±2.1, 2°.89S±0°.08×128°.84E±0°.03, h46km±11km, mb4.3/14, Error ellipse: s-maj=11.5km s-min=3.0km az=167.0*

ISC 22 06:17:13.1±0.5**, 2°.77S**±0°.04×**128°.96E**±0°.05**, h33km, n50, σ1s.23**/55**, mb4.1**/15**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	0.57	183	P	Pn	06 17 25.2	+0.3
MSAI				S	Sn	06 17 35.4	+2.2
AAI	Ambon	1.18	220	P	Pb	06 17 36.3	+1.2
AAI				S	Sb	06 17 53.7	+3.6
NLAI	Namlea	1.91	256	P	Pn	06 17 44.4	+1.0
NLAI				S	Sb	06 18 09.5	-1.4
BNDI	Bandanaira	1.98	151	P	Pb	06 17 48.6	+0.1
SIJI	Sorong	2.98	51	Pn	Pn	06 17 58.5	+0.2
	53nm,0.3s,baz=72,slow=9.7,SNR=120						
SIJI				Sn	Sn	06 18 34.4	+1.5
	65nm,0.3s,baz=86,slow=23,SNR=12						
	129nm,0.2s						
SANI	Sanana	3.05	284	P	Pn	06 17 56.8	-2.3
FAKI	Fak Fak	3.29	93		Pn	06 18 04.8	+2.4
FAKI	Fak Fak	3.29	93	P	Pn	06 18 03.1	+0.7
TNTI	Ternate	3.86	336		Pn	06 18 11.6	+1.3
TNTI	Ternate	3.86	336	P	Pn	06 18 10.3	0.0
LUWI	Luwuk	6.42	285		Pn	06 18 44.7	-0.7
LUWI	Luwuk	6.42	285	P	Pn	06 18 46.0	+0.6
	90nm,0.7s,10µm0.8nm						
MRSI	Marisa	7.72	295	P	Pn	06 19 02.9	-0.4
TOLI2	Tolitoli	9.04	295		Pn	06 19 21.0	-0.4
KAPI	Kappang	9.45	256	Pn	Pn	06 19 27.1	0.0
	1.4nm,0.3s,baz=63,slow=6.2,SNR=4.1						
	6.2nm,0.4s						
KAPI	Kappang	9.45	256	Pn	Pn	06 19 26.1	-0.9
MTN	Manton Dam	10.23	168	Pn	Pn	06 19 36.3	-1.5
KNRA	Kununurra	12.82	181		Pn	06 20 11.0	-2.3
WB0	Warramunga Arr	17.71	163	P	P	06 21 17.8	-0.1
WB0				IAmb	IAmb	06 21 37.5	
	comp=Z,16nm,0.8s						
WRAB	Tennant Creek	17.85	163		Pn	06 21 17.1	-2.0
WRAB				IAmb	IAmb	06 21 33.4	
	comp=Z,24nm,0.9s						
WRA	Warramunga Arr	17.86	163	P	Pn	06 21 17.5	-1.7
	comp=Z,1.5nm,0.3s,baz=345,slow=12,SNR=15						
WRA				S	Sn	06 24 34.8	-2.6
	comp=Z,1.3nm,0.8s,baz=336,slow=23,SNR=2.3						
	comp=Z,9.4nm,0.7s						
WRA	Warramunga Arr	17.86	163	P	P	06 21 20.1	+0.5
WB2	Warramunga Arr	17.86	163	P	Pn	06 21 18.2	-1.0
WB2				IAmb	IAmb	06 21 33.6	
	comp=Z,29nm,1.1s						
COEN	Coen	17.91	129	P	P	06 21 20.1	-0.1
COEN				IAmb	IAmb	06 21 33.7	
	comp=Z,31nm,1.5s						
WR0	Warramunga Arr	17.93	163	P	P	06 21 19.8	-0.7
WR0				IAmb	IAmb	06 21 31.1	
	comp=Z,9.5nm,0.7s						
MBWA	Marble Bar	20.36	205	P	P	06 21 46.2	-0.9
PSA00	Pilbara Seismi	20.68	205		P	06 21 50.2	-0.3
PSA00				IAmb	IAmb	06 21 58.3	
	comp=Z,24nm,0.8s						
AS31	Alice Springs	21.31	167		P	06 21 56.9	-0.5
ASAR	Alice Springs	21.32	167	P	P	06 21 57.5	+0.1
	comp=Z,22nm,0.6s,baz=351,slow=12,SNR=163						
ASAR				S	S	06 25 51.7	-0.8
	comp=Z,4.3nm,0.8s,baz=348,slow=22,SNR=8.6						
	comp=Z,22nm,0.6s						
CTA	Charters Tower	24.11	137	P	P	06 22 25.7	-0.3
	comp=Z,1.4nm,0.6s,baz=270,slow=7.1,SNR=1.8						
	comp=Z,1.4nm,0.6s						
CTAO	Charters Tower	24.11	137	P	P	06 22 25.8	-0.3
CTAO				IAmb	IAmb	06 22 44.7	
	comp=Z,26nm,1.4s						
FORT	Forrest	27.87	182	P	P	06 22 59.8	-0.1
RPSI	Rantau Prapat	30.51	280	P	P	06 23 23.1	-0.4
PSI	Prapat	30.53	280	P	P	06 23 23.1	-0.8
	comp=Z,6.8nm,0.7s,baz=119,slow=5.3,SNR=6.8						
	comp=Z,6.8nm,0.7s						
BBOO	Buckleboo	30.61	168	P	P	06 23 24.1	-0.2
BBOO				IAmb	IAmb	06 23 38.8	
	comp=Z,6.5nm,1.1s						
STKA	Stephens Creek	31.30	159	P	P	06 23 30.8	+0.4
	comp=Z,1.0nm,0.4s,baz=341,slow=6.3,SNR=3.6						
	comp=Z,1.0nm,0.4s						
STKA	Stephens Creek	31.30	159	P	P	06 23 29.2	-1.2
MJAR	Matsushiro Arr	40.05	12	P	P	06 24 44.1	-1.3
	comp=Z,1.5nm,0.8s,baz=185,slow=8.5,SNR=4.2						
	comp=Z,1.5nm,0.8s						
USRK	Ussuriysk Ar.	46.84	3	P	P	06 25 41.0	+1.1
	comp=Z,1.1nm,0.6s,baz=178,slow=8.7,SNR=1.3						
	comp=Z,1.1nm,0.6s						
HEH	HeiHe	52.84	359	*e*P	P	06 26 35.4	+10
HEH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	Songino Array	54.13	341	P	P	06 26 35.3	+0.2
	comp=Z,0.3nm,0.7s,baz=139,slow=9.0,SNR=2.6						
	comp=Z,0.3nm,0.7s						
MK31	Makanchi Array	64.15	326	P	P	06 27 44.7	+0.2
MKAR	Makanchi Array	64.15	326	P	P	06 27 43.8	-0.6
	comp=Z,1.5nm,0.7s,baz=127,slow=7.5,SNR=13						
	comp=Z,1.5nm,0.7s						
MKAR	Makanchi Array	64.15	326	P	P	06 27 44.3	-0.1
ZALV	Zalesovo Beam	67.36	334	P	P	06 28 07.0	+2.1
	comp=Z,0.6nm,0.6s,baz=99,slow=6.3,SNR=2.1						
	comp=Z,0.6nm,0.6s						
KURBB	Kurchatov Arra	68.39	328	P	P	06 28 11.1	-0.4
	comp=Z,1.2nm,0.7s,baz=129,slow=5.7,SNR=10						
	comp=Z,1.2nm,0.7s						
VNDA	Vanda	76.74	173	P	P	06 29 02.1	+1.4
	comp=Z,1.3nm,0.8s,baz=294,slow=5.5,SNR=1.7						
	comp=Z,1.3nm,0.8s						
ILAR	Eielson Array	89.99	25	P	P	06 30 10.6	+1.5
	comp=Z,0.4nm,0.6s,baz=252,slow=5.3,SNR=7.4						
	comp=Z,0.4nm,0.6s						
BRTR	Keskin Array B	95.85	309	P	P	06 30 36.5	-0.3
	comp=Z,0.8nm,0.9s,baz=92,slow=7.2,SNR=3.0						
	comp=Z,0.8nm,0.9s						
CPUP	Villa Florida	150.44	169	PKPbc	PKPbc	06 37 01.8	-0.4
	comp=Z,1.3nm,0.9s,baz=179,slow=5.1,SNR=2.3						

IDC ***22*** *06:23:09.4±2.2, 5°.87S×154°.75E, h155km±17km, mb3.4/8, mbtmp3.9/10, Error ellipse: s-maj=25.6km s-min=17.2km az=66.0*

NEIC ***22*** *06:23:10.4±0.5, 5°.8S±0°.2×154°.8E±0°.1, h155km±9km, mb4.0/12, Error ellipse: s-maj=27.5km s-min=6.1km az=214.0*

ISC 22 06:23:09.1±0.7**, 5°.8S**±0°.1×**154°.8E**±0°.1**, h150km, n26, σ0s.82**/27**, mb3.9**/12**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	3.12	301	Pn	Pn	06 23 59.0	+1.0
KRVT	Keravat (AS076	3.18	298	P	Pn	06 23 59.4	+0.6
	19nm,0.3s						
KRVT				S	Sn	06 24 36.5	-0.7
DZM	Mont Dzumac	19.67	146	P	P	06 27 27.1	+0.4
	6.4nm,0.5s,baz=327,slow=17,SNR=25						
DZM	Mont Dzumac	19.67	146	P	P	06 27 27.3	+0.6
DZM				IAmb	IAmb	06 27 27.9	
	comp=Z,9.3nm,0.6s						
EIDS	Eidsvold	19.76	190	P	P	06 27 27.7	+0.2
EIDS				IAmb	IAmb	06 27 40.7	
	comp=Z,5.1nm,0.9s						
WR0	Warramunga Arr	24.21	233	P	P	06 28 11.8	-0.3
WR0				IAmb	IAmb	06 28 28.3	
	comp=Z,5.7nm,1.1s						
WB0	Warramunga Arr	24.22	233	P	P	06 28 12.0	-0.2

WB2	**Warramunga Arr**	**24.35**	**233**	P	**P**	**06 28 13.1**	**-0.3**
WB2				IAmb	IAmb	06 28 13.4	
	comp=Z,2.9nm,0.8s						
WRA	**Warramunga Arr**	**24.36**	**233**	P	**P**	**06 28 12.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=57,slow=9.9,SNR=6.2						
	comp=Z,0.6nm,0.4s						
ARMA	**Armidale**	**24.64**	**187**	P	**P**	**06 28 16.2**	**+0.2**
ARMA				IAmb	IAmb	06 28 29.8	
	comp=Z,9.0nm,1.1s						
ASAR	**Alice Springs**	**26.83**	**227**	P	**P**	**06 28 34.1**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=59,slow=9.2,SNR=1.3						
	comp=Z,0.3nm,0.5s						
FORT	**Forrest**	**35.33**	**222**	P	**P**	**06 29 50.1**	**0.0**
QRZ	**Quartz Range**	**38.28**	**158**	P	**P**	**06 30 15.8**	**+0.8**
LTZ	**Lake Taylor**	**39.91**	**160**	P	**P**	**06 30 28.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**60.14**	**295**	P	**P**	**06 33 01.9**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=99,slow=5.6,SNR=1.8						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**68.28**	**327**	P	**P**	**06 33 54.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=141,slow=5.6,SNR=7.9						
	comp=Z,0.8nm,0.6s						
SONM	**Songino Array**	**68.28**	**327**	P	**P**	**06 33 55.2**	**+1.2**
SBA	**Scott Base**	**72.25**	**177**	P	**P**	**06 34 17.5**	**0.0**
SBA				IAmb	IAmb	06 34 35.0	
	comp=Z,2.7nm,0.9s						
ILAR	**Eielson Array**	**82.36**	**22**	P	**P**	**06 35 13.4**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=242,slow=5.3,SNR=6.0						
	comp=Z,0.7nm,1.0s						
MK31	**Makanchi Array**	**82.43**	**319**	P	**P**	**06 35 14.7**	**0.0**
MKAR	**Makanchi Array**	**82.43**	**319**	P	**P**	**06 35 14.3**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=103,slow=5.3,SNR=21						
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**82.43**	**319**	P	**P**	**06 35 14.7**	**0.0**
ZALV	**Zalesovo Beam**	**83.13**	**326**	P	**P**	**06 35 16.5**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=120,slow=6.1,SNR=5.9						
	comp=Z,1.2nm,0.6s						
QSPA	**South Pole Qui**	**84.14**	**180**	P	**P**	**06 35 22.4**	**-0.8**
YKA	**Yellowknife Ar**	**95.39**	**28**	P	**P**	**06 36 16.4**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=263,slow=4.9,SNR=2.3						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**152.54**	**287**	PKPbc	**PKPbc**	**06 42 47.0**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=42,slow=1.8,SNR=2.0						

*IDC **22** 06:26:25.3±2.3,5.88S×154.75E,h158km±18km,mb3.3/7, mbtmp3.8/9,Error ellipse: s-maj=26.5km s-min=17.0km az=76.0*

ISC 22 06:26:24.3±1.0,5.9S±0.2×154.9E±0.1,h150km,n10, σ1§22/11,mb3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.24**	**299**	P	**Pn**	**06 27 16.4**	**+1.7**
	83nm,0.9s						
KRVT				S	**Sn**	**06 27 52.8**	**-1.0**
DZM	**Mont Dzumac**	**19.61**	**146**	P	**P**	**06 30 42.5**	**+1.3**
	4.5nm,0.9s,baz=312,slow=15,SNR=8.1						
WRA	**Warramunga Arr**	**24.37**	**233**	P	**P**	**06 31 28.4**	**-0.3**
	0.9nm,0.3s,baz=57,slow=9.8,SNR=16						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**26.83**	**227**	P	**P**	**06 31 49.9**	**-1.1**
	0.2nm,0.3s,baz=57,slow=9.1,SNR=6.3						
	0.2nm,0.3s						
SONM	**Songino Array**	**68.34**	**327**	P	**P**	**06 37 10.5**	**+0.9**
	0.5nm,0.6s,baz=146,slow=6.2,SNR=7.0						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**82.39**	**22**	P	**P**	**06 38 28.4**	**-0.9**
	0.1nm,0.4s,baz=238,slow=5.7,SNR=4.9						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**82.49**	**319**	P	**P**	**06 38 30.1**	**-0.1**
	1.1nm,0.6s,baz=101,slow=5.4,SNR=13						
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**83.19**	**326**	P	**P**	**06 38 33.9**	**+0.3**
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.3						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**85.92**	**322**	P	**P**	**06 38 46.5**	**-0.9**
	0.2nm,0.5s,baz=103,slow=4.7,SNR=2.2						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**152.60**	**287**	PKPbc	**PKPbc**	**06 46 02.7**	**-1.5**
	0.4nm,0.7s,baz=47,slow=3.0,SNR=2.1						

*IDC **22** 06:30:39.0±1.9,5.89S×154.67E,h160km±15km,mb3.7/12, mbtmp4.2/14,Error ellipse: s-maj=20.3km s-min=13.7km az=85.0*

*NEIC **22** 06:30:41.6±1.2,6.0S±0.2×154.7E±0.1,h168km±10km, mb4.2/15,Error ellipse: s-maj=29.5km s-min=7.7km az=214.0*

ISC 22 06:30:38.6±0.7,5.94S±0.10×154.7E±0.1,h150km,n32, σ1§38/33,mb4.0/19,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.09**	**304**		**Pn**	**06 31 30.3**	**+3.1**
KRVT	**Keravat (AS076**	**3.15**	**301**	P	**Pn**	**06 31 28.9**	**+1.1**
	67nm,0.3s						
KRVT				S	**Sn**	**06 32 05.1**	**-0.8**
DZM	**Mont Dzumac**	**19.63**	**146**	P	**P**	**06 34 56.1**	**+0.4**
	12nm,0.5s,baz=336,slow=20,SNR=48						
DZM	**Mont Dzumac**	**19.63**	**146**	P	**P**	**06 34 56.8**	**+1.1**
EIDS	**Eidsvold**	**19.64**	**190**	P	**P**	**06 34 57.0**	**+1.3**
EIDS				IAmb	IAmb	06 35 13.2	
	comp=Z,17nm,1.2s						
WR0	**Warramunga Arr**	**24.07**	**233**	P	**P**	**06 35 40.5**	**+0.2**
WR0				IAmb	IAmb	06 35 41.5	
	comp=Z,9.1nm,1.1s						
WB0	**Warramunga Arr**	**24.09**	**233**	P	**P**	**06 35 40.5**	**+0.1**
WB0				IAmb	IAmb	06 36 00.5	
	comp=Z,4.8nm,1.1s						
WRAB	**Tennant Creek**	**24.21**	**233**	P	**P**	**06 35 41.6**	**+0.1**
WRAB				IAmb	IAmb	06 35 43.0	
	comp=Z,3.0nm,0.7s						
WB2	**Warramunga Arr**	**24.21**	**233**	P	**P**	**06 35 41.8**	**+0.2**
WB2				IAmb	IAmb	06 35 41.9	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**24.22**	**233**	P	**P**	**06 35 41.5**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=57,slow=9.7,SNR=38						
WRA				PcP	**PcP**	**06 39 17.1**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=52,slow=2.6,SNR=4.5						
	comp=Z,1.7nm,0.3s						
WRA	**Warramunga Arr**	**24.22**	**233**	P	**P**	**06 35 41.9**	**+0.2**
ARMA	**Armidale**	**24.53**	**186**	P	**P**	**06 35 45.5**	**+1.1**
ARMA				IAmb	IAmb	06 36 07.2	
	comp=Z,32nm,1.5s						
ASAR	**Alice Springs**	**26.69**	**227**	P	**P**	**06 36 03.0**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=56,slow=9.2,SNR=26						
ASAR				PcP	**PcP**	**06 39 22.9**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=60,slow=2.3,SNR=9.3						
	comp=Z,0.9nm,0.3s						
ASAR	**Alice Springs**	**26.69**	**227**	P	**P**	**06 36 03.1**	**-0.8**
KNRA	**Kununurra**	**27.25**	**247**	P	**P**	**06 36 07.6**	**-1.4**
STKA	**Stephens Creek**	**28.58**	**204**	P	**P**	**06 36 19.9**	**-0.7**
	comp=Z,0.6nm,0.2s,baz=4.4,slow=13,SNR=3.8						
	comp=Z,0.6nm,0.2s						
STKA	**Stephens Creek**	**28.58**	**204**	P	**P**	**06 36 20.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.86**	**244**	P	**P**	**06 36 39.6**	**-1.3**
BBOO	**Buckleboo**	**31.90**	**211**	P	**P**	**06 36 48.8**	**-1.1**
BBOO				IAmb	IAmb	06 37 00.4	
	comp=Z,5.3nm,1.1s						
MYLDM	**Lahad Datu**	**37.83**	**286**	P	**P**	**06 37 40.7**	**-0.2**
PETK	**Petropavlovsk-**	**58.88**	**2**	P	**P**	**06 40 21.0**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=141,slow=5.5,SNR=1.7						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.10**	**295**	P	**P**	**06 40 30.1**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=114,slow=4.9,SNR=5.5						
	comp=Z,1.9nm,0.3s						
SONM	**Songino Array**	**68.31**	**327**	P	**P**	**06 41 23.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=140,slow=5.1,SNR=8.4						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**68.31**	**327**	P	**P**	**06 41 24.1**	**+0.5**
SONM				IAmb	IAmb	06 41 30.5	
	comp=Z,1.3nm,1.4s						
MKAR	**Makanchi Array**	**82.44**	**319**	P	**P**	**06 42 42.8**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=104,slow=5.7,SNR=20						
	comp=Z,1.5nm,0.6s						
ILAR	**Eielson Array**	**82.49**	**22**	P	P	06 42 42.4	-1.6
	comp=Z,0.5nm,0.9s,baz=243,slow=5.1,SNR=6.6						
	comp=Z,0.5nm,0.9s						
ZALV	**Zalesovo Beam**	**83.16**	**326**	P	P	06 42 45.4	-2.4
	comp=Z,1.2nm,0.7s,baz=102,slow=4.6,SNR=5.8						
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**84.03**	**180**	P	**P**	**06 42 51.5**	**-0.6**
QSPA				IAmb	IAmb	06 42 53.2	
	comp=Z,12nm,1.4s						
KURBB	**Kurchatov Arra**	**85.88**	**322**	P	**P**	**06 42 59.8**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=101,slow=4.7,SNR=7.4						
	comp=Z,0.6nm,0.3s						
NVAR	**Mina Array Bea**	**91.27**	**52**	P	**P**	**06 43 27.7**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=254,slow=4.8,SNR=5.6						
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**98.19**	**48**	P	**P**	**06 43 57.8**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=241,slow=1.7,SNR=2.7						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**152.49**	**287**	PKPbc	**PKPdf**	**06 50 16.1**	**+4.9**
	comp=Z,0.4nm,0.4s,baz=45,slow=1.7,SNR=2.8						

*ATH **22** 06:47:00.7,34.68N×23.49E,h17km±1km,ML3.3/6,Error ellipse: s-maj=2.9km s-min=2.1km az=60.0*

*THE **22** 06:47:00.2,34.69N×23.51E,h3km±31km,ML3.0/4,Error ellipse: s-maj=31.6km s-min=1.4km az=0.0*

*ISK **22** 06:47:01.7,34.79N×23.60E,h22km,ML3.3/8*

*IDC **22** 06:47:01.1±5.2,34.70N×23.42E,h61km±30km,mb3.7/3, mbtmp3.6/6,ML3.6/3,Error ellipse: s-maj=54.2km s-min=29.5km az=14.0*

ISC 22 06:46:60.0±2.0,34.67N±0.09×23.50E±0.08,h30km±10km, n33,σ1§13/46,mb3.7/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.51**	**71**	P	**Pb**	**06 47 10.8**	**+0.3**
GVD				S	**Sb**	**06 47 17.0**	**-0.7**
	4µm,0.4s						
GVD	**Gavdhos**	**0.51**	**71**	Pg	**Pb**	**06 47 10.9**	**+0.4**
GVD				Sg	**Sb**	**06 47 17.3**	**-0.4**
GVD	**Gavdhos**	**0.51**	**71**	P	**Pb**	**06 47 11.0**	**+0.4**
GVD				S	**Sb**	**06 47 17.4**	**-0.4**
GVD				AML	AML	06 47 21.6	
	comp=N,8748µm,0.4s						
GVD				AML	AML	06 47 22.4	
	comp=E,8380µm,0.4s						
KNDR	**Palaiochora Ch**	**0.58**	**15**	P	**Pb**	**06 47 11.0**	**-0.7**
KNDR				S	**Sb**	**06 47 19.7**	**0.0**
	comp=E,1µm,0.4s						
KNDR	**Palaiochora Ch**	**0.58**	**15**	Pg	**Pb**	**06 47 11.4**	**-0.3**
KNDR				Sg	**Sb**	**06 47 18.7**	**-1.0**
KNDR	**Palaiochora Ch**	**0.58**	**15**	P	**Pb**	**06 47 11.0**	**-0.7**
KNDR				S	**Sb**	**06 47 20.2**	**+0.5**
KNDR				AML	AML	06 47 23.6	
	comp=N,7543µm,0.5s						
KNDR				AML	AML	06 47 24.4	
	comp=E,5440µm,0.3s						
IMMV	**Iera Moni Meta**	**0.88**	**26**	P	**Pb**	**06 47 16.1**	**-0.6**
IMMV				S	**Sn**	**06 47 29.3**	**+1.1**
	comp=E,2µm,0.4s						
IMMV	**Iera Moni Meta**	**0.88**	**26**	Pg	**Pb**	**06 47 16.6**	**-0.1**
IMMV				Sg	**Sb**	**06 47 27.7**	**-0.4**
IMMV	**Iera Moni Meta**	**0.88**	**26**	P	**Pb**	**06 47 16.4**	**-0.3**
IMMV				S	**Sb**	**06 47 27.9**	**-0.2**
IMMV				AML	AML	06 47 31.8	
	comp=N,4768µm,0.4s						
IMMV				AML	AML	06 47 32.3	
	comp=E,4370µm,0.4s						
RODP	**Rodopos**	**0.91**	**13**	P	**Pb**	**06 47 17.4**	**+0.2**
RODP				S	**Sn**	**06 47 30.0**	**+1.0**
	comp=E,280nm,0.4s						
RODP	**Rodopos**	**0.91**	**13**	Pg	**Pb**	**06 47 17.9**	**+0.7**
RODP				Sg	**Sb**	**06 47 28.8**	**-0.2**
CHAN	**Chania**	**0.95**	**27**	P	**Pb**	**06 47 18.2**	**+0.3**
CHAN				S	**Sn**	**06 47 30.9**	**+1.0**
CHAN				AML	AML	06 47 34.4	
	comp=N,2749µm,0.6s						
CHAN				AML	AML	06 47 39.1	
	comp=E,2189µm,0.6s						
PRNS	**Prines Rethymn**	**1.07**	**50**	P	**Pn**	**06 47 18.9**	**-0.1**
ANKY	**Antikythira Is**	**1.20**	**352**	P	**Pn**	**06 47 21.9**	**+1.1**
ANKY	**Antikythira Is**	**1.20**	**352**	P	**Pn**	**06 47 21.6**	**+0.8**
IDI	**Anoyia**	**1.29**	**61**	P	**Pn**	**06 47 23.2**	**+1.1**
	comp=E,35nm,0.3s,baz=240,slow=13,SNR=46						
IDI				S	**Sb**	**06 47 40.7**	**+0.7**
	comp=E,62nm,0.3s,baz=345,slow=21,SNR=7.5						
IDI	**Anoyia**	**1.29**	**61**	P	**Pn**	**06 47 23.2**	**+1.1**
IDI	**Anoyia**	**1.29**	**61**	Pn	**Pn**	**06 47 22.9**	**+0.8**
IDI	**Anoyia**	**1.29**	**61**	P	**Pn**	**06 47 23.1**	**+1.1**
IDI				S	**Sb**	**06 47 40.4**	**+0.4**
IDI				AML	AML	06 47 48.0	
	comp=N,675µm,0.8s						
IDI				AML	AML	06 47 48.4	
	comp=E,694µm,0.6s						
HRKL	**Herakleio**	**1.46**	**64**	P	**Pn**	**06 47 26.0**	**+1.7**
HRKL	**Herakleio**	**1.46**	**64**	Pn	**Pn**	**06 47 26.0**	**+1.7**
HRKL	**Herakleio**	**1.46**	**64**	P	**Pn**	**06 47 25.0**	**+0.7**
HRKL				AML	AML	06 48 00.4	
	comp=E,4106µm,1.0s						
HRKL				AML	AML	06 48 02.9	
	comp=N,5424µm,0.6s						
VLI	**Velíai**	**2.09**	**347**	P	**Pn**	**06 47 34.7**	**+1.6**
ZKR	**Zakros**	**2.27**	**78**	Pn	**Pn**	**06 47 37.4**	**+1.9**
ZKR	**Zakros**	**2.27**	**78**	P	**Pn**	**06 47 37.1**	**+1.6**
ITM	**Ithomi**	**2.81**	**333**	Pn	**Pn**	**06 47 45.6**	**+2.7**
APE	**Apeiranthos**	**2.90**	**34**	Pn	**Pn**	**06 47 46.8**	**+2.6**
BRTR	**Keskin Array B**	**9.53**	**55**	P	**Pn**	**06 49 15.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=242,slow=16,SNR=2.3						
	comp=N,0.5nm,0.6s						
GERES	**GERESS Array B**	**15.92**	**336**	P	**Pn**	**06 50 42.2**	**+0.3**
	comp=N,0.1nm,0.3s,baz=138,slow=13,SNR=4.5						
	comp=N,0.4nm,0.5s						
AKASG	**Malin Array Be**	**16.55**	**13**	P	**Pn**	**06 50 48.0**	**-1.8**
	comp=N,0.8nm,0.3s,baz=208,slow=9.9,SNR=4.9						
	comp=N,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**34.93**	**1**	P	P	06 53 45.5	-3.3
	comp=N,6.0nm,1.0s,baz=178,slow=6.2,SNR=4.2						
	comp=N,6.0nm,1.0s						
KURBB	**Kurchatov Arra**	**42.48**	**51**	P	**P**	**06 54 50.5**	**-1.7**
	comp=N,0.5nm,0.4s,baz=271,slow=8.5,SNR=7.3						
	comp=N,0.5nm,0.4s						
MKAR	**Makanchi Array**	**45.18**	**56**	P	**P**	**06 55 12.2**	**-1.9**
	comp=N,0.5nm,0.5s,baz=262,slow=7.4,SNR=6.8						
	comp=N,0.5nm,0.5s						

*MOS **22** 06:47:36.5±1.2,32.57N×49.74E,h10km,mb4.7/26, MS5.0/5,Error ellipse: s-maj=6.1km s-min=3.7km az=118.7*

*IDC **22** 06:47:36.9±0.6,32.66N×49.66E,h0km,mb4.2/30, mbtmp4.2/40,ML3.9/9,MS5.6/1,Error ellipse: s-maj=13.2km s-min=10.3km az=167.0*

*TEH **22** 06:47:37.9,32.73N×49.86E,h8km±50km,ML4.5*

*NEIC **22** 06:47:38.5±1.2,32.61N±0.06×49.71E±0.08,h10km±1km, mb4.7/71,Error ellipse: s-maj=12.0km s-min=10.7km az=79.0*

*DSN **22** 06:47:44.9±1.9,32.05N×49.79E,h11km,ML4.0/7,Error ellipse: s-maj=26.1km s-min=10.7km az=15.0*

*OMAN **22** 06:47:55.5±0.4,31.69N×50.19E,h10km±9km,mb5.3/20, Error ellipse: s-maj=10.1km s-min=5.9km az=6.0*

ISC 22 06:47:38.4±0.3,32.62N±0.03×49.79E±0.03,h11km,n444, σ1§77/459,mb4.6/107,MS5.3/4,27C-24D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**0.94**	**86**	Pg	**Pg**	**06 47 54.9**	**-1.6**
SHK1	**Shahrekord**	**0.97**	**107**	Pg	**Pg**	**06 47 55.5**	**-1.7**
AMIS	**Naft Sefid**	**1.04**	**204**	Pg	**Pn**	**06 47 59.8**	**+0.8**
AMIS				Sg	**Sn**	**06 48 19.5**	**+6.0**
KHMZ	**Khomeyn**	**1.13**	**7**	Pg	**Pb**	**06 47 56.9**	**-3.2**
IBRJ	**Brojen**	**1.44**	**119**	Pg	**Pn**	**06 48 05.0**	**+0.3**
AHWZ	**Ahwaz**	**1.61**	**217**	Pg	**Pg**	**06 48 10.6**	**+1.3**
AHWZ				Sg	**Sg**	**06 48 35.4**	**+5.2**
IKLH	**Kolahrood**	**1.66**	**65**	Pg	**Pn**	**06 48 07.3**	**-0.5**
QAMS	**Qamsar**	**1.75**	**50**	Pg	**Pn**	**06 48 08.4**	**-0.5**
IDOB	**Doab**	**1.78**	**311**	Pg	**Pn**	**06 48 10.0**	**+0.7**
IKFM	**Kafar-mosalman**	**1.86**	**300**	Pn	**Pn**	**06 48 12.1**	**-0.3**
HSAM	**Samen**	**1.87**	**328**	Pn	**Pn**	**06 48 10.6**	**-0.1**
IGAR	**Gharneh**	**1.92**	**96**	Pn	**Pn**	**06 48 11.9**	**+0.7**
ASAO	**Ashtian**	**1.94**	**6**	Pn	**Pn**	**06 48 11.8**	**+0.3**
ABEH	**Behbahan**	**2.05**	**169**	Pn	**Pb**	**06 48 16.3**	**+0.6**
DHL1	**Dehloran**	**2.11**	**272**	Pn	**Pb**	**06 48 16.0**	**-0.7**
IZEF	**Zefreh**	**2.16**	**82**	Pn	**Pn**	**06 48 15.5**	**+0.8**
KLNJ	**Kolanjah**	**2.22**	**136**	Pn	**Pb**	**06 48 18.1**	**-0.7**
GHVR	**GHOM**	**2.24**	**34**	Pn	**Pn**	**06 48 15.6**	**0.0**
HAGD	**Aghdareh**	**2.26**	**346**	Pn	**Pn**	**06 48 16.8**	**+0.8**
IRAM	**Ramesheh**	**2.34**	**109**	Pn	**Pb**	**06 48 19.1**	**-1.7**
KRSH	**Karshahi**	**2.38**	**55**	Pn	**Pn**	**06 48 19.6**	**+2.0**
IBZA	**Bozab**	**2.45**	**319**	Pn	**Pn**	**06 48 20.7**	**+2.1**
IKOM	**Komasi**	**2.46**	**310**	Pn	**Pn**	**06 48 20.5**	**+1.9**
IQOM	**Qom**	**2.46**	**25**	Pn	**Pn**	**06 48 19.5**	**+0.7**
NASN	**Na'in**	**2.56**	**85**	Pn	**Pg**	**06 48 30.9**	**+3.5**
ISFB	**Sefidab**	**2.68**	**49**	Pn	**Pn**	**06 48 23.5**	**+1.9**
IRAZ	**Razeghan**	**2.78**	**2**	Pn	**Pn**	**06 48 24.4**	**+1.2**
KCHF	**Cheshme Sefid,**	**2.83**	**306**	Pn	**Pn**	**06 48 25.6**	**+1.9**
KER	**Kermanshah**	**2.83**	**309**	Pn	**Pn**	**06 48 25.8**	**+2.1**
IVRN	**Varamin**	**2.87**	**34**	Pn	**Pn**	**06 48 24.8**	**+0.6**
IHSB	**Hasanabad**	**3.07**	**23**	Pn	**Pn**	**06 48 29.4**	**+2.4**
IMHD	**Mahdasht**	**3.15**	**13**	Pn	**Pn**	**06 48 29.3**	**+1.3**
ILBA	**Ilam Banvizeh**	**3.17**	**289**	Pn	**Pn**	**06 48 29.6**	**+1.3**
IGHG	**Ghaleghazi**	**3.18**	**303**	Pn	**Pn**	**06 48 30.3**	**+1.6**
ILIN	**Lien**	**3.29**	**315**	Pn	**Pn**	**06 48 32.0**	**+1.9**
ANAR	**Anarak**	**3.37**	**79**	Pn	**Pn**	**06 48 33.5**	**+2.4**
ISAD	**Sadrabad**	**3.38**	**101**	Pn	**Pn**	**06 48 33.8**	**+2.5**
TEH	**Tehran**	**3.38**	**23**	Pn	**Pn**	**06 48 33.2**	**+2.0**
KAZ1	**Kazerun**	**3.38**	**151**	Pn	**Pn**	**06 48 34.0**	**+2.8**
TEHA	**Amirabad Tehra**	**3.39**	**23**	Pn	**Pn**	**06 48 33.1**	**+1.7**
THKV	**Tehran--Karaj**	**3.41**	**15**	Pn	**Pn**	**06 48 35.0**	**+3.3**
CHTH	**Charan**	**3.46**	**18**	Pn	**Pn**	**06 48 33.4**	**+0.8**
IDMV	**Damavand**	**3.49**	**32**	Pn	**Pn**	**06 48 34.8**	**+1.9**
DAMV	**Damavand**	**3.51**	**31**	Pn	**Pn**	**06 48 33.8**	**+0.6**
IDHR	**Dehrash**	**3.51**	**307**	Pn	**Pn**	**06 48 34.7**	**+1.6**
IGZV	**Ghazvin**	**3.77**	**5**	Pn	**Pn**	**06 48 38.6**	**+1.8**
SHI	**Shiraz**	**3.78**	**141**	Pn	**Pn**	**06 48 38.6**	**+1.8**
ILAS	**Lasjerd**	**3.81**	**43**	Pn	**Pn**	**06 48 39.1**	**+1.8**
TAFT	**Taft - Yazd**	**3.83**	**102**	Pn	**Pn**	**06 48 41.7**	**+4.3**
QALM	**Alamut, Qazvin**	**3.87**	**10**	Pn	**Pn**	**06 48 40.0**	**+1.9**
IFIR	**Firoozkooh**	**3.89**	**38**	Pn	**Pn**	**06 48 40.6**	**+2.1**
ICHK	**Chekchek**	**3.93**	**94**	Pn	**Pn**	**06 48 41.5**	**+2.6**
AHBU	**AHRAM**	**3.96**	**160**	Pn	**Pn**	**06 48 41.8**	**+2.6**
KLST	**Kelardasht - M**	**4.03**	**15**	Pn	**Pn**	**06 48 42.4**	**+2.0**
YZKH	**Yazd**	**4.07**	**92**	Pn	**Pn**	**06 48 42.6**	**+1.9**
JIR1	**Jirandeh**	**4.08**	**0**	Pn	**Pn**	**06 48 42.8**	**+1.9**
MZPU	**Pul - Mazandar**	**4.09**	**21**	Pn	**Pn**	**06 48 43.6**	**+2.5**
ZNJK	**Zanjan**	**4.14**	**348**	Pn	**Pn**	**06 48 42.6**	**+0.7**
IPRN	**Parchin**	**4.18**	**30**	Pn	**Pn**	**06 48 44.5**	**+2.1**
IMEH	**Mehriz**	**4.28**	**105**	Pn	**Pn**	**06 48 46.0**	**+2.3**
GIDE	**GILAN DEYLAMAN**	**4.30**	**1**	Pn	**Pn**	**06 48 44.7**	**+0.8**
ISHM	**Shahmirzad**	**4.31**	**41**	Pn	**Pn**	**06 48 46.0**	**+1.9**
DSBU	**Dashti - Bushe**	**4.43**	**163**	Pn	**Pn**	**06 48 48.0**	**+2.3**
IANJ	**Anjilo**	**4.45**	**49**	Pn	**Pn**	**06 48 48.0**	**+1.9**
LHJ2	**Lahijan - Gila**	**4.54**	**3**	Pn	**Pn**	**06 48 49.5**	**+2.4**
IBAF	**Bafgh**	**5.01**	**100**	Pn	**Pn**	**06 48 56.8**	**+3.0**
IGLO	**Ghaloghah**	**5.11**	**40**	Pn	**Pn**	**06 48 58.8**	**+3.6**
IHSH	**Hashtrud**	**5.11**	**337**	Pn	**Pn**	**06 48 55.9**	**+0.7**
GHIR	**Ghir-Karzin**	**5.13**	**147**	Pn	**Pn**	**06 48 57.2**	**+1.9**
MAHB	**Mahabad**	**5.33**	**322**	Pn	**Pn**	**06 48 60.0**	**+1.9**
ISRB	**Sarab**	**5.48**	**342**	Pn	**Pn**	**06 49 01.0**	**+0.8**
GAS1	**Astara - Iran**	**5.81**	**353**	Pn	**Pn**	**06 49 05.3**	**+0.8**
TPRV	**Parvadeh(Tabas**	**5.82**	**84**	Pn	**Pn**	**06 49 06.3**	**+1.5**
TNSJ	**Nastanj**	**5.87**	**75**	Pn	**Pn**	**06 49 07.4**	**+2.0**
IAZR	**Azarshahr**	**5.93**	**329**	Pn	**Pn**	**06 49 08.4**	**+2.0**
IHRS	**Heris**	**6.11**	**339**	Pn	**Pn**	**06 49 09.8**	**+0.9**
TKDS	**Koohdasht(Taba**	**6.24**	**79**	Pn	**Pn**	**06 49 12.4**	**+1.9**
TABS	**Tabas**	**6.24**	**79**	Pn	**Pn**	**06 49 11.6**	**+1.1**
GRMI	**Germi**	**6.37**	**347**	Pn	**Pn**	**06 49 13.1**	**+0.8**
KRBR	**Kerman**	**6.52**	**112**	Pn	**Pn**	**06 49 16.1**	**+1.5**
ISHB	**Shabestar**	**6.60**	**330**	Pn	**Pn**	**06 49 17.0**	**+1.4**
SAKB	**Bahrain**	**6.65**	**174**	P	**Pn**	**06 49 18.3**	**+2.2**
SAKB				S	**Sn**	**06 50 24.9**	**-7.0**
SHMA	**Al-Shehemyia**	**6.82**	**171**	P	**Pn**	**06 49 21.2**	**+2.8**
SHMA				S	**Sn**	**06 50 27.5**	**-8.5**
CUKT	**

comp=Z,7.0nm,1.3s
GAZ Gaziantep 11.28 297 Pn **Pn** **06 50 18.9 -0.7**
BSY Bisya 11.82 144 P **Pn** **06 50 28.5 +1.4**
SNR=7.9
BSY S Sn 06 52 27.8 -11
SMDO Samad 12.00 140 P **Pn** **06 50 30.4 +0.8**
SNR=10
SMDO S Sn 06 52 31.8 -12
MMAI Mount Meron Ar 12.11 276 Pn **Pn** **06 50 29.5 -1.5**
comp=Z,0.7nm,0.3s,baz=85,slow=18,SNR=1.7
comp=Z,0.7nm,0.4s
WSAR Wadi Sarin 12.18 138 Pn **Pn** **06 50 31.5 -0.4**
comp=Z,3.4nm,0.3s,baz=328,slow=13,SNR=18
WSAR Sn **Sn** **06 52 42.0 -5.8**
comp=Z,0.8nm,0.3s,baz=151,slow=20,SNR=2.2
comp=Z,14nm,0.5s
WSAR Wadi Sarin 12.18 138 P **Pn** **06 50 32.1 +0.2**
SNR=5.3
WSAR S Sn 06 52 38.0 -10
NGCH Negor - Chabah 12.28 123 P **Pn** **06 50 32.4 -0.9**
KBZ Khabaz 12.34 336 Pn **Pn** **06 50 36.1 +2.1**
comp=Z,2.9nm,0.9s,baz=173,slow=12,SNR=2.4
JMDO Jabal Madar 12.59 142 P **Pn** **06 50 37.3 -0.2**
SNR=9.4
KIV Kislovodsk 12.61 336 Pn **Pn** **06 50 37.1 -0.7**
KIV Kislovodsk 12.61 336 *e*P **Pn** **06 50 37.5 -0.3**
KIV pmax pmax
comp=Z,14nm,1.1s
BNN Bunyan 12.91 303 Pn **Pn** **06 50 41.6 -0.4**
EIL Elat 13.04 261 Pn **Pn** **06 50 42.3 -1.3**
comp=Z,0.9nm,0.3s,baz=108,slow=16,SNR=2.3
EIL Sn **Sn** **06 53 08.9 +0.1**
comp=Z,0.5nm,0.3s,baz=73,slow=12,SNR=2.2
EIL Lg Lg 06 54 28.6
comp=Z,0.6nm,0.3s,baz=294,slow=18,SNR=2.0
comp=Z,3.1nm,0.5s
SOC Sochi 13.50 327 *i*P **Pn** **06 50 47.9 -2.0**
SOC *e* 06 53 15.9
SOC MLR MLR
comp=Z,5μm,16.0s
MHTO MHTO 13.69 146 P **Pn** **06 50 51.6 -0.9**
SNR=12
MHTO S **Sn** **06 53 17.5 -7.1**
CSS Mathiatis 13.88 284 Pn **Pn** **06 50 54.0 -1.2**
DOK Doka 14.48 163 P **Pn** **06 51 01.9 -1.5**
SNR=9.0
DOK S Sn 06 53 32.9 -11
BR131 Keskin Array S 14.83 303 Pn **Pn** **06 51 07.6 -0.6**
BR131 Keskin Array S 14.83 303⇓ *e*P **Pn** **06 51 08.9 +0.7**
BRTR Keskin Array B 14.83 303 Pn **Pn** **06 51 07.8 -0.4**
comp=Z,0.1nm,0.3s,baz=123,slow=11,SNR=10
comp=Z,2.3nm,0.9s
BRTR Keskin Array B 14.83 303 **Pn** **06 51 08.3 +0.1**
BRTR Keskin Array B 14.83 303 *i*P **Pn** **06 51 10.8 +2.6**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
WHFO Wadi Hawf 15.07 165 P **Pn** **06 51 10.0 -1.4**
SNR=16
WHFO S **Sn** **06 53 50.8 -7.6**
ANTO Ankara 15.49 303 Pn **Pn** **06 51 16.4 -0.5**
ANTO Ankara 15.49 303 P **Pn** **06 51 16.4 -0.5**
ANTO pmax pmax
comp=Z,20nm,1.2s
KBL Kabul 16.17 78 Pn **Pn** **06 51 27.1 +1.4**
KBL Kabul 16.17 78 P **Pn** **06 51 27.2 +1.4**
KBL pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 16.17 78 P **P** **06 51 33.6 +4.6**
SNR=6.5
ISP Isparta 16.57 294 **Pn** **06 51 30.2 -0.6**
ISP IAmb IAmb 06 51 40.1
comp=Z,36nm,0.8s
ISP Isparta 16.57 294 P **Pn** **06 51 30.2 -0.6**
ISP pmax pmax
comp=Z,36nm,0.8s
MDUB Mudurnu 16.85 303 P **Pn** **06 51 34.3 0.0**
CHGR Chuyangaron 16.85 64 **Pn** **06 51 35.5 +1.2**
CHGR Chuyangaron 16.85 64 P **Pn** **06 51 35.5 +1.2**
CHGR pmax pmax
comp=Z,27nm,1.2s
ELL Elmali 16.86 290 **Pn** **06 51 34.0 -0.4**
ELL Elmali 16.86 290 P **Pn** **06 51 34.1 -0.4**
ELL pmax pmax
comp=Z,191nm,1.4s
BORA Eskisehir 17.18 300 P **Pn** **06 51 37.8 -0.7**
MANT Manisa 18.22 295 P **Pn** **06 51 50.2 -1.3**
ABKAR Akbulak array 18.28 22 P **Pn** **06 51 51.5 -0.4**
ABKAR Akbulak array 18.28 22 P **P** **06 51 52.3 +0.3**
AKTO Aktyubinsk 18.82 16 P **Pn** **06 51 59.0 +0.6**
comp=Z,0.3nm,0.3s,baz=213,slow=11,SNR=9.8
comp=Z,4.5nm,0.8s
KK31 Karatay Array 19.38 51 P **P** **06 52 04.3 +0.1**
KK31 Karatay Array 19.38 51 P **P** **06 52 04.3 +0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 19.38 51 P **P** **06 52 04.6 +0.4**
KKAR Karatay Array 19.38 51 P **P** **06 52 04.5 +0.3**
KKAR IAmb IAmb 06 52 32.4
comp=Z,5.3nm,0.9s
KKAR Karatay Array 19.38 51 P **P** **06 52 04.6 +0.4**
VRH Novokhopyorsk 19.49 345 *e*P **P** **06 52 05.2 -0.1**
VRH pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 19.68 81 P **P** **06 52 08.2 +0.7**
NIL Nilore 19.68 81 P **P** **06 52 08.2 +0.7**
NIL pmax pmax
comp=Z,19nm,1.0s
BELG Belogornoye 19.83 356 P **P** **06 52 08.6 -0.4**
comp=Z,1.2nm,0.3s,baz=177,slow=3.4,SNR=13
comp=Z,47nm,0.8s
VSR Storozhevoye 20.16 340 *e*P **P** **06 52 11.8 -0.7**
VSR pmax pmax
comp=Z,9.0nm,1.0s
TIRR Tirgusor 20.41 312⇓P Pn 06 52 16.7 -0.8
TIRR Tirgusor 20.41 312 P Pn 06 52 16.7 -0.8
VORR Voronezh 20.55 341 P **P** **06 52 16.7 -0.1**
VORR pmax pmax
comp=Z,10.0nm,0.6s
ALN Alexandroupoli 20.69 300 P **P** **06 52 17.1 -1.4**
ALN IAmb IAmb 06 52 37.2
comp=Z,22nm,0.9s
ALN Alexandroupoli 20.69 300 P **P** **06 52 17.1 -1.4**
ALN pmax pmax
comp=Z,22nm,0.9s
IDI Anoyia 20.81 284 P **P** **06 52 20.3 +0.4**
comp=Z,51nm,0.7s,baz=68,slow=12,SNR=14
comp=Z,51nm,0.7s
IDI Anoyia 20.81 284 P **P** **06 52 18.9 -1.0**
HARR Harsova 20.82 312⇓P **P** **06 52 20.0 +0.2**
HARR Harsova 20.82 312 P **P** **06 52 20.0 +0.2**
RDO Rodhopi 21.13 301 P **P** **06 52 22.0 -1.3**
RDO IAmb IAmb 06 52 33.3
comp=Z,20nm,0.8s
RAZG Razgrad 21.26 308⇑P **P** **06 52 26.0 +1.4**
VLDR Vladesti 21.30 315⇑P **P** **06 52 26.1 +1.2**
GHRR 21.81 314⇓P **P** **06 52 31.8 +1.3**
PANC Panciu 21.87 314⇓P **P** **06 52 32.1 +0.9**
ODBI Odobesti 21.88 313⇓P **P** **06 52 32.7 +1.5**
VASR Vaslui 21.88 316⇓P **P** **06 52 32.1 +0.8**
SULR 21.89 310⇑P **P** **06 52 33.0 +1.7**
ISR Istrita 21.89 311⇑P **P** **06 52 32.8 +1.3**
ISR Istrita 21.89 311 P **P** **06 52 32.7 +1.3**
AAK Ala-Archa 21.91 56 P **P** **06 52 33.5 +1.8**
comp=Z,2.0nm,0.8s,baz=54,slow=22,SNR=2.1
AAK LR LR 07 02 31.0
comp=Z,15μm,19.9s,baz=324,slow=41
comp=Z,2.0nm,0.8s
ATD Arta Tunnel 21.94 198 P **P** **06 52 30.4 -1.7**
ATD IAmb IAmb 06 52 58.3
comp=Z,22nm,1.1s
VRI Vrincioaia 22.13 313⇑P **P** **06 52 35.0 +1.0**
VRI Vrincioaia 22.13 313 P **P** **06 52 34.9 +1.0**
PLAR PLOIESTI 22.13 311⇓P **P** **06 52 35.0 +1.0**
PLOR Plostina 22.17 313⇓P **P** **06 52 35.1 +0.7**
PLOR Plostina 22.17 313 P **P** **06 52 35.1 +0.7**
KSH Kashi 22.21 65 P **P** **06 52 35.3 +0.3**
KSH sP sP 06 52 48.5 +7.7
KSH pmax pmax
comp=Z,14nm,1.0s
SORM Soroca 22.40 320⇑P **P** **06 52 37.0 +0.2**
SORM Soroca 22.40 320 P **P** **06 52 37.0 +0.2**
MLR Muntele Rosu 22.44 312 P **P** **06 52 38.0 +0.6**
comp=Z,29nm,0.8s,baz=135,slow=5.7,SNR=31
MLR Muntele Rosu 22.44 312⇓P **P** **06 52 38.7 +1.2**
MLR Muntele Rosu 22.44 312 P **P** **06 52 36.3 -1.1**
MLR IAmb IAmb 06 52 42.5
comp=Z,30nm,0.8s
MLR Muntele Rosu 22.44 312 P **P** **06 52 38.6 +1.2**
COVR Voineasa-Covas 22.44 313⇑P **P** **06 52 38.4 +1.1**
PLVB Pleven 22.47 306⇓P **P** **06 52 39.2 +1.6**
STFAR Stefanesti-Arg 22.80 310⇑P **P** **06 52 42.3 +1.2**
OZUR 22.81 313⇑P **P** **06 52 42.1 +0.8**
MTUR Matau 22.88 311⇑P **P** **06 52 43.2 +1.1**
MTUR Matau 22.88 311 P **P** **06 52 43.1 +1.1**
VOIR 22.98 311⇓P **P** **06 52 43.4 +0.4**
VOIR 22.98 311 P **P** **06 52 43.9 +0.8**
AGG Agios Georgios 23.11 294 P **P** **06 52 43.7 -0.7**
AGG Agios Georgios 23.11 294 P **P** **06 52 43.7 -0.7**
AGG pmax pmax
comp=Z,5.0nm,1.0s
LIT Litokhoron 23.16 297 IAmb IAmb 06 52 47.9
comp=Z,29nm,1.0s
VTS Vitosha 23.20 303 P **P** **06 52 44.3 -1.1**
VTS IAmb IAmb 06 52 49.9
comp=Z,16nm,1.1s
VTS Vitosha 23.20 303 P **P** **06 52 44.3 -1.1**
VTS pmax pmax
comp=Z,16nm,1.1s
ARR Arges 23.22 311⇓P **P** **06 52 46.2 +0.7**
ITM Ithomi 23.26 289 IAmb IAmb 06 53 03.2
comp=Z,27nm,0.7s
VAY Valandovo 23.34 300 *i*P **P** **06 52 48.1 +1.4**
AK05 Malin Array Si 23.54 326 P **P** **06 52 46.8 -1.7**
AK05 IAmb IAmb 06 52 51.0
comp=Z,25nm,1.1s
AKASG Malin Array Be 23.58 326 P **P** **06 52 46.6 -2.4**
comp=Z,3.2nm,0.5s,baz=132,slow=10,SNR=17
comp=Z,3.2nm,0.5s
AKASG Malin Array Be 23.58 326 P **P** **06 52 46.9 -2.0**
AKASG Malin Array Be 23.58 326 *i*P **P** **06 52 47.2 -1.7**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 23.58 326 P **P** **06 52 47.0 -1.9**
AKBB IAmb IAmb 06 52 51.6
comp=Z,19nm,0.9s
AKBB Malin Array Si 23.58 326 P **P** **06 52 47.0 -1.9**
AKBB pmax pmax
comp=Z,19nm,1.0s
MDB Medias 23.71 312⇑P **P** **06 52 51.9 +1.7**
MDB Medias 23.71 312 P **P** **06 52 51.9 +1.7**
STIP Stip 23.71 300 *i*P **P** **06 52 49.6 -0.7**
BURAR Bucovina Array 23.89 316⇑P **P** **06 52 52.7 +0.6**
BURAR Bucovina Array 23.89 316 P **P** **06 52 51.6 -0.5**
BURAR IAmb IAmb 06 53 01.4
comp=Z,12nm,0.9s
BURAR Bucovina Array 23.89 316 P **P** **06 52 52.7 +0.6**
BUR08 Bucovina Ar. S 23.91 316 P **P** **06 52 51.7 -0.6**
BUR08 IAmb IAmb 06 53 03.8
comp=Z,16nm,1.0s
SKO Skopje 24.32 301 *i*P **P** **06 52 55.6 -0.4**
DJES Djerdap 24.34 308⇓P **P** **06 52 57.1 +0.9**
DJES Djerdap 24.34 308 P **P** **06 52 55.4 -0.8**
OBN Obninsk 24.34 341 P **P** **06 52 55.3 -0.8**
comp=Z,3.3nm,0.6s,baz=170,slow=18,SNR=4.2
comp=Z,3.3nm,0.6s
OBN Obninsk 24.34 341 P **P** **06 52 55.0 -1.0**
OBN IAmb IAmb 06 52 57.5
comp=Z,19nm,0.9s
OBN Obninsk 24.34 341⇑ *e*P **P** **06 52 55.5 -0.5**
OBN *e* 06 53 24.7
OBN pmax pmax
comp=Z,90nm,2.8s
OBN MLR MLR
comp=Z,12μm,18.0s
GZR Gura Zlata 24.43 309⇑P **P** **06 52 56.9 -0.3**
GZR Gura Zlata 24.43 309 P **P** **06 52 58.0 +0.9**
CJR Cluj-Napoca 24.44 313⇑P **P** **06 52 58.2 +1.0**
CJR Cluj-Napoca 24.44 313 P **P** **06 52 58.2 +1.0**
BOVS Bovan 24.56 305⇑P **P** **06 52 58.6 +0.4**
ARU Arti 24.57 12 P **P** **06 52 58.4 +0.2**
comp=Z,2.3nm,0.4s,baz=182,slow=6.0,SNR=9.3
comp=Z,2.3nm,0.4s
ARU Arti 24.57 12 P **P** **06 52 58.6 +0.5**
ARU IAmb IAmb 06 53 01.9
comp=Z,22nm,1.2s
ARU Arti 24.57 12 *d*/*i*P **P** **06 52 58.9 +0.7**
ARU *d* 06 53 27.3
ARU S **S** **06 57 20.2 +1.4**
ARU pmax pmax
comp=Z,23nm,1.3s
OHR Ohrid 24.61 298 *i*P **P** **06 53 00.0 +1.3**
MOS Moscow 24.63 343 *e*P **P** **06 52 58.5 -0.2**
MOS pmax pmax
comp=Z,64nm,1.0s
MDVR Moldovita 24.92 307⇓P **P** **06 53 02.4 +0.9**
BMR Baia Mare 24.94 315⇓P **P** **06 53 02.4 +0.8**
BMR Baia Mare 24.94 315 P **P** **06 53 02.3 +0.8**
DRGR 25.03 312⇑P **P** **06 53 03.5 +1.1**
DRGR 25.03 312 P **P** **06 53 03.6 +1.1**
BRVK Borovoye 25.20 30 P **P** **06 53 04.9 +1.1**
BRVK Borovoye 25.20 30⇑Pg PKiKP 07 04 26.0 +8.0
comp=Z,1.3nm,0.8s
BRVK ⇓Lg Lg 07 05 20.0
comp=Z,2.7nm,0.7s
BRVK Borovoye 25.20 30 P **P** **06 53 04.9 +1.1**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BVA0 Borovoye Array 25.22 30⇑Pg **PKiKP** **07 04 24.9 +6.9**
comp=Z,1.4nm,0.7s,baz=198,slow=16,SNR=4.1
BVA0 ⇓Lg Lg 07 05 21.2
comp=Z,1.9nm,0.7s,baz=204,slow=29
BVAR Borovoye Array 25.22 30 P **P** **06 53 04.5 +0.5**
comp=Z,2.6nm,0.5s,baz=227,slow=7.1,SNR=14
BVAR PcP **PcP** **06 56 36.5 -0.8**
comp=Z,0.7nm,0.5s,baz=206,slow=1.7,SNR=3.0
comp=Z,2.6nm,0.5s
BZS Buzias 25.27 309⇑P **P** **06 53 05.4 +0.8**
BZS Buzias 25.27 309 P **P** **06 53 05.4 +0.8**
SVE Sverdlovsk 25.34 14 *e*P **P** **06 53 07.3 +2.2**
SVE pmax pmax
comp=Z,24nm,1.9s
TIR Tirane 25.34 299 P **P** **06 53 04.7 -0.6**
TIR Tirane 25.34 299 P **P** **06 53 04.7 -0.6**
TIR pmax pmax
comp=Z,92nm,1.2s
SIRR Siria 25.48 311⇑P **P** **06 53 08.0 +1.5**
LVV L'vov 25.70 320 *e*P **P** **06 53 08.2 -0.3**
LVV *e*S **S** **06 57 30.6 -6.4**
LVV pmax pmax
comp=Z,60nm,1.3s
LVV MLR MLR
comp=E,8μm,18.0s
LVV MLR MLR
comp=N,5μm,17.0s
LVV MLR MLR
comp=Z,7μm,17.0s
DIVS Divibare 25.88 305 P **P** **06 53 08.8 -1.5**
DIVS IAmb IAmb 06 53 15.0
comp=Z,12nm,0.9s
KIRV Kirov 25.97 360 P **P** **06 53 10.5 -0.3**
comp=Z,12nm,0.6s,baz=178,slow=9.4,SNR=4.5
comp=Z,12nm,0.6s
UZH Uzhgorod 26.10 316 *e*P **P** **06 53 11.3 -0.8**
UZH *i* 06 53 15.2
FRGS Fruska Gora 26.32 307⇑P **P** **06 53 15.5 +1.4**
CRVS Cervenica-Dubn 26.71 316 *e*P **P** **06 53 20.4 +2.8**
CRVS pmax pmax
comp=Z,31nm,1.1s
CRVS Cervenica-Dubn 26.71 316 *e*P **P** **06 53 20.4 +2.8**
MNK Minsk 26.82 331 *i*P **P** **06 53 20.1 +1.6**
comp=E,4.0nm,0.9s
MNK *i*P **P** **06 53 20.1 +1.6**
comp=N,16nm,0.9s
MNK *i*P **P** **06 53 20.1 +1.6**
comp=Z,37nm,0.9s,baz=136
MNK *i* PP **PnPn** **06 54 01.9 +2.0**
MNK *i* PPP PPP 06 54 10.6
MNK *i* S **S** **06 57 57.9 +3.4**
MNK *i* SS **SnSn** **06 59 00.4 +1.9**
MNK *i* LQ LQ 07 01 52.4
MNK *i* LR LR 07 02 43.2
MNK *i* LRM MLR 07 03 43.8
comp=E,2μm,15.4s
MNK *i* LRM MLR 07 03 48.8
comp=Z,6μm,15.4s
MNK *i* LRM MLR 07 04 32.2
comp=N,4μm,15.4s
MNK Minsk 26.82 331 *i*P **P** **06 53 20.1 +1.6**
MNK *i* 06 54 01.8
MNK *i* PPP PPP 06 54 10.5
MNK *i* 06 56 42.6
MNK *i* S **S** **06 57 57.8 +3.4**
MNK *i* SS **SnSn** **06 59 00.4 +1.9**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,37nm,0.9s
MNK MLR MLR
comp=E,2μm,15.0s
MNK MLR MLR
comp=Z,6μm,15.0s
MNK MLR MLR
comp=N,4μm,15.0s
PSZ Piszkesteto 27.24 313 IAmb IAmb 06 53 26.9
comp=Z,8.9nm,0.9s
TIP Timpagrande 27.44 293 P **P** **06 53 24.1 -0.2**
NACGM Naroch 27.55 331 *e*P **P** **06 53 22.9 -2.2**
comp=Z,22nm,0.9s,baz=134
NIE Niedzica 27.62 316 *e*P **P** **06 53 28.7 +2.9**
KURBB Kurchatov Arra 27.77 41 P **P** **06 53 28.3 +1.2**
comp=Z,1.0nm,0.7s,baz=243,slow=9.6,SNR=8.1
KURBB PcP **PcP** **06 56 43.1 -0.3**
comp=Z,0.5nm,0.8s,baz=245,slow=2.9,SNR=4.9
comp=Z,1.0nm,0.7s
KURK Kurchatov 27.86 41 P **P** **06 53 28.5 +0.6**
KURK IAmb IAmb 06 53 37.5
comp=Z,8.2nm,1.1s
KURK Kurchatov 27.86 41 P **P** **06 53 28.3 +0.4**
KURK 06 56 43.1
VYHS Vyhne 28.11 313 *e*P **P** **06 53 31.4 +1.2**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 28.11 313 *e*P **P** **06 53 31.4 +1.2**
SRO Srobarova 28.18 312 *e*P **P** **06 53 32.0 +1.2**
SRO pmax pmax
comp=Z,18nm,1.4s
SRO Srobarova 28.18 312 *e*P **P** **06 53 32.0 +1.2**
SRO Srobarova 28.18 312 *e*SG **S** **06 58 19.1 +3.0**
OJC Ojcow 28.27 317 *e*P **P** **06 53 33.9 +2.2**
MAKZ Makanchi 28.30 51 P **P** **06 53 32.2 +0.2**
MK31 Makanchi Array 28.50 51 P **P** **06 53 34.3 +0.5**
MK31 Makanchi Array 28.50 51 *d*/*i*P **P** **06 53 34.6 +0.9**
MKAR Makanchi Array 28.50 51 P **P** **06 53 34.8 +1.1**
comp=Z,2.2nm,0.6s,baz=247,slow=8.2,SNR=32
MKAR PcP **PcP** **06 56 46.3 +1.0**
comp=Z,0.2nm,0.6s,baz=249,slow=2.5,SNR=1.7
comp=Z,2.2nm,0.6s
MKAR Makanchi Array 28.50 51 P **P** **06 53 34.7 +0.9**
JAVC Velka Javorina 28.97 314 *e*P **P** **06 53 40.6 +2.7**
MODS Modra-Piesok 29.03 312 *e*P **P** **06 53 38.6 +0.2**
MODS Modra-Piesok 29.03 312 *e*P **P** **06 53 38.6 +0.2**
KLMR Klimovskoe 29.04 350 *e*P **P** **06 53 35.1 -3.1**
KLMR AMP 06 53 46.3
comp=Z,30nm,1.8s
KLMR Klimovskoe 29.04 350 *e*P **P** **06 53 35.1 -3.1**
KLMR pmax pmax
comp=Z,30nm,1.8s
MAUC Maruska 29.07 315 *e*P **P** **06 53 39.3 +0.6**
MORC Moravsky Berou 29.40 315⇑P **P** **06 53 41.8 +0.1**
MORC Moravsky Berou 29.40 315 P **P** **06 53 41.5 -0.2**
MORC IAmb IAmb 06 53 44.2
comp=Z,8.2nm,1.2s
MORC Moravsky Berou 29.40 315 *e*P **P** **06 53 41.3 -0.4**
MORC Moravsky Berou 29.40 315 P **P** **06 53 41.8 +0.1**
RONA Rosalia, Austr 29.43 311 *e*P **P** **06 53 42.4 +0.4**
comp=Z,16nm,1.0s,SNR=8.9
CONA Conrad Observa 29.77 311 *e*P **P** **06 53 45.4 +0.3**
comp=Z,12nm,1.0s
ARSA Arzberg 29.79 309 *e*P **P** **06 53 45.8 +0.6**
comp=Z,12nm,1.5s
VRAC Vranov 29.79 314 P **P** **06 53 45.0 -0.1**
comp=Z,2.9nm,0.7s,baz=112,slow=11,SNR=4.7
comp=Z,2.9nm,0.7s
VRAC Vranov 29.79 314 *e*P **P** **06 53 45.1 -0.1**
KRUC Moravsky 29.82 313 *e*P **P** **06 53 45.7 +0.3**
KRLC Kraliky 29.97 315 *e*P **P** **06 53 46.4 -0.4**
KRLC Kraliky 29.97 315 *e*P **P** **06 53 46.4 -0.4**
DPC Dobruska-Polom 30.35 316 *e*P **P** **06 53 49.3 -0.8**
DPC Dobruska-Polom 30.35 316 *e*P **P** **06 53 49.3 -0.8**
OSTC Ostas 30.49 316 *e*P **P** **06 53 52.2 +0.9**
KSP Ksiaz 30.56 317 *e*P **P** **06 53 52.2 +0.3**
UPC Upice 30.59 316 *e*P **P** **06 53 53.0 +0.8**
UPC Upice 30.59 316 *e*P **P** **06 53 53.0 +0.8**
SABO M.te Sabotino 30.74 306 P **P** **06 53 53.6 0.0**
SABO IAmb IAmb 06 53 56.6
comp=Z,14nm,0.9s
MOA Molln 30.78 310 *e*P **P** **06 53 54.0 +0.2**
comp=Z,14nm,0.7s,SNR=6.8
PRED Cave del Predi 30.87 307 IAmb IAmb 06 54 07.1
comp=Z,13nm,1.1s
BIOA Bad Ischl, Aus 31.14 310 *e*P **P** **06 53 57.4 +0.3**
comp=Z,25nm,1.1s,SNR=8.4
KBA Koelnbreinsper 31.17 308 *e*P **P** **06 53 58.2 +0.6**
comp=Z,32nm,0.7s,SNR=16
PRU Pruhonice 31.28 314 *e*P **P** **06 54 01.2 +2.9**
PRU Pruhonice 31.28 314 *e*P **P** **06 54 01.2 +2.9**
CLUD Cludinico 31.33 307 P **P** **06 53 58.9 +0.1**
CLUD IAmb IAmb 06 54 00.6
comp=Z,14nm,0.9s
STAL STALIGIAL 31.41 307 P **P** **06 53 58.7 -0.7**
GEC2 GERESS Array S 31.43 312 P **P** **06 53 58.8 -0.9**
GERES GERESS Array B 31.43 312 P **P** **06 53 59.1 -0.5**
comp=Z,1.7nm,0.5s,baz=118,slow=7.9,SNR=17
GERES PcP **PcP** **06 56 52.8 -0.1**
comp=Z,0.3nm,0.5s,baz=145,slow=3.6,SNR=3.7
comp=Z,1.7nm,0.5s
WMQ Urumqi 31.56 58 *e*P **P** **06 54 03.8 +2.9**
KHC Kasperske Hory 31.59 312 IAmb IAmb 06 54 04.2
comp=Z,16nm,1.1s
KHC Kasperske Hory 31.59 312 *e*P **P** **06 54 00.9 -0.2**
KHC *ex* x 06 54 11.3
KHC Kasperske Hory 31.59 312 *e*P **P** **06 54 00.9 -0.2**
CIMO Cimolais 31.60 307 IAmb IAmb 06 54 04.1
comp=Z,16nm,1.0s
ABTA Abfaltersbach 31.65 307 *e*P **P** **06 54 02.1 +0.4**
comp=Z,24nm,0.9s,SNR=8.4
BRG Berggiesshubel 31.95 315 *e*P **P** **06 54 04.2 +0.1**
BRG Amp 06 54 07.1
comp=Z,8.5nm,1.2s
BRG Berggiesshubel 31.95 315 *e*P **P** **06 54 04.2 +0.1**
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG pmax pmax
comp=Z,1.0nm,0.4s
WTTA Wattenberg 32.35 308 *i*P **P** **06 54 07.8 -0.1**
comp=Z,61nm,1.1s,SNR=16
WATA Walderalm 32.40 308 *e*P **P** **06 54 08.0 -0.4**
comp=Z,30nm,0.6s,SNR=14
SQTA Sankt Quirin 32.62 308 *i*P **P** **06 54 09.8 -0.4**
comp=Z,19nm,0.5s,SNR=20
CLL Collm 32.66 316 P **P** **06 54 09.6 -0.8**
CLL IAmb IAmb 06 54 13.4
comp=Z,15nm,1.1s
CLL Collm 32.66 316 *i*P **P** **06 54 10.2 -0.1**
comp=Z,14nm,1.1s
CLL Collm 32.66 316 *i*P **P** **06 54 10.2 -0.1**
CLL pmax pmax
comp=Z,14nm,1.1s
DGZ Jazzator, Alta 32.66 47⇓ *e*P **P** **06 54 11.4 +0.8**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
VLC Villacollemand 32.67 302 P **P** **06 54 10.2 -0.4**
FIA1 FINESS Array S 32.67 339 P **P** **06 54 10.2 -0.1**
FIA1 IAmb IAmb 06 54 36.0
comp=Z,20nm,1.4s
FINES FINESS Array B 32.67 339 P **P** **06 54 09.7 -0.6**
comp=Z,1.4nm,0.4s,baz=141,slow=10,SNR=12
FINES PcP **PcP** **06 56 56.2 +0.4**
comp=Z,1.4nm,0.7s,baz=155,slow=4.6,SNR=0.8
comp=Z,1.4nm,0.4s
MOTA Moosalm 32.72 308 *i*P **P** **06 54 10.2 -0.9**
comp=Z,21nm,0.7s,SNR=18
ZAA0 Zalesovo Array 32.73 39 P **P** **06 54 10.6 -0.3**
ZAA0 IAmb IAmb 06 54 20.7
comp=Z,6.1nm,0.9s
ZALV Zalesovo Beam 32.73 39 P **P** **06 54 11.5 +0.5**
comp=Z,1.7nm,0.4s,baz=256,slow=9.0,SNR=10
comp=Z,1.7nm,0.4s
ZALV Zalesovo Beam 32.73 39 P **P** **06 54 10.6 -0.3**
FETA Feichten 32.90 307 *e*P **P** **06 54 12.7 0.0**
comp=Z,40nm,0.7s,SNR=11
RETA Reutte 32.98 308 *i*P **P** **06 54 12.3 -0.9**

comp=Z,6.5nm,0.6s
FUORN Ofenpass-Fuorn 33.14 307 IAmb IAmb 06 54 34.3
comp=Z,13nm,1.1s
GRA1 Grafenberg Arr 33.23 312 P **P** **06 54 14.5 -0.9**
GRF Grafenberg Arr 33.23 312 P **P** **06 54 14.5 -0.9**
GRF pmax pmax
comp=Z,23nm,1.1s
DAVOX Davos/Dischmat 33.42 307 P **P** **06 54 17.1 -0.3**
comp=Z,12nm,0.6s,baz=124,slow=5.6,SNR=23
comp=Z,12nm,0.6s
DAVA Damuels 33.52 308 *i* P **P** **06 54 17.7 -0.4**
comp=Z,24nm,0.4s,SNR=18
SENIN Lac Senin/Sane 35.12 306 P **P** **06 54 30.9 -1.1**
BNI Bardonecchia 35.40 303 P **P** **06 54 33.3 -1.1**
BNI Bardonecchia 35.40 303 P **P** **06 54 33.3 -1.1**
BNI pmax pmax
comp=Z,42nm,1.1s
ECH Echery 35.50 309 P **P** **06 54 34.0 -1.1**
ECH IAmb IAmb 06 54 37.1
comp=Z,9.0nm,0.9s
ECH Echery 35.50 309 P **P** **06 54 34.0 -1.1**
ECH pmax pmax
comp=Z,9.0nm,0.9s
WLF Walferdange 36.42 311 P **P** **06 54 41.7 -1.2**
WLF IAmb IAmb 06 54 45.4
comp=Z,18nm,1.0s
WLF Walferdange 36.42 311 P **P** **06 54 41.7 -1.2**
WLF pmax pmax
comp=Z,18nm,1.0s
GOMU GeErMu 37.07 72 P P 06 54 56.3 +7.2
GOMU pP sP 06 54 59.6 +4.7
GOMU sP pP 06 55 00.8 +7.5
GOMU pmax pmax
comp=Z,2.0nm,1.1s
NC405 NORSAR Array S 37.67 331 P **P** **06 54 51.8 -1.5**
NC405 IAmb IAmb 06 55 03.7
comp=Z,11nm,1.1s
SNF Seneffe 37.76 312 *dP* **P** **06 54 56.2 +1.9**
comp=Z,6.9nm,1.0s
NB2 NORSAR Subarra 37.84 330 P **P** **06 54 53.5 -1.3**
comp=Z,4.9nm,1.4s,baz=123,slow=8.6
NOA NORSAR Array B 37.84 330 P **P** **06 54 53.0 -1.8**
comp=Z,0.7nm,0.6s,baz=122,slow=8.2,SNR=4.3
comp=Z,0.7nm,0.6s
ARCES ARCESS Array B 39.40 347 P **P** **06 55 07.8 0.0**
comp=Z,3.2nm,0.9s,baz=152,slow=9.8,SNR=1.4
comp=Z,3.2nm,0.9s
GTA Gaotai 40.60 66 *eP* **P** **06 55 20.5 +2.1**
GTA pP sP 06 55 28.6 +4.4
GTA sP pP 06 55 32.6 +10
GTA pmax pmax
comp=Z,2.0nm,0.9s
NRIK Noril'sk 42.41 19 P **P** **06 55 33.5 +0.9**
comp=Z,1.3nm,0.3s,baz=238,slow=3.2,SNR=3.8
comp=Z,1.3nm,0.3s
NRIK Noril'sk 42.41 19 *eP* **P** **06 55 33.7 +1.1**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
ESDC Sonseca Array 43.42 295 P **P** **06 55 41.1 -0.2**
comp=Z,0.7nm,0.8s,baz=76,slow=7.8,SNR=5.4
comp=Z,0.7nm,0.8s
DSB Dublin 44.67 315 P **P** **06 55 50.7 -0.3**
DSB IAmb IAmb 06 56 03.0
comp=Z,21nm,1.2s
SONM Songino Array 44.82 53 P **P** **06 55 52.3 -0.2**
comp=Z,0.3nm,0.6s,baz=267,slow=5.8,SNR=2.2
comp=Z,0.3nm,0.6s
PBRG Braganca 45.23 299 *eP* **P** **06 55 57.2 +1.5**
comp=Z,22nm,1.6s
PZH PanZhiHua 45.24 84 P **P** **06 55 57.3 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
ULN Ulaanbaatar 45.26 53 *eP* **P** **06 55 57.0 +1.0**
ULN pmax pmax
comp=Z,2.0nm,0.9s
MDT Midelt 45.32 286 P **P** **06 55 55.0 -1.6**
comp=Z,1.7nm,1.0s,baz=84,slow=9.2,SNR=1.6
comp=Z,1.7nm,1.0s
MTE Manteigas 46.03 297 *eP* **P** **06 56 04.3 +2.2**
comp=Z,21nm,1.8s
PBAR Barrancos 46.04 294 *eP* **P** **06 56 02.3 +0.2**
comp=Z,42nm,1.5s
PCBR Castelo Branco 46.08 296 *eP* **P** **06 56 03.4 +1.0**
PMRV Marv??o 46.08 295 *eP* **P** **06 56 01.6 -0.9**
CMAR Chiang Mai Arr 46.16 95 P **P** **06 56 04.8 +1.5**
comp=Z,0.7nm,0.3s,baz=287,slow=9.2,SNR=2.0
comp=Z,0.7nm,0.3s
PESTR Estremoz 46.33 295 *eP* **P** **06 56 03.8 -0.7**
PGAV Gavieira, Arco 46.34 299 *eP* **P** **06 56 06.4 +1.8**
KMI Kunming 46.58 85 P **P** **06 56 07.5 +0.7**
KMI pP sP 06 56 16.6 +4.0
KMI sP pP 06 56 21.0 +10
KMI pmax pmax
comp=Z,8.0nm,1.1s
PBEJ Beja 46.71 294 *eP* **P** **06 56 08.6 +1.2**
comp=Z,30nm,1.5s
PNCL Nicolau / Gran 47.20 294 *eP* **P** **06 56 12.7 +1.5**
TORD Torodi Ar. Bea 47.91 258 P **P** **06 56 16.8 -0.1**
comp=Z,3.4nm,0.6s,baz=49,slow=6.5,SNR=19
comp=Z,3.4nm,0.6s
TORD Torodi Ar. Bea 47.91 258 P **P** **06 56 16.9 -0.1**
TORD IAmb IAmb 06 56 29.7
comp=Z,4.1nm,1.0s
XAN Xi'an 48.82 71 P P 06 56 18.3 -5.6
XAN pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 49.29 62 *eP* **P** **06 56 27.3 -0.1**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,15μm,6.7s
OPO Ambohidratompo 50.96 183 P **P** **06 56 41.0 +0.8**
comp=Z,3.1nm,0.8s,baz=334,slow=8.8,SNR=2.7
comp=Z,3.1nm,0.8s
TIXI Tiksi 55.98 22 *eP* **P** **06 57 15.8 -0.6**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
DBIC Dimbokro 56.84 255 P **P** **06 57 22.4 -0.9**
comp=Z,1.6nm,0.4s,baz=32,slow=6.6,SNR=5.1
comp=Z,1.6nm,0.4s
DBIC Dimbokro 56.84 255 P **P** **06 57 22.7 -0.6**
DBIC Dimbokro 56.84 255 P **P** **06 57 22.7 -0.6**
DBIC pmax pmax
comp=Z,23nm,1.5s
NJ2 Nanjing 57.36 70 *eP* **P** **06 57 26.0 -0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
HEH HeiHe 58.17 48 *eP* **P** **06 57 33.5 +1.3**
HEH pmax pmax
comp=Z,4.0nm,1.4s
SUMG Summit 58.71 339 *i* P **P** **06 57 35.0 -1.1**
LBTB Lobatse 61.78 205 P **P** **06 57 57.4 +0.1**
LBTB IAmb IAmb 06 58 07.5
comp=Z,6.4nm,0.9s
LBTB Lobatse 61.78 205 P **P** **06 57 57.4 +0.1**
LBTB pmax pmax
comp=Z,6.0nm,1.0s
KSRS Korea Array 62.42 61 P **P** **06 58 01.3 -0.2**
comp=Z,1.0nm,0.5s,baz=285,slow=7.3,SNR=1.8
comp=Z,1.0nm,0.5s
EUNU Eureka 65.01 352 P **P** **06 58 17.9 -0.1**
EUNU IAmb IAmb 06 58 34.9
comp=Z,8.1nm,1.5s
BOSA Boshof 65.20 204 P **P** **06 58 20.4 +0.5**
comp=Z,3.8nm,0.9s,baz=4.6,slow=5.1,SNR=7.0
comp=Z,3.8nm,0.9s
BOSA Boshof 65.20 204 P **P** **06 58 19.8 -0.1**
SEY Seymchan 66.87 29 *eP* **P** **06 58 27.8 -2.3**
SEY pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 69.17 21 *i* P **P** **06 58 44.4 -0.2**
BILL *i* 06 58 53.2
BILL *i* 06 59 08.3
BILL pmax pmax
comp=Z,1.0nm,1.0s
A36M Sachs Harbour 75.62 358 P **P** **06 59 23.1 +0.1**
SCHQ Schefferville 77.36 328 P **P** **06 59 31.9 -1.2**
comp=Z,6.2nm,0.8s,baz=55,slow=4.6,SNR=7.4
comp=Z,6.2nm,0.8s
SCHQ Schefferville 77.36 328 P **P** **06 59 32.4 -0.7**
SCHQ IAmb IAmb 06 59 35.3
comp=Z,12nm,1.1s
C36M Paulatuk 78.23 358 P **P** **06 59 37.0 -0.6**
C36M IAmb IAmb 06 59 37.8
comp=Z,5.0nm,0.9s
INK Inuvik 79.35 1 P **P** **06 59 43.2 -0.5**
INK pmax pmax
comp=Z,5.0nm,1.5s
COLA College 81.85 8 *eP* **P** **06 59 57.0 -0.3**
COLA pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 82.06 7 P **P** **06 59 57.5 -0.9**
comp=Z,0.8nm,0.8s,baz=336,slow=4.4,SNR=10
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 84.39 353 P **P** **07 00 09.7 -0.8**
comp=Z,1.9nm,0.9s,baz=6.0,slow=5.4,SNR=32
comp=Z,1.9nm,0.9s
YKA Yellowknife Ar 84.39 353 P **P** **07 00 09.8 -0.7**
YKA Yellowknife Ar 84.39 353 *i* P **P** **07 00 10.0 -0.5**
YKA pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 97.75 113 P Pdif 07 01 14.3 +0.4
comp=Z,0.1nm,0.8s,baz=320,slow=4.1,SNR=1.3
comp=Z,0.1nm,0.8s

IDC 22 06:47:59.6±2.5,5°90S×154°68E,h159km±22km,mb2.9/3,
mbtmp3.5/5,Error ellipse: s-maj=40.2km s-min=22.1km
az=47.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.08**	**301**	P	Pn	06 48 49.6	**+1.3**
	63nm,0.8s						
KRVT				S	Sn	06 49 26.1	0.0
DZM	**Mont Dzumac**	**19.70**	**146**	P	P	06 52 16.5	-0.4
	2.7nm,0.5s,baz=322,slow=19,SNR=11						
WRA	**Warramunga Arr**	**24.20**	**233**	P	P	06 53 02.1	+0.4
	0.3nm,0.6s,baz=58,slow=10.0,SNR=2.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**26.68**	**226**	P	P	06 53 23.8	-0.3
	0.1nm,0.6s,baz=56,slow=8.2,SNR=1.3						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**82.38**	**319**	P	P	07 00 03.9	0.0
	0.5nm,0.6s,baz=93,slow=4.8,SNR=4.1						
	0.5nm,0.6s						

SJA ***22*** *06:48:10.9±0.7,21°.35S×67°.44W,h204km±5km, ML4.4, MW4.0*
NEIC ***22*** *06:48:11.9±1.6,21°.41S±0°.03×67°.49W±0°.09,h211km±7km, mb4.3/11, ML4.1(GUC), Error ellipse: s-maj=12.9km s-min=4.3km az=83.0*
IDC ***22*** *06:48:11.6±0.7,21°.38S×67°.15W,h168km±9km, mb4.0/4, mbtmp4.2/13, Error ellipse: s-maj=15.7km s-min=9.9km az=118.0*
SCB ***22*** *06:48:13.1±1.3,21°.39S×67°.46W,h175km±15km, ML4.4/1, MW3.6, Error ellipse: s-maj=6.6km s-min=4.5km az=0.0*
VAO ***22*** *06:48:13.2±0.4,21°.16S×67°.29W,h178km±4km, mb4.0*
GUC ***22*** *06:48:13.5±0.7,21°.34S×67°.59W,h207km±9km, ML4.1*

ISC 22 06:48:12.2±0.5,21°36S±0°.03×67°43W±0°.03,h200km±6km,
n199,σt²49/277,mb4.1/5,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.68**	**87**	Pg	**Pn**	**06 48 48.0**	**-0.1**
MOCB				Sg	**S**	**06 49 13.7**	**-1.6**
MOCB				IAML		06 49 14.3	
	2μm,0.6s						
PB09	**IPOC Station P**	**1.74**	**255**		**Pn**	**06 48 48.6**	**+0.2**
PB09				Sn	**S**	**06 49 15.6**	**-0.3**
PB09	**IPOC Station P**	**1.74**	**255**	*eP*	**Pn**	**06 48 48.7**	**+0.3**
PB09				*i* S	**S**	**06 49 15.6**	**-0.3**
PB09				IAML		06 49 19.2	
	comp=E,828nm,0.5s						
PB09	**IPOC Station P**	**1.74**	**255**	*eP*	**Pn**	**06 48 48.0**	**-0.3**
PB09				*eS*	**S**	**06 49 16.6**	**+0.7**
PB09				*eS*	S	06 49 17.7	+1.8
PB09	**IPOC Station P**	**1.74**	**255**	*eP*	**Pn**	**06 48 48.0**	**-0.3**
PB09				*eS*	**S**	**06 49 16.6**	**+0.7**
PB09				*eS*	S	06 49 17.7	+1.8
LVC	**Limon Verde**	**1.85**	**227**	P	**Pn**	**06 48 49.7**	**+0.1**
	comp=E,112nm,0.2s,baz=45,slow=8.2,SNR=639						
LVC				S	**S**	**06 49 17.4**	**-0.9**
	comp=E,125nm,0.3s,baz=214,slow=19,SNR=40						
LVC	**Limon Verde**	**1.85**	**227**	Pn	**Pn**	**06 48 49.5**	**-0.1**
LVC				Sn	**S**	**06 49 17.7**	**-0.6**
LVC	**Limon Verde**	**1.85**	**227**	Pg	**Pn**	**06 48 49.5**	**-0.1**
LVC	**Limon Verde**	**1.85**	**227**	*eP*	**Pn**	**06 48 49.8**	**+0.2**
PB01	**IPOC Station P**	**1.94**	**279**		**Pn**	**06 48 49.7**	**-0.4**
PB01	**IPOC Station P**	**1.94**	**279**	*eP*	**Pn**	**06 48 49.8**	**-0.4**
PB01				*i* S	**S**	**06 49 18.1**	**-1.1**
PB01				IAML		06 49 19.2	
	comp=N,1μm,0.3s						
PB01	**IPOC Station P**	**1.94**	**279**	*eP*	**Pn**	**06 48 49.9**	**-0.4**
PB01				*eS*	**S**	**06 49 18.7**	**-0.5**
PB01				*eS*	S	06 49 20.4	+1.2
PB01				IAML		06 49 20.8	
	comp=Z,925nm,0.2s						
PB01	**IPOC Station P**	**1.94**	**279**	*eP*	**Pn**	**06 48 49.9**	**-0.4**
PB01				*eS*	**S**	**06 49 18.7**	**-0.5**
PB01				*eS*	S	06 49 20.4	+1.2
PB01				IAML		06 49 20.8	
	comp=Z,925nm,0.2s						
YJA	**Yavi**	**1.96**	**115**	*eP*	**Pn**	**06 48 51.0**	**+0.2**
YJA				*eS*	**S**	**06 49 20.4**	**+0.2**
YJA	**Yavi**	**1.96**	**115**	*eP*	**Pn**	**06 48 51.0**	**+0.2**
YJA				*eS*	**S**	**06 49 20.4**	**+0.2**
PB03	**IPOC Station P**	**2.27**	**252**		**Pn**	**06 48 53.6**	**-0.1**
PB03	**IPOC Station P**	**2.27**	**252**	*eP*	**Pn**	**06 48 53.0**	**-0.7**
PB03				*eS*	**S**	**06 49 24.0**	**-1.4**
PB03				IAML		06 49 24.4	
	comp=Z,2μm,0.2s						
PB03	**IPOC Station P**	**2.27**	**252**	*eP*	**Pn**	**06 48 53.0**	**-0.7**
PB03				*eS*	**S**	**06 49 24.0**	**-1.4**
PB03				IAML		06 49 24.4	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**2.30**	**270**		**Pn**	**06 48 53.5**	**-0.5**
PB02	**IPOC Station P**	**2.30**	**270**	*eP*	**Pn**	**06 48 53.6**	**-0.4**
PB02				*i* S	**S**	**06 49 24.2**	**-1.6**
PB02	**IPOC Station P**	**2.30**	**270**	*eP*	**Pn**	**06 48 53.0**	**-1.0**
PB02				*eP*	**Pn**	**06 48 53.6**	**-0.4**
PB02				*eS*	**S**	**06 49 24.5**	**-1.4**
PB02				IAML		06 49 28.1	
	comp=Z,3μm,0.2s						
PB02	**IPOC Station P**	**2.30**	**270**	*eP*	**Pn**	**06 48 53.0**	**-1.0**
PB02				*eP*	**Pn**	**06 48 53.6**	**-0.4**
PB02				*eS*	**S**	**06 49 24.5**	**-1.4**
PB02				IAML		06 49 28.1	
	comp=Z,3μm,0.2s						
PB02	**IPOC Station P**	**2.30**	**270**	Pg	**Pn**	**06 48 53.7**	**-0.3**
PB02	**IPOC Station P**	**2.30**	**270**	Pg	**Pn**	**06 48 53.7**	**-0.3**
PB02				Sg	**S**	**06 49 24.1**	**-1.7**
PB07	**IPOC Station P**	**2.31**	**260**		**Pn**	**06 48 53.8**	**-0.4**
PB07	**IPOC Station P**	**2.31**	**260**	*eP*	**Pn**	**06 48 53.9**	**-0.3**
PB07				*i* S	**S**	**06 49 24.4**	**-1.9**
PB07	**IPOC Station P**	**2.31**	**260**	*eP*	**Pn**	**06 48 54.0**	**-0.3**
PB07				*eS*	**S**	**06 49 25.2**	**-1.1**
PB07				IAML		06 49 26.9	
	comp=Z,1μm,0.2s						
PB07	**IPOC Station P**	**2.31**	**260**	*eP*	**Pn**	**06 48 54.0**	**-0.3**
PB07				*eS*	**S**	**06 49 25.2**	**-1.1**
PB07				IAML		06 49 26.9	
	comp=Z,1μm,0.2s						
GO01	**Chusmiza**	**2.35**	**315**		**Pn**	**06 48 55.0**	**0.0**
GO01	**Chusmiza**	**2.35**	**315**	*eP*	**Pn**	**06 48 55.0**	**0.0**
GO01				*eS*	**S**	**06 49 31.6**	**+3.9**
GO01	**Chusmiza**	**2.35**	**315**	*eP*	**Pn**	**06 48 55.0**	**0.0**
GO01				*eS*	**S**	**06 49 31.6**	**+3.9**
GO01	**Chusmiza**	**2.35**	**315**	Pg	**Pn**	**06 48 55.2**	**+0.2**
PB06	**IPOC Station P**	**2.40**	**235**		**Pn**	**06 48 54.8**	**-0.3**
PB06	**IPOC Station P**	**2.40**	**235**	*eP*	**Pn**	**06 48 55.0**	**-0.1**
PB06				*i* S	**S**	**06 49 26.9**	**-1.0**
PB06	**IPOC Station P**	**2.40**	**235**	*eP*	**Pn**	**06 48 54.9**	**-0.3**
PB06				*eP*	**Pn**	**06 48 55.0**	**-0.1**
PB06				*eS*	**S**	**06 49 27.3**	**-0.7**
PB06				IAML		06 49 29.6	
	comp=Z,596nm,0.2s						
PB06	**IPOC Station P**	**2.40**	**235**	*eP*	**Pn**	**06 48 54.9**	**-0.3**
PB06				*eP*	**Pn**	**06 48 55.0**	**-0.1**
PB06				*eS*	**S**	**06 49 27.3**	**-0.7**
PB06				IAML		06 49 29.6	
	comp=Z,596nm,0.2s						
PB06	**IPOC Station P**	**2.40**	**235**	Pg	**Pn**	**06 48 55.0**	**-0.1**
HMBC	**Humberstone**	**2.53**	**295**	*eP*	**Pn**	**06 48 55.9**	**-0.8**
HMBC				*i* S	**S**	**06 49 28.6**	**-2.0**
AOVT	**TarijaAcel**	**2.55**	**95**	Pg	**Pn**	**06 48 56.6**	**-0.3**
PATCX	**Punta Patache**	**2.59**	**281**		**Pn**	**06 48 56.7**	**-0.6**
PATCX	**Punta Patache**	**2.59**	**281**	*eP*	**Pn**	**06 48 56.9**	**-0.4**
PATCX				*i* S	**S**	**06 49 29.8**	**-1.9**
PATCX	**Punta Patache**	**2.59**	**281**	*eP*	**Pn**	**06 48 56.9**	**-0.4**
PATCX				*eS*	**S**	**06 49 30.4**	**-1.3**
PATCX				IAML		06 49 32.9	
	comp=Z,903nm,0.3s						
PATCX	**Punta Patache**	**2.59**	**281**	*eP*	**Pn**	**06 48 56.9**	**-0.4**
PATCX				*eS*	**S**	**06 49 30.4**	**-1.3**
PATCX				IAML		06 49 32.9	
	comp=Z,903nm,0.3s						
PB11	**IPOC Station P**	**2.62**	**307**		**Pn**	**06 48 57.2**	**-0.5**
PB11	**IPOC Station P**	**2.62**	**307**	*eP*	**Pn**	**06 48 57.1**	**-0.5**
PB11				*i* S	**S**	**06 49 30.5**	**-1.9**
PB11	**IPOC Station P**	**2.62**	**307**	*eP*	**Pn**	**06 48 57.0**	**-0.6**
PB11				*eP*	**Pn**	**06 48 57.3**	**-0.3**
PB11				*eS*	**S**	**06 49 31.2**	**-1.1**
PB11				IAML		06 49 31.6	
	comp=Z,585nm,0.2s						
PB11	**IPOC Station P**	**2.62**	**307**	*eP*	**Pn**	**06 48 57.0**	**-0.6**
PB11				*eP*	**Pn**	**06 48 57.3**	**-0.3**
PB11				*eS*	**S**	**06 49 31.2**	**-1.1**
PB11				IAML		06 49 31.6	
	comp=Z,585nm,0.2s						
TA01	**Diego Aracena**	**2.69**	**287**		**Pn**	**06 48 57.4**	**-0.8**
TA01	**Diego Aracena**	**2.69**	**287**	*eP*	**Pn**	**06 48 57.3**	**-0.8**
TA01				*i* S	**S**	**06 49 30.5**	**-2.9**
TA01	**Diego Aracena**	**2.69**	**287**	*eP*	**Pn**	**06 48 57.0**	**-1.2**
TA01				*eS*	**S**	**06 49 31.5**	**-1.9**
TA01	**Diego Aracena**	**2.69**	**287**	*eP*	**Pn**	**06 48 57.0**	**-1.2**
TA01				*eS*	**S**	**06 49 31.5**	**-1.9**
TA01	**Diego Aracena**	**2.69**	**287**	Pg	**Pn**	**06 48 57.4**	**-0.8**
PB04	**IPOC Station P**	**2.71**	**248**	Pn	**Pn**	**06 48 58.4**	**-0.2**
PB04	**IPOC Station P**	**2.71**	**248**	*eP*	**Pn**	**06 48 58.2**	**-0.4**
PB04				*i* S	**S**	**06 49 32.0**	**-2.1**
PB04	**IPOC Station P**	**2.71**	**248**	*eP*	**Pn**	**06 48 58.0**	**-0.6**
PB04				*eS*	**S**	**06 49 32.7**	**-1.4**
PB04				IAML		06 49 37.8	
	comp=Z,853nm,0.2s						
PB04	**IPOC Station P**	**2.71**	**248**	*eP*	**Pn**	**06 48 58.0**	**-0.6**
PB04				*eS*	**S**	**06 49 32.7**	**-1.4**
PB04				IAML		06 49 37.8	
	comp=Z,853nm,0.2s						
PB04	**IPOC Station P**	**2.71**	**248**	Pg	**Pn**	**06 48 58.3**	**-0.3**
PB04				Sg	**S**	**06 49 32.3**	**-1.8**
TA02	**Huaiquique**	**2.75**	**293**		**Pn**	**06 48 58.0**	**-0.9**
TA02	**Huaiquique**	**2.75**	**293**	*eP*	**Pn**	**06 48 58.0**	**-0.9**
TA02				*eP*	**Pn**	**06 48 58.2**	**-0.7**
TA02				*eS*	**S**	**06 49 33.2**	**-1.4**
TA02				IAML		06 49 36.9	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**2.75**	**293**	*eP*	**Pn**	**06 48 58.0**	**-0.9**
TA02				*eP*	**Pn**	**06 48 58.2**	**-0.7**
TA02				*eS*	**S**	**06 49 33.2**	**-1.4**
TA02				IAML		06 49 36.9	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**2.75**	**293**	Pg	**Pn**	**06 48 58.0**	**-0.9**
MNMC	**Minye Minye**	**3.00**	**317**		**Pn**	**06 49 02.3**	**+0.1**
MNMC	**Minye Minye**	**3.00**	**317**	*eP*	**Pn**	**06 49 02.5**	**+0.3**
MNMC				*i* S	**S**	**06 49 39.2**	**-1.4**
MNMCX	**Minye Minye**	**3.00**	**317**	*eP*	**Pn**	**06 49 02.0**	**-0.2**
MNMCX				*eS*	**S**	**06 49 40.5**	**0.0**
MNMCX				IAML		06 49 44.9	
	comp=Z,638nm,0.2s						
MNMCX	**Minye Minye**	**3.00**	**317**	*eP*	**Pn**	**06 49 02.0**	**-0.2**
MNMCX				*eS*	**S**	**06 49 40.5**	**0.0**
MNMCX				IAML		06 49 44.9	
	comp=Z,638nm,0.2s						
PSGC	**Pisagua**	**3.07**	**304**	*eP*	**Pn**	**06 49 01.5**	**-1.3**
PSGC				*i* S	**S**	**06 49 39.0**	**-2.7**
PSGCX	**Pisagua**	**3.07**	**304**		**Pn**	**06 49 01.9**	**-0.9**
PSGCX	**Pisagua**	**3.07**	**304**	*eP*	**Pn**	**06 49 01.9**	**-0.9**
PSGCX				*eS*	**S**	**06 49 39.5**	**-2.1**
PSGCX				IAML		06 49 41.1	
	comp=Z,428nm,0.2s						
PSGCX	**Pisagua**	**3.07**	**304**	*eP*	**Pn**	**06 49 01.9**	**-0.9**
PSGCX				*eS*	**S**	**06 49 39.5**	**-2.1**
PSGCX				IAML		06 49 41.1	
	comp=Z,428nm,0.2s						
SOET	**ToroToro**	**3.57**	**26**	Pg	**Pn**	**06 49 09.3**	**+0.2**
PB16	**IPOC Station P**	**3.58**	**327**	Pn	**Pn**	**06 49 10.1**	**+0.6**
PB16	**IPOC Station P**	**3.58**	**327**	*eP*	**Pn**	**06 49 10.0**	**+0.6**
PB16				*eS*	**S**	**06 49 54.6**	**+1.0**
PB16	**IPOC Station P**	**3.58**	**327**	*eP*	**Pn**	**06 49 10.0**	**+0.6**
PB16				*eS*	**S**	**06 49 54.6**	**+1.0**
AZAP	**Zapla**	**3.59**	**143**	*eP*	**Pn**	**06 49 09.1**	**-0.1**
AZAP				*eS*	**S**	**06 49 52.2**	**-1.2**
AZAP				IAML		06 49 57.3	
	comp=Z,279nm,0.6s						
AZAP	**Zapla**	**3.59**	**143**	*eP*	**Pn**	**06 49 09.1**	**-0.1**
AZAP				*eS*	**S**	**06 49 52.2**	**-1.2**
AZAP				IAML		06 49 57.3	
	comp=Z,279nm,0.6s						
PB10	**IPOC Station P**	**3.60**	**233**	Pn	**Pn**	**06 49 08.8**	**-0.3**
PB10	**IPOC Station P**	**3.60**	**233**	*eP*	**Pn**	**06 49 08.6**	**-0.4**
PB10				*eS*	**S**	**06 49 47.5**	**-5.5**
PB10	**IPOC Station P**	**3.60**	**233**	*eP*	**Pn**	**06 49 08.6**	**-0.4**
PB10				*eS*	**S**	**06 49 47.5**	**-5.5**
ASTB	**Santa Barbara**	**3.77**	**134**	*eP*	**Pn**	**06 49 11.4**	**+0.1**
ASTB				*eS*	**S**	**06 49 56.3**	**-0.8**
ASTB	**Santa Barbara**	**3.77**	**134**	*eP*	**Pn**	**06 49 11.4**	**+0.1**
ASTB				*eS*	**S**	**06 49 56.3**	**-0.8**
SLA	**San Lorenzo**	**3.79**	**152**	*eP*	**Pn**	**06 49 13.0**	**+1.4**
SLA				*eS*	**S**	**06 49 57.7**	**+0.1**
SLA	**San Lorenzo**	**3.79**	**152**	*eP*	**Pn**	**06 49 13.0**	**+1.4**
SLA				*eS*	**S**	**06 49 57.7**	**+0.1**
PB12	**IPOC Station P**	**3.85**	**315**	Pn	**Pn**	**06 49 10.6**	**-1.7**
PB12	**IPOC Station P**	**3.85**	**315**	*eP*	**Pn**	**06 49 10.0**	**-2.3**
PB12				*eP*	**Pn**	**06 49 10.7**	**-1.6**
PB12				*eS*	**S**	**06 49 55.7**	**-3.1**
PB12				IAML		06 50 02.0	
	comp=Z,241nm,0.3s						
PB12	**IPOC Station P**	**3.85**	**315**	*eP*	**Pn**	**06 49 10.0**	**-2.3**
PB12				*eP*	**Pn**	**06 49 10.7**	**-1.6**
PB12				*eS*	**S**	**06 49 55.7**	**-3.1**
PB12				IAML		06 50 02.0	
	comp=Z,241nm,0.3s						
ALOL	**LOMAS DE OLMED**	**4.02**	**128**	*eP*	**Pn**	**06 49 13.0**	**-1.3**
ALOL				*eP*	**Pn**	**06 49 13.5**	**-0.8**
ALOL				*eS*	**S**	**06 49 59.7**	**-2.7**
ALOL	**LOMAS DE OLMED**	**4.02**	**128**	*eP*	**Pn**	**06 49 13.0**	**-1.3**
ALOL				*eP*	**Pn**	**06 49 13.5**	**-0.8**
ALOL				*eS*	**S**	**06 49 59.7**	**-2.7**
AP01	**Chacalluta**	**4.04**	**317**	Pn	**Pn**	**06 49 13.6**	**-0.9**
AP01	**Chacalluta**	**4.04**	**317**	*eP*	**Pn**	**06 49 14.2**	**-0.3**
AP01				*eS*	**S**	**06 49 59.3**	**-3.5**
AP01				IAML		06 50 03.3	
	comp=Z,404nm,0.2s						
AP01	**Chacalluta**	**4.04**	**317**	*eP*	**Pn**	**06 49 14.2**	**-0.3**
AP01				*eS*	**S**	**06 49 59.3**	**-3.5**
AP01				IAML		06 50 03.3	
	comp=Z,404nm,0.2s						
PB14	**IPOC Station P**	**4.25**	**219**		**Pn**	**06 49 17.3**	**-0.1**
PB14	**IPOC Station P**	**4.25**	**219**	*eP*	**Pn**	**06 49 17.0**	**-0.4**
PB14				IAML		06 50 06.6	
	comp=Z,332nm,0.4s						
PB14	**IPOC Station P**	**4.25**	**219**	*eP*	**Pn**	**06 49 17.0**	**-0.4**
PB14				IAML		06 50 06.6	
	comp=Z,332nm,0.4s						
SOEJ	**Jacaque**	**4.42**	**351**	Pg	**Pn**	**06 49 21.4**	**+1.6**
BBOE	**La Paz, Chanca**	**4.55**	**353**	Pg	**Pn**	**06 49 22.7**	**+1.2**
BBOD	**La Paz, Gloria**	**4.82**	**347**	Pg	**Pn**	**06 49 26.1**

GO04	**Tololo Observa**	**9.29**	**198**			**Pn**	**06 50 19.8**	**-2.6**
PTLB	**Pontes e Lacer**	**9.82**	**55**	Pn		**Pn**	**06 50 27.6**	**-1.6**
PTLB	**Pontes e Lacer**	**9.82**	**55**	*eP*		**Pn**	**06 50 27.2**	**-2.0**
CO03	**El Pedregal**	**9.89**	**197**	Pn		**Pn**	**06 50 28.3**	**-1.7**
CFA	**Coronel Fontan**	**10.23**	**184**	P		**Pn**	**06 50 33.1**	**-1.3**
	comp=Z,2.6nm,0.4s,baz=0.8,slow=12,SNR=7.6							
CFA				S	S		06 52 20.4	-8.8
	comp=Z,1.1nm,0.3s,baz=255,slow=23,SNR=1.7							
CPUP	**Villa Florida**	**10.49**	**120**	P		**Pn**	**06 50 35.4**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=306,slow=15,SNR=1.6							
CPUP	**Villa Florida**	**10.49**	**120**	Pn		**Pn**	**06 50 37.7**	**0.0**
VILB	**Vilhena**	**10.84**	**41**	Pn		**Pn**	**06 50 42.5**	**+0.1**
VILB	**Vilhena**	**10.84**	**41**	*eP*		**Pn**	**06 50 42.4**	**0.0**
AQDB	**Aquidauana**	**11.00**	**88**	*eP*		**Pn**	**06 50 44.8**	**+0.4**
MECA	**Mercedes**	**11.51**	**135**	*eP*		**Pn**	**06 50 53.1**	**+2.3**
ETMB	**Extrema**	**11.53**	**6**	Pn		**Pn**	**06 50 49.7**	**-1.5**
ETMB	**Extrema**	**11.53**	**6**	*eP*		**Pn**	**06 50 49.7**	**-1.5**
AMBA	**Amambai (Brazi**	**11.64**	**100**	*eP*		**Pn**	**06 50 53.5**	**+1.0**
VA03	**San Esteban**	**11.70**	**193**	Pn		**Pn**	**06 50 52.2**	**-1.0**
ROC1	**El Roble**	**12.01**	**195**	Pn		**Pn**	**06 50 55.1**	**-2.2**
MT02	**Curacav**	**12.30**	**195**	Pn		**Pn**	**06 50 58.6**	**-2.3**
AZCA	**Azaras, Argent**	**12.37**	**125**	*eP*		**Pn**	**06 51 03.4**	**+1.6**
SALV	**Santo Antonio**	**12.38**	**66**	*eP*		**Pn**	**06 51 01.2**	**-0.7**
PP1B	**Ponte de Pedra**	**12.41**	**75**	*eP*		**Pn**	**06 51 02.5**	**+0.1**
MCR1	**Marechal Candi**	**12.73**	**107**	*eP*		**P**	**06 51 08.2**	**-1.7**
ITQB	**Itaqui**	**12.79**	**133**	Pn		**Pn**	**06 51 06.3**	**-0.7**
ITQB	**Itaqui**	**12.79**	**133**	*eP*		**P**	**06 51 10.0**	**-0.6**
MT01	**Popeta**	**12.91**	**194**	Pn		**Pn**	**06 51 06.7**	**-1.8**
NNA	**Nana**	**12.96**	**314**	P		**P**	**06 51 12.4**	**-0.2**
	comp=Z,3.9nm,0.5s,baz=169,slow=10,SNR=2.6							
BO01	**Tunca**	**13.38**	**193**	Pn		**Pn**	**06 51 13.1**	**-1.3**
CRSM	**Crissiumal (Br**	**13.64**	**119**	*eP*		**P**	**06 51 20.2**	**+0.3**
FRBT	**Francisco Belt**	**13.95**	**112**	*eP*		**P**	**06 51 23.3**	**-0.1**
C2SB	**Chapadao do Su**	**13.95**	**82**	*eP*		**Pn**	**06 51 21.5**	**-0.1**
PDRB	**Porto dos Gac**	**14.11**	**48**	*eP*		**Pn**	**06 51 22.9**	**-0.7**
RODS	**Rosario do Sul**	**14.19**	**132**	*eP*		**P**	**06 51 27.4**	**+1.4**
CZSB	**Cruzeiro do Su**	**14.47**	**339**	*eP*		**Pn**	**06 51 28.4**	**+0.4**
PTGB	**Pitanga**	**14.54**	**106**	*eP*		**P**	**06 51 31.1**	**+1.0**
ALGR	**Alto Alegre (B**	**15.00**	**122**	*eP*		**P**	**06 51 36.2**	**+1.1**
PCMB	**Pacaembu**	**15.06**	**94**	*eP*		**P**	**06 51 36.2**	**+0.4**
ITAB	**Concordia**	**15.12**	**116**			**Pn**	**06 51 34.7**	**-1.2**
ITAB				IAmb		IAmb	06 51 39.0	
	comp=Z,11nm,0.6s							
ITAB	**Concordia**	**15.12**	**116**	*eP*		**P**	**06 51 38.0**	**+1.5**
CLDB	**Colider**	**15.27**	**49**	*eP*		**Pn**	**06 51 37.2**	**-0.6**
CPSB	**Cacapava Do Su**	**15.47**	**128**	*eP*		**P**	**06 51 40.7**	**+0.5**
PLTB	**Pedras Altas**	**16.12**	**133**	P		**P**	**06 51 46.6**	**-0.8**
PLTB				IAmb		IAmb	06 51 48.5	
	comp=Z,20nm,1.5s							
PLTB	**Pedras Altas**	**16.12**	**133**	*eP*		**Pn**	**06 51 48.1**	**+0.1**
FRTB	**Fartura**	**16.65**	**100**	*eP*		**Pn**	**06 51 55.1**	**+0.7**
CNLB	**Canela**	**16.94**	**121**	*eP*		**Pn**	**06 51 57.5**	**-0.4**
TBTG	**Tabatinga, AM**	**17.23**	**352**	P		**P**	**06 51 59.8**	**+0.1**
TBTG				IAmb		IAmb	06 52 05.1	
	comp=Z,48nm,1.3s							
TBTG	**Tabatinga, AM**	**17.23**	**352**	*eP*		**Pn**	**06 52 01.3**	**-0.1**
TRQA	**Tornquist**	**17.30**	**165**	P		**P**	**06 51 59.1**	**-1.1**
TRQA				IAmb		IAmb	06 52 05.1	
	comp=Z,11nm,1.2s							
TRQA	**Tornquist**	**17.30**	**165**	*eP*		**Pn**	**06 52 04.9**	**+3.0**
TIJ01	**Guaruva-PR**	**17.38**	**107**	*eP*		**Pn**	**06 52 03.6**	**+0.6**
ATAH	**Atahualpa**	**17.67**	**322**	P		**Pn**	**06 52 10.3**	**+3.5**
	comp=Z,2.8nm,0.6s,baz=360,slow=2.4,SNR=3.2							
TEFE	**Tefe**	**17.95**	**9**	*eP*		**P**	**06 52 08.0**	**+0.5**
SNDB	**Serra Nova Dou**	**18.04**	**61**	*eP*		**P**	**06 52 09.5**	**+0.9**
NPGB	**Novo Progresso**	**18.40**	**41**	*eP*		**P**	**06 52 12.3**	**-0.2**
IPMB	**Ipameri, GO**	**18.41**	**83**	*eP*		**P**	**06 52 13.5**	**+0.9**
RCIB	**Rio Claro- Sao**	**18.50**	**97**	*eP*		**P**	**06 52 14.2**	**+0.6**
SPB	**Sao Paulo**	**18.62**	**101**	*eP*		**Pn**	**06 52 16.4**	**-1.1**
VAO	**Valinhos**	**19.03**	**99**	*eP*		**P**	**06 52 19.6**	**+0.4**
MACA	**Manacapuru-AM**	**19.24**	**21**	P		**P**	**06 52 21.0**	**-0.5**
MACA				IAmb		IAmb	06 52 25.5	
	comp=Z,36nm,0.7s							
MACA	**Manacapuru-AM**	**19.24**	**21**	*eP*		**P**	**06 52 21.2**	**-0.3**
BDFB	**Brasilia**	**19.27**	**76**	P		**P**	**06 52 22.4**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=235,slow=11,SNR=11							
BDFB	**Brasilia**	**19.27**	**76**	P		**P**	**06 52 22.5**	**+0.6**
BDFB				IAmb		IAmb	06 52 35.5	
	comp=Z,7.1nm,1.2s							
BDFB	**Brasilia**	**19.27**	**76**	*eP*		**P**	**06 52 22.7**	**+0.8**
PLCA	**Paso Flores**	**19.50**	**187**	P		**Pn**	**06 52 26.4**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=15,slow=12,SNR=4.0							
PLCA	**Paso Flores**	**19.50**	**187**	*eP*		**Pn**	**06 52 29.9**	**+2.0**
PARB	**Paraibuna**	**20.27**	**100**	*eP*		**P**	**06 52 32.7**	**+0.1**
ITTB	**Itaituba**	**20.35**	**36**	*eP*		**P**	**06 52 32.8**	**-0.6**
SGCB	**S£o Gabriel d**	**21.11**	**1**	*eP*		**P**	**06 52 41.5**	**+0.1**
DIAM	**Diamantina, MG**	**22.55**	**86**	*eP*		**P**	**06 52 56.3**	**+0.5**
PRPB	**Paraupebas**	**22.77**	**51**	*eP*		**P**	**06 52 57.3**	**-0.3**
SMTB	**Santa Maria do**	**22.80**	**60**	*eP*		**P**	**06 52 58.3**	**+0.5**
JANB	**Januaria**	**22.82**	**78**	*eP*		**P**	**06 52 58.0**	**-0.1**
MALB	**Monte Alegre**	**23.25**	**35**	*eP*		**P**	**06 53 01.9**	**0.0**
SDBA	**SAO DESIDERIO**	**23.30**	**71**	*eP*		**P**	**06 53 02.9**	**+0.5**
OTAV	**Otavalo**	**24.01**	**332**	*eP*		**P**	**06 53 10.9**	**+1.6**
BOAV	**Boa Vista**	**24.55**	**17**	*eP*		**P**	**06 53 17.5**	**+3.8**
NAN01	**Guarapari, ES**	**25.95**	**87**	*eP*		**P**	**06 53 27.6**	**+1.3**
ESPN	**Las Esperanzas**	**37.23**	**332**	P		**P**	**06 55 03.8**	**-0.8**
SNAA	**Sanae**	**61.97**	**161**	P		**P**	**06 58 09.0**	**-1.6**
DBIC	**Dimbokro**	**67.38**	**73**	P		**P**	**06 58 47.2**	**+0.9**
	comp=Z,4.8nm,0.8s,baz=270,slow=12,SNR=3.8							
	comp=Z,4.8nm,0.8s							
QSPA	**South Pole Qui**	**68.84**	**180**	P		**P**	**06 58 53.4**	**-1.4**
QSPA				IAmb		IAmb	06 59 21.8	
	comp=Z,5.4nm,1.4s							
W18A	**Petrified Fore**	**69.03**	**324**	P		**P**	**06 58 55.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**76.01**	**70**	P		**P**	**06 59 39.1**	**+1.3**
	comp=Z,5.4nm,0.4s,baz=254,slow=5.7,SNR=34							
	comp=Z,5.4nm,0.4s							
TORD	**Torodi Ar. Bea**	**76.01**	**70**	P		**P**	**06 59 35.8**	**-2.0**
TORD				IAmb		IAmb	06 59 39.7	
	comp=Z,3.0nm,0.7s							
BOSA	**Boshof**	**82.30**	**118**	P		**P**	**07 00 13.8**	**+2.0**
	comp=Z,1.9nm,0.9s,baz=252,slow=5.1,SNR=2.0							
	comp=Z,1.9nm,0.9s							
YKA	**Yellowknife Ar**	**91.51**	**340**	P		**P**	**07 00 58.5**	**+3.1**
	comp=Z,1.3nm,0.8s,baz=133,slow=4.3,SNR=11							
	comp=Z,1.3nm,0.8s							
ASAR	**Alice Springs**	**130.66**	**206**	PKP		**PKiKP**	**07 07 03.0**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=141,slow=1.7,SNR=6.7							
WRA	**Warramunga Arr**	**133.76**	**209**	PKP		**PKiKP**	**07 07 09.4**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=149,slow=1.8,SNR=3.7							
ZALV	**Zalesovo Beam**	**141.23**	**26**	PKP		**PKiKP**	**07 07 20.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=330,slow=2.0,SNR=3.9							
MKAR	**Makanchi Array**	**144.70**	**37**	PKP		**PKiKP**	**07 07 27.1**	**-1.6**
	comp=Z,2.9nm,0.6s,baz=336,slow=2.7,SNR=26							
PZH	**PanZhiHua**	**168.85**	**61**	PKP		**PKPdf**	**07 07 53.5**	**-2.3**

NEIC ***22*** *06:57:01.7±0.9, 19°.73N±0°.07×63°.93W±0°.07, h51km±54km, ML2.5/20, Md3.4/8(RSPR), Error ellipse: s-maj=12.7km s-min=4.2km az=139.0*

RSPR ***22*** *06:57:03.4, 19°.64N×63°.98W, h71km±25km, MD3.4/3*

ISC 22 06:57:00.6±3.2, 19°.7N±0°.2×63°.88W±0°.06, h34km, n23, σ0$82/27, 5C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.84**	**155**	Pn	**Pn**	**06 57 30.8**	**+1.0**
SMRT				IAML		06 57 48.6	
	comp=E,26nm,2.0s						
SMRT				IAML		06 58 13.5	
	comp=N,24nm,3.3s						
SMRT	**St. Maarten**	**1.84**	**155**	*eP*	**Pn**	**06 57 30.3**	**+0.5**
SMRT				*eS*	**Sn**	**06 57 50.8**	**-1.1**
CUPR	**Culebra, Puert**	**1.94**	**223**	*eP*	**Pn**	**06 57 31.8**	**+0.6**
CUPR	**Culebra, Puert**	**1.94**	**223**	*eS*	**Sn**	**06 57 53.9**	**-0.5**
CUPR	**Culebra, Puert**	**1.94**	**223**		**Pn**	**06 57 31.8**	**+0.6**
CUPR					**Sn**	**06 57 53.7**	**-0.7**
CDVI	**St. Croix**	**2.14**	**203**	Pn	**Pn**	**06 57 35.1**	**+1.1**
CDVI				IAML		06 58 03.3	
	comp=E,37nm,0.7s						
MTP	**Monte Pirata**	**2.27**	**225**	*eP*	**Pn**	**06 57 36.7**	**+1.0**
MTP	**Monte Pirata**	**2.27**	**225**		**Pn**	**06 57 36.6**	**+0.9**
CBYP	**Canovanas**	**2.37**	**233**	*eP*	**Pn**	**06 57 37.4**	**+0.3**
CBYP	**Canovanas**	**2.37**	**233**	*eS*	**Sn**	**06 58 04.4**	**-0.7**
CBYP	**Canovanas**	**2.37**	**233**		**Pn**	**06 57 36.9**	**-0.2**
CBYP					**Sn**	**06 58 04.3**	**-0.7**
HUMP	**Col San Antoni**	**2.45**	**230**	*eP*	**Pn**	**06 57 39.3**	**+1.2**
HUMP	**Col San Antoni**	**2.45**	**230**	*eS*	**Sn**	**06 58 07.0**	**+0.2**
HUMP	**Col San Antoni**	**2.45**	**230**		**Pn**	**06 57 37.7**	**-0.5**
HUMP				IAML		06 58 14.8	
	comp=N,20nm,1.7s						
GCPR	**Guaynabo City**	**2.52**	**236**	Pn	**Pn**	**06 57 39.6**	**+0.5**
GCPR				IAML		06 59 18.7	
	comp=N,18nm,4.8s						
CELP	**Cerrillos**	**3.04**	**238**	*eP*	**Pn**	**06 57 46.9**	**+0.5**
CELP	**Cerrillos**	**3.04**	**238**		**Pn**	**06 57 46.7**	**+0.3**
CELP				IAML		06 58 41.9	
	comp=E,8.7nm,3.6s						
CELP				IAML		06 59 13.2	
	comp=N,15nm,4.0s						
AOPR	**Arecibo Observ**	**3.05**	**244**	Pn	**Pn**	**06 57 47.0**	**+0.5**
UUPR	**Utuado, UPR, P**	**3.07**	**242**	Pn	**Pn**	**06 57 46.8**	**+0.1**
OBIP	**Obispado Ponce**	**3.08**	**237**	Pn	**Pn**	**06 57 47.5**	**+0.6**
OBIP				IAML		06 58 54.7	
	comp=N,13nm,4.2s						
ANBD	**Bethesda, Anti**	**3.34**	**143**	*eP*	**Pn**	**06 57 51.1**	**+0.7**
ANBD				*eS*	**Sn**	**06 58 27.0**	**-1.9**
MLPR	**Magueyes Islan**	**3.47**	**240**	Pn	**Pn**	**06 57 52.4**	**+0.2**
MLPR				IAML		06 59 44.6	
	comp=N,14nm,4.2s						
MLPR				IAML		07 00 14.1	
	comp=E,14nm,3.6s						
FDF	**Fort de France**	**5.61**	**152**	Pn	**Pn**	**06 58 22.7**	**+1.0**

ISK ***22*** *06:57:28.9, 34°.70N×23°.44E, h17km, ML3.3/6*

IDC ***22*** *06:57:29.0±6.0, 34°.26N×23°.60E, h49km±41km, mb3.3/3, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=73.1km s-min=36.2km az=161.0*

THE ***22*** *06:57:29.4, 34°.69N×23°.46E, h3km±31km, ML2.8/3, Error ellipse: s-maj=31.6km s-min=1.8km az=0.0*

ATH ***22*** *06:57:30.4, 34°.70N×23°.51E, h15km±2km, ML3.1/5, Error ellipse: s-maj=3.1km s-min=2.1km az=35.0*

ISC 22 06:57:28.5±2.1, 34°.63N±0°.09×23°.48E±0°.06, h27km±11km, n30, σ0$98/43, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.54**	**67**	P	**Pn**	**06 57 40.6**	**+0.1**
GVD	**Gavdhos**	**0.54**	**67**	Pg	**Pn**	**06 57 40.5**	**+0.1**
GVD				Sg	**Sn**	**06 57 48.8**	**+0.2**
GVD	**Gavdhos**	**0.54**	**67**	P	**Pn**	**06 57 40.8**	**+0.4**
GVD				S	**Sb**	**06 57 46.4**	**-0.4**
GVD				AML	AML	06 57 51.8	
	comp=N,7480µm,0.4s						
GVD				AML	AML	06 57 52.0	
	comp=E,7422µm,0.4s						
KNDR	**Palaiochora Ch**	**0.62**	**16**	P	**Pb**	**06 57 40.6**	**-0.3**
KNDR				S	**Sb**	**06 57 49.0**	**-0.2**
	comp=E,988nm,0.4s						
KNDR	**Palaiochora Ch**	**0.62**	**16**	Pg	**Pb**	**06 57 40.5**	**-0.3**
KNDR				Sg	**Sb**	**06 57 48.8**	**-0.4**
KNDR	**Palaiochora Ch**	**0.62**	**16**	P	**Pb**	**06 57 40.5**	**-0.3**
KNDR				S	**Sb**	**06 57 49.1**	**-0.1**
KNDR				AML	AML	06 57 53.2	
	comp=N,5797µm,0.5s						
KNDR				AML	AML	06 57 54.0	
	comp=E,5813µm,0.3s						
IMMV	**Iera Moni Meta**	**0.92**	**26**	P	**Pn**	**06 57 45.9**	**+0.2**
IMMV				S	**Sn**	**06 57 58.8**	**+0.7**
	comp=E,2µm,0.5s						
IMMV	**Iera Moni Meta**	**0.92**	**26**	Pg	**Pn**	**06 57 45.9**	**+0.2**
IMMV				Sg	**Sn**	**06 57 58.9**	**+0.8**
IMMV	**Iera Moni Meta**	**0.92**	**26**	P	**Pn**	**06 57 46.1**	**+0.4**
IMMV				S	**Sn**	**06 57 57.8**	**-0.3**
IMMV				AML	AML	06 58 00.8	
	comp=N,3455µm,0.6s						
IMMV				AML	AML	06 58 01.9	
	comp=E,2968µm,0.4s						
RODP	**Rodopos**	**0.95**	**14**	P	**Pn**	**06 57 46.9**	**+0.8**
RODP	**Rodopos**	**0.95**	**14**	Pg	**Pn**	**06 57 46.7**	**+0.6**
CHAN	**Chania**	**1.00**	**27**	P	**Pn**	**06 57 47.2**	**+0.5**
CHAN				S	**Sn**	**06 58 00.0**	**+0.2**
CHAN				AML	AML	06 58 07.2	
	comp=N,3318µm,0.6s						
CHAN				AML	AML	06 58 08.8	
	comp=E,1545µm,0.7s						
PRNS	**Prines Rethymn**	**1.11**	**49**	P	**Pn**	**06 57 48.4**	**+0.1**
PRNS				S	**Sn**	**06 58 03.8**	**+1.1**
	comp=E,315nm,0.6s						
ANKY	**Antikythira Is**	**1.24**	**353**	P	**Pb**	**06 57 51.2**	**0.0**
ANKY	**Antikythira Is**	**1.24**	**353**	P	**Pb**	**06 57 51.3**	**+0.1**
IDI	**Anoyia**	**1.33**	**60**	P	**Pb**	**06 57 52.8**	**0.0**
	comp=E,22nm,0.3s,baz=242,slow=17,SNR=29						
IDI				S	**Sb**	**06 58 11.5**	**+2.1**
	comp=E,42nm,0.3s,baz=181,slow=22,SNR=9.2						
IDI	**Anoyia**	**1.33**	**60**	P	**Pb**	**06 57 52.7**	**0.0**
IDI	**Anoyia**	**1.33**	**60**	Pn	**Pb**	**06 57 52.5**	**-0.2**
IDI				Sn	**Sb**	**06 58 11.1**	**+1.7**
IDI	**Anoyia**	**1.33**	**60**	P	**Pb**	**06 57 52.6**	**-0.2**
IDI				S	**Sb**	**06 58 10.0**	**+0.6**
IDI				AML	AML	06 58 13.4	
	comp=N,548µm,0.8s						
IDI				AML	AML	06 58 18.0	
	comp=E,615µm,0.6s						
VLI	**Velíai**	**2.13**	**348**	P	**Pb**	**06 58 04.5**	**-1.8**
ZKR	**Zakros**	**2.30**	**77**	P	**Pn**	**06 58 07.1**	**+2.5**
ZKR	**Zakros**	**2.30**	**77**	Pn	**Pb**	**06 58 07.3**	**-2.0**
ZKR	**Zakros**	**2.30**	**77**	P	**Pn**	**06 58 06.4**	**+1.8**
THR5	**Thira Island,**	**2.34**	**40**	P	**Pn**	**06 58 05.1**	**-0.1**
THR3	**Thira Island,**	**2.37**	**41**	P	**Pn**	**06 58 04.9**	**-0.6**
ITM	**Ithomi**	**2.84**	**334**	Pn	**Pn**	**06 58 14.0**	**+2.0**
GERES	**GERESS Array B**	**15.95**	**336**	P	**P**	**07 01 15.2**	**+0.8**
	comp=E,0.1nm,0.3s,baz=153,slow=11,SNR=2.7						
	comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**42.52**	**51**	P	**P**	**07 05 19.8**	**-1.7**
	comp=E,0.4nm,0.4s,baz=271,slow=8.6,SNR=7.5						
	comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.21**	**56**	P	**P**	**07 05 42.3**	**-0.9**
	comp=E,0.3nm,0.3s,baz=265,slow=7.7,SNR=10						
	comp=E,0.3nm,0.3s						
SONM	**Songino Array**	**60.88**	**50**	P	**P**	**07 07 38.4**	**-0.3**
	comp=E,0.2nm,0.5s,baz=288,slow=5.3,SNR=2.3						
	comp=E,0.2nm,0.5s						

IDC ***22*** *06:57:26.0±4.6, 6°.29S×154°.19E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=157.4km s-min=28.5km az=110.0*

ISC 22 06:57:32.8±4.2, 6°.5S±0°.4×154°.2E±0°.9, h48km, n9, σ1$03/9, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**233**	P	**P**	**07 02 38.0**	**-0.6**
	0.5nm,0.7s,baz=59,slow=8.8,SNR=2.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**25.96**	**227**	P	**P**	**07 03 01.9**	**+0.7**
	0.6nm,0.8s,baz=63,slow=8.9,SNR=8.8						
	0.6nm,0.8s						
HHC	**Hu-ho-hao-te**	**61.20**	**324**	*eP*	**P**	**07 07 44.0**	**+1.1**
SONM	**Songino Array**	**68.46**	**328**	P	**P**	**07 08 30.6**	**+0.5**
	0.4nm,0.5s,baz=151,slow=5.8,SNR=3.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**82.48**	**319**	P	**P**	**07 09 49.9**	**-0.5**
	0.5nm,0.8s,baz=104,slow=6.1,SNR=5.7						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**83.30**	**326**	P	**P**	**07 09 54.1**	**-0.2**
	0.4nm,0.3s,baz=99,slow=9.3,SNR=4.9						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**85.96**	**322**	P	**P**	**07 10 06.5**	**-1.4**
	0.9nm,0.9s,baz=94,slow=5.7,SNR=7.8						
	0.9nm,0.9s						
BVAR	**Borovoye Array**	**91.39**	**323**	P	**P**	**07 10 32.5**	**-1.2**
	1.1nm,0.7s,baz=87,slow=3.3,SNR=5.2						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.13**	**286**	PKPbc	**PKPbc**	**07 17 24.7**	**+0.6**
	0.8nm,0.7s,baz=57,slow=3.0,SNR=4.2						

MOS ***22*** *07:02:22.8±0.9, 48°.82N×156°.01E, h19km, mb3.7/1, Error ellipse: s-maj=30.8km s-min=5.0km az=77.1*

KRSC ***22*** *07:02:30.5±2.2, 49°.41N×156°.82E, h15km±33km, Ml4.2*

IDC ***22*** *07:02:30.1±4.1, 49°.17N×155°.91E, h51km±33km, mb3.3/6, mbtmp3.6/8, ML3.3/2, Error ellipse: s-maj=62.8km s-min=19.0km az=149.0*

ISC 22 07:02:28.5±1.1, 49°.18N±0°.10×156°.1E±0°.1, h34km, n56, σ2$53/57, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.50**	**1**	*eP*N	**Pn**	**07 02 52.8**	**-0.2**
SKR				pmax	pmax		
	comp=Z,54nm,0.4s						
SKR	**Severo-Kuril's**	**1.50**	**1**	*eP*	**Pn**	**07 02 52.8**	**-0.2**
SKR				*eS*	**Sn**	**07 03 10.4**	**-1.0**
KDTR	**Khodutka, Kamc**	**2.93**	**25**	PN	**Pn**	**07 03 12.9**	**+0.4**
KDTR				*eS*	**Sn**	**07 03 45.5**	**-0.9**
GRL	**Gorelyy**	**3.60**	**20**	PN	**Pn**	**07 03 24.8**	**+2.8**
GRL	**Gorelyy**	**3.60**	**20**	*eP*	**Pn**	**07 03 24.8**	**+2.8**
RUS	**Russkaya**	**3.61**	**25**	PN	**Pn**	**07 03 23.4**	**+1.6**
RUS	**Russkaya**	**3.61**	**25**	*eP*	**Pn**	**07 03 23.4**	**+1.6**
RUS				*eS*	**Sn**	**07 04 02.9**	**-0.3**
APC	**Apacha**	**3.81**	**10**	PN	**Pn**	**07 03 27.8**	**+3.1**
APC	**Apacha**	**3.81**	**10**	*eP*	**Pn**	**07 03 27.8**	**+3.1**
KRMR	**Karymshinskiy**	**3.88**	**19**	PN	**Pn**	**07 03 28.3**	**+2.7**
KRMR	**Karymshinskiy**	**3.88**	**19**	*eP*	**Pn**	**07 03 28.3**	**+2.7**
PETK	**Petropavlovsk-**	**4.06**	**14**	P	**Pn**	**07 03 30.3**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=172,slow=12,SNR=35						
PETK				S	**Sb**	**07 04 25.4**	**-2.5**
	comp=Z,5.2nm,0.7s,baz=146,slow=16,SNR=2.1						
	comp=Z,3.2nm,0.4s						
PET	**Petropavlovsk**	**4.18**	**22**	PN	**Pn**	**07 03 32.1**	**+2.4**
PET	**Petropavlovsk**	**4.18**	**22**	*eP*	**Pn**	**07 03 32.0**	**+2.4**
PET				*eS*	**Sn**	**07 04 18.2**	**+0.9**
DALK	**Dalny**	**4.21**	**23**	PN	**Pn**	**07 03 32.4**	**+2.2**
DALK	**Dalny**	**4.21**	**23**	*eP*	**Pn**	**07 03 32.4**	**+2.2**
DALK				*eS*	**Sn**	**07 04 19.0**	**+0.9**
UGLR	**Uglovaya**	**4.39**	**22**	PN	**Pn**	**07 03 35.9**	**+3.2**
UGLR	**Uglovaya**	**4.39**	**22**	*eP*	**Pn**	**07 03 35.9**	**+3.2**
AVH	**Avacha**	**4.42**	**21**	PN	**Pn**	**07 03 36.7**	**+3.6**
AVH	**Avacha**	**4.42**	**21**	*eP*	**Pn**	**07 03 36.7**	**+3.6**
KOK	**Koryaka**	**4.42**	**20**	PN	**Pn**	**07 03 36.6**	**+3.4**
KOK	**Koryaka**	**4.42**	**20**	*eP*	**Pn**	**07 03 36.6**	**+3.4**
SMAR	**Somma**	**4.43**	**22**	PN	**Pn**	**07 03 36.5**	**+3.1**
SMAR	**Somma**	**4.43**	**22**	*eP*	**Pn**	**07 03 36.5**	**+3.1**
KRER	**Koryakskii**	**4.46**	**21**	PN	**Pn**	**07 03 36.8**	**+3.0**
KRER	**Koryakskii**	**4.46**	**21**	*eP*	**Pn**	**07 03 36.8**	**+3.0**
SDLR	**Sedlovina**	**4.47**	**22**	PN	**Pn**	**07 03 36.0**	**+2.2**
SDLR	**Sedlovina**	**4.47**	**22**	*eP*	**Pn**	**07 03 36.0**	**+2.2**
KRX	**Arik**	**4.49**	**20**	PN	**Pn**	**07 03 37.6**	**+3.5**
KRX	**Arik**	**4.49**	**20**	*eP*	**Pn**	**07 03 37.6**	**+3.5**
SPN	**Mys Shipunski**	**4.64**	**31**	PN	**Pn**	**07 03 37.7**	**+1.6**
SPN	**Mys Shipunski**	**4.64**	**31**	*eP*	**Pn**	**07 03 37.7**	**+1.6**
SPN				*eS*	**Sn**	**07 04 29.0**	**+0.2**
GNL	**Ganaly**	**4.67**	**14**	PN	**Pn**	**07 03 40.0**	**+3.4**
GNL	**Ganaly**	**4.67**	**14**	*eP*	**Pn**	**07 03 40.0**	**+3.4**
TUMD	**Tumrok D**	**6.59**	**22**	*eP*	**Pn**	**07 04 05.9**	**+3.1**
TUMR	**Tumrok**	**6.60**	**21**	PN	**Pn**	**07 04 06.4**	**+3.3**
TUMR	**Tumrok**	**6.60**	**21**	*eP*	**Pn**	**07 04 06.4**	**+3.3**
KBTR	**Krutoberegovo**	**8.14**	**28**	PN	**Pn**	**07 04 26.6**	**+2.5**
KBTR	**Krutoberegovo**	**8.14**	**28**	*eP*	**Pn**

DJA 22 07:08:56.8±0.4,9°S±5°×11°3E±°,h116km±5km,M3.7/13, mb4.0/2,MLv3.5/13,Jawa

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.59**	**39**	P	Pn	07 09 15.6	+0.7
GMJI				S	Sn	07 09 29.9	+1.4
JAGI	**Jajag, Banyuwa**	**1.10**	**77**	P	Pn	07 09 20.9	+1.4
JAGI				S	Sn	07 09 38.5	+1.8
BLJI	**Banyuglugur**	**1.11**	**28**	P	Pn	07 09 20.1	+0.5
BLJI				S	Sn	07 09 37.2	+0.3
PWJI	**Pagerwojo**	**1.44**	**299**	P	Pn	07 09 24.3	+1.1
PWJI				S	Sn	07 09 43.7	+0.4
ABJI	**Asem Bagus**	**1.48**	**51**	P	Pn	07 09 24.7	+1.0
ABJI				S	Sn	07 09 44.7	+0.5
GRJI	**Gresik**	**1.90**	**342**	P	Pn	07 09 29.3	+0.5
GRJI				S	Sn	07 09 53.9	+0.7
SRBI	**Singaraja**	**2.21**	**73**	P	Pn	07 09 32.2	-0.6
UGM	**Wanagama**	**2.65**	**288**	P	Pn	07 09 38.9	+0.5
UGM				S	Sn	07 10 09.6	-0.8
TWSI	**Taliwang, Sumb**	**3.77**	**90**	P	Pn	07 09 52.4	-0.8
PLAI	**Plampang**	**4.65**	**92**	P	Pn	07 10 04.8	-0.3
CMJI	**Cimerak**	**4.67**	**281**	P	Pn	07 10 05.6	+0.3
CNJI	**Cibinong**	**6.05**	**283**	P	Pn	07 10 23.8	-0.1

IDC 22 07:19:08.9±2.3,5°30S×154°27E,h0km,mb3.4/4, mbtmp3.4/5,Error ellipse: s-maj=44.5km s-min=32.1km az=85.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.44**	**294**	Pn	Pn	07 19 50.4	+0.3
	82nm,0.8s,baz=192,slow=15						
KRVT				Sn	Sn	07 20 22.1	+1.4
	baz=12,slow=11						
WRA	**Warramunga Arr**	**24.24**	**231**	P	P	07 24 27.8	-0.1
	0.5nm,0.9s,baz=56,slow=9.2,SNR=2.7						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**26.80**	**225**	P	P	07 24 51.0	0.0
	0.3nm,0.6s,baz=52,slow=9.6,SNR=4.9						
	0.3nm,0.6s						
SONM	**Songino Array**	**67.53**	**327**	P	P	07 30 07.9	+0.7
	0.2nm,0.4s,baz=121,slow=4.4,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**81.66**	**319**	P	P	07 31 28.3	-0.9
	0.2nm,0.5s,baz=103,slow=6.2,SNR=3.1						
	0.2nm,0.5s						

IDC 22 07:24:33.3±3.5,5°72S×153°27E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=72.1km s-min=27.2km az=82.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.87**	**318**	Pn	Pn	07 25 07.0	+0.4
KRVT				Sn	Sn	07 25 31.3	+0.3
WRA	**Warramunga Arr**	**23.21**	**231**	P	P	07 29 43.2	+1.1
	0.5nm,0.8s,baz=60,slow=11,SNR=3.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**25.81**	**224**	P	P	07 30 05.5	-0.9
	0.3nm,0.7s,baz=54,slow=8.9,SNR=3.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**81.32**	**319**	P	P	07 36 51.7	-0.1
	0.3nm,0.8s,baz=104,slow=6.1,SNR=3.7						
	0.3nm,0.8s						

IDC 22 07:26:49.2±2.5,7°04S×154°62E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=104.3km s-min=32.1km az=126.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**235**	P	P	07 32 00.0	-0.9
	1.0nm,0.8s,baz=56,slow=9.5,SNR=4.7						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**25.87**	**228**	P	P	07 32 23.2	+0.3
	0.5nm,0.8s,baz=57,slow=10,SNR=4.4						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**83.19**	**319**	P	P	07 39 18.1	+0.6
	0.6nm,0.9s,baz=93,slow=6.2,SNR=5.1						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	P	07 40 20.1	-0.5
	0.4nm,0.9s,baz=270,slow=4.3,SNR=3.8						
	0.4nm,0.9s						

*IDC **22** 07:27:01.5±2.4,6.76S×154.57E,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=83.8km s-min=28.7km az=122.0*

ISC 22 07:27:07.0±2.3,6.9S±0.4×154.6E±0.5,h39km,n6,σ0s76/6, mb3.7/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**235**	P	**P**	**07 32 13.5**	**-0.8**
	1.6nm,0.7s,baz=57,slow=9.6,SNR=6.3						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**25.97**	**228**	P	**P**	**07 32 36.9**	**+0.7**
	0.6nm,0.7s,baz=63,slow=9.3,SNR=4.7						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**83.05**	**319**	P	**P**	**07 39 29.2**	**+0.7**
	0.9nm,0.6s,baz=96,slow=5.3,SNR=10.0						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**83.86**	**326**	P	**P**	**07 39 32.0**	**-0.4**
	0.5nm,0.4s,baz=111,slow=5.6,SNR=2.0						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**86.52**	**322**	P	**P**	**07 39 46.0**	**+0.1**
	0.1nm,0.3s,baz=101,slow=4.3,SNR=2.3						
	0.1nm,0.3s						
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**	**07 40 31.5**	**-0.1**
	0.2nm,0.6s,baz=272,slow=5.1,SNR=4.4						
	0.2nm,0.6s						

*IDC **22** 07:29:25.9±1.6,6.08S×128.75E,h322km±15km,mb2.8/2, mbtmp3.6/5,Error ellipse: s-maj=24.6km s-min=12.3km az=78.0*

ISC 22 07:29:24.3±0.8,6.07S±0.07×128.9E±0.1,h300km,n6, σ2s62/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.67**	**25**	P	**Pn**	**07 30 52.8**	**+3.0**
	3.4nm,0.4s,baz=162,slow=19,SNR=1.6						
SIJI				S	**S**	**07 31 55.5**	**-3.1**
	5.8nm,0.3s,baz=189,slow=22,SNR=9.9						
BATI	**Baumata**	**6.62**	**231**	P	**Pn**	**07 31 03.0**	**+1.8**
	93nm,0.3s,baz=48,slow=5.0,SNR=20						
BATI				S	**S**	**07 32 17.5**	**-1.9**
	13nm,0.3s,baz=80,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**14.77**	**160**	P	**Pn**	**07 32 40.9**	**+0.8**
	1.9nm,0.6s,baz=342,slow=11,SNR=13						
WRA				S	**S**	**07 35 16.9**	**-3.7**
	0.9nm,1.0s,baz=334,slow=21,SNR=2.9						
ASAR	**Alice Springs**	**18.15**	**165**	P	**P**	**07 33 18.0**	**+2.3**
	0.4nm,0.4s,baz=349,slow=11,SNR=6.3						
ASAR				S	**S**	**07 36 27.3**	**-0.4**
	1.0nm,0.8s,baz=344,slow=20,SNR=7.8						
ASAR				ScP	**ScP**	**07 40 38.6**	**-2.3**
	0.3nm,0.7s,baz=341,slow=2.0,SNR=4.1						
MKAR	**Makanchi Array**	**66.86**	**327**	P	**P**	**07 39 42.6**	**-1.8**
	0.4nm,0.7s,baz=115,slow=7.8,SNR=7.1						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**71.15**	**329**	P	**P**	**07 40 09.8**	**-0.8**
	0.2nm,0.5s,baz=122,slow=5.2,SNR=1.6						
	0.2nm,0.5s						

ZUR 22 07:33:16.1,46°11N×8°13E,h3km±2km,MLh0.7/14,5C, Error ellipse: s-maj=4.3km s-min=0.9km az=176.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MMK	**Mattmark**	**0.13**	**241**	↑Pg	Pg	07 33 19.1	+0.3
SIMPL	**Simplonpass**	**0.15**	**328**	↑Pg	Pg	07 33 19.4	+0.3
SIMPL				Sg	Sg	07 33 21.5	+0.4
EMBD	**Embd, Matterta**	**0.23**	**296**	Sg	Sg	07 33 23.7	+0.1
FIESA	**Fiescheralp**	**0.32**	**357**	↑Pg	Pg	07 33 22.6	+0.3
FUSIO	**Fusio**	**0.50**	**47**	↑Pg	Pg	07 33 25.7	-0.1
DIX	**Grande Dixence**	**0.51**	**266**	↑Pg	Pg	07 33 25.6	-0.2
NALPS	**Val Nalps**	**0.64**	**41**	Pg	Pg	07 33 28.4	0.0
MUGIO	**Muggio**	**0.66**	**107**	Pg	Pg	07 33 28.7	-0.1

ROM 22 07:34:51.1±0.0,42°843N×0°002×13°078E±0°004, h10km,ML1.7/5,5C-2D,Error ellipse: s-maj=0.3km s-min=0.1km az=259.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**109**	AML	AML		
	comp=N,1118μm,0.1s						
NRCA				AML	AML		
	comp=E,649μm,1.0s						
NRCA				AML	AML		
	comp=N,1120μm,0.1s						
T1216	**Preci, Frazion**	**0.07**	**318**	P	Pg	07 34 53.9	+0.5
T1216				S	Sg	07 34 55.5	+0.4
T1216				AML	AML		
	comp=E,959μm,0.1s						
T1216				AML	AML		
	comp=N,1144μm,0.7s						
T1216				AML	AML		
	comp=N,1142μm,0.7s						
T1216				AML	AML		
	comp=N,1142μm,1.3s						
T1216				AML	AML		
	comp=E,962μm,0.1s						
T1212	**Cascia, Frazio**	**0.09**	**195**	↑P	Pg	07 34 54.3	+0.5
T1212				S	Sg	07 34 56.2	+0.6
T1212				AML	AML		
	comp=N,821μm,0.1s						
T1212				AML	AML		
	comp=E,701μm,0.2s						
T1212				AML	AML		
	comp=N,862μm,0.1s						
T1212				AML	AML		
	comp=E,704μm,0.2s						
T1212				AML	AML		
	comp=N,862μm,0.1s						
T1212				AML	AML		
	comp=E,701μm,0.1s						
T1212				AML	AML		
	comp=N,821μm,0.1s						
T1215	**Vallo di Nera,**	**0.16**	**255**	P	Pg	07 34 55.3	+0.6
T1215				S	Sg	07 34 58.2	+1.0
T1217	**Poggiodomo (PG**	**0.17**	**220**	↑P	Pg	07 34 55.4	+0.6
T1217				S	Sg	07 34 58.5	+1.0
T1218	**Civita (PG)**	**0.17**	**171**	P	Pg	07 34 55.4	+0.4
T1202	**Accumoli, Fraz**	**0.18**	**142**	↑P	Pg	07 34 55.5	+0.5
T1202				S	Sg	07 34 59.0	+1.2
FDMO	**Fiordimonte**	**0.19**	**2**	↓P	Pg	07 34 55.9	+0.6
FDMO				S	Sg	07 34 59.1	+1.0
CESI	**CESI - Serrava**	**0.21**	**322**	↑P	Pg	07 34 56.2	+0.7
CESI				S	Sg	07 34 59.8	+1.3
CESI				AML	AML		
	comp=E,146μm,0.5s						
CESI				AML	AML		
	comp=N,192μm,0.5s						
LNSS	**Leonessa**	**0.24**	**187**	↑P	Pg	07 34 56.7	+0.6
LNSS				S	Sg	07 35 00.6	+1.1
LNSS				AML	AML		
	comp=E,154μm,0.3s						
LNSS				AML	AML		
	comp=N,152μm,1.4s						
LNSS				AML	AML		
	comp=N,152μm,0.6s						
T1220	**Camerino, Fraz**	**0.27**	**2**	P	Pg	07 34 57.1	+0.5
T1220				S	Sb	07 35 01.7	-0.9
RM33	**Pellescritta (**	**0.35**	**163**	↓P	Pg	07 34 58.7	+0.6
ASSB	**Assisi San Ben**	**0.37**	**303**	P	Pg	07 34 58.9	+0.4
ASSB				S	Sb	07 35 04.6	-1.0
SNTG	**Esanatoglia**	**0.42**	**346**	P	Pb	07 35 00.3	-0.4
FAGN	**Fagnano**	**0.69**	**147**	S	Sb	07 35 14.8	+0.1

*JMA **22** 07:38:03.6±0.4,23°N±2°×122.0E±1.0,h15km,MV3.1/13, TAIWAN REGION*

*TAP **22** 07:38:05.2,23.40N×121.86E,h30km,ML3.5,C*

ISC 22 07:38:02.9±1.1,23.36N±0.02×121.92E±0.02,h19km±3km, n123,σ0s69/229,Taiwan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.43**	**264**	P	**Pn**	**07 38 13.6**	**-0.5**
	baz=251						
ECBN				S	**Sn**	**07 38 19.9**	**-1.5**
	baz=251						
HGSD	**Ruisui**	**0.47**	**286**	*i* P	**Pn**	**07 38 13.5**	**-1.1**
	baz=278						
HGSD				*i* S	**Sb**	**07 38 19.9**	**+0.7**
	baz=278						
EGFH	**Guangfu**	**0.54**	**304**	P	**Pn**	**07 38 14.8**	**-0.9**
	baz=313						
EGFH				S	**Sn**	**07 38 22.9**	**-1.3**
	baz=313						
EYUL	**Yuli**	**0.55**	**269**	P	**Pn**	**07 38 15.3**	**-0.4**
	baz=260						
EYUL				S	**Sn**	**07 38 23.1**	**-1.2**
	baz=260						
EHY	**Hungye**	**0.57**	**285**	*i* P	**Pn**	**07 38 15.3**	**-0.6**
	baz=283						
EHY				S	**Sb**	**07 38 21.9**	**+0.1**
	baz=283						
YULB	**Yu-li**	**0.57**	**273**	P	**Pn**	**07 38 15.6**	**-0.4**
YULB	**Yu-li**	**0.57**	**273**	*i* P	**Pn**	**07 38 15.4**	**-0.6**
	baz=267						
YULB				*i* S	**Sb**	**07 38 23.1**	**+1.2**
	baz=267						
CHKT	**Chengkung**	**0.57**	**243**	P	**Pn**	**07 38 15.2**	**-0.8**
	baz=229						
CHKT				S	**Sb**	**07 38 22.5**	**+0.6**
	baz=229						
FULB	**Fuli**	**0.60**	**254**	*i* P	**Pn**	**07 38 15.5**	**-0.8**
	baz=240						
FULB				*i* S	**Sb**	**07 38 23.2**	**+0.5**
	baz=240						
ESL	**Shilin**	**0.63**	**315**	P	**Pb**	**07 38 15.8**	**+0.5**
	baz=325						
ESL				S	**Sg**	**07 38 23.4**	**-0.7**
	baz=325						
HWA	**Hwalien**	**0.68**	**335**	*e*P	**Pn**	**07 38 17.1**	**-0.4**
	baz=348						
HWA				*e*S	**Sn**	**07 38 26.4**	**-1.0**
	baz=348						
EDH	**Donghe**	**0.69**	**236**	*e*P	**Pn**	**07 38 16.9**	**-0.6**
	baz=226						
EDH				*e*S	**Sb**	**07 38 25.6**	**+0.4**
	baz=226						
EHD	**Haiduan**	**0.69**	**252**	P	**Pn**	**07 38 17.1**	**-0.5**
	baz=241						
EHD				S	**Sn**	**07 38 26.5**	**-1.3**
	baz=241						
TWD	**Chiawan**	**0.77**	**338**	P	**Pg**	**07 38 17.9**	**-0.2**
	baz=341						
TWD				*e*S	**Sb**	**07 38 27.8**	**-0.1**
	baz=341						
LDUT	**Ludao**	**0.80**	**211**	*e*P	**Pg**	**07 38 18.4**	**-0.2**
	baz=206						
LDUT				*e*S	**Sb**	**07 38 28.3**	**-0.3**
	baz=206						
VWDT	**VWDT**	**0.81**	**299**	*i* P	**Pn**	**07 38 19.6**	**+0.3**
	baz=299						
VWDT				*i* S	**Sg**	**07 38 29.8**	**+0.1**
	baz=299						
ETL	**Fush Village**	**0.84**	**341**	*e*P	**Pb**	**07 38 18.9**	**0.0**
	baz=344						
ETL				*e*S	**Sg**	**07 38 30.0**	**-0.5**
	baz=344						
ELDTW	**Lidau**	**0.85**	**258**	*i* P	**Pn**	**07 38 19.6**	**-0.3**
	baz=245						
ELDTW				S	**Sb**	**07 38 29.6**	**-0.4**
	baz=245						
LONT	**Longtian**	**0.86**	**238**	P	**Pn**	**07 38 19.9**	**0.0**
	baz=230						
LONT				S	**Sb**	**07 38 30.1**	**-0.1**
	baz=230						
NACB	**Ninganchiao**	**0.86**	**340**	P	**Pg**	**07 38 19.3**	**-0.5**
NACB	**Ninganchiao**	**0.86**	**340**	P	**Pb**	**07 38 19.2**	**0.0**
	baz=343						
NACB				S	**Sb**	**07 38 29.5**	**-0.9**
	baz=343						
OWD	**Renai**	**0.90**	**311**	*e*P	**Pn**	**07 38 20.5**	**-0.1**
	baz=319						
OWD				*e*S	**Sb**	**07 38 31.6**	**-0.1**
	baz=319						
ETLH	**Xiulin Townshi**	**0.93**	**335**	*e*P	**Pg**	**07 38 20.6**	**-0.5**
	baz=337						
ETLH				S	**Sb**	**07 38 31.9**	**-0.6**
	baz=337						
TWGBT	**Beinan**	**0.94**	**235**	P	**Pn**	**07 38 21.1**	**0.0**
TWGBT	**Beinan**	**0.94**	**235**	P	**Pn**	**07 38 21.1**	**0.0**
	baz=242						
TWGBT				S	**Sg**	**07 38 33.4**	**-0.4**
	baz=242						
TWG	**Pinlang**	**0.95**	**236**	P	**Pn**	**07 38 21.3**	**+0.2**
	baz=242						
TWG				S	**Sg**	**07 38 33.5**	**-0.4**
	baz=242						
WUSB	**Renai**	**0.96**	**311**	P	**Pn**	**07 38 21.9**	**+0.4**
	baz=312						
WUSB				S	**Sb**	**07 38 33.0**	**-0.5**
	baz=312						
CHGB	**Renai**	**0.97**	**316**	P	**Pn**	**07 38 21.8**	**+0.1**
	baz=317						
CHGB				S	**Sb**	**07 38 33.9**	**+0.1**
	baz=317						
SSLB	**Suanglung**	**0.98**	**296**	P	**Pn**	**07 38 21.9**	**+0.2**
SSLB	**Suanglung**	**0.98**	**296**	P	**Pn**	**07 38 21.9**	**+0.2**
	baz=288						
SSLB				S	**Sb**	**07 38 33.5**	**-0.4**
	baz=288						
WHF	**Hehuan Shan**	**0.98**	**323**	*i* P	**Pg**	**07 38 21.7**	**-0.4**
	baz=325						
WHF				S	**Sb**	**07 38 33.5**	**-0.8**
	baz=325						
ALS	**Alishan**	**1.03**	**278**	P	**Pn**	**07 38 23.6**	**+1.0**
	baz=277						
ALS				*e*S	**Sb**	**07 38 34.8**	**-0.8**
	baz=277						
SMLT	**Sun Moon Lake**	**1.07**	**299**	P	**Pg**	**07 38 23.5**	**-0.2**
	baz=300						
SMLT				*e*S	**Sg**	**07 38 36.8**	**-1.0**
	baz=300						
STYH	**Taoyuan**	**1.07**	**260**	*e*P	**Pg**	**07 38 23.6**	**-0.1**
	baz=252						
STYH				*e*S	**Sb**	**07 38 35.9**	**-0.4**
	baz=252						
ENA	**Nanau**	**1.07**	**351**	P	**Pn**	**07 38 23.0**	**+0.1**
	baz=354						
ENA				S	**Sb**	**07 38 36.1**	**-0.4**
	baz=354						
FUSS	**Fushou**	**1.08**	**325**	*e*P	**Pn**	**07 38 23.3**	**+0.1**
	baz=326						
EWUT	**Wuta**	**1.09**	**353**	P	**Pb**	**07 38 23.1**	**0.0**
	baz=356						
EWUT				*e*S	**Sb**	**07 38 37.0**	**+0.2**
	baz=356						
TYC	**Yuchr**	**1.11**	**299**	*e*P	**Pg**	**07 38 24.3**	**-0.2**
	baz=300						
TYC				*e*S	**Sb**	**07 38 36.8**	**-0.8**
	baz=300						
TWT	**Tachien**	**1.12**	**323**	*e*P	**Pb**	**07 38 22.5**	**-1.2**
	baz=324						
TWT				*e*S	**Sb**	**07 38 37.7**	**-0.2**
	baz=324						
TDCB	**Techi**	**1.13**	**322**	*e*P	**Pb**	**07 38 23.5**	**-0.3**
	baz=324						
TDCB				*e*S	**Sb**	**07 38 37.5**	**-0.7**
	baz=324						
WCS	**Beigang Elemen**	**1.15**	**307**	*e*P	**Pg**	**07 38 24.8**	**-0.5**
	baz=313						
WCS				*e*S	**Sn**	**07 38 39.2**	**0.0**
	baz=313						
CHN5	**Tsauling**	**1.16**	**282**	*e*P	**Pg**	**07 38 26.1**	**+0.6**
	baz=288						
CHN5				*e*S	**Sn**	**07 38 39.3**	**-0.3**
	baz=288						
NNSB	**Datong**	**1.17**	**335**	*e*P	**Pb**	**07 38 24.9**	**+0.3**
	baz=337						
NNSB				*e*S	**Sb**	**07 38 38.9**	**-0.5**
	baz=337						
ECL	**Taimali**	**1.17**	**230**	*e*P	**Pb**	**07 38 24.5**	**0.0**
	baz=226						
ECL				*e*S	**Sb**	**07 38 38.5**	**-0.7**
	baz=226						
NNS	**Nan Shan**	**1.18**	**335**	*e*P	**Pb**	**07 38 24.9**	**+0.1**
	baz=337						
NNS				*e*S	**Sb**	**07 38 39.1**	**-0.7**
	baz=337						
WJS	**Zhushan**	**1.18**	**293**	*e*P	**Pg**	**07 38 26.4**	**+0.5**
	baz=286						
WJS				*e*S	**Sg**	**07 38 42.1**	**+0.7**
	baz=286						
TPUB	**Ta-pu**	**1.19**	**267**	P	**Pg**	**07 38 26.1**	**+0.2**
TPUB	**Ta-pu**	**1.19**	**267**	P	**Pg**	**07 38 26.4**	**+0.5**
	baz=266						
TPUB				*e*S	**Sn**	**07 38 40.2**	**+0.2**
	baz=266						
WTP	**Ta-pu**	**1.21**	**265**	P	**Pg**	**07 38 26.3**	**+0.1**
	baz=263						
WTP				*e*S	**Sg**	**07 38 41.4**	**-0.6**
	baz=263						
WCKO	**Fanlu**	**1.21**	**274**	*e*P	**Pg**	**07 38 26.9**	**+0.5**
	baz=273						
WCKO				*e*S	**Sg**	**07 38 41.9**	**-0.3**
	baz=273						
CHN4	**Tsaushan**	**1.22**	**270**	P	**Pg**	**07 38 26.8**	**+0.3**
	baz=268						
CHN4				*e*S	**Sg**	**07 38 42.4**	**-0.1**
	baz=268						
LATG	**Datong**	**1.22**	**343**	P	**Pb**	**07 38 25.4**	**-0.1**
	baz=345						
LATG				*e*S	**Sb**	**07 38 40.3**	**-0.5**
	baz=345						
SLGT	**Liugui**	**1.23**	**253**	*e*P	**Pg**	**07 38 27.9**	**+1.2**
	baz=247						
SLGT				*e*S	**Sn**	**07 38 41.2**	**+0.2**
	baz=247						
TWC	**Suao**	**1.24**	**357**	*e*P	**Pb**	**07 38 26.0**	**+0.3**
TWC				*e*S	**Sb**	**07 38 41.0**	**-0.4**
WNT	**Mingjian**	**1.24**	**295**	*e*P	**Pg**	**07 38 27.5**	**+0.5**
	baz=295						
WNT				*e*S	**Sg**	**07 38 43.8**	**+0.5**
	baz=295						
SGST	**Jiashian**	**1.26**	**257**	*e*P	**Pg**	**07 38 27.0**	**-0.3**
	baz=248						
SGST				*e*S	**Sg**	**07 38 42.9**	**-0.9**
	baz=248						
WHP	**Taichung City**	**1.27**	**316**	*e*P	**Pg**	**07 38 27.7**	**+0.1**
	baz=323						
WHP				*e*S	**Sg**	**07 38 43.4**	**-0.9**
	baz=323						
NDS	**Dongshan**	**1.28**	**352**	*e*P	**Pb**	**07 38 26.5**	**+0.2**
	baz=354						
NDS				*e*S	**Sb**	**07 38 42.1**	**-0.3**
	baz=354						
CHN1	**Nanshi**	**1.29**	**262**	*e*P	**Pg**	**07 38 28.2**	**+0.3**
	baz=261						
CHN1				*e*S	**Sg**	**07 38 44.9**	**+0.1**
	baz=261						
WDLH	**Douliu**	**1.31**	**285**	*e*P	**Pg**	**07 38 28.3**	**+0.1**
	baz=284						
WDLH				*e*S	**Sg**	**07 38 44.5**	**-0.9**
	baz=284						
ENTT	**Nioudou**	**1.31**	**346**	*e*P	**Pb**	**07 38 26.8**	**-0.1**
	baz=348						
ENTT				*e*S	**Sn**	**07 38 42.3**	**-0.9**
	baz=348						
SNST	**Tainan City**	**1.31**	**264**	*e*P	**Pg**	**07 38 28.0**	**-0.4**
	baz=263						
SNST				*e*S	**Sg**	**07 38 45.2**	**-0.3**
	baz=263						
TWK	**Hsinying**	**1.32**	**266**	*e*P	**Pg**	**07 38 28.4**	**0.0**
	baz=265						
TWK				*e*S	**Sg**	**07 38 45.5**	**-0.2**
	baz=265						
TSMG	**Majia**	**1.34**	**241**	*e*S	**Sn**	**07 38 43.0**	**-0.9**
	baz=235						
LAY	**Lan-yu**	**1.36**	**195**	*e*P	**Pn**	**07 38 26.9**	**0.0**
	baz=191						
LAY				*e*S	**Sn**	**07 38 43.0**	**-1.4**
	baz=191						
TAW	**Tawu**	**1.37**	**224**	*e*S	**Sn**	**07 38 44.5**	**-0.1**
	baz=229						
CHY	**Chiayi**	**1.38**	**276**	*e*P	**Pg**	**07 38 29.5**	**-0.1**
	baz=286						
CHY				*e*S	**Sg**	**07 38 46.7**	**-0.9**
	baz=286						
TCU	**Taichung**	**1.38**	**305**	*e*P	**Pg**	**07 38 30.2**	**+0.6**
	baz=305						
TCU				*e*S	**Sg**	**07 38 47.4**	**-0.3**
	baz=305						
EAST	**Anshuo**	**1.39**	**226**	*e*P	**Pn**	**07 38 27.3**	**0.0**
	baz=222						
EAST				*e*S	**Sn**	**07 38 44.5**	**-0.6**

baz=222
LYUB Lan-yu 1.39 193 *e*P **Pn 07 38 27.2 0.0**
baz=190
LYUB *e*S **Sn 07 38 44.1 -0.9**
baz=190
TAWH Dawu Township 1.39 223 *e*P **Pb 07 38 27.8 -0.5**
baz=229
TAWH *e*S **Sn 07 38 44.7 -0.4**
baz=229
YHNB Yeheng 1.39 339 P **Pb 07 38 28.4 0.0**
YHNB Yeheng 1.39 339 P **Pb 07 38 28.2 -0.1**
baz=341
YHNB S **Sn 07 38 44.3 -0.9**
baz=341
SCST Cishan 1.39 250 *e*P **Pg 07 38 29.3 -0.6**
baz=248
SCST *e*S **Sg 07 38 48.5 +0.4**
baz=248
MASBT Mashibuluo 1.40 238 *e*P **Pb 07 38 27.9 -0.6**
baz=232
MASBT *e*S **Sn 07 38 44.8 -0.5**
baz=232
NSK Sanguang 1.41 339 P **Pb 07 38 28.4 -0.2**
baz=341
NSK *e*S **Sn 07 38 44.5 -1.1**
baz=341
FUSB Fushanzhiwuyua 1.42 348 *e*P **Pn 07 38 28.2 +0.4**
baz=350
FUSB *e*S **Sn 07 38 45.3 -0.7**
baz=350
TWQ1 Liyutan 1.44 313 *e*P **Pg 07 38 30.5 -0.2**
baz=323
TWQ1 *e*S **Sg 07 38 49.2 -0.2**
baz=323
WCHH Zhanghua 1.44 300 *e*P **Pg 07 38 30.0 -0.7**
baz=300
WCHH *e*S **Sg 07 38 49.2 -0.2**
baz=300
WTK Tuku 1.44 283 *e*P **Pb 07 38 29.3 +0.2**
baz=283
WTK *e*S **Sg 07 38 48.3 -1.2**
baz=283
NWLT Wulai 1.46 345 *e*P **Pn 07 38 28.6 +0.4**
baz=347
NWLT *e*S **Sn 07 38 46.0 -0.9**
baz=347
NFF Wufeng Townshi 1.46 330 *e*P **Pg 07 38 30.1 -1.0**
baz=341
NFF *e*S **Sn 07 38 47.3 +0.4**
baz=341
TWM1 Shoushan 1.48 249 *e*P **Pg 07 38 32.9 +1.5**
baz=247
TWM1 *e*S **Sg 07 38 52.0 +1.3**
baz=247
YOJ Yonaguni jima 1.48 42 P **Pb 07 38 29.9 +0.1**
YOJ S **Sn 07 38 47.6 +0.3**
NSY Sanyi 1.49 315 *e*P **Pg 07 38 31.1 -0.5**
baz=316
NSY *e*S **Sg 07 38 49.6 -1.5**
baz=316
WRL Guolierlin Hig 1.51 291 *e*P **Pb 07 38 30.7 +0.4**
baz=291
WRL *e*S **Sg 07 38 50.8 -1.1**
baz=291
NSTT Nanjuang 1.52 327 *e*P **Pg 07 38 31.3 -0.9**
baz=338
NSTT *e*S **Sn 07 38 48.7 +0.5**
baz=338
LIOB Emei 1.52 327 *e*P **Pg 07 38 31.5 -0.8**
baz=338
LIOB *e*S **Sb 07 38 50.1 +0.7**
baz=338
WDJ Dajia District 1.53 310 *e*P **Pn 07 38 29.3 +0.2**
baz=311
WDJ *e*S **Sb 07 38 49.3 -0.2**
baz=311
SLIU Shizi 1.54 222 *e*P **Pb 07 38 30.6 -0.2**
baz=209
SLIU *e*S **Sb 07 38 50.3 +0.4**
baz=209
SCZT Fangliau 1.55 231 *e*P **Pb 07 38 30.3 -0.7**
baz=223
SCZT *e*S **Sn 07 38 48.8 -0.2**
baz=223
TIPB Shuangxi 1.60 357 *e*P **Pb 07 38 32.1 +0.2**
baz=7.0
TIPB *e*S **Sn 07 38 51.3 +0.9**
baz=7.0
NHDH Xindian Distri 1.63 347 *e*P **Pn 07 38 31.1 +0.5**
baz=349
NHDH *e*S **Sn 07 38 50.4 -0.7**
baz=349
TWA Mucha 1.64 349 *e*P **Pn 07 38 31.1 +0.4**
baz=341
TWA *e*S **Sn 07 38 50.8 -0.5**
baz=341
TWB1 Santiao Chiao 1.64 2 *e*P **Pb 07 38 31.8 -0.7**
baz=4.0
TWB1 *e*S **Sn 07 38 51.2 0.0**
baz=4.0
TATO Taipei 1.65 346 P **Pb 07 38 32.3 -0.4**
SMST Manzhou Townsh 1.67 217 *e*P **Pn 07 38 31.7 +0.7**
baz=214
SMST *e*S **Sn 07 38 51.6 -0.3**
baz=214
TSCK Chigu Township 1.70 263 *e*P **Pb 07 38 33.3 -0.2**
baz=262
TSCK *e*S **Sg 07 38 56.1 -1.7**
baz=262
NWF Wu-fen Shan 1.71 356 *e*P **Pb 07 38 33.6 -0.1**
baz=358
NWF *e*S **Sn 07 38 52.7 -0.3**
baz=358
SXI1 Grass Mountain 1.73 359 *e*P **Pb 07 38 33.5 -0.5**
baz=13
SXI1 *e*S **Sn 07 38 53.5 +0.1**
baz=13
NCUH Zhongli 1.73 337 *e*S **Sb 07 38 55.6 +0.1**
baz=355
HEN Hengchun 1.73 219 *e*S **Sn 07 38 53.9 +0.3**
baz=216
NCU National Centr 1.73 338 *e*P **Pb 07 38 34.0 -0.1**
baz=355
NCU *e*S **Sb 07 38 55.6 0.0**
baz=355
TWKBT Hengchun 1.75 216 *e*P **Pn 07 38 32.7 +0.5**
baz=213
TWKBT *e*S **Sn 07 38 54.0 +0.2**
baz=213
YM01 YM01 1.81 350 *e*P **Pn 07 38 33.5 +0.5**
baz=352
YM01 *e*S **Sn 07 38 54.7 -0.7**
baz=352
HATJ Hateruma jima 1.86 68 P **Pn 07 38 34.4 +0.6**
HATJ S **Sn 07 38 56.4 -0.4**
IRIF Iriomote-Funau 1.92 59 P **Pn 07 38 35.5 +1.0**
IRIF S **Sn 07 38 58.5 +0.4**
JKRS Kuro-shima 2.10 65 *e*P **Pn 07 38 38.2 +1.1**
JKRS *e*S **Sn 07 39 02.7 0.0**
PHUB P'eng-hu 2.16 274 *e*S **Sn 07 39 04.6 +0.6**
baz=274
PNG Penghu 2.18 276 *e*P **Pn 07 38 38.2 +0.1**
baz=275
PNG *e*S **Sn 07 39 03.5 -1.0**
baz=275
JIJ Ishigaki jima 2.27 63 *e*P **Pn 07 38 39.8 +0.5**
JIJ S **Sn 07 39 05.6 -1.1**
JISG Ishigakijimahi 2.50 60 *e*P **Pn 07 38 43.0 +0.4**
JISG *e*S **Sn 07 39 11.9 -0.7**
JTJ Tarama 2.85 63 *e*S **Sn 07 39 20.6 -0.4**
PTMZ Houxiangcun 3.05 304 *e*P **Pn 07 38 52.2 +2.1**
baz=305
PTMZ *e*S **Sn 07 39 26.6 +0.5**
baz=305
MATB Ma-tsu 3.31 328 *e*S **Sn 07 39 32.8 +0.5**
baz=328
JIRB Irabujima 3.31 63 *e*S **Sn 07 39 32.2 -0.4**
JMJ2 Miyako jima3 3.41 66 *e*S **Sn 07 39 34.6 -0.2**
KNMB Chin-men Tao 3.41 289 *e*P **Pn 07 38 57.0 +2.0**
baz=290
KNMB *e*S **Sn 07 39 35.6 +0.6**
baz=290
LYJJ Jianjiangzhen 3.73 329 *e*P **Pn 07 39 01.4 +1.9**
baz=330
LYJJ *e*S **Sn 07 39 43.3 +0.5**
baz=330
MHZQ Yeshan 3.79 317 *e*P **Pn 07 39 02.2 +2.0**
baz=318
MHZQ *e*S **Sn 07 39 44.8 +0.6**
baz=318
XPSS Dashiqiu 3.88 337 *e*P **Pn 07 39 03.6 +2.1**
baz=348
XPSS *e*S **Sn 07 39 46.6 0.0**
baz=348
AXDP Jialang 3.92 294 *e*P **Pn 07 39 04.3 +2.2**
baz=294
AXDP *e*S **Sn 07 39 47.2 -0.3**
baz=294
SXFK Yanhouchang 4.92 309 *e*P **Pn 07 39 18.0 +2.2**
baz=310
SXFK *e*S **Sn 07 40 12.4 +0.1**
baz=310

IDC ***22*** *07:39:00.2±4.3, 42°.36S×83°.84W, h0km, mb3.8/5, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=99.5km s-min=38.2km az=178.0*
NEIC ***22*** *07:39:07.8±1.4, 41°.26S±0°.10×83°.4W±0°.2, h10km±1km, mb4.5/17, Error ellipse: s-maj=20.8km s-min=16.4km az=266.0*
ISC 22 07:39:07.3±0.9, 41°.3S±0°.1×83°.5W±0°.1, h10km, n40, σ1§62/34, mb4.4/14, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL06	**Loncomilla**	**7.44**	**100**	Pn	**Pn**	**07 40 53.6**	**-2.2**
LR04	**Corral**	**7.80**	**83**	Pn	**Pn**	**07 41 00.8**	**0.0**
H03S2	**Juan Fernandez** baz=203,slow=73	**8.30**	**27**	T	T	07 50 35.3	
H03S1	**Juan Fernandez** baz=203,slow=73	**8.30**	**28**	T	T	07 50 28.2	
H03S3	**Juan Fernandez** baz=203,slow=73	**8.32**	**27**	T	T	07 50 32.5	
LL04	**Puerto Octay**	**8.39**	**91**	Pn	**Pn**	**07 41 05.1**	**-3.7**
AY01	**Puyuhuapi**	**8.55**	**115**		**Pn**	**07 41 11.6**	**+0.5**
H03N3	**Juan Fernandez** baz=210,slow=73	**8.65**	**26**	T	T	07 51 22.6	
H03N2	**Juan Fernandez** baz=210,slow=73	**8.66**	**26**	T	T	07 51 03.8	
H03N1	**Juan Fernandez** baz=210,slow=73	**8.67**	**26**	T	T	07 51 13.1	
LR03	**Panguipulli**	**8.67**	**82**	Pn	**Pn**	**07 41 11.3**	**-1.4**
COYC	**Coyhaique**	**9.33**	**121**		**Pn**	**07 41 21.9**	**+0.1**
GO06	**Curarrehue**	**9.34**	**83**	Pn	**Pn**	**07 41 21.0**	**-1.0**
PLCA	**Paso Flores** 0.1nm,0.3s,baz=256,slow=12,SNR=1.6 2.3nm,1.2s	**9.81**	**91**	Pn	**Pn**	**07 41 27.1**	**-1.3**
PLCA	**Paso Flores**	**9.81**	**91**	Pn	**Pn**	**07 41 27.8**	**-0.6**
GO05	**Huala**	**11.07**	**59**	Pn	**Pn**	**07 41 45.6**	**-0.1**
BO01	**Tunca**	**12.00**	**59**	Pn	**Pn**	**07 41 58.0**	**-0.3**
MT09	**Talagante**	**12.45**	**57**	Pn	**Pn**	**07 42 04.6**	**0.0**
LVC	**Limon Verde** 1.8nm,0.7s,baz=212,slow=9.7,SNR=1.5 1.8nm,0.7s	**22.33**	**38**	P	**P**	**07 44 11.6**	**+6.0**
PATCX	**Punta Patache**	**23.36**	**33**	P	**P**	**07 44 15.2**	**-0.8**
PATCX	comp=Z,12nm,1.0s			IAmb	IAmb	07 44 31.3	
PB01	**IPOC Station P**	**23.44**	**35**	P	**P**	**07 44 16.4**	**-0.5**
PB01	comp=Z,18nm,1.3s			IAmb	IAmb	07 44 28.2	
TA01	**Diego Aracena**	**23.58**	**33**	P	**P**	**07 44 17.9**	**-0.2**
TA01	comp=Z,20nm,1.3s			IAmb	IAmb	07 44 29.1	
LPAZ	**La Paz** comp=Z,1.2nm,0.8s,baz=223,slow=0.8,SNR=5.5 comp=Z,1.2nm,0.8s	**28.26**	**33**	P	**P**	**07 45 04.5**	**+3.1**
AQDB	**Aquidauana**	**31.41**	**57**	P	**P**	**07 45 29.3**	**+0.7**
AQDB	comp=Z,11nm,1.4s			IAmb	IAmb	07 45 53.2	
SIV	**San Ignacio** comp=Z,0.9nm,0.9s,baz=214,slow=3.6,SNR=4.1 comp=Z,0.9nm,0.9s	**31.82**	**44**	P	**P**	**07 45 33.5**	**+1.3**
PTLB	**Pontes e Lacer**	**33.30**	**46**	P	**P**	**07 45 45.0**	**-0.1**
PTLB	comp=Z,3.8nm,1.4s			IAmb	IAmb	07 45 52.7	
ETMB	**Extrema**	**34.89**	**31**	P	**P**	**07 45 58.8**	**-0.2**
ETMB	comp=Z,2.9nm,0.9s			IAmb	IAmb	07 46 07.2	
MCRA	**Macar, Loja**	**36.92**	**6**	P	**P**	**07 46 14.6**	**-1.9**
CHSH	**Refugio Sur-Vo**	**39.87**	**7**	P	**P**	**07 46 41.4**	**-0.5**
CHSH	comp=Z,3.3nm,1.0s			IAmb	IAmb	07 46 44.1	
TULM	**Tulcn-Chalpat**	**42.16**	**9**	P	**P**	**07 46 59.5**	**-1.1**
TULM	comp=Z,6.0nm,0.5s			IAmb	IAmb	07 47 01.4	
RUSC	**La Rusia**	**47.94**	**14**	P	**P**	**07 47 46.4**	**-0.1**
RUSC	comp=Z,5.2nm,1.0s			IAmb	IAmb	07 47 55.6	
SNAA	**Sanae**	**48.50**	**155**	P	**P**	**07 47 50.5**	**+0.6**
SNAA	comp=Z,5.3nm,1.2s			IAmb	IAmb	07 47 51.0	
QSPA	**South Pole Qui**	**48.92**	**180**	P	**P**	**07 47 54.2**	**+0.9**
SDV	**Santo Domingo**	**51.34**	**16**	P	**P**	**07 48 11.7**	**-0.5**
SDV	comp=Z,8.3nm,1.4s			IAmb	IAmb	07 48 22.7	
TXAR	**Lajitas Array** comp=Z,1.1nm,0.9s,baz=178,slow=6.0,SNR=3.8 comp=Z,1.1nm,0.9s	**72.73**	**342**	P	**P**	**07 50 35.7**	**+0.2**
ANMO	**Albuquerque**	**78.77**	**341**	P	**P**	**07 51 09.9**	**-0.2**
Q44A	**Meyer Farm, Va**	**80.00**	**356**	P	**P**	**07 51 16.1**	**-0.3**
Q16A	**Castle Valley**	**83.75**	**339**	P	**P**	**07 51 36.8**	**+0.4**
Q16A	comp=Z,3.3nm,1.4s			IAmb	IAmb	07 51 39.8	
K22A	**Casper**	**86.13**	**343**	P	**P**	**07 51 47.7**	**-0.6**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.8s,baz=145,slow=5.2,SNR=3.9 comp=Z,0.4nm,0.8s	**86.94**	**341**	P	**P**	**07 51 51.4**	**-1.0**

IDC ***22*** *07:44:19.0±0.8, 42°.20S×83°.88W, h0km, mb4.2/14, mbtmp4.2/16, ML3.9/2, Error ellipse: s-maj=23.4km s-min=21.4km az=175.0*
NEIC ***22*** *07:44:24.1±1.8, 41°.67S±0°.10×83°.6W±0°.1, h10km±1km, mb5.3/245, Error ellipse: s-maj=18.8km s-min=16.4km az=249.0*
ISC 22 07:44:22.5±0.5, 41°.96S±0°.07×83°.75W±0°.08, h15km, n446, σ1§19/388, mb5.2/129, 1D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL06	**Loncomilla**	**7.54**	**95**	Pn	**Pn**	**07 46 11.9**	**+0.1**
GO07	**Milladeo Hill,**	**7.54**	**102**	Pn	**Pn**	**07 46 13.3**	**+1.5**
LL05	**Los Muermos**	**7.71**	**89**	Pn	**Pn**	**07 46 13.8**	**-0.4**
LR04	**Corral**	**8.09**	**79**	Pn	**Pn**	**07 46 18.8**	**-0.6**
AY01	**Puyuhuapi**	**8.48**	**111**		**Pn**	**07 46 26.4**	**+1.7**
LL04	**Puerto Octay**	**8.59**	**87**	Pn	**Pn**	**07 46 26.1**	**-0.1**
H03S2	**Juan Fernandez** baz=202,slow=73	**8.96**	**27**	T	T	07 55 50.7	
H03S1	**Juan Fernandez** baz=202,slow=73	**8.96**	**27**	T	T	07 55 52.2	
LR03	**Panguipulli**	**8.96**	**79**		**Pn**	**07 46 31.0**	**-0.3**
H03S3	**Juan Fernandez** baz=202,slow=73	**8.97**	**27**	T	T	07 55 51.5	
COYC	**Coyhaique**	**9.18**	**117**	Pn	**Pn**	**07 46 37.2**	**+2.9**
H03N3	**Juan Fernandez** baz=206,slow=79	**9.30**	**26**	T	T	07 56 36.6	
H03N2	**Juan Fernandez** baz=206,slow=79	**9.32**	**26**	T	T	07 56 12.1	
H03N1	**Juan Fernandez** baz=206,slow=79	**9.32**	**26**	T	T	07 56 12.6	
GO06	**Curarrehue**	**9.61**	**80**	Pn	**Pn**	**07 46 39.0**	**-1.4**
PLCA	**Paso Flores** 0.2nm,0.3s,baz=274,slow=12,SNR=8.6 0.9nm,0.4s	**10.00**	**87**	Pn	**Pn**	**07 46 45.7**	**0.0**
PLCA	**Paso Flores**	**10.00**	**87**	Pn	**Pn**	**07 46 46.0**	**+0.3**
PLCA	**Paso Flores**	**10.00**	**87**	eP	**Pn**	**07 46 48.6**	**+2.9**
GO05	**Huala**	**11.56**	**57**	Pn	**Pn**	**07 47 03.2**	**-3.8**
GO09	**Cerro Castillo**	**12.17**	**144**	Pn	**P**	**07 47 23.4**	**-4.3**
BO02	**Sierra Bellavi**	**12.43**	**59**		**Pn**	**07 47 16.5**	**-2.4**
BO01	**Tunca**	**12.49**	**57**		**Pn**	**07 47 17.3**	**-2.4**
MT01	**Popeta**	**12.74**	**55**	Pn	**Pn**	**07 47 19.3**	**-3.8**
MT09	**Talagante**	**12.96**	**55**	Pn	**Pn**	**07 47 23.5**	**-2.7**
BO04	**La Punta**	**13.06**	**57**	Pn	**Pn**	**07 47 24.7**	**-2.7**
MT02	**Curacav**	**13.23**	**53**	Pn	**Pn**	**07 47 26.4**	**-3.3**
ROC1	**El Roble**	**13.50**	**53**		**Pn**	**07 47 32.3**	**-1.4**
VA03	**San Esteban**	**13.93**	**53**	Pn	**Pn**	**07 47 37.2**	**-2.2**
CO03	**El Pedregal**	**15.27**	**48**	Pn	**Pn**	**07 47 55.8**	**-1.8**
CO05	**La Serena**	**15.69**	**44**		**Pn**	**07 48 00.7**	**-2.3**
GO04	**Tololo Observa**	**15.72**	**46**		**Pn**	**07 48 01.1**	**-2.6**
ZON	**Zonda**	**15.91**	**54**	Pn	**Pn**	**07 48 04.5**	**-1.4**
CFA	**Coronel Fontan** 0.5nm,0.3s,baz=218,slow=16,SNR=7.7	**16.14**	**55**	Pn	**Pn**	**07 48 08.2**	**-0.6**
1.3nm,0.3s
CO01 Juntas del Tor 16.26 47 Pn 07 48 09.5 -1.0
LCO Las Campanas 16.70 43 Pn 07 48 13.4 -2.8
AC05 El Transito 17.06 44 Pn 07 48 19.0 -1.6
TRQA Tornquist 17.12 84 P 07 48 22.1 -0.7
AC04 Llanos de Chal 17.17 41 Pn **Pn 07 48 19.8 -2.1**
GO03 Copiap 18.09 42 P **Pn 07 48 31.4 -2.0**
AC06 Mina Casimiro 18.23 41 P **Pn 07 48 32.8 -2.1**
AC01 Pan de Azucar 19.13 39 P **P 07 48 43.0 -2.0**
AC02 Maricunga 19.27 43 P 07 48 45.7 -1.4
PB14 IPOC Station P 20.53 37 P **P 07 48 59.3 -1.3**
PB10 IPOC Station P 21.43 35 P **P 07 49 08.2 -1.9**
PB10 IAmb IAmb 07 49 26.6
comp=Z,181nm,1.9s
PB04 IPOC Station P 22.65 34 P **P 07 49 21.6 -1.7**
LVC Limon Verde 22.95 37 P **P 07 49 28.5 +1.9**
comp=Z,4.3nm,0.9s,baz=221,slow=20,SNR=3.1 comp=Z,4.3nm,0.9s
LVC Limon Verde 22.95 37 P **P 07 49 25.3 -1.3**
LVC IAmb IAmb 07 49 35.9
comp=Z,148nm,1.6s
PB07 IPOC Station P 23.30 34 P **P 07 49 28.7 -1.2**
PB07 IAmb IAmb 07 49 38.3
comp=Z,202nm,1.8s
PB09 IPOC Station P 23.51 36 IAmb IAmb 07 49 48.4
comp=Z,101nm,1.4s
PB02 IPOC Station P 23.66 34 P **P 07 49 31.8 -1.6**
PB01 IPOC Station P 24.07 34 IAmb IAmb 07 49 46.2
comp=Z,65nm,1.1s
TA01 Diego Aracena 24.21 32 P **P 07 49 37.3 -1.3**
TA01 IAmb IAmb 07 49 47.1
comp=Z,74nm,1.1s
MECA Mercedes 24.22 67 *e*P **P 07 49 39.8 +1.1**
ITQB Itaqui 25.07 69 P **P 07 49 47.0 +0.7**
ITQB IAmb IAmb 07 49 55.3
comp=Z,77nm,1.3s
ITQB Itaqui 25.07 69 *e*P **P 07 49 48.0 +1.7**
PB11 IPOC Station P 25.15 33 P **P 07 49 46.7 -0.5**
PB11 IAmb IAmb 07 49 56.5
comp=Z,72nm,1.4s
RODS Rosario do Sul 25.68 72 *e*P **P 07 49 54.5 +2.6**
MNMC Minye Minye 25.74 32 P **P 07 49 52.6 -0.2**
MNMC IAmb IAmb 07 50 08.8
comp=Z,180nm,2.0s
PLTB Pedras Altas 26.06 77 P **P 07 49 56.5 +1.2**
PLTB Pedras Altas 26.06 77 *e*P **P 07 49 58.3 +3.0**
PB16 IPOC Station P 26.50 32 IAmb IAmb 07 50 23.8
comp=Z,84nm,1.6s
CPUP Villa Florida 26.71 63 P **P 07 50 01.4 +0.2**
comp=Z,2.0nm,1.0s,baz=221,slow=13,SNR=3.6 comp=Z,2.0nm,1.0s
CPUP Villa Florida 26.71 63 P **P 07 50 02.7 +1.6**
CPSB Cacapava Do Su 26.91 74 *e*P **P 07 50 05.7 +2.7**
LPAZ La Paz 28.89 32 P **P 07 50 22.2 +0.8**
comp=Z,3.1nm,0.8s,baz=170,slow=3.5,SNR=13 comp=Z,3.1nm,0.8s
LPAZ La Paz 28.89 32 P **P 07 50 21.2 -0.3**
LPAZ IAmb IAmb 07 50 30.4
comp=Z,92nm,1.9s
LPAZ La Paz 28.89 32 *e*P **P 07 50 23.0 +1.6**
ITAB Concordia 29.69 70 *e*P **P 07 50 29.1 +1.3**
MURT Porto Murtinho 29.85 55 *e*P **P 07 50 29.4 +0.1**
NNA Nana 30.46 13 P **P 07 50 35.7 +1.0**
comp=Z,2.0nm,0.3s,baz=234,slow=17,SNR=3.5 comp=Z,2.0nm,0.3s
NNA Nana 30.46 13 P **P 07 50 34.0 -0.7**
NNA IAmb IAmb 07 50 41.3
comp=Z,35nm,1.1s
AMBA Amambai (Brazi 30.59 61 *e*P **P 07 50 36.5 +0.7**
ANTJ Antonio Joao (30.60 58 *e*P **P 07 50 36.4 +0.4**
AQDB Aquidauana 31.92 57 P **P 07 50 47.2 -0.3**
AQDB Aquidauana 31.92 57 *e*P **P 07 50 48.2 +0.7**
SIV San Ignacio 32.41 44 P **P 07 50 52.2 +0.3**
comp=Z,2.1nm,0.8s,baz=217,slow=8.9,SNR=8.2 comp=Z,2.1nm,0.8s
PTLB Pontes e Lacer 33.88 46 P **P 07 51 04.7 0.0**
PTLB IAmb IAmb 07 51 12.5
comp=Z,69nm,1.9s
PTLB Pontes e Lacer 33.88 46 *e*P **P 07 51 05.1 +0.5**
PCMB Pacaembu 33.97 63 *e*P **P 07 51 06.4 +0.9**
VBST Vila Bela da S 34.18 44 P **P 07 51 08.3 +1.1**
POCN Pocone 34.27 51 *e*P **P 07 51 09.5 +1.5**
ATAH Atahualpa 35.00 9 P **P 07 51 16.3 +1.4**
comp=Z,2.5nm,0.6s,baz=183,slow=7.0,SNR=9.6 comp=Z,2.5nm,0.6s
PTET Porto Estrela 35.02 49 *e*P **P 07 51 14.8 +0.3**
VILB Vilhena 35.42 42 P **P 07 51 17.9 -0.1**
VILB IAmb IAmb 07 51 25.3
comp=Z,35nm,1.1s
VILB Vilhena 35.42 42 *e*P **P 07 51 18.4 +0.4**
SALV Santo Antonio 35.44 51 *e*P **P 07 51 19.1 +1.0**
CZSB Cruzeiro do Su 35.46 19 P **P 07 51 17.7 -0.6**
CZSB IAmb IAmb 07 51 25.4
comp=Z,19nm,0.9s
CZSB Cruzeiro do Su 35.46 19 *e*P **P 07 51 18.6 +0.3**
ETMB Extrema 35.53 31 P **P 07 51 18.6 -0.3**
ETMB IAmb IAmb 07 51 26.5
comp=Z,20nm,0.9s
ETMB Extrema 35.53 31 *e*P **P 07 51 18.8 -0.1**
RCLB Rio Claro- Sao 35.96 69 *e*P **P 07 51 23.9 +1.2**
PDRB Porto dos Gac 38.35 46 *e*P **P 07 51 43.0 +0.1**
IPMB Ipameri, GO 38.55 63 *e*P **P 07 51 45.5 +1.2**
TBTG Tabatinga, AM 39.59 22 P **P 07 51 53.5 +0.2**
TBTG IAmb IAmb 07 52 30.5
comp=Z,25nm,0.4s
BDFB Brasilia 40.38 60 P **P 07 52 00.5 +0.5**
comp=Z,2.4nm,0.8s,baz=209,slow=4.6,SNR=4.4 comp=Z,2.4nm,0.8s
BDFB Brasilia 40.38 60 *e*P **P 07 52 00.6 +0.6**
CHSH Refugio Sur-Vo 40.52 8 IAmb IAmb 07 52 14.1
comp=Z,80nm,1.9s
PORT Chimborazo Vol 40.56 8 IAmb IAmb 07 52 33.1
comp=Z,102nm,2.0s
SNDB Serra Nova Dou 41.13 53 *e*P **P 07 52 05.9 -0.3**
TEFE Tefe 41.93 29 *e*P **P 07 52 14.5 +1.9**
OTAV Otavalo 42.27 8 P **P 07 52 17.2 +1.4**
OTAV Otavalo 42.27 8 *e*P **P 07 52 16.3 +0.4**
OTAV Otavalo 42.27 8 *e*P **P 07 52 17.3 +1.4**
SJMB Sao Joao De Ma 42.86 70 *e*P **P 07 52 23.9 +3.6**
NPGB Novo Progresso 42.91 44 *e*P **P 07 52 20.7 +0.1**
BSFB Barra de Sao F 43.01 71 *e*P **P 07 52 21.9 +0.4**
JANB Januaria 43.24 64 *e*P **P 07 52 23.4 +0.1**
MACA Manacapuru-AM 43.80 34 P **P 07 52 28.3 +0.5**
MACA IAmb IAmb 07 52 33.9
comp=Z,17nm,1.3s
MACA Manacapuru-AM 43.80 34 *e*P **P 07 52 27.8 0.0**
TUMC Tumaco 43.81 7 P **P 07 52 27.4 -0.5**
TUMC IAmb IAmb 07 52 49.3
comp=Z,41nm,0.8s
FLOC Florencia 43.95 12 *e*P **P 07 52 29.0 0.0**
NAN01 Guarapari, ES 44.18 71 *e*P **P 07 52 32.8 +1.9**
SGCB SÈo Gabriel d 44.29 24 *e*P **P 07 52 31.2 -0.6**
MACC Macarena, Meta 44.81 14 *e*P P 07 52 42.6 +6.7
SMTB Santa Maria do 45.81 54 *e*P **P 07 52 45.8 +1.9**
YOTC Yotoco, Valle 46.22 10 *e*P **P 07 52 47.6 +0.5**
CMC01 Camacan, BA 46.30 69 *e*P **P 07 52 49.6 +2.0**
ORTC Ortega, Tolima 46.30 12 *e*P P 07 52 54.9 +7.2
PTGC Puerto Gaitan, 47.14 16 *e*P **P 07 52 54.3 +0.1**
CHIC Chingaza 47.26 14 *e*P **P 07 52 58.9 +3.4**
ROSC El Rosal 47.36 13 P **P 07 52 57.7 +1.4**
comp=Z,1.9nm,0.5s,baz=218,slow=19,SNR=9.9 comp=Z,1.9nm,0.5s
ROSC El Rosal 47.36 13 P **P 07 52 55.9 -0.4**
SNAA Sanae 48.00 155 P **P 07 53 00.3 -0.1**
comp=Z,7.2nm,1.0s,baz=300,slow=7.7,SNR=7.1
SNAA Sanae 48.00 155 P **P 07 53 01.1 +0.7**
SNAA IAmb IAmb 07 53 02.9
comp=Z,25nm,1.4s
CBOC Ciudad Bolivar 48.11 10 *e*P **P 07 53 02.0 0.0**
QSPA South Pole Qui 48.28 180 P **P 07 53 02.6 -0.2**
comp=Z,2.2nm,1.0s,baz=60,slow=1.6,SNR=5.6
RUSC La Rusia 48.60 14 P **P 07 53 05.7 -0.4**
RUSC IAmb IAmb 07 53 13.2
comp=Z,41nm,1.1s
RUSC La Rusia 48.60 14 *e*P **P 07 53 05.8 -0.3**
PTBC PUERTO BERRIO, 49.00 12 *e*P **P 07 53 07.8 -0.8**
ZARC Zaragoza, Cauc 49.88 12 *e*P **P 07 53 15.2 -0.1**
UREC San Jos de Ur 50.03 11 *e*P **P 07 53 15.8 -0.7**
CDITO Canoas 50.29 1 P **P 07 53 18.7 +0.4**
BRU2 Volcan 50.51 1 P **P 07 53 20.4 +0.2**
BRU2 IAmb IAmb 07 53 29.1
comp=Z,47nm,1.4s
SRBA San Rafael, Bu 50.94 0 P **P 07 53 23.7 +0.3**
RIMA Rio Macho 51.47 360 IAmb IAmb 07 53 35.5

comp=Z,50nm,1.8s
HDC Heredia 51.70 360 P **P** **07 53 31.3 +2.2**
JTS Las Juntas de 52.00 358 P **P** **07 53 32.4 +1.1**
JTS IAmb IAmb 07 53 39.4
comp=Z,51nm,1.9s
SDV Santo Domingo 52.00 17 P **P** **07 53 30.6 -0.9**
SDV IAmb IAmb 07 53 41.6
comp=Z,48nm,1.6s
SDV Santo Domingo 52.00 17 eP **P** **07 53 30.5 -1.0**
ORTG Ortega, Santa 52.08 358 P **P** **07 53 32.0 +0.1**
HZTE Horizontes, Gu 52.44 358 P **P** **07 53 34.7 +0.2**
HZTE IAmb IAmb 07 54 27.2
comp=Z,75nm,1.6s
BOAB BOACO BROADBAN 56.16 358 P **P** **07 53 47.3 +0.1**
CRIN San Cristobal 54.47 356 P **P** **07 53 48.7 -0.8**
MATN Matagalpa 54.65 357 P **P** **07 53 51.4 +0.6**
ELIB Princess Elisa 55.63 159 dP **P** **07 53 58.2 +0.8**
comp=Z,7,4nm,1.0s
TGUH Tegucigalpa,Un 55.83 356 P **P** **07 53 59.0 -0.4**
MTO3 Montecristo 56.31 353 P **P** **07 54 02.7 -0.2**
HUEH Huehuetenango 57.43 351 P **P** **07 54 11.6 +0.7**
HUEH IAmb IAmb 07 54 18.2
comp=Z,31nm,0.8s
CCIG Comitan 58.46 351 P **P** **07 54 18.3 +0.3**
TLIG Tlapa 60.78 344 IAmb IAmb 07 54 42.3
comp=Z,30nm,1.4s
ZAIG Zacatecas 66.71 341 IAmb IAmb 07 55 21.9
comp=Z,21nm,1.3s
833A Chaparral WMA, 71.41 345 P **P** **07 55 42.6 +0.7**
baz=168
833A Chaparral WMA, 71.41 345 P **P** **07 55 43.0 +1.2**
baz=168
TXAR Lajitas Array 73.28 342 P **P** **07 55 53.3 +0.1**
comp=Z,2.4nm,1.0s,baz=156,slow=4.6,SNR=8.7
comp=Z,2.4nm,1.0s
TXAR Lajitas Array 73.28 342 P **P** **07 55 53.9 +0.8**
TX31 Lajitas Ar. Si 73.28 342 P **P** **07 55 53.9 +0.8**
TX31 Lajitas Ar. Si 73.28 342 P **P** **07 55 53.8 +0.6**
baz=164
TX32 Lajitas Array 73.28 342 P **P** **07 55 54.0 +0.8**
TX32 IAmb IAmb 07 56 05.1
comp=Z,64nm,2.0s
342A Flagon Creek P 73.40 352 P **P** **07 55 54.9 +1.3**
342B Flagon Creek P 73.40 352 P **P** **07 55 53.7 +0.1**
baz=173
435B Jarrell 73.50 348 IAmb IAmb 07 56 02.1
comp=Z,32nm,1.2s
435B Jarrell 73.50 348 P **P** **07 55 55.0 +0.8**
baz=169
435B Jarrell 73.50 348 P **P** **07 55 55.5 +1.2**
baz=169
JCT Junction City 73.58 346 P **P** **07 55 55.8 +1.0**
JCT Junction City 73.58 346 P **P** **07 55 55.6 +0.7**
baz=167
JCT Junction City 73.58 346 P **P** **07 55 55.8 +1.0**
baz=167
250A Grady 73.61 358 P **P** **07 55 55.1 +0.3**
baz=178
NATX Nacogdoches 74.04 350 P **P** **07 55 58.2 +0.8**
NATX IAmb IAmb 07 56 05.0
comp=Z,43nm,1.2s
NATX Nacogdoches 74.04 350 P **P** **07 55 58.6 +1.1**
baz=171
152A Waverly Hall 74.26 359 P **P** **07 55 58.8 0.0**
baz=179
143A Socs Landing, 74.63 353 P **P** **07 56 01.2 +0.4**
143A Socs Landing, 74.63 353 P **P** **07 56 01.4 +0.6**
baz=174
WHTX Lake Whitney, 74.66 348 P **P** **07 56 01.9 +0.8**
baz=169
LRAL Lakeview Retre 74.68 357 P **P** **07 56 00.8 -0.3**
baz=177
Z47A Carrollton 74.89 356 IAmb IAmb 07 56 09.6
comp=Z,34nm,1.0s
Z47A Carrollton 74.89 356 P **P** **07 56 02.7 +0.3**
baz=176
Y52A Lilburn 75.45 360 P **P** **07 56 05.4 -0.2**
baz=180
Y52A P **P** **07 56 05.4 -0.2**
baz=180
Y45A Yeager Farm, C 75.64 355 P **P** **07 56 07.4 +0.8**
baz=175
WLAR White Oak Lake 75.77 352 IAmb IAmb 07 56 14.6
comp=Z,18nm,1.0s
Z35A Perchaven, San 75.94 348 P **P** **07 56 08.8 +0.5**
Z35A Perchaven, San 75.94 348 P **P** **07 56 08.6 +0.2**
baz=170
X48A Hartselle 76.10 357 P **P** **07 56 09.2 -0.1**
baz=177
X51A Calhoun 76.16 359 P **P** **07 56 10.1 +0.6**
baz=179
X51A P **P** **07 56 10.1 +0.6**
baz=179
GDL2 Guadalupe Moun 76.19 342 P **P** **07 56 10.3 +0.2**
PAULI Pauline 76.43 2 P **P** **07 56 11.4 +0.3**
baz=181
MIAR Mount Ida 76.66 352 P **P** **07 56 12.2 -0.2**
baz=172
W52A Murphy 76.68 360 P **P** **07 56 12.4 -0.1**
baz=180
W50A Signal Mountai 76.80 359 P **P** **07 56 13.1 -0.1**
baz=179
W57A Gilead 76.81 3 P **P** **07 56 12.9 -0.3**
baz=183
W57A P **P** **07 56 12.9 -0.3**
baz=183
W45A Hickory Valley 76.90 355 P **P** **07 56 13.2 -0.5**
W45A Hickory Valley 76.90 355 P **P** **07 56 13.3 -0.5**
baz=176
X37A Clayton 76.92 350 P **P** **07 56 14.8 +0.9**
baz=171
WHAR Wooly Hollow 77.27 353 IAmb IAmb 07 56 22.6
comp=Z,28nm,1.1s
X34A Smith Ranch, M 77.28 348 IAmb IAmb 07 56 27.3
comp=Z,34nm,1.2s
121A Cookes Peak, D 77.35 339 IAmb IAmb 07 56 32.9
comp=Z,48nm,1.8s
121A Cookes Peak, D 77.35 339 P **P** **07 56 16.2 -0.4**
baz=162
V48A Smith Brothers 77.37 357 IAmb IAmb 07 56 23.0
comp=Z,19nm,1.1s
V48A Smith Brothers 77.37 357 P **P** **07 56 15.7 -0.7**
baz=178
MSTX Muleshoe 77.55 344 IAmb IAmb 07 56 25.1
comp=Z,30nm,1.1s
MSTX Muleshoe 77.55 344 P **P** **07 56 17.9 +0.3**
baz=165
MSTX Muleshoe 77.55 344 P **P** **07 56 18.6 +0.9**
baz=165
WMOK Wichita Mounta 77.56 347 IAmb IAmb 07 56 25.4
comp=Z,70nm,1.9s
WMOK Wichita Mounta 77.56 347 P **P** **07 56 18.2 +0.6**
baz=168
WMOK Wichita Mounta 77.56 347 P **P** **07 56 17.7 +0.2**
baz=168
HALT Halls 77.66 355 P **P** **07 56 18.5 +0.5**
CLTN Cedars of Leba 77.71 358 IAmb IAmb 07 56 24.9
comp=Z,25nm,1.1s
WVT Waverly 77.80 357 P **P** **07 56 18.2 -0.5**
WVT IAmb IAmb 07 56 25.2
comp=Z,26nm,1.3s
WVT Waverly 77.80 357 P **P** **07 56 17.7 -1.1**
baz=177
WVT Waverly 77.80 357 P **P** **07 56 18.8 0.0**
baz=177
FCAR Ozark Folk Cen 77.85 353 P **P** **07 56 18.6 -0.5**
FCAR IAmb IAmb 07 56 20.0
comp=Z,62nm,2.0s
TUC Tucson 77.98 337 P **P** **07 56 21.2 +1.2**
U49A Red Boiling Sp 78.12 358 IAmb IAmb 07 56 27.1
comp=Z,27nm,1.1s
U49A Red Boiling Sp 78.12 358 P **P** **07 56 19.8 -0.7**
baz=178
AMTX Amarillo 78.22 345 P **P** **07 56 21.9 +0.6**
baz=166
AMTX Amarillo 78.22 345 P **P** **07 56 22.2 +0.9**
baz=166
TUL1 Leonard 78.27 350 P **P** **07 56 21.0 -0.4**
baz=171
TUL1 Leonard 78.27 350 P **P** **07 56 21.5 +0.1**
baz=171
DEOK Depew 78.30 349 IAmb IAmb 07 56 28.5
comp=Z,42nm,1.2s
U40A Yellville 78.38 353 P **P** **07 56 21.6 -0.5**
baz=173
U40A P **P** **07 56 21.6 -0.5**
baz=173
HHAR Hobbs 78.42 352 IAmb IAmb 07 56 40.6
comp=Z,39nm,2.0s
OK030 Cody Creek RV 78.42 349 IAmb IAmb 07 56 29.2
comp=Z,27nm,1.2s
RLO Rose Lookout 78.43 351 IAmb IAmb 07 56 29.1
comp=Z,13nm,0.9s
OK031 S. Brethren Rd 78.46 349 IAmb IAmb 07 56 29.4
comp=Z,34nm,1.3s
Y22A Socorro 78.48 340 P **P** **07 56 23.3 +0.5**
baz=162
OK052 Battle Ridge R 78.49 349 IAmb IAmb 07 56 29.6
comp=Z,42nm,1.4s
OK053 SW of W Deep R 78.51 349 IAmb IAmb 07 56 29.7
comp=Z,32nm,1.2s
OK033 Mehan 78.56 349 IAmb IAmb 07 56 30.0
comp=Z,35nm,1.1s
BNM Barren Site 78.60 341 P **P** **07 56 24.9 +1.3**
T50A Nancy 78.61 359 P **P** **07 56 22.3 -0.9**
baz=179
T50A P **P** **07 56 22.3 -0.9**
baz=179
U38A Gravette 78.62 351 P **P** **07 56 22.5 -0.9**
baz=172
T47A Sharon Grove 78.63 357 P **P** **07 56 22.5 -0.9**
baz=177
QUOK Quay 78.65 349 P **07 56 23.7 +0.2**
QUOK IAmb IAmb 07 56 30.6
comp=Z,33nm,1.2s
T45A Paducah 78.73 356 IAmb IAmb 07 56 30.2
comp=Z,28nm,0.9s
ELIS Ellis County 78.96 347 IAmb IAmb 07 56 33.4
comp=Z,40nm,1.2s
MGMO Mountain Grove 79.12 353 IAmb IAmb 07 56 32.7
comp=Z,24nm,1.2s
U32A Winter Ranch, 79.20 348 IAmb IAmb 07 56 34.3
comp=Z,32nm,1.1s
U32A Winter Ranch, 79.20 348 P **P** **07 56 27.2 +0.7**
baz=168
S51A Beattyville 79.22 0 IAmb IAmb 07 56 33.4
comp=Z,82nm,2.0s
S51A Beattyville 79.22 0 P **P** **07 56 26.1 -0.5**
baz=180
S51A P **P** **07 56 26.1 -0.5**
baz=180
ANMO Albuquerque 79.31 341 P **P** **07 56 28.7 +1.3**
ANMO IAmb IAmb 07 56 35.9
comp=Z,34nm,1.2s
ANMO Albuquerque 79.31 341 P **P** **07 56 28.6 +1.1**
baz=163
ANMO Albuquerque 79.31 341 P **P** **07 56 29.2 +1.8**
baz=163
113A Mohawk Valley, 79.32 335 IAmb IAmb 07 56 36.0
comp=Z,55nm,2.0s
T35B Sooner Cattle 79.36 350 P **P** **07 56 27.9 +0.5**
baz=170
S44A Carbondale 79.43 356 IAmb IAmb 07 56 34.3
comp=Z,22nm,0.9s
S44A Carbondale 79.43 356 P **P** **07 56 27.3 -0.4**
baz=176
SIUC Southern Illin 79.45 356 P **P** **07 56 27.4 -0.4**
SIUC IAmb IAmb 07 56 34.4
comp=Z,30nm,1.1s
KAN13 South Haven SW 79.59 349 IAmb IAmb 07 56 36.1
comp=Z,29nm,1.1s
USIN University of 79.62 357 IAmb IAmb 07 56 35.4
comp=Z,59nm,0.7s
R58B Mineral 79.72 5 P **P** **07 56 28.6 -0.7**
baz=184
R58B P **P** **07 56 28.6 -0.7**
baz=184
S39A Bolivar 79.75 352 P **P** **07 56 28.6 -0.9**
baz=173
KS20 Mayfield South 79.81 349 IAmb IAmb 07 56 37.4
comp=Z,44nm,1.3s
WCI Wyandotte Cave 79.84 358 P **P** **07 56 28.9 -1.1**
baz=178
R50A Paris 79.86 360 P **P** **07 56 28.9 -1.1**
baz=179
R50A P **P** **07 56 28.9 -1.1**
baz=179
R49A Shelbyville 79.88 359 P **P** **07 56 29.1 -1.1**
baz=179
R49A P **P** **07 56 29.1 -1.1**
baz=179
R53A Hurricane 79.93 1 P **P** **07 56 29.0 -1.4**
baz=181
R53A P **P** **07 56 29.0 -1.4**
baz=181
CCM Cathedral Cave 79.93 354 P **P** **07 56 30.1 -0.4**
CCM IAmb IAmb 07 56 37.3
comp=Z,26nm,0.9s
CCM Cathedral Cave 79.93 354 P **P** **07 56 30.0 -0.4**
baz=174
CCM Cathedral Cave 79.93 354 P **P** **07 56 30.7 +0.3**
baz=174
R55A Marlinton 79.93 3 P **P** **07 56 29.5 -1.0**
baz=183
R55A P **P** **07 56 29.5 -1.0**
baz=183
R40A Maddies Statio 80.25 353 P **P** **07 56 31.8 -0.4**
baz=173
W18A Petrified Fore 80.32 339 IAmb IAmb 07 56 35.7
comp=Z,66nm,1.9s
W18A Petrified Fore 80.32 339 P **P** **07 56 35.0 +2.2**
baz=160
OLIL Olney 80.41 357 P **P** **07 56 31.7 -1.3**
baz=177
BLYC Blythe 80.47 334 IAmb IAmb 07 56 46.5
comp=Z,49nm,1.6s
Q52A Bidwell 80.55 1 P **P** **07 56 32.0 -1.8**
baz=181
Q52A P **P** **07 56 32.0 -1.8**
baz=181
Q44A Meyer Farm, Va 80.62 356 P **P** **07 56 33.3 -0.8**
baz=176
Q56A Snyder Ridge, 80.72 4 P **P** **07 56 34.2 -0.5**
baz=183
Q56A P **P** **07 56 34.2 -0.5**
baz=183
BLO Bloomington 80.79 358 IAmb IAmb 07 56 41.0
comp=Z,34nm,1.1s
T25A Trinidad 80.95 343 P **P** **07 56 38.1 +1.9**
baz=164
IRM Iron Mountain 81.04 334 P **P** **07 56 38.4 +1.9**
baz=157
P48A Milroy 81.05 359 P **P** **07 56 34.9 -1.5**
baz=179
P48A P **P** **07 56 34.9 -1.5**
baz=179
P53A Whipple 81.09 2 P **P** **07 56 35.7 -0.9**
baz=182
P53A P **P** **07 56 35.7 -0.9**
baz=182
P49A Miami Univ. Ec 81.11 359 IAmb IAmb 07 56 42.6
comp=Z,26nm,1.1s
P49A Miami Univ. Ec 81.11 359 P **P** **07 56 36.1 -0.6**
baz=179
P49A Miami Univ. Ec 81.11 359 P **P** **07 56 36.2 -0.6**
baz=179
WUAZ Wupatki 81.15 337 P **P** **07 56 39.0 +1.7**
WUAZ IAmb IAmb 07 56 40.4
comp=Z,46nm,1.8s
R32A Long Quarter, 81.15 348 IAmb IAmb 07 56 44.6
comp=Z,22nm,1.0s
R32A Long Quarter, 81.15 348 P **P** **07 56 38.0 +0.9**
baz=169
P52A Corning 81.22 1 IAmb IAmb 07 56 43.5
comp=Z,20nm,0.9s
P52A Corning 81.22 1 P **P** **07 56 36.5 -0.8**
baz=181
SDMD Soldier's Deli 81.23 5 P **P** **07 56 38.0 +0.6**
baz=185
P43A Skaggs, Pawnee 81.39 355 IAmb IAmb 07 56 44.8
comp=Z,37nm,1.1s
P43A Skaggs, Pawnee 81.39 355 P **P** **07 56 37.8 -0.4**
baz=176
P40A Paris 81.46 354 IAmb IAmb 07 56 45.3
comp=Z,44nm,1.3s
P40A Paris 81.46 354 P **P** **07 56 38.6 +0.1**
baz=174
KSU1 Kansas State U 81.52 350 P **P** **07 56 39.0 +0.1**
baz=170
P38A Dawn 81.69 352 IAmb IAmb 07 56 46.2
comp=Z,24nm,1.1s
P38A Dawn 81.69 352 P **P** **07 56 39.2 -0.6**
baz=172
CBKS Cedar Bluff 81.70 347 IAmb IAmb 07 56 47.8
comp=Z,31nm,1.1s
CBKS Cedar Bluff 81.70 347 P **P** **07 56 40.2 +0.3**
baz=168
O52A Adamsville 81.71 1 P **P** **07 56 40.1 +0.2**
baz=181
O52A P **P** **07 56 40.1 +0.2**
baz=181
O49A Covington 81.77 360 P **P** **07 56 40.0 -0.2**
baz=179
O49A P **P** **07 56 40.0 -0.2**
baz=179
SDCO Great Sand Dun 81.77 343 P **P** **07 56 40.4 -0.3**
baz=164
ACSO Alum Creek Sta 81.81 1 P **P** **07 56 39.8 -0.7**
ACSO Alum Creek Sta 81.81 1 P **P** **07 56 40.4 0.0**
baz=180
ACSO Alum Creek Sta 81.81 1 P **P** **07 56 40.3 -0.1**
baz=180
O44A Mansfield 81.84 356 P **P** **07 56 40.0 -0.6**
O44A IAmb IAmb 07 56 47.0
comp=Z,19nm,0.8s
O48B Farmland 81.84 359 P **P** **07 56 40.0 -0.6**
baz=179
PSUB Penn St. - Bra 81.85 6 P **P** **07 56 40.8 +0.2**
baz=186
MVCO Mesa Verde 81.97 340 IAmb IAmb 07 56 44.5
comp=Z,64nm,1.9s
MVCO Mesa Verde 81.97 340 P **P** **07 56 43.4 +1.7**
baz=162
S22A 4UR Ranch, Cre 82.07 342 P **P** **07 56 44.1 +1.8**
baz=163
U15A North Rim 82.26 337 IAmb IAmb 07 56 56.1
comp=Z,54nm,1.8s
HDIL Hopedale 82.28 356 P **P** **07 56 42.5 -0.4**
baz=176
SSPA Standing Stone 82.38 4 P **P** **07 56 43.4 0.0**
baz=184
KSCO Kaye Shedlock' 82.40 345 IAmb IAmb 07 56 52.0
comp=Z,36nm,1.2s
KSCO Kaye Shedlock' 82.40 345 P **P** **07 56 44.1 +0.4**
baz=166
N53A Lisbon 82.42 2 P **P** **07 56 43.6 0.0**
baz=182
N53A P **P** **07 56 43.6 0.0**
baz=182
TUQ Turquoise Moun 82.47 334 P **P** **07 56 46.7 +2.5**
baz=156
N47A Urbana 82.47 359 IAmb IAmb 07 56 42.9
comp=Z,31nm,1.4s
N47A Urbana 82.47 359 P **P** **07 56 43.1 -0.8**
baz=178
N47A P **P** **07 56 43.1 -0.8**
baz=178
N49A Columbus Grove 82.50 360 IAmb IAmb 07 56 49.9
comp=Z,24nm,1.1s
N49A Columbus Grove 82.50 360 P **P** **07 56 43.4 -0.6**
baz=180
N49A P **P** **07 56 43.4 -0.6**
baz=180
N51A Ashland 82.50 1 P **P** **07 56 43.4 -0.7**
baz=181
N51A P **P** **07 56 43.4 -0.7**
baz=181
PAMR Moraine State 82.58 3 P **P** **07 56 43.3 -1.1**
baz=184
N38A Joes South For 82.81 353 IAmb IAmb 07 56 52.1
comp=Z,31nm,1.1s
N38A Joes South For 82.81 353 P **P** **07 56 45.8 +0.1**
baz=173
Q24A Divide 82.86 343 IAmb IAmb 07 56 54.6
comp=Z,30nm,1.5s
Q24A Divide 82.86 343 P **P** **07 56 48.1 +1.7**
baz=164
PV13 Radium Mtn., P 82.95 340 IAmb IAmb 07 56 55.8
comp=Z,40nm,1.4s
KNB Kanab 82.96 337 IAmb IAmb 07 57 08.2
comp=Z,33nm,1.5s
M50A Fremont 82.98 1 P **P** **07 56 46.1 -0.4**
baz=180
M50A P **P** **07 56 46.1 -0.4**
baz=180
M44A Midewin, Midew 83.05 357 P **P** **07 56 46.7 -0.1**
baz=177
ODNJ Oqdensburg 83.07 7 P **P** **07 56 46.3 -0.7**
baz=187
M57A Sunshine Farm, 83.13 5 P **P** **07 56 47.9 +0.6**
baz=185
M57A P **P** **07 56 47.9 +0.6**
baz=185
M55A Ridgway 83.17 4 P **P** **07 56 48.1 +0.6**
baz=184
M55A P **P** **07 56 48.1 +0.6**
baz=184
SHPR Sheep Range 83.20 335 IAmb IAmb 07 56 51.4
comp=Z,52nm,2.0s
ALLY Allegheny Colle 83.29 3 P **P** **07 56 47.7 -0.5**
baz=183
BRNY Black Rk. Fore 83.45 7 P **P** **07 56 47.4 -1.6**
baz=187
L48A N Adams 83.52 359 P **P** **07 56 46.9 -2.4**
baz=179
L48A P **P** **07 56 46.9 -2.4**
baz=179
ISA Isabella, Lake 83.53 332 IAmb IAmb 07 57 27.6
comp=Z,45nm,1.9s
M63A Gales Ferry 83.65 9 P **P** **07 56 47.7 -2.3**
baz=189
M63A P **P** **07 56 47.7 -2.3**
baz=189
MTPU Mount Pierson 83.73 338 IAmb IAmb 07 56 52.8
comp=Z,30nm,1.9s
L42A Oliver, Polo 83.75 356 IAmb IAmb 07 56 56.9
comp=Z,19nm,0.9s
L42A Oliver, Polo 83.75 356 P **P** **07 56 50.1 -0.4**
baz=175
ISCO Idaho Springs 83.76 343 IAmb IAmb 07 57 01.9
comp=Z,42nm,1.9s
ISCO Idaho Springs 83.76 343 P **P** **07 56 52.5 +1.5**
baz=164
ISCO Idaho Springs 83.76 343 P **P** **07 56 53.1 +2.1**
baz=164
L56A Greenwood 83.90 5 IAmb IAmb 07 56 57.9
comp=Z,30nm,1.4s
L56A Greenwood 83.90 5 P **P** **07 56 51.4 +0.1**
baz=184
L56A P **P** **07 56 51.4 +0.1**
baz=184
L40A Anamosa 83.91 354 P **P** **07 56 50.3 -1.0**
baz=174
WCT Wildcat Mounta 83.94 334 IAmb IAmb 07 57 00.9
comp=Z,17nm,1.2s
TPNV Topopah Spring 83.96 334 IAmb IAmb 07 57 05.1
comp=Z,43nm,1.6s
TPNV Topopah Spring 83.96 334 P **P** **07 56 53.9 +2.1**
baz=156
BOSA Boshof 84.04 123 P **P** **07 56 51.7 -1.0**
comp=Z,8.3nm,0.8s,baz=220,slow=5.7,SNR=11
comp=Z,8.3nm,0.8s
BINY Binghamton 84.07 6 P **P** **07 56 52.0 -0.1**
baz=186
WVNY West Valley, N 84.11 4 P **P** **07 56 51.5 -0.8**
WVNY West Valley, N 84.11 4 P **P** **07 56 51.8 -0.5**
baz=184
SRU San Rafael Swe 84.28 339 IAmb IAmb 07 57 02.1
comp=Z,33nm,1.8s
GRAC Grapevine Rang 84.36 334 P **P** **07 56 56.6 +2.8**
baz=155
K43A Burlington 84.38 357 P **P** **07 56 54.0 +0.3**
baz=176
K57A Scipio Center 84.56 5 P **P** **07 56 53.9 -0.7**
baz=185
LCH Last Change Ra 84.67 333 IAmb IAmb 07 57 05.3
comp=Z,34nm,1.8s
P17A Butcher Ranch, 84.68 339 IAmb IAmb 07 57 07.5
comp=Z,28nm,1.6s
JFWS Jewell Farm 84.69 355 P **P** **07 56 54.9 -0.4**
baz=175
JFWS Jewell Farm 84.69 355 P **P** **07 56 55.3 +0.1**
baz=175
N23A Red Feather La 84.89 343 P **P** **07 56 59.0 +2.4**
baz=163
J55A Hilton 85.01 4 P **P** **07 56 55.7 -1.1**
baz=184
J55A P **P** **07 56 55.7 -1.1**
baz=184
R11A Troy Canyon, C 85.03 335 P **P** **07 56 59.7 +2.4**
baz=157
J56A Wolcott 85.08 5 P **P** **07 56 56.7 -0.4**
baz=185

J56A					P	**P**	**07 56 56.7**	**-0.4**
	baz=185								
PHWY	**Pilot Hill**	**85.17**	**344**		IAmb	IAmb	07 57 00.5		
	comp=Z,38nm,1.8s								
J57A	**Williamstown**	**85.27**	**6**		IAmb	IAmb	07 57 04.8		
	comp=Z,17nm,1.1s								
J57A	**Williamstown**	**85.27**	**6**		P	**P**	**07 56 57.9**	**-0.2**
	baz=186								
J57A					P	**P**	**07 56 57.9**	**-0.2**
	baz=186								
J58A	**Remsen**	**85.27**	**6**		P	**P**	**07 56 58.6**	**+0.4**
	baz=186								
J58A					P	**P**	**07 56 58.6**	**+0.4**
	baz=186								
K31A	**O'Neill**	**85.28**	**349**		P	**P**	**07 56 58.3**	**+0.1**
	baz=169								
RDMU	**Red Mountain**	**85.42**	**341**		IAmb	IAmb	07 57 08.0		
	comp=Z,21nm,1.4s								
ACCN	**Adirondack Com**	**85.44**	**7**		P	**P**	**07 56 58.5**	**-0.5**
	baz=187								
J59A	**Piesco**	**85.44**	**7**		P	**P**	**07 56 57.6**	**-1.4**
	baz=187								
J59A					P	**P**	**07 56 57.6**	**-1.4**
	baz=187								
I42A	**Draeger Farm,**	**85.59**	**356**		IAmb	IAmb	07 57 06.3		
	comp=Z,21nm,1.1s								
I42A	**Draeger Farm,**	**85.59**	**356**		P	**P**	**07 56 59.1**	**-0.6**
	baz=176								
I40A	**Norwalk**	**85.69**	**355**		P	**P**	**07 56 59.9**	**-0.4**
	baz=175								
WCNY	**West Carthage**	**85.86**	**6**		P	**P**	**07 57 00.2**	**-0.9**
	baz=186								
DUG	**Dugway, Tooele**	**85.92**	**338**		P	**P**	**07 57 03.6**	**+1.9**
	baz=159								
NVAR	**Mina Array Bea**	**85.98**	**333**		P	**P**	**07 57 02.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=156,slow=4.9,SNR=6.0								
	comp=Z,0.2nm,0.3s								
I37B	**Waseca**	**86.03**	**353**		P	**P**	**07 57 02.0**	**+0.1**
	baz=173								
ECSD	**EROS Data Cent**	**86.09**	**351**		P	**P**	**07 57 01.9**	**-0.3**
	baz=170								
ECSD	**EROS Data Cent**	**86.09**	**351**		P	**P**	**07 57 01.9**	**-0.3**
	baz=170								
H43A	**Windswept, Lux**	**86.12**	**357**		P	**P**	**07 57 02.9**	**+0.5**
	baz=177								
DBIC	**Dimbokro**	**86.22**	**78**		P	**P**	**07 57 04.2**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=236,slow=3.9,SNR=4.1								
	comp=Z,2.2nm,0.6s								
TCUT	**Toone Canyon**	**86.40**	**339**		IAmb	IAmb	07 57 25.1		
	comp=Z,37nm,1.7s								
LBNH	**Lisbon**	**86.47**	**8**		P	**P**	**07 57 03.3**	**-0.7**
	baz=189								
K22A	**Casper**	**86.69**	**343**		P	**P**	**07 57 06.2**	**+0.8**
	baz=163								
K22A	**Casper**	**86.69**	**343**		P	**P**	**07 57 06.8**	**+1.4**
	baz=163								
YERR	**Yerington**	**86.79**	**333**		IAmb	IAmb	07 57 16.1		
	comp=Z,42nm,1.9s								
BMNY	**Brushton-Moira**	**86.81**	**7**		P	**P**	**07 57 05.0**	**-0.6**
	baz=187								
SPUT	**South Promonto**	**86.86**	**339**		IAmb	IAmb	07 57 08.7		
	comp=Z,40nm,1.7s								
H62A	**Milan**	**86.88**	**9**		P	**P**	**07 57 05.4**	**-0.7**
	baz=189								
H62A					P	**P**	**07 57 05.4**	**-0.7**
	baz=189								
FRNY	**Flat Rock**	**86.89**	**7**		P	**P**	**07 57 02.7**	**-3.3**
	baz=188								
G40A	**Rib Lake**	**87.03**	**355**		P	**P**	**07 57 04.9**	**-1.9**
	baz=175								
ELK	**Elko**	**87.12**	**337**		IAmb	IAmb	07 57 29.0		
	comp=Z,38nm,1.8s								
SPMN	**Marine on St.**	**87.17**	**354**		IAmb	IAmb	07 57 13.4		
	comp=Z,13nm,1.1s								
SPMN	**Marine on St.**	**87.17**	**354**		P	**P**	**07 57 06.7**	**-0.8**
	baz=173								
F42A	**Maple Grove Fa**	**87.42**	**357**		P	**P**	**07 57 08.3**	**-0.3**
	baz=177								
BW06	**Boulder Array**	**87.49**	**341**		IAmb	IAmb	07 57 22.4		
	comp=Z,43nm,2.0s								
BW06	**Boulder Array**	**87.49**	**341**		P	**P**	**07 57 10.1**	**+0.7**
	baz=161								
PD31	**Pinedale Array**	**87.49**	**341**		IAmb	IAmb	07 57 22.4		
	comp=Z,37nm,1.9s								
PDAR	**Pinedale Array**	**87.49**	**341**		P	**P**	**07 57 09.2**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=157,slow=4.9,SNR=11								
	comp=Z,1.3nm,0.8s								
EMMW	**East Machias**	**87.51**	**12**		P	**P**	**07 57 08.8**	**-0.3**
	baz=192								
G62A	**West of Eustis**	**87.59**	**9**		P	**P**	**07 57 09.0**	**-0.5**
	baz=190								
G62A					P	**P**	**07 57 09.0**	**-0.5**
	baz=190								
RSSD	**Black Hills**	**87.61**	**346**		P	**P**	**07 57 10.3**	**+0.4**
RSSD					IAmb	IAmb	07 57 17.2		
	comp=Z,18nm,1.2s								
RSSD	**Black Hills**	**87.61**	**346**		P	**P**	**07 57 10.0**	**+0.1**
	baz=165								
RSSD	**Black Hills**	**87.61**	**346**		P	**P**	**07 57 10.4**	**+0.5**
	baz=165								
F36A	**Milaca**	**87.87**	**353**		IAmb	IAmb	07 57 16.9		
	comp=Z,17nm,1.4s								
F36A	**Milaca**	**87.87**	**353**		P	**P**	**07 57 09.6**	**-1.2**
	baz=173								
E46A	**Sault Ste Mari**	**87.94**	**360**		P	**P**	**07 57 10.1**	**-1.0**
	baz=180								
E43A	**Lone Tree Farm**	**88.00**	**358**		P	**P**	**07 57 11.3**	**-0.1**
	baz=177								
TRQ	**Mont Tremblant**	**88.18**	**6**		P	**P**	**07 57 12.0**	**-0.3**
F63A	**Nahmakanta, Br**	**88.25**	**10**		P	**P**	**07 57 12.5**	**-0.1**
	baz=191								
F63A					P	**P**	**07 57 12.5**	**-0.1**
	baz=191								
F62A	**Pittston Farm,**	**88.33**	**10**		P	**P**	**07 57 12.3**	**-0.7**
	baz=190								
F62A					P	**P**	**07 57 12.3**	**-0.7**
	baz=190								
MOOW	**Moose Ponds**	**88.70**	**341**		IAmb	IAmb	07 57 34.5		
	comp=Z,22nm,1.9s								
IMW	**Indian Meadow**	**88.89**	**341**		IAmb	IAmb	07 57 18.4		
	comp=Z,37nm,1.8s								
HLID	**Hailey**	**89.48**	**338**		IAmb	IAmb	07 57 27.5		
	comp=Z,16nm,1.3s								
HLID	**Hailey**	**89.48**	**338**		P	**P**	**07 57 20.6**	**+1.8**
	baz=158								
LATQ	**La Tuque**	**89.49**	**7**		IAmb	IAmb	07 57 25.1		
	comp=Z,22nm,1.2s								
D62A	**Allapoint, All**	**89.61**	**10**		P	**P**	**07 57 18.9**	**0.0**
	baz=191								
D62A					P	**P**	**07 57 18.9**	**0.0**
	baz=191								
RLMT	**Red Lodge**	**89.65**	**342**		IAmb	IAmb	07 57 40.1		
	comp=Z,34nm,1.8s								
WVOR	**Wild Horse Val**	**89.70**	**335**		IAmb	IAmb	07 57 32.6		
	comp=Z,39nm,1.7s								
MFID	**Camas Ranch**	**89.75**	**337**		IAmb	IAmb	07 57 39.9		
	comp=Z,35nm,1.9s								
B35A	**Bob, Littlefor**	**90.36**	**353**		P	**P**	**07 57 21.5**	**-1.0**
	baz=172								
AGMN	**Agassiz Nation**	**90.51**	**352**		P	**P**	**07 57 21.3**	**-1.8**
	baz=171								
AGMN	**Agassiz Nation**	**90.51**	**352**		P	**P**	**07 57 22.6**	**-0.5**
	baz=171								
BOZ	**Bozeman (W)**	**90.65**	**341**		IAmb	IAmb	07 57 26.7		
	comp=Z,38nm,2.0s								
BOZ	**Bozeman (W)**	**90.65**	**341**		P	**P**	**07 57 25.7**	**+1.6**
	baz=159								
PLID	**Pearl Lake**	**91.33**	**338**		IAmb	IAmb	07 57 43.9		
	comp=Z,36nm,1.9s								
DGMT	**Dagmar**	**91.84**	**347**		P	**P**	**07 57 29.9**	**+0.6**
	baz=165								
TORD	**Torodi Ar. Bea**	**95.33**	**77**		P	**P**	**07 57 46.0**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=230,slow=5.1,SNR=4.6								
	comp=Z,0.9nm,1.0s								
TORD	**Torodi Ar. Bea**	**95.33**	**77**		P	**P**	**07 57 46.3**	**+0.1**
YKA	**Yellowknife Ar**	**107.02**	**346**		PP	**PP**	**08 03 02.7**	**-1.7**
	comp=Z,0.4nm,1.0s,baz=149,slow=5.0,SNR=3.9								
H11S2	**WAKE ISLAND Hyl**	**116.54**	**272**		T	T	10 10 05.0		
	baz=131,slow=74,SNR=10								
H11S1	**WAKE ISLAND Hyl**	**116.55**	**272**		T	T	10 10 05.0		
	baz=131,slow=74								
H11S3	**WAKE ISLAND Hyl**	**116.55**	**272**		T	T	10 10 12.5		
	baz=131								
GERES	**GERESS Array B**	**124.33**	**52**		PKP	**PKPdf**	**08 03 19.3**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=222,slow=1.3,SNR=7.4								
BRTR	**Keskin Array B**	**133.52**	**71**		PKP	**PKiKP**	**08 03 39.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=198,slow=2.9,SNR=6.7								
KLMR	**Klimovskoe**	**141.36**	**41**		*e*PKPdf	**PKiKP**	**08 03 57.0**	**+2.6**
KLMR					AMP		08 03 58.7		
	comp=Z,19nm,1.3s								
TIXI	**Tiksi**	**146.18**	**342**		PKPbc	**PKPdf**	**08 03 58.6**	**-1.2**
	comp=Z,6.2nm,0.8s,baz=90,slow=24,SNR=10								
MJAR	**Matsushiro Arr**	**147.30**	**275**		PKPbc	**PKPdf**	**08 04 02.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=90,slow=0.5,SNR=1.7								
GEYT	**Alibeck**	**150.65**	**85**		PKPbc	**PKPbc**	**08 04 12.8**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=270,slow=0.7,SNR=6.9								
NRIK	**Noril'sk**	**152.18**	**7**		PKPbc	**PKiKP**	**08 04 16.8**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=79,slow=2.7,SNR=6.6								
NRIK					PKPab	**PKPab**	**08 04 26.5**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=342,slow=2.3,SNR=5.2								
ABKAR	**Akbulak array**	**153.77**	**61**		PKPdf	**PKPdf**	**08 04 12.0**	**-0.4**
ABKAR					PKPab	**PKPab**	**08 04 34.6**	**+1.3**
PZH	**PanZhiHua**	**163.94**	**198**		PKP	**PKPdf**	**08 04 26.8**	**+1.5**
KSH	**Kashi**	**164.44**	**92**		PKP	**PKPdf**	**08 04 25.9**	**+0.5**
ZALV	**Zalesovo Beam**	**165.79**	**29**		PKP	**PKPdf**	**08 04 23.9**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=323,slow=3.7,SNR=3.7								
ZALV					PKPab	**PKPab**	**08 05 25.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=327,slow=5.3,SNR=3.8								
ZALV	**Zalesovo Beam**	**165.79**	**29**			**PKPab**	**08 05 26.1**	**+0.8**
MKAR	**Makanchi Array**	**168.90**	**59**		PKP	**PKPdf**	**08 04 26.6**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=300,slow=2.8,SNR=1.9								
MKAR					PKPab	**PKPab**	**08 05 37.2**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=283,slow=3.7,SNR=3.9								
SONM	**Songino Array**	**170.71**	**313**		PKPab	**PKPab**	**08 05 45.1**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=65,slow=2.1,SNR=2.0								

*IDC **22** 07:47:21.4±0.9, 42.01°S×83.88°W, h0km, mb4.1/7, mbtmp4.0/8, ML3.4/1, Error ellipse: s-maj=35.9km s-min=25.1km az=52.0*

ISC 22 07:47:24.6±0.9, 42.0°S±0.2°×83.9°W±0.2, h19km, n19, σ1§29/13, mb3.9/7, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**9.03**	**27**	T	T	07 58 49.0	
	baz=203,slow=73,SNR=38						
H03S1	**Juan Fernandez**	**9.03**	**27**	T	T	07 58 49.7	
	baz=203,slow=73,SNR=36						
H03S3	**Juan Fernandez**	**9.05**	**27**	T	T	07 58 55.9	
	baz=203,slow=73,SNR=41						
H03N3	**Juan Fernandez**	**9.38**	**26**	T	T	07 59 20.0	
	baz=196,slow=72						
H03N2	**Juan Fernandez**	**9.39**	**26**	T	T	07 59 14.7	
	baz=196,slow=72						
H03N1	**Juan Fernandez**	**9.40**	**26**	T	T	07 59 26.3	
	baz=196,slow=72						
PLCA	**Paso Flores**	**10.09**	**87**	Pn	**Pn**	**07 49 49.6**	**+1.1**
	0.1nm,0.3s,baz=264,slow=10,SNR=2.3						
	2.3nm,1.0s						
LPAZ	**La Paz**	**28.98**	**33**	P	**P**	**07 53 23.5**	**-0.2**
	1.6nm,0.8s,baz=219,slow=6.4,SNR=3.9						
	1.6nm,0.8s						
SNAA	**Sanae**	**47.99**	**155**	P	**P**	**07 56 01.6**	**-0.2**
	3.9nm,0.9s,baz=249,slow=8.4,SNR=5.8						
	3.9nm,0.9s						
TXAR	**Lajitas Array**	**73.30**	**342**	P	**P**	**07 58 54.6**	**-0.1**
	1.0nm,0.9s,baz=155,slow=6.9,SNR=3.6						
	1.0nm,0.9s						
BOSA	**Boshof**	**84.09**	**123**	P	**P**	**07 59 54.7**	**+0.3**
	4.3nm,0.8s,baz=248,slow=4.8,SNR=5.7						
	4.3nm,0.8s						
NVAR	**Mina Array Bea**	**85.98**	**334**	P	**P**	**08 00 05.3**	**+1.7**
	0.2nm,0.3s,baz=158,slow=8.5,SNR=2.1						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**87.50**	**341**	P	**P**	**08 00 09.3**	**-1.6**
	0.5nm,0.9s,baz=164,slow=3.7,SNR=3.8						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**95.42**	**77**	P	**P**	**08 00 46.0**	**-2.0**
	0.8nm,0.9s,baz=236,slow=1.6,SNR=3.7						
	0.8nm,0.9s						
TIXI	**Tiksi**	**146.20**	**342**	PKPbc	**PKPdf**	**08 07 00.2**	**-1.0**
	2.2nm,0.8s,baz=270,slow=20,SNR=5.3						
MJAR	**Matsushiro Arr**	**147.23**	**275**	PKPbc	**PKPdf**	**08 07 04.9**	**+0.8**
	0.9nm,0.3s,baz=124,slow=6.5,SNR=5.6						
GEYT	**Alibeck**	**150.74**	**85**	PKPbc	**PKPbc**	**08 07 14.9**	**-0.4**
	0.6nm,0.4s,baz=289,slow=4.4,SNR=1.9						
MKAR	**Makanchi Array**	**169.00**	**60**	PKPab	**PKPab**	**08 08 41.8**	**+0.5**
	0.4nm,0.9s,baz=298,slow=3.1,SNR=3.3						
SONM	**Songino Array**	**170.68**	**312**	PKPab	**PKPab**	**08 08 50.7**	**+1.9**
	0.9nm,0.9s,baz=66,slow=4.9,SNR=1.5						

IDC 22 07:49:23.6±8.4, 5.92°S×155.60°E, h104km±59km, mb3.0/3, mbtmp3.5/4, Error ellipse: s-maj=69.8km s-min=34.8km az=89.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.90**	**294**	P	Pn	07 50 20.7	-0.8
	36nm,0.6s,baz=192,slow=20						
KRVT				S	Sn	07 51 07.5	+1.0
	baz=193,slow=19						
WRA	**Warramunga Arr**	**24.92**	**234**	P	P	07 54 35.3	-1.9
	0.5nm,0.5s,baz=58,slow=10,SNR=5.9						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**27.33**	**228**	P	P	07 55 00.7	+1.7
	0.2nm,0.5s,baz=58,slow=9.0,SNR=5.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**83.00**	**318**	P	P	08 01 37.6	+0.1
	0.2nm,0.6s,baz=107,slow=4.8,SNR=3.5						
	0.2nm,0.6s						

*MCSM **22** 07:52:10.1±0.9, 48°N±7°×2°7E±°, h2km±2km, ML2.7*

ISC 22 07:52:09.2±1.3, 47.99N±0.02×27.26E±0.03, h1km±11km, n56, σ1§01/84, 38C-19D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRBR	**Darabani**	**0.49**	**297**	↑P	**Pg**	**07 52 19.7**	**+1.1**
DRBR				↑S	**Sg**	**07 52 26.5**	**+1.6**
SORM	**Soroca**	**0.75**	**78**	↑P	**Pb**	**07 52 25.2**	**+0.1**
SORM				↑S	**Sb**	**07 52 35.5**	**-0.2**
SORM	**Soroca**	**0.75**	**78**	Pg	**Pb**	**07 52 25.1**	**+0.1**
SORM				Sg	**Sb**	**07 52 35.4**	**-0.3**
KMPD	**K-Podol'skiy**	**0.78**	**317**	Pg	**Pg**	**07 52 24.9**	**+0.6**
KMPD				Sg	**Sg**	**07 52 35.2**	**+0.8**
IAS	**Iasi**	**0.82**	**166**	↓P	**Pg**	**07 52 24.5**	**-0.4**
PRAR	**RASCA**	**0.94**	**226**	↑P	**Pg**	**07 52 26.8**	**-0.4**
CHRU	**Chernivtsi**	**0.95**	**290**	Pg	**Pg**	**07 52 27.9**	**+0.5**
CHRU				Sg	**Sg**	**07 52 39.9**	**+0.3**
GIRR	**Girov**	**1.15**	**207**	↑P	**Pg**	**07 52 31.5**	**+0.2**
BIZ	**Bicaz**	**1.31**	**217**	↑P	**Pg**	**07 52 34.2**	**-0.1**
BIZ				↑S	**Sn**	**07 52 52.3**	**-0.5**
VASR	**Vaslui**	**1.40**	**165**	↓P	**Pb**	**07 52 36.2**	**+0.1**
BURAR	**Bucovina Array**	**1.43**	**256**	↑P	**Pn**	**07 52 36.4**	**+0.1**
BURAR				↓S	**Sg**	**07 52 55.0**	**0.0**
MILM	**Milestii Mici**	**1.50**	**135**	↑P	**Pb**	**07 52 38.0**	**+0.1**
MILM				↑S	**Sn**	**07 52 57.4**	**0.0**
TESR	**Tescani**	**1.54**	**196**	↑P	**Pn**	**07 52 37.6**	**-0.1**
LEOM	**Leova**	**1.66**	**156**	↑P	**Pn**	**07 52 39.9**	**+0.5**
LEOM				↑S	**Sb**	**07 53 01.7**	**-0.2**
BIR	**Birlad**	**1.74**	**172**	↓P	**Pb**	**07 52 42.0**	**0.0**
BIR				↓S	**Sb**	**07 53 04.5**	**+0.2**
JOSR	**Joseni**	**1.75**	**223**	↓P	**Pn**	**07 52 40.8**	**+0.1**
GHRR		**1.93**	**177**	↑P	**Pn**	**07 52 43.5**	**+0.3**
GHRR				↑S	**Sb**	**07 53 09.1**	**-0.7**
LUBAR	**Lubar, Ukraine**	**1.96**	**9**	Pn	**Pn**	**07 52 44.6**	**+1.0**
PANC	**Panciu**	**2.12**	**182**	↑P	**Pn**	**07 52 45.7**	**0.0**
OZUR		**2.14**	**209**	↓P	**Pn**	**07 52 45.9**	**-0.3**
VRI	**Vrincioaia**	**2.15**	**190**	↑P	**Pn**	**07 52 46.7**	**+0.5**
VRI				↓S	**Sn**	**07 53 14.2**	**+0.6**
ARCR	**ARCALIA**	**2.17**	**246**	↑P	**Pn**	**07 52 46.9**	**+0.5**
PLOR	**Plostina**	**2.18**	**191**	↓P	**Pn**	**07 52 47.4**	**+0.8**
PLOR				↑S	**Sn**	**07 53 15.3**	**+1.0**
VLDR	**Vladesti**	**2.22**	**165**	↑P	**Pn**	**07 52 47.0**	**-0.1**
VLDR				↑S	**Sb**	**07 53 16.8**	**-1.2**
ODBI	**Odobesti**	**2.23**	**184**	↑P	**Pn**	**07 52 47.7**	**+0.4**
ODBI				↓S	**Sn**	**07 53 16.5**	**+1.1**
COVR	**Voineasa-Covas**	**2.26**	**199**	↑P	**Pn**	**07 52 47.8**	**0.0**
COVR				↑S	**Sn**	**07 53 16.4**	**+0.2**
PURM	**Purcari**	**2.30**	**128**	↑P	**Pn**	**07 52 48.8**	**+0.5**
PURM				↑P	**Pb**	**07 52 49.1**	**-2.5**
PURM				↑S	**Sn**	**07 53 18.4**	**+1.2**
SCTR	**Scanteiesti**	**2.37**	**167**	↑P	**Pn**	**07 52 49.4**	**+0.2**
DOPR	**Dopca**	**2.39**	**213**	↑P	**Pn**	**07 52 49.8**	**+0.2**
DOPR				↑S	**Sn**	**07 53 19.3**	**-0.2**
TUDR		**2.41**	**173**	↓P	**Pn**	**07 52 49.9**	**+0.1**
SLCR	**Slobozia Conac**	**2.43**	**171**	↑P	**Pn**	**07 52 50.1**	**+0.1**
SLCR				↑S	**Sn**	**07 53 21.4**	**+1.2**
TATR	**Tatarca**	**2.45**	**167**	↓P	**Pn**	**07 52 50.4**	**+0.1**
IZVR	**Izvoarele**	**2.47**	**172**	↓P	**Pn**	**07 52 50.7**	**+0.1**
GIUM	**Giurgiulesti**	**2.59**	**165**	↓P	**Pn**	**07 52 52.6**	**+0.4**
MLR	**Muntele Rosu**	**2.66**	**200**	↑P	**Pn**	**07 52 53.9**	**+0.6**
MLR				↓S	**Sn**	**07 53 27.2**	**+1.1**
AK07	**Malin Array Si**	**2.86**	**26**	Pn	**Pn**	**07 52 56.8**	**+0.8**
CFR	**Carcaliu**	**2.88**	**168**	↑P	**Pn**	**07 52 56.3**	**+0.2**
CFR				↓S	**Sn**	**07 53 32.9**	**+1.6**
AK13	**Malin Array Si**	**2.88**	**24**	Pn	**Pn**	**07 52 57.3**	**+1.1**
AK06	**Malin Array Si**	**2.89**	**25**	Pn	**Pn**	**07 52 57.3**	**+0.9**
AK10	**Malin Array Si**	**2.92**	**26**	Pn	**Pn**	**07 52 57.9**	**+1.1**
AK05	**Malin Array Si**	**2.92**	**25**	Pn	**Pn**	**07 52 57.9**	**+1.1**
AK09	**Malin Array Si**	**2.94**	**26**	Pn	**Pn**	**07 52 58.0**	**+0.9**
AK17	**Malin Array Si**	**2.94**	**23**	Pn	**Pn**	**07 52 57.9**	**+0.8**
AK17				pP	**Pb**	**07 52 59.1**	**-3.4**
AK08	**Malin Array Si**	**2.95**	**26**	Pn	**Pn**	**07 52 58.3**	**+1.1**
AK02	**Malin Array Si**	**2.96**	**25**	Pn	**Pn**	**07 52 58.0**	**+0.7**
AK19	**Malin Array Si**	**2.97**	**22**	Pn	**Pn**	**07 52 58.5**	**+1.1**
AK19				pP	**Pb**	**07 52 59.7**	**-3.1**
AK11	**Malin Array Si**	**2.97**	**24**	Pn	**Pn**	**07 52 58.5**	**+1.1**
AK15	**Malin Array Si**	**2.97**	**24**	Pn	**Pn**	**07 52 58.9**	**+1.4**
AK18	**Malin Array Si**	**2.98**	**23**	Pn	**Pn**	**07 52 58.5**	**+0.9**
AKBB	**Malin Array Si**	**3.00**	**25**	Pn	**Pn**	**07 52 59.1**	**+1.2**
AK22	**Malin Array Si**	**3.02**	**22**	Pn	**Pn**	**07 52 59.4**	**+1.3**
AK21	**Malin Array Si**	**3.02**	**22**	Pn	**Pn**	**07 52 59.4**	**+1.2**
AK23	**Malin Array Si**	**3.03**	**23**	Pn	**Pn**	**07 52 59.1**	**+0.8**
AK23				pP	**Pb**	**07 53 00.3**	**-3.7**
MARR	**Marisel-Cluj**	**3.11**	**247**	↓P	**Pn**	**07 52 59.7**	**+0.2**
MARR				↓S	**Sn**	**07 53 37.6**	**+0.4**
TPGR	**Topolog**	**3.23**	**165**	↓P	**Pn**	**07 53 00.9**	**-0.2**
TPGR				↑S	**Sn**	**07 53 40.5**	**+0.3**
TIRR	**Tirgusor**	**3.62**	**167**	↑P	**Pn**	**07 53 06.2**	**-0.2**
TIRR				↑S	**Sn**	**07 53 50.4**	**+0.6**

*NEIC **22** 07:55:35.0±0.3, 19.23°N±0.03°×64.91°W±0.05, h10km±9km, ML2.2/18, Md3.2/4(RSPR), Error ellipse: s-maj=7.5km s-min=3.4km az=116.0*

*RSPR **22** 07:55:37.2, 19.35°N×64.92°W, h14km±16km, MD3.1/4*

ISC 22 07:55:31.7±2.2, 19.4°N±0.1°×64.86°W±0.04, h23km, n23, σ0§84/27, 4C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUPR	**Culebra, Puert**	**1.17**	**200**	↑*e*P	**Pb**	**07 55 54.0**	**+0.8**
CUPR	**Culebra, Puert**	**1.17**	**200**	*e*S	**Sn**	**07 56 06.9**	**-1.0**
CUPR	**Culebra, Puert**	**1.17**	**200**		**Pb**	**07 55 54.0**	**+0.8**
CUPR					**Sn**	**07 56 06.8**	**-1.0**
MTP	**Monte Pirata**	**1.46**	**207**	↑*e*P	**Pb**	**07 55 58.9**	**+0.7**
MTP	**Monte Pirata**	**1.46**	**207**	*e*S	**Sb**	**07 56 15.9**	**-0.5**
MTP	**Monte Pirata**	**1.46**	**207**		**Pb**	**07 55 58.8**	**+0.5**
MTP				IAML		07 56 16.6	
	comp=N,25nm,0.2s						
MTP					**Sb**	**07 56 16.0**	**-0.4**
MTP				IAML		07 56 18.2	
	comp=E,35nm,0.2s						
CBYP	**Canovanas**	**1.48**	**220**	↓*e*P	**Pb**	**07 55 59.1**	**+0.7**
CBYP	**Canovanas**	**1.48**	**220**	*e*S	**Sb**	**07 56 16.6**	**-0.2**
CBYP	**Canovanas**	**1.48**	**220**		**Pb**	**07 55 59.2**	**+0.7**
CBYP				IAML		07 56 20.1	
	comp=N,58nm,0.2s						
CBYP				IAML		07 56 23.3	
	comp=E,56nm,0.2s						
HUMP	**Col San Antoni**	**1.57**	**217**	↑*e*P	**Pb**	**07 56 00.6**	**+0.5**
HUMP	**Col San Antoni**	**1.57**	**217**	*e*S	**Sb**	**07 56 19.0**	**-0.6**
HUMP	**Col San Antoni**	**1.57**	**217**		**Pb**	**07 56 00.4**	**+0.3**
HUMP				IAML		07 56 22.7	
	comp=N,24nm,1.7s						
GCPR	**Guaynabo City**	**1.60**	**227**	Pn	**Pb**	**07 56 01.1**	**+0.6**
CDVI	**St. Croix**	**1.65**	**177**	↑*e*P	**Pb**	**07 56 02.4**	**+1.0**
CDVI	**St. Croix**	**1.65**	**177**	*e*S	**Sb**	**07 56 21.4**	**-0.4**
CDVI	**St. Croix**	**1.65**	**177**		**Pb**	**07 56 02.0

TX31	**Lajitas Ar. Si**	**65.04**	**1**	P	**P**	**08 15 40.5**	**-0.3**	
TX32	**Lajitas Array**	**65.04**	**1**	P	**P**	**08 15 40.8**	**0.0**	
TX32				IAmb	IAmb	08 15 42.1		
	comp=Z,4.8nm,1.1s							
TXAR	**Lajitas Array**	**65.04**	**1**	P	**P**	**08 15 40.7**	**-0.1**	
	comp=Z,2.9nm,0.9s,baz=185,slow=7.5,SNR=11							
	comp=Z,2.9nm,0.9s							
JCT	**Junction City**	**66.34**	**5**	P	**P**	**08 15 48.4**	**-0.6**	
319A	**Douglas**	**67.20**	**356**	P	**P**	**08 15 53.9**	**-0.7**	
319A				IAmb	IAmb	08 15 55.8		
	comp=Z,7.1nm,1.0s							
MNTX	**Cornudas Mount**	**67.39**	**359**	P	**P**	**08 15 55.2**	**-0.5**	
MNTX				IAmb	IAmb	08 15 55.7		
	comp=Z,9.4nm,1.4s							
GDL2	**Guadalupe Moun**	**67.89**	**0**	P	**P**	**08 15 57.6**	**-1.4**	
DUN6	**Lazy B Ranch**	**68.37**	**356**	P	**P**	**08 16 02.1**	**+0.2**	
BNM	**Barren Site**	**69.86**	**358**	P	**P**	**08 16 10.6**	**-0.7**	
X18A	**Snowflake**	**70.38**	**355**	P	**P**	**08 16 14.7**	**+0.2**	
BCOK	**Bluff Creek, N**	**71.64**	**6**	P	**P**	**08 16 22.3**	**+0.4**	
U15A	**North Rim**	**72.45**	**354**	IAmb	IAmb	08 16 29.4		
	comp=Z,12nm,1.4s							
U38A	**Gravette**	**72.76**	**9**	P	**P**	**08 16 28.6**	**0.0**	
U38A				IAmb	IAmb	08 16 29.4		
	comp=Z,14nm,1.4s							
MVCO	**Mesa Verde**	**72.97**	**357**	IAmb	IAmb	08 16 31.7		
	comp=Z,14nm,1.3s							
CCUT	**Cedar City**	**73.67**	**353**	IAmb	IAmb	08 16 36.5		
	comp=Z,7.0nm,1.1s							
DSP	**Deep Springs**	**74.08**	**349**	IAmb	IAmb	08 16 38.1		
	comp=Z,15nm,1.4s							
TPH	**Tonopah**	**74.66**	**350**	P	**P**	**08 16 40.6**	**+0.7**	
Q16A	**Castle Valley**	**74.83**	**355**	IAmb	IAmb	08 16 42.5		
	comp=Z,9.6nm,1.2s							
NVAR	**Mina Array Bea**	**75.16**	**349**	P	**P**	**08 16 43.6**	**+0.8**	
	comp=Z,3.7nm,0.9s,baz=177,slow=7.1,SNR=13							
	comp=Z,3.7nm,0.9s							
NLU	**North Lily Min**	**75.93**	**354**	IAmb	IAmb	08 16 49.8		
	comp=Z,8.1nm,1.2s							
RDMU	**Red Mountain**	**76.37**	**356**	IAmb	IAmb	08 16 51.3		
	comp=Z,16nm,1.5s							
JLU	**Jordanelle**	**76.53**	**355**	IAmb	IAmb	08 16 53.6		
	comp=Z,9.7nm,1.5s							
K22A	**Casper**	**78.34**	**359**	IAmb	IAmb	08 17 02.6		
	comp=Z,10nm,1.3s							
BW06	**Boulder Array**	**78.56**	**356**	IAmb	IAmb	08 17 03.0		
	comp=Z,8.6nm,1.1s							
PD31	**Pinedale Array**	**78.56**	**356**	P	**P**	**08 16 59.9**	**-2.0**	
PD31				IAmb	IAmb	08 17 03.0		
	comp=Z,7.7nm,1.1s							
PDAR	**Pinedale Array**	**78.56**	**356**	P	**P**	**08 17 01.6**	**-0.3**	
	comp=Z,3.3nm,0.9s,baz=164,slow=5.9,SNR=19							
	comp=Z,3.3nm,0.9s							
HLID	**Hailey**	**79.72**	**353**	IAmb	IAmb	08 17 10.2		
	comp=Z,9.5nm,1.1s							
RSSD	**Black Hills**	**79.80**	**0**	P	**P**	**08 17 08.3**	**-0.3**	
YKA	**Yellowknife Ar**	**98.52**	**355**	P	**P**	**08 18 37.6**	**-0.7**	
	comp=Z,0.3nm,0.9s,baz=165,slow=5.1,SNR=3.4							
	comp=Z,0.3nm,0.9s							
AKASG	**Malin Array Be**	**144.07**	**51**	PKP	**PKPdf**	**08 24 34.4**	**-1.2**	
	comp=Z,0.2nm,0.3s,baz=272,slow=3.9,SNR=5.1							
NRIK	**Noril'sk**	**145.97**	**352**	PKPbc	**PKPbc**	**08 24 39.0**	**-0.1**	
	comp=Z,1.2nm,0.5s,baz=68,slow=1.8,SNR=5.2							
BRTR	**Keskin Array B**	**147.14**	**71**	PKPbc	**PKPab**	**08 24 45.2**	**-0.1**	
	comp=Z,6.0nm,1.2s,baz=227,slow=2.7,SNR=11							
SONM	**Songino Array**	**154.21**	**307**	PKPbc	**PKiKP**	**08 25 01.7**	**+1.3**	
	comp=Z,1.8nm,0.9s,baz=165,slow=2.7,SNR=8.6							
ZALV	**Zalesovo Beam**	**160.90**	**343**	PKP	**PKPdf**	**08 24 59.8**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=329,slow=1.7,SNR=4.6							

*IDC **22** 08:06:58.0±1.2, 6°.33S×152°.08E, h0km, mb3.7/5, mbtmp3.8/7, ML2.0/1, Error ellipse: s-maj=53.3km s-min=17.6km az=114.0*
*NEIC **22** 08:07:00.4±0.7, 6°.42S±0°.10×152°.0E±0°.2, h10km±2km, mb4.1/5, Error ellipse: s-maj=34.4km s-min=12.2km az=110.0*
ISC 22 08:07:03.6±0.8, 6°.39S±0°.10×151°.9E±0°.2, h37km, n21, σ1s21/23, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.07**	**5**	Pn	**Pn**	**Pn**	**08 07 35.2**	**-0.6**
	207nm,0.3s,baz=192,slow=1.0							
KRVT				Sn	**Sn**	**Sn**	**08 08 00.1**	**-0.3**
	baz=189,slow=19							
RABL	**Rabaul**	**2.20**	**8**			**Pn**	**08 07 37.4**	**-0.2**
PMG	**Port Moresby**	**5.53**	**237**	Pn	**Pn**	**Pn**	**08 08 25.0**	**+1.6**
	2.5nm,0.3s,baz=42,slow=9.8,SNR=2.7							
PMG				Sn	**Sn**	**Sn**	**08 09 23.2**	**-2.6**
	0.7nm,0.3s,baz=122,slow=16,SNR=4.1							
	11nm,0.4s							
PMG	**Port Moresby**	**5.53**	**237**	Pn	**Pn**	**Pn**	**08 08 24.3**	**+0.9**
COEN	**Coen**	**11.38**	**228**	Pn	**Pn**	**Pn**	**08 09 43.1**	**-0.5**
CTAO	**Charters Tower**	**14.66**	**201**	Pn	**Pn**	**Pn**	**08 10 27.9**	**-0.5**
EIDS	**Eidsvold**	**18.89**	**182**	P	**P**	**P**	**08 11 19.6**	**-1.3**
EIDS				IAmb	IAmb	IAmb	08 11 39.2	
	comp=Z,12nm,1.2s							
WB0	**Warramunga Arr**	**21.56**	**230**	P	**P**	**P**	**08 11 50.8**	**+0.8**
WB0				IAmb	IAmb	IAmb	08 12 11.1	
	comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**21.69**	**230**	P	**P**	**P**	**08 11 52.4**	**+1.0**
WB2				IAmb	IAmb	IAmb	08 12 07.9	
	comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**21.70**	**230**	P	**P**	**P**	**08 11 52.2**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=54,slow=11,SNR=11							
	comp=Z,1.2nm,0.5s							
AS31	**Alice Springs**	**24.35**	**223**	P	**P**	**P**	**08 12 18.7**	**+0.4**
ASAR	**Alice Springs**	**24.35**	**223**	P	**P**	**P**	**08 12 20.2**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=56,slow=8.9,SNR=21							
	comp=Z,1.7nm,0.8s							
ASAR	**Alice Springs**	**24.35**	**223**	P	**P**	**P**	**08 12 18.7**	**+0.5**
KNRA	**Kununurra**	**24.45**	**246**	P	**P**	**P**	**08 12 20.3**	**+1.2**
STKA	**Stephens Creek**	**27.11**	**199**	P	**P**	**P**	**08 12 45.5**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=332,slow=15,SNR=1.5							
	comp=Z,0.5nm,0.5s							
IMAR	**Indian Mountai**	**82.19**	**20**	P	**P**	**P**	**08 19 21.0**	**+0.7**
MLY	**Manley**	**82.69**	**21**	P	**P**	**P**	**08 19 24.0**	**+0.9**
ILAR	**Eielson Array**	**83.97**	**22**	P	**P**	**P**	**08 19 29.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=246,slow=5.0,SNR=8.3							
	comp=Z,0.4nm,0.6s							
YKA	**Yellowknife Ar**	**97.26**	**28**	P	**P**	**P**	**08 20 31.4**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=265,slow=5.3,SNR=3.0							
	comp=Z,0.2nm,0.7s							
GERES	**GERESS Array B**	**124.89**	**327**	PKP	**PKPdf**	**PKPdf**	**08 25 59.6**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=64,slow=2.3,SNR=2.7							
TORD	**Torodi Ar. Bea**	**149.86**	**285**	PKPbc	**PKPbc**	**PKPbc**	**08 26 50.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=89,slow=2.0,SNR=7.3							

*ISK **22** 08:12:30.7, 38°.71N×43°.67E, h11km, ML2.6/10*
*DDA **22** 08:12:33.1±0.0, 38°.75N×43°.53E, h7km±7km, ML1.9*
ISC 22 08:12:31.8±1.0, 38°.73N±0°.03×43°.63E±0°.03, h20km±4km, n17, σ0s58/29, Turkey

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**235**	Pg	**Pg**	**Pg**	**08 12 37.5**	**-0.1**
VANB				Sg	**Sg**	**Sg**	**08 12 41.4**	**-0.1**
VMUR	**Van-Muradiye**	**0.26**	**350**	P	**Pb**	**Pb**	**08 12 37.4**	**-0.5**
VMUR				S	**Sg**	**Sg**	**08 12 43.0**	**+0.7**
VMUR				*i* AML	AML	AML	08 12 44.0	
	comp=E,422nm,0.5s							
VMUR				*i* AML	AML	AML	08 12 45.0	
	comp=N,463nm,0.3s							
OZAP	**Van, Ozalp-Mer**	**0.29**	**103**	P	**Pg**	**Pg**	**08 12 38.3**	**-0.2**
OZAP				S	**Sn**	**Sn**	**08 12 46.9**	**-0.2**
ERCV	**ERCIS-VAN**	**0.37**	**322**	Pg	**Pg**	**Pg**	**08 12 38.9**	**-0.9**
ERCV				Sg	**Sb**	**Sb**	**08 12 45.3**	**0.0**
GEVA	**Gevas**	**0.61**	**227**	P	**Pb**	**Pb**	**08 12 43.2**	**-0.8**
GEVA				S	**Sn**	**Sn**	**08 12 54.2**	**-0.8**
GEVA				*i* AML	AML	AML	08 12 58.0	
	comp=N,41nm,0.3s							
GEVA				*i* AML	AML	AML	08 13 01.0	
	comp=E,64nm,0.6s							
AKDM	**Akdamar-Van**	**0.65**	**232**	Pg	**Pb**	**Pb**	**08 12 43.7**	**-0.9**
AKDM				Sg	**Sg**	**Sg**	**08 12 53.7**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.71**	**277**	P	**Pb**	**Pb**	**08 12 45.4**	**-0.3**
ADCV				S	**Sg**	**Sg**	**08 12 55.9**	**+0.3**
ADCV				*i* AML	AML	AML	08 12 58.0	
	comp=N,52nm,0.5s							
ADCV				*i* AML	AML	AML	08 12 58.0	
	comp=E,63nm,0.7s							
DYDN	**Diyadin**	**0.81**	**3**	P	**Pb**	**Pb**	**08 12 47.4**	**-0.1**
DYDN				S	**Sn**	**Sn**	**08 12 59.7**	**-0.4**
DYDN				*i* AML	AML	AML	08 13 00.0	
	comp=N,68nm,0.2s							
DYDN				*i* AML	AML	AML	08 13 00.0	
	comp=E,56nm,0.4s							
MLAZ	**Malazgirt-MUS**	**0.94**	**296**	Pg	**Pg**	**Pg**	**08 12 49.8**	**-0.4**
MLAZ				Sg	**Sn**	**Sn**	**08 13 03.9**	**+0.9**
AGRB	**Hanur-Agry**	**0.98**	**330**	Pg	**Pb**	**Pb**	**08 12 50.1**	**-0.2**
AGRB				Sg	**Sn**	**Sn**	**08 13 04.9**	**+0.8**
PERV	**Siirt/Pervari-**	**1.16**	**228**	P	**Pg**	**Pg**	**08 12 55.7**	**+1.3**
BLIS	**Bitlis-Merkez**	**1.23**	**256**	P	**Pn**	**Pn**	**08 12 54.1**	**0.0**
BLIS				S	**Sn**	**Sn**	**08 13 10.8**	**+0.5**
BLIS				*i* AML	AML	AML	08 13 12.0	
	comp=N,34nm,0.8s							
BLIS				*i* AML	AML	AML	08 13 12.0	
	comp=E,18nm,0.6s							
GURO	**Guroymak-BITLI**	**1.27**	**262**	Pn	**Pb**	**Pb**	**08 12 54.9**	**-0.2**
GURO				Sn	**Sg**	**Sg**	**08 13 12.9**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.34**	**20**	Pn	**Pb**	**Pb**	**08 12 56.1**	**-0.2**
CUKT	**Cukurca**	**1.48**	**181**	Pn	**Pn**	**Pn**	**08 12 57.7**	**+0.2**
GNI	**Garni**	**1.66**	**31**	Pn	**Pn**	**Pn**	**08 13 00.5**	**+0.5**
VRTB	**Varto-Mus**	**1.75**	**285**	Pn	**Pb**	**Pb**	**08 13 02.7**	**-0.7**

*IDC **22** 08:17:02.3±2.9, 6°.19S×155°.24E, h147km±24km, mb3.3/6, mbtmp3.8/8, Error ellipse: s-maj=27.4km s-min=19.4km az=89.0*
ISC 22 08:17:02.5±1.0, 6°.2S±0°.2×155°.3E±0°.1, h150km, n8, σ0s56/9, mb3.4/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.72**	**300**	P	**Pn**	**Pn**	**08 17 59.6**	**+0.4**
	41nm,0.4s,baz=192,slow=6.7							
KRVT				S	**Sn**	**Sn**	**08 18 42.4**	**-0.6**
	baz=192,slow=18							
DZM	**Mont Dzumac**	**19.13**	**147**	P	**P**	**P**	**08 21 14.4**	**+0.1**
	3.1nm,0.9s,baz=324,slow=18,SNR=1.7							
WRA	**Warramunga Arr**	**24.48**	**234**	P	**P**	**P**	**08 22 08.4**	**+0.5**
	2.3nm,0.3s,baz=58,slow=10.0,SNR=35							
	2.3nm,0.3s							
ASAR	**Alice Springs**	**26.89**	**228**	P	**P**	**P**	**08 22 28.9**	**-0.7**
	0.2nm,0.4s,baz=59,slow=9.4,SNR=7.3							
	0.2nm,0.4s							
SONM	**Songino Array**	**68.81**	**327**	P	**P**	**P**	**08 27 51.3**	**+0.6**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=3.2							
	0.3nm,0.4s							
ILAR	**Eielson Array**	**82.55**	**21**	P	**P**	**P**	**08 29 08.1**	**-0.2**
	0.6nm,1.0s,baz=218,slow=5.7,SNR=2.1							
	0.6nm,1.0s							
MKAR	**Makanchi Array**	**82.98**	**319**	P	**P**	**P**	**08 29 10.9**	**0.0**
	0.4nm,0.8s,baz=99,slow=6.4,SNR=3.9							
	0.4nm,0.8s							
YKA	**Yellowknife Ar**	**95.52**	**28**	P	**P**	**P**	**08 30 09.8**	**-0.4**
	0.4nm,0.8s,baz=266,slow=5.0,SNR=6.8							
	0.4nm,0.8s							

*SOME **22** 08:20:28.3, 39°.10N×71°.35E, h10km*
*NNC **22** 08:20:36.3±2.7, 38°.94N×70°.57E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=19.8km s-min=14.6km az=23.0*
ISC 22 08:20:35.0±4.6, 38°.8N±0°.3×70°.4E±0°.1, h10km, n5, σ0s95/9, 3C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.39**	**355**	*e*Pg	**Pn**	**Pn**	**08 21 27.6**	**-0.5**
	10nm,0.3s							
IUG				*e*Lg	Lg	Lg	08 22 10.2	
	40nm,0.5s							
KK31	**Karatay Array**	**4.33**	**1**	⇑Pn	**Pn**	**Pn**	**08 21 40.6**	**-0.3**
	0.8nm,0.4s,baz=182,slow=13,SNR=22							
KK31				⇓Sn	**Sn**	**Sn**	**08 22 32.1**	**+0.6**
	1.8nm,0.4s							
KK31				⇓Lg	Lg	Lg	08 22 45.9	
	3.7nm,0.6s,baz=179,slow=30,SNR=5.1							
MRKS	**Merke**	**4.50**	**27**	*e*Pg	**Pn**	**Pn**	**08 21 42.5**	**-0.8**
	0.9nm,0.2s							
MRKS				*e*Lg	Lg	Lg	08 22 35.8	
	14nm,0.3s							
CHMS	**Chumysh**	**5.34**	**36**	⇓Pn	**Pn**	**Pn**	**08 21 55.6**	**+0.8**
	1.7nm,0.4s							
CHMS				⇓Sn	**Sn**	**Sn**	**08 22 54.9**	**-1.5**
	8.4nm,0.9s							
TKM2	**Tokmak 2**	**5.70**	**42**	⇓Pn	**Pn**	**Pn**	**08 21 59.2**	**-0.7**
	2.1nm,0.8s							
TKM2				⇑Pg	**Pb**	**Pb**	**08 22 15.2**	**+0.6**
	1.1nm,0.6s							
TKM2				⇑Sn	**Sn**	**Sn**	**08 23 05.9**	**+0.5**
	2.8nm,0.5s							
TKM2				⇓Lg	Lg	Lg	08 23 31.8	
	2.4nm,0.7s							

*IDC **22** 08:34:14.2±1.6, 34°.73N×23°.33E, h0km, mb3.7/4, mbtmp3.5/8, ML3.3/4, Error ellipse: s-maj=30.8km s-min=18.6km az=166.0*
*ATH **22** 08:34:19.6, 34°.66N×23°.49E, h12km±1km, ML3.1/7, Error ellipse: s-maj=3.6km s-min=1.9km az=37.0*
*ISK **22** 08:34:19.5, 34°.70N×23°.48E, h17km, ML3.5/5*
*THE **22** 08:34:19.8, 34°.70N×23°.48E, h3km±31km, ML3.0/4, Error ellipse: s-maj=31.6km s-min=1.3km az=0.0*
ISC 22 08:34:18.1±1.6, 34°.64N±0°.07×23°.42E±0°.05, h27km±10km, n41, σ1s09/56, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.59**	**70**	P	**Pn**	**Pn**	**08 34 30.4**	**-0.2**
GVD				S	**Sb**	**Sb**	**08 34 37.0**	**-0.8**
	4µm,0.3s							
GVD	**Gavdhos**	**0.59**	**70**	Pg	**Pn**	**Pn**	**08 34 30.6**	**0.0**
GVD				Sg	**Sb**	**Sb**	**08 34 38.2**	**+0.4**
GVD	**Gavdhos**	**0.59**	**70**	P	**Pb**	**Pb**	**08 34 30.2**	**+0.3**
GVD				S	**Sb**	**Sb**	**08 34 36.4**	**-1.4**
GVD				AML	AML	AML	08 34 41.6	
	comp=E,8305µm,0.3s							
GVD				AML	AML	AML	08 34 41.7	
	comp=N,6667µm,0.4s							
GVDS	**Gavdos**	**0.59**	**70**	P	**Pb**	**Pb**	**08 34 30.1**	**+0.2**
GVDS				S	**Sb**	**Sb**	**08 34 37.3**	**-0.6**
	comp=N,3µm,0.3s							
KNDR	**Palaiochora Ch**	**0.63**	**20**	P	**Pb**	**Pb**	**08 34 30.6**	**+0.1**
KNDR				S	**Sb**	**Sb**	**08 34 38.9**	**-0.2**
	comp=N,918nm,0.4s							
KNDR	**Palaiochora Ch**	**0.63**	**20**	Pg	**Pb**	**Pb**	**08 34 30.9**	**+0.3**
KNDR				Sg	**Sb**	**Sb**	**08 34 38.9**	**-0.2**
KNDR	**Palaiochora Ch**	**0.63**	**20**	P	**Pb**	**Pb**	**08 34 30.7**	**+0.1**
KNDR				S	**Sb**	**Sb**	**08 34 39.3**	**+0.3**
KNDR				AML	AML	AML	08 34 42.5	
	comp=E,5557µm,0.4s							
KNDR				AML	AML	AML	08 34 45.2	
	comp=N,5229µm,0.4s							
IMMV	**Iera Moni Meta**	**0.94**	**29**	P	**Pn**	**Pn**	**08 34 36.1**	**+0.6**
IMMV				S	**Sn**	**Sn**	**08 34 48.8**	**+0.8**
	comp=N,2µm,0.4s							
IMMV	**Iera Moni Meta**	**0.94**	**29**	Pg	**Pn**	**Pn**	**08 34 36.3**	**+0.8**
IMMV				Sg	**Sn**	**Sn**	**08 34 49.1**	**+1.1**
IMMV	**Iera Moni Meta**	**0.94**	**29**	P	**Pn**	**Pn**	**08 34 35.9**	**+0.4**
IMMV				S	**Sb**	**Sb**	**08 34 48.0**	**+0.2**
IMMV				AML	AML	AML	08 34 50.8	
	comp=N,3155µm,0.5s							
IMMV				AML	AML	AML	08 34 51.9	
	comp=E,2874µm,0.4s							
RODP	**Rodopos**	**0.96**	**17**	P	**Pn**	**Pn**	**08 34 36.8**	**+1.0**
RODP	**Rodopos**	**0.96**	**17**	Pg	**Pn**	**Pn**	**08 34 37.7**	**+1.9**
RODP				Sg	**Sn**	**Sn**	**08 34 50.1**	**+1.6**
CHAN	**Chania**	**1.01**	**30**	P	**Pn**	**Pn**	**08 34 37.3**	**+0.8**
CHAN				S	**Sn**	**Sn**	**08 34 51.3**	**+1.4**
CHAN				AML	AML	AML	08 34 57.2	
	comp=N,3319µm,0.8s							
CHAN				AML	AML	AML	08 35 00.2	
	comp=E,1754µm,0.5s							
PRNS	**Prines Rethymn**	**1.15**	**51**	P	**Pn**	**Pn**	**08 34 38.4**	**+0.1**
TMBK	**Timbaki Herakl**	**1.19**	**68**	P	**Pb**	**Pb**	**08 34 40.6**	**+0.6**
TMBK				S	**Sn**	**Sn**	**08 34 55.4**	**+1.2**
TMBK				AML	AML	AML	08 35 02.4	
	comp=N,2444µm,0.6s							
TMBK				AML	AML	AML	08 35 03.6	
	comp=E,2194µm,0.8s							
ANKY	**Antikythira Is**	**1.23**	**356**	P	**Pb**	**Pb**	**08 34 41.3**	**+0.7**
ANKY	**Antikythira Is**	**1.23**	**356**	P	**Pb**	**Pb**	**08 34 40.8**	**+0.2**
IDI	**Anoyia**	**1.37**	**62**	Pn	**Pb**	**Pb**	**08 34 42.7**	**-0.5**
	comp=E,10nm,0.3s,baz=254,slow=9.9,SNR=46							
IDI				Sn	**Sb**	**Sb**	**08 35 01.1**	**+0.8**
	comp=E,28nm,0.3s,baz=172,slow=23,SNR=11							
IDI	**Anoyia**	**1.37**	**62**	P	**Pb**	**Pb**	**08 34 42.6**	**-0.5**
IDI	**Anoyia**	**1.37**	**62**	Pn	**Pb**	**Pb**	**08 34 42.9**	**-0.2**
IDI				Sn	**Sb**	**Sb**	**08 35 01.2**	**+0.9**
IDI	**Anoyia**	**1.37**	**62**	P	**Pb**	**Pb**	**08 34 42.6**	**-0.5**
IDI				AML	AML	AML	08 35 03.3	
	comp=N,618µm,0.8s							
IDI				AML	AML	AML	08 35 04.5	
	comp=E,524µm,0.5s							
KSTL	**Kastelli Herak**	**1.51**	**64**	P	**Pb**	**Pb**	**08 34 48.0**	**+2.6**
KSTL	**Kastelli Herak**	**1.51**	**64**	P	**Pb**	**Pb**	**08 34 47.6**	**+2.1**
KSTL				AML	AML	AML	08 35 22.5	
	comp=N,666µm,0.5s							
KSTL				AML	AML	AML	08 35 24.0	
	comp=E,363µm,0.8s							
HRKL	**Herakleio**	**1.54**	**64**	Pn	**Pb**	**Pb**	**08 34 46.3**	**+0.4**
VLI	**Veliai**	**2.11**	**349**	P	**Pb**	**Pb**	**08 34 54.6**	**-1.1**
VLI	**Veliai**	**2.11**	**349**	P	**Pb**	**Pb**	**08 34 54.5**	**-1.1**
ZKR	**Zakros**	**2.35**	**78**	Pn	**Pn**	**Pn**	**08 34 56.9**	**+2.0**
ZKR	**Zakros**	**2.35**	**78**	P	**Pn**	**Pn**	**08 34 56.9**	**+2.0**
THR6	**Thira Island,**	**2.35**	**43**	P	**Pn**	**Pn**	**08 34 54.9**	**0.0**
THR5	**Thira Island,**	**2.37**	**41**	P	**Pn**	**Pn**	**08 34 55.3**	**+0.1**
THR3	**Thira Island,**	**2.39**	**42**	P	**Pn**	**Pn**	**08 34 55.7**	**+0.2**
THR8	**Santorini-Mono**	**2.44**	**43**	P	**Pn**	**Pn**	**08 34 55.8**	**-0.2**
ITM	**Ithomi**	**2.81**	**335**	Pn	**Pn**	**Pn**	**08 35 04.5**	**+3.3**
BRTR	**Keskin Array B**	**9.60**	**55**	Pn	**Pn**	**Pn**	**08 36 35.7**	**+1.0**
	comp=E,0.1nm,0.3s,baz=246,slow=14,SNR=1.7							
	comp=E,0.3nm,0.4s							
GERES	**GERESS Array B**	**15.91**	**336**	Pn	**Pn**	**Pn**	**08 37 59.5**	**-0.7**
	comp=E,0.1nm,0.3s,baz=143,slow=14,SNR=2.4							
	comp=E,0.6nm,0.9s							
AKASG	**Malin Array Be**	**16.60**	**13**	Pn	**Pn**	**Pn**	**08 38 06.8**	**-1.9**
	comp=E,0.5nm,0.3s,baz=203,slow=9.1,SNR=3.5							
	comp=E,0.1nm,0.3s							
KBZ	**Khabaz**	**17.59**	**53**	P	**Pn**	**Pn**	**08 38 20.9**	**-0.2**
	comp=E,0.1nm,0.3s,baz=321,slow=13,SNR=1.7							
	comp=E,3.7nm,1.1s							
HFS	**Hagfors**	**26.28**	**349**	P	**P**	**P**	**08 39 49.3**	**-1.6**
	comp=E,0.9nm,0.5s,baz=126,slow=9.8,SNR=9.5							
	comp=E,0.9nm,0.5s							
EKA	**Eskdalemuir Ar**	**27.66**	**327**	P	**P**	**P**	**08 40 03.6**	**+0.2**
	comp=E,0.3nm,0.3s,baz=127,slow=8.3,SNR=6.4							
	comp=E,0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**29.07**	**228**	P	**P**	**P**	**08 40 16.6**	**+0.3**
	comp=E,0.6nm,1.1s,baz=42,slow=9.6,SNR=1.9							
	comp=E,0.6nm,1.1s							
MKAR	**Makanchi Array**	**45.25**	**56**	P	**P**	**P**	**08 42 32.2**	**-0.9**
	comp=E,0.3nm,0.4s,baz=267,slow=6.9,SNR=8.9							
	comp=E,0.3nm,0.4s							

IDC 22 08:42:09.7±11.0, 15°.15S×164°.32E, h0km, mb3.9/3, mbtmp3.9/4, ML2.7/1, Error ellipse: s-maj=203.4km s-min=34.6km az=48.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.17**	**164**	Pn	**Pn**	**Pn**	**08 43 55.4**	**-0.6**
	0.1nm,0.3s,baz=17,slow=19,SNR=2.0							
DZM				Sn	**Sn**	**Sn**	**08 45 21.3**	**+3.0**
	0.1nm,0.3s,baz=129,slow=23,SNR=0.9							
	5.0nm,1.1s							
STKA	**Stephens Creek**	**26.58**	**227**	P	**P**	**P**	**08 47 49.5**	**-0.2**
	2.0nm,0.4s,baz=57,slow=9.2,SNR=14							
	2.0nm,0.4s							
WRA	**Warramunga Arr**	**28.96**	**256**	P	**P**	**P**	**08 48 11.3**	**+0.2**
	0.4nm,0.5s,baz=87,slow=9.5,SNR=8.3							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**29.86**	**249**	P	**P**	**P**	**08 48 19.1**	**-0.1**
	0.4nm,0.5s,baz=77,slow=9.3,SNR=20							
	0.4nm,0.5s							

IDC 22 08:43:37.3±10.0, 16°.16S×173°.32W, h0km, mb3.4/3, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=468.0km s-min=26.5km az=139.0, Tonga Islands

| Code | Station Name | Δ° |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.10**	**134**	⇑P	Pg	09 47 53.1	+0.4
CAMP				S	Sg	09 47 55.0	+0.4
CAMP				AML	AML		
	comp=E,1430μm,0.2s						
CAMP				AML	AML		
	comp=N,760μm,0.2s						
T1202	**Accumoli, Fraz**	**0.12**	**327**	⇑P	Pg	09 47 53.6	+0.6
T1202				S	Sg	09 47 55.7	+0.7
T1202				AML	AML		
	comp=E,4650μm,0.3s						
T1202				AML	AML		
	comp=E,4645μm,0.3s						
T1202				AML	AML		
	comp=N,6240μm,0.2s						
T1202				AML	AML		
	comp=N,6245μm,0.2s						
RM33	**Pellescritta (**	**0.12**	**216**	⇑P	Pg	09 47 53.6	+0.6
RM33				S	Sg	09 47 55.9	+0.8
RM33				AML	AML		
	comp=N,1785μm,0.5s						
RM33				AML	AML		
	comp=E,1360μm,0.6s						
RM33				AML	AML		
	comp=N,1680μm,0.5s						
RM33				AML	AML		
	comp=E,1360μm,1.4s						
RM33				AML	AML		
	comp=E,1275μm,0.2s						
T1218	**Civita (PG)**	**0.16**	**294**	⇑P	Pg	09 47 54.0	+0.4
T1218				S	Sg	09 47 56.8	+0.8
T1218				AML	AML		
	comp=E,448μm,0.3s						
T1218				AML	AML		
	comp=E,448μm,0.4s						
T1218				AML	AML		
	comp=N,880μm,0.4s						
T1218				AML	AML		
	comp=E,448μm,0.4s						
T1218				AML	AML		
	comp=N,882μm,0.4s						
T1218				AML	AML		
	comp=N,882μm,1.6s						
T1247	**Pizzolo (AQ)**	**0.17**	**183**	⇑P	Pg	09 47 54.3	+0.7
T1247				S	Sg	09 47 57.4	+1.3
T1247				AML	AML		
	comp=E,1570μm,0.4s						
T1247				AML	AML		
	comp=E,1570μm,1.6s						
T1247				AML	AML		
	comp=N,1855μm,0.1s						
LNSS	**Leonessa**	**0.20**	**269**	P	Pg	09 47 54.7	+0.4
LNSS				S	Sg	09 47 58.6	+1.5
LNSS				AML	AML		
	comp=E,754μm,1.3s						
LNSS				AML	AML		
	comp=N,774μm,0.3s						
LNSS				AML	AML		
	comp=E,754μm,1.3s						
LNSS				AML	AML		
	comp=N,774μm,1.7s						
T1212	**Cascia, Frazio**	**0.24**	**307**	⇑P	Pg	09 47 55.5	+0.4
T1212				AML	AML		
	comp=E,377μm,0.6s						
T1212				AML	AML		
	comp=N,351μm,0.7s						
T1212				AML	AML		
	comp=E,352μm,0.6s						
T1212				AML	AML		
	comp=N,338μm,0.1s						
T1212				AML	AML		
	comp=E,352μm,0.6s						
T1212				AML	AML		
	comp=N,338μm,0.2s						
T1212				AML	AML		
	comp=N,351μm,0.7s						
T1212				AML	AML		
	comp=E,377μm,0.6s						
GIGS	**Gran Sasso**	**0.25**	**129**	P	Pg	09 47 55.4	+0.4
GIGS				S	Sg	09 47 59.3	+0.8
GIGS				AML	AML		
	comp=N,296μm,0.7s						
GIGS				AML	AML		
	comp=N,332μm,0.8s						
GIGS				AML	AML		
	comp=N,332μm,1.2s						
GIGS				AML	AML		
	comp=E,400μm,0.6s						
AQU	**L'Aquila**	**0.26**	**165**	P	Pg	09 47 55.9	+0.6
AQU				AML	AML		
	comp=E,490μm,0.8s						
AQU				AML	AML		
	comp=N,672μm,1.1s						
AQU				AML	AML		
	comp=E,513μm,0.8s						
AQU				AML	AML		
	comp=N,675μm,1.1s						
AQU				AML	AML		
	comp=N,552μm,1.2s						
AQU				AML	AML		
	comp=E,455μm,1.1s						
AQU				AML	AML		
	comp=N,552μm,0.8s						
AQU				AML	AML		
	comp=E,444μm,1.1s						
AQU				AML	AML		
	comp=N,545μm,1.6s						
T1222	**Castel Sant'An**	**0.29**	**225**	⇑P	Pg	09 47 56.4	+0.5
T1222				AML	AML		
	comp=E,2030μm,1.0s						
T1222				AML	AML		
	comp=E,2075μm,0.9s						
T1222				AML	AML		
	comp=E,2035μm,1.0s						
T1222				AML	AML		
	comp=N,1195μm,1.0s						
T1222				AML	AML		
	comp=E,2035μm,1.0s						
T1222				AML	AML		
	comp=N,1175μm,0.2s						
T1222				AML	AML		
	comp=E,2075μm,1.1s						
T1211	**Morro Reatino**	**0.34**	**258**	⇑P	Pg	09 47 57.3	+0.4
T1211				S	Sb	09 48 02.7	-1.2
T1211				AML	AML		
	comp=E,1995μm,0.1s						
T1211				AML	AML		
	comp=N,1865μm,0.3s						
T1211				AML	AML		
	comp=N,1875μm,0.3s						
T1211				AML	AML		
	comp=E,1925μm,0.1s						
T1216	**Preci, Frazion**	**0.36**	**323**	⇓P	Pg	09 47 57.8	+0.7
T1216				AML	AML		
	comp=E,376μm,0.3s						
T1216				AML	AML		
	comp=N,954μm,0.8s						
T1216				AML	AML		
	comp=N,954μm,0.8s						
T1216				AML	AML		
	comp=N,954μm,1.2s						
T1216				AML	AML		
	comp=E,376μm,0.3s						
T1215	**Vallo di Nera,**	**0.38**	**301**	⇓P	Pg	09 47 57.8	+0.3
T1215				AML	AML		
	comp=E,420μm,0.1s						
T1215				AML	AML		
	comp=N,366μm,0.4s						
T1215				AML	AML		
	comp=E,433μm,0.1s						
T1215				AML	AML		
	comp=N,360μm,0.4s						
T1215				AML	AML		
	comp=E,433μm,0.1s						
T1215				AML	AML		
	comp=N,360μm,0.4s						
T1215				AML	AML		
	comp=N,366μm,0.4s						
T1215				AML	AML		
	comp=N,360μm,0.4s						
T1215				AML	AML		
	comp=N,366μm,1.6s						
T1215				AML	AML		
	comp=N,360μm,1.6s						
T1215				AML	AML		
	comp=E,420μm,0.1s						
FAGN	**Fagnano**	**0.40**	**149**	⇓P	Pb	09 47 59.1	0.0
FAGN				AML	AML		
	comp=N,978μm,0.3s						
FAGN				AML	AML		
	comp=E,1180μm,0.6s						
ARRO	**Arrone**	**0.40**	**266**	⇑P	Pg	09 47 58.5	+0.6
ARRO				AML	AML		
	comp=E,697μm,0.6s						
ARRO				AML	AML		
	comp=N,890μm,0.6s						
ARRO				AML	AML		
	comp=N,890μm,0.6s						
ARRO				AML	AML		
	comp=E,697μm,1.4s						
OFFI	**Offida**	**0.43**	**40**	⇓P	Pb	09 47 59.7	-0.1
OFFI				AML	AML		
	comp=E,1100μm,0.7s						
OFFI				AML	AML		
	comp=N,1028μm,0.6s						
OFFI				AML	AML		
	comp=N,1028μm,0.6s						
OFFI				AML	AML		
	comp=E,1100μm,1.3s						
GUMA	**Gualdo di Mace**	**0.46**	**2**	⇓P	Pb	09 47 59.6	-0.6
GUMA				AML	AML		
	comp=E,1180μm,0.6s						
GUMA				AML	AML		
	comp=N,1340μm,0.5s						
GUMA				AML	AML		
	comp=N,1315μm,0.4s						
GUMA				AML	AML		
	comp=E,1110μm,0.9s						
GUMA				AML	AML		
	comp=N,1315μm,1.6s						
GUMA				AML	AML		
	comp=N,1340μm,1.5s						
GUMA				AML	AML		
	comp=E,1185μm,0.6s						
FDMO	**Fiordimonte**	**0.46**	**339**	P	Pg	09 47 59.2	+0.2
FDMO				S	Sb	09 48 06.8	-0.5
FDMO				AML	AML		
	comp=E,284μm,0.2s						
FDMO				AML	AML		
	comp=N,298μm,1.0s						
TRTR	**Tortoreto Alta**	**0.49**	**65**	⇓P	Pb	09 48 01.2	+0.5
CESI	**CESI - Serrava**	**0.50**	**323**	P	Pg	09 48 00.0	+0.3
CESI				AML	AML		
	comp=E,302μm,1.3s						
CESI				AML	AML		
	comp=N,435μm,0.7s						
CESI				AML	AML		
	comp=E,302μm,0.7s						
T1220	**Camerino, Fraz**	**0.53**	**342**	⇓P	Pg	09 48 00.5	+0.2
T1220				AML	AML		
	comp=E,1520μm,1.1s						
T1220				AML	AML		
	comp=E,1490μm,1.1s						
T1220				AML	AML		
	comp=N,1120μm,0.5s						
T1220				AML	AML		
	comp=N,1120μm,0.5s						
T1220				AML	AML		
	comp=N,1125μm,0.5s						
T1220				AML	AML		
	comp=E,1495μm,1.1s						
CESX	**Cesi**	**0.54**	**271**	S	Sb	09 48 09.6	+0.2
CESX				AML	AML		
	comp=E,448μm,0.3s						
CESX				AML	AML		
	comp=E,448μm,1.7s						
CESX				AML	AML		
	comp=N,574μm,0.3s						
MOMA	**Monte Martano**	**0.58**	**290**	⇑P	Pb	09 48 02.0	-0.4
MOMA				AML	AML		
	comp=E,1140μm,0.2s						
MOMA				AML	AML		
	comp=N,957μm,0.9s						
MOMA				AML	AML		
	comp=E,1180μm,0.2s						
MOMA				AML	AML		
	comp=N,894μm,0.2s						
MOMA				AML	AML		
	comp=N,957μm,1.1s						
SNTG	**Esanatoglia**	**0.70**	**337**	P	Pg	09 48 03.8	+0.1
SNTG				AML	AML		
	comp=E,799μm,0.9s						
SNTG				AML	AML		
	comp=N,186μm,0.7s						
SNTG				AML	AML		
	comp=N,789μm,1.2s						
SNTG				AML	AML		
	comp=N,789μm,0.8s						
SNTG				AML	AML		
	comp=E,799μm,1.1s						
SNTG				AML	AML		
	comp=E,180μm,0.5s						
SNTG				AML	AML		
	comp=N,186μm,0.7s						
CING	**Cingoli**	**0.77**	**354**	P	Pb	09 48 05.3	-0.3
CING				AML	AML		
	comp=E,215μm,0.6s						
CING				AML	AML		
	comp=N,196μm,0.1s						
CING				AML	AML		
	comp=E,215μm,1.4s						
PP3	**Marolino**	**0.80**	**16**	P	Pn	09 48 08.4	+1.0
LPEL	**Lama dei Pelig**	**0.85**	**131**	⇓P	Pg	09 48 06.3	-0.2
LPEL				AML	AML		
	comp=E,214μm,1.1s						
LPEL				AML	AML		
	comp=N,192μm,1.3s						
ARCI	**Arcidosso**	**1.38**	**281**	P	Pn	09 48 14.0	-1.4
PIGN	**Pignataro Magg**	**1.55**	**155**	S	Sn	09 48 36.7	-1.2

ROM 22 09:48:01.2±0.1, 42°.545N±0°.005×13°.344E±0°.006, h12km, ML2.5/17, 3C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=194.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.10**	**250**	⇑P	Pg	09 48 04.5	+0.4
RM33				S	Sg	09 48 06.5	+0.3
RM33				AML	AML		
	comp=E,4785μm,0.2s						
RM33				AML	AML		
	comp=E,4715μm,0.2s						
RM33				AML	AML		
	comp=N,3555μm,0.1s						
RM33				AML	AML		
	comp=N,3515μm,0.2s						
RM33				AML	AML		
	comp=E,4785μm,1.8s						
RM33				AML	AML		
	comp=E,4715μm,1.8s						
T1247	**Pizzolo (AQ)**	**0.11**	**198**	P	Pb	09 48 04.8	-0.5
T1247				S	Sg	09 48 07.0	+0.7
T1247				AML	AML		
	comp=E,11895μm,0.4s						
T1247				AML	AML		
	comp=N,7770μm,0.6s						
T1202	**Accumoli, Fraz**	**0.18**	**331**	P	Pb	09 48 06.3	-0.3
T1202				S	Sg	09 48 09.4	+1.2
GIGS	**Gran Sasso**	**0.19**	**120**	P	Pg	09 48 05.9	+0.5
GIGS				S	Sg	09 48 09.2	+0.8
GIGS				AML	AML		
	comp=E,400μm,0.6s						
GIGS				AML	AML		
	comp=N,332μm,0.8s						
GIGS				AML	AML		
	comp=N,332μm,1.2s						
T1218	**Civita (PG)**	**0.21**	**307**	P	Pg	09 48 06.1	+0.3
T1218				S	Sg	09 48 09.3	+0.4
T1218				AML	AML		
	comp=E,2445μm,1.0s						
T1218				AML	AML		
	comp=N,5800μm,0.3s						
T1218				AML	AML		
	comp=N,5905μm,0.3s						
T1218				AML	AML		
	comp=E,2250μm,1.1s						
LNSS	**Leonessa**	**0.23**	**285**	⇑P	Pg	09 48 06.6	+0.5
LNSS				S	Sg	09 48 10.3	+0.8
LNSS				AML	AML		
	comp=N,7255μm,1.5s						
LNSS				AML	AML		
	comp=E,6820μm,0.1s						
LNSS				AML	AML		
	comp=N,7255μm,0.5s						
T1222	**Castel Sant'An**	**0.27**	**238**	P	Pg	09 48 07.1	+0.4
T1222				S	Sb	09 48 11.6	-1.0
T1222				AML	AML		
	comp=E,2075μm,0.9s						
T1222				AML	AML		
	comp=E,2035μm,1.0s						
T1222				AML	AML		
	comp=E,2035μm,1.0s						
T1222				AML	AML		
	comp=N,1210μm,0.9s						
T1222				AML	AML		
	comp=E,2075μm,1.1s						
T1222				AML	AML		
	comp=N,1378μm,0.9s						
T1212	**Cascia, Frazio**	**0.30**	**313**	P	Pg	09 48 07.7	+0.3
T1212				S	Sg	09 48 12.2	+0.7
T1212				AML	AML		
	comp=E,1545μm,1.2s						
T1212				AML	AML		
	comp=E,1470μm,1.2s						
T1212				AML	AML		
	comp=N,1560μm,0.2s						
T1212				AML	AML		
	comp=E,1470μm,0.8s						
T1212				AML	AML		
	comp=E,1545μm,0.8s						
T1212				AML	AML		
	comp=N,1530μm,0.2s						
T1217	**Poggiodomo (PG**	**0.35**	**299**	P	Pg	09 48 08.7	+0.5
T1217				AML	AML		
	comp=E,748μm,0.6s						
T1217				AML	AML		
	comp=N,1067μm,1.4s						
T1217				AML	AML		
	comp=E,722μm,0.4s						
T1217				AML	AML		
	comp=N,1066μm,1.4s						
T1217				AML	AML		
	comp=E,722μm,0.5s						
T1217				AML	AML		
	comp=N,837μm,0.2s						
T1217				AML	AML		
	comp=N,1066μm,0.6s						
T1217				AML	AML		
	comp=E,748μm,1.4s						
T1211	**Morro Reatino**	**0.36**	**268**	P	Pg	09 48 08.7	+0.3
T1211				S	Sg	09 48 14.2	+0.9
T1211				AML	AML		
	comp=E,1995μm,0.1s						
T1211				AML	AML		
	comp=N,2010μm,0.3s						
T1211				AML	AML		
	comp=E,1925μm,0.1s						
T1211				AML	AML		
	comp=N,2005μm,0.3s						
MC2	**Monte Cornacci**	**0.39**	**343**	S	Sb	09 48 16.1	0.0
ARRO	**Arrone**	**0.43**	**275**	P	Pg	09 48 09.8	+0.2
ARRO				AML	AML		
	comp=E,697μm,0.6s						
ARRO				AML	AML		
	comp=E,697μm,1.4s						
ARRO				AML	AML		
	comp=N,890μm,0.6s						
T1215	**Vallo di Nera,**	**0.43**	**306**	P	Pg	09 48 09.9	+0.1
T1215				S	Sg	09 48 16.4	+0.8
T1215				AML	AML		
	comp=N,366μm,0.4s						
T1215				AML	AML		
	comp=N,360μm,0.4s						
T1215				AML	AML		
	comp=E,433μm,0.1s						
T1215				AML	AML		
	comp=E,420μm,0.1s						
T1215				AML	AML		
	comp=N,360μm,1.6s						
T1215				AML	AML		
	comp=N,366μm,1.6s						
TRTR	**Tortoreto Alta**	**0.50**	**58**	P	Pg	09 48 10.8	-0.1
TRTR				AML	AML		
	comp=E,794μm,0.5s						
TRTR				AML	AML		
	comp=N,770μm,0.9s						
FDMO	**Fiordimonte**	**0.53**	**339**	AML	AML		
	comp=N,298μm,1.0s						
FDMO				AML	AML		
	comp=E,292μm,0.7s						
FDMO				AML	AML		
	comp=E,292μm,1.3s						
MOMA	**Monte Martano**	**0.63**	**295**	P	Pn	09 48 15.6	-0.4
MOMA				S	Sb	09 48 22.9	-0.1
MOMA				AML	AML		
	comp=N,957μm,0.9s						
MOMA				AML	AML		
	comp=N,957μm,1.1s						
MOMA				AML	AML		
	comp=E,1140μm,0.2s						
MOMA				AML	AML		
	comp=N,894μm,0.2s						
MOMA				AML	AML		
	comp=E,1180μm,0.2s						
SRES	**S.Oreste - Sor**	**0.69**	**244**	S	Sn	09 48 26.5	-1.0
SRES				AML	AML		
	comp=N,270μm,0.3s						
SRES				AML	AML		
	comp=E,312μm,0.4s						
LPEL	**Lama dei Pelig**	**0.80**	**128**	⇑P	Pg	09 48 15.5	-1.1
LPEL				S	Sb	09 48 28.6	+0.7
LPEL				AML	AML		
	comp=E,214μm,1.1s						
LPEL				AML	AML		
	comp=N,192μm,1.3s						
PP3	**Marolino**	**0.85**	**13**	P	Pn	09 48 20.8	+1.7
ARVD	**Arcevia**	**1.00**	**343**	S	Sn	09 48 36.4	+1.3
ARVD				AML	AML		
	comp=N,148μm,0.8s						
ARVD				AML	AML		
	comp=E,134μm,0.3s						
ARVD				AML	AML		
	comp=N,148μm,1.2s						
LIK	**San Giovanni I**	**1.05**	**171**	⇓P	Pb	09 48 20.1	-1.2
MODR	**Mondragone**	**1.45**	**164**	S	Sg	09 48 48.6	+0.7

IDC 22 09:48:14.0±2.2, 6°.15S×152°.86E, h0km, mb3.2/3, mbtmp3.3/4, Error ellipse: s-maj=61.7km s-min=27.1km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.01**	**336**	Pn	Pn	09 48 49.5	+0.3
	58nm,0.5s,baz=192,slow=0.4						
KRVT				Sn	Sn	09 49 11.3	-3.8
	baz=197,slow=19						
WRA	**Warramunga Arr**	**22.62**	**231**	P	P	09 53 16.0	-0.6
	0.3nm,0.8s,baz=54,slow=9.9,SNR=1.8						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**25.21**	**224**	P	P	09 53 41.9	+0.2
	0.2nm,0.5s,baz=56,slow=9.0,SNR=5.4						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**83.38**	**22**	P	P	10 00 42.8	0.0
	0.8nm,1.1s,baz=238,slow=6.3,SNR=2.9						
	0.8nm,1.1s						

*NNC **22** 09:56:11.8±6.0, 37°.73N×71°.58E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=47.6km s-min=34.2km az=166.0*

ISC 22 09:56:12.8±3.7, 37°.5N±0°.2×71°.7E±0°.1, h109km, n12, σ0s64/15, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.93**	**18**	P	**Pn**	**09 57 25.4**	**+0.4**
	SNR=193						
UCH	**Uchtor**	**5.25**	**24**	P	**Pn**	**09 57 29.5**	**+0.2**
	SNR=62						
EKS2	**Erkin-Say**	**5.45**	**17**	P	**Pn**	**09 57 32.5**	**+0.8**
	SNR=14						
AAK	**Ala-Archa**	**5.62**	**22**	P	**Pn**	**09 57 34.3**	**+0.3**
	SNR=20						
KK31	**Karatay Array**	**5.72**	**351**	⇑P	**Pn**	**09 57 35.9**	**+0.6**
	4.2nm,0.4s,baz=179,slow=14,SNR=93						
KK31				⇑S	**Sn**	**09 58 39.1**	**-0.5**
	30nm,0.6s,baz=172,slow=22,SNR=17						
KBK	**Karagaybulak**	**5.78**	**25**	P	**Pn**	**09 57 37.1**	**+0.9**
	SNR=5.2						

CHMS	**Chumysh**	**6.03**	**22**	P		**Pn**	**09 57 39.7**	**+0.3**
	SNR=6.2							
CHMS	**Chumysh**	**6.03**	**22**	⇑P		**Pn**	09 57 39.2	-0.2
	6.7nm,0.5s							
CHMS				⇓S		**Sn**	**09 58 46.1**	**-0.9**
	5.1nm,0.6s							
USP	**Ospenovka**	**6.20**	**19**	P		**Pn**	**09 57 42.4**	**+0.6**
	SNR=8.2							
TKM2	**Tokmak 2**	**6.24**	**28**	P		**Pn**	09 57 42.3	-0.1
	SNR=6.5							
TKM2	**Tokmak 2**	**6.24**	**28**	⇓P		**Pn**	**09 57 41.8**	**-0.7**
	7.4nm,0.7s							
TKM2				⇓S		**Sn**	**09 58 53.4**	**+0.9**
	4.2nm,0.5s							
AB31	**Akbulak array**	**14.54**	**328**	⇓P		**Pn**	**09 59 32.7**	**-0.4**
	0.5nm,0.5s,baz=155,slow=12,SNR=16							

*IDC **22** 10:00:20.5±0.7,6°.98S×154°.86E,h0km,mb4.1/12, mbtmp4.1/14,ML2.1/1,Error ellipse: s-maj=24.2km s-min=18.6km az=122.0*
*NEIC **22** 10:00:25.4±1.3,6°.9S±0°.1×154°.47E±0°.08,h10km±2km, mb4.2/12,Error ellipse: s-maj=19.3km s-min=13.2km az=7.0*
ISC 22 10:00:27.3±0.6,6°.95S±0°.07×154°.70E±0°.08,h39km,n35, σ1§51/39,mb4.1/16,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**3.72**	**317**	Pn		**Pn**	**10 01 20.4**	**-2.0**
KRVT	**Keravat (AS076**	**3.73**	**315**	Pn		**Pn**	**10 01 20.8**	**-1.7**
	50nm,0.3s,baz=192,slow=18							
KRVT				Sn		**Sn**	**10 02 09.3**	**+4.1**
	baz=195,slow=19							
PMG	**Port Moresby**	**7.85**	**251**	Pn		**Pn**	**10 02 18.1**	**-0.9**
	1.5nm,0.3s,baz=49,slow=16,SNR=3.4							
PMG				Sn		**Sn**	**10 03 47.4**	**+0.7**
	2.5nm,0.3s,baz=53,slow=22,SNR=9.4							
	11nm,0.7s							
PMG	**Port Moresby**	**7.85**	**251**	Pn		**Pn**	**10 02 15.6**	**-3.5**
COEN	**Coen**	**13.29**	**237**	Pn		**Pn**	**10 03 33.8**	**+0.2**
CTA	**Charters Tower**	**15.42**	**211**	Pn		**P**	**10 04 04.8**	**-1.4**
	0.2nm,0.3s,baz=45,slow=12,SNR=7.7							
CTAO	**Charters Tower**	**15.42**	**211**	P		**P**	**10 04 06.2**	**0.0**
CTAO				IAmb		IAmb	10 04 08.4	
	comp=Z,6.0nm,0.8s							
DZM	**Mont Dzumac**	**18.83**	**144**	P		**Pn**	**10 04 45.4**	**+0.6**
	comp=Z,9.5nm,0.8s,baz=340,slow=7.6,SNR=10.0							
DZM	**Mont Dzumac**	**18.83**	**144**	P		**Pn**	**10 04 46.2**	**+1.4**
DZM				IAmb		IAmb	10 04 51.5	
	comp=Z,17nm,1.1s							
WR0	**Warramunga Arr**	**23.44**	**235**	P		**P**	**10 05 32.8**	**-0.6**
WR0				IAmb		IAmb	10 05 47.1	
	comp=Z,9.2nm,0.8s							
WB0	**Warramunga Arr**	**23.47**	**235**	P		**P**	**10 05 32.1**	**-1.5**
WB0				IAmb		IAmb	10 05 48.0	
	comp=Z,20nm,1.4s							
WB2	**Warramunga Arr**	**23.59**	**235**	P		**P**	**10 05 34.6**	**-0.1**
WB2				IAmb		IAmb	10 05 39.0	
	comp=Z,14nm,1.1s							
WRA	**Warramunga Arr**	**23.60**	**235**	P		**P**	**10 05 34.1**	**-0.7**
	comp=Z,6.5nm,1.0s,baz=60,slow=9.6,SNR=21							
WRA				PcP		**PcP**	**10 09 19.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=71,slow=2.5,SNR=2.6							
	comp=Z,6.5nm,1.0s							
WRA	**Warramunga Arr**	**23.60**	**235**	P		**P**	**10 05 34.2**	**-0.7**
AS31	**Alice Springs**	**25.98**	**228**	P		**P**	**10 05 56.8**	**+0.2**
AS31				IAmb		IAmb	10 06 25.4	
	comp=Z,2.4nm,1.2s							
ASAR	**Alice Springs**	**25.98**	**228**	P		**P**	**10 05 56.1**	**-0.5**
	comp=Z,4.2nm,1.0s,baz=59,slow=9.1,SNR=21							
ASAR				ScP		**ScP**	**10 13 05.1**	**+3.8**
	comp=Z,0.3nm,0.5s,baz=50,slow=4.2,SNR=4.6							
	comp=Z,4.2nm,1.0s							
ASAR	**Alice Springs**	**25.98**	**228**	P		**P**	**10 05 54.6**	**-2.0**
KNRA	**Kununurra**	**26.84**	**249**	P		**P**	**10 06 04.9**	**+0.5**
STKA	**Stephens Creek**	**27.65**	**205**	P		**P**	**10 06 10.7**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=21,slow=14,SNR=5.7							
	comp=Z,1.8nm,0.9s							
STKA	**Stephens Creek**	**27.65**	**205**	P		**P**	**10 06 12.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**30.40**	**246**	P		**P**	**10 06 35.6**	**-0.5**
FORT	**Forrest**	**34.42**	**223**	P		**P**	**10 07 11.8**	**+0.7**
WHZ	**Wether Hill Ro**	**40.46**	**166**			**P**	**10 08 04.7**	**+2.6**
CMAR	**Chiang Mai Arr**	**60.50**	**296**	P		**P**	**10 10 34.5**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=116,slow=5.0,SNR=8.3							
	comp=Z,1.1nm,0.3s							
SONM	**Songino Array**	**69.14**	**327**	P		**P**	**10 11 29.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=144,slow=5.4,SNR=3.7							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**83.17**	**319**	P		**P**	**10 12 49.6**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=101,slow=5.1,SNR=25							
	comp=Z,2.6nm,0.7s							
ILAR	**Eielson Array**	**83.44**	**22**	P		**P**	**10 12 49.3**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=233,slow=7.5,SNR=5.3							
	comp=Z,0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**83.98**	**326**	P		**P**	**10 12 52.0**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=123,slow=5.5,SNR=4.8							
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**86.64**	**322**	P		**P**	**10 13 05.8**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=98,slow=5.0,SNR=6.6							
	comp=Z,0.3nm,0.5s							
NVAR	**Mina Array Bea**	**91.93**	**52**	P		**P**	**10 13 31.3**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=260,slow=7.1,SNR=4.3							
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**96.44**	**28**	P		**P**	**10 13 51.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=266,slow=4.7,SNR=12							
	comp=Z,0.9nm,0.8s							
PDAR	**Pinedale Array**	**98.89**	**48**	P		**P**	**10 14 02.5**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=276,slow=1.7,SNR=3.3							
	comp=Z,0.4nm,0.8s							
GERES	**GERESS Array B**	**126.86**	**329**	PKP		**PKiKP**	**10 19 27.3**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=66,slow=1.6,SNR=8.5							
BDFB	**Brasilia**	**148.22**	**135**	PKPbc		**PKPdf**	**10 20 07.8**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=185,slow=5.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	**152.73**	**285**	PKPbc		**PKiKP**	**10 20 20.9**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=61,slow=2.3,SNR=11							

*IDC **22** 10:04:55.6±1.0,28°.24N×105°.10E,h0km,mb3.6/7, mbtmp3.6/8,ML3.8/1,MS4.1/1,Error ellipse: s-maj=41.6km s-min=18.3km az=59.0*
ISC 22 10:04:57.2±1.3,28°.2N±0°.2×105°.2E±0°.2,h10km,n9, σ0§91/8,mb3.7/7,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**19.59**	**2**	P		**P**	**10 09 27.0**	**+1.4**
	0.3nm,0.3s,baz=182,slow=12,SNR=2.9							
	0.6nm,0.4s							
KSRS	**Korea Array**	**21.18**	**58**	P		**P**	**10 09 41.8**	**-1.0**
	0.9nm,0.8s,baz=242,slow=10,SNR=1.4							
	0.9nm,0.8s							
MKAR	**Makanchi Array**	**25.78**	**322**	P		**P**	**10 10 27.7**	**-0.5**
	1.0nm,0.8s,baz=124,slow=12,SNR=10							
	1.0nm,0.8s							
AAK	**Ala-Archa**	**28.64**	**308**	LR		LR	10 23 50.4	
	comp=Z,418nm,21.4s,baz=84,slow=40							
ZALV	**Zalesovo Beam**	**29.70**	**336**	P		**P**	**10 11 02.7**	**-0.5**
	0.7nm,0.5s,baz=141,slow=5.2,SNR=4.1							
	0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**30.10**	**325**	P		**P**	**10 11 06.0**	**-0.7**
	0.9nm,0.7s,baz=133,slow=9.3,SNR=15							
	0.9nm,0.7s							
WRA	**Warramunga Arr**	**55.58**	**146**	P		**P**	**10 14 33.4**	**+0.2**
	0.8nm,0.9s,baz=333,slow=8.5,SNR=5.1							
	0.8nm,0.9s							
ASAR	**Alice Springs**	**58.57**	**149**	P		**P**	**10 14 54.5**	**+0.2**
	0.7nm,0.6s,baz=330,slow=6.9,SNR=14							
	0.7nm,0.6s							
YKA	**Yellowknife Ar**	**84.15**	**17**	P		**P**	**10 17 28.6**	**+0.3**
	0.2nm,0.5s,baz=326,slow=5.2,SNR=5.3							
	0.2nm,0.5s							

*HEL **22** 10:05:23.7±0.2,67°.83N×20°.17E,h0km,ML1.8,Suspected explosion*
*UPP **22** 10:05:23.3±0.1,67°.82N×20°.21E,h4km±4km,ML2.5, Confirmed Induced event*
ISC 22 10:05:23.4±0.8,67°.85N±0°.02×20°.24E±0°.02,h0km,n29, σ1§28/48,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.25**	**263**	P		**Pg**	**10 05 27.8**	**-0.4**
RATU				S		**Sg**	**10 05 31.1**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**272**	P		**Pg**	**10 05 31.6**	**-0.5**
LANU	**Lannavaara**	**0.69**	**73**	P		**Pg**	**10 05 36.5**	**-0.1**
LANU				S		**Sg**	**10 05 45.8**	**+0.3**
LANU	**Lannavaara**	**0.69**	**73**	PG		**Pg**	**10 05 36.6**	**0.0**
DUNU	**Dundret**	**0.75**	**170**	P		**Pg**	**10 05 36.5**	**-1.2**
DUNU				S		**Sg**	**10 05 46.1**	**-1.2**
MASU	**Masugnsbyn**	**0.78**	**120**	P		**Pg**	**10 05 37.8**	**-0.5**
MASU				S		**Sg**	**10 05 48.6**	**+0.2**
SALU	**Saltoluokta**	**0.82**	**235**	P		**Pg**	**10 05 38.0**	**-1.1**
KIF	**Kilpisjarvi**	**1.18**	**10**	*eP*		**Pb**	**10 05 46.1**	**-0.5**
KIF	**Kilpisjarvi**	**1.18**	**10**	PG		**Pb**	**10 05 46.1**	**-0.5**
KIF				MSG			10 06 01.3	
	comp=Z,11nm,0.2s							
KIF				SB		**Sb**	**10 06 02.0**	**-0.3**
PAJU	**Pajala**	**1.39**	**126**	P		**Pg**	**10 05 48.3**	**-1.7**
PAJU				S		**Sg**	**10 06 06.6**	**-1.3**
HEF	**Hetta**	**1.40**	**65**	*eP*		**Pn**	**10 05 49.3**	**-0.8**
HEF	**Hetta**	**1.40**	**65**	PG		**Pn**	**10 05 49.4**	**-0.8**
HEF				MSG			10 06 06.7	
	comp=Z,6.3nm,0.2s							
HEF				SG		**Sg**	**10 06 08.1**	**-0.1**
ERTU	**Ertsjaerv**	**1.51**	**149**	P		**Pn**	**10 05 50.4**	**-1.3**
ERTU	**Ertsjaerv**	**1.51**	**149**	PG		**Pn**	**10 05 50.1**	**-1.6**
ERTU				SG		**Sg**	**10 06 10.8**	**-1.1**
KTK1	**Kautokeino**	**1.61**	**42**	PG		**Pn**	**10 05 52.9**	**-0.1**
KTK1				SN		**Sg**	**10 06 14.9**	**0.0**
HARU	**Harads**	**1.72**	**170**	P		**Pn**	**10 05 53.9**	**-0.6**
TRO	**Tromso**	**1.85**	**346**	Pb		**Pb**	**10 05 57.1**	**-1.0**
TRO				SG		**Sg**	**10 06 22.7**	**-0.1**
KALU	**Kalix**	**2.35**	**147**	PN		**Pn**	**10 06 03.5**	**+0.3**
	baz=329							
KALU				SN		**Sn**	**10 06 34.1**	**+1.4**
TOF	**Tornio**	**2.40**	**136**	PN		**Pn**	**10 06 04.8**	**+0.9**
TOF				MSG			10 06 34.7	
	comp=Z,4.0nm,0.2s							
TOF				SN		**Sn**	**10 06 35.6**	**+1.7**
SGF	**Sodankyl**	**2.44**	**97**	PN		**Pn**	**10 06 05.1**	**+0.7**
SGF				SB		**Sn**	**10 06 36.7**	**+1.8**
RNF	**Rovaniemi**	**2.57**	**116**	PB		**Pn**	**10 06 07.6**	**+1.4**
	baz=306							
RNF				SB		**Sb**	**10 06 41.2**	**-1.1**
KEV	**Kevo**	**3.11**	**49**	PB		**Pb**	**10 06 17.6**	**-1.9**
KEV				SN		**Sn**	**10 06 53.2**	**+1.7**
VRF	**Varrio**	**3.56**	**87**	SG		**Sb**	**10 07 13.2**	**+2.3**
OUL	**Oulu**	**3.59**	**138**	PG		**Pb**	**10 06 27.8**	**+0.2**
	baz=327							
OUL				SB		**Sb**	**10 07 12.0**	**+0.4**
OBF8	**Ulkokalla**	**3.77**	**158**	PG		**Pb**	**10 06 31.2**	**+0.5**
OUF	**Merijarvi**	**3.95**	**150**	PG		**Pb**	**10 06 34.3**	**+0.5**
MSF	**Maaselka**	**3.98**	**115**	PN		**Pn**	**10 06 26.9**	**+1.3**
	baz=302							
MSF				SN		**Sn**	**10 07 13.8**	**+0.9**
UMAU	**Umeaa**	**3.99**	**177**	PN		**Pn**	**10 06 28.4**	**+2.6**
UMAU				SN		**Sn**	**10 07 14.6**	**+1.5**
KU6	**Riekki**	**4.22**	**111**	PN		**Pn**	**10 06 29.8**	**+1.0**
KU6				SG		**Sg**	**10 07 34.5**	**-4.1**

*JMA **22** 10:19:15.8±1.1,43°.4N×14°.9E±°,h30km,MV4.1/15,FAR SE OFF KURILE ISL*
*SKHL **22** 10:19:16.3±0.1,43°.00N×148°.90E,h29km±4km,mb4.8/2*
ISC 22 10:19:13.5±3.0,42°.80N±0°.09×149°.1E±0°.1,h35km,n18, σ1§99/26,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.55**	**284**	*eP*		**Pn**	**10 19 53.3**	**+1.1**
NEM2				*eS*		**Sn**	**10 20 20.6**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.56**	**284**	*i S*		**Sn**	**10 20 20.7**	**-1.7**
KUR	**Kuril'sk**	**2.60**	**340**	*i P*		**Pn**	**10 19 53.3**	**+0.3**
KUR				AMB		AMB	10 19 53.7	
	110nm,0.3s							
KUR				*i S*		**Sn**	**10 20 21.0**	**-2.3**
KUR				A		A	10 20 25.5	
	330nm,0.4s							
KUR				A		A	10 20 25.5	
	220nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.69**	**298**	*i P*		**Pn**	**10 19 54.4**	**+0.2**
YUK				AMB		AMB	10 19 55.0	
	120nm,0.3s							
YUK				*i S*		**Sn**	**10 20 23.1**	**-2.3**
YUK				A		A	10 20 24.5	
	250nm,0.4s							
YUK				A		A	10 20 24.5	
	500nm,0.4s							
JRA	**Rausu**	**3.14**	**293**	*eP*		**Pn**	**10 20 01.4**	**+1.0**
JRA				*eS*		**Sn**	**10 20 35.5**	**-1.2**
AKK	**Akkeshi**	**3.16**	**275**	*eP*		**Pn**	**10 20 02.2**	**+1.5**
JAK	**Akkeshi**	**3.27**	**275**	*eP*		**Pn**	**10 20 03.6**	**+1.5**
JAK				*eS*		**Sn**	**10 20 38.6**	**-1.2**
JNK	**Nakash**	**3.32**	**285**	*eP*		**Pn**	**10 20 03.6**	**+0.7**
JNK				*eS*		**Sn**	**10 20 38.8**	**-2.4**
JOB	**Onbets**	**3.90**	**273**	*eS*		**Sn**	**10 20 54.4**	**-1.0**
JAR	**Ashorobuto**	**3.96**	**279**	*eP*		**Pn**	**10 20 13.6**	**+1.9**
JAR				*eS*		**Sn**	**10 20 55.9**	**-1.1**
JTKR	**Abashiri--Toko**	**3.99**	**289**	*eP*		**Pn**	**10 20 13.9**	**+1.9**
JTKR				*eS*		**Sn**	**10 20 57.2**	**-0.3**
JCH	**Churui**	**4.26**	**269**	*eP*		**Pn**	**10 20 17.6**	**+1.8**
MYR	**Moyori**	**4.35**	**265**	*eP*		**Pn**	**10 20 19.2**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.75**	**266**	*eS*		**Sn**	**10 21 14.8**	**-1.5**
JKK2	**Kamakawa 2**	**4.78**	**285**	*eP*		**Pn**	**10 20 26.2**	**+3.2**
JWK2	**Keihoku**	**5.79**	**298**	*eP*		**Pn**	**10 20 40.6**	**+3.8**
JTH	**Tanohata**	**6.17**	**245**	*eS*		**Sn**	**10 21 47.5**	**-3.9**
JANG	**Nango**	**6.21**	**250**	*eP*		**Pn**	**10 20 43.3**	**+0.7**

IDC 22 10:24:54.1±6.3,5°.50S×153°.87E,h0km,mb3.2/4, mbtmp3.2/4,Error ellipse: s-maj=189.3km s-min=33.5km az=108.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.81**	**231**	P		P	10 30 08.4	-0.5
	0.2nm,0.3s,baz=56,slow=9.7,SNR=1.8							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**26.38**	**225**	P		P	10 30 33.0	+0.6
	0.1nm,0.7s,baz=59,slow=8.7,SNR=1.5							
	0.1nm,0.7s							
SONM	**Songino Array**	**67.48**	**327**	P		P	10 35 52.8	+0.7
	0.2nm,0.4s,baz=145,slow=5.3,SNR=4.0							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**81.55**	**319**	P		P	10 37 13.1	-0.8
	0.3nm,0.7s,baz=119,slow=4.3,SNR=3.6							
	0.3nm,0.7s							

*INET **22** 10:26:18.7±0.6,10°.66N×86°.97W,h15km±4km,MW3.6*
*UCR **22** 10:26:23.3±0.7,10°.87N×86°.70W,h13km±13km,MW4.0*
*SNET **22** 10:26:27.0±0.9,11°.22N×86°.97W,h87km±62km,ML3.7*
ISC 22 10:26:22.4±1.7,10°.95N±0°.05×86°.83W±0°.05,h30km±16km, n76,σ1§40/88,8C-4D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCRUZ	**La Cruz**	**1.18**	**84**	*eP*		**Pn**	**10 26 43.0**	**+0.1**
HZTE	**Horizontes, Gu**	**1.23**	**101**	*eP*		**Pn**	**10 26 43.9**	**+0.3**
HATIL	**Hatillo**	**1.28**	**120**	*eP*		**Pn**	**10 26 43.6**	**-0.7**
MGAN	**Managua**	**1.32**	**25**	*eP*		**Pn**	**10 26 45.5**	**+0.8**
MGAN				*eP*		**Pn**	**10 26 45.5**	**+0.8**
CONN	**Concepcion**	**1.32**	**62**	*eP*		**Pn**	**10 26 45.1**	**+0.2**
DELF	**Filadelfia**	**1.35**	**112**	*eP*		**Pn**	**10 26 45.2**	**0.0**
DELF				*eS*		**Sn**	**10 27 01.9**	**-0.1**
GBS2	**Las Lilas**	**1.35**	**95⇑**	*eP*		**Pn**	**10 26 45.6**	**+0.4**
GBS3	**Finca Las Img**	**1.36**	**97⇑**	*eP*		**Pn**	**10 26 45.5**	**+0.2**
LAPC	**Finca la Perla**	**1.38**	**97⇑**	*eP*		**Pn**	**10 26 45.7**	**+0.1**
SACU	**Santa Cruz**	**1.40**	**119**	*eP*		**Pn**	**10 26 45.9**	**+0.1**
BUEV	**Buena Vista**	**1.40**	**96⇓**	*iP*		**Pn**	**10 26 46.4**	**+0.4**
SAJU	**San Juanillo,**	**1.40**	**129**	*eP*		**Pn**	**10 26 45.1**	**-0.9**
SAJU				*eS*		**Sn**	**10 27 01.2**	**-2.3**
GB1A	**Borinquen Arri**	**1.41**	**95**	*eP*		**Pn**	**10 26 46.8**	**+0.7**
VRLE	**La Escondida,**	**1.44**	**96**	*eP*		**Pn**	**10 26 47.2**	**+0.6**
GPS3	**Bodega del ICE**	**1.45**	**98**	*eP*		**Pn**	**10 26 46.9**	**+0.3**
GPS1	**Guardaparques**	**1.46**	**97**	*eP*		**Pn**	**10 26 47.2**	**+0.4**
GPS2	**Hotel Rincn d**	**1.46**	**98**	*eP*		**Pn**	**10 26 47.2**	**+0.4**
GP14	**Hacienda Santa**	**1.47**	**97⇑**	*iP*		**Pn**	**10 26 47.2**	**+0.4**
BUAI	**Buenos Aires**	**1.47**	**93**	*eP*		**Pb**	**10 26 49.0**	**-0.2**
MOMN	**Momotombo**	**1.48**	**11**	*eP*		**Pn**	**10 26 47.4**	**+0.4**
CNGN	**Cerro Negro**	**1.54**	**5**	*eP*		**Pn**	**10 26 48.5**	**+0.6**
SAAN	**San Antonio**	**1.55**	**119**	*eP*		**Pn**	**10 26 47.7**	**-0.3**
LIM1	**Limonal**	**1.56**	**99**	*eP*		**Pn**	**10 26 48.6**	**+0.4**
GUAB	**Guayabo de Bag**	**1.59**	**99**	*eP*		**Pn**	**10 26 48.5**	**-0.1**
BAGA	**Bagaces**	**1.59**	**105**	*eP*		**Pn**	**10 26 50.2**	**+1.6**
MESS	**Mesas**	**1.61**	**97**	*eP*		**Pn**	**10 26 49.7**	**+0.7**
CLARA	**Aguas Claras**	**1.63**	**96**	*eP*		**Pn**	**10 26 50.9**	**+1.8**
HORNC	**Hornillas**	**1.64**	**98**	*eP*		**Pn**	**10 26 49.6**	**+0.4**
CUI	**Cuipilapa**	**1.66**	**100**	*eP*		**Pn**	**10 26 50.1**	**+0.6**
VMAR	**Armenia, Volca**	**1.69**	**95**	*eP*		**Pn**	**10 26 50.7**	**+0.8**
VMAR				*iP*		**Pb**	**10 26 50.9**	**-1.9**
MOTZ	**Rio Naranjo**	**1.74**	**99**	*eP*		**Pn**	**10 26 52.1**	**+1.4**
CANAL	**Canalete**	**1.74**	**94⇑**	*eP*		**Pn**	**10 26 51.5**	**+0.9**
CRIN	**San Cristobal**	**1.75**	**353**	*eP*		**Pn**	**10 26 51.8**	**+0.9**
CRIN				*eS*		**Sb**	**10 27 16.2**	**+0.5**
CRIN	**San Cristobal**	**1.75**	**353⇑**	*eP*		**Pn**	**10 26 51.7**	**+0.9**
POPE	**POPE, Guanacas**	**1.77**	**120**	*eP*		**Pn**	**10 26 50.8**	**-0.2**
ACAL	**Aguas Claras**	**1.79**	**100⇑**	*eP*		**Pn**	**10 26 52.4**	**+1.0**
PTEN	**Parque Tenorio**	**1.82**	**97**	*eP*		**Pn**	**10 26 53.3**	**+1.5**
BOAB	**BOACO BROADBAN**	**1.87**	**37**	*eP*		**Pn**	**10 26 52.8**	**+0.4**
ACON	**Acoyapa**	**1.91**	**58**	*eP*		**Pn**	**10 26 52.8**	**-0.1**
ACON				*eS*		**Sb**	**10 27 20.0**	**0.0**
COTE	**Lago Cote**	**1.91**	**101⇓**	*eP*		**Pn**	**10 26 53.9**	**+0.9**
JTS	**Las Juntas de**	**1.95**	**109**	*eP*		**Pn**	**10 26 53.9**	**+0.3**
MTEVE	**Monteverde**	**2.06**	**108**	*eP*		**Pn**	**10 26 56.1**	**+0.9**
TABAC	**Tabacon**	**2.07**	**102**	*eP*		**Pb**	**10 26 59.7**	**+0.2**
CASO	**Castillo**	**2.12**	**104⇓**	*eP*		**Pn**	**10 26 56.6**	**+0.8**
CEDE	**Laguna Cedeo**	**2.13**	**102⇑**	*eP*		**Pn**	**10 26 57.1**	**+1.0**
MATN	**Matagalpa**	**2.15**	**24**	*eP*		**Pn**	**10 26 56.9**	**+0.5**
FORC	**Fortuna**	**2.17**	**103**	*eP*		**Pn**	**10 26 57.7**	**+1.1**
LAFE	**Finca La Fe, P**	**2.20**	**121**	*eP*		**Pn**	**10 26 56.3**	**-0.6**
ARZA	**Esparza**	**2.33**	**114**	*eP*		**Pn**	**10 27 00.8**	**+2.1**
CNCH	**Conchagua**	**2.51**	**337**	*eP*		**Pn**	**10 27 02.3**	**+0.9**
CNCH				*eS*		**Sn**	**10 27 30.7**	**-0.3**
LCND	**La Caada**	**2.56**	**336**	*eP*		**Pn**	**10 27 02.9**	**+0.9**
LCND				*eS*		**Sn**	**10 27 30.8**	**-1.4**
LCND				IAML			10 27 35.0	
	comp=Z,198nm,0.3s							
VPTE	**Poasito**	**2.70**	**106**	*eP*		**Pn**	**10 27 06.0**	**+2.0**
LCY	**Lacayo**	**2.85**	**330**	*eP*		**Pn**	**10 27 06.9**	**+0.9**
RANC	**El Ranchito**	**2.85**	**330**	*eP*		**Pn**	**10 27 07.1**	**+1.0**
RANC				*eS*		**Sn**	**10 27 39.4**	**-0.1**
ACOS	**Acosta**	**2.86**	**113**	*eP*		**Pn**	**10 27 08.9**	**+2.8**
PACA	**Pacayal**	**2.90**	**330**	*eP*		**Pn**	**10 27 07.9**	**+1.2**
PACA				*eS*		**Sn**	**10 27 39.7**	**-0.9**
PACA				IAML			10 27 46.1	
	comp=Z,1μm,0.3s							
OCM	**Ochomogo**	**3.01**	**110**	*eP*		**Pn**	**10 27 11.1**	**+2.9**
VIRE	**VIRE**	**3.04**	**108**	*eP*		**Pn**	**10 27 12.4**	**+3.5**
VICA	**Volcano Irazu**	**3.08**	**108**	*eP*		**Pn**	**10 27 13.1**	**+3.6**
TGUH	**Tegucigalpa,Un**	**3.12**	**352**	*eP*		**Pn**	**10 27 10.4**	**+0.7**
PCAYA	**Pacayas**	**3.14**	**109**	*eP*		**Pn**	**10 27 13.3**	**+3.3**
PQSS	**Presa 15 de Se**	**3.15**	**328**	*eP*		**Pn**	**10 27 10.6**	**+0.6**
VTLO	**VTLO**	**3.18**	**106**	*eP*		**Pn**	**10 27 12.5**	**+1.8**
VINA	**Juan Vinas**	**3.21**	**109**	*eP*		**Pn**	**10 27 14.4**	**+3.5**
VERB	**Verbena**	**3.24**	**108**	*eP*		**Pn**	**10 27 14.9**	**+3.6**
SCLA	**Alcaldia de Sa**	**3.31**	**326**	*eP*		**Pn**	**10 27 13.3**	**+1.1**
CDM	**Cerro de Muert**	**3.32**	**114**	*eP*		**Pn**	**10 27 14.7**	**+2.0**
COEG	**Centro de Oper**	**3.33**	**323**	*eP*		**Pn**	**10 27 13.1**	**+0.6**
BUS1	**Rivas**	**3.33**	**114**	*eP*		**Pn**	**10 27 14.8**	**+1.9**
SJTE	**Alcalda de S**	**3.

comp=E,2060µm,1.1s
HRKL Herakleio 1.55 85 P **Pn 10 29 45.5 +0.1**
HRKL Herakleio 1.55 85 P **Pn 10 29 44.1 -1.2**
HRKL AML AML 10 30 23.0
comp=E,27573µm,1.0s
HRKL AML AML 10 30 25.9
comp=N,23930µm,0.8s
MHLO Agia Marina, M 1.78 32 P **Pn 10 29 46.4 -2.2**
MHLO AML AML 10 30 20.3
comp=E,4842µm,0.9s
MHLO AML AML 10 30 23.4
comp=N,4418µm,1.3s
PYL PYLOS 2.08 325 P **Pn 10 29 53.2 +0.5**
PYL PYLOS 2.08 325 P **Pn 10 29 51.8 -0.9**
PYL AML AML 10 30 41.0
comp=E,916µm,0.8s
PYL AML AML 10 30 53.9
comp=N,1000µm,1.2s
ITM Ithomi 2.24 333 Pb 10 29 57.4 -0.8
AGG Agios Georgios 3.89 350 Pn **Pn 10 30 21.5 +3.9**
AGG Agios Georgios 3.89 350 P **Pn 10 30 21.5 +3.9**
ARG Arkhangelos 4.12 74 Pn **Pn 10 30 22.0 +1.2**
ARG Arkhangelos 4.12 74 P **Pn 10 30 22.0 +1.2**
LIT Litokhoron 4.94 354 Pn **Pn 10 30 34.8 +2.8**
LIT Litokhoron 4.94 354 P **Pn 10 30 34.8 +2.8**
KEK Kerkira 5.27 330 Pn **Pn 10 30 39.1 +2.6**
AKAS Kas 5.30 77 Pn 10 30 39.6 +2.5
ELL Elmali 5.65 72 Pn **Pn 10 30 44.2 +2.4**
ELL Elmali 5.65 72 P **Pn 10 30 44.2 +2.4**
FNA Florina 5.77 346 Pn **Pn 10 30 45.9 +2.4**
FNA Florina 5.77 346 P **Pn 10 30 45.9 +2.4**
FNA Florina 5.77 346 *e*Pn **Pn 10 30 45.9 +2.4**
FNA *e*Sn **Sn 10 31 55.5 +5.5**
OHR Ohrid 6.21 343 *e*Pn **Pn 10 30 52.7 +3.2**
OHR *e*Sn **Sn 10 32 04.5 +3.7**
TIP Timpagrande 6.51 310 Pn **Pn 10 30 53.1 -0.6**
PRVS Prvonek 7.36 353 *e*Pn **Pn 10 31 08.2 +2.9**
VTS Vitosha 7.42 0 *e*Pn **Pn 10 31 09.6 +3.5**
VTS Vitosha 7.42 0 *e*Pn **Pn 10 31 09.6 +3.5**
CUC Castrocucco 7.58 311 Pn **Pn 10 31 09.2 +0.9**
BARS Barje 7.69 352 *e*Pn **Pn 10 31 13.1 +3.3**
SELS Selova 8.18 349 *e*Pn **Pn 10 31 18.6 +2.1**
CSS Mathiatis 8.30 89 Pn 10 31 19.1 +1.0
SJES Sjenica 8.44 344 *e*Pn **Pn 10 31 22.3 +2.1**
SJES *e*Sn **Sn 10 32 58.3 +2.5**
BOVS Bovan 8.51 353 *e*Pn **Pn 10 31 22.0 +1.0**
IVAS Ivanjica 8.70 345 *e*Pn **Pn 10 31 23.7 0.0**
IVAS *e*Sn **Sn 10 33 01.7 -0.4**
STON Ston 8.79 332 *e*Pn **Pn 10 31 24.6 -0.2**
GRUS Gruza 8.90 348 *e*Pn **Pn 10 31 26.8 +0.5**
GRUS *e*Sn **Sn 10 33 08.4 +1.6**
BBLS Lazići 9.15 342 *e*Pn **Pn 10 31 30.1 +0.3**
BBLS *e*Sn **Sn 10 33 12.7 -0.4**
DIVS Divibare 9.24 345 Pn **Pn 10 31 32.0 +1.0**
DIVS Divibare 9.24 345 *e*Pn **Pn 10 31 31.2 +0.2**
DIVS *e*Sn **Sn 10 33 16.3 +1.0**
BRTR Keskin Array B 9.44 58 Pn **Pn 10 31 36.5 +2.6**
comp=N,0.2nm,0.3s,baz=236,slow=13,SNR=16
comp=N,5.6nm,0.9s
BRTR Keskin Array B 9.44 58 Pn **Pn 10 31 38.2 +4.3**
BRTR Keskin Array B 9.44 58 P **Pn 10 31 38.2 +4.3**
BR131 Keskin Array S 9.44 58 Pn **Pn 10 31 38.2 +4.3**
BR131 Keskin Array S 9.44 58 P **Pn 10 31 38.2 +4.3**
MMAI Mount Meron Ar 10.34 99 Pn **Pn 10 31 46.4 +0.2**
comp=N,1.4nm,0.3s,baz=312,slow=13,SNR=2.0
comp=N,0.7nm,0.3s
BZS Buzias 10.49 354 *e*Pn **Pn 10 31 49.4 +1.3**
VYHS Vyhne 13.68 348 *e*P **P 10 32 38.3 -2.4**
VYHS Vyhne 13.68 348 *e*PN **P 10 32 38.3 -2.4**
MOA Molln 14.30 335 *e*P **P 10 32 49.4 +1.9**
comp=N,2.5nm,0.7s
MOA Molln 14.30 335 *e*Pn **Pn 10 32 40.9 +0.7**
WTTA Wattenberg 14.86 328 P **P 10 32 57.4 +3.5**
comp=N,11nm,1.7s
FUORN Ofenpass-Fuorn 15.02 323 Pn 10 32 49.0 -1.2
CKRC Cesky Krumlov 15.13 337 *e*P **P 10 32 58.3 +1.6**
SOC Sochi 15.25 52 *e*P **Pn 10 32 53.4 +0.4**
SOC *e* 10 35 41.7
SOC MLR MLR
comp=Z,201nm,18.0s
DAVOX Davos/Dischmat 15.32 323 Pn **Pn 10 32 52.8 -1.4**
comp=Z,0.1nm,0.3s,baz=135,slow=14,SNR=1.3
comp=Z,0.8nm,0.6s
GEC2 GERESS Array S 15.35 336 Pn **Pn 10 32 56.3 +1.9**
GERES GERESS Array B 15.35 336 Pn **Pn 10 32 55.0 +0.5**
comp=Z,0.2nm,0.3s,baz=141,slow=11,SNR=2.7
comp=Z,0.2nm,0.5s
GERES GERESS Array B 15.35 336 Pn **Pn 10 32 56.7 +2.3**
GERES GERESS Array B 15.35 336 P **Pn 10 32 56.7 +2.3**
KHC Kasperske Hory 15.64 336 P **P 10 33 02.7 +0.3**
KHC Kasperske Hory 15.64 336 *e*P **P 10 33 04.0 +1.6**
KHC Kasperske Hory 15.64 336 *e*P **P 10 33 04.0 +1.6**
DAVA Damuels 15.68 324 *e*pP pP 10 33 05.7 +1.9
comp=Z,12nm,0.9s
DPC Dobruska-Polom 15.96 344 *e*P **P 10 33 07.6 +1.6**
DPC Dobruska-Polom 15.96 344 *e*P **P 10 33 07.6 +1.6**
PRU Pruhonice 16.09 339 *e*P **P 10 33 07.8 +0.4**
PRU Pruhonice 16.09 339 *e*P **P 10 33 07.8 +0.4**
AKASG Malin Array Be 16.11 14 Pn **Pn 10 33 02.2 -1.9**
comp=Z,0.3nm,0.3s,baz=204,slow=12,SNR=4.7
comp=Z,0.7nm,0.6s
AKASG Malin Array Be 16.11 14 *ce*P **P 10 33 08.8 +1.3**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 16.11 14‖ *e*P **P 10 33 07.1 -0.4**
OSTC Ostas 16.18 344 *e*P **P 10 33 09.4 +1.0**
GRA1 Grafenberg Arr 16.95 332 P **P 10 33 18.7 +1.8**
GRA1 IAmb IAmb 10 33 19.9
comp=Z,26nm,1.2s
GRF Grafenberg Arr 16.95 332 P **P 10 33 18.7 +1.8**
GRF pmax pmax
comp=Z,26nm,1.2s
GRFO Grafenberg 16.95 332 P **P 10 33 18.7 +1.8**
GRFO IAmb IAmb 10 33 19.9
comp=Z,24nm,1.2s
GRFO Grafenberg 16.95 332 P **P 10 33 18.7 +1.8**
GRFO pmax pmax
comp=Z,25nm,1.2s
BRG Berggiesshubel 17.05 340 *e*P **P 10 33 19.6 +1.6**
BRG Amp 10 33 20.5
comp=Z,9.8nm,1.4s
BRG Berggiesshubel 17.05 340 P P 10 33 31.4 +13
BRG Amp 10 33 32.4
comp=Z,15nm,1.5s
BRG Berggiesshubel 17.05 340 *e*P **P 10 33 19.6 +1.6**
BRG pmax pmax
comp=Z,10.0nm,1.4s
AKH Akhalkalaki 17.07 63 P **P 10 33 20.7 +2.2**
AKH Akhalkalaki 17.07 63 P **P 10 33 20.7 +2.2**
AKH pmax pmax
comp=Z,39nm,1.4s
KIV Kislovodsk 17.35 54 *e*P **P 10 33 28.2 +6.8**
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 17.40 55 P **Pn 10 33 20.4 -0.2**
comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=4.7
comp=Z,3.5nm,0.9s
KBZ Khabaz 17.40 55⇑ *e*P **P 10 33 22.7 +0.9**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 17.71 339 *e*P **P 10 33 28.0 +2.7**
GNI Garni 17.73 67 P **Pn 10 33 23.8 -1.1**
comp=Z,1.5nm,0.3s,baz=352,slow=7.1,SNR=4.5
comp=Z,12nm,0.5s
OBN Obninsk 21.96 21⇑ *e*P **P 10 34 12.4 +0.9**
OBN *i* 10 34 22.6
OBN *e* 10 34 36.5
OBN pmax pmax
comp=Z,9.0nm,0.5s
ESDC Sonseca Array 22.00 290 P **P 10 34 12.5 +0.3**
comp=Z,2.0nm,1.0s,baz=86,slow=11,SNR=5.1
comp=Z,2.0nm,1.0s
BELG Belogornoye 24.44 38⇑ *e*P **P 10 34 36.4 -0.1**
BELG pmax pmax
comp=Z,2.0nm,0.9s
HFS Hagfors 25.71 349 P **P 10 34 47.6 -0.4**
comp=Z,4.2nm,0.9s,baz=156,slow=15,SNR=6.5
comp=Z,4.2nm,0.9s
FINES FINESS Array B 26.34 3 P **P 10 34 51.3 -2.3**
comp=Z,3.3nm,1.0s,baz=156,slow=9.8,SNR=5.3
comp=Z,3.3nm,1.0s
FINES FINESS Array B 26.34 3 *i*P **P 10 34 53.0 -0.6**
FINES pmax pmax
comp=Z,3.0nm,1.0s

NOA NORSAR Array B 26.99 347 P **P 10 34 59.6 0.0**
comp=Z,1.3nm,0.9s,baz=153,slow=9.9,SNR=2.1
comp=Z,1.3nm,0.9s
EKA Eskdalemuir Ar 27.11 326 P **P 10 35 00.4 -0.3**
comp=Z,3.8nm,0.9s,baz=122,slow=10,SNR=6.7
comp=Z,3.8nm,0.9s
GEYT Allbeck 28.07 74 P **P 10 35 10.4 +0.8**
comp=Z,1.3nm,0.4s,baz=316,slow=8.0,SNR=2.6
comp=Z,1.3nm,0.4s
TORD Torodi Ar. Bea 29.32 227 P **P 10 35 21.1 +0.4**
comp=Z,1.3nm,0.8s,baz=34,slow=8.3,SNR=5.9
comp=Z,1.3nm,0.8s
ARU Arti 31.98 37 P **P 10 35 42.1 -1.9**
comp=Z,1.3nm,0.3s,baz=210,slow=9.8,SNR=3.9
comp=Z,1.3nm,0.3s
ARU Arti 31.98 37 *c i*P **P 10 35 42.6 -1.3**
ARU S **S 10 40 52.0 -3.6**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 34.42 1 P **P 10 36 03.9 -1.1**
comp=Z,3.6nm,0.8s,baz=182,slow=11,SNR=5.2
comp=Z,3.6nm,0.8s
KK31 Karatay Array 37.11 63 P **P 10 36 27.6 -0.9**
KK31 IAmb IAmb 10 36 34.5
comp=Z,3.1nm,1.2s
KK31 Karatay Array 37.11 63 P **P 10 36 27.6 -0.9**
KK31 pmax pmax
comp=Z,3.0nm,1.3s
KKAR Karatay Array 37.11 63 P **P 10 36 28.4 0.0**
KKAR Karatay Array 37.11 63 P **P 10 36 28.5 0.0**
BRVK Borovoye 37.42 47⇑ *e*P **P 10 36 30.6 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
DBIC Dimbokro 38.37 229 P **P 10 36 38.1 -1.1**
comp=Z,5.8nm,1.0s,baz=66,slow=12,SNR=3.1
comp=Z,5.8nm,1.0s
KURBB Kurchatov Arra 42.34 51 P **P 10 37 11.0 -0.8**
comp=Z,2.6nm,0.8s,baz=278,slow=8.6,SNR=24
comp=Z,2.6nm,0.8s
KURK Kurchatov 42.40 51 P **P 10 37 11.0 -1.3**
MK31 Makanchi Array 45.09 56 P **P 10 37 33.4 -0.7**
MK31 IAmb IAmb 10 37 34.8
comp=Z,1.3nm,0.8s
MK31 Makanchi Array 45.09 56 P **P 10 37 33.4 -0.7**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 45.09 56 P **P 10 37 32.6 -1.4**
comp=Z,1.1nm,0.7s,baz=281,slow=6.3,SNR=15
comp=Z,1.1nm,0.7s
MKAR Makanchi Array 45.09 56 P **P 10 37 33.2 -0.9**
MKAR Makanchi Array 45.09 56 P **P 10 37 33.2 -0.9**
ZAA0 Zalesovo Array 46.13 46 P **P 10 37 41.4 -0.8**
ZAA0 IAmb IAmb 10 37 42.3
comp=Z,2.3nm,0.8s
ZALV Zalesovo Beam 46.13 46 P **P 10 37 40.8 -1.4**
comp=Z,1.1nm,0.4s,baz=260,slow=8.9,SNR=6.5
comp=Z,1.1nm,0.4s
ZALV Zalesovo Beam 46.13 46 P **P 10 37 41.5 -0.7**
ZALV Zalesovo Beam 46.13 46 P **P 10 37 41.5 -0.7**
DGZ Jazzator, Alta 48.11 52‖ *e*P **P 10 37 57.9 0.0**
DGZ pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 60.69 50 P **P 10 39 29.2 -0.3**
comp=Z,0.4nm,0.8s,baz=280,slow=8.6,SNR=3.7
comp=Z,0.4nm,0.8s
ULN Ulaanbaatar 61.09 50⇑ *e*P **P 10 39 31.7 -0.5**
ULN pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 61.69 20⇑ *e*P **P 10 39 35.0 -0.6**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
SCHQ Schefferville 62.13 319 P **P 10 39 39.1 +0.2**
BILL Bilibino 73.42 14 *i*P **P 10 40 49.1 -0.7**
BILL *i* 10 41 01.1
BILL pmax pmax
comp=Z,2.0nm,1.2s
SEY Seymchan 74.13 22 P **P 10 40 54.3 +0.3**
comp=Z,1.8nm,0.9s,baz=354,slow=6.5,SNR=4.7
comp=Z,1.8nm,0.9s
INK Inuvik 75.36 351 P **P 10 41 00.5 -0.5**
comp=Z,0.4nm,0.5s,baz=328,slow=14,SNR=1.6
comp=Z,0.4nm,0.5s
MA2 Magadan 76.13 25 P **P 10 41 05.9 +0.3**
comp=Z,5.0nm,0.8s,baz=344,slow=6.8,SNR=4.0
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 76.92 341 P **P 10 41 09.7 -0.4**
comp=Z,1.2nm,0.8s,baz=36,slow=5.4,SNR=9.6
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 76.92 341 *ce*P **P 10 41 10.8 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.9s
USRK Ussuriysk Ar. 77.94 44 P **P 10 41 15.9 -0.2**
comp=Z,1.3nm,0.7s,baz=266,slow=5.8,SNR=1.8
comp=Z,1.3nm,0.7s
KSRS Korea Array 79.52 52 P **P 10 41 23.8 -1.1**
comp=Z,2.1nm,1.0s,baz=301,slow=5.3,SNR=4.0
comp=Z,2.1nm,1.0s

*IDC **22** 10:30:41.3±3.7, 72.˚19N×135.˚54W, h0km, mb3.5/1, mbtmp4.0/6, ML4.3/5, Error ellipse: s-maj=56.1km s-min=30.6km az=136.0*
*NEIC **22** 10:30:46.9±1.4, 71.˚86N±0.˚07×135.˚3W±0.˚2, h35km±9km, Error ellipse: s-maj=10.7km s-min=8.2km az=151.0*
*PGC **22** 10:30:47.4±1.7, 71.˚93N×135.˚29W, h35km, ML4.0/1, ML4.0/1, 346km west of Sachs Harbour, Nt Beaufort Sea*
*OTT **22** 10:30:47.4±1.7, 71.˚93N±0.˚06×135.˚3W±0.˚2, h35km±9km, ML4.0, mb4.2/3(NEIC), Error ellipse: s-maj=11.8km s-min=3.0km az=135.0*

ISC 22 10:30:46.6±0.8, 71.˚76N±0.˚06×135.˚29W±0.˚04, h35km, n265, σ1=99/347, mb4.0/3, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
A36M	**Sachs Harbour**	**3.15**	**81**	Pn	**Pn**	**10 31 33.7**	**+0.1**
A36M	**Sachs Harbour**	**3.15**	**81**	Pn	**Pn**	**10 31 33.7**	**+0.1**
A36M				Sn	**Sn**	**10 32 06.4**	**-3.5**
A36M	**Sachs Harbour**	**3.15**	**81**	P	**Pn**	**10 31 33.8**	**+0.3**
	baz=274						
A36M				S	**Sn**	**10 32 06.8**	**-3.0**
	baz=274						
C27K	**Jago River**	**3.52**	**237**	P	**Pn**	**10 31 40.8**	**+2.0**
	baz=46						
C27K				S	**Sn**	**10 32 18.6**	**-0.5**
	baz=46						
INK	**Inuvik**	**3.53**	**169**	Pn	**Pn**	**10 31 41.2**	**+2.5**
	35nm,0.3s,baz=356,slow=12,SNR=2871						
INK				Sn	**Sn**	**10 32 20.2**	**+1.0**
	48nm,0.3s,baz=126,slow=15,SNR=14						
	87nm,0.3s						
INK	**Inuvik**	**3.53**	**169**	Pn	**Pn**	**10 31 40.9**	**+2.1**
INK				Sn	**Sn**	**10 32 19.9**	**+0.7**
INK	**Inuvik**	**3.53**	**169**	Pn	**Pn**	**10 31 40.9**	**+2.1**
INK				Sn	**Sn**	**10 32 19.9**	**+0.7**
INK	**Inuvik**	**3.53**	**169**	P	**Pn**	**10 31 40.8**	**+2.1**
	baz=351						
INK				S	**Sn**	**10 32 19.8**	**+0.7**
	baz=351						
E27K	**Coleen River**	**4.20**	**214**	P	**Pn**	**10 31 50.1**	**+2.1**
	baz=27						
E27K				S	**Sn**	**10 32 35.4**	**-0.3**
	baz=27						
F31M	**Tsiigehtchic**	**4.38**	**172**	P	**Pn**	**10 31 51.9**	**+1.4**
	baz=354						
F31M				S	**Sn**	**10 32 40.0**	**-0.1**
	baz=354						
C36M	**Paulatuk**	**4.46**	**117**	Pn	**Pn**	**10 31 53.0**	**+1.4**
C36M				Sn	**Sn**	**10 32 40.4**	**-1.8**
C36M	**Paulatuk**	**4.46**	**117**	Pn	**Pn**	**10 31 53.0**	**+1.4**
C36M				Sn	**Sn**	**10 32 40.4**	**-1.8**
C36M	**Paulatuk**	**4.46**	**117**	P	**Pn**	**10 31 53.3**	**+1.6**
	baz=310						
C36M				S	**Sn**	**10 32 41.1**	**-1.1**
	baz=310						
G30M	**tAoh Zraii Nji**	**4.82**	**184**	P	**Pn**	**10 31 58.3**	**+1.7**
	baz=3.3						
G30M				S	**Sn**	**10 32 50.6**	**-0.4**
	baz=3.3						
C24K	**Franklin Bluff**	**4.89**	**252**	P	**Pn**	**10 31 59.0**	**+1.6**
	baz=57						
C24K				S	**Sn**	**10 32 50.5**	**-2.2**
	baz=57						
E25K	**Arctic Village**	**5.08**	**229**	P	**Pn**	**10 32 02.1**	**+1.9**
	baz=38						
E25K				S	**Sn**	**10 32 56.9**	**-0.7**
	baz=38						
F26K	**Sheenjek River**	**5.11**	**221**	P	**Pn**	**10 32 02.5**	**+1.9**
	baz=32						
F26K				S	**Sn**	**10 32 56.8**	**-1.5**
	baz=32						
BMAR	**Burnt Mountain**	**5.43**	**221**	Pn	**Pn**	**10 32 06.6**	**+1.7**
G27K	**Doyon Strip**	**5.46**	**207**	Pn	**Pn**	**10 32 06.5**	**+1.1**
G27K				Sn	**Sn**	**10 33 05.6**	**-1.3**
G27K	**Doyon Strip**	**5.46**	**207**	Pn	**Pn**	**10 32 06.5**	**+1.1**
G27K				Sn	**Sn**	**10 33 05.6**	**-1.3**
G27K	**Doyon Strip**	**5.46**	**207**	P	**Pn**	**10 32 06.6**	**+1.1**
	baz=21						
G27K				S	**Sn**	**10 33 04.8**	**-2.1**
	baz=21						
F25K	**Christian Rive**	**5.52**	**226**	P	**Pn**	**10 32 07.9**	**+1.6**
	baz=35						
F25K				S	**Sn**	**10 33 06.3**	**-2.1**
	baz=35						
G26K	**Porcupine Rive**	**5.69**	**216**	P	**Pn**	**10 32 09.9**	**+1.5**
	baz=27						
G26K				S	**Sn**	**10 33 09.7**	**-2.7**
	baz=27						
E24K	**Your Creek**	**5.85**	**237**	P	**Pn**	**10 32 13.0**	**+2.3**
	baz=44						
E24K				S	**Sn**	**10 33 15.2**	**-1.4**
	baz=44						
D23K	**Nanushuk River**	**5.89**	**249**	P	**Pn**	**10 32 12.9**	**+1.7**
	baz=53						
D23K				S	**Sn**	**10 33 15.1**	**-2.2**
	baz=53						
H27K	**Steamboat Moun**	**5.99**	**205**	Pn	**Pn**	**10 32 14.4**	**+1.7**
H27K				Sn	**Sn**	**10 33 19.1**	**-0.9**
H27K	**Steamboat Moun**	**5.99**	**205**	P	**Pn**	**10 32 14.4**	**+1.7**
	baz=18						
H27K				S	**Sn**	**10 33 18.5**	**-1.4**
	baz=18						
F24K	**Squaw Lake**	**6.11**	**232**	P	**Pn**	**10 32 16.0**	**+1.7**
	baz=39						
F24K				S	**Sn**	**10 33 20.7**	**-2.2**
	baz=39						
E23K	**Chandalar**	**6.17**	**240**	P	**Pn**	**10 32 17.2**	**+2.1**
	baz=45						
E23K				S	**Sn**	**10 33 22.9**	**-1.4**
	baz=45						
FYU	**Fort Yukon**	**6.30**	**219**	Pn	**Pn**	**10 32 18.2**	**+1.4**
G25K	**Bearman Lake**	**6.31**	**223**	P	**Pn**	**10 32 18.5**	**+1.6**
	baz=32						
G25K				S	**Sn**	**10 33 25.6**	**-2.0**
	baz=32						
I29M	**Ogilvie Camp,**	**6.53**	**191**		**Pn**	**10 32 20.7**	**+0.7**
I29M	**Ogilvie Camp,**	**6.53**	**191**	Pn	**Pn**	**10 32 20.8**	**+0.8**
I29M				Sn	**Sn**	**10 33 31.6**	**-1.5**
I29M	**Ogilvie Camp,**	**6.53**	**191**	P	**Pn**	**10 32 21.2**	**+1.2**
	baz=8.1						
I29M				S	**Sn**	**10 33 31.5**	**-1.6**
	baz=8.1						
I27K	**Kandik River**	**6.60**	**203**	Pn	**Pn**	**10 32 22.4**	**+1.4**
I27K				Sn	**Sn**	**10 33 33.4**	**-1.5**
I27K	**Kandik River**	**6.60**	**203**	P	**Pn**	**10 32 22.2**	**+1.2**
	baz=17						
I27K				S	**Sn**	**10 33 32.5**	**-2.4**
	baz=17						
G24K	**Hadweenzic Riv**	**6.67**	**226**	P	**Pn**	**10 32 23.3**	**+1.4**
	baz=34						
G24K				S	**Sn**	**10 33 33.4**	**-3.1**
	baz=34						
A21K	**Barrow**	**6.77**	**276**		**Pn**	**10 32 23.4**	**+0.2**
A21K	**Barrow**	**6.77**	**276**	P	**Pn**	**10 32 23.5**	**+0.2**
	baz=75						
COLD	**Coldfoot**	**6.92**	**236**	Pn	**Pn**	**10 32 26.7**	**+1.3**
COLD	**Coldfoot**	**6.92**	**236**	Pn	**Pn**	**10 32 26.8**	**+1.5**
COLD				Sn	**Sn**	**10 33 39.2**	**-3.5**
COLD	**Coldfoot**	**6.92**	**236**	P	**Pn**	**10 32 27.5**	**+2.2**
	baz=41						
COLD				S	**Sn**	**10 33 39.8**	**-3.0**
	baz=41						
I26K	**Coal Creek Min**	**7.09**	**208**		**Pn**	**10 32 29.5**	**+1.8**
I26K	**Coal Creek Min**	**7.09**	**208**	P	**Pn**	**10 32 28.8**	**+1.1**
	baz=20						
G23K	**Bananza Creek**	**7.27**	**233**	P	**Pn**	**10 32 31.2**	**+1.1**
	baz=38						
G23K				S	**Sn**	**10 33 47.8**	**-3.6**
	baz=38						
PRP	**Porcupine Dome**	**7.29**	**216**	Pn	**Pn**	**10 32 32.2**	**+1.7**
PRP	**Porcupine Dome**	**7.29**	**216**	P	**Pn**	**10 32 32.2**	**+1.7**
	baz=25						
PRP				S	**Sn**	**10 33 48.4**	**-3.6**
	baz=25						
EGAK	**Eagle**	**7.34**	**200**		**Pn**	**10 32 32.5**	**+1.4**
EGAK	**Eagle**	**7.34**	**200**	P	**Pn**	**10 32 32.2**	**+1.1**
	baz=14						
EGAK				S	**Sn**	**10 33 51.4**	**-1.7**
	baz=14						
J29M	**Klondike Camp**	**7.42**	**190**		**Pn**	**10 32 33.8**	**+1.5**
J29M	**Klondike Camp**	**7.42**	**190**	Pn	**Pn**	**10 32 34.0**	**+1.6**
J29M				Sn	**Sn**	**10 33 53.5**	**-1.8**
J29M	**Klondike Camp**	**7.42**	**190**	P	**Pn**	**10 32 33.9**	**+1.6**
	baz=6.9						
J29M				S	**Sn**	**10 33 53.4**	**-1.8**
	baz=6.9						
H24K	**Noodor Dome**	**7.48**	**224**		**Pn**	**10 32 34.0**	**+0.9**
H24K	**Noodor Dome**	**7.48**	**224**	P	**Pn**	**10 32 34.0**	**+0.9**
	baz=31						
H24K				S	**Sn**	**10 33 52.3**	**-4.3**
	baz=31						
F21K	**Alatna River**	**7.82**	**243**	P	**Pn**	**10 32 38.6**	**+0.9**
	baz=45						
F21K				S	**Sn**	**10 34 01.0**	**-3.9**
	baz=45						
DAWY	**Dawson**	**7.88**	**193**	Pn	**Pn**	**10 32 39.3**	**+0.8**
DAWY	**Dawson**	**7.88**	**193**	Pn	**Pn**	**10 32 39.4**	**+0.8**
DAWY				Sn	**Sn**	**10 34 02.5**	**-4.0**
DAWY	**Dawson**	**7.88**	**193**	P	**Pn**	**10 32 39.5**	**+0.9**
	baz=9.2,SNR=493						
DAWY				S	**Sn**	**10 34 04.8**	**-1.7**
	baz=9.2						
J26L	**Joseph Creek**	**7.91**	**207**		**Pn**	**10 32 41.1**	**+2.1**
J26L	**Joseph Creek**	**7.91**	**207**	P	**Pn**	**10 32 41.2**	**+2.1**
	baz=19						
J26L				S	**Sn**	**10 34 05.1**	**-2.1**
	baz=19						
KUKN	**Kugluktuk,NWT**	**8.01**	**110**	Pn	**Pn**	**10 32 40.5**	**+0.4**
KUKN				Sn	**Sn**	**10 34 04.9**	**-4.4**
POKR	**Poker Plat Res**	**8.01**	**220**	Pn	**Pn**	**10 32 41.8**	**+1.4**
POKR	**Poker Plat Res**	**8.01**	**220**	P	**Pn**	**10 32 42.1**	**+1.7**
	baz=28						
POKR				S	**Sn**	**10 34 06.7**	**-2.9**
	baz=28						
MAYO	**Mayo, Yukon**	**8.21**	**182**		**Pn**	**10 32 44.1**	**+1.1**
MAYO	**Mayo, Yukon**	**8.21**	**182**	Pn	**Pn**	**10 32 44.1**	**+1.1**
MAYO	**Mayo, Yukon**	**8.21**	**182**	P	**Pn**	**10 32 44.0**	**+1.1**
	baz=1.3						
IL31		**8.21**	**217**		**Pn**	**10 32 44.9**	**+1.9**
ILAR	**Eielson Array**	**8.21**	**217**	Pn	**Pn**	**10 32 44.0**	**+0.9**
	1.1nm,0.3s,baz=25,slow=14,SNR=45						
ILAR				Sn	**Sn**	**10 34 10.1**	**-4.5**
	2.2nm,0.3s,baz=22,slow=26,SNR=21						
	2.8nm,0.5s						
ILAR	**Eielson Array**	**8.21**	**217**		**Pn**	**10 32 44.4**	**+1.3**
COLA	**College**	**8.31**	**220**		**Pn**	**10 32 46.3**	**+1.9**
COLA	**College**	**8.31**	**220**	P	**Pn**	**10 32 46.0**	**+1.6**
	baz=28						
COLA				S	**Sn**	**10 34 14.8**	**-2.1**
	baz=28						
TCOL	**CIGO, UAF Yank**	**8.31**	**220**		**Pn**	**10 32 46.3**	**+1.9**
TCOL	**CIGO, UAF Yank**	**8.31**	**220**	P	**Pn**	**10 32 46.1**	**+1.7**
	baz=28						
TCOL				S	**Sn**	**10 34 15.2**	**-1.7**
	baz=28						
MDM	**Murphy Dome**	**8.32**	**221**		**Pn**	**10 32 45.8**	**+1.3**
G21K	**Allakaket**	**8.33**	**240**	P	**Pn**	**10 32 45.8**	**+1.1**
	baz=42						
G21K				S	**Sn**	**10 34 13.1**	**-4.3**
	baz=42						
I23K	**Minto, Yukon-K**	**8.39**	**225**		**Pn**	**10 32 46.9**	**+1.4**
I23K	**Minto, Yukon-K**	**8.39**	**225**	P	**Pn**	**10 32 46.5**	**+1.0**
	baz=31						
I23K				S	**Sn**	**10 34 14.9**	**-3.9**
	baz=31						
SCRK	**Sand Creek**	**8.47**	**207**	Pn	**Pn**	**10 32 49.4**	**+2.7**
SCRK	**Sand Creek**	**8.47**	**207**	P	**Pn**	**10 32 48.9**	**+2.2**
	baz=18						
SCRK				S	**Sn**	**10 34 17.9**	**-3.1**
	baz=18						
CCB	**Clear Creek Bu**	**8.51**	**219**	Pn	**Pn**	**10 32 48.6**	**+1.6**
HDA	**Harding Lake**	**8.55**	**216**		**Pn**	**10 32 49.6**	**+1.8**
HDA	**Harding Lake**	**8.55**	**216**	P	**Pn**	**10 32 49.3**	**+1.5**

baz=25
HDA S Sn 10 34 21.3 -1.6
baz=25
HDA S Sn 10 34 21.3 -1.6
baz=25
WRH Wood River Hil 8.72 219 Pn 10 32 52.5 +2.5
L29M L29M 8.76 188 Pn Pn 10 32 51.3 +0.6
L29M Sn Sn 10 34 24.1 -4.0
L29M L29M 8.76 188 P Pn 10 32 51.7 +1.1
baz=5.7
L29M S Sn 10 34 25.5 -2.5
baz=5.7
DOT Dot Lake 8.79 206 Pn 10 32 53.3 +2.3
DOT Dot Lake 8.79 206 Pn Pn 10 32 53.1 +2.0
DOT Sn Sn 10 34 25.4 -3.4
IMAR Indian Mountai 8.80 238 Pn 10 32 51.9 +0.8
H21K Melozitna Rive 8.80 235 Pn 10 32 53.0 +1.8
H21K Melozitna Rive 8.80 235 P Pn 10 32 52.8 +1.6
baz=37
H21K S Sn 10 34 25.4 -3.6
baz=37
MLY Manley 8.81 228 Pn 10 32 52.8 +1.6
MLY Manley 8.81 228 P Pn 10 32 52.4 +1.2
baz=32
MLY S Sn 10 34 25.8 -3.3
baz=32
NEA2 Nenana 8.81 222 Pn 10 32 52.3 +1.0
NEA2 Nenana 8.81 222 P Pn 10 32 52.1 +0.8
baz=29
NEA2 S Sn 10 34 25.8 -3.4
baz=29
RIDG Independent Ri 8.82 209 Pn 10 32 53.9 +2.4
RIDG Independent Ri 8.82 209 P Pn 10 32 53.5 +2.1
baz=19
K24K Donnelly Dome 8.91 211 P Pn 10 32 54.4 +1.8
baz=21
I21K Tanana 8.98 231 Pn 10 32 54.0 +0.4
I21K Tanana 8.98 231 P Pn 10 32 55.2 +1.6
baz=35
I21K S Sn 10 34 29.5 -3.8
baz=35
BCAR Beaver Creek A 9.08 199 Pn Pn 10 32 56.2 +1.3
L27K Beaver Creek, 9.09 199 Pn 10 32 56.2 +1.2
L27K Beaver Creek, 9.09 199 Pn Pn 10 32 55.9 +0.8
L27K Beaver Creek, 9.09 199 P Pn 10 32 56.0 +1.0
baz=13
M30M Minto, Yukon 9.25 184 Pn 10 32 58.2 +1.0
M30M Minto, Yukon 9.25 184 Pn Pn 10 32 57.7 +0.5
M30M Sn Sn 10 34 36.3 -3.7
M30M Minto, Yukon 9.25 184 P Pn 10 32 58.0 +0.7
baz=2.9,SNR=219
M30M S Sn 10 34 37.6 -2.4
baz=2.9
BWN Browne 9.27 222 Pn Pn 10 32 58.6 +1.2
L26K Log Cabin Wild 9.30 203 Pn 10 32 59.4 +1.5
L26K Log Cabin Wild 9.30 203 P Pn 10 32 59.3 +1.4
baz=15
MENT Mentasta 9.43 204 Pn 10 33 01.5 +1.7
M29M Somme Creek 9.44 189 Pn Pn 10 33 00.7 +0.7
M29M Sn Sn 10 34 40.4 -4.4
M29M Somme Creek 9.44 189 P Pn 10 33 01.1 +1.1
baz=5.9
M29M S Sn 10 34 41.8 -3.0
baz=5.9
MCK McKinley 9.55 219 Pn Pn 10 33 03.5 +2.1
MCK McKinley 9.55 219 P Pn 10 33 02.9 +1.5
baz=26
MCK S Sn 10 34 44.0 -3.3
baz=26
FARO Faro, Yukon 9.61 175 Pn 10 33 03.5 +1.3
FARO Faro, Yukon 9.61 175 Pn Pn 10 33 03.5 +1.3
FARO Sn Sn 10 34 44.1 -4.6
FARO Faro, Yukon 9.61 175 P Pn 10 33 03.5 +1.3
baz=356,SNR=55
FARO S Sn 10 34 45.1 -3.7
baz=356
M31M Drury Creek, Y 9.61 177 Pn 10 33 03.3 +1.0
M31M Drury Creek, Y 9.61 177 Pn Pn 10 33 03.0 +0.8
M31M Drury Creek, Y 9.61 177 P Pn 10 33 03.3 +1.0
baz=358,SNR=53
M31M S Sn 10 34 46.6 -2.2
baz=358
BVCY Beaver Creek 9.63 196 Pn Pn 10 33 03.3 +0.7
BVCY Beaver Creek 9.63 196 P Pn 10 33 03.8 +1.2
baz=10,SNR=90
PAX Paxson 9.64 209 Pn 10 33 04.0 +1.3
PAX Paxson 9.64 209 P Pn 10 33 03.8 +1.1
baz=19
PAX S Sn 10 34 47.3 -2.4
baz=19
BPAW Bear Paw Mtn. 9.66 225 Pn 10 33 03.6 +0.7
BPAW Bear Paw Mtn. 9.66 225 P Pn 10 33 04.1 +1.2
baz=30
BPAW S Sn 10 34 44.9 -5.0
baz=30
WRGLY Wrigley 9.67 146 P Pn 10 33 05.4 +2.4
baz=338
WRGLY S Sn 10 34 47.6 -2.6
baz=338
M27K Edge Creek, AK 9.78 198 Pn 10 33 06.3 +1.6
M27K Edge Creek, AK 9.78 198 Pn Pn 10 33 05.6 +1.0
M27K Sn Sn 10 34 49.2 -3.9
M27K Edge Creek, AK 9.78 198 P Pn 10 33 05.8 +1.2
baz=12
M27K S Sn 10 34 50.0 -3.1
baz=12
RND Reindeer 9.83 218 Pn Pn 10 33 06.9 +1.7
DHY Denali Highway 9.86 214 Pn Pn 10 33 08.6 +2.9
DHY Denali Highway 9.86 214 P Pn 10 33 08.2 +2.5
baz=22
DHY S Sn 10 34 54.2 -0.8
baz=22
M26K Nabesna, AK 9.86 201 Pn 10 33 07.1 +1.4
M26K Nabesna, AK 9.86 201 P Pn 10 33 07.4 +1.7
baz=14
TRF Thorofare Moun 10.08 222 Pn Pn 10 33 10.9 +2.1
TRF Thorofare Moun 10.08 222 P Pn 10 33 10.2 +1.5
baz=27
TRF S Sn 10 34 55.9 -4.5
baz=27
KTH Kantishna Hill 10.12 223 Pn Pn 10 33 10.2 +0.9
HARP HAARP 10.14 207 P Pn 10 33 11.7 +2.2
baz=17
CHUM Lake Minchumin 10.15 227 P Pn 10 33 10.7 +1.2
baz=31
CHUM S Sn 10 34 57.9 -3.9
baz=31
YUK3 Moose Creek 10.23 194 Pn Pn 10 33 11.2 +0.3
YUK3 Sn Sn 10 35 00.2 -4.1
YUK3 Moose Creek 10.23 194 P Pn 10 33 11.5 +0.6
baz=9.0,SNR=52
YUK2 White River 10.25 195 Pn Pn 10 33 11.7 +0.6
WAT1 Susitna Watana 10.29 216 P Pn 10 33 13.7 +2.1
baz=23
WAT1 S Sn 10 35 03.7 -1.9
baz=23
N31M Braeburn, Yuko 10.33 181 Pn 10 33 13.3 +1.2
N31M Braeburn, Yuko 10.33 181 Pn Pn 10 33 12.8 +0.8
N31M Sn Sn 10 35 04.3 -2.0
N31M Braeburn, Yuko 10.33 181 P Pn 10 33 12.9 +0.8
baz=0.8,SNR=61
N31M S Sn 10 35 05.0 -1.4
baz=0.8
WAT6 Susitna Watana 10.38 214 P Pn 10 33 15.5 +2.6
baz=22
WAT6 S Sn 10 35 05.0 -2.8
baz=22
CAST Castle Rocks 10.49 226 Pn Pn 10 33 15.2 +0.9
CAST Castle Rocks 10.49 226 P Pn 10 33 15.4 +1.1
baz=29
CAST S Sn 10 35 06.8 -3.6
baz=29
YUK4 Talbot Arm 10.55 189 Pn Pn 10 33 14.7 -0.6
YUK4 Talbot Arm 10.55 189 P Pn 10 33 14.6 -0.6
baz=5.5,SNR=72
M24K Tolsona, Glenn 10.57 209 Pn Pn 10 33 17.6 +2.2
GCSA Galena City Sc 10.59 239 P Pn 10 33 17.0 +1.4
baz=38
YUK8 Steele Glacier 10.67 192 Pn Pn 10 33 18.0 +1.1
YUK8 Sn Sn 10 35 11.0 -4.1
YUK8 Steele Glacier 10.67 192 P Pn 10 33 17.9 +1.0
baz=7.4,SNR=12
N32M Quiet Lake 10.70 174 Pn Pn 10 33 18.4 +1.3
N32M Quiet Lake 10.70 174 P Pn 10 33 18.5 +1.4
baz=356

YUK5 Granite Creek 10.73 187 Pn Pn 10 33 17.7 +0.1
MCARA McCarthy VSAT 10.86 200 Pn Pn 10 33 20.8 +1.5
MCARA McCarthy VSAT 10.86 200 P Pn 10 33 21.2 +2.0
baz=13,SNR=14
GLB Gilahina Butte 10.89 202 Pn Pn 10 33 22.5 +2.7
YUK6 Outpost Mounta 10.94 188 Pn Pn 10 33 21.4 +0.9
YUK6 Outpost Mounta 10.94 188 P Pn 10 33 21.7 +1.1
baz=5.0,SNR=39
PPLA Purkeypile 10.97 224 Pn Pn 10 33 21.6 +0.6
PPLA Purkeypile 10.97 224 P Pn 10 33 22.0 +1.0
baz=28
K20K Telida 11.01 229 Pn Pn 10 33 22.2 +0.8
K20K Telida 11.01 229 P Pn 10 33 22.3 +1.0
baz=31
CUT Chulitna 11.01 219 Pn Pn 10 33 23.5 +2.1
CUT Chulitna 11.01 219 P Pn 10 33 23.1 +1.7
baz=25
HYT Haines Junctio 11.02 186 Pn Pn 10 33 23.3 +1.6
HYT Haines Junctio 11.02 186 Pn Pn 10 33 21.5 -0.1
HYT Haines Junctio 11.02 186 P Pn 10 33 22.3 +0.7
baz=3.6,SNR=20
BARN Barnard Glacie 11.04 196 Pn Pn 10 33 23.3 +1.4
O30N Mendenhall 11.05 182 P Pn 10 33 22.9 +1.0
baz=1.3,SNR=52
BALM Baldy 11.12 198 Pn Pn 10 33 24.4 +1.4
WHY Whitehorse 11.15 179 Pn 10 33 24.3 +0.9
WHY Whitehorse 11.15 179 Pn Pn 10 33 23.3 -0.1
WHY Whitehorse 11.15 179 P Pn 10 33 24.2 +0.8
baz=359
SML Sawmill 11.20 213 Pn Pn 10 33 25.5 +1.5
SML Sawmill 11.20 213 P Pn 10 33 26.1 +2.1
baz=21
O28M Mount Upton 11.21 192 Pn Pn 10 33 26.0 +1.6
O28M Mount Upton 11.21 192 P Pn 10 33 25.9 +1.6
baz=7.8
KIAG Kiagna River 11.24 198 Pn Pn 10 33 26.1 +1.5
GHO Glory Hole Cre 11.34 215 Pn Pn 10 33 28.9 +3.0
YUK7 Dusty Glacier 11.34 187 Pn Pn 10 33 27.1 +1.1
BMRM Bremner River 11.44 203 Pn Pn 10 33 30.9 +3.6
BMRM Bremner River 11.44 203 P Pn 10 33 29.7 +2.4
baz=14
PMR Palmer 11.54 215 Pn Pn 10 33 32.3 +3.7
PMR Palmer 11.54 215 P Pn 10 33 31.8 +3.2
baz=22
O29M Mount Kennedy 11.59 188 Pn Pn 10 33 30.7 +1.4
O29M Mount Kennedy 11.59 188 P Pn 10 33 31.2 +1.9
baz=5.0
KNK Knik Glacier 11.59 213 Pn Pn 10 33 32.4 +3.1
KNK Knik Glacier 11.59 213 P Pn 10 33 31.7 +2.3
baz=20
P33M Teslin, Yukon 11.64 174 Pn 10 33 31.1 +1.0
P33M Teslin, Yukon 11.64 174 Pn Pn 10 33 30.7 +0.6
P33M Teslin, Yukon 11.64 174 P Pn 10 33 31.2 +1.1
baz=356,SNR=30
SKT Skwentna 11.65 221 Pn Pn 10 33 31.4 +1.2
P30M Million Dollar 11.71 184 Pn Pn 10 33 31.4 +0.4
P30M Million Dollar 11.71 184 P Pn 10 33 31.0 0.0
baz=2.5
L20K Farewell, AK 11.72 227 P Pn 10 33 32.8 +1.8
baz=29
RES Resolute Bay 11.84 57 Pn Pn 10 33 28.5 -4.0
0.7nm,0.3s,baz=265,slow=14,SNR=20
RES Sn Sn 10 35 27.9 -15
1.4nm,0.3s,baz=332,slow=23,SNR=6.0
1.5nm,0.4s
RES Resolute Bay 11.84 57 Pn Pn 10 33 32.0 -0.5
RES Resolute Bay 11.84 57 Pn Pn 10 33 28.7 -3.8
RES Sn Sn 10 35 30.1 -13
TTA Tatalina 11.84 232 Pn Pn 10 33 34.0 +1.2
SUA Susitna One 11.96 218 Pn Pn 10 33 37.8 +3.3
SUA Susitna One 11.96 218 P Pn 10 33 36.3 +1.8
baz=23
WTLY Watson Lake, Y 11.98 164 Pn Pn 10 33 36.3 +1.6
WTLY Watson Lake, Y 11.98 164 Pn Pn 10 33 35.1 +0.5
WTLY Sn Sn 10 35 44.4 -2.5
WTLY Watson Lake, Y 11.98 164 P Pn 10 33 34.6 -0.1
baz=350
M20K Styx River 12.08 224 Pn Pn 10 33 37.6 +1.5
M20K Styx River 12.08 224 P Pn 10 33 37.2 +1.1
baz=27
PWL Port Wells 12.09 212 Pn Pn 10 33 39.7 +3.5
RC01 Rabbit Creek A 12.12 215 Pn Pn 10 33 40.5 +3.9
RC01 Rabbit Creek A 12.12 215 P Pn 10 33 39.8 +3.3
baz=22
L19K White Mountain 12.21 228 Pn Pn 10 33 39.2 +1.5
L19K White Mountain 12.21 228 P Pn 10 33 38.8 +1.1
baz=29
YKA Yellowknife Ar 12.21 129 Pn Pn 10 33 36.4 -1.2
1.7nm,0.3s,baz=325,slow=13,SNR=122
YKA Sn Sn 10 35 36.1 -16
0.6nm,0.3s,baz=346,slow=9.9,SNR=3.6
2.3nm,0.4s
YKA Yellowknife Ar 12.21 129 Pn Pn 10 33 37.0 -0.7
P32M Atlin 12.24 176 Pn Pn 10 33 39.0 +0.8
P32M Atlin 12.24 176 P Pn 10 33 40.0 +1.7
baz=358,SNR=32
SKAG Skagway 12.36 180 Pn Pn 10 33 40.6 +0.9
SKAG Skagway 12.36 180 P Pn 10 33 41.0 +1.3
baz=0.1
PLBC Pleasant Camp 12.37 183 Pn Pn 10 33 42.0 +2.1
PLBC Pleasant Camp 12.37 183 P Pn 10 33 41.8 +1.9
baz=1.5,SNR=8.8
KOTAN Kotaneelee Air 12.51 153 P Pn 10 33 42.7 +0.8
baz=344
R33M Jennings River 12.54 170 Pn Pn 10 33 43.2 +0.8
R33M Jennings River 12.54 170 P Pn 10 33 44.3 +1.9
baz=354
Q32M Nakina River 12.92 173 P Pn 10 33 48.4 +0.8
baz=356
LIRD Liard River Hi 12.95 159 Pn Pn 10 33 47.9 +0.1
LIRD Liard River Hi 12.95 159 P Pn 10 33 48.0 +0.2
baz=347
SEW Seward 12.99 213 P Pn 10 33 49.0 +0.6
baz=20
NBC1 NorthernBC 1 13.00 153 Pn Pn 10 33 49.3 +0.8
NBC2 NorthernBC 2 13.08 150 P Pn 10 33 48.9 -0.8
NBC2 S Sn 10 36 08.9 -4.7
ANM Nome 13.16 252 Pn Pn 10 33 50.9 +0.2
ANM Nome 13.16 252 P Pn 10 33 51.7 +1.0
baz=43
TNA Tin City 13.24 258 Pn Pn 10 33 49.9 -1.8
SVW2 Sparrevohn 13.32 227 Pn Pn 10 33 52.2 -0.8
NBC3 NorthernBC 3 13.52 147 P Pn 10 33 54.1 -1.4
NBC3 S Sn 10 36 14.6 -10
JIS Juneau Island 13.55 178 Pn Pn 10 33 56.7 +0.7
DLBC Dease Lake 13.55 168 Pn Pn 10 33 57.0 +0.8
1.1nm,0.3s,baz=358,slow=13,SNR=20
DLBC Sn Sn 10 36 19.5 -5.8
0.3nm,0.3s,baz=79,slow=18,SNR=1.3
2.7nm,0.4s
DLBC Dease Lake 13.55 168 Pn 10 33 58.2 +2.1
DLBC Dease Lake 13.55 168 Pn Pn 10 33 56.6 +0.5
DLBC Dease Lake 13.55 168 P Pn 10 33 57.3 +1.1
baz=353
FNBB Fort Nelson 13.86 153 P Pn 10 33 59.7 -0.5
FNBB S Sn 10 36 25.2 -7.3
EUNU Eureka 13.91 33 S Sn 10 36 20.1 -14
S34M Telegraph Cree 14.02 171 P Pn 10 34 04.8 +2.5
NBC6 NorthernBC 6 14.40 149 P Pn 10 34 06.3 -1.3
NBC6 S Sn 10 36 37.3 -8.5
T35M Bob Quinn 14.99 169 P Pn 10 34 17.1 +1.5
HILA High Level 15.20 141 Pn Pn 10 34 16.1 -2.2
HILA IAmb IAmb 10 34 43.8
comp=Z,130nm,0.8s
NBC5 NorthernBC 5 15.22 153 P Pn 10 34 17.7 -1.0
NBC5 S Sn 10 36 58.8 -7.1
NBC4 NorthernBC 4 17.29 151 P Pn 10 34 45.4 +0.4
NBC4 S Sn 10 37 45.0 -11
ILON Igloolik, Nuna 17.45 72 P Pn 10 34 42.5 -4.2
ILON S Sn 10 37 41.7 -18
STPRA Salt Prairie L 18.15 143 P P 10 34 54.9 -0.6
STPRA S Sn 10 38 03.0 -14
CHGN Chignik 18.30 224 P Pn 10 34 59.4 +2.2
baz=23
SWHSA Sweathouse Loo 18.70 145 P P 10 35 02.2 +0.6
SWHSA S Sn 10 38 15.1 -15
EDM Edmonton 20.93 141 P P 10 35 31.4 +5.4
FCC Fort Churchill 21.01 107 P P 10 35 27.6 +1.0
FCC IAmb IAmb 10 35 31.2
comp=Z,5.0nm,0.6s
FCC Fort Churchill 21.01 107 P P 10 35 26.9 +0.3
FCC S S 10 39 06.8 -12
MNB Mounoet Dainar 21.02 150 P P 10 35 34.7 +7.6
BLBC Blue River 21.04 152 P P 10 35 36.6 +9.4

FFC Flin Flon 22.22 123 P P 10 35 41.6 +2.0
FFC IAmb IAmb 10 35 58.8
comp=Z,7.5nm,1.4s
FFC Flin Flon 22.22 123 P P 10 35 41.2 +1.6
NVAR Mina Array Bea 34.51 156 P P 10 37 34.8 +3.5
comp=Z,0.4nm,0.5s,baz=345,slow=7.4,SNR=2.0
comp=Z,0.4nm,0.5s
GLA Glamis 40.28 153 P P 10 38 23.3 +3.4
baz=350

IDC 22 10:31:02.4±1.9,5°43S×152°72E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=40.1km s-min=21.8km az=91.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.31**	**328**	Pn	Pn	10 31 28.9	+1.0
	baz=192,slow=1.4						
KRVT				Sn	Sn	10 31 46.1	-0.1
	baz=195,slow=20						
WRA	**Warramunga Arr**	**22.97**	**229**	P	P	10 36 08.5	-0.3
	0.5nm,0.7s,baz=53,slow=10,SNR=3.5						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**25.63**	**223**	P	P	10 36 34.2	+0.3
	0.3nm,0.6s,baz=57,slow=8.9,SNR=6.8						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**82.77**	**22**	P	P	10 43 27.4	-0.6
	0.3nm,0.7s,baz=237,slow=5.0,SNR=5.0						
	0.3nm,0.7s						

IDC 22 10:32:21.0±1.0,0.°97N×121.°41E,h0km,mb3.9/6, mbtmp3.9/6,Error ellipse: s-maj=136.9km s-min=18.1km az=64.0
DJA 22 10:32:29.4±0.4,1.°1N±5.°×12.°1E±.°,h25km±5km,M4.2/6, mB5.4/1,MLv4.2/6,Mw(mB)4.8/1

ISC 22 10:32:26.5±0.9,1.°07N±0.°09×121.°18E±0.°05,h29km,n11, σ2§14/14,mb3.8/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.96**	**128**	P	**Pb**	**10 32 45.8**	**+1.2**
MRSI				S	**Sb**	**10 32 58.2**	**+1.2**
MPSI	**Mapaga**	**1.47**	**240**	P	**Pb**	**10 32 53.0**	**-0.2**
MPSI				S	**Sb**	**10 33 12.7**	**+1.2**
LUWI	**Luwuk**	**2.63**	**143**	P	**Pb**	**10 33 11.0**	**-2.0**
LUWI				S	**Sn**	**10 33 40.1**	**+2.0**
BKB	**Balikpapan**	**4.87**	**242**	P	**Pn**	**10 33 39.6**	**+1.8**
SANI	**Sanana**	**5.72**	**123**	P	**Pn**	**10 33 52.0**	**+2.5**
WRA	**Warramunga Arr**	**24.55**	**149**	P	**P**	**10 37 40.3**	**-3.6**
	0.9nm,0.3s,baz=326,slow=11,SNR=26						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**27.52**	**154**	P	**P**	**10 38 08.4**	**-2.5**
	0.7nm,0.6s,baz=344,slow=15,SNR=27						
	0.7nm,0.6s						
STKA	**Stephens Creek**	**38.05**	**151**	P	**P**	**10 39 39.6**	**-3.0**
	1.0nm,0.5s,baz=342,slow=9.6,SNR=3.1						
	1.0nm,0.5s						
SONM	**Songino Array**	**48.32**	**347**	P	**P**	**10 41 05.9**	**+0.5**
	0.9nm,0.8s,baz=164,slow=7.9,SNR=6.1						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**56.76**	**329**	P	**P**	**10 42 08.1**	**+0.2**
	0.2nm,0.3s,baz=123,slow=8.7,SNR=5.5						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**61.14**	**330**	P	**P**	**10 42 37.7**	**-0.4**
	1.1nm,0.2s,baz=125,slow=8.0,SNR=2.3						
	1.1nm,0.2s						

DJA 22 10:34:28.3±0.3,3.°3S±2.°×12.°9E±.°,h10km,M3.8/10,mb4.1/1, mB5.1/1,MLv3.7/10,Mw(mB)4.5/1
IDC 22 10:34:29.1±1.7,2.°93S×129.°31E,h0km,mb3.6/2, mbtmp3.7/4,ML3.7/2,Error ellipse: s-maj=40.8km s-min=24.2km az=99.0

ISC 22 10:34:27.9±1.0,2.°59S±0.°06×128.°89E±0.°05,h10km,n10, σ1§47/13,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.75**	**177**	P	**Pg**	**10 34 42.9**	**+0.5**
MSAI				S	**Sg**	**10 34 53.7**	**+1.5**
AAI	**Ambon**	**1.29**	**213**	P	**Pb**	**10 34 53.0**	**+0.7**
AAI				S	**Sg**	**10 35 10.8**	**+1.2**
NLAI	**Namlea**	**1.90**	**250**	P	**Pn**	**10 35 01.2**	**+0.7**
NLAI				S	**Sn**	**10 35 25.5**	**+1.0**
SIJI	**Sorong**	**2.92**	**54**	Pn	**Pn**	**10 35 15.7**	**+1.1**
	10nm,0.3s,baz=266,slow=16,SNR=45						
SIJI				Sn	**Sn**	**10 35 50.3**	**+0.5**
	16nm,0.3s,baz=190,slow=23,SNR=13						
	22nm,0.3s						
SANI	**Sanana**	**2.95**	**280**	P	**Pn**	**10 35 13.1**	**-1.8**
FAKI	**Fak Fak**	**3.37**	**96**	P	**Pn**	**10 35 20.3**	**-0.3**
TNTI	**Ternate**	**3.68**	**335**	P	**Pn**	**10 35 25.8**	**+0.9**
WRA	**Warramunga Arr**	**18.04**	**163**	P	**Pn**	**10 38 36.8**	**-2.2**
	0.2nm,0.3s,baz=344,slow=13,SNR=5.7						
WRA				S	Sn	10 41 48.5	-12
	0.3nm,0.7s,baz=338,slow=19,SNR=1.9						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**21.50**	**167**	P	**P**	**10 39 14.9**	**-2.2**
	3.0nm,0.7s,baz=349,slow=12,SNR=20						
	3.0nm,0.7s						
MKAR	**Makanchi Array**	**63.97**	**326**	P	P	10 45 07.8	+6.3
	0.3nm,0.8s,baz=120,slow=7.1,SNR=3.0						
	0.3nm,0.8s						

IDC 22 10:37:27.9±1.2,5.°88S×153.°42E,h0km,mb3.7/8, mbtmp3.7/9,MS4.1/1,Error ellipse: s-maj=33.8km s-min=21.0km az=81.0

ISC 22 10:37:32.7±1.1,5.°9S±0.°1×153.°4E±0.°2,h32km,n10, σ0§38/10,mb3.6/7,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.10**	**319**	Pn	**Pn**	**10 38 05.9**	**+0.2**
	59nm,0.6s,baz=192,slow=0.6						
KRVT				Sn	**Sn**	**10 38 30.6**	**-0.1**
	baz=192,slow=5.1						
DZM	**Mont Dzumac**	**20.43**	**143**	P	**P**	**10 42 07.6**	**0.0**
	4.6nm,1.1s,baz=325,slow=13,SNR=1.9						
	4.6nm,1.1s						
WRA	**Warramunga Arr**	**23.20**	**231**	P	**P**	**10 42 36.7**	**-0.4**
	0.4nm,0.6s,baz=60,slow=10,SNR=2.3						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**25.77**	**225**	P	**P**	**10 43 01.1**	**+0.2**
	1.3nm,0.8s,baz=57,slow=8.9,SNR=12						
	1.3nm,0.8s						
PSI	**Prapat**	**55.09**	**278**	LR	LR	11 14 58.2	
	comp=Z,176nm,21.6s,baz=218,slow=41						
PETK	**Petropavlovsk-**	**58.90**	**3**	P	**P**	**10 47 28.4**	**-0.1**
	1.3nm,0.7s,baz=167,slow=7.0,SNR=1.4						
	1.3nm,0.7s						
SONM	**Songino Array**	**67.58**	**328**	P	**P**	**10 48 26.2**	**-0.1**
	0.4nm,0.8s,baz=130,slow=5.8,SNR=2.7						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**81.55**	**319**	P	**P**	**10 49 48.0**	**+0.7**
	0.4nm,0.7s,baz=82,slow=8.8,SNR=5.3						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**82.40**	**326**	P	**P**	**10 49 51.0**	**-0.6**
	0.6nm,0.5s,baz=128,slow=6.1,SNR=4.0						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**85.04**	**322**	P	**P**	**10 50 05.3**	**+0.2**
	0.9nm,0.8s,baz=106,slow=3.7,SNR=8.4						
	0.9nm,0.8s						

MAN 22 10:57:09.0,2.°99N×126.°87E,h51km,mb5.0,ML3.9,MS3.9
DJA 22 10:57:10.3±0.7,3.°N±7.°×12.°7E±.°,h10km,M4.5/9,mb4.8/7, mB5.0/2,MLv4.3/9,Mw(mB)4.4/2
NEIC 22 10:57:14.4±1.5,3.°17N±0.°08×126.°8E±0.°1,h61km±8km, mb4.6/42,Error ellipse: s-maj=15.8km s-min=10.3km az=68.0
IDC 22 10:57:14.7±1.4,3.°08N×126.°75E,h70km±13km,mb4.1/30, mbtmp4.4/34,Error ellipse: s-maj=15.7km s-min=7.3km az=72.0

ISC 22 10:57:11.6±0.3,3.°18N±0.°04×126.°84E±0.°06,h35km,n144, σ1§57/151,mb4.6/57,5C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.40**	**291**	P	**Pn**	**10 57 34.2**	**-0.5**
SGSI				S	**Sn**	**10 57 54.8**	**+2.8**
TNTI	**Ternate**	**2.45**	**167**	Pn	**Pn**	**10 57 50.7**	**+1.6**
TNTI	**Ternate**	**2.45**	**167**	P	**Pn**	**10 57 50.7**	**+1.6**

TNTI	**Ternate**	**2.45 167**	P	**Pn**	**10 57 51.6 +2.5**	
DDMP	**Don Marcelino,**	**3.12 339⇓**	*e*P	**Pn**	**10 58 00.2 +1.9**	
DDMP			*e*S	Sn	10 58 49.5 +15	
SKMP	**Bagumbayan, Su**	**4.03 326⇑**	*e*P	**Pn**	**10 58 11.4 +0.5**	
SKMP			*e*S	**Sn**	**10 59 00.5 +3.5**	
DAV	**Davao City (W)**	**4.07 342**	P	Pn	10 58 16.4 +5.1	
	75nm,0.3s,baz=230,slow=17,SNR=4.0					
DAV			S	**Sn**	**10 59 01.7 +3.9**	
	155nm,0.5s,baz=121,slow=21,SNR=1.6					
KCP	**Kidapawan**	**4.19 336⇑**	*e*P	**Pn**	**10 58 15.0 +1.9**	
KCP			*i* S	**Sn**	**10 59 04.1 +3.2**	
CTBH	**Cotabato--PC H**	**4.78 327**	*e*P	**Pn**	**10 58 23.7 +2.6**	
CTBH			*i* S	**Sn**	**10 59 16.8 +1.5**	
BUKP	**Musuan**	**4.99 339⇑**	*e*P	**Pn**	**10 58 25.7 +1.5**	
BUKP			*e*S	Sn	10 59 39.2 +18	
BIPH	**Bislig**	**5.00 355⇓**	*i*P	**Pn**	**10 58 25.8 +1.6**	
BIPH			*i* S	**Sn**	**10 59 25.6 +4.8**	
SANI	**Sanana**	**5.26 189**	P	**Pn**	**10 58 28.2 +0.4**	
SANI	**Sanana**	**5.26 189**	P	**Pn**	**10 58 27.9 +0.1**	
	26nm,0.7s,0.2nm					
MRSI	**Marisa**	**5.58 241**	P	**Pn**	**10 58 35.6 +3.4**	
	157nm,0.7s,0.5nm					
CGP	**Cagayan de Oro**	**5.66 338⇓**	*e*P	Pn	10 58 43.0 +10	
LUWI	**Luwuk**	**5.84 224**	Pn	Pn	10 58 45.4 +10	
LUWI	**Luwuk**	**5.84 224**	P	**Pn**	**10 58 39.6 +3.9**	
	285nm,0.9s,0.8nm					
SIJI	**Sorong**	**5.98 132**	P	**Pn**	**10 58 40.3 +2.6**	
	28nm,0.5s,baz=338,slow=11,SNR=24					
SIJI			S	**Sn**	**10 59 47.6 +2.6**	
	7.9nm,0.5s,baz=307,slow=20,SNR=1.0					
TOLI2	**Tolitoli**	**6.39 251**	Pn	**Pn**	**10 58 43.5 +0.1**	
MYLDM	**Lahad Datu**	**8.55 284**	Pn	**Pn**	**10 59 17.6 +4.6**	
KAPI	**Kappang**	**10.78 221**	P	**Pn**	**10 59 44.5 +0.9**	
	4.4nm,0.4s,baz=194,slow=17,SNR=2.3					
KKM	**Kota Kinabalu**	**10.96 285**	Pn	Pn	10 59 52.5 +6.3	
BATI	**Baumata**	**13.66 193**	P	**Pn**	**11 00 24.8 +1.7**	
	14nm,0.7s,baz=342,slow=9.0,SNR=1.8					
SBUM	**Sibu**	**14.62 268**	Pn	**Pn**	**11 00 37.7 +1.7**	
MTN	**Manton Dam**	**16.48 165**	P	**Pn**	**11 00 59.7 -0.6**	
MTN	**Manton Dam**	**16.48 165**	P	**Pn**	**11 00 58.7 -1.6**	
KDU	**Kakadu**	**16.73 161**	P	**Pn**	**11 01 03.4 0.0**	
KNRA	**Kununurra**	**18.83 174**	P	**P**	**11 01 28.1 -0.5**	
KNRA			IAmb	IAmb	11 01 31.1	
	comp=Z,33nm,0.8s					
KNRA	**Kununurra**	**18.83 174**	P	**P**	**11 01 28.1 -0.5**	
YULB	**Yu-li**	**20.80 346**	P	**P**	**11 01 46.5 -3.5**	
TPUB	**Ta-pu**	**20.89 344**	P	**P**	**11 01 48.1 -2.9**	
TPUB			IAmb	IAmb	11 01 51.7	
	comp=Z,41nm,0.8s					
FITZ	**Fitzroy Crossi**	**21.17 183**	P	**P**	**11 01 52.1 -1.9**	
FITZ	**Fitzroy Crossi**	**21.17 183**	P	**P**	**11 01 53.8 -0.2**	
SSLB	**Suanglung**	**21.27 345**	P	**P**	**11 01 53.8 -1.3**	
SSLB			IAmb	IAmb	11 01 58.5	
	comp=Z,53nm,1.2s					
SSLB	**Suanglung**	**21.27 345**	P	**P**	**11 01 53.6 -1.5**	
LEM	**Lembang**	**21.61 243**	P	**P**	**11 01 58.5 -0.5**	
	comp=Z,8.9nm,0.4s,baz=139,slow=23,SNR=1.6					
	comp=Z,8.9nm,0.4s					
YHNB	**Yeheng**	**22.01 347**	P	**P**	**11 02 01.7 -1.4**	
WB0	**Warramunga Arr**	**23.98 162**	P	**P**	**11 02 21.9 -1.2**	
WRAB	**Tennant Creek**	**24.12 162**	P	**P**	**11 02 23.3 -1.1**	
WRAB			IAmb	IAmb	11 02 23.9	
	comp=Z,21nm,0.6s					
WRAB	**Tennant Creek**	**24.12 162**	P	**P**	**11 02 23.2 -1.1**	
WRA	**Warramunga Arr**	**24.13 163**	P	**P**	**11 02 23.2 -1.3**	
	comp=Z,12nm,0.6s,baz=339,slow=10,SNR=110					
WRA			PcP	**PcP**	**11 06 04.2 -1.0**	
	comp=Z,0.3nm,0.5s,baz=345,slow=1.9,SNR=1.7					
WRA			S	**S**	**11 06 37.1 -3.1**	
	comp=Z,1.0nm,1.0s,baz=339,slow=19,SNR=1.9					
	comp=Z,12nm,0.6s					
WRA	**Warramunga Arr**	**24.13 163**	P	**P**	**11 02 21.9 -2.6**	
WB2	**Warramunga Arr**	**24.13 162**	P	**P**	**11 02 23.4 -1.1**	
WR0	**Warramunga Arr**	**24.20 162**	P	**P**	**11 02 24.6 -0.5**	
WR0			IAmb	IAmb	11 02 48.3	
	comp=Z,17nm,0.8s					
MBWA	**Marble Bar**	**25.17 196**	P	**P**	**11 02 34.2 +0.3**	
MBWA			IAmb	IAmb	11 02 38.8	
	comp=Z,18nm,1.0s					
MBWA	**Marble Bar**	**25.17 196**	P	**P**	**11 02 34.3 +0.4**	
PSA00	**Pilbara Seismi**	**25.53 195**	P	**P**	**11 02 37.5 +0.4**	
PSA00			IAmb	IAmb	11 02 42.2	
	comp=Z,24nm,1.1s					
PSA00	**Pilbara Seismi**	**25.53 195**	P	**P**	**11 02 37.7 +0.5**	
QIS	**Mount Isa**	**26.71 153**	P	**P**	**11 02 47.9 0.0**	
AS31	**Alice Springs**	**27.55 166**	P	**P**	**11 02 54.5 -1.0**	
ASAR	**Alice Springs**	**27.55 166**	P	**P**	**11 02 54.4 -1.1**	
	comp=Z,2.1nm,0.7s,baz=344,slow=6.3,SNR=46					
ASAR			PcP	**PcP**	**11 06 11.7 -1.3**	
	comp=Z,1.1nm,0.7s,baz=360,slow=1.9,SNR=4.9					
ASAR			S	**S**	**11 07 29.9 -4.7**	
	comp=Z,0.2nm,0.8s,baz=349,slow=21,SNR=0.9					
	comp=Z,2.1nm,0.7s					
ASAR	**Alice Springs**	**27.55 166**	P	**P**	**11 02 53.6 -1.8**	
AS01	**Alice Springs**	**27.57 166**	P	**P**	**11 02 54.9 -0.7**	
WRKA	**Warakurna**	**28.08 177**	P	**P**	**11 03 00.2 +0.1**	
NJ2	**Nanjing**	**29.69 346**	*e*P	**P**	**11 03 15.4 +1.1**	
NJ2			pmax	pmax		
	comp=Z,6.0nm,0.5s					
CTAO	**Charters Tower**	**29.97 141**	P	**P**	**11 03 19.8 +2.9**	
MEEK	**Meekatharra**	**30.69 195**	P	**P**	**11 03 22.8 -0.4**	
CMAR	**Chiang Mai Arr**	**31.24 301**	P	**P**	**11 03 28.4 +0.2**	
	comp=Z,2.6nm,0.8s,baz=116,slow=7.1,SNR=16					
	comp=Z,2.6nm,0.8s					
ENH	**Enshi**	**31.56 330**	P	**P**	**11 03 30.8 -0.2**	
ENH			IAmb	IAmb	11 03 31.9	
	comp=Z,8.5nm,0.8s					
OOD	**Oodnadatta**	**31.95 165**	P	**P**	**11 03 33.1 -1.2**	
PZH	**PanZhiHua**	**33.41 316**	P	**P**	**11 03 49.4 +2.1**	
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,170nm,4.9s					
INKA	**Innaminka**	**33.53 157**	P	**P**	**11 03 47.9 -0.3**	
FORT	**Forrest**	**33.78 178**	P	**P**	**11 03 49.8 -0.6**	
FORT	**Forrest**	**33.78 178**	P	**P**	**11 03 49.6 -0.7**	
KSRS	**Korea Array**	**34.13 2**	P	**P**	**11 03 53.2 0.0**	
	comp=Z,2.1nm,0.8s,baz=176,slow=8.6,SNR=5.5					
	comp=Z,2.1nm,0.8s					
KMBL	**Kambalda**	**34.67 187**	P	**P**	**11 03 58.4 +0.4**	
MJAR	**Matsushiro Arr**	**34.82 16**	P	**P**	**11 04 00.5 +1.2**	
	comp=Z,0.9nm,0.7s,baz=189,slow=9.4,SNR=2.0					
	comp=Z,0.9nm,0.7s					
TNCH	**TengChong**	**34.86 311**	*e*P	**P**	**11 04 04.3 +4.3**	
TNCH			pmax	pmax		
	comp=Z,170nm,5.0s					
XAN	**Xi'an**	**34.95 334**	P	**P**	**11 03 58.3 -2.2**	
XAN			pmax	pmax		
	comp=Z,10.0nm,0.6s					
BLDU	**Ballidu**	**34.97 195**	P	**P**	**11 04 01.7 +1.1**	
LCRK	**Leigh Creek**	**35.16 163**	P	**P**	**11 04 01.5 -0.7**	
HNS	**HongShan**	**35.83 343**	⇑P	P	11 04 13.5 +5.6	
HNS			pmax	pmax		
	comp=Z,6.0nm,1.1s					
BBOO	**Buckleboo**	**36.84 167**	P	**P**	**11 04 15.9 -0.8**	
BBOO			IAmb	IAmb	11 04 16.5	
	comp=Z,7.2nm,0.7s					
BBOO	**Buckleboo**	**36.84 167**	P	**P**	**11 04 16.2 -0.4**	
STKA	**Stephens Creek**	**37.58 159**	P	**P**	**11 04 22.4 -0.5**	
	comp=Z,24nm,0.7s,baz=334,slow=8.7,SNR=76					
STKA			PcP	**PcP**	**11 06 37.9 -2.5**	
	comp=Z,3.7nm,0.6s,baz=333,slow=6.4,SNR=3.8					
	comp=Z,24nm,0.7s					
STKA	**Stephens Creek**	**37.58 159**	P	**P**	**11 04 22.5 -0.4**	
STKA			IAmb	IAmb	11 04 23.4	
	comp=Z,5.4nm,0.7s					
STKA	**Stephens Creek**	**37.58 159**	P	**P**	**11 04 22.5 -0.4**	
BJT	**Baijiatuau**	**37.93 347**	P	**P**	**11 04 25.5 -0.2**	
BJT			IAmb	IAmb	11 04 27.0	
	comp=Z,7.1nm,0.7s					
BJI	**Beijing**	**37.95 347**	P	**P**	**11 04 26.3 +0.5**	
BJI			pP	**pP**	**11 04 34.5 -1.0**	
BJI			sP	**sP**	**11 04 39.8 +0.3**	
BJI			pmax	pmax		
	comp=Z,5.0nm,0.7s					
HTT	**Hallett**	**38.16 164**	P	**P**	**11 04 27.6 -0.2**	
RKGY	**Rocky Gully**	**38.71 193**	P	**P**	**11 04 32.5 +0.1**	
LZH	**Lanzhou**	**39.03 330**	*e*P	**P**	**11 04 36.0 +0.7**	
LZH			pP	pP	11 04 42.8 -2.2	
LZH			pmax	pmax		
	comp=Z,16nm,1.6s					
HHC	**Hu-ho-hao-te**	**39.95 342**	*e*P	**P**	**11 04 44.1 +1.3**	
HHC			pmax	pmax		
	comp=Z,30nm,0.8s					
HHC			pmax	pmax		
	comp=Z,260nm,5.7s					
SHL	**Shillong**	**40.29 307**	P	**P**	**11 04 45.0 -0.9**	
ARMA	**Armidale**	**40.95 146**	P	**P**	**11 04 50.9 -0.3**	
ARMA			IAmb	IAmb	11 05 12.7	
	comp=Z,15nm,1.2s					
USRK	**Ussuriysk Ar.**	**41.11 6**	P	**P**	**11 04 53.0 +0.9**	
	comp=Z,4.1nm,0.7s,baz=197,slow=6.0,SNR=6.2					
	comp=Z,4.1nm,0.7s					
XLT	**XiLinHaoTe**	**41.66 348**	*e*P	**P**	**11 04 57.8 +1.0**	
XLT			pP	pP	11 05 06.9 +0.4	
XLT			sP	sP	11 05 12.9 +2.5	
XLT			pmax	pmax		
	comp=Z,13nm,0.7s					
XLT			pmax	pmax		
	comp=Z,260nm,9.9s					
H11S3	**WAKE ISLAND Hy**	**41.86 66**	T	T	11 49 32.7	
	baz=253,slow=75,SNR=28					
H11S2	**WAKE ISLAND Hy**	**41.87 66**	T	T	11 49 34.8	
	baz=253,slow=75,SNR=20					
H11S1	**WAKE ISLAND Hy**	**41.87 66**	T	T	11 49 33.5	
	baz=253,slow=75,SNR=13					
ASAJ	**Asahikawa**	**43.09 17**	P	**P**	**11 05 08.9 +0.6**	
	comp=Z,6.7nm,0.8s,baz=152,slow=26,SNR=1.7					
	comp=Z,6.7nm,0.8s					
JKA	**Kamikawa-asahi**	**43.09 17**	P	**P**	**11 05 09.1 +0.8**	
CAN	**Canberra**	**43.57 153**	P	**P**	**11 05 12.8 +0.4**	
GTA	**Gaotai**	**43.62 329**	*e*P	**P**	**11 05 12.9 0.0**	
GTA			pP	pP	11 05 22.8 +0.1	
GTA			sP	sP	11 05 26.9 +0.2	
GTA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
TOO	**Toolangi**	**44.09 159**	P	**P**	**11 05 16.8 +0.2**	
TOO			IAmb	IAmb	11 05 31.0	
	comp=Z,14nm,1.4s					
GOMU	**GeErMu**	**44.18 322**	P	**P**	**11 05 19.0 +1.3**	
GOMU			pP	pP	11 05 23.6 -3.9	
GOMU			sP	pwP	11 05 25.1 -5.0	
GOMU			pmax	pmax		
	comp=Z,3.0nm,1.0s					
GOMU			pmax	pmax		
	comp=Z,150nm,5.1s					
KLR	**Kul'dur**	**46.08 4**	P	**P**	**11 05 32.5 +0.5**	
	comp=Z,5.8nm,1.0s,baz=213,slow=4.4,SNR=12					
	comp=Z,5.8nm,1.0s					
HEH	**HeiHe**	**46.91 1**	*e*P	**P**	**11 05 38.4 -0.2**	
HEH			pmax	pmax		
	comp=Z,6.0nm,0.9s					
HEH			pmax	pmax		
	comp=Z,220nm,4.8s					
ULN	**Ulaanbaatar**	**47.67 342**	P	**P**	**11 05 44.1 -0.7**	
ULN			IAmb	IAmb	11 05 56.6	
	comp=Z,7.2nm,1.1s					
SONM	**Songino Array**	**47.85 341**	P	**P**	**11 05 46.0 -0.2**	
	comp=Z,1.1nm,0.6s,baz=157,slow=8.1,SNR=9.3					
SONM			PcP	**PcP**	**11 07 12.8 -1.7**	
	comp=Z,1.6nm,0.8s,baz=139,slow=5.0,SNR=4.6					
	comp=Z,1.1nm,0.6s					
SONM	**Songino Array**	**47.85 341**	P	**P**	**11 05 45.2 -0.9**	
WMQ	**Urumqi**	**53.24 325**	*e*P	**P**	**11 06 26.5 -0.3**	
WMQ			pmax	pmax		
	comp=Z,10.0nm,0.9s					
MSVF	**Nonsavu**	**54.59 114**	P	**P**	**11 06 37.2 +0.1**	
	comp=Z,6.0nm,0.9s,baz=183,slow=23,SNR=4.9					
	comp=Z,6.0nm,0.9s					
PETK	**Petropavlovsk-**	**55.90 22**	P	**P**	**11 06 46.2 +0.3**	
	comp=Z,6.2nm,0.8s,baz=197,slow=4.5,SNR=10					
	comp=Z,6.2nm,0.8s					
MK31	**Makanchi Array**	**58.07 325**	P	**P**	**11 07 00.7 -0.7**	
MK31			IAmb	IAmb	11 07 02.5	
	comp=Z,4.0nm,0.7s					
MKAR	**Makanchi Array**	**58.07 325**	P	**P**	**11 07 00.7 -0.7**	
	comp=Z,5.3nm,0.5s,baz=121,slow=7.8,SNR=87					
	comp=Z,5.3nm,0.5s					
MKAR	**Makanchi Array**	**58.07 325**	P	**P**	**11 07 00.4 -1.1**	
MAKZ	**Makanchi**	**58.25 325**	P	**P**	**11 07 02.1 -0.7**	
MAKZ			IAmb	IAmb	11 07 03.4	
	comp=Z,5.4nm,0.7s					
YAK	**Yakutsk**	**58.76 2**	P	**P**	**11 07 05.7 -0.2**	
MA2	**Magadan**	**59.21 14**	P	**P**	**11 07 09.7 +0.6**	
	comp=Z,3.8nm,0.7s,baz=187,slow=12,SNR=3.8					
	comp=Z,3.8nm,0.7s					
ZAA0	**Zalesovo Array**	**61.13 333**	P	**P**	**11 07 21.7 -0.6**	
ZAA0			IAmb	IAmb	11 07 24.9	
	comp=Z,4.8nm,0.9s					
ZALV	**Zalesovo Beam**	**61.13 333**	P	**P**	**11 07 21.2 -1.0**	
	comp=Z,3.0nm,0.6s,baz=116,slow=6.3,SNR=11					
	comp=Z,3.0nm,0.6s					
KURK	**Kurtov**	**62.26 328**	P	**P**	**11 07 29.0 -1.0**	
SEY	**Seymchan**	**62.55 13**	P	**P**	**11 07 31.2 -0.4**	
	comp=Z,3.3nm,0.9s,baz=208,slow=6.6,SNR=9.8					
	comp=Z,3.3nm,0.9s					
KK31	**Karatay Array**	**63.71 317**	P	**P**	**11 07 39.2 -0.6**	
KKAR	**Karatay Array**	**63.71 317**	P	**P**	**11 07 39.2 -0.6**	
KKAR	**Karatay Array**	**63.71 317**	P	**P**	**11 07 39.2 -0.6**	
KKAR			IAmb	IAmb	11 07 41.4	
	comp=Z,1.8nm,0.8s					
BRVK	**Borovoye**	**67.91 327**	P	**P**	**11 08 05.8 -0.9**	
BRVK			IAmb	IAmb	11 08 07.0	
	comp=Z,4.4nm,0.7s					
TIXI	**Tiksi**	**68.39 1**	P	**P**	**11 08 09.2 -0.1**	
	comp=Z,6.7nm,0.5s,baz=270,slow=24,SNR=26					
	comp=Z,6.7nm,0.5s					
TIXI	**Tiksi**	**68.39 1**	P	**P**	**11 08 08.2 -1.1**	
TIXI			IAmb	IAmb	11 08 10.3	
	comp=Z,7.8nm,0.8s					
NRIK	**Noril'sk**	**70.99 346**	P	**P**	**11 08 25.3 -0.1**	
	comp=Z,5.8nm,0.6s,baz=141,slow=6.7,SNR=9.7					
	comp=Z,5.8nm,0.6s					
NRIK	**Noril'sk**	**70.99 346**	P	**P**	**11 08 25.8 +0.4**	
NRIK			IAmb	IAmb	11 08 29.4	
	comp=Z,15nm,1.4s					
GEYT	**Alibeck**	**71.32 309**	P	**P**	**11 08 27.6 -0.5**	
	comp=Z,1.0nm,0.4s,baz=114,slow=3.5,SNR=2.2					
	comp=Z,1.0nm,0.4s					
ABKAR	**Akbulak array**	**72.64 321**	P	**P**	**11 08 34.5 -1.2**	
ABKAR	**Akbulak array**	**72.64 321**	P	**P**	**11 08 34.9 -0.8**	
ABKAR			IAmb	IAmb	11 08 36.1	
	comp=Z,4.0nm,0.7s					
KDAK	**Kodiak Island**	**82.30 32**	P	**P**	**11 09 30.0 +0.5**	
	comp=Z,7.8nm,0.8s,baz=267,slow=2.7,SNR=1.6					
	comp=Z,7.8nm,0.8s					
IMAR	**Indian Mountai**	**82.80 24**	P	**P**	**11 09 32.9 +0.9**	
VNDA	**Vanda**	**82.87 173**	P	**P**	**11 09 31.6 -0.4**	
	comp=Z,1.6nm,0.8s,baz=322,slow=8.4,SNR=5.8					
	comp=Z,1.6nm,0.8s					
VNDA	**Vanda**	**82.87 173**	P	**P**	**11 09 32.2 +0.2**	
CAST	**Castle Rocks**	**83.18 27**	P	**P**	**11 09 34.2 +0.2**	
CAST			IAmb	IAmb	11 09 36.9	
	comp=Z,5.5nm,0.8s					
KBZ	**Khabaz**	**83.43 313**	P	**P**	**11 09 35.9 +0.2**	
	comp=Z,2.3nm,0.9s,baz=29,slow=3.8,SNR=2.0					
	comp=Z,2.3nm,0.9s					
SUA	**Susitna One**	**83.60 29**	P	**P**	**11 09 36.4 +0.1**	
ILAR	**Eielson Array**	**85.55 25**	P	**P**	**11 09 46.2 +0.2**	
	comp=Z,0.5nm,0.7s,baz=264,slow=5.4,SNR=6.3					
	comp=Z,0.5nm,0.7s					
KLMR	**Klimovskoe**	**85.94 331**	*e*P	**P**	**11 09 46.7 -1.2**	
KLMR			AMP		11 09 48.8	
	comp=Z,7.0nm,0.7s					
BRTR	**Keskin Array B**	**90.45 310**	P	**P**	**11 10 08.1 -2.1**	
	comp=Z,1.4nm,0.9s,baz=141,slow=4.7,SNR=5.9					
	comp=Z,1.4nm,0.9s					
INK	**Inuvik**	**90.63 22**	P	**P**	**11 10 08.0 -2.2**	
	comp=Z,1.6nm,1.0s,baz=239,slow=4.8,SNR=4.3					
	comp=Z,1.6nm,1.0s					
ARCES	**ARCESS Array B**	**91.00 340**	P	**P**	**11 10 10.6 -1.3**	
	comp=Z,6.8nm,0.9s,baz=29,slow=2.8,SNR=3.8					
	comp=Z,6.8nm,0.9s					
FINES	**FINESS Array B**	**92.37 332**	P	**P**	**11 10 16.1 -2.3**	
	comp=Z,1.2nm,0.6s,baz=106,slow=3.0,SNR=5.1					
	comp=Z,1.2nm,0.6s					
AKASG	**Malin Array Ne**	**92.39 321**	P	**P**	**11 10 16.9 -1.7**	
	comp=Z,1.0nm,0.6s,baz=67,slow=4.6,SNR=6.6					
	comp=Z,1.0nm,0.6s					
QSPA	**South Pole Qui**	**93.09 180**	P	**P**	**11 10 21.1 -0.6**	
NOA	**NORSAR Array B**	**99.33 334**	P	**Pdif**	**11 10 48.5 -1.6**	
	comp=Z,0.5nm,0.7s,baz=67,slow=4.5,SNR=1.9					
	comp=Z,0.5nm,0.7s					
YKA	**Yellowknife Ar**	**99.95 24**	P	**Pdif**	**11 10 51.7 -1.1**	
	comp=Z,0.3nm,0.8s,baz=300,slow=4.6,SNR=3.8					
TXAR	**Lajitas Array**	**121.85 52**	PKP	**PKPdf**	**11 16 03.2 +0.2**	
	comp=Z,0.7nm,0.8s,baz=242,slow=1.9,SNR=2.7					
TORD	**Torodi Ar. Bea**	**123.19 288**	PKP	**PKPdf**	**11 16 04.8 -1.0**	
	comp=Z,2.5nm,0.7s,baz=50,slow=2.3,SNR=13					

BEO ***22*** *11:26:44.7±0.8, 37.16N×20.81E, h0km, ML3.5/5*
THE ***22*** *11:26:45.2, 37.17N×21.07E, h0km±2km, ML3.4/5, Error ellipse: s-maj=2.8km s-min=0.6km az=221.0*
ATH ***22*** *11:26:45.1, 37.15N×21.08E, h12km±2km, ML3.3/4, Error ellipse: s-maj=4.0km s-min=1.1km az=43.0*
IDC ***22*** *11:26:45.1±2.8, 37.53N×21.36E, h0km, mb3.7/7, mbtmp3.6/9, ML3.2/2, Error ellipse: s-maj=59.6km s-min=19.7km az=41.0*

ISC 22 11:26:44.7±1.3, 37.19N±0.05×21.06E±0.04, h13km±8km, n73, σ1s22/92, mb3.5/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.55**	**342**	P	**Pb**	**11 26 56.7**	**+0.4**
LTHK				S	**Sb**	**11 27 04.9**	**+0.8**
	8μm,0.3s						
LTHK	**Lithakia**	**0.55**	**342**	P	**Pb**	**11 26 56.7**	**+0.4**
LTHK				S	**Sb**	**11 27 04.8**	**+0.7**
LTHK				AML	AML	11 27 07.5	
	comp=E,14024μm,0.3s						
LTHK				AML	AML	11 27 07.6	
	comp=N,16214μm,0.2s						
PYL	**PYLOS**	**0.62**	**118**	P	**Pg**	**11 26 56.5**	**-0.4**
PYL				S	**Sb**	**11 27 06.1**	**-0.1**
	comp=N,5μm,0.5s						
PYL	**PYLOS**	**0.62**	**118**	P	**Pg**	**11 26 56.7**	**-0.2**
PYL				S	**Sg**	**11 27 04.8**	**-0.2**
PYL				AML	AML	11 27 07.3	
	comp=E,10735μm,0.5s						
PYL				AML	AML	11 27 07.5	
	comp=N,9071μm,0.5s						
ITM	**Ithomi**	**0.69**	**90**	P	**Pg**	**11 26 57.7**	**-0.6**
ITM				S	**Sg**	**11 27 07.8**	**+0.4**
	comp=N,1μm,0.3s						
ITM	**Ithomi**	**0.69**	**90**	P	**Pg**	**11 26 57.6**	**-0.7**
ITM				S	**Sg**	**11 27 07.1**	**-0.3**
ITM				AML	AML	11 27 09.7	
	comp=N,2737μm,0.3s						
ITM				AML	AML	11 27 10.1	
	comp=E,2992μm,0.4s						
RLS	**Riolos of Patr**	**0.93**	**20**	P	**Pg**	**11 27 02.6**	**0.0**
RLS	**Riolos of Patr**	**0.93**	**20**	P	**Pg**	**11 27 02.6**	**0.0**
PSDA	**Pessada-Kefalo**	**1.00**	**338**	P	**Pb**	**11 27 04.1**	**+0.1**
PSDA	**Pessada-Kefalo**	**1.00**	**338**	P	**Pb**	**11 27 04.0**	**+0.1**
PSDA				S	**Sn**	**11 27 18.4**	**-0.1**
VLS	**Valsamata**	**1.05**	**340**	P	**Pg**	**11 27 05.1**	**0.0**
VLS				S	**Sn**	**11 27 20.7**	**+0.8**
	comp=E,1μm,0.3s						
VLS	**Valsamata**	**1.05**	**340**	P	**Pg**	**11 27 05.1**	**0.0**
VLS				S	**Sn**	**11 27 20.2**	**+0.3**
VLS				AML	AML	11 27 25.1	
	comp=E,2416μm,0.3s						
VLS				AML	AML	11 27 29.8	
	comp=N,2801μm,0.4s						
KEF3	**Kipouria, Keph**	**1.16**	**331**	P	**Pg**	**11 27 07.0**	**-0.1**
KEF3	**Kipouria, Keph**	**1.16**	**331**	P	**Pb**	**11 27 06.8**	**+0.2**
KEF3				S	**Sn**	**11 27 23.3**	**+0.8**
DMLN	**Damoulianata-K**	**1.18**	**333**	P	**Pn**	**11 27 07.3**	**+0.3**
KEF4	**Livadi, Kephal**	**1.18**	**335**	P	**Pn**	**11 27 07.3**	**+0.3**
KEF4				S	**Sn**	**11 27 25.5**	**+2.6**
	comp=N,9μm,0.3s						
KEF4	**Livadi, Kephal**	**1.18**	**335**	P	**Pn**	**11 27 07.2**	**+0.2**
KEF4				S	**Sb**	**11 27 22.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.22**	**45**	P	**Pn**	**11 27 07.2**	**-0.4**
KLV	**Kalavryta, Ach**	**1.22**	**45**	P	**Pn**	**11 27 06.8**	**-0.8**
UPR	**University Cam**	**1.24**	**28**	P	**Pg**	**11 27 09.2**	**+0.6**
FSK	**Fiskardo**	**1.33**	**343**	P	**Pb**	**11 27 09.8**	**+0.2**
FSK	**Fiskardo**	**1.33**	**343**	P	**Pb**	**11 27 09.6**	**0.0**
ALIK	**Aliki, Aigiali**	**1.36**	**38**	P	**Pg**	**11 27 11.1**	**+0.2**
EFP	**Efpalio**	**1.41**	**28**	P	**Pb**	**11 27 10.9**	**-0.1**
EFP	**Efpalio**	**1.41**	**28**	P	**Pb**	**11 27 10.8**	**-0.1**
EVGI	**Lefkada island**	**1.47**	**348**	P	**Pb**	**11 27 12.0**	**+0.1**
EVGI	**Lefkada island**	**1.47**	**348**	P	**Pb**	**11 27 11.7**	**-0.2**
PVO	**Paravola**	**1.47**	**14**	P	**Pn**	**11 27 11.5**	**+0.4**
PVO	**Paravola**	**1.47**	**14**	P	**Pn**	**11 27 11.5**	**+0.4**
THAL	**Thalero**	**1.53**	**56**	P	**Pb**	**11 27 12.8**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.54**	**346**	P	**Pb**	**11 27 13.5**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.55**	**350**	P	**Pb**	**11 27 13.5**	**+0.2**
ANX	**Ano Chora**	**1.56**	**26**	P	**Pb**	**11 27 13.9**	**+0.3**
ANX	**Ano Chora**	**1.56**	**26**	P	**Pb**	**11 27 13.4**	**-0.2**
TSLK	**Tsoukalades, L**	**1.66**	**349**	P	**Pb**	**11 27 15.5**	**+0.2**
TSLK	**Tsoukalades, L**	**1.66**	**349**	P	**Pn**	**11 27 13.1**	**-0.6**
LOUT	**Loutraki**	**1.72**	**62**	P	**Pb**	**11 27 16.1**	**-0.2**
VILL	**Villia**	**2.04**	**61**	P	**Pn**	**11 27 20.3**	**+1

FAKI	**Fak Fak**	**8.13**	**138**	Pn	**Pn**	**11 43 24.7**	**+1.1**
MTN	**Manton Dam**	**16.46**	**165**	Pn	**Pn**	**11 45 13.3**	**-2.8**
MTN				IAmb	IAmb	11 45 56.6	
	comp=Z,21nm,1.2s						
KNRA	**Kununurra**	**18.81**	**174**	P	**P**	**11 45 43.5**	**-0.6**
KNRA				IAmb	IAmb	11 45 59.0	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.14**	**183**	P	**P**	**11 46 08.9**	**-0.6**
WB0	**Warramunga Arr**	**23.97**	**162**	P	**P**	**11 46 37.1**	**-1.4**
WRAB	**Tennant Creek**	**24.11**	**162**	P	**P**	**11 46 39.1**	**-0.8**
WRAB				IAmb	IAmb	11 46 39.2	
	comp=Z,8.5nm,0.6s						
WRA	**Warramunga Arr**	**24.11**	**162**	P	**P**	**11 46 38.7**	**-1.2**
	comp=Z,4.1nm,0.5s,baz=338,slow=11,SNR=46						
	comp=Z,4.1nm,0.5s						
WRA	**Warramunga Arr**	**24.11**	**162**	P	**P**	**11 46 38.0**	**-1.9**
WB2	**Warramunga Arr**	**24.12**	**162**	P	**P**	**11 46 38.5**	**-1.5**
WB2				IAmb	IAmb	11 46 39.2	
	comp=Z,8.0nm,0.6s						
WR0	**Warramunga Arr**	**24.19**	**162**	P	**P**	**11 46 40.2**	**-0.4**
WR0				IAmb	IAmb	11 46 43.7	
	comp=Z,5.2nm,0.5s						
PSA00	**Pilbara Seismi**	**25.50**	**195**	P	**P**	**11 46 53.1**	**+0.6**
PSA00				IAmb	IAmb	11 46 57.4	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**27.54**	**166**	P	**P**	**11 47 10.3**	**-0.6**
ASAR	**Alice Springs**	**27.54**	**166**	P	**P**	**11 47 09.8**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=353,slow=15,SNR=14						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**27.54**	**166**	P	**P**	**11 47 08.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**31.22**	**301**	P	**P**	**11 47 44.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=119,slow=7.3,SNR=4.4						
	comp=Z,0.3nm,0.3s						
FORT	**Forrest**	**33.76**	**178**	P	**P**	**11 48 05.2**	**-0.5**
HNR	**Honiara**	**35.32**	**111**	P	**P**	**11 48 19.4**	**0.0**
BBOO	**Buckleboo**	**36.83**	**167**	P	**P**	**11 48 31.2**	**-0.8**
STKA	**Stephens Creek**	**37.57**	**159**	P	**P**	**11 48 37.6**	**-0.7**
	comp=Z,6.8nm,0.6s,baz=336,slow=9.3,SNR=22						
	comp=Z,6.8nm,0.6s						
STKA	**Stephens Creek**	**37.57**	**159**	P	**P**	**11 48 37.9**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**41.91**	**66**	T	T	12 33 49.8	
	baz=253,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**41.92**	**66**	T	T	12 33 47.2	
	baz=253,slow=74,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**41.92**	**66**	T	T	12 33 47.2	
	baz=253,slow=74,SNR=16						
SONM	**Songino Array**	**47.87**	**342**	P	**P**	**11 50 01.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=157,slow=7.8,SNR=2.7						
	comp=Z,0.3nm,0.4s						
PETK	**Petropavlovsk-**	**55.94**	**22**	P	**P**	**11 51 02.8**	**+1.1**
	comp=Z,3.5nm,1.0s,baz=186,slow=5.3,SNR=6.4						
	comp=Z,3.5nm,1.0s						
MK31	**Makanchi Array**	**58.07**	**325**	P	**P**	**11 51 16.1**	**-0.8**
MK31				IAmb	IAmb	11 51 22.9	
	comp=Z,1.7nm,1.2s						
MKAR	**Makanchi Array**	**58.07**	**325**	P	**P**	**11 51 15.9**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=119,slow=8.5,SNR=31						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**58.07**	**325**	P	**P**	**11 51 15.6**	**-1.3**
MAKZ	**Makanchi**	**58.25**	**325**	P	**P**	**11 51 17.4**	**-0.8**
MAKZ				IAmb	IAmb	11 51 18.3	
	comp=Z,5.1nm,1.3s						
MA2	**Magadan**	**59.25**	**14**	LR	LR	12 15 33.9	
	comp=Z,89nm,20.8s,baz=351,slow=34						
ZALV	**Zalesovo Beam**	**61.13**	**333**	P	**P**	**11 51 37.2**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=131,slow=7.4,SNR=3.7						
	comp=Z,0.6nm,0.4s						
BSWZ	**Blackbirch Sta**	**61.78**	**142**	P	**P**	**11 51 43.8**	**+1.4**
KURBB	**Kurchatov Arra**	**62.26**	**328**	P	**P**	**11 51 44.0**	**-1.5**
	comp=Z,1.2nm,0.2s,baz=126,slow=5.9,SNR=5.9						
	comp=Z,1.2nm,0.2s						
BVAR	**Borovoye Array**	**67.84**	**327**	P	**P**	**11 52 20.9**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=139,slow=7.9,SNR=5.2						
	comp=Z,0.8nm,0.6s						
TIXI	**Tiksi**	**68.42**	**1**	P	**P**	**11 52 23.6**	**-1.3**
TIXI				IAmb	IAmb	11 52 47.4	
	comp=Z,3.2nm,0.4s						
NRIK	**Noril'sk**	**71.00**	**346**	P	**P**	**11 52 40.9**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=135,slow=8.6,SNR=3.8						
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**72.64**	**321**	P	**P**	**11 52 50.5**	**-0.6**
IMAR	**Indian Mountai**	**82.84**	**24**	P	**P**	**11 53 48.5**	**+0.9**
VNDA	**Vanda**	**82.85**	**173**	P	**P**	**11 53 48.5**	**+1.1**
VNDA				IAmb	IAmb	11 53 57.0	
	comp=Z,7.0nm,1.5s						
BMAR	**Burnt Mountain**	**86.58**	**23**		**P**	**11 54 07.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**123.16**	**288**	PKP	**PKiKP**	**12 00 21.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=48,slow=1.1,SNR=2.6						

*IDC **22** 11:42:36.5±0.6,1.°78N×126.°19E,h0km,mb4.4/22, mbtmp4.4/23,ML3.4/1,Error ellipse: s-maj=26.0km s-min=12.8km az=74.0*
*DJA **22** 11:42:41.7±0.5,2.°N±5.°×12.°7E±.°,h10km,M4.4/8,mb4.5/3, mB5.2/2,MLv4.3/8,Mw(mB)4.5/2*
*NEIC **22** 11:42:43.8±1.7,1.°85N±0.°07×126.°48E±0.°08,h47km±4km, mb4.7/38,Error ellipse: s-maj=13.3km s-min=8.4km az=53.0*

ISC 22 11:42:43.7±0.4,**1.°91N**±0.°05×**126.°51E**±0.°07,**h47**km,**n105,** σ1**933**/110,**mb4.6**/45,**1D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.42**	**143**	Pn	**Pn**	**11 43 05.9**	**-1.1**
TNTI	**Ternate**	**1.42**	**143**	P	**Pn**	**11 43 05.9**	**-1.1**
TNTI	**Ternate**	**1.42**	**143**	P	**Pn**	**11 43 05.8**	**-1.2**
TNTI				S	**Sn**	**11 43 27.1**	**+2.6**
SANI	**Sanana**	**3.96**	**188**	P	**Pn**	**11 43 41.2**	**-0.8**
SANI	**Sanana**	**3.96**	**188**	P	**Pn**	**11 43 41.4**	**-0.6**
LUWI	**Luwuk**	**4.75**	**232**	Pn	**Pn**	**11 43 53.1**	**+0.3**
LUWI	**Luwuk**	**4.75**	**232**	P	**Pn**	**11 43 54.8**	**+2.0**
LUWI	**Luwuk**	**4.75**	**232**	P	Pn	11 43 56.8	+4.0
MRSI	**Marisa**	**4.78**	**253**	P	**Pn**	**11 43 54.7**	**+1.4**
SIJI	**Sorong**	**5.50**	**120**	Pn	**Pn**	**11 44 03.6**	**+0.5**
	1.1nm,0.3s,baz=261,slow=7.6,SNR=5.9						
	13nm,0.6s						
TOLI2	**Tolitoli**	**5.78**	**262**	Pn	**Pn**	**11 44 06.2**	**-0.7**
TOLI2	**Tolitoli**	**5.78**	**262**	P	**Pn**	**11 44 06.3**	**-0.7**
BIPH	**Bislig**	**6.24**	**359**	⇓*i*P	**Pn**	**11 44 17.4**	**+4.1**
BIPH				*i*S	**Sn**	**11 45 19.4**	**-3.9**
MPSI	**Mapaga**	**6.79**	**257**	P	**Pn**	**11 44 23.1**	**+2.3**
MYLDM	**Lahad Datu**	**8.63**	**292**		**Pn**	**11 44 48.0**	**+1.9**
KKM	**Kota Kinabalu**	**11.06**	**292**	Pn	**Pn**	**11 45 21.6**	**+2.2**
KKM	**Kota Kinabalu**	**11.06**	**292**	P	**Pn**	**11 45 21.4**	**+2.0**
PLAI	**Plampang**	**13.77**	**219**	P	**Pn**	**11 45 56.2**	**-0.1**
KNRA	**Kununurra**	**17.61**	**173**	P	**P**	**11 46 45.6**	**-0.7**
KNRA				IAmb	IAmb	11 46 48.1	
	comp=Z,36nm,1.1s						
KNRA	**Kununurra**	**17.61**	**173**	P	**P**	**11 46 45.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.90**	**182**	P	**P**	**11 47 10.1**	**-1.3**
YULB	**Yu-li**	**21.95**	**347**	P	**P**	**11 47 34.6**	**+1.1**
TPUB	**Ta-pu**	**22.02**	**345**	P	**P**	**11 47 34.5**	**+0.2**
SSLB	**Suanglung**	**22.41**	**347**	P	**P**	**11 47 37.2**	**-1.2**
SSLB				IAmb	IAmb	11 47 50.7	
	comp=Z,49nm,1.4s						
WB0	**Warramunga Arr**	**22.89**	**161**	P	**P**	**11 47 42.1**	**-1.4**
WB0				IAmb	IAmb	11 47 45.1	
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**23.03**	**161**	P	**P**	**11 47 43.3**	**-1.7**
WRAB				IAmb	IAmb	11 47 47.2	
	comp=Z,29nm,1.0s						
WRAB	**Tennant Creek**	**23.03**	**161**	P	**P**	**11 47 43.0**	**-2.0**
WRA	**Warramunga Arr**	**23.03**	**161**	P	**P**	**11 47 42.8**	**-2.2**
	comp=Z,9.4nm,0.4s,baz=339,slow=11,SNR=25						
WRA				PcP	**PcP**	**11 51 33.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=332,slow=2.2,SNR=4.7						
	comp=Z,9.4nm,0.4s						
WRA	**Warramunga Arr**	**23.03**	**161**	P	**P**	**11 47 43.9**	**-1.1**
WB2	**Warramunga Arr**	**23.04**	**161**	P	**P**	**11 47 43.3**	**-1.7**
WB2				IAmb	IAmb	11 47 47.2	
	comp=Z,35nm,1.1s						
WR0	**Warramunga Arr**	**23.12**	**160**	P	**P**	**11 47 44.1**	**-1.7**
WR0				IAmb	IAmb	11 47 48.1	
	comp=Z,21nm,1.1s						
MBWA	**Marble Bar**	**23.86**	**196**	P	**P**	**11 47 51.3**	**-1.7**
QIS	**Mount Isa**	**25.75**	**151**	P	**P**	**11 48 09.8**	**-0.4**
AS31	**Alice Springs**	**26.42**	**165**	P	**P**	**11 48 15.6**	**-0.6**
ASAR	**Alice Springs**	**26.42**	**165**	P	**P**	**11 48 15.3**	**-0.9**
	comp=Z,2.7nm,0.4s,baz=348,slow=12,SNR=22						
ASAR				PcP	**PcP**	**11 51 40.6**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=347,slow=2.3,SNR=8.9						
	comp=Z,2.7nm,0.4s						
ASAR	**Alice Springs**	**26.42**	**165**	P	**P**	**11 48 15.5**	**-0.7**
MTSU	**Mount Surprise**	**26.54**	**139**	P	**P**	**11 48 17.9**	**+0.6**
WRKA	**Warakurna**	**26.84**	**176**	P	**P**	**11 48 19.5**	**-0.5**
CTAO	**Charters Tower**	**29.20**	**139**	P	**P**	**11 48 41.9**	**+0.8**
MEEK	**Meekatharra**	**29.38**	**195**	P	**P**	**11 48 42.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.64**	**303**	P	**P**	**11 49 05.0**	**+2.3**
	comp=Z,1.4nm,0.3s,baz=110,slow=7.8,SNR=4.8						
MORW	**Morawa**	**32.39**	**197**	P	**P**	**11 49 07.8**	**-1.3**
FORT	**Forrest**	**32.54**	**178**	P	**P**	**11 49 08.9**	**-1.5**
FORT				IAmb	IAmb	11 49 19.7	
	comp=Z,17nm,0.9s						
INU	**Inuyama**	**34.68**	**15**	P	**P**	**11 49 28.4**	**-0.5**
JGF	**Kuroka**	**35.01**	**16**	P	**P**	**11 49 32.5**	**+0.7**
KSRS	**Korea Array**	**35.40**	**2**	P	**P**	**11 49 37.4**	**+2.4**
	comp=Z,2.5nm,0.7s,baz=172,slow=7.7,SNR=6.8						
TNCH	**TengChong**	**35.46**	**313**	P	**P**	**11 49 36.3**	**+0.3**
TNCH				pmax	pmax		
	comp=Z,140nm,4.5s						
BBOO	**Buckleboo**	**35.69**	**166**	P	**P**	**11 49 36.3**	**-1.4**
BBOO				IAmb	IAmb	11 49 38.2	
	comp=Z,22nm,1.4s						
NWAO	**Narrogin (SRO)**	**35.74**	**193**	P	**P**	**11 49 37.6**	**-0.4**
XAN	**Xi'an**	**35.95**	**335**	P	**P**	**11 49 38.0**	**-1.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MJAR	**Matsushiro Arr**	**36.12**	**16**	P	**P**	**11 49 41.0**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=182,slow=9.5,SNR=13						
	comp=Z,4.8nm,0.8s						
STKA	**Stephens Creek**	**36.52**	**158**	P	**P**	**11 49 44.0**	**-0.8**
	comp=Z,2.8nm,0.3s,baz=335,slow=7.9,SNR=6.3						
	comp=Z,2.8nm,0.3s						
STKA	**Stephens Creek**	**36.52**	**158**	P	**P**	**11 49 44.0**	**-0.8**
LZH	**Lanzhou**	**39.97**	**331**	*e*P	**P**	**11 50 13.8**	**-0.1**
LZH				pP	pP	11 50 18.9	-7.2
LZH				pmax	pmax		
	comp=Z,18nm,1.7s						
ARMA	**Armidale**	**40.09**	**145**	P	**P**	**11 50 15.1**	**+0.1**
ARMA				IAmb	IAmb	11 50 21.7	
	comp=Z,23nm,1.3s						
JTM	**Tenmabayashi**	**40.88**	**17**	P	**P**	**11 50 22.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**42.39**	**6**	P	**P**	**11 50 34.9**	**+1.4**
	comp=Z,4.5nm,0.8s,baz=192,slow=5.1,SNR=5.6						
	comp=Z,4.5nm,0.8s						
CAN	**Canberra**	**42.60**	**152**	P	**P**	**11 50 35.2**	**-0.2**
CAN				IAmb	IAmb	11 51 09.5	
	comp=Z,29nm,1.5s						
ASAJ	**Asahikawa**	**44.39**	**17**	P	**P**	**11 50 49.8**	**+0.2**
	comp=Z,13nm,0.9s,baz=345,slow=14,SNR=4.0						
	comp=Z,13nm,0.9s						
JKA	**Kamikawa-asahi**	**44.39**	**17**	P	**P**	**11 50 49.5**	**-0.1**
GTA	**Gaotai**	**44.55**	**330**	*e*P	**P**	**11 50 50.1**	**-1.1**
GTA				pP	pP	11 50 55.4	-8.1
GTA				sP	pwP	11 50 58.5	-7.1
GTA				PcP	**PcP**	**11 52 34.8**	**+1.1**
GOMU	**GeErMu**	**44.98**	**323**	P	**P**	**11 50 58.0**	**+3.0**
GOMU				pP	pP	11 51 02.9	-4.4
GOMU				sP	pwP	11 51 04.1	-5.4
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,88nm,4.8s						
KLR	**Kul'dur**	**47.36**	**5**	P	**P**	**11 51 13.3**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=258,slow=7.4,SNR=6.4						
	comp=Z,3.0nm,0.9s						
HEH	**HeiHe**	**48.18**	**1**	*e*P	**P**	**11 51 19.8**	**+0.5**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,200nm,5.9s						
SONM	**Songino Array**	**48.95**	**342**	P	**P**	**11 51 25.4**	**0.0**
	comp=Z,1.4nm,0.6s,baz=158,slow=9.5,SNR=9.3						
SONM				PcP	**PcP**	**11 52 49.0**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=151,slow=4.2,SNR=4.0						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**48.95**	**342**	P	**P**	**11 51 24.9**	**-0.6**
SONM				IAmb	IAmb	11 51 32.7	
	comp=Z,5.5nm,1.4s						
PEA0B	**Petropavlovsk-**	**57.19**	**22**	P	**P**	**11 52 26.6**	**+0.7**
PETK	**Petropavlovsk-**	**57.19**	**22**	P	**P**	**11 52 27.1**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=192,slow=6.0,SNR=12						
	comp=Z,1.8nm,0.6s						
MK31	**Makanchi Array**	**58.92**	**326**	P	**P**	**11 52 37.2**	**-1.0**
MKAR	**Makanchi Array**	**58.92**	**326**	P	**P**	**11 52 37.0**	**-1.1**
	comp=Z,2.8nm,0.4s,baz=120,slow=7.5,SNR=35						
	comp=Z,2.8nm,0.4s						
MKAR	**Makanchi Array**	**58.92**	**326**	P	**P**	**11 52 37.2**	**-0.9**
MAKZ	**Makanchi**	**59.11**	**326**	P	**P**	**11 52 38.3**	**-1.1**
MAKZ				IAmb	IAmb	11 52 41.6	
	comp=Z,2.9nm,0.6s						
KSH	**Kashi**	**59.18**	**316**	P	**P**	**11 52 44.3**	**+4.1**
MA2	**Magadan**	**60.52**	**14**	P	**P**	**11 52 50.7**	**+1.9**
	comp=Z,7.8nm,0.8s,baz=188,slow=8.3,SNR=8.2						
	comp=Z,7.8nm,0.8s						
ZALV	**Zalesovo Beam**	**62.11**	**334**	P	**P**	**11 52 58.0**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=124,slow=6.5,SNR=2.7						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**63.15**	**328**	P	**P**	**11 53 05.8**	**-0.8**
	comp=Z,3.3nm,0.4s,baz=125,slow=6.1,SNR=11						
	comp=Z,3.3nm,0.4s						
KURK	**Kurchatov**	**63.16**	**328**	P	**P**	**11 53 05.9**	**-0.8**
KURK				IAmb	IAmb	11 53 10.1	
	comp=Z,7.5nm,0.8s						
SEY	**Seymchan**	**63.85**	**13**	P	**P**	**11 53 12.2**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=222,slow=5.0,SNR=7.5						
	comp=Z,2.4nm,0.8s						
KK31	**Karatay Array**	**64.41**	**318**	P	**P**	**11 53 14.2**	**-1.0**
KKAR	**Karatay Array**	**64.41**	**318**	P	**P**	**11 53 14.0**	**-1.2**
BVAR	**Borovoye Array**	**68.72**	**327**	P	**P**	**11 53 41.5**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=146,slow=9.1,SNR=14						
	comp=Z,2.6nm,0.6s						
BRVK	**Borovoye**	**68.80**	**327**	P	**P**	**11 53 42.2**	**-0.7**
BRVK				IAmb	IAmb	11 53 48.3	
	comp=Z,3.1nm,0.7s						
TIXI	**Tiksi**	**69.66**	**1**	P	**P**	**11 53 47.9**	**0.0**
	comp=Z,1.4nm,0.4s,baz=270,slow=23,SNR=6.6						
	comp=Z,1.4nm,0.4s						
NRIK	**Noril'sk**	**72.14**	**346**	P	**P**	**11 54 03.0**	**0.0**
	comp=Z,3.6nm,0.7s,baz=112,slow=4.5,SNR=7.0						
	comp=Z,3.6nm,0.7s						
NRIK	**Noril'sk**	**72.14**	**346**	P	**P**	**11 54 03.3**	**+0.3**
NRIK				IAmb	IAmb	11 54 06.1	
	comp=Z,4.6nm,0.8s						
ABKAR	**Akbulak array**	**73.42**	**321**	P	**P**	**11 54 10.1**	**-0.9**
ABKAR	**Akbulak array**	**73.42**	**321**	P	**P**	**11 54 09.7**	**-1.3**
ARU	**Arti**	**76.35**	**328**	P	**P**	**11 54 26.5**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=152,slow=4.7,SNR=6.3						
	comp=Z,3.0nm,0.6s						
VNDA	**Vanda**	**81.66**	**173**	P	**P**	**11 54 56.8**	**+0.4**
VNDA				IAmb	IAmb	11 54 57.0	
	comp=Z,12nm,1.4s						
M20K	**Styx River**	**83.78**	**28**	P	**P**	**11 55 08.6**	**+0.8**
M20K				IAmb	IAmb	11 55 10.4	
	comp=Z,8.3nm,0.9s						
KBZ	**Khabaz**	**84.07**	**314**	P	**P**	**11 55 09.1**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=114,slow=12,SNR=1.6						
	comp=Z,1.2nm,0.7s						
IMAR	**Indian Mountai**	**84.09**	**24**	P	**P**	**11 55 10.9**	**+1.6**
SKT	**Skwentna**	**84.54**	**28**	P	**P**	**11 55 12.1**	**+0.4**
SKT				IAmb	IAmb	11 55 22.5	
	comp=Z,5.7nm,1.1s						
RC01	**Rabbit Creek A**	**85.31**	**29**	P	**P**	**11 55 15.9**	**+0.4**
RC01				IAmb	IAmb	11 55 16.5	
	comp=Z,5.8nm,0.6s						
SML	**Sawmill**	**86.03**	**28**	P	**P**	**11 55 18.9**	**-0.3**
ILAR	**Eielson Array**	**86.83**	**25**	P	**P**	**11 55 21.9**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=241,slow=5.2,SNR=7.5						
	comp=Z,0.7nm,0.9s						
ILAR	**Eielson Array**	**86.83**	**25**	P	**P**	**11 55 23.0**	**+0.1**
BMAR	**Burnt Mountain**	**87.83**	**23**	P	**P**	**11 55 28.3**	**+0.5**
BCAR	**Beaver Creek A**	**89.09**	**27**		**P**	**11 55 34.0**	**+0.2**
DAWY	**Dawson**	**90.10**	**26**	P	**P**	**11 55 38.5**	**0.0**
DAWY				IAmb	IAmb	11 56 20.2	
	comp=Z,7.3nm,1.5s						
BRTR	**Keskin Array B**	**91.01**	**310**	P	**P**	**11 55 42.5**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=130,slow=5.8,SNR=2.6						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**93.32**	**332**	P	**P**	**11 55 52.7**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=20,slow=2.2,SNR=1.9						
	comp=Z,1.3nm,0.7s						
YKA	**Yellowknife Ar**	**101.24**	**24**	P	**Pdif**	**11 56 29.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=292,slow=4.6,SNR=3.2						
TXAR	**Lajitas Array**	**122.87**	**53**	PKP	**PKiKP**	**12 01 35.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=186,slow=2.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.26**	**287**	PKP	**PKPdf**	**12 01 35.4**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=21,slow=0.8,SNR=4.3						

*IDC **22** 11:44:48.1±3.4,40.°83N×71.°89E,h175km±51km, mbtmp3.5/5,Error ellipse: s-maj=81.2km s-min=26.1km az=150.0*

ISC 22 11:44:48.8±1.9,**41.°1N**±0.°2×**71.°5E**±0.°2,**h35**km,**n7,** σ2**918**/5, **2C-2D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**2.15**	**340**	⇑Pn	**Pn**	**11 45 18.9**	**-3.3**
	0.7nm,0.6s,baz=199,slow=14,SNR=9.6						
KK31				⇑Sn	Sn	11 46 29.8	+42
	1.4nm,0.5s,baz=199,slow=26						
KK31				⇓Lg	Lg	11 47 04.7	
	2.8nm,0.7s						
AAK	**Ala-Archa**	**2.70**	**54**	P	**Pn**	**11 45 32.3**	**+2.5**
	3.5nm,0.5s,baz=191,slow=10,SNR=8.5						
TKM2	**Tokmak 2**	**3.54**	**57**	⇓Pn	**Pn**	**11 45 40.7**	**-0.7**
	2.9nm,1.1s						
MKAR	**Makanchi Array**	**9.62**	**50**	P	**Pn**	**11 47 03.0**	**-1.7**
	1.0nm,0.7s,baz=233,slow=14,SNR=13						
GEYT	**Alibeck**	**10.84**	**257**	P	**Pn**	**11 47 21.4**	**0.0**
	1.8nm,0.4s,baz=106,slow=9.4,SNR=4.2						
BVAR	**Borovoye Array**	**11.97**	**357**	P	**Pn**	**11 47 36.8**	**+0.1**
	0.7nm,0.4s,baz=174,slow=8.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**15.65**	**30**	P	Pn	11 48 19.1	-7.3
	0.7nm,0.4s,baz=221,slow=11,SNR=5.0						

*HVO **22** 11:47:09.1±1.9,19.°44N±0.°02×155.°610W±0.°008, h2km±4km,ML2.8/15,ML2.3/22(NEIC),Error ellipse: s-maj=2.2km s-min=0.9km az=187.0*

NEIC 22 11:47:09.2±1.7,**19.°42N**±0.°02×**155.°588W**±0.°008, **h1**km±11km,**Error ellipse: s-maj=2.2km s-min=1.2km az=186.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWH	**Moku'aweowe**	**0.07**	**353**	Pg	Pg	**11 47 10.9**	**+0.1**
MWH					Sg	11 47 12.1	+0.1
MLOA	**Mauna Loa Obse**	**0.12**	**6**		Pg	**11 47 12.1**	**+0.4**
MLOA					Sg	11 47 14.2	+0.9
MLOA				IAML		11 47 14.3	
	comp=N,1μm,0.2s						
MLOA				IAML		11 47 14.5	
	comp=E,2μm,0.6s						
AIN	**Ainahou**	**0.13**	**110**		Pg	11 47 13.2	+1.4
ALEP	**Alea Permanent**	**0.14**	**337**		Pg	11 47 11.2	-0.7
ALEP					Sg	11 47 13.5	-0.2
KHU	**Kahuku**	**0.17**	**188**		Pg	11 47 13.3	+0.7
KHU				IAML		11 47 17.6	
	comp=E,538nm,3.9s						
MLH	**Mauna Loa**	**0.21**	**68**		Pg	11 47 14.3	+1.1
MLH				IAML		11 47 18.4	
	comp=E,655nm,0.2s						
HMH	**Humu'ula Sheep**	**0.21**	**28**		Pg	11 47 13.9	+0.6
HMH					Sg	11 47 17.4	+1.3
UWE	**Uwekahuna**	**0.28**	**89**	Pg	Pb	11 47 18.0	+0.9
HLP	**Hilina Pali**	**0.29**	**114**		Sg	11 47 19.4	+0.8
CPH	**Captain Cook**	**0.32**	**283**		Pg	11 47 14.8	-0.5
KHLU	**Kahalu`u**	**0.34**	**301**		Pg	11 47 16.2	+0.5
KHLU				IAML		11 47 17.3	
	comp=E,389nm,4.0s						
KHLU				IAML		11 47 22.9	
	comp=N,440nm,0.5s						
POHA	**Pohakuloa**	**0.34**	**9**		Pg	11 47 16.4	+0.5
POHA				IAML		11 47 25.3	
	comp=N,411nm,0.7s						
POHA				IAML		11 47 25.9	
	comp=N,297nm,0.3s						
HUH	**Hualalai**	**0.35**	**319**	Pg	Pg	11 47 16.4	+0.3
HUH				IAML		11 47 23.0	
	comp=E,412nm,0.4s						
HUH				IAML		11 47 23.2	
	comp=N,462nm,0.5s						
PUH	**Pauahi**	**0.35**	**97**		Pg	11 47 14.3	-1.7
PUH				IAML		11 47 26.6	
	comp=E,221nm,1.1s						
PUH				IA

RUSJ eS Sn 12 15 02.3 +2.5
YUK Yuzh-Kuril'sk 3.12 49 *d* iPN Pn 12 14 31.0 +0.4
YUK iS Sn 12 15 06.0 -0.6
YUK pmax pmax
comp=Z,347nm,0.3s
YUK pmax pmax
comp=N,83nm,0.2s
YUK pmax pmax
comp=E,81nm,0.4s
YUK smax smax
comp=N,1μm,0.4s
YUK smax smax
comp=E,775nm,0.2s
JMM Marumori 4.39 199 Pn Pn 12 14 48.0 0.0
YSS Yuzh-Sakhalins 4.92 1 Pn Pn 12 14 56.1 +0.8
YSS Yuzh-Sakhalins 4.92 1 ⇑ *e*PN Pn 12 14 57.1 +1.9
YSS eS Sn 12 15 53.2 +2.4
YSS pmax pmax
comp=Z,50nm,0.9s
YSS smax smax
comp=N,30nm,0.8s
KUR Kuril'sk 4.98 48 *e*PN Pn 12 14 56.8 +0.8
KUR eS Sn 12 15 52.8 +0.6
KUR pmax pmax
comp=Z,98nm,0.5s
KUR pmax pmax
comp=E,46nm,0.3s
KUR pmax pmax
comp=N,36nm,0.4s
KUR smax smax
comp=E,193nm,0.4s
KUR smax smax
comp=N,85nm,0.2s
JSD Sado 5.20 221 Pn Pn 12 15 00.1 +1.0
MAJO Matsushiro 6.46 213 Pn Pn 12 15 18.2 +1.9
MAJO Matsushiro 6.46 213 PN Pn 12 15 18.2 +1.9
MJAR Matsushiro Arr 6.46 213 P Pn 12 15 17.2 +0.9
comp=N,2.9nm,0.6s,baz=25,slow=13,SNR=12
JGF Kuroka 7.62 214 Pn Pn 12 15 33.6 +1.5
INU Inuyama 7.97 215 Pn Pn 12 15 38.9 +1.9
USA0B Ussuriysk Arra 8.06 289 ⇑ *e*PN Pn 12 15 39.3 +1.1
USRK Ussuriysk Ar. 8.06 289 P Pn 12 15 37.9 -0.3
comp=N,7.2nm,0.8s,baz=86,slow=15,SNR=5.7
USRK Ussuriysk Ar. 8.06 289 Pn Pn 12 15 39.5 +1.3
USRK Ussuriysk Ar. 8.06 289 PN Pn 12 15 39.5 +1.3
JHJ Hachijo jima 2 9.17 195 P Pn 12 15 53.2 -0.2
comp=N,104nm,0.7s,baz=18,slow=20,SNR=1.4
JHS Saijyo 10.22 230 Pn Pn 12 16 09.8 +2.1
KLR Kul'dur 10.46 317 P Pn 12 16 11.4 +0.5
comp=N,1.8nm,0.6s,baz=123,slow=14,SNR=6.1
KLR Kul'dur 10.46 317 ⇑ *e*PN Pn 12 16 12.8 +1.9
KLR pmax pmax
comp=Z,10.0nm,1.7s
KSRS Korea Array 12.19 253 P Pn 12 16 36.5 +2.0
comp=Z,5.1nm,0.7s,baz=64,slow=14,SNR=10
HEH HeiHe 13.35 313 *e*P Pn 12 16 50.8 +0.8
HEH pmax pmax
comp=Z,4.0nm,1.0s
HEH pmax pmax
comp=Z,160nm,3.9s
PEA0B Petropavlovsk- 15.02 37 Pn Pn 12 17 09.4 -2.5
PEA0B Petropavlovsk- 15.02 37 P Pn 12 17 09.4 -2.5
PETK Petropavlovsk- 15.02 37 P Pn 12 17 11.9 0.0
comp=Z,1.2nm,0.8s,baz=236,slow=16,SNR=2.0
ZEA Zeya 15.56 324 *e*P Pn 12 17 18.4 -0.3
ZEA pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 18.28 13 P P 12 17 50.0 -1.6
comp=Z,6.4nm,0.8s,baz=192,slow=9.6,SNR=6.4
MA2 Magadan 18.28 13 P P 12 17 51.0 -0.6
MA2 Magadan 18.28 13 ⇓ *e*P P 12 17 51.7 0.0
MA2 pmax pmax
comp=Z,19nm,2.0s
JOW Kunigami 19.18 222 P P 12 18 01.1 -0.7
comp=Z,23nm,0.8s,baz=52,slow=19,SNR=1.8
YAK Yakutsk 21.47 343 P P 12 18 25.4 -0.7
comp=Z,4.9nm,0.5s,baz=125,slow=1.9,SNR=5.0
comp=Z,4.9nm,0.5s
YAK Yakutsk 21.47 343 *e*P P 12 18 25.6 -0.6
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.1s
SEY Seymchan 21.72 12 P P 12 18 27.2 -1.5
comp=N,3.4nm,0.7s,baz=192,slow=8.2,SNR=14
comp=N,3.4nm,0.7s
ULN Ulaanbaatar 25.67 295 ⇑ *e*P P 12 19 08.8 +1.7
ULN pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 26.11 295 P P 12 19 10.7 -0.4
comp=Z,1.7nm,0.7s,baz=75,slow=8.7,SNR=13
SONM PcP PcP 12 22 36.9 +0.1
comp=Z,0.3nm,0.6s,baz=156,slow=2.2,SNR=2.4
comp=Z,1.7nm,0.7s
SONM Songino Array 26.11 295 P P 12 19 11.8 +0.7
XAN Xi'an 27.57 264 P P 12 19 25.0 +0.8
XAN pmax pmax
comp=Z,8.0nm,1.3s
H11N2 WAKE ISLAND Hy 30.28 130 T T 12 51 26.6
baz=324,slow=75,SNR=190
H11N1 WAKE ISLAND Hy 30.29 130 T T 12 51 27.5
baz=324,slow=75,SNR=263
H11N3 WAKE ISLAND Hy 30.30 130 T T 12 51 28.1
baz=324,slow=75,SNR=277
H11S1 WAKE ISLAND Hy 31.15 132 T T 12 52 30.6
baz=325,slow=76,SNR=176
H11S3 WAKE ISLAND Hy 31.15 132 T T 12 52 29.6
baz=325,slow=76,SNR=136
H11S2 WAKE ISLAND Hy 31.16 132 T T 12 52 30.6
baz=325,slow=76,SNR=167
GTA Gaotai 32.29 280 *e*P P 12 20 07.8 +1.8
GTA sP pP 12 20 21.4 -1.3
GTA pmax pmax
comp=Z,3.0nm,0.9s
GOMU GeErMu 37.15 277 P P 12 20 49.8 +1.6
GOMU pmax pmax
comp=Z,3.0nm,0.6s
DGZ Jazzator, Alta 38.41 301 ⇑ *e*P P 12 20 59.2 +0.8
DGZ pmax pmax
comp=Z,8.0nm,1.2s
NRIK Noril'sk 39.19 333 P P 12 21 03.4 -1.0
comp=Z,2.0nm,0.5s,baz=155,slow=5.3,SNR=4.6
comp=Z,2.0nm,0.5s
ZAA0 Zalesovo Array 39.40 308 P P 12 21 05.8 -0.5
ZALV Zalesovo Beam 39.40 308 P P 12 21 06.0 -0.4
comp=Z,8.1nm,0.8s,baz=86,slow=7.7,SNR=35
ZALV PcP PcP 12 23 12.6 -0.6
comp=Z,0.4nm,0.4s,baz=103,slow=3.1,SNR=2.8
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 39.40 308 P P 12 21 06.2 -0.1
IMAR Indian Mountai 41.93 33 P P 12 21 26.9 -0.2
H21K Melozitna Rive 42.31 34 P P 12 21 30.8 +0.7
H21K IAmb IAmb 12 22 06.8
comp=Z,6.1nm,1.4s
MK31 Makanchi Array 42.42 298 P P 12 21 30.9 -0.5
MK31 IAmb IAmb 12 21 32.3
comp=Z,5.2nm,0.9s
MK31 Makanchi Array 42.42 298 *c* iP P 12 21 31.0 -0.4
MKAR Makanchi Array 42.42 298 P P 12 21 30.9 -0.5
comp=Z,5.0nm,0.9s,baz=82,slow=8.8,SNR=36
MKAR pP pP 12 21 50.6 +2.0
comp=Z,2.0nm,0.7s,baz=80,slow=7.2,SNR=4.1
MKAR PcP PcP 12 23 23.3 0.0
comp=Z,0.7nm,0.8s,baz=76,slow=6.1,SNR=3.5
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 42.42 298 P P 12 21 31.1 -0.3
MAKZ Makanchi 42.63 298 P P 12 21 32.9 -0.1
MAKZ IAmb IAmb 12 21 34.5
comp=Z,8.5nm,1.1s
MAKZ Makanchi 42.63 298 P P 12 21 32.9 -0.1
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
CAST Castle Rocks 42.63 37 P P 12 21 33.4 +0.6
KTH Kantishna Hill 43.15 37 P P 12 21 37.8 +0.8
KTH IAmb IAmb 12 21 45.6
comp=Z,4.4nm,0.9s
SUA Susitna One 43.37 40 P P 12 21 36.6 -2.3
SUA IAmb IAmb 12 22 14.6
comp=Z,5.8nm,1.3s
KURK Kurchatov 43.73 304 P P 12 21 41.5 -0.3
KURK Kurchatov 43.73 304 P P 12 21 41.9 +0.1
KURBB Kurchatov Arra 43.81 304 P P 12 21 41.9 -0.5
comp=Z,7.5nm,0.7s,baz=76,slow=8.7,SNR=37
comp=Z,7.5nm,0.7s
CMAR Chiang Mai Arr 43.82 251 P P 12 21 44.1 +1.2
comp=Z,0.7nm,0.5s,baz=37,slow=7.1,SNR=6.8
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 43.82 251 *i* P P 12 21 47.9 +5.0
CMAR pmax pmax
comp=Z,1.0nm,0.7s
NEA2 Nenana 43.91 35 P P 12 21 43.7 +0.7
NEA2 IAmb IAmb 12 21 47.0
comp=Z,3.3nm,0.7s
MCK McKinley 44.02 37 P P 12 21 43.1 -0.9
MCK McKinley 44.02 37 P P 12 21 43.1 -0.9
MCK pmax pmax
comp=Z,5.0nm,1.2s
MDM Murphy Dome 44.24 35 P P 12 21 46.4 +0.7
MDM IAmb IAmb 12 21 56.8
comp=Z,11nm,1.5s
COLA College 44.41 35 ⇓ *e*P P 12 21 46.6 -0.4
COLA pmax pmax
comp=Z,3.0nm,0.9s
DHY Denali Highway 44.78 37 P P 12 21 50.3 0.0
DHY IAmb IAmb 12 21 51.2
comp=Z,9.6nm,1.2s
IL31 44.83 35 P P 12 21 50.2 -0.1
ILAR Eielson Array 44.83 35 P P 12 21 50.2 -0.2
comp=Z,1.5nm,0.9s,baz=260,slow=5.5,SNR=32
ILAR PcP PcP 12 23 29.9 -1.1
comp=Z,0.3nm,0.6s,baz=263,slow=3.3,SNR=1.8
comp=Z,1.5nm,0.9s
ILAR Eielson Array 44.83 35 P P 12 21 50.0 -0.4
HDA Harding Lake 44.83 35 P P 12 21 49.4 -1.0
HDA IAmb IAmb 12 21 59.3
comp=Z,8.9nm,1.5s
BMAR Burnt Mountain 45.55 31 P P 12 21 56.6 +0.5
SCRK Sand Creek 46.17 36 P P 12 22 01.1 -0.1
SCRK IAmb IAmb 12 22 14.1
comp=Z,3.4nm,1.1s
DOT Dot Lake 46.19 36 P P 12 22 00.9 -0.2
DOT IAmb IAmb 12 22 08.3
comp=Z,4.4nm,1.2s
M27K Edge Creek, AK 47.39 38 P P 12 22 10.8 +0.1
M27K IAmb IAmb 12 22 35.1
comp=Z,6.4nm,1.1s
BVAR Borovoye Array 48.01 309 P P 12 22 15.3 -0.2
comp=Z,3.8nm,0.5s,baz=76,slow=8.9,SNR=20
comp=Z,3.8nm,0.5s
BRVK Borovoye 48.06 309 P P 12 22 15.3 -0.6
BRVK IAmb IAmb 12 22 16.6
comp=Z,3.7nm,0.7s
BRVK Borovoye 48.06 309 ⇓ *e*P P 12 22 16.6 +0.8
BRVK pmax pmax
comp=Z,5.0nm,1.3s
AAK Ala-Archa 49.07 295 P P 12 22 24.1 +0.2
comp=Z,1.9nm,0.5s,baz=131,slow=5.5,SNR=5.5
comp=Z,1.9nm,0.5s
INK Inuvik 49.55 29 P P 12 22 27.1 +0.1
comp=Z,1.5nm,0.4s,baz=283,slow=6.4,SNR=19
comp=Z,1.5nm,0.4s
INK Inuvik 49.55 29 P P 12 22 26.6 -0.4
INK IAmb IAmb 12 22 33.0
comp=Z,8.0nm,1.5s
HYT Haines Junctio 49.79 39 P 12 22 30.3 +1.1
KKAR Karatay Array 51.54 297 P P 12 22 42.0 -0.4
KKAR Karatay Array 51.54 297 P P 12 22 42.1 -0.4
ARU Arti 53.30 316 *c* iP P 12 22 55.0 -0.2
ARU 12 24 54.5
ARU S S 12 30 23.5 +2.3
ARU SS SS 12 33 53.9 -7.3
ARU pmax pmax
comp=Z,9.0nm,0.9s
ABKAR Akbulak array 55.51 308 P P 12 23 11.6 +0.2
KIRV Kirov 56.87 321 ⇓ *e*P P 12 23 21.3 +0.5
RES Resolute Bay 57.54 15 P P 12 23 24.2 -1.2
RES Resolute Bay 57.54 15 P P 12 23 24.2 -1.2
RES pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 59.05 32 P P 12 23 35.9 -0.1
comp=Z,0.6nm,0.8s,baz=304,slow=6.5,SNR=11
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 59.05 32 *i* P P 12 23 36.7 +0.6
YKA pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 59.66 339 P P 12 23 39.2 -1.0
comp=Z,3.1nm,0.9s,baz=46,slow=7.8,SNR=3.8
comp=Z,3.1nm,0.9s
TULEG Thule 60.03 8 *i* P P 12 23 41.4 -1.2
TULEG IAmb IAmb 12 23 44.0
comp=Z,3.4nm,0.6s
NEEM North Greenlan 60.49 3 *i* P P 12 23 47.4 +1.3
NEEM IAmb IAmb 12 23 48.6
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 60.88 355 *i* P P 12 23 47.4 -0.9
DAG IAmb IAmb 12 23 49.2
comp=Z,1.0nm,0.5s
WR0 Warramunga Arr 62.13 189 P P 12 23 56.7 -0.7
WRA Warramunga Arr 62.13 189 P P 12 23 57.2 -0.2
comp=Z,1.2nm,0.8s,baz=6.0,slow=6.6,SNR=7.1
WRA pP pP 12 24 16.6 +1.0
comp=Z,1.0nm,0.7s,baz=6.3,slow=6.4,SNR=3.7
comp=Z,1.2nm,0.8s
WRA Warramunga Arr 62.13 189 P P 12 23 57.2 -0.2
GEYT Alibeck 62.30 297 P P 12 23 58.6 0.0
comp=Z,2.0nm,0.7s,baz=20,slow=4.7,SNR=4.9
comp=Z,2.0nm,0.7s
FIA1 FINESS Array S 64.84 332 P P 12 24 15.0 +0.1
FINES FINESS Array B 64.84 332 P P 12 24 13.9 -1.0
comp=Z,5.3nm,0.6s,baz=49,slow=7.0,SNR=32
comp=Z,5.3nm,0.6s
FINES FINESS Array B 64.84 332 P P 12 24 14.8 -0.1
FINES FINESS Array B 64.84 332 P P 12 24 14.8 -0.1
SUMG Summit 65.69 0 *i* P P 12 24 21.1 +0.4
SUMG IAmb IAmb 12 24 23.8
comp=Z,3.1nm,0.6s
ASAR Alice Springs 65.86 189 P P 12 24 22.4 +0.5
comp=Z,0.7nm,0.9s,baz=3.7,slow=6.9,SNR=6.2
ASAR pP pP 12 24 41.2 +1.1
comp=Z,0.3nm,0.5s,baz=12,slow=8.7,SNR=2.5
comp=Z,0.7nm,0.9s
KIV Kislovodsk 68.36 310 *e*P P 12 24 36.1 -1.7
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 68.38 310 P P 12 24 37.9 +0.2
comp=Z,4.2nm,0.9s,baz=29,slow=4.1,SNR=5.0
comp=Z,4.2nm,0.9s
HFS Hagfors 69.92 336 P P 12 24 46.6 -0.4
comp=Z,5.0nm,0.6s,baz=43,slow=6.7,SNR=24
comp=Z,5.0nm,0.6s
NB2 NORSAR Subarra 69.94 337 P P 12 24 46.9 -0.2
comp=Z,4.0nm,0.8s,baz=36,slow=6.2
NOA NORSAR Array B 69.94 337 P P 12 24 46.5 -0.6
comp=Z,2.5nm,0.7s,baz=37,slow=6.1,SNR=13
comp=Z,2.5nm,0.7s
AKASG Malin Array Be 70.93 322 P P 12 24 52.6 -0.7
comp=Z,1.8nm,0.5s,baz=44,slow=6.0,SNR=10
comp=Z,1.8nm,0.5s
AKASG Malin Array Be 70.93 322 *i* P P 12 24 53.0 -0.2
AKASG pmax pmax
comp=Z,2.0nm,0.5s
NVAR Mina Array Bea 71.31 55 P P 12 24 56.7 +0.6
comp=Z,1.2nm,0.7s,baz=308,slow=4.4,SNR=4.0
comp=Z,1.2nm,0.7s
BSD Bornholm Skovb 73.49 332 *i* P P 12 25 04.9 -3.5
BSD IAmb IAmb 12 25 08.9
comp=Z,9.8nm,0.9s
PDAR Pinedale Array 73.55 47 P P 12 25 10.2 +0.9
comp=Z,0.8nm,0.7s,baz=274,slow=2.6,SNR=9.0
comp=Z,0.8nm,0.7s
PFO Pinyon Flats O 75.55 58 *i* P P 12 25 16.9 -4.0
BRTR Keskin Array B 76.24 311 P P 12 25 24.9 0.0
comp=Z,1.2nm,0.7s,baz=59,slow=4.8,SNR=5.8
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 76.24 311 *i* P P 12 25 25.5 +0.7
BRTR pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 77.22 330 *i* P P 12 25 30.0 +0.1
comp=Z,4.0nm,0.9s
CLL Collm 77.22 330 *i* P P 12 25 30.0 +0.1
CLL pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 78.95 328 P P 12 25 39.2 -0.4
comp=Z,0.4nm,0.6s,baz=38,slow=6.8,SNR=5.8
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 86.37 53 P P 12 26 19.3 +0.8
comp=Z,0.8nm,0.7s,baz=292,slow=3.4,SNR=11
comp=Z,0.8nm,0.7s
H03N2 Juan Fernandez 146.32 89 T T 15 16 35.7
baz=300,slow=76,SNR=10
H03N3 Juan Fernandez 146.33 89 T T 15 16 30.5
baz=300,slow=76,SNR=17
H01N1 Juan Fernandez 146.34 89 T T 15 16 36.1
baz=300,slow=76,SNR=15

IDC ***22*** *12:13:48.5±3.8, 6.°13S×152.°22E, h47km±27km, mb3.4/6, mbtmp3.7/7, ML2.2/1, MS3.9/1, Error ellipse: s-maj=54.1km s-min=10.2km az=113.0*
NEIC ***22*** *12:13:54.0±1.1, 5.°5S±0.°2×151.°4E±0.°2, h63km±10km, mb4.4/15, Error ellipse: s-maj=42.0km s-min=3.5km az=128.0*
ISC 22 12:13:51.9±1.0, 5.°8S±0.°1×151.°7E±0.°2, h50km, n31, σ1s57/32, mb4.0/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.51**	**13**	P		**Pn**	**Pn**	**12 14 15.6**	**-1.0**
	baz=12,slow=0.3								
KRVT				S		**Sn**	**Sn**	**12 14 39.9**	**+4.7**
	baz=193,slow=19								
RABL	**Rabaul**	**1.66**	**17**			**Pn**	**Pn**	**12 14 18.3**	**-0.3**
PMG	**Port Moresby**	**5.75**	**231**	P		**Pn**	**Pn**	**12 15 14.3**	**-0.4**
	4.0nm,0.3s,baz=41,slow=9.1,SNR=8.7								
PMG				S		**Sn**	**Sn**	**12 16 21.9**	**+2.5**
	32nm,0.7s,baz=128,slow=17,SNR=6.4								
	14nm,0.5s								
PMG	**Port Moresby**	**5.75**	**231**	Pn		**Pn**	**Pn**	**12 15 16.4**	**+1.7**
SAUI	**Saumlaki**	**20.36**	**263**	P		**P**	**P**	**12 18 21.2**	**-3.3**
MTN	**Manton Dam**	**21.45**	**249**	P		**P**	**P**	**12 18 35.5**	**-0.7**
MTN					IAmb	IAmb	IAmb	12 18 41.4	
	comp=Z,41nm,1.4s								
WB0	**Warramunga Arr**	**21.82**	**229**	P		**P**	**P**	**12 18 41.4**	**+1.3**
WB0					IAmb	IAmb	IAmb	12 18 47.0	
	comp=Z,11nm,1.2s								
WR0	**Warramunga Arr**	**21.82**	**228**	P		**P**	**P**	**12 18 41.7**	**+1.6**
WR0					IAmb	IAmb	IAmb	12 19 11.1	
	comp=Z,6.9nm,1.2s								
WB2	**Warramunga Arr**	**21.95**	**229**	P		**P**	**P**	**12 18 42.0**	**+0.4**
WB2					IAmb	IAmb	IAmb	12 18 47.3	
	comp=Z,4.1nm,0.8s								
WRA	**Warramunga Arr**	**21.96**	**229**	P		**P**	**P**	**12 18 40.3**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=56,slow=10,SNR=13								
	comp=Z,1.3nm,0.5s								
WRA	**Warramunga Arr**	**21.96**	**229**	P		**P**	**P**	**12 18 41.6**	**0.0**
KNRA	**Kununurra**	**24.54**	**245**	P		**P**	**P**	**12 19 05.6**	**-1.5**
KNRA					IAmb	IAmb	IAmb	12 19 28.6	
	comp=Z,28nm,1.4s								
AS31	**Alice Springs**	**24.67**	**222**	P		**P**	**P**	**12 19 08.6**	**+0.2**
ASAR	**Alice Springs**	**24.68**	**222**	P		**P**	**P**	**12 19 07.5**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=56,slow=9.9,SNR=39								
	comp=Z,1.5nm,0.7s								
ASAR	**Alice Springs**	**24.68**	**222**	P		**P**	**P**	**12 19 08.1**	**-0.2**
BATI	**Baumata**	**28.09**	**259**	LR		LR	LR	12 32 41.2	
	comp=Z,245nm,20.4s,baz=248,slow=40								
FITZ	**Fitzroy Crossi**	**28.21**	**242**	P		**P**	**P**	**12 19 39.1**	**-1.1**
SONM	**Songino Array**	**66.58**	**329**	P		**P**	**P**	**12 24 36.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=143,slow=7.2,SNR=2.0								
	comp=Z,0.2nm,0.5s								
CNPM	**China Poot**	**79.08**	**26**	P		**P**	**P**	**12 25 50.6**	**-0.2**
MKAR	**Makanchi Array**	**80.34**	**319**	P		**P**	**P**	**12 25 58.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=111,slow=6.3,SNR=2.7								
	comp=Z,0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**81.36**	**327**	P		**P**	**P**	**12 26 02.4**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=128,slow=5.8,SNR=3.1								
	comp=Z,0.4nm,0.4s								
IMAR	**Indian Mountai**	**81.68**	**20**	P		**P**	**P**	**12 26 04.3**	**-0.3**
MLY	**Manley**	**82.20**	**21**	P		**P**	**P**	**12 26 06.7**	**-0.7**
MLY					IAmb	IAmb	IAmb	12 26 08.0	
	comp=Z,4.2nm,1.3s								
M24K	**Tolsona, Glenn**	**82.52**	**25**	P		**P**	**P**	**12 26 09.1**	**0.0**
ILAR	**Eielson Array**	**83.49**	**22**	P		**P**	**P**	**12 26 11.5**	**-2.5**
	comp=Z,1.0nm,0.7s,baz=247,slow=5.1,SNR=16								
	comp=Z,1.0nm,0.7s								
ILAR	**Eielson Array**	**83.49**	**22**	P		**P**	**P**	**12 26 12.8**	**-1.2**
RIDG	**Independent Ri**	**83.80**	**24**	P		**P**	**P**	**12 26 14.9**	**-0.9**
RIDG					IAmb	IAmb	IAmb	12 26 19.6	
	comp=Z,9.1nm,1.4s								
QSPA	**South Pole Qui**	**84.18**	**180**	P		**P**	**P**	**12 26 17.6**	**-0.1**
QSPA					IAmb	IAmb	IAmb	12 26 34.9	
	comp=Z,9.5nm,1.4s								
BMAR	**Burnt Mountain**	**85.55**	**20**	P		**P**	**P**	**12 26 24.9**	**+0.4**
HYT	**Haines Junctio**	**85.82**	**28**	P		**P**	**P**	**12 26 26.0**	**0.0**
HYT					IAmb	IAmb	IAmb	12 26 29.6	
	comp=Z,4.6nm,1.2s								
TORD	**Torodi Ar. Bea**	**149.54**	**286**	PKPbc		**PKPdf**		**12 33 34.9**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=77,slow=2.6,SNR=6.9								

IDC 22 12:30:46.7±2.0, 2.°61N×128.°32E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=145.0km s-min=24.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.18**	**165**	P		P	P	12 35 55.5	+0.3
	2.3nm,0.6s,baz=345,slow=10,SNR=14								
	2.3nm,0.6s								
ASAR	**Alice Springs**	**26.67**	**169**	P		P	P	12 36 27.1	-0.6
	0.2nm,0.4s,baz=349,slow=7.7,SNR=5.9								
	0.2nm,0.4s								
STKA	**Stephens Creek**	**36.54**	**161**	P		P	P	12 37 54.0	-0.3
	0.7nm,0.3s,baz=331,slow=13,SNR=2.8								
	0.7nm,0.3s								
MKAR	**Makanchi Array**	**59.38**	**325**	P		P	P	12 40 51.3	+0.3
	0.2nm,0.4s,baz=114,slow=8.2,SNR=6.4								
	0.2nm,0.4s								

IDC ***22*** *12:45:53.4±3.3, 19.°17N×64.°17W, h0km, mb3.3/3, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=61.3km s-min=26.8km az=115.0*
RSPR ***22*** *12:45:57.1, 19.°45N×64.°21W, h25km±23km, MD3.7/12*
NEIC ***22*** *12:45:58.2±1.6, 19.°26N±0.°08×64.°42W±0.°05, h13km±12km, ML3.8/48, Md3.7/30(RSPR), Error ellipse: s-maj=12.4km s-min=6.0km az=189.0*
ISC 22 12:45:55.7±3.0, 19.°23N±0.°06×64.°31W±0.°05, h9km±21km, n95, σ1s38/104, mb3.3/3, 14C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.30**	**225**	⇑ *e*P		**Pn**	**Pn**	**12 46 20.1**	**+0.2**
CUPR	**Culebra, Puert**	**1.30**	**225**	*e*S		**Sn**	**Sn**	**12 46 38.0**	**+0.6**
CUPR	**Culebra, Puert**	**1.30**	**225**			**Pn**	**Pn**	**12 46 20.1**	**+0.2**
CUPR							**Sn**	**12 46 38.0**	**+0.6**
CUPR	**Culebra, Puert**	**1.30**	**225**	IAML				12 46 44.8	
	comp=N,1μm,0.6s								
CDVI	**St. Croix**	**1.53**	**196**	⇓ *e*P		**Pn**	**Pn**	**12 46 24.1**	**+1.0**
CDVI	**St. Croix**	**1.53**	**196**			**Pn**	**Pn**	**12 46 24.5**	**+1.4**
CDVI	**St. Croix**	**1.53**	**196**			**Sn**	**Sn**	**12 46 44.9**	**+1.8**
CDVI	**St. Croix**	**1.53**	**196**	*e*P		**Pn**	**Pn**	**12 46 24.2**	**+1.1**
CDVI				*e*S		**Sn**	**Sn**	**12 46 44.6**	**+1.5**
MTP	**Monte Pirata**	**1.63**	**226**	⇑ *e*P		**Pn**	**Pn**	**12 46 25.1**	**+0.6**
MTP	**Monte Pirata**	**1.63**	**226**	*e*S		**Sn**	**Sn**	**12 46 47.6**	**+2.0**
MTP	**Monte Pirata**	**1.63**	**226**			**Pn**	**Pn**	**12 46 25.1**	**+0.6**
MTP							**Sn**	**12 46 47.6**	**+2.0**
MTP	**Monte Pirata**	**1.63**	**226**	IAML				12 46 56.0	
	comp=E,838nm,0.4s								
SMRT	**St. Maarten**	**1.66**	**135**	Pn		**Pb**	**Pb**	**12 46 26.1**	**-0.3**
SMRT				IAML				12 46 54.7	
	comp=E,2μm,0.5s								
SMRT				IAML				12 46 57.1	
	comp=N,2μm,0.5s								
SMRT	**St. Maarten**	**1.66**	**135**	*e*P		**Pb**	**Pb**	**12 46 25.9**	**-0.5**
SMRT				*e*S		**Sb**	**Sb**	**12 46 46.9**	**-0.4**
CBYP	**Canovanas**	**1.74**	**237**	⇑ *e*P		**Pn**	**Pn**	**12 46 27.2**	**+1.0**
CBYP	**Canovanas**	**1.74**	**237**			**Pn**	**Pn**	**12 46 27.2**	**+1.0**
CBYP	**Canovanas**	**1.74**	**237**	IAML				12 46 51.8	
	comp=E,1μm,0.2s								
CBYP				IAML				12 46 52.1	
	comp=N,2μm,0.2s								
HUMP	**Col San Antoni**	**1.81**	**234**	⇑ *e*P		**Pn**	**Pn**	**12 46 27.7**	**+0.7**
HUMP	**Col San Antoni**	**1.81**	**234**	*e*S		**Sn**	**Sn**	**12 46 51.9**	**+1.8**
HUMP	**Col San Antoni**	**1.81**	**234**			**Pn**	**Pn**	**12 46 27.7**	**+0.7**
HUMP							**Sn**	**12 46 51.9**	**+1.8**
HUMP	**Col San Antoni**	**1.81**	**234**	IAML				12 47 03.2	
	comp=N,863nm,0.4s								
SABA	**Saba**	**1.89**	**147**			**Pb**	**Pb**	**12 46 31.1**	**+0.7**
SABA				IAML				12 47 22.7	
	comp=N,931nm,0.7s								
SABA	**Saba**	**1.89**	**147**	*e*P		**Pb**	**Pb**	**12 46 31.3**	**+0.9**
GCPR	**Guaynabo City**	**1.91**	**242**	⇑ *e*P		**Pn**	**Pn**	**12 46 28.5**	**+0.1**
GCPR	**Guaynabo City**	**1.91**	**242**	*e*S		**Sn**	**Sn**	**12 46 54.0**	**+1.4**
GCPR	**Guaynabo City**	**1.91**	**242**			**Pn**	**Pn**	**12 46 28.5**	**+0.1**
GCPR							**Sn**	**12 46 54.0**	**+1.4**
SJG	**San Juan**	**2.06**	**238**	Pn		**Pn**	**Pn**	**12 46 30.8**	**+0.4**
	comp=N,24nm,0.3s,baz=63,slow=11,SNR=79								

SJG				Sn		**Sn**	**12 46 57.2**	**+0.8**
	comp=N,56nm,0.3s,baz=61,slow=23,SNR=12							
	comp=N,86nm,0.4s							
SJG	**San Juan**	**2.06 238**			**Pn**		**12 46 30.9**	**+0.4**
SJG				IAML			12 47 03.4	
	comp=N,531nm,0.6s							
SJG	**San Juan**	**2.06 238**	*eP*		**Pn**		**12 46 31.0**	**+0.5**
IGPR	**InterUniversit**	**2.11 234**	*eP*		**Pn**		**12 46 32.1**	**+0.9**
IGPR	**InterUniversit**	**2.11 234**	*eS*		**Sn**		**12 46 59.3**	**+1.7**
SEUS	**St. Eustatius**	**2.14 144**			**Pb**		**12 46 35.8**	**+1.2**
SEUS				IAML			12 47 08.9	
	comp=E,652nm,0.7s							
SEUS				IAML			12 47 21.2	
	comp=N,768nm,0.8s							
SEUS	**St. Eustatius**	**2.14 144**	*eP*		**Pb**		**12 46 36.0**	**+1.4**
EMPR	**Esperanza - Ma**	**2.23 251**	*eP*		**Pn**		**12 46 33.3**	**+0.6**
EMPR	**Esperanza - Ma**	**2.23 251**	*eS*		**Sn**		**12 47 00.9**	**+0.5**
EMPR	**Esperanza - Ma**	**2.23 251**			**Pn**		**12 46 33.3**	**+0.6**
EMPR					**Sn**		**12 47 00.9**	**+0.5**
EMPR	**Esperanza - Ma**	**2.23 251**		IAML			12 47 08.6	
	comp=N,676nm,0.8s							
EMPR				IAML			12 47 10.8	
	comp=E,830nm,0.7s							
CELP	**Cerrillos**	**2.44 242**	*eP*		**Pn**		**12 46 36.4**	**+0.8**
CELP	**Cerrillos**	**2.44 242**	*eS*		**Sn**		**12 47 06.9**	**+1.3**
CELP	**Cerrillos**	**2.44 242**			**Pn**		**12 46 36.2**	**+0.6**
CELP				IAML			12 47 08.7	
	comp=E,387nm,0.6s							
CELP	**Cerrillos**	**2.44 242**			**Sn**		**12 47 06.9**	**+1.3**
AOPR	**Arecibo Observ**	**2.47 250**	*eP*		**Pn**		**12 46 36.4**	**+0.3**
AOPR	**Arecibo Observ**	**2.47 250**	*eS*		**Sn**		**12 47 06.8**	**+0.3**
AOPR	**Arecibo Observ**	**2.47 250**			**Pn**		**12 46 36.4**	**+0.3**
AOPR					**Sn**		**12 47 06.8**	**+0.3**
AOPR	**Arecibo Observ**	**2.47 250**		IAML			12 47 21.1	
	comp=N,714nm,0.5s							
AOPR	**Arecibo Observ**	**2.47 250**	*eP*		**Pn**		**12 46 36.7**	**+0.5**
AOPR				*eS*	**Sn**		**12 47 09.9**	**+3.5**
OBIP	**Obispado Ponce**	**2.47 242**	Pn		**Pn**		**12 46 36.2**	**+0.1**
OBIP				IAML			12 47 23.9	
	comp=N,404nm,0.9s							
UUPR	**Utuado, UPR, P**	**2.48 247**	*eP*		**Pn**		**12 46 36.5**	**+0.3**
UUPR	**Utuado, UPR, P**	**2.48 247**			**Pn**		**12 46 36.5**	**+0.3**
GBPR	**Guanica, Bosqu**	**2.73 243**	*eP*		**Pn**		**12 46 40.7**	**+1.0**
GBPR	**Guanica, Bosqu**	**2.73 243**	*eS*		**Sn**		**12 47 14.2**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.73 243**			**Pn**		**12 46 40.7**	**+1.0**
GBPR					**Sn**		**12 47 14.2**	**+1.4**
AGPR	**Aguadilla, PR**	**2.76 255**	*eP*		**Pn**		**12 46 40.2**	**+0.2**
AGPR	**Aguadilla, PR**	**2.76 255**	*eS*		**Sn**		**12 47 14.0**	**+0.6**
AGPR	**Aguadilla, PR**	**2.76 255**			**Pn**		**12 46 40.2**	**+0.2**
AGPR					**Sn**		**12 47 14.0**	**+0.6**
AGPR	**Aguadilla, PR**	**2.76 255**		IAML			12 47 29.9	
	comp=E,276nm,0.8s							
AGPR				IAML			12 47 31.3	
	comp=N,320nm,0.7s							
LSP	**Las Mesas**	**2.83 249**	*eP*		**Pn**		**12 46 41.9**	**+0.9**
LSP	**Las Mesas**	**2.83 249**			**Pn**		**12 46 41.9**	**+0.9**
ANWB	**Willy Bob**	**2.86 122**			**Pb**		**12 46 47.3**	**+0.5**
ANWB				IAML			12 47 40.4	
	comp=N,190nm,0.9s							
ANWB	**Willy Bob**	**2.86 122**	*eP*		**Pn**		**12 46 42.0**	**+0.7**
ANWB				*eS*	**Sb**		**12 47 20.9**	**-1.0**
PRSN	**Puerto Rico Se**	**2.87 250**			**Pn**		**12 46 42.1**	**+0.6**
MLPR	**Magueyes Islan**	**2.88 245**	*eP*		**Pn**		**12 46 42.0**	**+0.3**
MLPR	**Magueyes Islan**	**2.88 245**	*eS*		**Sn**		**12 47 17.3**	**+0.9**
MLPR	**Magueyes Islan**	**2.88 245**			**Pn**		**12 46 42.0**	**+0.3**
MLPR					**Sn**		**12 47 17.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.92 246**	*eP*		**Pn**		**12 46 43.1**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.92 246**	*eS*		**Sn**		**12 47 19.1**	**+1.7**
CRPR	**Cabo Rojo, PR**	**2.92 246**			**Pn**		**12 46 43.1**	**+0.9**
CRPR					**Sn**		**12 47 19.1**	**+1.7**
CRPR	**Cabo Rojo, PR**	**2.92 246**		IAML			12 47 31.3	
	comp=E,217nm,1.1s							
CRPR				IAML			12 47 40.7	
	comp=N,271nm,0.8s							
IDE	**Isla Desecheo**	**3.11 255**	*eP*		**Pn**		**12 46 45.4**	**+0.5**
IDE	**Isla Desecheo**	**3.11 255**			**Pn**		**12 46 45.4**	**+0.5**
ANDO	**Antigua, Disas**	**3.16 131**	*eP*		**Pn**		**12 46 46.2**	**+0.6**
ANDO				*eS*	**Sn**		**12 47 24.2**	**+0.8**
MBFL	**Flemmings, Mon**	**3.17 141**	*eP*		**Pn**		**12 46 48.8**	**+3.0**
MLYT	**Lee's Yard**	**3.21 141**	*eP*		**Pb**		**12 46 49.3**	**-3.5**
MLYT				*eS*	**Sb**		**12 47 28.5**	**-3.5**
ANBD	**Bethesda, Anti**	**3.25 131**	*eP*		**Pn**		**12 46 46.5**	**-0.3**
ANBD				*eS*	**Sn**		**12 47 24.1**	**-1.6**
GDHS	**Morne Mazeau,**	**3.81 140**			**Pn**		**12 46 57.2**	**+2.6**
PCDR	**Punta Cana, DR**	**3.92 260**	Pn		**Pn**		**12 46 55.4**	**-0.5**
PCDR				IAML			12 47 55.1	
	comp=N,168nm,0.9s							
CBE	**Ff, Capester**	**4.06 140**			Pn		12 47 00.6	+2.6
CBE	**Ff, Capester**	**4.06 140**	*eP*		**Pn**		**12 47 00.3**	**+2.3**
GDSD	**La Dsirade Is**	**4.24 133**	Pn		**Pn**		**12 47 03.9**	**+3.5**
MAGL	**Barre de l'ile**	**4.36 138**	Pn		**Pn**		**12 47 05.9**	**+3.8**
MAGL				IAML			12 48 03.7	
	comp=E,108nm,0.4s							
MAGL				IAML			12 48 20.0	
	comp=N,103nm,1.3s							
MAGL	**Barre de l'ile**	**4.36 138**	*eP*		**Pn**		**12 47 03.0**	**+0.9**
MDCT	**Cottage Hill,**	**4.50 142**	*eP*		**Pn**		**12 47 06.4**	**+2.4**
MDVC	**Dominica, Viel**	**4.54 142**	*eP*		**Pn**		**12 47 05.9**	**+1.3**
SVN	**Savane Anatole**	**5.30 145**	Pn		Pn		12 47 18.9	+3.9
BIM	**Bigot**	**5.62 146**	*eP*		**Pn**		**12 47 21.1**	**+1.7**
MPOM	**Morne Pois Mar**	**5.79 145**	*eP*		**Pn**		**12 47 21.8**	**+0.1**
SC01	**Santiago de lo**	**6.06 273**			**Pn**		**12 47 26.0**	**+0.5**
SDDR	**Presa de Saban**	**6.60 269**			**Pn**		**12 47 34.4**	**+1.4**
SDDR	**Presa de Saban**	**6.60 269**	*eP*		**Pn**		**12 47 34.3**	**+1.4**
SDDR	**Presa de Saban**	**6.60 269**	*eS*		**Sn**		**12 48 49.1**	**+0.7**
GRTK	**Grand Turk**	**6.79 291**	Pn		**Pn**		**12 47 34.9**	**-0.5**
SDV	**Santo Domingo**	**11.97 212**	Pn		**Pn**		**12 48 46.6**	**-0.1**
	comp=N,0.5nm,0.3s,baz=17,slow=10,SNR=2.0							
SDV				Sn		**Sn**	**12 50 56.5**	**-4.0**
	comp=N,0.4nm,0.3s,baz=334,slow=18,SNR=1.6							
	comp=N,2.0nm,0.5s							
TXAR	**Lajitas Array**	**37.11 293**	P		**P**		**12 53 07.6**	**+0.8**
	comp=N,0.4nm,0.8s,baz=105,slow=9.0,SNR=4.4							
	comp=N,0.4nm,0.8s							
PDAR	**Pinedale Array**	**44.65 312**	P		**P**		**12 54 09.5**	**+0.5**
	comp=N,0.2nm,0.5s,baz=110,slow=9.7,SNR=2.4							
	comp=N,0.2nm,0.5s							
YKA	**Yellowknife Ar**	**55.24 334**	P		**P**		**12 55 28.0**	**-0.8**
	comp=N,0.2nm,0.6s,baz=114,slow=7.1,SNR=3.9							
	comp=N,0.2nm,0.6s							

IDC 22 12:48:23.5±2.2, 19°99N×143°72E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=290.2km s-min=29.8km az=109.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**21.73**	**90**	T	T	13 14 04.3	
	baz=275,slow=74						
H11S1	**WAKE ISLAND Hy**	**21.75**	**90**	T	T	13 14 03.2	
	baz=275,slow=74						
H11S2	**WAKE ISLAND Hy**	**21.75**	**90**	T	T	13 14 04.3	
	baz=275,slow=74						
WRA	**Warramunga Arr**	**40.73**	**194**	P	P	12 56 06.0	-0.3
	0.5nm,0.4s,baz=15,slow=8.7,SNR=9.6						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.43**	**193**	P	P	12 56 36.5	+0.1
	0.3nm,0.7s,baz=14,slow=8.9,SNR=5.5						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**77.73**	**28**	P	P	13 00 22.1	0.0
	0.2nm,0.5s,baz=291,slow=5.6,SNR=4.8						
	0.2nm,0.5s						

*IDC **22** 12:58:43.3±1.4, 49°.28S×123°.20E, h0km, mb3.6/4, mbtmp3.8/5, Error ellipse: s-maj=50.9km s-min=27.8km az=98.0*

ISC 22 12:58:45.0±1.2, 49°3S±0°.1×123°2E±0°3, h10km, n12, σ0°64/6, mb3.5/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.85**	**332**	T	T	13 18 46.7	
	baz=157,slow=74						
H01W2	**Cape Leeuwin H**	**15.85**	**332**	T	T	13 18 49.4	
	baz=157,slow=74						
H01W3	**Cape Leeuwin H**	**15.87**	**332**	T	T	13 18 50.7	
	baz=157,slow=74						
NWAO	**Narrogin (SRO)**	**16.94**	**343**	Pn	**Pn**	**13 02 42.2**	**+0.2**
	3.3nm,0.4s						
STKA	**Stephens Creek**	**22.22**	**45**	P	**P**	**13 03 42.1**	**+0.6**
	0.4nm,0.3s,baz=229,slow=9.3,SNR=3.2						
	0.4nm,0.3s						

ASAR	**Alice Springs**	**26.93**	**22**	P	**P**		**13 04 25.5**	**-0.9**
	1.0nm,1.0s,baz=201,slow=9.4,SNR=5.5							
	1.0nm,1.0s							
QSPA	**South Pole Qui**	**40.83**	**180**	P	**P**		**13 06 26.5**	**0.0**
	1.2nm,1.0s,baz=270,slow=3.0,SNR=2.9							
	1.2nm,1.0s							
H08S2	**Diego Garcia H**	**59.27**	**297**	T	T		14 13 00.5	
	baz=145,slow=76							
H08S1	**Diego Carcia H**	**59.28**	**297**	T	T		14 13 07.6	
	baz=145,slow=76							
H08S3	**Diego Garcia H**	**59.28**	**297**	T	T		14 13 11.6	
	baz=145,slow=76							
CMAR	**Chiang Mai Arr**	**70.80**	**336**	P	**P**		**13 10 01.6**	**+0.1**
	0.4nm,0.5s,baz=187,slow=7.0,SNR=4.5							
	0.4nm,0.5s							
YKA	**Yellowknife Ar**	**146.25**	**45**	PKPbc	**PKPdf**		**13 18 23.1**	**-0.1**
	0.2nm,0.7s,baz=272,slow=4.1,SNR=3.9							

*IDC **22** 13:01:17.1±2.0, 5°.30S×134°.38E, h0km, mb3.9/2, mbtmp4.0/6, ML4.0/4, Error ellipse: s-maj=65.5km s-min=26.0km az=82.0*
*NEIC **22** 13:01:21.4±1.1, 5°.17S±0°.06×134°.3E±0°.2, h28km±6km, mb4.5/7, Error ellipse: s-maj=22.6km s-min=7.4km az=81.0*

ISC 22 13:01:21.4±0.7, 5°29S±0°.06×134°26E±0°.10, h35km, n32, σ2°01/31, mb4.4/6, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.09**	**319**		**Pn**	**13 02 07.5**	**-0.2**
BNDI	**Bandanaira**	**4.40**	**280**	P	Sn	13 03 06.0	-10
SIJI	**Sorong**	**5.31**	**326**	Pn	**Pn**	**13 02 38.5**	**+0.3**
	7.8nm,0.3s,baz=166,slow=6.2,SNR=21						
SIJI				Sn	**Sn**	**13 03 34.5**	**-3.7**
	4.2nm,0.3s,baz=233,slow=20,SNR=8.1						
	17nm,0.4s						
MSAI	**Masohi**	**5.65**	**290**	P	**Pn**	**13 02 43.5**	**+0.5**
AAI	**Ambon**	**6.25**	**284**	P	Pn	13 02 41.1	-10
NLAI	**Namlea**	**7.42**	**286**	P	Pn	13 02 57.3	-10
MTN	**Manton Dam**	**8.12**	**202**		**Pn**	**13 03 18.9**	**+2.0**
SANI	**Sanana**	**8.86**	**291**	P	Pn	13 03 16.8	-10
SOEI	**Soe**	**10.85**	**245**	Pn	**Pn**	**13 03 56.4**	**+1.9**
BATI	**Baumata**	**11.58**	**244**	Pn	**Pn**	**13 04 05.2**	**+0.9**
	3.8nm,0.3s,baz=108,slow=16,SNR=2.7						
BATI				Sn	**Sn**	**13 06 12.5**	**0.0**
	2.2nm,0.3s,baz=30,slow=20,SNR=2.4						
	11nm,0.4s						
KNRA	**Kununurra**	**11.65**	**207**		**Pn**	**13 04 06.8**	**+1.5**
WB0	**Warramunga Arr**	**14.40**	**179**	Pn	**Pn**	**13 04 41.8**	**-1.0**
WRAB	**Tennant Creek**	**14.56**	**180**	Pn	**Pn**	**13 04 44.6**	**-0.5**
WRA	**Warramunga Arr**	**14.57**	**180**	Pn	**Pn**	**13 04 43.8**	**-1.4**
	0.3nm,0.3s,baz=355,slow=13,SNR=12						
WRA				Sn	Sn	13 07 16.2	-9.4
	0.2nm,0.3s,baz=359,slow=23,SNR=3.1						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**14.57**	**180**	Pn	**Pn**	**13 04 44.5**	**-0.7**
WR0	**Warramunga Arr**	**14.59**	**179**	Pn	**Pn**	**13 04 45.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**15.27**	**213**		**Pn**	**13 04 54.1**	**-0.4**
AS31	**Alice Springs**	**18.28**	**181**	P	**Pn**	**13 05 33.6**	**+1.1**
AS31				IAmb	IAmb	13 05 40.8	
	comp=Z,2.9nm,0.7s						
ASAR	**Alice Springs**	**18.28**	**181**	P	**P**	**13 05 32.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=4.5,slow=10.0,SNR=41						
ASAR				S	**Sn**	**13 08 47.7**	**-7.9**
	comp=Z,0.9nm,0.8s,baz=359,slow=29,SNR=1.2						
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**18.28**	**181**	P	**Pn**	**13 05 33.6**	**+1.2**
FORT	**Forrest**	**26.02**	**192**	P	**P**	**13 06 54.0**	**+2.6**
FORT				IAmb	IAmb	13 07 17.3	
	comp=Z,16nm,0.8s						
ARMA	**Armidale**	**29.88**	**149**	P	**P**	**13 07 27.4**	**+1.4**
ARMA				IAmb	IAmb	13 08 11.3	
	comp=Z,30nm,1.5s						
YOJ	**Yonaguni jima**	**31.53**	**340**	P	**P**	**13 07 39.7**	**-0.7**
KSAR	**Wonju Array Be**	**42.92**	**353**	P	**P**	**13 09 16.6**	**-0.2**
USA0B	**Ussuriysk Arra**	**49.30**	**358**	P	**P**	**13 10 06.1**	**-0.9**
USA0B				IAmb	IAmb	13 10 43.9	
	comp=Z,6.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**49.30**	**358**	P	**P**	**13 10 06.0**	**-0.9**
WKZ	**Wanaka**	**49.73**	**148**	P	**P**	**13 10 10.1**	**-0.2**
MKAR	**Makanchi Array**	**69.20**	**325**	P	**P**	**13 12 27.3**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=121,slow=8.0,SNR=12						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**69.20**	**325**	P	**P**	**13 12 25.2**	**+0.6**
MAKZ	**Makanchi**	**69.39**	**325**	P	**P**	**13 12 26.5**	**+0.6**
MAKZ				IAmb	IAmb	13 12 29.3	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**72.00**	**332**	P	**P**	**13 12 41.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=123,slow=4.0,SNR=4.5						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**72.00**	**332**	P	**P**	**13 12 42.1**	**+0.6**

*SEA **22** 13:02:25.1±2.4, 47°.400N±0°.010×121°.59W±0°.01, h4km±6km, ML3.1/37, ML3.3/54(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=82.0*

NEIC 22 13:02:24.9±1.9, 47°405N±0°.006×121°61W±0°.02, h16km±2km, Error ellipse: s-maj=1.9km s-min=0.9km az=91.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDMR	**Cedar Moraine**	**0.10**	**280**		Pb	13 02 28.8	+0.3
RATT	**Rattlesnake La**	**0.14**	**279**		Pg	13 02 27.6	-1.1
RATT					Sg	13 02 29.6	-1.7
ELW	**Echo Lake**	**0.20**	**297**		Pg	13 02 29.0	-0.7
ELW					Sg	13 02 32.0	-0.9
RAW	**Raver**	**0.23**	**253**		Pg	13 02 29.8	-0.3
RAW					Sg	13 02 33.5	-0.1
GSM	**Grass Mountain**	**0.24**	**212**		Pg	13 02 29.7	-0.6
C05A	**Tolt Reservoir**	**0.30**	**349**		Pg	13 02 30.5	-0.7
C05A					Sg	13 02 34.6	-1.0
TTW	**Tolt Reservoir**	**0.30**	**349**		Pg	13 02 30.5	-0.7
TTW					Sg	13 02 34.6	-0.9
D05A	**Enumclaw**	**0.34**	**230**	Pg	Pg	13 02 31.9	0.0
D05A				Sg	Sg	13 02 36.9	+0.2
D05A				IAML		13 02 39.7	
	comp=E,4μm,0.8s						
MPL	**Maple valley S**	**0.40**	**279**		Pg	13 02 32.9	-0.1
HTW	**Haystack Looko**	**0.41**	**345**		Pg	13 02 32.6	-0.7
MARYW	**Marymoor Park**	**0.43**	**307**		Pb	13 02 34.2	0.0
WISC	**Wilburton Inst**	**0.44**	**298**		Pb	13 02 34.5	+0.3
EARN	**East Ridge Ele**	**0.45**	**319**		Pg	13 02 34.0	+0.1
EARN					Sb	13 02 41.1	+0.4
SP2	**Seward Park 2**	**0.46**	**289**		Pg	13 02 34.2	+0.1
SP2					Sb	13 02 42.4	+1.2
HICC	**Highline Commu**	**0.47**	**268**		Pg	13 02 34.5	+0.2
HICC					Sb	13 02 42.5	+1.1
SMNR	**Sumner High Sc**	**0.47**	**245**		Pb	13 02 34.6	-0.2
FMW	**Mount Fremont**	**0.47**	**185**		Pg	13 02 33.8	-0.7
TKCO	**King County**	**0.49**	**286**		Pb	13 02 35.0	-0.1
LEOT	**Leota Junior H**	**0.50**	**317**		Pb	13 02 35.1	-0.2
LEOT					Sb	13 02 43.0	+0.7
KIMB	**Kimball Elemen**	**0.50**	**290**		Pb	13 02 35.6	+0.4
KIMB					Sn	13 02 44.5	-1.2
SR41	**SR410 Landslid**	**0.52**	**175**		Pg	13 02 34.7	-0.6
NOWS	**NOAA--Sand Poi**	**0.52**	**303**		Pb	13 02 36.1	+0.4
NOWS					Sn	13 02 45.2	-0.9
SSS1	**John Stanford**	**0.52**	**290**		Pb	13 02 36.5	+0.9
SSS1					Sn	13 02 46.2	+0.1
OBSR	**Observation Ro**	**0.53**	**196**		Pg	13 02 35.0	-0.4
OBSR					Sg	13 02 42.3	-0.2
PAYL	**Puyallup Schoo**	**0.53**	**246**		Pg	13 02 35.1	-0.2
PAYL					Sb	13 02 43.7	+0.7
MBPA	**Monroe Substat**	**0.53**	**339**		Pg	13 02 35.0	-0.4
MBPA					Sg	13 02 42.2	-0.3
NIHS	**Ingelmoor High**	**0.54**	**309**		Sn	13 02 45.2	-1.3
TBPA	**Tacoma Substat**	**0.54**	**254**		Pb	13 02 35.8	-0.1
TBPA					Sb	13 02 44.7	+1.3
RCS	**Mount Rainier-**	**0.54**	**189**		Pg	13 02 35.2	-0.5
TWW	**Teanaway**	**0.57**	**118**		Pb	13 02 36.7	+0.2
ALKI	**Alki Wastewate**	**0.58**	**288**		Pb	13 02 37.2	+0.7
VVHS	**Vashon High Sc**	**0.58**	**272**		Pg	13 02 36.0	-0.2
VVHS					Sb	13 02 45.2	+0.7
BRKS	**Brookside Elem**	**0.58**	**307**		Pb	13 02 36.8	+0.2
BRKS					Sn	13 02 46.2	-1.3
GHW	**Garrison Hill**	**0.58**	**232**		Pg	13 02 35.5	-0.9
GHW					Sg	13 02 43.6	-0.5
REMR	**Mount Rainier-**	**0.61**	**195**		Pg	13 02 36.2	-0.7
LYNC	**Lynnwood City**	**0.63**	**312**		Pg	13 02 37.2	0.0
LTY	**Liberty**	**0.65**	**103**		Pg	13 02 37.4	-0.3
LTY				Sg	Sg	13 02 46.5	+0.1
LTY				IAML		13 02 47.0	
	comp=N,832nm,0.2s						
LTY				IAML		13 02 47.0	
	comp=E,825nm,0.2s						
LON	**Longmire**	**0.67**	**192**		Pg	13 02 37.2	-0.8
LON				Sg	Sg	13 02 45.9	-1.0
LON	**Longmire**	**0.67**	**192**		Pg	13 02 37.2	-0.8
PCFR	**Pierce County**	**0.70**	**234**		Pg	13 02 37.5	-1.1
PSNS	**PSNS Bremerton**	**0.72**	**283**		Pg	13 02 38.7	-0.3
TBM	**Table Mountain**	**0.72**	**109**		Pb	13 02 39.2	+0.1
EVCC	**Everett Colleg**	**0.73**	**326**		Pb	13 02 39.1	0.0
GPW	**Glacier Peak**	**0.78**	**24**		Pg	13 02 39.5	-0.6
KIMR	**Kitsap County**	**0.79**	**278**		Pb	13 02 39.6	-0.7
SLFW	**Sugar Loaf**	**0.81**	**64**		Pb	13 02 40.4	-0.3
GMW	**Gold Mountain**	**0.81**	**281**		Pb	13 02 39.6	-1.0
SWID	**South Whidbey**	**0.81**	**318**		Pb	13 02 40.5	-0.1
JCW	**Jim Creek**	**0.82**	**345**		Pb	13 02 39.8	-1.0
GNW	**Green Mountain**	**0.84**	**281**		Pb	13 02 40.0	-1.1
NAC	**Naches**	**0.86**	**141**		Pg	13 02 41.6	+0.1
EBG	**Ellensburg**	**0.86**	**125**		Pn	13 02 42.0	-0.3
ETW	**Entiat**	**0.89**	**77**		Pb	13 02 41.5	-0.4
B013	**Quilcene**	**0.97**	**295**		Pb	13 02 42.0	-1.3
B013					Sb	13 02 55.0	-0.9
B013	**Quilcene**	**0.97**	**295**		Pb	13 02 41.9	-1.4
B013					Sb	13 02 55.0	-0.8
C04A	**Brinnon**	**0.98**	**289**		Pb	13 02 42.1	-1.2
HDW	**Hoodsport**	**1.01**	**284**		Pb	13 02 42.7	-1.3
KOSW	**Kosmos**	**1.02**	**203**		Pb	13 02 43.5	-0.8
RPW	**Rockport**	**1.05**	**3**		Pb	13 02 43.6	-1.0
RPW					Sb	13 02 57.5	-0.7
CMW	**Cultus Mountai**	**1.08**	**341**		Pb	13 02 44.6	-0.6
NLW	**Nelson Butte**	**1.09**	**51**		Pb	13 02 45.1	-0.3
B06A	**Marblemount**	**1.12**	**4**		Pb	13 02 44.8	-0.9
B06A				IAML		13 03 00.6	
	comp=N,794nm,0.3s						
B06A				IAML		13 03 07.8	
	comp=E,842nm,0.2s						
CBSW	**Chelan Butte S**	**1.13**	**69**		Pb	13 02 44.8	-1.3
YA2	**Yakima**	**1.15**	**140**		Pn	13 02 45.6	-0.6
WTV	**Waterville**	**1.16**	**75**		Pn	13 02 45.5	-0.9
SQM	**Sequim**	**1.18**	**305**		Pn	13 02 44.9	-1.8
B201	**Coldwater, Mou**	**1.19**	**203**		Pn	13 02 44.3	-2.0
B202	**Windy Ridge, M**	**1.22**	**198**		Pn	13 02 45.4	-1.9
MXC	**Moxie City**	**1.22**	**132**		Pb	13 02 47.8	+0.2
BOLM	**Sugar Bowl**	**1.25**	**198**		Pn	13 02 46.5	-1.4
ASR	**Mount Adams--S**	**1.25**	**180**		Pn	13 02 47.0	-0.8
SEPW	**September Lobe**	**1.27**	**199**		Pn	13 02 46.8	-1.3
FL2	**Flat Top 2**	**1.31**	**203**		Pn	13 02 47.1	-1.5
BVW	**Beverly**	**1.32**	**116**		Pn	13 02 48.6	0.0
EPH	**Ephrata**	**1.37**	**91**		Pn	13 02 49.1	-0.1
DHW2	**Dyer Hill 2**	**1.37**	**64**		Pn	13 02 49.1	-0.3
MBW	**Mount Baker**	**1.39**	**352**		Pn	13 02 49.0	-0.8
B04A	**Port Angeles**	**1.44**	**298**		Pn	13 02 49.6	-0.6
B04A	**Port Angeles**	**1.44**	**298**		Pn	13 02 48.5	-1.7
BRVW	**Black Rock Val**	**1.44**	**129**		Pb	13 02 50.9	-0.4
BMW	**Boistfort Moun**	**1.45**	**231**		Pn	13 02 49.1	-1.3
SHUK	**Shuksan-Mt. Ba**	**1.45**	**358**		Pn	13 02 49.5	-1.1
OSD	**Olympics--Snow**	**1.48**	**287**		Pn	13 02 50.2	-0.7
RVW	**Rose Valley**	**1.48**	**212**		Pn	13 02 49.7	-1.1
GULW	**Euler Mountain**	**1.48**	**180**		Pn	13 02 51.0	+0.1
MDW	**Midway**	**1.49**	**121**		Pn	13 02 51.4	+0.5
OLQ	**Olympics--Lake**	**1.50**	**275**		Pb	13 02 52.1	-0.1
WISH	**Wishkah**	**1.50**	**260**		Pb	13 02 51.8	-0.5
WISH				IAML		13 03 20.5	
	comp=E,234nm

WALA IAML 13 05 49.2
comp=E,22nm,4.8s
CHMT Chamberlain Mo 5.72 92 Pn 13 03 48.9 -0.3
HLID Hailey 6.35 125 Pn Pn 13 03 56.9 -0.9
LRM Limekiln Ridge 6.50 101 Pn 13 04 00.7 +0.7
BCYI Bear Canyon 6.51 115 Pn 13 04 00.3 +0.2
MCMT McKenzie Canyo 6.61 110 Pn 13 04 01.4 -0.1
HRY Holter Researc 6.71 92 Pn 13 04 03.1 +0.3
BOZ Bozeman (W) 7.12 101 Pn Pn 13 04 08.2 -0.2

*DDA **22** 13:23:06.8±0.0, 38°.53N×44°.43E, h8km±1km, ML2.7*
*TEH **22** 13:23:06.8, 38°.49N×44°.48E, h6km±72km, ML2.8*
*ISK **22** 13:23:06.0, 38°.43N×44°.39E, h5km, ML2.7/11*
ISC 22 13:23:06.4±1.2, 38°.46N±0°.03×44°.46E±0°.03, h2km±11km, n24, σ0s84/36, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.41**	**299**	P	**Pg**	**13 23 14.3**	**-0.1**
OZAP				S	**Sg**	**13 23 19.9**	**+0.1**
OZAP				*i* AML	AML	13 23 22.0	
	comp=E,762nm,0.3s						
OZAP				*i* AML	AML	13 23 24.0	
	comp=N,786nm,0.3s						
VANB	**Van**	**0.85**	**280**	Pg	**Pg**	**13 23 21.9**	**-0.8**
VANB				Sg	**Sg**	**13 23 34.0**	**+0.4**
YOVA	**Hakkari_Yksek**	**0.88**	**189**	P	**Pg**	**13 23 23.8**	**+0.5**
YOVA				S	**Sn**	**13 23 38.8**	**-0.7**
YOVA				*i* AML	AML	13 23 40.0	
	comp=E,185nm,0.5s						
YOVA				*i* AML	AML	13 23 41.0	
	comp=N,209nm,0.4s						
MAKU	**Maku**	**0.91**	**11**	Pg	**Pg**	**13 23 23.4**	**-0.5**
MAKU				Sg	**Sg**	**13 23 35.8**	**0.0**
ISHB	**Shabestar**	**0.93**	**100**	Pg	**Pg**	**13 23 23.8**	**-0.5**
IMRD	**Marand**	**1.01**	**75**	Pg	**Pg**	**13 23 25.8**	**-0.1**
ERCV	**ERCIS-VAN**	**1.04**	**303**	Pg	**Pb**	**13 23 26.7**	**-0.5**
ERCV				Sg	**Sn**	**13 23 41.6**	**-1.8**
AKDM	**Akdamar-Van**	**1.17**	**264**	Pn	**Pg**	**13 23 27.9**	**-0.9**
AKDM				Sn	**Sb**	**13 23 44.9**	**-0.1**
ITBZ	**Tabriz**	**1.35**	**99**	Pg	**Pn**	**13 23 31.7**	**-0.7**
CUKT	**Cukurca**	**1.38**	**209**	Pn	**Pn**	**13 23 32.8**	**-0.1**
CUKT				Sn	**Sn**	**13 23 52.3**	**+0.5**
ADCV	**BITLIS_Adilcev**	**1.40**	**285**	P	**Pn**	**13 23 32.7**	**-0.5**
ADCV				S	**Sn**	**13 23 54.0**	**+1.7**
ADCV				*i* AML	AML	13 23 56.0	
	comp=N,119nm,0.4s						
ADCV				*i* AML	AML	13 23 56.0	
	comp=E,87nm,0.6s						
IAZR	**Azarshahr**	**1.43**	**122**	Pg	**Pn**	**13 23 34.0**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.53**	**354**	Pn	**Pg**	**13 23 35.8**	**0.0**
TASB				Sn	**Sg**	**13 23 57.7**	**+2.0**
AGRB	**Hanur-Agry**	**1.59**	**315**	Pn	**Pb**	**13 23 36.2**	**-0.5**
AGRB				Sn	**Sg**	**13 23 58.3**	**+0.6**
MLAZ	**Malazgirt-MUS**	**1.64**	**295**	Pn	**Pb**	**13 23 36.7**	**-0.7**
KOTA	**Agri, Merkez-K**	**1.66**	**324**	P	**Pn**	**13 23 36.0**	**-0.7**
KOTA				S	**Sg**	**13 23 59.2**	**-0.4**
GNI	**Garni**	**1.70**	**7**	Pn	**Pb**	**13 23 38.5**	**-0.1**
GNI				Sn	**Sg**	**13 24 02.1**	**+0.9**
GURO	**Guroymak-BITLI**	**1.90**	**274**	Pn	**Pn**	**13 23 40.1**	**+0.1**
IHRS	**Heris**	**2.04**	**93**	Pn	**Pb**	**13 23 44.0**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**2.54**	**308**	Pn	**Pn**	**13 23 49.7**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.58**	**264**	Pn	**Pn**	**13 23 49.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.66**	**323**	Pn	**Pn**	**13 23 51.6**	**+1.1**
BNGB	**Bingl**	**3.00**	**281**	Pn	**Pn**	**13 23 56.2**	**+1.1**
MAZI	**Mazidag**	**3.32**	**254**	Pn	**Pn**	**13 24 00.7**	**+1.2**

*NEIC **22** 13:25:00±1.3, 7°.56S±0°.10×158°.19E±0°.07, h50km±9km, mb4.5/36, Error ellipse: s-maj=17.2km s-min=2.9km az=215.0*
*IDC **22** 13:25:00.4±0.7, 7°.54S×158°.16E, h56km±7km, mb3.6/11, mbtmp3.9/12, Error ellipse: s-maj=20.2km s-min=8.9km az=49.0*
ISC 22 13:24:59.5±0.5, 7°.57S±0°.07×158°.14E±0°.08, h46km, n63, σ0s90/60, mb4.3/30, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.57**	**136**	P	**Pn**	**13 25 38.9**	**+0.2**
	9μm,0.5s,baz=244,slow=4.5,SNR=68						
HNR				S	**Sn**	**13 26 11.0**	**+2.3**
	9μm,0.5s,baz=298,slow=21,SNR=11						
HNR	**Honiara**	**2.57**	**136**	Pn	**Pn**	**13 25 38.6**	**-0.1**
PMG	**Port Moresby**	**11.02**	**260**	Pn	**Pn**	**13 27 35.5**	**+0.9**
PATS	**Pohnpei**	**14.31**	**1**	Pn	**Pn**	**13 28 18.3**	**-1.3**
DZM	**Mont Dzumac**	**16.49**	**152**	P	**P**	**13 28 49.8**	**-0.1**
	5.7nm,0.8s,baz=290,slow=6.6,SNR=3.6						
DZM	**Mont Dzumac**	**16.49**	**152**	P	**P**	**13 28 49.7**	**-0.2**
EIDS	**Eidsvold**	**18.94**	**200**	P	**P**	**13 29 16.4**	**-0.5**
MSVF	**Nonsavu**	**21.87**	**119**	P	**P**	**13 29 48.5**	**-0.2**
	4.5nm,0.7s,baz=257,slow=11,SNR=6.3						
	4.5nm,0.7s						
MSVF	**Nonsavu**	**21.87**	**119**	P	**P**	**13 29 48.6**	**-0.2**
WRA	**Warramunga Arr**	**26.14**	**240**	P	**P**	**13 30 29.2**	**-0.5**
	0.5nm,0.7s,baz=63,slow=9.0,SNR=3.4						
	0.5nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**27.24**	**18**	T	T	13 58 57.0	
	baz=198,slow=76,SNR=1118						
H11S2	**WAKE ISLAND Hy**	**27.24**	**18**	T	T	13 58 56.4	
	baz=198,slow=76,SNR=1254						
H11S1	**WAKE ISLAND Hy**	**27.25**	**18**	T	T	13 58 57.3	
	baz=198,slow=76,SNR=697						
ASAR	**Alice Springs**	**28.22**	**233**	P	**P**	**13 30 48.0**	**-0.3**
	0.3nm,0.9s,baz=61,slow=10,SNR=4.2						
	0.3nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**28.45**	**18**	T	T	14 00 25.2	
	baz=199,slow=76,SNR=63						
H11N3	**WAKE ISLAND Hy**	**28.46**	**18**	T	T	14 00 24.6	
	baz=199,slow=76,SNR=42						
H11N2	**WAKE ISLAND Hy**	**28.47**	**18**	T	T	14 00 29.9	
	baz=199,slow=76,SNR=25						
STKA	**Stephens Creek**	**28.68**	**210**	P	**P**	**13 30 52.7**	**+0.4**
	0.5nm,0.3s,baz=76,slow=17,SNR=1.7						
	0.5nm,0.3s						
BBOO	**Buckleboo**	**32.41**	**216**	P	**P**	**13 31 24.2**	**-1.0**
BBOO				IAmb	IAmb	13 31 25.0	
	comp=Z,4.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**33.31**	**249**	P	**P**	**13 31 32.2**	**-1.1**
BKZ	**Black Stump Fm**	**35.53**	**155**	P	**P**	**13 31 51.0**	**-1.2**
MJAR	**Matsushiro Arr**	**47.70**	**338**	pP	pP	13 33 45.0	+0.5
	comp=Z,1.8nm,0.7s,baz=172,slow=8.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**63.85**	**295**	P	**P**	**13 35 29.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=119,slow=5.6,SNR=1.7						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**69.94**	**179**	P	**P**	**13 36 04.5**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=331,slow=7.6,SNR=2.2						
	comp=Z,1.0nm,0.8s						
SEY	**Seymchan**	**70.44**	**357**	P	**P**	**13 36 08.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=189,slow=16,SNR=2.1						
	comp=Z,0.9nm,0.6s						
SONM	**Songino Array**	**71.53**	**326**	P	**P**	**13 36 16.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=140,slow=4.8,SNR=4.7						
SONM				pP	**pP**	**13 36 30.9**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=122,slow=5.1,SNR=5.3						
	comp=Z,0.4nm,0.4s						
P18K	**Big Mountain,**	**76.36**	**23**	P	**P**	**13 36 42.9**	**-0.8**
Q19K	**Cape Douglas,**	**76.66**	**23**	P	**P**	**13 36 45.3**	**-0.1**
TNA	**Tin City**	**77.10**	**14**	P	**P**	**13 36 48.0**	**+0.3**
TNA				IAmb	IAmb	13 36 55.3	
	comp=Z,5.0nm,1.4s						
SVW2	**Sparrevohn**	**77.38**	**21**	P	**P**	**13 36 49.1**	**-0.3**
L19K	**White Mountain**	**78.37**	**21**	P	**P**	**13 36 55.4**	**+0.5**
L19K				IAmb	IAmb	13 36 56.1	
	comp=Z,8.6nm,1.1s						
SUA	**Susitna One**	**79.39**	**22**	P	**P**	**13 36 59.9**	**-0.7**
K20K	**Telida**	**79.43**	**20**	P	**P**	**13 37 01.2**	**+0.5**
PPLA	**Purkeypile**	**79.77**	**21**	P	**P**	**13 37 02.2**	**-0.5**
PPLA				IAmb	IAmb	13 37 17.8	
	comp=Z,14nm,1.4s						
CAST	**Castle Rocks**	**80.15**	**20**	P	**P**	**13 37 03.4**	**-1.2**
CAST				IAmb	IAmb	13 37 05.5	
	comp=Z,4.9nm,1.0s						
GHO	**Glory Hole Cre**	**80.27**	**23**	P	**P**	**13 37 04.9**	**-0.5**
GHO				IAmb	IAmb	13 37 48.8	
	comp=Z,9.8nm,1.3s						
SML	**Sawmill**	**80.52**	**23**	P	**P**	**13 37 06.0**	**-0.6**
SML				IAmb	IAmb	13 37 08.0	
	comp=Z,7.8nm,1.0s						
KTH	**Kantishna Hill**	**80.64**	**21**	P	**P**	**13 37 06.4**	**-0.9**
KTH				IAmb	IAmb	13 37 45.0	
	comp=Z,6.0nm,1.3s						
TRF	**Thorofare Moun**	**80.79**	**21**	P	**P**	**13 37 07.0**	**-1.2**
BPAW	**Bear Paw Mtn.**	**80.96**	**20**	P	**P**	**13 37 07.8**	**-1.2**
IMAR	**Indian Mountai**	**81.29**	**18**	P	**P**	**13 37 10.7**	**+0.1**
MCK	**McKinley**	**81.45**	**21**	P	**P**	**13 37 10.5**	**-1.0**
MCK				IAmb	IAmb	13 37 11.7	
	comp=Z,6.7nm,0.9s						
M24K	**Tolsona, Glenn**	**81.53**	**23**	P	**P**	**13 37 12.4**	**+0.4**
DHY	**Denali Highway**	**81.62**	**22**	P	**P**	**13 37 11.9**	**-0.8**
DHY				IAmb	IAmb	13 37 45.5	
	comp=Z,6.2nm,1.4s						
MLY	**Manley**	**81.63**	**20**	P	**P**	**13 37 12.2**	**-0.3**
NEA2	**Nenana**	**81.92**	**20**	P	**P**	**13 37 13.0**	**-0.9**
WRH	**Wood River Hil**	**82.19**	**21**	P	**P**	**13 37 14.1**	**-1.2**
WRH				IAmb	IAmb	13 37 37.5	
	comp=Z,6.3nm,1.4s						
CCB	**Clear Creek Bu**	**82.39**	**21**	P	**P**	**13 37 14.9**	**-1.4**
CCB				IAmb	IAmb	13 37 21.5	
	comp=Z,3.8nm,1.3s						
MDM	**Murphy Dome**	**82.43**	**20**	P	**P**	**13 37 14.9**	**-1.8**
MDM				IAmb	IAmb	13 37 33.6	
	comp=Z,7.1nm,1.4s						
ILAR	**Eielson Array**	**82.78**	**21**	P	**P**	**13 37 17.2**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=257,slow=4.8,SNR=11						
	comp=Z,1.3nm,0.9s						
RIDG	**Independent Ri**	**82.94**	**22**	P	**P**	**13 37 19.1**	**-0.2**
DOT	**Dot Lake**	**83.19**	**22**	P	**P**	**13 37 20.5**	**-0.1**
DOT				IAmb	IAmb	13 37 49.1	
	comp=Z,6.2nm,1.4s						
M27K	**Edge Creek, AK**	**83.36**	**24**	P	**P**	**13 37 21.6**	**-0.1**
SCRK	**Sand Creek**	**83.39**	**22**	P	**P**	**13 37 21.6**	**-0.2**
SCRK				IAmb	IAmb	13 37 28.9	
	comp=Z,4.2nm,1.3s						
L27K	**Beaver Creek,**	**83.74**	**23**	P	**P**	**13 37 23.8**	**+0.3**
L27K				IAmb	IAmb	13 37 53.9	
	comp=Z,6.0nm,1.4s						
BCAR	**Beaver Creek A**	**83.76**	**23**	P	**P**	**13 37 23.2**	**-0.4**
J26L	**Joseph Creek**	**83.83**	**22**	P	**P**	**13 37 23.9**	**0.0**
EGAK	**Eagle**	**84.86**	**22**	P	**P**	**13 37 29.4**	**+0.3**
EGAK				IAmb	IAmb	13 37 37.7	
	comp=Z,9.5nm,1.5s						
BMAR	**Burnt Mountain**	**85.06**	**19**	P	**P**	**13 37 30.9**	**+0.8**
MK31	**Makanchi Array**	**85.91**	**318**	P	**P**	**13 37 35.3**	**+0.6**
MK31				IAmb	IAmb	13 37 35.9	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**85.91**	**318**	P	**P**	**13 37 34.5**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=103,slow=5.8,SNR=17						
MKAR				pP	**pP**	**13 37 50.6**	**+2.3**
	comp=Z,0.8nm,0.7s,baz=100,slow=6.6,SNR=5.6						
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**85.91**	**318**	P	**P**	**13 37 34.7**	**-0.1**
YKA	**Yellowknife Ar**	**95.39**	**28**	P	**P**	**13 38 18.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=262,slow=4.9,SNR=11						
YKA				pP	**pP**	**13 38 34.1**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=266,slow=5.0,SNR=2.2						
	comp=Z,0.7nm,0.8s						

*IDC **22** 13:31:56.4±0.6, 5°.82S×153°.33E, h0km, mb4.5/16, mbtmp4.5/18, ML2.9/2, MS3.9/1, Error ellipse: s-maj=19.5km s-min=12.9km az=89.0*
*NEIC **22** 13:31:59.5±1.2, 5°.83S±0°.06×153°.48E±0°.09, h22km±5km, mb4.9/60, Error ellipse: s-maj=13.3km s-min=8.9km az=71.0*
*DJA **22** 13:32:03.2±1.3, 6°S±4°×15°4E±1°.2, h48km±9km, M4.8/12, mB5.3/6, mb4.7/12, MLv5.0/2, Mw(mB)4.7/6*
ISC 22 13:32:00.7±0.4, 5°.85S±0°.05×153°.45E±0°.08, h32km, n112, σ1s34/119, mb4.9/59, 3C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.09**	**322**		**Pn**	**13 32 33.1**	**-0.4**
KRVT	**Keravat (AS076**	**2.09**	**317**	Pn	**Pn**	**13 32 32.6**	**-0.9**
	baz=192,slow=4.2						
KRVT				Sn	**Sn**	**13 32 57.3**	**-1.2**
	baz=191,slow=18						
MANU	**Manus Island**	**7.15**	**302**	Pn	**Pn**	**13 33 42.8**	**-0.3**
PMG	**Port Moresby**	**7.17**	**240**	Pn	**Pn**	**13 33 42.7**	**-0.7**
	2.6nm,0.3s,baz=128,slow=5.4,SNR=8.2						
PMG				Sn	**Sn**	**13 35 03.7**	**-0.1**
	2.1nm,0.3s,baz=137,slow=19,SNR=10.0						
	53nm,0.8s						
PATS	**Pohnpei**	**13.50**	**21**	Pn	**Pn**	**13 35 08.8**	**-1.4**
CTA	**Charters Tower**	**15.79**	**206**	Pn	**Pn**	**13 35 41.0**	**+0.2**
	0.2nm,0.3s,baz=5.8,slow=15,SNR=2.2						
	6.0nm,1.0s						
CTAO	**Charters Tower**	**15.79**	**206**	P	**P**	**13 35 45.3**	**+0.9**
EIDS	**Eidsvold**	**19.54**	**186**	Pn	**Pn**	**13 36 26.9**	**-0.2**
DZM	**Mont Dzumac**	**20.44**	**143**	P	Pn	13 36 37.5	-0.4
	34nm,1.1s,baz=359,slow=6.6,SNR=9.9						
	34nm,1.1s						
DZM	**Mont Dzumac**	**20.44**	**143**	Pn	Pn	13 36 37.1	-0.8
DZM				IAmb	IAmb	13 36 39.1	
	comp=Z,58nm,1.3s						
OUENC	**Ouen Island, N**	**20.94**	**143**	Pn	Pn	13 36 43.0	-0.7
MTN	**Manton Dam**	**23.08**	**251**	P	**P**	**13 37 03.0**	**-0.9**
WR0	**Warramunga Arr**	**23.12**	**231**	P	**P**	**13 37 03.0**	**-1.2**
WR0				IAmb	IAmb	13 37 23.6	
	comp=Z,30nm,1.1s						
WB0	**Warramunga Arr**	**23.13**	**232**	P	**P**	**13 37 03.0**	**-1.3**
WRAB	**Tennant Creek**	**23.25**	**231**	P	**P**	**13 37 04.3**	**-1.2**
WB2	**Warramunga Arr**	**23.26**	**231**	P	**P**	**13 37 05.4**	**-0.2**
WRA	**Warramunga Arr**	**23.27**	**231**	P	**P**	**13 37 03.4**	**-2.3**
	comp=Z,7.7nm,1.1s,baz=56,slow=10,SNR=16						
WRA				ScP	**ScP**	**13 44 34.9**	**+6.1**
	comp=Z,0.8nm,1.0s,baz=60,slow=3.8,SNR=5.2						
	comp=Z,7.7nm,1.1s						
AS31	**Alice Springs**	**25.84**	**225**	P	**P**	**13 37 27.0**	**-2.5**
ASAR	**Alice Springs**	**25.84**	**225**	P	**P**	**13 37 28.2**	**-1.3**
	comp=Z,8.1nm,0.9s,baz=54,slow=9.0,SNR=57						
ASAR				PcP	**PcP**	**13 41 01.7**	**+3.2**
	comp=Z,0.6nm,0.6s,baz=67,slow=2.7,SNR=4.5						
ASAR				ScP	**ScP**	**13 44 42.0**	**+6.2**
	comp=Z,0.8nm,0.8s,baz=46,slow=1.7,SNR=5.2						
	comp=Z,8.1nm,0.9s						
ASAR	**Alice Springs**	**25.84**	**225**	P	**P**	**13 37 26.8**	**-2.7**
KNRA	**Kununurra**	**26.12**	**246**	P	**P**	**13 37 31.6**	**-0.3**
KNRA				IAmb	IAmb	13 37 50.2	
	comp=Z,30nm,0.8s						
STKA	**Stephens Creek**	**28.17**	**202**	P	**P**	**13 37 48.9**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=28,slow=13,SNR=8.5						
	comp=Z,4.9nm,0.9s						
STKA	**Stephens Creek**	**28.17**	**202**	P	**P**	**13 37 48.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**29.75**	**243**	P	**P**	**13 38 02.6**	**-1.9**
BATI	**Baumata**	**29.80**	**260**	P	**P**	**13 38 05.5**	**+0.5**
	comp=Z,5.4nm,0.3s,baz=63,slow=4.5,SNR=2.1						
BATI				LR	LR	13 49 38.4	
	comp=Z,226nm,21.8s,baz=275,slow=36						
	comp=Z,5.4nm,0.3s						
FORT	**Forrest**	**34.41**	**221**	P	**P**	**13 38 43.0**	**-2.1**
MBWA	**Marble Bar**	**36.03**	**242**	P	**P**	**13 38 58.8**	**-0.5**
MBWA				IAmb	IAmb	13 39 17.2	
	comp=Z,25nm,1.4s						
BKZ	**Black Stump Fm**	**39.16**	**151**	P	**P**	**13 39 24.8**	**-0.8**
JGF	**Kuroka**	**43.92**	**341**	P	**P**	**13 40 04.5**	**-0.1**
JNU	**Nakatsue**	**44.29**	**333**	P	**P**	**13 40 07.8**	**+0.2**
MJAR	**Matsushiro Arr**	**44.52**	**342**	P	**P**	**13 40 07.6**	**-1.8**
	comp=Z,3.8nm,0.8s,baz=133,slow=1.9,SNR=10						
MJAR				PcP	**PP**	**13 41 53.7**	**-0.1**
	comp=Z,3.5nm,1.0s,baz=164,slow=4.9,SNR=4.3						
	comp=Z,3.8nm,0.8s						
MAJO	**Matsushiro**	**44.52**	**342**	P	**P**	**13 40 08.3**	**-1.1**
JTM	**Tenmabayashi**	**47.78**	**347**	P	**P**	**13 40 34.5**	**-0.4**
KSRS	**Korea Array**	**49.22**	**333**	P	**P**	**13 40 45.8**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=151,slow=8.2,SNR=8.7						
KSRS				PcP	**PcP**	**13 42 10.6**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=157,slow=3.7,SNR=1.7						
	comp=Z,4.7nm,0.8s						
NJ2	**Nanjing**	**50.06**	**321**	*e*P	**P**	**13 40 54.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
JKA	**Kamikawa-asahi**	**50.69**	**350**	P	**P**	**13 40 57.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**53.45**	**341**	P	**P**	**13 41 18.0**	**+0.4**
	comp=Z,6.9nm,0.9s,baz=213,slow=4.4,SNR=4.6						
	comp=Z,6.9nm,0.9s						
CN2	**Changchun**	**55.52**	**336**	*e*P	**P**	**13 41 32.8**	**+0.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
HNS	**HongShan**	**56.17**	**323**	⇑P	**P**	**13 41 37.8**	**+0.3**
HNS				pmax	pmax		
	comp=Z,24nm,1.4s						
BNX	**BinXian**	**56.38**	**338**	⇓P	**P**	**13 41 38.6**	**-0.2**
BNX				pmax	pmax		
	comp=Z,33nm,0.9s						
BNX				pmax	pmax		
	comp=Z,230nm,4.3s						
PHRA	**Phrae**	**57.77**	**296**	P	**P**	**13 41 49.6**	**+0.4**
XAN	**Xi'an**	**57.83**	**317**	⇑P	**P**	**13 41 49.0**	**-0.4**
XAN				pP	pP	13 41 55.8	-1.5
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,70nm,4.6s						
CRAI	**Chiangrai**	**58.24**	**298**	P	**P**	**13 41 53.0**	**+0.5**
CRAI				IAmb	IAmb	13 41 58.1	
	comp=Z,19nm,1.4s						
PETK	**Petropavlovsk-**	**58.84**	**3**	P	**P**	**13 41 56.2**	**+0.1**
	comp=Z,12nm,0.8s,baz=187,slow=8.7,SNR=16						
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.91**	**296**	P	**P**	**13 41 57.7**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=109,slow=5.2,SNR=30						
	comp=Z,4.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.91**	**296**	P	**P**	**13 41 57.1**	**-0.1**
CHTO	**Chiang Mai**	**59.02**	**296**	P	**P**	**13 41 57.9**	**-0.1**
CHTO				IAmb	IAmb	13 41 59.7	
	comp=Z,9.3nm,1.1s						
PZH	**PanZhiHua**	**59.51**	**305**	P	**P**	**13 42 01.3**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,130nm,5.0s						
XLT	**XiLinHaoTe**	**59.90**	**330**	⇑*i*P	**P**	**13 42 03.9**	**+0.3**
XLT				pmax	pmax		
	comp=Z,30nm,0.7s						
XLT				pmax	pmax		
	comp=Z,180nm,5.4s						
CD2	**Chengdu**	**59.91**	**311**	P	**P**	**13 42 04.5**	**+0.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
HEH	**HeiHe**	**60.25**	**341**	*e*P	**P**	**13 42 05.9**	**+0.1**
HEH				pmax	pmax		
	comp=Z,11nm,0.8s						
HEH				pmax	pmax		
	comp=Z,200nm,6.2s						
HHC	**Hu-ho-hao-te**	**60.27**	**324**	*e*P	**P**	**13 42 07.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,5.6s						
TNCH	**TengChong**	**61.58**	**302**	P	**P**	**13 42 15.8**	**+0.2**
TNCH				pmax	pmax		
	comp=Z,21nm,2.7s						
TNCH				pmax	pmax		
	comp=Z,150nm,4.2s						
LZH	**Lanzhou**	**62.43**	**316**	*e*P	**P**	**13 42 22.4**	**+1.3**
LZH				pP	pP	13 42 30.1	+1.1
LZH				sP	pwP	13 42 35.3	-1.7
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
MA2	**Magadan**	**65.25**	**358**	P	**P**	**13 42 38.7**	**-0.2**
GTA	**Gaotai**	**66.86**	**317**	*e*P	**P**	**13 42 51.0**	**+1.1**
GTA				pP	pwP	13 43 05.5	-0.4
GTA				sP	PcP	13 43 11.8	-6.7
GTA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ULN	**Ulaanbaatar**	**67.22**	**328**	P	**P**	**13 42 52.8**	**+0.7**
ULN				IAmb	IAmb	13 42 55.9	
	comp=Z,10nm,0.9s						
SHL	**Shillong**	**67.40**	**301**	P	**P**	**13 42 53.4**	**-0.3**
SONM	**Songino Array**	**67.55**	**328**	P	**P**	**13 42 54.8**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=138,slow=6.8,SNR=19						
	comp=Z,4.9nm,0.7s						
SONM	**Songino Array**	**67.55**	**328**	P	**P**	**13 42 54.2**	**+0.1**
SONM				IAmb	IAmb	13 42 58.0	
	comp=Z,6.0nm,0.8s						
GOMU	**GeErMu**	**68.94**	**312**	P	**P**	**13 43 04.3**	**+0.9**
GOMU				pP	pP	13 43 08.4	-3.0
GOMU				sP	sP	13 43 09.6	-4.9
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GOMU				pmax	pmax		
	comp=Z,66nm,4.6s						
LSA	**Lhasa**	**69.36**	**305**	P	**P**	**13 43 05.6**	**-0.7**
LSA				IAmb	IAmb	13 43 08.4	
	comp=Z,10nm,0.9s						
YAK	**Yakutsk**	**70.13**	**348**	P	**P**	**13 43 09.6**	**0.0**
VNDA	**Vanda**	**71.77**	**178**	P	**P**	**13 43 20.3**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=300,slow=3.7,SNR=4.5						
	comp=Z,2.1nm,0.9s						
VNDA	**Vanda**	**71.77**	**178**	P	**P**	**13 43 19.8**	**+0.4**
BILL	**Bilibino**	**74.27**	**5**	P	**P**	**13 43 33.1**	**-1.2**
BILL				IAmb	IAmb	13 43 35.9	
	comp=Z,7.3nm,1.0s						
ANM	**Nome**	**76.58**	**17**	P	**P**	**13 43 48.4**	**+0.7**
ANM				IAmb	IAmb	13 44 24.7	
	comp=Z,23nm,1.7s						
WMQ	**Urumqi**	**76.95**	**317**	*e*P	**P**	**13 43 50.8**	**+0.5**
WMQ				pP	pP	13 43 55.8	-2.6
WMQ				PcP	**sP**	**13 44 02.0**	**+0.6**
WMQ				pmax

AAK					IAmb	IAmb	13 45 02.5	
	comp=Z,9.6nm,1.2s							
NRIK	**Noril'sk**	**87.16 341**		P		**P**	**13 44 43.0**	**-0.2**
	comp=Z,6.6nm,0.9s,baz=121,slow=5.6,SNR=9.4							
	comp=Z,6.6nm,0.9s							
NRIK	**Noril'sk**	**87.16 341**		P		**P**	**13 44 42.6**	**-0.6**
NRIK					IAmb	IAmb	13 44 44.4	
	comp=Z,12nm,1.1s							
BRVK	**Borovoye**	**90.53 323**		P		**P**	**13 44 59.0**	**-0.5**
BRVK					IAmb	IAmb	13 45 02.0	
	comp=Z,8.7nm,1.0s							
YKA	**Yellowknife Ar**	**96.05 28**		P		**P**	**13 45 24.1**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=270,slow=4.9,SNR=7.5							
	comp=Z,0.5nm,0.8s							
ARU	**Arti**	**97.55 326**		P		**P**	**13 45 31.5**	**-0.1**
MNK	**Minsk**	**114.82 328**		*i* PKP		PKPdf	13 50 39.5	+1.5
	comp=E,2.0nm,0.8s							
MNK				*i* PKP		PKPdf	13 50 39.5	+1.5
	comp=N,20nm,0.8s							
MNK				*i* PKP		PKPdf	13 50 39.5	+1.5
	comp=Z,19nm,0.8s,baz=63							
MNK				*i* PP		**PP**	**13 51 37.3**	**+1.1**
MNK				*i* PPP		PPP	13 53 45.2	
MNK				*i* SKP			13 54 01.0	
MNK				*i* PKS		**PKSdf**	**13 54 15.8**	**+1.3**
MNK				*i* SKS		**SKSac**	**13 57 18.5**	**-5.0**
MNK				*i* SKKS			13 59 55.9	
MNK				*i* PS		PS	14 00 37.3	-38
MNK				*i* SS		SS	14 08 02.0	+33
MNK				*i* SSS		SSS	14 11 49.5	
MNK				*i* LQ		LQ	14 27 25.1	
MNK				*i* LR		LR	14 30 21.5	
MNK				*i* LRM		MLR	14 37 13.4	
	comp=Z,58nm,19.5s							
MNK				*i* LRM		MLR	14 37 29.4	
	comp=N,798nm,19.3s							
MNK				*i* LRM		MLR	14 37 52.5	
	comp=E,56nm,19.2s							
AKASG	**Malin Array Be**	**115.72 324**		PKP		**PKiKP**	**13 50 39.6**	**-0.2**
	comp=E,0.2nm,0.4s,baz=60,slow=1.9,SNR=1.2							
GERES	**GERESS Array B**	**125.28 328**		PKP		**PKiKP**	**13 50 59.3**	**+0.5**
	comp=E,1.3nm,0.7s,baz=52,slow=2.2,SNR=14							
LPAZ	**La Paz**	**133.35 119**		PKP		**PKiKP**	**13 51 16.6**	**0.0**
	comp=E,1.2nm,0.8s,baz=237,slow=4.6,SNR=4.6							
CPUP	**Villa Florida**	**136.25 138**		PKP		**PKiKP**	**13 51 20.6**	**-0.8**
	comp=E,1.2nm,0.8s,baz=146,slow=3.6,SNR=2.2							
ESDC	**Sonseca Array**	**140.65 332**		PP		**PP**	**13 54 27.7**	**+1.4**
	comp=E,0.5nm,0.6s,baz=14,slow=8.0,SNR=4.6							
BDFB	**Brasilia**	**149.87 135**		PKPbc		**PKiKP**	**13 51 50.0**	**+0.2**
	comp=E,7.4nm,0.7s,baz=243,slow=0.7,SNR=15							
TORD	**Torodi Ar. Bea**	**151.24 287**		PKPbc		**PKPbc**	**13 51 51.7**	**-0.3**
	comp=E,7.0nm,0.8s,baz=52,slow=2.0,SNR=20							

*IDC **22** 13:47:09.6±0.6,56°.98S×147°.86E,h0km,mb4.4/9, mbtmp4.4/9,MS4.7/32,Error ellipse: s-maj=35.6km s-min=16.1km az=81.0*
*NEIC **22** 13:47:10.6±2.1,57°.1S±0°.1×147°.8E±0°.2,h9km±5km, mb4.9/22,Error ellipse: s-maj=19.2km s-min=14.8km az=81.0*

ISC 22 13:47:11.2±0.4,57°.08S±0°.06×147°.9E±0°.1,h10km,n147, σ1s37/110,mb4.8/24,MS4.8/36,7C-10D,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MCQ	**Macquarie Isla**	**6.76**	**72**	Pn		**Pn**	**13 48 50.2**	**0.0**
TAU	**Tasmania Unive**	**14.19**	**358**	Pn		**Pn**	**13 50 30.9**	**-1.0**
TOO	**Toolangi**	**19.58**	**354**	P		**Pn**	**13 51 39.0**	**-1.5**
TOO				IAmb		IAmb	13 51 48.7	
	comp=Z,88nm,1.6s							
RPZ	**Rata Peaks**	**19.79**	**57**	LR		LR	13 57 45.2	
	comp=Z,4μm,21.5s,baz=220,slow=32							
VNDA	**Vanda**	**21.10**	**172**	P		**P**	**13 51 55.6**	**+0.3**
	comp=Z,9.5nm,0.9s,baz=325,slow=13,SNR=5.6							
VNDA				S		**S**	**13 55 50.6**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=4.8,slow=17,SNR=1.2							
VNDA				LR		LR	13 58 35.7	
	comp=Z,1μm,21.6s,baz=344,slow=32							
	comp=Z,9.5nm,0.9s							
VNDA	**Vanda**	**21.10**	**172**	P		**P**	**13 51 55.2**	**-0.1**
STKA	**Stephens Creek**	**25.57**	**348**	P		**P**	**13 52 40.6**	**+0.5**
	comp=Z,9.0nm,0.8s,baz=158,slow=11,SNR=27							
	comp=Z,9.0nm,0.8s							
STKA	**Stephens Creek**	**25.57**	**348**	P		**P**	**13 52 39.8**	**-0.3**
STKA				IAmb		IAmb	13 52 47.7	
	comp=Z,31nm,1.8s							
BBOO	**Buckleboo**	**25.59**	**336**	P		**P**	**13 52 39.1**	**-1.2**
URZ	**Urewera**	**26.91**	**58**	LR		LR	14 03 13.3	
	comp=Z,2μm,18.2s,baz=291,slow=36							
FORT	**Forrest**	**29.69**	**324**	P		**P**	**13 53 16.2**	**-0.8**
H01W1	**Cape Leeuwin H**	**31.75**	**300**	T		T	14 26 49.0	
	baz=144,slow=75,SNR=139							
H01W2	**Cape Leeuwin H**	**31.75**	**300**	T		T	14 26 49.9	
	baz=144,slow=75,SNR=159							
H01W3	**Cape Leeuwin H**	**31.76**	**300**	T		T	14 26 50.7	
	baz=144,slow=75,SNR=113							
EIDS	**Eidsvold**	**31.76**	**6**	P		**P**	**13 53 36.7**	**+1.4**
NWAO	**Narrogin (SRO)**	**31.97**	**306**	LR		LR	14 03 25.3	
	comp=Z,2μm,20.7s,slow=31							
QSPA	**South Pole Qui**	**33.03**	**180**	P		**P**	**13 53 47.1**	**+0.8**
	comp=Z,5.2nm,1.0s,baz=329,slow=2.3,SNR=9.1							
QSPA				LR		LR	14 07 29.2	
	comp=Z,2μm,18.9s,baz=12,slow=37							
	comp=Z,5.2nm,1.0s							
QSPA	**South Pole Qui**	**33.03**	**180**	P		**P**	**13 53 47.2**	**+0.9**
QSPA				IAmb		IAmb	13 53 56.4	
	comp=Z,51nm,2.0s							
ASAR	**Alice Springs**	**34.89**	**337**	P		**P**	**13 54 01.0**	**-1.7**
	comp=Z,3.5nm,0.8s,baz=159,slow=9.3,SNR=36							
ASAR				PcP		**PcP**	**13 56 33.2**	**-2.1**
	comp=Z,2.7nm,0.8s,baz=155,slow=3.8,SNR=8.9							
ASAR				LR		LR	14 05 52.2	
	comp=Z,804nm,21.3s,baz=136,slow=32							
	comp=Z,3.5nm,0.8s							
ASAR	**Alice Springs**	**34.89**	**337**	P		**P**	**13 54 01.6**	**-1.1**
AS31	**Alice Springs**	**34.89**	**337**	P		**P**	**13 54 00.3**	**-2.4**
CTA	**Charters Tower**	**36.96**	**357**	LR		LR	14 08 11.0	
	comp=Z,3μm,18.8s,baz=178,slow=34							
CTAO	**Charters Tower**	**36.96**	**357**	P		**P**	**13 54 20.4**	**0.0**
CTAO				IAmb		IAmb	13 54 25.6	
	comp=Z,19nm,1.1s							
DZM	**Mont Dzumac**	**37.52**	**29**	P		**P**	**13 54 24.9**	**-0.4**
	comp=Z,9.1nm,0.9s,baz=234,slow=19,SNR=2.5							
DZM				LR		LR	14 06 33.7	
	comp=Z,3μm,21.2s,baz=200,slow=31							
	comp=Z,9.1nm,0.9s							
DZM	**Mont Dzumac**	**37.52**	**29**	*e*LR		LR	14 04 33.7	
	comp=Z,5μm,25.4s							
DZM	**Mont Dzumac**	**37.52**	**29**	P		**P**	**13 54 25.7**	**+0.5**
DZM				IAmb		IAmb	13 54 45.0	
	comp=Z,30nm,1.4s							
MAW	**Mawson**	**37.63**	**219**	LR		LR	14 08 39.5	
	comp=Z,2μm,21.0s,baz=96,slow=34							
WR0	**Warramunga Arr**	**38.36**	**340**	P		**P**	**13 54 30.8**	**-1.5**
WR0				IAmb		IAmb	13 54 36.0	
	comp=Z,18nm,0.9s							
WB2	**Warramunga Arr**	**38.42**	**339**	P		**P**	**13 54 31.1**	**-1.6**
WB2				IAmb		IAmb	13 54 36.4	
	comp=Z,23nm,0.8s							
WRA	**Warramunga Arr**	**38.42**	**339**	P		**P**	**13 54 31.2**	**-1.6**
	comp=Z,13nm,0.8s,baz=166,slow=7.5,SNR=65							
WRA				PcP		**PcP**	**13 56 44.1**	**-1.9**
	comp=Z,2.8nm,0.8s,baz=169,slow=2.8,SNR=2.2							
WRA				LR		LR	14 10 04.8	
	comp=Z,344nm,19.2s,baz=168,slow=36							
	comp=Z,13nm,0.8s							
KOUNC	**Koumac, New Ca**	**38.44**	**25**	P		**P**	**13 54 33.8**	**+0.9**
WB0	**Warramunga Arr**	**38.58**	**339**	P		**P**	**13 54 32.4**	**-1.7**
WB0				IAmb		IAmb	13 54 37.6	
	comp=Z,16nm,0.9s							
PSA00	**Pilbara Seismi**	**40.99**	**318**	P		**P**	**13 54 52.8**	**-1.3**
MBWA	**Marble Bar**	**41.41**	**318**	P		**P**	**13 54 56.5**	**-1.1**
MBWA				IAmb		IAmb	13 55 01.7	
	comp=Z,27nm,0.8s							
FITZ	**Fitzroy Crossi**	**42.32**	**328**	P		**P**	**13 55 03.3**	**-1.7**
KNRA	**Kununurra**	**43.78**	**333**	P		**P**	**13 55 15.9**	**-0.9**
KNRA				IAmb		IAmb	13 55 20.9	
	comp=Z,24nm,0.9s							
MSVF	**Nonsavu**	**45.28**	**42**	LR		LR	14 10 13.1	
	comp=Z,1μm,20.7s,baz=215,slow=31							
BELA	**Belgrano 2**	**45.29**	**179**	P		**P**	**13 55 27.0**	**-1.3**
ELIB	**Princess Elisa**	**45.62**	**201**	*d*P		**P**	**13 55 29.6**	**-1.5**
	comp=Z,8.9nm,1.1s							
ELIB				*d*pP		**pP**	**13 55 31.6**	**-1.8**
PMG	**Port Moresby**	**47.56**	**359**	LR		LR	14 14 53.6	
	comp=Z,2μm,18.0s,baz=188,slow=35							
HNR	**Honiara**	**48.45**	**16**	LR		LR	14 11 20.8	
	comp=Z,7μm,20.4s,baz=196,slow=30							
TROLL	**Troll, Antarti**	**48.96**	**194**	pP		**P**	**13 55 57.5**	**+0.4**
SNAA	**Sanae**	**49.91**	**192**	pP		**P**	**13 56 04.9**	**+0.6**
SNAA	**Sanae**	**49.91**	**192**	P		**P**	**13 56 04.1**	**-0.2**
SNAA				IAmb		IAmb	13 56 08.4	
	comp=Z,12nm,1.1s							
BATI	**Baumata**	**50.38**	**328**	LR		LR	14 16 26.2	
	comp=Z,2μm,19.6s,baz=186,slow=35							
VNA3	**Neumayer Olymp**	**50.99**	**189**	pP		**P**	**13 56 12.5**	**0.0**
VNA2	**Neumayer--Watz**	**51.09**	**190**	pP		**P**	**13 56 14.0**	**+0.8**
	baz=145,slow=9.0							
VNA1	**Neumayer--Stat**	**51.44**	**190**	P		**P**	**13 56 14.2**	**-1.5**
RAR	**Rarotonga**	**52.22**	**69**	LR		LR	14 14 26.0	
	comp=Z,260nm,20.3s,baz=228,slow=31							
AFI	**Afiamalu**	**52.82**	**52**	LR		LR	14 17 11.0	
	comp=Z,210nm,19.0s,baz=200,slow=34							
FAKI	**Fak Fak**	**55.42**	**341**	P		P	13 56 50.4	+4.8
	comp=Z,51nm,1.0s							
TBI	**Tubuai**	**55.90**	**80**	*e*LR		LR	14 13 04.9	
	comp=Z,4μm,28.8s							
TBI				*e*LR		LR	14 13 05.1	
	comp=Z,13μm,24.8s							
KAPI	**Kappang**	**56.46**	**326**	LR		LR	14 19 25.3	
	comp=Z,706nm,21.9s,baz=163,slow=34							
SANI	**Sanana**	**57.58**	**334**	P		**P**	**13 57 04.0**	**+3.0**
LEM	**Lembang**	**59.16**	**312**	LR		LR	14 20 16.3	
	comp=Z,860nm,20.1s,baz=172,slow=34							
PPT2	**Papeete2**	**60.54**	**76**	*e*LR		LR	14 15 14.0	
	comp=Z,612nm,27.2s							
GUMO	**Guam**	**70.45**	**357**	LR		LR	14 29 41.9	
	comp=Z,168nm,18.2s,baz=130,slow=36							
PSI	**Prapat**	**71.49**	**307**	LR		LR	14 28 12.3	
	comp=Z,416nm,18.7s,baz=146,slow=34							
TAOE	**Nuku Hiva Isla**	**72.83**	**80**	*e*LR		LR	14 20 55.3	
	comp=Z,1μm,46.8s							
KULM	**Kulim**	**72.99**	**310**	P		**P**	**13 58 41.6**	**+0.8**
KULM				IAmb		IAmb	13 58 43.0	
	comp=Z,19nm,1.0s							
H08S2	**Diego Garcia H**	**75.69**	**278**	T		T	15 21 42.4	
	baz=147,slow=76,SNR=146							
H08S1	**Diego Garcia H**	**75.69**	**278**	T		T	15 21 39.9	
	baz=147,slow=76,SNR=143							
H08S3	**Diego Garcia H**	**75.70**	**278**	T		T	15 21 41.9	
	baz=147,slow=76,SNR=194							
PLCA	**Paso Flores**	**77.32**	**151**	P		**P**	**13 59 06.4**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=191,slow=5.2,SNR=3.7							
PLCA				LR		LR	14 26 49.9	
	comp=Z,575nm,21.3s,baz=203,slow=31							
	comp=Z,1.1nm,0.8s							
SUR	**Sutherland**	**80.33**	**223**	LR		LR	14 30 48.7	
	comp=Z,434nm,19.9s,baz=166,slow=33							
H03S1	**Juan Fernandez**	**81.19**	**142**	T		T	15 29 49.7	
	baz=202,slow=74,SNR=6.2							
H03S2	**Juan Fernandez**	**81.19**	**142**	T		T	15 29 48.3	
	baz=202,slow=74,SNR=6.5							
H03S3	**Juan Fernandez**	**81.20**	**142**	T		T	15 29 49.1	
	baz=202,slow=74,SNR=7.1							
H03N3	**Juan Fernandez**	**81.54**	**142**	T		T	15 30 15.3	
	baz=211							
H03N2	**Juan Fernandez**	**81.55**	**142**	T		T	15 30 12.1	
	baz=211,slow=74							
H03N1	**Juan Fernandez**	**81.55**	**142**	T		T	15 30 14.7	
	baz=211,slow=74							
BOSA	**Boshof**	**81.94**	**228**	P		**P**	**13 59 31.0**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=181,slow=11,SNR=2.0							
BOSA				LR		LR	14 30 57.9	
	comp=Z,313nm,18.9s,baz=184,slow=32							
	comp=Z,2.8nm,0.9s							
JOW	**Kunigami**	**85.21**	**342**	LR		LR	14 36 21.3	
	comp=Z,255nm,20.7s,baz=279,slow=35							
CMAR	**Chiang Mai Arr**	**85.59**	**314**	P		**P**	**13 59 50.7**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=176,slow=4.0,SNR=9.3							
CMAR				LR		LR	14 35 18.9	
	comp=Z,459nm,21.3s,baz=160,slow=34							
	comp=Z,1.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**85.59**	**314**	P		**P**	**13 59 50.0**	**+0.5**
CHTO	**Chiang Mai**	**85.92**	**314**	P		**P**	**13 59 51.8**	**+0.7**
JHJ	**Hachijo jima 2**	**90.11**	**353**	LR		LR	14 36 35.5	
	comp=Z,297nm,21.8s,baz=103,slow=33							
GYA	**Guiyang**	**90.17**	**324**	*e*P		**P**	**14 00 13.5**	**+2.1**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KMI	**Kunming**	**90.26**	**320**	⇑P		**P**	**14 00 12.4**	**+0.4**
KMI				pP		pwP	14 00 16.1	-2.0
KMI				pmax		pmax		
	comp=Z,7.0nm,0.6s							
JNU	**Nakatsue**	**91.00**	**346**	LR		LR	14 40 02.7	
	comp=Z,183nm,19.6s,baz=142,slow=35							
TNCH	**TengChong**	**91.71**	**316**	P		**P**	**14 00 21.8**	**+3.1**
TNCH				pmax		pmax		
	comp=Z,13nm,3.0s							
TNCH				pmax		pmax		
	comp=Z,100nm,5.4s							
PZH	**PanZhiHua**	**91.88**	**320**	P		**P**	**14 00 23.3**	**+3.9**
PZH	**PanZhiHua**	**91.88**	**320**	S		**S**	**14 11 22.4**	**+1.9**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,110nm,4.8s							
PZH				LR		LR		
	comp=N,1μm,24.3s							
PZH				LR		LR		
	comp=E,580nm,22.0s							
PZH				LR		LR		
	comp=Z,840nm,16.7s							
NJ2	**Nanjing**	**92.12**	**336**	*e*P		**P**	**14 00 21.6**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.6s							
BRDH	**Bariadhala**	**92.34**	**310**	LR		LR	14 41 51.1	
	comp=Z,287nm,20.5s,baz=161,slow=36							
LSZ	**Lusaka**	**92.39**	**237**	LR		LR	14 35 08.6	
	comp=Z,854nm,21.5s,baz=156,slow=31							
TSUM	**Tsumeb**	**93.43**	**226**	LR		LR	14 38 49.1	
	comp=Z,409nm,19.5s,baz=152,slow=33							
MJAR	**Matsushiro Arr**	**93.62**	**352**	LR		LR	14 43 12.7	
	comp=Z,101nm,18.5s,baz=164,slow=36							
KSRS	**Korea Array**	**95.67**	**344**	LR		LR	14 43 40.0	
	comp=Z,106nm,19.2s,baz=300,slow=36							
HHC	**Hu-ho-hao-te**	**102.43**	**333**	*e*P		**Pdif**	**14 01 06.4**	**+0.5**
HHC				pmax		pmax		
	comp=Z,18nm,0.8s							
HHC				pmax		pmax		
	comp=Z,150nm,5.5s							
HHC				LR		LR		
	comp=N,380nm,17.1s							
HHC				LR		LR		
	comp=E,320nm,16.5s							
HHC				LR		LR		
	comp=Z,730nm,17.8s							
WMQ	**Urumqi**	**112.43**	**317**	*e*P		**PKiKP**	**14 05 47.5**	**+1.0**
MKAR	**Makanchi Array**	**116.98**	**315**	PKP		**PKPdf**	**14 05 54.3**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=150,slow=1.0,SNR=4.2							
GEYT	**Alibeck**	**120.73**	**293**	PKP		**PKiKP**	**14 06 04.3**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=184,slow=4.0,SNR=2.3							
ZALV	**Zalesovo Beam**	**121.97**	**322**	PKP		**PKPdf**	**14 06 03.5**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=90,slow=1.9,SNR=1.9							
TXAR	**Lajitas Array**	**124.00**	**88**	PKP		**PKiKP**	**14 06 10.9**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=253,slow=2.5,SNR=3.9							
TXAR				PKKPab		**PKKPab**	**14 15 56.7**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=74,slow=5.3,SNR=3.6							
TORD	**Torodi Ar. Bea**	**129.15**	**224**	PKP		**PKiKP**	**14 06 19.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=134,slow=1.5,SNR=3.9							
ILAR	**Eielson Array**	**131.21**	**31**	PKP		**PKPdf**	**14 06 21.4**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=275,slow=3.7,SNR=1.9							
INK	**Inuvik**	**137.52**	**33**	PKP		**PKPdf**	**14 06 32.0**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=232,slow=4.3,SNR=3.2							
YKA	**Yellowknife Ar**	**140.81**	**47**	PKhKP		PKPpre	14 06 32.9	
	comp=Z,0.1nm,0.5s,baz=233,slow=3.3,SNR=2.9							
ULM	**Lac du Bonnet**	**142.87**	**73**	PKP		**PKPdf**	**14 06 41.3**	**-2.4**
	comp=Z,3.3nm,0.7s,baz=265,slow=2.9,SNR=4.0							
MLR	**Muntele Rosu**	**143.00**	**277**	⇓P		**PKPdf**	**14 06 45.0**	**+0.7**
VOIR		**143.45**	**277**	⇓P		**PKiKP**	**14 06 46.4**	**-1.9**
AKASG	**Malin Array Be**	**144.40**	**287**	PKP		PKPbc	14 06 44.3	-0.6
	comp=Z,3.0nm,0.8s,baz=96,slow=2.6,SNR=10							
KLMR	**Klimovskoe**	**144.56**	**307**	*e*		**PKPdf**	**14 06 45.4**	**-0.9**
KLMR				AMP			14 06 51.0	
	comp=Z,39nm,2.0s							
BURAR	**Bucovina Array**	**144.72**	**280**	⇑P		**PKiKP**	**14 06 49.4**	**-1.6**
MDVR	**Moldovita**	**144.85**	**273**	⇓P		**PKPab**	**14 06 43.0**	**-3.5**
ARCR	**ARCALIA**	**144.86**	**278**	⇓P		**PKiKP**	**14 06 49.2**	**-1.9**
CJR	**Cluj-Napoca**	**145.04**	**277**	⇑P		**PKiKP**	**14 06 49.8**	**-1.7**
KEST	**Kesra**	**145.09**	**250**	PKPbc		**PKPdf**	**14 06 49.1**	**+0.9**
	comp=Z,25nm,0.9s,baz=58,slow=4.5,SNR=17							
SURR	**Surduc**	**145.24**	**275**	⇑P		**PKPbc**	**14 06 47.0**	**-0.7**
MARR	**Marisel-Cluj**	**145.28**	**277**	⇓P		**PKPdf**	**14 06 49.5**	**+1.3**
BZS	**Buzias**	**145.43**	**274**	⇑P		**PKPab**	**14 06 49.8**	**+1.2**
SIRR	**Siria**	**145.82**	**275**	⇑P		**PKiKP**	**14 06 51.2**	**-1.9**
FRGS	**Fruska Gora**	**146.13**	**272**	⇓P		**PKiKP**	**14 06 53.3**	**-0.5**
TRPA	**Tarpa**	**146.47**	**278**	⇑P		**PKiKP**	**14 06 53.1**	**-1.2**
MORH	**Mrgy, Hungar**	**147.43**	**273**	⇓P		**PKiKP**	**14 06 56.1**	**-0.3**
CRVS	**Cervenica-Dubn**	**147.50**	**279**	*e*PKP		**PKiKP**	**14 06 56.1**	**-0.4**
SADO	**Sadowa**	**148.55**	**93**	PKPbc		**PKPbc**	**14 06 57.0**	**-0.2**
	comp=Z,5.9nm,0.8s,baz=173,slow=0.6,SNR=3.2							
VYHS	**Vyhne**	**148.69**	**276**	*e*PKP		**PKiKP**	**14 06 59.3**	**+0.3**
MODS	**Modra-Piesok**	**149.47**	**275**	*e*PKP		**PKPab**	**14 07 02.4**	**-2.1**
RONA	**Rosalia, Austr**	**149.60**	**273**	*e*PKiKP		**PKiKP**	**14 07 01.6**	**+0.7**
	comp=Z,9.1nm,1.3s							
SOKA	**Soboth**	**149.68**	**270**	*e*PKiKP		**PKiKP**	**14 07 02.2**	**+1.1**
	comp=Z,9.3nm,1.1s							
ARSA	**Arzberg**	**149.76**	**272**	*e*PKP		**PKiKP**	**14 07 01.2**	**0.0**
	comp=Z,7.8nm,1.1s							
CONA	**Conrad Observa**	**149.98**	**273**	*e*pPKP		**PKPab**	**14 07 04.4**	**-2.3**
	comp=Z,4.2nm,1.1s							
MORC	**Moravsky Berou**	**150.11**	**277**	⇓P		**PKiKP**	**14 07 03.6**	**+1.7**
MORC	**Moravsky Berou**	**150.11**	**277**	*e*PKP		**PKiKP**	**14 07 02.3**	**+0.4**
KRUC	**Moravsky**	**150.34**	**275**	*e*PKP		**PKiKP**	**14 07 02.9**	**+0.6**
VRAC	**Vranov**	**150.37**	**276**	*e*PKP		**PKiKP**	**14 07 03.0**	**+0.6**
MYKA	**Terra Mystica**	**150.41**	**269**	*e*PKiKP		**PKiKP**	**14 07 04.2**	**+1.5**
	comp=Z,15nm,1.3s							
MOA	**Molln**	**150.80**	**272**	*e*pPKiKP		**PKPab**	**14 07 07.1**	**-2.9**
	comp=Z,5.4nm,1.0s							
FINES	**FINESS Array B**	**150.81**	**303**	PKPbc		**PKPbc**	**14 07 01.4**	**-0.8**
	comp=Z,11nm,0.8s,baz=107,slow=3.5,SNR=30							
KBA	**Koelnbreinsper**	**150.85**	**270**	*e*PKiKP		**PKiKP**	**14 07 04.0**	**+0.3**
	comp=Z,5.4nm,0.9s							
RES	**Resolute Bay**	**150.92**	**29**	PKPbc		**PKPbc**	**14 07 01.6**	**-0.5**
	comp=Z,4.5nm,0.8s,baz=228,slow=3.5,SNR=11							
DPC	**Dobruska-Polom**	**151.09**	**278**	*e*PKP		**PKiKP**	**14 07 05.2**	**+1.3**
ABTA	**Abfaltersbach**	**151.10**	**268**	*e*PKiKP		**PKiKP**	**14 07 05.5**	**+1.4**
	comp=Z,5.4nm,0.9s							
OSTC	**Ostas**	**151.25**	**278**	*e*PKP		**PKiKP**	**14 07 04.1**	**-0.1**
CKRC	**Cesky Krumlov**	**151.34**	**273**	*e*PKP		**PKiKP**	**14 07 04.8**	**+0.4**
GERES	**GERESS Array B**	**151.68**	**273**	PKPbc		**PKPbc**	**14 07 03.9**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=130,slow=2.1,SNR=16							
WTTA	**Wattenberg**	**151.89**	**269**	*e*PKiKP		**PKiKP**	**14 07 07.1**	**+1.3**
	comp=Z,6.9nm,1.2s							
KHC	**Kasperske Hory**	**151.91**	**273**	*e*PKP		**PKiKP**	**14 07 05.8**	**+0.2**
KHC				*ex*		x	14 07 14.4	
WATA	**Walderalm**	**151.97**	**269**	*e*PKiKP		**PKiKP**	**14 07 06.6**	**+0.7**
	comp=Z,7.9nm,1.1s							
SQTA	**Sankt Quirin**	**152.10**	**268**	*e*PKP		**PKiKP**	**14 07 05.7**	**-0.5**
	comp=Z,8.6nm,0.8s							
MOTA	**Moosalm**	**152.23**	**268**	*e*PKP		**PKiKP**	**14 07 05.9**	**-0.6**
	comp=Z,8.8nm,1.1s							
FETA	**Feichten**	**152.24**	**267**	*e*PKiKP		**PKiKP**	**14 07 08.2**	**+1.6**
	comp=Z,8.4nm,0.9s							
ARCES	**ARCESS Array B**	**152.50**	**320**	PKPbc		**PKiKP**	**14 07 05.6**	**-0.6**
	comp=Z,5.0nm,0.9s,baz=58,slow=1.1,SNR=9.3							
CLL	**Collm**	**153.38**	**277**	*e*PKPbc		**PKiKP**	**14 07 09.0**	**+0.5**
CLL				*e*PKPab		**PKPab**	**14 07 21.0**	**+0.3**
	comp=Z,4.0nm,0.9s							
ESDC	**Sonseca Array**	**154.73**	**239**	PKPbc		**PKiKP**	**14 07 11.9**	**+0.1**
	comp=Z,1.4nm,1.1s,baz=66,slow=

baz=221
NACB Ninganchiao 0.93 223 P **Pb** 13 52 28.6 -0.3
baz=223
NACB *eS* **Sb** 13 52 39.8 -1.1
baz=223
NNSB Datong 0.94 243 P **Pb** 13 52 28.9 -0.1
baz=247
NNSB *eS* **Sb** 13 52 41.4 +0.3
baz=247
NNSH Datong 0.94 243 *eP* **Pg** 13 52 29.3 -0.3
baz=235
NNSH *eS* **Sb** 13 52 41.4 +0.3
baz=235
NNS Nan Shan 0.94 244 *eP* **Pb** 13 52 29.1 0.0
baz=234
NNS *eS* **Sb** 13 52 40.9 -0.3
baz=234
ETLH Xiulin Townshi 0.98 229 *eP* **Pn** 13 52 30.2 0.0
baz=229
ETLH *eS* **Sb** 13 52 41.9 -0.7
baz=229
TWD Chiawan 1.00 220 P **Pb** 13 52 30.1 0.0
baz=227
TWD *eS* **Sb** 13 52 41.9 -1.0
baz=227
NFF Wufeng Townshi 1.10 258 P **Pg** 13 52 32.6 0.0
baz=259
NFF *eS* **Sg** 13 52 47.5 +0.5
baz=259
FUSS Fushou 1.14 238 *eP* **Pg** 13 52 33.1 -0.3
baz=238
FUSS *eS* **Sb** 13 52 47.0 0.0
baz=238
ETM Tongmen 1.15 220 P **Pb** 13 52 32.8 +0.1
baz=227
ETM *eS* **Sb** 13 52 47.4 +0.2
baz=227
WHF Hehuan Shan 1.18 233 P **Pb** 13 52 33.7 +0.3
baz=233
WHF *eS* **Sb** 13 52 48.1 -0.3
baz=233
LIOB Emei 1.19 260 *eP* **Pg** 13 52 35.4 +1.1
baz=260
TWT Tachien 1.19 240 *eP* **Pg** 13 52 35.2 +0.8
baz=234
TWT *eS* **Sg** 13 52 49.7 -0.2
baz=234
SBCB Hsinchu 1.20 267 *eP* **Pg** 13 52 34.2 -0.2
baz=267
TDCB Techi 1.20 240 *eP* **Pg** 13 52 34.8 +0.2
baz=234
TDCB *eS* **Sb** 13 52 48.7 0.0
baz=234
NSTT Nanjuang 1.20 260 *eP* **Pg** 13 52 35.5 +0.9
baz=259
NSTT *eS* **Sg** 13 52 50.6 +0.3
baz=259
CHGB Renai 1.29 233 *eP* **Pg** 13 52 36.0 -0.4
baz=233
CHGB *eS* **Sb** 13 52 51.7 +0.2
baz=233
ESL Shilin 1.30 217 *eP* **Pb** 13 52 36.0 +0.7
baz=225
ESL *eS* **Sb** 13 52 52.8 +1.2
baz=225
WHP Taichung City 1.36 245 *eP* **Pg** 13 52 37.4 -0.2
baz=245
WHP *eS* **Sg** 13 52 54.5 -0.9
baz=245
OWD Renai 1.36 229 *eP* **Pb** 13 52 36.8 +0.5
baz=223
OWD *eS* **Sn** 13 52 53.3 +0.2
baz=223
WUSB Renai 1.38 232 P **Pg** 13 52 37.5 -0.5
baz=232
WUSB *eS* **Sn** 13 52 53.6 +0.1
baz=232
IRIF Iriomote-Funau 1.40 111 P **Pn** 13 52 36.5 +0.6
NMLH Miaoli 1.41 257 *eP* **Pg** 13 52 39.7 +1.2
baz=248
NMLH *eS* **Sg** 13 52 58.5 +1.6
baz=248
EGFH Guangfu 1.42 214 *eP* **Pb** 13 52 38.1 +0.8
baz=233
EGFH *eS* **Sg** 13 52 57.6 +0.1
baz=233
TWQ1 Liyutan 1.48 250 *eP* **Pg** 13 52 40.5 +0.6
baz=243
TWQ1 *eS* **Sg** 13 52 59.9 +0.7
baz=243
WCS Beigang Elemen 1.49 238 *eP* **Pg** 13 52 40.6 +0.5
baz=238
WCS *eS* **Sg** 13 52 58.6 -1.0
baz=238
VWDT VWDT 1.52 224 *eP* **Pg** 13 52 40.2 -0.5
baz=225
VWDT *eS* **Sg** 13 53 00.4 -0.2
baz=225
HGSD Ruisui 1.57 211 *eP* **Pb** 13 52 40.4 +0.5
baz=201
HATJ Hateruma jima 1.59 120 *eP* **Pb** 13 52 40.2 +0.2
SMLT Sun Moon Lake 1.60 233 *eP* **Pg** 13 52 41.6 -0.6
baz=234
EHY Hungye 1.61 214 *eP* **Pn** 13 52 39.8 +1.0
baz=215
TYC Yuchr 1.62 234 *eP* **Pg** 13 52 41.8 -0.7
baz=235
SSLB Suanglung 1.62 229 *eP* **Pb** 13 52 41.5 +0.8
baz=230
SSLB *eS* **Sb** 13 53 02.1 +1.3
baz=230
TCU Taichung 1.64 245 *eP* **Pg** 13 52 44.6 +1.8
baz=237
JKRS Kuro-shima 1.68 111 P **Pb** 13 52 41.0 -0.6
YULB Yu-li 1.72 212 *eP* **Pn** 13 52 41.0 +0.7
baz=218
EYUL Yuli 1.75 211 *eP* **Pb** 13 52 43.8 +0.9
baz=216
JIJ Ishigaki jima 1.75 106 *eP* **Pb** 13 52 42.5 -0.3
WJS Zhushan 1.76 235 *eP* **Pg** 13 52 45.3 0.0
baz=235
WJS *eS* **Sg** 13 53 09.2 +0.9
baz=235
WNT Mingjian 1.77 237 *eP* **Pg** 13 52 45.4 +0.1
baz=237
WNT *eS* **Sg** 13 53 09.2 +0.9
baz=237
JISG Ishigakijimahi 1.85 98 *eP* **Pb** 13 52 44.5 -0.1
FULB Fuli 1.89 209 *eP* **Pb** 13 52 44.5 -0.8
baz=199
ALS Alishan 1.91 226 *eP* **Pb** 13 52 46.5 +0.7
baz=217
CHN5 Tsauling 1.94 230 *eP* **Pg** 13 52 47.6 -1.0
baz=232
EHD Haiduan 1.97 211 *eP* **Pn** 13 52 44.0 +0.3
baz=216
ELDTW Lidau 2.03 215 *eP* **Pb** 13 52 46.6 -1.1
baz=207
EDH Donghe 2.08 206 *eP* **Pn** 13 52 46.5 +1.2
baz=199
WCKO Fanlu 2.09 228 *eP* **Pb** 13 52 49.9 +1.2
baz=230
CHN4 Tsaushan 2.16 226 *eP* **Pb** 13 52 50.2 +0.3
baz=215
TPUB Ta-pu 2.17 225 *eP* **Pb** 13 52 50.2 +0.1
baz=214
STYH Taoyuan 2.18 220 *eP* **Pb** 13 52 48.8 -1.4
baz=211
WTP Ta-pu 2.22 224 *eP* **Pb** 13 52 52.1 +1.2
baz=214
TWK Hsinying 2.29 227 *eP* **Pb** 13 52 51.6 -0.5
baz=229
TWGBT Beinan 2.32 209 *eP* **Pb** 13 52 51.8 -0.7
baz=202
CHN1 Nanshi 2.32 225 *eP* **Pb** 13 52 53.8 +1.1
baz=228
SGST Jiashian 2.36 222 *eP* **Pb** 13 52 51.4 -1.9
baz=213
SGST *eS* **Sb** 13 53 23.0 +0.9
baz=213
MATB Ma-tsu 2.49 302 *eP* **Pn** 13 52 51.0 +0.2
baz=300
ECL Taimali 2.56 209 *eP* **Pn** 13 52 54.2 +2.3
baz=205
TSMG Majia 2.62 216 *eP* **Pb** 13 52 57.6 -0.2
baz=209
MASBT Mashibuluo 2.71 215 *eP* **Pb** 13 52 57.2 -2.0
baz=209

*IDC **22** 14:09:25.7±1.0,2°.35N×125°.37E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=81.8km s-min=18.9km az=71.0*

ISC 22 14:09:37.4±1.2,2°.4N±0°.2×125°.8E±0°.6,h100km,n6, σ0s65/6,mb3.6/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**160**	P	P	P	**14 14 40.1**	**-0.8**
	0.9nm,0.6s,baz=335,slow=11,SNR=12							
	0.9nm,0.6s							
ASAR	**Alice Springs**	**27.12**	**163**	P	P	P	**14 15 11.9**	**+0.8**
	0.3nm,0.4s,baz=340,slow=7.4,SNR=10							
	0.3nm,0.4s							
KSRS	**Korea Array**	**34.92**	**3**	P	P	P	**14 16 19.6**	**0.0**
	0.6nm,0.6s,baz=186,slow=9.4,SNR=1.9							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**58.08**	**326**	P	P	P	**14 19 20.2**	**-0.1**
	0.2nm,0.4s,baz=122,slow=8.1,SNR=11							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**62.32**	**328**	P	P	P	**14 19 48.9**	**-0.2**
	0.4nm,0.5s,baz=129,slow=6.8,SNR=2.6							
	0.4nm,0.5s							
NRIK	**Noril'sk**	**71.46**	**347**	P	P	P	**14 20 46.9**	**+0.1**
	1.9nm,0.5s,baz=162,slow=5.2,SNR=4.4							
	1.9nm,0.5s							

*JSN **22** 14:43:27.4±0.3,18°.24N×77°.74W,h14km±5km,MD3.6 SSNC **22** 14:43:28.0±0.8,18°.39N×77°.64W,h10km±16km,MD3.1, ML3.1,MW3.0*

ISC 22 14:43:25.4±1.1,18°.32N±0°.06×77°.71W±0°.06,h28km±8km, n14,σ1s37/21,5C-2D,Jamaica region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CVJ	**Coleyville**	**0.19**	**119**	⇑*i*P		**Pb**	**14 43 31.8**	**+0.4**
MTDJ	**Mount Denham**	**0.19**	**119**	*i* P		**Pb**	**14 43 31.7**	**+0.4**
MTDJ				*i* S		**Sb**	**14 43 35.1**	**-0.3**
MCJ	**Malvern**	**0.39**	**177**	⇑*i*P		**Pb**	**14 43 33.7**	**-0.4**
MCJ				⇑*i*S		**Sb**	**14 43 38.4**	**-1.5**
BBJ	**Bamboo Saint A**	**0.42**	**81**	⇓*i*P		**Pn**	**14 43 36.3**	**+0.5**
BNJ	**Bonny Gate**	**0.72**	**90**	⇓*i*P		**Pn**	**14 43 40.8**	**+1.0**
PCJ	**Portland Cotta**	**0.78**	**137**	*i* P		**Pb**	**14 43 40.8**	**+0.4**
STH	**Stony Hill**	**0.89**	**105**	⇑*i*P		**Pn**	**14 43 43.3**	**+1.2**
GWJ	**Greenwich**	**0.96**	**104**	⇑*i*P		**Pn**	**14 43 44.6**	**+1.3**
HOJ	**Hope**	**0.96**	**109**	*i* P		**Pn**	**14 43 44.8**	**+1.6**
LMGC	**Las Mercedes**	**1.86**	**21**	*e*P		**Pn**	**14 43 56.0**	**+0.6**
LMGC				*e*S		**Sn**	**14 44 14.8**	**-3.3**
LMGC				IAML			14 44 19.5	
	comp=E,180nm,0.0s							
LMGC				IAML			14 44 19.7	
	comp=N,181nm,0.1s							
RCC	**Rio Carpintero**	**2.53**	**48**	*e*P		**Pn**	**14 44 05.6**	**+0.9**
RCC				*e*S		**Sn**	**14 44 33.4**	**-1.2**
GTBY	**Guantanamo Bay**	**2.93**	**56**	*e*P		**Pn**	**14 44 11.1**	**+0.9**
GTBY				*e*S		**Sn**	**14 44 42.8**	**-1.7**
HLGC	**Holguin**	**3.00**	**31**	*e*P		**Pn**	**14 44 12.4**	**+1.4**
HLGC				*e*S		**Sn**	**14 44 46.9**	**+0.8**
MGV	**Manicaragua**	**4.33**	**331**	*e*P		**Pn**	**14 44 30.9**	**+1.4**
MGV				*e*S		**Sn**	**14 45 18.7**	**-0.4**

*NEIC **22** 14:44:05.2±2.3,51°.5N±0°.2×178°.4W±0°.2,h78km±12km, mb4.1/69,ML4.2(AEIC),Error ellipse: s-maj=26.1km s-min=13.7km az=162.0*
*AEIC **22** 14:44:06.5±2.4,51°.8N±0°.1×178°.3W±0°.2,h76km±8km, Error ellipse: s-maj=20.9km s-min=13.2km az=166.0*
*IDC **22** 14:44:06.4±0.9,51°.84N×178°.41W,h79km±7km,mb3.6/18, mbtmp3.9/19,Error ellipse: s-maj=20.4km s-min=13.3km az=156.0*

ISC 22 14:44:06.3±0.6,51°.7N±0°.1×178°.28W±0°.06,h78km,n215, σ1s55/211,mb4.0/31,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.72**	**76**			**Pn**	**14 44 22.5**	**+0.5**
ADK	**Adak**	**1.01**	**78**			**Pn**	**14 44 25.8**	**+0.5**
SPIA	**Saint Paul Isl**	**7.22**	**37**			**Pn**	**14 45 51.4**	**+2.4**
SPIA	**Saint Paul Isl**	**7.22**	**37**	P		**Pn**	**14 45 50.6**	**+1.6**
	baz=224							
UNV	**Unalaska Valle**	**7.46**	**69**	Pn		**Pn**	**14 45 52.7**	**+0.4**
UNV	**Unalaska Valle**	**7.46**	**69**	P		**Pn**	**14 45 56.0**	**+3.7**
	baz=258							
SDPT	**Sand Point**	**11.21**	**64**	Pn		**Pn**	**14 46 44.0**	**+0.7**
CHGN	**Chignik**	**12.55**	**61**	Pn		**Pn**	**14 47 01.9**	**+0.4**
GAMB	**Gambell**	**12.61**	**13**	Pn		**Pn**	**14 47 03.4**	**+1.1**
GAMB	**Gambell**	**12.61**	**13**	P		**Pn**	**14 47 03.7**	**+1.4**
	baz=199							
N16K	**Nishlik Lake**	**13.95**	**43**	P		**Pn**	**14 47 22.7**	**+2.6**
	baz=239							
Q16K	**King Salmon**	**14.15**	**52**	P		**Pn**	**14 47 25.2**	**+2.5**
	baz=250							
O17K	**Koliganek Bris**	**14.37**	**47**	P		**Pn**	**14 47 25.5**	**0.0**
	baz=245							
Q17K	**Contact Creek**	**14.40**	**54**	P		**Pn**	**14 47 27.6**	**+1.5**
	baz=252							
ANM	**Nome**	**14.56**	**23**	Pn		**Pn**	**14 47 31.4**	**+3.5**
ANM	**Nome**	**14.56**	**23**	P		**Pn**	**14 47 30.0**	**+2.1**
	baz=214							
PEA0B	**Petropavlovsk-**	**14.72**	**285**	P		**P**	**14 47 34.3**	**+0.1**
PETK	**Petropavlovsk-**	**14.72**	**285**	P		**P**	**14 47 31.9**	**-2.3**
	3.1nm,0.8s,baz=80,slow=16,SNR=8.9							
TNA	**Tin City**	**14.89**	**17**	Pn		**Pn**	**14 47 35.1**	**+3.0**
P18K	**Big Mountain,**	**15.10**	**50**	Pn		**Pn**	**14 47 37.4**	**+2.5**
P18K				IAmb		IAmb	14 47 43.1	
	comp=Z,14nm,1.0s							
P18K	**Big Mountain,**	**15.10**	**50**	P		**Pn**	**14 47 37.6**	**+2.7**
	baz=249							
O18K	**Koktuh Hills**	**15.28**	**49**	P		**P**	**14 47 42.4**	**+2.0**
O18K	**Koktuh Hills**	**15.28**	**49**	P		**Pn**	**14 47 39.7**	**+2.5**
	baz=248							
OHAK	**Old Harbor**	**15.51**	**59**	P		**Pn**	**14 47 42.1**	**+2.0**
	baz=260							
SVW2	**Sparrevohn**	**15.62**	**44**	P		**P**	**14 47 46.2**	**+1.9**
SVW2				IAmb		IAmb	14 48 09.8	
	comp=Z,22nm,1.4s							
Q19K	**Cape Douglas,**	**15.72**	**53**			**Pn**	**14 47 45.1**	**+2.2**
KDAK	**Kodiak Island**	**15.98**	**58**	P		**Pn**	**14 47 44.6**	**-1.5**
	comp=Z,3.1nm,0.3s,baz=297,slow=11,SNR=13							
KDAK				S		**Sn**	**14 50 36.0**	**-6.4**
	comp=Z,15nm,1.1s,baz=240,slow=20,SNR=2.1							
KDAK	**Kodiak Island**	**15.98**	**58**	Pn		**Pn**	**14 47 44.8**	**-1.4**
N19K	**Bonanza Creek**	**15.98**	**46**	P		**P**	**14 47 50.0**	**+1.7**
N19K				IAmb		IAmb	14 47 53.2	
	comp=Z,16nm,1.1s							
N19K	**Bonanza Creek**	**15.98**	**46**	P		**P**	**14 47 50.0**	**+1.7**
	baz=246							
P19K	**Oil Pt**	**16.14**	**51**	P		**P**	**14 47 50.4**	**+0.4**
	baz=251							
TTA	**Tatalina**	**16.37**	**38**	P		**P**	**14 47 55.4**	**+2.9**
L19K	**White Mountain**	**16.44**	**41**	P		**P**	**14 47 55.7**	**+2.4**
L19K				IAmb		IAmb	14 47 59.9	
	comp=Z,10nm,0.8s							
L19K	**White Mountain**	**16.44**	**41**	P		**P**	**14 47 56.0**	**+2.7**
	baz=241							
RSO	**Redoubt South**	**16.64**	**48**	P		**P**	**14 47 58.2**	**+2.6**
M20K	**Styx River**	**17.03**	**43**	P		**P**	**14 48 02.3**	**+2.5**
M20K				IAmb		IAmb	14 48 39.6	
	comp=Z,13nm,1.4s							
M20K	**Styx River**	**17.03**	**43**	P		**P**	**14 48 02.0**	**+2.2**
	baz=244							
CNPM	**China Poot**	**17.08**	**52**			**P**	**14 48 01.3**	**+1.0**
GCSA	**Galena City Sc**	**17.14**	**32**	P		**P**	**14 48 04.2**	**+3.3**
	baz=230							
N20K	**Mount Spurr**	**17.16**	**46**	P		**P**	**14 48 03.6**	**+2.4**
	baz=248							
SPCR	**Spurr Chakacha**	**17.16**	**46**	P		**P**	**14 48 03.0**	**+1.7**
	baz=248							
BRLK	**Bradley Lake**	**17.31**	**51**			**Pn**	**14 48 02.9**	**+0.3**
BRLK				IAmb		IAmb	14 48 42.1	
	comp=Z,22nm,1.2s							
K20K	**Telida**	**17.35**	**38**	P		**P**	**14 48 06.0**	**+2.8**
K20K	**Telida**	**17.35**	**38**	P		**Pn**	**14 48 04.0**	**+1.0**
	baz=239							
SKT	**Skwentna**	**17.76**	**44**	P		**Pn**	**14 48 09.9**	**+1.9**
SKT	**Skwentna**	**17.76**	**44**	P		**Pn**	**14 48 10.1**	**+2.1**
	baz=247,SNR=13							
PPLA	**Purkeypile**	**17.87**	**41**	P		**P**	**14 48 10.2**	**+1.1**
PPLA	**Purkeypile**	**17.87**	**41**	P		**Pn**	**14 48 14.6**	**+5.1**
	baz=243							
SUA	**Susitna One**	**17.91**	**46**	P		**P**	**14 48 10.6**	**+1.0**
SUA				IAmb		IAmb	14 48 47.4	
	comp=Z,21nm,1.4s							
SUA	**Susitna One**	**17.91**	**46**	P		**Pn**	**14 48 12.5**	**+2.6**
	baz=249							
BILL	**Bilibino**	**18.05**	**341**	P		**P**	**14 48 11.2**	**+0.3**
SEW	**Seward**	**18.10**	**51**	P		**P**	**14 48 12.4**	**+1.0**
SEW	**Seward**	**18.10**	**51**	P		**Pn**	**14 48 13.9**	**+1.8**
	baz=255							
CAST	**Castle Rocks**	**18.15**	**40**	P		**Pn**	**14 48 13.9**	**+1.2**
CAST	**Castle Rocks**	**18.15**	**40**	P		**Pn**	**14 48 15.5**	**+2.7**
	baz=242							
CHUM	**Lake Minchumin**	**18.29**	**38**	P		**Pn**	**14 48 16.3**	**+1.9**
	baz=240							
CUT	**Chulitna**	**18.47**	**44**	P		**Pn**	**14 48 17.6**	**+1.1**
CUT				IAmb		IAmb	14 48 39.1	
	comp=Z,17nm,1.0s							
CUT	**Chulitna**	**18.47**	**44**	P		**Pn**	**14 48 17.6**	**+1.1**
	baz=247							
KTH	**Kantishna Hill**	**18.68**	**40**	P		**P**	**14 48 19.7**	**+1.8**
PWL	**Port Wells**	**18.83**	**49**	P		**P**	**14 48 21.4**	**+1.8**
GHO	**Glory Hole Cre**	**18.83**	**46**	P		**P**	**14 48 21.4**	**+1.8**
GHO				IAmb		IAmb	14 48 33.5	
	comp=Z,22nm,1.4s							
TRF	**Thorofare Moun**	**18.89**	**41**	P		**P**	**14 48 21.6**	**+1.3**
TRF				IAmb		IAmb	14 48 28.1	
	comp=Z,13nm,1.2s							
TRF	**Thorofare Moun**	**18.89**	**41**	P		**Pn**	**14 48 22.6**	**+0.9**
	baz=244							
BPAW	**Bear Paw Mtn.**	**18.91**	**38**	P		**P**	**14 48 22.1**	**+1.7**
BPAW	**Bear Paw Mtn.**	**18.91**	**38**	P		**Pn**	**14 48 22.6**	**+0.8**
	baz=242							
KNK	**Knik Glacier**	**18.93**	**47**	P		**P**	**14 48 22.0**	**+1.4**
KNK				IAmb		IAmb	14 48 24.2	
	comp=Z,23nm,1.5s							
IMAR	**Indian Mountai**	**18.94**	**32**	P		**P**	**14 48 22.2**	**+1.5**
H21K	**Melozitna Rive**	**19.07**	**33**	P		**P**	**14 48 23.8**	**+1.8**
H21K				IAmb		IAmb	14 48 28.1	
	comp=Z,9.3nm,1.1s							
H21K	**Melozitna Rive**	**19.07**	**33**	P		**Pn**	**14 48 25.0**	**+1.4**
	baz=235							
I21K	**Tanana**	**19.09**	**35**	P		**P**	**14 48 24.2**	**+1.9**
I21K	**Tanana**	**19.09**	**35**	P		**P**	**14 48 24.1**	**+1.8**
	baz=237							
SML	**Sawmill**	**19.11**	**46**	P		**P**	**14 48 24.4**	**+1.7**
SML				IAmb		IAmb	14 48 29.9	
	comp=Z,17nm,1.3s							
SEY	**Seymchan**	**19.24**	**317**	P		**P**	**14 48 25.0**	**+1.1**
	comp=Z,6.0nm,0.9s,baz=106,slow=11,SNR=17							
G21K	**Allakaket**	**19.35**	**30**	P		**P**	**14 48 27.2**	**+2.1**
	baz=232							
WAT1	**Susitna Watana**	**19.36**	**43**	P		**P**	**14 48 26.4**	**+1.0**
	baz=248							
M23K	**Glacier View**	**19.38**	**47**	P		**P**	**14 48 26.4**	**+0.8**
	baz=252							
MLY	**Manley**	**19.46**	**36**	P		**P**	**14 48 27.2**	**+0.8**
MLY				IAmb		IAmb	14 48 29.8	
	comp=Z,12nm,1.4s							
MLY	**Manley**	**19.46**	**36**	P		**P**	**14 48 27.2**	**+0.8**
	baz=240,SNR=5.7							
BWN	**Browne**	**19.53**	**39**	P		**P**	**14 48 28.8**	**+1.7**
MCK	**McKinley**	**19.56**	**41**	P		**P**	**14 48 28.6**	**+1.1**
MCK				IAmb		IAmb	14 48 50.8	
	comp=Z,12nm,1.2s							
MCK	**McKinley**	**19.56**	**41**	P		**P**	**14 48 27.8**	**+0.4**
	baz=246							
SCM	**Sheep Creek Mo**	**19.57**	**47**	P		**P**	**14 48 27.3**	**-0.4**
SCM	**Sheep Creek Mo**	**19.57**	**47**	P		**P**	**14 48 28.7**	**+1.0**
	baz=253							
WAT6	**Susitna Watana**	**19.63**	**44**	P		**P**	**14 48 29.3**	**+0.9**
	baz=250,SNR=6.8							
F21K	**Alatna River**	**19.80**	**29**	P		**P**	**14 48 31.9**	**+1.8**
	baz=230							
NEA2	**Nenana**	**19.88**	**38**	P		**P**	**14 48 31.5**	**+0.6**
NEA2				IAmb		IAmb	14 48 55.1	
	comp=Z,9.3nm,1.1s							
NEA2	**Nenana**	**19.88**	**38**	P		**P**	**14 48 32.2**	**+1.3**
	baz=243							
DHY	**Denali Highway**	**19.95**	**43**	P		**P**	**14 48 32.5**	**+0.6**
DHY	**Denali Highway**	**19.95**	**43**	P		**P**	**14 48 33.5**	**+1.6**
	baz=249,SNR=11							
EYAK	**Cordova Ski Ar**	**19.99**	**51**	Pn		Pn	14 48 36.5	+2.0
EYAK	**Cordova Ski Ar**	**19.99**	**51**	P		**P**	**14 48 33.2**	**+1.0**
	baz=258							
I23K	**Minto, Yukon-K**	**20.02**	**37**	P		**P**	**14 48 33.6**	**+1.1**
	baz=241							
DIV	**Divide**	**20.11**	**49**			Pn	14 48 36.8	+0.9
KLU	**Klutina**	**20.13**	**48**	P		**P**	**14 48 35.8**	**+2.1**
KLU				IAmb		IAmb	14 49 06.1	
	comp=Z,16nm,1.4s							
KLU	**Klutina**	**20.13**	**48**	P		**P**	**14 48 35.7**	**+2.1**
	baz=255							
M24K	**Tolsona, Glenn**	**20.18**	**46**	P		**P**	**14 48 35.1**	**+0.9**
M24K	**Tolsona, Glenn**	**20.18**	**46**	P		**P**	**14 48 34.7**	**+0.5**
	baz=254							
WRH	**Wood River Hil**	**20.20**	**39**	P		**P**	**14 48 34.3**	**-0.1**
MDM	**Murphy Dome**	**20.36**	**38**	P		**P**	**14 48 36.8**	**+0.6**
MDM				IAmb		IAmb	14 48 42.5	
	comp=Z,16nm,1.4s							
CCB	**Clear Creek Bu**	**20.39**	**39**	P		**P**	**14 48 35.8**	**-0.6**
TCOL	**CIGO, UAF Yank**	**20.46**	**38**	P		**P**	**14 48 37.9**	**+0.7**
	baz=244							
COLA	**College**	**20.47**	**38**	P		**P**	**14 48 38.3**	**+1.1**
	baz=244							
G23K	**Bananza Creek**	**20.59**	**32**	P		**P**	**14 48 40.2**	**+1.5**
	baz=237							
BMRM	**Bremner River**	**20.63**	**50**	P		**P**	**14 48 40.7**	**+1.6**
BMRM				IAmb		IAmb	14 49 13.4	
	comp=Z,11nm,1.1s							
HDA	**Harding Lake**	**20.63**	**40**	P		**P**	**14 48 40.0**	**+1.0**
HDA	**Harding Lake**	**20.63**	**40**	P		**P**	**14 48 40.5**	**+1.5**
	baz=247							
HARP	**HAARP**	**20.71**	**46**	P		**P**	**14 48 41.0**	**+1.0**
	baz=254							
POKR	**Poker Plat Res**	**20.73**	**38**	P		**P**	**14 48 41.4**	**+1.3**
	baz=244							
PAX	**Paxson**	**20.74**	**44**	P		**P**	**14 48 42.2**	**+1.9**
PAX				IAmb		IAmb	14 48 47.6	
	comp=Z,6.5nm,0.8s							
PAX	**Paxson**	**20.74**	**44**	P		**P**	**14 48 41.9**	**+1.6**
	baz=252							
N25K	**Chitina, Valde**	**20.77**	**48**	P		**P**	**14 48 42.0**	**+1.3**
N25K	**Chitina, Valde**	**20.77**	**48**	P		**P**	**14 48 43.1**	**+2.5**
	baz=257							
IL31		**20.80**	**39**	P		**P**	**14 48 41.8**	**+1.0**
IL31				IAmb		IAmb	14 49 00.8	
	comp=Z,9.4nm,1.4s							
ILAR	**Eielson Array**	**20.80**	**39**	P		**P**	**14 48 39.5**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=234,slow=7.4,SNR=13							
ILAR				PcP		**PcP**	**14 52 44.9**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=261,slow=3.4,SNR=5.4							
ILAR				ScP		**ScP**	**14 56 12.9**	**-2.9**
	comp=Z,0.4nm,0.6s,baz=266,slow=3.2,SNR=7.6							
	comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**20.80**	**39**	P		**P**	**14 48 42.2**	**+1.3**
COLD	**Coldfoot**	**20.82**	**31**	P		**P**	**14 48 42.2**	**+1.1**
COLD	**Coldfoot**	**20.82**	**31**	P		**P**	**14 48 42.4**	**+1.3**
	baz=235							
K24K	**Donnelly Dome**	**20.88**	**42**	P		**P**	**14 48 43.2**	**+1.4**
	baz=250							
H24K	**Noodor Dome**	**20.90**	**36**	P		**P**	**14 48 42.8**	**+0.8**
H24K				IAmb		IAmb	14 49 08.6	
	comp=Z,6.5nm,0.9s							
H24K	**Noodor Dome**	**20.90**	**36**	P		**P**	**14 48 42.9**	**+1.0**
	baz=242							
GLB	**Gilahina Butte**	**21.10**	**49**	P		**P**	**14 48 44.9**	**+0.7**
VRDI	**Verde Repeater**	**21.23**	**50**	P		**P**	**14 48 46.6**	**+1.0**
VRDI				IAmb		IAmb	14 48 53.2	
	comp=Z,6.7nm,1.0s							
RIDG	**Independent Ri**	**21.25**	**43**	P		**P**	**14 48 46.0**	**+0.3**
RIDG	**Independent Ri**	**21.25**	**43**	P		**P**	**14 48 46.7**	**+1.0**
	baz=251							
G24K	**Hadweenzic Riv**	**21.45**	**34**	P		**P**	**14 48 48.9**	**+1.1**
	baz=241							
E23K	**Chandalar**	**21.49**	**29**	P		**P**	**14 48 48.8**	**+0.6**
	baz=234							
DOT	**Dot Lake**	**21.55**	**43**	P		**P**	**14 48 49.2**	**+0.2**
DOT				IAmb		IAmb	14 49 06.1	
	comp=Z,5.1nm,0.7s							
PRP	**Porcupine Dome**	**21.63**	**38**	P		**P**	**14 48 49.9**	**0.0**
PRP	**Porcupine Dome**	**21.63**	**38**	P		**P**	**14 48 50.3**	**+0.5**
	baz=246							
L26K	**Log Cabin Wild**	**21.69**	**45**	P		**P**	**14 48 51.0**	**+0.7**
L26K				IAmb		IAmb	14 49 08.6	
	comp=Z,6.7nm,0.8s							
L26K	**Log Cabin Wild**	**21.69**	**45**	P		**P**	**14 48 52.0**	**+1.7**
	baz=255,SNR=6.0							
M26K	**Nabesna, AK**	**21.69

M26K IAmb IAmb 14 49 06.9
comp=Z,4.0nm,0.6s
M26K Nabesna, AK 21.69 47 P **P** **14 48 51.3 +0.9**
baz=257
SCRK Sand Creek 21.69 42 P **P** **14 48 49.7 -0.8**
SCRK IAmb IAmb 14 49 09.0
comp=Z,5.9nm,1.0s
SCRK Sand Creek 21.69 42 P **P** **14 48 50.7 +0.2**
baz=252
D23K Nanushuk River 21.72 27 P **P** **14 48 51.6 +0.9**
baz=231
F24K Squaw Lake 21.73 32 P **P** **14 48 52.4 +1.6**
baz=238,SNR=7.3
E24K Your Creek 21.84 30 P **P** **14 48 52.2 +0.2**
baz=236
G25K Bearman Lake 21.97 34 P **P** **14 48 53.7 +0.5**
baz=242
J26L Joseph Creek 22.03 41 P **P** **14 48 53.5 -0.6**
J26L IAmb IAmb 14 49 11.4
comp=Z,4.3nm,0.8s
J26L Joseph Creek 22.03 41 P **P** **14 48 54.1 0.0**
baz=251
BARN Barnard Glacie 22.06 51 P **P** **14 48 54.1 -0.4**
BARN IAmb IAmb 14 49 25.2
comp=Z,15nm,1.4s
FYU Fort Yukon 22.18 35 P **P** **14 48 55.7 +0.1**
FYU IAmb IAmb 14 48 58.3
comp=Z,6.4nm,1.0s
M27K Edge Creek, AK 22.19 47 P **P** **14 48 55.7 -0.1**
baz=258
L27K Beaver Creek, 22.37 45 P **P** **14 48 57.1 -0.6**
L27K IAmb IAmb 14 49 15.6
comp=Z,6.7nm,1.0s
L27K Beaver Creek, 22.37 45 P **P** **14 48 58.7 +1.1**
baz=256
BCAR Beaver Creek A 22.39 45 P **P** **14 48 56.9 -1.0**
I26K Coal Creek Min 22.47 39 P **P** **14 48 57.6 -1.1**
I26K Coal Creek Min 22.47 39 P **P** **14 48 59.4 +0.7**
baz=250
F25K Christian Rive 22.52 33 P **P** **14 48 59.5 +0.2**
baz=241
BVCY Beaver Creek 22.66 47 P **P** **14 49 01.0 +0.2**
baz=259,SNR=7.3
O28M Mount Upton 22.73 52 P **P** **14 49 01.2 -0.6**
baz=264
YUK3 Moose Creek 22.74 49 P **P** **14 49 01.5 -0.3**
baz=261
C24K Franklin Bluff 22.74 26 P **P** **14 49 01.9 +0.4**
baz=233,SNR=6.3
BMAR Burnt Mountain 22.80 34 P **P** **14 49 02.3 +0.1**
E25K Arctic Village 22.80 32 P **P** **14 49 02.0 -0.1**
baz=240
G26K Porcupine Rive 22.87 35 P **P** **14 49 03.4 +0.6**
baz=245
YUK8 Steele Glacier 23.00 50 P **P** **14 49 04.2 -0.2**
baz=263
EGAK Eagle 23.10 41 P **P** **14 49 04.1 -1.0**
EGAK IAmb IAmb 14 49 24.9
comp=Z,8.4nm,1.1s
EGAK Eagle 23.10 41 P **P** **14 49 05.8 +0.7**
baz=253
YUK4 Talbot Arm 23.54 50 P **P** **14 49 10.1 +0.6**
baz=264
DAWY Dawson 23.66 43 P **P** **14 49 09.3 -1.0**
DAWY Dawson 23.66 43 P **P** **14 49 11.8 +1.4**
baz=257
M29M Somme Creek 23.77 48 P **P** **14 49 12.5 +1.1**
baz=261
L29M L29M 24.02 46 P **P** **14 49 15.3 +1.7**
baz=260
HYT Haines Junctio 24.05 52 P **P** **14 49 14.3 +0.4**
HYT IAmb IAmb 14 49 37.6
comp=Z,11nm,1.5s
C27K Jago River 24.14 29 P **P** **14 49 15.7 +1.2**
baz=240
E27K Coleen River 24.15 33 P **P** **14 49 16.7 +2.1**
baz=245
M30M Minto, Yukon 24.55 48 P **P** **14 49 20.2 +1.8**
M30M Minto, Yukon 24.55 48 P **P** **14 49 19.6 +1.3**
baz=263
INK Inuvik 27.02 35 P **P** **14 49 41.2 +0.7**
comp=Z,0.4nm,0.4s,baz=256,slow=9.6,SNR=2.4
comp=Z,0.4nm,0.4s
INK Inuvik 27.02 35 P **P** **14 49 41.4 +0.9**
A36M Sachs Harbour 30.66 29 P **P** **14 50 13.4 +0.6**
A36M IAmb IAmb 14 50 35.0
comp=Z,3.8nm,0.8s
A36M Sachs Harbour 30.66 29 P **P** **14 50 13.1 +0.4**
baz=257
KOTAN Kotaneelee Air 30.72 53 P **P** **14 50 14.1 +0.6**
baz=279
H11N2 WAKE ISLAND Hy 33.95 206 T T 15 27 08.3
baz=18,slow=76,SNR=358
H11N3 WAKE ISLAND Hy 33.96 206 T T 15 27 08.9
baz=18,slow=76,SNR=417
H11N1 WAKE ISLAND Hy 33.97 206 T T 15 27 20.7
baz=18,slow=76,SNR=292
MJAR Matsushiro Arr 34.15 261 P **P** **14 50 44.4 +0.6**
comp=Z,0.8nm,0.6s,baz=42,slow=6.5,SNR=4.2
comp=Z,0.8nm,0.6s
YKA Yellowknife Ar 34.78 47 P **P** **14 50 48.7 -0.1**
comp=Z,0.4nm,0.5s,baz=278,slow=9.3,SNR=16
YKA pP **pP** **14 51 06.1 -0.3**
comp=Z,0.6nm,0.8s,baz=280,slow=8.6,SNR=4.9
YKA PcP **PcP** **14 53 19.0 -1.3**
comp=Z,0.3nm,0.5s,baz=284,slow=3.2,SNR=5.3
YKA ScP **ScP** **14 56 56.4 -2.1**
comp=Z,0.5nm,0.7s,baz=288,slow=3.6,SNR=10
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 34.78 47 P **P** **14 50 48.9 +0.1**
H11S1 WAKE ISLAND Hy 35.17 205 T T 15 28 15.0
baz=17,slow=76,SNR=448
H11S2 WAKE ISLAND Hy 35.18 205 T T 15 28 18.8
baz=17,slow=76,SNR=205
H11S3 WAKE ISLAND Hy 35.18 205 T T 15 28 16.1
baz=17,slow=76,SNR=252
NEW Newport 38.47 70 P **P** **14 51 21.7 +1.3**
comp=Z,1.2nm,0.6s,baz=301,slow=5.0,SNR=4.0
comp=Z,1.2nm,0.6s
NEW Newport 38.47 70 P **P** **14 51 21.5 +1.1**
NEW IAmb IAmb 14 51 45.1
comp=Z,3.1nm,0.9s
NEW Newport 38.47 70 P **P** **14 51 21.6 +1.1**
baz=299
MSO Missoula 41.06 70 P **P** **14 51 41.6 -0.3**
baz=301
HLID Hailey 42.55 75 P **P** **14 51 54.9 +0.7**
baz=304
NVAR Mina Array Bea 43.19 83 pP pP 14 52 19.4 +1.0
comp=Z,1.6nm,0.8s,baz=297,slow=6.5,SNR=2.7
ELK Elko 43.68 79 P **P** **14 52 04.5 +1.1**
comp=Z,2.1nm,0.7s,baz=292,slow=8.2,SNR=8.4
comp=Z,2.1nm,0.7s
DUG Dugway, Tooele 45.48 78 P **P** **14 52 18.1 +0.4**
baz=307
LAO LASA Array 45.60 66 P **P** **14 52 19.0 +0.6**
baz=304
SNCC San Nicolas Is 45.76 90 P **P** **14 52 21.0 +1.2**
baz=312
BW06 Boulder Array 45.91 73 P **P** **14 52 21.3 +0.2**
baz=306
PDAR Pinedale Array 45.91 73 P **P** **14 52 21.7 +0.6**
comp=Z,0.9nm,0.5s,baz=339,slow=2.7,SNR=17
PDAR pP **pP** **14 52 40.0 -0.1**
comp=Z,0.9nm,0.5s,baz=320,slow=2.6,SNR=6.2
comp=Z,0.9nm,0.5s
SONM Songino Array 46.80 297 PcP **PcP** **14 53 59.0 -0.8**
comp=Z,0.4nm,0.5s,baz=69,slow=4.1,SNR=3.0
HHC Hu-ho-hao-te 47.92 286 *e*P **P** **14 52 37.3 +0.7**
SPITS Spitsbergen Ar 50.09 356 P **P** **14 52 51.6 -1.0**
comp=Z,6.0nm,0.9s,baz=22,slow=8.2,SNR=9.3
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 57.84 350 P **P** **14 53 47.6 -1.5**
comp=Z,3.6nm,0.9s,baz=25,slow=7.3,SNR=1.5
comp=Z,3.6nm,0.9s
TXAR Lajitas Array 58.29 82 P **P** **14 53 53.3 +0.4**
comp=Z,0.4nm,0.6s,baz=312,slow=5.6,SNR=6.7
TXAR pP **pP** **14 54 13.2 +0.5**
comp=Z,0.4nm,0.5s,baz=306,slow=5.3,SNR=3.6
comp=Z,0.4nm,0.6s
WMQ Urumqi 59.45 303 *e*P **P** **14 54 04.8 +4.1**
MKAR Makanchi Array 60.10 309 P **P** **14 54 05.2 +0.1**
comp=Z,0.1nm,0.3s,baz=37,slow=6.2,SNR=1.6
comp=Z,0.1nm,0.3s
PZH PanZhiHua 63.61 280 P **P** **14 54 29.0 0.0**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,160nm,4.6s
FINES FINESS Array B 65.56 347 P **P** **14 54 40.5 -0.5**
comp=Z,1.1nm,0.7s,baz=113,slow=4.4,SNR=3.8
comp=Z,1.1nm,0.7s
CMAR Chiang Mai Arr 71.30 276 P **P** **14 55 17.0 -0.4**
comp=Z,0.5nm,0.6s,baz=31,slow=7.2,SNR=2.3
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 75.36 342 P **P** **14 55 39.0 -1.8**
comp=Z,0.4nm,0.4s,baz=17,slow=6.0,SNR=4.1
comp=Z,0.4nm,0.4s
WRA Warramunga Arr 82.46 224 P **P** **14 56 19.5 -0.4**
comp=Z,1.0nm,0.7s,baz=33,slow=6.0,SNR=6.9
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 84.80 336 P **P** **14 56 30.4 -1.7**
comp=Z,1.1nm,1.0s,baz=19,slow=9.2,SNR=2.8
comp=Z,1.1nm,1.0s
ASAR Alice Springs 85.93 223 P **P** **14 56 38.0 +0.4**
comp=Z,1.1nm,0.6s,baz=23,slow=5.4,SNR=27
comp=Z,1.1nm,0.6s
STKA Stephens Creek 90.36 213 P **P** **14 56 59.4 +1.0**
comp=Z,1.9nm,0.6s,baz=350,slow=5.4,SNR=7.5
comp=Z,1.9nm,0.6s
H03N2 Juan Fernandez 120.92 106 T T 17 14 54.2
baz=317,slow=77,SNR=14
H03N1 Juan Fernandez 120.93 106 T T 17 14 56.3
baz=317,slow=77,SNR=15
H03N3 Juan Fernandez 120.93 106 T T 17 14 55.5
baz=317,slow=77,SNR=13
BOSA Boshof 151.00 314 PKPbc **PKPbc** **15 03 48.5 -1.4**
comp=Z,1.9nm,0.8s,baz=122,slow=3.4,SNR=4.1

*IDC **22** 14:44:30.2±0.9, 42°.18S×84°.39E, h0km, mb4.1/10, mbtmp4.1/10, MS4.0/6, Error ellipse: s-maj=29.0km s-min=21.5km az=77.0*
*NEIC **22** 14:44:32.5±1.5, 42°.3S±0°.1×84°.6E±0°.2, h10km±1km, mb4.8/20, Error ellipse: s-maj=25.0km s-min=21.7km az=125.0*
ISC 22 14:44:32.0±0.6, 42°.3S±0°.1×84°.6E±0°.1, h10km, n46, σ0s64/37, mb4.8/20, MS4.0/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**24.18**	**82**	T	T	15 14 55.8	
	baz=244,slow=74,SNR=203						
H01W3	**Cape Leeuwin H**	**24.19**	**82**	T	T	15 14 56.4	
	baz=244,slow=74,SNR=203						
H01W1	**Cape Leeuwin H**	**24.20**	**82**	T	T	15 14 57.1	
	baz=244,slow=74,SNR=197						
H08S2	**Diego Garcia H**	**36.07**	**339**	T	T	15 29 21.6	
	baz=165,slow=76,SNR=542						
H08S1	**Diego Carcia H**	**36.08**	**339**	T	T	15 29 21.6	
	baz=165,slow=76,SNR=328						
H08S3	**Diego Garcia H**	**36.09**	**339**	T	T	15 29 23.1	
	baz=165,slow=76,SNR=574						
ASAR	**Alice Springs**	**44.70**	**82**	P	**P**	**14 52 45.8 +0.4**	
	1.4nm,0.8s,baz=209,slow=5.9,SNR=12						
ASAR				PcP	**PcP**	**14 54 27.3 -0.5**	
	0.7nm,0.9s,baz=224,slow=2.0,SNR=2.8						
ASAR				LR	LR	15 09 16.4	
	comp=Z,315nm,21.3s,baz=271,slow=33						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**44.70**	**82**	P	**P**	**14 52 44.6 -0.8**	
STKA	**Stephens Creek**	**45.92**	**96**	P	**P**	**14 52 55.7 +0.8**	
	0.7nm,0.5s,baz=192,slow=6.3,SNR=3.8						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**46.42**	**163**	P	**P**	**14 52 58.2 0.0**	
	1.0nm,0.8s,baz=294,slow=10,SNR=3.6						
VNDA				LR	LR	15 10 34.3	
	comp=Z,179nm,21.4s,baz=288,slow=34						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**47.31**	**78**	P	**P**	**14 53 06.6 +0.7**	
	4.8nm,0.9s,baz=230,slow=7.0,SNR=19						
	4.8nm,0.9s						
WB2	**Warramunga Arr**	**47.32**	**78**	P	**P**	**14 53 04.4 -1.6**	
WB2				IAmb	IAmb	14 53 07.8	
	comp=Z,9.9nm,1.1s						
WRAB	**Tennant Creek**	**47.32**	**78**	P	**P**	**14 53 05.8 -0.2**	
WRAB				IAmb	IAmb	14 53 07.8	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**47.44**	**78**	P	**P**	**14 53 07.3 +0.3**	
WR0				IAmb	IAmb	14 53 08.7	
	comp=Z,8.5nm,1.0s						
WB0	**Warramunga Arr**	**47.46**	**78**	P	**P**	**14 53 07.3 +0.2**	
WB0				IAmb	IAmb	14 53 08.8	
	comp=Z,7.6nm,0.9s						
QSPA	**South Pole Qui**	**47.91**	**180**	P	**P**	**14 53 10.6 +0.4**	
	comp=Z,7.4nm,0.8s,baz=237,slow=0.7,SNR=20						
QSPA				LR	LR	15 12 31.3	
	comp=Z,158nm,18.1s,baz=286,slow=35						
	comp=Z,7.4nm,0.8s						
QSPA	**South Pole Qui**	**47.91**	**180**	P	**P**	**14 53 10.4 +0.2**	
LBTB	**Lobatse**	**51.01**	**270**	P	**P**	**14 53 34.6 +0.3**	
TOLI2	**Tolitoli**	**54.13**	**47**	P	**P**	**14 53 56.5 -0.8**	
BELA	**Belgrano 2**	**54.68**	**193**	P	**P**	**14 54 00.3 -0.3**	
BELA				IAmb	IAmb	14 54 10.2	
	comp=Z,15nm,1.6s						
CMAR	**Chiang Mai Arr**	**61.85**	**16**	P	**P**	**14 54 50.6 -0.7**	
	comp=Z,3.3nm,1.0s,baz=209,slow=6.6,SNR=21						
	comp=Z,3.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**61.85**	**16**	P	**P**	**14 54 52.1 +0.8**	
CRAI	**Chiangrai**	**63.86**	**17**	P	**P**	**14 55 05.4 +0.7**	
CRAI				IAmb	IAmb	14 55 07.4	
	comp=Z,10nm,1.3s						
BRDH	**Bariadhala**	**64.93**	**7**	LR	LR	15 22 19.5	
	comp=Z,9.9nm,18.5s,baz=338,slow=35						
PMSA	**Palmer Station**	**70.51**	**194**	LR	LR	15 25 58.3	
	comp=Z,188nm,20.6s,baz=134,slow=35						
KRVT	**Keravat (AS076**	**70.51**	**78**	LR	LR	15 27 43.7	
	comp=Z,78nm,18.3s,baz=273,slow=37						
LSA	**Lhasa**	**71.85**	**6**	P	**P**	**14 55 56.5 +1.1**	
LSA				IAmb	IAmb	14 55 58.0	
	comp=Z,9.1nm,1.2s						
RAYN	**Ar Rayn**	**74.72**	**323**	P	**P**	**14 56 11.5 -0.5**	
NIL	**Nilore**	**76.24**	**350**	P	**P**	**14 56 21.0 +0.5**	
NIL				IAmb	IAmb	14 56 29.0	
	comp=Z,8.7nm,1.1s						
KBL	**Kabul**	**77.73**	**347**	P	**P**	**14 56 29.7 +0.7**	
CHGR	**Chuyangaron**	**81.73**	**348**	P	**P**	**14 56 51.0 +0.4**	
CHGR				IAmb	IAmb	14 58 32.4	
	comp=Z,7.3nm,0.7s						
GEYT	**Alibeck**	**83.36**	**339**	P	**P**	**14 56 58.5 -0.5**	
	comp=Z,1.8nm,0.8s,baz=163,slow=6.0,SNR=5.2						
	comp=Z,1.8nm,0.8s						
KK31	**Karatay Array**	**85.90**	**350**	P	**P**	**14 57 12.6 +1.0**	
KK31				IAmb	IAmb	14 57 14.5	
	comp=Z,9.1nm,1.3s						
KKAR	**Karatay Array**	**85.90**	**350**	P	**P**	**14 57 12.4 +0.7**	
MKAR	**Makanchi Array**	**88.68**	**358**	P	**P**	**14 57 23.8 -1.2**	
	comp=Z,1.6nm,1.2s,baz=152,slow=5.5,SNR=5.4						
	comp=Z,1.6nm,1.2s						
MKAR	**Makanchi Array**	**88.68**	**358**	P	**P**	**14 57 25.3 +0.3**	
MAKZ	**Makanchi**	**88.70**	**358**	P	**P**	**14 57 25.2 +0.1**	
SONM	**Songino Array**	**91.76**	**15**	P	**P**	**14 57 39.4 -0.1**	
	comp=Z,1.0nm,1.0s,baz=197,slow=4.6,SNR=5.2						
	comp=Z,1.0nm,1.0s						
BRTR	**Keskin Array B**	**93.75**	**323**	P	**P**	**14 57 48.7 -0.2**	
	comp=Z,0.6nm,1.0s,baz=134,slow=6.0,SNR=1.6						
	comp=Z,0.6nm,1.0s						
ILAR	**Eielson Array**	**143.47**	**34**	PKP	PKPbc	15 04 02.9	-0.1
	comp=Z,0.3nm,0.6s,baz=270,slow=2.7,SNR=2.2						
BMRM	**Bremner River**	**145.25**	**40**		**PKPdf**	**15 04 09.4 +0.4**	
GLB	**Gilahina Butte**	**145.54**	**39**		**PKPab**	**15 04 09.8 -0.2**	
M26K	**Nabesna, AK**	**145.71**	**38**		**PKPbc**	**15 04 10.2 +0.1**	
INK	**Inuvik**	**147.05**	**25**	PKPbc	**PKPbc**	**15 04 13.4 -0.4**	
	comp=Z,6.8nm,1.0s,baz=291,slow=3.6,SNR=13						
C36M	**Paulatuk**	**149.04**	**19**		**PKiKP**	**15 04 19.9 -0.4**	
YKA	**Yellowknife Ar**	**156.77**	**23**	PKPab	**PKPab**	**15 04 55.4 -0.7**	
	comp=Z,0.5nm,0.9s,baz=320,slow=4.9,SNR=5.3						

MAN 22 14:53:52.7, 10°.50N×123°.65E, h15km, mb3.9, ML2.7, MS2.2, 1C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.35**	**120**	*i*P	Pg	14 54 00.2	+0.2
LLP				*i* S	Sb	14 54 06.1	-0.1
TABP	**Talibon, Bohol**	**0.78**	**121**	*e*P	Pg	14 54 07.3	-0.6
TABP				*e*S	Sb	14 54 18.3	-0.1
RCP	**Roxas**	**1.38**	**320**	*e*P	Pn	14 54 17.1	-0.5
RCP				*e*S	Sn	14 54 35.4	-0.2

*IDC **22** 14:55:40.3±1.6, 3°.42S×140°.48E, h0km, mb3.7/3, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=48.4km s-min=28.2km az=98.0*
ISC 22 14:55:45.2±1.2, 3°.55S±0°.08×140°.3E±0°.2, h35km, n14, σ2s50/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.95**	**355**	P	**Pn**	**14 56 00.8**	**-1.3**
FAKI	**Fak Fak**	**8.01**	**274**	P	**Pn**	**14 57 38.6**	**-0.6**
SIJI	**Sorong**	**9.36**	**286**	Pn	**Pn**	**14 57 59.7**	**+2.0**
	0.3nm,0.3s,baz=144,slow=18,SNR=1.5						
	6.1nm,0.8s						
KDU	**Kakadu**	**11.90**	**220**	P	**Pn**	**14 58 33.3**	**+0.9**
MTN	**Manton Dam**	**12.90**	**224**	P	**Pn**	**14 58 46.9**	**+0.7**
TNTI	**Ternate**	**13.57**	**288**	P	**Pn**	**14 58 54.1**	**-1.2**
KNRA	**Kununurra**	**16.52**	**222**	P	**Pn**	**14 59 35.4**	**+1.1**
QIS	**Mount Isa**	**16.92**	**182**	P	**P**	**14 59 42.5**	**+1.5**
WRAB	**Tennant Creek**	**17.27**	**199**	P	**P**	**14 59 45.3**	**+0.4**
WRA	**Warramunga Arr**	**17.28**	**199**	P	**Pn**	**14 59 44.4**	**+0.5**
	0.5nm,0.3s,baz=19,slow=12,SNR=16						
WRA				S	**Sn**	**15 02 48.4**	**-6.8**
	0.8nm,0.7s,baz=13,slow=23,SNR=2.2						
WRA				Lg	Lg	15 04 51.7	
	0.1nm,0.3s,baz=14,slow=28,SNR=1.9						
	3.9nm,0.7s						
AS01	**Alice Springs**	**20.90**	**196**	P	Pn	15 00 27.9	+0.5
ASAR	**Alice Springs**	**20.92**	**196**	P	Pn	15 00 27.1	-0.4
	11nm,0.7s,baz=30,slow=9.7,SNR=74						
ASAR				S	**S**	**15 04 19.4**	**+3.1**
	0.9nm,1.0s,baz=22,slow=22,SNR=3.9						
	11nm,0.7s						
MKAR	**Makanchi Array**	**71.39**	**322**	P	**P**	**15 07 02.0**	**+0.2**
	0.2nm,0.6s,baz=164,slow=6.1,SNR=2.3						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**85.96**	**24**	P	**P**	**15 08 21.7**	**+0.2**
	0.3nm,0.5s,baz=268,slow=3.8,SNR=4.2						
	0.3nm,0.5s						

NOU 22 14:58:54.5, 19°.20S×169°.84E, h0km, mb3.5/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**1.94**	**316**	P	Pn	14 59 29.7	+1.0
DVP	**Devils Point**	**2.15**	**313**	P	Pn	14 59 31.6	0.0
MARNC	**Mare, Loyalty**	**2.83**	**216**	P	Pn	14 59 40.0	-1.0
PINNC	**Pines Island,**	**4.07**	**213**	P	Pn	14 59 58.9	+0.9
OUENC	**Ouen Island, N**	**4.26**	**221**	P	Pn	15 00 01.2	+0.6
DZM	**Mont Dzumac**	**4.28**	**227**	P	Pn	15 00 00.2	-0.8
NOUC	**Port Laguerre**	**4.39**	**228**	P	Pn	15 00 02.5	0.0
KOUNC	**Koumac, New Ca**	**5.40**	**255**	P	Pn	15 00 16.3	0.0

*IDC **22** 15:02:15.8±0.9, 22°.78S×68°.67W, h96km±14km, mb3.6/2, mbtmp3.8/5, Error ellipse: s-maj=41.4km s-min=24.4km az=107.0*
*GUC **22** 15:02:15.8±0.7, 22°.67S×69°.12W, h112km±3km, ML3.7*
ISC 22 15:02:13.6±0.9, 22°.69S±0°.05×69°.00W±0°.07, h115km±7km, n23, σ2s22/36, 9C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.12**	**48**	P	**Pn**	**15 02 31.3**	**+1.5**
	618nm,0.2s,baz=101,slow=6.9,SNR=778						
LVC				S	**Sn**	**15 02 42.5**	**+0.5**
	913nm,0.3s,baz=38,slow=23,SNR=26						
LVC	**Limon Verde**	**0.12**	**48**	*i* P	**Pn**	**15 02 30.8**	**+0.9**
LVC				*e*S	**Sn**	**15 02 42.6**	**+0.5**
PB06	**IPOC Station P**	**0.53**	**268**	⇑*i*P	**Pn**	**15 02 32.3**	**+1.0**
PB06				*i* S	**Sn**	**15 02 44.6**	**-0.1**
PB06				IAML		15 02 45.4	
	comp=E,5μm,0.5s						
PB09	**IPOC Station P**	**0.92**	**346**	⇑*i*P	**Pn**	**15 02 36.4**	**+1.8**
PB09				*i* S	**Sn**	**15 02 51.5**	**+1.1**
PB09				IAML		15 02 52.5	
	comp=N,2μm,0.6s						
PB03	**IPOC Station P**	**0.94**	**312**	⇑*i*P	**Pn**	**15 02 35.6**	**+0.8**
PB03				*i* S	**Sn**	**15 02 50.2**	**-0.6**
PB03				IAML		15 02 51.3	
	comp=N,3μm,0.1s						
PB04	**IPOC Station P**	**1.12**	**288**	⇑*i*P	**Pn**	**15 02 37.2**	**+0.6**
PB04				*i* S	**Sn**	**15 02 53.3**	**-0.7**
PB04				IAML		15 02 55.2	
	comp=N,1μm,0.4s						
PB07	**IPOC Station P**	**1.26**	**319**	⇑*i*P	**Pn**	**15 02 39.0**	**+0.8**
PB07				*i* S	**Sn**	**15 02 56.1**	**-0.6**
PB07				IAML		15 02 56.8	
	comp=E,3μm,0.5s						
PB02	**IPOC Station P**	**1.59**	**329**	⇑*i*P	**Pn**	**15 02 42.9**	**+1.0**
PB02				*i* S	**Sn**	**15 03 03.3**	**-0.2**
PB02				IAML		15 03 05.7	
	comp=E,2μm,0.2s						
PB10	**IPOC Station P**	**1.65**	**240**	⇑*i*P	**Pn**	**15 02 43.1**	**+0.6**
PB10				*i* S	**Sn**	**15 03 03.3**	**-1.2**
PB01	**IPOC Station P**	**1.70**	**345**	⇑*i*P	**Pn**	**15 02 44.5**	**+1.3**
PB01				*i* S	**Sn**	**15 03 06.2**	**+0.5**
PB01				IAML		15 03 07.8	
	comp=E,1μm,0.4s						
PATCX	**Punta Patache**	**2.14**	**330**	⇑*i*P	**Pn**	**15 02 49.1**	**+0.3**
PATCX				IAML		15 03 17.1	
	comp=N,382nm,0.4s						
TA01	**Diego Aracena**	**2.38**	**332**	*i* P	**Pn**	**15 02 51.7**	**0.0**
TA01				*e*S	**Sn**	**15 03 16.5**	**-4.3**
HMBC	**Humberstone**	**2.54**	**341**	⇓*i*P	**Pn**	**15 02 54.1**	**+0.3**
PB11	**IPOC Station P**	**2.98**	**348**	*i* P	**Pn**	**15 03 00.1**	**+0.5**
GO01	**Chusmiza**	**3.01**	**357**	*e*P	**Pn**	**15 03 01.7**	**+1.3**
PSGC	**Pisagua**	**3.25**	**341**	*e*P	**Pn**	**15 03 02.5**	**-0.7**
PB12	**IPOC Station P**	**4.24**	**343**	*e*P	**Pn**	**15 03 15.5**	**-0.9**
LPAZ	**La Paz**	**6.42**	**8**	P	**Pn**	**15 03 49.9**	**+3.6**
	comp=N,1.5nm,0.5s,baz=199,slow=8.5,SNR=8.1						
CFA	**Coronel Fontan**	**8.91**	**176**	P	**Pn**	**15 04 19.5**	**+0.1**
	comp=N,1.9nm,0.3s,baz=346,slow=14,SNR=21						
CFA				S	**Sn**	**15 05 52.8**	**-5.2**
	comp=N,1.6nm,0.4s,baz=251,slow=21,SNR=2.3						
SIV	**San Ignacio**	**10.02**	**50**	P	**Pn**	**15 04 34.0**	**-0.5**
	comp=N,1.4nm,0.3s,baz=246,slow=12,SNR=7.5						
SIV				S	**Sn**	**15 06 16.9**	**-8.2**
	comp=N,0.9nm,0.5s,baz=330,slow=23,SNR=2.8						
BDFB	**Brasilia**	**21.01**	**74**	P	**P**	**15 06 49.3**	**+0.9**
	comp=N,1.6nm,0.4s,baz=254,slow=10,SNR=4.6						
	comp=N,1.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.84**	**70**	P	**P**	**15 14 01.6**	**+2.6**
	comp=N,1.3nm,0.6s,baz=256,slow=4.7,SNR=8.3						
	comp=N,1.3nm,0.6s						
MKAR	**Makanchi Array**	**146.64**	**37**	PKPbc	**PKPab**	**15 21 45.0**	**+1.7**
	comp=N,0.1nm,0.5s,baz=316,slow=4.0,SNR=1.5						

IDC 22 15:23:42.2±3.1, 6°.25S×132°.38E, h0km, mb3.2/1, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=210.3km s-min=29.0km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.46**	**348**	Pn	Pn	15 25 05.3	+0.4
	1.8nm,0.3s,baz=163,slow=17,SNR=7.2						
SIJI				Sn	Sn	15 26 02.8	-5.7
	2.0nm,0.3s,baz=294,slow=23,SNR=6.3						
	4.2nm,0.3s						
WRA	**Warramunga Arr**	**13.75**	**172**	Pn	Pn	15 26 58.0	-0.6
	baz=353,slow=13,SNR=2.3						
WRA				Sn	Sn	15 29 25.0	-7.1
	0.1nm,0.3s,baz=358,slow=23,SNR=1.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**17.38**	**175**	P	P	15 27 47.1	-0.7
	baz=352,slow=12,SNR=1.4						
ASAR				S	Sn	15 30 53.4	-7.2
	0.5nm,0.9s,baz=359,slow=27,SNR=2.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**68.92**	**326**	P	P	15 34 49.0	-0.2
	0.1nm,0.5s,baz=127,slow=6.4,SNR=2.4						
	0.1nm,0.5s						

*IDC **22** 15:25:05.9±1.0, 37°.16N×141°.83E, h0km, mb3.6/9, mbtmp3.7/13, ML3.3/4, MS3

JFK	**Kawauchi**	**0.60**	**282**	*i* P		**Pg**	**15 25 18.4**	**+0.7**
JFK				S		**Sg**	**15 25 25.7**	**+0.3**
JFK	**Kawauchi**	**0.60**	**282**	A		A	15 25 18.4	
	comp=E,7.0nm,0.3s,comp=E,14nm,1.1s							
ONAJ	**Iwakimizuishiy**	**0.66**	**258**	*i* P		**Pg**	**15 25 19.6**	**+0.7**
ONAJ				S		**Sg**	**15 25 28.2**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.66**	**258**	A		A	15 25 19.6	
	comp=E,43nm,0.3s,comp=E,40nm,0.3s							
JMST	**Minamisoumatoc**	**0.75**	**310**	*i* P		**Pg**	**15 25 20.8**	**+0.2**
JMST				S		**Sg**	**15 25 30.2**	**-0.1**
JMST	**Minamisoumatoc**	**0.75**	**310**	A		A	15 25 20.8	
	comp=E,13nm,1.2s,comp=E,23nm,0.3s							
JFFD	**Fukushimafurud**	**0.85**	**260**	*i* P		**Pg**	**15 25 22.5**	**0.0**
JFFD				S		**Sg**	**15 25 33.1**	**-0.4**
JFFD	**Fukushimafurud**	**0.85**	**260**	A		A	15 25 22.5	
	comp=E,4.0nm,2.7s,comp=E,4.0nm,0.4s							
JMM	**Marumori**	**0.90**	**314**	P		**Pg**	**15 25 23.4**	**-0.1**
JMM	**Marumori**	**0.90**	**314**	*i* P		**Pg**	**15 25 23.2**	**-0.3**
JMM				S		**Sg**	**15 25 34.3**	**-0.8**
JHO	**Hitachi**	**1.04**	**233**	P		**Pg**	**15 25 25.4**	**-0.8**
JHO				S		**Sg**	**15 25 39.0**	**-0.7**
JIO	**Ouri**	**1.23**	**351**	P		**Pn**	**15 25 28.4**	**-2.0**
JIO				S		**Sb**	**15 25 43.1**	**-3.3**
JYAR	**Yonezawaarcadi**	**1.34**	**300**	A		A	15 25 30.1	
	comp=E,12nm,1.3s,comp=E,10.0nm,0.6s							
JOU	**Okura**	**1.35**	**327**	*i* P		**Pn**	**15 25 31.0**	**-1.1**
JOU				S		**Sb**	**15 25 48.5**	**-1.4**
JOU	**Okura**	**1.35**	**327**	A		A	15 25 31.0	
	comp=E,5.0nm,1.8s,comp=E,5.0nm,1.0s							
JSB	**Shiboa**	**1.38**	**259**	P		**Pn**	**15 25 31.9**	**-0.6**
JSB				S		**Sn**	**15 25 49.3**	**-1.8**
JFY	**Yanaizu**	**1.52**	**277**	P		**Pn**	**15 25 33.9**	**-0.6**
JFY				S		**Sn**	**15 25 53.2**	**-1.7**
JYS	**Shirataka**	**1.56**	**309**	A		A	15 25 33.5	
	comp=E,4.0nm,1.9s,comp=E,5.0nm,1.1s							
JYA	**Atsumi**	**2.02**	**313**	A		A	15 25 40.1	
	comp=E,5.0nm,1.6s,comp=E,4.0nm,3.2s							
MJAR	**Matsushiro Arr**	**2.81**	**257**	Pn		**Pn**	**15 25 52.6**	**+0.5**
	1.2nm,0.3s,baz=75,slow=16,SNR=58							
MJAR				Sn		**Sb**	**15 26 29.4**	**-2.6**
	1.6nm,0.3s,baz=97,slow=30,SNR=6.1							
	14nm,0.4s							
MAJO	**Matsushiro**	**2.81**	**257**	P		**Pn**	**15 25 53.4**	**+1.2**
JTM	**Tenmabayashi**	**3.57**	**353**	P		**Pn**	**15 26 03.4**	**+0.9**
JGF	**Kuroka**	**3.80**	**246**	P		**Pn**	**15 26 06.9**	**+1.1**
INU	**Inuyama**	**4.16**	**244**	P		**Pn**	**15 26 12.9**	**+2.2**
JHJ	**Hachijo jima 2**	**4.37**	**200**	Pn		**Pn**	**15 26 14.4**	**+0.8**
	13nm,0.3s,baz=74,slow=19,SNR=1.3							
JHJ				Sn		**Sn**	**15 27 01.8**	**-3.4**
	14nm,0.3s,baz=26,slow=21,SNR=1.3							
JHJ				LR		LR	15 27 39.1	
	comp=Z,366nm,20.2s,baz=59,slow=35							
	111nm,0.7s							
ERM	**Erimo**	**4.92**	**14**	P		**Pn**	**15 26 23.7**	**+2.6**
JEM	**Erimo**	**4.92**	**14**	P		Pn	15 26 25.7	+4.6
ASAJ	**Asahikawa**	**6.91**	**6**	Pn		**Pn**	**15 26 47.8**	**-0.7**
	0.8nm,0.3s,baz=217,slow=18,SNR=14							
ASAJ				Sn		**Sn**	**15 28 06.6**	**-1.0**
	0.3nm,0.3s,baz=332,slow=22,SNR=1.9							
	11nm,0.9s							
USRK	**Ussuriysk Ar.**	**10.07**	**317**	Pn		Pn	15 27 36.1	+4.2
	0.1nm,0.3s,baz=133,slow=12,SNR=1.5							
	1.4nm,0.7s							
KSRS	**Korea Array**	**10.90**	**275**	Pn		Pn	15 27 51.0	+7.8
	0.1nm,0.3s,baz=83,slow=14,SNR=1.3							
YAK	**Yakutsk**	**25.90**	**347**	P		**P**	**15 30 38.3**	**-0.9**
	1.6nm,0.3s,baz=176,slow=2.6,SNR=1.8							
	1.6nm,0.3s							
SONM	**Songino Array**	**27.80**	**304**	P		**P**	**15 31 00.1**	**+3.4**
	0.5nm,0.9s,baz=103,slow=10,SNR=2.4							
	0.5nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.12**	**121**	T		T	16 00 36.1	
	baz=314,slow=75,SNR=83							
H11N1	**WAKE ISLAND Hy**	**28.13**	**121**	T		T	16 00 27.4	
	baz=314,slow=75,SNR=101							
H11N3	**WAKE ISLAND Hy**	**28.14**	**121**	T		T	16 00 33.0	
	baz=314,slow=75,SNR=84							
H11S1	**WAKE ISLAND Hy**	**28.84**	**123**	T		T	16 01 26.7	
	baz=316,slow=76,SNR=64							
H11S3	**WAKE ISLAND Hy**	**28.84**	**124**	T		T	16 01 25.3	
	baz=316,slow=76,SNR=55							
H11S2	**WAKE ISLAND Hy**	**28.86**	**123**	T		T	16 01 26.3	
	baz=316,slow=76,SNR=42							
MKAR	**Makanchi Array**	**44.14**	**302**	P		**P**	**15 33 17.4**	**+1.3**
	0.4nm,0.7s,baz=80,slow=7.5,SNR=1.0							
	0.4nm,0.7s							
KDAK	**Kodiak Island**	**46.84**	**42**	LR		LR	15 54 40.5	
	comp=Z,166nm,18.7s,baz=73,slow=38							
ILAR	**Eielson Array**	**49.24**	**32**	P		**P**	**15 33 55.7**	**-0.1**
	0.3nm,0.7s,baz=265,slow=6.2,SNR=1.9							
	0.3nm,0.7s							
WRA	**Warramunga Arr**	**57.29**	**188**	P		**P**	**15 34 54.4**	**-0.9**
	0.3nm,0.5s,baz=6.3,slow=7.3,SNR=4.9							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**61.01**	**188**	P		**P**	**15 35 20.9**	**-0.3**
	0.3nm,0.8s,baz=8.9,slow=6.6,SNR=1.9							
	0.3nm,0.8s							
YKA	**Yellowknife Ar**	**63.55**	**30**	P		**P**	**15 35 38.0**	**+0.2**
	0.2nm,0.6s,baz=303,slow=6.9,SNR=2.4							
	0.2nm,0.6s							
FINES	**FINESS Array B**	**68.70**	**332**	P		**P**	**15 36 12.0**	**+1.2**
	1.7nm,0.9s,baz=51,slow=7.3,SNR=6.7							
	1.7nm,0.9s							
AKASG	**Malin Array Be**	**74.23**	**322**	P		**P**	**15 36 45.6**	**+1.3**
	0.5nm,0.5s,baz=47,slow=6.1,SNR=4.5							
	0.5nm,0.5s							

IDC 22 15:29:19.2±6.1, 31°01′S×75°95′E, h0km, mb3.8/3, mbtmp3.8/3, MS4.0/2, Error ellipse: s-maj=328.5km s-min=181.6km az=94.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**23.47**	**351**	T	T	15 59 30.2	
	baz=172,slow=76,SNR=232						
H08S1	**Diego Garcia H**	**23.47**	**351**	T	T	15 59 35.6	
	baz=172,slow=76,SNR=227						
H08S3	**Diego Garcia H**	**23.49**	**351**	T	T	15 59 30.4	
	baz=172,slow=76,SNR=296						
H01W2	**Cape Leeuwin H**	**32.15**	**107**	T	T	16 08 40.5	
	baz=265,slow=74,SNR=26						
H01W3	**Cape Leeuwin H**	**32.15**	**107**	T	T	16 08 40.7	
	baz=265,slow=74,SNR=28						
H01W1	**Cape Leeuwin H**	**32.17**	**107**	T	T	16 08 41.8	
	baz=265,slow=74,SNR=27						
VNDA	**Vanda**	**59.09**	**165**	LR	LR	16 01 05.2	
	comp=Z,107nm,20.3s,baz=268,slow=32						
PMG	**Port Moresby**	**69.14**	**89**	LR	LR	16 08 45.0	
	comp=Z,114nm,18.8s,baz=300,slow=34						
MKAR	**Makanchi Array**	**77.65**	**4**	P	P	15 41 17.1	-0.1
	0.5nm,0.8s,baz=184,slow=6.8,SNR=4.7						
	0.5nm,0.8s						
SONM	**Songino Array**	**83.11**	**20**	P	P	15 41 46.8	+0.1
	0.2nm,0.5s,baz=190,slow=7.0,SNR=2.0						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**84.95**	**5**	P	P	15 41 55.9	+0.1
	1.4nm,0.8s,baz=183,slow=5.8,SNR=4.1						
	1.4nm,0.8s						
YKA	**Yellowknife Ar**	**147.77**	**9**	PKPbc	PKPbc	15 49 04.4	-0.8
	0.2nm,0.7s,baz=325,slow=3.5,SNR=1.6						

*IDC **22** 15:33:59.8±2.7, 28°.05S×142°.49E, h0km, mbtmp3.2/4, ML3.1/4, Error ellipse: s-maj=47.8km s-min=20.8km az=92.0*

*AUST **22** 15:34:01.7±1.0, 28°.10S×142°.62E, h10km, Error ellipse: s-maj=14.2km s-min=9.4km az=144.0*

ISC 22 15:33:59.9±0.8, 27°.97S±0°.06×142°.56E±0°.05, h10km, n16, σ2.952/25, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INKA	**Innaminka**	**1.62**	**278**	P	**Pg**	**15 34 32.0**	**+1.0**
	baz=1.7,SNR=19						
INKA				S	**Sg**	**15 34 53.8**	**+1.8**
	baz=1.7						
QLP	**Quilpie**	**2.04**	**48**	P	**Pb**	**15 34 37.7**	**+0.7**
	baz=2.1						
QLP				S	**Sb**	**15 35 03.7**	**+1.3**
	baz=2.1						
STKA	**Stephens Creek**	**3.98**	**192**	Pn	**Pn**	**15 35 02.2**	**+1.2**
	0.4nm,0.3s,baz=7.8,slow=13,SNR=11						
STKA				Lg	Lg	15 36 01.8	
	2.2nm,0.3s,baz=280,slow=22,SNR=3.4						
	1.7nm,0.5s						
STKA	**Stephens Creek**	**3.98**	**192**	P	**Pn**	**15 35 02.3**	**+1.2**
	baz=3.9,SNR=13						
CMSA	**Cobar Meteorol**	**4.48**	**143**	P	**Pn**	**15 35 07.2**	**-0.7**
	baz=4.3						
LCRK	**Leigh Creek**	**4.53**	**236**	P	**Pn**	**15 35 11.1**	**+2.5**
	baz=4.5,SNR=3.1						
LCRK				S	**Sn**	**15 36 03.8**	**+2.6**
	baz=4.5						
OOD	**Oodnadatta**	**6.08**	**270**	P	**Pn**	**15 35 32.5**	**+2.6**
	baz=6.1						
OOD				S	**Sn**	**15 36 40.9**	**+1.4**
	baz=6.1						
HTT	**Hallett**	**6.28**	**209**	P	**Pn**	**15 35 32.0**	**-0.7**
	baz=6.2						
BBOO	**Buckleboo**	**7.40**	**228**	P	**Pn**	**15 35 49.4**	**+1.4**
	baz=7.4						
BBOO				S	**Sn**	**15 37 07.8**	**-4.2**
	baz=7.4						
MULG	**Mulgathing**	**7.78**	**251**	P	**Pn**	**15 35 54.2**	**+1.0**
	baz=7.8						
MULG				S	**Sn**	**15 37 16.5**	**-4.9**
	baz=7.8						
QIS	**Mount Isa**	**7.85**	**339**	P	**Pn**	**15 35 57.8**	**+3.5**
	baz=8.0						
CTA	**Charters Tower**	**8.54**	**24**	Pn	**Pn**	**15 36 05.4**	**+1.7**
	0.3nm,0.3s,baz=199,slow=16,SNR=1.3						
CTA				Sn	**Sn**	**15 37 37.9**	**-2.3**
	0.3nm,0.3s,baz=216,slow=18,SNR=1.5						
	1.1nm,0.4s						
CTA	**Charters Tower**	**8.54**	**24**	P	**Pn**	**15 36 04.7**	**+0.9**
	baz=8.7						
ASAR	**Alice Springs**	**8.89**	**297**	Pn	**Pn**	**15 36 10.1**	**+1.5**
	0.2nm,0.3s,baz=117,slow=14,SNR=11						
ASAR				Sn	**Sn**	**15 37 45.8**	**-3.2**
	0.7nm,0.3s,baz=114,slow=22,SNR=10.0						
	0.5nm,0.3s						
ASPA	**Alice Springs**	**8.89**	**297**	P	**Pn**	**15 36 11.1**	**+2.5**
	baz=9.0						
WRA	**Warramunga Arr**	**10.96**	**315**	Pn	**Pn**	**15 36 37.4**	**+0.5**
	0.1nm,0.3s,baz=142,slow=13,SNR=2.0						
WRA				Sn	**Sn**	**15 38 35.0**	**-4.7**
	0.2nm,0.3s,baz=133,slow=24,SNR=3.7						
WRA				Lg	Lg	15 39 39.9	
	baz=139,slow=28						
	0.1nm,0.3s						

*MOS **22** 15:36:40.6±1.0, 32°.36N×141°.77E, h13km, mb4.7/25, Error ellipse: s-maj=14.7km s-min=6.5km az=115.8*

*IDC **22** 15:36:40.4±0.6, 32°.38N×141°.78E, h0km, mb4.0/23, mbtmp4.0/24, ML3.0/1, Error ellipse: s-maj=17.8km s-min=14.2km az=58.0*

*JMA **22** 15:36:43.0±0.3, 32°.5N±0°.8×14°2E±°, h14km, MV4.0/20, E OFF HACHIJOJIMA ISLAND*

*NEIC **22** 15:36:43.1±0.8, 32°.35N±0°.07×141°.64E±0°.10, h10km±1km, mb4.6/54, Error ellipse: s-maj=14.8km s-min=10.0km az=62.0*

ISC 22 15:36:42.5±0.4, 32°.38N±0°.05×141°.72E±0°.05, h10km, n155, σ1.917/166, mb4.5/56, 6C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.65**	**273**	P	**Pg**	**15 37 13.3**	**-0.9**
JAOM				*e*S	**Sg**	**15 37 34.9**	**-0.8**
JHCJ	**Hachijojimakas**	**1.76**	**294**	*e*P	**Pn**	**15 37 13.7**	**+0.7**
JHJ2	**Mitsune**	**1.76**	**295**	Pn	**Pn**	**15 37 13.1**	**+0.1**
JHJ2	**Mitsune**	**1.76**	**295**	P	**Pn**	**15 37 13.7**	**+0.7**
JHJ	**Hachijo jima 2**	**1.79**	**295**	Pn	**Pn**	**15 37 13.5**	**+0.1**
	114nm,0.3s,baz=86,slow=21,SNR=16						
JHJ				Sn	**Sn**	**15 37 36.1**	**-0.1**
	99nm,0.3s,baz=295,slow=19,SNR=3.7						
BSO1	**Boso 1**	**2.35**	**345**	*e*P	**Pn**	**15 37 20.6**	**-0.1**
JMYK	**Miyake Tsubota**	**2.47**	**313**	*e*S	**Sn**	**15 37 52.8**	**-0.3**
BSO3	**Boso 3**	**2.62**	**338**	*e*P	**Pn**	**15 37 24.3**	**-0.3**
JOD2	**Odawara 2**	**3.61**	**323**	*e*P	**Pn**	**15 37 38.5**	**0.0**
JRY	**Ryogami san**	**4.31**	**328**	*e*P	**Pn**	**15 37 49.0**	**+0.9**
JRY				*e*S	**Sn**	**15 38 38.0**	**-0.6**
JAG	**Ashikaga**	**4.45**	**336**	P	**Pn**	**15 37 50.0**	**0.0**
JAG				*e*S	**Sn**	**15 38 40.4**	**-1.5**
JGF	**Kuroka**	**4.84**	**313**	Pn	**Pn**	**15 37 56.7**	**+1.3**
JGF	**Kuroka**	**4.84**	**313**	P	**Pn**	**15 37 58.9**	**+3.5**
INU	**Inuyama**	**4.90**	**308**	Pn	**Pn**	**15 37 57.5**	**+1.2**
INU	**Inuyama**	**4.90**	**308**	P	**Pn**	**15 37 58.8**	**+2.5**
MJAR	**Matsushiro Arr**	**5.06**	**326**	Pn	**Pn**	**15 37 59.2**	**+0.7**
	0.5nm,0.3s,baz=153,slow=12,SNR=46						
MJAR				Sn	**Sn**	**15 38 56.7**	**-0.3**
	0.4nm,0.3s,baz=131,slow=20,SNR=4.8						
	7.8nm,0.6s						
MAJO	**Matsushiro**	**5.06**	**326**	Pn	**Pn**	**15 37 59.4**	**+0.9**
MAJO	**Matsushiro**	**5.06**	**326**	P	**Pn**	**15 38 00.9**	**+2.4**
MAJO	**Matsushiro**	**5.06**	**326**	P	**Pn**	**15 37 59.4**	**+0.9**
MAT	**Matsushiro**	**5.06**	**326**	P	**Pn**	**15 37 59.4**	**+0.9**
MAT				*e*S	**Sn**	**15 38 56.9**	**-0.1**
MJ39	**Matsu-Tunnel**	**5.07**	**326**	Pn	**Pn**	**15 38 00.4**	**+1.8**
JYTA	**Yamagatataniai**	**5.23**	**309**	*e*P	**Pn**	**15 38 03.3**	**+2.5**
JCJ	**Chichijima**	**5.28**	**175**	Pn	**Pn**	**15 38 05.9**	**+4.4**
	12nm,0.3s,baz=299,slow=19,SNR=1.3						
JCJ				Sn	**Sn**	**15 39 01.1**	**-1.4**
	8.6nm,0.3s,baz=296,slow=23,SNR=1.5						
JCJ	**Chichijima**	**5.28**	**175**	Pn	**Pn**	**15 38 01.9**	**+0.4**
JMM	**Marumori**	**5.53**	**352**	Pn	**Pn**	**15 38 03.4**	**-1.4**
JMM	**Marumori**	**5.53**	**352**	P	**Pn**	**15 38 03.9**	**-0.9**
JMN	**Monobe**	**6.72**	**284**	Pn	**Pn**	**15 38 23.1**	**+1.9**
JMN	**Monobe**	**6.72**	**284**	P	**Pn**	**15 38 24.5**	**+3.3**
JHS	**Saijyo**	**7.63**	**292**	P	**Pn**	**15 38 37.7**	**+4.0**
JTM	**Tenmabayashi**	**8.41**	**357**	Pn	**Pn**	**15 38 44.0**	**-0.3**
JTM	**Tenmabayashi**	**8.41**	**357**	P	**Pn**	**15 38 43.9**	**-0.4**
JEM	**Erimo**	**9.69**	**6**	P	**Pn**	**15 39 00.3**	**-1.6**
ASAJ	**Asahikawa**	**11.74**	**3**	Pn	**Pn**	**15 39 26.7**	**-3.3**
	0.6nm,0.3s,baz=236,slow=12,SNR=10.0						
ASAJ				Sn	Sn	15 41 29.3	-12
	0.3nm,0.3s,baz=49,slow=19,SNR=1.7						
KSRS	**Korea Array**	**12.40**	**298**	Pn	**Pn**	**15 39 43.8**	**+4.8**
	0.1nm,0.3s,baz=112,slow=13,SNR=3.0						
YSS	**Yuzh-Sakhalins**	**14.58**	**3**	*e*P	**Pn**	**15 40 06.5**	**-2.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**18.42**	**339**	P	**P**	**15 40 54.9**	**-2.9**
	comp=Z,3.4nm,0.6s,baz=147,slow=8.5,SNR=18						
KLR	**Kul'dur**	**18.42**	**339**	*e*P	**P**	**15 40 57.6**	**-0.2**
YHNB	**Yeheng**	**19.44**	**252**	P	**P**	**15 41 07.8**	**-1.4**
YHNB				IAmb	IAmb	15 41 31.8	
	comp=Z,61nm,1.2s						
SSLB	**Suanglung**	**20.20**	**250**	P	**P**	**15 41 16.6**	**-0.9**
SSLB				IAmb	IAmb	15 41 25.0	
	comp=Z,52nm,1.4s						
ZEA	**Zeya**	**23.73**	**338**	*e*P	**P**	**15 41 54.8**	**+0.2**
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.8s						
ULN	**Ulaanbaatar**	**30.38**	**311**	*e*P	**P**	**15 42 56.1**	**+1.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YAK	**Yakutsk**	**30.66**	**349**	*e*P	**P**	**15 42 55.8**	**-1.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,2.0nm,2.0s						
SONM	**Songino Array**	**30.80**	**310**	P	**P**	**15 42 59.5**	**+1.0**
	comp=E,4.5nm,0.9s,baz=114,slow=8.6,SNR=17						
	comp=E,4.5nm,0.9s						
SONM	**Songino Array**	**30.80**	**310**	P	**P**	**15 42 59.8**	**+1.4**
SONM	**Songino Array**	**30.80**	**310**	P	**P**	**15 42 59.8**	**+1.4**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL	**Bilibino**	**38.43**	**15**	P	**P**	**15 44 06.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**40.78**	**261**	P	**P**	**15 44 23.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=56,slow=7.1,SNR=4.2						
	comp=Z,0.4nm,0.4s						
DGZ	**Jazzator, Alta**	**43.44**	**310**	*e*P	**P**	**15 44 46.0**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**45.33**	**316**	P	**P**	**15 44 59.5**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=110,slow=8.5,SNR=6.8						
ZALV				PcP	**PcP**	**15 46 39.1**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=108,slow=4.8,SNR=4.2						
	comp=Z,0.9nm,0.4s						
MTN	**Manton Dam**	**46.09**	**194**	P	**P**	**15 45 05.9**	**-1.0**
MK31	**Makanchi Array**	**46.92**	**306**	P	**P**	**15 45 13.4**	**+0.1**
MK31				IAmb	IAmb	15 45 16.0	
	comp=Z,3.7nm,0.8s						
MK31	**Makanchi Array**	**46.92**	**306**	P	**P**	**15 45 13.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**46.92**	**306**	P	**P**	**15 45 13.0**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=87,slow=9.6,SNR=34						
	comp=Z,3.7nm,0.7s						
MKAR	**Makanchi Array**	**46.92**	**306**	*ce*P	**P**	**15 45 13.6**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAKZ	**Makanchi**	**47.14**	**306**	P	**P**	**15 45 15.2**	**+0.3**
MAKZ				IAmb	IAmb	15 45 17.3	
	comp=Z,3.6nm,0.8s						
MAKZ	**Makanchi**	**47.14**	**306**	P	**P**	**15 45 15.2**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NRIK	**Noril'sk**	**47.62**	**337**	*e*P	**P**	**15 45 18.1**	**-0.1**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**49.09**	**311**	P	**P**	**15 45 30.2**	**+0.3**
KURK				IAmb	IAmb	15 45 44.9	
	comp=Z,6.7nm,1.2s						
KURK	**Kurchatov**	**49.09**	**311**	P	**P**	**15 45 30.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
P18K	**Big Mountain,**	**49.15**	**37**	P	**P**	**15 45 30.4**	**+0.1**
KURBB	**Kurchatov Arra**	**49.16**	**311**	P	**P**	**15 45 30.1**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=88,slow=7.5,SNR=16						
	comp=Z,1.5nm,0.4s						
KNRA	**Kununurra**	**49.37**	**197**	P	**P**	**15 45 31.7**	**-0.6**
N19K	**Bonanza Creek**	**49.63**	**35**	P	**P**	**15 45 35.1**	**+1.1**
N19K				IAmb	IAmb	15 45 38.9	
	comp=Z,19nm,1.4s						
A21K	**Barrow**	**50.66**	**22**	P	**P**	**15 45 42.9**	**+1.5**
A21K				IAmb	IAmb	15 46 11.5	
	comp=Z,15nm,1.0s						
PPLA	**Purkeypile**	**50.89**	**33**	P	**P**	**15 45 44.9**	**+1.3**
PPLA				IAmb	IAmb	15 46 28.4	
	comp=Z,15nm,1.3s						
SUA	**Susitna One**	**51.48**	**35**	P	**P**	**15 45 47.7**	**-0.3**
WB0	**Warramunga Arr**	**52.32**	**189**	P	**P**	**15 45 54.0**	**-0.6**
CTAO	**Charters Tower**	**52.35**	**175**	P	**P**	**15 45 54.6**	**-0.1**
CTAO				IAmb	IAmb	15 46 37.8	
	comp=Z,8.5nm,1.2s						
CTAO	**Charters Tower**	**52.35**	**175**	P	**P**	**15 45 54.6**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WRAB	**Tennant Creek**	**52.49**	**189**	P	**P**	**15 45 55.1**	**-0.7**
WRAB				IAmb	IAmb	15 46 09.4	
	comp=Z,9.6nm,0.8s						
WRAB	**Tennant Creek**	**52.49**	**189**	P	**P**	**15 45 55.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WR0	**Warramunga Arr**	**52.49**	**189**	P	**P**	**15 45 55.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.50**	**199**	P	**P**	**15 45 55.2**	**-0.6**
WB2	**Warramunga Arr**	**52.50**	**189**	P	**P**	**15 45 55.2**	**-0.6**
WRA	**Warramunga Arr**	**52.50**	**189**	P	**P**	**15 45 55.2**	**-0.6**
	comp=Z,5.8nm,0.6s,baz=5.6,slow=7.7,SNR=56						
	comp=Z,5.8nm,0.6s						
WRA	**Warramunga Arr**	**52.50**	**189**	*i* P	**P**	**15 45 55.5**	**-0.4**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KNK	**Knik Glacier**	**52.58**	**35**	P	**P**	**15 45 55.9**	**-0.2**
KNK				IAmb	IAmb	15 46 21.8	
	comp=Z,8.9nm,1.1s						
H24K	**Noodor Dome**	**52.95**	**29**	P	**P**	**15 45 59.6**	**+0.9**
H24K				IAmb	IAmb	15 46 13.7	
	comp=Z,7.7nm,1.4s						
AAK	**Ala-Archa**	**53.03**	**302**	P	**P**	**15 45 59.5**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=143,slow=10,SNR=3.6						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**53.33**	**30**	P	**P**	**15 46 00.1**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=268,slow=6.9,SNR=5.2						
	comp=Z,0.7nm,0.9s						
BVAR	**Borovoye Array**	**53.96**	**315**	P	**P**	**15 46 06.1**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=90,slow=7.4,SNR=14						
BVAR				PcP	**PcP**	**15 47 10.8**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=44,slow=4.4,SNR=4.0						
	comp=Z,2.6nm,0.6s						
BRVK	**Borovoye**	**54.02**	**315**	P	**P**	**15 46 06.8**	**+0.1**
BRVK	**Borovoye**	**54.02**	**315**	P	**P**	**15 46 06.8**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BMAR	**Burnt Mountain**	**54.31**	**27**	P	**P**	**15 46 10.1**	**+1.3**
SCRK	**Sand Creek**	**54.60**	**31**	P	**P**	**15 46 11.8**	**+0.8**
SCRK				IAmb	IAmb	15 46 12.1	
	comp=Z,4.8nm,1.3s						
J26L	**Joseph Creek**	**54.76**	**31**	P	**P**	**15 46 12.4**

	comp=Z,6.0nm,1.1s							
KIV	**Kislovodsk**	**74.17**	**312**	*e*P		**P**	**15 48 18.2**	**-1.2**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s							
WALA	**Waterton Lakes**	**74.73**	**41**	P		**P**	**15 48 23.5**	**+0.9**
LRM	**Limekiln Ridge**	**77.32**	**44**	P		**P**	**15 48 38.2**	**+0.6**
AKASG	**Malin Array Be**	**78.14**	**323**	P		**P**	**15 48 40.9**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=50,slow=5.7,SNR=9.8							
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**78.14**	**323**	P		**P**	**15 48 41.3**	**-0.5**
AKASG	**Malin Array Be**	**78.14**	**323**	P		**P**	**15 48 41.3**	**-0.5**
AKASG				pmax		pmax		
	comp=Z,4.0nm,1.4s							
AKBB	**Malin Array Si**	**78.14**	**323**	P		**P**	**15 48 40.9**	**-0.9**
AKBB				IAmb		IAmb	15 48 50.2	
	comp=Z,2.5nm,0.8s							
AKBB	**Malin Array Si**	**78.14**	**323**	P		**P**	**15 48 40.9**	**-0.9**
AKBB				pmax		pmax		
	comp=Z,3.0nm,0.8s							
NOA	**NORSAR Array B**	**78.57**	**338**	P		**P**	**15 48 43.1**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=42,slow=5.4,SNR=3.9							
	comp=Z,1.3nm,0.8s							
PDAR	**Pinedale Array**	**80.76**	**45**	P		**P**	**15 48 56.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=262,slow=4.5,SNR=2.5							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**80.76**	**45**	P		**P**	**15 48 56.5**	**-0.1**
P17A	**Butcher Ranch,**	**81.95**	**48**	P		**P**	**15 49 03.4**	**+0.6**
P17A				IAmb		IAmb	15 49 04.3	
	comp=Z,3.2nm,0.7s							
BUR08	**Bucovina Ar. S**	**82.11**	**322**	P		**P**	**15 49 03.5**	**+0.1**
BUR08				IAmb		IAmb	15 49 45.9	
	comp=Z,7.0nm,1.5s							
BURAR	**Bucovina Array**	**82.12**	**322**	P		**P**	**15 49 03.5**	**+0.1**
BR131	**Keskin Array S**	**82.14**	**312**	P		**P**	**15 49 03.8**	**+0.1**
BR131				IAmb		IAmb	15 49 22.8	
	comp=Z,6.4nm,1.1s							
BR131	**Keskin Array S**	**82.14**	**312**	P		**P**	**15 49 03.8**	**+0.1**
BR131				pmax		pmax		
	comp=Z,6.0nm,1.2s							
BRTR	**Keskin Array B**	**82.14**	**312**	P		**P**	**15 49 04.0**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=96,slow=4.3,SNR=5.5							
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**82.14**	**312**	P		**P**	**15 49 03.8**	**0.0**
P18A	**Preston Nutter**	**82.17**	**48**	P		**P**	**15 49 04.9**	**+0.8**
BORG	**Borgarnes**	**82.28**	**353**	P		**P**	**15 49 04.8**	**+1.0**
BORG	**Borgarnes**	**82.28**	**353**	P		**P**	**15 49 04.8**	**+1.0**
BORG				pmax		pmax		
	comp=Z,69nm,1.3s							
SRU	**San Rafael Swe**	**82.30**	**48**	P		**P**	**15 49 04.9**	**+0.2**
SRU				IAmb		IAmb	15 49 06.0	
	comp=Z,4.8nm,1.0s							
SRU	**San Rafael Swe**	**82.30**	**48**	P		**P**	**15 49 04.9**	**+0.2**
SRU				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ESJX	**Sierra Juarez**	**82.67**	**57**	P		**P**	**15 49 07.2**	**+0.5**
RAYN	**Ar Rayn**	**82.68**	**293**	P		**P**	**15 49 06.6**	**-0.1**
RAYN				IAmb		IAmb	15 49 07.4	
	comp=Z,2.6nm,0.6s							
RAYN	**Ar Rayn**	**82.68**	**293**	P		**P**	**15 49 06.6**	**-0.1**
RAYN				pmax		pmax		
	comp=Z,3.0nm,0.6s							
PV21	**Cone Mtn., Par**	**83.60**	**48**	P		**P**	**15 49 12.2**	**+0.7**
PV21				IAmb		IAmb	15 49 53.2	
	comp=Z,9.5nm,1.3s							
PV14	**Lion Creek, Pa**	**83.68**	**48**	P		**P**	**15 49 12.1**	**+0.2**
PV05	**Paradox Valley**	**83.81**	**49**	P		**P**	**15 49 13.2**	**+0.6**
PV05				IAmb		IAmb	15 49 55.3	
	comp=Z,9.1nm,1.4s							
PV13	**Radium Mtn., P**	**83.93**	**48**	P		**P**	**15 49 13.7**	**+0.5**
PV13				IAmb		IAmb	15 49 36.8	
	comp=Z,6.3nm,1.3s							
VYHS	**Vyhne**	**84.70**	**326**	*e*P		**P**	**15 49 16.7**	**+0.1**
VYHS	**Vyhne**	**84.70**	**326**	*e*P		**P**	**15 49 16.7**	**+0.1**
TXAR	**Lajitas Array**	**92.75**	**53**	P		**P**	**15 49 56.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=324,slow=4.5,SNR=3.4							
	comp=Z,0.3nm,0.4s							
TXAR	**Lajitas Array**	**92.75**	**53**	P		**P**	**15 49 56.0**	**+0.5**

*IDC **22** 15:44:01.7±6.9, 6°.48S×147°.92E, h98km±62km, mb3.1/1, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=117.6km s-min=55.6km az=115.0*

ISC 22 15:44:03.7±2.8, 6°.5S±0°.2×147°.6E±0°.4, h100km, n12, σ1s71/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.93**	**189**	P	**Pn**	**15 44 46.1**	**-2.4**
	14nm,0.3s,baz=353,slow=6.3,SNR=30						
PMG				S	**Sn**	**15 45 23.9**	**+0.9**
	26nm,0.4s,baz=216,slow=21,SNR=7.6						
PMG	**Port Moresby**	**2.93**	**189**	P	**Pn**	**15 44 46.9**	**-1.6**
MTSU	**Mount Surprise**	**12.01**	**195**	P	**Pn**	**15 46 52.0**	**+0.4**
MTN	**Manton Dam**	**17.42**	**248**	P	**P**	**15 47 59.8**	**-0.6**
WRA	**Warramunga Arr**	**18.57**	**223**	P	**P**	**15 48 12.2**	**-0.8**
	0.2nm,0.3s,baz=50,slow=11,SNR=5.4						
	1.0nm,0.7s						
QLP	**Quilpie**	**20.23**	**189**	P	Pn	15 48 32.8	-1.0
ASAR	**Alice Springs**	**21.57**	**216**	P	**Pn**	**15 48 45.3**	**-0.1**
	1.0nm,0.6s,baz=51,slow=8.9,SNR=17						
	1.0nm,0.6s						
OOD	**Oodnadatta**	**24.02**	**207**	P	**P**	**15 49 10.7**	**+1.3**
LCRK	**Leigh Creek**	**25.41**	**199**	P	**P**	**15 49 24.2**	**+2.2**
WRKA	**Warakurna**	**26.11**	**223**	P	**P**	**15 49 30.1**	**+1.6**
MULG	**Mulgathing**	**26.88**	**207**	P	**P**	**15 49 37.7**	**+2.5**
TORD	**Torodi Ar. Bea**	**145.81**	**284**	PKPbc	**PKPbc**	**16 03 31.6**	**-0.8**
	1.1nm,0.3s,baz=72,slow=4.4,SNR=2.1						

IDC 22 16:03:22.5±4.3, 18°.34N×144°.08E, h112km±77km, mb3.2/3, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=331.6km s-min=29.0km az=81.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.78**	**171**	P	Pn	16 04 34.2	+1.7
	5.2nm,0.3s,baz=322,slow=16,SNR=1.4						
GUMO				S	Sn	16 05 26.1	-0.7
	130nm,1.0s,baz=74,slow=20,SNR=2.1						
	66nm,0.8s						
WRA	**Warramunga Arr**	**39.22**	**195**	P	P	16 10 40.5	+0.4
	0.7nm,0.6s,baz=16,slow=8.4,SNR=7.1						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**42.91**	**194**	P	P	16 11 10.0	-0.3
	0.5nm,0.7s,baz=9.6,slow=6.1,SNR=6.2						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**57.37**	**323**	P	P	16 12 58.6	-0.4
	0.2nm,0.3s,baz=99,slow=8.9,SNR=1.8						
	0.2nm,0.3s						

*ECX **22** 16:13:40.8±0.5, 32°.19N×115°.25W, h10km±1km, MD3.3, ML3.5*
*ANF **22** 16:13:40.6±0.9, 32°.24N×115°.15W, h15km±5km, ML3.0/11, Error ellipse: s-maj=5.7km s-min=2.7km az=18.0*
*NEIC **22** 16:13:41.6±1.6, 32°.20N±0°.02×115°.18W±0°.02, h26km±8km, Error ellipse: s-maj=2.9km s-min=2.3km az=189.0*
*PAS **22** 16:13:42.4±2.1, 32°.22N±0°.02×115°.21W±0°.03, h19km±2km, ML3.3/183, ML3.2/46(NEIC), Error ellipse: s-maj=4.1km s-min=2.9km az=128.0*
*MEX **22** 16:13:43.9±0.5, 32°.23N×115°.21W, h10km, MD3.2*

ISC 22 16:13:41.4±0.8, 32°.20N±0°.02×115°.23W±0°.02, h16km±5km, n114, σ0s85/156, 20C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.07**	**215**	*e*P	**Pg**	**16 13 44.5**	**-0.1**
RHX				*e*S	**Sg**	**16 13 46.1**	**-0.5**
VIC1	**Col Coahuila,**	**0.15**	**50**⇑	*i*P	**Pb**	**16 13 46.1**	**+0.4**
VIC1				*e*S	**Sb**	**16 13 49.8**	**+1.2**
GUVIX	**Guadalupe Vict**	**0.17**	**51**		**Pb**	**16 13 46.6**	**+0.5**
GUVIX					**Sb**	**16 13 50.4**	**+1.1**
GUVIX	**Guadalupe Vict**	**0.17**	**51**	IAML		16 13 50.8	
	comp=E,33μm,0.5s						
GUVIX				IAML		16 13 51.1	
	comp=N,10μm,0.4s						
GUVIX	**Guadalupe Vict**	**0.17**	**51**⇑	*i*P	**Pb**	**16 13 46.6**	**+0.5**
GUVIX				*e*S	**Sb**	**16 13 50.4**	**+1.1**
GUVIX				IAML		16 13 55.4	
	comp=N,13μm,0.4s						
MBIG	**Mexicali**	**0.21**	**8**⇓	*i*P	**Pb**	**16 13 47.5**	**+0.7**
MBIG				*e*S	**Sb**	**16 13 51.6**	**+1.1**
MBIG	**Mexicali**	**0.21**	**8**	*e*P	**Pb**	**16 13 47.2**	**+0.4**
MBIG				*i* P	**Pb**	**16 13 47.5**	**+0.7**
MBIG				*e*S	**Sb**	**16 13 50.3**	**-0.2**
MBIG				*i* S	**Sg**	**16 13 52.4**	**+2.7**
CPBX	**Cerro Prieto**	**0.23**	**345**		**Pb**	**16 13 47.3**	**+0.2**
CPBX					**Sb**	**16 13 51.9**	**+0.8**
CPBX	**Cerro Prieto**	**0.23**	**345**	IAML		16 13 52.8	
	comp=N,20μm,0.2s						
CPBX				IAML		16 13 54.1	
	comp=E,26μm,0.3s						
CPBX	**Cerro Prieto**	**0.23**	**345**	*e*P	**Pb**	**16 13 47.3**	**+0.2**
CPBX				IAML		16 13 52.8	
	comp=N,27μm,0.2s						
RITX	**Riito Sonora**	**0.23**	**97**⇑	*i*P	**Pb**	**16 13 47.9**	**+0.7**
RITX				*e*S	**Sb**	**16 13 52.4**	**+1.3**
SALX	**Saltillo**	**0.24**	**21**⇑	*i*P	**Pb**	**16 13 49.4**	**+2.0**
CTLX	**Tlaxcala, TLX**	**0.29**	**15**⇑	*i*P	**Pb**	**16 13 48.4**	**+0.3**
CTLX				*e*S	**Sb**	**16 13 54.0**	**+1.4**
YUCAX	**Ej. Yucatįn**	**0.42**	**16**⇑	*i*P	**Pb**	**16 13 51.2**	**+0.7**
YUCAX				*e*S	**Sn**	**16 13 58.6**	**-1.6**
UABX	**UABC, Campus M**	**0.47**	**338**		**Pb**	**16 13 51.9**	**+0.7**
UABX					**Sn**	**16 13 59.8**	**-1.5**
UABX	**UABC, Campus M**	**0.47**	**338**⇑	*i*P	**Pb**	**16 13 52.0**	**+0.7**
UABX				*e*S	**Sn**	**16 13 59.9**	**-1.5**
EDOMX	**El Doctor, EDO**	**0.48**	**120**⇑	*i*P	**Pb**	**16 13 52.1**	**+0.8**
EDOMX				*e*S	**Sb**	**16 13 59.8**	**+1.7**
SLRCX	**San Luis Rio C**	**0.52**	**60**		**Pb**	**16 13 52.4**	**+0.3**
SLRCX					**Sb**	**16 14 00.2**	**+0.9**
SLRCX	**San Luis Rio C**	**0.52**	**60**⇑	*i*P	**Pb**	**16 13 52.4**	**+0.3**
SLRCX				*e*S	**Sb**	**16 14 00.2**	**+0.9**
EMSC	**East Mesa**	**0.58**	**21**		**Pb**	**16 13 53.4**	**+0.2**
EMSC					**Sb**	**16 14 02.2**	**+1.1**
EMSC	**East Mesa**	**0.58**	**21**⇑	*e*P	**Pb**	**16 13 53.4**	**+0.2**
SGL	**Mount Signal**	**0.61**	**318**		**Pb**	**16 13 53.9**	**+0.2**
SGL					**Sb**	**16 14 02.3**	**+0.3**
SGL	**Mount Signal**	**0.61**	**318**⇑	*i*P	**Pb**	**16 13 53.9**	**+0.2**
DREC	**Desert Rsrch C**	**0.63**	**344**		**Pb**	**16 13 54.5**	**+0.5**
DREC					**Sn**	**16 14 05.0**	**-0.4**
DREC	**Desert Rsrch C**	**0.63**	**344**	*e*P	**Pb**	**16 13 54.7**	**+0.7**
DREC				*e*S	**Sn**	**16 14 05.0**	**-0.4**
ESJX	**Sierra Juarez**	**0.64**	**253**		**Pg**	**16 13 54.5**	**+0.6**
ESJX					**Sg**	**16 14 03.4**	**+0.9**
ESJX	**Sierra Juarez**	**0.64**	**253**	IAML		16 14 04.1	
	comp=N,2μm,0.2s						
COA	**Coachella**	**0.67**	**8**		**Pb**	**16 13 54.6**	**-0.1**
COA					**Sn**	**16 14 05.7**	**-0.7**
COA	**Coachella**	**0.67**	**8**	*e*P	**Pb**	**16 13 54.6**	**-0.1**
SNR	**Schaffner Ranc**	**0.69**	**346**		**Pb**	**16 13 55.5**	**+0.6**
SNR					**Sn**	**16 14 06.6**	**0.0**
WESC	**Westside Schoo**	**0.70**	**323**		**Pb**	**16 13 55.6**	**+0.5**
WESC					**Sn**	**16 14 06.2**	**-0.9**
WESC	**Westside Schoo**	**0.70**	**323**⇓	*e*P	**Pb**	**16 13 55.7**	**+0.5**
WESC				*e*S	**Sn**	**16 14 06.2**	**-0.9**
YUH2	**Yuha Desert**	**0.74**	**308**⇑	*i*P	**Pg**	**16 13 55.8**	**0.0**
YUH	**Yuha Desert**	**0.74**	**308**		**Pg**	**16 13 55.5**	**-0.3**
YUH					**Sg**	**16 14 05.6**	**+0.1**
YUH	**Yuha Desert**	**0.74**	**308**	IAML		16 14 06.2	
	comp=E,985nm,0.3s						
YUH				IAML		16 14 06.5	
	comp=N,805nm,0.1s						
ECBX	**El Chinero**	**0.74**	**168**⇓	*e*P	**Pg**	**16 13 55.6**	**-0.1**
SJX	**San Joaquin**	**0.75**	**235**⇑	*i*P	**Pg**	**16 13 54.5**	**-1.5**
IMPE	**Imperial**	**0.76**	**339**		**Pg**	**16 13 56.2**	**0.0**
IMPE					**Sn**	**16 14 08.3**	**0.0**
COK2	**Cook Ranch 2**	**0.78**	**327**		**Pg**	**16 13 56.6**	**+0.1**
COK2					**Sn**	**16 14 08.5**	**-0.4**
COK2	**Cook Ranch 2**	**0.78**	**327**	*e*P	**Pg**	**16 13 56.6**	**+0.1**
RUN	**Ruthven**	**0.80**	**16**		**Pg**	**16 13 56.2**	**-0.9**
RUN					**Sb**	**16 14 08.2**	**+0.7**
RMX	**La Rumorosa**	**0.82**	**300**		**Pg**	**16 13 56.4**	**-1.0**
RMX					**Sg**	**16 14 06.6**	**-1.7**
RMX	**La Rumorosa**	**0.82**	**300**⇑	*i*P	**Pg**	**16 13 56.4**	**-1.0**
RMX				⇑*e*		16 14 06.9	
RMX				IAML		16 14 06.9	
	comp=N,2μm,0.2s						
RMX				IAML		16 14 07.0	
	comp=E,2μm,0.2s						
RMX				⇑*e*		16 14 07.0	
IKP	**In-Ko-Pah, Jac**	**0.87**	**302**		**Pb**	**16 13 58.2**	**+0.1**
IKP					**Sb**	**16 14 09.7**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.87**	**302**	P	**Pb**	**16 13 58.2**	**+0.1**
	baz=119,SNR=31						
IKP				S	**Sb**	**16 14 09.5**	**0.0**
	baz=119						
IKP	**In-Ko-Pah, Jac**	**0.87**	**302**⇑	*e*P	**Pb**	**16 13 57.8**	**-0.3**
SWSC	**Sam W. Stewart**	**0.89**	**328**		**Pb**	**16 13 58.4**	**0.0**
SWSC					**Sb**	**16 14 09.9**	**0.0**
SWSC	**Sam W. Stewart**	**0.89**	**328**	P	**Pb**	**16 13 57.9**	**-0.4**
	baz=146,SNR=30						
SWSC				S	**Sb**	**16 14 09.9**	**0.0**
	baz=146						
WEMD	**Westmorland, C**	**0.89**	**341**		**Sn**	**16 14 12.5**	**+0.8**
GLA	**Glamis**	**0.92**	**22**		**Pb**	**16 13 57.8**	**-1.1**
GLA				IAML		16 14 11.9	
	comp=N,869nm,0.4s						
GLA				IAML		16 14 12.1	
	comp=E,1μm,0.3s						
GLA	**Glamis**	**0.92**	**22**		**Sb**	**16 14 09.5**	**-1.4**
GLA	**Glamis**	**0.92**	**22**	P	**Pb**	**16 13 57.9**	**-1.0**
	baz=201,SNR=34						
GLA				S	**Sb**	**16 14 09.5**	**-1.4**
	baz=201						
GLA	**Glamis**	**0.92**	**22**	*e*P	**Pb**	**16 13 58.0**	**-1.0**
CRR	**Carrizo Plain**	**0.93**	**318**		**Pb**	**16 13 59.2**	**+0.2**
CRR					**Sg**	**16 14 11.9**	**+0.3**
CRR	**Carrizo Plain**	**0.93**	**318**	*e*P	**Pb**	**16 13 59.2**	**+0.2**
VTX	**Valle De La Tr**	**0.93**	**210**	*e*P	**Pb**	**16 13 59.3**	**+0.2**
ERRC	**Elmore Ranch**	**1.04**	**332**		**Pg**	**16 14 01.7**	**+0.1**
SPIG	**San Pedro Mart**	**1.16**	**190**	*e*P	**Pn**	**16 14 02.7**	**-0.6**
SPIG	**San Pedro Mart**	**1.16**	**190**	*e*P	**Pn**	**16 14 02.7**	**-0.6**
SPIG				*e*S	**Sb**	**16 14 19.1**	**+0.8**
SFX	**San Felipe**	**1.20**	**164**		**Pn**	**16 14 01.9**	**-1.5**
SFX	**San Felipe**	**1.20**	**164**	*e*P	**Pn**	**16 14 03.5**	**+0.1**
SFX				*e*S	**Sb**	**16 14 19.7**	**+0.8**
CBX	**Cerro Bola**	**1.22**	**276**		**Pn**	**16 14 03.4**	**-0.3**
CBX				IAML		16 14 21.1	
	comp=N,454nm,0.5s						
CBX				IAML		16 14 24.0	
	comp=E,488nm,0.6s						
CBX	**Cerro Bola**	**1.22**	**276**		**Sn**	**16 14 20.8**	**+0.8**
CBX	**Cerro Bola**	**1.22**	**276**⇑	*e*P	**Pn**	**16 14 03.5**	**-0.3**
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pn**	**16 14 03.5**	**-0.3**
CBX				*e*S	**Sb**	**16 14 21.6**	**-1.0**
MONP2	**Monument Peak**	**1.22**	**305**		**Sg**	**16 14 21.5**	**+0.5**
MONP2	**Monument Peak**	**1.22**	**305**	P	**Pn**	**16 14 04.1**	**+0.2**
	baz=123,SNR=30						
MONP2				S	**Sn**	**16 14 20.9**	**+0.7**
	baz=123						
MONP2	**Monument Peak**	**1.22**	**305**	*e*P	**Pg**	**16 14 05.7**	**+0.7**
TKX	**Tecate**	**1.22**	**288**		**Pn**	**16 14 03.5**	**-0.2**
TKX	**Tecate**	**1.22**	**288**		**Sb**	**16 14 20.1**	**+0.5**
TKX	**Tecate**	**1.22**	**288**	IAML		16 14 20.7	
	comp=N,1μm,0.2s						
TKX				IAML		16 14 21.9	
	comp=E,1μm,0.2s						
TKX	**Tecate**	**1.22**	**288**	*e*P	**Pn**	**16 14 03.6**	**-0.2**
TJIG	**Tijuana**	**1.24**	**281**⇑	*e*P	**Pn**	**16 14 03.7**	**-0.3**
TJIG	**Tijuana**	**1.24**	**281**	*e*P	**Pn**	**16 14 03.7**	**-0.3**
TJIG				*e*S	**Sb**	**16 14 19.7**	**-0.5**
CCX	**Cicese**	**1.26**	**255**		**Pn**	**16 14 04.6**	**+0.4**
CCX	**Cicese**	**1.26**	**255**	*e*P	**Pb**	**16 14 05.3**	**+0.7**
BAR	**Barrett**	**1.31**	**292**		**Pn**	**16 14 04.7**	**-0.3**
BAR	**Barrett**	**1.31**	**292**		**Sn**	**16 14 22.9**	**+0.8**
BAR	**Barrett**	**1.31**	**292**	IAML		16 14 23.8	
	comp=N,963nm,0.2s						
BAR				IAML		16 14 24.3	
	comp=E,665nm,0.2s						
BAR	**Barrett**	**1.31**	**292**⇑	*e*P	**Pn**	**16 14 04.7**	**-0.3**
SLH	**Sleepy Hollow**	**1.31**	**319**		**Pb**	**16 14 06.0**	**+0.4**
SLH	**Sleepy Hollow**	**1.31**	**319**	*e*P	**Pb**	**16 14 05.7**	**+0.1**
113A	**Mohawk Valley,**	**1.36**	**65**		**Pn**	**16 14 04.8**	**-0.9**
113A				IAML		16 14 31.5	
	comp=N,268nm,0.8s						
DUZA	**Dulzura**	**1.37**	**288**		**Pn**	**16 14 06.6**	**+0.9**
DUZA					**Sb**	**16 14 24.6**	**+0.9**
JUEM	**Julian Eagle M**	**1.45**	**308**		**Pb**	**16 14 09.0**	**+0.9**
JUEM					**Sb**	**16 14 27.6**	**+1.3**
BORC	**Borrego Spring**	**1.46**	**317**		**Sg**	**16 14 28.2**	**-0.4**
OLP	**Otay Lakes Par**	**1.49**	**286**		**Sb**	**16 14 28.3**	**+0.9**
SDRC	**San Diego Road**	**1.54**	**291**		**Sb**	**16 14 29.8**	**+1.0**
MATG	**Mataguay Scout**	**1.56**	**310**		**Pb**	**16 14 10.5**	**+0.6**
MATG					**Sg**	**16 14 31.1**	**-0.5**
TJX	**Tijuana**	**1.57**	**282**		**Pn**	**16 14 08.9**	**+0.3**
TJX				IAML		16 14 32.0	
	comp=N,718nm,0.8s						
TJX				IAML		16 14 32.4	
	comp=E,551nm,0.9s						
PIX	**Pinacate**	**1.64**	**112**		**Pn**	**16 14 09.3**	**-0.2**
DPP	**Dos Picos Cty**	**1.65**	**299**		**Sb**	**16 14 32.8**	**+0.9**
BLYC	**Blythe**	**1.66**	**21**		**Pn**	**16 14 09.2**	**-0.5**
BLYC				IAML		16 14 35.2	
	comp=N,137nm,0.3s						
BLYC				IAML		16 14 43.6	
	comp=E,148nm,0.7s						
109C	**Camp Elliot, M**	**1.73**	**294**		**Pn**	**16 14 10.8**	**+0.1**
109C				IAML		16 14 38.0	
	comp=E,427nm,0.2s						
109C	**Camp Elliot, M**	**1.73**	**294**	P	**Pn**	**16 14 10.4**	**-0.2**
	baz=112,SNR=19						
109C				S	**Sb**	**16 14 34.3**	**+0.2**
	baz=112						
CPE	**Camp Elliot**	**1.73**	**294**		**Pb**	**16 14 12.8**	**+0.1**
PMD	**Palm Desert**	**1.74**	**327**		**Pn**	**16 14 10.3**	**-0.5**
TPFO	**Pinon Flats**	**1.74**	**324**	P	**Pn**	**16 14 09.8**	**-1.2**
	baz=143						
PFO	**Pinyon Flats O**	**1.75**	**324**		**Pn**	**16 14 10.2**	**-0.9**
PFO	**Pinyon Flats O**	**1.75**	**324**	P	**Pn**	**16 14 09.7**	**-1.4**
	baz=143						
PFO				Sb	**Sg**	**16 14 36.7**	**-1.1**
	baz=143						
IRM	**Iron Mountain**	**1.96**	**2**	Pb	**Pn**	**16 14 15.2**	**+1.3**
	baz=182,SNR=22						
214A	**Organ Pipe Nat**	**2.07**	**96**		**Pn**	**16 14 14.0**	**-1.4**
214A				IAML		16 14 51.9	
	comp=E,88nm,0.5s						
214A	**Organ Pipe Nat**	**2.07**	**96**	P	**Pn**	**16 14 14.1**	**-1.4**
	baz=278,SNR=11						
214A				S	**Sn**	**16 14 39.5**	**-1.5**
	baz=278						
MURC	**Murrieta**	**2.16**	**311**	Sb	**Sb**	**16 14 49.2**	**+2.5**
	baz=129						
ELS	**Elsinore Mount**	**2.34**	**309**	Pn	**Pn**	**16 14 19.4**	**+0.1**
ELS				IAML		16 14 55.5	
	comp=N,75nm,0.5s						
ELS				IAML		16 14 57.0	
	comp=E,80nm,0.3s						
Y14A	**Wickenburg**	**2.55**	**47**		**Pn**	**16 14 22.1**	**-0.1**
CIS	**Catalina Islan**	**2.94**	**295**	Sb	**Sb**	**16 15 11.1**	**+2.1**
	baz=113						
TUC	**Tucson**	**3.77**	**87**	Pn	**Pn**	**16 14 37.6**	**-1.3**
TUC				IAML		16 15 50.0	
	comp=E,19nm,0.6s						
WUAZ	**Wupatki**	**4.61**	**43**	P	**Pn**	**16 14 52.3**	**+1.8**
	baz=225,SNR=7.4						
X18A	**Snowflake**	**5.00**	**61**		**Pn**	**16 14 56.4**	**+0.6**
LCMT	**Little Creek M**	**5.08**	**18**	Pn	**Pn**	**16 14 56.9**	**0.0**
319A	**Douglas**	**5.13**	**98**	Pn	**Pn**	**16 14 58.0**	**+0.3**
DUN6	**Lazy B Ranch**	**5.21**	**84**	Pn	**Pn**	**16 14 58.6**	**-0.1**
121A	**Cookes Peak, D**	**6.31**	**85**	Pn	**Pn**	**16 15 13.6**	**-0.3**

*INET **22** 16:16:52.7±1.8, 11°.31N×88°.99W, h15km±9km, MW3.0*
*SNET **22** 16:16:57.2±0.7, 11°.83N×88°.95W, h58km±154km, ML3.1*

ISC 22 16:16:55.5±3.8, 11°.7N±0°.1×88°.98W±0°.09, h31km±26km, n13, σ0s48/20, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**1.82**	**21**	*e*P	**Pn**	**16 17 25.7**	**+0.8**
LCY				*e*S	**Sn**	**16 17 47.1**	**+0.1**
RANC	**El Ranchito**	**1.83**	**21**	*e*P	**Pn**	**16 17 25.7**	**+0.7**
RANC				*e*S	**Sn**	**16 17 47.4**	**+0.1**
PACA	**Pacayal**	**1.85**	**20**	*e*P	**Pn**	**16 17 25.9**	**+0.6**
PACA				*e*S	**Sn**	**16 17 47.6**	**-0.2**
LCND	**La Caada**	**1.91**	**34**	*e*P	**Pn**	**16 17 25.6**	**-0.3**
LCND				*e*S	**Sn**	**16 17 48.1**	**-0.7**
JAYA	**Jayaque - finc**	**1.98**	**347**	*e*P	**Pn**	**16 17 27.0**	**-0.1**
JAYA				*e*S	**Sn**	**16 17 50.3**	**-0.7**
JAYA				IAML		16 17 53.9	
	comp=Z,134nm,0.2s						
CRIN	**San Cristobal**	**2.12**	**62**	*e*P	**Pn**	**16 17 29.2**	**+0.2**
CRIN				*e*S	**Sb**	**16 17 59.2**	**-0.2**
CEVE	**Cerro Verde**	**2.19**	**343**	*e*P	**Pn**	**16 17 30.8**	**+0.7**
CEVE				IAML		16 17 59.7	
	comp=Z,141nm,0.3s						
P5NO	**Presa 5 de nov**	**2.27**	**5**	*e*P	**Pn**	**16 17 31.1**	**+0.3**
TELN	**Telica**	**2.28**	**67**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.26**	**283**	P	**Pg**	**16 29 04.8**	**0.0**
RATU				S	**Sg**	**16 29 08.0**	**-0.1**
NIKU	**Nikkaluokta**	**0.48**	**283**	P	**Pg**	**16 29 08.7**	**-0.2**
NIKU				S	**Sg**	**16 29 14.8**	**-0.2**
DUNU	**Dundret**	**0.66**	**170**	P	**Pb**	**16 29 13.6**	**-0.4**
LANU	**Lannavaara**	**0.71**	**66**	P	**Pg**	**16 29 13.6**	**+0.4**
LANU	**Lannavaara**	**0.71**	**66**	PG	**Pg**	**16 29 13.7**	**+0.4**
LANU				SG	**Sg**	**16 29 23.1**	**+0.7**
MASU	**Masugnsbyn**	**0.73**	**114**	P	**Pb**	**16 29 15.0**	**-0.3**
SALU	**Saltoluokta**	**0.78**	**241**	P	**Pb**	**16 29 15.8**	**-0.3**
KIF	**Kilpisjarvi**	**1.26**	**9**	PN	**Pn**	**16 29 24.6**	**+0.1**
KIF				MSG		16 29 38.9	
	comp=Z,1.4nm,0.2s						
KIF				SG	**Sg**	**16 29 40.0**	**-0.1**
PAJU	**Pajala**	**1.33**	**123**	P	**Pn**	**16 29 25.4**	**-0.1**
PAJU	**Pajala**	**1.33**	**123**	PG	**Pn**	**16 29 25.3**	**-0.2**
PAJU				SB	**Sn**	**16 29 44.4**	**+0.5**
HEF	**Hetta**	**1.43**	**62**	PG	**Pn**	**16 29 26.7**	**-0.1**
HEF				MSG		16 29 44.6	
	comp=Z,0.8nm,0.2s						
HEF				SB	**Sb**	**16 29 45.9**	**+0.1**
ERTU	**Ertsjaerv**	**1.43**	**148**	P	**Pb**	**16 29 27.5**	**+0.4**
ERTU	**Ertsjaerv**	**1.43**	**148**	PN	**Pb**	**16 29 27.8**	**+0.7**
ERTU				SN	**Sn**	**16 29 48.3**	**+2.0**
HARU	**Harads**	**1.64**	**170**	P	**Pg**	**16 29 30.9**	**-0.1**
KTK1	**Kautokeino**	**1.66**	**40**	PG	**Pb**	**16 29 31.0**	**-0.1**
KTK1				SN	**Sg**	**16 29 54.3**	**+1.2**
TOF	**Tornio**	**2.33**	**135**	PG	**Pb**	**16 29 41.9**	**-0.6**
TOF				MSG		16 30 11.0	
	comp=Z,0.3nm,0.2s						
TOF				SG	**Sg**	**16 30 14.4**	**0.0**
RNF	**Rovaniemi**	**2.52**	**115**	PG	**Pb**	**16 29 44.8**	**-0.9**
RNF				SG	**Sg**	**16 30 19.0**	**-1.6**
VRF	**Varrio**	**3.55**	**86**	PB	**Pb**	**16 30 00.3**	**-3.0**

*KRNET **22** 16:34:34.7±0.1, 39°.35N×77°.19E, mb3.1*
*SOME **22** 16:34:35.2, 39°.67N×77°.15E, h5km*
*NNC **22** 16:34:36.6±5.9, 39°.69N×77°.58E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=39.4km s-min=32.0km az=159.0*
ISC 22 16:34:39.5±2.2, 39°.6N±0°.1×77°.26E±0°.05, h17km, n61, σ1°38/74, 21C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.03**	**332**	⇓*iP*	**Pn**	**16 35 13.0**	**-0.2**
	baz=36						
NRN				⇓*iS*	**Sb**	**16 35 41.0**	**-0.3**
	baz=36						
TARG	**Taragay, Kyrgy**	**2.13**	**11**	⇓*iP*	**Pn**	**16 35 15.2**	**+0.6**
	baz=11						
TARG				⇓*iS*	**Sb**	**16 35 44.6**	**+0.5**
	baz=11						
KDJ	**Kajisay**	**2.49**	**359**	⇑*iP*	**Pn**	**16 35 19.9**	**+0.5**
	baz=0.0						
KDJ				⇑*iS*	**Sb**	**16 35 53.4**	**-0.8**
	baz=0.0						
ULHL	**Ulahol**	**2.71**	**344**	⇑*iP*	**Pn**	**16 35 22.8**	**+0.3**
	baz=46						
ULHL				⇑*iS*	**Sn**	**16 35 58.1**	**+3.0**
	baz=46						
PRZ	**Przheval'sk**	**2.97**	**16**	⇑*iP*	**Pn**	**16 35 27.2**	**+1.2**
	baz=16						
PRZ				⇑*iS*	**Sn**	**16 36 05.3**	**+4.0**
	baz=16						
BOOM	**Boomskoye usch**	**3.02**	**341**	⇑*iP*	**Pn**	**16 35 27.2**	**+0.6**
	baz=44						
BOOM				⇑*iS*	**Sn**	**16 36 05.3**	**+2.8**
	baz=44						
ARLS	**Aral**	**3.15**	**316**	⇑*iP*	**Pn**	**16 35 27.9**	**-0.5**
	baz=20						
ARLS				⇑*iS*	**Sn**	**16 36 06.6**	**+0.9**
	baz=20						
ANVS	**Anan'yevo**	**3.15**	**5**	⇑*iP*	**Pn**	**16 35 29.6**	**+1.1**
	baz=6.0						
ANVS				⇑*iS*	**Sn**	**16 36 09.5**	**+3.6**
	baz=6.0						
UCH	**Uchtor**	**3.32**	**322**	⇓*iP*	**Pn**	**16 35 30.6**	**-0.4**
	baz=26						
UCH				⇓*iS*	**Sn**	**16 36 10.9**	**+0.6**
	baz=26						
TNSS	**Tian-Shan**	**3.40**	**356**	Pg	**Pb**	**16 35 37.6**	**-1.9**
	9.9nm,0.2s						
TNSS				Lg	Lg	16 36 22.3	
	20nm,0.6s						
TNSS	**Tian-Shan**	**3.40**	**356**	*e*Pg	**Pb**	**16 35 37.6**	**-1.9**
	9.9nm,0.2s						
TNSS				*e*Lg	Lg	16 36 22.3	
	20nm,0.6s						
IZV	**Izvestkoviy**	**3.43**	**352**	Pg	**Pb**	**16 35 38.8**	**-1.1**
	1.8nm,0.2s						
IZV				Lg	Lg	16 36 24.4	
	29nm,0.3s						
IZV	**Izvestkoviy**	**3.43**	**352**	*e*Pg	**Pb**	**16 35 38.8**	**-1.1**
	1.8nm,0.2s						
IZV				*e*Lg	Lg	16 36 24.4	
	29nm,0.3s						
KBK	**Karagaybulak**	**3.48**	**331**	⇑*iP*	**Pn**	**16 35 33.2**	**+0.2**
	baz=34						
KBK				⇑*iS*	**Sn**	**16 36 15.7**	**+1.7**
	baz=34						
TKM2	**Tokmak 2**	**3.51**	**340**	⇑*iP*	**Pn**	**16 35 34.0**	**+0.6**
	baz=42						
TKM2				⇑*iS*	**Sn**	**16 36 17.1**	**+2.4**
	baz=42						
SATY	**Saty**	**3.52**	**14**	Pg	**Pb**	**16 35 40.5**	**-0.9**
	9.3nm,0.3s						
SATY				Lg	Lg	16 36 27.0	
	29nm,0.3s						
SATY	**Saty**	**3.52**	**14**	*e*Pg	**Pb**	**16 35 40.5**	**-0.9**
	9.3nm,0.3s						
SATY				*e*Lg	Lg	16 36 27.0	
	29nm,0.3s						
MDOK	**Medeo**	**3.52**	**357**	Pg	**Pb**	**16 35 40.4**	**-1.1**
	4.1nm,0.4s						
MDOK				Pg	Pg	16 35 40.9	-6.1
	3.9nm,0.5s,baz=138,slow=30						
MDOK				Lg	Lg	16 36 26.7	
	25nm,0.6s						
MDOK				Lg	Lg	16 36 27.0	
	28nm,0.7s,baz=138,slow=30						
MDOK	**Medeo**	**3.52**	**357**	*e*Pg	**Pb**	**16 35 40.4**	**-1.1**
	4.1nm,0.4s						
MDOK				*e*Lg	Lg	16 36 26.8	
	25nm,0.6s						
KST	**Kastek**	**3.54**	**344**	Pg	**Pb**	**16 35 40.7**	**-1.0**
	4.5nm,0.4s						
KST				Lg	Lg	16 36 27.4	
	26nm,0.5s						
KST	**Kastek**	**3.54**	**344**	*e*Pg	**Pb**	**16 35 40.7**	**-1.0**
	4.5nm,0.1s						
KST				*e*Lg	Lg	16 36 27.4	
	26nm,0.5s						
MTBS	**Maitube**	**3.54**	**350**	Pg	**Pb**	**16 35 41.0**	**-0.7**
	4.1nm,0.4s						
MTBS				Lg	Lg	16 36 27.8	
	27nm,0.5s						
MTBS	**Maitube**	**3.54**	**350**	*e*Pg	**Pb**	**16 35 41.0**	**-0.7**
	4.1nm,0.4s						
MTBS				*e*Lg	Lg	16 36 27.8	
	27nm,0.5s						
KNDC	**Almaty**	**3.58**	**357**	⇑Pg	**Pb**	**16 35 38.6**	**-3.8**
	14nm,0.5s,baz=138,slow=30						
KNDC				⇓Lg	Lg	16 36 30.0	
	42nm,0.4s,baz=138,slow=30						
KOTS	**Kotyrbulak**	**3.59**	**358**	Pg	**Pb**	**16 35 42.0**	**-0.7**
	9.2nm,0.3s						
KOTS				Lg	Lg	16 36 29.9	
	45nm,0.4s						
KOTS	**Kotyrbulak**	**3.59**	**358**	*e*Pg	**Pb**	**16 35 42.0**	**-0.7**
	9.2nm,0.3s						
KOTS				*e*Lg	Lg	16 36 29.9	
	45nm,0.4s						
ZHN	**Zhinishke**	**3.63**	**14**	Pg	**Pb**	**16 35 42.8**	**-0.5**
	7.6nm,0.2s						
ZHN				Lg	Lg	16 36 30.6	
	28nm,0.4s						
ZHN	**Zhinishke**	**3.63**	**14**	*e*Pg	**Pb**	**16 35 42.8**	**-0.5**
	7.6nm,0.2s						
ZHN				*e*Lg	Lg	16 36 30.6	
	28nm,0.4s						
AAK	**Ala-Archa**	**3.65**	**326**	⇑*iP*	**Pn**	**16 35 35.4**	**+0.1**
	baz=29						
AAK				⇑*iS*	**Sn**	**16 36 19.5**	**+1.4**
	baz=29						
AML	**Almayashu**	**3.68**	**314**	⇑*iP*	**Pn**	**16 35 35.0**	**-0.9**
	baz=17						
AML				⇑*iS*	**Sn**	**16 36 18.8**	**-0.2**
	baz=17						
UZB	**Uzynbulak**	**3.75**	**20**	Pg	**Pb**	**16 35 44.4**	**-0.8**
	3.0nm,0.2s						
UZB				Lg	Lg	16 36 33.6	
	12nm,0.8s						
UZB	**Uzynbulak**	**3.75**	**20**	*e*Pg	**Pb**	**16 35 44.4**	**-0.8**
	3.0nm,0.2s						
UZB				*e*Lg	Lg	16 36 33.6	
	12nm,0.8s						
DGS	**Degeres**	**3.77**	**343**	Pg	**Pb**	**16 35 45.1**	**-0.5**
	7.3nm,0.5s						
DGS				Lg	Lg	16 36 34.8	
	19nm,0.5s						
DGS	**Degeres**	**3.77**	**343**	*e*Pg	**Pb**	**16 35 45.1**	**-0.5**
	7.3nm,0.5s						
DGS				*e*Lg	Lg	16 36 34.9	
	19nm,0.5s						
SHLS	**Shalkode**	**3.88**	**24**	Pg	**Pg**	**16 35 51.0**	**-2.9**
	3.5nm,0.3s						
SHLS				Lg	Lg	16 36 44.7	
	187nm,0.6s						
SHLS	**Shalkode**	**3.88**	**24**	*e*Pg	**Pg**	**16 35 51.0**	**-2.9**
	3.5nm,0.3s						
SHLS				*e*Lg	Lg	16 36 44.8	
	187nm,0.6s						
KURS	**Kuram**	**3.90**	**10**	Pg	**Pb**	**16 35 47.4**	**-0.5**
	5.0nm,0.5s						
KURS				Lg	Lg	16 36 38.8	
	13nm,0.4s						
KURS	**Kuram**	**3.90**	**10**	*e*Pg	**Pb**	**16 35 47.4**	**-0.5**
	5.0nm,0.5s						
KURS				*e*Lg	Lg	16 36 38.8	
	13nm,0.4s						
KPKS	**Kokpek**	**3.97**	**15**	Pg	**Pb**	**16 35 48.9**	**-0.1**
	12nm,0.3s						
KPKS				Lg	Lg	16 36 41.2	
	22nm,0.6s						
KPKS	**Kokpek**	**3.97**	**15**	*e*Pg	**Pb**	**16 35 48.9**	**-0.1**
	12nm,0.1s						
KPKS				*e*Lg	Lg	16 36 41.2	
	22nm,0.2s						
KTBS	**Karatobe**	**4.09**	**354**	Pg	**Pb**	**16 35 50.4**	**-0.7**
	5.6nm,0.4s						
KTBS				Lg	Lg	16 36 43.9	
	32nm,0.5s						
KTBS	**Karatobe**	**4.09**	**354**	*e*Pg	**Pb**	**16 35 50.4**	**-0.7**
	5.6nm,0.4s						
KTBS				*e*Lg	Lg	16 36 43.9	
	32nm,0.5s						
CHKK	**Chushkaly**	**4.21**	**357**	Pg	**Pb**	**16 35 53.0**	**-0.1**
	3.3nm,0.3s						
CHKK				Lg	Lg	16 36 48.7	
	24nm,0.3s						
CHKK	**Chushkaly**	**4.21**	**357**	*e*Pg	**Pb**	**16 35 53.0**	**-0.1**
	3.2nm,0.1s						
CHKK				*e*Lg	Lg	16 36 48.8	
	25nm,0.1s						
KRBS	**Karabastau**	**4.22**	**344**	Pg	**Pb**	**16 35 53.1**	**-0.3**
	6.0nm,0.5s						
KRBS				Lg	Lg	16 36 49.0	
	17nm,0.6s						
KRBS	**Karabastau**	**4.22**	**344**	*e*Pg	**Pb**	**16 35 53.1**	**-0.3**
	6.0nm,0.1s						
KRBS				*e*Lg	Lg	16 36 49.0	
	16nm,0.2s						
SGDS	**Sogindy**	**4.29**	**333**	Pg	**Pb**	**16 35 53.8**	**-0.6**
	1.7nm,0.3s						
SGDS				Lg	Lg	16 36 50.0	
	7.1nm,0.4s						
KUU	**Kurty**	**4.30**	**351**	Pg	**Pb**	**16 35 54.1**	**-0.6**
	3.0nm,0.4s						
KUU				Lg	Lg	16 36 50.2	
	9.2nm,0.5s						
KUU	**Kurty**	**4.30**	**351**	*e*Pg	**Pb**	**16 35 54.1**	**-0.6**
	3.0nm,0.4s						
KUU				*e*Lg	Lg	16 36 50.2	
	9.2nm,0.5s						
MRKS	**Merke**	**4.35**	**317**	Pg	**Pb**	**16 35 54.7**	**-0.7**
	5.5nm,0.6s						
MRKS				Lg	Lg	16 36 51.3	
	19nm,0.6s						
MRKS	**Merke**	**4.35**	**317**	*e*Pg	**Pb**	**16 35 54.8**	**-0.7**
	5.5nm,0.6s						
MRKS				*e*Lg	Lg	16 36 51.3	
	19nm,0.6s						
KTMS	**Ketmen**	**4.45**	**30**	Pg	**Pb**	**16 35 56.6**	**-0.7**
	0.8nm,0.2s						
KTMS				Lg	Lg	16 36 54.5	
	5.2nm,0.5s						
KTMS	**Ketmen**	**4.45**	**30**	*e*Pg	**Pb**	**16 35 57.6**	**+0.4**
	1.0nm,0.1s						
KTMS				*e*Lg	Lg	16 36 56.1	
	3.9nm,0.0s						
ARXS	**Arharly**	**4.59**	**5**	Pg	**Pb**	**16 35 59.8**	**+0.3**
ARXS				Lg	Lg	16 37 00.1	
ARXS	**Arharly**	**4.59**	**5**	*e*Pg	**Pb**	**16 35 59.8**	**+0.3**
	8.5nm,0.2s						
ARXS				*e*Lg	Lg	16 37 00.1	
	16nm,0.1s						
DJR	**Jarkent**	**5.05**	**21**	Pg	**Pb**	**16 36 07.7**	**+0.3**
	1.6nm,0.3s						
DJR				Lg	Lg	16 37 14.0	
	8.6nm,0.5s						
DJR	**Jarkent**	**5.05**	**21**	*e*Pg	**Pb**	**16 36 07.7**	**+0.3**
	1.5nm,0.1s						
DJR				*e*Lg	Lg	16 37 14.0	
	8.6nm,0.5s						
BTLS	**Baital**	**5.90**	**337**	*e*Pg	**Pb**	**16 36 24.6**	**+2.8**
	1.7nm,0.1s						
BTLS				*e*Lg	Lg	16 37 42.2	
	3.5nm,0.5s						
IUG	**Iuzhnay**	**6.03**	**297**	Pg	**Pb**	**16 36 25.8**	**+1.8**
	2.0nm,0.2s						
IUG				Lg	Lg	16 37 44.6	
	13nm,0.9s						
IUG	**Iuzhnay**	**6.03**	**297**	*e*Pg	**Pb**	**16 36 25.8**	**+1.8**
	2.0nm,0.2s						
IUG				*e*Lg	Lg	16 37 44.6	
	13nm,0.9s						
KK31	**Karatay Array**	**6.14**	**306**	⇓Pg	**Pb**	**16 36 26.6**	**+0.6**
	1.7nm,0.8s,baz=136,slow=16,SNR=9.7						
KK31				⇓Lg	Lg	16 37 57.4	
	1.6nm,0.5s,baz=138,slow=30,SNR=7.0						

*VAO **22** 16:36:05.7±1.1, 20°.21S×70°.96W, h10km, mb4.2*
*IDC **22** 16:36:05.0±0.8, 20°.32S×70°.96W, h0km, mb3.7/6, mbtmp3.7/9, ML3.5/3, MS3.4/2, Error ellipse: s-maj=21.7km s-min=14.2km az=67.0*
*GUC **22** 16:36:08.8±0.8, 20°.20S×70°.88W, h37km±2km, ML4.1*
*NEIC **22** 16:36:08.2±1.1, 20°.23S±0°.03×70°.77W±0°.07, h18km±7km, mb4.2/6, ML4.1(GUC), Error ellipse: s-maj=10.0km s-min=4.8km az=85.0*
ISC 22 16:36:06.5±2.2, 20°.23S±0°.03×70°.91W±0°.06, h13km±13km, n98, σ0°97/108, mb4.2/8, 9C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.73**	**93**		**Pb**	**16 36 20.8**	**-0.3**
TA02	**Huaiquique**	**0.73**	**93**	⇓*eP*	**Pb**	**16 36 20.8**	**-0.3**
TA02				*e*S	**Sg**	**16 36 30.8**	**+0.4**
TA02				IAML		16 36 31.1	
	comp=N,28μm,0.1s						
TA01	**Diego Aracena**	**0.76**	**116**	Pg	**Pb**	**16 36 21.5**	**-0.1**
TA01	**Diego Aracena**	**0.76**	**116**	⇓*eP*	**Pb**	**16 36 21.7**	**+0.1**
TA01				*e*S	**Sb**	**16 36 31.9**	**0.0**
TA01				IAML		16 36 33.9	
	comp=N,16μm,0.4s						
PATCX	**Punta Patache**	**0.92**	**130**	Pg	**Pb**	**16 36 24.5**	**+0.1**
PATCX	**Punta Patache**	**0.92**	**130**	⇓*eP*	**Pb**	**16 36 24.5**	**+0.1**
PATCX				*e*S	**Sb**	**16 36 37.0**	**+0.4**
PATCX				IAML		16 36 38.7	
	comp=E,6μm,0.6s						
HMBC	**Humberstone**	**0.96**	**93**	*e*P	**Pb**	**16 36 24.6**	**-0.4**
HMBC				*e*S	**Sb**	**16 36 38.0**	**+0.4**
HMBC				IAML		16 36 38.9	
	comp=N,10μm,0.4s						
PSGC	**Pisagua**	**0.97**	**50**	⇓*eP*	**Pb**	**16 36 24.5**	**-0.7**
PSGC				*e*S	**Sb**	**16 36 37.0**	**-1.0**
PSGC				IAML		16 36 39.9	
	comp=E,2μm,0.2s						
PSGCX	**Pisagua**	**0.97**	**50**		**Pb**	**16 36 24.4**	**-0.9**
PB11	**IPOC Station P**	**1.27**	**69**		**Pn**	**16 36 29.1**	**-0.9**
PB11	**IPOC Station P**	**1.27**	**69**	⇓*eP*	**Pn**	**16 36 29.4**	**-0.7**
PB11				*e*S	**Sb**	**16 36 45.6**	**-1.0**
PB11				IAML		16 36 49.8	
	comp=N,3μm,0.1s						
PB02	**IPOC Station P**	**1.44**	**139**		**Pn**	**16 36 32.2**	**-0.2**
PB02	**IPOC Station P**	**1.44**	**139**	⇑*eP*	**Pn**	**16 36 32.7**	**+0.2**
PB02				*i* S	**Sn**	**16 36 51.1**	**-0.2**
PB02				IAML		16 36 56.7	
	comp=N,8μm,0.3s						
PB02				IAML		16 36 58.0	
	comp=E,9μm,0.4s						
PB01	**IPOC Station P**	**1.56**	**122**		**Pn**	**16 36 33.8**	**-0.2**
PB01	**IPOC Station P**	**1.56**	**122**	⇑*eP*	**Pn**	**16 36 34.4**	**+0.4**
PB01				*e*S	**Sn**	**16 36 53.5**	**-0.6**
PB01				IAML		16 36 59.7	
	comp=E,5μm,0.4s						
MNMC	**Minye Minye**	**1.65**	**49**		**Pn**	**16 36 35.5**	**+0.1**
MNMC	**Minye Minye**	**1.65**	**49**	⇑*eP*	**Pn**	**16 36 35.5**	**+0.1**
MNMC				*e*S	**Sn**	**16 36 56.2**	**-0.4**
MNMC				IAML		16 37 02.0	
	comp=E,9μm,0.8s						
PB12	**IPOC Station P**	**1.70**	**19**	Pn	**Pn**	**16 36 36.4**	**+0.5**
PB12	**IPOC Station P**	**1.70**	**19**	⇑*eP*	**Pn**	**16 36 35.6**	**-0.3**
PB12				*e*S	**Sn**	**16 36 56.2**	**-1.3**
PB12				IAML		16 37 09.3	
	comp=E,2μm,0.6s						
GO01	**Chusmiza**	**1.70**	**71**		**Pn**	**16 36 36.1**	**-0.2**
GO01	**Chusmiza**	**1.70**	**71**	⇑*eP*	**Pn**	**16 36 36.3**	**0.0**
GO01				*e*S	**Sn**	**16 36 58.4**	**+0.2**
GO01				IAML		16 37 00.6	
	comp=N,5μm,0.2s						
PB07	**IPOC Station P**	**1.77**	**148**		**Pn**	**16 36 37.2**	**+0.2**
PB07	**IPOC Station P**	**1.77**	**148**	⇑*eP*	**Pn**	**16 36 37.3**	**+0.2**
PB07				*e*S	**Sn**	**16 36 59.3**	**-0.2**
PB07				IAML		16 37 09.3	
	comp=E,2μm,0.5s						
AP01	**Chacalluta**	**1.92**	**16**		**Pn**	**16 36 40.1**	**+1.1**
AP01	**Chacalluta**	**1.92**	**16**	⇑*eP*	**Pn**	**16 36 39.2**	**+0.2**
AP01				*e*S	**Sn**	**16 37 01.8**	**-1.2**
AP01				IAML		16 37 16.2	
	comp=N,4μm,0.7s						
PB03	**IPOC Station P**	**2.11**	**149**		**Pn**	**16 36 41.5**	**-0.2**
PB03	**IPOC Station P**	**2.11**	**149**	*e*P	**Pn**	**16 36 41.9**	**+0.2**
PB03				*e*S	**Sn**	**16 37 07.4**	**-0.4**
PB03				IAML		16 37 25.7	
	comp=E,1μm,0.6s						
PB09	**IPOC Station P**	**2.20**	**135**		**Pn**	**16 36 43.8**	**+0.8**
PB09	**IPOC Station P**	**2.20**	**135**	⇓*eP*	**Pn**	**16 36 44.5**	**+1.5**
PB09				*e*S	**Sb**	**16 37 12.6**	**-1.0**
PB09				IAML		16 37 21.0	
	comp=E,3μm,0.6s						
PB04	**IPOC Station P**	**2.21**	**162**	Pn	**Pn**	**16 36 42.9**	**-0.1**
PB04	**IPOC Station P**	**2.21**	**162**	⇑*eP*	**Pn**	**16 36 43.0**	**0.0**
PB04				*e*S	**Sn**	**16 37 08.3**	**-2.1**
PB04				IAML		16 37 23.9	
	comp=E,2μm,0.7s						
PB16	**IPOC Station P**	**2.30**	**35**	⇑*eP*	**Pn**	**16 36 44.8**	**+0.2**
PB16				*e*S	**Sn**	**16 37 13.1**	**0.0**
PB16				IAML		16 37 20.9	
	comp=E,1μm,0.6s						
PB06	**IPOC Station P**	**2.76**	**153**		**Pn**	**16 36 50.4**	**-0.3**
PB06	**IPOC Station P**	**2.76**	**153**	*e*P	**Pn**	**16 36 50.7**	**0.0**
PB06				*e*S	**Sn**	**16 37 21.1**	**-2.8**
PB06				IAML		16 37 40.7	
	comp=N,894nm,0.5s						
LVC	**Limon Verde**	**3.01**	**142**	Pn	**Pn**	**16 36 55.6**	**+1.2**
	comp=N,11nm,0.3s,baz=308,slow=9.6,SNR=41						
LVC				Sn	**Sn**	**16 37 31.5**	**+1.0**
	comp=N,48nm,0.3s,baz=77,slow=16,SNR=8.7						
LVC				Lg	Lg	16 37 40.1	
	comp=N,95nm,0.3s,baz=40,slow=23,SNR=8.2						
	comp=N,47nm,0.6s						
LVC	**Limon Verde**	**3.01**	**142**	Pn	**Pn**	**16 36 54.1**	**-0.2**
LVC	**Limon Verde**	**3.01**	**142**	*e*P	**Pn**	**16 36 55.5**	**+1.2**
LVC				*e*S	**Sn**	**16 37 31.4**	**+1.0**
PB10	**IPOC Station P**	**3.29**	**174**	Pn	**Pn**	**16 36 56.9**	**-0.8**
LPAZ	**La Paz**	**4.72**	**34**	Pn	**Pn**	**16 37 21.3**	**+3.2**
	comp=N,1.7nm,0.3s,baz=251,slow=2.9,SNR=36						
LPAZ				Lg	Lg	16 38 38.3	
	comp=N,1.2nm,0.3s,baz=140,slow=20,SNR=1.2						
	comp=N,3.6nm,0.5s						
LPAZ	**La Paz**	**4.72**	**34**		**Pn**	**16 37 18.1**	**+0.1**
AC01	**Pan de Azucar**	**5.90**	**177**		**Pn**	**16 37 32.0**	**-1.6**
AC06	**Mina Casimiro**	**7.12**	**176**	Pn	**Pn**	**16 37 50.3**	**0.0**
GO03	**Copiap**	**7.36**	**175**	Pn	**Pn**	**16 37 54.0**	**+0.3**
SIV	**San Ignacio**	**10.26**	**67**	Pn	**Pn**	**16 38 31.5**	**-2.0**
	comp=N,0.2nm,0.3s,baz=262,slow=10,SNR=19						
ETMB	**Extrema**	**11.30**	**24**	*e*P	**Pn**	**16 38 48.9**	**+1.1**
BBLB	**La Banda, Boli**	**11.53**	**84**	*e*P	**Pn**	**16 38 50.3**	**-0.6**
VBST	**Vila Bela da S**	**11.84**	**63**	*e*P	**Pn**	**16 38 55.0**	**-0.2**
PTLB	**Pontes e Lacer**	**12.17**	**69**		**Pn**	**16 38 58.7**	**-1.0**
PTLB	**Pontes e Lacer**	**12.17**	**69**	*e*P	**Pn**	**16 39 00.4**	**+0.7**
VILB	**Vilhena**	**12.55**	**56**		**Pn**	**16 39 03.3**	**-1.7**
VILB	**Vilhena**	**12.55**	**56**	*e*P	**Pn**	**16 39 05.3**	**+0.4**
PANT	**Pantanal (Braz**	**13.52**	**87**	*e*P	**Pn**	**16 39 18.5**	**+0.4**
CPUP	**Vila Florida**	**13.87**	**119**	Pn	**Pn**	**16 39 24.5**	**+1.6**
	baz=320,slow=11,SNR=1.7						
CPUP				LR	LR	16 45 11.7	
	comp=N,77nm,21.9s,baz=334,slow=39						
	comp=N,1.5nm,0.7s						
POCN	**Pocone**	**13.92**	**77**	*e*P	**Pn**	**16 39 22.4**	**-1.1**
PTET	**Porto Estrela**	**13.95**	**72**	*e*P	**Pn**	**16 39 23.8**	**-0.2**
AQDB	**Aquidauana**	**14.27**	**94**	*e*P	**Pn**	**16 39 29.8**	**+1.5**
MECA	**Mercedes**	**14.66**	**130**	*e*P	**Pn**	**16 39 34.8**	**+1.1**
H03N1	**Juan Fernandez**	**14.96**	**207**	T	T	16 55 11.6	
	baz=33,slow=72,SNR=64						
H03N2	**Juan Fernandez**	**14.97**	**207**	T	T	16 55 01.9	
	baz=33,slow=72,SNR=48						
H03N3	**Juan Fernandez**	**14.98**	**207**	T	T	16 55 03.2	
	baz=33,slow=72,SNR=69						
SALV	**Santo Antonio**	**15.09**	**76**	*e*P	**Pn**	**16 39 39.9**	**+0.3**
RVDE	**Rio Verde (Bra**	**15.09**	**88**	*e*P	**Pn**	**16 39 40.0**	**+0.4**
NBRS	**Nobres**	**15.59**	**70**	*e*P	**Pn**	**16 39 47.5**	**+1.4**
CLDB	**Colider**	**17.26**	**60**	*e*P	**Pn**	**16 40 06.3**	**-1.1**
DVLD	**Doverlandia**	**18.14**	**82**	*e*P	**P**	**16 40 19.1**	**+

H11S3	**WAKE ISLAND Hyl**	**25.87**	**279**	T	T	19 14 38.7		
	baz=102,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hyl**	**25.91**	**280**	T	T	19 14 35.0		
	baz=101							
H11N2	**WAKE ISLAND Hyl**	**25.92**	**280**	T	T	19 14 37.7		
	baz=101							
H11N1	**WAKE ISLAND Hyl**	**25.92**	**280**	T	T	19 14 39.6		
	baz=101							
ZALV	**Zalesovo Beam**	**141.56**	**23**	PKP	**PKiKP**	**16 55 39.1**	**-0.9**	
	comp=Z,0.4nm,0.5s,baz=300,slow=6.5,SNR=2.1							
MKAR	**Makanchi Array**	**145.65**	**33**	PKPbc	**PKPab**	**16 55 45.7**	**+0.4**	
	comp=Z,2.5nm,0.8s,baz=325,slow=3.4,SNR=20							
KSH	**Kashi**	**145.71**	**49**	P	**PKPab**	**16 55 47.4**	**+1.5**	
KSH	**Kashi**	**145.71**	**49**	pmax	pmax			
	comp=Z,4.0nm,1.0s							
WMQ	**Urumqi**	**150.46**	**32**	*e*P	**PKPdf**	**16 55 53.1**	**+0.4**	
SONM	**Songino Array**	**152.37**	**4**	PKPbc	**PKiKP**	**16 56 03.9**	**+1.2**	
	comp=Z,0.5nm,0.9s,baz=28,slow=3.4,SNR=2.9							
PZH	**PanZhiHua**	**170.80**	**46**	PKP	**PKPdf**	**16 56 14.8**	**-0.4**	

*SEA **22** 16:43:23.4±2.0, 47.°408N×009.°121.°59W±0.°01, h0km±7km, ML1.9/26,ML2.0/10(NEIC),Error ellipse: s-maj=1.4km s-min=1.0km az=165.0*
*PNSN **22** 16:43:23.4, 47.°41N×121.°59W, h0km, MD1.9, Fault plane solution: NP1:ϕs340.00000°,δ60.00000°,λ-110.00000°.*
NEIC 22 16:43:22.6±1.9, 47.°406N±0.°010×121.°60W±0.°02, h17km±2km, Error ellipse: s-maj=1.8km s-min=1.1km az=127.0, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDMR	**Cedar Moraine**	**0.11**	**279**		Pb	16 43 25.5	-0.8
RATT	**Rattlesnake La**	**0.14**	**278**		Pg	16 43 25.9	-0.8
RATT					Sg	16 43 28.0	-1.4
ELW	**Echo Lake**	**0.21**	**296**		Pg	16 43 27.2	-0.3
ELW					Sg	16 43 30.3	-0.6
RAW	**Raver**	**0.24**	**253**		Pg	16 43 28.1	+0.1
RAW					Sg	16 43 31.8	+0.1
GSM	**Grass Mountain**	**0.24**	**214**		Pg	16 43 28.0	-0.2
C05A	**Tolt Reservoir**	**0.30**	**348**		Pg	16 43 28.8	-0.3
C05A					Sg	16 43 32.9	-0.5
TTW	**Tolt Reservoir**	**0.30**	**348**		Pg	16 43 28.8	-0.2
TTW					Sg	16 43 32.9	-0.5
D05A	**Enumclaw**	**0.34**	**231**		Pb	16 43 30.1	-0.1
D05A					Sb	16 43 35.4	0.0
D05A	**Enumclaw**	**0.34**	**231**	IAML		16 43 35.8	
	comp=N,248nm,0.4s						
D05A				IAML		16 43 36.0	
	comp=E,186nm,0.3s						
HTW	**Haystack Looko**	**0.41**	**344**		Pg	16 43 30.9	-0.2
EARN	**East Ridge Ele**	**0.45**	**318**		Pb	16 43 32.3	+0.2
EARN					Sb	16 43 39.4	+0.9
SP2	**Seward Park 2**	**0.47**	**289**		Pg	16 43 31.8	-0.2
SP2					Sn	16 43 40.7	-1.7
FMW	**Mount Fremont**	**0.48**	**186**		Pg	16 43 32.0	-0.2
SR41	**SR410 Landslid**	**0.52**	**175**		Pg	16 43 33.0	0.0
OBSR	**Observation Ro**	**0.53**	**196**		Pg	16 43 33.3	0.0
RCS	**Mount Rainier-**	**0.54**	**190**		Pg	16 43 33.5	0.0
VVHS	**Vashon High Sc**	**0.58**	**272**		Pb	16 43 34.3	0.0
REMR	**Mount Rainier-**	**0.61**	**196**		Pg	16 43 34.5	-0.2
LTY	**Liberty**	**0.65**	**103**		Pb	16 43 35.8	+0.3
LTY					Sb	16 43 45.0	+0.7
LTY	**Liberty**	**0.65**	**103**	IAML		16 43 45.2	
	comp=E,29nm,0.2s						
LTY				IAML		16 43 45.2	
	comp=N,29nm,0.2s						
LON	**Longmire**	**0.67**	**193**		Pg	16 43 35.3	-0.5
LON					Sg	16 43 44.3	-0.5
LON	**Longmire**	**0.67**	**193**		Pg	16 43 35.5	-0.4
LON	**Longmire**	**0.67**	**193**	IAML		16 43 44.5	
	comp=N,22nm,0.1s						
LON				IAML		16 43 53.2	
	comp=E,17nm,2.1s						
TBM	**Table Mountain**	**0.72**	**109**		Pn	16 43 37.5	-0.6
GPW	**Glacier Peak**	**0.78**	**23**		Pg	16 43 38.0	+0.1
GMW	**Gold Mountain**	**0.82**	**280**		Pb	16 43 38.1	-0.3
JCW	**Jim Creek**	**0.82**	**344**		Pb	16 43 38.0	-0.4
GNW	**Green Mountain**	**0.85**	**281**		Pb	16 43 38.3	-0.6
NAC	**Naches**	**0.85**	**142**		Pn	16 43 39.9	0.0
EBG	**Ellensburg**	**0.86**	**125**		Pn	16 43 40.3	+0.4
ETW	**Entiat**	**0.88**	**76**		Pg	16 43 39.8	0.0
B013	**Quilcene**	**0.98**	**295**		Pb	16 43 39.3	-1.7
B013	**Quilcene**	**0.98**	**295**		Pb	16 43 40.3	-0.8
B013					Sb	16 43 53.3	-0.4
HDW	**Hoodsport**	**1.02**	**284**		Pb	16 43 41.1	-0.7
KOSW	**Kosmos**	**1.03**	**204**		Pb	16 43 40.9	-1.1
RPW	**Rockport**	**1.04**	**3**		Pb	16 43 42.0	-0.3
NLW	**Nelson Butte**	**1.08**	**51**		Pb	16 43 42.8	-0.2
CBSW	**Chelan Butte S**	**1.13**	**69**		Pb	16 43 43.3	-0.3
WTV	**Waterville**	**1.15**	**75**		Pb	16 43 44.3	+0.3
B202	**Windy Ridge, M**	**1.22**	**198**		Pn	16 43 43.7	-1.3
STD	**Studebaker Rid**	**1.25**	**200**		Pn	16 43 45.2	-0.1
ASR	**Mount Adams--S**	**1.25**	**180**		Pn	16 43 45.4	-0.1
BOLM	**Sugar Bowl**	**1.25**	**199**		Pn	16 43 44.8	-0.7
VALT	**Mount Saint He**	**1.26**	**199**		Pn	16 43 44.8	-0.8
SEPW	**September Lobe**	**1.27**	**199**		Pn	16 43 45.1	-0.7
BVW	**Beverly**	**1.31**	**116**		Pb	16 43 47.1	+0.2
FL2	**Flat Top 2**	**1.32**	**203**		Pn	16 43 45.5	-0.8
EPH	**Ephrata**	**1.36**	**91**		Pb	16 43 47.6	0.0
DHW2	**Dyer Hill 2**	**1.36**	**64**		Pb	16 43 47.8	+0.1
MDW	**Midway**	**1.49**	**122**		Pb	16 43 49.9	+0.2
FHE	**Frenchman Hill**	**1.50**	**107**		Pb	16 43 50.5	+0.5
SAW	**Saint Andrews**	**1.52**	**78**		Pb	16 43 49.8	-0.5
WAH2	**Wahluke Slope**	**1.53**	**114**		Pb	16 43 51.0	+0.5
BENWA	**Benson Ranch**	**1.56**	**124**		Pb	16 43 51.2	+0.1
SNIWA	**Snively Ranch**	**1.63**	**125**		Pb	16 43 52.2	0.0
LOCW	**Locke Island**	**1.63**	**114**		Pb	16 43 52.2	0.0
VDB	**Vedder Mountai**	**1.66**	**348**		Pb	16 43 51.9	-0.7
GBL	**Gable Mountain**	**1.67**	**118**		Pb	16 43 52.5	-0.4
RSW	**Rattlesnake Hi**	**1.71**	**126**		Pb	16 43 53.5	-0.1
HAWA	**Hanford**	**1.74**	**125**		Pb	16 43 53.7	-0.4
B011	**North Saanich**	**1.76**	**316**		Pn	16 43 52.3	0.0
B08A	**Colville Reser**	**1.80**	**57**		Pb	16 43 54.3	-0.8
B08A				IAML		16 44 20.2	
	comp=E,19nm,0.3s						
B08A				IAML		16 44 21.0	
	comp=N,27nm,0.2s						
H2OWA	**Water**	**1.80**	**123**		Pb	16 43 54.9	-0.2
PALME	**Palmer Lift, M**	**2.05**	**182**		Pb	16 43 58.7	-0.8

*UPP **22** 16:48:00.9±0.1, 67.°82N×020.°21E, h0km, ML3.0, Confirmed Induced event*
*DNK **22** 16:48:01.3±0.4, 67.°82N×020.°21E, h0km, ML3.0(UPP), Suspected explosion*
*HEL **22** 16:48:01.0±0.4, 67.°84N×020.°11E, h0km, ML1.1, Explosion*
ISC 22 16:48:00.7±0.8, 67.°77N±0.°03×20.°28E±0.°02, h0km, n31, σ0s72/42, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.27**	**282**	P	**Pg**	**16 48 05.5**	**-0.3**
RATU				S	**Sg**	**16 48 08.8**	**-0.4**
RATU	**Laukkuluspa**	**0.27**	**282**	P	**Pg**	**16 48 05.5**	**-0.3**
RATU				S	**Sg**	**16 48 08.8**	**-0.4**
NIKU	**Nikkaluokta**	**0.48**	**282**	P	**Pg**	**16 48 09.6**	**-0.3**
NIKU	**Nikkaluokta**	**0.48**	**282**	P	**Pg**	**16 48 09.6**	**-0.3**
DUNU	**Dundret**	**0.66**	**170**	P	**Pb**	**16 48 14.3**	**-0.7**
DUNU	**Dundret**	**0.66**	**170**	P	**Pb**	**16 48 14.3**	**-0.7**
LANU	**Lannavaara**	**0.70**	**66**	P	**Pg**	**16 48 14.2**	**+0.1**
LANU	**Lannavaara**	**0.70**	**66**	P	**Pg**	**16 48 14.2**	**+0.1**
LANU	**Lannavaara**	**0.70**	**66**	PG	**Pg**	**16 48 14.1**	**0.0**
LANU				SG	**Sg**	**16 48 24.0**	**+0.8**
MASU	**Masugnsbyn**	**0.73**	**115**	P	**Pb**	**16 48 15.6**	**-0.6**
MASU	**Masugnsbyn**	**0.73**	**115**	P	**Pb**	**16 48 15.6**	**-0.6**
SALU	**Saltoluokta**	**0.79**	**241**	P	**Pg**	**16 48 15.7**	**0.0**
SALU	**Saltoluokta**	**0.79**	**241**	P	**Pg**	**16 48 15.7**	**0.0**
KIF	**Kilpisjarvi**	**1.25**	**9**	PN	**Pg**	**16 48 24.5**	**-0.2**
KIF				MSG		16 48 38.3	
	comp=Z,2.0nm,0.2s						
KIF				SB	**Sg**	**16 48 40.4**	**-0.4**
PAJU	**Pajala**	**1.33**	**123**	P	**Pg**	**16 48 26.0**	**0.0**
PAJU	**Pajala**	**1.33**	**123**	P	**Pg**	**16 48 26.0**	**0.0**
PAJU	**Pajala**	**1.33**	**123**	PG	**Pg**	**16 48 25.9**	**-0.2**
	baz=302						
PAJU				SB	**Sn**	**16 48 44.6**	**-0.2**
HEF	**Hetta**	**1.42**	**62**	PG	**Pn**	**16 48 27.1**	**-0.6**
HEF				MSG		16 48 44.5	
	comp=Z,0.9nm,0.2s						
HEF				SG	**Sb**	**16 48 46.5**	**-0.1**
ERTU	**Ertsjaerv**	**1.43**	**148**	P	**Pb**	**16 48 28.4**	**+0.3**
ERTU	**Ertsjaerv**	**1.43**	**148**	P	**Pb**	**16 48 28.4**	**+0.3**
ERTU	**Ertsjaerv**	**1.43**	**148**	PG	**Pb**	**16 48 28.7**	**+0.5**
ERTU				SG	**Sn**	**16 48 48.3**	**+1.0**
HARU	**Harads**	**1.64**	**170**	P	**Pb**	**16 48 31.6**	**0.0**
HARU	**Harads**	**1.64**	**170**	P	**Pb**	**16 48 31.6**	**0.0**
KTK1	**Kautokeino**	**1.66**	**40**	PN	**Pn**	**16 48 30.9**	**-0.1**
KTK1				SN	**Sg**	**16 48 54.4**	**+0.5**
KALU	**Kalix**	**2.27**	**146**	SG	**Sg**	**16 49 14.0**	**+0.4**
TOF	**Tornio**	**2.33**	**135**	PB	**Pb**	**16 48 42.6**	**-0.8**
TOF				MSG		16 49 12.8	
	comp=Z,0.5nm,0.2s						
TOF				SB	**Sb**	**16 49 14.0**	**+1.3**
SGF	**Sodankyl**	**2.41**	**95**	SG	**Sg**	**16 49 17.0**	**-1.1**
RNF	**Rovaniemi**	**2.52**	**115**	PB	**Pb**	**16 48 45.5**	**-1.2**
RNF				SB	**Sb**	**16 49 19.1**	**+0.9**
ARA0	**ARCESS Array S**	**2.61**	**45**	PB	**Pn**	**16 48 45.2**	**+1.2**
	baz=228						
ARA0				SB	**Sn**	**16 49 17.9**	**+1.6**
KEV	**Kevo**	**3.16**	**48**	SG	**Sb**	**16 49 36.0**	**-0.5**
MSF	**Maaselka**	**3.93**	**114**	PG	**Pg**	**16 49 13.7**	**-2.2**

*WEL **22** 16:51:00, 42.°43S×173.°55E, h18km, ML4.0, Mw3.9, Moment Tensor Solution. s6 Moment tensor: Scale 10^14 Nm; Mrr1.34; Mθθ6.90; Mϕϕ-8.24; Mrθ3.40; Mrϕ-3.23; Mθϕ0.69; Fault plane solution: M0 9.01000×10^14 NP1: ϕs149.00000°,δ68.00000°,λ11.00000°. NP2:ϕs54.00000°, δ80.00000°,λ158.00000°. Principal axes: T 89.2400, Plg23.0000°, Azm10.0000°; N -90.9100, Plg65.0000°, Azm211.0000°; P 1.6800, Plg8.0000°, Azm103.0000°:*
*NOU **22** 16:51:03.8, 42.°54S×173.°66E, h9km, MLv4.5/13, South Island, New Zealand*
*WEL **22** 16:51:04.7±0.4, 42.°S±2.°×17.°4E±.°, h17km±3km, M4.0/29, ML4.2/31, MLv4.0/29, Error ellipse: s-maj=0.0km s-min=0.0km az=123.4, confirmed*
ISC 22 16:51:04.5±0.9, 42.°49S±0.°03×173.°61E±0.°04, h18km±5km, n106, σ1s31/114, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.09**	**325**	P	**Pg**	**16 51 08.0**	**+0.1**
KHZ	**Kahutara**	**0.09**	**325**	P	**Pg**	**16 51 08.0**	**+0.1**
KHZ				S	**Sg**	**16 51 10.2**	**0.0**
GVZ	**Greta Valley S**	**0.64**	**221**	P	**Pn**	**16 51 19.4**	**+0.7**
GVZ				S	**Sn**	**16 51 30.3**	**+1.8**
BSWZ	**Blackbirch Sta**	**0.80**	**15**	P	**Pg**	**16 51 19.3**	**-0.7**
CMWZ	**Cape Campbell**	**0.86**	**32**	P	**Pn**	**16 51 22.2**	**+0.5**
THZ	**Tophouse**	**0.89**	**324**	P	**Pg**	**16 51 19.7**	**-2.1**
THZ				S	**Sg**	**16 51 29.8**	**-3.8**
AMCZ	**Amberley**	**0.98**	**225**	P	**Pn**	**16 51 24.1**	**+0.7**
LTZ	**Lake Taylor**	**1.03**	**253**	P	**Pg**	**16 51 23.3**	**-1.1**
LTZ				S	**Sg**	**16 51 37.8**	**-0.1**
MRNZ	**Matariki Terra**	**1.26**	**330**	P	**Pn**	**16 51 26.4**	**-0.8**
MRNZ				S	**Sb**	**16 51 42.9**	**-0.6**
NNZ	**Nelson**	**1.28**	**352**	P	**Pn**	**16 51 26.8**	**-0.7**
OKCZ	**Okains Bay**	**1.30**	**198**	P	**Pg**	**16 51 29.0**	**-0.6**
TCW	**Tory Channel**	**1.37**	**22**	P	**Pn**	**16 51 28.7**	**0.0**
TCW				S	**Sb**	**16 51 47.1**	**+0.3**
MQZ	**McQueen's Vall**	**1.41**	**209**	P	**Pn**	**16 51 29.2**	**0.0**
MQZ				S	**Sn**	**16 51 47.7**	**+0.5**
OXZ	**Oxford**	**1.43**	**233**	P	**Pn**	**16 51 29.2**	**-0.3**
SNZO	**South Karori**	**1.43**	**35**	P	**Pn**	**16 51 30.0**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.48**	**200**	P	**Pb**	**16 51 31.1**	**-0.3**
WEL	**Wellington**	**1.48**	**36**	P	**Pn**	**16 51 30.7**	**+0.4**
WEL				S	**Sn**	**16 51 50.1**	**+0.9**
TKNZ	**Takaka Hill**	**1.53**	**341**	P	**Pn**	**16 51 30.8**	**-0.1**
TKNZ				S	**Sn**	**16 51 50.6**	**+0.2**
DSZ	**Denniston Nort**	**1.53**	**298**	P	**Pn**	**16 51 30.8**	**-0.2**
PLWZ	**Palliser**	**1.53**	**54**	P	**Pn**	**16 51 31.2**	**+0.2**
INZ	**Inchbonnie**	**1.61**	**261**	P	**Pn**	**16 51 32.2**	**+0.2**
RACZ	**Rakaia**	**1.64**	**220**	P	**Pn**	**16 51 32.4**	**-0.1**
DUWZ	**D'Urville Isla**	**1.70**	**8**	P	**Pn**	**16 51 33.5**	**+0.2**
PAWZ	**Paruwai Farm**	**1.75**	**52**	P	**Pn**	**16 51 33.9**	**-0.1**
CAW	**Cannon Point**	**1.76**	**39**	P	**Pn**	**16 51 34.2**	**+0.1**
QRZ	**Quartz Range**	**1.84**	**334**	P	**Pn**	**16 51 35.9**	**+0.6**
QRZ	**Quartz Range**	**1.84**	**334**	P	**Pn**	**16 51 35.9**	**+0.6**
KIW	**Kapiti Island**	**1.90**	**31**	P	**Pn**	**16 51 36.5**	**+0.6**
TRWZ	**Traveller**	**1.90**	**56**	P	**Pn**	**16 51 35.7**	**-0.2**
MTW	**Mount Morrison**	**1.94**	**48**	P	**Pn**	**16 51 36.3**	**-0.3**
WACZ	**Wakanui South**	**1.95**	**221**	P	**Pn**	**16 51 36.7**	**+0.1**
OGWZ	**Otaki Gorge**	**2.04**	**36**	P	**Pn**	**16 51 38.0**	**0.0**
HOWZ	**Holdsworth Sta**	**2.14**	**43**	P	**Pn**	**16 51 39.1**	**-0.2**
WVZ	**Waitaha Valley**	**2.19**	**253**	P	**Pn**	**16 51 40.6**	**+0.6**
TMWZ	**Te Maipa**	**2.19**	**52**	P	**Pn**	**16 51 39.7**	**-0.4**
RPZ	**Rata Peaks**	**2.24**	**236**	P	**Pn**	**16 51 40.6**	**-0.1**
RPZ	**Rata Peaks**	**2.24**	**236**	P	**Pn**	**16 51 40.5**	**-0.2**
ARCZ	**Arundel**	**2.30**	**230**	P	**Pn**	**16 51 41.3**	**-0.2**
MRZ	**Mangatainoka R**	**2.35**	**40**	P	**Pn**	**16 51 41.9**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.55**	**250**	P	**Pn**	**16 51 46.2**	**+1.3**
PRWZ	**Pori Road**	**2.62**	**43**	P	**Pn**	**16 51 45.6**	**-0.3**
POWZ	**Post Office Ro**	**2.65**	**39**	P	**Pn**	**16 51 46.3**	**-0.1**
TMZ	**Timaru**	**2.68**	**224**	P	**Pn**	**16 51 47.1**	**+0.3**
WAZ	**Wanganui**	**2.92**	**21**	P	**Pn**	**16 51 51.7**	**+1.6**
FOZ	**Fox Glacier**	**2.97**	**248**	P	**Pn**	**16 51 51.8**	**+1.1**
NMEZ	**Namu Road**	**3.08**	**4**	P	**Pn**	**16 51 59.1**	**+0.4**
LREZ	**Lake Rotokare**	**3.08**	**12**	P	**Pn**	**16 51 54.4**	**+2.2**
LBZ	**Lake Benmore**	**3.13**	**232**	P	**Pn**	**16 51 53.3**	**+0.3**
KHEZ	**Kahui Hut**	**3.20**	**6**	P	**Pn**	**16 51 55.7**	**+1.7**
KHEZ	**Kahui Hut**	**3.20**	**6**	P	**Pn**	**16 51 57.1**	**+3.1**
NBEZ	**Newall Road No**	**3.22**	**4**	P	**Pn**	**16 51 56.7**	**+2.5**
WPHZ	**Waipukurau**	**3.23**	**42**	P	**Pn**	**16 51 54.3**	**0.0**
NEZ	**North Egmont**	**3.23**	**7**	P	**Pn**	**16 51 58.4**	**+4.0**
PKE	**Pukeiti**	**3.30**	**5**	P	**Pn**	**16 51 58.0**	**+2.7**
ODZ	**Otahua Downs**	**3.34**	**219**	P	**Pn**	**16 51 56.0**	**+0.2**
ODZ	**Otahua Downs**	**3.34**	**219**	P	**Pn**	**16 51 55.5**	**-0.3**
PKVZ	**Pokaka**	**3.46**	**23**	P	**Pn**	**16 51 58.7**	**+1.2**
MOVZ	**Moawhango**	**3.48**	**29**	P	**Pn**	**16 51 57.7**	**-0.1**
WNVZ	**Wahianoa**	**3.50**	**26**	P	**Pn**	**16 51 59.0**	**+0.9**
TRVZ	**Turoa**	**3.51**	**25**	P	**Pn**	**16 51 59.3**	**+1.0**
BHHZ	**Black Hill Sta**	**3.52**	**33**	P	**Pn**	**16 51 58.5**	**+0.1**
KRHZ	**Kereru**	**3.53**	**37**	P	**Pn**	**16 51 57.3**	**-1.1**
DRZ	**Dome Shelter**	**3.53**	**25**	P	**Pn**	**16 52 01.2**	**+2.5**
WHWZ	**Whangaehu Hut**	**3.54**	**26**	P	**Pn**	**16 51 59.8**	**+1.1**
TUVZ	**Tukino**	**3.57**	**26**	P	**Pn**	**16 52 00.3**	**+1.2**
NGZ	**Ngauruhoe**	**3.64**	**25**	P	**Pn**	**16 52 01.0**	**+0.9**
KAHZ	**Kahuranaki**	**3.65**	**44**	P	**Pn**	**16 52 02.3**	**+2.2**
OTVZ	**Oturere**	**3.67**	**26**	P	**Pn**	**16 52 01.2**	**+0.7**
TWVZ	**Taurewa**	**3.69**	**23**	P	**Pn**	**16 52 00.4**	**-0.2**
WTVZ	**West Tongariro**	**3.69**	**25**	P	**Pn**	**16 52 01.5**	**+0.7**
ETVZ	**East Tongariro**	**3.71**	**26**	P	**Pn**	**16 52 01.8**	**+0.8**
TMVZ	**Te Maari**	**3.73**	**26**	P	**Pn**	**16 52 01.9**	**+0.7**
KWHZ	**Kaweka Forest**	**3.73**	**36**	P	**Pn**	**16 52 00.9**	**-0.3**
NTVZ	**North Tongarir**	**3.73**	**26**	P	**Pn**	**16 52 04.1**	**+2.8**
MCHZ	**McNeill Hill**	**3.83**	**39**	P	**Pn**	**16 52 06.0**	**+3.4**
JCZ	**Jackson Bay**	**3.86**	**244**	P	**Pn**	**16 52 03.6**	**+0.5**
JCZ	**Jackson Bay**	**3.86**	**244**	P	**Pn**	**16 52 03.9**	**+0.9**
RITZ	**Rihia Road**	**3.90**	**27**	P	**Pn**	**16 52 05.8**	**+2.2**
BKZ	**Black Stump Fm**	**3.98**	**34**	P	**Pn**	**16 52 05.3**	**+0.7**
BKZ	**Black Stump Fm**	**3.98**	**34**	P	**Pn**	**16 52 03.6**	**-1.0**
HIZ	**Hauiti**	**4.08**	**14**	P	**Pn**	**16 52 07.5**	**+1.6**
HIZ	**Hauiti**	**4.08**	**14**	P	**Pn**	**16 52 07.5**	**+1.5**
EAZ	**Earnscleugh**	**4.14**	**227**	P	**Pn**	**16 52 07.0**	**+0.1**
NMHZ	**Naumai**	**4.17**	**37**	P	**Pn**	**16 52 09.8**	**+2.5**
MTHZ	**Maungataniwha**	**4.38**	**35**	P	Pn	16 52 15.6	+5.4
TLZ	**Tolley Road**	**4.41**	**20**	P	**Pn**	**16 52 11.8**	**+1.3**
TUZ	**Tuapeka**	**4.49**	**218**	P	**Pn**	**16 52 11.6**	**0.0**
MSZ	**Milford Sound**	**4.67**	**240**	P	**Pn**	**16 52 18.7**	**+4.7**
TOZ	**Tahuroa Road**	**4.97**	**18**	P	**Pn**	**16 52 18.5**	**+0.3**
URZ	**Urewera**	**5.00**	**34**	P	**Pn**	**16 52 18.2**	**-0.4**
MWZ	**Matawai**	**5.11**	**37**	P	**Pn**	**16 52 18.2**	**-2.0**
SYZ	**Scrubby Hill**	**5.16**	**217**	P	**Pn**	**16 52 21.4**	**+0.7**
SYZ	**Scrubby Hill**	**5.16**	**217**	P	**Pn**	**16 52 21.8**	**+1.0**
AWAZ	**Awhitu Peninsu**	**5.47**	**9**	P	**Pn**	**16 52 26.3**	**+1.2**
MKAZ	**Moumakai**	**5.51**	**13**	P	**Pn**	**16 52 25.9**	**+0.3**
ETAZ	**East Tamaki Re**	**5.62**	**11**	P	**Pn**	**16 52 28.3**	**+1.2**
HAZ	**Te Kaha**	**5.71**	**35**	P	**Pn**	**16 52 27.0**	**-1.4**
RVAZ	**Riverhead Bore**	**5.76**	**8**	P	**Pn**	**16 52 30.6**	**+1.5**
MBAZ	**Motutapu North**	**5.80**	**10**	P	**Pn**	**16 52 30.9**	**+1.3**
WIAZ	**Waiheke Island**	**5.81**	**12**	P	**Pn**	**16 52 30.8**	**+1.1**
WMGZ	**Waiomatatini S**	**5.94**	**40**	P	**Pn**	**16 52 30.9**	**-0.6**
KUZ	**Kuaotunu**	**5.96**	**17**	P	**Pn**	**16 52 32.0**	**+0.2**
KUZ	**Kuaotunu**	**5.96**	**17**	P	**Pn**	**16 52 31.7**	**-0.1**
WCZ	**Waipu Caves**	**6.56**	**5**	P	**Pn**	**16 52 41.8**	**+1.7**
OUZ	**Omahuta**	**7.26**	**360**	P	**Pn**	**16 52 51.1**	**+1.5**
OUZ	**Omahuta**	**7.26**	**360**	P	**Pn**	**16 52 51.3**	**+1.7**

*IDC **22** 16:56:07.2±2.0, 19.°27S×175.°58E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=103.3km s-min=27.0km az=149.0*
ISC 22 16:56:11.3±1.4, 19.°3S±0.°5×175.°8E±0.°3, h35km, n8, σ2s08/9, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.59**	**54**	Pn	**Pn**	**16 56 48.8**	**-2.0**
	2.7nm,0.3s,baz=96,slow=23,SNR=19						
MSVF				Sn	**Sn**	**16 57 20.6**	**-0.5**
	5.0nm,0.3s,baz=136,slow=19,SNR=7.5						
STKA	**Stephens Creek**	**33.20**	**241**	P	**P**	**17 02 43.9**	**-1.0**
	0.6nm,0.4s,baz=114,slow=3.7,SNR=3.2						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**39.03**	**262**	P	**P**	**17 03 33.4**	**-1.5**
	0.4nm,0.7s,baz=93,slow=9.0,SNR=2.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**39.17**	**256**	P	**P**	**17 03 34.5**	**-1.6**
	1.9nm,1.0s,baz=83,slow=8.2,SNR=8.6						
	1.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**84.25**	**292**	P	**P**	**17 08 42.2**	**+2.3**
	0.2nm,0.3s,baz=150,slow=4.2,SNR=2.3						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**88.52**	**15**	P	**P**	**17 09 00.0**	**+0.3**
	0.5nm,0.8s,baz=224,slow=5.0,SNR=8.3						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**91.35**	**59**	P	**P**	**17 09 17.1**	**+3.1**
	0.6nm,0.8s,baz=230,slow=7.0,SNR=2.6						
	0.6nm,0.8s						
GERES	**GERESS Array B**	**147.16**	**338**	PKPbc	**PKPab**	**17 15 52.0**	**-0.5**
	0.6nm,0.6s,baz=11,slow=2.7,SNR=7.2						

*MOS **22** 17:14:51.9±1.2, 35.°99S×100.°14W, h7km, mb5.0/17, Error ellipse: s-maj=14.4km s-min=12.0km az=101.8*
*IDC **22** 17:14:51.3±0.6, 36.°12S×100.°24W, h0km, mb4.6/15, mbtmp4.6/15, MS4.6/41, Error ellipse: s-maj=17.8km s-min=16.2km az=4.0*
*NEIC **22** 17:14:56.8±2.5, 35.°4S±0.°1×99.°4W±0.°2, h10km±1km, mb5.1/105, Error ellipse: s-maj=26.6km s-min=18.7km az=234.0*
ISC 22 17:14:53.6±0.4, 36.°01S±0.°08×100.°15W±0.°08, h14km, n271, σ2s01/201, mb5.0/72, MS4.6/46, 8C-2D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**11.82**	**316**	LR	LR	17 21 00.2	
	comp=Z,5μm,21.7s,baz=133,slow=31						
RPN	**Rapa Nui**	**11.82**	**316**	Pn	**Pn**	**17 17 43.4**	**+1.7**
RPN	**Rapa Nui**	**11.82**	**316**	P	**Pn**	**17 17 43.4**	**+1.7**
VA02	**Isla de Pascua**	**11.85**	**316**	Pn	**Pn**	**17 17 42.3**	**+0.1**
H03S2	**Juan Fernandez**	**17.54**	**89**	T	T	17 37 03.6	
	baz=254,slow=75,SNR=46						

PB06 IPOC Station P 29.63 72 P P 17 20 53.8 -5.0
PB06 IAmb IAmb 17 21 01.0
comp=Z,24nm,0.9s
PB03 IPOC Station P 29.86 71 P P 17 20 53.7 -7.1
PB03 IAmb IAmb 17 21 03.4
comp=Z,30nm,1.1s
PB07 IPOC Station P 29.94 70 **P** **17 21 00.6 -1.0**
PB07 IAmb IAmb 17 21 16.9
comp=Z,26nm,1.1s
PB02 IPOC Station P 30.17 69 P **P** **17 20 59.2 -4.3**
PB02 IAmb IAmb 17 21 06.4
comp=Z,59nm,1.4s
LVC Limon Verde 30.20 72 P **P** **17 21 04.9 +0.8**
comp=Z,16nm,1.0s,baz=226,slow=8.8,SNR=17
LVC LR LR 17 30 06.0
comp=Z,1μm,19.7s,baz=244,slow=30
comp=Z,16nm,1.0s
LVC Limon Verde 30.20 72 P **P** **17 21 00.2 -3.8**
LVC IAmb IAmb 17 21 18.1
comp=Z,38nm,1.2s
PATCX Punta Patache 30.27 68 P **P** **17 21 00.7 -3.7**
PATCX IAmb IAmb 17 21 07.2
comp=Z,46nm,1.2s
TA01 Diego Aracena 30.40 68 P **P** **17 21 01.0 -4.4**
TA01 IAmb IAmb 17 21 10.4
comp=Z,33nm,1.2s
TRQA Tornquist 30.40 105 *e*P **P** **17 21 07.3 +1.9**
PB01 IPOC Station P 30.64 69 P **P** **17 21 03.0 -4.7**
PB01 IAmb IAmb 17 21 10.0
comp=Z,30nm,1.2s
PSGCX Pisagua 31.02 66 P P 17 21 05.5 -5.6
PSGCX IAmb IAmb 17 21 15.1
comp=Z,57nm,1.5s
PB12 IPOC Station P 31.49 65 P **P** **17 21 12.2 -2.9**
MNMC Minye Minye 31.70 66 P **P** **17 21 13.8 -3.5**
NNA Nana 31.86 47 LR LR 17 30 50.6
comp=Z,2μm,22.0s,baz=212,slow=30
NNA Nana 31.86 47⇑ *e*P **P** **17 21 18.2 -0.2**
NNA pmax pmax
comp=Z,37nm,1.5s
LPAZ La Paz 34.58 64 P **P** **17 21 44.3 +1.5**
comp=Z,27nm,1.1s,baz=224,slow=5.9,SNR=61
LPAZ LR LR 17 31 34.3
comp=Z,192nm,18.0s,baz=206,slow=29
comp=Z,27nm,1.1s
LPAZ La Paz 34.58 64 P **P** **17 21 39.9 -2.9**
ATAH Atahualpa 34.97 40 P **P** **17 21 47.2 +1.3**
comp=Z,12nm,0.9s,baz=234,slow=8.2,SNR=12
ATAH LR LR 17 32 32.9
comp=Z,2μm,20.6s,baz=229,slow=30
comp=Z,12nm,0.9s
PMSA Palmer Station 35.94 155 LR LR 17 32 20.4
comp=Z,1μm,21.0s,baz=306,slow=29
ITQB Itaqui 36.88 93 P **P** **17 21 59.5 -2.2**
ITQB Itaqui 36.88 93 *e*P **P** **17 22 02.2 +0.5**
ESFA Espinillo Form 37.30 85 *e*P **P** **17 22 06.8 +1.4**
CPUP Villa Florida 37.63 87 P **P** **17 22 08.3 +0.1**
comp=Z,1.7nm,0.2s,baz=269,slow=7.5,SNR=4.6
CPUP LR LR 17 35 42.3
comp=Z,280nm,20.4s,baz=250,slow=33
comp=Z,1.7nm,0.2s
CPUP Villa Florida 37.63 87 P **P** **17 22 05.4 -2.8**
CPUP Villa Florida 37.63 87 *e*P **P** **17 22 09.8 +1.6**
UNIS Unistalda (Bra 38.36 93 *e*P **P** **17 22 14.5 +0.2**
PLTB Pedras Altas 38.59 98 P **P** **17 22 15.0 -1.2**
PLTB Pedras Altas 38.59 98 *e*P **P** **17 22 16.3 +0.1**
CPSB Cacapava Do Su 39.19 96 *e*P **P** **17 22 21.0 -0.2**
MURT Porto Murtinho 39.60 81 *e*P **P** **17 22 24.5 -0.2**
SIV San Ignacio 40.04 70 P **P** **17 22 29.1 +0.6**
comp=Z,9.8nm,0.8s,baz=236,slow=9.9,SNR=28
SIV LR LR 17 37 01.1
comp=Z,888nm,21.6s,baz=264,slow=33
comp=Z,9.8nm,0.8s
BBLB La Banda, Boli 40.25 76 *e*P **P** **17 22 30.8 +0.7**
ETMB Extrema 40.35 58 P P 17 22 25.3 -5.7
ETMB IAmb IAmb 17 22 35.6
comp=Z,12nm,1.1s
ETMB Extrema 40.35 58 *e*P **P** **17 22 31.6 +0.6**
ANTJ Antonio Joao (40.72 82 *e*P **P** **17 22 34.0 -0.1**
BDQN Bodoquena, MS 40.91 80 *e*P **P** **17 22 37.5 +1.9**
FRBT Francisco Belt 41.25 90 *e*P **P** **17 22 38.0 -0.4**
AQDB Aquidauana 41.74 81 P **P** **17 22 41.0 -1.3**
AQDB IAmb IAmb 17 22 51.2
comp=Z,33nm,0.8s
AQDB Aquidauana 41.74 81 *e*P **P** **17 22 42.6 +0.2**
PTLB Pontes e Lacer 41.85 72 P **P** **17 22 38.7 -4.7**
PTLB IAmb IAmb 17 22 52.2
comp=Z,20nm,1.2s
PTLB Pontes e Lacer 41.85 72 *e*P **P** **17 22 44.3 +0.9**
VILB Vilhena 42.58 68 P **P** **17 22 46.7 -2.7**
VILB IAmb IAmb 17 23 03.6
comp=Z,43nm,1.1s
VILB Vilhena 42.58 68 *e*P **P** **17 22 50.4 +1.0**
SAML Samuel 43.08 60 P P 17 22 47.7 -5.6
SAML Samuel 43.08 60 P P 17 22 47.7 -5.6
SAML pmax pmax
comp=Z,14nm,1.1s
TBI Tubuai 44.23 273 *e*LR LR 17 34 34.9
comp=Z,13μm,27.8s
TBI *e*LR LR 17 34 35.5
comp=Z,5μm,29.5s
TBI Tubuai 44.23 273 *e*T T 18 09 51.0
comp=Z,3.5nm,0.2s
SALV Santo Antonio 44.26 75 *e*P **P** **17 23 04.7 +1.9**
PCMB Pacaembu 44.73 85 *e*P **P** **17 23 08.8 +2.1**
FRTB Fartura 45.27 88 *e*P **P** **17 23 11.5 +0.6**
TAOE Nuku Hiva Isla 45.31 297 *e*S S 17 29 22.3 -29
comp=Z,512nm,27.5s
TAOE *e*LR LR 17 35 03.5
comp=Z,706nm,26.9s
TEFE Tefe 46.03 54 *e*P **P** **17 23 19.2 +2.3**
CLDB Colider 47.22 69 *e*P **P** **17 23 28.6 +2.3**
PPT2 Papeete2 47.25 279 *e*S S 17 29 49.9 -30
comp=Z,378nm,27.0s
PPT2 *e*LR LR 17 35 57.5
comp=Z,856nm,27.0s
PPT2 *e*LR LR 17 35 57.8
comp=Z,656nm,29.5s
PPT Papeete 47.26 279 LR LR 17 38 00.6
comp=Z,361nm,19.0s,baz=116,slow=29
ROSC El Rosal 47.30 36 P **P** **17 23 30.7 +3.4**
comp=Z,4.2nm,0.4s,baz=239,slow=12,SNR=5.2
ROSC LR LR 17 41 18.6
comp=Z,1μm,19.4s,baz=217,slow=34
VAO Valinhos 47.54 89 *e*P **P** **17 23 31.9 +3.1**
ORTG Ortega, Santa 48.16 20 P **P** **17 23 30.3 -3.3**
ORTG IAmb IAmb 17 23 59.2
comp=Z,22nm,1.3s
JTS Las Juntas de 48.23 20 LR LR 17 39 00.5
comp=Z,786nm,18.2s,baz=192,slow=30
JTS Las Juntas de 48.23 20⇑ *e*P P 17 23 27.6 -6.5
JTS pmax pmax
comp=Z,12nm,1.2s
PARB Paraibuna 48.47 91 *e*P **P** **17 23 38.7 +2.7**
SNDB Serra Nova Dou 50.01 74 *e*P **P** **17 23 48.1 +0.4**
NPGB Novo Progresso 50.03 66 *e*P **P** **17 23 47.6 -0.3**
PMNB Patos De Minas 50.19 85 *e*P **P** **17 23 49.8 +0.6**
BSCB Bom Sucesso 50.28 88 *e*P **P** **17 23 53.0 +3.1**
BDFB Brasilia 50.48 80 P **P** **17 23 52.1 +0.6**
comp=Z,1.6nm,0.3s,baz=250,slow=4.4,SNR=5.7
BDFB LR LR 17 43 22.1
comp=Z,824nm,19.2s,baz=244,slow=34
comp=Z,1.6nm,0.3s
SDV Santo Domingo 52.60 38 LR LR 17 45 20.1
comp=Z,710nm,18.6s,baz=206,slow=35
CMIG Matias Romero 53.05 6 LR LR 17 41 09.1
comp=Z,795nm,18.7s,baz=192,slow=30
BOAV Boa Vista 53.16 53 *e*P **P** **17 24 13.2 +1.9**
JANB Januaria 53.78 82 *e*P **P** **17 24 16.8 +0.8**
QSPA South Pole Qui 54.20 180 P **P** **17 24 17.8 -0.6**
comp=Z,6.9nm,1.1s,baz=136,slow=1.9,SNR=15
QSPA LR LR 17 42 35.2
comp=Z,477nm,21.3s,baz=120,slow=31
comp=Z,6.9nm,1.1s
QSPA South Pole Qui 54.20 180 P **P** **17 24 19.9 +1.4**
SJMB Sao Joao De Ma 54.35 88 *e*P **P** **17 24 23.6 +3.5**
BSFB Barra de Sao F 54.56 88 *e*P **P** **17 24 23.4 +2.7**
SDBA SAO DESIDERIO 54.80 79 *e*P **P** **17 24 24.8 +1.4**
NAN01 Guarapari, ES 55.66 88 *e*P **P** **17 24 32.4 +2.9**
VNDA Vanda 56.85 195 P **P** **17 24 36.5 -0.7**
comp=Z,3.3nm,1.0s,baz=104,slow=2.9,SNR=4.4
VNDA LR LR 17 43 07.3
comp=Z,466nm,21.7s,baz=101,slow=30
comp=Z,3.3nm,1.0s
VNDA Vanda 56.85 195 P **P** **17 24 36.6 -0.5**
VNDA pmax pmax
comp=Z,12nm,1.3s
MCPB Macapa, AP 56.97 63 *e*P **P** **17 24 41.7 +2.8**
CMC01 Camacan, BA 57.47 86 *e*P **P** **17 24 43.7 +1.2**
SNAA Sanae 58.49 158 LR LR 17 45 32.4
comp=Z,687nm,20.4s,baz=285,slow=32
SNAA Sanae 58.49 158 P **P** **17 24 50.6 +1.7**
SNAA IAmb IAmb 17 24 52.4
comp=Z,17nm,1.5s
SNAA Sanae 58.49 158 P **P** **17 24 50.6 +1.7**
SNAA pmax pmax
comp=Z,17nm,1.5s
MDP Montagnes des 60.41 58 LR LR 17 48 36.4
comp=Z,1μm,20.2s,baz=244,slow=34
CRPR Cabo Rojo, PR 62.17 36 P P 17 25 08.4 -6.1
OBIP Obispado Ponce 62.44 36 P **P** **17 25 13.9 -2.4**
OBIP IAmb IAmb 17 25 26.7
comp=Z,14nm,0.9s
SJG San Juan 62.72 37 LR LR 17 50 29.6
comp=Z,414nm,21.5s,baz=198,slow=34
SJG San Juan 62.72 37 P **P** **17 25 14.3 -3.9**
SJG San Juan 62.72 37 P **P** **17 25 14.3 -3.9**
SJG pmax pmax
comp=Z,18nm,1.0s
HPIG 62.83 354 P **P** **17 25 18.3 -0.7**
HPIG IAmb IAmb 17 25 36.5
comp=Z,14nm,1.1s
NVL N'lazarevskaya 63.15 160 *e*P **P** **17 25 22.3 +1.9**
NVL pmax pmax
comp=Z,9.0nm,1.0s
NVL MLR MLR
comp=Z,568nm,17.0s
URZ Urewera 63.79 241 LR LR 17 46 07.3
comp=Z,491nm,21.9s,baz=208,slow=30
TX31 Lajitas Ar. Si 65.08 357 P **P** **17 25 35.4 +1.6**
TXAR Lajitas Array 65.08 357 P **P** **17 25 34.8 +1.0**
comp=Z,3.8nm,0.9s,baz=184,slow=10.0,SNR=14
comp=Z,3.8nm,0.9s
TXAR Lajitas Array 65.08 357 P **P** **17 25 33.7 0.0**
ELIB Princess Elisa 65.37 163 *e*P **P** **17 25 36.7 +1.5**
RPZ Rata Banks 65.45 233 LR LR 17 47 03.3
comp=Z,804nm,21.6s,baz=90,slow=30
RCBR Riachuelo 65.83 79 LR LR 17 53 19.6
comp=Z,399nm,18.1s,baz=358,slow=35
AFI Afiamalu 67.17 269 LR LR 17 47 12.7
comp=Z,156nm,18.6s,baz=117,slow=29
MNTX Cornudas Mount 67.54 355 P **P** **17 25 49.8 +0.5**
319A Douglas 67.58 352 P **P** **17 25 49.6 -0.1**
319A IAmb IAmb 17 26 07.5
comp=Z,15nm,0.9s
214A Organ Pipe Nat 68.65 348 P **P** **17 25 55.9 -0.4**
214A IAmb IAmb 17 25 59.0
comp=Z,12nm,1.1s
TUC Tucson 68.69 350 P **P** **17 25 57.3 +0.7**
TUC Tucson 68.69 350 P **P** **17 25 57.3 +0.7**
TUC pmax pmax
comp=Z,7.0nm,1.0s
MSTX Muleshoe 69.67 358 P **P** **17 26 03.2 +0.6**
MSTX IAmb IAmb 17 26 05.0
comp=Z,13nm,1.0s
MIAR Mount Ida 70.46 6 P **P** **17 26 04.6 -2.8**
MIAR IAmb IAmb 17 26 09.6
comp=Z,14nm,1.4s
MIAR Mount Ida 70.46 6 P **P** **17 26 04.6 -2.8**
MIAR pmax pmax
comp=Z,14nm,1.4s
AMTX Amarillo 70.55 359 P **P** **17 26 07.1 -0.9**
AMTX IAmb IAmb 17 26 10.8
comp=Z,18nm,0.9s
UALR University of 70.80 7 P **P** **17 26 08.6 -0.8**
UALR IAmb IAmb 17 26 11.5
comp=Z,9.9nm,0.9s
ANMO Albuquerque 70.84 355 P **P** **17 26 11.0 +1.1**
ANMO Albuquerque 70.84 355 P **P** **17 26 11.0 +1.1**
ANMO pmax pmax
comp=Z,5.0nm,1.2s
PFO Pinyon Flats O 70.92 346 LR LR 17 49 52.7
comp=Z,215nm,19.0s,baz=224,slow=30
PFO Pinyon Flats O 70.92 346⇑ *e*P P 17 25 59.1 -11
PFO pmax pmax
comp=Z,30nm,1.7s
FPAL Fort Paine 71.49 13 P **P** **17 26 11.8 -1.9**
FPAL IAmb IAmb 17 26 15.0
comp=Z,19nm,1.4s
FCAR Ozark Folk Cen 71.93 7 P **P** **17 26 14.9 -1.3**
WUAZ Wupatki 71.93 350 P **P** **17 26 17.0 +0.5**
WUAZ IAmb IAmb 17 26 41.7
comp=Z,16nm,1.4s
U32A Winter Ranch, 72.03 1 P **P** **17 26 17.3 +0.4**
OK048 Pawnee Station 72.12 3 P **P** **17 26 16.8 -0.6**
LCAR Lake Charles 72.20 8 P **P** **17 26 18.3 +0.5**
TKL Tuckaleechee C 72.92 14 LR LR 17 54 30.3
comp=Z,264nm,18.3s,baz=182,slow=33
MVCO Mesa Verde 73.27 353 P **P** **17 26 25.4 +0.9**
MVCO IAmb IAmb 17 26 36.2
comp=Z,10.0nm,0.8s
MSVF Nonsavu 73.30 260 LR LR 17 50 57.1
comp=Z,432nm,20.4s,baz=133,slow=30
SHPR Sheep Range 73.49 347 P **P** **17 26 27.9 +2.2**
KNB Kanab 73.61 349 P **P** **17 26 27.8 +1.4**
KNB Kanab 73.61 349 P **P** **17 26 27.8 +1.4**
KNB pmax pmax
comp=Z,17nm,1.5s
CCM Cathedral Cave 74.16 7 P **P** **17 26 30.2 +0.8**
CCM IAmb IAmb 17 26 37.1
comp=Z,22nm,1.1s
CCM Cathedral Cave 74.16 7 P **P** **17 26 30.2 +0.8**
CCM pmax pmax
comp=Z,22nm,1.2s
CCUT Cedar City 74.21 349 P **P** **17 26 31.6 +1.6**
MAW Mawson 75.90 173 LR LR 17 58 47.8
comp=Z,192nm,19.4s,baz=194,slow=35
NVAR Mina Array Bea 75.95 345 P **P** **17 26 41.1 +1.1**
comp=Z,6.5nm,1.1s,baz=178,slow=6.3,SNR=9.1
comp=Z,6.5nm,1.1s
ELK Elko 77.63 348 LR LR 17 54 39.5
comp=Z,221nm,19.4s,baz=164,slow=31
ELK Elko 77.63 348 P **P** **17 26 51.1 +1.6**
ELK Elko 77.63 348 P **P** **17 26 51.1 +1.6**
ELK pmax pmax
comp=Z,7.0nm,1.2s
L42A Oliver, Polo 78.23 8 **P** **17 26 51.6 -0.8**
L42A IAmb IAmb 17 26 54.6
comp=Z,11nm,0.9s
PDAR Pinedale Array 78.88 353 P **P** **17 26 56.8 +0.5**
comp=Z,5.2nm,1.0s,baz=160,slow=5.4,SNR=28
comp=Z,5.2nm,1.0s
ECSD EROS Data Cent 79.44 3 P **P** **17 26 59.9 +0.8**
RSSD Black Hills 79.84 357 P **P** **17 27 02.1 +0.6**
RSSD Black Hills 79.84 357 P **P** **17 27 02.1 +0.6**
RSSD pmax pmax
comp=Z,13nm,1.2s
I37A Lemond, Waseca 79.89 5 P **P** **17 27 02.7 +1.2**
I37A IAmb IAmb 17 27 28.4
comp=Z,29nm,1.2s
FXWY Fox Creek 79.89 352 P **P** **17 27 03.2 +1.3**
DZM Mont Dzumac 79.98 250 LR LR 17 59 50.2
comp=Z,378nm,18.0s,baz=186,slow=34
DZM Mont Dzumac 79.98 250 *e*LR LR 17 51 15.2
comp=Z,1μm,27.1s
HLID Hailey 80.26 350 P **P** **17 27 05.5 +1.7**
HLID IAmb IAmb 17 27 16.8
comp=Z,16nm,1.1s
WVNY West Valley, N 80.49 16 P **P** **17 27 03.7 -1.1**
WVNY IAmb IAmb 17 27 06.1
comp=Z,22nm,1.0s
H43A Windswept, Lux 80.89 9 P **P** **17 27 07.3 +0.4**
H43A IAmb IAmb 17 27 08.8
comp=Z,15nm,0.8s
PINE Pine Mountain 81.65 345 P **P** **17 27 12.9 +1.7**
PINE IAmb IAmb 17 27 36.4
comp=Z,32nm,1.3s
F36A Milaca 81.72 5 P **P** **17 27 12.8 +1.5**
F36A IAmb IAmb 17 27 13.6
comp=Z,15nm,0.9s
PLID Pearl Lake 81.99 349 P **P** **17 27 14.4 +1.4**
PLID IAmb IAmb 17 27 25.7
comp=Z,14nm,1.1s
SADO Sadowa 82.63 15 LR LR 18 01 23.7
comp=Z,436nm,18.1s,baz=150,slow=34
MSO Missoula 83.39 351 **P** **17 27 21.0 +0.9**
TRQ Mont Tremblant 85.05 18 P **P** **17 27 27.6 -0.9**
NEW Newport 85.26 349 LR LR 17 59 27.8
comp=Z,196nm,20.4s,baz=166,slow=31
NEW Newport 85.26 349 P **P** **17 27 31.4 +2.0**
NEW IAmb IAmb 17 27 42.2
comp=Z,13nm,1.0s
NEW Newport 85.26 349 P **P** **17 27 31.5 +2.0**
NEW pmax pmax
comp=Z,13nm,1.0s
ULM Lac du Bonnet 85.97 3 P **P** **17 27 32.8 -0.1**
comp=Z,4.2nm,1.0s,baz=200,slow=10,SNR=3.6
comp=Z,4.2nm,1.0s
STKA Stephens Creek 91.08 229 LR LR 18 00 28.3
comp=Z,390nm,20.1s,baz=168,slow=30
BBB Bella Bella 91.17 343 LR LR 18 04 34.8
comp=Z,85nm,18.0s,baz=151,slow=33
SUR Sutherland 92.35 133 LR LR 18 00 21.8
comp=Z,188nm,20.8s,baz=210,slow=30
HNR Honiara 92.42 257 LR LR 18 00 50.1
comp=Z,3μm,21.0s,baz=122,slow=30
SCHQ Schefferville 94.90 19 LR LR 18 06 49.9
comp=Z,477nm,20.0s,baz=212,slow=33
CTA Charters Tower 96.03 240 LR LR 18 04 04.0
comp=Z,378nm,21.0s,baz=104,slow=31
DBIC Dimbokro 98.16 88 LR LR 18 09 16.7
comp=Z,204nm,21.2s,baz=234,slow=33
YKA Yellowknife Ar 98.86 353 P Pdif 17 28 32.5 +0.1
comp=Z,1.0nm,1.0s,baz=165,slow=4.2,SNR=8.8
comp=Z,1.0nm,1.0s
TSUM Tsumeb 99.51 122 LR LR 18 06 23.8
comp=Z,112nm,21.9s,baz=164,slow=31
H01W1 Cape Leeuwin H 102.54 208 T T 19 23 50.4
baz=151,slow=76,SNR=13
H01W2 Cape Leeuwin H 102.55 208 T T 19 23 50.6
baz=151,slow=76,SNR=18
H01W3 Cape Leeuwin H 102.56 208 T T 19 23 51.6
baz=151,slow=76,SNR=14
SEY Seymchan 129.19 326 PKP **PKPdf** **17 34 00.2 -0.1**
comp=Z,1.3nm,0.8s,baz=145,slow=13,SNR=2.6
NOA NORSAR Array B 130.93 37 PKP **PKiKP** **17 34 04.6 -0.1**
comp=Z,0.6nm,0.9s,baz=321,slow=3.9,SNR=1.4
CLL Collm 130.98 50 *e*SS SS 17 54 00.0 +8.0
CLL *e*SSSS 18 01 42.0
CLL *ex* x 18 05 24.0
GERES GERESS Array B 131.00 53 PKP **PKiKP** **17 34 05.3 -0.1**
comp=Z,0.1nm,0.3s,baz=286,slow=8.1,SNR=1.9
MJAR Matsushiro Arr 133.59 289 PKP **PKPdf** **17 34 07.9 -1.7**
comp=Z,1.3nm,0.9s,baz=235,slow=13,SNR=3.1
VYHS Vyhne 134.30 54 *e*PKiKP **PKiKP** **17 34 17.9 +6.0**
TIXI Tiksi 136.36 340⇑ *i*PKHKP PKPpre 17 34 02.4
FINES FINESS Array B 138.04 35 PKP **PKPdf** **17 34 17.5 +0.4**
comp=Z,3.6nm,1.0s,baz=297,slow=12,SNR=2.1
KLR Kul'dur 140.35 306⇑ *i*PKHKP PKPpre 17 34 12.7
AKASG Malin Array Be 141.16 52 PKhKP PKPpre 17 34 18.5
comp=Z,0.1nm,0.3s,baz=138,slow=2.9,SNR=1.4
KSRS Korea Array 141.78 287 PKhKP PKPpre 17 34 21.1
comp=Z,1.7nm,1.1s,baz=138,slow=52,SNR=3.4
HEH HeiHe 143.13 308 *e*P PKPab 17 34 19.8 -2.3
HEH pmax pmax
comp=Z,3.0nm,1.7s
HEH pmax pmax
comp=Z,200nm,4.8s
BR131 Keskin Array S 143.64 70⇑ *e*PKHKP PKPpre 17 34 16.3
BRTR Keskin Array B 143.64 70 PKP PKPbc 17 34 25.9 +0.4
comp=Z,1.2nm,0.8s,baz=198,slow=6.6,SNR=6.1
BRTR Keskin Array B 143.64 70 PKIKP PKPbc 17 34 26.0 +0.4
KLMR Klimovskoe 144.39 33 *e*PKPdf PKPab 17 34 14.1 -13
KLMR AMP 17 34 32.9
comp=Z,41nm,1.7s
KLMR Klimovskoe 144.39 33 *e*PKHKP PKPpre 17 34 14.1
KLMR pmax pmax
comp=Z,41nm,1.7s
CN2 Changchun 144.54 297 *e*P **PKiKP** **17 34 33.3 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
OBN Obninsk 144.91 43⇓ *e*PKIKP **PKPdf** **17 34 29.5 0.0**
OBN *i* 17 34 34.1
OBN pmax pmax
comp=Z,19nm,1.2s
OBN pmax pmax
comp=Z,21nm,0.9s
BNN Bunyan 145.19 72 PKPdf **PKPab** **17 34 30.5 0.0**
MOS Moscow 145.32 42 *e*PKP2 **PKPbc** **17 34 29.4 -0.7**
NRIK Noril'sk 146.35 355 PKPbc **PKPbc** **17 34 32.4 -0.5**
comp=Z,2.2nm,0.4s,baz=14,slow=3.2,SNR=7.5
NRIK Noril'sk 146.35 355 PKPdf **PKPbc** **17 34 32.8 -0.1**
NRIK Noril'sk 146.35 355 PKP2 **PKPbc** **17 34 32.8 -0.1**
VORR Voronezh 147.26 49 PKHKP PKPpre 17 34 28.8
VORR pmax pmax
comp=Z,30nm,1.3s
VSR Storozhevoye 147.33 49 PKHKP PKPpre 17 34 27.7
VSR pmax pmax
comp=Z,20nm,1.7s
NJ2 Nanjing 147.58 274 *e*P PKPdf 17 34 20.1 -15
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
RAYN Ar Rayn 147.86 103 **PKPbc** **17 34 39.3 +0.7**
RAYN Ar Rayn 147.86 103 PKP2 **PKPbc** **17 34 39.3 +0.7**
BOD Bodaibo 148.60 325 *e*PKP2 **PKPab** **17 34 41.8 -1.2**
BOD pmax pmax
comp=Z,20nm,2.0s
VRH Novokhopyorsk 148.90 49 *e*PKP2 **PKPbc** **17 34 39.6 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 150.64 63 *e*PKIKP PKPdf 17 34 27.6 -12
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,102nm,25.0s
KBZ Khabaz 150.80 63 PKPbc **PKPbc** **17 34 43.6 -1.6**
comp=Z,3.7nm,0.9s,baz=330,slow=8.1,SNR=3.5
XLT XiLinHaoTe 151.31 297 *e*P **PKPbc** **17 34 45.5 -1.1**
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,180nm,4.8s
HNS HongShan 152.11 283 ⇑P **PKPbc** **17 34 48.1 -0.4**
HNS pmax pmax
comp=Z,6.0nm,1.2s
PCHI Peechi 154.43 172 *e*P **PKPab** **17 35 02.1 -6.2**
CMAR Chiang Mai Arr 155.71 229 PKPab **PKPab** **17 35 13.4 -0.3**
comp=Z,1.5nm,0.7s,baz=165,slow=3.2,SNR=10
SONM Songino Array 157.11 309 PKP **PKPdf** **17 34 49.8 +1.1**
comp=Z,0.1nm,0.5s,baz=122,slow=1.9,SNR=1.3
SONM PKPab **PKPab** **17 35 18.1 -1.1**
comp=Z,1.1nm,1.0s,baz=92,slow=3.7,SNR=3.8
KMI Kunming 157.55 247⇑ PKP PKPdf 17 34 35.8 -14
KMI sPKP 17 34 40.1
ZAK Zakamensk 157.81 318 *e*PKP2 **PKPab** **17 35 22.8 +0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ZALV Zalesovo Beam 161.73 351 PKP **PKPdf** **17 34 52.1 -1.5**
comp=Z,0.4nm,0.5s,baz=42,slow=2.3,SNR=1.8
ZALV PKPab **PKPab** **17 35 39.4 +0.5**
comp=Z,0.3nm,0.3s,baz=281,slow=10,SNR=1.8
GEYT Alibeck 162.53 77 PKP **PKPdf** **17 34 55.0 +0.1**
comp=Z,0.6nm,0.4s,baz=327,slow=2.4,SNR=1.9
KURK Kurchatov 165.28 3 PKIKP **PKPdf** **17 34 56.0 -1.0**
KURBB Kurchatov Arra 165.37 3 PKP **PKPdf** **17 34 56.0 -1.0**
comp=Z,0.2nm,0.2s,baz=73,slow=11,SNR=2.1
KURBB PKPab **PKPab** **17 35 55.9 +1.0**
comp=Z,1.0nm,0.2s,baz=351,slow=4.1,SNR=4.7
MKAR Makanchi Array 169.07 351 PKP **PKPdf** **17 34 58.7 -1.3**
comp=Z,0.1nm,0.7s,baz=90,slow=1.4,SNR=1.9
MKAR PKPab **PKPab** **17 36 11.1 -0.3**
comp=Z,1.4nm,1.0s,baz=357,slow=5.0,SNR=4.8
WMQ Urumqi 170.15 325 *e*P PKPdf 17 34 48.0 -13

*IDC **22** 17:20:13.7±1.7, 7°.63S×128°.21E, h153km±21km, mb3.0/1, mbtmp3.8/5, Error ellipse: s-maj=26.8km s-min=15.2km az=125.0*

ISC 22 17:20:14.2±0.8, **7°.68S**±0°.07×**128°.29E**±0°.08, **h150**km, **n13, s35**/16, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.48**	**242**	P	P	**Pn**	**17 21 21.5**	**+0.6**
BATI	**Baumata**	**5.21**	**241**	P	P	**Pn**	**17 21 30.2**	**-0.2**
	12nm,0.3s,baz=102,slow=7.6,SNR=27							
BATI				S		**Sn**	**17 22 28.8**	**-1.3**
	21nm,0.6s,baz=108,slow=20,SNR=1.6							
MTN	**Manton Dam**	**5.84**	**152**	P	P	**Pn**	**17 21 41.2**	**+2.4**
KDU	**Kakadu**	**6.45**	**141**	P	P	**Pn**	**17 21 49.1**	**+2.1**
SIJI	**Sorong**	**7.39**	**24**	P	P	**Pn**	**17 21 58.5**	**-0.9**
	5.6nm,0.6s,baz=217,slow=15,SNR=1.7							
SIJI				S		**Sn**	**17 23 21.9**	**-0.3**
	6.9nm,0.9s,baz=215,slow=11,SNR=1.3							
KNRA	**Kununurra**	**7.96**	**177**	P	P	**Pn**	**17 22 07.9**	**+0.9**

WRAB	**Tennant Creek**	**13.52**	**155**	P		**Pn**	**17 23 21.2**	**+1.1**
WRA	**Warramunga Arr**	**13.52**	**155**	P		**Pn**	**17 23 19.0**	**-1.1**
	1.1nm,0.7s,baz=323,slow=14,SNR=14							
WRA				S		Sn	17 25 42.4	-7.5
	1.7nm,0.4s,baz=334,slow=22,SNR=10							
JAGI	**Jajag, Banyuwa**	**14.02**	**266**	P		**P**	**17 23 31.1**	**+1.5**
ASAR	**Alice Springs**	**16.78**	**162**	P		**Pn**	**17 24 01.6**	**+1.1**
	1.7nm,0.5s,baz=339,slow=11,SNR=25							
ASAR				S		**S**	**17 27 00.9**	**-6.2**
	0.2nm,0.5s,baz=345,slow=25,SNR=3.0							
WRKA	**Warakurna**	**17.26**	**180**	P		**Pn**	**17 24 06.8**	**+0.6**
OOD	**Oodnadatta**	**21.19**	**162**	P		**P**	**17 24 51.2**	**+3.3**
MKAR	**Makanchi Array**	**67.88**	**328**	P		**P**	**17 30 55.0**	**-1.5**
	0.2nm,0.4s,baz=120,slow=7.5,SNR=5.2							
	0.2nm,0.4s							

*IDC **22** 17:35:23.8±2.1,32˚.26N×141˚.62E,h0km,mb3.5/4,*
mbtmp3.4/5,ML2.2/1,MS4.2/2,Error ellipse: s-maj=58.7km
s-min=20.0km az=62.0
*JMA **22** 17:35:26.1±0.7,33˚N±2˚×14˚2E±˚,h0km,MV3.7/18,E*
OFF HACHIJOJIMA ISLAND

ISC 22 17:35:27.9±1.3,32˚42N±0˚.08×141˚.8E±0˚.1,h35km,n12,
σ1♀42/15,mb3.5/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.82**	**293**	P	**Pn**	**17 35 56.2**	**-0.4**
JHJ	**Hachijo jima 2**	**1.85**	**293**	Pn	**Pn**	**17 35 55.8**	**-1.3**
	18nm,0.3s,baz=24,slow=17,SNR=1.5						
JHJ				Sn	**Sn**	**17 36 17.9**	**-1.4**
	24nm,0.3s,baz=114,slow=22,SNR=1.9						
BSO1	**Boso 1**	**2.33**	**343**	*e*P	**Pn**	**17 36 03.4**	**+0.1**
BSO1				*e*S	**Sn**	**17 36 30.9**	**+0.4**
JHU	**Hanno**	**4.02**	**329**	*e*S	**Sn**	**17 37 12.7**	**-0.1**
JHO	**Hitachi**	**4.31**	**347**	P	**Pn**	**17 36 30.3**	**-0.6**
JHO				*e*S	**Sn**	**17 37 19.1**	**-0.8**
JFK	**Kawauchi**	**5.00**	**351**	*e*S	**Sn**	**17 37 33.3**	**-3.6**
MJAR	**Matsushiro Arr**	**5.08**	**325**	Pn	**Pn**	**17 36 42.0**	**+0.5**
	0.1nm,0.3s,baz=147,slow=12,SNR=9.1						
MJAR				Sn	**Sn**	**17 37 39.9**	**+1.0**
	0.1nm,0.3s,baz=201,slow=23,SNR=4.1						
	1.7nm,0.7s						
SONM	**Songino Array**	**30.84**	**310**	P	**P**	**17 41 42.7**	**+2.1**
	0.5nm,0.8s,baz=114,slow=11,SNR=3.3						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**46.97**	**306**	P	**P**	**17 43 55.3**	**-0.1**
	0.5nm,0.7s,baz=89,slow=9.0,SNR=5.6						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**52.55**	**189**	P	**P**	**17 44 37.6**	**-0.4**
	0.4nm,0.6s,baz=4.8,slow=7.6,SNR=2.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**56.28**	**189**	P	**P**	**17 45 04.7**	**-0.3**
	0.5nm,1.0s,baz=14,slow=5.1,SNR=1.7						
ASAR				LR	LR	18 09 38.4	
	comp=Z,273nm,18.6s,baz=88,slow=37						
	0.5nm,1.0s						
RES	**Resolute Bay**	**66.98**	**14**	LR	LR	18 19 08.2	
	comp=Z,139nm,19.6s,baz=142,slow=39						

*IDC **22** 17:57:52.9±2.6,6˚.64S×153˚.95E,h0km,mb3.5/4,*
mbtmp3.6/6,ML1.7/1,MS4.0/1,Error ellipse: s-maj=55.5km
s-min=26.0km az=110.0

ISC 22 17:58:00.1±2.0,6˚.45S±0˚.10×153˚.7E±0˚.2,h35km,n7,
σ1♀90/7,mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.68**	**323**	Pn	**Pn**	**17 58 40.6**	**-0.1**
	24nm,0.3s,baz=192,slow=9.6						
KRVT				Sn	**Sn**	**17 59 11.9**	**0.0**
PMG	**Port Moresby**	**7.07**	**245**	Pn	**Pn**	**17 59 42.3**	**+1.1**
	0.8nm,0.3s,baz=61,slow=10,SNR=11						
PMG				Sn	Sn	18 01 02.3	+1.9
	0.5nm,0.3s,baz=69,slow=16,SNR=1.2						
	10nm,0.9s						
WRA	**Warramunga Arr**	**23.06**	**233**	P	**P**	**18 03 00.2**	**-2.5**
	0.8nm,0.8s,baz=62,slow=9.8,SNR=4.4						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**25.57**	**226**	P	**P**	**18 03 24.6**	**-1.4**
	1.1nm,0.7s,baz=57,slow=9.4,SNR=27						
	1.1nm,0.7s						
JCJ	**Chichijima**	**35.15**	**342**	LR	LR	18 16 08.1	
	comp=Z,228nm,19.5s,baz=120,slow=31						
SONM	**Songino Array**	**68.16**	**328**	P	**P**	**18 08 56.2**	**-0.7**
	0.2nm,0.5s,baz=114,slow=6.5,SNR=1.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**82.12**	**319**	P	**P**	**18 10 19.3**	**+2.1**
	0.5nm,0.9s,baz=126,slow=5.3,SNR=2.7						
	0.5nm,0.9s						

IDC 22 18:00:50.1±2.9,6˚.83S×128˚.78E,h0km,mb3.3/1,
mbtmp3.5/3,ML3.7/2,Error ellipse: s-maj=294.8km
s-min=31.8km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.11**	**158**	Pn	Pn	18 04 10.2	-1.1
	0.3nm,0.3s,baz=334,slow=13,SNR=11						
WRA				Sn	Sn	18 06 35.7	-13
	0.7nm,0.3s,baz=333,slow=22,SNR=9.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.45**	**164**	P	P	18 04 55.8	-0.6
	0.4nm,0.3s,baz=345,slow=11,SNR=22						
ASAR				S	Sn	18 07 57.3	-13
	0.4nm,0.5s,baz=317,slow=16,SNR=6.6						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	18 11 47.6	0.0
	0.1nm,0.4s,baz=122,slow=6.2,SNR=4.9						
	0.1nm,0.4s						

*IDC **22** 18:03:03.2±2.8,52˚.26N×173˚.61W,h0km,mb3.7/10,*
mbtmp3.6/11,ML3.7/1,MS3.7/2,Error ellipse:
s-maj=67.9km s-min=24.9km az=178.0
*AEIC **22** 18:03:04.6±1.9,51˚.6N±0˚.1×173˚.32W±0˚.09,h31km±8km,*
ML3.1,mb3.7/24(NEIC),Error ellipse: s-maj=15.2km
s-min=7.5km az=187.0
*NEIC **22** 18:03:04.2±2.0,51˚.6N±0˚.2×173˚.3W±0˚.1,h40km±15km,*
Error ellipse: s-maj=22.2km s-min=9.7km az=173.0

ISC 22 18:03:06.5±1.4,52˚.0N±0˚.2×173˚.37W±0˚.07,h35km,n54,
σ1♀38/47,mb3.7/10,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.66**	**275**	Pn	**Pn**	**18 03 30.4**	**-2.7**
ADK	**Adak**	**2.05**	**269**	Pn	**Pn**	**18 03 38.0**	**-0.3**
CLES	**Cleveland East**	**2.30**	**67**	Pn	**Pn**	**18 03 39.7**	**-2.1**
KIWB	**Kanaga Island**	**2.34**	**269**	Pn	**Pn**	**18 03 40.1**	**-2.3**
UNV	**Unalaska Valle**	**4.56**	**63**	Pn	**Pn**	**18 04 10.7**	**-2.2**
GAMB	**Gambell**	**11.87**	**4**	Pn	**Pn**	**18 05 55.5**	**+2.5**
SII	**Sitkinak Islan**	**12.11**	**60**	Pn	**Pn**	**18 05 52.9**	**-3.4**
CNPM	**China Poot**	**14.53**	**50**	Pn	**Pn**	**18 06 30.8**	**+1.6**
BRLK	**Bradley Lake**	**14.78**	**49**	Pn	**Pn**	**18 06 33.8**	**+1.1**
SUA	**Susitna One**	**15.56**	**44**	Pn	**Pn**	**18 06 44.3**	**+1.3**
SUA				IAmb	IAmb	18 06 57.0	
	comp=Z,6.0nm,1.2s						
PPLA	**Purkeypile**	**15.71**	**38**	Pn	**Pn**	**18 06 44.2**	**-0.8**
CAST	**Castle Rocks**	**16.05**	**36**	Pn	**Pn**	**18 06 49.6**	**+0.4**
GHO	**Glory Hole Cre**	**16.47**	**44**	Pn	**Pn**	**18 06 55.8**	**+1.2**
KTH	**Kantishna Hill**	**16.56**	**37**		**P**	**18 06 58.8**	**+0.8**
KTH				IAmb	IAmb	18 07 29.1	
	comp=Z,8.6nm,1.3s						
TRF	**Thorofare Moun**	**16.74**	**38**	Pn	**P**	**18 06 59.7**	**-0.4**
TRF				IAmb	IAmb	18 07 09.6	
	comp=Z,12nm,1.5s						
BPAW	**Bear Paw Mtn.**	**16.85**	**35**	Pn	**Pn**	**18 06 58.4**	**-0.9**
IMAR	**Indian Mountai**	**17.19**	**28**	Pn	**P**	**18 07 05.0**	**+0.3**
SCM	**Sheep Creek Mo**	**17.19**	**45**		**Pn**	**18 07 03.3**	**-0.3**
MLY	**Manley**	**17.49**	**33**	P	**P**	**18 07 08.4**	**+0.2**
KLU	**Klutina**	**17.69**	**47**	P	**Pn**	**18 07 08.9**	**-0.8**
KLU				IAmb	IAmb	18 07 15.7	
	comp=Z,9.0nm,1.3s						
I23K	**Minto, Yukon-K**	**18.03**	**34**	P	**P**	**18 07 14.9**	**+0.8**
N25K	**Chitina, Valde**	**18.32**	**47**	P	**P**	**18 07 15.5**	**-1.9**
IL31		**18.71**	**37**	P	**Pn**	**18 07 22.6**	**+0.5**
ILAR	**Eielson Array**	**18.71**	**37**	P	**P**	**18 07 21.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=228,slow=9.1,SNR=28						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**18.71**	**37**	P	**Pn**	**18 07 22.9**	**+0.7**
H24K	**Noodor Dome**	**18.94**	**33**	P	**Pn**	**18 07 24.7**	**-0.2**
H24K				IAmb	IAmb	18 07 42.3	
	comp=Z,6.7nm,1.4s						

RIDG	**Independent Ri**	**19.01**	**41**	P		**Pn**	**18 07 25.6**	**-0.3**
RIDG				IAmb		IAmb	18 07 35.7	
	comp=Z,6.9nm,1.4s							
M26K	**Nabesna, AK**	**19.30**	**45**	P		**P**	**18 07 28.0**	**0.0**
M26K				IAmb		IAmb	18 08 04.3	
	comp=Z,6.7nm,1.4s							
SCRK	**Sand Creek**	**19.46**	**41**	P		**P**	**18 07 30.0**	**+0.1**
SCRK				IAmb		IAmb	18 07 52.4	
	comp=Z,5.3nm,1.3s							
PRP	**Porcupine Dome**	**19.58**	**36**	P		**P**	**18 07 29.5**	**-1.8**
PRP				IAmb		IAmb	18 07 41.3	
	comp=Z,5.0nm,1.4s							
J26L	**Joseph Creek**	**19.85**	**39**	P		**P**	**18 07 33.6**	**-0.5**
J26L				IAmb		IAmb	18 07 57.0	
	comp=Z,4.2nm,1.2s							
L27K	**Beaver Creek,**	**20.02**	**44**	P		**P**	**18 07 36.2**	**+0.3**
L27K				IAmb		IAmb	18 08 07.5	
	comp=Z,3.8nm,1.4s							
I26K	**Coal Creek Min**	**20.36**	**37**	P		**P**	**18 07 39.8**	**+0.3**
EGAK	**Eagle**	**20.91**	**40**	P		**P**	**18 07 45.9**	**+0.4**
EGAK				IAmb		IAmb	18 07 48.4	
	comp=Z,2.6nm,0.7s							
BMAR	**Burnt Mountain**	**20.92**	**31**	P		**P**	**18 07 45.8**	**+0.1**
DAWY	**Dawson**	**21.38**	**42**	P		**P**	**18 07 51.2**	**+0.6**
INK	**Inuvik**	**25.05**	**34**	P		**P**	**18 08 27.2**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=247,slow=5.1,SNR=6.6							
	comp=Z,0.5nm,0.4s							
INK	**Inuvik**	**25.05**	**34**	P		**P**	**18 08 23.4**	**-3.6**
YKA	**Yellowknife Ar**	**32.35**	**48**	P		**P**	**18 09 33.8**	**+1.8**
	comp=Z,0.1nm,0.6s,baz=292,slow=6.5,SNR=1.9							
	comp=Z,0.1nm,0.6s							
KLR	**Kul'dur**	**34.24**	**288**	LR		LR	18 24 46.0	
	comp=Z,117nm,21.0s,baz=98,slow=38							
H11N2	**WAKE ISLAND Hy**	**35.69**	**213**	T		T	18 47 56.8	
	baz=21,slow=76,SNR=3.7							
H11N3	**WAKE ISLAND Hy**	**35.69**	**213**	T		T	18 47 56.8	
	baz=21,slow=76,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**35.70**	**213**	T		T	18 47 56.8	
	baz=21,slow=76,SNR=3.9							
H11S1	**WAKE ISLAND Hy**	**36.89**	**213**	T		T	18 49 19.5	
	baz=19,slow=74							
H11S2	**WAKE ISLAND Hy**	**36.90**	**213**	T		T	18 49 23.0	
	baz=19,slow=74							
H11S3	**WAKE ISLAND Hy**	**36.91**	**213**	T		T	18 49 22.7	
	baz=19							
PDAR	**Pinedale Array**	**42.90**	**76**	P		**P**	**18 11 03.6**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=304,slow=3.9,SNR=2.6							
	comp=Z,0.2nm,0.6s							
NRIK	**Noril'sk**	**45.58**	**331**	P		**P**	**18 11 20.7**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=74,slow=3.7,SNR=3.6							
	comp=Z,1.5nm,0.4s							
SONM	**Songino Array**	**49.36**	**299**	P		**P**	**18 11 53.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=49,slow=8.1,SNR=1.6							
SONM				LR		LR	18 35 03.2	
	comp=Z,81nm,21.0s,baz=75,slow=39							
	comp=Z,0.2nm,0.6s							
ARCES	**ARCESS Array B**	**58.02**	**352**	P		**P**	**18 12 55.5**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=12,slow=8.0,SNR=5.3							
	comp=Z,3.7nm,0.9s							
MKAR	**Makanchi Array**	**62.25**	**311**	P		**P**	**18 13 24.2**	**-0.2**
	comp=Z,0.1nm,0.2s,baz=49,slow=5.9,SNR=4.0							
	comp=Z,0.1nm,0.2s							
FINES	**FINESS Array B**	**65.87**	**350**	P		**P**	**18 13 48.1**	**+0.2**
	comp=Z,4.0nm,1.1s,baz=23,slow=7.5,SNR=2.3							
	comp=Z,4.0nm,1.1s							
NOA	**NORSAR Array B**	**67.28**	**358**	P		**P**	**18 13 57.4**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=293,slow=4.0,SNR=2.0							
	comp=Z,0.8nm,0.9s							
AKASG	**Malin Array Be**	**75.93**	**345**	P		**P**	**18 14 48.7**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=17,slow=6.2,SNR=4.3							
	comp=Z,0.4nm,0.3s							

*MAN **22** 18:07:12.5,7˚.55N×125˚.96E,h44km,mb4.3,ML3.1,MS2.9*
*IDC **22** 18:07:14.2±1.3,6˚.41N×126˚.35E,h132km±15km,mb3.1/6,*
mbtmp3.5/6,Error ellipse: s-maj=52.7km s-min=16.4km
az=78.0

ISC 22 18:07:05.9±1.0,6˚.6N±0˚.1×127˚.21E±0˚.09,h35km,n11,
σ2♀64/13,mb3.5/6,2C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDOP	**Cateel, Davao**	**1.37**	**326**	*i*P	**Pn**	**18 07 26.3**	**-2.2**
CDOP				*i*S	Sn	18 07 59.5	+14
DAV	**Davao City (W)**	**1.68**	**285**	P	**Pn**	**18 07 36.8**	**+4.0**
	213nm,0.3s,baz=117,slow=4.5,SNR=16						
DAV				S	**Sn**	**18 07 55.3**	**+2.3**
	277nm,0.4s,baz=107,slow=19,SNR=8.6						
KCP	**Kidapawan**	**2.14**	**280**	*i*P	**Pn**	**18 07 39.6**	**+0.4**
KCP				*i*S	**Sn**	**18 07 59.5**	**-5.1**
CTBH	**Cotabato--PC H**	**3.00**	**281**	*i*P	**Pn**	**18 07 49.2**	**-1.7**
CTBH				*i*S	Sn	18 08 13.8	-12
CGP	**Cagayan de Oro**	**3.08**	**306**	*e*P	**Pn**	**18 07 54.9**	**+2.9**
CGP				*e*S	**Sn**	**18 08 27.0**	**-0.6**
WRA	**Warramunga Arr**	**27.33**	**165**	P	**P**	**18 12 47.2**	**-0.4**
	0.2nm,0.3s,baz=344,slow=9.9,SNR=5.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**30.82**	**168**	P	**P**	**18 13 17.6**	**-1.2**
	0.3nm,0.3s,baz=340,slow=7.2,SNR=24						
	0.3nm,0.3s						
SONM	**Songino Array**	**44.73**	**340**	P	**P**	**18 15 15.0**	**-0.9**
	0.2nm,0.5s,baz=157,slow=8.2,SNR=1.8						
	0.2nm,0.5s						
PETK	**Petropavlovsk-**	**52.57**	**23**	P	**P**	**18 16 17.7**	**+1.8**
	2.4nm,1.0s,baz=253,slow=9.9,SNR=7.2						
	2.4nm,1.0s						
MKAR	**Makanchi Array**	**55.48**	**324**	P	P	18 16 31.9	-5.3
	0.2nm,0.6s,baz=112,slow=7.1,SNR=1.7						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**82.28**	**26**	P	**P**	**18 19 23.9**	**+0.3**
	0.3nm,0.5s,baz=245,slow=4.9,SNR=7.2						
	0.3nm,0.5s						

*IDC **22** 18:14:50.7±1.6,10˚.01S×160˚.97E,h0km,mb3.5/4,*
mbtmp3.6/5,ML3.2/1,Error ellipse: s-maj=32.3km
s-min=24.2km az=41.0

ISC 22 18:14:58.3±1.1,10˚.1S±0˚.2×160˚.8E±0˚.2,h67km,n6,
σ2♀31/7,mb3.4/4,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.06**	**307**	Pn	**Pn**	**18 15 14.7**	**-2.7**
	2µm,0.3s,baz=151,slow=3.9,SNR=94						
HNR				Sn	**Sn**	**18 15 31.1**	**-0.5**
	5µm,0.3s,baz=174,slow=21,SNR=15						
DZM	**Mont Dzumac**	**13.10**	**156**	Pn	**Pn**	**18 17 59.7**	**-1.8**
	0.1nm,0.3s,baz=8.1,slow=7.1,SNR=1.6						
	3.9nm,0.9s						
WRA	**Warramunga Arr**	**27.34**	**246**	P	**P**	**18 20 39.0**	**+1.8**
	0.7nm,0.6s,baz=78,slow=8.6,SNR=7.7						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**29.00**	**239**	P	**P**	**18 20 53.9**	**+1.9**
	0.2nm,0.7s,baz=65,slow=10,SNR=1.7						
	0.2nm,0.7s						
SONM	**Songino Array**	**75.07**	**325**	P	**P**	**18 26 34.8**	**+1.7**
	0.4nm,0.7s,baz=140,slow=7.7,SNR=3.7						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**84.21**	**20**	P	**P**	**18 27 22.8**	**+0.7**
	0.3nm,1.0s,baz=243,slow=10.0,SNR=1.3						
	0.3nm,1.0s						

*IDC **22** 18:23:16.8±1.9,6˚.95S×154˚.50E,h46km±17km,mb3.6/10,*
mbtmp3.9/14,ML3.7/2,Error ellipse: s-maj=18.2km
s-min=13.1km az=73.0

ISC 22 18:23:15.9±0.7,6˚.95S±0˚.08×154˚.54E±0˚.08,h39km,n16,
σ0♀90/18,mb3.8/10,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.63**	**316**	P	**Pn**	**18 24 09.0**	**-0.6**
	58nm,0.3s,baz=193,slow=18						
KRVT				S	**Sn**	**18 24 52.2**	**+1.0**
	baz=195,slow=19						
HNR	**Honiara**	**5.89**	**115**	P	**Pn**	**18 24 41.2**	**+0.4**
	272nm,0.4s,baz=184,slow=19,SNR=2.2						
PMG	**Port Moresby**	**7.71**	**251**	P	**Pn**	**18 25 06.7**	**+1.1**
	11nm,0.8s,baz=72,slow=12,SNR=5.7						
PMG				S	**Sn**	**18 26 31.9**	**+0.2**
	7.3nm,0.8s,baz=27,slow=16,SNR=3.2						
CTA	**Charters Tower**	**15.34**	**211**	P	**P**	**18 26 51.8**	**-2.2**
	0.1nm,0.3s,baz=76,slow=5.0,SNR=2.6						
	3.5nm,0.8s						
DZM	**Mont Dzumac**	**18.92**	**144**	P	**Pn**	**18 27 35.4**	**+0.9**
	0.5nm,0.3s,baz=330,slow=8.1,SNR=6.1						
	6.9nm,0.7s						
WRA	**Warramunga Arr**	**23.48**	**235**	P	**P**	**18 28 22.0**	**-0.3**
	1.8nm,0.6s,baz=56,slow=9.5,SNR=13						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**25.87**	**228**	P	**P**	**18 28 43.5**	**-0.8**
	1.0nm,0.7s,baz=61,slow=9.3,SNR=17						
	1.0nm,0.7s						
STKA	**Stephens Creek**	**27.59**	**204**	P	**P**	**18 28 59.5**	**-0.1**
	1.2nm,0.5s,baz=37,slow=15,SNR=5.0						
	1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**60.36**	**296**	P	**P**	**18 33 22.6**	**+1.0**
	0.4nm,0.7s,baz=124,slow=4.3,SNR=1.6						
	0.4nm,0.7s						
SONM	**Songino Array**	**69.05**	**327**	P	**P**	**18 34 17.9**	**0.0**
	0.7nm,0.8s,baz=142,slow=4.6,SNR=7.0						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**83.07**	**319**	P	**P**	**18 35 37.9**	**+0.3**
	1.8nm,0.8s,baz=103,slow=5.5,SNR=20						
	1.8nm,0.8s						
ILAR	**Eielson Array**	**83.50**	**22**	P	**P**	**18 35 39.3**	**0.0**
	0.4nm,0.7s,baz=269,slow=6.2,SNR=2.4						
	0.4nm,0.7s						
ZALV	**Zelesovo Beam**	**83.89**	**326**	P	**P**	**18 35 41.1**	**-0.5**
	0.7nm,0.7s,baz=126,slow=7.5,SNR=1.9						
	0.7nm,0.7s						
NVAR	**Mina Array Bea**	**92.05**	**52**	P	**P**	**18 36 22.0**	**+0.5**
	0.7nm,0.7s,baz=248,slow=8.5,SNR=3.5						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**	**18 36 40.5**	**-0.5**
	0.3nm,0.8s,baz=266,slow=4.4,SNR=4.0						
	0.3nm,0.8s						
GERES	**GERESS Array B**	**126.78**	**329**	PKP	**PKPdf**	**18 42 14.6**	**-1.0**
	0.3nm,0.6s,baz=68,slow=0.7,SNR=3.6						

*TAP **22** 18:35:03.0,24˚.83N×122˚.23E,h11km,ML3.2,C*
*JMA **22** 18:35:03.0±0.3,24˚.7N±0˚.5×122˚.2E±0˚.2,h0km±2km,*
MV2.5/9,TAIWAN REGION

ISC 22 18:35:03.1±1.1,24˚.78N±0˚.02×122˚.25E±0˚.02,h6km±9km,
n52,σ0♀88/97,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.29**	**283**	*e*S	**Sg**	**18 35 13.6**	**+0.9**
	baz=273						
TWB1	**Santiao Chiao**	**0.33**	**314**	*i*P	**Pg**	**18 35 09.2**	**-0.3**
	baz=309						
TWB1				*e*S	**Sg**	**18 35 13.2**	**-0.6**
	baz=309						
TWC	**Suao**	**0.40**	**245**	*i*P	**Pg**	**18 35 11.1**	**+0.3**
	baz=238						
TIPB	**Shuangxi**	**0.43**	**297**	P	**Pg**	**18 35 11.5**	**+0.1**
	baz=290						
TIPB				*e*S	**Sb**	**18 35 18.9**	**-1.0**
	baz=290						
ILA	**Ilan**	**0.45**	**268**	*e*P	**Pb**	**18 35 13.1**	**-0.4**
	baz=253						
ILA				*e*S	**Sb**	**18 35 20.0**	**-0.6**
	baz=253						
SXI1	**Grass Mountain**	**0.46**	**313**	*i*P	**Pg**	**18 35 12.1**	**+0.1**
	baz=308						
SXI1				*e*S	**Sg**	**18 35 17.8**	**-0.3**
	baz=308						
NDS	**Dongshan**	**0.50**	**253**	P	**Pg**	**18 35 13.1**	**+0.3**
	baz=243						
NDS				*i*S	**Sb**	**18 35 20.2**	**-1.8**
	baz=243						
NWF	**Wu-fen Shan**	**0.51**	**305**	*e*P	**Pb**	**18 35 14.1**	**-0.6**
	baz=299						
NWF				*e*S	**Sg**	**18 35 19.9**	**+0.1**
	baz=299						
TWE	**Neicheng**	**0.53**	**264**	*i*P	**Pg**	**18 35 13.6**	**+0.2**
	baz=250						
TWE				*i*S	**Sb**	**18 35 20.9**	**-1.9**
	baz=250						
EWUT	**Wuta**	**0.54**	**232**	P	**Pb**	**18 35 13.9**	**-1.1**
	baz=229						
EWUT				*e*S	**Sg**	**18 35 21.2**	**+0.6**
	baz=229						
ENA	**Nanau**	**0.58**	**233**	P	**Pg**	**18 35 14.4**	**+0.1**
	baz=219						
ENA				*e*S	**Sg**	**18 35 21.3**	**-0.5**
	baz=219						
ENTT	**Nioudou**	**0.63**	**258**	*i*P	**Pb**	**18 35 15.8**	**-0.9**
	baz=253						
ENTT				*e*S	**Sb**	**18 35 24.5**	**-1.3**
	baz=253						
TWA	**Mucha**	**0.64**	**289**	*e*P	**Pb**	**18 35 16.3**	**-0.3**
	baz=272						
TWA				*i*S	**Sb**	**18 35 25.0**	**-0.9**
	baz=272						
NHY	**Taipei**	**0.67**	**293**	P	**Pb**	**18 35 17.1**	**-0.1**
	baz=289						
NHY				S	**Sb**	**18 35 26.1**	**-0.7**
	baz=289						
NWLT	**Wulai**	**0.68**	**270**	P	**Pb**	**18 35 16.9**	**-0.5**
	baz=266						
NWLT				*e*S	**Sg**	**18 35 25.2**	**+0.3**
	baz=266						
NWRT	**Kuosheng**	**0.68**	**309**	P	**Pg**	**18 35 16.3**	**+0.1**
	baz=309						
NWRT				S	**Sb**	**18 35 26.4**	**-0.7**
	baz=309						
NHDH	**Xindian Distri**	**0.68**	**286**	*e*P	**Pb**	**18 35 17.3**	**-0.2**
	baz=272						
NHDH				S	**Sb**	**18 35 26.5**	**-0.6**
	baz=272						

WHF	**Hehuan Shan**	**1.09**	**235**	*e*P		**Pb**	**18 35 24.3**	**-0.5**
	baz=234							
WHF				*e*S		**Sn**	**18 35 41.0**	**-0.2**
	baz=234							
TWT	**Tachien**	**1.11**	**242**	*i* P		**Pn**	**18 35 24.9**	**-0.5**
	baz=234							
TWT				S		**Sn**	**18 35 40.2**	**-0.8**
	baz=234							
TDCB	**Techi**	**1.12**	**242**	*e*P		**Pn**	**18 35 25.3**	**-0.3**
	baz=235							
TDCB				S		**Sb**	**18 35 40.1**	**+0.1**
	baz=235							
NSTT	**Nanjuang**	**1.14**	**263**	*e*P		**Pn**	**18 35 26.2**	**+0.5**
	baz=259							
NSTT				*e*S		**Sn**	**18 35 42.0**	**+0.3**
	baz=259							
SBCB	**Hsinchu**	**1.15**	**271**	*e*P		**Pn**	**18 35 26.8**	**+1.0**
	baz=285							
SBCB				*e*S		**Sn**	**18 35 43.6**	**+1.8**
	baz=285							
CHGB	**Renai**	**1.21**	**234**	P		**Pn**	**18 35 26.5**	**-0.4**
	baz=234							
CHGB				S		**Sb**	**18 35 42.5**	**-0.1**
	baz=234							
WHP	**Taichung City**	**1.29**	**247**	P		**Pn**	**18 35 28.2**	**+0.5**
	baz=246							
WHP				*e*S		**Sn**	**18 35 46.0**	**+0.6**
	baz=246							
WUSB	**Renai**	**1.29**	**233**	P		**Pb**	**18 35 27.9**	**-0.1**
	baz=233							
WUSB				*e*S		**Sn**	**18 35 44.9**	**-0.8**
	baz=233							
NMLH	**Miaoli**	**1.35**	**260**	*e*P		**Pg**	**18 35 30.6**	**+1.6**
	baz=249							
NMLH				*e*S		**Sn**	**18 35 49.6**	**+2.9**
	baz=249							
NSY	**Sanyi**	**1.40**	**255**	*e*P		**Pg**	**18 35 31.6**	**+1.7**
	baz=253							
NSY				*e*S		**Sn**	**18 35 51.6**	**+3.5**
	baz=253							
IRIF	**Iriomote-Funau**	**1.42**	**108**	*e*P		**Pb**	**18 35 30.4**	**+0.3**
VWDT	**VWDT**	**1.44**	**225**	P		**Pg**	**18 35 30.6**	**0.0**
	baz=226							
VWDT				S		**Sg**	**18 35 49.9**	**+0.6**
	baz=226							
SSLB	**Suanglung**	**1.54**	**230**	P		**Pg**	**18 35 32.2**	**-0.5**
	baz=231							
SSLB				*e*S		**Sb**	**18 35 51.3**	**-0.6**
	baz=231							
HATJ	**Hateruma jima**	**1.59**	**117**	*e*S		**Sn**	**18 35 53.0**	**+0.2**
YULB	**Yu-li**	**1.63**	**212**	*e*P		**Pn**	**18 35 31.5**	**-1.0**
	baz=217							
YULB				*e*S		**Sg**	**18 35 56.0**	**+0.4**
	baz=217							
WNT	**Mingjian**	**1.68**	**238**	P		**Pg**	**18 35 35.4**	**0.0**
	baz=239							
WNT				*e*S		**Sg**	**18 35 59.9**	**+2.6**
	baz=239							
JIJ	**Ishigaki jima**	**1.77**	**103**	P		**Pb**	**18 35 36.2**	**+0.1**
JISG	**Ishigakijimahi**	**1.89**	**95**	*e*P		**Pb**	**18 35 37.3**	**-0.7**

*NEIC **22** 18:35:39.1±2.4,5.°90S±0.°10×155.°03E±0.°10,h151km±5km, mb4.3/15, Error ellipse: s-maj=17.0km s-min=10.1km az=136.0*

*IDC **22** 18:35:42.1±2.0,5.°98S×154.°88E,h170km±16km, mb3.4/9, mbtmp3.9/13, Error ellipse: s-maj=21.1km s-min=14.3km az=84.0*

ISC 22 18:35:39.7±0.6,5.°98S±0.°08×155.°05E±0.°09,h150km,n46, σ1§49/48,mb3.8/15,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.38**	**302**	P	Pn	**Pn**	**18 36 35.0**	**+3.0**
KRVT	**Keravat (AS076**	**3.44**	**299**	P		**Pn**	**18 36 34.1**	**+1.3**
	56nm,0.8s,baz=197,slow=19							
KRVT				S		**Sn**	**18 37 14.2**	**+0.3**
	baz=195,slow=19							
PMG	**Port Moresby**	**8.53**	**246**	P		**Pn**	**18 37 42.4**	**+2.2**
	10nm,0.7s,baz=30,slow=8.1,SNR=3.7							
PMG	**Port Moresby**	**8.53**	**246**	Pn		**Pn**	**18 37 40.8**	**+0.6**
CTA	**Charters Tower**	**16.42**	**211**	P		**Pn**	**18 39 23.3**	**+1.6**
	3.4nm,0.7s,baz=28,slow=12,SNR=7.5							
CTAO	**Charters Tower**	**16.42**	**211**			**Pn**	**18 39 21.9**	**+0.3**
CTAO				IAmb		IAmb	18 39 47.0	
	comp=Z,14nm,1.3s							
NOUC	**Port Laguerre**	**19.36**	**147**	P		**P**	**18 39 55.1**	**+1.2**
DZM	**Mont Dzumac**	**19.42**	**147**	P		**Pn**	**18 39 56.5**	**-0.8**
	comp=Z,8.2nm,0.5s,baz=251,slow=9.9,SNR=27							
DZM	**Mont Dzumac**	**19.42**	**147**	P		**P**	**18 39 55.7**	**+1.1**
DZM				IAmb		IAmb	18 40 04.3	
	comp=Z,16nm,1.1s							
DZM	**Mont Dzumac**	**19.42**	**147**	P		**P**	**18 39 56.2**	**+1.6**
OUENC	**Ouen Island, N**	**19.91**	**146**	P		**P**	**18 39 59.3**	**-0.6**
OUENC				IAmb		IAmb	18 40 11.1	
	comp=Z,25nm,1.3s							
KDU	**Kakadu**	**23.24**	**252**	P		**P**	**18 40 33.1**	**-0.8**
WR0	**Warramunga Arr**	**24.30**	**233**	P		**P**	**18 40 43.2**	**-0.2**
WR0				IAmb		IAmb	18 40 45.0	
	comp=Z,5.6nm,0.6s							
WB0	**Warramunga Arr**	**24.31**	**234**	P		**P**	**18 40 42.4**	**-1.2**
WB0				IAmb		IAmb	18 40 42.6	
	comp=Z,10nm,1.4s							
WRAB	**Tennant Creek**	**24.43**	**234**	P		**P**	**18 40 44.3**	**-0.3**
WRAB				IAmb		IAmb	18 40 46.3	
	comp=Z,3.5nm,0.9s							
WRAB	**Tennant Creek**	**24.43**	**234**	P		**P**	**18 40 44.4**	**-0.3**
WB2	**Warramunga Arr**	**24.44**	**233**	P		**P**	**18 40 42.0**	**-2.8**
WB2				IAmb		IAmb	18 41 13.2	
	comp=Z,7.8nm,1.2s							
WRA	**Warramunga Arr**	**24.45**	**234**	P		**P**	**18 40 44.5**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=62,slow=10,SNR=14							
WRA				PcP		**PcP**	**18 44 18.5**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=54,slow=2.4,SNR=2.1							
	comp=Z,1.5nm,0.5s							
WRA	**Warramunga Arr**	**24.45**	**234**	P		**P**	**18 40 43.4**	**-1.4**
TAVE	**Taveuni**	**26.73**	**116**	P		P	18 41 13.1	+7.7
AS01	**Alice Springs**	**26.86**	**227**	P		**P**	**18 41 05.4**	**-1.2**
AS31	**Alice Springs**	**26.89**	**227**	P		**P**	**18 41 04.8**	**-2.0**
ASAR	**Alice Springs**	**26.89**	**227**	P		**P**	**18 41 05.5**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=56,slow=9.0,SNR=16							
ASAR				PcP		**PcP**	**18 44 24.5**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=48,slow=2.6,SNR=5.8							
	comp=Z,0.3nm,0.4s							
ASAR	**Alice Springs**	**26.89**	**227**	P		**P**	**18 41 04.5**	**-2.4**
LSRK	**Leigh Creek**	**29.03**	**211**	P		**P**	**18 41 27.9**	**+2.1**
HTT	**Hallett**	**31.15**	**207**	P		**P**	**18 41 47.0**	**+2.5**
MULG	**Mulgathing**	**31.22**	**217**	P		**P**	**18 41 46.9**	**+1.9**
WRKA	**Warakurna**	**31.87**	**231**	P		**P**	**18 41 49.3**	**-1.6**
BBOO	**Buckleboo**	**32.02**	**211**	P		**P**	**18 41 52.9**	**+0.9**
TOLI2	**Tolitoli**	**34.94**	**281**	P		**P**	**18 42 15.1**	**-2.5**
TOLI2				IAmb		IAmb	18 42 22.4	
	comp=Z,4.1nm,0.8s							
TOLI2	**Tolitoli**	**34.94**	**281**	P		**P**	**18 42 16.5**	**-1.1**
FORT	**Forrest**	**35.36**	**222**	P		**P**	**18 42 19.2**	**-1.8**
FORT				IAmb		IAmb	18 42 38.4	
	comp=Z,15nm,1.0s							
THZ	**Tophouse**	**39.01**	**159**	P		**P**	**18 42 50.1**	**-1.6**
TCW	**Tory Channel**	**39.05**	**157**	P		**P**	**18 42 52.1**	**+0.1**
LTZ	**Lake Taylor**	**39.69**	**160**	P		**P**	**18 42 57.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**60.41**	**295**	P		**P**	**18 45 34.0**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=127,slow=5.9,SNR=2.2							
	comp=Z,0.3nm,0.4s							
SONM	**Songino Array**	**68.52**	**327**	P		**P**	**18 46 26.8**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=150,slow=5.3,SNR=13							
	comp=Z,0.7nm,0.5s							
ILAR	**Eielson Array**	**82.42**	**22**	P		**P**	**18 47 44.4**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=247,slow=5.1,SNR=5.7							
	comp=Z,0.2nm,0.5s							
MK31	**Makanchi Array**	**82.69**	**319**	P		**P**	**18 47 44.8**	**-1.9**
MKAR	**Makanchi Array**	**82.69**	**319**	P		**P**	**18 47 46.1**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=102,slow=5.4,SNR=13							
	comp=Z,1.4nm,0.8s							
MKAR	**Makanchi Array**	**82.69**	**319**	P		**P**	**18 47 45.2**	**-1.4**
ZALV	**Zalesovo Beam**	**83.38**	**326**	P		**P**	**18 47 48.5**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=122,slow=7.2,SNR=2.9							
	comp=Z,0.4nm,0.4s							
NVAR	**Mina Array Bea**	**91.05**	**52**	P		**P**	**18 48 29.5**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=280,slow=11,SNR=1.9							
	comp=Z,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**95.42**	**28**	P		**P**	**18 48 47.2**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=240,slow=9.6							
	comp=Z,0.2nm,0.7s							
ESDC	**Sonseca Array**	**141.50**	**334**	PKP		**PKPdf**	**18 54 53.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=51,slow=10,SNR=3.3							
TORD	**Torodi Ar. Bea**	**152.80**	**287**	PKPbc		**PKPbc**	**18 55 17.9**	**-2.1**
	comp=Z,6.8nm,0.5s,baz=55,slow=1.1,SNR=1.9							

*JMA **22** 18:51:20.1±0.3,24.°N±1.°×12.°2E±.°, h49km±3km, MV2.5/9, TAIWAN REGION*

*TAP **22** 18:51:21.1,24.°45N×121.°92E, h17km, ML3.0, C*

ISC 22 18:51:20.9±0.8,24.°43N±0.°02×121.°95E±0.°02,h17km±5km, n80,σ0§52/124,4C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.15**	**275**	⇓*i*P		**Pg**	**18 51 25.0**	**0.0**
	baz=270							
EWUT				*i* S		**Sg**	**18 51 27.7**	**-0.1**
	baz=270							
ENA	**Nanau**	**0.19**	**269**	⇓*i*P		**Pg**	**18 51 25.5**	**0.0**
	baz=263							
ENA				*i* S		**Sg**	**18 51 28.3**	**-0.4**
	baz=263							
TWC	**Suao**	**0.20**	**333**	⇑*i*P		**Pg**	**18 51 25.7**	**0.0**
	baz=346							
TWC				*i* S		**Sg**	**18 51 28.3**	**-0.6**
	baz=346							
EHP	**Heping Village**	**0.23**	**237**	P		**Pg**	**18 51 26.1**	**0.0**
	baz=230							
EHP				S		**Sg**	**18 51 29.9**	**+0.3**
	baz=230							
NDS	**Dongshan**	**0.29**	**314**	⇑*i*P		**Pb**	**18 51 27.4**	**-0.2**
	baz=314							
NDS				S		**Sg**	**18 51 31.0**	**-0.5**
	baz=314							
ILA	**Ilan**	**0.38**	**331**	*e*P		**Pb**	**18 51 29.1**	**0.0**
	baz=326							
ILA				*e*S		**Sb**	**18 51 34.4**	**-0.4**
	baz=326							
TWE	**Neicheng**	**0.39**	**318**	⇑*i*P		**Pb**	**18 51 29.0**	**-0.2**
	baz=320							
TWE				*i* S		**Sg**	**18 51 33.7**	**-0.5**
	baz=320							
LATG	**Datong**	**0.40**	**285**	⇓*i*P		**Pb**	**18 51 29.2**	**-0.3**
	baz=284							
LATG				S		**Sb**	**18 51 34.7**	**-0.7**
	baz=284							
ETL	**Fush Village**	**0.40**	**228**	P		**Pg**	**18 51 28.9**	**-0.2**
	baz=226							
ETL				*e*S		**Sb**	**18 51 35.0**	**-0.4**
	baz=226							
ENTT	**Nioudou**	**0.41**	**301**	⇓*i*P		**Pb**	**18 51 29.4**	**-0.2**
	baz=300							
ENTT				S		**Sg**	**18 51 34.5**	**-0.3**
	baz=300							
EGS		**0.41**	**358**	*e*P		**Pb**	**18 51 29.7**	**0.0**
	baz=357							
EGS				*e*S		**Sb**	**18 51 35.4**	**-0.3**
	baz=357							
NACB	**Ninganchiao**	**0.41**	**232**	⇓P		**Pg**	**18 51 29.0**	**-0.3**
	baz=230							
NACB				S		**Sg**	**18 51 34.8**	**-0.2**
	baz=230							
TWD	**Chiawan**	**0.48**	**223**	⇓P		**Pg**	**18 51 30.2**	**-0.2**
	baz=224							
TWD				S		**Sb**	**18 51 37.0**	**-0.4**
	baz=224							
ETLH	**Xiulin Townshi**	**0.48**	**242**	P		**Pg**	**18 51 30.2**	**-0.4**
	baz=241							
ETLH				*e*S		**Sg**	**18 51 37.0**	**-0.1**
	baz=241							
NNSB	**Datong**	**0.52**	**270**	⇓*i*P		**Pb**	**18 51 31.3**	**-0.3**
	baz=268							
NNSB				S		**Sg**	**18 51 37.6**	**-0.6**
	baz=268							
NNSH	**Datong**	**0.52**	**270**	*e*P		**Pb**	**18 51 31.1**	**-0.4**
	baz=268							
NNSH				*e*S		**Sg**	**18 51 37.9**	**-0.3**
	baz=268							
NNS	**Nan Shan**	**0.52**	**271**	⇓*i*P		**Pb**	**18 51 31.4**	**-0.3**
	baz=269							
NNS				*i* S		**Sg**	**18 51 38.0**	**-0.5**
	baz=269							
NWLT	**Wulai**	**0.53**	**310**	*e*P		**Pb**	**18 51 31.7**	**0.0**
	baz=304							
NWLT				*e*S		**Sg**	**18 51 38.1**	**-0.5**
	baz=304							
TIPB	**Shuangxi**	**0.55**	**348**	*e*P		**Pb**	**18 51 32.0**	**-0.1**
	baz=348							
TIPB				*e*S		**Sb**	**18 51 39.3**	**-0.4**
	baz=348							
HWA	**Hwalien**	**0.55**	**215**	*e*P		**Pb**	**18 51 32.9**	**+0.8**
	baz=220							
YHNB	**Yeheng**	**0.57**	**295**	⇓*i*P		**Pb**	**18 51 32.5**	**+0.1**
	baz=293							
YHNB				S		**Sg**	**18 51 39.4**	**-0.5**
	baz=293							
TWB1	**Santiao Chiao**	**0.57**	**4**	*e*P		**Pb**	**18 51 32.5**	**0.0**
	baz=357							
TWB1				S		**Sg**	**18 51 39.7**	**-0.3**
	baz=357							
NSK	**Sanguang**	**0.59**	**294**	⇓*i*P		**Pb**	**18 51 32.8**	**0.0**
	baz=294							
NSK				*i* S		**Sg**	**18 51 40.0**	**-0.5**
	baz=294							
ETM	**Tongmen**	**0.62**	**222**	P		**Pg**	**18 51 32.9**	**-0.3**
	baz=228							
ETM				*e*S		**Sb**	**18 51 41.7**	**-0.1**
	baz=228							
TWA	**Mucha**	**0.64**	**329**	P		**Pb**	**18 51 33.9**	**+0.3**
	baz=318							
TWA				S		**Sb**	**18 51 42.0**	**-0.3**
	baz=318							
NHDH	**Xindian Distri**	**0.65**	**324**	*e*P		**Pb**	**18 51 34.6**	**+0.8**
	baz=315							
NHDH				*e*S		**Sb**	**18 51 42.5**	**-0.2**
	baz=315							
NWF	**Wu-fen Shan**	**0.65**	**347**	P		**Pb**	**18 51 34.4**	**+0.5**
	baz=337							
NWF				S		**Sb**	**18 51 43.0**	**+0.3**
	baz=337							
WFSB	**Wu-fen Shan**	**0.65**	**347**	*e*P		**Pb**	**18 51 34.3**	**+0.5**
	baz=337							
WFSB				*e*S		**Sb**	**18 51 43.0**	**+0.4**
	baz=337							
SXI1	**Grass Mountain**	**0.66**	**354**	P		**Pb**	**18 51 34.2**	**+0.2**
	baz=359							
SXI1				S		**Sg**	**18 51 42.5**	**-0.3**
	baz=359							
FUSS	**Fushou**	**0.67**	**254**	P		**Pb**	**18 51 34.0**	**-0.2**
	baz=253							
FUSS				*e*S		**Sb**	**18 51 42.8**	**-0.5**
	baz=253							
WHF	**Hehuan Shan**	**0.69**	**246**	P		**Pg**	**18 51 34.0**	**-0.4**
	baz=253							
WHF				S		**Sg**	**18 51 43.3**	**-0.3**
	baz=253							
TAP	**Taipei**	**0.73**	**326**	S		**Sb**	**18 51 45.6**	**+0.8**
	baz=318							
TWT	**Tachien**	**0.73**	**256**	*e*P		**Pb**	**18 51 35.4**	**+0.2**
	baz=249							
TWT				*e*S		**Sb**	**18 51 45.1**	**+0.2**
	baz=249							
TDCB	**Techi**	**0.74**	**256**	*e*P		**Pb**	**18 51 35.4**	**0.0**
	baz=250							
TDCB				*e*S		**Sg**	**18 51 44.9**	**-0.4**
	baz=250							
ESL	**Shilin**	**0.78**	**218**	⇑P		**Pg**	**18 51 35.7**	**-0.3**
	baz=224							
NFF	**Wufeng Townshi**	**0.78**	**285**	*e*P		**Pb**	**18 51 36.5**	**+0.5**
	baz=284							
NFF				*e*S		**Sg**	**18 51 46.0**	**-0.6**
	baz=284							
YM01	**YM01**	**0.79**	**334**	*e*P		**Pn**	**18 51 37.0**	**-0.3**
	baz=339							
YM01				*e*S		**Sb**	**18 51 47.7**	**+1.1**
	baz=339							
CHGB	**Renai**	**0.80**	**243**	*e*P		**Pb**	**18 51 36.3**	**-0.1**
	baz=250							
CHGB				*e*S		**Sg**	**18 51 46.6**	**-0.5**
	baz=250							
TWS1	**Kuangyinshan**	**0.82**	**324**	*e*P		**Pn**	**18 51 37.8**	**+0.1**
	baz=316							
TWS1				*e*S		**Sn**	**18 51 49.7**	**+0.2**
	baz=316							
ANP	**Anpu**	**0.85**	**333**	*e*P		**Pb**	**18 51 37.8**	**+0.6**
	baz=333							
OWD	**Renai**	**0.85**	**236**	*e*P		**Pg**	**18 51 37.0**	**-0.4**
	baz=235							
NTST	**Danshui**	**0.86**	**328**	*e*P		**Pn**	**18 51 38.4**	**+0.2**
	baz=327							
NTST				*e*S		**Sn**	**18 51 50.9**	**+0.5**
	baz=327							
LIOB	**Emei**	**0.88**	**284**	*e*P		**Pn**	**18 51 38.4**	**-0.1**
	baz=283							
NCUH	**Zhongli**	**0.88**	**308**	*e*P		**Pn**	**18 51 39.2**	**+0.8**
	baz=307							
WUSB	**Renai**	**0.88**	**240**	*e*P		**Pb**	**18 51 37.7**	**0.0**
	baz=232							
NSTT	**Nanjuang**	**0.89**	**283**	*e*P		**Pb**	**18 51 38.3**	**+0.5**
	baz=274							
NSTT				S		**Sb**	**18 51 49.7**	**+0.4**
	baz=274							
EGFH	**Guangfu**	**0.90**	**212**	*e*P		**Pb**	**18 51 38.4**	**+0.5**
	baz=227							
TWY	**Chenhua**	**0.90**	**339**	*e*P		**Pn**	**18 51 39.3**	**+0.6**
	baz=339							
TWY				*e*S		**Sn**	**18 51 51.2**	**-0.1**
	baz=339							
JYNG	**Yonagunijimaku**	**0.91**	**89**	P		**Pb**	**18 51 38.5**	**+0.3**
WHP	**Taichung City**	**0.93**	**261**	*e*P		**Pn**	**18 51 39.2**	**0.0**
	baz=260							
SBCB	**Hsinchu**	**0.95**	**292**	*e*P		**Pn**	**18 51 40.4**	**+1.1**
	baz=292							
YOJ	**Yonaguni jima**	**0.97**	**88**	*e*P		**Pg**	**18 51 39.3**	**-0.4**
YOJ				*e*S		**Sb**	**18 51 53.1**	**+1.4**
VWDT	**VWDT**	**1.00**	**228**	*e*P		**Pn**	**18 51 40.2**	**+0.1**
	baz=233							
WCS	**Beigang Elemen**	**1.02**	**249**	*e*P		**Pn**	**18 51 40.6**	**+0.3**
	baz=248							
HGSD	**Ruisui**	**1.05**	**207**	*e*P		**Pn**	**18 51 41.4**	**+0.6**
	baz=224							
TWQ1	**Liyutan**	**1.07**	**266**	*e*P		**Pn**	**18 51 43.1**	**+2.0**
	baz=278							
EHY	**Hungye**	**1.08**	**212**	*e*P		**Pg**	**18 51 40.7**	**-1.2**
	baz=211							
SMLT	**Sun Moon Lake**	**1.10**	**240**	*e*P		**Pn**	**18 51 42.4**	**+0.8**
	baz=240							
SSLB	**Suanglung**	**1.11**	**235**	*e*P		**Pn**	**18 51 42.0**	**+0.3**
	baz=235							
TYC	**Yuchr**	**1.13**	**242**	*e*P		**Pn**	**18 51 42.5**	**+0.7**
	baz=242							
YULB	**Yu-li**	**1.19**	**210**	*e*P		**Pb**	**18 51 42.8**	**-0.3**
	baz=211							
EYUL	**Yuli**	**1.22**	**208**	*e*P		**Pn**	**18 51 43.4**	**+0.2**
	baz=223							
FULB	**Fuli**	**1.37**	**206**	*e*P		**Pn**	**18 51 45.0**	**-0.2**
	baz=222							
ALS	**Alishan**	**1.39**	**229**	*e*P		**Pg**	**18 51 47.5**	**-0.2**
	baz=216							
CHN5	**Tsauling**	**1.43**	**235**	*e*P		**Pg**	**18 51 48.6**	**+0.2**
	baz=235							
EHD	**Haiduan**	**1.45**	**208**	*e*P		**Pn**	**18 51 47.1**	**+0.8**
	baz=209							
WDLH	**Douliu**	**1.49**	**240**	*e*P		**Pg**	**18 51 49.0**	**-0.5**
	baz=241							
ELDTW	**Lidau**	**1.50**	**215**	*e*P		**Pn**	**18 51 48.1**	**+0.9**
	baz=202							
WRL	**Guolierlin Hig**	**1.53**	**250**	*e*P		**Pb**	**18 51 48.8**	**0.0**
	baz=262							
WCKO	**Fanlu**	**1.58**	**231**	*e*P		**Pb**	**18 51 50.2**	**+0.6**
	baz=233							
IRIF	**Iriomote-Funau**	**1.63**	**93**	*e*P		**Pn**	**18 51 48.3**	**-0.4**
IRIF				*e*S		**Sn**	**18 52 08.8**	**-0.5**
TPUB	**Ta-pu**	**1.65**	**227**	*e*P		**Pb**	**18 51 51.5**	**+0.6**
	baz=229							
STYH	**Taoyuan**	**1.65**	**221**	*e*P		**Pb**	**18 51 51.0**	**+0.2**
	baz=222							
WTP	**Ta-pu**	**1.70**	**226**	*e*P		**Pb**	**18 51 52.1**	**+0.4**
	baz=228							
TWK	**Hsinying**	**1.77**	**229**	*e*P		**Pb**	**18 51 53.4**	**+0.5**
	baz=233							
TWK				*e*S		**Sg**	**18 52 19.3**	**+1.4**
	baz=233							
CHN1	**Nanshi**	**1.80**	**227**	*e*P		**Pg**	**18 51 54.3**	**-1.2**
	baz=228							
SGST	**Jiashian**	**1.84**	**223**	*e*P		**Pb**	**18 51 53.3**	**-0.7**
	baz=225							
JKRS	**Kuro-shima**	**1.89**	**95**	*e*P		**Pn**	**18 51 52.7**	**+0.4**
JKRS				*e*S		**Sn**	**18 52 16.4**	**+0.6**
JIJ	**Ishigaki jima**	**2.00**	**92**	P		**Pn**	**18 51 53.8**	**-0.1**
JIJ				*e*S		**Sn**	**18 52 17.7**	**-0.9**
JISG	**Ishigakijimahi**	**2.16**	**85**	P		**Pn**	**18 51 55.8**	**-0.2**

*IDC **22** 19:00:19.7±1.0,10.°86S×161.°85E,h0km, mb3.9/9, mbtmp3.9/10, ML4.0/1, MS3.4/4, Error ellipse: s-maj=25.4km s-min=20.9km az=163.0*

ISC 22 19:00:25.1±0.8,10.°90S±0.°10×161.°8E±0.°1,h36km,n15, σ0§65/13,mb3.8/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.36**	**308**	P	Pn	**Pn**	**19 01 01.5**	**+0.1**
	3µm,0.3s,baz=162,slow=6.6,SNR=28							
HNR					Sn	**Sn**	**19 01 30.4**	**+1.2**
	2µm,0.3s,baz=19,slow=21,SNR=9.6							
DZM	**Mont Dzumac**	**11.96**	**159**	P	Pn	Pn	19 03 18.6	+5.5
	1.2nm,0.3s,baz=19,slow=7.9,SNR=49							
DZM					Sn	**Sn**	**19 05 26.1**	**+0.7**
	0.2nm,0.3s,baz=21,slow=13,SNR=1.5							
DZM					LR	LR	19 07 33.4	
	comp=Z,196nm,18.1s,baz=10.0,slow=36							
PMG	**Port Moresby**	**14.53**	**275**		LR	LR	19 09 19.3	
	comp=Z,219nm,19.3s,baz=96,slow=37							
MSVF	**Nonsavu**	**17.11**	**115**		LR	LR	19 09 46.8	
	comp=Z,170nm,19.4s,baz=0.4,slow=33							
CTA	**Charters Tower**	**17.57**	**237**	P		**P**	**19 04 28.5**	**+0.4**
	0.3nm,0.3s,baz=61,slow=11,SNR=9.9							
	4.9nm,0.9s							
AFI	**Afiamalu**	**25.93**	**99**	P		**P**	**19 05 54.6**	**+0.2**
	5.0nm,0.4s,baz=50,slow=20,SNR=1.3							
	5.0nm,0.4s							
WRA	**Warramunga Arr**	**27.96**	**248**	P		**P**	**19 06 12.4**	**-0.2**
	0.5nm,0.7s,baz=76,slow=10.0,SNR=9.4							
	1.6nm,0.7s							
STKA	**Stephens Creek**	**28.03**	**219**	P		**P**	**19 06 13.1**	**+0.1**
	1.2nm,0.9s,baz=9.5,slow=12,SNR=2.1							
	1.2nm,0.9s							
ASAR	**Alice Springs**	**29.47**	**241**	P		**P**	**19 06 25.2**	**-0.8**
	0.2nm,0.6s,baz=62,slow=9.9,SNR

baz=139,slow=75,SNR=94
H01W2 Cape Leeuwin H 24.36 302 T T 19 33 34.2
baz=139,slow=75,SNR=101
H01W3 Cape Leeuwin H 24.37 302 T T 19 33 30.6
baz=139,slow=75,SNR=76
ASAR Alice Springs 27.71 349 P **P** **19 08 51.2 -0.6**
comp=Z,1.0nm,0.6s,baz=168,slow=9.4,SNR=6.6
ASAR PcP **PcP** **19 12 08.6 +0.1**
comp=Z,0.9nm,1.1s,baz=161,slow=2.6,SNR=2.9
comp=Z,1.0nm,0.6s
ASAR Alice Springs 27.71 349 P **P** **19 08 51.9 +0.1**
VNDA Vanda 27.83 170 P **P** **19 08 54.2 +1.8**
comp=Z,5.7nm,1.0s,baz=323,slow=11,SNR=10
VNDA LR LR 19 17 49.2
comp=Z,161nm,18.6s,baz=323,slow=32
comp=Z,5.7nm,1.0s
VNDA Vanda 27.83 170 P **P** **19 08 53.2 +0.8**
VNDA IAmb IAmb 19 09 02.9
comp=Z,5.9nm,1.1s
URZ Urewera 29.43 79 LR LR 19 19 49.9
comp=Z,110nm,20.3s,baz=334,slow=34
WB2 Warramunga Arr 31.34 351 P **P** **19 09 22.6 -1.4**
WRA Warramunga Arr 31.34 351 P **P** **19 09 23.1 -0.9**
comp=Z,1.8nm,0.7s,baz=178,slow=8.1,SNR=14
WRA PcP **PcP** **19 12 17.4 -0.4**
comp=Z,2.3nm,1.2s,baz=177,slow=2.2,SNR=2.2
comp=Z,1.8nm,0.7s
WRA Warramunga Arr 31.34 351 P **P** **19 09 23.4 -0.6**
WRAB Tennant Creek 31.35 351 P **P** **19 09 23.6 -0.5**
WRAB IAmb IAmb 19 09 36.0
comp=Z,15nm,1.1s
CTA Charters Tower 31.43 13 LR LR 19 21 41.8
comp=Z,236nm,19.0s,baz=200,slow=36
FITZ Fitzroy Crossi 34.69 337 P **P** **19 09 53.5 +0.3**
DZM Mont Dzumac 35.85 46 LR LR 19 21 36.1
comp=Z,160nm,19.3s,baz=194,slow=31
QSPA South Pole Qui 39.01 180 P **P** **19 10 28.5 -1.3**
comp=Z,3.2nm,0.7s,baz=354,slow=3.7,SNR=8.0
QSPA LR LR 19 25 15.2
comp=Z,220nm,20.8s,baz=358,slow=34
comp=Z,3.2nm,0.7s
QSPA South Pole Qui 39.01 180 P **P** **19 10 32.7 +2.9**
QSPA IAmb IAmb 19 10 36.9
comp=Z,18nm,1.0s
MAW Mawson 39.33 216 LR LR 19 24 33.1
comp=Z,262nm,20.4s,baz=108,slow=33
PMG Port Moresby 42.07 12 P **P** **19 10 54.8 -0.5**
comp=Z,12nm,1.0s,baz=153,slow=4.5,SNR=2.6
PMG LR LR 19 27 08.8
comp=Z,219nm,21.3s,baz=162,slow=34
comp=Z,12nm,1.0s
PMG Port Moresby 42.07 12 P **P** **19 10 54.8 -0.5**
PMG IAmb IAmb 19 11 03.8
comp=Z,16nm,0.8s
HNR Honiara 44.88 29 LR LR 19 28 53.1
comp=Z,1µm,18.2s,baz=148,slow=35
MSVF Nonsavu 45.26 57 LR LR 19 25 21.6
comp=Z,88nm,21.5s,baz=220,slow=30
KRVT Keravat (AS076 47.83 17 LR LR 19 30 06.7
comp=Z,106nm,21.8s,baz=280,slow=34
KAPI Kappang 48.77 334 P **P** **19 11 49.0 +0.6**
comp=Z,7.9nm,0.8s,baz=185,slow=14,SNR=5.0
comp=Z,7.9nm,0.8s
BELA Belgrano 2 51.24 182 P **P** **19 12 05.5 -1.0**
BELA IAmb IAmb 19 12 11.0
comp=Z,10nm,0.9s
SNAA Sanae 54.64 194 pP **P** **19 12 31.3 -0.4**
SNAA Sanae 54.64 194 LR LR 19 34 51.6
comp=Z,213nm,20.4s,baz=135,slow=35
VNA2 Neumayer--Watz 55.96 193 pP **P** **19 12 39.9 -1.3**
baz=148,slow=7.0
VNA3 Neumayer Olymp 55.97 192 pP **P** **19 12 40.3 -0.9**
PMSA Palmer Station 63.04 168 LR LR 19 39 06.4
comp=Z,122nm,20.0s,baz=122,slow=34
GUMO Guam 64.60 6 LR LR 19 43 06.3
comp=Z,48nm,18.6s,baz=50,slow=37
H08S2 Diego Garcia H 69.62 284 T T 20 30 03.2
baz=142,slow=76,SNR=11
H08S1 Diego Carcia H 69.63 284 T T 20 30 03.0
baz=142,slow=76,SNR=6.6
H08S3 Diego Garcia H 69.64 284 T T 20 30 12.2
baz=142,slow=76,SNR=10
CMAR Chiang Mai Arr 77.79 321 P **P** **19 15 00.4 -0.3**
comp=Z,0.3nm,0.3s,baz=170,slow=6.1,SNR=2.2
comp=Z,0.3nm,0.3s
BOSA Boshof 81.75 234 LR LR 19 46 45.7
comp=Z,50nm,19.4s,baz=188,slow=32
LZH Lanzhou 92.26 332 *e*P P 19 16 20.3 +7.0
LZH pP pwP 19 16 26.5 +6.6
LZH pmax pmax
comp=Z,12nm,1.2s
TSUM Tsumeb 93.43 234 LR LR 19 51 10.5
comp=Z,83nm,21.6s,baz=156,slow=31
YKA Yellowknife Ar 140.21 44 PKhKP PKPpre 19 22 23.1
comp=Z,0.2nm,0.7s,baz=244,slow=4.3,SNR=2.4
ARSA Arzberg 143.83 286 *ep*PKP pPKPdf 19 22 39.3 -0.9
comp=Z,2.3nm,0.9s
SOKA Soboth 143.86 285 *ep*PKP pPKPdf 19 22 40.5 0.0
comp=Z,4.9nm,1.3s
DPC Dobruska-Polom 144.70 292 *e*PKP **PKPab** **19 22 37.5 -0.7**
ARCES ARCESS Array B 144.71 326 PKP **PKPdf** **19 22 38.2 -0.6**
comp=Z,14nm,1.1s,baz=90,slow=4.5,SNR=4.9
OSTC Ostas 144.84 292 *e*PKP **PKPdf** **19 22 39.4 -0.2**
MOA Molln 144.86 287 *ep*PKP pPKPdf 19 22 41.4 -0.6
comp=Z,7.3nm,1.6s
KBA Koelnbreinsper 145.07 285 *ep*PKP **PKPdf** **19 22 41.3 +1.0**
comp=Z,6.2nm,1.2s
BIOA Bad Ischl, Aus 145.17 286 *e*PKP **PKPdf** **19 22 40.6 +0.2**
comp=Z,7.6nm,1.1s
CKRC Cesky Krumlov 145.25 288 *e*PKP **PKiKP** **19 22 42.2 -2.1**
ABTA Abfaltersbach 145.43 284 *e*PKP **PKPab** **19 22 41.6 +0.5**
comp=Z,9.2nm,1.1s
GERES GERESS Array B 145.63 288 PKPbc **PKPdf** **19 22 39.9 -1.2**
comp=Z,7.2nm,1.1s,baz=188,slow=4.0,SNR=8.9
ULM Lac du Bonnet 145.69 69 PKPbc **PKPdf** **19 22 40.3 -0.7**
comp=Z,0.8nm,0.3s,baz=267,slow=2.0,SNR=1.9
KHC Kasperske Hory 145.82 288 *e*PKP **PKPab** **19 22 42.3 -0.1**
SQTA Sankt Quirin 146.44 284 *e*PKP **PKPbc** **19 22 44.1 +0.1**
comp=Z,1.8nm,0.6s
MOTA Moosalm 146.56 284 *ep*PKP **PKPab** **19 22 45.4 -0.1**
comp=Z,12nm,1.0s
FETA Feichten 146.65 284 *e*PKiKP **PKiKP** **19 22 46.6 -0.8**
comp=Z,5.2nm,0.9s
RETA Reutte 146.83 284 *ep*PKP **PKiKP** **19 22 50.0 +2.3**
comp=Z,11nm,1.5s
CLL Collm 147.01 292 *e*PKPbc **PKiKP** **19 22 49.0 +1.2**
comp=Z,8.0nm,1.4s
DAVA Damuels 147.28 283 *ep*PKP **PKiKP** **19 22 51.6 +2.9**
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 152.10 260 PKPbc **PKiKP** **19 22 58.6 -0.2**
comp=Z,1.5nm,1.1s,baz=150,slow=1.1,SNR=5.5

*ISK **22** 19:03:17.7, 42°.03N×42°.91E, h4km, ML3.2/12*
*TIF **22** 19:03:17.6, 42°.03N×42°.91E, h16km±1km*
*DDA **22** 19:03:18.2±0.0, 41°.92N×42°.84E, h1km, ML3.0*
*NORS **22** 19:03:18.6±0.0, 42°.18N×42°.87E, h3km, MPVA4.1*
*DRS **22** 19:03:18.2±0.0, 42°.05N×42°.36E, h20km*
*AZER **22** 19:03:18.7±0.3, 42°.01N×42°.97E, h6km±9km, Error ellipse: s-maj=28.7km s-min=5.1km az=304.0*
*NSSP **22** 19:03:19.8, 41°.93N×42°.77E, h10km, Ms3.0*
*MOS **22** 19:03:19.5±0.0, 42°.11N×42°.80E, h4km, MPVA3.8*
*CFUSG **22** 19:03:21.7, 42°.00N×42°.40E, h5km, mb3.2/3, Georgia*
Magtype MSH 3.0 from 1 stations

ISC 22 19:03:18.6±1.0, 42°.01N±0°.01×42°.88E±0°.01, h4km±9km, n152, σ1°35/275, 10C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABS	**Abastumani**	**0.26**	**190**	P		**Pg**	**19 03 25.0**	**+1.3**
ABS				S		**Sb**	**19 03 29.7**	**-1.1**
ABS	**Abastumani**	**0.26**	**190**	*e*PG		**Pg**	**19 03 24.9**	**+1.3**
ABS				*e*S		**Sb**	**19 03 29.7**	**-1.1**
TKB	**Tkibuli**	**0.35**	**14**	P		**Pg**	**19 03 24.9**	**-0.4**
TKB				S		**Sg**	**19 03 30.1**	**+0.1**
TKB	**Tkibuli**	**0.35**	**14**	*e*PG		**Pg**	**19 03 24.9**	**-0.4**
ALIG	**Mtskhetisjvari**	**0.58**	**81**	P		**Pg**	**19 03 28.7**	**-1.0**
ALIG				S		**Sg**	**19 03 36.6**	**-0.8**
ALIG	**Mtskhetisjvari**	**0.58**	**81**	*e*PG		**Pg**	**19 03 28.7**	**-1.0**
ONI	**Oni**	**0.72**	**36**	P		**Pg**	**19 03 31.7**	**-0.7**
ONI				S		**Sg**	**19 03 41.8**	**+0.1**
ONI	**Oni**	**0.72**	**36**	Pg		**Pg**	**19 03 31.7**	**-0.7**
ONI				Sg		**Sg**	**19 03 41.8**	**+0.1**
ONI	**Oni**	**0.72**	**36**	*e*PG		**Pg**	**19 03 31.6**	**-0.7**
ONI				*e*S		**Sg**	**19 03 41.7**	**+0.1**
AKH	**Akhalkalaki**	**0.76**	**142**	P		**Pg**	**19 03 32.8**	**-0.3**
AKH				S		**Sg**	**19 03 43.9**	**+0.9**
AKH	**Akhalkalaki**	**0.76**	**142**	Pg		**Pg**	**19 03 32.8**	**-0.3**
AKH				Sg		**Sg**	**19 03 43.9**	**+0.9**
AKH	**Akhalkalaki**	**0.76**	**142**	*e*PG		**Pg**	**19 03 32.7**	**-0.3**
AKH				*e*S		**Sg**	**19 03 43.8**	**+0.9**
BRNG	**Burnasheti**	**0.81**	**118**	P		**Pg**	**19 03 34.0**	**-0.1**
BRNG				S		**Sb**	**19 03 46.8**	**+0.1**
BRNG	**Burnasheti**	**0.81**	**118**	*e*PG		**Pg**	**19 03 34.0**	**-0.1**
BRNG				*e*S		**Sb**	**19 03 46.8**	**+0.1**
BGD	**Bogdanovka**	**0.92**	**144**	P		**Pg**	**19 03 35.6**	**-0.6**
BGD				S		**Sg**	**19 03 48.6**	**+0.3**
BGD	**Bogdanovka**	**0.92**	**144**	*e*PG		**Pg**	**19 03 35.6**	**-0.6**
BGD				*e*S		**Sg**	**19 03 48.5**	**+0.3**
BATM	**Batumi**	**0.97**	**246**	P		**Pg**	**19 03 36.5**	**-0.7**
BATM				S		**Sb**	**19 03 51.4**	**+0.1**
BATM	**Batumi**	**0.97**	**246**	*e*PG		**Pg**	**19 03 36.5**	**-0.7**
BATM				*e*S		**Sb**	**19 03 51.3**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.03**	**30**	*e*Pg		**Pg**	**19 03 37.4**	**-0.9**
DIGR				*e*Sg		**Sg**	**19 03 52.2**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.03**	**30**	*e*PG		**Pg**	**19 03 37.4**	**-0.9**
DIGR				*e*S		**Sg**	**19 03 52.2**	**+0.6**
TRLG	**Trialeti**	**1.03**	**117**	P		**Pg**	**19 03 37.6**	**-0.7**
TRLG				S		**Sg**	**19 03 53.0**	**+1.2**
TRLG	**Trialeti**	**1.03**	**117**	*e*PG		**Pg**	**19 03 37.6**	**-0.7**
TRLG				*e*S		**Sg**	**19 03 52.9**	**+1.2**
ZEI	**Tsey**	**1.08**	**44**	*e*Pg		**Pg**	**19 03 38.6**	**-0.8**
ZEI				*e*Sg		**Sb**	**19 03 54.7**	**0.0**
ZEI	**Tsey**	**1.08**	**44**	*e*PG		**Pg**	**19 03 38.6**	**-0.8**
ZEI				*e*S		**Sb**	**19 03 54.7**	**0.0**
DBOC	**Borcka**	**1.12**	**234**	P		**Pg**	**19 03 38.6**	**-1.5**
DBOC				S		**Sg**	**19 03 54.4**	**-0.3**
DAGI	**Agillar**	**1.18**	**218**	P		**Pg**	**19 03 39.9**	**-1.3**
DAGI				S		**Sg**	**19 03 55.9**	**-0.5**
DAGI				*i* AML		AML	19 03 58.0	
	comp=E,254nm,0.4s							
DAGI				*i* AML		AML	19 03 59.0	
	comp=N,183nm,0.5s							
DMNI	**Dmanisi**	**1.20**	**124**	P		**Pg**	**19 03 40.2**	**-1.3**
DMNI				S		**Sg**	**19 03 56.7**	**-0.4**
DMNI	**Dmanisi**	**1.20**	**124**	*e*PG		**Pg**	**19 03 40.2**	**-1.3**
DMNI				*e*S		**Sg**	**19 03 56.6**	**-0.4**
NEY	**Neytrino**	**1.24**	**355**	*i* Pg		**Pg**	**19 03 41.5**	**-0.8**
NEY				*e*Pg		**Pg**	**19 03 42.0**	**-0.3**
NEY				*i* Sg		**Sg**	**19 03 58.0**	**-0.4**
NEY				*e*Sg		**Sb**	**19 03 58.5**	**-0.6**
NEY	**Neytrino**	**1.24**	**355**	*e*PG		**Pg**	**19 03 42.0**	**-0.3**
NEY				*e*S		**Sb**	**19 03 58.5**	**-0.6**
GUDG	**Gudauri**	**1.27**	**69**	P		**Pg**	**19 03 41.5**	**-1.4**
GUDG				S		**Sg**	**19 03 59.7**	**+0.3**
GUDG	**Gudauri**	**1.27**	**69**	*e*PG		**Pg**	**19 03 41.5**	**-1.4**
KZRT	**Kazreti**	**1.30**	**118**	P		**Pn**	**19 03 42.8**	**-0.8**
KZRT				S		**Sg**	**19 03 59.9**	**-0.5**
KZRT	**Kazreti**	**1.30**	**118**	*e*PG		**Pn**	**19 03 42.7**	**-0.8**
KZRT				*e*S		**Sg**	**19 03 59.8**	**-0.5**
DBAD	**Bademkaya**	**1.33**	**222**	P		**Pn**	**19 03 42.6**	**-1.4**
DBAD				S		**Sg**	**19 04 00.5**	**-0.8**
DBAD				*i* AML		AML	19 04 02.0	
	comp=N,559nm,0.7s							
DBAD				*i* AML		AML	19 04 02.0	
	comp=E,555nm,0.5s							
KORR	**Kora**	**1.39**	**39**	*e*Pg		**Pn**	**19 03 44.9**	**+0.1**
KORR				*e*Sg		**Sn**	**19 04 04.5**	**+0.9**
KORR	**Kora**	**1.39**	**39**	*e*PG		**Pn**	**19 03 44.9**	**+0.1**
KORR				*e*S		**Sn**	**19 04 04.5**	**+0.9**
KARS	**Kars**	**1.39**	**174**	Pn		**Pn**	**19 03 44.8**	**-0.1**
KARS				Sn		**Sn**	**19 04 05.1**	**+1.3**
DDEM	**Demirkent**	**1.40**	**217**	P		**Pn**	**19 03 43.9**	**-1.1**
DDEM				S		**Sb**	**19 04 02.5**	**-1.2**
DDEM				*i* AML		AML	19 04 06.0	
	comp=E,778nm,0.3s							
DDEM				*i* AML		AML	19 04 06.0	
	comp=N,974nm,0.6s							
PNSH	**Pansheti**	**1.43**	**64**	P		**Pn**	**19 03 44.2**	**-1.3**
PNSH				S		**Sb**	**19 04 03.2**	**-1.4**
PNSH	**Pansheti**	**1.43**	**64**	*e*PG		**Pn**	**19 03 44.2**	**-1.3**
EAK	**Akyaka**	**1.43**	**157**	P		**Pn**	**19 03 43.4**	**-2.1**
EAK				S		**Sb**	**19 04 03.8**	**-0.9**
EAK				*i* AML		AML	19 04 05.0	
	comp=N,776nm,0.5s							
EAK				*i* AML		AML	19 04 05.0	
	comp=E,797nm,0.5s							
LSNR	**Lesken**	**1.45**	**29**	*e*Pg		**Pn**	**19 03 45.7**	**+0.1**
LSNR				*e*Sg		**Sg**	**19 04 06.0**	**+0.9**
LSNR	**Lesken**	**1.45**	**29**	*e*PG		**Pn**	**19 03 45.7**	**+0.1**
LSNR				*e*S		**Sg**	**19 04 05.9**	**+0.9**
LSNR				pmax	pmax			
	comp=Z,79nm,0.3s							
LSNR				smax	smax			
	comp=N,245nm,0.4s							
SEAG	**Tbilisi Sea**	**1.46**	**99**	P		**Pn**	**19 03 46.1**	**+0.4**
SEAG	**Tbilisi Sea**	**1.46**	**99**	*e*PG		**Pn**	**19 03 46.1**	**+0.4**
BTNK	**Botanikuri**	**1.47**	**102**	P		Pn	19 03 38.9	-7.0
BTNK				S		**Sn**	**19 04 00.4**	**-5.3**
BTNK	**Botanikuri**	**1.47**	**102**	*e*PG		Pn	19 03 38.9	-7.0
SENK	**Senkaya-Erzuru**	**1.50**	**195**	Pn		**Pn**	**19 03 46.6**	**+0.1**
SENK				Sn		**Sg**	**19 04 07.5**	**+0.7**
STE	**Stepanavan**	**1.51**	**132**	⇓*i*P		**Pn**	**19 03 47.0**	**+0.4**
STE				⇓*i*S		**Sn**	**19 04 07.4**	**+0.6**
ARNR	**Ardon**	**1.56**	**41**	*e*Pg		**Pg**	**19 03 49.2**	**+0.7**
ARNR				*e*Sg		**Sg**	**19 04 11.4**	**+2.7**
ARNR	**Ardon**	**1.56**	**41**	*e*PN		**Pg**	**19 03 49.2**	**+0.7**
ARNR				*e*S		**Sg**	**19 04 11.4**	**+2.7**
DOMR	**Dombai**	**1.58**	**325**	*i* Pg		**Pb**	**19 03 47.6**	**-0.8**
DOMR				*i* Sg		**Sb**	**19 04 08.1**	**-0.7**
DOMR	**Dombai**	**1.58**	**325**	*e*PG		**Pb**	**19 03 47.6**	**-0.8**
DOMR				*e*S		**Sg**	**19 04 09.8**	**+0.5**
STDR	**Stavd-Durt**	**1.61**	**32**	*e*Pg		**Pg**	**19 03 49.8**	**+0.3**
STDR				*e*Sg		**Sg**	**19 04 13.1**	**+2.7**
STDR	**Stavd-Durt**	**1.61**	**32**	*e*PN		**Pg**	**19 03 49.8**	**+0.3**
STDR				*e*S		**Sg**	**19 04 13.1**	**+2.7**
DIGO	**Kars**	**1.64**	**167**	P		**Pn**	**19 03 48.2**	**-0.2**
DIGO				S		**Sn**	**19 04 10.8**	**+0.7**
DIGO				*i* AML		AML	19 04 17.0	
	comp=N,281nm,0.4s							
DIGO				*i* AML		AML	19 04 18.0	
	comp=N,287nm,0.4s							
VLKR	**Vladikavkaz**	**1.69**	**52**	*e*Pg		**Pg**	**19 03 50.7**	**-0.1**
VLKR				*e*Sg		**Sg**	**19 04 15.1**	**+2.4**
VLKR	**Vladikavkaz**	**1.69**	**52**	*e*PN		**Pg**	**19 03 50.8**	**-0.1**
VLKR				*e*S		**Sg**	**19 04 15.1**	**+2.4**
KBZ	**Khabaz**	**1.72**	**1**	*i* Pg		**Pb**	**19 03 50.4**	**-0.3**
KBZ				*e*Sg		**Sg**	**19 04 12.8**	**-0.9**
KBZ	**Khabaz**	**1.72**	**1**	*i* PN		**Pb**	**19 03 50.4**	**-0.3**
KBZ				*e*S		**Sg**	**19 04 14.6**	**+0.9**
SHA1	**Shidzhatmaz**	**1.73**	**355**	*i* Pg		**Pb**	**19 03 50.7**	**-0.4**
SHA1				*e*Pg		**Pb**	**19 03 50.7**	**-0.4**
SHA1				*e*Sg		**Sb**	**19 04 12.8**	**-0.6**
SHA1				*e*Sg		**Sg**	**19 04 14.0**	**-0.2**
SHA1	**Shidzhatmaz**	**1.73**	**355**	*e*PN		**Pb**	**19 03 50.7**	**-0.4**
SHA1				*e*S		**Sg**	**19 04 14.0**	**-0.2**
KMGR	**Komgaron**	**1.80**	**54**	*e*Pg		**Pg**	**19 03 53.3**	**+0.2**
KMGR				*e*Sg		**Sg**	**19 04 21.5**	**+5.0**
KMGR	**Komgaron**	**1.80**	**54**	*e*PN		**Pg**	**19 03 53.3**	**+0.2**
KMGR				*e*S		**Sg**	**19 04 21.5**	**+5.0**
SHTL	**Shatili**	**1.81**	**68**	P		**Pn**	**19 03 51.0**	**+0.4**
SHTL				S		**Sb**	**19 04 16.1**	**+0.7**
SHTL	**Shatili**	**1.81**	**68**	*e*PN		**Pn**	**19 03 51.0**	**+0.4**
CHOM	**Cayeli-Rize**	**1.83**	**241**	Pn		**Pn**	**19 03 51.1**	**+0.3**
CHOM				Sn		**Sb**	**19 04 15.8**	**-0.1**
KBTC	**Kuba-Taba**	**1.84**	**12**	*e*Pg		**Pb**	**19 03 52.5**	**-0.4**
KBTC				*e*Sg		**Sg**	**19 04 18.1**	**+0.2**
KBTC	**Kuba-Taba**	**1.84**	**12**	*e*PN		**Pb**	**19 03 52.5**	**-0.4**
ARXR	**Arkhyz**	**1.95**	**323**	*e*Pg		**Pb**	**19 03 53.8**	**-0.9**
ARXR				*i* Sg		**Sb**	**19 04 18.7**	**-0.7**
ARXR	**Arkhyz**	**1.95**	**323**	*e*PN		**Pb**	**19 03 53.8**	**-0.9**
ARXR				*e*S		**Sb**	**19 04 19.2**	**-0.2**
KIV	**Kislovodsk**	**1.95**	**356**	Pn		**Pn**	**19 03 52.8**	**+0.3**
KIV	**Kislovodsk**	**1.95**	**356**	*i* PN		**Pb**	**19 03 54.0**	**-0.7**
KIV				*e*S		**Sg**	**19 04 20.8**	**-0.3**
ARUZ	**Aruch**	**1.96**	**152**	⇑*i*P		**Pb**	**19 03 55.7**	**+0.9**
ARUZ				⇑*i*S		**Sg**	**19 04 22.5**	**+1.1**
PRTR	**Priterechnaya**	**2.02**	**30**	*e*Pg		**Pg**	**19 03 56.7**	**-0.6**
PRTR				*e*Sg		**Sg**	**19 04 22.9**	**-0.6**
PRTR	**Priterechnaya**	**2.02**	**30**	*e*PN		**Pg**	**19 03 56.7**	**-0.6**
PRTR				*e*S		**Sg**	**19 04 22.9**	**-0.6**
VNNZ	**Vanand**	**2.04**	**159**	⇑*i*P		**Pb**	**19 03 55.6**	**-0.6**
VNNZ				⇑*i*S		**Sg**	**19 04 24.4**	**+0.4**
METS	**Metsamor**	**2.07**	**154**	⇓*i*P		**Pb**	**19 03 56.5**	**-0.3**
METS				⇓*i*S		**Sb**	**19 04 24.2**	**+1.4**
HOMI	**Horasan**	**2.10**	**201**	P		**Pb**	**19 03 56.1**	**-1.2**
HOMI				S		**Sg**	**19 04 28.0**	**+2.1**
HOMI				*i* AML	AML		19 04 31.0	
	comp=N,116nm,1.5s							
HOMI				*i* AML	AML		19 04 39.0	
	comp=N,182nm,0.8s							
QZX	**Qazax, Azerbai**	**2.10**	**116**	P		**Pn**	**19 03 55.5**	**+0.9**
	SNR=33							
QZX				S		**Sb**	**19 04 25.1**	**+1.4**
KOPR	**Koprukoy-ERZUR**	**2.16**	**201**	Pn		**Pn**	**19 03 56.3**	**+0.8**
KAPZ	**Kaputan**	**2.18**	**140**	⇑*i*P		**Pb**	**19 03 58.4**	**-0.2**
KAPZ				⇑*i*S		**Sg**	**19 04 28.3**	**-0.2**
KRIK	**Erzurum-spir**	**2.23**	**222**	P		**Pb**	**19 03 58.4**	**-1.1**
KRIK				S		**Sg**	**19 04 28.9**	**-1.2**
KRIK				*i* AML	AML		19 04 32.0	
	comp=N,54nm,0.6s							
KRIK				*i* AML	AML		19 04 34.0	
	comp=N,43nm,0.7s							
TASB	**TASBURUN-IGDIR**	**2.27**	**153**	Pn		**Pn**	**19 03 57.5**	**+0.5**
IGDI	**IGDIR**	**2.33**	**157**	P		**Pn**	**19 03 59.3**	**+1.6**
IGDI				S		**Sb**	**19 04 30.7**	**+0.4**
IGDI				*i* AML	AML		19 04 31.0	
	comp=N,50nm,0.4s							
IGDI				*i* AML	AML		19 04 33.0	
	comp=N,74nm,1.0s							
GNI	**Garni**	**2.33**	**142**	⇓*i*P		**Pb**	**19 04 01.1**	**-0.2**
GNI				⇓*i*S		**Sg**	**19 04 33.4**	**-0.2**
GNI	**Garni**	**2.33**	**142**	Pn		**Pn**	**19 03 58.5**	**+0.6**
NRKZ	**NAREK**	**2.42**	**146**	⇓*i*P		**Pb**	**19 04 02.2**	**-0.5**
NRKZ				⇓*i*S		**Sb**	**19 04 34.6**	**+1.7**
AGRB	**Hanur-Agry**	**2.44**	**178**	Pn		**Pn**	**19 03 59.8**	**+0.5**
EMRE	**Erzurum,Aziziy**	**2.45**	**217**	P		**Pb**	**19 04 02.0**	**-1.3**
EMRE				S		**Sg**	**19 04 37.6**	**+0.4**
EMRE				*i* AML	AML		19 04 44.0	
	comp=N,156nm,1.0s							
EMRE				*i* AML	AML		19 04 44.0	
	comp=N,120nm,0.6s							
GROC	**Groznyy**	**2.46**	**60**	*e*Pn		**Pg**	**19 04 05.8**	**0.0**
GROC				*e*Sn		**Sg**	**19 04 38.6**	**+1.0**
GROC	**Groznyy**	**2.46**	**60**	*e*PN		**Pn**	**19 03 57.4**	**-2.1**
GROC				*e*			19 04 38.5	
GROC				pmax	pmax			
	comp=Z,26nm,0.7s							
GROC				pmax	pmax			
	comp=Z,43nm,0.4s							
GROC				smax	smax			
	comp=N,89nm,0.8s							
GROC				smax	smax			
	comp=N,55nm,0.8s							
GROC				smax	smax			
	comp=E,41nm,0.5s							
DDFL	**Dedoflistskaro**	**2.49**	**102**	P		**Pb**	**19 04 04.3**	**+0.3**
DDFL	**Dedoflistskaro**	**2.49**	**102**	*e*PN		**Pb**	**19 04 04.2**	**+0.3**
LGD	**Lagodekhi**	**2.52**	**93**	P		**Pn**	**19 04 02.4**	**+2.0**
LGD				S		**Sb**	**19 04 35.1**	**-0.6**
LGD	**Lagodekhi**	**2.52**	**93**	*e*PN		**Pn**	**19 04 02.3**	**+2.0**
LGD				*e*S		**Sb**	**19 04 35.1**	**-0.6**
GDB	**GEDABAY**	**2.52**	**120**	P		**Pn**	**19 04 02.3**	**+1.8**
	SNR=11							
GDB				S		**Sb**	**19 04 36.5**	**+0.5**
AHMR	**Akhmetovskaya**	**2.53**	**329**	*e*Pn		**Pb**	**19 04 02.2**	**-2.4**
AHMR				*e*Sn		**Sn**	**19 04 32.1**	**+0.3**
AHMR	**Akhmetovskaya**	**2.53**	**329**	*e*PN		**Pb**	**19 04 02.2**	**-2.4**
AHMR				*e*S		**Sn**	**19 04 32.1**	**+0.3**
VSLR	**Vesyoloye**	**2.55**	**306**	*e*Pn		**Pn**	**19 04 01.8**	**+1.1**
VSLR				*e*Sn		**Sn**	**19 04 31.8**	**-0.3**
VSLR	**Vesyoloye**	**2.55**	**306**	*e*PN		**Pn**	**19 04 01.8**	**+1.1**
VSLR				*e*S		**Sn**	**19 04 31.8**	**-0.3**
RPOR	**Krasnaya Polya**	**2.56**	**312**	*i* Pn		**Pn**	**19 04 01.2**	**+0.4**
RPOR				*e*Sn		**Sn**	**19 04 30.8**	**-1.6**
RPOR	**Krasnaya Polya**	**2.56**	**312**	*i* PN		**Pn**	**19 04 01.2**	**+0.4**
RPOR				*e*S		**Sn**	**19 04 30.8**	**-1.6**
BTLR	**Botlikh**	**2.56**	**74**	*e*Pn		**Pb**	**19 04 04.8**	**-0.4**
	comp=E,20nm,0.6s							
BTLR				*e*Sn		**Sb**	**19 04 37.4**	**+0.3**
	comp=E,20nm,0.4s							
BTLR	**Botlikh**	**2.56**	**74**	*e*PN		**Pb**	**19 04 04.7**	**-0.4**
BTLR				*i* S		**Sb**	**19 04 38.2**	**+1.1**
BTLR				pmax	pmax			
	comp=Z,21nm,0.6s							
BTLR				smax	smax			
	comp=N,85nm,1.0s							
DVE	**Vedeno**	**2.58**	**67**	*e*Pn		**Pb**	**19 04 05.8**	**+0.3**
DVE				*e*Sn		**Sb**	**19 04 39.6**	**+2.0**
DVE	**Vedeno**	**2.58**	**67**	*e*PN		**Pb**	**19 04 05.8**	**+0.3**
DVE				*e*S		**Sb**	**19 04 39.6**	**+2.0**
BAYT	**Aydıntepe-Bayb**	**2.62**	**233**	Pn		**Pn**	**19 04 02.5**	**+0.6**
BAYB	**BAYBURT**	**2.64**	**229**	P		**Pn**	**19 04 03.2**	**+1.1**
BAYB				S		**Sb**	**19 04 40.9**	**+1.5**
KOPT	**Kop Dagi**	**2.69**	**223**	P		**Pn**	**19 04 04.9**	**+2.1**
KOPT

comp=Z,1.0nm,0.7s
ARKR smax smax
comp=N,18nm,0.4s
ARKR smax smax
comp=E,14nm,0.6s
ARKR smax smax
comp=N,20nm,0.5s
YEDI Yedisu-Bingol 3.12 215 Pn **Pn 19 04 09.8 +1.1**
KMKR Kumukh 3.15 86 *e*Pn **Pb 19 04 14.6 -0.6**
comp=N,2.0nm,0.4s
KMKR *e*Sn **Sb 19 04 54.0 0.0**
comp=N,50nm,0.9s
KMKR Kumukh 3.15 86 *e*PN **Pb 19 04 14.5 -0.6**
KMKR *e*S **Sb 19 04 53.9 0.0**
KMKR *i* S **Sg 19 04 54.7 -4.9**
KMKR pmax pmax
comp=Z,2.0nm,0.4s
KMKR smax smax
comp=N,49nm,0.3s
KMKR smax smax
comp=E,50nm,0.9s
KMKR smax smax
comp=E,47nm,1.0s
LZRR Lazarevskoye 3.21 308 *e*Pn **Pn 19 04 10.6 +0.9**
LZRR *e*Sn **Sn 19 04 49.5 +1.1**
LZRR Lazarevskoye 3.21 308 *e*PN **Pn 19 04 10.6 +0.9**
LZRR *e*S **Sn 19 04 49.5 +1.1**
ESPY Espiye-Giresun 3.30 252 Pn **Pn 19 04 12.3 +1.2**
SBZ Shahbuz 3.31 141 P **Pb 19 04 18.9 +1.0**
SBZ S **Sb 19 05 00.9 +2.3**
GOYR Goytkh 3.40 312 *e*Pn **Pn 19 04 12.9 +0.6**
GOYR *e*Sn **Sn 19 04 53.5 +0.4**
GOYR Goytkh 3.40 312 *e*PN **Pn 19 04 12.9 +0.6**
GOYR *e*S **Sn 19 04 53.5 +0.4**
AKT Akhty 3.67 97 *e*PN **Pn 19 04 18.8 +2.6**
AKT *e* 19 04 28.1
AKT *e* 19 04 31.4
AKT *e*S **Sb 19 05 07.3 -1.6**
AKT *e* 19 05 19.3
AKT pmax pmax
comp=Z,7.0nm,0.5s
AKT smax smax
comp=E,16nm,0.4s
AKT smax smax
comp=N,20nm,0.4s
AKT smax smax
comp=N,16nm,0.4s
AKT MLR MLR
comp=Z,60nm,2.0s
ORD Ordubad 3.89 141 P **Pn 19 04 22.5 +3.3**
ORD S **Sb 19 05 11.0 -4.3**
ZRD Zardab 4.02 114 P **Pn 19 04 24.7 +3.8**
XNQ Khinaliq 4.04 100 P **Pn 19 04 25.7 +4.4**
QSAR Qusar 4.06 95 P **Pn 19 04 25.2 +3.7**
ANN Anapa 4.85 307 *e*PN **Pn 19 04 33.7 +1.5**
ANN *e*S **Sn 19 05 31.5 +2.7**
ANN pmax pmax
comp=Z,35nm,0.9s
SUDU Sudak 6.41 299 *e*P **Pn 19 04 53.7 -0.1**
SUDU Pm 19 04 54.0
comp=Z,9.0nm,0.4s
SUDU *e*S **Sn 19 06 06.0 -1.4**
SUDU Sm 19 06 08.1
comp=N,5.0nm,0.4s
SUDU Sm 19 06 08.1
comp=E,3.0nm,0.5s
SUDU Sudak 6.41 299 *e*P **Pn 19 04 53.7 -0.1**
SUDU *e*S **Sn 19 06 06.0 -1.4**
ALU Alushta 6.73 296 *e*P **Pn 19 04 57.4 -0.7**
ALU Pm 19 04 58.5
comp=Z,5.0nm,0.2s
ALU Alushta 6.73 296 *e*P **Pn 19 04 57.4 -0.7**
YAL Yalta 6.83 294 *e*P **Pn 19 04 58.1 -1.4**
YAL Pm 19 04 59.5
comp=Z,11nm,0.3s
YAL Yalta 6.83 294 *e*P **Pn 19 04 58.1 -1.4**
SEV Sevastopol' 7.18 294 *e*P **Pn 19 05 02.6 -1.7**
SEV Pm 19 05 03.5
comp=Z,5.0nm,0.3s
SEV Sevastopol' 7.18 294 *e*P **Pn 19 05 02.6 -1.7**
ARU Arti 17.63 30⇑ *e*P **Pn 19 07 25.2 +0.3**
ARU pmax pmax
comp=Z,3.0nm,1.3s
BRVK Borovoye 21.41 50⇑ *e*P **P 19 08 08.3 +1.0**
BRVK pmax pmax
comp=Z,1.0nm,1.1s
AAK Ala-Archa 23.32 78⇑ *e*P **P 19 08 28.3 +0.5**
AAK pmax pmax
comp=Z,1.0nm,1.0s

MCSM **22** *19:08:11.7±0.5,52°N±3°×1°6E±°, h8km±2km, ML3.7*
LDG **22** *19:08:11.6±0.2,51°.51N×16°.17E, h1km, Ml3.8/19, Error ellipse: s-maj=4.1km s-min=2.1km az=10.0, Suspected Mining induced.*
IDC **22** *19:08:11.3±0.6,51°.51N×15°.98E, h0km, mb3.7/11, mbtmp3.7/19, ML3.1/8, Error ellipse: s-maj=9.8km s-min=6.6km az=105.0*
IPEC **22** *19:08:12.0±0.2,51°.51N×16°.18E, h1km, ML3.4/6, Error ellipse: s-maj=2.0km s-min=1.1km az=37.0*
DNK **22** *19:08:12.8±2.2,51°.72N×16°.34E, h0km±137km, ML3.0*
VIE **22** *19:08:12.3,51°.51N×16°.22E, h0km, mb3.3/21, ml3.7/16, ms3.8/4 72 km NW of Wroclaw Suspected Mining induced.*
BGR **22** *19:08:13.2±0.4,51°.47N×16°.13E, h1km, ML3.6/12, Error ellipse: s-maj=4.4km s-min=2.2km az=21.0*
UPP **22** *19:08:15.4±3.1,51°.69N×15°.21E, h0km, ML2.7*

ISC 22 19:08:09.9±0.5,51°.56N±0'.02×16°.09E±0'.02, h0km, n185, σ2s00/292, mb3.5/11, 6C-9D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**170**	*i* Pg	**Pb**	**19 08 25.3**	**-0.1**
KSP				*i* Sg	**Sg**	**19 08 34.4**	**+1.3**
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pb**	**19 08 25.4**	**-0.1**
KSP				*e*Sg	**Sg**	**19 08 34.8**	**+1.6**
KSP	**Ksiaz**	**0.73**	**170**	Pg	**Pb**	**19 08 25.3**	**-0.1**
KSP				Sg	**Sg**	**19 08 34.3**	**+1.1**
OSTC	**Ostas**	**1.00**	**175**	*e*PG	**Pb**	**19 08 30.0**	**-0.2**
OSTC				*e*SG	**Sg**	**19 08 42.1**	**0.0**
comp=Z,943nm,1.2s							
OSTC	**Ostas**	**1.00**	**175**	Pg	**Pb**	**19 08 30.7**	**+0.5**
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pb**	**19 08 31.2**	**+0.3**
UPC				*e*SG	**Sg**	**19 08 43.5**	**-0.1**
comp=Z,674nm,0.5s							
UPC	**Upice**	**1.05**	**183**	Pg	**Pb**	**19 08 31.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pb**	**19 08 33.8**	**0.0**
DPC				*e*SG	**Sg**	**19 08 48.7**	**-0.3**
comp=Z,475nm,0.8s							
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*Pg	**Pb**	**19 08 34.2**	**+0.4**
DPC				*e*Sg	**Sg**	**19 08 49.5**	**+0.5**
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pb**	**19 08 38.3**	**+1.3**
PVCC				*e*SG	**Sn**	**19 08 57.1**	**+1.1**
comp=Z,926nm,0.8s							
BRG	**Berggiesshubel**	**1.51**	**244**	Pn	**Pg**	**19 08 39.7**	**+0.8**
BRG				Pg	**Pb**	**19 08 41.5**	**+2.7**
BRG				Sg	**Sn**	**19 09 01.6**	**+3.0**
BRG				Amp		19 09 02.6	
comp=Z,405nm,0.4s							
BRG	**Berggiesshubel**	**1.51**	**244**	*e*Pn	**Pg**	**19 08 39.6**	**+0.8**
BRG				*e*Pg	**Pb**	**19 08 41.0**	**+2.2**
BRG				*e*Sg	**Sn**	**19 09 01.6**	**+3.0**
KRLC	**Kraliky**	**1.55**	**163**	*e*PG	**Pn**	**19 08 39.2**	**+0.4**
KRLC				*e*SG	**Sn**	**19 08 59.3**	**-0.2**
comp=Z,407nm,0.7s							
RUE	**Ruedersdorf**	**1.70**	**304**	Pn	**Pg**	**19 08 42.4**	**-0.1**
RUE	**Ruedersdorf**	**1.70**	**304**	*e*P	**Pb**	**19 08 42.0**	**0.0**
FBE	**Freiberg**	**1.83**	**251**	*e*Pn	**Pb**	**19 08 44.4**	**+0.1**
FBE				*e*Pg	**Pg**	**19 08 47.0**	**+2.0**
FBE				*e*Sg	**Sg**	**19 09 11.2**	**+2.4**
GOPC	**GO Pecny, Ondr**	**1.84**	**207**	*e*PG	**Pn**	**19 08 43.9**	**+1.1**
GOPC				*e*SG	**Sg**	**19 09 09.4**	**+0.4**
comp=Z,140nm,0.5s							
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pb**	**19 08 44.2**	**-0.4**
PRU				*e*SG	**Sg**	**19 09 10.2**	**+0.9**
comp=Z,334nm,0.5s							
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pb**	**19 08 46.0**	**-0.2**
CLL				*e*Pg	**Pg**	**19 08 49.0**	**+1.8**
CLL				*ex*	x	19 08 52.0	
CLL				*i* Sg	**Sg**	**19 09 15.1**	**+2.7**
comp=Z,303nm,0.8s							
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pb**	**19 08 45.7**	**-0.5**
CLL				*e*Pg	**Pg**	**19 08 49.4**	**+2.2**
CLL				*e*Sg	**Sg**	**19 09 15.4**	**+3.0**
RAC	**Raciborz**	**1.99**	**137**	*e*PN	**Pn**	**19 08 44.9**	**+0.1**
RAC				*e*PG	**Pg**	**19 08 49.2**	**+1.2**
RAC				*e*SG	**Sg**	**19 09 15.8**	**+2.0**
MORC	**Moravsky Berou**	**2.01**	**152**	⇓P	**Pn**	**19 08 45.8**	**+0.7**
MORC				⇑S	**Sg**	**19 09 14.9**	**+0.5**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*PN	**Pn**	**19 08 45.8**	**+0.7**
MORC				*e*SG	**Sb**	**19 09 13.2**	**+0.4**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**19 08 45.9**	**+0.8**
MORC				*e*Sg	**Sg**	**19 09 13.9**	**-0.4**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**19 08 45.8**	**+0.7**
baz=334							
MORC				*e*Sg	**Sb**	**19 09 13.2**	**+0.4**
comp=Z,209nm,0.5s,baz=334							
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PN	**Pn**	**19 08 47.5**	**+0.3**
OKC				*e*PG	**Pb**	**19 08 50.1**	**+0.2**
OKC				*e*SG	**Sb**	**19 09 18.3**	**+1.1**
comp=Z,509nm,0.9s							
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*Pn	**Pn**	**19 08 47.7**	**+0.6**
OKC				*e*Pg	**Pg**	**19 08 52.1**	**+0.7**
OKC				*e*Sg	**Sg**	**19 09 18.5**	**-0.8**
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**19 08 50.1**	**+1.4**
comp=Z,5.9nm,0.3s,baz=339,slow=14,SNR=52							
VRAC				Sn	**Sn**	**19 09 18.4**	**+1.0**
comp=Z,35nm,0.3s,baz=57,slow=21,SNR=15							
comp=Z,23nm,0.3s							
VRAC	**Vranov**	**2.27**	**172**	⇑P	**Pn**	**19 08 50.1**	**+1.4**
VRAC				⇓S	**Sb**	**19 09 21.6**	**+1.1**
VRAC	**Vranov**	**2.27**	**172**	*e*PN	**Pn**	**19 08 49.9**	**+1.2**
VRAC				*e*SG	**Sb**	**19 09 21.6**	**+1.1**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**19 08 49.8**	**+1.1**
baz=353							
VRAC				*e*Sg	**Sb**	**19 09 21.6**	**+1.1**
comp=Z,195nm,0.7s,baz=353							
TREC	**Trest**	**2.30**	**190**	*e*PN	**Pn**	**19 08 50.7**	**+1.7**
TREC				*e*PG	**Pb**	**19 08 53.1**	**+0.9**
TREC				*e*SG	**Sg**	**19 09 23.3**	**-0.3**
comp=Z,561nm,1.6s							
MAUC	**Maruska**	**2.46**	**152**	*e*Pn	**Pn**	**19 08 52.4**	**+1.1**
MAUC				*e*SG	**Sg**	**19 09 27.6**	**-1.3**
comp=Z,418nm,0.7s							
KRUC	**Moravsky**	**2.50**	**175**	*e*PN	**Pn**	**19 08 53.4**	**+1.5**
KRUC				*e*SG	**Sb**	**19 09 28.7**	**+1.6**
KRUC	**Moravsky**	**2.50**	**175**	*e*Pn	**Pn**	**19 08 53.3**	**+1.4**
baz=357							
KRUC				*e*Sg	**Sb**	**19 09 28.7**	**+1.6**
comp=Z,200nm,0.8s,baz=357							
TANN	**Tannenbergstha**	**2.56**	**245**	*e*Pn	**Pn**	**19 08 54.8**	**+2.1**
TANN				*e*Pg	**Pg**	**19 09 01.2**	**+2.2**
TANN				*e*Sg	**Sg**	**19 09 33.7**	**+1.6**
WERD	**Werda**	**2.63**	**247**	*e*Pn	**Pn**	**19 08 55.7**	**+2.0**
WERD				*e*Pg	**Pg**	**19 09 02.6**	**+2.2**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**19 08 56.1**	**+2.1**
NKC				*e*PG	**Pg**	**19 09 01.0**	**+0.2**
NKC				*e*SG	**Sg**	**19 09 37.5**	**+2.2**
comp=Z,298nm,0.4s							
OJC	**Ojcow**	**2.70**	**118**	*e*Pn	**Pn**	**19 08 54.1**	**-0.6**
OJC				*e*Pg	**Pg**	**19 09 02.3**	**+0.6**
OJC				*i* Sgd		19 09 37.6	
OJC	**Ojcow**	**2.70**	**118**	*e*Sg	**Sg**	**19 09 37.7**	**+1.0**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*PN	**Pn**	**19 08 58.2**	**+1.0**
JAVC				*e*SG	**Sb**	**19 09 40.5**	**+2.4**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*Pn	**Pn**	**19 08 58.2**	**+1.0**
baz=341							
JAVC				*e*Sg	**Sb**	**19 09 40.5**	**+2.4**
comp=Z,189nm,1.0s,baz=341							
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN	**Pn**	**19 08 58.8**	**+1.3**
KHC				*e*PG	**Pg**	**19 09 05.1**	**-0.6**
KHC				*e*SN	**Sn**	**19 09 34.1**	**+0.9**
KHC				*e*SG	**Sg**	**19 09 44.1**	**+0.7**
comp=Z,102nm,0.4s							
MOX	**Moxa**	**2.96**	**254**	*e*Pn	**Pn**	**19 09 00.3**	**+2.1**
MOX				*e*Pg	**Pg**	**19 09 08.5**	**+1.8**
MOX				*e*Sg	**Sg**	**19 09 47.7**	**+2.7**
CKRC	**Cesky Krumlov**	**2.97**	**203**	*e*PN	**Pn**	**19 09 00.3**	**+2.0**
CKRC				*e*PG	**Pg**	**19 09 05.8**	**-1.0**
CKRC				*e*SG	**Sg**	**19 09 45.2**	**0.0**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**19 09 00.7**	**+2.4**
MANZ				*e*Pg	**Pg**	**19 09 09.5**	**+2.6**
MANZ				*e*Sg	**Sg**	**19 09 48.2**	**+2.8**
GEC2	**GERESS Array S**	**3.12**	**210**	*e*Pn	**Pn**	**19 09 02.0**	**+1.6**
GEC2				*e*Pg	**Pg**	**19 09 10.0**	**+0.4**
GEC2				*e*Sg	**Sg**	**19 09 49.2**	**-0.8**
GERES	**GERESS Array B**	**3.12**	**210**	Pn	**Pn**	**19 09 00.1**	**-0.3**
comp=Z,4.4nm,0.3s,baz=34,slow=12,SNR=137							
GERES				Lg	Lg	19 09 48.4	
comp=Z,27nm,0.3s,baz=34,slow=26,SNR=14							
comp=Z,8.8nm,0.4s							
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**19 09 03.0**	**+1.9**
WET				*e*Sg	**Sg**	**19 09 51.5**	**-0.2**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*PN	**Pn**	**19 09 03.7**	**+1.7**
LANS				*e*PG	**Pg**	**19 09 13.6**	**+1.7**
LANS				*e*SG	**Sg**	**19 09 53.3**	**-0.6**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PN	**Pn**	**19 09 04.5**	**+2.0**
MODS				*e*PG	**Pg**	**19 09 13.2**	**+0.5**
MODS				*e*SG	**Sg**	**19 09 54.2**	**-0.9**
ZST	**Bratislava**	**3.43**	**169**	*e*PG	**Pg**	**19 09 15.3**	**-0.3**
ZST				*e*SG	**Sg**	**19 09 58.9**	**-1.1**
NIE	**Niedzica**	**3.44**	**127**	*e*Pn	**Pn**	**19 09 06.8**	**+2.0**
NIE				*e*Pg	**Pg**	**19 09 16.2**	**+0.5**
NIE				*e*Sg	**Sg**	**19 10 00.8**	**+0.6**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**19 09 06.9**	**+0.8**
VYHS				*e*PG	**Pg**	**19 09 19.5**	**+1.8**
VYHS				*e*SG	**Sg**	**19 10 02.6**	**-1.0**
CLZ	**Clausthal**	**3.57**	**277**	*e*Pn	**Pn**	**19 09 09.7**	**+3.2**
CLZ				*e*Sg	**Sg**	**19 10 07.9**	**+3.5**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**19 09 08.7**	**+1.4**
BSD				*i* S	**Sn**	**19 09 48.9**	**-2.0**
BSD				IAML		19 09 50.8	
comp=Z,12nm,0.7s							
BSD	**Bornholm Skovb**	**3.63**	**349**	*e*P	**Pn**	**19 09 08.2**	**+0.9**
CONA	**Conrad Observa**	**3.63**	**182**	*e*Pn	**Pn**	**19 09 09.0**	**+1.5**
comp=Z,4.4nm,0.3s,SNR=24							
RONA	**Rosalia, Austr**	**3.86**	**178**	*e*Pn	**Pn**	**19 09 11.3**	**+0.7**
comp=Z,1.0nm,0.2s							
MOA	**Molln**	**3.90**	**198**	*i* Pn	**Pn**	**19 09 12.5**	**+1.5**
comp=Z,9.2nm,0.3s,SNR=37							
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PN	**Pn**	**19 09 12.3**	**+0.9**
STHS				*e*PG	**Pg**	**19 09 26.3**	**+1.2**
STHS				*e*SG	**Sg**	**19 10 17.9**	**+1.9**
BIOA	**Bad Ischl, Aus**	**4.18**	**203**	*e*Pn	**Pn**	**19 09 16.6**	**+1.6**
comp=Z,14nm,0.3s,SNR=27							
KECS	**Kecovo**	**4.18**	**136**	*e*PN	**Pn**	**19 09 15.9**	**+1.0**
KECS				*e*PG	**Pg**	**19 09 32.3**	**+2.3**
KECS				*e*SG	**Sg**	**19 10 24.3**	**+0.1**
ARSA	**Arzberg**	**4.33**	**185**	*e*Pn	**Pn**	**19 09 19.3**	**+2.4**
comp=Z,5.1nm,0.3s,SNR=19							
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*PN	**Pn**	**19 09 19.2**	**+1.9**
CRVS				*e*PG	**Pg**	**19 09 34.8**	**+1.5**
CRVS				*e*SG	**Sg**	**19 10 31.1**	**+1.4**
LUNU	**Lund**	**4.38**	**340**	*i* P	**Pn**	**19 09 18.3**	**+0.8**
LUNU				*i* S	**Sn**	**19 10 07.8**	**-1.4**
PSZ	**Piszkesteto**	**4.40**	**144**	⇓P	**Pn**	**19 09 19.9**	**+1.9**
LLD	**Lille Linde**	**4.43**	**330**	*e*P	**Pn**	**19 09 21.8**	**+3.5**
LLD				*e*S	**Sn**	**19 10 11.7**	**+1.1**
LLD				IAML		19 10 15.0	
comp=Z,21nm,0.4s							
BLEU	**Blekinge**	**4.76**	**358**	*i* P	**Pn**	**19 09 24.7**	**+1.9**
BLEU				*i* S	**Sn**	**19 10 16.7**	**-2.0**
KBA	**Koelnbreinsper**	**4.83**	**203**	*i* Pn	**Pn**	**19 09 25.9**	**+1.9**
comp=Z,10nm,0.4s,SNR=29							
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**19 09 25.2**	**+0.8**
BJUU				S	**Sn**	**19 10 18.7**	**-2.8**
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**19 09 25.2**	**+0.8**
BJUU				*i* P	Pb	19 09 25.3 -11	
BJUU				S	**Sn**	**19 10 18.7**	**-2.8**
BJUU				*i* S	Sb	19 10 18.9 -16	
SOKA	**Soboth**	**4.93**	**188**	*e*Pn	**Pn**	**19 09 27.2**	**+1.9**
comp=Z,1.1nm,0.4s,SNR=6.9							
DEL	**Delary**	**5.09**	**346**	P	**Pn**	**19 09 28.5**	**+1.1**
DEL				S	**Sn**	**19 10 24.1**	**-2.8**
DEL	**Delary**	**5.09**	**346**	*i* P	**Pn**	**19 09 28.4**	**+1.1**
DEL				P	Pb	19 09 28.5 -11	
DEL				S	**Sn**	**19 10 24.1**	**-2.8**
DEL				*e*S	Sb	19 10 25.3 -16	
WATA	**Walderalm**	**5.15**	**217**	*e*Pn	**Pn**	**19 09 30.7**	**+2.4**
comp=Z,11nm,0.4s,SNR=9.7							
OBKA	**Obir**	**5.15**	**192**	*e*Pn	**Pn**	**19 09 30.1**	**+1.7**
comp=Z,2.2nm,0.5s							
WTTA	**Wattenberg**	**5.19**	**216**	*i* Pn	**Pn**	**19 09 31.1**	**+2.2**
comp=Z,6.4nm,0.3s,SNR=6.6							
MOTA	**Moosalm**	**5.32**	**220**	*e*Pn	**Pn**	**19 09 32.5**	**+1.7**
comp=Z,6.5nm,0.5s,SNR=11							
RETA	**Reutte**	**5.35**	**222**	*e*Pn	**Pn**	**19 09 32.4**	**+1.4**
comp=Z,3.7nm,0.4s,SNR=18							
ABTA	**Abfaltersbach**	**5.35**	**207**	*e*Pn	**Pn**	**19 09 33.4**	**+2.3**
comp=Z,6.6nm,0.5s,SNR=14							
SQTA	**Sankt Quirin**	**5.38**	**218**	*e*Pn	**Pn**	**19 09 34.1**	**+2.5**
comp=Z,4.4nm,0.2s,SNR=18							
TRPA	**Tarpa**	**5.40**	**127**	⇓P	**Pn**	**19 09 32.4**	**+0.8**
MORH	**Mrgy, Hungar**	**5.61**	**162**	⇓P	**Pn**	**19 09 36.1**	**+1.6**
FETA	**Feichten**	**5.73**	**220**	*e*Pn	**Pn**	**19 09 38.5**	**+2.1**
comp=Z,2.3nm,0.5s,SNR=7.5							
CRES	**Cresnjev**	**5.75**	**184**	*i* Pn	**Pn**	**19 09 38.5**	**+2.1**
FABU	**Falkenberg**	**5.80**	**341**	*e*P	**Pn**	**19 09 38.5**	**+1.4**
DAVA	**Damuels**	**5.89**	**226**	*i* Pn	**Pn**	**19 09 40.0**	**+1.5**
comp=Z,3.9nm,0.3s,SNR=6.7							
GBRS	**Gornja Briga**	**6.09**	**188**	*i* Pn	**Pn**	**19 09 43.5**	**+2.3**
RNPP5	**Staryi Chortor**	**6.14**	**89**	Pn	**Pn**	**19 09 42.2**	**+0.4**
DAVOX	**Davos/Dischmat**	**6.28**	**223**	Pn	**Pn**	**19 09 45.4**	**+1.6**
comp=Z,0.9nm,0.3s,baz=33,slow=13,SNR=9.5							
DAVOX				Sn	**Sn**	**19 10 55.3**	**-1.0**
comp=Z,0.4nm,0.3s,baz=156,slow=23,SNR=1.3							
DAVOX				Lg	Lg	19 11 25.4	
comp=Z,1.3nm,0.3s,baz=208,slow=22,SNR=3.7							
comp=Z,3.9nm,0.4s							
ONAU	**Onsala**	**6.34**	**339**	*e*P	**Pn**	**19 09 46.9**	**+2.4**
SIRR	**Siria**	**6.44**	**143**	⇓P	**Pn**	**19 09 47.6**	**+1.6**
DRGR		**6.45**	**135**	⇓P	**Pn**	**19 09 47.2**	**+1.1**
CDF	**Champ du Feu**	**6.50**	**244**	*e*Pn	**Pn**	**19 09 46.5**	**-0.3**
CDF	**Champ du Feu**	**6.50**	**244**	*e*Pg	**Pg**	**19 10 12.9**	**-1.4**
CDF				*e*Sn	**Sn**	**19 10 57.3**	**-4.3**
comp=Z,5.6nm,0.4s							
CDF				*e*Sg	**Sg**	**19 11 35.7**	**-2.7**
LNKU	**Linkoeping**	**6.69**	**357**	P	**Pn**	**19 09 51.1**	**+1.8**
LNKU	**Linkoeping**	**6.69**	**357**	P	**Pn**	**19 09 51.1**	**+1.8**
MARR	**Marisel-Cluj**	**6.72**	**134**	⇑P	**Pn**	**19 09 51.6**	**+1.8**
FRGS	**Fruska Gora**	**6.87**	**157**	⇑P	**Pn**	**19 09 53.6**	**+1.8**
VIKU	**Vikbolandet**	**6.97**	**3**	P	**Pn**	**19 09 55.3**	**+2.2**
VIKU	**Vikbolandet**	**6.97**	**3**	P	**Pn**	**19 09 55.3**	**+2.2**
BZS	**Buzias**	**6.98**	**146**	⇑P	**Pn**	**19 09 55.5**	**+2.1**
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Pn	**Pn**	**19 09 53.7**	**-0.8**
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Pg	**Pg**	**19 10 23.0**	**-2.1**
HINF				*e*Sg	**Sg**	**19 11 53.6**	**-3.0**
comp=Z,51nm,0.8s							
BURAR	**Bucovina Array**	**7.12**	**120**	⇑P	**Pn**	**19 09 56.6**	**+1.2**
HAU	**Haudompre**	**7.24**	**244**	*e*Pn	**Pn**	**19 09 58.6**	**+1.7**
HAU	**Haudompre**	**7.24**	**244**	*e*Pg	**Pg**	**19 10 26.4**	**-2.1**
HAU				*e*Sn	**Sn**	**19 11 14.0**	**-5.7**
HAU				*e*Sg	**Sg**	**19 11 59.1**	**-3.1**
comp=Z,73nm,0.9s							
NACGM	**Naroch**	**7.24**	**58**	*e*P	**Pn**	**19 09 59.1**	**+2.2**
comp=E,2μm,1.8s							
GIVF	**Givet**	**7.28**	**263**	*e*Pn	**Pn**	**19 09 58.0**	**+0.5**
GIVF	**Givet**	**7.28**	**263**	*e*Pg	**Pg**	**19 10 27.4**	**-1.9**
GIVF				*e*Sg	**Sg**	**19 12 01.3**	**-2.3**
comp=E,8.4nm,0.6s							
PAGF	**Fort de Pagny**	**7.32**	**250**	*e*Pn	**Pn**	**19 09 57.2**	**-0.7**
baz=79							
PAGF	**Fort de Pagny**	**7.32**	**250**	*e*Pg	**Pg**	**19 10 27.8**	**-2.2**
PAGF				*e*Sn	**Sn**	**19 11 18.2**	**-3.4**
PAGF				*e*Sg	**Sg**	**19 12 02.0**	**-2.7**
comp=E,138nm,1.4s							
LUBAR	**Lubar, Ukraine**	**7.58**	**98**	Pn	**Pn**	**19 10 01.5**	**-0.1**
GZR	**Gura Zlata**	**7.60**	**142**	⇓P	**Pn**	**19 10 03.5**	**+1.6**
SAVF	**Savonnieres en**	**7.64**	**252**	*e*Pn	**Pn**	**19 10 02.2**	**-0.2**
SAVF	**Savonnieres en**	**7.64**	**252**	*e*Pg	**Pg**	**19 10 35.5**	**-0.7**
SAVF				*e*Sg	**Sg**	**19 12 10.6**	**-4.6**
comp=E,1.2nm,0.3s							
BAIF	**Baives**	**7.68**	**263**	*e*P	Pn	19 10 08.4	+5.5
BAIF				*e*Sg	**Sg**	**19 12 13.4**	**-2.8**
comp=E,72nm,1.4s							
MEZF	**Maizieres J'vi**	**7.74**	**251**	*e*Pn	**Pn**	**19 10 03.7**	**0.0**
MEZF				*e*Sn	**Sn**	**19 11 26.6**	**-5.4**
MEZF				*e*Sg	**Sg**	**19 12 15.3**	**-2.9**
comp=E,57nm,0.9s							
SFTF	**Sexfontaines**	**7.89**	**249**	*e*Pn	**Pn**	**19 10 05.9**	**+0.1**
SFTF	**Sexfontaines**	**7.89**	**249**	*e*Pg	**Pg**	**19 10 38.5**	**-2.4**
SFTF				*e*Sn	**Sn**	**19 11 31.1**	**-4.6**
SFTF				*e*Sg	**Sg**	**19 12 18.8**	**-4.2**
comp=E,94nm,1.4s							
AK20	**Malin Array Si**	**8.17**	**91**	Pn	**Pn**	**19 10 09.5**	**-0.1**
AK20				pP	Pb	19 10 11.9	-20
AK19	**Malin Array Si**	**8.17**	**91**	Pn	**Pn**	**19 10 10.1**	**+0.4**
AK21	**Malin Array Si**	**8.18**	**90**	Pn	**Pn**	**19 10 10.2**	**+0.4**
AK22	**Malin Array Si**	**8.20**	**90**	Pn	**Pn**	**19 10 10.0**	**-0.1**
AK17	**Malin Array Si**	**8.21**	**91**	Pn	**Pn**	**19 10 09.9**	**-0.3**
AK17				pP	Pb	19 10 12.4	-20
AK18	**Malin Array Si**	**8.21**	**91**	Pn	**Pn**	**19 10 10.5**	**+0.3**
AK18				pP	Pb	19 10 12.3	-21
CABF	**La Chapelle**	**8.22**	**237**	*e*Pn	**Pn**	**19 10 10.1**	**-0.3**
CABF	**La Chapelle**	**8.22**	**237**

LMR	**La Mourre**	**10.47**	**222**	*e*Pn	**Pn**	**19 10 41.7 +0.6**
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn	**Pn**	**19 10 41.7 -0.4**
TCF				*e*Sn	**Sn**	**19 12 34.1 -6.7**
TCF				*e*Sg		19 13 40.9
	comp=E,0.9nm,0.4s					
FLN	**La Foliniere**	**10.99**	**262**	*e*P	Pn	19 10 54.2 +5.9
LASF	**Ste Croix**	**11.11**	**232**	*e*Pn	**Pn**	**19 10 48.9 -1.0**
LASF	**Ste Croix**	**11.11**	**232**	*e*P	**Pn**	**19 10 54.2 +4.3**
LASF				*e*Sg		19 14 00.1
	comp=E,0.8nm,0.2s					
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**19 10 51.6 -1.2**
	comp=E,0.2nm,0.3s,baz=206,slow=11,SNR=9.9					
FINES				Sn	**Sn**	**19 12 52.4 -7.5**
	comp=E,0.2nm,0.3s,baz=208,slow=19,SNR=1.7					
	comp=E,1.6nm,0.5s					
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn	**Pn**	**19 11 01.0 -2.1**
	baz=103,slow=14					
ARCES	**ARCESS Array B**	**18.58**	**10**	P	**P**	**19 12 25.8 -2.4**
	comp=E,3.1nm,0.8s,baz=195,slow=10.0,SNR=6.2					
BELG	**Belogorsnoye**	**19.37**	**75**	P	**Pn**	**19 12 38.4 +0.5**
	comp=E,0.3nm,0.3s,baz=296,slow=1.7,SNR=5.0					
	comp=E,7.7nm,0.8s					
ARU	**Arti**	**25.13**	**62**	P	**P**	**19 13 36.8 +0.6**
	comp=E,0.8nm,0.3s,baz=278,slow=15,SNR=3.8					
	comp=E,0.8nm,0.3s					
AKTO	**Aktyubinsk**	**26.16**	**76**	P	**P**	**19 13 46.7 +1.1**
	comp=E,1.5nm,0.6s,baz=282,slow=10.0,SNR=5.6					
	comp=E,1.5nm,0.6s					
BVAR	**Borovoye Array**	**32.58**	**66**	P	**P**	**19 14 45.0 +2.4**
	comp=E,0.8nm,0.6s,baz=302,slow=8.5,SNR=6.7					
	comp=E,0.8nm,0.6s					
KURBB	**Kurchatov Arra**	**38.17**	**66**	P	**P**	**19 15 32.0 +1.3**
	comp=E,0.3nm,0.3s,baz=296,slow=8.7,SNR=4.6					
	comp=E,0.3nm,0.3s					
AAK	**Ala-Archa**	**39.77**	**79**	P	**P**	**19 15 47.3 +2.8**
	comp=E,0.6nm,0.5s,baz=298,slow=10,SNR=2.6					
	comp=E,0.6nm,0.5s					
TORD	**Torodi Ar. Bea**	**40.04**	**202**	P	**P**	**19 15 47.3 +0.7**
	comp=E,4.9nm,0.4s,baz=6.6,slow=8.8,SNR=1.8					
	comp=E,4.9nm,0.4s					
ZALV	**Zalesovo Beam**	**40.19**	**59**	P	**P**	**19 15 48.2 +0.7**
	comp=E,0.2nm,0.3s,baz=306,slow=12,SNR=1.9					
	comp=E,0.2nm,0.3s					
MKAR	**Makanchi Array**	**42.21**	**69**	P	**P**	**19 16 04.7 +0.4**
	comp=E,0.4nm,0.7s,baz=303,slow=7.3,SNR=3.0					
	comp=E,0.4nm,0.7s					
SONM	**Songino Array**	**54.90**	**55**	P	**P**	**19 17 44.4 +2.2**
	comp=E,0.4nm,0.8s,baz=288,slow=9.0,SNR=4.2					
	comp=E,0.4nm,0.8s					
YKA	**Yellowknife Ar**	**59.81**	**336**	P	**P**	**19 18 18.5 +2.1**
	comp=E,0.5nm,0.7s,baz=28,slow=6.5,SNR=9.3					
	comp=E,0.5nm,0.7s					
PDAR	**Pinedale Array**	**74.89**	**322**	P	**P**	**19 19 54.8 +2.2**
	comp=E,0.3nm,0.6s,baz=35,slow=8.1,SNR=1.7					
	comp=E,0.3nm,0.6s					

VIE ***22*** *19:18:26.6, 51.50N×16.23E, h0km, mb2.5/6, ml2.6/5, ms3.7/1 70 km NW of Wroclaw Suspected Mining induced.*
PRU ***22*** *19:18:27.4±0.0, 51.47N×16.09E, h0km*
ISC 22 19:18:26.2±1.1**, 51.52N**±0.05×**16.14E**±0.02**, h0**km**, n30, σ1§03/63, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**172**	*e*Pg	**Pg**	**19 18 39.6**	**+0.3**
KSP				*e*Sg	**Sg**	**19 18 48.5**	**+0.4**
OSTC	**Ostas**	**0.96**	**177**	*e*PG	**Pg**	**19 18 44.7**	**0.0**
OSTC				*e*SG	**Sg**	**19 18 57.5**	**+0.4**
	comp=Z,23nm,0.3s						
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pg**	**19 18 45.8**	**+0.2**
UPC				*e*SG	**Sg**	**19 18 59.1**	**+0.3**
	comp=Z,53nm,0.3s						
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*PG	**Pg**	**19 18 48.5**	**-0.2**
DPC				*e*SG	**Sg**	**19 19 03.2**	**-0.7**
	comp=Z,17nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**226**	*e*PG	**Pn**	**19 18 52.6**	**-0.4**
PVCC				*e*SG	**Sg**	**19 19 11.2**	**0.0**
	comp=Z,67nm,0.2s						
KRLC	**Kraliky**	**1.50**	**164**	*e*PG	**Pn**	**19 18 53.9**	**-0.5**
KRLC				*e*SG	**Sg**	**19 19 13.3**	**-1.1**
	comp=Z,20nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**246**	Pg	**Pg**	**19 18 55.6**	**+0.2**
BRG				Sg	**Sg**	**19 19 15.8**	**+0.6**
BRG				Amp		19 19 16.3	
	comp=Z,28nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.82**	**209**	*e*PG	**Pn**	**19 18 58.6**	**-0.2**
GOPC				*e*SG	**Sn**	**19 19 23.3**	**+0.7**
	comp=Z,6.5nm,0.2s						
PRU	**Pruhonice**	**1.84**	**214**	*e*PG	**Pb**	**19 19 00.2**	**-0.4**
PRU				*e*SG	**Sb**	**19 19 24.3**	**+0.2**
	comp=Z,22nm,0.4s						
MORC	**Moravsky Berou**	**1.96**	**152**	*e*PN	**Pn**	**19 18 59.8**	**-0.9**
MORC				*e*SG	**Sb**	**19 19 27.8**	**0.0**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**19 19 00.0**	**-0.9**
CLL				*e*Pg	**Pb**	**19 19 03.0**	**0.0**
CLL				*i* x	x	19 19 06.2	
CLL				*i* x	x	19 19 07.2	
CLL				*e*Sg	**Sg**	**19 19 29.0**	**-0.6**
	comp=Z,17nm,0.8s						
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*PG	**Pb**	**19 19 05.2**	**-0.2**
OKC				*e*SG	**Sb**	**19 19 32.2**	**+0.1**
VRAC	**Vranov**	**2.23**	**172**	*e*PN	**Pn**	**19 19 04.8**	**+0.4**
VRAC				*e*SG	**Sb**	**19 19 36.0**	**+0.5**
TREC	**Trest**	**2.26**	**191**	*e*PN	**Pn**	**19 19 05.7**	**+0.8**
TREC				*e*SG	**Sb**	**19 19 37.6**	**+1.1**
	comp=Z,15nm,0.2s						
MAUC	**Maruska**	**2.41**	**153**	*e*PN	**Pn**	**19 19 06.6**	**-0.3**
MAUC				*e*PG	**Pb**	**19 19 10.8**	**+0.3**
MAUC				*e*SG	**Sg**	**19 19 43.1**	**-0.5**
	comp=Z,18nm,0.5s						
KRUC	**Moravsky**	**2.46**	**176**	*e*PN	**Pn**	**19 19 07.8**	**+0.2**
KRUC				*e*SG	**Sb**	**19 19 43.3**	**+1.1**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**19 19 16.7**	**-0.5**
OJC				*e*Sg	**Sg**	**19 19 51.8**	**+0.2**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**	**19 19 10.8**	**+0.4**
NKC				*e*PG	**Pb**	**19 19 15.6**	**+0.8**
NKC				*e*SG	**Sg**	**19 19 51.9**	**+0.1**
	comp=Z,23nm,0.4s						
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**19 19 13.5**	**-0.1**
KHC				*e*PG	**Pb**	**19 19 19.2**	**+0.4**
KHC				*e*SN	**Sn**	**19 19 48.3**	**-0.9**
KHC				*e*SG	**Sg**	**19 19 57.5**	**-1.8**
	comp=Z,10nm,0.9s						
CKRC	**Cesky Krumlov**	**2.94**	**204**	*e*PN	**Pn**	**19 19 14.5**	**+0.2**
CKRC				*e*PG	**Pb**	**19 19 19.3**	**-0.3**
CKRC				*e*SG	**Sg**	**19 19 59.5**	**-1.3**
LANS	**Liptovska Anna**	**3.19**	**137**	*e*PN	**Pn**	**19 19 17.6**	**0.0**
LANS				*e*PG	**Pg**	**19 19 25.7**	**-1.6**
LANS				*e*SG	**Sg**	**19 20 06.3**	**-2.3**
MODS	**Modra-Piesok**	**3.23**	**166**	*e*PG	**Pg**	**19 19 27.9**	**-0.2**
MODS				*e*SG	**Sg**	**19 20 09.4**	**-0.6**
NIE	**Niedzica**	**3.39**	**127**	*e*P	**Pg**	**19 19 30.2**	**-0.9**
NIE				*e*S	**Sg**	**19 20 14.9**	**-0.2**
VYHS	**Vyhne**	**3.49**	**149**	*e*PN	**Pn**	**19 19 21.3**	**-0.5**
VYHS				*e*PG	**Pg**	**19 19 33.4**	**+0.3**
CONA	**Conrad Observa**	**3.60**	**183**	*e*Pn	**Pn**	**19 19 23.3**	**0.0**
	comp=Z,0.4nm,0.2s						
MOA	**Molln**	**3.87**	**199**	*e*Pn	**Pn**	**19 19 26.9**	**-0.1**
	comp=Z,1.4nm,0.4s,SNR=5.4						
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PN	**Pn**	**19 19 27.1**	**0.0**
STHS				*e*PG	**Pg**	**19 19 39.3**	**-1.3**
STHS				*e*SG	**Sg**	**19 20 36.8**	**+6.0**
BIOA	**Bad Ischl, Aus**	**4.16**	**204**	*e*Pn	**Pn**	**19 19 30.9**	**0.0**
	comp=Z,2.8nm,0.3s,SNR=5.3						
ARSA	**Arzberg**	**4.29**	**186**	*e*Pn	**Pn**	**19 19 33.7**	**+0.9**
	comp=Z,1.0nm,0.4s						
KBA	**Koelnbreinsper**	**4.80**	**203**	*e*Pn	**Pn**	**19 19 40.2**	**+0.2**
	comp=Z,1.1nm,0.3s,SNR=4.4						

IDC ***22*** *19:49:21.1±0.6, 3.13N×126.79E, h0km, mb4.2/15, mbtmp4.2/15, MS3.3/8, Error ellipse: s-maj=30.3km s-min=13.6km az=72.0*
DJA ***22*** *19:49:27.1±0.7, 3.7N±7.7×12.7E±°, h10km, M4.1/8, mb4.5/6, mB4.8/1, MLv3.9/8, Mw(mB)4.1/1*
NEIC ***22*** *19:49:28.6±2.4, 3.11N±0.08×126.87E±0.08, h58km±8km, mb4.6/37, Error ellipse: s-maj=13.9km s-min=9.7km az=220.0*
ISC 22 19:49:27.1±0.4**, 3.17N**±0.05×**126.88E**±0.06**, h44**km**, n86, σ1§73/80, mb4.5/31, MS3.3/8, 2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.44**	**291**	P	**Pn**	**19 49 49.2**	**-1.6**
SGSI				S	**Sn**	**19 50 12.0**	**+3.5**
TNTI	**Ternate**	**2.43**	**168**	Pn	**Pn**	**19 50 05.8**	**+1.5**
TNTI	**Ternate**	**2.43**	**168**	P	**Pn**	**19 50 04.4**	**0.0**
DAV	**Davao City (W)**	**4.08**	**342**	Pn	**Pn**	**19 50 29.7**	**+2.6**
	16nm,0.3s,baz=267,slow=1.1,SNR=1.5						
DAV				Sn	**Sn**	**19 51 17.3**	**+3.6**
	30nm,0.3s,baz=248,slow=17,SNR=1.9						
GTOI	**Gorontalo**	**4.61**	**237**	P	**Pn**	**19 50 35.9**	**+1.6**
BIPH	**Bislig**	**5.01**	**354**	*e*P	**Pn**	**19 50 41.4**	**+1.6**
SANI	**Sanana**	**5.26**	**190**	P	**Pn**	**19 50 44.9**	**+1.6**
	14nm,1.5s,0.1nm						
MRSI	**Marisa**	**5.61**	**242**	P	**Pn**	**19 50 50.8**	**+2.7**
	76nm,0.7s,900nm0.3nm						
CGP	**Cagayan de Oro**	**5.68**	**338**	*e*P	Pn	19 50 59.7	+11
LUWI	**Luwuk**	**5.86**	**225**	Pn	Pn	19 50 57.1	+5.6
LUWI	**Luwuk**	**5.86**	**225**	P	Pn	19 50 58.0	+6.5
SIJI	**Sorong**	**5.95**	**132**	Pn	**Pn**	**19 50 54.9**	**+2.2**
	5.5nm,0.3s,baz=328,slow=15,SNR=19						
SIJI				Sn	**Sn**	**19 52 04.3**	**+4.8**
	0.5nm,0.3s,baz=92,slow=23,SNR=1.5						
NLAI	**Namlea**	**6.37**	**178**	P	**Pn**	**19 50 59.8**	**+1.3**
TOLI2	**Tolitoli**	**6.42**	**252**	Pn	**Pn**	**19 50 58.1**	**-1.1**
FAKI	**Fak Fak**	**8.09**	**138**	Pn	**Pn**	**19 51 24.3**	**+2.2**
MYLDM	**Lahad Datu**	**8.59**	**284**	Pn	**Pn**	**19 51 33.2**	**+4.3**
SBUM	**Sibu**	**14.66**	**268**	Pn	**Pn**	**19 52 51.2**	**-0.6**
MTN	**Manton Dam**	**16.46**	**165**	Pn	**Pn**	**19 53 13.6**	**-1.5**
MTN				lAmb	lAmb	19 53 25.4	
	comp=Z,41nm,1.2s						
KNRA	**Kununurra**	**18.82**	**174**	P	**P**	**19 53 42.7**	**-0.5**
TWG	**Pinlang**	**20.33**	**344**	P	**P**	**19 53 55.7**	**-4.0**
TWG				lAmb	lAmb	19 54 26.0	
	comp=Z,71nm,1.5s						
YULB	**Yu-li**	**20.82**	**345**	P	**P**	**19 54 01.1**	**-3.9**
YULB				lAmb	lAmb	19 54 05.8	
	comp=Z,50nm,1.4s						
TPUB	**Ta-pu**	**20.91**	**344**	P	**P**	**19 54 02.6**	**-3.4**
TPUB				lAmb	lAmb	19 54 17.3	
	comp=Z,46nm,1.0s						
MANU	**Manus Island**	**21.13**	**104**		**S**	**19 58 02.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**21.17**	**183**	P	P	19 53 58.6	-10
SSLB	**Suanglung**	**21.28**	**345**	P	**P**	**19 54 07.4**	**-2.7**
SSLB				lAmb	lAmb	19 54 36.8	
	comp=Z,52nm,1.5s						
YHNB	**Yeheng**	**22.02**	**347**	P	**P**	**19 54 16.6**	**-1.4**
KNMB	**Chin-men Tao**	**22.70**	**340**	P	**P**	**19 54 24.2**	**-1.0**
WB0	**Warramunga Arr**	**23.96**	**162**	P	**P**	**19 54 37.2**	**-0.4**
WRAB	**Tennant Creek**	**24.10**	**163**	P	**P**	**19 54 38.4**	**-0.5**
WRAB				lAmb	lAmb	19 54 50.7	
	comp=Z,33nm,1.3s						
WRA	**Warramunga Arr**	**24.11**	**163**	P	**P**	**19 54 38.1**	**-0.8**
	comp=Z,7.7nm,0.5s,baz=336,slow=11,SNR=80						
	comp=Z,7.7nm,0.5s						
WRA	**Warramunga Arr**	**24.11**	**163**	P	**P**	**19 54 35.9**	**-3.1**
WB2	**Warramunga Arr**	**24.11**	**163**	P	**P**	**19 54 37.8**	**-1.2**
WB2				lAmb	lAmb	19 54 50.2	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**24.19**	**162**	P	**P**	**19 54 38.2**	**-1.4**
WR0				lAmb	lAmb	19 55 03.5	
	comp=Z,10nm,0.8s						
PSA00	**Pilbara Seismi**	**25.54**	**195**	P	**P**	**19 54 51.3**	**-0.6**
PSA00				lAmb	lAmb	19 55 13.0	
	comp=Z,21nm,1.2s						
KRVT	**Keravat (AS076**	**26.20**	**106**	LR	LR	20 02 49.4	
	comp=Z,165nm,21.5s,baz=62,slow=31						
AS31	**Alice Springs**	**27.54**	**166**	P	**P**	**19 55 10.1**	**+0.1**
ASAR	**Alice Springs**	**27.54**	**166**	P	**P**	**19 55 09.1**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=346,slow=6.5,SNR=21						
ASAR				PcP	**PcP**	**19 58 28.5**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=344,slow=2.2,SNR=4.4						
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**27.54**	**166**	P	**P**	**19 55 09.6**	**-0.3**
PSI	**Prapat**	**27.92**	**270**	LR	LR	20 07 42.1	
	comp=Z,66nm,18.7s,baz=110,slow=40						
CRAI	**Chiangrai**	**30.91**	**305**	P	**P**	**19 55 39.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.28**	**301**	P	**P**	**19 55 44.1**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=114,slow=7.2,SNR=18						
CMAR				LR	LR	20 09 42.6	
	comp=Z,26nm,18.2s,baz=90,slow=39						
	comp=Z,1.7nm,0.8s						
CHTO	**Chiang Mai**	**31.44**	**302**	P	**P**	**19 55 43.4**	**-1.2**
FORT	**Forrest**	**33.78**	**178**	P	**P**	**19 56 04.4**	**-0.5**
KSRS	**Korea Array**	**34.13**	**1**	P	**P**	**19 56 08.6**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=181,slow=10,SNR=4.0						
	comp=Z,1.8nm,0.9s						
MJAR	**Matsushiro Ar**	**34.81**	**16**	P	**P**	**19 56 14.2**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=183,slow=10,SNR=4.7						
	comp=Z,1.2nm,0.7s						
XAN	**Xi'an**	**34.98**	**333**	P	**P**	**19 56 14.6**	**-0.7**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HNR	**Honiara**	**35.25**	**111**	P	**P**	**19 56 15.1**	**-2.7**
BBOO	**Buckleboo**	**36.83**	**167**	P	**P**	**19 56 30.4**	**-0.7**
BBOO				lAmb	lAmb	19 56 47.4	
	comp=Z,16nm,1.5s						
STKA	**Stephens Creek**	**37.56**	**159**	P	**P**	**19 56 37.4**	**0.0**
	comp=Z,12nm,0.6s,baz=334,slow=8.9,SNR=64						
STKA				PcP	**PcP**	**19 58 55.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=324,slow=7.1,SNR=3.4						
	comp=Z,12nm,0.6s						
STKA	**Stephens Creek**	**37.56**	**159**	P	**P**	**19 56 37.6**	**+0.3**
STKA				lAmb	lAmb	19 56 38.3	
	comp=Z,2.6nm,0.7s						
SHL	**Shillong**	**40.33**	**307**	P	**P**	**19 57 00.3**	**-0.5**
ARMA	**Armidale**	**40.92**	**146**	P	**P**	**19 57 04.1**	**-1.5**
ARMA				lAmb	lAmb	19 57 09.0	
	comp=Z,9.8nm,1.0s						
USRK	**Ussuriysk Ar.**	**41.11**	**6**	P	**P**	**19 57 06.0**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**41.82**	**66**	T	T	20 41 51.4	
	baz=253,slow=74,SNR=24						
H11S2	**WAKE ISLAND Hy**	**41.84**	**66**	T	T	20 41 52.7	
	baz=253,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**41.84**	**66**	T	T	20 41 55.5	
	baz=253,slow=74,SNR=5.2						
LSA	**Lhasa**	**42.92**	**312**	P	**P**	**19 57 21.2**	**-1.1**
JKA	**Kamikawa-asahi**	**43.08**	**17**	P	**P**	**19 57 21.8**	**-1.1**
KOUNC	**Koumac, New Ca**	**43.61**	**124**	P	P	19 57 33.8	+6.4
GTA	**Gaotai**	**43.65**	**329**	*e*P	**P**	**19 57 28.0**	**+0.3**
GTA				pP	pP	19 57 35.3	-4.0
GTA				sP	pwP	19 57 39.3	-2.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU	**GeErMu**	**44.21**	**322**	P	**P**	**19 57 35.6**	**+3.0**
GOMU				pP	pP	19 57 38.8	-5.3
GOMU				sP	pwP	19 57 40.3	-6.6
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
	comp=Z,110nm,5.3s						
GOMU				pmax	pmax		
LIFNC	**LIFOU**	**46.17**	**123**	P	**P**	**19 57 45.9**	**-2.0**
LIFNC	**LIFOU**	**46.17**	**123**	P	**P**	**19 57 45.7**	**-2.1**
ULN	**Ulaanbaatar**	**47.69**	**342**	P	**P**	**19 58 00.3**	**+0.8**
ULN				lAmb	lAmb	19 58 05.6	
	comp=Z,2.6nm,0.8s						
SONM	**Songino Array**	**47.87**	**341**	P	**P**	**19 58 00.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=157,slow=7.4,SNR=8.7						
SONM				LR	LR	20 20 41.0	
	comp=Z,61nm,18.2s,baz=212,slow=39						
	comp=Z,0.9nm,0.6s						
SONM	**Songino Array**	**47.87**	**341**	P	**P**	**19 58 00.8**	**-0.1**
PEA0B	**Petropavlovsk-**	**55.89**	**22**	P	**P**	**19 59 01.4**	**+1.0**
PETK	**Petropavlovsk-**	**55.89**	**22**	P	**P**	**19 59 02.1**	**+1.8**
	comp=Z,3.2nm,0.6s,baz=179,slow=4.5,SNR=16						
PETK				LR	LR	20 24 34.0	
	comp=Z,12nm,19.2s,baz=90,slow=38						
	comp=Z,3.2nm,0.6s						
PETK	**Petropavlovsk-**	**55.89**	**22**	P	**P**	**19 59 02.0**	**+1.6**
MK31	**Makanchi Array**	**58.10**	**325**	P	**P**	**19 59 15.9**	**-0.2**
MK31				lAmb	lAmb	19 59 17.7	
	comp=Z,2.3nm,0.7s						
MKAR	**Makanchi Array**	**58.10**	**325**	P	**P**	**19 59 16.0**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=121,slow=8.2,SNR=60						
MKAR				PcP	**PcP**	**20 00 09.3**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=120,slow=4.9,SNR=3.6						
MKAR				LR	LR	20 25 14.5	
	comp=Z,29nm,18.3s,baz=83,slow=37						
	comp=Z,3.4nm,0.6s						
MAKZ	**Makanchi**	**58.28**	**325**	P	**P**	**19 59 16.9**	**-0.6**
MAKZ				lAmb	lAmb	19 59 19.0	
	comp=Z,3.5nm,0.7s						
MA2	**Magadan**	**59.21**	**14**	LR	LR	20 24 36.8	
	comp=Z,17nm,20.7s,baz=61,slow=36						
ZALV	**Zalesovo Beam**	**61.15**	**333**	P	**P**	**19 59 35.8**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=128,slow=6.8,SNR=12						
	comp=Z,3.9nm,0.8s						
KURK	**Kurchatov**	**62.29**	**328**	P	**P**	**19 59 44.2**	**-0.5**
KURK				lAmb	lAmb	19 59 45.8	
	comp=Z,5.5nm,0.7s						
BRVK	**Borovoye**	**67.94**	**327**	P	**P**	**20 00 21.0**	**-0.4**
BRVK				lAmb	lAmb	20 00 22.6	
	comp=Z,4.8nm,0.8s						
TIXI	**Tiksi**	**68.40**	**1**	P	**P**	**20 00 24.1**	**+0.3**
TIXI				lAmb	lAmb	20 00 25.5	
	comp=Z,4.4nm,0.8s						
NRIK	**Noril'sk**	**71.00**	**346**	P	**P**	**20 00 40.0**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=136,slow=5.8,SNR=6.5						
	comp=Z,3.7nm,0.7s						
NRIK	**Noril'sk**	**71.00**	**346**	P	**P**	**20 00 40.8**	**+0.9**
NRIK				lAmb	lAmb	20 00 43.3	
	comp=Z,4.0nm,0.8s						
GEYT	**Alibeck**	**71.36**	**309**	P	**P**	**20 00 43.0**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=130,slow=2.3,SNR=2.7						
	comp=Z,0.6nm,0.4s						
ABKAR	**Akbulak array**	**72.67**	**321**	P	**P**	**20 00 48.8**	**-1.6**
ABKAR	**Akbulak array**	**72.67**	**321**	P	**P**	**20 00 50.1**	**-0.3**
ABKAR				lAmb	lAmb	20 00 50.7	
	comp=Z,2.4nm,0.8s						
AKTO	**Aktyubinsk**	**74.19**	**322**	LR	LR	20 35 38.8	
	comp=Z,39nm,19.0s,baz=26,slow=38						
ILAR	**Eielson Array**	**85.54**	**25**	P	**P**	**20 02 00.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=244,slow=5.4,SNR=8.4						
	comp=Z,0.2nm,0.5s						
BRTR	**Keskin Array B**	**90.49**	**310**	P	**P**	**20 02 24.3**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=101,slow=5.6,SNR=6.1						
	comp=Z,1.1nm,0.9s						
FINES	**FINESS Array B**	**92.39**	**332**	P	**P**	**20 02 33.2**	**+0.3**
	comp=Z,5.0nm,1.1s,baz=46,slow=6.0,SNR=4.6						
	comp=Z,5.0nm,1.1s						

CNRM ***22*** *19:50:33.2, 35.72N×6.60W, h72km*
INMG ***22*** *19:50:34.7±1.5, 35.83N×6.53W, h31km, ML2.0, Error ellipse: s-maj=4.4km s-min=2.7km az=31.0*
SFS ***22*** *19:50:34.7, 35.90N×6.51W, h33km, ML2.8/12, MLv2.8/12*
MDD ***22*** *19:50:34.8±0.7, 35.91N×6.51W, h61km±12km, Mb3.0/14, Error ellipse: s-maj=5.8km s-min=2.8km az=13.0*
ISC 22 19:50:32.4±1.2**, 35.84N**±0.03×**6.51W**±0.03**, h35**km**, n56, σ1§60/107, 15C-1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJIF	**Jimena Fronter**	**1.04**	**54**	P	**Pn**	**19 50 52.5**	**+2.0**
EJIF				S	**Sn**	**19 51 06.2**	**+2.4**
ESPR	**Espera**	**1.15**	**27**	P	**Pn**	**19 50 53.5**	**+1.5**
ESPR				S	**Sn**	**19 51 06.7**	**+0.1**
ESPR	**Espera**	**1.15**	**27**	P	**Pn**	**19 50 53.3**	**+1.3**
ESPR				⇑*i*Vmb_V		19 50 53.8	
	193nm,SNR=1.3						
ESPR				S	**Sn**	**19 51 07.4**	**+0.8**
EMIJ	**Mijas**	**1.58**	**62**	P	**Pn**	**19 50 59.1**	**+1.2**
EMIJ	**Mijas**	**1.58**	**62**	P	**Pn**	**19 50 59.0**	**+1.2**
EMIJ				⇑*i*Vmb_V		19 50 59.3	
	109nm,SNR=0.8						
EMIJ				S	**Sn**	**19 51 17.6**	**+0.5**
PVAQ	**Vaqueiros**	**1.84**	**328**	*e*P	**Pn**	**19 51 02.6**	**+1.1**
PVAQ				*e*S	**Sn**	**19 51 23.6**	**+0.1**
PVAQ				A	A	19 51 24.6	
	14nm,0.4s						
PVAQ	**Vaqueiros**	**1.84**	**328**	P	**Pn**	**19 51 02.5**	**+1.1**
EGRO	**El Granado**	**1.86**	**335**	P	**Pn**	**19 51 02.8**	**+1.0**
EGRO				⇑*i*Vmb_V		19 51 03.1	
	593nm,SNR=8.4						
EGRO				S	**Sn**	**19 51 24.2**	**+0.1**
EMAL	**Malaga-Limoner**	**1.91**	**61**	S	**Sn**	**19 51 25.6**	**+0.2**
EMIN	**Mina Concepcio**	**1.93**	**356**	P	**Pn**	**19 51 03.3**	**+0.7**
EMIN				S	**Sn**	**19 51 24.6**	**-1.1**
EMIN	**Mina Concepcio**	**1.93**	**356**	P	**Pn**	**19 51 03.8**	**+1.1**
EMIN				⇑*i*Vmb_V		19 51 05.0	
	57nm,SNR=0.7						
EMIN				S	**Sn**	**19 51 24.8**	**-0.8**
PCVE	**Castro Verde**	**2.17**	**326**	*e*P	**Pn**	**19 51 07.2**	**+1.2**
PCV

PESTR				S		Sn	19 51 54.5	-1.1
MD31	MD31	3.30	153	P		Pn	19 51 21.9	+0.2
MD31				S		Sn	19 51 58.2	-1.6
MDT	Midelt	3.41	152	P		Pn	19 51 23.6	+0.4
MDT				S		Sn	19 52 02.1	-0.3
PMTG	Montargil	3.50	338	eP		Pn	19 51 25.4	+1.1
PMTG				eS		Sn	19 52 04.1	-0.3
PMTG				A		A	19 52 06.0	
	comp=E,1.8nm,0.1s							
PMRV	Marv??o	3.65	349	eP		Pn	19 51 27.8	+1.4
PMRV				eS		Sn	19 52 07.3	-0.9
PMRV				A		A	19 52 08.3	
	comp=E,1.7nm,0.1s							
PSIM	Granatula de C	3.69	36	P		Pn	19 51 28.2	+1.1
PSIM				S		Sn	19 52 06.1	-3.3
PMAFR	Mafra	3.81	325	eP		Pn	19 51 30.4	+1.8
PCBR	Castelo Branco	4.06	349	eP		Pn	19 51 33.5	+1.4
PCBR				eS		Sn	19 52 17.1	-1.3
PCBR				A		A	19 52 18.7	
	comp=E,1.9nm,0.1s							
PAB	San Pablo	4.07	24	P		Pn	19 51 32.8	+0.5
PAB				⇑iVmb_V			19 51 35.8	
	comp=E,59nm,SNR=0.5							
PAB				S		Sn	19 52 14.8	-4.0
PSBE	So Bento	4.09	334	eP		Pn	19 51 33.9	+1.5
PSBE				eS		Sn	19 52 18.5	-0.6
EPLA	Plasencia	4.23	4	P		Pn	19 51 36.0	+1.6
EPLA				⇑iVmb_V			19 51 37.7	
	comp=E,22nm,SNR=0.2							
EPLA				S		Sn	19 52 19.9	-2.7
OUK	Oukaimeden	4.76	194	P		Pn	19 51 40.4	-1.6
OUK				S		Sn	19 52 35.7	-0.4
ETOB	Tobarra	4.85	53	P		Pn	19 51 43.6	+0.7
ETOB				S		Sn	19 52 35.2	-2.6
ETOB	Tobarra	4.85	53	P		Pn	19 51 43.2	+0.3
ETOB				⇑iVmb_V			19 51 44.3	
	comp=E,494nm,SNR=1.3							
ETOB				S		Sn	19 52 34.6	-3.2
OUZM	OUZ	4.92	183	P		Pn	19 51 45.6	+1.5
OUZM				S		Sn	19 52 40.5	+0.6
PVIS	Viseu	4.99	348	eS		Sn	19 52 39.1	-2.1
GUD	Guadarrama	5.14	20	P		Pn	19 51 48.6	+1.7
GUD				⇑iVmb_V			19 51 50.0	
	comp=E,12nm,SNR=0.1							
GUD				S		Sn	19 52 40.8	-4.3
MVO	Moncorvo	5.33	356	eP		Pn	19 51 51.5	+2.0
MVO				eS		Sn	19 52 47.0	-2.7
MVO				A		A	19 52 49.9	
	comp=E,1.8nm,0.2s							
POLO	Lamas de Olo	5.61	350	eP		Pn	19 51 54.8	+1.4
POLO				eS		Sn	19 52 53.7	-3.0
POLO				A		A	19 52 56.2	
	comp=E,0.9nm,0.4s							
ETOR	Torete	6.08	34	P		Pn	19 52 00.8	+0.9
ETOR				S		Sn	19 53 04.3	-3.8

IDC 22 19:54:57.9±7.2, 5°92S×154°51E, h178km±44km, mb3.0/4, mbtmp3.5/5, Error ellipse: s-maj=84.4km s-min=25.2km az=99.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076 41nm,0.6s	2.95	303	P	Pn	19 55 45.6	-0.2
KRVT				S	Sn	19 56 23.6	+0.4
WRA	Warramunga Arr 0.3nm,0.3s,baz=57,slow=9.8,SNR=8.4 0.3nm,0.3s	24.06	233	P	P	19 59 57.6	+0.7
ASAR	Alice Springs 0.2nm,0.4s,baz=58,slow=9.2,SNR=4.2 0.2nm,0.4s	26.55	226	P	P	20 00 18.6	-0.8
H11S3	WAKE ISLAND Hy baz=194	27.07	26	T	T	20 30 12.6	
H11S2	WAKE ISLAND Hy baz=194	27.07	26	T	T	20 30 16.4	
H11S1	WAKE ISLAND Hy baz=194	27.08	26	T	T	20 30 17.9	
H11N1	WAKE ISLAND Hy baz=193,slow=74	28.23	25	T	T	20 31 50.5	
H11N3	WAKE ISLAND Hy baz=193	28.24	25	T	T	20 31 50.1	
H11N2	WAKE ISLAND Hy baz=193,slow=74	28.25	25	T	T	20 31 51.2	
SONM	Songino Array 0.2nm,0.5s,baz=136,slow=5.2,SNR=2.6 0.2nm,0.5s	68.17	327	P	P	20 05 39.4	+0.4
MKAR	Makanchi Array 0.4nm,0.6s,baz=96,slow=6.1,SNR=5.0 0.4nm,0.6s	82.28	319	P	P	20 06 59.3	-0.3

IDC 22 19:55:03.1±1.0, 10°.75S×161°.92E, h0km, mb3.8/8, mbtmp4.0/11, ML4.6/3, MS3.6/6, Error ellipse: s-maj=24.9km s-min=20.6km az=84.0

ISC 22 19:55:08.8±0.8, 10°.85S±0°.09×161°.8E±0°.1, h36km, n20, σ1°.55/15, mb3.6/8, MS3.7/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara 1µm,0.3s,baz=189,slow=1.5,SNR=16 3µm,0.3s	2.33	307	Pn	Pn	19 55 44.3	-0.3
HNR	Honiara	2.33	307	P	Pn	19 55 45.5	+0.9
DVP	Devils Point	9.20	139	P	Pn	19 57 21.1	+2.0
RTV	Rentapao	9.41	138	P	Pn	19 57 24.2	+2.3
DZM	Mont Dzumac 1.2nm,0.3s,baz=324,slow=19,SNR=23	12.00	159	Pn	Pn	19 57 58.2	+0.6
DZM				Sn	Sn	20 00 06.8	-3.4
	0.4nm,0.3s,baz=66,slow=15,SNR=1.6 2.6nm,0.3s						
PMG	Port Moresby comp=Z,133nm,19.2s,baz=106,slow=35	14.51	274	LR	LR	20 03 33.5	
MSVF	Nonsavu comp=Z,213nm,19.6s,baz=291,slow=32	17.14	115	LR	LR	20 04 16.3	
CTA	Charters Tower 0.6nm,0.3s,baz=66,slow=12,SNR=12 9.7nm,0.7s	17.58	237	P	P	19 59 13.2	+1.3
AFI	Afiamalu comp=Z,136nm,18.3s,baz=270,slow=33	25.95	99	LR	LR	20 09 25.4	
WRA	Warramunga Arr 1.2nm,0.9s,baz=74,slow=9.1,SNR=3.6 1.2nm,0.9s	27.96	248	P	P	20 00 55.9	-0.4
STKA	Stephens Creek 0.5nm,0.5s,baz=53,slow=10,SNR=1.2 0.5nm,0.5s	28.06	219	P	P	20 00 57.4	+0.5
ASAR	Alice Springs 0.3nm,0.5s,baz=65,slow=9.9,SNR=6.6 0.3nm,0.5s	29.48	241	P	P	20 01 09.3	-0.5
VNDA	Vanda 1.9nm,0.7s,baz=353,slow=7.9,SNR=7.3 1.9nm,0.7s	66.66	180	P	P	20 05 56.4	+1.0
SONM	Songino Array 0.7nm,0.9s,baz=141,slow=5.8,SNR=4.4 0.7nm,0.9s	76.27	325	P	P	20 06 54.0	+0.1
ILAR	Eielson Array 0.4nm,0.7s,baz=241,slow=5.0,SNR=6.5 0.4nm,0.7s	84.59	20	P	P	20 07 37.2	-0.8
DLBC	Dease Lake comp=Z,37nm,21.7s,baz=215,slow=32	88.09	29	LR	LR	20 41 25.3	
MKAR	Makanchi Array 0.1nm,0.5s,baz=111,slow=5.9,SNR=1.6 0.1nm,0.5s	90.76	317	P	P	20 08 07.0	-1.2
ZALV	Zalesovo Beam comp=Z,29nm,19.7s,baz=33,slow=36	91.16	325	LR	LR	20 49 17.2	
YKA	Yellowknife Ar 0.2nm,0.6s,baz=259,slow=5.0,SNR=4.4 0.2nm,0.6s	96.58	28	P	P	20 08 33.9	-0.7
BVAR	Borovoye Array comp=Z,34nm,20.5s,baz=38,slow=36	99.44	322	LR	LR	20 53 57.3	

IDC 22 20:05:08.7±2.8, 47°.51N×123°.34W, h0km, mb3.5/3, mbtmp3.7/6, ML3.0/3, Error ellipse: s-maj=53.3km s-min=11.4km az=10.0

SEA 22 20:05:13.9±1.0, 47°.54N±0°.02×123°.53W±0°.03, h42km±6km, ML3.6/57, ML3.4/50(NEIC), Error ellipse: s-maj=3.4km s-min=3.0km az=83.0

NEIC 22 20:05:13.4±0.9, 47°.57N±0°.02×123°.55W±0°.03, h45km±5km, Error ellipse: s-maj=3.3km s-min=2.7km az=216.0

ISC 22 20:05:13.9±0.8, 47°.56N±0°.02×123°.54W±0°.02, h41km, n104, σ0°95/123, mb3.4/3, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLQ	Olympics--Lake	0.19	257		Pn	20 05 20.9	-0.2
OLQ					Sn	20 05 26.3	+0.1
SMW	South Mountain	0.27	151		Pn	20 05 21.7	-0.3
NLWA	Neilton Lookou	0.28	234		Pn	20 05 21.5	-0.6
NLWA	Neilton Lookou	0.28	234		Sn	20 05 27.9	+0.1
NLWA	Neilton Lookou 32µm,0.5s	0.28	234	IAML		20 05 28.8	
NLWA	22µm,0.3s			IAML		20 05 29.1	
OSD	Olympics--Snow	0.29	337		Pn	20 05 22.3	0.0
HDW	Hoodsport	0.34	74		Pn	20 05 22.5	-0.2
C04A	Brinnon	0.41	67		Pn	20 05 23.4	-0.1
C04A					Sn	20 05 31.1	+0.9
WISH	Wishkah	0.47	200		Pn	20 05 23.9	-0.4
WISH	comp=N,2µm,0.6s			IAML		20 05 33.0	
WISH	comp=E,2µm,0.2s			IAML		20 05 33.6	
GNW	Green Mountain	0.48	89		Pn	20 05 24.0	-0.4
GNW					Sn	20 05 31.6	-0.1
B013	Quilcene	0.49	59		Pn	20 05 24.4	-0.1
B013					Sn	20 05 32.2	+0.2
B013	Quilcene	0.49	59		Pn	20 05 24.4	-0.1
B013					Sn	20 05 32.2	+0.2
B04A	Port Angeles	0.50	2		Pn	20 05 24.6	-0.1
B04A	comp=E,2µm,0.3s			IAML		20 05 34.3	
B04A	comp=N,2µm,0.3s			IAML		20 05 35.2	
B04A	Port Angeles	0.50	2		Pn	20 05 24.5	-0.1
B04A	Port Angeles	0.50	2		Sn	20 05 32.4	+0.2
GMW	Gold Mountain	0.51	91		Pn	20 05 24.4	-0.4
GMW					Sn	20 05 32.5	+0.1
KIMR	Kitsap County	0.52	96		Pn	20 05 24.7	-0.2
KIMR					Sn	20 05 33.1	+0.4
B017	Montesano	0.56	182		Pn	20 05 25.3	-0.1
B017					Sn	20 05 33.6	0.0
PABH	Pacific Beach	0.57	233		Pn	20 05 25.9	+0.4
PABH					Sn	20 05 35.6	+1.8
STW	Striped Peak	0.60	351		Pn	20 05 26.1	+0.1
STW					Sn	20 05 35.1	+0.5
OBC	Olympics--Boni	0.60	323		Pn	20 05 26.1	0.0
PSNS	PSNS Bremerton	0.60	90		Pn	20 05 25.9	0.0
PSNS					Sn	20 05 35.5	+0.8
SQM	Sequim	0.61	32		Pn	20 05 26.4	+0.4
EGRN	Evergreen Coll	0.62	142		Pn	20 05 25.9	-0.3
EGRN					Sn	20 05 35.4	+0.5
KITP	Kitsap County	0.62	79		Pn	20 05 26.8	+0.6
KINR	Kitsap County	0.63	72		Pn	20 05 26.8	+0.4
KINR					Sn	20 05 37.3	+2.0
CPW	Capitol Peak	0.65	155		Pn	20 05 26.2	-0.4
CPW					Sn	20 05 35.6	-0.1
P403	Sandy Floe Qua	0.65	321		Pn	20 05 26.4	-0.2
VVHS	Vashon High Sc	0.74	100		Pn	20 05 27.7	-0.2
ALKI	Alki Wastewate	0.76	88		Pn	20 05 28.6	+0.5
OTR	Olympics--Tyee	0.76	314		Pn	20 05 28.2	0.0
UPS	University of	0.77	112		Pn	20 05 28.5	+0.2
C03A	Quillayute Air	0.80	300		Pn	20 05 28.6	-0.1
C03A	Quillayute Air	0.80	300		Sn	20 05 40.1	+0.8
SCCW	Shoreline CC	0.82	76		Pn	20 05 29.5	+0.6
KIMB	Kimball Elemen	0.83	88		Pn	20 05 30.0	+0.9
SEA	Seattle	0.84	83		Pn	20 05 30.1	+0.9
TBPA	Tacoma Substat	0.85	110		Pn	20 05 29.4	+0.1
TBPA					Sn	20 05 42.2	+1.6
HICC	Highline Commu	0.85	101		Pn	20 05 29.5	+0.1
BRKS	Brookside Elem	0.86	76		Pn	20 05 30.2	+0.6
BRKS					Sn	20 05 43.2	+2.2
VGZ	Gonzales	0.87	9		Pn	20 05 29.1	-0.5
SP2	Seward Park 2	0.87	90		Pn	20 05 30.1	+0.5
SP2					Sn	20 05 43.0	+1.9
NOWS	NOAA--Sand Poi	0.88	81		Pn	20 05 30.6	+0.9
LYNC	Lynnwood City	0.88	72		Pn	20 05 30.1	+0.4
SWID	South Whidbey	0.88	59		Pn	20 05 30.2	+0.5
KNEL	Kent Elementar	0.89	101		Sn	20 05 43.6	+2.1
B019	Raymond	0.91	185		Pn	20 05 30.0	-0.1
B019					Sn	20 05 42.7	+0.7
MPL	Maple valley S	0.92	95		Pn	20 05 30.3	0.0
PCFR	Pierce County	0.94	127		Pn	20 05 30.1	-0.4
PCFR					Sn	20 05 42.9	+0.2
MARYW	Marymoor Park	0.96	83		Pn	20 05 31.8	+0.9
EVGW	Everett Gatewa	0.98	72		Pn	20 05 31.5	+0.5
EVGW					Sn	20 05 45.2	+1.5
LEOT	Leota Junior H	0.98	77		Pn	20 05 31.8	+0.6
GHW	Garrison Hill	1.00	121		Pn	20 05 31.0	-0.4
E03A	Lebam	1.01	181		Pn	20 05 31.1	-0.5
E03A	comp=N,1µm,0.3s			IAML		20 05 45.1	
E03A	comp=E,861nm,0.3s			IAML		20 05 47.5	
EARN	East Ridge Ele	1.03	79		Pn	20 05 32.3	+0.6
OCP	Olym-Cheeka Pk	1.04	316		Pn	20 05 31.7	-0.3
B941	Kapowsin	1.06	122		Pn	20 05 34.5	+2.3
PGC	Sidney	1.09	3		Pn	20 05 32.0	-0.6
PGC	comp=E,642nm,0.4s			IAML		20 05 46.0	
BMW	Boistfort Moun	1.10	169		Pn	20 05 32.6	-0.3
D05A	Enumclaw	1.11	109		Pn	20 05 33.0	+0.1
D05A	comp=N,549nm,0.8s			IAML		20 05 48.3	
D05A	comp=E,650nm,0.9s			IAML		20 05 56.6	
RADR	Rader Ridge	1.15	189		Pn	20 05 33.0	-0.6
RADR	comp=N,618nm,0.7s			IAML		20 05 48.4	
RATT	Rattlesnake La	1.18	96		Pn	20 05 33.5	-0.4
MCW	Mount Constitu	1.22	23		Pn	20 05 34.5	+0.1
HTW	Haystack Looko	1.22	78		Pn	20 05 34.4	-0.1
GSM	Grass Mountain	1.23	106		Pn	20 05 34.5	-0.2
SNB	Saturna Island	1.24	11		Pn	20 05 34.9	+0.2
JCW	Jim Creek	1.25	59		Pn	20 05 34.9	0.0
C05A	Tolt Reservoir	1.26	83		Pn	20 05 34.7	-0.3
CMW	Cultus Mountai	1.29	47		Pn	20 05 35.8	+0.4
CLRS	Cowichan Lake	1.32	343		Pn	20 05 35.2	-0.6
REMR	Mount Rainier-	1.37	122		Pn	20 05 36.4	-0.3
FMW	Mount Fremont	1.42	116		Pn	20 05 37.0	-0.3
LON	Longmire	1.43	124		Pn	20 05 37.1	-0.2
LON	Longmire	1.43	124		Pn	20 05 37.0	-0.3
LON	comp=N,1µm,0.5s			IAML		20 05 55.0	
LON	comp=E,603nm,0.2s			IAML		20 05 55.0	
F03A	Seaside	1.63	181		Pn	20 05 39.9	-0.1
B927	Port Alberni	1.87	333		Pn	20 05 41.9	-1.4
OZB	Mount Ozzard	1.92	318		Pn	20 05 43.3	-0.8
OZB	comp=N,406nm,0.5s			IAML		20 06 06.1	
LTY	Liberty	1.97	98		Pn	20 05 45.4	+0.6
LTY	comp=E,392nm,0.6s			IAML		20 06 09.5	
LTY	comp=N,411nm,0.5s			IAML		20 06 10.1	
SHB	Sechelt	2.05	354		Pn	20 05 45.3	-0.7
GULW	Guler Mountain	2.11	140		Pn	20 05 46.8	0.0
HEBO	Mount Hebo	2.35	184	Pn	Pn	20 05 48.4	-1.6
HEBO	comp=E,255nm,2.5s			IAML		20 06 13.4	
HEBO	comp=N,207nm,1.7s			IAML		20 06 20.7	
HIYU	Hiyu Mountain	2.44	150		Pn	20 05 51.4	+0.1
DHW2	Dyer Hill 2	2.58	79		Pn	20 05 52.0	-1.1
B08A	Colville Reser	2.94	73		Pn	20 05 57.7	-0.3
HAWA	Hanford	2.98	112		Pn	20 05 58.0	-0.6
HAWA	comp=N,70nm,0.6s			IAML		20 06 53.1	
F07A	Phinny Hill Vi	2.99	123		Pn	20 05 57.6	-1.0
F07A	comp=N,94nm,0.5s			IAML		20 06 50.4	
F07A	comp=E,74nm,0.7s			IAML		20 06 59.7	
H04A	Detroit Lake	3.02	161		Pn	20 06 00.1	+0.8
H04A	comp=N,102nm,0.4s			IAML		20 06 35.3	
H04A	comp=E,107nm,0.3s			IAML		20 06 36.1	
D08A	Wollman Farm,	3.18	97		Pn	20 06 00.5	-0.8
LLLB	Lillooet	3.24	19	Pn	Pn	20 06 00.9	-1.3
LLLB	comp=E,110nm,0.7s			IAML		20 06 54.8	
E08A	Dider Farm, El	3.24	108		Pn	20 05 59.5	-2.6
E08A				IAML		20 06 57.5	
	comp=N,50nm,2.1s						
C09A	Chrisman Ranch	3.56	84		Pn	20 06 05.2	-1.4
RNO	Roman Nose	3.65	182		Pn	20 06 07.2	-0.7
NEW	Newport comp=N,1.6nm,0.3s,baz=256,slow=15,SNR=14	4.37	78	Pn	Pn	20 06 16.2	-1.4
NEW	comp=N,1.4nm,0.3s,baz=217,slow=20,SNR=1.4			Sn	Sn	20 07 03.0	-4.3
NEW	comp=N,0.5nm,0.3s,baz=27,slow=14,SNR=1.8 comp=N,4.6nm,0.3s			Lg	Lg	20 07 22.3	
NEW	Newport	4.37	78	Pn	Pn	20 06 16.3	-1.4
F10A	Beach Ranch, E	4.62	108		Pn	20 06 21.5	+0.4
F10A	comp=N,39nm,4.8s			IAML		20 07 05.7	
F10A	comp=E,45nm,0.9s			IAML		20 07 51.4	
BMO	Blue Mountains	5.10	120		Pn	20 06 27.3	-0.6
BMO	comp=E,16nm,2.9s			IAML		20 08 11.5	
BBB	Bella Bella comp=E,0.3nm,0.3s,baz=154,slow=4.6,SNR=4.8 comp=E,13nm,1.1s	5.50	329	Pn	Pn	20 06 33.4	+0.3
WALA	Waterton Lakes	6.59	73	Pn	Pn	20 06 46.5	-1.8
ULM	Lac du Bonnet comp=E,0.3nm,0.3s,baz=264,slow=10,SNR=3.3 comp=E,1.2nm,0.4s	18.34	71	P	P	20 09 22.0	-2.6
BCAR	Beaver Creek A	18.57	333	P	P	20 09 14.9	-12
ILAR	Eielson Array comp=E,0.7nm,0.9s,baz=142,slow=9.7,SNR=9.3 comp=E,0.7nm,0.9s	21.38	332	P	P	20 10 00.1	+2.7
IMAR	Indian Mountai	24.38	330	P	P	20 10 28.6	+0.8
FINES	FINESS Array B comp=E,1.3nm,0.7s,baz=0.0,slow=4.2,SNR=7.9 comp=E,1.3nm,0.7s	68.62	15	P	P	20 16 12.4	+0.2
MKAR	Makanchi Array comp=E,0.2nm,0.6s,baz=18,slow=5.4,SNR=5.4 comp=E,0.2nm,0.6s	83.36	342	P	P	20 17 36.9	+0.6

ISK 22 20:06:30.9, 39°.54N×26°.09E, h5km, ML2.8/24
THE 22 20:06:31.5, 39°.55N×26°.10E, h2km±1km, ML2.6/5, Error ellipse: s-maj=1.9km s-min=0.5km az=118.0
DDA 22 20:06:31.2±0.0, 39°.56N×26°.16E, h4km±1km, ML2.8
ATH 22 20:06:32.2, 39°.54N×25°.93E, h17km±2km, ML2.5/4, Error ellipse: s-maj=3.8km s-min=0.9km az=95.0

ISC 22 20:06:31.0±0.9, 39°.54N±0°.02×26°.11E±0°.02, h13km±6km, n65, σ0°85/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.04	145	P	Pg	20 06 33.0	-0.4
GPNR	Gulpinar-Canak	0.08	165	Pg	Pg	20 06 33.9	+0.1
GPNR				Sg	Sg	20 06 35.3	-0.4
BOZC	Bozcaada	0.31	352	Pg	Pg	20 06 37.0	+0.5
BOZC				Sg	Sg	20 06 41.9	+0.3
BOZC	Bozcaada	0.31	352	P	Pg	20 06 37.2	-0.2
BOZC				P	Pb	20 06 37.3	-1.1
BOZC				S	Sg	20 06 41.6	0.0
BOZC				S	Sg	20 06 41.8	+0.3
BOZC	comp=N,1µm,0.3s			i AML	AML	20 06 42.0	
BOZC	comp=E,2µm,0.2s			i AML	AML	20 06 42.0	
EZN	Ezine	0.33	30	P	Pg	20 06 37.8	0.0
EZN	2µm,0.2s			S	Sg	20 06 42.6	+0.2
EZN	Ezine	0.33	30	Pg	Pg	20 06 37.8	0.0
EZN				Sg	Sg	20 06 42.7	+0.3
SIGR	SIGRI	0.38	211	P	Pg	20 06 39.1	+0.5
SIGR	780nm,0.4s			S	Sg	20 06 44.6	+0.9
SIGR	SIGRI	0.38	211	Pg	Pg	20 06 38.9	+0.3
SIGR				Sg	Sg	20 06 43.9	+0.2
SIGR	SIGRI	0.38	211	P	Pg	20 06 39.1	+0.5
SIGR				S	Sg	20 06 44.2	+0.4
SIGR	comp=N,1554µm,0.3s			AML	AML	20 06 45.1	
SIGR	comp=E,1550µm,0.5s			AML	AML	20 06 45.6	
BAYC	CANAKKALE_Bayr	0.40	59	P	Pg	20 06 38.5	-0.5
BAYC				S	Sg	20 06 43.2	-1.1
BAYC	comp=E,882nm,0.1s			i AML	AML	20 06 44.0	
AYVA	Ayvalik	0.51	117	P	Pg	20 06 40.5	-0.5
ECEA	Canakkale, Ece	0.51	6	P	Pg	20 06 40.6	-0.5
GOKA	anakkale-Gk	0.67	347	P	Pg	20 06 44.4	+0.3
GOKA				S	Sg	20 06 52.8	-0.2
GOKA	comp=E,619nm,0.6s			i AML	AML	20 06 54.0	
GADA	Gvkgeada	0.67	346	Pg	Pg	20 06 44.4	+0.3
BUHA	Balikesir, Bur	0.75	92	P	Pg	20 06 45.3	-0.3
BUHA				S	Sg	20 06 55.5	0.0
BUHA	comp=E,276nm,0.4s			i AML	AML	20 06 57.0	
DKL	Dikili	0.78	127	Pg	Pg	20 06 46.9	+0.8
DKL				Sg	Sg	20 06 57.7	+1.5
GELI	Tayfur-Gelibol	0.91	18	Pg	Pg	20 06 48.9	+0.4
ZEDA	zmir-Bergama	0.94	127	P	Pg	20 06 49.7	+0.4
LPK	Lapseki	0.97	31	Pg	Pg	20 06 49.9	0.0
SMTH	Samothraki Isl	1.03	335	P	Pg	20 06 50.9	-0.1
SMTH				S	Sb	20 07 05.0	+0.7
SMTH	comp=E,162nm,0.2s			P	Pg	20 06 50.0	-1.0
SMTH	Samothraki Isl	1.03	335	S	Sg	20 07 03.2	-1.2
SMTH				AML	AML	20 07 07.3	
SMTH	comp=E,262µm,0.1s			AML	AML	20 07 07.7	
SMTH	comp=N,376µm,0.3s			AML	AML	20 07 07.7	
PSRA	Psara	1.08	203	P	Pg	20 06 51.4	-0.4
CHOS	Chios island	1.15	182	P	Pg	20 06 52.9	-0.3
CHOS	Chios island	1.15	182	Pn	Pg	20 06 52.7	-0.5
CHOS	Chios island	1.15	182	P	Pg	20 06 53.1	-0.1
CHOS	comp=E,892µm,0.2s			AML	AML	20 07 13.2	
CHOS	comp=N,396µm,0.2s			AML	AML	20 07 13.3	
CAVK	Edirne/Enez-Ca	1.15	2	P	Pg	20 06 53.4	+0.1
ERIK	Erikli-Kesan	1.18	15	Pn	Pg	20 06 53.0	-0.7
BALY	Balya	1.19	80	P	Pg	20 06 53.3	-0.6
ENEZ	Enez	1.20	2	P	Pg	20 06 53.7	-0.4
ENEZ	comp=N,398nm,0.3s			S	Sb	20 07 10.3	+1.2
ENEZ	Enez	1.20	2	Pn	Pg	20 06 53.9	-0.2
URLA	Izmir	1.24	162	Pn	Pg	20 06 54.2	-0.6
URLA	Izmir	1.24	162	P	Pg	20 06 53.0	-1.8
URLA				S	Sg	20 07 10.4	-0.4
KRBG	Karabiga-Canak	1.25	47	Pn	Pg	20 06 54.7	-0.4
STEP	BALIKESIR_Sava	1.26	97	P	Pg	20 06 54.7	-0.5
STEP				S	Sg	20 07 11.2	-0.4
KNL	Balıkesir	1.31	56	P	Pn	20 06 54.8	-0.4
KNL				S	Sg	20 07 12.3	-1.2
KNL	comp=N,128nm,0.4s			i AML	AML	20 07 16.0	
GONE	Gonen-Balikesi	1.32	67	Pn	Pn	20 06 56.2	+1.0
ZEYE	Izmir, Urla-Ze	1.33	166	P	Pn	20 06 54.0	-1.4
ALN	Alexandroupoli	1.36	358	P	Pn	20 06 56.3	+0.6
ALN	comp=N,255nm,0.4s			S	Sg	20 07 14.7	-0.2
ALN	Alexandroupoli	1.36	358	Pn	Pn	20 06 56.7	+0.9
ALN	Alexandroupoli	1.36	358	P	Pn	20 06 56.4	+0.6
ALN	comp=E,555µm,0.4s			AML	AML	20 07 15.8	
ALN	comp=N,464µm,0.4s			AML	AML	20 07 16.0	
KESN	Edirne-Kesan	1.36	19	P	Pn	20 06 56.4	+0.3
KESN				S	Sg	20 07 14.1	-0.9
KESN	comp=N,173nm,0.4s			i AML	AML	20 07 16.0	
KESN	comp=E,243nm,0.6s			i AML	AML	20 07 18.0	
SART	comp=N,207nm,0.4s			i AML	AML	20 07 19.0	
SART	comp=N,242nm,0.3s			i AML	AML	20 07 20.0	
AKHS	Akhisar	1.48	116	P	Pn	20 06 58.0	+0.5
THAS	Thassos island	1.51	316	P	Pn	20 06 58.0	+0.2
THAS	Thassos island	1.51	316	P	Pn	20 06 57.7	-0.1
EDC	Edincik	1.57	59	Pn	Pn	20 07 00.1	+1.4
DGB	zmir	1.60	158	P	Pn	20 06

UKOP	Uzunkopru-Edir	1.64	14	Pn	Pn	20 07 01.3	+1.7
RDO	Rodhopi	1.67	345	P	Pn	20 07 00.9	+0.9
RDO	Rodhopi	1.67	345	Pn	Pn	20 07 01.4	+1.4
RDO	Rodhopi	1.67	345	P	Pn	20 07 01.1	+1.1
KYMI	Kymi, Euboea I	1.80	241	P	Pn	20 07 01.6	-0.2
OUR	Ouranopolis	1.82	297	Pn	Pn	20 07 03.2	+1.2
OUR	Ouranopolis	1.82	297	P	Pn	20 07 02.4	+0.3
TKR	Tekirdag	1.82	37	Pn	Pn	20 07 03.7	+1.6
KCTX	Karacabey (Bur	1.88	66	Pn	Pn	20 07 04.4	+1.5
KAVA	Kavala	1.90	321	P	Pn	20 07 03.8	+0.6
CRLT	Corlu	2.02	38	Pn	Pn	20 07 06.6	+1.7
GCAM	G?zelcaml?	2.04	154	Pn	Pn	20 07 06.6	+1.6
ORLT	Orhaneli	2.21	76	Pn	Pn	20 07 09.1	+1.6
KULA	Kula-Manisa	2.24	116	Pn	Pn	20 07 09.5	+1.6
SIMA	Simav-Kutahya	2.28	101	Pn	Pn	20 07 09.9	+1.4

IDC ***22*** *20:13:05.3±2.1,20.˚12S×177.˚07W,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=122.0km s-min=28.2km az=150.0*

NOU ***22*** *20:13:30.3,20.˚91S×176.˚40W,h279km,MLv4.6/7,Fiji Islands Region*

ISC 22 20:13:32.0±1.1,21.˚3S±0.˚1×176.˚8W±0.˚2,h250km,n9, σ1§43/9,mb3.2/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.99	305	P	Pn	20 15 00.5	+0.3
	20nm,0.8s						
URZ	Urewera	17.72	196	P	P	20 17 22.3	+0.9
BKZ	Black Stump Fm	18.73	196	P	Pn	20 17 34.1	-2.0
	26nm,3.0s						
BFZ	Birch Farm	20.22	195	P	P	20 17 49.6	+1.3
STKA	Stephens Creek	38.46	245	P	P	20 20 30.8	+0.6
	0.7nm,0.7s,baz=84,slow=10,SNR=3.3 0.7nm,0.7s						
ASAR	Alice Springs	45.42	257	P	P	20 21 27.1	+0.6
	0.4nm,0.7s,baz=98,slow=7.2,SNR=5.1 0.4nm,0.7s						
WRA	Warramunga Arr	45.59	263	P	P	20 21 26.6	-1.2
	0.3nm,0.7s,baz=96,slow=7.6,SNR=5.9 0.3nm,0.7s						
TXAR	Lajitas Array	86.55	57	P	P	20 25 48.5	+1.2
	0.3nm,0.7s,baz=230,slow=8.1,SNR=2.4 0.3nm,0.7s						
ILAR	Eielson Array	88.83	12	P	P	20 25 55.8	-1.4
	0.3nm,0.8s,baz=216,slow=6.0,SNR=7.0 0.3nm,0.8s						

IDC ***22*** *20:21:54.5±1.0,26.˚09N×128.˚55E,h0km,mb3.7/14, mbtmp3.7/15,ML3.4/1,MS3.4/2,Error ellipse: s-maj=34.4km s-min=14.5km az=77.0*

JMA ***22*** *20:21:58.3±0.3,26.˚1N±1.˚0×12.˚9E±.˚,h39km±4km, MV3.4/13,NEAR OKINAWAJIMA ISLAND*

ISC 22 20:21:56.8±1.2,26.˚05N±0.˚05×128.˚59E±0.˚03,h19km±4km, n28,σ1§15/38,mb3.6/14,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNTH	Nagotoyohara	0.69	313	P	Pn	20 22 10.8	-0.7
JNTH				eS	Sn	20 22 20.1	-1.7
JJT3	Tamagusuku3	0.73	278	iP	Pn	20 22 11.8	-0.3
JJT3				eS	Sn	20 22 21.9	-0.8
JOW	Kunigami	0.83	340	Pn	Pn	20 22 13.3	-0.2
	172nm,0.3s,baz=150,slow=18,SNR=75						
JOW				Sn	Sn	20 22 25.1	-0.1
	284nm,0.3s,baz=116,slow=25,SNR=9.8						
JOW	Kunigami	0.83	340	P	Pn	20 22 13.2	-0.2
JOW				eS	Sn	20 22 24.5	-0.7
JYRO	Yoronjima	0.98	353	P	Pg	20 22 15.6	-0.3
JYRO				eS	Sn	20 22 28.6	-0.3
JIH	Iheya	1.13	331	P	Pg	20 22 18.1	-0.6
JIH				eS	Sg	20 22 32.3	-1.3
JOKE	Okinoerabujima	1.31	359	eP	Pg	20 22 21.0	-1.1
JOKE				eS	Sb	20 22 36.9	-0.3
JAGN	Aguni-jima	1.32	294	P	Pg	20 22 20.6	-1.8
JAGN				S	Sb	20 22 36.9	-0.7
JKE	Kume jima 2	1.64	280	P	Pn	20 22 24.2	-0.5
JKE				eS	Sn	20 22 43.9	-1.4
JTK	Tokunoshima	1.76	10	P	Pb	20 22 27.0	-1.4
JMZ	Minamidaito 2	2.38	95	P	Pn	20 22 34.2	-0.6
JMZ				S	Sn	20 23 00.5	-2.9
JKDJ	Kitadaitoujima	2.44	92	P	Pn	20 22 35.1	-0.5
JKDJ				eS	Sn	20 23 02.9	-2.0
JNU	Nakatsue	7.32	15	Pn	Pn	20 23 44.5	+1.7
	0.6nm,0.3s,baz=213,slow=2.7,SNR=6.1 7.6nm,0.8s						
SONM	Songino Array	27.88	327	P	P	20 27 47.6	+2.1
	1.1nm,0.8s,baz=143,slow=11,SNR=7.6						
SONM				LR	LR	20 40 50.7	
	comp=Z,53nm,18.2s,baz=208,slow=41 1.1nm,0.8s						
CMAR	Chiang Mai Arr	28.41	261	P	P	20 27 52.3	+1.9
	0.3nm,0.7s,baz=58,slow=8.6,SNR=1.1 0.3nm,0.7s						
MKAR	Makanchi Array	41.90	312	P	P	20 29 45.9	-0.1
	0.5nm,0.6s,baz=96,slow=9.7,SNR=8.8 0.5nm,0.6s						
ZALV	Zalesovo Beam	42.59	323	P	P	20 29 50.7	-0.7
	0.4nm,0.5s,baz=134,slow=6.2,SNR=1.9 0.4nm,0.5s						
KURBB	Kurchatov Arra	45.21	317	P	P	20 30 12.2	-0.3
	0.5nm,0.2s,baz=99,slow=8.0,SNR=4.4 0.5nm,0.2s						
WRA	Warramunga Arr	46.06	172	P	P	20 30 20.1	+0.7
	0.6nm,0.8s,baz=354,slow=8.4,SNR=5.8 0.6nm,0.8s						
ASAR	Alice Springs	49.69	174	P	P	20 30 48.9	+1.3
	0.6nm,0.9s,baz=3.1,slow=7.5,SNR=5.0 0.6nm,0.9s						
BVAR	Borovoye Array	50.62	318	P	P	20 30 54.3	-0.2
	0.9nm,0.5s,baz=82,slow=9.6,SNR=6.7 0.9nm,0.5s						
AKTO	Aktyubinsk	58.19	315	LR	LR	20 57 16.5	
	comp=Z,43nm,19.2s,baz=13,slow=36						
FINES	FINESS Array B	73.18	331	P	P	20 33 26.3	+0.3
	2.1nm,1.0s,baz=81,slow=9.0,SNR=3.9 2.1nm,1.0s						
AKASG	Malin Array Be	75.88	320	P	P	20 33 42.2	+0.3
	0.9nm,0.5s,baz=57,slow=6.6,SNR=4.4 0.9nm,0.5s						
BRTR	Keskin Array B	77.40	308	P	P	20 33 51.3	+0.4
	1.0nm,0.8s,baz=98,slow=3.2,SNR=4.6 1.0nm,0.8s						
YKA	Yellowknife Ar	78.55	25	P	P	20 33 57.6	+0.9
	0.2nm,0.6s,baz=302,slow=5.4,SNR=2.9 0.2nm,0.6s						
NOA	NORSAR Array B	79.62	334	P	P	20 34 03.1	+0.5
	0.8nm,0.8s,baz=58,slow=6.8,SNR=2.5 0.8nm,0.8s						
GERES	GERESS Array B	85.54	323	P	P	20 34 33.3	-0.5
	0.1nm,0.3s,baz=77,slow=4.2,SNR=1.4 0.1nm,0.3s						

IDC ***22*** *20:27:10.1±1.7,4.˚79S×152.˚61E,h51km±12km,mb3.8/17, mbtmp4.0/17,MS3.6/3,Error ellipse: s-maj=22.4km s-min=15.0km az=87.0*

NEIC ***22*** *20:27:13.1±1.5,4.˚6S±0.˚1×152.˚5E±0.˚2,h73km±10km, mb4.5/32,Error ellipse: s-maj=22.0km s-min=15.5km az=96.0*

ISC 22 20:27:11.0±0.6,4.˚74S±0.˚06×152.˚62E±0.˚09,h58km,n63, σ0§94/61,mb4.3/31,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	0.71	320		Pn	20 27 26.3	+1.0
KRVT	Keravat (AS076	0.73	306	P	Pn	20 27 25.6	+0.1
	baz=192,slow=3.3						
KRVT				S	Sn	20 27 36.3	+0.1
	baz=17,slow=19						
KRVT				LR	LR	20 27 43.7	
	comp=Z,382nm,21.0s,baz=201,slow=45						
PMG	Port Moresby	7.13	229	P	Pn	20 28 54.3	+1.5
	14nm,0.4s,baz=65,slow=9.8,SNR=10.0						
PMG				S	Sn	20 30 12.7	+0.2
	11nm,0.4s,baz=310,slow=21,SNR=1.9						
PMG	Port Moresby	7.13	229		Pn	20 28 54.0	+1.2
HNR	Honiara	8.63	123	LR	LR	20 32 46.8	
	comp=Z,2μm,20.1s,baz=224,slow=39						
EIDS	Eidsvold	20.57	184	P	P	20 31 44.4	-0.7
SIJI	Sorong	21.67	280	P	P	20 31 57.9	+0.9
	5.8nm,0.6s,baz=100,slow=14,SNR=4.6 5.8nm,0.6s						

DZM	Mont Dzumac	21.82	143	P	P	20 31 59.3	+0.7
	6.2nm,0.8s,baz=298,slow=15,SNR=2.1 6.2nm,0.8s						
DZM	Mont Dzumac	21.82	143	P	P	20 31 59.4	+0.7
DZM				IAmb	IAmb	20 32 40.3	
	comp=Z,19nm,1.1s						
MTN	Manton Dam	22.70	248	P	P	20 32 07.9	-0.1
WB0	Warramunga Arr	23.21	228	P	P	20 32 11.7	-1.5
WR0	Warramunga Arr	23.22	228	P	P	20 32 12.0	-1.3
WR0				IAmb	IAmb	20 32 46.7	
	comp=Z,20nm,1.5s						
WRAB	Tennant Creek	23.34	228	P	P	20 32 13.0	-1.4
WB2	Warramunga Arr	23.35	228	P	P	20 32 12.8	-1.7
WRA	Warramunga Arr	23.35	228	P	P	20 32 13.3	-1.3
	comp=Z,2.8nm,0.5s,baz=52,slow=10,SNR=33 comp=Z,2.8nm,0.5s						
WRA	Warramunga Arr	23.35	228	P	P	20 32 12.9	-1.6
KNRA	Kununurra	25.84	243	P	P	20 32 35.2	-2.1
KNRA				IAmb	IAmb	20 32 51.5	
	comp=Z,19nm,1.1s						
AS31	Alice Springs	26.08	222	P	P	20 32 39.6	+0.2
ASAR	Alice Springs	26.08	222	P	P	20 32 37.5	-1.9
	comp=Z,0.8nm,0.4s,baz=57,slow=8.8,SNR=24 comp=Z,0.8nm,0.4s						
ASAR	Alice Springs	26.08	222	P	P	20 32 39.5	+0.1
MSVF	Nonsavu	28.03	119	LR	LR	20 43 59.8	
	comp=Z,90nm,18.6s,baz=251,slow=36						
STKA	Stephens Creek	28.91	200	P	P	20 33 04.1	-0.5
	comp=Z,1.0nm,0.7s,baz=23,slow=12,SNR=4.5 comp=Z,1.0nm,0.7s						
FITZ	Fitzroy Crossi	29.53	241	P	P	20 33 08.0	-2.3
CAN	Canberra	30.62	186	P	P	20 33 21.2	+1.4
FORT	Forrest	34.73	219	P	P	20 33 54.5	-1.1
JNU	Nakatsue	42.93	333	P	P	20 35 04.9	+0.6
	comp=Z,10.0nm,0.9s,baz=196,slow=3.8,SNR=1.9 comp=Z,10.0nm,0.9s						
MJAR	Matsushiro Arr	43.22	343	LR	LR	20 53 00.2	
	comp=Z,15nm,18.2s,baz=142,slow=36						
CMAR	Chiang Mai Arr	57.69	295	P	P	20 36 56.6	+0.5
	comp=Z,0.4nm,0.3s,baz=113,slow=5.5,SNR=7.1 comp=Z,0.4nm,0.3s						
PETK	Petropavlovsk-	57.79	4	P	P	20 36 55.6	-0.6
	comp=Z,1.0nm,0.8s,baz=136,slow=5.3,SNR=1.2 comp=Z,1.0nm,0.8s						
SONM	Songino Array	66.18	328	P	P	20 37 52.9	+0.2
	comp=Z,0.3nm,0.7s,baz=150,slow=4.7,SNR=1.9 comp=Z,0.3nm,0.7s						
MKAR	Makanchi Array	80.16	319	P	P	20 39 16.6	+1.4
	comp=Z,0.3nm,0.5s,baz=100,slow=7.3,SNR=4.8 comp=Z,0.3nm,0.5s						
I21K	Tanana	80.53	21	P	P	20 39 16.0	-0.6
MLY	Manley	80.89	21	P	P	20 39 18.2	-0.4
MLY				IAmb	IAmb	20 39 19.8	
	comp=Z,3.9nm,0.5s						
ZALV	Zalesovo Beam	81.00	326	P	P	20 39 19.0	-0.4
	comp=Z,1.4nm,0.6s,baz=112,slow=5.6,SNR=6.9 comp=Z,1.4nm,0.6s						
IL31		82.17	22	P	P	20 39 24.5	-0.7
IL31				IAmb	IAmb	20 39 37.4	
	comp=Z,6.3nm,1.4s						
ILAR	Eielson Array	82.17	22	P	P	20 39 24.4	-0.9
	comp=Z,2.1nm,0.7s,baz=248,slow=5.2,SNR=34 comp=Z,2.1nm,0.7s						
ILAR	Eielson Array	82.17	22	P	P	20 39 24.0	-1.4
H24K	Noodor Dome	82.33	21	P	P	20 39 26.5	+0.2
H24K				IAmb	IAmb	20 39 39.2	
	comp=Z,5.7nm,1.1s						
BARN	Barnard Glacie	82.66	27	P	P	20 39 28.4	+0.1
BARN				IAmb	IAmb	20 39 55.3	
	comp=Z,11nm,1.3s						
DOT	Dot Lake	82.74	24	P	P	20 39 28.8	+0.3
L26K	Log Cabin Wild	82.76	24	P	P	20 39 28.9	+0.4
L26K				IAmb	IAmb	20 39 29.2	
	comp=Z,7.6nm,1.4s						
SCRK	Sand Creek	82.92	23	P	P	20 39 29.4	0.0
SCRK				IAmb	IAmb	20 39 31.0	
	comp=Z,11nm,1.3s						
PCA	Pinnacle	82.92	28	P	P	20 39 29.0	-0.5
M27K	Edge Creek, AK	83.10	25	P	P	20 39 30.3	-0.1
M27K				IAmb	IAmb	20 39 32.8	
	comp=Z,9.4nm,1.1s						
J26L	Joseph Creek	83.31	23	P	P	20 39 31.5	0.0
J26L				IAmb	IAmb	20 40 04.7	
	comp=Z,4.1nm,1.3s						
L27K	Beaver Creek,	83.41	25	P	P	20 39 32.3	+0.4
L27K				IAmb	IAmb	20 39 34.2	
	comp=Z,4.3nm,1.2s						
BCAR	Beaver Creek A	83.42	25	P	P	20 39 33.0	+1.1
KURBB	Kurchatov Arra	83.64	322	P	P	20 39 34.0	+0.7
	comp=Z,1.0nm,0.3s,baz=116,slow=4.3,SNR=2.2 comp=Z,1.0nm,0.3s						
BMAR	Burnt Mountain	84.25	20	P	P	20 39 36.8	+0.7
EGAK	Eagle	84.37	23	P	P	20 39 37.1	+0.4
EGAK				IAmb	IAmb	20 39 60.0	
	comp=Z,8.0nm,1.5s						
HYT	Haines Junctio	84.46	28		P	20 39 37.4	0.0
AAK	Ala-Archa	84.50	313	P	P	20 39 38.2	+0.2
	comp=Z,0.6nm,0.4s,baz=141,slow=8.7,SNR=4.8 comp=Z,0.6nm,0.4s						
DAWY	Dawson	84.80	24	P	P	20 39 39.6	+0.7
M30M	Minto, Yukon	85.37	26	P	P	20 39 41.9	+0.1
M30M				IAmb	IAmb	20 39 43.7	
	comp=Z,2.8nm,0.9s						
N31M	Braeburn, Yuko	85.47	27	P	P	20 39 42.6	+0.3
M31M	Drury Creek, Y	86.32	27	P	P	20 39 46.9	+0.4
M31M				IAmb	IAmb	20 40 16.2	
	comp=Z,3.3nm,1.1s						
FARO	Faro, Yukon	86.79	27	P	P	20 39 49.0	+0.2
FARO				IAmb	IAmb	20 40 08.9	
	comp=Z,7.9nm,1.4s						
BVAR	Borovoye Array	89.08	323	P	P	20 39 58.7	-1.2
	comp=Z,0.5nm,0.5s,baz=98,slow=4.5,SNR=4.0 comp=Z,0.5nm,0.5s						
YKA	Yellowknife Ar	95.45	28	P	P	20 40 29.5	+0.4
	comp=Z,0.8nm,0.7s,baz=271,slow=4.9,SNR=15 comp=Z,0.8nm,0.7s						
PDAR	Pinedale Array	98.94	48	P	Pdif	20 40 46.1	+0.5
	comp=Z,0.1nm,0.4s,baz=268,slow=4.5,SNR=1.9 comp=Z,0.1nm,0.4s						
PLCA	Paso Flores	119.94	143	PKP	PKiKP	20 45 56.0	+0.4
	comp=Z,0.5nm,0.5s,baz=236,slow=2.4,SNR=3.8						
GERES	GERESS Array B	123.91	328	PKP	PKPdf	20 46 02.0	-0.9
	comp=Z,0.6nm,0.7s,baz=95,slow=2.1,SNR=6.7						
BDFB	Brasilia	151.24	135	PKPbc	PKPbc	20 46 58.4	-0.8
	comp=Z,1.1nm,0.6s,baz=214,slow=3.6,SNR=4.5						

IDC ***22*** *20:52:22.7±1.8,6.˚11S×152.˚39E,h0km,mb3.5/3, mbtmp3.6/4,ML1.7/1,Error ellipse: s-maj=50.6km s-min=19.7km az=110.0*

ISC 22 20:52:28.0±1.8,6.˚2S±0.˚1×152.˚3E±0.˚2,h38km,n5,σ1§72/7, mb3.5/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.87	351	Pn	Pn	20 52 55.3	-2.1
	baz=195,slow=19						
KRVT				Sn	Sn	20 53 22.1	+2.4
	baz=192,slow=19						
PMG	Port Moresby	6.05	237	Pn	Pn	20 53 54.7	-0.2
	1.1nm,0.3s,baz=48,slow=20,SNR=2.6						
PMG				Sn	Sn	20 55 02.1	-0.8
	3.8nm,0.3s,baz=339,slow=20,SNR=3.5 5.1nm,0.4s						
WRA	Warramunga Arr	22.20	230	P	P	20 57 21.7	+0.5
	0.5nm,0.5s,baz=55,slow=10.0,SNR=6.6 0.5nm,0.5s						
ASAR	Alice Springs	24.84	224	P	P	20 57 48.0	+1.0
	1.3nm,0.8s,baz=53,slow=9.9,SNR=10.0 1.3nm,0.8s						
ILAR	Eielson Array	83.59	22	P	P	21 04 52.1	+0.1
	0.5nm,0.7s,baz=241,slow=4.0,SNR=7.8 0.5nm,0.7s						

WEL 22 20:58:14.7±0.4,45.˚5S±3.˚×16.˚9E±.˚,h5km,M2.9/6,ML3.1/11, MLv2.9/6,Error ellipse: s-maj=0.0km s-min=0.0km az=124.0,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WKZ	Wanaka	0.34	149	P	Pg	20 58 21.5	+0.2
WKZ				S	Sg	20 58 26.0	+0.1
JCZ	Jackson Bay	0.46	1	P	Pg	20 58 23.9	+0.4
JCZ				S	Sg	20 58 29.9	+0.4
MSZ	Milford Sound	0.62	257	P	Pg	20 58 27.1	+0.6
MSZ				S	Sg	20 58 35.5	+0.8

EAZ	Earnscleugh	0.80	152	P	Pg	20 58 29.7	-0.3
MLZ	Mavora Lakes	0.95	209	P	Pg	20 58 32.8	-0.2
LBZ	Lake Benmore	1.02	82	P	Pg	20 58 34.0	-0.2
FOZ	Fox Glacier	1.25	37	P	Pg	20 58 37.7	-1.0
ODZ	Otahua Downs	1.43	112	P	Pn	20 58 40.7	-0.5
DCZ	Deep Cove	1.48	230	P	Pn	20 58 42.1	+0.1
DCZ				S	Sn	20 59 01.4	-0.2
WHZ	Wether Hill Ro	1.48	203	P	Pn	20 58 42.1	+0.1
WHZ				S	Sb	20 59 01.9	+0.2
TUZ	Tuapeka	1.55	157	P	Pn	20 58 43.2	+0.3
TMZ	Timaru	1.61	85	P	Pn	20 58 44.2	+0.5
GCSZ	Gaunt Creek Bo	1.66	43	P	Pb	20 58 45.2	-0.5
ARCZ	Arundel	1.82	72	P	Pb	20 58 48.7	+0.1
RPZ	Rata Peaks	1.83	64	P	Pb	20 58 48.5	-0.2
APZ	The Paps	2.37	193	P	Pn	20 58 54.7	+0.6

WEL ***22*** *21:00:00,37.˚79S×177.˚51E,h52km,ML5.0,Mw4.9, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁶ Nm; Mrr=0.06; Mθθ=0.02; Mφφ=0.04; Mrθ=0.46; Mθφ=-0.72; Mφr=2.87; Fault plane solution: Mo2.99000×10¹⁶ NP1: φs276.00000°,δ13.00000°,λ179.00000°. NP2:φs8.00000°, δ90.00000°,λ77.00000°. Principal axes: T -3101.4500, Plg44.0000°, Azm266.0000°; N 224.8500, Plg13.0000°, Azm8.0000°; P 2876.6000, Plg43.0000°, Azm111.0000°;*

IDC ***22*** *21:00:15.0±1.0,38.˚03S×177.˚74E,h62km±6km,mb5.0/17, mbtmp5.2/19,MS4.1/31 Error ellipse: s-maj=18.5km s-min=15.6km az=149.0*

BJI ***22*** *21:00:14.3±0.0,37.˚95S×178.˚12E,h71km,mb5.1/20, mB5.8/12,Ms5.2/4,Ms7 5.0/4*

NEIC ***22*** *21:00:15.9±2.5,37.˚95S±0.˚06×177.˚79E±0.˚08,h64km±4km, mb5.3/40,Mwr5.0/17,Error ellipse: s-maj=10.9km s-min=5.8km az=132.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.44; Mθθ-2.42; Mφφ-1.02; Mrθ-0.06; Mθφ-2.64; Mφr2.10; Fault plane solution: Mo4.55000×10¹⁶ NP1:φs256.86000°,δ42.07000°, λ129.66000°. NP2:φs28.71000°,δ58.94000°,λ60.05000°. Principal axes: T 4.4458, Plg63.0000°, Azm248.0000°; N 0.2024, Plg25.0000°, Azm45.0000°; P -4.6482, Plg9.0000°, Azm140.0000°;*

WEL ***22*** *21:00:16.5±0.3,38.˚3S±3.˚×17.˚8E±.˚,h29km±3km,M5.1/49, ML5.4/49,MLv5.1/49 Error ellipse: s-maj=0.0km s-min=0.0km az=4.9,confirmed*

MOS ***22*** *21:00:16.0±1.6,37.˚83S×177.˚61E,h70km,mb5.5/12,Error ellipse: s-maj=15.5km s-min=11.4km az=32.1*

NOU ***22*** *21:00:16.3,37.˚95S×177.˚71E,h51km,mb5.4/79,Off E. Coast of N. Island, N.Z.*

ISC 22 21:00:16.4±0.4,37.˚81S±0.˚03×177.˚62E±0.˚03,h67km±3km, h66km:pP-P,n601,σ1§77/598,mb5.4/72,25C-22D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	Te Kaha	0.14	67	P	Pn	21 00 24.3	-2.0
HAZ				S	Sn	21 00 30.3	-3.3
RUGZ	Raukumara Rang	0.16	163	P	Pn	21 00 24.5	-2.1
RUGZ				S	Sn	21 00 30.6	-3.4
PKGZ	Pakihiroa	0.37	102	P	Pn	21 00 26.5	-1.3
PKGZ				S	Sn	21 00 34.1	-2.1
WIZ	White Island	0.44	310	P	Pn	21 00 26.1	-2.3
WSRZ	White Island S	0.46	310	P	Pn	21 00 26.5	-2.0
TWAZ	Tauwhareparae	0.46	142	P	Pn	21 00 29.1	+0.5
WHRZ	Whale Island	0.51	265	P	Pn	21 00 28.0	-1.1
MWZ	Matawai	0.53	188	P	Pn	21 00 29.0	-0.2
PUZ	Puketiti	0.57	117	P	Pn	21 00 30.0	+0.4
MXZ	Matakaoa Point	0.60	66		Pn	21 00 28.9	-1.0
MXZ				Sn	Sn	21 00 38.7	-1.2
MXZ	Matakaoa Point	0.60	66	P	Pn	21 00 29.5	-0.4
MXZ	Matakaoa Point	0.60	66	P	Pn	21 00 29.1	-0.8
MXZ				S	Sn	21 00 39.0	-0.8
URZ	Urewera	0.60	222	P	Pn	21 00 28.9	-1.0
	12μm,0.3s,baz=116,slow=7.8						
URZ				S	Sn	21 00 38.8	-1.0
	20μm,0.3s,baz=90,slow=15,SNR=57						
URZ	Urewera	0.60	222	P	Pn	21 00 29.2	-0.7
URZ	Urewera	0.60	222	P	Pn	21 00 29.3	-0.6
WMGZ	Waiomatatini S	0.63	91	P	Pn	21 00 30.7	+0.5
WMGZ				S	Sn	21 00 42.8	+2.4
RAGZ	Rawiri	0.70	193	P	Pn	21 00 31.5	+0.3
RAGZ				S	Sn	21 00 43.1	+1.1
EDRZ	Edgecumbe	0.76	247	P	Pn	21 00 31.1	-0.6
EDRZ				S	Sn	21 00 42.3	-0.8
MARZ	Manawahe	0.77	257	P	Pn	21 00 30.8	-1.1
MARZ				S	Sn	21 00 41.8	-1.5
OPRZ	Ohinepanea	0.84	267	P	Pn	21 00 31.5	-1.2
OPRZ				S	Sn	21 00 43.1	-1.7
RIGZ	Rimuhau	0.90	173	P	Pn	21 00 34.4	+0.9
MUGZ	Murupara	0.94	225	P	Pn	21 00 33.6	-0.4
MUGZ				S	Sn	21 00 46.9	-0.2
RTZ	Ruatahuna	0.95	212		Pn	21 00 33.4	-0.7
RTZ				Sn	Sn	21 00 46.5	-0.7
RTZ	Ruatahuna	0.95	212	P	Pn	21 00 33.8	-0.3
RTZ				S	Sn	21 00 47.4	+0.1
MKZZ	Makatiti	0.97	250	P	Pn	21 00 34.2	0.0
TRZ	Mount Tarawera	0.97	244	P	Pn	21 00 34.2	-0.2
SNGZ	Shannon Statio	0.99	193	P	Pn	21 00 35.9	+1.2
LIRZ	Lichensteins R	0.99	259	P	Pn	21 00 34.3	-0.3
RRRZ	Republican Roa	1.02	239	P	Pn	21 00 34.7	-0.3
OMRZ	Omania	1.03	253	P	Pn	21 00 34.6	-0.5
TGRZ	Tauranga	1.08	274	P	Pn	21 00 34.5	-1.1
HLRZ	Highlands Stat	1.09	246	P	Pn	21 00 35.8	-0.1
KARZ	Kaharoa	1.11	259	P	Pn	21 00 35.5	-0.6
NGRZ	Ngongotaha	1.17	255	P	Pn	21 00 36.7	-0.2
RAHZ	Arahi	1.18	201	P	Pn	21 00 37.8	+0.7
UTU	Utuhina	1.18	252	P	Pn	21 00 37.4	+0.4
PRRZ	Plateau Road	1.19	234	P	Pn	21 00 36.9	-0.2
HSRZ	Hossack Road	1.19	245	P	Pn	21 00 37.3	+0.1
HRRZ	Handcock Road	1.20	241	P	Pn	21 00 37.1	-0.2
MTHZ	Maungataniwha	1.21	210	P	Pn	21 00 37.3	0.0
KNZ	Kokohu	1.21	178	P	Pn	21 00 37.7	+0.4
MYRZ	Mayor Island	1.22	295	P	Pn

WIAZ **Waiheke Island** 2.23 296 P **Pn** 21 00 50.4 -0.6
HIZ **Hauiti** 2.29 251 **Pn** 21 00 52.5 +0.7
HIZ Sn **Sn** 21 01 23.1 +4.2
HIZ **Hauiti** 2.29 251 P **Pn** 21 00 52.7 +0.9
HIZ **Hauiti** 2.29 251 P **Pn** 21 00 52.5 +0.7
PXZ **Pawanui** 2.29 195 P **Pn** 21 00 51.1 -0.8
MTVZ **Mangateitei** 2.30 226 P **Pn** 21 00 52.7 +0.6
ETAZ **East Tamaki Re** 2.31 291 P **Pn** 21 00 51.9 -0.2
PKVZ **Pokaka** 2.31 230 P **Pn** 21 00 53.1 +0.9
GRZ **Great Barrier** 2.33 311 P **Pn** 21 00 51.3 -1.1
MBAZ **Motutapu North** 2.41 295 P **Pn** 21 00 53.1 -0.3
WPHZ **Waipukurau** 2.43 202 P **Pn** 21 00 53.6 -0.2
EPAZ **Eden Park BICE** 2.47 291 P **Pn** 21 00 54.5 +0.2
AWAZ **Awhitu Peninsu** 2.48 287 P **Pn** 21 00 54.6 +0.2
HBAZ **Herne Bay Bore** 2.49 292 P **Pn** 21 00 54.8 +0.3
PRHZ **Porangahau** 2.57 197 P **Pn** 21 00 54.8 -0.9
WTAZ **Waiatarua** 2.58 289 P **Pn** 21 00 56.2 +0.4
RVAZ **Riverhead Bore** 2.64 292 P **Pn** 21 00 56.7 +0.1
WAZ **Wanganui** 2.83 226 P **Pn** 21 01 00.6 +1.4
MHEZ **Mangahewa** 2.88 243 P **Pn** 21 01 02.7 +2.9
POWZ **Post Office Ro** 2.95 209 P **Pn** 21 00 60.0 -0.9
LREZ **Lake Rotokare** 3.01 236 P **Pn** 21 01 04.1 +2.4
DREZ **Durham Road** 3.01 242 P **Pn** 21 01 04.6 +3.0
PRWZ **Pori Road** 3.02 205 P **Pn** 21 01 00.9 -0.9
BFZ **Birch Farm** 3.06 200 **Pn** 21 01 01.0 -1.3
BFZ Sn **Sn** 21 01 35.4 -2.3
BFZ **Birch Farm** 3.06 200 P **Pn** 21 01 01.8 -0.5
BFZ **Birch Farm** 3.06 200 P **Pn** 21 01 00.7 -1.6
NEZ **North Egmont** 3.12 241 P **Pn** 21 01 06.0 +2.8
PKE **Pukeiti** 3.17 243 P **Pn** 21 01 06.3 +2.5
KHEZ **Kahui Hut** 3.19 241 P **Pn** 21 01 07.3 +3.1
KHEZ **Kahui Hut** 3.19 241 P **Pn** 21 01 06.8 +2.6
WCZ **Waipu Caves** 3.22 304 P **Pn** 21 01 04.1 -0.4
TIWZ **Tintock** 3.25 204 P **Pn** 21 01 03.7 -1.3
MRZ **Mangatainoka R** 3.26 208 **Pn** 21 01 03.2 -1.8
MRZ **Mangatainoka R** 3.26 208 P **Pn** 21 01 03.4 -1.6
NBEZ **Newall Road No** 3.28 243 P **Pn** 21 01 07.5 +2.2
CPWZ **Castlepoint** 3.28 199 P **Pn** 21 01 04.5 -0.8
NMEZ **Namu Road** 3.34 240 P **Pn** 21 01 09.0 +2.9
OGWZ **Otaki Gorge** 3.55 212 P **Pn** 21 01 07.4 -1.6
KIW **Kapiti Island** 3.70 214 P **Pn** 21 01 09.9 -1.2
OUZ **Omahuta** 4.15 307 P **Pn** 21 01 17.5 +0.3
SNZO **South Karori** 4.16 212 **Pn** 21 01 14.1 -3.2
SNZO **South Karori** 4.16 212 P **Pn** 21 01 16.1 -1.2
BHW **Baring Head** 4.17 210 **Pn** 21 01 14.0 -3.4
PLWZ **Palliser** 4.17 205 **Pn** 21 01 14.3 -3.2
TCW **Tory Channel** 4.27 216 **Pn** 21 01 16.9 -1.9
NNZ **Nelson** 4.72 223 **Pn** 21 01 23.1 -1.9
CMWZ **Cape Campbell** 4.73 213 **Pn** 21 01 22.9 -2.2
TKNZ **Takaka Hill** 4.83 227 **Pn** 21 01 24.2 -2.3
BSWZ **Blackbirch Sta** 4.85 215 **Pn** 21 01 24.3 -2.4
QRZ **Quartz Range** 4.96 231 **Pn** 21 01 26.5 -1.9
QRZ **Quartz Range** 4.96 231 P **Pn** 21 01 27.3 -1.0
MRNZ **Matariki Terra** 5.19 225 **Pn** 21 01 28.9 -2.5
THZ **Tophouse** 5.36 221 Pn **Pn** 21 01 31.4 -2.4
KHZ **Kahutara** 5.56 213 **Pn** 21 01 33.6 -2.9
DSZ **Denniston Nort** 5.96 227 **Pn** 21 01 39.1 -2.9
GVZ **Greta Valley S** 6.22 213 **Pn** 21 01 42.2 -3.4
LTZ **Lake Taylor** 6.43 218 Pn **Pn** 21 01 45.0 -3.4
AMCZ **Amberley** 6.56 214 **Pn** 21 01 47.3 -2.8
INZ **Inchbonnie** 6.81 222 Pn **Pn** 21 01 51.8 -1.8
MQZ **McQueen's Vall** 6.99 211 **Pn** 21 01 51.3 -4.7
CTZ **Chatham Island** 7.36 145 P **Pn** 21 02 01.0 0.0
RPZ **Rata Peaks** 7.72 218 P **Pn** 21 02 02.8 -3.2
83nm,0.4s,baz=45,slow=3.2,SNR=56
RPZ S **Sn** 21 03 24.1 -7.8
250nm,0.4s,baz=61,slow=19,SNR=17
RPZ LR LR 21 05 49.1
comp=Z,2μm,18.3s,baz=45,slow=44
RPZ **Rata Peaks** 7.72 218 P **Pn** 21 02 02.8 -3.2
FOZ **Fox Glacier** 8.23 224 Pn **Pn** 21 02 09.9 -3.1
LBZ **Lake Benmore** 8.63 218 Pn **Pn** 21 02 15.8 -2.7
ODZ **Otahua Downs** 8.92 214 Pn **Pn** 21 02 18.6 -3.9
ODZ **Otahua Downs** 8.92 214 P **Pn** 21 02 18.2 -4.2
JCZ **Jackson Bay** 9.15 224 P **Pn** 21 02 22.4 -3.2
WKZ **Wanaka** 9.53 220 **Pn** 21 02 26.9 -4.0
WHZ **Wether Hill Ro** 10.82 219 **Pn** 21 02 43.7 -4.6
DCZ **Deep Cove** 10.94 222 **Pn** 21 02 46.8 -3.1
PINNC **Pines Island,** 17.49 327 P **P** 21 04 18.9 +2.8
OUENC **Ouen Island, N** 17.93 326 P **P** 21 04 19.8 +1.1
OUENC **Ouen Island, N** 17.93 326 P **Pn** 21 04 24.2 +3.1
MARNC **Mare, Loyalty** 18.26 330 P **Pn** 21 04 29.5 +4.3
DZM **Mont Dzumac** 18.41 325 P **Pn** 21 04 29.1 +2.0
24nm,0.9s,baz=132,slow=6.1,SNR=15
DZM LR LR 21 10 36.2
comp=Z,662nm,19.3s,baz=162,slow=33
DZM **Mont Dzumac** 18.41 325 *e*Pn **Pn** 21 04 29.1 +2.0
127nm,1.3s
DZM *e*LR LR 21 08 50.7
comp=Z,2μm,27.1s
DZM **Mont Dzumac** 18.41 325 P **Pn** 21 04 29.8 +2.7
NOUC **Port Laguerre** 18.45 325 P **Pn** 21 04 30.0 +2.6
LKBA **Tubou, Lakemba** 19.75 10 P **Pn** 21 04 44.6 +1.7
MSVF **Nonsavu** 20.01 1 P Pn 21 04 45.2 -0.8
22nm,0.7s,baz=189,slow=6.4,SNR=28
22nm,0.7s
MSVF **Nonsavu** 20.01 1 P Pn 21 04 45.1 -0.9
MSVF **Nonsavu** 20.01 1 *e*P Pn 21 04 45.3 -0.7
MSVF pmax pmax
comp=Z,38nm,0.6s
KOUNC **Koumac, New Ca** 20.73 322 P Pn 21 04 53.1 -1.3
KOUNC IAmb IAmb 21 04 55.7
comp=Z,86nm,0.9s
KOUNC **Koumac, New Ca** 20.73 322 P Pn 21 04 54.9 +0.5
TAVE **Taveuni** 21.14 7 P **P** 21 04 58.1 +2.3
DGTI **Dogotuki** 21.51 6 P **P** 21 05 01.3 +1.5
DVP **Devils Point** 21.66 335 P **P** 21 05 01.2 -0.1
WOLH **Wollongong Har** 21.85 271 P **P** 21 05 07.9 +4.6
AUUHS **Ulladulla High** 21.91 268 P **P** 21 05 06.3 +2.3
MILA **Mila** 22.58 263 P **P** 21 05 11.9 +0.6
baz=23,SNR=5.8
MILA **Mila** 22.58 263 P **P** 21 05 15.0 +3.7
ARMA **Armidale** 22.70 281 P **P** 21 05 13.8 +1.1
baz=23,SNR=8.6
ARMA **Armidale** 22.70 281 P **P** 21 05 14.2 +1.5
ARMA IAmb IAmb 21 05 18.7
comp=Z,89nm,1.2s
ARMA **Armidale** 22.70 281 P **P** 21 05 17.8 +5.1
CNB **Canberra Magne** 22.80 268 P **P** 21 05 17.7 +4.1
AUPHS **Peel High Scho** 22.99 279 P **P** 21 05 18.4 +2.9
AUSMG **Snowy Mountain** 23.14 265 P **P** 21 05 15.7 -1.3
AUBSH **Beerwah State** 23.46 291 P **P** 21 05 22.9 +2.9
TAU **Tasmania Unive** 23.57 248 P **P** 21 05 20.6 -0.3
TAU **Tasmania Unive** 23.57 248 P **P** 21 05 23.0 +2.2
TAU **Tasmania Unive** 23.57 248 P **P** 21 05 20.6 -0.3
TAU pmax pmax
comp=Z,22nm,0.9s
MOO **Moorlands** 23.65 249 P **P** 21 05 22.5 +0.8
baz=24,SNR=9.0
MOO **Moorlands** 23.65 249 P **P** 21 05 25.1 +3.5
AUDCS **Dubbo College** 24.33 274 P **P** 21 05 31.8 +4.0
TOO **Toolangi** 25.36 261 P **P** 21 05 37.4 +0.2
baz=26,SNR=15
TOO **Toolangi** 25.36 261 P **P** 21 05 38.1 +0.9
TOO **Toolangi** 25.36 261 P **P** 21 05 40.0 +2.8
TOO **Toolangi** 25.36 261 P **P** 21 05 38.1 +0.9
TOO pmax pmax
comp=Z,26nm,0.7s
RAR **Rarotonga** 25.60 56 P **P** 21 05 39.9 +0.5
comp=Z,11nm,0.7s,baz=297,slow=4.5,SNR=2.3
comp=Z,11nm,0.7s
AFI **Afiamalu** 25.61 24 P **P** 21 05 43.2 +3.6
comp=Z,8.0nm,0.4s,baz=270,slow=1.0,SNR=1.8
EIDS **Eidsvold** 25.69 291 P **P** 21 05 41.9 +1.7
baz=26,SNR=7.7
EIDS **Eidsvold** 25.69 291 P **P** 21 05 42.1 +1.9
EIDS **Eidsvold** 25.69 291 P **P** 21 05 43.2 +3.0
AULRC **Lightning Ridg** 25.98 280 P **P** 21 05 46.1 +3.3
BRAT **Ballarat** 26.58 260 P **P** 21 05 52.3 +4.1
RMQ **Roma** 26.81 286 P **P** 21 05 50.9 +0.5
baz=27,SNR=11
RMQ **Roma** 26.81 286 P **P** 21 05 54.2 +3.8
CMSA **Cobar Meteorol** 26.91 274 P **P** 21 05 53.0 +1.8
baz=27,SNR=71
CMSA **Cobar Meteorol** 26.91 274 P **P** 21 05 54.2 +3.0
ARPS **Mount Arapiles** 28.38 261 P **P** 21 06 07.0 +2.7
baz=28,SNR=11
ARPS **Mount Arapiles** 28.38 261 P **P** 21 06 07.1 +2.8
STKA **Stephens Creek** 30.02 270 P **P** 21 06 20.6 +1.7
comp=Z,42nm,0.8s,baz=102,slow=10,SNR=110
STKA ScP **ScP** 21 12 52.6 -3.2
comp=Z,1.4nm,0.7s,baz=153,slow=2.3,SNR=2.1
STKA LR LR 21 17 16.4
comp=Z,396nm,19.5s,baz=87,slow=34
comp=Z,42nm,0.8s
STKA **Stephens Creek** 30.02 270 P **P** 21 06 21.1 +2.2
baz=30,SNR=50
STKA **Stephens Creek** 30.02 270 P **P** 21 06 19.8 +0.8
STKA **Stephens Creek** 30.02 270 P **P** 21 06 21.2 +2.2
QLP **Quilpie** 30.24 282 P **P** 21 06 23.0 +2.1
baz=30,SNR=22
QLP **Quilpie** 30.24 282 P **P** 21 06 23.3 +2.5
HTT **Hallett** 31.60 266 P **P** 21 06 34.2 +1.3
baz=32,SNR=45
HTT **Hallett** 31.60 266 P **P** 21 06 34.9 +2.0
TBI **Tubuai** 31.61 72 *e*LR LR 21 14 51.9
comp=Z,4μm,31.0s
TBI *e*LR LR 21 14 52.0
comp=Z,12μm,25.5s
TBI **Tubuai** 31.61 72 *e*T T 21 40 03.4
comp=Z,31nm,0.3s
INKA **Innaminka** 32.41 277 P **P** 21 06 42.5 +2.6
CTA **Charters Tower** 32.43 294 P **P** 21 06 41.9 +1.7
comp=Z,52nm,0.8s,baz=126,slow=9.5,SNR=31
CTA LR LR 21 19 32.1
comp=Z,290nm,18.7s,baz=102,slow=36
comp=Z,52nm,0.8s
CTAO **Charters Tower** 32.43 294 P **P** 21 06 41.1 +1.0
CTAO IAmb IAmb 21 06 44.0
comp=Z,53nm,0.7s
CTAO **Charters Tower** 32.43 294 P **P** 21 06 42.4 +2.3
CTAO **Charters Tower** 32.43 294 P **P** 21 06 41.2 +1.0
CTAO pmax pmax
comp=Z,53nm,0.7s
CTAO **Charters Tower** 32.43 294 P **P** 21 06 42.1 +1.9
HNR **Honiara** 32.44 326 LR LR 21 17 19.5
comp=Z,1μm,18.9s,baz=153,slow=31
HNR **Honiara** 32.44 326 P **P** 21 06 44.1 +3.9
TV1H **Townsville Har** 32.57 296 P **P** 21 06 44.8 +3.4
WHYH **Whyalla** 32.80 266 P **P** 21 06 45.7 +2.4
LCRK **Leigh Creek** 33.24 271 P **P** 21 06 49.7 +2.5
BBOO **Buckleboo** 34.07 266 P **P** 21 06 54.6 +0.2
baz=34,SNR=90
BBOO **Buckleboo** 34.07 266 P **P** 21 06 54.4 0.0
BBOO **Buckleboo** 34.07 266 P **P** 21 06 56.2 +1.8
MTSU **Mount Surprise** 35.08 295 P **P** 21 07 05.1 +1.9
baz=35,SNR=26
MTSU **Mount Surprise** 35.08 295 P **P** 21 07 05.3 +2.1
PPT2 **Papeete2** 35.08 64 *e*LR LR 21 16 29.8
comp=Z,655nm,30.2s
PPT2 *e*LR LR 21 16 30.1
comp=Z,969nm,28.0s
PPT **Papeete** 35.10 64 LR LR 21 18 45.7
comp=Z,211nm,21.7s,baz=234,slow=32
DRV **Dumont d'Urvil** 35.91 204 P **P** 21 07 11.8 +2.1
OOD **Oodnadatta** 36.37 273 P **P** 21 07 16.2 +2.0
MULG **Mulgathing** 36.60 269 P **P** 21 07 17.1 +1.0
QIS **Mount Isa** 37.07 287 P **P** 21 07 21.8 +1.6
baz=37,SNR=26
QIS **Mount Isa** 37.07 287 P **P** 21 07 22.0 +1.8
VAH **Vaihoa** 38.04 63 *e*T T 21 48 00.9
comp=Z,17nm,0.3s
COEN **Coen** 38.70 299 P **P** 21 07 35.2 +1.3
baz=39,SNR=8.1
COEN **Coen** 38.70 299 P **P** 21 07 34.7 +0.7
COEN IAmb IAmb 21 07 37.2
comp=Z,54nm,0.9s
COEN **Coen** 38.70 299 P **P** 21 07 35.5 +1.6
PMG **Port Moresby** 39.40 308 LR LR 21 21 23.8
comp=Z,277nm,21.7s,baz=138,slow=32
PMG **Port Moresby** 39.40 308 P **P** 21 07 41.8 +2.1
PMG **Port Moresby** 39.40 308 *de*P **P** 21 07 41.1 +1.4
PMG pmax pmax
comp=Z,47nm,0.8s
PMG **Port Moresby** 39.40 308 P **P** 21 07 41.9 +2.1
AS01 **Alice Springs** 39.74 278 P **P** 21 07 43.3 +0.7
AS31 **Alice Springs** 39.77 278 P **P** 21 07 41.9 -1.0
AS31 IAmb IAmb 21 07 45.8
comp=Z,22nm,0.6s
ASAR **Alice Springs** 39.77 278 P **P** 21 07 43.5 +0.6
comp=Z,45nm,0.6s,baz=127,slow=8.2,SNR=173
ASAR PcP **PcP** 21 09 46.4 -1.7
comp=Z,2.1nm,0.5s,baz=119,slow=3.9,SNR=1.0
ASAR ScP **ScP** 21 13 28.3 -2.8
comp=Z,1.5nm,0.6s,baz=120,slow=3.8,SNR=5.8
ASAR S **S** 21 13 41.0 -1.4
comp=Z,1.4nm,0.7s,baz=120,slow=14,SNR=5.5
ASAR LR LR 21 23 28.4
comp=Z,415nm,21.4s,baz=92,slow=35
ASAR P3KPbc 21 37 35.4
comp=Z,0.3nm,0.8s,baz=296,slow=4.4,SNR=2.1
comp=Z,45nm,0.6s
ASAR **Alice Springs** 39.77 278 P **P** 21 07 43.2 +0.3
VNDA **Vanda** 40.39 185 P **P** 21 07 50.5 +3.3
comp=Z,4.8nm,0.8s,baz=3,4,slow=8.6,SNR=15
VNDA **Vanda** 40.39 185 P **P** 21 07 50.7 +3.4
VNDA pP **pP** 21 08 06.1 +2.2
VNDA sP **sP** 21 08 11.9 +0.2
RABL **Rabaul** 40.75 319 P **P** 21 07 51.7 +0.8
RABL **Rabaul** 40.75 319 P **P** 21 07 54.2 +3.2
FORT **Forrest** 41.15 265 P **P** 21 07 55.1 +1.0
baz=41,SNR=95
FORT **Forrest** 41.15 265 P **P** 21 07 54.3 +0.2
FORT **Forrest** 41.15 265 P **P** 21 07 55.6 +1.5
WR0 **Warramunga Arr** 41.29 283 P **P** 21 07 55.4 0.0
WR0 IAmb IAmb 21 07 58.0
comp=Z,78nm,0.9s
WB2 **Warramunga Arr** 41.45 283 P **P** 21 07 56.6 -0.1
WRAB **Tennant Creek** 41.45 283 P **P** 21 07 56.8 0.0
WRAB IAmb IAmb 21 07 59.6
comp=Z,89nm,0.7s
WRAB **Tennant Creek** 41.45 283 P **P** 21 07 57.7 +1.0
WRAB **Tennant Creek** 41.45 283 *c* P **P** 21 07 57.1 +0.4
WRAB pmax pmax
comp=Z,78nm,0.8s
WRAB **Tennant Creek** 41.45 283 P **P** 21 07 57.2 +0.4
WRAB pP **pP** 21 08 12.4 -0.9
WRAB sP **sP** 21 08 18.3 -2.6
WRAB ScP **ScP** 21 13 35.3 -2.4
WRA **Warramunga Arr** 41.46 283 P **P** 21 07 57.2 +0.4
comp=Z,80nm,0.7s,baz=124,slow=7.2,SNR=177
WRA ScP **ScP** 21 13 35.0 -2.6
comp=Z,5.1nm,0.9s,baz=123,slow=3.9,SNR=11
WRA LR LR 21 24 44.9
comp=Z,379nm,21.6s,baz=128,slow=35
comp=Z,80nm,0.7s
WRA **Warramunga Arr** 41.46 283 P **P** 21 07 56.7 -0.1
WB0 **Warramunga Arr** 41.52 283 P **P** 21 07 57.4 +0.1
WRKA **Warakurna** 43.51 272 P **P** 21 08 12.4 -1.1
baz=44,SNR=178
WRKA **Warakurna** 43.51 272 P **P** 21 08 13.2 -0.2
CCD **Concordia, Ant** 44.83 197 P **P** 21 08 26.0 +2.3
CCD ScP **ScP** 21 13 50.4 -0.5
KMBL **Kambalda** 45.76 261 P **P** 21 08 31.6 +0.4
baz=46,SNR=19
KMBL **Kambalda** 45.76 261 P **P** 21 08 31.7 +0.4
CASY **Casey** 46.91 211 P **P** 21 08 39.6 -0.1
CASY IAmb IAmb 21 08 43.6
comp=Z,42nm,0.8s
CASY **Casey** 46.91 211 P **P** 21 08 41.1 +1.4
CASY pP **pP** 21 08 56.3 -0.4
KDU **Kakadu** 47.28 290 P **P** 21 08 44.4 +1.1
baz=48,SNR=3.4
TAOE **Nuku Hiva Isla** 47.71 64 *e*LR LR 21 22 21.0
comp=Z,558nm,26.8s
MTN **Manton Dam** 48.19 288 P **P** 21 08 50.3 +0.1
baz=48,SNR=11
MTN **Manton Dam** 48.19 288 P **P** 21 08 50.1 -0.2
MTN IAmb IAmb 21 08 53.4
comp=Z,31nm,0.5s
MTN **Manton Dam** 48.19 288 P **P** 21 08 50.8 +0.5
KNRA **Kununurra** 48.25 284 P **P** 21 08 51.2 +0.5
baz=48,SNR=20
KNRA **Kununurra** 48.25 284 P **P** 21 08 51.2 +0.5
KNRA **Kununurra** 48.25 284 P **P** 21 08 51.5 +0.8
NWAO **Narrogin (SRO)** 48.74 257 LR LR 21 26 29.0
comp=Z,143nm,21.7s,slow=32
NWAO **Narrogin (SRO)** 48.74 257 P **P** 21 08 54.3 -0.1
baz=49,SNR=20
NWAO P **P** 21 08 54.3 -0.1
baz=49,SNR=20
NWAO **Narrogin (SRO)** 48.74 257 P **P** 21 08 53.8 -0.5
NWAO IAmb IAmb 21 08 54.7
comp=Z,19nm,0.6s
NWAO **Narrogin (SRO)** 48.74 257 P **P** 21 08 54.0 -0.4
NWAO IAmb IAmb 21 08 54.8
comp=Z,24nm,0.6s
NWAO **Narrogin (SRO)** 48.74 257 P **P** 21 08 54.4 0.0
NWAO **Narrogin (SRO)** 48.74 257 P **P** 21 08 54.0 -0.4
NWAO pmax pmax
comp=Z,24nm,0.6s
NWAO **Narrogin (SRO)** 48.74 257 P **P** 21 08 54.1 -0.2
KLBR **Kellerberrin** 48.88 258 P **P** 21 08 54.8 -0.7
baz=49,SNR=46
KLBR **Kellerberrin** 48.88 258 P **P** 21 08 55.5 0.0
GENI **Genyem** 49.04 306 P **P** 21 09 00.8 +4.0
MUN **Mundaring** 49.92 257 P **P** 21 09 03.1 -0.3
baz=50,SNR=22
MUN **Mundaring** 49.92 257 P **P** 21 09 03.6 +0.2
BLDU **Ballidu** 50.11 259 P **P** 21 09 04.8 0.0
baz=50,SNR=26
MEEK **Meekatharra** 50.41 265 P **P** 21 09 06.4 -0.8
baz=50,SNR=88
MEEK **Meekatharra** 50.41 265 P **P** 21 09 06.7 -0.5
SMPI **Sarmi** 50.43 305 P **P** 21 09 11.5 +4.1
SAUI **Saumlaki** 51.24 293 P **P** 21 09 13.6 +0.1
comp=Z,207nm,0.8s
MORW **Morawa** 51.31 261 P **P** 21 09 13.6 -0.3
baz=51,SNR=24
MORW **Morawa** 51.31 261 P **P** 21 09 13.8 -0.1
MORW IAmb IAmb 21 09 26.3
comp=Z,66nm,1.4s
MORW **Morawa** 51.31 261 P **P** 21 09 14.0 +0.1
PSA00 **Pilbara Seismi** 51.95 271 P **P** 21 09 18.1 -0.7
PSA00 IAmb IAmb 21 09 20.7
comp=Z,25nm,0.6s
PSA00 **Pilbara Seismi** 51.95 271 P **P** 21 09 18.3 -0.5
SRPI **Serui, Papua** 52.14 303 P **P** 21 09 27.0 +6.9
MBWA **Marble Bar** 52.26 271 P **P** 21 09 20.1 -0.9
MBWA **Marble Bar** 52.26 271 P **P** 21 09 20.7 -0.3
MBWA **Marble Bar** 52.26 271 P **P** 21 09 20.3 -0.7
QSPA **South Pole Qui** 52.31 180 P **P** 21 09 23.7 +2.7
comp=Z,18nm,0.7s,baz=23,slow=1.8,SNR=62
QSPA LR LR 21 28 12.1
comp=Z,154nm,21.0s,baz=46,slow=32
RKPI **Ransiki, Papua** 53.78 302 P **P** 21 09 31.8 -0.5
comp=Z,55nm,0.7s,comp=Z,3μm
FAKI **Fak Fak** 54.09 299 P **P** 21 09 33.4 -1.1
SOEI **Soe** 55.33 286 P **P** 21 09 44.6 +0.9
comp=Z,51nm,1.3s
BATI **Baumata** 55.51 285 P **P** 21 09 46.8 +2.0
comp=Z,63nm,0.8s,baz=155,slow=19,SNR=4.9
BATI LR LR 21 35 00.5
comp=Z,512nm,19.6s,baz=158,slow=38
comp=Z,63nm,0.8s
BATI **Baumata** 55.51 285 P **P** 21 09 41.9 -2.9
GIRL **Giralia** 55.84 267 P **P** 21 09 47.2 +0.1
baz=56,SNR=11
MSAI **Masohi** 56.13 295 P **P** 21 09 50.1 +0.9
comp=Z,29nm,0.7s,comp=Z,770nm
SIJI **Sorong** 56.23 300 P **P** 21 09 50.4 +0.5
comp=Z,53nm,0.8s,baz=98,slow=6.8,SNR=16
SIJI LR LR 21 33 42.6
comp=Z,366nm,21.9s,baz=111,slow=36
comp=Z,53nm,0.8s
AAI **Ambon** 56.42 295 P **P** 21 09 55.2 +3.9
NLAI **Namlea** 57.52 294 P **P** 21 10 00.5 +1.5
comp=Z,60nm,0.8s
MMRI **Maumere** 57.59 285 P **P** 21 09 57.9 -1.7
BASI **Baing, Sumba** 57.88 283 P **P** 21 10 04.7 +3.1
SANI **Sanana** 59.13 294 P **P** 21 10 10.2 -0.1
comp=Z,204nm,0.8s,comp=Z,1μm
GUMO **Guam** 59.66 322 LR LR 21 33 30.2
comp=Z,82nm,21.6s,baz=73,slow=33
TNTI **Ternate** 60.12 298 P **P** 21 10 12.9 -4.2
PLAI **Plampang** 60.90 282 P **P** 21 10 24.3 +1.9
comp=Z,90nm,0.8s
BKSI **Bulukumba** 61.31 287 P **P** 21 10 26.9 +1.7
comp=Z,36nm,0.9s
TWSI **Taliwang, Sumb** 61.65 282 P **P** 21 10 29.5 +2.0
KAPI **Kappang** 61.79 287 P **P** 21 10 29.8 +1.4
comp=Z,7.1nm,0.7s,baz=171,slow=5.3,SNR=5.3
KAPI LR LR 21 37 36.0
comp=Z,197nm,21.6s,baz=118,slow=36
comp=Z,7.1nm,0.7s
LUWI **Luwuk** 62.16 292 P **P** 21 10 33.3 +2.4
SPSI **Sidrap Palu** 62.46 288 P **P** 21 10 34.0 +1.1
comp=Z,36nm,0.7s
BELA **Berrano 2** 62.93 173 P **P** 21 10 36.1 +1.0
DNP **Denpasar** 62.99 280 P **P** 21 10 37.5 +1.1
comp=Z,193nm,0.6s,comp=Z,9μm
SRBI **Singaraja** 63.35 281 P **P** 21 10 40.2 +1.4
comp=Z,100nm,0.7s
MRSI **Marisa** 63.80 293 P **P** 21 10 41.3 -0.5
comp=Z,38nm,0.7s
JAGI **Jajag, Banyuwa** 63.94 280 P **P** 21 10 43.9 +1.2
comp=Z,37nm,0.6s
MAW **Mawson** 64.10 203 LR LR 21 38 06.5
comp=Z,66nm,18.7s,baz=132,slow=36
ABJI **Asem Bagus** 64.29 281 P **P** 21 10 47.4 +2.4
GMJI **Gumukmas** 64.61 280 P **P** 21 10 46.5 -0.6
comp=Z,89nm,0.7s
BLJI **Banyuglugur** 64.82 280 P **P** 21 10 50.6 +2.2
MPSI **Mapaga** 65.20 291 P **P** 21 10 51.3 +0.4
comp=Z,42nm,0.8s,comp=Z,519nm
DAV **Davao City (W)** 65.86 301 P **P** 21 10 55.3 +0.1
comp=Z,66nm,0.3s,baz=232,slow=12,SNR=5.0
DAV LR LR 21 41 01.2
comp=Z,44nm,20.5s,baz=126,slow=37
comp=Z,66nm,0.3s
PWJI **Pagerwojo** 66.05 279 P **P** 21 10 53.5 -2.9
GRJI **Gresik** 66.20 280 P **P** 21 10 55.6 -1.7
BKB **Balikpapan** 66.39 288 P **P** 21 10 49.2 -9.3
BBKI **Banjar Baru** 66.53 285 P **P** 21 11 00.9 +1.4
comp=Z,176nm,0.7s,comp=Z,5μm
NGJI **Ngawi** 66.71 279 P **P** 21 11 04.7 +4.0
PMSA **Palmer Station** 67.01 156 LR LR 21 35 30.5
comp=Z,122nm,20.2s,baz=270,slow=32
KPJI **Karang Pucung** 68.72 277 P **P** 21 11 10.0 -3.3
ELIB **Princess Elisa** 69.05 188 *d*P **P** 21 11 16.3 +1.6
comp=Z,42nm,0.8s
PBKI **Pangkalan Bun** 69.45 283 P **P** 21 11 14.8 -3.0
MYLDM **Lahad Datu** 69.50 294 P **P** 21 11 18.1 0.0
MYLDM IAmb IAmb 21 11 33.3
comp=Z,22nm,0.7s
JCJI **Jatiwangi** 69.75 278 P **P** 21 11 18.6 -1.1
comp=Z,341nm,0.5s,comp=Z,10μm
LEM **Lembang** 70.06 277 LR LR 21 41 28.7
comp=Z,223nm,21.4s,baz=170,slow=35
LEM **Lembang** 70.06 277 P **P** 21 11 19.7 -2.1
comp=Z,29nm,0.7s
CNJI **Cibinong** 70.15 276 P **P** 21 11 22.3 +0.2
comp=Z,35nm,1.2s
TROLL **Troll, Antarti** 70.42 182 P **P** 21 11 25.0 +1.9
SNAA **Sanae** 70.82 180 P **P** 21 11 27.2 +1.8
SNAA **Sanae** 70.82 180 P **P** 21 11 25.4 0.0
SNAA **Sanae** 70.82 180 *de*P **P** 21 11 25.8 +0.4
VNA3 **Neumayer Olymp** 71.12 178 P **P** 21 11 28.8 +1.6
NVL **N'lazarevskaya** 71.24 185 *e*P P 21 11 35.1 +7.2
NVL pmax pmax
comp=Z,18nm,0.6s
VNA2 **Neumayer--Watz** 71.51 178 P **P** 21 11 31.4 +1.9
baz=170,slow=6.0
VNA1 **Neumayer--Stat** 71.76 178 P **P** 21 11 33.2 +2.2
SBUM **Sibu** 72.33 288 P **P** 21 11 34.8 -0.4
SBUM IAmb IAmb 21 11 38.3
comp=Z,22nm,0.8s
MDSI **Maura Dua** 74.19 277 P **P** 21 11 45.4 -0.8
comp=Z,29nm,0.7s
MASI **Maura Aman, Be** 76.53 277 P **P** 21 12 02.9 +3.2
SDSI **Sungai Dareh** 78.53 278 P **P** 21 12 10.4 -0.4
comp=Z,12nm,0.8s
H03S2 **Juan Fernandez** 79.34 125 T T 22 38 45.5
baz=234
H03S1 **Juan Fernandez** 79.35 125 T T 22 38 40.6
baz=234
H03S3 **Juan Fernandez** 79.36 125 T T 22 38 44.7
baz=234
H03N3 **Juan Fernandez** 79.58 124 T T 22 38 55.3
baz=234,slow=72,SNR=17
H03N2 **Juan Fernandez** 79.58 124 T T 22 38 54.1
baz=234,slow=72,SNR=16
H03N1 **Juan Fernandez** 79.59 124 T T 22 38 56.2
baz=234,slow=72,SNR=17
PLCA **Paso Flores** 80.04 134 P **P** 21 12 21.7 +2.9
comp=Z,8.1nm,0.7s,baz=232,slow=5.5,SNR=24
PLCA LR LR 21 40 21.9
comp=Z,66nm,19.8s,baz=212,slow=30
SSLB **Suanglung** 81.15 309 P **P** 21 12 23.4 -1.3
SSLB IAmb IAmb 21 12 28.7
comp=Z,54nm,1.0s
MJAR **Matsushiro Arr** 82.48 329 P **P** 21 12 30.0 -1.4

comp=Z,7.6nm,1.0s,baz=159,slow=5.0,SNR=7.8
comp=Z,7.6nm,1.0s
MJAR Matsushiro Arr 82.48 329 P P 21 12 30.0 -1.4
MAJO Matsushiro 82.48 329 *ce*P **P 21 12 33.9 +2.5**
MAJO pmax pmax
comp=Z,38nm,2.5s
RPSI Rantau Prapat 82.73 279 P P 21 12 32.2 -1.1
RPSI Rantau Prapat 82.73 279 P P 21 12 30.6 -2.6
PSI Prapat 82.73 279 P P 21 12 30.6 -3.1
comp=Z,18nm,0.9s,baz=203,slow=13,SNR=13
PSI LR LR 21 50 22.7
comp=Z,218nm,21.0s,baz=144,slow=36
PSI Prapat 82.79 279 P P 21 12 32.2 -1.6
PSI pmax pmax
comp=Z,17nm,0.9s
JNU Nakatsue 82.91 322 P P 21 12 33.0 -0.8
comp=Z,21nm,0.8s,baz=134,slow=3.5,SNR=6.8
comp=Z,21nm,0.8s
MT01 Popeta 84.20 129 P P 21 12 39.7 -0.9
MT01 IAmb IAmb 21 12 44.1
comp=Z,33nm,0.8s
CO03 El Pedregal 86.58 127 P P 21 12 51.6 -1.0
CO03 IAmb IAmb 21 13 07.5
comp=Z,18nm,0.7s
ASAJ Asahikawa 87.50 336 P P 21 12 58.2 +1.9
comp=Z,7.5nm,0.8s,baz=130,slow=3.3,SNR=1.1
comp=Z,7.5nm,0.8s
CFA Coronel Fontan 87.59 129 LR LR 21 44 08.9
comp=Z,103nm,21.1s,baz=178,slow=30
KSRS Korea Array 87.82 323 P P 21 12 59.4 +1.4
comp=Z,15nm,0.7s,baz=141,slow=5.5,SNR=38
comp=Z,15nm,0.7s
KSAR Wonju Array Be 87.83 323 P P 21 12 58.3 +0.2
KSAR Wonju Array Be 87.83 323 P P 21 12 58.3 +0.2
KS19 Wonju Array Si 87.89 323 P P 21 12 59.4 +1.1
NJ2 Nanjing 88.49 313 *eP* **P 21 13 04.0 +2.7**
NJ2 pmax pmax
comp=Z,17nm,0.6s
YSS Yuzh-Sakhalins 89.98 337 *eP* **P 21 13 09.5 +1.6**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,500nm,16.0s
USA0B Ussuriysk Arra 91.48 329⇑*e*P **P 21 13 15.9 +0.9**
USRK Ussuriysk Ar. 91.48 329 P **P 21 13 15.3 +0.3**
comp=Z,7.1nm,0.8s,baz=139,slow=2.8,SNR=11
USRK LR LR 21 50 29.2
comp=Z,52nm,20.4s,baz=146,slow=33
comp=Z,7.1nm,0.8s
PHRA Phrae 91.63 292 P P 21 13 16.9 +0.6
PETK Petropavlovsk- 92.19 348 P P 21 13 17.9 -0.2
comp=Z,5.3nm,0.7s,baz=128,slow=5.3,SNR=10
PETK LR LR 21 48 34.2
comp=Z,61nm,20.8s,baz=142,slow=31
comp=Z,5.3nm,0.7s
GYA Guiyang 92.23 302 *eP* **P 21 13 19.3 +0.2**
GYA pmax pmax
comp=Z,8.0nm,0.8s
CM31 Chiang Mai Arr 92.55 291 P P 21 13 21.1 +0.6
CMAR Chiang Mai Arr 92.55 291 P P 21 13 21.1 +0.5
comp=Z,16nm,0.7s,baz=145,slow=3.4,SNR=117
CMAR PP **PP 21 16 58.4 -4.7**
comp=Z,1.5nm,0.9s,baz=145,slow=6.5,SNR=5.2
comp=Z,16nm,0.7s
CMAR Chiang Mai Arr 92.55 291 P P 21 13 19.9 -0.7
CHTO Chiang Mai 92.77 292 P P 21 13 21.0 -0.6
CHTO IAmb IAmb 21 13 22.7
comp=Z,11nm,0.7s
CHTO Chiang Mai 92.77 292 P P 21 13 21.0 -0.6
CHTO pmax pmax
comp=Z,11nm,0.7s
LVC Limon Verde 93.33 122 LR LR 21 46 39.5
comp=Z,77nm,22.0s,baz=228,slow=30
CN2 Changchun 93.98 325 *eP* **P 21 13 25.8 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.9s
PZH PanZhiHua 95.61 299 P P 21 13 37.3 +2.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,200nm,5.3s
XAN Xi'an 95.81 309 P P 21 13 39.4 +4.2
XAN pmax pmax
comp=Z,5.0nm,0.7s
ATAH Atahualpa 96.58 104 LR LR 21 47 32.0
comp=Z,138nm,21.1s,baz=236,slow=29
TNCH TengChong 96.95 296 ⇓P **P 21 13 40.0 -0.8**
TNCH pP pP 21 13 58.5 -0.9
TNCH S S **21 24 54.4 -3.7**
TNCH sS sS 21 25 26.9 -2.9
TNCH pmax pmax
comp=Z,100nm,5.4s
CPUP Villa Florida 97.98 132 LR LR 21 51 35.7
comp=Z,90nm,18.9s,baz=219,slow=32
LPAZ La Paz 98.18 118 P Pdif 21 13 50.2 +3.0
comp=Z,1.2nm,0.6s,baz=242,slow=2.1,SNR=7.8
LPAZ La Paz 98.18 118 P **P 21 13 44.5 -2.7**
LPAZ IAmb IAmb 21 15 21.3
comp=Z,3.7nm,0.7s
LPAZ La Paz 98.18 118 P **P 21 13 44.5 -2.7**
LPAZ pmax pmax
comp=Z,4.0nm,0.7s
HEH HeiHe 98.20 330 *eP* Pdif 21 13 57.1 +12
HEH pmax pmax
comp=Z,4.0nm,1.9s
HEH pmax pmax
comp=Z,200nm,4.8s
CMIG Matias Romero 98.35 75 LR LR 21 49 21.6
comp=Z,71nm,21.3s,baz=200,slow=30
HHC Hu-ho-hao-te 98.85 315 *eP* Pdif 21 13 51.3 +2.4
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.8s
TXAR Lajitas Array 99.34 60 LR LR 21 50 31.7
comp=Z,49nm,19.6s,baz=240,slow=30
ELK Elko 99.39 45 LR LR 21 54 06.9
comp=Z,24nm,18.4s,baz=224,slow=32
MA2 Magadan 99.55 347 LR LR 21 50 25.2
comp=Z,67nm,21.8s,baz=112,slow=30
LZH Lanzhou 100.30 308 *eP* **Pdif P 21 13 56.0 +0.5**
LZH pmax pmax
comp=Z,8.0nm,1.6s
ILAR Eielson Array 105.98 15 PKiKP **PKiKP 21 18 30.8 -0.9**
comp=Z,0.3nm,0.6s,baz=292,slow=3.1,SNR=3.1
ILAR PKKPbc **PKKPbc 21 29 53.9 -2.1**
comp=Z,0.3nm,0.5s,baz=353,slow=3.4,SNR=4.8
ILAR PKKPab **PKKPdf 21 30 09.5 +1.7**
comp=Z,0.6nm,0.8s,baz=4.2,slow=4.4,SNR=7.2
SONM Songino Array 106.22 318 Pdiff **Pdif 21 14 22.6 +1.1**
comp=Z,0.2nm,0.6s,baz=143,slow=5.2,SNR=2.1
SONM PP **PP 21 18 45.5 -1.3**
comp=Z,0.7nm,1.0s,baz=148,slow=5.8,SNR=2.8
SONM PKKPbc **PKKPbc 21 29 56.3 +1.5**
comp=Z,0.6nm,0.7s,baz=259,slow=2.6,SNR=5.2
INK Inuvik 111.90 18 PKiKP **PKiKP 21 18 43.4 +0.8**
comp=Z,0.5nm,0.4s,baz=125,slow=1.8,SNR=4.9
YKA Yellowknife Ar 113.68 28 PKiKP **PKiKP 21 18 45.6 -0.5**
comp=Z,0.5nm,0.6s,baz=250,slow=1.9,SNR=12
YKA SKP 21 22 14.9
comp=Z,0.8nm,0.9s,baz=265,slow=1.3,SNR=3.9
YKA PKKPbc **PKKPbc 21 29 29.8 -0.9**
comp=Z,0.5nm,0.6s,baz=45,slow=3.7,SNR=12
WMQ Urumqi 114.86 307 *e*PKP **PKiKP 21 18 50.0 +0.9**
ULM Lac du Bonnet 115.92 45 PKP **PKPdf 21 18 50.1 -0.8**
comp=Z,1.0nm,0.4s,baz=324,slow=3.3,SNR=2.0
MKAR Makanchi Array 119.61 308 PKP **PKPdf 21 18 56.0 -2.1**
comp=Z,1.4nm,0.6s,baz=205,slow=1.7,SNR=19
MKAR PKKPbc **PKKPbc 21 29 10.4 +1.1**
comp=Z,0.8nm,0.7s,baz=295,slow=3.8,SNR=7.6
MKAR Makanchi Array 119.61 308 PKPdf 21 18 55.8 -2.3
MKAR Makanchi Array 119.61 308 PKiKP **PKPdf 21 18 56.0 -2.1**
MAKZ Makanchi 119.81 308 PKPdf 21 18 57.1 -1.4
MAKZ Makanchi 119.81 308 PKiKP **PKPdf 21 18 57.1 -1.4**
TSUM Tsumeb 120.26 202 PKP **PKiKP 21 19 01.3 +0.7**
comp=Z,2.1nm,0.7s,baz=97,slow=5.7,SNR=2.8
FCC Fort Churchill 120.58 37 PKPdf 21 18 58.4 -1.1
FCC Fort Churchill 120.58 37 PKiKP **PKPdf 21 18 58.4 -1.1**
KSH Kashi 120.70 298 PKP **PKPdf 21 19 00.5 -0.1**
ZALV Zalesovo Beam 121.02 316 PKP **PKPdf 21 18 57.5 -3.0**
comp=Z,0.3nm,0.3s,baz=64,slow=3.4,SNR=2.8
AAK Ala-Archa 123.01 301 PKPdf 21 19 04.0 -0.9
AAK Ala-Archa 123.01 301⇑*i*PKiKP **PKPdf 21 19 04.5 -0.5**
NRIK Noril'sk 124.83 334 PKP **PKPdf 21 19 04.7 -2.7**
comp=Z,2.7nm,0.6s,baz=153,slow=2.1,SNR=4.0
CHGR Chuyangaron 125.18 295 PKPdf 21 19 08.7 -0.5
CHGR Chuyangaron 125.18 295 PKiKP **PKPdf 21 19 08.7 -0.5**
KK31 Karatay Array 125.89 300 PKPdf 21 19 09.2 -1.1
KK31 Karatay Array 125.89 300 PKiKP **PKPdf 21 19 09.2 -1.1**
KKAR Karatay Array 125.89 300 PKPdf 21 19 08.9 -1.4
KKAR Karatay Array 125.89 300 PKPdf 21 19 09.3 -1.0
KKAR Karatay Array 125.89 300 PKiKP **PKPdf 21 19 09.3 -1.0**
BRVK Borovoye 128.99 312 ⇓*i*PKiKP **PKiKP 21 19 18.7 +2.2**
GEYT Alibeck 133.01 290 PKP **PKPdf 21 19 22.4 -1.6**
comp=Z,4.4nm,0.8s,baz=191,slow=4.5,SNR=10
GEYT SKPbc **SKPbc 21 22 43.0 -3.0**
comp=Z,6.6nm,0.7s,baz=174,slow=1.5,SNR=12
SCHQ Schefferville 134.07 47 SKPbc **SKPbc 21 22 47.9 -1.0**
comp=Z,4.7nm,0.8s,baz=354,slow=4.9,SNR=4.7
ABKAR Akbulak array 134.61 305 PKPdf **PKPdf 21 19 27.0 +0.4**
DAG Danmarks Havn 140.28 6 *i* P **PKPdf 21 19 29.3 -7.0**
SUMG Summit 140.81 16 *i* P **PKPdf 21 19 33.0 -4.9**
AKT Akhty 141.67 292 *e*PKiKP **PKiKP 21 19 42.3 -0.5**
AKT *e* 21 22 48.6
AKT pmax pmax
comp=Z,13nm,1.0s
DY2G Dye2 142.03 27 *i* P **PKPdf 21 19 36.6 -3.3**
DBG Daneborg 142.43 8 *i* P **PKPdf 21 19 36.8 -3.4**
ICESG Greenland Ices 142.76 21 *i* P **PKPdf 21 19 36.6 -4.7**
VADS Vadso 143.52 342 *e*PKPdf **PKPdf 21 19 41.2 -1.0**
ADZR Andozero 144.40 330 *e*PKHKP **PKPpre** 21 19 40.0
ADZR pmax pmax
comp=Z,28nm,0.9s
GEVA Gevas 144.50 285 PKPdf 21 19 45.1 0.0
ZEI Tsey 144.70 293 *i* PKiKP **PKPab 21 19 42.7 -1.6**
ZEI pmax pmax
comp=Z,17nm,0.6s
AKH Akhalkalaki 144.79 291 PKPbc 21 19 44.8 0.0
AKH Akhalkalaki 144.79 291 PKiKP PKPbc 21 19 44.8 0.0
ARA0 ARCESS Array S 144.85 343 *e*PKPbc **PKPdf 21 19 44.4 -0.2**
ARCES ARCESS Array B 144.85 343 PKPbc **PKPab 21 19 42.8 -1.1**
comp=Z,42nm,0.8s,baz=24,slow=2.6,SNR=37
KARS Kars 144.96 289 PKPbc 21 19 45.1 -0.2
KARS Kars 144.96 289 PKiKP PKPbc 21 19 45.1 -0.2
ONI Oni 145.00 293 PKPbc 21 19 44.5 -0.7
ONI Oni 145.00 293 PKP2 **PKPbc 21 19 44.5 -0.7**
KLMR Klimovskoe 145.18 325 *e*PKPdf **PKPbc 21 19 43.1 -2.0**
KLMR AMP 21 19 47.1
comp=Z,24nm,0.7s
KLMR *e* 21 20 47.8
KLMR Klimovskoe 145.18 325 *e*PKP2 **PKPbc 21 19 43.1 -2.0**
KLMR pmax pmax
comp=Z,24nm,0.7s
GURO Guroymak-BITLI 145.34 285 PKPbc 21 19 46.5 0.0
ANGG Ammassalik, Gr 145.48 25 *i* P **PKPdf 21 19 45.6 0.0**
KBZ Knabaz 145.54 294 PKPbc **PKPdf 21 19 45.7 -0.8**
comp=Z,18nm,0.9s,baz=112,slow=3.8,SNR=23
SCO Scoresbysund 145.67 12 *i* P **PKPab 21 19 46.9 +0.1**
KIV Kislovodsk 145.72 295⇑P **PKPdf 21 19 47.1 +0.2**
KIV Kislovodsk 145.72 295 PKPdf 21 19 46.5 -0.5
KIV Kislovodsk 145.72 295⇑PKP2 **PKPdf 21 19 47.1 +0.2**
KTK1 Kautokeino 145.77 344 *e*PKPdf **PKPbc 21 19 46.6 -0.2**
JETT Jettan, Norway 145.91 346 *e*PKPdf **PKPbc 21 19 47.4 +0.2**
MARD Mardin 146.01 283 PKPdf 21 19 47.8 +0.1
TRO Tromso 146.12 347 *e*PKPdf **PKPbc 21 19 47.9 +0.1**
VRH Novokhopyorsk 146.34 308 *e*PKiKP **PKPdf 21 19 47.7 +0.1**
VRH pmax pmax
comp=Z,40nm,1.8s
ASF Jabal al Asfar 147.50 272 PKPbc **PKPbc 21 19 52.5 -0.5**
comp=Z,9.9nm,1.0s,baz=94,slow=3.2,SNR=9.0
VORR Voronezh 147.84 309 *e*PKP2 **PKPbc 21 19 53.4 +0.3**
VORR pmax pmax
comp=Z,40nm,1.5s
VSR Storozhevoye 147.93 308 *e*PKP2 **PKPbc 21 19 52.3 -1.1**
VSR pmax pmax
comp=Z,20nm,0.8s
EIL Elat 148.08 266 PKPbc **PKPbc 21 19 53.6 -0.9**
comp=Z,7.4nm,0.8s,baz=90,slow=4.0,SNR=8.4
STEI Steigen 148.26 347 *e*PKPdf **PKPbc 21 19 52.9 -0.9**
LOF Lofoten 148.36 349 *e*PKPab **PKPab 21 19 57.3 -0.1**
LIC Lamto 148.47 175 *e*P **PKiKP 21 19 57.9 +0.4**
comp=Z,138nm,0.7s
OBN Obninsk 148.60 316⇓*e*PKiKP **PKPbc 21 19 53.2 -1.8**
OBN *i* 21 20 14.5
OBN pmax pmax
comp=Z,69nm,1.8s
KIC Kosan Boka 148.62 175 *e*P **PKiKP 21 19 57.3 -0.5**
comp=Z,21nm,0.5s
GAZ Gaziantep 148.74 281 PKPbc 21 19 55.8 -0.3
FAUS Fauske 148.75 347 *e*PKPdf **PKPbc 21 19 54.0 -1.0**
TIC Toumodi 148.88 175⇑*e*P **PKiKP 21 19 59.3 +0.9**
comp=Z,18nm,0.6s
DBIC Dimbokro 148.92 175 PKPbc **PKPbc 21 19 57.0 -0.1**
comp=Z,15nm,0.6s,baz=178,slow=4.8,SNR=11
DBIC Dimbokro 148.92 175 PKPbc **PKPbc 21 19 56.0 -1.1**
MMAI Mount Meron Ar 148.98 273 PKPbc **PKPbc 21 19 56.6 -0.2**
comp=Z,18nm,0.7s,baz=81,slow=5.2,SNR=23
ANN Anapa 149.52 296 *e*PKHKP PKPpre 21 19 56.1
ANN pmax pmax
comp=Z,42nm,1.1s
KONS Konsvik 149.92 348 *e*PKPbc **PKiKP 21 19 58.4 -0.4**
MOR8 Moi Rana 149.98 346 *e*PKPbc **PKPbc 21 19 58.3 +0.2**
BNN Bunyan 150.16 254 PKPdf **PKPbc 21 19 54.4 0.0**
FIA1 FINESS Array S 150.46 332 PKPbc 21 19 57.1 -2.3
FINES FINESS Array B 150.46 332 PKPbc **PKPbc 21 19 57.4 -2.0**
comp=Z,8.7nm,0.6s,baz=90,slow=2.9,SNR=60
FINES FINESS Array B 150.46 332 PKPbc 21 19 57.2 -2.2
CSS Mathiatis 151.22 275 PKPbc 21 20 01.0 -1.1
BR131 Keskin Array S 151.97 285 PKPdf **PKPdf 21 19 57.8 +0.6**
BR131 Keskin Array S 151.97 285 PKiKP **PKPdf 21 19 57.8 +0.6**
BRTR Keskin Array B 151.97 285 PKP **PKPdf 21 19 56.8 -0.5**
comp=Z,0.6nm,0.7s,baz=116,slow=5.6,SNR=4.8
BRTR PKPbc **PKPbc 21 20 02.5 -1.3**
comp=Z,6.6nm,0.8s,baz=149,slow=4.2,SNR=24
BRTR Keskin Array B 151.97 285 PKPdf 21 19 58.9 +1.6
ILGA Ilgaz 152.06 288 PKPdf 21 19 57.0 -0.5
MNK Minsk 153.49 319 *i* PKP2 **PKPab 21 20 18.7 -0.4**
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,33nm,0.8s
NACGM Naroch 153.87 320 *e*PKP **PKPbc 21 20 04.6 -2.7**
baz=62
AKASG Malin Array Be 154.17 310 PKPbc **PKPbc 21 20 06.2 -1.8**
comp=Z,2.9nm,0.8s,baz=57,slow=2.8,SNR=12
AKASG PKPab **PKPab 21 20 21.3 -0.8**
comp=Z,7.6nm,0.6s,baz=58,slow=4.2,SNR=19
AKBB Malin Array Si 154.17 310 PKPdf **PKPdf 21 19 59.6 -0.2**
AKBB Malin Array Si 154.17 310 PKiKP **PKPdf 21 19 59.6 -0.2**
TORD Torodi Ar. Bea 155.17 189 PKP **PKPdf 21 20 02.3 -0.1**
comp=Z,3.5nm,0.4s,baz=186,slow=1.2,SNR=1.5
TORD PKPab **PKPab 21 20 25.7 -1.5**
comp=Z,6.2nm,0.4s,baz=184,slow=3.1,SNR=1.6
NB2 NORSAR Subarra155.23 344 PKP PKPdf 21 20 11.9 +11
comp=Z,9.6nm,1.0s,baz=28,slow=4.4
NB2 NORSAR Subarra155.23 344 PKPbc PKPdf 21 20 11.9 +11
slow=4.4
NOA NORSAR Array B155.23 344 PKP **PKPdf 21 20 00.8 -0.3**
comp=Z,0.4nm,0.8s,baz=301,slow=8.4,SNR=2.1
NOA PKPab **PKPab 21 20 24.2 -2.1**
comp=Z,4.9nm,0.7s,baz=27,slow=3.4,SNR=12
SORM Soroca 155.41 305⇑P PKPdf 21 20 09.6 +8.0
SORM Soroca 155.41 305⇑PKiKP PKPdf 21 20 09.6 +8.0
TIRR Tirgusor 155.97 296 ⇓P **PKPab 21 20 29.7 -0.3**
TIRR Tirgusor 155.97 296 PKPdf **PKPdf 21 20 02.2 -0.3**
TIRR Tirgusor 155.97 296 ⇓PKP2 **PKPab 21 20 29.7 -0.3**
SCTR Scanteiesti 156.12 299⇑P **PKPab 21 20 30.5 -0.1**
PANC Panciu 156.67 300 ⇓P **PKPab 21 20 33.1 +0.1**
ODBI Odobesti 156.75 299⇑P **PKPab 21 20 34.4 +1.0**
TESR Tescani 156.90 301⇑P **PKPab 21 20 33.8 -0.2**
VRI Vrincioaia 156.96 300⇑P **PKPab 21 20 34.4 +0.1**
VRI Vrincioaia 156.96 300⇑PKP2 **PKPab 21 20 34.4 +0.1**
PLOR Plostina 157.02 300⇑P **PKPab 21 20 34.4 -0.2**
PLOR Plostina 157.02 300⇑PKP2 **PKPab 21 20 34.4 -0.2**
NEHR Nehoiu 157.34 299⇑P **PKPab 21 20 35.4 -0.5**
MLR Muntele Rosu 157.57 299⇑P **PKPab 21 20 36.8 -0.3**
MLR Muntele Rosu 157.57 299 PKPab 21 20 37.2 +0.1
MLR Muntele Rosu 157.57 299 PKP2 **PKPab 21 20 37.2 +0.1**
BURAR Bucovina Array 157.58 305⇑P **PKPab 21 20 37.4 +0.3**
BURAR Bucovina Array 157.58 305 PKPab 21 20 37.5 +0.5
BURAR Bucovina Array 157.58 305⇑PKP2 **PKPab 21 20 37.4 +0.3**
DOPR Dopca 157.86 300⇑P **PKPab 21 20 38.1 -0.1**
VOIR 158.20 299 ⇓P **PKPab 21 20 38.3 -1.4**
VOIR 158.20 299 ⇓PKP2 **PKPab 21 20 38.3 -1.4**
ARR Arges 158.50 299 ⇓P **PKPab 21 20 41.3 +0.3**
PLVB Pleven 158.80 294⇑P **PKPab 21 20 41.7 -0.6**
UZH Uzhgorod 159.11 309*d* iPKP2 **PKPab 21 20 44.0 +0.5**
TRPA Tarpa 159.14 308⇑P **PKPab 21 20 43.8 +0.2**
LUNU Lund 159.22 334 *i* P **PKPab 21 20 40.0 -3.6**
CRVS Cervenica-Dubn 159.51 310 *e*PKP2 **PKPab 21 20 46.0 +0.8**
OJC Ojcow 159.88 315 *e*PKPab **PKPab 21 20 46.5 -0.3**
OJC Ojcow 159.88 315 PKPab 21 20 46.8 0.0
OJC Ojcow 159.88 315 PKP2 **PKPab 21 20 46.8 0.0**
SURR Surduc 160.13 301⇑P **PKPab 21 20 47.6 -0.4**
HERR Herculane 160.13 299 ⇓P **PKPab 21 20 48.2 +0.1**
BZS Buzias 160.51 301 ⇓P **PKPab 21 20 48.2 -1.5**
BZS Buzias 160.51 301 ⇓PKP2 **PKPab 21 20 48.2 -1.5**
VYHS Vyhne 161.26 311 *e*PKP2 **PKPab 21 20 53.1 +0.2**
KSP Ksiaz 161.41 320 *e*PKPab **PKPab 21 20 53.6 +0.2**
OSTC Ostas 161.62 320 *e*PKPAB **PKPab 21 20 55.5 +1.1**
DPC Dobruska-Polom 161.69 319 *e*PKPAB **PKPab 21 20 55.1 +0.4**
DPC Dobruska-Polom 161.69 319 *e*PKP2 **PKPab 21 20 55.1 +0.4**
UPC Upice 161.75 320 *e*PKPAB **PKPab 21 20 55.1 +0.1**
UPC Upice 161.75 320 *e*PKP2 **PKPab 21 20 55.1 +0.1**
MODS Modra-Piesok 162.23 313 *e*PKP2 **PKPab 21 20 59.2 +2.1**
PVCC Panska Ves 162.46 322 *e*PKPAB **PKPab 21 20 58.2 +0.2**
PVCC Panska Ves 162.46 322 *e*PKP2 **PKPab 21 20 58.2 +0.2**
BRG Berggiesshubel 162.54 324 P **PKPab 21 21 01.2 +2.9**
BRG Amp 21 21 01.9
comp=Z,16nm,0.8s
BRG Berggiesshubel 162.54 324 *i* PKP2 **PKPab 21 20 58.1 -0.2**
BRG pmax pmax
comp=Z,11nm,0.9s
CLL Collm 162.66 326 PKPab 21 20 58.2 -0.7
CLL Collm 162.66 326 ⇓*i*PKPab **PKPab 21 20 58.4 -0.5**
comp=Z,13nm,1.0s
CLL ⇓*i*PKPab2 21 21 01.0
comp=Z,15nm,0.7s
CLL *ep*PKPab **pPKPab 21 21 13.0 -4.5**
CLL *ep*PKPab2 21 21 16.0
CLL Collm 162.66 326 ⇓*i*PKP2 **PKPab 21 21 01.0 +2.1**
CLL pmax pmax
comp=Z,15nm,0.7s
PRU Pruhonice 162.82 320 *e*PKPAB **PKPab 21 20 58.0 -1.6**
PRU Pruhonice 162.82 320 *e*PKP2 **PKPab 21 20 58.0 -1.6**
CONA Conrad Observa 163.28 313 *e*PKP **PKPab 21 21 02.4 +0.5**
comp=Z,9.3nm,1.2s
CKRC Cesky Krumlov 163.65 318 *e*PKPAB **PKPab 21 21 02.9 -0.4**
NKC Novy Kostel 163.67 324 *e*PKPAB **PKPab 21 21 03.1 -0.3**
NKC Novy Kostel 163.67 324 *e*PKP2 **PKPab 21 21 03.1 -0.3**
ARSA Arzberg 163.81 311 *e*PKP **PKPab 21 21 05.0 +0.9**
comp=Z,11nm,1.5s
KHC Kasperske Hory 163.84 320 *e*PKPAB **PKPab 21 21 00.1 -4.1**
KHC Kasperske Hory 163.84 320 *e*PKP2 **PKPab 21 21 00.1 -4.1**
GERES GERESS Array B 163.96 319 PKPab **PKPab 21 21 04.0 -0.8**
comp=Z,0.9nm,0.6s,baz=48,slow=4.0,SNR=6.5
MOA Molln 164.23 315 *e*PKP **PKPab 21 21 06.0 +0.1**
comp=Z,4.8nm,1.1s
GRA1 Grafenberg Arr 164.62 325 PKPab 21 21 07.5 0.0
GRF Grafenberg Arr 164.62 325 PKP2 **PKPab 21 21 07.5 0.0**
GRFO Grafenberg 164.62 325 PKPab 21 21 07.5 0.0
GRFO Grafenberg 164.62 325 PKP2 **PKPab 21 21 07.5 0.0**
BIOA Bad Ischl, Aus 164.67 315 *e*PKP **PKPab 21 21 08.0 +0.1**
comp=Z,6.6nm,1.2s
KBA Koelnbreinsper 165.17 314 *e*PKP **PKPab 21 21 10.0 -0.3**
comp=Z,7.2nm,0.8s
CLUD Cludinico 165.78 312 PKPab 21 21 11.4 -1.4
ABTA Abfaltersbach 165.83 314 *e*PKP **PKPab 21 21 12.3 -0.8**
comp=Z,8.1nm,1.2s
BCLA Clavier 166.25 339 *d*PKP **PKPab 21 21 16.5 +1.9**
BGES Gesves 166.34 339 *d*PKP **PKPab 21 21 14.4 -0.6**
BMRD Maredsous 166.51 340 *d*PKP **PKPab 21 21 17.8 +2.1**
BFO Black Forest 166.91 327 PKPab 21 21 17.0 -0.7
BFO Black Forest 166.91 327 PKP2 **PKPab 21 21 17.0 -0.7**
FUORN Ofenpass-Fuorn 167.16 317 PKPab 21 21 19.2 +0.1
ECH Echery 167.49 329 PKPab 21 21 19.5 -0.7
ECH Echery 167.49 329 PKP2 **PKPab 21 21 19.5 -0.7**
KEST Kesra 170.36 261 PKPab **PKPab 21 21 33.9 +0.3**
comp=Z,9.6nm,1.1s,baz=45,slow=4.3,SNR=4.0
ESDC Sonseca Array 177.77 33 PKP **PKPdf 21 20 19.0 0.0**
comp=Z,0.9nm,0.9s,baz=299,slow=3.1,SNR=4.2
ESDC PKPab PKPab 21 22 06.9 +0.8
comp=Z,0.8nm,0.8s,baz=332,slow=5.1,SNR=3.3

NEIC ***22*** *21:08:27.8±1.9, 19°.60S±0°.08×176°.03E±0°.08, h10km±1km, mb4.7/12, Error ellipse: s-maj=14.5km s-min=11.5km az=153.0*
IDC ***22*** *21:08:28.1±0.7, 19°.58S×175°.83E, h0km, mb4.2/10, mbtmp4.2/10, ML4.7/1, MS3.7/11, Error ellipse: s-maj=31.4km s-min=17.9km az=141.0*
ISC 22 21:08:32.0±0.5,**19°.59S**±0°.09×**175°.96E**±0°.07,**h35**km,**n65,**
σ1°**39**/56,**mb4.3**/14,**MS3.9**/12,**1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**2.71**	**47**	Pn		**Pn**	**21 09 12.0**	**-1.1**
	5.2nm,0.3s,baz=220,slow=16,SNR=21							
MSVF				Sn		**Sn**	**21 09 44.2**	**-0.5**
	15nm,0.3s,baz=216,slow=18,SNR=5.4							
MSVF	**Nonsavu**	**2.71**	**47**			**Pn**	**21 09 12.3**	**-0.8**
MSVF				Sn		**Sn**	**21 09 41.8**	**-2.9**
LIFNC	**LIFOU**	**8.27**	**260**	Pn		**Pn**	**21 10 27.4**	**-2.2**
DZM	**Mont Dzumac**	**9.23**	**253**	Pn		**Pn**	**21 10 45.1**	**+2.2**
	0.3nm,0.3s,baz=63,slow=15,SNR=5.6							
DZM	**Mont Dzumac**	**9.23**	**253**	*e*Pn		**Pn**	**21 10 40.6**	**-2.2**
	61nm,1.4s							
DZM				*e*LR		LR	21 12 53.8	
	comp=Z,509nm,23.7s							
DZM	**Mont Dzumac**	**9.23**	**253**	Pn		**Pn**	**21 10 46.1**	**+3.2**
RAO	**Raoul Island**	**11.12**	**151**	Pn		**Pn**	**21 11 05.5**	**-3.0**
HNR	**Honiara**	**18.48**	**301**	P		**P**	**21 12 43.4**	**-1.8**
HNR				IAmb		IAmb	21 13 15.7	
	comp=Z,64nm,0.6s							
URZ	**Urewera**	**18.64**	**177**	LR		LR	21 18 09.7	
	comp=Z,189nm,20.4s,baz=101,slow=31							
EIDS	**Eidsvold**	**23.68**	**251**	P		**P**	**21 13 39.9**	**-0.6**
EIDS				IAmb		IAmb	21 13 48.3	
	comp=Z,16nm,1.1s							
RPZ	**Rata Peaks**	**24.41**	**189**	P		**P**	**21 13 48.1**	**+0.9**
	comp=Z,28nm,1.0s,baz=85,slow=11,SNR=3.0							
RPZ				LR		LR	21 22 02.8	
	comp=Z,129nm,18.4s,baz=42,slow=33							
	comp=Z,28nm,1.0s							
COEN	**Coen**	**31.85**	**275**	P		**P**	**21 14 54.1**	**+0.1**
COEN				IAmb		IAmb	21 15 36.3	
	comp=Z,18nm,1.4s							
TBI	**Tubuai**	**32.35**	**103**	*e*LR		LR	21 23 29.0	
	comp=Z,1μm,29.8s							
TBI				*e*LR		LR	21 23 29.1	
	comp=Z,4μm,26.8s							
PPT2	**Papeete2**	**32.70**	**92**	*e*LR		LR	21 23 32.6	
	comp=Z,356nm,29.0s							
PPT2				*e*LR		LR	21 23 32.7	
	comp=Z,235nm,30.0s							
MANU	**Manus Island**	**32.95**	**298**	P		**P**	**21 15 01.4**	**-2.1**
STKA	**Stephens Creek**	**33.15**	**241**	P		**P**	**21 15 06.2**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=75,slow=7.9,SNR=6.0							
STKA				LR		LR	21 27 10.2	
	comp=Z,76nm,20.4s,baz=26,slow=34							
	comp=Z,3.3nm,0.8s							
BBOO	**Buckleboo**	**37.92**	**242**	P		**P**	**21 15 46.3**	**+0.1**
BBOO				IAmb		IAmb	21 16 10.4	
	comp=Z,16nm,1.4s							
WB0	**Warramunga Arr**	**39.07**	**263**	P		**P**	**21 15 55.5**	**-0.4**
WRAB	**Tennant Creek**	**39.09**	**262**	P		**P**	**21 15 54.9**	**-1.2**
WRA	**Warramunga Arr**	**39.10**	**262**	P		**P**	**21 15 54.9**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=94,slow=9.2,SNR=5.4							
	comp=Z,1.4nm,0.8s							
AS31	**Alice Springs**	**39.20**	**256**	P		**P**	**21 15 57.5**	**+0.3**
ASAR	**Alice Springs**	**39.20**	**256**	P		**P**	**21 15 57.1**	**0.0**
	comp=Z,4.9nm,0.8s,baz=83,slow=8.7,SNR=19							
ASAR				PcP		**PcP**	**21 18 06.9**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=106,slow=3.3,SNR=2.2							
	comp=Z,4.9nm,0.8s							
ASAR	**Alice Springs**	**39.20**	**256**	P		**P**	**21 15 56.0**	**-1.1**

NVAR	**Mina Array Bea**	**84.37**	**46**	P		**P**	**21 21 04.5**	**+3.4**	
	comp=Z,0.5nm,0.6s,baz=238,slow=8.5,SNR=4.7								
	comp=Z,0.5nm,0.6s								
CMAR	**Chiang Mai Arr**	**84.48**	**292**	P		**P**	**21 21 03.2**	**+1.5**	
	comp=Z,1.8nm,1.0s,baz=101,slow=2.8,SNR=9.9								
	comp=Z,1.8nm,1.0s								
ILAR	**Eielson Array**	**88.80**	**15**	P		**P**	**21 21 22.6**	**+0.9**	
	comp=Z,0.8nm,0.7s,baz=230,slow=5.2,SNR=14								
	comp=Z,0.8nm,0.7s								
YAK	**Yakutsk**	**89.23**	**340**	LR		LR	21 56 26.0		
	comp=Z,29nm,21.1s,baz=90,slow=32								
DLBC	**Dease Lake**	**89.54**	**25**	LR		LR	21 54 37.3		
	comp=Z,84nm,19.2s,baz=259,slow=31								
NEW	**Newport**	**90.05**	**38**	LR		LR	21 54 22.4		
	comp=Z,36nm,22.0s,baz=218,slow=31								
SONM	**Songino Array**	**91.40**	**321**	LR		LR	21 59 23.8		
	comp=Z,61nm,21.8s,baz=147,slow=34								
TXAR	**Lajitas Array**	**91.42**	**59**	P		**P**	**21 21 37.4**	**+2.4**	
	comp=Z,1.3nm,0.8s,baz=243,slow=6.0,SNR=7.4								
	comp=Z,1.3nm,0.8s								
BRDH	**Bariadhala**	**92.38**	**293**	LR		LR	22 01 28.1		
	comp=Z,40nm,21.7s,baz=162,slow=34								
INK	**Inuvik**	**94.96**	**17**	P		**P**	**21 21 49.5**	**-0.7**	
	comp=Z,0.7nm,0.6s,baz=198,slow=7.4,SNR=4.8								
TIXI	**Tiksi**	**96.47**	**346**	LR		LR	21 59 45.2		
	comp=Z,44nm,21.5s,baz=86,slow=32								
YKA	**Yellowknife Ar**	**98.13**	**26**	P		Pdif	21 22 07.1	+2.4	
	comp=Z,0.2nm,0.6s,baz=250,slow=4.8,SNR=3.2								
	comp=Z,0.2nm,0.6s								
FINES	**FINESS Array B**	**133.16**	**341**	PKP		**PKPdf**	**21 27 44.0**	**+0.5**	
	comp=Z,1.6nm,0.9s,baz=345,slow=1.6,SNR=1.8								
AKASG	**Malin Array Be**	**139.33**	**328**	PKP		**PKiKP**	**21 27 57.8**	**+0.2**	
	comp=Z,1.0nm,0.8s,baz=54,slow=2.2,SNR=2.1								
BRTR	**Keskin Array B**	**141.96**	**310**	PKP		**PKiKP**	**21 28 03.0**	**-0.6**	
	comp=Z,1.2nm,1.0s,baz=56,slow=3.6,SNR=4.1								
OSTC	**Ostas**	**145.17**	**337**	*e*PKP		**PKPdf**	**21 28 06.1**	**+0.3**	
MORC	**Moravsky Berou**	**145.29**	**335**	*e*PKP		**PKiKP**	**21 28 09.7**	**-0.3**	
DPC	**Dobruska-Polom**	**145.30**	**337**	*e*PKP		**PKPdf**	**21 28 07.9**	**+1.9**	
CLL	**Collm**	**145.61**	**341**	⇓*i*PKPbc		**PKPab**	**21 28 08.5**	**+1.5**	
	comp=Z,10.0nm,0.9s								
CLL				*i* x		x	21 28 15.4		
JAVC	**Velka Javorina**	**145.97**	**334**	*e*PKP		**PKiKP**	**21 28 11.3**	**-0.1**	
VRAC	**Vranov**	**146.04**	**336**	*e*PKP		**PKiKP**	**21 28 12.9**	**+1.4**	
KRUC	**Moravsky**	**146.32**	**336**	*e*PKP		**PKiKP**	**21 28 11.2**	**-0.8**	
KHC	**Kasperske Hory**	**147.30**	**338**	*e*PKP		**PKiKP**	**21 28 14.0**	**-0.1**	
CKRC	**Cesky Krumlov**	**147.30**	**337**	*e*PKP		**PKiKP**	**21 28 13.9**	**-0.2**	
CONA	**Conrad Observa**	**147.44**	**335**	*e*PKP		**PKPab**	**21 28 14.2**	**-0.1**	
	comp=Z,6.0nm,0.9s								
RONA	**Rosalia, Austr**	**147.45**	**334**	*e*PKP		**PKiKP**	**21 28 14.8**	**+0.4**	
	comp=Z,3.9nm,0.7s								
GERES	**GERESS Array B**	**147.50**	**338**	PKPbc		**PKPab**	**21 28 14.4**	**-0.1**	
	comp=Z,1.5nm,0.6s,baz=31,slow=3.1,SNR=16								
MOA	**Molln**	**148.13**	**336**	*e*PKP		**PKiKP**	**21 28 16.2**	**+0.4**	
	comp=Z,7.0nm,1.5s								
KBA	**Koelnbreinsper**	**149.11**	**337**	*e*PKP		**PKiKP**	**21 28 18.1**	**0.0**	
	comp=Z,5.4nm,1.1s								
WTTA	**Wattenberg**	**149.57**	**339**	*e*PKP		**PKiKP**	**21 28 19.7**	**+0.7**	
	comp=Z,2.8nm,0.6s,SNR=5.9								
MOTA	**Moosalm**	**149.68**	**339**	*e*PKP		**PKiKP**	**21 28 20.0**	**+0.8**	
	comp=Z,5.3nm,0.8s								
ABTA	**Abfaltersbach**	**149.70**	**337**	*e*PKP		**PKiKP**	**21 28 19.3**	**+0.1**	
	comp=Z,3.0nm,0.6s								
SQTA	**Sankt Quirin**	**149.75**	**339**	*e*PKP		**PKiKP**	**21 28 20.3**	**+1.0**	
	comp=Z,6.2nm,0.6s,SNR=7.0								
FETA	**Feichten**	**150.09**	**340**	*e*PKP		**PKiKP**	**21 28 21.3**	**+1.2**	
	comp=Z,3.2nm,0.7s,SNR=6.5								
DAVA	**Damuels**	**150.12**	**341**	*e*PKP		**PKiKP**	**21 28 21.5**	**+1.3**	
	comp=Z,6.9nm,1.1s								

IDC 22 21:12:54.4±7.3, 12°82S×76°63W, h0km, mb3.2/1, mbtmp3.3/2, ML3.7/1, MS3.1/3, Error ellipse: s-maj=318.4km s-min=32.7km az=33.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.92**	**114**	Pn	Pn	21 15 05.3	0.0
	0.4nm,0.3s,baz=288,slow=10,SNR=8.1						
LPAZ				Sn	Sn	21 16 50.5	+3.7
	baz=180,slow=19						
	0.8nm,0.3s						
LVC	**Limon Verde**	**12.20**	**144**	LR	LR	21 20 42.7	
	comp=Z,49nm,18.3s,baz=232,slow=38						
H03N1	**Juan Fernandez**	**20.64**	**185**	T	T	21 37 48.5	
	baz=5.4,slow=75						
H03N2	**Juan Fernandez**	**20.64**	**185**	T	T	21 37 49.5	
	baz=5.4,slow=75						
H03N3	**Juan Fernandez**	**20.65**	**185**	T	T	21 37 49.0	
	baz=5.4,slow=75						
MDP	**Montagnes des**	**29.75**	**55**	LR	LR	21 31 06.1	
	comp=Z,48nm,18.5s,baz=177,slow=37						
YKA	**Yellowknife Ar**	**80.69**	**343**	P	P	21 25 09.3	+0.2
	0.1nm,0.7s,baz=138,slow=5.8,SNR=3.0						
YKA				LR	LR	21 59 28.2	
	comp=Z,9.9nm,21.7s,baz=292,slow=35						
	0.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**81.81**	**75**	P	P	21 25 15.2	-0.9
	4.3nm,0.5s,baz=266,slow=5.8,SNR=1.2						
H11N3	**WAKE ISLAND Hyl**	**18.91**	**286**	T	T	23 41 51.4	
	baz=96,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hyl**	**18.92**	**286**	T	T	23 41 50.8	
	baz=96,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hyl**	**18.92**	**286**	T	T	23 41 42.2	
	baz=96,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hyl**	**19.01**	**284**	T	T	23 41 56.7	
	baz=93,slow=74,SNR=26						
H11S1	**WAKE ISLAND Hyl**	**19.01**	**284**	T	T	23 41 49.1	
	baz=93,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hyl**	**19.02**	**284**	T	T	23 41 45.8	
	baz=93,slow=74,SNR=19						
SONM	**Songino Array**	**145.00**	**356**	PKPbc	PKPab	21 32 33.1	-0.2
	0.7nm,0.9s,baz=355,slow=2.2,SNR=3.8						

MDD 22 21:27:13.0±1.0, 36°.45N×9°.86W, h30km±3km, mb_Lg1.8/5, Error ellipse: s-maj=25.3km s-min=8.9km az=45.0
SFS 22 21:27:13.2, 36°.54N×9°.90W, h80km, ML2.6/5, MLv2.6/5
CNRM 22 21:27:17.0, 37°.94N×4°.57W, h24km
INMG 22 21:27:14.0±1.0, 36°.46N×9°.86W, h31km, ML1.6, 2C, Error ellipse: s-maj=5.7km s-min=3.7km az=97.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.06**	**51**	*e*P	Pn	21 27 31.2	-1.6
PFVI				*e*S	Sn	21 27 44.2	-2.3
MORF	**Marmelete**	**1.28**	**49**	*e*P	Pn	21 27 34.1	-1.7
MORF				*e*S	Sn	21 27 49.5	-2.4
MORF				IAML		21 27 50.2	
	comp=N,5.4nm,0.1s						
MORF	**Marmelete**	**1.28**	**49⇑**	*e*P	Pn	21 27 34.2	-1.6
MORF				*e*S	Sn	21 27 49.6	-2.4
MORF				A	A	21 27 50.6	
	comp=N,3.8nm,0.1s						
PTEO	**Sao Teotonio**	**1.41**	**40**	*e*P	Pn	21 27 36.2	-1.4
PTEO				*e*S	Sn	21 27 52.6	-2.5
PTEO				A	A	21 27 53.8	
	comp=N,10nm,0.5s						
PCVE	**Castro Verde**	**1.87**	**51**	*e*Pn	Pn	21 27 42.6	-1.2
PCVE				*e*Sn	Sn	21 28 03.9	-2.4
PCVE	**Castro Verde**	**1.87**	**51**	S	Sn	21 28 04.5	-1.8
PCVE				P	Pn	21 27 42.6	-1.2
MESJ	**Messejana**	**1.90**	**43**	*e*P	Pn	21 27 42.7	-1.6
MESJ				*e*S	Sn	21 28 04.0	-3.1
MESJ				IAML		21 28 06.0	
	comp=N,2.7nm,0.2s						
MESJ	**Messejana**	**1.90**	**43**	*e*Pn	Pn	21 27 42.8	-1.5
MESJ				*e*Sn	Sn	21 28 04.4	-2.7
MESJ				A	A	21 28 07.5	
	comp=N,2.1nm,0.2s						
PVAQ	**Vaqueiros**	**1.96**	**61⇑**	*e*Pn	Pn	21 27 43.5	-1.5
PVAQ				*e*Sn	Sn	21 28 05.6	-2.9
PVAQ				A	A	21 28 10.4	
	comp=N,1.3nm,0.2s						
PVAQ	**Vaqueiros**	**1.96**	**61**	S	Sn	21 28 06.2	-2.4
PVAQ				P	Pn	21 27 43.4	-1.6
PNCL	**Nicolau / Gran**	**1.96**	**32**	*e*Pn	Pn	21 27 43.5	-1.6
PNCL				*e*Sn	Sn	21 28 05.6	-3.0
PNCL				A	A	21 28 08.6	
	comp=N,1.8nm,0.1s						
PNCL	**Nicolau / Gran**	**1.96**	**32**	P	Pn	21 27 43.3	-1.8
PNCL				S	Sn	21 28 05.2	-3.4
EGRO	**El Granado**	**2.18**	**60**	P	Pn	21 27 46.7	-1.5
EGRO	**El Granado**	**2.18**	**60**	P	Pn	21 27 46.5	-1.6
EGRO				S	Sn	21 28 10.9	-3.2
EGRO				*i* Vmb_Lg		21 28 13.2	
PBEJ	**Beja**	**2.23**	**45**	*e*Sn	Sn	21 28 12.3	-3.0
PBEJ				A	A	21 28 13.1	
	comp=N,2.3nm,0.7s						
PMAFR	**Mafra**	**2.53**	**10**	*e*Sn	Sn	21 28 20.1	-2.6
EVO	**Evora**	**2.53**	**35**	*e*Pn	Pn	21 27 51.2	-1.8
EVO				*e*Sn	Sn	21 28 19.2	-3.6
EVO				A	A	21 28 19.9	
	comp=N,4.5nm,0.1s						
EVO	**Evora**	**2.53**	**35**	P	Pn	21 27 51.1	-1.9
EVO				S	Sn	21 28 18.8	-4.0
PBAR	**Barrancos**	**2.82**	**52**	*e*Pn	Pn	21 27 55.3	-1.7
PBAR				*e*Sn	Sn	21 28 26.8	-3.1
PBAR				A	A	21 28 27.1	
	comp=N,1.2nm,0.9s						
EMIN	**Mina Concepcio**	**2.86**	**62**	P	Pn	21 27 55.3	-2.2
EMIN				S	Sn	21 28 28.0	-2.8
EMIN				*i* Vmb_Lg		21 28 31.4	
PMTG	**Montargil**	**2.91**	**26**	*e*Pn	Pn	21 27 56.8	-1.3
PMTG				*e*Sn	Sn	21 28 27.9	-4.1
PMTG				A	A	21 28 29.1	
	comp=N,1.2nm,0.2s						
PESTR	**Estremoz**	**3.00**	**36**	*e*Pn	Pn	21 27 58.0	-1.4
PESTR				*e*Sn	Sn	21 28 30.4	-3.9
PESTR				A	A	21 28 50.7	
	comp=N,1.4nm,0.7s						
PESTR	**Estremoz**	**3.00**	**36**	P	Pn	21 27 55.8	-3.7
PESTR				S	Sn	21 28 28.1	-6.2
PSBE	**So Bento**	**3.16**	**15**	*e*Sn	Sn	21 28 36.5	-1.8
EBAD	**Badajoz**	**3.22**	**44**	P	Pn	21 28 00.7	-1.6
EBAD				S	Sn	21 28 36.2	-3.4
EBAD				*i* Vmb_Lg		21 28 38.2	
ESPR	**Espera**	**3.24**	**82**	P	Pn	21 28 01.3	-1.5
ESPR				*i* Vmb_Lg		21 28 37.4	
PMRV	**Marv??o**	**3.54**	**33**	*e*Pn	Pn	21 28 05.5	-1.4
PMRV				*e*Sn	Sn	21 28 43.1	-4.7
PMRV				A	A	21 28 45.6	
	comp=N,2.3nm,0.4s						
ECAB	**El Cabril**	**3.89**	**64**	P	Pn	21 28 09.9	-1.8
ECAB				S	Sn	21 28 51.6	-4.7
PAB	**San Pablo**	**5.33**	**53**	P	Pn	21 28 29.8	-1.7
PAB				*i* Vmb_Lg		21 29 28.2	
MD31	**MD31**	**5.53**	**129**	P	Pn	21 28 29.8	-4.4
MD31				S	Sn	21 29 30.3	-6.5
MDT	**Midelt**	**5.66**	**129**	P	Pn	21 28 33.6	-2.4
MDT				S	Sn	21 29 32.5	-7.4

IDC 22 21:40:13.1±0.7, 13°.30N×144°.68E, h112km±3km, mb3.6/14, mbtmp3.9/14, Error ellipse: s-maj=20.6km s-min=17.9km az=111.0
NEIC 22 21:40:14.4±1.1, 13°.35N±0°.10×144°.5E±0°.1, h114km±5km, mb4.4/44, Error ellipse: s-maj=15.6km s-min=13.8km az=82.0
ISC 22 21:40:14.9±0.5, 13°.35N±0°.09×144°.59E±0°.08, h129km, n86, σ1°27/81, mb4.2/35, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**49**	P	**Pn**	**21 40 30.7**	**-2.4**
	1μm,0.3s,baz=131,slow=2.2,SNR=91						
GUMO				S	**Sn**	**21 40 43.1**	**-3.8**
	3μm,0.3s,baz=150,slow=20,SNR=17						
GUMO	**Guam**	**0.36**	**49**		**Pn**	**21 40 30.9**	**-2.3**
GUMO				Sn	**Sn**	**21 40 43.5**	**-3.5**
JCJ	**Chichijima**	**13.86**	**351**	Pn	**Pn**	**21 43 23.0**	**-2.9**
PATS	**Pohnpei**	**14.97**	**114**	Pn	**Pn**	**21 43 40.6**	**+0.5**
FAKI	**Fak Fak**	**20.28**	**218**	P	Pn	21 44 42.7	-1.1
FAKI				IAmb	IAmb	21 44 52.5	
	comp=Z,34nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**21.85**	**74**	T	T	22 07 47.9	
	baz=259,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**21.87**	**74**	T	T	22 07 48.7	
	baz=259,slow=75,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**21.87**	**74**	T	T	22 07 48.4	
	baz=259,slow=75,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**22.29**	**71**	T	T	22 08 12.4	
	baz=256,slow=75,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**22.30**	**70**	T	T	22 08 12.6	
	baz=256,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**22.30**	**71**	T	T	22 08 09.9	
	baz=256,slow=75,SNR=7.3						
MJAR	**Matsushiro Arr**	**23.80**	**347**	P	**P**	**21 45 16.9**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=163,slow=10,SNR=6.0						
	comp=Z,2.5nm,0.6s						
YULB	**Yu-li**	**24.22**	**298**	P	**P**	**21 45 19.4**	**-0.4**
YULB				IAmb	IAmb	21 46 02.7	
	comp=Z,51nm,1.4s						
SSLB	**Suanglung**	**24.66**	**298**	P	**P**	**21 45 24.1**	**+0.3**
SSLB				IAmb	IAmb	21 45 55.9	
	comp=Z,53nm,1.5s						
TOLI2	**Tolitoli**	**26.52**	**245**	P	**P**	**21 45 42.2**	**+1.5**
TOLI2				IAmb	IAmb	21 45 48.2	
	comp=Z,5.4nm,0.8s						
KSRS	**Korea Array**	**28.24**	**331**	P	**P**	**21 45 56.0**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=148,slow=9.2,SNR=2.0						
	comp=Z,0.9nm,0.6s						
WB0	**Warramunga Arr**	**34.40**	**197**	P	**P**	**21 46 48.6**	**-1.3**
WR0	**Warramunga Arr**	**34.54**	**197**	P	**P**	**21 46 50.1**	**-1.1**
WR0				IAmb	IAmb	21 47 01.1	
	comp=Z,8.2nm,1.1s						
WRAB	**Tennant Creek**	**34.57**	**197**	P	**P**	**21 46 50.1**	**-1.4**
WRAB				IAmb	IAmb	21 47 02.5	
	comp=Z,5.7nm,0.7s						
WB2	**Warramunga Arr**	**34.58**	**197**	P	**P**	**21 46 50.0**	**-1.5**
WB2				IAmb	IAmb	21 47 01.7	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**34.58**	**197**	P	**P**	**21 46 50.2**	**-1.3**
	comp=Z,2.9nm,0.6s,baz=339,slow=11,SNR=26						
WRA	**Warramunga Arr**	**34.58**	**197**	P	**P**	**21 46 50.3**	**-1.3**
WRA	**Warramunga Arr**	**34.58**	**197**				
	comp=Z,2.9nm,0.6s						
KLR	**Kul'dur**	**37.31**	**346**	P	**P**	**21 47 15.0**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=204,slow=13,SNR=2.8						
	comp=Z,0.7nm,0.4s						
ASAR	**Alice Springs**	**38.24**	**196**	P	**P**	**21 47 21.1**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=19,slow=13,SNR=9.5						
	comp=Z,0.2nm,0.4s						
PHRA	**Phrae**	**42.88**	**283**	P	**P**	**21 48 00.7**	**-0.2**
KULM	**Kulim**	**44.03**	**264**	P	**P**	**21 48 09.6**	**-0.5**
CM31	**Chiang Mai Arr**	**44.10**	**283**	P	**P**	**21 48 10.9**	**+0.3**
CM31				IAmb	IAmb	21 48 11.6	
	comp=Z,13nm,1.3s						
CMAR	**Chiang Mai Arr**	**44.10**	**283**	P	**P**	**21 48 11.1**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=83,slow=6.4,SNR=27						
CMAR				PcP	**PP**	**21 49 55.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=80,slow=2.8,SNR=5.2						
	comp=Z,2.7nm,0.5s						
SONM	**Songino Array**	**46.77**	**325**	P	**P**	**21 48 32.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=141,slow=6.9,SNR=6.0						
SONM				PcP	**PcP**	**21 50 03.4**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=133,slow=3.4,SNR=1.9						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**46.77**	**325**	P	**P**	**21 48 32.3**	**+0.9**
TAPN	**Taplejung**	**54.70**	**294**	*e*P	**P**	**21 49 31.5**	**+0.1**
	comp=Z,3.5nm,0.5s						
NIUE	**Niue**	**55.19**	**125**	P	**P**	**21 49 35.3**	**+0.7**
RAMN	**Ramite**	**55.67**	**294**	*e*P	**P**	**21 49 38.1**	**-0.2**
	comp=Z,1.2nm,0.2s						
JIRN	**Jiri**	**56.06**	**294**	*e*P	**P**	**21 49 41.3**	**+0.1**
	comp=Z,4.5nm,0.3s						
GUN	**Gumba**	**56.34**	**295**	*e*P	**P**	**21 49 43.3**	**+0.1**
PKI	**Pulchoki**	**56.75**	**294**	*e*P	**P**	**21 49 45.4**	**-0.7**
PKIN	**Phulchoki**	**56.76**	**294**	*e*P	**P**	**21 49 45.4**	**-0.7**
	comp=Z,3.4nm,0.4s						
DMN	**Daman**	**57.02**	**294**	*e*P	**P**	**21 49 47.9**	**0.0**
	comp=Z,2.3nm,0.3s						
GKN	**Gorkha**	**57.45**	**295**	*e*P	**P**	**21 49 50.3**	**-0.5**
	comp=Z,5.6nm,0.5s						
DANN	**Dangsing**	**58.23**	**295**	*e*P	**P**	**21 49 56.1**	**-0.3**
MKAR	**Makanchi Array**	**61.47**	**316**	P	**P**	**21 50 18.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=88,slow=9.1,SNR=12						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**61.47**	**316**	P	**P**	**21 50 18.9**	**+1.0**
ZALV	**Zalesovo Beam**	**61.66**	**325**	PcP	**PcP**	**21 50 58.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=107,slow=3.8,SNR=5.2						
MAKZ	**Makanchi**	**61.69**	**316**	P	**P**	**21 50 20.2**	**+0.8**
KURK	**Kurchatov**	**64.59**	**320**	P	**P**	**21 50 38.7**	**+0.3**
CNPM	**China Poot**	**65.58**	**30**	P	**P**	**21 50 46.2**	**+1.5**
BRLK	**Bradley Lake**	**65.81**	**30**	P	**P**	**21 50 47.1**	**+0.9**
SKT	**Skwentna**	**66.14**	**28**	P	**P**	**21 50 49.7**	**+1.6**
SKT				IAmb	IAmb	21 51 08.9	
	comp=Z,7.4nm,1.3s						
CAST	**Castle Rocks**	**66.33**	**26**	P	**P**	**21 50 49.2**	**-0.2**
CAST				IAmb	IAmb	21 51 32.8	
	comp=Z,3.9nm,1.3s						
SEW	**Seward**	**66.60**	**30**	P	**P**	**21 50 52.2**	**+1.2**
RC01	**Rabbit Creek A**	**66.72**	**29**	P	**P**	**21 50 53.1**	**+1.3**
RC01				IAmb	IAmb	21 51 08.9	
	comp=Z,15nm,1.4s						
H21K	**Melozitna Rive**	**66.77**	**24**	P	**P**	**21 50 54.1**	**+1.9**
H21K				IAmb	IAmb	21 51 23.6	
	comp=Z,8.7nm,1.5s						
PWL	**Port Wells**	**67.32**	**29**	P	**P**	**21 50 57.3**	**+1.6**
KNK	**Knik Glacier**	**67.39**	**29**	P	**P**	**21 50 57.4**	**+1.2**
KNK				IAmb	IAmb	21 51 07.4	
	comp=Z,17nm,1.4s						
SML	**Sawmill**	**67.55**	**28**	P	**P**	**21 50 58.3**	**+1.1**
BWN	**Browne**	**67.67**	**26**	P	**P**	**21 50 59.5**	**+1.7**
BWN				IAmb	IAmb	21 51 13.8	
	comp=Z,11nm,1.2s						
COLD	**Coldfoot**	**68.28**	**22**	P	**P**	**21 51 03.5**	**+2.0**
DHY	**Denali Highway**	**68.29**	**27**	P	**P**	**21 51 02.8**	**+0.9**
WRH	**Wood River Hil**	**68.33**	**25**	P	**P**	**21 51 02.6**	**+0.7**
WRH				IAmb	IAmb	21 51 03.0	
	comp=Z,6.2nm,1.4s						
CCB	**Clear Creek Bu**	**68.49**	**25**	P	**P**	**21 51 03.4**	**+0.5**
CCB				IAmb	IAmb	21 51 05.8	
	comp=Z,6.1nm,1.4s						
IL31		**68.90**	**25**	P	**P**	**21 51 05.3**	**-0.1**
ILAR	**Eielson Array**	**68.90**	**25**	P	**P**	**21 51 05.3**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=252,slow=5.8,SNR=36						
	comp=Z,0.5nm,0.4s						
SCRK	**Sand Creek**	**69.96**	**26**	P	**P**	**21 51 13.4**	**+1.2**
BRVK	**Borovoye**	**70.01**	**322**	P	**P**	**21 51 13.3**	**+0.8**
J26L	**Joseph Creek**	**70.24**	**26**	P	**P**	**21 51 15.1**	**+1.2**
J26L				IAmb	IAmb	21 51 22.5	
	comp=Z,5.8nm,1.4s						
BMAR	**Burnt Mountain**	**70.43**	**23**	P	**P**	**21 51 16.6**	**+1.8**
KBL	**Kabul**	**70.73**	**302**	P	**P**	**21 51 17.1**	**-0.5**
L27K	**Beaver Creek,**	**70.76**	**28**	P	**P**	**21 51 18.3**	**+1.4**
L27K				IAmb	IAmb	21 51 50.6	
	comp=Z,5.7nm,1.4s						
BCAR	**Beaver Creek A**	**70.78**	**28**	P	**P**	**21 51 18.5**	**+1.4**
INK	**Inuvik**	**74.69**	**22**	P	**P**	**21 51 38.2**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=255,slow=3.9,SNR=4.5						
	comp=Z,1.5nm,0.9s						
ABKAR	**Akbulak array**	**76.54**	**318**	P	**P**	**21 51 50.7**	**-0.2**
ABKAR	**Akbulak array**	**76.54**	**318**	P	**P**	**21 51 50.9**	**0.0**
ABKAR				IAmb	IAmb	21 51 58.7	
	comp=Z,1.5nm,1.1s						
A36M	**Sachs Harbour**	**77.46**	**19**	P	**P**	**21 51 56.9**	**+1.3**
A36M				IAmb	IAmb	21 51 57.6	
	comp=Z,3.2nm,0.9s						
GEYT	**Alibeck**	**79.18**	**307**	P	**P**	**21 52 06.8**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=355,slow=6.3,SNR=2.1						
	comp=Z,1.3nm,0.7s						
EUNU	**Eureka**	**83.14**	**8**	P	**P**	**21 52 26.9**	**+0.9**
YKA	**Yellowknife Ar**	**83.20**	**27**	P	**P**	**21 52 27.4**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=284,slow=5.1,SNR=17						
	comp=Z,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**83.20**	**27**	P	**P**	**21 52 26.5**	**0.0**
B08A	**Colville Reser**	**84.14**	**42**	P	**P**	**21 52 33.8**	**+2.1**
B08A				IAmb	IAmb	21 52 34.2	
	comp=Z,2.6nm,0.7s						
NEW	**Newport**	**85.59**	**42**	P	**P**	**21 52 41.1**	**+2.2**
NEW				IAmb	IAmb	21 52 41.7	
	comp=Z,4.0nm,0.8s						
NVAR	**Mina Array Bea**	**87.28**	**51**	P	**P**	**21 52 47.0**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=266,slow=5.3,SNR=2.2						
	comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**91.27**	**335**	P	**P**	**21 53 04.8**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=96,slow=3.8,SNR=5.8						
	comp=Z,2.1nm,0.9s						
PDAR	**Pinedale Array**	**92.33**	**45**	P	**P**	**21 53 12.1**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=265,slow=5.3,SNR=2.4						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**134.78**	**304**	PKP	**PKiKP**	**21 59 21.5**	**+0.6**
	comp=Z,3.6nm,0.3s

VRF	**Varrio**	**3.55**	**86**	SG	**Sb**	**21 43 41.0**	**+1.4**
KU6	**Riekki**	**4.18**	**111**	PG	**Pb**	**21 43 08.9**	**+2.1**
	baz=300						

WEL ***22*** *21:41:49.8±0.9,33°S±6°×17°8W±1°6,h33km,M4.9/10, mB5.3/7,ML5.4/10,MLv5.1/10,Mw(mB)4.7/7,Error ellipse: s-maj=0.0km s-min=0.0km az=109.2,confirmed*

IDC ***22*** *21:41:49.0±0.7,33°37S×177°98W,h0km,mb4.3/8, mbtmp4.3/10,ML3.9/2,MS3.6/6,Error ellipse: s-maj=24.4km s-min=22.0km az=150.0*

NEIC ***22*** *21:41:53.6±1.9,33°48S±0°08×177°9W±0°1,h32km±5km, mb5.0/25,Error ellipse: s-maj=18.4km s-min=9.3km az=114.0*

ISC 22 21:41:53.5±0.4,33°36S±0°05×178°04W±0°09,h34km,n92, σ1§62/107,mb4.7/18,MS3.7/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.08**	**1**	**P**	**Pn**	**21 42 49.8**	**-3.8**
GLKZ				S	**Sn**	**21 43 35.0**	**-5.2**
RAO	**Raoul Island**	**4.09**	**1**	Pn	**Pn**	**21 42 54.2**	**+0.5**
RIZ	**Raoul Island**	**4.10**	**1**	S	**Sn**	**21 43 36.6**	**-4.0**
MXZ	**Matakaoa Point**	**5.15**	**214**	Pn	**Pn**	**21 43 06.6**	**-1.5**
MXZ	**Matakaoa Point**	**5.15**	**214**	P	**Pn**	**21 43 06.4**	**-1.8**
MXZ				S	**Sn**	**21 44 05.2**	**-1.2**
WMGZ	**Waiomatatini S**	**5.31**	**212**	P	**Pn**	**21 43 08.6**	**-1.7**
WMGZ				S	**Sn**	**21 44 10.5**	**+0.3**
PKGZ	**Pakihiroa**	**5.52**	**214**	P	**Pn**	**21 43 11.6**	**-1.7**
PKGZ				S	**Sn**	**21 44 15.1**	**-0.5**
HAZ	**Te Kaha**	**5.56**	**217**	P	**Pn**	**21 43 13.6**	**-0.2**
HAZ				S	**Sn**	**21 44 17.4**	**+1.0**
PUZ	**Puketiti**	**5.59**	**212**	P	**Pn**	**21 43 11.4**	**-2.8**
PUZ				S	**Sn**	**21 44 15.5**	**-1.7**
TWGZ	**Tauwhareparae**	**5.80**	**213**	P	**Pn**	**21 43 15.1**	**-2.0**
TWGZ				S	**Sn**	**21 44 22.4**	**0.0**
CNGZ	**Carnagh Statio**	**5.95**	**210**	P	**Pn**	**21 43 17.0**	**-2.3**
WHRZ	**Whale Island**	**6.05**	**221**	P	**Sn**	**21 44 30.0**	**+1.3**
TKGZ	**Te Karaka**	**6.07**	**212**	P	**Pn**	**21 43 19.2**	**-1.6**
TKGZ				S	**Sn**	**21 44 27.5**	**-1.6**
URZ	**Urewera**	**6.28**	**218**	Pn	**Pn**	**21 43 21.5**	**-2.2**
	2.3nm,0.3s,baz=0.8,slow=5.2,SNR=17						
URZ				Sn	**Sn**	**21 44 32.0**	**-2.2**
	45nm,0.3s,baz=20,slow=23,SNR=21 6.5nm,0.3s						
RAGZ	**Rawiri**	**6.32**	**214**	S	**Sn**	**21 44 33.5**	**-1.7**
RIGZ	**Rimuhau**	**6.33**	**211**	P	**Pn**	**21 43 21.3**	**-3.1**
RIGZ				S	**Sn**	**21 44 33.3**	**-2.3**
EDRZ	**Edgecumbe**	**6.36**	**220**	S	**Sn**	**21 44 35.6**	**-0.8**
RTZ	**Ruatahuna**	**6.62**	**216**	Pn	**Pn**	**21 43 25.6**	**-2.8**
RTZ	**Ruatahuna**	**6.62**	**216**	P	**Sn**	**21 44 41.6**	**-1.2**
MHGZ	**Mahia Peninsul**	**6.65**	**208**	P	**Pn**	**21 43 24.7**	**-4.0**
MHGZ				S	**Sn**	**21 44 40.2**	**-3.1**
BKZ	**Black Stump Fm**	**7.29**	**216**	Pn	**Pn**	**21 43 36.2**	**-1.4**
BKZ	**Black Stump Fm**	**7.29**	**216**	P	**Pn**	**21 43 35.7**	**-1.9**
BKZ				S	**Sn**	**21 44 55.7**	**-3.5**
BFZ	**Birch Farm**	**8.62**	**210**	Pn	**Pn**	**21 43 54.2**	**-1.6**
MRZ	**Mangatainoka R**	**8.90**	**213**	Pn	**Pn**	**21 43 58.6**	**-1.0**
PLWZ	**Palliser**	**9.77**	**211**	Pn	**Pn**	**21 44 10.8**	**-0.8**
SNZO	**South Karori**	**9.81**	**214**	Pn	**Pn**	**21 44 12.4**	**+0.3**
TCW	**Tory Channel**	**9.94**	**216**	Pn	**Pn**	**21 44 10.8**	**-3.1**
MRNZ	**Matariki Terra**	**10.86**	**220**	Pn	**Pn**	**21 44 25.6**	**-0.9**
THZ	**Tophouse**	**11.04**	**218**	Pn	**Pn**	**21 44 27.6**	**-1.4**
KHZ	**Kahutara**	**11.22**	**214**	Pn	**Pn**	**21 44 29.5**	**-1.9**
LTZ	**Lake Taylor**	**12.11**	**216**	Pn	**Pn**	**21 44 41.2**	**-2.4**
OXZ	**Oxford**	**12.63**	**215**	Pn	**Pn**	**21 44 48.6**	**-2.0**
MQZ	**McQueen's Vall**	**12.63**	**212**	Pn	**Pn**	**21 44 50.0**	**-0.7**
RPZ	**Rata Peaks**	**13.40**	**216**	Pn	**Pn**	**21 44 59.0**	**-2.2**
	0.8nm,0.3s,baz=141,slow=6.7,SNR=2.3						
RPZ				Sn	Sn	21 47 15.3	-13
	4.1nm,0.3s,baz=315,slow=23,SNR=12 15nm,0.7s						
RPZ	**Rata Peaks**	**13.40**	**216**	Pn	**Pn**	**21 44 59.2**	**-1.9**
ODZ	**Otahua Downs**	**14.58**	**214**	Pn	**Pn**	**21 45 15.7**	**-1.6**
MSVF	**Nonsavu**	**15.95**	**346**	Pn	**P**	**21 45 38.4**	**-0.3**
	0.2nm,0.3s,baz=160,slow=19,SNR=2.7						
NIUE	**Niue**	**15.96**	**29**	Pn	**Pn**	**21 45 35.9**	**+0.3**
MLZ	**Mavora Lakes**	**16.05**	**218**	Pn	**Pn**	**21 45 35.3**	**-1.2**
WHZ	**Wether Hill Ro**	**16.50**	**217**	Pn	**Pn**	**21 45 41.6**	**-0.7**
STKA	**Stephens Creek**	**33.89**	**261**	P	**P**	**21 48 34.9**	**+1.7**
	0.6nm,0.4s,baz=80,slow=18,SNR=2.9						
STKA				LR	LR	22 02 22.3	
	comp=Z,182nm,18.6s,baz=36,slow=36 0.6nm,0.4s						
CTA	**Charters Tower**	**34.35**	**284**	LR	LR	22 00 54.8	
	comp=Z,37nm,19.4s,baz=82,slow=33						
AS31	**Alice Springs**	**43.00**	**270**	P	**P**	**21 49 50.9**	**+1.0**
ASAR	**Alice Springs**	**43.00**	**270**	P	**P**	**21 49 50.6**	**+0.7**
	5.7nm,0.8s,baz=111,slow=7.6,SNR=32						
ASAR				PcP	**PcP**	**21 51 41.0**	**+1.2**
	0.7nm,0.9s,baz=108,slow=3.0,SNR=1.9						
ASAR				LR	LR	22 07 57.6	
	comp=Z,76nm,19.0s,baz=94,slow=36 5.7nm,0.8s						
ASAR	**Alice Springs**	**43.00**	**270**	P	**P**	**21 49 50.1**	**+0.3**
WR0	**Warramunga Arr**	**44.08**	**275**	P	**P**	**21 49 59.1**	**+0.5**
WB2	**Warramunga Arr**	**44.25**	**275**	P	**P**	**21 50 00.2**	**+0.3**
WB2				IAmb	IAmb	21 50 01.5	
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**44.25**	**275**	P	**P**	**21 50 00.3**	**+0.4**
WRAB				IAmb	IAmb	21 50 15.1	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**44.25**	**275**	P	**P**	**21 50 00.3**	**+0.4**
WRAB				pP	**sP**	**21 50 10.0**	**-0.6**
WRAB				sP	**pwP**	**21 50 13.9**	**-2.5**
WRA	**Warramunga Arr**	**44.26**	**275**	P	**P**	**21 50 00.2**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=116,slow=7.6,SNR=24						
WRA				LR	LR	22 07 35.7	
	comp=Z,59nm,20.9s,baz=58,slow=35 comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**44.26**	**275**	P	**P**	**21 50 00.1**	**+0.2**
WB0	**Warramunga Arr**	**44.29**	**275**	P	**P**	**21 50 00.8**	**+0.6**
WB0				IAmb	IAmb	21 50 15.4	
	comp=Z,13nm,0.8s						
VNDA	**Vanda**	**45.16**	**186**	P	**P**	**21 50 06.2**	**-0.1**
VNDA				pP	**pP**	**21 50 15.5**	**+1.5**
FORT	**Forrest**	**45.33**	**258**	P	**P**	**21 50 08.8**	**+0.4**
FORT				IAmb	IAmb	21 51 51.2	
	comp=Z,29nm,1.1s						
CCD	**Concordia, Ant**	**50.11**	**197**	P	**P**	**21 50 46.9**	**+1.6**
CCD				pP	**sP**	**21 50 56.9**	**+0.6**
MTN	**Manton Dam**	**50.47**	**281**	P	**P**	**21 50 49.0**	**+0.7**
MTN				IAmb	IAmb	21 52 01.5	
	comp=Z,45nm,1.3s						
KNRA	**Kununurra**	**50.96**	**277**	P	**P**	**21 50 52.8**	**+0.8**
KNRA				IAmb	IAmb	21 52 07.7	
	comp=Z,40nm,1.6s						
FITZ	**Fitzroy Crossi**	**52.38**	**272**	P	**P**	**21 51 03.1**	**+0.5**
MORW	**Morawa**	**55.71**	**255**	P	**P**	**21 51 26.9**	**+0.1**
QSPA	**South Pole Qui**	**56.76**	**180**	P	**P**	**21 51 35.6**	**+1.6**
	comp=Z,5.5nm,0.8s,baz=42,slow=3.8,SNR=12 comp=Z,5.5nm,0.8s						
QSPA	**South Pole Qui**	**56.76**	**180**	P	**P**	**21 51 33.1**	**-0.8**
QSPA				IAmb	IAmb	21 51 36.2	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**56.76**	**180**	P	**P**	**21 51 35.5**	**+1.6**
QSPA				sP	**pwP**	**21 51 49.1**	**-2.6**
BELA	**Belgrano 2**	**66.87**	**172**	P	**P**	**21 52 40.2**	**-1.3**
BELA				IAmb	IAmb	21 52 45.4	
	comp=Z,11nm,1.3s						
MAW	**Mawson**	**69.54**	**201**	P	**P**	**21 52 58.4**	**+0.1**
ESPZ	**Base Esperanza**	**72.88**	**156**	P	**P**	**21 53 18.3**	**-0.3**
ESPZ				IAmb	IAmb	21 55 16.2	
	comp=Z,47nm,1.3s						
SNAA	**Sanae**	**75.21**	**178**	P	**P**	**21 53 32.1**	**-0.1**
SNAA	**Sanae**	**75.21**	**178**	P	**P**	**21 53 32.2**	**0.0**
VNA3	**Neumayer Olymp**	**75.36**	**176**	P	**P**	**21 53 32.8**	**-0.3**
VNA2	**Neumayer--Watz**	**75.80**	**177**	P	**P**	**21 53 35.6**	**+0.1**
	baz=190,slow=4.0						
AY01	**Puyuhuapi**	**77.14**	**135**	P	**P**	**21 53 44.1**	**+0.5**
AY01				IAmb	IAmb	21 54 59.1	
	comp=Z,26nm,1.5s						
LL06	**Loncomilla**	**77.78**	**133**	P	**P**	**21 53 46.6**	**-0.6**
LL06				IAmb	IAmb	21 54 22.7	
	comp=Z,345nm,0.5s						
PLCA	**Paso Flores**	**80.52**	**133**	P	**P**	**21 54 02.9**	**+0.5**
	comp=Z,3.3nm,1.0s,baz=230,slow=8.5,SNR=4.5 comp=Z,3.3nm,1.0s						
PLCA	**Paso Flores**	**80.52**	**133**	P	**P**	**21 54 02.0**	**-0.4**
PLCA				IAmb	IAmb	21 54 03.9	
	comp=Z,9.6nm,1.2s						
JSD	**Sado**	**81.84**	**327**	P	**P**	**21 54 11.5**	**+2.5**
BO02	**Sierra Bellavi**	**83.88**	**128**	P	**P**	**21 54 19.9**	**-0.2**
BO02				IAmb	IAmb	21 54 21.5	
	comp=Z,14nm,1.2s						
MT01	**Popeta**	**84.12**	**127**	P	**P**	**21 54 21.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**87.39**	**334**	P	**P**	**21 54 37.0**	**+0.2**
CFA	**Coronel Fontan**	**87.50**	**127**	LR	LR	22 27 27.8	
	comp=Z,33nm,18.2s,baz=130,slow=31						
PETK	**Petropavlovsk-**	**88.66**	**346**	P	**P**	**21 54 44.7**	**+2.0**
	comp=Z,1.8nm,0.9s,baz=109,slow=6.2,SNR=2.1 comp=Z,1.8nm,0.9s						
PETK	**Petropavlovsk-**	**88.66**	**346**	P	**P**	**21 54 43.1**	**+0.4**
NVAR	**Mina Array Bea**	**90.43**	**43**	P	**P**	**21 54 52.4**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=209,slow=8.5,SNR=3.8 comp=Z,0.7nm,0.7s						
NNA	**Nana**	**92.64**	**106**	LR	LR	22 29 20.9	
	comp=Z,30nm,20.4s,baz=202,slow=31						
TXAR	**Lajitas Array**	**94.00**	**57**	P	**P**	**21 55 07.3**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=212,slow=3.2,SNR=3.5 comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**119.62**	**309**	PKP	**PKiKP**	**22 00 39.9**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=129,slow=2.0,SNR=3.6						
KBZ	**Khabaz**	**146.65**	**300**	PKPbc	**PKPab**	**22 01 32.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=36,slow=5.6,SNR=2.5						
FINES	**FINESS Array B**	**147.89**	**338**	PKPbc	**PKPbc**	**22 01 34.8**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=43,slow=4.3,SNR=30						
NB2	**NORSAR Subarra**	**151.66**	**351**	PKP	**PKiKP**	**22 01 43.8**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.66**	**351**	PKPbc	**PKiKP**	**22 01 44.4**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=10,slow=4.0,SNR=3.7						
AKASG	**Malin Array Be**	**153.57**	**319**	PKPbc	**PKiKP**	**22 01 48.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=46,slow=2.7,SNR=1.3						
BRTR	**Keskin Array B**	**153.86**	**293**	PKPbc	**PKiKP**	**22 01 50.5**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=150,slow=3.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**159.88**	**179**	PKPab	**PKPab**	**22 02 29.1**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=175,slow=2.7,SNR=1.4						
GERES	**GERESS Array B**	**162.21**	**334**	PKPab	**PKPab**	**22 02 39.4**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=354,slow=1.0,SNR=2.7						

IDC 22 21:51:39.0±6.2,2°50N×89°40E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=203.1km s-min=37.2km az=61.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**19.65**	**239**	T	T	22 17 00.4	
	baz=59,slow=75,SNR=16						
H08S2	**Diego Garcia H**	**19.66**	**239**	T	T	22 17 00.4	
	baz=59,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**19.66**	**239**	T	T	22 17 00.9	
	baz=59,slow=75,SNR=7.1						
H01W3	**Cape Leeuwin H**	**43.84**	**150**	T	T	22 46 43.1	
	baz=325						
H01W2	**Cape Leeuwin H**	**43.85**	**150**	T	T	22 46 35.4	
	baz=325						
H01W1	**Cape Leeuwin H**	**43.86**	**150**	T	T	22 46 48.4	
	baz=325						
MKAR	**Makanchi Array**	**44.55**	**353**	P	P	21 59 52.5	-0.1
	0.2nm,0.6s,baz=162,slow=8.8,SNR=2.2 0.2nm,0.6s						
SONM	**Songino Array**	**47.49**	**15**	P	P	22 00 15.8	-0.2
	0.7nm,0.8s,baz=197,slow=9.0,SNR=4.7 0.7nm,0.8s						
WRA	**Warramunga Arr**	**49.41**	**119**	P	P	22 00 31.1	-0.1
	0.2nm,0.6s,baz=293,slow=9.1,SNR=1.6 0.2nm,0.6s						

IDC ***22*** *22:26:41.5±0.6,6°11S×154°11E,h0km,mb4.5/17, mbtmp4.5/19,ML2.5/1,MS3.9/39,Error ellipse: s-maj=18.9km s-min=13.9km az=89.0*

BJI ***22*** *22:26:43.9±0.0,5°49S×153°99E,h7km,mb5.1/37, mB5.3/17,Ms4.6/2,Ms7 4.3/3*

DJA ***22*** *22:26:48.7±1.3,6°S±5°×15°4E±1°0,h42km±9km,M5.2/13, mB5.7/7,mb4.9/13,MLv5.2/2,Mw(mB)5.3/7*

NEIC ***22*** *22:26:50.2±1.5,6°05S±0°07×153°77E±0°08,h51km±7km, mb4.9/42,Error ellipse: s-maj=11.2km s-min=9.4km az=83.0*

ISC 22 22:26:48.9±0.3,6°10S±0°05×153°92E±0°06,h48km,n164, σ1§43/152,mb4.9/47,MS4.0/39,4C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.58**	**317**	Pn	**Pn**	**22 27 27.4**	**-0.8**
KRVT	**Keravat (AS076**	**2.60**	**313**	Pn	**Pn**	**22 27 27.2**	**-1.2**
	656nm,0.6s,baz=192,slow=9.0						
KRVT				Sn	**Sn**	**22 28 02.0**	**+3.3**
	baz=12,slow=19						
KRVT				LR	LR	22 28 39.3	
	comp=Z,3μm,18.1s,baz=178,slow=43						
HNR	**Honiara**	**6.83**	**119**	Pn	**Pn**	**22 28 27.4**	**+0.9**
	343nm,0.3s,baz=220,slow=12,SNR=2.6						
HNR	**Honiara**	**6.83**	**119**	Pn	**Pn**	**22 28 29.2**	**+2.7**
PMG	**Port Moresby**	**7.46**	**243**	Pn	**Pn**	**22 28 33.9**	**-1.3**
	4.3nm,0.3s,baz=52,slow=10,SNR=15						
PMG				Sn	**Sn**	**22 30 01.4**	**+2.7**
	3.6nm,0.3s,baz=93,slow=22,SNR=8.4						
PMG				LR	LR	22 31 53.5	
	comp=Z,2μm,18.5s,baz=54,slow=41 60nm,0.8s						
PMG	**Port Moresby**	**7.46**	**243**	Pn	**Pn**	**22 28 34.9**	**-0.3**
GENI	**Genyem**	**14.15**	**284**	P	**P**	**22 30 12.4**	**-0.7**
SMPI	**Sarmi**	**15.71**	**284**	P	**Pn**	**22 30 25.1**	**-2.1**
CTA	**Charters Tower**	**15.78**	**207**	Pn	**Pn**	**22 30 29.0**	**+1.0**
	0.5nm,0.3s,baz=20,slow=12,SNR=15						
CTAO	**Charters Tower**	**15.78**	**207**	P	**P**	**22 30 30.1**	**-1.0**
LIFNC	**LIFOU**	**19.49**	**140**		**Pn**	**22 31 13.6**	**+0.1**
DZM	**Mont Dzumac**	**19.96**	**144**	P	**P**	**22 31 18.3**	**+1.0**
	15nm,0.8s,baz=356,slow=15,SNR=10.0						
DZM	**Mont Dzumac**	**19.96**	**144**	*e*Pn	**Pn**	**22 31 18.6**	**-0.8**
	100nm,1.1s						
DZM				*e*LR	LR	22 36 25.7	
	comp=Z,738nm,27.4s						
DZM	**Mont Dzumac**	**19.96**	**144**	P	**Pn**	**22 31 19.8**	**+0.5**
DZM				IAmb	IAmb	22 31 32.4	
	comp=Z,55nm,1.1s						
OUENC	**Ouen Island, N**	**20.46**	**144**	P	Pn	22 31 24.4	-0.7
MARNC	**Mare, Loyalty**	**20.50**	**140**	P	Pn	22 31 25.6	0.0
GUMO	**Guam**	**21.53**	**335**	LR	LR	22 40 25.5	
	comp=Z,148nm,18.2s,baz=75,slow=38						
SAUI	**Saumlaki**	**22.53**	**264**	P	**P**	**22 31 45.8**	**+0.8**
	comp=Z,246nm,0.7s,comp=Z,19μm						
SIJI	**Sorong**	**23.20**	**282**	P	**P**	**22 31 53.1**	**+1.2**
	comp=Z,14nm,0.8s,baz=24,slow=13,SNR=4.1						
SIJI				LR	LR	22 41 04.0	
	comp=Z,295nm,21.6s,baz=82,slow=37 comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**23.33**	**232**	P	**P**	**22 31 50.9**	**-2.2**
WB0	**Warramunga Arr**	**23.34**	**233**	P	**P**	**22 31 52.4**	**-0.9**
WB2	**Warramunga Arr**	**23.47**	**232**	P	**P**	**22 31 54.2**	**-0.2**
WRA	**Warramunga Arr**	**23.48**	**232**	P	**P**	**22 31 53.4**	**-1.1**
	comp=Z,4.5nm,0.8s,baz=59,slow=9.2,SNR=13						
WRA				PcP	**PcP**	**22 35 40.1**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=56,slow=2.7,SNR=4.0						
WRA				ScP	**ScP**	**22 39 19.9**	**+6.0**
	comp=Z,1.5nm,1.0s,baz=62,slow=2.6,SNR=5.4						
WRA				LR	LR	22 41 34.5	
	comp=Z,551nm,18.5s,baz=46,slow=38 comp=Z,4.5nm,0.8s						
WRA	**Warramunga Arr**	**23.48**	**232**	P	**P**	**22 31 54.1**	**-0.4**
MSAI	**Masohi**	**25.06**	**275**	P	**P**	**22 32 15.5**	**+6.5**
AAI	**Ambon**	**25.74**	**274**	P	**P**	**22 32 17.7**	**+2.4**
	comp=Z,35nm,0.8s,comp=Z,26μm						
AS31	**Alice Springs**	**26.00**	**226**	P	**P**	**22 32 16.2**	**-1.3**
ASAR	**Alice Springs**	**26.00**	**226**	P	**P**	**22 32 16.8**	**-0.7**
	comp=Z,12nm,0.9s,baz=62,slow=8.7,SNR=79						
ASAR				PcP	**PcP**	**22 35 45.6**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=62,slow=2.3,SNR=5.1						
ASAR				ScP	**ScP**	**22 39 26.8**	**+5.9**
	comp=Z,1.7nm,0.8s,baz=54,slow=3.5,SNR=8.0						
ASAR				LR	LR	22 43 00.1	
	comp=Z,505nm,18.4s,baz=90,slow=38 comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**26.00**	**226**	P	**P**	**22 32 17.0**	**-0.5**
MSVF	**Nonsavu**	**26.25**	**118**	P	**P**	**22 32 20.4**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=247,slow=7.5,SNR=3.7						
MSVF				LR	LR	22 41 53.2	
	comp=Z,274nm,20.4s,baz=324,slow=35						
NLAI	**Namlea**	**26.88**	**275**	P	**P**	**22 32 21.5**	**-4.0**
H11S3	**WAKE ISLAND Hy**	**27.49**	**27**	T	T	23 00 53.4	
	baz=207						
H11S2	**WAKE ISLAND Hy**	**27.50**	**27**	T	T	23 00 46.6	
	baz=207						
H11S1	**WAKE ISLAND Hy**	**27.51**	**27**	T	T	23 00 52.5	
	baz=207						
STKA	**Stephens Creek**	**28.12**	**203**	P	**P**	**22 32 35.1**	**-1.3**
	comp=Z,2.2nm,0.6s,baz=15,slow=11,SNR=7.9						
STKA				LR	LR	22 44 36.3	
	comp=Z,279nm,18.6s,baz=21,slow=38 comp=Z,2.2nm,0.6s						
STKA	**Stephens Creek**	**28.12**	**203**	P	**P**	**22 32 35.4**	**-1.0**
SANI	**Sanana**	**28.15**	**277**	P	**P**	**22 32 40.2**	**+3.3**
FITZ	**Fitzroy Crossi**	**30.06**	**244**	P	**P**	**22 32 52.9**	**-1.0**
BATI	**Baumata**	**30.22**	**260**	LR	LR	22 47 25.0	
	comp=Z,297nm,18.9s,baz=112,slow=41						
DAV	**Davao City (W)**	**31.16**	**294**	LR	LR	22 45 02.3	
	comp=Z,192nm,20.9s,baz=127,slow=35						
KAPI	**Kappang**	**34.02**	**270**	LR	LR	22 48 30.1	
	comp=Z,93nm,21.5s,baz=74,slow=38						
AFI	**Afiamalu**	**34.62**	**106**	LR	LR	22 46 12.8	
	comp=Z,120nm,18.9s,baz=286,slow=34						
TAU	**Tasmania Unive**	**37.12**	**188**	P	**P**	**22 33 51.9**	**-2.9**
TAU				pP	**pP**	**22 34 03.6**	**-1.4**
TAU				sP	**sP**	**22 34 10.0**	**+0.4**
URZ	**Urewera**	**38.31**	**150**	LR	LR	22 49 28.5	
	comp=Z,298nm,18.3s,baz=55,slow=36						
RPZ	**Rata Peaks**	**40.38**	**161**	LR	LR	22 51 03.5	
	comp=Z,814nm,18.6s,baz=330,slow=36						
NWAO	**Narrogin (SRO)**	**43.30**	**227**	LR	LR	22 53 21.5	
	comp=Z,502nm,18.2s,slow=37						
JNU	**Nakatsue**	**44.72**	**332**	P	**P**	**22 34 56.8**	**-0.8**
	comp=Z,39nm,0.9s,baz=171,slow=2.4,SNR=8.9						
JNU				LR	LR	22 50 23.4	
	comp=Z,36nm,21.1s,baz=146,slow=32 comp=Z,39nm,0.9s						
JNU	**Nakatsue**	**44.72**	**332**	P	**P**	**22 34 56.9**	**-0.6**
MJAR	**Matsushiro Arr**	**44.90**	**342**	LR	LR	22 53 54.6	
	comp=Z,84nm,19.5s,baz=186,slow=36						
RAR	**Rarotonga**	**47.24**	**113**	LR	LR	22 53 11.7	
	comp=Z,57nm,18.5s,baz=298,slow=34						
KSRS	**Korea Array**	**49.66**	**333**	P	**P**	**22 35 35.6**	**-0.3**
	comp=Z,7.7nm,1.0s,baz=153,slow=8.6,SNR=11						
KSRS				LR	LR	22 55 33.7	
	comp=Z,41nm,18.1s,baz=145,slow=35 comp=Z,7.7nm,1.0s						
KSAR	**Wonju Array Be**	**49.66**	**333**	P	**P**	**22 35 34.9**	**-1.1**
WHN	**Wuhan**	**52.56**	**316**	⇓P	**P**	**22 35 59.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**53.83**	**341**	P	**P**	**22 36 06.5**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=171,slow=8.2,SNR=7.5 comp=Z,4.3nm,0.8s						
TIA	**Tai'an**	**54.42**	**323**	⇑P	**P**	**22 36 10.9**	**-0.4**
TIA				pmax	pmax		
	comp=Z,23nm,0.9s						
PSI	**Prapat**	**55.63**	**278**	LR	LR	23 03 41.2	
	comp=Z,61nm,19.8s,baz=74,slow=40						
ENH	**Enshi**	**55.85**	**313**	P	**P**	**22 36 22.0**	**+0.1**
ENH	**Enshi**	**55.85**	**313**	P	**P**	**22 36 22.1**	**+0.2**
ENH				pP	**pP**	**22 36 33.9**	**+0.7**
ENH				sP	**pwP**	**22 36 40.3**	**-1.1**
PPT2	**Papeete2**	**56.27**	**107**	*e*LR	LR	22 53 22.0	
	comp=Z,174nm,25.2s						
PPT2				*e*LR	LR	22 53 22.2	
	comp=Z,223nm,23.2s						
HNS	**HongShan**	**56.65**	**323**	⇑P	**P**	**22 36 27.5**	**+0.2**
HNS				pmax	pmax		
	comp=Z,40nm,1.3s						
TBI	**Tubuai**	**57.01**	**114**	*e*LR	LR	22 53 42.0	
	comp=Z,4μm,27.0s						
TBI				*e*LR	LR	22 53 42.0	
	comp=Z,2μm,31.0s						
BJT	**Baijiatuao**	**57.58**	**326**	P	**P**	**22 36 34.5**	**+0.6**
BJT				IAmb	IAmb	22 37 09.6	
	comp=Z,12nm,1.4s						
BJT	**Baijiatuao**	**57.58**	**326**	P	**P**	**22 36 35.2**	**+1.4**
BJT				pP	**pP**	**22 36 46.7**	**+1.6**
PHRA	**Phrae**	**58.30**	**296**	P	**P**	**22 36 38.5**	**-0.8**
XAN	**Xi'an**	**58.33**	**316**	⇑P	**P**	**22 36 39.3**	**0.0**
XAN				sP	pP	22 36 46.3	-4.4
XAN				pmax	pmax		
	comp=Z,34nm,1.5s						
XAN	**Xi'an**	**58.33**	**316**	P	**P**	**22 36 39.5**	**+0.1**
XAN				pP	**pP**	**22 36 51.4**	**+0.7**
KMI	**Kunming**	**58.63**	**304**	P	**P**	**22 36 42.6**	**+0.8**
KMI				pP	**p

ODAN	**Odare**	**72.16**	**301**	*eP*		**P**	**22 38 09.8**	**+0.4**
RAMN	**Ramite**	**72.86**	**300**	*eP*		**P**	**22 38 13.0**	**-0.6**
	comp=Z,2.1nm,0.4s							
JIRN	**Jiri**	**73.41**	**301**	*eP*		**P**	**22 38 17.1**	**+0.2**
GUN	**Gumba**	**73.75**	**301**	*eP*		**P**	**22 38 19.1**	**+0.2**
PKI	**Pulchoki**	**74.05**	**301**	*eP*		**P**	**22 38 20.4**	**-0.2**
PKIN	**Phulchoki**	**74.07**	**301**	*eP*		**P**	**22 38 20.3**	**-0.3**
	comp=Z,3.0nm,0.4s							
DMN	**Daman**	**74.32**	**301**	*eP*		**P**	**22 38 22.2**	**+0.1**
BILL	**Bilibino**	**74.48**	**5**	P		**P**	**22 38 21.3**	**-0.5**
BILL				IAmb		IAmb	22 39 18.0	
	comp=Z,10nm,1.2s							
GKN	**Gorkha**	**74.83**	**301**	*eP*		**P**	**22 38 24.3**	**-0.6**
KOLN	**Koldanda**	**75.65**	**301**	*eP*		**P**	**22 38 28.1**	**-1.6**
	comp=Z,6.3nm,1.4s							
DANN	**Dangsing**	**75.67**	**301**	*eP*		**P**	**22 38 29.3**	**-0.6**
KDAK	**Kodiak Island**	**76.83**	**26**	LR		LR	23 06 54.2	
	comp=Z,89nm,21.0s,baz=246,slow=31							
MK31	**Makanchi Array**	**82.03**	**319**	P		**P**	**22 39 04.5**	**+0.3**
MK31				IAmb		IAmb	22 39 05.8	
	comp=Z,18nm,1.0s							
MKAR	**Makanchi Array**	**82.03**	**319**	P		**P**	**22 39 04.6**	**+0.5**
	comp=Z,14nm,0.9s,baz=106,slow=5.5,SNR=108							
MKAR				PP		**PP**	**22 42 11.0**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=96,slow=11,SNR=3.7							
MKAR				LR		LR	23 16 35.2	
	comp=Z,59nm,19.0s,baz=66,slow=36							
	comp=Z,14nm,0.9s							
MKAR	**Makanchi Array**	**82.03**	**319**	P		**P**	**22 39 04.4**	**+0.3**
MAKZ	**Makanchi**	**82.24**	**319**	P		**P**	**22 39 05.5**	**+0.3**
ZAA0	**Zalesovo Array**	**82.85**	**326**	P		**P**	**22 39 07.5**	**-0.6**
ZAA0				IAmb		IAmb	22 39 08.6	
	comp=Z,11nm,0.9s							
ZALV	**Zalesovo Beam**	**82.85**	**326**	P		**P**	**22 39 07.9**	**-0.2**
	comp=Z,7.3nm,0.7s,baz=110,slow=4.9,SNR=39							
	comp=Z,7.3nm,0.7s							
ZALV	**Zalesovo Beam**	**82.85**	**326**	P		**P**	**22 39 07.4**	**-0.7**
ILAR	**Eielson Array**	**82.94**	**22**	P		**P**	**22 39 06.4**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=251,slow=4.8,SNR=16							
ILAR				LR		LR	23 15 53.6	
	comp=Z,115nm,18.8s,baz=240,slow=36							
	comp=Z,0.7nm,0.6s							
TARG	**Taragay, Kyrgy**	**83.77**	**313**	P		**P**	**22 39 13.7**	**0.0**
TARG				IAmb		IAmb	22 39 27.5	
	comp=Z,17nm,1.0s							
QSPA	**South Pole Qui**	**83.87**	**180**	P		**P**	**22 39 13.6**	**+0.2**
	comp=Z,11nm,0.7s,baz=342,slow=1.1,SNR=41							
	comp=Z,11nm,0.7s							
QSPA	**South Pole Qui**	**83.87**	**180**	P		**P**	**22 39 14.3**	**+0.9**
QSPA				IAmb		IAmb	22 39 15.2	
	comp=Z,14nm,0.8s							
KSH	**Kashi**	**84.62**	**311**	P		**P**	**22 39 20.4**	**+2.7**
KSH				pmax		pmax		
	comp=Z,16nm,0.8s							
ULHL	**Ulahol**	**85.02**	**313**	P		**P**	**22 39 21.1**	**+1.3**
	SNR=21							
KURK	**Kurchatov**	**85.47**	**322**	P		**P**	**22 39 21.5**	**0.0**
KURBB	**Kurchatov Arra**	**85.50**	**322**	PKKPbc		PKKPbc	22 57 26.4	-1.1
	comp=Z,0.5nm,1.0s,baz=288,slow=3.4,SNR=4.1							
NIL	**Nilore**	**85.63**	**304**	P		**P**	**22 39 22.6**	**-0.2**
NIL				IAmb		IAmb	22 39 24.6	
	comp=Z,14nm,0.8s							
TKM2	**Tokmak 2**	**85.63**	**314**	P		**P**	**22 39 23.6**	**+0.8**
	SNR=32							
KBK	**Karagaybulak**	**86.04**	**313**	P		**P**	**22 39 25.7**	**+0.9**
	SNR=13							
CHMS	**Chumysh**	**86.25**	**314**	P		**P**	**22 39 26.1**	**+0.4**
	SNR=20							
UCH	**Uchtor**	**86.27**	**313**	P		**P**	**22 39 28.1**	**+1.8**
	SNR=32							
AAK	**Ala-Archa**	**86.36**	**313**	P		**P**	**22 39 27.4**	**+1.0**
	SNR=15							
AAK	**Ala-Archa**	**86.36**	**313**	LR		LR	23 18 26.3	
	comp=Z,72nm,20.1s,baz=106,slow=36							
AAK	**Ala-Archa**	**86.36**	**313**	P		**P**	**22 39 27.0**	**+0.6**
USP	**Ospenovka**	**86.49**	**314**	P		**P**	**22 39 27.4**	**+0.5**
	SNR=20							
AML	**Almayashu**	**86.85**	**313**	P		**P**	**22 39 30.2**	**+1.2**
	SNR=32							
EKS2	**Erkin-Say**	**86.89**	**313**	P		**P**	**22 39 29.7**	**+0.8**
	SNR=14							
NRIK	**Noril'sk**	**87.55**	**341**	P		**P**	**22 39 31.0**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=110,slow=5.1,SNR=8.3							
	comp=Z,4.8nm,0.8s							
NRIK	**Noril'sk**	**87.55**	**341**	P		**P**	**22 39 30.6**	**-0.7**
NRIK				IAmb		IAmb	22 39 31.9	
	comp=Z,5.6nm,0.8s							
DLBC	**Dease Lake**	**87.92**	**31**	LR		LR	23 12 38.0	
	comp=Z,59nm,19.5s,baz=268,slow=31							
YBH	**Yreka Blue Hor**	**89.08**	**48**	LR		LR	23 15 37.6	
	comp=Z,76nm,18.5s,baz=281,slow=33							
KK31	**Karatay Array**	**89.33**	**313**	P		**P**	**22 39 39.7**	**-0.7**
KK31				IAmb		IAmb	22 39 41.5	
	comp=Z,6.4nm,0.9s							
KKAR	**Karatay Array**	**89.33**	**313**	P		**P**	**22 39 39.3**	**-1.1**
KKAR				IAmb		IAmb	22 39 41.5	
	comp=Z,6.4nm,0.9s							
KKAR	**Karatay Array**	**89.33**	**313**	P		**P**	**22 39 40.4**	**0.0**
CHGR	**Chuyangaron**	**89.69**	**309**	P		**P**	**22 39 41.6**	**-0.6**
BVAR	**Borovoye Array**	**94.34**	**323**	LR		LR	23 22 10.4	
	comp=Z,42nm,18.4s,baz=94,slow=37							
BRVK	**Borovoye**	**91.01**	**323**	P		**P**	**22 39 46.5**	**-1.4**
NVAR	**Mina Array Bea**	**92.00**	**52**	P		**P**	**22 39 53.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=259,slow=7.3,SNR=2.4							
	comp=Z,0.3nm,0.5s							
PFO	**Pinyon Flats O**	**93.02**	**57**	LR		LR	23 17 29.5	
	comp=Z,185nm,18.1s,baz=201,slow=33							
RPN	**Rapa Nui**	**93.22**	**118**	LR		LR	23 17 09.2	
	comp=Z,55nm,18.6s,baz=322,slow=32							
NEW	**Newport**	**93.81**	**42**	LR		LR	23 18 23.8	
	comp=Z,112nm,18.6s,baz=260,slow=33							
ELK	**Elko**	**94.57**	**50**	LR		LR	23 22 37.0	
	comp=Z,51nm,18.4s,baz=250,slow=36							
HRA	**Herat**	**94.79**	**304**	P		**P**	**22 40 04.5**	**-1.6**
HRA				IAmb		IAmb	22 40 06.3	
	comp=Z,3.6nm,0.8s							
YKA	**Yellowknife Ar**	**96.05**	**28**	P		**P**	**22 40 10.8**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=263,slow=4.7,SNR=2.3							
	comp=Z,0.3nm,0.8s							
ABKAR	**Akbulak array**	**97.18**	**319**	P		**P**	**22 40 14.3**	**-2.0**
ABKAR				IAmb		IAmb	22 40 15.6	
	comp=Z,3.4nm,1.1s							
LPIG	**La Paz**	**97.71**	**67**	LR		LR	23 19 48.0	
	comp=Z,89nm,18.9s,baz=335,slow=33							
ARU	**Arti**	**98.01**	**326**	LR		LR	23 26 36.8	
	comp=Z,61nm,19.4s,baz=162,slow=37							
GEYT	**Ailbeck**	**98.29**	**307**	LR		LR	23 28 01.8	
	comp=Z,30nm,19.1s,baz=111,slow=37							
AKTO	**Aktyubinsk**	**98.43**	**320**	LR		LR	23 23 45.3	
	comp=Z,26nm,21.7s,baz=105,slow=35							
PDAR	**Pinedale Array**	**98.89**	**48**	LR		LR	23 21 30.8	
	comp=Z,78nm,18.6s,baz=269,slow=33							
AKASG	**Malin Array Be**	**116.19**	**324**	PKP		**PKPdf**	**22 45 26.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=53,slow=2.1,SNR=6.8							
AKASG				PP		**PP**	**22 46 30.2**	**-2.2**
	comp=Z,2.1nm,0.9s,baz=58,slow=6.3,SNR=8.4							
BRTR	**Keskin Array B**	**117.00**	**312**	PKP		**PKPdf**	**22 45 28.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=160,slow=2.8,SNR=3.8							
GERES	**GERESS Array B**	**125.74**	**329**	PKP		**PKPdf**	**22 45 45.6**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=85,slow=1.5,SNR=11							
LPAZ	**La Paz**	**132.82**	**119**	PKP		**PKiKP**	**22 46 01.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=339,slow=5.8,SNR=4.8							
CPUP	**Villa Florida**	**135.75**	**138**	PKP		**PKPdf**	**22 46 05.2**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=170,slow=0.4,SNR=5.1							
SDV	**Santo Domingo**	**135.76**	**84**	PKPdf		**PKPdf**	**22 46 04.8**	**-0.8**
UUPR	**Utuado, UPR, P**	**138.58**	**69**			**PKPdf**	**22 46 10.6**	**+0.2**
ESDC	**Sonseca Array**	**141.09**	**332**	PKhKP		PKPpre	22 46 09.9	
	comp=Z,0.7nm,1.0s,baz=4.3,slow=3.5,SNR=4.1							
BOAV	**Boa Vista**	**145.46**	**95**	PKPdf		**PKPdf**	**22 46 21.8**	**-1.0**
BDFB	**Brasilia**	**149.36**	**135**	PKPbc		**PKPdf**	**22 46 31.3**	**+1.9**
	comp=Z,6.4nm,0.9s,baz=275,slow=0.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**151.76**	**286**	PKPbc		**PKPbc**	**22 46 39.2**	**-0.2**
	comp=Z,21nm,0.8s,baz=50,slow=1.4,SNR=5.3							

*IDC **22** 22:30:14.8±1.6,41.70S×174.26E,h0km,mb3.9/2, mbtmp3.8/4,ML3.1/2,Error ellipse: s-maj=49.0km s-min=21.7km az=141.0*
*WEL **22** 22:30:18.8±0.3,42.5±3.3°×17.4E±.°,h13km±2km,M4.0/21, ML4.2/22,MLv4.0/21,Error ellipse: s-maj=0.0km s-min=0.0km az=159.8,confirmed*
*NOU **22** 22:30:18.4,41.82S×174.43E,h14km,MLv4.4/11,Cook Strait, New Zealand*
ISC 22 22:30:18.0±1.0,**41.80S**±0.03×**174.38E**±0.02,**h19**km±3km, **n106,σ1.9°07/125,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**294**	P			**Pg**	**22 30 22.6**	**+0.4**
CMWZ				S			**Sg**	**22 30 25.5**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.39**	**283**	P			**Pg**	**22 30 26.0**	**-0.1**
BSWZ				S			**Sg**	**22 30 31.8**	**+0.2**
SNZO	**South Karori**	**0.55**	**26**	P			**Pg**	**22 30 29.4**	**+0.4**
WEL	**Wellington**	**0.59**	**29**	S			**Sg**	**22 30 38.9**	**+1.0**
TCW	**Tory Channel**	**0.60**	**352**	P			**Pb**	**22 30 29.1**	**-0.7**
PLWZ	**Palliser**	**0.69**	**71**	P			**Pn**	**22 30 33.5**	**+0.7**
PLWZ				S			**Sn**	**22 30 45.5**	**+2.3**
MSWZ	**Moikau Station**	**0.76**	**59**	P			**Pn**	**22 30 34.6**	**+0.9**
MSWZ				S			**Sn**	**22 30 46.3**	**+1.7**
CAW	**Cannon Point**	**0.87**	**37**	P			**Pg**	**22 30 35.0**	**+0.1**
CAW				S			**Sn**	**22 30 47.0**	**-0.3**
KHZ	**Kahutara**	**0.88**	**225**	P			**Pn**	**22 30 36.4**	**+1.1**
KHZ	**Kahutara**	**0.88**	**225**	P			**Pn**	**22 30 36.4**	**+1.1**
KHZ				S			**Sn**	**22 30 49.6**	**+2.1**
PAWZ	**Paruwai Farm**	**0.89**	**62**	P			**Pn**	**22 30 36.1**	**+0.6**
PAWZ				S			**Sn**	**22 30 49.6**	**+1.7**
NNZ	**Nelson**	**0.95**	**308**	P			**Pb**	**22 30 35.3**	**-0.6**
KIW	**Kapiti Island**	**1.02**	**23**	P			**Pb**	**22 30 37.3**	**+0.2**
KIW				S			**Sn**	**22 30 51.1**	**0.0**
DUWZ	**D'Urville Isla**	**1.06**	**341**	P			**Pb**	**22 30 37.0**	**-0.7**
DUWZ				S			**Sb**	**22 30 51.2**	**0.0**
MTW	**Mount Morrison**	**1.06**	**53**	P			**Pn**	**22 30 38.3**	**+0.4**
MTW				S			**Sg**	**22 30 53.2**	**+0.7**
TRWZ	**Traveller**	**1.06**	**68**	P			**Pn**	**22 30 38.2**	**+0.4**
TRWZ				S			**Sg**	**22 30 53.9**	**+1.4**
THZ	**Tophouse**	**1.10**	**272**	P			**Pb**	**22 30 38.8**	**+0.3**
THZ				S			**Sg**	**22 30 55.0**	**+1.1**
OGWZ	**Otaki Gorge**	**1.15**	**31**	P			**Pn**	**22 30 39.6**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.24**	**44**	P			**Pn**	**22 30 40.7**	**+0.3**
HOWZ				S			**Sg**	**22 30 57.8**	**-0.5**
MRNZ	**Matariki Terra**	**1.28**	**288**	P			**Pb**	**22 30 41.6**	**+0.1**
MRNZ				S			**Sg**	**22 30 58.9**	**-0.6**
TKNZ	**Takaka Hill**	**1.32**	**305**	P			**Pn**	**22 30 41.8**	**+0.4**
TKNZ				S			**Sb**	**22 30 59.2**	**+0.6**
TMWZ	**Te Maipa**	**1.33**	**59**	P			**Pn**	**22 30 41.8**	**+0.2**
TMWZ				S			**Sb**	**22 31 00.2**	**+1.2**
MRZ	**Mangatainoka R**	**1.46**	**39**	P			**Pn**	**22 30 43.7**	**+0.4**
TIWZ	**Tintock**	**1.53**	**48**	P			**Pn**	**22 30 44.3**	**0.0**
TIWZ				S			**Sb**	**22 31 05.0**	**+0.3**
QRZ	**Quartz Range**	**1.70**	**304**	P			**Pb**	**22 30 48.0**	**-0.7**
QRZ	**Quartz Range**	**1.70**	**304**	P			**Pn**	**22 30 47.9**	**+1.2**
PRWZ	**Pori Road**	**1.73**	**44**	P			**Pn**	**22 30 47.2**	**+0.2**
POWZ	**Post Office Ro**	**1.76**	**37**	P			**Pn**	**22 30 47.8**	**+0.3**
BFZ	**Birch Farm**	**1.80**	**52**	P			**Pn**	**22 30 47.6**	**-0.4**
BFZ	**Birch Farm**	**1.80**	**52**	P			**Pn**	**22 30 47.5**	**-0.5**
LTZ	**Lake Taylor**	**1.85**	**237**	P			**Pn**	**22 30 49.5**	**+0.8**
AMCZ	**Amberley**	**1.88**	**222**	P			**Pn**	**22 30 49.5**	**+0.4**
DSZ	**Denniston Nort**	**1.93**	**271**	P			**Pn**	**22 30 50.9**	**+1.1**
WAZ	**Wanganui**	**2.10**	**13**	P			**Pb**	**22 30 55.0**	**-0.4**
OKCZ	**Okains Bay**	**2.15**	**206**	P			**Pn**	**22 30 53.1**	**+0.2**
MQZ	**McQueen's Vall**	**2.29**	**213**	P			**Pn**	**22 30 54.2**	**-0.5**
PRHZ	**Porangahau**	**2.29**	**49**	P			**Pn**	**22 30 54.0**	**-0.8**
OXZ	**Oxford**	**2.30**	**228**	P			**Pn**	**22 30 54.7**	**-0.3**
WPHZ	**Waipukurau**	**2.33**	**43**	P			**Pn**	**22 30 55.1**	**-0.3**
LREZ	**Lake Rotokare**	**2.34**	**0**	P			**Pb**	**22 30 59.2**	**-0.4**
INZ	**Inchbonnie**	**2.37**	**246**	P			**Pb**	**22 31 01.2**	**+1.2**
NMEZ	**Namu Road**	**2.42**	**351**	P			**Pb**	**22 30 59.8**	**-1.1**
KHEZ	**Kahui Hut**	**2.52**	**354**	P			**Pb**	**22 31 00.8**	**-1.9**
KHEZ	**Kahui Hut**	**2.52**	**354**	P			**Pb**	**22 31 00.8**	**-1.9**
RACZ	**Rakaia**	**2.53**	**220**	P			**Pn**	**22 30 57.6**	**-0.5**
NEZ	**North Egmont**	**2.54**	**355**	P			**Pb**	**22 31 01.3**	**-1.7**
MTVZ	**Mangateitei**	**2.56**	**19**	P			**Pn**	**22 31 00.7**	**+2.2**
NBEZ	**Newall Road No**	**2.56**	**351**	P			**Pn**	**22 31 00.4**	**+2.5**
MOVZ	**Mowhango**	**2.61**	**24**	P			**Pn**	**22 30 59.9**	**+0.6**
PKVZ	**Pokaka**	**2.62**	**17**	P			**Pn**	**22 31 01.3**	**+1.9**
PKE	**Pukeiti**	**2.62**	**353**	P			**Pb**	**22 31 02.3**	**-2.1**
KRHZ	**Kereru**	**2.63**	**36**	P			**Pn**	**22 30 59.1**	**-0.5**
BHHZ	**Black Hill Sta**	**2.64**	**30**	P			**Pn**	**22 30 59.9**	**+0.3**
WNVZ	**Wahianoa**	**2.64**	**21**	P			**Pn**	**22 31 01.0**	**+1.2**
TRVZ	**Turoa**	**2.66**	**20**	P			**Pn**	**22 31 01.8**	**+1.8**
WHVZ	**Whangaehu Hut**	**2.68**	**20**	P			**Pn**	**22 31 02.4**	**+2.0**
DRZ	**Dome Shelter**	**2.68**	**20**	P			**Pb**	**22 31 04.0**	**-1.5**
FWVZ	**Far West T-bar**	**2.70**	**20**	P			**Pn**	**22 31 02.1**	**+1.6**
TUVZ	**Tukino**	**2.71**	**21**	P			**Pn**	**22 31 01.8**	**+1.1**
KAHZ	**Kahuranaki**	**2.76**	**44**	P			**Pn**	**22 31 00.2**	**-1.0**
NGZ	**Ngauruhoe**	**2.79**	**20**	P			**Pn**	**22 31 03.1**	**+1.4**
SNVZ	**South Ngauruho**	**2.79**	**21**	P			**Pb**	**22 31 07.9**	**+0.6**
OTVZ	**Oturere**	**2.81**	**21**	P			**Pb**	**22 31 08.3**	**+0.5**
NNVZ	**North Ngauruho**	**2.83**	**20**	P			**Pn**	**22 31 03.8**	**+1.5**
WACZ	**Wakanui South**	**2.84**	**220**	P			**Pn**	**22 31 02.3**	**+0.1**
WTVZ	**West Tongariro**	**2.84**	**19**	P			**Pn**	**22 31 04.0**	**+1.6**
KWHZ	**Kaweka Forest**	**2.84**	**34**	P			**Pn**	**22 31 02.1**	**-0.3**
TWVZ	**Taurewa**	**2.85**	**17**	P			**Pn**	**22 31 03.9**	**+1.4**
ETVZ	**East Tongariro**	**2.85**	**21**	P			**Pn**	**22 31 03.7**	**+1.2**
TMVZ	**Te Maari**	**2.87**	**21**	P			**Pn**	**22 31 03.8**	**+1.0**
NTVZ	**North Tongarir**	**2.88**	**20**	P			**Pn**	**22 31 04.6**	**+1.7**
MCHZ	**McNeill Hill**	**2.94**	**38**	P			**Pn**	**22 31 03.5**	**-0.3**
WVZ	**Waitaha Valley**	**2.98**	**244**	P			**Pn**	**22 31 04.8**	**+0.6**
RITZ	**Rihia Road**	**3.04**	**22**	P			**Pb**	**22 31 12.0**	**+0.5**
BKZ	**Black Stump Fm**	**3.09**	**32**	P			**Pn**	**22 31 05.3**	**-0.5**
BKZ	**Black Stump Fm**	**3.09**	**32**	P			**Pn**	**22 31 04.9**	**-0.8**
RPZ	**Rata Peaks**	**3.11**	**231**	Pn			**Pn**	**22 31 05.9**	**-0.1**
	4.4nm,0.3s,baz=199,slow=1.6,SNR=24								
RPZ				Sn			**Sn**	**22 31 42.3**	**-0.3**
	11nm,0.3s,baz=324,slow=23,SNR=11								
	12nm,0.4s								
RPZ	**Rata Peaks**	**3.11**	**231**	P			**Pn**	**22 31 06.0**	**-0.1**
RPZ	**Rata Peaks**	**3.11**	**231**	P			**Pn**	**22 31 05.9**	**-0.1**
RATZ	**Rangitukua**	**3.12**	**20**	P			**Pb**	**22 31 13.7**	**+0.8**
ARCZ	**Arundel**	**3.18**	**227**	P			**Pn**	**22 31 07.0**	**-0.1**
HIZ	**Hauiti**	**3.31**	**6**	P			**Pn**	**22 31 10.7**	**+2.0**
HIZ	**Hauiti**	**3.31**	**6**	P			**Pn**	**22 31 10.6**	**+1.8**
MRHZ	**Matea Rd**	**3.35**	**28**	P			**Pn**	**22 31 08.7**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**3.35**	**242**	P			**Pn**	**22 31 10.7**	**+1.3**
TMZ	**Timaru**	**3.57**	**223**	P			**Pn**	**22 31 12.5**	**+0.1**
SNGZ	**Shannon Statio**	**3.77**	**38**	P			**Pn**	**22 31 13.5**	**-1.6**
FOZ	**Fox Glacier**	**3.78**	**241**	P			**Pn**	**22 31 15.8**	**+0.6**
LBZ	**Lake Benmore**	**4.01**	**229**	P			**Pn**	**22 31 19.7**	**+1.2**
URZ	**Urewera**	**4.11**	**32**	Pn			**Pn**	**22 31 18.4**	**-1.4**
	0.7nm,0.3s,baz=339,slow=5.0,SNR=9.3								
URZ				Sn			**Sn**	**22 32 07.5**	**+0.2**
	3.0nm,0.3s,baz=132,slow=6.1,SNR=4.4								
	3.1nm,0.3s								
TOZ	**Tahuroa Road**	**4.16**	**12**	P			**Pn**	**22 31 22.7**	**+2.3**
ODZ	**Otahua Downs**	**4.23**	**219**	P			**Pn**	**22 31 21.7**	**+0.3**
ODZ	**Otahua Downs**	**4.23**	**219**	P			**Pn**	**22 31 20.8**	**-0.6**
JCZ	**Jackson Bay**	**4.69**	**239**	P			**Pn**	**22 31 29.2**	**+1.3**
JCZ	**Jackson Bay**	**4.69**	**239**	P			**Pn**	**22 31 27.3**	**-0.5**
MKAZ	**Moumakai**	**4.73**	**8**	P			**Pn**	**22 31 29.3**	**+1.0**
AWAZ	**Awhitu Peninsu**	**4.74**	**3**	P			**Pn**	**22 31 30.1**	**+1.7**
TUZ	**Tuapeka**	**5.38**	**218**	P			**Pn**	**22 31 37.6**	**+0.3**
CTZ	**Chatham Island**	**6.90**	**109**	P			**Pn**	**22 32 05.1**	**+2.1**
CTZ	**Chatham Island**	**6.90**	**109**	P			**Pn**	**22 31 58.7**	**+0.7**
ASAR	**Alice Springs**	**38.14**	**285**	P			**P**	**22 37 34.7**	**-1.4**
	0.6nm,0.3s,baz=118,slow=6.4,SNR=13								
	0.6nm,0.3s								
WRA	**Warramunga Arr**	**40.21**	**290**	P			**P**	**22 37 52.1**	**-1.3**
	1.0nm,0.3s,baz=130,slow=7.5,SNR=16								
	1.0nm,0.3s								
YKA	**Yellowknife Ar**	**118.37**	**30**	PKP			**PKPdf**	**22 49 03.1**	**+0.1**
	0.4nm,0.7s,baz=255,slow=2.2,SNR=6.1								
ARCES	**ARCESS Array B**	**147.86**	**340**	PKPbc			**PKPbc**	**22 49 59.5**	**-1.0**
	4.8nm,0.9s,baz=35,slow=4.4,SNR=7.4								
BRTR	**Keskin Array B**	**150.37**	**279**	PKPbc			**PKPbc**	**22 50 07.1**	**-0.8**
	0.4nm,0.8s,baz=90,slow=4.3,SNR=4.2								
FINES	**FINESS Array B**	**152.63**	**327**	PKPbc			**PKPbc**	**22 50 11.3**	**-0.9**
	1.3nm,0.8s,baz=66,slow=3.5,SNR=5.4								

HEL 22 23:03:40.0±0.3,**67.15N**×**20.62E**,**h0**km,**ML1.4, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ERTU	**Ertsjaerv**	**0.87**	**133**	PG			Pg	23 03 55.6	-0.9
PAJU	**Pajala**	**0.99**	**96**	PG			Pg	23 03 57.8	-1.1
PAJU				SG			Sg	23 04 10.7	-0.9
LANU	**Lannavaara**	**1.04**	**30**	PG			Pg	23 03 58.7	-1.2
LANU				SB			Sg	23 04 13.3	-0.1
KALU	**Kalix**	**1.70**	**139**	PN			Pn	23 04 10.7	-0.2
KALU				SN			Sb	23 04 34.2	+0.2
HEF	**Hetta**	**1.71**	**41**	PG			Pn	23 04 10.3	-0.8
HEF				MSG				23 04 31.1	
	comp=Z,2.4nm,0.2s								
HEF				SG			Sn	23 04 32.4	-1.2
TOF	**Tornio**	**1.83**	**124**	PG			Pn	23 04 12.8	+0.2
TOF				MSG				23 04 34.7	
	comp=Z,1.2nm,0.2s								
TOF				SG			Sb	23 04 37.4	-0.3
KIF	**Kilpisjarvi**	**1.86**	**2**	PG			Pb	23 04 14.1	-0.7
	baz=185								
KIF				MSG				23 04 36.5	
	comp=Z,3.4nm,0.2s								
KIF				SG			Sb	23 04 38.9	+0.3
KTK1	**Kautokeino**	**2.11**	**27**	PG			Pn	23 04 17.5	+1.0
KTK1				SG			Sb	23 04 45.1	-0.7
RNI	**Rovaniemi**	**2.20**	**102**	PG			Pn	23 04 18.6	+0.9
RNF				SG			Sb	23 04 47.9	-0.5
SGF	**Sodankyl**	**2.31**	**80**	PG			Pn	23 04 20.7	+1.4
SGF				SG			Sb	23 04 51.0	-0.5
ARA0	**ARCESS Array S**	**3.00**	**35**	PN			Pn	23 04 28.9	+0.1
ARA0				SN			Sn	23 05 05.0	-0.4

UPP 22 23:04:19.9±0.1,**67.18N**×**20.64E**,**h0**km,**ML1.8, Suspected explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DUNU	**Dundret**	**0.06**	**205**	P			Pg	23 04 21.3	+0.2
DUNU				S			Sg	23 04 22.4	+0.4
MASU	**Masugnsbyn**	**0.60**	**61**	P			Pg	23 04 31.0	-0.3
RATU	**Laukkuluspa**	**0.76**	**329**	P			Pg	23 04 34.3	-0.2
SALU	**Saltoluokta**	**0.85**	**285**	P			Pg	23 04 36.1	-0.1
ERTU	**Ertsjaerv**	**0.88**	**135**	P			Pg	23 04 36.9	+0.2
KALU	**Kalix**	**1.71**	**139**	P			Pb	23 04 51.6	-0.6

*SSNC **22** 23:04:44.8±1.2,19.73N×76.65W,h5km±5km,MD2.7, ML2.0,MW3.0*
*OSPL **22** 23:04:46.3±1.3,19.53N×76.52W,h8km±999km,ML2.0*
*JSN **22** 23:04:52.1±0.8,18.68N×76.50W,h158km±20km,MD3.6*
ISC 22 23:04:43.1±2.1,**19.7N**±0.1×**76.6W**±0.1,**h10**km±11km,**n16, s19/21,Cuba region**

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

PAJU	**Pajala**	**0.93**	**100**	PG	**Pb**	**23 11 02.8**	**-0.7**
PAJU				SG	**Sb**	**23 11 15.7**	**-0.7**
NIKU	**Nikkaluokta**	**0.95**	**315**	P	**Pg**	**23 11 02.4**	**-0.3**
LANU	**Lannavaara**	**0.96**	**28**	P	**Pb**	**23 11 03.6**	**-0.5**
LANU	**Lannavaara**	**0.96**	**28**	PG	**Pb**	**23 11 03.7**	**-0.5**
LANU				SB	**Sb**	**23 11 17.8**	**+0.4**
HARU	**Harads**	**1.05**	**176**	P	**Pg**	**23 11 03.8**	**-0.8**
HEF	**Hetta**	**1.63**	**41**	*eP*	**Pg**	**23 11 15.3**	**-0.4**
HEF				*eS*	**Sg**	**23 11 36.5**	**-0.2**
HEF	**Hetta**	**1.63**	**41**	PG	**Pg**	**23 11 15.2**	**-0.4**
HEF	comp=Z,3.2nm,0.2s			MSG		23 11 35.8	
HEF				SG	**Sg**	**23 11 36.6**	**-0.1**
KALU	**Kalix**	**1.70**	**142**	P	**Pb**	**23 11 16.0**	**-0.6**
KALU	**Kalix**	**1.70**	**142**	PG	**Pb**	**23 11 15.7**	**-0.9**
KALU	baz=318			SN	**Sg**	**23 11 39.0**	**-0.1**
SJUU	**Sjulsmark**	**1.74**	**169**	P	**Pb**	**23 11 17.1**	**-0.2**
KIF	**Kilpisjarvi**	**1.81**	**0**	*eP*	**Pg**	**23 11 19.3**	**+0.1**
KIF				*eS*	**Sg**	**23 11 43.4**	**+0.9**
KIF	**Kilpisjarvi**	**1.81**	**0**	PG	**Pg**	**23 11 18.8**	**-0.3**
KIF	baz=181 comp=Z,4.2nm,0.2s			MSG		23 11 41.2	
KIF				SG	**Sg**	**23 11 43.8**	**+1.2**
TOF	**Tornio**	**1.81**	**127**	PG	**Pb**	**23 11 17.9**	**-0.5**
TOF	comp=Z,3.2nm,0.2s			MSG		23 11 39.7	
TOF				SG	**Sg**	**23 11 42.5**	**0.0**
KTK1	**Kautokeino**	**2.03**	**26**	*eP*	**Pg**	**23 11 22.4**	**-1.0**
KTK1				*eS*	**Sg**	**23 11 48.7**	**-1.1**
KTK1	comp=Z,6.1nm,0.3s			IAML		23 11 52.7	
KTK1	**Kautokeino**	**2.03**	**26**	PG	**Pg**	**23 11 22.5**	**-1.0**
KTK1				SG	**Sg**	**23 11 49.1**	**-0.7**
FAUS	**Fauske**	**2.14**	**277**	*eP*	**Pb**	**23 11 23.0**	**-1.2**
FAUS				*eS*	**Sb**	**23 11 51.2**	**0.0**
FAUS	comp=Z,4.1nm,0.3s			IAML		23 11 52.8	
RNF	**Rovaniemi**	**2.15**	**104**	PG	**Pb**	**23 11 23.6**	**-0.7**
RNF				SG	**Sg**	**23 11 52.7**	**-0.7**
SGF	**Sodankyl**	**2.23**	**81**	PG	**Pb**	**23 11 25.4**	**-0.4**
SGF	baz=265			SG	**Sg**	**23 11 55.3**	**-1.0**
STEI	**Steigen**	**2.25**	**291**	*e*	**Pb**	**23 11 25.8**	**-0.2**
STEI				*eS*	**Sb**	**23 11 54.2**	**-0.1**
TRO	**Tromso**	**2.53**	**345**	SG	**Sg**	**23 12 04.8**	**-1.0**
MOR8	**Moi Rana**	**2.73**	**251**	*e*	**Pn**	**23 11 29.5**	**-0.1**
MOR8				*e*		23 12 04.1	
OUL	**Oulu**	**2.97**	**133**	SG	**Sb**	**23 12 16.8**	**+1.6**
UMAU	**Umeaa** baz=358	**3.34**	**181**	PN	**Pn**	**23 11 38.7**	**+0.8**
KEV	**Kevo**	**3.44**	**39**	*eS*	**Sn**	**23 12 21.5**	**+1.0**
KEV	**Kevo**	**3.44**	**39**	PG	**Pg**	**23 11 49.6**	**-0.7**
KEV				SN	**Sn**	**23 12 22.0**	**+1.5**
VRF	**Varrio**	**3.44**	**77**	SG	**Sb**	**23 12 31.0**	**+2.5**
MSF	**Maaselka**	**3.54**	**108**	SG	**Sg**	**23 12 35.7**	**-2.5**
KU6	**Riekki**	**3.82**	**104**	SN	**Sn**	**23 12 31.8**	**+1.8**

PGC 22 23:12:00.8±14.0, 50°27'N×130°21'W, h10km, MLSn2.9/11, Mw3.6/11, 203km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.38**	**74**	Pn	Pn	23 12 23.7	-2.4
HOLB				Sn	Sb	23 12 40.4	-3.8
PACB	**Port Alice, BC**	**1.75**	**84**	Pn	Pn	23 12 28.9	-2.2
PACB				Sn	Sn	23 12 48.9	-4.4
MAYB	**Maynard**	**1.95**	**85**	Pn	Pn	23 12 32.2	-1.8
MAYB				Sn	Sn	23 12 53.6	-4.9
HG4B	**Hotspring**	**2.12**	**343**	Pn	Pn	23 12 34.1	-2.1
BBB	**Bella Bella**	**2.33**	**34**	Pn	Pn	23 12 37.8	-1.3
BBB				Sn	Sn	23 13 04.4	-3.2
WOSB	**Woss**	**2.34**	**91**	Pn	Pn	23 12 38.3	-1.0
BNB	**Barry Inlet**	**2.50**	**338**	Pn	Pn	23 12 39.5	-2.1
NCRB	**Newcastle Ridg**	**2.66**	**86**	Pn	Pn	23 12 42.0	-1.8
NCRB				Sn	Sn	23 13 13.6	-2.6
BNKB	**Banks Island**	**3.07**	**3**	Pn	Pn	23 12 47.9	-1.4
BNAB	**Bonilla**	**3.24**	**355**	Pn	Pn	23 12 49.6	-2.0
DIB	**Dawson Inlet,**	**3.26**	**335**	Pn	Pn	23 12 50.8	-1.1
GRNB	**Grenville Isla**	**3.59**	**2**	Pn	Pn	23 12 55.6	-0.8
KITB	**Kitimat**	**3.93**	**14**	Pn	Pn	23 13 01.5	+0.4
UBRB	**Upper Baezaeko**	**4.63**	**53**	Pn	Pn	23 13 11.9	+1.0
FSB	**Fort Saint Jam**	**5.54**	**38**	Pn	Pn	23 13 21.9	-1.3
FSJB	**Fort St James**	**5.54**	**39**	Pn	Pn	23 13 22.8	-0.5

*IDC **22** 23:14:26.8±6.8, 37°06'N×142°10'E, h0km, mb3.4/2, mbtmp3.3/3, ML2.3/1, Error ellipse: s-maj=115.9km s-min=48.5km az=141.0*
*JMA **22** 23:14:32.6±0.2, 37°4N±0°4×141°6E±0°8, h30km±1km, MV3.4/36, E OFF FUKUSHIMA PREF*
ISC 22 23:14:31.2±2.3, 37°35N±0°05×141°67E±0°09, h12km±11km, n19, σ1s04/24, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.63**	**272**	*i* P	**Pg**	**23 14 44.2**	**+0.6**
JFK				S	**Sg**	**23 14 52.0**	**0.0**
JMST	**Minamisoumatoc**	**0.72**	**301**	*i* P	**Pg**	**23 14 45.4**	**+0.1**
JMST				S	**Sg**	**23 14 54.5**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.74**	**251**	*i* P	**Pg**	**23 14 46.0**	**+0.4**
ONAJ				S	**Sg**	**23 14 55.5**	**+0.3**
JMM	**Marumori**	**0.87**	**307**	*i* P	**Pb**	**23 14 47.7**	**-0.5**
JMM				S	**Sb**	**23 14 58.5**	**-1.3**
JFFD	**Fukushimafurud**	**0.92**	**254**	P	**Pb**	**23 14 48.7**	**-0.5**
JFFD				S	**Sb**	**23 15 00.1**	**-1.3**
JIO	**Ouri**	**1.13**	**347**	P	**Pb**	**23 14 52.0**	**-0.7**
JIO				*eS*	**Sb**	**23 15 05.4**	**-1.9**
JHO	**Hitachi**	**1.15**	**230**	*eP*	**Pn**	**23 14 51.9**	**-1.3**
JHO				S	**Sb**	**23 15 07.0**	**-0.9**
JOU	**Okura**	**1.29**	**322**	⇓*iP*	**Pn**	**23 14 55.1**	**0.0**
JOU				⇓S	**Sb**	**23 15 11.4**	**-0.6**
JYS	**Shirataka**	**1.54**	**305**	P	**Pb**	**23 14 59.6**	**-0.1**
JYS				S	**Sb**	**23 15 18.9**	**-0.2**
JFY	**Yanaizu**	**1.57**	**273**	P	**Pn**	**23 14 59.3**	**+0.4**
JFY				S	**Sb**	**23 15 19.4**	**-0.6**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=81,slow=17,SNR=10	**2.89**	**255**	Pn	**Pn**	**23 15 18.4**	**+1.3**
MJAR	0.3nm,0.3s,baz=306,slow=8.4,SNR=4.0 1.5nm,0.3s			Sn	**Sb**	**23 15 55.6**	**-2.3**
SONM	**Songino Array** 0.2nm,0.3s,baz=98,slow=8.9,SNR=2.0 0.2nm,0.3s	**27.78**	**303**	P	**P**	**23 20 21.3**	**+1.3**
H11N2	**WAKE ISLAND Hy** baz=314	**28.14**	**122**	T	T	23 49 48.5	
H11N1	**WAKE ISLAND Hy** baz=314,slow=74	**28.14**	**122**	T	T	23 49 53.4	
H11N3	**WAKE ISLAND Hy** baz=314,slow=74	**28.16**	**122**	T	T	23 49 52.7	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=6.0	**28.86**	**124**	T	T	23 50 43.7	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=6.7	**28.86**	**124**	T	T	23 50 44.1	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=5.6	**28.88**	**124**	T	T	23 50 46.8	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=92,slow=9.7,SNR=5.4 0.3nm,0.6s	**44.12**	**302**	P	**P**	**23 22 40.2**	**+0.8**

PGC 22 23:26:47.7±19.0, 50°26N×130°22W, h10km, MLSn2.9/9, Mw3.5/9, 204km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.39**	**73**	Pn	Pn	23 27 11.0	-2.1
PACB	**Port Alice, BC**	**1.75**	**83**	Pn	Pn	23 27 15.2	-2.9
PACB				Sn	Sn	23 27 35.8	-4.7
MAYB	**Maynard**	**1.96**	**85**	Pn	Pn	23 27 19.2	-1.9
MAYB				Sn	Sn	23 27 40.0	-5.7
HG4B	**Hotspring**	**2.13**	**344**	Pn	Pn	23 27 19.7	-3.6
BBB	**Bella Bella**	**2.34**	**34**	Pn	Pn	23 27 24.5	-1.6
BBB				Sn	Sn	23 27 50.9	-4.0
WOSB	**Woss**	**2.34**	**91**	Pn	Pn	23 27 25.3	-1.1
BNB	**Barry Inlet**	**2.52**	**338**	Pn	Pn	23 27 26.3	-2.4
NCRB	**Newcastle Ridg**	**2.67**	**85**	Pn	Pn	23 27 29.5	-1.4
NCRB				Sn	Sn	23 27 59.6	-3.7
BNKB	**Banks Island**	**3.09**	**4**	Pn	Pn	23 27 35.1	-1.3
MOBC	**Moresby Island**	**3.09**	**340**	Pn	Pn	23 27 35.6	-1.0
BNAB	**Bonilla**	**3.25**	**356**	Pn	Pn	23 27 36.2	-2.5
DIB	**Dawson Inlet,**	**3.27**	**335**	Pn	Pn	23 27 37.5	-1.4
GRNB	**Grenville Isla**	**3.60**	**2**	Pn	Pn	23 27 41.4	-2.1
KITB	**Kitimat**	**3.95**	**14**	Pn	Pn	23 27 47.5	-0.7
UBRB	**Upper Baezaeko**	**4.65**	**53**	Pn	Pn	23 27 58.1	+0.1
FSB	**Fort Saint Jam**	**5.56**	**38**	Pn	Pn	23 28 10.6	+0.2
FSB				Sn	Sn	23 29 12.9	-1.4
FSJB	**Fort St James**	**5.56**	**38**	Pn	Pn	23 28 10.0	-0.4
FSJB				Sn	Sn	23 29 11.8	-2.5

*PGC **22** 23:41:48.8±12.0, 50°17N×130°33W, h10km, MLSn3.2/13, Mw3.9/13, 214km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **22** 23:41:52.4±1.7, 50°56N×130°27W, h0km, mb3.6/2, mbtmp3.3/9, ML3.4/7, MS3.3/4, Error ellipse: s-maj=23.4km s-min=15.5km az=63.0*
ISC 22 23:41:49.7±3.0, 50°35N±0°07×130°15W±0°07, h1km±19km, n44, σ2s18/39, MS3.4/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.32**	**77**	Pn	**Pn**	**23 42 13.4**	**-1.9**
HOLB				Sn	**Sg**	**23 42 29.8**	**-2.3**
PACB	**Port Alice, BC**	**1.70**	**86**	Pn	Pn	23 42 18.0	-2.5
PACB				Sn	**Sn**	**23 42 37.9**	**-5.0**
MAYB	**Maynard**	**1.90**	**87**	Pn	Pn	23 42 20.9	-2.6
HG4B	**Hotspring**	**2.05**	**342**	Pn	**Pn**	**23 42 28.2**	**-2.5**
HG4B				Sn	**Sn**	**23 42 48.7**	**-2.9**
BBB	**Bella Bella** 19nm,0.3s,baz=233,slow=14,SNR=79	**2.24**	**34**	Pn	**Pn**	**23 42 27.4**	**-0.5**
BBB	21nm,0.3s,baz=150,slow=21,SNR=23 52nm,0.3s			Sn	**Sn**	**23 42 53.9**	**-2.1**
BBB	**Bella Bella**	**2.24**	**34**	Pn	**Pn**	**23 42 27.1**	**-0.7**
BBB				Sn	**Sn**	**23 42 53.3**	**-2.8**
WOSB	**Woss**	**2.30**	**93**	Pn	**Pn**	**23 42 26.7**	**-2.2**
BNB	**Barry Inlet**	**2.44**	**336**	Pn	**Pn**	**23 42 28.4**	**-2.5**
NCRB	**Newcastle Ridg**	**2.62**	**87**	Pn	**Pn**	**23 42 31.9**	**-1.4**
BNKB	**Banks Island**	**2.99**	**3**	Pn	**Pn**	**23 42 37.3**	**-1.0**
MOBC	**Moresby Island**	**3.02**	**339**	Pn	**Pn**	**23 42 37.5**	**-1.2**
CBB	**Campbell River**	**3.09**	**94**	Pn	**Pn**	**23 42 37.9**	**-1.7**
CBB				Sn	**Sn**	**23 43 12.8**	**-4.3**
BNAB	**Bonilla**	**3.16**	**355**	Pn	**Pn**	**23 42 39.5**	**-1.1**
DIB	**Dawson Inlet,**	**3.20**	**334**	Pn	**Pn**	**23 42 39.1**	**-2.0**
GRNB	**Grenville Isla**	**3.50**	**2**	Pn	**Pn**	**23 42 44.4**	**-0.9**
GRNB				Sn	**Sn**	**23 43 25.5**	**-1.9**
TXB	**Texada**	**3.74**	**98**	Pn	**Pn**	**23 42 48.3**	**-0.2**
MGB	**Mount Grey**	**3.79**	**109**	Pn	Pn	23 42 45.5	-3.8
KITB	**Kitimat**	**3.85**	**13**	Pn	**Pn**	**23 42 49.7**	**-0.3**
KITB				Sn	**Sn**	**23 43 35.0**	**-0.7**
RUBB	**Prince Rupert**	**3.98**	**359**	Pn	**Pn**	**23 42 51.1**	**-0.7**
SHB	**Sechelt**	**4.12**	**98**	Pn	**Pn**	**23 42 54.5**	**+0.7**
UBRB	**Upper Baezaeko**	**4.55**	**54**	Pn	**Pn**	**23 43 01.0**	**+1.2**
LLLB	**Lillooet**	**5.28**	**84**	Pn	**Pn**	**23 43 08.7**	**-1.1**
VDB	**Vedder Mountai**	**5.39**	**101**	Pn	**Pn**	**23 43 11.8**	**+0.6**
FSB	**Fort Saint Jam**	**5.45**	**38**	Pn	**Pn**	**23 43 12.7**	**+0.5**
FSJB	**Fort St James**	**5.45**	**39**	Pn	**Pn**	**23 43 12.9**	**+0.8**
FSJB				Sn	**Sn**	**23 44 13.2**	**-2.2**
MBW	**Mount Baker**	**5.59**	**103**	Pn	**Pn**	**23 43 13.8**	**-0.4**
DLBC	**Dease Lake** 0.2nm,0.3s,baz=196,slow=16,SNR=4.3 1.2nm,0.5s	**8.10**	**0**	Pn	**Pn**	**23 43 49.5**	**+1.0**
NBC5	**NorthernBC 5**	**8.42**	**29**	Pn	**Pn**	**23 43 54.5**	**+1.6**
NEW	**Newport** 0.2nm,0.3s,baz=285,slow=16,SNR=1.8 0.5nm,0.3s	**8.76**	**99**	Pn	**Pn**	**23 44 01.8**	**+4.2**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=355,slow=10,SNR=4.3 0.3nm,0.3s	**14.60**	**140**	Pn	**P**	**23 45 25.4**	**+1.3**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=217,slow=12,SNR=7.2 0.3nm,0.6s	**14.84**	**29**	Pn	Pn	23 45 18.1	-2.4
PDAR	**Pinedale Array** baz=313,slow=11,SNR=2.0 0.2nm,0.7s	**16.03**	**110**	Pn	**P**	**23 45 42.7**	**+2.6**
ILAR	**Eielson Array** baz=157,slow=13,SNR=2.8	**16.93**	**335**	Pn	**Pn**	**23 45 48.2**	**+0.7**
ILAR	comp=Z,87nm,18.6s,baz=104,slow=36 0.2nm,0.9s			LR	LR	23 52 02.2	
ULM	**Lac du Bonnet** 2.8nm,0.9s,baz=294,slow=8.7,SNR=4.1 2.8nm,0.9s	**21.78**	**77**	P	**P**	**23 46 46.8**	**+4.1**
TXAR	**Lajitas Array** comp=Z,58nm,20.0s,baz=238,slow=37	**28.96**	**126**	LR	LR	23 59 47.9	
SFJD	**Kangerlussuaq** comp=Z,58nm,18.4s,baz=160,slow=38	**41.25**	**36**	LR	LR	00 07 57.8	
H11N2	**WAKE ISLAND Hy** baz=42,slow=76,SNR=32	**57.86**	**262**	T	T	00 54 18.6	
H11N3	**WAKE ISLAND Hy** baz=42,slow=76,SNR=26	**57.86**	**262**	T	T	00 54 16.6	
H11N1	**WAKE ISLAND Hy** baz=42,slow=76,SNR=22	**57.87**	**262**	T	T	00 54 17.7	
H11S1	**WAKE ISLAND Hy** baz=42,slow=74,SNR=3.9	**58.88**	**261**	T	T	00 55 35.2	
H11S2	**WAKE ISLAND Hy** baz=42,slow=74,SNR=3.7	**58.89**	**261**	T	T	00 55 37.1	
H11S3	**WAKE ISLAND Hy** baz=42	**58.90**	**261**	T	T	00 55 41.7	
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=58,slow=4.7,SNR=3.7 0.4nm,0.8s	**79.25**	**338**	P	P	23 53 57.5	+1.1
GNI	**Garni** comp=Z,14nm,21.6s,baz=348,slow=37	**89.77**	**4**	LR	LR	00 37 32.8	

IDC 22 23:54:33.6±1.5, 0°53N×123°41E, h0km, mb3.7/3, mbtmp3.8/3, Error ellipse: s-maj=152.9km s-min=25.6km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.6nm,0.4s,baz=333,slow=10,SNR=48 1.6nm,0.4s	**22.99**	**153**	P	P	23 59 40.0	-0.1
SONM	**Songino Array** 0.6nm,0.7s,baz=154,slow=7.1,SNR=4.7 0.6nm,0.7s	**49.39**	**345**	P	P	00 03 26.0	+0.8
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=119,slow=8.9,SNR=10.0 0.4nm,0.4s	**58.39**	**328**	P	P	00 04 30.4	-0.6

IDC 23 00:12:41.1±2.5, 6°88S×154°98E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=118.3km s-min=32.2km az=127.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=56,slow=9.6,SNR=2.3 0.4nm,0.8s	**23.88**	**235**	P	P	00 17 56.3	-0.3
ASAR	**Alice Springs** 0.3nm,0.7s,baz=63,slow=8.8,SNR=3.2 0.3nm,0.7s	**26.24**	**228**	P	P	00 18 17.1	-1.0
ILAR	**Eielson Array** 0.2nm,0.8s,baz=248,slow=5.8,SNR=1.5 0.2nm,0.8s	**83.27**	**22**	P	P	00 25 07.9	-1.4
MKAR	**Makanchi Array** 0.2nm,0.8s,baz=92,slow=4.6,SNR=1.4 0.2nm,0.8s	**83.31**	**319**	P	P	00 25 10.4	+0.5
TORD	**Torodi Ar. Bea** 3.1nm,0.3s,baz=97,slow=2.6,SNR=1.4	**152.98**	**285**	PKPbc	PKiKP	00 32 43.6	+1.9

*DNK **23** 00:24:33.7±0.4, 67°83N×20°21E, h0km, ML2.8(UPP), Explosion*
*UPP **23** 00:24:33.3±0.1, 67°83N×20°20E, h0km, ML2.8, Suspected explosion*
ISC 23 00:24:33.1±0.8, 67°82N±0°02×20°30E±0°02, h0km, n45, σ1s60/43, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.27**	**271**	P	**Pg**	**00 24 37.9**	**-0.3**
RATU				S	**Sg**	**00 24 41.5**	**-0.3**
RATU	**Laukkuluspa**	**0.27**	**271**	P	**Pg**	**00 24 37.9**	**-0.3**
RATU				S	**Sg**	**00 24 41.5**	**-0.3**
NIKU	**Nikkaluokta**	**0.48**	**276**	P	**Pg**	**00 24 41.8**	**-0.5**
NIKU	**Nikkaluokta**	**0.48**	**276**	P	**Pg**	**00 24 41.8**	**-0.5**
LANU	**Lannavaara**	**0.68**	**69**	P	**Pg**	**00 24 46.6**	**+0.6**
LANU	**Lannavaara** baz=264	**0.68**	**69**	PG	**Pg**	**00 24 46.4**	**+0.4**
DUNU	**Dundret**	**0.71**	**172**	P	**Pg**	**00 24 46.9**	**+0.2**
DUNU	**Dundret**	**0.71**	**172**	P	**Pg**	**00 24 46.9**	**+0.2**
MASU	**Masugnsbyn**	**0.74**	**119**	P	**Pb**	**00 24 48.2**	**-0.7**
MASU	**Masugnsbyn**	**0.74**	**119**	P	**Pb**	**00 24 48.2**	**-0.7**
SALU	**Saltoluokta**	**0.82**	**238**	P	**Pg**	**00 24 48.1**	**-0.6**
SALU	**Saltoluokta**	**0.82**	**238**	P	**Pg**	**00 24 48.1**	**-0.6**
KIF	**Kilpisjarvi**	**1.20**	**9**	*eP*	**Pb**	**00 24 56.3**	**-0.4**
KIF	**Kilpisjarvi**	**1.20**	**9**	SG	**Sb**	**00 25 12.4**	**-0.4**
KIF	**Kilpisjarvi** comp=Z,11nm,0.2s	**1.20**	**9**	MSG		00 25 12.1	
KIF	**Kilpisjarvi**	**1.20**	**9**	PG	**Pb**	**00 24 56.5**	**-0.2**
PAJU	**Pajala**	**1.35**	**125**	P	**Pg**	**00 24 58.6**	**-0.2**
PAJU	**Pajala**	**1.35**	**125**	P	**Pg**	**00 24 58.6**	**-0.2**
HEF	**Hetta**	**1.39**	**63**	*eP*	**Pg**	**00 24 59.4**	**-0.3**
HEF	**Hetta** comp=Z,3.9nm,0.2s	**1.39**	**63**	MSG		00 25 12.1	
HEF	**Hetta**	**1.39**	**63**	SG	**Sg**	**00 25 11.8**	**-5.8**
HEF	**Hetta** baz=249	**1.39**	**63**	PB	**Pg**	**00 24 59.5**	**-0.2**
ERTU	**Ertsjaerv**	**1.47**	**149**	P	**Pn**	**00 25 00.8**	**0.0**
ERTU	**Ertsjaerv**	**1.47**	**149**	P	**Pn**	**00 25 00.8**	**0.0**
ERTU	**Ertsjaerv**	**1.47**	**149**	SG	**Sn**	**00 25 22.8**	**+2.1**
KTK1	**Kautokeino**	**1.62**	**41**	PG	**Pn**	**00 25 03.0**	**+0.2**
HARU	**Harads**	**1.69**	**171**	P	**Pn**	**00 25 04.3**	**+0.5**
HARU	**Harads**	**1.69**	**171**	P	**Pn**	**00 25 04.3**	**+0.5**
TRO	**Tromso**	**1.89**	**345**	SG	**Sb**	**00 25 32.5**	**+0.1**
TRO	**Tromso** baz=158	**1.89**	**345**	PG	**Pg**	**00 25 12.6**	**+3.4**
TOF	**Tornio**	**2.36**	**136**	SB	**Sg**	**00 25 48.4**	**-0.3**
TOF	**Tornio** comp=Z,3.6nm,0.2s	**2.36**	**136**	MSG		00 25 47.5	
TOF	**Tornio**	**2.36**	**136**	PG	**Pg**	**00 25 22.0**	**+3.8**
SGF	**Sodankyl**	**2.41**	**96**	PB	**Pb**	**00 25 16.4**	**-0.8**
RNF	**Rovaniemi**	**2.53**	**116**	SG	**Sb**	**00 25 52.7**	**+1.6**
RNF	**Rovaniemi** baz=306	**2.53**	**116**	PN	**Pb**	**00 25 17.9**	**-1.5**
ARA0	**ARCESS Array S** baz=229	**2.57**	**45**	PB	**Pb**	**00 25 18.3**	**-1.6**
KEV	**Kevo**	**3.12**	**48**	SG	**Sn**	**00 26 03.4**	**+2.1**
KEV	**Kevo** comp=Z,3.0nm,0.2s	**3.12**	**48**	MSG		00 26 01.8	
VRF	**Varrio**	**3.54**	**87**	PG	**Pg**	**00 25 38.6**	**-2.2**
VRF	**Varrio**	**3.54**	**87**	SG	**Sb**	**00 26 22.0**	**+2.1**
MSF	**Maaselka**	**3.94**	**115**	PB	**Pb**	**00 25 42.3**	**-1.1**
UMAU	**Umeaa**	**3.96**	**178**	SN	**Sb**	**00 26 29.4**	**-2.6**
KU6	**Riekki**	**4.18**	**111**	PG	**Pb**	**00 25 49.1**	**+1.7**

*HEL **23** 00:24:39.4±0.3, 67°98N×21°04E, h0km, ML1.7, Explosion*
UPP 23 00:24:38.6±0.1, 67°86N×20°19E, h0km, ML2.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**262**	P	Pg	00 24 43.2	+0.2
RATU				S	Sg	00 24 46.5	+0.6
NIKU	**Nikkaluokta**	**0.44**	**272**	P	Pg	00 24 47.0	0.0
NIKU				S	Sg	00 24 53.1	+0.5
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	00 24 52.0	-0.1
LANU	**Lannavaara**	**0.70**	**73**	SG	Sg	00 24 51.9	-9.3
DUNU	**Dundret**	**0.75**	**169**	P	Pg	00 24 52.9	-0.1
SALU	**Saltoluokta**	**0.80**	**234**	P	Pg	00 24 53.6	-0.4
PAJU	**Pajala**	**1.40**	**125**	P	Pn	00 25 04.0	-1.4
PAJU				S	Sg	00 25 22.2	-1.4
PAJU	**Pajala**	**1.40**	**125**	SN	Sg	00 25 22.5	-1.1
PAJU	**Pajala**	**1.40**	**125**	PN	Pn	00 25 04.0	-1.4
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	00 25 06.4	-0.6
ERTU	**Ertsjaerv**	**1.52**	**148**	PG	Pn	00 25 06.6	-0.4
KALU	**Kalix**	**2.36**	**147**	P	Pn	00 25 19.3	+0.7
KALU	**Kalix**	**2.36**	**147**	PB	Pn	00 25 19.4	+0.8
KALU	**Kalix**	**2.36**	**147**	SB	Sn	00 25 48.1	-0.1

*IDC **23** 00:44:19.9±1.2, 5°58S×152°80E, h0km, mb3.8/7, mbtmp3.8/8, ML2.4/1, Error ellipse: s-maj=32.9km s-min=19.2km az=105.0*
*NEIC **23** 00:44:24.3±1.1, 5°55S±0°1×152°7E±0°1, h13km±6km, mb4.3/7, Error ellipse: s-maj=21.7km s-min=12.1km az=116.0*
ISC 23 00:44:23.4±0.9, 5°57S±0°08×152°6E±0°1, h10km, n19, σ1s38/18, mb4.1/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** baz=190,slow=0.4	**1.38**	**335**	Pn	**Pn**	**00 44 49.2**	**+0.4**
KRVT	baz=198,slow=20			Sn	**Sn**	**00 45 07.2**	**+0.1**
RABL	**Rabaul**	**1.44**	**342**		**Pn**	**00 44 49.7**	**+0.1**
PMG	**Port Moresby** 4.3nm,0.3s,baz=271,slow=14,SNR=2.9	**6.61**	**234**	Pn	Pn	00 45 58.7	-2.0
PMG	6.4nm,0.3s,baz=92,slow=15,SNR=7.6 9.3nm,0.4s			Sn	**Sn**	**00 47 15.0**	**-1.1**
WB0	**Warramunga Arr**	**22.65**	**230**	P	**P**	**00 49 25.0**	**0.0**
WB0	comp=Z,6.5nm,1.1s			IAmb	IAmb	00 49 32.7	
WR0	**Warramunga Arr**	**22.65**	**229**	P	**P**	**00 49 25.2**	**+0.2**
WR0	comp=Z,15nm,1.5s			IAmb	IAmb	00 50 00.2	
WRAB	**Tennant Creek**	**22.78**	**230**	P	**P**	**00 49 27.1**	**+0.7**
WRAB	comp=Z,9.3nm,0.9s			IAmb	IAmb	00 49 31.9	
WB2	**Warramunga Arr**	**22.79**	**230**	P	**P**	**00 49 26.4**	**0.0**
WB2	comp=Z,12nm,1.5s			IAmb	IAmb	00 50 06.4	
WRA	**Warramunga Arr** comp=Z,0.9nm,0.6s,baz=51,slow=10.0,SNR=10 comp=Z,0.9nm,0.6s	**22.80**	**230**	P	**P**	**00 49 25.8**	**-0.7**
**ASA

URZ	**Urewera**	**14.19**	**189**	P		**P**	**01 01 33.5**	**+0.2**
	3.6nm,0.5s,baz=193,slow=22,SNR=1.2								
URZ				S		**S**	**01 03 59.2**	**-3.6**
	14nm,1.1s,baz=197,slow=16,SNR=1.9								
BKZ	**Black Stump Fm**	**15.17**	**190**	P		**P**	**01 01 44.1**	**+0.4**
BKZ				IAmb		IAmb	01 01 49.3		
	comp=Z,2.9nm,0.9s								
BFZ	**Birch Farm**	**16.69**	**190**	P		**P**	**01 01 58.4**	**-0.7**
LTZ	**Lake Taylor**	**19.56**	**197**	P		**P**	**01 02 26.4**	**+0.7**
LTZ	**Lake Taylor**	**19.56**	**197**	P		**P**	**01 02 26.2**	**+0.6**
CTA	**Charters Tower**	**31.48**	**271**	P		**P**	**01 04 11.8**	**+0.5**
	comp=Z,10nm,0.3s,baz=92,slow=12,SNR=31								
	comp=Z,10nm,0.3s								
CTAO	**Charters Tower**	**31.48**	**271**	P		**P**	**01 04 11.9**	**+0.5**
BBOO	**Buckleboo**	**39.32**	**247**	P		**P**	**01 05 15.7**	**-0.6**
BBOO				IAmb		IAmb	01 05 20.5		
	comp=Z,2.3nm,1.0s								
ASAR	**Alice Springs**	**41.99**	**261**	P		**P**	**01 05 37.6**	**-0.2**
	comp=Z,11nm,0.3s,baz=94,slow=7.2,SNR=7.2								
	comp=Z,11nm,0.3s								
WR0	**Warramunga Arr**	**42.20**	**267**	P		**P**	**01 05 39.0**	**-0.6**
WR0				IAmb		IAmb	01 05 39.3		
	comp=Z,2.1nm,0.6s								
WB2	**Warramunga Arr**	**42.38**	**267**	P		**P**	**01 05 40.4**	**-0.5**
WB2				IAmb		IAmb	01 05 40.8		
	comp=Z,3.2nm,0.5s								
WB0	**Warramunga Arr**	**42.39**	**267**	P		**P**	**01 05 40.4**	**-0.6**
WB0				IAmb		IAmb	01 05 57.5		
	comp=Z,7.3nm,1.1s								
WRA	**Warramunga Arr**	**42.39**	**267**	P		**P**	**01 05 40.5**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=91,slow=6.2,SNR=40								
	comp=Z,2.3nm,0.5s								
WRA	**Warramunga Arr**	**42.39**	**267**	P		**P**	**01 05 40.1**	**-0.9**
FORT	**Forrest**	**46.20**	**250**	P		**P**	**01 06 09.8**	**-0.5**
FORT				IAmb		IAmb	01 06 25.1		
	comp=Z,14nm,1.0s								
VNDA	**Vanda**	**54.04**	**185**	P		**P**	**01 07 09.3**	**+2.3**
	comp=Z,1.3nm,1.0s,baz=23,slow=9.1,SNR=2.4								
	comp=Z,1.3nm,1.0s								
VNDA	**Vanda**	**54.04**	**185**	P		**P**	**01 07 07.0**	**0.0**
TXAR	**Lajitas Array**	**90.61**	**58**	P		**P**	**01 10 41.8**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=206,slow=6.5,SNR=5.6								
	comp=Z,0.6nm,0.7s								
ARCES	**ARCESS Array B**	**132.22**	**348**	PKP		**PKiKP**	**01 16 46.5**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=45,slow=5.2,SNR=1.3								
AKASG	**Malin Array Be**	**145.26**	**327**	PKPbc		**PKPbc**	**01 17 11.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=48,slow=3.2,SNR=4.6								
BRTR	**Keskin Array B**	**147.79**	**307**	PKPbc		**PKiKP**	**01 17 19.5**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=139,slow=3.3,SNR=2.7								
CLL	**Collm**	**151.19**	**343**	*i* PKPbc		**PKiKP**	**01 17 27.6**	**+0.9**

*NEIC **23** 01:00:28.8±1.2, 10.73S±0.07×162.0E±0.1, h31km±4km, mb4.5/31, Error ellipse: s-maj=15.6km s-min=9.3km az=73.0*
*IDC **23** 01:00:31.5±2.6, 10.73S×161.86E, h57km±24km, mb3.7/6, mbtmp4.1/9, ML4.9/4, MS3.4/12, Error ellipse: s-maj=23.9km s-min=20.0km az=71.0*
ISC 23 01:00:29.1±0.6, 10.74S±0.08×162.06E±0.08, h35km, n66, σ1$31/53, mb4.5/24, MS3.5/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.46**	**302**	P		**Pn**	**01 01 07.3**	**+0.7**
	3μm,0.3s,baz=176,slow=10,SNR=20							
HNR				S		**Sn**	**01 01 39.1**	**+3.6**
	43μm,0.6s,baz=301,slow=21,SNR=18							
HNR	**Honiara**	**2.46**	**302**			**Pn**	**01 01 06.0**	**-0.7**
KOUNC	**Koumac, New Ca**	**9.99**	**168**	Pn		**Pn**	**01 02 50.4**	**+0.3**
LIFNC	**LIFOU**	**11.15**	**154**	Pn		**Pn**	**01 03 05.3**	**-0.8**
DZM	**Mont Dzumac**	**12.02**	**160**	P		**Pn**	**01 03 20.1**	**+2.0**
	1.9nm,0.3s,baz=343,slow=19,SNR=29							
DZM				LR		LR	01 07 05.7	
	comp=Z,167nm,21.9s,baz=240,slow=33							
	4.0nm,0.3s							
DZM	**Mont Dzumac**	**12.02**	**160**	Pn		**Pn**	**01 03 17.5**	**-0.6**
MARNC	**Mare, Loyalty**	**12.12**	**153**	Pn		**Pn**	**01 03 18.8**	**-0.5**
OUENC	**Ouen Island, N**	**12.48**	**159**	Pn		**Pn**	**01 03 24.0**	**-0.3**
PINNC	**Pines Island,**	**12.88**	**157**	Pn		**Pn**	**01 03 32.8**	**+3.1**
PMG	**Port Moresby**	**14.73**	**274**	LR		LR	01 09 37.5	
	comp=Z,198nm,18.2s,baz=100,slow=38							
TARA	**Tarawa**	**16.16**	**43**	Pn		**Pn**	**01 04 13.3**	**-0.3**
MSVF	**Nonsavu**	**16.98**	**116**	P		**P**	**01 04 27.5**	**+1.8**
	0.2nm,0.3s,baz=270,slow=17,SNR=4.2							
MSVF				LR		LR	01 10 49.8	
	comp=Z,113nm,19.7s,baz=216,slow=36							
	1.2nm,0.4s							
CTA	**Charters Tower**	**17.83**	**237**	P		**Pn**	**01 04 35.5**	**+0.9**
	1.3nm,0.3s,baz=60,slow=12,SNR=14							
CTA				LR		LR	01 10 01.2	
	comp=Z,46nm,18.4s,baz=82,slow=32							
	15nm,0.7s							
CTAO	**Charters Tower**	**17.83**	**237**			**Pn**	**01 04 34.9**	**+0.3**
EIDS	**Eidsvold**	**17.89**	**214**			**Pn**	**01 04 35.6**	**+0.3**
ARMA	**Armidale**	**21.85**	**205**	P		**P**	**01 05 18.6**	**-0.2**
AFI	**Afiamalu**	**25.75**	**100**	LR		LR	01 14 14.9	
	comp=Z,122nm,19.5s,baz=281,slow=32							
WR0	**Warramunga Arr**	**28.04**	**248**	P		**P**	**01 06 15.9**	**-1.4**
WB0	**Warramunga Arr**	**28.12**	**248**	P		**P**	**01 06 17.1**	**-1.0**
WB0				IAmb		IAmb	01 06 23.8	
	comp=Z,10nm,1.2s							
WB2	**Warramunga Arr**	**28.21**	**248**	P		**P**	**01 06 16.0**	**-2.8**
WRA	**Warramunga Arr**	**28.22**	**248**	P		**P**	**01 06 17.3**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=78,slow=8.9,SNR=5.9							
WRA				LR		LR	01 17 04.1	
	comp=Z,119nm,18.6s,baz=62,slow=35							
	comp=Z,1.1nm,0.7s							
STKA	**Stephens Creek**	**28.29**	**219**	P		**P**	**01 06 20.8**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=29,slow=13,SNR=1.9							
STKA				LR		LR	01 17 42.7	
	comp=Z,172nm,18.3s,baz=28,slow=37							
H11S2	**WAKE ISLAND Hy**	**29.41**	**9**	T		T	01 37 11.0	
	baz=189,slow=76,SNR=46							
H11S3	**WAKE ISLAND Hy**	**29.41**	**9**	T		T	01 37 11.2	
	baz=189,slow=76,SNR=45							
H11S1	**WAKE ISLAND Hy**	**29.42**	**9**	T		T	01 37 19.5	
	baz=189,slow=76,SNR=45							
ASAR	**Alice Springs**	**29.74**	**241**	P		**P**	**01 06 29.9**	**-2.5**
	comp=Z,0.6nm,0.4s,baz=66,slow=9.6,SNR=2.8							
URZ	**Urewera**	**30.54**	**156**	LR		LR	01 17 35.9	
	comp=Z,101nm,18.0s,baz=56,slow=33							
H11N1	**WAKE ISLAND Hy**	**30.63**	**9**	T		T	01 38 44.1	
	baz=188,slow=76,SNR=29							
H11N3	**WAKE ISLAND Hy**	**30.64**	**9**	T		T	01 38 43.8	
	baz=188,slow=76,SNR=36							
H11N2	**WAKE ISLAND Hy**	**30.65**	**9**	T		T	01 38 44.7	
	baz=188,slow=76,SNR=28							
BBOO	**Buckleboo**	**32.47**	**223**	P		**P**	**01 06 55.9**	**-0.4**
BBOO				IAmb		IAmb	01 07 24.7	
	comp=Z,8.5nm,1.1s							
KNRA	**Kununurra**	**32.76**	**258**	P		**P**	**01 06 57.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**35.97**	**254**	P		**P**	**01 07 24.9**	**-2.0**
FORT	**Forrest**	**37.30**	**233**	P		**P**	**01 07 38.4**	**+0.3**
BATI	**Baumata**	**37.75**	**267**	LR		LR	01 24 33.4	
	comp=Z,71nm,18.2s,baz=37,slow=38							
KSRS	**Korea Array**	**57.65**	**328**	LR		LR	01 33 18.8	
	comp=Z,14nm,20.3s,baz=85,slow=34							
PETK	**Petropavlovsk-**	**63.70**	**357**	LR		LR	01 37 59.3	
	comp=Z,13nm,18.8s,baz=99,slow=35							
VNDA	**Vanda**	**66.77**	**180**	P		**P**	**01 11 17.3**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=350,slow=7.2,SNR=12							
	comp=Z,3.0nm,0.7s							
VNDA	**Vanda**	**66.77**	**180**	P		**P**	**01 11 16.8**	**+0.3**
VNDA				IAmb		IAmb	01 11 18.2	
	comp=Z,4.5nm,0.8s							
MA2	**Magadan**	**70.67**	**354**	LR		LR	01 43 03.5	
	comp=Z,13nm,18.6s,baz=138,slow=36							
SONM	**Songino Array**	**76.31**	**325**	P		**P**	**01 12 14.8**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=145,slow=5.6,SNR=4.9							
	comp=Z,0.6nm,0.6s							
SONM	**Songino Array**	**76.31**	**325**	P		**P**	**01 12 13.6**	**-1.0**
P18K	**Big Mountain,**	**77.85**	**21**	P		**P**	**01 12 23.3**	**+0.5**
SVW2	**Sparrevohn**	**78.99**	**19**	P		**P**	**01 12 31.0**	**+2.0**
L19K	**White Mountain**	**80.03**	**19**	P		**P**	**01 12 34.4**	**-0.3**
L19K				IAmb		IAmb	01 12 57.5	
	comp=Z,12nm,1.5s							
SUA	**Susitna One**	**80.89**	**21**	P		**P**	**01 12 40.4**	**+0.9**
SUA				IAmb		IAmb	01 13 03.6	
	comp=Z,8.6nm,1.4s							
CAST	**Castle Rocks**	**81.81**	**19**	P		**P**	**01 12 44.1**	**-0.1**
CAST				IAmb		IAmb	01 12 47.8	
	comp=Z,6.1nm,1.2s							
KTH	**Kantishna Hill**	**82.27**	**19**	P		**P**	**01 12 47.0**	**+0.3**
KTH				IAmb		IAmb	01 13 05.8	
	comp=Z,8.9nm,1.4s							

SCM	**Sheep Creek Mo**	**82.36**	**22**	P		**P**	**01 12 48.1**	**+0.9**
TRF	**Thorofare Moun**	**82.41**	**20**	P		**P**	**01 12 47.7**	**+0.1**
TRF				IAmb		IAmb	01 13 10.4		
	comp=Z,4.3nm,1.1s								
IMAR	**Indian Mountai**	**83.14**	**17**	P		**P**	**01 12 51.7**	**+0.6**
MLY	**Manley**	**83.35**	**18**	P		**P**	**01 12 52.1**	**-0.1**
MLY				IAmb		IAmb	01 13 05.3		
	comp=Z,5.7nm,1.3s								
NEA2	**Nenana**	**83.58**	**19**	P		**P**	**01 12 53.9**	**+0.5**
NEA2				IAmb		IAmb	01 13 05.1		
	comp=Z,7.3nm,1.4s								
WRH	**Wood River Hil**	**83.82**	**19**	P		**P**	**01 12 54.8**	**+0.2**
I23K	**Minto, Yukon-K**	**83.86**	**19**	P		**P**	**01 12 55.4**	**+0.7**
I23K				IAmb		IAmb	01 12 57.1		
	comp=Z,6.6nm,1.4s								
CCB	**Clear Creek Bu**	**84.03**	**19**	P		**P**	**01 12 54.9**	**-0.7**
CCB				IAmb		IAmb	01 13 11.5		
	comp=Z,3.6nm,1.4s								
MDM	**Murphy Dome**	**84.09**	**19**	P		**P**	**01 12 54.8**	**-1.2**
MDM				IAmb		IAmb	01 13 08.7		
	comp=Z,6.1nm,1.2s								
HDA	**Harding Lake**	**84.15**	**20**	P		**P**	**01 12 57.5**	**+1.2**
HDA				IAmb		IAmb	01 12 58.0		
	comp=Z,4.7nm,0.9s								
M26K	**Nabesna, AK**	**84.32**	**23**	P		**P**	**01 12 57.2**	**0.0**
M26K				IAmb		IAmb	01 13 14.1		
	comp=Z,3.2nm,1.1s								
H02S1	**DAWSON INLET T**	**84.40**	**33**	T		T	02 46 04.9		
	SNR=78								
ILAR	**Eielson Array**	**84.41**	**20**	P		**P**	**01 12 58.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=243,slow=4.9,SNR=16								
	comp=Z,0.6nm,0.6s								
ILAR	**Eielson Array**	**84.41**	**20**	P		**P**	**01 12 56.4**	**-1.1**
M27K	**Edge Creek, AK**	**84.72**	**23**	P		**P**	**01 13 01.0**	**+1.7**
M27K				IAmb		IAmb	01 13 12.6		
	comp=Z,4.0nm,1.0s								
SCRK	**Sand Creek**	**84.90**	**21**	P		**P**	**01 13 01.5**	**+1.3**
SCRK				IAmb		IAmb	01 13 12.5		
	comp=Z,2.1nm,0.8s								
MKAR	**Makanchi Array**	**90.84**	**317**	P		**P**	**01 13 26.6**	**-2.5**
	comp=Z,0.2nm,0.4s,baz=98,slow=6.5,SNR=2.0								
	comp=Z,0.2nm,0.4s								
YKA	**Yellowknife Ar**	**96.38**	**28**	P		**P**	**01 13 53.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=258,slow=4.9,SNR=7.3								
	comp=Z,0.4nm,0.6s								

WEL 23 01:02:08.5, 42°S±6°×17°E±°, h25km±13km, M2.5/5, ML2.8/9, MLv2.5/5, Error ellipse: s-maj=0.0km s-min=0.0km az=60.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THZ	**Tophouse**	**0.30**	**336**	P		Pb	01 02 15.6	-0.1
KHZ	**Kahutara**	**0.52**	**137**	P		Pb	01 02 19.3	+0.3
MRNZ	**Matariki Terra**	**0.68**	**340**	P		Pn	01 02 23.3	+0.7
BSWZ	**Blackbirch Sta**	**0.68**	**62**	P		Pb	01 02 22.2	+0.3
NNZ	**Nelson**	**0.85**	**16**	P		Pn	01 02 25.1	+0.2
GVZ	**Greta Valley S**	**0.93**	**181**	P		Pb	01 02 28.1	+2.0
TKNZ	**Takaka Hill**	**1.00**	**355**	P		Pb	01 02 28.0	+0.7
AMCZ	**Amberley**	**1.18**	**195**	P		Pb	01 02 31.4	+1.1
TCW	**Tory Channel**	**1.23**	**48**	P		Pb	01 02 31.2	+0.2
DUWZ	**D'Urville Isla**	**1.39**	**28**	P		Pb	01 02 33.9	0.0
MQZ	**McQueen's Vall**	**1.70**	**190**	P		Pn	01 02 36.1	-0.4
CAW	**Cannon Point**	**1.76**	**59**	P		Pb	01 02 39.8	-0.4
KIW	**Kapiti Island**	**1.82**	**50**	P		Pb	01 02 41.3	+0.2
OGWZ	**Otaki Gorge**	**2.00**	**53**	P		Pb	01 02 43.8	-0.4

*SOME **23** 01:30:40.9, 43.37N×78.88E, h5km*
*NNC **23** 01:30:41.0±0.3, 43.37N×78.87E, h1km±1km, mpv2.6, Error ellipse: s-maj=1.3km s-min=0.8km az=59.0*
ISC 23 01:30:41.8±1.0, 43.39N±0.03×78.84E±0.04, h10km, n11, σ1$41/22, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KPKS	**Kokpek**	**0.14**	**304**	P		**Pg**	**01 30 44.2**	**-0.9**
	5.6nm,0.0s							
KPKS				S		**Sg**	**01 30 46.6**	**-0.8**
	74nm,0.1s							
KPKS	**Kokpek**	**0.14**	**304**	*e*P		**Pg**	**01 30 44.2**	**-0.9**
	5.6nm,0.0s							
KPKS				*e*S		**Sg**	**01 30 46.6**	**-0.8**
	74nm,0.1s							
UZB	**Uzynbulak**	**0.27**	**152**	P		**Pg**	**01 30 46.0**	**-1.4**
	10nm,0.1s							
UZB				S		**Sg**	**01 30 49.7**	**-1.4**
	4.4nm,0.0s							
UZB	**Uzynbulak**	**0.27**	**152**	*e*P		**Pg**	**01 30 46.0**	**-1.4**
	10nm,0.1s							
UZB				*e*S		**Sg**	**01 30 49.8**	**-1.4**
	4.4nm,0.0s							
ZHN	**Zhinishke**	**0.37**	**234**	P		**Pg**	**01 30 48.6**	**-0.6**
	1.0nm,0.1s							
ZHN				S		**Sg**	**01 30 54.1**	**+0.1**
	27nm,0.1s							
ZHN	**Zhinishke**	**0.37**	**234**	*e*P		**Pg**	**01 30 48.6**	**-0.6**
	1.0nm,0.1s							
ZHN				*e*S		**Sg**	**01 30 54.1**	**+0.1**
	27nm,0.1s							
SATY	**Saty**	**0.46**	**224**	P		**Pg**	**01 30 50.1**	**-0.7**
	0.8nm,0.1s							
SATY				S		**Sg**	**01 30 56.7**	**-0.2**
	7.4nm,0.1s							
SATY	**Saty**	**0.46**	**224**	*e*P		**Pg**	**01 30 50.1**	**-0.7**
	0.8nm,0.1s							
SATY				*e*S		**Sg**	**01 30 56.7**	**-0.2**
	7.4nm,0.1s							
KURS	**Kuram**	**0.50**	**282**	*e*P		**Pg**	**01 30 51.2**	**-0.4**
	0.5nm,0.1s							
KURS				*e*S		**Sg**	**01 30 58.6**	**+0.4**
	1.1nm,0.2s							
SHLS	**Shalkode**	**0.51**	**117**	*e*P		**Pn**	**01 30 55.1**	**-0.1**
	0.7nm,0.1s							
SHLS				*e*S		**Sb**	**01 31 05.4**	**+5.0**
	2.1nm,0.3s							
BLB	**Baldybastay**	**0.76**	**340**	P		**Pg**	**01 30 56.2**	**-0.2**
	2.1nm,0.1s							
BLB				S		**Sb**	**01 31 07.2**	**-0.4**
	1.4nm,0.1s							

*MAN **23** 01:39:40.9, 6.31N×126.91E, h25km, mb4.3, ML3.1, MS2.8*
*IDC **23** 01:39:43.7±4.8, 5.56N×125.14E, h64km±48km, mb3.9/9, mbtmp4.2/9, Error ellipse: s-maj=77.1km s-min=14.8km az=76.0*
ISC 23 01:39:44.8±2.1, 6.05N±0.08×126.5E±0.2, h82km±16km, n18, σ1$56/25, mb4.4/10, 5C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**1.38**	**317**	P		**Pn**	**01 40 08.7**	**+0.1**
	386nm,0.4s,baz=278,slow=3.9,SNR=6.3							
DAV				S		**Sn**	**01 40 28.7**	**+2.1**
	760nm,0.4s,baz=259,slow=23,SNR=14							
DAV				LR		LR	01 40 42.9	
	comp=Z,238nm,19.1s,baz=132,slow=38							
GSPH	**General Santos**	**1.56**	**271**	*e*P		**Pn**	**01 40 09.8**	**-1.3**
GSPH				*i* S		**Sn**	**01 40 32.1**	**+1.2**
KCP	**Kidapawan**	**1.71**	**304**	*i*P		**Pn**	**01 40 12.3**	**-0.7**
KCP				*i* S		**Sn**	**01 40 33.8**	**-0.6**
BUKP	**Musuan**	**2.32**	**322**	*e*P		**Pn**	**01 40 19.4**	**-1.6**
BUKP				*e*S		**Sn**	**01 40 48.7**	**-0.1**
CGP	**Cagayan de Oro**	**3.00**	**323**	*e*P		**Pn**	**01 40 29.5**	**-0.6**
CGP				*e*S		**Sn**	**01 41 05.8**	**+0.8**
SCPH	**Surigao**	**3.84**	**345**	*e*P		**Pn**	**01 40 38.6**	**-3.1**
SCPH				*e*S		**Sn**	**01 41 29.5**	**+3.8**
GHBP	**Garcia Hernand**	**4.17**	**329**	*e*P		**Pn**	**01 40 43.9**	**-2.2**
GHBP				*e*S		**Sn**	**01 41 33.4**	**-0.2**
WRA	**Warramunga Arr**	**26.95**	**164**	P		**P**	**01 45 18.4**	**-0.4**
	0.6nm,0.6s,baz=344,slow=10,SNR=11							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**30.40**	**167**	P		**P**	**01 45 49.6**	**+0.2**
	0.7nm,0.8s,baz=342,slow=6.6,SNR=7.8							
	0.7nm,0.8s							
XAN	**Xi'an**	**32.27**	**332**	P		**P**	**01 46 06.3**	**+0.5**
XAN				pmax		pmax		
	comp=Z,18nm,0.7s							
SONM	**Songino Array**	**45.05**	**341**	P		**P**	**01 47 51.6**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=156,slow=9.6,SNR=7.1							
	comp=Z,1.3nm,0.8s							
MKAR	**Makanchi Array**	**55.55**	**324**	P		**P**	**01 49 10.2**	**-1.5**
	comp=Z,2.5nm,0.4s,baz=125,slow=9.5,SNR=8.9							
	comp=Z,2.5nm,0.4s							
ZALV	**Zalesovo Beam**	**58.44**	**333**	P		**P**	**01 49 32.3**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=134,slow=8.1,SNR=2.6							
	comp=Z,1.5nm,0.4s							
KURBB	**Kurchatov Arra**	**59.69**	**327**	P		**P**	**01 49 39.0**	**-1.6**
	comp=Z,2.6nm,0.6s,baz=127,slow=6.0,SNR=3.7							
	comp=Z,2.6nm,0.6s							
NRIK	**Noril'sk**	**68.14**	**346**	P		**P**	**01 50 37.6**	**+1.9**
	comp=Z,3.0nm,0.4s,baz=126,slow=7.1,SNR=5.6							
	comp=Z,3.0nm,0.4s							
ARCES	**ARCESS Array B**	**88.21**	**340**	P		**P**	**01 52 26.5**	**0.0**
	comp=Z,3.1nm,0.9s,baz=78,slow=6.8,SNR=4.5							
	comp=Z,3.1nm,0.9s							
FINES	**FINESS Array B**	**89.70**	**332**	P		**P**	**01 52 33.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=85,slow=8.5,SNR=4.0							
	comp=Z,1.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**121.97**	**289**	PKP		**PKiKP**	**01 58 31.7**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=52,slow=2.4,SNR=2.1							

*MOS **23** 01:40:49.9±1.1, 40.01N×71.91E, h21km, mb4.4/17, Error ellipse: s-maj=5.6km s-min=4.0km az=69.0*
MOS Felt (IV-V) at Karool; (IV) at Maydan; (III) at Tamasha; (II-III) at Kadamjay, Kyzyl-Kiya, Osh.
*ISU **23** 01:40:50.6, 40.09N×71.87E, h24km*
*KRNET **23** 01:40:50.4±0.1, 40.03N×72.04E, h24km, mb4.7*
*IDC **23** 01:40:50.8±0.9, 40.01N×72.05E, h20km±4km, mb3.7/13, mbtmp3.9/21, ML3.6/8, MS3.3/16, Error ellipse: s-maj=14.3km s-min=9.8km az=149.0*
*NEIC **23** 01:40:52.0±1.4, 40.19N±0.05×71.96E±0.07, h21km±5km, mb4.5/51, Error ellipse: s-maj=8.2km s-min=7.5km az=110.0*
*SOME **23** 01:40:51.6, 40.13N×72.05E, h15km, MS3.6*
*NNC **23** 01:40:52.8±1.2, 40.23N×71.97E, h10km±6km, mb5.0, mpv4.8, Error ellipse: s-maj=9.8km s-min=4.6km az=2.0*
*BJI **23** 01:40:53.0±0.0, 40.16N×71.98E, h49km, mb4.1/23, mB4.6/7, ML4.1/5, Ms4.1/2, Ms7 4.1/1*
ISC 23 01:40:49.8±0.5, 40.15N±0.02×72.10E±0.02, h12km±3km, n316, σ1$99/338, mb4.4/61, MS3.1/10, 29C-35D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FRG	**Fergana**	**0.33**	**313**	P		**Pb**	**01 40 58.6**	**+0.9**
FRG				S		**Sb**	**01 41 03.8**	**+0.8**
CHMI	**Chimion**	**0.46**	**285**	P		**Pb**	**01 41 00.0**	**+0.1**
CHMI				S		**Sg**	**01 41 05.5**	**+0.5**
ANR	**Andizhan**	**0.64**	**18**	P		**Pn**	**01 41 06.0**	**+1.3**
ANR				S		**Sn**	**01 41 17.0**	**+2.2**
OHH	**Osh**	**0.64**	**54**	⇓*i*P		**Pn**	**01 41 04.9**	**0.0**
	baz=49							
OHH				⇓*i*S		**Sn**	**01 41 15.2**	**+0.1**
	baz=49							
OHH	**Osh**	**0.64**	**54**	*i* PG		**Pn**	**01 41 04.9**	**0.0**
OHH				*i* S		**Sn**	**01 41 15.2**	**+0.1**
DRK	**Karamyk**	**0.71**	**199**	⇓*i*P		**Pg**	**01 41 01.4**	**-2.2**
	baz=98							
DRK				⇓*i*S		**Sg**	**01 41 10.1**	**-2.8**
	baz=98							
BTK	**Batken**	**0.99**	**265**	⇑*i*P		**Pb**	**01 41 07.9**	**-1.0**
	baz=72							
BTK				⇑*i*S		**Sb**	**01 41 21.0**	**-1.0**
	baz=72							
BTK	**Batken**	**0.99**	**265**	*i* PG		**Pb**	**01 41 07.9**	**-1.0**
BTK				*i* S		**Sb**	**01 41 21.0**	**-1.0**
TRKS	**Terek-Say**	**1.56**	**332**	⇓*i*P		**Pb**	**01 41 19.1**	**+0.4**
	baz=36							
TRKS				⇓*i*S		**Sg**	**01 41 39.7**	**-0.3**
	baz=36							
TRKS	**Terek-Say**	**1.56**	**332**	*i* PN		**Pb**	**01 41 19.1**	**+0.4**
TRKS				*i* S		**Sg**	**01 41 39.7**	**-0.3**
ARK	**Arkit**	**1.65**	**356**	⇓*i*P		**Pg**	**01 41 21.7**	**+0.2**
	baz=58							
ARK				⇓*i*S		**Sg**	**01 41 44.5**	**+1.6**
	baz=58							
ARK	**Arkit**	**1.65**	**356**	*i* PN		**Pg**	**01 41 21.7**	**+0.2**
ARK				*i* S		**Sg**	**01 41 44.5**	**+1.6**
CHMG	**Chimgan**	**2.11**	**312**	P		Pg	01 41 57.9	+28
CHRV	**Charvak**	**2.21**	**313**	P		**Pg**	**01 41 31.6**	**-0.5**
CHRV				S		**Sg**	**01 42 00.6**	**-0.2**
AML	**Almayashu**	**2.32**	**31**	P		**Pb**	**01 41 32.6**	**+0.8**
	SNR=260							
ARLS	**Aral**	**2.40**	**44**	⇑*i*P		**Pb**	**01 41 32.2**	**

AAK pmax pmax
comp=Z,17nm,0.4s
BXML Bakhmal 3.16 263 P Pb 01 41 43.4 -2.7
BXML S Sb 01 42 25.6 +1.0
KK31 Karatay Array 3.18 339 Pn Pn 01 41 41.6 +1.9
KK31 Karatay Array 3.18 339 ⇓Pn Pn 01 41 42.1 +2.4
comp=Z,16nm,0.3s,baz=148,slow=12,SNR=3147
KK31 ⇑Pg Pg **01 41 48.8 -2.0**
comp=Z,87nm,0.3s,baz=148,slow=12,SNR=55
KK31 ⇓Lg Lg 01 42 28.1
comp=Z,234nm,0.4s
KK31 Karatay Array 3.18 339 PN Pg 01 41 50.1 -0.7
KK31 01 42 29.2
KKAR Karatay Array 3.18 339 Pn Pn 01 41 42.0 +2.3
KKAR Karatay Array 3.18 339 ⇓*i*P Pn 01 41 42.7 +3.0
baz=40
KKAR ⇓*i*S Sn **01 42 20.7 +3.1**
baz=40
KKAR Karatay Array 3.18 339 PN Pn 01 41 42.0 +2.3
NRN Naryn 3.23 65 ⇑*i*P Pn 01 41 42.9 +2.3
baz=64
NRN ⇑*i*S Sn **01 42 21.3 +2.2**
baz=64
NRN Naryn 3.23 65 *i* PN Pn 01 41 42.9 +2.3
FRU1 Bishkek 3.27 35 ⇑*i*P Pb 01 41 44.5 -3.3
baz=34
FRU1 ⇑*i*S Sb **01 42 24.0 -3.5**
baz=34
FRU1 Bishkek 3.27 35 *i* PN Pb 01 41 44.5 -3.3
FRU1 *i* S Sb **01 42 24.0 -3.5**
DZI Dzhizak 3.28 271 P Sn 01 42 20.1 +0.1
KBK Karagaybulak 3.29 40 P Pb 01 41 47.5 -0.9
SNR=18
CHMS Chumysh 3.47 34 P Pb 01 41 48.8 -2.4
SNR=52
CHMS Chumysh 3.47 34 Pg Pn 01 41 44.9 +1.2
comp=Z,2μm,0.2s
CHMS ⇑Pn Pb **01 41 47.9 -3.4**
comp=Z,40nm,0.5s
CHMS ⇑Pg Pg **01 41 56.6 +0.2**
comp=Z,187nm,0.8s
CHMS Lg Lg 01 42 23.1
comp=Z,14μm,0.4s
CHMS ⇓Lg Lg 01 42 44.1
comp=Z,599nm,0.6s
USP Ospenovka 3.59 29 P Pb 01 41 50.1 -3.3
SNR=85
ULHL Ulahol 3.76 55 P Pb 01 41 52.5 -3.7
SNR=17
SGDS Sogindy 3.80 29 *i* Pn Pb 01 41 52.8 -4.2
baz=30
SGDS Sogindy 3.80 29 *i* PN Pb 01 41 52.7 -4.2
TKM2 Tokmak 2 3.81 42 P Pb 01 41 53.6 -3.6
SNR=68
TKM2 Tokmak 2 3.81 42 ⇓Pn Pb 01 41 53.1 -4.1
comp=Z,38nm,0.5s
TKM2 ⇑Pg Pg **01 42 02.7 -0.2**
comp=Z,54nm,0.3s
TKM2 ⇑Lg Lg 01 42 53.6
comp=Z,218nm,0.5s
SAM Samarkand 3.99 265 P Sn 01 42 38.5 +0.9
KST Kastek 4.09 44 Pg Pg 01 42 06.7 -1.5
comp=Z,74nm,0.3s
KST Lg Lg 01 43 00.6
comp=Z,560nm,0.5s
KST Kastek 4.09 44 *e*Pg Pg 01 42 06.7 -1.5
comp=Z,74nm,0.3s
KST *e*Lg Lg 01 43 00.6
comp=Z,560nm,0.5s
DGS Degeres 4.13 40 Pg Pg 01 42 07.6 -1.4
comp=Z,122nm,0.4s
DGS Lg Lg 01 43 02.0
comp=Z,365nm,0.3s
DGS Degeres 4.13 40 *e*Pg Pg 01 42 07.6 -1.4
comp=Z,122nm,0.4s
DGS *e*Lg Lg 01 43 02.0
comp=Z,365nm,0.3s
KTAB Kitab 4.15 258 P Sn 01 42 43.3 +1.7
BAYS Baysun 4.27 245 P Sn 01 42 48.7 +4.1
KDJ Kajisay 4.32 61 ⇑*i*P Pn 01 41 58.8 +3.4
baz=60
KDJ ⇑*i*S Sn **01 42 48.5 +2.7**
baz=60
KDJ Kajisay 4.32 61 *i* PN Pn 01 41 58.8 +3.4
MTBS Maitube 4.40 46 Pg Pg 01 42 12.6 -1.5
comp=Z,74nm,0.2s
MTBS Lg Lg 01 43 10.7
comp=Z,185nm,0.3s
MTBS Maitube 4.40 46 *e*Pg Pg 01 42 12.7 -1.5
comp=Z,74nm,0.2s
MTBS *e*Lg Lg 01 43 10.7
comp=Z,185nm,0.3s
KRBS Karabastau 4.43 36 Pg Pg 01 42 13.2 -1.5
comp=Z,76nm,0.5s
KRBS Lg Lg 01 43 11.4
comp=Z,271nm,0.6s
KRBS Karabastau 4.43 36 *e*Pg Pg 01 42 13.2 -1.5
comp=Z,76nm,0.5s
KRBS *e*Lg Lg 01 43 11.4
comp=Z,271nm,0.6s
IZV Izvestkoviy 4.45 48 Pg Pg 01 42 13.5 -1.5
comp=Z,53nm,0.5s
IZV Lg Lg 01 43 12.2
comp=Z,194nm,0.4s
IZV Izvestkoviy 4.45 48 *e*Pg Pg 01 42 13.5 -1.5
comp=Z,53nm,0.5s
IZV *e*Lg Lg 01 43 12.2
comp=Z,194nm,0.4s
KKRN Kattakurgan 4.48 269 P Sn 01 42 48.9 -0.8
TARG Taragay, Kyrgy 4.60 68 Pn Pn 01 42 01.9 +2.4
TARG Taragay, Kyrgy 4.60 68 PN Pn 01 42 01.9 +2.4
TNSS Tian-Shan 4.64 50 Pg Pg 01 42 18.2 -0.4
comp=Z,60nm,0.2s
TNSS Lg Lg 01 43 20.8
comp=Z,136nm,0.5s
TNSS Tian-Shan 4.64 50 *e*Pn Pn 01 42 05.1 +5.0
baz=50
TNSS *i* Pg Pg **01 42 18.7 +0.1**
baz=50
TNSS Tian-Shan 4.64 50 *e*Pg Pg 01 42 18.2 -0.4
comp=Z,60nm,0.2s
TNSS *e*Lg Lg 01 43 20.8
comp=Z,136nm,0.5s
TNSS Tian-Shan 4.64 50 *e*PN Pn 01 42 05.0 +4.9
TNSS *i* 01 42 18.7
PKMR Pachkamar 4.71 252 P Sn 01 42 58.5 +3.2
AAA Alma-Ata 4.73 48 Pg Pg 01 42 19.5 -0.8
comp=Z,137nm,0.3s
AAA Lg Lg 01 43 22.6
comp=Z,453nm,0.5s
AAA Alma-Ata 4.73 48 *e*Pg Pg 01 42 19.5 -0.8
comp=Z,137nm,0.3s
AAA *e*Lg Lg 01 43 22.6
comp=Z,453nm,0.5s
KNDC Almaty 4.76 48 ⇑Pn Pn 01 42 05.9 +4.5
comp=Z,128nm,0.8s
KNDC ⇓Pg Pg **01 42 22.4 +1.4**
comp=Z,127nm,0.6s
KNDC ⇑Lg Lg 01 43 25.9
comp=Z,681nm,0.8s
KNDC Almaty 4.76 48 PN Pn 01 42 06.7 +5.3
KNDC 01 43 22.5
MDOK Medeo 4.77 49 ⇑Pn Pn 01 42 07.0 +5.3
comp=Z,63nm,0.6s
MDOK Pg Pg **01 42 20.4 -0.9**
comp=Z,51nm,0.5s
MDOK ⇑Pg Pb 01 42 21.4 +7.9
comp=Z,53nm,0.8s
MDOK Lg Lg 01 43 24.2
comp=Z,201nm,0.6s
MDOK ⇑Lg Lg 01 43 26.7
comp=Z,225nm,0.7s
MDOK Medeo 4.77 49 *e*Pn Pn 01 42 06.8 +5.0
baz=50
MDOK *i* Pg Pg **01 42 21.4 +0.2**
baz=50
MDOK Medeo 4.77 49 PN Pn 01 42 07.0 +5.3
MDOK 01 43 24.7
KOTS Kotyrbulak 4.85 49 Pg Pg 01 42 21.0 -1.8
comp=Z,92nm,0.5s
KOTS Lg Lg 01 43 25.1
comp=Z,380nm,0.6s
KOTS Kotyrbulak 4.85 49 *e*Pg Pg 01 42 21.0 -1.8
comp=Z,92nm,0.5s
KOTS *e*Lg Lg 01 43 25.1
comp=Z,380nm,0.6s
KUU Kurty 4.89 39 Pg Pg 01 42 21.6 -1.9
comp=Z,40nm,0.4s
KUU Lg Lg 01 43 26.3
comp=Z,339nm,0.6s
KUU Kurty 4.89 39 *i* Pn Pn 01 42 07.1 +3.8
baz=40
KUU *i* Pg Pg **01 42 23.1 -0.4**
baz=40
KUU Kurty 4.89 39 *e*Pg Pg 01 42 21.6 -1.9
comp=Z,40nm,0.4s
KUU *e*Lg Lg 01 43 26.3
comp=Z,339nm,0.6s
KUU Kurty 4.89 39 *i* PN Pn 01 42 07.0 +3.8
KUU *i* 01 42 23.1
KTBS Karatobe 4.93 42 Pg Pg 01 42 22.6 -1.7
comp=Z,39nm,0.5s
KTBS Lg Lg 01 43 27.7
comp=Z,393nm,0.4s
KTBS Karatobe 4.93 42 *e*Pg Pg 01 42 22.6 -1.7
comp=Z,39nm,0.5s
KTBS *e*Lg Lg 01 43 27.7
comp=Z,393nm,0.4s
ANVS Anan'yevo 4.94 56 ⇓*i*P Pn 01 42 07.1 +3.1
baz=55
ANVS ⇓*i*S Sn **01 43 03.4 +2.2**
baz=55
ANVS Anan'yevo 4.94 56 *i* PN Pn 01 42 07.1 +3.1
BTLS Baital 5.09 16 Pg Pg 01 42 25.1 -2.2
comp=Z,50nm,0.3s
BTLS Lg Lg 01 43 32.1
comp=Z,130nm,0.4s
BTLS Baital 5.09 16 *i* Pn Pn 01 42 09.3 +3.3
baz=17
BTLS *i* Pg Pg **01 42 25.9 -1.5**
baz=17
BTLS Baital 5.09 16 *e*Pg Pg 01 42 25.1 -2.2
comp=Z,50nm,0.3s
BTLS *e*Lg Lg 01 43 32.1
comp=Z,130nm,0.4s
BTLS Baital 5.09 16 *i* PN Pn 01 42 09.2 +3.3
BTLS *i* 01 42 25.8
CHKK Chushkaly 5.19 43 Pg Pg 01 42 27.2 -2.0
comp=Z,43nm,0.6s
CHKK Lg Lg 01 43 36.0
comp=Z,160nm,0.3s
CHKK Chushkaly 5.19 43 *e*Pn Pn 01 42 11.2 +3.9
baz=44
CHKK *e*Pg Pg **01 42 28.7 -0.5**
baz=44
CHKK Chushkaly 5.19 43 *e*Pg Pg 01 42 27.2 -2.0
comp=Z,43nm,0.6s
CHKK *e*Lg Lg 01 43 36.0
comp=Z,160nm,0.3s
CHKK Chushkaly 5.19 43 *e*PN Pn 01 42 11.2 +3.9
CHKK *e* 01 42 28.6
SATY Saty 5.55 56 Pg Pg 01 42 35.1 -1.0
comp=Z,41nm,0.3s
SATY Lg Lg 01 43 49.4
comp=Z,155nm,0.5s
SATY Saty 5.55 56 *e*Pn Pn 01 42 17.7 +5.3
baz=56
SATY *i* Pg Pg **01 42 35.6 -0.4**
baz=56
SATY Saty 5.55 56 *e*Pg Pg 01 42 35.1 -1.0
comp=Z,41nm,0.3s
SATY *e*Lg Lg 01 43 49.4
comp=Z,155nm,0.5s
SATY Saty 5.55 56 *e*PN Pn 01 42 17.6 +5.3
SATY *i* 01 42 35.5
ZHN Zhinishke 5.62 56 Pg Pg 01 42 36.0 -1.4
comp=Z,30nm,0.5s
ZHN Lg Lg 01 43 50.5
comp=Z,96nm,0.2s
ZHN Zhinishke 5.62 56 *e*Pn Pn 01 42 17.9 +4.6
baz=56
ZHN *e*Pg Pg **01 42 36.6 -0.8**
baz=56
ZHN Zhinishke 5.62 56 *e*Pg Pg 01 42 36.0 -1.4
comp=Z,30nm,0.5s
ZHN *e*Lg Lg 01 43 50.5
comp=Z,96nm,0.2s
ZHN Zhinishke 5.62 56 *e*PN Pn 01 42 17.8 +4.5
ZHN *e* 01 42 36.6
KURS Kuram 5.63 52 Pg Pg 01 42 35.9 -1.7
comp=Z,31nm,0.8s
KURS Lg Lg 01 43 50.5
comp=Z,82nm,0.5s
KURS Kuram 5.63 52 *e*Pg Pg 01 42 35.9 -1.7
comp=Z,31nm,0.8s
KURS *e*Lg Lg 01 43 50.5
comp=Z,82nm,0.5s
ARXS Arharly 5.88 44 Pg Pg 01 42 41.6 -0.7
comp=Z,43nm,0.3s
ARXS Lg Lg 01 44 00.7
comp=Z,212nm,0.3s
ARXS Arharly 5.88 44 *e*Pg Pg 01 42 41.6 -0.7
comp=Z,43nm,0.3s
ARXS *e*Lg Lg 01 44 00.7
comp=Z,212nm,0.3s
KPKS Kokpek 5.93 54 Pg Pg 01 42 41.3 -2.0
comp=Z,31nm,0.6s
KPKS Lg Lg 01 44 00.2
comp=Z,200nm,0.5s
KPKS Kokpek 5.93 54 *e*Pn Pn 01 42 22.2 +4.6
baz=54
KPKS Kokpek 5.93 54 *e*Pg Pg 01 42 41.3 -2.0
comp=Z,31nm,0.6s
KPKS *e*Lg Lg 01 44 00.2
comp=Z,200nm,0.5s
KPKS Kokpek 5.93 54 *e*PN Pn 01 42 22.1 +4.6
UZB Uzunbulak 5.99 58 Pg Pg 01 42 42.5 -2.0
comp=Z,28nm,0.5s
UZB Lg Lg 01 44 02.1
comp=Z,57nm,0.6s
UZB Uzunbulak 5.99 58 *e*Pn Pn 01 42 23.5 +5.1
baz=58
UZB Uzunbulak 5.99 58 *e*Pg Pg 01 42 42.5 -2.0
comp=Z,28nm,0.5s
UZB *e*Lg Lg 01 44 02.1
comp=Z,57nm,0.6s
UZB Uzunbulak 5.99 58 *e*PN Pn 01 42 23.5 +5.1
KBL Kabul 6.11 204 Pn Pn 01 42 21.5 +1.4
KBL Kabul 6.11 204 PN Pn 01 42 21.5 +1.4
BLB Baldybastay 6.17 48 Pg Pg 01 42 46.7 -1.2
comp=Z,99nm,0.5s
BLB Lg Lg 01 44 09.2
comp=Z,99nm,0.4s
SHLS Shalkode 6.28 59 Pg Pg 01 42 53.2 +3.2
comp=Z,54nm,0.6s
SHLS Lg Lg 01 44 20.4
comp=Z,1μm,0.5s
SHLS Shalkode 6.28 59 *e*Pn Pb 01 42 31.0 -8.1
baz=60
SHLS Shalkode 6.28 59 *e*Pg Pg 01 42 53.2 +3.2
comp=Z,54nm,0.6s
SHLS *e*Lg Lg 01 44 20.4
comp=Z,1μm,0.5s
SHLS Shalkode 6.28 59 *e*PN Pb 01 42 31.0 -8.1
CEP Cherat 6.32 181 P Pn 01 42 28.0 +5.1
CEP S Sn **01 43 40.0 +4.9**
CHCP Chirah Chowk 6.55 171 P Pn 01 42 31.0 +5.0
NIL Nilore 6.55 172 Pn Pn 01 42 28.8 +2.7
NIL Nilore 6.55 172 PN Pn 01 42 28.8 +2.7
KTMS Ketmen 6.99 59 Pg Pg 01 43 01.6 -1.9
comp=Z,9.3nm,0.5s
KTMS Lg Lg 01 44 35.0
comp=Z,23nm,0.6s
KTMS Ketmen 6.99 59 *e*Pg Pg 01 43 01.6 -1.9
comp=Z,9.3nm,0.5s
KTMS *e*Lg Lg 01 44 35.0
comp=Z,23nm,0.6s
DJR Jarkent 7.07 51 Pg Pg 01 43 02.9 -2.3
comp=Z,17nm,0.3s
DJR Lg Lg 01 44 37.2
comp=Z,62nm,0.9s
DJR Jarkent 7.07 51 *e*Pg Pg 01 43 02.9 -2.3
comp=Z,17nm,0.3s
DJR *e*Lg Lg 01 44 37.2
comp=Z,62nm,0.9s
THW Thamme Wali 7.35 182 P Pn 01 42 39.5 +2.5
JMU Jammu 7.75 162 *e*P Pn 01 42 43.3 +0.8
JMU *e*S Sn **01 44 07.7 -2.5**
BHK Bhakra 9.39 157 *e*P Pn 01 43 07.7 +2.7
BHK *e*S Sn **01 44 46.2 -4.3**
HRA Herat 9.73 237 Pn Pn 01 43 08.5 -1.3
MAKZ Makanchi 9.78 44 Pn Pn 01 43 12.6 +2.3
MAKZ Makanchi 9.78 44 ⇓Pn Pn 01 43 14.5 +4.2
comp=Z,3.5nm,0.8s
MAKZ ⇑Lg Lg 01 46 06.7
comp=Z,22nm,1.2s
MAKZ Makanchi 9.78 44 P Pn 01 43 14.5 +4.2
BRZS Berezniki 9.84 2 Pg Pn 01 43 54.8 +44
comp=Z,8.3nm,0.4s
BRZS Lg Lg 01 46 06.7
comp=Z,46nm,0.7s
SMLA Simla 9.90 154 *e*P Pn 01 43 13.6 +1.7
SMLA *e*S Sn **01 44 55.9 -7.0**
SMLA IAML 01 45 02.5
comp=E,121nm,0.5s
SMLA IAML 01 45 02.9
comp=N,81nm,0.4s
MK31 Makanchi Array 9.94 45 Pn Pn 01 43 14.8 +2.3
MK31 Makanchi Array 9.94 45 Pn Pn 01 43 16.0 +3.5
comp=N,1.0nm,0.4s,baz=224,slow=14,SNR=35
MK31 ⇓Lg Lg 01 46 10.5
comp=N,62nm,1.4s
MK31 Makanchi Array 9.94 45 *i* P Pn 01 43 16.0 +3.5
MKAR Makanchi Array 9.94 45 Pn Pn 01 43 15.8 +3.3
comp=N,0.6nm,0.3s,baz=229,slow=14,SNR=20
MKAR LR LR 01 47 21.7
comp=N,100nm,18.2s,baz=164,slow=39
comp=N,1.1nm,0.5s
MKAR Makanchi Array 9.94 45 Pn Pn 01 43 15.3 +2.9
MKAR Makanchi Array 9.94 45 *i* P Pn 01 43 18.7 +6.2
MKAR pmax pmax
comp=Z,1.0nm,0.4s
GEYT Alibeck 11.10 263 Pn Pn 01 43 26.5 -1.9
comp=Z,1.2nm,0.3s,baz=96,slow=9.4,SNR=12
comp=Z,1.7nm,0.3s
GYA0 ALIBECK ARRAY 11.10 263 P Pn 01 43 26.3 -2.1
GYA0 01 45 24.0
GYA0B ALIBECK ARRAY 11.10 263 ⇓Pn Pn 01 43 27.0 -1.4
GYA0B ⇑Sn Sn **01 45 29.7 -2.8**
KURBB Kurchatov Arra 11.40 21 Pn Pn 01 43 33.2 +0.8
comp=Z,0.4nm,0.3s,baz=212,slow=12,SNR=23
KURBB Lg Lg 01 46 52.0
comp=Z,0.4nm,0.3s,baz=205,slow=31,SNR=6.4
KURBB LR LR 01 48 13.7
comp=Z,128nm,18.3s,baz=142,slow=38
comp=Z,2.6nm,0.5s
KURBB Kurchatov Arra 11.40 21 ⇑Pn Pn 01 43 32.7 +0.3
comp=Z,15nm,0.7s
KURBB ⇓Lg Lg 01 46 54.9
comp=Z,59nm,0.7s
KURBB Kurchatov Arra 11.40 21 P Pn 01 43 32.6 +0.3
KURK Kurchatov 11.51 21 Pn Pn 01 43 34.2 +0.4
KURK Kurchatov 11.51 21 P Pn 01 43 34.2 +0.4
SEM Semipalatinsk 11.74 26 Pg Pn 01 44 29.6 +52
comp=Z,14nm,0.3s
SEM Lg Lg 01 47 06.2
comp=Z,42nm,0.6s
ZSN Zaisan 11.75 47 Pg Pn 01 44 24.8 +48
comp=Z,6.7nm,1.0s
ZSN Lg Lg 01 46 57.5
comp=Z,8.1nm,0.9s
WMQ Urumqi 12.17 67 *e*P P 01 43 50.3 -5.4
NDI New Delhi 12.19 158 *e*P Pn 01 43 42.4 -0.9
PTH Pithoragarh 12.49 145 *e*P Pn 01 43 48.7 +1.1
PTH *e*S Sn **01 46 00.2 -6.6**
KUDL Kundal 12.51 162 *e*P Pn 01 43 46.4 -1.3
AB31 Akbulak array 12.54 321 Pn Pn 01 43 46.4 -1.6
comp=Z,6.6nm,0.5s,baz=130,slow=14,SNR=212
AB31 Sn Sn **01 45 59.8 -7.7**
comp=Z,7.1nm,0.6s,baz=129,slow=25,SNR=4.9
AB31 Akbulak array 12.54 321 *e*P P 01 43 53.8 -5.9
ABKAR Akbulak array 12.54 321 Pn Pn 01 43 46.0 -2.0
LGTI Lohaghat 12.59 145 *e*P Pn 01 43 48.1 -0.7
LGTI *e*S Sn 01 45 53.7 -15
BVA0 Borovoye Array 12.93 355 Pn Pn 01 43 52.4 -1.0
comp=Z,5.7nm,0.6s,baz=173,slow=8.6,SNR=24
BVA0 ⇓Lg Lg 01 47 41.0
comp=Z,65nm,1.2s
BVA0 Borovoye Array 12.93 355 *i* P Pn 01 43 52.3 -1.0
BVAR Borovoye Array 12.93 355 Pn Pn 01 43 53.0 -0.3
comp=Z,0.2nm,0.3s,baz=159,slow=12,SNR=27
BVAR Sn Sn **01 46 12.1 -5.0**
comp=Z,0.3nm,0.3s,baz=169,slow=24,SNR=4.5
BVAR LR LR 01 49 18.6
comp=Z,175nm,18.4s,baz=176,slow=39
comp=Z,2.9nm,0.5s
BRVK Borovoye 12.97 355 Pn Pn 01 43 52.9 -0.9
BRVK Borovoye 12.97 355 ⇑Pn Pn 01 43 53.4 -0.4
comp=Z,5.4nm,0.8s
BRVK ⇓Lg Lg 01 47 39.4
comp=Z,38nm,0.9s
BRVK Borovoye 12.97 355 ⇓*e*P Pn 01 43 53.3 -0.6
BRVK pmax pmax
comp=Z,3.0nm,0.5s
AJM Ajmer 13.80 170 *e*P Pn 01 44 03.9 -1.4
AKTO Aktyubinsk 14.26 321 Pn Pn 01 44 09.9 -1.5
comp=Z,1.2nm,0.3s,baz=128,slow=11,SNR=16
AKTO Sn Sn 01 46 39.8 -10
comp=Z,0.7nm,0.3s,baz=5.7,slow=18,SNR=4.0
AKTO LR LR 01 50 20.6
comp=Z,155nm,20.8s,baz=190,slow=40
comp=Z,4.5nm,0.5s
AKTO Aktyubinsk 14.26 321 ⇓Pn Pn 01 44 09.9 -1.5
comp=Z,6.0nm,0.5s
AKTO ⇓Sn Sn **01 46 44.0 -5.4**
comp=Z,4.1nm,0.5s
AKTO Aktyubinsk 14.26 321 P Pn 01 44 09.8 -1.6
DGZ Jazzator, Alta 14.44 44 ⇑*e*P P 01 44 17.8 -3.1
DGZ pmax pmax
comp=Z,11nm,2.8s
ZAA0 Zalesovo Array 16.26 28 P 01 44 40.8 -0.1
ZAA0 Zalesovo Array 16.26 28 ⇓P P 01 44 41.3 +0.4
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 16.26 28 Pn Pn 01 44 39.2 +1.3
comp=Z,0.4nm,0.3s,baz=218,slow=12,SNR=12
ZALV LR LR 01 51 18.6
comp=Z,113nm,19.5s,baz=240,slow=38
comp=Z,2.6nm,0.5s
ZALV Zalesovo Beam 16.26 28 Pn P 01 44 39.5 -1.3
ZALV Zalesovo Beam 16.26 28 P P 01 44 39.6 -1.3
GOMU GeErMu 18.28 95 P P 01 45 04.0 +0.2
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU pmax pmax
comp=Z,73nm,5.5s
SVE Sverdlovsk 18.29 340 *e*P Pn 01 45 02.9 -0.3
AKT Akhty 18.48 282 *e*P Pn 01 45 06.2 +0.4
AKT *e*S Sn **01 48 32.3 0.0**
AKT pmax pmax
comp=Z,5.0nm,0.4s
AKT smax smax
comp=E,6.0nm,0.4s
AKT smax smax
comp=N,7.0nm,0.5s
ARU Arti 18.55 336 P Pn 01 45 06.6 +0.1
baz=135,slow=4.1,SNR=11
ARU LR LR 01 52 46.3
comp=N,144nm,20.6s,baz=174,slow=38
comp=N,4.8nm,0.5s
ARU Arti 18.55 336 P Pn 01 45 06.3 -0.1
ARU Arti 18.55 336*c* *i*P Pn 01 45 06.4 -0.1
ARU S S **01 48 36.2 -1.4**
ARU pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 18.74 118 P Pn 01 45 10.9 +1.5
LSA Lhasa 18.74 118 P Pn 01 45 10.9 +1.5
LSA pmax pmax
comp=Z,7.0nm,0.8s
AKL Akola 19.84 166 *e*P P 01 45 21.2 +0.7
AKL IAmb IAmb 01 45 21.9
comp=Z,9.1nm,0.4s
GROC Groznyy 19.86 287 *e*P Pn 01 45 21.8 -0.4
GROC pmax pmax
comp=Z,16nm,0.5s
WSAR Wadi Sarin 20.34 218 LR LR 01 55 02.1
comp=Z,47nm,20.3s,baz=46,slow=42
BELG Belogornoye 20.77 314 P P 01 45 30.8 +0.4
comp=Z,5.2nm,0.4s,baz=283,slow=3.6,SNR=8.7
comp=Z,5.2nm,0.4s
ZEI Tsey 21.25 286 *e*P P 01 45 40.8 +4.8
ZEI pmax pmax
comp=Z,5.0nm,0.6s
GTA Gaotai 21.28 83 *e*P P 01 45 38.8 +2.5
GTA pP sP 01 45 49.8 +7.9
GTA sP pP 01 45 55.3 +15
GTA pmax pmax
comp=Z,5.0nm,1.1s
ONI Oni 21.60 286 P 01 45 38.6 -0.9
ONI IAmb IAmb 01 45 52.3
comp=Z,10nm,0.8s

ONI Oni 21.60 286 P **P** 01 45 38.6 -0.9
ONI pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 21.96 289⇓ *e*P **P** 01 45 41.8 -1.5
KBZ pmax pmax
comp=Z,11nm,0.9s
SHL Shillong 22.01 125 P **P** 01 45 43.6 -0.6
SHL IAmb IAmb 01 45 45.5
comp=Z,10nm,0.4s
SHL Shillong 22.01 125 P **P** 01 45 43.6 -0.6
SHL pmax pmax
comp=Z,10.0nm,0.4s
KIV Kislovodsk 22.11 290 P **P** 01 45 44.5 -0.6
KIV IAmb IAmb 01 46 23.9
comp=Z,11nm,0.7s
KIV Kislovodsk 22.11 290 *e*P **P** 01 45 45.8 +0.7
KIV *e*S **S** 01 49 48.2 -0.4
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,24nm,14.0s
VRH Novokhopyorsk 23.76 308 *e*P **P** 01 46 01.5 -0.4
VRH pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 24.05 54 *e*P **P** 01 46 06.7 +1.9
ZAK pmax pmax
comp=Z,3.0nm,0.9s
LZH Lanzhou 25.23 89 *e*P **P** 01 46 17.8 +2.1
LZH pmax pmax
comp=Z,8.0nm,0.8s
VSR Storozhevoye 25.32 307 P **P** 01 46 16.0 -0.2
VSR pmax pmax
comp=Z,6.0nm,0.8s
VORR Voronezh 25.40 308 P **P** 01 46 16.8 -0.1
VORR pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 25.68 61 P **P** 01 46 21.6 +1.9
comp=Z,0.8nm,0.8s,baz=260,slow=9.5,SNR=7.5
SONM LR LR 01 58 01.2
comp=Z,39nm,19.2s,baz=192,slow=40
comp=Z,0.8nm,0.8s
SONM Songino Array 25.68 61 P **P** 01 46 21.3 +1.6
LPSR Galich'ya Gora 25.80 310 P **P** 01 46 20.4 -0.2
LPSR pmax pmax
comp=Z,10.0nm,1.1s
ULN Ulaanbaatar 26.12 61⇓ *e*P **P** 01 46 25.7 +2.0
ULN pmax pmax
comp=Z,6.0nm,2.5s
RAYN Ar Rayn 27.87 242 P **P** 01 46 38.7 -0.8
RAYN Ar Rayn 27.87 242 P **P** 01 46 38.7 -0.8
RAYN pmax pmax
comp=Z,6.0nm,1.3s
PZH PanZhiHua 28.11 110 P **P** 01 46 45.1 +3.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.7s
BR131 Keskin Array S 29.34 282 P **P** 01 46 52.2 -0.4
BR131 IAmb IAmb 01 47 04.5
comp=Z,5.7nm,1.1s
BR131 Keskin Array S 29.34 282⇓ *e*P **P** 01 46 52.5 -0.1
BRTR Keskin Array B 29.34 282 P **P** 01 46 53.1 +0.5
comp=Z,0.7nm,0.5s,baz=87,slow=6.9,SNR=7.8
comp=Z,0.7nm,0.5s
BRTR Keskin Array B 29.34 282 P **P** 01 46 51.8 -0.8
BRTR Keskin Array B 29.34 282 *i* P **P** 01 46 53.5 +0.9
BRTR pmax pmax
comp=Z,1.0nm,0.5s
HHC Hu-ho-hao-te 29.84 76 *e*P **P** 01 46 58.6 +1.6
HHC pmax pmax
comp=Z,15nm,0.7s
AKASG Malin Array Be 31.48 304 P **P** 01 47 11.2 0.0
comp=Z,0.3nm,0.4s,baz=77,slow=7.4,SNR=4.9
AKASG pP **sP** 01 47 16.9 -0.1
comp=Z,1.8nm,0.5s,baz=79,slow=7.6,SNR=8.5
AKASG LR LR 02 02 27.9
comp=Z,44nm,20.4s,baz=354,slow=41
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 31.48 304 P **P** 01 47 10.2 -0.9
AKBB IAmb IAmb 01 47 17.5
comp=Z,4.2nm,0.7s
AKBB Malin Array Si 31.48 304 P **P** 01 47 10.2 -0.9
AKBB pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 31.65 125 LR LR 02 02 08.4
comp=Z,28nm,20.5s,baz=255,slow=40
BURAR Bucovina Array 34.17 298 P **P** 01 47 34.0 -0.9
BUR08 Bucovina Ar. S 34.18 298 P **P** 01 47 33.5 -1.4
FIA1 FINESS Array S 35.02 323 P **P** 01 47 39.6 -2.3
FINES FINESS Array B 35.02 323 P **P** 01 47 42.5 +0.7
comp=Z,0.9nm,0.3s,baz=109,slow=8.5,SNR=13
FINES LR LR 02 03 02.6
comp=Z,95nm,18.3s,baz=98,slow=38
comp=Z,0.9nm,0.3s
FINES FINESS Array B 35.02 323 P **P** 01 47 39.9 -2.0
IDI Anoyia 37.31 278 P **P** 01 48 01.8 -0.2
ARCES ARCESS Array B 38.14 336 P **P** 01 48 09.8 +1.3
comp=Z,3.0nm,0.8s,baz=114,slow=9.2,SNR=9.3
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 38.14 336 P **P** 01 48 08.6 +0.2
ARCES IAmb IAmb 01 48 52.0
comp=Z,15nm,1.3s
FNA Florina 38.15 288 P **P** 01 48 07.9 -1.1
FNA Florina 38.15 288 P **P** 01 48 07.9 -1.1
FNA pmax pmax
comp=Z,5.0nm,1.3s
NJ2 Nanjing 38.27 87 *e*P **P** 01 48 10.0 +0.1
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
DIVS Divibare 38.32 294 P **P** 01 48 09.0 -1.3
CN2 Changchun 39.26 67 *e*P **P** 01 48 20.3 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
HEH HeiHe 39.42 56 *e*P P 01 48 28.3 +8.9
HEH pmax pmax
comp=Z,5.0nm,0.8s
HEH pmax pmax
comp=Z,320nm,6.2s
VRAC Vranov 39.67 302 LR LR 02 05 44.4
comp=Z,34nm,18.1s,baz=46,slow=38
HFS Hagfors 40.80 319 LR LR 02 06 12.2
comp=Z,80nm,18.1s,baz=40,slow=37
BRG Berggiesshubel 41.14 305 Amp 01 48 41.2
comp=Z,2.2nm,0.6s
BRG Berggiesshubel 41.14 305 *e*P P 01 48 40.4 +6.8
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG Berggiesshubel 41.14 305 *e*P P 01 48 40.5 +6.8
GERES GERESS Array B 41.63 302 P **P** 01 48 39.0 +1.2
comp=Z,0.2nm,0.4s,baz=70,slow=8.5,SNR=2.0
GERES pP **sP** 01 48 45.0 +1.3
comp=Z,0.7nm,0.5s,baz=64,slow=9.1,SNR=5.3
comp=Z,0.2nm,0.4s
CLL Collm 41.66 306 *i* pP pP 01 48 43.9 +2.0
comp=Z,3.0nm,0.6s
CLL Collm 41.66 306 *i* P P 01 48 43.9 +6.0
CLL *e* 01 48 50.0
CLL pmax pmax
comp=Z,3.0nm,0.6s
NC303 NORSAR Array S 41.98 321 P **P** 01 48 39.9 -0.5
NC303 IAmb IAmb 01 49 05.8
comp=Z,8.1nm,1.1s
NB2 NORSAR Subarra 42.05 321 P **P** 01 48 40.7 -0.3
comp=Z,0.8nm,0.4s,baz=108,slow=7.9
NOA NORSAR Array B 42.05 321 P **P** 01 48 40.9 -0.1
comp=Z,0.7nm,0.7s,baz=100,slow=8.0,SNR=2.3
NOA pP **sP** 01 48 47.4 +0.9
comp=Z,0.8nm,0.5s,baz=92,slow=8.0,SNR=4.8
NOA LR LR 02 07 11.3
comp=Z,72nm,20.0s,baz=95,slow=38
comp=Z,0.7nm,0.7s
TIXI Tiksi 42.08 23 P **P** 01 48 42.1 +1.1
TIXI IAmb IAmb 01 48 52.5
comp=Z,4.7nm,0.7s
TIXI Tiksi 42.08 23 P **P** 01 48 42.1 +1.1
TIXI pmax pmax
comp=Z,5.0nm,0.7s
NC204 NORSAR Array S 42.27 321 P **P** 01 48 42.5 -0.3
NC204 IAmb IAmb 01 48 53.8
comp=Z,21nm,1.4s
SABO M.te Sabotino 42.30 298 P **P** 01 48 43.6 +0.3
SABO IAmb IAmb 01 48 50.1
comp=Z,14nm,0.9s
KSRS Korea Array 42.98 75 LR LR 02 08 04.9
comp=Z,24nm,18.1s,baz=345,slow=38
WATA Walderalm 43.34 300 *i* P **P** 01 48 51.4 -0.4
comp=Z,0.8nm,0.4s
MOTA Moosalm 43.65 300 *i* P **P** 01 48 54.3 0.0
comp=Z,0.2nm,0.2s
SPITS Spitsbergen Ar 44.16 346 P **P** 01 48 58.7 +0.9
SPITS pmax pmax
comp=Z,51nm,1.5s
SENIN Lac Senin/Sane 46.42 300 P **P** 01 49 16.0 -0.5
YSS Yuzh-Sakhalins 50.07 57⇓ *e*P **P** 01 49 45.9 +1.6
YSS pmax pmax
comp=Z,15nm,1.1s
DAG Danmarks Havn 51.49 343 *i* P **P** 01 49 54.0 -0.6
ESDC Sonseca Array 56.57 296 P **P** 01 50 31.8 -0.6
comp=Z,0.6nm,0.9s,baz=58,slow=6.5,SNR=4.6
ESDC pP **sP** 01 50 38.2 -0.1
comp=Z,0.7nm,0.7s,baz=57,slow=6.8,SNR=3.3
comp=Z,0.6nm,0.9s
EUNU Eureka 59.44 356 P **P** 01 50 51.9 0.0
TORD Torodi Ar. Bea 66.70 268 P **P** 01 51 39.6 -1.3
comp=Z,9.0nm,0.3s,baz=49,slow=5.7,SNR=7.8
A36M Sachs Harbour 67.49 6 P **P** 01 51 46.3 +1.2
A36M IAmb IAmb 01 51 54.1
comp=Z,3.9nm,0.8s
COLD Coldfoot 68.23 16 P **P** 01 51 50.6 +0.8
COLD IAmb IAmb 01 52 04.2
comp=Z,2.8nm,0.8s
IMAR Indian Mountai 68.44 18 P **P** 01 51 51.5 +0.4
BMAR Burnt Mountain 69.19 14 P **P** 01 51 57.5 +1.6
H24K Noodor Dome 69.91 16 P **P** 01 52 00.7 +0.4
H24K IAmb IAmb 01 52 20.2
comp=Z,4.7nm,1.2s
C36M Paulatuk 70.17 6 P **P** 01 52 02.0 +0.3
C36M IAmb IAmb 01 52 10.1
comp=Z,3.3nm,0.7s
INK Inuvik 70.17 10 P **P** 01 52 03.2 +1.4
INK IAmb IAmb 01 52 44.6
comp=Z,5.4nm,1.4s
INK Inuvik 70.17 10 P **P** 01 52 03.2 +1.4
INK pmax pmax
comp=Z,5.0nm,1.4s
K20K Telida 70.49 20 P **P** 01 52 04.8 +0.9
MDM Murphy Dome 70.58 17 P **P** 01 52 05.4 +1.0
MDM IAmb IAmb 01 52 16.8
comp=Z,3.5nm,1.2s
NEA2 Nenana 70.70 18 P **P** 01 52 05.9 +0.7
NEA2 IAmb IAmb 01 52 21.8
comp=Z,7.8nm,1.4s
CAST Castle Rocks 70.95 19 P **P** 01 52 07.6 +0.9
CAST IAmb IAmb 01 52 22.4
comp=Z,3.5nm,1.0s
WRH Wood River Hil 71.03 17 P **P** 01 52 07.3 +0.2
ILAR Eielson Array 71.04 17 P **P** 01 52 07.2 0.0
comp=Z,0.8nm,0.8s,baz=324,slow=5.5,SNR=11
comp=Z,0.8nm,0.8s
L19K White Mountain 71.23 21 P **P** 01 52 08.9 +0.5
L19K IAmb IAmb 01 52 19.0
comp=Z,6.9nm,1.3s
PPLA Purkeypile 71.36 20 P **P** 01 52 10.1 +0.7
TRF Thorofare Moun 71.38 19 P **P** 01 52 09.8 +0.3
TRF IAmb IAmb 01 52 48.4
comp=Z,7.8nm,1.4s
SKT Skwentna 72.29 20 P **P** 01 52 15.0 +0.2
SKT IAmb IAmb 01 52 17.0
comp=Z,9.5nm,1.4s
SCRK Sand Creek 72.35 16 P **P** 01 52 15.8 +0.6
SUA Susitna One 72.93 20 P **P** 01 52 18.4 -0.4
SUA IAmb IAmb 01 52 30.8
comp=Z,11nm,1.4s
GHO Glory Hole Cre 73.14 19 P **P** 01 52 20.3 +0.4
SML Sawmill 73.25 19 P **P** 01 52 21.1 +0.5
SCM Sheep Creek Mo 73.48 18 P **P** 01 52 22.2 +0.4
SCM Sheep Creek Mo 73.48 18 P **P** 01 52 22.3 +0.4
SCM pmax pmax
comp=Z,15nm,1.2s
M24K Tolsona, Glenn 73.51 18 P **P** 01 52 22.7 +0.6
KNK Knik Glacier 73.56 19 P **P** 01 52 22.9 +0.6
KNK IAmb IAmb 01 53 03.2
comp=Z,8.7nm,1.2s
YKA Yellowknife Ar 77.56 3 P **P** 01 52 45.5 +0.3
comp=Z,0.6nm,0.5s,baz=349,slow=5.7,SNR=17
comp=Z,0.6nm,0.5s
YKA Yellowknife Ar 77.56 3 P **P** 01 52 45.8 +0.6
YKA Yellowknife Ar 77.56 3 P **P** 01 52 45.8 +0.6
P33M Teslin, Yukon 77.91 12 P **P** 01 52 47.7 +0.3
P33M IAmb IAmb 01 53 06.6
comp=Z,4.9nm,1.2s
FCC Fort Churchill 80.78 353 P **P** 01 53 03.0 +0.2
FCC IAmb IAmb 01 53 18.1
comp=Z,5.3nm,1.4s
FCC Fort Churchill 80.78 353 P **P** 01 53 03.0 +0.2
FCC pmax pmax
comp=Z,5.0nm,1.4s
WB0 Warramunga Arr 83.12 123 P **P** 01 53 15.0 -0.7
WB0 IAmb IAmb 01 53 42.7
comp=Z,8.2nm,1.4s
WRA Warramunga Arr 83.22 123 P **P** 01 53 15.4 -0.8
comp=Z,0.4nm,0.4s,baz=330,slow=5.0,SNR=13
comp=Z,0.4nm,0.4s
WB2 Warramunga Arr 83.22 123 P **P** 01 53 15.7 -0.5
WB2 IAmb IAmb 01 53 43.1
comp=Z,5.8nm,1.1s
ASAR Alice Springs 85.66 126 P **P** 01 53 27.4 -1.1
comp=Z,0.6nm,0.8s,baz=308,slow=5.0,SNR=5.8
comp=Z,0.6nm,0.8s

ROM 23 01:45:55.1±0.0,**42°.526N**±0°.003×**13°.280E**±0°.004,
h13km,**ML1.9**/17,**13C-4D,Error ellipse: s-maj=0.3km**
s-min=0.0km az=45.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
RM33	**Pellescritta (**	**0.05**	**251**	⇓P	Pg	01 45 58.0	+0.2
RM33				S	Sg	01 45 59.7	+0.1
RM33				AML	AML		
	comp=E,3110μm,0.3s						
RM33				AML	AML		
	comp=N,2480μm,0.4s						
RM33				AML	AML		
	comp=N,2500μm,0.3s						
RM33				AML	AML		
	comp=N,2480μm,1.6s						
RM33				AML	AML		
	comp=E,3045μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.09**	**171**	P	Pg	01 45 58.4	+0.4
T1247				S	Sg	01 46 00.5	+0.4
T1247				AML	AML		
	comp=E,1400μm,1.1s						
T1247				AML	AML		
	comp=N,2370μm,0.1s						
CAMP	**Campotosto**	**0.10**	**84**	⇑P	Pg	01 45 58.6	+0.3
CAMP				S	Sg	01 46 00.7	+0.2
CAMP				AML	AML		
	comp=N,1030μm,0.4s						
CAMP				AML	AML		
	comp=N,1030μm,1.6s						
CAMP				AML	AML		
	comp=E,640μm,0.3s						
T1202	**Accumoli, Fraz**	**0.18**	**347**	P	Pb	01 46 00.0	-0.5
T1202				S	Sb	01 46 03.4	-0.6
T1202				AML	AML		
	comp=E,1785μm,0.3s						
T1202				AML	AML		
	comp=N,2720μm,0.3s						
T1202				AML	AML		
	comp=E,1785μm,1.7s						
T1218	**Civita (PG)**	**0.19**	**320**	⇑P	Pg	01 45 59.8	+0.3
T1218				S	Sg	01 46 03.1	+0.6
T1218				AML	AML		
	comp=E,566μm,0.4s						
T1218				AML	AML		
	comp=N,1241μm,0.2s						
LNSS	**Leonessa**	**0.19**	**294**	⇑P	Pg	01 45 60.0	+0.4
LNSS				S	Sg	01 46 03.4	+0.8
LNSS				AML	AML		
	comp=N,2330μm,0.8s						
LNSS				AML	AML		
	comp=E,1320μm,0.2s						
LNSS				AML	AML		
	comp=N,2330μm,1.2s						
AQU	**L'Aquila**	**0.19**	**152**	⇑P	Pg	01 46 00.0	+0.5
AQU				S	Sb	01 46 03.5	-0.7
AQU				AML	AML		
	comp=E,160μm,0.3s						
AQU				AML	AML		
	comp=N,202μm,0.6s						
T1222	**Castel Sant'An**	**0.22**	**235**	P	Pg	01 46 00.3	+0.4
T1222				S	Sb	01 46 04.1	-0.8
T1222				AML	AML		
	comp=E,684μm,0.3s						
T1222				AML	AML		
	comp=N,524μm,0.3s						
T1222				AML	AML		
	comp=E,756μm,0.3s						
T1222				AML	AML		
	comp=N,400μm,0.3s						
GIGS	**Gran Sasso**	**0.23**	**109**	⇑P	Pg	01 46 00.3	+0.2
GIGS				S	Sg	01 46 04.0	+0.6
GIGS				AML	AML		
	comp=E,58μm,0.7s						
GIGS				AML	AML		
	comp=N,83μm,1.5s						
GIGS				AML	AML		
	comp=E,58μm,0.7s						
GIGS				AML	AML		
	comp=N,83μm,0.5s						
FIAM	**Fiamignano**	**0.28**	**205**	⇑P	Pg	01 46 01.5	+0.4
FIAM				S	Sb	01 46 06.1	-0.7
FIAM				AML	AML		
	comp=E,178μm,0.6s						
FIAM				AML	AML		
	comp=N,168μm,0.7s						
T1212	**Cascia, Frazio**	**0.28**	**323**	⇑P	Pg	01 46 01.4	+0.2
T1212				S	Sg	01 46 05.8	+0.7
T1212				AML	AML		
	comp=E,228μm,1.5s						
T1212				AML	AML		
	comp=N,235μm,0.8s						
T1212				AML	AML		
	comp=E,228μm,1.5s						
T1217	**Poggiodomo (PG**	**0.32**	**306**	P	Pg	01 46 01.9	+0.2
T1217				S	Sb	01 46 07.0	-0.8
T1217				AML	AML		
	comp=E,231μm,1.6s						
T1217				AML	AML		
	comp=E,194μm,0.6s						
T1217				AML	AML		
	comp=N,248μm,1.4s						
T1217				AML	AML		
	comp=E,194μm,1.4s						
T1217				AML	AML		
	comp=N,248μm,0.6s						
T1217				AML	AML		
	comp=E,231μm,0.4s						
T1217				AML	AML		
	comp=N,278μm,1.2s						
FAGN	**Fagnano**	**0.34**	**139**	⇑P	Pg	01 46 02.4	+0.3
FAGN				S	Sb	01 46 10.2	+1.6
FAGN				AML	AML		
	comp=N,197μm,0.3s						
FAGN				AML	AML		
	comp=E,268μm,0.4s						
ARRO	**Arrone**	**0.38**	**278**	⇑P	Pg	01 46 03.0	+0.2
ARRO				S	Sg	01 46 08.7	+0.7
ARRO				AML	AML		
	comp=E,112μm,0.8s						
ARRO				AML	AML		
	comp=N,120μm,1.6s						
ARRO				AML	AML		
	comp=N,120μm,0.4s						
T1215	**Vallo di Nera,**	**0.41**	**312**	⇑P	Pg	01 46 03.4	+0.1
T1216	**Preci, Frazion**	**0.41**	**332**	P	Pg	01 46 03.6	+0.2
T1216				AML	AML		
	comp=E,146μm,1.4s						
T1216				AML	AML		
	comp=N,178μm,1.5s						
T1216				AML	AML		
	comp=E,146μm,0.6s						
T1216				AML	AML		
	comp=N,178μm,0.5s						
CESX	**Cesi**	**0.52**	**279**	⇑P	Pg	01 46 05.4	0.0
FDMO	**Fiordimonte**	**0.53**	**345**	⇑P	Pg	01 46 05.7	+0.2
CESI	**CESI - Serrava**	**0.55**	**330**	⇑P	Pb	01 46 06.4	-0.4
T1220	**Camerino, Fraz**	**0.60**	**347**	⇓P	Pg	01 46 07.0	+0.1
T1220				AML	AML		
	comp=E,193μm,1.2s						
T1220				AML	AML		
	comp=N,190μm,0.6s						
T1220				AML	AML		
	comp=N,190μm,1.4s						
SRES	**S.Oreste - Sor**	**0.64**	**243**	⇓P	Pg	01 46 07.2	-0.4
LPEL	**Lama dei Pelig**	**0.82**	**125**	⇓P	Pg	01 46 10.4	-0.7
CAFI	**Castiglion Fio**	**1.25**	**310**	P	Pn	01 46 17.0	-1.4

*UPA **23** 01:48:04.7±1.3,8°.25N×83°.03W,h4km±9km,ML3.6,MW3.6*
*UCR **23** 01:48:04.6±0.7,8°.14N×83°.01W,h14km±7km,MW3.6*
ISC 23 01:48:01.0±2.6,**8°.0N**±0°.1×**83°.04W**±0°.05,**h14**km±11km,**n27**,
σ0s67/37,**2D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CCOL	**Caracol de Cor**	**0.37**	**10**	*e*P	**Pn**	**01 48 10.8**	**-1.2**
CCOL				*e*S	**Sb**	**01 48 15.7**	**+0.6**
LPPC	**Paso Canoas**	**0.53**	**22**	*e*P	**Pn**	**01 48 13.2**	**-0.9**
EDAD	**Golfito**	**0.62**	**348**	*e*P	**Pb**	**01 48 14.1**	**+0.4**
EDAD				*e*S	**Sg**	**01 48 21.2**	**-0.3**
DVD	**David**	**0.70**	**56**	*e*P	**Pn**	**01 48 17.1**	**+0.5**
DVD				AMP		01 48 18.7	
	comp=Z,3μm,0.1s						
DVD				*e*S	**Sn**	**01 48 26.3**	**-0.9**
EDSV	**San Vito**	**0.78**	**5**	*e*P	**Pn**	**01 48 17.6**	**-0.1**
VITO	**San Vito**	**0.78**	**5**	*e*P	**Pn**	**01 48 17.6**	**-0.1**
BRU2	**Volcan**	**0.83**	**25**	⇓*i*P	**Pn**	**01 48 18.5**	**+0.1**
BRU2				*e*S	**Sb**	**01 48 28.4**	**+0.1**
BRU2	**Volcan**	**0.83**	**25**	*e*P	**Pn**	**01 48 18.4**	**+0.1**
BCO2	**Palmira**	**0.84**	**37**	⇓*i*P	**Pn**	**01 48 18.9**	**+0.3**
BCO2				*e*S	**Sb**	**01 48 29.6**	**+0.8**
PTAR3	**Potrerillos Ar**	**0.84**	**40**	*e*P	**Pn**	**01 48 19.0**	**+0.4**
PTAR3				*e*S	**Sn**	**01 48 30.5**	**-0.4**
CTCR	**Cotoan**	**0.90**	**18**	*e*P	**Pn**	**01 48 19.2**	**-0.2**
EDPN	**Palmar Norte**	**1.01**	**336**	*e*P	**Pn**	**01 48 21.1**	**+0.3**
POTG	**Potrero Grande**	**1.01**	**356**	*e*P	**Pn**	**01 48 21.1**	**+0.2**
POTG				*e*S	**Sb**	**01 48 33.8**	**+0.2**
SRBA	**San Rafael, Bu**	**1.23**	**345**	*e*P	**Pg**	**01 48 24.6**	**-0.1**
EDDO	**Dominical**	**1.46**	**326**	*e*P	**Pg**	**01 48 29.2**	**+0.2**
CNI2	**El Empalme, Bo**	**1.49**	**22**	*e*P	**Pb**	**01 48 28.6**	**+0.2**
CNI2				*e*S	**Sn**	**01 48 46.1**	**-0.5**
BRIBI	**Bribri**	**1.59**	**7**	*e*P	**Pg**	**01 48 31.7**	**+0.2**
BUS1	**Rivas**	**1.66**	**335**	*e*P	**Pb**	**01 48 31.7**	**0.0**
CDM	**Cerro de Muert**	**1.67**	**335**	*e*P	**Pb**	**01 48 31.8**	**0.0**
MRVA	**Moravia de Chi**	**1.82**	**347**	*e*P	**Pb**	**01 48 33.9**	**-0.3**
ABE2	**San Pablo**	**1.94**	**329**	*e*P	**Pb**	**01 48 36.8**	**+0.6**
OCM	**Ochomogo**	**2.06**	**334**	*e*P	**Pb**	**01 48 37.9**	**-0.4**
CVTV	**Tajo**	**2.08**	**340**	*e*P	**Pb**	**01 48 38.8**	**+0.1**
VTR0	**Volcan Turrial**	**2.09**	**340**	*e*P	**Pb**	**01 48 39.4**	**+0.4**
HDC	**Heredia**	**2.22**	**332**	*e*P	**Pn**	**01 48 39.1**	**+1.6**
HDC				*e*S	**Sb**	**01 49 08.3**	**-0.2**
JTS	**Las Juntas de**	**2.93**	**320**	*e*P	**Pb**	**01 48 51.4**	**-1.6**
JTS				*e*S	**Sn**	**01 49 23.0**	**+0.7**
JTS	**Las Juntas de**	**2.93**	**320**	*e*P	**Pb**	**01 48 51.4**	**-1.6**

*IDC **23** 01:57:38.8±3.5,22°.99S×66°.67E,h0km,mb3.7/6,*
mbtmp3.7/6,Error ellipse: s-maj=122.5km s-min=29.8km
az=45.0
ISC 23 01:57:40.4±3.5,**23°.0S**±0°.6×**66°.7E**±0°.6,**h10**km,**n6**,**σ0s27**/6,
mb3.8/6,**Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
ASAR	**Alice Springs**	**61.20**	**105**	P	**P**	**02 07 55.9**	**0.0**
	0.8nm,0.8s,baz=253,slow=5.9,SNR=5.6						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**62.56**	**101**	P	**P**	**02 08 04.9**	**-0.1**
	0.9nm,0.8s,baz=258,slow=6.6,SNR=5.1						
	0.9nm,0.8s						
BRTR	**Keskin Array B**	**69.62**	**333**	P	**P**	**02 08 50.0**	**+0.1**
	0.5nm,0.8s,baz=168,slow=4.8,SNR=4.4						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**70.91**	**11**	P	**P**	**02 08 57.5**	**-0.1**
	0.5nm,0.9s,baz=172,slow=4.4,SNR=3.6						
	0.5nm,0.9s						
ZALV	**Zalesovo Beam**	**78.24**	**11**	P	**P**	**02 09 39.6**	**-0.3**
	0.6nm,0.4s,baz=217,slow=1.4,SNR=4.6						
	0.6nm,0.4s						
SONM	**Songino Array**	**79.05**	**26**	P	**P**	**02 09 45.0**	**+0.3**
	0.6nm,0.9s,baz=202,slow=6.4,SNR=4.2						
	0.6nm,0.9s						

IDC 23 02:46:36.4±5.8, 5°89S×148°93E, h198km±39km, mb3.0/1, mbtmp3.6/3, Error ellipse: s-maj=122.1km s-min=54.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.91**	**207**	P	Pn	02 47 37.3	+0.2
	14nm,0.4s,baz=14,slow=8.3,SNR=5.7						
PMG				S	Sn	02 48 25.4	+0.6
	31nm,0.8s,baz=324,slow=23,SNR=5.9						
WRA	**Warramunga Arr**	**19.91**	**224**	P	P	02 50 52.7	-0.4
	0.9nm,0.5s,baz=49,slow=9.8,SNR=18						
ASAR	**Alice Springs**	**22.84**	**218**	P	P	02 51 23.1	+0.4
	0.4nm,0.3s,baz=47,slow=8.4,SNR=10						
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**146.92**	**285**	PKPbc	PKPbc	03 05 55.7	-0.9
	0.2nm,0.8s,baz=98,slow=1.8,SNR=1.1						

MAN 23 02:50:32.6, 6°92N×126°58E, h26km, mb3.9, ML2.6, MS2.2, Mindanao

IDC 23 02:53:48.0±7.7, 18°54S×179°97W, h593km±29km, mb2.4/2, mbtmp3.2/3, Error ellipse: s-maj=364.1km s-min=63.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.04**	**293**	P	P	02 55 02.0	0.0
	3.5nm,0.5s,baz=149,slow=5.9,SNR=8.8						
WRA	**Warramunga Arr**	**43.06**	**260**	P	P	03 00 56.9	-0.3
	0.3nm,0.5s,baz=97,slow=6.9,SNR=5.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**43.19**	**255**	P	P	03 00 58.2	0.0
	0.2nm,0.4s,baz=84,slow=8.5,SNR=1.9						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**133.37**	**343**	PKP	PKPdf	03 11 56.7	-0.4
	1.3nm,0.8s,baz=36,slow=5.2,SNR=4.6						

*IDC **23** 03:06:10.1±1.3, 3°89N×126°00E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=146.7km s-min=19.9km az=67.0*

*MAN **23** 03:06:13.4, 4°44N×127°12E, h22km, mb4.5, ML3.4, MS3.2*

ISC 23 03:06:11.4±0.9, 4°3N±0°1×127°1E±0°2, h10km, n8, σ25°57/11, mb3.7/5, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.33**	**323**	*eP*	**Pn**	**03 07 03.6**	**-0.1**
KCP				*i S*	**Sb**	**03 07 51.4**	**+0.2**
BIPH	**Bislig**	**3.89**	**349**	*iP*	**Pg**	**03 07 28.0**	**+2.1**
BIPH				*i S*	**Sg**	**03 08 12.6**	**-3.8**
APYP	**Conner**	**14.62**	**337**	*eP*	**Pn**	**03 09 36.0**	**-2.4**
APYP				*eS*	**P**	**03 09 49.3**	**+4.4**
WRA	**Warramunga Arr**	**25.16**	**164**	P	**P**	**03 11 35.9**	**-1.1**
	1.2nm,0.5s,baz=342,slow=9.8,SNR=4.6						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**28.62**	**167**	P	**P**	**03 12 07.4**	**-0.8**
	0.3nm,0.5s,baz=345,slow=11,SNR=5.4						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**38.57**	**160**	P	**P**	**03 13 34.3**	**-0.2**
	2.0nm,0.6s,baz=328,slow=11,SNR=5.4						
	2.0nm,0.6s						
SONM	**Songino Array**	**46.85**	**341**	P	**P**	**03 14 43.2**	**+1.4**
	0.3nm,0.4s,baz=155,slow=9.8,SNR=4.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**03 15 57.2**	**-2.2**
	0.5nm,0.6s,baz=123,slow=7.0,SNR=10						
	0.5nm,0.6s						

*IDC **23** 03:06:12.9±1.0, 5°53S×153°12E, h0km, mb4.1/12, mbtmp4.1/12, MS3.6/18, Error ellipse: s-maj=33.5km s-min=17.6km az=109.0*

*NEIC **23** 03:06:14.7±1.2, 5°51S±0°08×153°16E±0°09, h10km±1km, mb4.3/23, Error ellipse: s-maj=14.7km s-min=13.6km az=83.0*

ISC 23 03:06:18.5±0.7, 5°51S±0°08×153°1E±0°1, h37km, n61, σ0°82/50, mb4.2/23, MS3.6/15, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.58**	**319**	Pn	**Pn**	**03 06 43.5**	**-0.5**
KRVT				LR	LR	03 07 25.6	
	comp=Z,1μm,21.3s,baz=202,slow=44						
RABL	**Rabaul**	**1.59**	**325**		**Pn**	**03 06 44.2**	**+0.2**
PMG	**Port Moresby**	**7.02**	**236**	Pn	**Pn**	**03 08 01.3**	**+2.5**
	3.2nm,0.3s,baz=3.9,slow=8.4,SNR=7.5						
PMG				Sn	**Sn**	**03 09 17.8**	**+0.4**
	8.0nm,0.3s,baz=13,slow=19,SNR=11						
PMG				LR	LR	03 11 08.0	
	comp=Z,196nm,18.2s,baz=321,slow=42						
PMG	**Port Moresby**	**7.02**	**236**	Pn	**Pn**	**03 07 58.5**	**-0.3**
HNR	**Honiara**	**7.86**	**120**	LR	LR	03 11 02.9	
	comp=Z,1μm,21.1s,baz=312,slow=37						
CTA	**Charters Tower**	**15.94**	**204**	LR	LR	03 16 17.7	
	comp=Z,183nm,18.1s,baz=70,slow=38						
CTAO	**Charters Tower**	**15.94**	**204**	P	**P**	**03 10 03.1**	**-0.1**
EIDS	**Eidsvold**	**19.84**	**185**	P	**P**	**03 10 45.0**	**-1.2**
EIDS				IAmb	IAmb	03 10 56.9	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**23.04**	**230**	P	**P**	**03 11 19.8**	**-0.8**
WR0				IAmb	IAmb	03 11 40.1	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**23.04**	**230**	P	**P**	**03 11 20.3**	**-0.4**
WB0				IAmb	IAmb	03 11 43.6	
	comp=Z,5.8nm,0.8s						
WB2	**Warramunga Arr**	**23.18**	**230**	P	**P**	**03 11 22.3**	**+0.2**
WB2				IAmb	IAmb	03 11 45.8	
	comp=Z,8.3nm,0.9s						
WRA	**Warramunga Arr**	**23.19**	**230**	P	**P**	**03 11 22.2**	**0.0**
	comp=Z,2.7nm,0.8s,baz=54,slow=9.9,SNR=18						
WRA				LR	LR	03 20 20.3	
	comp=Z,110nm,20.3s,baz=72,slow=36						
	comp=Z,2.7nm,0.8s						
WRA	**Warramunga Arr**	**23.19**	**230**	P	**P**	**03 11 21.6**	**-0.5**
AS31	**Alice Springs**	**25.82**	**224**	P	**P**	**03 11 46.3**	**-0.2**
ASAR	**Alice Springs**	**25.82**	**224**	P	**P**	**03 11 46.0**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=57,slow=8.7,SNR=14						
ASAR				LR	LR	03 21 21.0	
	comp=Z,80nm,21.9s,baz=90,slow=35						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**25.82**	**224**	P	**P**	**03 11 44.4**	**-2.0**
STKA	**Stephens Creek**	**28.35**	**201**	P	**P**	**03 12 08.7**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=24,slow=14,SNR=3.8						
STKA				LR	LR	03 23 19.3	
	comp=Z,109nm,18.5s,baz=24,slow=36						
	comp=Z,1.4nm,0.7s						
STKA	**Stephens Creek**	**28.35**	**201**	P	**P**	**03 12 07.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**29.56**	**243**	P	**P**	**03 12 18.7**	**-1.3**
FORT	**Forrest**	**34.41**	**220**	P	**P**	**03 13 02.4**	**0.0**
AFI	**Afiamalu**	**35.60**	**106**	LR	LR	03 24 41.2	
	comp=Z,48nm,19.6s,baz=177,slow=31						
URZ	**Urewera**	**39.24**	**150**	LR	LR	03 28 06.3	
	comp=Z,106nm,21.7s,baz=55,slow=34						
RPZ	**Rata Peaks**	**41.22**	**160**	LR	LR	03 31 00.8	
	comp=Z,170nm,18.7s,baz=318,slow=36						
NWAO	**Narrogin (SRO)**	**43.09**	**226**	LR	LR	03 32 39.9	
	comp=Z,89nm,18.6s,slow=37						
KLR	**Kul'dur**	**57.59**	**344**	P	**P**	**03 16 04.6**	**0.0**
	comp=Z,2.4nm,0.8s,baz=148,slow=2.7,SNR=5.2						
	comp=Z,2.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.42**	**295**	P	**P**	**03 16 11.5**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=103,slow=6.6,SNR=4.6						
	comp=Z,0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**58.42**	**295**	P	**P**	**03 16 10.1**	**-0.8**
PETK	**Petropavlovsk-**	**58.53**	**3**	P	**P**	**03 16 12.1**	**+1.1**
	comp=Z,6.6nm,0.8s,baz=163,slow=6.5,SNR=6.0						
PETK				LR	LR	03 38 32.8	
	comp=Z,34nm,20.2s,baz=151,slow=33						
	comp=Z,6.6nm,0.8s						
PETK	**Petropavlovsk-**	**58.53**	**3**	P	**P**	**03 16 10.5**	**-0.5**
SONM	**Songino Array**	**67.06**	**328**	P	**P**	**03 17 08.5**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=145,slow=5.3,SNR=5.2						
	comp=Z,1.1nm,0.9s						
SONM	**Songino Array**	**67.06**	**328**	P	**P**	**03 17 08.2**	**+0.1**
SONM				IAmb	IAmb	03 17 21.7	
	comp=Z,2.2nm,1.2s						
SEY	**Seymchan**	**68.25**	**360**	P	**P**	**03 17 15.2**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=164,slow=6.7,SNR=4.8						
	comp=Z,2.2nm,0.9s						
YAK	**Yakutsk**	**69.72**	**348**	LR	LR	03 46 38.1	
	comp=Z,20nm,20.6s,baz=125,slow=35						
BILL	**Bilibino**	**73.97**	**5**	P	**P**	**03 17 50.2**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L19K	**White Mountain**	**78.30**	**22**	P	**P**	**03 18 14.7**	**+0.2**
L19K				IAmb	IAmb	03 18 17.2	
	comp=Z,7.7nm,1.1s						
M20K	**Styx River**	**78.78**	**23**	P	**P**	**03 18 16.3**	**-0.9**
M20K				IAmb	IAmb	03 18 42.8	
	comp=Z,3.2nm,1.0s						
SUA	**Susitna One**	**79.49**	**24**	P	**P**	**03 18 21.0**	**-0.1**
SUA				IAmb	IAmb	03 18 21.7	
	comp=Z,9.7nm,1.3s						
CAST	**Castle Rocks**	**80.06**	**22**	P	**P**	**03 18 22.5**	**-1.5**
CAST				IAmb	IAmb	03 18 44.6	
	comp=Z,7.8nm,1.4s						
SML	**Sawmill**	**80.65**	**24**	P	**P**	**03 18 28.6**	**+1.2**
IMAR	**Indian Mountai**	**80.96**	**19**	P	**P**	**03 18 28.5**	**-0.3**
MK31	**Makanchi Array**	**81.03**	**319**	P	**P**	**03 18 30.2**	**+0.6**
MK31				IAmb	IAmb	03 18 32.7	
	comp=Z,1.9nm,1.1s						
MKAR	**Makanchi Array**	**81.03**	**319**	P	**P**	**03 18 29.9**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=105,slow=4.5,SNR=5.9						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**81.03**	**319**	P	**P**	**03 18 30.2**	**+0.6**
SCM	**Sheep Creek Mo**	**81.08**	**24**	P	**P**	**03 18 30.1**	**+0.5**
MAKZ	**Makanchi**	**81.24**	**319**	P	**P**	**03 18 30.9**	**+0.2**
MAKZ				IAmb	IAmb	03 18 38.5	
	comp=Z,1.9nm,0.7s						
MLY	**Manley**	**81.44**	**21**	P	**P**	**03 18 31.4**	**0.0**
MLY				IAmb	IAmb	03 18 46.1	
	comp=Z,2.7nm,1.2s						
ZAA0	**Zalesovo Array**	**81.89**	**326**	P	**P**	**03 18 33.3**	**-0.6**
ZAA0				IAmb	IAmb	03 18 45.9	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**81.89**	**326**	P	**P**	**03 18 33.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=104,slow=6.3,SNR=8.2						
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**81.89**	**326**	P	**P**	**03 18 32.9**	**-1.0**
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**03 18 37.3**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=251,slow=5.5,SNR=7.7						
ILAR				LR	LR	03 48 11.8	
	comp=Z,38nm,21.2s,baz=298,slow=30						
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**03 18 38.5**	**+0.5**
NIL	**Nilore**	**84.59**	**304**	P	**P**	**03 18 48.3**	**-0.1**
BMAR	**Burnt Mountain**	**84.82**	**20**	P	**P**	**03 18 48.9**	**+0.1**
YBH	**Yreka Blue Hor**	**89.33**	**48**	LR	LR	03 51 55.5	
	comp=Z,74nm,19.9s,baz=298,slow=31						
NEW	**Newport**	**93.94**	**42**	LR	LR	04 02 01.9	
	comp=Z,21nm,18.6s,baz=227,slow=36						
ELK	**Elko**	**94.84**	**50**	LR	LR	03 57 25.1	
	comp=Z,33nm,18.5s,baz=237,slow=32						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	**P**	**03 19 42.4**	**+1.2**
	comp=Z,0.4nm,1.0s,baz=260,slow=4.1,SNR=4.0						
	comp=Z,0.4nm,1.0s						
AKTO	**Aktyubinsk**	**97.43**	**320**	LR	LR	04 05 18.2	
	comp=Z,38nm,18.9s,baz=102,slow=36						
PDAR	**Pinedale Array**	**99.13**	**48**	LR	LR	04 00 05.3	
	comp=Z,34nm,18.9s,baz=241,slow=33						
GERES	**GERESS Array B**	**124.79**	**328**	PKP	**PKiKP**	**03 25 16.1**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=48,slow=2.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**150.77**	**287**	PKPbc	**PKiKP**	**03 26 08.1**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=66,slow=2.9,SNR=7.1						

*NEIC **23** 03:15:19.9±1.4, 36°56N±0°02×121°20W±0°02, h16km±2km, Error ellipse: s-maj=3.1km s-min=1.7km az=221.0*

*NCEDC **23** 03:15:19.8±2.1, 36°59N±0°01×121°15W±0°02, h8km±4km, ML3.5/55, ML3.4/48(NEIC), Error ellipse: s-maj=2.5km s-min=1.7km az=61.0*

*ANF **23** 03:15:21.2±0.6, 36°41N×120°93W, h0km, ML3.4/13, Error ellipse: s-maj=6.3km s-min=2.9km az=87.0*

ISC 23 03:15:19.4±0.8, 36°56N±0°02×121°19W±0°02, h16km±4km, n168, σ0°92/181, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPIM	**Pinnacles**	**0.07**	**166**		**Pg**	**03 15 22.2**	**-0.3**
BBNM	**San Benito**	**0.10**	**118**		**Pg**	**03 15 22.8**	**0.0**
BBGB	**Big Mountain B**	**0.12**	**80**	Pg	**Pg**	**03 15 22.8**	**-0.4**
BBGB				Sg	**Sg**	**03 15 24.7**	**-1.0**
BJOM	**Mount Johnson**	**0.12**	**305**		**Pg**	**03 15 22.9**	**-0.2**
BJOM					**Sg**	**03 15 25.1**	**-0.3**
BLRM	**Lewis Ranch**	**0.13**	**328**		**Pg**	**03 15 23.1**	**0.0**
SCZ	**Santa Cruz**	**0.18**	**283**		**Pg**	**03 15 23.9**	**+0.1**
SCZ					**Sg**	**03 15 26.9**	**+0.2**
BSLM	**Silva Ranch**	**0.25**	**329**		**Pb**	**03 15 25.9**	**+0.4**
SAO	**San Andreas Ge**	**0.29**	**315**	Pg	**Pg**	**03 15 25.7**	**0.0**
SAO				Sg	**Sg**	**03 15 30.1**	**+0.2**
FRP	**Fremont Peak**	**0.31**	**309**		**Pg**	**03 15 26.0**	**0.0**
BMSM	**Mercy Hot Spri**	**0.33**	**72**		**Pg**	**03 15 26.6**	**+0.2**
HAST	**Hastings Reser**	**0.34**	**240**		**Pb**	**03 15 27.1**	**+0.1**
HAST					**Sb**	**03 15 32.5**	**+0.3**
HLTM	**Lone Tree Road**	**0.34**	**344**		**Pb**	**03 15 28.2**	**+1.1**
HSFM	**Saint Francis**	**0.35**	**316**		**Pb**	**03 15 27.2**	**-0.1**
HBTM	**San Juan Bauti**	**0.41**	**315**		**Pb**	**03 15 28.1**	**-0.1**
OCR	**O'Connell Ranc**	**0.44**	**325**		**Pg**	**03 15 28.3**	**0.0**
HTUM	**Tustin Road**	**0.45**	**307**		**Pg**	**03 15 28.6**	**+0.1**
PACP	**Pacheco Peak**	**0.46**	**350**		**Pb**	**03 15 28.9**	**-0.2**
HFEM	**San Felipe**	**0.46**	**338**		**Pb**	**03 15 29.0**	**-0.2**
ANZ	**Anza Road**	**0.46**	**315**		**Pb**	**03 15 29.4**	**+0.3**
PMPB	**Monarch Peak**	**0.46**	**137**	Pg	**Pb**	**03 15 29.2**	**0.0**
PMPB				IAML		03 15 40.1	
	comp=N,4μm,0.6s						
PMPB				IAML		03 15 44.7	
	comp=E,3μm,0.4s						
PCCM	**Crazy Canyon**	**0.47**	**177**		**Pb**	**03 15 29.8**	**+0.5**
SLD	**San Luis Dam**	**0.52**	**357**		**Pg**	**03 15 29.7**	**0.0**
CDC	**Canada Road**	**0.52**	**333**		**Pb**	**03 15 30.4**	**+0.2**
BPOM	**Post Ranch**	**0.57**	**235**		**Pb**	**03 15 31.4**	**+0.4**
PPTM	**Peach Tree Val**	**0.59**	**140**		**Pb**	**03 15 31.3**	**0.0**
JELB	**Ellicott, Sant**	**0.63**	**306**		**Pb**	**03 15 32.6**	**+0.6**
SCKWR	**San Luis Creek**	**0.63**	**9**		**Pb**	**03 15 32.5**	**+0.5**
PSMM	**Smith Mountain**	**0.68**	**135**		**Pb**	**03 15 33.3**	**+0.3**
PDRM	**Domenigne Ranc**	**0.70**	**108**		**Pb**	**03 15 33.6**	**+0.4**
CADM	**Anderson Res.**	**0.70**	**330**		**Pb**	**03 15 33.2**	**+0.1**
JTGM	**Trout Gulch Ro**	**0.72**	**311**		**Pb**	**03 15 34.5**	**+0.9**
JLAB	**Laurel Hill**	**0.74**	**324**		**Pb**	**03 15 34.0**	**+0.1**
PHSB	**Hesperia Broad**	**0.74**	**171**		**Pb**	**03 15 34.4**	**+0.5**
PHPM	**Hope Ranch**	**0.74**	**141**		**Pb**	**03 15 33.9**	**0.0**
JRGM	**Rodeo Gulch Ro**	**0.79**	**308**		**Pg**	**03 15 34.6**	**-0.1**
AMC	**Almaden**	**0.80**	**319**		**Pg**	**03 15 34.7**	**-0.2**
PWMM	**Westland Maint**	**0.80**	**99**		**Pb**	**03 15 35.7**	**+0.8**
CCOB	**Coe Ranch Numb**	**0.80**	**331**		**Pb**	**03 15 35.7**	**+0.8**
CMPM	**Mikes Peak**	**0.81**	**353**		**Pb**	**03 15 35.5**	**+0.5**
PANM	**San Antonio Re**	**0.81**	**164**		**Pb**	**03 15 35.6**	**+0.6**
PVCM	**Vineyard Canyo**	**0.83**	**140**		**Pb**	**03 15 35.5**	**+0.1**
PPO	**Portuguese Can**	**0.83**	**146**		**Pb**	**03 15 36.0**	**+0.6**
PSTM	**Stockdale Moun**	**0.83**	**139**		**Pb**	**03 15 35.6**	**+0.1**
MHC	**Mount Hamilton**	**0.86**	**335**		**Pb**	**03 15 36.1**	**+0.1**
JJOM	**Saint Joseph's**	**0.90**	**316**		**Pg**	**03 15 36.4**	**-0.6**
SCCB	**Santa Clara Co**	**0.91**	**304**		**Pb**	**03 15 37.2**	**+0.5**
PWKM	**Work Ranch**	**0.92**	**143**		**Pb**	**03 15 37.6**	**+0.6**
PHFM	**Heflinger Ranc**	**0.93**	**136**		**Pb**	**03 15 37.6**	**+0.5**
CTM	**Castle Mountai**	**0.93**	**132**		**Pb**	**03 15 37.9**	**+0.8**
RAMR	**Ramage Ranch**	**0.96**	**164**		**Pb**	**03 15 38.1**	**+0.5**
JBNB	**Ben Lomond Mou**	**0.96**	**306**		**Pg**	**03 15 37.2**	**-0.8**
COSM	**Mount Oso**	**0.96**	**351**		**Pb**	**03 15 38.4**	**+0.7**
GHC	**Gold Hill**	**0.99**	**137**		**Pb**	**03 15 38.4**	**+0.2**
JSGM	**Saratoga Golf**	**1.00**	**317**		**Pg**	**03 15 38.3**	**-0.5**
CALM	**Calaveras Res.**	**1.02**	**331**		**Pb**	**03 15 39.0**	**+0.4**
MYLM	**Yosemite Lake**	**1.03**	**37**		**Pg**	**03 15 38.0**	**-1.2**
JSCM	**Stevens Creek**	**1.04**	**314**		**Pg**	**03 15 38.7**	**-0.9**
PKLM	**Kerr Lake**	**1.04**	**138**		**Pb**	**03 15 39.5**	**+0.5**
BLDC	**Black Mountain**	**1.05**	**167**		**Pn**	**03 15 40.1**	**+0.7**
JSJM	**St Joseph**	**1.06**	**317**		**Pg**	**03 15 39.1**	**-0.8**
TCAS	**Cass Winery, P**	**1.07**	**152**		**Pn**	**03 15 40.6**	**+0.9**
JBMM	**Black Mountain**	**1.08**	**315**		**Pg**	**03 15 39.6**	**-0.7**
ARDC	**Alexander Ranc**	**1.11**	**171**		**Pg**	**03 15 40.2**	**-0.6**
JFP	**Foothills Park**	**1.13**	**315**		**Pg**	**03 15 40.3**	**-1.0**
WENL	**Wente Vineyard**	**1.16**	**337**		**Pg**	**03 15 40.9**	**-0.8**
JSFB	**Stanford Teles**	**1.16**	**317**		**Pg**	**03 15 40.9**	**-0.8**
CVLM	**Vallecito**	**1.19**	**334**		**Pb**	**03 15 41.5**	**0.0**
JRSC	**Jasper Ridge**	**1.19**	**315**		**Pb**	**03 15 41.1**	**-0.4**
BGH	**Bear Gulch**	**1.21**	**311**		**Pb**	**03 15 41.3**	**-0.5**
CNIC	**Niles Canyon**	**1.22**	**330**		**Pb**	**03 15 41.6**	**-0.4**
TSCN	**Private Proper**	**1.22**	**146**		**Pg**	**03 15 42.8**	**-0.2**
EFD	**Emergency Oper**	**1.29**	**163**		**Pn**	**03 15 43.4**	**+0.7**
TSCS	**Shell Creek So**	**1.30**	**148**		**Pb**	**03 15 43.8**	**+0.2**
CBSNC	**Byron Hot Spri**	**1.31**	**344**		**Pn**	**03 15 43.8**	**+0.9**
TRAY	**Twisselman Ran**	**1.32**	**139**		**Pg**	**03 15 44.4**	**-0.4**
VPDC	**Valencia Peak**	**1.34**	**169**		**Pg**	**03 15 44.7**	**-0.5**
CMOB	**Morgan Territo**	**1.34**	**339**		**Pg**	**03 15 46.7**	**+1.4**
JCHM	**Cahill Ridge**	**1.35**	**316**		**Pn**	**03 15 43.1**	**-0.5**
DPD	**Davis Peak**	**1.36**	**166**		**Pg**	**03 15 45.0**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCD	**Diablo Creek**	**1.37**	**168**		**Pb**	**03 15 45.0**	**+0.3**
CSLM	**San Leandro Hi**	**1.38**	**328**		**Pn**	**03 15 44.6**	**+0.6**
BGC	**Bolinger Road**	**1.44**	**331**		**Pn**	**03 15 45.4**	**+0.6**
CRHM	**Round Hill Res**	**1.45**	**334**		**Pn**	**03 15 45.2**	**+0.3**
VOG	**Valley Oaks Go**	**1.48**	**99**		**Pn**	**03 15 44.8**	**-0.5**
VOG	**Valley Oaks Go**	**1.48**	**99**	P	**Pn**	**03 15 44.6**	**-0.7**
	baz=281,SNR=18						
VOG				S	**Sn**	**03 16 03.2**	**-1.0**
	baz=281						
JSBM	**San Bruno Moun**	**1.48**	**320**		**Pn**	**03 15 44.5**	**-0.8**
MCUB	**Copperopolis B**	**1.49**	**18**		**Pn**	**03 15 44.7**	**-0.8**
BKS	**Berkeley–Byer**	**1.56**	**328**		**Pn**	**03 15 46.2**	**-0.2**
CVPM	**Vollmer Peak**	**1.56**	**328**		**Pn**	**03 15 46.5**	**0.0**
VAK	**Adit at Lawren**	**1.56**	**328**		**Pn**	**03 15 46.4**	**-0.1**
SMMC	**Simmler**	**1.57**	**142**		**Pn**	**03 15 47.1**	**+0.5**
SMMC	**Simmler**	**1.57**	**142**	P	**Pn**	**03 15 47.0**	**+0.3**
	baz=324,SNR=24						
SMMC				S	**Sn**	**03 16 04.4**	**-2.3**
	baz=324						
RCTC	**Rector, Farmer**	**1.59**	**99**		**Pn**	**03 15 46.2**	**-0.6**
JPRM	**Presidio of Sa**	**1.60**	**321**		**Pn**	**03 15 48.0**	**+1.0**
CMB	**Columbia Colle**	**1.61**	**23**	Pn	**Pn**	**03 15 46.8**	**-0.4**
BCH	**Branch Mountai**	**1.64**	**146**		**Pn**	**03 15 47.7**	**+0.1**
CPIM	**Pinole Ridge**	**1.65**	**331**		**Pn**	**03 15 47.7**	**+0.2**
CARC	**Carrizo Plain**	**1.66**	**138**		**Pn**	**03 15 48.7**	**+0.9**
KCC	**Kaiser Creek**	**1.68**	**62**		**Pn**	**03 15 49.1**	**+1.0**
PMLM	**Mount Lospe**	**1.73**	**164**		**Pn**	**03 15 49.0**	**+0.3**
VES	**Vestal, Richgr**	**1.85**	**112**		**Pn**	**03 15 50.3**	**0.0**
VES	**Vestal, Richgr**	**1.85**	**112**	P	**Pn**	**03 15 50.3**	**0.0**
	baz=295,SNR=40						
VES				S	**Sn**	**03 16 12.7**	**-0.6**
	baz=295						
SPG2	**Springville 2**	**1.99**	**100**		**Pn**	**03 15 52.3**	**-0.1**
MRDM	**Red Cones**	**2.00**	**58**		**Pn**	**03 15 54.3**	**+1.6**
MDPB	**Devils Postpil**	**2.00**	**57**	Pn	**Pn**	**03 15 54.1**	**+1.4**
PKM	**Mcpherson Peak**	**2.01**	**146**	P	**Pn**	**03 15 53.4**	**+0.7**
	baz=328						
NBRB	**Beebe Ranch Br**	**2.02**	**328**		**Pn**	**03 15 52.4**	**-0.3**
MDYM	**Dry Creek**	**2.06**	**57**		**Pn**	**03 15 55.6**	**+2.1**
NAPC	**Atlas Peak**	**2.06**	**336**		**Pn**	**03 15 53.7**	**+0.3**
MDCM	**Deadman Creek**	**2.07**	**56**		**Pn**	**03 15 55.4**	**+1.7**
MCCM	**Marconi Confer**	**2.08**	**320**	Pn	**Pn**	**03 15 53.8**	**+0.2**
MCCM				IAML		03 16 27.1	
	comp=N,245nm,2.9s						
MCCM				IAML		03 16 50.7	
	comp=E,281nm,2.5s						
MMLB	**Mammoth Lakes**	**2.08**	**57**		**Pn**	**03 15 55.8**	**+2.0**
MLCM	**Laurel Creek C**	**2.10**	**59**		**Pn**	**03 15 55.9**	**+1.7**
MEMM	**East Mammoth H**	**2.11**	**58**		**Pn**	**03 15 56.0**	**+1.7**
MGPM	**Gravel Pit**	**2.12**	**59**		**Pn**	**03 15 56.4**	**+2.1**
MCSM	**Casa Diablo Ho**	**2.13**	**58**		**Pn**	**03 15 56.7**	**+2.2**
MCBM	**Casa Benchmark**	**2.13**	**59**		**Pn**	**03 15 56.6**	**+2.1**
LMCR	**Lookout Mounta**	**2.14**	**56**		**Pb**	**03 15 57.0**	**-0.9**
MCVM	**Convict Lake**	**2.15**	**61**		**Pn**	**03 15 56.8**	**+2.0**
MLAC	**Mammoth, Mammo**	**2.17**	**60**		**Pb**	**03 15 57.6**	**-0.7**
MLAC	**Mammoth, Mammo**	**2.17**	**60**	P	**Pb**	**03 15 57.3**	**-1.0**
	baz=241						
MLAC				S	**Sb**

s-min=25.4km az=84.0
*NEIC **23** 03:22:38.2±1.0, 57.3°S±0.1°×27.0°W±0.2, h99km±6km, mb4.4/19, Error ellipse: s-maj=18.8km s-min=16.3km az=182.0*

ISC 23 03:22:37.7±0.5, 57.27°S±0.09°×26.93°W±0.10, h100km, n51, σ0.87/48, mb4.5/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORCD	**Orcadas**	**9.81**	**242**	Pn	**Pn**	**03 24 54.5**	**-1.1**
VNA1	**Neumayer--Stat**	**15.61**	**157**	P	**Pn**	**03 26 12.7**	**+1.0**
VNA3	**Neumayer Olymp**	**15.79**	**159**	P	**Pn**	**03 26 14.7**	**+0.7**
VNA2	**Neumayer--Watz**	**16.01**	**156**	P	**P**	**03 26 18.0**	**-0.2**
	baz=318,slow=13						
SNAA	**Sanae**	**17.57**	**155**	P	**P**	**03 26 33.4**	**-2.1**
SNAA	**Sanae**	**17.57**	**155**	LR	LR	03 32 01.6	
	comp=Z,102nm,20.7s,baz=118,slow=32						
SNAA	**Sanae**	**17.57**	**155**	P	**P**	**03 26 34.0**	**-1.5**
PMSA	**Palmer Station**	**19.23**	**232**	P	**P**	**03 26 52.8**	**-0.7**
BELA	**Belgrano 2**	**20.87**	**185**	P	**P**	**03 27 11.1**	**0.0**
BELA				IAmb	IAmb	03 27 14.9	
	comp=Z,9.0nm,0.5s						
SMAI	**San Martin Ant**	**20.94**	**223**	P	**P**	**03 27 13.1**	**+1.1**
SMAI				IAmb	IAmb	03 27 16.8	
	comp=Z,25nm,1.3s						
GO09	**Cerro Castillo**	**26.77**	**263**	P	**P**	**03 28 07.6**	**-0.1**
GO09				IAmb	IAmb	03 28 16.1	
	comp=Z,30nm,1.4s						
GO08	**Villa O'Higgin**	**28.42**	**268**	P	**P**	**03 28 23.9**	**+1.4**
GO08				IAmb	IAmb	03 28 26.2	
	comp=Z,16nm,1.2s						
QSPA	**South Pole Qui**	**32.98**	**180**	P	**P**	**03 29 03.2**	**+0.6**
QSPA				IAmb	IAmb	03 29 04.7	
	comp=Z,11nm,1.3s						
MT03	**Universidad Ad**	**37.81**	**290**	P	**P**	**03 29 44.2**	**0.0**
MT09	**Talagante**	**37.83**	**289**	P	**P**	**03 29 44.1**	**-0.4**
MT02	**Curacav**	**38.32**	**290**	P	**P**	**03 29 46.6**	**-1.8**
VNDA	**Vanda**	**45.36**	**183**	P	**P**	**03 30 45.7**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=186,slow=7.7,SNR=9.5						
	comp=Z,1.3nm,0.6s						
VNDA	**Vanda**	**45.36**	**183**	P	**P**	**03 30 44.9**	**-0.2**
VNDA				IAmb	IAmb	03 30 52.2	
	comp=Z,5.2nm,1.5s						
PB07	**IPOC Station P**	**47.26**	**300**	P	**P**	**03 30 59.7**	**-1.2**
PB07				IAmb	IAmb	03 31 02.2	
	comp=Z,7.4nm,1.0s						
PTLB	**Pontes e Lacer**	**48.28**	**316**	P	**P**	**03 31 08.7**	**+0.2**
PTLB				IAmb	IAmb	03 31 10.2	
	comp=Z,1.1nm,0.7s						
GO01	**Chusmiza**	**48.72**	**303**	P	**P**	**03 31 13.7**	**+1.2**
H10S2	**ASCENSION HYDR**	**49.13**	**16**	T	T	04 24 24.1	
	baz=188						
H10S3	**ASCENSION HYDR**	**49.14**	**16**	T	T	04 24 22.9	
	baz=32,SNR=9.5						
MNMC	**Minye Minye**	**49.37**	**302**	P	**P**	**03 31 17.4**	**+0.3**
MNMC				IAmb	IAmb	03 31 45.5	
	comp=Z,2.2nm,0.8s						
PB16	**IPOC Station P**	**50.02**	**303**	P	**P**	**03 31 22.5**	**0.0**
PB16				IAmb	IAmb	03 31 51.9	
	comp=Z,6.3nm,1.5s						
H10N1	**ASCENSION HYDR**	**50.25**	**16**	T	T	04 25 45.5	
	baz=187						
H10N3	**ASCENSION HYDR**	**50.25**	**16**	T	T	04 25 48.2	
	baz=187,slow=74,SNR=12						
H10N2	**ASCENSION HYDR**	**50.27**	**16**	T	T	04 25 48.9	
	baz=187,slow=74,SNR=5.4						
POGA	**Pongola**	**50.57**	**80**	P	**P**	**03 31 26.9**	**+0.9**
POGA				IAmb	IAmb	03 31 28.3	
	comp=Z,5.2nm,0.8s						
LPAZ	**La Paz**	**51.20**	**306**	P	**P**	**03 31 32.9**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=197,slow=7.6,SNR=8.6						
	comp=Z,0.8nm,0.3s						
LPAZ	**La Paz**	**51.20**	**306**	P	**P**	**03 31 32.2**	**+0.8**
LPAZ				IAmb	IAmb	03 32 00.5	
	comp=Z,2.6nm,1.1s						
BOAV	**Boa Vista**	**65.34**	**323**	P	**P**	**03 33 09.2**	**+0.2**
BOAV				IAmb	IAmb	03 33 09.9	
	comp=Z,2.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**74.05**	**29**	P	**P**	**03 34 01.9**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=192,slow=6.5,SNR=7.1						
TORD				pP	**pP**	**03 34 25.9**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=203,slow=6.8,SNR=3.7						
	comp=Z,1.3nm,0.9s						
PMPB	**Monarch Peak**	**121.57**	**289**	PKPdf	**PKPdf**	**03 41 18.5**	**-0.4**
PLID	**Pearl Lake**	**125.90**	**299**	PKPdf	**PKPdf**	**03 41 27.4**	**+0.4**
YKA	**Yellowknife Ar**	**137.17**	**317**	PKP	**PKPdf**	**03 41 47.8**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=133,slow=2.5,SNR=16						
YKA				pPKP	**pPKPdf**	**03 42 14.5**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=134,slow=2.4,SNR=2.3						
YKA	**Yellowknife Ar**	**137.17**	**317**	PKPpre	PKPpre	03 41 37.2	
YKA				PKPdf	**PKPdf**	**03 41 48.2**	**+0.7**
FARO	**Faro, Yukon**	**144.46**	**309**	PKPdf	**PKPdf**	**03 42 01.0**	**+0.3**
A36M	**Sachs Harbour**	**145.32**	**327**		**PKPbc**	**03 42 02.6**	**+0.7**
INK	**Inuvik**	**146.83**	**319**	PKPbc	**PKPbc**	**03 42 06.8**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=49,slow=2.1,SNR=20						
DAWY	**Dawson**	**147.70**	**310**	PKPbc	**PKPbc**	**03 42 09.2**	**0.0**
BCAR	**Beaver Creek A**	**148.37**	**308**	PKPbc	**PKPbc**	**03 42 11.2**	**+0.3**
J26L	**Joseph Creek**	**149.57**	**310**	PKPbc	**PKPbc**	**03 42 14.6**	**+0.7**
SONM	**Songino Array**	**150.64**	**88**	PKPbc	**PKPbc**	**03 42 16.1**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=224,slow=4.0,SNR=5.0						
SONM				pPKPbc	**pPKPbc**	**03 42 42.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=220,slow=4.4,SNR=4.7						
SONM	**Songino Array**	**150.64**	**88**	PKPbc	**PKPbc**	**03 42 15.9**	**-1.2**
BMAR	**Burnt Mountain**	**150.67**	**316**	PKPbc	**PKPbc**	**03 42 16.8**	**+0.4**
ILAR	**Eielson Array**	**151.02**	**310**	PKPbc	**PKPbc**	**03 42 17.6**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=142,slow=6.1,SNR=23						
ILAR	**Eielson Array**	**151.02**	**310**	PKPbc	**PKPbc**	**03 42 17.4**	**+0.1**
H24K	**Noodor Dome**	**151.66**	**312**	PKPbc	**PKPbc**	**03 42 19.5**	**+0.8**
BPAW	**Bear Paw Mtn.**	**152.61**	**308**	PKPbc	**PKPbc**	**03 42 21.2**	**+0.3**
IMAR	**Indian Mountai**	**154.06**	**311**	PKPbc	**PKPbc**	**03 42 24.5**	**+0.5**

*IDC **23** 03:43:32.3±1.8, 2.0°N×127.7°E, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=151.2km s-min=21.5km az=66.0*
*DJA **23** 03:43:43.5±1.3, 2.1°N±5.2°×127.7°E±1.1°, h106km±13km, M3.7/7, mb3.9/2, MLv3.7/7*
*NEIC **23** 03:43:43.4±1.1, 2.0°N±0.0°×127.6°E±0.1°, h102km±8km, mb4.1/13, Error ellipse: s-maj=22.9km s-min=9.3km az=62.0*

ISC 23 03:43:43.7±0.8, 2.0°N±0.0°×127.5°E±0.1°, h112km, n27, σ1.9/17/29, mb4.1/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.23**	**187**		**Pn**	**03 44 07.7**	**+0.1**
TNTI					Sn	**03 44 24.8**	**-0.9**
TNTI	**Ternate**	**1.23**	**187**	P	**Pn**	**03 44 08.2**	**+0.6**
TNTI				S	Sn	**03 44 25.3**	**-0.4**
SGSI	**Sangihe**	**2.59**	**310**	P	**Pn**	**03 44 23.0**	**-1.4**
SANI	**Sanana**	**4.31**	**201**	P	**Pn**	**03 44 45.6**	**-1.7**
GTOI	**Gorontalo**	**4.70**	**253**	P	**Pn**	**03 44 53.2**	**+0.6**
TOLI2	**Tolitoli**	**6.79**	**263**		**Pn**	**03 45 20.0**	**-0.8**
MTN	**Manton Dam**	**15.19**	**166**	Pn	**Pn**	**03 47 11.4**	**-0.9**
KNRA	**Kununurra**	**17.61**	**176**	P	**P**	**03 47 41.5**	**-0.1**
KNRA				IAmb	IAmb	03 48 07.6	
	comp=Z,26nm,1.4s						
WB0	**Warramunga Arr**	**22.67**	**163**	P	**P**	**03 48 35.7**	**-0.1**
WB0				IAmb	IAmb	03 48 36.3	
	comp=Z,7.2nm,0.5s						
WRA	**Warramunga Arr**	**22.82**	**163**	P	**P**	**03 48 37.4**	**+0.1**
	comp=Z,3.6nm,0.3s,baz=344,slow=11,SNR=50						
	comp=Z,3.6nm,0.3s						
WRA	**Warramunga Arr**	**22.82**	**163**	P	**P**	**03 48 36.5**	**-0.8**
WB2	**Warramunga Arr**	**22.82**	**163**	P	**P**	**03 48 37.2**	**-0.1**
WB2				IAmb	IAmb	03 48 38.3	
	comp=Z,5.5nm,0.7s						
WR0	**Warramunga Arr**	**22.89**	**163**	P	**P**	**03 48 37.7**	**-0.4**
WR0				IAmb	IAmb	03 48 38.5	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**26.27**	**167**	P	**P**	**03 49 08.4**	**-0.4**
ASAR	**Alice Springs**	**26.27**	**167**	P	**P**	**03 49 09.0**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=349,slow=7.4,SNR=22						
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**26.27**	**167**	P	**P**	**03 49 08.6**	**-0.2**
BBOO	**Buckleboo**	**35.56**	**168**	P	**P**	**03 50 30.0**	**-0.3**
STKA	**Stephens Creek**	**36.25**	**160**	P	**P**	**03 50 37.4**	**+1.2**
	comp=Z,4.6nm,0.6s,baz=340,slow=9.5,SNR=14						
	comp=Z,4.6nm,0.6s						
STKA	**Stephens Creek**	**36.25**	**160**	P	**P**	**03 50 36.8**	**+0.7**
USA0B	**Ussuriysk Arra**	**42.20**	**5**	P	**P**	**03 51 23.9**	**-1.6**
USRK	**Ussuriysk Ar.**	**42.20**	**5**	P	**P**	**03 51 23.8**	**-1.6**
MK31	**Makanchi Array**	**59.41**	**325**	P	**P**	**03 53 36.4**	**+1.8**
MK31				IAmb	IAmb	03 53 37.9	
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**59.41**	**325**	P	**P**	**03 53 37.4**	**+2.8**
	comp=Z,0.8nm,0.4s,baz=118,slow=7.8,SNR=16						
	comp=Z,0.8nm,0.4s						
MKAR	**Makanchi Array**	**59.41**	**325**	P	**P**	**03 53 35.1**	**+0.6**
MAKZ	**Makanchi**	**59.59**	**325**	P	**P**	**03 53 37.6**	**+1.8**
MAKZ				IAmb	IAmb	03 53 38.3	
	comp=Z,1.4nm,1.1s						
KURK	**Kurchatov**	**63.60**	**328**	P	**P**	**03 54 04.7**	**+2.1**
KURK				IAmb	IAmb	03 54 08.0	
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**73.97**	**321**	P	**P**	**03 55 07.6**	**+0.7**

*GII **23** 04:03:19.9±0.0, 30.35°N×31.93°E, h1km±1km, Mm2.5/2*
*HLW **23** 04:03:20.8, 30.28°N×31.94°E, h1km±1km, Ml2.9*

ISC 23 04:03:20.9±1.5, 30.32°N±0.06°×31.92°E±0.04, h8km±10km, n24, σ0.63/37, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HHAG	**Hagoal**	**0.40**	**157**	P	**Pg**	**04 03 28.6**	**-0.1**
	baz=156						
KOT	**Kottamia**	**0.40**	**192**	P	**Pg**	**04 03 28.6**	**-0.1**
	baz=195						
KOT				S	**Sg**	**04 03 34.3**	**+0.3**
	baz=195						
HLW	**Helwan**	**0.68**	**228**	P	**Pg**	**04 03 34.0**	**0.0**
	baz=231						
HLW				S	**Sg**	**04 03 43.2**	**+0.3**
	baz=231						
GLL	**Jalalah**	**0.76**	**194**	P	**Pg**	**04 03 35.2**	**-0.4**
	baz=196						
GLL				S	**Sg**	**04 03 46.1**	**+0.6**
	baz=196						
HSAF	**As Saff**	**0.77**	**205**	P	**Pg**	**04 03 35.3**	**-0.4**
	baz=207						
ZNM	**Zenema**	**1.25**	**138**	P	**Pb**	**04 03 44.6**	**-0.1**
	baz=137						
ZNM				S	**Sn**	**04 04 02.0**	**+0.3**
	baz=137						
HNAT	**Natroun**	**1.32**	**239**	P	**Pn**	**04 03 46.1**	**+0.4**
	baz=241						
HNAT				S	**Sg**	**04 04 03.4**	**0.0**
	baz=241						
NBNS	**Bani Suef**	**1.78**	**198**	P	**Pn**	**04 03 51.8**	**-0.1**
	baz=199						
RYAN	**Fayoum**	**1.89**	**230**	P	**Pn**	**04 03 53.5**	**0.0**
	baz=231						
RYAN				S	**Sn**	**04 04 17.5**	**+0.1**
	baz=231						
HRDS	**Abu Rudays**	**2.00**	**143**	P	**Pn**	**04 03 55.0**	**0.0**
	baz=142						
GRB	**Gharib**	**2.18**	**159**	P	**Pn**	**04 03 57.0**	**-0.4**
	baz=159						
KZIT	**Kziot**	**2.21**	**74**	Pn	**Pn**	**04 03 57.2**	**-0.7**
KZIT				Sn	**Sn**	**04 04 25.9**	**+0.5**
KRMI	**Paran Flat**	**2.44**	**94**	Pn	**Pn**	**04 04 01.1**	**+0.1**
KRMI				Sn	**Sn**	**04 04 31.4**	**+0.5**
TR2	**Tor 2**	**2.49**	**140**	P	**Pn**	**04 04 01.1**	**-0.6**
	baz=140						
HKAT	**Jabal Katrina**	**2.54**	**134**	P	**Pn**	**04 04 02.0**	**-0.6**
	baz=133						
HKAT				S	**Sn**	**04 04 32.0**	**-1.9**
	baz=133						
MBRI	**Mt Berech**	**2.65**	**101**	Pn	**Pn**	**04 04 03.5**	**-0.4**
PRNI	**Paran**	**2.67**	**89**	Pn	**Pn**	**04 04 04.0**	**-0.1**
PRNI				Sn	**Sn**	**04 04 37.1**	**+0.5**
EIL	**Elat**	**2.71**	**103**	Pn	**Pn**	**04 04 04.4**	**-0.3**
EIL				Sn	**Sn**	**04 04 38.6**	**+1.0**
HRFI	**Mount Harif**	**2.71**	**95**	Pn	**Pn**	**04 04 04.9**	**+0.1**
HRFI				Sn	**Sn**	**04 04 38.9**	**+1.1**
TAMRE	**El Minia**	**2.77**	**199**	P	**Pn**	**04 04 05.8**	**+0.3**
	baz=200						
TAMRE				S	**Sn**	**04 04 38.8**	**-0.4**
	baz=200						
ASUT		**2.93**	**186**	P	**Pn**	**04 04 07.7**	**-0.1**
	baz=187						
DSI	**Dead Sea**	**3.22**	**66**	Pn	**Pn**	**04 04 11.3**	**-0.5**
HHRG	**Al Ghardaqah**	**3.41**	**155**	P	**Pn**	**04 04 16.1**	**+1.8**
	baz=155						
HFRF	**Wahat Farafira**	**4.48**	**226**	P	**Pn**	**04 04 28.5**	**-0.5**
	baz=227						

WEL 23 04:08:50.0±0.3, 42.5°S±2.2°×17.4°E±1.1°, h15km±2km, M2.9/12, ML3.1/25, MLv2.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=113.4, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.12**	**195**	P	Pb	04 08 55.3	+1.3
KHZ				S	Sb	04 08 58.5	+2.0
BSWZ	**Blackbirch Sta**	**0.63**	**21**	P	Pb	04 09 02.7	+0.1
BSWZ				S	Sb	04 09 12.3	+1.1
CMWZ	**Cape Campbell**	**0.73**	**41**	P	Pn	04 09 05.9	+0.1
CMWZ				S	Sn	04 09 18.1	+1.5
THZ	**Tophouse**	**0.74**	**317**	P	Pb	04 09 04.5	-0.1
THZ				S	Sg	04 09 13.8	-0.3
GVZ	**Greta Valley S**	**0.78**	**211**	P	Pn	04 09 06.6	+0.1
GVZ				S	Sn	04 09 18.5	+0.6
LTZ	**Lake Taylor**	**1.08**	**243**	P	Pg	04 09 10.9	0.0
LTZ				S	Sg	04 09 25.1	+0.1
MRNZ	**Matariki Terra**	**1.09**	**326**	P	Pn	04 09 10.9	+0.1
MRNZ				S	Sn	04 09 26.2	+0.6
NNZ	**Nelson**	**1.09**	**352**	P	Pn	04 09 10.9	+0.1
NNZ				S	Sg	04 09 25.1	-0.3
AMCZ	**Amberley**	**1.11**	**218**	P	Pn	04 09 11.1	+0.1
TCW	**Tory Channel**	**1.21**	**26**	P	Pn	04 09 12.4	0.0
TCW				S	Sn	04 09 28.3	-0.2
TKNZ	**Takaka Hill**	**1.35**	**340**	P	Pb	04 09 15.1	0.0
TKNZ				S	Sb	04 09 32.7	+0.6
DSZ	**Denniston Nort**	**1.44**	**292**	P	Pb	04 09 16.4	-0.1
DSZ				S	Sb	04 09 35.1	+0.5
PLWZ	**Palliser**	**1.45**	**60**	P	Pn	04 09 15.0	-0.7
OKCZ	**Okains Bay**	**1.47**	**195**	P	Pn	04 09 15.8	-0.2
OKCZ				S	Sn	04 09 33.9	-1.1
DUWZ	**D'Urville Isla**	**1.52**	**10**	P	Pb	04 09 17.8	-0.1
OXZ	**Oxford**	**1.53**	**227**	P	Pn	04 09 15.9	-0.8
MQZ	**McQueen's Vall**	**1.56**	**206**	P	Pn	04 09 15.9	-1.2
CAW	**Cannon Point**	**1.63**	**43**	P	Pn	04 09 17.8	-0.4
INZ	**Inchbonnie**	**1.63**	**254**	P	Pn	04 09 18.6	+0.4
AKCZ	**Akaroa Harbour**	**1.64**	**197**	P	Pn	04 09 17.5	-0.9
PAWZ	**Paruwai Farm**	**1.66**	**57**	P	Pn	04 09 17.6	-1.0
QRZ	**Quartz Range**	**1.67**	**332**	P	Pn	04 09 20.0	-0.5
KIW	**Kapiti Island**	**1.75**	**35**	P	Pn	04 09 19.9	0.0
RACZ	**Rakaia**	**1.77**	**216**	P	Pn	04 09 19.2	-0.9
MTW	**Mount Morrison**	**1.84**	**52**	P	Pn	04 09 20.5	-0.5
OGWZ	**Otaki Gorge**	**1.91**	**39**	P	Pn	04 09 21.5	-0.4
HOWZ	**Holdsworth Sta**	**2.02**	**47**	P	Pg	04 09 29.1	+0.3
WACZ	**Wakanui South**	**2.08**	**217**	P	Pn	04 09 23.6	-0.6
MRZ	**Mangatainoka R**	**2.22**	**43**	P	Pn	04 09 25.3	-1.0
WVZ	**Waitaha Valley**	**2.23**	**249**	P	Pn	04 09 26.8	+0.4
RPZ	**Rata Peaks**	**2.33**	**232**	P	Pn	04 09 27.1	-0.6
ARCZ	**Arundel**	**2.41**	**226**	P	Pn	04 09 28.0	-0.8
TMZ	**Timaru**	**2.80**	**221**	P	Pn	04 09 33.9	-0.4
ODZ	**Otahua Downs**	**3.47**	**217**	P	Pn	04 09 42.2	-1.2

*NEIC **23** 04:08:59.2±1.8, 18.4°N±0.1°×68.47°W±0.07, h159km±7km, mb4.0/4, ML4.0/38, Md3.9/36(RSPR), Error ellipse: s-maj=17.4km s-min=8.9km az=198.0*
*RSPR **23** 04:09:01.3, 18.09°N×68.51°W, h141km±1km, MD3.9/18*
*IDC **23** 04:09:02.7±4.0, 18.43°N×68.48°W, h157km±41km, mb3.0/7, mbtmp3.5/7, Error ellipse: s-maj=28.0km s-min=21.9km az=36.0*
*OSPL **23** 04:09:02.6±2.9, 18.11°N×68.52°W, h145km±17km, ML3.6*

ISC 23 04:08:59.9±0.7, 18.37°N±0.06°×68.53°W±0.03, h146km±6km, n115, σ1.9/99/143, mb3.5/9, 9C-11D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.20**	**45**	*i* P	**Pn**	**04 09 20.5**	**+0.9**
PCDR	**Punta Cana, DR**	**0.20**	**45**		**Pn**	**04 09 20.6**	**+0.9**
PCDR				Sn	**Sn**	**04 09 36.0**	**+1.3**
PCDR				IAML		04 09 38.0	
	comp=E,1μm,0.6s						
PCDR				IAML		04 09 38.1	
	comp=N,2μm,0.7s						
PCDR	**Punta Cana, DR**	**0.20**	**45**	*i* P	**Pn**	**04 09 20.6**	**+0.9**
PCDR				eS	**Sn**	**04 09 36.4**	**+1.8**
PCDR				IAML		04 09 41.3	
	comp=Z,926nm,0.2s						
IDE	**Isla Desecheo**	**1.00**	**89**	*e*P	**Pn**	**04 09 25.2**	**+0.9**
IDE	**Isla Desecheo**	**1.00**	**89**	*e*S	**Sn**	**04 09 44.0**	**+1.1**
IDE	**Isla Desecheo**	**1.00**	**89**		**Pn**	**04 09 25.2**	**+0.9**
IDE					**Sn**	**04 09 44.0**	**+1.1**
SDD	**Santo Domingo**	**1.32**	**274**	Pn	**Pn**	**04 09 27.1**	**-0.1**
SDD				IAML		04 09 53.2	
	comp=E,568nm,0.3s						
SDD	**Santo Domingo**	**1.32**	**274**	*i* P	**Pn**	**04 09 27.8**	**+0.6**
SDD				*e*S	**Sn**	**04 09 47.9**	**-0.2**
PRSN	**Puerto Rico Se**	**1.32**	**96**	Pn	**Pn**	**04 09 26.9**	**-0.4**
AGPR	**Aguadilla, PR**	**1.35**	**86**	*e*P	**Pn**	**04 09 29.0**	**+1.4**
AGPR	**Aguadilla, PR**	**1.35**	**86**	Pn	**Pn**	**04 09 27.0**	**-0.1**
AGPR					**Sn**	**04 09 49.0**	**+0.3**
AGPR				IAML		04 09 54.3	
	comp=N,1μm,0.5s						
AGPR				IAML		04 09 58.2	
	comp=E,914nm,0.3s						
AGPR	**Aguadilla, PR**	**1.35**	**86**	*i* P	**Pn**	**04 09 29.1**	**+1.6**
AGPR				*e*S	**Sn**	**04 09 50.8**	**+2.1**
AGPR				IAML		04 09 55.9	
	comp=Z,758nm,0.2s						
LSP	**Las Mesas**	**1.39**	**98**	*e*P	**Pn**	**04 09 28.3**	**+0.3**
LSP	**Las Mesas**	**1.39**	**98**	*e*S	**Sn**	**04 09 49.7**	**+0.3**
LSP	**Las Mesas**	**1.39**	**98**		**Pn**	**04 09 28.3**	**+0.3**
LSP					**Sn**	**04 09 49.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.40**	**105**	*e*P	**Pn**	**04 09 28.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.40**	**105**	*e*S	**Sn**	**04 09 49.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.40**	**105**	Pn	**Pn**	**04 09 26.6**	**-1.5**
CRPR				Sn	**Sn**	**04 09 47.5**	**-2.0**
CRPR	**Cabo Rojo, PR**	**1.40**	**105**	*i* P	**Pn**	**04 09 28.2**	**+0.1**
CRPR				IAML		04 09 49.5	
	comp=Z,376nm,0.3s						
LONA1	**Toro Cenizo, N**	**1.61**	**309**	*e*S	**Sn**	**04 09 56.5**	**+2.8**
GBPR	**Guanica, Bosqu**	**1.62**	**104**	*e*P	**Pn**	**04 09 30.8**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.62**	**104**		**Pn**	**04 09 30.8**	**+0.4**
AOPR	**Arecibo Observ**	**1.69**	**91**	*e*P	**Pn**	**04 09 31.9**	**+0.7**
AOPR	**Arecibo Observ**	**1.69**	**91**	Pn	**Pn**	**04 09 31.1**	**-0.1**
AOPR				Sn	**Sn**	**04 09 54.9**	**-0.2**
AOPR				IAML		04 09 59.7	
	comp=N,2μm,0.3s						
AOPR	**Arecibo Observ**	**1.69**	**91**	*e*P	**Pn**	**04 09 31.6**	**+0.4**
AOPR				*e*S	**Sn**	**04 09 55.6**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.72**	**94**	*e*P	**Pn**	**04 09 32.8**	**+1.2**
UUPR	**Utuado, UPR, P**	**1.72**	**94**	Pn	**Pn**	**04 09 32.4**	**+0.8**
OBIP	**Obispado Ponce**	**1.86**	**100**	*e*P	**Pn**	**04 09 33.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.86**	**100**	*e*S	**Sn**	**04 09 57.9**	**-0.6**
OBIP	**Obispado Ponce**	**1.86**	**100**	Pn	**Pn**	**04 09 32.8**	**-0.3**
OBIP				Sn	**Sn**	**04 09 57.3**	**-1.3**
CELP	**Cerrillos**	**1.88**	**99**	*e*P	**Pn**	**04 09 33.6**	**+0.3**
CELP	**Cerrillos**	**1.88**	**99**	*e*S	**Sn**	**04 09 59.3**	**+0.3**
CELP	**Cerrillos**	**1.88**	**99**	Pn	**Pn**	**04 09 33.3**	**0.0**
CELP				Sn	**Sn**	**04 09 58.0**	**-0.9**
CELP				IAML		04 10 02.7	
	comp=N,439nm,0.4s						
EMPR	**Esperanza - Ma**	**1.90**	**86**	*e*P	**Pn**	**04 09 34.3**	**+0.7**
EMPR	**Esperanza - Ma**	**1.90**	**86**	*e*S	**Sn**	**04 10 00.3**	**+0.9**
EMPR	**Esperanza - Ma**	**1.90**	**86**	Pn	**Pn**	**04 09 32.4**	**-1.3**
EMPR				Sn	**Sn**	**04 09 58.8**	**-0.6**
EMPR				IAML		04 10 05.8	
	comp=N,741nm,0.5s						
EMPR				IAML		04 10 08.8	
	comp=E,674nm,0.7s						
SJG	**San Juan**	**2.28**	**96**	Pn	**Pn**	**04 09 36.8**	**-1.3**
SJG				IAML		04 10 11.7	
	comp=E,364nm,0.5s						
SJG				IAML		04 10 12.1	
	comp=E,350nm,0.3s						
SJG	**San Juan**	**2.28**	**96**	*e*P	**Pn**	**04 09 38.1**	**0.0**
GCPR	**Guaynabo City**	**2.32**	**91**	*e*P	**Pn**	**04 09 38.4**	**-0.2**
GCPR	**Guaynabo City**	**2.32**	**91**	*e*S	**Sn**	**04 10 07.8**	**-0.6**
GCPR	**Guaynabo City**	**2.32**	**91**	Pn	**Pn**	**04 09 37.9**	**-0.8**
GCPR				Sn	**Sn**	**04 10 06.0**	**-2.5**
SC01	**Santiago de lo**	**2.33**	**297**	Pn	**Pn**	**04 09 40.0**	**+1.2**
SC01				IAML		04 10 22.1	
	comp=E,976nm,0.7s						
SC01	**Santiago de lo**	**2.33**	**297**	*i* P	**Pn**	**04 09 40.9**	**+2.1**
SC01				*e*S	**Sn**	**04 10 12.6**	**+3.9**
SC01				IAML		04 10 22.8	
	comp=Z,447nm,0.6s						

URIC	**Uribia, Colomb**	**7.43**	**207**	Pn		**Pn**	**04 10 44.6**	**-1.1**
HLGC	**Holguin**	**7.53**	**291**	*e*P		**Pn**	**04 10 47.3**	**+0.2**
HLGC				*e*S		**Sn**	**04 12 12.0**	**+0.9**
FDF	**Fort de France**	**7.95**	**116**	Pn		**Pn**	**04 10 51.5**	**-1.3**
BIM	**Bigot**	**8.12**	**117**	Pn		**Pn**	**04 10 52.5**	**-2.5**
BIM	**Bigot**	**8.12**	**117**	*e*P		**Pn**	**04 10 56.5**	**+1.5**
LMGC	**Las Mercedes**	**8.18**	**283**	*e*P		Pn	04 10 46.9	-8.9
LMGC				*e*S		**Sn**	**04 12 24.3**	**-2.6**
MPOM	**Morne Pois Mar**	**8.33**	**117**	*e*P		**Pn**	**04 11 00.7**	**+2.9**
H05S1	**Guadeloupe/Mar** SNR=11	**8.36**	**117**	P		**Pn**	**04 11 00.4**	**+2.2**
SVB	**Belmont**	**8.64**	**125**	Pn		**Pn**	**04 10 59.5**	**-2.5**
BAUV	**El Baul**	**9.38**	**177**	Pn		**Pn**	**04 11 11.3**	**-0.6**
SDV	**Santo Domingo**	**9.65**	**193**	Pn		**Pn**	**04 11 14.3**	**-1.3**
RUSC	**La Rusia**	**13.17**	**200**	P		**Pn**	**04 12 03.0**	**+1.0**
BOAV	**Boa Vista**	**17.71**	**153**	P		**P**	**04 12 54.5**	**-2.0**
BOAV	comp=Z,2.5nm,1.1s			IAmb		IAmb	04 13 03.4	
TX31	**Lajitas Ar. Si**	**33.82**	**295**	P		**P**	**04 15 26.8**	**-1.7**
TX32	**Lajitas Array**	**33.82**	**295**	P		**P**	**04 15 26.5**	**-2.0**
TX32	comp=Z,4.9nm,1.5s			IAmb		IAmb	04 15 45.4	
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=110,slow=9.0,SNR=4.9 comp=Z,0.3nm,0.6s	**33.82**	**295**	P		**P**	**04 15 30.4**	**+1.9**
TXAR	**Lajitas Array**	**33.82**	**295**	P		**P**	**04 15 27.1**	**-1.4**
LPAZ	**La Paz** comp=Z,0.7nm,0.8s,baz=339,slow=8.6,SNR=2.7 comp=Z,0.7nm,0.8s	**34.44**	**179**	P		**P**	**04 15 37.2**	**+2.7**
SCHQ	**Schefferville** comp=Z,2.4nm,0.8s,baz=206,slow=11,SNR=1.9 comp=Z,2.4nm,0.8s	**36.42**	**2**	P		**P**	**04 15 51.9**	**+1.7**
FCC	**Fort Churchill**	**44.45**	**341**	P		**P**	**04 16 55.3**	**-0.9**
FCC	comp=Z,7.2nm,1.5s			IAmb		IAmb	04 17 10.0	
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.5s,baz=120,slow=7.6,SNR=2.0 comp=Z,0.1nm,0.5s	**54.31**	**336**	P		**P**	**04 18 11.7**	**+0.7**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.7s,baz=272,slow=7.6,SNR=4.3 comp=Z,0.5nm,0.7s	**59.07**	**54**	P		**P**	**04 18 47.1**	**+2.1**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.4s,baz=294,slow=5.9,SNR=1.6 comp=Z,0.2nm,0.4s	**67.43**	**83**	P		**P**	**04 19 40.5**	**+0.1**
ILAR	**Eielson Array** comp=Z,0.1nm,0.5s,baz=106,slow=4.2,SNR=5.0 comp=Z,0.1nm,0.5s	**68.58**	**333**	P		**P**	**04 19 47.8**	**+1.1**
IMAR	**Indian Mountai**	**71.44**	**335**	P		**P**	**04 20 00.8**	**-3.3**

HEL ***23*** *04:19:48.0±0.2, 67.18N×20.60E, h0km, ML1.4, Explosion*
UPP 23 04:19:47.7±0.1, 67.19N×20.69E, h0km, ML2.6,
Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**215**	P	Pg	04 19 49.6	+0.3
DUNU				S	Sg	04 19 50.8	+0.5
RATU	**Laukkuluspa**	**0.77**	**327**	P	Pg	04 20 02.1	-0.3
ERTU	**Ertsjaerv**	**0.87**	**137**	P	Pg	04 20 03.8	-0.5
ERTU	**Ertsjaerv**	**0.87**	**137**	PG	Pg	04 20 03.7	-0.6
ERTU				SB	Sg	04 20 16.1	+0.5
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	04 20 04.0	-0.4
NIKU	**Nikkaluokta**	**0.93**	**318**	P	Pg	04 20 05.0	-0.6
PAJU	**Pajala**	**0.96**	**99**	P	Pg	04 20 05.7	-0.4
PAJU	**Pajala**	**0.96**	**99**	PG	Pg	04 20 05.8	-0.3
PAJU				SG	Sg	04 20 18.8	+0.3
LANU	**Lannavaara**	**1.00**	**29**	P	Pg	04 20 06.3	-0.4
LANU	**Lannavaara**	**1.00**	**29**	PG	Pg	04 20 06.4	-0.4
LANU				SB	Sb	04 20 20.8	-0.6
HARU	**Harads**	**1.04**	**174**	P	Pg	04 20 06.8	-0.7
HEF	**Hetta**	**1.66**	**41**	*e*P	Pn	04 20 17.2	-0.9
HEF	**Hetta** comp=Z,2.7nm,0.2s	**1.66**	**41**	MSG		04 20 38.5	
HEF				SN	Sn	04 20 40.3	+0.2
KALU	**Kalix**	**1.71**	**140**	P	Pn	04 20 19.1	+0.4
KALU	**Kalix** baz=323	**1.71**	**140**	PG	Pn	04 20 19.3	+0.6
KALU				SN	Sb	04 20 42.1	+0.2
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pb	04 20 20.0	-0.3
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*P	Pn	04 20 21.0	+0.7
KIF	**Kilpisjarvi** baz=183	**1.82**	**1**	PG	Pb	04 20 21.9	0.0
KIF	comp=Z,3.0nm,0.2s			MSG		04 20 43.7	
KIF				SG	Sg	04 20 47.1	+0.9
TOF	**Tornio**	**1.83**	**126**	PG	Pb	04 20 21.5	-0.4
TOF	comp=Z,1.1nm,0.2s			MSG		04 20 43.2	
TOF				SG	Sg	04 20 46.4	+0.1
KTK1	**Kautokeino**	**2.06**	**26**	PG	Pb	04 20 25.4	-0.6
KTK1				SG	Sb	04 20 52.7	+0.5
RNF	**Rovaniemi**	**2.18**	**103**	PG	Pb	04 20 26.5	-1.4
SGF	**Sodankyl**	**2.28**	**81**	PB	Pb	04 20 28.2	-1.3
SGF				SG	Sb	04 20 59.3	+1.1
ARA0	**ARCESS Array S** baz=216	**2.95**	**35**	PB	Pb	04 20 38.7	-2.4
ARA0				SB	Sb	04 21 16.9	-0.8

IDC ***23*** *04:22:51.9±3.6, 32.93N×119.01W, h0km, mb3.1/1, mbtmp3.0/4, ML3.3/3, Error ellipse: s-maj=53.4km s-min=22.9km az=48.0*
NEIC ***23*** *04:22:51.8±1.6, 32.97N±0.05×118.89W±0.04, h20km±8km, Error ellipse: s-maj=8.1km s-min=3.8km az=202.0*
PAS ***23*** *04:22:52.3±2.6, 33.00N±0.03×118.90W±0.02, h6km±5km, ML3.6/295, ML3.2/64(NEIC), Error ellipse: s-maj=4.0km s-min=2.4km az=189.0*
ANF ***23*** *04:22:52.3±0.7, 33.01N×118.85W, h26km±5km, ML3.5/27, Error ellipse: s-maj=5.3km s-min=3.7km az=11.0*
ECX ***23*** *04:22:53.7±0.4, 33.00N×118.66W, h10km±27km, MD3.6, ML3.2*
ISC 23 04:22:50.5±1.5, 32.96N±0.04×118.88W±0.03, h14km±10km, n125, σ1§34/146, 1C-2D, Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBI	**Santa Barbara**	**0.54**	**346**		**Pb**	**04 23 01.7**	**0.0**
SBI					**Sb**	**04 23 08.4**	**-0.9**
CIS	**Catalina Islan** baz=226,SNR=57	**0.59**	**41**	P	**Pb**	**04 23 02.8**	**+0.1**
CIS	baz=226			S	**Sb**	**04 23 10.9**	**0.0**
CIAC	**Catalina I. Ai**	**0.59**	**41**		**Pb**	**04 23 02.9**	**+0.2**
CIAC					**Sb**	**04 23 10.4**	**-0.5**
SNCC	**San Nicolas Is**	**0.61**	**298**		**Sb**	**04 23 11.2**	**-0.4**
SNCC	**San Nicolas Is**	**0.61**	**298**	Pg	**Pb**	**04 23 03.0**	**-0.1**
SNCC	**San Nicolas Is** comp=E,2µm,0.6s	**0.61**	**298**	IAML		04 23 15.7	
SNCC	comp=N,1µm,0.2s			IAML		04 23 18.8	
SNCC	**San Nicolas Is** baz=115	**0.61**	**298**	P	**Pb**	**04 23 03.3**	**+0.3**
SNCC	baz=115			S	**Sb**	**04 23 11.3**	**-0.4**
RPV	**Rancho Palos V**	**0.88**	**27**		**Pn**	**04 23 08.3**	**-0.2**
FMP	**Fort Macarthur**	**0.90**	**33**		**Pn**	**04 23 08.6**	**-0.2**
FMP					**Sn**	**04 23 20.0**	**-1.4**
FMP	**Fort Macarthur** baz=216,SNR=9.0	**0.90**	**33**	P	**Pn**	**04 23 08.7**	**0.0**
FMP	baz=216			S	**Sg**	**04 23 19.7**	**0.0**
PT2	**Point Dume**	**1.04**	**3**		**Pg**	**04 23 10.6**	**-0.1**
PT2					**Sn**	**04 23 24.4**	**-0.8**
BHPC	**Baldwin Hills**	**1.11**	**23**		**Sn**	**04 23 26.6**	**-0.2**
WTT2	**Watts, South G**	**1.11**	**28**		**Sn**	**04 23 26.7**	**-0.2**
AGOC	**Agoura**	**1.19**	**4**		**Pg**	**04 23 13.5**	**0.0**
DJJ	**Donna J Jenkin**	**1.20**	**17**		**Pb**	**04 23 12.8**	**-0.2**
SCZ2	**Santa Cruz Isl**	**1.21**	**329**		**Sb**	**04 23 28.1**	**-0.7**
SCZ2	**Santa Cruz Isl** baz=148,SNR=17	**1.21**	**329**	P	**Pn**	**04 23 12.8**	**-0.3**
SCZ2	baz=148			S	**Sb**	**04 23 28.1**	**-0.7**
RHC	**Rose Hills Cem**	**1.27**	**35**		**Pb**	**04 23 14.2**	**0.0**
BLCC	**Black Canyon**	**1.29**	**8**		**Pb**	**04 23 14.2**	**-0.5**
DECC	**Green Verdugo**	**1.37**	**19**		**Pb**	**04 23 15.3**	**-0.6**
DECC	**Green Verdugo** baz=201,SNR=17	**1.37**	**19**	P	**Pb**	**04 23 15.3**	**-0.6**
ELS	**Elsinore Mount**	**1.40**	**60**	Pn	**Pn**	**04 23 15.3**	**-0.4**
ELS	comp=N,514nm,0.3s			IAML		04 23 35.9	
ELS				IAML		04 23 36.2	
	comp=E,487nm,0.3s						
MWC	**Mount Wilson**	**1.43**	**28**		**Pn**	**04 23 16.3**	**-0.1**
PSRC	**Puddingstone R**	**1.44**	**38**		**Pn**	**04 23 16.3**	**+0.1**
PSRC					**Sn**	**04 23 33.7**	**-1.2**
PEM	**Pine Mountain**	**1.47**	**35**		**Pn**	**04 23 16.8**	**+0.2**
109C	**Camp Elliot, M**	**1.49**	**92**	Pn	**Pn**	**04 23 16.5**	**-0.4**
109C	comp=E,546nm,0.2s			IAML		04 23 35.0	
109C	**Camp Elliot, M** baz=275,SNR=10.0	**1.49**	**92**	P	**Pn**	**04 23 16.8**	**-0.2**
109C	baz=275			S	**Sn**	**04 23 33.9**	**-2.3**
CPE	**Camp Elliot**	**1.49**	**92**		**Sn**	**04 23 34.1**	**-2.1**
MLSC	**Mira Loma**	**1.52**	**46**		**Sn**	**04 23 35.7**	**-1.1**
MURC	**Murrieta**	**1.55**	**65**		**Pb**	**04 23 18.3**	**-0.6**
MURC	**Murrieta** baz=248,SNR=26	**1.55**	**65**	P	**Pb**	**04 23 18.4**	**-0.6**
MURC	baz=248			S	**Sn**	**04 23 35.9**	**-1.7**
XTL	**Crystal Lake,**	**1.58**	**32**		**Pn**	**04 23 18.5**	**+0.2**
SSK	**Sunset Peak**	**1.59**	**38**		**Pn**	**04 23 18.9**	**+0.4**
TJX	**Tijuana**	**1.60**	**106**	Pn	**Pn**	**04 23 19.4**	**+0.9**
RVR	**Riverside**	**1.62**	**50**		**Pn**	**04 23 19.0**	**+0.3**
BFSC	**Mount Baldy Ra**	**1.63**	**38**		**Pn**	**04 23 19.1**	**+0.1**
BFSC					**Sn**	**04 23 38.3**	**-1.6**
BFSC	**Mount Baldy Ra** baz=220,SNR=44	**1.63**	**38**	P	**Pn**	**04 23 19.1**	**+0.1**
BFSC	baz=220			S	**Sn**	**04 23 38.1**	**-1.7**
SBC	**Santa Barbara** baz=155	**1.63**	**335**	P	**Pn**	**04 23 19.2**	**+0.4**
SBC	baz=155			S	**Sn**	**04 23 39.1**	**-0.6**
SDRC	**San Diego Road**	**1.64**	**97**		**Sn**	**04 23 38.6**	**-1.4**
SDRC	**San Diego Road**	**1.64**	**97**	*e*P	**Pn**	**04 23 18.8**	**-0.2**
SDRC				*e*S	**Sn**	**04 23 38.6**	**-1.4**
OSI	**Osito Audit: C** baz=185,SNR=9.7	**1.66**	**4**	P	**Pn**	**04 23 19.6**	**+0.4**
BACC	**Bachelor Mtn.**	**1.67**	**67**		**Pn**	**04 23 19.6**	**+0.2**
JNH	**Juniper Hills**	**1.67**	**27**		**Pb**	**04 23 20.1**	**-1.1**
OLP	**Otay Lakes Par**	**1.68**	**102**	*e*P	**Pn**	**04 23 20.2**	**+0.7**
OLP	comp=N,408nm,0.4s			IAML		04 23 48.7	
OLP				⇑*e*		04 23 48.7	
EML	**El Monte Cty P**	**1.71**	**92**		**Pn**	**04 23 19.7**	**-0.1**
EML	**El Monte Cty P**	**1.71**	**92**	*e*P	**Pn**	**04 23 19.8**	**-0.1**
PEC	**Perris**	**1.71**	**57**		**Pn**	**04 23 20.4**	**+0.5**
CLTC	**Calectric**	**1.73**	**49**		**Pn**	**04 23 20.9**	**+0.7**
HMTC	**Hemet**	**1.74**	**64**		**Pn**	**04 23 20.6**	**+0.3**
HMTC					**Sn**	**04 23 41.0**	**-1.3**
POB	**Polly Butte**	**1.79**	**66**		**Pn**	**04 23 21.6**	**+0.5**
BAR	**Barrett**	**1.88**	**98**	Pn	**Pn**	**04 23 22.0**	**-0.3**
BAR	comp=E,234nm,0.2s			IAML		04 23 52.9	
BAR	comp=N,244nm,0.6s			IAML		04 24 01.2	
BAR	**Barrett**	**1.88**	**98**	*e*P	**Pn**	**04 23 22.0**	**-0.3**
BAR	comp=N,237nm,0.3s			IAML		04 23 52.3	
BAR				⇓*e*		04 23 52.3	
BAR				⇓*e*		04 23 52.9	
BAR	comp=E,237nm,0.3s			IAML		04 23 52.9	
MATG	**Mataguay Scout**	**1.89**	**82**		**Pn**	**04 23 22.8**	**+0.4**
JUEM	**Julian Eagle M**	**1.92**	**86**		**Pn**	**04 23 23.1**	**+0.2**
TJIG	**Tijuana**	**1.93**	**105**	*e*P	**Pn**	**04 23 23.2**	**+0.2**
SBB	**Saddle Back Bu**	**1.93**	**27**		**Pb**	**04 23 24.0**	**-1.6**
TKX	**Tecate**	**1.95**	**101**	Pn	**Pn**	**04 23 23.9**	**+0.6**
TKX	comp=N,223nm,0.5s			IAML		04 23 56.3	
TKX	comp=E,178nm,0.3s			IAML		04 24 02.4	
DNR	**Dunn Ranch,Anz**	**1.98**	**72**		**Pn**	**04 23 22.3**	**-1.4**
FRD	**Ford Ranch, An**	**1.98**	**74**		**Pn**	**04 23 24.8**	**+1.0**
BCW	**Bitter Crk WRg**	**2.02**	**347**		**Pb**	**04 23 25.5**	**-1.7**
BCW	**Bitter Crk WRg**	**2.02**	**347**	Pn	**Pn**	**04 23 25.2**	**+0.8**
EDW2	**Edwards Air Fo** baz=202,SNR=26	**2.05**	**21**	P	**Pb**	**04 23 26.1**	**-1.6**
EDW2	baz=202			S	**Sn**	**04 23 49.1**	**-1.1**
MONP2	**Monument Peak** baz=274	**2.07**	**91**	P	**Pn**	**04 23 25.3**	**+0.2**
MONP2	baz=274			S	**Sn**	**04 23 49.0**	**-1.7**
MONP2	**Monument Peak**	**2.07**	**91**	*e*P	**Pn**	**04 23 25.2**	**+0.2**
PKM	**Mcpherson Peak**	**2.08**	**338**		**Pb**	**04 23 26.6**	**-1.5**
PFO	**Pinyon Flats O**	**2.13**	**72**	Pn	**Pn**	**04 23 26.7**	**+0.9**
PFO	comp=E,216nm,0.6s			IAML		04 23 58.0	
PFO	**Pinyon Flats O** baz=254	**2.13**	**72**	P	**Pn**	**04 23 26.7**	**+0.9**
PMD	comp=E,108nm,0.5s			IAML		04 24 08.0	
TPFO	**Pinon Flats** baz=254	**2.13**	**72**	P	**Pn**	**04 23 26.8**	**+1.0**
TPFO	baz=254			S	**Sn**	**04 23 51.4**	**-0.8**
XPFO	**Pion Flat**	**2.13**	**72**		**Pn**	**04 23 26.8**	**+1.0**
ARVC	**Arvin**	**2.16**	**1**		**Pb**	**04 23 27.6**	**-1.9**
ARVC	**Arvin** baz=182,SNR=16	**2.16**	**1**	P	**Pn**	**04 23 27.3**	**+1.1**
ARVC	baz=182			S	**Sn**	**04 23 52.3**	**-0.4**
SIL	**Silver Peak**	**2.20**	**50**		**Pn**	**04 23 28.2**	**+1.3**
PMD	**Palm Desert**	**2.20**	**71**		**Pn**	**04 23 28.0**	**+1.3**
PMD	**Palm Desert**	**2.20**	**71**	Pn	**Pn**	**04 23 27.3**	**+0.6**
PMD	**Palm Desert** comp=N,131nm,0.6s	**2.20**	**71**	IAML		04 23 59.9	
SLH	**Sleepy Hollow**	**2.21**	**83**	*e*P	**Pn**	**04 23 28.2**	**+1.3**
CCAC	**Calif City Air**	**2.30**	**18**	Pn	**Pn**	**04 23 29.5**	**+1.4**
CCAC	comp=E,254nm,1.2s			IAML		04 24 13.2	
IKP	**In-Ko-Pah, Jac** baz=279,SNR=7.0	**2.35**	**97**	P	**Pn**	**04 23 29.8**	**+1.0**
IKP	**In-Ko-Pah, Jac**	**2.35**	**97**	*e*P	**Pn**	**04 23 29.8**	**+1.0**
RRX	**Edison Barstow** baz=221,SNR=5.3	**2.47**	**39**	P	**Pn**	**04 23 31.6**	**+1.2**
RRX	baz=221			S	**Sn**	**04 23 59.0**	**-1.4**
GTM	**Goat Mountain**	**2.49**	**57**		**Pn**	**04 23 32.2**	**+1.5**
YUH	**Yuha Desert**	**2.51**	**96**	Pn	**Pn**	**04 23 32.5**	**+1.6**
YUH	comp=E,86nm,0.7s			IAML		04 24 12.6	
YUH2	**Yuha Desert**	**2.51**	**96**	*e*P	**Pn**	**04 23 32.5**	**+1.6**
YUH2				*e*S	**Sn**	**04 24 01.6**	**+0.4**
SMMC	**Simmler** baz=158	**2.52**	**339**	S	**Sn**	**04 24 01.2**	**-0.5**
WOFM	**Oak Flat**	**2.57**	**3**		**Pb**	**04 23 35.5**	**-1.1**
SWSC	**Sam W. Stewart** baz=272	**2.59**	**89**	P	**Pn**	**04 23 34.5**	**+2.5**
ESJX	**Sierra Juarez**	**2.65**	**110**	Pn	**Pn**	**04 23 33.9**	**+0.8**
ESJX	comp=E,69nm,0.1s			IAML		04 23 56.5	
LRMC	**Laurel Mtn Rad** baz=202	**2.70**	**21**	S	**Sn**	**04 24 04.3**	**-1.9**
ISA	**Isabella, Lake**	**2.72**	**7**	Pn	**Pn**	**04 23 34.6**	**+0.7**
ISA	**Isabella, Lake** baz=188,SNR=9.7	**2.72**	**7**	P	**Pn**	**04 23 35.4**	**+1.6**
ISA	baz=188			S	**Sn**	**04 24 05.3**	**-1.2**
HEC	**Hector,Ludlow** baz=230,SNR=20	**2.82**	**48**	P	**Pn**	**04 23 36.5**	**+1.2**
VES	**Vestal, Richgr** baz=177	**2.88**	**357**	S	**Sn**	**04 24 09.6**	**-0.8**
GSC	**Goldstone, Bar**	**2.90**	**36**	Pn	**Pn**	**04 23 38.0**	**+1.6**
GSC	comp=E,144nm,0.5s			IAML		04 24 17.2	
GSC	**Goldstone, Bar** baz=218,SNR=18	**2.90**	**36**	P	**Pn**	**04 23 38.0**	**+1.6**
GSC	baz=218			S	**Sn**	**04 24 09.7**	**-1.4**
GMRC	**Granite Mounta** baz=237,SNR=6.3	**3.24**	**55**	P	**Pn**	**04 23 42.1**	**+1.1**
MPMC	**Manual Prospec** baz=201,SNR=9.5	**3.30**	**20**	P	**Pn**	**04 23 43.1**	**+1.2**
IRM	**Iron Mountain** baz=251	**3.34**	**68**	P	**Pn**	**04 23 43.7**	**+1.4**
PMPB	**Monarch Peak**	**3.62**	**334**	Pn	**Pn**	**04 23 46.2**	**0.0**
GWY	**Greenwater Val**	**3.70**	**29**	Pn	**Pn**	**04 23 47.8**	**+0.4**
GWY	comp=E,48nm,0.8s			IAML		04 24 57.1	
GWY	comp=N,37nm,1.0s			IAML		04 24 58.4	
BLYC	**Blythe**	**3.73**	**77**	Pn	**Pn**	**04 23 50.8**	**+3.1**
BLYC				IAML		04 24 53.0	
	comp=E,32nm,2.2s						
BBGB	**Big Mountain B**	**4.03**	**334**	Pn	**Pn**	**04 23 52.5**	**+0.6**
WCT	**Wildcat Mounta**	**4.25**	**25**	Pn	**Pn**	**04 23 56.3**	**+1.4**
WCT	comp=E,23nm,3.9s			IAML		04 24 48.6	
113A	**Mohawk Valley,**	**4.30**	**91**	Pn	**Pn**	**04 23 57.4**	**+1.8**
V12A	**Nelson**	**4.33**	**49**	Pn	**Pn**	**04 23 57.6**	**+1.6**
V12A	comp=N,23nm,0.8s			IAML		04 25 07.8	
V12A	comp=E,20nm,0.7s			IAML		04 25 11.1	
SAO	**San Andreas Ge**	**4.34**	**332**	Pn	**Pn**	**04 23 55.8**	**-0.4**
LCH	**Last Change Ra**	**4.38**	**13**	Pn	**Pn**	**04 23 58.3**	**+1.5**
DSP	**Deep Springs**	**4.46**	**9**	Pn	**Pn**	**04 23 59.9**	**+2.2**
DSP	comp=E,17nm,4.7s			IAML		04 26 20.1	
TPNV	**Topopah Spring**	**4.53**	**28**	Pn	**Pn**	**04 24 00.8**	**+2.0**
TPNV	comp=E,25nm,0.8s			IAML		04 25 21.6	
TPNV	comp=E,30nm,4.7s			IAML		04 25 35.0	
WTNK	**Soaring Height**	**4.54**	**44**	Pn	**Pn**	**04 23 59.8**	**+0.9**
WTNK	comp=E,31nm,0.0s			IAML		04 26 50.8	
WTNK	comp=N,37nm,0.0s			IAML		04 26 51.6	
W13A	**Hualapai Mount**	**4.66**	**61**	Pn	**Pn**	**04 24 02.4**	**+1.6**
W13A	comp=E,15nm,4.6s			IAML		04 26 49.7	
W13A	comp=N,15nm,5.0s			IAML		04 27 03.7	
SHPR	**Sheep Range**	**4.68**	**40**	Pn	**Pn**	**04 24 03.0**	**+2.2**
Y14A	**Wickenburg**	**5.00**	**77**	Pn	**Pn**	**04 24 08.3**	**+3.1**
Y14A	comp=E,15nm,4.8s			IAML		04 25 33.0	
Y14A	comp=N,19nm,4.6s			IAML		04 25 36.2	
TPH	**Tonopah**	**5.28**	**14**	Pn	**Pn**	**04 24 10.7**	**+1.5**
NVAR	**Mina Array Bea** comp=N,0.2nm,0.3s,baz=189,slow=14,SNR=5.3 comp=N,0.5nm,0.5s	**5.48**	**5**	Pn	**Pn**	**04 24 15.8**	**+3.9**
YERR	**Yerington**	**6.02**	**357**	Pn	**Pn**	**04 24 19.1**	**-0.2**
KVN	**Kaiserville**	**6.11**	**6**	Pn	**Pn**	**04 24 23.2**	**+2.6**
LCMT	**Little Creek M**	**6.14**	**47**	Pn	**Pn**	**04 24 22.8**	**+1.8**
KNB	**Kanab**	**6.41**	**49**	Pn	**Pn**	**04 24 26.9**	**+2.2**
CCUT	**Cedar City**	**6.43**	**43**	Pn	**Pn**	**04 24 27.8**	**+2.8**
TCRU	**Three Creeks R**	**7.68**	**41**	Pn	**Pn**	**04 24 45.6**	**+3.3**
ELK	**Elko**	**8.30**	**20**	Pn	**Pn**	**04 24 53.4**	**+2.7**
121A	**Cookes Peak, D**	**9.35**	**90**	Pn	**Pn**	**04 25 08.6**	**+3.5**
PDAR	**Pinedale Array** baz=200,slow=10,SNR=2.5 comp=N,0.2nm,0.7s	**12.24**	**34**	Pn	P	04 25 51.9	-5.2
TXAR	**Lajitas Array** baz=279,slow=13,SNR=4.4 comp=N,0.3nm,0.8s	**13.52**	**101**	Pn	**P**	**04 26 08.6**	**-2.6**
ILAR	**Eielson Array** comp=N,0.3nm,0.9s,baz=174,slow=11,SNR=2.2 comp=N,0.3nm,0.9s	**36.16**	**340**	P	**P**	**04 29 55.7**	**+3.5**

IDC ***23*** *04:25:47.3±0.9, 6.76N×72.92W, h160km±18km, mb3.5/2, mbtmp4.0/4, Error ellipse: s-maj=71.3km s-min=7.7km az=132.0*
RSNC ***23*** *04:25:48.6±0.9, 6.82N×73.15W, h148km±3km, ML3.2, Mw3.7*
ISC 23 04:25:47.1±0.9, 6.85N±0.03×73.12W±0.04, h154km±6km, n34, σ1§60/62, 5C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**194**	⇑*i*P	**Pn**	**04 26 08.4**	**+0.1**
BARC				*e*S	**Sn**	**04 26 23.7**	**-0.8**
BARC	comp=Z,357nm,0.2s			*i*		04 26 26.0	
BRRC	**Barranca, Sant**	**0.64**	**294**	⇑*i*P	**Pn**	**04 26 10.1**	**+0.5**
BRRC				*e*S	**Sn**	**04 26 27.1**	**+0.2**
BRRC	comp=Z,360nm,0.1s			*i*		04 26 31.6	
PAMC	**Pamplona, Colo**	**0.64**	**40**	*e*P	**Pn**	**04 26 11.1**	**+0.8**
PAMC				*e*S	**Sn**	**04 26 28.1**	**+0.2**
PAMC	comp=Z,367nm,0.5s			*i*		04 26 30.5	
RUSC	**La Rusia**	**0.95**	**178**	*e*P	**Pn**	**04 26 12.5**	**+0.1**
RUSC				*e*S	**Sn**	**04 26 31.5**	**-0.3**
RUSC	comp=Z,249nm,0.3s			*i*		04 26 33.0	
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	⇑*i*P	**Pn**	**04 26 14.9**	**-0.7**
PTBC				*e*S	**Sn**	**04 26 36.5**	**-0.9**
PTBC	comp=Z,397nm,0.1s			*i*		04 26 38.7	
TAMC	**Tame, Arauca**	**1.38**	**107**	⇓*i*P	**Pn**	**04 26 16.8**	**+1.0**
TAMC				*e*S	**Sn**	**04 26 38.4**	**+0.6**
TAMC	comp=Z,185nm,0.3s			*i*		04 26 39.0	
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*e*P	**Pn**	**04 26 21.2**	**+0.5**
ZARC				*e*S	**Sn**	**04 26 46.6**	**+0.2**
ZARC	comp=Z,282nm,0.3s			*i*		04 26 52.0	
NORC	**Norcasia**	**2.16**	**234**	*e*P	**Pn**	**04 26 24.4**	**+0.1**
NORC				*e*S	**Sn**	**04 26 52.7**	**-0.4**
NORC	comp=Z,210nm,0.4s			*i*		04 26 57.6	
CHIC	**Chingaza**	**2.29**	**195**	⇑*e*P	**Pn**	**04 26 26.4**	**+0.1**
CHIC				*e*S	**Sn**	**04 26 56.4**	**-0.1**
CHIC	comp=Z,89nm,0.4s			*i*		04 27 03.0	
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**04 26 28.3**	**+1.6**
ROSC	comp=Z,149nm,0.3s,baz=354,slow=5.2,SNR=236			S	**Sn**	**04 26 59.1**	**+1.9**
ROSC	comp=Z,159nm,0.3s,baz=352,slow=21,SNR=10						
ROSC	**El Rosal**	**2.33**	**211**	*e*P	**Pn**	**04 26 28.5**	**+1.8**
ROSC				*e*S	**Sn**	**04 26 59.8**	**+2.6**
ROSC	comp=Z,173nm,0.3s			*i*		04 27 06.4	
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	**Pn**	**04 26 28.4**	**-0.7**
UREC				*e*S	**Sn**	**04 26 59.7**	**-1.9**
UREC	comp=Z,147nm,0.3s			*i*		04 27 08.6	
LL1C	**La Loma 1 Cana**	**2.71**	**351**	*e*P	**Pn**	**04 26 34.6**	**+3.6**
LL1C				*e*S	**Sn**	**04 27 08.4**	**+3.4**
LL1C	comp=Z,217nm,0.3s			*i*		04 27 13.7	
PTGC	**Puerto Gaitan,**	**2.81**	**160**	⇑*i*P	**Pn**	**04 26 31.7**	**-0.6**
PTGC				*e*S	**Sn**	**04 27 05.0**	**-2.2**
PTGC	comp=Z,79nm,0.3s			*i*		04 27 07.3	
LL6C

LCBC				*i*			04 27 50.0	
	comp=Z,31nm,0.5s							
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	*eP*		**Pn**	**04 26 48.6**	**-1.0**
CRJC				*eS*		**Sn**	**04 27 35.2**	**-3.0**
CRJC				*i*			04 27 41.5	
	comp=Z,25nm,0.3s							
YOTC	**Yotoco, Valle**	**4.29**	**229**	*eP*		**Pn**	**04 26 51.4**	**0.0**
YOTC				*eS*		**Sn**	**04 27 41.9**	**+0.5**
YOTC				*i*			04 27 53.2	
	comp=Z,8.3nm,0.4s							
SMRC	**Santa Marta, M**	**4.42**	**346**	*eP*		**Pn**	**04 26 53.9**	**+0.9**
SMRC				*eS*		**Sn**	**04 27 41.2**	**-3.3**
SMRC				*i*			04 27 42.6	
	comp=Z,15nm,0.2s							
MACC	**Macarena, Meta**	**4.73**	**189**	*eP*		**Pn**	**04 26 55.8**	**-1.3**
MACC				*eS*		**Sn**	**04 27 48.0**	**-3.7**
MACC				*i*			04 27 53.1	
	comp=Z,17nm,0.3s							
URIC	**Uribia, Colomb**	**4.95**	**13**	*eP*		**Pn**	**04 26 58.6**	**-1.4**
URIC				*eS*		**Sn**	**04 27 52.5**	**-4.3**
URIC				*i*			04 28 00.3	
	comp=Z,6.6nm,0.3s							
GARC	**Garzon, Huila**	**5.20**	**207**	*eP*		**Pn**	**04 27 02.5**	**-1.0**
GARC				*eS*		Sn	04 27 51.6	-12
GARC				*i*			04 27 56.8	
	comp=Z,57nm,0.1s							
FLOC	**Florencia**	**5.81**	**206**	*eP*		**Pn**	**04 27 11.8**	**+0.4**
FLOC				*eS*		**Sn**	**04 28 14.7**	**-2.7**
FLOC				*i*			04 28 48.3	
	comp=Z,4.9nm,0.7s							
SCHQ	**Schefferville**	**48.11**	**5**	P		**P**	**04 34 12.3**	**+1.1**
	comp=Z,4.1nm,1.0s,baz=225,slow=10.0,SNR=2.0							
	comp=Z,4.1nm,1.0s							
YKA	**Yellowknife Ar**	**63.24**	**340**	P		**P**	**04 35 59.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=134,slow=6.5,SNR=14							
	comp=Z,0.5nm,0.5s							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc		**PKPbc**	**04 45 20.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.7,SNR=1.8							

NEIC ***23*** *04:33:05.9±2.6, 6°05S±0°06×150°95E±0°09, h10km±1km, mb4.5/32, Error ellipse: s-maj=15.7km s-min=10.3km az=109.0*

IDC ***23*** *04:33:12.0±2.3, 5°85S×150°90E, h54km±20km, mb3.9/7, mbtmp4.1/8, ML1.3/1, MS3.6/1, Error ellipse: s-maj=44.3km s-min=15.7km az=125.0*

DJA ***23*** *04:33:12.1±0.6, 6°S±6°×15°1E±°, h60km±8km, M4.8/7, mB5.4/3, mb4.1/7, MLv5.2/2, Mw(mB)4.8/3*

ISC 23 04:33:10.5±0.6, 6°02S±0°08×150°95E±0°10, h43km, n55, σ1s27/53, mb4.3/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.01**	**32**	P	**Pn**	**04 33 42.2**	**+0.2**
KRVT				S	**Sn**	**04 34 10.0**	**+4.1**
RABL	**Rabaul**	**2.18**	**34**	Pn	**Pn**	**04 33 43.5**	**-0.8**
PMG	**Port Moresby**	**5.04**	**228**	P	**Pn**	**04 34 27.0**	**+3.3**
	0.7nm,0.3s,baz=62,slow=11,SNR=3.8						
	15nm,0.7s						
PMG	**Port Moresby**	**5.04**	**228**	Pn	**Pn**	**04 34 22.2**	**-1.5**
MANU	**Manus Island**	**5.33**	**318**	Pn	**Pn**	**04 34 26.7**	**-0.9**
EIDS	**Eidsvold**	**19.24**	**180**		**P**	**04 37 29.5**	**-1.8**
MTN	**Manton Dam**	**20.68**	**249**	P	Pn	04 37 47.2	-2.5
MTN				IAmb	IAmb	04 37 51.8	
	comp=Z,40nm,1.3s						
WB0	**Warramunga Arr**	**21.12**	**228**	P	**P**	**04 37 51.5**	**-0.2**
WB0				IAmb	IAmb	04 38 10.8	
	comp=Z,13nm,0.9s						
WR0	**Warramunga Arr**	**21.13**	**228**	P	**P**	**04 37 50.3**	**-1.5**
WR0				IAmb	IAmb	04 37 54.7	
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**21.25**	**228**	P	**P**	**04 37 52.2**	**-1.0**
WRAB				IAmb	IAmb	04 37 56.3	
	comp=Z,18nm,1.2s						
WB2	**Warramunga Arr**	**21.26**	**228**	P	**P**	**04 37 53.3**	**+0.1**
WB2				IAmb	IAmb	04 38 12.3	
	comp=Z,9.7nm,0.7s						
WRA	**Warramunga Arr**	**21.26**	**228**	P	**P**	**04 37 53.9**	**+0.6**
	comp=Z,8.5nm,1.0s,baz=54,slow=11,SNR=31						
	comp=Z,8.5nm,1.0s						
WRA	**Warramunga Arr**	**21.26**	**228**	P	**P**	**04 37 53.0**	**-0.3**
KNRA	**Kununurra**	**23.79**	**244**	P	**P**	**04 38 20.5**	**+1.1**
AS31	**Alice Springs**	**24.02**	**221**	P	**P**	**04 38 21.2**	**-0.4**
ASAR	**Alice Springs**	**24.02**	**221**	P	**P**	**04 38 22.8**	**+1.2**
	comp=Z,7.3nm,0.7s,baz=54,slow=9.5,SNR=75						
	comp=Z,7.3nm,0.7s						
ASAR	**Alice Springs**	**24.02**	**221**	P	**P**	**04 38 20.6**	**-0.9**
STKA	**Stephens Creek**	**27.17**	**198**	P	**P**	**04 38 51.8**	**+1.8**
	comp=Z,2.4nm,0.8s,baz=358,slow=11,SNR=4.5						
	comp=Z,2.4nm,0.8s						
STKA	**Stephens Creek**	**27.17**	**198**	P	**P**	**04 38 48.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**27.46**	**242**	P	**P**	**04 38 52.9**	**+0.1**
LUWI	**Luwuk**	**28.55**	**279**	P	**P**	**04 39 03.8**	**+1.3**
MJAR	**Matsushiro Arr**	**43.99**	**345**	LR	LR	04 58 30.6	
	comp=Z,63nm,18.6s,baz=166,slow=35						
PEA0B	**Petropavlovsk-**	**59.18**	**5**	P	**P**	**04 43 04.7**	**-2.2**
PETK	**Petropavlovsk-**	**59.18**	**5**	P	**P**	**04 43 06.2**	**-0.7**
SONM	**Songino Array**	**66.39**	**329**	P	**P**	**04 43 55.2**	**0.0**
SONM				IAmb	IAmb	04 44 03.8	
	comp=Z,4.9nm,1.5s						
Q19K	**Cape Douglas,**	**78.24**	**26**	P	**P**	**04 45 04.3**	**-1.3**
L19K	**White Mountain**	**79.58**	**23**	P	**P**	**04 45 12.6**	**-0.2**
L19K				IAmb	IAmb	04 45 12.9	
	comp=Z,5.3nm,1.5s						
TTA	**Tatalina**	**79.58**	**22**	P	**P**	**04 45 14.0**	**+1.2**
CNPM	**China Poot**	**79.61**	**26**	P	**P**	**04 45 12.8**	**-0.2**
BRLK	**Bradley Lake**	**79.88**	**26**	P	**P**	**04 45 13.4**	**-1.1**
BRLK				IAmb	IAmb	04 45 14.7	
	comp=Z,18nm,1.4s						
MK31	**Makanchi Array**	**80.04**	**319**	P	**P**	**04 45 15.8**	**+0.1**
MKAR	**Makanchi Array**	**80.04**	**319**	P	**P**	**04 45 15.2**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=102,slow=6.8,SNR=7.1						
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**80.04**	**319**	P	**P**	**04 45 15.6**	**-0.1**
K20K	**Telida**	**80.54**	**22**	P	**P**	**04 45 19.1**	**+1.1**
K20K				IAmb	IAmb	04 45 20.7	
	comp=Z,11nm,1.4s						
SUA	**Susitna One**	**80.82**	**24**	P	**P**	**04 45 19.5**	**-0.1**
SUA				IAmb	IAmb	04 45 34.1	
	comp=Z,10nm,1.4s						
CAST	**Castle Rocks**	**81.32**	**22**	P	**P**	**04 45 20.7**	**-1.5**
PWL	**Port Wells**	**81.53**	**26**	P	**P**	**04 45 22.6**	**-0.7**
TRF	**Thorofare Moun**	**82.03**	**23**	P	**P**	**04 45 24.9**	**-1.1**
TRF				IAmb	IAmb	04 45 37.9	
	comp=Z,12nm,1.5s						
IMAR	**Indian Mountai**	**82.14**	**20**	P	**P**	**04 45 25.8**	**-0.6**
SCM	**Sheep Creek Mo**	**82.42**	**25**	P	**P**	**04 45 28.5**	**+0.4**
MLY	**Manley**	**82.68**	**21**	P	**P**	**04 45 27.9**	**-1.4**
M24K	**Tolsona, Glenn**	**83.03**	**25**	P	**P**	**04 45 31.4**	**+0.2**
WRH	**Wood River Hil**	**83.38**	**22**	P	**P**	**04 45 32.4**	**-0.5**
WRH				IAmb	IAmb	04 45 33.9	
	comp=Z,3.7nm,1.1s						
GLB	**Gilahina Butte**	**83.75**	**26**	P	**P**	**04 45 34.3**	**-0.6**
GLB				IAmb	IAmb	04 45 49.3	
	comp=Z,8.1nm,1.3s						
IL31		**83.98**	**22**	P	**P**	**04 45 35.1**	**-0.7**
IL31				IAmb	IAmb	04 45 37.2	
	comp=Z,3.7nm,1.3s						
ILAR	**Eielson Array**	**83.98**	**22**	P	**P**	**04 45 34.0**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=252,slow=5.2,SNR=22						
	comp=Z,0.8nm,0.5s						
ILAR	**Eielson Array**	**83.98**	**22**		**P**	**04 45 33.6**	**-2.3**
H24K	**Noodor Dome**	**84.12**	**21**	P	**P**	**04 45 36.4**	**-0.3**
H24K				IAmb	IAmb	04 45 41.9	
	comp=Z,3.9nm,1.2s						
L26K	**Log Cabin Wild**	**84.61**	**25**	P	**P**	**04 45 39.2**	**0.0**
L26K				IAmb	IAmb	04 45 41.8	
	comp=Z,3.2nm,1.1s						
NVAR	**Mina Array Bea**	**94.28**	**52**	P	**P**	**04 46 26.9**	**+1.1**
	comp=Z,1.5nm,1.0s,baz=258,slow=4.4,SNR=6.1						
	comp=Z,1.5nm,1.0s						
YKA	**Yellowknife Ar**	**97.36**	**28**	P	Pdif	04 46 38.7	-0.4
	comp=Z,0.2nm,0.6s,baz=274,slow=4.9,SNR=4.4						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**107.48**	**343**	PKiKP	**PKiKP**	**04 51 32.4**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=42,slow=2.0,SNR=3.8						
GERES	**GERESS Array B**	**124.10**	**327**	PKP	**PKiKP**	**04 52 04.8**	**0.0**
	comp=Z,0.9nm,0.6s,baz=163,slow=1.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	**148.90**	**285**	PKPbc	**PKiKP**	**04 52 54.6**	**-1.4**
	comp=Z,4.8nm,0.9s,baz=92,slow=2.5,SNR=25						
BDFB	**Brasilia**	**151.43**	**139**	PKPbc	**PKiKP**	**04 53 00.8**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=146,slow=3.6,SNR=3.3						

NEIC ***23*** *04:33:37.8±1.3, 6°18S±0°05×151°01E±0°1, h10km±1km, mb4.6/38, Error ellipse: s-maj=19.2km s-min=5.7km az=108.0*

IDC ***23*** *04:33:39.9±3.6, 5°87S×151°01E, h17km±21km, mb4.2/10, mbtmp4.3/11, ML3.2/1, MS3.3/4, Error ellipse: s-maj=36.3km s-min=17.8km az=113.0*

ISC 23 04:33:38.2±0.5, 6°08S±0°07×151°01E±0°09, h10km, n81, σ1s28/80, mb4.5/29, MS3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.20**	**32**	Pn	**Pn**	**04 34 15.9**	**+1.1**
PMG	**Port Moresby**	**5.05**	**229**	Pn	Pb	04 34 59.5	-7.2
	5.5nm,0.3s,baz=45,slow=11,SNR=5.4						
PMG	**Port Moresby**	**5.05**	**229**	Pn	**Pn**	**04 34 53.0**	**-1.1**
MANU	**Manus Island**	**5.41**	**318**	Pn	**Pn**	**04 34 59.8**	**+0.8**
CTA	**Charters Tower**	**14.68**	**198**	Pn	**Pn**	**04 37 07.7**	**+1.7**
	0.1nm,0.3s,baz=14,slow=9.6,SNR=3.7						
	2.8nm,0.6s						
EIDS	**Eidsvold**	**19.18**	**180**	P	**P**	**04 38 00.9**	**-1.2**
MTN	**Manton Dam**	**20.72**	**250**	P	**P**	**04 38 17.9**	**-1.1**
MTN				IAmb	IAmb	04 38 29.6	
	comp=Z,59nm,1.1s						
WB0	**Warramunga Arr**	**21.12**	**228**	P	**P**	**04 38 22.0**	**-1.3**
WB0				IAmb	IAmb	04 38 37.6	
	comp=Z,20nm,0.8s						
WR0	**Warramunga Arr**	**21.13**	**228**	P	**P**	**04 38 23.2**	**-0.2**
WR0				IAmb	IAmb	04 38 27.9	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**21.26**	**228**	P	**P**	**04 38 23.2**	**-1.6**
WRAB				IAmb	IAmb	04 38 29.7	
	comp=Z,27nm,1.1s						
WB2	**Warramunga Arr**	**21.26**	**228**	P	**P**	**04 38 23.9**	**-1.0**
WB2				IAmb	IAmb	04 38 40.6	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**21.27**	**228**	P	**P**	**04 38 27.2**	**+2.2**
	comp=Z,8.9nm,0.5s,baz=53,slow=11,SNR=6.1						
WRA				ScP	**ScP**	**04 46 06.6**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=42,slow=2.8,SNR=4.8						
	comp=Z,8.9nm,0.5s						
WRA	**Warramunga Arr**	**21.27**	**228**	P	**P**	**04 38 23.3**	**-1.7**
DZM	**Mont Dzumac**	**21.80**	**138**	LR	LR	04 45 26.3	
	comp=Z,136nm,18.4s,baz=335,slow=32						
DZM	**Mont Dzumac**	**21.80**	**138**	*e*S	**S**	**04 42 31.2**	**-0.8**
	comp=Z,78nm,23.9s						
DZM				*e*LR	LR	04 43 42.0	
	comp=Z,474nm,28.2s						
AS31	**Alice Springs**	**24.01**	**222**	P	**P**	**04 38 51.1**	**-2.4**
ASAR	**Alice Springs**	**24.02**	**222**	P	**P**	**04 38 55.7**	**+2.3**
	comp=Z,12nm,0.7s,baz=55,slow=9.6,SNR=8.0						
ASAR				S	**S**	**04 43 17.1**	**+6.4**
	comp=Z,3.1nm,1.0s,baz=38,slow=22,SNR=6.4						
ASAR				ScP	**ScP**	**04 46 14.0**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=50,slow=2.6,SNR=4.4						
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**24.02**	**222**	P	**P**	**04 38 52.0**	**-1.4**
STKA	**Stephens Creek**	**27.14**	**198**	P	**P**	**04 39 24.6**	**+2.9**
	comp=Z,7.8nm,0.9s,baz=12,slow=13,SNR=7.9						
	comp=Z,7.8nm,0.9s						
STKA	**Stephens Creek**	**27.14**	**198**	P	**P**	**04 39 20.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**27.49**	**242**	P	**P**	**04 39 24.8**	**-0.1**
KSRS	**Korea Array**	**48.37**	**335**	LR	LR	05 01 09.8	
	comp=Z,31nm,20.0s,baz=150,slow=34						
PEA0B	**Petropavlovsk-**	**59.23**	**5**	P	**P**	**04 43 38.3**	**-1.2**
PETK	**Petropavlovsk-**	**59.23**	**5**	P	**P**	**04 43 39.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=162,slow=5.8,SNR=2.8						
PETK				LR	LR	05 09 39.7	
	comp=Z,7.7nm,18.3s,baz=157,slow=37						
	comp=Z,1.5nm,0.6s						
PETK	**Petropavlovsk-**	**59.23**	**5**	P	**P**	**04 43 38.0**	**-1.6**
SONM	**Songino Array**	**66.47**	**329**	P	**P**	**04 44 28.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=147,slow=5.4,SNR=3.9						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**66.47**	**329**	P	**P**	**04 44 28.6**	**+0.5**
Q19K	**Cape Douglas,**	**78.27**	**26**	P	**P**	**04 45 36.9**	**-1.3**
L19K	**White Mountain**	**79.60**	**23**	P	**P**	**04 45 45.5**	**+0.1**
L19K				IAmb	IAmb	04 45 48.0	
	comp=Z,5.5nm,0.9s						
TTA	**Tatalina**	**79.60**	**22**	P	**P**	**04 45 45.0**	**-0.5**
TTA				IAmb	IAmb	04 46 12.0	
	comp=Z,10nm,1.4s						
CNPM	**China Poot**	**79.63**	**26**	P	**P**	**04 45 45.3**	**-0.4**
M20K	**Styx River**	**80.11**	**23**	P	**P**	**04 45 48.5**	**+0.2**
M20K				IAmb	IAmb	04 46 12.8	
	comp=Z,10nm,1.4s						
MK31	**Makanchi Array**	**80.12**	**319**	P	**P**	**04 45 48.0**	**-0.6**
MKAR	**Makanchi Array**	**80.12**	**319**	P	**P**	**04 45 48.2**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=107,slow=5.5,SNR=8.0						
	comp=Z,1.3nm,0.8s						
MAKZ	**Makanchi**	**80.33**	**319**	P	**P**	**04 45 49.4**	**-0.3**
K20K	**Telida**	**80.57**	**22**	P	**P**	**04 45 50.5**	**-0.1**
K20K				IAmb	IAmb	04 45 56.8	
	comp=Z,5.0nm,1.1s						
SUA	**Susitna One**	**80.84**	**24**	P	**P**	**04 45 51.7**	**-0.5**
SUA				IAmb	IAmb	04 46 00.8	
	comp=Z,12nm,1.3s						
ZALV	**Zalesovo Beam**	**81.23**	**327**	P	**P**	**04 45 52.3**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=105,slow=6.1,SNR=2.4						
	comp=Z,0.6nm,0.4s						
CAST	**Castle Rocks**	**81.35**	**22**	P	**P**	**04 45 53.7**	**-1.1**
PWL	**Port Wells**	**81.56**	**26**	P	**P**	**04 45 55.8**	**-0.1**
KTH	**Kantishna Hill**	**81.86**	**23**	P	**P**	**04 45 56.6**	**-1.0**
SML	**Sawmill**	**82.02**	**25**	P	**P**	**04 45 58.2**	**-0.2**
TRF	**Thorofare Moun**	**82.06**	**23**	P	**P**	**04 45 57.4**	**-1.3**
TRF				IAmb	IAmb	04 45 59.2	
	comp=Z,6.8nm,1.1s						
IMAR	**Indian Mountai**	**82.18**	**20**	P	**P**	**04 45 59.3**	**+0.2**
MLY	**Manley**	**82.71**	**21**	P	**P**	**04 46 01.6**	**-0.3**
MLY				IAmb	IAmb	04 46 02.1	
	comp=Z,3.4nm,0.9s						
MCK	**McKinley**	**82.72**	**23**	P	**P**	**04 46 01.2**	**-0.8**
M24K	**Tolsona, Glenn**	**83.06**	**25**	P	**P**	**04 46 04.8**	**+1.0**
WRH	**Wood River Hil**	**83.41**	**22**	P	**P**	**04 46 04.4**	**-1.1**
WRH				IAmb	IAmb	04 46 28.3	
	comp=Z,8.0nm,1.3s						
CCB	**Clear Creek Bu**	**83.60**	**22**	P	**P**	**04 46 05.1**	**-1.3**
CCB				IAmb	IAmb	04 46 06.7	
	comp=Z,2.6nm,0.7s						
GLB	**Gilahina Butte**	**83.78**	**26**	P	**P**	**04 46 08.0**	**+0.4**
GLB				IAmb	IAmb	04 46 30.0	
	comp=Z,4.4nm,1.0s						
HDA	**Harding Lake**	**83.81**	**23**	P	**P**	**04 46 06.8**	**-0.8**
HDA				IAmb	IAmb	04 46 19.0	
	comp=Z,9.6nm,1.5s						
IL31		**84.01**	**22**	P	**P**	**04 46 06.8**	**-1.7**
IL31				IAmb	IAmb	04 46 19.8	
	comp=Z,7.5nm,1.5s						
ILAR	**Eielson Array**	**84.01**	**22**	P	**P**	**04 46 07.0**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=247,slow=5.1,SNR=15						
	comp=Z,1.8nm,0.7s						
ILAR	**Eielson Array**	**84.01**	**22**	P	**P**	**04 46 06.8**	**-1.8**
MCARA	**McCarthy VSAT**	**84.10**	**26**	P	**P**	**04 46 09.5**	**+0.4**
H24K	**Noodor Dome**	**84.15**	**21**	P	**P**	**04 46 08.9**	**-0.4**
H24K				IAmb	IAmb	04 46 12.1	
	comp=Z,4.6nm,1.3s						
BARN	**Barnard Glacie**	**84.57**	**27**	P	**P**	**04 46 11.6**	**-0.2**
BARN				IAmb	IAmb	04 46 18.6	
	comp=Z,4.6nm,0.9s						
L26K	**Log Cabin Wild**	**84.64**	**25**	P	**P**	**04 46 11.6**	**-0.3**
L26K				IAmb	IAmb	04 46 13.1	
	comp=Z,7.4nm,1.3s						
NRIK	**Noril'sk**	**86.59**	**341**	LR	LR	05 23 50.6	
	comp=Z,38nm,19.1s,baz=40,slow=35						
NVAR	**Mina Array Bea**	**94.27**	**52**	P	**P**	**04 46 59.6**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=247,slow=6.6,SNR=9.1						
	comp=Z,2.1nm,0.9s						
YKA	**Yellowknife Ar**	**97.38**	**28**	P	**P**	**04 47 11.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=269,slow=4.8,SNR=5.7						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**101.02**	**48**	P	**Pdif**	**04 47 28.4**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=267,slow=2.8,SNR=3.9						
ARCES	**ARCESS Array B**	**107.55**	**343**	PKiKP	**PKiKP**	**04 52 05.1**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=83,slow=2.9,SNR=5.0						
FINES	**FINESS Array B**	**111.46**	**335**	PKiKP	**PKiKP**	**04 52 12.5**	**+0.1**
	comp=Z,4.7nm,1.0s,baz=74,slow=7.4,SNR=2.8						
AKASG	**Malin Array Be**	**114.47**	**324**	PKP	**PKiKP**	**04 52 18.1**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=57,slow=2.4,SNR=6.5						
NOA	**NORSAR Array B**	**117.48**	**339**	PKP	**PKPdf**	**04 52 23.8**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=45,slow=1.8,SNR=3.6						
CLL	**Collm**	**123.08**	**330**	*i* PKPdf	**PKPdf**	**04 52 35.0**	**-0.1**
	comp=Z,5.0nm,1.0s						
CLL				Lm	MLR	08 15 00.0	
	comp=Z,100nm,18.7s						
CONA	**Conrad Observa**	**123.50**	**325**	*e*PKiKP	**PKiKP**	**04 52 36.4**	**0.0**
	comp=Z,2.5nm,1.0s						
CKRC	**Cesky Krumlov**	**123.87**	**327**	*e*PKP	**PKiKP**	**04 52 37.5**	**+0.5**
NKC	**Novy Kostel**	**124.01**	**329**	*e*PKP	**PKiKP**	**04 52 37.5**	**+0.3**
KHC	**Kasperske Hory**	**124.08**	**328**	*e*PKP	**PKiKP**	**04 52 37.5**	**+0.1**
GERES	**GERESS Array B**	**124.18**	**327**	PKP	**PKiKP**	**04 52 37.5**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=90,slow=2.7,SNR=15						
KBA	**Koelnbreinsper**	**125.39**	**326**	*i* PKiKP	**PKiKP**	**04 52 42.5**	**+2.3**
	comp=Z,3.5nm,1.0s						
ABTA	**Abfaltersbach**	**126.05**	**326**	*i* PKP	**PKPdf**	**04 52 40.6**	**-0.4**
	comp=Z,4.1nm,0.8s						
WTTA	**Wattenberg**	**126.23**	**327**	*i* PKiKP	**PKiKP**	**04 52 41.8**	**-0.2**
	comp=Z,1.7nm,0.5s						
MOTA	**Moosalm**	**126.47**	**327**	*i* PKiKP	**PKiKP**	**04 52 42.8**	**+0.4**
	comp=Z,8.9nm,1.2s						
SQTA	**Sankt Quirin**	**126.49**	**327**	*i* PKiKP	**PKiKP**	**04 52 42.5**	**+0.1**
	comp=Z,5.3nm,1.1s						
FETA	**Feichten**	**126.87**	**327**	*i* PKiKP	**PKiKP**	**04 52 43.0**	**-0.2**
	comp=Z,6.3nm,1.0s						
DAVA	**Damuels**	**127.17**	**328**	*i* PKiKP	**PKiKP**	**04 52 43.7**	**-0.1**
	comp=Z,6.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.97**	**285**	PKPbc	**PKPbc**	**04 53 27.3**	**-0.2**
	comp=Z,7.5nm,0.6s,baz=60,slow=2.9,SNR=17						
BDFB	**Brasilia**	**151.35**	**139**	PKPbc	**PKiKP**	**04 53 33.3**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=296,slow=3.3,SNR=4.6						

IDC ***23*** *04:46:47.7±1.1, 5°14S×150°09E, h0km, mb3.7/4, mbtmp3.9/5, MS3.3/1, Error ellipse: s-maj=49.2km s-min=18.7km az=138.0*

ISC 23 04:46:52.2±1.2, 5°0S±0°3×150°0E±0°2, h35km, n6, σ0s86/7, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.16**	**71**	Pn	**Pn**	**04 47 25.0**	**-0.8**
	340nm,0.4s						
KRVT				Sn	**Sn**	**04 47 52.3**	**+1.0**
WRA	**Warramunga Arr**	**21.25**	**224**	P	**P**	**04 51 36.2**	**+0.7**
	0.9nm,0.5s,baz=50,slow=10,SNR=13						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**24.16**	**218**	P	**P**	**04 52 04.7**	**-0.6**
	2.6nm,0.7s,baz=55,slow=9.4,SNR=29						
	2.6nm,0.7s						
STKA	**Stephens Creek**	**27.85**	**195**	P	**P**	**04 52 38.5**	**-0.1**
	1.4nm,0.7s,baz=12,slow=14,SNR=3.4						
STKA				LR	LR	05 02 38.5	
	comp=Z,62nm,20.4s,baz=20,slow=34						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**83.43**	**23**	P	**P**	**04 59 15.6**	**-0.2**
	0.5nm,0.9s,baz=245,slow=5.3,SNR=6.2						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**147.69**	**287**	PKPbc	**PKiKP**	**05 06 36.9**	**+0.7**
	1.2nm,0.6s,baz=86,slow=2.6,SNR=8.1						

IDC 23 04:52:35.7±5.3, 5°42S×154°16E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=161.9km s-min=38.9km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**231**	P	P	04 57 54.1	+1.0
	1.1nm,0.3s,baz=57,slow=9.9,SNR=28						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**26.64**	**225**	P	P	04 58 15.5	-0.8
	0.3nm,0.3s,baz=57,slow=9.3,SNR=5.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**81.68**	**319**	P	P	05 04 55.9	-0.2
	0.5nm,0.7s,baz=93,slow=5.6,SNR=4.9						
	0.5nm,0.7s						

IDC ***23*** *04:55:24.9±1.2, 8°91N×40°19W, h0km, mb3.6/5, mbtmp3.7/6, ML4.0/1, MS3.3/11, Error ellipse: s-maj=33.5km s-min=27.6km az=126.0*

ISC 23 04:55:26.7±1.0, 8°8N±0°1×40°2W±0°1, h10km, n40, σ1s17/23, mb3.7/5, MS3.3/10, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSB	**Rosrio**	**12.28**	**199**	*e*P	**Pn**	**04 58 20.2**	**-1.5**
MDP	**Montagnes des**

ASCN					Sn	**Sn**	**04 58 10.4**	**-3.0**
H10N2	**ASCENSION HYDR**	**2.79**	**235**		Pn	**Pn**	**04 57 40.8**	**+0.6**
H10N2					T	T	05 00 36.4	
	baz=44,slow=73							
H10N1	**ASCENSION HYDR**	**2.79**	**234**		Pn	**Pn**	**04 57 40.8**	**+0.5**
H10N1					T	T	05 00 37.0	
	baz=44,slow=73							
H10N3	**ASCENSION HYDR**	**2.81**	**234**		Pn	**Pn**	**04 57 41.1**	**+0.6**
H10N3					T	T	05 00 37.6	
	baz=44,slow=73							
H10S2	**ASCENSION HYDR**	**3.66**	**221**		Pn	**Pn**	**04 57 54.7**	**+2.4**
H10S2					T	T	05 01 50.4	
	baz=185,slow=74,SNR=180							
H10S3	**ASCENSION HYDR**	**3.67**	**222**		Pn	**Pn**	**04 57 55.0**	**+2.7**
H10S3					T	T	05 01 50.8	
	baz=35,slow=74,SNR=427							
DBIC	**Dimbokro**	**14.74**	**30**	LR	LR		05 04 48.7	
	comp=Z,84nm,19.6s,baz=208,slow=32							
TORD	**Torodi Ar. Bea**	**23.67**	**36**	P		**P**	**05 02 06.5**	**-1.2**
	5.8nm,1.1s,baz=225,slow=9.8,SNR=12							
	5.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**23.67**	**36**	P		**P**	**05 02 05.7**	**-2.0**
TSUM	**Tsumeb**	**31.72**	**117**	LR	LR		05 13 53.2	
	comp=Z,108nm,21.2s,baz=337,slow=32							
BDFB	**Brasilia**	**36.34**	**252**	P		**P**	**05 04 01.0**	**+0.5**
MDT	**Midelt**	**39.47**	**10**	LR	LR		05 20 00.5	
	comp=Z,133nm,19.6s,baz=152,slow=35							
SUR	**Sutherland**	**40.30**	**135**	LR	LR		05 18 02.7	
	comp=Z,69nm,19.8s,baz=295,slow=31							
BOSA	**Boshof**	**41.83**	**127**	LR	LR		05 19 32.6	
	comp=Z,57nm,19.2s,baz=197,slow=32							
MDP	**Montagnes des**	**41.91**	**285**	LR	LR		05 18 11.6	
	comp=Z,35nm,21.4s,baz=15,slow=31							
ESDC	**Sonseca Array**	**46.28**	**9**	LR	LR		05 24 21.0	
	comp=Z,66nm,19.6s,baz=158,slow=36							
SIV	**San Ignacio**	**48.83**	**254**	P		**P**	**05 05 43.5**	**+1.6**
	1.8nm,0.8s,baz=103,slow=8.4,SNR=8.2							
	1.8nm,0.8s							
BOAV	**Boa Vista**	**49.00**	**279**	P		**P**	**05 05 43.4**	**+0.2**
BOAV				IAmb	IAmb		05 05 45.2	
	comp=Z,8.2nm,0.9s							
ETMB	**Extrema**	**53.57**	**262**	P		**P**	**05 06 18.1**	**+0.6**
ETMB				IAmb	IAmb		05 06 19.8	
	comp=Z,6.0nm,1.1s							
DAVA	**Damuels**	**56.73**	**18**	*i* P		**P**	**05 06 40.3**	**+0.3**
	comp=Z,13nm,1.1s							
FETA	**Feichten**	**56.76**	**19**	*i* P		**P**	**05 06 40.7**	**+0.5**
	comp=Z,10nm,1.2s							
SQTA	**Sankt Quirin**	**57.09**	**19**	*i* P		**P**	**05 06 42.4**	**0.0**
	comp=Z,14nm,0.8s							
ABTA	**Abfaltersbach**	**57.10**	**20**	*i* P		**P**	**05 06 42.8**	**+0.3**
	comp=Z,10nm,1.5s							
MOTA	**Moosalm**	**57.16**	**19**	*i* P		**P**	**05 06 43.2**	**+0.1**
	comp=Z,8.1nm,1.0s							
RETA	**Reutte**	**57.18**	**18**	*i* P		**P**	**05 06 42.4**	**-0.6**
	comp=Z,5.4nm,1.0s							
WTTA	**Wattenberg**	**57.26**	**19**	*i* P		**P**	**05 06 44.1**	**+0.3**
	comp=Z,15nm,1.2s							
WATA	**Walderalm**	**57.31**	**19**	*i* P		**P**	**05 06 44.0**	**0.0**
	comp=Z,7.0nm,0.9s							
KBA	**Koelnbreinsper**	**57.68**	**20**	*e*P		**P**	**05 06 48.0**	**+1.4**
	comp=Z,6.9nm,1.3s							
SOKA	**Soboth**	**57.94**	**22**	*e*P		**P**	**05 06 50.2**	**+1.7**
	comp=Z,8.9nm,1.5s							
ARSA	**Arzberg**	**58.60**	**22**	*e*P		**P**	**05 06 53.0**	**0.0**
	comp=Z,4.3nm,0.9s							
MOA	**Molln**	**58.66**	**21**	*e*P		**P**	**05 06 53.8**	**+0.5**
	comp=Z,3.4nm,1.0s							
RONA	**Rosalia, Austr**	**59.27**	**22**	*i* P		**P**	**05 06 59.2**	**+1.6**
	comp=Z,13nm,1.5s							
CONA	**Conrad Observa**	**59.30**	**22**	*i* P		**P**	**05 06 59.5**	**+1.7**
	comp=Z,1.3nm,0.6s							
GEC2	**GERESS Array S**	**59.32**	**20**	P		**P**	**05 06 58.1**	**0.0**
GERES	**GERESS Array B**	**59.32**	**20**	P		**P**	**05 06 58.0**	**0.0**
	comp=Z,4.7nm,0.9s,baz=199,slow=6.9,SNR=29							
GERES				LR	LR		05 33 28.6	
	comp=Z,33nm,18.3s,baz=244,slow=37							
	comp=Z,4.7nm,0.9s							
GERES	**GERESS Array B**	**59.32**	**20**	P		**P**	**05 06 57.8**	**-0.2**
VRAC	**Vranov**	**60.72**	**21**	LR	LR		05 32 16.6	
	comp=Z,46nm,20.5s,baz=216,slow=35							
BRG	**Berggiesshubel**	**61.16**	**19**	*e*P		**P**	**05 07 10.8**	**+0.3**
BRG				Amp			05 07 11.6	
	comp=Z,4.2nm,1.0s							
BR131	**Keskin Array S**	**62.23**	**39**	P		**P**	**05 07 16.5**	**-1.6**
BR131				IAmb	IAmb		05 07 23.5	
	comp=Z,9.1nm,1.4s							
BRTR	**Keskin Array B**	**62.23**	**39**	P		**P**	**05 07 20.2**	**+2.1**
	comp=Z,2.1nm,0.9s,baz=214,slow=4.9,SNR=9.7							
	comp=Z,2.1nm,0.9s							
BRTR	**Keskin Array B**	**62.23**	**39**	P		**P**	**05 07 16.9**	**-1.2**
AKASG	**Malin Array Be**	**66.97**	**27**	P		**P**	**05 07 48.3**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=228,slow=7.0,SNR=17							
	comp=Z,3.1nm,0.8s							
AKASG	**Malin Array Be**	**66.97**	**27**	P		**P**	**05 07 47.4**	**-1.2**
AKASG				IAmb	IAmb		05 07 49.3	
	comp=Z,5.2nm,1.2s							
AKBB	**Malin Array Si**	**66.97**	**27**	P		**P**	**05 07 47.9**	**-0.7**
HFS	**Hagfors**	**69.22**	**14**	LR	LR		05 39 03.2	
	comp=Z,38nm,18.3s,baz=290,slow=37							
NOA	**NORSAR Array B**	**69.50**	**12**	P		**P**	**05 08 03.6**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=207,slow=6.5,SNR=3.4							
NOA				LR	LR		05 38 43.9	
	comp=Z,16nm,18.5s,baz=345,slow=36							
	comp=Z,1.7nm,1.0s							
KBZ	**Khabaz**	**70.22**	**39**	P		**P**	**05 08 11.8**	**+2.7**
	comp=Z,4.0nm,0.9s,baz=277,slow=3.6,SNR=6.4							
	comp=Z,4.0nm,0.9s							
BELA	**Belgrano 2**	**72.59**	**185**	P		**P**	**05 08 20.6**	**-2.3**
BELA				IAmb	IAmb		05 08 29.7	
	comp=Z,4.2nm,0.9s							
FINES	**FINESS Array B**	**73.69**	**18**	P		**P**	**05 08 29.8**	**+0.2**
SADO	**Sadowa**	**78.35**	**318**	LR	LR		05 36 23.7	
	comp=Z,94nm,18.9s,baz=126,slow=30							
TKL	**Tuckaleechee C**	**78.84**	**308**	LR	LR		05 36 32.8	
	comp=Z,103nm,19.6s,baz=322,slow=30							
TXAR	**Lajitas Array**	**94.28**	**299**	P		**P**	**05 10 16.7**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=73,slow=3.1,SNR=3.9							
	comp=Z,0.6nm,1.0s							
MKAR	**Makanchi Array**	**97.55**	**44**	P		Pdif	05 10 31.9	+1.3
	comp=Z,0.7nm,1.0s,baz=102,slow=4.0,SNR=3.9							
	comp=Z,0.7nm,1.0s							
ZALV	**Zalesovo Beam**	**99.11**	**36**	LR	LR		05 58 49.1	
	comp=Z,16nm,20.0s,baz=334,slow=38							
PDAR	**Pinedale Array**	**99.58**	**312**	LR	LR		05 47 30.3	
	comp=Z,23nm,20.7s,baz=96,slow=31							

***IDC 23** 05:07:56.6±47.0, **16°58S×176°12W, h598**km±55km, **mb3.6/3, mbtmp4.6/4, Error ellipse: s-maj=774.5km s-min=112.5km az=78.0, Fiji Islands region*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.70**	**258**	P		P	P	05 09 35.2	0.0
	26nm,0.6s,baz=117,slow=5.2,SNR=44								
STKA	**Stephens Creek**	**41.19**	**240**	P		P	P	05 14 50.4	-0.3
	2.7nm,0.5s,baz=98,slow=13,SNR=8.4								
	2.7nm,0.5s								
WRA	**Warramunga Arr**	**47.04**	**258**	P		P	P	05 15 35.6	-0.3
	2.2nm,0.5s,baz=93,slow=6.9,SNR=58								
	2.2nm,0.5s								
ASAR	**Alice Springs**	**47.27**	**253**	P		P	P	05 15 37.8	+0.2
	15nm,0.4s,baz=88,slow=8.2,SNR=278								
	15nm,0.4s								

*IDC **23** 05:27:28.9±2.1, 38°11N×76°51E, h0km, mb3.8/4, mbtmp3.5/9, ML2.8/5, MS2.9/1, Error ellipse: s-maj=37.7km s-min=24.8km az=144.0*

*NNC **23** 05:27:33.5±1.6, 38°49N×76°72E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=12.2km s-min=10.1km az=127.0*

ISC 23 05:27:31.8**±1.6, **38°3N**±0°1×**76°68E**±0°09, **h10**km, **n26, s25**3/26, **mb3.8/4, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.61**	**340**	Pn		**Pn**	**Pn**	**05 28 45.4**	**+3.7**
	0.4nm,0.3s,baz=313,slow=17,SNR=4.1								
AAK				Lg		Lg	Lg	05 29 55.3	
	1.6nm,0.3s,baz=304,slow=22,SNR=6.6								
	1.1nm,0.3s								
TKM2	**Tokmak 2**	**4.66**	**350**	⇓Pn		**Pn**	**Pn**	**05 28 45.0**	**+2.6**
	2.3nm,1.0s								
TKM2				⇓Pg		**Pb**	**Pb**	**05 28 55.8**	**+2.1**
	8.2nm,0.7s								
TKM2				⇑Lg		Lg	Lg	05 29 57.5	
	24nm,1.0s								
TNSS	**Tian-Shan**	**4.70**	**2**	Pg		**Pb**	**Pb**	**05 28 54.9**	**+0.3**
	2.3nm,0.6s								
TNSS				Lg		Lg	Lg	05 29 56.4	
	17nm,1.0s								
KST	**Kastek**	**4.74**	**354**	Pg		**Pg**	**Pg**	**05 28 58.6**	**-3.9**
	4.0nm,0.7s								
KST				Lg		Lg	Lg	05 30 03.2	
	23nm,1.3s								
MTBS	**Maitube**	**4.79**	**358**	Pg		**Pb**	**Pb**	**05 28 55.7**	**-0.2**
	3.2nm,0.3s								
MTBS				Lg		Lg	Lg	05 29 57.8	
	12nm,0.7s								
MDOK	**Medeo**	**4.83**	**3**	Pg		**Pb**	**Pb**	**05 28 57.8**	**+1.1**
	5.7nm,0.5s								
MDOK				⇑Pg		**Pg**	**Pg**	**05 28 59.8**	**-4.6**
	5.2nm,0.6s								
MDOK				Lg		Lg	Lg	05 30 01.2	
	33nm,0.7s								
MDOK				Lg		Lg	Lg	05 30 01.9	
	36nm,0.7s								
CHMS	**Chumysh**	**4.88**	**343**	⇓Pg		**Pb**	**Pb**	**05 29 00.6**	**+3.2**
	4.8nm,0.7s								
CHMS				⇓Lg		Lg	Lg	05 30 05.9	
	14nm,0.7s								
SATY	**Saty**	**4.90**	**15**	Pg		**Pb**	**Pb**	**05 28 59.7**	**+2.0**
	8.4nm,0.8s								
SATY				Lg		Lg	Lg	05 30 04.2	
	26nm,0.7s								
UZB	**Uzynbulak**	**5.13**	**20**	Pg		Pg	Pg	05 29 04.9	-5.1
	5.1nm,0.4s								
UZB				Lg		Lg	Lg	05 30 13.4	
	20nm,0.7s								
MRKS	**Merke**	**5.13**	**330**	Pg		**Pb**	**Pb**	**05 29 04.4**	**+2.7**
MRKS				Lg		Lg	Lg	05 30 13.3	
SHLS	**Shalkode**	**5.26**	**23**	Pg		**Pg**	**Pg**	**05 29 08.9**	**-3.6**
	5.0nm,0.7s								
SHLS				Lg		Lg	Lg	05 30 20.0	
	13nm,0.8s								
KURS	**Kuram**	**5.27**	**12**	Pg		**Pb**	**Pb**	**05 29 06.4**	**+2.3**
	6.7nm,0.7s								
KURS				Lg		Lg	Lg	05 30 16.3	
	16nm,0.7s								
KPKS	**Kokpek**	**5.35**	**16**	Pg		**Pb**	**Pb**	**05 29 08.1**	**+2.7**
	3.2nm,0.6s								
KPKS				Lg		Lg	Lg	05 30 19.0	
	20nm,0.5s								
CHKK	**Chushkaly**	**5.52**	**2**	Pg		**Pb**	**Pb**	**05 29 11.8**	**+3.5**
	2.7nm,0.6s								
CHKK				Lg		Lg	Lg	05 30 25.8	
	18nm,0.3s								
KUU	**Kurty**	**5.56**	**357**	Pg		**Pb**	**Pb**	**05 29 11.4**	**+2.5**
	1.5nm,0.5s								
KUU				Lg		Lg	Lg	05 30 24.7	
	16nm,0.6s								
KK31	**Karatay Array**	**6.68**	**317**	Pn		**Pn**	**Pn**	**05 29 10.4**	**+0.4**
	0.4nm,0.3s,baz=133,slow=12,SNR=8.1								
KK31				⇑Lg		Lg	Lg	05 31 05.2	
	4.5nm,0.8s,baz=149,slow=27,SNR=4.2								
MK31	**Makanchi Array**	**9.41**	**24**	⇑Pn		**Pn**	**Pn**	**05 29 49.1**	**+1.6**
	2.2nm,1.1s,baz=192,slow=12,SNR=13								
MKAR	**Makanchi Array**	**9.41**	**24**	Pn		**Pn**	**Pn**	**05 29 49.4**	**+2.0**
	0.2nm,0.3s,baz=192,slow=12,SNR=11								
	0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**12.36**	**6**	Pn		**Pn**	**Pn**	**05 30 29.4**	**+1.8**
	baz=195,slow=12,SNR=2.5								
	0.1nm,0.3s								
ZALV	**Zalesovo Beam**	**16.59**	**17**	Pn		**P**	**P**	**05 31 27.9**	**+1.1**
	0.1nm,0.3s,baz=184,slow=10,SNR=1.6								
	0.3nm,0.4s								
AKTO	**Aktyubinsk**	**17.95**	**318**	P		**Pn**	**Pn**	**05 31 40.2**	**-1.1**
	0.1nm,0.3s,baz=139,slow=3.6,SNR=3.5								
	1.0nm,0.7s								
SONM	**Songino Array**	**23.56**	**57**	P		**P**	**P**	**05 32 43.4**	**+0.9**
	0.6nm,0.5s,baz=254,slow=10,SNR=5.6								
	0.6nm,0.5s								
GNI	**Garni**	**24.73**	**284**	LR	LR			05 43 30.9	
	comp=Z,32nm,21.4s,baz=292,slow=39								
ARCES	**ARCESS Array B**	**41.27**	**335**	P		**P**	**P**	**05 35 17.2**	**+0.4**
	5.3nm,0.9s,baz=104,slow=7.7,SNR=8.2								
	5.3nm,0.9s								
NOA	**NORSAR Array B**	**45.69**	**322**	P		**P**	**P**	**05 35 51.7**	**-0.9**
	0.7nm,0.6s,baz=89,slow=8.1,SNR=2.2								
	0.7nm,0.6s								
TORD	**Torodi Ar. Bea**	**70.24**	**271**	P		**P**	**P**	**05 38 43.3**	**-2.2**
	0.5nm,0.5s,baz=48,slow=5.7,SNR=6.5								
	0.5nm,0.5s								

*SOME **23** 05:57:54.0, 49°43N×83°40E, h0km*

*NNC **23** 05:58:01.9±0.6, 49°34N×82°85E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=7.3km s-min=4.0km az=86.0, Suspected Mining explosion.*

ISC 23 05:57:54.3**±1.3, **49°47N**±0°05×**83°35E**±0°10, **h0**km, **n7, s0**81/8, **6C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**2.21**	**296**	*e*Pg		**Pg**	**Pg**	**05 58 36.6**	**-0.1**
	7.7nm,0.2s								
SEM				*e*Lg		Lg	Lg	05 59 07.7	
	19nm,0.3s								
ZSN	**Zaisan**	**2.25**	**153**	*e*Pg		**Pb**	**Pb**	**05 58 35.5**	**-0.4**
	8.3nm,0.3s								
ZSN				*e*Lg		Lg	Lg	05 59 06.1	
	38nm,0.6s								
MK31	**Makanchi Array**	**2.77**	**195**	⇓Pn		**Pb**	**Pb**	**05 58 44.3**	**-0.3**
	1.0nm,0.5s,baz=21,slow=12,SNR=55								
MK31				⇓Lg		Lg	Lg	05 59 24.6	
	7.9nm,0.5s,baz=18,slow=26,SNR=13								
MAKZ	**Makanchi**	**2.81**	**200**	⇑Pn		**Pb**	**Pb**	**05 58 45.6**	**+0.3**
	2.0nm,0.5s								
MAKZ				⇑Lg		Lg	Lg	05 59 24.7	
	12nm,0.7s								
KURK	**Kurchatov**	**3.29**	**294**	⇑Pg		**Pg**	**Pg**	**05 58 57.1**	**-0.2**
	1.1nm,0.3s								
KURK				⇑Lg		Lg	Lg	05 59 39.8	
	5.9nm,0.5s								
KURBB	**Kurchatov Arra**	**3.32**	**292**	⇓Pg		**Pg**	**Pg**	**05 58 57.5**	**-0.3**
	1.9nm,0.4s								
KURBB				⇑Lg		Lg	Lg	05 59 40.1	
	16nm,0.5s								
ZAA0	**Zalesovo Array**	**4.58**	**11**	⇑Pn		**Pb**	**Pb**	**05 59 14.7**	**-0.7**
	0.4nm,0.6s								
ZAA0				⇓Sn		**Sb**	**Sb**	**06 00 12.7**	**+1.5**
	1.2nm,0.9s								

*MDD **23** 06:01:56.8±0.7, 36°58N×11°28W, h33km±18km, Mb4.1/18, M_mb3.4/18, Error ellipse: s-maj=9.7km s-min=4.3km az=62.0*

*INMG **23** 06:01:58.2±1.3, 36°57N×11°24W, h31km, ML2.2, Error ellipse: s-maj=4.9km s-min=3.7km az=66.0*

*CNRM **23** 06:02:00.6, 36°43N×10°74W, h70km*

ISC 23 06:01:57.4**±2.2, **36°63N**±0°06×**11°1W**±0°1, **h35**km, **n66, s0**1/**s59**/128, **20C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.88**	**74**	⇑*i*Pn		**Pn**	**Pn**	**06 02 28.1**	**+1.2**
PFVI				*e*Sn		**Sn**	**Sn**	**06 02 49.9**	**+0.6**
PFVI				A		A	A	06 02 52.0	
	15nm,0.1s								
PFVI	**Vila Bisbo**	**1.88**	**74**	P		**Pn**	**Pn**	**06 02 28.2**	**+1.3**
PFVI				S		**Sn**	**Sn**	**06 02 49.7**	**+0.3**
PFVI	**Vila Bisbo**	**1.88**	**74**	S		**Sn**	**Sn**	**06 02 50.0**	**+0.6**
PFVI				P		**Pn**	**Pn**	**06 02 28.1**	**+1.2**
MORF	**Marmelete**	**2.06**	**70**	*e*P		**Pn**	**Pn**	**06 02 30.7**	**+1.2**
MORF				*e*S		**Sn**	**Sn**	**06 02 55.1**	**+1.1**
MORF				IAML				06 02 56.9	
	comp=N,25nm,0.3s								
MORF	**Marmelete**	**2.06**	**70**	⇑*e*Pn		**Pn**	**Pn**	**06 02 30.7**	**+1.2**
MORF				*e*Sn		**Sn**	**Sn**	**06 02 55.0**	**+1.1**
MORF				A		A	A	06 02 58.0	
	comp=N,13nm,0.3s								
PTEO	**Sao Teotonio**	**2.10**	**63**	*e*Pn		**Pn**	**Pn**	**06 02 31.4**	**+1.5**
PTEO				*e*Sn		**Sn**	**Sn**	**06 02 55.8**	**+1.0**
PTEO				A		A	A	06 02 58.7	
	comp=N,6.3nm,0.5s								
PNCL	**Nicolau / Gran**	**2.52**	**53**	*e*Pn		**Pn**	**Pn**	**06 02 37.0**	**+1.3**
PNCL				*e*Sn		**Sn**	**Sn**	**06 03 06.0**	**+0.8**
PNCL				A		A	A	06 03 08.3	
	comp=N,6.3nm,0.1s								
PNCL	**Nicolau / Gran**	**2.52**	**53**	S		**Sn**	**Sn**	**06 03 06.5**	**+1.4**
PNCL				P		**Pn**	**Pn**	**06 02 37.0**	**+1.3**
MESJ	**Messejana**	**2.58**	**61**	*e*P		**Pn**	**Pn**	**06 02 37.9**	**+1.2**
MESJ				*e*S		**Sn**	**Sn**	**06 03 07.7**	**+0.8**
MESJ				IAML				06 03 08.9	
	comp=E,5.2nm,0.1s								
MESJ	**Messejana**	**2.58**	**61**	*e*Pn		**Pn**	**Pn**	**06 02 37.9**	**+1.2**
MESJ				*e*Sn		**Sn**	**Sn**	**06 03 07.7**	**+0.8**
MESJ				A		A	A	06 03 15.7	
	comp=E,3.0nm,0.2s								
PCVE	**Castro Verde**	**2.63**	**67**	*e*Pn		**Pn**	**Pn**	**06 02 38.7**	**+1.4**
PCVE				*e*Sn		**Sn**	**Sn**	**06 03 08.5**	**+0.5**
PCVE				A		A	A	06 03 10.7	
	comp=E,4.8nm,0.7s								
PCVE	**Castro Verde**	**2.63**	**67**	S		**Sn**	**Sn**	**06 03 08.7**	**+0.7**
PCVE				P		**Pn**	**Pn**	**06 02 38.7**	**+1.4**
PMAFR	**Mafra**	**2.73**	**31**	*e*Pn		**Pn**	**Pn**	**06 02 39.2**	**+0.5**
PMAFR				*e*Sn		**Sn**	**Sn**	**06 03 11.5**	**+1.1**
PMAFR				A		A	A	06 03 25.4	
	comp=E,14nm,0.6s								
PMAFR	**Mafra**	**2.73**	**31**	S		**Sn**	**Sn**	**06 03 10.4**	**0.0**
PMAFR				P		**Pn**	**Pn**	**06 02 39.1**	**+0.5**
PVAQ	**Vaqueiros**	**2.80**	**73**	*e*Pn		**Pn**	**Pn**	**06 02 41.1**	**+1.5**
PVAQ				*e*Sn		**Sn**	**Sn**	**06 03 12.7**	**+0.5**
PVAQ				A		A	A	06 03 14.9	
	comp=E,5.0nm,0.1s								
PVAQ	**Vaqueiros**	**2.80**	**73**	S		**Sn**	**Sn**	**06 03 12.6**	**+0.5**
PVAQ				P		**Pn**	**Pn**	**06 02 41.2**	**+1.5**
PBEJ	**Beja**	**2.92**	**60**	*e*Pn		**Pn**	**Pn**	**06 02 42.4**	**+1.1**
PBEJ				*e*Sn		**Sn**	**Sn**	**06 03 15.6**	**+0.5**
PBEJ				A		A	A	06 03 17.7	
	comp=E,3.0nm,0.2s								
EGRO	**El Granado**	**3.02**	**71**	S		**Sn**	**Sn**	**06 03 17.7**	**+0.2**
EGRO				P		**Pn**	**Pn**	**06 02 44.3**	**+1.7**
EGRO	**El Granado**	**3.02**	**71**	P		**Pn**	**Pn**	**06 02 44.4**	**+1.8**
EGRO				⇑*i*Vmb_V				06 02 46.3	
	comp=E,191nm,SNR=1.9								
EGRO				S		**Sn**	**Sn**	**06 03 18.2**	**+0.7**
EVO	**Evora**	**3.09**	**51**	*e*Pn		**Pn**	**Pn**	**06 02 44.8**	**+1.1**
EVO				*e*Sn		**Sn**	**Sn**	**06 03 19.8**	**+0.4**
EVO				A		A	A	06 03 23.2	
	comp=E,7.4nm,0.1s								
EVO	**Evora**	**3.09**	**51**	P		**Pn**	**Pn**	**06 02 44.7**	**+1.1**
EVO				S		**Sn**	**Sn**	**06 03 20.0**	**+0.6**
PMTG	**Montargil**	**3.33**	**42**	*e*Pn		**Pn**	**Pn**	**06 02 47.4**	**+0.5**
PMTG				*e*Sn		**Sn**	**Sn**	**06 03 25.9**	**+0.8**
PMTG				A		A	A	06 03 30.3	
	comp=E,2.8nm,0.1s								
PSBE	**So Bento**	**3.40**	**31**	*e*Pn		**Pn**	**Pn**	**06 02 48.6**	**+0.7**
PSBE				*e*Sn		**Sn**	**Sn**	**06 03 27.4**	**+0.3**
PSBE				A		A	A	06 03 54.4	
	comp=E,3.7nm,0.6s								
PESTR	**Estremoz**	**3.56**	**50**	*e*Pn		**Pn**	**Pn**	**06 02 51.3**	**+1.2**
PESTR				*e*Sn		**Sn**	**Sn**	**06 03 31.5**	**+0.6**
PESTR				A		A	A	06 03 36.7	
	comp=E,2.1nm,0.5s								
PESTR	**Estremoz**	**3.56**	**50**	P		**Pn**	**Pn**	**06 02 51.9**	**+1.8**
PESTR				S		**Sn**	**Sn**	**06 03 32.3**	**+1.4**
PESTR	**Estremoz**	**3.56**	**50**	P		**Pn**	**Pn**	**06 02 50.9**	**+0.9**
PESTR				S		**Sn**	**Sn**	**06 03 31.8**	**+0.9**
PBAR	**Barrancos**	**3.57**	**63**	*e*Pn		**Pn**	**Pn**	**06 02 51.4**	**+1.2**
PBAR				*e*Sn		**Sn**	**Sn**	**06 03 31.1**	**-0.1**
PBAR				A		A	A	06 03 36.9	
	comp=E,2.8nm,0.2s								
PBAR	**Barrancos**	**3.57**	**63**	P		**Pn**	**Pn**	**06 02 51.4**	**+1.2**
PBAR				S		**Sn**	**Sn**	**06 03 32.0**	**+0.8**
EMIN	**Mina Concepcio**	**3.70**	**71**	P		**Pn**	**Pn**	**06 02 53.2**	**+1.2**
EMIN				S		**Sn**	**Sn**	**06 03 34.6**	**+0.3**
EMIN	**Mina Concepcio**	**3.70**	**71**	P		**Pn**	**Pn**	**06 02 53.3**	**+1.3**
EMIN				⇑*i*Vmb_V				06 02 53.9	
	comp=E,134nm,SNR=2.2								
EMIN				S		**Sn**	**Sn**	**06 03 34.5**	**+0.1**
EBAD	**Badajoz**	**3.86**	**55**	P		**Pn**	**Pn**	**06 02 54.4**	**+0.2**
EBAD				S		**Sn**	**Sn**	**06 03 38.6**	**+0.2**
EBAD	**Badajoz**	**3.86**	**55**	P		**Pn**	**Pn**	**06 02 54.5**	**+0.2**
EBAD				⇑*i*Vmb_V				06 02 57.1	
	comp=E,236nm,SNR=2.9								
EBAD				S		**Sn**	**Sn**	**06 03 38.8**	**+0.4**
PCAS	**Casmilo, Conde**	**3.98**	**30**	*e*Pn		**Pn**	**Pn**	**06 02 57.0**	**+1.1**
PCAS			

EAGO	**Agolada(Pontev**	**6.59**	**20**	P		**Pn**	**06 03 32.1**	**+0.5**
EAGO				⇑*i*Vmb_V			06 03 35.1	
	comp=E,115nm,SNR=1.4							
EAGO				S		**Sn**	**06 04 41.7**	**-3.8**
OUZM	**OUZ**	**6.74**	**147**	P		**Pn**	**06 03 33.6**	**-0.3**
OUZM				S		**Sn**	**06 04 45.3**	**-4.2**
GUD	**Guadarrama**	**6.74**	**51**	P		**Pn**	**06 03 34.7**	**+0.7**
GUD				⇑*i*Vmb_V			06 03 35.5	
	comp=E,59nm,SNR=1.0							
GUD				S		**Sn**	**06 04 46.4**	**-3.2**
EPON	**Pontenova**	**7.34**	**23**	P		**Pn**	**06 03 42.5**	**+0.5**
EPON				⇑*i*Vmb_V			06 03 42.7	
	comp=E,61nm,SNR=1.6							
EPON				S		**Sn**	**06 04 59.7**	**-4.4**
ETOR	**Torete**	**8.20**	**57**	P		**Pn**	**06 03 55.1**	**+1.2**
ETOR				⇑*i*Vmb_V			06 03 56.7	
	comp=E,45nm,SNR=0.9							
ETOR				S		**Sn**	**06 05 21.9**	**-3.5**

IDC 23 06:03:35.0±3.9, 6°16S×151°33E, h0km, mb3.3/2, mbtmp3.4/2, MS2.7/1, Error ellipse: s-maj=150.7km s-min=52.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.24**	**232**	LR	LR	06 06 53.2	
	comp=Z,70nm,18.8s,baz=349,slow=38						
WRA	**Warramunga Arr**	**21.45**	**229**	P	P	06 08 24.8	-0.4
	0.5nm,0.4s,baz=54,slow=11,SNR=5.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**24.17**	**222**	P	P	06 08 53.6	+0.4
	0.6nm,0.6s,baz=58,slow=9.2,SNR=10						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.29**	**285**	PKPbc	PKPbc	06 23 26.2	-0.7
	0.4nm,0.5s,baz=73,slow=1.9,SNR=2.1						

*SKHL **23** 06:11:55.3±0.3, 45°.40N×142°.20E, h12km±2km, mb4.3/7*
*JMA **23** 06:11:57.0±0.3, 45°.4N±0°.8×142°.3E±1°.0, h0km, MV3.4/26, NE OFF HOKKAIDO*
JMA Felt II J1 at NE OFF HOKKAIDO .

ISC 23 06:11:56.6±0.9, 45°.36N±0°.04×142°.25E±0°.04, h10km, n8, σ0°77/13, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.25**	**259**	⇓*eP*	**Pb**	**06 12 03.5**	**+0.2**
JWK2				⇓*eS*	**Sb**	**06 12 08.5**	**+0.9**
JSE	**Soyaes**	**0.47**	**149**	*eP*	**Pb**	**06 12 06.5**	**-0.5**
JSE				*eS*	**Sb**	**06 12 13.3**	**-0.7**
JRR	**Rishiri**	**0.70**	**251**	*eP*	**Pn**	**06 12 12.2**	**-0.3**
JRBN	**Rebuntou**	**0.83**	**274**	*eP*	**Pb**	**06 12 13.1**	**-0.1**
JRBN				*eS*	**Sn**	**06 12 25.8**	**-1.0**
YSS	**Yuzh-Sakhalins**	**1.63**	**12**	*ePg*	**Pb**	**06 12 26.8**	**0.0**
YSS				AMB	AMB	06 12 27.5	
	20nm,0.2s						
YSS				*eSg*	**Sg**	**06 12 48.7**	**-0.3**
YSS				A	A	06 12 51.7	
	290nm,0.5s						
YSS				A	A	06 12 51.7	
	190nm,0.5s						
KHLM	**Kholmsk**	**1.70**	**356**	*ePg*	**Pg**	**06 12 28.7**	**-0.5**
KHLM				AMB	AMB	06 12 28.8	
	51nm,0.4s						
KHLM				*eSg*	**Sg**	**06 12 52.0**	**+0.8**
KHLM				A	A	06 12 53.9	
	408nm,0.4s						
KHLM				A	A	06 12 53.9	
	603nm,0.4s						
AKK	**Akkeshi**	**3.00**	**141**	*eP*	**Pn**	**06 12 45.2**	**+1.0**
MYR	**Moyori**	**3.16**	**166**	*eP*	**Pn**	**06 12 47.6**	**+1.2**

*DJA **23** 06:12:11.5±0.3, 9°S±3°×107°6E±°, h10km, M5.1/34, mB5.8/12, mb5.1/34, MLv4.8/25, Mw(mB)5.3/12*
*IDC **23** 06:12:11.1±0.6, 8°.65S×105°.80E, h0km, mb4.5/14, mbtmp4.6/15, ML5.5/1, MS3.4/9, Error ellipse: s-maj=21.0km s-min=13.3km az=65.0*
*NEIC **23** 06:12:14.7±2.1, 8°.75S±0°.07×105°.80E±0°.04, h31km±4km, mb4.7/51, Error ellipse: s-maj=10.8km s-min=4.7km az=163.0*

ISC 23 06:12:13.6±0.4, 8°74S±0°.05×105°83E±0°.05, h22km, n178, σ1s22/167, mb4.7/51, MS3.4/8, 3C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XMI	**Christmas Isla**	**1.70**	**185**	P	**Pn**	**06 12 40.0**	**-2.0**
SKJI	**Sukabumi**	**1.87**	**23**	P	**Pn**	**06 12 42.8**	**-1.5**
CNJI	**Cibinong**	**1.92**	**42**	P	**Pn**	**06 12 43.9**	**-1.1**
CGJI	**Cibinong**	**2.12**	**356**	P	**Pn**	**06 12 47.0**	**-0.7**
BBJI	**Bungbulang**	**2.21**	**55**	P	**Pn**	**06 12 47.9**	**-1.1**
LEM	**Lembang**	**2.60**	**43**	Pn	**Pn**	**06 12 55.4**	**+0.9**
	981nm,0.3s,baz=24,slow=10,SNR=126						
	2μm,0.3s						
LEM	**Lembang**	**2.60**	**43**	P	**Pn**	**06 12 54.5**	**0.0**
SBJI	**Serang**	**2.62**	**7**	P	**Pn**	**06 12 54.3**	**-0.3**
TNG	**Tangerang**	**2.68**	**18**	P	**Pn**	**06 12 55.7**	**+0.3**
CMJI	**Cimerak**	**2.76**	**70**	P	**Pn**	**06 12 55.7**	**-0.9**
JCJI	**Jatiwangi**	**3.30**	**47**	P	**Pn**	**06 13 01.2**	**-2.7**
KPJI	**Karang Pucung**	**3.38**	**66**	P	**Pn**	**06 13 05.5**	**+0.5**
BLSI	**Bandar Lampung**	**3.40**	**350**	P	**Pn**	**06 13 04.8**	**-0.5**
KASI	**Kota Agung**	**3.46**	**337**	P	**Pn**	**06 13 04.8**	**-1.3**
KLI	**Kotabumi**	**3.97**	**346**	P	**Pn**	**06 13 14.4**	**+1.2**
LWLI	**Liwa**	**4.09**	**335**	P	**Pn**	**06 13 16.1**	**+1.1**
YOGI	**Yogyakarta**	**4.52**	**79**	P	**Pn**	**06 13 20.6**	**-0.1**
MDSI	**Maura Dua**	**4.53**	**339**	P	**Pn**	**06 13 20.3**	**-0.6**
UGM	**Wanagama**	**4.72**	**80**	Pn	**Pn**	**06 13 23.3**	**-0.2**
UGM	**Wanagama**	**4.72**	**80**	P	**Pn**	**06 13 23.4**	**-0.1**
UGM	**Wanagama**	**4.72**	**80**	P	**Pn**	**06 13 22.9**	**-0.6**
SMRI	**Semarang**	**4.87**	**70**		**Pn**	**06 13 26.9**	**+1.3**
SMRI	**Semarang**	**4.87**	**70**	P	**Pn**	**06 13 27.4**	**+1.8**
SMRI	**Semarang**	**4.87**	**70**	P	**Pn**	**06 13 26.6**	**+1.0**
MNAI	**Manna**	**5.20**	**327**	Pn	**Pn**	**06 13 28.7**	**-1.4**
MNAI	**Manna**	**5.20**	**327**	P	**Pn**	**06 13 30.0**	**-0.1**
MNAI	**Manna**	**5.20**	**327**	P	**Pn**	**06 13 28.9**	**-1.2**
	162nm,0.5s,1.1nm						
UWJI	**Ujung Watu**	**5.58**	**66**	P	**Pn**	**06 13 35.7**	**+0.4**
	91nm,0.6s,0.6nm						
NGJI	**Ngawi**	**5.74**	**77**	P	**Pn**	**06 13 39.2**	**+1.6**
	112nm,0.9s,0.6nm						
PWJI	**Pagerwojo**	**5.96**	**84**	P	**Pn**	**06 13 40.2**	**-0.3**
	437nm,0.6s,7μm2.1nm						
KSI	**Kapahiang**	**5.99**	**327**	P	**Pn**	**06 13 40.7**	**-0.3**
	129nm,0.5s						
PPBI	**Pangkal Pinang**	**6.54**	**3**	P	**Pn**	**06 13 48.9**	**+0.3**
	32nm,0.8s,0.2nm						
MASI	**Maura Aman, Be**	**6.61**	**327**	P	**Pn**	**06 13 49.6**	**+0.1**
	32nm,0.5s,0.2nm						
GRJI	**Gresik**	**6.84**	**75**	P	**Pn**	**06 13 52.8**	**+0.2**
	132nm,0.5s,0.7nm						
GMJI	**Gumukmas**	**7.55**	**87**	P	**Pn**	**06 14 03.0**	**+0.6**
	124nm,0.7s,3μm0.7nm						
BLJI	**Banyuglugur**	**7.75**	**83**	P	**Pn**	**06 14 07.0**	**+1.8**
	195nm,0.6s,12μm1.2nm						
JAGI	**Jajag, Banyuwa**	**8.24**	**89**	Pn	**Pn**	**06 14 11.4**	**-0.5**
JAGI	**Jajag, Banyuwa**	**8.24**	**89**	P	**Pn**	**06 14 13.6**	**+1.7**
JAGI	**Jajag, Banyuwa**	**8.24**	**89**	P	**Pn**	**06 14 12.9**	**+1.0**
	247nm,0.4s,7μm						
ABJI	**Asem Bagus**	**8.37**	**84**	P	**Pn**	**06 14 14.9**	**+1.2**
	336nm,0.5s,4μm						
DNP	**Denpasar**	**9.28**	**90**	P	**Pn**	**06 14 26.6**	**+0.5**
	600nm,0.4s,41μm						
SRBI	**Singaraja**	**9.31**	**87**	P	**Pn**	**06 14 26.4**	**-0.1**
	315nm,0.7s,5μm						
COCO	**West Island**	**9.48**	**248**	Pn	**Pn**	**06 14 27.6**	**-1.3**
TWSI	**Taliwang, Sumb**	**10.93**	**91**	P	**Pn**	**06 14 47.3**	**-1.5**
	123nm,0.5s,2μm						
PLAI	**Plampang**	**11.81**	**91**	P	**Pn**	**06 15 00.1**	**-0.8**
PLAI	**Plampang**	**11.81**	**91**	P	**Pn**	**06 14 59.5**	**-1.4**
	160nm,0.7s,2μm						
GSI	**Gunungsitoli**	**12.93**	**320**	Pn	**Pn**	**06 15 14.2**	**-2.0**
KAPI	**Kappang**	**14.31**	**76**	LR	LR	06 21 46.6	
	comp=Z,224nm,20.3s,baz=267,slow=40						
KAPI	**Kappang**	**14.31**	**76**	Pn	**Pn**	**06 15 35.3**	**+0.3**
BKSI	**Bulukumba**	**14.59**	**77**	P	**Pn**	**06 15 39.5**	**+0.7**
	33nm,0.7s						
BASI	**Baing, Sumba**	**14.62**	**97**	P	**Pn**	**06 15 39.5**	**+0.2**
	151nm,1.5s						
SPSI	**Sidrap Palu**	**14.64**	**72**	P	**Pn**	**06 15 39.0**	**-0.6**
	34nm,1.2s						
LHMI	**Lhok Sumawe**	**16.46**	**327**	Pn	**Pn**	**06 16 01.2**	**-2.1**
LHMI				IAmb	IAmb	06 16 36.4	
	comp=Z,105nm,1.0s						
MPSI	**Mapaga**	**16.67**	**58**	P	**Pn**	**06 16 06.7**	**+0.7**
	comp=Z,41nm,1.4s,comp=Z,2μm						
TOLI2	**Tolitoli**	**17.83**	**57**	Pn	**Pn**	**06 16 18.9**	**-1.5**
KKM	**Kota Kinabalu**	**17.97**	**36**	Pn	**Pn**	**06 16 20.4**	**-1.9**
MBWA	**Marble Bar**	**18.23**	**134**	P	**Pn**	**06 16 23.2**	**-2.1**
MBWA	**Marble Bar**	**18.23**	**134**	P	**Pn**	**06 16 24.5**	**-0.8**
SOEI	**Soe**	**18.23**	**95**		**Pn**	**06 16 22.9**	**-2.6**
SOEI				IAmb	IAmb	06 16 38.0	
	comp=Z,97nm,1.0s						
SOEI	**Soe**	**18.23**	**95**	P	**Pn**	**06 16 25.0**	**-0.5**
	comp=Z,99nm,0.8s						
LUWI	**Luwuk**	**18.52**	**67**	P	**P**	**06 16 27.8**	**-0.9**
LUWI				IAmb	IAmb	06 16 37.6	
	comp=Z,69nm,1.1s						
PSA00	**Pilbara Seismi**	**18.58**	**135**	P	**P**	**06 16 27.9**	**-1.4**
PSA00	**Pilbara Seismi**	**18.58**	**135**	P	**P**	**06 16 29.1**	**-0.2**
GTOI	**Gorontalo**	**19.49**	**62**	P	**P**	**06 16 37.4**	**-1.9**
	comp=Z,13nm,0.8s						
SANI	**Sanana**	**21.13**	**73**	P	**P**	**06 16 55.5**	**-1.7**
	comp=Z,23nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.38**	**118**	P	**P**	**06 17 00.9**	**+1.1**
MEEK	**Meekatharra**	**21.54**	**147**	P	**P**	**06 17 03.0**	**+1.5**
NLAI	**Namlea**	**21.84**	**77**	P	**P**	**06 17 05.8**	**+1.0**
	comp=Z,22nm,0.6s,comp=Z,8μm						
KNRA	**Kununurra**	**23.44**	**109**	P	**P**	**06 17 22.4**	**+0.9**
KNRA				IAmb	IAmb	06 17 35.7	
	comp=Z,48nm,1.4s						
KNRA	**Kununurra**	**23.44**	**109**	P	**P**	**06 17 22.8**	**+1.3**
MTN	**Manton Dam**	**25.18**	**102**	P	**P**	**06 17 39.4**	**+1.7**
DAV	**Davao City (W)**	**25.18**	**52**	LR	LR	06 28 18.1	
	comp=Z,107nm,20.1s,baz=298,slow=38						
KDU	**Kakadu**	**26.47**	**101**	P	**P**	**06 17 50.2**	**+0.8**
FAKI	**Fak Fak**	**26.90**	**79**	P	**P**	**06 17 54.4**	**+1.1**
H01W3	**Cape Leeuwin H**	**27.11**	**165**	T	T	06 46 20.9	
	baz=344,slow=76,SNR=4.8						
H01W1	**Cape Leeuwin H**	**27.13**	**165**	T	T	06 46 23.1	
	baz=344,slow=76,SNR=9.0						
H01W2	**Cape Leeuwin H**	**27.13**	**165**	T	T	06 46 17.7	
	baz=344,slow=76,SNR=7.0						
LQP	**Lukban**	**27.54**	**35**	⇑*eP*	**P**	**06 17 58.4**	**-0.8**
PHRA	**Phrae**	**27.62**	**348**	P	**P**	**06 18 00.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**27.87**	**346**	P	**P**	**06 18 02.1**	**+0.2**
	comp=Z,4.1nm,0.5s,baz=182,slow=8.3,SNR=26						
CMAR				LR	LR	06 29 25.7	
	comp=Z,51nm,19.4s,baz=190,slow=37						
	comp=Z,4.1nm,0.5s						
CHTO	**Chiang Mai**	**28.21**	**346**	P	**P**	**06 18 04.1**	**-0.8**
WB0	**Warramunga Arr**	**29.73**	**115**	P	**P**	**06 18 19.5**	**+1.0**
WB0				IAmb	IAmb	06 18 22.4	
	comp=Z,6.6nm,0.6s						
WRA	**Warramunga Arr**	**29.73**	**115**	P	**P**	**06 18 19.4**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=285,slow=12,SNR=30						
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**29.73**	**115**	P	**P**	**06 18 18.9**	**+0.3**
WRAB	**Tennant Creek**	**29.74**	**115**	P	**P**	**06 18 19.3**	**+0.7**
WB2	**Warramunga Arr**	**29.74**	**115**	P	**P**	**06 18 19.8**	**+1.1**
WB2				IAmb	IAmb	06 18 21.0	
	comp=Z,5.8nm,0.5s						
WR0	**Warramunga Arr**	**29.91**	**115**	P	**P**	**06 18 20.0**	**-0.2**
WR0				IAmb	IAmb	06 18 24.4	
	comp=Z,7.4nm,0.8s						
ASAR	**Alice Springs**	**30.69**	**122**	P	**P**	**06 18 27.7**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=295,slow=8.2,SNR=21						
	comp=Z,3.3nm,0.9s						
ASAR	**Alice Springs**	**30.69**	**122**	P	**P**	**06 18 26.3**	**-0.7**
AS31	**Alice Springs**	**30.69**	**122**	P	**P**	**06 18 25.5**	**-1.5**
AS01	**Alice Springs**	**30.73**	**122**	P	**P**	**06 18 29.3**	**+2.0**
H08S2	**Diego Garcia H**	**33.01**	**269**	T	T	06 53 38.3	
	baz=94,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**33.02**	**269**	T	T	06 54 02.9	
	baz=94,slow=75,SNR=20						
H08S1	**Diego Garcia H**	**33.02**	**269**	T	T	06 53 37.2	
	baz=94,slow=75,SNR=6.3						
KMI	**Kunming**	**33.79**	**355**	⇑P	**P**	**06 18 54.9**	**+0.6**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OOD	**Oodnadatta**	**33.95**	**128**	P	**P**	**06 18 56.3**	**+0.8**
MULG	**Mulgathing**	**33.99**	**133**	P	**P**	**06 18 56.7**	**+0.9**
QIS	**Mount Isa**	**34.65**	**114**	P	**P**	**06 19 02.1**	**+0.4**
TPUB	**Ta-pu**	**34.98**	**24**	P	**P**	**06 19 03.7**	**-0.7**
PZH	**PanZhiHua**	**35.26**	**354**	P	**P**	**06 19 10.4**	**+3.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
SSLB	**Suanglung**	**35.55**	**24**	P	**P**	**06 19 07.7**	**-1.7**
HMDM	**Hanimaadhoo**	**36.01**	**294**	P	**P**	**06 19 11.6**	**-1.8**
NACB	**Ninganchiao**	**36.16**	**25**	P	**P**	**06 19 11.8**	**-2.7**
YHNB	**Yeheng**	**36.51**	**24**	P	**P**	**06 19 17.3**	**-0.3**
SHL	**Shillong**	**36.70**	**339**	P	**P**	**06 19 18.7**	**-0.7**
SHL				IAmb	IAmb	06 19 28.5	
	comp=Z,12nm,0.5s						
BBOO	**Buckleboo**	**36.81**	**135**	P	**P**	**06 19 19.9**	**-0.1**
BBOO				IAmb	IAmb	06 19 37.4	
	comp=Z,18nm,1.4s						
COEN	**Coen**	**36.95**	**102**	P	**P**	**06 19 20.6**	**-0.9**
COEN				IAmb	IAmb	06 19 24.1	
	comp=Z,22nm,1.3s						
ENH	**Enshi**	**38.95**	**5**	P	**P**	**06 19 36.3**	**-1.8**
HTT	**Hallett**	**39.16**	**134**	P	**P**	**06 19 41.2**	**+1.2**
ODAN	**Odare**	**39.65**	**334**	*eP*	**P**	**06 19 45.2**	**+0.9**
TAPN	**Taplejung**	**39.94**	**334**	*eP*	**P**	**06 19 47.8**	**+1.0**
RAMN	**Ramite**	**40.08**	**333**	*eP*	**P**	**06 19 48.8**	**+0.9**
	comp=Z,10nm,0.6s						
STKA	**Stephens Creek**	**40.38**	**130**	P	**P**	**06 19 51.5**	**+1.4**
	comp=Z,6.5nm,0.7s,baz=292,slow=8.7,SNR=17						
	comp=Z,6.5nm,0.7s						
STKA	**Stephens Creek**	**40.38**	**130**	P	**P**	**06 19 48.4**	**-1.7**
CTA	**Charters Tower**	**40.64**	**111**	P	**P**	**06 19 54.6**	**+2.2**
	comp=Z,12nm,0.9s,baz=276,slow=10.0,SNR=11						
	comp=Z,12nm,0.9s						
CTAO	**Charters Tower**	**40.64**	**111**	P	**P**	**06 19 50.1**	**-2.3**
CTAO				IAmb	IAmb	06 19 56.9	
	comp=Z,13nm,0.9s						
LSA	**Lhasa**	**40.75**	**340**	P	**P**	**06 19 52.7**	**-0.9**
LSA				IAmb	IAmb	06 19 59.8	
	comp=Z,12nm,0.9s						
JIRN	**Jiri**	**40.88**	**333**	*eP*	**P**	**06 19 55.7**	**+1.1**
	comp=Z,42nm,0.6s						
GUN	**Gumba**	**41.23**	**333**	*eP*	**P**	**06 19 58.6**	**+1.1**
	comp=Z,14nm,0.4s						
KOLN	**Koldanda**	**42.19**	**330**	*eP*	**P**	**06 20 06.1**	**+0.9**
NJ2	**Nanjing**	**42.43**	**16**	*eP*	**P**	**06 20 07.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ROCAM	**Rodrigues Isla**	**42.47**	**250**	P	**P**	**06 20 05.5**	**-1.9**
DANN	**Dangsing**	**42.59**	**331**	*eP*	**P**	**06 20 09.4**	**+0.8**
	comp=Z,34nm,0.6s						
XAN	**Xi'an**	**42.65**	**4**	P	**P**	**06 20 07.8**	**-0.8**
XAN				pP	pP	06 20 12.0	-2.0
XAN				sP	sP	06 20 14.8	-1.7
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
PYUN	**Piuthan**	**42.77**	**330**	*eP*	**P**	**06 20 11.6**	**+1.7**
	comp=Z,17nm,0.5s						
CMSA	**Cobar Meteorol**	**43.41**	**127**	P	**P**	**06 20 17.2**	**+2.3**
LYN	**LuoYang**	**43.51**	**8**	*eP*	**P**	**06 20 16.1**	**+0.6**
LYN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LYN				pmax	pmax		
	comp=Z,250nm,5.5s						
LZH	**Lanzhou**	**44.62**	**358**	*eP*	**P**	**06 20 25.6**	**+1.0**
LZH				pP	pwP	06 20 35.4	-0.6
LZH				sP	sP	06 20 39.8	+7.6
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
GOMU	**GeErMu**	**45.88**	**348**	P	**P**	**06 20 36.4**	**+1.5**
GOMU				pP	pP	06 20 40.4	0.0
GOMU				sP	sP	06 20 41.3	-1.2
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,130nm,4.7s						
HNS	**HongShan**	**46.64**	**10**	⇓P	**P**	**06 20 40.3**	**-0.1**
HNS				pmax	pmax		
	comp=Z,13nm,0.9s						
GTA	**Gaotai**	**48.23**	**354**	*eP*	**P**	**06 20 53.6**	**+0.7**
GTA				pP	pwP	06 21 03.8	-0.4
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BJT	**Baijiatuan**	**49.45**	**10**	P	**P**	**06 21 00.9**	**-1.1**
BJT				IAmb	IAmb	06 21 19.0	
	comp=Z,8.4nm,1.1s						
BJI	**Beijing**	**49.47**	**10**	P	**P**	**06 21 01.9**	**-0.3**
BJI				pP	**pwP**	**06 21 12.6**	**+0.1**
BJI				sP	sP	06 21 18.1	+7.9
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**49.62**	**6**	*eP*	**P**	**06 21 07.8**	**+4.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,310nm,4.9s						
JCJ	**Chichijima**	**50.11**	**44**	P	**P**	**06 21 06.5**	**-0.9**
KSAR	**Wonju Array Be**	**50.37**	**23**	P	**P**	**06 21 08.0**	**-1.1**
KSRS	**Korea Array**	**50.40**	**23**	P	**P**	**06 21 08.6**	**-0.6**
	comp=Z,6.8nm,0.8s,baz=212,slow=9.1,SNR=15						
KSRS				LR	LR	06 44 16.7	
	comp=Z,14nm,18.7s,baz=275,slow=38						
	comp=Z,6.8nm,0.8s						
XLT	**XiLinHaoTe**	**53.21**	**9**	*eP*	**P**	**06 21 30.3**	**0.0**
XLT				pP	pwP	06 21 41.5	+0.9
XLT				sP	sP	06 21 46.6	+8.3
XLT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,260nm,5.1s						
WMQ	**Urumqi**	**54.84**	**344**	*eP*	**P**	**06 21 43.5**	**+1.3**
WMQ				pP	pwP	06 21 54.5	+1.0
WMQ				sP	sP	06 21 58.0	+8.1
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
CN2	**Changchun**	**55.24**	**17**	*eP*	**P**	**06 21 48.3**	**+3.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM	**Songino Array**	**56.33**	**0**	P	**P**	**06 21 53.5**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=179,slow=9.4,SNR=27						
SONM				PcP	**PcP**	**06 22 49.8**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=169,slow=8.7,SNR=1.3						
	comp=Z,2.5nm,0.5s						
SONM	**Songino Array**	**56.33**	**0**	P	**P**	**06 21 52.8**	**-0.1**
SONM				IAmb	IAmb	06 22 05.9	
	comp=Z,6.6nm,1.1s						
ULN	**Ulaanbaatar**	**56.37**	**1**	P	**P**	**06 21 52.7**	**-0.5**
ULN				IAmb	IAmb	06 21 55.3	
	comp=Z,4.0nm,0.7s						
TARG	**Taragay, Kyrgy**	**56.42**	**335**	P	**P**	**06 21 52.7**	**-1.4**
KOUNC	**Koumac, New Ca**	**57.50**	**109**	P	**P**	**06 22 02.1**	**+0.5**
BNX	**BinXian**	**57.59**	**18**	⇑P	**P**	**06 22 02.6**	**+0.9**
BNX				pmax	pmax		
	comp=Z,28nm,0.9s						
BNX				pmax	pmax		
	comp=Z,160nm,5.1s						
USA0B	**Ussuriysk Arra**	**57.77**	**22**	P	**P**	**06 22 02.4**	**-0.6**
USA0B				IAmb	IAmb	06 22 11.8	
	comp=Z,1.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**57.77**	**22**	P	**P**	**06 22 02.9**	**-0.1**
	comp=Z,6.1nm,0.5s,baz=207,slow=6.9,SNR=6.4						
	comp=Z,6.1nm,0.5s						
CHGR	**Chuyangaron**	**58.20**	**327**	P	**P**	**06 22 06.7**	**+0.4**
CHGR				IAmb	IAmb	06 22 17.4	
	comp=Z,11nm,1.1s						
AAK	**Ala-Archa**	**58.59**	**333**	LR	LR	06 51 14.6	
	comp=Z,23nm,18.8s,baz=198,slow=40						
HIA	**Hailar**	**59.04**	**11**	P	**P**	**06 22 11.7**	**-0.1**
HIA				IAmb	IAmb	06 22 13.2	
	comp=Z,9.6nm,0.8s						
MK31	**Makanchi Array**	**59.14**	**341**	P	**P**	**06 22 12.3**	**-0.3**
MK31				IAmb	IAmb	06 22 19.8	
	comp=Z,3.3nm,0.7s						
MKAR	**Makanchi Array**	**59.14**	**341**	P	**P**	**06 22 12.9**	**+0.4**
	comp=Z,4.4nm,0.5s,baz=151,slow=7.6,SNR=70						
	comp=Z,4.4nm,0.5s						
MAKZ	**Makanchi**	**59.25**	**341**	P	**P**	**06 22 12.5**	**-0.8**
MAKZ				IAmb	IAmb	06 22 26.6	
	comp=Z,4.8nm,1.1s						
DZM	**Mont Dzumac**	**59.58**	**110**	LR	LR	06 50 46.0	
	comp=Z,68nm,18.2s,baz=346,slow=39						
HEH	**HeiHe**	**61.69**	**16**	*eP*	**P**	**06 22 29.3**	**-0.5**
HEH				pmax	pmax		
	comp=Z,14nm,0.6s						
HEH				pmax	pmax		
	comp=Z,200nm,5.7s						
KURK	**Kurchatov**	**63.74**	**341**	P	**P**	**06 22 43.4**	**-0.1**
KURK				IAmb	IAmb	06 22 55.3	
	comp=Z,4.8nm,0.8s						
ZAA0	**Zalesovo Array**	**64.93**	**346**	P	**P**	**06 22 51.5**	**+0.3**
ZAA0				IAmb	IAmb	06 22 58.4	
	comp=Z,8.3nm,1.1s						
ZALV	**Zalesovo Beam**	**64.93**	**346**	P	**P**	**06 22 51.1**	**-0.1**
	comp=Z,4.4nm,0.3s,baz=154,slow=6.3,SNR=15						
ZALV				LR	LR	06 55 39.5	
	comp=Z,26nm,19.4s,baz=278,slow=40						
	comp=Z,4.4nm,0.3s						
RPZ	**Rata Peaks**	**66.15**	**134**	LR	LR	06 49 58.4	
	comp=Z,42nm,20.9s,baz=318,slow=34						
BHW	**Baring Head**

SNZO	South Karori	0.47	38		Pb	06 16 48.3	-0.6
SNZO	South Karori	0.47	38	P	Pb	06 16 48.6	-0.3
TCW	Tory Channel	0.47	356	Pg	Pb	06 16 48.4	-0.5
TCW	Tory Channel	0.47	356	P	Pb	06 16 48.1	-0.8
TCW				S	Sb	06 16 54.2	-1.4
BHW	Baring Head	0.49	57		Pb	06 16 49.2	-0.1
WEL	Wellington	0.52	41	S	Sb	06 16 57.3	+0.3
PLWZ	Palliser	0.71	81		Pb	06 16 53.2	+0.2
PLWZ	Palliser	0.71	81	P	Pn	06 16 53.7	-0.7
MSWZ	Moikau Station	0.74	70		Pn	06 16 54.3	-0.6
MSWZ	Moikau Station	0.74	70	P	Pn	06 16 54.3	-0.6
MSWZ				S	Sn	06 17 06.1	+0.2
CAW	Cannon Point	0.80	45	P	Pb	06 16 54.4	-0.2
NNZ	Nelson	0.84	303		Pb	06 16 55.0	-0.4
NNZ	Nelson	0.84	303	P	Pb	06 16 54.9	-0.5
NNZ				S	Sb	06 17 06.1	-0.3
PAWZ	Paruwai Farm	0.88	71	P	Pn	06 16 56.4	-0.4
PAWZ				S	Sn	06 17 10.5	+1.2
DUWZ	D'Urville Isla	0.93	341	P	Pb	06 16 56.2	-0.6
DUWZ				S	Sb	06 17 09.8	+0.9
KIW	Kapiti Island	0.93	29	P	Pb	06 16 56.4	-0.4
KIW				S	Sb	06 17 10.0	+1.1
KHZ	Kahutara	0.94	218		Pn	06 16 57.4	-0.1
KHZ	Kahutara	0.94	218	P	Pn	06 16 57.8	+0.3
KHZ	Kahutara	0.94	218	P	Pn	06 16 57.7	+0.1
KHZ				S	Sn	06 17 11.9	+1.4
MTW	Mount Morrison	1.03	60	P	Pn	06 16 58.6	-0.2
MTW				S	Sn	06 17 14.8	+1.9
THZ	Tophouse	1.06	265		Pb	06 16 58.8	-0.3
THZ	Tophouse	1.06	265	P	Pn	06 16 59.0	-0.3
TRWZ	Traveller	1.06	75	P	Pb	06 16 58.8	-0.3
OGWZ	Otaki Gorge	1.07	37	P	Pb	06 16 58.9	-0.3
HOWZ	Holdsworth Sta	1.19	49	P	Pn	06 17 01.0	-0.1
HOWZ				S	Sn	06 17 19.3	+2.4
MRNZ	Matariki Terra	1.21	283		Pn	06 17 01.3	+0.1
MRNZ	Matariki Terra	1.21	283	P	Pn	06 17 01.6	+0.4
TKNZ	Takaka Hill	1.21	302		Pn	06 17 01.3	0.0
TKNZ	Takaka Hill	1.21	302	P	Pn	06 17 01.3	0.0
TMWZ	Te Maipa	1.31	65	P	Pg	06 17 02.2	-2.3
MRZ	Mangatainoka R	1.39	43	Pn	Pn	06 17 03.6	-0.2
MRZ	Mangatainoka R	1.39	43	P	Pb	06 17 04.0	-0.7
TIWZ	Tintock	1.49	53	P	Pn	06 17 05.3	+0.2
QRZ	Quartz Range	1.60	302		Pb	06 17 07.4	-0.8
QRZ	Quartz Range	1.60	302	P	Pg	06 17 07.9	-2.0
QRZ	Quartz Range	1.60	302	P	Pg	06 17 07.9	-2.0
GVZ	Greta Valley S	1.60	216		Pn	06 17 06.2	-0.5
GVZ	Greta Valley S	1.60	216	P	Pn	06 17 06.5	-0.2
CPWZ	Castlepoint	1.61	62	P	Pn	06 17 07.2	+0.4
PRWZ	Pori Road	1.68	49	P	Pn	06 17 07.8	+0.1
POWZ	Post Office Ro	1.69	41	P	Pn	06 17 08.1	+0.2
BFZ	Birch Farm	1.76	56		Pn	06 17 08.7	-0.2
BFZ	Birch Farm	1.76	56	P	Pn	06 17 09.0	+0.1
BFZ	Birch Farm	1.76	56	P	Pn	06 17 07.8	-1.0
LTZ	Lake Taylor	1.88	233	Pn	Pn	06 17 10.3	-0.2
LTZ	Lake Taylor	1.88	233	P	Pn	06 17 10.6	+0.1
DSZ	Denniston Nort	1.89	267	P	Pb	06 17 11.9	-1.2
AMCZ	Amberley	1.94	219		Pn	06 17 10.7	-0.6
AMCZ	Amberley	1.94	219	P	Pn	06 17 10.7	-0.6
WAZ	Wanganui	1.99	15	P	Pg	06 17 15.0	-2.3
LREZ	Lake Rotokare	2.22	2	P	Pg	06 17 19.2	-2.4
PRHZ	Porangahau	2.25	52	P	Pn	06 17 14.8	-0.8
WPHZ	Waipukurau	2.28	46	P	Pn	06 17 16.5	+0.5
NMEZ	Namu Road	2.29	351	P	Pb	06 17 19.9	-0.1
OXZ	Oxford	2.36	225		Pn	06 17 16.2	-0.9
OXZ	Oxford	2.36	225	P	Pn	06 17 15.8	-1.3
MQZ	McQueen's Vall	2.37	211		Pn	06 17 15.1	-2.1
MQZ	McQueen's Vall	2.37	211	P	Pn	06 17 15.4	-1.8
INZ	Inchbonnie	2.38	243	Pn	Pn	06 17 17.2	-0.1
INZ	Inchbonnie	2.38	243	P	Pn	06 17 17.6	+0.3
KHEZ	Kahui Hut	2.39	354	P	Pb	06 17 21.2	-0.7
KHEZ	Kahui Hut	2.39	354	P	Pb	06 17 21.1	-0.7
NEZ	North Egmont	2.41	356	P	Pb	06 17 21.4	-0.8
AKCZ	Akaroa Harbour	2.42	205	P	Pn	06 17 16.8	-1.2
NBEZ	Newall Road No	2.43	352	P	Pb	06 17 21.8	-0.7
MTVZ	Mangateitei	2.45	21	P	Pb	06 17 22.5	-0.4
DREZ	Durham Road	2.49	358	P	Pb	06 17 21.9	-1.5
PKE	Pukeiti	2.50	354	P	Pb	06 17 23.3	-0.3
PKVZ	Pokaka	2.51	18	P	Pb	06 17 22.6	-1.2
MOVZ	Moawhango	2.52	26	P	Pn	06 17 20.7	+1.4
PXZ	Pawanui	2.54	50	P	Pn	06 17 18.1	-1.4
WNVZ	Wahianoa	2.54	23	P	Pn	06 17 21.5	+1.7
TRVZ	Turoa	2.56	22	P	Pn	06 17 22.9	-1.8
BHHZ	Black Hill Sta	2.56	32	P	Pn	06 17 20.7	+0.8
KRHZ	Kereru	2.56	38	P	Pn	06 17 19.4	-0.6
VRZ	Vera Road	2.57	8	P	Pb	06 17 23.2	-1.6
DRZ	Dome Shelter	2.58	22	P	Pb	06 17 25.1	-0.1
WHVZ	Whangaehu Hut	2.58	22	P	Pb	06 17 22.9	-2.2
FWVZ	Far West T-bar	2.60	22	P	Pb	06 17 23.9	-1.5
MHEZ	Mangahewa	2.60	0	P	Pb	06 17 25.3	0.0
RACZ	Rakaia	2.60	217	P	Pn	06 17 18.8	-1.6
TUVZ	Tukino	2.62	23	P	Pb	06 17 23.1	-2.5
NGZ	Ngauruhoe	2.69	22	P	Pn	06 17 23.8	+2.1
SNVZ	South Ngauruho	2.69	22	P	Pb	06 17 24.2	-2.7
KAHZ	Kahuranaki	2.71	47	P	Pn	06 17 20.8	-1.1
OTVZ	Oturere	2.71	23	P	Pb	06 17 25.4	-2.0
NNVZ	North Ngauruho	2.73	22	P	Pb	06 17 24.6	-3.0
WTVZ	West Tongariro	2.74	21	P	Pb	06 17 24.9	-2.9
TWVZ	Taurewa	2.74	18	P	Pb	06 17 24.9	-2.9
ETVZ	East Tongariro	2.75	23	P	Pn	06 17 24.3	+1.7
KWHZ	Kaweka Forest	2.76	36	P	Pn	06 17 22.6	-0.2
TMVZ	Te Maari	2.77	23	P	Pn	06 17 24.7	+1.8
NTVZ	North Tongarir	2.78	22	P	Pn	06 17 24.7	+1.7
MCHZ	McNeill Hill	2.87	48	P	Pb	06 17 28.8	-0.4
WACZ	Wakanui South	2.91	218	P	Pn	06 17 23.4	-1.2
BKZ	Black Stump Fm	3.01	34	P	Pn	06 17 27.8	+1.7
RPZ	Rata Peaks	3.15	229	Pn	Pn	06 17 27.3	-0.8
	20nm,0.3s,baz=76,slow=2.6,SNR=70						
RPZ				Sn	Sn	06 18 03.4	-1.8
	31nm,0.3s,baz=292,slow=21,SNR=6.5						
RPZ				LR	LR	06 18 40.2	
	comp=Z,463nm,19.3s,baz=46,slow=39						
	57nm,0.4s						
RPZ	Rata Peaks	3.15	229	Pn	Pn	06 17 27.1	-0.9
RPZ	Rata Peaks	3.15	229	P	Pn	06 17 27.5	-0.5
HIZ	Hauiti	3.19	8	P	Pb	06 17 31.6	-3.7
ARCZ	Arundel	3.24	225	P	Pn	06 17 28.2	-1.0
URZ	Urewera	4.03	33	Pn	Pn	06 17 39.9	-0.2
	2.3nm,0.3s,baz=306,slow=6.9,SNR=12						
URZ				Sn	Sn	06 18 26.8	-0.2
	10nm,0.3s,baz=173,slow=13,SNR=3.3						
	7.3nm,0.4s						
URZ	Urewera	4.03	33	P	Pn	06 17 40.7	+0.6
LBZ	Lake Benmore	4.06	227	Pn	Pn	06 17 39.8	-0.8
ODZ	Otahua Downs	4.30	217	Pn	Pn	06 17 42.6	-1.2
ODZ	Otahua Downs	4.30	217	P	Pn	06 17 42.7	-1.1
JCZ	Jackson Bay	4.72	238	P	Pn	06 17 50.3	+0.7
WKZ	Wanaka	4.99	229		Pn	06 17 52.5	-0.8
KUZ	Kuaotunu	5.05	13	P	Pn	06 17 57.6	+3.6
MXZ	Matakaoa Point	5.13	38	P	Pn	06 17 57.4	+2.2
SYZ	Scrubby Hill	6.12	216	P	Pn	06 18 08.2	-0.6
DCZ	Deep Cove	6.43	232		Pn	06 18 13.5	+0.4
OUZ	Omahuta	6.47	355	P	Pn	06 18 16.1	+2.5
CTZ	Chatham Island	6.98	110	P	Pn	06 18 20.4	-0.2
MSVF	Nonsavu	24.08	9	LR	LR	06 31 04.3	
	comp=Z,129nm,18.6s,baz=195,slow=36						
CTA	Charters Tower	32.06	304	LR	LR	06 37 01.7	
	comp=Z,66nm,18.0s,baz=90,slow=38						
ASAR	Alice Springs	38.06	285	P	P	06 23 55.8	-1.1
	1.2nm,0.7s,baz=121,slow=6.4,SNR=9.1						
	1.2nm,0.7s						
ASAR	Alice Springs	38.06	285	P	P	06 23 56.1	-0.8
PMG	Port Moresby	40.08	316	LR	LR	06 41 27.6	
	comp=Z,38nm,18.2s,baz=340,slow=37						
WB2	Warramunga Arr	40.12	290	P	P	06 24 13.1	-1.0
WB2				IAmb	IAmb	06 24 19.3	
	comp=Z,5.0nm,0.8s						
WRA	Warramunga Arr	40.13	290	P	P	06 24 13.0	-1.1
	comp=Z,1.8nm,0.7s,baz=128,slow=7.8,SNR=15						
	comp=Z,1.8nm,0.7s						
WRA	Warramunga Arr	40.13	290	P	P	06 24 13.1	-1.1
QSPA	South Pole Qui	48.45	180	P	P	06 25 22.5	+2.1
	comp=Z,6.3nm,0.8s,baz=29,slow=3.4,SNR=9.0						
	comp=Z,6.3nm,0.8s						
QSPA	South Pole Qui	48.45	180	P	P	06 25 22.0	+1.6
BELA	Belgrano 2	59.41	173	P	P	06 26 40.9	+0.8
BELA				IAmb	IAmb	06 26 42.5	
	comp=Z,4.0nm,1.1s						
MAW	Mawson	59.54	204	LR	LR	06 51 45.9	
	comp=Z,135nm,18.3s,baz=144,slow=35						
TROLL	Troll, Antarti	66.47	183	P	P	06 27 28.2	+0.9
SNAA	Sanae	66.94	181	P	P	06 27 30.8	+0.6
SNAA	Sanae	66.94	181	P	P	06 27 30.5	+0.3
SNAA				IAmb	IAmb	06 27 40.2	
	comp=Z,4.3nm,1.1s						
VNA3	Neumayer Olymp	67.35	179	P	P	06 27 33.5	+0.8
VNA2	Neumayer--Watz	67.70	179	P	P	06 27 36.0	+1.1
	baz=167,slow=6.0						
VNA1	Neumayer--Stat	67.97	179	P	P	06 27 37.3	+0.7
PSI	Prapat	81.00	282	LR	LR	07 08 36.0	
	comp=Z,29nm,18.1s,baz=202,slow=39						
KSRS	Korea Array	89.43	325	P	P	06 29 35.6	+1.0
	comp=Z,2.2nm,0.8s,baz=128,slow=6.0,SNR=2.6						
	comp=Z,2.2nm,0.8s						
CMAR	Chiang Mai Arr	91.66	293	LR	LR	07 17 27.9	
	comp=Z,7.3nm,18.0s,baz=130,slow=40						
NNA	Nana	95.74	111	LR	LR	07 04 17.1	
	comp=Z,27nm,21.4s,baz=250,slow=30						
YKA	Yellowknife Ar	118.29	30	PKP	PKPdf	06 35 23.9	-0.5
	comp=Z,0.9nm,0.7s,baz=245,slow=1.6,SNR=11						
ARCES	ARCESS Array B	147.73	340	PKPbc	PKPbc	06 36 23.1	+1.4
	comp=Z,1.7nm,0.6s,baz=81,slow=3.8,SNR=8.7						
BRTR	Keskin Array B	150.30	279	PKPbc	PKPbc	06 36 29.4	+0.1
	comp=Z,0.9nm,0.8s,baz=146,slow=7.5,SNR=5.1						
TORD	Torodi Ar. Bea	150.86	195	PKPbc	PKPbc	06 36 31.1	0.0
	comp=Z,4.0nm,0.8s,baz=152,slow=1.7,SNR=13						
FINES	FINESS Array B	152.50	327	PKPbc	PKPbc	06 36 32.1	-1.3
	comp=Z,1.2nm,0.6s,baz=90,slow=2.7,SNR=5.7						

IDC ***23*** *06:39:34.9±2.5, 8°.32S×111°.74E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=150.2km s-min=21.9km az=49.0*

DJA ***23*** *06:39:37.9±0.2, 9°.3S×3°×11°.1E±°, h10km, M4.1/19, mb4.2/7, mB4.8/1, MLv4.1/19, Mw(mB)4.0/1*

ISC 23 06:39:37.8±1.0, 9°.14S±0°.10×111°.24E±0°.06, h10km, n35, σ1§10/29, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	Pagerwojo	1.24	27	P	Pn	06 39 59.9	-1.3
UGM	Wanagama	1.41	330	P	Pn	06 40 03.7	+0.2
UGM	Wanagama	1.41	330	P	Pn	06 40 03.0	-0.5
YOGI	Yogyakarta	1.61	325	P	Pn	06 40 06.0	-0.3
SMRI	Semarang	2.22	339	P	Pn	06 40 16.2	+1.5
SMRI	Semarang	2.22	339	P	Pn	06 40 15.9	+1.2
GMJI	Gumukmas	2.34	69	P	Pn	06 40 16.3	-0.1
TBJI	Tambak Boyo	2.38	15	P	Pn	06 40 17.4	+0.5
GRJI	Gresik	2.53	29	P	Pn	06 40 18.8	-0.1
BLJI	Banyuglugur	2.71	59	P	Pn	06 40 22.6	+1.2
UWJI	Ujung Watu	2.72	354	P	Pn	06 40 21.0	-0.5
KPJI	Karang Pucung	2.90	308	P	Pn	06 40 25.2	+1.1
JAGI	Jajag, Banyuwa	2.96	77	P	Pn	06 40 27.1	+2.3
JAGI	Jajag, Banyuwa	2.96	77	P	Pn	06 40 26.0	+1.2
CMJI	Cimerak	3.07	296	P	Pn	06 40 25.9	-0.5
ABJI	Asem Bagus	3.25	66	P	Pn	06 40 29.6	+0.7
BBJI	Bungbulang	3.92	295	P	Pn	06 40 38.8	+0.6
SRBI	Singaraja	4.07	75	P	Pn	06 40 41.1	+1.0
CNJI	Cibinong	4.45	294	P	Pn	06 40 45.6	+0.2
TWSI	Taliwang, Sumb	5.59	86	P	Pn	06 41 00.5	-0.6
	22nm,0.7s,781nm0.1nm						
PLAI	Plampang	6.47	88	P	Pn	06 41 15.6	+2.5
PLAI	Plampang	6.47	88	P	Pn	06 41 14.6	+1.5
	28nm,1.5s,0.2nm						
KASI	Kota Agung	7.59	298	P	Pn	06 41 28.5	0.0
	24nm,2.0s,0.1nm						
GIRL	Giralia	13.73	168	P	Pn	06 42 52.0	-0.7
SANI	Sanana	16.27	65	P	P	06 43 29.4	-0.3
MEEK	Meekatharra	18.76	159	P	Pn	06 43 57.3	-0.2
SAUI	Saumlaki	19.87	88	P	Pn	06 44 12.4	+1.4
WRA	Warramunga Arr	24.77	118	P	P	06 44 58.4	-1.6
	0.5nm,0.7s,baz=294,slow=12,SNR=4.8						
	0.5nm,0.7s						
ASAR	Alice Springs	26.05	126	P	P	06 45 11.1	-0.4
	0.4nm,0.5s,baz=303,slow=8.9,SNR=7.7						
	0.4nm,0.5s						
H08S2	Diego Garcia H	38.35	269	T	T	07 28 01.8	
	baz=93,slow=74,SNR=6.0						
H08S3	Diego Garcia H	38.36	269	T	T	07 28 03.6	
	baz=93,slow=74,SNR=6.4						
H08S1	Diego Garcia H	38.37	269	T	T	07 28 02.5	
	baz=93						
MKAR	Makanchi Array	61.38	338	P	P	06 49 48.9	-5.1
	0.4nm,0.5s,baz=151,slow=7.1,SNR=11						
	0.4nm,0.5s						
ZALV	Zalesovo Beam	66.70	343	P	P	06 50 23.9	-4.9
	0.4nm,0.3s,baz=141,slow=7.6,SNR=2.1						
	0.4nm,0.3s						
BVAR	Borovoye Array	71.01	335	P	P	06 50 50.7	-4.9
	0.6nm,0.6s,baz=108,slow=9.3,SNR=3.8						
	0.6nm,0.6s						

KOLA ***23*** *06:42:47.5, 77°.56N×8°.22E, h0km, ML2.6, Greenland sea,Knipovich ridge, middle*

NAO ***23*** *06:42:48.3±6.0, 77°.47N×7°.37E, h12km±50km, ML3.3*

BER ***23*** *06:42:50.5±2.0, 77°.49N×7°.56E, h24km±18km, ML2.3, Confirmed Earthquake*

DNK ***23*** *06:42:51.8±2.3, 77°.53N×7°.51E, h36km±50km, ML1.9*

IEPN ***23*** *06:42:54.0, 77°.12N×9°.62E, h10km*

IDC ***23*** *06:42:54.8±2.5, 77°.27N×10°.25E, h0km, mb3.7/1, mbtmp3.8/3, ML3.0/2, Error ellipse: s-maj=32.2km s-min=11.5km az=98.0*

ISC 23 06:42:45.7±0.7, 77°.45N±0°.05×7°.42E±0°.04, h10km, n55, σ2§70/89, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRBA	Barentsburg A	1.57	64	Pn	Pn	06 43 14.6	+1.0
BRBA				Sn	Sn	06 43 31.9	-2.1
BRBA	Barentsburg A	1.57	64	eP	Pn	06 43 14.7	+1.0
BRBA				eS	Sn	06 43 31.7	-2.3
BRBA				IAML		06 43 34.9	
	comp=Z,25nm,0.1s						
BRBB	Barentsburg B	1.58	63	Pn	Pn	06 43 14.9	+1.1
BRBB				Sn	Sn	06 43 32.4	-1.8
BRBB	Barentsburg B	1.58	63	eP	Pn	06 43 14.8	+1.1
BRBB				eS	Sn	06 43 31.7	-2.5
BRBB	Barentsburg B	1.58	63	P	Pn	06 43 14.2	+0.4
BRBB				S	Sn	06 43 32.4	-1.8
KBS	Kingsbay	1.75	30	Pn	Pn	06 43 17.1	+1.0
KBS				Sn	Sn	06 43 35.9	-2.4
KBS	Kingsbay	1.75	30	iP	Pn	06 43 17.1	+1.0
KBS				iS	Sn	06 43 36.4	-1.9
KBS	Kingsbay	1.75	30	eP	Pn	06 43 17.1	+1.0
KBS				eS	Sn	06 43 36.0	-2.3
KBS				IAML		06 43 39.7	
	comp=Z,66nm,0.3s						
KBS	Kingsbay	1.75	30	P	Pn	06 43 16.8	+0.8
KBS				S	Sn	06 43 36.1	-2.3
HSPB	Hornsund (broa	1.86	100	Pn	Pn	06 43 18.4	+0.8
HSPB				Sn	Sn	06 43 37.8	-3.3
HSPB	Hornsund (broa	1.86	100	eP	Pn	06 43 18.1	+0.6
HSPB				eS	Sn	06 43 34.9	-6.1
HSPB	Hornsund (broa	1.86	100	eP	Pn	06 43 18.4	+0.8
HSPB				IAML		06 43 38.8	
	comp=Z,54nm,0.6s						
HSPB	Hornsund (broa	1.86	100	P	Pn	06 43 18.1	+0.6
HSPB				S	Sn	06 43 39.5	-1.5
SPA0	Spitsbergen Ar	2.03	65	Pn	Pb	06 43 22.2	-0.5
	baz=245,slow=16						
SPA0				Sn	Sn	06 43 45.5	+0.1
	baz=253,slow=37						
SPA0	Spitsbergen Ar	2.03	65	iP	Pb	06 43 22.3	-0.5
SPA0				iS	Sn	06 43 45.2	-0.2
SPA0	Spitsbergen Ar	2.03	65	Pn	Pb	06 43 22.2	-0.5
SPA0				eS	Sn	06 43 45.2	-0.2
SPA0				IAML		06 43 50.1	
	comp=Z,80nm,0.5s						
SPITS	Spitsbergen Ar	2.03	65	Pn	Pb	06 43 22.3	-0.5
	baz=239,slow=14						
SPITS				Sn	Sn	06 43 45.3	-0.2
	baz=237,slow=24						
SPITS	Spitsbergen Ar	2.03	65	P	Pn	06 43 21.6	+1.6
SPITS				S	Sn	06 43 44.5	-0.8
HOPEN	Hopen	4.08	95	Pn	Pn	06 43 49.9	+1.8
HOPEN				Sn	Sn	06 44 33.4	-2.4
HOPEN	Hopen	4.08	95	eP	Pn	06 43 49.6	+1.5
HOPEN				eS	Sn	06 44 30.3	-5.5
HOPEN	Hopen	4.08	95	Pn	Pn	06 43 49.9	+1.8
HOPEN				eS	Sn	06 44 33.1	-2.6
DAG	Danmarks Havn	5.84	276	e	Pn	06 44 11.7	-0.6
	baz=63,slow=16						
DAG				iP	Pn	06 44 13.0	+0.8
DAG				iP	Pn	06 44 13.7	+1.4
DAG				iS	Sn	06 45 15.0	-4.1
DAG				IAML		06 45 16.5	
	comp=Z,8.4nm,0.3s						
DAG	Danmarks Havn	5.84	276	eP	Pn	06 44 13.3	+1.1
DAG				eS	Sn	06 45 13.8	-5.3
NOR	Nord	5.99	325	Pn	Pn	06 44 15.7	+1.5
NOR				Sn	Sn	06 45 21.3	-1.3
NOR	Nord	5.99	325	iP	Pn	06 44 15.7	+1.5
NOR				eS	Sn	06 45 22.1	-0.5
NOR				IAML		06 45 24.6	
	comp=Z,2.9nm,0.4s						
NOR	Nord	5.99	325	eP	Pn	06 44 15.6	+1.5
NOR				eS	Sn	06 45 17.9	-4.8
DBG	Daneborg	7.39	259	Pn	Pn	06 44 35.9	+2.4
DBG				Sn	Sn	06 45 52.2	-5.0
DBG	Daneborg	7.39	259	iP	Pn	06 44 35.8	+2.4
DBG				eS	Sn	06 45 51.0	-6.3
DBG				IAML		06 45 56.8	
	comp=Z,2.5nm,0.4s						
DBG	Daneborg	7.39	259	eP	Pn	06 44 35.1	+1.6
DBG				eS	Sn	06 45 52.2	-5.0
JMIC	Jan Mayen	7.77	222	Pn	Pn	06 44 41.6	+2.9
JMIC	Jan Mayen	7.77	222	Pn	Pn	06 44 41.6	+2.9
ZFI	Zemlya Franca-	8.13	47	eP	Pn	06 44 45.4	+1.8
ZFI				eS	Sn	06 46 08.0	-7.3
	comp=Z,12nm,1.4s						
ZFI2	Zemlya Franca-	8.13	47	eP	Pn	06 44 45.4	+1.8
ZFI2				S	Sn	06 46 09.1	-6.2
HAMF	Hammerfest	8.13	139	Pn	Pn	06 44 44.9	+1.3
HAMF	Hammerfest	8.13	139	Pn	Pn	06 44 44.9	+1.3
OMEGA	Omega	8.14	47	eP	Pn	06 44 45.9	+2.2
OMEGA				eS	Sn	06 46 10.9	-4.7
JETT	Jettan, Norway	8.72	149	Pn	Pn	06 44 53.4	+1.7
JETT	Jettan, Norway	8.72	149	Pn	Pn	06 44 53.4	+1.7
ARA0	ARCESS Array S	9.40	138	Pn	Pn	06 45 02.8	+1.7
	baz=337,slow=12						
ARA0				Sn	Sn	06 46 41.2	-5.5
	baz=333,slow=22						
ARA0	ARCESS Array S	9.40	138	Pn	Pn	06 45 02.8	+1.7
	slow=12						
ARA0				Sn	Sn	06 46 41.2	-5.5
	slow=22						
ARCES	ARCESS Array B	9.40	138	Pn	Pn	06 45 02.3	+1.2
	comp=Z,0.4nm,0.3s,baz=332,slow=12,SNR=37						
ARCES				Sn	Sn	06 46 37.8	-8.9
	comp=Z,0.3nm,0.3s,baz=337,slow=26,SNR=5.9						
	comp=Z,3.2nm,0.7s						
KEV	Kevo	9.43	135	Pn	Pn	06 45 02.5	+1.2
KEV	Kevo	9.43	135	Pn	Pn	06 45 02.5	+1.2
VADS	Vadso	9.49	129	eP	Pn	06 45 05.1	+2.9
KTK1	Kautokeino	9.58	144	eP	Pn	06 45 06.5	+3.0
STEI	Steigen	9.84	162	eP	Pn	06 45 10.4	+3.5
HEF	Hetta	10.20	144	eP	Pn	06 45 14.1	+2.2
SALU	Saltoluokta	10.63	156	eP	Pn	06 45 21.5	+3.6
NEEM	North Greenlan	12.27	299	eP	Pn	06 45 39.5	-0.9
NEEM				eS	Sn	06 47 40.3	-17
NEEM				IAML		06 47 50.5	
	comp=Z,5.0nm,0.4s						
APA0	Apatity Array	12.34	129	Pn	Pn	06 45 43.5	+2.3
	baz=326,slow=14						
APA0	Apatity Array	12.34	129	Pn	Pn	06 45 43.5	+2.3
	slow=14						
SUMG	Summit	12.49	271	eP	Pn	06 45 45.4	+1.9
SUMG				IAML		06 48 11.4	
	comp=Z,0.7nm,0.4s						
FIA0	FINESS Array S	17.19	149	P	P	06 46 48.2	+1.0
	baz=352,slow=12						
FINES	FINESS Array B	17.19	149	Pn	P	06 46 48.3	+1.1
	comp=Z,0.1nm,0.3s,baz=358,slow=11,SNR=6.2						
	comp=Z,2.1nm,0.8s						
MKAR	Makanchi Array	41.56	91	P	P	06 50 38.4	+5.4
	comp=Z,1.0nm,0.8s,baz=349,slow=7.0,SNR=6.7						
	comp=Z,1.0nm,0.8s						

IDC 23 07:00:59.9±55.0, 16°.85S×176°.36W, h592km±53km, mb3.1/3, mbtmp4.1/4, Error ellipse: s-maj=928.1km s-min=140.1km az=78.0, Fiji Islands region

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

comp=Z,6.0nm,0.7s,baz=52,slow=13,SNR=2.4
SUR LR LR 07 23 22.8

comp=Z,806nm,21.8s,baz=154,slow=32
SUR Sutherland 18.25 331 Pn **Pn 07 17 53.4 -1.0**
BOSA Boshof 20.78 345 P **P 07 18 22.5 +0.4**
comp=Z,15nm,0.6s,baz=171,slow=10,SNR=34
BOSA LR LR 07 25 25.5

comp=Z,154nm,21.3s,baz=174,slow=34
comp=Z,15nm,0.6s
BOSA Boshof 20.78 345 P **P 07 18 22.7 +0.5**
BOSA Boshof 20.78 345 *i* P **P 07 18 23.4 +1.2**
BOSA Boshof 20.78 345 P **P 07 18 22.7 +0.5**
BOSA pmax pmax

comp=Z,32nm,1.0s
ELIB Princess Elisa 23.37 186 *d* P **P 07 18 48.9 -0.4**
NVL N'lazarevskaya 23.72 196 *e* P **P 07 18 51.3 -1.3**
NVL pmax pmax

comp=Z,22nm,0.7s
LBTB Lobatse 24.26 348 P **P 07 18 59.0 +0.8**
LBTB IAmb IAmb 07 19 13.1

comp=Z,80nm,1.9s
LBTB Lobatse 24.26 348 *i* P **P 07 18 59.4 +1.2**
LBTB Lobatse 24.26 348 P **P 07 18 59.0 +0.8**
LBTB pmax pmax

comp=Z,80nm,2.0s
MAW Mawson 24.61 151 LR LR 07 26 24.9

comp=Z,243nm,21.4s,baz=316,slow=31
MOPA Mopani 25.36 1 *i* P **P 07 19 04.2 -3.9**
TROLL Troll, Antarti 26.56 199 P **P 07 19 19.8 +1.1**
MUSN Musina, Limpop 26.60 357 *i* P **P 07 19 21.1 +1.7**
SNAA Sanae 27.60 202 P **P 07 19 29.5 +1.5**
SNAA Sanae 27.60 202 P **P 07 19 27.3 -0.6**
comp=Z,4.0nm,0.8s,baz=82,slow=1.6,SNR=15
SNAA LR LR 07 28 08.9

comp=Z,269nm,19.4s,baz=35,slow=32
comp=Z,4.0nm,0.8s
SNAA Sanae 27.60 202 P **P 07 19 29.9 +1.9**
SNAA Sanae 27.60 202 P **P 07 19 29.9 +1.9**
SNAA pmax pmax

comp=Z,24nm,1.2s
VNA2 Neumayer--Watz 28.41 205 P **P 07 19 35.2 +0.2**
baz=57,slow=10.0
VNA1 Neumayer--Stat 28.52 206 P **P 07 19 31.9 -4.1**
VNA3 Neumayer Olymp 29.21 206 P **P 07 19 44.2 +1.9**
TSUM Tsumeb 31.60 335 LR LR 07 31 34.6
comp=Z,530nm,21.6s,baz=152,slow=34
TSUM Tsumeb 31.60 335 P **P 07 20 03.2 -0.7**
ABPO Ambohimpanom 32.55 29 P **P 07 20 11.2 -1.1**
ABPO IAmb IAmb 07 20 51.3

comp=Z,45nm,1.7s
ABPO Ambohimpanom 32.55 29 P **P 07 20 11.2 -1.1**
ABPO pmax pmax

comp=Z,45nm,1.7s
LSZ Lusaka 33.64 355 LR LR 07 32 40.7
comp=Z,312nm,19.8s,baz=161,slow=34
AIS Amsterdam Isla 35.05 89 P **P 07 20 32.6 -1.1**
BELA Belgrano 2 37.63 198 P **P 07 20 55.2 -0.1**
QSPA South Pole Qui 41.29 180 P **P 07 21 25.9 -0.2**
comp=Z,41nm,0.9s,baz=254,slow=5.4,SNR=38
QSPA LR LR 07 37 25.6

comp=Z,113nm,21.9s,baz=251,slow=35
comp=Z,41nm,0.9s
QSPA South Pole Qui 41.29 180 P **P 07 21 26.1 -0.1**
QSPA IAmb IAmb 07 21 30.9

comp=Z,33nm,0.8s
CASY Casey 42.58 144 P **P 07 21 35.7 -0.7**
CASY IAmb IAmb 07 22 35.4

comp=Z,36nm,1.3s
MBAR Mbarara 48.14 360 LR LR 07 41 53.8
comp=Z,161nm,18.9s,baz=141,slow=35
SMAI San Martin Ant 48.58 210 P **P 07 22 24.4 +0.6**
PMSA Palmer Station 49.17 214 LR LR 07 37 43.1
comp=Z,115nm,21.4s,baz=314,slow=29
VNDA Vanda 50.20 168 P **P 07 22 36.9 +0.7**
comp=Z,3.9nm,0.7s,baz=253,slow=5.2,SNR=12
VNDA LR LR 07 42 37.8

comp=Z,301nm,21.2s,baz=210,slow=35
comp=Z,3.9nm,0.7s
VNDA Vanda 50.20 168 P **P 07 22 36.7 +0.5**
SBA Scott Base 50.60 169 P **P 07 22 38.6 -0.6**
SBA Scott Base 50.60 169 P **P 07 22 38.6 -0.6**
SBA pmax pmax

comp=Z,64nm,1.4s
H10S2 ASCENSION HYDR 55.19 300 T T 08 22 55.0
baz=143,slow=74,SNR=14
H10S3 ASCENSION HYDR 55.20 300 T T 08 22 56.2
baz=77,slow=74,SNR=24
ATD Arta Tunnel 61.08 13 LR LR 07 48 56.5
comp=Z,66nm,20.4s,baz=112,slow=35
GO08 Villa O'Higgin 62.79 227 P **P 07 24 05.8 -0.3**
PLTB Pedras Altas 63.54 251 P **P 07 24 11.8 +0.4**
PLTB IAmb IAmb 07 24 28.4

comp=Z,28nm,1.6s
NWAO Narrogin (SRO) 63.63 111 LR LR 07 45 39.8
comp=Z,64nm,21.6s,slow=30
NWAO Narrogin (SRO) 63.63 111 P **P 07 24 11.0 -1.0**
NWAO Narrogin (SRO) 63.63 111 P **P 07 24 11.0 -1.0**
NWAO pmax pmax

comp=Z,35nm,1.4s
DBIC Dimbokro 63.67 319 P **P 07 24 12.4 0.0**
comp=Z,11nm,0.9s,baz=142,slow=6.3,SNR=7.8
DBIC LR LR 07 49 45.8

comp=Z,83nm,18.2s,baz=154,slow=34
comp=Z,11nm,0.9s
DBIC Dimbokro 63.67 319 P **P 07 24 11.8 -0.5**
TRQA Tornquist 64.32 241 P **P 07 24 16.7 +0.2**
TRQA IAmb IAmb 07 24 26.8

comp=Z,11nm,1.1s
TRQA Tornquist 64.32 241 P **P 07 24 16.7 +0.2**
TRQA pmax pmax

comp=Z,11nm,1.1s
COCO West Island 64.99 80 P **P 07 24 19.9 -1.2**
COCO West Island 64.99 80 P **P 07 24 19.9 -1.2**
COCO pmax pmax

comp=Z,118nm,1.1s
MORW Morawa 65.52 107 P **P 07 24 23.1 -1.3**
ITQB Itaqui 66.86 251 P **P 07 24 32.9 -0.1**
LL01 San Ignacio de 67.01 231 P **P 07 24 33.6 -0.1**
TORD Torodi Ar. Bea 67.06 329 P **P 07 24 35.1 +0.9**
comp=Z,5.2nm,0.7s,baz=164,slow=5.9,SNR=14
comp=Z,5.2nm,0.7s
TORD Torodi Ar. Bea 67.06 329 P **P 07 24 34.1 -0.1**
GO07 Milladeo Hill, 67.12 230 P **P 07 24 33.7 -0.8**
PLCA Paso Flores 67.21 234 P **P 07 24 34.6 -0.6**
comp=Z,1.2nm,0.9s,baz=98,slow=9.2,SNR=4.5
comp=Z,1.2nm,0.9s
LL06 Loncomilla 67.75 231 P **P 07 24 38.2 -0.2**
LL06 IAmb IAmb 07 24 57.7

comp=Z,239nm,1.9s
LL05 Los Muermos 68.26 232 P **P 07 24 42.0 +0.3**
GO06 Curarrehue 68.53 234 P **P 07 24 43.0 -0.6**
CPUP Villa Florida 69.65 253 P **P 07 24 50.1 -0.4**
comp=Z,7.0nm,0.8s,baz=150,slow=7.0,SNR=23
comp=Z,7.0nm,0.8s
CPUP Villa Florida 69.65 253 P **P 07 24 50.5 0.0**
CPUP IAmb IAmb 07 24 51.2

comp=Z,9.7nm,0.8s
CPUP Villa Florida 69.65 253 P **P 07 24 50.5 0.0**
CPUP pmax pmax

comp=Z,10.0nm,0.9s
RCBR Riachuelo 70.61 284 LR LR 07 49 07.9
comp=Z,68nm,20.4s,baz=314,slow=30
BDFB Brasilia 71.26 268 P **P 07 24 59.4 -1.2**
comp=Z,2.3nm,0.6s,baz=133,slow=2.4,SNR=3.2
BDFB LR LR 07 50 12.0

comp=Z,82nm,21.7s,baz=135,slow=31
comp=Z,2.3nm,0.6s
BO01 Tunca 72.09 238 P **P 07 25 07.4 +2.1**
BO01 IAmb IAmb 07 25 48.0

comp=Z,55nm,1.9s
GO05 Huala 72.11 237 P **P 07 25 03.6 -1.8**
BO04 La Punta 72.12 239 P **P 07 25 04.4 -1.1**
BO04 IAmb IAmb 07 26 35.2

comp=Z,11nm,1.1s
MT03 Universidad Ad 72.43 239 P **P 07 25 06.5 -0.9**
MT09 Talagante 72.49 239 P **P 07 25 07.4 -0.4**
MT09 IAmb IAmb 07 26 07.3

comp=Z,42nm,1.6s
MT01 Popeta 72.58 238 P **P 07 25 06.9 -1.3**
MT01 IAmb IAmb 07 25 07.6

comp=Z,19nm,1.2s
PEL Peldehue 72.79 239 P **P 07 25 09.3 -0.2**
PEL IAmb IAmb 07 25 49.7

comp=Z,33nm,1.4s
PEL Peldehue 72.79 239 P **P 07 25 09.3 -0.2**
PEL pmax pmax

comp=Z,33nm,1.4s
AQDB Aquidauana 72.79 259 P **P 07 25 10.3 +0.7**
MT02 Curacav 72.96 239 P **P 07 25 10.1 -0.3**
MT02 IAmb IAmb 07 27 37.8

comp=Z,48nm,1.6s
VA03 San Esteban 72.99 240 P **P 07 25 10.5 -0.2**
VA03 IAmb IAmb 07 25 21.7

comp=Z,17nm,1.1s
PSA00 Pilbara Seismi 73.24 104 P **P 07 25 12.1 -0.2**
VA06 Catapilco 73.56 239 P **P 07 25 13.4 -0.6**
VA06 IAmb IAmb 07 26 08.0

comp=Z,40nm,1.4s
CO01 Juntas del Tor 74.78 242 P **P 07 25 21.8 +0.4**
CO01 IAmb IAmb 07 25 23.1

comp=Z,15nm,1.0s
BBOO Buckleboo 74.80 123 P **P 07 25 20.1 -1.2**
BBOO IAmb IAmb 07 25 23.0

comp=Z,12nm,0.9s
AC05 El Transito 75.73 243 P **P 07 25 26.2 -0.6**
AC05 IAmb IAmb 07 26 32.5

comp=Z,34nm,1.7s
LCO Las Campanas 75.85 242 P **P 07 25 27.7 0.0**
LCO IAmb IAmb 07 25 28.2

comp=Z,21nm,1.2s
LCO Las Campanas 75.85 242 P **P 07 25 27.7 0.0**
LCO pmax pmax

comp=Z,21nm,1.2s
BBTS Babate 76.06 313 LR LR 07 52 10.5
comp=Z,172nm,21.4s,baz=133,slow=30
TOO Toolangi 76.11 132 P **P 07 25 30.0 +1.3**
TOO IAmb IAmb 07 25 31.4

comp=Z,12nm,0.8s
TOO Toolangi 76.11 132 P **P 07 25 30.0 +1.3**
TOO pmax pmax

comp=Z,12nm,0.9s
AC02 Maricunga 76.54 245 P **P 07 25 32.3 +0.4**
GO03 Copiap 76.63 243 P **P 07 25 32.1 +0.2**
GO03 IAmb IAmb 07 26 22.3

comp=Z,47nm,1.9s
AC04 Llanos de Chal 76.67 242 P **P 07 25 32.4 +0.4**
AC04 IAmb IAmb 07 25 53.8

comp=Z,33nm,1.4s
AC06 Mina Casimiro 76.88 244 P **P 07 25 33.1 -0.1**
AC06 IAmb IAmb 07 25 33.6

comp=Z,10.0nm,0.8s
UOSS Minazif 76.89 23 P **P 07 25 33.5 +0.5**
VA04 Juan Fernndez 76.89 234 P **P 07 25 34.4 +1.2**
RPSI Rantau Prapat 77.66 71 P **P 07 25 39.1 +1.5**
PSI Prapat 77.75 71 P **P 07 25 39.1 +0.8**
comp=Z,7.9nm,0.7s,baz=276,slow=3.0,SNR=8.5
comp=Z,7.9nm,0.7s
EIL Elat 78.32 3 LR LR 07 59 01.9
comp=Z,34nm,19.5s,baz=236,slow=35
STKA Stephens Creek 78.54 126 P **P 07 25 43.4 +1.0**
comp=Z,12nm,0.7s,baz=202,slow=2.8,SNR=40
STKA LR LR 07 53 54.6

comp=Z,79nm,20.5s,baz=205,slow=31
comp=Z,12nm,0.7s
STKA Stephens Creek 78.54 126 P **P 07 25 42.3 -0.1**
PTLB Pontes e Lacer 78.68 260 P **P 07 25 43.3 -0.1**
PTLB IAmb IAmb 07 25 44.5

comp=Z,8.8nm,0.9s
PB14 IPOC Station P 78.95 245 P **P 07 25 43.6 -1.5**
PB14 IAmb IAmb 07 25 57.0

comp=Z,9.5nm,0.5s
SIV San Ignacio 79.53 258 LR LR 07 55 22.7
comp=Z,55nm,20.6s,baz=138,slow=32
LVC Limon Verde 79.55 248 LR LR 07 58 25.0
comp=Z,26nm,18.3s,baz=226,slow=34
LVC Limon Verde 79.55 248 P **P 07 25 47.6 -0.9**
LVC Limon Verde 79.55 248 P **P 07 25 47.7 -0.9**
LVC pmax pmax

comp=Z,12nm,1.0s
PB10 IPOC Station P 79.87 246 P **P 07 25 50.2 +0.4**
PB06 IPOC Station P 79.89 247 P **P 07 25 50.2 +0.2**
PB06 IAmb IAmb 07 25 52.0

comp=Z,45nm,1.6s
PB09 IPOC Station P 80.36 248 P **P 07 25 52.9 +0.2**
PB09 IAmb IAmb 07 25 54.9

comp=Z,16nm,1.1s
ASAR Alice Springs 80.44 115 P **P 07 25 53.4 +0.4**
comp=Z,13nm,0.7s,baz=219,slow=4.6,SNR=116
ASAR LR LR 07 57 43.1

comp=Z,65nm,18.0s,baz=270,slow=33
comp=Z,13nm,0.7s
AS31 Alice Springs 80.44 115 P **P 07 25 53.5 +0.6**
PB03 IPOC Station P 80.49 247 P **P 07 25 53.8 +0.4**
PB03 IAmb IAmb 07 25 54.6

comp=Z,22nm,1.2s
PB04 IPOC Station P 80.52 247 P **P 07 25 54.1 +0.6**
PB04 IAmb IAmb 07 25 54.8

comp=Z,33nm,1.3s
PB07 IPOC Station P 80.81 248 P **P 07 25 55.8 +0.7**
PB07 IAmb IAmb 07 25 57.0

comp=Z,21nm,1.2s
ASF Jabal al Asfar 80.90 5 P **P 07 25 58.0 +3.0**
comp=Z,1.4nm,0.3s,baz=180,slow=7.6,SNR=4.2
PB01 IPOC Station P 81.08 248 P **P 07 25 56.4 0.0**
PB02 IPOC Station P 81.12 248 P **P 07 25 56.4 -0.3**
PB02 IAmb IAmb 07 25 58.2

comp=Z,14nm,1.0s
VILB Vilhena 81.22 260 P **P 07 25 56.4 -0.7**
VILB IAmb IAmb 07 26 00.2

comp=Z,12nm,1.1s
PATCX Punta Patache 81.66 248 P **P 07 25 59.1 -0.4**
PATCX IAmb IAmb 07 26 00.8

comp=Z,11nm,1.0s
TA01 Diego Aracena 81.86 248 P **P 07 26 00.3 -0.1**
TA01 IAmb IAmb 07 26 01.9

comp=Z,17nm,1.0s
GO01 Chusmiza 81.93 249 P **P 07 26 01.4 -0.1**
GO01 IAmb IAmb 07 26 02.9

comp=Z,13nm,0.9s
PB11 IPOC Station P 82.15 249 P **P 07 26 02.7 +0.5**
LTZ Lake Taylor 82.50 152 P **P 07 26 04.5 +1.0**
PSGCX Pisagua 82.56 249 P **P 07 26 04.6 +0.4**
PSGCX IAmb IAmb 07 26 05.4

comp=Z,14nm,1.2s
MNMC Minye Minye 82.58 250 P **P 07 26 05.3 +0.7**
MNMC IAmb IAmb 07 26 06.2

comp=Z,16nm,1.1s
PB16 IPOC Station P 83.13 250 P **P 07 26 08.0 +0.2**
PB12 IPOC Station P 83.43 249 P **P 07 26 09.1 +0.3**
PB12 IAmb IAmb 07 26 12.0

comp=Z,9.3nm,1.0s
WRA Warramunga Arr 83.52 113 P **P 07 26 09.4 +0.2**
comp=Z,6.2nm,0.7s,baz=208,slow=3.9,SNR=38
WRA LR LR 07 56 32.7

comp=Z,137nm,21.3s,baz=210,slow=31
comp=Z,6.2nm,0.7s
WRA Warramunga Arr 83.52 113 P **P 07 26 08.5 -0.6**
WB2 Warramunga Arr 83.53 113 P **P 07 26 09.2 +0.1**
WB2 IAmb IAmb 07 26 10.3

comp=Z,8.6nm,0.7s
WRAB Tennant Creek 83.53 113 P **P 07 26 08.6 -0.6**
WRAB IAmb IAmb 07 28 43.1

comp=Z,24nm,1.2s
WRAB Tennant Creek 83.53 113 P **P 07 26 08.6 -0.6**
WRAB pmax pmax

comp=Z,24nm,1.3s
WR0 Warramunga Arr 83.63 113 P **P 07 26 09.6 0.0**
WR0 IAmb IAmb 07 27 17.6

comp=Z,40nm,1.9s
WB0 Warramunga Arr 83.69 113 P **P 07 26 10.3 +0.4**
WB0 IAmb IAmb 07 26 11.1

comp=Z,9.6nm,0.7s
LPAZ La Paz 83.81 252 P **P 07 26 11.5 +0.1**
comp=Z,2.9nm,0.9s,baz=107,slow=5.2,SNR=9.4
comp=Z,2.9nm,0.9s
LPAZ La Paz 83.81 252 P **P 07 26 11.7 +0.3**
LPAZ La Paz 83.81 252 P **P 07 26 11.7 +0.3**
LPAZ pmax pmax

comp=Z,7.0nm,1.2s
KEST Kesra 86.49 342 LR LR 08 06 16.3
comp=Z,145nm,19.2s,baz=245,slow=36
KEST Kesra 86.49 342 P **P 07 26 23.9 +0.4**
KEST IAmb IAmb 07 26 29.8

comp=Z,28nm,1.2s
BKZ Black Stump Fm 87.08 154 P **P 07 26 27.3 +0.6**
VAE Valguarnera 87.30 347 LR LR 08 05 28.3
comp=Z,123nm,21.6s,baz=156,slow=36
MDT Midelt 87.39 331 LR LR 08 06 39.1
comp=Z,51nm,19.0s,baz=150,slow=36
ETMB Extrema 87.45 258 P **P 07 26 27.6 -1.1**
ETMB IAmb IAmb 07 29 32.8

comp=Z,12nm,1.8s
HRA Herat 87.46 25 P **P 07 26 29.3 +0.8**
HRA IAmb IAmb 07 26 30.4

comp=Z,6.4nm,0.9s
GURO Guroymak-BITLI 87.64 9 P **P 07 26 32.2 +3.1**
GURO IAmb IAmb 07 26 33.2

comp=Z,8.6nm,0.9s
URZ Urewera 88.10 154 P **P 07 26 31.8 +0.3**
comp=Z,20nm,0.7s,baz=253,slow=3.1,SNR=8.6
URZ LR LR 08 03 37.5

comp=Z,97nm,19.4s,baz=220,slow=34
comp=Z,20nm,0.7s
BRTR Keskin Array B 88.30 2 P **P 07 26 33.7 +1.5**
comp=Z,0.6nm,0.6s,baz=172,slow=7.4,SNR=4.4
comp=Z,0.6nm,0.6s
BRTR Keskin Array B 88.30 2 P **P 07 26 32.6 +0.4**
GNI Garni 89.51 10 LR LR 08 05 43.0
comp=Z,30nm,21.8s,baz=154,slow=35
MDP Montagnes des 89.71 278 LR LR 08 02 43.8
comp=Z,40nm,18.3s,baz=66,slow=33
CMAR Chiang Mai Arr 90.02 62 P **P 07 26 41.6 +0.9**
comp=Z,1.1nm,0.3s,baz=233,slow=4.6,SNR=4.6
CMAR LR LR 07 57 44.6

comp=Z,8.2nm,21.9s,baz=215,slow=29
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 90.02 62 P **P 07 26 41.5 +0.8**
CTA Charters Tower 90.39 122 LR LR 08 00 23.3
comp=Z,87nm,21.8s,baz=260,slow=31
NNA Nana 92.51 249 LR LR 08 07 37.0
comp=Z,16nm,18.4s,baz=170,slow=35
KBZ Khabaz 92.85 9 LR LR 08 07 14.7
comp=Z,25nm,21.3s,baz=160,slow=35
BOAV Boa Vista 92.86 270 P **P 07 26 53.5 -0.5**
BOAV IAmb IAmb 07 26 55.3

comp=Z,7.6nm,1.1s
ESDC Sonseca Array 93.52 334 LR LR 08 10 15.6
comp=Z,74nm,19.0s,baz=143,slow=36
TBTG Tabatinga, AM 94.08 259 P **P 07 26 58.9 -0.8**
TBTG IAmb IAmb 07 26 59.5

comp=Z,10.0nm,0.9s
MLR Muntele Rosu 94.14 356 LR LR 08 12 03.3
comp=Z,77nm,19.6s,baz=214,slow=37
MLR Muntele Rosu 94.14 356 P **P 07 26 58.7 -0.5**
MLR IAmb IAmb 07 27 10.7

comp=Z,10.0nm,1.2s
MLR Muntele Rosu 94.14 356 P **P 07 26 58.7 -0.5**
MLR pmax pmax

comp=Z,10.0nm,1.2s
PZH PanZhiHua 97.91 59 P **P 07 27 16.9 0.0**
PZH pmax pmax

comp=Z,10.0nm,0.6s
PZH pmax pmax

comp=Z,140nm,5.6s
GERES GERESS Array B 98.55 348 LR LR 08 14 42.3
comp=Z,69nm,20.4s,baz=198,slow=37
VRAC Vranov 98.65 350 LR LR 08 15 36.6
comp=Z,52nm,20.1s,baz=181,slow=38
DZM Mont Dzumac 98.87 139 LR LR 08 03 49.4
comp=Z,80nm,19.7s,baz=226,slow=30
AKASG Malin Array Be 99.26 359 LR LR 08 14 03.0
comp=Z,38nm,21.6s,baz=210,slow=36
PMG Port Moresby 99.42 116 LR LR 08 07 18.4
comp=Z,85nm,18.4s,baz=264,slow=32
GYA Guiyang 100.70 62 ⇑P **Pdif 07 27 30.9 +1.6**
GYA pmax pmax

comp=Z,8.0nm,0.9s
HHC Hu-ho-hao-te 114.00 55 *e* P PKPdf 07 32 16.3 -3.4
ARCES ARCESS Array B 118.22 358 PKP **PKPdf 07 32 26.9 +0.1**
comp=Z,3.3nm,1.0s,baz=126,slow=1.6,SNR=4.4
WVT Waverly 134.40 277 P **PKPdf 07 32 59.5 +0.9**
baz=126
CCM Cathedral Cave 137.74 277 P **PKiKP 07 33 06.4 -0.4**
baz=124
JCT Junction City 138.78 262 PKPdf **PKPdf 07 33 07.1 +0.1**
JCT Junction City 138.78 262 P **PKPdf 07 33 07.4 +0.4**
baz=131
JCT Junction City 138.78 262 PKIKP **PKPdf 07 33 07.1 +0.1**
U38A Gravette 138.88 273 PKPdf **PKPdf 07 33 08.4 +1.4**
S39A Bolivar 138.89 276 PKPdf **PKPdf 07 33 06.5 -0.4**
RLO Rose Lookout 139.14 273 PKPdf **PKPdf 07 33 06.8 -0.6**
TULEG Thule 139.24 339 PKPdf **PKPdf 07 33 04.8 -1.6**
DEOK Depew 139.93 271 PKPdf **PKPdf 07 33 09.1 +0.2**
ABTX Abilene, Hawle 140.05 265 PKPdf **PKPdf 07 33 08.6 -0.6**
ABTX Abilene, Hawle 140.05 265 P **PKPdf 07 33 09.8 +0.5**
baz=129
P38A Dawn 140.09 278 PKPdf **PKiKP 07 33 11.0 -0.5**
HPIG 140.15 253 PKPdf **PKPdf 07 33 09.9 0.0**
OK030 Cody Creek RV 140.16 271 PKPdf **PKPdf 07 33 10.5 +1.1**
OK053 SW of W Deep R 140.22 271 PKPdf **PKPdf 07 33 08.8 -0.6**
TXAR Lajitas Array 140.53 257 PKhKP PKPpre 07 33 03.4
comp=Z,0.7nm,0.7s,baz=151,slow=6.1,SNR=6.6
MNTX Cornudas Mount 143.21 258 P PKPab 07 33 11.1 +0.5
baz=131
ECSD EROS Data Cent 144.13 282 PKPdf PKPbc 07 33 14.5 +0.3
ECSD EROS Data Cent 144.13 282 P **PKPab 07 33 14.4 +0.5**
baz=117
MA2 Magadan 144.41 49 PKPdf **PKPab 07 33 15.2 +0.9**
MA2 Magadan 144.41 49 PKIKP **PKPab 07 33 15.2 +0.9**
SRIG Santa Rosalia 144.48 246 PKPdf **PKPab 07 33 15.4 -0.2**
HSIG 144.92 250 **PKPab 07 33 17.1 -0.1**
K31A O'Neill 145.00 279 **PKPab 07 33 16.4 -0.7**
121A Cookes Peak, D 145.29 257 **PKPbc 07 33 17.8 -0.7**
121A Cookes Peak, D 145.29 257 P **PKPdf 07 33 19.2 +0.5**
baz=130
319A Douglas 145.49 254 PKPbc **PKPab 07 33 20.0 +0.6**
CRNM Carthage 145.52 260 **PKPab 07 33 19.8 +0.3**
AGMN Agassiz Nation 145.53 290 **PKPdf 07 33 18.8 +0.4**
AGMN Agassiz Nation 145.53 290 P **PKPdf 07 33 18.4 0.0**
baz=111
BNM Barren Site 145.57 261 **PKPab 07 33 20.6 +0.8**
Y22D IRIS PASSCAL I 145.71 260 **PKPab 07 33 21.4 +1.2**
Y22D IRIS PASSCAL I 145.71 260 P **PKPab 07 33 21.2 +1.1**
baz=129
Y22F Passcal Instru 145.71 260 P **PKPab 07 33 21.4 +1.3**
baz=129
T25A Trinidad 145.89 267 PKPbc **PKPbc 07 33 20.4 0.0**
T25A Trinidad 145.89 267 P **PKPab 07 33 21.0 +0.2**
baz=125
ANMO Albuquerque 145.94 262 PKPbc **PKPab 07 33 21.1 0.0**
ANMO Albuquerque 145.94 262 P **PKPbc 07 33 21.0 +0.4**
baz=128
ANMO Albuquerque 145.94 262 PKP2 **PKPab 07 33 21.1 0.0**
SUSD Miller 145.96 282 PKPbc **PKPbc 07 33 20.3 +0.2**
SUSD Miller 145.96 282 P **PKPbc 07 33 20.2 +0.1**
baz=116
DUN6 Lazy B Ranch 146.15 256 PKPbc **PKPab 07 33 22.1 +0.3**
ULM Lac du Bonnet 146.21 293 PKP **PKPdf 07 33 17.5 -2.0**
comp=Z,6.4nm,0.8s,baz=91,slow=2.5,SNR=9.3
ULM PKPbc **PKPbc 07 33 20.3 -0.3**
comp=Z,6.4nm,0.8s,baz=113,slow=5.4,SNR=6.6
OGNE Ogallala 146.34 274 PKPbc **PKPdf 07 33 20.8 +0.6**
OGNE Ogallala 146.34 274 P **PKPbc 07 33 21.4 0.0**
baz=120
PETK Petropavlovsk- 146.80 62 PKPbc **PKPdf 07 33 21.9 +1.5**
comp=Z,4.8nm,0.8s,baz=202,slow=7.5,SNR=8.8
SDCO Great Sand Dun 146.94 267 PKPbc **PKPbc 07 33 23.9 +0.3**
SDCO Great Sand Dun 146.94 267 P **PKPbc 07 33 24.3 +0.7**
baz=124
TUC Tucson 147.06 254 PKPbc **PKPbc 07 33 24.2 +0.5**
TUC Tucson 147.06 254 P **PKPbc 07 33 24.5 +0.8**
baz=132
TUC Tucson 147.06 254 PKP2 **PKPbc 07 33 24.2 +0.5**
FCC Fort Churchill 147.10 308 PKPbc **PKPbc 07 33 22.8 0.0**
FCC Fort Churchill 147.10 308 PKP2 **PKPbc 07 33 22.8 0.0**
Q24A Divide 147.38 269 P **PKPbc 07 33 25.3 +0.6**
baz=122
BRIGG Briggsdale 147.66 272 PKPbc **PKPbc 07 33 26.0 +0.8**
S22A 4UR Ranch, Cre 147.82 266 PKPbc **PKPbc 07 33 27.1 +1.2**
S22A 4UR Ranch, Cre 147.82 266 P **PKiKP 07 33 27.3 -0.6**
baz=124
X18A Snowflake 147.96 258 PKPbc **PKPbc 07 33 27.3 +1.0**
ISCO Idaho Springs 148.12 270 P **PKPbc 07 33 27.6 +0.9**
baz=121
W18A Petrified Fore 148.18 259 P **PKPbc 07 33 27.2 +0.4**
baz=128
MVCO Mesa Verde 148.61 263 PKPbc **PKPbc 07 33 28.8 +0.8**
MVCO Mesa Verde 148.61 263 P **PKPbc 07 33 29.0 +1.0**
baz=125
N23A Red Feather La 148.89 271 P **PKPbc 07 33 29.3 +0.7**
baz=120
RSSD Black Hills 149.12 278 PKPdf **PKPdf 07 33 25.4 +0.6**
RSSD Black Hills 149.12 278 PKIKP **PKPdf 07 33 25.4 +0.6**
PV15 Paradox Valley 149.24 265 PKPbc **PKiKP 07 33 30.5 -0.3**
113A Mohawk Valley, 149.25 251 PKPbc **PKPbc 07 33 30.0 +0.6**
PV13 Radium Mtn., P 149.36 265 PKPbc **PKPbc 07 33 30.5 +0.7**
PV07 Paradox Valley 149.40 265 PKPbc **PKPbc 07 33 30.5 +0.6**

WUAZ	Wupatki	149.49	258	P		PKiKP	07 33 31.1	-0.2
	baz=128							
O20A	White River Ci	150.03	268	P		PKPbc	07 33 31.8	+0.5
	baz=121							
BLYC	Blythe	150.37	252	PKPbc		PKPbc	07 33 32.7	+0.6
PDMCI	Parker Dam,Lak	150.49	253	P		PKiKP	07 33 33.3	+0.2
	baz=130							
BILL	Bilibino	150.74	33			PKiKP	07 33 33.0	+0.5
BILL						pPKPab	07 33 41.7	+0.6
BILL	Bilibino	150.74	33	*ce*	PKIKP	PKiKP	07 33 32.9	+0.4
BILL				*e*			07 33 36.4	
BILL				*i*			07 33 42.2	
BILL					pmax	pmax		
	comp=Z,14nm,1.0s							
DGMT	Dagmar	150.82	286			PKPbc	07 33 32.7	0.0
DGMT	Dagmar	150.82	286	P		PKPbc	07 33 33.2	+0.5
	baz=108							
W13A	Hualapai Mount	150.84	255	PKPdf		PKPdf	07 33 28.5	+0.6
W13A				PKPbc		PKiKP	07 33 34.4	+0.3
W13A				PKPab		PKPab	07 33 41.1	+0.4
FFC	Flin Flon	150.88	299	PKPdf		PKPdf	07 33 28.1	+1.2
FFC				PKPab		PKPab	07 33 41.2	+1.2
FFC	Flin Flon	150.88	299	PKIKP		PKiKP	07 33 28.1	+1.2
Q16A	Castle Valley	151.31	264			PKPbc	07 33 34.9	+0.5
KNB	Kanab	151.32	259	PKPbc		PKiKP	07 33 35.1	+0.1
KNB	Kanab	151.32	259	PKIKP		PKiKP	07 33 35.1	+0.1
P17A	Butcher Ranch,	151.33	265	PKPdf		PKPdf	07 33 29.6	+1.2
P17A				PKPbc		PKiKP	07 33 35.2	+0.3
P17A				PKPab		PKPab	07 33 43.8	+1.2
LAO	LASA Array	151.53	282	PKPdf		PKPdf	07 33 28.8	+0.4
LAO						PKiKP	07 33 35.1	+0.2
LAO				PKPab		PKPab	07 33 43.9	+0.8
TMUT	Trail Mountain	151.54	265	PKPbc		PKiKP	07 33 35.9	+0.3
LCMT	Little Creek M	151.59	259	PKPbc		PKiKP	07 33 35.8	+0.3
GMRC	Granite Mounta	151.76	252	P		PKiKP	07 33 36.7	+0.8
	baz=130							
CCUT	Cedar City	151.98	259	PKPbc		PKiKP	07 33 37.3	+0.9
TCRU	Three Creeks R	151.98	262	PKPdf		PKPdf	07 33 29.9	+0.4
TCRU				PKPbc		PKiKP	07 33 37.5	+1.1
TCRU				PKPab		PKPab	07 33 44.3	-1.1
BW06	Boulder Array	152.16	272	P		PKPbc	07 33 35.9	-0.4
	baz=116							
PDAR	Pinedale Array	152.16	272	PKP		PKPdf	07 33 29.0	-0.5
	comp=Z,1.1nm,0.6s,baz=115,slow=3.7,SNR=14							
PDAR				PKPbc		PKPbc	07 33 35.5	-0.8
	comp=Z,7.8nm,0.7s,baz=121,slow=3.5,SNR=52							
PDAR	Pinedale Array	152.16	272	PKPdf		PKPdf	07 33 29.1	-0.5
PDAR				PKPbc		PKPbc	07 33 35.7	-0.6
PDAR				PKPab		PKPab	07 33 46.5	+0.5
HEC	Hector,Ludlow	152.21	252	P		PKiKP	07 33 37.8	+1.0
	baz=130							
NLU	North Lily Min	152.46	265	PKPbc		PKiKP	07 33 37.6	+0.3
SHPR	Sheep Range	152.52	256			PKiKP	07 33 38.0	+0.6
CTU	Camp Tracy	152.62	267			PKiKP	07 33 37.9	+0.4
SHOC	Shoshone, Teco	152.85	254	P		PKiKP	07 33 38.8	+0.8
	baz=129							
RLMT	Red Lodge	152.94	277	PKPbc		PKPbc	07 33 38.1	+0.2
RLMT	Red Lodge	152.94	277	P		PKiKP	07 33 38.5	+0.4
	baz=112							
HWUT	Hardware Ranch	152.94	268	PKPdf		PKPdf	07 33 30.9	+0.1
HWUT				PKPbc		PKPbc	07 33 38.4	+0.4
DUG	Dugway, Tooele	153.07	265	PKPdf		PKPdf	07 33 31.8	+0.9
DUG				PKPbc		PKiKP	07 33 39.3	+0.8
DUG	Dugway, Tooele	153.07	265	P		PKiKP	07 33 39.1	+0.7
	baz=121							
DUG	Dugway, Tooele	153.07	265	PKIKP		PKPdf	07 33 31.8	+0.9
DUG							07 33 39.3	
AHID	Auburn Hatcher	153.17	271	PKPdf		PKPdf	07 33 31.8	+0.8
AHID				PKPbc		PKPbc	07 33 38.7	+0.2
AHID				PKPab		PKPab	07 33 50.5	+0.3
LOHW	Long Hollow	153.21	273	PKPdf		PKPdf	07 33 31.2	+0.1
LOHW				PKPbc		PKPbc	07 33 38.8	+0.2
SNOW	Snow King Moun	153.25	273	PKPdf		PKPdf	07 33 31.9	+0.6
SNOW				PKPbc		PKiKP	07 33 39.2	+0.4
SNOW				PKPab		PKPab	07 33 50.8	+0.1
REDW	Red Top Meadow	153.27	272	PKPdf		PKPdf	07 33 31.8	+0.5
REDW				PKPbc		PKPbc	07 33 39.1	+0.3
EDW2	Edwards Air Fo	153.28	250	P		PKiKP	07 33 39.8	+0.9
	baz=131							
MOOW	Moose Ponds	153.36	273	PKPbc		PKPbc	07 33 39.1	+0.2
SPUT	South Promonto	153.38	267	PKPdf		PKPdf	07 33 31.2	-0.2
SPUT				PKPbc		PKiKP	07 33 39.5	+0.4
GCMT	Greycliff	153.45	278	PKPbc		PKPbc	07 33 38.0	-0.9
GCMT				PKPab		PKPab	07 33 52.0	+0.7
FLWY	Flagg Ranch	153.47	274	PKPbc		PKPbc	07 33 38.6	-0.5
FLWY				PKPab		PKPab	07 33 52.0	+0.5
ECR	Eagle Creek	153.48	271	PKPbc		PKiKP	07 33 39.9	+0.6
FXWY	Fox Creek	153.50	273	PKPbc		PKiKP	07 33 39.7	+0.3
IMW	Indian Meadow	153.55	273	PKPbc		PKiKP	07 33 40.2	+0.7
BGU	Big Grassy Mou	153.58	266	PKPdf		PKPdf	07 33 30.9	-0.7
BGU				PKPbc		PKiKP	07 33 39.9	+0.4
BGU				PKPab		PKPab	07 33 51.0	-1.0
MPMC	Manual Prospec	153.72	252	P		PKiKP	07 33 41.1	+1.2
	baz=129							
HVU	Hansel Valley	153.82	268	PKPdf		PKPdf	07 33 32.1	+0.1
HVU				PKPbc		PKPbc	07 33 39.7	-0.2
HVU	Hansel Valley	153.82	268	PKIKP		PKPdf	07 33 32.1	+0.1
HVU							07 33 39.7	
EGMT	Eagleton	154.23	283	P		PKiKP	07 33 41.4	+0.9
	baz=107							
BOZ	Bozeman (W)	154.66	277	P		PKiKP	07 33 42.6	+1.0
	baz=111							
ELK	Elko	154.94	264	PKPdf		PKPdf	07 33 32.7	-1.0
ELK				PKPbc		PKiKP	07 33 43.5	+1.1
ELK	Elko	154.94	264	PKIKP		PKPdf	07 33 32.7	-1.0
HRY	Holter Researc	155.17	279	PKPdf		PKPdf	07 33 32.4	-1.3
HRY				PKPbc		pPKPbc	07 33 43.1	-1.4
MCMT	McKenzie Canyo	155.18	274	PKPdf		PKPdf	07 33 32.5	-1.4
MCMT				PKPbc		pPKPbc	07 33 43.7	-1.0
MCMT				PKPab		PKPab	07 33 59.1	+0.3
NVAR	Mina Array Bea	155.67	256	PKP		PKPdf	07 33 36.3	+1.6
	comp=Z,2.0nm,0.8s,baz=141,slow=3.5,SNR=15							
YKA	Yellowknife Ar	156.75	319	PKP		PKPdf	07 33 30.8	-4.2
	comp=Z,0.7nm,0.9s,baz=92,slow=1.0,SNR=7.1							
INK	Inuvik	159.11	344	PKPab		PKPab	07 34 16.3	+1.7
	comp=Z,1.4nm,0.6s,baz=30,slow=6.6,SNR=4.2							
G08A	Pilot Rock	159.37	271	PKPdf		PKPdf	07 33 39.0	0.0
G08A				PKPab		PKPab	07 34 16.8	+0.1
RDNG	Red Dog Mine	159.57	15	PKPab		PKPab	07 34 17.6	+0.8
ILAR	Eielson Array	164.08	357	PKPab		PKPab	07 34 37.8	+1.2
	comp=Z,0.2nm,0.6s,baz=328,slow=4.7,SNR=4.2							
SCRK	Sand Creek	164.68	352	PKPab		PKPab	07 34 41.3	+1.9
BCAR	Beaver Creek A	165.30	347	PKPdf		PKPdf	07 33 43.5	-0.7
BCAR				PKPab		pPKPab	07 34 43.9	-0.2
TRF	Thorofare Moun	165.42	2	PKPdf		PKPdf	07 33 43.5	-1.0
TRF				PKPab		PKPab	07 34 44.0	+1.3
DHY	Denali Highway	165.79	357	PKPab		PKPab	07 34 46.4	+2.1
PPLA	Purkeypile	165.88	6	PKPdf		PKPdf	07 33 45.0	+0.2
PPLA				PKPab		PKPab	07 34 45.7	+1.0

*IDC **23** 07:14:34.4±5.8, 5.°65S×152.°35E, h33km±39km, mb4.0/11, mbtmp4.2/11, MS3.2/6, Error ellipse: s-maj=42.2km s-min=17.7km az=108.0*

*NEIC **23** 07:14:34.1±1.2, 5.°63S±0.°05×152.°5E±0.°1, h28km±8km, mb4.5/18, Error ellipse: s-maj=17.6km s-min=6.1km az=78.0*

ISC 23 07:14:34.4±0.7, 5.°65S±0.°06×152.°6E±0.°1, h40km, n41, σ1°26/39, mb4.4/20, MS3.3/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.43	338	Pn	Pn	07 14 57.3	-0.6
KRVT				Sn	Sn	07 15 15.2	-0.3
KRVT				LR	LR	07 15 36.8	
	comp=Z,1μm,18.9s,baz=10,slow=45						
RABL	Rabaul	1.50	345		Pn	07 14 58.8	-0.1
PMG	Port Moresby	6.53	235	Pn	Pn	07 16 09.5	+1.5
	3.4nm,0.3s,baz=53,slow=10,SNR=9.1						
PMG				Sn	Sn	07 17 19.7	-1.5
	9.9nm,0.3s,baz=144,slow=22,SNR=9.7						
PMG				LR	LR	07 18 38.9	
	comp=Z,60nm,18.1s,baz=352,slow=38						
PMG	Port Moresby	6.53	235		Pn	07 16 10.1	+2.1
CTA	Charters Tower	15.61	203	LR	LR	07 24 09.2	
	comp=Z,74nm,18.7s,baz=75,slow=37						
EIDS	Eidsvold	19.66	184	P	P	07 18 58.9	-1.1
DZM	Mont Dzumac	21.14	142	LR	LR	07 26 17.3	
	comp=Z,79nm,19.5s,baz=32,slow=33						
OUENC	Ouen Island, N	21.65	142	P	P	07 19 18.2	-3.3
OUENC				IAmb	IAmb	07 19 50.7	
	comp=Z,41nm,1.1s						
WR0	Warramunga Arr	22.57	229	P	P	07 19 31.1	-0.4
WR0				IAmb	IAmb	07 19 34.0	
	comp=Z,19nm,1.4s						
WB2	Warramunga Arr	22.70	230	P	P	07 19 32.9	0.0
WB2				IAmb	IAmb	07 20 00.9	
	comp=Z,15nm,1.1s						
WRA	Warramunga Arr	22.71	230	P	P	07 19 31.1	-1.9
	comp=Z,3.0nm,0.6s,baz=56,slow=10,SNR=28						
WRA				LR	LR	07 29 24.6	
	comp=Z,103nm,18.0s,baz=47,slow=40						
	comp=Z,3.0nm,0.6s						
WRA	Warramunga Arr	22.71	230	P	P	07 19 33.1	+0.1
AS31	Alice Springs	25.37	223	P	P	07 19 58.6	+0.5
ASAR	Alice Springs	25.37	223	P	P	07 19 58.1	0.0
	comp=Z,1.9nm,0.7s,baz=64,slow=8.9,SNR=27						
	comp=Z,1.9nm,0.7s						
ASAR	Alice Springs	25.37	223	P	P	07 19 59.3	+1.2
KNRA	Kununurra	25.39	245	P	P	07 19 57.5	-0.8
KNRA				IAmb	IAmb	07 20 36.1	
	comp=Z,16nm,0.8s						
STKA	Stephens Creek	28.04	200	LR	LR	07 32 28.1	
	comp=Z,62nm,18.1s,baz=17,slow=38						
FITZ	Fitzroy Crossi	29.05	242	P	P	07 20 29.8	-1.4
CMAR	Chiang Mai Arr	58.02	296	P	P	07 24 23.5	-0.3
	comp=Z,1.0nm,0.3s,baz=98,slow=5.0,SNR=4.9						
	comp=Z,1.0nm,0.3s						
SHL	Shillong	66.53	301	P	P	07 25 19.4	-1.5
SHL				IAmb	IAmb	07 25 30.2	
	comp=Z,5.0nm,1.0s						
ULN	Ulaanbaatar	66.58	328	P	P	07 25 21.2	+0.4
ULN				IAmb	IAmb	07 25 22.5	
	comp=Z,2.3nm,0.7s						
SONM	Songino Array	66.91	328	P	P	07 25 23.1	+0.2
	comp=Z,1.8nm,0.8s,baz=138,slow=5.8,SNR=7.0						
	comp=Z,1.8nm,0.8s						
SONM	Songino Array	66.91	328	P	P	07 25 23.0	+0.2
SONM				IAmb	IAmb	07 25 24.9	
	comp=Z,2.3nm,1.0s						
MKAR	Makanchi Array	80.80	319	P	P	07 26 44.3	+0.2
	comp=Z,0.5nm,0.7s,baz=99,slow=7.0,SNR=5.4						
	comp=Z,0.5nm,0.7s						
MKAR	Makanchi Array	80.80	319	P	P	07 26 43.8	-0.2
SML	Sawmill	80.99	24	P	P	07 26 46.0	+1.3
TRF	Thorofare Moun	81.07	22	P	P	07 26 45.9	+0.6
IMAR	Indian Mountai	81.26	19	P	P	07 26 47.0	+0.9
ZALV	Zalesovo Beam	81.72	326	P	P	07 26 48.3	-0.4
	comp=Z,1.1nm,0.6s,baz=120,slow=5.6,SNR=4.7						
	comp=Z,1.1nm,0.6s						
MCK	McKinley	81.73	23	P	P	07 26 49.5	+0.9
MLY	Manley	81.75	21	P	P	07 26 50.1	+1.4
MLY				IAmb	IAmb	07 26 51.9	
	comp=Z,5.0nm,0.9s						
NEA2	Nenana	82.13	22	P	P	07 26 51.8	+1.2
NEA2				IAmb	IAmb	07 26 53.7	
	comp=Z,9.3nm,1.3s						
I23K	Minto, Yukon-K	82.31	21	P	P	07 26 53.5	+1.9
I23K				IAmb	IAmb	07 27 17.1	
	comp=Z,8.5nm,1.4s						
ILAR	Eielson Array	83.03	22	P	P	07 26 55.6	+0.2
	comp=Z,2.1nm,0.7s,baz=248,slow=5.9,SNR=24						
	comp=Z,2.1nm,0.7s						
M27K	Edge Creek, AK	83.94	25	P	P	07 27 02.2	+1.9
KURBB	Kurchatov Arra	84.31	322	P	P	07 27 02.5	+0.3
	comp=Z,1.6nm,0.7s,baz=114,slow=4.2,SNR=11						
	comp=Z,1.6nm,0.7s						
AAK	Ala-Archa	85.07	314	P	P	07 27 07.4	+1.0
	comp=Z,3.0nm,0.8s,baz=143,slow=4.5,SNR=7.6						
	comp=Z,3.0nm,0.8s						
BVAR	Borovoye Array	89.77	323	P	P	07 27 27.9	-0.8
	comp=Z,2.3nm,0.8s,baz=108,slow=4.8,SNR=9.0						
	comp=Z,2.3nm,0.8s						
YKA	Yellowknife Ar	96.28	28	P	P	07 28 01.4	+2.9
	comp=Z,0.5nm,0.7s,baz=269,slow=5.1,SNR=11						
	comp=Z,0.5nm,0.7s						
AKTO	Aktyubinsk	97.21	320	LR	LR	08 14 50.7	
	comp=Z,19nm,18.5s,baz=183,slow=37						
TORD	Torodi Ar. Bea	150.33	287	PKPbc	PKPbc	07 34 22.4	-0.2
	comp=Z,1.7nm,0.8s,baz=59,slow=1.6,SNR=8.6						

*IDC **23** 07:19:09.9±6.9, 35.°93N×69.°76E, h125km±90km, mb3.8/4, mbtmp4.0/7, ML3.2/4, Error ellipse: s-maj=108.6km s-min=43.6km az=108.0*

*NNC **23** 07:19:13.5±4.5, 36.°52N×69.°05E, h39km±140km, mb3.9, mpv4.0, Error ellipse: s-maj=42.4km s-min=36.1km az=103.0*

ISC 23 07:19:11.5±1.6, 36.°3N±0.°1×69.°1E±0.°1, h100km, n21, σ1°15/24, mb4.2/4, 1C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	6.81	30	P	Pn	07 20 49.3	+0.2
	SNR=25						
KK31	Karatay Array	6.85	9	P	Pn	07 20 49.1	-0.2
	1.4nm,0.2s,baz=199,slow=15,SNR=46						
KK31				⇓S	Sn	07 22 04.5	-1.2
	2.6nm,0.4s,baz=194,slow=23,SNR=7.7						
UCH	Uchtor	7.24	34	P	Pn	07 20 55.5	+0.5
	SNR=12						
EKS2	Erkin-Say	7.29	28	P	Pn	07 20 56.5	+1.1
	SNR=20						
AAK	Ala-Archa	7.56	32	P	Pn	07 20 59.9	+0.7
	SNR=7.8						
AAK	Ala-Archa	7.56	32	P	Pn	07 20 59.7	+0.6
	1.7nm,0.3s,baz=203,slow=9.8,SNR=18						
AAK				S	Sn	07 22 21.8	-1.5
	1.2nm,0.3s,baz=149,slow=19,SNR=1.9						
	5.0nm,0.4s						
CHMS	Chumysh	7.96	32	P	Pn	07 21 04.9	+0.4
	SNR=7.9						
CHMS	Chumysh	7.96	32	⇓P	Pn	07 21 04.5	0.0
	7.7nm,0.6s						
USP	Ospenovka	8.08	29	P	Pn	07 21 06.0	-0.1
	SNR=5.5						
TKM2	Tokmak 2	8.28	35	P	Pn	07 21 09.7	+0.7
	SNR=8.5						
TKM2	Tokmak 2	8.28	35	⇓P	Pn	07 21 08.9	0.0
	4.8nm,0.5s						
MKAR	Makanchi Array	14.37	39	P	Pn	07 22 28.5	-1.6
	baz=221,slow=5.7,SNR=3.4						
AB31	Akbulak array	14.54	336	P	P	07 22 35.0	-0.8
	0.3nm,0.4s,baz=158,slow=12,SNR=21						
AB31				⇑S	Sn	07 25 12.1	-0.1
	0.7nm,0.5s						
KURBB	Kurchatov Arra	15.83	23	P	Pn	07 22 46.3	-2.1
	baz=211,slow=10.0,SNR=4.3						
	0.8nm,0.5s						
BVA0	Borovoye Array	16.72	3	P	P	07 23 02.0	+2.0
	0.1nm,0.3s,baz=163,slow=7.9,SNR=6.6						
BVAR	Borovoye Array	16.72	3	P	P	07 23 01.9	+1.9
	0.1nm,0.3s,baz=171,slow=8.8,SNR=5.1						
	0.8nm,0.3s						
FINES	FINESS Array B	36.76	327	P	P	07 26 10.4	+1.5
	1.5nm,0.7s,baz=128,slow=15,SNR=3.4						
	1.5nm,0.7s						
ARCES	ARCESS Array B	40.71	338	P	P	07 26 43.1	+1.3
	6.4nm,1.2s,baz=107,slow=7.4,SNR=5.9						
	6.4nm,1.2s						
NB2	NORSAR Subarra	43.58	323	P	P	07 27 05.7	+0.4
	comp=Z,0.5nm,0.5s,baz=98,slow=7.9						
NOA	NORSAR Array B	43.58	323	P	P	07 27 05.8	+0.5
	comp=Z,1.0nm,0.7s,baz=98,slow=7.9,SNR=4.2						
	comp=Z,1.0nm,0.7s						
TORD	Torodi Ar. Bea	64.16	268	P	P	07 29 34.4	-1.3
	comp=Z,1.8nm,0.3s,baz=46,slow=8.0,SNR=5.1						
	comp=Z,1.8nm,0.3s						

ROM 23 07:24:52.0±0.1, 42.°939N±0.°003×13.°135E±0.°005, h10km, ML2.1/11, 6C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=289.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FEMA	Monte Fema	0.07	290	⇑P	Pg	07 24 54.7	+0.3
FEMA				S	Sg	07 24 56.5	+0.5
FEMA				AML	AML		
	comp=N,3400μm,0.9s						
FEMA				AML	AML		
	comp=E,4355μm,0.1s						
FEMA				AML	AML		
	comp=N,3400μm,1.1s						
T1216	Preci, Frazion	0.10	241	P	Pg	07 24 55.1	+0.5
T1216				S	Sg	07 24 57.2	+0.7
T1216				AML	AML		
	comp=E,936μm,1.3s						
T1216				AML	AML		
	comp=N,1900μm,1.1s						
T1216				AML	AML		
	comp=E,936μm,0.7s						
FDMO	Fiordimonte	0.10	340	P	Pg	07 24 55.0	+0.2
FDMO				S	Sg	07 24 57.0	+0.4
FDMO				AML	AML		
	comp=N,1535μm,0.7s						
FDMO				AML	AML		
	comp=E,1100μm,0.2s						
NRCA	Norcia	0.11	188	P	Pg	07 24 55.1	+0.4
NRCA				S	Sg	07 24 57.1	+0.4
NRCA				AML	AML		
	comp=N,1275μm,1.1s						
NRCA				AML	AML		
	comp=E,1780μm,0.2s						
NRCA				AML	AML		
	comp=N,1275μm,0.9s						
T1220	Camerino, Fraz	0.17	349	P	Pg	07 24 56.2	+0.4
T1220				S	Sg	07 24 59.4	+0.9
T1220				AML	AML		
	comp=E,1510μm,0.5s						
T1220				AML	AML		
	comp=N,1320μm,0.5s						
T1220				AML	AML		
	comp=E,1540μm,1.4s						
T1220				AML	AML		
	comp=N,1335μm,0.5s						
T1220				AML	AML		
	comp=E,1540μm,0.6s						
T1220				AML	AML		
	comp=E,1510μm,1.5s						
CESI	CESI - Serrava	0.18	291	⇑P	Pg	07 24 56.6	+0.7
CESI				S	Sg	07 24 59.9	+1.3
CESI				AML	AML		
	comp=E,594μm,0.2s						
CESI				AML	AML		
	comp=N,696μm,0.5s						
GUMA	Gualdo di Mace	0.19	50	⇑P	Pg	07 24 56.7	+0.6
GUMA				S	Sg	07 25 00.3	+1.4
GUMA				AML	AML		
	comp=E,1585μm,0.6s						
GUMA				AML	AML		
	comp=E,1970μm,0.6s						
GUMA				AML	AML		
	comp=N,2785μm,0.2s						
GUMA				AML	AML		
	comp=N,2825μm,0.6s						
T1212	Cascia, Frazio	0.20	200	P	Pg	07 24 56.9	+0.7
T1212				S	Sg	07 25 00.4	+1.3
T1215	Vallo di Nera,	0.24	235	P	Pg	07 24 57.7	+0.7
T1215				AML	AML		
	comp=E,282μm,0.1s						
T1215				AML	AML		
	comp=E,299μm,0.5s						
T1215				AML	AML		
	comp=N,603μm,0.2s						
T1215				AML	AML		
	comp=N,592μm,0.2s						
T1215				AML	AML		
	comp=E,299μm,1.5s						
T1202	Accumoli, Fraz	0.24	164	⇑P	Pg	07 24 57.7	+0.6
T1202				S	Sg	07 25 02.1	+1.7
T1217	Poggiodomo (PG	0.27	214	S	Sg	07 24 56.0	-5.2
T1217				AML	AML		
	comp=E,384μm,0.2s						
T1217				AML	AML		
	comp=N,443μm,0.2s						
T1217				AML	AML		
	comp=E,384μm,0.2s						
T1217				AML	AML		
	comp=N,442μm,0.2s						
T1217				AML	AML		
	comp=N,442μm,1.8s						
SNTG	Esanatoglia	0.35	336	P	Pg	07 24 59.4	+0.5
ASSB	Assisi San Ben	0.36	287	⇑P	Pg	07 24 59.7	+0.5
ASSB				AML	AML		
	comp=N,240μm,0.9s						
ASSB				AML	AML		
	comp=N,240μm,1.1s						
ASSB				AML	AML		
	comp=E,260μm,0.3s						
OFFI	Offida	0.40	90	P	Pb	07 25 01.1	-0.2
MOMA	Monte Martano	0.44	252	⇓P	Pb	07 25 01.2	-0.6
ATCC	AVT- Casa Cast	0.44	304	⇑P	Pg	07 25 01.2	+0.6
ATCC				AML	AML		
	comp=N,154μm,1.6s						
ATCC				AML	AML		
	comp=E,209μm,0.1s						
ATCC				AML	AML		
	comp=N,154μm,0.4s						
CING	Cingoli	0.44	6	P	Pg	07 25 00.9	+0.2

IDC 23 07:39:52.4±44.0, 17.°57S×179.°39W, h578km±125km, mb3.1/3, mbtmp4.0/4, Error ellipse: s-maj=900.2km s-min=118.1km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.44	266	P	P	07 41 06.9	0.0
	13nm,0.8s,baz=124,slow=9.2,SNR=15						
STKA	Stephens Creek	37.97	241	P	P	07 46 21.8	-0.2
	0.8nm,0.4s,baz=80,slow=9.0,SNR=4.7						
	0.8nm,0.4s						
WRA	Warramunga Arr	43.77	259	P	P	07 47 07.8	-0.4
	0.8nm,0.5s,baz=94,slow=7.0,SNR=11						
	0.8nm,0.5s						
ASAR	Alice Springs	43.98	254	P	P	07 47 09.8	0.0
	5.8nm,0.6s,baz=88,slow=8.5,SNR=66						
	5.8nm,0.6s						

*IDC **23** 08:10:25.8±3.6, 44.°31N×149.°36E, h0km, mb3.7/10, mbtmp3.7/10, MS2.9/2, Error ellipse: s-maj=96.1km s-min=25.3km az=174.0*

*SKHL **23** 08:10:27.7±0.1, 44.°10N×149.°70E, h37km±7km, mb4.8/2*

*JMA **23** 08:10:27.8±0.7, 44.°N±3.°×15.°0E±°, h30km, MV4.2/14, SE OFF ETOROFU*

*MOS **23** 08:10:28.6±0.9, 44.°19N×149.°57E, h33km, mb4.3/1, Error ellipse: s-maj=19.7km s-min=14.3km az=27.6*

ISC 23 08:10:29.9±0.9, 44.°06N±0.°06×149.°57E±0.°08, h38km, n45, σ1°30/51, mb3.7/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	1.69	315	*e*P	Pn	08 10 55.3	-1.5
KUR				*i* S	Sn	08 11 15.6	-1.5
KUR				pmax	pmax		
	comp=N,182nm,0.4s						
KUR				pmax	pmax		
	comp=E,84nm,0.4s						
KUR				pmax

NMR	**Nemuro--Hokkai**	**2.87**	**257**	*i* P		**Pn**	**08 11 12.4**	**-0.6**
NMR				*e*S		**Sn**	**08 11 46.0**	**-0.3**
RUSJ	**Misakicho**	**3.11**	**272**	*e*PN		**Pn**	**08 11 17.5**	**+1.1**
RUSJ				*e*S		**Sn**	**08 11 54.9**	**+2.6**
JRA	**Rausu**	**3.21**	**269**	*e*P		**Pn**	**08 11 18.8**	**+1.1**
JNK	**Nakash**	**3.54**	**264**	*e*P		**Pn**	**08 11 22.5**	**+0.2**
AKK	**Akkeshi**	**3.59**	**255**	*e*P		**Pn**	**08 11 22.9**	**-0.1**
JAK	**Akkeshi**	**3.70**	**255**	*e*P		**Pn**	**08 11 24.5**	**+0.1**
JAK				*e*S		**Sn**	**08 12 06.7**	**0.0**
JTKR	**Abashiri--Toko**	**4.08**	**271**	*e*P		**Pn**	**08 11 30.9**	**+1.2**
JAR	**Ashorobuto**	**4.28**	**262**	*e*P		**Pn**	**08 11 33.4**	**+1.1**
JAR				*e*S		**Sn**	**08 12 21.6**	**+0.6**
JOB	**Onbets**	**4.33**	**256**	*e*P		**Pn**	**08 11 33.9**	**+0.8**
JCH	**Churui**	**4.75**	**254**	*e*P		**Pn**	**08 11 39.1**	**+0.2**
JCH				*e*S		**Sn**	**08 12 32.8**	**+0.1**
MYR	**Moyori**	**4.92**	**251**	*e*P		**Pn**	**08 11 42.4**	**+1.1**
JKK2	**Kamakawa 2**	**4.93**	**270**	*e*P		**Pn**	**08 11 43.6**	**+2.2**
ASAJ	**Asahikawa**	**5.02**	**273**	Pn		**Pn**	**08 11 45.5**	**+2.9**
	comp=E,1.3nm,0.3s,baz=76,slow=5.0,SNR=6.3							
JNBK	**Urakawa-nobuka**	**5.29**	**253**	*e*P		**Pn**	**08 11 46.6**	**+0.3**
JNBK				*e*S		**Sn**	**08 12 45.2**	**-0.8**
YSS	**Yuzh-Sakhalins**	**5.59**	**303**	*e*PN		**Pn**	**08 11 51.3**	**+0.9**
YSS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
YSS	**Yuzh-Sakhalins**	**5.59**	**303**	*e*P		**Pn**	**08 11 51.3**	**+0.9**
YSS				*e*S		**Sn**	**08 12 52.2**	**-1.1**
JANG	**Nango**	**7.02**	**241**	*e*P		**Pn**	**08 12 09.1**	**-1.0**
JANG				*e*S		**Sn**	**08 13 23.3**	**-5.3**
USRK	**Ussuriysk Ar.**	**12.63**	**277**	LR		LR	08 18 36.5	
	comp=Z,56nm,18.7s,baz=143,slow=39							
KLR	**Kul'dur**	**13.28**	**299**	LR		LR	08 19 10.9	
	comp=Z,49nm,21.7s,baz=54,slow=40							
H11N2	**WAKE ISLAND Hy**	**28.26**	**144**	T		T	08 47 23.2	
	baz=333,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy**	**28.27**	**144**	T		T	08 47 23.8	
	baz=333,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**28.27**	**144**	T		T	08 47 24.4	
	baz=333,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**29.26**	**145**	T		T	08 48 39.8	
	baz=334,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**29.27**	**145**	T		T	08 48 45.9	
	baz=334,slow=76,SNR=17							
H11S2	**WAKE ISLAND Hy**	**29.28**	**145**	T		T	08 48 39.5	
	baz=334,slow=76,SNR=16							
SONM	**Songino Array**	**29.96**	**293**	P		**P**	**08 16 34.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=83,slow=11,SNR=3.5							
	comp=Z,0.4nm,0.3s							
ILAR	**Eielson Array**	**40.20**	**36**	P		**P**	**08 18 02.9**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=274,slow=6.6,SNR=4.1							
	comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**45.98**	**298**	P		**P**	**08 18 48.9**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=75,slow=7.4,SNR=12							
	comp=Z,1.3nm,0.7s							
KURK	**Kurchatov**	**46.80**	**304**	P		**P**	**08 18 54.9**	**-0.5**
KURK	**Kurchatov**	**46.80**	**304**	*e*P		**P**	**08 18 54.9**	**-0.5**
KURBB	**Kurchatov Array**	**46.80**	**304**	P		**P**	**08 18 54.9**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=77,slow=8.6,SNR=4.6							
	comp=Z,0.4nm,0.4s							
YKA	**Yellowknife Ar**	**54.56**	**35**	P		**P**	**08 19 55.2**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=295,slow=6.5,SNR=3.6							
	comp=Z,0.1nm,0.5s							
ARCES	**ARCESS Array B**	**59.55**	**340**	P		**P**	**08 20 28.0**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=51,slow=8.6,SNR=1.3							
	comp=Z,3.2nm,0.9s							
FINES	**FINESS Array B**	**65.38**	**334**	P		**P**	**08 21 07.2**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=28,slow=8.6,SNR=7.9							
	comp=Z,1.1nm,0.5s							
NB2	**NORSAR Subarra**	**69.92**	**340**	P		**P**	**08 21 35.7**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.92**	**340**	P		**P**	**08 21 36.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=31,slow=6.7,SNR=4.7							
	comp=Z,0.9nm,0.6s							
GERES	**GERESS Array B**	**79.72**	**332**	P		**P**	**08 22 34.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=348,slow=4.4,SNR=2.9							
	comp=Z,0.2nm,0.3s							
GERES	**GERESS Array B**	**79.72**	**332**	P		**P**	**08 22 34.0**	**+0.4**
TXAR	**Lajitas Array**	**81.01**	**58**	P		**P**	**08 22 41.9**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=309,slow=4.5,SNR=2.8							
	comp=Z,0.3nm,0.7s							

DRS ***23*** *08:25:05.3±0.0, 43.°14N×46.°97E, h12km, ML2.9/4*
MOS ***23*** *08:25:05.6±0.0, 43.°04N×46.°95E, h5km, MPVA3.6*
NORS ***23*** *08:25:05.7±0.0, 43.°08N×46.°88E, h2km, MPVA3.7*

ISC 23 08:25:06.7±0.8, 43.°11N±0.°02×46.°96E±0.°02, h12km±5km, n81, σ1°21/153, 3C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
DBC	**Dubki**	**0.13**	**227**	*e*Pg	**Pg**	**08 25 09.3**		**-0.8**
DBC				*e*Sg	**Sg**	**08 25 12.0**		**-0.5**
DBC				*i* AML	AML	08 25 12.3		
	2µm,0.5s							
DBC	**Dubki**	**0.13**	**227**	⇓*i* PG	**Pg**	**08 25 09.3**		**-0.8**
DBC				*i* S	**Sg**	**08 25 12.2**		**-0.3**
DBC				pmax	pmax			
	comp=Z,1µm,0.2s							
DBC				smax	smax			
	comp=E,2µm,0.4s							
DLMR	**Dylym**	**0.25**	**261**	*e*Pg	**Pg**	**08 25 11.8**		**-0.1**
DLMR				*e*Sg	**Sg**	**08 25 16.7**		**+1.2**
DLMR				*i* AML	AML	08 25 16.9		
	comp=E,3µm,0.3s							
DLMR	**Dylym**	**0.25**	**261**	⇓*i* PG	**Pg**	**08 25 11.8**		**-0.1**
DLMR				*i* S	**Sg**	**08 25 16.9**		**+1.5**
DLMR				pmax	pmax			
	comp=Z,199nm,0.3s							
DLMR				smax	smax			
	comp=E,3µm,0.3s							
KRNR	**Karanay**	**0.29**	**188**	*e*Pg	**Pg**	**08 25 11.9**		**-0.8**
KRNR				*e*Sg	**Sg**	**08 25 16.8**		**+0.2**
KRNR				*i* AML	AML	08 25 17.0		
	comp=E,1µm,0.2s							
KRNR	**Karanay**	**0.29**	**188**	⇓*i* PG	**Pg**	**08 25 11.9**		**-0.8**
KRNR				*i* S	**Sg**	**08 25 17.0**		**+0.4**
KRNR				pmax	pmax			
	comp=Z,84nm,0.3s							
KRNR				smax	smax			
	comp=N,1µm,0.2s							
BUJR	**Buynaksk**	**0.30**	**160**	*e*Pg	**Pg**	**08 25 13.2**		**+0.3**
BUJR				*e*Sg	**Sb**	**08 25 19.1**		**0.0**
BUJR	**Buynaksk**	**0.30**	**160**	*e*PG	**Pg**	**08 25 13.2**		**+0.3**
BUJR				*e*S	**Sb**	**08 25 19.4**		**+0.4**
BUJR				pmax	pmax			
	comp=Z,169nm,0.2s							
BUJR				smax	smax			
	comp=E,1µm,0.3s							
KANR	**Karaman**	**0.39**	**77**	*e*Pg	**Pg**	**08 25 15.6**		**+1.0**
KANR				*e*Sg	**Sb**	**08 25 23.8**		**+2.2**
KANR	**Karaman**	**0.39**	**77**	*e*PG	**Pg**	**08 25 15.5**		**+1.0**
KANR				*e*S	**Sb**	**08 25 22.1**		**+0.5**
KANR				pmax	pmax			
	comp=Z,284nm,0.3s							
KANR				smax	smax			
	comp=N,2µm,0.4s							
KANR				smax	smax			
	comp=E,740nm,0.7s							
KANR				smax	smax			
	comp=N,2µm,0.4s							
UNCR	**Uncukul**	**0.42**	**198**	*e*Pg	**Pg**	**08 25 14.3**		**-0.6**
UNCR				*e*Sg	**Sg**	**08 25 20.6**		**+0.1**
UNCR				*i* AML	AML	08 25 21.2		
	comp=N,604nm,0.3s							
UNCR	**Uncukul**	**0.42**	**198**	⇓*i* PG	**Pg**	**08 25 14.3**		**-0.6**
UNCR				*i* S	**Sg**	**08 25 21.1**		**+0.6**
UNCR				pmax	pmax			
	comp=Z,181nm,0.2s							
UNCR				smax	smax			
	comp=N,604nm,0.3s							
MAK	**Makhachkala**	**0.42**	**110**	*e*Pg	**Pg**	**08 25 14.2**		**-0.9**
MAK				*e*Sg	**Sb**	**08 25 23.0**		**+0.6**
MAK	**Makhachkala**	**0.42**	**110**	*e*PG	**Pg**	**08 25 14.2**		**-0.9**
MAK				*e*S	**Sb**	**08 25 23.0**		**+0.6**
ARKR	**Arakani**	**0.51**	**177**	*e*Pg	**Pg**	**08 25 16.5**		**-0.2**
ARKR				*e*Sg	**Sg**	**08 25 24.0**		**+0.6**
ARKR	**Arakani**	**0.51**	**177**	*e*PG	**Pg**	**08 25 16.4**		**-0.2**
ARKR				*e*S	**Sb**	**08 25 24.5**		**-0.4**
ARKR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ARKR				smax	smax			
	comp=E,380nm,0.2s							
HNZR	**Khunzah**	**0.58**	**198**	*e*PG	**Pg**	**08 25 17.7**		**-0.4**
HNZR				*e*S	**Sb**	**08 25 26.9**		**-0.3**
HNZR				pmax	pmax			
	comp=Z,29nm,0.2s							
HNZR				smax	smax			
	comp=E,238nm,0.4s							
XNZR	**Khunzakh**	**0.60**	**199**	*e*Pg	**Pg**	**08 25 17.7**		**-0.7**
XNZR				*e*Sg	**Sg**	**08 25 26.6**		**+0.2**
DVE	**Vedeno**	**0.63**	**256**	*e*Pg	**Pg**	**08 25 18.9**		**-0.1**
DVE				*e*Sg	**Sg**	**08 25 28.0**		**+0.6**
DVE	**Vedeno**	**0.63**	**256**	*e*PG	**Pg**	**08 25 19.3**		**+0.3**
DVE				*e*S	**Sb**	**08 25 29.2**		**+0.6**
BTLR	**Botlikh**	**0.70**	**231**	*e*Pg	**Pg**	**08 25 19.9**		**-0.6**
BTLR				*e*Sg	**Sb**	**08 25 30.5**		**-0.1**
BTLR	**Botlikh**	**0.70**	**231**	*e*PG	**Pg**	**08 25 19.8**		**-0.6**
BTLR				*e*S	**Sb**	**08 25 30.5**		**-0.1**
BTLR				pmax	pmax			
	comp=Z,24nm,0.1s							
BTLR				smax	smax			
	comp=N,174nm,0.4s							
GNBR	**Gunib**	**0.72**	**180**	*e*Pg	**Pg**	**08 25 20.4**		**-0.3**
GNBR				*e*Sg	**Sb**	**08 25 31.2**		**+0.1**
GNBR	**Gunib**	**0.72**	**180**	*e*PG	**Pg**	**08 25 20.4**		**-0.3**
GNBR				*e*S	**Sb**	**08 25 31.7**		**+0.6**
GNBR				pmax	pmax			
	comp=Z,40nm,0.2s							
GNBR				smax	smax			
	comp=E,141nm,0.3s							
GROC	**Groznyy**	**0.86**	**277**	*e*Pg	**Pg**	**08 25 22.6**		**-0.8**
GROC				*e*Sg	**Sn**	**08 25 38.1**		**+1.0**
GROC	**Groznyy**	**0.86**	**277**	*e*PG	**Pb**	**08 25 24.4**		**+0.9**
GROC				*e*S	**Sn**	**08 25 37.8**		**+0.7**
KMKR	**Kumukh**	**0.98**	**174**	*e*Pg	**Pb**	**08 25 26.3**		**+0.4**
KMKR				*e*Sg	**Sn**	**08 25 40.5**		**+0.1**
KMKR	**Kumukh**	**0.98**	**174**	*e*PG	**Pb**	**08 25 26.2**		**+0.4**
KMKR				*e*S	**Sn**	**08 25 40.5**		**+0.1**
KMKR				pmax	pmax			
	comp=Z,3.0nm,0.1s							
KMKR				smax	smax			
	comp=N,676nm,0.4s							
KMKR				smax	smax			
	comp=E,469nm,0.2s							
KMKR				smax	smax			
	comp=N,272nm,0.2s							
URKR	**Urkarakh**	**1.07**	**152**	*e*Pg	**Pg**	**08 25 27.3**		**0.0**
URKR				*e*Sg	**Sn**	**08 25 42.6**		**+0.3**
URKR	**Urkarakh**	**1.07**	**152**	*e*PG	**Pg**	**08 25 27.2**		**0.0**
URKR				*e*S	**Sn**	**08 25 43.1**		**+0.8**
URKR				pmax	pmax			
	comp=Z,53nm,0.4s							
URKR				smax	smax			
	comp=N,51nm,0.4s							
LGD	**Lagodekhi**	**1.38**	**203**	P	**Pb**	**08 25 32.9**		**+0.5**
LGD				S	**Sg**	**08 25 51.8**		**+0.6**
LGD	**Lagodekhi**	**1.38**	**203**	*e*PG	**Pb**	**08 25 32.9**		**+0.5**
LGD				*e*S	**Sg**	**08 25 51.8**		**+0.6**
SHTL	**Shatili**	**1.41**	**252**	P	**Pn**	**08 25 32.5**		**+0.2**
SHTL				S	**Sg**	**08 25 52.2**		**+0.2**
SHTL	**Shatili**	**1.41**	**252**	*e*PG	**Pn**	**08 25 32.4**		**+0.2**
SHTL				*e*S	**Sg**	**08 25 52.2**		**+0.2**
KMGR	**Komgaron**	**1.54**	**269**	*e*Pg	**Pb**	**08 25 35.9**		**+0.7**
KMGR				*e*Sg	**Sg**	**08 25 59.6**		**+3.5**
KMGR	**Komgaron**	**1.54**	**269**	*e*PG	**Pb**	**08 25 35.9**		**+0.7**
KMGR				*e*S	**Sg**	**08 25 59.7**		**+3.5**
AKT	**Akhty**	**1.73**	**161**	*e*Pg	**Pn**	**08 25 37.9**		**+1.3**
AKT				*e*Sg	**Sg**	**08 26 01.7**		**-0.5**
AKT	**Akhty**	**1.73**	**161**	*e*PN	**Pn**	**08 25 37.9**		**+1.3**
AKT				*e*S	**Sg**	**08 26 02.1**		**-0.1**
AKT				pmax	pmax			
	comp=Z,31nm,0.2s							
AKT				smax	smax			
	comp=E,81nm,0.7s							
KSMR	**Kasumkent**	**1.74**	**150**	*e*Pg	**Pg**	**08 25 40.5**		**+0.5**
KSMR				*e*Sg	**Sg**	**08 26 04.0**		**+1.4**
KSMR	**Kasumkent**	**1.74**	**150**	*e*PN	**Pg**	**08 25 40.5**		**+0.5**
KSMR				*e*S	**Sg**	**08 26 04.0**		**+1.4**
TRKR	**Terskaya**	**1.74**	**291**	*e*Pg	**Pb**	**08 25 39.5**		**+1.0**
TRKR				*e*Sg	**Sg**	**08 26 04.5**		**+1.9**
TRKR	**Terskaya**	**1.74**	**291**	*e*PN	**Pb**	**08 25 39.5**		**+1.0**
TRKR				*e*S	**Sg**	**08 26 04.5**		**+1.9**
DDFL	**Dedoflistskaro**	**1.78**	**201**	P	**Pg**	**08 25 42.2**		**+1.4**
DDFL	**Dedoflistskaro**	**1.78**	**201**	*e*PN	**Pg**	**08 25 42.2**		**+1.4**
PNSH	**Pansheti**	**1.79**	**255**	P	**Pn**	**08 25 38.4**		**+0.8**
PNSH				S	**Sb**	**08 26 02.9**		**+0.8**
PNSH	**Pansheti**	**1.79**	**255**	*e*PN	**Pn**	**08 25 38.4**		**+0.8**
PNSH				*e*S	**Sb**	**08 26 02.8**		**+0.8**
GUDG	**Gudauri**	**1.94**	**251**	P	**Pn**	**08 25 41.3**		**+1.6**
GUDG				S	**Sg**	**08 26 08.2**		**-1.0**
GUDG	**Gudauri**	**1.94**	**251**	*e*PN	**Pn**	**08 25 41.2**		**+1.6**
GUDG				*e*S	**Sg**	**08 26 08.1**		**-1.0**
LACR	**Lac**	**1.98**	**263**	*e*Pg	**Pn**	**08 25 40.2**		**+0.1**
LACR				*e*Sg	**Sb**	**08 26 08.9**		**+1.6**
LACR	**Lac**	**1.98**	**263**	*e*PN	**Pn**	**08 25 40.2**		**+0.1**
LACR				*e*S	**Sb**	**08 26 08.9**		**+1.6**
DGRG	**David-gareji**	**2.04**	**216**	P	**Pb**	**08 25 45.0**		**+1.3**
DGRG				S	**Sg**	**08 26 14.3**		**+2.1**
DGRG	**David-gareji**	**2.04**	**216**	*e*PN	**Pb**	**08 25 44.9**		**+1.3**
DGRG				*e*S	**Sg**	**08 26 14.2**		**+2.1**
PRTR	**Priterechnaya**	**2.06**	**289**	*e*Pg	**Pb**	**08 25 44.1**		**+0.1**
PRTR				*e*Sg	**Sg**	**08 26 13.5**		**+0.7**
PRTR	**Priterechnaya**	**2.06**	**289**	*e*PN	**Pb**	**08 25 45.0**		**+1.1**
PRTR				*e*S	**Sg**	**08 26 13.5**		**+0.7**
KORR	**Kora**	**2.12**	**270**	*e*Pg	**Pb**	**08 25 45.5**		**+0.4**
KORR				*e*Sg	**Sb**	**08 26 12.6**		**+1.2**
KORR	**Kora**	**2.12**	**270**	*e*PN	**Pb**	**08 25 45.5**		**+0.4**
KORR				*e*S	**Sg**	**08 26 15.9**		**+1.0**
STDR	**Stavd-Durt**	**2.14**	**278**	*e*Pg	**Pb**	**08 25 46.5**		**+1.2**
STDR				*e*Sg	**Sg**	**08 26 15.9**		**+0.6**
STDR	**Stavd-Durt**	**2.14**	**278**	*e*PN	**Pb**	**08 25 46.5**		**+1.2**
STDR				*e*S	**Sg**	**08 26 16.4**		**+1.1**
ZEI	**Tsey**	**2.27**	**263**	*e*Pn	**Pn**	**08 25 46.2**		**+2.0**
ZEI				*e*Sn	**Sb**	**08 26 16.8**		**+0.9**
ZEI	**Tsey**	**2.27**	**263**	*e*PN	**Pn**	**08 25 46.2**		**+2.0**
ZEI				*e*S	**Sb**	**08 26 17.1**		**+1.2**
LSNR	**Lesken**	**2.30**	**275**	*e*Pn	**Pb**	**08 25 49.1**		**+0.9**
LSNR				*e*Sn	**Sg**	**08 26 20.1**		**-0.5**
LSNR	**Lesken**	**2.30**	**275**	*e*PN	**Pb**	**08 25 49.1**		**+0.9**
LSNR				*e*S	**Sg**	**08 26 20.1**		**-0.5**
DIGR	**Digorskoe uzhe**	**2.49**	**266**	*e*Pn	**Pn**	**08 25 47.5**		**+0.2**
DIGR				*e*Sn	**Sb**	**08 26 23.9**		**+1.7**
DIGR	**Digorskoe uzhe**	**2.49**	**266**	*e*PN	**Pn**	**08 25 49.9**		**+2.7**
DIGR				*e*S	**Sb**	**08 26 23.8**		**+1.7**
TRLG	**Trialeti**	**2.64**	**234**	P	**Pb**	**08 25 53.4**		**-0.6**
TRLG				S	**Sg**	**08 26 30.6**		**-1.0**
TRLG	**Trialeti**	**2.64**	**234**	*e*PN	**Pb**	**08 25 53.4**		**-0.6**
TRLG				*e*S	**Sg**	**08 26 30.5**		**-1.0**
ALIG	**Mtskhetisjvari**	**2.65**	**249**	P	**Pn**	**08 25 51.7**		**+2.5**
ALIG				S	**Sb**	**08 26 26.8**		**+0.2**
ALIG	**Mtskhetisjvari**	**2.65**	**249**	*e*PN	**Pn**	**08 25 51.7**		**+2.5**
ALIG				*e*S	**Sb**	**08 26 26.7**		**+0.2**
KBZ	**Khabaz**	**3.03**	**283**	*e*Pn	**Pn**	**08 25 53.9**		**-0.5**
KBZ				*e*Sn	**Sn**	**08 26 30.2**		**-0.3**
KBZ	**Khabaz**	**3.03**	**283**	*e*PN	**Pn**	**08 25 53.9**		**-0.5**
KBZ				*e*S	**Sn**	**08 26 30.2**		**-0.3**
NEY	**Neytrino**	**3.11**	**274**	*e*PN	**Pn**	**08 25 55.9**		**+0.2**
NEY				*e*S	**Sn**	**08 26 32.3**		**-0.5**
BEYR	**Belyy Ugol+**	**3.15**	**288**	*e*Pn	**Pn**	**08 25 54.4**		**-1.7**
BEYR				*e*Sn	**Sn**	**08 26 33.4**		**-0.2**
BEYR	**Belyy Ugol+**	**3.15**	**288**	*e*PN	**Pn**	**08 25 54.4**		**-1.7**
BEYR				*e*S	**Sn**	**08 26 33.4**		**-0.2**
SHA1	**Shidzhatmaz**	**3.20**	**283**	*e*PN	**Pn**	**08 25 56.2**		**-0.8**
SHA1				*e*S	**Sn**	**08 26 34.7**		**-0.5**
KIV	**Kislovodsk**	**3.22**	**287**	*e*Pn	Pn	08 25 52.0		-5.2
KIV				*e*Sn	**Sn**	**08 26 31.1**		**-4.4**
KIV	**Kislovodsk**	**3.22**	**287**	*e*PN	Pn	08 25 52.0		-5.2
GNI	**Garni**	**3.40**	**210**	*e*Pn	**Pn**	**08 25 60.0**		**+0.3**
GNI	**Garni**	**3.40**	**210**	*e*PN	**Pn**	**08 25 59.9**		**+0.3**
SOC	**Sochi**	**5.31**	**278**	*e*Pn	**Pn**	**08 26 23.1**		**-2.6**
SOC				*e*		08 27 25.0		
SOC				MLR	MLR			
	comp=Z,22nm,10.0s							
AKTO	**Aktyubinsk**	**10.53**	**42**	⇓Pn	**Pn**	**08 27 37.3**		**-0.1**
	comp=Z,0.5nm,0.7s							
AKTO				⇑Sn	Sn	08 29 24.8		-10
	comp=Z,1.6nm,0.8s							
AB31	**Akbulak array**	**10.89**	**51**	⇑Pn	**Pn**	**08 27 41.9**		**-0.4**
	comp=Z,0.2nm,0.5s,baz=236,slow=14,SNR=6.7							
AB31				⇑Sn	**Sn**	**08 29 38.0**		**-5.9**
	comp=Z,0.6nm,0.6s,baz=240,slow=24,SNR=6.5							

NOU ***23*** *08:32:40.9, 21.°22S×178.°27W, h540km, mb4.6/13, Fiji Islands Region*
NEIC ***23*** *08:32:41±0.9, 21.°1S±0.°1×178.°74W±0.°10, h541km±7km, mb4.3/23, Error ellipse: s-maj=19.8km s-min=13.1km az=167.0*
IDC ***23*** *08:32:44.2±2.1, 20.°80S×179.°02W, h577km±18km, mb3.4/8, mbtmp4.2/9, Error ellipse: s-maj=43.2km s-min=14.4km az=144.0*

ISC 23 08:32:41.5±0.5, 21.°08S±0.°07×178.°75W±0.°09, h550km, n106, σ1°31/103, mb4.3/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
LKBA	**Tubou, Lakemba**	**2.83**	**359**	P	**P**	**08 33 55.9**		**+0.2**
TAVE	**Taveuni**	**4.49**	**346**	P	**P**	**08 34 08.2**		**+0.9**
MSVF	**Nonsavu**	**4.50**	**317**	P	**P**	**08 34 08.3**		**+0.9**
	13nm,0.6s,baz=133,slow=13,SNR=18							
MSVF				S	**S**	**08 35 18.3**		**+1.0**
	6.6nm,0.9s,baz=114,slow=22,SNR=6.9							
MSVF	**Nonsavu**	**4.50**	**317**	P	**P**	**08 34 07.9**		**+0.5**
MSVF	**Nonsavu**	**4.50**	**317**	P	**P**	**08 34 08.1**		**+0.7**
FUTU	**Fugatoga**	**6.76**	**5**	P	**P**	**08 34 27.7**		**+0.3**
GLKZ	**Green Lake**	**8.18**	**175**	S	**S**	**08 36 20.2**		**+1.3**
NIUE	**Niue**	**8.53**	**78**	P	P	08 34 39.4		-5.1
AFI	**Afiamalu**	**9.75**	**44**	P	P	08 34 53.1		-3.9
	30nm,0.7s,baz=64,slow=4.4,SNR=7.5							
AFI				S	S	08 36 39.1		-9.3
	36nm,0.5s,baz=65,slow=20,SNR=9.2							
AFI	**Afiamalu**	**9.75**	**44**	P	P	08 34 52.9		-4.2
MARNC	**Mare, Loyalty**	**12.33**	**266**	P	**P**	**08 35 23.4**		**-0.1**
OUZ	**Omahuta**	**15.61**	**204**	P	**P**	**08 35 57.6**		**+0.6**
KUZ	**Kuaotunu**	**16.34**	**196**	P	**P**	**08 36 03.3**		**-0.7**
KUZ	**Kuaotunu**	**16.34**	**196**	P	**P**	**08 36 02.1**		**-2.0**
MKAZ	**Moumakai**	**16.82**	**197**	P	**P**	**08 36 07.9**		**-0.6**
HAZ	**Te Kaha**	**16.89**	**190**	P	**P**	**08 36 08.9**		**-0.1**
RUGZ	**Raukumara Rang**	**17.11**	**190**	P	**P**	**08 36 09.0**		**-2.1**
PUZ	**Puketiti**	**17.13**	**188**	P	**P**	**08 36 10.7**		**-0.6**
TGRZ	**Tauranga**	**17.14**	**194**	P	**P**	**08 36 12.2**		**+0.8**
TWGZ	**Tauwhareparae**	**17.27**	**189**	P	**P**	**08 36 12.5**		**-0.1**
TOZ	**Tahuroa Road**	**17.32**	**195**	P	**P**	**08 36 14.0**		**+1.0**
KMRZ	**Kaimai**	**17.33**	**194**	P	**P**	**08 36 14.5**		**+1.4**
KARZ	**Kaharoa**	**17.43**	**193**	P	**P**	**08 36 09.0**		**-5.0**
URZ	**Urewera**	**17.49**	**191**	P	**P**	**08 36 12.5**		**-2.0**
	8.3nm,0.3s,baz=68,slow=5.7,SNR=6.7							
MWZ	**Matawai**	**17.49**	**190**	P	**P**	**08 36 12.4**		**-2.2**
RAGZ	**Rawiri**	**17.67**	**190**	P	**P**	**08 36 17.1**		**+0.9**
RIGZ	**Rimuhau**	**17.82**	**189**	P	P	08 36 12.4		-5.2
TLZ	**Tolley Road**	**17.88**	**195**	P	**P**	**08 36 19.0**		**+0.8**
MTHZ	**Maungataniwha**	**18.11**	**191**	P	**P**	**08 36 19.1**		**-1.2**
MRHZ	**Matea Rd**	**18.18**	**192**	P	**P**	**08 36 19.2**		**-1.7**
HIZ	**Hauiti**	**18.23**	**196**	P	**P**	**08 36 22.1**		**+0.8**
HIZ	**Hauiti**	**18.23**	**196**	P	**P**	**08 36 23.3**		**+2.0**
RATZ	**Rangitukua**	**18.34**	**194**	P	**P**	**08 36 21.3**		**-1.1**
ETVZ	**East Tongariro**	**18.61**	**194**	P	**P**	**08 36 23.4**		**-1.5**
SNVZ	**South Ngauruho**	**18.68**	**194**	P	**P**	**08 36 23.6**		**-2.0**
MCHZ	**McNeill Hill**	**18.71**	**191**	P	**P**	**08 36 24.2**		**-1.5**
KWHZ	**Kaweka Forest**	**18.75**	**192**	P	**P**	**08 36 23.2**		**-2.8**
WWVZ	**Wahianoa**	**18.82**	**194**	P	**P**	**08 36 24.7**		**-2.2**
VRZ	**Vera Road**	**18.83**	**196**	P	**P**	**08 36 28.7**		**+2.0**
BHHZ	**Black Hill Sta**	**18.88**	**192**	P	**P**	**08 36 24.5**		**-2.8**
KAHZ	**Kahuranaki**	**19

AKASG **Malin Array Be 143.18 330** PKP PKPab 08 51 09.9 -1.0
comp=Z,2.7nm,0.5s,baz=42,slow=4.7,SNR=20
BRTR **Keskin Array B 146.70 311** PKPbc **PKPdf 08 51 19.5 -0.1**
comp=Z,1.7nm,0.7s,baz=137,slow=4.9,SNR=9.0
OSTC **Ostas 148.31 342** *e*PKP **PKPbc 08 51 26.6 +0.7**
CLL **Collm 148.46 346** *i* PKPbc **PKPbc 08 51 26.4 +0.2**
comp=Z,10.0nm,1.2s
DPC **Dobruska-Polom 148.46 341** *e*PKP **PKPbc 08 51 26.9 +0.5**
KHC **Kasperske Hory 150.33 344** *e*PKP **PKPbc 08 51 31.0 +0.1**
CKRC **Cesky Krumlov 150.42 342** *e*PKP **PKPbc 08 51 31.3 +0.3**
GERES **GERESS Array B 150.56 343** PKPbc **PKPbc 08 51 30.9 -0.6**
comp=Z,1.8nm,0.7s,baz=47,slow=2.4,SNR=13
CONA **Conrad Observa 150.74 340** *i* PKP **PKPbc 08 51 31.8 -0.1**
comp=Z,3.4nm,0.6s
RONA **Rosalia, Austr 150.80 339** *i* PKP **PKPbc 08 51 31.9 0.0**
comp=Z,5.1nm,0.5s
TORD **Torodi Ar. Bea 172.10 183** PKPab **PKPab 08 53 14.7 -0.6**
comp=Z,2.0nm,0.3s,baz=167,slow=7.1,SNR=1.8

*KOLA **23** 08:37:34.6, 77.51N×7.63E, h0km, ML1.7, Error ellipse: s-maj=12.1km s-min=7.1km az=150.0, Greenland sea, Knipovich ridge, middle*
*DNK **23** 08:37:45.6±2.3, 77.59N×4.88E, h0km±63km, ML1.2*
BER 23 08:37:37.9±1.8, 77.48N×6.83E, h21km±15km, ML1.6, 1C, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**1.68**	**66**	*e*	Pn	08 38 04.3	-1.7
BRBB	**Barentsburg B**	**1.69**	**65**	*e*P	Pn	08 38 04.3	-1.7
BRBB				*e*Pg	Pb	08 38 06.8	-1.4
BRBB				*e*S	Sn	08 38 25.2	-1.8
BRBB	**Barentsburg B**	**1.69**	**65**	P	Pn	08 38 04.0	-2.1
BRBB				S	Sn	08 38 23.2	-3.8
KBS	**Kingsbay**	**1.80**	**33**	*e*P	Pn	08 38 06.6	-1.0
KBS				*e*S	Sn	08 38 25.9	-3.8
KBS				IAML		08 38 29.2	
	comp=Z,16nm,0.2s						
KBS	**Kingsbay**	**1.80**	**33**	P	Pn	08 38 06.5	-1.0
KBS				S	Sn	08 38 25.9	-3.8
HSPB	**Hornsund (broa**	**1.99**	**100**	*e*P	Pn	08 38 07.9	-2.3
HSPB				IAML		08 38 30.0	
	comp=Z,5.1nm,0.1s						
HSPB	**Hornsund (broa**	**1.99**	**100**	P	Pn	08 38 07.8	-2.4
HSPB				S	Sn	08 38 28.2	-6.3
SPA0	**Spitsbergen Ar**	**2.14**	**66**	⇑*i*P	Pn	08 38 11.9	-0.5
SPA0				*e*S	Sn	08 38 35.0	-3.2
SPA0				IAML		08 38 40.0	
	comp=Z,7.3nm,0.3s						
SPITS	**Spitsbergen Ar**	**2.14**	**66**	P	Pn	08 38 11.5	-0.9
SPITS				S	Sn	08 38 34.8	-3.4
DAG	**Danmarks Havn**	**5.71**	**275**	*i* P	Pn	08 39 05.2	+3.9
DAG				*e*S	Sn	08 40 02.8	-3.3
DAG				IAML		08 40 07.3	
	comp=Z,1.1nm,0.3s						
NOR	**Nord**	**5.89**	**325**	*i* P	Pn	08 39 06.9	+3.1
NOR				*e*S	Sn	08 40 10.8	+0.2
NOR				IAML		08 40 11.8	
	comp=Z,0.7nm,0.6s						
DBG	**Daneborg**	**7.27**	**258**	*i* P	Pn	08 39 27.4	+4.7
DBG				*e*S	Sn	08 40 40.4	-4.0

IDC 23 08:41:18.4±2.0, 3.08N×125.23E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=208.4km s-min=25.4km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.57**	**159**	P	P	08 46 40.8	+0.6
	0.3nm,0.4s,baz=338,slow=9.7,SNR=5.7 0.3nm,0.4s						
ASAR	**Alice Springs**	**27.90**	**163**	P	P	08 47 09.6	-0.7
	0.3nm,0.8s,baz=347,slow=7.5,SNR=1.6 0.3nm,0.8s						
MKAR	**Makanchi Array**	**57.24**	**326**	P	P	08 51 07.6	-0.1
	0.3nm,0.3s,baz=124,slow=7.9,SNR=13 0.3nm,0.3s						

*NEIC **23** 08:48:53.2±0.4, 17.86N±0.03×65.882W±0.007, h17km±4km, ML2.0/26, Md2.5/20(RSPR), Error ellipse: s-maj=4.2km s-min=0.4km az=169.0*
*RSPR **23** 08:48:54.4, 17.90N×65.88W, h8km, MD2.5/9*
ISC 23 08:48:53.5±0.9, 17.88N±0.04×65.89W±0.02, h19km, n39, σ0s27/47, 10C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGPR	**InterUniversit**	**0.23**	**292**	⇑*e*P	**Pg**	**08 48 59.1**	**+0.2**
IGPR	**InterUniversit**	**0.23**	**292**	*e*S	**Sg**	**08 49 02.8**	**+0.1**
HUMP	**Col San Antoni**	**0.26**	**8**	⇓*e*P	**Pb**	**08 48 59.5**	**0.0**
HUMP	**Col San Antoni**	**0.26**	**8**	*e*S	**Sb**	**08 49 03.4**	**-0.1**
HUMP	**Col San Antoni**	**0.26**	**8**		**Pb**	**08 48 59.6**	**0.0**
HUMP					**Sb**	**08 49 03.4**	**-0.1**
SJG	**San Juan**	**0.34**	**312**		**Pg**	**08 49 00.8**	**-0.1**
MTP	**Monte Pirata**	**0.38**	**56**	⇑*e*P	**Pg**	**08 49 01.6**	**0.0**
MTP	**Monte Pirata**	**0.38**	**56**	*e*S	**Sg**	**08 49 07.2**	**+0.1**
MTP	**Monte Pirata**	**0.38**	**56**		**Pg**	**08 49 01.2**	**-0.4**
MTP					**Sg**	**08 49 07.1**	**+0.1**
MTP				IAML		08 49 07.6	
	comp=N,76nm,0.4s						
MTP				IAML		08 49 08.3	
	comp=E,98nm,0.1s						
CBYP	**Canovanas**	**0.39**	**4**	⇑*e*P	**Pg**	**08 49 01.7**	**0.0**
CBYP	**Canovanas**	**0.39**	**4**	*e*S	**Sg**	**08 49 07.3**	**0.0**
CBYP	**Canovanas**	**0.39**	**4**		**Pg**	**08 49 01.7**	**0.0**
CBYP					**Sg**	**08 49 07.3**	**0.0**
CBYP				IAML		08 49 08.1	
	comp=E,230nm,0.2s						
CBYP				IAML		08 49 10.2	
	comp=N,193nm,0.2s						
GCPR	**Guaynabo City**	**0.46**	**336**	⇑*e*P	**Pg**	**08 49 03.0**	**-0.1**
GCPR	**Guaynabo City**	**0.46**	**336**	*e*S	**Sg**	**08 49 09.5**	**+0.1**
GCPR	**Guaynabo City**	**0.46**	**336**		**Pg**	**08 49 03.0**	**-0.1**
GCPR					**Sg**	**08 49 09.4**	**+0.1**
GCPR				IAML		08 49 09.8	
	comp=N,85nm,0.1s						
GCPR				IAML		08 49 09.8	
	comp=E,142nm,0.1s						
CELP	**Cerrillos**	**0.69**	**286**	⇑*e*P	**Pb**	**08 49 06.9**	**+0.1**
CELP	**Cerrillos**	**0.69**	**286**	*e*S	**Sg**	**08 49 16.6**	**+0.3**
CELP	**Cerrillos**	**0.69**	**286**		**Pb**	**08 49 07.0**	**+0.1**
CELP					**Sg**	**08 49 16.6**	**+0.3**
CELP				IAML		08 49 22.3	
	comp=N,24nm,0.4s						
OBIP	**Obispado Ponce**	**0.70**	**283**	⇑*e*P	**Pb**	**08 49 07.1**	**0.0**
OBIP	**Obispado Ponce**	**0.70**	**283**	*e*S	**Sg**	**08 49 17.1**	**+0.3**
OBIP	**Obispado Ponce**	**0.70**	**283**		**Pb**	**08 49 07.0**	**-0.2**
OBIP					**Sb**	**08 49 16.3**	**-0.1**
CUPR	**Culebra, Puert**	**0.71**	**54**	⇑*e*P	**Pb**	**08 49 07.2**	**-0.2**
CUPR	**Culebra, Puert**	**0.71**	**54**	*e*S	**Sb**	**08 49 16.9**	**+0.1**
CUPR	**Culebra, Puert**	**0.71**	**54**	Sg	**Sb**	**08 49 16.8**	**+0.1**
CUPR	**Culebra, Puert**	**0.71**	**54**		**Pb**	**08 49 07.2**	**-0.2**
EMPR	**Esperanza - Ma**	**0.85**	**314**	Pg	**Pg**	**08 49 10.2**	**0.0**
EMPR				IAML		08 49 37.7	
	comp=N,94nm,0.4s						
UUPR	**Utuado, UPR, P**	**0.87**	**295**	⇑*e*P	**Pb**	**08 49 10.1**	**0.0**
UUPR	**Utuado, UPR, P**	**0.87**	**295**		**Pb**	**08 49 10.1**	**0.0**
AOPR	**Arecibo Observ**	**0.94**	**299**	⇑*e*P	**Pb**	**08 49 11.1**	**-0.3**
AOPR	**Arecibo Observ**	**0.94**	**299**	*e*S	**Sb**	**08 49 23.5**	**0.0**
AOPR	**Arecibo Observ**	**0.94**	**299**		**Pb**	**08 49 10.9**	**-0.5**
AOPR				IAML		08 49 25.1	
	comp=N,70nm,0.2s						
AOPR	**Arecibo Observ**	**0.94**	**299**	*e*P	**Pb**	**08 49 11.1**	**-0.3**
AOPR				*e*S	**Sb**	**08 49 22.5**	**-1.0**
CDVI	**St. Croix**	**1.08**	**97**		**Pn**	**08 49 13.8**	**+0.3**
CDVI				IAML		08 49 31.5	
	comp=E,47nm,0.6s						
CDVI				IAML		08 49 32.0	
	comp=N,42nm,0.5s						
CDVI	**St. Croix**	**1.08**	**97**	*e*P	**Pb**	**08 49 13.2**	**-0.3**
CDVI				*e*S	**Sg**	**08 49 28.4**	**-0.2**
MLPR	**Magueyes Islan**	**1.10**	**275**		**Pn**	**08 49 14.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.17**	**276**	⇑*e*P	**Pn**	**08 49 14.2**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.17**	**276**		**Pn**	**08 49 15.0**	**+0.1**
CRPR				IAML		08 49 23.5	
	comp=N,18nm,3.2s						
CRPR				IAML		08 49 27.3	
	comp=E,14nm,3.2s						
AGPR	**Aguadilla, PR**	**1.30**	**297**	Pn	**Pb**	**08 49 17.6**	**+0.2**
AGPR				IAML		08 49 36.1	
	comp=E,54nm,1.5s						
ANBD	**Bethesda, Anti**	**4.02**	**101**	*e*P	**Pn**	**08 49 54.9**	**+0.7**

*NOU **23** 09:06:05.8, 36.52S×178.85W, h0km, MLv4.3/6, East of North Island, N.Z.*
*WEL **23** 09:06:29.8±0.9, 37.3S±5.1×179.9E±1.1, h12km, M3.1/13, ML3.2/18, MLv3.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2, confirmed*
ISC 23 09:06:29.2±3.0, 37.06S±0.08×179.3E±0.1, h29km±14km, n52, σ1s04/65, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.93**	**237**	P	**Pn**	**09 06 45.9**	**-0.4**
MXZ	**Matakaoa Point**	**0.93**	**237**	P	**Pn**	**09 06 44.5**	**-1.8**
MXZ				S	**Sn**	**09 06 54.8**	**-3.8**
WMGZ	**Waiomatatini S**	**1.03**	**222**	P	**Pb**	**09 06 49.1**	**+0.7**
WMGZ				S	**Sb**	**09 07 03.4**	**+1.8**
PKGZ	**Pakihiroa**	**1.27**	**229**	P	**Pb**	**09 06 52.1**	**-0.5**
PKGZ				S	**Sn**	**09 07 07.6**	**+0.4**
PUZ	**Puketiti**	**1.30**	**219**	P	**Pb**	**09 06 52.6**	**-0.5**
PUZ				S	**Sb**	**09 07 08.9**	**-0.4**
HAZ	**Te Kaha**	**1.39**	**239**	P	**Pn**	**09 06 51.2**	**-1.3**
HAZ				S	**Sb**	**09 07 11.2**	**-0.5**
TWGZ	**Tauwhareparae**	**1.52**	**223**	P	**Pb**	**09 06 55.8**	**-1.0**
TWGZ				S	**Sb**	**09 07 15.8**	**0.0**
RUGZ	**Raukumara Rang**	**1.57**	**234**	P	**Pn**	**09 06 55.5**	**+0.3**
RUGZ				S	**Sn**	**09 07 15.8**	**+1.2**
CNGZ	**Carnagh Statio**	**1.66**	**211**	P	**Pn**	**09 06 58.4**	**-0.7**
TKGZ	**Te Karaka**	**1.79**	**219**	P	**Pn**	**09 06 59.0**	**+0.9**
TKGZ				S	**Sn**	**09 07 20.9**	**+1.0**
MWZ	**Matawai**	**1.89**	**227**	P	**Pn**	**09 07 00.6**	**+1.0**
MWZ				S	**Sn**	**09 07 22.4**	**-0.1**
RIGZ	**Rimuhau**	**2.04**	**216**	P	**Pn**	**09 07 02.4**	**+0.8**
RIGZ				S	**Sn**	**09 07 27.3**	**+1.2**
RAGZ	**Rawiri**	**2.06**	**225**	P	**Pn**	**09 07 03.1**	**+1.1**
URZ	**Urewera**	**2.10**	**235**	P	**Pn**	**09 07 03.6**	**+1.2**
URZ	**Urewera**	**2.10**	**235**	P	**Pn**	**09 07 03.3**	**+0.9**
URZ				S	**Sn**	**09 07 27.8**	**+0.2**
SNGZ	**Shannon Statio**	**2.31**	**221**	P	**Pn**	**09 07 06.1**	**+0.8**
SNGZ				S	**Sn**	**09 07 34.1**	**+1.4**
OPRZ	**Ohinepanea**	**2.31**	**249**	P	**Pn**	**09 07 05.5**	**+0.2**
KNZ	**Kokohu**	**2.34**	**213**	P	**Pn**	**09 07 06.1**	**+0.4**
KNZ				S	**Sn**	**09 07 32.9**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.35**	**207**	P	**Pn**	**09 07 06.9**	**+0.9**
RTZ	**Ruatahuna**	**2.40**	**229**	P	**Pn**	**09 07 07.4**	**+0.9**
MUGZ	**Murupara**	**2.44**	**234**	P	**Pn**	**09 07 07.9**	**+0.7**
TGRZ	**Tauranga**	**2.50**	**254**	P	**Pn**	**09 07 07.9**	**0.0**
RRRZ	**Republican Roa**	**2.54**	**239**	P	**Pn**	**09 07 09.5**	**+0.9**
WHHZ	**Waihua**	**2.58**	**218**	P	**Pn**	**09 07 10.5**	**+1.5**
MTHZ	**Maungataniwha**	**2.63**	**226**	P	**Pn**	**09 07 10.8**	**+1.0**
PRRZ	**Plateau Road**	**2.71**	**237**	P	**Pn**	**09 07 11.5**	**+0.8**
NMHZ	**Naumai**	**2.82**	**223**	P	**Pn**	**09 07 13.6**	**+1.2**
KUZ	**Kuaotunu**	**2.88**	**275**	P	**Pn**	**09 07 13.3**	**+0.2**
KUZ	**Kuaotunu**	**2.88**	**275**	P	**Pn**	**09 07 12.2**	**-0.9**
MRHZ	**Matea Rd**	**2.88**	**231**	P	**Pn**	**09 07 13.6**	**+0.4**
BKZ	**Black Stump Fm**	**3.05**	**226**	P	**Pn**	**09 07 16.3**	**+0.8**
BKZ	**Black Stump Fm**	**3.05**	**226**	P	**Pn**	**09 07 15.9**	**+0.4**
TOZ	**Tahuroa Road**	**3.09**	**256**	P	**Pn**	**09 07 16.2**	**+0.2**
MCHZ	**McNeill Hill**	**3.13**	**220**	P	**Pn**	**09 07 16.9**	**+0.2**
KWHZ	**Kaweka Forest**	**3.26**	**223**	P	**Pn**	**09 07 18.8**	**+0.3**
MKAZ	**Moumakai**	**3.30**	**268**	P	**Pn**	**09 07 18.7**	**-0.3**
KAHZ	**Kahuranaki**	**3.32**	**214**	P	**Pn**	**09 07 18.8**	**-0.4**
TMVZ	**Te Maari**	**3.49**	**235**	P	**Pn**	**09 07 21.9**	**+0.2**
ETVZ	**Easterngariro**	**3.50**	**233**	P	**Pn**	**09 07 22.0**	**+0.2**
NTVZ	**North Tongariro**	**3.50**	**233**	P	**Pn**	**09 07 22.0**	**+0.2**
BHHZ	**Black Hill Sta**	**3.51**	**225**	P	**Pn**	**09 07 22.5**	**+0.6**
NNVZ	**North Ngauruho**	**3.56**	**233**	P	**Pn**	**09 07 23.3**	**+0.7**
SNVZ	**South Ngauruho**	**3.57**	**232**	P	**Pn**	**09 07 23.0**	**+0.2**
NGZ	**Ngauruhoe**	**3.59**	**233**	P	**Pn**	**09 07 23.4**	**+0.3**
MOVZ	**Moawhango**	**3.64**	**229**	P	**Pn**	**09 07 23.4**	**-0.2**
WNVZ	**Wahianoa**	**3.68**	**231**	P	**Pn**	**09 07 24.3**	**-0.1**
RVAZ	**Riverhead Bore**	**3.79**	**273**	P	**Pn**	**09 07 27.0**	**+1.4**
HIZ	**Hauiti**	**3.80**	**246**	P	**Pn**	**09 07 28.1**	**+2.3**
WCZ	**Waipu Caves**	**4.14**	**284**	P	**Pn**	**09 07 31.5**	**+1.1**
BFZ	**Birch Farm**	**4.33**	**212**	P	**Pn**	**09 07 30.7**	**-2.3**
CPWZ	**Castlepoint**	**4.53**	**211**	P	**Pn**	**09 07 35.4**	**-0.4**
MRZ	**Mangatainoka R**	**4.62**	**218**	P	**Pn**	**09 07 35.8**	**-1.2**

WEL 23 09:12:35.8±0.5, 42.3S±3.1×174.4E±1.1, h10km±3km, M2.8/10, ML2.9/14, MLv2.8/10, Error ellipse: s-maj=0.0km s-min=0.0km az=108.8, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.09**	**334**	P	Pg	09 12 38.3	+0.1
KHZ				S	Sg	09 12 39.9	-0.1
GVZ	**Greta Valley S**	**0.62**	**221**	P	Pn	09 12 50.0	-0.7
BSWZ	**Blackbirch Sta**	**0.81**	**15**	P	Pg	09 12 51.3	-0.1
CMWZ	**Cape Campbell**	**0.88**	**32**	P	Pn	09 12 53.8	-0.5
THZ	**Tophouse**	**0.90**	**325**	P	Pg	09 12 52.4	-0.6
AMCZ	**Amberley**	**0.97**	**225**	P	Pn	09 12 55.5	0.0
LTZ	**Lake Taylor**	**1.02**	**253**	P	Pb	09 12 55.5	0.0
LTZ				S	Sb	09 13 09.8	+0.8
MRNZ	**Matariki Terra**	**1.26**	**330**	P	Pn	09 12 59.1	-0.4
MRNZ				S	Sn	09 13 16.6	0.0
OKCZ	**Okains Bay**	**1.28**	**198**	P	Pn	09 12 59.4	-0.5
NNZ	**Nelson**	**1.29**	**353**	P	Pn	09 12 59.3	-0.6
TCW	**Tory Channel**	**1.38**	**22**	P	Pn	09 13 00.0	-1.2
MQZ	**McQueen's Vall**	**1.39**	**209**	P	Pn	09 12 59.9	-1.3
MQZ				S	Sb	09 13 18.8	-0.9
OXZ	**Oxford**	**1.41**	**234**	P	Pn	09 13 00.4	-1.2
OXZ				S	Sn	09 13 19.1	-1.1
AKCZ	**Akaroa Harbour**	**1.46**	**200**	P	Pn	09 13 01.6	-0.7
AKCZ				S	Sn	09 13 20.4	-1.1
DSZ	**Denniston Nort**	**1.53**	**299**	P	Pn	09 13 03.2	-0.1
DSZ				S	Sb	09 13 23.9	+0.2
TKNZ	**Takaka Hill**	**1.54**	**342**	P	Pn	09 13 03.4	+0.1
INZ	**Inchbonnie**	**1.60**	**261**	P	Pn	09 13 04.3	+0.1
RACZ	**Rakaia**	**1.63**	**220**	P	Pn	09 13 03.3	-1.3
DUWZ	**D'Urville Isla**	**1.71**	**8**	P	Pn	09 13 05.8	+0.1
PAWZ	**Paruwai Farm**	**1.77**	**51**	P	Pn	09 13 04.6	-1.9
CAW	**Cannon Point**	**1.77**	**39**	P	Pn	09 13 05.1	-1.4
QRZ	**Quartz Range**	**1.85**	**334**	P	Pn	09 13 08.3	+0.7
QRZ				S	Sn	09 13 31.7	+0.6
WACZ	**Wakanui South**	**1.93**	**221**	P	Pn	09 13 07.5	-1.2
WACZ				S	Sn	09 13 31.9	-1.2
RPZ	**Rata Peaks**	**2.22**	**236**	P	Pn	09 13 11.4	-1.3
RPZ				S	Sn	09 13 38.1	-2.2
ARCZ	**Arundel**	**2.28**	**230**	P	Pn	09 13 12.4	-1.2
ARCZ				S	Sn	09 13 39.9	-1.9
TMZ	**Timaru**	**2.67**	**224**	P	Pn	09 13 18.1	-0.7

*NNC **23** 09:21:27.8±6.8, 36.88N×70.55E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=76.0km s-min=45.5km az=56.0*
*IDC **23** 09:21:28.4±5.8, 36.39N×71.17E, h169km±45km, mb3.3/5, mbtmp3.7/11, Error ellipse: s-maj=52.5km s-min=25.0km az=53.0*
ISC 23 09:21:31.0±1.2, 36.7N±0.1×70.9E±0.1, h188km, n22, σ1s38/24, mb3.4/5, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.88**	**21**	P	**Pn**	**09 22 56.7**	**0.0**
	SNR=64						
UCH	**Uchtor**	**6.22**	**25**	P	**Pn**	**09 23 01.4**	**+0.1**
	SNR=8.3						
EKS2	**Erkin-Say**	**6.39**	**19**	P	**Pn**	**09 23 03.4**	**+0.1**
	SNR=14						
KK31	**Karatay Array**	**6.45**	**357**	P	**Pn**	**09 23 03.6**	**-0.2**
	2.7nm,0.3s,baz=173,slow=12,SNR=126						
KK31				S	**Sn**	**09 24 13.3**	**-4.0**
	4.5nm,0.5s,baz=182,slow=20,SNR=13						
AAK	**Ala-Archa**	**6.58**	**24**	P	**Pn**	**09 23 06.1**	**+0.4**
	SNR=5.3						
AAK	**Ala-Archa**	**6.58**	**24**	P	**Pn**	**09 23 06.0**	**+0.4**
	2.1nm,0.3s,baz=212,slow=3.2,SNR=12						
AAK				S	**Sn**	**09 24 19.8**	**-0.8**
	2.1nm,0.4s,baz=136,slow=23,SNR=7.1						
CHMS	**Chumysh**	**6.99**	**24**	⇑P	**Pn**	**09 23 10.5**	**-0.5**
	5.3nm,0.7s						
USP	**Ospenovka**	**7.15**	**22**	P	**Pn**	**09 23 12.7**	**-0.4**
	SNR=6.4						
TKM2	**Tokmak 2**	**7.22**	**28**	P	**Pn**	**09 23 14.4**	**+0.3**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.22**	**28**	⇑P	**Pn**	**09 23 13.8**	**-0.3**
	4.6nm,0.6s						
MK31	**Makanchi Array**	**13.20**	**36**	⇑P	**P**	**09 24 34.5**	**-0.1**
	1.1nm,0.8s,baz=198,slow=11,SNR=12						
MKAR	**Makanchi Array**	**13.20**	**36**	P	**Pn**	**09 24 31.8**	**+0.5**
	0.6nm,0.7s,baz=215,slow=12,SNR=7.5						
AB31	**Akbulak array**	**14.91**	**331**	⇓P	**Pn**	**09 24 51.4**	**-1.0**
	0.5nm,0.3s,baz=146,slow=12,SNR=27						
KURBB	**Kurchatov Arra**	**15.00**	**19**	P	**P**	**09 24 55.5**	**+1.1**
	0.4nm,0.2s,baz=208,slow=11,SNR=4.5						
BVAR	**Borovoye Array**	**16.37**	**359**	P	**Pn**	**09 25 12.3**	**+2.1**
	0.4nm,0.4s,baz=182,slow=6.6,SNR=2.4						
AKTO	**Aktyubinsk**	**16.61**	**330**	P	**Pn**	**09 25 13.9**	**+0.9**
	1.9nm,0.5s,baz=138,slow=8.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**19.80**	**25**	P	**P**	**09 25 47.2**	**+0.4**
	1.1nm,0.3s,baz=211,slow=10.0,SNR=8.2						
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**09 28 56.4**	**+1.5**
	4.1nm,1.0s,baz=82,slow=2.6,SNR=3.9 4.1nm,1.0s						
INK	**Inuvik**	**73.76**	**9**	P	**P**	**09 32 45.3**	**+1.3**
	0.5nm,0.5s,baz=343,slow=5.4,SNR=4.0 0.5nm,0.5s						
YKA	**Yellowknife Ar**	**81.09**	**3**	P	**P**	**09 33 25.7**	**+1.0**
	0.2nm,0.3s,baz=349,slow=5.3,SNR=7.5 0.2nm,0.3s						
WRA	**Warramunga Arr**	**82.13**	**122**	P	**P**	**09 33 28.4**	**-2.4**
	0.5nm,0.7s,baz=326,slow=4.3,SNR=2.2 0.5nm,0.7s						
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**09 33 40.3**	**-2.1**
	0.3nm,0.6s,baz=303,slow=4.7,SNR=6.4 0.3nm,0.6s						

*REY **23** 09:37:32.7, 64.62N×17.41W, h5km*
*IDC **23** 09:37:34.1±0.8, 64.44N×17.84W, h0km, mb3.6/8, mbtmp3.6/9, ML4.0/1, MS3.1/6, Error ellipse: s-maj=28.9km s-min=13.8km az=26.0*
ISC 23 09:37:34.6±0.6, 64.61N±0.02×17.39W±0.03, h10km, n33, σ2s23/42, mb3.7/10, MS3.0/4, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.13**	**149**	P	**Pg**	**09 37 35.7**	**-2.0**
	baz=146						
IDJK				S	**Sg**	**09 37 38.6**	**-1.3**
	baz=146						
IDYN	**Dyngjuhals**	**0.18**	**3**	P	**Pg**	**09 37 36.2**	**-2.4**
	baz=6.4						
IDYN				S	**Sg**	**09 37 38.8**	**-2.5**
	baz=6.4						
IHUS	**Husbondi**	**0.34**	**200**	P	**Pg**	**09 37 39.1**	**-2.2**
	baz=198						
IHUS				S	**Sg**	**09 37 44.7**	**-1.1**
	baz=198						
ISKR	**Skrokkalda**	**0.43**	**264**	P	**Pg**	**09 37 40.7**	**-2.4**
	baz=263						
ISKR				S	**Sg**	**09 37 46.6**	**-2.2**
	baz=263						
THOR	**Thorvaldshraun**	**0.45**	**43**	P	**Pg**	**09 37 40.9**	**-2.4**
	baz=44						
THOR				S	**Sg**	**09 37 47.6**	**-1.6**
	baz=44						
IKRE	**Kreppuhraun**	**0.47**	**68**	P	**Pg**	**09 37 41.2**	**-2.5**
	baz=69						
IKRE				S	**Sg**	**09 37 47.4**	**-2.4**
	baz=69						
IJOK	**Jokulheimar**	**0.47**	**231**	P	**Pg**	**09 37 41.1**	**-2.6**
	baz=230						
IJOK				S	**Sg**	**09 37 48.5**	**-1.5**
	baz=230						
IMKO	**Mokollar**	**0.58**	**50**	P	**Pg**	**09 37 43.3**	**-2.6**
	baz=51						
IMKO				S	**Sg**	**09 37 52.0**	**-1.5**
	baz=51						
IKSK	**Karasker**	**0.60**	**138**	P	**Pg**	**09 37 43.1**	**-3.1**
	baz=138						
IKSK				S	**Sg**	**09 37 52.4**	**-1.8**
	baz=138						
IIEY	**Innrieyrar**	**0.61**	**212**	P	**Pg**	**09 37 43.3**	**-3.1**
	baz=211						
IIEY				S	**Sg**	**09 37 52.3**	**-2.1**
	baz=211						
IKAL	**Kalfafell**	**0.68**	**191**	P	**Pg**	**09 37 44.8**	**-2.9**
	baz=190						
IKAL				S	**Sg**	**09 37 54.9**	**-1.7**
	baz=190						
ISVA	**Svartarkot**	**0.73**	**4**	P	**Pg**	**09 37 45.6**	**-3.1**
	baz=5.2						
IVSH	**V-Sauoahnukur**	**0.74**	**74**	P	**Pg**	**09 37 46.2**	**-2.7**
	baz=74						
IVSH				S	**Sg**	**09 37 56.5**	**-2.1**
	baz=74						
IFAG	**Fagurholsmyri**	**0.81**	**156**	P	**Pg**	**09 37 47.0**	**-3.1**
	baz=156						
IFAG				S	**Sg**	**09 37 58.6**	**-2.0**
	baz=156						
IADA	**Aoalbol**	**0.88**	**61**	P	**Pg**	**09 37 48.1**	**-3.4**
	baz=62						
IADA				S	**Sg**	**09 38 00.1**	**-2.7**
	baz=62						
BORG	**Borgarnes**	**1.70**	**276**	Pn	**Pn**	**09 38 01.3**	**-2.9**
	26nm

mb3.1/3,mbtmp4.3/3,Error ellipse: s-maj=343.7km s-min=133.3km az=116.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.52**	**269**	P	P	10 07 07.4	+0.1
	3.9nm,0.5s,baz=94,slow=12,SNR=13						
	3.9nm,0.5s						
ASAR	**Alice Springs**	**41.23**	**260**	P	P	10 08 34.1	-0.3
	1.1nm,0.4s,baz=93,slow=7.4,SNR=34						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**41.51**	**266**	P	P	10 08 36.4	-0.1
	1.7nm,0.4s,baz=102,slow=8.2,SNR=60						
	1.7nm,0.4s						
AKASG	**Malin Array Be**	**143.72**	**327**	PKP	PKPbc	10 20 02.8	-0.1
	0.3nm,0.4s,baz=46,slow=3.8,SNR=4.4						

*IDC **23** 10:15:28.6±2.1,33˚.82N×71˚.18E,h0km,mb4.1/4, mbtmp4.1/6,ML3.5/3,Error ellipse: s-maj=46.2km s-min=28.7km az=76.0*

*NNC **23** 10:15:37.5±4.9,33˚.79N×70˚.99E,h66km±37km,mb3.6, Error ellipse: s-maj=47.0km s-min=33.9km az=54.0*

ISC 23 10:15:33.7±1.4,33˚.6N±0˚.1×71˚.2E±0˚.2,h35km,n16, σ1ᵖ68/17,mb4.1/4,3C-4D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.36**	**15**	Pn	**Pn**	**10 17 46.7**	**+0.5**
AAK	0.8nm,0.3s,baz=189,slow=7.5,SNR=11			Sn	**Sn**	**10 19 30.5**	**+0.3**
	baz=197,slow=18						
	2.0nm,0.4s						
KK31	**Karatay Array**	**9.46**	**357**	⇓P	**Pn**	**10 17 48.4**	**+0.9**
KK31	1.7nm,0.4s,baz=180,slow=13			⇑S	**Sn**	**10 19 32.8**	**+0.2**
	1.8nm,0.5s						
TKM2	**Tokmak 2**	**9.90**	**19**	⇑P	**Pn**	**10 17 56.4**	**+2.7**
	1.3nm,0.6s						
MAKZ	**Makanchi**	**15.51**	**29**	⇓P	**Pn**	**10 19 11.4**	**+1.7**
	4.0nm,1.1s						
MKAR	**Makanchi Array**	**15.62**	**29**	Pn	Pn	10 19 06.6	-4.6
	baz=222,slow=15,SNR=2.9						
AB31	**Akbulak array**	**17.70**	**335**	⇓P	**Pn**	**10 19 37.2**	**0.0**
	0.9nm,0.5s,baz=154,slow=8.8,SNR=14						
KURBB	**Kurchatov Arra**	**17.81**	**15**	P	**Pn**	**10 19 35.7**	**-2.9**
	0.3nm,0.3s,baz=206,slow=10,SNR=32						
	2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**17.81**	**15**	⇑P	**Pn**	**10 19 37.7**	**-0.9**
	4.7nm,0.5s						
AKTO	**Aktyubinsk**	**19.37**	**334**	P	**P**	**10 19 58.3**	**+2.1**
	2.5nm,0.5s,baz=151,slow=8.9,SNR=9.9						
BVA0	**Borovoye Array**	**19.39**	**359**	P	**P**	**10 19 57.1**	**+0.7**
	3.3nm,0.6s,baz=170,slow=11,SNR=10.0						
BVAR	**Borovoye Array**	**19.39**	**359**	P	**P**	**10 19 56.9**	**+0.4**
	2.2nm,0.7s,baz=168,slow=11,SNR=9.3						
BRVK	**Borovoye**	**19.42**	**358**	⇓P	**P**	**10 19 56.1**	**-0.7**
	4.3nm,1.3s						
ZALV	**Zalesovo Beam**	**22.49**	**21**	P	**P**	**10 20 26.7**	**-3.2**
	2.7nm,0.5s,baz=214,slow=12,SNR=14						
	2.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.05**	**114**	P	**P**	**10 21 31.9**	**+1.1**
	2.1nm,0.3s,baz=301,slow=10,SNR=1.4						
	2.1nm,0.3s						
ARCES	**ARCESS Array B**	**43.85**	**339**	P	**P**	**10 23 35.2**	**-0.9**
	5.3nm,1.2s,baz=108,slow=8.6,SNR=5.2						
	5.3nm,1.2s						
YKA	**Yellowknife Ar**	**84.09**	**3**	P	**P**	**10 27 59.6**	**-0.9**
	0.4nm,0.6s,baz=351,slow=5.1,SNR=5.6						
	0.4nm,0.6s						

*IDC **23** 10:17:12.6±0.5,33˚.70N×37˚.90W,h0km,mb4.5/35, mbtmp4.5/35,MS4.1/67,Error ellipse: s-maj=13.4km s-min=10.8km az=168.0*

*MOS **23** 10:17:12.3±1.0,33˚.69N×37˚.88W,h10km,mb5.1/41,Error ellipse: s-maj=10.4km s-min=4.8km az=50.8*

*NEIC **23** 10:17:14.4±1.9,33˚.69N±0˚.08×37˚.84W±0˚.1,h10km±1km, mb5.1/260,Error ellipse: s-maj=16.0km s-min=11.4km az=44.0*

*GCMT **23** 10:17:15.4±0.3,33˚.90N±0˚.03×37˚.77W±0˚.03,h13km±1km, MW5.0/82,Moment Tensor Solution. s11,c12; s82,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.24±.34; $M_{\theta\theta}$1.74±.21; $M_{\phi\phi}$1.49±.19; $M_{r\theta}$-1.16±.50; $M_{r\phi}$2.16±.12; $M_{\theta\phi}$-1.73±.53; Best double couple: M_o4.08600×10^{16} NP1:ϕs39.00000°,δ60.00000°,λ-98.00000°. NP2: ϕs235.00000°,δ31.00000°,λ-76.00000°. Principal axes: T 4.3270, Plg15.0000°, Azm135.0000°; N -0.4910, Plg7.0000°, Azm43.0000°; P -3.8460, Plg73.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 10:17:14.2±0.3,33˚.67N±0˚.06×37˚.87W±0˚.05,h10km,n737, σ1ᵖ04/595,mb5.0/218,MS4.1/71,35C-27D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRLN	**Deer Lake**	**21.33**	**323**	P	**P**	**10 22 01.7**	**+0.6**
BBTS	**Babate**	**27.05**	**129**	LR	LR	10 31 14.4	
	comp=Z,1μm,19.0s,baz=2.5,slow=31						
ESDC	**Sonseca Array**	**27.73**	**68**	P	**P**	**10 23 03.2**	**+0.3**
	4.5nm,1.2s,baz=278,slow=8.0,SNR=8.2						
ESDC				LR	LR	10 31 33.5	
	comp=Z,154nm,18.6s,baz=263,slow=31						
	4.5nm,1.2s						
ESDC	**Sonseca Array**	**27.73**	**68**	P	**P**	**10 23 03.4**	**+0.5**
MDT	**Midelt**	**27.77**	**82**	P	**P**	**10 23 03.1**	**-0.1**
	5.2nm,0.8s,baz=253,slow=11,SNR=4.1						
MDT				LR	LR	10 31 48.4	
	comp=Z,509nm,19.8s,baz=333,slow=32						
	5.2nm,0.8s						
SCHQ	**Schefferville**	**29.28**	**325**	P	**P**	**10 23 16.2**	**-0.2**
	6.2nm,1.0s,baz=127,slow=6.2,SNR=5.1						
SCHQ				LR	LR	10 34 10.2	
	comp=Z,766nm,19.1s,baz=126,slow=35						
	6.2nm,1.0s						
SJG	**San Juan**	**29.66**	**246**	P	**P**	**10 23 20.8**	**+0.7**
	3.8nm,0.3s,baz=61,slow=5.1,SNR=4.5						
SJG				LR	LR	10 32 56.4	
	comp=Z,62nm,21.5s,baz=60,slow=32						
	3.8nm,0.3s						
MDP	**Montagnes des**	**31.58**	**209**	LR	LR	10 32 24.1	
	comp=Z,86nm,19.9s,baz=46,slow=29						
ESK	**Eskdalemuir**	**32.34**	**37**	P	**P**	**10 23 43.2**	**-0.1**
ESK				IAmb	IAmb	10 23 44.2	
	comp=Z,27nm,1.1s						
ESK	**Eskdalemuir**	**32.34**	**37**	P	**P**	**10 23 43.2**	**-0.1**
ESK				pmax	pmax		
	comp=Z,27nm,1.1s						
EKA	**Eskdalemuir Ar**	**32.37**	**37**	LR	LR	10 33 37.7	
	comp=Z,125nm,21.0s,baz=251,slow=30						
BORG	**Borgarnes**	**32.71**	**13**	LR	LR	10 33 38.9	
	comp=Z,425nm,18.9s,baz=200,slow=30						
CLF	**Chambon-Foret**	**33.16**	**52**	P	**P**	**10 23 50.6**	**-0.1**
SDDR	**Presa de Saban**	**33.17**	**252**	P	**P**	**10 23 51.6**	**+0.5**
SDDR				IAmb	IAmb	10 23 53.5	
	comp=Z,24nm,1.1s						
S57A	**Dark Hollow, R**	**33.42**	**289**	P	**P**	**10 23 51.3**	**-1.7**
SADO	**Sadowa**	**33.51**	**302**	LR	LR	10 35 16.0	
	comp=Z,424nm,21.3s,baz=124,slow=32						
SFJD	**Kangerlussuaq**	**34.19**	**351**	LR	LR	10 35 05.5	
	comp=Z,458nm,19.7s,baz=166,slow=31						
SNF	**Seneffe**	**34.96**	**48**	*d*P	**P**	**10 24 06.3**	**+0.1**
O53A	**New Philadelph**	**34.98**	**294**	P	**P**	**10 24 07.0**	**+0.4**
	baz=87						
DOU	**Dourbes**	**35.07**	**49**	*d*P	**P**	**10 24 07.0**	**-0.2**
NHSC	**New Hope**	**35.15**	**281**	P	**P**	**10 24 09.2**	**+1.1**
	baz=77						
BMRD	**Maredsous**	**35.22**	**49**	*d*P	**P**	**10 24 09.1**	**+0.6**
BGES	**Gesves**	**35.44**	**49**	*d*P	**P**	**10 24 11.1**	**+0.7**
ICESG	**GERESS Array Ice**	**35.48**	**359**	*i* P	**P**	**10 24 09.5**	**-1.4**
ICESG				IAmb	IAmb	10 24 10.9	
	comp=Z,4.2nm,0.6s						
RCHB	**Rochefort**	**35.48**	**49**	*d*P	**P**	**10 24 11.3**	**+0.6**
BCLA	**Clavier**	**35.58**	**49**	*d*P	**P**	**10 24 12.5**	**+0.9**
FRB	**Frobisher Bay**	**35.58**	**337**	P	**P**	**10 24 11.8**	**+0.4**
	comp=Z,21nm,0.9s,baz=141,slow=8.0,SNR=44						
FRB				LR	LR	10 36 35.3	
	comp=Z,307nm,18.9s,baz=171,slow=33						
	comp=Z,21nm,0.9s						
KMSC	**Kings Mountain**	**35.68**	**285**	P	**P**	**10 24 13.3**	**+0.7**
	baz=80						
WLF	**Walferdange**	**35.99**	**50**	P	**P**	**10 24 13.7**	**-1.4**
WLF				IAmb	IAmb	10 24 17.1	
	comp=Z,34nm,1.2s						
WLF	**Walferdange**	**35.99**	**50**	P	**P**	**10 24 13.7**	**-1.4**
WLF				pmax	pmax		
	comp=Z,34nm,1.2s						
WLF	**Walferdange**	**35.99**	**50**	*d*P	**P**	**10 24 15.2**	**+0.1**
ACSO	**Alum Creek Sta**	**36.33**	**294**	P	**P**	**10 24 20.1**	**+1.9**
	baz=86						
ACSO	**Alum Creek Sta**	**36.33**	**294**	P	**P**	**10 24 19.6**	**+1.4**
	baz=86						
MCPB	**Macapa, AP**	**36.39**	**204**	*e*P	**P**	**10 24 19.0**	**+0.2**
ECH	**Echery**	**36.44**	**53**	P	**P**	**10 24 18.6**	**-0.4**
ECH	**Echery**	**36.44**	**53**	P	**P**	**10 24 18.6**	**-0.4**
ECH				pmax	pmax		
	comp=Z,14nm,1.3s						
P51A	**Williamsport**	**36.46**	**292**	P	**P**	**10 24 20.2**	**+1.0**
	baz=85						
P51A				P	**P**	**10 24 20.2**	**+1.0**
	baz=85						
HODGE	**Hodges**	**36.61**	**284**	P	**P**	**10 24 22.5**	**+2.0**
	baz=78						
Q51A	**Peebles**	**36.72**	**292**	P	**P**	**10 24 21.4**	**-0.1**
Q51A				IAmb	IAmb	10 24 24.7	
	comp=Z,37nm,1.4s						
Q51A	**Peebles**	**36.72**	**292**	P	**P**	**10 24 23.2**	**+1.7**
	baz=84						
Q51A				P	**P**	**10 24 23.2**	**+1.7**
	baz=84						
ROSB	**Rosrio**	**36.85**	**190**	*e*P	**P**	**10 24 23.2**	**+0.5**
BAUV	**El Baul**	**37.11**	**235**	P	**P**	**10 24 25.2**	**+0.2**
BFO	**Black Forest**	**37.23**	**53**	P	**P**	**10 24 25.0**	**-0.7**
BFO	**Black Forest**	**37.23**	**53**	P	**P**	**10 24 25.0**	**-0.7**
BFO				pmax	pmax		
	comp=Z,24nm,1.0s						
TKL	**Tuckaleechee C**	**37.55**	**286**	LR	LR	10 38 00.2	
	comp=Z,671nm,18.5s,baz=78,slow=33						
TKL	**Tuckaleechee C**	**37.55**	**286**	P	**P**	**10 24 29.9**	**+1.3**
	baz=79						
R50A	**Paris**	**37.57**	**291**	P	**P**	**10 24 29.5**	**+0.8**
	baz=82						
R50A				P	**P**	**10 24 29.5**	**+0.8**
	baz=82						
P49A	**Miami Univ. Ec**	**37.73**	**293**	P	**P**	**10 24 30.9**	**+0.9**
	baz=84						
SCO	**Scoresbysund**	**37.88**	**9**	P	**P**	**10 24 31.7**	**+0.8**
SCO				IAmb	IAmb	10 24 33.2	
	comp=Z,50nm,1.6s						
SCO	**Scoresbysund**	**37.88**	**9**	*i* P	**P**	**10 24 31.4**	**+0.6**
SCO				IAmb	IAmb	10 24 32.7	
	comp=Z,4.3nm,0.7s						
SCO	**Scoresbysund**	**37.88**	**9**	P	**P**	**10 24 31.7**	**+0.8**
SCO				pmax	pmax		
	comp=Z,50nm,1.6s						
O48B	**Farmland**	**37.99**	**294**	P	**P**	**10 24 32.7**	**+0.5**
	baz=84						
DAVOX	**Davos/Dischmat**	**38.16**	**55**	LR	LR	10 38 00.1	
	comp=Z,101nm,19.3s,baz=259,slow=33						
DAVA	**Damuels**	**38.19**	**55**	*i* P	**P**	**10 24 34.3**	**+0.3**
	comp=Z,18nm,0.9s						
R49A	**Shelbyville**	**38.23**	**291**	P	**P**	**10 24 34.3**	**+0.1**
	baz=82						
R49A				P	**P**	**10 24 34.3**	**+0.1**
	baz=82						
N47A	**Urbana**	**38.34**	**295**	P	**P**	**10 24 34.1**	**-1.0**
	baz=85						
N47A				P	**P**	**10 24 34.1**	**-1.0**
	baz=85						
MALB	**Monte Alegre**	**38.57**	**207**	*e*P	**P**	**10 24 38.1**	**+0.9**
KEST	**Kesra**	**38.58**	**73**	P	**P**	**10 24 38.0**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=70,slow=2.5,SNR=4.2						
	comp=Z,3.2nm,0.7s						
FETA	**Feichten**	**38.75**	**55**	*i* P	**P**	**10 24 39.0**	**+0.2**
	comp=Z,15nm,1.3s,SNR=6.7						
RETA	**Reutte**	**38.80**	**54**	*i* P	**P**	**10 24 39.8**	**+0.8**
	comp=Z,22nm,1.0s,SNR=6.4						
ZCCA	**Zocca**	**38.90**	**59**	P	**P**	**10 24 40.0**	**+0.1**
SDV	**Santo Domingo**	**38.96**	**238**	LR	LR	10 37 55.9	
	comp=Z,54nm,21.0s,baz=64,slow=32						
SDV	**Santo Domingo**	**38.96**	**238**	P	**P**	**10 24 41.6**	**+0.8**
SDV	**Santo Domingo**	**38.96**	**238**	*e*P	**P**	**10 24 42.2**	**+1.4**
SUMG	**Summit**	**38.97**	**360**	*i* P	**P**	**10 24 39.8**	**-0.8**
SUMG				IAmb	IAmb	10 24 41.3	
	comp=Z,6.3nm,0.7s						
U49A	**Red Boiling Sp**	**38.99**	**288**	P	**P**	**10 24 41.3**	**+0.6**
	baz=80						
MOTA	**Moosalm**	**39.02**	**55**	*i* P	**P**	**10 24 41.5**	**+0.5**
	comp=Z,29nm,1.1s,SNR=7.8						
SQTA	**Sankt Quirin**	**39.09**	**55**	*i* P	**P**	**10 24 42.3**	**+0.8**
	comp=Z,40nm,1.3s,SNR=8.3						
E43A	**Lone Tree Farm**	**39.10**	**304**	P	**P**	**10 24 41.9**	**+0.4**
	baz=91						
OSSC	**Osservatorio P**	**39.12**	**61**	P	**P**	**10 24 41.8**	**0.0**
GRFO	**Grafenberg**	**39.25**	**51**	P	**P**	**10 24 42.4**	**-0.4**
GRFO	**Grafenberg**	**39.25**	**51**	P	**P**	**10 24 42.4**	**-0.4**
GRFO				pmax	pmax		
	comp=Z,14nm,1.0s						
RCBR	**Riachuelo**	**39.33**	**177**	LR	LR	10 36 57.7	
	comp=Z,278nm,20.0s,baz=142,slow=30						
WATA	**Walderalm**	**39.34**	**55**	*i* P	**P**	**10 24 43.8**	**+0.1**
	comp=Z,26nm,0.9s,SNR=7.2						
CTI	**Castel Tesino**	**39.37**	**57**	P	**P**	**10 24 42.9**	**-0.9**
CTI	**Castel Tesino**	**39.37**	**57**	P	**P**	**10 24 42.9**	**-0.9**
WTTA	**Wattenberg**	**39.38**	**55**	*i* pP	pP	10 24 45.6	-0.4
	comp=Z,35nm,1.1s,SNR=10						
P46A	**Rosedale**	**39.63**	**293**	P	**P**	**10 24 47.3**	**+1.3**
	baz=83						
H43A	**Windswept, Lux**	**39.66**	**301**	P	**P**	**10 24 45.5**	**-0.7**
	baz=88						
ABTA	**Abfaltersbach**	**39.97**	**56**	*i* P	**P**	**10 24 49.2**	**+0.4**
	comp=Z,36nm,1.1s,SNR=5.3						
NKC	**Novy Kostel**	**40.09**	**50**	*e*P	**P**	**10 24 51.0**	**+1.3**
NKC	**Novy Kostel**	**40.09**	**50**	*e*P	**P**	**10 24 51.0**	**+1.3**
D41A	**Chassel**	**40.19**	**305**	P	**P**	**10 24 51.5**	**+0.9**
	baz=91						
CLUD	**Cludinico**	**40.22**	**56**	P	**P**	**10 24 49.5**	**-1.4**
CLUD				IAmb	IAmb	10 24 52.4	
	comp=Z,37nm,1.2s						
I42A	**Draeger Farm,**	**40.51**	**300**	P	**P**	**10 24 53.9**	**+0.7**
	baz=87						
O44A	**Mansfield**	**40.52**	**294**	P	**P**	**10 24 53.6**	**+0.2**
	baz=83						
CLL	**Collm**	**40.54**	**49**	*i* P	**P**	**10 24 52.9**	**-0.5**
	comp=Z,8.0nm,0.9s						
CLL				*i* x	x	10 24 56.1	
CLL				*e*SS	SS	10 34 06.0	+4.2
CLL				LmV		10 38 00.0	
	comp=Z,100nm,19.4s						
CLL	**Collm**	**40.54**	**49**	*i* P	**P**	**10 24 52.9**	**-0.5**
CLL				*i*		10 24 56.1	
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KBA	**Koelnbreinsper**	**40.54**	**55**	*i* P	**P**	**10 24 54.3**	**+0.6**
	comp=Z,30nm,1.6s,SNR=9.3						
JMIC	**Jan Mayen**	**40.57**	**14**	LR	LR	10 37 45.3	
	comp=Z,227nm,21.9s,baz=260,slow=30						
DBIC	**Dimbokro**	**40.68**	**124**	P	**P**	**10 24 55.5**	**+0.5**
	comp=Z,10nm,1.1s,baz=6.8,slow=4.6,SNR=3.2						
DBIC				LR	LR	10 39 46.2	
	comp=Z,516nm,19.9s,baz=318,slow=33						
	comp=Z,10nm,1.1s						
WVT	**Waverly**	**40.69**	**288**	P	**P**	**10 24 55.9**	**+1.1**
	baz=78						
MYKA	**Terra Mystica**	**40.75**	**56**	*e*P	**P**	**10 24 56.0**	**+0.7**
	comp=Z,19nm,1.6s						
BIOA	**Bad Ischl, Aus**	**40.75**	**54**	*i* P	**P**	**10 24 55.9**	**+0.7**
	comp=Z,18nm,1.0s,SNR=6.4						
KHC	**Kasperske Hory**	**40.75**	**52**	P	**P**	**10 24 54.1**	**-1.2**
KHC	**Kasperske Hory**	**40.75**	**52**	*e*P	**P**	**10 24 56.1**	**+0.9**
KHC	**Kasperske Hory**	**40.75**	**52**	*e*P	**P**	**10 24 56.1**	**+0.9**
GERES	**GERESS Array B**	**40.82**	**52**	P	**P**	**10 24 55.3**	**-0.6**
	comp=Z,3.6nm,0.7s,baz=266,slow=6.2,SNR=26						
GERES				PcP	**PcP**	**10 26 56.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=294,slow=5.0,SNR=3.6						
	comp=Z,3.6nm,0.7s						
GERES	**GERESS Array B**	**40.82**	**52**	P	**P**	**10 24 54.9**	**-1.0**
BRG	**Berggiesshubel**	**41.09**	**49**	*e*P	**P**	**10 24 58.7**	**+0.7**
BRG				Amp		10 25 00.1	
	comp=Z,5.4nm,1.0s						
BRG	**Berggiesshubel**	**41.09**	**49**	*e*P	**P**	**10 24 58.6**	**+0.7**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HDIL	**Hopedale**	**41.10**	**295**	P	**P**	**10 24 58.7**	**+0.6**
	baz=83						
MOA	**Molln**	**41.17**	**54**	*i* P	**P**	**10 24 59.3**	**+0.6**
	comp=Z,14nm,1.1s,SNR=7.1						
CRNS	**Crni Vrh**	**41.18**	**57**	*i* P	**P**	**10 24 58.5**	**-0.3**
L42A	**Oliver, Polo**	**41.21**	**297**	P	**P**	**10 24 59.4**	**+0.3**
	baz=84						
PRPB	**Parauapebas**	**41.22**	**198**	*e*P	**P**	**10 24 59.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**41.32**	**110**	P	**P**	**10 25 00.1**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=296,slow=7.3,SNR=2.0						
	comp=Z,3.1nm,0.3s						
G40A	**Rib Lake**	**41.36**	**302**	P	**P**	**10 25 01.3**	**+1.0**
	baz=87						
OBKA	**Obir**	**41.37**	**56**	*i* P	**P**	**10 25 00.2**	**-0.2**
	comp=Z,32nm,0.9s,SNR=6.5						
NBO00	**NORSAR Array S**	**41.38**	**34**	IAmb	IAmb	10 25 01.3	
	comp=Z,34nm,1.1s						
PRU	**Pruhonice**	**41.42**	**51**	*e*P	**P**	**10 25 02.6**	**+1.9**
PRU	**Pruhonice**	**41.42**	**51**	*e*P	**P**	**10 25 02.6**	**+1.9**
ITTB	**Itaituba**	**41.44**	**208**	*e*P	**P**	**10 25 01.9**	**+0.8**
PAMC	**Pamplona, Colo**	**41.50**	**239**	*e*P	**P**	**10 25 02.7**	**+0.5**
S44A	**Carbondale**	**41.51**	**291**	P	**P**	**10 25 03.4**	**+1.8**
	baz=79						
JFWS	**Jewell Farm**	**41.55**	**299**	P	**P**	**10 25 02.0**	**+0.2**
	baz=85						
GOPC	**GO Pecny, Ondr**	**41.57**	**51**	*e*P	**P**	**10 25 03.6**	**+1.6**
GOPC	**GO Pecny, Ondr**	**41.57**	**51**	*e*P	**P**	**10 25 03.6**	**+1.6**
NB2	**NORSAR Subarra**	**41.59**	**34**	P	**P**	**10 25 01.7**	**-0.2**
	comp=Z,32nm,1.1s,baz=254,slow=9.3						
NB2	**NORSAR Subarra**	**41.59**	**34**	P	**P**	**10 25 01.7**	**-0.2**
	baz=254,slow=9.3						
NOA	**NORSAR Array B**	**41.59**	**34**	P	**P**	**10 25 01.7**	**-0.2**
	comp=Z,13nm,1.0s,baz=254,slow=8.6,SNR=16						
NOA				LR	LR	10 39 10.3	
	comp=Z,82nm,20.7s,baz=255,slow=32						
	comp=Z,13nm,1.0s						
DBG	**Daneborg**	**41.64**	**7**	*i* P	**P**	**10 25 02.3**	**+0.2**
DBG				IAmb	IAmb	10 25 04.1	
	comp=Z,2.4nm,0.9s						
NC602	**NORSAR Array S**	**41.64**	**34**	P	**P**	**10 25 02.2**	**-0.2**
SOKA	**Soboth**	**41.70**	**56**	*e*P	**P**	**10 25 01.7**	**-1.4**
	comp=Z,11nm,1.2s						
NC303	**NORSAR Array S**	**41.72**	**33**	P	**P**	**10 25 02.7**	**-0.3**
ARSA	**Arzberg**	**42.03**	**55**	*i* P	**P**	**10 25 05.6**	**-0.1**
	comp=Z,12nm,1.0s						
BSD	**Bornholm Skovb**	**42.14**	**43**	*i* P	**P**	**10 25 06.3**	**-0.1**
BSD				IAmb	IAmb	10 25 07.9	
	comp=Z,8.2nm,0.8s						
GCIS	**Gornji Cirnik**	**42.14**	**57**	*i* P	**P**	**10 25 06.5**	**-0.1**
EYMN	**Ely**	**42.18**	**306**	P	**P**	**10 25 06.3**	**-0.6**
	baz=90						
EYMN	**Ely**	**42.18**	**306**	P	**P**	**10 25 07.3**	**+0.4**
	baz=90						
VAE	**Valguarnera**	**42.24**	**69**	LR	LR	10 39 18.8	
	comp=Z,112nm,21.8s,baz=300,slow=31						
CONA	**Conrad Observa**	**42.25**	**54**	*i* P	**P**	**10 25 07.6**	**0.0**
	comp=Z,8.6nm,1.3s						
E38A	**The Farm, Brul**	**42.25**	**304**	P	**P**	**10 25 07.7**	**+0.2**
	baz=88,SNR=6.0						
N41A	**Harden Midland**	**42.25**	**295**	IAmb	IAmb	10 25 10.4	
	comp=Z,39nm,1.2s						
N41A	**Harden Midland**	**42.25**	**295**	P	**P**	**10 25 07.7**	**+0.1**
	baz=82						
L40A	**Anamosa**	**42.35**	**298**	P	**P**	**10 25 09.6**	**+1.2**
	baz=83						
UPC	**Upice**	**42.38**	**50**	*e*P	**P**	**10 25 09.7**	**+1.1**
UPC	**Upice**	**42.38**	**50**	*e*P	**P**	**10 25 09.7**	**+1.1**
HFS	**Hagfors**	**42.50**	**35**	LR	LR	10 40 32.3	
	comp=Z,66nm,19.6s,baz=261,slow=33						
MACA	**Manacapuru-AM**	**42.50**	**215**	IAmb	IAmb	10 25 11.8	
	comp=Z,74nm,1.9s						
MACA	**Manacapuru-AM**	**42.50**	**215**	*e*P	**P**	**10 25 10.8**	**+1.0**
OSTC	**Ostas**	**42.52**	**50**	*e*P	**P**	**10 25 10.9**	**+1.2**
RONA	**Rosalia, Austr**	**42.54**	**54**	*i* P	**P**	**10 25 10.4**	**+0.5**
	comp=Z,14nm,1.2s						
Y45A	**Yeager Farm, C**	**42.58**	**285**	P	**P**	**10 25 11.4**	**+1.1**
	baz=75						
KSP	**Ksiaz**	**42.58**	**49**	*e*P	**P**	**10 25 10.1**	**0.0**
DPC	**Dobruska-Polom**	**42.58**	**50**	*e*P	**P**	**10 25 10.4**	**+0.2**
DPC	**Dobruska-Polom**	**42.58**	**50**	*e*P	**P**	**10 25 10.4**	**+0.2**
KRUC	**Moravsky**	**42.60**	**52**	*e*P	**P**	**10 25 10.3**	**0.0**
VRAC	**Vranov**	**42.73**	**52**	⇑P	**P**	**10 25 12.0**	**+0.6**
VRAC	**Vranov**	**42.73**	**52**	*e*P	**P**	**10 25 10.6**	**-0.8**
VRAC	**Vranov**	**42.73**	**52**	⇑P	**P**	**10 25 12.0**	**+0.6**
RUSC	**La Rusia**	**42.78**	**238**	*e*P	**P**	**10 25 12.2**	**-0.5**
KRLC	**Kraliky**	**42.87**	**51**	*e*P	**P**	**10 25 14.0**	**+1.5**
KRLC	**Kraliky**	**42.87**	**51**	*e*P	**P**	**10 25 14.0**	**+1.5**
ZARC	**Zaragoza, Cauc**	**42.95**	**241**	*e*P	**P**	**10 25 13.3**	**-0.2**
CCM	**Cathedral Cave**	**42.99**	**292**	P	**P**	**10 25 14.1**	**+0.5**
	baz=79						
CCM	**Cathedral Cave**	**42.99**	**292**	P	**P**	**10 25 14.0**	**+0.4**
	baz=79						
MODS	**Modra-Piesok**	**43.19**	**53**	*e*P	**P**	**10 25 15.9**	**+0.8**
MODS				pmax	pmax		
	comp=Z,47nm,1.3s						
MODS	**Modra-Piesok**	**43.19**	**53**	*e*P	**P**	**10 25 15.9**	**+0.8**
SPMN	**Marine on St.**	**43.20**	**302**	P	**P**	**10 25 15.5**	**+0.3**
	baz=86						
SPMN	**Marine on St.**	**43.20**	**302**	P	**P**	**10 25 15.3**	**+0.1**

MIAR	Mount Ida	45.63	287		P		P	10 25 35.4	+0.7	
	baz=74									
PLMC	San Jos del P	45.74	240		eP		P	10 25 36.1	+0.1	
STHS	Stebnicka Huta	45.77	51		eP		P	10 25 37.0	+1.3	
STHS					pmax		pmax			
	comp=Z,8.0nm,1.1s									
STHS	Stebnicka Huta	45.77	51		eP		P	10 25 37.0	+1.3	
U38A	Gravette	45.79	290		P		P	10 25 36.1	0.0	
	baz=76									
N35A	Tabor	45.82	297		P		P	10 25 37.3	+1.1	
	baz=80									
ECSD	EROS Data Cent	46.07	301		P		P	10 25 38.0	-0.2	
	baz=82,SNR=7.7									
ECSD	EROS Data Cent	46.07	301		P		P	10 25 38.1	-0.1	
	baz=82,SNR=7.7									
L34A	Svendsen Farm,	46.17	298		IAmb		IAmb	10 25 40.5		
	comp=Z,25nm,0.9s									
L34A	Svendsen Farm,	46.17	298		P		P	10 25 38.8	-0.2	
	baz=80									
SIRR	Siria	46.30	56	⇓	P		P	10 25 40.7	+0.7	
SDBA	SAO DESIDERIO	46.31	190		eP		P	10 25 40.1	-0.2	
BZS	Buzias	46.34	57	⇑	P		P	10 25 40.9	+0.6	
BZS	Buzias	46.34	57	⇑	P		P	10 25 40.9	+0.6	
RLO	Rose Lookout	46.35	290		IAmb		IAmb	10 25 42.7		
	comp=Z,27nm,1.0s									
UZH	Uzhgorod	46.51	52		eP		P	10 25 41.5	0.0	
UZH					e			10 25 47.2		
MDVR	Moldovita	46.52	58	⇑	P		P	10 25 42.8	+1.1	
BOVS	Bovan	46.67	59	⇑	P		P	10 25 42.6	-0.3	
SURR	Surduc	46.68	56	⇓	P		P	10 25 43.5	+0.6	
TRPA	Tarpa	46.71	53	⇓	P		P	10 25 43.6	+0.5	
H10N2	ASCENSION HYDR	46.86	147		T		T	11 15 44.6		
	baz=333,slow=75,SNR=181									
H10N3	ASCENSION HYDR	46.87	147		T		T	11 15 53.1		
	baz=333,slow=75,SNR=150									
H10N1	ASCENSION HYDR	46.88	147		T		T	11 15 46.9		
	baz=333,slow=75,SNR=178									
KSU1	Kansas State U	46.89	294		P		P	10 25 44.6	-0.2	
	baz=77									
KSU1	Kansas State U	46.89	294		P		P	10 25 44.6	-0.2	
	baz=77									
HERR	Herculane	47.00	58	⇓	P		P	10 25 45.8	+0.3	
TUL1	Leonard	47.02	290		P		P	10 25 45.2	-0.5	
TUL1	Leonard	47.02	290		P		P	10 25 45.7	0.0	
	baz=75,SNR=5.8									
TUL1	Leonard	47.02	290		P		P	10 25 45.7	0.0	
	baz=75,SNR=5.8									
X37A	Clayton	47.04	288		IAmb		IAmb	10 25 48.1		
	comp=Z,18nm,1.0s									
X37A	Clayton	47.04	288		P		P	10 25 46.7	+0.8	
	baz=74									
DJES	Dierdap	47.10	58	⇑	P		P	10 25 46.9	+0.6	
SNDB	Serra Nova Dou	47.16	198		eP		P	10 25 47.4	+0.5	
GZR	Gura Zlata	47.18	57	⇑	P		P	10 25 47.0	+0.1	
GZR	Gura Zlata	47.18	57	⇑	P		P	10 25 47.0	+0.1	
MARR	Marisel-Cluj	47.26	55	⇓	P		P	10 25 48.5	+0.9	
NATX	Nacogdoches	47.30	284		P		P	10 25 48.7	+0.7	
	baz=72									
T35B	Sooner Cattle	47.33	291		P		P	10 25 47.2	-0.9	
	baz=76									
CLDB	Colider	47.47	204		eP		P	10 25 50.0	+0.7	
LVV	L'vov	47.55	51		eP		P	10 25 50.1	+0.4	
BGNE	Belgrade	47.58	298		P		P	10 25 50.0	0.0	
	baz=79									
BGNE	Belgrade	47.58	298		P		P	10 25 50.2	+0.2	
	baz=79									
SRE	Strehaia	47.59	58	⇓	P		P	10 25 52.8	+2.7	
SRE	Strehaia	47.59	58	⇓	P		P	10 25 52.8	+2.7	
MDND	Maddock	47.63	307		P		P	10 25 50.1	-0.2	
	baz=84									
MDND	Maddock	47.63	307		P		P	10 25 50.4	0.0	
	baz=84									
SUSD	Miller	47.63	302		IAmb		IAmb	10 25 52.6		
	comp=Z,13nm,0.9s									
SUSD	Miller	47.63	302		P		P	10 25 50.2	-0.2	
	baz=81									
SUSD	Miller	47.63	302		P		P	10 25 50.5	+0.1	
	baz=81									
QUOK	Quay	47.67	291		IAmb		IAmb	10 25 52.1		
	comp=Z,27nm,1.2s									
H10S3	ASCENSION HYDR	47.78	148		T		T	11 16 51.0		
	baz=333,slow=74,SNR=258									
OK052	Battle Ridge R	47.79	290		IAmb		IAmb	10 25 53.0		
	comp=Z,24nm,1.3s									
K31A	O'Neill	47.79	299		IAmb		IAmb	10 25 52.8		
	comp=Z,22nm,1.0s									
K31A	O'Neill	47.79	299		P		P	10 25 51.5	-0.2	
	baz=80									
H10S2	ASCENSION HYDR	47.80	148		T		T	11 17 01.2		
	baz=247,slow=74,SNR=155									
OK033	Mehan	47.88	290		IAmb		IAmb	10 25 54.4		
	comp=Z,32nm,1.3s									
BLOK	Blackwell	47.91	291		IAmb		IAmb	10 25 54.8		
	comp=Z,24nm,1.2s									
VTS	Vitosha	47.95	60		IAmb		IAmb	10 25 55.6		
	comp=Z,13nm,1.0s									
KAN13	South Haven SW	48.05	292		IAmb		IAmb	10 25 55.7		
	comp=Z,17nm,1.1s									
KAN01	Argonia South	48.23	292		IAmb		IAmb	10 25 56.7		
	comp=Z,23nm,1.0s									
KAN17	Caldwell West	48.27	292		IAmb		IAmb	10 25 57.0		
	comp=Z,21nm,1.1s									
BOAB	BOACO BROADBAN	48.29	256		P		P	10 25 56.1	+0.3	
TBTG	Tabatinga, AM	48.32	225		eP		P	10 25 55.5	-0.4	
KAN14	Manchester OK	48.44	292		IAmb		IAmb	10 25 58.3		
	comp=Z,24nm,0.9s									
PDRB	Porto dos Gac	48.48	205		eP		P	10 25 57.9	+0.7	
E28A	Huff	48.53	305		P		P	10 25 57.3	0.0	
	baz=82,SNR=7.5									
BURAR	Bucovina Array	48.56	54	⇑	P		P	10 25 58.8	+1.1	
BURAR	Bucovina Array	48.56	54	⇑	P		P	10 25 58.8	+1.1	
CROK	Carrier	48.58	291		IAmb		IAmb	10 25 59.4		
	comp=Z,19nm,0.9s									
FFC	Flin Flon	48.64	316		P		P	10 25 58.0	0.0	
FFC					IAmb		IAmb	10 25 59.0		
	comp=Z,35nm,1.9s									
FFC	Flin Flon	48.64	316		P		P	10 25 58.0	0.0	
FFC					pmax		pmax			
	comp=Z,35nm,1.9s									
R32A	Long Quarter,	48.65	294		IAmb		IAmb	10 26 00.2		
	comp=Z,17nm,1.0s									
R32A	Long Quarter,	48.65	294		P		P	10 25 58.9	+0.5	
	baz=76									
OK032	Salt Plains WL	48.67	292		IAmb		IAmb	10 26 00.1		
	comp=Z,24nm,1.2s									
NOR	Nord	48.68	4		i P		P	10 25 55.2	-2.8	
NOR					IAmb		IAmb	10 25 59.8		
	comp=Z,1.9nm,0.9s									
FINES	FINESS Array B	48.70	35		P		P	10 25 58.3	-0.1	
	comp=Z,5.7nm,0.6s,baz=250,slow=3.8,SNR=14									
FINES					LR		LR	10 43 58.9		
	comp=Z,107nm,19.5s,baz=234,slow=33									
	comp=Z,5.7nm,0.6s									
VOIR		48.76	56	⇑	P		P	10 25 58.8	-0.4	
VOIR		48.76	56	⇑	P		P	10 25 58.8	-0.4	
PLVB	Pleven	48.81	59	⇑	P		P	10 26 00.3	+0.8	
JANB	Januaria	48.85	188		eP		P	10 25 59.8	-0.2	
HUMR	Humele	48.86	58	⇑	P		P	10 26 01.0	+1.2	
VSU	Vasula	48.89	39		i P		P	10 25 58.6	-1.2	
Z35A	Perchaven, San	48.90	287		P		P	10 26 00.4	+0.1	
	baz=72									
DOPR	Dopca	48.91	56	⇑	P		P	10 26 01.2	+0.9	
NACGM	Naroch	48.95	44		eP		P	10 25 59.9	-0.4	
	comp=Z,30nm,0.8s,baz=272									
JTS	Las Juntas de	48.95	253		LR		LR	10 44 09.7		
	comp=Z,77nm,21.0s,baz=48,slow=33									
JTS	Las Juntas de	48.95	253		i P		P	10 26 01.4	+0.5	
JTS					pmax		pmax			
	comp=Z,5.0nm,1.3s									
OZUR		49.16	56	⇑	P		P	10 26 03.0	+0.8	
RES	Resolute Bay	49.26	343		P		P	10 26 02.4	0.0	
	comp=Z,6.5nm,0.8s,baz=104,slow=7.5,SNR=21									
RES					LR		LR	10 45 25.4		
	comp=Z,152nm,20.1s,baz=80,slow=34									
	comp=Z,6.5nm,0.8s									
RES	Resolute Bay	49.26	343		P		P	10 26 02.2	-0.3	
CBKS	Cedar Bluff	49.33	295		IAmb		IAmb	10 26 05.0		
	comp=Z,15nm,0.8s									
CBKS	Cedar Bluff	49.33	295		P		P	10 26 02.8	-0.8	
	baz=76									
CBKS	Cedar Bluff	49.33	295		P		P	10 26 03.4	-0.2	
	baz=76									
MLR	Muntele Rosu	49.37	56		LR		LR	10 44 38.8		
	comp=Z,90nm,21.8s,baz=274,slow=33									
MLR	Muntele Rosu	49.37	56	⇓	P		P	10 26 05.1	+1.1	
MLR	Muntele Rosu	49.37	56	⇓	P		P	10 26 05.1	+1.1	
WHTX	Lake Whitney,	49.48	285		P		P	10 26 05.4	+0.6	
	baz=71									
COVR	Voineasa-Covas	49.49	56	⇓	P		P	10 26 06.1	+1.3	
ARCES	ARCESS Array B	49.60	24		P		P	10 26 05.6	+0.5	
	comp=Z,9.9nm,1.0s,baz=243,slow=4.9,SNR=9.9									
ARCES					LR		LR	10 43 51.6		
	comp=Z,61nm,18.6s,baz=262,slow=32									
	comp=Z,9.9nm,1.0s									
MNK	Minsk	49.60	44		i P		P	10 26 05.5	+0.2	
MNK					i P		P	10 26 05.5	+0.2	
MNK					i P		P	10 26 05.5	+0.2	
	comp=Z,58nm,1.0s,baz=273									
MNK					i PP		PP	10 28 05.2	+5.7	
MNK					i PPP		PPP	10 29 10.3		
MNK					i S		S	10 33 13.7	+0.3	
MNK					i SS		SS	10 37 05.9	+21	
MNK					i SSS		SSS	10 39 11.8		
MNK					i LQ		LQ	10 44 53.3		
MNK					i LR		LR	10 48 54.9		
MNK					i LRM		MLR	10 51 30.9		
	comp=Z,145nm,27.6s									
MNK					i LRM		MLR	10 51 34.9		
	comp=N,2μm,23.4s									
MNK					i LRM		MLR	10 51 36.8		
	comp=E,146nm,24.8s									
MNK	Minsk	49.60	44		i P		P	10 26 05.5	+0.2	
MNK					i			10 28 05.2		
MNK					i S		S	10 33 13.7	+0.3	
MNK					pmax		pmax			
	comp=Z,58nm,1.0s									
MNK					MLR		MLR			
	comp=Z,145nm,28.0s									
MNK					MLR		MLR			
	comp=N,2μm,23.0s									
MNK					MLR		MLR			
	comp=E,146nm,25.0s									
WMOK	Wichita Mounta	49.69	289		P		P	10 26 06.0	-0.4	
	baz=73,SNR=8.1									
WMOK	Wichita Mounta	49.69	289		P		P	10 26 06.0	-0.4	
	baz=73,SNR=8.1									
TULM	Tuln-Chalpat	49.73	237		IAmb		IAmb	10 26 09.8		
	comp=Z,39nm,1.2s									
PLOR	Plostina	49.80	56	⇑	P		P	10 26 07.6	+0.5	
PLOR	Plostina	49.80	56	⇑	P		P	10 26 07.6	+0.5	
VRI	Vrincioaia	49.85	56	⇑	P		P	10 26 08.1	+0.7	
VRI	Vrincioaia	49.85	56	⇑	P		P	10 26 08.1	+0.7	
RDO	Rodhopi	49.93	62		IAmb		IAmb	10 26 10.8		
	comp=Z,37nm,1.4s									
BDFB	Brasilia	49.98	193		P		P	10 26 09.3	+0.5	
	comp=Z,5.8nm,0.9s,baz=12,slow=9.4,SNR=6.1									
BDFB					LR		LR	10 45 19.4		
	comp=Z,204nm,18.4s,baz=295,slow=34									
	comp=Z,5.8nm,0.9s									
BDFB	Brasilia	49.98	193		P		P	10 26 08.4	-0.4	
BDFB					IAmb		IAmb	10 26 10.8		
	comp=Z,25nm,1.6s									
BDFB	Brasilia	49.98	193		eP		P	10 26 09.8	+1.0	
435B	Jarrell	49.99	284		P		P	10 26 09.8	+1.1	
	baz=70									
SPITS	Spitsbergen Ar	50.17	13		LR		LR	10 41 43.4		
	comp=Z,225nm,20.4s,baz=214,slow=29									
MTO3	Montecristo	50.25	261		IAmb		IAmb	10 26 16.5		
	comp=Z,34nm,1.4s									
VASR	Vaslui	50.45	55	⇑	P		P	10 26 12.3	+0.4	
OTAV	Otavalo	50.54	237		P		P	10 26 13.7	+0.2	
OTAV					IAmb		IAmb	10 26 15.7		
	comp=Z,46nm,1.6s									
OTAV	Otavalo	50.54	237	⇑	P		P	10 26 14.7	+1.2	
OTAV	Otavalo	50.54	237		eP		P	10 26 13.8	+0.2	
OTAV	Otavalo	50.54	237		eP		P	10 26 14.3	+0.8	
OGNE	Ogallala	50.54	298		P		P	10 26 13.4	+0.5	
	baz=76									
SORM	Soroca	50.58	53	⇑	P		P	10 26 12.0	-0.8	
SORM	Soroca	50.58	53	⇑	P		P	10 26 12.0	-0.8	
DGMT	Dagmar	50.60	308		P		P	10 26 13.9	+0.8	
	baz=81									
DGMT	Dagmar	50.60	308		P		P	10 26 13.2	+0.1	
	baz=81									
IZVR	Izvoarele	50.62	56	⇓	P		P	10 26 13.0	-0.2	
AKASG	Malin Array Be	50.77	49		P		P	10 26 14.3	0.0	
	comp=Z,9.6nm,1.0s,baz=272,slow=7.5,SNR=30									
AKASG					LR		LR	10 45 58.2		
	comp=Z,59nm,18.2s,baz=239,slow=34									
	comp=Z,9.6nm,1.0s									
AKBB	Malin Array Si	50.77	49		IAmb		IAmb	10 26 14.9		
	comp=Z,27nm,1.2s									
ARAG	Araguaiana, MT	50.87	197		eP		P	10 26 15.8	+0.4	
HARR	Harsova	50.90	57	⇓	P		P	10 26 14.0	-1.4	
HARR	Harsova	50.90	57	⇓	P		P	10 26 14.0	-1.4	
CFR	Carcaliu	50.95	56	⇑	P		P	10 26 11.9	-3.8	
CFR	Carcaliu	50.95	56	⇑	P		P	10 26 11.9	-3.8	
ETMB	Extrema	50.96	217		P		P	10 26 15.1	-1.0	
ETMB					IAmb		IAmb	10 26 16.6		
	comp=Z,40nm,1.7s									
ETMB	Extrema	50.96	217		eP		P	10 26 15.3	-0.8	
IDI	Anoyia	50.97	69		P		P	10 26 16.7	+0.6	
	comp=Z,27nm,1.2s,baz=263,slow=14,SNR=3.1									
	comp=Z,27nm,1.2s									
IDI	Anoyia	50.97	69	⇓	P		P	10 26 17.1	+1.0	
VILB	Vilhena	51.02	208		eP		P	10 26 17.4	+0.9	
ABTX	Abilene, Hawle	51.03	287		P		P	10 26 17.3	+0.7	
	baz=71									
ABTX	Abilene, Hawle	51.03	287		P		P	10 26 16.8	+0.2	
	baz=71									
MILM	Milestii Mici	51.09	54		eP		P	10 26 17.0	+0.3	
	comp=Z,40nm,1.2s									
MILM	Milestii Mici	51.09	54	⇑	P		P	10 26 16.6	-0.1	
MILM	Milestii Mici	51.09	54		eP		P	10 26 17.0	+0.3	
MILM					pmax		pmax			
	comp=Z,40nm,1.2s									
TPGR	Topolog	51.21	57	⇓	P		P	10 26 16.0	-1.7	
NAN01	Guarapari, ES	51.27	183		eP		P	10 26 18.6	+0.3	
RSSD	Black Hills	51.28	302		P		P	10 26 18.3	-0.2	
	baz=78									
TIRR	Tirgusor	51.28	57	⇓	P		P	10 26 17.2	-1.0	
TIRR	Tirgusor	51.28	57	⇓	P		P	10 26 17.2	-1.0	
KSCO	Kaye Shedlock'	51.46	296		P		P	10 26 20.4	+0.5	
	baz=74									
KSCO	Kaye Shedlock'	51.46	296		P		P	10 26 20.1	+0.3	
	baz=74									
JCT	Junction City	51.89	284		P		P	10 26 23.6	+0.6	
	baz=69									
JCT	Junction City	51.89	284		P		P	10 26 23.1	+0.1	
	baz=69									
AMTX	Amarillo	51.92	290		P		P	10 26 23.2	-0.1	
	baz=72									
AMTX	Amarillo	51.92	290		P		P	10 26 23.0	-0.3	
	baz=72									
PORT	Chimborazo Vol	51.97	236		IAmb		IAmb	10 26 26.9		
	comp=Z,48nm,1.7s									
DIAM	Diamantina, MG	51.98	187		eP		P	10 26 23.8	+0.1	
CHSH	Refugio Sur-Vo	52.06	236		IAmb		IAmb	10 26 31.3		
	comp=Z,23nm,1.4s									
SALV	Santo Antonio	52.15	202		eP		P	10 26 25.8	+0.9	
LAO	LASA Array	52.26	306		IAmb		IAmb	10 26 27.6		
	comp=Z,24nm,1.1s									
LAO	LASA Array	52.26	306		P		P	10 26 26.0	+0.4	
	baz=78									
LAO	LASA Array	52.26	306		P		P	10 26 25.8	+0.1	
	baz=78									
IPMB	Ipameri, GO	52.31	192		eP		P	10 26 26.2	+0.1	
PMNB	Patos De Minas	52.56	190		eP		P	10 26 29.1	+1.1	
CZSB	Cruzeiro do Su	52.80	225		IAmb		IAmb	10 26 30.1		
	comp=Z,22nm,1.0s									
CZSB	Cruzeiro do Su	52.80	225		eP		P	10 26 28.4	-1.5	
PTLB	Pontes e Lacer	52.89	206		P		P	10 26 30.9	+0.5	
PTLB					IAmb		IAmb	10 26 32.5		
	comp=Z,33nm,1.6s									
PTLB	Pontes e Lacer	52.89	206		eP		P	10 26 31.0	+0.6	
MSTX	Muleshoe	53.07	290		IAmb		IAmb	10 26 32.6		
	comp=Z,55nm,1.8s									
MSTX	Muleshoe	53.07	290		P		P	10 26 31.1	-0.7	
	baz=71									
MSTX	Muleshoe	53.07	290		P		P	10 26 31.5	-0.3	
	baz=71									
T25A	Trinidad	53.34	294		P		P	10 26 34.3	+0.3	
	baz=72									
Q24A	Divide	53.37	296		IAmb		IAmb	10 26 35.7		
	comp=Z,32nm,1.9s									
Q24A	Divide	53.37	296		P		P	10 26 34.0	-0.2	
	baz=73									
K22A	Casper	53.38	301		P		P	10 26 33.9	-0.2	
	baz=75									
N23A	Red Feather La	53.42	299		IAmb		IAmb	10 26 36.7		
	comp=Z,32nm,1.4s									
N23A	Red Feather La	53.42	299		P		P	10 26 34.9	+0.4	
	baz=74,SNR=8.5									
CMIG	Matias Romero	53.46	267		LR		LR	10 46 41.4		
	comp=Z,113nm,21.4s,baz=50,slow=33									
ISCO	Idaho Springs	53.48	297		IAmb		IAmb	10 26 37.2		
	comp=Z,36nm,1.9s									
ISCO	Idaho Springs	53.48	297		P		P	10 26 35.4	+0.4	
	baz=74,SNR=5.8									
ISCO	Idaho Springs	53.48	297		P		P	10 26 35.6	+0.6	
	baz=74,SNR=5.8									
PP1B	Ponte de Pedra	53.51	200		eP		P	10 26 36.2	+1.3	
SDCO	Great Sand Dun	53.99	295		P		P	10 26 39.0	+0.3	
	baz=72									
SIV	San Ignacio	54.12	208		LR		LR	10 46 41.1		
	comp=Z,90nm,21.2s,baz=96,slow=33									
EGMT	Eagleton	54.33	308		IAmb		IAmb	10 27 00.6		
	comp=Z,25nm,1.4s									
EGMT	Eagleton	54.33	308		P		P	10 26 41.0	+0.2	
	baz=77,SNR=5.3									
OBN	Obninsk	54.53	43	⇑	eP		P	10 26 40.6	-1.4	
OBN					S		S	10 34 29.0	+8.0	
OBN					pmax		pmax			
	comp=Z,145nm,2.5s									
SMCO	Snowmass	54.66	297		IAmb		IAmb	10 27 26.5		
	comp=Z,14nm,0.9s									
RLMT	Red Lodge	54.69	305		IAmb		IAmb	10 26 53.0		
	comp=Z,45nm,2.0s									
RLMT	Red Lodge	54.69	305		P		P	10 26 43.8	+0.2	
	baz=76,SNR=5.9									
YKA	Yellowknife Ar	54.72	326		P		P	10 26 42.7	-0.6	
	comp=Z,2.2nm,0.8s,baz=83,slow=7.3,SNR=23									
YKA					PcP		PcP	10 27 45.2	-0.6	
	comp=Z,2.0nm,0.8s,baz=84,slow=4.3,SNR=15									
YKA					LR		LR	10 49 20.7		
	comp=Z,864nm,19.8s,baz=83,slow=35									
	comp=Z,2.2nm,0.8s									
RVDE	Rio Verde (Bra	54.88	200		eP		P	10 26 45.3	+0.3	
S22A	4UR Ranch, Cre	54.99	295		P		P	10 26 46.3	+0.2	
	baz=72									
MOS	Moscow	55.02	42		eP		P	10 26 41.2	-4.4	
MOS					pmax		pmax			
	comp=Z,31nm,0.7s									
BBSD	Serra de San D	55.03	207		eP		P	10 26 46.0	-0.1	
KLMR	Klimovskoe	55.22	36		eP		P	10 26 42.1	-4.8	
KLMR					AMP			10 26 45.3		
	comp=Z,33nm,2.0s									
KLMR	Klimovskoe	55.22	36		eP		P	10 26 42.0	-4.9	
KLMR					pmax		pmax			
	comp=Z,33nm,2.0s									
O20A	White River Ci	55.31	299		IAmb		IAmb	10 27 26.4		
	comp=Z,25nm,1.4s									
O20A	White River Ci	55.31	299		P		P	10 26 48.1	-0.1	
	baz=73									
YMP	Mirror Lake Pl	55.39	304		IAmb		IAmb	10 26 51.1		
	comp=Z,35nm,1.2s									
TXAR	Lajitas Array	55.43	285		P		P	10 26 48.8	-0.3	
	comp=Z,1.9nm,0.8s,baz=86,slow=7.1,SNR=17									
TXAR					LR		LR	10 48 49.9		
	comp=Z,498nm,20.0s,baz=55,slow=34									
	comp=Z,1.9nm,0.8s									
TX31	Lajitas Ar. Si	55.43	285		P		P	10 26 49.4	+0.3	
	baz=67,SNR=5.4									
TX32	Lajitas Array	55.43	285		IAmb		IAmb	10 26 50.3		
	comp=Z,30nm,2.0s									
EDM	Edmonton	55.48	315		IAmb		IAmb	10 26 50.4		
	comp=Z,48nm,1.9s									
PD31	Pinedale Array	55.51	302		IAmb		IAmb	10 26 51.7		
	comp=Z,17nm,1.1s									
PDAR	Pinedale Array	55.51	302		P		P	10 26 49.1	-0.6	
	comp=Z,6.8nm,0.9s,baz=90,slow=8.0,SNR=35									
PDAR					LR		LR	10 48 33.0		
	comp=Z,234nm,21.8s,baz=64,slow=34									
	comp=Z,6.8nm,0.9s									
BW06	Boulder Array	55.51	302		IAmb		IAmb	10 26 51.7		
	comp=Z,19nm,1.1s									
BW06	Boulder Array	55.51	302		P		P	10 26 49.4	-0.2	
	baz=74,SNR=14									
ANMO	Albuquerque	55.62	292		LR		LR	10 50 01.1		
	comp=Z,349nm,18.4s,baz=158,slow=35									
ANMO	Albuquerque	55.62	292		P		P	10 26 51.4	+0.9	
ANMO	Albuquerque	55.62	292		P		P	10 26 50.7	+0.2	
	baz=70									
ANMO	Albuquerque	55.62	292		P		P	10 26 50.5	0.0	
	baz=70									
ANMO	Albuquerque	55.62	292		P		P	10 26 51.4	+0.9	
ANMO					pmax		pmax			
	comp=Z,14nm,1.7s									
BBRB	Robore, Bolivi	55.74	205		eP		P	10 26 51.7	+0.5	
H17A	Grant Village	55.77	304		P		P	10 26 52.0	+0.4	
	baz=74							

121A	Cookes Peak, D	57.50	290	P	P	10 27 04.4 +0.4
	baz=68					
JLU	Jordanelle	57.51	300	IAmb	IAmb	10 27 05.8
	comp=Z,18nm,1.1s					
A36M	Sachs Harbour	57.56	338	P	P	10 27 03.1 -0.3
A36M	Sachs Harbour	57.56	338	P	P	10 27 04.2 +0.7
	baz=81,SNR=8.1					
C36M	Paulatuk	57.62	335	P	P	10 27 04.3 +0.4
	baz=80					
TMUT	Trail Mountain	57.75	298	IAmb	IAmb	10 27 07.9
	comp=Z,37nm,1.9s					
Q16A	Castle Valley	57.85	298	IAmb	IAmb	10 27 08.2
	comp=Z,26nm,1.7s					
TRCB	Terra Rica	57.89	196	*e*P	P	10 27 06.2 -0.2
HPIG		58.00	283	IAmb	IAmb	10 27 11.0
	comp=Z,50nm,1.9s					
NLU	North Lily Min	58.17	299	IAmb	IAmb	10 27 10.8
	comp=Z,18nm,1.4s					
VRH	Novokhopyorsk	58.41	47	*e*P	P	10 27 09.2 -0.5
VRH				pmax	pmax	
	comp=Z,30nm,1.1s					
WRGLY	Wrigley	58.59	328	P	P	10 27 11.4 +0.6
	baz=77					
DUG	Dugway, Tooele	58.62	300	IAmb	IAmb	10 27 13.9
	comp=Z,24nm,1.3s					
DUG	Dugway, Tooele	58.62	300	P	P	10 27 12.3 +0.7
	baz=70,SNR=12					
HLID	Hailey	58.67	304	IAmb	IAmb	10 27 13.4
	comp=Z,29nm,1.9s					
HLID	Hailey	58.67	304	P	P	10 27 12.6 +0.7
	baz=72,SNR=8.1					
NEW	Newport	59.04	310	LR	LR	10 52 09.1
	comp=Z,709nm,19.5s,baz=64,slow=36					
NEW	Newport	59.04	310	IAmb	IAmb	10 27 16.1
	comp=Z,19nm,1.0s					
NEW	Newport	59.04	310	P	P	10 27 15.1 +0.9
	baz=73					
PKCU	Pink Cliffs	59.20	297	IAmb	IAmb	10 27 18.1
	comp=Z,21nm,1.2s					
KOTAN	Kotaneelee Air	59.63	325	P	P	10 27 18.9 +0.8
	baz=75					
MFID	Camas Ranch	59.69	304	IAmb	IAmb	10 27 21.2
	comp=Z,35nm,1.6s					
KNB	Kanab	59.73	296	IAmb	IAmb	10 27 21.1
	comp=Z,16nm,1.2s					
PB16	IPOC Station P	59.88	215	IAmb	IAmb	10 27 22.8
	comp=Z,28nm,1.7s					
CCUT	Cedar City	59.94	297	IAmb	IAmb	10 27 23.6
	comp=Z,28nm,1.5s					
SPR3	Spring Creek 3	60.13	299	IAmb	IAmb	10 27 25.2
	comp=Z,17nm,1.4s					
E09A	Wood Farm, Sta	60.24	308	IAmb	IAmb	10 27 24.0
	comp=Z,23nm,1.2s					
PB12	IPOC Station P	60.52	216	P	P	10 27 22.4 -2.4
PB12				IAmb	IAmb	10 27 24.2
	comp=Z,29nm,1.4s					
LIRD	Liard River Hi	60.83	324	P	P	10 27 27.0 +0.7
	baz=73					
PB11	IPOC Station P	61.18	214	IAmb	IAmb	10 27 30.8
	comp=Z,22nm,1.0s					
HAWA	Hanford	61.19	309	P	P	10 27 27.9 -1.0
HAWA				IAmb	IAmb	10 27 30.9
	comp=Z,23nm,1.2s					
INK	Inuvik	61.20	335	P	P	10 27 28.7 +0.1
	comp=Z,8.5nm,1.1s,baz=47,slow=6.8,SNR=13					
INK				LR	LR	10 52 13.7
	comp=Z,231nm,21.2s,baz=82,slow=34					
	comp=Z,8.5nm,1.1s					
INK	Inuvik	61.20	335	IAmb	IAmb	10 27 30.3
	comp=Z,21nm,1.2s					
INK	Inuvik	61.20	335	P	P	10 27 29.0 +0.4
	baz=71,SNR=9.0					
W13A	Hualapai Mount	61.24	295	IAmb	IAmb	10 27 33.0
	comp=Z,28nm,1.6s					
LLLB	Lilooet	61.27	314	IAmb	IAmb	10 27 30.9
	comp=Z,23nm,1.2s					
KIV	Kislovodsk	61.28	54	*e*P	P	10 27 29.4 -0.3
KIV				pmax	pmax	
	comp=Z,9.0nm,1.1s					
KIV				MLR	MLR	
	comp=Z,27nm,17.0s					
R11A	Troy Canyon, C	61.28	299	P	P	10 27 30.4 +0.4
	baz=68					
SHA1	Shidzhatmaz	61.33	55	*i* P	P	10 27 29.0 -1.3
HSIG		61.39	287	IAmb	IAmb	10 27 32.0
	comp=Z,35nm,1.8s					
KBZ	Khabaz	61.50	55	P	P	10 27 32.0 +0.9
	comp=Z,11nm,0.9s,baz=300,slow=5.4,SNR=15					
	comp=Z,11nm,0.9s					
KBZ	Khabaz	61.50	55	P	P	10 27 32.0 +0.9
BELG	Belogornoye	61.56	44	LR	LR	10 52 42.9
	comp=Z,137nm,19.4s,baz=349,slow=35					
BELG	Belogornoye	61.56	44	*i* P	P	10 27 30.3 -1.0
BELG				pmax	pmax	
	comp=Z,10.0nm,1.1s					
F31M	Tsiigehtchic	61.56	334	P	P	10 27 32.1 +1.0
	baz=70					
LTY	Liberty	61.63	310	IAmb	IAmb	10 27 32.8
	comp=Z,21nm,1.1s					
214A	Organ Pipe Nat	61.65	291	P	P	10 27 33.1 +0.7
	baz=66					
V12A	Nelson	61.73	296	P	P	10 27 32.2 -0.8
PDMCI	Parker Dam,Lak	61.74	294	P	P	10 27 33.5 +0.6
	baz=67					
WTLY	Watson Lake, Y	61.91	325	P	P	10 27 34.0 +0.4
	baz=71					
113A	Mohawk Valley,	62.07	292	IAmb	IAmb	10 27 38.6
	comp=Z,18nm,1.3s					
ONI	Oni	62.28	56	IAmb	IAmb	10 27 38.6
	comp=Z,14nm,1.0s					
CPUP	Villa Florida	62.47	200	P	P	10 27 36.7 -1.0
	comp=Z,0.6nm,0.4s,baz=38,slow=4.6,SNR=4.3					
CPUP				LR	LR	10 53 58.3
	comp=Z,69nm,18.4s,baz=36,slow=35					
	comp=Z,0.6nm,0.4s					
CPUP	Villa Florida	62.47	200	P	P	10 27 36.0 -1.7
CPUP				IAmb	IAmb	10 27 38.6
	comp=Z,24nm,1.6s					
ZEI	Tsey	62.52	55	*e*P	P	10 27 37.6 -0.7
ZEI				pmax	pmax	
	comp=Z,14nm,1.2s					
IRM	Iron Mountain	62.57	294	P	P	10 27 39.0 +0.5
	baz=66					
G30M	tAoh Zraii Nji	62.63	334	P	P	10 27 39.0 +0.6
	baz=68					
GMRC	Granite Mounta	62.71	295	P	P	10 27 40.4 +0.8
	baz=66					
SHOC	Shoshone, Teco	62.73	297	P	P	10 27 40.3 +0.7
	baz=67					
GURO	Guroymak-BITLI	62.79	60	IAmb	IAmb	10 27 42.1
	comp=Z,17nm,1.3s					
GWY	Greenwater Val	62.91	297	IAmb	IAmb	10 29 12.8
	comp=Z,16nm,0.8s					
FURC	Furnace Creek,	62.94	297	P	P	10 27 41.8 +0.9
	baz=67					
LPIG	La Paz	63.00	282	LR	LR	10 53 14.3
	comp=Z,94nm,19.7s,baz=48,slow=34					
PINE	Pine Mountain	63.04	306	P	P	10 27 42.3 +0.6
DLBC	Dease Lake	63.07	324	LR	LR	10 54 35.1
	comp=Z,790nm,19.6s,baz=73,slow=36					
DLBC	Dease Lake	63.07	324	P	P	10 27 42.4 +0.9
	baz=69					
R33M	Jennings River	63.19	325	P	P	10 27 43.4 +1.1
	baz=69					
HEC	Hector,Ludlow	63.20	295	P	P	10 27 43.4 +0.7
	baz=66					
NVAR	Mina Array Bea	63.23	300	P	P	10 27 42.0 -1.1
	comp=Z,3.1nm,1.0s,baz=72,slow=6.2,SNR=14					
	comp=Z,3.1nm,1.0s					
FARO	Faro, Yukon	63.24	329	P	P	10 27 43.2 +0.7
	baz=68					
LVC	Limon Verde	63.30	212	LR	LR	10 55 02.4
	comp=Z,31nm,20.7s,baz=16,slow=36					
MOD	Modoc Plateau	63.31	304	IAmb	IAmb	10 27 46.2
	comp=Z,22nm,1.4s					
GSC	Goldstone, Bar	63.36	296	P	P	10 27 44.5 +0.7
	baz=66					
N32M	Quiet Lake	63.52	327	P	P	10 27 45.8 +1.4
	baz=68					
SWSC	Sam W. Stewart	63.56	293	P	P	10 27 45.9 +0.8
	baz=66					
MPMC	Manual Prospec	63.57	297	P	P	10 27 46.7 +1.4
	baz=66					
M31M	Drury Creek, Y	63.70	329	IAmb	IAmb	10 28 06.7
	comp=Z,20nm,1.6s					
M31M	Drury Creek, Y	63.70	329	P	P	10 27 47.0 +1.5
	baz=68					
P33M	Teslin, Yukon	63.75	326	P	P	10 27 47.0 +1.0
	baz=68					
PFO	Pinyon Flats O	63.79	294	LR	LR	10 55 32.8
	comp=Z,340nm,18.3s,baz=96,slow=36					
MAYO	Mayo, Yukon	63.79	330	P	P	10 27 47.5 +1.4
	baz=67					
S34M	Telegraph Cree	63.81	324	P	P	10 27 46.9 +0.7
	baz=68					
CWC	Cottonwood Cre	63.85	298	P	P	10 27 47.5 +0.3
	baz=66					
IKP	In-Ko-Pah, Jac	63.92	293	P	P	10 27 48.9 +1.4
	baz=65					
Q32M	Nakina River	63.97	325	P	P	10 27 48.2 +0.6
	baz=68					
E27K	Coleen River	64.03	336	P	P	10 27 48.4 +0.8
	baz=64					
I29M	Ogilvie Camp,	64.04	333	IAmb	IAmb	10 27 50.0
	comp=Z,16nm,1.1s					
I29M	Ogilvie Camp,	64.04	333	P	P	10 27 49.5 +1.8
	baz=66,SNR=9.5					
MONP2	Monument Peak	64.06	294	P	P	10 27 48.7 +0.1
	baz=65					
GNI	Garni	64.11	58	P	P	10 27 49.7 +0.9
GNI	Garni	64.11	58	P	P	10 27 49.7 +0.9
GNI				pmax	pmax	
	comp=Z,51nm,1.5s					
BBB	Bella Bella	64.36	317	LR	LR	10 55 29.5
	comp=Z,416nm,18.9s,baz=69,slow=36					
EDW2	Edwards Air Fo	64.42	296	P	P	10 27 51.9 +1.1
	baz=66					
ISA	Isabella, Lake	64.46	297	P	P	10 27 52.6 +1.5
	baz=66					
109C	Camp Elliot, M	64.58	294	P	P	10 27 51.9 +0.2
	baz=65					
M30M	Minto, Yukon	64.58	330	P	P	10 27 52.2 +0.9
	baz=66					
N31M	Braeburn, Yuko	64.59	328	P	P	10 27 52.4 +1.0
	baz=66					
G27K	Doyon Strip	64.66	335	P	P	10 27 52.3 +0.6
	baz=64					
H27K	Steamboat Moun	64.87	334	P	P	10 27 53.7 +0.6
	baz=63					
L29M	L29M	64.91	330	P	P	10 27 54.9 +1.4
	baz=65					
ARVC	Arvin	64.95	297	P	P	10 27 56.2 +2.1
	baz=65					
DAWY	Dawson	65.01	332	P	P	10 27 55.8 +1.6
	baz=64					
O30N	Mendenhall	65.02	328	P	P	10 27 55.0 +0.8
	baz=66					
YBH	Yreka Blue Hor	65.03	305	LR	LR	10 56 43.7
	comp=Z,250nm,18.2s,baz=54,slow=36					
OSI	Osito Audit: C	65.08	296	P	P	10 27 56.9 +1.8
	baz=65					
F26K	Sheenjek River	65.11	336	P	P	10 27 56.4 +1.7
	baz=62					
I27K	Kandik River	65.18	334	P	P	10 27 56.9 +1.6
	baz=63					
M29M	Somme Creek	65.34	330	P	P	10 27 56.6 +0.3
	baz=64					
E25K	Arctic Village	65.38	337	P	P	10 27 57.9 +1.5
	baz=61,SNR=6.9					
EGAK	Eagle	65.39	333	IAmb	IAmb	10 27 58.7
	comp=Z,13nm,0.9s					
EGAK	Eagle	65.39	333	P	P	10 27 57.6 +1.1
	baz=63,SNR=13					
CPSB	Cacapava Do Su	65.41	195	*e*P	P	10 27 56.6 -0.3
C24K	Franklin Bluff	65.55	339	P	P	10 27 59.0 +1.5
	baz=59					
F25K	Christian Rive	65.66	336	P	P	10 27 59.9 +1.6
	baz=60					
P30M	Million Dollar	65.69	327	P	P	10 27 59.8 +1.2
	baz=64					
PLBC	Pleasant Camp	65.70	326	P	P	10 27 59.9 +1.3
	baz=65					
CRAG	Craig	65.78	322	P	P	10 28 00.1 +0.9
	baz=66					
YUK4	Talbot Arm	65.90	329	P	P	10 27 59.6 -0.5
	baz=64					
YUK6	Outpost Mounta	65.95	328	P	P	10 28 01.0 +0.5
	baz=64					
ARU	Arti	65.98	37	LR	LR	10 54 32.7
	comp=Z,79nm,20.7s,baz=310,slow=34					
ARU	Arti	65.98	37	P	P	10 27 59.0 -1.5
ARU	Arti	65.98	37*c*	*i* P	P	10 27 59.2 -1.2
ARU				S	S	10 36 45.9 -2.0
ARU				pmax	pmax	
	comp=Z,41nm,1.5s					
SNCC	San Nicolas Is	66.26	295	P	P	10 28 04.6 +1.9
	baz=64					
E24K	Your Creek	66.35	337	P	P	10 28 04.1 +1.4
	baz=58					
BVCY	Beaver Creek	66.35	330	P	P	10 28 04.4 +1.6
	baz=62					
J26L	Joseph Creek	66.43	333	IAmb	IAmb	10 28 05.8
	comp=Z,11nm,0.9s					
J26L	Joseph Creek	66.43	333	P	P	10 28 04.7 +1.4
	baz=61,SNR=8.0					
L27K	Beaver Creek,	66.44	331	P	P	10 28 05.0 +1.7
	baz=62					
F24K	Squaw Lake	66.44	337	P	P	10 28 04.7 +1.3
	baz=59					
YUK3	Moose Creek	66.48	330	P	P	10 28 04.8 +1.0
	baz=62					
PRP	Porcupine Dome	66.66	334	IAmb	IAmb	10 28 07.9
	comp=Z,14nm,1.0s					
PRP	Porcupine Dome	66.66	334	P	P	10 28 06.4 +1.6
	baz=60,SNR=12					
G24K	Hadweenzic Riv	66.73	336	P	P	10 28 06.8 +1.7
	baz=59					
M27K	Edge Creek, AK	66.80	331	P	P	10 28 07.0 +1.3
	baz=62					
O28M	Mount Upton	66.83	329	P	P	10 28 07.5 +1.4
	baz=62					
SVE	Sverdlovsk	66.84	36	*e*P	P	10 28 07.1 +1.1
SVE				pmax	pmax	
	comp=Z,44nm,1.5s					
SCRK	Sand Creek	66.85	333	P	P	10 28 07.6 +1.6
SCRK				IAmb	IAmb	10 28 08.6
	comp=Z,11nm,1.1s					
SCRK	Sand Creek	66.85	333	P	P	10 28 07.2 +1.1
	baz=60,SNR=6.3					
L26K	Log Cabin Wild	67.07	331	P	P	10 28 08.5 +1.2
	baz=61					
AC02	Maricunga	67.10	210	P	P	10 28 08.6 +0.1
M26K	Nabesna, AK	67.23	331	P	P	10 28 09.7 +1.3
	baz=61					
RIDG	Independent Ri	67.30	333	P	P	10 28 10.2 +1.4
	baz=60,SNR=8.9					
H24K	Noodor Dome	67.33	335	IAmb	IAmb	10 28 11.9
	comp=Z,13nm,1.1s					
H24K	Noodor Dome	67.33	335	P	P	10 28 10.7 +1.8
	baz=58					
COLD	Coldfoot	67.36	337	P	P	10 28 10.6 +1.5
	baz=57,SNR=6.5					
E22K	Anaktuvuk Pass	67.36	338	P	P	10 28 10.0 +0.9
	baz=56					
IL31		67.53	334	P	P	10 28 10.3 +0.2
IL31				IAmb	IAmb	10 28 38.2
	comp=Z,17nm,1.6s					
ILAR	Eielson Array	67.53	334	P	P	10 28 10.4 +0.1
	comp=Z,2.9nm,0.9s,baz=51,slow=5.1,SNR=26					
ILAR				LR	LR	10 57 21.7
	comp=Z,153nm,19.0s,baz=74,slow=36					
	comp=Z,2.9nm,0.9s					
ILAR	Eielson Array	67.53	334	P	P	10 28 09.8 -0.4
ILAR	Eielson Array	67.53	334	P	P	10 28 09.8 -0.4
POKR	Poker Plat Res	67.55	334	P	P	10 28 11.8 +1.4
	baz=58					
G23K	Bananza Creek	67.58	337	P	P	10 28 12.1 +1.6
	baz=57					
K24K	Donnelly Dome	67.62	333	P	P	10 28 12.2 +1.3
	baz=59					
HDA	Harding Lake	67.75	334	P	P	10 28 12.9 +1.4
	baz=58					
COLA	College	67.83	334	P	P	10 28 13.8 +1.7
	baz=58					
COLA	College	67.83	334	*i* P	P	10 28 12.6 +0.6
COLA				pmax	pmax	
	comp=Z,10.0nm,1.1s					
TCOL	CIO, UAF Yank	67.83	334	P	P	10 28 13.8 +1.7
	baz=58					
PAX	Paxson	67.93	332	P	P	10 28 14.0 +1.1
	baz=59,SNR=5.1					
CCB	Clear Creek Bu	67.93	334	IAmb	IAmb	10 28 14.7
	comp=Z,11nm,0.8s					
HARP	HAARP	68.10	331	P	P	10 28 15.3 +1.4
	baz=59					
I23K	Minto, Yukon-K	68.22	335	IAmb	IAmb	10 28 17.0
	comp=Z,8.0nm,0.8s					
I23K	Minto, Yukon-K	68.22	335	P	P	10 28 16.2 +1.7
	baz=57					
AKTO	Aktyubinsk	68.31	43	LR	LR	10 55 28.2
	comp=Z,110nm,21.9s,baz=101,slow=34					
F21K	Alatna River	68.41	338	P	P	10 28 16.7 +1.0
	baz=54					
NEA2	Nenana	68.42	334	IAmb	IAmb	10 28 17.9
	comp=Z,14nm,1.2s					
NEA2	Nenana	68.42	334	P	P	10 28 16.7 +0.9
	baz=57,SNR=6.6					
DHY	Denali Highway	68.62	333	IAmb	IAmb	10 28 19.9
	comp=Z,18nm,1.0s					
DHY	Denali Highway	68.62	333	P	P	10 28 18.9 +1.7
	baz=58,SNR=6.7					
M24K	Tolsona, Glenn	68.66	331	P	P	10 28 18.6 +1.1
	baz=58					
MLY	Manley	68.77	335	P	P	10 28 19.2 +1.2
	baz=55					
MCK	McKinley	68.85	334	IAmb	IAmb	10 28 21.1
	comp=Z,11nm,1.1s					
MCK	McKinley	68.85	334	P	P	10 28 19.5 +1.0
	baz=56					
KLU	Klutina	68.89	331	IAmb	IAmb	10 28 21.9
	comp=Z,14nm,1.0s					
KLU	Klutina	68.89	331	P	P	10 28 19.8 +0.9
	baz=58					
RND	Reindeer	69.00	333	IAmb	IAmb	10 29 19.0
	comp=Z,33nm,1.9s					
WAT6	Susitna Watana	69.03	332	P	P	10 28 21.0 +1.2
	baz=57					
H21K	Melozitna Rive	69.11	336	IAmb	IAmb	10 28 22.6
	comp=Z,10nm,1.1s					
H21K	Melozitna Rive	69.11	336	P	P	10 28 21.7 +1.6
	baz=54					
I21K	Tanana	69.11	336	IAmb	IAmb	10 28 23.1
	comp=Z,19nm,1.0s					
I21K	Tanana	69.11	336	P	P	10 28 21.5 +1.5
	baz=54					
WAT1	Susitna Watana	69.20	333	P	P	10 28 22.1 +1.4
	baz=56					
IMAR	Indian Mountai	69.23	337	P	P	10 28 20.8 0.0
SCM	Sheep Creek Mo	69.27	331	P	P	10 28 22.1 +0.9
	baz=57					
BPAW	Bear Paw Mtn.	69.39	334	P	P	10 28 22.6 +0.7
	baz=55					
M23K	Glacier View	69.45	331	P	P	10 28 23.2 +1.0
	baz=57					
TRF	Thorofare Moun	69.51	334	P	P	10 28 23.2 +0.5
	baz=55					
KTH	Kantishna Hill	69.68	334	IAmb	IAmb	10 28 26.5
	comp=Z,18nm,1.0s					
SML	Sawmill	69.68	332	P	P	10 28 24.9 +1.1
	baz=56					
NRIK	Noril'sk	69.85	18	P	P	10 28 25.6 +1.0
	comp=Z,6.3nm,1.0s,baz=6.1,slow=3.0,SNR=13					
	comp=Z,6.3nm,1.0s					
KNK	Knik Glacier	69.95	331	P	P	10 28 26.6 +1.2
	baz=56					
ABKAR	Akbulak array	69.96	44	P	P	10 28 24.9 -0.7
CHUM	Lake Minchumin	69.99	335	P	P	10 28 27.0 +1.5
	baz=54,SNR=5.1					
CUT	Chulitna	70.10	333	P	P	10 28 27.1 +0.9
	baz=55					
PMR	Palmer	70.12	332	IAmb	IAmb	10 28 28.8
	comp=Z,18nm,1.0s					
PMR	Palmer	70.12	332	P	P	10 28 27.8 +1.5
	baz=56,SNR=5.2					
CAST	Castle Rocks	70.18	334	P	P	10 28 27.7 +0.9
	baz=54					
PWL	Port Wells	70.21	331	P	P	10 28 28.0 +1.0
	baz=56					
P23K	Montague Islan	70.31	330	P	P	10 28 26.6 -0.9
	baz=56					
PPLA	Purkeypile	70.53	334	P	P	10 28 29.4 +0.4
	baz=54					
RC01	Rabbit Creek A	70.65	331	P	P	10 28 30.7 +1.1
	baz=55					
SKT	Skwentna	70.83	333	P	P	10 28 31.6 +0.9
	baz=54					
SUA	Susitna One	70.83	332	P	P	10 28 31.7 +0.8
	baz=54					
K20K	Telida	70.94	335	P	P	10 28 32.1 +0.7
	baz=52					
GCSA	Galena City Sc	71.03	337	P	P	10 28 32.2 +0.4
	baz=50					
L20K	Farewell, AK	71.41	334	P	P	10 28 34.7 +0.5
	baz=52					
M20K	Styx River	71.49	333	P	P	10 28 35.3 +0.4
	baz=53					
N20K	Mount Spurr	71.55	332	P	P	10 28 35.6 +0.4
	baz=53					
SPCR	Spurr Chakacha	71.55	332	P	P	10 28 35.4 +0.2
	baz=53					
CO02	Combarbal	71.71	210	P	P	10 28 36.7 +0.3
CO02				IAmb	IAmb	10 28 38.1
	comp=Z,23nm,1.1s					
BRSE	Bradley Lake S	71.84	331	P	P	10 28 37.5 +0.6
	baz=54					
TTA	Tatalina	71.89	335	P	P	10 28 37.6 +0.4
	baz=51					
RAYN	Ar Rayn	72.10	73	P	P	10 28 38.1 -1.0
RAYN	Ar Rayn	72.10	73	P	P	10 28 38.1 -1.0
RAYN				pmax	pmax	
	comp=Z,6.0nm,1.1s					
MBAR	Mbarara	72.64	103	LR	LR	11 01 14.1
	comp=Z,130nm,18.3s,baz=56,slow=36					
MBAR	Mbarara	72.64	103*c*	*i* P	P	10 28 41.4 -1.1
MBAR				pmax	pmax	
	comp=Z,8.0nm,1.0s					
O19K	Port Alsworth	72.99	332	P	P	10 28 44.2 +0.6
	baz=51					
Q20K	Shuyak Island	73.20	330	P	P	10 28 46.3 +1.4
	baz=52					
BRVK	Borovoye	73.55	37	P	P	10 28 46.0 -1.1
BRVK	Borovoye	73.55	37	P	P	10 28 46.0 -1.1
BRVK				pmax	pmax	
	comp=Z,15nm,1.2s					
BVAR	Borovoye Array	73.62	37	LR	LR	10 58 41.3
	comp=Z,113nm,22.0s,baz=304,slow=34					
KDAK	Kodiak Island	73.79	330	LR	LR	11 01 44.2
	comp=Z,528nm,18.7s,baz=76,slow=36					
TNA	Tin City	73.82	341	P	P	10 28 49.4 +0.9
	baz=42					
ANM	Nome	73.83	339	P	P	10 28 49.2 +0.6
	baz=43					
P18K	Big Mountain,	73.86	332	P	P	10 28 49.5 +0.7
	baz=50					
LODK	Lodwar	74.16	97	P	P	10 28 51.3 -0.1
Q18K	Katmai Hardscr	74.24	331	P	P	10 28 51.6 +0.4
	baz=50					
H09W1	TRISTAN DA CUN	74.32	159	T	T	11 50 11.2
	SNR=6.0					
GEYT	Alibeck	74.39	55	P	P	10 28 52.3 -0.1
	comp=Z,3.2nm,0.9s,baz=270,slow=8.9,SNR=6.0					
	comp=Z,3.2nm,0.9s					
OHAK	Old Harbor	74.43	329	P	P	10 28 53.6 +1.4
	baz=51					
N16K	Nishlik Lake	74.50	334	P	P	10 28 54.3 +1.7
	baz=48					
TIXI	Tiksi	74.55	4	LR	LR	10 56 49.6
	comp=Z,73nm,20.4s,baz=304,slow=32					
TIXI	Tiksi	74.55	4	P	P	10 28 51.5 -1.1
TIXI	Tiksi	74.55	4*c*	*e*P	P	10 28 52.4 -0.2
TIXI				pmax	pmax	
	comp=Z,33nm,2.5s					
BO02	Sierra Bellavi	74.77	208	IAmb	IAmb	10 28 56.3
	comp=Z,40nm,1.6s					
Q16K	King Salmon	74.88	332	P	P	10 28 57.2 +2.5
	baz=49					
ATD	Arta Tunnel	76.03	85	LR	LR	11 03 12.0
	comp=Z,139nm,18.1s,baz=14,slow=36					
BILL	Bilibino	76.99	351	P	P	10 29 06.5 -0.2
BILL				IAmb	IAmb	10 29 09.5
	comp=Z,22nm,1.5s					
BILL	Bilibino	76.99	351	‖ *e*P	P	10 29 06.8 +0.1
BILL				*e*		10 29 23.3
BILL						10 31 58.0
BILL				pmax	pmax	
	comp=Z,14nm,1.3s					
BILL				MLR	MLR	
	comp=Z,123nm,18.0s					
KMBO	Kilima Mbogo	78.27	99	P	P	10 29 14.7 -0.3
KMBO				IAmb	IAmb	10 29 18.9
	comp=Z,25nm,2.0s					
KMBO	Kilima Mbogo	78.27	99	P	P	10 29 14.7 -0.3
KMBO				pmax	pmax	
	comp=Z,25nm,2.0s					

KURK	**Kurchatov**	**79.07**	**35**	P	**P**	**10 29 17.5**	**-1.0**
KURK	**Kurchatov**	**79.07**	**35**	*ce*P	**P**	**10 29 17.9**	**-0.6**
KURK	comp=Z,15nm,1.0s			pmax	pmax		
KKAR	**Karatay Array**	**79.44**	**45**	P	**P**	**10 29 19.4**	**-1.3**
KKAR	**Karatay Array**	**79.44**	**45**	P	**P**	**10 29 19.5**	**-1.3**
LSZ	**Lusaka**	**79.50**	**116**	LR	LR	11 02 08.7	
	comp=Z,280nm,21.7s,baz=338,slow=34						
LSZ	**Lusaka**	**79.50**	**116**	P	**P**	**10 29 21.4**	**-0.1**
LSZ	comp=Z,38nm,1.7s			IAmb	IAmb	10 29 23.9	
LSZ	**Lusaka**	**79.50**	**116**	P	**P**	**10 29 21.4**	**-0.1**
LSZ	comp=Z,38nm,1.7s			pmax	pmax		
KIBK	**Kibwezi**	**79.61**	**100**	P	**P**	**10 29 23.3**	**+1.2**
KIBK	comp=Z,30nm,1.5s			IAmb	IAmb	10 29 26.1	
ZAA0	**Zalesovo Array**	**79.69**	**30**	IAmb	IAmb	10 29 23.9	
ZALV	comp=Z,31nm,1.7s **Zalesovo Beam**	**79.69**	**30**	P	**P**	**10 29 21.2**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=268,slow=4.5,SNR=15						
ZALV	comp=Z,3.2nm,0.8s **Zalesovo Beam**	**79.69**	**30**	*i* P	**P**	**10 29 21.3**	**-0.5**
ZALV	comp=Z,3.0nm,0.8s			pmax	pmax		
PLCA	**Paso Flores**	**79.94**	**205**	P	**P**	**10 29 23.8**	**+0.5**
	comp=Z,3.5nm,1.1s,baz=24,slow=11,SNR=3.8						
PLCA	comp=Z,43nm,18.6s,baz=42,slow=37			LR	LR	11 06 15.3	
AAK	**Ala-Archa**	**82.05**	**44**	*i* P	**P**	**10 29 33.9**	**-1.0**
AAK	comp=Z,6.0nm,1.4s			pmax	pmax		
MAKZ	**Makanchi**	**83.34**	**37**	P	**P**	**10 29 40.3**	**-1.0**
MAKZ	comp=Z,13nm,1.2s			IAmb	IAmb	10 29 43.2	
MAKZ	**Makanchi**	**83.34**	**37**	P	**P**	**10 29 40.3**	**-1.0**
MAKZ	comp=Z,13nm,1.3s			pmax	pmax		
SEY	**Seymchan**	**83.38**	**355**	P	**P**	**10 29 40.8**	**-0.3**
	comp=Z,4.9nm,0.8s,baz=339,slow=1.8,SNR=14						
SEY	comp=Z,126nm,19.4s,baz=356,slow=34			LR	LR	11 04 53.4	
MK31	comp=Z,4.9nm,0.8s **Makanchi Array**	**83.50**	**37**	P	**P**	**10 29 40.7**	**-1.5**
MK31	**Makanchi Array**	**83.50**	**37**	*i* P	**P**	**10 29 41.6**	**-0.6**
MKAR	**Makanchi Array**	**83.50**	**37**	P	**P**	**10 29 41.4**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=317,slow=5.0,SNR=19						
DGZ	comp=Z,4.5nm,0.9s **Jazzator, Alta**	**83.87**	**32**	*i* P	**P**	**10 29 44.5**	**+0.3**
DGZ	comp=Z,18nm,1.8s			pmax	pmax		
YAK	**Yakutsk**	**84.10**	**6**	P	**P**	**10 29 45.3**	**+0.4**
	comp=Z,4.6nm,0.4s,baz=271,slow=2.0,SNR=4.7						
YAK	comp=Z,54nm,19.0s,baz=88,slow=34			LR	LR	11 04 18.1	
YAK	comp=Z,4.6nm,0.4s **Yakutsk**	**84.10**	**6**	*e*P	**P**	**10 29 44.0**	**-0.9**
YAK	comp=Z,15nm,0.9s			pmax	pmax		
YAK	comp=N,7.0nm,1.0s			pmax	pmax		
KSH	**Kashi**	**84.89**	**45**	P	**P**	**10 29 50.9**	**+1.4**
KSH	comp=Z,13nm,1.4s			pmax	pmax		
SUR	**Sutherland**	**85.83**	**134**	LR	LR	11 00 19.2	
	comp=Z,106nm,20.6s,baz=332,slow=30						
BOD	**Bodaibo**	**85.83**	**15**	*e*P	**P**	**10 29 52.0**	**-1.7**
BOD	comp=Z,51nm,1.5s			pmax	pmax		
MA2	**Magadan**	**86.82**	**356**	LR	LR	11 07 24.4	
	comp=Z,103nm,19.3s,baz=20,slow=35						
WMQ	**Urumqi**	**88.30**	**36**	*e*P	**P**	**10 30 08.0**	**+2.0**
WMQ	comp=Z,80nm,23.1s			LR	LR		
SHEM	**Shemya Is, Ala**	**89.55**	**341**	LR	LR	11 12 04.6	
	comp=Z,140nm,18.3s,baz=4.0,slow=37						
RPN	**Rapa Nui**	**90.81**	**238**	LR	LR	11 08 04.8	
	comp=Z,39nm,21.4s,baz=342,slow=34						
PETK	**Petropavlovsk-**	**92.52**	**351**	LR	LR	11 11 44.8	
	comp=Z,183nm,19.1s,baz=23,slow=35						
SONM	**Songino Array**	**92.76**	**23**	P	**P**	**10 30 26.5**	**-0.3**
SONM	comp=Z,2.8nm,1.2s,baz=318,slow=4.8,SNR=8.5			LR	LR	11 11 14.7	
	comp=Z,34nm,21.0s,baz=229,slow=35						
ULN	comp=Z,2.8nm,1.2s **Ulaanbaatar**	**92.95**	**23**	*ce*P	**P**	**10 30 26.0**	**-1.7**
ULN	comp=Z,5.0nm,1.3s			pmax	pmax		
KLR	**Kul'dur**	**96.95**	**7**	LR	LR	11 14 44.9	
	comp=Z,61nm,18.1s,baz=45,slow=36						
KLR	**Kul'dur**	**96.95**	**7**	*i* P	**P**	**10 30 44.0**	**-1.8**
KLR	comp=Z,9.0nm,1.9s			pmax	pmax		
GTA	**Gaotai**	**97.39**	**32**	*e*P	Pdif	10 30 48.8	+0.6
GTA				pP	pwP	10 30 54.8	+0.3
GTA				sP	sP	10 30 58.3	+6.9
GTA	comp=Z,4.0nm,1.2s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**100.67**	**23**	*e*P	**Pdif**	**10 31 01.6**	**-1.1**
HHC	comp=Z,13nm,1.1s			pmax	pmax		
HHC	comp=Z,330nm,4.9s			pmax	pmax		
CN2	**Changchun**	**101.40**	**12**	*e*P	**Pdif**	**10 31 04.8**	**-1.0**
CN2	comp=Z,10.0nm,0.8s			pmax	pmax		
PZH	**PanZhiHua**	**108.92**	**38**	PKP	**PKiKP**	**10 35 45.8**	**+1.4**
MSVF	**Nonsavu**	**144.17**	**287**	PKP	**PKPdf**	**10 36 49.9**	**-0.9**
	comp=Z,13nm,1.0s,baz=101,slow=6.2,SNR=8.5						
MSVF	**Nonsavu**	**144.17**	**287**		PKPbc	10 36 48.9	0.0
SIJI	**Sorong**	**145.81**	**20**	PKPbc	**PKPbc**	**10 36 54.3**	**0.0**
	comp=Z,17nm,0.8s,baz=359,slow=6.5,SNR=8.8						
WRA	**Warramunga Arr**	**164.66**	**29**	PKPab	**PKPab**	**10 38 13.9**	**0.0**
	comp=Z,1.6nm,1.0s,baz=341,slow=4.3,SNR=5.1						
ASAR	**Alice Springs**	**167.69**	**38**	PKPab	**PKPab**	**10 38 26.9**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=334,slow=3.7,SNR=7.1						
ASAR	**Alice Springs**	**167.69**	**38**	PKP2	**PKPab**	**10 38 27.0**	**-0.3**

ROM 23 10:24:01.4±0.2, 42°.811N±0°.007×13°.03E±0°.01, h9km±1km, ML1.0/2,1C, Error ellipse: s-maj=0.9km s-min=0.9km az=121.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1212	**Cascia, Frazio**	**0.06**	**170**	P	Pg	10 24 03.5	0.0
T1212				S	Sg	10 24 05.2	+0.2
T1215	**Vallo di Nera,**	**0.12**	**266**	P	Pg	10 24 04.8	+0.5
T1215				S	Sg	10 24 06.5	+0.3
T1215	comp=E,88μm,0.4s			AML	AML		
T1215	comp=E,113μm,0.5s			AML	AML		
T1215	comp=N,118μm,0.3s			AML	AML		
T1215	comp=N,149μm,0.8s			AML	AML		
T1217	**Poggiodomo (PG**	**0.12**	**217**	P	Pg	10 24 05.2	+0.8
T1217	comp=E,77μm,1.6s			AML	AML		
T1217	comp=N,76μm,1.4s			AML	AML		
CESI	**CESI - Serrava**	**0.21**	**334**	P	Pg	10 24 06.8	+1.0
CESI				S	Sg	10 24 10.4	+1.5
CESI	comp=E,41μm,1.9s			AML	AML		
CESI	comp=N,88μm,2.6s			AML	AML		
FDMO	**Fiordimonte**	**0.23**	**10**	P	Pg	10 24 07.2	+1.1
FDMO				S	Sg	10 24 10.6	+1.3
T1220	**Camerino, Fraz**	**0.30**	**8**	P	Pb	10 24 08.5	-0.6
T1220				S	Sg	10 24 12.8	+1.2
APEC	**Apecchio**	**0.87**	**329**	S	Sn	10 24 32.9	+0.2
CAFI	**Castiglion Fio**	**0.94**	**304**	S	Sg	10 24 31.6	0.0
TOLF	**Tolfa**	**1.07**	**226**	S	Sn	10 24 38.6	+1.1
TOLF	comp=E,96μm,1.6s			AML	AML		
TOLF	comp=N,146μm,1.6s			AML	AML		
BRSN	**Barisano**	**1.63**	**335**	⇑P	Pb	10 24 31.4	-0.2

*IDC **23** 10:28:09.7±0.5, 52°.84N×172°.23E, h0km, mb4.1/27, mbtmp4.2/28, ML3.3/1, MS3.1/6, Error ellipse:*

s-maj=15.8km s-min=10.3km az=163.0
*KRSC **23** 10:28:10.8±1.7, 52°.58N×171°.99E, h61km±41km, Ml4.7*
*MOS **23** 10:28:12.4±1.0, 52°.71N×172°.13E, h34km, mb4.5/7, Error ellipse: s-maj=8.1km s-min=6.2km az=36.3*
*NEIC **23** 10:28:14.4±2.0, 52°.6N±0°.1×172°.3E±0°.1, h36km±8km, mb4.4/91, Error ellipse: s-maj=19.4km s-min=8.8km az=176.0*

ISC 23 10:28:13.4±0.4, 52°.68N±0°.07×172°.11E±0°.04, h28km, n201, σ1978/201, mb4.4/80, MS2.9/5, 1C, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.21**	**87**	Pn	**Pn**	**10 28 31.7**	**-2.7**
SHEM	3μm,0.3s,baz=244,slow=1.0,SNR=104			Sn	**Sn**	**10 28 47.3**	**-2.6**
SHEM	342nm,0.3s,baz=88,slow=22,SNR=7.3			LR	LR	10 28 48.0	
SMY	comp=Z,403nm,19.1s,baz=301,slow=34 **Shemya**	**1.21**	**87**		**Pn**	**10 28 31.7**	**-2.7**
SMY	**Shemya**	**1.21**	**87**	P	**Pn**	**10 28 31.7**	**-2.7**
BKI	**Bering**	**4.42**	**307**	P	**Pn**	**10 29 20.3**	**+1.9**
BKI				S	**Sn**	**10 30 06.6**	**-2.3**
BKI	**Bering**	**4.42**	**307**	*e*P	**Pn**	**10 29 20.3**	**+1.9**
BKI				*e*S	**Sn**	**10 30 06.6**	**-2.3**
KBTR	**Krutoberegovo**	**6.47**	**307**	P	**Pn**	**10 29 47.4**	**+0.8**
KBTR				S	**Sn**	**10 30 58.2**	**-1.1**
KBTR	**Krutoberegovo**	**6.47**	**307**	*e*P	**Pn**	**10 29 47.4**	**+0.8**
KBTR				*e*S	**Sn**	**10 30 58.2**	**-1.1**
KIWB	**Kanaga Island**	**6.65**	**93**	Pn	**Pn**	**10 29 47.0**	**-2.1**
ADK	**Adak**	**6.92**	**92**	Pn	**Pn**	**10 29 51.9**	**-0.9**
ADK	**Adak**	**6.92**	**92**	P	**Pn**	**10 29 51.9**	**-0.9**
SPN	**Mys Shipunski**	**7.33**	**278**	*e*S	**Sn**	**10 31 16.0**	**-4.5**
TUMD	**Tumrok D**	**7.36**	**295**	*e*P	**Pn**	**10 30 00.4**	**+1.5**
TUMD				*e*S	**Sn**	**10 31 21.4**	**+0.1**
BZP	**Bezymyannyi-Pe**	**7.50**	**300**	*e*P	**Pn**	**10 30 03.1**	**+2.2**
TUMR	**Tumrok**	**7.52**	**295**	P	**Pn**	**10 30 02.2**	**+1.1**
TUMR				S	**Sn**	**10 31 22.4**	**-3.0**
TUMR	**Tumrok**	**7.52**	**295**	*e*P	**Pn**	**10 30 02.2**	**+1.1**
TUMR				*e*S	**Sn**	**10 31 22.4**	**-3.0**
KMNR	**Kamenistaya**	**7.61**	**299**	P	**Pn**	**10 30 03.8**	**+1.5**
KMNR	**Kamenistaya**	**7.61**	**299**	*e*P	**Pn**	**10 30 03.8**	**+1.5**
KPT	**Kopyto**	**7.69**	**300**	P	**Pn**	**10 30 05.0**	**+1.6**
KPT	**Kopyto**	**7.69**	**300**	*e*P	**Pn**	**10 30 05.0**	**+1.6**
NLC	**Nalytchevo**	**7.73**	**279**	*e*S	**Sn**	**10 31 26.3**	**-4.2**
KOZ	**Kozyrevsk**	**7.90**	**300**	P	**Pn**	**10 30 07.6**	**+1.3**
KOZ	**Kozyrevsk**	**7.90**	**300**	*e*P	**Pn**	**10 30 07.6**	**+1.3**
SDLR	**Sedlovina**	**8.01**	**280**	P	**Pn**	**10 30 08.8**	**+1.0**
SDLR				S	**Sn**	**10 31 34.2**	**-3.2**
SDLR	**Sedlovina**	**8.01**	**280**	*e*P	**Pn**	**10 30 08.8**	**+1.0**
SDLR				*e*S	**Sn**	**10 31 34.2**	**-3.2**
UGLR	**Uglovaya**	**8.04**	**279**	P	**Pn**	**10 30 08.8**	**+0.5**
UGLR				S	**Sn**	**10 31 35.9**	**-2.4**
UGLR	**Uglovaya**	**8.04**	**279**	*e*P	**Pn**	**10 30 08.8**	**+0.5**
UGLR				*e*S	**Sn**	**10 31 35.9**	**-2.4**
SMAR	**Somma**	**8.06**	**279**	P	**Pn**	**10 30 09.5**	**+0.9**
SMAR	**Somma**	**8.06**	**279**	*e*P	**Pn**	**10 30 09.5**	**+0.9**
SRDR	**Sredinnyy**	**8.08**	**302**	*e*S	**Sn**	**10 31 37.9**	**-1.1**
KRER	**Koryakskii**	**8.09**	**280**	P	**Pn**	**10 30 10.3**	**+1.3**
KRER	**Koryakskii**	**8.09**	**280**	*e*P	**Pn**	**10 30 10.3**	**+1.3**
DALK	**Dalny**	**8.09**	**278**	P	**Pn**	**10 30 08.9**	**0.0**
DALK				S	**Sn**	**10 31 35.5**	**-3.8**
DALK	**Dalny**	**8.09**	**278**	*e*P	**Pn**	**10 30 08.9**	**0.0**
DALK				*e*S	**Sn**	**10 31 35.5**	**-3.8**
AVH	**Avacha**	**8.10**	**279**	P	**Pn**	**10 30 10.0**	**+1.0**
AVH				S	**Sn**	**10 31 35.4**	**-4.1**
AVH	**Avacha**	**8.10**	**279**	*e*P	**Pn**	**10 30 10.0**	**+1.0**
AVH				*e*S	**Sn**	**10 31 35.4**	**-4.1**
KRX	**Arik**	**8.15**	**280**	P	**Pn**	**10 30 10.4**	**+0.6**
KRX				S	**Sn**	**10 31 36.1**	**-4.8**
KRX	**Arik**	**8.15**	**280**	*e*P	**Pn**	**10 30 10.4**	**+0.6**
KRX				*e*S	**Sn**	**10 31 36.1**	**-4.8**
PET	**Petropavlovsk**	**8.15**	**278**	Pn	**Pn**	**10 30 11.3**	**+1.6**
PET	**Petropavlovsk**	**8.15**	**278**	*e*P	**Pn**	**10 30 10.4**	**+0.7**
PET				*e*S	**Sn**	**10 31 37.4**	**-3.4**
PET	comp=Z,14nm,0.8s			pmax	pmax		
KOK	**Koryaka**	**8.16**	**280**	P	**Pn**	**10 30 10.3**	**+0.4**
KOK	**Koryaka**	**8.16**	**280**	*e*P	**Pn**	**10 30 10.3**	**+0.4**
RUS	**Russkaya**	**8.29**	**274**	P	**Pn**	**10 30 12.9**	**+1.3**
RUS				S	**Sn**	**10 31 39.0**	**-5.2**
RUS	**Russkaya**	**8.29**	**274**	*e*P	**Pn**	**10 30 12.9**	**+1.3**
RUS				*e*S	**Sn**	**10 31 39.0**	**-5.2**
OSSR	**Ossora**	**8.30**	**326**	P	**Pn**	**10 30 14.8**	**+3.1**
OSSR	**Ossora**	**8.30**	**326**	*e*P	**Pn**	**10 30 14.8**	**+3.1**
TILK	**Tilichiki**	**8.45**	**339**	P	**Pn**	**10 30 16.0**	**+2.3**
TILK	**Tilichiki**	**8.45**	**339**	*e*P	**Pn**	**10 30 16.0**	**+2.3**
KRMR	**Karymshinskiy**	**8.48**	**277**	*e*S	**Sn**	**10 31 44.9**	**-4.0**
MTVR	**Mutnovka**	**8.49**	**274**	P	**Pn**	**10 30 15.7**	**+1.3**
MTVR				S	**Sn**	**10 31 44.4**	**-4.8**
MTVR	**Mutnovka**	**8.49**	**274**	*e*P	**Pn**	**10 30 15.7**	**+1.3**
MTVR				*e*S	**Sn**	**10 31 44.4**	**-4.8**
GRL	**Gorelyy**	**8.54**	**275**	P	**Pn**	**10 30 16.2**	**+1.0**
GRL				S	**Sn**	**10 31 47.4**	**-3.2**
GRL	**Gorelyy**	**8.54**	**275**	*e*P	**Pn**	**10 30 16.2**	**+1.0**
GRL				*e*S	**Sn**	**10 31 47.4**	**-3.2**
GNL	**Ganaly**	**8.57**	**282**	P	**Pn**	**10 30 17.3**	**+1.8**
GNL	**Ganaly**	**8.57**	**282**	*e*P	**Pn**	**10 30 17.3**	**+1.8**
PEA0B	**Petropavlovsk-**	**8.73**	**279**	Pn	**Pn**	**10 30 19.6**	**+2.0**
PEA0B	**Petropavlovsk-**	**8.73**	**279**	P	**Pn**	**10 30 19.6**	**+2.0**
PETK	**Petropavlovsk-**	**8.73**	**279**	Pn	**Pn**	**10 30 18.5**	**+0.9**
PETK	comp=Z,1.6nm,0.3s,baz=94,slow=20,SNR=66			Sn	**Sn**	**10 31 51.1**	**-3.8**
PETK	comp=Z,3.1nm,0.3s,baz=95,slow=16,SNR=11 comp=Z,9.2nm,0.7s **Petropavlovsk-**	**8.73**	**279**	Pn	**Pn**	**10 30 18.9**	**+1.3**
PETK	**Petropavlovsk-**	**8.73**	**279**	P	**Pn**	**10 30 18.9**	**+1.3**
MA2	**Magadan**	**13.71**	**309**	LR	LR	10 36 21.9	
GAMB	comp=Z,35nm,21.0s,baz=96,slow=36 **Gambell**	**13.96**	**31**	Pn	**Pn**	**10 31 28.9**	**0.0**
TNA	**Tin City**	**16.37**	**30**	Pn	**Pn**	**10 32 00.1**	**-0.6**
ANM	**Nome**	**16.58**	**35**	P	**P**	**10 32 05.5**	**-0.4**
ANM	**Nome**	**16.58**	**35**	P	**P**	**10 32 05.5**	**-0.4**
ANM	comp=Z,9.0nm,1.0s			pmax	pmax		
P18K	**Big Mountain,**	**19.29**	**57**	P	**P**	**10 32 34.5**	**-1.2**
SVW2	**Sparrevohn**	**19.37**	**52**	P	**P**	**10 32 34.4**	**-2.2**
TTA	**Tatalina**	**19.62**	**46**	P	**Pn**	**10 32 40.2**	**-0.6**
TTA	**Tatalina**	**19.62**	**46**	P	**Pn**	**10 32 40.2**	**-0.6**
TTA	comp=Z,11nm,1.4s			pmax	pmax		
N19K	**Bonanza Creek**	**19.85**	**53**	P	**Pn**	**10 32 42.9**	**-0.7**
L19K	**White Mountain**	**19.94**	**49**	P	**P**	**10 32 43.2**	**+0.4**
Q19K	**Cape Douglas,**	**20.07**	**58**	P	**P**	**10 32 43.6**	**-0.6**
OHAK	**Old Harbor**	**20.24**	**63**	P	**P**	**10 32 44.6**	**-1.3**
OHAK	comp=Z,30nm,1.2s			IAmb	IAmb	10 32 47.6	
P19K	**Oil Pt**	**20.33**	**56**	P	**P**	**10 32 47.3**	**+0.3**
K20K	**Telida**	**20.58**	**46**	P	**P**	**10 32 49.9**	**+0.1**
KDAK	**Kodiak Island**	**20.60**	**62**	P	**P**	**10 32 48.2**	**-1.8**
KDAK	comp=Z,7.7nm,0.4s,baz=292,slow=4.6,SNR=45			LR	LR	10 40 21.4	
	comp=Z,174nm,18.1s,baz=292,slow=36 comp=Z,7.7nm,0.4s						
KDAK	**Kodiak Island**	**20.60**	**62**	P	**P**	**10 32 48.4**	**-1.5**
KDAK	comp=Z,42nm,1.4s			IAmb	IAmb	10 33 15.2	
KDAK	**Kodiak Island**	**20.60**	**62**	P	**P**	**10 32 48.4**	**-1.5**
KDAK	comp=Z,42nm,1.4s			pmax	pmax		
RSO	**Redoubt South**	**20.64**	**54**	P	**P**	**10 32 50.5**	**-0.1**
M20K	**Styx River**	**20.67**	**50**	P	**P**	**10 32 51.4**	**+0.6**
SPU	**Mount Spurr**	**21.07**	**52**	P	**P**	**10 32 55.9**	**+0.8**
ASAJ	**Asahikawa**	**21.26**	**258**	LR	LR	10 40 21.8	
PPLA	comp=Z,57nm,21.8s,baz=100,slow=34 **Purkeypile**	**21.30**	**47**	P	**P**	**10 32 58.5**	**+0.9**
PPLA				IAmb	IAmb	10 33 18.3	
CNPM	comp=Z,34nm,1.5s **China Poot**	**21.33**	**57**	P	**P**	**10 32 58.1**	**+0.3**
CNPM				IAmb	IAmb	10 33 14.0	
SKT	comp=Z,32nm,1.2s **Skwentna**	**21.44**	**50**	P	**P**	**10 33 00.4**	**+1.5**
CAST	**Castle Rocks**	**21.47**	**46**	P	**P**	**10 33 00.0**	**+0.8**
IMAR	**Indian Mountai**	**21.55**	**39**	P	**P**	**10 33 00.9**	**+0.8**
SUA	**Susitna One**	**21.73**	**52**	P	**P**	**10 33 03.1**	**+0.9**
H21K	**Melozitna Rive**	**21.80**	**40**	P	**P**	**10 33 03.8**	**+1.0**
KTH	**Kantishna Hill**	**22.00**	**46**	P	**P**	**10 33 06.1**	**+1.0**
RC01	**Rabbit Creek A**	**22.18**	**53**	P	**P**	**10 33 06.8**	**-0.1**
RC01	comp=Z,11nm,1.1s			IAmb	IAmb	10 33 12.0	
TRF	**Thorofare Moun**	**22.26**	**46**	P	**P**	**10 33 08.8**	**+0.9**
TRF				IAmb	IAmb	10 33 19.2	
	comp=Z,16nm,1.0s						
MLY	**Manley**	**22.44**	**42**	P	**P**	**10 33 09.4**	**-0.3**
MLY	comp=Z,13nm,1.2s			IAmb	IAmb	10 33 12.4	
GHO	**Glory Hole Cre**	**22.64**	**51**	P	**P**	**10 33 12.3**	**+0.5**
GHO	comp=Z,21nm,1.5s			IAmb	IAmb	10 33 56.1	
BWN	**Browne**	**22.77**	**45**	P	**P**	**10 33 13.8**	**+0.6**
KNK	**Knik Glacier**	**22.82**	**52**	P	**P**	**10 33 13.0**	**-0.8**
KNK	comp=Z,6.9nm,0.6s			IAmb	IAmb	10 33 23.2	
MCK	**McKinley**	**22.91**	**46**	P	**P**	**10 33 14.4**	**-0.2**
MCK	comp=Z,11nm,0.9s			IAmb	IAmb	10 33 20.4	
MCK	**McKinley**	**22.91**	**46**	P	**P**	**10 33 14.5**	**-0.2**
MCK	comp=Z,11nm,0.9s			pmax	pmax		
SML	**Sawmill**	**22.92**	**51**	P	**P**	**10 33 15.1**	**+0.3**
NEA2	**Nenana**	**23.02**	**44**	P	**P**	**10 33 16.3**	**+0.5**
A21K	**Barrow**	**23.27**	**25**	P	**P**	**10 33 16.8**	**-1.3**
SCM	**Sheep Creek Mo**	**23.39**	**51**	P	**P**	**10 33 19.3**	**-0.3**
SCM	comp=Z,12nm,0.8s			IAmb	IAmb	10 33 22.9	
SCM	**Sheep Creek Mo**	**23.39**	**51**	P	**P**	**10 33 19.3**	**-0.3**
SCM	comp=Z,12nm,0.8s			pmax	pmax		
WRH	**Wood River Hil**	**23.41**	**44**	P	**P**	**10 33 19.5**	**-0.1**
WRH	comp=Z,6.4nm,0.7s			IAmb	IAmb	10 33 23.7	
MDM	**Murphy Dome**	**23.46**	**43**	P	**P**	**10 33 19.5**	**-0.6**
MDM	comp=Z,7.7nm,0.8s			IAmb	IAmb	10 33 26.8	
CCB	**Clear Creek Bu**	**23.57**	**44**	P	**P**	**10 33 21.1**	**0.0**
CCB	comp=Z,6.6nm,0.6s			IAmb	IAmb	10 33 23.2	
TCOL	**CIGO, UAF Yank**	**23.59**	**43**	P	**P**	**10 33 20.5**	**-0.8**
TCOL	comp=Z,23nm,1.1s			IAmb	IAmb	10 33 23.0	
COLA	**College**	**23.60**	**43**	P	**P**	**10 33 20.9**	**-0.5**
COLA	comp=Z,23nm,1.1s			IAmb	IAmb	10 33 23.0	
COLA	**College**	**23.60**	**43**	P	**P**	**10 33 20.9**	**-0.5**
COLA	comp=Z,23nm,1.2s			pmax	pmax		
H24K	**Noodor Dome**	**23.80**	**41**	IAmb	IAmb	10 33 29.6	
POKR	comp=Z,13nm,1.2s **Poker Plat Res**	**23.82**	**43**	P	**P**	**10 33 23.2**	**-0.4**
POKR	comp=Z,14nm,0.7s			IAmb	IAmb	10 33 27.2	
HDA	**Harding Lake**	**23.89**	**45**	P	**P**	**10 33 23.7**	**-0.6**
HDA	comp=Z,6.0nm,0.6s			IAmb	IAmb	10 33 31.1	
IL31		**23.98**	**44**	P	**P**	**10 33 23.8**	**-1.2**
ILAR	**Eielson Array**	**23.98**	**44**	P	**P**	**10 33 23.5**	**-1.6**
	comp=Z,3.0nm,0.6s,baz=258,slow=7.2,SNR=28						
KLU	comp=Z,3.0nm,0.6s **Klutina**	**24.04**	**52**	P	**P**	**10 33 25.8**	**0.0**
KLU				IAmb	IAmb	10 33 29.7	
PAX	comp=Z,8.2nm,0.8s **Paxson**	**24.35**	**48**	IAmb	IAmb	10 33 34.3	
N25K	comp=Z,8.4nm,1.0s **Chitina, Valde**	**24.68**	**52**	IAmb	IAmb	10 33 36.4	
PRP	comp=Z,9.3nm,0.8s **Porcupine Dome**	**24.69**	**42**	P	**P**	**10 33 31.5**	**-0.2**
RIDG	**Independent Ri**	**24.71**	**47**	IAmb	IAmb	10 33 36.9	
FYU	comp=Z,8.4nm,0.8s **Fort Yukon**	**25.02**	**40**	P	**P**	**10 33 34.7**	**+0.2**
FYU	comp=Z,14nm,1.0s			IAmb	IAmb	10 33 40.0	
DOT	**Dot Lake**	**25.05**	**47**	IAmb	IAmb	10 33 40.5	
GLB	comp=Z,12nm,0.9s **Gilahina Butte**	**25.06**	**52**	IAmb	IAmb	10 33 39.0	
SCRK	comp=Z,9.3nm,0.6s **Sand Creek**	**25.11**	**46**	P	**P**	**10 33 35.1**	**-0.4**
MENT	**Mentasta**	**25.15**	**49**	P	**P**	**10 33 37.8**	**+2.1**
MENT	comp=Z,8.9nm,0.6s			IAmb	IAmb	10 33 40.4	
VRDI	**Verde Repeater**	**25.23**	**53**	P	**P**	**10 33 37.6**	**+0.9**
VRDI	comp=Z,19nm,1.4s			IAmb	IAmb	10 34 09.9	
L26K	**Log Cabin Wild**	**25.32**	**48**	IAmb	IAmb	10 33 43.3	
KLR	comp=Z,9.9nm,1.3s **Kul'dur**	**25.42**	**278**	P	**P**	**10 33 38.9**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=45,slow=11,SNR=2.7						
MCARA	comp=Z,1.3nm,0.7s **McCarthy VSAT**	**25.43**	**52**	P	**P**	**10 33 39.5**	**+1.2**
MCARA				IAmb	IAmb	10 33 53.1	
L27K	comp=Z,16nm,1.0s **Beaver Creek,**	**26.02**	**48**	IAmb	IAmb	10 33 51.3	
BARN	comp=Z,9.4nm,1.3s **Barnard Glacie**	**26.10**	**53**	IAmb	IAmb	10 33 50.7	
EGAK	comp=Z,14nm,0.9s **Eagle**	**26.41**	**45**	IAmb	IAmb	10 33 49.7	
TIXI	comp=Z,10nm,0.6s **Tiksi**	**26.75**	**331**	P	**P**	**10 33 49.0**	**-1.2**
TIXI	comp=Z,1.8nm,0.8s,baz=90,slow=23,SNR=4.9			PcP	**PcP**	**10 37 12.6**	**+0.3**
DAWY	comp=Z,0.7nm,0.3s,baz=268,slow=23,SNR=5.1 comp=Z,1.8nm,0.8s **Dawson**	**27.14**	**46**	P	**P**	**10 33 55.5**	**+1.8**
DAWY				IAmb	IAmb	10 33 59.8	
MJAR	comp=Z,5.1nm,0.8s **Matsushiro Arr**	**28.69**	**249**	LR	LR	10 44 17.3	
INK	comp=Z,28nm,21.7s,baz=56,slow=34 **Inuvik**	**29.73**	**38**	P	**P**	**10 34 16.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=260,slow=6.2,SNR=10						
H11N2	comp=Z,0.6nm,0.3s **WAKE ISLAND Hy**	**33.14**	**189**	T	T	11 10 05.7	
	baz=6.3,slow=76,SNR=1096						
H11N3	**WAKE ISLAND Hy**	**33.15**	**189**	T	T	11 10 06.5	
	baz=6.3,slow

	comp=Z,3.8nm,0.9s							
LZH	**Lanzhou**	**49.62**	**279**	*e*P		**P**	**10 37 06.3**	**+4.0**
LZH				pP		pwP	10 37 14.8	+1.1
LZH				sP		sP	10 37 22.0	+9.1
LZH				pmax		pmax		
	comp=Z,9.0nm,1.2s							
BW06	**Boulder Array**	**51.14**	**68**	IAmb		IAmb	10 37 15.9	
	comp=Z,5.9nm,1.2s							
PD31	**Pinedale Array**	**51.14**	**68**	IAmb		IAmb	10 37 15.9	
	comp=Z,5.2nm,1.2s							
PDAR	**Pinedale Array**	**51.14**	**68**	P		**P**	**10 37 13.3**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=306,slow=2.9,SNR=31							
	comp=Z,2.0nm,0.5s							
P17A	**Butcher Ranch,**	**52.62**	**72**	IAmb		IAmb	10 37 27.2	
	comp=Z,9.6nm,1.4s							
SRU	**San Rafael Swe**	**52.99**	**72**	IAmb		IAmb	10 37 30.0	
	comp=Z,6.9nm,1.0s							
SUMG	**Summit**	**53.23**	**11**	*i* P		**P**	**10 37 28.0**	**-1.1**
ULM	**Lac du Bonnet**	**53.52**	**53**	P		**P**	**10 37 30.5**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=308,slow=6.1,SNR=3.4							
	comp=Z,1.1nm,0.3s							
O20A	**White River Ci**	**53.61**	**70**	IAmb		IAmb	10 37 39.5	
	comp=Z,4.4nm,0.7s							
WMQ	**Urumqi**	**53.82**	**297**	*e*P		**P**	**10 37 33.3**	**-0.1**
WMQ				pP		pwP	10 37 46.5	+1.2
WMQ				pmax		pmax		
	comp=Z,13nm,0.7s							
KURK	**Kurchatov**	**53.92**	**308**	P		**P**	**10 37 33.8**	**-0.1**
KURK	**Kurchatov**	**53.92**	**308**	P		**P**	**10 37 33.8**	**-0.1**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MK31	**Makanchi Array**	**54.71**	**303**	P		**P**	**10 37 39.0**	**-0.7**
MK31	**Makanchi Array**	**54.71**	**303**	P		**P**	**10 37 39.0**	**-0.7**
MK31				pmax		pmax		
	comp=Z,3.0nm,1.4s							
MKAR	**Makanchi Array**	**54.71**	**303**	P		**P**	**10 37 38.9**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=54,slow=6.9,SNR=15							
MKAR				PcP		**PcP**	**10 38 42.4**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=54,slow=3.6,SNR=2.7							
	comp=Z,1.1nm,0.8s							
S22A	**4UR Ranch, Cre**	**56.04**	**71**	IAmb		IAmb	10 37 52.9	
	comp=Z,3.7nm,0.6s							
RABL	**Rabaul**	**59.12**	**203**	P		**P**	**10 38 10.2**	**-1.1**
MNTX	**Cornudas Mount**	**61.15**	**75**	P		**P**	**10 38 25.4**	**+0.3**
MNTX				IAmb		IAmb	10 38 32.5	
	comp=Z,3.4nm,0.8s							
SCHQ	**Schefferville**	**62.27**	**34**	P		**P**	**10 38 31.6**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=280,slow=4.4,SNR=7.0							
	comp=Z,2.7nm,0.7s							
KK31	**Karatay Array**	**63.22**	**307**	P		**P**	**10 38 38.0**	**-0.9**
KK31				IAmb		IAmb	10 38 39.8	
	comp=Z,2.7nm,0.8s							
KK31	**Karatay Array**	**63.22**	**307**	P		**P**	**10 38 38.0**	**-0.9**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SIJI	**Sorong**	**63.35**	**227**	P		**P**	**10 38 42.1**	**+2.1**
	comp=Z,25nm,0.8s,baz=356,slow=4.5,SNR=8.2							
TX31	**Lajitas Ar. Si**	**63.88**	**75**	P		**P**	**10 38 43.6**	**+0.1**
TX32	**Lajitas Array**	**63.88**	**75**	P		**P**	**10 38 43.6**	**+0.1**
TX32				IAmb		IAmb	10 38 48.2	
	comp=Z,6.5nm,1.5s							
TXAR	**Lajitas Array**	**63.88**	**75**	P		**P**	**10 38 43.5**	**0.0**
	comp=Z,1.3nm,0.5s,baz=307,slow=5.0,SNR=29							
	comp=Z,1.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**65.35**	**268**	P		**P**	**10 38 54.6**	**+1.6**
	comp=Z,1.5nm,0.5s,baz=30,slow=6.6,SNR=7.4							
	comp=Z,1.5nm,0.5s							
NB2	**NORSAR Subarra**	**65.60**	**350**	P		**P**	**10 38 53.2**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=13,slow=6.5							
NOA	**NORSAR Array B**	**65.60**	**350**	P		**P**	**10 38 53.4**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=15,slow=6.7,SNR=5.3							
NOA				LR		LR	11 08 33.1	
	comp=Z,13nm,20.1s,baz=355,slow=37							
	comp=Z,1.0nm,0.6s							
CHGR	**Chuyangaron**	**67.25**	**304**	P		**P**	**10 39 05.2**	**+0.1**
CHGR	**Chuyangaron**	**67.25**	**304**	P		**P**	**10 39 05.2**	**+0.1**
CHGR				pmax		pmax		
	comp=Z,11nm,0.8s							
EKA	**Eskdalemuir Ar**	**72.28**	**357**	P		**P**	**10 39 35.5**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=358,slow=5.0,SNR=6.0							
	comp=Z,1.7nm,0.7s							
AKASG	**Malin Array Be**	**72.33**	**336**	P		**P**	**10 39 35.7**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=10,slow=5.4,SNR=4.7							
	comp=Z,1.3nm,0.5s							
KBZ	**Khabaz**	**74.49**	**324**	P		**P**	**10 39 50.2**	**+1.4**
	comp=Z,3.1nm,1.0s,baz=168,slow=7.3,SNR=3.8							
	comp=Z,3.1nm,1.0s							
CLL	**Collm**	**74.90**	**347**	*e*P		P	10 39 57.0	+5.9
CLL	**Collm**	**74.90**	**347**	*e*P		P	10 39 57.0	+5.9
CTA	**Charters Tower**	**75.87**	**205**	P		**P**	**10 39 58.8**	**+1.8**
	comp=Z,3.3nm,0.7s,baz=10.0,slow=10,SNR=5.6							
	comp=Z,3.3nm,0.7s							
BUR08	**Bucovina Ar. S**	**76.14**	**338**	P		**P**	**10 39 59.0**	**+0.6**
BUR08				IAmb		IAmb	10 40 24.2	
	comp=Z,5.7nm,1.3s							
GERES	**GERESS Array B**	**77.19**	**346**	P		**P**	**10 40 04.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.2,SNR=5.7							
	comp=Z,0.6nm,0.5s							
GERES	**GERESS Array B**	**77.19**	**346**	P		**P**	**10 40 04.0**	**-0.3**
WRA	**Warramunga Arr**	**79.41**	**216**	P		**P**	**10 40 17.8**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=32,slow=6.2,SNR=16							
	comp=Z,4.7nm,0.8s							
BRTR	**Keskin Array B**	**81.17**	**329**	P		**P**	**10 40 26.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=60,slow=2.7,SNR=5.8							
	comp=Z,1.2nm,0.7s							
ASAR	**Alice Springs**	**83.00**	**215**	P		**P**	**10 40 37.4**	**+1.7**
	comp=Z,2.1nm,0.6s,baz=18,slow=4.7,SNR=35							
	comp=Z,2.1nm,0.6s							
STKA	**Stephens Creek**	**88.32**	**206**	P		**P**	**10 41 03.8**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=340,slow=9.4,SNR=6.4							
	comp=Z,2.9nm,0.7s							
BOSA	**Boshof**	**145.70**	**301**	PKPbc		**PKPab**	**10 47 49.9**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=14,slow=3.4,SNR=5.5							

IDC 23 10:47:36.0±999.0, 54°58N×2°62E, h0km, Error ellipse: s-maj=465.6km s-min=175.1km az=111.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.96**	**125**	I	I	11 43 40.0	
	baz=314,slow=326,SNR=0.7						
I43RU	**DUBNA INFRASON**	**9.52**	**70**	I	I	12 50 30.0	
	baz=278,slow=313,SNR=1.2						
I31KZ	**AKTYUBINSK INF**	**33.25**	**74**	I	I	14 11 10.0	
	baz=301,slow=324,SNR=0.9						

*IDC **23** 10:50:42.9±1.2, 5°.58S×152°.60E, h0km, mb3.9/6, mbtmp3.8/6, MS3.1/6, Error ellipse: s-maj=37.0km s-min=19.6km az=101.0*

ISC 23 10:50:49.1±1.1, 5°.53S±0°.08×152°.6E±0°.2, h40km, n14, σ1§17/11, mb3.8/6, MS3.2/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.33**	**336**	Pn	**Pn**	**10 51 10.1**	**-1.1**
KRVT				Sn	**Sn**	**10 51 29.5**	**+1.8**
PMG	**Port Moresby**	**6.61**	**234**	Pn	**Pn**	**10 52 24.9**	**+1.1**
	1.7nm,0.3s,baz=44,slow=12,SNR=3.7						
PMG				Sn	**Sn**	**10 53 37.4**	**-0.5**
	5.3nm,0.3s,baz=144,slow=18,SNR=5.2						
PMG				LR	LR	10 54 54.7	
	comp=Z,67nm,20.6s,baz=223,slow=38						
CTA	**Charters Tower**	**15.72**	**202**	LR	LR	11 00 14.4	
	comp=Z,49nm,18.1s,baz=81,slow=36						
DZM	**Mont Dzumac**	**21.23**	**142**	LR	LR	11 02 19.0	
	comp=Z,68nm,18.7s,baz=213,slow=33						
WRA	**Warramunga Arr**	**22.80**	**229**	P	**P**	**10 55 47.9**	**-0.8**
	1.3nm,0.8s,baz=55,slow=10,SNR=6.8						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**25.46**	**223**	P	**P**	**10 56 12.6**	**-1.1**
	1.7nm,0.7s,baz=61,slow=8.9,SNR=20						
	1.7nm,0.7s						
BATI	**Baumata**	**29.00**	**259**	LR	LR	11 10 35.9	
	comp=Z,91nm,18.0s,baz=33,slow=41						
KAPI	**Kappang**	**32.68**	**269**	LR	LR	11 12 03.6	
	comp=Z,18nm,20.8s,baz=48,slow=39						
MA2	**Magadan**	**64.91**	**359**	LR	LR	11 24 26.9	
	comp=Z,26nm,21.5s,baz=84,slow=31						
SONM	**Songino Array**	**66.81**	**328**	P	**P**	**11 01 36.9**	**-0.1**
	0.5nm,0.5s,baz=134,slow=4.6,SNR=4.1						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**81.63**	**326**	P	**P**	**11 03 02.5**	**-0.5**
	1.0nm,0.5s,baz=123,slow=3.3,SNR=4.7						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**82.91**	**22**	P	**P**	**11 03 09.0**	**-0.5**
	0.9nm,0.7s,baz=251,slow=5.8,SNR=13						
	0.9nm,0.7s						
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**11 04 14.3**	**+1.7**
	0.2nm,0.7s,baz=276,slow=4.8,SNR=4.2						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.31**	**287**	PKPbc	**PKPbc**	**11 10 36.7**	**-0.5**
	3.5nm,0.4s,baz=58,slow=4.7,SNR=1.8						

IDC 23 10:58:56.1±638.0, 54°.44N×1°.40E, h0km, Error ellipse: s-maj=347.5km s-min=180.6km az=110.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.48**	**121**	I	I	12 00 30.0	
	baz=311,slow=332,SNR=1.2						
I43RU	**DUBNA INFRASON**	**10.23**	**69**	I	I	13 05 10.0	
	baz=278,slow=311,SNR=1.0						
I31KZ	**AKTYUBINSK INF**	**33.97**	**73**	I	I	14 25 50.0	
	baz=298,slow=329						

MAN 23 11:04:23.0, 12°.53N×124°.63E, h15km, mb3.8, ML2.5, MS2.0, Samar

*IDC **23** 11:07:19.4±3.6, 6°.02S×132°.67E, h75km±41km, mb3.7/2, mbtmp4.0/5, ML4.0/3, MS3.3/2, Error ellipse: s-maj=310.7km s-min=24.2km az=78.0*
*NEIC **23** 11:07:20.2±0.8, 6°.09S±0°.06×131°.8E±0°.3, h54km±11km, mb4.1/5, Error ellipse: s-maj=40.3km s-min=7.0km az=97.0*

ISC 23 11:07:19.5±0.8, 6°.09S±0°.06×131°.9E±0°.2, h50km, n31, σ2§9/29, mb3.9/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.96**	**196**	Pn	**Pn**	**11 07 52.9**	**+2.5**
SAUI	**Saumlaki**	**1.96**	**196**	P	**Pn**	**11 07 53.1**	**+2.7**
BNDI	**Bandanaira**	**2.48**	**309**	P	**Pn**	**11 07 54.7**	**-2.8**
FAKI	**Fak Fak**	**3.17**	**7**	P	**Pn**	**11 08 10.8**	**+3.9**
FAKI	**Fak Fak**	**3.17**	**7**	P	**Pn**	**11 08 11.1**	**+4.1**
SIJI	**Sorong**	**5.21**	**354**	P	**Pn**	**11 08 36.5**	**+1.4**
	8.6nm,0.3s,baz=208,slow=22,SNR=28						
SIJI				S	**Sn**	**11 09 30.4**	**-3.5**
	11nm,0.2s,baz=265,slow=23,SNR=2.3						
	22nm,0.2s						
KDU	**Kakadu**	**6.59**	**175**	P	**Pn**	**11 08 55.1**	**+1.3**
MTN	**Manton Dam**	**6.75**	**186**		**Pn**	**11 08 56.6**	**+0.5**
MTN	**Manton Dam**	**6.75**	**186**	P	**Pn**	**11 08 56.6**	**+0.5**
KNRA	**Kununurra**	**10.00**	**197**		**Pn**	**11 09 38.1**	**-2.6**
KNRA	**Kununurra**	**10.00**	**197**	P	**Pn**	**11 09 37.7**	**-2.9**
FITZ	**Fitzroy Crossi**	**13.39**	**206**	Pn	Pn	11 10 21.3	-5.6
FITZ	**Fitzroy Crossi**	**13.39**	**206**	P	Pn	11 10 21.5	-5.5
WB0	**Warramunga Arr**	**13.82**	**170**	Pn	**Pn**	**11 10 31.1**	**-1.8**
WRA	**Warramunga Arr**	**13.98**	**170**	P	**Pn**	**11 10 32.1**	**-2.9**
	0.7nm,0.3s,baz=352,slow=13,SNR=27						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**13.98**	**170**	Pn	**Pn**	**11 10 33.0**	**-2.0**
WB2	**Warramunga Arr**	**13.99**	**170**	Pn	**Pn**	**11 10 33.3**	**-1.8**
WR0	**Warramunga Arr**	**14.04**	**170**	Pn	**Pn**	**11 10 35.0**	**-0.8**
DAV	**Davao City (W)**	**14.49**	**334**	LR	LR	11 18 11.5	
	comp=Z,63nm,18.4s,baz=309,slow=44						
QIS	**Mount Isa**	**16.23**	**153**	P	**P**	**11 11 06.5**	**-0.2**
AS31	**Alice Springs**	**17.59**	**174**	P	**Pn**	**11 11 21.5**	**+0.3**
ASAR	**Alice Springs**	**17.59**	**174**	P	**Pn**	**11 11 20.6**	**-0.6**
	0.4nm,0.3s,baz=358,slow=13,SNR=36						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**17.59**	**174**		**Pn**	**11 11 20.4**	**-0.8**
TOO	**Toolangi**	**33.71**	**160**	P	**P**	**11 13 55.7**	**-0.4**
MK31	**Makanchi Array**	**68.49**	**326**	P	**P**	**11 18 16.2**	**-0.5**
MK31				IAmb	IAmb	11 18 16.9	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**68.49**	**326**	P	**P**	**11 18 16.4**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=122,slow=8.4,SNR=16						
MKAR				pP	**pwP**	**11 18 38.4**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=114,slow=7.6,SNR=3.1						
	comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**68.49**	**326**	P	**P**	**11 18 16.2**	**-0.5**
MAKZ	**Makanchi**	**68.67**	**326**	P	**P**	**11 18 17.8**	**0.0**
MAKZ				IAmb	IAmb	11 18 17.8	
	comp=Z,1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**72.71**	**328**	P	**P**	**11 18 41.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=130,slow=4.9,SNR=7.4						
	comp=Z,0.4nm,0.4s						
TIXI	**Tiksi**	**77.61**	**359**	LR	LR	11 53 30.7	
	comp=Z,25nm,20.0s,baz=5.5,slow=36						
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**11 19 44.2**	**+0.4**
QSPA				IAmb	IAmb	11 19 47.9	
	comp=Z,6.3nm,1.5s						

ISK 23 11:08:21.7, 38°.74N×35°.74E, h0km, ML1.5/4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.14**	**38**	Pg	Pg	11 08 24.7	+0.4
BNN				Sg	Sg	11 08 27.6	+1.5
SARI	**SarD1z-Kayseri**	**0.63**	**122**	Pg	Pb	11 08 35.2	-0.5
SARI				Sg	Sb	11 08 45.0	-0.1
YOZ	**Yozgat**	**0.95**	**340**	Pg	Pb	11 08 41.2	0.0
YOZ				Sg	Sb	11 08 55.5	+1.1
DARE	**Darende-Malaty**	**1.38**	**97**	Pn	Pb	11 08 48.8	+0.4
DARE				Sn	Sn	11 09 09.1	+1.9

*MOS **23** 11:09:49.1±0.0, 42°.46N×43°.99E, h9km, MPVA3.5 TIF **23** 11:09:49.3, 42°.48N×44°.13E, h18km±1km*
*NORS **23** 11:09:50.0±0.0, 42°.43N×44°.01E, h7km, MPVA3.8 DRS **23** 11:09:58.8±0.0, 42°.93N×43°.99E, h24km*

ISC 23 11:09:49.7±1.0, 42°.45N±0°.02×44°.03E±0°.02, h9km±9km, n59, σ1§14/109, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUDG	**Gudauri**	**0.33**	**88**	P	**Pg**	**11 09 55.6**	**-0.7**
GUDG				S	**Sg**	**11 09 59.7**	**-1.0**
ZEI	**Tsey**	**0.35**	**344**	*i* Pg	**Pb**	**11 09 57.4**	**-0.8**
ZEI				*e*Sg	**Sb**	**11 10 02.5**	**-1.5**
LACR	**Lac**	**0.42**	**27**	*i* Pg	**Pg**	**11 09 58.1**	**+0.1**
LACR				*e*Sg	**Sg**	**11 10 03.9**	**+0.2**
ALIG	**Mtskhetisjvari**	**0.45**	**220**	P	**Pb**	**11 09 59.7**	**-0.1**
ALIG				S	**Sb**	**11 10 06.7**	**0.0**
ALIG	**Mtskhetisjvari**	**0.45**	**220**	*e*Pg	**Pb**	**11 09 59.7**	**-0.1**
ALIG				*e*Sg	**Sb**	**11 10 06.7**	**0.0**
ONI	**Oni**	**0.45**	**288**	P	**Pn**	**11 10 00.1**	**-2.4**
ONI				S	**Sb**	**11 10 08.1**	**+1.3**
ONI	**Oni**	**0.45**	**288**	*e*Pg	**Pn**	**11 10 00.1**	**-2.4**
PNSH	**Pansheti**	**0.47**	**67**	P	**Pg**	**11 09 58.4**	**-0.5**
PNSH				S	**Sg**	**11 10 04.2**	**-0.9**
PNSH	**Pansheti**	**0.47**	**67**	*e*Pg	**Pg**	**11 09 58.4**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.56**	**323**	*i* Pg	**Pb**	**11 10 01.3**	**-0.5**
DIGR				*i* Sg	**Sb**	**11 10 09.0**	**-0.9**
KORR	**Kora**	**0.64**	**2**	*e*Pg	**Pb**	**11 10 03.0**	**0.0**
KORR				*e*Sg	**Sn**	**11 10 13.0**	**-2.2**
ARNR	**Ardon**	**0.75**	**14**	*e*Pg	**Pn**	**11 10 05.8**	**-0.7**
ARNR				*e*Sg	**Sn**	**11 10 17.3**	**-0.7**
VLKR	**Vladikavkaz**	**0.76**	**38**	*e*Pg	**Pn**	**11 10 05.9**	**-0.8**
VLKR				*e*Sg	**Sn**	**11 10 17.0**	**-1.3**
TKB	**Tkibuli**	**0.78**	**263**	P	**Pn**	**11 10 05.8**	**-1.1**
TKB				S	**Sn**	**11 10 18.1**	**-0.5**
TKB	**Tkibuli**	**0.78**	**263**	*e*Pg	**Pn**	**11 10 05.8**	**-1.1**
TKB				*e*Sg	**Sn**	**11 10 18.1**	**-0.5**
LSNR	**Lesken**	**0.84**	**350**	*e*Pg	**Pn**	**11 10 07.1**	**-0.6**
LSNR				*e*Sg	**Sn**	**11 10 18.8**	**-1.5**
BRNG	**Burnasheti**	**0.84**	**191**	P	**Pn**	**11 10 07.2**	**-0.7**
BRNG				S	**Sn**	**11 10 20.1**	**-0.3**
BRNG	**Burnasheti**	**0.84**	**191**	*e*Pg	**Pn**	**11 10 07.2**	**-0.7**
BRNG				*e*Sg	**Sn**	**11 10 20.1**	**-0.3**
SHTL	**Shatili**	**0.85**	**76**	P	**Pg**	**11 10 05.2**	**-0.9**
SHTL				S	**Sg**	**11 10 15.6**	**-1.7**
SHTL	**Shatili**	**0.85**	**76**	*e*Pg	**Pg**	**11 10 05.2**	**-0.9**
KMGR	**Komgaron**	**0.86**	**45**	*e*Pg	**Pn**	**11 10 07.9**	**-0.1**
KMGR				*e*Sg	**Sn**	**11 10 20.6**	**-0.2**
TRLG	**Trialeti**	**0.91**	**177**	P	**Pn**	**11 10 08.1**	**-0.7**
TRLG				S	**Sn**	**11 10 21.4**	**-0.8**
TRLG	**Trialeti**	**0.91**	**177**	*e*Pg	**Pn**	**11 10 08.1**	**-0.7**
TRLG				*e*Sg	**Sn**	**11 10 21.4**	**-0.8**
STDR	**Stavd-Durt**	**0.92**	**1**	*e*Pg	**Pn**	**11 10 09.5**	**+0.7**
STDR				*e*Sg	**Sn**	**11 10 22.7**	**+0.6**
KZRT	**Kazreti**	**1.10**	**166**	P	**Pb**	**11 10 10.6**	**-0.3**
KZRT	**Kazreti**	**1.10**	**166**	*e*Pg	**Pb**	**11 10 10.6**	**-0.3**

AKH	**Akhalkalaki**	**1.12**	**201**	P		**Pn**	**11 10 11.7**	**+0.1**
AKH				S		**Sn**	**11 10 28.0**	**+0.8**
AKH	**Akhalkalaki**	**1.12**	**201**	*e*Pg		**Pn**	**11 10 11.7**	**+0.1**
AKH				*e*Sg		**Sn**	**11 10 28.0**	**+0.8**
DMNI	**Dmanisi**	**1.13**	**174**	P		**Pn**	**11 10 11.2**	**-0.6**
DMNI				S		**Sn**	**11 10 26.7**	**-0.7**
DMNI	**Dmanisi**	**1.13**	**174**	*e*Pg		**Pn**	**11 10 11.2**	**-0.6**
DMNI				*e*Sg		**Sn**	**11 10 26.7**	**-0.7**
ABS	**Abastumani**	**1.14**	**233**	P		**Pn**	**11 10 12.4**	**+0.3**
ABS				S		**Sn**	**11 10 28.9**	**+1.0**
ABS	**Abastumani**	**1.14**	**233**	*e*Pg		**Pn**	**11 10 12.4**	**+0.3**
ABS				*e*Sg		**Sn**	**11 10 28.9**	**+1.0**
BGD	**Bogdanovka**	**1.23**	**195**	P		**Pg**	**11 10 13.6**	**+0.3**
BGD				S		**Sn**	**11 10 31.2**	**+1.1**
BGD	**Bogdanovka**	**1.23**	**195**	*e*Pg		**Pg**	**11 10 13.6**	**+0.3**
BGD				*e*Sg		**Sn**	**11 10 31.2**	**+1.1**
NEY	**Neytrino**	**1.25**	**310**	*e*Pg		**Pg**	**11 10 14.6**	**+0.9**
NEY				*e*Sg		**Sn**	**11 10 31.5**	**+0.9**
PRTR	**Priterechnaya**	**1.31**	**8**	*e*Pg		**Pg**	**11 10 16.4**	**+1.5**
PRTR				*e*Sg		**Sg**	**11 10 35.1**	**+3.2**
TRKR	**Terskaya**	**1.37**	**22**	*e*Pg		**Pg**	**11 10 19.1**	**+3.0**
TRKR				*e*Sg		**Sg**	**11 10 37.7**	**+3.9**
DGRG	**David-gareji**	**1.41**	**135**	P		**Pg**	**11 10 17.2**	**+0.4**
DGRG	**David-gareji**	**1.41**	**135**	*e*Pg		**Pg**	**11 10 17.2**	**+0.4**
KBTC	**Kuba-Taba**	**1.44**	**342**	*e*Pg		**Pg**	**11 10 18.3**	**+1.0**
KBTC				*e*Sg		**Sg**	**11 10 38.6**	**+2.6**
GROC	**Groznyy**	**1.50**	**59**	*e*Pg		**Pg**	**11 10 19.4**	**+1.0**
GROC				*e*Sg		**Sg**	**11 10 40.8**	**+2.9**
KBZ	**Khabaz**	**1.52**	**327**	*i* Pg		**Pg**	**11 10 18.8**	**-0.1**
KBZ				*i* Sg		**Sg**	**11 10 38.9**	**+0.2**
DVE	**Vedeno**	**1.62**	**71**	*e*Pg		**Pg**	**11 10 21.0**	**+0.2**
DVE				*e*Sg		**Sg**	**11 10 43.1**	**+1.2**
BTLR	**Botlikh**	**1.63**	**82**	*e*Pg		**Pg**	**11 10 23.3**	**+2.3**
BTLR				*e*Sg		**Sg**	**11 10 44.8**	**+2.6**
SHA1	**Shidzhatmaz**	**1.63**	**322**	*e*Pg		**Pg**	**11 10 21.1**	**0.0**
SHA1				*e*Sg		**Sg**	**11 10 42.8**	**+0.6**
PYA1	**Pyatigorsk**	**1.75**	**337**	*e*Pg		**Pg**	**11 10 22.7**	**-0.6**
PYA1				*e*Sg		**Sg**	**11 10 46.5**	**+0.5**
LGD	**Lagodekhi**	**1.75**	**110**	P		**Pb**	**11 10 22.2**	**+0.1**
LGD				S		**Sg**	**11 10 46.5**	**+0.4**
LGD	**Lagodekhi**	**1.75**	**110**	*e*Pg		**Pb**	**11 10 22.2**	**+0.1**
LGD				*e*Sg		**Sg**	**11 10 46.5**	**+0.4**
BEYR	**Belyy Ugol+**	**1.79**	**331**	*e*Pg		**Pg**	**11 10 22.8**	**-1.3**
BEYR				*e*Sg		**Sg**	**11 10 47.9**	**+0.4**
KIV	**Kislovodsk**	**1.80**	**327**	*e*Pg		**Pg**	**11 10 23.2**	**-1.0**
KIV				*e*Sg		**Sg**	**11 10 47.3**	**-0.2**
DDFL	**Dedoflistskaro**	**1.85**	**122**	P		**Pg**	**11 10 26.1**	**+0.9**
XNZR	**Khunzakh**	**1.98**	**86**	*e*Pg		**Pg**	**11 10 28.4**	**+0.8**
XNZR				*e*Sg		**Sg**	**11 10 55.1**	**+1.8**
DLMR	**Dylym**	**2.01**	**71**	*e*Pg		**Pb**	**11 10 27.1**	**+0.6**
DLMR				*e*Sg		**Sg**	**11 10 54.2**	**-0.1**
UNCR	**Uncukul**	**2.06**	**82**	*e*Pg		**Pg**	**11 10 28.6**	**-0.6**
UNCR				*e*Sg		**Sg**	**11 10 56.1**	**+0.3**
KRNR	**Karanay**	**2.15**	**79**	*e*Pg		**Pb**	**11 10 29.3**	**+0.4**
KRNR				*e*Sg		**Sg**	**11 10 57.8**	**-1.1**
GNBR	**Gunib**	**2.17**	**91**	*e*Pg		**Pg**	**11 10 31.3**	**0.0**
GNBR				*e*Sg		**Sg**	**11 11 00.0**	**+0.6**
ARKR	**Arakani**	**2.19**	**85**	*e*Pg		**Pg**	**11 10 30.8**	**-1.0**
ARKR				*e*Sg		**Sg**	**11 11 00.0**	**-0.2**
KMKR	**Kumukh**	**2.30**	**97**	*e*Pn		**Pg**	**11 10 34.6**	**+0.9**
KMKR				*e*Sn		**Sg**	**11 11 05.0**	**+1.5**
GNI	**Garni**	**2.36**	**167**	*e*Pn		**Pb**	**11 10 31.7**	**-0.8**

*MOS **23** 11:15:49.9±1.1, 29°.22N×69°.08E, h15km, mb4.6/20, Error ellipse: s-maj=8.5km s-min=4.1km az=82.4*
*IDC **23**

TARG	**Taragay, Kyrgy**	**14.47**	**27**	P		**Pn**	**11 19 14.6**	**-2.1**
CHMS	**Chumysh**	**14.62**	**17**	P		**Pn**	**11 19 15.2**	**-3.0**
	SNR=11							
TKM2	**Tokmak 2**	**14.77**	**19**	P		**Pn**	**11 19 18.2**	**-2.3**
	SNR=16							
TKM2	**Tokmak 2**	**14.77**	**19**	⇓P		**Pn**	**11 19 17.3**	**-3.2**
	comp=Z,18nm,1.0s							
SGDS	**Sogindy**	**15.01**	**16**	*e*P		**Pn**	**11 19 19.8**	**-3.8**
	baz=16							
SGDS	**Sogindy**	**15.01**	**16**	*e*P		**Pn**	**11 19 19.8**	**-3.8**
TNSS	**Tian-Shan**	**15.30**	**22**	*e*P		**Pn**	**11 19 24.9**	**-2.7**
	baz=22							
TNSS	**Tian-Shan**	**15.30**	**22**	*e*P		**Pn**	**11 19 24.9**	**-2.7**
MDOK	**Medeo**	**15.44**	**22**	⇓P		**Pn**	**11 19 27.4**	**-1.9**
	comp=Z,12nm,1.0s							
MDOK	**Medeo**	**15.44**	**22**	*e*P		**Pn**	**11 19 27.1**	**-2.2**
	baz=22							
MDOK	**Medeo**	**15.44**	**22**	*e*P		**Pn**	**11 19 27.1**	**-2.2**
SATY	**Saty**	**15.84**	**26**	*e*P		**Pn**	**11 19 31.9**	**-2.5**
	baz=26							
SATY	**Saty**	**15.84**	**26**	*e*P		**Pn**	**11 19 31.9**	**-2.5**
KUU	**Kurty**	**15.88**	**20**	*e*P		**Pn**	**11 19 31.3**	**-3.5**
	baz=20							
KUU	**Kurty**	**15.88**	**20**	*e*P		**Pn**	**11 19 31.2**	**-3.5**
CHKK	**Chushkaly**	**16.04**	**21**	*e*P		**Pn**	**11 19 33.0**	**-3.8**
	baz=21							
CHKK	**Chushkaly**	**16.04**	**21**	*e*P		**Pn**	**11 19 33.0**	**-3.8**
KPKS	**Kokpek**	**16.29**	**26**	*e*P		**Pn**	**11 19 37.9**	**-2.2**
	baz=26							
KPKS	**Kokpek**	**16.29**	**26**	*e*P		**Pn**	**11 19 37.9**	**-2.2**
SHLS	**Shalkode**	**16.34**	**28**	*e*P		**Pn**	**11 19 40.6**	**-0.2**
	baz=29							
SHLS	**Shalkode**	**16.34**	**28**	*e*P		**Pn**	**11 19 40.6**	**-0.2**
BTLS	**Baital**	**16.41**	**13**	*e*P		**Pn**	**11 19 40.2**	**-1.3**
	baz=12							
BTLS	**Baital**	**16.41**	**13**	*e*P		**Pn**	**11 19 40.1**	**-1.3**
MAKZ	**Makanchi**	**20.36**	**26**	P		**P**	**11 20 27.1**	**-0.3**
MAKZ				IAmb		IAmb	11 20 28.1	
	comp=Z,15nm,0.7s							
MAKZ	**Makanchi**	**20.36**	**26**	⇑P		**P**	**11 20 26.8**	**-0.7**
	comp=Z,14nm,0.8s							
MAKZ	**Makanchi**	**20.36**	**26**	P		**P**	**11 20 27.1**	**-0.3**
MAKZ				pmax		pmax		
	comp=Z,15nm,0.7s							
MK31	**Makanchi Array**	**20.47**	**27**	P		**P**	**11 20 27.7**	**-1.0**
MK31	**Makanchi Array**	**20.47**	**27**	P		**P**	**11 20 28.1**	**-0.5**
	comp=Z,5.6nm,0.6s,baz=208,slow=11,SNR=69							
MK31	**Makanchi Array**	**20.47**	**27**	*d*iP		**P**	**11 20 28.4**	**-0.2**
MKAR	**Makanchi Array**	**20.47**	**27**	P		**P**	**11 20 28.3**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=213,slow=10,SNR=54							
MKAR				LR		LR	11 29 31.5	
	comp=Z,76nm,21.5s,baz=181,slow=40							
	comp=Z,3.7nm,0.6s							
MKAR	**Makanchi Array**	**20.47**	**27**	P		**P**	**11 20 28.5**	**-0.1**
MKAR	**Makanchi Array**	**20.47**	**27**	P		**P**	**11 20 28.5**	**-0.1**
SHL	**Shillong**	**20.57**	**94**	P		**P**	**11 20 30.6**	**+0.6**
SHL				IAmb		IAmb	11 20 31.3	
	comp=Z,21nm,0.9s							
SHL	**Shillong**	**20.57**	**94**	P		**P**	**11 20 30.6**	**+0.6**
SHL				pmax		pmax		
	comp=Z,21nm,0.9s							
WMQ	**Urumqi**	**20.92**	**40**	*e*P		Pn	11 20 36.1	-0.2
WMQ				pP		pP	11 20 41.5	-1.6
WMQ				sP		sP	11 20 45.3	-2.4
WMQ				pmax		pmax		
	comp=Z,24nm,1.1s							
AKT	**Akhty**	**21.29**	**311**	*e*P		**P**	**11 20 38.6**	**+1.0**
AKT				*e*			11 20 58.9	
AKT				pmax		pmax		
	comp=Z,23nm,1.2s							
AB31	**Akbulak array**	**21.32**	**343**	⇑P		**P**	**11 20 37.3**	**-0.3**
	comp=Z,5.8nm,0.7s,baz=149,slow=12,SNR=57							
ABKAR	**Akbulak array**	**21.32**	**343**	P		**P**	**11 20 37.3**	**-0.3**
RAYN	**Ar Rayn**	**21.82**	**261**	P		**P**	**11 20 42.8**	**-0.6**
RAYN	**Ar Rayn**	**21.82**	**261**	P		**P**	**11 20 42.8**	**-0.6**
RAYN				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ZSN	**Zaisan**	**22.06**	**29**	*e*P		**P**	**11 20 44.8**	**-0.9**
	baz=29							
ZSN	**Zaisan**	**22.06**	**29**	*e*P		**P**	**11 20 44.7**	**-0.9**
KURBB	**Kurchatov Arra**	**22.66**	**16**	P		**P**	**11 20 51.3**	**-0.7**
	comp=Z,4.7nm,0.7s,baz=205,slow=11,SNR=19							
KURBB				LR		LR	11 30 45.9	
	comp=Z,145nm,21.7s,baz=165,slow=40							
	comp=Z,4.7nm,0.7s							
KURBB	**Kurchatov Arra**	**22.66**	**16**	⇑P		**P**	**11 20 51.2**	**-0.9**
	comp=Z,8.6nm,0.7s							
GOMU	**GeErMu**	**22.77**	**65**	P		**P**	**11 20 56.8**	**+3.0**
GOMU				pP		pP	11 21 00.9	-2.4
GOMU				sP		sP	11 21 02.0	-5.9
GOMU				pmax		pmax		
	comp=Z,5.0nm,1.1s							
GOMU				pmax		pmax		
	comp=Z,190nm,5.3s							
KURK	**Kurchatov**	**22.77**	**16**	P		**P**	**11 20 52.6**	**-0.6**
KURK				IAmb		IAmb	11 20 57.5	
	comp=Z,9.8nm,0.9s							
KURK	**Kurchatov**	**22.77**	**16**	⇓P		**P**	**11 20 52.4**	**-0.8**
	comp=Z,10nm,0.9s							
KURK	**Kurchatov**	**22.77**	**16**	P		**P**	**11 20 52.6**	**-0.6**
KURK				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GNI	**Garni**	**22.79**	**305**	LR		LR	11 30 39.3	
	comp=Z,41nm,18.9s,baz=126,slow=39							
AKTO	**Aktyubinsk**	**22.90**	**342**	P		**P**	**11 20 54.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=182,slow=8.8,SNR=6.3							
AKTO				LR		LR	11 31 37.7	
	comp=Z,66nm,19.9s,baz=10,slow=41							
	comp=Z,0.9nm,0.3s							
SEM	**Semipalatinsk**	**22.91**	**19**	*e*P		**P**	**11 20 53.8**	**-1.2**
	baz=19							
SEM	**Semipalatinsk**	**22.91**	**19**	*e*P		**P**	**11 20 53.7**	**-1.2**
BVAR	**Borovoye Array**	**23.93**	**2**	P		**P**	**11 21 04.2**	**-0.4**
	comp=Z,4.8nm,0.8s,baz=163,slow=10,SNR=18							
BVAR				LR		LR	11 32 16.6	
	comp=Z,115nm,18.3s,baz=206,slow=41							
	comp=Z,4.8nm,0.8s							
BRVK	**Borovoye**	**23.96**	**2**	P		**P**	**11 21 04.4**	**-0.5**
BRVK	**Borovoye**	**23.96**	**2**	⇑P		**P**	**11 21 04.1**	**-0.8**
	comp=Z,14nm,1.8s							
BRVK	**Borovoye**	**23.96**	**2**	P		**P**	**11 21 04.4**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
ZEI	**Tsey**	**24.42**	**311**	*e*P		**P**	**11 21 09.7**	**+0.2**
ZEI				pmax		pmax		
	comp=Z,4.0nm,1.0s							
DGZ	**Jazzator, Alta**	**24.88**	**29**	*i*P		**P**	**11 21 13.7**	**+0.2**
DGZ				pmax		pmax		
	comp=Z,23nm,1.2s							
NEY	**Neytrino**	**25.40**	**311**	*i*P		**P**	**11 21 17.2**	**-1.1**
NEY				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**25.50**	**312**	P		**P**	**11 21 20.5**	**+1.6**
	comp=Z,3.8nm,0.8s,baz=190,slow=4.3,SNR=6.3							
	comp=Z,3.8nm,0.8s							
SHA1	**Shidzhatmaz**	**25.66**	**312**	*i*P		**P**	**11 21 19.4**	**-1.3**
KIV	**Kislovodsk**	**25.73**	**312**	*e*P		**P**	**11 21 19.4**	**-1.8**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ZALV	**Zalesovo Beam**	**27.37**	**20**	P		**P**	**11 21 35.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=246,slow=11,SNR=2.8							
ZALV				LR		LR	11 34 48.6	
	comp=Z,38nm,18.0s,baz=320,slow=42							
	comp=Z,0.7nm,0.3s							
SOC	**Sochi**	**27.54**	**310**	*e*P		**P**	**11 21 35.0**	**-2.4**
SOC				*e*S		**S**	**11 26 16.5**	**+0.3**
SOC				*e*SS		**SnSn**	**11 27 27.6**	**-0.8**
SOC				*e*SSS		SSS	11 27 45.9	
SOC				MLR		MLR		
	comp=Z,71nm,17.0s							
BELG	**Belogornoye**	**28.18**	**332**	LR		LR	11 34 28.0	
	comp=Z,54nm,21.5s,baz=205,slow=40							
ARU	**Arti**	**28.33**	**348**	LR		LR	11 35 17.4	
	comp=Z,70nm,18.2s,baz=99,slow=41							
ARU	**Arti**	**28.33**	**348**	*e*iP		**P**	**11 21 44.3**	**+0.1**
ARU							11 22 27.5	
ARU				S		**S**	**11 26 33.7**	**+5.4**
ARU				SS		**SnSn**	**11 27 47.9**	**+0.6**
ARU				pmax		pmax		
	comp=Z,6.0nm,1.3s							
PZH	**PanZhiHua**	**28.97**	**87**	P		**P**	**11 21 51.9**	**+1.4**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
PZH				pmax		pmax		
	comp=Z,120nm,5.1s							
CMAR	**Chiang Mai Arr**	**29.24**	**105**	P		**P**	**11 21 53.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=310,slow=7.0,SNR=6.9							
	comp=Z,0.3nm,0.3s							
LZH	**Lanzhou**	**30.01**	**67**	*e*P		**P**	**11 22 04.1**	**+4.5**
LZH				pP		pP	11 22 11.8	+1.9
LZH				sP		sP	11 22 15.4	+1.1
LZH				pmax		pmax		
	comp=Z,11nm,1.1s							
BR131	**Keskin Array S**	**30.92**	**300**	*i*P		**P**	**11 22 06.6**	**-1.0**
BRTR	**Keskin Array B**	**30.92**	**300**	P		**P**	**11 22 07.8**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=118,slow=7.6,SNR=7.7							
	comp=Z,1.3nm,0.8s							
BRTR	**Keskin Array B**	**30.92**	**300**	*i*P		**P**	**11 22 08.1**	**+0.5**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KIRV	**Kirov**	**32.46**	**341**	*ce*P		**P**	**11 22 20.6**	**-0.1**
SONM	**Songino Array**	**34.28**	**47**	P		**P**	**11 22 38.8**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=248,slow=9.6,SNR=15							
	comp=Z,1.7nm,0.8s							
SONM	**Songino Array**	**34.28**	**47**	P		**P**	**11 22 37.7**	**+0.8**
ULN	**Ulaanbaatar**	**34.71**	**47**	*ce*P		**P**	**11 22 38.7**	**-1.9**
ULN				pmax		pmax		
	comp=Z,7.0nm,2.5s							
OBN	**Obninsk**	**34.92**	**327**	⇓*e*P		**P**	**11 22 41.7**	**-0.4**
OBN				*e*			11 22 52.4	
OBN				pmax		pmax		
	comp=Z,61nm,2.5s							
HHC	**Hu-ho-hao-te**	**36.42**	**60**	*e*P		**P**	**11 22 57.3**	**+1.9**
HHC				pmax		pmax		
	comp=Z,13nm,0.9s							
HHC				pmax		pmax		
	comp=Z,270nm,5.6s							
AKASG	**Malin Array Be**	**36.81**	**317**	P		**P**	**11 22 58.5**	**+0.1**
	comp=Z,0.2nm,0.2s,baz=100,slow=7.0,SNR=11							
	comp=Z,0.2nm,0.2s							
AKBB	**Malin Array Si**	**36.81**	**317**	*ce*P		**P**	**11 22 57.7**	**-0.7**
AKBB				pmax		pmax		
	comp=Z,6.0nm,0.8s							
WHN	**Wuhan**	**39.12**	**76**	⇓P		**P**	**11 23 20.0**	**+1.9**
XLT	**XiLinHaoTe**	**40.04**	**55**	*e*P		**P**	**11 23 28.3**	**+2.5**
XLT				PcP		**PcP**	**11 25 33.1**	**+2.9**
XLT				S		**S**	**11 29 33.0**	**+3.6**
XLT				pmax		pmax		
	comp=Z,6.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,150nm,6.4s							
NRIK	**Noril'sk**	**41.69**	**10**	P		**P**	**11 23 40.2**	**+1.4**
	comp=Z,7.0nm,0.8s,baz=191,slow=5.6,SNR=9.3							
	comp=Z,7.0nm,0.8s							
NRIK	**Noril'sk**	**41.69**	**10**	P		**P**	**11 23 39.7**	**+0.8**
NRIK				IAmb		IAmb	11 23 40.9	
	comp=Z,8.6nm,0.9s							
PSZ	**Piszkesteto**	**42.03**	**311**	P		**P**	**11 23 39.8**	**-2.3**
PSZ	**Piszkesteto**	**42.03**	**311**	P		**P**	**11 23 39.8**	**-2.3**
PSZ				pmax		pmax		
	comp=Z,17nm,0.7s							
FIA1	**FINESS Array S**	**42.96**	**331**	P		**P**	**11 23 48.4**	**-0.9**
FINES	**FINESS Array B**	**42.96**	**331**	P		**P**	**11 23 49.4**	**0.0**
	comp=Z,5.3nm,0.9s,baz=119,slow=6.7,SNR=10							
	comp=Z,5.3nm,0.9s							
FINES	**FINESS Array B**	**42.96**	**331**	P		**P**	**11 23 49.5**	**+0.2**
FINES	**FINESS Array B**	**42.96**	**331**	P		**P**	**11 23 49.5**	**+0.2**
CLL	**Collm**	**46.90**	**315**	*e*Px		Px	11 24 24.0	
CLL	**Collm**	**46.90**	**315**	*e*P		**P**	**11 24 24.0**	**+3.2**
ARCES	**ARCESS Array B**	**47.48**	**341**	P		**P**	**11 24 25.6**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=132,slow=8.4,SNR=17							
ARCES				LR		LR	11 47 49.8	
	comp=Z,50nm,19.9s,baz=152,slow=40							
	comp=Z,2.5nm,0.6s							
ARCES	**ARCESS Array B**	**47.48**	**341**	P		**P**	**11 24 25.6**	**+0.5**
ARCES	**ARCESS Array B**	**47.48**	**341**	P		**P**	**11 24 25.6**	**+0.5**
ARCES				pmax		pmax		
	comp=Z,19nm,1.4s							
HFS	**Hagfors**	**48.11**	**326**	LR		LR	11 47 22.0	
	comp=Z,77nm,18.3s,baz=46,slow=39							
KSRS	**Korea Array**	**49.22**	**64**	P		**P**	**11 24 39.4**	**+0.5**
	comp=Z,4.1nm,0.6s,baz=267,slow=8.1,SNR=14							
	comp=Z,4.1nm,0.6s							
NB2	**NORSAR Subarra**	**49.52**	**327**	P		**P**	**11 24 39.9**	**-1.1**
	comp=Z,3.8nm,1.0s,baz=106,slow=7.9							
NOA	**NORSAR Array B**	**49.52**	**327**	P		**P**	**11 24 40.2**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=108,slow=7.3,SNR=4.1							
NOA				LR		LR	11 48 39.2	
	comp=Z,38nm,18.1s,baz=285,slow=40							
	comp=Z,0.7nm,0.6s							
YAK	**Yakutsk**	**51.02**	**32**	LR		LR	11 48 08.5	
	comp=Z,58nm,19.7s,baz=130,slow=38							
YAK	**Yakutsk**	**51.02**	**32**	*ce*P		**P**	**11 24 51.9**	**-0.3**
YAK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KLR	**Kul'dur**	**51.06**	**48**	P		**P**	**11 24 53.3**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=297,slow=10,SNR=4.8							
KLR				LR		LR	11 48 29.6	
	comp=Z,50nm,20.8s,baz=54,slow=38							
	comp=Z,2.3nm,0.8s							
TIXI	**Tiksi**	**53.26**	**20**	*ce*P		**P**	**11 25 07.3**	**-1.4**
TIXI				pmax		pmax		
	comp=Z,6.0nm,2.5s							
YSS	**Yuzh-Sakhalins**	**58.62**	**50**	*ce*P		**P**	**11 25 47.0**	**-0.4**
YSS				pmax		pmax		
	comp=Z,17nm,1.7s							
ASAJ	**Asahikawa**	**59.05**	**54**	LR		LR	11 53 48.7	
	comp=Z,63nm,20.6s,baz=222,slow=39							
ESDC	**Sonseca Array**	**59.69**	**301**	P		**P**	**11 25 54.4**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=68,slow=6.9,SNR=9.4							
	comp=Z,2.8nm,0.9s							
ERM	**Erimo**	**59.91**	**56**	P		**P**	**11 25 57.3**	**+0.8**
ERM	**Erimo**	**59.91**	**56**	P		**P**	**11 25 57.3**	**+0.8**
ERM				pmax		pmax		
	comp=Z,249nm,1.5s							
SEY	**Seymchan**	**61.53**	**31**	*ce*P		**P**	**11 26 07.3**	**+0.2**
SEY				pmax		pmax		
	comp=Z,5.0nm,1.3s							
TORD	**Torodi Ar. Bea**	**64.06**	**271**	P		**P**	**11 26 24.7**	**-0.1**
	comp=Z,2.7nm,0.3s,baz=64,slow=4.6,SNR=1.5							
	comp=Z,2.7nm,0.3s							
BILL	**Bilibino**	**65.99**	**24**	⇑*e*P		**P**	**11 26 36.6**	**+0.1**
BILL				*e*			11 26 42.8	
BILL				pmax		pmax		
	comp=Z,12nm,2.5s							
EUNU	**Eureka**	**70.25**	**356**	P		**P**	**11 27 04.5**	**+1.4**
EUNU				IAmb		IAmb	11 27 27.9	
	comp=Z,3.1nm,1.3s							
BOSA	**Boshof**	**71.04**	**220**	P		**P**	**11 27 09.5**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=50,slow=7.9,SNR=3.1							
	comp=Z,1.8nm,0.7s							
SFJD	**Kangerlussuaq**	**74.08**	**339**	LR		LR	11 59 40.9	
	comp=Z,88nm,18.5s,baz=166,slow=36							
A36M	**Sachs Harbour**	**78.71**	**4**	P		**P**	**11 27 52.2**	**0.0**
A36M				IAmb		IAmb	11 28 13.9	
	comp=Z,5.2nm,1.1s							
WRA	**Warramunga Arr**	**79.61**	**120**	P		**P**	**11 27 58.3**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=322,slow=4.9,SNR=11							
	comp=Z,3.1nm,0.9s							
IMAR	**Indian Mountai**	**79.72**	**16**	P		**P**	**11 27 58.0**	**+0.2**
H21K	**Melozitna Rive**	**80.21**	**16**	P		**P**	**11 28 00.9**	**+0.4**
H21K				IAmb		IAmb	11 28 14.8	
	comp=Z,8.0nm,1.2s							
BMAR	**Burnt Mountain**	**80.51**	**13**	P		**P**	**11 28 02.7**	**+0.5**
C36M	**Paulatuk**	**81.39**	**5**	P		**P**	**11 28 07.3**	**+0.6**
C36M				IAmb		IAmb	11 28 07.5	
	comp=Z,7.1nm,1.1s							
INK	**Inuvik**	**81.46**	**8**	P		**P**	**11 28 07.9**	**+0.8**
INK				IAmb		IAmb	11 28 25.5	
	comp=Z,6.3nm,1.2s							
INK	**Inuvik**	**81.46**	**8**	P		**P**	**11 28 07.9**	**+0.8**
INK				pmax		pmax		
	comp=Z,6.0nm,1.2s							
AS31	**Alice Springs**	**81.48**	**123**	P		**P**	**11 28 07.8**	**-0.1**
ASAR	**Alice Springs**	**81.48**	**123**	P		**P**	**11 28 08.3**	**+0.4**
	comp=Z,5.5nm,0.7s,baz=306,slow=5.3,SNR=48							
	comp=Z,2.5nm,0.7s							
ASAR	**Alice Springs**	**81.48**	**123**	P		**P**	**11 28 08.5**	**+0.5**
ASAR	**Alice Springs**	**81.48**	**123**	P		**P**	**11 28 08.5**	**+0.5**
MDM	**Murphy Dome**	**81.88**	**15**	IAmb		IAmb	11 28 11.0	
	comp=Z,6.3nm,1.1s							
COLA	**College**	**82.03**	**15**	*i*P		**P**	**11 28 09.4**	**-0.8**
CAST	**Castle Rocks**	**82.22**	**17**	P		**P**	**11 28 11.8**	**+0.5**
ILAR	**Eielson Array**	**82.34**	**15**	P		**P**	**11 28 11.7**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=297,slow=3.8,SNR=5.9							
	comp=Z,0.9nm,0.9s							
YKA	**Yellowknife Ar**	**88.69**	**2**	P		**P**	**11 28 44.3**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=346,slow=4.8,SNR=33							
	comp=Z,2.3nm,0.8s							
YKA	**Yellowknife Ar**	**88.69**	**2**	*i*P		**P**	**11 28 44.4**	**+1.0**
YKA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
PLCA	**Paso Flores**	**145.19**	**240**	PKPbc		**PKPdf**	**11 35 28.8**	**+0.9**
	comp=Z,2.2nm,1.0s,baz=63,slow=2.3,SNR=3.8							

IDC 23 11:20:30.5±2.0, 2°43N×125°30E, h0km, mb3.3/3, mbtmp3.3/3, MS3.5/1, Error ellipse: s-maj=187.3km s-min=26.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.94**	**159**	P		P	11 25 45.3	-1.2
	0.6nm,0.5s,baz=337,slow=11,SNR=11							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**27.26**	**163**	P		P	11 26 18.5	+1.8
	0.2nm,0.7s,baz=345,slow=10,SNR=5.0							
	0.2nm,0.7s							
JHJ	**Hachijo jima 2**	**33.41**	**22**	LR		LR	11 38 34.3	
	comp=Z,77nm,20.9s,baz=81,slow=32							
MKAR	**Makanchi Array**	**57.82**	**326**	P		P	11 30 23.3	-0.6
	0.1nm,0.4s,baz=119,slow=8.7,SNR=4.4							
	0.1nm,0.4s							

*SJA **23** 11:21:50.1±0.7, 30°65S×71°74W, h11km±3km, ML4.3, MW3.9*
*GUC **23** 11:21:55.6±0.6, 30°70S×71°28W, h52km±3km, ML4.2*
*NEIC **23** 11:21:57.0±2.0, 30°68S±0°05×71°2W±0°1, h54km±7km, mb4.5/13, Mwr4.2/31, ML4.2(GUC), Error ellipse: s-maj=17.1km s-min=7.2km az=91.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.91; $M_{\theta\theta}$-0.29; $M_{\phi\phi}$-0.62; $M_{r\theta}$0.45; $M_{r\phi}$-0.36; $M_{\theta\phi}$-2.74; Fault plane solution: M_o2.91000×10^{15} NP1:ϕ_s173.31000°, δ82.64000°, λ82.10000°. NP2:ϕ_s40.58000°, δ10.78000°, λ136.77000°. Principal axes: T 3.0874, Plg52.0000°, Azm74.0000°; N -0.3899, Plg8.0000°, Azm174.0000°; P -2.6976, Plg37.0000°, Azm270.0000°;*
*NEIC **23** 11:21:56.8, 30°68S×71°23W, h50km*
*IDC **23** 11:21:57.9±1.7, 30°77S×71°55W, h70km±17km, mb4.0/8, mbtmp4.2/11, MS2.9/4, Error ellipse: s-maj=24.1km s-min=12.6km az=2.0*

ISC 23 11:21:55.9±0.8, 30.74S±0.02×71.33W±0.05, h46km±8km, n128, σ2°59/157, mb4.4/13, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.54**	**149**			**Pn**	**11 22 08.4**	**+0.8**
CO02	**Combarbal**	**0.54**	**149**	⇓*i*P		**Pn**	**11 22 08.5**	**+1.0**
CO02				*i*S		**Sn**	**11 22 17.5**	**+1.6**
CO02	**Combarbal**	**0.54**	**149**	*e*P		**Pn**	**11 22 08.0**	**+0.4**
CO02				IAML			11 22 26.4	
	comp=Z,11μm,0.6s							
CO02	**Combarbal**	**0.54**	**149**	*e*P		**Pn**	**11 22 08.0**	**+0.4**
CO02				IAML			11 22 26.4	
	comp=Z,11μm,0.6s							
CO03	**El Pedregal**	**0.56**	**101**			**Pn**	**11 22 08.5**	**+0.8**
CO03	**El Pedregal**	**0.56**	**101**	⇓*i*P		**Pn**	**11 22 08.6**	**+0.8**
CO03				*e*S		**Sn**	**11 22 17.9**	**+1.6**
CO03				IAML			11 22 18.4	
	comp=E,25μm,0.3s							
CO03	**El Pedregal**	**0.56**	**101**	*e*P		**Pn**	**11 22 08.0**	**+0.3**
CO03				*e*P		**Pn**	**11 22 08.3**	**+0.5**
CO03				*e*S		**Sn**	**11 22 18.2**	**+2.0**
CO03				IAML			11 22 18.6	
	comp=Z,6μm,0.5s							
CO03	**El Pedregal**	**0.56**	**101**	*e*P		**Pn**	**11 22 08.0**	**+0.3**
CO03				*e*P		**Pn**	**11 22 08.3**	**+0.5**
CO03				*e*S		**Sn**	**11 22 18.2**	**+2.0**
CO03				IAML			11 22 18.6	
	comp=Z,6μm,0.5s							
GO04	**Tololo Observa**	**0.72**	**39**	⇓*i*P		**Pn**	**11 22 10.4**	**+0.4**
GO04				*e*S		**Sn**	**11 22 21.1**	**+0.9**
GO04	**Tololo Observa**	**0.72**	**39**	*e*P		**Pn**	**11 22 10.0**	**0.0**
GO04				*e*S		**Sn**	**11 22 21.8**	**+1.6**
GO04	**Tololo Observa**	**0.72**	**39**	*e*P		**Pn**	**11 22 10.0**	**0.0**
GO04				*e*S		**Sn**	**11 22 21.8**	**+1.6**
CO05	**La Serena**	**0.82**	**5**			**Pn**	**11 22 11.1**	**+0.1**
CO05	**La Serena**	**0.82**	**5**	*e*P		**Pn**	**11 22 11.1**	**+0.1**
CO05				*e*S		**Sn**	**11 22 21.2**	**-0.8**
CO05				IAML			11 22 24.2	
	comp=E,7μm,0.5s							
CO01	**Juntas del Tor**	**1.31**	**55**	*i*P		**Pn**	**11 22 19.4**	**+1.5**
CO01				*e*S		**Sn**	**11 22 36.5**	**+2.2**
CO01				IAML			11 22 41.1	
	comp=N,4μm,0.3s							
CO01	**Juntas del Tor**	**1.31**	**55**	*e*P		**Pn**	**11 22 19.4**	**+1.5**
CO01				*e*S

CFA S Sn 11 23 18.7 +8.3
comp=Z,841nm,0.5s,baz=128,slow=12,SNR=10
ASAL Salagasta 2.82 132 *eP* **Pn 11 22 42.8 +4.4**
ASAL *eS* **Sn 11 23 03.4 -7.8**
ASAL IAML 11 23 38.8
comp=Z,510nm,0.8s
ASAL Salagasta 2.82 132 *eP* **Pn 11 22 42.8 +4.4**
ASAL *eS* **Sn 11 23 03.4 -7.8**
ASAL IAML 11 23 38.8
comp=Z,510nm,0.8s
MT03 Universidad Ad 2.84 166 Pn 11 22 41.3 +2.5
MT03 Universidad Ad 2.84 166 *eP* **Pn 11 22 41.1 +2.4**
MT03 Universidad Ad 2.84 166 *eP* **Pn 11 22 41.0 +2.3**
MT03 *eS* Sn 11 22 58.2 -13
MT03 IAML 11 23 26.5
comp=Z,1μm,0.5s
MT03 Universidad Ad 2.84 166 *eP* **Pn 11 22 41.0 +2.3**
MT03 *eS* Sn 11 22 58.2 -13
MT03 IAML 11 23 26.5
comp=Z,1μm,0.5s
VA05 Santo Domingo 2.92 185 Pn 11 22 40.3 +0.5
VA05 Santo Domingo 2.92 185 *eP* **Pn 11 22 40.6 +0.8**
MT09 Talagante 3.04 175 Pn 11 22 43.4 +1.8
MT09 Talagante 3.04 175 *eP* **Pn 11 22 43.3 +1.7**
MT01 Popeta 3.12 179 *eP* **Pn 11 22 43.6 +1.1**
MT01 *eS* **Sn 11 23 03.0 +4.5**
MT01 IAML 11 23 32.5
comp=Z,644nm,0.9s
MT01 Popeta 3.12 179 *eP* **Pn 11 22 43.6 +1.1**
MT01 *eS* **Sn 11 23 03.0 +4.5**
MT01 IAML 11 23 32.5
comp=Z,644nm,0.9s
LMEL Las Melosas 3.25 163 Pn 11 22 47.6 +3.2
GO03 Copiap 3.27 17 Pn 11 22 45.7 +1.0
GO03 Copiap 3.27 17 *eP* **Pn 11 22 46.0 +1.3**
GO03 *eS* **Sn 11 23 27.0 +4.5**
GO03 Copiap 3.27 17 *eP* **Pn 11 23 46.2 +1.3**
GO03 *eS* **Sn 11 23 27.0 +4.5**
BO04 La Punta 3.30 170 Pn **Pn 11 22 46.9 +1.8**
AVFE Valle Fertil 3.34 90 *eP* **Pn 11 22 48.0 +2.4**
AVFE *eS* Sn 11 23 34.8 +11
AVFE IAML 11 23 39.2
comp=Z,548nm,0.4s
AVFE Valle Fertil 3.34 90 *eP* **Pn 11 22 48.0 +2.4**
AVFE *eS* Sn 11 23 34.8 +11
AVFE IAML 11 23 39.2
comp=Z,548nm,0.4s
BO01 Tunca 3.65 177 Pn 11 22 51.5 +1.7
BO01 Tunca 3.65 177 *eP* **Pn 11 22 50.9 +1.1**
BO01 *eS* **Sn 11 23 34.8 +3.2**
BO01 Tunca 3.65 177 *eP* **Pn 11 22 51.2 +1.4**
BO01 *eS* **Sn 11 23 30.0 -1.6**
BO01 IAML 11 23 53.4
comp=Z,330nm,0.6s
BO01 Tunca 3.65 177 *eP* **Pn 11 22 51.2 +1.4**
BO01 *eS* **Sn 11 23 30.0 -1.6**
BO01 IAML 11 23 53.4
comp=Z,330nm,0.6s
BO03 Pichilemu 3.79 188 *eP* **Pn 11 22 51.2 -0.5**
BO02 Sierra Bellavi 4.07 174 *eP* **Pn 11 22 57.6 +2.0**
BO02 *eS* **Sn 11 23 46.5 +4.4**
BO02 IAML 11 23 55.9
comp=Z,427nm,0.2s
BO02 Sierra Bellavi 4.07 174 *eP* **Pn 11 22 57.6 +2.0**
BO02 *eS* **Sn 11 23 46.5 +4.4**
BO02 IAML 11 23 55.9
comp=Z,427nm,0.2s
GO05 Huala 4.29 187 Pn **Pn 11 22 58.0 -0.7**
GO05 Huala 4.29 187 *eP* **Pn 11 22 58.2 -0.4**
GO05 *eS* Sn 11 24 04.0 +17
GO05 Huala 4.29 187 *eP* **Pn 11 22 58.2 -0.4**
GO05 *eS* Sn 11 24 04.0 +17
AC02 Maricunga 4.34 27 *eP* **Pn 11 23 01.6 +1.8**
AC02 *eS* **Sn 11 23 55.0 +5.6**
AC02 Maricunga 4.34 27 *eP* **Pn 11 23 01.0 +1.2**
AC02 *eS* **Sn 11 23 56.5 +7.2**
AC02 IAML 11 24 12.2
comp=Z,384nm,0.5s
AC02 Maricunga 4.34 27 *eP* **Pn 11 23 01.0 +1.2**
AC02 *eS* **Sn 11 23 56.5 +7.2**
AC02 IAML 11 24 12.2
comp=Z,384nm,0.5s
MRA San Martin 5.07 111 *eP* **Pn 11 23 11.3 +1.8**
MRA IAML 11 24 48.6
comp=Z,562nm,0.6s
MRA San Martin 5.07 111 *eP* **Pn 11 23 11.3 +1.8**
MRA IAML 11 24 48.6
comp=Z,562nm,0.6s
H03N1 Juan Fernandez 6.98 245 P **Pn 11 23 34.3 -1.0**
baz=114,slow=19,SNR=273
H03N1 T T 11 30 29.3
baz=72,slow=72,SNR=2929
H03N3 Juan Fernandez 6.99 245 P **Pn 11 23 34.1 -1.4**
baz=114,slow=19,SNR=207
H03N3 T T 11 30 26.0
baz=72,slow=72,SNR=2244
H03N2 Juan Fernandez 6.99 245 P **Pn 11 23 34.3 -1.1**
baz=114,slow=19,SNR=127
H03N2 T T 11 30 30.8
baz=72,slow=72,SNR=2601
H03S3 Juan Fernandez 7.12 242 P Pn 11 23 35.3 -1.8
baz=47,slow=74,SNR=6.5
H03S1 Juan Fernandez 7.12 242 P Pn 11 23 34.8 -2.4
baz=47,slow=74,SNR=6.9
H03S2 Juan Fernandez 7.14 242 P **Pn 11 23 35.5 -1.9**
baz=47,slow=74,SNR=7.3
LVC Limon Verde 8.38 16 P **Pn 11 23 53.4 -1.6**
comp=Z,2.0nm,0.3s,baz=176,slow=11,SNR=1.9
LVC LR LR 11 26 58.3
comp=Z,91nm,19.1s,baz=202,slow=36
LVC Limon Verde 8.38 16 Pn **Pn 11 23 52.4 -2.7**
PLCA Paso Flores 9.99 177 P **Pn 11 24 17.3 +0.5**
comp=Z,0.9nm,0.8s,baz=332,slow=11,SNR=5.3
PLCA LR LR 11 27 39.0
comp=Z,17nm,21.8s,baz=304,slow=34
LL04 Puerto Octay 10.19 185 Pn **Pn 11 24 19.0 -0.5**
TRQA Tornquist 10.62 136 Pn **Pn 11 24 26.4 +0.9**
ITQB Itaqui 12.77 89 Pn **Pn 11 24 53.8 -0.9**
CPUP Villa Florida 13.06 74 LR LR 11 30 34.1
comp=Z,63nm,21.0s,baz=224,slow=39
LPAZ La Paz 14.68 12 P **Pn 11 25 22.6 +1.4**
comp=Z,3.3nm,0.7s,baz=188,slow=8.1,SNR=12
PLTB Pedras Altas 15.20 98 P **Pn 11 25 24.3 -3.2**
SIV San Ignacio 17.42 35 P **P 11 25 56.4 0.0**
comp=Z,4.2nm,0.7s,baz=214,slow=9.2,SNR=20
ETMB Extrema 21.35 14 P **P 11 26 39.4 +0.1**
ETMB IAmb IAmb 11 27 03.2
comp=Z,4.7nm,0.8s
BDFB Brasilia 26.09 60 P **P 11 27 25.2 -0.4**
comp=Z,7.7nm,0.6s,baz=236,slow=8.4,SNR=12
comp=Z,7.7nm,0.6s
BDFB Brasilia 26.09 60 P **P 11 27 25.3 -0.3**
BDFB IAmb IAmb 11 27 26.0
comp=Z,7.3nm,0.8s
BOAV Boa Vista 34.52 19 P **P 11 28 39.5 -0.4**
BOAV IAmb IAmb 11 29 11.6
comp=Z,3.8nm,1.1s
RUSC La Rusia 36.46 357 P **P 11 28 57.6 +0.6**
RUSC IAmb IAmb 11 29 20.6
comp=Z,7.0nm,0.8s
MDP Montagnes des 39.87 30 LR LR 11 46 37.6
comp=Z,39nm,19.5s,baz=260,slow=37
MLPR Magueyes Islan 48.60 5 P **P 11 30 33.5 -1.4**
CELP Cerrillos 48.74 6 P **P 11 30 35.5 -0.6**
VNA2 Neumayer--Watz 52.80 158 P **P 11 31 06.2 +0.2**
baz=286,slow=8.0
VNA2 Neumayer--Watz 52.80 158 pP pP 11 31 20.0 +0.9
baz=284,slow=7.0
SNAA Sanae 54.39 159 P **P 11 31 17.9 +0.1**
SNAA Sanae 54.39 159 pP pP 11 31 31.6 +0.7
SNAA Sanae 54.39 159 P **P 11 31 17.8 0.0**
SNAA IAmb IAmb 11 31 58.9
comp=Z,4.4nm,1.2s
QSPA South Pole Qui 59.49 180 P **P 11 31 54.0 -0.1**
QSPA IAmb IAmb 11 32 35.9
comp=Z,5.1nm,1.2s
TXAR Lajitas Array 67.21 330 P **P 11 32 45.9 +0.4**
comp=Z,0.5nm,0.5s,baz=155,slow=8.5,SNR=14
comp=Z,0.5nm,0.5s
R40A Maddies Statio 71.40 343 P **P 11 33 10.3 -0.7**
P40A Paris 72.52 343 P **P 11 33 16.9 -0.8**
P40A IAmb IAmb 11 33 18.3
comp=Z,7.0nm,0.9s
DBIC Dimbokro 73.58 72 P **P 11 33 24.5 -0.1**
comp=Z,5.8nm,0.5s,baz=241,slow=6.6,SNR=11
comp=Z,5.8nm,0.5s
ECSD EROS Data Cent 77.64 342 P **P 11 33 47.1 0.0**
ECSD IAmb IAmb 11 33 48.9
comp=Z,6.0nm,0.9s
BOSA Boshof 81.06 118 P **P 11 34 06.8 +0.3**
comp=Z,1.4nm,0.5s,baz=247,slow=5.8,SNR=3.5
comp=Z,1.4nm,0.5s
PDAR Pinedale Array 81.14 333 P **P 11 34 06.4 -0.1**
comp=Z,0.2nm,0.6s,baz=135,slow=9.0,SNR=2.1
comp=Z,0.2nm,0.6s
TORD Torodi Ar. Bea 82.53 70 P **P 11 34 13.7 -0.5**
comp=Z,5.8nm,0.3s,baz=227,slow=7.7,SNR=2.7
comp=Z,5.8nm,0.3s
ULM Lac du Bonnet 83.52 344 P **P 11 34 18.4 -0.1**
comp=Z,1.1nm,0.4s,baz=188,slow=11,SNR=3.5
comp=Z,1.1nm,0.4s
DGMT Dagmar 84.16 339 P **P 11 34 21.9 +0.1**
YKA Yellowknife Ar 99.17 341 P **Pdif 11 35 30.8 -0.9**
comp=Z,0.1nm,0.6s,baz=138,slow=5.0,SNR=1.9
comp=Z,0.1nm,0.6s
ASAR Alice Springs 120.74 207 PKP **PKPdf 11 40 41.5 -2.0**
comp=Z,0.3nm,0.9s,baz=117,slow=1.0,SNR=1.7
H11S2 WAKE ISLAND Hyd 26.36 271 T T 13 59 39.4
baz=116,slow=75,SNR=99
H11S1 WAKE ISLAND Hyd 26.38 271 T T 13 59 40.3
baz=116,slow=75,SNR=129
H11S3 WAKE ISLAND Hyd 26.38 271 T T 13 59 40.8
baz=116,slow=75,SNR=105
H11N3 WAKE ISLAND Hyd 26.69 273 T T 14 00 06.9
baz=116,slow=75,SNR=31
H11N1 WAKE ISLAND Hyd 26.71 273 T T 14 00 10.8
baz=116,slow=75,SNR=12
H11N2 WAKE ISLAND Hyd 26.71 273 T T 14 00 08.1
baz=116,slow=75,SNR=48
ZALV Zalesovo Beam 151.13 30 PKPbc **PKPbc 11 41 43.0 -0.4**
comp=Z,6.2nm,0.5s,baz=300,slow=3.4,SNR=28
MKAR Makanchi Array 154.09 44 PKPbc **PKPbc 11 41 49.5 -0.9**
comp=Z,0.5nm,0.8s,baz=293,slow=0.9,SNR=4.4

IDC ***23*** *11:27:12.2±1.7, 6.°62S×152.°06E, h0km, mb3.9/4, mbtmp4.1/5, MS2.8/1, Error ellipse: s-maj=61.5km s-min=20.0km az=112.0*
NEIC ***23*** *11:27:16.8±2.6, 6.°82S±0.°10×152.°0E±0.°1, h26km±8km, mb4.4/11, Error ellipse: s-maj=19.8km s-min=11.7km az=116.0*
ISC 23 11:27:17.0±0.8, 6.75S±0.08×152.0E±0.1, h37km, n21, σ1°45/21, mb4.1/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076** 1μm,0.5s	**2.42**	**0**	Pn	**Pn**	**11 27 51.8**	**-2.3**
KRVT				Sn	**Sn**	**11 28 22.7**	**+0.2**
RABL	**Rabaul**	**2.54**	**3**	Pn	**Pn**	**11 27 55.7**	**-0.1**
PMG	**Port Moresby**	**5.49**	**241**	LR	LR	11 30 24.0	
	comp=Z,102nm,21.6s,baz=353,slow=34						
PMG	**Port Moresby**	**5.49**	**241**	Pn	**Pn**	**11 28 34.4**	**-1.8**
MTN	**Manton Dam**	**21.44**	**252**	P	**P**	**11 32 02.0**	**-0.2**
MTN				IAmb	IAmb	11 32 17.3	
	comp=Z,61nm,1.5s						
WR0	**Warramunga Arr**	**21.45**	**231**	P	**P**	**11 32 02.5**	**+0.1**
WR0				IAmb	IAmb	11 32 10.8	
	comp=Z,7.6nm,1.0s						
WB0	**Warramunga Arr**	**21.46**	**231**	P	**P**	**11 32 02.9**	**+0.6**
WB0				IAmb	IAmb	11 32 09.3	
	comp=Z,7.9nm,0.8s						
WB2	**Warramunga Arr**	**21.59**	**231**	P	**P**	**11 32 04.7**	**+0.9**
WB2				IAmb	IAmb	11 32 26.7	
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**21.60**	**231**	P	**P**	**11 32 04.5**	**+0.6**
	comp=Z,5.4nm,0.8s,baz=54,slow=11,SNR=20						
	comp=Z,5.4nm,0.8s						
AS31	**Alice Springs**	**24.20**	**224**	P	**P**	**11 32 33.1**	**+2.8**
ASAR	**Alice Springs**	**24.21**	**224**	P	**P**	**11 32 32.6**	**+2.2**
	comp=Z,5.7nm,0.7s,baz=55,slow=9.0,SNR=55						
	comp=Z,5.7nm,0.7s						
ASAR	**Alice Springs**	**24.21**	**224**	P	**P**	**11 32 33.1**	**+2.7**
KNRA	**Kununurra**	**24.45**	**247**	P	**P**	**11 32 33.1**	**+0.5**
KNRA				IAmb	IAmb	11 32 56.5	
	comp=Z,23nm,1.2s						
FITZ	**Fitzroy Crossi**	**28.08**	**244**	P	**P**	**11 33 03.9**	**-1.4**
NIUE	**Niue**	**38.97**	**112**	P	**P**	**11 34 39.1**	**-0.8**
NNZ	**Nelson**	**39.25**	**154**	P	**P**	**11 34 42.9**	**+0.9**
LTZ	**Lake Taylor**	**40.10**	**157**	P	**P**	**11 34 48.4**	**-0.7**
LTZ				IAmb	IAmb	11 35 06.1	
	comp=Z,22nm,1.0s						
SONM	**Songino Array**	**67.56**	**329**	P	**P**	**11 38 11.6**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=143,slow=5.1,SNR=4.3						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**67.56**	**329**	P	**P**	**11 38 10.5**	**+0.7**
SONM				IAmb	IAmb	11 38 44.6	
	comp=Z,2.2nm,1.4s						
ILAR	**Eielson Array**	**84.24**	**22**	P	**P**	**11 39 44.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=244,slow=5.5,SNR=11						
	comp=Z,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.10**	**285**	PKPbc	**PKPbc**	**11 47 04.6**	**-0.3**
	comp=Z,3.4nm,0.3s,baz=58,slow=3.4,SNR=2.0						

NNC 23 11:33:36.4±0.6, 50.°89N×73.°65E, h0km, mb3.2, mpv3.5, 10C-5D, Error ellipse: s-maj=10.6km s-min=2.8km az=28.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array** 3.3nm,0.7s,baz=147,slow=16,SNR=6.4	**2.94**	**318**	⇓Pg	Pb	11 34 30.5	+0.9
BVA0				⇑Lg	Lg	11 35 09.9	
	5.6nm,0.4s,baz=120,slow=28,SNR=10						
BRVK	**Borovoye** 3.3nm,0.8s	**3.01**	**317**	⇑Pg	Pb	11 34 30.5	-0.3
BRVK				⇑Lg	Lg	11 35 11.0	
	16nm,0.6s						
KURBB	**Kurchatov Arra** 3.5nm,0.8s	**3.11**	**93**	⇑Pn	Pn	11 34 27.3	+0.6
KURBB				⇑Pg	Pb	11 34 32.9	+0.3
	5.4nm,0.6s						
KURBB				⇑Lg	Lg	11 35 14.8	
	36nm,0.6s						
KURK	**Kurchatov** 6μm,0.1s	**3.16**	**91**	⇑Pn	Pn	11 34 27.8	+0.5
KURK				⇓Pg	Pb	11 34 33.7	+0.3
	5.4nm,1.2s						
KURK				⇓Lg	Lg	11 35 15.8	
	32nm,1.1s						
MAKZ	**Makanchi** 8.6nm,1.3s	**6.84**	**123**	⇑Lg	Lg	11 37 13.4	
MK31	**Makanchi Array** 0.3nm,0.5s,baz=307,slow=13,SNR=5.8	**7.02**	**122**	⇑Pg	Pb	11 35 42.8	+3.6
MK31				⇓Lg	Lg	11 37 19.6	
	3.4nm,0.6s,baz=309,slow=32,SNR=5.3						
KK31	**Karatay Array** 0.8nm,0.5s,baz=0.0,slow=0.1,SNR=4.0	**8.08**	**197**	⇓Lg	Lg	11 37 53.2	
TKM2	**Tokmak 2** 6.4nm,0.8s	**8.09**	**170**	⇑Lg	Lg	11 37 52.1	

NOU ***23*** *12:03:12.2, 10.°50S×161.°69E, h66km, mb4.6/14, Solomon Islands*
IDC ***23*** *12:03:13.8±1.9, 10.°74S×161.°30E, h50km±16km, mb4.1/15, mbtmp4.4/18, ML4.6/3, MS3.7/11, Error ellipse: s-maj=18.8km s-min=12.0km az=77.0*
NEIC ***23*** *12:03:13.3±1.5, 10.°83S±0.°09×161.°4E±0.°1, h36km±7km, mb4.7/35, Error ellipse: s-maj=19.7km s-min=10.2km az=60.0*
ISC 23 12:03:11.7±0.4, 10.°80S±0.°06×161.°39E±0.°08, h28km, n108, σ1°22/96, mb4.7/42, MS3.9/9, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 9μm,0.6s,baz=190,slow=9.4,SNR=21	**1.96**	**314**	P	**Pn**	**12 03 41.8**	**-1.4**
HNR				S	**Sn**	**12 04 06.3**	**-0.5**
	6μm,0.4s,baz=303,slow=17,SNR=7.1						
HNR	**Honiara**	**1.96**	**314**		**Pn**	**12 03 43.3**	**+0.1**
HNR	**Honiara**	**1.96**	**314**	P	**Pn**	**12 03 43.9**	**+0.8**
KOUNC	**Koumac, New Ca**	**10.09**	**164**	Pn	**Pn**	**12 05 33.9**	**-1.0**
LIFNC	**LIFOU**	**11.41**	**151**		**Pn**	**12 05 50.8**	**-2.1**
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=352,slow=5.7,SNR=28	**12.21**	**157**	P	**Pn**	**12 06 05.3**	**+1.3**
DZM				LR	LR	12 10 03.5	
	comp=Z,252nm,19.2s,baz=336,slow=33						
	21nm,0.9s						
DZM	**Mont Dzumac** 88nm,1.3s	**12.21**	**157**	*e*Pn	**Pn**	**12 06 05.8**	**+1.8**
DZM				*e*LR	LR	12 08 50.7	
	comp=Z,329nm,22.8s						
DZM	**Mont Dzumac**	**12.21**	**157**	Pn	**Pn**	**12 06 02.9**	**-1.1**
MARNC	**Mare, Loyalty**	**12.39**	**150**		**Pn**	**12 06 06.2**	**-0.1**
PMG	**Port Moresby**	**14.08**	**274**	LR	LR	12 11 28.5	
	comp=Z,124nm,18.1s,baz=96,slow=35						
CTA	**Charters Tower** 0.9nm,0.3s,baz=61,slow=11,SNR=11	**17.25**	**236**	P	**P**	**12 07 11.3**	**-0.8**
CTA				LR	LR	12 13 18.8	
	comp=Z,243nm,18.5s,baz=80,slow=35						
	8.5nm,0.6s						
CTAO	**Charters Tower**	**17.25**	**236**		**P**	**12 07 11.9**	**-0.2**
CTAO	**Charters Tower**	**17.25**	**236**	P	**P**	**12 07 13.2**	**+1.1**
EIDS	**Eidsvold**	**17.48**	**213**	P	**P**	**12 07 14.4**	**-0.2**
EIDS	**Eidsvold**	**17.48**	**213**	P	**P**	**12 07 16.4**	**+1.8**
MSVF	**Nonsavu** 0.2nm,0.3s,baz=276,slow=9.2,SNR=3.9	**17.55**	**115**	P	**P**	**12 07 17.5**	**+2.0**
	5.4nm,0.8s						
MTSU	**Mount Surprise**	**18.06**	**244**	P	**P**	**12 07 23.5**	**+2.4**
COEN	**Coen**	**18.07**	**258**	P	**P**	**12 07 22.0**	**+0.9**
RMQ	**Roma**	**19.64**	**216**	P	**Pn**	**12 07 40.6**	**+0.7**
ARMA	**Armidale**	**21.53**	**204**	P	**P**	**12 07 60.0**	**+1.1**
ARMA				IAmb	IAmb	12 08 00.7	
	comp=Z,30nm,1.2s						
ARMA	**Armidale**	**21.53**	**204**	P	**P**	**12 07 59.9**	**+1.1**
QLP	**Quilpie**	**22.55**	**224**	P	**P**	**12 08 10.2**	**+0.4**
QIS	**Mount Isa**	**23.08**	**242**	P	**P**	**12 08 15.4**	**0.0**
SMPI	**Sarmi**	**24.15**	**290**	P	**P**	**12 08 25.5**	**-0.2**
	comp=Z,55nm,1.0s						
CMSA	**Cobar Meteorol**	**25.24**	**213**	P	**P**	**12 08 35.7**	**+0.2**
INKA	**Innaminka**	**25.70**	**226**	P	**P**	**12 08 40.7**	**+1.1**
WR0	**Warramunga Arr**	**27.41**	**247**	P	**P**	**12 08 55.0**	**-0.1**
WR0				IAmb	IAmb	12 09 18.8	
	comp=Z,26nm,1.5s						
WB0	**Warramunga Arr**	**27.49**	**248**	P	**P**	**12 08 55.5**	**-0.4**
WB0				IAmb	IAmb	12 09 23.6	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**27.57**	**247**	P	**P**	**12 08 55.5**	**-1.2**
WB2				IAmb	IAmb	12 09 11.3	
	comp=Z,8.5nm,0.8s						
WRA	**Warramunga Arr**	**27.59**	**247**	P	**P**	**12 08 55.9**	**-0.9**
	comp=Z,3.2nm,0.5s,baz=75,slow=10,SNR=24						
WRA				LR	LR	12 19 37.0	
	comp=Z,250nm,18.2s,baz=71,slow=36						
	comp=Z,3.2nm,0.5s						
WRA	**Warramunga Arr**	**27.59**	**247**	P	**P**	**12 08 55.5**	**-1.3**
STKA	**Stephens Creek**	**27.83**	**218**	P	**P**	**12 08 59.1**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=27,slow=11,SNR=5.7						
STKA				LR	LR	12 19 21.6	
	comp=Z,316nm,18.7s,baz=33,slow=35						
	comp=Z,2.9nm,0.7s						
STKA	**Stephens Creek**	**27.83**	**218**	P	**P**	**12 08 57.5**	**-1.3**
STKA	**Stephens Creek**	**27.83**	**218**	P	**P**	**12 08 59.2**	**+0.4**
LCRK	**Leigh Creek**	**29.09**	**224**	P	**P**	**12 09 09.8**	**-0.2**
AS31	**Alice Springs**	**29.13**	**240**	P	**P**	**12 09 10.0**	**-0.6**
ASAR	**Alice Springs**	**29.14**	**240**	P	**P**	**12 09 08.7**	**-1.9**
	comp=Z,1.7nm,0.5s,baz=64,slow=10,SNR=37						
ASAR				LR	LR	12 20 39.4	
	comp=Z,304nm,18.0s,baz=91,slow=36						
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**29.14**	**240**	P	**P**	**12 09 09.4**	**-1.2**
H11S2	**WAKE ISLAND Hy**	**29.57**	**10**	T	T	12 40 04.2	
	baz=189,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.57**	**10**	T	T	12 40 06.7	
	baz=189,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.59**	**10**	T	T	12 40 07.8	
	baz=189,slow=76,SNR=7.9						
TOO	**Toolangi**	**30.25**	**206**	P	**P**	**12 09 20.7**	**+0.4**
TOO				IAmb	IAmb	12 09 22.0	
	comp=Z,7.0nm,0.8s						
URZ	**Urewera**	**30.76**	**155**	LR	LR	12 20 39.2	
	comp=Z,120nm,18.4s,baz=36,slow=34						
H11N1	**WAKE ISLAND Hy**	**30.80**	**10**	T	T	12 41 35.6	
	baz=187,slow=74,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**30.80**	**10**	T	T	12 41 37.8	
	baz=187,slow=74,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**30.82**	**10**	T	T	12 41 50.9	
	baz=187						
BKZ	**Black Stump Fm**	**31.30**	**157**	P	**P**	**12 09 29.1**	**-0.5**
BKZ				IAmb	IAmb	12 09 40.3	
	comp=Z,20nm,1.2s						
BBOO	**Buckleboo**	**31.98**	**223**	P	**P**	**12 09 35.5**	**0.0**
BBOO				IAmb	IAmb	12 09 36.1	
	comp=Z,16nm,0.9s						
KNRA	**Kununurra**	**32.10**	**258**	P	**P**	**12 09 37.0**	**+0.2**
TCW	**Tory Channel**	**32.35**	**162**	P	**P**	**12 09 38.8**	**0.0**
PLWZ	**Palliser**	**32.99**	**161**	P	**P**	**12 09 44.1**	**-0.2**
OXZ	**Oxford**	**33.71**	**166**	P	**P**	**12 09 50.6**	**+0.1**
MOZ	**McQueen's Vall**	**34.21**	**165**	P	**P**	**12 09 54.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**35.32**	**254**	P	**P**	**12 10 03.6**	**-1.2**
SANI	**Sanana**	**36.20**	**281**	P	**P**	**12 10 11.5**	**-0.9**
NWAO	**Narrogin (SRO)**	**46.09**	**234**	LR	LR	12 30 56.6	
	comp=Z,80nm,18.3s,slow=36						
JAGI	**Jajag, Banyuwa**	**46.59**	**269**	P	**P**	**12 11 36.6**	**-1.1**
PPT2	**Papeete2**	**47.91**	**104**	*e*LR	LR	12 25 24.3	
	comp=Z,159nm,24.5s						
MJAR	**Matsushiro Arr**	**51.90**	**336**	P	**P**	**12 12 15.8**	**-2.1**
	comp=Z,2.5nm,0.7s,baz=167,slow=7.6,SNR=5.8						
	comp=Z,2.5nm,0.7s						
JKA	**Kamikawa-asahi**	**57.26**	**344**	P	**P**	**12 12 56.6**	**-0.1**
ASAJ	**Asahikawa**	**57.26**	**344**	P	**P**	**12 12 56.4**	**-0.3**
	comp=Z,14nm,0.8s,baz=213,slow=5.4,SNR=7.5						
	comp=Z,14nm,0.8s						
NJ2	**Nanjing**	**58.90**	**318**	*e*P	**P**	**12 13 11.3**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PETK	**Petropavlovsk-**	**63.73**	**358**	LR	LR	12 39 55.7	
	comp=Z,25nm,18.9s,baz=107,slow=35						
KLR	**Kul'dur**	**65.21**	**339**	P	**P**	**12 13 49.3**	**-1.2**
	comp=Z,3.4nm,1.0s,baz=150,slow=5.5,SNR=5.8						
	comp=Z,3.4nm,1.0s						
VNDA	**Vanda**	**66.71**	**180**	P	**P**	**12 14 00.5**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=353,slow=7.8,SNR=9.8						
	comp=Z,2.8nm,0.7s						
VNDA	**Vanda**	**66.71**	**180**	P	**P**	**12 14 00.2**	**+0.5**
VNDA				IAmb	IAmb	12 14 41.5	
	comp=Z,11nm,1.4s						
XAN	**Xi'an**	**66.84**	**314**	P	**P**	**12 14 02.3**	**+1.0**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CRAI	**Chiangrai**	**67.47**	**297**	P	**P**	**12 14 05.2**	**-0.3**
CRAI				IAmb	IAmb	12 14 35.5	
	comp=Z,10nm,1.4s						
HEH	**HeiHe**	**67.64**	**337**	*e*P	**P**	**12 14 06.6**	**+0.6**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,180nm,4.9s						
CMAR	**Chiang Mai Arr**	**68.11**	**295**	P	**P**	**12 14 09.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=129,slow=5.3,SNR=9.9						
	comp=Z,1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**68.11**	**295**	P	**P**	**12 14 08.9**	**-0.7**
XLT	**XiLinHaoTe**	**68.23**	**326**	*e*P	**P**	**12 14 12.0**	**+2.1**
XLT				sP	pwP	12 14 26.0	+4.4
XLT				PcP	**PcP**	**12 14 34.3**	**-1.3**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,190nm,4.7s						
PZH	**PanZhiHua**	**68.76**	**304**	P	**P**	**12 14 13.9**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,130nm,5.5s						
HHC	**Hu-ho-hao-te**	**68.92**	**322**	*e*P	**P**	**12 14 18.3**	**+3.9**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,270nm,5.7s						
LZH	**Lanzhou**	**71.46**	**314**	*e*P	P	12 14 39.9	+10
LZH				pP	pwP	12 14 44.3	+1.0
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
SEY

					pmax	pmax		
GTA								
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**75.98**	**325**	P	**P**		**12 14 55.6**	**-0.7**
	comp=Z,4.5nm,0.7s,baz=145,slow=6.0,SNR=20							
	comp=Z,4.5nm,0.7s							
SONM	**Songino Array**	**75.98**	**325**	P	**P**		**12 14 57.6**	**+1.3**
SONM				IAmb	IAmb		12 14 59.0	
	comp=Z,4.4nm,0.7s							
YAK	**Yakutsk**	**76.70**	**345**	P	**P**		**12 14 58.7**	**-1.2**
	comp=Z,7.0nm,0.6s,baz=329,slow=0.6,SNR=6.6							
	comp=Z,7.0nm,0.6s							
YAK	**Yakutsk**	**76.70**	**345**	P	**P**		**12 15 01.4**	**+1.4**
BILL	**Bilibino**	**78.71**	**2**	P	**P**		**12 15 11.2**	**+0.2**
BILL				IAmb	IAmb		12 15 13.5	
	comp=Z,7.1nm,0.9s							
QSPA	**South Pole Qui**	**79.21**	**180**	P	**P**		**12 15 13.2**	**-0.9**
QSPA				IAmb	IAmb		12 15 14.7	
	comp=Z,7.4nm,0.8s							
SVW2	**Sparrevohn**	**79.27**	**20**	P	**P**		**12 15 14.4**	**+0.2**
L19K	**White Mountain**	**80.30**	**19**	P	**P**		**12 15 20.5**	**+0.7**
L19K				IAmb	IAmb		12 15 24.1	
	comp=Z,8.7nm,0.9s							
CAST	**Castle Rocks**	**82.07**	**19**	P	**P**		**12 15 27.7**	**-1.5**
CAST				IAmb	IAmb		12 15 31.1	
	comp=Z,9.6nm,1.0s							
MCK	**McKinley**	**83.32**	**20**	P	**P**		**12 15 36.4**	**+0.7**
I21K	**Tanana**	**83.33**	**18**	P	**P**		**12 15 36.6**	**+0.9**
I21K				IAmb	IAmb		12 15 39.3	
	comp=Z,8.1nm,1.0s							
IMAR	**Indian Mountai**	**83.38**	**17**	P	**P**		**12 15 37.5**	**+1.6**
WRH	**Wood River Hil**	**84.09**	**20**	P	**P**		**12 15 39.5**	**-0.1**
WRH				IAmb	IAmb		12 15 41.4	
	comp=Z,2.5nm,1.0s							
ILAR	**Eielson Array**	**84.68**	**20**	P	**P**		**12 15 41.3**	**-1.3**
	comp=Z,3.3nm,1.1s,baz=254,slow=5.0,SNR=10							
ILAR				LR	LR		12 50 05.4	
	comp=Z,55nm,20.3s,baz=266,slow=33							
	comp=Z,3.3nm,1.1s							
BCAR	**Beaver Creek A**	**85.46**	**22**	P	**P**		**12 15 47.2**	**+0.6**
WMQ	**Urumqi**	**85.91**	**316**	*e*P	**P**		**12 15 50.8**	**+1.5**
EGAK	**Eagle**	**86.66**	**21**	P	**P**		**12 15 52.9**	**+0.5**
EGAK				IAmb	IAmb		12 15 56.0	
	comp=Z,8.1nm,1.1s							
DAWY	**Dawson**	**86.91**	**22**	P	**P**		**12 15 54.8**	**+1.1**
DAWY				IAmb	IAmb		12 15 58.6	
	comp=Z,14nm,1.4s							
NVAR	**Mina Array Bea**	**89.16**	**51**	P	**P**		**12 16 05.7**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=234,slow=6.3,SNR=6.1							
	comp=Z,1.1nm,0.8s							
PFO	**Pinyon Flats O**	**89.46**	**56**	LR	LR		12 50 38.2	
	comp=Z,48nm,18.8s,baz=215,slow=32							
MK31	**Makanchi Array**	**90.43**	**318**	P	**P**		**12 16 09.0**	**-1.8**
MKAR	**Makanchi Array**	**90.43**	**318**	P	**P**		**12 16 08.7**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=92,slow=6.3,SNR=22							
	comp=Z,1.3nm,0.5s							
MKAR	**Makanchi Array**	**90.43**	**318**	P	**P**		**12 16 08.9**	**-1.9**
ELIB	**Princess Elisa**	**92.92**	**192**	*d*P	**P**		**12 16 21.1**	**-1.0**
	comp=Z,3.9nm,1.3s							
TROLL	**Troll, Antarti**	**96.19**	**186**	P	**P**		**12 16 36.4**	**-0.6**
YKA	**Yellowknife Ar**	**96.73**	**28**	P	**P**		**12 16 37.5**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=256,slow=4.7,SNR=8.0							
	comp=Z,0.8nm,0.9s							
SNAA	**Sanae**	**97.04**	**185**	P	**P**		**12 16 40.0**	**-0.8**
VNA3	**Neumayer Olymp**	**97.93**	**183**	P	**P**		**12 16 42.6**	**-2.1**
VNA2	**Neumayer--Watz**	**98.11**	**184**	P	**P**		**12 16 44.4**	**-1.1**
	baz=174,slow=3.0							
VNA1	**Neumayer--Stat**	**98.44**	**183**	P	P		12 16 41.2	-5.7

IDC 23 12:09:56.4±7.1, 9°23S×126°94E, h92km±81km, mb3.3/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=85.3km s-min=23.0km az=26.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.38**	**253**	P	Pn	12 10 45.9	-1.3
	7.1nm,0.3s,baz=117,slow=3.3,SNR=6.1						
BATI				S	Sn	12 11 27.2	+1.0
	61nm,0.5s,baz=4.3,slow=18,SNR=7.4						
	18nm,0.3s						
WRA	**Warramunga Arr**	**12.83**	**147**	P	Pn	12 12 54.7	-0.7
	0.3nm,0.3s,baz=319,slow=14,SNR=11						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**15.83**	**156**	P	P	12 13 35.3	-0.7
	0.1nm,0.3s,baz=319,slow=11,SNR=6.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**68.48**	**329**	P	P	12 20 48.8	0.0
	0.4nm,0.5s,baz=121,slow=6.5,SNR=6.3						
	0.4nm,0.5s						

IDC 23 12:12:05.8±7.5, 8°97S×127°05E, h59km±89km, mb3.3/1, mbtmp3.5/4, ML3.5/3, MS3.1/1, Error ellipse: s-maj=84.5km s-min=23.1km az=15.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.56**	**250**	P	Pn	12 12 58.5	-0.1
	5.6nm,0.3s,baz=227,slow=20,SNR=1.9						
BATI				S	Sn	12 13 40.2	+0.8
	51nm,0.3s,baz=352,slow=10,SNR=4.0						
	43nm,0.7s						
WRA	**Warramunga Arr**	**12.99**	**148**	P	Pn	12 15 07.2	-0.5
	0.3nm,0.3s,baz=321,slow=14,SNR=7.3						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**16.02**	**157**	P	Pn	12 15 47.7	+0.3
	0.1nm,0.3s,baz=320,slow=10,SNR=5.3						
	0.5nm,0.8s						
GUMO	**Guam**	**28.56**	**39**	LR	LR	12 30 15.6	
	comp=Z,34nm,19.9s,baz=91,slow=38						
MKAR	**Makanchi Array**	**68.32**	**329**	P	P	12 23 00.9	0.0
	0.3nm,0.5s,baz=123,slow=7.3,SNR=5.5						
	0.3nm,0.5s						

*IDC **23** 12:16:15.2±2.3, 10°.81S×162°.00E, h89km±20km, mb3.5/4, mbtmp3.9/5, MS4.0/1, Error ellipse: s-maj=26.5km s-min=17.3km az=62.0*
*NEIC **23** 12:16:15.3±2.6, 10°.8S±0°.1×162°.1E±0°.1, h83km±10km, mb4.3/8, Error ellipse: s-maj=19.7km s-min=15.2km az=66.0*
ISC 23 12:16:14.7±0.9, 10°.79S±0°.09×162°.1E±0°.1, h83km, n23, σ1§14/19, mb4.0/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.49**	**303**	P	**Pn**	**12 16 53.1**	**-0.2**
	7µm,0.2s,baz=146,slow=3.2,SNR=98						
HNR				S	**Sn**	**12 17 23.1**	**+0.3**
	4µm,0.4s,baz=162,slow=24,SNR=6.5						
HNR				LR	LR	12 18 04.9	
	comp=Z,3µm,20.2s,baz=117,slow=45						
KOUNC	**Koumac, New Ca**	**9.94**	**168**	Pn	**Pn**	**12 18 32.7**	**-2.0**
DZM	**Mont Dzumac**	**11.97**	**160**	P	**Pn**	**12 19 03.9**	**+1.4**
	6.0nm,0.9s,baz=336,slow=20,SNR=9.5						
DZM				S	**Sn**	**12 21 13.4**	**-0.9**
	7.1nm,0.6s,baz=249,slow=20,SNR=6.6						
DZM	**Mont Dzumac**	**11.97**	**160**	Pn	**Pn**	**12 19 03.0**	**+0.5**
ARMA	**Armidale**	**21.81**	**205**	P	**P**	**12 21 02.4**	**+2.1**
ARMA				IAmb	IAmb	12 21 28.5	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**28.03**	**248**	P	**P**	**12 21 56.9**	**-1.4**
WR0				IAmb	IAmb	12 22 31.2	
	comp=Z,7.3nm,0.9s						
WB0	**Warramunga Arr**	**28.11**	**248**	P	**P**	**12 21 58.9**	**-0.2**
WB0				IAmb	IAmb	12 22 28.2	
	comp=Z,8.0nm,1.1s						
WRA	**Warramunga Arr**	**28.21**	**248**	P	**P**	**12 21 59.4**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=78,slow=9.0,SNR=5.5						
	comp=Z,1.1nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**29.45**	**9**	T	T	12 53 20.5	
	baz=188,slow=76,SNR=105						
H11S3	**WAKE ISLAND Hy**	**29.45**	**9**	T	T	12 53 20.2	
	baz=188,slow=76,SNR=67						
H11S1	**WAKE ISLAND Hy**	**29.47**	**9**	T	T	12 53 24.0	
	baz=188,slow=76,SNR=63						
ASAR	**Alice Springs**	**29.72**	**241**	P	**P**	**12 22 12.3**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=63,slow=10,SNR=9.1						
	comp=Z,0.4nm,0.4s						
TOO	**Toolangi**	**30.55**	**206**	P	**P**	**12 22 21.7**	**+1.3**
TOO				IAmb	IAmb	12 22 51.8	
	comp=Z,13nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**30.68**	**9**	T	T	12 54 54.0	
	baz=188,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**30.69**	**9**	T	T	12 54 52.7	
	baz=188,slow=76,SNR=39						
H11N2	**WAKE ISLAND Hy**	**30.70**	**9**	T	T	12 54 53.6	
	baz=188,slow=76,SNR=45						
BBOO	**Buckleboo**	**32.44**	**224**	P	**P**	**12 22 37.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**35.97**	**254**	P	**P**	**12 23 06.3**	**-1.5**
MORW	**Morawa**	**46.60**	**240**	P	**P**	**12 24 35.1**	**+0.3**
IMAR	**Indian Mountai**	**83.19**	**17**	P	**P**	**12 28 32.4**	**+1.0**
WRH	**Wood River Hil**	**83.86**	**19**	P	**P**	**12 28 34.1**	**-0.8**
ILAR	**Eielson Array**	**84.45**	**20**	P	**P**	**12 28 37.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=245,slow=5.6,SNR=11						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**12 29 33.8**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=260,slow=5.7,SNR=4.1						
	comp=Z,0.2nm,0.6s						

*IDC **23** 12:17:12.2±2.5, 16°.15S×173°.43W, h0km, mb3.7/5, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=137.2km s-min=22.5km az=145.0*
*NOU **23** 12:17:49.4, 13°.68S×171°.77W, h0km, MLv2.8/5, Samoa Islands*
ISC 23 12:17:18.2±2.5, 15°.7S±0°.7×173°.6W±0°.5, h35km, n11, σ1§39/9, mb3.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.50**	**44**	Pn	**Pn**	**12 17 55.8**	**-0.6**
	7.4nm,0.3s,baz=229,slow=3.8,SNR=25						
AFI				Sn	**Sn**	**12 18 24.3**	**-1.4**
	35nm,0.3s,baz=85,slow=20,SNR=12						
	27nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.18**	**330**	T	T	13 06 56.3	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**39.19**	**329**	T	T	13 06 49.9	
	baz=147						
H11S1	**WAKE ISLAND Hy**	**39.20**	**330**	T	T	13 06 35.5	
	baz=147						
WRA	**Warramunga Arr**	**49.63**	**257**	P	**P**	**12 26 05.4**	**-1.3**
	0.2nm,0.5s,baz=99,slow=7.2,SNR=1.5						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**49.87**	**252**	P	**P**	**12 26 06.7**	**-1.8**
	1.8nm,0.7s,baz=90,slow=7.5,SNR=15						
	1.8nm,0.7s						
NVAR	**Mina Array Bea**	**74.67**	**42**	P	**P**	**12 28 55.4**	**+0.9**
	0.6nm,0.8s,baz=234,slow=8.7,SNR=3.8						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**82.61**	**42**	P	**P**	**12 29 38.6**	**+0.4**
	0.5nm,0.7s,baz=232,slow=3.3,SNR=6.1						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**82.80**	**11**	P	**P**	**12 29 40.0**	**+1.6**
	0.2nm,0.6s,baz=229,slow=5.4,SNR=4.3						
	0.2nm,0.6s						
BRTR	**Keskin Array B**	**146.33**	**321**	PKPbc	**PKPab**	**12 36 57.3**	**+0.7**
	1.1nm,0.8s,baz=50,slow=3.9,SNR=6.8						
GERES	**GERESS Array B**	**146.45**	**351**	PKPbc	**PKPab**	**12 36 57.3**	**+0.7**
	0.2nm,0.4s,baz=48,slow=2.0,SNR=3.7						

*IDC **23** 12:17:17.8±1.5, 0°.60N×123°.85E, h0km, mb3.9/4, mbtmp3.9/4, MS3.2/4, Error ellipse: s-maj=191.2km s-min=22.5km az=62.0*
*DJA **23** 12:17:20.2±0.3, 1°.1N±4°×12°.6E±°, h10km, M3.8/9, MLv3.8/9*
ISC 23 12:17:19.0±1.1, 1°.40N±0°.07×125°.71E±0°.07, h10km, n14, σ1§48/11, mb4.0/4, MS3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.77**	**111**	P	**Pn**	**12 17 51.3**	**+1.6**
SGSI	**Sangihe**	**2.28**	**355**	P	**Pn**	**12 17 57.9**	**+1.1**
GTOI	**Gorontalo**	**2.81**	**254**	P	**Pn**	**12 18 05.2**	**+1.2**
SANI	**Sanana**	**3.43**	**175**	P	**Pn**	**12 18 12.0**	**-0.6**
LUWI	**Luwuk**	**3.81**	**231**	P	**Pn**	**12 18 19.4**	**+1.6**
MRSI	**Marisa**	**3.88**	**256**	P	**Pn**	**12 18 20.0**	**+1.2**
NLAI	**Namlea**	**4.81**	**163**	P	**Pn**	**12 18 32.7**	**+1.2**
DAV	**Davao City (W)**	**5.64**	**359**	LR	LR	12 21 09.8	
	comp=Z,80nm,21.0s,baz=287,slow=35						
WRA	**Warramunga Arr**	**22.83**	**159**	P	**P**	**12 22 21.5**	**-1.0**
	1.7nm,0.4s,baz=331,slow=11,SNR=16						
WRA				LR	LR	12 31 55.3	
	comp=Z,42nm,20.2s,baz=76,slow=38						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**26.15**	**163**	P	**P**	**12 22 54.4**	**+0.7**
	1.6nm,0.4s,baz=345,slow=12,SNR=27						
	1.6nm,0.4s						
STKA	**Stephens Creek**	**36.36**	**157**	P	**P**	**12 24 23.9**	**+0.5**
	1.4nm,0.4s,baz=345,slow=11,SNR=5.2						
	1.4nm,0.4s						
SONM	**Songino Array**	**49.19**	**343**	LR	LR	12 49 28.6	
	comp=Z,38nm,18.1s,baz=4.5,slow=39						
MKAR	**Makanchi Array**	**58.91**	**327**	P	**P**	**12 27 16.2**	**-2.2**
	0.2nm,0.4s,baz=117,slow=8.3,SNR=9.3						
	0.2nm,0.4s						
RPZ	**Rata Peaks**	**60.47**	**144**	LR	LR	12 54 22.9	
	comp=Z,42nm,18.4s,baz=218,slow=36						

IDC 23 12:42:15.5±2.0, 5°.60S×152°.87E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=42.8km s-min=22.4km az=91.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.54**	**327**	Pn	Pb	12 42 44.9	0.0
KRVT				Sn	Sg	12 43 05.0	0.0
KRVT				LR	LR	12 43 26.2	
	comp=Z,122nm,20.5s,baz=12,slow=46						
PMG	**Port Moresby**	**6.81**	**236**	Sn	Sn	12 45 10.8	-4.3
	0.5nm,0.3s,baz=93,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**22.98**	**230**	P	P	12 47 21.3	-0.7
	0.4nm,0.4s,baz=54,slow=9.9,SNR=5.9						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**25.62**	**224**	P	P	12 47 47.1	+0.2
	0.4nm,0.4s,baz=56,slow=9.6,SNR=21						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**82.87**	**22**	P	P	12 54 41.6	-0.1
	0.3nm,0.9s,baz=224,slow=3.6,SNR=1.7						
	0.3nm,0.9s						

IDC 23 12:43:18.8±7.5, 10°.71S×161°.83E, h60km±53km, mb3.3/3, mbtmp3.6/3, ML5.1/1, MS3.4/2, Error ellipse: s-maj=60.3km s-min=40.2km az=86.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.25**	**304**	P	Pn	12 43 53.4	-0.2
	556nm,0.3s,baz=142,slow=5.9,SNR=17						
HNR				S	Sn	12 44 21.0	+0.7
	6µm,0.3s,baz=53,slow=9.3,SNR=7.2						
HNR				LR	LR	12 44 49.4	
	comp=Z,2µm,20.9s,baz=143,slow=40						
WRA	**Warramunga Arr**	**28.02**	**248**	P	P	12 49 05.8	+1.3
	0.5nm,0.6s,baz=76,slow=9.3,SNR=1.9						
	0.5nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**29.41**	**9**	T	T	13 20 13.6	
	baz=190,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**29.41**	**9**	T	T	13 20 19.1	
	baz=190						
H11S1	**WAKE ISLAND Hy**	**29.43**	**9**	T	T	13 20 21.9	
	baz=190						
ASAR	**Alice Springs**	**29.56**	**241**	P	P	12 49 16.8	-1.3
	0.3nm,0.8s,baz=63,slow=10,SNR=1.4						
	0.3nm,0.8s						
SIJI	**Sorong**	**31.91**	**286**	LR	LR	13 02 45.1	
	comp=Z,30nm,20.6s,baz=174,slow=37						
MKAR	**Makanchi Array**	**90.66**	**317**	P	P	12 56 14.9	0.0
	0.2nm,0.5s,baz=96,slow=6.5,SNR=6.0						
	0.2nm,0.5s						

*IDC **23** 12:43:34.2±2.6, 29°.34N×71°.31E, h0km, mb3.5/4, mbtmp3.4/6, ML3.3/2, MS3.0/3, Error ellipse: s-maj=99.2km s-min=29.3km az=79.0*
ISC 23 12:43:40.2±2.4, 29°.5N±0°.2×71°.5E±0°.6, h35km, n9, σ0§63/6, mb3.5/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**13.08**	**245**	LR	LR	12 52 48.5	
	comp=Z,22nm,19.7s,baz=36,slow=43						
AAK	**Ala-Archa**	**13.36**	**10**	Pn	**Pn**	**12 46 47.4**	**-0.1**
	0.2nm,0.3s,baz=211,slow=14,SNR=2.6						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**19.24**	**23**	P	**P**	**12 48 01.1**	**-0.3**
	0.1nm,0.3s,baz=197,slow=13,SNR=6.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**21.79**	**12**	P	**P**	**12 48 29.6**	**+0.7**
	0.4nm,0.6s,baz=210,slow=10,SNR=1.4						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**23.55**	**358**	P	**P**	**12 48 47.8**	**+0.6**
	1.0nm,0.7s,baz=178,slow=9.9,SNR=4.0						
	1.0nm,0.7s						
EIL	**Elat**	**31.69**	**280**	LR	LR	13 06 01.0	
	comp=Z,24nm,18.1s,baz=238,slow=43						
TIXI	**Tiksi**	**52.18**	**20**	LR	LR	13 17 39.9	
	comp=Z,46nm,18.1s,baz=176,slow=39						
ASAR	**Alice Springs**	**79.93**	**124**	P	**P**	**12 55 46.0**	**+0.2**
	0.4nm,0.6s,baz=305,slow=4.8,SNR=6.0						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**88.23**	**3**	P	**P**	**12 56 27.0**	**-0.5**
	0.4nm,0.8s,baz=346,slow=4.8,SNR=7.6						
	0.4nm,0.8s						

*NAO **23** 13:10:31.7±2.0, 79°.86N×2°.43E, ML3.1*
*BER **23** 13:10:34.3±2.3, 79°.66N×2°.50E, h10km, ML2.2, ML3.1(NAO), Confirmed Earthquake*
*DNK **23** 13:10:34.0±1.9, 79°.65N×2°.98E, h24km±17km, ML1.8*
*IEPN **23** 13:10:37.0, 79°.63N×3°.68E, h10km*
ISC 23 13:10:31.8±1.8, 79°.72N±0°.06×2°.67E±0°.05, h27km±17km, n30, σ2§63/53, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.90**	**110**	Pn	**Pb**	**13 11 04.8**	**-0.9**
KBS				Sn	**Sn**	**13 11 26.6**	**+1.1**
KBS	**Kingsbay**	**1.90**	**110**	*i* P	**Pn**	**13 11 04.5**	**+2.1**
KBS				*i* S	**Sn**	**13 11 25.4**	**-0.1**
KBS	**Kingsbay**	**1.90**	**110**	*e*P	**Pn**	**13 11 04.7**	**+2.3**
KBS				*e*S	**Sn**	**13 11 26.1**	**+0.7**
KBS				IAML		13 11 27.9	
	comp=Z,30nm,0.1s						
BRBB	**Barentsburg B**	**2.76**	**120**	Pn	**Pb**	**13 11 19.3**	**-1.0**
BRBB				Sn	**Sn**	**13 11 48.1**	**+1.5**
BRBB	**Barentsburg B**	**2.76**	**120**	*e*P	**Pb**	**13 11 18.4**	**-1.9**
BRBB				*e*S	**Sn**	**13 11 47.9**	**+1.4**
BRBA	**Barentsburg A**	**2.79**	**121**	Pn	**Pb**	**13 11 19.8**	**-0.9**
BRBA				Sn	**Sn**	**13 11 49.3**	**+2.1**
BRBA	**Barentsburg A**	**2.79**	**121**	*e*P	**Pb**	**13 11 18.7**	**-2.1**
BRBA				*e*S	**Sn**	**13 11 48.7**	**+1.5**
BRBA				IAML		13 11 52.9	
	comp=Z,31nm,0.3s						
SPA0	**Spitsbergen Ar**	**3.06**	**114**	Pn	**Pn**	**13 11 21.4**	**+3.2**
	baz=314,slow=11						
SPA0				Sn	**Sn**	**13 11 55.1**	**+1.2**
	baz=316,slow=16						
SPA0	**Spitsbergen Ar**	**3.06**	**114**	*i*P	**Pn**	**13 11 21.2**	**+3.0**
SPA0				*i* S	**Sn**	**13 11 54.2**	**+0.4**
SPA0	**Spitsbergen Ar**	**3.06**	**114**	*e*P	**Pn**	**13 11 21.2**	**+3.0**
SPA0				*e*S	**Sn**	**13 11 55.0**	**+1.1**
SPA0				IAML		13 12 04.3	
	comp=Z,14nm,0.3s						
NOR	**Nord**	**3.66**	**310**	Pn	**Pn**	**13 11 28.3**	**+1.8**
NOR				Sn	**Sn**	**13 12 07.2**	**-1.5**
NOR	**Nord**	**3.66**	**310**	*e*P	**Pn**	**13 11 29.7**	**+3.2**
NOR				IAML		13 12 13.9	
	comp=Z,1.9nm,0.4s						
NOR	**Nord**	**3.66**	**310**	*e*P	**Pn**	**13 11 28.5**	**+2.0**
NOR				*e*		13 12 06.9	
HSPB	**Hornsund (broa**	**3.77**	**130**	Pn	**Pn**	**13 11 32.4**	**+4.4**
HSPB				Sn	**Sn**	**13 12 11.2**	**-0.1**
HSPB	**Hornsund (broa**	**3.77**	**130**	*e*P	**Pn**	**13 11 31.3**	**+3.4**
HSPB				*e*S	**Sn**	**13 12 10.8**	**-0.5**
HSPB	**Hornsund (broa**	**3.77**	**130**	*e*P	**Pn**	**13 11 31.2**	**+3.2**
HSPB				*e*S	**Sn**	**13 12 11.1**	**-0.2**
HSPB				IAML		13 12 16.5	
	comp=Z,15nm,0.1s						
DAG	**Danmarks Havn**	**5.24**	**247**	*e*	**Pn**	**13 11 47.8**	**-0.3**
	baz=47,slow=16						
DAG				*i* P	Pb	13 11 49.0	-13
DAG				*i* P	**Pn**	**13 11 49.8**	**+1.7**
DAG				*e*S	**Sn**	**13 12 46.3**	**-1.2**
DAG				IAML		13 12 48.7	
	comp=Z,5.1nm,0.3s						
DAG	**Danmarks Havn**	**5.24**	**247**	*e*P	**Pn**	**13 11 49.8**	**+1.7**
DAG				*e*S	**Sn**	**13 12 44.6**	**-2.9**
HOPEN	**Hopen**	**5.59**	**114**	*e*P	**Pn**	**13 11 55.8**	**+2.8**
HOPEN				*e*S	**Sn**	**13 12 54.3**	**-1.9**
HOPEN	**Hopen**	**5.59**	**114**	*e*	**Pn**	**13 11 55.3**	**+2.3**
HOPEN				*e*		13 12 54.1	
DBG	**Daneborg**	**7.42**	**235**	Pn	**Pn**	**13 12 20.9**	**+2.8**
DBG				Sn	**Sn**	**13 13 35.2**	**-5.8**
DBG	**Daneborg**	**7.42**	**235**	*i* P	**Pn**	**13 12 20.4**	**+2.3**
DBG				*i* S	**Sn**	**13 13 36.8**	**-4.3**
DBG				IAML		13 13 42.9	
	comp=Z,3.4nm,0.4s						
DBG	**Daneborg**	**7.42**	**235**	*e*P	**Pn**	**13 12 20.3**	**+2.3**
DBG				*e*S	Sn	13 13 34.7	-6.4
ZFI2	**Zemlya Franca-**	**7.54**	**60**	*e*P	**Pn**	**13 12 21.6**	**+1.9**
ZFI2				*e*S	**Sn**	**13 13 38.8**	**-5.2**
	comp=Z,9.2nm,0.3s						
ZFI	**Zemlya Franca-**	**7.54**	**60**	*e*P	**Pn**	**13 12 21.6**	**+1.9**
ZFI				*e*S	**Sn**	**13 13 39.0**	**-5.0**
	comp=Z,18nm,3.0s						
OMEGA	**Omega**	**7.55**	**60**	*e*P	**Pn**	**13 12 22.1**	**+2.2**
OMEGA				*e*S	**Sn**	**13 13 39.4**	**-5.1**
	comp=Z,14nm,3.2s						
NEEM	**North Greenlan**	**10.53**	**285**	*e*P	**Pn**	**13 13 00.2**	**-0.7**
NEEM				*i* S	Sn	13 14 50.3	-7.6
NEEM				IAML		13 14 52.8	
	comp=Z,4.6nm,0.3s						
ARA0	**ARCESS Array S**	**11.73**	**138**	Sn	**Sn**	**13 15 23.9**	**-3.1**
	baz=2.5,slow=22						
ARA0	**ARCESS Array S**	**11.73**	**138**	Sn	**Sn**	**13 15 23.9**	**-3.1**
	slow=22						
SUMG	**Summit**	**11.82**	**255**	*

SRDR	**Sredinnyy**	**2.44**	**100**	*eP*	**Pn**	**13 24 17.6**	**-1.8**
KOZ	**Kozyrevsk**	**2.60**	**106**	*eP*	**Pn**	**13 24 22.3**	**+0.8**
KOZ				*eS*	**Sb**	**13 24 57.4**	**-0.8**
KMNR	**Kamenistaya**	**2.91**	**110**	*eP*	**Pn**	**13 24 26.7**	**+0.9**
TUMR	**Tumrok**	**3.08**	**118**	*eP*	**Pn**	**13 24 26.8**	**-1.5**
PALN	**Palana**	**3.32**	**45**	*eP*	**Pn**	**13 24 27.9**	**-3.5**
GNL	**Ganaly**	**3.47**	**154**	*eP*	**Pn**	**13 24 32.7**	**-0.8**
GADL	**Gadlja**	**3.56**	**324**	*eSg*	**Sb**	**13 25 29.4**	**+3.6**
GADL				Sgmax		13 25 40.2	
	160nm,0.0s						
GADL				Sgmax		13 25 40.2	
	260nm,0.0s						
MA2	**Magadan**	**3.68**	**320**	*eP*	**Pn**	**13 24 34.1**	**-2.3**
MA2				*ePg*	**Pb**	**13 24 42.8**	**-1.7**
MA2				Pgmax		13 24 47.7	
	20nm,0.6s						
MA2				*eSg*	**Sb**	**13 25 28.1**	**-1.0**
MA2				Sgmax		13 25 42.7	
	50nm,0.8s						
MA2				Sgmax		13 25 42.7	
	10.0nm,0.8s						
APC	**Apacha**	**4.05**	**165**	*eP*	**Pn**	**13 24 39.2**	**-2.2**
TLAR	**Talaya**	**4.58**	**341**	*eP*	**Pn**	**13 24 46.4**	**-2.3**
TLAR				*ePg*	**Pb**	**13 25 00.8**	**+1.0**
TLAR				Pgmax		13 25 03.7	
	10.0nm,0.4s						
TLAR				*eS*	**Sn**	**13 25 38.9**	**-3.0**
TLAR				*eSg*	**Sb**	**13 25 59.9**	**+4.9**
TLAR				Sgmax		13 26 02.0	
	60nm,0.6s						
TLON	**Talon**	**4.61**	**312**	*e*	**Pg**	**13 25 09.4**	**+1.8**
TLON				*eSg*	**Sb**	**13 26 01.5**	**+5.8**
TLON				Sgmax		13 26 11.4	
	110nm,0.6s						
TLON				Sgmax		13 26 11.4	
	110nm,0.9s						
EVEN	**Evensk**	**5.46**	**19**	*e*	**Pn**	**13 24 57.3**	**-3.4**
EVEN				*eSg*	**Sg**	**13 26 39.9**	**+5.5**
EVEN				Sgmax		13 26 51.9	
	40nm,0.9s						
SEY	**Seymchan**	**6.30**	**347**	*eP*	**Pn**	**13 25 09.9**	**-2.4**
SEY				*eSg*	**Sg**	**13 26 53.9**	**-7.6**
SEY				Sgmax		13 27 12.7	
	30nm,0.9s						
SUUS	**Susuman**	**6.98**	**332**	*eP*	**Pn**	**13 25 18.3**	**-3.4**
SUUS				*eSg*	**Sb**	**13 27 12.1**	**+8.0**
SUUS				Sgmax		13 27 25.6	
	20nm,0.6s						

IDC 23 13:37:48.7±1.8, 5°58S×152°79E, h0km, mb3.6/3, mbtmp3.7/4, ML1.7/1, MS3.0/1, Error ellipse: s-maj=37.9km s-min=20.9km az=98.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.48**	**329**	Pn	Pn	13 38 16.8	+0.1
KRVT				Sn	Sn	13 38 37.1	+0.4
PMG	**Port Moresby**	**6.75**	**235**	Pn	Pn	13 39 31.0	+1.7
	0.9nm,0.3s,baz=53,slow=16,SNR=2.3						
PMG				Sn	Sn	13 40 43.8	-3.1
	5.1nm,0.3s,baz=173,slow=21,SNR=8.9						
	5.1nm,0.4s						
CTA	**Charters Tower**	**15.76**	**203**	LR	LR	13 47 49.1	
	comp=Z,46nm,18.1s,baz=70,slow=38						
WRA	**Warramunga Arr**	**22.93**	**230**	P	P	13 42 53.7	-1.0
	0.6nm,0.5s,baz=54,slow=10.0,SNR=3.2						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**25.57**	**223**	P	P	13 43 19.6	-0.1
	1.1nm,0.7s,baz=60,slow=8.8,SNR=18						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**82.88**	**22**	P	P	13 50 15.3	+0.3
	0.4nm,0.8s,baz=245,slow=5.6,SNR=6.6						
	0.4nm,0.8s						

*IDC **23** 13:40:38.7±1.0, 5°.82S×153°.45E, h0km, mb3.9/9, mbtmp3.9/11, ML2.2/1, Error ellipse: s-maj=30.6km s-min=18.1km az=112.0*
*NEIC **23** 13:40:39.5±1.0, 5°.10S±0°.08×153°.0E±0°.1, h20km±9km, mb4.3/7, Error ellipse: s-maj=18.8km s-min=11.2km az=74.0*
ISC 23 13:40:43.8±0.8, 5°.79S±0°.07×153°.3E±0°.1, h32km, n23, σ1s46/24, mb3.9/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.97**	**318**	Pn	**Pn**	**13 41 14.7**	**-0.3**
	96nm,0.4s						
KRVT				Sn	**Sn**	**13 41 39.1**	**+0.4**
RABL	**Rabaul**	**1.98**	**324**	Pn	Pn	13 41 01.9	-13
RABL				Sn	Sn	13 41 17.5	-21
PMG	**Port Moresby**	**7.10**	**239**	Pn	**Pn**	**13 42 26.8**	**+1.3**
	2.3nm,0.3s,baz=54,slow=6.4,SNR=5.4						
PMG				Sn	**Sn**	**13 43 47.0**	**+1.8**
	1.6nm,0.3s,baz=7.7,slow=22,SNR=1.6						
	25nm,0.6s						
PMG	**Port Moresby**	**7.10**	**239**	Pn	**Pn**	**13 42 23.5**	**-2.0**
MTN	**Manton Dam**	**22.99**	**251**	P	**P**	**13 45 42.7**	**-3.4**
MTN				IAmb	IAmb	13 46 25.3	
	comp=Z,45nm,1.4s						
WB0	**Warramunga Arr**	**23.07**	**231**	P	**P**	**13 45 44.5**	**-2.4**
WB0				IAmb	IAmb	13 45 45.6	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**23.20**	**231**	P	**P**	**13 45 46.6**	**-1.6**
WB2				IAmb	IAmb	13 46 07.5	
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**23.21**	**231**	P	**P**	**13 45 47.3**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=55,slow=10.0,SNR=8.1						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**25.80**	**224**	P	**P**	**13 46 10.7**	**-1.5**
AS31				IAmb	IAmb	13 46 13.5	
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**25.80**	**224**	P	**P**	**13 46 11.4**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=56,slow=9.4,SNR=18						
	comp=Z,2.2nm,0.8s						
ASAR	**Alice Springs**	**25.80**	**224**	P	**P**	**13 46 10.6**	**-1.7**
STKA	**Stephens Creek**	**28.18**	**202**	P	**P**	**13 46 34.2**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=52,slow=6.0,SNR=3.1						
	comp=Z,1.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**29.67**	**243**	P	**P**	**13 46 46.0**	**-0.9**
FORT	**Forrest**	**34.37**	**221**	P	**P**	**13 47 27.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**58.78**	**296**	P	**P**	**13 50 40.5**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=113,slow=5.2,SNR=6.7						
	comp=Z,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**58.80**	**3**	P	**P**	**13 50 38.6**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=172,slow=7.6,SNR=7.6						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**67.44**	**328**	P	**P**	**13 51 38.1**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=145,slow=5.3,SNR=3.1						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**81.42**	**319**	P	**P**	**13 52 58.4**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=95,slow=7.9,SNR=5.2						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**82.27**	**326**	P	**P**	**13 53 01.9**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=101,slow=3.8,SNR=6.3						
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**82.87**	**22**	P	**P**	**13 53 03.6**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=231,slow=5.7,SNR=2.7						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**84.17**	**180**	P	**P**	**13 53 12.9**	**+1.1**
QSPA				IAmb	IAmb	13 53 16.2	
	comp=Z,6.7nm,1.2s						
BDFB	**Brasilia**	**149.99**	**135**	PKPbc	**PKPbc**	**14 00 32.6**	**+0.3**
	comp=Z,3.1nm,0.5s,baz=93,slow=3.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**151.11**	**287**	PKPbc	**PKPbc**	**14 00 34.7**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=73,slow=1.9,SNR=3.7						

DJA 23 13:41:14.4±0.3, 9°S±4°×11°1E±°, h10km, M4.0/19, mb4.2/4, MLv3.9/19, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.23**	**28**	P	Pn	13 41 36.1	-1.6
UGM	**Wanagama**	**1.38**	**330**	P	Pn	13 41 38.9	-0.9
YOGI	**Yogyakarta**	**1.59**	**325**	P	Pn	13 41 42.1	-0.5
NGJI	**Ngawi**	**1.76**	**8**	P	Pb	13 41 46.9	+0.1
SMRI	**Semarang**	**2.20**	**339**	P	Pn	13 41 51.2	+0.2
GMJI	**Gumukmas**	**2.35**	**69**	P	Pn	13 41 52.1	-1.0
GRJI	**Gresik**	**2.52**	**30**	P	Pn	13 41 54.8	-0.6
UWJI	**Ujung Watu**	**2.70**	**354**	P	Pn	13 41 57.7	-0.2
BLJI	**Banyuglugur**	**2.72**	**60**	P	Pn	13 41 57.2	-1.0
KPJI	**Karang Pucung**	**2.88**	**308**	P	Pn	13 42 01.5	+1.1
JAGI	**Jajag, Banyuwa**	**2.97**	**78**	P	Pn	13 42 01.7	+0.1
CMJI	**Cimerak**	**3.05**	**296**	P	Pn	13 42 01.7	-1.0
ABJI	**Asem Bagus**	**3.26**	**66**	P	Pn	13 42 06.7	+1.1
SRBI	**Singaraja**	**4.08**	**76**	P	Pn	13 42 17.3	+0.4
CNJI	**Cibinong**	**4.43**	**294**	P	Pn	13 42 21.7	0.0
TWSI	**Taliwang, Sumb**	**5.61**	**87**	P	Pn	13 42 38.5	+0.6
	15nm,1.1s,0.1nm						
PLAI	**Plampang**	**6.48**	**88**	P	Pn	13 42 50.5	+0.5
	17nm,1.1s,0.1nm						
KASI	**Kota Agung**	**7.56**	**298**	P	Pn	13 43 04.7	-0.1
	35nm,1.2s,1.2nm						

*IDC **23** 13:51:34.5±2.7, 9°.83S×112°.33E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=142.6km s-min=27.2km az=47.0*
*DJA **23** 13:51:39.8±0.9, 10°S±10°×11°3E±°, h10km, M3.7/12, MLv3.7/12*
ISC 23 13:51:41.7±1.3, 9°.6S±0°.1×112°.79E±0°.06, h36km, n13, σ1s17/13, mb3.1/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.46**	**26**	P	**Pn**	**13 52 04.4**	**-1.0**
JAGI	**Jajag, Banyuwa**	**1.74**	**51**	P	**Pn**	**13 52 09.7**	**+0.3**
PWJI	**Pagerwojo**	**1.84**	**328**	P	**Pn**	**13 52 10.8**	**+0.1**
BLJI	**Banyuglugur**	**2.00**	**24**	P	**Pn**	**13 52 15.4**	**+2.5**
ABJI	**Asem Bagus**	**2.28**	**39**	P	**Pn**	**13 52 17.9**	**+1.1**
GRJI	**Gresik**	**2.67**	**353**	P	**Pn**	**13 52 22.5**	**+0.3**
UGM	**Wanagama**	**2.79**	**306**	P	**Pn**	**13 52 25.0**	**+1.1**
SRBI	**Singaraja**	**2.82**	**58**	P	**Pn**	**13 52 24.8**	**+0.6**
TWSI	**Taliwang, Sumb**	**4.13**	**79**	P	**Pn**	**13 52 42.8**	**+0.6**
KPJI	**Karang Pucung**	**4.43**	**300**	P	**Pn**	**13 52 47.1**	**+0.8**
WRA	**Warramunga Arr**	**23.21**	**119**	P	**P**	**13 56 45.9**	**+0.2**
	0.4nm,0.9s,baz=291,slow=12,SNR=1.2						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**24.55**	**127**	P	**P**	**13 56 58.5**	**+0.2**
	0.4nm,0.7s,baz=299,slow=8.5,SNR=6.4						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**62.38**	**337**	P	**P**	**14 01 59.3**	**-1.4**
	0.2nm,0.5s,baz=145,slow=7.2,SNR=6.6						
	0.2nm,0.5s						

ROM 23 13:56:00.6±0.1, 42°.702N±0°.003×13°.178E±0°.004, h13km, ML1.9/8, 5C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=210.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1218	**Civita (PG)**	**0.06**	**236**	P	Pg	13 56 03.5	+0.2
T1218				S	Sg	13 56 05.1	0.0
T1218				AML	AML		
	comp=N,8825μm,0.1s						
T1218				AML	AML		
	comp=N,8605μm,0.1s						
T1218				AML	AML		
	comp=E,7035μm,0.1s						
T1218				AML	AML		
	comp=E,7320μm,0.1s						
T1212	**Cascia, Frazio**	**0.11**	**297**	↑P	Pg	13 56 04.1	+0.3
T1212				S	Sg	13 56 06.2	+0.2
T1212				AML	AML		
	comp=E,1165μm,0.6s						
T1212				AML	AML		
	comp=N,1270μm,0.3s						
T1212				AML	AML		
	comp=E,1205μm,0.6s						
T1212				AML	AML		
	comp=N,1245μm,0.3s						
NRCA	**Norcia**	**0.14**	**340**	AML	AML		
	comp=N,1194μm,0.1s						
NRCA				AML	AML		
	comp=N,1191μm,0.1s						
NRCA				AML	AML		
	comp=E,1033μm,0.1s						
LNSS	**Leonessa**	**0.14**	**226**	P	Pg	13 56 04.7	+0.4
LNSS				S	Sg	13 56 07.5	+0.7
LNSS				AML	AML		
	comp=E,2670μm,0.7s						
LNSS				AML	AML		
	comp=N,1860μm,0.8s						
LNSS				AML	AML		
	comp=N,1860μm,1.2s						
T1217	**Poggiodomo (PG**	**0.18**	**273**	↑P	Pg	13 56 05.2	+0.4
T1217				S	Sg	13 56 08.3	+0.6
T1217				AML	AML		
	comp=E,312μm,0.9s						
T1217				AML	AML		
	comp=N,400μm,0.4s						
T1217				AML	AML		
	comp=E,312μm,1.1s						
T1217				AML	AML		
	comp=N,400μm,1.6s						
RM33	**Pellescritta (**	**0.19**	**172**	↓P	Pg	13 56 05.5	+0.5
RM33				S	Sg	13 56 08.8	+0.8
RM33				AML	AML		
	comp=N,290μm,1.0s						
RM33				AML	AML		
	comp=E,414μm,0.3s						
T1216	**Preci, Frazion**	**0.22**	**328**	P	Pg	13 56 06.0	+0.5
T1216				S	Sb	13 56 09.7	-0.9
T1216				AML	AML		
	comp=E,345μm,1.3s						
T1216				AML	AML		
	comp=N,343μm,0.4s						
CAMP	**Campotosto**	**0.24**	**134**	P	Pg	13 56 06.2	+0.4
CAMP				S	Sg	13 56 10.1	+0.9
T1215	**Vallo di Nera,**	**0.25**	**294**	P	Pg	13 56 06.2	+0.3
T1215				S	Sg	13 56 10.3	+0.8
T1211	**Morro Reatino**	**0.29**	**235**	↑P	Pg	13 56 07.0	+0.3
T1211				S	Sg	13 56 11.6	+0.9
T1211				AML	AML		
	comp=E,290μm,1.0s						
T1211				AML	AML		
	comp=N,386μm,1.2s						
T1211				AML	AML		
	comp=E,250μm,1.0s						
T1211				AML	AML		
	comp=N,335μm,1.2s						
T1211				AML	AML		
	comp=N,335μm,0.8s						
T1211				AML	AML		
	comp=E,250μm,1.0s						
T1211				AML	AML		
	comp=E,290μm,1.0s						
T1211				AML	AML		
	comp=N,386μm,0.8s						
T1222	**Castel Sant'An**	**0.32**	**199**	P	Pg	13 56 07.3	+0.2
T1222				S	Sg	13 56 12.3	+0.8
T1222				AML	AML		
	comp=E,175μm,0.4s						
T1222				AML	AML		
	comp=N,146μm,1.2s						
TERO	**Teramo**	**0.32**	**104**	↑P	Pg	13 56 07.5	+0.3
TERO				S	Sg	13 56 12.5	+0.8
TERO				AML	AML		
	comp=E,286μm,0.7s						
TERO				AML	AML		
	comp=N,246μm,0.6s						
TERO				AML	AML		
	comp=N,238μm,0.9s						
TERO				AML	AML		
	comp=E,304μm,0.7s						
TERO				AML	AML		
	comp=N,238μm,1.1s						
ARRO	**Arrone**	**0.33**	**248**	P	Pg	13 56 07.6	+0.3
FDMO	**Fiordimonte**	**0.34**	**349**	↑P	Pg	13 56 02.4	-5.1
CESI	**CESI - Serrava**	**0.36**	**327**	P	Pg	13 56 08.4	+0.4
CESI				S	Sb	13 56 14.3	-0.4
CESI				AML	AML		
	comp=E,87μm,0.6s						
CESI				AML	AML		
	comp=N,141μm,0.4s						
GUMA	**Gualdo di Mace**	**0.38**	**18**	P	Pb	13 56 09.1	-0.2
GUMA				S	Sb	13 56 15.6	+0.6
GUMA				AML	AML		
	comp=E,532μm,0.2s						
GUMA				AML	AML		
	comp=N,493μm,0.4s						
GUMA				AML	AML		
	comp=E,353μm,2.1s						
GUMA				AML	AML		
	comp=E,532μm,0.2s						
GUMA				AML	AML		
	comp=N,493μm,0.4s						
GUMA				AML	AML		
	comp=N,438μm,0.4s						
GIGS	**Gran Sasso**	**0.38**	**131**	P	Pg	13 56 08.4	+0.1
GIGS				S	Sg	13 56 14.2	+0.7
T1220	**Camerino, Fraz**	**0.41**	**351**	P	Pg	13 56 09.3	+0.4
T1220				S	Sb	13 56 16.1	0.0
MOMA	**Monte Martano**	**0.46**	**283**	P	Pg	13 56 10.2	+0.4
MOMA				S	Sb	13 56 17.9	+0.4
MOMA				AML	AML		
	comp=E,216μm,0.7s						
MOMA				AML	AML		
	comp=N,210μm,0.8s						
MOMA				AML	AML		
	comp=N,198μm,0.2s						
MOMA				AML	AML		
	comp=E,202μm,0.2s						
MOMA				AML	AML		
	comp=E,202μm,0.2s						
MOMA	**Monte Martano**	**0.46**	**283**	AML	AML		
	comp=E,216μm,0.7s						
MOMA				AML	AML		
	comp=N,210μm,0.8s						
FAGN	**Fagnano**	**0.53**	**145**	P	Pg	13 56 10.6	-0.4
FAGN				AML	AML		
	comp=E,155μm,1.4s						
FAGN				AML	AML		
	comp=N,116μm,0.9s						
FAGN				AML	AML		
	comp=E,155μm,0.6s						
LPEL	**Lama dei Peligi**	**0.99**	**131**	S	Sn	13 56 34.3	+0.1
PIGN	**Pignataro Magg**	**1.68**	**153**	P	Pb	13 56 30.7	-0.6

*NEIC **23** 14:02:05.7±1.5, 13°.9N±0°.1×120°.7E±0°.2, h144km±1km, mb4.3/15, Error ellipse: s-maj=29.9km s-min=15.3km az=81.0*
*MAN **23** 14:02:08.8, 13°.87N×120°.56E, h157km, mb4.6, ML3.5, MS3.4*
*IDC **23** 14:02:08.4±6.2, 13°.82N×120°.81E, h172km±61km, mb3.4/9, mbtmp3.9/9, Error ellipse: s-maj=35.9km s-min=12.6km az=67.0*
ISC 23 14:02:07.1±0.5, 13°.88N±0°.06×120°.45E±0°.09, h150km, n34, σ2s28/35, mb4.0/17, 4C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**233**	↑*i*P	Pn	14 02 32.2	+4.7
LUBP				*i* S	**Sn**	**14 02 48.6**	**+5.6**
TGY	**Tagaytay City**	**0.52**	**65**	↑*e*P	Pn	14 02 33.0	+4.3
TGY				*i* S	**Sn**	**14 02 48.8**	**+3.8**
LQP	**Lukban**	**1.08**	**78**	↑*i*P	**Pn**	**14 02 35.5**	**+2.7**
LQP				*i* S	**Sn**	**14 02 56.8**	**+4.4**
PCPH	**Palayan**	**1.78**	**20**	↑*e*P	**Pn**	**14 02 42.1**	**+2.3**
PCPH				*e*S	**Sn**	**14 03 07.2**	**+2.3**
RCP	**Roxas**	**3.22**	**136**	↓*e*P	**Pn**	**14 02 59.0**	**+1.7**
LUWI	**Luwuk**	**15.01**	**171**		**Pn**	**14 05 30.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**21.14**	**285**	P	**P**	**14 06 44.4**	**+3.8**
	0.4nm,0.3s,baz=98,slow=7.5,SNR=5.4						
	0.4nm,0.3s						
USRK	**Ussuriysk Ar.**	**31.79**	**16**	P	P	14 08 13.4	-3.8
SONM	**Songino Array**	**35.81**	**344**	P	**P**	**14 08 52.6**	**+0.4**
	0.6nm,0.6s,baz=161,slow=10,SNR=6.0						
	0.6nm,0.6s						
SONM	**Songino Array**	**35.81**	**344**	P	**P**	**14 08 52.4**	**+0.2**
WB0	**Warramunga Arr**	**36.14**	**157**	P	**P**	**14 08 51.9**	**-3.3**
WB0				IAmb	IAmb	14 09 30.1	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**36.28**	**158**	P	**P**	**14 08 53.1**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=331,slow=10.0,SNR=9.2						
	comp=Z,0.3nm,0.3s						
WR0	**Warramunga Arr**	**36.38**	**157**	P	**P**	**14 08 54.3**	**-2.8**
WR0				IAmb	IAmb	14 09 29.6	
	comp=Z,16nm,1.5s						
KLR	**Kul'dur**	**36.45**	**12**	P	**P**	**14 08 57.0**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=232,slow=5.6,SNR=3.7						
	comp=Z,0.9nm,0.6s						
AS31	**Alice Springs**	**39.57**	**160**	P	**P**	**14 09 21.9**	**-1.9**
ASAR	**Alice Springs**	**39.57**	**160**	P	**P**	**14 09 21.8**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=335,slow=7.6,SNR=44						
	comp=Z,0.8nm,0.4s						
MORW	**Morawa**	**42.91**	**186**	P	**P**	**14 09 49.4**	**-1.6**
MKAR	**Makanchi Array**	**45.74**	**324**	P	**P**	**14 10 14.5**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=114,slow=7.9,SNR=26						
	comp=Z,0.6nm,0.3s						
MAKZ	**Makanchi**	**45.93**	**324**	P	**P**	**14 10 15.6**	**+0.8**
MAKZ				IAmb	IAmb	14 10 16.6	
	comp=Z,1.5nm,0.6s						
BBOO	**Buckleboo**	**48.77**	**162**	P	**P**	**14 10 34.1**	**-2.8**
ZAA0	**Zalesovo Array**	**48.78**	**333**	P	**P**	**14 10 36.0**	**-0.7**
ZAA0				IAmb	IAmb	14 10 37.1	
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**48.78**	**333**	P	**P**	**14 10 36.7**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=114,slow=7.5,SNR=5.5						
	comp=Z,1.3nm,0.4s						
PET	**Petropavlovsk**	**49.38**	**29**	P	**P**	**14 10 40.6**	**-0.7**
KURK	**Kurchatov**	**49.90**	**326**	P	**P**	**14 10 45.5**	**+0.2**
KURK				IAmb	IAmb	14 10 46.9	
	comp=Z,6.5nm,0.7s						
KKAR	**Karatay Array**	**51.67**	**314**	P	**P**	**14 10 59.2**	**+0.5**
BRVK	**Borovoye**	**55.56**	**326**	P	**P**	**14 11 26.8**	**-0.1**
BRVK				IAmb	IAmb	14 11 58.8	
	comp=Z,1.7nm,0.8s						
TIXI	**Tiksi**	**57.97**	**3**	P	**P**	**14 11 41.6**	**-1.8**
TIXI				IAmb	IAmb	14 11 42.0	
	comp=Z,2.3nm,0.9s						
ABKAR	**Akbulak array**	**60.44**	**319**	P	**P**	**14 12 00.8**	**0.0**
ARCES	**ARCESS Array B**	**78.83**	**339**	P	**P**	**14 13 52.2**	**-0.9**
	comp=Z,8.8nm,1.2s,baz=55,slow=6.6,SNR=7.5						
	comp=Z,8.8nm,1.2s						
ARCES	**ARCESS Array B**	**78.83**	**339**	P	**P**	**14 13 51.9**	**-1.2**
ARCES				IAmb	IAmb	14 14 24.7	
	comp=Z,18nm,1.4s						
INK	**Inuvik**	**83.01**	**21**	P	**P**	**14 14 13.6**	**-1.7**
INK				IAmb	IAmb	14 14 14.2	
	comp=Z,4.5nm,1.3s						
BURAR	**Bucovina Array**	**83.36**	**317**	P	**P**	**14 14 17.5**	**-0.2**
YKA	**Yellowknife Ar**	**92.70**	**22**	P	**P**	**14 15 00.4**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=304,slow=4.5,SNR=5.6						
	comp=Z,0.2nm,0.5s						
PLCA	**Paso Flores**	**151.57**	**162**	PKPbc	**PKPbc**	**14 21 42.5**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=199,slow=2.1,SNR=6.6						

JMA 23 14:20:23.5±0.1, 32°.6N±0°.3×130°.7E±0°.4, h9km±1km, SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.09**	**105**	P	Pg	14 20 25.9	+0.1
JIU3				*e*S	Sg	14 20 27.4	0.0
JZO	**Okuchi**	**0.44**	**193**	*e*S	Sg	14 20 38.2	+0.3

IDC 23 14:43:58.7±7.1, 5°.90S×154°.45E, h184km±43km, mb3.1/3, mbtmp3.6/4, Error ellipse: s-maj=85.4km s-min=28.1km az=99.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.88**	**303**	P	Pn	14 44 45.9	-0.3
	49nm,0.7s						
KRVT				S	Sn	14 45 23.7	+0.5
WRA	**Warramunga Arr**	**24.02**	**233**	P	P	14 48 57.3	+0.4
	0.5nm,0.4s,baz=58,slow=9.6,SNR=8.5						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**26.51**	**226**	P	P	14 49 18.9	-0.5
	0.3nm,0.6s,baz=55,slow=9.4,SNR=4.5						
	0.3nm,0.6s						
MKAR	**

σ1$65/194, **mb4.4**/57, **MS3.5**/4, **1C-3D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.06**	**359**	*i*/P	**Pn**	**14 52 57.4**	**+2.0**
SKR				*i* S	**Sn**	**14 53 12.7**	**+3.5**
SKR				pmax	pmax		
	comp=Z,209nm,0.7s						
SKR				smax	smax		
	comp=E,1μm,0.6s						
SKR				smax	smax		
	comp=N,2μm,0.5s						
SKR	**Severo-Kuril's**	**1.06**	**359**	*e*P	**Pn**	**14 52 57.4**	**+2.0**
SKR				*e*S	**Sn**	**14 53 13.2**	**+3.9**
KDTR	**Khodutka, Kamc**	**2.51**	**28**	PN	**Pn**	**14 53 16.0**	**+0.9**
KDTR				S	**Sn**	**14 53 45.1**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.51**	**28**	*e*P	**Pn**	**14 53 16.0**	**+0.9**
KDTR				*e*S	**Sn**	**14 53 45.1**	**+0.7**
MTVR	**Mutnovka**	**3.14**	**23**	PN	**Pn**	**14 53 25.5**	**+1.7**
MTVR				S	**Sn**	**14 54 01.7**	**+1.6**
MTVR	**Mutnovka**	**3.14**	**23**	*e*P	**Pn**	**14 53 25.5**	**+1.7**
MTVR				*e*S	**Sn**	**14 54 01.7**	**+1.6**
GRL	**Gorelyy**	**3.17**	**22**	PN	**Pn**	**14 53 26.7**	**+2.4**
GRL				S	**Sn**	**14 54 03.8**	**+2.8**
GRL	**Gorelyy**	**3.17**	**22**	*e*P	**Pn**	**14 53 26.7**	**+2.4**
GRL				*e*S	**Sn**	**14 54 03.8**	**+2.8**
RUS	**Russkaya**	**3.18**	**27**	PN	**Pn**	**14 53 25.2**	**+0.9**
RUS	**Russkaya**	**3.18**	**27**	*e*P	**Pn**	**14 53 25.2**	**+0.9**
RUS				*e*S	**Sn**	**14 54 00.8**	**-0.2**
KRMR	**Karymshinskiy**	**3.44**	**20**	PN	**Pn**	**14 53 30.2**	**+2.3**
KRMR				S	**Sn**	**14 54 11.1**	**+3.7**
KRMR	**Karymshinskiy**	**3.44**	**20**	*e*P	**Pn**	**14 53 30.2**	**+2.3**
KRMR				*e*S	**Sn**	**14 54 11.1**	**+3.7**
PEA0B	**Petropavlovsk-**	**3.62**	**15**	Pn	**Pn**	**14 53 27.1**	**-3.2**
PEA0B	**Petropavlovsk-**	**3.62**	**15**	*i* PN	**Pn**	**14 53 33.3**	**+2.9**
PETK	**Petropavlovsk-**	**3.62**	**15**	P	**Pn**	**14 53 32.5**	**+2.1**
	comp=N,31nm,0.5s,baz=183,slow=13,SNR=44						
PET	**Petropavlovsk**	**3.75**	**24**	Pn	**Pn**	**14 53 30.3**	**-1.8**
PET	**Petropavlovsk**	**3.75**	**24**	*e*PN	**Pn**	**14 53 33.8**	**+1.8**
PET				pmax	pmax		
	comp=Z,115nm,0.5s						
PET	**Petropavlovsk**	**3.75**	**24**	*e*P	**Pn**	**14 53 33.8**	**+1.8**
PET				*e*S	**Sn**	**14 54 16.9**	**+2.0**
DALK	**Dalny**	**3.78**	**25**	PN	**Pn**	**14 53 33.9**	**+1.4**
DALK	**Dalny**	**3.78**	**25**	*e*P	**Pn**	**14 53 33.9**	**+1.4**
DALK				*e*S	**Sn**	**14 54 17.8**	**+2.1**
UGLR	**Uglovaya**	**3.96**	**24**	PN	**Pn**	**14 53 37.4**	**+2.3**
UGLR	**Uglovaya**	**3.96**	**24**	*e*P	**Pn**	**14 53 37.4**	**+2.3**
KOK	**Koryaka**	**3.99**	**22**	PN	**Pn**	**14 53 38.7**	**+3.2**
KOK	**Koryaka**	**3.99**	**22**	*e*P	**Pn**	**14 53 38.7**	**+3.2**
AVH	**Avacha**	**3.99**	**23**	PN	**Pn**	**14 53 38.5**	**+3.1**
AVH	**Avacha**	**3.99**	**23**	*e*P	**Pn**	**14 53 38.5**	**+3.1**
SMAR	**Somma**	**4.00**	**23**	PN	**Pn**	**14 53 38.1**	**+2.3**
SMAR	**Somma**	**4.00**	**23**	*e*P	**Pn**	**14 53 38.1**	**+2.3**
KRER	**Koryakskii**	**4.03**	**23**	PN	**Pn**	**14 53 38.6**	**+2.5**
KRER	**Koryakskii**	**4.03**	**23**	*e*P	**Pn**	**14 53 38.6**	**+2.5**
SDLR	**Sedlovina**	**4.04**	**24**	PN	**Pn**	**14 53 38.0**	**+1.9**
SDLR	**Sedlovina**	**4.04**	**24**	*e*P	**Pn**	**14 53 38.0**	**+1.9**
KRX	**Arik**	**4.05**	**22**	PN	**Pn**	**14 53 39.2**	**+2.8**
KRX	**Arik**	**4.05**	**22**	*e*P	**Pn**	**14 53 39.2**	**+2.8**
KRX				*e*S	**Sn**	**14 54 25.1**	**+2.5**
NLC	**Nalytchevo**	**4.08**	**28**	PN	**Pn**	**14 53 37.5**	**+1.0**
NLC	**Nalytchevo**	**4.08**	**28**	*e*P	**Pn**	**14 53 37.5**	**+1.0**
NLC				*e*S	**Sn**	**14 54 22.4**	**-0.5**
GNL	**Ganaly**	**4.23**	**15**	PN	**Pn**	**14 53 41.8**	**+3.0**
GNL	**Ganaly**	**4.23**	**15**	*e*P	**Pn**	**14 53 41.8**	**+3.0**
SPN	**Mys Shipunski**	**4.24**	**33**	PN	**Pn**	**14 53 39.4**	**+0.6**
SPN	**Mys Shipunski**	**4.24**	**33**	*e*P	**Pn**	**14 53 39.4**	**+0.6**
SPN				*e*S	**Sn**	**14 54 26.6**	**-0.4**
TUMR	**Tumrok**	**6.17**	**22**	PN	**Pn**	**14 54 07.7**	**+2.3**
TUMR	**Tumrok**	**6.17**	**22**	*e*P	**Pn**	**14 54 07.7**	**+2.3**
KMNR	**Kamenistaya**	**6.62**	**20**	PN	**Pn**	**14 54 13.2**	**+1.6**
KMNR	**Kamenistaya**	**6.62**	**20**	*e*P	**Pn**	**14 54 13.2**	**+1.6**
KBTR	**Krutoberegovo**	**7.73**	**29**	PN	**Pn**	**14 54 26.8**	**+0.3**
KBTR	**Krutoberegovo**	**7.73**	**29**	*e*P	**Pn**	**14 54 26.8**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**9.00**	**236**	*i* PN	**Pn**	**14 54 46.0**	**+2.0**
YSS	**Yuzh-Sakhalins**	**9.32**	**258**	*e*PN	Pn	14 54 53.1	+4.7
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
MA2	**Magadan**	**10.45**	**345**	P	**Pn**	**14 55 06.6**	**+2.9**
	comp=Z,2.5nm,0.3s,baz=146,slow=8.4,SNR=7.5						
MA2				LR	LR	14 58 51.5	
	comp=Z,86nm,20.2s,baz=138,slow=36						
MA2	**Magadan**	**10.45**	**345**	Pn	**Pn**	**14 55 03.2**	**-0.5**
MA2	**Magadan**	**10.45**	**345**	*i* PN	**Pn**	**14 55 06.5**	**+2.8**
JKA	**Kamikawa-asahi**	**10.79**	**244**	Pn	**Pn**	**14 55 11.1**	**+2.6**
ASAJ	**Asahikawa**	**10.79**	**244**	P	Pn	14 55 13.1	+4.6
	comp=Z,8.0nm,0.8s,baz=344,slow=8.2,SNR=6.4						
ASAJ	**Asahikawa**	**10.79**	**244**	PN	**Pn**	**14 55 11.1**	**+2.7**
ERM	**Erimo**	**11.82**	**235**	*i* PN	Pn	14 55 26.2	+3.6
SEY	**Seymchan**	**13.50**	**353**	P	**Pn**	**14 55 48.3**	**+2.9**
	comp=Z,1.0nm,0.5s,baz=170,slow=14,SNR=7.8						
KLR	**Kul'dur**	**15.87**	**278**	LR	LR	15 02 33.8	
	comp=Z,96nm,18.6s,baz=48,slow=38						
HEH	**HeiHe**	**18.47**	**283**	*e*P	**Pn**	**14 56 49.3**	**+0.7**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL	**Bilibino**	**19.15**	**12**	P	**P**	**14 56 54.2**	**-1.1**
BILL	**Bilibino**	**19.15**	**12**	*e*P	**P**	**14 56 55.0**	**-0.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YAK	**Yakutsk**	**19.20**	**320**	P	**P**	**14 56 55.5**	**-0.4**
	comp=Z,7.1nm,0.6s,baz=100,slow=3.8,SNR=7.7						
YAK	**Yakutsk**	**19.20**	**320**	P	**P**	**14 56 54.8**	**-1.1**
YAK				IAmb	IAmb	14 56 59.3	
	comp=Z,15nm,0.7s						
YAK	**Yakutsk**	**19.20**	**320**	*i* P	**P**	**14 56 54.5**	**-1.4**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
KSRS	**Korea Array**	**23.66**	**250**	P	**P**	**14 57 43.1**	**0.0**
	comp=Z,2.3nm,0.8s,baz=45,slow=10,SNR=5.6						
	comp=Z,2.3nm,0.8s						
KSRS	**Korea Array**	**23.66**	**250**	*e*P	**P**	**14 57 45.5**	**+2.4**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TNA	**Tin City**	**24.51**	**36**	P	**P**	**14 57 51.5**	**+0.8**
TNA				IAmb	IAmb	14 57 53.3	
	comp=Z,12nm,0.8s						
ANM	**Nome**	**25.17**	**39**	P	**P**	**14 57 57.3**	**+0.6**
ANM				IAmb	IAmb	14 58 00.6	
	comp=Z,13nm,1.2s						
ANM	**Nome**	**25.17**	**39**	P	**P**	**14 57 57.3**	**+0.6**
ANM				pmax	pmax		
	comp=Z,13nm,1.2s						
TIXI	**Tiksi**	**25.37**	**340**	P	**P**	**14 57 56.1**	**-2.2**
TIXI				IAmb	IAmb	14 57 58.8	
	comp=Z,11nm,0.6s						
TIXI	**Tiksi**	**25.37**	**340**	P	**P**	**14 57 56.2**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,11nm,0.6s						
TTA	**Tatalina**	**28.93**	**45**	P	**P**	**14 58 31.0**	**+0.5**
TTA	**Tatalina**	**28.93**	**45**	P	**P**	**14 58 31.0**	**+0.5**
TTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
IMAR	**Indian Mountai**	**30.25**	**39**	P	**P**	**14 58 41.8**	**-0.3**
A21K	**Barrow**	**30.52**	**28**	P	**P**	**14 58 44.5**	**+0.1**
A21K				IAmb	IAmb	14 59 16.5	
	comp=Z,16nm,1.4s						
CAST	**Castle Rocks**	**30.74**	**44**	P	**P**	**14 58 46.5**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**31.04**	**160**	T	T	15 31 50.2	
	baz=347,slow=76,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**31.05**	**160**	T	T	15 31 49.5	
	baz=347,slow=76,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**31.05**	**160**	T	T	15 31 52.8	
	baz=347,slow=76,SNR=14						
BPAW	**Bear Paw Mtn.**	**31.25**	**42**	P	**P**	**14 58 51.4**	**+0.5**
BPAW				IAmb	IAmb	14 59 11.8	
	comp=Z,8.1nm,1.3s						
MLY	**Manley**	**31.40**	**41**	P	**P**	**14 58 52.8**	**+0.5**
TRF	**Thorofare Moun**	**31.55**	**44**	P	**P**	**14 58 54.0**	**+0.3**
TRF				IAmb	IAmb	14 58 59.4	
	comp=Z,7.7nm,1.2s						
COLD	**Coldfoot**	**31.81**	**36**	P	**P**	**14 58 56.1**	**+0.3**
COLD				IAmb	IAmb	14 58 57.1	
	comp=Z,4.1nm,0.8s						
BWN	**Browne**	**31.92**	**42**	P	**P**	**14 58 58.1**	**+1.3**
I23K	**Minto, Yukon-K**	**31.99**	**40**	P	**P**	**14 58 57.8**	**+0.4**
H11S1	**WAKE ISLAND Hy**	**32.18**	**161**	T	T	15 33 08.7	
	baz=347,slow=76,SNR=114						
H11S3	**WAKE ISLAND Hy**	**32.19**	**161**	T	T	15 33 22.8	
	baz=347,slow=76,SNR=266						
HHC	**Hu-ho-hao-te**	**32.19**	**271**	*e*P	**P**	**14 58 58.5**	**-1.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,5.7s						
H11S2	**WAKE ISLAND Hy**	**32.20**	**161**	T	T	15 33 23.3	
	baz=347,slow=76,SNR=137						
MDM	**Murphy Dome**	**32.47**	**41**	P	**P**	**14 59 02.2**	**+0.6**
MDM				IAmb	IAmb	14 59 02.9	
	comp=Z,11nm,1.3s						
SML	**Sawmill**	**32.50**	**47**	P	**P**	**14 59 02.6**	**+0.6**
WRH	**Wood River Hil**	**32.52**	**42**	P	**P**	**14 59 02.3**	**+0.3**
COLA	**College**	**32.62**	**41**	*i* P	**P**	**14 59 01.5**	**-1.4**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
H24K	**Noodor Dome**	**32.63**	**39**	P	**P**	**14 59 03.7**	**+0.6**
CCB	**Clear Creek Bu**	**32.64**	**41**	P	**P**	**14 59 03.4**	**+0.3**
CCB				IAmb	IAmb	14 59 03.9	
	comp=Z,5.1nm,1.2s						
NJ2	**Nanjing**	**32.81**	**252**	*e*P	**P**	**14 59 06.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HDA	**Harding Lake**	**33.02**	**42**	P	**P**	**14 59 06.3**	**0.0**
HDA				IAmb	IAmb	14 59 07.2	
	comp=Z,3.3nm,0.5s						
IL31		**33.04**	**41**	P	**P**	**14 59 06.3**	**-0.2**
ILAR	**Eielson Array**	**33.04**	**41**	P	**P**	**14 59 06.3**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=250,slow=7.2,SNR=14						
	comp=Z,1.5nm,0.8s						
PRP	**Porcupine Dome**	**33.61**	**40**	P	**P**	**14 59 12.4**	**+0.8**
PRP				IAmb	IAmb	14 59 13.7	
	comp=Z,6.5nm,0.8s						
FYU	**Fort Yukon**	**33.73**	**38**	P	**P**	**14 59 13.8**	**+1.4**
BMAR	**Burnt Mountain**	**34.00**	**36**	P	**P**	**14 59 15.8**	**+0.9**
L27K	**Beaver Creek,**	**35.39**	**44**	P	**P**	**14 59 27.9**	**+1.0**
L27K				IAmb	IAmb	14 59 29.5	
	comp=Z,4.5nm,0.9s						
BCAR	**Beaver Creek A**	**35.41**	**44**	P	**P**	**14 59 27.8**	**+0.7**
EGAK	**Eagle**	**35.49**	**41**	P	**P**	**14 59 27.4**	**-0.3**
DAWY	**Dawson**	**36.33**	**42**	P	**P**	**14 59 35.0**	**0.0**
DAWY				IAmb	IAmb	14 59 52.5	
	comp=Z,9.2nm,1.4s						
INK	**Inuvik**	**38.13**	**35**	P	**P**	**14 59 51.1**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=290,slow=6.1,SNR=13						
INK				pP	**pP**	**15 00 06.0**	**+2.1**
	comp=Z,2.7nm,0.9s,baz=300,slow=6.8,SNR=4.3						
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**38.13**	**35**	P	**P**	**14 59 51.0**	**+0.9**
GTA	**Gaotai**	**40.57**	**278**	*e*P	**P**	**15 00 11.0**	**0.0**
GTA				pP	pP	15 00 18.5	-6.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
C36M	**Paulatuk**	**41.31**	**32**	P	**P**	**15 00 17.1**	**+0.6**
C36M				IAmb	IAmb	15 00 18.2	
	comp=Z,11nm,1.1s						
ZAA0	**Zalesovo Array**	**42.63**	**304**	P	**P**	**15 00 25.8**	**-1.7**
ZALV	**Zalesovo Beam**	**42.63**	**304**	P	**P**	**15 00 26.3**	**-1.2**
	comp=Z,2.0nm,0.4s,baz=68,slow=5.9,SNR=9.2						
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**42.63**	**304**	P	**P**	**15 00 25.9**	**-1.5**
WMQ	**Urumqi**	**45.82**	**290**	*e*P	**P**	**15 00 56.8**	**+3.6**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
EUNU	**Eureka**	**45.90**	**12**	P	**P**	**15 00 53.4**	**+0.1**
YKA	**Yellowknife Ar**	**47.41**	**39**	P	**P**	**15 01 05.7**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=295,slow=7.7,SNR=6.3						
YKA				pP	**pP**	**15 01 21.6**	**+2.3**
	comp=Z,1.5nm,0.7s,baz=298,slow=7.9,SNR=12						
	comp=Z,0.5nm,0.6s						
PZH	**PanZhiHua**	**47.45**	**262**	P	**P**	**15 01 08.6**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,6.7s						
RES	**Resolute Bay**	**47.45**	**20**	P	**P**	**15 01 03.2**	**-2.2**
RES				IAmb	IAmb	15 01 06.5	
	comp=Z,5.8nm,1.3s						
RES	**Resolute Bay**	**47.45**	**20**	P	**P**	**15 01 03.2**	**-2.2**
RES				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MK31	**Makanchi Array**	**47.46**	**296**	P	**P**	**15 01 04.6**	**-1.3**
MK31	**Makanchi Array**	**47.46**	**296**	P	**P**	**15 01 04.6**	**-1.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**47.46**	**296**	P	**P**	**15 01 04.8**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=64,slow=7.0,SNR=18						
MKAR				LR	LR	15 22 48.1	
	comp=Z,45nm,18.5s,baz=65,slow=38						
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**47.46**	**296**	P	**P**	**15 01 04.6**	**-1.3**
KURK	**Kurchatov**	**47.50**	**303**	P	**P**	**15 01 05.2**	**-0.9**
KURK	**Kurchatov**	**47.50**	**303**	P	**P**	**15 01 05.2**	**-0.9**
KURK				pmax	pmax		
	comp=Z,11nm,1.1s						
MAKZ	**Makanchi**	**47.63**	**297**	P	**P**	**15 01 06.2**	**-1.1**
MAKZ				IAmb	IAmb	15 01 06.9	
	comp=Z,6.4nm,1.4s						
MAKZ	**Makanchi**	**47.63**	**297**	P	**P**	**15 01 06.2**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
SPITS	**Spitsbergen Ar**	**50.14**	**350**	P	**P**	**15 01 26.1**	**+0.1**
SPITS				pmax	pmax		
	comp=Z,27nm,1.1s						
BRVK	**Borovoye**	**50.66**	**309**	P	**P**	**15 01 29.4**	**-0.8**
BRVK				IAmb	IAmb	15 01 30.7	
	comp=Z,5.9nm,1.1s						
BRVK	**Borovoye**	**50.66**	**309**	P	**P**	**15 01 29.5**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TULEG	**Thule**	**50.90**	**12**	P	**P**	**15 01 31.0**	**-0.7**
CRAI	**Chiangrai**	**52.80**	**257**	P	**P**	**15 01 46.7**	**+0.1**
CRAI				IAmb	IAmb	15 02 17.9	
	comp=Z,6.8nm,1.4s						
EDM	**Edmonton**	**52.87**	**49**	P	**P**	**15 01 46.7**	**-0.1**
EDM				IAmb	IAmb	15 02 03.9	
	comp=Z,4.6nm,0.7s						
EDM	**Edmonton**	**52.87**	**49**	P	**P**	**15 01 46.7**	**-0.1**
EDM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PHRA	**Phrae**	**54.17**	**256**	P	**P**	**15 01 57.7**	**+1.1**
ARU	**Arti**	**54.28**	**317**	*d* *i* P	**P**	**15 01 55.6**	**-1.3**
ARU						15 02 59.0	
ARU						15 03 56.3	
ARU				S	**S**	**15 09 26.1**	**-4.1**
ARU				SS	**SS**	**15 13 07.1**	**-4.9**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
AAK	**Ala-Archa**	**54.39**	**296**	LR	LR	15 28 25.1	
	comp=Z,32nm,18.1s,baz=20,slow=40						
CHTO	**Chiang Mai**	**54.75**	**257**	P	**P**	**15 02 01.2**	**+0.3**
CHTO	**Chiang Mai**	**54.75**	**257**	P	**P**	**15 02 01.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**55.02**	**257**	P	**P**	**15 02 03.8**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=31,slow=7.0,SNR=14						
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.02**	**257**	*e*P	**P**	**15 02 03.9**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**56.40**	**299**	P	**P**	**15 02 11.9**	**-0.6**
KKAR	**Karatay Array**	**56.40**	**299**	P	**P**	**15 02 11.9**	**-0.6**
LRM	**Limekiln Ridge**	**57.86**	**56**	P	**P**	**15 02 23.4**	**+0.3**
ABKAR	**Akbulak array**	**58.15**	**310**	P	**P**	**15 02 23.4**	**-1.2**
CHGR	**Chuyangaron**	**60.05**	**296**	P	**P**	**15 02 36.9**	**-1.2**
CHGR	**Chuyangaron**	**60.05**	**296**	P	**P**	**15 02 36.9**	**-1.2**
CHGR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PDAR	**Pinedale Array**	**61.44**	**57**	P	**P**	**15 02 47.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=278,slow=2.2,SNR=5.7						
PDAR				pP	**pP**	**15 03 04.6**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=5.7,slow=3.0,SNR=2.9						
	comp=Z,0.8nm,0.8s						
SFJD	**Kangerlussuaq**	**61.95**	**12**	P	**P**	**15 02 49.6**	**-0.7**
SFJD	**Kangerlussuaq**	**61.95**	**12**	P	**P**	**15 02 49.6**	**-0.7**
SFJD				pmax	pmax		
	comp=Z,28nm,1.4s						
FINES	**FINESS Array B**	**62.29**	**335**	P	**P**	**15 02 52.2**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=40,slow=9.9,SNR=6.6						
	comp=Z,1.1nm,0.7s						
FINES	**FINESS Array B**	**62.29**	**335**	P	**P**	**15 02 51.9**	**-0.8**
NOA	**NORSAR Array B**	**66.14**	**342**	P	**P**	**15 03 17.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=26,slow=6.4,SNR=3.1						
NOA				LR	LR	15 36 14.2	
	comp=Z,16nm,18.2s,baz=305,slow=40						
	comp=Z,0.4nm,0.4s						
W18A	**Petrified Fore**	**66.62**	**63**	P	**P**	**15 03 20.1**	**-1.6**
GEYT	**Alibeck**	**66.85**	**302**	P	**P**	**15 03 23.0**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=27,slow=3.6,SNR=5.5						
	comp=Z,2.4nm,0.6s						
AKASG	**Malin Array Be**	**70.26**	**327**	P	**P**	**15 03 42.5**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=34,slow=6.3,SNR=4.5						
KBZ	**Khabaz**	**70.30**	**315**	P	**P**	**15 03 44.3**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=87,slow=4.5,SNR=6.2						
	comp=Z,1.5nm,0.6s						
ONI	**Oni**	**70.92**	**314**	P	**P**	**15 03 47.8**	**-0.4**
ONI				IAmb	IAmb	15 03 55.5	
	comp=Z,7.1nm,1.5s						
ONI	**Oni**	**70.92**	**314**	P	**P**	**15 03 47.8**	**-0.4**
ONI				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BUR08	**Bucovina Ar. S**	**74.25**	**328**	P	**P**	**15 04 07.0**	**-1.0**
BUR08				IAmb	IAmb	15 04 09.0	
	comp=Z,7.0nm,1.5s						
BURAR	**Bucovina Array**	**74.27**	**328**	P	**P**	**15 04 06.9**	**-1.1**
TXAR	**Lajitas Array**	**74.34**	**63**	P	**P**	**15 04 08.8**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=306,slow=4.7,SNR=7.7						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**74.34**	**63**	P	**P**	**15 04 08.1**	**-0.7**
VRAC	**Vranov**	**75.50**	**334**	LR	LR	15 39 45.3	
	comp=Z,29nm,18.7s,baz=359,slow=38						
KHC	**Kasperske Hory**	**76.50**	**336**	*e*P	**P**	**15 04 21.3**	**+0.6**
KHC	**Kasperske Hory**	**76.50**	**336**	*e*P	**P**	**15 04 21.3**	**+0.6**
GERES	**GERESS Array B**	**76.72**	**336**	P	**P**	**15 04 21.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.0,SNR=6.8						
	comp=Z,0.4nm,0.5s						
GERES	**GERESS Array B**	**76.72**	**336**	*e*P	**P**	**15 04 21.9**	**-0.1**
BRTR	**Keskin Array B**	**77.65**	**318**	P	**P**	**15 04 27.2**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=57,slow=4.6,SNR=6.8						
	comp=Z,1.8nm,0.9s						
BRTR	**Keskin Array B**	**77.65**	**318**	P	**P**	**15 04 26.8**	**-0.7**
PSA00	**Pilbara Seismi**	**77.87**	**214**	P	**P**	**15 04 29.1**	**+0.6**
PRED	**Cave del Predi**	**78.96**	**335**	P	**P**	**15 04 33.7**	**-0.8**
PRED				IAmb	IAmb	15 04 34.3	
	comp=Z,4.2nm,0.6s						
DIVS	**Divibare**	**79.12**	**329**	P	**P**	**15 04 34.7**	**-0.7**
DIVS				IAmb	IAmb	15 04 38.7	
	comp=Z,6.6nm,1.2s						
VTS	**Vitosha**	**79.31**	**327**	P	**P**	**15 04 36.1**	**-0.4**
VTS				IAmb	IAmb	15 04 37.1	
	comp=Z,4.6nm,0.7s						
VTS	**Vitosha**	**79.31**	**327**	P	**P**	**15 04 36.1**	**-0.4**
VTS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CIMO	**Cimolais**	**79.39**	**335**	P	**P**	**15 04 36.8**	**0.0**
CIMO				IAmb	IAmb	15 05 20.1	
	comp=Z,8.2nm,1.5s						
FUORN	**Ofenpass-Fuorn**	**79.68**	**337**	P	**P**	**15 04 38.3**	**-0.3**
FUORN				IAmb	IAmb	15 04 41.4	
	comp=Z,3.0nm,0.7s						
VLC	**Villacollemand**	**81.93**	**336**	P	**P**	**15 04 49.5**	**-0.9**
BNI	**Bardonecchia**	**82.03**	**339**	P	**P**	**15 04 50.4**	**-0.6**
BNI	**Bardonecchia**	**82.03**	**339**	P	**P**	**15 04 50.4**	**-0.6**
BNI				pmax	pmax		
	comp=Z,21nm,1.4s						
RAYN	**Ar Rayn**	**84.78**	**300**	P	**P**	**15 05 04.8**	**-0.6**
RAYN				IAmb	IAmb	15 05 07.1	
	comp=Z,3.1nm,0.7s						
RAYN	**Ar Rayn**	**84.78**	**300**	P	**P**	**15 05 04.8**	**-0.6**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ESDC	**Sonseca Array**	**89.37**	**345**	P	**P**	**15 05 26.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=18,slow=3.0,SNR=4.2						
	comp=Z,0.8nm,0.8s						
LPAZ	**La Paz**	**131.21**	**63**	PKP	**PKPdf**	**15 11 42.9**	**-0.7**
	comp=Z,2.7nm,0.3s,baz=212,slow=2.7,SNR=17						
LPAZ				pPKP	**pPKPdf**	**15 12 01.3**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=177,slow=2.9,SNR=3.4						
H03N1	**Juan Fernandez**	**136.72**	**89**	T	T	17 44 29.3	
	baz=75,slow=74,SNR=6.4						
H03N3	**Juan Fernandez**	**136.72**	**89**	T	T	17 44 05.4	
	baz=314,slow=74,SNR=7.5						
ELIB	**Princess Elisa**	**149.27**	**207**	*d*PKPdf	**PKPbc**	**15

MNMC IAML 14 58 45.2
comp=E,8μm,0.2s
AP01 Chacalluta 1.09 271 Pn Pn 14 58 28.3 +0.4
AP01 Sn Sn 14 58 45.3 -0.3
AP01 Chacalluta 1.09 271⇑ eP Pn 14 58 28.5 +0.5
AP01 eS Sn 14 58 45.6 +0.1
AP01 IAML 14 58 47.0
comp=E,12μm,0.2s
PB12 IPOC Station P 1.10 259 Pn Pn 14 58 28.4 +0.2
PB12 IPOC Station P 1.10 259⇑ eP Pn 14 58 28.4 +0.2
PB12 i S Sn 14 58 45.4 -0.5
PB12 IAML 14 58 46.3
comp=N,6μm,0.2s
GO01 Chusmiza 1.26 180 Pn 14 58 32.2 +1.9
GO01 Chusmiza 1.26 180 eP Pn 14 58 32.2 +1.9
GO01 eS Sn 14 58 52.2 +2.6
GO01 IAML 14 58 56.5
comp=E,3μm,0.7s
PB11 IPOC Station P 1.42 198 Pn 14 58 32.8 +1.1
PB11 IPOC Station P 1.42 198 eP Pn 14 58 33.2 +1.5
PB11 eS Sn 14 58 53.2 +1.0
PB11 IAML 14 58 57.1
comp=E,4μm,0.4s
PSGC Pisagua 1.48 216⇓ eP Pn 14 58 32.8 +0.5
PSGC eS Sn 14 58 53.5 +0.3
PSGC IAML 14 58 55.0
comp=E,2μm,0.4s
PSGCX Pisagua 1.48 216 Pn 14 58 32.7 +0.4
HMBC Humberstone 1.98 199⇓ eP Pn 14 58 39.0 +0.7
HMBC eS Sn 14 59 04.6 +0.7
HMBC IAML 14 59 13.2
comp=E,2μm,0.5s
TA02 Huaiquique 2.06 205 Pn 14 58 39.4 +0.3
TA02 Huaiquique 2.06 205⇑ eP Pn 14 58 40.0 +0.9
TA02 eS Sn 14 59 04.9 -0.6
TA02 IAML 14 59 15.9
comp=N,2μm,0.2s
LPAZ La Paz 2.33 26 P Pn 14 58 45.6 +2.4
comp=N,352nm,0.5s,baz=216,slow=6.7,SNR=1524
LPAZ S Sn 14 59 15.0 +2.4
comp=N,86nm,0.6s,baz=280,slow=18,SNR=2.1
LPAZ LR LR 14 59 44.0
comp=N,228nm,21.3s,baz=252,slow=43
LPAZ La Paz 2.33 26 Pn Pn 14 58 45.4 +2.2
TA01 Diego Aracena 2.34 203 Pn Pn 14 58 43.1 +0.4
TA01 Diego Aracena 2.34 203 eP Pn 14 58 42.8 +0.1
TA01 eS Sn 14 59 10.6 -1.3
TA01 IAML 14 59 19.9
comp=E,951nm,0.6s
PATCX Punta Patache 2.57 200 Pn Pn 14 58 46.1 +0.4
PATCX Punta Patache 2.57 200 eP Pn 14 58 46.5 +0.8
PATCX eS Sn 14 59 16.8 -0.3
PATCX IAML 14 59 25.4
comp=E,1μm,0.7s
PB01 IPOC Station P 2.64 186 Pn 14 58 47.2 +0.6
PB01 IPOC Station P 2.64 186 eP Pn 14 58 47.9 +1.4
PB01 eS Sn 14 59 19.3 +0.5
PB01 IAML 14 59 27.1
comp=E,1μm,0.6s
PB02 IPOC Station P 2.98 193 Pn 14 58 51.2 +0.3
PB02 IPOC Station P 2.98 193 eP Pn 14 58 52.0 +1.1
PB02 eS Sn 14 59 26.1 -0.5
PB07 IPOC Station P 3.37 191 Pn 14 58 56.5 +0.3
PB03 IPOC Station P 3.67 188 Pn 14 59 00.6 +0.6
PB03 IPOC Station P 3.67 188 eP Pn 14 59 01.2 +1.1
PB03 eS Sn 14 59 40.0 -2.8
PB03 IAML 14 59 58.4
comp=E,452nm,0.6s
PB04 IPOC Station P 4.01 193 Pn Pn 14 59 05.0 +0.3
LVC Limon Verde 4.19 176 P Pn 14 59 09.4 +2.1
comp=E,108nm,0.5s,baz=9.5,slow=9.9,SNR=96
LVC S Sn 14 59 55.5 -0.3
comp=E,180nm,0.6s,baz=158,slow=18,SNR=14
LVC Limon Verde 4.19 176 Pn Pn 14 59 08.5 +1.3
PB06 IPOC Station P 4.30 185 Pn 14 59 09.0 +0.5
PB10 IPOC Station P 5.24 194 Pn Pn 14 59 19.8 -1.2
PB14 IPOC Station P 6.29 190 Pn Pn 14 59 33.0 -2.5
AC01 Pan de Azucar 7.82 189 Pn Pn 14 59 53.2 -2.5
SIV San Ignacio 8.12 74 P Pn 14 59 58.8 -1.1
comp=E,15nm,0.4s,baz=264,slow=11,SNR=62
SIV S Sn 15 01 27.1 -3.1
comp=E,25nm,1.1s,baz=340,slow=23,SNR=12
AC02 Maricunga 8.39 180 Pn Pn 15 00 02.8 -1.1
ETMB Extrema 9.01 19 Pn Pn 15 00 10.3 -1.6
ETMB Extrema 9.01 19 eP Pn 15 00 10.7 -1.2
GO03 Copiap 9.20 186 Pn 15 00 10.8 -3.6
VBST Vila Bela da S 9.61 68 eP Pn 15 00 18.3 -1.6
NNA Nana 9.75 310 P Pn 15 00 20.2 -1.8
comp=E,18nm,0.5s,baz=152,slow=18,SNR=7.7
NNA S Sn 15 02 09.4 -0.4
comp=E,8.0nm,0.3s,baz=294,slow=16,SNR=1.5
NNA Nana 9.75 310 Pn 15 00 20.0 -1.9
BBLB La Banda, Boli 9.86 93 eP Pn 15 00 21.6 -1.8
PTLB Pontes e Lacer 10.06 75 Pn Pn 15 00 25.1 -1.0
PTLB Pontes e Lacer 10.06 75 eP Pn 15 00 25.4 -0.7
VILB Vilhena 10.21 59 Pn Pn 15 00 27.9 -0.2
VILB Vilhena 10.21 59 eP Pn 15 00 27.3 -0.9
AC05 El Transito 10.43 185 Pn 15 00 27.9 -3.2
LCO Las Campanas 10.65 187 Pn 15 00 29.9 -4.2
CCRS Cacerres, MT, 10.81 86 eP Pn 15 00 35.1 -1.0
SAML Samuel 11.06 33 Pn Pn 15 00 35.4 -4.0
CZSB Cruzeiro do Su 11.14 342 eP Pn 15 00 39.3 -1.3
MURT Porto Murtinho 11.36 108 eP Pn 15 00 42.1 -1.3
TICA Tres Isletas 11.38 136 eP Pn 15 00 44.4 +0.9
GO04 Tololo Observa 11.81 187 Pn Pn 15 00 45.6 -3.9
ESFA Espinillo Form 11.89 125 eP Pn 15 00 50.5 +0.1
PTET Porto Estrela 11.90 77 eP Pn 15 00 47.5 -3.1
BDQN Bodoquena, MS 11.92 102 eP Pn 15 00 48.8 -1.9
PANT Pantanal (Braz 11.93 95 eP Pn 15 00 49.1 -1.9
POCN Pocone 12.02 83 eP Pn 15 00 49.8 -2.2
CO02 Combarbal 12.85 187 Pn 15 00 58.6 -4.4
ANTJ Antonio Joao (12.89 108 eP Pn 15 01 02.7 -0.8
AQDB Aquidauana 12.90 101 Pn Pn 15 01 02.2 -1.3
AQDB Aquidauana 12.90 101 eP Pn 15 01 02.0 -1.5
SALV Santo Antonio 13.14 81 eP Pn 15 01 06.1 -0.6
CFA Coronel Fontan 13.17 176 P Pn 15 01 04.8 -2.2
comp=E,2.5nm,0.4s,baz=356,slow=13,SNR=4.8
CFA LR LR 15 07 40.6
comp=E,42nm,19.3s,baz=78,slow=44
SCCA San Cayetano, 13.32 135 eP Pn 15 01 10.5 +1.5
NBRS Nobres 13.50 74 eP Pn 15 01 09.8 -1.5
CPUP Villa Florida 13.51 128 P Pn 15 01 10.6 -0.8
comp=E,3.9nm,0.9s,baz=308,slow=12,SNR=11
CPUP Villa Florida 13.51 128 Pn Pn 15 01 09.7 -1.7
VA03 San Esteban 14.35 185 P Pn 15 01 24.1 +1.8
ROC1 El Roble 14.61 186 P Pn 15 01 27.0 +1.4
MT02 Curacav 14.90 186 Pn Pn 15 01 29.2 +0.2
CLDB Colider 14.96 62 eP P 15 01 30.1 -2.3
MT09 Talagante 15.39 186 P Pn 15 01 36.5 +1.1
MT01 Popeta 15.51 186 P Pn 15 01 37.8 +1.2
BO01 Tunca 16.01 186 P Pn 15 01 43.5 +0.6
BO01 IAmb IAmb 15 01 48.2
comp=Z,15nm,0.6s
ITQB Itaqui 16.04 137 Pn Pn 15 01 42.4 -0.8
ITQB IAmb IAmb 15 02 14.2
comp=Z,14nm,0.9s
UNIS Unistalda (Bra 16.71 132 eP P 15 01 53.7 +2.0
ARAG Araguaiana, MT 16.83 83 eP P 15 01 53.4 +0.3
PTGB Pitanga 17.12 115 eP Pn 15 01 57.3 +0.7
PCMB Pacaembu 17.15 104 eP Pn 15 01 57.1 +0.1
MACA Manacapuru-AM 17.29 30 eP Pn 15 01 58.0 -0.6
H03N1 Juan Fernandez 17.32 208 T T 15 19 53.6
baz=30,slow=73,SNR=14
H03N2 Juan Fernandez 17.33 208 T T 15 19 24.6
baz=30,slow=73,SNR=12
H03N3 Juan Fernandez 17.34 208 T T 15 19 25.7
baz=30,slow=73,SNR=14
MCRA Macar, Loja 17.47 322 P 15 02 00.3 +0.1
MCRA IAmb IAmb 15 02 04.2
comp=Z,10.0nm,0.6s
NPGB Novo Progresso 17.58 52 eP Pn 15 02 01.8 -0.3
ITRB Iturama 17.85 97 eP Pn 15 02 05.2 -0.2
ITAB Concordia 18.00 122 Pn 15 02 06.9 -0.2
ITAB IAmb IAmb 15 02 09.1
comp=Z,21nm,0.7s
ITAB Concordia 18.00 122 eP Pn 15 02 06.9 -0.2
SNDB Serra Nova Dou 18.41 72 eP Pn 15 02 11.2 -0.9
CPSB Cacapava Do Su 18.65 133 eP P 15 02 13.1 +0.2
FRTB Fartura 18.98 108 eP P 15 02 16.9 +0.2
ITTB Itaituba 19.18 45 eP P 15 02 18.4 -0.4
PLTB Pedras Altas 19.37 136 P P 15 02 20.0 -0.8
PLTB Pedras Altas 19.37 136 eP P 15 02 21.0 +0.3
BB19B Bebedouro 19.63 101 eP P 15 02 23.5 -0.3

IPMB Ipameri, GO 19.94 92 eP P 15 02 26.6 -0.5
TIJ01 Guaruva-PR 19.95 114 eP Pn 15 02 29.0 -1.1
CNLB Canela 19.95 126 eP P 15 02 27.1 -0.1
BDFB Brasilia 20.44 85 P P 15 02 33.1 +0.5
comp=Z,15nm,0.5s,baz=259,slow=11,SNR=23
comp=Z,15nm,0.5s
BDFB Brasilia 20.44 85 P Pn 15 02 34.9 -1.0
TRQA Tornquist 20.57 164 P P 15 02 34.8 +1.1
TRQA IAmb IAmb 15 02 36.7
comp=Z,12nm,0.8s
RCLB Rio Claro- Sao 20.69 105 eP P 15 02 34.7 -0.4
MALB Monte Alegre 22.02 43 eP P 15 02 46.9 -2.4
PLCA Paso Flores 22.29 183 P P 15 02 53.5 +1.7
comp=Z,9.3nm,1.0s,baz=5.6,slow=11,SNR=15
comp=Z,9.3nm,1.0s
PLCA Paso Flores 22.29 183 P P 15 02 51.5 -0.3
PLCA IAmb IAmb 15 02 55.2
comp=Z,26nm,1.4s
BOAV Boa Vista 22.36 23 P P 15 02 53.6 +0.8
BOAV IAmb IAmb 15 03 25.9
comp=Z,8.1nm,0.9s
PRPB Parauapebas 22.47 60 eP P 15 02 52.8 -1.1
PARB Paraibuna 22.55 107 eP P 15 02 53.6 -1.1
SMTB Santa Maria do 23.01 69 eP P 15 02 59.6 +0.4
JANB Januaria 24.05 86 eP P 15 03 08.1 -0.6
SDBA SAO DESIDERIO 24.15 79 eP P 15 03 09.1 -0.4
RUSC La Rusia 24.44 351 P P 15 03 12.2 -0.4
MCPB Macapa, AP 24.59 45 eP P 15 03 13.0 -0.5
MDP Montagnes des 28.49 37 LR LR 15 17 19.5
comp=Z,40nm,18.0s,baz=260,slow=41
TXAR Lajitas Array 57.96 324 P P 15 07 45.1 +0.7
comp=Z,0.2nm,0.5s,baz=142,slow=8.9,SNR=2.5
comp=Z,0.2nm,0.5s
E62A Clayton Lake 64.72 360 P P 15 08 30.0 +0.6
E62A IAmb IAmb 15 08 52.8
comp=Z,6.4nm,1.1s
D62A Allapoint, All 65.18 0 P P 15 08 32.6 +0.2
SNAA Sanae 65.28 161 P P 15 08 31.8 -1.1
SNAA IAmb IAmb 15 08 42.0
comp=Z,7.4nm,1.5s
BATG Bathurst New B 65.43 2 P P 15 08 34.1 +0.1
DBIC Dimbokro 68.15 75 P P 15 08 52.0 0.0
comp=Z,5.9nm,0.7s,baz=268,slow=9.1,SNR=6.8
comp=Z,5.9nm,0.7s
DBIC Dimbokro 68.15 75 P P 15 08 51.7 -0.3
DBIC IAmb IAmb 15 08 53.1
comp=Z,7.4nm,0.8s
EYMN Ely 69.00 344 P P 15 08 56.7 +0.1
EYMN IAmb IAmb 15 09 16.0
comp=Z,14nm,1.4s
PDAR Pinedale Array 71.31 330 P P 15 09 11.9 +0.8
comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=3.9
comp=Z,0.3nm,0.4s
ULM Lac du Bonnet 72.30 342 P P 15 09 16.8 +0.3
comp=Z,1.3nm,0.4s,baz=127,slow=4.8,SNR=3.5
comp=Z,1.3nm,0.4s
NVAR Mina Array Bea 72.91 322 P P 15 09 22.7 +2.0
comp=Z,1.4nm,0.8s,baz=144,slow=5.6,SNR=6.5
comp=Z,1.4nm,0.8s
PNTR Pine Nut 74.10 321 P P 15 09 26.2 -1.5
PNTR IAmb IAmb 15 09 50.1
comp=Z,7.3nm,1.1s
TORD Torodi Ar. Bea 76.59 71 P P 15 09 41.8 -0.3
comp=Z,3.7nm,0.5s,baz=252,slow=5.8,SNR=31
comp=Z,3.7nm,0.5s
TORD Torodi Ar. Bea 76.59 71 P P 15 09 41.9 -0.3
FCC Fort Churchill 79.57 347 P P 15 09 57.6 +0.1
YKA Yellowknife Ar 88.19 341 P P 15 10 42.3 +1.1
comp=Z,3.5nm,0.7s,baz=136,slow=4.8,SNR=60
comp=Z,3.5nm,0.7s
YKA Yellowknife Ar 88.19 341 P P 15 10 41.0 -0.2
H11S2 WAKE ISLAND Hyl 27.17 280 T T 17 36 28.6
baz=100,slow=75,SNR=6.5
H11S1 WAKE ISLAND Hyl 27.17 280 T T 17 36 28.2
baz=100,slow=75,SNR=5.3
H11S3 WAKE ISLAND Hyl 27.18 280 T T 17 36 31.0
baz=100,slow=75,SNR=7.3
ASAR Alice Springs 132.50 209 PKP PKPdf 15 17 06.1 +0.8
comp=Z,0.7nm,0.6s,baz=146,slow=1.9,SNR=11
WRA Warramunga Arr 135.44 212 PKP PKPdf 15 17 12.2 +1.2
comp=Z,1.6nm,0.8s,baz=142,slow=1.9,SNR=4.7
ZALV Zalesovo Beam 139.25 23 PKP PKPdf 15 17 18.2 +1.4
comp=Z,1.3nm,0.6s,baz=252,slow=2.7,SNR=7.2
SONM Songino Array 150.42 6 PKPbc PKiKP 15 17 43.2 +0.8
comp=Z,2.9nm,0.6s,baz=307,slow=1.0,SNR=19
PZH PanZhiHua 168.38 44 PKP PKPdf 15 17 56.1 -1.4

*MAN **23** 15:09:07.8, 5.°05N×127.°46E, h4km, mb4.1, ML2.9, MS2.6*
*DJA **23** 15:09:10.9±0.6, 5.°1N±5.°×12.°7E±.°, h108km±19km, M4.3/11, mb4.1/10, mB4.8/2, MLv4.4/11, Mw(mB)4.1/2*
*NEIC **23** 15:09:10.9±0.7, 4.°8N±0.°1×127.°6E±0.°1, h107km±9km, mb4.3/18, Error ellipse: s-maj=18.6km s-min=13.3km az=59.0*
*IDC **23** 15:09:11.6±4.0, 4.°85N×127.°72E, h118km±38km, mb3.5/7, mbtmp3.9/8, MS3.1/2, Error ellipse: s-maj=43.5km s-min=16.7km az=77.0*

ISC 23 15:09:09.7±0.6, 4.°83N±0.°06×127.°51E±0.°08, h108km, n51, σ1s64/56, mb4.2/17, 4C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.19**	**305⇑**	*eP*		**Pn**		**15 09 43.5**	**-1.6**
DDMP				*eS*		**Sn**		**15 10 11.4**	**-0.8**
SGSI	**Sangihe**	**2.28**	**240**	P		**Pn**		**15 09 44.5**	**-1.7**
MATI	**Mati**	**2.44**	**329⇑**	*eP*		**Pn**		**15 09 45.5**	**-2.8**
MATI				*eS*		**Sn**		**15 10 12.5**	**-5.6**
DAV	**Davao City (W)**	**2.94**	**319**	LR		LR		15 11 01.1	
comp=Z,102nm,20.2s,baz=146,slow=36									
SKMP	**Bagumbayan, Su**	**3.39**	**300⇑**	*eP*		**Pn**		**15 10 00.3**	**-0.6**
SKMP				*eS*		**Sn**		**15 10 40.4**	**-0.1**
CTBH	**Cotabato--PC H**	**4.02**	**306**	*eP*		**Pn**		**15 10 07.0**	**-2.3**
CTBH				*i S*		**Sn**		**15 10 50.5**	**-5.0**
TNTI	**Ternate**	**4.03**	**182**	Pn		**Pn**		**15 10 10.1**	**+0.5**
TNTI	**Ternate**	**4.03**	**182**	P		**Pn**		**15 10 09.3**	**-0.2**
BUTP	**Butuan**	**4.52**	**336⇑**	*eP*		**Pn**		**15 10 16.1**	**+0.1**
BUTP				*eS*		**Sn**		**15 11 07.0**	**-0.6**
CGP	**Cagayan de Oro**	**4.56**	**322**	*eP*		**Pn**		**15 10 18.3**	**+1.7**
GTOI	**Gorontalo**	**6.13**	**227**	P		**Pn**		**15 10 36.6**	**-1.2**
12nm,0.7s,0.0nm									
SIJI	**Sorong**	**6.79**	**146**	P		**Pn**		**15 10 47.2**	**+0.3**
9.0nm,0.2s,baz=244,slow=23,SNR=14									
SIJI				S		**Sn**		**15 11 58.0**	**-4.8**
5.2nm,0.3s,baz=208,slow=23,SNR=7.7									
SANI	**Sanana**	**7.00**	**193**	P		**Pn**		**15 10 46.7**	**-3.0**
11nm,1.2s,0.1nm									
MRSI	**Marisa**	**7.04**	**232**	P		**Pn**		**15 10 50.2**	**-0.1**
28nm,0.5s,616nm0.1nm									
LUWI	**Luwuk**	**7.51**	**219**	Pn		**Pn**		**15 10 58.3**	**+1.7**
LUWI	**Luwuk**	**7.51**	**219**	P		**Pn**		**15 10 55.2**	**-1.4**
21nm,1.0s,0.2nm									
TOLI2	**Tolitoli**	**7.66**	**241**	Pn		**Pn**		**15 10 57.2**	**-1.6**
NLAI	**Namlea**	**8.03**	**183**	P		**Pn**		**15 11 02.8**	**-0.8**
11nm,0.5s,0.1nm									
MYLDM	**Lahad Datu**	**8.98**	**273**	Pn		**Pn**		**15 11 17.7**	**+1.1**
FAKI	**Fak Fak**	**9.04**	**148**	Pn		**Pn**		**15 11 18.2**	**+0.8**
FAKI	**Fak Fak**	**9.04**	**148**	P		**Pn**		**15 11 18.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**22.86**	**185**	P		**P**		**15 14 04.6**	**+0.6**
WB0	**Warramunga Arr**	**25.36**	**165**	P		**P**		**15 14 26.6**	**-0.4**
WB0				IAmb		IAmb		15 14 35.0	
comp=Z,16nm,1.4s									
WRA	**Warramunga Arr**	**25.52**	**165**	P		**P**		**15 14 29.6**	**+1.2**
comp=Z,1.3nm,0.6s,baz=342,slow=10,SNR=8.9									
comp=Z,1.3nm,0.6s									
WB2	**Warramunga Arr**	**25.52**	**165**	P		**P**		**15 14 29.1**	**+0.7**
WB2				IAmb		IAmb		15 15 07.1	
comp=Z,15nm,1.4s									
WR0	**Warramunga Arr**	**25.59**	**165**	P		**P**		**15 14 29.1**	**+0.1**
WR0				IAmb		IAmb		15 15 07.7	
comp=Z,13nm,1.4s									
AS31	**Alice Springs**	**29.00**	**168**	P		**P**		**15 14 59.9**	**+0.3**
ASAR	**Alice Springs**	**29.00**	**168**	P		**P**		**15 14 59.9**	**+0.3**
comp=Z,0.2nm,0.3s,baz=351,slow=6.7,SNR=17									
ASAR				PcP		**PcP**		**15 18 06.1**	**+0.3**
comp=Z,0.2nm,0.8s,baz=352,slow=2.1,SNR=1.2									
comp=Z,0.2nm,0.3s									
FORT	**Forrest**	**35.41**	**179**	P		**P**		**15 15 55.9**	**+0.5**
BBOO	**Buckleboo**	**38.30**	**168**	P		**P**		**15 16 20.1**	**+0.2**
STKA	**Stephens Creek**	**38.89**	**161**	P		**P**		**15 16 25.0**	**+0.2**
comp=Z,1.2nm,0.4s,baz=9.0,slow=10,SNR=3.5									
comp=Z,1.2nm,0.4s									
STKA	**Stephens Creek**	**38.89**	**161**	P		**P**		**15 16 24.8**	**0.0**
PEA0B	**Petropavlovsk-**	**54.13**	**22**	P		**P**		**15 18 24.0**	**+0.5**
PETK	**Petropavlovsk-**	**54.13**	**22**	P		**P**		**15 18 24.1**	**+0.6**
comp=Z,1.2nm,0.7s,baz=183,slow=3.6,SNR=6.3									
comp=Z,1.2nm,0.7s									
PETK	**Petropavlovsk-**	**54.13**	**22**	P		**P**		**15 18 24.3**	**+0.8**
MK31	**Makanchi Array**	**57.11**	**324**	P		**P**		**15 18 46.0**	**+1.0**
MKAR	**Makanchi Array**	**57.11**	**324**	P		**P**		**15 18 46.5**	**+1.6**
comp=Z,0.8nm,0.4s,baz=118,slow=7.7,SNR=31									
comp=Z,0.8nm,0.4s									
MKAR	**Makanchi Array**	**57.11**	**324**	P		**P**		**15 18 46.1**	**+1.2**
MAKZ	**Makanchi**	**57.30**	**324**	P		**P**		**15 18 47.7**	**+1.4**
MAKZ				IAmb		IAmb		15 19 02.6	
comp=Z,2.8nm,1.4s									
ZALV	**Zalesovo Beam**	**59.97**	**332**	P		**P**		**15 19 05.6**	**+1.0**
comp=Z,0.4nm,0.3s,baz=140,slow=5.7,SNR=2.8									
comp=Z,0.4nm,0.3s									
KURK	**Kurchatov**	**61.24**	**327**	P		**P**		**15 19 14.3**	**+1.0**
KURK				IAmb		IAmb		15 19 42.9	
comp=Z,2.1nm,0.6s									
KKAR	**Karatay Array**	**62.97**	**316**	P		**P**		**15 19 25.6**	**+0.5**
ARU	**Arti**	**74.43**	**327**	LR		LR		15 56 21.3	
comp=Z,30nm,18.1s,baz=266,slow=38									
RAYN	**Ar Rayn**	**80.77**	**293**	P		**P**		**15 21 12.2**	**+0.3**
RAYN				IAmb		IAmb		15 21 13.3	
comp=Z,3.6nm,0.8s									
IMAR	**Indian Mountai**	**81.03**	**24**	P		**P**		**15 21 12.7**	**+0.3**
SKT	**Skwentna**	**81.51**	**28**	P		**P**		**15 21 15.0**	**0.0**
SKT				IAmb		IAmb		15 21 38.4	
comp=Z,7.6nm,1.4s									
I23K	**Minto, Yukon-K**	**82.75**	**25**	P		**P**		**15 21 22.8**	**+1.4**
I23K				IAmb		IAmb		15 21 30.9	
comp=Z,8.8nm,1.4s									
H24K	**Noodor Dome**	**83.41**	**24**	P		**P**		**15 21 26.3**	**+1.4**
H24K				IAmb		IAmb		15 21 55.4	
comp=Z,4.4nm,1.2s									
IL31		**83.78**	**25**	P		**P**		**15 21 26.7**	**0.0**
IL31				IAmb		IAmb		15 21 27.2	
comp=Z,4.1nm,1.4s									
ILAR	**Eielson Array**	**83.78**	**25**	P		**P**		**15 21 26.1**	**-0.7**
comp=Z,0.5nm,0.8s,baz=251,slow=5.6,SNR=6.7									
comp=Z,0.5nm,0.8s									
KLU	**Klutina**	**84.15**	**29**	P		**P**		**15 21 29.7**	**+1.0**

GUC 23 15:20:24.8±0.4, 22.°74S×66.°83W, h307km±10km, ML3.5, 6C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**2.42**	**292⇑**	*iP*		Pn		15 21 16.3	+0.4
PB09				*i S*		S		15 21 55.6	-1.1
PB09				IAML				15 21 58.6	
comp=N,57nm,0.1s									
PB06	**IPOC Station P**	**2.53**	**270**	*eP*		Pn		15 21 16.7	-0.1
PB06				*eS*		S		15 21 56.4	-1.9
PB03	**IPOC Station P**	**2.79**	**284⇑**	*iP*		Pn		15 21 19.5	+0.2
PB03				*i S*		S		15 22 00.9	-1.8
PB01	**IPOC Station P**	**2.99**	**304⇑**	*iP*		Pn		15 21 21.4	+0.3
PB01				*i S*		S		15 22 04.5	-1.6
PB07	**IPOC Station P**	**3.01**	**289⇑**	*iP*		Pn		15 21 21.9	+0.6
PB07				*i S*		S		15 22 04.9	-1.5
PB04	**IPOC Station P**	**3.10**	**277**	*eP*		Pn		15 21 22.9	+0.7
PB04				*eS*		S		15 22 06.8	-1.2
PB02	**IPOC Station P**	**3.18**	**296⇑**	*eP*		Pn		15 21 23.3	+0.4
PB02				*eS*		S		15 22 07.8	-1.6
PB10	**IPOC Station P**	**3.52**	**257**	*eP*		Pn		15 21 26.9	+0.7
PB10				*eS*		S		15 22 13.0	-2.4
PATCX	**Punta Patache**	**3.63**	**301**	*eP*		Pn		15 21 28.2	+0.7
PATCX				*eS*		S		15 22 16.4	-1.5
GO01	**Chusmiza**	**3.77**	**324**	*eP*		Pn		15 21 30.3	+0.8
PB11	**IPOC Station P**	**3.96**	**318⇑**	*iP*		Pn		15 21 31.4	+0.2
PB11				*i S*		S		15 22 22.8	-1.7
PSGC	**Pisagua**	**4.38**	**315**	*eP*		Pn		15 21 35.8	0.0
PSGC				*eS*		S		15 22 30.7	-2.0
MNMC	**Minye Minye**	**4.42**	**324**	*eP*		Pn		15 21 37.1	+0.7
MNMC				*eS*		S		15 22 32.7	-1.1
PB16	**IPOC Station P**	**5.05**	**330**	*eP*		Pn		15 21 45.3	+1.5

GUC 23 15:22:01.2±0.4, 24.°08S×67.°37W, h224km±6km, ML3.9, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.04**	**316⇑**	*iP*		Pn		15 22 41.9	-0.4
LVC				*i S*		S		15 23 12.9	-1.4
PB06	**IPOC Station P**	**2.44**	**304**	*eP*		Pn		15 22 46.4	+0.1
PB06				*eS*		S		15 23 20.6	-0.7
PB06				IAML				15 23 24.0	
comp=N,301nm,0.1s									
PB09	**IPOC Station P**	**2.85**	**322⇑**	*eP*		Pn		15 22 51.3	+0.6
PB09				*eS*		S		15 23 29.6	+0.2
PB10	**IPOC Station P**	**2.97**	**280**	*eP*		Pn		15 22 51.9	0.0
PB10				*eS*		S		15 23 30.3	-1.1
PB03	**IPOC Station P**	**2.98**	**312⇑**	*eP*		Pn		15 22 52.4	+0.2
PB03				*eS*		S		15 23 31.3	-0.7
PB03				IAML				15 23 33.5	
comp=N,130nm,0.1s									
PB04	**IPOC Station P**	**3.09**	**304⇑**	*eP*		Pn		15 22 53.6	+0.2
PB04				*eS*		S		15 23 33.4	-0.8
PB07	**IPOC Station P**	**3.30**	**315⇑**	*eP*		Pn		15 22 56.1	+0.3
PB07				*eS*		S		15 23 37.4	-1.1
PB01	**IPOC Station P**	**3.60**	**327**	*eP*		Pn		15 22 59.0	-0.3
PB01				*eS*		S		15 23 44.0	-0.8
PB02	**IPOC Station P**	**3.60**	**319**	*i P*		Pn		15 22 59.4	0.0
PB02				*eS*		S		15 23 43.7	-1.2
PATCX	**Punta Patache**	**4.14**	**321**	*eP*		Pn		15 23 05.8	+0.1
TA01	**Diego Aracena**	**4.36**	**323**	*eP*		Pn		15 23 08.4	+0.1
TA01				*i S*		S		15 24 00.2	-1.0
GO01	**Chusmiza**	**4.71**	**339⇑**	*eP*		Pn		15 23 14.3	+1.1
GO01				*eS*		S		15 24 09.9	+0.1
PB11	**IPOC Station P**	**4.79**	**333**	*i P*		Pn		15 23 13.2	-0.7
PB11				*i S*		S		15 24 08.9	-2.3
MNMC	**Minye Minye**	**5.34**	**337**	*eP*		Pn		15 23 20.6	-0.3
MNMC				*eS*		S		15 24 22.8	-1.1

*IDC **23** 15:24:19.7±3.6, 6.°28S×150.°34E, h154km±32km, mb3.3/4, mbtmp3.9/7, MS3.3/1, Error ellipse: s-maj=43.8km s-min=23.9km az=113.0*

ISC 23 15:24:07.1±1.2, 6.°3S±0.°1×150.°5E±0.°2, h33km, n8, σ1s85/8, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.52**	**226**	P		**Pb**		**15 25 26.0**	**+0.1**
22nm,0.6s,baz=37,slow=9.4,SNR=10									
PMG				S		**Sb**		**15 26 17.2**	**-2.7**
64nm,0.7s,baz=138,slow=18,SNR=10									
CTA	**Charters Tower**	**14.32**	**196**	P		**P**		**15 27 35.7**	**+1.2**
2.4nm,1.0s,baz=8.7,slow=13,SNR=1.2									

az=129.0
*RSNC **23** 16:14:58.3±0.9, 6°.79N×73°.17W, h148km±4km, ML3.5, Mw3.8*

ISC 23 16:14:56.4±0.8, 6°.83N±0°.03×73°.12W±0°.04, h157km±6km, n32, σ1°.49/57, mb3.3/3, 4C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**194**	⇓*iP*	**Pn**	**16 15 17.9**	**0.0**
BRRC	**Barranca, Sant**	**0.65**	**296**	⇓*iP*	**Pn**	**16 15 19.7**	**+0.4**
BRRC				*eS*	**Sn**	**16 15 37.1**	**+0.3**
BRRC				*i*		16 15 40.8	
	comp=Z,545nm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**39**	⇓*iP*	**Pn**	**16 15 20.7**	**+0.8**
PAMC				*eS*	**Sn**	**16 15 38.1**	**+0.1**
PAMC				*i*		16 15 40.1	
	comp=Z,1μm,0.5s						
RUSC	**La Rusia**	**0.93**	**178**	⇓*iP*	**Pn**	**16 15 21.8**	**0.0**
RUSC				*eS*	**Sn**	**16 15 40.6**	**-0.6**
RUSC				*i*		16 15 41.8	
	comp=Z,704nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*eP*	**Pn**	**16 15 24.4**	**-0.6**
PTBC				*eS*	**Sn**	**16 15 45.6**	**-1.4**
PTBC				*i*		16 15 51.3	
	comp=Z,337nm,0.4s						
TAMC	**Tame, Arauca**	**1.38**	**106**	⇓*iP*	**Pn**	**16 15 26.3**	**+1.0**
TAMC				*eS*	**Sn**	**16 15 48.2**	**+0.8**
TAMC				*i*		16 15 50.1	
	comp=Z,111nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*eP*	**Pn**	**16 15 30.4**	**+0.2**
ZARC				*eS*	**Sn**	**16 15 55.6**	**-0.6**
ZARC				*i*		16 16 02.0	
	comp=Z,367nm,0.3s						
CHIC	**Chingaza**	**2.26**	**196**	⇑*eP*	**Pn**	**16 15 35.7**	**+0.3**
CHIC				*eS*	**Sn**	**16 16 05.3**	**-0.2**
CHIC				*i*		16 16 08.9	
	comp=Z,256nm,0.4s						
ROSC	**El Rosal**	**2.30**	**211**	P	**Pn**	**16 15 37.6**	**+1.7**
	comp=Z,222nm,0.3s,baz=310,slow=20,SNR=213						
ROSC				S	**Sn**	**16 16 04.2**	**-2.1**
	comp=Z,138nm,0.3s,baz=134,slow=19,SNR=10						
ROSC	**El Rosal**	**2.30**	**211**	⇑*eP*	**Pn**	**16 15 37.4**	**+1.5**
ROSC				*eS*	**Sn**	**16 16 07.0**	**+0.7**
ROSC				*i*		16 16 11.6	
	comp=Z,418nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*eP*	**Pn**	**16 15 37.5**	**-1.1**
UREC				*eS*	**Sn**	**16 16 09.3**	**-2.0**
UREC				*i*		16 16 20.6	
	comp=Z,246nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*eP*	**Pn**	**16 15 42.8**	**+2.0**
LL1C				*eS*	**Sn**	**16 16 18.2**	**+3.2**
PTGC	**Puerto Gaitan,**	**2.79**	**159**	*eP*	**Pn**	**16 15 41.2**	**-0.3**
PTGC				*eS*	**Sn**	**16 16 14.6**	**-1.7**
PTGC				*i*		16 16 19.3	
	comp=Z,359nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*eP*	**Pn**	**16 15 46.0**	**+1.5**
CBOC				*eS*	**Sn**	**16 16 22.2**	**+0.5**
CBOC				*i*		16 16 31.2	
	comp=Z,59nm,0.4s						
DBBC	**Dabeiba**	**3.07**	**274**	⇑*eP*	**Pn**	**16 15 45.4**	**+0.4**
DBBC				*eS*	**Sn**	**16 16 21.0**	**-1.6**
DBBC				*i*		16 16 22.8	
	comp=Z,75nm,0.2s						
SDV	**Santo Domingo**	**3.21**	**50**	P	**Pn**	**16 15 47.5**	**+0.7**
	comp=Z,16nm,0.3s,baz=212,slow=3.3,SNR=24						
SDV				S	**Sn**	**16 16 24.4**	**-1.5**
	comp=Z,132nm,0.4s,baz=51,slow=21,SNR=47						
ARGC	**Ariguani, Magd**	**3.21**	**340**	*eP*	**Pn**	**16 15 48.6**	**+1.8**
ARGC				*eS*	**Sn**	**16 16 26.4**	**+0.5**
ARGC				*i*		16 16 38.1	
	comp=Z,77nm,0.3s						
ORTC	**Ortega, Tolima**	**3.59**	**216**	*eP*	**Pn**	**16 15 52.1**	**+0.5**
ORTC				*eS*	**Sn**	**16 16 35.2**	**+0.8**
ORTC				*i*		16 16 39.2	
	comp=Z,132nm,0.3s						
APAC	**Apartado, Choc**	**3.59**	**288**	*eP*	**Pn**	**16 15 51.5**	**0.0**
APAC				*eS*	**Sn**	**16 16 34.5**	**+0.1**
APAC				*i*		16 16 38.6	
	comp=Z,91nm,0.4s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*eP*	**Pn**	**16 15 52.1**	**-0.5**
SJCC				*eS*	**Sn**	**16 16 33.2**	**-3.1**
SJCC				*i*		16 16 37.7	
	comp=Z,70nm,0.5s						
PLMC	**San Jos del P**	**3.68**	**239**	*eP*	**Pn**	**16 15 53.4**	**+0.7**
PLMC				*eS*	**Sn**	**16 16 36.1**	**-0.4**
PLMC				*i*		16 16 39.5	
	comp=Z,70nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	⇑*eP*	**Pn**	**16 15 58.1**	**-1.1**
CRJC				*eS*	**Sn**	**16 16 46.9**	**-1.3**
CRJC				*i*		16 16 49.1	
	comp=Z,89nm,0.1s						
YOTC	**Yotoco, Valle**	**4.27**	**229**	*eP*	**Pn**	**16 16 00.6**	**0.0**
YOTC				*eS*	**Sn**	**16 16 56.3**	**+5.8**
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	**Pn**	**16 16 02.6**	**-0.1**
SMRC				*eS*	**Sn**	**16 16 51.1**	**-3.2**
SMRC				*i*		16 16 54.4	
	comp=Z,68nm,0.2s						
MACC	**Macarena, Meta**	**4.70**	**189**	*eP*	**Pn**	**16 16 05.0**	**-1.1**
MACC				*eS*	**Sn**	**16 16 58.4**	**-2.1**
FLOC	**Florencia**	**5.79**	**206**	*eP*	**Pn**	**16 16 20.5**	**+0.1**
FLOC				*eS*	**Sn**	**16 17 26.2**	**+0.1**
FLOC				*i*		16 17 38.3	
	comp=Z,8.1nm,0.3s						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**16 21 47.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=127,slow=8.9,SNR=4.7						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**16 23 20.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=127,slow=10,SNR=2.2						
	comp=Z,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**16 25 08.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=132,slow=6.8,SNR=13						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**122.32**	**20**	PKP	**PKPdf**	**16 33 32.7**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=321,slow=1.9,SNR=1.4						
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**16 34 26.3**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=10						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**16 34 29.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=105,slow=0.9,SNR=6.6						

IDC 23 16:25:24.2±5.2, 6°.22S×147°.40E, h0km, mb3.4/2, mbtmp3.4/4, ML3.3/1, MS3.4/2, Error ellipse: s-maj=73.2km s-min=56.2km az=68.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.17**	**184**	Pn	Pn	16 26 17.5	+2.0
	4.6nm,0.4s,baz=15,slow=12,SNR=6.0						
PMG				Sn	Sn	16 26 55.7	+1.6
	1.5nm,0.3s,baz=216,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**18.63**	**222**	P	P	16 29 43.2	-0.5
	0.1nm,0.3s,baz=49,slow=11,SNR=2.1						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**21.67**	**215**	P	P	16 30 16.6	-0.1
	0.5nm,0.5s,baz=49,slow=9.1,SNR=25						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**26.10**	**191**	P	P	16 30 59.1	-0.8
	1.2nm,0.8s,baz=355,slow=11,SNR=1.2						
	1.2nm,0.8s						
RPZ	**Rata Peaks**	**42.74**	**155**	LR	LR	16 52 06.5	
	comp=Z,70nm,18.5s,baz=66,slow=38						
MA2	**Magadan**	**65.64**	**2**	LR	LR	17 02 32.5	
	comp=Z,17nm,19.6s,baz=105,slow=34						

IDC 23 16:31:02.6±1.4, 49°.80S×115°.14E, h0km, mb3.9/5, mbtmp3.9/5, MS3.5/8, Error ellipse: s-maj=54.0km s-min=26.6km az=122.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.91**	**357**	T	T	16 50 03.0	
	baz=176,slow=74,SNR=99						
H01W1	**Cape Leeuwin H**	**14.91**	**357**	T	T	16 50 02.2	
	baz=176,slow=74,SNR=97						
H01W3	**Cape Leeuwin H**	**14.92**	**357**	T	T	16 50 03.0	
	baz=176,slow=74,SNR=82						
NWAO	**Narrogin (SRO)**	**16.93**	**6**	LR	LR	16 40 07.6	
	comp=Z,222nm,18.5s,slow=32						
STKA	**Stephens Creek**	**26.64**	**58**	P	P	16 36 41.9	-0.9
	2.0nm,0.8s,baz=195,slow=12,SNR=2.0						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**29.93**	**36**	P	P	16 37 12.7	+0.4
	0.7nm,0.7s,baz=208,slow=8.3,SNR=17						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**33.49**	**34**	P	P	16 37 44.1	+0.5
	0.8nm,0.5s,baz=201,slow=11,SNR=5.0						
	0.8nm,0.5s						
LEM	**Lembang**	**43.29**	**349**	LR	LR	16 54 47.4	
	comp=Z,64nm,18.4s,baz=193,slow=33						
SNAA	**Sanae**	**51.22**	**201**	P	P	16 40 07.3	0.0
	1.9nm,0.9s,baz=124,slow=7.3,SNR=4.4						
	1.9nm,0.9s						
PSI	**Prapat**	**54.23**	**340**	LR	LR	16 59 08.4	
	comp=Z,39nm,21.8s,baz=212,slow=31						
CMAR	**Chiang Mai Arr**	**69.45**	**344**	P	P	16 42 12.3	-0.2
	0.5nm,0.2s,baz=195,slow=5.1,SNR=6.7						
CMAR					LR	17 12 48.0	
	comp=Z,11nm,18.3s,baz=200,slow=36						
	0.5nm,0.2s						
PLCA	**Paso Flores**	**89.71**	**176**	LR	LR	17 25 58.1	
	comp=Z,32nm,18.1s,baz=174,slow=37						
SONM	**Songino Array**	**97.54**	**354**	LR	LR	17 28 42.0	
	comp=Z,11nm,21.7s,baz=304,slow=36						
AAK	**Ala-Archa**	**98.69**	**331**	LR	LR	17 25 46.8	
	comp=Z,27nm,18.9s,baz=196,slow=33						
CFA	**Coronel Fontan**	**98.90**	**177**	LR	LR	17 29 31.8	
	comp=Z,36nm,18.7s,baz=119,slow=36						

*IDC **23** 16:36:09.3±0.6, 56°.85S×150°.83W, h0km, mb4.3/8, mbtmp4.3/8, MS3.4/5, Error ellipse: s-maj=31.8km s-min=18.6km az=13.0*
*NEIC **23** 16:36:11.1±0.7, 56°.7S±0°.3×150°.9W±0°.1, h10km±1km, mb4.7/11, Error ellipse: s-maj=45.8km s-min=11.4km az=5.0*

ISC 23 16:36:10.5±0.7, 56°.8S±0°.2×150°.9W±0°.1, h10km, n40, σ0°.73/28, mb4.5/12, MS3.5/5, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**33.33**	**180**	P	**P**	**16 42 49.5**	**+1.2**
	4.7nm,1.0s,baz=75,slow=4.6,SNR=8.9						
QSPA				PcP	**PcP**	**16 45 30.3**	**+0.6**
	2.1nm,1.0s,baz=124,slow=0.8,SNR=3.6						
	4.7nm,1.0s						
QSPA	**South Pole Qui**	**33.33**	**180**	P	**P**	**16 42 49.5**	**+1.2**
QSPA				IAmb	IAmb	16 42 50.8	
	comp=Z,14nm,1.4s						
RAR	**Rarotonga**	**36.16**	**346**	LR	LR	16 56 34.2	
	comp=Z,39nm,18.7s,baz=178,slow=34						
RPN	**Rapa Nui**	**41.79**	**63**	LR	LR	16 55 00.6	
	comp=Z,20nm,20.5s,baz=278,slow=27						
SNAA	**Sanae**	**49.86**	**167**	P	**P**	**16 45 01.8**	**-1.4**
	comp=Z,2.4nm,1.0s,baz=282,slow=7.8,SNR=3.6						
	comp=Z,2.4nm,1.0s						
STKA	**Stephens Creek**	**51.84**	**269**	P	**P**	**16 45 17.5**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=145,slow=12,SNR=2.1						
STKA				LR	LR	17 04 47.0	
	comp=Z,45nm,18.3s,baz=185,slow=33						
	comp=Z,2.6nm,0.9s						
PLCA	**Paso Flores**	**52.19**	**109**	P	**P**	**16 45 20.9**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=211,slow=7.0,SNR=5.5						
	comp=Z,3.9nm,0.8s						
H03S2	**Juan Fernandez**	**52.80**	**96**	T	T	17 42 12.2	
	baz=219,slow=74,SNR=5.8						
H03S1	**Juan Fernandez**	**52.80**	**96**	T	T	17 42 14.0	
	baz=219,slow=74,SNR=5.6						
H03S3	**Juan Fernandez**	**52.81**	**96**	T	T	17 42 19.0	
	baz=219,slow=74,SNR=5.4						
H03N3	**Juan Fernandez**	**53.09**	**96**	T	T	17 42 40.2	
	baz=223,slow=72						
H03N2	**Juan Fernandez**	**53.09**	**96**	T	T	17 42 37.6	
	baz=223,slow=72						
H03N1	**Juan Fernandez**	**53.10**	**96**	T	T	17 42 35.4	
	baz=223,slow=72						
AS31	**Alice Springs**	**62.48**	**268**	P	**P**	**16 46 34.5**	**+0.5**
ASAR	**Alice Springs**	**62.48**	**268**	P	**P**	**16 46 35.2**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=136,slow=6.7,SNR=20						
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**62.48**	**268**	P	**P**	**16 46 33.7**	**-0.2**
WRA	**Warramunga Arr**	**65.22**	**271**	P	**P**	**16 46 51.6**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=144,slow=5.9,SNR=2.8						
	comp=Z,1.5nm,1.0s						
PSGCX	**Pisagua**	**68.80**	**94**	P	**P**	**16 47 14.3**	**-0.5**
PSGCX				IAmb	IAmb	16 47 22.2	
	comp=Z,8.8nm,1.1s						
MNMC	**Minye Minye**	**69.46**	**94**	P	**P**	**16 47 20.0**	**+0.8**
PB16	**IPOC Station P**	**70.16**	**93**	P	**P**	**16 47 24.1**	**+0.2**
PB16				IAmb	IAmb	16 47 25.8	
	comp=Z,5.5nm,1.0s						
CPUP	**Villa Florida**	**70.26**	**108**	P	**P**	**16 47 23.1**	**-0.5**
	comp=Z,4.3nm,0.9s,baz=226,slow=7.1,SNR=9.3						
	comp=Z,4.3nm,0.9s						
CPUP	**Villa Florida**	**70.26**	**108**	P	**P**	**16 47 23.0**	**-0.7**
CPUP				IAmb	IAmb	16 47 24.4	
	comp=Z,6.7nm,1.0s						
NNA	**Nana**	**71.32**	**83**	LR	LR	17 10 10.9	
	comp=Z,31nm,21.1s,baz=225,slow=29						
LPAZ	**La Paz**	**72.58**	**93**	P	**P**	**16 47 39.4**	**+0.8**
	comp=Z,4.2nm,0.9s,baz=175,slow=1.9,SNR=11						
	comp=Z,4.2nm,0.9s						
LPAZ	**La Paz**	**72.58**	**93**	P	**P**	**16 47 38.8**	**+0.2**
LPAZ				IAmb	IAmb	16 47 40.5	
	comp=Z,7.0nm,1.0s						
ETMB	**Extrema**	**78.94**	**91**	P	**P**	**16 48 14.0**	**-0.2**
ETMB				IAmb	IAmb	16 48 15.2	
	comp=Z,4.5nm,1.1s						
SAML	**Samuel**	**81.33**	**93**	P	**P**	**16 48 27.2**	**+0.1**
MACA	**Manacapuru-AM**	**87.49**	**92**	P	**P**	**16 48 58.6**	**+0.3**
MACA				IAmb	IAmb	16 48 59.4	
	comp=Z,13nm,0.9s						
LPIG	**La Paz**	**87.56**	**37**	LR	LR	17 19 45.2	
	comp=Z,59nm,19.0s,baz=200,slow=30						
BOAV	**Boa Vista**	**92.19**	**89**	P	**P**	**16 49 20.7**	**+0.4**
BOAV				IAmb	IAmb	16 49 22.6	
	comp=Z,5.7nm,1.1s						
H10N3	**ASCENSION HYDR**	**106.34**	**135**	T	T	18 49 43.6	
	baz=203,slow=75,SNR=25						
H10N1	**ASCENSION HYDR**	**106.34**	**135**	T	T	18 49 43.8	
	baz=203,slow=75,SNR=32						
H10N2	**ASCENSION HYDR**	**106.36**	**135**	T	T	18 49 43.0	
	baz=203,slow=75,SNR=29						
ILAR	**Eielson Array**	**121.30**	**2**	PKP	**PKiKP**	**16 55 02.9**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=234,slow=2.1,SNR=18						
YKA	**Yellowknife Ar**	**122.27**	**19**	PKP	**PKPdf**	**16 55 03.7**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=195,slow=3.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**131.63**	**143**	PKP	**PKPdf**	**16 55 22.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=209,slow=2.6,SNR=1.9						
MKAR	**Makanchi Array**	**146.44**	**276**	PKPbc	**PKPbc**	**16 55 51.4**	**+0.6**
	comp=Z,7.6nm,0.8s,baz=118,slow=4.4,SNR=72						
ZALV	**Zalesovo Beam**	**148.96**	**289**	PKPbc	**PKPbc**	**16 55 57.2**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=91,slow=2.0,SNR=9.8						
NRIK	**Noril'sk**	**152.00**	**320**	PKPbc	**PKiKP**	**16 56 05.1**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=90,slow=2.8,SNR=5.3						
ESDC	**Sonseca Array**	**152.47**	**114**	PKPbc	**PKiKP**	**16 56 06.6**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=238,slow=3.0,SNR=6.4						

*IDC **23** 17:34:44.2±0.9, 56°.90S×150°.66W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=137.6km s-min=26.4km az=5.0*

ISC 23 17:34:45.4±1.0, 56°.8S±1°.0×150°.7W±0°.2, h10km, n16, σ1°.02/7, mb4.0/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**52.70**	**96**	T	T	18 40 57.1	
	baz=219,slow=74,SNR=4.4						
H03S1	**Juan Fernandez**	**52.71**	**96**	T	T	18 40 58.7	
	baz=219,slow=74,SNR=5.1						
H03S3	**Juan Fernandez**	**52.72**	**96**	T	T	18 40 57.4	
	baz=219,slow=74,SNR=4.0						
H03N3	**Juan Fernandez**	**52.99**	**96**	T	T	18 41 20.2	
	baz=222,slow=72,SNR=29						
H03N2	**Juan Fernandez**	**53.00**	**96**	T	T	18 41 13.6	
	baz=222,slow=72,SNR=42						
H03N1	**Juan Fernandez**	**53.01**	**96**	T	T	18 41 14.6	
	baz=222,slow=72,SNR=38						
ASAR	**Alice Springs**	**62.58**	**268**	P	**P**	**17 45 10.3**	**+0.8**
	0.7nm,0.7s,baz=137,slow=6.5,SNR=7.8						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**65.32**	**271**	P	**P**	**17 45 27.7**	**+0.1**
	0.5nm,0.7s,baz=150,slow=5.4,SNR=1.1						
	0.5nm,0.7s						
CPUP	**Villa Florida**	**70.18**	**108**	P	**P**	**17 45 58.0**	**-0.2**
	0.6nm,0.4s,baz=207,slow=4.5,SNR=3.6						
	0.6nm,0.4s						
LPAZ	**La Paz**	**72.48**	**93**	P	**P**	**17 46 13.2**	**+0.3**
	0.9nm,0.6s,baz=224,slow=3.9,SNR=3.7						
	0.9nm,0.6s						
H10N3	**ASCENSION HYDR**	**106.30**	**134**	T	T	19 48 25.0	
	baz=203,slow=74,SNR=14						
H10N1	**ASCENSION HYDR**	**106.31**	**134**	T	T	19 48 28.2	
	baz=203,slow=74,SNR=15						
H10N2	**ASCENSION HYDR**	**106.32**	**134**	T	T	19 48 31.8	
	baz=203,slow=74,SNR=14						
ILAR	**Eielson Array**	**121.25**	**2**	PKP	**PKiKP**	**17 53 37.8**	**+0.8**
	0.6nm,0.9s,baz=206,slow=1.7,SNR=4.8						
MKAR	**Makanchi Array**	**146.53**	**276**	PKPbc	**PKPab**	**17 54 26.7**	**-0.3**
	1.8nm,0.8s,baz=114,slow=4.5,SNR=19						
ZALV	**Zalesovo Beam**	**149.04**	**289**	PKPbc	**PKPbc**	**17 54 30.8**	**-1.6**
	0.5nm,0.3s,baz=116,slow=3.4,SNR=1.7						

*IDC **23** 17:38:20.7±0.9, 39°.22N×73°.71E, h0km, mb3.8/14, mbtmp3.8/21, ML3.0/6, MS2.5/2, Error ellipse: s-maj=16.1km s-min=14.3km az=167.0*
*KRNET **23** 17:38:20.8±0.1, 39°.37N×73°.57E, mb4.0*
*SOME **23** 17:38:21.4, 39°.52N×73°.53E, h10km*
*ISU **23** 17:38:22.1, 39°.62N×73°.84E, h8km*
*NNC **23** 17:38:22.9±1.9, 39°.63N×73°.31E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=15.1km s-min=8.6km az=172.0*

ISC 23 17:38:22.4±1.4, 39°.62N±0°.04×73°.81E±0°.02, h4km±8km, n108, σ1°.80/128, mb3.8/14, 36C-19D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.20**	**319**	⇑*iP*	**Pg**	**17 38 45.7**	**+0.2**
	baz=33						
OHH				⇑*iS*	**Sn**	**17 39 03.6**	**+0.7**
	baz=33						
OHH	**Osh**	**1.20**	**319**	P	**Pg**	**17 38 45.7**	**+0.2**
OHH				S	**Sn**	**17 39 03.0**	**+0.1**
DRK	**Karamyk**	**1.56**	**266**	⇑*iP*	**Pn**	**17 38 47.1**	**-4.2**
	baz=75						
DRK				⇑*iS*	**Sn**	**17 39 06.0**	**-6.1**
	baz=75						
ANR	**Andizhan**	**1.59**	**316**	P	**Pg**	**17 38 53.8**	**+0.9**
ANR				S	**Sg**	**17 39 16.0**	**+2.4**
FRG	**Fergana**	**1.73**	**297**	P	**Pb**	**17 38 54.7**	**-0.1**
FRG				S	**Sg**	**17 39 18.8**	**+0.7**
CHMI	**Chimion**	**1.88**	**291**	P	**Pb**	**17 38 56.5**	**-0.8**
CHMI				S	**Sg**	**17 39 22.3**	**-0.4**
ARLS	**Aral**	**2.28**	**10**	⇑*iP*	**Pg**	**17 39 05.4**	**-0.6**
	baz=13						
ARLS				⇑*iS*	**Sg**	**17 39 38.1**	**+2.6**
	baz=13						
BTK	**Batken**	**2.35**	**282**	⇑*eP*	**Pn**	**17 39 01.2**	**-0.7**
	baz=89						
BTK				⇑*iS*	**Sn**	**17 39 30.6**	**-0.6**
	baz=89						
BTK	**Batken**	**2.35**	**282**	P	**Pb**	**17 39 03.0**	**-2.3**
BTK				S	**Sb**	**17 39 35.8**	**+1.1**
NRN	**Naryn**	**2.46**	**42**	⇓*iP*	**Pg**	**17 39 08.3**	**-1.4**
	baz=41						
NRN				⇓*iS*	**Sg**	**17 39 43.1**	**+1.5**
	baz=41						
AML	**Almayashu**	**2.51**	**358**	P	**Pg**	**17 39 09.8**	**-0.8**
	SNR=62						
AML	**Almayashu**	**2.51**	**358**	⇑*iP*	**Pb**	**17 39 08.7**	**+0.3**
	baz=2.0						
AML				⇑*iS*	**Sg**	**17 39 43.7**	**+0.5**
	baz=2.0						
ARK	**Arkit**	**2.59**	**328**	⇑*iP*	**Pb**	**17 39 07.8**	**-1.8**
	baz=34						
ARK				⇑*iS*	**Sb**	**17 39 42.2**	**+0.3**
	baz=34						
UCH	**Uchtor**	**2.66**	**11**	P	**Pg**	**17 39 12.7**	**-0.7**
	SNR=67						
UCH	**Uchtor**	**2.66**	**11**	⇓*eP*	**Pb**	**17 39 11.2**	**+0.3**
	baz=14						
UCH				⇓*iS*	**Sg**	**17 39 48.0**	**0.0**
	baz=14						
TRKS	**Terek-Say**	**2.79**	**314**	⇑*iP*	**Pn**	**17 39 08.9**	**+0.8**
	baz=20						
TRKS				⇑*iS*	**Sn**	**17 39 43.9**	**+1.6**
	baz=20						
EKS2	**Erkin-Say**	**3.04**	**360**	P	**Pg**	**17 39 18.7**	**-2.1**
	SNR=17						
EKS2	**Erkin-Say**	**3.04**	**360**	⇑*eP*	**Pb**	**17 39 15.7**	**-1.5**
	baz=3.0						
EKS2				⇑*eS*	**Sb**	**17 39 56.1**	**+1.3**
	baz=3.0						
AAK	**Ala-Archa**	**3.06**	**9**	P	**Pg**	**17 39 19.2**	**-1.8**
	SNR=32						
AAK	**Ala-Archa**	**3.06**	**9**	Pn	**Pg**	**17 39 18.9**	**-2.2**
	5.8nm,0.3s,baz=168,slow=6.9,SNR=66						
AAK				Sn	**Sg**	**17 40 00.6**	**-0.1**
	6.5nm,0.3s,baz=0.2,slow=23,SNR=1.7						
AAK				LR	LR	17 40 12.9	
	comp=Z,17nm,19.9s,baz=216,slow=32						
	23nm,0.4s						
AAK	**Ala-Archa**	**3.06**	**9**	⇓*iP*	**Pb**	**17 39 16.5**	**-1.1**
	baz=12						
AAK				⇓*iS*	**Sg**	**17 39 57.2**	**-3.6**
	baz=12						
KBK	**Karagaybulak**	**3.16**	**15**	P	**Pg**	**17 39 21.1**	**-1.8**
	SNR=6.6						
KBK	**Karagaybulak**	**3.16**	**15**	⇓*eP*	**Pb**	**17 39 18.0**	**-1.2**
	baz=17						
KBK				⇓*iS*	**Sg**	**17 39 59.9**	**-3.9**
	baz=17						
MRKS	**Merke**	**3.16**	**352**	Pg	**Pb**	**17 39 18.1**	**-1.0**
	19nm,0.8s						
MRKS				Lg	Lg	17 39 59.9	
	111nm,0.7s				

IUG Iuzhnay 3.82 313 *e*Pg Pb 17 39 29.4 -1.1
29nm,0.9s
IUG *e*Lg Lg 17 40 17.9
132nm,2.2s
KUMR Kumaryk 3.83 296 P Sg 17 40 13.0 -13
KUMR S **Pg** **17 39 37.7 +1.8**
TAS Tashkent 3.84 298 ⇓*i*P **Pn** **17 39 22.9 +0.5**
baz=2.0
TAS ⇓*i*S **Sn** **17 40 08.1 +0.1**
baz=2.0
TAS Tashkent 3.84 298 P Sg 17 40 23.8 -2.1
DGS Degeres 3.91 21 Pg **Pg** **17 39 37.6 +0.2**
42nm,0.7s
DGS Lg Lg 17 40 32.6
65nm,0.7s
DGS Degeres 3.91 21 *e*Pg **Pg** **17 39 37.6 +0.2**
42nm,0.4s
DGS *e*Lg Lg 17 40 32.2
61nm,0.5s
MTBS Maitube 4.03 28 Pg **Pg** **17 39 39.9 +0.4**
27nm,0.5s
MTBS Lg Lg 17 40 36.5
53nm,0.4s
MTBS Maitube 4.03 28 *e*Pg **Pg** **17 39 39.9 +0.4**
27nm,0.3s
MTBS *e*Lg Lg 17 40 35.9
53nm,0.4s
TNSS Tian-Shan 4.15 34 Pg **Pg** **17 39 41.8 -0.2**
26nm,0.3s
TNSS Lg Lg 17 40 39.7
18nm,0.5s
TNSS Tian-Shan 4.15 34 *e*Pg **Pg** **17 39 42.1 +0.1**
26nm,0.3s
TNSS *e*Lg Lg 17 40 39.7
18nm,0.5s
CHM Chimkent 4.18 312 *e*Pg **Pb** **17 39 36.2 -0.3**
53nm,0.2s
CHM *e*Lg Lg 17 40 29.8
126nm,0.4s
KK31 Karatay Array 4.28 326 ⇑Pg Pb 17 39 32.5 -5.7
7.3nm,0.5s,baz=139,slow=15
KK31 ⇓Lg Lg 17 40 37.8
26nm,0.5s,baz=139,slow=28,SNR=4.9
KKAR Karatay Array 4.28 326 ⇑*e*P **Pn** **17 39 30.9 +2.5**
baz=29
KKAR ⇑*i*S **Sn** **17 40 22.3 +3.6**
baz=29
AAA Alma-Ata 4.28 32 Pg **Pg** **17 39 45.4 +0.9**
28nm,0.2s
AAA Lg Lg 17 40 45.9
87nm,0.5s
AAA Alma-Ata 4.28 32 *e*Pg **Pg** **17 39 45.6 +1.2**
20nm,0.3s
AAA *e*Lg Lg 17 40 45.9
87nm,1.0s
MDOK Medeo 4.30 33 ⇑Pn **Pn** **17 39 31.0 +2.3**
7.2nm,0.6s
MDOK Pg **Pg** **17 39 44.6 -0.2**
15nm,0.6s
MDOK ⇑Pg Pb 17 39 45.6 +7.0
19nm,0.6s
MDOK Lg Lg 17 40 44.5
53nm,1.3s
MDOK ⇑Lg Lg 17 40 45.4
103nm,1.2s
MDOK Medeo 4.30 33 *e*Pg **Pg** **17 39 45.8 +1.0**
15nm,0.6s
MDOK *e*Lg Lg 17 40 46.1
52nm,0.7s
KNDC Almaty 4.31 32 ⇑Pg **Pg** **17 39 43.9 -1.0**
68nm,0.8s
KNDC ⇑Lg Lg 17 40 45.9
286nm,1.1s
KRBS Karabastau 4.31 18 Pg **Pg** **17 39 44.0 -1.0**
19nm,0.4s
KRBS Lg Lg 17 40 44.0
41nm,0.7s
KRBS Karabastau 4.31 18 *e*Pg **Pg** **17 39 44.6 -0.3**
19nm,0.4s
KRBS *e*Lg Lg 17 40 44.0
41nm,0.7s
KOTS Kotyrbulak 4.38 33 Pg **Pg** **17 39 46.9 +0.5**
13nm,0.4s
KOTS Lg Lg 17 40 48.7
147nm,0.6s
KOTS Kotyrbulak 4.38 33 *e*Pg **Pg** **17 39 47.4 +1.0**
13nm,0.4s
KOTS *e*Lg Lg 17 40 48.7
147nm,0.6s
KTBS Karatobe 4.62 27 Pg **Pg** **17 39 50.5 -0.4**
15nm,0.7s
KTBS Lg Lg 17 40 55.2
76nm,0.4s
KTBS Karatobe 4.62 27 *e*Pg **Pg** **17 39 50.9 -0.1**
15nm,0.7s
KTBS *e*Lg Lg 17 40 55.2
76nm,0.4s
KUU Kurty 4.67 23 Pg **Pg** **17 39 51.1 -0.8**
11nm,0.6s
KUU Lg Lg 17 40 56.3
31nm,0.8s
KUU Kurty 4.67 23 *e*Pg **Pg** **17 39 52.5 +0.6**
15nm,0.6s
KUU *e*Lg Lg 17 40 57.5
31nm,0.8s
CHKK Chushkaly 4.86 28 Pg **Pg** **17 39 54.1 -1.3**
9.3nm,0.7s
CHKK Lg Lg 17 41 01.1
27nm,0.4s
CHKK Chushkaly 4.86 28 *e*Pg **Pg** **17 39 54.5 -0.9**
9.3nm,0.5s
CHKK *e*Lg Lg 17 41 01.1
27nm,0.4s
KURS Kuram 5.07 39 Pg **Pg** **17 39 58.0 -1.4**
18nm,0.9s
KURS Lg Lg 17 41 07.7
25nm,0.9s
KURS Kuram 5.07 39 *e*Pg **Pg** **17 39 59.8 +0.4**
6.3nm,0.6s
KURS *e*Lg Lg 17 41 10.2
25nm,0.9s
KTAB Kitab 5.39 267 P Sb 17 40 51.1 -11
BTLS Baital 5.42 2 Pg **Pg** **17 40 04.0 -2.3**
7.4nm,0.3s
BTLS Lg Lg 17 41 18.8
14nm,0.5s
BTLS Baital 5.42 2 *e*Pg **Pg** **17 40 04.7 -1.6**
7.4nm,0.3s
BTLS *e*Lg Lg 17 41 18.8
14nm,0.5s
CHCP Chirah Chowk 5.96 184 P **Pn** **17 39 54.0 +2.5**
CEP Cherat 5.98 195 P **Pn** **17 39 54.8 +3.0**
THW Thamme Wali 7.01 194 P **Pn** **17 40 06.7 +0.8**
MAKZ Makanchi 9.33 37 ⇓Pn **Pn** **17 40 41.1 +3.4**
2.7nm,1.2s
MK31 Makanchi Array 9.47 38 ⇓Pn **Pn** **17 40 41.6 +2.0**
0.7nm,0.5s,baz=209,slow=13,SNR=5.1
MKAR Makanchi Array 9.47 38 Pn Pn 17 40 46.1 +6.5
baz=213,slow=13,SNR=5.7
MKAR Lg Lg 17 43 32.6
0.1nm,0.3s,baz=215,slow=28,SNR=4.6
0.4nm,0.7s
KURBB Kurchatov Arra 11.50 15 Pn Pn 17 41 11.5 +4.2
0.4nm,0.7s,baz=206,slow=13,SNR=1.2
KURBB Lg Lg 17 44 29.4
baz=205,slow=29,SNR=9.9
KURBB Kurchatov Arra 11.50 15 ⇑Lg Lg 17 44 27.7
22nm,0.9s
KURK Kurchatov 11.60 15 ⇓Lg Lg 17 44 36.1
32nm,1.5s
BVA0 Borovoye Array 13.62 351 Pn **Pn** **17 41 35.0 -1.2**
2.2nm,0.6s,baz=172,slow=9.5,SNR=8.8
BVAR Borovoye Array 13.62 351 Pn **Pn** **17 41 37.6 +1.4**
baz=159,slow=14,SNR=8.9
BVAR Lg Lg 17 45 35.5
baz=153,slow=30,SNR=3.7
1.4nm,0.7s
BRVK Borovoye 13.66 351 ⇑Pn **Pn** **17 41 35.5 -1.4**
3.0nm,0.7s
AB31 Akbulak array 13.80 319 ⇓Pn **Pn** **17 41 34.5 -4.2**
1.5nm,0.6s,baz=141,slow=11,SNR=19
AB31 ⇑Sn **Sn** **17 44 07.1 -5.3**
1.3nm,0.7s,baz=130,slow=23,SNR=2.7
AKTO Aktyubinsk 15.51 319 Pn **Pn** **17 42 02.7 +0.8**
0.2nm,0.3s,baz=124,slow=11,SNR=13
1.4nm,0.5s
AKTO Aktyubinsk 15.51 319 ⇑Pn **Pn** **17 42 00.7 -1.2**
4.8nm,1.0s

ZALV Zalesovo Beam 16.17 24 Pn P 17 42 15.0 +1.4
0.3nm,0.3s,baz=217,slow=11,SNR=8.1
1.6nm,0.5s
ARU Arti 19.60 334 P **Pn** **17 42 54.4 +1.7**
baz=146,slow=6.0,SNR=8.6
2.6nm,0.5s
BELG Belogornoye 22.08 314 ⇑ P P 17 43 20.1 +1.8
11nm,0.9s,baz=190,slow=5.2,SNR=9.2
BELG LR LR 17 52 24.5
comp=Z,54nm,18.3s,baz=254,slow=38
11nm,0.9s
KBZ Khabaz 23.38 290 P P 17 43 30.9 -1.1
1.7nm,1.1s,baz=116,slow=9.6,SNR=2.4
1.7nm,1.1s
SONM Songino Array 24.79 60 P P 17 43 47.1 +1.6
0.5nm,0.6s,baz=264,slow=10,SNR=4.4
0.5nm,0.6s
BRTR Keskin Array B 30.74 283 P P 17 44 39.0 +0.1
0.8nm,0.7s,baz=96,slow=6.8,SNR=6.2
0.8nm,0.7s
FINES FINESS Array B 36.23 323 P P 17 45 27.1 +0.9
4.1nm,0.9s,baz=116,slow=6.7,SNR=11
4.1nm,0.9s
ARCES ARCESS Array B 39.17 335 P P 17 45 52.1 +1.1
4.3nm,1.0s,baz=105,slow=9.0,SNR=7.5
4.3nm,1.0s
KLR Kul'dur 41.55 57 P P 17 46 11.5 +0.6
0.5nm,0.5s,baz=265,slow=11,SNR=1.8
0.5nm,0.5s
GERES GERESS Array B 43.02 303 P P 17 46 23.6 +0.6
0.5nm,0.7s,baz=68,slow=7.4,SNR=4.5
0.5nm,0.7s
NB2 NORSAR Subarra 43.30 321 P P 17 46 24.9 -0.1
comp=Z,1.0nm,0.6s,baz=91,slow=7.9
NOA NORSAR Array B 43.30 321 P P 17 46 25.1 +0.1
comp=Z,1.5nm,0.6s,baz=92,slow=7.7,SNR=7.9
comp=Z,1.5nm,0.6s
TORD Torodi Ar. Bea 68.00 269 P P 17 49 21.2 -1.9
comp=Z,0.6nm,0.5s,baz=54,slow=7.5,SNR=2.6
comp=Z,0.6nm,0.5s
ILAR Eielson Array 71.17 17 P P 17 49 42.0 +0.1
comp=Z,0.6nm,0.8s,baz=315,slow=5.3,SNR=7.0
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 78.01 4 P P 17 50 21.7 +0.1
comp=Z,0.2nm,0.4s,baz=346,slow=5.7,SNR=4.9
comp=Z,0.2nm,0.4s
WRA Warramunga Arr 81.82 124 P P 17 50 41.7 -1.1
comp=Z,0.7nm,0.8s,baz=323,slow=5.2,SNR=5.9
comp=Z,0.7nm,0.8s
ASAR Alice Springs 84.28 127 P P 17 50 53.6 -1.9
comp=Z,0.9nm,0.9s,baz=319,slow=4.8,SNR=6.8
comp=Z,0.9nm,0.9s

SJA ***23*** *17:52:07.1±0.8,20.°09S×68.°97W,h127km±4km, ML4.0, MW4.1*
VAO ***23*** *17:52:08.6±0.4, 19.°98S×68.°76W,h109km, mb4.4*
NEIC ***23*** *17:52:08.3±1.4,20.°09S±0.°02×68.°94W±0.°09,h121km±7km, mb4.4/13, ML4.0(GUC), Error ellipse: s-maj=11.8km s-min=2.2km az=94.0*
IDC ***23*** *17:52:09.2±0.7,20.°09S×68.°63W,h116km±6km, mb4.0/6, mbtmp4.3/12, Error ellipse: s-maj=18.6km s-min=8.0km az=100.0*
GUC ***23*** *17:52:09.2±0.7,20.°09S×68.°95W,h116km±4km, ML4.0*
ISC 23 17:52:07.7±0.5, 20.°09S±0.°03×68.°91W±0.°05, h118km±5km, n168, σ1s51/239, mb4.5/10, 15C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.50**	**327**			**Pn**	**17 52 26.3**	**+0.3**
GO01	**Chusmiza**	**0.50**	**327**	*e*P		**Pn**	**17 52 26.4**	**+0.3**
GO01				IAML			17 52 40.5	
	comp=E,12μm,0.7s							
GO01	**Chusmiza**	**0.50**	**327**	*e*P		**Pn**	**17 52 26.5**	**+0.5**
GO01				*e*S		**Sn**	**17 52 41.6**	**+1.9**
GO01	**Chusmiza**	**0.50**	**327**	*e*P		**Pn**	**17 52 26.5**	**+0.5**
GO01				*e*S		**Sn**	**17 52 41.6**	**+1.9**
PB11	**IPOC Station P**	**0.78**	**295**			**Pn**	**17 52 28.1**	**+0.4**
PB11	**IPOC Station P**	**0.78**	**295**	⇑*i*P		**Pn**	**17 52 28.1**	**+0.4**
PB11				*i* S		**Sn**	**17 52 43.0**	**+0.3**
PB11	**IPOC Station P**	**0.78**	**295**	*e*P		**Pn**	**17 52 28.0**	**+0.4**
PB11				*e*S		**Sn**	**17 52 45.1**	**+2.4**
PB11				IAML			17 52 46.5	
	comp=Z,3μm,0.3s							
PB11	**IPOC Station P**	**0.78**	**295**	*e*P		**Pn**	**17 52 28.0**	**+0.4**
PB11				*e*S		**Sn**	**17 52 45.1**	**+2.4**
PB11				IAML			17 52 46.5	
	comp=Z,3μm,0.3s							
HMBC	**Humberstone**	**0.94**	**259**	⇑*i*P		**Pn**	**17 52 29.2**	**+0.1**
HMBC				*i* S		**Sn**	**17 52 45.1**	**-0.1**
HMBC				IAML			17 52 46.2	
	comp=E,4μm,0.3s							
PB01	**IPOC Station P**	**1.09**	**210**			**Pn**	**17 52 31.3**	**+0.7**
PB01				Sn		**Sn**	**17 52 48.0**	**+0.1**
PB01	**IPOC Station P**	**1.09**	**210**	⇑*i*P		**Pn**	**17 52 31.3**	**+0.7**
PB01				*i* S		**Sn**	**17 52 48.2**	**+0.3**
PB01				IAML			17 52 49.7	
	comp=E,7μm,0.5s							
PB01	**IPOC Station P**	**1.09**	**210**	*e*P		**Pn**	**17 52 31.3**	**+0.7**
PB01				*e*S		**Sn**	**17 52 48.7**	**+0.9**
PB01				IAML			17 52 50.2	
	comp=Z,3μm,0.3s							
PB01	**IPOC Station P**	**1.09**	**210**	*e*P		**Pn**	**17 52 31.3**	**+0.7**
PB01				*e*S		**Sn**	**17 52 48.7**	**+0.9**
PB01				IAML			17 52 50.2	
	comp=Z,3μm,0.3s							
MNMC	**Minye Minye**	**1.16**	**326**			**Pn**	**17 52 32.4**	**+1.0**
MNMC	**Minye Minye**	**1.16**	**326**	⇑*i*P		**Pn**	**17 52 32.6**	**+1.1**
MNMC				*i* S		**Sn**	**17 52 50.6**	**+1.2**
MNMCX	**Minye Minye**	**1.16**	**326**	*e*P		**Pn**	**17 52 32.0**	**+0.6**
MNMCX				*e*S		**Sn**	**17 52 50.7**	**+1.3**
MNMCX				IAML			17 52 53.3	
	comp=Z,5μm,0.2s							
MNMCX	**Minye Minye**	**1.16**	**326**	*e*P		**Pn**	**17 52 32.0**	**+0.6**
MNMCX				*e*S		**Sn**	**17 52 50.7**	**+1.3**
MNMCX				IAML			17 52 53.3	
	comp=Z,5μm,0.2s							
TA02	**Huaiquique**	**1.17**	**261**			**Pn**	**17 52 31.7**	**+0.5**
TA02				Sn		**Sn**	**17 52 48.9**	**-0.1**
TA02	**Huaiquique**	**1.17**	**261**	⇑*i*P		**Pn**	**17 52 31.7**	**+0.5**
TA02				*i* S		**Sn**	**17 52 48.7**	**-0.3**
TA02	**Huaiquique**	**1.17**	**261**	*e*P		**Pn**	**17 52 31.7**	**+0.5**
TA02				*e*P		**Pn**	**17 52 32.0**	**+0.8**
TA02				*e*S		**Sn**	**17 52 49.7**	**+0.7**
TA02				IAML			17 52 51.9	
	comp=Z,3μm,0.6s							
TA02	**Huaiquique**	**1.17**	**261**	*e*P		**Pn**	**17 52 31.7**	**+0.5**
TA02				*e*P		**Pn**	**17 52 32.0**	**+0.8**
TA02				*e*S		**Sn**	**17 52 49.7**	**+0.7**
TA02				IAML			17 52 51.9	
	comp=Z,3μm,0.6s							
PSGC	**Pisagua**	**1.25**	**293**	⇑*i*P		**Pn**	**17 52 32.6**	**+0.4**
PSGC				*i* S		**Sn**	**17 52 50.4**	**-0.4**
PSGC				IAML			17 52 51.6	
	comp=N,4μm,0.4s							
PSGCX	**Pisagua**	**1.25**	**293**			**Pn**	**17 52 32.5**	**+0.3**
PSGCX				Sn		**Sn**	**17 52 49.7**	**-1.1**
PSGCX	**Pisagua**	**1.25**	**293**	*e*P		**Pn**	**17 52 32.0**	**-0.2**
PSGCX				*e*P		**Pn**	**17 52 32.5**	**+0.3**
PSGCX				*e*S		**Sn**	**17 52 51.5**	**+0.7**
PSGCX				IAML			17 52 53.2	
	comp=Z,2μm,0.4s							
PSGCX	**Pisagua**	**1.25**	**293**	*e*P		**Pn**	**17 52 32.0**	**-0.2**
PSGCX				*e*P		**Pn**	**17 52 32.5**	**+0.3**
PSGCX				*e*S		**Sn**	**17 52 51.5**	**+0.7**
PSGCX				IAML			17 52 53.2	
	comp=Z,2μm,0.4s							
TA01	**Diego Aracena**	**1.29**	**248**			**Pn**	**17 52 32.6**	**+0.1**
TA01				Sn		**Sn**	**17 52 50.6**	**-0.8**
TA01	**Diego Aracena**	**1.29**	**248**	⇑*i*P		**Pn**	**17 52 32.7**	**+0.1**
TA01				*i* S		**Sn**	**17 52 50.6**	**-0.8**
TA01				IAML			17 52 52.0	
	comp=N,2μm,0.5s							
TA01	**Diego Aracena**	**1.29**	**248**	*e*P		**Pn**	**17 52 32.0**	**-0.5**
TA01				*e*P		**Pn**	**17 52 32.7**	**+0.2**
TA01				*e*S		**Sn**	**17 52 52.2**	**+0.9**
TA01	**Diego Aracena**	**1.29**	**248**	*e*P		**Pn**	**17 52 32.0**	**-0.5**
TA01				*e*P		**Pn**	**17 52 32.7**	**+0.2**
TA01				*e*S		**Sn**	**17 52 52.2**	**+0.9**
PATCX	**Punta Patache**	**1.38**	**238**			**Pn**	**17 52 34.1**	**+0.5**
PATCX	**Punta Patache**	**1.38**	**238**	⇑*i*P		**Pn**	**17 52 34.1**	**+0.5**
PATCX				*i* S		**Sn**	**17 52 53.0**	**-0.3**
PATCX				IAML			17 52 54.5	
	comp=N,3μm,0.3s							
PATCX	**Punta Patache**	**1.38**	**238**	*e*P		**Pn**	**17 52 32.0**	**-1.6**
PATCX				*e*P		**Pn**	**17 52 34.0**	**+0.4**
PATCX				*e*S		**Sn**	**17 52 53.8**	**+0.5**
PATCX				IAML			17 52 55.1	
	comp=Z,2μm,0.4s							
PATCX	**Punta Patache**	**1.38**	**238**	*e*P		**Pn**	**17 52 32.0**	**-1.6**
PATCX				*e*P		**Pn**	**17 52 34.0**	**+0.4**
PATCX				*e*S		**Sn**	**17 52 53.8**	**+0.5**
PATCX				IAML			17 52 55.1	
	comp=Z,2μm,0.4s							
PB02	**IPOC Station P**	**1.53**	**217**			**Pn**	**17 52 36.2**	**+0.7**
PB02	**IPOC Station P**	**1.53**	**217**	⇑*i*P		**Pn**	**17 52 36.2**	**+0.7**
PB02				⇑*i*S		**Sn**	**17 52 56.7**	**+0.1**
PB02				IAML			17 53 01.0	
	comp=N,4μm,0.4s							
PB02	**IPOC Station P**	**1.53**	**217**	*e*P		**Pn**	**17 52 36.0**	**+0.5**
PB02				*e*S		**Sn**	**17 52 57.6**	**+1.0**
PB02				IAML			17 53 04.1	
	comp=Z,2μm,0.7s							
PB02	**IPOC Station P**	**1.53**	**217**	*e*P		**Pn**	**17 52 36.0**	**+0.5**
PB02				*e*S		**Sn**	**17 52 57.6**	**+1.0**
PB02				IAML			17 53 04.1	
	comp=Z,2μm,0.7s							
PB09	**IPOC Station P**	**1.72**	**190**			**Pn**	**17 52 39.0**	**+1.2**
PB09				Sn		**Sn**	**17 53 01.6**	**+0.9**
PB09	**IPOC Station P**	**1.72**	**190**	⇓*i*P		**Pn**	**17 52 39.2**	**+1.4**
PB09				*i* S		**Sn**	**17 53 02.0**	**+1.2**
PB09				IAML			17 53 06.3	
	comp=N,768nm,0.5s							
PB09	**IPOC Station P**	**1.72**	**190**	*e*P		**Pn**	**17 52 39.0**	**+1.2**
PB09				*e*S		**Sn**	**17 53 03.1**	**+2.4**
PB09				IAML			17 53 03.6	
	comp=Z,579nm,0.8s							
PB09	**IPOC Station P**	**1.72**	**190**	*e*P		**Pn**	**17 52 39.0**	**+1.2**
PB09				*e*S		**Sn**	**17 53 03.1**	**+2.4**
PB09				IAML			17 53 03.6	
	comp=Z,579nm,0.8s							
PB16	**IPOC Station P**	**1.84**	**342**			**Pn**	**17 52 41.6**	**+2.0**
PB16				Sn		**Sn**	**17 53 04.9**	**+1.0**
PB16	**IPOC Station P**	**1.84**	**342**	*i* P		**Pn**	**17 52 41.1**	**+1.4**
PB16				*i* S		**Sn**	**17 53 05.5**	**+1.6**
PB16				IAML			17 53 07.4	
	comp=E,993nm,0.6s							
PB16	**IPOC Station P**	**1.84**	**342**	*e*P		**Pn**	**17 52 41.0**	**+1.4**
PB16				*e*S		**Sn**	**17 53 06.7**	**+2.8**
PB16				IAML			17 53 15.1	
	comp=Z,539nm,0.7s							
PB16	**IPOC Station P**	**1.84**	**342**	*e*P		**Pn**	**17 52 41.0**	**+1.4**
PB16				*e*S		**Sn**	**17 53 06.7**	**+2.8**
PB16				IAML			17 53 15.1	
	comp=Z,539nm,0.7s							
PB07	**IPOC Station P**	**1.87**	**209**			**Pn**	**17 52 40.0**	**+0.5**
PB07	**IPOC Station P**	**1.87**	**209**	⇓*i*P		**Pn**	**17 52 40.2**	**+0.7**
PB07				*i* S		**Sn**	**17 53 03.4**	**-0.5**
PB07				IAML			17 53 09.0	
	comp=E,1μm,0.5s							
PB07	**IPOC Station P**	**1.87**	**209**	*e*P		**Pn**	**17 52 40.1**	**+0.5**
PB07				*e*S		**Sn**	**17 53 04.3**	**+0.4**
PB07				IAML			17 53 05.3	
	comp=Z,813nm,0.6s							
PB07	**IPOC Station P**	**1.87**	**209**	*e*P		**Pn**	**17 52 40.1**	**+0.5**
PB07				*e*S		**Sn**	**17 53 04.3**	**+0.4**
PB07				IAML			17 53 05.3	
	comp=Z,813nm,0.6s							
PB12	**IPOC Station P**	**1.99**	**317**			**Pn**	**17 52 41.2**	**+0.2**
PB12	**IPOC Station P**	**1.99**	**317**	⇑*i*P		**Pn**	**17 52 41.4**	**+0.3**
PB12				*i* S		**Sn**	**17 53 05.7**	**-0.8**
PB12				IAML			17 53 09.2	
	comp=E,2μm,0.5s							
PB12	**IPOC Station P**	**1.99**	**317**	*e*P		**Pn**	**17 52 41.0**	**0.0**
PB12				*e*P			17 52 41.5	
PB12				*e*S		**Sn**	**17 53 06.8**	**+0.3**
PB12				IAML			17 53 09.0	
	comp=Z,994nm,0.5s							
PB12	**IPOC Station P**	**1.99**	**317**	*e*P		**Pn**	**17 52 41.0**	**0.0**
PB12				*e*P			17 52 41.5	
PB12				*e*S		**Sn**	**17 53 06.8**	**+0.3**
PB12				IAML			17 53 09.0	
	comp=Z,994nm,0.5s							
PB03	**IPOC Station P**	**2.10**	**202**			**Pn**	**17 52 43.4**	**+1.0**
PB03				Sn		**Sn**	**17 53 06.8**	**-2.2**
PB03	**IPOC Station P**	**2.10**	**202**	*i* P		**Pn**	**17 52 43.2**	**+0.8**
PB03				*i* S		**Sn**	**17 53 07.5**	**-1.6**
PB03				IAML			17 53 12.5	
	comp=E,506nm,0.5s							
PB03	**IPOC Station P**	**2.10**	**202**	*e*P		**Pn**	**17 52 43.2**	**+0.8**
PB03				*e*S		**Sn**	**17 53 03.2**	**-5.8**
PB03				*e*S			17 53 09.2	
PB03				IAML			17 53 12.7	
	comp=Z,722nm,0.2s							
PB03	**IPOC Station P**	**2.10**	**202**	*e*P		**Pn**	**17 52 43.2**	**+0.8**
PB03				*e*S		**Sn**	**17 53 03.2**	**-5.8**
PB03				*e*S			17 53 09.2	
PB03				IAML			17 53 12.7	
	comp=Z,722nm,0.2s							
AP01	**Chacalluta**	**2.19**	**321**			**Pn**	**17 52 44.0**	**+0.6**
AP01	**Chacalluta**	**2.19**	**321**	⇑*i*P		**Pn**	**17 52 44.0**	**+0.6**
AP01	**Chacalluta**	**2.19**	**321**	*e*P		**Pn**	**17 52 44.0**	**+0.6**
AP01				*e*S		**Sn**	**17 53 10.4**	**-0.2**
AP01				IAML			17 53 21.7	
	comp=Z,1μm,0.6s							
AP01	**Chacalluta**	**2.19**	**321**	*e*P		**Pn**	**17 52 44.0**	**+0.6**
AP01				*e*S		**Sn**	**17 53 10.4**	**-0.2**
AP01				IAML			17 53 21.7	
	comp=Z,1μm,0.6s							
LVC	**Limon Verde**	**2.50**	**180**	P		**Pn**	**17 52 49.7**	**+1.9**
	comp=Z,52nm,0.4s,baz=41,slow=14,SNR=64							
LVC				S		**Sn**	**17 53 19.9**	**+1.4**
	comp=Z,192nm,0.4s,baz=311,slow=19,SNR=6.5							
LVC	**Limon Verde**	**2.50**	**180**			**Pn**	**17 52 48.7**	**+0.9**
LVC	**Limon Verde**	**2.50**	**180**	*i* P		**Pn**	**17 52 49.5**	**+1.7**
LVC				*e*S		**Sn**	**17 53 20.0**	**+1.4**
LVC	**Limon Verde**	**2.50**	**180**	*e*P		**Pn**	**17 52 49.4**	**+1.7**
PB04	**IPOC Station P**	**2.51**	**207**			**Pn**	**17 52 48.7**	**+0.9**
PB04	**IPOC Station P**	**2.51**	**207**	*e*P		**Pn**	**17 52 48.3**	**+0.5**
PB04				IAML			17 53 28.3	
	comp=E,633nm,0.4s							
PB04	**IPOC Station P**	**2.51**	**207**	*e*P		**Pn**	**17 52 43.2**	**-4.5**
PB04				*e*P			17 52 48.7	
PB04				*e*S		**Sn**	**17 53 18.1**	**-0.4**
PB04				IAML			17 53 43.8	
	comp=Z,454nm,0.5s							
PB04	**IPOC Station P**	**2.51**	**207**	*e*P		**Pn**	**17 52 43.2**	**-4.5**
PB04				*e*P			17 52 48.7	
PB04				*e*S		**Sn**	**17 53 18.1**	**-0.4**
PB04				IAML			17 53 43.8	
	comp=Z,454nm,0.5s							
PB06	**IPOC Station P**	**2.67**	**193**			**Pn**	**17 52 48.0**	**-1.8**
PB06	**IPOC Station P**	**2.67**	**193**	*e*P		**Pn**	**17 52 50.9**	**+1.1**
PB06				*e*S		**Sn**	**17 53 18.3**	**-3.9**
PB06				IAML			17 53 28.1	
	comp=E,465nm,0.4s							
PB06	**IPOC Station P**	**2.67**	**193**	*e*P		**Pn**	**17 52 50.7**	**+1.0**
PB06				*e*S		**Sn**	**17 53 22.6**	**+0.4**
PB06				IAML			17 53 34.3	
	comp=Z,402nm,0.8s							
PB06	**IPOC Station P**	**2.67**	**193**	*e*P		**Pn**	**17 52 50.7**	**+1.0**
PB06				*e*S		**Sn**	**17 53 22.6**	**+0.4**
PB06				IAML			17 53 34.3	
	comp=Z,402nm,0.8s							
PB10	**IPOC Station P**	**3.73**	**204**			**Pn**	**17 53 03.2**	**-0.4**
PB10	**IPOC Station P**	**3.73**	**204**	*e*P		**Pn**	**17 53 03.2**	**-0.4**
PB10	**IPOC Station P**	**3.73**	**204**	*e*P		**Pn**	**17 53 03.2**	**-0.4**
PB10				*e*S		**Sn**	**17 53 52.2**	**+5.3**
PB10				IAML			17 54 01.5	
	comp=Z,138nm,0.7s							
PB10	**IPOC Station P**	**3.73**	**204**	*e*P		**Pn**	**17 53 03.2**	**-0.4**
PB10				*e*S		**Sn**	**17 53 52.2**	**+5.3**
PB10				IAML			17 54 01.5	
	comp=Z,138nm,0.7s							
YJA	**Yavi**	**3.78**	**124**	*e*P		**Pn**	**17 53 08.0**	**+3.3**
YJA	**Yavi**	**3.78**	**124**	*e*P		**Pn**	**17 53 08.0**	**+3.3**
LPAZ	**La Paz**	**3.85**	**11**	P		**Pn**	**17 53 06.8**	**+1.0**
	comp=Z,25nm,0.4s,baz=215,slow=6.7,SNR=112							
LPAZ				S		**Sn**	**17 53 50.5**	**-0.2**
	comp=Z,22nm,0.7s,baz=193,slow=5.5,SNR=3.8							
LPAZ	**La Paz**	**3.85**	**11**			**Pn**	**17 53 06.0**	**+0.2**
LPAZ	**La Paz**	**3.85**	**11**	*e*P		**Pn**	**17 53 05.9**	**0.0**
PB14	**IPOC Station P**	**4.72**	**197**			**Pn**	**17 53 18.0**	**+0.9**
AC01	**Pan de Azucar**	**6.22**	**194**	Pn		**Pn**	**17 53 35.2**	**-1.9**
AC02	**Maricunga**	**6.71**	**182**	Pn		**Pn**	**17 53 40.9**	**-3.3**
AC06	**Mina Casimiro**	**7.35**	**190**	Pn		**Pn**	**17 53 49

GO03	Copiap	7.57	189	Pn		Pn	17 53 51.9	-3.4		
BBSD	Serra de San D	8.38	71	eP		Pn	17 54 03.3	-3.0		
SIV	San Ignacio	8.49	63	P		Pn	17 54 06.3	-1.6		
	comp=Z,24nm,0.4s,baz=254,slow=9.5,SNR=122									
SIV				S		Sn	17 55 37.1	-5.0		
	comp=Z,5.4nm,0.9s,baz=149,slow=23,SNR=3.8									
AC05	El Transito	8.79	188	Pn		Pn	17 54 09.3	-2.7		
LCO	Las Campanas	9.03	190	Pn		Pn	17 54 13.3	-2.0		
CO01	Juntas del Tor	9.90	186			Pn	17 54 24.4	-2.6		
PTLB	Pontes e Lacer	10.39	65	Pn		Pn	17 54 31.6	-1.9		
PTLB	Pontes e Lacer	10.39	65	eP		Pn	17 54 31.9	-1.6		
ETMB	Extrema	10.54	15	Pn		Pn	17 54 33.5	-2.0		
VILB	Vilhena	10.96	51	Pn		Pn	17 54 38.8	-2.4		
VILB	Vilhena	10.96	51	eP		Pn	17 54 40.8	-0.4		
CFA	Coronel Fontan	11.48	177	P		Pn	17 54 50.5	+2.5		
	comp=Z,2.2nm,0.4s,baz=356,slow=9.5,SNR=8.1									
CFA				S		Sn	17 56 44.8	-10		
	comp=Z,1.9nm,0.5s,baz=207,slow=19,SNR=2.2									
CPUP	Villa Florida	12.32	122	P		Pn	17 54 58.3	-0.8		
	comp=Z,11nm,1.0s,baz=302,slow=12,SNR=24									
CPUP	Villa Florida	12.32	122	Pn		Pn	17 54 57.1	-2.0		
SAML	Samuel	12.38	27			Pn	17 54 57.3	-2.8		
AQDB	Aquidauana	12.40	94	Pn		Pn	17 54 58.3	-1.9		
AQDB	Aquidauana	12.40	94	eP		Pn	17 54 59.5	-0.7		
RVDE	Rio Verde (Bra	13.21	88	eP		Pn	17 55 08.2	-2.6		
SALV	Santo Antonio	13.24	74	eP		Pn	17 55 09.4	-1.8		
AMBA	Amambai (Brazi	13.25	105	eP		Pn	17 55 12.1	+0.8		
PP1B	Ponte de Pedra	13.51	82	eP		Pn	17 55 14.4	-0.3		
MT09	Talagante	13.76	187	Pn		Pn	17 55 16.9	-0.9		
MT01	Popeta	13.88	188	Pn		Pn	17 55 19.2	0.0		
BO04	La Punta	13.92	186	Pn		Pn	17 55 19.5	-0.4		
AZCA	Azaras, Argent	14.22	126	eP		Pn	17 55 25.2	+1.4		
BO01	Tunca	14.37	187	P		Pn	17 55 25.1	-0.5		
MCR1	Marechal Candi	14.43	110	eP		Pn	17 55 25.2	-1.3		
BO02	Sierra Bellavi	14.74	186	P		Pn	17 55 27.6	-2.7		
C2SB	Chapadao do Su	15.21	88	eP		P	17 55 37.2	-1.4		
CRSM	Crissiumal (Br	15.46	121	eP		P	17 55 41.2	0.0		
CLDB	Colider	15.60	56	eP		Pn	17 55 41.6	+0.4		
FRBT	Francisco Belt	15.71	115	eP		P	17 55 44.0	-0.1		
ATAH	Atahualpa	15.83	323	P		P	17 55 48.2	+2.3		
	comp=Z,2.8nm,0.6s,baz=90,slow=14,SNR=2.4									
PTGB	Pitanga	16.23	110	eP		P	17 55 50.7	+0.7		
PCMB	Pacaembu	16.56	98	eP		P	17 55 53.7	+0.2		
ARAG	Araguaiana, MT	16.84	78	eP		P	17 55 57.3	+0.7		
ALGR	Alto Alegre (B	16.84	124	eP		P	17 55 57.7	+1.1		
ITAB	Concordia	16.92	118			P	17 55 58.4	+1.0		
ITAB				IAmb		IAmb	17 55 59.5			
	comp=Z,28nm,0.6s									
ITAB	Concordia	16.92	118	eP		P	17 55 58.8	+1.4		
PLTB	Pedras Altas	17.99	133	P		P	17 56 08.1	-1.0		
FRTB	Fartura	18.26	104	eP		Pn	17 56 12.7	-0.8		
NPGB	Novo Progresso	18.46	47	eP		P	17 56 13.3	-1.2		
MACA	Manacapuru-AM	18.64	27	P		P	17 56 15.7	-0.7		
MACA				IAmb		IAmb	17 56 18.9			
	comp=Z,13nm,0.8s									
SNDB	Serra Nova Dou	18.74	67	eP		P	17 56 17.8	+0.3		
CNLB	Canela	18.78	123	eP		P	17 56 18.4	+0.5		
GO06	Curarrehue	19.55	186	P		P	17 56 26.8	+0.6		
GO06				IAmb		IAmb	17 56 29.3			
	comp=Z,15nm,0.9s									
IPMB	Ipameri, GO	19.68	87	eP		P	17 56 27.9	+0.2		
SGCB	São Gabriel d	19.93	6	eP		P	17 56 30.1	-0.3		
RCLB	Rio Claro- Sao	20.05	100	eP		P	17 56 31.5	-0.2		
ITTB	Itaituba	20.22	41	eP		P	17 56 32.4	-1.1		
BDFB	Brasilia	20.37	81	P		P	17 56 34.8	-0.4		
	comp=Z,2.8nm,0.4s,baz=260,slow=11,SNR=7.2									
	comp=Z,2.8nm,0.4s									
BDFB	Brasilia	20.37	81	P		P	17 56 34.1	-1.1		
BDFB				IAmb		IAmb	17 56 36.0			
	comp=Z,25nm,1.5s									
BDFB	Brasilia	20.37	81	eP		P	17 56 35.0	-0.2		
VAO	Valinhos	20.61	102	eP		P	17 56 36.9	-0.8		
PLCA	Paso Flores	20.62	184	P		Pn	17 56 40.0	-1.1		
	comp=Z,6.2nm,0.8s,baz=357,slow=11,SNR=13									
	comp=Z,6.2nm,0.8s									
PLCA	Paso Flores	20.62	184	P		P	17 56 37.7	0.0		
PLCA	Paso Flores	20.62	184	eP		Pn	17 56 40.0	-1.1		
PRPB	Parauapebas	23.13	56	eP		P	17 57 02.6	-1.2		
SMTB	Santa Maria do	23.43	65	eP		P	17 57 06.7	+0.2		
BOAV	Boa Vista	23.81	21	P		P	17 57 09.8	-0.2		
BOAV				IAmb		IAmb	17 57 11.1			
	comp=Z,12nm,1.4s									
BOAV	Boa Vista	23.81	21	eP		P	17 57 10.5	+0.6		
DIAM	Diamantina, MG	23.89	90	eP		P	17 57 10.9	+0.1		
JANB	Januaria	23.96	82	eP		P	17 57 10.6	-0.8		
SDBA	SAO DESIDERIO	24.25	75	eP		P	17 57 13.3	-0.7		
MCPB	Macapa, AP	25.62	42	eP		P	17 57 27.5	+1.1		
RUSC	La Rusia	26.15	351	P		P	17 57 31.6	0.0		
OBIP	Obispado Ponce	37.97	4	P		P	17 59 12.5	-1.6		
CELP	Cerrillos	38.00	4	P		P	17 59 13.7	-0.6		
CELP				IAmb		IAmb	17 59 35.8			
	comp=Z,13nm,1.1s									
250A	Grady	54.38	342	P		P	18 01 20.7	-1.7		
JSC	Jenkinsville	55.34	348	P		P	18 01 27.4	-1.8		
BELA	Belgrano 2	60.13	172	P		P	18 02 03.1	+0.8		
BELA				IAmb		IAmb	18 02 40.1			
	comp=Z,4.1nm,1.3s									
LIC	Lamto	68.00	74	eP		P	18 02 54.5	-0.2		
	comp=Z,14nm,0.6s									
TIC	Toumodi	68.18	74	eP		P	18 02 55.8	-0.1		
	comp=Z,3.1nm,0.4s									
KIC	Kosan Boka	68.31	74	eP		P	18 02 56.7	0.0		
	comp=Z,16nm,0.5s									
DBIC	Dimbokro	68.34	74	P		P	18 02 57.1	+0.3		
	comp=Z,11nm,0.6s,baz=244,slow=6.6,SNR=17									
	comp=Z,11nm,0.6s									
TORD	Torodi Ar. Bea	76.88	71	P		P	18 03 47.6	+0.2		
	comp=Z,2.4nm,0.4s,baz=252,slow=5.4,SNR=35									
TORD				pP		pP	18 04 17.6	-0.9		
	comp=Z,0.6nm,0.5s,baz=249,slow=6.2,SNR=1.3									
	comp=Z,2.4nm,0.4s									
BOSA	Boshof	84.10	118	P		P	18 04 26.6	+0.5		
	comp=Z,1.5nm,0.8s,baz=284,slow=4.2,SNR=2.1									
	comp=Z,1.5nm,0.8s									
YKA	Yellowknife Ar	89.87	341	P		P	18 04 54.9	+2.2		
	comp=Z,0.8nm,0.9s,baz=138,slow=4.8,SNR=8.9									
YKA				pP		pP	18 05 24.7	+0.2		
	comp=Z,0.7nm,0.7s,baz=136,slow=4.6,SNR=5.3									
	comp=Z,0.8nm,0.9s									
ASAR	Alice Springs	131.15	208	PKP		PKiKP	18 11 07.4	0.0		
	comp=Z,0.4nm,0.8s,baz=122,slow=1.5,SNR=7.2									
WRA	Warramunga Arr	134.16	211	PKP		PKiKP	18 11 13.8	+0.2		
	comp=Z,0.5nm,0.9s,baz=150,slow=1.7,SNR=1.9									
MKAR	Makanchi Array	144.49	35	PKP		PKPdf	18 11 30.8	+0.7		
	comp=Z,0.2nm,0.5s,baz=299,slow=2.3,SNR=1.5									
SONM	Songino Array	152.06	7	PKPbc		PKiKP	18 11 51.2	+1.6		
SONM				pPKPbc		pPKPbc	18 12 23.0	+0.6		
	comp=Z,0.6nm,0.8s,baz=17,slow=1.5,SNR=3.3									

*UCR **23** 17:59:25.4±0.8, 10°.61N×85°.90W, h25km±2km, MW3.9*
*INET **23** 17:59:25.3±0.8, 10°.62N×85°.88W, h4km±8km, MW3.4*
ISC 23 17:59:25.0±1.3, **10°.60N**±0°.03×**85°.91W**±0°.04, **h15**km±9km, **n65**, σ0°.69/98, **2C-23D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
HZTE	Horizontes, Gu	0.33	70	eP		Pb	17 59 33.8		+1.2
HZTE				eS		Sn	17 59 40.8		-1.1
ALIBA	Liberia Airpor	0.36	91	eP		Pb	17 59 34.4		+1.3
HATIL	Hatillo	0.36	145	eP		Pb	17 59 33.5		+0.4
HATIL				eS		Sb	17 59 40.1		+1.4
DELF	Filadelfia	0.38	113	eP		Pb	17 59 34.2		+0.7
GBS3	Finca Las Img	0.48	68	↓iP		Pb	17 59 35.5		+0.2
LAPC	Finca la Perla	0.50	70	↓iP		Pb	17 59 35.5		0.0
LAPC				eS		Sb	17 59 43.4		+0.8
ORTG	Ortega, Santa	0.50	118	eP		Pb	17 59 35.8		+0.2
ORTG				eS		Sb	17 59 44.0		+1.2
GBS2	Las Lilas	0.51	62	↓iP		Pb	17 59 36.0		+0.3
GBS2				eS		Sb	17 59 44.0		+1.1
BUEV	Buena Vista	0.53	68	↓eP		Pb	17 59 36.2		+0.1
BUEV				eS		Sb	17 59 44.4		+0.8
GB1A	Borinquen Arri	0.55	66	eP		Pb	17 59 36.6		+0.2
LCRUZ	La Cruz	0.55	30	eP		Pb	17 59 36.9		+0.5
GPS3	Bodega del ICE	0.56	74	↓eP		Pb	17 59 36.7		+0.1
GPS3				eS		Sb	17 59 45.4		+1.0
SAJU	San Juanillo,	0.56	160	eP		Pg	17 59 36.3		+0.1
JUD3	Juan Diaz 3	0.56	140	eP		Pg	17 59 36.5		+0.3
VRLE	La Escondida,	0.57	71	eP		Pb	17 59 36.8		0.0
GPS2	Hotel Rincn d	0.57	74	↓eP		Pb	17 59 36.8		+0.1
GPS2				eS		Sb	17 59 45.8		+1.0
GP03	Hacienda Santa	0.58	73	↓eP		Pb	17 59 36.8		0.0
GP14	Hacienda Santa	0.58	74	↓iP		Pb	17 59 37.0		+0.1
GP14				eS		Sb	17 59 45.9		+1.0
GPS1	Guardaparques	0.58	72	↓iP		Pb	17 59 37.0		+0.1
GPS1				eS		Sb	17 59 45.6		+0.7
VORI	VORI	0.59	68	eP		Pb	17 59 37.3		0.0
VORI				eS		Sb	17 59 46.1		+0.6
GP77	Hacienda Santa	0.60	74	↓iP		Pb	17 59 37.3		0.0
GP77				eS		Sb	17 59 46.4		+0.8
REF1	Hacienda Santa	0.60	74	↓iP		Pb	17 59 37.3		0.0
REF1				eS		Sb	17 59 46.4		+0.9
SAAN	San Antonio	0.61	131	↑eP		Pg	17 59 37.4		+0.4
SAAN				eS		Sn	17 59 47.6		-1.1
BUAI	Buenos Aires	0.63	64	↓iP		Pn	17 59 39.1		-0.4
BAGA	Bagaces	0.64	96	eP		Pn	17 59 39.2		-0.4
NICO	Nicoya	0.65	135	eP		Pg	17 59 37.8		+0.1
LIM1	Limonal	0.65	81	↓iP		Pb	17 59 38.2		0.0
LIM1				eS		Sb	17 59 47.9		+0.8
DUNO	Dulce Nombre,	0.66	142	eP		Pg	17 59 37.9		0.0
DUNO				eS		Sb	17 59 48.2		+0.9
DUNO	Dulce Nombre,	0.66	142	eP		Pg	17 59 36.3		-1.7
GUAB	Guayabo de Bag	0.68	81	eP		Pb	17 59 38.5		-0.1
GUAB				eS		Sb	17 59 48.4		+0.6
COLC	Colonia	0.70	85	↓eP		Pb	17 59 38.9		-0.1
COLC				eS		Sb	17 59 49.0		+0.6
CAMAV	Centro de Prod	0.71	82	eP		Pb	17 59 39.1		-0.1
CAMAV				eS		Sb	17 59 49.2		+0.4
MESS	Mesas	0.72	79	↓iP		Pg	17 59 39.0		0.0
MESS				eS		Sb	17 59 49.5		+0.5
HORNC	Hornillas	0.73	81	↑eP		Pg	17 59 39.3		0.0
HORNC				eS		Sb	17 59 49.5		+0.2
CUI	Cuipilapa	0.73	85	↓iP		Pb	17 59 39.6		0.0
CUI				eS		Sb	17 59 50.0		+0.5
CLARA	Aguas Claras	0.74	76	eP		Pb	17 59 39.7		0.0
CLARA				eS		Sb	17 59 50.7		+1.0
VMAR	Armenia, Volca	0.81	75	↓eP		Pb	17 59 40.8		0.0
VMAR				eP		Pb	17 59 40.8		0.0
VMAR				eS		Sn	17 59 52.7		-1.1
MOTZ	Rio Naranjo	0.83	84	↓iP		Pg	17 59 41.1		-0.1
MOTZ				eS		Sn	17 59 53.2		-1.0
POPE	POPE, Guanacas	0.83	130	eP		Pg	17 59 40.5		-0.6
ACAL	Aguas Claras	0.86	88	↓iP		Pg	17 59 41.7		-0.1
ACAL				eS		Sb	17 59 53.9		+0.8
CANAL	Canalete	0.87	74	eP		Pb	17 59 41.6		-0.2
CANAL				eS		Sn	17 59 54.4		-0.8
PTEN	Parque Tenorio	0.91	83	↓iP		Pb	17 59 42.5		-0.1
PTEN				eS		Sn	17 59 56.9		+0.6
COTE	Lago Cote	0.98	91	↓eP		Pb	17 59 43.3		-0.4
COTE				eS		Sg	17 59 56.7		-0.1
JTS	Las Juntas de	0.99	108	eP		Pb	17 59 43.0		-0.9
CONN	Concepcion	1.00	16	eP		Pb	17 59 43.7		-0.4
CONN				eS		Sn	17 59 57.9		-0.5
VERA	Finca Concepci	1.05	76	eP		Pg	17 59 45.1		-0.3
TABAC	Tabacon	1.13	95	↓eP		Pb	17 59 45.9		-0.4
TABAC				eS		Sn	18 00 03.2		+1.5
CASO	Castillo	1.17	98	eP		Pb	17 59 46.7		-0.2
CEDE	Laguna Cedeo	1.19	95	↓eP		Pn	17 59 47.2		0.0
CEDE				eS		Sg	18 00 03.5		-0.1
LAFE	Finca La Fe, P	1.26	129	eP		Pn	17 59 46.1		-2.0
CPMI	Catarata Coope	1.54	102	eP		Pn	17 59 52.3		+0.2
ACON	Acoyapa	1.54	28	eP		Pn	17 59 51.3		-0.7
ACON	Acoyapa	1.54	28	eP		Pn	17 59 51.3		-0.7
JACO	JACO, Garabito	1.54	127	eP		Pn	17 59 52.1		+0.1
COPN	Copaltepe	1.71	337	eP		Pn	17 59 53.6		-0.7
BOAB	BOACO BROADBAN	1.85	7	eP		Pn	17 59 55.7		-0.6
MOMN	Momotombo	1.90	341	eP		Pn	17 59 56.5		-0.5
VICA	Volcano Irazu	2.12	107	eP		Pn	18 00 01.0		+0.6
RIMA	Rio Macho	2.18	112	eP		Pn	18 00 02.2		+1.3
TELN	Telica	2.19	336	eP		Pn	18 00 01.2		+0.2
ESPN	Las Esperanzas	2.24	45	eP		Pn	18 00 01.2		-0.4
MATN	Matagalpa	2.32	360	eP		Pn	18 00 02.6		-0.2
CRIN	San Cristobal	2.37	332	eP		Pn	18 00 04.2		+0.8
CRIN	San Cristobal	2.37	332	eP		Pn	18 00 04.3		+0.8
BUS1	Rivas	2.37	116	eP		Pb	18 00 06.3		-1.3

*NOU **23** 18:04:47.0, 17°.84S×178°.38W, h575km, mb4.6/74, Fiji Islands Region*
*NEIC **23** 18:04:47.6±1.2, 17°.9S±0°.2×178°.4W±0°.1, h581km±13km, mb4.8/22, Error ellipse: s-maj=27.9km s-min=19.7km az=172.0*
*IDC **23** 18:04:48.3±1.0, 18°.16S×178°.46W, h585km±10km, mb3.5/13, mbtmp4.5/15, Error ellipse: s-maj=17.6km s-min=12.7km az=137.0*
ISC 23 18:04:47.1±0.5, **17°.92S**±0°.08×**178°.34W**±0°.07, **h579**km, **n165**, σ1$**36**/166, **mb4.5**/35, **1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
LKBA	Tubou, Lakemba	0.55	236	P		P	18 05 55.2		-0.2
TAVE	Taveuni	1.92	309	P		P	18 05 59.1		-0.1
DGTI	Dogotuki	2.45	311	P		P	18 06 00.9		-0.7
MSVF	Nonsavu	3.44	273	P		P	18 06 07.4		+0.1
	438nm,0.8s,baz=124,slow=3.6,SNR=452								
MSVF				S		S	18 07 14.6		+1.9
	70nm,1.1s,baz=24,slow=20,SNR=10								
MSVF	Nonsavu	3.44	273	P		P	18 06 07.0		-0.3
MSVF	Nonsavu	3.44	273	P		P	18 06 07.5		+0.1
FUTU	Fugatoga	3.60	3	P		P	18 06 08.4		0.0
AFI	Afiamalu	7.47	59	P		P	18 06 39.5		-1.3
	118nm,0.5s,baz=230,slow=3.0,SNR=28								
AFI				S		S	18 08 06.9		-7.0
	7.1nm,0.5s,baz=27,slow=23,SNR=0.9								
NIUE	Niue	8.06	99	P		P	18 06 47.1		+0.7
	baz=8.1,SNR=5.3								
NIUE	Niue	8.06	99	P		P	18 06 47.7		+1.4
NIUE	Niue	8.06	99	P		P	18 06 47.7		+1.4
FUNA	Funafuti	9.64	345	P		P	18 06 59.9		-2.1
FUNA	Funafuti	9.64	345	P		P	18 07 01.2		-0.8
RTV	Rentapao	12.60	269	P		P	18 07 32.5		+0.5
DVP	Devils Point	12.83	269	P		P	18 07 35.0		+0.7
MARNC	Mare, Loyalty	13.31	252	P		P	18 07 35.8		-3.5
MARNC	Mare, Loyalty	13.31	252	P		P	18 07 37.8		-1.5
LIFNC	LIFOU	13.90	256	P		P	18 07 40.5		-4.8
PINNC	Pines Island,	14.13	248	P		P	18 07 44.2		-3.2
PINNC	Pines Island,	14.13	248	P		P	18 07 45.5		-2.0
YATNC	Mamie plateau,	14.48	251	P		P	18 07 49.8		-1.1
OUENC	Ouen Island, N	14.61	250	P		P	18 07 49.5		-2.7
OUENC	Ouen Island, N	14.61	250	P		P	18 07 51.4		-0.8
DZM	Mont Dzumac	14.88	251	P		P	18 07 52.5		-2.4
	25nm,0.5s,baz=237,slow=5.3,SNR=42								
DZM	Mont Dzumac	14.88	251	P		P	18 07 52.2		-2.8
DZM	Mont Dzumac	14.88	251	P		P	18 07 53.5		-1.4
NOUC	Port Laguerre	15.02	251	P		P	18 07 55.0		-1.1
KOUNC	Koumac, New Ca	16.61	258	P		P	18 08 10.0		-1.1
KOUNC	Koumac, New Ca	16.61	258	P		P	18 08 09.8		-1.3
OUZ	Omahuta	18.66	201	P		P	18 08 30.1		+0.6
KUZ	Kuaotunu	19.47	194	P		P	18 08 38.9		+2.1
MXZ	Matakaoa Point	19.79	188	P		P	18 08 35.4		-4.3
URZ	Urewera	20.65	190	P		P	18 08 44.7		-2.8
	16nm,0.6s,baz=122,slow=1.6,SNR=15								
	16nm,0.6s								
URZ	Urewera	20.65	190	P		P	18 08 47.0		-0.5
RTZ	Ruatahuna	21.02	190	P		P	18 08 48.1		-2.7
KHEZ	Kahui Hut	22.31	196	P		P	18 09 03.0		+0.6
HNR	Honiara	22.70	289	P		P	18 09 08.1		+1.9
	257nm,0.5s,baz=182,slow=3.4,SNR=2.1								
HNR	Honiara	22.70	289	P		P	18 09 03.3		-2.9
SNZO	South Karori	24.06	193	P		P	18 09 18.0		+0.2
QRZ	Quartz Range	24.14	197	P		P	18 09 19.7		+1.1
OXZ	Oxford	26.60	196	P		P	18 09 38.4		-1.9
RPZ	Rata Peaks	27.23	197	P		P	18 09 45.1		-0.7
	11nm,0.9s,baz=18,slow=3.2,SNR=2.5								
	11nm,0.9s								
RPZ	Rata Peaks	27.23	197	P		P	18 09 46.3		+0.6
FOZ	Fox Glacier	27.43	199	P		P	18 09 47.2		-0.2
JCZ	Jackson Bay	28.24	200	P		P	18 09 54.9		+0.3
EIDS	Eidsvold	29.32	250	P		P	18 10 03.1		-1.1
	baz=29,SNR=9.0								
EIDS	Eidsvold	29.32	250	P		P	18 10 02.7		-1.6
EIDS				IAmb		IAmb	18 10 04.2		
	comp=Z,15nm,0.7s								
EIDS	Eidsvold	29.32	250	P		P	18 10 03.9		-0.3
MLZ	Mavora Lakes	29.61	200	P		P	18 10 06.2		-0.2
ARMA	Armidale	29.99	240	P		P	18 10 10.5		+0.4
	baz=30,SNR=21								
ARMA	Armidale	29.99	240	P		P	18 10 10.4		+0.4
RMQ	Roma	31.56	248	P		P	18 10 23.4		0.0
	baz=32,SNR=48								
RMQ	Roma	31.56	248	P		P	18 10 23.7		+0.3
TV1H	Townsville Har	33.04	262	P		P	18 10 35.1		-0.9
CNB	Canberra Magne	33.47	232	P		P	18 10 40.1		+0.6
CTA	Charters Tower	33.51	261	P		P	18 10 39.1		-0.9
	comp=Z,9.9nm,0.5s,baz=94,slow=8.8,SNR=22								
	comp=Z,9.9nm,0.5s								
CTA	Charters Tower	33.51	261	P		P	18 10 39.3		-0.7
CTAO	Charters Tower	33.51	261	P		P	18 10 38.8		-1.2
CTAO	Charters Tower	33.51	261	P		P	18 10 39.5		-0.5
CTAO	Charters Tower	33.51	261	P		P	18 10 38.8		-1.2
CAN	Canberra	33.75	233	P		P	18 10 42.3		+0.5
CAN	Canberra	33.75	233	P		P	18 10 42.0		+0.2
PMG	Port Moresby	34.53	280	P		P	18 10 48.7		+0.2
	comp=Z,25nm,0.8s,baz=62,slow=5.3,SNR=11								
	comp=Z,25nm,0.8s								
PMG	Port Moresby	34.53	280	P		P	18 10 47.7		-0.8
PMG				IAmb		IAmb	18 10 49.6		
	comp=Z,43nm,1.1s								
PMG	Port Moresby	34.53	280	P		P	18 10 49.6		+1.1
PMG	Port Moresby	34.53	280	P		P	18 10 49.7		+1.2
PMG	Port Moresby	34.53	280	P		P	18 10 48.6		+0.2
CMSA	Cobar Meteorol	35.20	240	P		P	18 10 53.8		0.0
	baz=35,SNR=52								
CMSA	Cobar Meteorol	35.20	240	P		P	18 10 54.2		+0.3
MTSU	Mount Surprise	35.47	264	P		P	18 10 55.5		-0.9
	baz=35,SNR=18								
MTSU	Mount Surprise	35.47	264	P		P	18 10 55.8		-0.5
QLP	Quilpie	35.59	249	P		P	18 10 56.6		-0.5
	baz=36,SNR=40								
QLP	Quilpie	35.59	249	P		P	18 10 57.3		+0.1
COEN	Coen	37.17	270	P		P	18 11 10.2		-0.1
	baz=37,SNR=5.2								
COEN	Coen	37.17	270	P		P	18 11 09.8		-0.5
COEN				IAmb		IAmb	18 11 11.0		
	comp=Z,40nm,1.3s								
TOO	Toolangi	37.21	231	P		P	18 11 10.9		+0.5
	baz=37,SNR=7.1								
TOO	Toolangi	37.21	231	P		P	18 11 10.5		+0.1
TOO	Toolangi	37.21	231	P		P	18 11 11.3		+0.9
BRAT	Ballarat	38.36	232	P		P	18 11 20.8		+1.2
STKA	Stephens Creek	38.68	241	P		P	18 11 22.8		+0.5
	comp=Z,18nm,0.4s,baz=85,slow=9.8,SNR=150								
	comp=Z,18nm,0.4s								
STKA	Stephens Creek	38.68	241	P		P	18 11 22.8		+0.5
	baz=39,SNR=110								
STKA	Stephens Creek	38.68	241	P		P	18 11 22.7		+0.3
STKA	Stephens Creek	38.68	241	P		P	18 11 22.8		+0.5
INKA	Innaminka	38.80	248	P		P	18 11 24.0		+0.7
ARPS	Mount Arapiles	39.70	234	P		P	18 11 30.5		+0.1
	baz=40,SNR=6.7								
ARPS	Mount Arapiles	39.70	234	P		P	18 11 30.5		+0.1
QIS	Mount Isa	39.72	259	P		P	18 11 30.4

comp=Z,2.1nm,0.9s,baz=221,slow=5.9,SNR=15
comp=Z,2.1nm,0.9s
PDAR Pinedale Array 87.32 43 P P 18 16 36.0 +2.5
comp=Z,0.7nm,0.7s,baz=193,slow=2.6,SNR=7.8
comp=Z,0.7nm,0.7s
HHC Hu-ho-hao-te 87.33 314 *e*P **P 18 16 32.1 -1.3**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,280nm,5.7s
KMI Kunming 87.90 297 ⇑P **P 18 16 36.6 +0.1**
KMI pmax pmax
comp=Z,8.0nm,1.2s
CMAR Chiang Mai Arr 88.95 290 P **P 18 16 43.0 +1.6**
comp=Z,1.1nm,1.0s,baz=126,slow=2.1,SNR=4.8
comp=Z,1.1nm,1.0s
ELIB Princess Elisa 89.15 187 *d*P **P 18 16 42.9 +1.5**
comp=Z,4.7nm,0.7s
PZH PanZhiHua 89.22 298 P **P 18 16 43.8 +1.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.5s
WMOK Wichita Mounta 91.80 54 P **P 18 16 53.8 -0.4**
WMOK IAmb IAmb 18 17 52.1
comp=Z,3.9nm,0.8s
YKA Yellowknife Ar 94.32 25 P **P 18 17 05.6 +0.7**
comp=Z,0.2nm,0.7s,baz=248,slow=3.3,SNR=2.6
comp=Z,0.2nm,0.7s
BRTR Keskin Array B 144.84 315 PKP **PKPab 18 23 20.7 0.0**
comp=Z,1.4nm,0.8s,baz=104,slow=3.4,SNR=5.9
CLL Collm 145.49 347 *e*PKPbc **PKPab 18 23 23.0 +0.4**
comp=Z,4.0nm,1.0s
GERES GERESS Array B 147.64 345 PKPbc **PKPbc 18 23 27.1 -0.1**
comp=Z,0.6nm,0.5s,baz=27,slow=3.3,SNR=6.8

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*NEIC **23** 18:06:24.5±1.5, 18°.1S±0°.2×178°.4W±0°.1, h564km±15km, mb4.6/29, Error ellipse: s-maj=29.8km s-min=13.1km az=207.0*
*IDC **23** 18:06:26.2±2.8, 18°.20S×178°.54W, h584km±12km, mb3.9/6, mbtmp4.9/8, Error ellipse: s-maj=52.5km s-min=24.3km az=45.0*
ISC 23 18:06:24.7±1.1, 18°.0S±0°.2×178°.4W±0°.1, h579km, n47, σ1§14/48, mb4.6/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.37**	**274**	P	**P**	**18 07 44.9**	**+0.4**
	79nm,0.8s,baz=125,slow=9.1,SNR=6.8						
MSVF				S	**S**	**18 08 51.3**	**+1.9**
	33nm,1.2s,baz=27,slow=19,SNR=2.6						
MSVF	**Nonsavu**	**3.37**	**274**	P	**P**	**18 07 43.4**	**-1.0**
AFI	**Afiamalu**	**7.58**	**58**	P	P	18 08 16.0	-3.5
NIUE	**Niue**	**8.13**	**99**	P	**P**	**18 08 23.2**	**-1.4**
MARNC	**Mare, Loyalty**	**13.21**	**253**	P	**P**	**18 09 13.8**	**-1.9**
LIFNC	**LIFOU**	**13.80**	**256**	P	**P**	**18 09 18.3**	**-3.6**
PINNC	**Pines Island,**	**14.02**	**249**	P	**P**	**18 09 23.4**	**-0.7**
OUENC	**Ouen Island, N**	**14.51**	**250**	P	**P**	**18 09 27.6**	**-1.2**
DZM	**Mont Dzumac**	**14.78**	**252**	P	**P**	**18 09 31.3**	**-0.2**
	18nm,0.6s,baz=146,slow=18,SNR=6.6						
DZM	**Mont Dzumac**	**14.78**	**252**	P	**P**	**18 09 30.9**	**-0.7**
KOUNC	**Koumac, New Ca**	**16.52**	**258**	P	**P**	**18 09 47.8**	**0.0**
URZ	**Urewera**	**20.56**	**190**	P	**P**	**18 10 22.7**	**-1.5**
	11nm,0.5s,baz=3.7,slow=1.6,SNR=6.9						
	11nm,0.5s						
TCW	**Tory Channel**	**23.96**	**194**	P	**P**	**18 10 54.2**	**-0.4**
GVZ	**Greta Valley S**	**25.92**	**194**	P	**P**	**18 11 10.5**	**-1.4**
LTZ	**Lake Taylor**	**25.94**	**196**	P	**P**	**18 11 11.3**	**-0.7**
LTZ				IAmb	IAmb	18 11 39.9	
	comp=Z,24nm,1.2s						
FOZ	**Fox Glacier**	**27.32**	**199**	P	**P**	**18 11 24.4**	**+0.3**
LBZ	**Lake Benmore**	**27.99**	**198**	P	**P**	**18 11 29.4**	**-0.6**
LBZ				IAmb	IAmb	18 11 37.7	
	comp=Z,50nm,1.4s						
WKZ	**Wanaka**	**28.74**	**199**	P	**P**	**18 11 35.7**	**-0.8**
EIDS	**Eidsvold**	**29.22**	**250**	P	**P**	**18 11 40.8**	**-0.1**
EIDS				IAmb	IAmb	18 11 41.6	
	comp=Z,11nm,0.7s						
ARMA	**Armidale**	**29.88**	**240**	P	**P**	**18 11 48.0**	**+1.3**
ARMA				IAmb	IAmb	18 11 48.6	
	comp=Z,9.4nm,0.7s						
CTA	**Charters Tower**	**33.41**	**261**	P	**P**	**18 12 16.5**	**-0.3**
	comp=Z,6.5nm,0.6s,baz=88,slow=8.8,SNR=7.5						
	comp=Z,6.5nm,0.6s						
CTAO	**Charters Tower**	**33.41**	**261**	P	**P**	**18 12 15.8**	**-1.0**
CTAO				IAmb	IAmb	18 12 16.7	
	comp=Z,11nm,1.1s						
CAN	**Canberra**	**33.63**	**233**	P	**P**	**18 12 18.4**	**0.0**
CAN				IAmb	IAmb	18 12 31.2	
	comp=Z,58nm,1.5s						
PMG	**Port Moresby**	**34.46**	**280**	P	**P**	**18 12 25.8**	**+0.4**
	comp=Z,11nm,0.8s,baz=97,slow=6.2,SNR=4.4						
	comp=Z,11nm,0.8s						
PMG	**Port Moresby**	**34.46**	**280**	P	**P**	**18 12 26.2**	**+0.8**
PMG				IAmb	IAmb	18 13 07.1	
	comp=Z,20nm,1.2s						
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**18 12 48.9**	**+1.9**
TOO				IAmb	IAmb	18 12 49.2	
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**18 13 00.0**	**+1.0**
	comp=Z,12nm,0.5s,baz=95,slow=7.9,SNR=10						
	comp=Z,12nm,0.5s						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**18 13 00.2**	**+1.2**
BBOO	**Buckleboo**	**43.35**	**241**	P	**P**	**18 13 37.7**	**+0.9**
WR0	**Warramunga Arr**	**44.41**	**260**	P	**P**	**18 13 45.3**	**+0.1**
WB0	**Warramunga Arr**	**44.56**	**260**	P	**P**	**18 13 46.2**	**-0.2**
WB0				IAmb	IAmb	18 13 46.5	
	comp=Z,6.1nm,0.6s						
WB2	**Warramunga Arr**	**44.59**	**260**	P	**P**	**18 13 46.0**	**-0.5**
WB2				IAmb	IAmb	18 13 46.5	
	comp=Z,6.6nm,0.7s						
WRAB	**Tennant Creek**	**44.59**	**260**	P	**P**	**18 13 46.0**	**-0.6**
WRAB				IAmb	IAmb	18 14 11.6	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	**18 13 46.3**	**-0.3**
	comp=Z,4.9nm,0.5s,baz=94,slow=7.1,SNR=14						
	comp=Z,4.9nm,0.5s						
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	**18 13 45.8**	**-0.8**
AS31	**Alice Springs**	**44.75**	**254**	P	**P**	**18 13 48.2**	**+0.4**
AS31				IAmb	IAmb	18 13 48.9	
	comp=Z,18nm,0.6s						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**18 13 48.0**	**+0.2**
	comp=Z,60nm,0.6s,baz=87,slow=8.4,SNR=61						
ASAR				S	**S**	**18 19 41.4**	**-2.2**
	comp=Z,1.9nm,1.2s,baz=76,slow=16,SNR=5.0						
	comp=Z,60nm,0.6s						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**18 13 48.2**	**+0.4**
FORT	**Forrest**	**49.95**	**245**	P	**P**	**18 14 26.0**	**-0.6**
KNRA	**Kununurra**	**50.46**	**264**	P	**P**	**18 14 30.1**	**-0.4**
KNRA				IAmb	IAmb	18 15 10.2	
	comp=Z,55nm,1.5s						
FITZ	**Fitzroy Crossi**	**53.00**	**261**	P	**P**	**18 14 49.0**	**+0.4**
PSA00	**Pilbara Seismi**	**57.87**	**255**	P	**P**	**18 15 22.4**	**0.0**
PSA00				IAmb	IAmb	18 15 27.3	
	comp=Z,25nm,1.3s						
MBWA	**Marble Bar**	**58.03**	**256**	P	**P**	**18 15 23.3**	**-0.2**
GIRL	**Giralia**	**62.85**	**253**	P	**P**	**18 15 56.6**	**+1.4**
QSPA	**South Pole Qui**	**72.05**	**180**	P	**P**	**18 16 52.0**	**+1.3**
BELA	**Belgrano 2**	**82.07**	**173**	P	**P**	**18 17 44.1**	**-0.7**
MAW	**Mawson**	**83.77**	**200**	P	**P**	**18 17 55.6**	**+2.3**
MAW				IAmb	IAmb	18 18 22.9	
	comp=Z,41nm,1.5s						

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*IDC **23** 18:55:55.4±2.0, 40°.54N×142°.53E, h0km, mb3.4/2, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=51.3km s-min=31.6km az=128.0*
*JMA **23** 18:55:59.3±0.1, 40°.5N±0°.3×142°.6E±0°.6, h26km±1km, MV3.5/39, E OFF AOMORI PREF*
ISC 23 18:55:57.3±1.6, 40°.52N±0°.04×142°.60E±0°.05, h15km±10km, n19, σ0§70/29, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKEN	**Kujiedanarisaw**	**0.75**	**245**	⇓P	**Pn**	**18 56 13.4**	**+0.2**
JKEN				⇓S	**Sn**	**18 56 23.5**	**-0.8**
JTH	**Tanohata**	**0.81**	**224**	⇓P	**Pn**	**18 56 14.5**	**+0.4**
JTH				⇓*e*S	**Sn**	**18 56 25.6**	**-0.3**
JANG	**Nango**	**0.84**	**260**	⇓P	**Pn**	**18 56 15.2**	**+0.6**
JANG				⇓S	**Sn**	**18 56 26.3**	**-0.3**
JARK	**Aomorirokkasho**	**1.05**	**298**	P	**Pn**	**18 56 18.5**	**+1.0**
JARK				S	**Sn**	**18 56 31.6**	**-0.3**
JKZ	**Kuzumaki**	**1.11**	**241**	*i* P	**Pg**	**18 56 18.9**	**+0.2**
JKZ				S	**Sn**	**18 56 33.6**	**+0.2**
JTM	**Tenmabayashi**	**1.19**	**283**	*i* P	**Pg**	**18 56 20.7**	**+0.4**
JTM				S	**Sg**	**18 56 36.0**	**+0.2**
JOM	**Ohasama**	**1.45**	**224**	P	**Pg**	**18 56 24.6**	**-0.6**
JOM				S	**Sb**	**18 56 42.5**	**+0.3**
JOT	**Ohata**	**1.45**	**307**	*i* P	**Pg**	**18 56 24.5**	**-0.8**
JOT				S	**Sb**	**18 56 43.1**	**+0.8**
JAH	**Hinai**	**1.54**	**258**	⇓*i* P	**Pg**	**18 56 26.3**	**-0.6**
JAH				⇓S	**Sb**	**18 56 45.5**	**+0.9**
JEM	**Erimo**	**1.55**	**16**	P	**Pb**	**18 56 25.5**	**-0.1**
JEM				*e*S	**Sb**	**18 56 45.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.76**	**4**	P	**Pb**	**18 56 28.9**	**-0.3**
JNBK				*e*S	**Sb**	**18 56 50.8**	**-0.3**
JKB	**Kayabe**	**1.80**	**320**	P	**Pb**	**18 56 29.7**	**-0.2**
JKB				S	**Sb**	**18 56 51.8**	**-0.6**
ASAJ	**Asahikawa**	**3.59**	**360**	Pn	**Pn**	**18 56 54.1**	**+1.7**
	2.9nm,0.3s,baz=219,slow=12,SNR=13						
ASAJ				Sn	**Sn**	**18 57 33.4**	**-1.1**
	0.7nm,0.3s,baz=41,slow=25,SNR=1.6						
	5.5nm,0.3s						
MJAR	**Matsushiro Arr**	**5.26**	**222**	Pn	**Pn**	**18 57 16.3**	**+1.0**
	0.2nm,0.3s,baz=35,slow=14,SNR=7.9						
	2.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.34**	**128**	T	T	19 32 53.7	
	baz=319,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**29.36**	**128**	T	T	19 32 58.5	
	baz=319,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**29.36**	**128**	T	T	19 32 56.6	
	baz=319,slow=75,SNR=7.4						
MKAR	**Makanchi Array**	**43.14**	**299**	P	**P**	**19 03 56.1**	**-1.0**
	0.2nm,0.6s,baz=85,slow=9.6,SNR=2.0						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**74.58**	**47**	P	**P**	**19 07 36.3**	**+0.4**
	1.1nm,1.2s,baz=292,slow=3.6,SNR=3.6						
	1.1nm,1.2s						

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*VAO **23** 19:00:10.4±3.1, 24°.42S×67°.81W, h246km±33km, mb4.1*
*NEIC **23** 19:00:12.5±0.8, 24°.24S±0°.03×67°.6W±0°.2, h224km±20km, mb4.3/1, ML4.2(GUC), Error ellipse: s-maj=26.8km s-min=3.8km az=89.0*
*GUC **23** 19:00:14.3±0.6, 23°.99S×67°.73W, h220km±8km, ML4.2*
*IDC **23** 19:00:17.3±2.6, 23°.83S×66°.91W, h201km±30km, mb3.4/1, mbtmp4.0/4, Error ellipse: s-maj=31.9km s-min=21.6km az=106.0*
ISC 23 19:00:11.9±0.8, 24°.24S±0°.05×67°.45W±0°.09, h205km±13km, n54, σ1§00/65, 8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.10**	**320**	Pn	**Pn**	**19 00 52.6**	**+0.3**
LVC	**Limon Verde**	**2.10**	**320**	⇑*e*P	**Pn**	**19 00 53.4**	**+1.1**
LVC				*e*S	**S**	**19 01 23.5**	**+0.3**
LVC	**Limon Verde**	**2.10**	**320**	*e*P	**Pn**	**19 00 53.3**	**+1.0**
PB06	**IPOC Station P**	**2.47**	**308**		**Pn**	**19 00 56.7**	**+0.7**
PB06	**IPOC Station P**	**2.47**	**308**	*e*P	**Pn**	**19 00 56.9**	**+0.9**
PB06				*e*S	**S**	**19 01 29.8**	**0.0**
PB06				IAML		19 01 31.4	
	comp=E,978nm,0.1s						
PB14	**IPOC Station P**	**2.72**	**261**	Pn	**Pn**	**19 00 59.0**	**+0.1**
PB10	**IPOC Station P**	**2.93**	**284**	Pn	**Pn**	**19 01 02.0**	**+1.0**
PB10	**IPOC Station P**	**2.93**	**284**	⇑*i* P	**Pn**	**19 01 02.9**	**+1.9**
PB10				*e*S	**S**	**19 01 39.0**	**+0.2**
PB10				IAML		19 01 48.2	
	comp=N,203nm,0.3s						
PB09	**IPOC Station P**	**2.94**	**325**		**Pn**	**19 01 02.4**	**+1.1**
PB09	**IPOC Station P**	**2.94**	**325**	⇑*i* P	**Pn**	**19 01 03.0**	**+1.8**
PB09				*e*S	**S**	**19 01 39.4**	**+0.1**
PB09				IAML		19 01 41.6	
	comp=N,325nm,0.4s						
AC02	**Maricunga**	**3.00**	**210**	Pn	**Pn**	**19 01 03.2**	**+0.9**
PB03	**IPOC Station P**	**3.04**	**315**		**Pn**	**19 01 03.0**	**+0.6**
PB03	**IPOC Station P**	**3.04**	**315**	⇑*e*P	**Pn**	**19 01 03.8**	**+1.3**
PB03				*e*S	**S**	**19 01 41.1**	**-0.2**
PB03				IAML		19 01 44.2	
	comp=E,417nm,0.3s						
PB04	**IPOC Station P**	**3.12**	**307**	Pn	**Pn**	**19 01 03.6**	**+0.2**
PB04	**IPOC Station P**	**3.12**	**307**	⇑*e*P	**Pn**	**19 01 04.6**	**+1.2**
PB04				*e*S	**S**	**19 01 42.8**	**-0.4**
PB04				IAML		19 01 48.1	
	comp=N,468nm,0.4s						
PB07	**IPOC Station P**	**3.36**	**318**		**Pn**	**19 01 07.1**	**+0.9**
PB07	**IPOC Station P**	**3.36**	**318**	⇑*e*P	**Pn**	**19 01 07.5**	**+1.3**
PB07				*e*S	**S**	**19 01 47.6**	**-0.6**
PB07				IAML		19 01 49.7	
	comp=E,453nm,0.5s						
AC01	**Pan de Azucar**	**3.43**	**236**	Pn	**Pn**	**19 01 07.4**	**+0.5**
AC01	**Pan de Azucar**	**3.43**	**236**	⇑*e*P	**Pn**	**19 01 07.3**	**+0.5**
AC01				*e*S	**S**	**19 01 49.5**	**0.0**
PB02	**IPOC Station P**	**3.68**	**322**		**Pn**	**19 01 10.5**	**+0.4**
PB02	**IPOC Station P**	**3.68**	**322**	⇑*e*P	**Pn**	**19 01 10.9**	**+0.8**
PB02				*e*S	**S**	**19 01 54.0**	**-1.1**
PB01	**IPOC Station P**	**3.69**	**329**		**Pn**	**19 01 10.5**	**+0.3**
PB01	**IPOC Station P**	**3.69**	**329**	⇓*e*P	**Pn**	**19 01 10.9**	**+0.7**
PB01				*e*S	**S**	**19 01 54.6**	**-0.8**
AC06	**Mina Casimiro**	**4.06**	**219**		**Pn**	**19 01 14.6**	**-0.1**
AC06	**Mina Casimiro**	**4.06**	**219**	*i* P	**Pn**	**19 01 14.6**	**-0.1**
GO03	**Copiap**	**4.18**	**216**		**Pn**	**19 01 15.7**	**-0.5**
GO03	**Copiap**	**4.18**	**216**	*i* P	**Pn**	**19 01 15.6**	**-0.5**
PATCX	**Punta Patache**	**4.22**	**323**	Pn	**Pn**	**19 01 17.3**	**+0.6**
PATCX	**Punta Patache**	**4.22**	**323**	*i* P	**Pn**	**19 01 17.4**	**+0.6**
PATCX				*i* S	**S**	**19 02 06.1**	**-1.1**
TA01	**Diego Aracena**	**4.44**	**325**	Pn	**Pn**	**19 01 18.6**	**-0.8**
GO01	**Chusmiza**	**4.82**	**340**		**Pn**	**19 01 25.0**	**+0.2**
PB11	**IPOC Station P**	**4.90**	**335**		**Pn**	**19 01 25.3**	**-0.1**
AC04	**Llanos de Chal**	**5.12**	**219**	Pn	**Pn**	**19 01 27.4**	**-0.6**
AC05	**El Transito**	**5.23**	**208**		**Pn**	**19 01 29.2**	**-0.3**
PSGCX	**Pisagua**	**5.24**	**331**		**Pn**	**19 01 29.1**	**-0.5**
MNMC	**Minye Minye**	**5.46**	**338**		**Pn**	**19 01 30.9**	**-1.7**
LCO	**Las Campanas**	**5.58**	**211**		**Pn**	**19 01 33.1**	**-0.9**
PB16	**IPOC Station P**	**6.18**	**342**	Pn	**Pn**	**19 01 42.5**	**+0.3**
CO01	**Juntas del Tor**	**6.18**	**202**	Pn	**Pn**	**19 01 41.4**	**-0.5**
PB12	**IPOC Station P**	**6.20**	**334**	Pn	**Pn**	**19 01 40.1**	**-1.9**
CO02	**Combarbal**	**7.62**	**204**	Pn	**Pn**	**19 02 00.2**	**-0.1**
LPAZ	**La Paz**	**7.93**	**355**	P	**Pn**	**19 02 06.7**	**+1.7**
	comp=E,6.0nm,0.3s,baz=165,slow=9.0,SNR=8.2						
LPAZ				S	**S**	**19 03 31.5**	**-3.4**
	baz=104,slow=12						
FRBT	**Francisco Belt**	**13.15**	**101**	*e*P	**Pn**	**19 03 11.1**	**-0.1**
BI05	**Punta Hualpn**	**13.41**	**200**		**P**	**19 03 15.1**	**-1.7**
PTGB	**Pitanga**	**14.02**	**95**	*e*P	**P**	**19 03 24.1**	**+0.3**
PLCA	**Paso Flores**	**16.66**	**188**	P	Pn	19 04 03.3	+9.5
	comp=E,1.1nm,0.6s,baz=1.1,slow=7.8,SNR=4.8						
VAO	**Valinhos**	**18.81**	**90**	*e*P	**P**	**19 04 15.3**	**-1.0**
IPMB	**Ipameri, GO**	**18.99**	**75**	*e*P	**P**	**19 04 17.8**	**-0.5**
SNDB	**Serra Nova Dou**	**19.58**	**54**	*e*P	**P**	**19 04 24.1**	**-0.5**
BDFB	**Brasilia**	**20.16**	**69**	P	**P**	**19 04 30.1**	**-0.8**
	comp=E,7.2nm,0.7s,baz=252,slow=11,SNR=9.8						
BDFB	**Brasilia**	**20.16**	**69**	P	**P**	**19 04 31.0**	**+0.2**
BDFB				IAmb	IAmb	19 04 31.7	
	comp=Z,12nm,1.1s						
BDFB	**Brasilia**	**20.16**	**69**	*e*P	**P**	**19 04 30.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**77.04**	**69**	P	**P**	**19 11 44.8**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=255,slow=5.7,SNR=4.2						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**146.97**	**39**	PKPbc	**PKiKP**	**19 19 33.8**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=274,slow=3.3,SNR=4.1						

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*HVO **23** 19:13:17.4±1.9, 19°.31N±0°.01×155°.81W±0°.02, h13km±2km, ML3.3/44, ML3.3/50(NEIC), Error ellipse: s-maj=2.3km s-min=1.4km az=58.0*
NEIC 23 19:13:15.0±1.9, 19°.28N±0°.04×155°.82W±0°.04, h27km±7km, Error ellipse: s-maj=7.5km s-min=3.9km az=223.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHU	**Kahuku**	**0.19**	**100**		Pn	19 13 21.9	-0.4
KHU					Sb	19 13 25.0	-0.1
KHU				IAML		19 13 25.3	
	comp=N,7μm,0.4s						
KHU				IAML		19 13 25.4	
	comp=E,8μm,0.4s						
CPH	**Captain Cook**	**0.23**	**335**		Pb	19 13 20.8	-0.4
CPH					Sb	19 13 23.1	-2.4
MWH	**Moku'aweowe**	**0.29**	**45**		Pb	19 13 23.2	+0.7
MWH					Sb	19 13 27.3	-0.3
MWH				IAML		19 13 27.7	
	comp=N,4μm,0.3s						
MWH				IAML		19 13 31.8	
	comp=E,4μm,0.3s						
ALEP	**Alea Permanent**	**0.31**	**32**		Pb	19 13 22.8	+0.2
ALEP					Sb	19 13 27.5	-0.3
HPO	**Honuapo**	**0.31**	**127**		Pn	19 13 23.1	-0.6
HPO					Sn	19 13 28.5	-1.0
KHLU	**Kahalu`u**	**0.32**	**347**		Pb	19 13 23.2	+0.6
KHLU					Sb	19 13 27.4	-0.3
KHLU				IAML		19 13 30.0	
	comp=N,3μm,0.1s						
MLOA	**Mauna Loa Obse**	**0.34**	**42**		Pn	19 13 24.0	-0.6
MLOA					Sb	19 13 28.6	-0.1
MLOA				IAML		19 13 28.9	
	comp=N,7μm,0.4s						
MLOA				IAML		19 13 34.1	
	comp=E,5μm,0.3s						
AIN	**Ainahou**	**0.35**	**75**		Pn	19 13 24.1	-0.3
AIN					Sb	19 13 29.2	+0.6
AIN				IAML		19 13 29.7	
	comp=N,4μm,0.3s						
HTC	**Hot Caves**	**0.40**	**96**		Pb	19 13 24.0	+0.3
HUH	**Hualalai**	**0.40**	**358**		Pn	19 13 25.2	-0.1
HUH					Sn	19 13 31.2	-0.9
HUH				IAML		19 13 35.0	
	comp=E,5μm,0.3s						
KKH	**Kailua Kona**	**0.42**	**333**		Pb	19 13 24.0	0.0
KKH					Sb	19 13 30.6	+0.4
HMH	**Humu'ula Sheep**	**0.45**	**44**		Pn	19 13 25.6	-0.4
HMH					Sn	19 13 33.1	-0.2
MLH	**Mauna Loa**	**0.46**	**62**		Pn	19 13 25.8	-0.2
MLH				IAML		19 13 35.4	
	comp=E,2μm,0.3s						
MLH				IAML		19 13 41.2	
	comp=N,3μm,0.5s						
HLP	**Hilina Pali**	**0.48**	**88**		Pn	19 13 26.3	+0.1
HLP					Sn	19 13 33.8	+0.1
HLP				IAML		19 13 34.8	
	comp=N,3μm,0.2s						
HLP				IAML		19 13 41.0	
	comp=E,3μm,0.5s						
WRMHI	**West Rim**	**0.51**	**75**		Pb	19 13 25.2	-0.2
SDHHI	**Sand Hill**	**0.51**	**77**		Pb	19 13 25.4	-0.1
UWE	**Uwekahuna**	**0.52**	**74**		Pn	19 13 26.6	-0.1
UWE					Sn	19 13 34.8	+0.1
OBL	**Observatory Le**	**0.52**	**75**		Pn	19 13 26.7	-0.1
NPH	**North Pit**	**0.52**	**75**		Pn	19 13 26.5	-0.3
NPH				IAML		19 13 38.6	
	comp=N,2μm,0.3s						
RIM	**Rim**	**0.53**	**77**		Pb	19 13 26.0	+0.2
RIM				IAML		19 13 35.0	
	comp=N,2μm,0.3s						
RIM				IAML		19 13 39.1	
	comp=E,2μm,0.4s						
RIM	**Rim**	**0.53**	**77**		Sb	19 13 33.8	+0.7
UWB	**Uwekahuna B**	**0.53**	**74**		Pb	19 13 26.3	+0.4
UWB					Sb	19 13 34.1	+0.9
UWB				IAML		19 13 34.9	
	comp=E,2μm,0.5s						
KKO	**Keanakako`i**	**0.53**	**77**		Pb	19 13 26.4	+0.5
KKO				IAML		19 13 34.6	
	comp=E,2μm,0.3s						
KKO				IAML		19 13 42.8	
	comp=N,4μm,0.6s						
SBLHI	**Steaming Bluff**	**0.54**	**74**		Pn	19 13 26.7	-0.3
SBLHI					Sb	19 13 34.1	+0.7
RSD	**Rainshed**	**0.54**	**70**		Sn	19 13 34.7	-0.7
BYL	**Byron's Ledge**	**0.54**	**76**		Pb	19 13 26.5	+0.5
BYL				IAML		19 13 35.5	
	comp=E,3μm,0.5s						
BYL				IAML		19 13 45.9	
	comp=N,2μm,0.9s						
BYL	**Byron's Ledge**	**0.54**	**76**		Sb	19 13 34.5	+0.9
HATHI	**Halema'uma'u T**	**0.54**	**75**		Pn	19 13 26.7	-0.4
HATHI				IAML		19 13 42.3	
	comp=N,3μm,0.6s						
HATHI	**Halema'uma'u T**	**0.54**	**75**		Sb	19 13 34.1	+0.4
POHA	**Pohakuloa**	**0.55**	**29**		Pn	19 13 27.0	-0.3
POHA				IAML		19 13 40.5	
	comp=N,2μm,0.3s						
POHA				IAML		19 13 41.0	
	comp=N,2μm,0.5s						
PUH	**Pauahi**	**0.58**	**80**		Pn	19 13 27.1	-0.4
PUH				IAML		19 13 36.1	
	comp=E,2μm,0.5s						
PUH	**Pauahi**	**0.58**	**80**		Sb	19 13 34.4	-0.1
KNHH	**Kane Nui o Ham**	**0.62**	**81**		Pb	19 13 26.8	-0.6
STCH	**Steam Cracks**	**0.66**	**81**		Pb	19 13 28.2	+0.2
STCH				IAML		19 13 43.0	
	comp=E,1μm,0.6s						
NPOC	**North of Pu'u**	**0.68**	**80**		Pb	19 13 28.1	-0.2
JCUZ	**Jacuzzi**	**0.68**	**81**		Sb	19 13 37.7	+0.2
JCUZ	**Jacuzzi**	**0.68**	**81**		Pn	19 13 29.3	+0.3
JCUZ				IAML		19 13 40.2	
	comp=E,986nm,1.0s						
JCUZ				IAML		19 13 49.5	
	comp=N,634nm,1.3s						
HPAH	**Hawaii Prepara**	**0.76**	**9**		Pb	19 13 29.8	+0.1
MHA	**Mahukona**	**0.91**	**355**	Pg	Pb	19 13 32.2	+0.1
HLK	**Haleakala**	**1.53**	**345**	Pn	Pn	19 13 40.7	-0.1

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*IDC **23** 19:38:22.9±2.5, 30°.50S×178°.91W, h219km±21km, mb3.9/6, mbtmp4.4/8, Error ellipse: s-maj=21.2km s-min=18.8km az=134.0*
ISC 23 19:38:21.0±0.7, 30°.52S±0°.07×179°.0W±0°.1, h200km, n62, σ2§62/57, mb4.1/6, Kermadec Islands

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

VNA3	**Neumayer Olymp**	**78.24 176**	P	**P**	**19 50 00.6**	**+2.5**
VNA2	**Neumayer--Watz**	**78.67 177**	P	**P**	**19 50 03.2**	**+2.8**
	baz=188,slow=3.0					
VNA1	**Neumayer--Stat**	**78.90 177**	P	**P**	**19 50 04.4**	**+2.8**
PETK	**Petropavlovsk-**	**85.72 346**	P	**P**	**19 50 36.0**	**-1.0**
	4.0nm,0.6s,baz=115,slow=7.8,SNR=7.2					
	4.0nm,0.6s					
NVAR	**Mina Array Bea**	**88.89 43**	P	**P**	**19 50 53.4**	**+0.6**
	1.1nm,0.9s,baz=228,slow=3.8,SNR=4.4					
	1.1nm,0.9s					
MKAR	**Makanchi Array**	**117.20 310**	PKP	**PKPdf**	**19 56 40.5**	**-1.6**
	0.5nm,0.7s,baz=102,slow=1.4,SNR=8.1					
KURBB	**Kurchatov Arra**	**120.56 314**	PKP	**PKPdf**	**19 56 46.9**	**-1.4**
	1.5nm,0.7s,baz=110,slow=2.0,SNR=18					
AAK	**Ala-Archa**	**121.48 304**	PKP	**PKPdf**	**19 56 49.3**	**-1.4**
	0.5nm,0.4s,baz=176,slow=5.7,SNR=4.1					
BVAR	**Borovoye Array**	**125.90 316**	PKP	**PKPdf**	**19 56 57.9**	**-0.6**
	2.0nm,0.7s,baz=90,slow=1.5,SNR=11					
GEYT	**Alibeck**	**132.85 295**	PKP	**PKPdf**	**19 57 12.3**	**0.0**
	0.3nm,0.4s,baz=194,slow=5.5,SNR=3.5					
AKTO	**Aktyubinsk**	**133.56 312**	PKP	**PKPdf**	**19 57 13.3**	**+0.2**
	1.0nm,0.6s,baz=101,slow=3.2,SNR=4.1					
ARCES	**ARCESS Array B**	**138.52 347**	PKhKP	PKPpre	19 57 12.9	
	3.1nm,1.0s,baz=77,slow=5.5,SNR=3.8					
KBZ	**Khabaz**	**144.48 304**	PKP	**PKPab**	**19 57 31.5**	**-0.7**
	1.5nm,0.9s,baz=90,slow=4.5,SNR=3.6					
FINES	**FINESS Array B**	**144.96 339**	PKP	PKPbc	19 57 31.9	-1.3
	14nm,0.6s,baz=53,slow=3.7,SNR=85					
NB2	**NORSAR Subarra**	**148.73 350**	PKP	**PKPbc**	**19 57 42.7**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=16,slow=4.1					
NOA	**NORSAR Array B**	**148.73 350**	PKPbc	**PKPbc**	**19 57 42.8**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=16,slow=4.2,SNR=11					
ASF	**Jabal al Asfar**	**149.41 282**	PKPbc	**PKPbc**	**19 57 46.5**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=13,slow=12,SNR=4.5					
EIL	**Elat**	**150.70 277**	PKPbc	**PKPbc**	**19 57 49.7**	**0.0**
	comp=Z,6.1nm,0.7s,baz=304,slow=6.6,SNR=6.7					
AKASG	**Malin Array Be**	**150.88 322**	PKPbc	**PKPbc**	**19 57 48.6**	**-0.8**
	comp=Z,6.4nm,0.7s,baz=49,slow=2.9,SNR=27					
BRTR	**Keskin Array B**	**151.91 298**	PKPbc	**PKPbc**	**19 57 51.6**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=142,slow=4.9,SNR=18					
GERES	**GERESS Array B**	**159.31 336**	PKPab	**PKPab**	**19 58 32.5**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=57,slow=4.9,SNR=5.0					
TORD	**Torodi Ar. Bea**	**162.71 182**	PKPab	**PKPab**	**19 58 50.6**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=170,slow=3.7,SNR=9.4					

*IDC **23** 19:49:05.1±0.6,60°.28S×26°.16W,h0km,mb4.4/11, mbtmp4.3/11,MS3.6/12,Error ellipse: s-maj=21.5km s-min=19.2km az=46.0*
*NEIC **23** 19:49:06.4±1.9,60°.28S±0°.07×25°.9W±0°.2,h10km±1km, mb4.8/53,Error ellipse: s-maj=15.5km s-min=11.4km az=117.0*

ISC 23 19:49:08.7±0.4,60°.35S±0°.09×26°.0W±0°.1,h28km,n93, σ1§23/81,mb4.8/35,MS3.6/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.62**	**152**	P	**Pn**	**19 52 03.4**	**-2.7**
VNA3	**Neumayer Olymp**	**12.76**	**156**	P	**Pn**	**19 52 05.1**	**-2.8**
VNA3				S	Sn	19 54 10.9	-18
VNA2	**Neumayer--Watz**	**13.02**	**152**	P	**Pn**	**19 52 08.9**	**-2.6**
	baz=311,slow=13						
VNA2				S	Sn	19 54 21.4	-14
SNAA	**Sanae**	**14.62**	**150**	P	**Pn**	**19 52 30.0**	**-3.2**
SNAA				S	Sn	19 55 01.5	-13
SNAA	**Sanae**	**14.62**	**150**	Pn	**Pn**	**19 52 30.2**	**-3.1**
	2.7nm,0.3s,baz=354,slow=7.5,SNR=66						
SNAA				Sn	Sn	19 54 58.7	-15
	0.1nm,0.3s,baz=239,slow=13,SNR=2.1						
SNAA				LR	LR	19 56 57.8	
	comp=Z,260nm,19.6s,baz=336,slow=32						
TROLL	**Troll, Antarti**	**16.19**	**148**	P	**Pn**	**19 52 51.2**	**-2.7**
TROLL				S	Sn	19 55 37.1	-15
BELA	**Belgrano 2**	**17.84**	**186**	P	**Pn**	**19 53 15.0**	**+0.1**
EFI	**East Falkland**	**19.72**	**282**	Pn	**Pn**	**19 53 37.4**	**+0.2**
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**19 55 14.1**	**+0.5**
	15nm,0.9s,baz=351,slow=5.6,SNR=3.1						
QSPA				LR	LR	20 06 20.3	
	comp=Z,93nm,21.9s,baz=208,slow=35						
	15nm,0.9s						
QSPA	**South Pole Qui**	**29.89**	**180**		**P**	**19 55 16.5**	**+2.8**
TRQA	**Tornquist**	**31.75**	**298**	P	**P**	**19 55 29.2**	**-0.9**
TRQA				IAmb	IAmb	19 55 41.3	
	comp=Z,7.8nm,0.8s						
PLCA	**Paso Flores**	**33.55**	**285**	P	**P**	**19 55 44.8**	**-1.1**
	comp=Z,4.4nm,0.8s,baz=164,slow=6.7,SNR=5.3						
PLCA				LR	LR	20 09 16.5	
	comp=Z,102nm,18.0s,baz=162,slow=36						
	comp=Z,4.4nm,0.8s						
PLCA	**Paso Flores**	**33.55**	**285**	P	**P**	**19 55 45.7**	**-0.2**
PLCA				IAmb	IAmb	19 55 56.6	
	comp=Z,12nm,0.8s						
PLTB	**Pedras Altas**	**33.90**	**315**	P	**P**	**19 55 48.9**	**-0.1**
PLTB				IAmb	IAmb	19 56 21.3	
	comp=Z,32nm,1.7s						
GO06	**Curarrehue**	**34.89**	**286**	P	**P**	**19 55 57.3**	**-0.2**
LR03	**Panguipulli**	**35.27**	**285**	P	**P**	**19 55 59.5**	**-1.2**
MAW	**Mawson**	**36.39**	**140**	LR	LR	20 10 15.3	
	comp=Z,149nm,18.8s,baz=260,slow=35						
ITQB	**Itaqui**	**36.88**	**312**	P	**P**	**19 56 13.0**	**-1.5**
ITQB				IAmb	IAmb	19 56 23.1	
	comp=Z,22nm,0.8s						
BI05	**Punta Hualpn**	**37.96**	**287**	P	**P**	**19 56 25.9**	**+2.3**
BO02	**Sierra Bellavi**	**38.42**	**291**	P	**P**	**19 56 29.8**	**+2.2**
BO01	**Tunca**	**38.89**	**291**	P	**P**	**19 56 31.3**	**-0.2**
BO01				IAmb	IAmb	19 56 35.6	
	comp=Z,32nm,1.6s						
LMEL	**Las Melosas**	**38.94**	**293**	P	**P**	**19 56 31.9**	**-0.2**
BO04	**La Punta**	**39.01**	**292**	P	**P**	**19 56 32.2**	**-0.3**
BO04				IAmb	IAmb	19 56 42.8	
	comp=Z,28nm,1.2s						
MT09	**Talagante**	**39.36**	**292**	P	**P**	**19 56 35.8**	**+0.3**
MT09				IAmb	IAmb	19 56 46.4	
	comp=Z,25nm,0.8s						
MT03	**Universidad Ad**	**39.37**	**293**	P	**P**	**19 56 36.4**	**+0.8**
MT03				IAmb	IAmb	19 56 47.3	
	comp=Z,28nm,0.9s						
MT01	**Popeta**	**39.41**	**292**	P	**P**	**19 56 36.0**	**+0.3**
MT01				IAmb	IAmb	19 56 47.3	
	comp=Z,28nm,1.2s						
PEL	**Peldehue**	**39.74**	**293**	P	**P**	**19 56 39.9**	**+1.3**
MT02	**Curacav**	**39.86**	**292**	P	**P**	**19 56 38.7**	**-0.8**
MT02				IAmb	IAmb	19 57 35.9	
	comp=Z,38nm,1.4s						
CFA	**Coronel Fontan**	**39.94**	**297**	P	**P**	**19 56 39.5**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=167,slow=7.9,SNR=6.7						
CFA				LR	LR	20 14 50.2	
	comp=Z,151nm,18.4s,baz=98,slow=39						
	comp=Z,3.0nm,0.4s						
VA03	**San Esteban**	**40.00**	**293**	P	**P**	**19 56 41.9**	**+1.0**
VA03				IAmb	IAmb	19 56 52.7	
	comp=Z,33nm,1.2s						
ROC1	**El Roble**	**40.04**	**293**	P	**P**	**19 56 42.3**	**+1.0**
ROC1				IAmb	IAmb	19 56 59.4	
	comp=Z,13nm,0.6s						
CPUP	**Villa Florida**	**40.17**	**314**	P	**P**	**19 56 42.3**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=172,slow=6.7,SNR=4.6						
CPUP				LR	LR	20 13 22.1	
	comp=Z,49nm,20.2s,baz=155,slow=36						
	comp=Z,1.3nm,0.5s						
CPUP	**Villa Florida**	**40.17**	**314**	P	**P**	**19 56 42.7**	**+0.5**
ZON	**Zonda**	**40.18**	**296**	P	**P**	**19 56 42.4**	**+0.1**
VA01	**Torpederas**	**40.29**	**292**	P	**P**	**19 56 42.4**	**-0.7**
SUR	**Sutherland**	**41.39**	**69**	P	**P**	**19 56 54.2**	**+1.8**
	comp=Z,4.2nm,1.0s,baz=195,slow=19,SNR=1.3						
	comp=Z,4.2nm,1.0s						
CO02	**Combarbal**	**41.52**	**294**	P	**P**	**19 56 54.1**	**+0.7**
CO02				IAmb	IAmb	19 56 57.6	
	comp=Z,27nm,1.3s						
CO01	**Juntas del Tor**	**42.15**	**296**	P	**P**	**19 56 59.3**	**+0.5**
CO01				IAmb	IAmb	19 57 13.9	
	comp=Z,9.2nm,0.6s						
VNDA	**Vanda**	**42.30**	**183**	P	**P**	**19 57 00.8**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=197,slow=4.3,SNR=5.1						
VNDA				PcP	**PcP**	**19 58 52.8**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=164,slow=4.1,SNR=1.6						
	comp=Z,1.4nm,0.7s						
VNDA	**Vanda**	**42.30**	**183**	P	**P**	**19 57 01.0**	**+1.9**
VNDA				IAmb	IAmb	19 57 43.5	
	comp=Z,46nm,1.9s						
AC05	**El Transito**	**43.21**	**297**	P	**P**	**19 57 07.4**	**+0.2**
AC05				IAmb	IAmb	19 57 24.2	
	comp=Z,20nm,0.8s						
GO03	**Copiap**	**44.26**	**298**	P	**P**	**19 57 16.1**	**+0.5**
AC01	**Pan de Azucar**	**45.68**	**298**	P	**P**	**19 57 26.9**	**+0.1**
AC01				IAmb	IAmb	19 57 53.1	
	comp=Z,10nm,1.0s						
BOSA	**Boshof**	**46.62**	**71**	P	**P**	**19 57 33.6**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=195,slow=11,SNR=5.2						
	comp=Z,4.5nm,0.9s						
BOSA	**Boshof**	**46.62**	**71**	P	**P**	**19 57 34.7**	**+0.4**
BDFB	**Brasilia**	**47.41**	**331**	P	**P**	**19 57 41.0**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=123,slow=4.7,SNR=3.6						
	comp=Z,1.4nm,0.4s						
LVC	**Limon Verde**	**48.06**	**302**	LR	LR	20 19 42.9	
	comp=Z,56nm,18.6s,baz=205,slow=38						
LVC	**Limon Verde**	**48.06**	**302**	P	**P**	**19 57 46.5**	**+0.7**
LVC				IAmb	IAmb	19 57 59.6	
	comp=Z,7.1nm,1.1s						
PB04	**IPOC Station P**	**48.83**	**301**	P	**P**	**19 57 52.7**	**+1.2**
PB03	**IPOC Station P**	**48.91**	**302**	P	**P**	**19 57 52.7**	**+0.5**
PB03				IAmb	IAmb	19 58 08.2	
	comp=Z,14nm,1.1s						
PB09	**IPOC Station P**	**48.92**	**302**	P	**P**	**19 57 52.2**	**0.0**
PB07	**IPOC Station P**	**49.25**	**302**	P	**P**	**19 57 54.2**	**-0.6**
PB07				IAmb	IAmb	19 58 05.1	
	comp=Z,13nm,1.0s						
PB02	**IPOC Station P**	**49.62**	**302**	P	**P**	**19 57 57.1**	**-0.4**
PB01	**IPOC Station P**	**49.69**	**303**	P	**P**	**19 57 58.0**	**0.0**
PB01				IAmb	IAmb	19 58 08.9	
	comp=Z,8.9nm,0.7s						
LBTB	**Lobatse**	**49.84**	**69**	P	**P**	**19 57 59.5**	**+0.3**
LBTB				IAmb	IAmb	19 59 05.0	
	comp=Z,31nm,1.8s						
GO01	**Chusmiza**	**50.80**	**304**	P	**P**	**19 58 07.2**	**+0.3**
GO01				IAmb	IAmb	19 58 23.0	
	comp=Z,6.3nm,0.7s						
PTLB	**Pontes e Lacer**	**50.85**	**317**	P	**P**	**19 58 05.7**	**-1.0**
PTLB				IAmb	IAmb	19 58 16.3	
	comp=Z,4.8nm,0.9s						
PB11	**IPOC Station P**	**50.90**	**303**	P	**P**	**19 58 06.6**	**-0.7**
PB11				IAmb	IAmb	19 58 18.4	
	comp=Z,8.9nm,0.9s						
SIV	**San Ignacio**	**51.02**	**315**	LR	LR	20 20 02.3	
	comp=Z,39nm,19.8s,baz=110,slow=36						
PSGCX	**Pisagua**	**51.24**	**303**	P	**P**	**19 58 07.9**	**-1.9**
TSUM	**Tsumeb**	**51.40**	**57**	LR	LR	20 15 42.0	
	comp=Z,40nm,18.8s,baz=156,slow=31						
MNMC	**Minye Minye**	**51.44**	**304**	P	**P**	**19 58 11.8**	**+0.3**
H10S2	**ASCENSION HYDR**	**51.99**	**14**	T	T	20 54 29.4	
	baz=34,slow=74,SNR=3.5						
H10S3	**ASCENSION HYDR**	**51.99**	**14**	T	T	20 54 28.7	
	baz=186,slow=74,SNR=5.1						
PB16	**IPOC Station P**	**52.12**	**304**	P	**P**	**19 58 15.9**	**-1.0**
H10N1	**ASCENSION HYDR**	**53.10**	**14**	T	T	20 55 52.4	
	baz=188						
H10N3	**ASCENSION HYDR**	**53.11**	**14**	T	T	20 55 52.9	
	baz=188,slow=74,SNR=5.5						
H10N2	**ASCENSION HYDR**	**53.12**	**14**	T	T	20 55 52.8	
	baz=188,slow=74,SNR=5.5						
ETMB	**Extrema**	**58.57**	**312**	P	**P**	**19 59 02.1**	**-0.6**
ETMB				IAmb	IAmb	19 59 10.4	
	comp=Z,5.9nm,1.1s						
NNA	**Nana**	**60.89**	**300**	LR	LR	20 24 12.5	
	comp=Z,26nm,20.6s,baz=169,slow=35						
BOAV	**Boa Vista**	**68.07**	**322**	P	**P**	**20 00 03.4**	**-2.2**
BOAV				IAmb	IAmb	20 00 19.3	
	comp=Z,4.9nm,1.0s						
DBIC	**Dimbokro**	**68.87**	**23**	P	**P**	**20 00 09.8**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=210,slow=7.9,SNR=3.3						
	comp=Z,4.0nm,0.9s						
MCRA	**Macar, Loja**	**69.04**	**300**	P	**P**	**20 00 12.4**	**+0.7**
MCRA				IAmb	IAmb	20 00 21.5	
	comp=Z,8.5nm,0.9s						
OTAV	**Otavalo**	**72.56**	**304**		**P**	**20 00 33.3**	**-0.3**
MBAR	**Mbarara**	**73.65**	**61**	LR	LR	20 31 55.0	
	comp=Z,31nm,18.1s,baz=188,slow=35						
TORD	**Torodi Ar. Bea**	**76.54**	**28**	P	**P**	**20 00 57.1**	**+1.1**
	comp=Z,4.0nm,0.6s,baz=199,slow=6.3,SNR=22						
	comp=Z,4.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.54**	**28**	P	**P**	**20 00 56.6**	**+0.6**
SDV	**Santo Domingo**	**77.48**	**315**	LR	LR	20 37 09.7	
	comp=Z,68nm,18.6s,baz=158,slow=37						
SDV	**Santo Domingo**	**77.48**	**315**	P	**P**	**20 00 59.9**	**-1.7**
SDV				IAmb	IAmb	20 01 13.7	
	comp=Z,8.4nm,1.2s						
NWAO	**Narrogin (SRO)**	**82.29**	**149**	P	**P**	**20 01 27.6**	**+0.3**
ASAR	**Alice Springs**	**94.70**	**162**	P	**P**	**20 02 27.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=195,slow=5.7,SNR=5.4						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**122.93**	**112**	PKP	**PKiKP**	**20 08 03.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=223,slow=4.4,SNR=5.8						
NVAR	**Mina Array Bea**	**123.54**	**290**	PKP	**PKiKP**	**20 08 03.6**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=134,slow=2.6,SNR=2.5						
FRB	**Frobisher Bay**	**127.88**	**338**	PKP	**PKiKP**	**20 08 10.4**	**0.0**
	comp=Z,5.1nm,1.1s,baz=127,slow=3.8,SNR=4.6						
FINES	**FINESS Array B**	**127.89**	**29**	PKP	**PKiKP**	**20 08 11.1**	**+0.6**
	comp=Z,3.2nm,1.0s,baz=130,slow=2.2,SNR=5.5						
PZH	**PanZhiHua**	**131.15**	**110**	PKP	**PKPdf**	**20 08 16.3**	**-1.2**
ARCES	**ARCESS Array B**	**134.70**	**23**	PKP	**PKPdf**	**20 08 23.6**	**+0.9**
	comp=Z,4.3nm,1.0s,baz=184,slow=1.4,SNR=3.5						
MKAR	**Makanchi Array**	**137.54**	**75**	PKP	**PKPdf**	**20 08 29.5**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=222,slow=3.8,SNR=2.4						
YKA	**Yellowknife Ar**	**139.70**	**314**	PKP	**PKiKP**	**20 08 34.2**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=134,slow=2.8,SNR=13						
RES	**Resolute Bay**	**142.07**	**336**	PKP	**PKPdf**	**20 08 37.0**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=72,slow=19,SNR=2.6						
ZALV	**Zalesovo Beam**	**143.55**	**68**	PKhKP	PKPpre	20 08 37.0	
	comp=Z,0.4nm,0.6s,baz=230,slow=4.5,SNR=1.9						
INK	**Inuvik**	**149.43**	**316**	PKPbc	**PKiKP**	**20 08 54.0**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=120,slow=1.7,SNR=9.4						
SONM	**Songino Array**	**150.13**	**93**	PKPbc	**PKiKP**	**20 08 57.3**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=210,slow=3.9,SNR=21						

*IDC **23** 19:55:30.5±2.3,3°.37S×128°.94E,h0km,mb3.2/3, mbtmp3.2/4,ML2.9/1,Error ellipse: s-maj=200.3km s-min=27.5km az=69.0*
*DJA **23** 19:55:32.2±0.6,4°.5±5°×12°.9E±°,h16km±6km,M2.9/6, MLv2.9/6*

ISC 23 19:55:34.2±1.1,3°.5S±0°.1×129°.29E±0°.07,h35km,n8, σ1§24/8,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.39**	**292**	P	**Pn**	**19 55 42.5**	**-0.8**
MSAI				S	**Sn**	**19 55 49.8**	**+0.2**
AAI	**Ambon**	**1.11**	**260**	P	**Pn**	**19 55 52.4**	**-0.8**
BNDI	**Bandanaira**	**1.19**	**149**	P	**Pn**	**19 55 53.0**	**-1.3**
FAKI	**Fak Fak**	**3.01**	**79**	P	**Pn**	**19 56 18.7**	**-0.6**
WRA	**Warramunga Arr**	**17.07**	**164**	P	**P**	**19 59 33.7**	**+2.0**
	baz=346,slow=13,SNR=1.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**20.54**	**168**	P	Pn	20 00 12.9	+0.7
	0.4nm,0.7s,baz=349,slow=9.5,SNR=2.9						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**64.93**	**326**	P	**P**	**20 06 09.9**	**-0.4**
	0.1nm,0.5s,baz=117,slow=6.7,SNR=5.3						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**69.18**	**328**	P	**P**	**20 06 37.4**	**+0.3**
	0.2nm,0.4s,baz=123,slow=6.7,SNR=2.2						
	0.2nm,0.4s						

*IDC **23** 19:55:40.9±1.6,37°.98N×133°.98E,h447km±28km,mb2.7/5, mbtmp3.6/9,Error ellipse: s-maj=41.0km s-min=19.9km az=60.0*
*JMA **23** 19:55:42.0±0.3,38°.2N±2°.2×13°.4E±°,h451km,MV3.6/24, SEA OF JAPAN*

ISC 23 19:55:41.5±0.9,38°.1N±0°.1×134°.1E±0°.1,h459km,n13, σ1§50/14,mb3.1/5,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**2.96**	**159**	*eP*	**P**	**19 56 48.5**	**-0.5**
MJAR	**Matsushiro Arr**	**3.60**	**114**	P	**P**	**19 56 54.2**	**+0.3**
	3.2nm,0.8s,baz=285,slow=10,SNR=5.3						
JIE	**Ise**	**4.22**	**149**	*eP*	**P**	**19 56 59.9**	**+0.7**
JMM	**Marumori**	**5.28**	**90**	*eP*	**P**	**19 57 10.6**	**+1.7**
USRK	**Ussuriysk Ar.**	**6.34**	**346**	P	**P**	**19 57 19.2**	**-0.1**
	4.8nm,0.6s,baz=158,slow=9.4,SNR=9.5						
JCH	**Churui**	**8.40**	**54**	*eP*	**P**	**19 57 43.8**	**+2.7**
JCH				*eS*	**S**	**19 59 16.4**	**-3.0**
ASAJ	**Asahikawa**	**8.80**	**44**	P	**P**	**19 57 45.4**	**-0.1**
	13nm,0.9s,baz=232,slow=12,SNR=18						
KLR	**Kul'dur**	**11.29**	**352**	P	**P**	**19 58 12.5**	**+0.2**
	0.6nm,0.5s,baz=180,slow=4.0,SNR=2.1						
SONM	**Songino Array**	**22.41**	**305**	P	**P**	**20 00 03.5**	**-0.7**
	0.3nm,0.4s,baz=100,slow=7.9,SNR=2.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**38.62**	**300**	P	**P**	**20 02 23.6**	**-0.2**
	0.2nm,0.5s,baz=83,slow=11,SNR=5.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**40.76**	**306**	P	**P**	**20 02 40.4**	**-0.6**
	0.7nm,0.9s,baz=83,slow=8.0,SNR=5.1						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**57.70**	**180**	P	**P**	**20 04 46.5**	**-0.6**
	0.5nm,1.0s,baz=356,slow=7.4,SNR=2.0						
	0.5nm,1.0s						
FINES	**FINESS Array B**	**65.10**	**330**	P	**P**	**20 05 37.2**	**+1.9**
	4.4nm,1.1s,baz=128,slow=4.3,SNR=1.9						
	4.4nm,1.1s						

*IDC **23** 20:03:49.5±1.8,6°.60S×153°.78E,h0km,mb3.3/4, mbtmp3.4/5,MS3.1/2,Error ellipse: s-maj=52.8km s-min=28.2km az=114.0*

ISC 23 20:03:54.6±1.4,6°.5S±0°.1×153°.6E±0°.2,h29km,n8,σ1§46/7, mb3.4/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.70**	**323**	Pn	**Pn**	**20 04 35.5**	**-0.6**
	32nm,0.2s,baz=198,slow=10						
KRVT				Sn	**Sn**	**20 05 07.6**	**-0.2**
	baz=190,slow=12						
PMG	**Port Moresby**	**7.04**	**245**	LR	LR	20 08 17.6	
	comp=Z,48nm,18.5s,baz=7.0,slow=38						
WRA	**Warramunga Arr**	**23.02**	**233**	P	**P**	**20 08 57.1**	**-0.4**
	0.6nm,0.9s,baz=60,slow=11,SNR=2.3						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**25.52**	**226**	P	**P**	**20 09 20.1**	**-0.7**
	0.4nm,0.5s,baz=60,slow=9.3,SNR=5.7						
	0.4nm,0.5s						
PPT	**Papeete**	**56.43**	**107**	LR	LR	20 35 08.0	
	comp=Z,41nm,18.6s,baz=304,slow=33						
MKAR	**Makanchi Array**	**82.14**	**319**	P	**P**	**20 16 15.2**	**+2.5**
	0.5nm,1.1s,baz=92,slow=4.4,SNR=2.0						
	0.5nm,1.1s						
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**20 16 17.9**	**-1.0**
	0.2nm,0.6s,baz=258,slow=4.4,SNR=4.5						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**151.59**	**286**	PKPbc	**PKPbc**	**20 23 46.8**	**-0.3**
	0.4nm,0.6s,baz=72,slow=4.7,SNR=2.0						

IDC 23 20:12:51.8±2.0,7°.13S×128°.33E,h0km,mb3.0/1, mbtmp3.2/4,ML3.0/3,MS3.2/1,Error ellipse: s-maj=65.1km s-min=31.1km az=79.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.87**	**25**	Pn	Pn	20 14 35.8	+1.8
	0.2nm,0.3s,baz=182,slow=22,SNR=1.2						
SIJI				Sn	Sn	20 15 43.5	-9.5
	0.2nm,0.3s,baz=241,slow=23,SNR=1.7						
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**14.01**	**156**	Pn	Pn	20 16 10.4	-1.3
	0.1nm,0.3s,baz=342,slow=13,SNR=1.6						
WRA				Sn	Sn	20 18 35.6	-12
	0.2nm,0.3s,baz=349,slow=20,SNR=2.1						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**17.29**	**163**	P	P	20 16 56.1	-0.3
	0.1nm,0.3s,baz=340,slow=9.9,SNR=4.5						
ASAR				S	Sn	20 19 57.0	-11
	0.6nm,0.9s,baz=346,slow=22,SNR=2.2						
	0.4nm,0.7s						
DZM	**Mont Dzumac**	**39.62**	**116**	LR	LR	20 37 41.0	
	comp=Z,33nm,18.3s,baz=50,slow=38						
MKAR	**Makanchi Array**	**67.44**	**328**	P	P	20 23 48.8	-0.6
	0.1nm,0.4s,baz=110,slow=8.1,SNR=1.4						
	0.1nm,0.4s						

*TAP **23** 20:22:49.9,24°.78N×122°.32E,h12km±1km,ML3.4,C JMA **23** 20:22:50.2±0.1,24°.7N±0°.3×122°.3E±0°.1,h3km±2km, MV2.7/8,TAIWAN REGION*

ISC 23 20:22:50.2±1.0,24°.75N±0°.02×122°.32E±0°.02,h9km±9km, n87,σ0§60/138,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.36**	**285**	*i* P	**Pg**	**20 22 57.9**	**+0.5**
	baz=279						
EGS				*i* S	**Sb**	**20 23 03.3**	**-1.2**
	baz=279						
TWB1	**Santiao Chiao**

LATG S Sb 20 23 16.7 +0.8
baz=251
YM01 YM01 0.78 300 P Pg 20 23 05.3 -0.1
baz=297
YM01 S Sb 20 23 16.2 -0.5
baz=297
TATO Taipei 0.79 287 P Pb 20 23 06.0 0.0
TAP Taipei 0.79 291 *i* P Pn 20 23 06.8 -0.7
baz=289
TAP *i* S Sb 20 23 16.7 -0.2
baz=289
ANP Anpu 0.84 301 P Pb 20 23 07.1 0.0
baz=298
ANP S Sg 20 23 17.9 +0.4
baz=298
YHNB Yeheng 0.86 265 P Pb 20 23 07.0 -0.4
baz=262
YHNB S Sg 20 23 18.0 0.0
baz=262
ETL Fush Village 0.86 227 P Pb 20 23 07.1 -0.3
baz=225
ETL S Sb 20 23 19.1 0.0
baz=225
NACB Ninganchiao 0.88 229 P Pg 20 23 06.4 -0.6
NACB Ninganchiao 0.88 229 *i* P Pg 20 23 06.8 -0.2
baz=227
NSK Sanguang 0.88 265 *i* P Pb 20 23 07.6 0.0
baz=262
NSK *i* S Sg 20 23 18.4 -0.1
baz=262
TWS1 Kuangyinshan 0.89 293 *i* P Pb 20 23 07.7 -0.1
baz=291
TWS1 *i* S Sb 20 23 19.5 -0.2
baz=291
NTST Danshui 0.89 298 P Pb 20 23 08.2 +0.5
baz=295
NTST S Sb 20 23 19.9 +0.2
baz=295
PCYT Pengchaiyu 0.90 346 *i* P Pg 20 23 07.7 +0.1
baz=345
PCYT S Sg 20 23 19.8 +0.5
baz=345
NNSB Datong 0.91 249 *i* P Pg 20 23 07.7 -0.1
baz=247
NNSB S Sb 20 23 21.0 +0.6
baz=247
NNS Nan Shan 0.91 250 *i* P Pb 20 23 08.3 +0.1
baz=248
NNS S Sb 20 23 20.6 0.0
baz=248
ETLH Xiulin Townshi 0.94 235 P Pg 20 23 08.1 -0.1
baz=233
ETLH S Sb 20 23 21.6 +0.5
baz=233
TWD Chiawan 0.94 225 *i* P Pg 20 23 08.1 -0.2
baz=223
TWD *i* S Sn 20 23 21.9 -1.1
baz=223
HWA Hwalien 1.01 220 *e*P Pn 20 23 10.8 +0.3
baz=218
NCUH Zhongli 1.05 282 *e*P Pn 20 23 11.8 +0.7
baz=280
NFF Wufeng Townshi 1.10 264 *i* P Pb 20 23 11.1 -0.2
baz=262
NFF *i* S Sn 20 23 26.4 -0.7
baz=262
FUSS Fushou 1.10 243 *e*P Pb 20 23 11.3 -0.2
baz=241
FUSS S Sb 20 23 26.0 0.0
baz=241
WHF Hehuan Shan 1.13 238 *i* P Pb 20 23 12.0 -0.2
baz=236
WHF S Sn 20 23 27.9 -0.6
baz=236
TWT Tachien 1.15 245 *i* P Pn 20 23 13.5 +0.9
baz=243
TWT *i* S Sn 20 23 28.7 +0.1
baz=243
TDCB Techi 1.17 245 P Pn 20 23 13.3 +0.5
baz=243
TDCB S Sn 20 23 28.9 0.0
baz=243
LIOB Emei 1.19 265 P Pg 20 23 12.2 -0.9
baz=263
NSTT Nanjuang 1.20 265 P Pb 20 23 12.7 -0.5
baz=262
NSTT S Sn 20 23 29.9 +0.3
baz=262
CHGB Renai 1.25 237 P Pg 20 23 13.9 -0.4
baz=235
CHGB S Sn 20 23 30.6 -0.4
baz=235
OWD Renai 1.31 233 *e*P Pg 20 23 15.1 -0.2
baz=231
OWD *e*S Sn 20 23 34.1 +1.7
baz=231
WUSB Renai 1.33 236 P Pg 20 23 16.0 +0.2
baz=234
WUSB S Sn 20 23 33.0 +0.1
baz=234
WHP Taichung City 1.34 250 P Pg 20 23 16.1 +0.2
baz=248
WHP S Sn 20 23 34.0 +1.0
baz=248
IRIF Iriomote-Funau 1.35 108 *e*P Pb 20 23 15.5 -0.1
IRIF *e*S Sb 20 23 32.8 -0.3
NMLH Miaoli 1.41 262 *e*P Pn 20 23 15.7 -0.3
baz=260
NMLH *e*S Sb 20 23 34.0 -0.7
baz=260
WCS Beigang Elemen 1.46 242 *e*P Pb 20 23 17.5 +0.1
baz=240
HGSD Ruisui 1.50 213 *e*P Pn 20 23 17.4 +0.2
baz=212
HGSD *e*S Sg 20 23 38.3 -0.1
baz=212
EHY Hungye 1.54 216 P Pn 20 23 16.9 -0.9
baz=215
EHY S Sg 20 23 39.9 +0.2
baz=215
SMLT Sun Moon Lake 1.56 237 P Pb 20 23 19.3 +0.1
baz=235
SSLB Suanglung 1.57 233 P Pb 20 23 19.6 +0.1
SSLB Suanglung 1.57 233 P Pb 20 23 19.6 +0.1
baz=231
SSLB *e*S Sg 20 23 40.2 -0.6
baz=231
YULB Yu-li 1.64 215 P Pn 20 23 18.7 -0.5
YULB Yu-li 1.64 215 *e*P Pn 20 23 18.4 -0.9
baz=214
JIJ Ishigaki jima 1.71 103 *e*S Sb 20 23 43.1 -0.2
FULB Fuli 1.81 211 *e*P Pn 20 23 22.3 +0.8
baz=210
JISG Ishigakijimahi 1.82 95 *e*S Sb 20 23 46.0 -0.5
ALS Alishan 1.85 228 *e*P Pb 20 23 24.0 -0.4
baz=227
CHKT Chengkung 1.86 208 *e*P Pn 20 23 22.1 -0.1
baz=207
EHD Haiduan 1.89 213 *e*P Pn 20 23 22.1 -0.5
baz=212
WDLH Douliu 1.94 237 *e*P Pb 20 23 25.4 -0.3
baz=236
ELDTW Lidau 1.96 218 *e*P Pn 20 23 23.8 +0.2
baz=216
WRL Guolierlin Hig 1.96 245 *e*P Pn 20 23 24.6 +1.0
baz=243
CHN4 Tsaushan 2.10 229 *e*P Pb 20 23 27.7 -0.8
baz=227
STYH Taoyuan 2.11 222 *e*P Pb 20 23 27.6 -1.0
baz=221
TPUB Ta-pu 2.11 227 P Pb 20 23 27.9 -0.8
TPUB Ta-pu 2.11 227 *e*P Pb 20 23 27.5 -1.2
baz=226
CHY Chiayi 2.13 235 *e*P Pn 20 23 26.5 +0.5
baz=233
WTP Ta-pu 2.16 226 *e*P Pb 20 23 28.6 -0.9
baz=225
TWK Hsinying 2.23 229 *e*P Pb 20 23 29.5 -1.2
baz=227
TWGBT Beinan 2.23 211 P Pn 20 23 28.1 +0.7
TWGBT Beinan 2.23 211 *e*P Pn 20 23 27.7 +0.4
baz=210
TWG Pinlang 2.23 211 *e*P Pn 20 23 28.5 +1.1
baz=210
WSL Shuilin Townsh 2.27 238 *e*P Pb 20 23 29.5 -1.8
baz=236
SGST Jiashian 2.30 224 *e*P Pn 20 23 29.3 +1.0
baz=223
MASBT Mashibuluo 2.63 216 *e*P Pn 20 23 34.5 +1.7
baz=215
EAST Anshuo 2.72 210 *e*P Pn 20 23 34.2 +0.2
baz=209
SLIU Shizi 2.88 209 *e*P Pn 20 23 38.0 +1.6
baz=208

IDC 23 20:34:32.3±1.7, 25°.27N×106°.82E, h0km, mb3.3/3, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=57.9km s-min=28.4km az=65.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.97**	**229**		Pn		Pn	20 36 57.2	+0.3
	0.1nm,0.3s,baz=33,slow=13,SNR=2.7								
	0.4nm,0.8s								
MKAR	**Makanchi Array**	**29.03**	**324**	P			P	20 40 34.2	+0.2
	0.2nm,0.7s,baz=139,slow=9.3,SNR=1.8								
	0.2nm,0.7s								
KURBB	**Kurchatov Arra**	**33.37**	**327**	P			P	20 41 12.2	-0.1
	0.4nm,0.8s,baz=142,slow=12,SNR=9.6								
	0.4nm,0.8s								
ASAR	**Alice Springs**	**55.27**	**149**	P			P	20 44 07.3	-0.3
	0.3nm,0.7s,baz=316,slow=5.2,SNR=1.7								
	0.3nm,0.7s								

*GII **23** 20:38:27.1±0.0, 30°.37N×31°.73E, h1km±1km, mb4.1/3, MD3.8/4, Mm3.6/5*
*HLW **23** 20:38:30.9, 30°.27N×31°.93E, h6km, Md3.4, Ml3.9*
*ISK **23** 20:38:31.2, 30°.57N×31°.86E, h11km, ML4.1/10*
ISC 23 20:38:30.9±1.2, 30°.25N±0°.04×31°.92E±0°.03, h21km±3km, n57, σ1§01/71, Egypt

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOT	**Kottamia**	**0.33**	**194**	P			Pb	20 38 38.1	+0.1
	baz=195								
KOT				S			Sb	20 38 43.6	+0.6
	baz=195								
HHAG	**Hagoal**	**0.33**	**153**	P			Pb	20 38 38.0	-0.1
	baz=155								
HHAG				S			Sb	20 38 43.0	0.0
	baz=155								
GLL	**Jalalah**	**0.70**	**196**	P			Pn	20 38 44.6	-0.9
	baz=196								
GLL				S			Sn	20 38 54.9	-0.8
	baz=196								
HSAF	**As Saff**	**0.71**	**207**	P			Pn	20 38 44.6	-1.0
	baz=208								
SUZ	**Suez**	**0.89**	**117**	P			Pb	20 38 47.8	+0.2
	baz=118								
HMYD	**Mayadein**	**1.07**	**245**	P			Pb	20 38 51.5	+0.8
	baz=245								
ZAF	**Zafarana**	**1.11**	**150**	P			Pb	20 38 51.9	+0.6
	baz=151								
ZAF				S			Sb	20 39 07.3	+2.0
	baz=151								
HNAT	**Natroun**	**1.29**	**242**	P			Pb	20 38 54.9	+0.5
	baz=242								
NBNS	**Bani Suef**	**1.71**	**199**	P			Pb	20 39 01.1	-0.5
	baz=199								
RYAN	**Fayoum**	**1.85**	**231**	P			Pb	20 39 02.5	-1.4
	baz=232								
HRDS	**Abu Rudays**	**1.95**	**142**	P			Pb	20 39 03.9	-1.8
	baz=142								
GRB	**Gharib**	**2.11**	**159**	P			Pb	20 39 06.3	-2.2
	baz=159								
KZIT	**Kziot**	**2.23**	**72**	P			Pn	20 39 07.5	+0.9
KZIT							Sn	20 39 36.7	-0.9
KRMI	**Paran Flat**	**2.43**	**92**	P			Pn	20 39 09.8	+0.5
HKAT	**Jabal Katrina**	**2.50**	**133**	P			Pn	20 39 11.3	+0.9
	baz=133								
MBRI	**Mt Berech**	**2.63**	**99**	P	n		Pn	20 39 13.3	+1.1
MBRI					S		Sb	20 39 49.3	0.0
NUB	**Nuweibaa**	**2.67**	**117**	P			Pn	20 39 14.0	+1.5
	baz=117								
PRNI	**Paran**	**2.67**	**87**	P	n		Pn	20 39 13.2	+0.6
PRNI					S		Sb	20 39 48.5	-1.7
EIL	**Elat**	**2.69**	**102**	P	n		Pb	20 39 17.5	-0.8
EIL					S		Sb	20 39 51.5	+0.6
EIL	**Elat**	**2.69**	**102**	P	n		Pn	20 39 14.4	+1.5
EIL					S		Sb	20 39 49.9	-1.0
HRFI	**Mount Harif**	**2.71**	**94**	P	n		Pn	20 39 14.2	+1.1
HRFI					S		Sb	20 39 50.0	-1.3
TAMRE	**El Minia**	**2.71**	**199**	P			Pn	20 39 13.9	+0.7
	baz=200								
ZFRI	**Zfri**	**2.83**	**83**	P	n		Pn	20 39 15.0	+0.2
ZFRI					S		Sb	20 39 52.4	-2.4
ASUT		**2.86**	**186**	P			Pn	20 39 16.7	+1.5
	baz=187								
AMAZ	**Amatzia**	**2.87**	**63**	P	n		Pn	20 39 15.4	0.0
MSBI	**Mazada**	**3.14**	**69**	P	n		Pn	20 39 19.1	+0.1
DSI	**Dead Sea**	**3.25**	**65**	P	n		Pn	20 39 22.0	+1.4
DSI					S		Sn	20 40 02.2	+3.6
UJAP	**Al Uja**	**3.48**	**60**	P	n		Pn	20 39 25.5	+1.8
UJAP					S		Sn	20 40 05.3	+1.1
HMDT	**Nahal Hemdat**	**3.67**	**56**	P	n		Pn	20 39 26.5	+0.1
MMLI	**Mount Malkishu**	**3.70**	**53**	P	n		Pn	20 39 28.4	+1.5
MMLI					S		Sn	20 40 09.4	-0.5
GEM	**Giv'at Ha'Em**	**4.34**	**46**	P	n		Pn	20 39 35.7	+0.1
DQRL	**Deir Qamar**	**4.63**	**41**	*e*P			Pn	20 39 40.1	+0.4
BHL	**Bhannes**	**4.83**	**40**	*e*P			Pn	20 39 42.5	+0.1
CSS	**Mathiatis**	**4.85**	**14**	P	n		Pn	20 39 42.3	-0.3
LEF	**Lefka**	**4.92**	**9**	P	n		Pn	20 39 42.9	-0.7
ZAHL	**Zahle**	**4.92**	**42**	*e*P			Pn	20 39 44.0	+0.2
LFK	**Lefkose**	**5.19**	**15**	P	n		Pn	20 39 47.5	+0.1
HWQ	**Hawqa**	**5.27**	**39**	*e*P			Pn	20 39 48.7	+0.3
EREN	**Erenkoy**	**5.59**	**19**	P	n		Pn	20 39 52.9	+0.1
BEIL	**Beino**	**5.59**	**39**	*e*P			Pn	20 39 52.8	0.0
GAZI	**Gazipasa**	**5.98**	**3**	P	n		Pn	20 39 58.1	0.0
AKKU	**Akkuyu-Mersin**	**6.05**	**13**	P	n		Pn	20 39 59.3	+0.3
IKL	**Isikli**	**6.15**	**13**	P	n		Pn	20 40 00.6	+0.1
AKAS	**Kas**	**6.27**	**343**	P	n		Pn	20 40 02.2	-0.1
KIZK	**Mersin**	**6.48**	**16**	P	n		Pn	20 40 05.9	+0.9
HDMB	**Hadim**	**6.71**	**4**	P	n		Pn	20 40 08.9	+0.5
FETY	**Fethiye**	**6.79**	**340**	P	n		Pn	20 40 09.6	+0.3
KORT	**Korkueli**	**6.86**	**349**	P	n		Pn	20 40 10.5	+0.2
DALY	**Dalyan (Mula)**	**7.09**	**338**	P	n		Pn	20 40 13.6	+0.2
SEYD	**Seydisehir-KON**	**7.14**	**359**	P	n		Pn	20 40 14.6	+0.5
TURN	**Turunc**	**7.20**	**336**	P	n		Pn	20 40 15.1	+0.3
SUTC	**Sutluce-Ispart**	**7.25**	**354**	P	n		Pn	20 40 15.9	+0.3
DAT	**Datca**	**7.41**	**332**	P	n		Pn	20 40 17.7	-0.1
KARA	**Karaisali**	**7.46**	**20**	P	n		Pn	20 40 18.4	-0.1
YER	**Yerkesik**	**7.50**	**337**	P	n		Pn	20 40 19.4	+0.3
APMY	**Acipayam-Deniz**	**7.53**	**344**	P	n		Pn	20 40 19.5	+0.1
SARI	**SarD1z-Kayseri**	**8.94**	**23**	P	n		Pn	20 40 38.9	0.0

*IDC **23** 20:39:23.9±1.3, 32°.60N×93°.40E, h0km, mb3.6/7, mbtmp3.6/10, ML3.5/3, MS3.2/1, Error ellipse: s-maj=53.3km s-min=19.1km az=64.0*
ISC 23 20:39:26.1±0.8, 32°.69N±0°.09×93°.6E±0°.1, h10km, n19, σ1§20/16, mb3.7/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**7.34**	**225**	*e*P			Pn	20 41 17.2	+3.6
	3.1nm,0.4s								
JIRN	**Jiri**	**8.10**	**234**	*e*P			Pn	20 41 26.9	+2.8
	1.0nm,0.2s								
GUN	**Gumba**	**8.16**	**236**	*e*P			Pn	20 41 28.3	+3.4
	2.9nm,0.2s								
RAMN	**Ramite**	**8.31**	**228**	*e*P			Pn	20 41 27.1	+0.2
	3.6nm,0.3s								
PKI	**Pulchoki**	**8.70**	**236**	*e*P			Pn	20 41 32.8	+0.6
	7.8nm,0.4s								
PKIN	**Phulchoki**	**8.70**	**236**	*e*P			Pn	20 41 32.8	+0.6
	3.7nm,0.3s								
GKN	**Gorkha**	**9.00**	**241**	*e*P			Pn	20 41 37.1	+0.8
	4.1nm,0.5s								
DANN	**Dangsing**	**9.48**	**245**	*e*P			Pn	20 41 42.2	-0.8
	6.1nm,0.5s								
CMAR	**Chiang Mai Arr**	**14.98**	**160**	P	n		Pn	20 42 57.2	-0.7
	0.1nm,0.3s,baz=331,slow=13,SNR=8.0								
	0.6nm,0.7s								
MKAR	**Makanchi Array**	**16.51**	**332**	P	n		Pn	20 43 16.4	-1.2
	baz=143,slow=14,SNR=7.3								
	0.5nm,0.6s								
SONM	**Songino Array**	**17.99**	**29**	P			Pn	20 43 38.4	+2.1
	0.2nm,0.3s,baz=211,slow=13,SNR=9.9								
	1.5nm,0.7s								
AAK	**Ala-Archa**	**18.02**	**309**	LR			LR	20 51 41.9	
	comp=Z,76nm,18.8s,baz=30,slow=41								
KURBB	**Kurchatov Arra**	**21.07**	**333**	P			P	20 44 10.5	+0.2
	3.4nm,0.9s,baz=139,slow=12,SNR=29								
	3.4nm,0.9s								
ZALV	**Zalesovo Beam**	**22.15**	**346**	P			P	20 44 21.2	-0.6
	1.2nm,0.7s,baz=142,slow=7.5,SNR=5.2								
	1.2nm,0.7s								
BVAR	**Borovoye Array**	**26.27**	**328**	P			P	20 45 00.7	-0.8
	0.7nm,0.6s,baz=142,slow=7.5,SNR=4.4								
	0.7nm,0.6s								
WRA	**Warramunga Arr**	**65.27**	**137**	P			P	20 50 06.9	-1.2
	0.7nm,0.9s,baz=321,slow=8.6,SNR=2.4								
	0.7nm,0.9s								
ASAR	**Alice Springs**	**68.00**	**140**	P			P	20 50 26.0	+0.4
	0.3nm,0.4s,baz=319,slow=5.9,SNR=4.1								
	0.3nm,0.4s								
ILAR	**Eielson Array**	**72.10**	**23**	P			P	20 50 50.2	0.0
	0.6nm,0.9s,baz=289,slow=4.9,SNR=6.3								
	0.6nm,0.9s								
YKA	**Yellowknife Ar**	**82.48**	**13**	P			P	20 51 48.6	+0.1
	0.5nm,0.8s,baz=326,slow=5.1,SNR=6.9								
	0.5nm,0.8s								

ROM 23 20:47:04.1±0.1, 42°.612N±0°.004×13°.247E±0°.006, h10km, ML0.7/5, 1C, Error ellipse: s-maj=0.5km s-min=0.4km az=71.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.10**	**193**	P			Pg	20 47 07.3	+0.4
RM33				S			Sg	20 47 09.3	+0.4
RM33				AML			AML		
	comp=N,41μm,0.9s								
RM33				AML			AML		
	comp=E,53μm,0.9s								
T1218	**Civita (PG)**	**0.11**	**301**	P			Pg	20 47 07.5	+0.5
T1218				S			Sg	20 47 09.7	+0.6
T1218				AML			AML		
	comp=N,102μm,0.9s								
T1218				AML			AML		
	comp=E,45μm,0.2s								
T1218				AML			AML		
	comp=E,38μm,0.1s								
T1218				AML			AML		
	comp=N,76μm,0.6s								
LNSS	**Leonessa**	**0.15**	**267**	P			Pg	20 47 08.2	+0.6
LNSS				S			Sg	20 47 11.1	+1.0
LNSS				AML			AML		
	comp=N,31μm,0.1s								
LNSS				AML			AML		
	comp=E,28μm,0.4s								
T1212	**Cascia, Frazio**	**0.20**	**313**	⇑P			Pg	20 47 09.1	+0.6
T1212				S			Sg	20 47 12.6	+1.1
T1212				AML			AML		
	comp=N,20μm,0.2s								
T1217	**Poggiodomo (PG**	**0.25**	**293**	P			Pg	20 47 09.9	+0.6
T1217				S			Sg	20 47 14.1	+1.2

*TIR **23** 20:48:11.7, 39°.77N×20°.74E, h5km, Md2.8*
*THE **23** 20:48:13.4, 39°.77N×20°.72E, h16km±1km, ML2.3/6, Error ellipse: s-maj=1.7km s-min=0.9km az=231.0*
*ATH **23** 20:48:13.0, 39°.75N×20°.71E, h18km±3km, ML2.3/1, Error ellipse: s-maj=5.4km s-min=1.1km az=161.0*
*BEO **23** 20:48:13.7±0.9, 39°.69N×21°.20E, h0km, ML2.2/7*
ISC 23 20:48:13.3±0.9, 39.74N±0°.03×20.73E±0°.02, h16km±7km, n35, σ1§09/55, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.13**	**132**	P			Pg	20 48 17.1	0.0
JAN				S			Sb	20 48 20.7	+0.6
	2μm,0.3s								
JAN	**Janina**	**0.13**	**132**	P			Pg	20 48 17.0	0.0
JAN				S			Sb	20 48 20.2	+0.1
IGT	**Igoumenitsa**	**0.37**	**236**	P			Pg	20 48 20.3	-0.6
IGT				S			Sb	20 48 27.6	+0.5
	600nm,0.2s								
IGT	**Igoumenitsa**	**0.37**	**236**	P			Pg	20 48 20.3	-0.6
	baz=234								
IGT				S			Sb	20 48 27.5	+0.5
	baz=234								
IGT	**Igoumenitsa**	**0.37**	**236**	P			Pg	20 48 20.3	-0.6
IGT				S			Sg	20 48 26.2	+0.1
IGT				AML			AML	20 48 29.7	
	comp=E,1306μm,0.3s								
IGT				AML			AML	20 48 30.1	
	comp=N,1124μm,0.3s								
LSK	**Leskovik**	**0.42**	**346**	P			Pg	20 48 20.9	-0.9
LSK				S			Sb	20 48 28.2	-0.4
	comp=N,605nm,0.5s								
LSK	**Leskovik**	**0.42**	**346**	P			Pg	20 48 20.9	-0.9
	baz=345								
LSK				S			Sg	20 48 27.9	+0.2
	baz=345								
KPRO	**Kipourio**	**0.53**	**66**	P			Pg	20 48 23.0	-0.9
KPRO				S			Sg	20 48 31.4	+0.3
	comp=N,540nm,0.6s								
KPRO	**Kipourio**	**0.53**	**66**	P			Pg	20 48 23.0	-0.9
KPRO				S			Sg	20 48 31.4	+0.3
PENT	**Pentalofos**	**0.55**	**35**	P			Pg	20 48 23.3	-1.0
PENT	**Pentalofos**	**0.55**	**35**	P			Pg	20 48 23.2	-1.0
PENT				S			Sg	20 48 31.7	0.0
SRN	**Sarande**	**0.58**	**284**	P			Pg	20 48 22.8	-1.9
SRN	**Sarande**	**0.58**	**284**	P			Pg	20 48 22.9	-1.8
	baz=282								
SRN				S			Sg	20 48 32.1	-0.4
	baz=282								
KASA	**Kassiopi**	**0.61**	**271**	P			Pg	20 48 24.0	-1.3
KEK	**Kerkira**	**0.72**	**268**	⇑P			Pg	20 48 26.8	-0.5
KEK	**Kerkira**	**0.72**	**268**	⇑P			Pg	20 48 26.8	-0.5
KEK	**Kerkira**	**0.72**	**268**	P			Pg	20 48 26.5	-0.8
KZN	**Kozani**	**0.98**	**55**	P			Pb	20 48 31.7	-0.3
KZN				S			Sn	20 48 45.8	-0.3
	comp=N,115nm,0.6s								
KZN	**Kozani**	**0.98**	**55**	P			Pb	20 48 31.9	-0.1
THL	**Klokotos Trika**	**1.01**	**100**	P			Pb	20 48 31.5	-0.9
THL				S			Sn	20 48 47.2	+0.5
	comp=N,62nm,0.6s								
THL	**Klokotos Trika**	**1.01**	**100**	P			Pb	20 48 31.0	-1.4
FNA	**Florina**	**1.15**	**25**	P			Pn	20 48 33.8	-1.1
FNA	**Florina**	**1.15**	**25**	P			Pn	20 48 33.8	-1.1
	baz=25								
FNA				S			Sg	20 48 51.1	+0.5
	baz=25								
FNA	**Florina**	**1.15**	**25**	*e*Pg			Pn	20 48 33.6	-1.3
FNA				*e*Sg			Sb	20 48 49.8	+0.1
FNA	**Florina**	**1.15**	**25**	P			Pn	20 48 33.4	-1.5
OHR	**Ohrid**	**1.37**	**2**	*e*Pg			Pb	20 48 38.7	+0.1
OHR				*e*Sg			Sg	20 48 59.1	+1.6
OHR	**Ohrid**	**1.37**	**2**	*i* Pn			Pb	20 48 39.0	+0.4
VAY	**Valandovo**	**2.11**	**41**	*i* Pn			Pb	20 48 51.0	-0.3
STIP	**Stip**	**2.24**	**29**	*i* Pn			Pb	20 48 52.1	-1.3
SRS	**Serrai**	**2.58**	**57**	*e*Pg			Pn	20 48 54.1	-0.4
SRS				*e*Sg			Sn	20 49 26.6	+1.0
PRVS	**Prvonek**	**2.94**	**20**	*e*Pn			Pn	20 49 01.9	+2.4
PRVS				*e*Sn			Sn	20 49 37.2	+2.7
BARS	**Barje**	**3.18**	**15**	*e*Pn			Pn	20 49 03.6	+0.9
BARS				*e*Sn			Sn	20 49 41.2	+0.9
VTS	**Vitosha**	**3.44**	**33**	*e*Pn			Pn	20 49 06.8	+0.4
VTS	**Vitosha**	**3.44**	**33**	*e*Pn			Pn	20 49 07.1	+0.7
VTS				*e*Sn			Sn	20 49 45.5	-1.4
VTS				*e*Sn			Sb	20 49 45.8	-10
SELS	**Selova**	**3.49**	**5**	*e*Pn			Pn	20 49 10.1	+3.2

*IDC **23** 20:48:11.9±0.7, 2°.76N×95°.46E, h0km, mb4.2/20, mbtmp4.2/22, ML4.3/2, Error ellipse: s-maj=23.3km s-min=14.1km az=42.0*
*DJA **23** 20:48:14.2±0.5, 3°N±3°×9°5E±°, h19km±3km, M4.8/25, mB5.2/6, mb4.9/25, MLv4.9/14, Mw(mB)4.5/6*
*BJI **23** 20:48:16.0±0.0, 2°.94N×95°.57E, h31km, mb4.7/62, mB5.0/35, Ms4.8/46, Ms7 4.5/46*
*NEIC **23** 20:48:17.2±1.8, 2°.82N±0°.06×95°.56E±0°.09, h32km±5km, mb4.6/8, Error ellipse: s-maj=13.5km s-min=8.8km az=74.0*
ISC 23 20:48:15.6±0.5, 2.77N±0°.05×95°.52E±0°.06, h27km, n160, σ1§50/174, mb4.5/52, MS4.5/18, 6C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.88**	**114**	P			Pb	20 48 32.2	0.0

MLSI	Meulaboh, Aceh	1.73	31	P		Pn	20 48 43.5	-0.4		
KCSI	Kotacane, Aceh	2.37	72	P		Pn	20 48 53.7	+1.0		
GSI	Gunungsitoli	2.51	125			Pn	20 48 55.6	+0.8		
GSI	Gunungsitoli	2.51	125	P		Pn	20 48 55.4	+0.7		
LHMI	Lhok Sumawe	2.83	30	Pn		Pn	20 48 59.4	+0.4		
LHMI	Lhok Sumawe	2.83	30	P		Pn	20 48 59.2	+0.2		
TSI	Tuntungan	3.12	76	P		Pn	20 49 05.1	+2.0		
PSI	Prapat	3.40	89	Pn		Pn	20 49 07.4	+0.5		
	13nm,0.3s,baz=283,slow=6.7,SNR=40									
	46nm,0.4s									
RPSI	Rantau Prapat	3.40	91			Pn	20 49 08.0	+1.1		
RPSI	Rantau Prapat	3.40	91			Pn	20 49 07.4	+0.6		
PBSI	Pulau Batu	3.93	135	P		Pn	20 49 15.3	+1.1		
MNSI	Mandailing Nat	4.50	116	P		Pn	20 49 23.1	+1.0		
KULM	Kulim	5.69	64	Pn		Pn	20 49 39.2	+0.8		
IPM	Ipoh	5.75	73	Pn		Pn	20 49 39.8	+0.6		
BKNI	Bangkinang	6.02	114	Pn		Pn	20 49 44.1	+1.1		
BKNI	Bangkinang	6.02	114	P		Pn	20 49 44.6	+1.6		
	121nm,1.0s,1µm0.7nm									
PDSI	Padang	6.14	126	P		Pn	20 49 43.8	-0.9		
	41nm,0.5s,948nm0.3nm									
SDSI	Sungai Dareh	6.95	122	P		Pn	20 49 56.8	+1.0		
	16nm,1.4s,0.1nm									
SRIT	Nakonsritamara	7.07	35	Pn		Pn	20 49 56.0	-1.4		
PPSI	Pulau Pagai	7.09	141	P		Pn	20 49 58.4	+0.7		
	192nm,1.5s,1.1nm									
MYKOM	Kota Tinggi	8.38	96	Pn		Pn	20 50 14.8	-0.5		
MASI	Maura Aman, Be	8.92	131	P		Pn	20 50 22.3	-0.5		
	23nm,1.0s									
MNAI	Manna	10.26	134	Pn		Pn	20 50 41.1	-0.1		
MNAI	Manna	10.26	134	P		Pn	20 50 41.7	+0.5		
	198nm,1.4s									
CM31	Chiang Mai Arr	15.95	12	P		P	20 52 00.9	-0.8		
CMAR	Chiang Mai Arr	15.95	12	Pn		Pn	20 51 59.6	+1.3		
	0.7nm,0.3s,baz=197,slow=13,SNR=75									
	13nm,0.8s									
CMAR	Chiang Mai Arr	15.95	12	P		P	20 52 00.6	-1.1		
CHTO	Chiang Mai	16.29	12	Pn		Pn	20 52 00.2	-2.6		
PHRA	Phrae	16.30	16			Pn	20 52 02.1	-0.6		
SBUM	Sibu	16.68	91			Pn	20 52 06.1	-1.6		
SBUM					IAmb	IAmb	20 52 35.6			
	comp=Z,67nm,1.3s									
CRAI	Chiangrai	17.99	15			Pn	20 52 21.6	-2.3		
CRAI					IAmb	IAmb	20 52 49.5			
	comp=Z,25nm,1.0s									
KKM	Kota Kinabalu	20.88	80	P		P	20 52 56.0	0.0		
QIZ	Qiongzhong	21.39	40	P		P	20 53 01.4	+0.1		
QIZ					LR	LR				
	comp=Z,2µm,16.7s									
QIZ					LR	LR				
	comp=Z,680nm,13.5s									
QIZ					LR	LR				
	comp=Z,1µm,17.5s									
IMP	Imphal	21.99	356	*ex*		P	20 53 04.4	-3.4		
IMP					IAmb	IAmb	20 53 28.4			
	comp=Z,11nm,1.1s									
TNCH	TengChong	22.32	7	P		P	20 53 10.3	-1.2		
TNCH				pP		pP	20 53 16.4	-2.4		
TNCH				PP		sP	20 53 33.4	+11		
TNCH				S		S	20 57 08.6	-7.1		
TNCH				SS		SnSn	20 57 51.8	+7.3		
TNCH				PcS		PcS	21 00 44.3	-1.5		
TNCH				pmax	pmax					
	comp=Z,50nm,1.1s									
TNCH				pmax	pmax					
	comp=Z,160nm,4.6s									
TNCH				LR	LR					
	comp=Z,560nm,11.0s									
TNCH				LR	LR					
	comp=Z,460nm,10.8s									
TNCH				LR	LR					
	comp=Z,730nm,16.8s									
BOK	Bokaro	22.89	337	*ex*		P	20 53 17.3	0.0		
BOK					IAmb	IAmb	20 53 21.2			
	comp=Z,31nm,1.0s									
SHL	Shillong	22.94	352	*ex*		P	20 53 15.1	-2.9		
SHL					IAmb	IAmb	20 53 15.7			
	comp=Z,6.7nm,0.5s									
MYLDM	Lahad Datu	23.04	83	P		P	20 53 18.1	-0.9		
KMI	Kunming	23.29	17	⇓P		P	20 53 23.0	+1.4		
KMI				pP		pP	20 53 29.8	+0.7		
KMI				pmax	pmax					
	comp=Z,15nm,0.7s									
KMI				LR	LR					
	comp=Z,2µm,13.8s									
KMI				LR	LR					
	comp=Z,570nm,13.4s									
KMI				LR	LR					
	comp=Z,2µm,14.3s									
DHUB	DHUBRI	23.72	348	*ex*		P	20 53 25.7	+0.2		
DHUB					IAmb	IAmb	20 53 26.7			
	comp=Z,13nm,0.8s									
PZH	PanZhiHua	24.34	14	P		P	20 53 31.0	-0.5		
PZH				pP		pP	20 53 39.5	+0.1		
PZH				S		S	20 57 48.0	-1.4		
PZH				SS		SnSn	20 58 40.3	+6.4		
PZH				pmax	pmax					
	comp=Z,10.0nm,0.7s									
PZH				pmax	pmax					
	comp=Z,170nm,6.3s									
PZH				LR	LR					
	comp=Z,790nm,13.9s									
PZH				LR	LR					
	comp=Z,750nm,13.7s									
PZH				LR	LR					
	comp=Z,960nm,13.9s									
MPSI	Mapaga	24.48	95	P		P	20 53 33.9	+1.1		
	comp=Z,13nm,1.5s,comp=Z,421nm									
ZIRO	ZIRO	24.67	356	*ex*		P	20 53 32.6	-2.0		
ZIRO					IAmb	IAmb	20 53 33.6			
	comp=Z,3.6nm,0.7s									
ODAN	Odare	25.19	343	*e*P		P	20 53 40.2	+0.9		
H08S2	Diego Garcia H	25.20	246	T		T	21 20 00.6			
	baz=66,slow=76,SNR=8092									
H08S3	Diego Garcia H	25.20	246	T		T	21 20 02.3			
	baz=66,slow=76,SNR=8497									
H08S1	Diego Carcia H	25.22	246	T		T	21 20 02.3			
	baz=66,slow=76,SNR=3506									
TOLI2	Tolitoli	25.30	93	P		P	20 53 40.4	+0.3		
KAPI	Kappang	25.41	108	P		P	20 53 42.3	+1.1		
	comp=Z,6.0nm,0.4s,baz=297,slow=14,SNR=3.9									
	comp=Z,6.0nm,0.4s									
RAMN	Ramite	25.52	341	*e*P		P	20 53 43.5	+1.2		
	comp=Z,20nm,0.6s									
TAPN	Taplejung	25.56	344	*e*P		P	20 53 44.2	+1.4		
	comp=Z,14nm,0.5s									
BKSI	Bulukumba	25.85	108	P		P	20 53 44.2	-1.0		
	comp=Z,22nm,0.8s									
GYA	Guiyang	25.87	23	⇑P		P	20 53 45.8	+0.5		
GYA				S		S	20 58 10.8	-3.0		
GYA				pmax	pmax					
	comp=Z,9.0nm,0.9s									
GYA				LR	LR					
	comp=Z,610nm,17.3s									
GYA				LR	LR					
	comp=Z,320nm,12.9s									
GYA				LR	LR					
	comp=Z,730nm,18.6s									
JIRN	Jiri	26.31	341	*e*P		P	20 53 50.9	+1.3		
	comp=Z,40nm,0.9s									
PKI	Pulchoki	26.49	340	*e*P		P	20 53 51.9	+0.7		
MRSI	Marisa	26.50	94	P		P	20 53 51.8	+0.7		
	comp=Z,16nm,1.2s,comp=Z,572nm									
PKIN	Phulchoki	26.50	340	*e*P		P	20 53 51.9	+0.6		
	comp=Z,8.7nm,0.5s									
GUN	Gumba	26.64	341	*e*P		P	20 53 53.7	+1.1		
	comp=Z,39nm,0.6s									
KKN	Kakani	26.74	340	*e*P		P	20 53 53.9	+0.6		
LSA	Lhasa	27.10	352	P		P	20 53 57.8	+0.9		
GKN	Gorkha	27.16	339	*e*P		P	20 53 58.6	+1.5		
GTOI	Gorontalo	27.55	94	P		P	20 54 00.5	-0.1		
	comp=Z,8.5nm,1.1s									
DANN	Dangsing	27.80	337	*e*P		P	20 54 04.5	+1.5		
	comp=Z,28nm,0.7s									
CD2	Chengdu	29.05	15	P		P	20 54 13.1	-0.7		
CD2				pmax	pmax					
	comp=Z,10.0nm,0.6s									
CD2				LR	LR					
	comp=Z,640nm,9.3s									
CD2				LR	LR					
	comp=Z,450nm,7.4s									
CD2				LR	LR					
	comp=Z,1µm,14.6s									
ENH	Enshi	30.39	24	P		P	20 54 24.2	-1.4		
SSLB	Suanglung	32.27	47	P		P	20 54 41.7	-0.5		
YULB	Yu-li	32.29	48	P		P	20 54 40.9	-1.5		
SMLA	Simla	33.11	330	*ex*		P	20 54 51.1	+1.7		
GOMU	GeErMu	33.27	359	P		P	20 54 52.1	+0.8		
XAN	Xi'an	33.53	20	⇑P		P	20 54 52.1	-1.1		
XAN				S		S	21 00 10.3	-3.4		
XAN				pmax	pmax					
	comp=Z,31nm,0.7s									
XAN				pmax	pmax					
	comp=Z,81nm,4.1s									
XAN				LR	LR					
	comp=Z,650nm,13.6s									
XAN				LR	LR					
	comp=Z,790nm,12.0s									
XAN				LR	LR					
	comp=Z,970nm,12.7s									
LZH	Lanzhou	34.03	12	⇑P		P	20 54 56.6	-1.1		
LZH				pP		pP	20 55 04.8	-0.8		
LZH				sP		sP	20 55 12.3	+3.4		
LZH				pmax	pmax					
	comp=Z,9.0nm,1.2s									
LZH				LR	LR					
	comp=Z,380nm,15.9s									
LZH				LR	LR					
	comp=Z,670nm,16.5s									
LZH				LR	LR					
	comp=Z,570nm,17.1s									
LYN	LuoYang	35.34	25	⇑*i*P		P	20 55 09.0	+0.2		
LYN				S		S	21 00 30.8	-11		
LYN				pmax	pmax					
	comp=Z,15nm,0.6s									
LYN				pmax	pmax					
	comp=Z,170nm,6.2s									
LYN				LR	LR					
	comp=Z,1µm,14.4s									
LYN				LR	LR					
	comp=Z,280nm,8.0s									
LYN				LR	LR					
	comp=Z,780nm,15.9s									
FITZ	Fitzroy Crossi	36.20	126	P		P	20 55 15.9	-0.4		
NJ2	Nanjing	36.47	34	*e*P		P	20 55 20.3	+1.8		
NJ2				pmax	pmax					
	comp=Z,5.0nm,0.5s									
GTA	Gaotai	36.68	6	*e*P		P	20 55 20.1	-0.3		
GTA				pP		pP	20 55 27.6	-0.7		
GTA				sP		sP	20 55 31.8	+0.2		
GTA				pmax	pmax					
	comp=Z,4.0nm,0.7s									
GTA				pmax	pmax					
	comp=Z,110nm,4.8s									
GTA				LR	LR					
	comp=Z,340nm,14.3s									
GTA				LR	LR					
	comp=Z,250nm,14.3s									
GTA				LR	LR					
	comp=Z,380nm,13.5s									
FAKI	Fak Fak	37.14	98	P		P	20 55 24.6	0.0		
FAKI	Fak Fak	37.14	98	P		P	20 55 24.2	-0.3		
	comp=Z,23nm,1.1s									
HNS	HongShan	38.71	25	⇑P		P	20 55 38.3	+0.9		
HNS				S		S	21 01 35.3	+2.5		
HNS				pmax	pmax					
	comp=Z,37nm,0.9s									
HNS				LR	LR					
	comp=Z,540nm,15.7s									
HNS				LR	LR					
	comp=Z,670nm,15.1s									
HNS				LR	LR					
	comp=Z,840nm,16.7s									
BTO	Baotou	39.88	17	*e*P		P	20 55 46.5	-0.8		
HHC	Hu-ho-hao-te	40.58	19	*e*P		P	20 55 54.6	+1.5		
HHC				S		S	21 02 05.1	+4.1		
HHC				pmax	pmax					
	comp=Z,27nm,0.8s									
HHC				pmax	pmax					
	comp=Z,190nm,4.7s									
HHC				LR	LR					
	comp=Z,2µm,14.3s									
HHC				LR	LR					
	comp=Z,560nm,9.8s									
HHC				LR	LR					
	comp=Z,2µm,15.1s									
KSH	Kashi	40.67	337	P		P	20 55 53.5	-0.3		
KSH				pmax	pmax					
	comp=Z,5.0nm,1.0s									
H01W3	Cape Leeuwin H	41.33	157	T		T	21 39 42.7			
	baz=332,slow=76,SNR=199									
H01W2	Cape Leeuwin H	41.34	157	T		T	21 39 43.7			
	baz=332,slow=76,SNR=169									
H01W1	Cape Leeuwin H	41.35	157	T		T	21 39 43.9			
	baz=332,slow=76,SNR=159									
WMQ	Urumqi	41.47	351	*e*P		P	20 56 01.4	+1.1		
WMQ				pmax	pmax					
	comp=Z,10.0nm,0.9s									
WMQ				LR	LR					
	comp=Z,330nm,16.5s									
WMQ				LR	LR					
	comp=Z,190nm,20.9s									
WMQ				LR	LR					
	comp=Z,210nm,20.9s									
BJT	Baijiatuau	41.53	24	P		P	20 56 02.0	+1.2		
BJI	Beijing	41.56	24	P		P	20 56 02.1	+1.2		
BJI				pP		pP	20 56 08.5	-0.5		
BJI				sP		sP	20 56 11.3	-1.0		
BJI				pmax	pmax					
	comp=Z,16nm,0.7s									
TARG	Taragay, Kyrgy	41.93	340	P		P	20 56 03.6	-0.8		
SHLS	Shalkode	42.69	343	⇑*e*P		P	20 56 09.8	-0.5		
	baz=343									
UZB	Uzynbulak	42.81	342	*e*P		P	20 56 12.2	+0.9		
	baz=342									
SATY	Saty	42.92	342	*e*P		P	20 56 13.3	+1.1		
	baz=341									
ZHN	Zhinishke	43.01	342	*e*P		P	20 56 13.0	+0.1		
	baz=342									
DL2	Dalian	43.13	30	⇓P		P	20 56 14.8	+1.0		
DL2				pP		pP	20 56 21.3	-0.6		
DL2				pmax	pmax					
	comp=Z,30nm,0.7s									
DL2				LR	LR					
	comp=Z,470nm,14.4s									
DL2				LR	LR					
	comp=Z,480nm,14.9s									
DL2				LR	LR					
	comp=Z,420nm,20.7s									
KPKS	Kokpek	43.20	342	*e*P		P	20 56 14.2	-0.2		
	baz=342									
TNSS	Tian-Shan	43.38	340	*e*P		P	20 56 17.0	+0.8		
	baz=340									
MDOK	Medeo	43.46	340	*e*P		P	20 56 16.9	+0.3		
	baz=340									
AAK	Ala-Archa	43.92	338	P		P	20 56 21.8	+1.5		
	comp=Z,1.0nm,0.6s,baz=190,slow=12,SNR=5.3									
	comp=Z,1.0nm,0.6s									
WB0	Warramunga Arr	44.25	122	P		P	20 56 23.7	+0.6		
WRA	Warramunga Arr	44.28	122	P		P	20 56 24.0	+0.6		
	comp=Z,3.0nm,0.8s,baz=300,slow=9.4,SNR=29									
	comp=Z,3.0nm,0.8s									
WRA	Warramunga Arr	44.28	122	P		P	20 56 23.1	-0.3		
WB2	Warramunga Arr	44.29	122	P		P	20 56 24.2	+0.8		
KUU	Kurty	44.34	340	*e*P		P	20 56 24.1	+0.6		
	baz=340									
WR0	Warramunga Arr	44.46	122	P		P	20 56 25.1	+0.3		
SGDS	Sogindy	44.56	338	*e*P		P	20 56 26.0	+0.6		
	baz=336									
JNU	Nakatsue	44.79	44	P		P	20 56 27.3	0.0		
	comp=Z,8.4nm,0.9s,baz=266,slow=3.6,SNR=2.1									
	comp=Z,8.4nm,0.9s									
XLT	XiLinHaoTe	44.83	21	*e*P		P	20 56 28.6	+1.1		
XLT				S		S	21 03 02.3	-1.1		
XLT				sS		sS	21 03 17.6	+0.9		
XLT				SS		ScS	21 06 08.9	-14		
XLT				pmax	pmax					
	comp=Z,9.0nm,0.7s									
XLT				pmax	pmax					
	comp=Z,110nm,4.1s									
XLT				LR	LR					
	comp=Z,73nm,17.5s									
XLT				LR	LR					
	comp=Z,360nm,17.5s									
XLT				LR	LR					
	comp=Z,900nm,17.1s									
MK31	Makanchi Array	45.34	347	P		P	20 56 32.0	+0.6		
MKAR	Makanchi Array	45.34	347	P		P	20 56 32.1	+0.7		
	comp=Z,18nm,0.8s,baz=162,slow=8.2,SNR=138									
	comp=Z,18nm,0.8s									
IUG	luzhnay	45.37	333	*e*P		P	20 56 32.2	+0.4		
	baz=333									
DZA	Taraz	45.40	335	*e*P		P	20 56 31.8	-0.2		
	baz=335									
MAKZ	Makanchi	45.42	347	P		P	20 56 32.9	+0.8		
ZSN	Zaisan	45.46	350	*e*P		P	20 56 32.7	+0.4		
	comp=Z,8.4nm,0.9s,baz=350									
FORT	Forrest	45.55	140	P		P	20 56 34.0	+0.7		
KSRS	Korea Array	45.56	37	P		P	20 56 32.9	-0.3		
	comp=Z,0.9nm,0.5s,baz=222,slow=8.2,SNR=5.2									
	comp=Z,0.9nm,0.5s									
ASAR	Alice Springs	45.67	127	P		P	20 56 35.4	+1.0		
	comp=Z,1.0nm,0.6s,baz=298,slow=8.1,SNR=17									
	comp=Z,1.0nm,0.6s									
ASAR	Alice Springs	45.67	127	P		P	20 56 34.2	-0.2		
CHM	Chimkent	45.70	333	*e*P		P	20 56 35.2	+0.9		
	baz=333									
SONM	Songino Array	45.87	10	P		P	20 56 35.9	+0.2		
	comp=Z,6.8nm,0.7s,baz=189,slow=9.4,SNR=40									
SONM				PcP		PcP	20 58 13.3	+0.6		
	comp=Z,1.2nm,0.6s,baz=190,slow=4.8,SNR=1.0									
	comp=Z,6.8nm,0.7s									
SONM	Songino Array	45.87	10	P		P	20 56 35.7	0.0		
KK31	Karatay Array	45.92	334	P		P	20 56 36.8	+0.7		
KKAR	Karatay Array	45.92	334	P		P	20 56 37.7	+1.6		
KKAR	Karatay Array	45.92	334	P		P	20 56 37.1	+1.0		
ULN	Ulaanbaatar	46.01	11	P		P	20 56 36.8	-0.1		
BTLS	Baital	46.15	339	*e*P		P	20 56 38.0	+0.2		
	baz=339									
JMN	Monobe	47.21	45	P		P	20 56 44.7	-1.7		
JHS	Saijyo	47.38	43	P		P	20 56 47.9	+0.3		
CN2	Changchun	48.71	29	*e*P		P	20 57 00.8	+3.1		
CN2				S		S	21 03 59.5	+0.8		
CN2				pmax	pmax					
	comp=Z,10.0nm,0.9s									
CN2				pmax	pmax					
	comp=Z,200nm,5.0s									
CN2				LR	LR					
	comp=Z,500nm,12.0s									
CN2				LR	LR					
	comp=Z,600nm,12.0s									
CN2				LR	LR					
	comp=Z,600nm,13.0s									
GEYT	Alibeck	48.95	320	P		P	20 57 00.6	+0.8		
	comp=Z,1.5nm,0.8s,baz=164,slow=8.4,SNR=2.0									
	comp=Z,1.5nm,0.8s									
SEM	Semipalatinsk	49.20	347	*e*P		P	20 57 01.2	-0.5		
	baz=347									
KURBB	Kurchatov Arra	49.80	346	P		P	20 57 06.8	+0.8		
	comp=Z,5.9nm,0.7s,baz=167,slow=7.0,SNR=84									
	comp=Z,5.9nm,0.7s									
KURK	Kurchatov	49.87	346	P		P	20 57 07.0	+0.5		
BNX	BinXian	51.08	28	⇓P		P	20 57 16.0	+0.3		
BNX				pmax	pmax					
	comp=Z,8.0nm,0.8s									
BNX				pmax	pmax					
	comp=Z,230nm,4.7s									
ZAA0	Zalesovo Array	51.77	352	P		P	20 57 21.3	+0.6		
ZALV	Zalesovo Beam	51.77	352	P		P	20 57 21.4	+0.7		
	comp=Z,14nm,0.5s,baz=181,slow=7.4,SNR=69									
	comp=Z,14nm,0.5s									
ZALV	Zalesovo Beam	51.77	352	P		P	20 57 21.1	+0.4		
OPO	Ambohidratompo	52.07	244	P		P	20 57 23.3	-0.5		
	comp=Z,2.3nm,0.9s,baz=61,slow=10,SNR=1.5									
	comp=Z,2.3nm,0.9s									
BVAR	Borovoye Array	54.23	342	P		P	20 57 39.5	+0.6		
	comp=Z,5.5nm,0.6s,baz=146,slow=8.8,SNR=26									
	comp=Z,5.5nm,0.6s									
BRVK	Borovoye	54.30	342	P		P	20 57 39.6	+0.2		
HEH	HeiHe	54.46	25	*e*P		P	20 57 41.4	+0.7		
HEH				pmax	pmax					
	comp=Z,5.0nm,1.2s									
HEH				pmax	pmax					
	comp=Z,370nm,5.0s									
HEH				LR	LR					
	comp=Z,390nm,15.8s									
HEH				LR	LR					
	comp=Z,450nm,15.0s									
HEH				LR	LR					
	comp=Z,600nm,13.6s									
ABKAR	Akbulak array	55.35	332	P		P	20 57 47.5	+0.3		
ABKAR	Akbulak array	55.35	332	P		P	20 57 46.7	-0.4		
KBZ	Khabaz	61.80	319	P		P	20 58 31.4	-0.7		
	comp=Z,1.2nm,0.8s,baz=71,slow=13,SNR=2.5									
	comp=Z,1.2nm,0.8s									
YAK	Yakutsk	64.41	17	P		P	20 58 49.0	-0.1		
BRTR	Keskin Array B	66.82	312	P		P	20 59 05.4	0.0		
	comp=Z,0.6nm,0.8s,baz=118,slow=12,SNR=3.3									
	comp=Z,0.6nm,0.8s									
TIXI	Tiksi	71.95	11	P		P	20 59 35.6	-0.6		
	comp=Z,1.8nm,0.3s,baz=266,slow=0.5,SNR=4.4									
	comp=Z,1.8nm,0.3s									
TIXI	Tiksi	71.95	11	P		P	20 59 35.4	-0.9		
AKASG	Malin Array Be	73.00	322	P		P	20 59 42.6	-0.3		
	comp=Z,0.1nm,0.3s,baz=87,slow=3.8,SNR=5.0									
	comp=Z,0.1nm,0.3s									
BURAR	Bucovina Array	74.75	319	P		P	20 59 54.0	+0.7		
BUR08	Bucovina Ar. S	74.77	319	P		P	20 59 54.5	+1.0		
MNK	Minsk	74.89	326	*i* P		P	20 59 52.0	-2.0		
	comp=E,2.0nm,1.0s									
MNK				*i* P		P	20 59 52.0	-2.0		
	comp=N,13nm,1.0s									
MNK				*i* P		P	20 59 52.0	-2.0		
	comp=Z,2.0nm,0.6s,baz=106									
MNK				*i* PP		PP	21 02 39.6	-2.0		
MNK				*i* PPP		PPP	21 04 25.7			
MNK				*i* S		S	21 09 27.8	-1.6		
MNK				*i* SS		SS	21 13 41.6	-36		
MNK				*i* SSS		SSS	21 17 12.2			
MNK				*i* LQ		LQ	21 27 56.0			
MNK				*i* LR		LR	21 30 43.1			
MNK				*i* LRM		MLR	21 34 06.7			
	comp=E,64nm,31.6s									
MNK				*i* LRM		MLR	21 35 58.0			
	comp=N,550nm,21.1s									
MNK				*i* LRM		MLR	21 36 24.7			
	comp=Z,61nm,17.6s									
FINES	FINESS Array B	77.84	333	P		P	21 00 10.7	+0.2		
	comp=Z,0.9nm,0.6s,baz=99,slow=6.0,SNR=6.5									
	comp=Z,0.9nm,0.6s									
FINES	FINESS Array B	77.84	333	P		P	21 00 11.1	+0.6		
ARCES	ARCESS Array B	80.50	340	P		P	21 00 25.5	+0.6		
	comp=Z,0.9nm,0.5s,baz=98,slow=5.0,SNR=9.1									
	comp=Z,0.9nm,0.5s									
GERES	GERESS Array B	82.54	319	P		P	21 00 37.2	+0.9		
	comp=Z,0.5nm,0.7s,baz=99,slow=8.8,SNR=4.2									
	comp=Z,0.5nm,0.7s									
MTPU	Mount Pierson

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PHRA	Phrae	16.27	16	Pn	Pn	20 52 25.2	-0.6
CRAI	Chiangrai	17.96	15		Pn	20 52 47.1	+0.1
SALM	Salem	19.25	298	ex	Pn	20 53 06.6	+3.9
SALM				ex	x	20 56 24.6	
KOD	Kodaikanal	19.35	293	ex	Pn	20 53 07.7	+3.4
KOD				ex	x	20 56 22.9	
PCHI	Peechi	20.49	293	ex	Pn	20 53 24.9	+7.5
PCHI				ex	x	20 56 21.1	
KKM	Kota Kinabalu	20.91	80	P	P	20 53 20.7	+0.9
KKM				IAmb	IAmb	20 53 23.0	
	comp=Z,112nm,1.2s						
KAAM	Kaadhehdhoo	22.60	265	P	P	20 53 36.3	-1.5
KAAM				IAmb	IAmb	20 53 47.7	
	comp=Z,104nm,1.7s						
SHL	Shillong	22.89	352	P	P	20 53 37.9	-3.1
MYLDM	Lahad Datu	23.08	83	P	P	20 53 43.5	+0.7
KMI	Kunming	23.26	17	⇓P	P	20 53 45.4	+0.6
KMI				pmax	pmax		
	comp=Z,39nm,0.9s						
PZH	PanZhiHua	24.31	14	P	P	20 53 54.5	-0.2
PZH				pmax	pmax		
	comp=Z,50nm,1.4s						
PZH				pmax	pmax		
	comp=Z,230nm,4.1s						
TOLI2	Tolitoli	25.34	93	P	P	20 54 03.9	-0.1
TOLI2				IAmb	IAmb	20 54 07.0	
	comp=Z,24nm,0.9s						
KAPI	Kappang	25.46	108	P	P	20 54 05.9	+0.8
	comp=Z,30nm,0.8s,baz=292,slow=5.7,SNR=7.1						
	comp=Z,30nm,0.8s						
KAPI	Kappang	25.46	108	P	P	20 54 05.6	+0.5
KAPI				IAmb	IAmb	20 54 07.4	
	comp=Z,47nm,1.1s						
LSA	Lhasa	27.06	352	P	P	20 54 19.1	-0.8
LSA				IAmb	IAmb	20 54 24.0	
	comp=Z,23nm,0.8s						
ENH	Enshi	30.36	24	P	P	20 54 47.2	-1.6
ENH				IAmb	IAmb	20 54 49.0	
	comp=Z,24nm,0.9s						
ENH	Enshi	30.36	24	P	P	20 54 47.9	-1.0
WHN	Wuhan	32.85	31	⇓P	P	20 55 10.9	+0.2
WHN				S	S	21 00 38.3	+12
WHN				pmax	pmax		
	comp=Z,120nm,1.2s						
WHN				LR	LR		
	comp=N,2μm,14.4s						
WHN				LR	LR		
	comp=E,2μm,8.6s						
WHN				LR	LR		
	comp=Z,4μm,13.9s						
XAN	Xi'an	33.50	20	P	P	20 55 15.5	-0.9
XAN				pP	pP	20 55 22.5	-1.9
LZH	Lanzhou	34.00	12	⇑P	P	20 55 20.0	-0.9
LZH				pP	pP	20 55 26.8	-2.0
LZH				sP	sP	20 55 34.0	+1.9
LZH				pmax	pmax		
	comp=Z,29nm,1.7s						
GTA	Gaotai	36.64	6	eP	P	20 55 43.6	+0.1
GTA				pP	pP	20 55 51.3	-0.2
GTA				sP	sP	20 55 55.0	+0.4
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
TIA	Tai'an	38.78	28	⇑P	P	20 56 01.3	-0.2
TIA				S	S	21 02 09.1	+12
TIA				pmax	pmax		
	comp=Z,19nm,0.9s						
TIA				pmax	pmax		
	comp=Z,160nm,4.9s						
TIA				LR	LR		
	comp=N,560nm,17.1s						
TIA				LR	LR		
	comp=E,550nm,11.7s						
TIA				LR	LR		
	comp=Z,890nm,13.7s						
BTO	Baotou	39.85	17	eP	P	20 56 11.3	+0.8
BTO				LR	LR		
	comp=N,3μm,15.2s						
BTO				LR	LR		
	comp=E,5μm,14.7s						
WUS	Wushi	40.93	341	P	P	20 56 20.6	+1.2
WUS				sP	sP	20 56 31.0	+0.3
WSAR	Wadi Sarin	41.04	303	LR	LR	21 14 03.9	
	comp=E,126nm,18.6s,baz=117,slow=37						
WMQ	Urumqi	41.42	351	P	P	20 56 24.4	+1.1
WMQ				pP	pP	20 56 32.2	+0.7
BJT	Baijiatuau	41.51	24	P	P	20 56 25.4	+1.4
BJT				pP	pP	20 56 32.1	0.0
DL2	Dalian	43.11	30	⇓iP	P	20 56 38.0	+0.9
DL2				pmax	pmax		
	comp=Z,75nm,0.9s						
DL2				pmax	pmax		
	comp=Z,320nm,4.6s						
AAK	Ala-Archa	43.86	338	P	P	20 56 43.3	0.0
	comp=Z,2.4nm,0.6s,baz=136,slow=1.8,SNR=6.0						
	comp=Z,2.4nm,0.6s						
AAK	Ala-Archa	43.86	338	P	P	20 56 45.8	+2.4
WB0	Warramunga Arr	44.30	122	P	P	20 56 46.4	-0.7
WB0				IAmb	IAmb	20 57 11.5	
	comp=Z,20nm,1.4s						
WRA	Warramunga Arr	44.34	122	P	P	20 56 47.4	+0.1
	comp=Z,6.0nm,0.9s,baz=302,slow=9.1,SNR=10						
	comp=Z,6.0nm,0.9s						
WRAB	Tennant Creek	44.34	122	P	P	20 56 47.3	0.0
WRAB				pP	pP	20 56 53.9	-1.5
WR0	Warramunga Arr	44.51	122	P	P	20 56 48.4	-0.3
WR0				IAmb	IAmb	20 56 50.1	
	comp=Z,20nm,1.2s						
JNU	Nakatsue	44.78	44	P	P	20 56 50.7	0.0
	comp=Z,12nm,0.8s,baz=74,slow=5.8,SNR=3.6						
	comp=Z,12nm,0.8s						
MK31	Makanchi Array	45.29	347	P	P	20 56 54.8	+0.3
MKAR	Makanchi Array	45.29	347	P	P	20 56 55.5	+1.1
	comp=Z,39nm,0.8s,baz=162,slow=8.3,SNR=48						
	comp=Z,39nm,0.8s						
MKAR	Makanchi Array	45.29	347	P	P	20 56 54.7	+0.2
MAKZ	Makanchi	45.37	347	P	P	20 56 55.9	+0.8
MAKZ	Makanchi	45.37	347	P	P	20 56 55.6	+0.5
MAKZ				pP	pP	20 57 03.6	+0.3
KSAR	Wonju Array Be	45.51	37	P	P	20 56 56.2	-0.2
KSRS	Korea Array	45.55	37	P	P	20 56 56.6	0.0
	comp=Z,3.3nm,0.8s,baz=220,slow=9.5,SNR=6.7						
KSRS				LR	LR	21 18 36.7	
	comp=Z,302nm,19.8s,baz=220,slow=40						
	comp=Z,3.3nm,0.8s						
ASAR	Alice Springs	45.73	127	P	P	20 56 58.9	+0.5
	comp=Z,1.6nm,0.5s,baz=308,slow=7.3,SNR=7.7						
	comp=Z,1.6nm,0.5s						
SONM	Songino Array	45.83	10	P	P	20 56 59.2	+0.3
	comp=Z,20nm,0.8s,baz=189,slow=8.5,SNR=32						
SONM				PcP	PcP	20 58 37.2	+1.2
	comp=Z,3.8nm,0.8s,baz=192,slow=3.2,SNR=4.7						
	comp=Z,20nm,0.8s						
SONM	Songino Array	45.83	10		P	20 56 58.8	-0.1
SONM				IAmb	IAmb	20 57 00.3	
	comp=Z,25nm,0.9s						
KK31	Karatay Array	45.87	334	P	P	20 56 58.1	-1.0
KK31				IAmb	IAmb	20 57 01.5	
	comp=Z,12nm,0.8s						
KKAR	Karatay Array	45.87	334	P	P	20 56 58.8	-0.3
KKAR	Karatay Array	45.87	334	P	P	20 56 58.5	-0.6
KKAR				IAmb	IAmb	20 57 01.5	
	comp=Z,12nm,0.8s						
ULN	Ulaanbaatar	45.98	11	P	P	20 56 59.1	-1.0
ULN				IAmb	IAmb	20 57 01.4	
	comp=Z,14nm,0.9s						
ULN	Ulaanbaatar	45.98	11	P	P	20 57 00.2	+0.2
ULN				pP	pP	20 57 08.1	-0.1
GEYT	Alibeck	48.89	320	P	P	20 57 23.9	+1.2
	comp=Z,3.8nm,0.8s,baz=152,slow=9.8,SNR=6.7						
	comp=Z,3.8nm,0.8s						
KURBB	Kurchatov Arra	49.75	346	P	P	20 57 30.2	+1.2
	comp=Z,15nm,0.8s,baz=168,slow=6.8,SNR=36						
	comp=Z,15nm,0.8s						
KURK	Kurchatov	49.82	346	P	P	20 57 30.3	+0.8
KURK	Kurchatov	49.82	346	P	P	20 57 30.5	+1.0
KURK				pP	pP	20 57 37.8	0.0
KURK				sP	sP	20 57 41.2	+0.4
HIA	Hailar	50.70	20		P	20 57 36.3	0.0
HIA				IAmb	IAmb	20 57 38.9	
	comp=Z,12nm,1.0s						
HIA	Hailar	50.70	20	P	P	20 57 37.8	+1.5
HIA				pP	pP	20 57 45.2	+0.6
MDJ	Mudanjiang	51.34	31	P	P	20 57 42.8	+1.6
MDJ	Mudanjiang	51.34	31	P	P	20 57 42.6	+1.4
MDJ				pP	pP	20 57 49.6	+0.2
MDJ				sP	sP	20 57 53.0	+0.4
ZAA0	Zalesovo Array	51.72	352	P	P	20 57 44.3	+0.5
ZALV	Zalesovo Beam	51.72	352	P	P	20 57 44.5	+0.7
	comp=Z,32nm,0.8s,baz=181,slow=6.2,SNR=26						
	comp=Z,32nm,0.8s						
ZALV	Zalesovo Beam	51.72	352	P	P	20 57 44.5	+0.7
OPO	Ambohidratompo	52.06	244	P	P	20 57 45.8	-1.3
	comp=Z,2.6nm,0.7s,baz=40,slow=24,SNR=2.5						
	comp=Z,2.6nm,0.7s						
OPO	Ambohidratompo	52.06	244	P	P	20 57 45.8	-1.3
ABPO	Ambohimpanom	52.17	243	P	P	20 57 50.5	+2.5
ABPO				pP	sP	20 57 58.1	-1.2
ABPO				sP	pP	20 58 00.9	+4.9
USRK	Ussuriysk Ar.	52.32	33	P	P	20 57 48.7	+0.2
	comp=Z,6.2nm,0.9s,baz=234,slow=6.1,SNR=7.0						
	comp=Z,6.2nm,0.9s						
RAYN	Ar Rayn	52.49	298		P	20 57 47.3	-3.0
RAYN				IAmb	IAmb	20 58 03.2	
	comp=Z,13nm,1.4s						
PMG	Port Moresby	52.89	104	P	P	20 57 53.6	+0.4
	comp=Z,8.3nm,0.8s,baz=315,slow=4.3,SNR=4.4						
	comp=Z,8.3nm,0.8s						
BVAR	Borovoye Array	54.18	342	P	P	20 58 02.8	+0.8
	comp=Z,15nm,0.8s,baz=140,slow=7.8,SNR=23						
	comp=Z,15nm,0.8s						
BRVK	Borovoye	54.25	342	P	P	20 58 02.6	+0.1
BRVK				IAmb	IAmb	20 58 04.2	
	comp=Z,16nm,1.0s						
BRVK	Borovoye	54.25	342	P	P	20 58 03.0	+0.5
BRVK				pP	pP	20 58 11.0	+0.3
CTAO	Charters Tower	54.75	117	P	P	20 58 07.9	+1.1
CTAO				pP	pP	20 58 14.2	-0.8
ABKAR	Akbulak array	55.30	332	P	P	20 58 10.9	+0.7
YSS	Yuzh-Sakhalins	60.02	36		P	20 58 43.8	+0.4
GURO	Guroymak-BITLI	60.23	313	P	P	20 58 45.5	+0.2
ARU	Arti	61.05	338	P	P	20 58 50.2	-0.1
ARU				IAmb	IAmb	20 58 51.9	
	comp=Z,19nm,1.0s						
ARU	Arti	61.05	338	P	P	20 58 50.9	+0.6
ARU				pP	pP	20 58 58.6	+0.1
ARU				sP	sP	20 59 02.0	+0.2
KBZ	Khabaz	61.74	319	P	P	20 58 54.4	-0.8
	comp=Z,1.5nm,0.8s,baz=88,slow=6.7,SNR=4.7						
	comp=Z,1.5nm,0.8s						
KBZ	Khabaz	61.74	319	P	P	20 58 54.4	-0.8
KIV	Kislovodsk	61.98	319	P	P	20 58 55.0	-2.0
KIV				IAmb	IAmb	20 59 07.8	
	comp=Z,16nm,1.4s						
KIV	Kislovodsk	61.98	319	P	P	20 58 57.2	+0.3
YAK	Yakutsk	64.38	17	P	P	20 59 11.9	-0.4
YAK	Yakutsk	64.38	17	P	P	20 59 12.1	-0.3
MBAR	Mbarara	64.81	268	P	P	20 59 15.0	-1.3
NRIK	Noril'sk	66.63	357	P	P	20 59 27.2	+0.4
	comp=Z,2.0nm,0.3s,baz=158,slow=4.9,SNR=9.3						
NRIK				LR	LR	21 32 23.4	
	comp=Z,218nm,18.6s,baz=168,slow=39						
	comp=Z,2.0nm,0.3s						
NRIK	Noril'sk	66.63	357		P	20 59 26.0	-0.8
BR131	Keskin Array S	66.77	312	P	P	20 59 27.9	-0.6
BR131				IAmb	IAmb	21 00 22.7	
	comp=Z,7.1nm,1.0s						
BRTR	Keskin Array B	66.77	312	P	P	20 59 28.6	+0.1
	comp=Z,1.4nm,0.8s,baz=132,slow=7.3,SNR=7.8						
	comp=Z,1.4nm,0.8s						
BRTR	Keskin Array B	66.77	312	P	P	20 59 27.8	-0.7
MA2	Magadan	70.64	26	P	P	20 59 52.0	0.0
MA2				pP	pP	21 00 00.1	-0.4
KLMR	Klimovskoe	71.57	335	eP	P	20 59 55.3	-2.3
KLMR				AMP		21 00 01.3	
	comp=Z,14nm,1.3s						
TIXI	Tiksi	71.92	11	P	P	20 59 57.9	-1.6
TIXI	Tiksi	71.92	11	P	P	20 59 59.0	-0.5
TIXI				pP	pP	21 00 06.7	-1.3
AKASG	Malin Array Be	72.95	322	P	P	21 00 06.1	+0.1
	comp=Z,0.6nm,0.4s,baz=90,slow=5.0,SNR=9.6						
	comp=Z,0.6nm,0.4s						
AKASG	Malin Array Be	72.95	322	P	P	21 00 05.4	-0.6
AKBB	Malin Array Si	72.95	322	P	P	21 00 05.5	-0.5
AKBB				IAmb	IAmb	21 00 40.8	
	comp=Z,10nm,1.2s						
DZM	Mont Dzumac	73.50	114	eLR	LR	21 22 16.2	
	comp=Z,264nm,25.5s						
MLR	Muntele Rosu	73.73	317		P	21 00 10.6	-0.4
MLR				IAmb	IAmb	21 00 41.2	
	comp=Z,8.6nm,1.0s						
BUR08	Bucovina Ar. S	74.71	319	P	P	21 00 16.2	-0.5
CRVS	Cervenica-Dubn	77.41	319	e	P	21 00 34.6	+2.7
FINES	FINESS Array B	77.79	333	P	P	21 00 33.9	+0.3
	comp=Z,4.1nm,0.8s,baz=111,slow=4.3,SNR=5.6						
	comp=Z,4.1nm,0.8s						
VYHS	Vyhne	79.06	319	e	P	21 00 49.2	+8.2
MODS	Modra-Piesok	80.07	319	e	P	21 00 56.1	+10
ARCES	ARCESS Array B	80.45	340	P	P	21 00 49.0	+0.8
	comp=Z,2.8nm,0.8s,baz=78,slow=6.3,SNR=7.3						
	comp=Z,2.8nm,0.8s						
TKNZ	Takaka Hill	82.41	132	P	P	21 00 58.0	-1.1
GERES	GERESS Array B	82.48	319	P	P	21 00 59.2	-0.2
	comp=Z,2.0nm,0.9s,baz=104,slow=5.6,SNR=12						
	comp=Z,2.0nm,0.9s						
GERES	GERESS Array B	82.48	319	P	P	21 00 58.6	-0.8
KHC	Kasperske Hory	82.58	319	eP	P	21 01 00.0	+0.1
CLUD	Cludinico	82.87	316	P	P	21 01 01.3	-0.1
CLUD				IAmb	IAmb	21 01 30.1	
	comp=Z,14nm,1.0s						
CLL	Collm	83.11	321	epP	pP	21 01 12.0	+0.9
NOA	NORSAR Array B	84.78	331	P	P	21 01 11.3	+0.5
	comp=Z,1.0nm,0.9s,baz=97,slow=4.1,SNR=2.4						
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	84.78	331	P	P	21 01 11.3	+0.5
IMAR	Indian Mountai	95.77	23	P	P	21 02 02.9	+0.4
TBI	Tubuai	114.07	114	eLR	LR	21 41 04.3	
	comp=Z,2μm,27.8s						
TBI				eLR	LR	21 41 04.3	
	comp=Z,538nm,28.5s						
ULM	Lac du Bonnet	126.25	9	PKP	PKPdf	21 07 39.1	-0.2
	comp=Z,5.3nm,0.6s,baz=328,slow=15,SNR=4.9						
NVAR	Mina Array Bea	128.45	34	PKP	PKiKP	21 07 44.5	-0.3
	comp=Z,0.8nm,0.7s,baz=284,slow=1.9,SNR=4.2						
TXAR	Lajitas Array	143.14	29	PKP	PKPbc	21 08 09.2	+0.9
	comp=Z,0.7nm,0.8s,baz=253,slow=1.3,SNR=4.8						
CPUP	Villa Florida	144.97	226	PKP	PKPdf	21 08 14.7	+0.1
	comp=Z,0.8nm,0.4s,baz=140,slow=2.7,SNR=3.7						

*IDC **23** 20:55:00.8±6.0, 37°.16N×141°.91E, h0km, mb3.7/4, mbtmp3.6/6, ML2.7/2, Error ellipse: s-maj=106.7km s-min=33.8km az=137.0*

*JMA **23** 20:55:05.8±0.2, 37°.4N±0°.4×141°.6E±0°.9, h29km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*

*NIED **23** 20:55:05.8, 37°.35N×141°.56E, h29km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.95; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$1.19; $M_{r\theta}$-0.53; $M_{\theta\phi}$0.51; $M_{\phi r}$-0.17; Fault plane solution: $M_0$1.32000×10^{14} NP1:ϕ_s43.00000°, δ59.00000°, λ-57.00000°. NP2:ϕ_s171.00000°, δ44.00000°, λ-132.00000°.*

ISC 23 20:55:02.4±2.0**, 37°.31N**±0°.05×**141°.69E**±0°.07**, h1**km±11km**, n22,** σ0s.68/27**, mb3.6**/4**, 8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.65	275	P	Pb	20 55 16.5	-0.1
JFK				S	Sg	20 55 23.9	+0.6
ONAJ	Iwakimizuishiy	0.74	254	⇓P	Pb	20 55 18.2	0.0
ONAJ				⇓S	Sb	20 55 27.5	-1.3
JMST	Minamisoumatoc	0.76	303	P	Pb	20 55 18.2	-0.2
JMST				S	Sg	20 55 27.1	+0.2
JMM	Marumori	0.90	308	⇓P	Pg	20 55 20.4	+0.7
JMM				⇓S	Sg	20 55 31.1	-0.3
JFFD	Fukushimafurud	0.93	257	⇓iP	Pb	20 55 21.1	-0.2
JFFD				⇓S	Sg	20 55 32.1	-0.1
JHO	Hitachi	1.14	232	P	Pb	20 55 24.4	-0.5
JHO				eS	Sg	20 55 38.1	-0.8
JIO	Ouri	1.17	347	P	Pg	20 55 25.2	+0.3
JIO				eS	Sg	20 55 39.8	-0.3
JOU	Okura	1.33	323	⇓iP	Pn	20 55 28.0	-0.2
JOU				⇓S	Sg	20 55 44.6	-0.5
JYS	Shirataka	1.57	306	P	Pb	20 55 32.4	0.0
JYS				S	Sn	20 55 51.6	-1.0
JFY	Yanaizu	1.58	274	P	Pb	20 55 32.4	-0.2
JFY				S	Sn	20 55 51.9	-0.9
MJAR	Matsushiro Arr	2.89	256	Pn	Pn	20 55 49.6	-0.1
	0.3nm,0.3s,baz=78,slow=16,SNR=3.1						
MJAR				Sn	Sn	20 56 27.1	+1.9
	0.8nm,0.3s,baz=98,slow=26,SNR=5.5						
	1.5nm,0.4s						
ASAJ	Asahikawa	6.83	6	Pn	Pn	20 56 43.4	-0.4
	0.3nm,0.3s,baz=268,slow=32,SNR=2.0						
	14nm,1.1s						
SONM	Songino Array	27.81	303	P	P	21 00 53.8	+0.5
	0.4nm,0.7s,baz=111,slow=7.9,SNR=1.8						
	0.4nm,0.7s						
H11N2	WAKE ISLAND Hy	28.10	122	T	T	21 30 24.3	
	baz=314,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	28.11	122	T	T	21 30 25.2	
	baz=314,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	28.12	122	T	T	21 30 25.0	
	baz=314,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy	28.83	124	T	T	21 31 21.8	
	baz=316,slow=75,SNR=8.0						
H11S3	WAKE ISLAND Hy	28.83	124	T	T	21 31 16.5	
	baz=316,slow=75,SNR=6.2						
H11S2	WAKE ISLAND Hy	28.84	124	T	T	21 31 18.2	
	baz=316,slow=75,SNR=5.7						
MKAR	Makanchi Array	44.16	302	P	P	21 03 13.1	+0.4
	0.4nm,0.6s,baz=88,slow=9.9,SNR=3.2						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	46.01	308	P	P	21 03 27.2	0.0
	0.4nm,0.4s,baz=81,slow=7.5,SNR=9.6						
	0.4nm,0.4s						
ARU	Arti	56.30	318	P	P	21 04 44.8	+0.3
	0.8nm,0.4s,baz=150,slow=20,SNR=2.2						
	0.8nm,0.4s						

*IDC **23** 20:58:36.3±3.9, 7°.71S×123°.35E, h180km±41km, mb3.1/2, mbtmp3.7/5, Error ellipse: s-maj=108.3km s-min=25.8km az=53.0*

*DJA **23** 20:58:37.2±0.5, 8°S±8°×12°3E±°, h204km±6km, M3.6/7, mb3.6/7, MLv3.5/7*

ISC 23 20:58:38.6±0.9**, 8°.23S**±0°.10×**122°.80E**±0°.09**, h200**km**, n21,** σ2s.02/23**, Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.68	234	P	Pn	20 59 07.6	+1.1
MMRI	Maumere	0.68	234	P	Pn	20 59 06.7	+0.2
SOEI	Soe	2.10	136	P	Pn	20 59 19.1	+0.8
SOEI	Soe	2.10	136	P	Pn	20 59 19.0	+0.8
BATI	Baumata	2.14	157	P	Pn	20 59 19.9	+1.3
	32nm,0.3s,baz=0.0,slow=1.0,SNR=50						
BATI				S	Sn	20 59 52.5	+2.5
	90nm,0.4s,baz=325,slow=12,SNR=9.4						
BATI	Baumata	2.14	157	P	Pn	20 59 19.7	+1.1
BSSI	Bau Bau, Buton	3.09	312	P	Pn	20 59 27.5	-1.8
PLAI	Plampang	5.00	263	P	Pn	20 59 53.7	+0.6
PLAI	Plampang	5.00	263	P	Pn	20 59 53.3	+0.2
	15nm,0.9s,0.1nm						
TWSI	Taliwang, Sumb	5.87	265	P	Pn	21 00 04.1	-0.2
	13nm,0.9s,0.1nm						
KNRA	Kununurra	9.42	142	P	Pn	21 00 49.5	-0.9
FAKI	Fak Fak	10.78	61	P	P	21 01 17.6	+2.8
PWJI	Pagerwojo	10.89	270	P	Pn	21 01 09.5	+0.2
	19nm,1.5s						
WRA	Warramunga Arr	16.14	137	P	P	21 02 13.5	-0.6
	0.8nm,0.7s,baz=314,slow=13,SNR=6.3						
WRA				S	S	21 05 06.1	-7.1
	0.4nm,0.5s,baz=315,slow=23,SNR=2.0						
WRAB	Tennant Creek	16.14	137	P	P	21 02 14.4	+0.3
WRKA	Warakurna	17.52	163	P	P	21 02 28.2	-1.1
ASAR	Alice Springs	18.68	147	P	P	21 02 43.0	+1.1
	1.3nm,0.5s,baz=323,slow=10.0,SNR=22						
AS01	Alice Springs	18.70	146	P	P	21 02 42.6	+0.4
OOD	Oodnadatta	22.96	150	P	P	21 03 26.4	+0.8
STKA	Stephens Creek	29.31	146	P	P	21 04 22.9	+0.3
	1.3nm,0.8s,baz=331,slow=13,SNR=1.4						
	1.3nm,0.8s						
MKAR	Makanchi Array	65.56	331	P	P	21 08 59.2	-1.6
	0.2nm,0.6s,baz=119,slow=7.4,SNR=2.7						
	0.2nm,0.6s						

*NEIC **23** 21:02:47.1±1.0, 43°.79N±0°.03×105°.24W±0°.09, h0km±2km, ML3.2/48, Error ellipse: s-maj=10.8km s-min=4.5km az=91.0*

*IDC **23** 21:02:47.5±1.7, 43°.86N×105°.65W, h0km, mb3.8/1, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=42.1km s-min=9.8km az=147.0*

ISC 23 21:02:46.8±0.9**, 43°.78N**±0°.06×**105°.25W**±0°.07**, h0**km**, n45,** σ0s.53/44**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.94	68	Pg	Pb	21 03 06.0	-0.2
K22A	Casper	1.46	220		Pn	21 03 13.4	-1.2
K22A				IAML		21 03 36.5	
	comp=E,321nm,0.6s						
K22A				IAML		21 03 38.9	
	comp=N,525nm,0.3s						
PHWY	Pilot Hill	2.48	184	Pn	Pn	21 03 29.1	+0.3
PHWY				IAML		21 04 07.6	
	comp=N,54nm,0.5s						
PHWY				IAML		21 04 10.5	
	comp=N,76nm,0.6s						
RWWY	Rawlins	2.54	215	Pn	Pn	21 03 29.4	-0.1
RWWY				IAML		21 04 05.8	
	comp=N,133nm,0.7s						
N23A	Red Feather La	2.93	190	Pn	Pn	21 03 35.2	+0.4
N23A				IAML		21 04 18.8	
	comp=N,115nm,0.6s						
N23A				IAML		21 04 23.4	
	comp=E,66nm,0.7s						
LAO	LASA Array	2.99	347	Pn	Pn	21 03 35.2	-0.4
RLMT	Red Lodge	3.17	296	Pn	Pn	21 03 38.2	0.0
RLMT				IAML		21 04 27.0	
	comp=E,52nm,0.5s						
RLMT				IAML		21 04 31.3	
	comp=E,61nm,0.4s						
BW06	Boulder Array	3.30	254	Pn	Pn	21 03 39.9	-0.1
BW06				IAML		21 04 29.4	
	comp=E,49nm,0.6s						
BW06				IAML		21 04 34.8	
	comp=E,38nm,0.6s						
PD31	Pinedale Array	3.30	254	Pn	Pn	21 03 40.7	+0.7
PDAR	Pinedale Array	3.30	254	Pn	Pn	21 03 40.4	+0.4
	comp=E,2.5nm,0.3s,baz=72,slow=16,SNR=85						
PDAR				Lg	Lg	21 04 22.3	
	comp=E,5.6nm,0.3s,baz=72,slow=34,SNR=3.2						
	comp=E,3.4nm,0.3s						
PDAR	Pinedale Array	3.30	254	Pn	Pn	21 03 40.1	+0.2
YMP	Mirror Lake Pl	3.65	287	Pn	Pn	21 03 44.9	+0.1
OGNE	Ogallala	3.70	139	Pn	Pn	21 03 46.0	+0.7
GCMT	Greycliff	3.73	304	Pn	Pn	21 03 46.2	+0.4
LKWY	Lake	3.78	284	Pn	Pn	21 03 47.0	+0.4
LKWY				IAML		21 04 55.8	
	comp=E,44nm,0.6s						
LKWY				IAML		21 05 17.9	
	comp=E,31nm,3.6s						
H17A	Grant Village	3.88	281	Pn	Pn	21 03 48.8	+0.8
H17A				IAML		21 04 51.8	
	comp=N,25nm,0.7s						
LOHW	Long Hollow	3.88	269	Pn	Pn	21 03 47.8	-0.2
FLWY	Flagg Ranch	3.94	276	Pn	Pn	21 03 48.5	-0.3
FLWY				IAML		21 04 59.4	
	comp=N,29nm,2.0s						
FLWY				IAML		21 05 30.0	
	comp=N,26nm,3.8s						
MOOW	Moose Ponds	3.98	271	Pn	Pn	21 03 49.5	+0.2
ISCO	Idaho Springs	3.98	184	Pn	Pn	21 03 50.3	+0.9
REDW	Red Top Meadow	4.09	266	Pn	Pn	21 03 50.9	+0.1
E28A	Huff	4.27	47	Pn	Pn	21 03 53.5	+0.4
O20A	White River Ci	4.27	212	Pn	Pn	21 03 53.5	+0.3
O20A				IAML		21 05 05.4	
	comp=N,31nm,0.7s						
O20A				IAML		21 05 08.5	
	comp=E,46nm,0.7s						
DGMT	Dagmar	4.75	9	Pn	Pn	21 04 00.5	+0.9
HWUT	Hardware Ranch	5.13	247	Pn	Pn	21 04 05.1	0.0
HWUT				IAML		21 04 41.7	
	comp=E,17nm,4.6s						
HWUT				IAML		21 05 33.4	
	comp=E,22nm,0.6s						
KSCO	Kaye Shedlock'	5.16	157	Pn	Pn	21 04 04.4	-0.9
EGMT	Eagleton	5.28	325	Pn	Pn	21 04 06.3	-0.7
HRY	Holter Researc	5.49	305	Pn	Pn	21 04 09.4	-0.5
LRM	Limekiln Ridge	5.51	294	Pn	Pn	21 04 10.5	+0.1
HVU	Hansel Valley	5.88	253	Pn	Pn	21 04 15.6	+0.2
PV07	Paradox Valley	5.92	207	Pn	Pn	21 04 16.7	+0.7

P17A	**Butcher Ranch,**	**5.95**	**226**	Pn	**Pn**	**21 04 16.9**	**+0.6**
SRU	**San Rafael Swe**	**6.12**	**222**	Pn	**Pn**	**21 04 18.1**	**-0.5**
ECSD	**EROS Data Cent**	**6.26**	**87**	Pn	**Pn**	**21 04 19.9**	**-0.4**
TMUT	**Trail Mountain**	**6.32**	**227**	Pn	**Pn**	**21 04 21.9**	**+0.3**
Q16A	**Castle Valley**	**6.59**	**225**	Pn	**Pn**	**21 04 25.9**	**+0.8**
DUG	**Dugway, Tooele**	**6.67**	**240**	Pn	**Pn**	**21 04 26.3**	**+0.1**
F33A	**5 Mile Ranch,**	**6.70**	**69**	Pn	**Pn**	**21 04 25.4**	**-1.0**
MSU	**Marysvale**	**7.41**	**227**	Pn	**Pn**	**21 04 36.5**	**+0.1**
AGMN	**Agassiz Nation**	**7.94**	**52**	Pn	**Pn**	**21 04 43.3**	**-0.2**
WALA	**Waterton Lakes**	**7.98**	**314**	Pn	**Pn**	**21 04 43.6**	**-0.5**
I10CA	**LAC DU BONNET** baz=222,slow=326,SNR=1.9	**9.00**	**41**	I	I	21 54 30.0	
ULM	**Lac du Bonnet** comp=E,0.9nm,0.3s,baz=237,slow=12,SNR=4.8	**9.10**	**41**	Pn	**Pn**	**21 05 00.0**	**+0.7**
ULM	comp=E,0.6nm,0.3s,baz=317,slow=18,SNR=1.9 comp=E,2.3nm,0.4s			Lg	Lg	21 07 29.4	
YKA	**Yellowknife Ar** comp=E,0.1nm,0.3s,baz=162,slow=13,SNR=5.4 comp=E,0.2nm,0.6s	**19.53**	**347**	P	**P**	**21 07 15.3**	**-0.2**
MKAR	**Makanchi Array** comp=E,0.4nm,0.6s,baz=1.1,slow=4.0,SNR=4.6 comp=E,0.4nm,0.6s	**89.56**	**355**	P	**P**	**21 15 46.5**	**+0.4**

IDC 23 21:38:01.0±3.9, 17.70S×178.28W, h553km±19km, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=101.7km s-min=30.4km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 38nm,0.7s,baz=117,slow=4.9,SNR=42	**3.50**	**269**	P	P	21 39 19.6	0.0
MSVF	2.9nm,0.8s,baz=99,slow=22,SNR=0.7			S	S	21 40 24.0	+0.4
STKA	**Stephens Creek** 3.0nm,0.8s,baz=103,slow=12,SNR=3.7 3.0nm,0.8s	**38.84**	**241**	P	P	21 44 40.2	+1.1
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=99,slow=7.3,SNR=13 0.3nm,0.3s	**44.79**	**259**	P	P	21 45 25.3	-0.9
ASAR	**Alice Springs** 7.1nm,0.7s,baz=88,slow=8.1,SNR=68 7.1nm,0.7s	**44.96**	**254**	P	P	21 45 27.5	0.0
ILAR	**Eielson Array** 0.2nm,0.9s,baz=229,slow=5.1,SNR=4.4 0.2nm,0.9s	**85.66**	**13**	P	P	21 49 40.8	-0.2

*SLM **23** 21:47:20.7±0.5, 37.56N±0.01×89.90W±0.01, h2km±1km, Md2.2/17, mb_Lg2.4/11(NEIC), ML2.7/22(NEIC), Error ellipse: s-maj=2.7km s-min=2.1km az=137.0*

NEIC 23 21:47:19.9±0.8, 37.56N±0.01×89.87W±0.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.1km az=176.0, Cape Girardeau region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGM3	**Cape Girardeau**	**0.31**	**147**		Pg	21 47 26.7	+0.7
CGM3					Sg	21 47 30.7	+0.6
CGM3	comp=N,1µm,0.2s			IAML		21 47 31.6	
MCIL	**McClure**	**0.40**	**131**		Pg	21 47 28.3	+0.7
MCIL					Sg	21 47 33.8	+1.0
S44A	**Carbondale**	**0.51**	**75**	Pg	Pg	21 47 30.4	+0.6
S44A				Sg	Sg	21 47 37.6	+1.3
S44A	comp=E,480nm,0.1s			IAML		21 47 38.6	
S44A	comp=N,322nm,0.1s			IAML		21 47 39.1	
SIUC	**Southern Illin**	**0.54**	**73**	Pg	Pg	21 47 30.9	+0.5
SIUC				Sg	Sg	21 47 38.2	+0.8
SIUC	comp=N,394nm,0.1s			IAML		21 47 38.9	
SIUC	comp=E,459nm,0.1s			IAML		21 47 38.9	
GUAMO	**Guam**	**0.67**	**178**		Pg	21 47 32.7	-0.1
MATM	**Matthews**	**0.81**	**165**		Pg	21 47 35.6	0.0
DWDM	**Dogwood**	**0.82**	**158**		Pg	21 47 35.8	+0.1
BRNM	**Bernie**	**0.84**	**187**		Pg	21 47 35.9	-0.2
COKM	**Charter Oak**	**0.86**	**172**		Pg	21 47 36.2	-0.2
KEWM	**Kewanee**	**0.89**	**165**		Pg	21 47 37.0	0.0
PBMO	**Poplar Bluff**	**0.90**	**210**	Pg	Pg	21 47 36.8	-0.4
PBMO	comp=E,213nm,0.2s			IAML		21 47 48.7	
PBMO	comp=N,248nm,0.2s			IAML		21 47 49.4	
PARMO	**Parma**	**0.90**	**174**	Pg	Pg	21 47 36.5	-0.7
PARMO				Sg	Sg	21 47 49.0	+0.1
PARMO	comp=E,293nm,0.2s			IAML		21 47 52.2	
PARMO	comp=N,222nm,0.1s			IAML		21 47 55.9	
HENM	**Henderson Moun**	**0.90**	**159**		Pg	21 47 37.2	0.0
BETM	**Bethany**	**0.96**	**189**		Pg	21 47 38.0	-0.3
CATM	**Catron**	**0.96**	**169**		Pg	21 47 38.2	-0.2
TOPM	**Tallapoosa**	**1.03**	**181**		Pg	21 47 39.3	-0.4
MARMO	**Marston**	**1.04**	**171**		Pg	21 47 39.5	-0.4
WALK	**Watson Lake**	**1.05**	**165**		Pg	21 47 40.0	-0.1
PGVM	**Portageville**	**1.10**	**174**		Pg	21 47 40.6	-0.5
T42A	**Van Buren**	**1.11**	**242**	Pg	Pg	21 47 40.1	-1.1
T42A				Sg	Sg	21 47 53.6	-1.9
SLM	**Saint Louis**	**1.11**	**345**	Pg	Pg	21 47 41.1	-0.2
T45A	**Paducah**	**1.12**	**118**		Pg	21 47 41.5	+0.2
T45A	**Paducah**	**1.12**	**118**	Pg	Pg	21 47 41.4	0.0
T45A	**Paducah**	**1.12**	**118**	Sg	Sg	21 47 55.8	0.0
T45A	comp=E,246nm,0.5s			IAML		21 47 59.7	
T45A	comp=N,205nm,0.6s			IAML		21 48 02.6	
PENMO	**Penman**	**1.12**	**170**		Pg	21 47 41.1	-0.4
HICK	**Hickman**	**1.14**	**153**	Pg	Pg	21 47 41.6	-0.2
HICK				Sg	Sg	21 47 56.2	-0.4
POBM	**Portage Bay**	**1.16**	**172**		Pg	21 47 41.5	-0.7
PPLM	**Point Pleasant**	**1.18**	**169**		Pg	21 47 42.1	-0.4
FMKY	**Fulgham**	**1.18**	**139**		Pg	21 47 42.4	-0.2
WADM	**Wardell**	**1.19**	**177**		Pg	21 47 42.2	-0.6
CCM	**Cathedral Cave**	**1.19**	**295**	Pg	Pg	21 47 42.1	-0.7
CCM	**Cathedral Cave**	**1.19**	**295**	Sg	Sg	21 47 57.3	-1.0
CCM	comp=N,102nm,0.1s			IAML		21 47 59.2	
FLPT	**Flippin**	**1.23**	**159**		Pg	21 47 43.2	-0.3
WYBT	**Wynnburg**	**1.25**	**166**		Pg	21 47 43.4	-0.4
GLAT	**Glass**	**1.37**	**160**		Pn	21 47 45.3	-0.4
PEBM	**Pemiscott Bayo**	**1.44**	**180**		Pn	21 47 46.5	-0.2
UTMT	**University of**	**1.46**	**146**		Pn	21 47 47.2	+0.3
LNXT	**Lenox**	**1.49**	**168**		Pn	21 47 47.5	+0.2
LNXT	comp=Z,22nm,0.9s			IAmb_Lg		21 48 07.2	
Q44A	**Meyer Farm, Va**	**1.50**	**26**		Pb	21 47 48.3	0.0
GNAR	**Gosnell**	**1.60**	**184**		Pn	21 47 49.1	+0.3
NHIN	**New Harmony**	**1.64**	**69**		Pn	21 47 44.2	-5.1
LCAR	**Lake Charles**	**1.81**	**215**	Pn	Pn	21 47 52.0	+0.2
LCAR	comp=Z,15nm,0.7s			IAmb_Lg		21 48 18.6	
MGMO	**Mountain Grove**	**1.95**	**259**	Pn	Pn	21 47 54.1	+0.3
R40A	**Maddies Statio** comp=Z,22nm,1.1s	**2.03**	**292**	IAmb_Lg		21 48 23.2	
P43A	**Skaggs, Pawnee** comp=Z,13nm,0.8s	**2.10**	**7**	IAmb_Lg		21 48 27.8	
WVT	**Waverly**	**2.17**	**130**	Pn	Pn	21 47 57.7	+0.9
WVT	comp=Z,17nm,0.8s			IAmb_Lg		21 48 31.8	
T47A	**Sharon Grove**	**2.28**	**104**		Pb	21 48 00.9	-0.7
T47A	**Sharon Grove**	**2.28**	**104**	Pn	Pb	21 48 00.0	-1.5
EBZ	**Ebenezer Churc**	**2.45**	**170**		Pn	21 47 57.0	-3.6
W45A	**Hickory Valley**	**2.46**	**167**	Pn	Pn	21 48 01.1	+0.4
W45A	comp=Z,19nm,0.8s			IAmb_Lg		21 48 39.4	
U40A	**Yellville**	**2.67**	**244**		Pb	21 48 06.7	-1.6
S39A	**Bolivar**	**2.74**	**274**	Pn	Pn	21 48 05.4	+0.8
O44A	**Mansfield** comp=Z,15nm,0.8s	**2.81**	**23**	IAmb_Lg		21 48 53.7	
P46A	**Rosedale**	**2.93**	**45**	Pn	Pn	21 48 06.4	-0.8
RLO	**Rose Lookout**	**4.36**	**253**	Pn	Pn	21 48 26.9	+0.1
U32A	**Winter Ranch,**	**7.40**	**264**		Pn	21 49 01.5	-7.2

*NOU **23** 21:52:16.2, 35.65S×179.69E, h0km, MLv4.7/14, Off E. Coast of N. Island, N.Z.*
*WEL **23** 21:52:19.6±0.6, 36.4S×178.0E, h33km, M4.6/31, ML4.8/32, MLv4.6/31, Error ellipse: s-maj=0.0km s-min=0.0km az=103.5, confirmed*

*NEIC **23** 21:52:19.7±1.1, 35.62S±0.10×179.6E±0.2, h45km±2km, mb4.7/22, Error ellipse: s-maj=19.3km s-min=14.2km az=102.0*
*IDC **23** 21:52:21.6±3.8, 35.69S×179.62E, h69km±31km, mb4.2/7, mbtmp4.5/9, ML5.2/2, MS3.4/11, Error ellipse: s-maj=26.7km s-min=19.9km az=67.0*

ISC 23 21:52:20.6±1.4, 35.61S±0.06×179.63E±0.08, h60km±11km, n181, σ1°35/171, mb4.6/16, MS3.5/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.23**	**208**		Pn	**21 52 53.3**	**-1.8**
MXZ	**Matakaoa Point**	**2.23**	**208**	P	Pn	**21 52 54.0**	**-1.1**
MXZ	**Matakaoa Point**	**2.23**	**208**	P	Pn	**21 52 54.1**	**-1.0**
MXZ				S	Sn	**21 53 23.1**	**+1.7**
WMGZ	**Waiomatatini S**	**2.42**	**203**	P	Pn	**21 52 58.8**	**+1.1**
WMGZ				S	Sn	**21 53 29.0**	**+2.9**
PKGZ	**Pakihiroa**	**2.60**	**208**	P	Pn	**21 53 00.9**	**+0.7**
PKGZ				S	Sn	**21 53 31.6**	**+1.0**
HAZ	**Te Kaha**	**2.61**	**214**	P	Pn	**21 53 00.3**	**0.0**
PUZ	**Puketiti**	**2.70**	**204**	P	Pn	**21 53 01.9**	**+0.4**
PUZ				S	Sn	**21 53 33.2**	**+0.2**
WIZ	**White Island**	**2.75**	**225**	P	Pn	**21 53 00.9**	**-1.2**
WSRZ	**White Island S**	**2.75**	**225**	P	Pn	**21 53 01.0**	**-1.2**
RUGZ	**Raukumara Rang**	**2.83**	**213**	P	Pn	**21 53 04.0**	**+0.6**
RUGZ				S	Sn	**21 53 39.4**	**+3.0**
TWGZ	**Tauwhareparae**	**2.89**	**207**	P	Pn	**21 53 04.6**	**+0.5**
TWGZ				S	Sn	**21 53 39.8**	**+2.1**
CNGZ	**Carnagh Statio**	**3.09**	**201**	P	Pn	**21 53 07.2**	**+0.3**
CNGZ				S	Sn	**21 53 44.0**	**+1.4**
WHRZ	**Whale Island**	**3.10**	**223**	P	Pn	**21 53 07.4**	**+0.4**
TKGZ	**Te Karaka**	**3.17**	**206**	P	Pn	**21 53 08.1**	**+0.2**
MWZ	**Matawai**	**3.20**	**211**	P	Pn	**21 53 08.5**	**0.0**
MWZ				S	Sn	**21 53 46.0**	**+0.5**
MYRZ	**Mayor Island**	**3.20**	**238**	P	Pn	**21 53 07.6**	**-0.9**
URZ	**Urewera** 58nm,0.3s,baz=106,slow=3.5,SNR=265	**3.33**	**217**	P	Pn	**21 53 09.7**	**-0.4**
URZ				S	Sn	**21 53 47.8**	**-0.7**
URZ	416nm,0.8s,baz=96,slow=17,SNR=9.1			LR	LR	21 54 24.4	
URZ	**Urewera** comp=Z,231nm,20.8s,baz=105,slow=38 166nm,0.4s	**3.33**	**217**	P	Pn	**21 53 10.3**	**+0.1**
URZ	**Urewera**	**3.33**	**217**	P	Pn	**21 53 09.9**	**-0.3**
URZ				S	Sn	**21 53 48.2**	**-0.3**
OPRZ	**Ohinepanea**	**3.33**	**227**	P	Pn	**21 53 09.5**	**-0.7**
KUZ	**Kuaotunu**	**3.36**	**249**	P	Pn	**21 53 09.8**	**-0.8**
KUZ	**Kuaotunu**	**3.36**	**249**	P	Pn	**21 53 09.8**	**-0.8**
RAGZ	**Rawiri**	**3.38**	**211**	P	Pn	**21 53 11.0**	**0.0**
GRZ	**Great Barrier**	**3.45**	**258**	P	Pn	**21 53 10.5**	**-1.2**
MKRZ	**Makatiti**	**3.58**	**224**	P	Pn	**21 53 14.5**	**+0.8**
OMRZ	**Omania**	**3.61**	**225**	P	Pn	**21 53 14.1**	**0.0**
TARZ	**Mount Tarawera**	**3.63**	**223**	P	Pn	**21 53 15.2**	**+0.8**
KARZ	**Kaharoa**	**3.63**	**227**	P	Pn	**21 53 14.0**	**-0.3**
SNGZ	**Shannon Statio**	**3.66**	**209**	P	Pn	**21 53 14.2**	**-0.5**
SNGZ				S	Sn	**21 53 56.1**	**-0.6**
MUGZ	**Murupara**	**3.67**	**218**	P	Pn	**21 53 14.7**	**-0.1**
RTZ	**Ruatahuna**	**3.68**	**214**	Pn	Pn	**21 53 14.0**	**-0.9**
RTZ	**Ruatahuna**	**3.68**	**214**	S	Sn	**21 53 15.0**	**-0.4**
KMRZ	**Kaimai**	**3.71**	**232**	P	Pn	**21 53 15.0**	**-0.5**
KNZ	**Kokohu**	**3.75**	**204**	P	Pn	**21 53 14.6**	**-1.3**
MHGZ	**Mahia Peninsul**	**3.80**	**201**	P	Pn	**21 53 15.7**	**-0.9**
WIAZ	**Waiheke Island**	**3.82**	**251**	P	Pn	**21 53 16.9**	**0.0**
HRRZ	**Handcock Road**	**3.86**	**223**	P	Pn	**21 53 18.2**	**+0.8**
RAHZ	**Arahi**	**3.88**	**211**	P	Pn	**21 53 15.7**	**-2.0**
PRRZ	**Plateau Road**	**3.88**	**221**	P	Pn	**21 53 17.8**	**+0.1**
MKAZ	**Moumakai**	**3.91**	**246**	P	Pn	**21 53 18.1**	**0.0**
MTHZ	**Maungataniwha**	**3.93**	**214**	P	Pn	**21 53 18.0**	**-0.4**
TOZ	**Tahuroa Road**	**3.94**	**236**	P	Pn	**21 53 17.8**	**-0.7**
ALRZ	**Allen Road**	**3.95**	**221**	P	Pn	**21 53 18.6**	**-0.1**
WHHZ	**Waihua**	**3.96**	**208**	P	Pn	**21 53 18.9**	**+0.1**
MBAZ	**Motutapu North**	**4.00**	**252**	P	Pn	**21 53 18.9**	**-0.4**
MRHZ	**Matea Rd**	**4.12**	**218**	P	Pn	**21 53 20.3**	**-0.7**
NMHZ	**Naumai**	**4.15**	**212**	P	Pn	**21 53 20.5**	**-1.0**
WCZ	**Waipu Caves**	**4.31**	**264**	P	Pn	**21 53 23.1**	**-0.5**
BKZ	**Black Stump Fm**	**4.34**	**214**		Pn	**21 53 22.2**	**-1.9**
BKZ	**Black Stump Fm**	**4.34**	**214**	P	Pn	**21 53 23.0**	**-1.1**
BKZ	**Black Stump Fm**	**4.34**	**214**	P	Pn	**21 53 22.8**	**-1.4**
WATZ	**Wairara**	**4.39**	**224**	P	Pn	**21 53 24.9**	**+0.1**
RATZ	**Rangitukua**	**4.48**	**222**	P	Pn	**21 53 25.6**	**-0.4**
MCHZ	**McNeill Hill**	**4.49**	**210**	P	Pn	**21 53 23.8**	**-2.2**
RITZ	**Rihia Road**	**4.51**	**221**	P	Pn	**21 53 26.2**	**-0.2**
CKHZ	**Cape Kidnapper**	**4.52**	**206**	P	Pn	**21 53 24.1**	**-2.4**
KWHZ	**Kaweka Forest**	**4.59**	**213**	P	Pn	**21 53 25.8**	**-1.6**
KATZ	**Kakaramea**	**4.60**	**222**	P	Pn	**21 53 28.5**	**+0.8**
TMVZ	**Te Maari**	**4.70**	**221**	P	Pn	**21 53 28.5**	**-0.5**
NTVZ	**North Tongariro**	**4.70**	**221**	P	Pn	**21 53 28.0**	**-1.0**
ETVZ	**East Tongariro**	**4.71**	**220**	P	Pn	**21 53 28.0**	**-1.1**
KRVZ	**Karewarewa**	**4.71**	**221**	P	Pn	**21 53 29.0**	**-0.3**
KAHZ	**Kahuranaki**	**4.72**	**207**	P	Pn	**21 53 26.9**	**-2.3**
OTVZ	**Oturere**	**4.75**	**220**	P	Pn	**21 53 28.4**	**-1.3**
NNVZ	**North Ngauruho**	**4.75**	**221**	P	Pn	**21 53 29.5**	**-0.4**
WTVZ	**West Tongariro**	**4.76**	**221**	P	Pn	**21 53 29.2**	**-0.7**
SNVZ	**South Ngauruho**	**4.78**	**220**	P	Pn	**21 53 29.0**	**-1.2**
KRHZ	**Kereru**	**4.79**	**212**	P	Pn	**21 53 28.0**	**-2.2**
NGZ	**Ngauruhoe**	**4.79**	**221**	P	Pn	**21 53 30.0**	**-0.3**
HIZ	**Hauiti**	**4.79**	**231**		Pn	**21 53 29.1**	**-1.1**
HIZ	**Hauiti**	**4.79**	**231**	P	Pn	**21 53 31.1**	**+0.9**
HIZ	**Hauiti**	**4.79**	**231**	P	Pn	**21 53 31.4**	**+1.2**
BHHZ	**Black Hill Sta**	**4.80**	**215**	P	Pn	**21 53 28.7**	**-1.7**
TWVZ	**Taurewa**	**4.81**	**223**	P	Pn	**21 53 29.9**	**-0.6**
TUVZ	**Tukino**	**4.83**	**220**	P	Pn	**21 53 30.5**	**-0.4**
FWVZ	**Far West T-bar**	**4.88**	**220**	P	Pn	**21 53 32.2**	**+0.7**
MOVZ	**Moawhango**	**4.89**	**218**	P	Pn	**21 53 29.4**	**-2.2**
WNVZ	**Wahianoa**	**4.91**	**220**	P	Pn	**21 53 30.3**	**-1.6**
TRVZ	**Turoa**	**4.91**	**220**	P	Pn	**21 53 32.0**	**-0.1**
PXZ	**Pawanui**	**4.93**	**206**	P	Pn	**21 53 28.6**	**-3.5**
OUZ	**Omahuta**	**4.94**	**273**	P	Pn	**21 53 31.9**	**-0.3**
OUZ	**Omahuta**	**4.94**	**273**	P	Pn	**21 53 32.0**	**-0.2**
PKVZ	**Pokaka**	**5.01**	**222**	P	Pn	**21 53 33.2**	**-0.1**
MTVZ	**Mangateitei**	**5.02**	**220**	P	Pn	**21 53 32.5**	**-0.8**
BFZ	**Birch Farm**	**5.73**	**207**	Pn	Pn	**21 53 39.3**	**-3.0**
BFZ	**Birch Farm**	**5.73**	**207**	P	Pn	**21 53 39.9**	**-3.1**
KHEZ	**Kahui Hut**	**5.79**	**229**	P	Pn	**21 53 44.1**	**+0.2**
GLKZ	**Green Lake**	**6.66**	**19**	S	Sn	**21 55 10.3**	**+0.1**
PLWZ	**Palliser**	**6.87**	**209**	Pn	Pn	**21 53 54.6**	**-4.0**
SNZO	**South Karori**	**6.88**	**213**	Pn	Pn	21 53 53.9	-4.8
SNZO	**South Karori**	**6.88**	**213**	P	Pn	**21 53 57.7**	**-1.1**
TCW	**Tory Channel**	**7.00**	**215**	Pn	Pn	**21 53 55.6**	**-4.7**
BSWZ	**Blackbirch Sta**	**7.58**	**215**	Pn	Pn	**21 54 04.8**	**-3.5**
QRZ	**Quartz Range**	**7.64**	**225**	P	Pn	**21 54 10.0**	**+0.8**
CTZ	**Chatham Island**	**8.62**	**162**	P	Pn	**21 54 21.8**	**-0.7**
CTZ	**Chatham Island**	**8.62**	**162**	P	Pn	**21 54 21.1**	**-1.5**
CTZ				S	Sn	21 55 47.4	-11
LTZ	**Lake Taylor**	**9.16**	**216**	Pn	Pn	**21 54 26.1**	**-3.9**
MQZ	**McQueen's Vall**	**9.71**	**211**	Pn	Pn	21 54 31.6	-5.9
RPZ	**Rata Peaks** 3.6nm,0.4s,baz=315,slow=22,SNR=1.2	**10.45**	**217**	P	Pn	21 54 39.8	-7.7
RPZ				S	Sn	21 56 28.9	-14
RPZ	**Rata Peaks** 6.8nm,0.4s,baz=86,slow=23,SNR=6.6	**10.45**	**217**	P	**Pn**	**21 54 45.2**	**-2.4**
ODZ	**Otahua Downs**	**11.65**	**213**	Pn	Pn	21 54 57.1	-6.9
ODZ	**Otahua Downs**	**11.65**	**213**	P	**Pn**	**21 55 04.0**	**+0.1**
JCZ	**Jackson Bay**	**11.87**	**221**	P	**Pn**	**21 55 07.1**	**+0.1**
DCZ	**Deep Cove**	**13.66**	**220**	Pn	**Pn**	**21 55 27.6**	**-3.7**
DZM	**Mont Dzumac** comp=Z,313nm,20.9s,baz=204,slow=32	**17.73**	**316**	LR	LR	22 01 43.1	
DZM	**Mont Dzumac** comp=Z,331nm,25.2s	**17.73**	**316**	eLR	LR	22 00 30.3	
MSVF	**Nonsavu** 1.0nm,0.3s,baz=116,slow=23,SNR=9.9	**17.86**	**355**	P	**P**	**21 56 27.4**	**+2.5**
MSVF	comp=Z,226nm,20.4s,baz=210,slow=31 5.7nm,0.6s			LR	LR	22 01 44.4	
MSVF	**Nonsavu**	**17.86**	**355**		**Pn**	**21 56 24.2**	**-0.8**
KOUNC	**Koumac, New Ca**	**20.16**	**314**		**P**	**21 56 49.6**	**-0.5**
KOUNC	comp=Z,47nm,1.2s			IAmb	IAmb	21 57 16.4	
RAR	**Rarotonga** comp=Z,30nm,20.7s,baz=282,slow=32	**23.04**	**57**	LR	LR	22 04 40.3	
EIDS	**Eidsvold**	**26.55**	**285**	P	**P**	**21 57 52.6**	**-0.2**
EIDS	comp=Z,17nm,1.4s			IAmb	IAmb	21 57 53.1	
TBI	**Tubuai** comp=Z,488nm,27.5s	**29.43**	**74**	eLR	LR	22 04 58.9	
TBI	**Tubuai** comp=Z,9.4nm,0.3s	**29.43**	**74**	eT	T	22 29 13.6	
STKA	**Stephens Creek** comp=Z,4.3nm,0.7s,baz=101,slow=9.7,SNR=6.6	**31.72**	**266**	P	**P**	**21 58 39.5**	**+0.8**
STKA				LR	LR	22 10 25.5	
STKA	**Stephens Creek** comp=Z,49nm,18.8s,baz=27,slow=34 comp=Z,4.3nm,0.7s	**31.72**	**266**	P	**P**	**21 58 38.6**	**-0.1**
PPT2	**Papeete2** comp=Z,168nm,24.2s	**32.67**	**65**	eLR	LR	22 06 31.0	
CTA	**Charters Tower** comp=Z,9.5nm,0.8s,baz=118,slow=8.0,SNR=7.9 comp=Z,9.5nm,0.8s	**33.12**	**289**	P	**P**	**21 58 52.2**	**+1.1**
CTAO	**Charters Tower**	**33.12**	**289**	P	**P**	**21 58 51.6**	**+0.5**
CTAO	comp=Z,13nm,0.9s			IAmb	IAmb	21 58 55.3	
BBOO	**Buckleboo**	**35.93**	**262**	P	**P**	**21 59 14.6**	**-0.6**
COEN	**Coen**	**39.17**	**294**	P	**P**	**21 59 42.5**	**-0.3**
COEN	comp=Z,7.4nm,0.8s			IAmb	IAmb	21 59 45.8	
PMG	**Port Moresby** comp=Z,76nm,18.2s,baz=144,slow=35	**39.42**	**303**	LR	LR	22 15 26.0	
AS31	**Alice Springs**	**41.15**	**274**	P	**P**	**21 59 59.0**	**-0.2**
ASAR	**Alice Springs** comp=Z,5.2nm,0.5s,baz=116,slow=7.7,SNR=24	**41.15**	**274**	P	**P**	**22 00 00.1**	**+1.0**
ASAR	comp=Z,100nm,20.6s,baz=102,slow=35 comp=Z,5.2nm,0.5s			LR	LR	22 16 08.9	
WR0	**Warramunga Arr**	**42.45**	**279**	P	**P**	**22 00 09.3**	**-0.5**
WR0	comp=Z,5.4nm,0.7s			IAmb	IAmb	22 00 11.8	
WB2	**Warramunga Arr**	**42.61**	**279**	P	**P**	**22 00 10.3**	**-0.8**
WB2	comp=Z,14nm,0.6s			IAmb	IAmb	22 00 13.0	
WRA	**Warramunga Arr** comp=Z,10.0nm,0.6s,baz=121,slow=7.7,SNR=44	**42.62**	**279**	P	**P**	**22 00 10.9**	**-0.2**
WRA	comp=Z,0.7nm,0.8s,baz=115,slow=3.2,SNR=2.1			PcP	**PcP**	**22 02 03.2**	**+0.8**
WRA	comp=Z,101nm,18.5s,baz=116,slow=35 comp=Z,10.0nm,0.6s			LR	LR	22 17 27.3	
WRA	**Warramunga Arr**	**42.62**	**279**	P	**P**	**22 00 09.0**	**-2.1**
WB0	**Warramunga Arr** comp=Z,11nm,0.7s	**42.67**	**279**	P	**P**	**22 00 10.6**	**-0.9**
WB0				IAmb	IAmb	22 00 13.8	
FORT	**Forrest**	**43.03**	**261**	P	**P**	**22 00 13.8**	**-0.5**
CASY	**Casey**	**49.63**	**210**	P	**P**	**22 01 05.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.61**	**275**	P	**P**	**22 01 13.4**	**-0.3**
NWAO	**Narrogin (SRO)**	**50.87**	**254**	P	**P**	**22 01 14.3**	**-1.2**
MORW	**Morawa**	**53.31**	**258**	P	**P**	**22 01 32.3**	**-1.3**
MORW	comp=Z,22nm,1.4s			IAmb	IAmb	22 01 53.2	
PSA00	**Pilbara Seismi** comp=Z,13nm,1.0s	**53.59**	**268**	P	**P**	**22 01 35.4**	**-0.4**
PSA00				IAmb	IAmb	22 01 36.2	
MBWA	**Marble Bar**	**53.88**	**269**	P	**P**	**22 01 36.9**	**-1.1**
QSPA	**South Pole Qui** comp=Z,4.2nm,0.6s,baz=32,slow=2.8,SNR=13 comp=Z,4.2nm,0.6s	**54.52**	**180**	P	**P**	**22 01 42.6**	**+0.5**
QSPA	**South Pole Qui**	**54.52**	**180**	P	**P**	**22 01 42.6**	**+0.5**
QSPA	comp=Z,7.4nm,0.9s			IAmb	IAmb	22 01 46.2	
BATI	**Baumata** comp=Z,32nm,18.1s,baz=83,slow=36	**56.56**	**282**	LR	LR	22 26 01.4	
RPN	**Rapa Nui** comp=Z,29nm,19.1s,baz=228,slow=31	**60.07**	**103**	LR	LR	22 23 06.7	
BELA	**Belgrano 2**	**64.90**	**172**	P	**P**	**22 02 54.9**	**+1.9**
BELA	comp=Z,8.5nm,0.8s			IAmb	IAmb	22 02 55.9	
LEM	**Lembang** comp=Z,24nm,18.9s,baz=94,slow=37	**71.44**	**275**	LR	LR	22 35 54.5	
TROLL	**Troll, Antarti**	**72.66**	**181**	P	**P**	**22 03 43.4**	**+1.9**
SNAA	**Sanae**	**73.01**	**179**	P	**P**	**22 03 45.0**	**+1.5**
SNAA	**Sanae**	**73.01**	**179**	P	**P**	**22 03 44.5**	**+1.0**
SNAA	comp=Z,8.0nm,1.2s			IAmb	IAmb	22 03 46.4	
VNA3	**Neumayer Olymp**	**73.24**	**177**	P	**P**	**22 03 46.5**	**+1.7**
VNA2	**Neumayer--Watz**	**73.65**	**178**	P	**P**	**22 03 48.9**	**+1.7**
VNA1	**Neumayer--Stat**	**73.89**	**177**	P	**P**	**22 03 50.7**	**+2.1**
H03S2	**Juan Fernandez** baz=232,slow=74,SNR=6.4	**79.24**	**124**	T	T	23 32 23.8	
H03S1	**Juan Fernandez** baz=232,slow=74,SNR=6.0	**79.25**	**124**	T	T	23 32 22.1	
H03S3	**Juan Fernandez** baz=232,slow=74,SNR=6.0	**79.26**	**124**	T	T	23 32 22.9	
H03N3	**Juan Fernandez** baz=237,slow=72,SNR=13	**79.46**	**124**	T	T	23 32 41.7	
H03N2	**Juan Fernandez** baz=237,slow=72,SNR=14	**79.47**	**124**	T	T	23 32 42.7	
H03N1	**Juan Fernandez** baz=237,slow=72,SNR=13	**79.48**	**124**	T	T	23 32 41.7	
KSRS	**Korea Array** comp=Z,2.7nm,0.7s,

0.4nm,0.3s,baz=336,slow=12,SNR=11
0.8nm,0.7s
ASAR Alice Springs 21.57 168 P **P** **21 58 25.1 -2.9**
2.8nm,0.4s,baz=349,slow=12,SNR=41
2.8nm,0.4s
JNU Nakatsue 35.50 3 LR LR 22 15 20.7
comp=Z,57nm,19.2s,baz=86,slow=36
CMAR Chiang Mai Arr 36.15 306 LR LR 22 18 56.4
comp=Z,15nm,18.5s,baz=45,slow=42
KSRS Korea Array 39.78 359 LR LR 22 16 39.1
comp=Z,16nm,21.7s,baz=55,slow=34
MKAR Makanchi Array 63.93 326 P **P** **22 04 14.9 +3.4**
0.3nm,0.8s,baz=120,slow=7.3,SNR=3.9
0.3nm,0.8s
AKASG Malin Array Be 98.10 321 LR LR 22 58 37.1
comp=Z,30nm,18.3s,baz=338,slow=40

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*AEIC **23** 22:07:11.7±2.8,51°.9N±0°.6×177°.87W±0°.08, h9km±10km, ML2.8, Error ellipse: s-maj=91.7km s-min=3.6km az=175.0*
*NEIC **23** 22:07:12.1±0.5,51°.6N±0°.8×177°.8W±0°.7, h31km±12km, Error ellipse: s-maj=133.0km s-min=8.3km az=154.0*
*IDC **23** 22:07:13.4±5.1,52°.10N×177°.67W, h0km, mb3.2/3, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=106.9km s-min=40.1km az=15.0*
ISC 23 22:07:15.5±3.0, 51°.8N±0°.4×177°.7W±0°.1, h35km, n14,
σ1§95/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.32**	**82**	Pg	**Pn**	**22 07 21.1**	**-2.6**
KIWB				Sg	**Sn**	**22 07 28.4**	**-0.8**
ADK	**Adak**	**0.61**	**83**	Pg	**Pn**	**22 07 26.2**	**-1.4**
ADK				Sg	**Sn**	**22 07 36.2**	**-0.1**
GSTR	**Great Sitkin T**	**1.03**	**73**		**Pn**	**22 07 32.4**	**-1.1**
CLES	**Cleveland East**	**4.87**	**75**	Pn	**Pn**	**22 08 23.7**	**-2.5**
SEY	**Seymchan**	**19.41**	**317**	P	**Pn**	**22 11 38.3**	**-1.3**
	0.1nm,0.3s,baz=107,slow=14,SNR=3.1						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**20.46**	**39**	P	**P**	**22 11 49.1**	**-0.6**
	0.6nm,0.8s,baz=239,slow=9.2,SNR=4.6						
	0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.23**	**206**	T	T	22 49 56.9	
	baz=17,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**34.24**	**206**	T	T	22 49 58.8	
	baz=17,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**34.24**	**206**	T	T	22 49 58.2	
	baz=17,slow=76,SNR=12						
YKA	**Yellowknife Ar**	**34.42**	**47**	P	**P**	**22 14 01.0**	**+2.0**
	0.3nm,0.6s,baz=282,slow=8.2,SNR=3.9						
	0.3nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**35.45**	**206**	T	T	22 51 30.1	
	baz=17,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**35.46**	**206**	T	T	22 51 31.3	
	baz=17,slow=76,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**35.46**	**206**	T	T	22 51 31.6	
	baz=17,slow=76,SNR=4.8						
PDAR	**Pinedale Array**	**45.50**	**73**	P	**P**	**22 15 33.5**	**+2.0**
	0.4nm,0.8s,baz=335,slow=6.1,SNR=2.1						
	0.4nm,0.8s						

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*KRNET **23** 22:16:53.2±0.1, 40°.92N×71°.06E, h35km, mb2.8*
*ISU **23** 22:16:54.1, 40°.89N×71°.19E, h15km*
*NNC **23** 22:16:56.7±1.5, 40°.99N×71°.20E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=11.2km s-min=4.5km az=2.0*
*SOME **23** 22:16:57.0, 41°.05N×71°.20E, h0km*
ISC 23 22:16:53.8±0.8, 40°.92N±0°.03×71°.17E±0°.02, h15km, n33,
σ1§40/50, 11C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.61**	**358**	⇓*e*P	**Pg**	**22 17 05.4**	**-0.5**
	baz=9.0						
TRKS				⇓*e*S	**Sg**	**22 17 14.1**	**0.0**
	baz=9.0						
CHMI	**Chimion**	**0.70**	**157**	P	**Pb**	**22 17 07.8**	**+0.1**
CHMI				S	**Sb**	**22 17 17.6**	**+0.4**
FRG	**Fergana**	**0.72**	**139**	P	**Pn**	**22 17 08.7**	**-0.7**
FRG				S	**Sb**	**22 17 18.5**	**+0.8**
BTK	**Batken**	**0.90**	**197**	⇑*e*P	**Pb**	**22 17 10.2**	**-0.9**
	baz=92						
BTK				⇑*e*S	**Sb**	**22 17 22.3**	**-0.6**
	baz=92						
ANR	**Andizhan**	**0.92**	**100**	P	**Pn**	**22 17 14.5**	**+2.3**
ANR				S	**Sn**	**22 17 26.9**	**+1.7**
ARK	**Arkit**	**1.06**	**34**	⇓*e*P	**Pb**	**22 17 14.0**	**0.0**
	baz=37						
ARK				⇓*e*S	**Sg**	**22 17 28.7**	**+0.4**
	baz=37						
CHMG	**Chimgan**	**1.08**	**306**	P	**Sg**	**22 17 30.4**	**+1.7**
CHRV	**Charvak**	**1.17**	**309**	P	**Pg**	**22 17 16.9**	**+0.6**
CHRV				S	**Sg**	**22 17 33.4**	**+1.8**
OHH	**Osh**	**1.29**	**107**	⇑*e*P	**Pn**	**22 17 17.6**	**+0.2**
	baz=6.0						
OHH				⇑*e*S	**Sn**	**22 17 34.9**	**+0.5**
	baz=6.0						
OHH	**Osh**	**1.29**	**107**	P	**Pg**	**22 17 18.3**	**-0.4**
OHH				S	**Sg**	**22 17 35.9**	**+0.4**
TGS	**TashGRES**	**1.34**	**293**	P	Pg	22 17 25.0	+5.4
TAS	**Tashkent**	**1.47**	**287**	⇑*i*P	**Pn**	**22 17 17.9**	**-1.9**
	baz=88						
TAS				⇑*i*S	**Sn**	**22 17 35.5**	**-3.3**
	baz=88						
KUMR	**Kumaryk**	**1.48**	**283**	P	**Sg**	**22 17 44.3**	**+2.9**
IUG	**Iuzhnay**	**1.50**	**326**	P	**Pg**	**22 17 23.1**	**+0.5**
	9.7nm,0.2s						
IUG				S	**Sg**	**22 17 43.6**	**+1.6**
	58nm,0.3s						
IUG	**Iuzhnay**	**1.50**	**326**	*e*P	**Pg**	**22 17 24.5**	**+1.9**
	16nm,0.3s						
IUG				*e*S	**Sg**	**22 17 44.1**	**+2.0**
	142nm,0.5s						
DRK	**Karamyk**	**1.52**	**161**	⇓*e*P	**Pn**	**22 17 20.0**	**-0.6**
	baz=58						
DRK				⇓*e*S	**Sn**	**22 17 39.5**	**-0.8**
	baz=58						
CHM	**Chimkent**	**1.83**	**321**	*e*P	**Pg**	**22 17 30.8**	**+2.0**
	29nm,0.2s						
CHM				*e*S	**Sg**	**22 17 55.1**	**+2.5**
	208nm,0.3s						
DZA	**Taraz**	**1.98**	**3**	Pg	**Pg**	**22 17 32.0**	**+0.3**
	11nm,0.1s						
DZA				Lg	Lg	22 17 58.8	
	57nm,0.3s						
DZA	**Taraz**	**1.98**	**3**	*e*P	**Pg**	**22 17 33.3**	**+1.6**
	15nm,0.3s						
DZA				*e*S	**Sg**	**22 17 59.1**	**+1.8**
	57nm,0.3s						
KK31	**Karatay Array**	**2.24**	**348**	⇑Pg	**Pg**	**22 17 36.2**	**-0.5**
	1.0nm,0.3s,baz=165,slow=17,SNR=21						
KK31				Lg	Lg	22 18 06.0	
	9.8nm,0.3s,baz=164,slow=27,SNR=21						
KKAR	**Karatay Array**	**2.24**	**348**	⇑*e*P	**Pn**	**22 17 29.1**	**-1.2**
	baz=50						
KKAR				⇑*e*S	**Sn**	**22 17 55.2**	**-2.5**
	baz=50						
AML	**Almayashu**	**2.25**	**57**	⇓*e*P	**Pn**	**22 17 31.0**	**+0.1**
	baz=58						
AML				⇓*e*S	**Sn**	**22 17 58.4**	**-0.2**
	baz=58						
MRKS	**Merke**	**2.39**	**39**	Pg	**Pg**	**22 17 39.4**	**-0.2**
	1.8nm,0.4s						
MRKS				Lg	Lg	22 18 11.5	
	11nm,0.4s						
MRKS	**Merke**	**2.39**	**39**	*e*Pg	**Pg**	**22 17 40.5**	**+0.9**
	1.6nm,0.3s						
MRKS				*e*Lg	Lg	22 18 11.8	
	11nm,0.4s						
ARLS	**Aral**	**2.56**	**67**	⇑*e*P	**Pn**	**22 17 35.1**	**+0.3**
	baz=68						
ARLS				⇑*e*S	**Sn**	**22 18 05.6**	**-0.1**
	baz=68						
UCH	**Uchtor**	**2.83**	**61**	⇓*e*P	**Pn**	**22 17 39.1**	**+0.2**
	baz=62						
UCH				⇓*e*S	**Sn**	**22 18 12.3**	**-0.7**
	baz=62						
CHMS	**Chumysh**	**3.39**	**51**	P	Pn	22 17 29.9	-16
	21nm,0.1s						
KST	**Kastek**	**4.16**	**58**	*e*Pg	**Pg**	**22 18 13.2**	**-0.2**
	1.7nm,0.4s						
KST				*e*Lg	Lg	22 19 07.8	
	4.8nm,0.3s						
KRBS	**Karabastau**	**4.34**	**49**	Pg	**Pg**	**22 18 14.8**	**-2.2**
	0.6nm,0.4s						
KRBS				Lg	Lg	22 19 12.6	
	0.3nm,0.4s						
KRBS	**Karabastau**	**4.34**	**49**	*e*Pg	**Pg**	**22 18 16.3**	**-0.7**
	0.4nm,0.3s						
KRBS				*e*Lg	Lg	22 19 13.4	
	1.3nm,0.7s						
BTLS	**Baital**	**4.63**	**26**	Pg	**Pg**	**22 18 20.4**	**-2.0**
	2.0nm,0.6s						
BTLS				Lg	Lg	22 19 21.7	
	2.3nm,0.6s						
BTLS	**Baital**	**4.63**	**26**	*e*Pg	**Pg**	**22 18 21.2**	**-1.3**
	2.0nm,0.6s						
BTLS				*e*Lg	Lg	22 19 21.7	
	2.3nm,0.5s						
KTBS	**Karatobe**	**4.95**	**54**	*e*Pg	**Pg**	**22 18 26.9**	**-1.7**
	0.5nm,0.4s						
KTBS				*e*Lg	Lg	22 19 31.1	
	2.2nm,0.4s						

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*NEIC **23** 22:41:53.9±1.0, 51°.7N±0°.2×177°.93W±0°.08, h11km±4km, mb4.2/30, ML3.3(AEIC), Error ellipse: s-maj=27.3km s-min=4.7km az=168.0*
*AEIC **23** 22:41:53.9±1.3, 51°.9N±0°.2×177°.91W±0°.08, h5km±6km, Error ellipse: s-maj=29.7km s-min=6.0km az=171.0*
*IDC **23** 22:41:55.2±1.5, 52°.35N×178°.32W, h0km, mb3.6/7, mbtmp3.7/9, ML3.6/2, MS3.4/15, Error ellipse: s-maj=39.0km s-min=27.5km az=158.0*
ISC 23 22:41:54.9±0.9, 51°.9N±0°.1×177°.95W±0°.06, h10km, n68,
σ1§11/50, mb3.8/10, MS3.4/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.50**	**99**	Pg	**Pg**	**22 42 03.9**	**-0.8**
KIWB				Sg	**Sg**	**22 42 10.9**	**-0.4**
ADK	**Adak**	**0.79**	**93**	Pg	**Pg**	**22 42 08.6**	**-1.5**
ADK				Sg	**Sg**	**22 42 19.6**	**-0.7**
AMKA	**Amchitka**	**1.80**	**253**	Pn	**Pn**	**22 42 24.3**	**-1.7**
NIKH	**Nikolski High**	**5.66**	**76**	Pn	**Pn**	**22 43 17.6**	**-1.4**
UNV	**Unalaska Valle**	**7.19**	**76**	Pn	**Pn**	**22 43 40.4**	**+0.5**
N19K	**Bonanza Creek**	**15.66**	**46**	Pn	**Pn**	**22 45 35.5**	**-0.1**
N19K				IAmb	IAmb	22 45 46.5	
	comp=Z,29nm,1.4s						
KDAK	**Kodiak Island**	**15.68**	**58**	Pn	**Pn**	**22 45 36.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=291,slow=14,SNR=1.2						
	comp=Z,13nm,1.1s						
KDAK	**Kodiak Island**	**15.68**	**58**	Pn	**Pn**	**22 45 35.2**	**-0.4**
L19K	**White Mountain**	**16.12**	**42**	P	**P**	**22 45 45.4**	**+0.8**
L19K				IAmb	IAmb	22 45 52.4	
	comp=Z,16nm,1.1s						
RSO	**Redoubt South**	**16.32**	**49**	Pn	**Pn**	**22 45 44.3**	**+0.2**
SKT	**Skwentna**	**17.44**	**45**		**P**	**22 45 59.7**	**+0.5**
SKT				IAmb	IAmb	22 46 10.2	
	comp=Z,19nm,1.0s						
PPLA	**Purkeypile**	**17.55**	**41**	P	**Pn**	**22 45 59.8**	**+0.4**
PPLA				IAmb	IAmb	22 46 13.8	
	comp=Z,17nm,1.0s						
SUA	**Susitna One**	**17.59**	**47**		**Pn**	**22 46 01.0**	**+1.1**
SUA				IAmb	IAmb	22 46 09.1	
	comp=Z,13nm,0.8s						
CAST	**Castle Rocks**	**17.83**	**40**		**Pn**	**22 46 03.9**	**+1.1**
KTH	**Kantishna Hill**	**18.36**	**40**	P	**Pn**	**22 46 10.2**	**+0.9**
KTH				IAmb	IAmb	22 46 18.3	
	comp=Z,22nm,1.0s						
TRF	**Thorofare Moun**	**18.57**	**41**	P	**P**	**22 46 11.6**	**-0.2**
SML	**Sawmill**	**18.79**	**47**	P	**Pn**	**22 46 15.1**	**+0.5**
SML				IAmb	IAmb	22 46 18.4	
	comp=Z,18nm,1.3s						
MA2	**Magadan**	**19.04**	**306**	LR	LR	22 52 03.9	
	comp=Z,88nm,19.8s,baz=100,slow=33						
MLY	**Manley**	**19.14**	**36**	P	**P**	**22 46 18.6**	**+0.7**
SEY	**Seymchan**	**19.19**	**316**	P	**P**	**22 46 16.1**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=120,slow=16,SNR=2.0						
	comp=Z,1.0nm,0.3s						
DHY	**Denali Highway**	**19.63**	**44**	P	**P**	**22 46 23.8**	**+0.3**
DHY				IAmb	IAmb	22 46 31.7	
	comp=Z,13nm,1.0s						
I23K	**Minto, Yukon-K**	**19.70**	**37**	P	**P**	**22 46 24.6**	**+0.6**
M24K	**Tolsona, Glenn**	**19.86**	**47**	P	**P**	**22 46 26.2**	**+0.4**
MDM	**Murphy Dome**	**20.04**	**38**	P	**P**	**22 46 27.8**	**0.0**
MDM				IAmb	IAmb	22 46 33.9	
	comp=Z,11nm,1.1s						
CCB	**Clear Creek Bu**	**20.07**	**39**	P	**P**	**22 46 28.3**	**+0.3**
PAX	**Paxson**	**20.42**	**45**	P	**P**	**22 46 32.9**	**+1.0**
PAX				IAmb	IAmb	22 46 40.8	
	comp=Z,20nm,1.4s						
ILAR	**Eielson Array**	**20.48**	**39**	P	**P**	**22 46 31.4**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=242,slow=9.4,SNR=5.5						
ILAR				LR	LR	22 53 55.0	
	comp=Z,158nm,18.6s,baz=210,slow=35						
	comp=Z,0.7nm,0.7s						
H24K	**Noodor Dome**	**20.57**	**36**	P	**P**	**22 46 35.2**	**+1.7**
H24K				IAmb	IAmb	22 46 40.8	
	comp=Z,10nm,0.9s						
MENT	**Mentasta**	**21.18**	**45**	P	**P**	**22 46 40.7**	**+0.6**
MENT				IAmb	IAmb	22 46 46.8	
	comp=Z,9.0nm,0.8s						
L26K	**Log Cabin Wild**	**21.37**	**45**	P	**P**	**22 46 42.7**	**+0.7**
SCRK	**Sand Creek**	**21.37**	**43**	P	**P**	**22 46 42.0**	**-0.1**
J26L	**Joseph Creek**	**21.71**	**41**	P	**P**	**22 46 45.5**	**-0.3**
BARN	**Barnard Glacie**	**21.74**	**51**	P	**P**	**22 46 45.8**	**-0.5**
L27K	**Beaver Creek,**	**22.05**	**46**	P	**P**	**22 46 50.3**	**+0.9**
L27K				IAmb	IAmb	22 46 55.7	
	comp=Z,9.2nm,0.9s						
BCAR	**Beaver Creek A**	**22.07**	**46**	P	**P**	**22 46 49.8**	**+0.2**
BMAR	**Burnt Mountain**	**22.48**	**34**	P	**P**	**22 46 54.6**	**+0.6**
BCPM	**Bancas Point**	**22.62**	**54**	P	**P**	**22 46 53.4**	**-2.2**
EGAK	**Eagle**	**22.78**	**42**	P	**P**	**22 46 57.3**	**+0.2**
EGAK				IAmb	IAmb	22 47 04.0	
	comp=Z,9.9nm,1.1s						
DAWY	**Dawson**	**23.34**	**44**	P	**P**	**22 47 03.5**	**+0.5**
I29M	**Ogilvie Camp,**	**24.10**	**41**	P	**P**	**22 47 09.3**	**-1.1**
INK	**Inuvik**	**26.70**	**35**	P	**P**	**22 47 33.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=249,slow=5.5,SNR=4.6						
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**26.70**	**35**	P	**P**	**22 47 34.0**	**+0.3**
INK				IAmb	IAmb	22 47 41.1	
	comp=Z,3.9nm,1.1s						
DLBC	**Dease Lake**	**27.61**	**57**	LR	LR	22 58 03.8	
	comp=Z,103nm,20.7s,baz=276,slow=35						
TIXI	**Tiksi**	**30.41**	**330**	LR	LR	23 01 22.6	
	comp=Z,70nm,18.1s,baz=10,slow=39						
USRK	**Ussuriysk Ar.**	**33.75**	**277**	P	**P**	**22 48 34.9**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**34.26**	**206**	T	T	23 24 42.9	
	baz=17,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**34.27**	**206**	T	T	23 24 43.5	
	baz=17,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**34.28**	**206**	T	T	23 24 42.2	
	baz=17,slow=76,SNR=34						
MJAR	**Matsushiro Arr**	**34.39**	**261**	LR	LR	23 00 55.5	
	comp=Z,46nm,20.0s,baz=63,slow=33						
YKA	**Yellowknife Ar**	**34.47**	**47**	P	**P**	**22 48 42.9**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=280,slow=8.6,SNR=4.5						
	comp=Z,0.6nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**35.48**	**206**	T	T	23 26 12.8	
	baz=17,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**35.49**	**206**	T	T	23 26 17.5	
	baz=17,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**35.50**	**206**	T	T	23 26 14.7	
	baz=17,slow=76,SNR=20						
NEW	**Newport**	**38.20**	**71**	LR	LR	23 02 12.8	
	comp=Z,54nm,21.3s,baz=280,slow=32						
YBH	**Yreka Blue Hor**	**38.28**	**83**	LR	LR	23 02 41.8	
	comp=Z,82nm,18.6s,baz=323,slow=32						
JNU	**Nakatsue**	**41.16**	**263**	LR	LR	23 04 51.2	
	comp=Z,7nm,22.0s,baz=112,slow=34						
NVAR	**Mina Array Bea**	**42.96**	**84**	P	P	22 49 58.6	+4.4
	comp=Z,1.2nm,1.0s,baz=289,slow=8.5,SNR=3.5						
	comp=Z,1.2nm,1.0s						
PDAR	**Pinedale Array**	**45.64**	**73**	P	**P**	**22 50 18.6**	**+3.0**
	comp=Z,0.7nm,0.9s,baz=317,slow=3.8,SNR=4.2						
PDAR				LR	LR	23 05 39.3	
	comp=Z,41nm,21.9s,baz=306,slow=31						
	comp=Z,0.7nm,0.9s						
PDAR	**Pinedale Array**	**45.64**	**73**	P	**P**	**22 50 14.6**	**-1.0**
MTPU	**Mount Pierson**	**46.96**	**80**	P	**P**	**22 50 24.8**	**-1.3**
MTPU				IAmb	IAmb	22 50 29.1	
	comp=Z,2.1nm,1.0s						
ULM	**Lac du Bonnet**	**48.94**	**57**	LR	LR	23 12 02.8	
	comp=Z,56nm,18.7s,baz=328,slow=37						
ANMO	**Albuquerque**	**52.47**	**79**	LR	LR	23 10 39.8	
	comp=Z,42nm,20.3s,baz=54,slow=33						
ZALV	**Zalesovo Beam**	**54.03**	**314**	LR	LR	23 16 06.4	
	comp=Z,38nm,18.9s,baz=96,slow=38						
TXAR	**Lajitas Array**	**58.05**	**82**	P	**P**	**22 51 50.6**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=316,slow=2.5,SNR=2.5						
	comp=Z,0.7nm,0.8s						
SADO	**Sadowa**	**61.08**	**54**	LR	LR	23 18 30.2	
	comp=Z,53nm,18.4s,baz=306,slow=36						
TKL	**Tuckaleechee C**	**65.23**	**63**	LR	LR	23 20 31.1	
	comp=Z,35nm,18.4s,baz=340,slow=36						
CMAR	**Chiang Mai Arr**	**71.48**	**276**	LR	LR	23 26 10.4	
	comp=Z,14nm,18.9s,baz=180,slow=37						
ASAR	**Alice Springs**	**86.25**	**223**	P	**P**	**22 54 38.7**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=30,slow=5.9,SNR=1.7						
	comp=Z,0.5nm,0.8s						

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*SKO **23** 22:48:20.7, 40°.74N×19°.61E, h0km, ML1.8*
TIR 23 22:48:21.8, 40°.86N×19°.80E, h3km±1km, Md2.9, Ml2.1, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.46**	**211**	P	Pg	22 48 31.2	+0.6
	baz=208						
VLO				S	Sb	22 48 39.7	+0.1
	baz=208						
VLO	**Vlora**	**0.46**	**211**	P	Pg	22 48 31.2	+0.6
	baz=211						
VLO				S	Sb	22 48 39.1	-0.5
	baz=211						
VLO				AMP			
	comp=N,4.6nm,0.2s,baz=211						
TIR	**Tirane**	**0.49**	**6**	P	Pg	22 48 32.1	+0.9
	baz=8.0						
TIR				S	Sb	22 48 41.0	+0.5
	baz=8.0						
TIR	**Tirane**	**0.49**	**6**	P	Pg	22 48 32.1	+0.9
	baz=5.0						
TIR				S	Sb	22 48 40.2	-0.3
	baz=5.0						
TIR				AMP			
	comp=E,0.5nm,0.3s,baz=5.0						
TIR	**Tirane**	**0.49**	**6**	*i* Pg	Pg	22 48 32.0	+0.9
TIR				*i* Sg	Sb	22 48 41.1	+0.5
KBN	**Korca**	**0.79**	**107**	P	Pb	22 48 38.9	+0.7
	baz=107						
KBN				S	Sn	22 48 52.4	+0.2
	baz=107						
KBN	**Korca**	**0.79**	**107**	P	Pb	22 48 38.9	+0.7
	baz=107						
KBN				S	Sb	22 48 50.6	+1.3
	baz=107						
KBN				AMP			
	comp=E,0.0nm,0.4s,baz=107						
OHR	**Ohrid**	**0.80**	**71**	*i* Pg	Pb	22 48 38.8	+0.4
OHR				*i* Sg	Sn	22 48 51.7	-0.7
OHR				*e*Lg	Lg	22 48 52.4	
	comp=E,20nm,0.5s						
LSK	**Leskovik**	**0.94**	**139**	P	Pb	22 48 41.1	+0.4
	baz=138						
LSK				S	Sn	22 48 57.1	+1.2
	baz=138						
LSK	**Leskovik**	**0.94**	**139**	P	Pb	22 48 41.1	+0.4
	baz=139						
LSK				S	Sn	22 48 55.5	-0.3
	baz=139						
LSK				AMP			
	comp=E,0.3nm,0.5s,baz=139						
SRN	**Sarande**	**0.99**	**171**	P	Pg	22 48 41.2	+0.3
	baz=169						
SRN				S	Sn	22 48 56.9	-0.2
	baz=169						
SRN	**Sarande**	**0.99**	**171**	P	Pg	22 48 41.2	+0.3
	baz=171						
SRN				S	Sn	22 48 56.9	-0.2
	baz=171						
SRN				AMP			
	comp=E,0.1nm,0.5s,baz=171						
ULC	**Ulcinj**	**1.18**	**339**	*i* Pg	Pg	22 48 43.7	-0.7
FNA	**Florina**	**1.20**	**93**	P	Pn	22 48 45.4	-0.1
	baz=93						
FNA				S	Sn	22 49 04.8	+2.5
	baz=93						
FNA	**Florina**	**1.20**	**93**	P	Pn	22 48 45.4	-0.1
	baz=93						
FNA				S	Sn	22 49 03.3	+1.0
	baz=93						
FNA	**Florina**	**1.20**	**93**	*i* Pg	Pb	22 48 45.2	0.0
FNA				*i* Sg	Sn	22 49 05.9	+3.6
BCI	**Bajram Curri**	**1.52**	**8**	P	Pg	22 48 50.8	-0.1
	baz=8.0						
BCI	**Bajram Curri**	**1.52**	**8**	P	Pg	22 48 50.8	-0.1
	baz=7.0						
BCI				AMP			
	comp=E,0.4nm,0.5s,baz=7.0						
PDG	**Podgorica**	**1.62**	**346**	*i* Pg	Pn	22 48 51.1	-0.1
PDG				*i* Sg	Sg	22 49 13.8	0.0
SKO	**Skopje**	**1.66**	**48**	*i* Pg	Pg	22 48 53.9	+0.3
GRG	**Griva**	**1.97**	**86**	*i* Pg	Pb	22 48 58.2	-0.2
GRG				*i* Sg	Sb	22 49 24.1	+0.7
BEY	**Berane**	**2.01**	**2**	*i* Pn	Pn	22 48 57.6	+0.9

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*WEL **23** 23:10:50.7±0.3, 38°.5±3°.3×17°.8E±°, h29km±3km, M3.0/30, ML3.3/31, MLv3.0/30, Error ellipse: s-maj=0.0km s-min=0.0km az=7.7, confirmed*
*NOU **23** 23:10:50.3, 37°.81S×177°.63E, h39km, MLv3.6/9, Off E. Coast of N. Island, N.Z.*
ISC 23 23:10:51.4±1.2, 37°.78S±0°.03×177°.55E±0°.03, h35km, n94,
σ0§97/107, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.19**	**84**	P	**Pn**	**23 10 58.3**	**+0.2**
HAZ				S	**Sn**	**23 11 04.0**	**+1.4**
RUGZ	**Raukumara Rang**	**0.21**	**152**	P	**Pn**	**23 10 58.3**	**-0.2**
RUGZ				S	**Sn**	**23 11 04.3**	**+0.8**
WIZ	**White Island**	**0.38**	**311**	P	**Pn**	**23 11 00.5**	**+0.2**
WSRZ	**White Island S**	**0.39**	**311**	P	**Pn**	**23 11 01.0**	**+0.4**
PKGZ	**Pakihiroa**	**0.43**	**105**	P	**Pn**	**23 11 00.5**	**-0.7**
WHRZ	**Whale Island**	**0.46**	**260**	P	**Pn**	**23 11 02.1**	**+0.5**
TWGZ	**Tauwhareparae**	**0.53**	**140**	P	**Pn**	**23 11 02.7**	**+0.2**
TWGZ				S	**Sn**	**23 11 11.2**	**+1.0**
MWZ	**Matawai**	**0.56**	**182**	P	**Pn**	**23 11 02.6**	**-0.3**
MWZ				S	**Sn**	**23 11 11.0**	**0.0**
URZ	**Urewera**	**0.59**	**216**	P	**Pn**	**23 11 03.3**	**-0.1**
URZ	**Urewera**	**0.59**	**216**	P	**Pn**	**23 11 03.3**	**-0.1**
URZ				S	**Sn**	**23 11 12.4**	**+0.6**
PUZ	**Puketiti**	**0.63**	**118**	P	**Pn**	**23 11 03.7**	**-0.2**
PUZ				S	**Sn**	**23 11 14.3**	**+1.5**
MXZ	**Matakaoa Point**	**0.64**	**71**	P	**Pn**	**23

MHGZ	Mahia Peninsul	1.40	169	P	Pn	23 11 13.8	-0.7
NMHZ	Naumai	1.44	204	P	Pn	23 11 15.6	+0.4
BKZ	Black Stump Fm	1.62	211	P	Pn	23 11 17.0	-0.5
BKZ	Black Stump Fm	1.62	211	P	Pn	23 11 17.1	-0.4
TOZ	Tahuroa Road	1.62	271	P	Pn	23 11 17.1	-0.4
KUZ	Kuaotunu	1.79	305	P	Pn	23 11 18.7	-1.0
KUZ	Kuaotunu	1.79	305	P	Pn	23 11 18.8	-1.0
MCHZ	McNeill Hill	1.79	202	P	Pn	23 11 20.7	+0.8
KWHZ	Kaweka Forest	1.87	208	P	Pn	23 11 21.4	+0.4
CKHZ	Cape Kidnapper	1.92	191	P	Pn	23 11 21.3	-0.3
TMVZ	Te Maari	1.97	227	P	Pn	23 11 22.5	+0.1
NTVZ	North Tongariro	1.98	228	P	Pn	23 11 22.6	0.0
ETVZ	East Tongariro	1.98	226	P	Pn	23 11 22.6	0.0
KRVZ	Karewarewa	1.99	228	P	Pn	23 11 22.9	+0.2
MKAZ	Moumakai	2.02	289	P	Pn	23 11 22.6	-0.3
OTVZ	Oturere	2.03	226	P	Pn	23 11 23.2	0.0
NNVZ	North Ngauruho	2.03	228	P	Pn	23 11 23.6	+0.2
WTVZ	West Tongariro	2.04	228	P	Pn	23 11 23.6	+0.3
SNVZ	South Ngauruho	2.06	226	P	Pn	23 11 23.7	0.0
BHHZ	Black Hill Sta	2.07	214	P	Pn	23 11 23.8	0.0
NGZ	Ngauruhoe	2.07	227	P	Pn	23 11 24.1	+0.3
KRHZ	Kereru	2.08	206	P	Pn	23 11 23.6	-0.3
KAHZ	Kahuranaki	2.08	194	P	Pn	23 11 23.0	-0.9
TWVZ	Taurewa	2.10	231	P	Pn	23 11 25.9	+1.7
TUVZ	Tukino	2.10	224	P	Pn	23 11 25.2	+0.9
MOVZ	Moawhango	2.15	220	P	Pn	23 11 24.3	-0.5
WIAZ	Waiheke Island	2.16	296	P	Pn	23 11 24.7	-0.3
WNVZ	Wahianoa	2.18	224	P	Pn	23 11 26.1	+0.8
TRVZ	Turoa	2.19	225	P	Pn	23 11 26.9	+1.4
HIZ	Hauiti	2.25	250	P	Pn	23 11 26.5	+0.4
HIZ	Hauiti	2.25	250	P	Pn	23 11 26.6	+0.5
GRZ	Great Barrier	2.26	312	P	Pn	23 11 25.7	-0.6
MTVZ	Mangateitei	2.29	225	P	Pn	23 11 27.9	+1.2
PXZ	Pawanui	2.31	193	P	Pn	23 11 25.6	-1.4
MBAZ	Motutapu North	2.34	295	P	Pn	23 11 27.5	+0.1
VRZ	Vera Road	2.57	238	P	Pn	23 11 31.6	+1.1
PRHZ	Porangahau	2.59	196	P	Pn	23 11 29.4	-1.4
WAZ	Wanganui	2.81	225	P	Pn	23 11 35.1	+1.2
BFZ	Birch Farm	3.07	199	P	Pn	23 11 35.7	-1.8
BFZ	Birch Farm	3.07	199	P	Pn	23 11 35.5	-2.0
NEZ	North Egmont	3.09	240	P	Pn	23 11 40.8	+3.0
KHEZ	Kahui Hut	3.16	240	P	Pn	23 11 37.9	-0.8
KHEZ	Kahui Hut	3.16	240	P	Pn	23 11 41.1	+2.4
MRZ	Mangatainoka R	3.26	207	P	Pn	23 11 38.0	-2.0
HOWZ	Holdsworth Sta	3.49	206	P	Pn	23 11 41.1	-2.1
OGWZ	Otaki Gorge	3.55	211	P	Pn	23 11 42.0	-2.1
KIW	Kapiti Island	3.70	213	P	Pn	23 11 44.0	-2.0
OUZ	Omahuta	4.08	308	P	Pn	23 11 51.7	+0.4
OUZ	Omahuta	4.08	308	P	Pn	23 11 51.2	-0.1
BSWZ	Blackbirch Sta	4.85	215	P	Pn	23 11 59.1	-2.7
QRZ	Quartz Range	4.94	230	P	Pn	23 12 01.8	-1.4
QRZ	Quartz Range	4.94	230	P	Pn	23 12 01.3	-1.8

*AEIC **23** 23:11:17.5±2.3,51°.9N±0°.2×177°.89W±0°.07, h5km±7km, Error ellipse: s-maj=29.1km s-min=6.2km az=174.0*
*NEIC **23** 23:11:17.2±0.8,51°.47N±0°.08×177°.77W±0°.05, h10km±2km, ML3.6(AEIC), Error ellipse: s-maj=13.6km s-min=3.3km az=339.0*
*IDC **23** 23:11:17.9±1.0,51°.84N×177°.84W, h0km, mb3.6/9, mbtmp3.8/12, ML3.7/3, Error ellipse: s-maj=30.3km s-min=19.5km az=161.0*

ISC 23 23:11:19.2±0.8, 51°.8N±0°.2×177°.86W±0°.05, h10km, n22, σ0§97/18, mb3.7/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.44**	**87**			**Pg**	**Pg**	**23 11 27.5**	**-0.3**
KIWB						Sg	Sg	23 11 35.2	+1.6
ADK	**Adak**	**0.73**	**85**			**Pg**	**Pg**	**23 11 32.4**	**-0.9**
ADK						Sg	Sg	23 11 43.3	+0.4
GSTR	**Great Sitkin T**	**1.15**	**76**			**Pn**	**Pn**	**23 11 40.2**	**-1.1**
AMKA	**Amchitka**	**1.82**	**257**			**Pn**	**Pn**	**23 11 49.2**	**-1.4**
PETK	**Petropavlovsk-** 1.2nm,0.3s,baz=224,slow=42,SNR=1.8 0.8nm,0.4s	**14.93**	**285**	P		**Pn**	**Pn**	**23 14 51.0**	**+0.9**
KDAK	**Kodiak Island** 0.7nm,0.3s,baz=283,slow=11,SNR=7.1 22nm,1.2s	**15.69**	**58**	P		**Pn**	**Pn**	**23 15 00.4**	**+0.4**
SEY	**Seymchan** 0.1nm,0.3s,baz=180,slow=20,SNR=3.2 3.7nm,0.9s	**19.31**	**317**	P		**P**	**P**	**23 15 45.2**	**+1.2**
ILAR	**Eielson Array** 1.0nm,1.1s,baz=248,slow=10,SNR=3.3 1.0nm,1.1s	**20.52**	**39**	P		**P**	**P**	**23 15 55.9**	**-1.4**
INK	**Inuvik** 2.2nm,1.2s,baz=233,slow=7.4,SNR=1.8 2.2nm,1.2s	**26.75**	**35**	P		**P**	**P**	**23 16 58.3**	**-0.2**
H11N2	**WAKE ISLAND Hy** baz=17,slow=76,SNR=63	**34.19**	**206**	T		T	T	23 54 03.9	
H11N3	**WAKE ISLAND Hy** baz=17,slow=76,SNR=69	**34.20**	**206**	T		T	T	23 54 08.0	
H11N1	**WAKE ISLAND Hy** baz=17,slow=76,SNR=68	**34.21**	**206**	T		T	T	23 54 08.7	
YKA	**Yellowknife Ar** 0.9nm,0.9s,baz=279,slow=8.6,SNR=8.5 0.9nm,0.9s	**34.50**	**47**	P		**P**	**P**	**23 18 06.1**	**-0.8**
H11S1	**WAKE ISLAND Hy** baz=17,slow=76,SNR=70	**35.41**	**206**	T		T	T	23 55 36.9	
H11S2	**WAKE ISLAND Hy** baz=17,slow=76,SNR=38	**35.42**	**206**	T		T	T	23 55 38.1	
H11S3	**WAKE ISLAND Hy** baz=17,slow=76,SNR=45	**35.42**	**206**	T		T	T	23 55 38.2	
NVAR	**Mina Array Bea** 0.7nm,0.8s,baz=312,slow=7.2,SNR=1.9 0.7nm,0.8s	**42.92**	**84**	P		**P**	**P**	**23 19 19.0**	**+0.9**
NRIK	**Norilsk** 0.8nm,0.6s,baz=78,slow=7.2,SNR=1.7 0.8nm,0.6s	**44.31**	**330**	P		**P**	**P**	**23 19 28.9**	**+0.2**
PDAR	**Pinedale Array** 0.6nm,0.9s,baz=302,slow=3.3,SNR=4.4 0.6nm,0.9s	**45.62**	**73**	P		**P**	**P**	**23 19 39.4**	**-0.3**
TXAR	**Lajitas Array** 0.7nm,0.9s,baz=300,slow=7.2,SNR=3.8 0.7nm,0.9s	**58.01**	**82**	P		**P**	**P**	**23 21 12.5**	**+0.4**
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=32,slow=5.8,SNR=2.6 0.7nm,0.8s	**82.75**	**225**	P		**P**	**P**	**23 23 44.1**	**+1.0**
ASAR	**Alice Springs** 0.8nm,0.8s,baz=31,slow=5.3,SNR=5.5 0.8nm,0.8s	**86.22**	**223**	P		**P**	**P**	**23 24 00.2**	**-0.4**

*IDC **23** 23:16:09.7±0.8,51°.72N×177°.90W, h0km, mb3.8/18, mbtmp3.9/22, ML4.5/3, MS3.7/35, Error ellipse: s-maj=24.1km s-min=13.4km az=166.0*
*MOS **23** 23:16:10.2±1.3,51°.78N×177°.94W, h13km, mb4.6/5, Error ellipse: s-maj=12.8km s-min=9.7km az=75.4*
*AEIC **23** 23:16:10.7±1.7,51°.9N±0°.2×177°.9W±0°.1, h4km±6km, Error ellipse: s-maj=25.2km s-min=7.7km az=158.0*
*NEIC **23** 23:16:11.9±1.2,51°.7N±0°.2×177°.8W±0°.1, h8km±9km, mb4.4/65, ML3.9(AEIC), Error ellipse: s-maj=25.4km s-min=2.3km az=158.0*

ISC 23 23:16:11.8±0.6, 51°.7N±0°.1×177°.90W±0°.05, h10km, n262, σ1§10/227, mb4.3/34, MS3.7/32, 6C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.49**	**73**			**Pg**	**Pg**	**23 16 21.1**	**-0.2**
ADK	**Adak**	**0.78**	**77**			**Pg**	**Pg**	**23 16 25.8**	**-0.9**
ADK	**Adak**	**0.78**	**77**	P		**Pg**	**Pg**	**23 16 25.8**	**-0.9**
AMKA	**Amchitka**	**1.78**	**260**	Pn		**Pn**	**Pn**	**23 16 42.8**	**+0.3**
AMKA				Sn		**Sb**	**Sb**	**23 17 07.3**	**+0.5**
NIKH	**Nikolski High** baz=261	**5.69**	**74**	P		**Pn**	**Pn**	**23 17 38.1**	**+1.8**
SPIA	**Saint Paul Isl**	**7.06**	**36**	Pn		**Pn**	**Pn**	**23 17 55.3**	**+0.2**
SPIA	**Saint Paul Isl** baz=222	**7.06**	**36**	P		**Pn**	**Pn**	**23 17 57.7**	**+2.6**
UNV	**Unalaska Valle**	**7.24**	**68**	Pn		**Pn**	**Pn**	**23 17 57.5**	**0.0**
UNV	**Unalaska Valle** baz=258	**7.24**	**68**	P		**Pn**	**Pn**	**23 17 59.6**	**+2.1**
AKUT	**Akutan**	**7.72**	**67**	Pn		**Pn**	**Pn**	**23 18 02.9**	**-1.2**
S12K	**Black Hills** baz=254	**10.20**	**61**	P		**Pn**	**Pn**	**23 18 39.3**	**+1.2**
R16K	**Pilot Point** baz=252	**13.13**	**56**	P		**Pn**	**Pn**	**23 19 20.7**	**+2.7**
O16K	**Kokwok River B** baz=243	**13.64**	**47**	P		**Pn**	**Pn**	**23 19 26.6**	**+1.6**
Q16K	**King Salmon** baz=249	**13.96**	**52**	P		**Pn**	**Pn**	**23 19 29.8**	**+0.5**
O17K	**Koliganek Bris** baz=244	**14.18**	**47**	P		**Pn**	**Pn**	**23 19 34.8**	**+2.4**
Q17K	**Contact Creek** baz=252	**14.20**	**54**	P		**Pn**	**Pn**	**23 19 32.7**	**-0.1**
ANM	**Nome** baz=213	**14.44**	**22**	P		**Pn**	**Pn**	**23 19 39.0**	**+3.0**
SII	**Sitkinak Islan** baz=261	**14.69**	**61**	P		**Pn**	**Pn**	**23 19 39.6**	**+0.2**
Q18K	**Katmai Hardscr** baz=252	**14.76**	**53**	P		**P**	**P**	**23 19 43.5**	**-3.0**
P18K	**Big Mountain,** baz=249	**14.90**	**50**	P		**Pn**	**Pn**	**23 19 43.1**	**+0.8**
PEA0B	**Petropavlovsk-** 2.8nm,0.9s,baz=96,slow=13,SNR=2.4	**14.94**	**285**	Pn		**Pn**	**Pn**	**23 19 44.4**	**+1.6**
PEA0B	**Petropavlovsk-**	**14.94**	**285**	P		**Pn**	**Pn**	**23 19 44.4**	**+1.6**
PETK	**Petropavlovsk-**	**14.94**	**285**	Pn		**Pn**	**Pn**	**23 19 40.7**	**-2.2**
PETK	comp=Z,207nm,19.2s,baz=98,slow=37				LR	LR	LR	23 25 18.0	
OHAK	**Old Harbor**	**15.29**	**59**	P		**P**	**P**	**23 19 52.4**	**+0.2**
OHAK	comp=Z,18nm,1.0s				IAmb	IAmb	IAmb	23 20 03.3	
OHAK	**Old Harbor** baz=259	**15.29**	**59**	P		**P**	**P**	**23 19 49.9**	**-2.4**
SVW2	**Sparrevohn**	**15.45**	**44**	P		**P**	**P**	**23 19 55.5**	**+1.5**
SVW2	comp=Z,18nm,1.0s				IAmb	IAmb	IAmb	23 19 59.9	
O19K	**Port Alsworth** baz=248	**15.63**	**48**	P		**Pn**	**Pn**	**23 19 53.7**	**+1.9**
KDAK	**Kodiak Island** comp=Z,0.8nm,0.3s,baz=270,slow=7.1,SNR=2.1	**15.77**	**57**	Pn		**Pn**	**Pn**	**23 19 52.6**	**-1.1**
KDAK	comp=Z,739nm,18.0s,baz=262,slow=41				LR	LR	LR	23 26 50.2	
KDAK	**Kodiak Island**	**15.77**	**57**	Pn		**Pn**	**Pn**	**23 19 54.6**	**+0.9**
KDAK	**Kodiak Island** baz=258	**15.77**	**57**	P		**Pn**	**Pn**	**23 19 55.4**	**+1.6**
KDAK	**Kodiak Island**	**15.77**	**57**	P		**Pn**	**Pn**	**23 19 54.6**	**+0.9**
KDAK	comp=Z,40nm,1.1s				pmax	pmax			
N19K	**Bonanza Creek**	**15.80**	**46**	P		**P**	**P**	**23 19 56.9**	**-1.2**
N19K	comp=Z,28nm,1.1s				IAmb	IAmb	IAmb	23 20 00.3	
N19K	**Bonanza Creek** baz=245	**15.80**	**46**	P		**P**	**P**	**23 19 57.1**	**-1.0**
TTA	**Tatalina**	**16.21**	**38**	P		**P**	**P**	**23 20 03.5**	**+1.0**
TTA	**Tatalina** baz=236	**16.21**	**38**	P		**P**	**P**	**23 20 03.0**	**+0.4**
TTA	**Tatalina**	**16.21**	**38**	P		**P**	**P**	**23 20 03.5**	**+1.0**
TTA	comp=Z,10.0nm,1.0s				pmax	pmax			
L19K	**White Mountain**	**16.27**	**41**	P		**P**	**P**	**23 20 04.5**	**+1.3**
L19K	comp=Z,24nm,1.1s				IAmb	IAmb	IAmb	23 20 06.4	
L19K	**White Mountain** baz=240	**16.27**	**41**	P		**P**	**P**	**23 20 03.9**	**+0.7**
O20K	**Slope Mountain** baz=250	**16.38**	**49**	P		**Pn**	**Pn**	**23 20 02.6**	**+1.0**
RSO	**Redoubt South**	**16.45**	**48**	P		**P**	**P**	**23 20 06.5**	**+1.2**
L20K	**Farewell, AK** baz=241	**16.81**	**41**	P		**P**	**P**	**23 20 10.5**	**+1.3**
M20K	**Styx River**	**16.85**	**43**	P		**P**	**P**	**23 20 11.6**	**+1.9**
M20K	**Styx River** baz=244	**16.85**	**43**	P		**P**	**P**	**23 20 11.4**	**+1.7**
CNPM	**China Poot**	**16.88**	**52**	Pn		**Pn**	**Pn**	**23 20 08.2**	**+0.4**
CNPM	comp=Z,27nm,1.1s				IAmb	IAmb	IAmb	23 20 24.7	
N20K	**Mount Spurr** baz=248,SNR=13	**16.97**	**46**	P		**P**	**P**	**23 20 12.9**	**+1.9**
SPCR	**Spurr Chakacha** baz=248,SNR=7.1	**16.97**	**46**	P		**P**	**P**	**23 20 12.9**	**+2.0**
BRSE	**Bradley Lake S** baz=254	**17.18**	**52**	P		**Pn**	**Pn**	**23 20 09.9**	**-1.7**
K20K	**Telida** baz=238	**17.18**	**38**	P		**Pn**	**Pn**	**23 20 11.4**	**-0.3**
SKT	**Skwentna**	**17.58**	**44**	P		**P**	**P**	**23 20 19.2**	**+1.6**
SKT	**Skwentna** baz=246,SNR=15	**17.58**	**44**	P		**P**	**P**	**23 20 18.5**	**+0.9**
PPLA	**Purkeypile**	**17.70**	**41**			**P**	**P**	**23 20 21.9**	**+2.8**
PPLA	comp=Z,40nm,1.1s				IAmb	IAmb	IAmb	23 20 31.0	
PPLA	**Purkeypile** baz=243	**17.70**	**41**	P		**P**	**P**	**23 20 23.2**	**+4.1**
SUA	**Susitna One**	**17.72**	**46**	P		**P**	**P**	**23 20 19.8**	**+0.4**
SUA	**Susitna One** baz=249,SNR=5.3	**17.72**	**46**	P		**P**	**P**	**23 20 20.7**	**+1.4**
O22K	**Cooper Landing**	**17.88**	**50**			**Pn**	**Pn**	**23 20 19.9**	**-0.3**
O22K	**Cooper Landing** baz=253	**17.88**	**50**	P		**P**	**P**	**23 20 21.6**	**+0.7**
SEW	**Seward** baz=255	**17.90**	**51**	P		**P**	**P**	**23 20 21.6**	**+0.4**
CAST	**Castle Rocks**	**17.99**	**39**			**P**	**P**	**23 20 22.8**	**+0.7**
CAST	comp=Z,27nm,1.0s				IAmb	IAmb	IAmb	23 20 34.2	
CAST	**Castle Rocks** baz=241	**17.99**	**39**	P		**P**	**P**	**23 20 23.9**	**+1.8**
BILL	**Bilibino**	**18.10**	**341**			**Pn**	**Pn**	**23 20 21.2**	**-1.7**
BILL	**Bilibino**	**18.10**	**341**	P	*e*	**P**	**Pn**	**23 20 20.1**	**-2.8**
BILL	comp=Z,13nm,1.7s				pmax	pmax			
BILL	comp=Z,102nm,11.0s				MLR	MLR			
M22K	**Willow**	**18.11**	**46**	P		**P**	**P**	**23 20 23.4**	**-0.1**
M22K	**Willow** baz=249,SNR=6.0	**18.11**	**46**	P		**P**	**P**	**23 20 24.2**	**+0.8**
CHUM	**Lake Minchumin** baz=240	**18.12**	**38**	P		**P**	**P**	**23 20 24.7**	**+1.1**
CUT	**Chulitna**	**18.29**	**43**			**P**	**P**	**23 20 25.7**	**+0.2**
CUT	comp=Z,46nm,1.2s				IAmb	IAmb	IAmb	23 20 30.5	
KTH	**Kantishna Hill**	**18.51**	**40**	P		**Pn**	**Pn**	**23 20 28.5**	**+0.4**
KTH	comp=Z,20nm,0.8s				IAmb	IAmb	IAmb	23 20 34.9	
PWL	**Port Wells** baz=254	**18.64**	**49**	P		**P**	**P**	**23 20 29.2**	**-0.1**
TRF	**Thorofare Moun**	**18.72**	**40**			**Pn**	**Pn**	**23 20 31.0**	**+0.3**
TRF	**Thorofare Moun** baz=244	**18.72**	**40**	P		**Pn**	**Pn**	**23 20 30.8**	**+0.1**
BPAW	**Bear Paw Mtn.**	**18.74**	**38**	P		**Pn**	**Pn**	**23 20 30.9**	**0.0**
BPAW	**Bear Paw Mtn.** baz=241	**18.74**	**38**	P		**Pn**	**Pn**	**23 20 31.7**	**+0.8**
KNK	**Knik Glacier**	**18.74**	**47**	P		**P**	**P**	**23 20 30.8**	**+0.3**
KNK	comp=Z,29nm,0.9s				IAmb	IAmb	IAmb	23 20 33.0	
KNK	**Knik Glacier** baz=252	**18.74**	**47**	P		**Pn**	**Pn**	**23 20 31.3**	**+0.5**
IMAR	**Indian Mountai**	**18.80**	**31**	P		**P**	**P**	**23 20 31.4**	**+0.4**
P23K	**Montague Islan** baz=258	**18.87**	**52**	P		**P**	**P**	**23 20 30.8**	**-1.0**
H21K	**Melozitna Rive**	**18.92**	**33**	P		**P**	**P**	**23 20 32.6**	**+0.3**
H21K	**Melozitna Rive** baz=234	**18.92**	**33**	P		**P**	**P**	**23 20 32.9**	**+0.6**
SML	**Sawmill**	**18.93**	**46**	P		**Pn**	**Pn**	**23 20 33.5**	**+0.4**
SML	comp=Z,21nm,1.0s				IAmb	IAmb	IAmb	23 20 36.0	
SML	**Sawmill** baz=251	**18.93**	**46**	P		**P**	**P**	**23 20 32.8**	**+0.3**
I21K	**Tanana**	**18.93**	**35**	P		**Pn**	**Pn**	**23 20 33.0**	**-0.1**
I21K	**Tanana** baz=237	**18.93**	**35**	P		**P**	**P**	**23 20 32.8**	**+0.4**
WAT1	**Susitna Watana** baz=248	**19.19**	**43**	P		**Pn**	**Pn**	**23 20 36.1**	**-0.2**
M23K	**Glacier View** baz=252	**19.19**	**47**	P		**Pn**	**Pn**	**23 20 36.7**	**+0.4**
MA2	**Magadan** comp=Z,0.6nm,0.3s,baz=120,slow=12,SNR=2.0	**19.20**	**306**	P		**P**	**P**	**23 20 35.2**	**-0.2**
MA2	comp=Z,103nm,18.2s,baz=106,slow=37				LR	LR	LR	23 27 57.0	
MA2	**Magadan** comp=Z,4.6nm,0.7s	**19.20**	**306**	P		**P**	**P**	**23 20 36.6**	**+1.1**
MA2	**Magadan**	**19.20**	**306**	P		**P**	**P**	**23 20 36.6**	**+1.1**
MA2	comp=Z,7.0nm,0.8s				pmax	pmax			
G21K	**Allakaket** baz=231	**19.21**	**30**	P		**P**	**P**	**23 20 35.9**	**+0.4**
MLY	**Manley**	**19.30**	**36**	P		**Pn**	**Pn**	**23 20 37.6**	**+0.1**
MLY	**Manley** baz=239	**19.30**	**36**	P		**Pn**	**Pn**	**23 20 37.7**	**+0.1**
BWN	**Browne**	**19.37**	**39**	P		**Pn**	**Pn**	**23 20 38.9**	**+0.5**
SEY	**Seymchan** comp=Z,0.2nm,0.3s,baz=114,slow=12,SNR=9.1 comp=Z,7.4nm,0.8s	**19.38**	**317**	P		**P**	**P**	**23 20 37.3**	**-0.1**
SEY	**Seymchan**	**19.38**	**317**	*ce*	P		**P**	**23 20 37.6**	**+0.2**
SEY	comp=Z,16nm,1.3s				pmax	pmax			
MCK	**McKinley**	**19.39**	**40**			**Pn**	**Pn**	**23 20 38.4**	**-0.2**
MCK	**McKinley** baz=245	**19.39**	**40**	P		**Pn**	**Pn**	**23 20 38.7**	**+0.1**
MCK	**McKinley**	**19.39**	**40**	P		**Pn**	**Pn**	**23 20 38.4**	**-0.2**
MCK	comp=Z,11nm,1.0s				pmax	pmax			
SCM	**Sheep Creek Mo**	**19.39**	**47**	P		**Pn**	**Pn**	**23 20 38.5**	**-0.2**
SCM	**Sheep Creek Mo** baz=252	**19.39**	**47**	P		**Pn**	**Pn**	**23 20 38.8**	**+0.1**
SCM	**Sheep Creek Mo**	**19.39**	**47**	P		**Pn**	**Pn**	**23 20 38.5**	**-0.2**
SCM	comp=Z,44nm,1.0s				pmax	pmax			
WAT6	**Susitna Watana** baz=250	**19.45**	**44**	P		**P**	**P**	**23 20 38.1**	**-0.2**
NEA2	**Nenana**	**19.71**	**38**	P		**P**	**P**	**23 20 40.9**	**-0.1**
NEA2	comp=Z,21nm,1.2s				IAmb	IAmb	IAmb	23 20 42.1	
NEA2	**Nenana** baz=243,SNR=6.2	**19.71**	**38**	P		**P**	**P**	**23 20 41.3**	**+0.3**
DHY	**Denali Highway**	**19.78**	**43**	P		**P**	**P**	**23 20 41.8**	**-0.1**
DHY	comp=Z,22nm,0.8s				IAmb	IAmb	IAmb	23 20 49.2	
DHY	**Denali Highway** baz=249,SNR=9.9	**19.78**	**43**	P		**Pn**	**Pn**	**23 20 42.9**	**-0.5**
I23K	**Minto, Yukon-K**	**19.86**	**36**	P		**P**	**P**	**23 20 43.4**	**+0.7**
I23K	comp=Z,22nm,1.1s				IAmb	IAmb	IAmb	23 20 51.9	
I23K	**Minto, Yukon-K** baz=241,SNR=6.9	**19.86**	**36**	P		**Pn**	**Pn**	**23 20 43.9**	**-0.4**
DIV	**Divide**	**19.91**	**49**	P		**P**	**P**	**23 20 43.1**	**-0.2**
DIV	comp=Z,30nm,1.2s				IAmb	IAmb	IAmb	23 20 45.4	
KLU	**Klutina**	**19.93**	**48**	P		**P**	**P**	**23 20 43.7**	**+0.2**
KLU	**Klutina** baz=255	**19.93**	**48**	P		**Pn**	**Pn**	**23 20 44.5**	**-0.7**
M24K	**Tolsona, Glenn**	**19.99**	**46**	P		**P**	**P**	**23 20 44.5**	**+0.4**
M24K	**Tolsona, Glenn** baz=253,SNR=6.1	**19.99**	**46**	P		**Pn**	**Pn**	**23 20 45.4**	**-0.4**
WRH	**Wood River Hil**	**20.04**	**39**	P		**P**	**P**	**23 20 44.5**	**-0.1**
MDM	**Murphy Dome** comp=Z,28nm,1.1s	**20.20**	**38**	IAmb		IAmb	IAmb	23 20 49.8	
CCB	**Clear Creek Bu**	**20.22**	**39**				**P**	**23 20 46.1**	**-0.5**
TCOL	**CIGO, UAF Yank**	**20.30**	**38**	P			**P**	**23 20 47.9**	**+0.5**
TCOL	comp=Z,23nm,1.1s				IAmb	IAmb	IAmb	23 20 51.0	
COLA	**College**	**20.30**	**38**	P		**P**	**P**	**23 20 48.0**	**+0.6**
COLA	comp=Z,14nm,0.9s				IAmb	IAmb	IAmb	23 20 51.6	
COLA	**College**	**20.30**	**38**	P		**P**	**P**	**23 20 48.0**	**+0.6**
COLA	comp=Z,14nm,0.9s				pmax	pmax			
BMRM	**Bremner River**	**20.43**	**50**	P		**P**	**P**	**23 20 49.5**	**+0.6**
BMRM	**Bremner River** baz=258	**20.43**	**50**	P		**P**	**P**	**23 20 49.3**	**+0.4**
G23K	**Bananza Creek** baz=236	**20.45**	**32**	P		**P**	**P**	**23 20 49.3**	**+0.3**
HDA	**Harding Lake** baz=246	**20.46**	**40**	P		**P**	**P**	**23 20 49.7**	**+0.6**
HARP	**HAARP** baz=254,SNR=7.1	**20.53**	**46**	P		**P**	**P**	**23 20 50.9**	**+0.9**
PAX	**Paxson**	**20.56**	**44**	P		**P**	**P**	**23 20 50.4**	**+0.1**
PAX	**Paxson** baz=252,SNR=16	**20.56**	**44**	P		**P**	**P**	**23 20 50.8**	**+0.5**
PAX	**Paxson**	**20.56**	**44**	P		**P**	**P**	**23 20 50.4**	**+0.1**
PAX	comp=Z,37nm,1.0s				pmax	pmax			
POKR	**Poker Plat Res**	**20.57**	**38**	P		**P**	**P**	**23 20 50.8**	**+0.5**
POKR	comp=Z,13nm,0.8s				IAmb	IAmb	IAmb	23 20 52.2	
POKR	**Poker Plat Res** baz=244,SNR=6.8	**20.57**	**38**	P		**P**	**P**	**23 20 51.3**	**+0.9**
N25K	**Chitina, Valde**	**20.58**	**48**	P		**P**	**P**	**23 20 51.7**	**+1.1**
N25K	comp=Z,14nm,0.8s				IAmb	IAmb	IAmb	23 20 55.2	
N25K	**Chitina, Valde** baz=256,SNR=8.0	**20.58**	**48**	P		**P**	Pn	23 20 52.2	-0.6
ILAR	**Eielson Array** comp=Z,1.3nm,0.7s,baz=245,slow=9.9,SNR=17	**20.63**	**39**	P		**P**	**P**	**23 20 48.7**	**-2.3**
ILAR	comp=Z,127nm,19.0s,baz=238,slow=35 comp=Z,1.3nm,0.7s					LR	LR	23 28 13.9	
COLD	**Coldfoot**	**20.68**	**31**				**P**	**23 20 51.9**	**+0.3**
COLD	comp=Z,14nm,1.1s					IAmb	IAmb	23 20 55.5	
COLD	**Coldfoot** baz=235,SNR=5.4	**20.68**	**31**	P		**P**	**P**	**23 20 52.0**	**+0.5**
K24K	**Donnelly Dome** baz=249	**20.71**	**42**	P		**P**	**P**	**23 20 51.9**	**0.0**
H24K	**Noodor Dome** comp=Z,14nm,0.9s	**20.74**	**36**	P		**P**	**P**	**23 20 52.2**	**0.0**
H24K	comp=Z,14nm,0.9s				IAmb	IAmb	IAmb	23 20 58.8	
H24K	**Noodor Dome** baz=242	**20.74**	**36**	P		**P**	**P**	**23 20 52.2**	**0.0**
GLB	**Gilahina Butte**	**20.91**	**49**	P		**P**	**P**	**23 20 54.8**	**+0.7**
VRDI	**Verde Repeater**	**21.03**	**50**	P		**P**	**P**	**23 20 56.1**	**+0.5**
VRDI	comp=Z,16nm,1.2s				IAmb	IAmb	IAmb	23 21 10.1	
RIDG	**Independent Ri**	**21.07**	**42**	P		**P**	**P**	**23 20 55.2**	**-0.7**
RIDG	comp=Z,12nm,0.9s				IAmb	IAmb	IAmb	23 21 03.6	
RIDG	**Independent Ri** baz=251	**21.07**	**42**	P		**P**	**P**	**23 20 56.9**	**+1.0**
MCARA	**McCarthy VSAT**	**21.27**	**49**	P		**P**	**P**	**23 20 58.6**	**+0.7**
MCARA	**McCarthy VSAT** baz=259,SNR=5.5	**21.27**	**49**	P		**P**	**P**	**23 20 59.4**	**+1.5**
G24K	**Hadweenzic Riv** baz=240	**21.30**	**34**	P		**P**	**P**	**23 20 58.7**	**+0.5**
MENT	**Mentasta**	**21.32**	**45**	P		**P**	**P**	**23 20 58.7**	**+0.3**
MENT	comp=Z,13nm,1.0s				IAmb	IAmb	IAmb	23 21 01.6	
E23K	**Chandalar** baz=234	**21.35**	**29**	P		**P**	**P**	**23 20 58.4**	**-0.4**
PRP	**Porcupine Dome**	**21.47**	**38**				**P**	**23 21 00.5**	**+0.4**
PRP	**Porcupine Dome** baz=246	**21.47**	**38**	P			**P**	**23 21 01.1**	**+1.0**
M26K	**Nabesna, AK**	**21.50**	**47**	P		**P**	**P**	**23 21 00.3**	**-0.1**
M26K	comp=Z,12nm,1.1s				IAmb	IAmb	IAmb	23 21 06.3	
M26K	**Nabesna, AK** baz=256	**21.50**	**47**	P		**P**	**P**	**23 21 00.5**	**+0.1**
L26K	**Log Cabin Wild**	**21.50**

EGAK					IAmb	IAmb	23 21 23.5		
	comp=Z,16nm,1.1s								
EGAK	**Eagle**	**22.93**	**41**	P	**P**		**23 21 15.3**	**-0.3**	
	baz=253,SNR=7.2								
I27K	**Kandik River**	**23.01**	**39**	P	**P**		**23 21 14.9**	**-1.6**	
	baz=250								
G27K	**Doyon Strip**	**23.43**	**36**	P	**P**		**23 21 20.1**	**-0.6**	
	baz=248								
DAWY	**Dawson**	**23.48**	**43**	P	**P**		**23 21 21.4**	**+0.1**	
DAWY					IAmb	IAmb	23 21 25.2		
	comp=Z,9.7nm,1.1s								
DAWY	**Dawson**	**23.48**	**43**	P	**P**		**23 21 20.6**	**-0.7**	
	baz=256,SNR=7.1								
M29M	**Somme Creek**	**23.58**	**48**	P	**P**		**23 21 21.8**	**-0.6**	
	baz=261								
L29M	**L29M**	**23.84**	**46**	P	**P**		**23 21 24.5**	**-0.3**	
	baz=260								
C27K	**Jago River**	**24.00**	**29**	P	**P**		**23 21 26.4**	**+0.1**	
	baz=239								
E27K	**Coleen River**	**24.00**	**33**	P	**P**		**23 21 26.3**	**+0.1**	
	baz=245								
I29M	**Ogilvie Camp,**	**24.25**	**41**	P	**P**		**23 21 28.5**	**-0.1**	
I29M	**Ogilvie Camp,**	**24.25**	**41**	P	**P**		**23 21 27.7**	**-1.0**	
	baz=255								
G30M	**tAoh Zraii Nji**	**25.51**	**37**	P	**P**		**23 21 39.5**	**-0.5**	
	baz=254								
F31M	**Tsiigehtchic**	**26.56**	**37**	P	**P**		**23 21 49.3**	**-0.1**	
	baz=256								
INK	**Inuvik**	**26.86**	**35**	P	**P**		**23 21 52.0**	**-0.2**	
	comp=Z,1.7nm,0.6s,baz=263,slow=6.2,SNR=7.9								
	comp=Z,1.7nm,0.6s								
INK	**Inuvik**	**26.86**	**35**	P	**P**		**23 21 52.6**	**+0.5**	
INK	**Inuvik**	**26.86**	**35**	P	**P**		**23 21 51.5**	**-0.6**	
	baz=254								
INK	**Inuvik**	**26.86**	**35**	P	**P**		**23 21 52.6**	**+0.5**	
INK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
MMPY	**Sheldon Lake,**	**26.92**	**48**	P	**P**		**23 21 55.8**	**+3.0**	
	baz=268								
ASAJ	**Asahikawa**	**27.27**	**270**	LR	LR		23 34 20.6		
	comp=Z,70nm,18.2s,baz=136,slow=40								
DLBC	**Dease Lake**	**27.71**	**57**	LR	LR		23 32 18.6		
	comp=Z,219nm,21.4s,baz=278,slow=35								
WTLY	**Watson Lake, Y**	**28.16**	**53**	P	**P**		**23 22 03.8**	**-0.2**	
BBB	**Bella Bella**	**30.21**	**69**	LR	LR		23 32 50.9		
	comp=Z,88nm,18.3s,baz=286,slow=33								
C36M	**Paulatuk**	**30.43**	**34**	P	**P**		**23 22 23.6**	**-0.2**	
	baz=262								
A36M	**Sachs Harbour**	**30.52**	**29**	P	**P**		**23 22 24.8**	**+0.2**	
A36M	**Sachs Harbour**	**30.52**	**29**	P	**P**		**23 22 24.9**	**+0.2**	
	baz=257								
TIXI	**Tiksi**	**30.63**	**330**	LR	LR		23 35 28.3		
	comp=Z,140nm,18.1s,baz=130,slow=38								
KLR	**Kul'dur**	**31.63**	**286**	P	**P**		**23 22 32.7**	**-2.0**	
	comp=Z,2.5nm,0.7s,baz=63,slow=19,SNR=6.1								
	comp=Z,2.5nm,0.7s								
KLR	**Kul'dur**	**31.63**	**286**	*i* P	**P**		**23 22 33.6**	**-1.0**	
KLR				pmax	pmax				
	comp=Z,18nm,2.3s								
USRK	**Ussuriysk Ar.**	**33.81**	**277**	P	**P**		**23 22 52.9**	**-0.8**	
	comp=Z,1.7nm,0.5s,baz=84,slow=15,SNR=1.7								
USRK				LR	LR		23 37 01.2		
	comp=Z,53nm,21.4s,baz=32,slow=37								
	comp=Z,1.7nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**34.07**	**206**	T	T		23 58 58.1		
	baz=17,slow=76,SNR=43								
H11N3	**WAKE ISLAND Hy**	**34.08**	**206**	T	T		23 58 57.5		
	baz=17,slow=76,SNR=18								
H11N1	**WAKE ISLAND Hy**	**34.09**	**206**	T	T		23 58 58.1		
	baz=17,slow=76,SNR=11								
MJAR	**Matsushiro Arr**	**34.39**	**261**	P	**P**		**23 22 57.3**	**-1.6**	
	comp=Z,0.8nm,0.4s,baz=61,slow=12,SNR=1.5								
MJAR				LR	LR		23 34 25.8		
	comp=Z,74nm,20.8s,baz=42,slow=32								
	comp=Z,0.8nm,0.4s								
YKA	**Yellowknife Ar**	**34.60**	**47**	P	**P**		**23 22 58.7**	**-1.7**	
	comp=Z,0.6nm,0.6s,baz=280,slow=8.6,SNR=7.6								
YKA				LR	LR		23 38 36.1		
	comp=Z,394nm,18.6s,baz=276,slow=39								
	comp=Z,0.6nm,0.6s								
YKA	**Yellowknife Ar**	**34.60**	**47**	*ce* P	**P**		**23 23 01.7**	**+1.3**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
H11S1	**WAKE ISLAND Hy**	**35.29**	**206**	T	T		00 00 25.8		
	baz=17,slow=76,SNR=62								
H11S2	**WAKE ISLAND Hy**	**35.30**	**206**	T	T		00 00 30.2		
	baz=17,slow=76,SNR=35								
H11S3	**WAKE ISLAND Hy**	**35.31**	**206**	T	T		00 00 27.0		
	baz=17,slow=76,SNR=36								
BNX	**BinXian**	**35.84**	**283**	⇑ P	**P**		**23 23 09.8**	**-1.5**	
BNX				pmax	pmax				
	comp=Z,8.0nm,0.9s								
BNX				pmax	pmax				
	comp=Z,270nm,4.5s								
NEW	**Newport**	**38.24**	**70**	LR	LR		23 37 36.0		
	comp=Z,98nm,18.0s,baz=292,slow=34								
YBH	**Yreka Blue Hor**	**38.28**	**83**	LR	LR		23 35 59.0		
	comp=Z,127nm,18.8s,baz=292,slow=31								
RES	**Resolute Bay**	**39.21**	**25**	P	**P**		**23 23 39.0**	**-0.4**	
	comp=Z,0.9nm,1.0s,baz=288,slow=3.2,SNR=2.2								
	comp=Z,0.9nm,1.0s								
KSRS	**Korea Array**	**40.19**	**271**	LR	LR		23 41 15.2		
	comp=Z,36nm,18.3s,baz=65,slow=37								
JNU	**Nakatsue**	**41.17**	**264**	LR	LR		23 39 18.0		
	comp=Z,54nm,21.8s,baz=148,slow=34								
NVAR	**Mina Array Bea**	**42.96**	**84**	P	**P**		**23 24 11.9**	**+0.9**	
	comp=Z,0.3nm,0.6s,baz=278,slow=8.1,SNR=2.3								
	comp=Z,0.3nm,0.6s								
NRIK	**Noril'sk**	**44.41**	**330**	P	**P**		**23 24 21.6**	**-0.4**	
	comp=Z,1.7nm,0.7s,baz=55,slow=5.2,SNR=6.1								
	comp=Z,1.7nm,0.7s								
NRIK	**Noril'sk**	**44.41**	**330**	*ce* P	**P**		**23 24 21.8**	**-0.2**	
R11A	**Troy Canyon, C**	**44.68**	**82**	P	**P**		**23 24 24.8**	**0.0**	
	baz=309								
PDAR	**Pinedale Array**	**45.67**	**73**	P	**P**		**23 24 32.1**	**-0.6**	
	comp=Z,0.3nm,0.5s,baz=313,slow=9.3,SNR=2.6								
PDAR				LR	LR		23 41 17.3		
	comp=Z,104nm,22.0s,baz=314,slow=33								
	comp=Z,0.3nm,0.5s								
BJI	**Beijing**	**45.85**	**282**	P	**P**		**23 24 35.6**	**+1.8**	
BJI				pmax	pmax				
	comp=Z,15nm,0.7s								
SONM	**Songino Array**	**47.00**	**297**	P	**P**		**23 24 42.7**	**-0.2**	
	comp=Z,0.1nm,0.5s,baz=79,slow=7.9,SNR=1.7								
	comp=Z,0.1nm,0.5s								
HHC	**Hu-ho-hao-te**	**48.14**	**286**	*e* P	**P**		**23 24 52.0**	**+0.2**	
HHC				pmax	pmax				
	comp=Z,18nm,0.8s								
HHC				pmax	pmax				
	comp=Z,360nm,5.6s								
GUMO	**Guam**	**48.36**	**232**	LR	LR		23 43 26.1		
	comp=Z,33nm,19.9s,baz=114,slow=34								
ULM	**Lac du Bonnet**	**49.03**	**57**	LR	LR		23 45 31.2		
	comp=Z,89nm,19.1s,baz=342,slow=36								
NJ2	**Nanjing**	**49.36**	**272**	*e* P	**P**		**23 25 02.0**	**+0.8**	
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
MVCO	**Mesa Verde**	**49.75**	**78**	P	**P**		**23 25 05.1**	**+0.7**	
	baz=310								
FRB	**Frobisher Bay**	**52.45**	**32**	LR	LR		23 51 59.3		
	comp=Z,108nm,18.1s,baz=211,slow=41								
ANMO	**Albuquerque**	**52.48**	**79**	LR	LR		23 47 07.2		
	comp=Z,48nm,18.1s,baz=35,slow=35								
SUMG	**Summit**	**52.84**	**14**	*i* P	**P**		**23 25 27.0**	**-0.3**	
ARCES	**ARCESS Array B**	**57.86**	**351**	P	**P**		**23 26 02.9**	**-0.1**	
	comp=Z,3.6nm,0.9s,baz=36,slow=7.9,SNR=4.8								
	comp=Z,3.6nm,0.9s								
TXAR	**Lajitas Array**	**58.05**	**82**	P	**P**		**23 26 02.6**	**-2.4**	
	comp=Z,0.2nm,0.6s,baz=298,slow=8.1,SNR=2.0								
	comp=Z,0.2nm,0.6s								
ANGG	**Ammassalik, Gr**	**59.10**	**18**	*i* P	P		23 26 23.0	+11	
WMQ	**Urumqi**	**59.63**	**303**	*e* P	**P**		**23 26 13.0**	**-2.8**	
WMQ				pmax	pmax				
	comp=Z,11nm,1.3s								
MKAR	**Makanchi Array**	**60.27**	**309**	P	**P**		**23 26 20.0**	**-0.1**	
	comp=Z,0.3nm,0.9s,baz=73,slow=6.3,SNR=2.4								
	comp=Z,0.3nm,0.9s								
MKAR	**Makanchi Array**	**60.27**	**309**	P	**P**		**23 26 20.0**	**-0.1**	
SADO	**Sadowa**	**61.19**	**53**	LR	LR		23 55 21.7		
	comp=Z,109nm,18.4s,baz=308,slow=38								
O48B	**Farmland**	**61.24**	**61**	P	**P**		**23 26 25.7**	**-1.1**	
	baz=315								
ARU	**Arti**	**62.62**	**329**	LR	LR		23 57 54.5		
	comp=Z,64nm,18.0s,baz=309,slow=40								
M53A	**WI Miller and**	**62.79**	**57**	P	**P**		**23 26 38.4**	**+1.3**	
	baz=316								
KIRV	**Kirov**	**63.52**	**335**	LR	LR		23 57 32.1		
	comp=Z,61nm,18.9s,baz=29,slow=39								

PZH	**PanZhiHua**	**63.84**	**280**	P	**P**		**23 26 45.0**	**+0.6**	
PZH				pmax	pmax				
	comp=Z,10.0nm,1.1s								
PZH				pmax	pmax				
	comp=Z,120nm,4.1s								
TKL	**Tuckaleechee C**	**65.30**	**63**	LR	LR		23 54 25.7		
	comp=Z,70nm,18.8s,baz=302,slow=35								
BLA	**Blacksburg**	**66.00**	**60**	P	**P**		**23 26 57.3**	**-0.9**	
	baz=318								
NOA	**NORSAR Array B**	**67.36**	**355**	P	**P**		**23 27 06.6**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=7.3,slow=3.7,SNR=2.2								
	comp=Z,0.4nm,0.6s								
AKTO	**Aktyubinsk**	**67.74**	**325**	LR	LR		00 00 29.9		
	comp=Z,73nm,18.9s,baz=240,slow=39								
CMAR	**Chiang Mai Arr**	**71.53**	**276**	P	**P**		**23 27 32.6**	**-0.4**	
	comp=Z,1.2nm,0.3s,baz=19,slow=6.2,SNR=4.5								
	comp=Z,1.2nm,0.3s								
CMAR	**Chiang Mai Arr**	**71.53**	**276**	*ce* P	**P**		**23 27 34.0**	**+1.1**	
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG	**Malin Array Be**	**75.40**	**343**	LR	LR		00 04 40.2		
	comp=Z,42nm,18.2s,baz=34,slow=39								
KAPI	**Kappang**	**77.31**	**245**	LR	LR		23 57 12.4		
	comp=Z,24nm,20.8s,baz=64,slow=32								
GEYT	**Alibeck**	**78.22**	**318**	LR	LR		00 05 41.2		
	comp=Z,94nm,19.6s,baz=32,slow=38								
KBZ	**Khabaz**	**78.59**	**331**	LR	LR		00 08 47.0		
	comp=Z,41nm,19.4s,baz=14,slow=40								
MLR	**Muntele Rosu**	**81.02**	**343**	LR	LR		00 08 33.4		
	comp=Z,33nm,19.0s,baz=360,slow=39								
GNI	**Garni**	**81.26**	**328**	LR	LR		00 11 17.5		
	comp=Z,60nm,18.1s,baz=10,slow=41								
WRA	**Warramunga Arr**	**82.64**	**225**	P	**P**		**23 28 35.5**	**+0.4**	
	comp=Z,0.8nm,0.8s,baz=34,slow=5.7,SNR=2.5								
	comp=Z,0.8nm,0.8s								
BRTR	**Keskin Array B**	**84.87**	**336**	LR	LR		00 10 25.7		
	comp=Z,37nm,18.4s,baz=335,slow=38								
ASAR	**Alice Springs**	**86.11**	**223**	P	**P**		**23 28 53.0**	**+0.3**	
	comp=Z,0.8nm,0.8s,baz=34,slow=5.0,SNR=6.4								
	comp=Z,0.8nm,0.8s								
SJG	**San Juan**	**88.70**	**62**	LR	LR		00 11 28.1		
	comp=Z,52nm,19.0s,baz=293,slow=37								
MMAI	**Mount Meron Ar**	**90.71**	**333**	LR	LR		00 13 52.5		
	comp=Z,19nm,18.0s,baz=280,slow=38								
CMAH	**Djebel Manchou**	**91.91**	**356**	P	**P**		**23 29 24.5**	**+4.2**	
EIL	**Elat**	**93.98**	**332**	LR	LR		00 17 55.4		
	comp=Z,25nm,18.0s,baz=55,slow=39								

IDC 23 23:41:39.7±2.8, 31.78S×178.64W, h0km, mb3.7/2, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=66.9km s-min=35.4km az=111.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.34**	**207**	Pn	Pn	23 43 29.3	+1.1
	1.3nm,0.3s,baz=349,slow=3.0,SNR=14						
URZ				Sn	Sn	23 44 50.7	-1.6
	0.7nm,0.3s,baz=49,slow=19,SNR=1.6						
	2.9nm,0.2s						
ASAR	**Alice Springs**	**42.51**	**269**	P	P	23 49 36.2	-0.9
	0.6nm,0.7s,baz=106,slow=7.5,SNR=6.1						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**43.62**	**274**	P	P	23 49 46.8	+0.7
	0.5nm,0.3s,baz=115,slow=7.5,SNR=6.8						
	0.5nm,0.3s						
H03N3	**Juan Fernandez**	**80.36**	**123**	T	T	01 22 43.0	
	baz=239						
H03N2	**Juan Fernandez**	**80.36**	**123**	T	T	01 22 36.6	
	baz=239						
H03N1	**Juan Fernandez**	**80.38**	**123**	T	T	01 22 40.0	
	baz=239						
FINES	**FINESS Array B**	**146.24**	**339**	PKPbc	PKPdf	00 01 20.4	+0.1
	2.1nm,0.7s,baz=64,slow=4.4,SNR=11						

*IDC **23** 23:42:08.5±2.5, 52.03N×177.49W, h0km, mb3.6/6, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=48.3km s-min=40.5km az=7.0*
*AEIC **23** 23:42:39.1±2.3, 52.5N±0.2×176.1W±0.1, h212km±5km, Error ellipse: s-maj=26.2km s-min=4.0km az=152.0*
*NEIC **23** 23:42:39.4±2.2, 52.5N±0.2×176.1W±0.2, h218km±6km, mb4.0/52, ML3.2(AEIC), Error ellipse: s-maj=24.7km s-min=14.6km az=147.0*

ISC 23 23:42:38.7±0.8, 52.6N±0.1×176.0W±0.1, h200km, n83, σ1$36/76, mb3.7/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.49**	**187**	Pn	**Pn**	23 43 07.1	**+1.2**
ADK	**Adak**	**0.83**	**212**		**Pn**	23 43 09.4	**+2.0**
ADK					**Sn**	23 43 32.9	**+3.4**
KIWB	**Kanaga Island**	**1.03**	**225**		**Pn**	23 43 10.7	**+2.0**
AMKA	**Amchitka**	**3.17**	**249**	Pn	**Pn**	23 43 31.4	**+1.2**
CHIR	**Chirikof Islan**	**12.33**	**67**	P	**Pn**	23 45 31.1	**+3.6**
SII	**Sitkinak Islan**	**13.23**	**64**	Pn	**Pn**	23 45 40.2	**+1.4**
OHAK	**Old Harbor**	**13.82**	**61**	Pn	**Pn**	23 45 46.0	**-0.1**
SVW2	**Sparrevohn**	**13.98**	**44**	P	**P**	23 45 51.5	**+1.5**
KDAK	**Kodiak Island**	**14.30**	**59**	Pn	Pn	23 45 47.4	-4.5
	1.4nm,0.3s,baz=285,slow=3.8,SNR=29						
	20nm,0.9s						
KDAK	**Kodiak Island**	**14.30**	**59**	Pn	**Pn**	23 45 50.8	**-1.1**
N19K	**Bonanza Creek**	**14.33**	**46**		**P**	23 45 56.1	**+2.2**
TTA	**Tatalina**	**14.78**	**38**		**Pn**	23 45 59.9	**+1.9**
L19K	**White Mountain**	**14.82**	**41**		**Pn**	23 46 00.1	**+1.7**
M20K	**Styx River**	**15.39**	**44**	P	**P**	23 46 07.5	**+1.8**
CNPM	**China Poot**	**15.39**	**53**	P	**Pn**	23 46 06.7	**+1.3**
BRLK	**Bradley Lake**	**15.63**	**53**	P	**P**	23 46 08.7	**+0.5**
PETK	**Petropavlovsk-**	**15.89**	**282**	Pn	P	23 45 44.3	-27
	0.2nm,0.3s,baz=152,slow=6.5,SNR=1.9						
	1.7nm,0.8s						
SKT	**Skwentna**	**16.11**	**45**	P	**P**	23 46 15.4	**+1.9**
SKT				IAmb	IAmb	23 46 15.9	
	comp=Z,7.5nm,0.8s						
PPLA	**Purkeypile**	**16.25**	**41**		**P**	23 46 17.0	**+1.8**
PPLA				IAmb	IAmb	23 46 22.9	
	comp=Z,14nm,1.0s						
SUA	**Susitna One**	**16.25**	**47**	P	**P**	23 46 15.5	**+0.3**
SUA				IAmb	IAmb	23 46 25.5	
	comp=Z,7.8nm,1.1s						
CAST	**Castle Rocks**	**16.55**	**40**	P	**P**	23 46 19.6	**+1.3**
CAST				IAmb	IAmb	23 46 24.0	
	comp=Z,4.0nm,1.0s						
KTH	**Kantishna Hill**	**17.07**	**40**	P	**P**	23 46 25.3	**+1.2**
PWL	**Port Wells**	**17.16**	**50**	P	**P**	23 46 25.5	**+0.4**
GHO	**Glory Hole Cre**	**17.18**	**47**	P	**P**	23 46 24.3	**-1.0**
GHO				IAmb	IAmb	23 46 40.6	
	comp=Z,12nm,1.2s						
KNK	**Knik Glacier**	**17.27**	**48**	P	**P**	23 46 27.1	**+0.9**
KNK				IAmb	IAmb	23 46 31.6	
	comp=Z,6.4nm,0.8s						
TRF	**Thorofare Moun**	**17.27**	**41**	P	**P**	23 46 26.8	**+0.4**
TRF				IAmb	IAmb	23 46 45.8	
	comp=Z,3.9nm,1.2s						
BPAW	**Bear Paw Mtn.**	**17.31**	**39**	P	**P**	23 46 27.6	**+0.9**
BPAW				IAmb	IAmb	23 46 28.8	
	comp=Z,6.3nm,0.7s						
IMAR	**Indian Mountai**	**17.43**	**31**	P	**P**	23 46 28.5	**+0.6**
SML	**Sawmill**	**17.45**	**47**		**P**	23 46 29.6	**+1.4**
I21K	**Tanana**	**17.53**	**35**	P	**P**	23 46 28.5	**-0.4**
I21K				IAmb	IAmb	23 46 29.4	
	comp=Z,3.2nm,0.8s						
H21K	**Melozitna Rive**	**17.53**	**33**	P	**P**	23 46 30.4	**+1.4**
MLY	**Manley**	**17.89**	**36**	P	**P**	23 46 33.9	**+0.9**
MLY				IAmb	IAmb	23 46 34.5	
	comp=Z,6.0nm,0.9s						
SCM	**Sheep Creek Mo**	**17.91**	**48**	P	**P**	23 46 33.0	**-0.3**
SCM				IAmb	IAmb	23 46 45.7	
	comp=Z,13nm,1.2s						
MCK	**McKinley**	**17.94**	**41**	P	**P**	23 46 32.8	**-0.7**
MCK				IAmb	IAmb	23 46 38.4	
	comp=Z,3.7nm,0.9s						
DHY	**Denali Highway**	**18.32**	**44**	P	**P**	23 46 37.9	**+0.1**
DIV	**Divide**	**18.44**	**51**	P	**P**	23 46 41.8	**+2.8**
I23K	**Minto, Yukon-K**	**18.45**	**37**	P	**P**	23 46 39.2	**+0.3**
KLU	**Klutina**	**18.46**	**49**	P	**P**	23 46 40.3	**+1.1**
KLU				IAmb	IAmb	23 46 41.6	
	comp=Z,3.8nm,1.0s						
M24K	**Tolsona, Glenn**	**18.52**	**47**	P	**P**	23 46 40.6	**+0.8**
WRH	**Wood River Hil**	**18.60**	**39**	P	**P**	23 46 39.9	**-0.7**
WRH				IAmb	IAmb	23 46 41.6	
	comp=Z,2.0nm,0.6s						
MDM	**Murphy Dome**	**18.77**	**38**	P	**P**	23 46 42.6	**+0.1**
MDM				IAmb	IAmb	23 46 43.7	
	comp=Z,4.5nm,0.8s						

CCB	**Clear Creek Bu**	**18.79**	**39**	P	**P**		**23 46 42.3**	**-0.4**	
PAX	**Paxson**	**19.10**	**45**	P	**P**		**23 46 46.5**	**+0.4**	
PAX				IAmb	IAmb		23 46 48.4		
	comp=Z,2.5nm,0.7s								
N25K	**Chitina, Valde**	**19.10**	**49**	P	**P**		**23 46 48.7**	**+2.5**	
N25K				IAmb	IAmb		23 46 49.4		
	comp=Z,4.6nm,0.7s								
ILAR	**Eielson Array**	**19.20**	**39**	P	**P**		**23 46 45.5**	**-1.6**	
	comp=Z,0.3nm,0.4s,baz=239,slow=9.7,SNR=12								
	comp=Z,0.3nm,0.4s								
H24K	**Noodor Dome**	**19.33**	**36**	P	**P**		**23 46 48.9**	**+0.4**	
H24K				IAmb	IAmb		23 46 49.7		
	comp=Z,2.6nm,0.6s								
GLB	**Gilahina Butte**	**19.43**	**50**	P	**P**		**23 46 50.0**	**+0.4**	
VRDI	**Verde Repeater**	**19.55**	**51**	P	**P**		**23 46 53.1**	**+1.9**	
VRDI				IAmb	IAmb		23 47 08.5		
	comp=Z,8.1nm,1.0s								
M26K	**Nabesna, AK**	**20.03**	**48**	P	**P**		**23 46 56.6**	**+0.6**	
M26K				IAmb	IAmb		23 47 15.0		
	comp=Z,3.9nm,1.1s								
SCRK	**Sand Creek**	**20.06**	**43**	P	**P**		**23 46 55.1**	**-1.3**	
J26L	**Joseph Creek**	**20.41**	**42**	P	**P**		**23 46 58.9**	**-1.2**	
J26L				IAmb	IAmb		23 47 01.1		
	comp=Z,1.8nm,0.6s								
M27K	**Edge Creek, AK**	**20.53**	**48**	P	**P**		**23 47 02.5**	**+1.1**	
L27K	**Beaver Creek,**	**20.71**	**46**	P	**P**		**23 47 02.9**	**-0.4**	
L27K				IAmb	IAmb		23 47 06.2		
	comp=Z,4.2nm,1.1s								
BCAR	**Beaver Creek A**	**20.73**	**46**	P	**P**		**23 47 02.9**	**-0.6**	
I26K	**Coal Creek Min**	**20.87**	**40**	P	**P**		**23 47 03.6**	**-1.2**	
BMAR	**Burnt Mountain**	**21.26**	**34**	P	**P**		**23 47 08.8**	**-0.2**	
EGAK	**Eagle**	**21.48**	**42**	P	**P**		**23 47 10.8**	**-0.5**	
HYT	**Haines Junctio**	**22.37**	**53**	P	**P**		**23 47 19.5**	**-0.6**	
M30M	**Minto, Yukon**	**22.89**	**49**	P	**P**		**23 47 24.6**	**0.0**	
MAYO	**Mayo, Yukon**	**23.45**	**46**	P	**P**		**23 47 28.6**	**-1.1**	
M31M	**Drury Creek, Y**	**23.96**	**50**	P	**P**		**23 47 33.8**	**-0.6**	
INK	**Inuvik**	**25.46**	**36**	P	**P**		**23 47 46.5**	**-1.2**	
	comp=Z,0.5nm,0.3s,baz=242,slow=8.0,SNR=4.3								
	comp=Z,0.5nm,0.3s								
YKA	**Yellowknife Ar**	**33.12**	**48**	P	**P**		**23 48 54.2**	**-1.2**	
	comp=Z,0.9nm,0.7s,baz=280,slow=8.7,SNR=10								
	comp=Z,0.9nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**35.40**	**209**	T	T		00 26 04.6		
	baz=18								
H11N3	**WAKE ISLAND Hy**	**35.41**	**209**	T	T		00 26 18.5		
	baz=18								
H11N1	**WAKE ISLAND Hy**	**35.42**	**209**	T	T		00 26 11.7		
	baz=18								
H04A	**Detroit Lake**	**35.67**	**81**	P	**P**		**23 49 17.7**	**+0.2**	
H04A				IAmb	IAmb		23 49 18.5		
	comp=Z,3.9nm,0.9s								
H11S1	**WAKE ISLAND Hy**	**36.61**	**208**	T	T		00 27 08.1		
	baz=17								
H11S2	**WAKE ISLAND Hy**	**36.63**	**208**	T	T		00 27 13.9		
	baz=17								
H11S3	**WAKE ISLAND Hy**	**36.63**	**208**	T	T		00 27 09.2		
	baz=17								
K05A	**Summer Lake**	**37.53**	**83**	P	**P**		**23 49 34.6**	**+1.2**	
PNTR	**Pine Nut**	**40.49**	**86**	P	**P**		**23 49 58.9**	**+0.8**	
PNTR				IAmb	IAmb		23 50 03.9		
	comp=Z,11nm,1.2s								
NVAR	**Mina Array Bea**	**41.69**	**86**	P	**P**		**23 50 08.2**	**+0.4**	
	comp=Z,0.8nm,0.6s,baz=300,slow=7.4,SNR=3.9								
	comp=Z,0.8nm,0.6s								
FCC	**Fort Churchill**	**43.85**	**48**	P	**P**		**23 50 22.6**	**-2.0**	
TPNV	**Topopah Spring**	**43.89**	**86**	P	**P**		**23 50 25.5**	**+0.1**	
TPNV				IAmb	IAmb		23 50 26.6		
	comp=Z,2.3nm,0.6s								
BW06	**Boulder Array**	**44.29**	**75**	P	**P**		**23 50 27.9**	**-0.7**	
PD31	**Pinedale Array**	**44.29**	**75**	P	**P**		**23 50 27.7**	**-0.9**	
PDAR	**Pinedale Array**	**44.29**	**75**	P	**P**		**23 50 27.4**	**-1.1**	
	comp=Z,0.5nm,0.4s,baz=343,slow=2.6,SNR=14								
	comp=Z,0.5nm,0.4s								
**PD

mbtmp4.1/9, Error ellipse: s-maj=27.8km s-min=17.9km az=138.0

ISC 23 23:59:22.6±0.6, 15°55'S±0.1'×177°49'W±0.0'09, h400km, n25, σ2°17'/27, mb4.0/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.80**	**242**	P	**Pn**	**00 00 45.8**	**+3.1**
	48nm,0.4s,baz=65,slow=7.5,SNR=121						
MSVF				S	**S**	**00 01 51.3**	**+3.6**
	5.6nm,0.8s,baz=4.2,slow=23,SNR=0.8						
MSVF	**Nonsavu**	**4.80**	**242**		**Pn**	**00 00 43.3**	**+0.7**
AFI	**Afiamalu**	**5.76**	**75**		**Pn**	**00 00 52.4**	**-0.3**
AFI				Sn	**S**	**00 02 05.0**	**-1.2**
FUNA	**Funafuti**	**7.67**	**335**		**Pn**	**00 01 11.8**	**-2.1**
MXZ	**Matakaoa Point**	**22.26**	**189**	P	**P**	**00 03 47.1**	**-0.4**
URZ	**Urewera**	**23.14**	**191**	P	**P**	**00 03 51.8**	**-3.6**
	4.7nm,0.3s,baz=347,slow=2.5,SNR=14						
	4.7nm,0.3s						
RTZ	**Ruatahuna**	**23.51**	**191**	P	**P**	**00 03 56.0**	**-2.9**
RTZ				IAmb	IAmb	00 03 56.7	
	comp=Z,10nm,1.2s						
BKZ	**Black Stump Fm**	**24.13**	**191**	P	**P**	**00 04 02.0**	**-2.4**
BKZ				IAmb	IAmb	00 04 11.6	
	comp=Z,20nm,1.3s						
FOZ	**Fox Glacier**	**29.94**	**199**	P	**P**	**00 04 53.0**	**-2.7**
FOZ				IAmb	IAmb	00 05 02.8	
	comp=Z,21nm,1.1s						
WR0	**Warramunga Arr**	**45.78**	**257**	P	**P**	**00 07 04.1**	**-2.5**
WB0	**Warramunga Arr**	**45.93**	**257**	P	**P**	**00 07 05.2**	**-2.6**
WB0				IAmb	IAmb	00 07 20.8	
	comp=Z,9.0nm,1.3s						
WB2	**Warramunga Arr**	**45.96**	**257**	P	**P**	**00 07 06.0**	**-2.0**
WB2				IAmb	IAmb	00 07 14.0	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**45.97**	**257**	P	**P**	**00 07 05.7**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=98,slow=6.8,SNR=9.6						
	comp=Z,0.4nm,0.4s						
AS31	**Alice Springs**	**46.32**	**252**	P	**P**	**00 07 09.4**	**-1.3**
ASAR	**Alice Springs**	**46.32**	**252**	P	**P**	**00 07 09.2**	**-1.6**
	comp=Z,4.8nm,0.7s,baz=86,slow=8.3,SNR=59						
	comp=Z,4.8nm,0.7s						
QSPA	**South Pole Qui**	**74.52**	**180**	P	**P**	**00 10 18.9**	**+0.4**
QSPA				IAmb	IAmb	00 10 20.3	
	comp=Z,4.7nm,0.7s						
NVAR	**Mina Array Bea**	**77.11**	**44**	P	**P**	**00 10 36.1**	**+2.6**
	comp=Z,1.2nm,0.8s,baz=232,slow=8.9,SNR=5.6						
	comp=Z,1.2nm,0.8s						
LON	**Longmire**	**79.60**	**35**	P	**P**	**00 10 45.7**	**-0.9**
LON				IAmb	IAmb	00 10 48.5	
	comp=Z,13nm,1.4s						
SUA	**Susitna One**	**79.63**	**13**	P	**P**	**00 10 46.6**	**+0.1**
ILAR	**Eielson Array**	**83.38**	**13**	P	**P**	**00 11 06.4**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=226,slow=6.5,SNR=7.3						
	comp=Z,1.5nm,0.7s						
TXAR	**Lajitas Array**	**83.98**	**57**	P	**P**	**00 11 12.5**	**+2.8**
	comp=Z,0.5nm,0.8s,baz=217,slow=6.1,SNR=4.8						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**85.03**	**43**	P	**P**	**00 11 16.7**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=206,slow=4.3,SNR=5.7						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**91.81**	**24**	P	**P**	**00 11 47.3**	**+1.5**
	comp=Z,0.8nm,1.0s,baz=240,slow=4.8,SNR=6.3						
	comp=Z,0.8nm,1.0s						
BRTR	**Keskin Array B**	**143.68**	**318**	PKP	**PKPdf**	**00 18 10.2**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=44,slow=1.9,SNR=11						
GERES	**GERESS Array B**	**145.53**	**347**	PKPbc	**PKPab**	**00 18 15.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=42,slow=4.2,SNR=6.6						

*AEIC **24** 00:13:36.5±2.6, 51°.8N±0°.2×177°.85W±0°.07, h8km±5km, Error ellipse: s-maj=31.7km s-min=1.5km az=169.0*
*NEIC **24** 00:13:36.1±0.5, 51°.5N±0°.1×177°.76W±0°.08, h15km±7km, ML3.4(AEIC), Error ellipse: s-maj=21.3km s-min=4.2km az=163.0*
*IDC **24** 00:13:42.3±2.3, 52°.15N×176°.60W, h0km, mb3.2/5, mbtmp3.2/6, ML2.5/1, Error ellipse: s-maj=74.2km s-min=26.3km az=2.0*

ISC 24 00:13:36.6±0.8, 51°.9N±0°.2×177°.89W±0°.06, h10km, n16, σ1§23/11, mb3.3/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.46**	**93**		**Pb**	**00 13 46.3**	**-0.5**
ADK	**Adak**	**0.75**	**89**		**Pb**	**00 13 51.2**	**-0.5**
ADK				Sg	**Sb**	**00 14 01.8**	**-0.2**
GSTR	**Great Sitkin T**	**1.16**	**78**		**Pg**	**00 13 58.4**	**-0.4**
AMKA	**Amchitka**	**1.82**	**255**		**Pn**	**00 14 07.1**	**-0.7**
AMKA				Sn	**Sn**	**00 14 31.5**	**+0.5**
AMKA					**Sb**	**00 14 32.4**	**-0.3**
ILAR	**Eielson Array**	**20.50**	**39**	P	**P**	**00 18 12.3**	**-2.0**
	baz=250,slow=11,SNR=4.0						
	0.9nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**34.23**	**206**	T	T	00 56 21.4	
	baz=17,slow=76,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**34.23**	**206**	T	T	00 56 23.5	
	baz=17,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**34.24**	**206**	T	T	00 56 26.1	
	baz=17,slow=76,SNR=18						
YKA	**Yellowknife Ar**	**34.48**	**47**	P	**P**	**00 20 25.2**	**+1.1**
	0.1nm,0.6s,baz=280,slow=8.6,SNR=2.2						
	0.1nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**35.44**	**206**	T	T	00 57 56.0	
	baz=18,slow=76,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**35.46**	**206**	T	T	00 57 56.1	
	baz=18,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**35.46**	**206**	T	T	00 57 54.0	
	baz=18,slow=76,SNR=5.2						
PDAR	**Pinedale Array**	**45.62**	**73**	P	**P**	**00 21 59.4**	**+2.2**
	0.4nm,0.7s,baz=305,slow=3.2,SNR=3.0						
	0.4nm,0.7s						
SONM	**Songino Array**	**46.93**	**297**	P	P	00 22 18.8	+12
	0.2nm,0.4s,baz=64,slow=9.8,SNR=1.7						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**58.02**	**82**	P	**P**	**00 23 29.4**	**-0.2**
	0.3nm,0.9s,baz=334,slow=6.0,SNR=3.2						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**60.16**	**309**	P	P	00 23 54.7	+11
	0.2nm,0.8s,baz=64,slow=6.7,SNR=2.3						
	0.2nm,0.8s						

*IDC **24** 00:14:40.4±5.0, 5°.76S×152°.57E, h66km±39km, mb3.0/4, mbtmp3.3/4, MS3.7/1, Error ellipse: s-maj=60.1km s-min=21.7km az=108.0*

ISC 24 00:14:36.5±1.6, 5°.9S±0°.1×152°.8E±0°.3, h35km, n6, σ1§03/6, mb3.2/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.73**	**333**	P	**Pn**	**00 15 04.5**	**+0.4**
	baz=192,slow=6.3						
KRVT				S	**Sn**	**00 15 25.1**	**+0.2**
	baz=191,slow=18						
WRA	**Warramunga Arr**	**22.76**	**230**	P	**P**	**00 19 36.3**	**+0.3**
	0.9nm,1.2s,baz=54,slow=10,SNR=1.3						
	0.9nm,1.2s						
ASAR	**Alice Springs**	**25.38**	**224**	P	**P**	**00 20 01.4**	**+0.7**
	0.1nm,0.3s,baz=54,slow=8.4,SNR=2.4						
	0.1nm,0.3s						
JOW	**Kunigami**	**40.26**	**325**	LR	LR	00 35 37.5	
	comp=Z,103nm,21.6s,baz=328,slow=31						
MKAR	**Makanchi Array**	**81.12**	**319**	P	**P**	**00 26 47.0**	**-1.5**
	0.4nm,0.9s,baz=119,slow=5.1,SNR=2.0						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**83.14**	**22**	P	**P**	**00 26 59.1**	**+0.6**
	0.2nm,0.6s,baz=243,slow=5.4,SNR=5.4						
	0.2nm,0.6s						

*IDC **24** 00:26:12.7±2.4, 7°.21S×129°.25E, h144km±28km, mb3.0/1, mbtmp4.0/5, Error ellipse: s-maj=36.5km s-min=24.0km az=92.0*

ISC 24 00:26:10.4±1.0, 7°.24S±0°.07×129°.3E±0°.1, h139km, n5, σ4§72/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.31**	**242**	P	**Pn**	**00 27 43.4**	**+2.1**
	24nm,0.4s,baz=79,slow=3.4,SNR=5.9						
BATI				S	**Sn**	**00 28 47.8**	**-4.4**
	24nm,0.4s,baz=72,slow=19,SNR=3.0						
SIJI	**Sorong**	**6.62**	**17**	P	**Pn**	**00 27 47.8**	**+2.4**
	5.1nm,0.5s,baz=198,slow=20,SNR=1.8						
SIJI				S	**Sn**	**00 28 53.6**	**-6.1**
	14nm,0.2s,baz=215,slow=19,SNR=14						
WRA	**Warramunga Arr**	**13.54**	**159**	P	**Pn**	**00 29 17.6**	**+0.7**
	1.3nm,0.3s,baz=337,slow=12,SNR=9.2						
WRA				S	Sn	00 31 40.4	-6.3
	1.5nm,0.4s,baz=337,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**16.92**	**165**	P	**Pn**	**00 30 02.6**	**+3.6**
	2.4nm,0.4s,baz=340,slow=9.6,SNR=43						
ASAR				S	**S**	**00 33 02.5**	**-5.4**
	0.3nm,0.4s,baz=342,slow=24,SNR=1.6						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**00 36 56.2**	**+1.3**
	0.2nm,0.5s,baz=120,slow=7.0,SNR=4.5						
	0.2nm,0.5s						

*IDC **24** 00:32:57.2±0.7, 18°.00N×147°.13E, h0km, mb3.9/15, mbtmp3.9/15, MS3.1/2, Error ellipse: s-maj=28.0km s-min=16.0km az=86.0*
*NEIC **24** 00:33:03.0±1.3, 17°.8N±0°.1×147°.1E±0°.2, h35km±2km, mb4.5/11, Error ellipse: s-maj=27.6km s-min=15.5km az=119.0*

ISC 24 00:33:04.5±0.7, 17°.97N±0°.08×147°.1E±0°.1, h50km, n35, σ0§66/34, mb4.1/18, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.85**	**206**	Sn	**Sn**	**00 35 10.2**	**+0.5**
	13nm,0.3s,baz=188,slow=21,SNR=1.2						
H11S3	**WAKE ISLAND Hy**	**18.63**	**85**	T	T	00 56 23.7	
	baz=266,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**18.64**	**85**	T	T	00 56 12.1	
	baz=266,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**18.65**	**85**	T	T	00 56 15.8	
	baz=266,slow=76,SNR=11						
JOW	**Kunigami**	**19.48**	**300**	P	**P**	**00 37 27.7**	**+0.3**
JOW				IAmb	IAmb	00 37 46.9	
	comp=Z,53nm,1.2s						
JGF	**Kuroka**	**19.57**	**336**	P	**Pn**	**00 37 30.4**	**+0.4**
JGF				IAmb	IAmb	00 37 49.0	
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**20.09**	**339**	P	**P**	**00 37 33.6**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=167,slow=9.5,SNR=2.5						
	comp=Z,1.1nm,0.3s						
JNU	**Nakatsue**	**20.97**	**319**	LR	LR	00 44 27.3	
	comp=Z,51nm,19.1s,baz=135,slow=33						
YHNB	**Yeheng**	**24.83**	**290**	P	**P**	**00 38 23.2**	**+0.8**
KSRS	**Korea Array**	**25.69**	**323**	P	**P**	**00 38 28.3**	**-1.5**
	comp=Z,3.0nm,0.8s,baz=148,slow=8.7,SNR=8.0						
KSRS				LR	LR	00 48 21.9	
	comp=Z,47nm,18.4s,baz=55,slow=36						
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**39.70**	**199**	P	**P**	**00 40 30.9**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=20,slow=8.3,SNR=5.0						
WRA				PcP	**PcP**	**00 42 38.4**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=19,slow=3.7,SNR=7.3						
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**43.33**	**198**	P	**P**	**00 41 01.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=22,slow=7.8,SNR=7.6						
ASAR				PcP	**PcP**	**00 42 50.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=29,slow=3.3,SNR=5.7						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**44.53**	**321**	P	**P**	**00 41 11.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=126,slow=6.5,SNR=10						
SONM				PcP	**PcP**	**00 42 54.0**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=135,slow=4.1,SNR=3.0						
	comp=Z,1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**45.62**	**278**	P	**P**	**00 41 20.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=67,slow=5.5,SNR=6.5						
	comp=Z,0.6nm,0.4s						
STKA	**Stephens Creek**	**49.84**	**186**	P	**P**	**00 41 52.7**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=322,slow=12,SNR=1.7						
	comp=Z,1.6nm,0.7s						
BBOO	**Buckleboo**	**51.58**	**192**	P	**P**	**00 42 05.5**	**-0.2**
BBOO				IAmb	IAmb	00 42 08.1	
	comp=Z,15nm,1.2s						
ZALV	**Zalesovo Beam**	**59.39**	**323**	P	**P**	**00 43 01.3**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=93,slow=6.1,SNR=6.1						
	comp=Z,1.4nm,0.5s						
MK31	**Makanchi Array**	**59.91**	**314**	P	**P**	**00 43 06.3**	**+0.9**
MKAR	**Makanchi Array**	**59.91**	**314**	P	**P**	**00 43 05.5**	**0.0**
	comp=Z,0.7nm,0.5s,baz=91,slow=8.1,SNR=12						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**59.91**	**314**	P	**P**	**00 43 06.4**	**+1.0**
RSO	**Redoubt South**	**59.94**	**30**	P	**P**	**00 43 06.4**	**+0.9**
MAKZ	**Makanchi**	**60.13**	**314**	P	**P**	**00 43 07.0**	**+0.1**
MAKZ				IAmb	IAmb	00 43 08.7	
	comp=Z,1.6nm,0.7s						
KURK	**Kurchatov**	**62.69**	**318**	P	**P**	**00 43 24.5**	**+0.5**
KURK				IAmb	IAmb	00 43 25.8	
	comp=Z,4.5nm,1.3s						
NRIK	**Noril'sk**	**62.74**	**340**	P	**P**	**00 43 23.8**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=126,slow=7.0,SNR=7.7						
	comp=Z,3.2nm,0.7s						
NRIK	**Noril'sk**	**62.74**	**340**	P	**P**	**00 43 25.1**	**+0.9**
NRIK				IAmb	IAmb	00 43 28.2	
	comp=Z,3.3nm,0.7s						
M24K	**Tolsona, Glenn**	**63.43**	**29**	P	**P**	**00 43 29.0**	**+0.2**
ILAR	**Eielson Array**	**63.72**	**26**	P	**P**	**00 43 29.3**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=257,slow=6.3,SNR=1.3						
	comp=Z,0.2nm,0.6s						
BRVK	**Borovoye**	**67.94**	**321**	P	**P**	**00 43 58.5**	**+0.5**
BRVK				IAmb	IAmb	00 43 59.8	
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**68.24**	**310**	P	**P**	**00 44 00.5**	**+0.3**
ABKAR	**Akbulak array**	**74.77**	**317**	P	**P**	**00 44 39.3**	**0.0**
YKA	**Yellowknife Ar**	**78.02**	**28**	P	**P**	**00 44 57.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=287,slow=5.4,SNR=4.8						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**82.55**	**52**	P	**P**	**00 45 23.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=280,slow=5.4,SNR=1.4						
	comp=Z,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**83.59**	**342**	P	**P**	**00 45 26.5**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=61,slow=5.6,SNR=6.2						
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**88.09**	**336**	P	**P**	**00 45 48.9**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=57,slow=5.1,SNR=12						
	comp=Z,1.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**133.93**	**310**	PKP	**PKPdf**	**00 52 16.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=5.1,slow=2.2,SNR=2.0						

*IDC **24** 00:47:05.2±4.0, 7°.16S×128°.49E, h119km±42km, mb3.6/7, mbtmp4.1/10, Error ellipse: s-maj=40.1km s-min=26.3km az=57.0*
*NEIC **24** 00:47:09.1±2.7, 7°.48S±0°.07×128°.23E±0°.04, h146km±8km, mb4.7/13, Error ellipse: s-maj=10.5km s-min=4.1km az=207.0*

ISC 24 00:47:08.3±0.5, 7°.50S±0°.05×128°.19E±0°.05, h150km, n46, σ1§79/52, mb3.9/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.12**	**99**	Pn	**Pn**	**00 47 56.5**	**-0.7**
SAUI				Sn	**Sn**	**00 48 35.4**	**+0.4**
SOEI	**Soe**	**4.48**	**240**	Pn	**Pn**	**00 48 16.3**	**+1.4**
SOEI				Sn	**Sn**	**00 49 06.5**	**-0.3**
SOEI	**Soe**	**4.48**	**240**	P	**Pn**	**00 48 17.3**	**+2.4**
BATI	**Baumata**	**5.22**	**239**	P	**Pn**	**00 48 27.2**	**+2.5**
	204nm,0.4s,baz=146,slow=3.7,SNR=29						
BATI				S	**Sn**	**00 49 22.5**	**-1.8**
	96nm,0.5s,baz=88,slow=3.2,SNR=5.8						
MTN	**Manton Dam**	**6.05**	**152**	Pn	**Pn**	**00 48 37.4**	**+1.7**
MTN				Sn	**Sn**	**00 49 43.2**	**-1.0**
MTN	**Manton Dam**	**6.05**	**152**	P	**Pn**	**00 48 37.7**	**+2.0**
FAKI	**Fak Fak**	**6.08**	**42**		**Pn**	**00 48 36.6**	**+0.4**
FAKI	**Fak Fak**	**6.08**	**42**	P	**Pn**	**00 48 36.7**	**+0.5**
KDU	**Kakadu**	**6.66**	**141**	P	**Pn**	**00 48 45.8**	**+2.0**
KNRA	**Kununurra**	**8.15**	**176**		**Pn**	**00 49 04.6**	**+0.4**
KNRA				Sn	**Sn**	**00 50 32.0**	**-2.5**
KNRA	**Kununurra**	**8.15**	**176**	P	**Pn**	**00 49 04.6**	**+0.9**
PLAI	**Plampang**	**10.39**	**262**	P	**Pn**	**00 49 33.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.83**	**193**	Pn	**Pn**	**00 49 39.0**	**-0.2**
WB0	**Warramunga Arr**	**13.60**	**154**		**Pn**	**00 50 15.2**	**-0.1**
WRA	**Warramunga Arr**	**13.73**	**155**	P	**Pn**	**00 50 16.3**	**-0.6**
	7.5nm,0.6s,baz=326,slow=14,SNR=36						
WRA				S	Sn	00 52 39.4	-10
	14nm,0.9s,baz=332,slow=23,SNR=10						
WRA	**Warramunga Arr**	**13.73**	**155**		**Pn**	**00 50 15.6**	**-1.4**
WB2	**Warramunga Arr**	**13.74**	**155**	P	**Pn**	**00 50 16.8**	**-0.2**
WR0	**Warramunga Arr**	**13.84**	**154**		**Pn**	**00 50 18.6**	**+0.4**
MBWA	**Marble Bar**	**15.85**	**210**		**P**	**00 50 44.7**	**+0.7**
MBWA				IAmb	IAmb	00 51 03.6	
	comp=Z,14nm,1.1s						
COEN	**Coen**	**16.06**	**115**		**P**	**00 50 47.3**	**+1.0**
AS31	**Alice Springs**	**16.99**	**162**	P	**Pn**	**00 50 58.7**	**+1.6**
ASAR	**Alice Springs**	**16.99**	**162**	P	**Pn**	**00 50 58.8**	**+1.7**
	comp=Z,3.5nm,0.6s,baz=335,slow=10,SNR=42						
ASAR				S	**S**	**00 53 58.5**	**-7.6**
	comp=Z,2.9nm,0.8s,baz=345,slow=25,SNR=7.1						
ASAR	**Alice Springs**	**16.99**	**162**	P	**Pn**	**00 50 59.2**	**+2.1**
AS01	**Alice Springs**	**17.00**	**162**	P	**Pn**	**00 50 59.2**	**+1.9**
QIS	**Mount Isa**	**17.05**	**141**	P	**Pn**	**00 50 59.7**	**+1.8**
SBUM	**Sibu**	**18.75**	**301**	Pn	**Pn**	**00 51 18.8**	**+0.8**
SBUM				IAmb	IAmb	00 51 28.6	
	comp=Z,12nm,1.0s						
OOD	**Oodnadatta**	**21.40**	**162**	P	**P**	**00 51 46.8**	**+2.5**
CMAR	**Chiang Mai Arr**	**36.70**	**312**	P	**P**	**00 54 17.8**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=143,slow=6.2,SNR=1.4						
	comp=Z,0.9nm,0.3s						
PINNC	**Pines Island,**	**40.62**	**116**	P	**P**	**00 54 33.7**	**0.0**
PINNC				IAmb	IAmb	00 54 36.1	
	comp=Z,40nm,1.1s						
KSRS	**Korea Array**	**44.72**	**360**	P	**P**	**00 55 04.4**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=181,slow=7.8,SNR=2.4						
	comp=Z,1.2nm,0.7s						
MJAR	**Matsushiro Arr**	**44.80**	**11**	P	**P**	**00 55 04.2**	**-3.0**
	comp=Z,1.1nm,0.4s,baz=192,slow=4.0,SNR=2.2						
	comp=Z,1.1nm,0.4s						
PALK	**Pallekele**	**49.57**	**286**	P	**P**	**00 55 44.5**	**-0.2**
PALK				IAmb	IAmb	00 55 50.0	
	comp=Z,21nm,1.1s						
KHZ	**Kahutara**	**52.91**	**139**	P	**P**	**00 56 09.3**	**+0.4**
KHZ				IAmb	IAmb	00 56 27.7	
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**58.36**	**343**	P	**P**	**00 56 46.8**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=165,slow=5.4,SNR=7.0						
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**58.36**	**343**	P	**P**	**00 56 48.9**	**+1.0**
MKAR	**Makanchi Array**	**67.67**	**328**	P	**P**	**00 57 48.2**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=121,slow=8.0,SNR=12						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**67.67**	**328**	P	**P**	**00 57 49.1**	**-0.1**
ZALV	**Zalesovo Beam**	**71.24**	**335**	P	**P**	**00 58 09.8**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=123,slow=5.3,SNR=1.5						
	comp=Z,0.6nm,0.5s						
SPIA	**Saint Paul Isl**	**81.46**	**29**	P	**P**	**00 59 09.4**	**+0.9**
ABKAR	**Akbulak array**	**81.78**	**322**	P	**P**	**00 59 10.2**	**-0.2**
GHO	**Glory Hole Ore**	**93.19**	**28**	P	**P**	**01 00 06.6**	**+1.2**
GHO				IAmb	IAmb	01 00 18.6	
	comp=Z,9.8nm,1.1s						
BWN	**Browne**	**93.36**	**26**	P	**P**	**01 00 04.2**	**-1.9**
SML	**Sawmill**	**93.47**	**28**	P	**P**	**01 00 06.2**	**-0.5**
SML				IAmb	IAmb	01 00 24.1	
	comp=Z,12nm,1.2s						
BELA	**Belgrano 2**	**94.22**	**184**	P	**P**	**01 00 11.6**	**+1.8**
ILAR	**Eielson Array**	**94.56**	**25**	P	**P**	**01 00 09.2**	**-2.3**
	comp=Z,0.8nm,1.1s,baz=281,slow=6.4,SNR=2.1						
	comp=Z,0.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**127.14**	**281**	PKP	**PKiKP**	**01 05 57.8**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=93,slow=2.1,SNR=1.7						

*IDC **24** 00:52:35.7±0.6, 7°.43S×130°.54E, h0km, mb4.5/15, mbtmp4.4/19, ML4.5/4, MS3.4/14, Error ellipse: s-maj=28.8km s-min=12.9km az=80.0*
*DJA **24** 00:52:41.9±0.2, 8°.S±2°×13°1E±°, h90km±5km, M4.6/20, mB5.1/7, mb4.7/20, MLv4.8/13, Mw(mB)4.5/7*
*NEIC **24** 00:52:44.4±1.8, 7°.35S±0°.06×130°.47E±0°.07, h58km±7km, mb4.6/28, Error ellipse: s-maj=10.6km s-min=8.6km az=66.0*

ISC 24 00:52:43.0±0.3, 7°.37S±0°.04×130°.54E±0°.06, h50km, n129, σ1§60/122, mb4.6/39, MS3.2/9, 1C-1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.97**	**129**	Pn	**Pn**	**00 53 01.1**	**+0.8**
SAUI	**Saumlaki**	**0.97**	**129**	P	**Pn**	**00 53 01.7**	**+1.4**
SAUI	**Saumlaki**	**0.97**	**129**	P	**Pn**	**00 53 01.5**	**+1.2**
SAUI				S	**Sn**	**00 53 12.9**	**-0.2**
BNDI	**Bandanaira**	**2.90**	**347**	P	**Pn**	**00 53 27.7**	**+1.1**
BNDI	**Bandanaira**	**2.90**	**347**	P	**Pn**	**00 53 27.1**	**+0.5**
AAI	**Ambon**	**4.34**	**327**	P	**Pn**	**00 53 47.3**	**+0.9**
FAKI	**Fak Fak**	**4.73**	**21**	Pn	**Pn**	**00 53 51.5**	**-0.3**
FAKI	**Fak Fak**	**4.73**	**21**	P	**Pn**	**00 53 51.8**	**-0.1**
FAKI	**Fak Fak**	**4.73**	**21**	P	**Pn**	**00 53 51.7**	**-0.1**
NLAI	**Namlea**	**5.34**	**320**	P	**Pn**	**00 54 03.2**	**+3.0**
	59nm,0.6s,0.3nm						
MTN	**Manton Dam**	**5.47**	**174**	Pn	**Pn**	**00 54 01.1**	**-0.9**
MTN	**Manton Dam**	**5.47**	**174**	P	**Pn**	**00 54 01.4**	**-0.6**
KDU	**Kakadu**	**5.62**	**160**	P	**Pn**	**00 54 02.4**	**-1.6**
SIJI	**Sorong**	**6.49**	**6**	Pn	**Pn**	**00 54 14.0**	**-2.0**
	6.5nm,0.3s,baz=230,slow=23,SNR=12						
SIJI				Sn	**Sn**	**00 55 25.3**	**-3.6**

SBUM				IAmb	IAmb	00 57 21.8
	comp=Z,20nm,0.8s					
OOD	**Oodnadatta**	**20.90**	**167**	P	Pn	00 57 24.9 +0.7
INKA	**Innaminka**	**22.45**	**156**	P	**P**	**00 57 39.3 +1.4**
LEM	**Lembang**	**22.75**	**270**	LR	LR	01 08 40.1
	comp=Z,79nm,18.3s,baz=70,slow=42					
MULG	**Mulgathing**	**23.04**	**172**	P	**P**	**00 57 45.4 +1.5**
FORT	**Forrest**	**23.41**	**185**	P	**P**	**00 57 48.9 +1.3**
FORT				IAmb	IAmb	00 57 52.5
	comp=Z,27nm,0.8s					
FORT	**Forrest**	**23.41**	**185**	P	**P**	**00 57 49.7 +2.1**
LCRK	**Leigh Creek**	**24.07**	**164**	P	**P**	**00 57 56.2 +2.5**
MORW	**Morawa**	**25.55**	**211**	P	**P**	**00 58 07.8 +0.6**
MORW				IAmb	IAmb	00 58 10.2
	comp=Z,11nm,0.8s					
MORW	**Morawa**	**25.55**	**211**	P	**P**	**00 58 08.6 +1.4**
BBOO	**Buckleboo**	**25.83**	**169**	P	**P**	**00 58 10.4 +0.6**
BBOO				IAmb	IAmb	00 58 22.9
	comp=Z,16nm,0.7s					
BBOO	**Buckleboo**	**25.83**	**169**	P	**P**	**00 58 11.0 +1.3**
STKA	**Stephens Creek**	**26.48**	**159**	P	**P**	**00 58 14.5 -1.1**
	comp=Z,5.9nm,0.6s,baz=320,slow=11,SNR=8.5					
STKA				S	**S**	**01 02 49.9 +3.8**
	comp=Z,4.3nm,0.9s,baz=339,slow=14,SNR=3.4					
STKA				LR	LR	01 09 28.7
	comp=Z,140nm,19.6s,baz=12,slow=38					
	comp=Z,5.9nm,0.6s					
STKA	**Stephens Creek**	**26.48**	**159**	P	**P**	**00 58 16.1 +0.6**
HTT	**Hallett**	**27.07**	**164**	P	**P**	**00 58 26.2 +5.2**
CMSA	**Cobar Meteorol**	**27.90**	**152**	P	**P**	**00 58 29.8 +1.4**
NWAO	**Narrogin (SRO)**	**28.27**	**204**	P	**P**	**00 58 30.3 -1.4**
	comp=Z,5.7nm,0.8s					
NWAO				LR	LR	01 10 58.5
	comp=Z,109nm,18.8s,slow=39					
	comp=Z,5.7nm,0.8s					
HNR	**Honiara**	**29.16**	**96**	LR	LR	01 10 23.7
	comp=Z,982nm,19.2s,baz=294,slow=37					
ARPS	**Mount Arapiles**	**31.03**	**162**	P	**P**	**00 58 58.0 +2.0**
	comp=Z,16nm,0.8s					
DZM	**Mont Dzumac**	**37.55**	**117**	LR	LR	01 15 52.0
	comp=Z,40nm,18.4s,baz=334,slow=37					
JNU	**Nakatsue**	**40.26**	**0**	LR	LR	01 16 45.7
	comp=Z,40nm,21.8s,baz=154,slow=36					
CMAR	**Chiang Mai Arr**	**40.38**	**310**	P	**P**	**01 00 15.8 -0.6**
	comp=Z,4.1nm,0.8s,baz=140,slow=7.6,SNR=21					
CMAR				PcP	**PcP**	**01 02 19.9 +1.0**
	comp=Z,1.4nm,0.3s,baz=174,slow=2.7,SNR=6.5					
CMAR				LR	LR	01 19 24.3
	comp=Z,30nm,18.1s,baz=135,slow=40					
	comp=Z,4.1nm,0.8s					
CMAR	**Chiang Mai Arr**	**40.38**	**310**	P	**P**	**01 00 15.5 -0.8**
CHTO	**Chiang Mai**	**40.59**	**310**	P	**P**	**01 00 17.1 -0.9**
CHTO				IAmb	IAmb	01 00 19.0
	comp=Z,7.9nm,0.8s					
NJ2	**Nanjing**	**40.75**	**345**	*e*P	**P**	**01 00 20.8 +1.6**
NJ2				pmax	pmax	
	comp=Z,12nm,0.7s					
PZH	**PanZhiHua**	**43.75**	**321**	P	**P**	**01 00 43.3 -0.6**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,130nm,5.7s					
MJAR	**Matsushiro Arr**	**44.26**	**9**	P	**P**	**01 00 46.4 -1.3**
	comp=Z,10.0nm,0.8s,baz=186,slow=9.3,SNR=16					
	comp=Z,10.0nm,0.8s					
MAJO	**Matsushiro**	**44.27**	**9**	P	**P**	**01 00 47.6 -0.1**
KSRS	**Korea Array**	**44.65**	**357**	P	**P**	**01 00 51.5 +0.8**
	comp=Z,0.9nm,0.6s,baz=198,slow=9.6,SNR=2.4					
KSRS				LR	LR	01 18 18.9
	comp=Z,29nm,21.2s,baz=135,slow=34					
	comp=Z,0.9nm,0.6s					
XAN	**Xi'an**	**45.99**	**335**	P	P	01 00 56.8 -4.7
XAN				pmax	pmax	
	comp=Z,6.0nm,0.7s					
HNS	**HongShan**	**46.93**	**343**	⇑P	**P**	**01 01 08.3 -0.4**
HNS				pmax	pmax	
	comp=Z,6.0nm,0.9s					
BRDH	**Bariadhala**	**48.38**	**309**	LR	LR	01 26 39.8
	comp=Z,40nm,18.0s,baz=92,slow=42					
BJI	**Beijing**	**49.00**	**345**	P	**P**	**01 01 24.1 -0.6**
BJI				pmax	pmax	
	comp=Z,5.0nm,0.6s					
LZH	**Lanzhou**	**49.98**	**332**	*e*P	**P**	**01 01 33.5 +1.1**
LZH				pP	pP	01 01 40.4 -4.6
LZH				pmax	pmax	
	comp=Z,12nm,1.1s					
HHC	**Hu-ho-hao-te**	**51.06**	**342**	*e*P	**P**	**01 01 42.4 +2.0**
HHC				pmax	pmax	
	comp=Z,5.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,220nm,4.7s					
USRK	**Ussuriysk Ar.**	**51.34**	**1**	P	**P**	**01 01 42.6 +0.3**
	comp=Z,1.7nm,0.4s,baz=178,slow=8.4,SNR=3.1					
	comp=Z,1.7nm,0.4s					
GTA	**Gaotai**	**54.55**	**331**	*e*P	**P**	**01 02 06.6 +0.3**
GTA				pP	pP	01 02 13.8 -5.5
GTA				sP	pwP	01 02 17.8 -4.6
GTA				PcP	**PcP**	**01 03 10.4 +1.4**
GTA				pmax	pmax	
	comp=Z,6.0nm,1.3s					
GOMU	**GeErMu**	**54.80**	**325**	P	P	01 02 14.0 +5.6
GOMU				pP	pP	01 02 17.3 -4.0
GOMU				sP	pwP	01 02 18.8 -6.2
GOMU				PcP	PcP	01 03 18.3 +7.9
GOMU				PP	PP	01 04 23.3 +12
GOMU				pmax	pmax	
	comp=Z,2.0nm,0.5s					
GOMU				pmax	pmax	
	comp=Z,97nm,5.4s					
HEH	**HeiHe**	**57.45**	**358**	*e*P	**P**	**01 02 27.8 +1.3**
HEH				pmax	pmax	
	comp=Z,6.0nm,1.0s					
HEH				pmax	pmax	
	comp=Z,230nm,6.6s					
ULN	**Ulaanbaatar**	**58.78**	**342**	P	**P**	**01 02 36.3 +0.1**
ULN				IAmb	IAmb	01 02 39.6
	comp=Z,5.9nm,0.8s					
SONM	**Songino Array**	**58.96**	**341**	P	**P**	**01 02 37.6 +0.3**
	comp=Z,1.8nm,0.6s,baz=156,slow=6.7,SNR=14					
SONM				PcP	**PcP**	**01 03 26.6 +0.5**
	comp=Z,0.7nm,0.6s,baz=133,slow=5.2,SNR=2.2					
	comp=Z,1.8nm,0.6s					
SONM	**Songino Array**	**58.96**	**341**	P	**P**	**01 02 37.2 -0.2**
WMQ	**Urumqi**	**63.99**	**327**	*e*P	**P**	**01 03 12.4 +1.0**
WMQ				pmax	pmax	
	comp=Z,18nm,0.9s					
PETK	**Petropavlovsk-**	**64.50**	**18**	P	**P**	**01 03 14.8 +0.3**
	comp=Z,2.4nm,0.6s,baz=184,slow=4.2,SNR=3.7					
	comp=Z,2.4nm,0.6s					
KSH	**Kashi**	**68.65**	**317**	P	**P**	**01 03 44.1 +2.8**
KSH				pmax	pmax	
	comp=Z,7.0nm,0.9s					
MK31	**Makanchi Array**	**68.82**	**327**	P	**P**	**01 03 42.6 +0.5**
MKAR	**Makanchi Array**	**68.82**	**327**	P	**P**	**01 03 42.9 +0.7**
	comp=Z,15nm,0.7s,baz=126,slow=7.7,SNR=157					
	comp=Z,15nm,0.7s					
MKAR	**Makanchi Array**	**68.82**	**327**	P	**P**	**01 03 42.6 +0.5**
MAKZ	**Makanchi**	**69.00**	**327**	P	**P**	**01 03 43.0 -0.3**
YAK	**Yakutsk**	**69.19**	**360**	P	**P**	**01 03 43.9 -0.1**
SMY	**Shemya**	**70.36**	**26**	P	**P**	**01 03 52.3 +0.9**
TKM2	**Tokmak 2**	**70.61**	**320**	P	**P**	**01 03 54.7 +1.2**
	SNR=6.2					
UCH	**Uchtor**	**70.95**	**319**	P	**P**	**01 03 57.1 +1.2**
	SNR=7.7					
AAK	**Ala-Archa**	**71.17**	**320**	P	**P**	**01 03 58.3 +1.5**
	SNR=8.8					
AAK	**Ala-Archa**	**71.17**	**320**	P	**P**	**01 03 56.4 -0.4**
AAK				IAmb	IAmb	01 03 58.9
	comp=Z,7.6nm,0.8s					
KBL	**Kabul**	**71.41**	**310**	P	**P**	**01 03 57.9 -0.6**
KBL				IAmb	IAmb	01 04 01.5
	comp=Z,5.6nm,0.8s					
AML	**Almayashu**	**71.44**	**319**	P	**P**	**01 03 59.8 +1.1**
	SNR=8.9					
USP	**Ospenovka**	**71.47**	**320**	P	**P**	**01 03 59.7 +1.2**
	SNR=13					
EKS2	**Erkin-Say**	**71.64**	**319**	P	**P**	**01 04 01.3 +1.7**
	SNR=7.7					
VNDA	**Vanda**	**72.02**	**173**	P	**P**	**01 04 00.5 -0.7**
	comp=Z,2.1nm,1.1s,baz=324,slow=8.7,SNR=2.4					
	comp=Z,2.1nm,1.1s					
ZAA0	**Zalesovo Array**	**72.15**	**334**	P	**P**	**01 04 01.4 -0.8**
ZALV	**Zalesovo Beam**	**72.15**	**334**	P	**P**	**01 04 01.7 -0.5**
	comp=Z,1.3nm,0.6s,baz=137,slow=6.1,SNR=7.3					
	comp=Z,1.3nm,0.6s					
KURK	**Kurchatov**	**73.11**	**328**	P	**P**	**01 04 07.9 -0.1**
KURK				IAmb	IAmb	01 04 10.7
	comp=Z,6.6nm,0.9s					
KIWB	**Kanaga Island**	**73.97**	**31**	P	**P**	**01 04 12.9 -0.1**
KK31	**Karatay Array**	**73.97**	**319**	P	**P**	**01 04 13.2 -0.1**
KK31				IAmb	IAmb	01 04 15.3
	comp=Z,4.6nm,0.8s					
KKAR	**Karatay Array**	**73.97**	**319**	P	**P**	**01 04 13.3 0.0**
KKAR	**Karatay Array**	**73.97**	**319**	P	**P**	**01 04 13.0 -0.2**
KKAR				IAmb	IAmb	01 04 15.3
	comp=Z,4.6nm,0.8s					
MAW	**Mawson**	**74.81**	**202**	P	**P**	**01 04 17.0 -0.6**
	comp=Z,31nm,0.8s,baz=102,slow=9.3,SNR=2.1					
	comp=Z,31nm,0.8s					
CRZF	**Crozet Islands**	**76.90**	**224**	P	**P**	**01 04 28.9 -1.1**
GEYT	**Alibeck**	**80.86**	**310**	P	**P**	**01 04 51.7 -0.2**
	comp=Z,1.5nm,0.6s,baz=132,slow=2.1,SNR=5.1					
	comp=Z,1.5nm,0.6s					
NRIK	**Noril'sk**	**82.04**	**346**	P	**P**	**01 04 57.7 +0.3**
	comp=Z,11nm,0.8s,baz=129,slow=6.5,SNR=17					
	comp=Z,11nm,0.9s					
NRIK	**Noril'sk**	**82.04**	**346**	P	**P**	**01 04 57.9 +0.4**
NRIK				IAmb	IAmb	01 05 01.1
	comp=Z,12nm,0.9s					
ABKAR	**Akbulak array**	**83.13**	**322**	P	**P**	**01 05 03.5 0.0**
ARU	**Arti**	**86.30**	**328**	P	**P**	**01 05 18.7 -0.7**
ARU				IAmb	IAmb	01 05 20.4
	comp=Z,7.1nm,0.9s					
ELIB	**Princess Elisa**	**88.30**	**197**	*d*P	**P**	**01 05 30.9 +1.9**
RAYN	**Ar Rayn**	**88.38**	**294**	P	**P**	**01 05 29.7 -0.5**
ILAR	**Eielson Array**	**93.45**	**25**	P	**P**	**01 05 51.9 -0.9**
	comp=Z,0.7nm,0.8s,baz=285,slow=4.2,SNR=3.8					
	comp=Z,0.7nm,0.8s					
TORD	**Torodi Ar. Bea**	**129.41**	**281**	PKP	**PKPdf**	**01 11 47.1 0.0**
	comp=Z,1.7nm,0.6s,baz=53,slow=2.0,SNR=9.3					
CPUP	**Villa Florida**	**145.64**	**167**	PKPbc	**PKPdf**	**01 12 16.9 +0.3**
	comp=Z,3.6nm,0.9s,baz=201,slow=6.1,SNR=8.0					

*GCG **24** 01:42:01.3±0.6, 13°.58N×90°.91W, h64km±23km, MD3.4*
*SNET **24** 01:42:01.7±0.8, 13°.51N×90°.75W, h42km±81km, ML3.6*

ISC 24 01:41:59.6±2.2, 13°.4N±0°.1×90°.76W±0°.06, h32km±15km, n9, σ0°.66/16, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**1.00**	**9**	*e*P	**Pn**	**01 42 18.1**	**+0.4**
PCG				*e*S	**Sb**	**01 42 32.3**	**+0.7**
FUG	**Fuego 3**	**1.04**	**356**	*e*P	**Pn**	**01 42 18.4**	**+0.2**
NUBE	**Las Nubes**	**1.08**	**62**	*e*P	**Pb**	**01 42 19.5**	**-0.4**
NUBE				*e*S	**Sn**	**01 42 33.3**	**+0.7**
SLOZ	**Alcaldia de Sa**	**1.14**	**57**	*e*P	**Pb**	**01 42 20.7**	**-0.1**
SLOZ				*e*S	**Sb**	**01 42 35.1**	**-0.2**
CEVE	**Cerro Verde**	**1.19**	**69**	*e*P	**Pb**	**01 42 21.6**	**-0.1**
CEVE				*e*S	**Sb**	**01 42 37.3**	**+0.4**
CEVE				IAML		01 42 43.7	
	comp=Z,1μm,0.3s						
SULM	**Suchitepequez,**	**1.19**	**319**	*e*P	**Pb**	**01 42 21.8**	**+0.1**
NBG	**Las Nubes**	**1.25**	**19**	*e*P	**Pb**	**01 42 22.5**	**-0.3**
NBG				*e*S	**Sb**	**01 42 38.5**	**-0.2**
JAYA	**Jayaque - finc**	**1.30**	**79**	*e*P	**Pb**	**01 42 23.3**	**-0.4**
JAYA				*e*S	**Sb**	**01 42 39.8**	**-0.3**
JAYA				IAML		01 42 41.0	
	comp=Z,1μm,0.2s						
STG3	**Santiaguito 3,**	**1.52**	**329**	*e*P	**Pn**	**01 42 25.4**	**+0.7**
STG3				*e*S	**Sn**	**01 42 41.9**	**-1.7**

*AEIC **24** 02:02:24.4±1.0, 69°.14N±0°.06×145°.1W±0°.2, h2km±5km, ML3.7, mb3.9/7(NEIC), ML3.8/46(NEIC), Error ellipse: s-maj=9.2km s-min=8.6km az=94.0*
*IDC **24** 02:02:24.6±0.8, 69°.33N×145°.19W, h0km, mb3.6/12, mbtmp3.6/16, ML3.5/4, Error ellipse: s-maj=19.0km s-min=12.5km az=47.0*
*NEIC **24** 02:02:25.7±1.1, 69°.22N±0°.06×145°.0W±0°.2, h20km±6km, Error ellipse: s-maj=9.3km s-min=8.3km az=116.0*

ISC 24 02:02:24.9±0.5, 69°.16N±0°.03×145°.08W±0°.04, h10km, n150, σ1s11/153, mb3.8/16, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
C27K	**Jago River**	**0.68**	**45**	P	**Pg**	**02 02 36.7**	**-1.2**
	baz=226						
C27K				S	**Sg**	**02 02 46.0**	**-0.8**
	baz=226						
E25K	**Arctic Village**	**1.06**	**190**	P	**Pg**	**02 02 43.8**	**-1.4**
	baz=9.4						
E25K				S	**Sg**	**02 02 57.9**	**-1.0**
	baz=9.4						
F26K	**Sheenjek River**	**1.51**	**166**	P	**Pb**	**02 02 51.9**	**-1.1**
	baz=347						
F26K				S	**Sg**	**02 03 12.3**	**-1.1**
	baz=347						
F25K	**Christian River**	**1.58**	**188**	P	**Pb**	**02 02 52.9**	**-1.3**
	baz=7.2						
F25K				S	**Sg**	**02 03 14.4**	**-1.4**
	baz=7.2						
E27K	**Coleen River**	**1.60**	**126**	P	**Pb**	**02 02 53.6**	**-1.0**
	baz=308						
BMAR	**Burnt Mountain**	**1.75**	**174**		**Pn**	**02 02 55.4**	**+0.1**
BMAR				Sn	**Sg**	**02 03 19.1**	**-1.9**
F24K	**Squaw Lake**	**1.95**	**214**	P	**Pn**	**02 02 58.4**	**+0.3**
	baz=31						
E23K	**Chandalar**	**2.00**	**239**	P	**Pb**	**02 02 59.5**	**-1.8**
	baz=55						
D23K	**Nanushuk River**	**2.02**	**267**	P	**Pn**	**02 02 59.5**	**+0.4**
	baz=82						
G26K	**Porcupine Rive**	**2.27**	**167**	P	**Pn**	**02 03 02.3**	**-0.1**
	baz=348						
G25K	**Bearman Lake**	**2.43**	**190**	P	**Pn**	**02 03 05.2**	**+0.5**
	baz=8.6						
FYU	**Fort Yukon**	**2.60**	**181**		**Pn**	**02 03 07.2**	**+0.2**
FYU	**Fort Yukon**	**2.60**	**181**	IAML		02 03 55.8	
	comp=E,432nm,0.8s						
FYU				IAML		02 03 58.5	
	comp=N,478nm,0.8s						
G24K	**Hadweenzic Riv**	**2.63**	**201**	P	**Pn**	**02 03 07.4**	**0.0**
	baz=19						
G27K	**Doyon Strip**	**2.69**	**150**	P	**Pn**	**02 03 08.4**	**+0.2**
	baz=333						
COLD	**Coldfoot**	**2.72**	**227**		**Pn**	**02 03 09.7**	**+1.1**
COLD	**Coldfoot**	**2.72**	**227**	P	**Pn**	**02 03 09.7**	**+1.1**
	baz=42						
G23K	**Bananza Creek**	**3.09**	**220**	P	**Pn**	**02 03 13.5**	**-0.2**
	baz=35						
H27K	**Steamboat Moun**	**3.24**	**154**	P	**Pn**	**02 03 16.6**	**+0.8**
	baz=337						
H24K	**Noodor Dome**	**3.50**	**199**		**Pn**	**02 03 19.2**	**-0.2**
H24K				IAML		02 04 19.9	
	comp=N,224nm,0.7s						
H24K				IAML		02 04 22.9	
	comp=E,253nm,1.6s						
H24K	**Noodor Dome**	**3.50**	**199**	P	**Pn**	**02 03 19.3**	**-0.2**
	baz=17						
PRP	**Porcupine Dome**	**3.66**	**183**		**Pn**	**02 03 22.1**	**+0.5**
PRP				IAML		02 04 09.1	
	comp=N,151nm,0.4s						
PRP	**Porcupine Dome**	**3.66**	**183**	P	**Pn**	**02 03 22.1**	**+0.5**
	baz=2.4						
F21K	**Alatna River**	**3.69**	**242**	P	**Pn**	**02 03 22.3**	**+0.3**
	baz=55						
I27K	**Kandik River**	**3.81**	**158**	P	**Pn**	**02 03 23.7**	**0.0**
	baz=341						
I26K	**Coal Creek Min**	**3.94**	**168**		**Pn**	**02 03 25.7**	**+0.4**
I26K				IAML		02 04 41.0	
	comp=N,153nm,1.1s						
I26K				IAML		02 04 41.3	
	comp=E,154nm,0.8s						
I26K	**Coal Creek Min**	**3.94**	**168**	P	**Pn**	**02 03 25.4**	**+0.1**
	baz=350						
G30M	**tAoh Zraii Nji**	**3.98**	**119**	P	**Pn**	**02 03 26.4**	**+0.5**
	baz=307						
G21K	**Allakaket**	**4.15**	**234**	P	**Pn**	**02 03 28.3**	**0.0**
	baz=47						
POKR	**Poker Plat Res**	**4.16**	**194**		**Pn**	**02 03 29.0**	**+0.6**
POKR				IAML		02 04 20.8	
	comp=E,132nm,0.6s						
POKR	**Poker Plat Res**	**4.16**	**194**	P	**Pn**	**02 03 28.6**	**+0.2**
	baz=12						
INK	**Inuvik**	**4.29**	**96**	Pn	**Pn**	**02 03 31.8**	**+1.7**
	comp=E,1.1nm,0.3s,baz=283,slow=14,SNR=15						
INK				Sn	**Sn**	**02 04 20.5**	**+0.3**
	comp=E,4.9nm,0.3s,baz=130,slow=21,SNR=5.6						
INK				Lg	Lg	02 04 40.6	
	comp=E,3.9nm,0.3s,baz=169,slow=11,SNR=9.0						
	comp=E,7.7nm,0.4s						

INK	**Inuvik**	**4.29**	**96**		**Pn**	**02 03 30.6 +0.4**
INK	**Inuvik**	**4.29**	**96**	P	**Pn**	**02 03 30.5 +0.4**
	baz=287					
I23K	**Minto, Yukon-K**	**4.36**	**205**		**Pn**	**02 03 29.9 -1.2**
I23K				IAML		02 05 07.0
	comp=N,119nm,1.5s					
MDM	**Murphy Dome**	**4.39**	**198**		**Pn**	**02 03 31.4 -0.3**
MDM	**Murphy Dome**	**4.39**	**198**	IAML		02 04 47.2
	comp=E,125nm,0.9s					
MDM				IAML		02 04 55.0
	comp=N,124nm,1.0s					
COLA	**College**	**4.44**	**195**		**Pn**	**02 03 32.2 +0.1**
TCOL	**CIGO, UAF Yank**	**4.44**	**196**		**Pn**	**02 03 32.2 0.0**
IL31		**4.46**	**190**		**Pn**	**02 03 32.8 +0.3**
ILAR	**Eielson Array**	**4.46**	**190**	Pn	**Pn**	**02 03 32.8 +0.3**
	comp=N,2.8nm,0.3s,baz=2.4,slow=14,SNR=116					
ILAR				Sn	**Sn**	**02 04 25.0 +0.5**
	comp=N,4.9nm,0.3s,baz=5.7,slow=24,SNR=11					
ILAR				Lg	Lg	02 04 42.9
	comp=N,5.7nm,0.3s,baz=4.4,slow=16,SNR=5.7					
	comp=N,4.8nm,0.5s					
ILAR	**Eielson Array**	**4.46**	**190**		**Pn**	**02 03 33.0 +0.5**
A21K	**Barrow**	**4.48**	**304**		**Pn**	**02 03 32.3 -0.4**
A21K	**Barrow**	**4.48**	**304**	P	**Pn**	**02 03 32.6 -0.1**
	baz=114					
F31M	**Tsiigehtchic**	**4.55**	**107**	P	**Pn**	**02 03 34.0 +0.4**
	baz=297					
H21K	**Melozitna Rive**	**4.61**	**224**		**Pn**	**02 03 35.1 +0.6**
H21K				IAML		02 04 54.8
	comp=N,100nm,1.0s					
H21K				IAML		02 04 55.3
	comp=E,116nm,1.1s					
H21K	**Melozitna Rive**	**4.61**	**224**	P	**Pn**	**02 03 34.9 +0.4**
	baz=37					
I29M	**Ogilvie Camp,**	**4.63**	**142**		**Pn**	**02 03 35.0 +0.2**
I29M				IAML		02 04 55.1
	comp=E,89nm,1.0s					
I29M				IAML		02 04 55.9
	comp=N,89nm,0.9s					
CCB	**Clear Creek Bu**	**4.66**	**195**		**Pn**	**02 03 35.9 +0.8**
EGAK	**Eagle**	**4.66**	**159**		**Pn**	**02 03 35.7 +0.5**
EGAK				IAML		02 05 04.5
	comp=N,83nm,1.0s					
EGAK	**Eagle**	**4.66**	**159**	P	**Pn**	**02 03 35.8 +0.5**
	baz=342					
MLY	**Manley**	**4.70**	**211**		**Pn**	**02 03 36.3 +0.5**
MLY	**Manley**	**4.70**	**211**	IAML		02 05 03.1
	comp=E,76nm,1.2s					
MLY	**Manley**	**4.70**	**211**	P	**Pn**	**02 03 36.3 +0.5**
	baz=26					
J26L	**Joseph Creek**	**4.71**	**172**		**Pn**	**02 03 36.7 +0.6**
J26L				IAML		02 04 58.6
	comp=E,64nm,1.1s					
J26L	**Joseph Creek**	**4.71**	**172**	P	**Pn**	**02 03 36.4 +0.3**
	baz=353					
I21K	**Tanana**	**4.81**	**217**		**Pn**	**02 03 37.7 +0.4**
I21K	**Tanana**	**4.81**	**217**	P	**Pn**	**02 03 37.5 +0.2**
	baz=31					
HDA	**Harding Lake**	**4.83**	**190**		**Pn**	**02 03 38.1 +0.6**
HDA				IAML		02 05 03.9
	comp=N,106nm,0.8s					
HDA				IAML		02 05 04.1
	comp=E,92nm,0.9s					
NEA2	**Nenana**	**4.85**	**201**		**Pn**	**02 03 38.6 +0.8**
NEA2				IAML		02 05 04.8
	comp=E,59nm,1.2s					
WRH	**Wood River Hil**	**4.85**	**196**		**Pn**	**02 03 38.6 +0.7**
WRH				IAML		02 05 00.8
	comp=N,72nm,0.9s					
WRH				IAML		02 05 02.8
	comp=E,80nm,1.1s					
SCRK	**Sand Creek**	**5.22**	**175**		**Pn**	**02 03 44.1 +1.0**
SCRK	**Sand Creek**	**5.22**	**175**	IAML		02 05 10.9
	comp=E,50nm,0.8s					
SCRK	**Sand Creek**	**5.22**	**175**	P	**Pn**	**02 03 44.1 +1.0**
	baz=356					
BWN	**Browne**	**5.30**	**201**		**Pn**	**02 03 42.4 -1.6**
K24K	**Donnelly Dome**	**5.38**	**183**	P	**Pn**	**02 03 46.4 +1.1**
	baz=2.6					
RIDG	**Independent Ri**	**5.44**	**179**		**Pn**	**02 03 46.0 -0.1**
RIDG	**Independent Ri**	**5.44**	**179**	P	**Pn**	**02 03 46.0 -0.1**
	baz=359					
J29M	**Klondike Camp**	**5.44**	**147**		**Pn**	**02 03 44.5 -1.6**
DOT	**Dot Lake**	**5.55**	**175**		**Pn**	**02 03 47.3 -0.2**
DAWY	**Dawson**	**5.59**	**153**	Pn	**Pn**	**02 03 48.3 +0.2**
DAWY	**Dawson**	**5.59**	**153**	P	**Pn**	**02 03 48.7 +0.7**
	baz=338					
BPAW	**Bear Paw Mtn.**	**5.59**	**208**		**Pn**	**02 03 48.6 +0.5**
BPAW	**Bear Paw Mtn.**	**5.59**	**208**	P	**Pn**	**02 03 48.6 +0.5**
	baz=22					
MCK	**McKinley**	**5.66**	**198**		**Pn**	**02 03 49.5 +0.5**
MCK	**McKinley**	**5.66**	**198**	P	**Pn**	**02 03 49.5 +0.5**
	baz=14					
RND	**Reindeer**	**5.97**	**197**		**Pn**	**02 03 52.9 -0.4**
CHUM	**Lake Minchumin**	**6.03**	**212**		**Pn**	**02 03 54.6 +0.6**
CHUM	**Lake Minchumin**	**6.03**	**212**	P	**Pn**	**02 03 54.6 +0.6**
	baz=25					
KTH	**Kantishna Hill**	**6.10**	**205**		**Pn**	**02 03 55.6 +0.6**
TRF	**Thorofare Moun**	**6.10**	**203**	Pn	**Pn**	**02 03 54.6 -0.6**
TRF	**Thorofare Moun**	**6.10**	**203**	P	**Pn**	**02 03 55.8 +0.6**
	baz=18					
DHY	**Denali Highway**	**6.18**	**190**		**Pn**	**02 03 57.7 +1.5**
DHY	**Denali Highway**	**6.18**	**190**	P	**Pn**	**02 03 57.7 +1.5**
	baz=7.6					
L26K	**Log Cabin Wild**	**6.20**	**173**		**Pn**	**02 03 56.5 +0.1**
L26K	**Log Cabin Wild**	**6.20**	**173**	P	**Pn**	**02 03 57.2 +0.8**
	baz=354					
PAX	**Paxson**	**6.22**	**182**		**Pn**	**02 03 57.7 +1.0**
PAX	**Paxson**	**6.22**	**182**	P	**Pn**	**02 03 57.7 +1.0**
	baz=1.2					
BCAR	**Beaver Creek A**	**6.26**	**166**	Pn	**Pn**	**02 03 57.8 +0.5**
L27K	**Beaver Creek,**	**6.26**	**166**		**Pn**	**02 03 57.6 +0.3**
L27K	**Beaver Creek,**	**6.26**	**166**	P	**Pn**	**02 03 57.8 +0.5**
	baz=349					
MENT	**Mentasta**	**6.27**	**174**		**Pn**	**02 03 57.8 +0.5**
CAST	**Castle Rocks**	**6.41**	**209**		**Pn**	**02 03 59.9 +0.6**
**CA

comp=E,0.4nm,0.3s,baz=306,slow=24,SNR=7.2
comp=E,3.0nm,0.7s
YKA Yellowknife Ar 14.02 104 Pn Pn 02 05 40.2 -3.0
RES Resolute Bay 16.04 48 Pn Pn 02 06 06.3 -3.8
comp=E,0.2nm,0.3s,baz=273,slow=14,SNR=3.6
RES Sn Sn 02 08 54.9 -13
comp=E,0.5nm,0.3s,baz=262,slow=2.0,SNR=7.4
RES Resolute Bay 16.04 48 Pn 02 06 06.0 -4.0
RES IAmb IAmb 02 06 15.9
comp=Z,3.2nm,0.7s
BILL Bilibino 17.42 289 Pn Pn 02 06 27.2 -0.4
BILL IAmb IAmb 02 07 07.6
comp=Z,9.9nm,1.5s
EUNU Eureka 17.84 29 P 02 06 33.3 -0.3
EDM Edmonton 21.70 121 P P 02 07 15.2 -0.5
EDM IAmb IAmb 02 07 38.1
comp=Z,4.8nm,1.0s
PGC Sidney 23.14 142 P P 02 07 31.5 +0.6
PGC IAmb IAmb 02 08 00.6
comp=Z,6.3nm,1.1s
FCC Fort Churchill 23.89 90 P P 02 07 38.9 +0.7
FCC IAmb IAmb 02 07 47.0
comp=Z,4.3nm,0.9s
WISH Wishkah 24.52 143 P P 02 07 45.7 +1.6
PDAR Pinedale Array 32.19 127 P P 02 08 55.6 +2.7
comp=Z,0.4nm,0.7s,baz=3.4,slow=4.5,SNR=5.9
comp=Z,0.4nm,0.7s
NVAR Mina Array Bea 34.01 141 P P 02 09 12.0 +3.2
comp=Z,0.7nm,0.9s,baz=347,slow=7.5,SNR=2.6
comp=Z,0.7nm,0.9s
SCHQ Schefferville 36.51 72 P P 02 09 30.2 +0.3
comp=Z,2.4nm,0.8s,baz=48,slow=7.9,SNR=1.6
comp=Z,2.4nm,0.8s
TXAR Lajitas Array 46.41 127 P P 02 10 55.2 +3.9
comp=Z,0.3nm,0.8s,baz=333,slow=5.0,SNR=3.5
comp=Z,0.3nm,0.8s
FINES FINESS Array B 49.54 6 P P 02 11 14.3 -0.7
comp=Z,1.3nm,0.8s,baz=15,slow=12,SNR=5.1
comp=Z,1.3nm,0.8s
HFS Hagfors 50.10 14 P P 02 11 19.1 -0.3
comp=Z,2.0nm,0.7s,baz=57,slow=5.3,SNR=2.3
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 51.91 325 P P 02 11 37.2 +4.1
comp=Z,0.5nm,0.4s,baz=359,slow=5.8,SNR=2.2
SONM Songino Array 52.16 306 P P 02 11 35.8 +0.6
comp=Z,0.3nm,0.5s,baz=57,slow=5.3,SNR=2.6
comp=Z,0.3nm,0.5s
BVAR Borovoye Array 55.38 335 P P 02 11 58.8 +0.2
comp=Z,0.4nm,0.6s,baz=221,slow=37,SNR=1.7
comp=Z,0.4nm,0.6s
KURBB Kurchatov Arra 56.31 328 P P 02 12 04.5 -0.7
comp=Z,0.6nm,1.0s,baz=20,slow=6.4,SNR=3.6
comp=Z,0.6nm,1.0s
MKAR Makanchi Array 59.21 324 P P 02 12 24.7 -0.9
comp=Z,0.2nm,0.6s,baz=49,slow=5.3,SNR=3.3
comp=Z,0.2nm,0.6s
AKASG Malin Array Be 60.38 4 P P 02 12 33.8 +0.2
comp=Z,0.5nm,0.5s,baz=354,slow=6.9,SNR=2.0
comp=Z,0.5nm,0.5s
ESDC Sonseca Array 67.74 32 P P 02 13 23.6 +1.4
comp=Z,0.5nm,0.7s,baz=348,slow=6.2,SNR=5.3
comp=Z,0.5nm,0.7s

*IDC **24** 02:17:58.2±2.2,36˚.08N×140˚.80E, h0km, mb3.5/4, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=52.3km s-min=21.5km az=55.0*
*JMA **24** 02:18:06.4±0.1,35˚.9N±0˚.3×140˚.2E±0˚.5, h53km±1km, MV2.9/40, SOUTHERN IBARAKI PREF*
ISC 24 02:18:07.1±1.0,35˚.81N±0˚.05×140˚.24E±0˚.06, h52km±9km, n19, σ1°46/21, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JSMT	**Sammumatsuo**	**0.23**	**134**	*eP*		**Pn**		**02 18 16.3**	**+0.5**
JIHU	**Itakohorinouch**	**0.28**	**55**	P		**Pn**		**02 18 15.9**	**-0.2**
JIHU				S		**Sn**		**02 18 23.4**	**+0.7**
JYT	**Yasato**	**0.42**	**355**	P		**Pn**		**02 18 16.5**	**-1.0**
JYT				S		**Sn**		**02 18 24.1**	**-1.0**
JAG	**Ashikaga**	**0.89**	**314**	P		**Pn**		**02 18 22.5**	**-0.9**
BSO3	**Boso 3**	**1.03**	**168**	P		**Pn**		**02 18 24.8**	**-0.2**
JOD2	**Odawara 2**	**1.09**	**240**	P		**Pn**		**02 18 25.4**	**-0.6**
JOD2				S		**Sn**		**02 18 39.3**	**-0.8**
JRY	**Ryogami san**	**1.11**	**281**	P		**Pn**		**02 18 26.0**	**-0.3**
JKT	**Katashina**	**1.25**	**320**	P		**Pn**		**02 18 27.4**	**-0.9**
JIM2	**Oshima 3**	**1.27**	**212**	P		**Pn**		**02 18 27.1**	**-1.5**
BSO1	**Boso 1**	**1.30**	**152**	*eP*		**Pn**		**02 18 28.1**	**-0.3**
MJAR	**Matsushiro Arr**	**1.80**	**295**	Pn		**Pn**		**02 18 35.5**	**-0.2**
	1.5nm,0.3s,baz=95,slow=14,SNR=34								
MJAR				Sn		**Sn**		**02 19 02.3**	**+4.8**
	1.5nm,0.3s,baz=249,slow=27,SNR=3.2								
JHJ	**Hachijo jima 2**	**2.71**	**188**	Pn		**Pn**		**02 18 47.8**	**-0.3**
	28nm,0.3s,baz=300,slow=22,SNR=8.6								
JHJ				Sn		**Sn**		**02 19 19.9**	**+0.2**
	52nm,0.3s,baz=60,slow=24,SNR=5.9								
	98nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**28.38**	**117**	T		T		02 53 59.9	
	baz=320								
H11N1	**WAKE ISLAND Hy**	**28.39**	**117**	T		T		02 53 28.1	
	baz=320								
H11N3	**WAKE ISLAND Hy**	**28.40**	**117**	T		T		02 53 51.0	
	baz=320								
MKAR	**Makanchi Array**	**43.98**	**303**	P		**P**		**02 26 08.3**	**-0.8**
	0.2nm,0.7s,baz=94,slow=8.5,SNR=2.8								
	0.2nm,0.7s								
KURBB	**Kurchatov Arra**	**46.02**	**309**	P		**P**		**02 26 24.6**	**-0.6**
	0.3nm,0.3s,baz=85,slow=7.7,SNR=4.2								
	0.3nm,0.3s								
WRA	**Warramunga Arr**	**55.73**	**187**	P		**P**		**02 27 37.9**	**-0.6**
	0.5nm,0.6s,baz=359,slow=7.5,SNR=10								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**59.45**	**187**	P		**P**		**02 28 06.5**	**+1.8**
	0.2nm,0.4s,baz=14,slow=12,SNR=4.2								
	0.2nm,0.4s								

*IDC **24** 02:30:08.1±0.9,38˚.21N×76˚.62E, h0km, mb3.7/15, mbtmp3.6/20, ML3.1/4, Error ellipse: s-maj=18.0km s-min=16.5km az=128.0*
*SOME **24** 02:30:13.0,38˚.55N×76˚.73E, h5km*
*NNC **24** 02:30:14.8±1.9,38˚.55N×76˚.62E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=13.3km s-min=10.1km az=154.0*
ISC 24 02:30:10.0±0.8,38˚.26N±0˚.06×76˚.56E±0˚.05, h10km, n72, σ2°54/59, mb3.7/15, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
AAK	**Ala-Archa**	**4.65**	**341**	Pn		**Pn**		**02 31 23.9**	**+3.4**
	0.8nm,0.3s,baz=145,slow=9.1,SNR=10								
AAK				Lg		Lg		02 32 33.6	
	4.2nm,0.3s,baz=304,slow=22,SNR=6.2								
	2.2nm,0.3s								
TKM2	**Tokmak 2**	**4.72**	**351**	⇓Pg		**Pg**		**02 31 36.5**	**-3.8**
	13nm,0.7s								
TKM2				⇑Lg		Lg		02 32 34.6	
	13nm,0.7s								
IZV	**Izvestkoviy**	**4.78**	**0**	Pg		**Pg**		**02 31 37.3**	**-4.2**
	3.5nm,0.4s								
IZV				Lg		Lg		02 32 38.3	
	23nm,0.6s								
IZV	**Izvestkoviy**	**4.78**	**0**	*e*Pg		**Pg**		**02 31 37.3**	**-4.2**
	3.9nm,0.2s								
IZV				*e*Lg		Lg		02 32 38.3	
	23nm,0.2s								
TNSS	**Tian-Shan**	**4.79**	**3**	Pg		**Pb**		**02 31 36.0**	**+1.8**
	7.6nm,0.4s								
TNSS				Lg		Lg		02 32 36.1	
	13nm,0.4s								
TNSS	**Tian-Shan**	**4.79**	**3**	*e*Pg		**Pb**		**02 31 36.0**	**+1.8**
	7.6nm,0.4s								
TNSS				*e*Lg		Lg		02 32 36.1	
	15nm,0.5s								
KST	**Kastek**	**4.80**	**355**	Pg		Pg		02 31 37.5	-4.5
	10nm,1.4s								
KST				Lg		Lg		02 32 38.2	
	29nm,0.6s								
KST	**Kastek**	**4.80**	**355**	*e*Pg		**Pb**		**02 31 36.4**	**+2.1**
	12nm,0.8s								
KST				*e*Lg		Lg		02 32 36.9	
	30nm,0.3s								
MTBS	**Maitube**	**4.87**	**359**	Pg		**Pb**		**02 31 38.3**	**+2.9**
	14nm,1.0s								
MTBS				Lg		Lg		02 32 40.0	
	20nm,0.4s								
MTBS	**Maitube**	**4.87**	**359**	*e*Pg		**Pb**		**02 31 38.4**	**+2.9**
	9.2nm,0.4s								
MTBS				*e*Lg		Lg		02 32 40.0	
	20nm,0.2s								
MDOK	**Medeo**	**4.92**	**4**	Pg		**Pg**		**02 31 41.4**	**-2.7**
	8.4nm,0.6s								
MDOK				Pg		Pb		02 31 41.6	+5.4
	9.2nm,0.5s								
MDOK				Lg		Lg		02 32 42.9	
	37nm,0.7s								
MDOK				Lg		Lg		02 32 45.6	
	25nm,0.5s								
MDOK	**Medeo**	**4.92**	**4**	*e*Pg		**Pb**		**02 31 39.1**	**+2.8**
	8.4nm,0.5s								
MDOK				*e*Lg		Lg		02 32 40.5	
	16nm,0.4s								
CHMS	**Chumysh**	**4.93**	**344**	⇑Pg		**Pg**		**02 31 43.8**	**-0.7**
	6.5nm,0.6s								
CHMS				⇓Lg		Lg		02 32 42.6	
	19nm,0.6s								
KOTS	**Kotyrbulak**	**4.99**	**5**	Pg		**Pb**		**02 31 40.3**	**+2.8**
	9.8nm,0.4s								
KOTS				Lg		Lg		02 32 43.0	
	48nm,0.3s								
KOTS	**Kotyrbulak**	**4.99**	**5**	*e*Pg		**Pb**		**02 31 40.2**	**+2.7**
	6.4nm,0.2s								
KOTS				*e*Lg		Lg		02 32 43.0	
	49nm,0.2s								
SATY	**Saty**	**5.00**	**16**	Pg		**Pb**		**02 31 39.6**	**+2.0**
	16nm,0.7s								
SATY				Lg		Lg		02 32 42.2	
	42nm,0.5s								
SATY	**Saty**	**5.00**	**16**	*e*Pg		**Pb**		**02 31 39.6**	**+2.0**
	16nm,0.4s								
SATY				*e*Lg		Lg		02 32 42.1	
	42nm,0.3s								
DGS	**Degeres**	**5.02**	**353**	Pg		**Pg**		**02 31 42.5**	**-3.6**
	14nm,0.6s								
DGS				Lg		Lg		02 32 46.4	
	28nm,0.6s								
DGS	**Degeres**	**5.02**	**353**	*e*Pg		Pg		02 31 41.8	-4.3
	14nm,0.3s								
DGS				*e*Lg		Lg		02 32 46.1	
	28nm,0.3s								
MRKS	**Merke**	**5.15**	**332**	Pg		**Pg**		**02 31 45.0**	**-3.7**
	9.6nm,0.6s								
MRKS				Lg		Lg		02 32 51.3	
	13nm,0.6s								
MRKS	**Merke**	**5.15**	**332**	*e*Pg		**Pg**		**02 31 45.0**	**-3.7**
	6.7nm,0.3s								
MRKS				*e*Lg		Lg		02 32 51.3	
	13nm,0.6s								
UZB	**Uzynbulak**	**5.23**	**20**	Pg		**Pb**		**02 31 44.3**	**+2.7**
	7.5nm,0.5s								
UZB				Lg		Lg		02 32 51.2	
	24nm,0.9s								
UZB	**Uzynbulak**	**5.23**	**20**	*e*Pg		**Pb**		**02 31 44.4**	**+2.8**
	5.5nm,0.5s								
UZB				*e*Lg		Lg		02 32 50.4	
	29nm,0.5s								
CHCP	**Chirak Chowk**	**5.31**	**211**	P		Pb		02 31 35.9	-7.0
KURS	**Kuram**	**5.37**	**13**	Pg		**Pb**		**02 31 46.7**	**+2.8**
	9.8nm,0.6s								
KURS				Lg		Lg		02 32 54.3	
	21nm,1.1s								
KURS	**Kuram**	**5.37**	**13**	*e*Pg		**Pb**		**02 31 46.7**	**+2.8**
	9.8nm,0.3s								
KURS				*e*Lg		Lg		02 32 54.3	
	12nm,1.0s								
SHLS	**Shalkode**	**5.37**	**23**	Pg		**Pg**		**02 31 48.9**	**-3.9**
	9.6nm,0.4s								
SHLS				Lg		Lg		02 32 58.4	
	354nm,0.7s								
SHLS	**Shalkode**	**5.37**	**23**	*e*Pg		**Pg**		**02 31 49.1**	**-3.8**
	9.6nm,0.4s								
SHLS				*e*Lg		Lg		02 32 58.4	
	354nm,0.3s								
SGDS	**Sogindy**	**5.39**	**345**	Pg		Pg		02 31 48.5	-4.8
	4.5nm,0.7s								
SGDS				Lg		Lg		02 32 57.4	
	16nm,0.7s								
KPKS	**Kokpek**	**5.45**	**17**	Pg		**Pb**		**02 31 48.5**	**+3.2**
	14nm,0.6s								
KPKS				Lg		Lg		02 32 57.0	
	25nm,0.5s								
KPKS	**Kokpek**	**5.45**	**17**	*e*Pg		**Pb**		**02 31 48.3**	**+3.0**
	3.1nm,0.2s								
KPKS				*e*Lg		Lg		02 32 57.0	
	25nm,0.5s								
KTBS	**Karatobe**	**5.45**	**1**	Pg		Pg		02 31 50.0	-4.4
	5.6nm,0.6s								
KTBS				Lg		Lg		02 33 00.4	
	26nm,0.6s								
KTBS	**Karatobe**	**5.45**	**1**	*e*Pg		Pg		02 31 50.0	-4.4
	5.6nm,0.6s								
KTBS				*e*Lg		Lg		02 32 59.7	
	26nm,0.3s								
KRBS	**Karabastau**	**5.47**	**353**	Pg		**Pg**		**02 31 50.9**	**-4.0**
	5.2nm,0.4s								
KRBS				Lg		Lg		02 33 02.1	
	26nm,0.9s								
KRBS	**Karabastau**	**5.47**	**353**	*e*Pg		**Pg**		**02 31 50.9**	**-4.0**
	5.2nm,0.2s								
KRBS				*e*Lg		Lg		02 33 01.1	
	26nm,0.5s								
CHKK	**Chushkaly**	**5.60**	**3**	Pg		**Pb**		**02 31 49.6**	**+1.7**
	5.8nm,0.4s								
CHKK				Lg		Lg		02 32 58.7	
	16nm,0.3s								
CHKK	**Chushkaly**	**5.60**	**3**	*e*Pg		**Pb**		**02 31 49.6**	**+1.7**
	5.7nm,0.2s								
CHKK				*e*Lg		Lg		02 32 59.3	
	14nm,0.2s								
KUU	**Kurty**	**5.63**	**358**	Pg		Pg		02 31 52.6	-5.3
	5.4nm,0.3s								
KUU				Lg		Lg		02 33 04.4	
	25nm,0.7s								
KUU	**Kurty**	**5.63**	**358**	*e*Pg		Pg		02 31 52.6	-5.3
	2.0nm,0.3s								
KUU				*e*Lg		Lg		02 33 04.4	
	27nm,0.3s								
CEP	**Cherat**	**5.81**	**222**	P		Pb		02 31 42.1	-9.4
KTMS	**Ketmen**	**5.93**	**28**	Pg		Pg		02 31 57.1	-6.4
	3.7nm,0.7s								
KTMS				Lg		Lg		02 33 12.2	
	6.5nm,0.4s								
KTMS	**Ketmen**	**5.93**	**28**	*e*Pg		Pg		02 31 57.1	-6.4
	3.5nm,0.3s								
KTMS				*e*Lg		Lg		02 33 12.2	
	7.8nm,0.2s								
IUG	**Iuzhnay**	**6.33**	**310**	Pg		**Pg**		**02 32 08.5**	**-2.7**
	8.9nm,0.6s								
IUG				Lg		Lg		02 33 31.9	
	22nm,0.6s								
IUG	**Iuzhnay**	**6.33**	**310**	*e*Pg		**Pg**		**02 32 08.5**	**-2.7**
	9.1nm,0.4s								
IUG				*e*Lg		Lg		02 33 31.9	
	26nm,0.3s								
DJR	**Jarkent**	**6.54**	**21**	Pg		**Pb**		**02 32 07.0**	**+3.2**
	3.6nm,0.8s								
DJR				Lg		Lg		02 33 28.7	
	11nm,0.8s								
DJR	**Jarkent**	**6.54**	**21**	*e*Pg		**Pb**		**02 32 06.9**	**+3.0**
	2.0nm,0.2s								
DJR				*e*Lg		Lg		02 33 28.7	
	11nm,0.6s								
KK31	**Karatay Array**	**6.67**	**318**	Pn		**Pn**		**02 31 48.9**	**+0.7**
	0.8nm,0.3s,baz=126,slow=13,SNR=33								
KK31				⇑Sn		**Sn**		**02 33 03.4**	**-0.8**
	1.9nm,0.5s								
THW	**Thamme Wali**	**6.72**	**217**	P		Pn		02 31 51.5	+2.8
BTLS	**Baital**	**7.04**	**345**	Pg		Pg		02 32 19.3	-5.4
	1.1nm,0.2s								
BTLS	**Baital**	**7.04**	**345**	*e*Pg		Pg		02 32 19.3	-5.4
	1.1nm,0.1s								
BTLS				*e*Lg		Lg		02 33 49.6	
	5.9nm,0.9s								
MKAR	**Makanchi Array**	**9.52**	**25**	Pn		**Pn**		**02 32 27.6**	**+0.4**
	0.4nm,0.3s,baz=187,slow=12,SNR=11								
	0.5nm,0.4s								
KURBB	**Kurchatov Arra**	**12.44**	**6**	Pn		**Pn**		**02 33 07.3**	**+0.2**
	0.2nm,0.4s,baz=193,slow=12,SNR=2.8								
KURBB				Lg		Lg		02 36 42.3	
	baz=188,slow=28,SNR=4.5								
GEYT	**Alibeck**	**14.53**	**274**	Pn		**P**		**02 33 38.1**	**-4.2**
	0.2nm,0.3s,baz=205,slow=30,SNR=1.6								
BVAR	**Borovoye Array**	**15.38**	**346**	Pn		**Pn**		**02 33 47.2**	**+0.3**
	baz=121,slow=10,SNR=3.2								
ZALV	**Zalesovo Beam**	**16.69**	**17**	Pn		**P**		**02 34 03.8**	**-2.3**
	0.1nm,0.3s,baz=208,slow=18,SNR=1.9								
	0.4nm,0.3s								
AKTO	**Aktyubinsk**	**17.94**	**319**	P		**Pn**		**02 34 17.9**	**-1.6**
	0.1nm,0.3s,baz=104,slow=12,SNR=4.1								
	0.9nm,0.7s								
WSAR	**Wadi Sarin**	**21.43**	**231**	P		**P**		**02 34 59.2**	**+1.0**
	8.2nm,1.0s,baz=16,slow=1.9,SNR=4.4								
	8.2nm,1.0s								
ARU	**Arti**	**21.77**	**332**	P		**P**		**02 35 03.1**	**+1.5**
	1.2nm,0.3s,baz=148,slow=8.7,SNR=4.2								
	1.2nm,0.3s								
SONM	**Songino Array**	**23.68**	**57**	P		**P**		**02 35 21.8**	**-0.1**
	1.2nm,0.5s,baz=254,slow=10,SNR=12								
	1.2nm,0.5s								
GNI	**Garni**	**24.66**	**284**	P		**P**		**02 35 32.7**	**+1.6**
	2.0nm,0.7s,baz=294,slow=9.6,SNR=3.5								
	2.0nm,0.7s								
KBZ	**Khabaz**	**25.87**	**293**	P		**P**		**02 35 42.4**	**+0.6**
	0.7nm,0.9s,baz=103,slow=20,SNR=1.3								
	0.7nm,0.9s								
BRTR	**Keskin Array B**	**33.16**	**286**	P		**P**		**02 36 46.7**	**-0.1**
	0.6nm,0.8s,baz=80,slow=8.9,SNR=4.0								
	0.6nm,0.8s								
FINES	**FINESS Array B**	**38.60**	**324**	P		**P**		**02 37 33.1**	**+0.2**
	2.1nm,1.0s,baz=116,slow=8.7,SNR=6.7								
	2.1nm,1.0s								
ARCES	**ARCESS Array B**	**41.30**	**336**	P		**P**		**02 37 55.5**	**+0.2**
	1.1nm,0.5s,baz=98,slow=7.9,SNR=12								
	1.1nm,0.5s								
GERES	**GERESS Array B**	**45.56**	**305**	P		**P**		**02 38 30.7**	**+0.7**
	0.4nm,0.6s,baz=82,slow=7.0,SNR=5.6								
	0.4nm,0.6s								
NB2	**NORSAR Subarra**	**45.69**	**322**	P		**P**		**02 38 30.3**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=89,slow=7.9								
NOA	**NORSAR Array B**	**45.69**	**322**	P		**P**		**02 38 30.6**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=90,slow=7.7,SNR=5.1								
	comp=Z,1.0nm,0.8s								
ESDC	**Sonseca Array**	**60.52**	**299**	P		**P**		**02 40 19.9**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=71,slow=7.0,SNR=4.0								
	comp=Z,0.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**70.15**	**271**	P		**P**		**02 41 21.5**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=53,slow=7.2,SNR=9.7								
	comp=Z,0.6nm,0.4s								
YKA	**Yellowknife Ar**	**79.19**	**5**	P		**P**		**02 42 15.0**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=346,slow=5.5,SNR=2.2								
	comp=Z,0.1nm,0.5s								
WRA	**Warramunga Arr**	**79.29**	**126**	P		**P**		**02 42 16.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=328,slow=6.1,SNR=2.5								
	comp=Z,0.5nm,0.8s								
ASAR	**Alice Springs**	**81.76**	**129**	P		**P**		**02 42 27.1**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=280,slow=5.5,SNR=2.3								
	comp=Z,0.5nm,0.7s								

*IDC **24** 02:38:35.5±0.5,55˚.09S×31˚.40W, h0km, mb4.6/14, mbtmp4.6/15, ML4.0/1, MS4.0/24, Error ellipse: s-maj=17.8km s-min=14.8km az=55.0*
*NEIC **24** 02:38:37.3±1.7,55˚.1S±0˚.1×31˚.4W±0˚.2, h10km±1km, mb5.0/71, Error ellipse: s-maj=18.3km s-min=16.8km az=150.0*
*BJI **24** 02:38:39.0±0.0,55˚.10S×31˚.50W, h25km, mB5.5/3*
ISC 24 02:38:37.1±0.3,55˚.06S±0˚.06×31˚.40W±0˚.08, h10km, n308, σ0°86/276, mb5.0/45, MS4.0/26, 2C, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ORCD	**Orcadas**	**9.09**	**226**	Pn		**Pn**		**02 40 49.6**	**+1.4**
EFI	**East Falkland**	**16.23**	**271**			**P**		**02 42 27.4**	**-0.7**
VNA1	**Neumayer--Stat**	**18.65**	**156**	P		**Pn**		**02 42 54.8**	**-0.1**
VNA3	**Neumayer Olymp**	**18.77**	**158**	P		**Pn**		**02 42 56.6**	**+0.2**
PMSA	**Palmer Station**	**18.81**	**226**	P		**Pn**		**02 42 56.7**	**-0.2**
	0.4nm,0.3s,baz=53,slow=13,SNR=3.6								
PMSA				LR		LR		02 49 26.7	
	comp=Z,507nm,18.2s,baz=72,slow=35								
	22nm,0.7s								
PMSA	**Palmer Station**	**18.81**	**226**	P		**Pn**		**02 42 56.8**	**-0.1**
PMSA	**Palmer Station**	**18.81**	**226**	*e*P		**Pn**		**02 43 01.9**	**+5.0**
VNA2	**Neumayer--Watz**	**19.05**	**156**	P		**P**		**02 42 59.0**	**-0.1**
	baz=318,slow=12								
SNAA	**Sanae**	**20.64**	**155**	P		**P**		**02 43 16.3**	**-0.2**
SNAA	**Sanae**	**20.64**	**155**	P		**P**		**02 43 16.2**	**-0.2**
	19nm,0.7s,baz=310,slow=11,SNR=39								
	19nm,0.7s								
SNAA	**Sanae**	**20.64**	**155**	P		**P**		**02 43 16.0**	**-0.5**
TROLL	**Troll, Antarti**	**22.21**	**153**	P		**P**		**02 43 33.5**	**0.0**
BELA	**Belgrano 2**	**22.95**	**182**	P		**P**		**02 43 40.5**	**-0.5**
MG05	**Puerto Natales**	**24.50**	**261**	P		**P**		**02 43 55.4**	**-0.9**
MG05					IAmb	IAmb		02 43 56.8	
	comp=Z,46nm,0.8s								
GO09	**Cerro Castillo**	**24.58**	**262**	P		**P**		**02 43 55.9**	**-1.1**
GO09					IAmb	IAmb		02 43 56.3	
	comp=Z,67nm,1.4s								
TRQA	**Tornquist**	**26.74**	**297**	P		**P**		**02 44 16.7**	**0.0**
TRQA					IAmb	IAmb		02 44 28.8	
	comp=Z,49nm,1.6s								
COYC	**Coyhaique**	**27.30**	**273**	P		**P**		**02 44 21.4**	**-0.2**
PLTB	**Pedras Altas**	**28.09**	**317**	P		**P**		**02 44 27.9**	**-1.0**
PLTB					IAmb	IAmb		02 44 34.5	
	comp=Z,31nm,1.6s								
PLTB	**Pedras Altas**	**28.09**	**317**	*e*P		**P**		**02 44 28.5**	**-0.3**
AY01	**Puyuhuapi**	**28.30**	**275**	P		**P**		**02 44 29.7**	**-0.9**
AY01					IAmb	IAmb		02 44 30.9	
	comp=Z,22nm,0.8s								
CPSB	**Cacapava Do Su**	**29.24**	**318**	*e*P		**P**		**02 44 38.4**	**-0.6**
CNLB	**Canela**	**29.29**	**324**	*e*P		**P**		**02 44 39.1**	**-0.4**
PLCA	**Paso Flores**	**29.46**	**283**	P		**P**		**02 44 39.5**	**-1.5**
	comp=Z,4.3nm,0.8s,baz=146,slow=9.4,SNR=8.0								
PLCA					LR	LR		02 56 23.5	
	comp=Z,285nm,20.6s,baz=140,slow=36								
	comp=Z,4.3nm,0.8s								
PLCA	**Paso Flores**	**29.46**	**283**	P		**P**		**02 44 39.0**	**-2.1**
PLCA	**Paso Flores**	**29.46**	**283**	*e*P		**P**		**02 44 40.1**	**-0.9**
RODS	**Rosario do Sul**	**29.98**	**316**	*e*P		**P**		**02 44 45.7**	**+0.2**
ALGR	**Alto Alegre (B**	**30.53**	**320**	*e*P		**P**		**02 44 50.2**

ZON	**Zonda**	**35.25**	**296**	P	**P**	**02 45 29.7**	**-2.0**
ZON				IAmb	IAmb	02 45 32.1	
	comp=Z,14nm,0.6s						
VA03	**San Esteban**	**35.27**	**293**	P	**P**	**02 45 31.9**	**-0.1**
VA03				IAmb	IAmb	02 45 33.6	
	comp=Z,30nm,0.8s						
ROC1	**El Roble**	**35.35**	**292**	P	**P**	**02 45 31.4**	**-1.5**
TICA	**Tres Isletas**	**35.61**	**312**	*e*P	**P**	**02 45 34.5**	**-0.3**
VA06	**Catapilco**	**35.83**	**292**	P	**P**	**02 45 34.9**	**-1.7**
ESFA	**Espinillo Form**	**36.09**	**315**	*e*P	**P**	**02 45 38.6**	**-0.3**
RIB01	**Linhares ES**	**36.34**	**346**	*e*P	**P**	**02 45 41.5**	**+0.5**
PCMB	**Pacaembu**	**36.59**	**328**	*e*P	**P**	**02 45 42.9**	**-0.2**
AMBA	**Amambai (Brazi**	**36.59**	**322**	*e*P	**P**	**02 45 42.6**	**-0.6**
CO02	**Combarbal**	**36.73**	**294**	P	**P**	**02 45 43.8**	**-0.7**
CO02				IAmb	IAmb	02 45 49.4	
	comp=Z,32nm,0.9s						
CO03	**El Pedregal**	**36.85**	**295**	P	**P**	**02 45 46.2**	**+0.7**
SJMB	**Sao Joao De Ma**	**37.05**	**344**	*e*P	**P**	**02 45 47.9**	**+0.7**
CO01	**Juntas del Tor**	**37.23**	**296**	P	**P**	**02 45 49.4**	**+0.5**
CO01				IAmb	IAmb	02 46 01.6	
	comp=Z,15nm,0.7s						
ABR01	**Abrolhos, BA**	**37.45**	**349**	*e*P	**P**	**02 45 51.1**	**+0.6**
DIAM	**Diamantina, MG**	**37.88**	**341**	*e*P	**P**	**02 45 54.6**	**+0.3**
AC05	**El Transito**	**38.24**	**297**	P	**P**	**02 45 57.7**	**+0.4**
AC05				IAmb	IAmb	02 46 05.0	
	comp=Z,22nm,0.9s						
MURT	**Porto Murtinho**	**38.71**	**319**	*e*P	**P**	**02 45 59.9**	**-1.2**
AQDB	**Aquidauana**	**39.10**	**322**	P	**P**	**02 46 03.7**	**-0.7**
AQDB	**Aquidauana**	**39.10**	**322**	*e*P	**P**	**02 46 03.7**	**-0.7**
IPMB	**Ipameri, GO**	**39.18**	**334**	*e*P	**P**	**02 46 05.4**	**+0.2**
GO03	**Copiap**	**39.23**	**298**	P	**P**	**02 46 05.5**	**0.0**
AC02	**Maricunga**	**39.30**	**300**	P	**P**	**02 46 06.9**	**+0.3**
C2SB	**Chapadao do Su**	**39.74**	**327**	*e*P	**P**	**02 46 10.4**	**+0.6**
RVDE	**Rio Verde (Bra**	**40.18**	**324**	*e*P	**P**	**02 46 13.5**	**+0.1**
JANB	**Januaria**	**41.16**	**341**	*e*P	**P**	**02 46 22.3**	**+0.7**
BDFB	**Brasilia**	**41.38**	**335**	P	**P**	**02 46 24.3**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=164,slow=6.3,SNR=8.1						
	comp=Z,4.4nm,0.7s						
BDFB	**Brasilia**	**41.38**	**335**	P	**P**	**02 46 23.5**	**0.0**
BDFB	**Brasilia**	**41.38**	**335**	*e*P	**P**	**02 46 23.9**	**+0.4**
PP1B	**Ponte de Pedra**	**41.49**	**325**	*e*P	**P**	**02 46 24.1**	**-0.2**
ARAG	**Araguaiana, MT**	**42.33**	**330**	*e*P	**P**	**02 46 31.2**	**+0.2**
BBRB	**Robore, Bolivi**	**42.63**	**318**	*e*P	**P**	**02 46 33.1**	**-0.4**
LVC	**Limon Verde**	**42.75**	**304**	P	**P**	**02 46 35.6**	**+0.7**
	comp=Z,21nm,0.8s,baz=158,slow=4.7,SNR=19						
LVC				LR	LR	03 03 51.9	
	comp=Z,96nm,21.2s,baz=170,slow=36						
	comp=Z,21nm,0.8s						
LVC	**Limon Verde**	**42.75**	**304**	P	**P**	**02 46 35.1**	**+0.2**
LVC				IAmb	IAmb	02 46 37.5	
	comp=Z,20nm,0.8s						
LVC	**Limon Verde**	**42.75**	**304**	*e*P	**P**	**02 46 33.9**	**-1.0**
SUR	**Sutherland**	**42.76**	**80**	P	**P**	**02 46 33.5**	**-1.2**
	comp=Z,5.3nm,1.0s,baz=52,slow=8.8,SNR=2.0						
SUR				LR	LR	03 01 51.3	
	comp=Z,85nm,18.9s,baz=214,slow=33						
	comp=Z,5.3nm,1.0s						
SALV	**Santo Antonio**	**43.34**	**325**	*e*P	**P**	**02 46 39.4**	**0.0**
PB09	**IPOC Station P**	**43.60**	**304**	P	**P**	**02 46 41.9**	**+0.3**
PB09				IAmb	IAmb	02 46 53.9	
	comp=Z,30nm,1.2s						
PB03	**IPOC Station P**	**43.63**	**303**	P	**P**	**02 46 41.7**	**-0.1**
SDBA	**SAO DESIDERIO**	**43.85**	**341**	*e*P	**P**	**02 46 43.6**	**+0.1**
BBSD	**Serra de San D**	**43.93**	**318**	*e*P	**P**	**02 46 43.3**	**-0.7**
PB07	**IPOC Station P**	**43.97**	**304**	P	**P**	**02 46 44.8**	**+0.3**
PB07				IAmb	IAmb	02 46 56.5	
	comp=Z,20nm,1.0s						
PB02	**IPOC Station P**	**44.32**	**304**	P	**P**	**02 46 47.8**	**+0.5**
PB02				IAmb	IAmb	02 47 06.7	
	comp=Z,18nm,1.0s						
PB01	**IPOC Station P**	**44.36**	**304**	P	**P**	**02 46 47.9**	**+0.3**
PATCX	**Punta Patache**	**44.87**	**304**	P	**P**	**02 46 51.8**	**+0.1**
PATCX				IAmb	IAmb	02 46 57.9	
	comp=Z,26nm,1.0s						
PTLB	**Pontes e Lacer**	**44.97**	**321**	P	**P**	**02 46 52.4**	**+0.1**
PTLB				IAmb	IAmb	02 46 53.1	
	comp=Z,19nm,0.8s						
PTLB	**Pontes e Lacer**	**44.97**	**321**	*e*P	**P**	**02 46 52.1**	**-0.2**
SIV	**San Ignacio**	**45.20**	**318**	P	**P**	**02 46 53.9**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=149,slow=8.2,SNR=23						
	comp=Z,3.6nm,0.7s						
SOE	**Somerset East**	**45.22**	**85**	P	**P**	**02 46 54.1**	**-0.3**
GO01	**Chusmiza**	**45.41**	**306**	P	**P**	**02 46 56.4**	**+0.1**
GO01				IAmb	IAmb	02 46 58.1	
	comp=Z,22nm,0.8s						
PB11	**IPOC Station P**	**45.54**	**305**	P	**P**	**02 46 57.4**	**+0.3**
PB11				IAmb	IAmb	02 47 08.7	
	comp=Z,28nm,1.0s						
SNDB	**Serra Nova Dou**	**45.74**	**332**	*e*P	**P**	**02 46 59.2**	**+0.7**
PSGCX	**Pisagua**	**45.91**	**305**	P	**P**	**02 47 00.0**	**+0.1**
PSGCX				IAmb	IAmb	02 47 00.9	
	comp=Z,13nm,0.8s						
PB16	**IPOC Station P**	**46.71**	**306**	P	**P**	**02 47 06.8**	**0.0**
PB16				IAmb	IAmb	02 47 24.5	
	comp=Z,31nm,1.8s						
VNDA	**Vanda**	**47.43**	**184**	P	**P**	**02 47 11.0**	**0.0**
	comp=Z,3.3nm,0.8s,baz=182,slow=6.0,SNR=9.1						
VNDA				LR	LR	03 07 45.0	
	comp=Z,84nm,18.1s,baz=171,slow=37						
	comp=Z,3.3nm,0.8s						
VILB	**Vilhena**	**47.65**	**321**	P	**P**	**02 47 13.0**	**-0.5**
VILB				IAmb	IAmb	02 47 14.0	
	comp=Z,21nm,0.9s						
VILB	**Vilhena**	**47.65**	**321**	*e*P	**P**	**02 47 13.2**	**-0.3**
PDRB	**Porto dos Gac**	**47.70**	**325**	*e*P	**P**	**02 47 13.3**	**-0.5**
SMTB	**Santa Maria do**	**47.84**	**338**	*e*P	**P**	**02 47 16.1**	**+1.1**
CLDB	**Colider**	**48.09**	**327**	*e*P	**P**	**02 47 16.4**	**-0.5**
BOSA	**Boshof**	**48.11**	**81**	P	**P**	**02 47 17.4**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=216,slow=7.7,SNR=12						
BOSA				LR	LR	03 06 01.4	
	comp=Z,148nm,18.0s,baz=202,slow=34						
	comp=Z,3.9nm,0.7s						
H10N1	**ASCENSION HYDR**	**48.98**	**22**	T	T	03 40 54.1	
	baz=192,slow=75,SNR=36						
H10N3	**ASCENSION HYDR**	**48.98**	**22**	T	T	03 40 52.8	
	baz=192,slow=75,SNR=34						
H10N2	**ASCENSION HYDR**	**49.00**	**22**	T	T	03 40 55.1	
	baz=192,slow=75,SNR=42						
RCBR	**Riachuelo**	**49.22**	**354**	LR	LR	03 05 54.5	
	comp=Z,161nm,18.7s,baz=323,slow=33						
PRPB	**Parauapebas**	**50.94**	**336**	*e*P	**P**	**02 47 40.1**	**+1.4**
NBCL	**Cascavel-CE**	**50.99**	**351**	*e*P	**P**	**02 47 41.3**	**+2.3**
LBTB	**Lobatse**	**51.08**	**78**	P	**P**	**02 47 39.2**	**-0.5**
LBTB				IAmb	IAmb	02 47 51.7	
	comp=Z,11nm,0.8s						
TSUM	**Tsumeb**	**51.37**	**66**	LR	LR	03 04 35.1	
	comp=Z,92nm,21.8s,baz=156,slow=30						
NPGB	**Novo Progresso**	**51.58**	**329**	*e*P	**P**	**02 47 42.8**	**-0.6**
ETMB	**Extrema**	**52.84**	**315**	P	**P**	**02 47 52.6**	**-0.1**
ETMB				IAmb	IAmb	02 47 52.9	
	comp=Z,5.6nm,0.7s						
ETMB	**Extrema**	**52.84**	**315**	*e*P	**P**	**02 47 52.8**	**0.0**
ROSB	**Rosrio**	**53.02**	**344**	*e*P	**P**	**02 47 55.8**	**+1.7**
ITTB	**Itaituba**	**54.23**	**330**	*e*P	**P**	**02 48 02.8**	**-0.2**
TMAB	**Tom-Au,PA,Br**	**54.25**	**339**	*e*P	**P**	**02 48 04.6**	**+1.5**
MALB	**Monte Alegre**	**56.21**	**332**	*e*P	**P**	**02 48 17.8**	**+0.5**
MACA	**Manacapuru-AM**	**56.92**	**324**	P	**P**	**02 48 21.3**	**-1.0**
MACA				IAmb	IAmb	02 48 22.3	
	comp=Z,55nm,0.6s						
MACA	**Manacapuru-AM**	**56.92**	**324**	*e*P	**P**	**02 48 22.4**	**+0.1**
MCPB	**Macapa, AP**	**57.08**	**335**	*e*P	**P**	**02 48 25.0**	**+1.6**
CZSB	**Cruzeiro do Su**	**57.48**	**309**	P	**P**	**02 48 25.9**	**-0.4**
CZSB				IAmb	IAmb	02 48 26.2	
	comp=Z,14nm,0.7s						
CZSB	**Cruzeiro do Su**	**57.48**	**309**	*e*P	**P**	**02 48 26.9**	**+0.6**
TEFE	**Tefe**	**57.99**	**320**	*e*P	**P**	**02 48 29.7**	**-0.1**
TBTG	**Tabatinga, AM**	**59.45**	**314**	*e*P	**P**	**02 48 40.9**	**+0.9**
ATAH	**Atahualpa**	**60.64**	**304**	LR	LR	03 14 43.9	
	comp=Z,64nm,21.5s,baz=105,slow=36						
SGCB	**SCo Gabriel d**	**62.01**	**319**	*e*P	**P**	**02 48 57.1**	**-0.3**
BOAV	**Boa Vista**	**62.08**	**327**	P	**P**	**02 48 56.6**	**-1.3**
BOAV				IAmb	IAmb	02 48 57.9	
	comp=Z,15nm,0.8s						
BOAV	**Boa Vista**	**62.08**	**327**	*e*P	**P**	**02 48 58.5**	**+0.6**
MDP	**Montagnes des**	**62.49**	**336**	LR	LR	03 14 30.6	
	comp=Z,91nm,21.6s,baz=143,slow=34						
MCRA	**Macar, Loja**	**63.80**	**304**	P	**P**	**02 49 09.3**	**-0.1**
MCRA				IAmb	IAmb	02 49 10.2	
	comp=Z,12nm,0.7s						
ARNL	**Arenillas**	**64.56**	**304**	P	**P**	**02 49 14.8**	**+0.4**
DBIC	**Dimbokro**	**65.36**	**29**	P	**P**	**02 49 19.3**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=198,slow=8.1,SNR=6.0						
DBIC				LR	LR	03 11 02.4	
	comp=Z,92nm,21.0s,baz=180,slow=30						
	comp=Z,4.0nm,0.8s						
PORT	**Chimborazo Vol**	**65.78**	**306**	P	**P**	**02 49 23.4**	**+0.4**
CHSH	**Refugio Sur-Vo**	**65.80**	**306**	P	**P**	**02 49 23.3**	**+0.2**
CHSH				IAmb	IAmb	02 49 25.1	
	comp=Z,17nm,0.7s						
PULU	**Pululahua**	**66.97**	**307**	P	**P**	**02 49 30.4**	**0.0**
OTAV	**Otavalo**	**67.13**	**307**	P	**P**	**02 49 30.6**	**-0.8**
OTAV				IAmb	IAmb	02 49 40.4	
	comp=Z,9.6nm,0.9s						
OTAV	**Otavalo**	**67.13**	**307**	*e*P	**P**	**02 49 32.4**	**+0.9**
TULM	**Tulcn-Chalpat**	**67.25**	**308**	P	**P**	**02 49 31.8**	**-0.5**
RUSC	**La Rusia**	**69.88**	**315**	P	**P**	**02 49 47.1**	**-1.6**
RUSC				IAmb	IAmb	02 50 05.7	
	comp=Z,10nm,1.0s						
BBTS	**Babate**	**70.58**	**15**	LR	LR	03 16 16.2	
	comp=Z,104nm,18.4s,baz=198,slow=32						
BAUV	**El Baul**	**70.75**	**321**	P	**P**	**02 49 51.9**	**-1.4**
SDV	**Santo Domingo**	**71.65**	**319**	P	**P**	**02 49 58.5**	**-0.5**
SDV				IAmb	IAmb	02 50 01.5	
	comp=Z,9.8nm,0.7s						
SDV	**Santo Domingo**	**71.65**	**319**	*e*P	**P**	**02 49 58.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.46**	**34**	P	**P**	**02 50 09.8**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=201,slow=6.6,SNR=27						
	comp=Z,4.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.46**	**34**	P	**P**	**02 50 09.9**	**+0.3**
MBAR	**Mbarara**	**73.89**	**67**	LR	LR	03 20 12.8	
	comp=Z,198nm,18.9s,baz=211,slow=34						
SRBA	**San Rafael, Bu**	**77.32**	**307**	P	**P**	**02 50 32.2**	**+0.3**
SRBA				IAmb	IAmb	02 50 33.4	
	comp=Z,20nm,1.6s						
HDC	**Heredia**	**78.34**	**307**	*e*P	**P**	**02 50 39.6**	**+2.0**
SJG	**San Juan**	**78.65**	**326**	LR	LR	03 28 11.8	
	comp=Z,26nm,19.9s,baz=236,slow=38						
JTS	**Las Juntas de**	**78.98**	**306**	P	**P**	**02 50 41.5**	**+0.5**
ORTG	**Ortega, Santa**	**79.28**	**306**	P	**P**	**02 50 42.9**	**+0.1**
ESPN	**Las Esperanzas**	**80.35**	**308**	P	**P**	**02 50 48.2**	**-0.2**
ESPN				IAmb	IAmb	02 50 51.9	
	comp=Z,39nm,1.4s						
ACON	**Acoyapa**	**80.55**	**307**	P	**P**	**02 50 48.8**	**-0.7**
BOAB	**BOACO BROADBAN**	**80.20**	**307**	P	**P**	**02 50 52.7**	**-0.2**
MATN	**Matagalpa**	**81.74**	**307**	P	**P**	**02 50 55.8**	**-0.2**
URZ	**Urewera**	**83.89**	**202**	LR	LR	03 24 00.5	
	comp=Z,67nm,20.4s,baz=248,slow=32						
MTO3	**Montecristo**	**84.63**	**304**	P	**P**	**02 51 10.5**	**-0.5**
MTO3				IAmb	IAmb	02 51 11.4	
	comp=Z,8.6nm,0.7s						
TBI	**Tubuai**	**85.78**	**234**	*e*LR	LR	03 18 23.9	
	comp=Z,435nm,27.2s						
TBI				*e*LR	LR	03 18 24.4	
	comp=Z,2μm,26.5s						
TEIG	**Tepich**	**89.19**	**308**	P	**P**	**02 51 33.0**	**+0.2**
MDT	**Midelt**	**90.50**	**22**	P	**P**	**02 51 40.6**	**+1.8**
	comp=Z,1.7nm,0.7s,baz=1.7,slow=3.1,SNR=2.1						
MDT				LR	LR	03 25 58.0	
	comp=Z,187nm,21.0s,baz=166,slow=31						
	comp=Z,1.7nm,0.7s						
ATD	**Arta Tunnel**	**90.53**	**71**	LR	LR	03 31 25.7	
	comp=Z,165nm,18.5s,baz=190,slow=35						
PPT2	**Papeete2**	**90.77**	**237**	*e*LR	LR	03 20 43.2	
	comp=Z,134nm,23.0s						
PPT	**Papeete**	**90.79**	**237**	LR	LR	03 23 26.8	
	comp=Z,85nm,21.8s,baz=224,slow=30						
STKA	**Stephens Creek**	**93.21**	**174**	LR	LR	03 33 32.7	
	comp=Z,174nm,18.1s,baz=202,slow=35						
KEST	**Kesra**	**96.94**	**32**	LR	LR	03 30 40.7	
	comp=Z,186nm,19.8s,baz=227,slow=32						
ESDC	**Sonseca Array**	**97.24**	**21**	P	Pdif	02 52 10.6	+1.0
	comp=Z,0.8nm,0.9s,baz=181,slow=6.4,SNR=3.1						
ESDC				LR	LR	03 31 28.4	
	comp=Z,150nm,19.0s,baz=194,slow=33						
	comp=Z,0.8nm,0.9s						
CNNC	**Cliffs of the**	**98.37**	**323**	P	**P**	**02 52 11.6**	**-3.0**
ASAR	**Alice Springs**	**100.59**	**166**	P	**Pdif**	**02 52 23.0**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=180,slow=3.7,SNR=12						
DZM	**Mont Dzumac**	**101.68**	**197**	*e*LR	LR	03 25 45.5	
	comp=Z,213nm,24.2s						
PDAR	**Pinedale Array**	**117.81**	**305**	PKP	**PKPdf**	**02 57 21.7**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=151,slow=4.1,SNR=2.0						
NVAR	**Mina Array Bea**	**118.81**	**296**	PKP	**PKiKP**	**02 57 25.7**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=109,slow=4.2,SNR=2.5						
BMO	**Blue Mountains**	**123.08**	**302**		**PKPdf**	**02 57 32.7**	**-0.3**
G08A	**Pilot Rock**	**124.20**	**301**		**PKPdf**	**02 57 35.5**	**+0.3**
FINES	**FINESS Array B**	**124.66**	**30**	PKP	**PKPdf**	**02 57 34.8**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=208,slow=1.5,SNR=12						
CMAR	**Chiang Mai Arr**	**127.65**	**114**	PKP	**PKPdf**	**02 57 42.7**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=231,slow=3.5,SNR=9.0						
AKTO	**Aktyubinsk**	**128.69**	**55**	PKP	**PKPdf**	**02 57 42.7**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=219,slow=2.2,SNR=5.4						
ABKAR	**Akbulak array**	**128.81**	**57**		**PKPdf**	**02 57 43.7**	**0.0**
ABKAR	**Akbulak array**	**128.81**	**57**		**PKPdf**	**02 57 43.7**	**0.0**
ARCES	**ARCESS Array B**	**130.93**	**23**	PKP	**PKPdf**	**02 57 46.5**	**-0.6**
	comp=Z,5.8nm,0.8s,baz=41,slow=2.2,SNR=5.5						
ARU	**Arti**	**132.83**	**49**	PKhKP	PKPpre	02 57 47.2	
	comp=Z,1.3nm,0.3s,baz=237,slow=23,SNR=1.7						
YKA	**Yellowknife Ar**	**133.86**	**320**	PKP	**PKPdf**	**02 57 52.4**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=131,slow=2.2,SNR=27						
PZH	**PanZhiHua**	**135.69**	**111**	PKP	**PKPdf**	**02 57 53.4**	**-4.2**
MKAR	**Makanchi Array**	**138.86**	**73**	PKhKP	PKPpre	02 57 53.6	
	comp=Z,1.0nm,0.6s,baz=209,slow=11,SNR=12						
GOMU	**GeErMu**	**139.10**	**95**	PKP	**PKiKP**	**02 58 06.1**	**0.0**
GOMU				AMB	AMB		
	comp=Z,190nm,5.4s						
WMQ	**Urumqi**	**140.07**	**80**	*e*PKP	**PKPdf**	**02 58 06.3**	**+1.3**
A36M	**Sachs Harbour**	**142.13**	**330**		PKPpre	02 58 03.3	
F31M	**Tsiigehtchic**	**143.33**	**321**	P	PKPab	02 58 06.6	+0.6
	baz=110						
M29M	**Somme Creek**	**143.38**	**312**	P	PKPbc	02 58 07.5	-0.1
	baz=113						
L29M	**L29M**	**143.50**	**313**	P	PKPbc	02 58 08.1	+0.3
	baz=112						
INK	**Inuvik**	**143.54**	**322**	PKP	PKPab	02 58 07.5	+0.7
	comp=Z,4.6nm,0.8s,baz=84,slow=4.9,SNR=6.7						
INK	**Inuvik**	**143.54**	**322**		PKPpre	02 58 06.9	
INK	**Inuvik**	**143.54**	**322**	P	PKPbc	02 58 07.9	+0.2
	baz=109						
YUK3	**Moose Creek**	**143.99**	**310**	P	PKPbc	02 58 09.7	+0.1
	baz=112						
G30M	**tAoh Zraii Nji**	**144.09**	**320**	P	PKPbc	02 58 09.9	+0.4
	baz=109						
ZAA0	**Zalesovo Array**	**144.09**	**65**		**PKPab**	**02 58 09.4**	**0.0**
ZALV	**Zalesovo Beam**	**144.09**	**65**	PKP	**PKPab**	**02 58 09.6**	**+0.2**
	comp=Z,5.0nm,0.5s,baz=236,slow=3.7,SNR=21						
LZH	**Lanzhou**	**144.15**	**103**	PKP	PKPbc	02 58 11.6	+0.8
LZH				pPKP	PKiKP	02 58 17.6	+1.4
LZH				sPKP		02 58 20.8	
GTA	**Gaotai**	**144.18**	**95**	*e*PKP	**PKPdf**	**02 58 13.8**	**+1.2**
GTA				pPKP	PKiKP	02 58 22.5	+6.4
GTA				sPKP		02 58 27.4	
I29M	**Ogilvie Camp,**	**144.37**	**316**	P	**PKPab**	**02 58 09.9**	**-0.2**
	baz=109						
DAWY	**Dawson**	**144.37**	**314**		**PKPab**	**02 58 09.9**	**-0.3**
DAWY	**Dawson**	**144.37**	**314**	P	**PKPab**	**02 58 09.8**	**-0.3**
	baz=110						
BVCY	**Beaver Creek**	**144.41**	**311**	P	**PKPab**	**02 58 10.4**	**+0.1**
	baz=111						
M27K	**Edge Creek, AK**	**144.83**	**311**		**PKPab**	**02 58 11.9**	**-0.1**
M27K	**Edge Creek, AK**	**144.83**	**311**	P	**PKPab**	**02 58 11.8**	**-0.3**
	baz=111						
L27K	**Beaver Creek,**	**145.05**	**312**		**PKPbc**	**02 58 12.4**	**-0.2**
L27K	**Beaver Creek,**	**145.05**	**312**	P	**PKPbc**	**02 58 12.7**	**+0.1**
	baz=110						
EGAK	**Eagle**	**145.32**	**315**		**PKPbc**	**02 58 12.7**	**-0.7**
XAN	**Xi'an**	**145.43**	**111**	PKPbc	**PKPbc**	**02 58 14.1**	**-0.7**
BMRM	**Bremner River**	**145.55**	**308**		**PKPdf**	**02 58 14.2**	**+0.1**
BMRM	**Bremner River**	**145.55**	**308**	P	**PKPbc**	**02 58 14.6**	**+0.3**
	baz=111						
L26K	**Log Cabin Wild**	**145.69**	**311**	P	**PKPdf**	**02 58 14.7**	**+0.4**
	baz=109						
I27K	**Kandik River**	**145.75**	**316**	P	**PKPbc**	**02 58 15.1**	**+0.3**
	baz=106						
H27K	**Steamboat Moun**	**145.89**	**317**	P	**PKPbc**	**02 58 15.5**	**+0.2**
	baz=106						
J26L	**Joseph Creek**	**146.23**	**314**		**PKPbc**	**02 58 16.1**	**-0.3**
J26L	**Joseph Creek**	**146.23**	**314**	P	**PKPbc**	**02 58 16.7**	**+0.3**
	baz=107						
SCRK	**Sand Creek**	**146.26**	**313**		**PKPdf**	**02 58 15.7**	**+0.4**
SCRK	**Sand Creek**	**146.26**	**313**	P	**PKPbc**	**02 58 16.7**	**+0.2**
	baz=107						
I26K	**Coal Creek Min**	**146.29**	**315**	P	**PKPbc**	**02 58 16.6**	**+0.1**
	baz=106						
KLU	**Klutina**	**146.33**	**308**		**PKPdf**	**02 58 16.2**	**+0.8**
KLU	**Klutina**	**146.33**	**308**	P	**PKPbc**	**02 58 17.2**	**+0.5**
	baz=109						
E27K	**Coleen River**	**146.40**	**321**	P	**PKPbc**	**02 58 16.9**	**+0.2**
	baz=103						
RIDG	**Independent Ri**	**146.55**	**312**	P	**PKPbc**	**02 58 18.0**	**+0.7**
	baz=107						
PAX	**Paxson**	**146.59**	**311**		**PKPdf**	**02 58 16.9**	**+1.0**
PAX	**Paxson**	**146.59**	**311**	P	**PKPbc**	**02 58 17.5**	**0.0**
	baz=108						
G26K	**Porcupine Rive**	**146.94**	**318**	P	**PKPbc**	**02 58 18.3**	**0.0**
	baz=103						
K24K	**Donnelly Dome**	**146.97**	**312**	P	**PKPbc**	**02 58 19.1**	**+0.6**
	baz=106						
SCM	**Sheep Creek Mo**	**147.07**	**308**		**PKPbc**	**02 58 18.2**	**-0.7**
SCM	**Sheep Creek Mo**	**147.07**	**308**	P	**PKPbc**	**02 58 19.9**	**+1.0**
	baz=108						
F26K	**Sheenjek River**	**147.24**	**319**	P	**PKPbc**	**02 58 19.8**	**+0.6**
	baz=101						
M23K	**Glacier View**	**147.24**	**308**	P	**PKPbc**	**02 58 20.1**	**+0.8**
	baz=108						
PRP	**Porcupine Dome**	**147.30**	**315**	P	**PKPbc**	**02 58 20.1**	**+0.6**
	baz=104						
C27K	**Jago River**	**147.42**	**323**	P	**PKPbc**	**02 58 20.1**	**+0.5**
	baz=99						
WAT6	**Susitna Watana**	**147.48**	**309**	P	**PKPbc**	**02 58 20.4**	**+0.3**
	baz=106						
IL31		**147.69**	**314**		**PKPdf**	**02 58 18.8**	**+1.3**
ILAR	**Eielson Array**	**147.69**	**314**	PKPbc	**PKPbc**	**02 58 19.8**	**-0.6**
	comp=Z,8.6nm,0.8s,baz=130,slow=1.8,SNR=72						
GHO	**Glory Hole Cre**	**147.78**	**308**		**PKPbc**	**02 58 20.7**	**-0.1**
F25K	**Christian Rive**	**147.78**	**319**	P	**PKPbc**	**02 58 21.4**	**+0.7**
	baz=100						
G25K	**Bearman Lake**	**147.80**	**317**	P	**PKPbc**	**02 58 21.5**	**+0.9**
	baz=101						
E25K	**Arctic Village**	**147.84**	**320**	P	**PKPbc**	**02 58 21.3**	**+0.5**
	baz=100						
WAT1	**Susitna Watana**	**147.91**	**310**	P	**PKPbc**	**02 58 21.6**	**+0.5**
	baz=106						
POKR	**Poker Plat Res**	**147.99**	**314**	PKPdf	**PKPdf**	**02 58 19.7**	**+1.7**
CCB	**Clear Creek Bu**	**148.04**	**313**		**PKPdf**	**02 58 18.9**	**+0.8**
COLA	**College**	**148.11**	**314**	P	**PKPbc**	**02 58 21.7**	**+0.3**
	baz=103						
TCOL	**CIGO, UAF Yank**	**148.12**	**314**	P	**PKPbc**	**02 58 21.7**	**+0.2**
	baz=103						
RND	**Reindeer**	**148.19**	**311**		**PKPdf**	**02 58 18.9**	**+0.4**
KDAK	**Kodiak Island**	**148.24**	**299**	PKPbc	**PKPbc**	**02 58 21.8**	**-0.2**
	comp=Z,11nm,0.7s,baz=92,slow=3.9,SNR=6.7						
MDM	**Murphy Dome**	**148.29**	**314**		**PKPdf**	**02 58 20.0**	**+1.5**
MCK	**McKinley**	**148.31**	**311**		**PKPbc**	**02 58 22.6**	**+0.5**
MCK	**McKinley**	**148.31**	**311**	P	**PKPbc**	**02 58 22.9**	**+0.8**
	baz=104						
H24K	**Noodor Dome**	**148.32**	**315**		**PKPbc**	**02 58 21.9**	**-0.2**
H24K	**Noodor Dome**	**148.32**	**315**	P	**PKPbc**	**02 58 22.2**	**+0.1**
	baz=101						
G24K	**Hadweenzic Riv**	**148.32**	**317**	P	**PKPbc**	**02 58 22.7**	**+0.6**
	baz=100						
SUA	**Susitna One**	**148.53**	**307**	P	**PKPbc**	**02 58 23.5**	**+0.7**
	baz=106						
CUT	**Chulitna**	**148.56**	**309**		**PKPbc

QSPA	**South Pole Qui**	**35.30**	**180**	P		**P**	**02 48 55.5**	**+1.8**
	comp=Z,3.4nm,0.7s,baz=346,slow=8.1,SNR=3.0							
	comp=Z,3.4nm,0.7s							
VA06	**Catapilco**	**35.77**	**292**	P		**P**	**02 48 58.7**	**+1.0**
CO01	**Juntas del Tor**	**37.17**	**296**	P		**P**	**02 49 09.8**	**-0.2**
AC05	**El Transito**	**38.18**	**297**	P		**P**	**02 49 19.3**	**+0.9**
AC05				IAmb	IAmb		02 49 56.5	
	comp=Z,14nm,1.2s							
BDFB	**Brasilia**	**41.28**	**335**	P		**P**	**02 49 46.2**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=28,slow=27,SNR=1.5							
	comp=Z,1.1nm,0.5s							
LVC	**Limon Verde**	**42.67**	**304**	P		**P**	**02 49 58.0**	**+2.0**
	comp=Z,4.5nm,0.7s,baz=182,slow=5.5,SNR=3.8							
	comp=Z,4.5nm,0.7s							
LVC	**Limon Verde**	**42.67**	**304**	P		**P**	**02 49 54.9**	**-1.1**
PB01	**IPOC Station P**	**44.29**	**304**	P		**P**	**02 50 09.3**	**+0.6**
PB01				IAmb	IAmb		02 50 21.2	
	comp=Z,7.2nm,0.8s							
PTLB	**Pontes e Lacer**	**44.87**	**321**	P		**P**	**02 50 13.4**	**+0.2**
PTLB				IAmb	IAmb		02 50 15.1	
	comp=Z,7.2nm,0.9s							
SIV	**San Ignacio**	**45.10**	**318**	P		**P**	**02 50 15.3**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=178,slow=5.1,SNR=3.2							
	comp=Z,1.2nm,0.7s							
GO01	**Chusmiza**	**45.33**	**306**	P		**P**	**02 50 16.9**	**-0.5**
GO01				IAmb	IAmb		02 50 20.0	
	comp=Z,7.2nm,0.8s							
MNMC	**Minye Minye**	**45.98**	**306**	P		**P**	**02 50 23.1**	**+0.8**
VNDA	**Vanda**	**47.54**	**184**	P		**P**	**02 50 32.1**	**-1.5**
	comp=Z,1.4nm,0.9s,baz=92,slow=4.9,SNR=2.4							
	comp=Z,1.4nm,0.9s							
BOSA	**Boshof**	**48.10**	**81**	P		**P**	**02 50 39.9**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=191,slow=9.3,SNR=3.1							
	comp=Z,2.4nm,0.7s							
BOSA	**Boshof**	**48.10**	**81**	P		**P**	**02 50 38.5**	**-0.1**
BOSA				IAmb	IAmb		02 51 19.7	
	comp=Z,11nm,1.3s							
H10N1	**ASCENSION HYDR**	**48.89**	**23**	T		T	03 44 11.5	
	baz=191							
H10N3	**ASCENSION HYDR**	**48.89**	**22**	T		T	03 44 14.0	
	baz=191							
H10N2	**ASCENSION HYDR**	**48.90**	**23**	T		T	03 44 19.4	
	baz=191							
LBTB	**Lobatse**	**51.07**	**78**	P		**P**	**02 51 01.2**	**-0.1**
ETMB	**Extrema**	**52.75**	**315**	P		**P**	**02 51 13.5**	**-0.3**
ETMB				IAmb	IAmb		02 51 18.2	
	comp=Z,3.5nm,1.1s							
MACA	**Manacapuru-AM**	**56.82**	**324**	P		**P**	**02 51 43.3**	**+0.1**
MACA				IAmb	IAmb		02 51 46.1	
	comp=Z,15nm,0.6s							
CZSB	**Cruzeiro do Su**	**57.40**	**309**	P		**P**	**02 51 47.1**	**-0.3**
CZSB				IAmb	IAmb		02 51 54.2	
	comp=Z,6.1nm,0.6s							
BOAV	**Boa Vista**	**61.98**	**327**	P		**P**	**02 52 18.2**	**-0.7**
BOAV				IAmb	IAmb		02 52 25.9	
	comp=Z,8.4nm,1.1s							
MCRA	**Macar, Loja**	**63.72**	**304**	P		**P**	**02 52 31.6**	**+1.0**
MCRA				IAmb	IAmb		02 52 32.1	
	comp=Z,4.6nm,0.9s							
RUSC	**La Rusia**	**69.79**	**315**	P		**P**	**02 53 09.6**	**-0.2**
RUSC				IAmb	IAmb		02 53 10.4	
	comp=Z,10nm,1.4s							
SDV	**Santo Domingo**	**71.56**	**319**	P		**P**	**02 53 19.9**	**-0.3**
SDV				IAmb	IAmb		02 53 23.0	
	comp=Z,6.0nm,0.9s							
TOA0	**Torodi Ar. Sit**	**73.38**	**34**	P		**P**	**02 53 32.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**73.38**	**34**	P		**P**	**02 53 31.7**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=203,slow=6.3,SNR=5.9							
	comp=Z,1.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**73.38**	**34**	P		**P**	**02 53 31.3**	**+0.6**
SRBA	**San Rafael, Bu**	**77.24**	**307**	P		**P**	**02 53 51.5**	**-1.6**
SRBA				IAmb	IAmb		02 53 57.3	
	comp=Z,10nm,1.5s							
ORTG	**Ortega, Santa**	**79.20**	**306**	P		**P**	**02 54 04.3**	**+0.3**
FINES	**FINESS Array B**	**124.57**	**29**	PKP		**PKiKP**	**03 00 57.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=119,slow=1.7,SNR=4.2							
YKA	**Yellowknife Ar**	**133.76**	**320**	PKP		**PKiKP**	**03 01 14.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=130,slow=2.3,SNR=11							
BVAR	**Borovoye Array**	**136.24**	**59**	PKP		**PKiKP**	**03 01 20.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=333,slow=1.6,SNR=4.0							
MKAR	**Makanchi Array**	**138.84**	**73**	PKP		**PKiKP**	**03 01 24.9**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=223,slow=4.3,SNR=3.3							
KURBB	**Kurchatov Array**	**139.03**	**66**	PKP		**PKPdf**	**03 01 22.3**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=230,slow=2.1,SNR=2.5							
ZALV	**Zalesovo Beam**	**144.06**	**65**	PKP		**PKPdf**	**03 01 32.2**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=239,slow=4.3,SNR=6.3							
ILAR	**Eielson Array**	**147.60**	**314**	PKPbc		**PKPbc**	**03 01 42.0**	**+0.2**
	comp=Z,14nm,1.1s,baz=144,slow=2.0,SNR=13							
SONM	**Songino Array**	**153.08**	**88**	PKPbc		**PKiKP**	**03 01 55.8**	**0.0**
	comp=Z,1.6nm,0.7s,baz=219,slow=3.3,SNR=8.1							

*IDC **24** 02:49:10.2±0.8,55.°11N×165.°83E, h0km, mb4.0/16, mbtmp4.0/17, ML2.9/1, MS3.6/6, Error ellipse: s-maj=25.8km s-min=14.4km az=157.0*
*NEIC **24** 02:49:11.8±1.2,55.°1N±0.°1×165.°8E±0.°2, h10km±1km, mb4.5/47, Error ellipse: s-maj=30.1km s-min=6.8km az=145.0*
*MOS **24** 02:49:12.7±0.8,54.°87N×166.°03E, h32km, mb4.8/5, Error ellipse: s-maj=7.8km s-min=6.6km az=155.6*
*KRSC **24** 02:49:13.3±1.8,54.°85N×165.°56E, h36km±13km, Ml4.3*
ISC 24 02:49:14.5±1.1,54.°88N±0.°04×165.°91E±0.°06, h34km±3km, n159, σ1§35/174, mb4.4/42, MS4.0/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**7**	PN	**Pb**	**02 49 22.2**	**-0.4**
BKI				S	**Sb**	**02 49 27.9**	**-0.3**
BKI	**Bering**	**0.33**	**7**	eP	**Pb**	**02 49 22.2**	**-0.4**
BKI				eS	**Sb**	**02 49 27.9**	**-0.3**
KBTR	**Krutoberegovo**	**2.20**	**308**	PN	**Pn**	**02 49 46.6**	**-2.0**
KBTR	**Krutoberegovo**	**2.20**	**308**	eP	**Pn**	**02 49 46.6**	**-2.0**
KBTR				eS	**Sn**	**02 50 10.1**	**-4.4**
KBG	**Krutoberegovo**	**2.28**	**308**	PN	**Pn**	**02 49 50.3**	**+0.7**
KBG	**Krutoberegovo**	**2.28**	**308**	eP	**Pn**	**02 49 50.3**	**+0.7**
KBG				eS	**Sn**	**02 50 13.5**	**-3.0**
SMKR	**Semkarok**	**3.03**	**306**	PN	**Pn**	**02 50 01.0**	**+0.9**
SMKR	**Semkarok**	**3.03**	**306**	eP	**Pn**	**02 50 01.0**	**+0.9**
SMKR				eS	**Sn**	**02 50 34.7**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**3.15**	**292**	PN	**Pn**	**02 50 02.3**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**3.15**	**292**	eP	**Pn**	**02 50 02.3**	**+0.5**
BZGR				eS	**Sn**	**02 50 37.4**	**-0.8**
TUMD	**Tumrok D**	**3.18**	**278**	eP	**Pn**	**02 50 02.2**	**+0.1**
TUMD				eS	**Sn**	**02 50 37.2**	**-1.6**
BZP	**Bezymyannyi-Pe**	**3.23**	**291**	eS	**Sn**	**02 50 39.8**	**-0.4**
BZMR	**Bezymyannaya**	**3.26**	**291**	PN	**Pn**	**02 50 04.5**	**+1.2**
BZMR	**Bezymyannaya**	**3.26**	**291**	eP	**Pn**	**02 50 04.5**	**+1.2**
BZWR	**Bezymyannyi-We**	**3.27**	**292**	PN	**Pn**	**02 50 03.6**	**+0.2**
BZWR	**Bezymyannyi-We**	**3.27**	**292**	eP	**Pn**	**02 50 03.6**	**+0.2**
BZWR				eS	**Sn**	**02 50 41.1**	**0.0**
KLY	**Klyuchi**	**3.31**	**298**	PN	**Pn**	**02 50 04.2**	**+0.5**
KLY	**Klyuchi**	**3.31**	**298**	eP	**Pn**	**02 50 04.2**	**+0.5**
KLY				eS	**Sn**	**02 50 38.5**	**-3.3**
TUMR	**Tumrok**	**3.33**	**279**	PN	**Pn**	**02 50 05.2**	**+0.9**
TUMR	**Tumrok**	**3.33**	**279**	eP	**Pn**	**02 50 05.2**	**+0.9**
TUMR				eS	**Sn**	**02 50 42.4**	**-0.2**
KIRR	**Kirishev**	**3.35**	**291**	eS	**Sn**	**02 50 42.7**	**-0.4**
KPT	**Kopyto**	**3.42**	**291**	PN	**Pn**	**02 50 06.5**	**+1.1**
KPT	**Kopyto**	**3.42**	**291**	eP	**Pn**	**02 50 06.5**	**+1.1**
KPT				eS	**Sn**	**02 50 45.1**	**+0.4**
KOZ	**Kozyrevsk**	**3.63**	**291**	PN	**Pn**	**02 50 09.7**	**+1.5**
KOZ	**Kozyrevsk**	**3.63**	**291**	eP	**Pn**	**02 50 09.7**	**+1.5**
KOZ				eS	**Sn**	**02 50 49.7**	**-0.1**
SRDR	**Sredinnyy**	**3.79**	**295**	PN	**Pn**	**02 50 12.0**	**+1.5**
SRDR	**Sredinnyy**	**3.79**	**295**	eP	**Pn**	**02 50 12.0**	**+1.5**
SRDR				eS	**Sn**	**02 50 54.0**	**+0.1**
SPN	**Mys Shipunski**	**3.91**	**245**	PN	**Pn**	**02 50 12.2**	**+0.2**
SPN	**Mys Shipunski**	**3.91**	**245**	eP	**Pn**	**02 50 12.2**	**+0.2**
SPN				eS	**Sn**	**02 50 53.1**	**-3.5**
NLC	**Nalytchevo**	**4.23**	**249**	eS	**Sn**	**02 51 03.2**	**-1.4**
ESO	**Esso**	**4.24**	**287**	PN	**Pn**	**02 50 18.5**	**+1.9**
ESO	**Esso**	**4.24**	**287**	eP	**Pn**	**02 50 18.5**	**+1.9**
SDLR	**Sedlovina**	**4.44**	**252**	PN	**Pn**	**02 50 20.5**	**+1.1**
SDLR	**Sedlovina**	**4.44**	**252**	eP	**Pn**	**02 50 20.5**	**+1.1**
SMAR	**Somma**	**4.49**	**252**	PN	**Pn**	**02 50 21.4**	**+1.2**
SMAR	**Somma**	**4.49**	**252**	eP	**Pn**	**02 50 21.4**	**+1.2**
UGLR	**Uglovaya**	**4.50**	**251**	PN	**Pn**	**02 50 21.5**	**+1.3**
UGLR	**Uglovaya**	**4.50**	**251**	eP	**Pn**	**02 50 21.5**	**+1.3**
KRER	**Koryakskii**	**4.50**	**252**	PN	**Pn**	**02 50 21.8**	**+1.5**
KRER	**Koryakskii**	**4.50**	**252**	eP	**Pn**	**02 50 21.8**	**+1.5**
KRER				eS	**Sn**	**02 51 10.4**	**-1.1**
AVH	**Avacha**	**4.52**	**252**	PN	**Pn**	**02 50 21.9**	**+1.4**
AVH	**Avacha**	**4.52**	**252**	eP	**Pn**	**02 50 21.9**	**+1.4**
AVH				eS	**Sn**	**02 51 11.1**	**-0.8**
KRX	**Arik**	**4.53**	**253**	PN	**Pn**	**02 50 21.9**	**+1.2**
KRX	**Arik**	**4.53**	**253**	eP	**Pn**	**02 50 21.9**	**+1.2**
KRX				eS	**Sn**	**02 51 10.6**	**-1.7**
KOK	**Koryaka**	**4.57**	**253**	PN	**Pn**	**02 50 22.5**	**+1.3**
KOK	**Koryaka**	**4.57**	**253**	eP	**Pn**	**02 50 22.5**	**+1.3**
KOK				eS	**Sn**	**02 51 11.4**	**-1.6**
DALK	**Dalny**	**4.61**	**249**	PN	**Pn**	**02 50 21.5**	**-0.2**
DALK	**Dalny**	**4.61**	**249**	eP	**Pn**	**02 50 21.5**	**-0.2**
DALK				eS	**Sn**	**02 51 10.6**	**-3.4**
PET	**Petropavlovsk**	**4.67**	**249**	Pn	**Pn**	**02 50 21.8**	**-0.6**
PET					**Sn**	**02 51 13.5**	**-1.9**
PET	**Petropavlovsk**	**4.67**	**249**	ePN	Pn	02 50 20.0	-2.5
PET	**Petropavlovsk**	**4.67**	**249**	eS	**Sn**	**02 51 13.1**	**-2.3**
GNL	**Ganaly**	**4.81**	**259**	PN	**Pn**	**02 50 26.3**	**+1.7**
GNL	**Ganaly**	**4.81**	**259**	eP	**Pn**	**02 50 26.3**	**+1.7**
GNL				eS	**Sn**	**02 51 17.1**	**-2.1**
KRMR	**Karymshinskiy**	**5.04**	**249**	PN	**Pn**	**02 50 29.3**	**+1.7**
KRMR	**Karymshinskiy**	**5.04**	**249**	eP	**Pn**	**02 50 29.3**	**+1.7**
KRMR				eS	**Sn**	**02 51 22.4**	**-2.1**
PEA0B	**Petropavlovsk-**	**5.16**	**253**	Pn	**Pn**	**02 50 30.9**	**+1.7**
PEA0B	**Petropavlovsk-**	**5.16**	**253**	PN	**Pn**	**02 50 30.9**	**+1.7**
PETK	**Petropavlovsk-**	**5.16**	**253**	Pn	**Pn**	**02 50 30.4**	**+1.2**
	2.1nm,0.3s,baz=79,slow=18,SNR=11							
PETK				Sn	**Sn**	**02 51 29.3**	**+1.9**
	8.0nm,0.3s,baz=138,slow=9.0,SNR=11							
PETK				LR	LR	02 52 42.4		
	comp=Z,162nm,20.2s,baz=59,slow=41							
	4.4nm,0.4s							
PETK	**Petropavlovsk-**	**5.16**	**253**	Pn	**Pn**	**02 50 29.8**	**+0.6**
MTVR	**Mutnovka**	**5.18**	**246**	PN	**Pn**	**02 50 30.6**	**+1.0**
MTVR	**Mutnovka**	**5.18**	**246**	eP	**Pn**	**02 50 30.6**	**+1.0**
MTVR				eS	**Sn**	**02 51 25.1**	**-3.1**
GRL	**Gorelyy**	**5.20**	**247**	PN	**Pn**	**02 50 31.6**	**+1.7**
GRL	**Gorelyy**	**5.20**	**247**	eP	**Pn**	**02 50 31.6**	**+1.7**
GRL				eS	**Sn**	**02 51 26.7**	**-2.1**
PALN	**Palana**	**5.32**	**325**	PN	**Pn**	**02 50 34.9**	**+3.5**
PALN	**Palana**	**5.32**	**325**	eP	**Pn**	**02 50 34.9**	**+3.5**
APC	**Apacha**	**5.53**	**253**	PN	**Pn**	**02 50 36.6**	**+2.3**
APC	**Apacha**	**5.53**	**253**	eP	**Pn**	**02 50 36.6**	**+2.3**
APC				eS	**Sn**	**02 51 36.2**	**-0.4**
KDTR	**Khodutka, Kamc**	**5.61**	**240**	eS	**Sn**	**02 51 34.0**	**-4.5**
ASAJ	**Asahikawa**	**18.49**	**244**	LR	LR	03 01 25.5		
	comp=Z,41nm,19.6s,baz=139,slow=40							
KDAK	**Kodiak Island**	**22.93**	**66**	P	**P**	**02 54 14.0**	**-1.3**
	13nm,0.8s,baz=340,slow=23,SNR=1.8							
KDAK				LR	LR	03 02 53.2		
	comp=Z,125nm,19.0s,baz=256,slow=36							
	13nm,0.8s							
KDAK	**Kodiak Island**	**22.93**	**66**	P	**P**	**02 54 14.6**	**-0.6**
KDAK	**Kodiak Island**	**22.93**	**66**	P	**P**	**02 54 14.6**	**-0.6**
KDAK				pmax	pmax			
	comp=Z,64nm,1.4s							
I23K	**Minto, Yukon-K**	**24.05**	**47**	P	**P**	**02 54 26.7**	**+0.6**
MDM	**Murphy Dome**	**24.52**	**47**	P	**P**	**02 54 29.2**	**-1.2**
MDM				IAmb	IAmb	02 54 48.6		
	comp=Z,11nm,1.5s							
WRH	**Wood River Hil**	**24.57**	**49**	P	**P**	**02 54 30.7**	**-0.1**
WRH				IAmb	IAmb	02 54 32.5		
	comp=Z,7.3nm,0.8s							
CCB	**Clear Creek Bu**	**24.70**	**48**	P	**P**	**02 54 31.6**	**-0.3**
CCB				IAmb	IAmb	02 54 33.6		
	comp=Z,9.8nm,0.7s							
IL31		**25.09**	**48**	P	**P**	**02 54 34.3**	**-1.1**
ILAR	**Eielson Array**	**25.09**	**48**	P	**P**	**02 54 35.0**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=255,slow=8.8,SNR=23							
	comp=Z,3.4nm,0.8s							
ILAR	**Eielson Array**	**25.09**	**48**	P	**P**	**02 54 35.0**	**-0.5**
IL03	**Eielson Array**	**25.11**	**48**	P	**P**	**02 54 35.6**	**0.0**
JSD	**Sado**	**25.18**	**239**	P	**P**	**02 54 38.9**	**+2.4**
BMAR	**Burnt Mountain**	**26.14**	**42**	P	**P**	**02 54 44.9**	**-0.1**
MJAR	**Matsushiro Arr**	**26.38**	**237**	P	**P**	**02 54 49.0**	**+1.6**
	comp=Z,3.6nm,0.9s,baz=28,slow=6.2,SNR=4.1							
	comp=Z,3.6nm,0.9s							
MJAR	**Matsushiro Arr**	**26.38**	**237**	P	**P**	**02 54 49.0**	**+1.6**
I26K	**Coal Creek Min**	**26.67**	**47**	P	**P**	**02 54 47.7**	**-2.0**
I26K				IAmb	IAmb	02 54 52.1		
	comp=Z,5.4nm,1.0s							
L27K	**Beaver Creek,**	**27.42**	**51**	P	**P**	**02 54 55.8**	**-0.8**
L27K				IAmb	IAmb	02 54 58.1		
	comp=Z,12nm,1.4s							
BCAR	**Beaver Creek A**	**27.44**	**51**	P	**P**	**02 54 56.5**	**-0.2**
DAWY	**Dawson**	**28.38**	**49**	P	**P**	**02 55 04.6**	**-0.6**
HYT	**Haines Junctio**	**29.85**	**55**	P	**P**	**02 55 18.2**	**0.0**
HYT				IAmb	IAmb	02 55 49.1		
	comp=Z,8.8nm,1.2s							
INK	**Inuvik**	**30.32**	**40**	P	**P**	**02 55 22.0**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=290,slow=6.2,SNR=12							
	comp=Z,1.4nm,0.4s							
INK	**Inuvik**	**30.32**	**40**	P	**P**	**02 55 21.6**	**-0.6**
INK				IAmb	IAmb	02 55 45.9		
	comp=Z,7.9nm,1.5s							
M31M	**Drury Creek, Y**	**30.96**	**52**	P	**P**	**02 55 28.3**	**+0.4**
M31M				IAmb	IAmb	02 55 29.3		
	comp=Z,8.2nm,1.4s							
JIS	**Juneau Island**	**32.12**	**59**	P	**P**	**02 55 39.2**	**+1.1**
A36M	**Sachs Harbour**	**32.80**	**32**	P	**P**	**02 55 43.4**	**-0.6**
A36M				IAmb	IAmb	02 56 00.1		
	comp=Z,4.4nm,1.1s							
C36M	**Paulatuk**	**33.58**	**37**	P	**P**	**02 55 50.6**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**35.10**	**178**	T	T	03 33 35.0		
	baz=359,slow=76,SNR=125							
H11N3	**WAKE ISLAND Hy**	**35.11**	**178**	T	T	03 33 51.8		
	baz=359,slow=76,SNR=91							
H11N1	**WAKE ISLAND Hy**	**35.12**	**178**	T	T	03 33 38.6		
	baz=359,slow=76,SNR=106							
H11S1	**WAKE ISLAND Hy**	**36.31**	**179**	T	T	03 35 02.4		
	baz=352,slow=76							
H11S3	**WAKE ISLAND Hy**	**36.33**	**179**	T	T	03 35 07.4		
	baz=352,slow=76							
H11S2	**WAKE ISLAND Hy**	**36.33**	**179**	T	T	03 35 07.1		
	baz=352,slow=76							
SONM	**Songino Array**	**36.81**	**284**	P	**P**	**02 56 19.7**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=59,slow=7.0,SNR=4.2							
	comp=Z,0.5nm,0.5s							
YKA	**Yellowknife Ar**	**39.49**	**46**	P	**P**	**02 56 41.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=296,slow=8.2,SNR=10.0							
	comp=Z,0.7nm,0.5s							
RES	**Resolute Bay**	**40.34**	**24**	P	**P**	**02 56 47.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=271,slow=12,SNR=3.7							
	comp=Z,0.5nm,0.5s							
EDM	**Edmonton**	**44.93**	**57**	P	**P**	**02 57 25.9**	**+0.3**
EDM				IAmb	IAmb	02 57 53.7		
	comp=Z,6.7nm,0.9s							
EDM	**Edmonton**	**44.93**	**57**	P	**P**	**02 57 25.9**	**+0.3**
EDM				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SPITS	**Spitsbergen Ar**	**45.90**	**352**	P	**P**	**02 57 31.6**	**-1.4**
	comp=Z,12nm,1.0s,baz=59,slow=8.2,SNR=6.2							
	comp=Z,12nm,1.0s							
SPITS	**Spitsbergen Ar**	**45.90**	**352**	P	**P**	**02 57 31.6**	**-1.4**
SPITS				pmax	pmax			
	comp=Z,81nm,1.4s							
WALA	**Waterton Lakes**	**47.19**	**62**	P	**P**	**02 57 43.7**	**+0.1**
WALA				IAmb	IAmb	02 57 44.4		
	comp=Z,2.0nm,0.6s							
HRY	**Holter Researc**	**49.78**	**63**	P	**P**	**02 58 03.9**	**+0.4**
FCC	**Fort Churchill**	**49.89**	**42**	P	**P**	**02 58 04.0**	**0.0**
FCC				IAmb	IAmb	02 58 04.9		
	comp=Z,4.7nm,0.8s							
FCC	**Fort Churchill**	**49.89**	**42**	P	**P**	**02 58 04.0**	**0.0**
FCC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
LRM	**Limekiln Ridge**	**50.05**	**64**	P	**P**	**02 58 05.2**	**-0.5**
HLID	**Hailey**	**50.53**	**68**	P	**P**	**02 58 10.1**	**+0.8**
BOZ	**Bozeman (W)**	**50.63**	**64**	P	**P**	**02 58 09.9**	**-0.1**
BOZ	**Bozeman (W)**	**50.63**	**64**	P	**P**	**02 58 09.9**	**-0.1**
BOZ				pmax	pmax			
	comp=Z,2.0nm,1.5s							
GCMT	**Greycliff**	**51.51**	**63**	P	**P**	**02 58 16.4**	**-0.2**
NVAR	**Mina Array Bea**	**51.93**	**75**	P	**P**	**02 58 21.3**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=295,slow=7.7,SNR=6.0							
	comp=Z,0.7nm,0.6s							
RLMT	**Red Lodge**	**52.17**	**63**	P	**P**	**02 58 22.0**	**+0.4**
LOHW	**Long Hollow**	**52.52**	**65**	P	**P**	**02 58 24.1**	**-0.1**
ARCES	**ARCESS Array B**	**52.60**	**344**	P	**P**	**02 58 22.6**	**-1.6**
	comp=Z,5.4nm,1.1s,baz=29,slow=9.8,SNR=1.4							
	comp=Z,5.4nm,1.1s							
HVU	**Hansel Valley**	**52.63**	**68**	P	**P**	**02 58 25.8**	**+0.8**
HVU				IAmb	IAmb	02 58 38.1		
	comp=Z,9.0nm,0.7s							
HVU	**Hansel Valley**	**52.63**	**68**	P	**P**	**02 58 25.8**	**+0.8**
HVU				pmax	pmax			
	comp=Z,9.0nm,0.7s							
R11A	**Troy Canyon, C**	**53.50**	**73**	P	**P**	**02 58 32.4**	**+0.9**
PD31	**Pinedale Array**	**53.65**	**66**	P	**P**	**02 58 33.9**	**+1.2**
PDAR	**Pinedale Array**	**53.65**	**66**	P	**P**	**02 58 33.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=320,slow=3.9,SNR=5.1							
	comp=Z,0.2nm,0.4s							
TPNV	**Topopah Spring**	**54.13**	**75**	P	**P**	**02 58 36.4**	**+0.3**
TPNV				IAmb	IAmb	02 58 56.8		
	comp=Z,4.9nm,1.2s							
TPNV	**Topopah Spring**	**54.13**	**75**	P	**P**	**02 58 36.4**	**+0.3**
TPNV				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GWY	**Greenwater Val**	**54.44**	**76**	P	**P**	**02 58 38.5**	**+0.2**
GWY				IAmb	IAmb	02 58 49.8		
	comp=Z,2.9nm,1.0s							
PRN	**Pahroc Range**	**54.47**	**74**	P	**P**	**02 58 39.2**	**+0.7**
PRN				IAmb	IAmb	02 58 40.6		
	comp=Z,4.9nm,1.1s							
TMUT	**Trail Mountain**	**55.23**	**70**	P	**P**	**02 58 44.3**	**+0.1**
TMUT				IAmb	IAmb	02 58 46.1		
	comp=Z,3.2nm,0.7s							
MVU	**Marysvale**	**55.25**	**71**	P	**P**	**02 58 45.6**	**+1.3**
MVU				IAmb	IAmb	02 59 25.8		
	comp=Z,15nm,1.5s							
MSU	**Marysvale**	**55.26**	**71**	P	**P**	**02 58 44.4**	**+0.1**
MSU	**Marysvale**	**55.26**	**71**	P	**P**	**02 58 44.4**	**+0.1**
P17A	**Butcher Ranch,**	**55.35**	**69**	P	**P**	**02 58 45.0**	**+0.1**
SRU	**San Rafael Swe**	**55.73**	**69**	P	**P**	**02 58 48.6**	**+0.9**
SRU				IAmb	IAmb	02 58 49.5		
	comp=Z,5.4nm,0.7s							
SRU	**San Rafael Swe**	**55.73**	**69**	P	**P**	**02 58 48.6**	**+0.9**
SRU				pmax	pmax			
	comp=Z,5.0nm,0.7s							
O20A	**White River Ci**	**56.22**	**67**	P	**P**	**02 58 51.8**	**+0.7**
O20A				IAmb	IAmb	02 59 10.8		
	comp=Z,9.5nm,1.5s							
PV05	**Paradox Valley**	**57.25**	**69**	P	**P**	**02 58 58.8**	**+0.2**
PV05				IAmb	IAmb	02 59 00.3		
	comp=Z,4.2nm,0.7s							
PV13	**Radium Mtn., P**	**57.34**	**69**	P	**P**	**02 58 59.7**	**+0.5**
PV13				IAmb	IAmb	02 59 00.9		
	comp=Z,3.2nm,0.8s							
MVCO	**Mesa Verde**	**58.20**	**69**	P	**P**	**02 59 05.6**	**+0.3**
MVCO				IAmb	IAmb	02 59 18.0		
	comp=Z,6.3nm,1.4s							
EYMN	**Ely**	**58.71**	**50**	P	**P**	**02 59 08.3**	**0.0**
EYMN				IAmb	IAmb	02 59 18.9		
	comp=Z,2.7nm,0.9s							
FINES	**FINESS Array B**	**59.76**	**339**	P	**P**	**02 59 14.1**	**-1.2**
	comp=Z,4.4nm,1.1s,baz=359,slow=9.7,SNR=3.3							
	comp=Z,4.4nm,1.1s							
D41A	**Chassel**	**60.67**	**49**	P	**P**	**02 59 21.3**	**-0.5**
SCHQ	**Schefferville**	**62.40**	**31**	P	**P**	**02 59 32.0**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=215,slow=16,SNR=1.4							
	comp=Z,1.4nm,0.7s							
SCHQ	**Schefferville**	**62.40**	**31**	P	**P**	**02 59 32.0**	**-1.4**
**N

comp=Z,37nm,20.4s,baz=307,slow=37
CTA Charters Tower 14.20 190 P **P** **03 50 28.8 -1.4**
CTAO Charters Tower 14.20 190 **P** **03 50 30.7 +0.6**
CTAO Charters Tower 14.20 190 P **P** **03 50 29.1 -1.1**
RK1H Rockhampton Ha 17.31 175 P **P** **03 51 07.3 +2.7**
KDU Kakadu 17.52 247 P **P** **03 51 07.3 +0.3**
SAUI Saumlaki 17.60 263 P **P** **03 51 07.6 -0.3**
489nm,1.0s
MTN Manton Dam 18.80 248 P **Pn** **03 51 21.8 -0.4**
MTN Manton Dam 18.80 248 P **Pn** **03 51 22.2 0.0**
EIDS Eidsvold 19.32 174 P **P** **03 51 27.9 +1.1**
EIDS Eidsvold 19.32 174 P **Pn** **03 51 29.3 +0.9**
WB0 Warramunga Arr 19.64 225 P **Pn** **03 51 31.2 -1.0**
WR0 Warramunga Arr 19.66 224 P **P** **03 51 31.2 +0.7**
WRAB Tennant Creek 19.78 224 P **P** **03 51 32.5 +0.7**
WRAB Tennant Creek 19.78 224 P **Pn** **03 51 33.3 -0.5**
WB2 Warramunga Arr 19.78 224 P **P** **03 51 32.6 +0.7**
WRA Warramunga Arr 19.79 224 P **P** **03 51 32.2 +0.2**
24nm,0.6s,baz=49,slow=11,SNR=76
WRA S **S** **03 55 07.5 -4.4**
14nm,1.0s,baz=44,slow=22,SNR=4.6
WRA LR LR 03 59 04.9
comp=Z,70nm,20.4s,baz=78,slow=36
WRA ScP **ScP** **03 59 14.3 -5.2**
1.7nm,1.0s,baz=63,slow=2.8,SNR=3.3
WRA Warramunga Arr 19.79 224 P **P** **03 51 30.2 -1.8**
RMQ Roma 20.32 180 P Pn 03 51 40.2 0.0
QLP Quilpie 20.91 192 P Pn 03 51 46.5 -0.5
AUWSH Wavell State H 21.59 170 P **P** **03 51 52.8 +1.5**
KNRA Kununurra 21.97 243 P **P** **03 51 55.1 -0.3**
KNRA Kununurra 21.97 243 P **P** **03 51 56.7 +1.3**
AS01 Alice Springs 22.68 218 P **P** **03 52 03.8 +0.7**
AS31 Alice Springs 22.71 218 P **P** **03 52 03.3 -0.1**
ASAR Alice Springs 22.71 218 P **P** **03 52 03.9 +0.5**
24nm,0.5s,baz=52,slow=9.1,SNR=171
ASAR S **S** **03 56 07.7 0.0**
26nm,1.0s,baz=30,slow=20,SNR=14
ASAR ScP **ScP** **03 59 21.5 -5.1**
0.7nm,0.6s,baz=51,slow=2.4,SNR=3.3
ASAR LR LR 04 00 58.1
comp=Z,84nm,21.9s,baz=46,slow=36
24nm,0.5s
INKA Innaminka 22.93 199 P **P** **03 52 07.3 +1.8**
DZM Mont Dzumac 23.25 135 P **P** **03 52 09.1 +0.2**
24nm,0.8s,baz=131,slow=21,SNR=10
DZM LR LR 03 59 55.7
comp=Z,113nm,19.2s,baz=44,slow=33
24nm,0.8s
DZM Mont Dzumac 23.25 135 P **P** **03 52 09.1 +0.2**
AULRC Lightning Ridg 23.27 182 P **P** **03 52 09.9 +1.0**
YATNC Mamie plateau, 23.56 134 P **P** **03 52 12.6 +1.0**
ARMA Armidale 24.38 174 P **P** **03 52 18.8 -0.3**
ARMA Armidale 24.38 174 P **P** **03 52 20.1 +1.0**
SOEI Soe 24.70 260 P **P** **03 52 23.0 +0.8**
SOEI IAmb IAmb 03 52 55.9
comp=Z,87nm,0.9s
SOEI Soe 24.70 260 P **P** **03 52 21.7 -0.5**
SOEI Soe 24.70 260 P **P** **03 52 22.2 0.0**
comp=Z,85nm,1.0s
AUPHS Peel High Scho 24.99 176 P **P** **03 52 25.5 +0.9**
OOD Oodnadatta 25.02 209 P **P** **03 52 25.9 +1.1**
BATI Baumata 25.34 259 P **P** **03 52 27.4 -0.6**
comp=Z,54nm,0.6s,baz=354,slow=4.5,SNR=3.8
BATI LR LR 04 02 48.5
comp=Z,162nm,20.6s,baz=79,slow=37
BATI Baumata 25.34 259 P **P** **03 52 27.6 -0.4**
comp=Z,89nm,0.8s
CMSA Cobar Meteorol 25.54 186 P **P** **03 52 30.1 +0.6**
FITZ Fitzroy Crossi 25.69 240 P **P** **03 52 30.4 -0.7**
FITZ Fitzroy Crossi 25.69 240 P **P** **03 52 31.7 +0.7**
AUDCS Dubbo College 26.05 181 P **P** **03 52 34.5 +0.3**
LCRK Leigh Creek 26.28 201 P **P** **03 52 37.0 +0.7**
STKA Stephens Creek 26.60 194 P **P** **03 52 38.6 -0.5**
comp=Z,12nm,0.7s,baz=5.2,slow=9.8,SNR=19
STKA LR LR 04 03 04.6
comp=Z,37nm,20.5s,baz=25,slow=36
comp=Z,12nm,0.7s
STKA Stephens Creek 26.60 194 P **P** **03 52 38.3 -0.8**
STKA Stephens Creek 26.60 194 P **P** **03 52 39.4 +0.3**
WRKA Warakurna 27.34 224 P **P** **03 52 46.0 +0.1**
MULG Mulgathing 27.87 208 P **P** **03 52 51.0 +0.4**
BASI Baing, Sumba 28.36 260 P **P** **03 52 55.4 +0.3**
KAPI Kappang 29.05 271 LR LR 04 07 08.2
comp=Z,30nm,21.2s,baz=96,slow=41
CAN Canberra 29.13 180 P **P** **03 53 01.9 +0.1**
CAN IAmb IAmb 03 53 50.5
comp=Z,87nm,1.6s
BBOO Buckleboo 29.20 203 P **P** **03 53 01.9 -0.5**
BBOO IAmb IAmb 03 53 05.7
comp=Z,118nm,1.9s
MSVF Nonsavu 30.72 115 P **P** **03 53 16.2 +0.2**
comp=Z,13nm,0.4s,baz=92,slow=24,SNR=1.4
comp=Z,1.3nm,0.4s
FORT Forrest 31.45 216 P **P** **03 53 21.8 -0.4**
FORT IAmb IAmb 03 53 22.9
comp=Z,20nm,0.7s
TOO Toolangi 31.53 185 P **P** **03 53 23.4 +0.5**
TOO IAmb IAmb 03 53 24.5
comp=Z,21nm,0.8s
TOO Toolangi 31.53 185 P **P** **03 53 24.2 +1.3**
MBWA Marble Bar 32.02 239 P **P** **03 53 26.8 -0.5**
PSA00 Pilbara Seismi 32.09 238 P **P** **03 53 27.0 -1.0**
PSA00 IAmb IAmb 03 53 35.1
comp=Z,15nm,0.8s
KMBL Kambalda 35.72 222 P **P** **03 53 59.0 -0.4**
TAU Tasmania Unive 36.74 182 P **P** **03 54 07.8 -0.1**
GIRL Giralia 37.30 240 P **P** **03 54 13.0 +0.1**
MORW Morawa 38.58 230 P **P** **03 54 21.2 -2.5**
MORW IAmb IAmb 03 54 31.6
comp=Z,13nm,0.8s
URZ Urewera 41.01 145 P **P** **03 54 43.3 -0.4**
comp=Z,3.3nm,0.5s,baz=118,slow=1.5,SNR=6.7
URZ LR LR 04 09 36.8
comp=Z,39nm,20.3s,baz=48,slow=33
comp=Z,3.3nm,0.5s
MRNZ Matariki Terra 41.12 152 P **P** **03 54 45.2 +0.7**
RTZ Ruatahuna 41.19 146 P **P** **03 54 44.9 -0.3**
THZ Tophouse 41.48 153 P **P** **03 54 47.6 +0.1**
THZ IAmb IAmb 03 55 59.2
comp=Z,77nm,1.7s
FOZ Fox Glacier 41.62 157 P **P** **03 54 48.9 +0.4**
FOZ IAmb IAmb 03 55 47.1
comp=Z,74nm,1.4s
TCW Tory Channel 41.69 151 P **P** **03 54 49.6 +0.4**
BSWZ Blackbitch Sta 41.89 152 P **P** **03 54 50.8 -0.1**
LTZ Lake Taylor 42.01 154 P **P** **03 54 51.9 0.0**
LTZ IAmb IAmb 03 56 04.8
comp=Z,66nm,1.6s
RPZ Rata Peaks 42.26 156 P **P** **03 54 54.2 +0.3**
comp=Z,17nm,0.6s,baz=314,slow=3.7,SNR=5.4
comp=Z,17nm,0.6s
RPZ Rata Peaks 42.26 156 P **P** **03 54 54.4 +0.5**
RPZ IAmb IAmb 03 54 54.9
comp=Z,24nm,0.7s
BFZ Birch Farm 42.28 149 P **P** **03 54 53.5 -0.5**
BFZ IAmb IAmb 03 56 26.7
comp=Z,121nm,1.8s
PLWZ Palliser 42.44 150 P **P** **03 54 54.8 -0.6**
GVZ Greta Valley S 42.49 154 P **P** **03 54 55.3 -0.4**
JNU Nakatsue 42.56 337 LR LR 04 09 23.9
comp=Z,14nm,18.7s,baz=176,slow=32
MLZ Mavora Lakes 42.58 160 P **P** **03 54 56.7 +0.2**
MLZ IAmb IAmb 03 54 57.5
comp=Z,47nm,1.3s
MQZ McQueen's Vall 42.92 155 P **P** **03 54 59.2 +0.1**
MJAR Matsushiro Arr 43.54 347 P **P** **03 55 02.4 -1.9**
comp=Z,2.2nm,0.6s,baz=166,slow=7.6,SNR=5.1
comp=Z,2.2nm,0.6s
JMM Marumori 44.34 351 P **P** **03 55 11.8 +1.2**
JOHN Johnston Islan 46.90 60 P **P** **03 55 31.4 +0.2**
NJ2 Nanjing 47.50 325 *eP* **P** **03 55 38.9 +3.3**
NJ2 pmax pmax
comp=Z,9.0nm,1.1s
KSRS Korea Array 47.51 337 LR LR 04 13 38.1
comp=Z,24nm,21.7s,baz=50,slow=34
HNS HongShan 53.73 326 ||P P 03 56 32.1 +10
HNS pmax pmax
comp=Z,7.0nm,1.5s
CN2 Changchun 53.96 339 *eP* **P** **03 56 27.0 +2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
PZH PanZhiHua 56.00 308 P **P** **03 56 42.3 +3.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax

comp=Z,140nm,5.3s
KLR Kul'dur 57.05 347 P **P** **03 56 44.1 -2.0**
comp=Z,1.4nm,0.8s,baz=151,slow=10,SNR=3.6
comp=Z,1.4nm,0.8s
HHC Hu-ho-hao-te 57.90 327 *eP* **P** **03 56 56.1 +3.7**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,390nm,4.8s
LZH Lanzhou 59.51 318 *eP* P 03 57 09.4 +5.6
LZH pP pP 03 57 13.4 -6.4
LZH pmax pmax
comp=Z,10.0nm,1.1s
DRV Dumont d'Urvil 60.83 184 P **P** **03 57 11.7 -0.3**
DRV sP sP 03 57 43.1 +9.2
ADK Adak 64.75 23 P **P** **03 57 36.3 -2.1**
ADK pP **sP** **03 57 57.9 -3.5**
ADK sP **PcP** **03 58 06.1 -5.4**
SONM Songino Array 65.39 330 P **P** **03 57 39.9 -2.9**
comp=Z,0.2nm,0.4s,baz=169,slow=4.3,SNR=1.8
SONM Songino Array 65.39 330 P **P** **03 57 43.1 +0.3**
CASY Casey 65.73 196 P **P** **03 57 43.3 -1.2**
CASY IAmb IAmb 03 57 44.2
comp=Z,20nm,1.0s
CASY Casey 65.73 196 P **P** **03 57 42.5 -2.0**
CCD Concordia, Ant 70.55 187 P **P** **03 58 13.8 -1.2**
CCD pP **PcP** **03 58 34.9 -1.0**
VNDA Vanda 71.76 177 P **P** **03 58 21.6 -0.2**
comp=Z,4.3nm,0.7s,baz=332,slow=6.7,SNR=16
comp=Z,4.3nm,0.7s
VNDA Vanda 71.76 177 P **P** **03 58 21.4 -0.4**
VNDA IAmb IAmb 03 59 45.7
comp=Z,48nm,1.9s
VNDA Vanda 71.76 177 P **P** **03 58 21.1 -0.8**
VNDA pP **PcP** **03 58 42.4 +1.9**
VNDA sP sP 03 58 52.2 +8.3
WMQ Urumqi 74.08 319 *eP* **P** **03 58 39.8 +3.5**
ANM Nome 78.14 18 P **P** **03 59 00.4 +1.6**
MKAR Makanchi Array 78.76 320 P **P** **03 58 59.4 -3.3**
comp=Z,0.2nm,0.5s,baz=132,slow=4.1,SNR=2.0
ZALV Zalesovo Beam 80.08 327 P **P** **03 59 08.4 -1.1**
comp=Z,0.5nm,0.4s,baz=90,slow=5.8,SNR=2.2
comp=Z,0.5nm,0.4s
BRLK Bradley Lake 80.80 26 P **P** **03 59 14.8 +1.4**
CAST Castle Rocks 82.12 23 P **P** **03 59 18.1 -2.2**
CAST IAmb IAmb 03 59 44.5
comp=Z,35nm,2.0s
KURK Kurchatov 82.40 323 P **P** **03 59 23.4 +1.5**
KTH Kantishna Hill 82.64 23 P **P** **03 59 26.4 +3.3**
KTH IAmb IAmb 04 00 11.4
comp=Z,53nm,1.9s
QSPA South Pole Qui 83.92 180 P **P** **03 59 28.5 -1.3**
comp=Z,11nm,0.7s,baz=310,slow=1.7,SNR=11
comp=Z,11nm,0.7s
QSPA South Pole Qui 83.92 180 P **P** **03 59 28.6 -1.1**
QSPA IAmb IAmb 03 59 29.2
comp=Z,12nm,0.8s
ILAR Eielson Array 84.78 23 P **P** **03 59 30.4 -3.4**
comp=Z,1.3nm,0.9s,baz=248,slow=5.4,SNR=13
comp=Z,1.3nm,0.9s
M27K Edge Creek, AK 85.86 26 P **P** **03 59 38.5 -1.1**
M27K IAmb IAmb 04 01 47.6
comp=Z,33nm,1.8s
BCAR Beaver Creek A 86.16 25 P **P** **03 59 39.4 -1.5**
HYT Haines Junctio 87.33 28 P **P** **03 59 45.7 -1.0**
HYT IAmb IAmb 04 00 09.0
comp=Z,19nm,1.4s
M30M Minto, Yukon 88.17 26 P **P** **03 59 49.1 -1.5**
M30M IAmb IAmb 04 00 45.5
comp=Z,31nm,1.9s
KRPM Rodgers 91.72 49 P **P** **04 00 07.2 -0.5**
ELIB Princess Elisa 94.64 195 *dP* **P** **04 00 19.0 -1.7**
comp=Z,4.7nm,0.8s
ISA Isabella, Lake 95.59 55 P **P** **04 00 25.4 -0.2**
PTLB Pontes e Lacer 144.94 128 PKPbc PKPbc 04 06 35.2 -1.9
TORD Torodi Ar. Bea 146.96 285 PKPbc **PKPdf** **04 06 40.7 -0.6**
comp=Z,0.7nm,0.7s,baz=89,slow=2.9,SNR=7.5
BDFB Brasilia 152.69 142 PKPbc **PKPbc** **04 06 55.3 -2.3**
comp=Z,1.7nm,0.4s,baz=108,slow=2.0,SNR=9.7
BDFB Brasilia 152.69 142 PKPdf **PKPdf** **04 06 50.4 0.0**
BDFB PKPbc **PKPbc** **04 06 55.2 -2.3**
BDFB **pPKPdf** **04 07 06.8 -1.3**

*IDC **24** 03:51:56.3±1.0, 60°.46S×26°.17W, h0km, mb4.3/6, mbtmp4.3/7, ML4.6/1, Error ellipse: s-maj=44.3km s-min=20.7km az=13.0*
*NEIC **24** 03:52:01.2±2.0, 60°.4S±0°.2×26°.0W±0°.2, h35km±8km, mb4.5/29, Error ellipse: s-maj=23.7km s-min=16.6km az=192.0*
ISC 24 03:52:00.0±0.5, 60°.36S±0°.09×25°.99W±0°.10, h28km, n48, σ1=33/48, mb4.4/20, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.60**	**152**	P	**Pn**	**03 54 55.1**	**-2.0**
VNA3	**Neumayer Olymp**	**12.74**	**156**	P	**Pn**	**03 54 56.6**	**-2.5**
VNA2	**Neumayer--Watz**	**13.00**	**152**	P	**Pn**	**03 54 59.8**	**-2.8**
	baz=313,slow=14						
SNAA	**Sanae**	**14.60**	**150**	P	**Pn**	**03 55 21.9**	**-2.5**
SNAA	**Sanae**	**14.60**	**150**	Pn	**Pn**	**03 55 22.1**	**-2.2**
	2.4nm,0.3s,baz=360,slow=6.3,SNR=55						
SNAA				Sn	Sn	03 57 51.2	-14
	0.1nm,0.3s,baz=17,slow=17,SNR=2.2						
	11nm,0.5s						
ESPZ	**Base Esperanza**	**14.85**	**245**	Pn	**Pn**	**03 55 26.9**	**-0.9**
TROLL	**Troll, Antarti**	**16.16**	**148**	P	**Pn**	**03 55 42.8**	**-2.2**
BELA	**Belgrano 2**	**17.83**	**186**	P	**P**	**03 56 08.7**	**+2.6**
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**03 58 07.8**	**+2.9**
	4.9nm,0.6s,baz=190,slow=2.8,SNR=10						
TRQA	**Tornquist**	**31.77**	**298**	P	**P**	**03 58 20.5**	**-1.1**
TRQA				IAmb	IAmb	03 58 23.8	
	comp=Z,4.7nm,0.8s						
PLCA	**Paso Flores**	**33.58**	**285**	P	**P**	**03 58 37.6**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=134,slow=8.8,SNR=12						
	comp=Z,3.1nm,0.7s						
PLCA	**Paso Flores**	**33.58**	**285**	P	**P**	**03 58 37.5**	**+0.1**
PLCA				IAmb	IAmb	03 58 38.8	
	comp=Z,4.5nm,0.8s						
GO05	**Huala**	**38.80**	**290**	P	**P**	**03 59 22.1**	**0.0**
GO05				IAmb	IAmb	03 59 23.4	
	comp=Z,10.0nm,0.9s						
BO01	**Tunca**	**38.92**	**291**	P	**P**	**03 59 23.0**	**0.0**
MT09	**Talagante**	**39.38**	**292**	P	**P**	**03 59 26.9**	**-0.1**
MT01	**Popeta**	**39.43**	**291**	P	**P**	**03 59 26.9**	**-0.4**
CFA	**Coronel Fontan**	**39.96**	**297**	P	**P**	**03 59 30.8**	**-1.0**
	comp=Z,3.0nm,0.2s,baz=239,slow=22,SNR=19						
	comp=Z,3.0nm,0.2s						
CPUP	**Villa Florida**	**40.20**	**314**	P	**P**	**03 59 33.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=178,slow=6.2,SNR=1.9						
	comp=Z,0.5nm,0.3s						
CO02	**Combarbal**	**41.54**	**294**	P	**P**	**03 59 46.1**	**+1.1**
CO02				IAmb	IAmb	03 59 50.1	
	comp=Z,13nm,1.1s						
CO01	**Juntas del Tor**	**42.18**	**296**	P	**P**	**03 59 52.6**	**+2.3**
AC05	**El Transito**	**43.23**	**297**	P	**P**	**03 59 59.7**	**+0.9**
LCO	**Las Campanas**	**43.28**	**296**	P	**P**	**03 59 58.4**	**-0.8**
LCO				IAmb	IAmb	04 00 01.8	
	comp=Z,7.3nm,1.2s						
AC01	**Pan de Azucar**	**45.70**	**298**	P	**P**	**04 00 18.4**	**+0.1**
AC01				IAmb	IAmb	04 00 25.2	
	comp=Z,9.4nm,1.0s						
BOSA	**Boshof**	**46.61**	**71**	P	**P**	**04 00 25.6**	**0.0**
	comp=Z,3.0nm,0.9s,baz=218,slow=7.8,SNR=5.5						
	comp=Z,3.0nm,0.9s						
BOSA	**Boshof**	**46.61**	**71**	P	**P**	**04 00 25.7**	**+0.2**
BOSA				IAmb	IAmb	04 00 26.7	
	comp=Z,3.4nm,0.9s						
LVC	**Limon Verde**	**48.08**	**302**	P	**P**	**04 00 38.5**	**+1.1**
LVC				IAmb	IAmb	04 00 39.3	
	comp=Z,3.0nm,0.8s						
PB04	**IPOC Station P**	**48.85**	**301**	P	**P**	**04 00 42.6**	**-0.5**
PB07	**IPOC Station P**	**49.28**	**302**	P	**P**	**04 00 46.6**	**+0.3**
PB07				IAmb	IAmb	04 00 47.4	
	comp=Z,6.4nm,0.9s						
PB01	**IPOC Station P**	**49.72**	**303**	P	**P**	**04 00 49.4**	**-0.1**
PB01				IAmb	IAmb	04 00 51.4	
	comp=Z,4.4nm,0.7s						
GO01	**Chusmiza**	**50.82**	**304**	P	**P**	**04 00 59.0**	**+0.6**
GO01				IAmb	IAmb	04 01 05.4	
	comp=Z,3.6nm,0.8s						
PTLB	**Pontes e Lacer**	**50.87**	**317**	P	**P**	**04 00 58.4**	**+0.1**
PTLB				IAmb	IAmb	04 01 06.3	
	comp=Z,2.1nm,0.9s						
PB11	**IPOC Station P**	**50.93**	**303**	P	**P**	**04 00 57.1**	**-1.7**
PB11				IAmb	IAmb	04 01 00.3	
	comp=Z,5.5nm,0.8s						
PSGCX	**Pisagua**	**51.27**	**303**	P	**P**	**04 01 01.4**	**+0.1**
PSGCX				IAmb	IAmb	04 01 09.1	
	comp=Z,5.3nm,0.9s						
MNMC	**Minye Minye**	**51.47**	**304**	P	**P**	**04 01 02.7**	**-0.3**
PB16	**IPOC Station P**	**52.14**	**304**	P	**P**	**04 01 09.1**	**+0.7**
LPAZ	**La Paz**	**53.43**	**307**	P	**P**	**04 01 18.4**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=172,slow=7.2						
	comp=Z,1.9nm,0.6s						
ETMB	**Extrema**	**58.60**	**312**	P	**P**	**04 01 53.8**	**-0.4**
ETMB				IAmb	IAmb	04 01 56.3	
	comp=Z,3.0nm,1.0s						
BOAV	**Boa Vista**	**68.09**	**322**	P	**P**	**04 02 55.6**	**-1.4**
BOAV				IAmb	IAmb	04 03 03.7	
	comp=Z,4.1nm,1.2s						
KMBO	**Kilima Mbogo**	**76.07**	**67**	P	**P**	**04 03 44.8**	**-0.3**
TOA0	**Torodi Ar. Sit**	**76.54**	**28**	P	**P**	**04 03 48.7**	**+1.4**
TORD	**Torodi Ar. Bea**	**76.54**	**28**	P	**P**	**04 03 49.5**	**+2.1**
	comp=Z,1.8nm,0.6s,baz=199,slow=6.1,SNR=14						
	comp=Z,1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.54**	**28**	P	**P**	**04 03 48.5**	**+1.2**
SVN	**Savane Anatole**	**80.09**	**326**	P	**P**	**04 04 05.9**	**-1.1**
FINES	**FINESS Array B**	**127.89**	**29**	PKP	**PKiKP**	**04 11 02.3**	**+0.4**
	comp=Z,2.7nm,1.0s,baz=235,slow=4.9,SNR=3.5						
FRB	**Frobisher Bay**	**127.90**	**338**	PKP	**PKiKP**	**04 11 02.3**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=104,slow=6.7,SNR=6.3						
YKA	**Yellowknife Ar**	**139.72**	**314**	PKP	**PKiKP**	**04 11 25.4**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=134,slow=2.2,SNR=12						
SONM	**Songino Array**	**150.11**	**93**	PKPbc	**PKiKP**	**04 11 48.1**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=205,slow=3.6,SNR=10.0						
ILAR	**Eielson Array**	**153.30**	**305**	PKPbc	**PKiKP**	**04 11 55.0**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=336,slow=0.9,SNR=11						

DJA 24 03:52:02.8±0.4, 11°S±3°×118°E±°, h10km, M4.1/8, mb4.5/6, mB4.8/1, MLv4.0/8, Mw(mB)4.1/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**2.35**	**63**	P	Pn	03 52 41.2	-0.2
PLAI	**Plampang**	**2.54**	**345**	P	Pn	03 52 43.2	-0.9
TWSI	**Taliwang, Sumb**	**2.97**	**329**	P	Pn	03 52 49.4	-0.6
SRBI	**Singaraja**	**4.51**	**315**	P	Pn	03 53 12.0	+0.8
BSSI	**Bau Bau, Buton**	**5.50**	**22**	P	Pn	03 53 24.8	0.0
	39nm,0.5s,0.2nm						
GMJI	**Gumukmas**	**5.77**	**301**	P	Pn	03 53 28.8	+0.2
	29nm,1.5s,0.1nm						
BKSI	**Bulukumba**	**6.16**	**16**	P	Pn	03 53 33.9	0.0
	22nm,0.5s,793nm0.2nm						
UGM	**Wanagama**	**8.51**	**293**	P	Pn	03 54 06.2	0.0
	94nm,1.9s						
CMJI	**Cimerak**	**10.46**	**289**	P	Pn	03 54 32.8	-0.2
	46nm,1.1s						

*IDC **24** 04:05:26.0±1.9, 28°.57N×52°.03E, h0km, mb3.9/7, mbtmp3.8/8, ML3.2/1, Error ellipse: s-maj=50.8km s-min=21.5km az=148.0*
*TEH **24** 04:05:28.4, 28°.58N×52°.07E, h16km±39km, ML3.4*
*DSN **24** 04:05:31.1±1.7, 27°.92N×51°.70E, h15km, ML3.1/4, Error ellipse: s-maj=78.1km s-min=14.8km az=41.0*
ISC 24 04:05:28.5±0.7, 28°.57N±0°.05×52°.04E±0°.05, h15km, n43, σ1=09/46, mb3.9/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHBU	**AHRAM**	**0.72**	**294**	Pg	**Pg**	**04 05 41.6**	**-0.9**
AHBU				Sg	**Sn**	**04 05 54.8**	**-0.1**
DSBU	**Dashti - Bushe**	**0.72**	**253**	Pg	**Pg**	**04 05 42.4**	**-0.1**
QIR1	**Qir**	**0.89**	**96**	Pg	**Pb**	**04 05 44.9**	**-0.7**
KAZ1	**Kazerun**	**1.11**	**342**	Pg	**Pb**	**04 05 49.5**	**+0.1**
SHI	**Shiraz**	**1.15**	**21**	Pg	**Pn**	**04 05 48.9**	**-1.3**
JHRM	**Jahrom**	**1.35**	**92**	Pg	**Pn**	**04 05 54.0**	**+1.1**
LMD1	**Lamerd**	**1.58**	**141**	Pg	**Pb**	**04 05 57.8**	**+0.4**
LMD1				Sg	**Sg**	**04 06 20.0**	**+0.7**
KLNJ	**Kolanjah**	**2.46**	**351**	Pn	**Pn**	**04 06 09.5**	**+1.1**
IRAM	**Ramesheh**	**3.24**	**5**	Pn	**Pn**	**04 06 20.2**	**+1.1**
AMIS	**Naft Sefid**	**3.90**	**323**	Pn	**Pn**	**04 06 29.5**	**+1.6**
IPIR	**Pirpir**	**4.22**	**347**	Pn	**Pn**	**04 06 34.2**	**+1.6**
NGRK	**Negar Kerman**	**4.24**	**74**	Pn	**Pn**	**04 06 33.9**	**+1.0**
NASN	**Na'in**	**4.27**	**9**	Pn	**Pn**	**04 06 34.1**	**+0.9**
IBAF	**Bafgh**	**4.29**	**45**	Pn	**Pn**	**04 06 35.3**	**+1.9**
IZEF	**Zefreh**	**4.32**	**3**	Pn	**Pn**	**04 06 35.4**	**+1.5**
KRBR	**Kerman**	**4.36**	**70**	Pn	**Pn**	**04 06 35.7**	**+1.3**
TVBK	**TV Kerman**	**4.36**	**70**	Pn	**Pn**	**04 06 35.4**	**+0.9**
YZKH	**Yazd**	**4.40**	**29**	Pn	**Pn**	**04 06 35.9**	**+1.0**
IKLH	**Kolahrood**	**4.75**	**355**	Pn	**Pn**	**04 06 40.9**	**+1.0**
ANAR	**Anarak**	**4.83**	**17**	Pn	**Pn**	**04 06 42.3**	**+1.5**
MDH	**Madha**	**5.00**	**130**	P	**Pn**	**04 06 43.9**	**+0.9**
UOSS	**Minazif**	**5.18**	**133**	P	**Pn**	**04 06 44.8**	**-0.8**
HATD	**Hatta, Dubai**	**5.22**	**135**	P	**Pn**	**04 06 47.6**	**+1.5**
ASHO	**Ashiyiah**	**5.28**	**136**	P	**Pn**	**04 06 46.3**	**-0.6**
ASHO				S	**Sn**	**04 07 46.0**	**-1.6**
KRSH	**Karshahi**	**5.38**	**1**	Pn	**Pn**	**04 06 49.6**	**+1.2**
KHMZ	**Khomeyn**	**5.45**	**341**	Pn	**Pn**	**04 06 50.5**	**+1.0**
ISFB	**Sefidab**	**5.77**	**2**	Pn	**Pn**	**04 06 54.3**	**+0.7**
SOHO	**SOHO**	**5.98**	**137**	P	**Pn**	**04 06 55.8**	**-0.6**
ASAO	**Ashtian**	**6.20**	**344**	Pn	**Pn**	**04 07 00.7**	**+0.9**
HSAM	**Samen**	**6.35**	**333**	Pn	**Pn**	**04 07 03.2**	**+1.5**
TKDS	**Koohdasht(Taba**	**6.65**	**40**	Pn	**Pn**	**04 07 07.1**	**+1.3**
TABS	**Tabas**	**6.68**	**39**	Pn	**Pn**	**04 07 07.4**	**+1.3**
IKOM	**Komasi**	**6.80**	**326**	Pn	**Pn**	**04 07 09.3**	**+1.5**
BSRN	**Basiran**	**7.00**	**59**	Pn	**Pn**	**04 07 11.8**	**+1.2**
ZHSF	**Zahedan**	**7.71**	**80**	Pn	**Pn**	**04 07 22.0**	**+1.6**
BRTR	**Keskin Array B**	**18.82**	**311**	P	**P**	**04 09 48.7**	**+0.9**
	0.1nm,0.3s,baz=120,slow=14,SNR=2.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**29.75**	**35**	P	**P**	**04 11 34.2**	**0.0**
	0.3nm,0.6s,baz=237,slow=9.2,SNR=4.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**29.80**	**44**	P	**P**	**04 11 34.9**	**+0.1**
	0.3nm,0.7s,baz=242,slow=9.3,SNR=2.4						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**34.83**	**34**	P	**P**	**04 12 18.5**	**-0.1**
	0.7nm,0.4s,baz=251,slow=7.5,SNR=2.4						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**37.13**	**340**	P	**P**	**04 12 37.7**	**-0.5**
	4.1nm,1.0s,baz=148,slow=11,SNR=3.1						
	4.1nm,1.0s						
NOA	**NORSAR Array B**	**42.31**	**332**	P	**P**	**04 13 20.6**	**-0.9**
	0.4nm,0.6s,baz=138,slow=10.0,SNR=2.7						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**49.13**	**263**	P	**P**	**04 14 15.8**	**-0.1**
	2.2nm,0.6s,baz=63,slow=8.6,SNR=23						
	2.3nm,0.6s						
DBIC	**Dimbokro**	**57.85**	**259**	P	**P**	**04 15 19.7**	**-0.3**
	3.4nm,0.7s,baz=20,slow=4.6,SNR=6.4						
	3.4nm,0.7s						

IDC 24 04:17:56.5±4.6, 2°.62S×140°.27E, h0km, mb3.3/2, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=174.2km s-min=30.1km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.16**	**198**	P	Pn	04 22 10.2	-0.2
	0.5

ALIBA	**Liberia Airpor**	**1.51**	**103**	*eP*		**Pb**	**04 34 42.6**	**-0.8**
CONN	**Concepcion**	**1.52**	**65**	*eP*		**Pn**	**04 34 41.9**	**-1.1**
MOMN	**Momotombo**	**1.55**	**18**	*eP*		**Pb**	**04 34 43.5**	**-0.6**
GBS2	**Las Lilas**	**1.56**	**93**	*eP*		**Pb**	**04 34 43.9**	**-0.4**
GBS3	**Finca Las Img**	**1.56**	**95**	*eP*		**Pn**	**04 34 43.3**	**-0.3**
SAJU	**San Juanillo,**	**1.56**	**123**⇑	*eP*		**Pn**	**04 34 43.6**	**+0.1**
LAPC	**Finca la Perla**	**1.59**	**96**	*eP*		**Pn**	**04 34 43.5**	**-0.4**
CNGN	**Cerro Negro**	**1.59**	**12**	*eP*		**Pb**	**04 34 44.6**	**-0.3**
BUEV	**Buena Vista**	**1.61**	**95**⇑	*eP*		**Pn**	**04 34 44.0**	**-0.2**
GB1A	**Borinquen Arri**	**1.62**	**94**	*eP*		**Pb**	**04 34 44.5**	**-0.8**
GB1A				*eS*		**Sg**	**04 35 08.8**	**+2.2**
ORTG	**Ortega, Santa**	**1.65**	**110**	*eP*		**Pn**	**04 34 44.8**	**0.0**
GPS3	**Bodega del ICE**	**1.65**	**96**	*eP*		**Pg**	**04 34 47.0**	**+0.7**
JUD3	**Juan Diaz 3**	**1.66**	**117**	*eP*		**Pn**	**04 34 45.0**	**+0.1**
GPS1	**Guardaparques**	**1.67**	**95**	*eP*		**Pn**	**04 34 45.0**	**-1.2**
GPS2	**Hotel Rincn d**	**1.67**	**96**	*eP*		**Pb**	**04 34 45.0**	**-1.1**
VORI	**VORI**	**1.67**	**94**	*eP*		**Pb**	**04 34 45.9**	**-0.4**
GP14	**Hacienda Santa**	**1.67**	**96**	*eP*		**Pn**	**04 34 45.0**	**-0.2**
TELN	**Telica**	**1.67**	**7**	*eP*		**Pb**	**04 34 46.1**	**-0.2**
BUAI	**Buenos Aires**	**1.68**	**92**	*eP*		**Pg**	**04 34 46.5**	**-0.3**
GP77	**Hacienda Santa**	**1.69**	**96**	*eP*		**Pn**	**04 34 45.4**	**-0.1**
DUNO	**Dulce Nombre,**	**1.74**	**119**	*eP*		**Pn**	**04 34 46.1**	**+0.1**
CRIN	**San Cristobal**	**1.76**	**360**	*eP*		**Pb**	**04 34 47.8**	**+0.1**
CRIN	**San Cristobal**	**1.76**	**360**	*eP*		**Pb**	**04 34 47.5**	**-0.2**
CRIN				*eS*		**Sb**	**04 35 10.0**	**-0.3**
LIM1	**Limonal**	**1.77**	**97**	*eP*		**Pn**	**04 34 46.0**	**-0.5**
GUAB	**Guayabo de Bag**	**1.79**	**97**	*eP*		**Pn**	**04 34 46.3**	**-0.5**
MESS	**Mesas**	**1.82**	**96**	*eP*		**Pb**	**04 34 47.7**	**-1.1**
COLC	**Colonia**	**1.82**	**98**	*eP*		**Pn**	**04 34 47.1**	**0.0**
COLC				*eS*		**Sg**	**04 35 12.5**	**-0.7**
CLARA	**Aguas Claras**	**1.84**	**94**	*eP*		**Pb**	**04 34 47.9**	**-1.1**
HORNC	**Hornillas**	**1.84**	**97**	*eP*		**Pn**	**04 34 47.3**	**-0.2**
CUI	**Cuipilapa**	**1.86**	**98**	*eP*		**Pn**	**04 34 48.0**	**-1.5**
VMAR	**Armenia, Volca**	**1.90**	**93**⇑	*eP*		**Pn**	**04 34 48.1**	**-0.1**
VMAR				⇑*eP*		**Pb**	**04 34 48.4**	**-1.7**
VMAR				*eS*		**Sg**	**04 35 16.0**	**+0.5**
VMAR				*eS*		**Sb**	**04 35 16.7**	**+2.4**
MOTZ	**Rio Naranjo**	**1.95**	**97**	*eP*		**Pb**	**04 34 49.5**	**-1.4**
POPE	**POPE, Guanacas**	**1.95**	**116**	*eP*		**Pn**	**04 34 49.5**	**+0.6**
CANAL	**Canalete**	**1.95**	**93**	*eP*		**Pn**	**04 34 49.0**	**+0.1**
CANAL				*eS*		**Sg**	**04 35 17.1**	**-0.2**
BOAB	**BOACO BROADBAN**	**2.02**	**42**	*eP*		**Pn**	**04 34 49.2**	**-0.7**
ACON	**Acoyapa**	**2.10**	**60**	*eP*		**Pn**	**04 34 50.7**	**-0.2**
ACON	**Acoyapa**	**2.10**	**60**	*eP*		**Pn**	**04 34 49.6**	**-1.3**
COTE	**Lago Cote**	**2.12**	**99**	*eP*		**Pb**	**04 34 53.1**	**-0.8**
JTS	**Las Juntas de**	**2.15**	**107**	*eP*		**Pb**	**04 34 52.6**	**-1.7**
MTEVE	**Monteverde**	**2.26**	**105**	*eP*		**Pb**	**04 34 56.5**	**+0.2**
MATN	**Matagalpa**	**2.27**	**29**	*eP*		**Pn**	**04 34 53.1**	**-0.2**
TABAC	**Tabacon**	**2.27**	**101**	*eP*		**Pg**	**04 34 57.6**	**-0.5**
CEDE	**Laguna Cedeo**	**2.34**	**101**	*eP*		**Pg**	**04 34 58.5**	**-0.8**
FORC	**Fortuna**	**2.37**	**101**	*eP*		**Pb**	**04 34 58.9**	**+0.7**
LAFE	**Finca La Fe, P**	**2.37**	**118**	*eP*		**Pn**	**04 34 54.8**	**+0.1**
JACO	**JACO, Garabito**	**2.66**	**118**	*eP*		**Pb**	**04 35 02.2**	**-0.8**
CPMI	**Catarata Coope**	**2.69**	**104**	*eP*		**Pb**	**04 35 03.3**	**-0.4**
ABE2	**San Pablo**	**3.18**	**112**	*eP*		**Pb**	**04 35 08.8**	**-3.3**
RIMA	**Rio Macho**	**3.33**	**110**	*eP*		**Pb**	**04 35 11.9**	**-2.7**
CDM	**Cerro de Muert**	**3.50**	**113**	*eP*		**Pn**	**04 35 13.6**	**+2.9**
BUS1	**Rivas**	**3.52**	**113**	*eP*		**Pn**	**04 35 11.9**	**+1.1**

IDC 24 04:49:47.9±3.7, 6°.02S×141°.84E, h0km, mb3.6/1, mbtmp3.8/3, ML4.1/2, Error ellipse: s-maj=118.0km s-min=29.1km az=99.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.64**	**207**	Pn	Pn	04 53 27.7	-2.1
	0.6nm,0.3s,baz=29,slow=13,SNR=15						
WRA				Sn	Sn	04 56 15.0	-9.1
	0.2nm,0.3s,baz=34,slow=22,SNR=1.8						
WRA				Lg	Lg	04 58 07.4	
	0.1nm,0.3s,baz=27,slow=31,SNR=4.5 1.3nm,0.4s						
ASAR	**Alice Springs**	**19.14**	**203**	P	P	04 54 12.9	+0.1
	0.7nm,0.3s,baz=34,slow=9.6,SNR=34						
ASAR				S	Sn	04 57 41.6	-7.2
	0.7nm,0.6s,baz=17,slow=29,SNR=3.2						
ASAR				Lg	Lg	05 00 06.1	
	0.1nm,0.3s,baz=12,slow=28,SNR=4.2 2.4nm,0.6s						
MKAR	**Makanchi Array**	**74.30**	**322**	P	P	05 01 27.4	+0.2
	0.4nm,0.6s,baz=109,slow=7.4,SNR=5.9 0.4nm,0.6s						

*IDC **24** 04:57:30.8±1.0, 1°.99S×99°.44E, h0km, mb4.0/13, mbtmp4.0/14, ML3.3/1, MS3.3/5, Error ellipse: s-maj=45.0km s-min=16.9km az=54.0*
*NEIC **24** 04:57:34.9±1.6, 1°.92S±0°.09×99°.5E±0°.1, h25km±6km, mb4.5/10, Error ellipse: s-maj=18.7km s-min=9.7km az=56.0*
*DJA **24** 04:57:35.2±0.3, 2°S±2°×10°E±°, h10km, M4.5/18, mB5.5/3, mb4.6/7, MLv4.4/18, Mw(mB)5.0/3*
ISC 24 04:57:35.8±0.5, 1°.81S±0°.05×99°.64E±0°.05, h30km, n61, σ1°.58/58, mb4.3/18, MS3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.73**	**311**	P	**Pn**	**04 57 49.7**	**-0.4**
PPSI	**Pulau Pagai**	**1.01**	**159**	P	**Pb**	**04 57 53.9**	**-0.9**
PPSI				S	**Sb**	**04 58 11.2**	**+3.4**
PDSI	**Padang**	**1.21**	**43**	P	**Pn**	**04 57 55.8**	**-1.0**
PDSI				S	**Sn**	**04 58 12.3**	**+0.1**
SDSI	**Sungai Dareh**	**1.99**	**64**	P	**Pn**	**04 58 08.1**	**+0.7**
SDSI				S	**Sn**	**04 58 33.3**	**+2.0**
PBSI	**Pulau Batu**	**2.21**	**322**	P	**Pn**	**04 58 11.4**	**+0.9**
BKNI	**Bangkinang**	**2.54**	**33**	Pn	**Pn**	**04 58 16.1**	**+1.1**
BKNI	**Bangkinang**	**2.54**	**33**	P	**Pn**	**04 58 16.4**	**+1.4**
MNSI	**Mandailing Nat**	**2.59**	**359**	P	**Pn**	**04 58 17.6**	**+1.9**
GSI	**Gunungsitoli**	**3.72**	**326**		**Pn**	**04 58 30.7**	**-0.6**
GSI	**Gunungsitoli**	**3.72**	**326**	P	**Pn**	**04 58 32.3**	**+1.0**
MNAI	**Manna**	**4.17**	**127**	Pn	**Pn**	**04 58 38.3**	**+0.9**
MNAI	**Manna**	**4.17**	**127**	P	**Pn**	**04 58 37.1**	**-0.3**
RPSI	**Rantau Prapat**	**4.53**	**351**		**Pn**	**04 58 42.5**	**+0.1**
RPSI	**Rantau Prapat**	**4.53**	**351**		**Pn**	**04 58 44.4**	**+1.9**
RPSI					**Sb**	**04 59 43.4**	**-5.5**
PSI	**Prapat**	**4.64**	**351**	Pn	**Pn**	**04 58 44.4**	**+0.4**
	1.3nm,0.3s,baz=177,slow=12,SNR=12						
PSI				Sn	**Sn**	**04 59 43.4**	**+6.5**
	1.1nm,0.3s,baz=179,slow=20,SNR=2.0						
PSI				LR	LR	05 00 07.2	
	comp=Z,52nm,19.6s,baz=181,slow=33 5.9nm,0.4s						
DSRI	**Dabo**	**5.11**	**75**	P	**Pn**	**04 58 50.3**	**-0.1**
MDSI	**Maura Dua**	**5.25**	**120**	P	**Pn**	**04 58 52.0**	**-0.3**
	23nm,0.8s,0.2nm						
SNSI	**Sinabang, Aceh**	**5.34**	**322**	P	**Pn**	**04 58 55.5**	**+1.9**
	26nm,0.8s,2µm0.2nm						
TSI	**Tuntungan**	**5.39**	**348**	P	**Pn**	**04 58 54.4**	**+0.2**
	145nm,0.5s,1.7nm						
LWLI	**Liwa**	**5.44**	**126**	P	**Pn**	**04 58 56.0**	**+1.0**
	233nm,0.7s,1.3nm						
MYKOM	**Kota Tinggi**	**5.52**	**50**	Pn	**Pn**	**04 58 57.8**	**+1.7**
TPRI	**Tanjung Pinang**	**5.59**	**61**	P	**Pn**	**04 58 56.9**	**0.0**
	66nm,0.5s,5µm1.0nm						
IPM	**Ipoh**	**6.40**	**12**	Pn	**Pn**	**04 59 09.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**20.15**	**358**	P	**P**	**05 02 09.0**	**+1.2**
	1.5nm,0.4s,baz=185,slow=9.1,SNR=1.3 1.5nm,0.4s						
TOLI2	**Tolitoli**	**21.34**	**82**	P	**P**	**05 02 20.9**	**+0.2**
TOLI2				IAmb	IAmb	05 02 33.2	
	comp=Z,11nm,0.8s						
H08S2	**Diego Garcia H**	**27.66**	**257**	T	T	05 31 56.8	
	baz=80,slow=76,SNR=143						
H08S3	**Diego Garcia H**	**27.66**	**257**	T	T	05 31 54.8	
	baz=80,slow=76,SNR=138						
H08S1	**Diego Garcia H**	**27.68**	**257**	T	T	05 32 00.8	
	baz=80,slow=76,SNR=103						
H01W3	**Cape Leeuwin H**	**35.57**	**159**	T	T	05 42 24.2	
	baz=335,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**35.58**	**159**	T	T	05 42 31.1	
	baz=335,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**35.58**	**159**	T	T	05 42 12.5	
	baz=335,slow=76,SNR=18						
WRA	**Warramunga Arr**	**38.40**	**120**	P	**P**	**05 04 54.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=302,slow=9.2,SNR=7.0 comp=Z,1.1nm,0.6s						
WB2	**Warramunga Arr**	**38.41**	**120**	P	**P**	**05 04 52.8**	**-2.1**
WB2				IAmb	IAmb	05 04 55.4	
	comp=Z,6.5nm,1.0s						
FORT	**Forrest**	**39.41**	**140**	P	**P**	**05 05 01.1**	**-2.1**
ASAR	**Alice Springs**	**39.65**	**126**	P	**P**	**05 05 05.1**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=291,slow=7.6,SNR=6.9						
ASAR				PcP	**PcP**	**05 07 12.5**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=331,slow=3.6,SNR=4.6 comp=Z,0.7nm,0.7s						
STKA	**Stephens Creek**	**49.54**	**132**	LR	LR	05 26 54.7	
	comp=Z,73nm,21.1s,baz=24,slow=36						
SONM	**Songino Array**	**49.79**	**6**	P	**P**	**05 06 26.7**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=186,slow=9.7,SNR=6.5						
SONM				LR	LR	05 30 07.1	
	comp=Z,84nm,18.7s,baz=26,slow=39 comp=Z,0.9nm,0.6s						
MK31	**Makanchi Array**	**50.75**	**345**	P	**P**	**05 06 32.3**	**-0.8**
MK31				IAmb	IAmb	05 06 46.7	
	comp=Z,3.1nm,0.7s						
MKAR	**Makanchi Array**	**50.75**	**345**	P	**P**	**05 06 33.9**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=148,slow=8.1,SNR=27 comp=Z,2.1nm,0.6s						
MKAR	**Makanchi Array**	**50.75**	**345**	P	**P**	**05 06 33.2**	**+0.1**
KURBB	**Kurchatov Arra**	**55.27**	**344**	P	**P**	**05 07 06.7**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=164,slow=7.0,SNR=12 comp=Z,1.3nm,0.8s						
KURK	**Kurchatov**	**55.33**	**344**	P	**P**	**05 07 06.2**	**-0.5**
KURK				IAmb	IAmb	05 07 21.0	
	comp=Z,5.0nm,0.9s						
ZAA0	**Zalesovo Array**	**56.92**	**350**	P	**P**	**05 07 17.4**	**-0.5**
ZALV	**Zalesovo Beam**	**56.92**	**350**	P	**P**	**05 07 18.2**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=172,slow=4.5,SNR=22 comp=Z,5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**56.92**	**350**	P	**P**	**05 07 17.4**	**-0.6**
BVAR	**Borovoye Array**	**59.89**	**340**	P	**P**	**05 07 37.0**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=141,slow=9.6,SNR=7.4 comp=Z,1.5nm,0.7s						
ABKAR	**Akbulak array**	**61.30**	**332**	P	**P**	**05 07 48.1**	**-0.3**
ABKAR	**Akbulak array**	**61.30**	**332**	P	**P**	**05 07 48.5**	**+0.1**
ABKAR				IAmb	IAmb	05 07 49.1	
	comp=Z,3.1nm,0.8s						
KBZ	**Khabaz**	**67.93**	**319**	P	**P**	**05 08 32.0**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=140,slow=11,SNR=5.4 comp=Z,1.9nm,0.8s						
MBAR	**Mbarara**	**68.90**	**270**	LR	LR	05 35 15.6	
	comp=Z,25nm,18.4s,baz=314,slow=33						
EIL	**Elat**	**69.12**	**303**	LR	LR	05 38 56.7	
	comp=Z,24nm,18.8s,baz=246,slow=36						
BRTR	**Keskin Array B**	**72.93**	**313**	P	**P**	**05 09 02.1**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=140,slow=6.9,SNR=2.8 comp=Z,0.5nm,0.8s						
RTZ	**Ruatahuna**	**78.98**	**129**	P	**P**	**05 09 35.3**	**-1.9**
RTZ				IAmb	IAmb	05 09 51.5	
	comp=Z,9.4nm,1.1s						
BURAR	**Bucovina Array**	**80.88**	**319**	P	**P**	**05 09 48.2**	**+0.9**
BUR08	**Bucovina Ar. S**	**80.90**	**319**	P	**P**	**05 09 47.9**	**+0.5**
FINES	**FINESS Array B**	**83.78**	**332**	P	**P**	**05 10 02.4**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=88,slow=4.0,SNR=7.8 comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**83.78**	**332**	P	**P**	**05 10 01.8**	**-0.2**
ARCES	**ARCESS Array B**	**86.18**	**340**	P	**P**	**05 10 14.1**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=98,slow=6.5,SNR=2.1 comp=Z,3.1nm,0.9s						
GERES	**GERESS Array B**	**88.67**	**319**	P	**P**	**05 10 26.8**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=89,slow=5.1,SNR=3.4 comp=Z,0.3nm,0.4s						
CPUP	**Villa Florida**	**144.26**	**217**	PKP	**PKPdf**	**05 17 09.0**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=159,slow=2.4,SNR=8.8						
TXAR	**Lajitas Array**	**144.77**	**37**	PKPbc	**PKPdf**	**05 17 10.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=182,slow=1.2,SNR=16						

SJA 24 04:59:42.0, 21°.41S×67°.24W, h215km, ML4.1, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.78**	**116**	*i* P	Pn	05 00 19.2	-0.8
YJA				*eS*	S	05 00 44.6	-4.7
YJA				IAML		05 00 48.3	
	comp=Z,4.6nm,0.3s						
YJA	**Yavi**	**1.78**	**116**	*i* P	Pn	05 00 19.2	-0.8
YJA				*eS*	S	05 00 44.6	-4.7
YJA				IAML		05 00 48.3	
	comp=Z,4.6nm,0.3s						
PB09	**IPOC Station P**	**1.90**	**258**⇑	*i* P	Pn	05 00 21.9	+1.0
PB09				IAML		05 01 11.6	
	comp=Z,330nm,0.2s						
PB09	**IPOC Station P**	**1.90**	**258**⇑	*i* P	Pn	05 00 21.9	+1.0
PB09				IAML		05 01 11.6	
	comp=Z,330nm,0.2s						
PB01	**IPOC Station P**	**2.13**	**279**	*i* P	Pn	05 00 22.6	-0.5
PB01				*eS*	S	05 00 58.0	+3.2
PB01				IAML		05 01 30.0	
	comp=Z,227nm,0.1s						
PB01	**IPOC Station P**	**2.13**	**279**	*i* P	Pn	05 00 22.6	-0.5
PB01				*eS*	S	05 00 58.0	+3.2
PB01				IAML		05 01 30.0	
	comp=Z,227nm,0.1s						
PB03	**IPOC Station P**	**2.42**	**254**	*i* P	Pn	05 00 25.3	-0.8
PB03	**IPOC Station P**	**2.42**	**254**	*i* P	Pn	05 00 25.3	-0.8
PB02	**IPOC Station P**	**2.48**	**272**	*i* P	Pn	05 00 26.0	-0.7
PB02				IAML		05 01 24.1	
	comp=Z,892nm,0.3s						
PB02	**IPOC Station P**	**2.48**	**272**	*i* P	Pn	05 00 26.0	-0.7
PB02				IAML		05 01 24.1	
	comp=Z,892nm,0.3s						
PB07	**IPOC Station P**	**2.48**	**262**	*i* P	Pn	05 00 26.0	-0.8
PB07	**IPOC Station P**	**2.48**	**262**	*i* P	Pn	05 00 26.0	-0.8
PB06	**IPOC Station P**	**2.52**	**239**	*i* P	Pn	05 00 27.0	-0.2
PB06				IAML		05 01 01.9	
	comp=Z,416nm,0.2s						
PB06	**IPOC Station P**	**2.52**	**239**	*i* P	Pn	05 00 27.0	-0.2
PB06				IAML		05 01 01.9	
	comp=Z,416nm,0.2s						
PB11	**IPOC Station P**	**2.79**	**306**	*i* P	Pn	05 00 29.4	-1.0
PB11				IAML		05 01 45.6	
	comp=Z,39nm,0.3s						
PB11	**IPOC Station P**	**2.79**	**306**	*i* P	Pn	05 00 29.4	-1.0
PB11				IAML		05 01 45.6	
	comp=Z,39nm,0.3s						
PB04	**IPOC Station P**	**2.85**	**251**	*i* P	Pn	05 00 30.4	-0.6
PB04				IAML		05 01 08.5	
	comp=Z,1µm,0.2s						
PB04	**IPOC Station P**	**2.85**	**251**	*i* P	Pn	05 00 30.4	-0.6
PB04				IAML		05 01 08.5	
	comp=Z,1µm,0.2s						
MNMCX	**Minye Minye**	**3.17**	**315**	*i* P	Pn	05 00 34.3	-0.4
MNMCX				IAML		05 01 59.0	
	comp=Z,29nm,0.3s						
MNMCX	**Minye Minye**	**3.17**	**315**	*i* P	Pn	05 00 34.3	-0.4
MNMCX				IAML		05 01 59.0	
	comp=Z,29nm,0.3s						
PSGCX	**Pisagua**	**3.25**	**303**	*i* P	Pn	05 00 33.4	-2.1
PSGCX				IAML		05 01 50.2	
	comp=Z,33nm,0.3s						
PSGCX	**Pisagua**	**3.25**	**303**	*i* P	Pn	05 00 33.4	-2.1
PSGCX				IAML		05 01 50.2	
	comp=Z,33nm,0.3s						
AZAP	**Zapla**	**3.44**	**145**	*i* P	Pn	05 00 37.0	-0.9
AZAP				*eS*	S	05 01 18.9	-2.5
AZAP				IAML		05 01 28.9	
	comp=Z,9.7nm,1.7s						
AZAP	**Zapla**	**3.44**	**145**	*i* P	Pn	05 00 37.0	-0.9
AZAP				*eS*	S	05 01 18.9	-2.5
AZAP				IAML		05 01 28.9	
	comp=Z,9.7nm,1.7s						
ASTB	**Santa Barbara**	**3.61**	**135**	*i* P	Pn	05 00 39.0	-0.7
ASTB				IAML		05 01 33.0	
	comp=Z,0.9nm,2.2s						
ASTB	**Santa Barbara**	**3.61**	**135**	*i* P	Pn	05 00 39.0	-0.7
ASTB				IAML		05 01 33.0	
	comp=Z,0.9nm,2.2s						
PB16	**IPOC Station P**	**3.73**	**325**	*i* P	Pn	05 00 42.0	+0.3
PB16				IAML		05 02 13.0	
	comp=Z,5.6nm,0.4s						
PB16	**IPOC Station P**	**3.73**	**325**	*i* P	Pn	05 00 42.0	+0.3
PB16				IAML		05 02 13.0	
	comp=Z,5.6nm,0.4s						

GUC 24 05:00:24.8±0.6, 23°.06S×69°.15W, h102km±3km, ML3.8, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.50**	**26**	*i* P	Pn	05 00 40.2	-1.1
LVC				*eS*	Sn	05 00 51.1	-2.3
PB06	**IPOC Station P**	**0.53**	**312**	*eP*	Pn	05 00 40.6	-0.5
PB06				*i* S	Sn	05 00 52.6	-0.9
PB06				IAML		05 00 53.4	
	comp=N,9µm,0.2s						
PB03	**IPOC Station P**	**1.15**	**331**	*eP*	Pn	05 00 47.0	-0.2
PB03				*i* S	Sn	05 01 03.7	-0.4
PB03				IAML		05 01 04.8	
	comp=N,3µm,0.4s						
PB04	**IPOC Station P**	**1.17**	**308**	*eP*	Pn	05 00 47.3	-0.2
PB04				*i* S	Sn	05 01 04.2	-0.4
PB04				IAML		05 01 06.4	
	comp=N,2µm,0.3s						
PB09	**IPOC Station P**	**1.26**	**356**	*eP*	Pn	05 00 48.7	+0.2
PB09				*i* S	Sn	05 01 06.8	+0.4
PB10	**IPOC Station P**	**1.37**	**251**	*eP*	Pn	05 00 49.8	+0.3
PB10				*i* S	Sn	05 01 07.8	-0.5
PB07	**IPOC Station P**	**1.49**	**333**	*eP*	Pn	05 00 51.2	-0.1
PB07				*i* S	Sn	05 01 11.0	-0.3
PB07				IAML		05 01 12.5	
	comp=E,1µm,0.2s						
PB02	**IPOC Station P**	**1.87**	**338**	*eP*	Pn	05 00 55.8	-0.1
PB02				*i* S	Sn	05 01 19.2	-0.3
PB14	**IPOC Station P**	**1.94**	**216**	*i* P	Pn	05 00 57.0	+0.1
PB01	**IPOC Station P**	**2.03**	**351**	*i* S	Sn	05 01 23.1	-0.2
PB01				IAML		05 01 27.1	
	comp=E,458nm,0.2s						
PATCX	**Punta Patache**	**2.42**	**337**	*i* P	Pn	05 01 02.8	-0.2
PB11	**IPOC Station P**	**3.32**	**352**	*i* P	Pn	05 01 15.8	+0.8

MAN 24 05:01:02.6, 11°.52N×125°.54E, h42km, mb3.7, ML2.5, MS2.0, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**2.74**	**271**⇑	*eP*	Pn	05 01 45.0	+1.0

IDC 24 05:10:03.4±5.5, 0°.91S×137°.89E, h0km, mb3.4/3, mbtmp3.3/4, ML3.1/1, MS3.4/1, Error ellipse: s-maj=265.3km s-min=25.9km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.23**	**190**	P	P	05 14 28.3	-1.1
	0.1nm,0.3s,baz=16,slow=12,SNR=3.2 0.5nm,0.7s						
ASAR	**Alice Springs**	**22.95**	**189**	P	P	05 15 10.6	+1.0
	0.5nm,0.4s,baz=13,slow=12,SNR=6.3 0.5nm,0.4s						
SONM	**Songino Array**	**55.75**	**335**	P	P	05 19 43.4	+1.3
	0.2nm,0.4s,baz=136,slow=7.5,SNR=2.2						
SONM				LR	LR	05 44 35.0	
	comp=Z,34nm,19.5s,baz=340,slow=37 0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.87**	**322**	P	P	05 21 02.4	-1.4
	0.4nm,0.8s,baz=121,slow=5.2,SNR=3.6 0.4nm,0.8s						

*IDC **24** 05:10:29.8±2.9, 10°.49S×161°.48E, h63km±23km, mb3.5/6, mbtmp3.9/7, ML3.5/1, MS3.2/2, Error ellipse: s-maj=30.0km s-min=17.5km az=62.0*
ISC 24 05:10:29.6±1.0, 10°.5S±0°.1×161°.5E±0°.2, h61km, n10, σ0°.68/9, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.86**	**305**	P	**Pn**	**05 10 59.3**	**+0.1**
	2µm,0.3s,baz=29,slow=22,SNR=8.1						
HNR				S	**Sn**	**05 11 21.8**	**+0.1**
	13µm,0.3s,baz=178,slow=22,SNR=15						
DZM	**Mont Dzumac**	**12.45**	**158**	P	**Pn**	**05 13 23.7**	**-0.3**
	0.3nm,0.3s,baz=23,slow=8.4,SNR=8.6 5.2nm,0.7s						
CTA	**Charters Tower**	**17.51**	**235**	LR	LR	05 20 10.2	
	comp=Z,55nm,20.0s,baz=79,slow=33						
WRA	**Warramunga Arr**	**27.80**	**247**	P	**P**	**05 16 13.1**	**-0.2**
	1.4nm,0.5s,baz=77,slow=8.8,SNR=6.7 1.4nm,0.5s						
ASAR	**Alice Springs**	**29.38**	**240**	P	**P**	**05 16 26.4**	**-0.9**
	0.5nm,0.6s,baz=64,slow=9.7,SNR=7.7 0.5nm,0.6s						
KAPI	**Kappang**	**41.69**	**274**	LR	LR	05 35 42.1	
	comp=Z,44nm,19.3s,baz=110,slow=36						
VNDA	**Vanda**	**67.01**	**180**	P	**P**	**05 21 16.9**	**+1.3**
	1.4nm,0.9s,baz=335,slow=4.9,SNR=2.1 1.4nm,0.9s						
SONM	**Songino Array**	**75.80**	**325**	P	**P**	**05 22 09.3**	**+0.1**
	0.8nm,0.6s,baz=145,slow=7.2,SNR=6.4 0.8nm,0.6s						
ILAR	**Eielson Array**	**84.36**	**20**	P	**P**	**05 22 54.3**	**-0.5

0.9nm,0.6s,baz=159,slow=6.8,SNR=6.3
0.9nm,0.6s
MKAR Makanchi Array 67.95 328 P **P 05 43 15.9 -0.6**
1.3nm,0.7s,baz=117,slow=8.2,SNR=22
1.3nm,0.7s
ZALV Zalesovo Beam 71.49 334 P **P 05 43 36.7 -1.3**
0.8nm,0.5s,baz=142,slow=5.9,SNR=3.0
0.8nm,0.5s

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*IDC **24** 06:11:10.1±1.7,26˚.38S×69˚.02W,h0km,mb3.7/1, mbtmp3.7/1, Error ellipse: s-maj=155.9km s-min=74.3km az=143.0*

ISC 24 06:11:14.5±1.0,26˚.3S±0˚.1×69˚.3W±0˚.1,h35km,n8,σ1§04/9, 1C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AC02	**Maricunga**	**0.60**	**162**	⇑*iP*	**Pn**		**06 11 25.9**	**-1.1**
AC02				*i* S	**Sn**		**06 11 36.8**	**+0.9**
AC02				IAML			06 11 39.9	
	comp=E,537nm,0.2s							
AC01	**Pan de Azucar**	**1.14**	**275**	*eP*	**Pn**		**06 11 32.8**	**-1.2**
AC01				*i* S	**Sn**		**06 11 49.4**	**+1.0**
AC01				IAML			06 11 51.8	
	comp=E,390nm,0.3s							
AC06	**Mina Casimiro**	**1.42**	**220**	*eP*	Pn		06 11 25.9	-12
TORD	**Torodi Ar. Bea**	**79.35**	**70**	P	**P**		**06 23 17.3**	**+0.1**
	comp=E,0.4nm,0.5s,baz=246,slow=6.4,SNR=3.0							
	comp=E,0.4nm,0.5s							
ASAR	**Alice Springs**	**125.51**	**206**	PKP	**PKiKP**		**06 30 13.9**	**+0.9**
	comp=E,0.2nm,0.5s,baz=156,slow=2.3,SNR=4.1							
KURBB	**Kurchatov Arra**	**145.45**	**37**	PKPbc	**PKPdf**		**06 30 48.7**	**+0.2**
	comp=E,0.3nm,0.4s,baz=297,slow=3.5,SNR=1.6							
ZALV	**Zalesovo Beam**	**146.37**	**28**	PKPbc	**PKPab**		**06 30 52.7**	**+0.6**
	comp=E,1.0nm,0.6s,baz=318,slow=3.2,SNR=4.6							
MKAR	**Makanchi Array**	**149.61**	**40**	PKPbc	**PKPbc**		**06 30 59.4**	**-0.8**
	comp=E,0.5nm,0.6s,baz=318,slow=2.5,SNR=4.9							

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*IDC **24** 06:12:12.2±1.5, 19˚.42S×177˚.47W, h575km±13km, mb3.0/4, mbtmp4.1/6, Error ellipse: s-maj=27.0km s-min=17.8km az=156.0*

ISC 24 06:12:10.2±0.7,19˚.3S±0˚.1×177˚.3W±0˚.1,h550km,n16, σ2§24/20,mb3.5/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.73**	**289**	P	**P**		**06 13 40.2**	**+2.2**
	9.9nm,0.3s,baz=264,slow=23,SNR=30							
MSVF				S	**S**		**06 14 52.1**	**+2.6**
	7.1nm,0.9s,baz=117,slow=20,SNR=1.6							
AFI	**Afiamalu**	**7.53**	**45**	P	**P**		**06 14 04.1**	**+0.5**
	31nm,0.5s,baz=179,slow=1.1,SNR=14							
AFI				S	**S**		**06 15 32.3**	**-4.0**
	15nm,0.3s,baz=221,slow=21,SNR=2.5							
URZ	**Urewera**	**19.48**	**193**	P	**P**		**06 16 00.6**	**-0.8**
	8.6nm,0.6s,baz=50,slow=8.3,SNR=5.0							
CTA	**Charters Tower**	**34.32**	**262**	P	**P**		**06 18 10.9**	**-0.6**
	3.4nm,0.5s,baz=101,slow=11,SNR=6.0							
	3.4nm,0.5s							
WRA	**Warramunga Arr**	**45.47**	**261**	P	**P**		**06 19 40.0**	**-0.8**
	0.7nm,0.4s,baz=97,slow=8.8,SNR=7.3							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**45.47**	**256**	P	**P**		**06 19 39.0**	**-1.9**
	0.7nm,0.4s,baz=87,slow=8.4,SNR=12							
ASAR				PcP	**PcP**		**06 21 07.5**	**-0.7**
	0.1nm,0.4s,baz=112,slow=4.2,SNR=5.3							
ASAR				S	**S**		**06 25 38.7**	**-4.1**
	0.8nm,0.8s,baz=92,slow=15,SNR=7.2							
	0.7nm,0.4s							
TXAR	**Lajitas Array**	**85.84**	**57**	P	**P**		**06 23 54.0**	**+1.7**
	0.3nm,0.6s,baz=216,slow=6.7,SNR=4.0							
	0.3nm,0.6s							
TROLL	**Troll, Antarti**	**88.88**	**180**	P	**P**		**06 24 07.2**	**+1.3**
SNAA	**Sanae**	**89.14**	**178**	P	**P**		**06 24 08.3**	**+1.3**
VNA3	**Neumayer Olymp**	**89.25**	**176**	P	**P**		**06 24 08.9**	**+1.4**
VNA2	**Neumayer--Watz**	**89.69**	**177**	P	**P**		**06 24 11.3**	**+1.8**
	baz=177,slow=5.0							
MKAR	**Makanchi Array**	**110.91**	**314**	PKiKP	**PKiKP**		**06 29 38.4**	**-2.7**
	0.4nm,0.8s,baz=96,slow=1.9,SNR=2.1							
BVAR	**Borovoye Array**	**118.64**	**320**	PKP	**PKPdf**		**06 29 55.2**	**-0.5**
	0.4nm,0.3s,baz=35,slow=2.0,SNR=4.4							
ARCES	**ARCESS Array B**	**127.91**	**350**	PKP	**PKPdf**		**06 30 12.5**	**-0.5**
	2.7nm,0.9s,baz=56,slow=1.6,SNR=4.2							
BRTR	**Keskin Array B**	**146.56**	**314**	PKPbc	**PKPdf**		**06 30 47.5**	**-0.6**
	0.4nm,0.6s,baz=98,slow=2.9,SNR=1.7							
GERES	**GERESS Array B**	**149.27**	**346**	PKPbc	**PKPdf**		**06 30 56.0**	**+3.8**
	0.7nm,0.7s,baz=41,slow=2.5,SNR=4.6							

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*RSPR **24** 06:14:12.5, 18˚.64N×67˚.28W, h70km±1km, MD3.4/18*
*NEIC **24** 06:14:12.6±1.1, 18˚.59N±0˚.07×67˚.28W±0˚.04, h68km±3km, ML3.5/34,Md3.4/42(RSPR), Error ellipse: s-maj=9.9km s-min=4.4km az=192.0*
*OSPL **24** 06:14:14.0±1.7, 18˚.65N×67˚.27W, h66km±14km, ML3.2*

ISC 24 06:14:12.8±1.3,18.74N±0˚.06×67˚.24W±0˚.03,h50km,n77, σ0§98/85,8C-10D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.29**	**156**	⇓*eP*	**Pn**		**06 14 22.5**	**+0.6**
AGPR	**Aguadilla, PR**	**0.29**	**156**	*eS*	**Sn**		**06 14 30.7**	**+2.3**
AGPR	**Aguadilla, PR**	**0.29**	**156**		**Pn**		**06 14 22.5**	**+0.6**
AGPR					**Sn**		**06 14 30.7**	**+2.3**
AGPR	**Aguadilla, PR**	**0.29**	**156**	IAML			06 14 31.3	
	comp=N,5μm,0.3s							
AGPR				IAML			06 14 31.3	
	comp=E,7μm,0.2s							
AGPR	**Aguadilla, PR**	**0.29**	**156**	*i* P	**Pn**		**06 14 24.5**	**+2.6**
AGPR				*eS*	**Sn**		**06 14 30.7**	**+2.3**
AGPR				IAML			06 14 31.5	
	comp=Z,3μm,0.2s							
IDE	**Isla Desecheo**	**0.41**	**213**	⇑*iP*	**Pn**		**06 14 23.2**	**0.0**
IDE	**Isla Desecheo**	**0.41**	**213**	*eS*	**Sn**		**06 14 32.3**	**+1.8**
IDE	**Isla Desecheo**	**0.41**	**213**		**Pn**		**06 14 23.2**	**0.0**
IDE					**Sn**		**06 14 32.3**	**+1.8**
PRSN	**Puerto Rico Se**	**0.53**	**170**		**Pn**		**06 14 24.3**	**-0.1**
LSP	**Las Mesas**	**0.58**	**165**	⇑*eP*	**Pn**		**06 14 25.1**	**0.0**
LSP	**Las Mesas**	**0.58**	**165**	*eS*	**Sn**		**06 14 34.4**	**+0.5**
LSP	**Las Mesas**	**0.58**	**165**		**Pn**		**06 14 25.1**	**0.0**
LSP					**Sn**		**06 14 34.4**	**+0.5**
AOPR	**Arecibo Observ**	**0.60**	**130**	⇓*eP*	**Pn**		**06 14 25.2**	**-0.2**
AOPR	**Arecibo Observ**	**0.60**	**130**		**Pn**		**06 14 25.2**	**-0.2**
AOPR					**Sn**		**06 14 35.4**	**+0.9**
AOPR	**Arecibo Observ**	**0.60**	**130**	IAML			06 14 35.7	
	comp=N,3μm,0.3s							
AOPR				IAML			06 14 37.0	
	comp=E,3μm,0.3s							
AOPR	**Arecibo Observ**	**0.60**	**130**	*eP*	**Pn**		**06 14 25.1**	**-0.2**
AOPR				*eS*	**Sn**		**06 14 35.3**	**+0.9**
UUPR	**Utuado, UPR, P**	**0.69**	**134**	⇑*eP*	**Pn**		**06 14 26.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.69**	**134**		**Pn**		**06 14 26.6**	**+0.1**
EMPR	**Esperanza - Ma**	**0.72**	**111**	⇑*eP*	**Pn**		**06 14 27.2**	**+0.3**
EMPR	**Esperanza - Ma**	**0.72**	**111**	*eS*	**Sn**		**06 14 38.9**	**+1.9**
EMPR	**Esperanza - Ma**	**0.72**	**111**		**Pn**		**06 14 27.2**	**+0.3**
EMPR					**Sn**		**06 14 38.9**	**+1.9**
EMPR	**Esperanza - Ma**	**0.72**	**111**	IAML			06 14 40.4	
	comp=N,1μm,0.1s							
EMPR				IAML			06 14 43.7	
	comp=E,1μm,0.5s							
CRPR	**Cabo Rojo, PR**	**0.74**	**170**	⇓*iP*	**Pn**		**06 14 26.5**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.74**	**170**	*eS*	**Sn**		**06 14 37.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.74**	**170**		**Pn**		**06 14 26.5**	**-0.5**
CRPR					**Sn**		**06 14 37.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.74**	**170**	*i* P	**Pn**		**06 14 26.5**	**-0.5**
CRPR				*eS*	**Sn**		**06 14 37.6**	**+0.2**
CRPR				IAML			06 14 38.4	
	comp=Z,1μm,0.2s							
MLPR	**Magueyes Islan**	**0.79**	**166**	⇓*iP*	**Pn**		**06 14 26.2**	**-1.5**
MLPR	**Magueyes Islan**	**0.79**	**166**	*eS*	**Sn**		**06 14 37.6**	**-0.9**
MLPR	**Magueyes Islan**	**0.79**	**166**		**Pn**		**06 14 26.2**	**-1.5**
MLPR					**Sn**		**06 14 37.6**	**-0.9**
MLPR	**Magueyes Islan**	**0.79**	**166**	IAML			06 14 38.1	
	comp=E,830nm,0.2s							
GBPR	**Guanica, Bosqu**	**0.83**	**156**	⇓*eP*	**Pn**		**06 14 28.0**	**-0.3**
GBPR	**Guanica, Bosqu**	**0.83**	**156**		**Pn**		**06 14 28.0**	**-0.3**
CELP	**Cerrillos**	**0.91**	**136**	⇑*eP*	**Pn**		**06 14 29.1**	**-0.2**
CELP	**Cerrillos**	**0.91**	**136**	*eS*	**Sn**		**06 14 41.9**	**+0.4**
CELP	**Cerrillos**	**0.91**	**136**		**Pn**		**06 14 29.1**	**-0.2**
CELP					**Sn**		**06 14 41.9**	**+0.4**
CELP	**Cerrillos**	**0.91**	**136**	IAML			06 14 43.5	
	comp=E,990nm,0.4s							
CELP				IAML			06 14 44.3	
	comp=N,1μm,0.4s							
OBIP	**Obispado Ponce**	**0.92**	**139**	⇑*eP*	**Pn**		**06 14 29.2**	**-0.2**
OBIP	**Obispado Ponce**	**0.92**	**139**	*eS*	**Sn**		**06 14 42.1**	**+0.5**
OBIP	**Obispado Ponce**	**0.92**	**139**		**Pn**		**06 14 29.2**	**-0.2**
OBIP					**Sn**		**06 14 42.1**	**+0.5**
OBIP	**Obispado Ponce**	**0.92**	**139**	IAML			06 14 42.8	
	comp=N,586nm,0.7s							
PCDR	**Punta Cana, DR**	**1.11**	**259**	⇓*iP*	**Pn**		**06 14 31.1**	**-0.9**
PCDR	**Punta Cana, DR**	**1.11**	**259**	*eS*	**Sn**		**06 14 45.4**	**-0.8**
PCDR	**Punta Cana, DR**	**1.11**	**259**		**Pn**		**06 14 31.1**	**-0.9**
PCDR					**Sn**		**06 14 45.4**	**-0.8**
PCDR	**Punta Cana, DR**	**1.11**	**259**	*i* P	**Pn**		**06 14 31.0**	**-0.9**
PCDR				*eS*	**Sn**		**06 14 45.6**	**-0.6**
PCDR				IAML			06 14 48.5	
	comp=Z,254nm,0.4s							
GCPR	**Guaynabo City**	**1.18**	**111**	⇓*eP*	**Pn**		**06 14 32.3**	**-0.6**
GCPR	**Guaynabo City**	**1.18**	**111**	*eS*	**Sn**		**06 14 47.7**	**-0.2**
GCPR	**Guaynabo City**	**1.18**	**111**		**Pn**		**06 14 32.3**	**-0.6**
GCPR					**Sn**		**06 14 47.7**	**-0.2**
GCPR	**Guaynabo City**	**1.18**	**111**	IAML			06 14 49.9	
	comp=E,772nm,0.5s							
SJG	**San Juan**	**1.21**	**121**		**Pn**		**06 14 32.8**	**-0.5**
SJG				IAML			06 14 50.6	
	comp=E,1μm,0.2s							
IGPR	**InterUniversit**	**1.32**	**125**	⇑*eP*	**Pn**		**06 14 34.5**	**-0.4**
IGPR	**InterUniversit**	**1.32**	**125**	*eS*	**Sn**		**06 14 51.0**	**-0.3**
IGPR	**InterUniversit**	**1.32**	**125**		**Sn**		**06 14 51.0**	**-0.3**
CBYP	**Canovanas**	**1.39**	**109**	⇑*eP*	**Pn**		**06 14 35.5**	**-0.5**
CBYP	**Canovanas**	**1.39**	**109**	*eS*	**Sn**		**06 14 53.3**	**+0.1**
CBYP	**Canovanas**	**1.39**	**109**		**Pn**		**06 14 35.5**	**-0.5**
CBYP					**Sn**		**06 14 53.3**	**+0.1**
HUMP	**Col San Antoni**	**1.45**	**114**	⇓*eP*	**Pn**		**06 14 36.3**	**-0.3**
HUMP	**Col San Antoni**	**1.45**	**114**	*eS*	**Sn**		**06 14 54.7**	**+0.3**
HUMP	**Col San Antoni**	**1.45**	**114**		**Pn**		**06 14 36.3**	**-0.3**
HUMP					**Sn**		**06 14 54.7**	**+0.3**
HUMP	**Col San Antoni**	**1.45**	**114**	IAML			06 14 55.7	
	comp=N,916nm,0.2s							
MTP	**Monte Pirata**	**1.72**	**111**	⇓*eP*	**Pn**		**06 14 40.1**	**-0.3**
MTP	**Monte Pirata**	**1.72**	**111**	*eS*	**Sn**		**06 15 01.8**	**+0.6**
MTP	**Monte Pirata**	**1.72**	**111**		**Pn**		**06 14 40.1**	**-0.3**
MTP					**Sn**		**06 15 01.8**	**+0.6**
MTP	**Monte Pirata**	**1.72**	**111**	IAML			06 15 03.5	
	comp=E,275nm,0.2s							
MTP				IAML			06 15 04.3	
	comp=N,193nm,0.2s							
CUPR	**Culebra, Puert**	**1.90**	**103**	⇓*eP*	**Pn**		**06 14 42.1**	**-0.8**
CUPR	**Culebra, Puert**	**1.90**	**103**	*eS*	**Sn**		**06 15 05.3**	**-0.4**
CUPR	**Culebra, Puert**	**1.90**	**103**		**Pn**		**06 14 42.1**	**-0.8**
CUPR					**Sn**		**06 15 05.3**	**-0.4**
CDVI	**St. Croix**	**2.54**	**112**	⇑*eP*	**Pn**		**06 14 51.7**	**0.0**
CDVI	**St. Croix**	**2.54**	**112**		**Pn**		**06 14 51.7**	**0.0**
CDVI	**St. Croix**	**2.54**	**112**	IAML			06 15 28.4	
	comp=N,223nm,0.6s							
CDVI				IAML			06 15 33.4	
	comp=E,290nm,0.5s							
SC01	**Santiago de lo**	**3.37**	**282**	Pn	**Pn**		**06 15 02.3**	**-0.7**
SC01				IAML			06 15 57.8	
	comp=N,173nm,0.6s							
SDDR	**Presa de Saban**	**3.84**	**274**		**Pn**		**06 15 11.5**	**+2.0**
SDDR				IAML			06 16 05.8	
	comp=N,49nm,0.7s							
SDDR				IAML			06 16 07.2	
	comp=N,55nm,0.9s							
SDDR	**Presa de Saban**	**3.84**	**274**	*eP*	**Pn**		**06 15 13.2**	**+3.7**
SDDR	**Presa de Saban**	**3.84**	**274**	*eS*	Sn		06 16 02.2	+8.8
ANWB	**Willy Bob**	**5.29**	**101**	*eP*	**Pn**		**06 15 28.6**	**-0.8**
ANWB	**Willy Bob**	**5.29**	**101**	*eS*	**Sn**		**06 16 28.1**	**-1.0**
ANBD	**Bethesda, Anti**	**5.47**	**107**	*eP*	**Pn**		**06 15 32.6**	**+0.7**
ANBD	**Bethesda, Anti**	**5.47**	**107**	*eS*	**Sn**		**06 16 32.3**	**-1.3**

IDC 24 06:23:59.4±2.6,53˚.69N×86˚.91E,h0km,mbtmp2.9/2, ML2.6/2,Error ellipse: s-maj=23.3km s-min=13.2km az=71.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**282**	I	I		06 33 30.0	
	0.1nm,1.1s,baz=99,slow=351,SNR=7.0							
ZALV	**Zalesovo Beam**	**1.26**	**282**	Pg	Pg		06 24 23.3	-0.4
	0.5nm,0.3s,baz=100,slow=17,SNR=15							
ZALV				Lg	Lg		06 24 39.9	
	1.2nm,0.3s,baz=103,slow=25,SNR=12							
ZALV				Rg	Rg		06 24 51.2	
	1.6nm,0.2s,baz=97,slow=26,SNR=8.2							
KURBB	**Kurchatov Arra**	**6.00**	**243**	Pn	Pn		06 25 30.7	+1.3
	0.1nm,0.3s,baz=62,slow=15,SNR=2.0							
KURBB				Lg	Lg		06 27 09.4	
	baz=59,slow=32,SNR=1.2							
	0.9nm,0.4s							
MKAR	**Makanchi Array**	**7.51**	**205**	Pn	Pn		06 25 51.7	+1.5
	0.1nm,0.3s,baz=28,slow=14,SNR=9.4							
MKAR				Sn	Sn		06 27 14.7	-1.4
	baz=26,slow=27,SNR=2.5							
MKAR				Lg	Lg		06 27 56.4	
	baz=22,slow=31,SNR=2.5							
	0.2nm,0.3s							

IDC 24 07:06:44.1±3.2,53˚.70N×87˚.42E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=30.4km s-min=16.8km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**280**	I	I		07 17 10.0	
	baz=100,slow=349,SNR=3.4							
ZALV	**Zalesovo Beam**	**1.56**	**280**	Pg	Pn		07 07 12.0	-1.1
	0.7nm,0.3s,baz=95,slow=18,SNR=11							
ZALV				Lg	Lg		07 07 33.9	
	0.7nm,0.3s,baz=96,slow=26,SNR=7.1							
ZALV				Rg	Rg		07 07 42.3	
	0.5nm,0.3s,baz=102,slow=28,SNR=1.7							
KURBB	**Kurchatov Arra**	**6.28**	**244**	Pn	Pn		07 08 18.2	+0.3
	0.1nm,0.3s,baz=61,slow=14,SNR=4.0							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**7.66**	**207**	Pn	Pn		07 08 38.3	+1.5
	baz=27,slow=14,SNR=5.5							
	0.1nm,0.4s							

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*SOME **24** 07:11:11.3,50˚.68N×82˚.45E,h0km*
*NNC **24** 07:11:24.4±1.3,50˚.02N×81˚.99E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=17.7km s-min=4.0km az=46.0, Suspected Mining explosion.*

ISC 24 07:11:16.6±2.1,50˚.1N±0˚.1×82˚.3E±0˚.1,h0km,n7,σ1§03/11, 4C-2D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.37**	**283**	*eP*	**Pg**		**07 11 40.8**	**-2.1**
	5.5nm,0.1s							
SEM				*eS*	**Sn**		**07 12 02.3**	**+0.1**
	20nm,0.1s							
KURK	**Kurchatov**	**2.46**	**286**	⇑Pn	**Pg**		**07 12 03.0**	**-0.6**
	5.5nm,0.8s							
KURK				⇑Sn	**Sb**		**07 12 32.8**	**+0.5**
	9.8nm,0.5s							
KURBB	**Kurchatov Arra**	**2.49**	**283**	⇓Pn	**Pb**		**07 12 03.3**	**+1.1**
	4.1nm,0.6s							
KURBB				⇑Sn	**Sb**		**07 12 33.7**	**+0.3**
	14nm,0.7s							
ZSN	**Zaisan**	**3.15**	**147**	*ePg*	**Pg**		**07 12 16.5**	**-0.4**
	2.7nm,0.2s							
ZSN				*eLg*	Lg		07 13 03.3	
	7.0nm,0.2s							
MK31	**Makanchi Array**	**3.32**	**181**	⇑Pn	**Pb**		**07 12 16.6**	**+0.2**
	0.4nm,0.4s,baz=353,slow=13,SNR=15							
MK31				⇓Sn	**Sb**		**07 12 56.6**	**-0.8**
	1.9nm,0.4s,baz=352,slow=30,SNR=9.8							
DJR	**Jarkent**	**6.04**	**198**	*ePg*	**Pg**		**07 13 12.3**	**0.0**
	0.8nm,0.8s							
DJR				*eLg*	Lg		07 14 39.6	
	2.4nm,0.6s							
BRZS	**Berezniki**	**6.23**	**272**	*ePg*	**Pb**		**07 13 06.9**	**+1.1**
	0.8nm,0.2s							
BRZS				*eLg*	Lg		07 14 29.8	
	3.7nm,0.2s							

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*IDC **24** 07:23:04.2±1.2,24˚.98N×125˚.16E,h0km,mb3.6/5, mbtmp3.6/6,ML3.1/1,MS3.4/1,Error ellipse: s-maj=30.9km s-min=22.5km az=66.0*
*JMA **24** 07:23:05.2±0.2,24˚.N±1˚×125˚.3E±0˚.6,h42km±4km, MV3.3/11,NEAR MIYAKOJIMA ISLAND*

ISC 24 07:23:01.5±2.0,24˚.10N±0˚.09×125˚.43E±0˚.07,h27km±13km, n17,σ1§18/25,mb3.7/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.65**	**351**	P	**Pn**		**07 23 16.2**	**+1.4**
JMJ2				S	**Sn**		**07 23 24.5**	**+0.3**
JOGS	**Gusukube**	**0.66**	**358**	*i* P	**Pn**		**07 23 16.7**	**+1.7**
JOGS				S	**Sn**		**07 23 25.5**	**+1.0**
JIRB	**Irabujima**	**0.76**	**342**	P	**Pn**		**07 23 17.4**	**+1.0**
JIRB				S	**Sn**		**07 23 26.3**	**-0.8**
JIKM	**Ikemajima**	**0.84**	**348**	P	**Pn**		**07 23 18.9**	**+1.5**
JIKM				S	**Sn**		**07 23 28.8**	**-0.1**
JTJ	**Tarama**	**0.86**	**309**	P	**Pn**		**07 23 18.5**	**+0.8**
JTJ				S	**Sb**		**07 23 28.3**	**-0.6**
JISG	**Ishigakijimahi**	**1.13**	**296**	P	**Pb**		**07 23 22.6**	**+0.2**
JISG				S	**Sb**		**07 23 35.4**	**-1.4**
JIJ	**Ishigaki jima**	**1.21**	**283**	P	**Pb**		**07 23 24.3**	**+0.7**
JIJ				eS	**Sb**		**07 23 37.5**	**-1.3**
JKRS	**Kuro-shima**	**1.31**	**276**	P	**Pb**		**07 23 26.2**	**+0.8**
JKRS				S	**Sb**		**07 23 42.0**	**+0.3**
HATJ	**Hateruma jima**	**1.49**	**269**	P	**Pb**		**07 23 28.2**	**-0.2**
HATJ				S	**Sn**		**07 23 44.9**	**0.0**
IRIF	**Iriomote-Funau**	**1.57**	**279**	P	**Pb**		**07 23 29.4**	**-0.5**
IRIF				S	**Sn**		**07 23 47.7**	**+0.6**
JOW	**Kunigami**	**3.74**	**43**	Pn	**Pn**		**07 23 59.0**	**+1.5**
	3.8nm,0.3s,baz=232,slow=17,SNR=5.9							
JOW				Sn	**Sn**		**07 24 38.5**	**-2.1**
	2.3nm,0.3s,baz=326,slow=28,SNR=1.4							
	13nm,0.4s							
SIJI	**Sorong**	**25.46**	**166**	LR	LR		07 37 24.8	
	comp=Z,82nm,20.9s,baz=97,slow=33							
SONM	**Songino Array**	**28.11**	**332**	P	**P**		**07 28 48.9**	**-2.2**
	0.2nm,0.4s,baz=136,slow=11,SNR=1.9							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**41.14**	**314**	P	**P**		**07 30 44.3**	**+1.0**
	0.9nm,0.5s,baz=100,slow=9.9,SNR=23							
	0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**42.48**	**325**	P	**P**		**07 30 53.5**	**-0.6**
	0.6nm,0.4s,baz=101,slow=7.8,SNR=2.9							
	0.6nm,0.4s							
WRA	**Warramunga Arr**	**44.63**	**168**	P	P		07 31 25.7	+14
	1.2nm,1.1s,baz=347,slow=8.8,SNR=1.2							
	1.2nm,1.1s							
ASAR	**Alice Springs**	**48.19**	**170**	P	P		07 31 53.3	+14
	0.4nm,0.8s,baz=354,slow=11,SNR=2.1							
	0.4nm,0.8s							

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*IDC **24** 07:24:15.4±1.2,2˚.56N×125˚.51E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=143.6km s-min=18.7km az=67.0*
*NEIC **24** 07:24:25.2±1.4,2˚.2N±0˚.1×124˚.8E±0˚.2,h66km±12km, mb4.3/7,Error ellipse: s-maj=25.5km s-min=9.6km az=119.0*

ISC 24 07:24:20.7±0.9,2˚.4N±0˚.1×125˚.1E±0˚.2,h35km,n16, σ0§81/16,mb4.0/9,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**4.10**	**214**	Pn	**Pn**		**07 25 20.5**	**-0.4**
KNRA	**Kununurra**	**18.29**	**169**	P	**Pn**		**07 28 32.2**	**+0.4**
KNRA				IAmb	IAmb		07 28 37.8	
	comp=Z,32nm,1.3s							
WB0	**Warramunga Arr**	**23.82**	**158**	P	**P**		**07 29 30.2**	**-0.4**
WB0				IAmb	IAmb		07 29 30.8	
	comp=Z,8.5nm,0.5s							
WRA	**Warramunga Arr**	**23.96**	**158**	P	**P**		**07 29 31.8**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=337,slow=11,SNR=22							
	comp=Z,2.2nm,0.5s							
WB2	**Warramunga Arr**	**23.96**	**158**	P	**P**		**07 29 32.3**	**+0.3**
WB2				IAmb	IAmb		07 30 02.1	
	comp=Z,23nm,1.5s							
WR0	**Warramunga Arr**	**24.05**	**158**	P	**P**		**07 29 33.2**	**+0.4**
WR0				IAmb	IAmb		07 29 35.7	
	comp=Z,8.7nm,1.2s							
PSA00	**Pilbara Seismi**	**24.34**	**192**	P	**P**		**07 29 35.1**	**-0.3**
ASAR	**Alice Springs**	**27.26**	**162**	P	**P**		**07 30 03.0**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=343,slow=9.1,SNR=12							
	comp=Z,0.4nm,0.4s							
ASAR	**Alice Springs**	**27.26**	**162**	P	**P**		**07 30 03.1**	**+1.2**
STKA	**Stephens Creek**	**37.49**	**157**	P	**P**		**07 31 30.7**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=318,slow=9.7,SNR=9.4							
	comp=Z,4.1nm,0.7s							
**STK

IDC 24 07:52:20.1±306.0, 30°19N×137°15E, h0km, Error ellipse: s-maj=128.1km s-min=111.7km az=58.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**5.75**	**27**	I	I	08 28 00.0	
	0.1nm,0.8s,baz=207,slow=326,SNR=2.7						
I45RU	**USSURIYSK INFR**	**14.57**	**345**	I	I	09 21 15.7	
	0.1nm,8.3s,baz=164,slow=300,SNR=2.8						
I39PW	**PALAU INFRASON**	**22.67**	**187**	I	I	10 11 25.0	
	baz=6.0,slow=310						
I44RU	**PETROPAVLOVSK**	**27.38**	**27**	I	I	10 40 30.0	
	0.1nm,0.8s,baz=224,slow=342,SNR=0.1						

TAP ***24*** *07:52:48.7, 24°78N×122°59E, h118km, ML3.7, B*
JMA ***24*** *07:52:48.6±0.2, 25°N±2°×122°6E±0°6, h117km±2km, MV2.9/12, NW OFF ISHIGAKIJIMA IS*

ISC 24 07:52:49.6±1.5, 24°71N±0°04×122°59E±0°02, h112km±8km, n77, σ0°57/153, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.42**	**128**	P	**Pn**	**07 53 06.1**	**0.0**
JYNG				*e*S	**Sn**	**07 53 19.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.46**	**123**	P	**Pn**	**07 53 06.5**	**+0.1**
YOJ				*e*S	**Sn**	**07 53 19.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.46**	**123**	*e*P	**Pn**	**07 53 06.5**	**+0.1**
	baz=136						
YOJ				*e*S	**Sn**	**07 53 19.7**	**+0.7**
	baz=136						
EGS		**0.61**	**283**	*e*P	**Pn**	**07 53 07.7**	**+0.3**
	baz=269						
EGS				S	**Sn**	**07 53 20.4**	**-0.5**
	baz=269						
TWB1	**Santiao Chiao**	**0.62**	**299**	*e*P	**Pn**	**07 53 07.4**	**0.0**
	baz=294						
TWB1				*e*S	**Sn**	**07 53 21.1**	**+0.2**
	baz=294						
TWC	**Suao**	**0.68**	**262**	P	**Pn**	**07 53 07.6**	**-0.3**
	baz=252						
TWC				S	**Sn**	**07 53 21.3**	**-0.5**
	baz=252						
TIPB	**Shuangxi**	**0.74**	**291**	*e*P	**Pn**	**07 53 08.5**	**0.0**
	baz=282						
TIPB				*i* S	**Sn**	**07 53 22.6**	**-0.1**
	baz=282						
SXI1	**Grass Mountain**	**0.75**	**301**	*i* P	**Pn**	**07 53 08.5**	**-0.2**
	baz=292						
SXI1				*e*S	**Sn**	**07 53 22.8**	**-0.3**
	baz=292						
ILA	**Ilan**	**0.76**	**274**	*e*P	**Pn**	**07 53 07.6**	**-1.1**
	baz=264						
ILA				S	**Sn**	**07 53 23.8**	**+0.7**
	baz=264						
EWUT	**Wuta**	**0.78**	**250**	*e*P	**Pn**	**07 53 09.1**	**+0.3**
	baz=246						
EWUT				S	**Sn**	**07 53 24.2**	**+0.9**
	baz=246						
NDS	**Dongshan**	**0.80**	**265**	P	**Pn**	**07 53 09.2**	**+0.3**
	baz=258						
NDS				*e*S	**Sn**	**07 53 23.7**	**+0.1**
	baz=258						
NWF	**Wu-fen Shan**	**0.81**	**296**	*i* P	**Pn**	**07 53 09.1**	**-0.2**
	baz=287						
NWF				*e*S	**Sn**	**07 53 24.1**	**+0.1**
	baz=287						
WFSB	**Wu-fen Shan**	**0.81**	**296**	P	**Pn**	**07 53 09.2**	**+0.1**
	baz=287						
WFSB				S	**Sn**	**07 53 24.0**	**+0.1**
	baz=287						
ENA	**Nanau**	**0.82**	**250**	P	**Pn**	**07 53 09.4**	**+0.2**
	baz=242						
ENA				*e*S	**Sn**	**07 53 24.7**	**+0.7**
	baz=242						
TWE	**Neicheng**	**0.84**	**271**	P	**Pn**	**07 53 09.4**	**+0.1**
	baz=263						
TWE				*e*S	**Sn**	**07 53 24.3**	**+0.1**
	baz=263						
FUSB	**Fushanzhiwuyua**	**0.91**	**273**	*i* P	**Pn**	**07 53 09.9**	**-0.2**
	baz=269						
FUSB				*i* S	**Sn**	**07 53 24.9**	**-0.7**
	baz=269						
ENTT	**Nioudou**	**0.93**	**266**	*e*P	**Pn**	**07 53 10.5**	**+0.2**
	baz=265						
ENTT				S	**Sn**	**07 53 26.2**	**+0.4**
	baz=265						
TWA	**Mucha**	**0.95**	**287**	P	**Pn**	**07 53 10.1**	**-0.4**
	baz=275						
TWA				S	**Sn**	**07 53 25.6**	**-0.6**
	baz=275						
LATG	**Datong**	**0.98**	**260**	*e*P	**Pn**	**07 53 11.1**	**+0.2**
	baz=251						
LATG				*e*S	**Sn**	**07 53 27.8**	**+0.9**
	baz=251						
NWLT	**Wulai**	**0.99**	**274**	*i* P	**Pn**	**07 53 10.5**	**-0.3**
	baz=276						
NWLT				*e*S	**Sn**	**07 53 27.4**	**+0.4**
	baz=276						
NHDH	**Xindian Distri**	**1.00**	**285**	P	**Pn**	**07 53 10.6**	**-0.3**
	baz=273						
NHDH				*e*S	**Sn**	**07 53 26.2**	**-0.8**
	baz=273						
YM01	**YM01**	**1.02**	**295**	*i* P	**Pn**	**07 53 11.1**	**-0.1**
	baz=284						
YM01				S	**Sn**	**07 53 27.1**	**-0.4**
	baz=284						
YM08	**YM08**	**1.02**	**298**	P	**Pn**	**07 53 10.9**	**-0.3**
	baz=287						
YM08				*e*S	**Sn**	**07 53 26.6**	**-0.9**
	baz=287						
PCYT	**Pengchaiyu**	**1.03**	**333**	*i* P	**Pn**	**07 53 10.6**	**-0.6**
	baz=333						
TATO	**Taipei**	**1.03**	**285**	P	**Pn**	**07 53 10.8**	**-0.4**
	baz=281						
TATO				*e*S	**Sn**	**07 53 26.4**	**-1.2**
	baz=281						
ETL	**Fush Village**	**1.03**	**238**	*i* P	**Pn**	**07 53 11.4**	**0.0**
	baz=235						
ETL				S	**Sn**	**07 53 27.6**	**-0.2**
	baz=235						
NACB	**Ninganchiao**	**1.05**	**240**	P	**Pn**	**07 53 11.3**	**-0.2**
	baz=237						
NACB				S	**Sn**	**07 53 27.6**	**-0.4**
	baz=237						
TWY	**Chenhua**	**1.06**	**302**	*i* P	**Pn**	**07 53 11.4**	**-0.1**
	baz=299						
TWY				*e*S	**Sn**	**07 53 28.6**	**+0.5**
	baz=299						
TWD	**Chiawan**	**1.10**	**235**	*i* P	**Pn**	**07 53 11.6**	**-0.3**
	baz=229						
TWD				*i* S	**Sn**	**07 53 28.8**	**-0.1**
	baz=229						
YHNB	**Yeheng**	**1.10**	**268**	P	**Pn**	**07 53 12.3**	**+0.2**
	baz=270						
YHNB				*e*S	**Sn**	**07 53 29.3**	**+0.2**
	baz=270						
IRIF	**Iriomote-Funau**	**1.11**	**110**	P	**Pn**	**07 53 11.7**	**-0.3**
IRIF				S	**Sn**	**07 53 28.9**	**-0.1**
NSK	**Sanguang**	**1.12**	**268**	P	**Pn**	**07 53 12.4**	**+0.1**
	baz=270						
NSK				*i* S	**Sn**	**07 53 29.3**	**-0.1**
	baz=270						
ETLH	**Xiulin Townshi**	**1.12**	**244**	P	**Pn**	**07 53 12.1**	**-0.3**
	baz=236						
ETLH				*i* S	**Sn**	**07 53 29.6**	**0.0**
	baz=236						
NTST	**Danshui**	**1.13**	**294**	P	**Pn**	**07 53 12.0**	**-0.2**
	baz=284						
NTST				S	**Sn**	**07 53 29.1**	**-0.4**
	baz=284						
TWS1	**Kuangyinshan**	**1.13**	**290**	*i* P	**Pn**	**07 53 12.2**	**-0.1**
	baz=280						
TWS1				S	**Sn**	**07 53 29.1**	**-0.3**
	baz=280						
NNSB	**Datong**	**1.13**	**256**	P	**Pn**	**07 53 12.6**	**+0.2**
	baz=248						
NNSB				S	**Sn**	**07 53 30.0**	**+0.3**
	baz=248						
NNSH	**Datong**	**1.13**	**256**	P	**Pn**	**07 53 12.5**	**+0.1**
	baz=249						
NNSH				S	**Sn**	**07 53 29.8**	**+0.1**
	baz=249						
NNS	**Nan Shan**	**1.14**	**257**	P	**Pn**	**07 53 12.7**	**+0.1**
	baz=248						
NNS				*e*S	**Sn**	**07 53 30.1**	**+0.2**
	baz=248						
ETM	**Tongmen**	**1.24**	**234**	P	**Pn**	**07 53 13.1**	**-0.4**
	baz=225						
ETM				*e*S	**Sn**	**07 53 31.1**	**-0.6**
	baz=225						
HATJ	**Hateruma jima**	**1.29**	**120**	P	**Pn**	**07 53 14.4**	**+0.3**
HATJ				*e*S	**Sn**	**07 53 33.7**	**+1.1**
NCU	**National Centr**	**1.30**	**282**	P	**Pn**	**07 53 13.6**	**-0.6**
	baz=279						
NCU				*e*S	**Sn**	**07 53 33.6**	**+0.8**
	baz=279						
FUSS	**Fushou**	**1.31**	**250**	P	**Pn**	**07 53 14.5**	**0.0**
	baz=243						
FUSS				*i* S	**Sn**	**07 53 33.1**	**-0.3**
	baz=243						
WHF	**Hehuan Shan**	**1.33**	**245**	P	**Pn**	**07 53 15.0**	**0.0**
	baz=242						
WHF				S	**Sn**	**07 53 33.9**	**-0.3**
	baz=242						
NFF	**Wufeng Townshi**	**1.34**	**267**	P	**Pn**	**07 53 14.5**	**-0.2**
	baz=267						
NFF				*i* S	**Sn**	**07 53 33.7**	**0.0**
	baz=267						
TWT	**Tachien**	**1.36**	**251**	*e*P	**Pn**	**07 53 15.9**	**+0.8**
	baz=242						
TWT				*e*S	**Sn**	**07 53 35.0**	**+0.6**
	baz=242						
TDCB	**Techi**	**1.38**	**251**	*e*P	**Pn**	**07 53 15.9**	**+0.7**
	baz=242						
TDCB				S	**Sn**	**07 53 34.7**	**0.0**
	baz=242						
ESL	**Shilin**	**1.38**	**230**	P	**Pn**	**07 53 14.8**	**-0.4**
	baz=236						
ESL				S	**Sn**	**07 53 33.8**	**-0.7**
	baz=236						
JKRS	**Kuro-shima**	**1.38**	**110**	P	**Pn**	**07 53 15.3**	**+0.2**
JKRS				S	**Sn**	**07 53 34.8**	**+0.3**
LIOB	**Emei**	**1.43**	**268**	*i* P	**Pn**	**07 53 15.8**	**+0.1**
	baz=265						
LIOB				*i* S	**Sn**	**07 53 35.6**	**+0.1**
	baz=265						
CHGB	**Renai**	**1.44**	**244**	*e*P	**Pn**	**07 53 16.4**	**+0.4**
	baz=241						
CHGB				*e*S	**Sn**	**07 53 36.5**	**+0.3**
	baz=241						
NSTT	**Nanjuang**	**1.44**	**267**	*e*P	**Pn**	**07 53 15.3**	**-0.5**
	baz=264						
NSTT				*e*S	**Sn**	**07 53 35.2**	**-0.6**
	baz=264						
SBCB	**Hsinchu**	**1.46**	**274**	*i* P	**Pn**	**07 53 16.2**	**+0.2**
	baz=271						
SBCB				S	**Sn**	**07 53 36.5**	**+0.5**
	baz=271						
JIJ	**Ishigaki jima**	**1.46**	**103**	P	**Pn**	**07 53 15.7**	**-0.3**
JIJ				S	**Sn**	**07 53 35.3**	**-0.8**
HSN	**Hsinchu**	**1.47**	**274**	P	**Pn**	**07 53 16.4**	**+0.2**
	baz=263						
HSN				*i* S	**Sn**	**07 53 35.6**	**-0.8**
	baz=263						
EGFH	**Guangfu**	**1.48**	**226**	P	**Pn**	**07 53 16.0**	**-0.3**
	baz=219						
EGFH				*e*S	**Sn**	**07 53 35.9**	**-0.7**
	baz=219						
OWD	**Renai**	**1.49**	**240**	*i* P	**Pn**	**07 53 16.5**	**-0.1**
	baz=234						
OWD				*e*S	**Sn**	**07 53 36.0**	**-1.0**
	baz=234						
WUSB	**Renai**	**1.52**	**242**	P	**Pn**	**07 53 17.4**	**+0.5**
	baz=240						
WUSB				S	**Sn**	**07 53 37.5**	**-0.1**
	baz=240						
WHP	**Taichung City**	**1.56**	**254**	*e*P	**Pn**	**07 53 18.1**	**+0.8**
	baz=260						
WHP				*e*S	**Sn**	**07 53 39.0**	**+0.7**
	baz=260						
JISG	**Ishigakijimahi**	**1.57**	**94**	*e*P	**Pn**	**07 53 17.1**	**-0.3**
JISG				*e*S	**Sn**	**07 53 37.7**	**-0.9**
HGSD	**Ruisui**	**1.61**	**221**	P	**Pn**	**07 53 17.8**	**0.0**
	baz=220						
HGSD				S	**Sn**	**07 53 39.7**	**+0.3**
	baz=220						
VWDT	**VWDT**	**1.63**	**234**	P	**Pn**	**07 53 18.4**	**+0.3**
	baz=229						
VWDT				S	**Sn**	**07 53 39.9**	**+0.2**
	baz=229						
NMLH	**Miaoli**	**1.64**	**264**	P	**Pn**	**07 53 18.8**	**+0.5**
	baz=262						
NMLH				*i* S	**Sn**	**07 53 40.1**	**+0.1**
	baz=262						
EHY	**Hungye**	**1.67**	**224**	*e*P	**Pn**	**07 53 17.7**	**-0.8**
	baz=217						
EHY				*e*S	**Sn**	**07 53 38.9**	**-1.7**
	baz=217						
TWQ1	**Liyutan**	**1.69**	**258**	*e*P	**Pn**	**07 53 19.8**	**+1.0**
	baz=255						
TWQ1				*e*S	**Sn**	**07 53 41.8**	**+0.7**
	baz=255						
SMLT	**Sun Moon Lake**	**1.75**	**242**	*e*P	**Pn**	**07 53 20.8**	**+1.2**
	baz=236						
SMLT				*e*S	**Sn**	**07 53 43.6**	**+1.2**
	baz=236						
SSLB	**Suanglung**	**1.75**	**239**	*e*P	**Pn**	**07 53 20.8**	**+1.2**
	baz=234						
SSLB				*e*S	**Sn**	**07 53 43.5**	**+1.1**
	baz=234						
YULB	**Yu-li**	**1.76**	**222**	*e*P	**Pn**	**07 53 18.8**	**-0.9**
	baz=227						
YULB				*e*S	**Sn**	**07 53 41.6**	**-1.1**
	baz=227						
TYC	**Yuchr**	**1.77**	**243**	*e*P	**Pn**	**07 53 21.0**	**+1.2**
	baz=241						
TYC				*e*S	**Sn**	**07 53 43.5**	**+0.7**
	baz=241						
EYUL	**Yuli**	**1.78**	**221**	*i* P	**Pn**	**07 53 20.2**	**+0.2**
	baz=227						
EYUL				*e*S	**Sn**	**07 53 44.6**	**+1.5**
	baz=227						
TWF1	**Yuli**	**1.79**	**221**	P	**Pn**	**07 53 19.6**	**-0.5**
	baz=226						
TWF1				*e*S	**Sn**	**07 53 42.3**	**-1.0**
	baz=226						
FULB	**Fuli**	**1.91**	**218**	P	**Pn**	**07 53 21.5**	**-0.1**
	baz=212						
FULB				S	**Sn**	**07 53 46.3**	**+0.2**
	baz=212						
JTJ	**Tarama**	**1.93**	**92**	P	**Pn**	**07 53 21.8**	**+0.1**
JTJ				*e*S	**Sn**	**07 53 45.0**	**-1.2**
EHD	**Haiduan**	**2.00**	**219**	*i* P	**Pn**	**07 53 22.9**	**+0.1**
	baz=226						
EHD				S	**Sn**	**07 53 47.4**	**-0.6**
	baz=226						
EDH	**Donghe**	**2.09**	**214**	P	**Pn**	**07 53 23.2**	**-0.6**
	baz=209						
EDH				*e*S	**Sn**	**07 53 48.9**	**-1.1**
	baz=209						
LDUT	**Ludao**	**2.27**	**207**	P	**Pn**	**07 53 25.7**	**-0.4**
	baz=209						
LDUT				S	**Sn**	**07 53 53.4**	**-0.7**
	baz=209						
JMJ	**Miyako jima 2**	**2.46**	**87**	*e*P	**Pn**	**07 53 29.7**	**+1.1**
	baz=89						
JMJ				*e*S	**Sn**	**07 53 59.0**	**+0.5**
	baz=89						
JMJ2	**Miyako jima3**	**2.49**	**89**	P	**Pn**	**07 53 29.3**	**+0.3**
JMJ2				*e*S	**Sn**	**07 53 59.2**	**0.0**

IDC ***24*** *08:00:08.3±3.4, 29°93S×179°35W, h501km±44km, mb3.1/4, mbtmp4.2/5, Error ellipse: s-maj=106.9km s-min=15.9km az=168.0*

ISC 24 08:00:08.2±2.0, 30°0S±0°8×179°4W±0°2, h500km, n7, σ0°22/6, mb3.8/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**19.67**	**68**	P	**P**	**08 04 03.8**	**0.0**
	12nm,0.4s,baz=337,slow=20,SNR=7.8						
CTA	**Charters Tower**	**32.58**	**280**	P	**P**	**08 05 58.0**	**+0.2**
	1.8nm,0.4s,baz=97,slow=9.6,SNR=5.8						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**33.44**	**257**	P	**P**	**08 06 05.0**	**+0.1**
	1.5nm,0.5s,baz=101,slow=10,SNR=2.9						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**41.97**	**267**	P	**P**	**08 07 14.8**	**-0.1**
	0.4nm,0.4s,baz=108,slow=7.4,SNR=13						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.91**	**272**	P	**P**	**08 07 22.1**	**-0.3**
	1.4nm,0.4s,baz=111,slow=7.6,SNR=9.0						
	1.4nm,0.4s						
FINES	**FINESS Array B**	**144.34**	**339**	PKP	PKPbc	08 18 44.7	-1.2
	3.7nm,0.5s,baz=56,slow=3.5,SNR=26						
AKASG	**Malin Array Be**	**150.25**	**322**	PKPbc	**PKPbc**	**08 19 02.1**	**+0.1**
	1.1nm,0.5s,baz=47,slow=2.6,SNR=7.4						

IDC 24 08:01:32.0±1.5, 2°76N×126°07E, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=80.0km s-min=23.4km az=60.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.32**	**125**	Pn	Pn	08 03 05.2	-1.4
	1.5nm,0.3s,baz=304,slow=16,SNR=4.3						
	9.8nm,0.5s						
WRA	**Warramunga Arr**	**23.97**	**161**	P	P	08 06 48.4	0.0
	1.8nm,0.5s,baz=337,slow=11,SNR=16						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**27.35**	**164**	P	P	08 07 19.3	+0.3
	0.3nm,0.4s,baz=347,slow=12,SNR=5.7						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**37.47**	**158**	P	P	08 08 47.7	+0.3
	3.2nm,0.7s,baz=316,slow=7.8,SNR=8.2						
	3.2nm,0.7s						
MKAR	**Makanchi Array**	**57.98**	**326**	P	P	08 11 26.1	-0.4
	0.3nm,0.5s,baz=114,slow=8.3,SNR=5.5						
	0.3nm,0.5s						

IDC ***24*** *08:10:48.1±0.8, 2°79N×126°01E, h0km, mb4.1/6, mbtmp4.1/7, ML3.9/1, MS2.8/3, Error ellipse: s-maj=57.1km s-min=17.0km az=69.0*
NEIC ***24*** *08:10:56.5±2.4, 3°0N±0°1×126°6E±0°1, h48km±6km, mb4.4/17, Error ellipse: s-maj=17.4km s-min=11.6km az=224.0*

ISC 24 08:10:57.1±0.6, 2°91N±0°09×126°5E±0°1, h63km, n35, σ1°44/33, mb4.3/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.29**	**158**		**Pn**	**08 11 30.3**	**-2.3**
TOLI2	**Tolitoli**	**6.00**	**253**	Pn	**Pn**	**08 12 22.5**	**-0.9**
SIJI	**Sorong**	**6.05**	**128**	Pn	**Pn**	**08 12 23.4**	**-0.7**
	2.8nm,0.3s,baz=353,slow=13,SNR=4.1						
	11nm,0.5s						
FAKI	**Fak Fak**	**8.15**	**135**	Pn	**Pn**	**08 12 51.6**	**-1.2**
MTN	**Manton Dam**	**16.31**	**164**	Pn	**Pn**	**08 14 40.2**	**-2.1**
MTN				IAmb	IAmb	08 14 43.3	
	comp=Z,48nm,1.2s						
KNRA	**Kununurra**	**18.60**	**173**	P	**Pn**	**08 15 11.1**	**+0.7**
KNRA				IAmb	IAmb	08 15 16.1	
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.89**	**182**	P	Pn	08 15 37.4	-0.1
WB0	**Warramunga Arr**	**23.83**	**161**	P	**P**	**08 16 01.8**	**-2.8**
JOW	**Kunigami**	**23.84**	**4**	LR	LR	08 25 09.5	
	comp=Z,35nm,19.6s,baz=152,slow=36						
WRA	**Warramunga Arr**	**23.98**	**162**	P	**P**	**08 16 03.3**	**-2.6**
	comp=Z,5.6nm,0.5s,baz=337,slow=11,SNR=23						
	comp=Z,5.6nm,0.5s						
WB2	**Warramunga Arr**	**23.98**	**162**	P	**P**	**08 16 06.8**	**+0.8**
WB2				IAmb	IAmb	08 16 18.5	
	comp=Z,12nm,0.9s						
WR0	**Warramunga Arr**	**24.06**	**161**	P	**P**	**08 16 07.6**	**+0.9**
MBWA	**Marble Bar**	**24.83**	**195**	P	**P**	**08 16 15.8**	**+2.1**
MBWA				IAmb	IAmb	08 16 18.1	
	comp=Z,18nm,1.1s						
AS31	**Alice Springs**	**27.38**	**165**	P	**P**	**08 16 38.6**	**+1.9**
ASAR	**Alice Springs**	**27.38**	**165**	P	**P**	**08 16 37.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=348,slow=8.0,SNR=4.7						
ASAR				PcP	**PcP**	**08 19 54.1**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=354,slow=2.9,SNR=4.5						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**27.38**	**165**	P	**P**	**08 16 38.7**	**+1.9**
PSI	**Prapat**	**27.56**	**270**	LR	LR	08 28 50.1	
	comp=Z,35nm,20.6s,baz=94,slow=40						
CMAR	**Chiang Mai Arr**	**31.11**	**302**	LR	LR	08 30 04.4	
	comp=Z,7.6nm,19.3s,baz=50,slow=38						
FORT	**Forrest**	**33.53**	**178**	P	**P**	**08 17 30.4**	**-0.5**
BBOO	**Buckleboo**	**36.66**	**166**	P	**P**	**08 17 58.6**	**+0.8**
STKA	**Stephens Creek**	**37.45**	**159**	P	**P**	**08 18 04.4**	**-0.1**
	comp=Z,10nm,0.7s,baz=336,slow=9.5,SNR=13						
STKA				PcP	**PcP**	**08 20 22.6**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=340,slow=3.6,SNR=3.3						
	comp=Z,10nm,0.7s						
STKA	**Stephens Creek**	**37.45**	**159**	P	**P**	**08 18 05.9**	**+1.4**
STKA				IAmb	IAmb	08 18 06.9	
	comp=Z,3.0nm,0.8s						
ARMA	**Armidale**	**40.91**	**146**	P	**P**	**08 18 34.8**	**+1.2**
ARMA				IAmb	IAmb	08 18 46.0	
	comp=Z,22nm,1.4s						
SONM	**Songino Array**	**48.00**	**342**	P	**P**	**08 19 29.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=153,slow=7.5,SNR=2.5						
	comp=Z,0.5nm,0.6s						
MK31	**Makanchi Array**	**58.10**	**326**	P	**P**	**08 20 44.9**	**+0.7**
MKAR	**Makanchi Array**	**58.10**	**326**	P	**P**	**08 20 41.7**	**-2.4**
	comp=Z,1.3nm,0.4s,baz=120,slow=8.2,SNR=34						
	comp=Z,1.3nm,0.4s						
MKAR	**Makanchi Array**	**58.10**	**326**	P	**P**	**08 20 42.5**	**-1.7**
KURK	**Kurchatov**	**62.31**	**328**	P	**P**	**08 21 12.8**	**0.0**
KURK				IAmb	IAmb	08 21 16.2	
	comp=Z,3.5nm,0.7s						
SEY	**Seymchan**	**62.87**	**13**	P	**P**	**08 21 17.2**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=199,slow=8.1,SNR=5.9						
	comp=Z,0.9nm,0.5s						
ABKAR	**Akbulak array**	**72.64**	**321**	P	**P**	**08 22 18.0**	**-0.1**
VNDA	**Vanda**	**82.65**	**173**	P	**P**	**08 23 15.5**	**+2.3**
VNDA				IAmb	IAmb	08 23 31.9	
	comp=Z,3.7nm,1.2s						
IMAR	**Indian Mountai**	**83.17**	**24**	P	**P**	**08 23 16.6**	**+0.4**
H21K	**Melozitna Rive**	**83.51**	**24**	P	**P**	**08 23 17.9**	**-0.1**
H21K				IAmb	IAmb	08 23 19.9	
	comp=Z,3.6nm,1.1s						
SUA	**Susitna One**	**83.98**	**29**	P	**P**	**08 23 19.8**	**-0.7**
TXAR	**Lajitas Array**	**122.27**	**52**	PKP	**PKiKP**	**08 29 46.3**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=253,slow=0.9,SNR=2.5						

DJA 24 08:35:02.9±0.5, 4°S±7°×12°8E±°, h10km, M3.9/12, mb4.3/4, mB5.6/1, MLv3.7/12, Mw(mB)5.1/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.57**	**84**	P	Pg	08 35 14.2	+0.3
AAI				S	Sg	08 35 21.8	+0.4
NLAI	**Namlea**	**0.73**	**314**	P	Pg	08 35 17.3	+0.2
NLAI				S	Sg	08 35 26.2	-0.5
MSAI	**Masohi**	**1.36**	**73**	P	Pg	08 35 28.8	-0.2
MSAI				S	Sg	08 35 46.6	0.0
SANI	**Sanana**	**2.35**	**316**	P	Pn	08 35 41.0	-0.7
BNDI	**Bandanaira**	**2.40**	**109**	P	Pn	08 35 42.2	0.0
FAKI	**Fak Fak**	**4.68**	**80**	P	Pn	08 36 13.7	0.0
LUWI	**Luwuk**	**5.55**	**299**	P	Pn	08 36 25.5	-0.1
	67nm,0.6s,5µm0.4nm						
GTOI	**Gorontalo**	**6.35**	**313**	P	Pn	08 36 40.0	+3.4
	6.5nm,0.8s,0.0nm						
MRSI	**Marisa**	**7.07**	**306**	P	Pn	08 36 47.2	+0.7

IDC ***24*** *08:38:43.9±0.8, 40°42N×143°26E, h0km, mb4.0/18, mbtmp3.9/24, ML3.6/5, MS3.2/3, Error ellipse: s-maj=19.2km s-min=15.0km az=132.0*
NIED ***24*** *08:38:44.8, 40°30N×143°23E, h11km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.24; Mθθ0.10; Mφφ-0.34; Mrθ0.96; Mrφ-0.62; Mθφ0.10; Fault plane solution: M0 1.18000×10¹⁵ NP1 ϕs 76.00000°, δ83.00000°, λ124.00000°. NP2 ϕs 177.00000°, δ35.00000°, λ12.00000°.*
JMA ***24*** *08:38:44.8±0.3, 40°3N±0°5×143°2E±0°9, h11km±2km, MD4.1/35, MV4.3/35, FAR E OFF SANRIKU*
MOS ***24*** *08:38:47.0±0.9, 40°37N×143°28E, h36km, mb4.5/15, Error ellipse: s-maj=10.2km s-min=5.7km az=91.1*
NEIC ***24*** *08:38:50.0±1.2,

JKEN					*e*S		**Sb**	**08 39 21.8**	**-1.7**
JKEN	**Kujiedanarisaw**	**1.20**	**262**		A	A	08 39 06.2		
comp=E,4.0nm,1.1s,comp=E,4.0nm,5.3s									
JANG	**Nango**	**1.33**	**270**	*i*	P	**Pn**	**08 39 08.6**	**-1.2**	
MIYJ	**Miyakonagasawa**	**1.37**	**234**	*i*	P	**Pn**	**08 39 08.4**	**-1.9**	
MIYJ					*e*S	**Sb**	**08 39 25.3**	**-3.1**	
ERM	**Erimo**	**1.63**	**357**			**Pn**	**08 39 14.7**	**+0.8**	
ERM	**Erimo**	**1.63**	**357**		P	**Pn**	**08 39 14.7**	**+0.8**	
JEM	**Erimo**	**1.63**	**357**		P	**Pn**	**08 39 14.2**	**+0.3**	
JAHD	**Aomorihigashid**	**1.70**	**302**		A	A	08 39 15.2		
comp=E,6.0nm,1.0s,comp=E,7.0nm,0.7s									
JTM	**Tenmabayashi**	**1.71**	**284**		Pn	**Pn**	**08 39 15.9**	**+0.9**	
JTM	**Tenmabayashi**	**1.71**	**284**		P	**Pn**	**08 39 15.3**	**+0.2**	
JTM					S	**Sn**	**08 39 36.8**	**-0.6**	
JOM	**Ohasama**	**1.76**	**240**		P	**Pn**	**08 39 14.9**	**-0.9**	
JOM	**Ohasama**	**1.76**	**240**		A	A	08 39 14.9		
comp=E,3.0nm,0.2s,comp=E,3.0nm,0.7s									
JSZI	**Iwateshizukuis**	**1.88**	**251**		A	A	08 39 17.3		
comp=E,9.0nm,5.4s,comp=E,10.0nm,1.4s									
JNBK	**Urakawa-nobuka**	**1.93**	**349**		P	**Pn**	**08 39 19.1**	**+1.1**	
JOT	**Ohata**	**1.95**	**301**		P	**Pn**	**08 39 19.0**	**+0.7**	
JOT					S	**Sn**	**08 39 44.0**	**+0.8**	
JAH	**Hinai**	**2.02**	**265**		P	**Pn**	**08 39 20.0**	**+0.8**	
JAH					S	**Sn**	**08 39 45.6**	**+0.9**	
JAH	**Hinai**	**2.02**	**265**		A	A	08 39 20.0		
comp=E,4.0nm,4.1s									
JMK	**Ichinoseki**	**2.13**	**228**	*i*	P	**Pn**	**08 39 20.6**	**-0.1**	
JCH	**Churui**	**2.23**	**2**		P	**Pn**	**08 39 22.8**	**+0.7**	
JRG	**Rokugo**	**2.25**	**245**		P	**Pn**	**08 39 23.6**	**+1.2**	
JRG	**Rokugo**	**2.25**	**245**		A	A	08 39 23.6		
comp=E,4.0nm,3.2s,comp=E,3.0nm,2.7s									
JSI2	**Shiura 2**	**2.27**	**288**		A	A	08 39 23.2		
comp=E,4.0nm,0.8s,comp=E,6.0nm,1.0s									
JMM	**Marumori**	**3.16**	**218**			**Pn**	**08 39 33.9**	**-1.0**	
NMR	**Nemuro--Hokkai**	**3.51**	**31**	⇑*i*	P	**Pn**	**08 39 39.1**	**-0.6**	
NMR					*e*S	**Sn**	**08 40 18.7**	**-2.9**	
JKA	**Kamikawa-asahi**	**3.76**	**353**		Pn	**Pn**	**08 39 45.0**	**+1.8**	
ASAJ	**Asahikawa**	**3.76**	**353**		Pn	**Pn**	**08 39 44.7**	**+1.5**	
10.0nm,0.3s,baz=212,slow=8.8,SNR=49									
ASAJ					Sn	**Sb**	**08 40 34.8**	**-2.5**	
2.5nm,0.3s,baz=44,slow=31,SNR=1.2 21nm,0.3s									
ASAJ	**Asahikawa**	**3.76**	**353**		P	**Pn**	**08 39 45.0**	**+1.8**	
RUSJ	**Misakicho**	**4.00**	**21**	*e*	P	**Pn**	**08 39 47.2**	**+0.7**	
RUSJ					*e*S	**Sn**	**08 40 33.4**	**-0.3**	
YUK	**Yuzh-Kuril'sk**	**4.13**	**27**	*c i*	P	**Pn**	**08 39 48.3**	**+0.1**	
YUK					*e*S	**Sn**	**08 40 35.0**	**-1.9**	
YUK					pmax	pmax			
comp=Z,709nm,0.2s									
YUK					pmax	pmax			
comp=N,183nm,0.1s									
YUK					pmax	pmax			
comp=E,86nm,0.3s									
YUK					smax	smax			
comp=N,365nm,0.5s									
YUK					smax	smax			
comp=E,250nm,0.3s									
JSD	**Sado**	**4.53**	**240**		Pn	**Pn**	**08 39 55.2**	**+1.4**	
MAJO	**Matsushiro**	**5.51**	**228**		Pn	**Pn**	**08 40 09.0**	**+1.6**	
MAJO	**Matsushiro**	**5.51**	**228**		P	**Pn**	**08 40 09.0**	**+1.6**	
MJAR	**Matsushiro Arr**	**5.51**	**228**		Pn	**Pn**	**08 40 08.4**	**+1.1**	
comp=E,0.5nm,0.3s,baz=39,slow=12,SNR=30									
MJAR					Sn	**Sn**	**08 41 14.7**	**+3.6**	
baz=49,slow=13									
MJAR					LR	LR	08 42 31.9		
comp=E,154nm,19.4s,baz=38,slow=41 comp=E,9.3nm,0.5s									
KUR	**Kuril'sk**	**5.91**	**33**	*e*	P	**Pn**	**08 40 13.1**	**+0.4**	
KUR					*e*S	**Sn**	**08 41 18.3**	**-2.6**	
KUR					pmax	pmax			
comp=Z,181nm,0.4s									
KUR					pmax	pmax			
comp=E,66nm,0.2s									
KUR					smax	smax			
comp=E,105nm,0.5s									
KUR					smax	smax			
comp=N,58nm,0.3s									
YSS	**Yuzh-Sakhalins**	**6.58**	**357**	⇑*e*	P	**Pn**	**08 40 24.9**	**+3.0**	
JGF	**Kuroka**	**6.67**	**226**			**Pn**	**08 40 25.7**	**+2.5**	
INU	**Inuyama**	**7.04**	**226**		Pn	**Pn**	**08 40 28.2**	**-0.1**	
USA0B	**Ussuriysk Arra**	**9.18**	**298**	⇑*e*	P	**Pn**	**08 41 01.0**	**+3.4**	
USRK	**Ussuriysk Ar.**	**9.18**	**298**		Pn	**Pn**	**08 40 56.0**	**-1.6**	
comp=N,0.7nm,0.3s,baz=96,slow=15,SNR=2.3 comp=N,1.5nm,0.5s									
USRK	**Ussuriysk Ar.**	**9.18**	**298**		P	**Pn**	**08 40 56.0**	**-1.6**	
JHS	**Saijyo**	**9.67**	**239**		Pn	**Pn**	**08 41 06.5**	**+2.2**	
KLR	**Kul'dur**	**12.03**	**321**		Pn	**Pn**	**08 41 37.0**	**+0.5**	
comp=N,0.1nm,0.3s,baz=320,slow=20,SNR=2.3									
KLR					LR	LR	08 46 57.7		
comp=N,82nm,18.6s,baz=44,slow=41 comp=N,0.5nm,0.4s									
KLR	**Kul'dur**	**12.03**	**321**	⇑*e*	P	**Pn**	**08 41 39.8**	**+3.2**	
KLR					pmax	pmax			
comp=Z,14nm,2.3s									
KSRS	**Korea Array**	**12.30**	**261**		Pn	**Pn**	**08 41 41.0**	**+0.7**	
comp=Z,0.2nm,0.3s,baz=77,slow=14,SNR=1.3 comp=Z,0.8nm,0.8s									
KSRS	**Korea Array**	**12.30**	**261**		P	**Pn**	**08 41 41.0**	**+0.7**	
ZEA	**Zeya**	**17.19**	**326**	*e*	P	**Pn**	**08 42 43.5**	**-1.8**	
ZEA					pmax	pmax			
comp=Z,10.0nm,0.5s									
MA2	**Magadan**	**19.79**	**11**		P	**P**	**08 43 15.0**	**-0.4**	
comp=Z,4.9nm,0.6s,baz=189,slow=10,SNR=8.0									
MA2	**Magadan**	**19.79**	**11**		P	**Pn**	**08 43 17.3**	**+0.4**	
MA2	**Magadan**	**19.79**	**11**		P	**Pn**	**08 43 17.3**	**+0.4**	
MA2					pmax	pmax			
comp=Z,6.0nm,0.8s									
YAK	**Yakutsk**	**23.19**	**344**	⇓*e*	P	**P**	**08 43 50.5**	**-1.4**	
YAK					pmax	pmax			
comp=Z,15nm,0.6s									
SEY	**Seymchan**	**23.23**	**11**		P	**P**	**08 43 50.8**	**-1.6**	
comp=Z,6.4nm,0.8s,baz=178,slow=7.8,SNR=20 comp=Z,6.4nm,0.8s									
SEY	**Seymchan**	**23.23**	**11**	⇓*i*	P	**P**	**08 43 52.3**	**0.0**	
SEY					pmax	pmax			
comp=Z,11nm,1.0s									
BOD	**Bodaibo**	**25.60**	**323**	*e*	P	**P**	**08 44 13.8**	**-0.6**	
BOD					pmax	pmax			
comp=Z,6.0nm,1.7s									
ULN	**Ulaanbaatar**	**26.85**	**298**	⇓*e*	P	**P**	**08 44 26.5**	**+0.4**	
ULN					pmax	pmax			
comp=Z,8.0nm,1.8s									
SONM	**Songino Array**	**27.29**	**298**		P	**P**	**08 44 30.4**	**+0.4**	
comp=Z,1.4nm,0.5s,baz=91,slow=8.7,SNR=13 comp=Z,1.4nm,0.5s									
SONM	**Songino Array**	**27.29**	**298**		P	**P**	**08 44 29.9**	**-0.2**	
H11N2	**WAKE ISLAND Hy**	**28.86**	**129**		T	T	09 15 01.1		
baz=321,slow=75									
H11N1	**WAKE ISLAND Hy**	**28.87**	**129**		T	T	09 15 03.2		
baz=321									
H11N3	**WAKE ISLAND Hy**	**28.88**	**129**		T	T	09 15 03.5		
baz=321,slow=75									
H11S1	**WAKE ISLAND Hy**	**29.70**	**130**		T	T	09 16 02.2		
baz=322,slow=76,SNR=23									
H11S3	**WAKE ISLAND Hy**	**29.70**	**130**		T	T	09 16 27.1		
baz=322,slow=76,SNR=20									
H11S2	**WAKE ISLAND Hy**	**29.71**	**130**		T	T	09 16 00.8		
baz=322,slow=76,SNR=22									
BILL	**Biiibino**	**30.41**	**17**	*e*	P	**P**	**08 44 58.4**	**+1.0**	
BILL				*e*	PPP	PPP	08 46 06.4		
BILL					pmax	pmax			
comp=Z,4.0nm,0.7s									
TIXI	**Tiksi**	**32.17**	**351**		LR	LR	08 59 11.2		
comp=Z,64nm,18.7s,baz=173,slow=38									
DGZ	**Jazzator, Alta**	**39.70**	**303**	⇑*i*	P	**P**	**08 46 18.6**	**+0.8**	
DGZ					pmax	pmax			
comp=Z,4.0nm,0.6s									
ZAA0	**Zalesovo Array**	**40.81**	**310**		P	**P**	**08 46 26.2**	**-0.5**	
ZALV	**Zalesovo Beam**	**40.81**	**310**		P	**P**	**08 46 26.6**	**-0.1**	
comp=Z,1.3nm,0.5s,baz=99,slow=9.2,SNR=5.5 comp=Z,1.3nm,0.5s									
ZALV	**Zalesovo Beam**	**40.81**	**310**		P	**P**	**08 46 26.2**	**-0.5**	
ZALV	**Zalesovo Beam**	**40.81**	**310**	*i*	P	**P**	**08 46 28.3**	**+1.6**	
ZALV					pmax	pmax			
comp=Z,1.0nm,0.4s									
NRIK	**Noril'sk**	**40.88**	**333**		P	**P**	**08 46 27.2**	**+0.2**	
comp=Z,1.1nm,0.3s,baz=15,slow=22,SNR=4.1 comp=Z,1.1nm,0.3s									
IMAR	**Indian Mountai**	**43.05**	**32**		P	**P**	**08 46 46.5**	**+1.6**	
H21K	**Melozitna Rive**	**43.41**	**33**		P	**P**	**08 46 48.8**	**+0.9**	
H21K					IAmb	IAmb	08 46 56.2		
comp=Z,3.4nm,1.0s									
MK31	**Makanchi Array**	**43.65**	**299**		P	**P**	**08 46 50.1**	**+0.1**	
MK31	**Makanchi Array**	**43.65**	**299**		P	**P**	**08 46 50.1**	**+0.1**	
MK31					pmax	pmax			
comp=Z,2.0nm,0.7s									
MKAR	**Makanchi Array**	**43.65**	**299**		P	**P**	**08 46 49.8**	**-0.2**	
comp=Z,2.0nm,0.7s,baz=86,slow=9.9,SNR=18 comp=Z,2.0nm,0.7s									
MKAR	**Makanchi Array**	**43.65**	**299**		P	**P**	**08 46 50.1**	**+0.1**	
MKAR	**Makanchi Array**	**43.65**	**299**		P	**P**	**08 46 50.1**	**+0.1**	
MDM	**Murphy Dome**	**45.32**	**34**		P	**P**	**08 47 03.9**	**+0.8**	
H24K	**Noodor Dome**	**45.45**	**33**		P	**P**	**08 47 05.2**	**+1.0**	
H24K					IAmb	IAmb	08 47 32.4		
comp=Z,4.2nm,1.1s									
IL31		**45.91**	**34**		P	**P**	**08 47 08.5**	**+0.9**	
IL31					IAmb	IAmb	08 47 10.5		
comp=Z,9.0nm,1.4s									
ILAR	**Eielson Array**	**45.91**	**34**		P	**P**	**08 47 07.8**	**+0.1**	
comp=Z,1.1nm,0.7s,baz=264,slow=6.1,SNR=18 comp=Z,1.1nm,0.7s									
ILAR	**Eielson Array**	**45.91**	**34**		P	**P**	**08 47 08.1**	**+0.4**	
ILAR	**Eielson Array**	**45.91**	**34**		P	**P**	**08 47 08.1**	**+0.4**	
KLU	**Klutina**	**46.63**	**39**		P	**P**	**08 47 14.2**	**+0.7**	
SCRK	**Sand Creek**	**47.23**	**35**		P	**P**	**08 47 18.7**	**+0.4**	
BCAR	**Beaver Creek A**	**48.33**	**36**		P	**P**	**08 47 28.3**	**+1.6**	
EGAK	**Eagle**	**48.35**	**34**		P	**P**	**08 47 28.2**	**+1.5**	
EGAK					IAmb	IAmb	08 48 09.3		
comp=Z,4.9nm,1.2s									
AAK	**Ala-Archa**	**50.23**	**297**	⇑*e*	P	**P**	**08 47 40.4**	**-1.3**	
AAK					pmax	pmax			
comp=Z,5.0nm,1.5s									
INK	**Inuvik**	**50.75**	**28**		P	**P**	**08 47 45.4**	**+0.4**	
comp=Z,2.3nm,0.4s,baz=289,slow=6.7,SNR=23 comp=Z,2.3nm,0.4s									
INK	**Inuvik**	**50.75**	**28**		P	**P**	**08 47 46.1**	**+1.1**	
INK					IAmb	IAmb	08 48 13.3		
comp=Z,7.2nm,1.4s									
INK	**Inuvik**	**50.75**	**28**		P	**P**	**08 47 46.1**	**+1.1**	
INK					pmax	pmax			
comp=Z,7.0nm,1.4s									
HYT	**Haines Junctio**	**50.77**	**38**		P	**P**	**08 47 46.9**	**+1.4**	
FARO	**Faro, Yukon**	**52.31**	**36**		P	**P**	**08 47 57.1**	**+0.3**	
FARO					IAmb	IAmb	08 48 03.7		
comp=Z,6.2nm,1.3s									
A36M	**Sachs Harbour**	**52.62**	**23**		P	**P**	**08 47 59.8**	**+0.9**	
A36M					IAmb	IAmb	08 48 41.8		
comp=Z,4.0nm,1.1s									
C36M	**Paulatuk**	**53.79**	**26**		P	**P**	**08 48 07.8**	**+0.3**	
C36M					IAmb	IAmb	08 48 15.9		
comp=Z,1.8nm,0.7s									
ARU	**Arti**	**54.84**	**317**	⇓*e*	P	**P**	**08 48 15.7**	**+0.3**	
ARU					pmax	pmax			
comp=Z,7.0nm,1.3s									
EUNU	**Eureka**	**56.66**	**9**		P	**P**	**08 48 28.4**	**+0.1**	
EUNU					IAmb	IAmb	08 48 47.8		
comp=Z,3.1nm,0.9s									
ABKAR	**Akbulak array**	**56.92**	**309**		P	**P**	**08 48 30.1**	**-0.3**	
RES	**Resolute Bay**	**59.00**	**15**		P	**P**	**08 48 44.4**	**-0.2**	
RES					IAmb	IAmb	08 49 23.0		
comp=Z,2.4nm,1.0s									
RES	**Resolute Bay**	**59.00**	**15**		P	**P**	**08 48 44.4**	**-0.2**	
RES					pmax	pmax			
comp=Z,2.0nm,1.0s									
YKA	**Yellowknife Ar**	**60.20**	**32**		P	**P**	**08 48 53.2**	**+0.1**	
comp=Z,0.4nm,0.6s,baz=300,slow=6.4,SNR=8.4 comp=Z,0.4nm,0.6s									
WRA	**Warramunga Arr**	**60.59**	**190**		P	**P**	**08 48 56.2**	**+0.1**	
comp=Z,1.1nm,0.8s,baz=5.2,slow=6.8,SNR=3.8 comp=Z,1.1nm,0.8s									
ARCES	**ARCESS Array B**	**61.38**	**339**		P	**P**	**08 49 00.3**	**-0.7**	
comp=Z,2.9nm,0.9s,baz=47,slow=9.2,SNR=1.7 comp=Z,2.9nm,0.9s									
BELG	**Belogornoye**	**62.35**	**316**	⇑*e*	P	**P**	**08 49 08.4**	**+0.6**	
BELG					pmax	pmax			
comp=Z,4.0nm,1.5s									
ASAR	**Alice Springs**	**64.31**	**190**		P	**P**	**08 49 21.3**	**+0.3**	
comp=Z,0.5nm,0.7s,baz=13,slow=8.8,SNR=3.1 comp=Z,0.5nm,0.7s									
OBN	**Obninsk**	**66.28**	**323**	*e*	P	**P**	**08 49 34.5**	**+1.0**	
OBN				*e*			08 50 04.6		
OBN				*e*			08 52 00.0		
OBN				*e*	PPP	PPP	08 53 36.0		
OBN					pmax	pmax			
comp=Z,3.0nm,0.8s									
FINES	**FINESS Array B**	**66.53**	**332**		P	**P**	**08 49 35.0**	**0.0**	
comp=Z,2.0nm,0.6s,baz=51,slow=6.1,SNR=7.2 comp=Z,2.0nm,0.6s									
FINES	**FINESS Array B**	**66.53**	**332**	*i*	P	**P**	**08 49 35.2**	**+0.2**	
FINES					pmax	pmax			
comp=Z,2.0nm,0.6s									
KIV	**Kislovodsk**	**69.81**	**311**	*e*	P	**P**	**08 49 54.0**	**-2.0**	
KIV					pmax	pmax			
comp=Z,6.0nm,1.1s									
KBZ	**Khabaz**	**69.82**	**311**		P	**P**	**08 49 56.6**	**+0.7**	
comp=Z,2.3nm,0.8s,baz=24,slow=4.9,SNR=5.0 comp=Z,2.3nm,0.8s									
NB2	**NORSAR Suburra**	**71.65**	**338**		P	**P**	**08 50 06.9**	**0.0**	
comp=Z,0.6nm,0.6s,baz=37,slow=6.2									
NOA	**NORSAR Array B**	**71.65**	**338**		P	**P**	**08 50 07.0**	**+0.2**	
comp=Z,1.6nm,0.8s,baz=37,slow=6.0,SNR=4.4 comp=Z,1.6nm,0.8s									
AKASG	**Malin Array Be**	**72.53**	**322**		P	**P**	**08 50 10.9**	**-1.3**	
comp=Z,0.9nm,0.5s,baz=43,slow=6.1,SNR=7.6 comp=Z,0.9nm,0.5s									
AKASG	**Malin Array Be**	**72.53**	**322**	*ce*	P	**P**	**08 50 11.6**	**-0.6**	
AKASG					pmax	pmax			
comp=Z,1.0nm,0.6s									
PDAR	**Pinedale Array**	**74.31**	**47**		P	**P**	**08 50 23.5**	**+0.3**	
comp=Z,0.2nm,0.5s,baz=305,slow=3.2,SNR=2.6 comp=Z,0.2nm,0.5s									
CLL	**Collm**	**78.90**	**331**	*i*	P	**P**	**08 50 48.5**	**-0.2**	
GERES	**GERESS Array B**	**80.61**	**329**		P	**P**	**08 50 58.3**	**+0.1**	
comp=Z,0.6nm,0.6s,baz=45,slow=2.9,SNR=3.6 comp=Z,0.6nm,0.6s									
TXAR	**Lajitas Array**	**86.95**	**54**		P	**P**	**08 51 30.4**	**-0.6**	
comp=Z,0.2nm,0.6s,baz=328,slow=3.2,SNR=2.4 comp=Z,0.2nm,0.6s									

IDC 24 08:43:21.3±2.3, 6.77°S×130.02°E, h0km, mb3.3/1, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=119.0km s-min=29.9km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.75**	**163**	Pn	Pn	08 46 38.5	+0.7
0.4nm,0.3s,baz=346,slow=13,SNR=8.2							
WRA				Sn	Sn	08 49 10.8	-0.6
0.4nm,0.3s,baz=342,slow=19,SNR=5.4 0.9nm,0.4s							
ASAR	**Alice Springs**	**17.21**	**168**	P	Pn	08 47 23.4	0.0
0.3nm,0.3s,baz=347,slow=10,SNR=27							
ASAR				S	Sn	08 50 28.5	-7.1
0.4nm,0.8s,baz=352,slow=25,SNR=2.3 0.9nm,0.5s							
MKAR	**Makanchi Array**	**68.05**	**327**	P	P	08 54 22.7	0.0
0.1nm,0.4s,baz=129,slow=5.9,SNR=2.3 0.1nm,0.4s							

*SOME **24** 08:43:45.8, 51.7°N×72.7°E, h0km*
*NNC **24** 08:44:08.6±1.5, 51.01°N×73.76°E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=22.6km s-min=5.5km az=27.0, Suspected Mining explosion.*

ISC 24 08:44:00.9±1.6, 50.35°N±0.07°×73.55°E±0.09°, h0km, n12, σ1°85/11, 1C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**3.19**	**83**	⇓Pg	**Pg**	**08 45 03.9**	**+1.8**
3.6nm,0.7s,baz=279,slow=16							
KURBB				⇓Lg	Lg	08 45 44.9	
45nm,0.7s							
KURK	**Kurchatov**	**3.26**	**82**	⇓Pg	**Pg**	**08 45 05.7**	**+2.4**
2.9nm,0.7s							
KURK				⇓Lg	Lg	08 45 46.9	
16nm,0.7s							
BVA0	**Borovoye Array**	**3.32**	**325**	⇓Pg	**Pg**	**08 45 02.2**	**-2.3**
2.1nm,0.6s,baz=136,slow=18,SNR=4.0							
BVA0				Lg	Lg	08 45 40.2	
15nm,0.8s,baz=128,slow=28,SNR=16							
SEM	**Semipalatinsk**	**4.29**	**87**	*e*Pg	**Pb**	**08 45 16.4**	**-0.9**
5.8nm,0.2s							
SEM				*e*Lg	Lg	08 46 22.5	
14nm,0.2s							
BTLS	**Baital**	**5.33**	**176**	*e*Pg	**Pg**	**08 45 45.0**	**+2.0**
1.2nm,0.3s							
BTLS				*e*Lg	Lg	08 47 11.2	
3.1nm,0.4s							
KUU	**Kurty**	**6.74**	**163**	*e*Pg	**Pg**	**08 46 12.1**	**+2.1**
0.7nm,0.3s							
KUU				*e*Lg	Lg	08 47 57.1	
10nm,0.7s							
MK31	**Makanchi Array**	**6.81**	**118**	⇑Lg	Lg	08 47 48.8	
3.9nm,0.7s,baz=314,slow=26,SNR=3.7							
KRBS	**Karabastau**	**6.82**	**167**	*e*Pg	**Pg**	**08 46 11.3**	**-0.2**
1.1nm,0.4s							
KRBS				*e*Lg	Lg	08 47 55.7	
5.4nm,0.3s							
CHKK	**Chushkaly**	**6.91**	**159**	*e*Pg	**Pg**	**08 46 12.7**	**-0.6**
0.8nm,0.2s							
CHKK				*e*Lg	Lg	08 47 58.4	
3.4nm,0.1s							
KTBS	**Karatobe**	**6.98**	**161**	*e*Pg	**Pg**	**08 46 14.2**	**-0.4**
1.1nm,0.2s							
KTBS				*e*Lg	Lg	08 48 00.6	
8.6nm,0.3s							
DJR	**Jarkent**	**7.37**	**142**	*e*Pg	**Pg**	**08 46 20.3**	**-1.6**
0.4nm,0.0s							
DJR				*e*Lg	Lg	08 48 11.8	
3.4nm,0.4s							
KPKS	**Kokpek**	**7.74**	**151**	*e*Pg	**Pg**	**08 46 29.6**	**+0.6**
1.8nm,0.2s							
KPKS				*e*Lg	Lg	08 48 27.3	
5.0nm,0.4s							

NNC 24 09:18:21.8±3.0, 54.21°N×86.14°E, h0km, mb3.6, mpv2.7, 6C-5D, Error ellipse: s-maj=30.3km s-min=15.0km az=178.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.82**	**252**	⇓P	Pg	09 18 36.9	-0.6
0.1nm,0.2s							
ZAA0				⇓S	Sb	09 18 49.3	-1.2
1.6nm,0.4s							
KURK	**Kurchatov**	**5.77**	**236**	⇓Pn	Pn	09 19 50.2	+1.5
1.4nm,0.7s							
KURK				⇑Sn	Sn	09 20 55.2	-0.3
0.8nm,0.7s							
KURK				⇑Lg	Lg	09 21 26.4	
1.9nm,0.7s							
KURBB	**Kurchatov Arra**	**5.88**	**235**	⇑Pn	Pn	09 19 51.7	+1.6
1.5nm,0.5s							
KURBB				⇑Sn	Sn	09 21 00.5	+2.4
1.4nm,0.6s							
KURBB				⇓Lg	Lg	09 21 29.5	
3.8nm,0.6s							
MK31	**Makanchi Array**	**7.82**	**200**	⇑Pn	Pn	09 20 16.5	-0.3
1.1nm,0.6s,baz=192,slow=46,SNR=18							
MK31				⇑Sn	Sn	09 21 47.3	+1.4
0.3nm,0.5s,baz=30,slow=28,SNR=4.2							
MK31				⇓Lg	Lg	09 22 25.5	
0.2nm,0.5s							

*BJI **24** 09:38:28.8±0.0, 12.25°N×146.52°E, h8km, mb5.2/86, mB5.7/72, Ms5.4/92, Ms7 5.0/88*
*IDC **24** 09:38:28.3±0.3, 12.06°N×146.35°E, h0km, mb5.0/50, mbtmp5.0/54, ML4.8/3, MS4.9/70, Error ellipse: s-maj=13.0km s-min=8.5km az=76.0*
*MOS **24** 09:38:29.0±0.8, 12.04°N×146.28°E, h12km, mb5.6/88, MS5.0/22, Error ellipse: s-maj=7.6km s-min=4.2km az=114.4*
*DJA **24** 09:38:30.1±1.3, 12.7°N±3.3°×14.6°E±.7°, h13km±8km, M5.5/79, mb5.5/79, mB6.0/49, MLv5.5/1, Mw(mB)5.6/49, MwMwp5.4/16, Mwp5.6/16*
*NEIC **24** 09:38:31.1±1.4, 12.09°N±0.07°×146.26°E±0.09, h10km±1km, mb5.5/295, Ms_20 5.2/116, Mwb5.5/31, Mww5.5, Error ellipse: s-maj=15.8km s-min=11.1km az=256.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr~0.06; Mθθ~0.17; Mθφ0.23; Mrθ0.86; Mφ1.69; Mrφ0.42; Fault plane solution: Mo 1.96000×10^17 NP1:φ87.36000°, δ83.99000°, λ26.12000°. NP2:φ354.42000°, δ64.04000°, λ173.31000°. Principal axes: T 2.1039, Plg23.0000°, Azm314.0000°; N -0.3429, Plg63.0000°, Azm99.0000°; P -1.7610, Plg14.0000°, Azm218.0000°.*
*NEIC **24** 09:38:33, 11.97N×146.26E, h22km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17 Nm; Mrr0.20; Mθθ0.58; Mθφ-0.78; Mrθ0.51; Mφ2.50; Mrφ0.02; Fault plane solution: Mo 2.64000×10^17 NP1:φ79.00000°, δ79.00000°, λ177.00000°. NP2:φ98.00000°, δ87.00000°, λ11.00000°. Principal axes: T 2.5603, Plg10.0000°, Azm323.0000°; N 0.1581, Plg78.0000°, Azm113.0000°; P -2.7184, Plg6.0000°, Azm232.0000°;*
*KLM **24** 09:38:33, 12.23N×146.16E, h10km, mb5.9*
*GCMT **24** 09:38:34.0±0.1, 12.03N±0.01°×146.31E±0.01, h20km, MW5.6/162, Moment Tensor Solution. s131, c232; s162, c320; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr-0.02±.04; Mθθ0.93±.04; Mφφ-0.90±.04; Mrθ1.15±.08; Mφφ2.96±.03; Mrr-0.21±.07; Best double couple: Mo3.31200×10^17 NP1:φ278.00000°, δ89.00000°, λ-21.00000°. NP2:φ9.00000°, δ69.00000°, λ-179.00000°. Principal axes: T 3.3090, Plg14.0000°, Azm326.0000°; N 0.0060, Plg69.0000°, Azm97.0000°; P -3.3160, Plg15.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

**ISC 24 09:38:32.8±0.4, 12.07N

DAV S Sn 09 47 12.4 -2.5
comp=Z,86nm,0.3s,baz=144,slow=9.1,SNR=1.0
DAV LR LR 09 51 35.7
comp=Z,1μm,20.7s,baz=75,slow=37
comp=Z,137nm,0.4s
DAV Davao City (W) 21.03 258 P **P** **09 43 15.8 +0.9**
H11N1 WAKE ISLAND Hy 21.19 66 T T 10 04 57.8
baz=250,slow=75,SNR=16
H11N2 WAKE ISLAND Hy 21.20 66 T T 10 04 58.9
baz=250,slow=75,SNR=7.8
H11N3 WAKE ISLAND Hy 21.21 66 T T 10 04 57.0
baz=250,slow=75,SNR=10
BUKP Musuan 21.33 261⇑*e*P **P** **09 43 20.1 +1.9**
PMG Port Moresby 21.35 178 P **P** **09 43 17.6 -0.8**
comp=Z,15nm,0.6s,baz=12,slow=12,SNR=12
PMG S **S** **09 47 10.0 -4.4**
comp=Z,6.6nm,0.6s,baz=284,slow=20,SNR=1.5
comp=Z,15nm,0.6s
PMG Port Moresby 21.35 178 P **P** **09 43 16.3 -2.1**
PMG IAmb IAmb 09 43 30.9
comp=Z,376nm,1.6s
PMG Port Moresby 21.35 178 P **P** **09 43 18.4 0.0**
JHJ Hachijo jima 2 21.79 345 P **P** **09 43 21.9 -1.0**
comp=Z,108nm,0.4s,baz=72,slow=9.6,SNR=2.2
JHJ LR LR 09 50 42.3
comp=Z,7μm,19.6s,baz=164,slow=34
comp=Z,108nm,0.4s
TNTI Ternate 21.89 241 P **P** **09 43 20.7 -3.5**
TNTI Ternate 21.89 241 P **P** **09 43 24.8 +0.6**
comp=Z,61nm,1.2s,comp=Z,3μmcomp=Z,3μm
LLP Lapu-Lapu 21.98 268 *e*P **P** **09 43 23.2 -2.0**
TBP Tagbilaran 22.16 266 *e*P **P** **09 43 26.7 -0.5**
JOW Kunigami 22.42 314 P **P** **09 43 29.8 -0.1**
comp=Z,299nm,1.0s,baz=138,slow=11,SNR=22
JOW S **S** **09 47 27.1 -7.8**
comp=Z,8.0nm,0.5s,baz=156,slow=20,SNR=1.3
JOW LR LR 09 50 16.0
comp=Z,4μm,22.0s,baz=136,slow=32
comp=Z,299nm,1.0s
JOW Kunigami 22.42 314 P **P** **09 43 27.4 -2.4**
RCP Roxas 23.07 271⇓*e*P **P** **09 43 36.7 0.0**
MSAI Masohi 23.09 229 P **P** **09 43 37.4 +0.5**
comp=Z,13nm,1.1s
BNDI Bandanaira 23.19 226 P **P** **09 43 38.9 +1.0**
comp=Z,293nm,1.4s,comp=Z,7μm
CNOP Candoni, Negro 23.34 267⇓*e*P **P** **09 43 39.7 +0.2**
JSG Sagara 23.68 343 P **P** **09 43 40.4 -2.1**
JSG Sagara 23.68 343 P **P** **09 43 42.7 +0.1**
AAI Ambon 23.86 230 P **P** **09 43 43.7 -0.8**
comp=Z,360nm,1.1s,comp=Z,4μmcomp=Z,5μm
LQP Lukban 24.20 278⇑*e*P **P** **09 43 48.1 +0.1**
JSU Suzuyama 24.25 325 P **P** **09 43 47.0 -1.0**
JSU IAmb IAmb 09 43 53.7
comp=Z,81nm,0.8s
JSU Suzuyama 24.25 325 P **P** **09 43 47.9 0.0**
JMN Monobe 24.36 334 P **P** **09 43 48.4 -0.6**
JMN Monobe 24.36 334 P **P** **09 43 49.7 +0.7**
NLAI Namlea 24.41 233 P **P** **09 43 49.3 -0.2**
comp=Z,9.9nm,0.6s,comp=Z,10μm
SANI Sanana 24.58 237 P **P** **09 43 48.6 -2.5**
comp=Z,30nm,0.5s,comp=Z,1μmcomp=Z,4μm
INU Inuyama 24.66 342 P **P** **09 43 49.6 -2.0**
INU IAmb IAmb 09 43 54.6
comp=Z,186nm,1.0s
INU IAMs_20 IAMs_20 09 52 45.2
comp=Z,5μm,18.0s
PCPH Palayan 24.72 281⇑*e*P **P** **09 43 54.1 +1.7**
JGF Kuroka 24.79 342 P **P** **09 43 50.6 -2.2**
JGF Kuroka 24.79 342 P **P** **09 43 52.1 -0.7**
TGY Tagaytay City 24.79 277⇑*e*P **P** **09 43 57.2 +4.2**
JWT Wachi 25.13 339 P **P** **09 43 53.5 -2.4**
JNU Nakatsue 25.27 328 P **P** **09 43 55.9 -1.3**
comp=Z,88nm,0.8s,baz=110,slow=3.5,SNR=35
JNU S **S** **09 48 20.9 -0.9**
comp=Z,13nm,1.0s,baz=112,slow=21,SNR=2.5
JNU LR LR 09 54 02.0
comp=Z,2μm,18.1s,baz=177,slow=37
comp=Z,88nm,0.8s
JNU Nakatsue 25.27 328 P **P** **09 43 55.0 -2.3**
JNU Nakatsue 25.27 328 P **P** **09 43 56.8 -0.4**
YOJ Yonaguni jima 25.27 302 P **P** **09 43 55.7 -1.6**
YOJ Yonaguni jima 25.27 302 P **P** **09 44 00.4 +3.1**
YOJ Yonaguni jima 25.27 302 P **P** **09 43 55.7 -1.6**
YOJ pmax pmax
comp=Z,309nm,1.1s
HNR Honiara 25.30 147 P **P** **09 43 56.2 -1.4**
comp=Z,406nm,0.5s,baz=129,slow=5.1,SNR=3.8
HNR LR LR 09 53 45.3
comp=Z,56μm,18.6s,baz=319,slow=36
HNR Honiara 25.30 147 P **P** **09 43 55.8 -1.8**
HNR IAMs_20 IAMs_20 09 52 09.1
comp=Z,6μm,22.0s
HNR Honiara 25.30 147 P **P** **09 43 59.4 +1.8**
MJAR Matsushiro Arr 25.43 345 P **P** **09 43 57.0 -1.7**
comp=Z,52nm,0.9s,baz=163,slow=10,SNR=24
MJAR LR LR 09 52 36.0
comp=Z,9μm,21.1s,baz=157,slow=33
comp=Z,52nm,0.9s
MJAR Matsushiro Arr 25.43 345 P **P** **09 43 57.0 -1.7**
MAJO Matsushiro 25.43 345 P **P** **09 43 57.0 -1.7**
MAJO IAmb IAmb 09 44 02.8
comp=Z,219nm,1.1s
MAJO Matsushiro 25.43 345 IAMs_20 IAMs_20 09 52 14.0
comp=Z,9μm,22.0s
MAJO Matsushiro 25.43 345 P **P** **09 43 57.5 -1.2**
MAJO Matsushiro 25.43 345 P **P** **09 43 57.0 -1.7**
MAJO pmax pmax
comp=Z,219nm,1.1s
MAJO MLR MLR
comp=Z,9μm,22.0s
GTOI Gorontalo 25.75 246 P **P** **09 44 01.8 0.0**
comp=Z,43nm,1.0s,comp=Z,878nm
JHS Saijyo 25.77 334 P **P** **09 44 00.9 -0.9**
JHS Saijyo 25.77 334 P **P** **09 44 02.2 +0.4**
COEN Coen 26.05 187 P **P** **09 44 02.8 -1.5**
COEN Coen 26.05 187 P **P** **09 44 04.5 +0.2**
JMM Marumori 26.16 350 P **P** **09 44 04.4 -0.8**
JMM IAmb IAmb 09 44 08.4
comp=Z,100nm,0.9s
JMM Marumori 26.16 350 P **P** **09 44 04.6 -0.5**
TWGBT Beinan 26.29 297 P **P** **09 44 07.3 +0.8**
TWG Pinlang 26.30 297 P **P** **09 44 05.3 -1.3**
YULB Yu-li 26.30 299 P **P** **09 44 06.0 -0.7**
YULB Yu-li 26.30 299 P **P** **09 44 07.4 +0.7**
NACB Ninganchiao 26.34 301 P **P** **09 44 06.0 -0.9**
NACB IAmb IAmb 09 44 24.3
comp=Z,104nm,1.0s
NACB Ninganchiao 26.34 301 P **P** **09 44 09.8 +2.8**
YHNB Yeheng 26.71 301 P **P** **09 44 10.1 -0.4**
YHNB IAmb IAmb 09 44 27.5
comp=Z,148nm,1.1s
YHNB IAMs_20 IAMs_20 09 51 29.5
comp=Z,7μm,21.0s
YHNB Yeheng 26.71 301 P **P** **09 44 13.0 +2.5**
SSLB Suanglung 26.73 299 P **P** **09 44 09.9 -0.8**
SSLB Suanglung 26.73 299 P **P** **09 44 10.4 -0.2**
TATO Taipei 26.74 302 IAMs_20 IAMs_20 09 51 57.1
comp=Z,5μm,21.0s
LUWI Luwuk 26.76 242 P **P** **09 44 09.5 -1.4**
LUWI Luwuk 26.76 242 P **P** **09 44 10.7 -0.1**
LUWI Luwuk 26.76 242 P **P** **09 44 10.3 -0.5**
comp=Z,297nm,0.9s,comp=Z,4μm
MRSI Marisa 26.78 246 P **P** **09 44 10.6 -0.4**
comp=Z,115nm,1.2s,comp=Z,3μm
JSD Sado 26.84 346 P **P** **09 44 09.7 -1.6**
JSD IAmb IAmb 09 44 15.5
comp=Z,155nm,1.0s
JSD Sado 26.84 346 P **P** **09 44 12.9 +1.6**
TPUB Ta-pu 26.84 298 P **P** **09 44 11.5 0.0**
TPUB IAMs_20 IAMs_20 09 51 54.9
comp=Z,4μm,19.0s
TPUB Ta-pu 26.84 298 P **P** **09 44 11.9 +0.3**
TOLI2 Tolitoli 27.56 249 P **P** **09 44 18.2 +0.1**
KDU Kakadu 28.17 210 P **P** **09 44 23.2 -0.2**
MYLDM Lahad Datu 28.31 258 P **P** **09 44 25.7 +1.0**
MPSI Mapaga 28.68 248 P **P** **09 44 27.0 -1.1**
comp=Z,32nm,1.1s
TJN Taejon 29.61 328 P **P** **09 44 35.4 -0.7**
TJN Taejon 29.61 328 P **P** **09 44 37.7 +1.6**
TJN Taejon 29.61 328⇓*e*P **P** **09 44 36.6 +0.5**
SSE Sheshan 29.94 313 P **P** **09 44 39.8 +0.7**
SSE S **S** **09 49 38.4 +3.1**
SSE pmax pmax
comp=Z,9.0nm,0.8s
SSE pmax pmax
comp=Z,240nm,3.8s
SSE LR LR
comp=Z,710nm,16.1s
SSE LR LR
comp=Z,1μm,14.4s
ERM Erimo 29.96 355 IAMs_20 IAMs_20 09 56 25.8
comp=Z,7μm,21.0s
MTSU Mount Surprise 30.08 184 P **P** **09 44 41.3 +0.9**
KSRS Korea Array 30.17 330 P **P** **09 44 40.5 -0.4**
comp=Z,11nm,0.6s,baz=144,slow=9.0,SNR=27
KSRS PcP **PcP** **09 47 42.7 +0.8**
comp=Z,2.7nm,0.7s,baz=133,slow=2.5,SNR=3.9
comp=Z,11nm,0.6s
KSAR Wonju Array Be 30.18 330 P **P** **09 44 41.0 -0.1**
KSAR Wonju Array Be 30.18 330 P **P** **09 44 41.0 -0.1**
KS19 Wonju Array Si 30.23 330 P **P** **09 44 40.1 -1.5**
KS19 IAmb IAmb 09 44 49.2
comp=Z,58nm,1.0s
SPMM Sapulut 30.39 259 P **P** **09 44 44.0 +0.7**
SOEI Soe 30.82 226 P **P** **09 44 44.8 -2.3**
SOEI IAmb IAmb 09 45 26.5
comp=Z,68nm,1.0s
SOEI Soe 30.82 226 P **P** **09 44 46.8 -0.3**
SOEI Soe 30.82 226 P **P** **09 44 48.1 +1.0**
comp=Z,72nm,0.8s
SPSI Sidrap Palu 30.82 240 P **P** **09 44 46.8 -0.2**
comp=Z,29nm,0.8s,comp=Z,1μm
INCN Inchon 30.84 329 IAMs_20 IAMs_20 09 58 56.7
comp=Z,3μm,18.0s
TV1H Townsville Har 31.14 179 P **P** **09 44 49.9 +0.2**
BKSI Bulukumba 31.25 238 P **P** **09 44 50.8 0.0**
comp=Z,21nm,1.3s
KAPI Kappang 31.39 239 P **P** **09 44 51.2 -0.8**
comp=Z,16nm,0.8s,baz=70,slow=3.6,SNR=8.0
KAPI LR LR 09 56 30.2
comp=Z,1μm,20.9s,baz=70,slow=34
comp=Z,16nm,0.8s
KAPI Kappang 31.39 239 P **P** **09 44 50.9 -1.1**
KAPI Kappang 31.39 239 P **P** **09 44 51.9 -0.1**
BSSI Bau Bau, Buton 31.41 236 P **P** **09 44 50.6 -1.6**
comp=Z,58nm,1.5s
BATI Baumata 31.56 226 LR LR 09 58 43.3
comp=Z,1μm,19.1s,baz=60,slow=38
HJU Haeju 31.73 328 P **P** **09 44 57.6 +2.8**
HJU S **S** **09 50 00.3 -2.8**
HJU AmB
comp=Z,628nm,2.8s
HJU AMS AMS
comp=Z,5μm,16.4s
CTA Charters Tower 31.96 180 LR LR 09 57 43.3
comp=Z,2μm,18.8s,baz=360,slow=36
CTA Charters Tower 31.96 180 P **P** **09 44 58.4 +1.5**
CTAO Charters Tower 31.96 180 P **P** **09 44 56.6 -0.3**
CTAO Charters Tower 31.96 180 P **P** **09 44 58.6 +1.7**
CTAO Charters Tower 31.96 180 P **P** **09 44 56.6 -0.3**
CTAO pmax pmax
comp=Z,31nm,1.2s
CTAO MLR MLR
comp=Z,2μm,18.0s
JKA Kamikawa-asahi 32.09 355 P **P** **09 44 59.5 +1.6**
JKA IAmb IAmb 09 45 02.2
comp=Z,111nm,1.3s
ASAJ Asahikawa 32.09 355 P **P** **09 44 58.1 +0.3**
comp=Z,38nm,0.8s,baz=205,slow=13,SNR=14
ASAJ LR LR 09 59 57.5
comp=Z,2μm,19.1s,baz=194,slow=40
comp=Z,38nm,0.8s
ASAJ Asahikawa 32.09 355 P **P** **09 44 59.5 +1.6**
ASAJ pmax pmax
comp=Z,111nm,1.3s
NJ2 Nanjing 32.13 313 ⇑P **P** **09 45 01.4 +3.0**
NJ2 pP **pP** **09 45 04.0 0.0**
NJ2 S **S** **09 50 13.9 +4.4**
NJ2 sS **sS** **09 50 21.5 +2.8**
NJ2 pmax pmax
comp=Z,20nm,1.0s
NJ2 LR LR
comp=Z,1μm,10.0s
NJ2 LR LR
comp=Z,2μm,9.5s
NJ2 LR LR
comp=Z,3μm,22.6s
HHU Hamhung 32.33 332 P **P** **09 45 03.0 +3.0**
PYAG Pyongyang 32.48 329 P **P** **09 45 04.6 +3.3**
PYAG S **S** **09 50 12.0 -2.8**
PYAG AmB
comp=Z,719nm,4.0s
PYAG AMS AMS
comp=Z,4μm,14.9s
KNRA Kununurra 32.58 213 P **P** **09 45 02.3 -0.2**
KNRA Kununurra 32.58 213 P **P** **09 45 03.1 +0.7**
QIS Mount Isa 33.09 192 P **P** **09 45 06.9 +0.1**
WB0 Warramunga Arr 33.74 200 P **P** **09 45 12.4 -0.1**
WB0 IAmb IAmb 09 45 26.0
comp=Z,84nm,1.2s
WR0 Warramunga Arr 33.87 200 P **P** **09 45 13.0 -0.7**
WR0 IAmb IAmb 09 45 27.2
comp=Z,65nm,1.1s
WRAB Tennant Creek 33.91 200 P **P** **09 45 13.9 -0.1**
WRAB IAmb IAmb 09 45 27.5
comp=Z,70nm,1.1s
WRAB Tennant Creek 33.91 200 P **P** **09 45 13.8 -0.2**
WRAB Tennant Creek 33.91 200 P **P** **09 45 13.9 -0.1**
WRAB pmax pmax
comp=Z,70nm,1.1s
WRAB MLR MLR
comp=Z,3μm,22.0s
SUJ Sinuiju 33.91 329 P **P** **09 45 17.2 +3.3**
SUJ S **S** **09 50 35.3 -1.7**
SUJ AmB
comp=Z,708nm,2.6s
SUJ AMS AMS
comp=Z,3μm,12.7s
WB2 Warramunga Arr 33.92 200 P **P** **09 45 12.9 -1.2**
WB2 IAmb IAmb 09 45 27.7
comp=Z,67nm,0.9s
WRA Warramunga Arr 33.92 200 P **P** **09 45 13.5 -0.7**
comp=Z,22nm,0.9s,baz=22,slow=9.5,SNR=51
WRA LR LR 10 00 39.1
comp=Z,1μm,18.3s,baz=17,slow=39
comp=Z,22nm,0.9s
WRA Warramunga Arr 33.92 200 P **P** **09 45 12.7 -1.4**
WRA Warramunga Arr 33.92 200 *i* P **P** **09 45 14.0 -0.1**
WRA pmax pmax
comp=Z,22nm,0.9s
USA0B Ussuriysk Arra 34.30 342 P **P** **09 45 16.4 -0.8**
USA0B Ussuriysk Arra 34.30 342⇓*e*P **P** **09 45 17.2 0.0**
USRK Ussuriysk Ar. 34.30 342 P **P** **09 45 17.2 0.0**
comp=Z,22nm,0.8s,baz=164,slow=9.5,SNR=13
USRK LR LR 09 58 29.7
comp=Z,2μm,19.2s,baz=141,slow=35
comp=Z,22nm,0.8s
USRK Ussuriysk Ar. 34.30 342 P **P** **09 45 15.8 -1.3**
DL2 Dalian 34.57 325 P **P** **09 45 20.5 +1.0**
DL2 S **S** **09 50 48.9 +1.7**
DL2 pmax pmax
comp=Z,220nm,0.8s
DL2 pmax pmax
comp=Z,970nm,3.9s
DL2 LR LR
comp=Z,2μm,14.0s
DL2 LR LR
comp=Z,1μm,14.6s
DL2 LR LR
comp=Z,2μm,18.2s
WHN Wuhan 34.81 307⇓P **P** **09 45 23.0 +1.3**
WHN S **S** **09 50 50.5 -0.6**
WHN pmax pmax
comp=Z,260nm,1.3s
WHN LR LR
comp=Z,7μm,13.9s
WHN LR LR
comp=Z,5μm,15.1s
WHN LR LR
comp=Z,9μm,17.5s
YSS Yuzh-Sakhalins 34.90 356 P **P** **09 45 21.8 -0.4**
YSS IAMs_20 IAMs_20 09 58 54.7
comp=Z,3μm,20.0s
YSS Yuzh-Sakhalins 34.90 356 P **P** **09 45 24.6 +2.3**
YSS Yuzh-Sakhalins 34.90 356 *e*P **P** **09 45 21.3 -1.0**
YSS *e*S **S** **09 50 50.4 -1.7**
YSS pmax pmax
comp=Z,40nm,1.3s
YSS pmax pmax
comp=Z,400nm,7.4s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS MLR MLR
comp=N,2μm,16.0s
YSS MLR MLR
comp=E,1μm,15.0s
CNSH ChangSha 35.04 302⇓P **P** **09 45 26.5 +2.7**
CNSH S **S** **09 51 00.8 +6.0**
CNSH SS **SnSn** **09 53 09.6 -2.0**
CNSH pmax pmax
comp=E,61nm,1.3s
CNSH LR LR
comp=E,4μm,15.0s
CNSH LR LR
comp=E,2μm,15.1s
CNSH LR LR
comp=E,2μm,23.2s
SBUM Sibu 35.09 257 P **P** **09 45 24.0 -0.4**
SBUM IAmb IAmb 09 45 38.2
comp=Z,114nm,1.1s
SBUM Sibu 35.09 257 P **P** **09 45 26.0 +1.6**
MDJ Mudanjiang 35.46 339 P **P** **09 45 26.6 -0.5**
MDJ IAmb IAmb 09 45 31.4
comp=Z,72nm,1.3s
MDJ IAMs_20 IAMs_20 09 58 28.2
comp=Z,3μm,22.0s
MDJ Mudanjiang 35.46 339 P **P** **09 45 27.4 +0.2**
MDJ sP sP 09 45 35.9 +0.4
MDJ S **S** **09 51 06.8 +6.0**
MDJ pmax pmax
comp=Z,17nm,1.0s
MDJ pmax pmax
comp=Z,1μm,5.1s
MDJ LR LR
comp=Z,2μm,18.4s
MDJ LR LR
comp=Z,3μm,20.2s
MDJ LR LR
comp=Z,4μm,24.9s
MDJ Mudanjiang 35.46 339 P **P** **09 45 27.9 +0.7**
TIA Tai'an 35.62 317⇓P **P** **09 45 29.3 +0.6**
TIA S **S** **09 51 02.4 -1.1**
TIA pmax pmax
comp=Z,16nm,0.8s
TIA pmax pmax
comp=Z,630nm,4.3s
TIA LR LR
comp=Z,1μm,15.1s
TIA LR LR
comp=Z,2μm,16.7s
TIA LR LR
comp=Z,3μm,16.2s
SNY Shenyang 35.67 330⇓P **P** **09 45 27.3 -1.7**
SNY S **S** **09 51 01.0 -3.1**
SNY pmax pmax
comp=Z,990nm,5.3s
SNY LR LR
comp=Z,2μm,13.3s
SNY LR LR
comp=Z,2μm,13.3s
SNY LR LR
comp=Z,2μm,19.6s
QIZ Qiongzhong 35.75 286 P **P** **09 45 34.4 +4.4**
QIZ S **S** **09 51 10.3 +4.4**
QIZ LR LR
comp=Z,3μm,18.8s
QIZ LR LR
comp=Z,2μm,21.0s
QIZ LR LR
comp=Z,2μm,26.9s
QIZ Jiongzhong 35.75 286 P **P** **09 45 32.4 +2.4**
FITZ Fitzroy Crossi 36.26 215 P **P** **09 45 34.0 -0.3**
FITZ Fitzroy Crossi 36.26 215 P **P** **09 45 34.2 -0.1**
CN2 Changchun 36.37 334⇓P **P** **09 45 35.1 +0.1**
CN2 pP pP 09 45 40.0 -1.0
CN2 S **S** **09 51 16.3 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,1μm,6.0s
CN2 LR LR
comp=Z,3μm,17.0s
CN2 LR LR
comp=Z,3μm,17.0s
CN2 LR LR
comp=Z,4μm,19.0s
SRBI Singaraja 36.83 239 P **P** **09 45 37.7 -1.6**
comp=Z,62nm,1.2s,comp=Z,1μm
KOUNC Koumac, New Ca 36.93 151 P **P** **09 45 40.4 +0.4**
KOUNC IAmb IAmb 09 45 41.5
comp=Z,226nm,1.7s
KOUNC IAMs_20 IAMs_20 09 59 36.9
comp=Z,4μm,20.0s
KOUNC Koumac, New Ca 36.93 151 P **P** **09 45 40.3 +0.4**
DLV T Lat 36.97 274 P **P** **09 45 41.8 +1.1**
UGL Uglegorsk 37.06 355 *e*P **P** **09 45 44.6 +3.8**
UGL *e*S **S** **09 51 31.3 +6.2**
UGL pmax pmax
comp=Z,60nm,1.3s
UGL MLR MLR
comp=N,3μm,20.0s
UGL MLR MLR
comp=E,2μm,20.0s
UGL MLR MLR
comp=Z,3μm,20.0s
BNX BinXian 37.21 338⇓P **P** **09 45 42.1 0.0**
BNX pP **pP** **09 45 46.0 -2.1**
BNX sP **sP** **09 45 47.8 -2.7**
BNX PP **PnPn** **09 47 11.0 +3.3**
BNX S **S** **09 51 27.4 -0.1**
BNX sS **pS** **09 51 33.5 -0.2**
BNX pmax pmax
comp=Z,110nm,0.9s
BNX pmax pmax
comp=Z,2μm,4.5s
BNX LR LR
comp=Z,2μm,17.9s
BNX LR LR
comp=Z,2μm,15.8s
BNX LR LR
comp=Z,2μm,15.3s
PBKI Pangkalan Bun 37.42 249 P **P** **09 45 44.5 +0.2**
comp=Z,206nm,0.9s,comp=Z,9μm
ABJI Asem Bagus 37.50 240 P **P** **09 45 45.3 +0.4**
comp=Z,92nm,0.9s,comp=Z,3μm
EIDS Eidsvold 37.50 173 P **P** **09 45 44.3 -0.4**
EIDS Eidsvold 37.50 173 P **P** **09 45 45.4 +0.6**
AS01 Alice Springs 37.52 199 P **P** **09 45 44.3 -0.7**
AS31 Alice Springs 37.53 199 P **P** **09 45 44.5 -0.6**
ASAR Alice Springs 37.53 199 P **P** **09 45 44.2 -0.9**
comp=Z,12nm,0.9s,baz=22,slow=7.6,SNR=62
ASAR PP **PP** **09 47 11.2 +0.1**
comp=Z,16nm,1.2s,baz=25,slow=8.2,SNR=2.2
ASAR S **S** **09 51 30.7 -2.2**
comp=Z,1.1nm,1.1s,baz=13,slow=29,SNR=2.2
ASAR ScP **ScP** **09 51 49.1 +0.2**
comp=Z,0.9nm,0.9s,baz=37,slow=4.8,SNR=3.5
ASAR LR LR 09 59 58.1
comp=Z,2μm,22.0s,baz=25,slow=34
comp=Z,12nm,0.9s
HNS HongShan 37.89 317 ⇑P **P** **09 45 48.3 +0.3**
HNS PP **PnPn** **09 47 22.1 +6.0**
HNS S **S** **09 51 35.4 -2.7**
HNS pmax pmax
comp=Z,380nm,1.2s
HNS LR LR
comp=Z,3μm,17.6s
HNS LR LR
comp=Z,2μm,18.3s
LYN LuoYang 38.01 312⇓P **P** **09 45 49.8 +0.8**
LYN pP pP 09 45 54.3 -0.4
LYN PP **PnPn** **09 47 21.3 +3.7**
LYN S **S** **09 51 38.9 -1.1**
LYN SS **SnSn** **09 54 20.6 -2.6**
LYN pmax pmax
comp=Z,25nm,0.6s
LYN pmax pmax
comp=Z,1μm,4.4s
LYN LR LR
comp=Z,5μm,17.0s
LYN LR LR
comp=Z,4μm,15.5s
LYN LR LR
comp=Z,2μm,20.2s
BLJI Banyuglugur 38.02 240 P **P** **09 45 49.1 -0.2**
comp=Z,170nm,0.5s,comp=Z,13μmcomp=Z,11μm
RMQ Roma 38.40 176 P **P** **09 45 52.0 -0.3**

GMJI Gumukmas 38.42 240 P **P** **09 45 52.2 -0.5**
comp=Z,47nm,1.1s,comp=Z,27µm
QLP Quilpie 38.47 183 P **P** **09 45 52.6 -0.3**
BJT Baijiatuau 38.49 322 P **P** **09 45 52.9 -0.1**
BJT IAmb IAmb 09 45 57.3
comp=Z,172nm,0.9s
BJT Baijiatuau 38.49 322 P **P** **09 45 53.5 +0.5**
BJT Baijiatuau 38.49 322 P **P** **09 45 52.9 -0.1**
BJT pmax pmax
comp=Z,173nm,0.9s
BJT MLR MLR
comp=Z,1µm,20.0s
BJI Beijing 38.50 322 P **P** **09 45 53.3 +0.3**
BJI pP **pP** **09 45 56.3 -2.4**
BJI S **S** **09 51 47.3 +0.1**
BJI pmax pmax
comp=Z,22nm,1.0s
BJI pmax pmax
comp=Z,500nm,3.6s
BJI LR LR
comp=Z,590nm,22.1s
BJI LR LR
comp=Z,580nm,20.2s
BJI LR LR
comp=Z,1µm,22.5s
GRJI Gresik 38.56 242 P **P** **09 45 53.9 0.0**
comp=Z,119nm,0.9s,comp=Z,1µm
ENH Enshi 38.59 304 P **P** **09 45 54.0 0.0**
ENH IAmb IAmb 09 46 08.2
comp=Z,173nm,1.0s
ENH IAMs_20 IAMs_20 09 59 16.8
comp=Z,3µm,21.0s
ENH Enshi 38.59 304 P **P** **09 45 54.9 +0.9**
TYV Tymovskoe 38.80 356 *e*P **P** **09 45 55.1 -0.3**
TYV *e*S **S** **09 51 53.7 +2.3**
TYV pmax pmax
comp=Z,400nm,2.1s
TYV pmax pmax
comp=Z,53nm,1.4s
TYV smax smax
comp=N,500nm,3.8s
TYV smax smax
comp=E,400nm,3.8s
TYV MLR MLR
comp=N,2µm,19.0s
TYV MLR MLR
comp=Z,900nm,19.0s
KLR Kul'dur 38.96 345 P **P** **09 45 56.1 -0.7**
comp=Z,24nm,0.9s,baz=135,slow=12,SNR=24
KLR LR LR 10 01 44.7
comp=Z,2µm,18.9s,baz=156,slow=36
comp=Z,24nm,0.9s
KLR Kul'dur 38.96 345⇓ *e*P **P** **09 45 56.3 -0.5**
KLR pmax pmax
comp=Z,59nm,1.3s
NOUC Port Laguerre 39.22 150 P **P** **09 45 59.7 +0.4**
AUBSH Beerwah State 39.23 171 P **P** **09 45 59.7 +0.4**
DZM Mont Dzumac 39.26 150 P **P** **09 45 59.0 -0.8**
comp=Z,18nm,1.0s,baz=289,slow=13,SNR=6.4
DZM LR LR 10 01 53.7
comp=Z,3µm,18.3s,baz=9.5,slow=36
comp=Z,18nm,1.0s
DZM Mont Dzumac 39.26 150 *e*P **P** **09 45 59.0 -0.8**
comp=Z,188nm,1.4s
DZM Mont Dzumac 39.26 150 *e*PP **PP** **09 47 28.0 -2.1**
comp=Z,125nm,21.6s
DZM *e*S **S** **09 52 00.9 +1.7**
comp=Z,1µm,29.8s
DZM *e*LR LR 09 56 44.0
comp=Z,4µm,24.9s
DZM Mont Dzumac 39.26 150 P **P** **09 45 58.4 -1.3**
DZM IAmb IAmb 09 46 12.9
comp=Z,101nm,1.3s
DZM Mont Dzumac 39.26 150 P **P** **09 46 00.1 +0.4**
GRNR Gornyy 39.43 350⇑ *i*P P 09 45 55.1 -5.6
GRNR *e*S **S** **09 51 55.6 -5.3**
GRNR pmax pmax
comp=N,3.0nm,0.9s
GRNR pmax pmax
comp=E,4.0nm,0.9s
GRNR pmax pmax
comp=Z,2.0nm,0.8s
GRNR smax smax
comp=N,1.0nm,0.7s
ONTNC Ouen Toro 39.47 150 P **P** **09 46 00.9 -0.4**
ONTNC IAmb IAmb 09 46 02.1
comp=Z,320nm,1.9s
MARNC Mare, Loyalty 39.58 147 P **P** **09 46 01.8 -0.5**
TIY Taiyuan 39.59 316 *e*P **P** **09 46 03.9 +1.6**
TIY PP **PP** **09 47 38.8 +5.4**
TIY S **S** **09 51 59.6 -4.2**
TIY pmax pmax
comp=Z,86nm,0.9s
TIY pmax pmax
comp=Z,1µm,5.1s
TIY LR LR
comp=Z,2µm,15.1s
TIY LR LR
comp=Z,800nm,16.5s
TIY LR LR
comp=Z,2µm,18.6s
NGJI Ngawi 39.67 243 P **P** **09 46 03.5 +0.4**
comp=Z,106nm,1.6s
PWJI Pagerwojo 39.69 241 P **P** **09 46 02.1 -1.2**
comp=Z,255nm,0.9s,comp=Z,3µm
AUWSH Wavell State H 39.78 171 P **P** **09 46 03.8 0.0**
GYA Guiyang 39.89 297⇓ P **P** **09 46 07.6 +2.6**
GYA pP sP 09 46 13.3 +0.2
GYA PP **PnPn** **09 47 43.0 +2.7**
GYA S **S** **09 52 08.3 -0.4**
GYA pmax pmax
comp=Z,50nm,1.6s
GYA pmax pmax
comp=Z,960nm,3.5s
GYA LR LR
comp=Z,1µm,18.6s
INKA Innaminka 39.94 188 P **P** **09 46 04.5 -0.7**
XAN Xi'an 40.43 309 P **P** **09 46 09.6 +0.2**
XAN sP sP 09 46 16.8 -0.6
XAN PP **PnPn** **09 47 46.4 -0.2**
XAN S **S** **09 52 16.3 -0.2**
XAN sS sS 09 52 24.1 -1.7
XAN SS **SS** **09 55 07.3 -8.9**
XAN ScS **ScS** **09 56 13.0 -1.2**
XAN pmax pmax
comp=Z,48nm,1.0s
XAN pmax pmax
comp=Z,1µm,4.3s
XAN LR LR
comp=Z,2µm,18.0s
XAN LR LR
comp=Z,2µm,19.1s
XAN LR LR
comp=Z,2µm,19.6s
UGM Wanagama 40.74 243 P **P** **09 46 10.4 -1.7**
UGM Wanagama 40.74 243 P **P** **09 46 12.7 +0.6**
UGM Wanagama 40.74 243 P **P** **09 46 12.4 +0.3**
comp=Z,257nm,1.3s
WRKA Warakurna 40.85 205 P **P** **09 46 12.1 -0.8**
YOGI Yogyakarta 40.89 243 P **P** **09 46 13.8 +0.5**
comp=Z,206nm,2.1s,comp=Z,3µm
OOD Oodnadatta 40.94 194 P **P** **09 46 12.9 -0.6**
XLT XiLinHaoTe 41.01 326 *e*P **P** **09 46 14.9 +0.8**
XLT pP pP 09 46 19.5 -0.2
XLT sP pwP 09 46 25.1 -2.9
XLT PcP **PcP** **09 48 16.1 +2.3**
XLT S **S** **09 52 18.0 -7.0**
XLT sS pS 09 52 31.5 +0.1
XLT SS **SS** **09 55 25.8 -1.8**
XLT ScS **ScS** **09 56 14.1 -3.3**
XLT pmax pmax
comp=Z,110nm,1.6s
XLT pmax pmax
comp=Z,890nm,4.2s
XLT LR LR
comp=Z,200nm,21.8s
XLT LR LR
comp=Z,2µm,16.6s
XLT LR LR
comp=Z,2µm,23.2s
HEH HeiHe 41.11 342 *e*P **P** **09 46 14.8 +0.2**
HEH sP **pP** **09 46 20.6 0.0**
HEH S **S** **09 52 29.4 +3.3**
HEH pmax pmax
comp=Z,180nm,1.2s
HEH pmax pmax
comp=Z,490nm,5.7s
HEH LR LR
comp=Z,1µm,15.8s
HEH LR LR
comp=Z,2µm,17.1s
HEH LR LR
comp=Z,2µm,17.6s
AULRC Lightning Ridg 41.29 178 P **P** **09 46 15.3 -1.0**
HHC Hu-ho-hao-te 41.83 320 *e*P **P** **09 46 22.8 +2.0**
HHC S **S** **09 52 34.1 -3.2**
HHC SS **SS** **09 55 42.5 -1.4**
HHC pmax pmax
comp=Z,280nm,1.2s
HHC pmax pmax
comp=Z,2µm,4.4s
HHC LR LR
comp=Z,4µm,15.9s
HHC LR LR
comp=Z,2µm,15.2s
HHC LR LR
comp=Z,4µm,18.4s
KPJI Karang Pucung 41.87 244 P **P** **09 46 21.5 +0.2**
comp=Z,104nm,1.0s,comp=Z,2µm
PEA0B Petropavlovsk- 41.94 10 P **P** **09 46 21.0 -0.4**
PEA0B IAmb IAmb 09 46 26.8
comp=Z,153nm,1.5s
PEA0B Petropavlovsk- 41.94 10 P **P** **09 46 21.0 -0.4**
PEA0B pmax pmax
comp=Z,153nm,1.5s
PETK Petropavlovsk- 41.94 10 P **P** **09 46 21.2 -0.2**
comp=Z,8.6nm,0.9s,baz=178,slow=6.6,SNR=2.9
PETK LR LR 10 04 19.0
comp=Z,2µm,19.4s,baz=200,slow=37
comp=Z,8.6nm,0.9s
PETK Petropavlovsk- 41.94 10 P **P** **09 46 20.8 -0.6**
NONG Nongkai 42.03 284 P **P** **09 46 24.6 +2.0**
PET Petropavlovsk 42.03 11 P **P** **09 46 22.9 +0.9**
PET Petropavlovsk 42.03 11 *e*P **P** **09 46 23.4 +1.3**
PET *e*S **S** **09 52 39.8 +0.2**
PET 09 55 46.9
PET pmax pmax
comp=Z,64nm,1.4s
PET MLR MLR
comp=Z,2µm,20.0s
MBWA Marble Bar 42.10 219 P **P** **09 46 22.2 -0.8**
MBWA Marble Bar 42.10 219 P **P** **09 46 22.4 -0.7**
PPBI Pangkal Pinang 42.34 253 P **P** **09 46 24.6 -0.6**
PSA00 Pilbara Seismi 42.34 218 P **P** **09 46 24.4 -0.7**
PSA00 Pilbara Seismi 42.34 218 P **P** **09 46 24.5 -0.6**
ARMA Armidale 42.55 173 P **P** **09 46 25.7 -1.1**
ARMA Armidale 42.55 173 P **P** **09 46 27.0 +0.2**
BTO Baotou 42.69 318 *e*P **P** **09 46 30.9 +3.1**
BTO PP **PP** **09 48 06.3 -0.8**
BTO S **S** **09 52 49.3 -0.7**
BTO LR LR
comp=Z,6µm,17.1s
BTO LR LR
comp=Z,7µm,16.7s
LEM Lembang 42.81 246 LR LR 10 06 29.5
comp=Z,534nm,18.0s,baz=114,slow=39
LEM Lembang 42.81 246 P **P** **09 46 27.8 -1.4**
comp=Z,48nm,0.9s
LCRK Leigh Creek 42.98 190 P **P** **09 46 29.4 -0.7**
BBJI Bungbulang 43.06 245 P **P** **09 46 33.0 +1.9**
KMI Kunming 43.09 294⇓ P **P** **09 46 32.1 +0.6**
KMI pP pP 09 46 36.4 -0.9
KMI S **S** **09 52 54.0 -2.6**
KMI sS sS 09 53 05.3 -0.6
KMI pmax pmax
comp=Z,110nm,1.2s
KMI pmax pmax
comp=Z,710nm,6.0s
KMI LR LR
comp=Z,2µm,15.5s
KMI LR LR
comp=Z,670nm,20.7s
KMI LR LR
comp=Z,2µm,20.8s
HIA Hailar 43.10 335 P **P** **09 46 31.0 0.0**
HIA Hailar 43.10 335 IAMs_20 IAMs_20 10 03 41.5
comp=Z,2µm,20.0s
HIA Hailar 43.10 335 P **P** **09 46 31.8 +0.8**
HIA Hailar 43.10 335 *ce*P **P** **09 46 31.8 +0.8**
HIA pmax pmax
comp=Z,246nm,1.0s
MSVF Nonsavu 43.12 133 P **P** **09 46 30.5 -1.1**
comp=Z,14nm,1.0s,baz=208,slow=1.7,SNR=6.5
MSVF LR LR 10 02 26.4
comp=Z,2µm,19.2s,baz=322,slow=33
comp=Z,14nm,1.0s
MSVF Nonsavu 43.12 133 P **P** **09 46 31.4 -0.1**
MSVF IAmb IAmb 09 46 44.9
comp=Z,98nm,1.4s
MSVF Nonsavu 43.12 133 P **P** **09 46 32.3 +0.8**
MSVF Nonsavu 43.12 133 P **P** **09 46 31.4 -0.1**
MSVF pmax pmax
comp=Z,98nm,1.4s
AUPHS Peel High Scho 43.15 174 P **P** **09 46 31.2 -0.3**
DSRI Dabo 43.26 256 P **P** **09 46 33.1 +0.4**
comp=Z,73nm,2.1s,comp=Z,2µm
MYKOM Kota Tinggi 43.30 260 P **P** **09 46 32.2 -0.8**
MYKOM Kota Tinggi 43.30 260 P **P** **09 46 34.0 +1.0**
CBJI Citeko 43.32 247 P **P** **09 46 33.1 -0.1**
CMSA Cobar Meteorol 43.36 181 P **P** **09 46 33.3 +0.1**
CD2 Chengdu 43.48 302 P **P** **09 46 34.9 +0.6**
CD2 PP **PP** **09 48 16.4 +0.7**
CD2 S **S** **09 53 01.3 -0.5**
CD2 pmax pmax
comp=Z,130nm,1.1s
CD2 pmax pmax
comp=Z,700nm,4.8s
CD2 LR LR
comp=Z,1µm,13.7s
CD2 LR LR
comp=Z,960nm,14.2s
CD2 LR LR
comp=Z,1µm,12.3s
MULG Mulgathing 43.73 195 P **P** **09 46 36.0 -0.1**
NAYO Nakonayok 43.80 278 P **P** **09 46 38.2 +1.1**
FUTU Fugatoga 43.93 126 P **P** **09 46 38.0 0.0**
STKA Stephens Creek 43.93 186 P **P** **09 46 36.8 -0.9**
comp=Z,4.8nm,0.6s,baz=24,slow=8.0,SNR=12
STKA LR LR 10 04 36.5
comp=Z,1µm,18.9s,baz=2.2,slow=36
comp=Z,4.8nm,0.6s
STKA Stephens Creek 43.93 186 P **P** **09 46 36.5 -1.2**
STKA Stephens Creek 43.93 186 P **P** **09 46 37.4 -0.3**
AUDCS Dubbo College 44.11 177 P **P** **09 46 38.5 -0.6**
PZH PanZhiHua 44.21 296 P **P** **09 46 41.0 +0.6**
PZH sP **pwP** **09 46 52.6 -1.5**
PZH S **S** **09 53 09.8 -2.9**
PZH sS **sS** **09 53 27.3 +5.3**
PZH pmax pmax
comp=Z,60nm,0.7s
PZH pmax pmax
comp=Z,830nm,5.4s
PZH LR LR
comp=Z,2µm,18.6s
PZH LR LR
comp=Z,1µm,20.1s
PZH LR LR
comp=Z,1µm,22.2s
ZEA Zeya 44.24 344 *e*P **P** **09 46 40.5 +0.5**
ZEA *e*S **S** **09 53 14.8 +2.8**
ZEA *e*SS **SS** **09 56 27.0 -3.6**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA pmax pmax
comp=N,300nm,7.7s
ZEA pmax pmax
comp=Z,300nm,7.2s
ZEA pmax pmax
comp=Z,200nm,6.3s
ZEA smax smax
comp=N,300nm,9.4s
ZEA MLR MLR
comp=E,500nm,15.0s
ZEA MLR MLR
comp=N,1µm,17.0s
ZEA MLR MLR
comp=Z,1µm,16.0s
CGJI Cibinong 44.45 247 P **P** **09 46 40.7 -1.5**
comp=Z,233nm,1.5s,comp=Z,2µm
CRAI Chiangrai 44.74 287 P **P** **09 46 43.7 -0.8**
PHRA Phrae 44.81 284 P **P** **09 46 44.2 -0.8**
MDSI Maura Dua 45.00 251 P **P** **09 46 45.6 -1.0**
comp=Z,119nm,0.9s,comp=Z,2µm
LZH Lanzhou 45.06 309 *e*P **P** **09 46 48.3 +1.3**
LZH sP pwP 09 46 59.6 -1.3
LZH S **S** **09 53 23.9 -0.9**
LZH sS sS 09 53 34.0 -0.1
LZH pmax pmax
comp=Z,200nm,1.4s
LZH pmax pmax
comp=Z,1µm,5.4s
LZH LR LR
comp=Z,3µm,17.1s
LZH LR LR
comp=Z,2µm,18.1s
LZH LR LR
comp=Z,2µm,18.1s
KASI Kota Agung 45.10 250 P **P** **09 46 45.8 -1.6**
comp=Z,219nm,1.0s,comp=Z,2µm
LWLI Liwa 45.31 250 P **P** **09 46 48.6 -0.6**
comp=Z,453nm,0.8s
IPM Ipoh 45.39 264 P **P** **09 46 49.1 -0.7**
IPM IAmb IAmb 09 47 02.8
comp=Z,49nm,1.1s
IPM Ipoh 45.39 264 P **P** **09 46 50.8 +1.0**
KULM Kulim 45.58 266 P **P** **09 46 49.5 -1.7**
KULM IAmb IAmb 09 47 04.9
comp=Z,75nm,1.1s
BBOO Buckleboo 45.69 192 P **P** **09 46 51.0 -0.7**
BBOO IAmb IAmb 09 47 04.9
comp=Z,63nm,0.9s
BBOO Buckleboo 45.69 192 P **P** **09 46 52.0 +0.2**
HTT Hallett 45.79 189 P **P** **09 46 51.7 -0.9**
SURA Surathani 45.93 271 P **P** **09 46 56.2 +2.2**
CM31 Chiang Mai Arr 46.03 284 P **P** **09 46 53.0 -1.8**
CMAR Chiang Mai Arr 46.03 284 P **P** **09 46 54.8 0.0**
comp=Z,12nm,0.8s,baz=84,slow=6.2,SNR=27
CMAR LR LR 10 07 38.2
comp=Z,586nm,18.6s,baz=100,slow=38
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 46.03 284 P **P** **09 46 54.5 -0.3**
CMAR Chiang Mai Arr 46.03 284 *i*P **P** **09 46 55.2 +0.4**
CMAR pmax pmax
comp=Z,9.0nm,0.5s
CHTO Chiang Mai 46.03 285 P **P** **09 46 54.2 -0.6**
CHTO Chiang Mai 46.03 285 P **P** **09 46 54.2 -0.6**
CHTO pmax pmax
comp=Z,12nm,0.8s
SRIT Nakonsritamara 46.03 270 P **P** **09 46 57.1 +2.3**
comp=Z,74nm,1.4s
FORT Forrest 46.07 202 P **P** **09 46 54.6 -0.2**
FORT Forrest 46.07 202 P **P** **09 46 55.0 +0.2**
MNAI Manna 46.09 252 P **P** **09 46 54.0 -1.2**
MNAI Manna 46.09 252 P **P** **09 46 53.4 -1.9**
comp=Z,458nm,0.9s
SHEM Shemya Is, Ala 46.27 23 LR LR 10 03 23.0
comp=Z,2µm,21.1s,baz=230,slow=32
MASI Maura Aman, Be 46.33 254 P **P** **09 46 56.5 -0.7**
comp=Z,129nm,1.3s,comp=Z,2µm
SDSI Sungai Dareh 46.39 257 P **P** **09 46 57.4 -0.3**
comp=Z,49nm,0.7s
BKNI Bangkinang 46.40 259 P **P** **09 46 56.2 -1.5**
BKNI Bangkinang 46.40 259 P **P** **09 46 58.5 +0.8**
TNCH TengChong 46.87 293⇑ P **P** **09 47 02.8 +1.3**
TNCH pP pP 09 47 05.8 -1.5
TNCH sP sP 09 47 07.9 -1.7
TNCH S **S** **09 53 51.8 +0.6**
TNCH SS **SS** **09 57 12.1 -5.9**
TNCH pmax pmax
comp=Z,140nm,1.3s
TNCH pmax pmax
comp=Z,470nm,3.1s
TNCH LR LR
comp=Z,880nm,16.3s
TNCH LR LR
comp=Z,710nm,16.8s
TNCH LR LR
comp=Z,2µm,17.0s
PDSI Padang 47.31 257 P **P** **09 47 03.6 -1.3**
comp=Z,63nm,1.0s,comp=Z,2µm
MA2 Magadan 47.53 3 P **P** **09 47 05.9 0.0**
comp=Z,22nm,0.9s,baz=162,slow=6.6,SNR=14
MA2 LR LR 10 07 26.2
comp=Z,1µm,20.0s,baz=192,slow=37
comp=Z,22nm,0.9s
MA2 Magadan 47.53 3 P **P** **09 47 05.3 -0.6**
MA2 IAmb IAmb 09 47 10.2
comp=Z,39nm,1.0s
MA2 IAMs_20 IAMs_20 10 07 45.9
comp=Z,2µm,21.0s
MA2 Magadan 47.53 3 P **P** **09 47 06.7 +0.8**
MA2 Magadan 47.53 3*c i*P **P** **09 47 06.4 +0.5**
MA2 pmax pmax
comp=Z,48nm,1.0s
CIT Chita 47.80 333 *e*P **P** **09 47 09.4 +1.2**
CIT pmax pmax
comp=Z,403nm,2.2s
PSI Prapat 47.81 263 LR LR 10 07 40.1
comp=Z,518nm,21.2s,baz=105,slow=37
PSI Prapat 47.81 263 P **P** **09 47 08.5 -0.4**
PSI Prapat 47.81 263 P **P** **09 47 08.0 -0.9**
PSI pmax pmax
comp=Z,96nm,1.4s
RPSI Rantau Prapat 47.83 263 P **P** **09 47 08.0 -0.9**
RPSI IAmb IAmb 09 47 21.6
comp=Z,96nm,1.4s
ULN Ulaanbaatar 48.42 325 P **P** **09 47 12.9 -0.2**
ULN Ulaanbaatar 48.42 325 IAMs_20 IAMs_20 10 09 27.0
comp=Z,1µm,18.0s
ULN Ulaanbaatar 48.42 325*c i*P **P** **09 47 14.1 +0.9**
ULN pmax pmax
comp=Z,114nm,1.3s
ARPS Mount Arapiles 48.76 185 P **P** **09 47 16.5 +0.9**
KCSI Kotacane, Aceh 48.76 264 P **P** **09 47 15.9 -0.2**
comp=Z,114nm,1.3s,comp=Z,2µm
SONM Songino Array 48.77 325 P **P** **09 47 16.4 +0.6**
comp=Z,21nm,0.7s,baz=138,slow=9.6,SNR=51
SONM LR LR 10 07 01.7
comp=Z,1µm,21.3s,baz=120,slow=35
comp=Z,21nm,0.7s
SONM Songino Array 48.77 325 P **P** **09 47 16.2 +0.4**
MND Mandalay 48.81 289 P **P** **09 47 16.9 +0.6**
AFI Afiamalu 48.92 121 LR LR 10 05 21.9
comp=Z,1µm,18.1s,baz=297,slow=33
KMBL Kambalda 49.14 208 P **P** **09 47 18.8 +0.1**
LHMI Lhok Sumawe 49.21 266 P **P** **09 47 19.6 +0.1**
comp=Z,188nm,0.9s
GTA Gaotai 49.22 312 *e*P **P** **09 47 20.8 +1.3**
GTA pP sP 09 47 28.3 +0.8
GTA sP pwP 09 47 31.8 -1.6
GTA PP **PP** **09 49 15.8 +2.4**
GTA S **S** **09 54 23.3 -0.7**
GTA sS sS 09 54 37.3 +4.0
GTA pmax pmax
comp=Z,52nm,1.3s
GTA pmax pmax
comp=Z,740nm,4.8s
GTA LR LR
comp=Z,2µm,15.9s
GTA LR LR
comp=Z,1µm,16.3s
GTA LR LR
comp=Z,1µm,18.3s
TOO Toolangi 49.38 181 P **P** **09 47 20.2 -0.3**
TOO IAmb IAmb 09 47 34.2
comp=Z,56nm,1.1s
TOO Toolangi 49.38 181 P **P** **09 47 22.0 +1.6**
TOO Toolangi 49.38 181 P **P** **09 47 20.2 -0.3**
TOO pmax pmax
comp=Z,56nm,1.2s
BRAT Ballarat 49.41 182 P **P** **09 47 22.0 +1.5**
GSI Gunungsitoli 49.48 261 P **P** **09 47 19.7 -1.9**
GSI Gunungsitoli 49.48 261 P **P** **09 47 20.8 -0.8**
GSI Gunungsitoli 49.48 261 P **P** **09 47 20.6 -1.0**
comp=Z,103nm,1.1s,comp=Z,3µm
MORW Morawa 50.27 215 P **P** **09 47 26.4 -0.9**
MORW IAmb IAmb 09 47 39.6
comp=Z,48nm,1.1s
MORW Morawa 50.27 215 P **P** **09 47 26.8 -0.5**
SNSI Sinabang, Aceh 50.42 263 P **P** **09 47 29.1 +0.4**
comp=Z,59nm,1.2s,comp=Z,3µm
SEY Seymchan 50.97 4 P **P** **09 47 32.0 -0.1**

comp=Z,7.0nm,0.7s,baz=177,slow=5.2,SNR=18
comp=Z,7.0nm,0.7s
SEY Seymchan 50.97 4 P **P** **09 47 32.0 -0.1**
BLDU Ballidu 51.10 213 P **P** **09 47 32.9 -0.6**
YAK Yakutsk 51.31 350 P **P** **09 47 34.7 +0.1**
comp=Z,44nm,0.7s,baz=354,slow=0.9,SNR=20
YAK LR LR 10 08 04.0
comp=Z,1µm,21.8s,baz=152,slow=35
comp=Z,44nm,0.7s
YAK Yakutsk 51.31 350 P **P** **09 47 34.7 +0.1**
YAK IAmb IAmb 09 47 40.0
comp=Z,91nm,0.8s
YAK IAMs_20 IAMs_20 10 07 08.5
comp=Z,3µm,22.0s
YAK Yakutsk 51.31 350 *d i* P **P** **09 47 35.0 +0.4**
YAK pmax pmax
comp=Z,106nm,0.8s
KLBR Kellerberrin 51.32 211 P **P** **09 47 34.5 -0.7**
BOD Bodaibo 51.83 339 *e*P **P** **09 47 39.6 +1.0**
BOD pmax pmax
comp=Z,111nm,1.6s
ZAK Zakamensk 51.87 326 *e*P **P** **09 47 39.4 +0.2**
ZAK pmax pmax
comp=Z,39nm,1.5s
GOMU GeErMu 52.06 307 P **P** **09 47 43.3 +2.1**
GOMU pP sP 09 47 47.8 -1.5
GOMU sP pP 09 47 49.0 +1.9
GOMU S **S** **09 55 04.0 0.0**
GOMU SS **SS** **09 58 42.6 +1.3**
GOMU pmax pmax
comp=Z,13nm,0.9s
GOMU pmax pmax
comp=Z,280nm,6.2s
GOMU LR LR
comp=Z,490nm,16.5s
GOMU LR LR
comp=Z,830nm,16.8s
GOMU LR LR
comp=Z,880nm,19.8s
IRK Irkutsk 52.37 329 *e*P **P** **09 47 43.5 +0.7**
IRK pmax pmax
comp=Z,215nm,3.8s
NWAO Narrogin (SRO) 52.66 211 LR LR 10 10 22.6
comp=Z,2µm,19.3s,slow=36
NWAO Narrogin (SRO) 52.66 211 IAMs_20 IAMs_20 10 10 01.4
comp=Z,3µm,18.0s
SHL Shillong 52.90 293 P **P** **09 47 47.7 +0.3**
SHL Shillong 52.90 293 P **P** **09 47 47.7 +0.3**
SHL pmax pmax
comp=Z,86nm,0.6s
BRDH Bariadhala 52.97 289 P **P** **09 47 48.2 +0.6**
comp=Z,111nm,0.3s,baz=90,slow=7.1,SNR=2.4
BRDH LR LR 10 13 07.2
comp=Z,940nm,18.2s,baz=88,slow=39
AULHS Lilydale High 53.06 179 P **P** **09 47 49.3 +1.4**
MOY Mondy 53.77 327 *e*P **P** **09 47 54.2 +0.9**
LSA Lhasa 53.94 298 P **P** **09 47 54.2 -1.1**
LSA Lhasa 53.94 298 P **P** **09 47 54.2 -1.1**
LSA pmax pmax
comp=Z,81nm,0.8s
TAPN Taplejung 56.75 295 *e*P **P** **09 48 15.8 +0.4**
comp=Z,111nm,0.8s
HIZ Hauiti 56.96 153 IAMs_20 IAMs_20 10 12 00.4
comp=Z,1µm,21.0s
ODAN Odare 57.01 294 *e*P **P** **09 48 17.0 -0.1**
BILL Bilibino 57.43 9 P **P** **09 48 20.1 +1.0**
BILL IAmb IAmb 09 48 25.1
comp=Z,67nm,1.0s
BILL Bilibino 57.43 9 *de*P **P** **09 48 19.8 +0.7**
BILL *e* 09 49 14.1
BILL *e* 09 50 26.0
BILL *e*PPP PPP 09 51 45.6
BILL *e*S **S** **09 56 18.6 +4.2**
BILL *e*SS **SS** **10 00 01.7 -2.4**
BILL pmax pmax
comp=Z,108nm,1.3s
BILL MLR MLR
comp=Z,700nm,19.0s
RAMN Ramite 57.72 294 *e*P **P** **09 48 22.6 +0.4**
URZ Urewera 57.77 152 LR LR 10 11 13.5
comp=Z,2µm,19.2s,baz=65,slow=34
MXZ Matakaoa Point 57.79 150 IAMs_20 IAMs_20 10 12 29.4
comp=Z,2µm,19.0s
QRZ Quartz Range 57.95 157 P **P** **09 48 23.6 +0.5**
RTZ Ruatahuna 58.00 152 P **P** **09 48 23.3 -0.3**
RTZ IAmb IAmb 09 48 36.6
comp=Z,59nm,1.1s
RTZ IAMs_20 IAMs_20 10 11 15.0
comp=Z,1µm,20.0s
JIRN Jiri 58.11 295 *e*P **P** **09 48 25.5 +0.4**
comp=Z,100nm,0.7s
BKZ Black Stump Fm 58.22 153 P **P** **09 48 26.3 +1.2**
TKNZ Takaka Hill 58.30 156 P **P** **09 48 25.1 -0.5**
GUN Gumba 58.40 295 *e*P **P** **09 48 27.5 +0.4**
comp=Z,128nm,0.9s
DSZ Denniston Nort 58.48 158 IAMs_20 IAMs_20 10 13 59.4
comp=Z,2µm,19.0s
MRNZ Matariki Terra 58.54 157 P **P** **09 48 26.2 -1.0**
KKN Kakani 58.92 295 *e*P **P** **09 48 30.3 -0.3**
S12K Black Hills 59.00 31 P **P** **09 48 29.2 -1.2**
baz=244
DMN Daman 59.07 295 *e*P **P** **09 48 31.6 0.0**
comp=Z,70nm,0.6s
WMQ Urumqi 59.19 314 ⇓P **P** **09 48 34.6 +2.6**
WMQ pP sP 09 48 42.0 +1.9
WMQ PcP **PcP** **09 49 19.8 -0.5**
WMQ S **S** **09 56 37.1 -1.2**
WMQ sS sS 09 56 46.5 -1.5
WMQ pmax pmax
comp=Z,130nm,1.7s
WMQ pmax pmax
comp=Z,1µm,5.1s
WMQ LR LR
comp=Z,2µm,15.5s
WMQ LR LR
comp=Z,640nm,14.1s
WMQ LR LR
comp=Z,1µm,23.7s
GKN Gorkha 59.50 295 *e*P **P** **09 48 34.4 -0.1**
comp=Z,67nm,0.6s
SDPT Sand Point 59.66 32 P **P** **09 48 34.3 -0.6**
baz=245
RPZ Rata Peaks 59.93 159 LR LR 10 11 06.3
comp=Z,2µm,21.9s,baz=316,slow=33
DANN Dangsing 60.29 296 *e*P **P** **09 48 39.5 -0.6**
comp=Z,192nm,0.8s
TIXI Tiksi 60.48 354 P **P** **09 48 39.6 -0.6**
comp=Z,7.7nm,0.7s,baz=90,slow=20,SNR=11
TIXI LR LR 10 16 16.0
comp=Z,962nm,19.8s,baz=1.0,slow=38
comp=Z,7.7nm,0.7s
TIXI Tiksi 60.48 354 P **P** **09 48 40.1 -0.1**
TIXI IAMs_20 IAMs_20 10 17 11.6
comp=Z,1µm,18.0s
TIXI Tiksi 60.48 354 *ce*P **P** **09 48 40.5 +0.3**
TIXI pmax pmax
comp=Z,15nm,0.9s
MQZ McQueen's Vall 60.49 158 IAMs_20 IAMs_20 10 15 36.6
comp=Z,1µm,18.0s
DGZ Jazzator, Alta 60.90 320 *de*P **P** **09 48 44.8 +1.1**
DGZ pmax pmax
comp=Z,55nm,0.8s
TNA Tin City 61.78 20 P **P** **09 48 49.5 +0.4**
ZSN Zaisan 61.97 318 *e*P **P** **09 48 51.5 +0.7**
comp=Z,31nm,1.1s,baz=318
ZSN *e*S **S** **09 57 16.8 +3.1**
baz=318
ZSN Zaisan 61.97 318 *e*P **P** **09 48 51.4 +0.7**
ZSN *e*S **S** **09 57 16.7 +3.1**
ZSN pmax pmax
comp=Z,31nm,1.1s
ANM Nome 62.08 21 P **P** **09 48 51.9 +0.8**
ANM Nome 62.08 21 P **P** **09 48 51.9 +0.8**
ANM pmax pmax
comp=Z,16nm,0.8s
CHIR Chirikof Islan 62.39 33 P **P** **09 48 52.4 -1.0**
baz=250
P16K Nushagak River 62.43 29 P **P** **09 48 52.5 -1.0**
baz=246
RAR Rarotonga 62.44 122 LR LR 10 10 29.5
comp=Z,685nm,19.7s,baz=301,slow=31
O16K Kokwok River B 62.61 28 P **P** **09 48 55.1 +0.3**
baz=245
N16K Nishlik Lake 62.68 27 P **P** **09 48 55.6 +0.3**
baz=244
O17K Koliganek Bris 63.15 28 P **P** **09 48 57.8 -0.6**
baz=246
SII Sitkinak Islan 63.40 32 P **P** **09 48 59.4 -0.7**
baz=250
MK31 Makanchi Array 63.55 316 P **P** **09 49 01.6 +0.2**
MK31 IAmb IAmb 09 49 09.1
comp=Z,29nm,0.8s
MK31 Makanchi Array 63.55 316 *c i* P **P** **09 49 02.5 +1.2**
MKAR Makanchi Array 63.55 316 P **P** **09 49 01.3 0.0**
comp=Z,37nm,0.8s,baz=94,slow=7.4,SNR=79
MKAR S **S** **09 57 36.0 +2.4**
comp=Z,0.3nm,0.8s,baz=189,slow=29,SNR=1.3
MKAR LR LR 10 18 01.3
comp=Z,724nm,18.7s,baz=98,slow=37
comp=Z,37nm,0.8s
MKAR Makanchi Array 63.55 316 P **P** **09 49 01.4 +0.1**
MKAR Makanchi Array 63.55 316 *i* P **P** **09 49 02.5 +1.2**
MKAR pmax pmax
comp=Z,37nm,0.8s
ZAA0 Zalesovo Array 63.67 325 P **P** **09 49 02.0 +0.1**
ZALV Zalesovo Beam 63.67 325 P **P** **09 49 01.9 +0.1**
comp=Z,21nm,0.8s,baz=105,slow=6.7,SNR=21
ZALV S **S** **09 57 33.6 -1.0**
comp=Z,0.4nm,0.3s,baz=270,slow=40,SNR=1.8
ZALV LR LR 10 17 34.0
comp=Z,1µm,19.4s,baz=105,slow=37
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 63.67 325 P **P** **09 49 01.5 -0.4**
ZALV Zalesovo Beam 63.67 325 P **P** **09 49 02.0 +0.1**
Q18K Katmai Hardscr 63.71 30 P **P** **09 49 01.6 -0.7**
baz=249
MAKZ Makanchi 63.76 316 P **P** **09 49 02.8 0.0**
MAKZ IAMs_20 IAMs_20 10 15 17.1
comp=Z,994nm,21.0s
MAKZ Makanchi 63.76 316 P **P** **09 49 02.8 0.0**
MAKZ pmax pmax
comp=Z,57nm,0.8s
P18K Big Mountain, 63.88 29 P **P** **09 49 02.7 -0.6**
baz=248
O18K Koktub Hills 64.06 29 P **P** **09 49 04.5 0.0**
baz=248
OHAK Old Harbor 64.08 32 P **P** **09 49 04.5 0.0**
OHAK Old Harbor 64.08 32 P **P** **09 49 04.2 -0.3**
baz=251
OHAK Old Harbor 64.08 32 P **P** **09 49 06.2 +1.7**
SVW2 Sparrevohn 64.36 27 P **P** **09 49 08.6 +2.2**
O19K Port Alsworth 64.60 28 P **P** **09 49 09.2 +1.3**
O19K IAmb IAmb 09 50 52.3
comp=Z,83nm,1.7s
O19K Port Alsworth 64.60 28 P **P** **09 49 07.5 -0.4**
baz=249
KDAK Kodiak Island 64.62 31 P **P** **09 49 07.9 -0.2**
comp=Z,9.9nm,0.8s,baz=359,slow=5.5,SNR=8.2
KDAK LR LR 10 14 46.2
comp=Z,2µm,19.8s,baz=263,slow=34
comp=Z,9.9nm,0.8s
KDAK Kodiak Island 64.62 31 P **P** **09 49 07.8 -0.3**
baz=251
N19K Bonanza Creek 64.75 28 P **P** **09 49 08.8 -0.2**
N19K IAmb IAmb 09 49 23.1
comp=Z,41nm,0.9s
N19K Bonanza Creek 64.75 28 P **P** **09 49 09.2 +0.2**
baz=248
TTA Tatalina 64.91 25 P **P** **09 49 10.1 +0.1**
TTA IAmb IAmb 09 49 23.5
comp=Z,43nm,1.2s
TTA Tatalina 64.91 25 P **P** **09 49 10.6 +0.6**
baz=246
TTA Tatalina 64.91 25 P **P** **09 49 11.1 +1.1**
TTA Tatalina 64.91 25 P **P** **09 49 10.1 +0.1**
TTA pmax pmax
comp=Z,43nm,1.2s
P19K Oil Pt 64.92 29 P **P** **09 49 09.8 -0.3**
SHLS Shalkode 64.97 312 *e*P **P** **09 49 09.3 -1.6**
comp=Z,22nm,1.1s,baz=312
SHLS Shalkode 64.97 312 *e*P **P** **09 49 09.2 -1.6**
SHLS pmax pmax
comp=Z,23nm,1.1s
L19K White Mountain 65.11 26 P **P** **09 49 12.3 +1.1**
L19K IAmb IAmb 09 49 24.9
comp=Z,51nm,1.1s
L19K White Mountain 65.11 26 P **P** **09 49 11.6 +0.4**
baz=247
UZB Uzunbulak 65.29 312 *e*P **P** **09 49 13.2 +0.3**
comp=Z,25nm,1.0s,baz=312
UZB *e*S **S** **09 57 57.1 +1.7**
baz=312
UZB Uzunbulak 65.29 312 *e*P **P** **09 49 13.2 +0.3**
UZB *e*S **S** **09 57 57.9 +2.5**
UZB pmax pmax
comp=Z,25nm,1.0s
O20K Slope Mountain 65.36 29 P **P** **09 49 13.2 +0.3**
baz=250
RSO Redoubt South 65.42 28 P **P** **09 49 11.8 -1.7**
HYB Hyderabad 65.46 284 *e*P **P** **09 49 14.4 +0.1**
SEM Semipalatinsk 65.56 320 *e*P **P** **09 49 15.0 +0.3**
baz=320
SEM Semipalatinsk 65.56 320 *e*P **P** **09 49 14.9 +0.3**
KPKS Kokpek 65.57 312 *e*P **P** **09 49 15.2 +0.5**
baz=312
KPKS *e*S **S** **09 58 00.8 +2.1**
baz=312
KPKS Kokpek 65.57 312 *e*P **P** **09 49 15.2 +0.5**
KPKS *e*S **S** **09 58 00.8 +2.1**
ZHN Zhinishke 65.72 312 *e*P **P** **09 49 16.0 +0.3**
comp=Z,23nm,1.5s,baz=312
ZHN Zhinishke 65.72 312 *e*P **P** **09 49 16.0 +0.3**
ZHN pmax pmax
comp=Z,23nm,1.5s
SATY Saty 65.73 312 *e*P **P** **09 49 16.5 +0.7**
comp=Z,42nm,1.6s,baz=312
M20K Styx River 65.75 27 P **P** **09 49 16.5 +1.0**
M20K Styx River 65.75 27 P **P** **09 49 16.8 +1.3**
baz=249
K20K Telida 65.89 25 P **P** **09 49 17.3 +1.0**
K20K IAmb IAmb 09 49 30.4
comp=Z,33nm,0.9s
K20K IAMs_20 IAMs_20 10 13 02.0
comp=Z,2µm,20.0s
K20K Telida 65.89 25 P **P** **09 49 16.6 +0.3**
baz=248
SPU Mount Spurr 65.99 28 P **P** **09 49 15.7 -1.3**
TARG Taragay, Kyrgy 66.04 310 P **P** **09 49 17.4 -0.7**
TARG IAmb IAmb 09 49 50.5
comp=Z,55nm,1.5s
TARG Taragay, Kyrgy 66.04 310 P **P** **09 49 17.4 -0.7**
TARG pmax pmax
comp=Z,55nm,1.5s
NDI New Delhi 66.05 296 *e*P **P** **09 49 18.0 +0.1**
BRSE Bradley Lake S 66.14 30 P **P** **09 49 18.6 +0.7**
baz=252
SKT Skwentna 66.49 27 P **P** **09 49 20.9 +0.7**
SKT IAmb IAmb 09 49 33.1
comp=Z,25nm,0.8s
SKT Skwentna 66.49 27 P **P** **09 49 22.1 +1.9**
baz=251
KURK Kurchatov 66.64 320 P **P** **09 49 21.1 -0.2**
KURK Kurchatov 66.64 320 P **P** **09 49 21.2 -0.1**
SUA Susitna One 66.68 28 P **P** **09 49 22.6 +1.1**
SUA Susitna One 66.68 28 P **P** **09 49 22.2 +0.7**
baz=252
KURBB Kurchatov Arra 66.68 320 P **P** **09 49 21.2 -0.3**
comp=Z,116nm,0.8s,baz=102,slow=6.4,SNR=108
KURBB S **S** **09 58 11.2 -0.6**
comp=Z,0.1nm,0.3s,baz=94,slow=10,SNR=1.9
KURBB LR LR 10 20 31.5
comp=Z,2µm,18.0s,baz=108,slow=38
comp=Z,116nm,0.8s
MDOK Medeo 66.73 312 *e*P **P** **09 49 22.6 +0.3**
baz=312
MDOK Medeo 66.73 312 *e*P **P** **09 49 22.5 +0.3**
CAST Castle Rocks 66.75 26 P **P** **09 49 22.5 +0.7**
CAST IAmb IAmb 09 49 34.4
comp=Z,58nm,1.0s
CAST IAMs_20 IAMs_20 10 12 26.6
comp=Z,2µm,20.0s
TNSS Tian-Shan 66.79 312 *e*P **P** **09 49 23.7 +0.7**
baz=312
TNSS Tian-Shan 66.79 312 *e*P **P** **09 49 23.6 +0.7**
AAA Alma-Ata 66.83 312 *e*P **P** **09 49 23.2 +0.5**
comp=Z,37nm,0.8s,baz=312
AAA Alma-Ata 66.83 312 *e*P **P** **09 49 23.2 +0.5**
AAA pmax pmax
comp=Z,37nm,0.8s
CHKK Chushkaly 66.83 313 *e*P **P** **09 49 23.2 +0.5**
baz=313
CHKK Chushkaly 66.83 313 *e*P **P** **09 49 23.2 +0.5**
SEW Seward 66.87 29 P **P** **09 49 22.3 -0.2**
SEW Seward 66.87 29 P **P** **09 49 22.1 -0.4**
baz=253
RC01 Rabbit Creek A 67.03 28 P **P** **09 49 23.9 +0.3**
RC01 Rabbit Creek A 67.03 28 P **P** **09 49 23.4 -0.1**
baz=253
IMAR Indian Mountai 67.04 23 P **P** **09 49 24.3 +0.8**
M22K Willow 67.05 28 P **P** **09 49 23.8 +0.1**
M22K Willow 67.05 28 P **P** **09 49 24.3 +0.6**
baz=252
CUT Chulitna 67.19 27 P **P** **09 49 25.3 +0.8**
baz=252
H21K Melozitna Rive 67.27 23 P **P** **09 49 25.8 +0.8**
H21K IAmb IAmb 09 49 38.7
comp=Z,38nm,1.0s
H21K IAMs_20 IAMs_20 10 15 09.4
comp=Z,2µm,21.0s
H21K Melozitna Rive 67.27 23 P **P** **09 49 25.9 +0.9**
baz=248
KSH Kashi 67.27 308 P **P** **09 49 29.5 +3.8**
KSH sP pwP 09 49 40.1 +0.3
KSH S **S** **09 58 23.8 +4.2**
KSH pmax pmax
comp=Z,19nm,0.9s
KSH pmax pmax
comp=Z,630nm,5.3s
KSH LR LR
comp=Z,810nm,14.8s
KSH LR LR
comp=Z,830nm,17.5s
KSH LR LR
comp=Z,1µm,18.5s
KUU Kurty 67.31 313 *e*P **P** **09 49 25.5 -0.2**
comp=Z,43nm,0.8s,baz=313
KUU *e*S **S** **09 58 22.6 +3.0**
baz=313
KUU Kurty 67.31 313 *e*P **P** **09 49 25.5 -0.2**
KUU *e*S **S** **09 58 22.6 +3.0**
KUU pmax pmax
comp=Z,43nm,0.8s
G21K Allakaket 67.34 22 P **P** **09 49 26.1 +0.7**
baz=247
I21K Tanana 67.42 24 P **P** **09 49 27.0 +1.1**
I21K IAmb IAmb 09 49 39.8
comp=Z,30nm,0.8s
I21K Tanana 67.42 24 P **P** **09 49 26.6 +0.6**
baz=249
BPAW Bear Paw Mtn. 67.44 25 P **P** **09 49 26.9 +0.7**
BPAW IAmb IAmb 09 49 38.6
comp=Z,63nm,1.2s
BPAW Bear Paw Mtn. 67.44 25 P **P** **09 49 26.7 +0.6**
baz=250
PMR Palmer 67.45 28 P **P** **09 49 26.4 +0.2**
PMR Palmer 67.45 28 P **P** **09 49 26.3 +0.1**
baz=253
PMR Palmer 67.45 28 P **P** **09 49 27.7 +1.5**
PMR Palmer 67.45 28 P **P** **09 49 26.4 +0.2**
PMR pmax pmax
comp=Z,174nm,2.0s
TRF Thorofare Moun 67.52 26 P **P** **09 49 26.5 -0.3**
TRF IAmb IAmb 09 49 38.7
comp=Z,39nm,0.9s
GHO Glory Hole Cre 67.60 28 P **P** **09 49 28.9 +1.6**
GHO IAmb IAmb 09 49 33.4
comp=Z,38nm,1.0s
PWL Port Wells 67.62 29 P **P** **09 49 28.0 +0.6**
baz=254
F21K Alatna River 67.63 21 P **P** **09 49 28.1 +0.8**
baz=247
KNK Knik Glacier 67.71 28 P **P** **09 49 28.3 +0.4**
KNK IAmb IAmb 09 49 34.7
comp=Z,54nm,1.0s
KNK Knik Glacier 67.71 28 P **P** **09 49 28.3 +0.4**
baz=254
MLY Manley 67.86 24 P **P** **09 49 29.5 +0.7**
MLY IAmb IAmb 09 49 42.6
comp=Z,41nm,0.9s
MLY Manley 67.86 24 P **P** **09 49 29.6 +0.7**
baz=250,SNR=22
SML Sawmill 67.88 28 P **P** **09 49 28.7 -0.3**
SML IAmb IAmb 09 49 49.5
comp=Z,53nm,0.9s
SML Sawmill 67.88 28 P **P** **09 49 29.8 +0.8**
baz=254
NRIK Noril'sk 68.02 341 P **P** **09 49 29.1 -0.5**
comp=Z,36nm,0.8s,baz=123,slow=7.7,SNR=25
NRIK S **S** **09 58 23.7 -3.4**
comp=Z,1.0nm,0.3s,baz=349,slow=21,SNR=1.5
NRIK LR LR 10 18 35.5
comp=Z,2µm,21.3s,baz=118,slow=35
comp=Z,36nm,0.8s
NRIK Noril'sk 68.02 341 P **P** **09 49 29.0 -0.6**
NRIK IAmb IAmb 09 49 35.5
comp=Z,47nm,0.8s
NRIK Noril'sk 68.02 341 *de*P **P** **09 49 29.4 -0.2**
NRIK pmax pmax
comp=Z,90nm,1.4s
WAT1 Susitna Watana 68.08 27 P **P** **09 49 30.3 +0.1**
baz=253
BWN Browne 68.09 25 P **P** **09 49 31.2 +0.9**
RND Reindeer 68.12 26 P **P** **09 49 30.3 -0.2**
RND IAmb IAmb 09 49 42.9
comp=Z,34nm,1.1s
RND Reindeer 68.12 26 P **P** **09 49 30.3 -0.2**
RND pmax pmax
comp=Z,34nm,1.1s
M23K Glacier View 68.15 28 P **P** **09 49 31.7 +1.0**
baz=254
SCM Sheep Creek Mo 68.35 28 P **P** **09 49 33.0 +1.0**
SCM Sheep Creek Mo 68.35 28 P **P** **09 49 33.1 +1.1**
baz=255
SCM Sheep Creek Mo 68.35 28 P **P** **09 49 33.0 +1.0**
SCM pmax pmax
comp=Z,68nm,1.0s
WAT6 Susitna Watana 68.36 27 P **P** **09 49 32.8 +0.7**
baz=254
NEA2 Nenana 68.39 25 P **P** **09 49 33.4 +1.3**
NEA2 IAmb IAmb 09 50 21.2
comp=Z,90nm,2.0s
NEA2 IAMs_20 IAMs_20 10 16 07.0
comp=Z,2µm,19.0s
NEA2 Nenana 68.39 25 P **P** **09 49 32.5 +0.4**
baz=252
A21K Barrow 68.41 17 P **P** **09 49 33.3 +1.2**
A21K Barrow 68.41 17 P **P** **09 49 32.7 +0.7**
baz=242
I23K Minto, Yukon-K 68.45 24 P **P** **09 49 33.3 +0.9**
I23K IAMs_20 IAMs_20 10 15 02.5
comp=Z,2µm,20.0s
I23K Minto, Yukon-K 68.45 24 P **P** **09 49 33.3 +0.9**
baz=251,SNR=20
PCHI Peechi 68.45 277 ⇓*e*P **P** **09 49 33.2 -0.2**
PCHI *e*S **S** **09 58 37.4 +3.3**
SGDS Sogindy 68.51 312 *e*P **P** **09 49 34.2 +0.8**
baz=312
SGDS Sogindy 68.51 312 *e*P **P** **09 49 34.1 +0.8**
AAK Ala-Archa 68.56 311 P **P** **09 49 33.5 -0.3**
comp=Z,8.4nm,0.9s,baz=122,slow=4.3,SNR=8.2
AAK LR LR 10 22 22.4
comp=Z,872nm,18.5s,baz=100,slow=38
comp=Z,8.4nm,0.9s
AAK Ala-Archa 68.56 311 P **P** **09 49 34.2 +0.4**
AAK Ala-Archa 68.56 311 IAMs_20 IAMs_20 10 20 55.2
comp=Z,1µm,19.0s
AAK Ala-Archa 68.56 311 P **P** **09 49 34.2 +0.4**
AAK pmax pmax
comp=Z,15nm,1.0s
AAK MLR MLR
comp=Z,1µm,19.0s
E22K Anaktuvuk Pass 68.57 21 P **P** **09 49 33.4 +0.2**
baz=248
DHY Denali Highway 68.66 27 P **P** **09 49 34.0 0.0**
DHY IAmb IAmb 09 49 41.0
comp=Z,68nm,1.5s
DHY Denali Highway 68.66 27 P **P** **09 49 34.3 +0.3**
baz=254
G23K Bananza Creek 68.70 22 P **P** **09 49 35.0 +0.9**
baz=250
WRH Wood River Hil 68.76 25 P **P** **09 49 34.5 +0.1**
WRH IAmb IAmb 09 49 45.9
comp=Z,53nm,1.1s
COLD Coldfoot 68.82 22 P **P** **09 49 35.0 +0.2**
COLD Coldfoot 68.82 22 P **P** **09 49 35.9 +1.2**
baz=250,SNR=20
MDM Murphy Dome 68.84 25 P **P** **09 49 34.3 -0.6**
MDM IAmb IAmb 09 49 48.0

comp=Z,24nm,0.9s
DIV Divide 68.89 29 P **P** **09 49 36.0 +0.6**
KLU Klutina 68.91 28 P **P** **09 49 36.9 +1.4**
KLU IAmb IAmb 09 49 56.7
comp=Z,46nm,1.0s
KLU Klutina 68.91 28 P **P** **09 49 35.5 0.0**
baz=256
CCB Clear Creek Bu 68.92 25 P **P** **09 49 35.4 0.0**
CCB IAmb IAmb 09 49 46.9
comp=Z,54nm,1.3s
CCB IAMs_20 IAMs_20 10 15 17.2
comp=Z,2µm,19.0s
M24K Tolsona, Glenn 68.94 28 P **P** **09 49 36.8 +1.1**
baz=256
TCOL CIGO, UAF Yank 68.97 25 P **P** **09 49 36.2 +0.6**
TCOL IAmb IAmb 09 49 49.1
comp=Z,40nm,1.1s
COLA College 68.97 25 P **P** **09 49 36.2 +0.5**
COLA IAmb IAmb 09 49 49.1
comp=Z,44nm,1.2s
COLA College 68.97 25 P **P** **09 49 37.9 +2.2**
COLA College 68.97 25 P **P** **09 49 36.2 +0.5**
COLA pmax pmax
comp=Z,44nm,1.2s
BTLS Baital 69.03 314 *e*P **P** **09 49 37.0 +0.5**
comp=Z,36nm,1.5s,baz=314
BTLS *e*S **S** **09 58 44.1 +3.9**
baz=314
BTLS Baital 69.03 314 *e*P **P** **09 49 36.9 +0.5**
BTLS *e*S **S** **09 58 44.0 +3.9**
BTLS pmax pmax
comp=Z,36nm,1.5s
HDA Harding Lake 69.21 25 P **P** **09 49 38.1 +0.9**
HDA IAmb IAmb 09 49 47.9
comp=Z,34nm,1.1s
HDA Harding Lake 69.21 25 P **P** **09 49 39.4 +2.2**
baz=254,SNR=11
POKR Poker Plat Res 69.21 24 P **P** **09 49 37.4 +0.2**
POKR IAmb IAmb 09 49 49.4
comp=Z,45nm,1.2s
POKR IAMs_20 IAMs_20 10 15 37.8
comp=Z,2µm,21.0s
POKR Poker Plat Res 69.21 24 P **P** **09 49 38.4 +1.2**
baz=253
H24K Noodor Dome 69.25 24 P **P** **09 49 37.1 -0.4**
H24K Noodor Dome 69.25 24 P **P** **09 49 38.2 +0.8**
baz=253
D23K Nanushuk River 69.27 20 P **P** **09 49 38.4 +0.9**
baz=249
IL31 69.34 25 P **P** **09 49 37.5 -0.4**
IL31 IAmb IAmb 09 49 49.7
comp=Z,74nm,1.2s
ILAR Eielson Array 69.34 25 P **P** **09 49 36.8 -1.2**
comp=Z,6.3nm,0.8s,baz=252,slow=5.3,SNR=46
ILAR LR LR 10 17 16.7
comp=Z,976nm,20.6s,baz=248,slow=34
comp=Z,6.3nm,0.8s
ILAR Eielson Array 69.34 25 P **P** **09 49 36.9 -1.1**
IL03 Eielson Array 69.35 25 P **P** **09 49 37.6 -0.5**
NIL Nilore 69.36 302 P **P** **09 49 38.6 -0.2**
NIL Nilore 69.36 302 P **P** **09 49 38.6 -0.2**
NIL pmax pmax
comp=Z,102nm,0.8s
NIL MLR MLR
comp=Z,600nm,22.0s
BMRM Bremner River 69.41 29 P **P** **09 49 39.5 +0.9**
BMRM Bremner River 69.41 29 P **P** **09 49 39.4 +0.8**
baz=258
PAX Paxson 69.47 27 P **P** **09 49 39.3 +0.3**
PAX Paxson 69.47 27 P **P** **09 49 39.6 +0.7**
baz=256,SNR=14
PAX Paxson 69.47 27 P **P** **09 49 39.3 +0.3**
PAX pmax pmax
comp=Z,119nm,1.6s
HARP HAARP 69.48 28 P **P** **09 49 39.9 +1.0**
baz=256
K24K Donnelly Dome 69.55 26 P **P** **09 49 39.7 +0.4**
baz=255,SNR=7.4
N25K Chitina, Valde 69.55 28 P **P** **09 49 41.0 +1.6**
N25K IAmb IAmb 09 50 03.4
comp=Z,40nm,1.1s
N25K Chitina, Valde 69.55 28 P **P** **09 49 40.1 +0.6**
baz=257
G24K Hadweenzic Riv 69.66 23 P **P** **09 49 40.6 +0.6**
baz=253
E24K Your Creek 69.72 21 P **P** **09 49 40.6 +0.2**
baz=251
F24K Squaw Lake 69.76 22 P **P** **09 49 42.3 +1.7**
baz=252
PPT Papeete 69.82 114 LR LR 10 14 42.0
comp=Z,879nm,20.5s,baz=298,slow=31
PPT2 Papeete2 69.83 114 *e*S **S** **09 58 51.4 +1.0**
comp=Z,288nm,23.5s
PPT2 Papeete2 69.83 114 *e*LR LR 10 10 54.0
comp=Z,992nm,21.2s
PPT2 *e*LR LR 10 10 54.9
comp=Z,921nm,24.0s
GLB Gilahina Butte 69.89 29 P **P** **09 49 42.0 +0.5**
GLB IAMs_20 IAMs_20 10 15 09.8
comp=Z,2µm,21.0s
RIDG Independent Ri 69.93 26 P **P** **09 49 42.5 +0.7**
RIDG IAmb IAmb 09 49 54.2
comp=Z,71nm,1.0s
RIDG Independent Ri 69.93 26 P **P** **09 49 42.1 +0.4**
baz=256
PRP Porcupine Dome 70.09 24 IAMs_20 IAMs_20 10 17 09.1
comp=Z,2µm,20.0s
PRP Porcupine Dome 70.09 24 P **P** **09 49 45.2 +2.4**
baz=255
MENT Mentasta 70.25 27 P **P** **09 49 44.6 +0.9**
DOT Dot Lake 70.25 26 P **P** **09 49 43.5 -0.1**
SCRK Sand Creek 70.36 26 P **P** **09 49 45.2 +0.7**
SCRK IAmb IAmb 09 49 57.4
comp=Z,55nm,1.2s
SCRK Sand Creek 70.36 26 P **P** **09 49 44.7 +0.3**
baz=257
L26K Log Cabin Wild 70.43 27 P **P** **09 49 45.7 +0.9**
L26K IAmb IAmb 09 49 58.6
comp=Z,28nm,0.8s
L26K Log Cabin Wild 70.43 27 P **P** **09 49 44.7 -0.1**
baz=258
M26K Nabesna, AK 70.46 28 P **P** **09 49 45.4 +0.4**
baz=258
FYU Fort Yukon 70.48 23 P **P** **09 49 47.4 +2.4**
F25K Christian Rive 70.61 22 P **P** **09 49 46.3 +0.5**
baz=254
J26L Joseph Creek 70.66 26 IAmb IAmb 09 49 58.6
comp=Z,44nm,0.9s
J26L Joseph Creek 70.66 26 P **P** **09 49 46.6 +0.4**
baz=257
E25K Arctic Village 70.78 22 P **P** **09 49 48.3 +1.5**
baz=254,SNR=10
DZA Taraz 70.90 311 *e*P **P** **09 49 48.2 +0.2**
baz=311
DZA Taraz 70.90 311 *e*P **P** **09 49 48.2 +0.2**
BMAR Burnt Mountain 70.96 22 P **P** **09 49 47.4 -0.5**
M27K Edge Creek, AK 70.96 28 P **P** **09 49 49.0 +0.8**
M27K IAmb IAmb 09 50 01.6
comp=Z,48nm,1.1s
M27K Edge Creek, AK 70.96 28 P **P** **09 49 48.8 +0.7**
baz=260
I26K Coal Creek Min 71.01 25 P **P** **09 49 47.6 -0.6**
I26K IAmb IAmb 09 49 59.6
comp=Z,40nm,1.4s
I26K Coal Creek Min 71.01 25 P **P** **09 49 49.0 +0.8**
baz=257
L27K Beaver Creek, 71.12 27 P **P** **09 49 49.1 +0.1**
L27K IAmb IAmb 09 50 02.3
comp=Z,32nm,1.1s
L27K Beaver Creek, 71.12 27 P **P** **09 49 49.4 +0.4**
baz=259
BCAR Beaver Creek A 71.14 27 P **P** **09 49 49.8 +0.7**
F26K Sheenjek River 71.19 22 P **P** **09 49 49.9 +0.6**
baz=256
PINM Pinnacle 71.37 30 P **P** **09 49 50.8 +0.2**
baz=262
BVCY Beaver Creek 71.44 28 P **P** **09 49 51.3 +0.4**
baz=260
KK31 Karatay Array 71.50 312 P **P** **09 49 52.3 +0.6**
KK31 IAmb IAmb 09 49 56.4
comp=Z,31nm,1.0s
KK31 Karatay Array 71.50 312 P **P** **09 49 52.3 +0.6**
KK31 pmax pmax
comp=Z,31nm,1.0s
KKAR Karatay Array 71.50 312 P **P** **09 49 50.0 -1.7**
KKAR IAmb IAmb 09 49 56.4
comp=Z,31nm,1.0s
KKAR Karatay Array 71.50 312 P **P** **09 49 50.0 -1.7**
KKAR pmax pmax
comp=Z,31nm,1.0s
YUK3 Moose Creek 71.52 29 P **P** **09 49 52.2 +0.5**
baz=261,SNR=6.1
I27K Kandik River 71.70 25 P **P** **09 49 52.3 -0.1**
baz=259
EGAK Eagle 71.73 25 P **P** **09 49 53.1 +0.5**
EGAK IAmb IAmb 09 50 06.5
comp=Z,44nm,0.9s
EGAK Eagle 71.73 25 P **P** **09 49 53.3 +0.8**
baz=259,SNR=17
YUK8 Steele Glacier 71.78 29 P **P** **09 49 54.0 +0.7**
baz=262
IUG luzhnay 71.85 311 *e*P **P** **09 49 54.1 +0.2**
baz=310
IUG luzhnay 71.85 311 *e*P **P** **09 49 54.1 +0.2**
H27K Steamboat Moun 71.86 24 P **P** **09 49 54.4 +1.0**
baz=258,SNR=30
G27K Doyon Strip 71.92 23 P **P** **09 49 55.2 +1.5**
baz=258
BVA0 Borovoye Array 71.98 322 *i* P **P** **09 49 53.5 -0.8**
BVAR Borovoye Array 71.98 322 P **P** **09 49 53.6 -0.7**
comp=Z,75nm,0.7s,baz=101,slow=7.6,SNR=75
BVAR PP **PP** **09 52 33.5 -0.6**
comp=Z,4.3nm,0.8s,baz=96,slow=10,SNR=2.0
BVAR LR LR 10 23 33.3
comp=Z,812nm,18.5s,baz=92,slow=38
comp=Z,75nm,0.7s
TBI Tubuai 72.01 120 *e*S **S** **09 59 16.4 +1.1**
comp=Z,1µm,28.0s
BRVK Borovoye 72.05 322 P **P** **09 49 54.8 +0.1**
BRVK Borovoye 72.05 322 IAMs_20 IAMs_20 10 20 23.0
comp=Z,1µm,20.0s
BRVK Borovoye 72.05 322 P **P** **09 49 54.8 +0.1**
BRVK pmax pmax
comp=Z,79nm,0.9s
CHM Chimkent 72.17 311 *e*P **P** **09 49 56.3 +0.5**
baz=311
CHM Chimkent 72.17 311 *e*P **P** **09 49 56.2 +0.5**
O29M Mount Kennedy 72.22 30 P **P** **09 49 57.4 +1.6**
baz=263
E27K Coleen River 72.24 22 P **P** **09 49 56.8 +1.1**
baz=258
YUK4 Talbot Arm 72.32 29 P **P** **09 49 57.1 +0.6**
baz=263,SNR=5.3
DAWY Dawson 72.36 26 P **P** **09 49 58.0 +1.6**
DAWY IAmb IAmb 09 50 10.3
comp=Z,47nm,1.0s
DAWY Dawson 72.36 26 P **P** **09 49 57.2 +0.8**
baz=261,SNR=26
YUK6 Outpost Mounta 72.41 30 P **P** **09 49 58.1 +1.1**
baz=263
M29M Somme Creek 72.55 28 P **P** **09 49 58.1 +0.4**
baz=263
CHGR Chuyangaron 72.56 307 P **P** **09 49 58.1 -0.1**
CHGR Chuyangaron 72.56 307 P **P** **09 49 58.1 -0.1**
CHGR pmax pmax
comp=Z,128nm,0.9s
L29M L29M 72.79 27 P **P** **09 50 00.4 +1.4**
baz=263
HYT Haines Junctio 72.81 30 P **P** **09 50 00.7 +1.5**
HYT Haines Junctio 72.81 30 P **P** **09 49 59.6 +0.4**
baz=264,SNR=22
KBL Kabul 72.82 303 P **P** **09 50 00.4 +0.4**
KBL IAmb IAmb 09 50 06.0
comp=Z,51nm,1.1s
KBL Kabul 72.82 303 P **P** **09 50 00.4 +0.4**
KBL pmax pmax
comp=Z,51nm,1.1s
J29M Klondike Camp 72.93 26 P **P** **09 50 00.2 +0.4**
baz=262
P30M Million Dollar 73.01 31 P **P** **09 50 01.0 +0.7**
baz=265,SNR=6.7
I29M Ogilvie Camp, 73.02 25 IAmb IAmb 09 50 13.7
comp=Z,62nm,1.1s
I29M IAMs_20 IAMs_20 10 23 27.4
comp=Z,1µm,20.0s
I29M Ogilvie Camp, 73.02 25 P **P** **09 50 00.6 +0.3**
baz=262,SNR=7.0
PLBC Pleasant Camp 73.25 31 P **P** **09 50 02.9 +1.2**
baz=265
M30M Minto, Yukon 73.33 28 IAmb IAmb 09 50 16.0
comp=Z,42nm,1.1s
M30M IAMs_20 IAMs_20 10 17 23.9
comp=Z,2µm,22.0s
M30M Minto, Yukon 73.33 28 P **P** **09 50 03.3 +1.1**
baz=264,SNR=7.7
O30N Mendenhall 73.50 30 P **P** **09 50 04.0 +0.8**
baz=265
N31M Braeburn, Yuko 73.70 29 P **P** **09 50 05.4 +0.9**
N31M IAmb IAmb 09 50 18.4
comp=Z,72nm,0.9s
N31M IAMs_20 IAMs_20 10 18 32.9
comp=Z,2µm,21.0s
N31M Braeburn, Yuko 73.70 29 P **P** **09 50 04.8 +0.4**
baz=265,SNR=7.3
SKAG Skagway 73.78 31 P **P** **09 50 07.4 +2.6**
MAYO Mayo, Yukon 73.84 27 P **P** **09 50 06.4 +1.2**
baz=264,SNR=16
G30M tAoh Zraii Nji 74.07 24 P **P** **09 50 06.9 +0.4**
baz=263
WHY Whitehorse 74.08 30 P **P** **09 50 06.3 -0.4**
WHY IAmb IAmb 09 50 20.1
comp=Z,61nm,1.0s
WHY Whitehorse 74.08 30 P **P** **09 50 06.5 -0.2**
baz=266
JIS Juneau Island 74.20 33 P **P** **09 50 07.4 +0.2**
JIS IAmb IAmb 09 50 20.5
comp=Z,53nm,1.1s
JIS Juneau Island 74.20 33 P **P** **09 50 09.7 +2.4**
M31M Drury Creek, Y 74.42 29 P **P** **09 50 08.7 +0.1**
M31M IAmb IAmb 09 50 22.0
comp=Z,66nm,1.2s
M31M Drury Creek, Y 74.42 29 P **P** **09 50 09.6 +1.0**
baz=266
P32M Atlin 74.61 31 P **P** **09 50 10.0 +0.3**
baz=268
U33K Whale Pass 74.82 35 P **P** **09 50 11.4 +0.5**
baz=269
FARO Faro, Yukon 74.91 29 P **P** **09 50 12.2 +0.8**
baz=267,SNR=5.8
T33K Petersburg 74.92 34 P **P** **09 50 11.8 +0.3**
baz=269
N32M Quiet Lake 74.98 30 P **P** **09 50 12.5 +0.6**
baz=268
F31M Tsiigehtchic 75.08 23 P **P** **09 50 12.0 -0.2**
baz=265
P33M Teslin, Yukon 75.08 31 IAmb IAmb 09 50 19.4
comp=Z,48nm,1.0s
P33M Teslin, Yukon 75.08 31 P **P** **09 50 13.8 +1.3**
baz=268,SNR=11
H02S1 DAWSON INLET T 75.18 38 T T 11 12 38.9
SNR=5.4
INK Inuvik 75.23 22 P **P** **09 50 12.6 -0.5**
comp=Z,18nm,0.7s,baz=276,slow=6.5,SNR=36
INK LR LR 10 22 13.1
comp=Z,460nm,20.2s,baz=258,slow=35
comp=Z,18nm,0.7s
INK Inuvik 75.23 22 P **P** **09 50 13.1 0.0**
INK Inuvik 75.23 22 P **P** **09 50 13.2 +0.2**
baz=265
INK Inuvik 75.23 22 P **P** **09 50 13.1 0.0**
INK pmax pmax
comp=Z,26nm,1.0s
WRAK Wrangell Islan 75.25 35 P **P** **09 50 13.7 +0.3**
baz=270
Q32M Nakina River 75.33 32 P **P** **09 50 14.5 +0.4**
baz=269
V35K Ketchikan 75.67 36 P **P** **09 50 15.8 0.0**
baz=270
S34M Telegraph Cree 75.92 33 P **P** **09 50 18.2 +1.0**
baz=270
TAOE Nuku Hiva Isla 75.99 102 *e*LR LR 10 13 45.6
comp=Z,747nm,22.8s
T35M Bob Quinn 76.41 34 P **P** **09 50 21.1 +1.0**
baz=271,SNR=5.6
DLBC Dease Lake 76.50 33 LR LR 10 19 13.7
comp=Z,743nm,20.3s,baz=286,slow=32
DLBC Dease Lake 76.50 33 P **P** **09 50 21.2 +0.6**
DLBC IAmb IAmb 09 50 34.6
comp=Z,60nm,1.1s
DLBC Dease Lake 76.50 33 P **P** **09 50 21.5 +0.9**
baz=271,SNR=8.6
WTLY Watson Lake, Y 77.09 31 IAmb IAmb 09 50 30.6
comp=Z,76nm,1.0s
WTLY Watson Lake, Y 77.09 31 P **P** **09 50 25.0 +1.1**
baz=272,SNR=35
SVE Sverdlovsk 77.63 326 *e*P **P** **09 50 27.7 +0.8**
SVE *e*S **S** **10 00 23.3 +6.2**
SVE pmax pmax
comp=Z,57nm,1.3s
SVE MLR MLR
comp=Z,1µm,18.0s
BBB Bella Bella 77.87 39 LR LR 10 18 41.3
comp=Z,818nm,20.8s,baz=270,slow=31
A36M Sachs Harbour 78.13 19 P **P** **09 50 29.7 +0.3**
baz=272
LIRD Liard River Hi 78.49 31 P **P** **09 50 32.2 +0.6**
baz=274
AB31 Akbulak array 78.60 318 *i* P **P** **09 50 31.2 -1.3**
C36M Paulatuk 78.67 21 P **P** **09 50 32.2 -0.1**
C36M Paulatuk 78.67 21 P **P** **09 50 32.0 -0.3**
baz=274
ARU Arti 78.80 326 P **P** **09 50 32.6 -0.9**
comp=Z,12nm,0.4s,baz=77,slow=2.3,SNR=16
ARU LR LR 10 29 07.8
comp=Z,945nm,18.1s,baz=81,slow=39
comp=Z,12nm,0.4s
ARU Arti 78.80 326*c i*P **P** **09 50 33.9 +0.5**
ARU 09 50 43.5
ARU 09 53 26.5
ARU PPP PPP 09 55 19.8
ARU S **S** **10 00 32.6 +2.9**
ARU pmax pmax
comp=Z,41nm,0.9s
ARU MLR MLR
comp=Z,2µm,18.0s
WRGLY Wrigley 79.43 27 P **P** **09 50 36.8 +0.1**
baz=276
KOTAN Kotaneelee Air 79.46 31 P **P** **09 50 36.8 -0.1**
baz=276
AKTO Aktyubinsk 79.72 319 P **P** **09 50 37.7 -0.9**
comp=Z,6.3nm,0.7s,baz=73,slow=6.3,SNR=15
AKTO LR LR 10 28 49.4
comp=Z,1µm,18.4s,baz=70,slow=38
comp=Z,6.3nm,0.7s
NLWA Neilton Lookou 81.11 43 IAmb IAmb 09 51 00.3
comp=Z,48nm,0.9s
B04A Port Angeles 81.26 43 IAmb IAmb 09 51 00.9
comp=Z,32nm,0.8s
GEYT Alibeck 81.28 307 P **P** **09 50 46.7 -0.5**
comp=Z,6.6nm,0.9s,baz=33,slow=5.7,SNR=12
GEYT PP **PP** **09 53 53.1 +0.2**
comp=Z,2.1nm,0.6s,baz=66,slow=5.2,SNR=2.6
GEYT LR LR 10 29 08.8
comp=Z,561nm,21.0s,baz=92,slow=37
comp=Z,6.6nm,0.9s
LLLB Lillooet 81.93 40 P **P** **09 50 51.3 +0.8**
D05A Enumclaw 82.41 43 P **P** **09 50 53.4 +0.4**
D05A IAmb IAmb 09 51 01.5
comp=Z,61nm,1.3s
CASY Casey 82.47 194 IAMs_20 IAMs_20 10 22 43.1
comp=Z,875nm,19.0s
HUMO Hull Mountain 82.48 48 P **P** **09 50 54.2 +0.7**
HUMO IAmb IAmb 09 51 14.0
comp=Z,32nm,1.1s
LON Longmire 82.60 44 P **P** **09 50 54.1 0.0**
LON Longmire 82.60 44 P **P** **09 50 54.1 0.0**
LON pmax pmax
comp=Z,18nm,1.2s
H04A Detroit Lake 82.69 46 P **P** **09 50 55.2 +0.6**
H04A IAmb IAmb 09 51 11.0
comp=Z,22nm,0.8s
WAPA Wapiti River 82.72 35 IAmb IAmb 09 51 07.5
comp=Z,47nm,1.0s
YBH Yreka Blue Hor 82.81 49 LR LR 10 20 02.3
comp=Z,1µm,21.4s,baz=310,slow=30
YBH Yreka Blue Hor 82.81 49 IAmb IAmb 09 51 09.1
comp=Z,22nm,0.9s
LTY Liberty 83.28 43 IAmb IAmb 09 51 21.3
comp=Z,36nm,1.2s
KIRV Kirov 83.36 328 P **P** **09 50 58.6 +1.0**
comp=Z,20nm,0.7s,baz=19,slow=3.1,SNR=8.6
KIRV LR LR 10 30 58.2
comp=Z,1µm,18.6s,baz=65,slow=38
comp=Z,20nm,0.7s
YKA Yellowknife Ar 83.55 27 P **P** **09 50 58.3 -0.3**
comp=Z,14nm,0.8s,baz=284,slow=5.0,SNR=47
YKA LR LR 10 27 46.3
comp=Z,488nm,19.4s,baz=282,slow=35
comp=Z,14nm,0.8s
PINE Pine Mountain 83.73 47 P **P** **09 51 00.9 +0.8**
K05A Summer Lake 83.96 48 P **P** **09 51 01.7 +0.3**
K05A IAmb IAmb 09 51 15.4
comp=Z,45nm,0.8s
B08A Colville Reser 83.96 42 P **P** **09 51 01.1 +0.1**
B08A IAmb IAmb 09 51 08.5
comp=Z,28nm,1.1s
EUNU Eureka 84.17 8 P **P** **09 51 02.4 +0.9**
EUNU Eureka 84.17 8 SN **P** **09 51 02.6 +1.1**
MOD Modoc Plateau 84.55 48 P **P** **09 51 04.3 0.0**
MOD IAmb IAmb 09 51 17.6
comp=Z,22nm,0.8s
AFDM Forest Hills D 84.61 51 P **P** **09 51 04.9 +0.4**
AFDM IAmb IAmb 09 51 15.8
comp=Z,27nm,1.2s
C09A Chrisman Ranch 84.77 42 P **P** **09 51 05.2 +0.1**
E09A Wood Farm, Sta 85.13 44 IAmb IAmb 09 51 14.7
comp=Z,29nm,1.1s
CMB Columbia Colle 85.24 52 P **P** **09 51 08.3 +0.6**
CMB IAmb IAmb 09 51 21.0
comp=Z,19nm,0.8s
CMB Columbia Colle 85.24 52 P **P** **09 51 08.3 +0.6**
CMB pmax pmax
comp=Z,19nm,0.9s
NEW Newport 85.42 42 LR LR 10 23 22.2
comp=Z,828nm,20.6s,baz=288,slow=32
NEW Newport 85.42 42 P **P** **09 51 08.2 -0.2**
NEW IAmb IAmb 09 51 21.5
comp=Z,38nm,1.1s
NEW Newport 85.42 42 P **P** **09 51 08.2 -0.2**
NEW pmax pmax
comp=Z,38nm,1.2s
VCNR Virginia City 85.55 51 P **P** **09 51 08.1 -1.4**
J08A Circle Bar Ran 85.57 47 P **P** **09 51 10.2 +0.9**
PNTR Pine Nut 85.63 51 IAmb IAmb 09 51 23.6
comp=Z,28nm,0.9s
WVOR Wild Horse Val 85.65 48 P **P** **09 51 09.4 -0.4**
WVOR IAmb IAmb 09 51 23.1
comp=Z,25nm,0.9s
WVOR Wild Horse Val 85.65 48 P **P** **09 51 09.4 -0.4**
WVOR pmax pmax
comp=Z,25nm,0.9s
RES Resolute Bay 85.69 14 LR LR 10 29 05.6
comp=Z,432nm,20.1s,baz=338,slow=35
BELG Belogornoye 85.77 323 P **P** **09 51 09.3 -0.6**
comp=Z,12nm,0.7s,baz=94,slow=1.8,SNR=5.3
BELG LR LR 10 30 44.8
comp=Z,887nm,20.7s,baz=78,slow=37
comp=Z,12nm,0.7s
BMO Blue Mountains 86.06 45 P **P** **09 51 11.3 -0.4**
BMO Blue Mountains 86.06 45 P **P** **09 51 11.4 -0.4**
BMO pmax pmax
comp=Z,21nm,1.0s
NOR Nord 86.10 358 *i* P **P** **09 51 08.9 -2.2**
EDM Edmonton 86.54 36 P **P** **09 51 13.9 +0.1**
EDM IAmb IAmb 09 51 26.8
comp=Z,53nm,0.9s
EDM Edmonton 86.54 36 P **P** **09 51 13.9 +0.1**
EDM pmax pmax
comp=Z,53nm,0.9s
RYN Ryan 86.55 51 P **P** **09 51 14.7 +0.3**
RYN IAmb IAmb 09 51 25.7
comp=Z,33nm,1.4s
VES Vestal, Richgr 86.72 54 P **P** **09 51 14.7 -0.3**
baz=282
NVAR Mina Array Bea 86.76 52 P **P** **09 51 16.4 +0.9**
comp=Z,9.0nm,0.8s,baz=262,slow=6.0,SNR=29
comp=Z,9.0nm,0.8s
NVAR Mina Array Bea 86.76 52 P **P** **09 51 15.6 +0.2**
KVN Kaiserville 86.78 51 P **P** **09 51 15.1 -0.4**
KVN IAmb IAmb 09 51 29.1
comp=Z,28nm,1.3s
KVN Kaiserville 86.78 51 P **P** **09 51 15.1 -0.4**
KVN pmax pmax
comp=Z,28nm,1.3s
LVZ Lovozero 86.81 339 *e*P **P** **09 51 15.9 +1.1**
LVZ pmax pmax
comp=Z,84nm,1.8s
NV11 Mina Array Sit 86.88 52 P **P** **09 51 15.8 -0.1**
PLID Pearl Lake 86.91 45 P **P** **09 51 15.7 -0.4**

ADZR **Andozero** 86.98 335 *e*P P 09 51 15.7 +0.1
ADZR pmax pmax
comp=Z,13nm,0.9s
ISA **Isabella, Lake** 87.24 54 P P 09 51 17.9 +0.2
baz=283
APA **Apatity** 87.38 339↓ *i*P P 09 51 18.8 +1.3
APA *i* 10 01 44.0
APA *i* S S 10 01 56.0 -0.3
APA *i* PS 10 02 56.0
APA pmax pmax
comp=Z,14nm,1.0s
APA MLR MLR
comp=Z,1µm,22.0s
CWC **Cottonwood Cre** 87.38 53 P P 09 51 18.5 +0.1
baz=283
MFID **Camas Ranch** 87.44 46 P P 09 51 19.3 +0.8
MFID IAmb IAmb 09 51 31.9
comp=Z,40nm,0.9s
LCH **Last Change Ra** 87.54 53 P P 09 51 18.9 -0.3
LCH IAmb IAmb 09 51 33.8
comp=Z,47nm,1.7s
KLMR **Klimovskoe** 87.54 332 *e*P P 09 51 16.1 -2.3
KLMR *e*P P 09 51 16.1 -2.3
KLMR *e*P P 09 51 16.1 -2.3
KLMR AMP 09 51 31.2
comp=Z,21nm,1.1s
KLMR *e*PP PP 09 54 43.6 +0.5
KLMR *e* 10 00 00.8
KLMR *e* 10 00 00.8
KLMR S SKSac 10 01 44.8 +0.2
KLMR S SKSac 10 01 44.8 +0.2
KLMR LQ LQ 10 22 06.9
KLMR LQ LQ 10 22 06.9
KLMR LR LR 10 22 35.5
KLMR AMP 10 35 04.5
comp=Z,1µm,17.6s
KLMR **Klimovskoe** 87.54 332 *e*P P 09 51 16.1 -2.3
KLMR *e* 09 54 43.6
KLMR S SKSac 10 01 44.7 +0.2
KLMR pmax pmax
comp=Z,21nm,1.1s
MZP **Montezuma Peak** 87.64 52 P P 09 51 19.4 -0.4
EDW2 **Edwards Air Fo** 87.80 55 P P 09 51 20.3 0.0
baz=283
GRAC **Grapevine Rang** 87.81 53 P P 09 51 20.7 +0.3
baz=283
MSO **Missoula** 87.86 43 P P 09 51 20.3 -0.2
baz=285
LRMC **Laurel Mtn Rad** 87.91 54 P P 09 51 21.3 +0.3
baz=283
MPMC **Manual Prospec** 87.93 54 P P 09 51 21.5 +0.4
baz=283
MAK **Makhachkala** 88.21 313 *e*P P 09 51 18.8 -3.2
MAK *e* 09 54 48.5
MAK *e*PPP PPP 09 56 42.7
MAK *e* 10 01 44.3
MAK *e*SS SS 10 07 56.2 +2.3
MAK *e*SSS SSS 10 11 26.2
MAK pmax pmax
comp=Z,21nm,0.3s
FURC **Furnace Creek,** 88.33 53 P P 09 51 23.2 +0.6
baz=284
HLID **Hailey** 88.39 46 IAmb IAmb 09 51 36.6
comp=Z,24nm,0.9s
HLID **Hailey** 88.39 46 P P 09 51 23.5 +0.3
baz=285
AKT **Akhty** 88.42 312 *e*P P 09 51 25.0 +1.8
AKT *e* 09 51 26.4
AKT pmax pmax
comp=Z,12nm,1.0s
WCT **Wildcat Mounta** 88.44 53 IAmb IAmb 09 51 36.8
comp=Z,22nm,0.9s
ELK **Elko** 88.52 49 LR LR 10 23 35.3
comp=Z,929nm,21.8s,baz=293,slow=31
ELK **Elko** 88.52 49 P P 09 51 23.6 -0.3
ELK IAmb IAmb 09 51 37.3
comp=Z,30nm,0.9s
ELK **Elko** 88.52 49 P P 09 51 23.6 -0.3
ELK pmax pmax
comp=Z,30nm,0.9s
GWY **Greenwater Val** 88.55 53 P P 09 51 24.0 0.0
GWY IAmb IAmb 09 51 51.0
comp=Z,30nm,1.3s
GSC **Goldstone, Bar** 88.65 54 P P 09 51 24.2 -0.2
GSC IAmb IAmb 09 51 35.5
comp=Z,34nm,1.2s
GSC **Goldstone, Bar** 88.65 54 P P 09 51 24.6 +0.2
baz=284
GSC **Goldstone, Bar** 88.65 54 P P 09 51 24.2 -0.2
GSC pmax pmax
comp=Z,34nm,1.3s
TPNV **Topopah Spring** 88.69 53 P P 09 51 25.3 +0.6
TPNV IAmb IAmb 09 51 38.1
comp=Z,18nm,0.8s
TPNV **Topopah Spring** 88.69 53 P P 09 51 25.3 +0.6
TPNV pmax pmax
comp=Z,18nm,0.9s
MURC **Murrieta** 88.74 56 P P 09 51 25.0 +0.3
baz=284
R11A **Troy Canyon, C** 88.86 51 IAmb IAmb 09 51 33.8
comp=Z,76nm,1.9s
R11A **Troy Canyon, C** 88.86 51 P P 09 51 25.9 +0.4
baz=284
SHOC **Shoshone, Teco** 88.92 54 P P 09 51 25.9 +0.3
baz=284
ARCES **ARCESS Array B** 88.95 342 P P 09 51 24.8 -0.2
comp=Z,7.9nm,0.7s,baz=80,slow=7.9,SNR=10
comp=Z,7.9nm,0.7s
109C **Camp Elliot, M** 88.98 57 P P 09 51 25.5 -0.3
baz=284
LRM **Limekiln Ridge** 89.13 43 P P 09 51 26.8 +0.1
HEC **Hector,Ludlow** 89.14 55 P P 09 51 26.6 -0.1
baz=284
MCMT **McKenzie Canyo** 89.14 44 P P 09 51 26.9 +0.2
TUQ **Turquoise Moun** 89.32 54 P P 09 51 27.0 -0.6
baz=284
PFO **Pinyon Flats O** 89.33 56 LR LR 10 26 19.2
comp=Z,1µm,19.1s,baz=266,slow=32
PFO **Pinyon Flats O** 89.33 56 P P 09 51 27.2 -0.5
baz=284
TPFO **Pinon Flats** 89.34 56 P P 09 51 27.1 -0.6
baz=284
GROC **Groznyy** 89.35 314 *e*P P 09 51 28.4 +1.0
GROC *e*S SKSac 10 01 59.5 +3.3
GROC pmax pmax
comp=Z,41nm,0.5s
PMD **Palm Desert** 89.39 56 P P 09 51 27.0 -0.8
PMD IAmb IAmb 09 51 40.3
comp=Z,21nm,1.1s
VRH **Novokhopyorsk** 89.62 322 P P 09 51 26.6 -1.9
VRH pmax pmax
comp=Z,10.0nm,0.8s
SHPR **Sheep Range** 89.65 53 P P 09 51 28.3 -0.8
GMRC **Granite Mounta** 89.69 55 P P 09 51 29.1 -0.2
baz=284
BOZ **Bozeman (W)** 89.75 43 P P 09 51 27.4 -2.0
BOZ **Bozeman (W)** 89.75 43 P P 09 51 29.3 -0.1
baz=287
BOZ **Bozeman (W)** 89.75 43 P P 09 51 27.4 -2.0
BOZ pmax pmax
comp=Z,16nm,1.0s
WTNK **Soaring Height** 89.85 53 P P 09 51 29.8 -0.2
IKP **In-Ko-Pah, Jac** 89.85 57 P P 09 51 29.5 -0.6
baz=284
VNDA **Vanda** 89.88 177 P P 09 51 28.8 -0.2
comp=Z,1.2nm,0.8s,baz=305,slow=5.5,SNR=2.5
comp=Z,1.2nm,0.8s
SWSC **Sam W. Stewart** 90.03 56 P P 09 51 30.4 -0.4
baz=284
HVU **Hansel Valley** 90.04 47 P P 09 51 29.3 -1.6
HVU IAmb IAmb 09 51 44.6
comp=Z,23nm,0.9s
HVU **Hansel Valley** 90.04 47 P P 09 51 29.3 -1.6
HVU pmax pmax
comp=Z,23nm,0.9s
V12A **Nelson** 90.09 54 IAmb IAmb 09 51 45.0
comp=Z,23nm,1.0s
BC3 **Big Chuckawall** 90.13 56 P P 09 51 29.9 -1.6
baz=285
EGMT **Eagleton** 90.24 41 P P 09 51 30.9 -0.7
baz=288
IRM **Iron Mountain** 90.25 55 P P 09 51 31.3 -0.6
baz=285
MOS **Moscow** 90.33 328 *e*P P 09 51 30.6 -1.1
MOS *e* 09 55 10.0
MOS MLR MLR
comp=Z,1µm,20.0s
DUG **Dugway, Tooele** 90.45 49 P P 09 51 31.8 -1.0
DUG IAmb IAmb 09 51 46.3
comp=Z,19nm,0.8s
DUG **Dugway, Tooele** 90.45 49 P P 09 51 33.3 +0.5
baz=286
DUG **Dugway, Tooele** 90.45 49 P P 09 51 31.8 -1.0
DUG pmax pmax
comp=Z,19nm,0.9s
YMR **Madison River** 90.47 44 P P 09 51 32.1 -0.8
YMR IAmb IAmb 09 51 47.1
comp=Z,19nm,0.9s
NEE2 **Needles Airpor** 90.52 54 P P 09 51 33.0 -0.1
baz=285
IMW **Indian Meadow** 90.72 45 P P 09 51 34.1 -0.1
CCUT **Cedar City** 90.76 51 P P 09 51 34.2 -0.3
CCUT IAmb IAmb 09 51 48.6
comp=Z,18nm,1.0s
LPSR **Galich'ya Gora** 90.78 324 P P 09 51 32.9 -0.9
LPSR pmax pmax
comp=Z,20nm,0.9s
GLA **Glamis** 90.79 56 P P 09 51 34.1 -0.3
baz=285
ZEI **Tsey** 90.81 314 *e*P P 09 51 34.9 +0.4
ZEI *e* 09 55 14.2
ZEI pmax pmax
comp=Z,8.0nm,0.7s
H17A **Grant Village** 90.82 44 P P 09 51 34.6 0.0
baz=288
FLWY **Flagg Ranch** 90.83 45 P P 09 51 35.0 +0.4
BLYC **Blythe** 90.86 55 P P 09 51 34.4 -0.3
DAG **Danmarks Havn** 90.88 357 *i* P P 09 51 40.0 +6.2
AHID **Auburn Hatcher** 90.94 46 IAmb IAmb 09 51 49.7
comp=Z,31nm,1.2s
VORR **Voronezh** 90.95 323 P P 09 51 34.9 +0.3
VORR pmax pmax
comp=Z,10.0nm,0.4s
SZCU **Shurtz Canyon** 90.96 51 P P 09 51 35.1 -0.2
SZCU IAmb IAmb 09 51 47.0
comp=Z,26nm,1.3s
GNI **Garni** 90.97 311 P P 09 51 35.2 -0.1
comp=Z,3.2nm,0.6s,baz=101,slow=7.9,SNR=1.5
GNI LR LR 10 36 24.9
comp=Z,418nm,19.0s,baz=67,slow=38
comp=Z,3.2nm,0.6s
YMP **Mirror Lake Pl** 91.00 44 P P 09 51 35.4 -0.1
YMP IAmb IAmb 09 51 53.4
comp=Z,33nm,1.1s
LCMT **Little Creek M** 91.00 52 P P 09 51 35.2 -0.3
PDMCI **Parker Dam,Lak** 91.02 55 P P 09 51 35.6 +0.2
baz=285
NLU **North Lily Min** 91.06 49 P P 09 51 35.4 -0.4
CTU **Camp Tracy** 91.09 48 P P 09 51 36.1 +0.3
OBN **Obninsk** 91.13 327 P P 09 51 34.5 -0.9
comp=Z,2.9nm,0.4s,baz=17,slow=2.2,SNR=5.2
OBN LR LR 10 35 15.8
comp=Z,393nm,18.6s,baz=50,slow=37
comp=Z,2.9nm,0.4s
OBN **Obninsk** 91.13 327 *de*P P 09 51 35.4 0.0
OBN *e* 09 55 11.7
OBN *e*S SKSac 10 02 07.5 +1.6
OBN *e*SS SS 10 08 50.0 +15
OBN pmax pmax
comp=Z,25nm,1.0s
OBN MLR MLR
comp=Z,2µm,20.0s
VSR **Storozhevoye** 91.13 323 P P 09 51 35.4 -0.1
VSR pmax pmax
comp=Z,10.0nm,0.8s
ONI **Oni** 91.18 314 P P 09 51 35.0 -1.1
ONI IAmb IAmb 09 51 54.8
comp=Z,39nm,1.9s
ONI **Oni** 91.18 314 P P 09 51 35.0 -1.1
ONI pmax pmax
comp=Z,39nm,1.9s
TCUT **Toone Canyon** 91.21 48 P P 09 51 37.0 +0.6
KBZ **Khabaz** 91.22 315 P P 09 51 36.0 0.0
comp=Z,3.6nm,1.0s,baz=4.7,slow=2.5,SNR=5.4
KBZ LR LR 10 36 57.1
comp=Z,475nm,19.6s,baz=70,slow=38
comp=Z,3.6nm,1.0s
KBZ **Khabaz** 91.22 315↑ *e*P P 09 51 36.9 +0.8
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KIV **Kislovodsk** 91.30 315 IAMs_20 IAMs_20 10 37 30.6
comp=Z,748nm,20.0s
KIV **Kislovodsk** 91.30 315 *e*P P 09 51 34.8 -1.8
KIV *e* 09 55 13.3
KIV *e* 10 02 06.7
KIV *e*SS SS 10 08 40.9 +2.1
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,664nm,20.0s
KNB **Kanab** 91.32 52 IAmb IAmb 09 51 51.2
comp=Z,40nm,1.0s
JLU **Jordanelle** 91.33 48 P P 09 51 37.0 -0.1
JLU IAmb IAmb 09 52 04.5
comp=Z,27nm,1.3s
MSU **Marysvale** 91.40 50 P P 09 51 35.7 -1.7
MSU **Marysvale** 91.40 50 P P 09 51 35.7 -1.7
RLMT **Red Lodge** 91.48 43 P P 09 51 38.2 +0.6
RLMT IAmb IAmb 09 51 55.2
comp=Z,75nm,2.0s
RLMT **Red Lodge** 91.48 43 P P 09 51 38.0 +0.5
baz=289
MTPU **Mount Pierson** 91.52 51 P P 09 51 37.9 -0.3
MTPU IAmb IAmb 09 51 51.6
comp=Z,40nm,1.8s
PKCU **Pink Cliffs** 91.60 51 P P 09 51 38.9 +0.4
TMUT **Trail Mountain** 91.89 49 IAmb IAmb 09 51 52.6
comp=Z,30nm,1.5s
BW06 **Boulder Array** 92.03 46 P P 09 51 39.2 -1.0
baz=288
PD31 **Pinedale Array** 92.03 46 P P 09 51 39.3 -0.8
PDAR **Pinedale Array** 92.03 46 P P 09 51 38.2 -2.0
comp=Z,0.6nm,0.6s,baz=336,slow=2.0,SNR=5.2
PDAR LR LR 10 26 17.1
comp=Z,748nm,21.9s,baz=314,slow=31
comp=Z,0.6nm,0.6s
PDAR **Pinedale Array** 92.03 46 P P 09 51 39.4 -0.8
Q16A **Castle Valley** 92.03 50 P P 09 51 39.4 -0.9
Q16A IAmb IAmb 09 51 54.0
comp=Z,44nm,1.3s
P17A **Butcher Ranch,** 92.19 49 IAmb IAmb 09 51 54.2
comp=Z,22nm,1.3s
FFC **Flin Flon** 92.33 33 P P 09 51 40.3 -0.7
FFC **Flin Flon** 92.33 33 P P 09 51 40.3 -0.7
FFC pmax pmax
comp=Z,13nm,1.1s
SRU **San Rafael Swe** 92.46 49 P P 09 51 41.1 -1.1
SRU **San Rafael Swe** 92.46 49 P P 09 51 41.1 -1.1
SRU pmax pmax
comp=Z,12nm,0.8s
RDMU **Red Mountain** 92.71 48 P P 09 51 43.6 +0.2
RDMU IAmb IAmb 09 51 57.9
comp=Z,30nm,1.2s
214A **Organ Pipe Nat** 92.72 57 P P 09 51 43.5 +0.2
baz=286
WUAZ **Wupatki** 92.87 53 IAmb IAmb 09 51 58.1
comp=Z,28nm,1.0s
WUAZ **Wupatki** 92.87 53 P P 09 51 44.8 +0.7
baz=287
LAO **LASA Array** 92.95 41 P P 09 51 44.6 +0.4
baz=291
LAO **LASA Array** 92.95 41 P P 09 51 44.4 +0.3
baz=291
FINES **FINESS Array B** 93.12 335 P P 09 51 42.6 -1.9
comp=Z,2.5nm,0.5s,baz=90,slow=1.9,SNR=16
FINES PP PP 09 55 26.4 -0.9
comp=Z,2.9nm,0.8s,baz=57,slow=5.1,SNR=2.9
FINES LR LR 10 35 13.4
comp=Z,1µm,21.3s,baz=55,slow=37
comp=Z,2.5nm,0.5s
GURO **Guroymak-BITLI** 93.45 310 P P 09 51 46.5 -0.2
SOC **Sochi** 93.45 316 *e*P P 09 51 43.1 -3.3
SOC *e* 09 55 30.0
SOC *e*PPP PPP 09 57 28.6
SOC *e*S SKSac 10 02 17.0 -2.4
SOC *e*SS SS 10 09 04.7 -4.8
DGMT **Dagmar** 93.57 39 P P 09 51 45.6 -1.3
DGMT IAmb IAmb 09 51 59.3
comp=Z,23nm,1.1s
DGMT **Dagmar** 93.57 39 P P 09 51 46.5 -0.4
baz=293
DGMT **Dagmar** 93.57 39 P P 09 51 47.0 +0.1
baz=293
O20A **White River Ci** 93.81 48 P P 09 51 47.2 -1.3
O20A IAmb IAmb 09 52 14.2
comp=Z,47nm,1.9s
O20A **White River Ci** 93.81 48 P P 09 51 48.2 -0.2
baz=289
PV11 **David Mesa, Pa** 93.94 50 IAmb IAmb 09 52 02.0
comp=Z,28nm,0.9s
PV13 **Radium Mtn., P** 94.02 50 P P 09 51 49.1 -0.4
PV13 IAmb IAmb 09 52 02.3
comp=Z,16nm,1.0s
K22A **Casper** 94.17 45 P P 09 51 49.9 -0.1
baz=290
K22A **Casper** 94.17 45 P P 09 51 50.1 +0.1
baz=290
TUC **Tucson** 94.27 56 P P 09 51 51.0 +0.4
baz=287
X18A **Snowflake** 94.28 54 P P 09 51 49.8 -0.9
X18A IAmb IAmb 09 52 04.5
comp=Z,16nm,1.0s
VSU **Vasula** 94.41 333↑ *e*P P 09 51 51.8 +1.3
VSU pmax pmax
comp=Z,87nm,1.2s
ANN **Anapa** 94.55 317 *e*P P 09 51 42.3 -9.1
ANN *e**PP PcP 09 51 47.2 -4.6
ANN *e* 09 55 38.4
ANN pmax pmax
comp=Z,31nm,1.0s
MVCO **Mesa Verde** 94.56 51 P P 09 51 51.6 -0.4
MVCO IAmb IAmb 09 52 06.7
comp=Z,17nm,1.1s
MVCO **Mesa Verde** 94.56 51 P P 09 51 52.3 +0.3
baz=289
RAYN **Ar Rayn** 94.92 295 P P 09 51 52.2 -1.5
RAYN **Ar Rayn** 94.92 295 P P 09 51 52.2 -1.5
RAYN pmax pmax
comp=Z,8.0nm,1.0s
RAYN MLR MLR
comp=Z,400nm,21.0s
SMCO **Snowmass** 95.05 48 P P 09 51 54.6 +0.2
N23A **Red Feather La** 95.20 46 P P 09 51 55.2 +0.3
N23A IAmb IAmb 09 52 20.4
comp=Z,22nm,1.4s
N23A **Red Feather La** 95.20 46 P P 09 51 54.6 -0.2
baz=291
RSSD **Black Hills** 95.33 43 P P 09 51 56.4 +1.1
baz=292
RSSD **Black Hills** 95.33 43 P P 09 51 54.4 -0.9
baz=292
JMIC **Jan Mayen** 95.38 352 LR LR 10 34 25.9
comp=Z,90nm,21.9s,baz=54,slow=35
S22A **4UR Ranch, Cre** 95.64 50 P P 09 51 56.2 -0.8
baz=290
ISCO **Idaho Springs** 95.82 47 P P 09 51 57.5 -0.3
baz=291
ISCO **Idaho Springs** 95.82 47 P P 09 51 56.8 -1.0
baz=291
MNK **Minsk** 95.90 329 *i* P P 09 51 55.1 -2.3
comp=E,3.0nm,0.9s
MNK *i* P P 09 51 55.1 -2.3
comp=N,31nm,1.0s
MNK *i* P P 09 51 55.1 -2.3
comp=Z,17nm,0.9s
MNK *i* PP PP 09 55 47.0 -2.1
MNK *i* PPP PPP 09 57 50.9
MNK *i* S SKSac 10 02 31.3 -0.8
MNK *i* SS SS 10 09 45.7 +2.2
MNK *i* SSS SSS 10 13 29.5
MNK *i* LQ LQ 10 29 17.1
MNK *i* LR LR 10 35 39.0
MNK *i* LRM MLR 10 38 11.8
comp=N,652nm,18.1s
MNK *i* LRM MLR 10 38 34.2
comp=Z,954nm,18.1s
MNK *i* LRM MLR 10 38 39.2
comp=E,104nm,15.9s
MNK **Minsk** 95.90 329 *i* P P 09 51 55.1 -2.3
MNK *i* 09 55 47.0
MNK *i* PPP PPP 09 57 50.9
MNK *i* S SKSac 10 02 31.3 -0.8
MNK *i* SS SS 10 09 45.7 +2.2
MNK *i* SSS SSS 10 13 29.5
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,31nm,1.0s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=N,652nm,18.0s
MNK MLR MLR
comp=Z,954nm,18.0s
MNK MLR MLR
comp=E,104nm,16.0s
NACGM **Naroch** 96.24 330 *e*P P 09 52 07.9 +8.9
comp=Z,12nm,0.9s,baz=59
E28A **Huff** 96.50 40 P P 09 51 58.4 -2.0
baz=295
121A **Cookes Peak, D** 96.62 55 P P 09 52 00.1 -1.3
baz=289
121A **Cookes Peak, D** 96.62 55 P P 09 52 00.4 -1.0
baz=289
MDND **Maddock** 96.62 38 P P 09 52 00.0 -0.8
MDND **Maddock** 96.62 38 P P 09 52 00.6 -0.3
baz=296
MDND **Maddock** 96.62 38 P P 09 52 00.6 -0.3
baz=296
SDCO **Great Sand Dun** 96.63 49 P P 09 52 01.0 -0.5
baz=291
SDCO **Great Sand Dun** 96.63 49 P P 09 52 00.6 -0.9
baz=291
SIM **Simferopol'** 96.66 319 *e*P P 09 52 15.7 +15
SIM pmax pmax
comp=Z,14nm,0.5s
SIM pmax pmax
comp=Z,74nm,20.1s
SIM MLR MLR
comp=Z,1µm,26.0s
Y22A **Socorro** 96.81 53 P P 09 52 02.4 +0.1
baz=290
ANMO **Albuquerque** 96.87 52 LR LR 10 34 03.9
comp=Z,833nm,18.3s,baz=37,slow=34
ANMO **Albuquerque** 96.87 52 P P 09 52 02.4 -0.1
ANMO IAmb IAmb 09 52 41.8
comp=Z,23nm,1.9s
ANMO **Albuquerque** 96.87 52 P P 09 52 02.7 +0.2
baz=290
ANMO **Albuquerque** 96.87 52 P P 09 52 02.4 -0.1
baz=290
ANMO **Albuquerque** 96.87 52↑ *e*P P 09 52 03.6 +1.1
AKASG **Malin Array Be** 97.06 325 P P 09 52 00.7 -2.0
comp=Z,1.6nm,0.8s,baz=46,slow=3.9,SNR=7.0
AKASG PP PP 09 55 58.0 -0.1
comp=Z,0.3nm,0.3s,baz=57,slow=8.9,SNR=2.1
AKASG LR LR 10 39 29.2
comp=Z,2µm,18.2s,baz=62,slow=38
comp=Z,1.6nm,0.8s
AKASG **Malin Array Be** 97.06 325 *i* P Pdif 09 52 03.2 +0.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB **Malin Array Si** 97.06 325↓ *e*P Pdif 09 52 03.8 +1.0
AKBB pmax pmax
comp=Z,7.0nm,1.1s
PABE **Paberze** 97.28 331 IAMs_20 IAMs_20 10 40 25.0
comp=Z,1µm,19.0s
ULM **Lac du Bonnet** 97.69 35 LR LR 10 30 41.3
comp=Z,894nm,21.1s,baz=313,slow=32
MAW **Mawson** 98.57 203 LR LR 10 34 46.5
comp=Z,811nm,19.6s,baz=70,slow=34
HFS **Hagfors** 98.72 338 P P 09 52 08.9 -1.0
comp=Z,1.1nm,0.6s,baz=20,slow=4.7,SNR=1.8
comp=Z,1.1nm,0.6s
MNTX **Cornudas Mount** 98.82 55 P Pdif 09 52 11.1 0.0
baz=290
NB2 **NORSAR Subarra** 98.95 340 P P 09 52 09.0 -2.0
comp=Z,5.4nm,1.2s,baz=45,slow=4.8
NOA **NORSAR Array B** 98.95 340 P P 09 52 09.1 -2.0
comp=Z,1.7nm,0.9s,baz=52,slow=4.4,SNR=4.3
NOA LR LR 10 39 37.0
comp=Z,957nm,21.4s,baz=50,slow=37
comp=Z,1.7nm,0.9s
KIS **Kishinev** 99.06 322 *e*P Pdif 09 52 07.0 -4.8
KIS **Kishinev** 99.06 322 *e*P Pdif 09 52 07.0 -4.8
KIS *e* 09 56 14.0
KIS MLR MLR
comp=Z,200nm,14.5s
MILM **Milestii Mici** 99.11 322 *e*PP PP 09 56 18.0 +4.0

MILM				*e*L	L	10 35 07.0		
MILM				LRM	MLR	10 45 06.0		
	comp=Z,600nm,18.0s							
BR131	**Keskin Array S**	**99.12**	**314**	⇓*e*P	**Pdif**	**09 52 12.3**	**-0.1**	
BRTR	**Keskin Array B**	**99.12**	**314**	P	**Pdif**	**09 52 11.6**	**-0.8**	
	comp=Z,1.2nm,1.0s,baz=20,slow=5.4,SNR=3.1							
BRTR				PP	**PP**	**09 56 15.2**	**+0.6**	
	comp=Z,3.6nm,1.0s,baz=79,slow=6.7,SNR=5.4							
BRTR				LR	LR	10 43 25.6		
	comp=Z,400nm,19.1s,baz=60,slow=39							
	comp=Z,1.2nm,1.0s							
ASF	**Jabal al Asfar**	**99.53**	**306**	PP	**PP**	**09 56 19.1**	**+1.2**	
	comp=Z,1.8nm,0.5s,baz=39,slow=6.5,SNR=3.7							
ANTO	**Ankara**	**99.65**	**314**	IAMs_20	IAMs_20	10 45 23.9		
	comp=Z,552nm,19.0s							
FRB	**Frobisher Bay**	**99.84**	**15**	LR	LR	10 39 48.1		
	comp=Z,670nm,20.1s,baz=330,slow=37							
B35A	**Bob, Littlefor**	**99.85**	**36**	P	**Pdif**	**09 52 15.0**	**-0.3**	
	baz=301							
TXAR	**Lajitas Array**	**101.03**	**57**	P	**Pdif**	**09 52 19.5**	**-1.6**	
	comp=Z,0.2nm,0.5s,baz=294,slow=2.9,SNR=4.1							
CSS	**Mathiatis**	**101.25**	**310**	IAMs_20	IAMs_20	10 45 12.5		
	comp=Z,595nm,19.0s							
MLR	**Muntele Rosu**	**101.54**	**322**	IAMs_20	IAMs_20	10 38 37.3		
	comp=Z,908nm,22.0s							
ISP	**Isparta**	**102.13**	**313**	IAMs_20	IAMs_20	10 47 15.4		
	comp=Z,506nm,19.0s							
RGN	**Rugen**	**102.69**	**334**	IAMs_20	IAMs_20	10 40 37.8		
	comp=Z,1μm,22.0s							
OKC	**Ostrava-Krasne**	**103.47**	**328**	AMS	AMS	10 42 20.0		
	comp=Z,1μm,22.1s							
OSTC	**Ostas**	**103.99**	**330**	AMS	AMS	10 44 50.0		
	comp=Z,1μm,16.8s							
KRLC	**Kraliky**	**104.02**	**329**	AMS	AMS	10 44 30.0		
	comp=Z,700nm,19.4s							
DPC	**Dobruska-Polom**	**104.07**	**330**	AMS	AMS	10 44 50.0		
	comp=Z,1μm,17.4s							
UPC	**Upice**	**104.12**	**330**	AMS	AMS	10 44 50.0		
	comp=Z,1μm,19.3s							
PVCC	**Panska Ves**	**104.81**	**330**	AMS	AMS	10 45 20.0		
	comp=Z,1μm,17.2s							
BRG	**Berggiesshubel**	**104.88**	**331**	*e*PKP	**PP**	**09 56 58.1**	**+1.0**	
BRG				Amp		09 57 03.9		
	comp=Z,8.6nm,1.3s							
CLL	**Collm**	**105.03**	**332**	*e*PP	**PKiKP**	**09 56 57.0**	**+4.1**	
CLL				*e*PPmax		09 57 04.0		
CLL				*e*PPP	PPP	09 59 08.0		
CLL				*e*SKSac	**SKSac**	**10 03 21.0**	**+4.1**	
CLL				*e*PS	**PS**	**10 06 13.0**	**-0.2**	
CLL				*e*PPS	PPS	10 06 59.0		
CLL				*e*SS	**SKKPbc**	**10 12 00.0**	**-1.3**	
CLL				*e*SSS	SSS	10 15 54.0		
CLL				*e*SSSS		10 19 30.0		
CLL				Lm	MLR	10 43 00.0		
	comp=N,1μm,20.0s							
CLL				Lm	MLR	10 43 00.0		
	comp=E,700nm,18.0s							
CLL				Lm	MLR	10 43 00.0		
	comp=Z,1μm,19.6s							
GOPC	**GO Pecny, Ondr**	**105.11**	**330**	AMS	AMS	10 37 10.0		
	comp=Z,1μm,26.5s							
TREC	**Trest**	**105.16**	**329**	AMS	AMS	10 38 30.0		
	comp=Z,1μm,24.8s							
PRU	**Pruhonice**	**105.18**	**330**	AMS	AMS	10 37 10.0		
	comp=Z,1μm,25.0s							
NKC	**Novy Kostel**	**106.02**	**331**	AMS	AMS	10 43 50.0		
	comp=Z,1μm,17.7s							
KHC	**Kasperske Hory**	**106.22**	**330**	AMS	AMS	10 46 00.0		
	comp=Z,2μm,19.2s							
GERES	**GERESS Array B**	**106.34**	**330**	PP	**PP**	**09 57 05.7**	**-2.5**	
	comp=Z,0.6nm,0.5s,baz=30,slow=6.0,SNR=3.7							
GERES				PKKPbc	**PKKPbc**	**10 08 16.1**	**-1.6**	
	comp=Z,0.4nm,0.6s,baz=212,slow=5.4,SNR=2.8							
PDG	**Podgorica**	**107.26**	**322**	IAMs_20	IAMs_20	10 44 40.4		
	comp=Z,760nm,21.0s							
EKA	**Eskdalemuir Ar**	**108.11**	**342**	PP	**PP**	**09 57 21.1**	**+0.6**	
	comp=Z,4.9nm,0.9s,baz=37,slow=8.4,SNR=5.1							
STU	**Stuttgart**	**108.56**	**332**	IAMs_20	IAMs_20	10 45 45.2		
	comp=Z,826nm,18.0s							
BTNL	**Ternell**	**108.59**	**334**	*d*PP	**PP**	**09 57 26.7**	**+2.4**	
BSTI	**Sart Tilman**	**108.83**	**335**	*d*pPKiKP	**PP**	**09 57 30.3**	**+4.3**	
BCLA	**Clavier**	**109.06**	**335**	*d*PP	**PP**	**09 57 31.5**	**+3.8**	
BGES	**Gesves**	**109.18**	**335**	*d*PP	**PP**	**09 57 32.7**	**+4.2**	
RCHB	**Rochefort**	**109.29**	**335**	*d*PP	**PP**	**09 57 32.0**	**+2.6**	
BMRD	**Maredsous**	**109.37**	**335**	*d*PP	**PP**	**09 57 33.4**	**+3.5**	
FUORN	**Ofenpass-Fuorn**	**109.56**	**329**	IAMs_20	IAMs_20	10 46 50.8		
	comp=Z,716nm,20.0s							
DOU	**Dourbes**	**109.60**	**335**	*d*PP	**PP**	**09 57 35.3**	**+3.6**	
ELIB	**Princess Elisa**	**111.31**	**196**	*d*PKiKP	**PKiKP**	**09 57 04.8**	**+0.6**	
SNET	**Serv Nac Est T**	**119.28**	**67**	IAMs_20	IAMs_20	10 43 33.1		
	comp=Z,407nm,18.0s							
ESDC	**Sonseca Array**	**121.56**	**333**	PKP	**PKPdf**	**09 57 23.8**	**-1.0**	
	comp=Z,1.3nm,0.8s,baz=29,slow=3.5,SNR=7.1							
ESDC				PP	**PP**	**09 58 54.9**	**-0.9**	
	comp=Z,1.6nm,0.7s,baz=26,slow=7.0,SNR=6.6							
MVO	**Moncorvo**	**121.58**	**337**	*e*PKPdf	**PKPdf**	**09 57 23.7**	**-1.1**	
POLO	**Lamas de Olo**	**121.70**	**337**	*e*PKPdf	**PKPdf**	**09 57 25.0**	**0.0**	
MTE	**Manteigas**	**122.44**	**336**	*e*PKPdf	**PKPdf**	**09 57 25.9**	**-0.5**	
PCBR	**Castelo Branco**	**122.89**	**336**	*e*PKPdf	**PKPdf**	**09 57 26.6**	**-0.6**	
PMRV	**Marv??o**	**123.21**	**336**	*e*PKPdf	**PKiKP**	**09 57 28.3**	**+0.2**	
PMTG	**Montargil**	**123.85**	**336**	*e*PKPdf	**PKPdf**	**09 57 28.0**	**-1.1**	
PBAR	**Barrancos**	**124.13**	**335**	*e*PKPdf	**PKPdf**	**09 57 29.4**	**-0.3**	
JTS	**Las Juntas de**	**124.44**	**69**	IAMs_20	IAMs_20	10 52 40.9		
	comp=Z,503nm,20.0s							
PNCL	**Nicolau / Gran**	**124.80**	**336**	*e*PKPdf	**PKiKP**	**09 57 32.2**	**+1.0**	
BCIP	**Isla Barro Col**	**129.52**	**67**	IAMs_20	IAMs_20	10 46 52.3		
	comp=Z,467nm,19.0s							
SJCC	**San Jacinto, C**	**133.36**	**64**	*e*P	PKiKP	09 57 59.1	+10	
MCRA	**Macar, Loja**	**133.64**	**85**	*e*P	**PKPdf**	**09 57 47.9**	**-0.5**	
DBBC	**Dabeiba**	**133.67**	**68**	⇓*e*P	**PKiKP**	**09 57 50.7**	**+0.9**	
OTAV	**Otavalo**	**133.93**	**78**	IAMs_20	IAMs_20	10 56 47.0		
	comp=Z,486nm,18.0s							
OTAV	**Otavalo**	**133.93**	**78**	*e*P	**PKPdf**	**09 57 48.8**	**-0.8**	
CBOC	**Ciudad Bolivar**	**134.30**	**69**	⇑*e*P	**PKiKP**	**09 57 50.7**	**-0.5**	
CMBC	**Cumbal**	**134.31**	**77**	*e*P	PKPdf	09 57 42.3	-7.9	
PLMC	**San Jos del P**	**134.42**	**71**	*e*P	**PKPdf**	**09 57 47.9**	**-2.0**	
PIAT	**Ana Tenorio**	**134.46**	**79**	*e*P	**PKiKP**	**09 57 59.1**	**+7.3**	
GCUF	**Volcan Galeras**	**134.68**	**76**	*e*P	**PKPdf**	**09 57 47.9**	**-3.0**	
ZARC	**Zaragoza, Cauc**	**134.69**	**67**	⇑*e*P	**PKPdf**	**09 57 50.7**	**+0.4**	
YOTC	**Yotoco, Valle**	**134.70**	**72**	*e*P	**PKPdf**	**09 57 47.9**	**-2.6**	
PTBC	**PUERTO BERRIO**	**135.45**	**68**	*e*P	**PKPdf**	**09 57 50.7**	**-1.0**	
ORTC	**Ortega, Tolima**	**135.75**	**72**	*e*P	**PKPdf**	**09 57 50.7**	**-1.6**	
GARC	**Garzon, Huila**	**136.12**	**74**	⇑*e*P	**PKiKP**	**09 58 01.9**	**+6.9**	
BARC	**Barichara**	**136.58**	**67**	*e*P	**PKPdf**	**09 57 50.7**	**-3.4**	
PLCA	**Paso Flores**	**136.87**	**138**	PKP	**PKPdf**	**09 57 52.6**	**-1.2**	
	comp=Z,3.0nm,0.7s,baz=253,slow=3.9,SNR=11							
PLCA	**Paso Flores**	**136.87**	**138**	PKPdf	**PKPdf**	**09 57 54.0**	**+0.3**	
PLCA	**Paso Flores**	**136.87**	**138**	PKIKP	**PKPdf**	**09 57 54.0**	**+0.3**	
PLCA	**Paso Flores**	**136.87**	**138**	*e*P	**PKPdf**	**09 57 53.8**	**0.0**	
TORD	**Torodi Ar. Bea**	**136.87**	**304**	PKP	**PKPdf**	**09 57 53.3**	**-1.1**	
	comp=Z,1.9nm,0.4s,baz=58,slow=3.5,SNR=2.0							
RUSC	**La Rusia**	**136.96**	**68**		**PKPdf**	**09 57 53.9**	**-1.3**	
RUSC	**La Rusia**	**136.96**	**68**	*e*P	**PKPdf**	**09 57 47.9**	**-7.3**	
MACC	**Macarena, Meta**	**137.68**	**73**	*e*P	**PKPdf**	**09 57 50.7**	**-5.2**	
SDV	**Santo Domingo**	**137.79**	**62**	IAMs_20	IAMs_20	10 56 40.0		
	comp=Z,416nm,19.0s							
SDV	**Santo Domingo**	**137.79**	**62**	*e*P	**PKPdf**	**09 57 56.0**	**-0.3**	
BO02	**Sierra Bellavi**	**139.49**	**130**		**PKPdf**	**09 57 56.4**	**-2.3**	
BAUV	**El Baul**	**139.98**	**60**		**PKPdf**	**09 57 58.3**	**-1.8**	
GDSD	**La Dsirade Is**	**140.91**	**44**	IAMs_20	IAMs_20	10 49 59.0		
	comp=Z,635nm,20.0s							
CZSB	**Cruzeiro do Su**	**141.35**	**87**		**PKPdf**	**09 58 02.5**	**-0.1**	
CZSB	**Cruzeiro do Su**	**141.35**	**87**	*e*P	**PKPdf**	**09 58 02.3**	**-0.3**	
AC05	**El Transito**	**142.08**	**122**		**PKPdf**	**09 58 02.2**	**-1.4**	
TBTG	**Tabatinga, AM**	**143.34**	**81**	*e*P	**PKPdf**	**09 58 04.8**	**-1.4**	
PB12	**IPOC Station P**	**144.13**	**105**	PKPdf	PKPbc	09 58 05.8	+0.3	
PB02	**IPOC Station P**	**144.20**	**110**		**PKPab**	**09 58 05.4**	**+0.1**	
PB03	**IPOC Station P**	**144.21**	**111**	PKPdf	**PKPab**	**09 58 05.5**	**+0.1**	
PSGCX	**Pisagua**	**144.22**	**107**		**PKPab**	**09 58 04.7**	**-0.7**	
PB06	**IPOC Station P**	**144.26**	**112**	PKPdf	**PKPab**	**09 58 05.5**	**-0.1**	
PB01	**IPOC Station P**	**144.62**	**109**	PKPdf	**PKPab**	**09 58 06.1**	**-0.7**	
PB11	**IPOC Station P**	**144.64**	**107**		**PKPab**	**09 58 06.8**	**-0.2**	
PB09	**IPOC Station P**	**144.72**	**111**		**PKPab**	**09 58 07.1**	**-0.2**	
MNMC	**Minye Minye**	**144.77**	**106**		**PKPab**	**09 58 07.5**	**-0.2**	
LVC	**Limon Verde**	**144.87**	**112**	PKPdf	**PKPab**	**09 58 07.1**	**-1.0**	
LVC	**Limon Verde**	**144.87**	**112**	PKIKP	**PKPab**	**09 58 07.1**	**-1.0**	
LVC	**Limon Verde**	**144.87**	**112**	*e*P	**PKPdf**	**09 58 08.7**	**-0.3**	
PB16	**IPOC Station P**	**144.93**	**105**		**PKPab**	**09 58 08.0**	**-0.6**	
GO01	**Chusmiza**	**145.08**	**107**	PKPbc	**PKPbc**	**09 58 06.4**	**-2.6**	
DBIC	**Dimbokro**	**145.81**	**302**	PKPbc	**PKPdf**	**09 58 09.7**	**-0.7**	
	comp=Z,45nm,1.0s,baz=53,slow=4.5,SNR=20							
DBIC	**Dimbokro**	**145.81**	**302**		**PKPab**	**09 58 11.3**	**+0.1**	
DBIC	**Dimbokro**	**145.81**	**302**	PKP2	**PKPab**	**09 58 11.4**	**+0.1**	
KIC	**Kosan Boka**	**145.88**	**301**	⇑*e*PKP1	**PKPdf**	**09 58 10.6**	**+0.1**	
	comp=Z,16nm,0.8s							
TIC	**Toumodi**	**145.96**	**302**	⇑*e*PKP1	**PKPdf**	**09 58 10.6**	**-0.1**	
	comp=Z,48nm,1.0s							
LIC	**Lamto**	**146.19**	**301**	⇑*e*PKP1	**PKPdf**	**09 58 11.4**	**+0.3**	
	comp=Z,54nm,0.7s							
LPAZ	**La Paz**	**146.38**	**101**	PKPbc	**PKPdf**	**09 58 11.6**	**-0.4**	
	comp=Z,6.8nm,0.7s,baz=301,slow=2.3,SNR=37							
LPAZ	**La Paz**	**146.38**	**101**		**PKPbc**	**09 58 13.2**	**-0.1**	
LPAZ	**La Paz**	**146.38**	**101**	PKP2	**PKPbc**	**09 58 13.2**	**-0.1**	
LPAZ	**La Paz**	**146.38**	**101**	*e*P	**PKPbc**	**09 58 13.2**	**-0.1**	
LPAZ	**La Paz**	**146.38**	**101**	*e*P	**PKPdf**	**09 58 12.4**	**+0.4**	
ETMB	**Extrema**	**148.00**	**89**		**PKPdf**	**09 58 15.1**	**+1.1**	
ETMB	**Extrema**	**148.00**	**89**	*e*P	**PKPdf**	**09 58 15.1**	**+1.1**	
TEFE	**Tefe**	**148.22**	**77**	*e*P	**PKPdf**	**09 58 15.6**	**+1.1**	
BBTS	**Babate**	**148.47**	**327**	PKPbc	**PKPbc**	**09 58 17.3**	**-0.9**	
	comp=Z,36nm,0.6s,baz=139,slow=20,SNR=2.2							
TRIS	**Tristan da Cun**	**148.57**	**214**	PKPbc	**PKPbc**	**09 58 18.0**	**0.0**	
BOAV	**Boa Vista**	**149.71**	**63**	*e*P	**PKPdf**	**09 58 15.9**	**-1.0**	
BOAV	**Boa Vista**	**149.71**	**63**	*e*P	**PKPdf**	**09 58 17.4**	**+0.5**	
TICA	**Tres Isletas**	**151.14**	**123**	*e*P	**PKPdf**	**09 58 19.2**	**+0.5**	
MECA	**Mercedes**	**151.50**	**131**	*e*P	**PKPdf**	**09 58 21.6**	**+2.5**	
MACA	**Manacapuru-AM**	**151.85**	**74**		**PKPbc**	**09 58 26.4**	**-0.2**	
MACA	**Manacapuru-AM**	**151.85**	**74**	*e*P	**PKPdf**	**09 58 22.1**	**+2.0**	
SCCA	**San Cayetano,**	**152.01**	**127**	*e*P	**PKPdf**	**09 58 21.6**	**+1.7**	
ITQB	**Itaqui**	**152.42**	**133**		**PKiKP**	**09 58 27.9**	**+0.2**	
RODS	**Rosario do Sul**	**153.02**	**136**	*e*P	**PKPdf**	**09 58 23.9**	**+2.5**	
PLTB	**Pedras Altas**	**153.16**	**140**		**PKPbc**	**09 58 28.5**	**-0.6**	
PLTB	**Pedras Altas**	**153.16**	**140**	*e*P	**PKPdf**	**09 58 23.2**	**+1.6**	
BBSD	**Serra de San D**	**153.48**	**104**	*e*P	**PKPdf**	**09 58 23.8**	**+1.4**	
CPUP	**Villa Florida**	**153.62**	**126**	PKP	**PKPdf**	**09 58 22.1**	**-0.3**	
	comp=Z,0.6nm,0.4s,baz=45,slow=12,SNR=2.9							
CPUP				PKPbc	**PKPbc**	**09 58 30.2**	**0.0**	
	comp=Z,1.9nm,0.6s,baz=271,slow=3.5,SNR=7.1							
CPUP				PKPab	**PKPab**	**09 58 41.1**	**-1.6**	
	comp=Z,9.9nm,0.9s,baz=266,slow=1.0,SNR=14							
CPUP	**Villa Florida**	**153.62**	**126**		**PKPbc**	**09 58 29.9**	**-0.3**	
CPUP	**Villa Florida**	**153.62**	**126**	*e*P	**PKPdf**	**09 58 24.9**	**+2.5**	
AZCA	**Azaras, Argent**	**153.77**	**131**	*e*P	**PKPdf**	**09 58 24.0**	**+1.4**	
BBRB	**Robore, Bolivi**	**154.07**	**107**	*e*P	**PKPdf**	**09 58 23.8**	**+0.5**	
VILB	**Vilhena**	**154.11**	**95**	PKPbc	**PKPbc**	**09 58 31.0**	**-0.5**	
VILB	**Vilhena**	**154.11**	**95**	*e*P	**PKPdf**	**09 58 24.4**	**+1.0**	
CPSB	**Cacapava Do Su**	**154.16**	**138**	*e*P	**PKPdf**	**09 58 22.9**	**-0.2**	
VBST	**Vila Bela da S**	**154.27**	**98**	*e*P	**PKPdf**	**09 58 24.8**	**+1.2**	
BBLB	**La Banda, Boli**	**154.94**	**108**	*e*P	**PKPdf**	**09 58 25.7**	**+1.2**	
PTLB	**Pontes e Lacer**	**155.07**	**101**	*e*P	**PKPdf**	**09 58 25.2**	**+0.5**	
MURT	**Porto Murtinho**	**155.24**	**116**	*e*P	**PKPdf**	**09 58 26.6**	**+1.8**	
CRSM	**Crissiumal (Br**	**155.52**	**132**	*e*P	**PKPdf**	**09 58 27.2**	**+2.2**	
BDFB	**Brasilia**	**165.65**	**106**	PKP	**PKPdf**	**09 58 35.2**	**-1.3**	
	comp=Z,1.1nm,0.4s,baz=118,slow=22,SNR=1.5							

IDC ***24*** *09:41:32.9±2.4, 53.°65N×86.°90E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=22.5km s-min=12.5km az=75.0*
NNC ***24*** *09:41:33.0±2.9, 53.°61N×86.°91E, h0km, mb1.2, mpv1.5, Error ellipse: s-maj=24.8km s-min=12.2km az=48.0, Suspected Mining explosion.*

ISC 24 09:41:34.0±4.2, 53.7N±0.2×86.8E±0.2, h0km, n8, σ1s27/8, 2C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**285**	I	I	09 51 10.0	
	0.1nm,1.0s,baz=99,slow=345,SNR=4.7						
ZAA0	**Zalesovo Array**	**1.20**	**285**	⇑P	**Pg**	**09 41 56.5**	**-0.5**
	0.1nm,0.2s						
ZAA0				⇓S	**Sb**	**09 42 15.1**	**+1.4**
	4.1nm,0.8s						
ZALV	**Zalesovo Beam**	**1.20**	**285**	Pg	**Pb**	**09 41 56.6**	**-1.0**
	1.4nm,0.3s,baz=104,slow=16,SNR=21						
ZALV				Lg	Lg	09 42 13.7	
	2.3nm,0.3s,baz=107,slow=28,SNR=14						
KURK	**Kurchatov**	**5.81**	**243**	⇓Lg	Lg	09 44 37.4	
	4.9nm,1.2s						
KURBB	**Kurchatov Arra**	**5.91**	**243**	Pn	**Pn**	**09 43 03.7**	**+1.0**
	0.1nm,0.3s,baz=57,slow=13,SNR=5.2						
KURBB				Lg	Lg	09 44 41.5	
	baz=61,slow=34,SNR=3.6						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**5.91**	**243**	⇓Lg	Lg	09 44 41.9	
	7.1nm,0.8s						
MK31	**Makanchi Array**	**7.44**	**205**	⇓Pn	**Pn**	**09 43 24.9**	**+1.2**
	baz=25,slow=8.8,SNR=9.2						
MK31				Sn	**Sn**	**09 44 48.1**	**-0.6**
	0.2nm,0.4s,baz=24,slow=30,SNR=5.6						
MK31				⇑Lg	Lg	09 45 27.5	
	2.4nm,0.9s,baz=27,slow=30,SNR=3.9						
MKAR	**Makanchi Array**	**7.44**	**205**	Pn	**Pn**	**09 43 24.6**	**+0.9**
	0.1nm,0.3s,baz=28,slow=14,SNR=8.9						
MKAR				Sn	**Sn**	**09 44 47.5**	**-1.2**
	0.2nm,0.3s,baz=30,slow=26,SNR=8.4						
MKAR				Lg	Lg	09 45 29.1	
	0.1nm,0.3s,baz=26,slow=31,SNR=5.7						
	0.5nm,0.4s						

IDC 24 09:45:17.5±3.3, 53.62N×87.91E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=33.1km s-min=18.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**281**	I	I	09 58 37.0	
	baz=96,slow=335,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.86**	**281**	Pn	Pn	09 45 50.7	+0.1
	2.6nm,0.3s,baz=101,slow=15,SNR=14						
ZALV				Lg	Lg	09 46 16.1	
	6.0nm,0.3s,baz=103,slow=23,SNR=17						
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn	Pn	09 46 55.0	+0.6
	0.1nm,0.3s,baz=60,slow=14,SNR=5.3						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	09 47 12.2	+1.1
	0.1nm,0.3s,baz=29,slow=14,SNR=5.2						
	0.2nm,0.3s						

OTT 24 09:47:42.5±0.4, 72.12N×76.09W, h18km, MN2.9/2, 91km southeast from Pond Inlet, Nu Eastern Arctic Background Seismic Zone., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLRN	**Clyde River**	**2.93**	**121**	PN	Pn	09 48 27.6	-0.5
CLRN				SN	Sn	09 49 02.0	-0.6
CLRN				Trac		09 49 07.7	
	comp=Z,8.0nm,0.1s						
ILON	**Igloolik, Nuna**	**3.35**	**217**	PN	Pn	09 48 32.6	-1.2
ILON				SN	Sn	09 49 12.1	-0.9
ILON				LG	Lg	09 49 27.6	
ILON				Trac		09 49 27.9	
	comp=Z,13nm,0.2s						
RES	**Resolute Bay**	**5.96**	**304**	PN	Pn	09 49 09.5	-0.1
RES				SN	Sn	09 50 13.5	-3.7
RES				LG	Lg	09 50 48.2	
RES				Trac		09 51 17.6	
	comp=Z,76nm,2.2s						
EUNU	**Eureka**	**8.34**	**348**	SN	Sn	09 51 07.0	-8.7
EUNU				Trac		09 51 53.4	
	comp=Z,1μm,7.2s						

AEIC ***24*** *09:56:13.4±2.1, 51.°9N±0.°1×177.°88W±0.°05, h5km±4km, Error ellipse: s-maj=14.8km s-min=4.5km az=173.0*
IDC ***24*** *09:56:14.4±0.7, 51.°97N×177.°87W, h0km, mb4.0/17, mbtmp4.0/21, ML4.4/3, MS4.2/9, Error ellipse: s-maj=20.6km s-min=13.2km az=171.0*
NEIC ***24*** *09:56:15.4±1.8, 51.°8N±0.°1×177.°92W±0.°06, h10km±1km, mb4.4/126, ML3.9(AEIC), Error ellipse: s-maj=18.0km s-min=5.3km az=168.0*

ISC 24 09:56:15.2±0.5, 51.78N±0.09×177.89W±0.04, h10km, n314, σ0s89/297, mb4.3/54, MS4.4/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIWB	**Kanaga Island**	**0.46**	**81**	Pg	**Pg**	**09 56 23.4**	**-0.8**
ADK	**Adak**	**0.75**	**82**	Pg	**Pg**	**09 56 28.2**	**-1.5**
ADK				Sg	**Sg**	**09 56 38.7**	**-0.8**
AMKA	**Amchitka**	**1.80**	**258**		**Pn**	**09 56 45.1**	**-1.2**
CLES	**Cleveland East**	**5.01**	**75**	Pn	**Pn**	**09 57 30.5**	**+0.1**
NIKH	**Nikolski High**	**5.66**	**74**	Pn	**Pn**	**09 57 40.5**	**+1.2**
NIKH	**Nikolski High**	**5.66**	**74**	P	**Pn**	**09 57 40.1**	**+0.8**
	baz=262						
SPIA	**Saint Paul Isl**	**7.00**	**36**	Pn	**Pn**	**09 57 58.2**	**+0.6**
SPIA	**Saint Paul Isl**	**7.00**	**36**	P	**Pn**	**09 57 58.8**	**+1.2**
	baz=223						
AKUT	**Akutan**	**7.69**	**67**	Pn	**Pn**	**09 58 07.6**	**+0.5**
S12K	**Black Hills**	**10.16**	**61**	P	**Pn**	**09 58 41.6**	**+0.6**
	baz=254						
SDPT	**Sand Point**	**10.95**	**64**	Pn	**Pn**	**09 58 51.2**	**-0.5**
CHGN	**Chignik**	**12.29**	**61**	Pn	**Pn**	**09 59 11.0**	**+0.9**
R16K	**Pilot Point**	**13.08**	**56**	P	**Pn**	**09 59 21.8**	**+1.0**
	baz=253						
P16K	**Nushagak River**	**13.40**	**49**	P	**Pn**	**09 59 26.5**	**+1.4**
	baz=246						
O16K	**Kokwok River B**	**13.59**	**47**	P	**Pn**	**09 59 29.2**	**+1.4**
	baz=244						
R17K	**Ugashik Creek**	**13.71**	**56**	P	**Pn**	**09 59 29.2**	**-0.3**
	baz=254						
N16K	**Nishlik Lake**	**13.72**	**43**	P	**Pn**	**09 59 31.4**	**+1.9**
	baz=239						
Q16K	**King Salmon**	**13.90**	**52**	P	**Pn**	**09 59 34.0**	**+2.0**
	baz=250						
O17K	**Koliganek Bris**	**14.12**	**47**	P	**Pn**	**09 59 36.9**	**+1.8**
	baz=245						
Q17K	**Contact Creek**	**14.15**	**54**	P	**Pn**	**09 59 35.7**	**+0.1**
	baz=252						
ANM	**Nome**	**14.37**	**22**	Pn	**Pn**	**09 59 38.6**	**0.0**
ANM	**Nome**	**14.37**	**22**	P	**Pn**	**09 59 39.8**	**+1.3**
	baz=213						
SII	**Sitkinak Islan**	**14.65**	**62**	Pn	**Pn**	**09 59 41.7**	**-0.6**
SII	**Sitkinak Islan**	**14.65**	**62**	P	**Pn**	**09 59 42.6**	**+0.3**
	baz=261						
Q18K	**Katmai Hardscr**	**14.71**	**53**	P	**Pn**	**09 59 44.0**	**+0.8**
	baz=252						
TNA	**Tin City**	**14.73**	**16**	P	**Pn**	**09 59 43.4**	**+0.1**
	baz=205						
P18K	**Big Mountain,**	**14.85**	**50**		**Pn**	**09 59 45.6**	**+0.5**
P18K	**Big Mountain,**	**14.85**	**50**	P	**Pn**	**09 59 45.9**	**+0.9**
	baz=249						
PEA0B	**Petropavlovsk-**	**14.93**	**285**	Pn	**Pn**	**09 59 44.2**	**-1.9**
PETK	**Petropavlovsk-**	**14.93**	**285**	Pn	**Pn**	**09 59 46.2**	**0.0**
	4.4nm,1.0s,baz=84,slow=19,SNR=2.3						
PETK	**Petropavlovsk-**	**14.93**	**285**	Pn	**Pn**	**09 59 44.0**	**-2.2**
O18K	**Koktuh Hills**	**15.03**	**49**	Pn	**Pn**	**09 59 47.2**	**-0.3**
O18K	**Koktuh Hills**	**15.03**	**49**	P	**Pn**	**09 59 49.9**	**+2.5**
	baz=248						
OHAK	**Old Harbor**	**15.24**	**59**	Pn	**Pn**	**09 59 50.9**	**+0.5**
OHAK				IAmb	IAmb	10

NEA2	Nenana	19.65	38	P	P	10 00 44.0	+0.1	
	baz=243							
DHY	Denali Highway	19.72	43	P	P	10 00 44.6	-0.1	
DHY				IAmb	IAmb	10 00 49.4		
	comp=Z,31nm,0.8s							
DHY	Denali Highway	19.72	43	P	P	10 00 45.6	+0.8	
	baz=249,SNR=12							
I23K	Minto, Yukon-K	19.80	37	P	P	10 00 46.6	+1.2	
I23K				IAmb	IAmb	10 00 49.1		
	comp=Z,11nm,0.7s							
I23K	Minto, Yukon-K	19.80	37	P	P	10 00 46.4	+0.9	
	baz=241,SNR=8.9							
KLU	Klutina	19.88	48	P	P	10 00 46.6	+0.1	
KLU				IAmb	IAmb	10 00 49.8		
	comp=Z,41nm,1.3s							
KLU	Klutina	19.88	48	P	P	10 00 46.7	+0.2	
	baz=255							
M24K	Tolsona, Glenn	19.93	46	P	Pn	10 00 49.7	+1.1	
M24K	Tolsona, Glenn	19.93	46	P	P	10 00 47.5	+0.5	
	baz=253							
WRH	Wood River Hil	19.98	39	P	P	10 00 46.5	-0.9	
MDM	Murphy Dome	20.14	38	P	P	10 00 48.9	-0.2	
CCB	Clear Creek Bu	20.16	39	P	P	10 00 49.5	+0.1	
CCB				IAmb	IAmb	10 00 55.1		
	comp=Z,13nm,1.1s							
TCOL	CIGO, UAF Yank	20.24	38	P	P	10 00 51.2	+1.0	
TCOL				IAmb	IAmb	10 00 55.9		
	comp=Z,17nm,0.9s							
COLA	College	20.24	38	P	P	10 00 51.2	+1.0	
COLA				IAmb	IAmb	10 00 55.9		
	comp=Z,16nm,0.9s							
BMRM	Bremner River	20.38	50	P	P	10 00 53.1	+1.3	
BMRM				IAmb	IAmb	10 00 55.2		
	comp=Z,32nm,1.1s							
BMRM	Bremner River	20.38	50	P	P	10 00 52.3	+0.4	
	baz=258							
G23K	Bananza Creek	20.38	32	P	P	10 00 52.8	+1.0	
	baz=237							
HDA	Harding Lake	20.40	40	P	P	10 00 52.5	+0.5	
HDA	Harding Lake	20.40	40	P	P	10 00 52.6	+0.6	
	baz=246							
HARP	HAARP	20.47	46	P	P	10 00 53.9	+1.1	
	baz=254							
PAX	Paxson	20.50	44	P	P	10 00 53.2	0.0	
PAX				IAmb	IAmb	10 00 59.8		
	comp=Z,22nm,0.9s							
PAX	Paxson	20.50	44	P	P	10 00 53.3	+0.1	
	baz=252,SNR=9.1							
POKR	Poker Flat Res	20.51	38	P	P	10 00 52.3	-0.9	
POKR				IAmb	IAmb	10 00 56.7		
	comp=Z,16nm,0.8s							
POKR	Poker Flat Res	20.51	38	P	P	10 00 53.3	+0.1	
	baz=244,SNR=8.2							
N25K	Chitina, Valde	20.52	48	P	Pn	10 00 55.2	-0.4	
N25K	Chitina, Valde	20.52	48	P	P	10 00 53.6	+0.2	
	baz=257							
IL31		20.57	39	P	P	10 00 54.2	+0.4	
ILAR	Eielson Array	20.57	39	P	P	10 00 51.2	-2.6	
	comp=Z,1.3nm,0.7s,baz=240,slow=8.8,SNR=17							
	comp=Z,1.3nm,0.7s							
ILAR	Eielson Array	20.57	39	P	P	10 00 54.9	+1.0	
IL03	Eielson Array	20.59	39	P	P	10 00 51.8	-2.3	
COLD	Coldfoot	20.62	31	P	P	10 00 54.7	+0.4	
COLD				IAmb	IAmb	10 00 58.8		
	comp=Z,15nm,1.0s							
COLD	Coldfoot	20.62	31	P	P	10 00 54.5	+0.2	
	baz=235,SNR=5.7							
K24K	Donnelly Dome	20.65	42	P	P	10 00 55.0	+0.3	
	baz=250							
E22K	Anaktuvuk Pass	20.68	28	P	P	10 00 55.2	+0.2	
	baz=231							
H24K	Noodor Dome	20.68	36	P	P	10 00 55.7	+0.7	
H24K				IAmb	IAmb	10 01 01.8		
	comp=Z,28nm,0.8s							
H24K	Noodor Dome	20.68	36	P	P	10 00 54.9	-0.1	
	baz=242							
GLB	Gilahina Butte	20.85	49	P	P	10 00 57.1	+0.1	
GLB				IAmb	IAmb	10 01 00.8		
	comp=Z,19nm,0.9s							
RIDG	Independent Ri	21.02	43	P	P	10 00 59.8	+1.1	
RIDG				IAmb	IAmb	10 01 07.8		
	comp=Z,15nm,0.9s							
RIDG	Independent Ri	21.02	43	P	P	10 00 59.4	+0.7	
	baz=251							
MCARA	McCarthy VSAT	21.21	50	P	P	10 01 01.1	+0.4	
MCARA	McCarthy VSAT	21.21	50	P	P	10 01 02.0	+1.2	
	baz=259							
G24K	Hadweenzic Riv	21.24	34	P	P	10 01 01.3	+0.2	
	baz=240							
MENT	Mentasta	21.26	45	P	P	10 01 02.5	+1.1	
MENT				IAmb	IAmb	10 01 13.3		
	comp=Z,16nm,0.8s							
E23K	Chandalar	21.28	29	P	P	10 01 02.0	+0.5	
	baz=234							
DOT	Dot Lake	21.32	43	P	P	10 01 01.5	-0.4	
DOT				IAmb	IAmb	10 01 05.0		
	comp=Z,14nm,0.8s							
PRP	Porcupine Dome	21.41	38	P	P	10 01 03.9	+0.9	
PRP				IAmb	IAmb	10 01 08.8		
	comp=Z,8.2nm,0.7s							
PRP	Porcupine Dome	21.41	38	P	P	10 01 03.3	+0.3	
	baz=246							
M26K	Nabesna, AK	21.44	47	P	P	10 01 03.5	+0.2	
M26K				IAmb	IAmb	10 01 09.1		
	comp=Z,18nm,1.0s							
M26K	Nabesna, AK	21.44	47	P	P	10 01 03.6	+0.3	
	baz=256							
L26K	Log Cabin Wild	21.45	45	P	P	10 01 04.3	+1.0	
L26K	Log Cabin Wild	21.45	45	P	P	10 01 04.2	+0.8	
	baz=255,SNR=29							
SCRK	Sand Creek	21.45	42	P	P	10 01 02.6	-0.9	
SCRK				IAmb	IAmb	10 01 05.3		
	comp=Z,19nm,1.0s							
SCRK	Sand Creek	21.45	42	P	P	10 01 02.5	-1.0	
	baz=251,SNR=9.7							
F24K	Squaw Lake	21.52	32	P	P	10 01 04.7	+0.6	
	baz=238							
D23K	Nanushuk River	21.53	27	P	P	10 01 04.5	+0.4	
	baz=231							
E24K	Your Creek	21.64	30	P	P	10 01 06.1	+0.7	
	baz=236							
J26L	Joseph Creek	21.80	41	P	P	10 01 05.9	-1.2	
J26L				IAmb	IAmb	10 01 07.4		
	comp=Z,16nm,1.1s							
J26L	Joseph Creek	21.80	41	P	P	10 01 06.1	-1.0	
	baz=251							
A21K	Barrow	21.82	18	P	P	10 01 04.1	-3.1	
A21K				IAmb	IAmb	10 01 10.3		
	comp=Z,8.5nm,0.6s							
M27K	Edge Creek, AK	21.94	47	P	P	10 01 09.5	+0.7	
FYU	Fort Yukon	21.96	35	P	P	10 01 09.3	+0.5	
L27K	Beaver Creek,	22.12	45	P	P	10 01 11.1	+0.5	
L27K				IAmb	IAmb	10 01 12.4		
	comp=Z,16nm,0.9s							
L27K	Beaver Creek,	22.12	45	P	P	10 01 10.9	+0.3	
	baz=256							
BCAR	Beaver Creek A	22.14	45	P	P	10 01 11.3	+0.4	
I26K	Coal Creek Min	22.24	39	P	P	10 01 12.6	+0.8	
F25K	Christian Rive	22.30	33	P	P	10 01 12.8	+0.3	
	baz=241,SNR=8.7							
BVCY	Beaver Creek	22.42	47	P	P	10 01 13.8	+0.1	
	baz=259							
YUK3	Moose Creek	22.49	49	P	P	10 01 14.4	-0.3	
	baz=261							
BMAR	Burnt Mountain	22.59	33	P	P	10 01 14.8	-0.7	
E25K	Arctic Village	22.59	31	P	P	10 01 15.3	-0.2	
	baz=240							
YKU2	Yakutat	22.63	55	P	P	10 01 15.5	-0.4	
F26K	Sheenjek River	22.86	33	P	P	10 01 18.5	+0.1	
	baz=243							
EGAK	Eagle	22.87	41	P	P	10 01 18.2	-0.2	
EGAK	Eagle	22.87	41	P	P	10 01 18.0	-0.5	
	baz=253,SNR=11							
I27K	Kandik River	22.95	39	P	P	10 01 18.9	-0.4	
	baz=251							
H27K	Steamboat Moun	23.20	38	P	P	10 01 21.0	-0.9	
	baz=249							
YUK4	Talbot Arm	23.29	50	P	P	10 01 22.9	-0.2	
	baz=264							
G27K	Doyon Strip	23.36	36	P	P	10 01 22.9	-0.6	
	baz=248							
DAWY	Dawson	23.42	44	P	P	10 01 25.0	+0.8	
DAWY	Dawson	23.42	44	P	P	10 01 24.5	+0.4	
	baz=257							
M29M	Somme Creek	23.52	48	P	P	10 01 24.8	-0.4	
	baz=261							
L29M	L29M	23.78	46	P	P	10 01 27.4	-0.3	
	baz=260							
HYT	Haines Junctio	23.80	52	P	P	10 01 28.2	+0.2	
HYT				IAmb	IAmb	10 01 56.1		
	comp=Z,7.6nm,1.1s							
E27K	Coleen River	23.94	33	P	P	10 01 29.3	+0.1	
	baz=245							
I29M	Ogilvie Camp,	24.19	41	P	P	10 01 31.5	0.0	
	baz=255							
M30M	Minto, Yukon	24.31	48	P	P	10 01 31.5	-1.2	
M30M				IAmb	IAmb	10 01 37.8		
	comp=Z,8.0nm,1.2s							
G30M	tAoh Zraii Nji	25.45	37	P	P	10 01 43.7	+0.8	
	baz=254							
P33M	Teslin, Yukon	26.10	53	P	P	10 01 50.1	+1.1	
P33M				IAmb	IAmb	10 02 09.2		
	comp=Z,13nm,1.5s							
F31M	Tsiigehtchic	26.50	37	P	P	10 01 51.9	-0.4	
	baz=256,SNR=5.6							
INK	Inuvik	26.80	35	P	P	10 01 53.8	-1.2	
	comp=Z,4.1nm,0.6s,baz=254,slow=9.2,SNR=34							
	comp=Z,4.1nm,0.6s							
INK	Inuvik	26.80	35	P	P	10 01 55.7	+0.7	
INK				IAmb	IAmb	10 02 00.8		
	comp=Z,8.5nm,1.1s							
INK	Inuvik	26.80	35	P	P	10 01 55.1	+0.1	
	baz=254							
C36M	Paulatuk	30.37	34	P	P	10 02 27.2	+0.4	
C36M				IAmb	IAmb	10 02 28.0		
	comp=Z,4.1nm,1.0s							
C36M	Paulatuk	30.37	34	P	P	10 02 26.7	-0.1	
	baz=263							
WRGLY	Wrigley	30.42	47	P	P	10 02 26.7	-0.6	
	baz=274							
A36M	Sachs Harbour	30.46	29	P	P	10 02 28.4	+0.9	
A36M	Sachs Harbour	30.46	29	P	P	10 02 28.1	+0.6	
	baz=257,SNR=28							
KLR	Kul'dur	31.62	286	P	P	10 02 37.0	-1.0	
	comp=Z,1.8nm,0.6s,baz=79,slow=7.5,SNR=5.9							
	comp=Z,1.8nm,0.6s							
USRK	Ussuriysk Ar.	33.81	277	P	P	10 02 56.1	-1.2	
	comp=Z,1.6nm,0.6s,baz=65,slow=13,SNR=2.4							
	comp=Z,1.6nm,0.6s							
CLRS	Cowichan Lake	33.82	73	P	P	10 02 56.4	-0.8	
H11N2	WAKE ISLAND Hy	34.14	206	T	T	10 39 00.8		
	baz=18,slow=76,SNR=232							
H11N3	WAKE ISLAND Hy	34.15	206	T	T	10 38 59.7		
	baz=18,slow=76,SNR=274							
H11N1	WAKE ISLAND Hy	34.16	206	T	T	10 39 00.8		
	baz=18,slow=76,SNR=208							
YKA	Yellowknife Ar	34.54	47	P	P	10 03 02.3	-1.0	
	comp=Z,1.8nm,0.7s,baz=280,slow=8.6,SNR=23							
	comp=Z,1.8nm,0.7s							
YKA	Yellowknife Ar	34.54	47	P	P	10 03 03.2	-0.2	
H11S1	WAKE ISLAND Hy	35.36	206	T	T	10 40 32.9		
	baz=17,slow=76,SNR=270							
H11S2	WAKE ISLAND Hy	35.37	206	T	T	10 40 28.6		
	baz=17,slow=76,SNR=150							
H11S3	WAKE ISLAND Hy	35.37	206	T	T	10 40 26.9		
	baz=17,slow=76,SNR=117							
LON	Longmire	36.16	75	P	P	10 03 19.5	+1.9	
LON				IAmb	IAmb	10 03 22.3		
	comp=Z,3.5nm,0.8s							
MLOA	Mauna Loa Obse	36.63	143	P	P	10 03 21.8	-0.4	
B08A	Colville Reser	36.87	72	P	P	10 03 22.6	-0.9	
B08A				IAmb	IAmb	10 03 51.6		
	comp=Z,7.7nm,1.4s							
H04A	Detroit Lake	36.97	78	P	P	10 03 24.9	+0.4	
H04A				IAmb	IAmb	10 03 27.9		
	comp=Z,16nm,1.3s							
HAWA	Hanford	37.70	74	P	P	10 03 30.0	-0.6	
HAWA				IAmb	IAmb	10 03 32.5		
	comp=Z,5.3nm,0.8s							
EDM	Edmonton	38.12	62	P	P	10 03 33.8	-0.3	
EDM				IAmb	IAmb	10 03 57.3		
	comp=Z,10nm,1.3s							
NEW	Newport	38.21	71	P	P	10 03 35.9	+1.0	
JCJ	Chichijima	38.77	246	LR	LR	10 18 30.3		
	comp=Z,142nm,21.1s,baz=106,slow=34							
K05A	Summer Lake	38.82	80	P	P	10 03 40.9	+0.6	
I07A	Izee	38.92	78	P	P	10 03 41.1	0.0	
MOD	Modoc Plateau	39.64	81	P	P	10 03 49.4	+2.3	
EUNU	Eureka	39.74	16	P	P	10 03 47.1	-0.3	
BMO	Blue Mountains	39.84	75	P	P	10 03 49.0	+0.3	
J08A	Circle Bar Ran	39.94	78	P	P	10 03 50.7	+1.1	
JNU	Nakatsue	41.19	264	LR	LR	10 21 53.9		
	comp=Z,111nm,20.0s,baz=132,slow=37							
VCNR	Virginia City	41.58	84	P	P	10 04 02.7	-0.6	
VCNR				IAmb	IAmb	10 04 13.9		
	comp=Z,5.1nm,1.0s							
PNTR	Pine Nut	41.73	84	P	P	10 04 04.3	-0.2	
HRY	Holter Researc	42.09	70	P	P	10 04 07.1	-0.1	
LRM	Limekiln Ridge	42.20	71	P	P	10 04 07.1	-1.2	
HLID	Hailey	42.28	75	P	P	10 04 09.0	+0.1	
HLID	Hailey	42.28	75	P	P	10 04 08.4	-0.5	
	baz=304							
BMN	Battle Mountai	42.39	81	P	P	10 04 09.4	-0.3	
MCMT	McKenzie Canyo	42.51	73	P	P	10 04 10.1	-0.8	
BOZ	Bozeman (W)	42.81	71	P	P	10 04 12.9	-0.2	
	baz=303							
NVAR	Mina Array Bea	42.94	84	P	P	10 04 16.2	+1.9	
	comp=Z,1.2nm,0.7s,baz=296,slow=7.6,SNR=7.1							
	comp=Z,1.2nm,0.7s							
NVAR	Mina Array Bea	42.94	84	P	P	10 04 15.5	+1.2	
ELK	Elko	43.42	79	P	P	10 04 17.5	-0.7	
DSP	Deep Springs	43.80	85	P	P	10 04 21.1	+0.1	
HVU	Hansel Valley	44.30	76	P	P	10 04 25.3	+0.1	
HVU				IAmb	IAmb	10 04 26.9		
	comp=Z,2.5nm,0.6s							
NRIK	Noril'sk	44.35	330	P	P	10 04 24.8	-0.2	
	comp=Z,2.0nm,0.6s,baz=67,slow=4.3,SNR=4.0							
	comp=Z,2.0nm,0.6s							
NRIK	Noril'sk	44.35	330	P	P	10 04 25.1	+0.1	
NRIK				IAmb	IAmb	10 04 26.4		
	comp=Z,11nm,1.4s							
RLMT	Red Lodge	44.46	70	P	P	10 04 26.9	+0.5	
R11A	Troy Canyon, C	44.66	82	P	P	10 04 29.5	+1.3	
R11A	Troy Canyon, C	44.66	82	P	P	10 04 27.6	-0.6	
	baz=309							
HWUT	Hardware Ranch	45.13	76	P	P	10 04 32.3	+0.5	
HWUT				IAmb	IAmb	10 05 05.6		
	comp=Z,4.8nm,1.4s							
TPNV	Topopah Spring	45.13	84	P	P	10 04 33.7	+1.8	
TPNV				IAmb	IAmb	10 04 37.0		
	comp=Z,5.7nm,0.7s							
DUG	Dugway, Tooele	45.23	78	P	P	10 04 33.5	+1.0	
DUG				IAmb	IAmb	10 04 34.2		
	comp=Z,4.1nm,0.9s							
DUG	Dugway, Tooele	45.23	78	P	P	10 04 32.3	-0.2	
	baz=308							
FCC	Fort Churchill	45.27	47	P	P	10 04 31.2	-1.2	
FCC				IAmb	IAmb	10 04 32.4		
	comp=Z,7.7nm,1.4s							
PRN	Pahroc Range	45.58	83	P	P	10 04 35.8	+0.4	
PRN				IAmb	IAmb	10 04 50.0		
	comp=Z,4.8nm,0.8s							
BW06	Boulder Array	45.64	73	P	P	10 04 36.3	+0.3	
BW06				IAmb	IAmb	10 04 37.0		
	comp=Z,5.8nm,1.2s							
BW06	Boulder Array	45.64	73	P	P	10 04 35.1	-0.9	
	baz=306							
PD31	Pinedale Array	45.64	73	P	P	10 04 36.1	+0.2	
PD31				IAmb	IAmb	10 04 37.0		
	comp=Z,4.8nm,1.1s							
PDAR	Pinedale Array	45.64	73	P	P	10 04 35.1	-0.8	
	comp=Z,1.0nm,0.7s,baz=320,slow=3.5,SNR=12							
	comp=Z,1.0nm,0.7s							
PDAR	Pinedale Array	45.64	73	P	P	10 04 35.0	-0.9	
GSC	Goldstone, Bar	45.85	86	P	P	10 04 37.0	-0.5	
	baz=311							
WTNK	Soaring Height	46.38	84	P	P	10 04 40.7	-1.0	
CCUT	Cedar City	46.53	81	P	P	10 04 42.5	-0.5	
CCUT				IAmb	IAmb	10 05 23.1		
	comp=Z,4.3nm,1.4s							
MVU	Marysvale	46.63	80	P	P	10 04 44.5	+0.6	
MSU	Marysvale	46.65	80	P	P	10 04 45.4	+1.4	
TMUT	Trail Mountain	46.75	78	P	P	10 04 46.0	+1.2	
TMUT				IAmb	IAmb	10 05 16.4		
	comp=Z,7.2nm,1.2s							
GMRC	Granite Mounta	46.90	86	P	P	10 04 45.9	+0.2	
	baz=311							
P17A	Butcher Ranch,	46.93	78	P	P	10 04 44.3	-1.7	
P17A				IAmb	IAmb	10 05 16.8		
	comp=Z,5.3nm,1.3s							
MTPU	Mount Pierson	46.94	80	P	P	10 04 44.7	-1.7	
LCMT	Little Creek M	46.95	82	P	P	10 04 47.3	+1.1	
LCMT				IAmb	IAmb	10 04 54.0		
	comp=Z,5.1nm,1.1s							
RDMU	Red Mountain	46.96	76	P	P	10 04 46.2	-0.1	
SONM	Songino Array	46.98	297	P	P	10 04 46.2	0.0	
	comp=Z,0.3nm,0.6s,baz=61,slow=4.5,SNR=1.9							
	comp=Z,0.3nm,0.6s							
SONM	Songino Array	46.98	297	P	P	10 04 44.6	-1.7	
PKCU	Pink Cliffs	47.24	81	P	P	10 04 48.2	-0.4	
PKCU				IAmb	IAmb	10 05 05.0		
	comp=Z,4.2nm,0.9s							
SRU	San Rafael Swe	47.28	78	P	P	10 04 48.4	-0.4	
SRU				IAmb	IAmb	10 04 50.9		
	comp=Z,2.8nm,0.6s							
BC3	Big Chuckawall	47.77	87	P	P	10 04 52.4	-0.2	
	baz=312							
W13A	Hualapai Mount	47.79	84	P	P	10 04 52.8	-0.1	
W13A				IAmb	IAmb	10 04 56.8		
	comp=Z,2.0nm,0.8s							
O20A	White River Ci	48.02	75	P	P	10 04 54.6	0.0	
O20A	White River Ci	48.02	75	P	P	10 04 54.3	-0.3	
	baz=309							
HHC	Hu-ho-hao-te	48.13	286	eP	P	10 04 55.9	+0.7	
HHC				pmax	pmax			
	comp=Z,17nm,0.8s							
HHC				pmax	pmax			
	comp=Z,4μm,6.3s							
GUMO	Guam	48.41	232	LR	LR	10 25 29.0		
	comp=Z,70nm,18.6s,baz=90,slow=36							
PV11	David Mesa, Pa	48.80	78	P	P	10 05 01.0	+0.5	
PV07	Paradox Valley	48.85	77	P	P	10 05 01.4	+0.5	
PV07				IAmb	IAmb	10 05 02.4		
	comp=Z,6.0nm,1.1s							
PV13	Radium Mtn., P	48.92	78	P	P	10 05 01.8	+0.3	
N23A	Red Feather La	48.93	73	P	P	10 05 00.8	-0.8	
	baz=309							
WUAZ	Wupatki	49.06	82	P	P	10 05 03.1	+0.5	
	baz=311							
MVCO	Mesa Verde	49.72	78	P	P	10 05 07.0	-0.7	
	baz=311							
ISCO	Idaho Springs	49.81	74	P	P	10 05 07.9	-0.5	
	baz=309							
SPB2	Spitsbergen Ar	50.02	356	P	P	10 05 09.9	+0.8	
214A	Organ Pipe Nat	50.56	87	P	P	10 05 13.8	0.0	
	baz=313							
Q24A	Divide	50.62	74	P	P	10 05 14.1	-0.4	
SDCO	Great Sand Dun	51.19	76	P	P	10 05 18.2	-0.7	
SDCO	Great Sand Dun	51.19	76	P	P	10 05 18.8	0.0	
	baz=311							
TUC	Tucson	51.57	85	P	P	10 05 22.1	+0.6	
	baz=313							
T25A	Trinidad	52.24	76	P	P	10 05 26.0	-0.6	
T25A				IAmb	IAmb	10 05 28.0		
	comp=Z,5.4nm,1.1s							
T25A	Trinidad	52.24	76	P	P	10 05 26.6	-0.1	
	baz=311							
ECSD	EROS Data Cent	52.54	64	P	P	10 05 28.8	+0.3	
	baz=310							
WMOK	Wichita Mounta	57.23	74	P	P	10 06 02.0	-0.6	
	baz=314							
ARCES	ARCESS Array B	57.79	351	P	P	10 06 04.3	-1.7	
	comp=Z,1.7nm,0.6s,baz=33,slow=6.8,SNR=1.3							
	comp=Z,1.7nm,0.6s							
TX31	Lajitas Ar. Si	58.03	82	P	P	10 06 08.6	+0.2	
TX32	Lajitas Array	58.03	82	P	P	10 06 08.6	+0.3	
TX32				IAmb	IAmb	10 06 41.8		
	comp=Z,5.2nm,1.5s							
TXAR	Lajitas Array	58.03	82	P	P	10 06 08.4	0.0	
	comp=Z,1.0nm,0.8s,baz=304,slow=5.7,SNR=10							
TXAR				PcP	PcP	10 07 01.3	+1.1	
	comp=Z,0.7nm,0.8s,baz=256,slow=2.7,SNR=3.9							
TXAR				LR	LR	10 30 59.8		
	comp=Z,440nm,20.0s,baz=298,slow=36							
	comp=Z,1.0nm,0.8s							
TXAR	Lajitas Array	58.03	82	P	P	10 06 08.9	+0.5	
JCT	Junction City	59.59	78	P	P	10 06 18.4	-0.7	
	baz=315							
WMQ	Urumqi	59.60	303	eP	P	10 06 22.1	+3.1	
Q44A	Meyer Farm, Va	60.02	64	P	P	10 06 22.6	+0.7	
MKAR	Makanchi Array	60.23	309	P	P	10 06 24.1	+0.8	
	comp=Z,0.1nm,0.4s,baz=40,slow=5.4,SNR=1.5							
MIAR	Mount Ida	60.45	71	P	P	10 06 24.9	0.0	
	baz=315							
NOA	NORSAR Array B	67.29	355	P	P	10 07 09.8	+0.1	
	comp=Z,0.9nm,0.7s,baz=4.9,slow=6.2,SNR=3.1							
	comp=Z,0.9nm,0.7s							
EKA	Eskdalemuir Ar	73.16	3	P	P	10 07 46.2	+0.6	
	comp=Z,1.5nm,0.6s,baz=335,slow=4.8,SNR=5.2							
	comp=Z,1.5nm,0.6s							
RAR	Rarotonga	74.39	162	LR	LR	10 33 31.4		
	comp=Z,179nm,19.4s,baz=299,slow=30							
AKASG	Malin Array Be	75.34	343	P	P	10 07 58.9	+0.6	
	comp=Z,0.3nm,0.3s,baz=19,slow=6.0,SNR=2.9							
	comp=Z,0.3nm,0.3s							
KAPI	Kappang	77.35	245	LR	LR	10 40 56.3		
	comp=Z,25nm,19.4s,baz=72,slow=35							
MILM	Milestii Mici	79.04	342	eL	L	10 08 30.0		
MILM				LRM	MLR	10 08 42.0		
	comp=Z,500nm,10.0s							
GERES	GERESS Array B	79.27	352	LR	LR	10 46 04.7		
	comp=Z,556nm,20.2s,baz=49,slow=38							
DAVOX	Davos/Dischmat	81.59	355	LR	LR	10 46 02.1		
	comp=Z,334nm,20.0s,baz=46,slow=37							
WRA	Warramunga Arr	82.70	225	P	P	10 08 39.7	+0.8	
	comp=Z,0.5nm,0.5s,baz=35,slow=6.2,SNR=5.6							
	comp=Z,0.5nm,0.5s							
ASAR	Alice Springs	86.17	223	P	P	10 08 58.3	+1.8	
	comp=Z,1.0nm,0.7s,baz=26,slow=5.5,SNR=19							
	comp=Z,1.0nm,0.7s							
STKA	Stephens Creek	90.58	214	P	P	10 09 19.3	+2.1	
	comp=Z,1.5nm,0.6s,baz=16,slow=4.3,SNR=5.9							
	comp=Z,1.5nm,0.6s							
KEST	Kesra	92.63	354	LR	LR	10 56 21.7		
	comp=Z,364nm,18.4s,baz=352,slow=39							
H03N2	Juan Fernandez	120.71	106	T	T	12 26 37.6		
	baz=317,slow=77,SNR=4.6							
H03N1	Juan Fernandez	120.72	106	T	T	12 26 38.5

	baz=10.0									
NRN					⇑*i*S		Sg	09 57 52.2	+0.2	
	baz=10.0									
MTBS	**Maitube**	**0.93**	**353**		P		**Pg**	**09 57 40.8**	**-0.5**	
	3.7nm,0.2s									
MTBS					S		**Sg**	**09 57 53.6**	**+0.2**	
	4.2nm,0.2s									
MTBS	**Maitube**	**0.93**	**353**		*e*P		**Pg**	**09 57 40.8**	**-0.5**	
	baz=54									
MTBS					*e*S		**Sg**	**09 57 53.2**	**-0.2**	
	baz=54									
MTBS	**Maitube**	**0.93**	**353**		*e*P		**Pg**	**09 57 40.8**	**-0.5**	
	3.7nm,0.1s									
MTBS					*e*S		**Sg**	**09 57 53.2**	**-0.2**	
	4.8nm,0.1s									
KST	**Kastek**	**0.95**	**332**		P		**Pg**	**09 57 41.2**	**-0.5**	
	2.2nm,0.3s									
KST					S		**Sg**	**09 57 53.8**	**-0.3**	
	5.2nm,0.3s									
KST	**Kastek**	**0.95**	**332**		*e*P		**Pg**	**09 57 41.2**	**-0.5**	
	baz=33									
KST					*e*S		**Sg**	**09 57 53.8**	**-0.3**	
	baz=33									
KST	**Kastek**	**0.95**	**332**		*e*P		**Pg**	**09 57 41.2**	**-0.5**	
	2.2nm,0.1s									
KST					*e*S		**Sg**	**09 57 53.8**	**-0.3**	
	5.2nm,0.1s									
MDOK	**Medeo**	**1.02**	**20**		Pg		**Pg**	**09 57 42.6**	**-0.3**	
	2.8nm,0.2s									
MDOK					Lg		Lg	09 57 56.2		
	5.7nm,0.2s									
MDOK	**Medeo**	**1.02**	**20**		*e*P		**Pg**	**09 57 42.6**	**-0.3**	
	2.8nm,0.1s									
MDOK					*e*S		**Sg**	**09 57 56.2**	**0.0**	
	5.7nm,0.2s									
TKM2	**Tokmak 2**	**1.02**	**315**	⇑	*i*P		**Pg**	**09 57 42.0**	**-0.9**	
	baz=16									
TKM2				⇑	*i*S		**Sg**	**09 57 55.9**	**-0.3**	
	baz=16									
TARG	**Taragay, Kyrgy**	**1.03**	**117**	⇑	*i*P		**Pg**	**09 57 42.1**	**-1.1**	
	baz=16									
TARG				⇑	*i*S		**Sg**	**09 57 56.1**	**-0.6**	
	baz=16									
SATY	**Saty**	**1.60**	**57**		P		**Pb**	**09 57 53.2**	**+0.4**	
	1.8nm,0.1s									
SATY					S		**Sg**	**09 58 14.4**	**-0.3**	
	8.0nm,0.1s									
SATY	**Saty**	**1.60**	**57**		*e*P		**Pb**	**09 57 53.2**	**+0.4**	
	baz=57									
SATY					*e*S		**Sg**	**09 58 14.4**	**-0.3**	
	baz=57									
SATY	**Saty**	**1.60**	**57**		*e*P		**Pb**	**09 57 53.2**	**+0.4**	
	1.8nm,0.1s									
SATY					*e*S		**Sg**	**09 58 14.4**	**-0.3**	
	20nm,0.1s									
ZHN	**Zhinishke**	**1.67**	**54**		*e*P		**Pb**	**09 57 54.3**	**+0.2**	
	baz=54									
ZHN					*e*S		**Sb**	**09 58 16.2**	**+1.0**	
	baz=54									
ZHN	**Zhinishke**	**1.67**	**54**		*e*P		**Pb**	**09 57 54.3**	**+0.2**	
	1.3nm,0.1s									
ZHN					*e*S		**Sb**	**09 58 16.2**	**+1.0**	
	20nm,0.2s									
CHKK	**Chushkaly**	**1.68**	**10**		*e*P		**Pb**	**09 57 54.4**	**+0.3**	
	baz=11									
CHKK					*e*S		**Sg**	**09 58 16.6**	**-0.6**	
	baz=11									
CHKK	**Chushkaly**	**1.68**	**10**		*e*P		**Pb**	**09 57 54.4**	**+0.3**	
	2.9nm,0.1s									
CHKK					*e*S		**Sg**	**09 58 16.6**	**-0.6**	
	8.1nm,0.1s									
SGDS	**Sogindy**	**1.90**	**312**		P		**Pb**	**09 57 57.5**	**-0.4**	
	2.2nm,0.7s									
SGDS					S		**Sb**	**09 58 22.0**	**+0.3**	
	3.3nm,0.3s									
KPKS	**Kokpek**	**2.00**	**50**		Pg		**Pb**	**09 57 59.0**	**-0.6**	
	1.1nm,0.1s									
KPKS					Lg		Lg	09 58 24.3		
	6.8nm,0.2s									
KPKS	**Kokpek**	**2.00**	**50**		*e*P		**Pb**	**09 57 59.0**	**-0.6**	
	baz=50									
KPKS					*e*S		**Sb**	**09 58 24.3**	**-0.2**	
	baz=50									
KPKS	**Kokpek**	**2.00**	**50**		*e*P		**Pb**	**09 57 59.0**	**-0.6**	
	1.5nm,0.1s									
KPKS					*e*S		**Sb**	**09 58 24.3**	**-0.2**	
	7.4nm,0.2s									
UZB	**Uzynbulak**	**2.03**	**62**		Pg		**Pb**	**09 58 00.5**	**+0.2**	
	3.3nm,0.2s									
UZB					Lg		Lg	09 58 27.0		
	7.9nm,0.3s									
UZB	**Uzynbulak**	**2.03**	**62**		*e*Pg		**Pb**	**09 58 00.5**	**+0.2**	
	3.3nm,0.1s									
UZB					*e*Lg		Lg	09 58 27.0		
	7.9nm,0.3s									
MRKS	**Merke**	**2.54**	**283**		*e*Pg		**Pb**	**09 58 09.9**	**+1.1**	
	1.2nm,0.2s									
MRKS					*e*Lg		Lg	09 58 43.1		
	2.4nm,0.1s									

IDC ***24*** *10:00:00.8±0.9,37˚29N×21˚14E,h0km,mb4.0/18, mbtmp3.9/27,ML3.6/8,MS4.3/2, Error ellipse: s-maj=18.8km s-min=14.1km az=26.0*

BEO ***24*** *10:00:01.2±0.9,37˚10N×21˚05E,h0km,ML3.8/5*

THE ***24*** *10:00:03.4,37˚19N×21˚09E,h7km±1km,ML4.1/13, Error ellipse: s-maj=1.5km s-min=0.6km az=33.0*

ATH ***24*** *10:00:04.0,37˚24N×21˚10E,h5km±1km,ML3.9/10, Error ellipse: s-maj=1.8km s-min=0.8km az=31.0*

NEIC ***24*** *10:00:04.3±2.2,37˚16N±0˚05×21˚11E±0˚06,h22km±8km, mb4.4/14, Error ellipse: s-maj=8.5km s-min=6.2km az=222.0*

PDG ***24*** *10:00:06.3±1.2,37˚05N×21˚08E,h22km±11km,ML4.1/13, Error ellipse: s-maj=3.2km s-min=3.1km az=90.0*

ISC 24 10:00:03.2±1.3**,37˚19N**±0˚04×**21˚06E**±0˚03**,h19**km±4km**, n199,σ1s48/231,mb4.1**/24**,16C-15D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res	ISC
				Op			h m s		
LTHK	**Lithakia**	**0.55**	**341**	P		**Pb**	**10 00 14.6**	**+0.5**	
LTHK				S		**Sb**	**10 00 21.9**	**+0.4**	
	24µm,0.6s								
LTHK	**Lithakia**	**0.55**	**341**	P		**Pb**	**10 00 14.2**	**+0.1**	
LTHK				S		**Sb**	**10 00 21.1**	**-0.4**	
LTHK				AML		AML	10 00 30.8		
	comp=N,29951µm,0.6s								
LTHK				AML		AML	10 00 32.3		
	comp=E,44264µm,0.6s								
ITM	**Ithomi**	**0.69**	**91**			**Pb**	**10 00 15.2**	**-1.4**	
ITM						**Sb**	**10 00 25.5**	**-0.1**	
ITM	**Ithomi**	**0.69**	**91**	P		**Pb**	**10 00 15.5**	**-1.0**	
ITM				S		**Sb**	**10 00 26.3**	**+0.6**	
	comp=E,14µm,0.5s								
ITM	**Ithomi**	**0.69**	**91**	P		**Pb**	**10 00 15.7**	**-0.8**	
ITM				S		**Sb**	**10 00 25.6**	**-0.1**	
ITM				AML		AML	10 00 27.7		
	comp=E,24046µm,0.4s								
ITM				AML		AML	10 00 32.7		
	comp=N,29916µm,0.5s								
KLMT	**Kalamata**	**0.81**	**99**	P		**Pb**	**10 00 18.8**	**+0.3**	
KLMT				S		**Sb**	**10 00 29.1**	**+0.1**	
	comp=N,15µm,0.7s								
DRO	**Drossia**	**0.92**	**34**	P		**Pb**	**10 00 20.3**	**-0.1**	
DRO				S		**Sn**	**10 00 33.9**	**+0.2**	
	comp=N,22µm,0.4s								
DRO	**Drossia**	**0.92**	**34**	P		**Pb**	**10 00 20.0**	**-0.5**	
DRO				S		**Sb**	**10 00 31.8**	**-0.4**	
DRO				AML		AML	10 00 37.2		
	comp=N,48578µm,0.4s								
DRO				AML		AML	10 00 37.4		
	comp=E,37853µm,0.4s								
RLS	**Riolos of Patr**	**0.92**	**20**	P		**Pb**	**10 00 20.5**	**0.0**	
RLS				S		**Sn**	**10 00 33.4**	**-0.4**	
	comp=E,7µm,0.8s								
RLS	**Riolos of Patr**	**0.92**	**20**	P		**Pb**	**10 00 20.4**	**-0.1**	
RLS				S		**Sb**	**10 00 32.0**	**-0.3**	
RLS				AML		AML	10 00 39.2		
	comp=E,10006µm,0.3s								
RLS				AML		AML	10 00 40.7		
	comp=N,12903µm,0.5s								
PSDA	**Pessada-Kefalo**	**0.99**	**338**	P		**Pb**	**10 00 22.0**	**+0.2**	
PSDA				S		**Sn**	**10 00 36.8**	**+1.2**	
	comp=N,8µm,0.3s								
PSDA	**Pessada-Kefalo**	**0.99**	**338**	P		**Pb**	**10 00 21.9**	**+0.1**	
PSDA				S		**Sb**	**10 00 34.8**	**+0.3**	

VLS	**Valsamata**	**1.05**	**339**		P		**Pb**	**10 00 23.0**	**+0.2**	
VLS					S		**Sn**	**10 00 38.5**	**+1.4**	
	comp=N,5µm,0.5s									
VLS	**Valsamata**	**1.05**	**339**		P		**Pb**	**10 00 22.9**	**+0.2**	
VLS					S		**Sn**	**10 00 36.8**	**-0.3**	
VLS					AML		AML	10 00 44.4		
	comp=E,7909µm,0.6s									
VLS					AML		AML	10 00 48.4		
	comp=N,10658µm,0.5s									
KEF3	**Kipouria, Keph**	**1.16**	**331**		P		**Pb**	**10 00 24.9**	**+0.3**	
KEF3					S		**Sn**	**10 00 43.2**	**+3.6**	
	comp=N,18µm,0.7s									
KEF3	**Kipouria, Keph**	**1.16**	**331**		P		**Pb**	**10 00 24.8**	**+0.3**	
KEF4	**Livadi, Kephal**	**1.18**	**335**		P		**Pb**	**10 00 25.4**	**+0.5**	
KEF4					S		**Sn**	**10 00 42.2**	**+2.1**	
	comp=N,32µm,0.5s									
KEF4	**Livadi, Kephal**	**1.18**	**335**		P		**Pb**	**10 00 25.2**	**+0.3**	
KEF4					S		**Sn**	**10 00 41.1**	**+0.9**	
DMLN	**Damoulianata-K**	**1.18**	**333**		P		**Pb**	**10 00 25.4**	**+0.5**	
DMLN					S		**Sn**	**10 00 43.7**	**+3.5**	
	comp=N,12µm,0.6s									
KLV	**Kalavryta, Ach**	**1.21**	**45**		P		**Pb**	**10 00 25.6**	**+0.1**	
KLV					S		**Sn**	**10 00 42.9**	**+1.8**	
	comp=N,5µm,0.8s									
KLV	**Kalavryta, Ach**	**1.21**	**45**		P		**Pb**	**10 00 25.4**	**+0.2**	
KLV					S		**Sn**	**10 00 41.6**	**+0.5**	
KLV					AML		AML	10 00 50.2		
	comp=E,8170µm,0.8s									
KLV					AML		AML	10 00 50.7		
	comp=N,13156µm,0.8s									
LAKA	**Lakka**	**1.27**	**34**		P		**Pb**	**10 00 26.4**	**-0.1**	
LAKA					S		**Sb**	**10 00 45.5**	**+3.0**	
	comp=N,22µm,1.1s									
LAKA	**Lakka**	**1.27**	**34**		P		**Pb**	**10 00 26.6**	**0.0**	
LAKA					S		**Sb**	**10 00 43.0**	**+0.5**	
LAKA					AML		AML	10 00 53.9		
	comp=N,52231µm,1.6s									
LAKA					AML		AML	10 00 54.0		
	comp=E,39639µm,0.9s									
FSK	**Fiskardo**	**1.32**	**343**		P		**Pb**	**10 00 27.7**	**+0.3**	
FSK					S		**Sb**	**10 00 45.8**	**+1.8**	
	comp=E,4µm,0.6s									
FSK	**Fiskardo**	**1.32**	**343**		P		**Pb**	**10 00 27.2**	**-0.2**	
FSK					S		**Sb**	**10 00 44.5**	**+0.5**	
FSK					AML		AML	10 00 58.8		
	comp=E,7197µm,0.9s									
FSK					AML		AML	10 01 00.2		
	comp=N,8636µm,0.6s									
EVGI	**Lefkada island**	**1.46**	**347**		P		**Pb**	**10 00 29.9**	**+0.1**	
EVGI	**Lefkada island**	**1.46**	**347**		P		**Pb**	**10 00 29.6**	**-0.2**	
PVO	**Paravola**	**1.47**	**14**		P		**Pb**	**10 00 29.8**	**0.0**	
PVO	**Paravola**	**1.47**	**14**		P		**Pb**	**10 00 29.6**	**-0.3**	
THAL	**Thalero**	**1.52**	**56**		P		**Pb**	**10 00 30.6**	**-0.2**	
ANX	**Ano Chora**	**1.55**	**26**		P		**Pb**	**10 00 31.0**	**-0.4**	
VLI	**Veliai**	**1.57**	**107**		P		**Pb**	**10 00 31.8**	**+0.1**	
VLI					S		**Sb**	**10 00 51.8**	**+0.6**	
VLI					AML		AML	10 01 04.5		
	comp=E,5893µm,0.6s									
VLI					AML		AML	10 01 08.1		
	comp=N,4011µm,0.6s									
LKD2	**Lefkada island**	**1.62**	**349**		P		**Pb**	**10 00 33.0**	**+0.4**	
LKD2					S		**Sb**	**10 00 52.2**	**-0.5**	
LKD2					AML		AML	10 01 05.5		
	comp=E,7986µm,0.6s									
LKD2					AML		AML	10 01 11.8		
	comp=N,8663µm,0.6s									
MNVA	**Monemvasia**	**1.66**	**107**		P		**Pb**	**10 00 33.7**	**+0.6**	
TSLK	**Tsoukalades, L**	**1.66**	**349**		P		**Pb**	**10 00 32.9**	**-0.3**	
KRND	**KRANIDI**	**1.67**	**83**		P		**Pb**	**10 00 32.9**	**-0.5**	
AGG	**Agios Georgios**	**2.08**	**28**		Pn		**Pb**	**10 00 39.9**	**-0.5**	
ANKY	**Antikythira Is**	**2.23**	**126**		P		**Pb**	**10 00 41.1**	**-1.8**	
KEK	**Kerkira**	**2.71**	**339**				**Pb**	**10 00 48.7**	**-2.3**	
LIT	**Litokhoron**	**3.11**	**21**				**Pn**	**10 00 52.8**	**+1.5**	
KBN	**Korca**	**3.43**	**356**				**Pn**	**10 00 57.2**	**+1.5**	
VLO	**Vlora**	**3.49**	**340**		Pn		**Pn**	**10 00 57.5**	**+1.0**	
APE	**Apeiranthos**	**3.57**	**91**		⇑P		**Pn**	**10 00 58.0**	**+0.5**	
FNA	**Florina**	**3.59**	**4**		Pn		**Pn**	**10 01 00.0**	**+2.1**	
FNA	**Florina**	**3.59**	**4**		*e*Pn		**Pn**	**10 01 00.0**	**+2.1**	
FNA					*e*Sn		**Sn**	**10 01 43.4**	**+3.5**	
IDI	**Anoyia**	**3.63**	**120**		Pn		**Pn**	**10 00 59.1**	**+0.7**	
	comp=N,1.3nm,0.3s,baz=249,slow=9.7,SNR=11									
IDI					Sn		**Sn**	**10 01 41.4**	**+0.7**	
	comp=N,27nm,0.3s,baz=326,slow=19,SNR=10									
	comp=N,6.6nm,0.5s									
IDI	**Anoyia**	**3.63**	**120**		⇓P		**Pn**	**10 00 59.5**	**+1.0**	
IDI	**Anoyia**	**3.63**	**120**		Pn		**Pn**	**10 00 59.4**	**+0.9**	
OHR	**Ohrid**	**3.92**	**357**		*e*Pn		**Pn**	**10 01 05.1**	**+2.7**	
OHR	**Ohrid**	**3.92**	**357**		*i* Pn		**Pn**	**10 01 05.4**	**+3.0**	
TIP	**Timpagrande**	**3.93**	**302**		⇑P		**Pn**	**10 01 04.7**	**+2.2**	
TIP	**Timpagrande**	**3.93**	**302**				**Pn**	**10 01 03.0**	**+0.5**	
CEL	**Celeste**	**4.24**	**286**				**Pn**	**10 01 09.6**	**+2.8**	
TIR	**Tirane**	**4.25**	**348**		⇑P		**Pn**	**10 01 08.5**	**+1.6**	
TIR	**Tirane**	**4.25**	**348**				**Pn**	**10 01 09.8**	**+2.9**	
TIR	**Tirane**	**4.25**	**348**		*e*Pn		**Pn**	**10 01 09.4**	**+2.5**	
TIR					*e*Sn		**Sn**	**10 01 58.8**	**+2.8**	
SRS	**Serrai**	**4.38**	**26**		*e*Pn		**Pn**	**10 01 10.2**	**+1.5**	
SRS					*e*Sn		**Sn**	**10 02 01.0**	**+1.7**	
STIP	**Stip**	**4.58**	**11**		*i* Pn		**Pn**	**10 01 14.4**	**+3.0**	
SKO	**Skopje**	**4.78**	**3**		*e*Pn		**Pn**	**10 01 15.9**	**+1.7**	
SKO	**Skopje**	**4.78**	**3**		*i* Pn		**Pn**	**10 01 15.9**	**+1.7**	
MATE	**Matera**	**4.84**	**317**		⇓P		**Pn**	**10 01 16.3**	**+1.3**	
MMB	**Musomiste**	**4.85**	**24**		*i* P		**Pn**	**10 01 16.9**	**+1.7**	
KKB	**Krupnik**	**4.92**	**18**		*i* P		**Pn**	**10 01 18.0**	**+1.9**	
ULC	**Ulcinj**	**4.97**	**344**	⇓	*i*Pn		**Pn**	**10 01 17.0**	**+0.3**	
ULC					*i* Sn		**Sn**	**10 02 11.1**	**-2.6**	
CUC	**Castrocucco**	**4.97**	**306**				**Pn**	**10 01 20.8**	**+3.9**	
DRME	**Dracevica, Mon**	**5.19**	**344**		*e*Pn		**Pn**	**10 01 20.7**	**+0.9**	
DRME	**Dracevica, Mon**	**5.19**	**344**	⇓	*i*Pn		**Pn**	**10 01 20.5**	**+0.7**	
DRME					*i* Sn		**Sn**	**10 02 15.6**	**-3.6**	
RDO	**Rodhopi**	**5.26**	**40**		Pn		**Pn**	**10 01 21.6**	**+0.9**	
RZN	**Rozhen**	**5.30**	**31**		*i* P		**Pn**	**10 01 23.5**	**+2.0**	
RAFF	**Raffo Rosso**	**5.35**	**272**				**Pn**	**10 01 22.9**	**+0.9**	
ALN	**Alexandroupoli**	**5.36**	**45**		Pn		**Pn**	**10 01 23.0**	**+0.9**	
PRVS	**Prvonek**	**5.37**	**8**		*e*Pn		**Pn**	**10 01 23.2**	**+1.0**	
BUM	**Brajici-Budva**	**5.37**	**343**	⇑	*i*Pn		**Pn**	**10 01 22.9**	**+0.6**	
BUM					*i* Sn		**Sn**	**10 02 19.5**	**-4.1**	
PDG	**Podgorica**	**5.41**	**346**	⇑	P		**Pn**	**10 01 24.0**	**+1.2**	
PDG	**Podgorica**	**5.41**	**346**		Pn		**Pn**	**10 01 23.2**	**+0.4**	
PDG	**Podgorica**	**5.41**	**346**		*e*Pn		**Pn**	**10 01 23.2**	**+0.4**	
PDG					*i* Sn		**Sn**	**10 02 21.4**	**-3.2**	
PVY	**Plav**	**5.46**	**351**	⇑	*i*Pn		**Pn**	**10 01 23.7**	**+0.1**	
PVY					*i* Sn		**Sn**	**10 02 23.0**	**-3.0**	
KDZ	**Kurdzhali**	**5.58**	**36**		*i* P		**Pn**	**10 01 26.1**	**+0.9**	
CEME	**Cevo**	**5.60**	**344**	⇓	*i*Pn		**Pn**	**10 01 25.7**	**+0.3**	
CEME					*i* Sn		**Sn**	**10 02 25.3**	**-3.9**	
HCY	**Herceg Novi**	**5.61**	**340**		*e*Pn		**Pn**	**10 01 25.4**	**-0.1**	
HCY	**Herceg Novi**	**5.61**	**340**	⇓	*i*Pn		**Pn**	**10 01 25.4**	**-0.1**	
HCY					*i* Sn		**Sn**	**10 02 25.8**	**-3.6**	
BARS	**Barje**	**5.65**	**6**		*e*Pn		**Pn**	**10 01 27.0**	**+0.9**	
BARS					*e*Sn		**Sn**	**10 02 30.2**	**-0.2**	
VTS	**Vitosha**	**5.67**	**16**		Pn		**Pn**	**10 01 27.8**	**+1.3**	
IVA	**Berane**	**5.74**	**351**	⇑	*i*Pn		**Pn**	**10 01 27.8**	**+0.3**	
IVA					*i* Sn		**Sn**	**10 02 29.8**	**-3.1**	
KOME	**Kolasin**	**5.77**	**349**	⇑	*i*Pn		**Pn**	**10 01 27.6**	**-0.3**	
KOME					*i* Sn		**Sn**	**10 02 30.0**	**-3.6**	
NKME	**Niksic**	**5.80**	**344**	⇓	*i*Pn		**Pn**	**10 01 28.3**	**+0.1**	
NKME					*i* Sn		**Sn**	**10 02 30.7**	**-3.5**	
BALB	**Balikesir**	**5.88**	**63**		Pn		**Pn**	**10 01 31.6**	**+2.3**	
TREB	**Trebinje**	**5.90**	**340**		*e*Pn		**Pn**	**10 01 28.7**	**-0.8**	
SELS	**Selova**	**6.02**	**0**		*e*Pn		**Pn**	**10 01 31.3**	**+0.1**	
BRY	**Bratogost**	**6.02**	**342**		*e*Pn		**Pn**	**10 01 31.5**	**+0.2**	
BRY	**Bratogost**	**6.02**	**342**	⇓	*i*Pn		**Pn**	**10 01 31.2**	**-0.1**	
BRY					*i* Sn		**Sn**	**10 02 35.6**	**-4.2**	
SGRT	**San Giovanni R**	**6.14**	**320**		Pn		**Pn**	**10 01 34.2**	**+1.4**	
ZAPS	**Zavoj**	**6.19**	**11**		*e*Pn		**Pn**	**10 01 35.3**	**+1.7**	
UPM	**Unac-Piva**	**6.23**	**345**		*e*Pn		**Pn**	**10 01 34.9**	**+0.7**	
UPM	**Unac-Piva**	**6.23**	**345**	⇑	*i*Pn		**Pn**	**10 01 33.9**	**-0.3**	
UPM					*i* Sn		**Sn**	**10 02 41.2**	**-3.7**	
STON	**Ston**	**6.23**	**337**		*e*Pn		**Pn**	**10 01 32.9**	**-1.1**	
PLE	**Pljevlja**	**6.26**	**349**	⇓	*i*Pn		**Pn**	**10 01 34.8**	**+0.2**	
PLE					*i* Sn		**Sn**	**10 02 42.4**	**-3.3**	
IVAS	**Ivanjica**	**6.41**	**354**		*e*Pn		**Pn**	**10 01 36.5**	**-0.1**	
BOVS	**Bovan**	**6.45**	**4**	⇑	P		**Pn**	**10 01 37.3**	**+0.2**	
BOVS	**Bovan**	**6.45**	**4**		*e*Pn		**Pn**	**10 01 36.8**	**-0.3**	
MPEP	**Malo Peshtene**	**6.49**	**18**		*i* P		Pn	10 01 43.3	+5.7	
RUDO	**Rudo**	**6.55**	**349**		*e*Pn		**Pn**	**10 01 38.4**	**0.0**	
ZAGS	**Zajecar**	**6.67**	**7**		*e*Pn		**Pn**	**10 01 40.4**	**+0.3**	
GRUS	**Gruza**	**6.69**	**358**		*e*Pn		**Pn**	**10 01 40.5**	**+0.1**	
BBLS	**Lazići**	**6.78**	**350**		*e*Pn		**Pn**	**10 01 41.0**	**-0.7**	
PVL	**Pavlikeni**	**6.84**	**27**		*i* P		**Pn**	**10 01 43.6**	**+1.1**	
DIVS	**Divibare**	**6.95**	**354**		Pn		**Pn**	**10 01 44.1**	**+0.1**	
DIVS	**Divibare**	**6.95**	**354**		*e*Pn		**Pn**	**10 01 43.6**	**-0.4**	

DIVS	**Divibare**	**6.95**	**354**		*e*Pn		**Pn**	**10 01 43.4**	**-0.6**	
TEKS	**Tekeris**	**7.44**	**351**		*e*Pn		**Pn**	**10 01 49.5**	**-1.2**	
TEKS	**Tekeris**	**7.44**	**351**		*e*Pn		**Pn**	**10 01 48.5**	**-2.2**	
SRKY	**Kupres RS**	**7.48**	**338**		*e*Pn		**Pn**	**10 01 50.0**	**-1.3**	
MDVR	**Moldovita**	**7.60**	**3**	⇓	P		**Pn**	**10 01 53.0**	**+0.1**	
HERR	**Herculane**	**7.75**	**7**	⇑	P		**Pn**	**10 01 55.8**	**+0.9**	
MGRS	**Mrkonjic Grad**	**7.82**	**339**		*e*Pn		**Pn**	**10 01 55.6**	**-0.3**	
FRGS	**Fruska Gora**	**8.01**	**354**	⇓	P		**Pn**	**10 01 58.9**	**+0.4**	
FRGS	**Fruska Gora**	**8.01**	**354**		*e*Pn		**Pn**	**10 01 58.5**	**0.0**	
FRGS	**Fruska Gora**	**8.01**	**354**		*e*Pn		**Pn**	**10 01 58.2**	**-0.3**	
A050A	**Klekovaca**	**8.05**	**336**		*e*Pn		**Pn**	**10 02 00.1**	**+1.0**	
BLY	**Banja Luka**	**8.10**	**340**		*e*Pn		**Pn**	**10 01 59.2**	**-0.5**	
GZR	**Gura Zlata**	**8.29**	**8**	⇓	P		**Pn**	**10 02 03.3**	**+0.9**	
A051A	**Mrakovica**	**8.42**	**339**		*e*Pn		**Pn**	**10 02 03.4**	**-0.7**	
BZS	**Buzias**	**8.43**	**3**	⇑	P		**Pn**	**10 02 03.6**	**-0.6**	
VOIR		**8.76**	**19**	⇓	P		**Pn**	**10 02 11.1**	**+2.2**	
MLR	**Muntele Rosu**	**9.06**	**22**		Pn		**Pn**	**10 02 13.3**	**+0.3**	
	comp=N,0.4nm,0.3s,baz=244,slow=2.8,SNR=2.5									
	comp=N,1.4nm,0.5s									
MLR	**Muntele Rosu**	**9.06**	**22**	⇓	P		**Pn**	**10 02 15.8**	**+2.7**	
MLR	**Muntele Rosu**	**9.06**	**22**		Pn		**Pn**	**10 02 15.4**	**+2.4**	
SIRR	**Siria**	**9.08**	**3**	⇑	P		**Pn**	**10 02 13.3**	**+0.2**	
MORH	**Mrgy, Hungar**	**9.19**	**349**	⇑	P		**Pn**	**10 02 15.4**	**+0.7**	
DOPR	**Dopca**	**9.34**	**19**	⇑	P		**Pn**	**10 02 18.1**	**+1.3**	
CRES	**Cresnjev**	**9.59**	**336**		*e*Pn		**Pn**	**10 02 19.2**	**-1.0**	
PLOR	**Plostina**	**9.61**	**24**	⇑	P		**Pn**	**10 02 22.0**	**+1.5**	
VRI	**Vrincioaia**	**9.65**	**24**	⇓	P		**Pn**	**10 02 22.1**	**+1.2**	
SKDS	**Skadanscina**	**9.88**	**330**		*e*Pn		**Pn**	**10 02 24.0**	**-0.2**	
BRTR	**Keskin Array B**	**10.18**	**72**		Pn		**Pn**	**10 02 30.3**	**+1.9**	
	comp=N,0.1nm,0.3s,baz=251,slow=12,SNR=2.5									
BRTR					LR		LR	10 06 24.1		
	comp=N,306nm,20.4s,baz=324,slow=38									
	comp=N,0.3nm,0.5s									
BRTR	**Keskin Array B**	**10.18**	**72**		Pn		**Pn**	**10 02 28.6**	**+0.2**	
OBKA	**Obir**	**10.50**	**335**		*e*Pn		**Pn**	**10 02 28.6**	**-4.0**	
PSZ	**Piszkesteto**	**10.75**	**356**		Pn		**Pn**	**10 02 34.8**	**-1.4**	
TEOL	**Teolo**	**10.79**	**322**		Pn		**Pn**	**10 02 38.0**	**+1.4**	
PRED	**Cave del Predi**	**10.80**	**331**		Pn		**Pn**	**10 02 37.7**	**+0.9**	
BURAR	**Bucovina Array**	**10.86**	**15**		Pn		**Pn**	**10 02 37.4**	**-0.2**	
BUR08	**Bucovina Ar. S**	**10.88**	**15**		Pn		**Pn**	**10 02 38.5**	**+0

YKA	**Yellowknife Ar**	**74.46**	**340**	P	**P**	**10 11 39.4**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=34,slow=4.9,SNR=5.2						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**77.93**	**355**	P	**P**	**10 12 00.5**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=356,slow=2.2,SNR=1.4						
	comp=Z,0.2nm,0.8s						
KSRS	**Korea Array**	**79.62**	**51**	P	**P**	**10 12 08.7**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=312,slow=4.2,SNR=4.1						
	comp=Z,0.8nm,0.5s						

ROM 24 10:00:28.3±0.1, 42°.618N±0°.006×13°.255E±0°.006, h11km, ML1.5/6, 4C-1D, Error ellipse: s-maj=0.8km s-min=0.5km az=166.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.12**	**297**	↑P	Pg	10 00 31.8	+0.5
T1218				S	Sg	10 00 33.9	+0.5
T1218				AML	AML		
	comp=E,216μm,0.2s						
T1218				AML	AML		
	comp=N,400μm,0.6s						
LNSS	**Leonessa**	**0.16**	**265**	↑P	Pg	10 00 32.5	+0.6
LNSS				S	Sg	10 00 35.5	+1.0
LNSS				AML	AML		
	comp=E,229μm,0.8s						
LNSS				AML	AML		
	comp=N,255μm,1.3s						
T1212	**Cascia, Frazio**	**0.20**	**311**	↑P	Pg	10 00 33.3	+0.6
T1212				S	Sg	10 00 36.7	+1.0
T1217	**Poggiodomo (PG**	**0.26**	**292**	↓P	Pg	10 00 34.2	+0.6
T1217				S	Sg	10 00 38.3	+1.2
T1211	**Morro Reatino**	**0.31**	**254**	↑P	Pg	10 00 35.0	+0.4
T1211				S	Sg	10 00 39.6	+1.0
T1211				AML	AML		
	comp=E,156μm,0.1s						
T1211				AML	AML		
	comp=E,155μm,0.1s						
T1211				AML	AML		
	comp=N,147μm,1.2s						
T1211				AML	AML		
	comp=N,147μm,0.8s						
T1215	**Vallo di Nera,**	**0.34**	**303**	P	Pg	10 00 35.5	+0.4
T1215				S	Sb	10 00 41.0	-0.8
T1215				AML	AML		
	comp=E,62μm,1.6s						
T1215				AML	AML		
	comp=N,55μm,1.0s						
T1215				AML	AML		
	comp=E,62μm,1.6s						
T1215				AML	AML		
	comp=N,56μm,1.0s						
T1215				AML	AML		
	comp=N,56μm,1.0s						
T1215				AML	AML		
	comp=E,62μm,0.4s						
T1220	**Camerino, Fraz**	**0.51**	**346**	P	Pg	10 00 38.2	0.0
T1220				AML	AML		
	comp=E,1300μm,1.3s						
T1220				AML	AML		
	comp=N,1407μm,1.2s						

*MOS **24** 10:19:25.9±0.8, 0°.87S×120°.38E, h13km, mb5.1/26, Error ellipse: s-maj=13.0km s-min=5.7km az=115.3*
*IDC **24** 10:19:25.9±0.4, 0°.92S×120°.40E, h0km, mb4.6/30, mbtmp4.6/31, ML5.2/1, MS3.7/10, Error ellipse: s-maj=17.9km s-min=9.8km az=64.0*
*NEIC **24** 10:19:29.7±2.4, 0°.87S±0°.05×120°.36E±0°.06, h19km±4km, mb4.9/61, Mwr4.4/11, Error ellipse: s-maj=8.3km s-min=7.5km az=60.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}0.89; $M_{\theta\theta}$-1.28; $M_{\phi\phi}$0.39; $M_{r\theta}$-4.64; $M_{\theta\phi}$-1.51; $M_{\phi r}$-0.82; Fault plane solution: M_o5.08000×10¹⁵ NP1:∅s19.80000°, δ15.41000°, λ29.04000°. NP2:∅s261.64000°, δ82.59000°, λ103.55000°. Principal axes: T 4.5922, Plg51.0000°, Azm187.0000°; N 0.8600, Plg13.0000°, Azm80.0000°; P -5.4523, Plg36.0000°, Azm340.0000°;*
*DJA **24** 10:19:31.2±0.3, 1°S±2°×12°0E±°, h38km±3km, M4.9/47, mb4.9/47, mB5.4/11, MLv5.0/15, Mw(mB)4.9/11, MwMwp6.7/1, Mwp6.6/1*
ISC 24 10:19:32.4±0.3, 0°.94S±0°.04×120°.35E±0°.05, h49km, n271, σ1ᵍ29/274, mb4.8/91, MS3.8/11, 9C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.34**	**340**	P	**Pn**	**10 19 50.9**	**-3.8**
MPSI				S	**Sn**	**10 20 08.6**	**-2.8**
TOLI2	**Tolitoli**	**2.08**	**12**	Pn	**Pn**	**10 20 03.1**	**-1.7**
TOLI2	**Tolitoli**	**2.08**	**12**	P	**Pn**	**10 20 03.9**	**-0.9**
MRSI	**Marisa**	**2.12**	**49**	P	**Pn**	**10 20 01.1**	**-4.3**
LUWI	**Luwuk**	**2.43**	**93**		**Pn**	**10 20 07.9**	**-1.7**
LUWI	**Luwuk**	**2.43**	**93**	P	**Pn**	**10 20 09.6**	**0.0**
LUWI	**Luwuk**	**2.43**	**93**	P	**Pn**	**10 20 09.0**	**-0.6**
LUWI				S	**Sn**	**10 20 38.6**	**+0.5**
SPSI	**Sidrap Palu**	**3.06**	**191**	P	**Pn**	**10 20 17.6**	**-0.7**
GTOI	**Gorontalo**	**3.09**	**60**	P	**Pn**	**10 20 16.7**	**-1.9**
BKB	**Balikpapan**	**3.46**	**265**		**Pn**	**10 20 22.5**	**-1.3**
BKB	**Balikpapan**	**3.46**	**265**	P	**Pn**	**10 20 27.3**	**+3.5**
BKB	**Balikpapan**	**3.46**	**265**	P	**Pn**	**10 20 21.6**	**-2.2**
KAPI	**Kappang**	**4.09**	**188**	Pn	**Pn**	**10 20 32.0**	**-0.4**
	135nm,0.3s,baz=321,slow=8.5,SNR=168						
KAPI					Sn	**10 21 19.0**	**-0.2**
	41nm,0.3s,baz=335,slow=20,SNR=5.6						
	496nm,0.5s						
KAPI	**Kappang**	**4.09**	**188**	Pn	**Pn**	**10 20 31.7**	**-0.8**
KAPI	**Kappang**	**4.09**	**188**	P	**Pn**	**10 20 32.1**	**-0.4**
BKSI	**Bulukumba**	**4.36**	**183**	P	**Pn**	**10 20 34.5**	**-1.7**
BSSI	**Bau Bau, Buton**	**5.17**	**178**	P	**Pn**	**10 20 46.2**	**-1.1**
	484nm,0.5s,6μm2.0nm						
MTKI	**Muara Teweh, K**	**5.45**	**270**	P	**Pn**	**10 20 49.6**	**-1.5**
	110nm,0.4s,1.4nm						
SANI	**Sanana**	**5.75**	**101**	P	**Pn**	**10 20 53.0**	**-2.2**
SANI	**Sanana**	**5.75**	**101**	P	**Pn**	**10 20 52.7**	**-2.5**
	229nm,0.7s,2μm0.7nm						
BBKI	**Banjar Baru**	**6.05**	**245**	P	**Pn**	**10 20 57.4**	**-1.9**
	107nm,0.8s,1.1nm						
MYLDM	**Lahad Datu**	**6.35**	**343**	Pn	**Pn**	**10 21 01.4**	**-2.0**
NLAI	**Namlea**	**7.13**	**109**	P	**Pn**	**10 21 13.3**	**-0.8**
	50nm,0.4s,0.2nm						
KKM	**Kota Kinabalu**	**8.07**	**329**	Pn	**Pn**	**10 21 24.1**	**-3.0**
PLAI	**Plampang**	**8.25**	**198**	P	**Pn**	**10 21 30.1**	**+0.6**
PLAI	**Plampang**	**8.25**	**198**	P	**Pn**	**10 21 28.8**	**-0.7**
	122nm,0.9s,1μm						
AAI	**Ambon**	**8.30**	**109**	P	**Pn**	**10 21 30.5**	**+0.2**
	117nm,0.6s						
TWSI	**Taliwang, Sumb**	**8.48**	**204**	P	**Pn**	**10 21 31.8**	**-0.9**
	49nm,0.8s						
SRBI	**Singaraja**	**8.75**	**216**	P	**Pn**	**10 21 36.4**	**0.0**
	55nm,1.1s						
MSAI	**Masohi**	**8.90**	**106**	P	**Pn**	**10 21 41.5**	**+3.0**
	18nm,1.0s,880nm						
DAV	**Davao City (W)**	**9.51**	**33**	LR	LR	10 25 31.9	
	comp=Z,468nm,21.1s,baz=149,slow=39						
SOEI	**Soe**	**9.59**	**156**	Pn	**Pn**	**10 21 48.0**	**-0.1**
SOEI	**Soe**	**9.59**	**156**	P	**Pn**	**10 21 49.6**	**+1.6**
SOEI	**Soe**	**9.59**	**156**	P	**Pn**	**10 21 50.0**	**+2.0**
	97nm,0.8s,1μm						
BATI	**Baumata**	**9.78**	**160**	Pn	**Pn**	**10 21 52.2**	**+1.6**
	6.4nm,0.3s,baz=359,slow=0.1,SNR=8.9						
BATI					LR	LR	10 25 53.6
	comp=Z,820nm,20.4s,baz=344,slow=40						
BATI	**Baumata**	**9.78**	**160**	P	**Pn**	**10 21 52.5**	**+1.9**
	144nm,1.0s						
GMJI	**Gumukmas**	**10.02**	**223**	P	**Pn**	**10 21 52.9**	**-0.9**
	26nm,1.1s						
UWJI	**Ujung Watu**	**10.84**	**240**	P	**Pn**	**10 22 03.0**	**-2.1**
	179nm,0.5s,16μm360μm						
SIJI	**Sorong**	**10.92**	**90**	Pn	**Pn**	**10 22 06.4**	**+0.3**
	2.4nm,0.3s,baz=253,slow=6.6,SNR=6.5						
NGJI	**Ngawi**	**10.92**	**234**	P	Pn	10 22 21.3	+15
SMRI	**Semarang**	**11.60**	**238**	Pn	**Pn**	**10 22 15.5**	**+0.2**
FAKI	**Fak Fak**	**12.06**	**100**	Pn	**Pn**	**10 22 19.7**	**-1.9**
FAKI	**Fak Fak**	**12.06**	**100**	P	**Pn**	**10 22 19.6**	**-2.1**
	21nm,0.8s						
MTN	**Manton Dam**	**15.95**	**138**	P	**Pn**	**10 23 12.7**	**-0.9**
	baz=16,SNR=10						
MTN	**Manton Dam**	**15.95**	**138**	Pn	**Pn**	**10 23 14.4**	**+0.8**
KDU	**Kakadu**	**16.76**	**135**	P	**Pn**	**10 23 21.7**	**-2.1**
	baz=17,SNR=5.4						
KDU	**Kakadu**	**16.76**	**135**	P	**Pn**	**10 23 22.9**	**-0.9**

KNRA	**Kununurra**	**16.84**	**151**	Pn	**Pn**	**10 23 24.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**17.83**	**163**		**P**	**10 23 37.4**	**+0.2**
MBWA	**Marble Bar**	**20.11**	**182**	P	**P**	**10 24 02.6**	**+0.4**
MBWA	**Marble Bar**	**20.11**	**182**	P	**P**	**10 24 02.1**	**-0.1**
PSA00	**Pilbara Seismi**	**20.52**	**181**	P	**P**	**10 24 06.0**	**-0.6**
PSA00				IAmb	IAmb	10 24 06.6	
	comp=Z,35nm,0.9s						
PSA00	**Pilbara Seismi**	**20.52**	**181**	P	**P**	**10 24 05.8**	**-0.8**
KULM	**Kulim**	**20.62**	**288**	P	**P**	**10 24 06.7**	**-1.2**
MNSI	**Mandailing Nat**	**20.84**	**275**	P	Pn	10 24 19.5	+6.4
RPSI	**Rantau Prapat**	**21.72**	**280**	P	**P**	**10 24 17.5**	**-2.1**
RPSI	**Rantau Prapat**	**21.72**	**280**	P	**P**	**10 24 18.7**	**-0.9**
PSI	**Prapat**	**21.73**	**280**	P	**P**	**10 24 18.7**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=345,slow=7.2,SNR=2.5						
	comp=Z,3.5nm,0.7s						
PSI	**Prapat**	**21.73**	**280**	P	**P**	**10 24 20.7**	**+0.7**
GSI	**Gunungsitoli**	**22.88**	**276**	P	**P**	**10 24 29.9**	**-2.1**
GSI	**Gunungsitoli**	**22.88**	**276**	P	**P**	**10 24 35.4**	**+3.4**
GSI	**Gunungsitoli**	**22.88**	**276**	P	**P**	**10 24 30.9**	**-1.1**
	comp=Z,27nm,0.8s,comp=Z,6μm						
WB0	**Warramunga Arr**	**23.23**	**145**	P	**P**	**10 24 34.4**	**-1.1**
WB0				IAmb	IAmb	10 24 36.0	
	comp=Z,40nm,0.9s						
WRAB	**Tennant Creek**	**23.33**	**145**	P	**P**	**10 24 34.8**	**-1.7**
WRAB				IAmb	IAmb	10 24 37.0	
	comp=Z,47nm,0.9s						
WRAB	**Tennant Creek**	**23.33**	**145**	P	**P**	**10 24 35.4**	**-1.1**
WRAB	**Tennant Creek**	**23.33**	**145**	*d* iP	**P**	**10 24 35.1**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,50nm,0.8s						
WRA	**Warramunga Arr**	**23.33**	**145**	P	**P**	**10 24 35.0**	**-1.5**
	comp=Z,39nm,0.9s,baz=325,slow=10,SNR=85						
WRA				PcP	**PcP**	**10 28 23.7**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=314,slow=2.4,SNR=3.0						
WRA				LR	LR	10 33 19.6	
	comp=Z,197nm,20.1s,baz=22,slow=36						
	comp=Z,39nm,0.9s						
WB2	**Warramunga Arr**	**23.34**	**145**	P	**P**	**10 24 34.9**	**-1.6**
WB2				IAmb	IAmb	10 24 37.1	
	comp=Z,48nm,0.9s						
WR0	**Warramunga Arr**	**23.46**	**145**	P	**P**	**10 24 36.6**	**-1.1**
WR0				IAmb	IAmb	10 24 37.6	
	comp=Z,50nm,1.0s						
LHMI	**Lhok Sumawe**	**24.16**	**285**	P	**P**	**10 24 43.5**	**-0.7**
	comp=Z,62nm,1.3s						
MLSI	**Meulaboh, Aceh**	**24.48**	**282**	P	**P**	**10 24 46.0**	**-1.1**
	comp=Z,16nm,0.4s						
NACB	**Ninganchiao**	**24.99**	**3**	P	**P**	**10 24 50.0**	**-1.6**
NACB				IAmb	IAmb	10 25 10.2	
	comp=Z,29nm,1.1s						
WRKA	**Warakurna**	**25.16**	**163**	P	**P**	**10 24 52.1**	**-1.2**
	baz=25,SNR=19						
WRKA	**Warakurna**	**25.16**	**163**	P	**P**	**10 24 52.4**	**-0.9**
MEEK	**Meekatharra**	**25.61**	**184**	P	**P**	**10 24 55.5**	**-1.8**
	baz=26,SNR=9.9						
MEEK	**Meekatharra**	**25.61**	**184**	P	**P**	**10 24 55.6**	**-1.7**
AS31	**Alice Springs**	**26.14**	**151**	P	**P**	**10 25 00.9**	**-1.3**
ASAR	**Alice Springs**	**26.14**	**151**	P	**P**	**10 25 01.2**	**-1.0**
	comp=Z,15nm,0.8s,baz=336,slow=11,SNR=64						
ASAR				PcP	**PcP**	**10 28 29.2**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=335,slow=2.1,SNR=8.0						
ASAR				LR	LR	10 35 35.8	
	comp=Z,415nm,18.5s,baz=34,slow=37						
	comp=Z,15nm,0.8s						
ASAR	**Alice Springs**	**26.14**	**151**	P	**P**	**10 25 01.6**	**-0.6**
AS01	**Alice Springs**	**26.16**	**151**	P	**P**	**10 25 01.9**	**-0.5**
QIS	**Mount Isa**	**27.10**	**137**	P	**P**	**10 25 09.8**	**-1.0**
	baz=27,SNR=5.5						
QIS	**Mount Isa**	**27.10**	**137**	P	**P**	**10 25 09.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**28.54**	**314**	P	**P**	**10 25 24.1**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=141,slow=6.7,SNR=11						
CMAR				PcP	**PcP**	**10 28 35.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=197,slow=2.8,SNR=5.0						
CMAR				LR	LR	10 37 36.1	
	comp=Z,112nm,18.5s,baz=100,slow=38						
	comp=Z,1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.54**	**314**	P	**P**	**10 25 23.0**	**-0.7**
CRAI	**Chiangrai**	**28.73**	**318**	P	**P**	**10 25 24.6**	**-0.8**
MTSU	**Mount Surprise**	**29.09**	**127**	P	**P**	**10 25 28.1**	**-0.6**
	baz=29,SNR=8.4						
BLDU	**Ballidu**	**29.72**	**186**	P	**P**	**10 25 32.2**	**-1.8**
	baz=30,SNR=4.6						
OOD	**Oodnadatta**	**30.49**	**152**	P	**P**	**10 25 40.1**	**-0.7**
FORT	**Forrest**	**30.57**	**167**	P	**P**	**10 25 40.8**	**-0.8**
KMI	**Kunming**	**31.01**	**328**	↓P	**P**	**10 25 49.8**	**+4.0**
KMI				pmax	pmax		
	comp=Z,15nm,1.3s						
CTAO	**Charters Tower**	**31.69**	**129**	P	**P**	**10 25 51.2**	**-0.4**
CTAO				IAmb	IAmb	10 25 52.6	
	comp=Z,19nm,1.2s						
WHN	**Wuhan**	**31.82**	**350**	↑P	**P**	**10 25 56.3**	**+3.8**
NWAO	**Narrogin (SRO)**	**31.96**	**185**	LR	LR	10 39 31.2	
	comp=Z,209nm,18.2s,slow=38						
NWAO	**Narrogin (SRO)**	**31.96**	**185**	P	**P**	**10 25 52.6**	**-1.1**
	baz=32,SNR=10.0						
NWAO				P	**P**	**10 25 52.6**	**-1.1**
	baz=32,SNR=10.0						
NWAO	**Narrogin (SRO)**	**31.96**	**185**	P	**P**	**10 25 52.4**	**-1.3**
NWAO				IAmb	IAmb	10 25 54.1	
	comp=Z,20nm,1.3s						
PZH	**PanZhiHua**	**32.65**	**328**	P	**P**	**10 26 02.9**	**+2.8**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,200nm,5.7s						
ENH	**Enshi**	**32.72**	**342**	P	**P**	**10 26 01.7**	**+1.2**
ENH				IAmb	IAmb	10 26 03.5	
	comp=Z,11nm,0.8s						
ENH	**Enshi**	**32.72**	**342**	P	**P**	**10 26 02.8**	**+2.4**
INKA	**Innaminka**	**33.05**	**145**	P	**P**	**10 26 03.6**	**+0.2**
TNCH	**TengChong**	**33.36**	**322**	↓P	**P**	**10 26 09.3**	**+2.9**
TNCH				pP	pP	10 26 12.3	-6.7
TNCH				sP	sP	10 26 14.0	-11
TNCH				pmax	pmax		
	comp=Z,44nm,0.9s						
LCRK	**Leigh Creek**	**33.90**	**152**	P	**P**	**10 26 10.0**	**-0.8**
QLP	**Quilpie**	**34.32**	**140**	P	**P**	**10 26 14.5**	**+0.1**
	baz=34,SNR=8.1						
QLP	**Quilpie**	**34.32**	**140**	P	**P**	**10 26 14.6**	**+0.1**
BBOO	**Buckleboo**	**34.99**	**157**	P	**P**	**10 26 19.0**	**-1.1**
	baz=35,SNR=5.8						
CD2	**Chengdu**	**35.38**	**335**	P	**P**	**10 26 25.8**	**+2.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
XAN	**Xi'an**	**36.41**	**344**	P	**P**	**10 26 33.8**	**+1.5**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HTT	**Hallett**	**36.73**	**154**	P	**P**	**10 26 35.0**	**-0.1**
	baz=37,SNR=11						
HTT	**Hallett**	**36.73**	**154**	P	**P**	**10 26 35.0**	**-0.1**
STKA	**Stephens Creek**	**36.74**	**149**	P	**P**	**10 26 34.9**	**-0.2**
	comp=Z,15nm,0.7s,baz=320,slow=9.1,SNR=39						
STKA				LR	LR	10 43 38.2	
	comp=Z,152nm,19.3s,baz=16,slow=40						
	comp=Z,15nm,0.7s						
STKA	**Stephens Creek**	**36.74**	**149**	P	**P**	**10 26 35.0**	**-0.2**
	baz=37,SNR=24						
STKA	**Stephens Creek**	**36.74**	**149**	P	**P**	**10 26 35.2**	**0.0**
STKA	**Stephens Creek**	**36.74**	**149**	P	**P**	**10 26 35.0**	**-0.2**
RK1H	**Rockhampton Ha**	**36.79**	**130**	P	**P**	**10 26 34.9**	**-0.8**
CMSA	**Cobar Meteorol**	**38.74**	**144**	P	**P**	**10 26 52.2**	**+0.2**
	baz=39,SNR=14						
CMSA	**Cobar Meteorol**	**38.74**	**144**	P	**P**	**10 26 52.1**	**+0.1**
KSAR	**Wonju Array Be**	**38.82**	**10**	P	**P**	**10 26 53.8**	**+1.3**
KSRS	**Korea Array**	**38.84**	**10**	P	**P**	**10 26 53.5**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=183,slow=12,SNR=9.0						
KSRS				LR	LR	10 42 07.7	
	comp=Z,59nm,21.9s,baz=300,slow=35						
	comp=Z,2.1nm,0.7s						
KS19	**Wonju Array Si**	**38.87**	**10**	P	**P**	**10 26 53.1**	**+0.1**
LZH	**Lanzhou**	**39.91**	**339**	*eP*	**P**	**10 27 03.4**	**+1.4**
LZH				sP	pP	10 27 10.3	-4.5
LZH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HNR	**Honiara**	**40.29**	**103**	P	**P**	**10 27 04.9**	**-0.2**
	comp=Z,608nm,0.8s,baz=114,slow=19,SNR=4.2						
HNR	**Honiara**	**40.29**	**103**	P	**P**	**10 27 05.0**	**-0.2**
MJAR	**Matsushiro Arr**	**40.82**	**22**	P	**P**	**10 27 08.1**	**-1.1**
	comp=Z,3.5nm,0.9s,baz=193,slow=6.6,SNR=4.7						
MJAR				LR	LR	10 43 31.9	
	comp=Z,40nm,18.2s,baz=250,slow=36						
	comp=Z,3.5nm,0.9s						
ARPS	**Mount Arapiles**	**40.83**	**153**	P	**P**	**10 27 09.3**	**0.0**
	baz=41,SNR=7.9						
BJT	**Baijiatuan**	**40.94**	**355**	P	**P**	**10 27 11.3**	**+1.2**
BJT	**Baijiatuan**	**40.94**	**355**	P	**P**	**10 27 10.9**	**+0.8**

AUDCS	**Dubbo College**	**40.99**	**142**	P	**P**	**10 27 11.9**	**+1.2**
ARMA	**Armidale**	**41.73**	**138**	P	**P**	**10 27 18.6**	**+1.6**
ARMA				IAmb	IAmb	10 27 19.1	
	comp=Z,25nm,1.3s						
HHC	**Hu-ho-hao-te**	**42.35**	**350**	*eP*	**P**	**10 27 24.1**	**+2.3**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,330nm,5.8s						
CAN	**Canberra**	**43.38**	**145**	P	**P**	**10 27 31.0**	**+0.8**
CAN				IAmb	IAmb	10 27 31.9	
	comp=Z,22nm,0.8s						
GOMU	**GeErMu**	**43.93**	**330**	P	**P**	**10 27 37.5**	**+2.5**
GOMU				pP	pP	10 27 40.8	-7.3
GOMU				sP	sP	10 27 42.0	-12
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,270nm,5.9s						
GTA	**Gaotai**	**44.34**	**337**	*eP*	**P**	**10 27 40.5**	**+2.5**
GTA				pP	pP	10 27 49.4	-1.6
GTA				sP	sP	10 27 53.6	-3.0
GTA				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ	**Mudanjiang**	**46.09**	**9**	P	**P**	**10 27 51.4**	**-0.2**
MDJ	**Mudanjiang**	**46.09**	**9**	P	**P**	**10 27 52.2**	**+0.6**
USA0B	**Ussuriysk Arra**	**46.12**	**12**	P	**P**	**10 27 51.7**	**-0.1**
USA0B				IAmb	IAmb	10 28 06.3	
	comp=Z,19nm,1.4s						
USA0B	**Ussuriysk Arra**	**46.12**	**12**	↓*i*P	**P**	**10 27 52.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**46.12**	**12**	P	**P**	**10 27 52.1**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=201,slow=6.5,SNR=15						
	comp=Z,3.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**46.12**	**12**	P	**P**	**10 27 52.4**	**+0.5**
BNX	**BinXian**	**46.89**	**7**	↑P	**P**	**10 27 57.3**	**-0.5**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BNX				pmax	pmax		
	comp=Z,180nm,3.7s						
ASAJ	**Asahikawa**	**49.06**	**21**	LR	LR	10 47 41.7	
	comp=Z,66nm,22.0s,baz=165,slow=35						
ULN	**Ulaanbaatar**	**49.97**	**348**	P	**P**	**10 28 19.9**	**-1.8**
ULN	**Ulaanbaatar**	**49.97**	**348**	*c* iP	**P**	**10 28 22.5**	**+0.8**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HIA	**Hailar**	**50.01**	**359**	P	**P**	**10 28 19.6**	**-2.2**
HIA				IAmb	IAmb	10 28 23.9	
	comp=Z,17nm,1.4s						
SONM	**Songino Array**	**50.07**	**348**	P	**P**	**10 28 23.3**	**+0.9**
	comp=Z,3.4nm,0.8s,baz=163,slow=8.7,SNR=16						
	comp=Z,3.4nm,0.8s						
SONM	**Songino Array**	**50.07**	**348**	P	**P**	**10 28 20.4**	**-2.1**
KLR	**Kul'dur**	**50.93**	**10**	↓*i*P	**P**	**10 28 28.1**	**-0.6**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
HEH	**HeiHe**	**51.35**	**6**	*eP*	**P**	**10 28 31.8**	**-0.1**
HEH				pmax	pmax		
	comp=Z,39nm,0.9s						
HEH				pmax	pmax		
	comp=Z,480nm,6.2s						
WMQ	**Urumqi**	**53.26**	**331**	*eP*	**P**	**10 28 48.9**	**+2.6**
WMQ				pP	pP	10 28 52.8	-6.8
WMQ				sP	sP	10 28 57.3	-7.9
WMQ				LR	LR		
	comp=Z,150nm,20.5s						
ZEA	**Zeya**	**54.79**	**5**	*eP*	**P**	**10 28 57.4**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NIL	**Nilore**	**56.02**	**313**	P	**P**	**10 29 05.9**	**-0.5**
NIL				IAmb	IAmb	10 29 09.0	
	comp=Z,6.1nm,0.7s						
KSH	**Kashi**	**57.14**	**320**	P	**P**	**10 29 17.3**	**+2.9**
KSH				pmax	pmax		
	comp=Z,11nm,0.9s						
SHLS	**Shalkode**	**57.17**	**325**	*eP*	**P**	**10 29 14.0**	**-0.6**
	baz=325						
SHLS	**Shalkode**	**57.17**	**325**	*eP*	**P**	**10 29 13.9**	**-0.6**
ZSN	**Zaisan**	**57.27**	**332**	*eP*	**P**	**10 29 15.9**	**+0.8**
	baz=332						
ZSN	**Zaisan**	**57.27**	**332**	*eP*	**P**	**10 29 15.8**	**+0.8**
UZB	**Uzynbulak**	**57.42**	**325**	*eP*	**P**	**10 29 16.8**	**+0.5**
	baz=325						
UZB	**Uzynbulak**	**57.42**	**325**	*eP*	**P**	**10 29 16.8**	**+0.5**
SATY	**Saty**	**57.72**	**325**	*eP*	**P**	**10 29 18.5**	**+0.1**
	comp=Z,10nm,0.8s,baz=324						
SATY	**Saty**	**57.72**	**325**	*eP*	**P**	**10 29 18.5**	**+0.1**
SATY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZHN	**Zhinishke**	**57.77**	**325**	*eP*	**P**	**10 29 18.9**	**+0.1**
	comp=Z,8.3nm,0.8s,baz=325						
ZHN	**Zhinishke**	**57.77**	**325**	*eP*	**P**	**10 29 18.8**	**+0.1**
ZHN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KPKS	**Kokpek**	**57.81**	**325**	*eP*	**P**	**10 29 19.3**	**+0.3**
	comp=Z,13nm,0.9s,baz=325						
KPKS	**Kokpek**	**57.81**	**325**	*eP*	**P**	**10 29 19.2**	**+0.3**
KPKS				pmax	pmax		
	comp=Z,13nm,0.9s						
DGZ	**Jazzator, Alta**	**57.81**	**335**	↑*i*

comp=Z,7.8nm,1.0s,baz=140,slow=6.2,SNR=34
comp=Z,7.8nm,1.0s
KURK Kurachov 62.49 332 P **P 10 29 51.4 +0.7**
KURK Kurachov 62.49 332 *c i*P **P 10 29 51.2 +0.5**
KURK pmax pmax
comp=Z,29nm,1.3s
KK31 Karatay Array 62.53 321 P **P 10 29 49.0 -2.2**
KK31 lAmb lAmb 10 29 53.8
comp=Z,7.6nm,1.1s
KKAR Karatay Array 62.53 321 P **P 10 29 49.7 -1.5**
YAK Yakutsk 63.20 5 P **P 10 29 55.0 -0.2**
YAK Yakutsk 63.20 5 *e*P **P 10 29 53.8 -1.4**
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
URZ Urewera 63.81 133 P **P 10 29 59.6 -0.2**
comp=E,3.3nm,0.6s,baz=264,slow=17,SNR=1.7
comp=E,3.3nm,0.6s
MA2 Magadan 64.86 17 P **P 10 30 06.1 0.0**
comp=E,5.4nm,0.8s,baz=160,slow=8.7,SNR=6.5
comp=E,5.4nm,0.8s
MA2 Magadan 64.86 17 P **P 10 30 06.2 0.0**
MA2 lAmb lAmb 10 30 08.0
comp=Z,12nm,1.2s
UOSS Minazif 67.10 298 P **P 10 30 19.9 -1.5**
BVAR Borovoye Array 67.94 330 P **P 10 30 26.2 +0.2**
comp=Z,7.4nm,0.9s,baz=134,slow=8.5,SNR=24
comp=Z,7.4nm,0.9s
BRVK Borovoye 68.01 330 P **P 10 30 27.0 +0.6**
BRVK lAmb lAmb 10 30 28.7
comp=Z,17nm,1.2s
BRVK Borovoye 68.01 330 *ce*P **P 10 30 26.8 +0.4**
BRVK pmax pmax
comp=Z,17nm,1.3s
SEY Seymchan 68.08 15 P **P 10 30 26.5 -0.2**
comp=Z,1.4nm,0.6s,baz=170,slow=4.0,SNR=4.3
comp=Z,1.4nm,0.6s
AFI Afiamalu 68.31 105 P **P 10 30 30.0 +0.8**
GEYT Alibeck 68.99 311 P **P 10 30 34.6 +1.6**
comp=Z,12nm,0.9s,baz=134,slow=4.3,SNR=17
comp=Z,12nm,0.9s
NIUE Niue 70.55 110 P **P 10 30 42.7 -0.1**
ABKAR Akbulak array 71.86 323 P **P 10 30 50.4 +0.2**
TIXI Tiksi 72.67 3 P **P 10 30 53.4 -1.2**
TIXI lAmb lAmb 10 30 54.1
comp=Z,11nm,0.9s
TIXI Tiksi 72.67 3 ⇓ *i*P **P 10 30 53.4 -1.2**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
NRIK Noril'sk 73.55 348 P **P 10 30 59.5 -0.3**
comp=Z,2.6nm,0.4s,baz=147,slow=6.8,SNR=5.8
comp=Z,2.6nm,0.4s
NRIK Noril'sk 73.55 348 P **P 10 30 59.8 -0.1**
NRIK lAmb lAmb 10 31 00.4
comp=Z,8.1nm,1.0s
NRIK Noril'sk 73.55 348 *de*P **P 10 30 59.7 -0.1**
NRIK pmax pmax
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 74.71 331 *e*P **P 10 31 07.2 +0.4**
SVE pmax pmax
comp=Z,20nm,1.2s
ARU Arti 75.57 330 P **P 10 31 10.9 -0.9**
comp=Z,4.6nm,0.2s,baz=123,slow=1.5,SNR=9.1
comp=Z,4.6nm,0.2s
ARU Arti 75.57 330 P **P 10 31 11.5 -0.3**
ARU lAmb lAmb 10 31 12.3
comp=Z,11nm,1.0s
ARU Arti 75.57 330 *c i*P **P 10 31 11.5 -0.3**
ARU S **S 10 40 52.4 +3.5**
ARU SS **SS 10 45 40.3 -0.5**
ARU pmax pmax
comp=Z,15nm,1.2s
BILL Bilibino 75.72 16 *e*P **P 10 31 11.4 -1.0**
BILL *e* 10 31 25.5
BILL *e* 10 34 02.6
BILL *e*PPP PPP 10 35 44.8
BILL pmax pmax
comp=Z,2.0nm,1.4s
BILL MLR MLR
comp=Z,64nm,11.0s
RAYN Ar Rayn 76.50 294 P **P 10 31 18.2 +0.3**
VNDA Vanda 79.70 172 P **P 10 31 35.4 +0.9**
comp=Z,1.9nm,0.7s,baz=309,slow=5.4,SNR=8.5
comp=Z,1.9nm,0.7s
BELG Belogornoye 80.26 324 *d i*P **P 10 31 37.6 -0.3**
BELG pmax pmax
comp=Z,3.0nm,0.9s
GEVA Gevas 80.61 309 P **P 10 31 41.3 +0.9**
ZEI Tsey 80.70 314 *e*P **P 10 31 39.9 -0.9**
ZEI pmax pmax
comp=Z,13nm,0.9s
AKH Akhalkalaki 80.77 312 P **P 10 31 43.1 +1.9**
KIRV Kirov 80.95 330 ⇑ *e*P **P 10 31 42.8 +1.4**
KARS Kars 80.95 311 P **P 10 31 43.9 +1.7**
NCK Nalchik 81.05 314 ⇓ *e*P **P 10 31 41.9 -0.5**
NCK pmax pmax
comp=Z,43nm,0.6s
GURO Guroymak-BITLI 81.45 309 P **P 10 31 46.0 +1.2**
GURO lAmb lAmb 10 31 46.9
comp=Z,18nm,0.8s
KBZ Khabaz 81.58 314 P **P 10 31 45.7 +0.5**
comp=Z,5.4nm,0.9s,baz=109,slow=3.2,SNR=11
comp=Z,5.4nm,0.9s
KIV Kislovodsk 81.77 315 *e*P **P 10 31 44.0 -2.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
MARD Mardin 82.27 308 P **P 10 31 49.9 +0.8**
MARD lAmb lAmb 10 31 51.0
comp=Z,11nm,0.9s
VRH Novokhopyorsk 83.60 322 *e*P **P 10 31 54.8 -0.7**
VRH pmax pmax
comp=Z,10.0nm,1.4s
ASF Jabal al Asfar 84.94 302 P **P 10 32 04.1 +1.2**
comp=Z,15nm,0.9s,baz=120,slow=3.3,SNR=11
comp=Z,15nm,0.9s
VSR Storozhevoye 85.19 321 *e*P **P 10 32 03.1 -0.4**
VSR pmax pmax
comp=Z,20nm,1.4s
VORR Voronezh 85.23 322 *e*P **P 10 32 03.5 -0.2**
VORR pmax pmax
comp=Z,20nm,1.5s
LPSR Galich'ya Gora 85.52 323 P **P 10 32 04.6 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.4s
ANN Anapa 85.62 315 *e*P P 10 31 58.6 -7.2
ANN pmax pmax
comp=Z,71nm,1.5s
MMAI Mount Meron Ar 86.26 303 P **P 10 32 10.8 +1.5**
comp=Z,5.1nm,0.7s,baz=97,slow=7.1,SNR=5.0
comp=Z,5.1nm,0.7s
KLMR Klimovskoe 86.34 331 *e*P **P 10 32 07.0 -2.0**
KLMR AMP 10 32 09.6
comp=Z,30nm,1.4s
KLMR Klimovskoe 86.34 331 *e*P **P 10 32 07.0 -2.0**
KLMR pmax pmax
comp=Z,30nm,1.4s
EIL Elat 86.45 300 P **P 10 32 12.3 +2.0**
comp=Z,6.7nm,0.9s,baz=42,slow=5.7,SNR=3.2
comp=Z,6.7nm,0.9s
OBN Obninsk 87.19 325 *e*P **P 10 32 12.7 -0.6**
OBN *e* 10 35 36.9
OBN *e*PPP PPP 10 37 33.1
OBN pmax pmax
comp=Z,15nm,1.5s
OBN MLR MLR
comp=Z,82nm,18.0s
BR131 Keskin Array S 88.05 310 P **P 10 32 18.1 +0.1**
BR131 lAmb lAmb 10 32 18.6
comp=Z,5.7nm,0.9s
BR131 Keskin Array S 88.05 310 ⇓ *i*P **P 10 32 17.5 -0.5**
BRTR Keskin Array B 88.05 310 P **P 10 32 18.1 +0.1**
comp=Z,3.3nm,0.8s,baz=124,slow=6.2,SNR=15
comp=Z,3.3nm,0.8s
QSPA South Pole Qui 89.00 180 P **P 10 32 22.3 +0.4**
comp=Z,7.1nm,0.7s,baz=304,slow=1.5,SNR=33
comp=Z,7.1nm,0.7s
QSPA South Pole Qui 89.00 180 P **P 10 32 22.1 +0.3**
QSPA lAmb lAmb 10 32 23.0
comp=Z,8.2nm,0.7s
AKASG Malin Array Be 91.43 321 P **P 10 32 32.5 -0.9**
comp=Z,0.4nm,0.5s,baz=79,slow=4.8,SNR=4.2
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 91.43 321 *i*P **P 10 32 34.5 +1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 91.43 321 ⇑ *e*P **P 10 32 31.5 -1.8**
AKBB pmax pmax
comp=Z,9.0nm,1.4s
BURAR Bucovina Array 94.15 317 P **P 10 32 46.5 +0.3**
BCAR Beaver Creek A 94.40 27 P **P 10 32 46.7 -0.2**
MT02 Curacav 144.31 163 PKPdf **PKPdf 10 39 03.3 -0.4**
PEL Peldehue 144.54 164 PKPdf **PKPdf 10 39 03.8 -0.4**
CO02 Combarbal 146.27 162 PKPbc **PKPab 10 39 09.4 +0.2**
ZON Zonda 146.58 166 PKPbc **PKPab 10 39 10.3 +0.1**
CFA Coronel Fontan 146.63 167 PKPbc **PKPab 10 39 09.9 -0.5**
comp=Z,11nm,0.8s,baz=208,slow=2.5,SNR=12
CO03 El Pedregal 146.70 163 PKPbc **PKPab 10 39 10.4 -0.4**
CO01 Juntas del Tor 147.69 163 PKPbc **PKiKP 10 39 13.9 -0.7**
LCO Las Campanas 148.40 161 PKPbc **PKPbc 10 39 15.0 +0.5**
AC05 El Transito 148.70 162 PKPbc **PKiKP 10 39 16.5 -0.2**
AC06 Mina Casimiro 150.04 161 PKPbc **PKiKP 10 39 19.0 -0.3**
BDFB Brasilia 159.91 214 PKPab **PKPab 10 40 07.0 +0.5**
comp=Z,2.2nm,0.7s,baz=113,slow=7.7,SNR=2.1

*AEIC **24** 10:25:34.3±2.1,51°.8N±0°.2×177°.88W±0°.06, h7km±2km, Error ellipse: s-maj=24.9km s-min=4.9km az=174.0*
*NEIC **24** 10:25:34.2±1.9,51°.8N±0°.2×177°.91W±0°.06, h9km±6km, mb4.1/31,ML3.5(AEIC), Error ellipse: s-maj=22.0km s-min=3.9km az=171.0*
*IDC **24** 10:25:34.3±1.6,51°.79N×177°.71W, h0km, mb3.3/6, mbtmp3.5/8,ML3.5/2,MS3.9/1, Error ellipse: s-maj=40.9km s-min=27.6km az=156.0*

ISC 24 10:25:34.1±0.8,51°.9N±0°.1×177°.93W±0°.05, h10km, n64, σ1§19/55, mb3.9/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIWB	**Kanaga Island**	**0.48**	**92**	Pg	**Pg**	**10 25 43.7**	**+0.2**
ADK	**Adak**	**0.77**	**89**	Pg	**Pg**	**10 25 48.6**	**-0.3**
ADK				Sg	**Sb**	**10 25 59.0**	**-1.1**
GSTR	**Great Sitkin T**	**1.18**	**78**		**Pb**	**10 25 56.0**	**-0.6**
AMKA	**Amchitka**	**1.79**	**255**	Pn	**Pn**	**10 26 04.8**	**-0.3**
SMY	**Shemya**	**4.96**	**283**	Pn	**Pn**	**10 26 47.9**	**-0.7**
CLES	**Cleveland East**	**5.02**	**76**	Pn	**Pn**	**10 26 49.8**	**+0.4**
NIKH	**Nikolski High**	**5.66**	**75**	Pn	**Pn**	**10 26 56.7**	**-1.5**
AKUT	**Akutan**	**7.68**	**68**	Pn	**Pn**	**10 27 25.5**	**-0.3**
PEA0B	**Petropavlovsk-**	**14.88**	**284**	Pn	**Pn**	**10 29 01.9**	**-2.4**
PETK	**Petropavlovsk-**	**14.88**	**284**	Pn	**Pn**	**10 29 02.2**	**-2.2**
KDAK	**Kodiak Island**	**15.70**	**58**	Pn	**Pn**	**10 29 14.4**	**-0.7**
	0.2nm,0.3s,baz=263,slow=8.1,SNR=1.9						
KDAK				LR	LR	10 36 12.4	
	comp=Z,374nm,18.4s,baz=237,slow=41						
	7.9nm,0.8s						
SKT	**Skwentna**	**17.47**	**44**	Pn	**Pn**	**10 29 37.5**	**-0.1**
SKT				lAmb	lAmb	10 29 46.0	
	comp=Z,20nm,1.2s						
CAST	**Castle Rocks**	**17.87**	**40**	P	**P**	**10 29 44.8**	**+1.7**
CUT	**Chulitna**	**18.18**	**44**	P	**Pn**	**10 29 46.7**	**+0.4**
TRF	**Thorofare Moun**	**18.60**	**41**	P	**P**	**10 29 51.4**	**0.0**
TRF				lAmb	lAmb	10 29 57.3	
	comp=Z,13nm,1.3s						
BPAW	**Bear Paw Mtn.**	**18.62**	**39**	P	**P**	**10 29 49.6**	**-1.9**
KNK	**Knik Glacier**	**18.65**	**48**	P	**P**	**10 29 50.8**	**-0.9**
IMAR	**Indian Mountai**	**18.67**	**32**	P	**P**	**10 29 50.6**	**-1.3**
H21K	**Melozitna Rive**	**18.79**	**33**	P	**P**	**10 29 52.9**	**-0.3**
I21K	**Tanana**	**18.81**	**35**	P	**P**	**10 29 54.0**	**+0.6**
MA2	**Magadan**	**19.09**	**306**	P	**P**	**10 29 55.5**	**-1.0**
SEY	**Seymchan**	**19.25**	**317**	P	**Pn**	**10 30 01.5**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=119,slow=9.1,SNR=4.7						
	comp=Z,1.3nm,0.8s						
SCM	**Sheep Creek Mo**	**19.29**	**47**	P	**P**	**10 29 58.9**	**+0.1**
SCM				lAmb	lAmb	10 30 21.9	
	comp=Z,23nm,1.2s						
I23K	**Minto, Yukon-K**	**19.74**	**37**	P	**P**	**10 30 04.8**	**+1.2**
I23K				lAmb	lAmb	10 30 13.1	
	comp=Z,18nm,1.5s						
MDM	**Murphy Dome**	**20.08**	**38**	P	**P**	**10 30 08.0**	**+0.6**
MDM				lAmb	lAmb	10 30 13.6	
	comp=Z,11nm,1.2s						
HDA	**Harding Lake**	**20.35**	**40**	P	**P**	**10 30 10.0**	**-0.2**
ILAR	**Eielson Array**	**20.52**	**39**	P	**P**	**10 30 11.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=235,slow=10,SNR=1.5						
	comp=Z,0.4nm,0.7s						
COLD	**Coldfoot**	**20.55**	**31**	P	**P**	**10 30 13.5**	**+1.1**
COLD				lAmb	lAmb	10 30 48.2	
	comp=Z,8.9nm,1.4s						
H24K	**Noodor Dome**	**20.62**	**36**	P	Pn	10 30 15.1	-0.4
MENT	**Mentasta**	**21.21**	**45**	P	**P**	**10 30 20.4**	**+0.8**
MENT				lAmb	lAmb	10 30 43.6	
	comp=Z,16nm,1.3s						
L26K	**Log Cabin Wild**	**21.40**	**45**	P	**P**	**10 30 21.8**	**+0.1**
L26K				lAmb	lAmb	10 30 25.4	
	comp=Z,9.0nm,0.9s						
SCRK	**Sand Creek**	**21.40**	**42**	P	**P**	**10 30 23.0**	**+1.2**
SCRK				lAmb	lAmb	10 30 49.2	
	comp=Z,7.1nm,1.2s						
J26L	**Joseph Creek**	**21.75**	**41**	P	**P**	**10 30 25.8**	**+0.3**
FYU	**Fort Yukon**	**21.91**	**35**	P	**P**	**10 30 25.2**	**-1.8**
FYU				lAmb	lAmb	10 31 07.3	
	comp=Z,13nm,1.4s						
L27K	**Beaver Creek,**	**22.08**	**46**	P	**P**	**10 30 29.2**	**+0.3**
L27K				lAmb	lAmb	10 30 32.2	
	comp=Z,12nm,1.2s						
BCAR	**Beaver Creek A**	**22.10**	**46**	P	**P**	**10 30 29.0**	**-0.1**
I26K	**Coal Creek Min**	**22.19**	**39**	P	**P**	**10 30 27.6**	**-2.5**
I26K				lAmb	lAmb	10 30 42.2	
	comp=Z,8.1nm,1.5s						
BMAR	**Burnt Mountain**	**22.52**	**34**	P	**P**	**10 30 34.1**	**+0.4**
EGAK	**Eagle**	**22.82**	**41**	P	**P**	**10 30 37.3**	**+0.5**
EGAK				lAmb	lAmb	10 30 43.7	
	comp=Z,3.8nm,0.9s						
DAWY	**Dawson**	**23.37**	**44**	P	**P**	**10 30 43.6**	**+1.1**
DAWY				lAmb	lAmb	10 30 46.4	
	comp=Z,11nm,1.4s						
INK	**Inuvik**	**26.74**	**35**	P	**P**	**10 31 15.8**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=239,slow=8.1,SNR=5.0						
	comp=Z,0.9nm,0.7s						
INK	**Inuvik**	**26.74**	**35**	P	**P**	**10 31 14.4**	**+1.1**
INK				lAmb	lAmb	10 31 20.2	
	comp=Z,6.4nm,1.5s						
DLBC	**Dease Lake**	**27.63**	**57**	P	**P**	**10 31 19.2**	**-2.3**
YAK	**Yakutsk**	**29.50**	**311**	P	**P**	**10 31 38.9**	**+0.9**
A36M	**Sachs Harbour**	**30.39**	**29**	P	**P**	**10 31 46.6**	**+0.9**
A36M				lAmb	lAmb	10 31 50.0	
	comp=Z,4.2nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**34.21**	**206**	T	T	11 08 20.8	
	baz=17,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**34.22**	**206**	T	T	11 08 21.5	
	baz=17,slow=76,SNR=49						
H11N1	**WAKE ISLAND Hy**	**34.23**	**206**	T	T	11 08 24.2	
	baz=17,slow=76,SNR=28						
YKA	**Yellowknife Ar**	**34.50**	**47**	P	**P**	**10 32 23.0**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=280,slow=8.3,SNR=4.1						
	comp=Z,0.4nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**35.43**	**206**	T	T	11 09 48.8	
	baz=17,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**35.45**	**206**	T	T	11 09 51.2	
	baz=17,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**35.45**	**206**	T	T	11 09 53.8	
	baz=17,slow=76,SNR=27						
J08A	**Circle Bar Ran**	**39.95**	**78**	P	**P**	**10 33 09.1**	**+0.6**
PDAR	**Pinedale Array**	**45.65**	**73**	P	**P**	**10 33 56.0**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=308,slow=4.4,SNR=2.2						
	comp=Z,0.1nm,0.4s						
PDAR	**Pinedale Array**	**45.65**	**73**	P	**P**	**10 33 54.9**	**+0.1**
O20A	**White River Ci**	**48.03**	**75**	P	**P**	**10 34 13.6**	**+0.2**
PV13	**Radium Mtn., P**	**48.93**	**78**	P	**P**	**10 34 20.8**	**+0.4**
TXAR	**Lajitas Array**	**58.05**	**82**	P	**P**	**10 35 28.5**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=318,slow=6.6,SNR=2.3						
	comp=Z,0.2nm,0.6s						
TXAR	**Lajitas Array**	**58.05**	**82**	P	**P**	**10 35 26.0**	**-1.3**
TXAR	**Lajitas Array**	**58.05**	**82**	P	**P**	**10 35 28.5**	**+1.2**
ASAR	**Alice Springs**	**86.22**	**223**	P	**P**	**10 38 17.4**	**+1.8**
	comp=Z,0.8nm,1.1s,baz=28,slow=6.2,SNR=2.3						
	comp=Z,0.8nm,1.1s						
H03N2	**Juan Fernandez**	**120.76**	**106**	T	T	12 55 55.2	
	baz=318						
H03N1	**Juan Fernandez**	**120.77**	**106**	T	T	12 55 54.9	
	baz=318						
H03N3	**Juan Fernandez**	**120.78**	**106**	T	T	12 56 01.8	
	baz=318						

*SOME **24** 10:44:59.8, 43°.72N×69°.70E*
*KRNET **24** 10:45:00.2±0.1, 43°.84N×69°.99E, mb2.6*

*NNC **24** 10:45:04.5±1.9, 43°.64N×69°.93E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=12.9km s-min=4.1km az=137.0, Suspected Mining explosion.*

ISC 24 10:45:03.8±2.1, 43°.52N±0°.07×69°.7E±0°.1, h0km, n21, σ1§17/27, 8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.72**	**125**	⇓ P	**Pg**	**10 45 16.3**	**-1.3**
	0.9nm,0.3s,baz=319,slow=17,SNR=84						
KK31				⇓ S	**Sg**	**10 45 27.9**	**+0.9**
	20nm,0.5s,baz=325,slow=35,SNR=110						
KKAR	**Karatay Array**	**0.72**	**125**	⇓ *i*P	**Pg**	**10 45 16.2**	**-1.4**
	baz=53						
KKAR				⇓ *i*S	**Sg**	**10 45 27.9**	**+0.9**
	baz=53						
IUG	**Iuzhnay**	**1.40**	**170**	P	**Pn**	**10 45 30.4**	**-0.2**
	26nm,0.4s						
IUG				S	**Sn**	**10 45 52.2**	**+2.4**
	61nm,0.4s						
IUG	**Iuzhnay**	**1.40**	**170**	*e*P	**Pn**	**10 45 30.4**	**-0.2**
	29nm,0.3s						
IUG				*e*S	**Sn**	**10 45 52.2**	**+2.4**
	61nm,0.4s						
TRKS	**Terek-Say**	**2.25**	**151**	⇓ *i*P	**Pb**	**10 45 44.6**	**-0.9**
	baz=59						
TRKS				⇓ *i*S	**Sg**	**10 46 17.2**	**+0.9**
	baz=59						
ARK	**Arkit**	**2.40**	**135**	⇓ *i*P	**Pn**	**10 45 44.3**	**-0.1**
	baz=44						
ARK				⇓ *i*S	**Sb**	**10 46 16.5**	**-1.5**
	baz=44						
MRKS	**Merke**	**2.69**	**106**	Pg	**Pb**	**10 45 51.6**	**-1.3**
	2.5nm,0.5s						
MRKS				Lg	Lg	10 46 28.8	
	10nm,0.6s						
MRKS	**Merke**	**2.69**	**106**	*e*Pg	**Pb**	**10 45 51.6**	**-1.3**
	2.5nm,0.2s						
MRKS				*e*Lg	Lg	10 46 28.8	
	14nm,0.2s						
BTLS	**Baital**	**3.47**	**63**	Pg	**Pb**	**10 46 05.7**	**-0.3**
	9.3nm,0.5s						
BTLS				Lg	Lg	10 46 52.4	
	2.1nm,0.4s						
BTLS	**Baital**	**3.47**	**63**	*e*Pg	**Pb**	**10 46 05.7**	**-0.3**
	9.6nm,0.3s						
BTLS				*e*Lg	Lg	10 46 52.4	
	5.2nm,0.2s						
SGDS	**Sogindy**	**3.58**	**89**	Pg	**Pb**	**10 46 08.6**	**+0.5**
	2.1nm,0.5s						
SGDS				Lg	Lg	10 46 57.4	
	13nm,0.5s						
KRBS	**Karabastau**	**4.34**	**86**	Pg	**Pb**	**10 46 20.0**	**-0.9**
	2.8nm,0.8s						
KRBS				Lg	Lg	10 47 17.8	
	4.9nm,0.6s						
KRBS	**Karabastau**	**4.34**	**86**	*e*Pg	**Pb**	**10 46 20.0**	**-0.9**
	2.8nm,0.3s						
KRBS				*e*Lg	Lg	10 47 17.8	
	6.3nm,0.2s						
DGS	**Degeres**	**4.43**	**92**	Pg	**Pb**	**10 46 23.9**	**+1.4**
	1.6nm,0.5s						
DGS				Lg	Lg	10 47 23.4	
	9.4nm,0.6s						
DGS	**Degeres**	**4.43**	**92**	*e*Pg	**Pb**	**10 46 23.9**	**+1.4**
	1.6nm,0.2s						
DGS				*e*Lg	Lg	10 47 23.4	
	12nm,0.3s						
MTBS	**Maitube**	**4.92**	**92**	Pg	**Pb**	**10 46 31.3**	**+0.4**
	1.0nm,0.1s						
MTBS				Lg	Lg	10 47 36.5	
	5.3nm,0.4s						
MTBS	**Maitube**	**4.92**	**92**	*e*Pg	**Pb**	**10 46 31.3**	**+0.4**
	1.3nm,0.1s						
MTBS				*e*Lg	Lg	10 47 36.5	
	4.5nm,0.1s						
KTBS	**Karatobe**	**5.07**	**85**	Pg	**Pb**	**10 46 34.1**	**+0.7**
	1.9nm,0.6s						
KTBS				Lg	Lg	10 47 41.1	
	12nm,0.5s						
KTBS	**Karatobe**	**5.07**	**85**	*e*Pg	**Pb**	**10 46 34.1**	**+0.7**
	1.9nm,0.3s						
KTBS				*e*Lg	Lg	10 47 41.1	
	12nm,0.3s						
CHKK	**Chushkaly**	**5.29**	**84**	Pg	**Pb**	**10 46 38.0**	**+0.9**
	0.6nm,0.1s						
CHKK				Lg	Lg	10 47 47.8	
	4.5nm,0.5s						
CHKK	**Chushkaly**	**5.29**	**84**	*e*Pg	**Pb**	**10 46 38.0**	**+0.9**
	0.6nm,0.1s						
CHKK				*e*Lg	Lg	10 47 47.8	
	9.3nm,0.2s						

*IDC **24** 11:12:34.2±1.1,60°.49S×26°.05W, h0km, mb4.3/6, mbtmp4.4/7,ML4.5/1, Error ellipse: s-maj=47.5km s-min=21.1km az=8.0*
*NEIC **24** 11:12:37.6±1.6,60°.07S±0°.07×25°.1W±0°.3, h32km±8km, mb4.7/41, Error ellipse: s-maj=25.4km s-min=6.9km az=73.0*

ISC 24 11:12:38.0±0.9, 60°.1S±0°.1×25°.1W±0°.2, h35km, n56, σ1§20/52, mb4.7/23, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.64**	**154**	P	**Pn**	**11 15 33.8**	**-1.0**
VNA3	**Neumayer Olymp**	**12.80**	**157**	P	**Pn**	**11 15 34.7**	**-2.5**
VNA2	**Neumayer--Watz**	**13.03**	**154**	P	**Pn**	**11 15 37.9**	**-2.4**
	baz=316,slow=15						
SNAA	**Sanae**	**14.61**	**152**	P	**Pn**	**11 16 00.2**	**-1.7**
SNAA	**Sanae**	**14.61**	**152**	Pn	**Pn**	**11 16 00.1**	**-1.7**
	1.9nm,0.3s,baz=105,slow=21,SNR=54						
SNAA				Sn	Sn	11 18 28.4	-14
	0.2nm,0.3s,baz=322,slow=14,SNR=2.6						
	14nm,0.6s						
SNAA	**Sanae**	**14.61**	**152**		**Pn**	**11 16 00.5**	**-1.3**
TROLL	**Troll, Antarti**	**16.15**	**149**	P	**Pn**	**11 16 21.3**	**-0.7**
BELA	**Belgrano 2**	**18.13**	**186**	P	**P**	**11 16 46.8**	**+0.1**
SMAI	**San Martin Ant**	**19.63**	**228**	P	**Pn**	**11 17 04.2**	**-0.3**
SMAI				lAmb	lAmb	11 17 15.9	
	comp=Z,69nm,1.4s						
EFI	**East Falkland**	**20.12**	**280**	P	Pn	11 17 09.7	-0.8
MG02	**Cerro Sombrero**	**25.05**	**267**	P	**P**	**11 17 59.5**	**+1.0**
MG04	**Isla Riesco**	**26.18**	**265**	P	**P**	**11 18 09.5**	**+0.8**
MG05	**Puerto Natales**	**27.33**	**267**	P	**P**	**11 18 19.1**	**-0.1**
MG05				lAmb	lAmb	11 19 00.4	
	comp=Z,24nm,1.0s						
GO09	**Cerro Castillo**	**27.49**	**267**	P	**P**	**11 18 19.7**	**-0.9**
GO09				lAmb	lAmb	11 18 20.7	
	comp=Z,25nm,1.2s						
QSPA	**South Pole Qui**	**30.14**	**180**	P	**P**	**11 18 46.9**	**+2.7**
QSPA				lAmb	lAmb	11 18 47.9	
	comp=Z,16nm,1.5s						
TRQA	**Tornquist**	**32.04**	**297**	P	**P**	**11 19 01.2**	**+0.2**
TRQA				lAmb	lAmb	11 19 11.8	
	comp=Z,9.6nm,0.8s						
PLCA	**Paso Flores**	**33.94**	**284**	P	**P**	**11 19 16.0**	**-1.6**
	comp=Z,3.3nm,0.7s,baz=148,slow=7.1,SNR=13						
	comp=Z,3.3nm,0.7s						
PLCA	**Paso Flores**	**33.94**	**284**	P	**P**	**11 19 16.4**	**-1.2**
PLCA				lAmb	lAmb	11 19 26.0	
	comp=Z,6.2nm,0.8s						
PLTB	**Pedras Altas**	**34.06**	**313**	P	**P**	**11 19 19.7**	**+1.0**
LL04	**Puerto Octay**	**34.71**	**282**	P	**P**	**11 19 24.2**	**+0.1**
LL04				lAmb	lAmb	11 19 48.1	
	comp=Z,13nm,1.4s						
GO06	**Curarrehue**	**35.27**	**284**	P	**P**	**11 19 29.0**	**-0.1**
LR04	**Corral**	**35.99**	**282**	P	**P**	**11 19 34.9**	**-0.3**
BI05	**Punta Hualpn**	**38.34**	**286**	P	**P**	**11 19 54.9**	**-0.2**
BO02	**Sierra Bellavi**	**38.77**	**290**	P	**P**	**11 19 57.3**	**-1.5**
BO02				lAmb	lAmb	11 20 14.5	
	comp=Z,12nm,1.1s						
GO05	**Hualа**	**39.13**	**288**	P	**P**	**11 20 00.1**	**-1.7**
BO01	**Tunca**	**39.24**	**290**	P	**P**	**11 20 02.3**	**-0.4**
BO01				lAmb	lAmb	11 20 11.3	
	comp=Z,22nm,1.4s						
BO04	**La Punta**	**39.35**	**291**	P	**P**	**11 20 01.6**	**-2.0**
BO04				lAmb	lAmb	11 20 29.6	
	comp=Z,20nm,1.4s						
SPB	**Sao Paulo**	**39.68**	**327**	P	**P**	**11 20 04.5**	**-1.9**
SPB				lAmb	lAmb	11 20 34.8	
	comp=Z,27nm,1.5s						
MT09	**Talagante**	**39.

MT01				IAmb	IAmb	11 20 43.7		
	comp=Z,22nm,1.4s							
MT02	**Curacav**	**40.20 291**	P	**P**		**11 20 10.9**	**+0.2**	
MT02				IAmb	IAmb	11 20 34.2		
	comp=Z,26nm,1.3s							
CFA	**Coronel Fontan**	**40.24 295**	P	**P**		**11 20 09.0**	**-2.1**	
	comp=Z,1.3nm,0.3s,baz=151,slow=2.5,SNR=1.9							
	comp=Z,1.3nm,0.3s							
ROC1	**El Roble**	**40.37 291**	P	**P**		**11 20 14.2**	**+1.8**	
ROC1				IAmb	IAmb	11 20 53.6		
	comp=Z,12nm,1.0s							
CO01	**Juntas del Tor**	**42.46 295**	P	**P**		**11 20 29.4**	**-0.2**	
GO04	**Tololo Observa**	**42.62 294**	P	**P**		**11 20 29.2**	**-1.6**	
GO04				IAmb	IAmb	11 20 47.5		
	comp=Z,29nm,1.3s							
AC05	**El Transito**	**43.52 295**	P	**P**		**11 20 37.8**	**-0.2**	
AC02	**Maricunga**	**44.72 298**	P	**P**		**11 20 48.4**	**+0.3**	
BOSA	**Boshof**	**46.10 70**	P	P		11 21 04.0	+5.4	
	comp=Z,3.2nm,0.9s,baz=217,slow=8.1,SNR=4.8							
	comp=Z,3.2nm,0.9s							
LVC	**Limon Verde**	**48.32 301**	P	**P**		**11 21 15.3**	**-0.9**	
LVC				IAmb	IAmb	11 21 41.7		
	comp=Z,8.4nm,1.4s							
PB07	**IPOC Station P**	**49.52 301**	P	**P**		**11 21 25.4**	**+0.2**	
PB02	**IPOC Station P**	**49.88 301**	P	**P**		**11 21 28.0**	**+0.1**	
PB01	**IPOC Station P**	**49.95 301**	P	**P**		**11 21 28.6**	**+0.2**	
PB01				IAmb	IAmb	11 21 39.4		
	comp=Z,4.1nm,0.6s							
PTLB	**Pontes e Lacer**	**50.99 316**	P	**P**		**11 21 35.6**	**-0.4**	
PTLB				IAmb	IAmb	11 21 46.6		
	comp=Z,2.4nm,0.9s							
GO01	**Chusmiza**	**51.05 303**	P	**P**		**11 21 37.2**	**+0.2**	
PB11	**IPOC Station P**	**51.16 302**	P	**P**		**11 21 37.8**	**+0.2**	
MNMC	**Minye Minye**	**51.70 302**	P	**P**		**11 21 41.8**	**+0.1**	
PB16	**IPOC Station P**	**52.37 303**	P	**P**		**11 21 47.2**	**+0.1**	
PB12	**IPOC Station P**	**52.47 302**	P	**P**		**11 21 47.3**	**+0.1**	
PB12				IAmb	IAmb	11 21 59.0		
	comp=Z,17nm,1.3s							
LPAZ	**La Paz**	**53.63 306**	P	**P**		**11 21 56.8**	**+0.3**	
	comp=Z,2.0nm,0.6s,baz=191,slow=13,SNR=7.9							
	comp=Z,2.0nm,0.6s							
LPAZ	**La Paz**	**53.63 306**	P	**P**		**11 21 55.8**	**-0.6**	
LSZ	**Lusaka**	**58.96 65**	P	P		11 22 39.5	+5.7	
	comp=Z,1.7nm,0.5s,baz=205,slow=5.8,SNR=4.1							
	comp=Z,1.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.11 27**	P	P		11 24 27.2	+5.4	
	comp=Z,2.8nm,0.4s,baz=197,slow=6.0,SNR=2.9							
	comp=Z,2.8nm,0.4s							
PDAR	**Pinedale Array**	**123.36 299**	PKP	**PKiKP**		**11 31 31.4**	**+0.7**	
	comp=Z,0.1nm,0.4s,baz=99,slow=2.8,SNR=2.2							
YKA	**Yellowknife Ar**	**139.86 314**	PKP	**PKiKP**		**11 32 02.8**	**-0.2**	
	comp=Z,1.5nm,1.0s,baz=136,slow=2.1,SNR=12							
SONM	**Songino Array**	**149.68 92**	PKPbc	**PKiKP**		**11 32 25.3**	**+1.4**	
	comp=Z,0.5nm,0.5s,baz=252,slow=3.1,SNR=6.2							
ILAR	**Eielson Array**	**153.51 305**	PKPbc	**PKiKP**		**11 32 33.2**	**+2.1**	
	comp=Z,0.6nm,0.6s,baz=167,slow=2.3,SNR=14							

IDC 24 11:15:35.8±2.4, 4.51N×123.15E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=340.4km s-min=26.2km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.68**	**156**	P	P	11 21 16.6	-0.2
	0.3nm,0.3s,baz=334,slow=9.7,SNR=6.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**29.91**	**160**	P	P	11 21 45.8	+0.2
	0.2nm,0.3s,baz=337,slow=6.7,SNR=5.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**54.91**	**327**	P	P	11 25 08.3	-0.1
	0.2nm,0.5s,baz=117,slow=7.9,SNR=6.8						
	0.2nm,0.5s						

*IDC **24** 11:36:22.8±0.9, 41.24N×36.57E, h0km, mbtmp3.0/3, ML3.1/3, Error ellipse: s-maj=25.6km s-min=7.8km az=145.0*
*DDA **24** 11:36:24.6±0.0, 41.14N×36.56E, h25km, ML3.0*
*ISK **24** 11:36:24.3, 41.12N×36.60E, h12km, ML3.3/14*
ISC 24 11:36:23.5±1.2, 41.19N±0.03×36.59E±0.02, h6km±10km, n34, σ0s95/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAMS	**Samsun-Alacam**	**0.35**	**300**	P	**Pb**	**11 36 32.9**	**+0.8**
SAMS				S	**Sb**	**11 36 38.3**	**+0.4**
SAMS				*i* AML	AML	11 36 39.0	
	comp=E,2μm,0.2s						
SAMS				*i* AML	AML	11 36 39.0	
	comp=N,1μm,0.2s						
KVT	**Kavak**	**0.42**	**255**	Pg	**Pb**	**11 36 33.2**	**-0.3**
KVT				Sg	**Sb**	**11 36 39.6**	**-0.6**
KIZO	**Buyukkizoglu-L**	**0.57**	**240**	Pg	**Pb**	**11 36 35.6**	**-0.4**
KIZO				Sg	**Sb**	**11 36 43.6**	**-0.9**
YARM	**Yarimca-Ladik(**	**0.64**	**245**	Pg	**Pb**	**11 36 36.8**	**-0.3**
YARM				Sg	**Sb**	**11 36 45.9**	**-0.4**
TOKT	**Tokat**	**0.87**	**182**	Pg	**Pg**	**11 36 40.3**	**+0.1**
TOKT				Sg	**Sg**	**11 36 51.7**	**+0.2**
RSDY	**Resadiye-TOKAT**	**0.97**	**145**	Pg	**Pb**	**11 36 42.5**	**-0.2**
RSDY				Sg	**Sg**	**11 36 55.3**	**+0.6**
ORDU	**Ordu-Boztepe**	**0.98**	**101**	P	**Pb**	**11 36 43.5**	**+0.6**
ORDU				S	**Sb**	**11 36 56.2**	**+0.1**
ORDU				*i* AML	AML	11 36 57.0	
	comp=N,2μm,0.4s						
DIKM	**Dikmen**	**1.10**	**295**	Pn	**Pn**	**11 36 46.2**	**+0.7**
SVSK	**Karacayir**	**1.31**	**166**	Pn	**Pg**	**11 36 48.0**	**-0.6**
SINO	**SINOP_Merkez**	**1.33**	**309**	P	**Pb**	**11 36 49.6**	**+0.8**
SINO				S	**Sn**	**11 37 08.2**	**+1.5**
SINO				*i* AML	AML	11 37 11.0	
	comp=E,530nm,0.2s						
SINO				*i* AML	AML	11 37 11.0	
	comp=N,537nm,0.3s						
CKRK	**Yozgat, Cekere**	**1.39**	**217**	P	**Pn**	**11 36 49.6**	**+0.1**
CKRK				S	**Sb**	**11 37 08.4**	**+0.4**
CTAK	**Corum_Osmancik**	**1.47**	**249**	P	**Pb**	**11 36 52.5**	**+1.2**
CTAK				S	**Sn**	**11 37 11.7**	**+1.4**
CTAK				*i* AML	AML	11 37 16.0	
	comp=N,228nm,0.3s						
BOYA	**Sinop/Boyabat-**	**1.48**	**284**	P	**Pg**	**11 36 51.9**	**+0.1**
BOYA				S	**Sg**	**11 37 10.3**	**-0.7**
BOYA				*i* AML	AML	11 37 16.0	
	comp=N,124nm,0.4s						
COAL	**Corum-Alaca**	**1.54**	**233**	P	**Pn**	**11 36 52.0**	**+0.5**
COAL				S	**Sg**	**11 37 12.6**	**-0.2**
SUSE	**Susehri**	**1.57**	**128**	P	**Pb**	**11 36 53.1**	**0.0**
SUSE				S	**Sn**	**11 37 12.9**	**+0.1**
SUSE				*i* AML	AML	11 37 15.0	
	comp=E,176nm,0.5s						
SUSE				*i* AML	AML	11 37 15.0	
	comp=N,232nm,0.3s						
KAGI	**orum-Kargı**	**1.59**	**269**	P	**Pg**	**11 36 54.0**	**-0.1**
KAGI				S	**Sg**	**11 37 14.8**	**0.0**
KAGI				*i* AML	AML	11 37 15.0	
	comp=E,257nm,0.6s						
KAGI				*i* AML	AML	11 37 16.0	
	comp=N,298nm,0.4s						
HACI	**Hacifakili, Ak**	**1.62**	**204**	P	**Pb**	**11 36 54.1**	**+0.2**
HACI				S	**Sn**	**11 37 14.8**	**+0.8**
HACI				*i* AML	AML	11 37 18.0	
	comp=E,106nm,0.6s						
CUSAR	**Sarkisla-SIVAS**	**1.79**	**189**	P	**Pn**	**11 36 56.1**	**+1.0**
CUSAR				S	**Sn**	**11 37 18.5**	**+0.3**
CUSAR				*i* AML	AML	11 37 24.0	
	comp=N,65nm,0.4s						
CORM	**Corum**	**1.80**	**237**	Pn	**Pn**	**11 36 55.6**	**+0.4**
YOZ	**Yozgat**	**1.83**	**212**	Pn	**Pn**	**11 36 55.9**	**+0.3**
ALUC	**Giresun/Alucra**	**1.86**	**116**	P	**Pb**	**11 36 58.6**	**+0.6**
ALUC				S	**Sg**	**11 37 22.7**	**-0.5**
ALUC				*i* AML	AML	11 37 25.0	
	comp=N,659nm,0.4s						
ALUC				*i* AML	AML	11 37 29.0	
	comp=E,506nm,0.3s						
BZK	**Bozkurt**	**2.09**	**292**	Pn	**Pn**	**11 37 00.6**	**+1.6**
ILGA	**Ilgaz**	**2.17**	**267**	P	**Pn**	**11 37 01.9**	**+1.5**
ILGA				S	**Sb**	**11 37 31.3**	**+0.6**
ILGA				*i* AML	AML	11 37 36.0	
	comp=E,84nm,0.6s						
ILGA				*i* AML	AML	11 37 39.0	
	comp=N,67nm,0.6s						
CDAG	**Cicekdag**	**2.31**	**228**	P	**Pg**	**11 37 08.3**	**+0.6**
CDAG				S	**Sg**	**11 37 37.3**	**-0.3**
DELI	**KIRIKKALE**	**2.36**	**241**	P	**Pb**	**11 37 06.8**	**+0.4**
DELI				S	**Sb**	**11 37 37.3**	**+1.5**
BNN	**Bunyan**	**2.40**	**194**	Pn	**Pn**	**11 37 03.5**	**0.0**
ARPR	**Arapgir-MALATY**	**2.48**	**147**	Pn	**Pn**	**11 37 04.8**	**+0.1**
BR131	**Keskin Array S**	**2.69**	**238**	Pn	**Pn**	**11 37 08.4**	**+1.0**
BRTR	**Keskin Array B**	**2.69**	**238**	Pn	**Pn**	**11 37 08.7**	**+1.3**
	1.5nm,0.3s,baz=52,slow=9.3,SNR=22						
BRTR				Pg	**Pb**	**11 37 12.2**	**+0.1**
	1.3nm,0.3s,baz=61,slow=15,SNR=19						
BRTR				Sn	**Sn**	**11 37 40.9**	**+0.6**
	1.4nm,0.3s,baz=50,slow=16,SNR=2.3						
BRTR				Lg	Lg	11 37 49.4	
	1.4nm,0.3s,baz=54,slow=25,SNR=6.1						
	3.4nm,0.6s						
KAMT	**Kaman**	**2.85**	**231**	Pn	**Pn**	**11 37 10.5**	**+0.8**
SUDU	**Sudak**	**3.88**	**343**	*e*S	**Sn**	**11 38 08.9**	**-0.6**
SUDU				Sm		11 38 11.7	
	comp=N,29nm,0.5s						
SUDU				Sm		11 38 11.7	
	comp=E,3.0nm,0.2s						
SEV	**Sevastopol'**	**3.98**	**328**	*e*P	**Pn**	**11 37 23.7**	**-1.4**
SEV				Sm		11 37 09.3	
	comp=E,2.0nm,0.3s						
SEV				Pm		11 37 24.8	
	comp=Z,2.0nm,0.2s						
SEV				*e*S	**Sn**	**11 38 08.9**	**-3.1**
SEV				Sm		11 38 09.3	
	comp=N,11nm,0.3s						
KBZ	**Khabaz**	**5.31**	**59**	Pn	**Pn**	**11 37 45.7**	**+2.4**
	comp=N,0.4nm,0.3s,baz=225,slow=5.7,SNR=9.6						
KBZ				Sn	**Sn**	**11 38 44.9**	**+0.1**
	comp=N,0.1nm,0.3s,baz=39,slow=14,SNR=2.2						
	comp=N,1.3nm,0.3s						
AKASG	**Malin Array Be**	**10.80**	**334**	Pn	**Pn**	**11 38 56.1**	**-2.4**
	comp=N,0.7nm,0.3s,baz=139,slow=13,SNR=2.9						
	comp=N,0.2nm,0.3s						

*NOU **24** 11:53:07.7, 41.80S×174.48E, h8km, MLv3.7/9, Cook Strait, New Zealand*
*WEL **24** 11:53:08.3±0.4, 42.2°S×3.7°×17.4E±.°, h8km±3km, M3.3/19, ML3.5/19, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=149.5, confirmed*
ISC 24 11:53:07.9±0.9, 41.74S±0.03×174.39E±0.03, h13km±7km, n89, σ1s40/97, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**268**	P	**Pg**	**11 53 11.7**	**+0.4**
CMWZ				S	**Sg**	**11 53 14.7**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.38**	**274**	P	**Pg**	**11 53 15.3**	**-0.3**
BSWZ				S	**Sg**	**11 53 20.9**	**+0.1**
SNZO	**South Karori**	**0.49**	**29**	P	**Pg**	**11 53 17.7**	**+0.1**
TCW	**Tory Channel**	**0.54**	**351**	P	**Pg**	**11 53 17.3**	**-1.2**
TCW				S	**Sg**	**11 53 23.7**	**-1.9**
WEL	**Wellington**	**0.54**	**32**	P	**Pb**	**11 53 18.8**	**-0.4**
WEL				S	**Sb**	**11 53 26.5**	**-0.3**
PLWZ	**Palliser**	**0.67**	**75**	P	**Pn**	**11 53 22.9**	**-0.3**
PLWZ				S	**Sn**	**11 53 35.2**	**+1.6**
CAW	**Cannon Point**	**0.82**	**39**	P	**Pg**	**11 53 23.6**	**0.0**
PAWZ	**Paruwai Farm**	**0.86**	**65**	P	**Pn**	**11 53 25.8**	**+0.1**
PAWZ				S	**Sn**	**11 53 39.7**	**+1.6**
KHZ	**Kahutara**	**0.92**	**223**	P	**Pb**	**11 53 26.8**	**+1.2**
KHZ	**Kahutara**	**0.92**	**223**	P	**Pb**	**11 53 26.9**	**+1.2**
KHZ				S	**Sn**	**11 53 41.6**	**+2.0**
NNZ	**Nelson**	**0.92**	**304**	P	**Pg**	**11 53 24.0**	**-1.7**
KIW	**Kapiti Island**	**0.97**	**24**	P	**Pg**	**11 53 25.6**	**-0.9**
DUWZ	**D'Urville Isla**	**1.00**	**339**	P	**Pg**	**11 53 25.4**	**-1.8**
DUWZ				S	**Sg**	**11 53 38.8**	**-1.6**
MTW	**Mount Morrison**	**1.02**	**55**	P	**Pb**	**11 53 27.9**	**+0.5**
TRWZ	**Traveller**	**1.03**	**71**	P	**Pb**	**11 53 28.1**	**+0.5**
OGWZ	**Otaki Gorge**	**1.10**	**33**	P	**Pg**	**11 53 28.0**	**-1.0**
THZ	**Tophouse**	**1.11**	**269**	P	**Pg**	**11 53 28.2**	**-1.0**
HOWZ	**Holdsworth Sta**	**1.20**	**46**	P	**Pg**	**11 53 30.3**	**-0.6**
MRNZ	**Matariki Terra**	**1.27**	**285**	P	**Pn**	**11 53 30.9**	**-0.4**
TKNZ	**Takaka Hill**	**1.29**	**303**	P	**Pn**	**11 53 30.5**	**-1.0**
TMWZ	**Te Maipa**	**1.30**	**61**	P	**Pn**	**11 53 31.6**	**-0.1**
MRZ	**Mangatainoka R**	**1.41**	**40**	P	**Pn**	**11 53 33.1**	**0.0**
GVZ	**Greta Valley S**	**1.58**	**219**	P	**Pn**	**11 53 35.7**	**+0.1**
QRZ	**Quartz Range**	**1.67**	**303**	P	**Pn**	**11 53 37.0**	**+0.2**
QRZ	**Quartz Range**	**1.67**	**303**	P	**Pn**	**11 53 37.1**	**+0.2**
PRWZ	**Pori Road**	**1.69**	**46**	P	**Pn**	**11 53 36.9**	**-0.1**
POWZ	**Post Office Ro**	**1.71**	**38**	P	**Pn**	**11 53 37.4**	**+0.1**
BFZ	**Birch Farm**	**1.76**	**54**	P	**Pn**	**11 53 38.0**	**0.0**
BFZ	**Birch Farm**	**1.76**	**54**	P	**Pn**	**11 53 38.0**	**0.0**
DSZ	**Denniston Nort**	**1.93**	**269**	P	**Pn**	**11 53 41.3**	**+0.8**
WAZ	**Wanganui**	**2.04**	**13**	P	**Pb**	**11 53 44.6**	**-0.2**
LREZ	**Lake Rotokare**	**2.28**	**0**	P	**Pb**	**11 53 48.1**	**-0.7**
WPHZ	**Waipukurau**	**2.29**	**44**	P	**Pn**	**11 53 45.1**	**-0.2**
MQZ	**McQueen's Vall**	**2.34**	**212**	P	**Pn**	**11 53 44.6**	**-1.4**
NMEZ	**Namu Road**	**2.36**	**350**	P	**Pb**	**11 53 50.7**	**+0.5**
AKCZ	**Akaroa Harbour**	**2.39**	**207**	P	**Pn**	**11 53 46.0**	**-0.7**
INZ	**Inchbonnie**	**2.40**	**245**	P	**Pn**	**11 53 47.1**	**+0.4**
KHEZ	**Kahui Hut**	**2.46**	**353**	P	**Pb**	**11 53 50.3**	**-1.7**
KHEZ	**Kahui Hut**	**2.46**	**353**	P	**Pb**	**11 53 51.0**	**-1.0**
NEZ	**North Egmont**	**2.48**	**355**	P	**Pn**	**11 53 50.5**	**+2.4**
MTVZ	**Mangateiti**	**2.50**	**20**	P	**Pb**	**11 53 52.6**	**0.0**
NBEZ	**Newall Road No**	**2.50**	**351**	P	**Pb**	**11 53 50.9**	**-1.7**
PXZ	**Pawanui**	**2.54**	**48**	P	**Pn**	**11 53 47.4**	**-1.4**
MOVZ	**Moawhango**	**2.56**	**24**	P	**Pb**	**11 53 53.3**	**-0.3**
PKVZ	**Pokaka**	**2.56**	**17**	P	**Pb**	**11 53 53.5**	**-0.1**
PKE	**Pukeiti**	**2.56**	**353**	P	**Pn**	**11 53 50.5**	**+1.4**
RACZ	**Rakaia**	**2.58**	**219**	P	**Pn**	**11 53 48.0**	**-1.3**
KRHZ	**Kereru**	**2.58**	**36**	P	**Pn**	**11 53 48.6**	**-0.8**
WNVZ	**Wahianoa**	**2.58**	**21**	P	**Pn**	**11 53 51.0**	**+1.5**
BHHZ	**Black Hill Sta**	**2.59**	**30**	P	**Pb**	**11 53 53.9**	**-0.2**
WHVZ	**Whangaehu Hut**	**2.62**	**21**	P	**Pb**	**11 53 54.3**	**-0.5**
VRZ	**Vera Road**	**2.63**	**6**	P	**Pn**	**11 53 52.0**	**+2.0**
FWVZ	**Far West T-bar**	**2.64**	**20**	P	**Pb**	**11 53 54.9**	**-0.2**
TUVZ	**Tukino**	**2.66**	**22**	P	**Pb**	**11 53 55.4**	**0.0**
KAHZ	**Kahuranaki**	**2.71**	**45**	P	**Pn**	**11 53 51.0**	**-0.2**
NGZ	**Ngauruhoe**	**2.73**	**20**	P	**Pb**	**11 53 55.1**	**-1.5**
SNVZ	**South Ngauruho**	**2.73**	**21**	P	**Pn**	**11 53 53.7**	**+2.2**
OTVZ	**Oturere**	**2.76**	**21**	P	**Pn**	**11 53 52.9**	**+1.0**
NNVZ	**North Ngauruho**	**2.77**	**20**	P	**Pn**	**11 53 53.9**	**+1.8**
WTVZ	**West Tongariro**	**2.78**	**20**	P	**Pb**	**11 53 56.9**	**-0.6**
KWHZ	**Kaweka Forest**	**2.79**	**34**	P	**Pn**	**11 53 52.0**	**-0.3**
TWVZ	**Taurewa**	**2.79**	**17**	P	**Pn**	**11 53 55.0**	**+2.7**
ETVZ	**East Tongariro**	**2.79**	**22**	P	**Pb**	**11 53 56.8**	**-0.9**
TMVZ	**Te Maari**	**2.81**	**21**	P	**Pb**	**11 53 56.2**	**-1.8**
KRVZ	**Karewarewa**	**2.81**	**20**	P	**Pb**	**11 53 57.7**	**-0.3**
NTVZ	**North Tongarir**	**2.82**	**21**	P	**Pn**	**11 53 54.3**	**+1.6**
WACZ	**Wakanui South**	**2.89**	**220**	P	**Pn**	**11 53 52.6**	**-0.9**
KATZ	**Kakaramea**	**2.94**	**20**	P	**Pb**	**11 54 00.4**	**+0.2**
RITZ	**Rihia Road**	**2.98**	**23**	P	**Pb**	**11 54 01.6**	**+0.7**
WVZ	**Waitaha Valley**	**3.01**	**243**	P	**Pn**	**11 53 58.3**	**+3.1**
BKZ	**Black Stump Fm**	**3.04**	**33**	P	**Pn**	**11 53 55.7**	**+0.1**
BKZ	**Black Stump Fm**	**3.04**	**33**	P	**Pn**	**11 53 55.0**	**-0.6**
RATZ	**Rangitukua**	**3.06**	**21**	P	**Pb**	**11 54 02.8**	**+0.6**
ARCZ	**Arundel**	**3.23**	**226**	P	**Pn**	**11 53 57.6**	**-0.7**
HIZ	**Hauiti**	**3.25**	**7**	P	**Pn**	**11 54 00.7**	**+2.3**
HIZ	**Hauiti**	**3.25**	**7**	P	**Pn**	**11 54 00.8**	**+2.3**
MRHZ	**Matea Rd**	**3.29**	**29**	P	**Pn**	**11 53 58.5**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**3.39**	**241**	P	**Pb**	**11 54 05.9**	**-1.8**
TLZ	**Tolley Road**	**3.52**	**15**	P	**Pn**	**11 54 05.7**	**+3.4**
TMZ	**Timaru**	**3.62**	**222**	P	**Pn**	**11 54 02.8**	**-0.8**
HSRZ	**Hossack Road**	**3.71**	**23**	P	**Pb**	**11 54 10.3**	**-3.0**
FOZ	**Fox Glacier**	**3.82**	**241**	P	**Pn**	**11 54 06.7**	**+0.5**
URZ	**Urewera**	**4.06**	**32**	P	**Pn**	**11 54 10.4**	**+0.8**
TOZ	**Tahuroa Road**	**4.10**	**12**	P	**Pn**	**11 54 14.2**	**+4.0**
ODZ	**Otahua Downs**	**4.28**	**218**	P	**Pn**	**11 54 12.0**	**-0.7**
ODZ	**Otahua Downs**	**4.28**	**218**	P	**Pn**	**11 54 11.4**	**-1.2**
MKAZ	**Moumakai**	**4.67**	**8**	P	**Pn**	**11 54 21.7**	**+3.7**
AWAZ	**Awhitu Peninsu**	**4.68**	**3**	P	**Pn**	**11 54 21.4**	**+3.3**
WKZ	**Wanaka**	**4.99**	**230**	P	**Pn**	**11 54 23.7**	**+1.3**

*NEIC **24** 12:23:37.5±0.5, 17.1S±0.4×178.8W±0.2, h594km±16km, mb4.2/12, Error ellipse: s-maj=60.9km s-min=28.5km az=162.0*
*IDC **24** 12:23:38.1±2.3, 17.37S×178.89W, h588km±20km, mb3.0/5, mbtmp3.8/6, Error ellipse: s-maj=123.3km s-min=22.4km az=154.0*
ISC 24 12:23:36.9±1.0, 16.9S±0.4×178.8W±0.2, h600km, n22, σ0s58/19, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.09**	**254**	P	**P**	**12 24 56.2**	**-0.5**
	7.6nm,0.8s,baz=356,slow=6.1,SNR=4.7						
MSVF	**Nonsavu**	**3.09**	**254**	P	**P**	**12 24 56.5**	**-0.2**
AFI	**Afiamalu**	**7.43**	**67**	P	**P**	**12 25 31.0**	**0.0**
EIDS	**Eidsvold**	**29.24**	**248**	P	**P**	**12 28 52.5**	**+0.3**
EIDS				IAmb	IAmb	12 29 10.9	
	comp=Z,7.5nm,1.2s						
ARMA	**Armidale**	**30.10**	**238**	P	**P**	**12 28 59.6**	**-0.1**
ARMA				IAmb	IAmb	12 29 17.0	
	comp=Z,10nm,1.1s						
CTAO	**Charters Tower**	**33.22**	**259**	P	P	12 29 27.6	+1.4
PMG	**Port Moresby**	**33.90**	**278**	P	**P**	**12 29 31.6**	**-0.3**
STKA	**Stephens Creek**	**38.76**	**240**	P	**P**	**12 30 10.9**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=84,slow=11,SNR=4.2						
	comp=Z,1.4nm,0.4s						
STKA	**Stephens Creek**	**38.76**	**240**	P	**P**	**12 30 11.4**	**-0.1**
BBOO	**Buckleboo**	**43.54**	**240**	P	**P**	**12 30 48.5**	**-0.7**
BBOO				IAmb	IAmb	12 31 15.8	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**44.23**	**259**	P	**P**	**12 30 55.0**	**+0.3**
WR0				IAmb	IAmb	12 31 13.2	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**44.38**	**259**	P	**P**	**12 30 56.3**	**+0.5**
WB0				IAmb	IAmb	12 30 58.2	
	comp=Z,7.9nm,1.1s						
WB2	**Warramunga Arr**	**44.41**	**259**	P	**P**	**12 30 56.7**	**+0.7**
WB2				IAmb	IAmb	12 31 09.6	
	comp=Z,6.3nm,1.2s						
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**	**12 30 56.9**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=95,slow=7.4,SNR=16						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**	**12 30 57.0**	**+0.8**
AS31	**Alice Springs**	**44.68**	**253**	P	P	12 30 58.9	+0.7
ASAR	**Alice Springs**	**44.68**	**253**	P	**P**	**12 30 58.8**	**+0.6**
	comp=Z,6.2nm,0.6s,baz=88,slow=8.4,SNR=87						
ASAR				PcP	**PcP**	**12 32 28.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=108,slow=4.2,SNR=2.0						
	comp=Z,6.2nm,0.6s						
ASAR	**Alice Springs**	**44.68**	**253**	P	**P**	**12 30 58.4**	**+0.3**
FORT	**Forrest**	**50.07**	**244**	P	**P**	**12 31 37.8**	**-0.5**
TXAR	**Lajitas Array**	**85.81**	**58**	P	P	12 35 18.6	+4.2
	comp=Z,0.2nm,0.6s,baz=224,slow=6.3,SNR=2.6						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**86.91**	**44**	P	P	12 35 22.5	+3.0
	comp=Z,0.1nm,0.4s,baz=235,slow=4.2,SNR=1.4						
	comp=Z,0.1nm,0.4s						
BRTR	**Keskin Array B**	**143.79**	**315**	PKP	**PKiKP**	**12 42 08.5**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=48,slow=4.3,SNR=4.2						

*IDC **24** 12:25:33.0±1.3, 25.54N×91.63E, h0km, mb3.7/6, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=48.9km s-min=22.4km az=63.0*
*NEIC **24** 12:25:38.8±2.2, 25.6N±0.1×91.9E±0.3, h35km±2km, mb4.3/9, Error ellipse: s-maj=45.2km s-min=10.4km az=64.0*
*NDI **24** 12:25:39.4±1.6, 25.64N×91.80E, h20km±3km, ML4.0*
ISC 24 12:25:37.8±0.7, 25.60N±0.05×91.85E±0.07, h31km±4km, n29, σ1s13/31, mb3.9/10, 1C, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**0.04**	**140**	Pg	**Pn**	**12 25 43.4**	**+0.2**
SHL				Sg	**Sb**	**12 25 47.0**	**+0.1**
SHL	**Shillong**	**0.04**	**140**	*i*PG	**Pn**	**12 25 43.5**	**+0.2**
SHL				*e*SG	**Sb**	**12 25 47.0**	**+0.1**
GUWA	**GUWAHATI**	**0.61**	**346**	*e*Pg	**Pn**	**12 25 50.2**	**-0.1**
GUWA				*i* Sg	**Sn**	**12 25 58.9**	**-0.3**
GUWA				IAML		12 25 59.7	
	comp=N,3μm,0.1s						
GUWA				IAML		12 25 59.8	
	comp=E,5μm,0.2s						
TEZP	**TEZPUR**	**1.32**	**40**	*e*P	**Pb**	**12 26 02.3**	**+0.3**
TEZP				*e*S	**Sb**	**12 26 21.6**

CGP				*e*S		**Sn**	**12 44 53.6**	**-0.4**
MSLP	**Maasin**	**2.74**	**76**	*i*P		**Pn**	**12 44 24.1**	**+1.1**
MSLP				*i* S		**Sn**	**12 44 56.2**	**+1.1**
BUKP	**Musuan**	**3.27**	**119**	*e*P		**Pn**	**12 44 33.3**	**+3.0**
BUKP				*i* S		**Sb**	**12 45 13.9**	**-4.0**
PPR	**Puerto Princes**	**3.40**	**275**	*i*P		**Pn**	**12 44 32.9**	**+0.9**
PPR				*i* S		Sn	12 45 01.5	-10
DAV	**Davao City (W)**	**4.14**	**125**	Pn		**Pn**	**12 44 38.7**	**-3.5**
MYLDM	**Lahad Datu**	**5.59**	**221**	Pn		**Pn**	**12 45 05.8**	**+3.5**
KKM	**Kota Kinabalu**	**6.80**	**240**	Pn		**Pn**	**12 45 19.7**	**+0.8**
TOLI2	**Tolitoli**	**8.41**	**189**	Pn		**Pn**	**12 45 40.3**	**-0.7**
WB0	**Warramunga Arr**	**31.45**	**158**	P		**P**	**12 49 58.5**	**-1.5**
WB0				IAmb		IAmb	12 50 20.1	
	comp=Z,12nm,1.5s							
WRA	**Warramunga Arr**	**31.59**	**158**	P		**P**	**12 49 59.9**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=340,slow=9.4,SNR=4.6							
	comp=Z,1.3nm,0.8s							
WB2	**Warramunga Arr**	**31.59**	**158**	P		**P**	**12 49 58.6**	**-2.6**
WB2				IAmb		IAmb	12 50 09.8	
	comp=Z,8.3nm,1.4s							
AS31	**Alice Springs**	**34.87**	**161**	P		**P**	**12 50 30.0**	**+0.2**
AS31				IAmb		IAmb	12 50 30.4	
	comp=Z,1.2nm,0.8s							
ASAR	**Alice Springs**	**34.87**	**161**	P		**P**	**12 50 29.8**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=339,slow=7.1,SNR=51							
	comp=Z,2.9nm,0.6s							
ASAR	**Alice Springs**	**34.87**	**161**	P		**P**	**12 50 29.6**	**-0.3**
BBOO	**Buckleboo**	**44.08**	**163**	P		**P**	**12 51 46.8**	**+0.3**
MK31	**Makanchi Array**	**50.29**	**325**	P		**P**	**12 52 35.2**	**+0.5**
MKAR	**Makanchi Array**	**50.29**	**325**	P		**P**	**12 52 36.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=125,slow=9.2,SNR=8.6							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**50.29**	**325**	P		**P**	**12 52 34.6**	**-0.2**
AAK	**Ala-Archa**	**53.09**	**317**	LR		LR	13 16 42.1	
	comp=Z,53nm,18.4s,baz=15,slow=37							
ZALV	**Zalesovo Beam**	**53.46**	**333**	P		**P**	**12 52 57.0**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=130,slow=5.8,SNR=2.0							
	comp=Z,0.3nm,0.4s							

*NEIC **24** 13:03:01.1±1.4,5.58S±0.05×146.7E±0.2,h72^{km}±13^{km}, mb4.2/11, Error ellipse: s-maj=25.4km s-min=5.2km az=99.0*
*IDC **24** 13:03:02.8±1.8,6.10S×146.07E,h0^{km},mb3.6/3, mbtmp3.8/6,ML3.9/2,MS2.7/3,Error ellipse: s-maj=56.0km s-min=21.6km az=81.0*
ISC 24 13:02:59.6±0.9,5.53S±0.08×146.6E±0.1,h50^{km},n22, σ0.93/20,mb3.7/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.55**	**13**	Pn	**Pn**	**13 03 53.5**	**+1.2**
PMG	**Port Moresby**	**3.89**	**172**	Pn	**Pn**	**13 03 57.2**	**+0.3**
	17nm,0.3s,baz=5.4,slow=7.0,SNR=29						
PMG				Sn	**Sn**	**13 04 42.0**	**+0.7**
	11nm,0.3s,baz=194,slow=18,SNR=8.5						
PMG				LR	LR	13 05 17.4	
	comp=Z,71nm,19.8s,baz=97,slow=39						
PMG	**Port Moresby**	**3.89**	**172**		**Pn**	**13 03 57.4**	**+0.5**
COEN	**Coen**	**9.02**	**202**		**Pn**	**13 05 08.7**	**+1.3**
CTA	**Charters Tower**	**14.47**	**181**	Pn	**Pn**	**13 06 22.8**	**+1.1**
	0.3nm,0.3s,baz=4.6,slow=17,SNR=1.2						
CTA				LR	LR	13 12 34.8	
	comp=Z,19nm,18.5s,baz=346,slow=41						
	2.6nm,0.9s						
CTAO	**Charters Tower**	**14.47**	**181**	P	**P**	**13 06 25.1**	**-2.1**
MTN	**Manton Dam**	**16.89**	**243**		**Pn**	**13 06 53.5**	**+0.8**
MTN				IAmb	IAmb	13 07 23.4	
	comp=Z,65nm,1.4s						
PATS	**Pohnpei**	**16.97**	**44**	P	**P**	**13 06 54.0**	**-0.9**
WB0	**Warramunga Arr**	**18.47**	**219**	P	**P**	**13 07 10.6**	**-0.8**
WB0				IAmb	IAmb	13 07 43.3	
	comp=Z,17nm,1.5s						
WR0	**Warramunga Arr**	**18.52**	**218**	P	**P**	**13 07 11.2**	**-0.8**
WR0				IAmb	IAmb	13 07 35.2	
	comp=Z,13nm,1.3s						
WB2	**Warramunga Arr**	**18.62**	**219**	P	**P**	**13 07 12.6**	**-0.6**
WB2				IAmb	IAmb	13 07 15.1	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**18.63**	**219**	P	**P**	**13 07 12.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=41,slow=12,SNR=11						
	comp=Z,2.1nm,0.6s						
EIDS	**Eidsvold**	**20.19**	**168**	Pn	**P**	**13 07 30.8**	**+0.6**
EIDS				IAmb	IAmb	13 08 07.0	
	comp=Z,11nm,1.2s						
KNRA	**Kununurra**	**20.20**	**239**	P	**P**	**13 07 30.4**	**+0.1**
KNRA				IAmb	IAmb	13 08 04.1	
	comp=Z,56nm,1.5s						
AS31	**Alice Springs**	**21.78**	**213**	P	**P**	**13 07 47.2**	**-0.2**
ASAR	**Alice Springs**	**21.78**	**213**	P	**P**	**13 07 47.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=40,slow=7.6,SNR=32						
	comp=Z,1.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.97**	**237**	P	**P**	**13 08 09.4**	**-0.2**
FORT	**Forrest**	**30.57**	**213**	P	**P**	**13 09 08.2**	**-0.5**
ASAJ	**Asahikawa**	**49.55**	**356**	LR	LR	13 32 22.2	
	comp=Z,25nm,20.5s,baz=316,slow=35						
MKAR	**Makanchi Array**	**76.88**	**321**	P	P	13 14 58.5	+12
	comp=Z,0.1nm,0.3s,baz=124,slow=7.3,SNR=8.2						
	comp=Z,0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**78.40**	**328**	P	P	13 15 05.8	+11
	comp=Z,0.5nm,0.5s,baz=100,slow=3.4,SNR=2.5						
	comp=Z,0.5nm,0.5s						
QSPA	**South Pole Qui**	**84.43**	**180**	P	**P**	**13 15 25.9**	**-0.8**
QSPA				IAmb	IAmb	13 15 36.5	
	comp=Z,4.0nm,1.2s						

*DMN **24** 13:06:42.3±3.1,31.79N×84.99E,h10^{km},Mb4.8/2,Error ellipse: s-maj=71.3km s-min=10.5km az=174.0*
*IDC **24** 13:06:43.5±1.4,31.26N×84.91E,h0^{km},mb3.6/7, mbtmp3.6/10,ML3.4/3,MS2.7/1,Error ellipse: s-maj=61.8km s-min=18.3km az=61.0*
ISC 24 13:06:46.6±0.8,31.51N±0.08×85.1E±0.1,h10^{km},n21, σ1.28/20,mb3.5/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**3.36**	**200**	*e*P	**Pn**	**13 07 39.7**	**+0.3**
	13nm,0.3s						
GKN	**Gorkha**	**3.52**	**187**	*e*P	**Pn**	**13 07 42.7**	**+1.1**
	4.4nm,0.2s						
GUN	**Gumba**	**3.66**	**169**	*e*P	**Pn**	**13 07 44.9**	**+1.3**
KKN	**Kakani**	**3.71**	**177**	*e*P	**Pn**	**13 07 45.7**	**+1.4**
DMN	**Daman**	**3.89**	**180**	*e*P	**Pn**	**13 07 47.6**	**+0.9**
	22nm,0.3s						
PKIN	**Phulchoki**	**3.93**	**176**	*e*P	**Pn**	**13 07 48.5**	**+1.2**
	29nm,0.4s						
PKI	**Pulchoki**	**3.94**	**176**	*e*P	**Pn**	**13 07 48.5**	**+1.0**
	30nm,0.4s						
JIRN	**Jiri**	**3.96**	**166**	*e*P	**Pn**	**13 07 49.5**	**+1.7**
	18nm,0.4s						
RAMN	**Ramite**	**4.74**	**163**	*e*P	**Pn**	**13 07 59.7**	**+1.4**
	20nm,0.3s						
TAPN	**Taplejung**	**4.74**	**150**	*e*P	**Pn**	**13 08 00.1**	**+1.7**
	14nm,0.4s						
ODAN	**Odare**	**5.05**	**156**	*e*P	**Pn**	**13 08 03.7**	**+1.0**
MKAR	**Makanchi Array**	**15.41**	**353**	Pn	**Pn**	**13 10 24.5**	**+0.3**
	baz=226,slow=30,SNR=4.8						
MKAR				Sn	**Sn**	**13 13 14.6**	**-0.3**
	baz=189,slow=14,SNR=1.6						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**18.05**	**133**	P	**Pn**	**13 10 55.5**	**-2.1**
	0.3nm,0.3s,baz=318,slow=12,SNR=11						
CMAR				LR	LR	13 17 46.0	
	comp=Z,23nm,19.9s,baz=270,slow=37						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**19.71**	**348**	P	**P**	**13 11 15.8**	**-0.2**
	0.1nm,0.3s,baz=166,slow=10,SNR=35						
	2.7nm,0.7s						
ZALV	**Zalesovo Beam**	**22.42**	**360**	P	**P**	**13 11 47.0**	**+1.6**
	0.8nm,0.6s,baz=177,slow=10,SNR=6.2						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**48.13**	**326**	P	P	13 15 25.0	-1.5
	1.5nm,0.5s,baz=98,slow=8.2,SNR=8.4						
	1.5nm,0.5s						
NOA	**NORSAR Array B**	**55.26**	**325**	P	**P**	**13 16 20.5**	**+0.7**
	1.3nm,0.8s,baz=87,slow=7.2,SNR=3.6						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**69.63**	**131**	P	**P**	**13 17 55.2**	**-1.2**
	1.5nm,1.2s,baz=323,slow=6.4,SNR=6.3						
	1.5nm,1.2s						
ASAR	**Alice Springs**	**72.06**	**134**	P	P	13 18 08.6	-2.6
	0.3nm,0.8s,baz=321,slow=6.0,SNR=2.9						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**75.85**	**20**	P	**P**	**13 18 33.1**	**+0.3**
	0.3nm,0.9s,baz=316,slow=5.0,SNR=2.2						
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**84.99**	**9**	P	**P**	**13 19 20.7**	**-1.2**
	0.2nm,0.8s,baz=333,slow=5.6,SNR=2.3						
	0.2nm,0.8s						

*IDC **24** 13:07:33.2±1.4,61.65N×151.64W,h81^{km}±17^{km},mb3.4/7, mbtmp3.7/11,Error ellipse: s-maj=26.0km s-min=8.7km az=111.0*
*NEIC **24** 13:07:35.8±0.9,61.69N±0.01×151.63W±0.09, h101^{km}±5^{km},Error ellipse: s-maj=6.4km s-min=0.8km az=102.0*
*AEIC **24** 13:07:37.0±0.8,61.68N±0.04×151.62W±0.09,h94^{km}±4^{km}, ML3.6,ML3.9/132(NEIC),Error ellipse: s-maj=6.1km s-min=5.9km az=140.0*
ISC 24 13:07:35.6±0.7,61.68N±0.03×151.62W±0.03, h105^{km}±5^{km},n232,σ0.73/245,mb3.8/8,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.31**	**8**		**Pn**	**13 07 50.4**	**-0.5**
SKT					**Sn**	**13 08 01.0**	**-1.3**
SKT	**Skwentna**	**0.31**	**8**	IAML		13 08 01.5	
	comp=E,4μm,0.4s						
SKT				IAML		13 08 01.7	
	comp=N,6μm,0.4s						
SKT	**Skwentna**	**0.31**	**8**	P	**Pn**	**13 07 50.4**	**-0.5**
	baz=188						
SKT				S	**Sn**	**13 08 01.0**	**-1.3**
	baz=188						
SUA	**Susitna One**	**0.47**	**117**		**Pn**	**13 07 52.3**	**+0.4**
SUA					**Sn**	**13 08 03.9**	**-0.2**
SUA	**Susitna One**	**0.47**	**117**	IAML		13 08 04.7	
	comp=N,6μm,0.7s						
SUA				IAML		13 08 04.8	
	comp=E,5μm,0.8s						
SUA	**Susitna One**	**0.47**	**117**	P	**Pn**	**13 07 52.3**	**+0.4**
	baz=298						
SUA				S	**Sn**	**13 08 03.9**	**-0.2**
	baz=298						
SPU	**Mount Spurr**	**0.54**	**203**		**Pn**	**13 07 51.7**	**-0.5**
N20K	**Mount Spurr**	**0.55**	**211**	P	**Pn**	**13 07 51.9**	**-0.6**
	baz=30						
N20K				S	**Sn**	**13 08 03.6**	**-1.4**
	baz=30						
SPCR	**Spurr Chakacha**	**0.55**	**211**	P	**Pn**	**13 07 51.9**	**-0.6**
	baz=30						
M22K	**Willow**	**0.72**	**83**		**Pn**	**13 07 53.7**	**+0.1**
M22K	**Willow**	**0.72**	**83**	P	**Pn**	**13 07 53.8**	**+0.1**
	baz=265						
M20K	**Styx River**	**0.75**	**287**		**Pn**	**13 07 53.5**	**-0.5**
M20K	**Styx River**	**0.75**	**287**	P	**Pn**	**13 07 53.7**	**-0.4**
	baz=105						
M20K				S	**Sn**	**13 08 06.4**	**-1.5**
	baz=105						
FIS	**Fire Island**	**0.86**	**128**		**Pn**	**13 07 55.9**	**+0.9**
CAPN	**Captain Cook N**	**0.94**	**166**		**Pn**	**13 07 57.3**	**+1.5**
CAPN				IAML		13 08 31.9	
	comp=E,3μm,0.6s						
CAPN	**Captain Cook N**	**0.94**	**166**	P	**Pn**	**13 07 57.4**	**+1.7**
	baz=346						
CUT	**Chulitna**	**0.97**	**41**		**Pn**	**13 07 56.4**	**+0.3**
CUT					**Sn**	**13 08 11.7**	**+0.2**
CUT	**Chulitna**	**0.97**	**41**	P	**Pn**	**13 07 56.4**	**+0.3**
	baz=222						
CUT				S	**Sn**	**13 08 11.7**	**+0.2**
	baz=222						
RC01	**Rabbit Creek A**	**1.08**	**122**		**Pn**	**13 07 57.5**	**+0.2**
RC01				IAML		13 08 15.2	
	comp=N,3μm,0.4s						
RC01				IAML		13 08 16.7	
	comp=E,2μm,0.4s						
RC01	**Rabbit Creek A**	**1.08**	**122**	P	**Pn**	**13 07 57.5**	**+0.2**
	baz=304						
PMR	**Palmer**	**1.19**	**93**	Pn	**Pn**	**13 07 57.9**	**-0.6**
PMR				IAML		13 08 15.4	
	comp=N,1μm,0.4s						
PMR				IAML		13 08 16.0	
	comp=E,993nm,0.3s						
PMR	**Palmer**	**1.19**	**93**	P	**Pn**	**13 07 58.0**	**-0.5**
	baz=276						
PMR				S	**Sn**	**13 08 14.7**	**-1.0**
	baz=276						
GHO	**Glory Hole Cre**	**1.29**	**85**		**Pn**	**13 07 59.2**	**-0.5**
GHO				IAML		13 08 19.4	
	comp=E,2μm,0.4s						
GHO				IAML		13 08 19.6	
	comp=N,2μm,0.4s						
GHO	**Glory Hole Cre**	**1.29**	**85**		**Sn**	**13 08 17.7**	**-0.2**
L20K	**Farewell, AK**	**1.33**	**308**	P	**Pn**	**13 07 59.8**	**-0.3**
	baz=126						
L20K				S	**Sn**	**13 08 17.5**	**-1.2**
	baz=126						
RSO	**Redoubt South**	**1.34**	**205**		**Pn**	**13 08 00.3**	**-0.1**
SLKM	**Skilak Lake**	**1.36**	**149**		**Pn**	**13 08 00.1**	**-0.3**
KNK	**Knik Glacier**	**1.54**	**98**		**Pn**	**13 08 02.3**	**-0.3**
KNK					**Sn**	**13 08 22.9**	**-0.2**
KNK	**Knik Glacier**	**1.54**	**98**	P	**Pn**	**13 08 02.3**	**-0.3**
	baz=282						
KNK				S	**Sn**	**13 08 22.9**	**-0.2**
	baz=282						
SML	**Sawmill**	**1.57**	**84**		**Pn**	**13 08 02.5**	**-0.5**
SML				IAML		13 08 24.3	
	comp=E,1μm,0.5s						
SML				IAML		13 08 25.1	
	comp=N,2μm,0.7s						
SML	**Sawmill**	**1.57**	**84**	P	**Pn**	**13 08 02.6**	**-0.5**
	baz=267						
L19K	**White Mountain**	**1.61**	**290**		**Pn**	**13 08 03.5**	**0.0**
L19K	**White Mountain**	**1.61**	**290**	P	**Pn**	**13 08 03.7**	**+0.2**
	baz=107						
L19K				S	**Sn**	**13 08 24.2**	**-0.5**
	baz=107						
N19K	**Bonanza Creek**	**1.63**	**239**		**Pn**	**13 08 04.0**	**+0.2**
N19K	**Bonanza Creek**	**1.63**	**239**	P	**Pn**	**13 08 04.1**	**+0.2**
	baz=56						
N19K				S	**Sn**	**13 08 24.6**	**-0.6**
	baz=56						
O20K	**Slope Mountain**	**1.67**	**197**	P	**Pn**	**13 08 04.6**	**+0.3**
	baz=16						
WAT7	**Susitna Watana**	**1.74**	**47**		**Pn**	**13 08 05.2**	**0.0**
CAST	**Castle Rocks**	**1.76**	**353**		**Pn**	**13 08 05.2**	**-0.2**
CAST	**Castle Rocks**	**1.76**	**353**	IAML		13 08 29.8	
	comp=N,658nm,0.3s						
CAST	**Castle Rocks**	**1.76**	**353**	P	**Pn**	**13 08 05.2**	**-0.2**
	baz=173						
PWL	**Port Wells**	**1.79**	**116**	Pn	**Pn**	**13 08 05.0**	**-0.7**
PWL	**Port Wells**	**1.79**	**116**	P	**Pn**	**13 08 05.1**	**-0.6**
	baz=299						
WAT1	**Susitna Watana**	**1.85**	**50**		**Pn**	**13 08 06.4**	**0.0**
WAT1	**Susitna Watana**	**1.85**	**50**	P	**Pn**	**13 08 06.4**	**0.0**
	baz=233						
M23K	**Glacier View**	**1.86**	**85**	P	**Pn**	**13 08 06.1**	**-0.5**
	baz=268						
TRF	**Thorofare Moun**	**1.89**	**19**		**Sn**	**13 08 30.4**	**-0.6**
TRF	**Thorofare Moun**	**1.89**	**19**		**Pn**	**13 08 07.2**	**+0.1**
TRF	**Thorofare Moun**	**1.89**	**19**	IAML		13 08 30.9	
	comp=E,2μm,0.6s						
TRF				IAML		13 08 32.3	
	comp=N,3μm,0.5s						
TRF	**Thorofare Moun**	**1.89**	**19**	P	**Pn**	**13 08 07.4**	**+0.3**
	baz=200						
TRF				S	**Sn**	**13 08 30.5**	**-0.6**
	baz=200						
SEW	**Seward**	**1.90**	**145**	Pn	**Pn**	**13 08 06.8**	**-0.2**
SEW	**Seward**	**1.90**	**145**	P	**Pn**	**13 08 07.0**	**-0.1**
	baz=327						
BRLK	**Bradley Lake**	**1.95**	**169**		**Pn**	**13 08 07.4**	**-0.4**
BRLK				IAML		13 08 33.6	
	comp=N,609nm,0.4s						
BRLK				IAML		13 08 39.2	
	comp=E,499nm,0.3s						
O19K	**Port Alsworth**	**1.98**	**223**		**Pn**	**13 08 08.1**	**-0.1**
O19K				IAML		13 08 34.0	
	comp=E,900nm,0.5s						
O19K				IAML		13 08 34.5	
	comp=N,710nm,0.5s						
O19K	**Port Alsworth**	**1.98**	**223**	P	**Pn**	**13 08 08.6**	**+0.4**
	baz=40						
BRSE	**Bradley Lake S**	**1.99**	**167**		**Pn**	**13 08 07.9**	**-0.4**
BRSE	**Bradley Lake S**	**1.99**	**167**	P	**Pn**	**13 08 07.9**	**-0.4**
	baz=348						
SVW2	**Sparrevohn**	**1.99**	**255**		**Pn**	**13 08 07.9**	**-0.4**
HOM	**Homer**	**2.02**	**180**		**Pn**	**13 08 08.7**	**0.0**
HOM	**Homer**	**2.02**	**180**	P	**Pn**	**13 08 08.9**	**+0.3**
	baz=0.4						
K20K	**Telida**	**2.03**	**327**		**Pn**	**13 08 08.4**	**-0.4**
K20K	**Telida**	**2.03**	**327**	P	**Pn**	**13 08 08.6**	**-0.2**
	baz=145						
WAT6	**Susitna Watana**	**2.04**	**62**		**Pn**	**13 08 09.0**	**0.0**
WAT6	**Susitna Watana**	**2.04**	**62**	P	**Pn**	**13 08 09.0**	**0.0**
	baz=245						
SCM	**Sheep Creek Mo**	**2.05**	**84**		**Pn**	**13 08 08.6**	**-0.5**
SCM	**Sheep Creek Mo**	**2.05**	**84**	P	**Pn**	**13 08 08.7**	**-0.4**
	baz=268						
RND	**Reindeer**	**2.16**	**35**		**Pn**	**13 08 10.6**	**+0.1**
RND				IAML		13 08 38.1	
	comp=E,448nm,0.3s						
OPT	**Oil Point**	**2.18**	**202**	P	**Pn**	**13 08 11.2**	**+0.5**
	baz=21						
P19K	**Oil Pt**	**2.18**	**202**	Pn	**Pn**	**13 08 11.0**	**+0.3**
P19K				IAML		13 08 39.6	
	comp=E,1μm,0.6s						
P19K				IAML		13 08 42.5	
	comp=N,934nm,0.4s						
P19K	**Oil Pt**	**2.18**	**202**	P	**Pn**	**13 08 11.2**	**+0.5**
	baz=21						
TTA	**Tatalina**	**2.41**	**303**	Pn	**Pn**	**13 08 13.2**	**-0.5**
TTA	**Tatalina**	**2.41**	**303**	P	**Pn**	**13 08 13.3**	**-0.3**
	baz=119						
DHY	**Denali Highway**	**2.43**	**53**	Pn	**Pn**	**13 08 14.0**	**+0.1**
DHY				IAML		13 08 44.9	
	comp=E,850nm,0.6s						
DHY				IAML		13 08 46.0	
	comp=N,791nm,0.4s						
DHY	**Denali Highway**	**2.43**	**53**	P	**Pn**	**13 08 14.1**	**+0.1**
	baz=237						
BPAW	**Bear Paw Mtn.**	**2.45**	**7**	Pn	**Pn**	**13 08 13.7**	**-0.5**
BPAW				IAML		13 08 43.0	
	comp=N,897nm,0.6s						
BPAW	**Bear Paw Mtn.**	**2.45**	**7**	P	**Pn**	**13 08 13.8**	**-0.5**
	baz=187						
O18K	**Koktuh Hills**	**2.54**	**225**		**Pn**	**13 08 15.8**	**+0.5**
O18K	**Koktuh Hills**	**2.54**	**225**	P	**Pn**	**13 08 15.9**	**+0.6**
	baz=42						
M24K	**Tolsona, Glenn**	**2.62**	**78**		**Pn**	**13 08 16.8**	**+0.4**
M24K				IAML		13 09 03.8	
	comp=N,653nm,1.1s						
M24K	**Tolsona, Glenn**	**2.62**	**78**	P	**Pn**	**13 08 16.9**	**+0.5**
	baz=263						
P23K	**Montague Islan**	**2.67**	**127**	P	**Pn**	**13 08 16.0**	**-1.0**
	baz=311						
BWN	**Browne**	**2.69**	**21**		**Pn**	**13 08 17.7**	**+0.3**
BWN				IAML		13 09 05.4	
	comp=N,599nm,0.7s						
BWN				IAML		13 09 14.6	
	comp=E,520nm,1.0s						
KLU	**Klutina**	**2.73**	**91**		**Pn**	**13 08 17.2**	**-0.8**
KLU				IAML		13 08 50.5	
	comp=E,449nm,0.5s						
KLU				IAML		13 08 54.5	
	comp=N,471nm,0.3s						
KLU	**Klutina**	**2.73**	**91**	P	**Pn**	**13 08 17.2**	**-0.8**
	baz=277						
DIV	**Divide**	**2.87**	**98**		**Pn**	**13 08 18.5**	**-1.3**
P18K	**Big Mountain,**	**2.90**	**219**		**Pn**	**13 08 20.6**	**+0.4**
P18K	**Big Mountain,**	**2.90**	**219**	P	**Pn**	**13 08 20.8**	**+0.6**
	baz=36						
Q19K	**Cape Douglas,**	**2.93**	**201**	Pn	**Pn**	**13 08 20.8**	**+0.2**
Q19K				IAML		13 09 04.1	
	comp=E,440nm,0.8s						
Q19K				IAML		13 09 23.6	
	comp=N,392nm,0.9s						
Q19K	**Cape Douglas,**	**2.93**	**201**	P	**Pn**	**13 08 20.9**	**+0.2**
	baz=19						
EYAK	**Cordova Ski Ar**	**3.07**	**109**		**Pn**	**13 08 22.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.07**	**109**	P	**Pn**	**13 08 21.3**	**-1.0**
	baz=294						
Q20K	**Shuyak Island**	**3.10**	**187**	P	**Pn**	**13 08 22.6**	**-0.1**
	baz=6.8						
HARP	**HAARP**	**3.13**	**74**	P	**Pn**	**13 08 23.9**	**+0.7**
	baz=260						
NEA2	**Nenana**	**3.15**	**20**		**Pn**	**13 08 23.0**	**-0.4**
NEA2				IAML		13 08 57.4	
	comp=E,169nm,0.7s						
NEA2	**Nenana**	**3.15**	**20**	P	**Pn**	**13 08 23.0**	**-0.4**
	baz=203						
PAX	**Paxson**	**3.15**	**63**		**Pn**	**13 08 23.7**	**+0.2**
PAX	**Paxson**	**3.15**	**63**	P	**Pn**	**13 08 24.0**	**+0.4**
	baz=248						
WRH	**Wood River Hil**	**3.23**	**28**		**Pn**	**13 08 24.2**	**-0.3**
O17K	**Koliganek Bris**	**3.30**	**237**	P	**Pn**	**13 08 26.0**	**+0.7**
	baz=52						
N25K	**Chitina, Valde**	**3.35**	**88**		**Pn**	**13 08 25.9**	**-0.3**
N25K				IAML		13 09 05.5	
	comp=N,196nm,0.8s						
N25K				IAML		13 09 07.2	
	comp=E,217nm,0.6s						
N25K	**Chitina, Valde**	**3.35**	**88**	P	**Pn**	**13 08 25.6**	**-0.6**
	baz=274						
MLY	**Manley**	**3.39**	**6**		**Pn**	**13 08 26.3**	**-0.4**
MLY				IAML		13 09 06.1	
	comp=N,248nm,0.9s						
MLY	**Manley**	**3.39**	**6**	P	**Pn**	**13 08 26.5**	**-0.2**
	baz=187						
K24K	**Donnelly Dome**	**3.43**	**49**	P	**Pn**	**13 08 29.0**	**+1.8**
	baz=234						
Q23K	**Middleton Isla**	**3.44**	**129**	Pn	**Pn**	**13 08 27.7**	**+0.3**
Q23K	**Middleton Isla**	**3.44**	**129**	P	**Pn**	**13 08 27.6**	**+0.3**
	baz=313						
CCB	**Clear Creek Bu**	**3.45**	**28**	Pn	**Pn**	**13 08 27.0**	**-0.4**
MID	**Middleton Isla**	**3.45**	**129**	Pn	**Pn**	**13 08 27.6**	**+0.2**
BMRM	**Bremner River**	**3.46**	**99**		**Pn**	**13 08 26.1**	**-1.5**
BMRM	**Bremner River**	**3.46**	**99**	P	**Pn**	**13 08 26.1**	**-1.5**
	baz=285						
HDA	**Harding Lake**	**3.47**	**36**		**Pn**	**13 08 27.5**	**-0.2**
HDA				IAML		13 09 08.0	
	comp=E,329nm,0.3s						
HDA	**Harding Lake**	**3.47**	**36**	P	**Pn**	**13 08 27.9**	**+0.2**
	baz=220						
Q18K	**Katmai Hardscr**	**3.48**	**211**	P	**Pn**	**13 08 28.5**	**+0.6**
	baz=28						
I21K	**Tanana**	**

	baz=38								
POKR	**Poker Plat Res**	**3.93**	**27**			**Pn**	**13 08 34.2**	**+0.3**
POKR	**Poker Plat Res**	**3.93**	**27**	P		**Pn**	**13 08 34.5**	**+0.6**
	baz=210								
KDAK	**Kodiak Island**	**3.94**	**188**	P		**Pn**	**13 08 32.4**	**-1.5**
	comp=N,11nm,0.3s,baz=61,slow=8.9,SNR=105								
KDAK				S		**Sn**	**13 09 15.0**	**-4.1**
	comp=N,33nm,0.3s,baz=224,slow=19,SNR=19								
KDAK	**Kodiak Island**	**3.94**	**188**	Pn		**Pn**	**13 08 33.1**	**-0.9**
KDAK				IAML			13 09 30.2		
	comp=N,148nm,0.8s								
KDAK				IAML			13 09 32.7		
	comp=N,129nm,0.6s								
VRDI	**Verde Repeater**	**3.95**	**93**			**Pn**	**13 08 33.1**	**-1.2**
VRDI				IAML			13 09 22.5		
	comp=N,91nm,0.8s								
DOT	**Dot Lake**	**4.01**	**57**			**Pn**	**13 08 34.9**	**0.0**
H21K	**Melozitna Rive**	**4.03**	**353**			**Pn**	**13 08 34.6**	**-0.6**
H21K	**Melozitna Rive**	**4.03**	**353**	P		**Pn**	**13 08 34.9**	**-0.4**
	baz=172								
Q17K	**Contact Creek**	**4.04**	**214**	P		**Pn**	**13 08 36.8**	**+1.4**
	baz=30								
L26K	**Log Cabin Wild**	**4.09**	**67**			**Pn**	**13 08 36.4**	**+0.4**
L26K				IAML			13 09 45.9		
	comp=N,174nm,0.5s								
L26K				IAML			13 09 53.2		
	comp=E,214nm,0.4s								
L26K	**Log Cabin Wild**	**4.09**	**67**	P		**Pn**	**13 08 36.8**	**+0.8**
	baz=254								
M26K	**Nabesna, AK**	**4.13**	**76**			**Pn**	**13 08 36.4**	**-0.1**
M26K				IAML			13 09 42.7		
	comp=E,79nm,0.5s								
M26K				IAML			13 09 43.7		
	comp=N,88nm,0.8s								
M26K	**Nabesna, AK**	**4.13**	**76**	P		**Pn**	**13 08 36.5**	**-0.1**
	baz=264								
MCARA	**McCarthy VSAT**	**4.13**	**90**			**Pn**	**13 08 37.0**	**+0.4**
MCARA	**McCarthy VSAT**	**4.13**	**90**	P		**Pn**	**13 08 36.8**	**+0.3**
	baz=278								
P16K	**Nushagak River**	**4.13**	**233**	P		**Pn**	**13 08 37.7**	**+1.2**
	baz=47								
SCRK	**Sand Creek**	**4.20**	**53**	Pn		**Pn**	**13 08 37.5**	**0.0**
SCRK				IAML			13 09 30.8		
	comp=N,83nm,0.6s								
SCRK				IAML			13 09 31.9		
	comp=E,86nm,0.7s								
SCRK	**Sand Creek**	**4.20**	**53**	P		**Pn**	**13 08 37.5**	**0.0**
	baz=240								
H22K	**Ishtalitna Cre**	**4.24**	**1**	P		**Pn**	**13 08 37.8**	**-0.2**
	baz=182								
IMAR	**Indian Mountai**	**4.43**	**349**	Pn		**Pn**	**13 08 40.3**	**-0.2**
H24K	**Noodor Dome**	**4.50**	**20**			**Pn**	**13 08 41.7**	**+0.2**
H24K				IAML			13 09 32.0		
	comp=E,62nm,0.9s								
H24K	**Noodor Dome**	**4.50**	**20**	P		**Pn**	**13 08 41.4**	**-0.1**
	baz=203								
BALM	**Baldy**	**4.51**	**94**			**Pn**	**13 08 41.0**	**-0.8**
KIAG	**Kiagna River**	**4.53**	**96**			**Pn**	**13 08 41.1**	**-1.0**
SNH	**Sunshine Point**	**4.54**	**105**			**Pn**	**13 08 43.1**	**+1.0**
J26L	**Joseph Creek**	**4.63**	**49**			**Pn**	**13 08 43.7**	**+0.3**
J26L				IAML			13 09 36.2		
	comp=E,107nm,0.6s								
J26L				IAML			13 09 42.0		
	comp=N,142nm,0.5s								
J26L	**Joseph Creek**	**4.63**	**49**	P		**Pn**	**13 08 43.8**	**+0.5**
	baz=236								
M27K	**Edge Creek, AK**	**4.64**	**77**			**Pn**	**13 08 44.3**	**+0.7**
M27K	**Edge Creek, AK**	**4.64**	**77**	P		**Pn**	**13 08 44.4**	**+0.8**
	baz=266								
R17K	**Ugashik Creek**	**4.71**	**213**	P		**Pn**	**13 08 45.9**	**+1.4**
	baz=29								
PRP	**Porcupine Dome**	**4.72**	**33**	Pn		**Pn**	**13 08 45.2**	**+0.6**
PRP				IAML			13 09 41.2		
	comp=E,105nm,0.8s								
PRP				IAML			13 09 41.4		
	comp=N,94nm,0.4s								
PRP	**Porcupine Dome**	**4.72**	**33**	P		**Pn**	**13 08 45.3**	**+0.7**
	baz=218								
L27K	**Beaver Creek,**	**4.77**	**69**			**Pn**	**13 08 45.2**	**-0.1**
L27K	**Beaver Creek,**	**4.77**	**69**	P		**Pn**	**13 08 45.1**	**-0.1**
	baz=258								
BCAR	**Beaver Creek A**	**4.79**	**69**	Pn		**Pn**	**13 08 45.3**	**-0.1**
BARN	**Barnard Glacie**	**4.83**	**93**			**Pn**	**13 08 46.0**	**-0.2**
BARN				IAML			13 09 48.9		
	comp=N,49nm,0.6s								
BARN				IAML			13 09 58.2		
	comp=E,74nm,0.7s								
G21K	**Allakaket**	**4.93**	**351**	P		**Pn**	**13 08 47.3**	**0.0**
	baz=170								
R16K	**Pilot Point**	**5.11**	**219**	P		**Pn**	**13 08 51.3**	**+1.5**
	baz=34								
BVCY	**Beaver Creek**	**5.12**	**77**	P		**Pn**	**13 08 50.6**	**+0.6**
	baz=266								
I26K	**Coal Creek Min**	**5.26**	**42**			**Pn**	**13 08 52.2**	**+0.5**
I26K				IAML			13 09 52.7		
	comp=N,77nm,0.4s								
I26K				IAML			13 09 52.7		
	comp=E,86nm,0.7s								
I26K	**Coal Creek Min**	**5.26**	**42**	P		**Pn**	**13 08 52.3**	**+0.5**
	baz=230								
SII	**Sitkinak Islan**	**5.30**	**196**	Pn		**Pn**	**13 08 53.1**	**+0.7**
YUK3	**Moose Creek**	**5.31**	**84**	P		**Pn**	**13 08 52.7**	**+0.1**
	baz=274								
G24K	**Hadweenzic Riv**	**5.36**	**18**	P		**Pn**	**13 08 53.3**	**+0.2**
	baz=202								
COLD	**Coldfoot**	**5.61**	**6**	Pn		**Pn**	**13 08 56.9**	**+0.4**
COLD	**Coldfoot**	**5.61**	**6**	P		**Pn**	**13 08 57.1**	**+0.6**
	baz=187								
F21K	**Alatna River**	**5.63**	**353**	P		**Pn**	**13 08 57.2**	**+0.4**
	baz=171								
FYU	**Fort Yukon**	**5.65**	**27**			**Pn**	**13 08 57.5**	**+0.5**
EGAK	**Eagle**	**5.66**	**52**			**Pn**	**13 08 57.1**	**-0.1**
EGAK	**Eagle**	**5.66**	**52**	P		**Pn**	**13 08 57.1**	**-0.1**
	baz=242								
PCA	**Pinnacle**	**5.77**	**101**	Pn		**Pn**	**13 08 59.1**	**+0.3**
I27K	**Kandik River**	**5.95**	**44**	P		**Pn**	**13 09 01.7**	**+0.5**
	baz=233								
F24K	**Squaw Lake**	**6.08**	**14**	P		**Pn**	**13 09 03.9**	**+0.9**
	baz=197								
DAWY	**Dawson**	**6.09**	**61**	Pn		**Pn**	**13 09 03.4**	**+0.3**
DAWY	**Dawson**	**6.09**	**61**	P		**Pn**	**13 09 03.2**	**+0.2**
	baz=252								
BCPM	**Bancas Point**	**6.12**	**101**	Pn		**Pn**	**13 09 03.9**	**+0.5**
YUK4	**Talbot Arm**	**6.22**	**87**	P		**Pn**	**13 09 05.6**	**+0.6**
	baz=278								
M29M	**Somme Creek**	**6.24**	**77**	P		**Pn**	**13 09 05.7**	**+0.6**
	baz=269								
H27K	**Steamboat Moun**	**6.37**	**40**	P		**Pn**	**13 09 07.1**	**+0.2**
	baz=229								
CHGN	**Chignik**	**6.43**	**216**	Pn		**Pn**	**13 09 07.9**	**+0.2**
CHGN	**Chignik**	**6.43**	**216**	P		**Pn**	**13 09 08.0**	**+0.4**
	baz=30								
YUK6	**Outpost Mounta**	**6.43**	**91**	P		**Pn**	**13 09 08.1**	**+0.2**
	baz=282								
L29M	**L29M**	**6.44**	**71**	P		**Pn**	**13 09 08.3**	**+0.5**
	baz=263								
E23K	**Chandalar**	**6.47**	**7**	P		**Pn**	**13 09 09.4**	**+1.2**
	baz=188								
F25K	**Christian Rive**	**6.47**	**21**	P		**Pn**	**13 09 08.7**	**+0.4**
	baz=206								
O29M	**Mount Kennedy**	**6.50**	**96**	P		**Pn**	**13 09 08.5**	**-0.2**
	baz=288								
BMAR	**Burnt Mountain**	**6.52**	**25**	Pn		**Pn**	**13 09 09.1**	**+0.2**
E24K	**Your Creek**	**6.56**	**10**	P		**Pn**	**13 09 10.0**	**+0.5**
	baz=193								
G27K	**Doyon Strip**	**6.73**	**36**	P		**Pn**	**13 09 11.7**	**0.0**
	baz=225								
HYT	**Haines Junctio**	**6.87**	**91**	Pn		**Pn**	**13 09 13.8**	**+0.1**
HYT	**Haines Junctio**	**6.87**	**91**	P		**Pn**	**13 09 13.6**	**0.0**
	baz=283								
ANM	**Nome**	**6.87**	**301**			**Pn**	**13 09 14.1**	**+0.5**
ANM	**Nome**	**6.87**	**301**	P		**Pn**	**13 09 14.1**	**+0.5**
	baz=109								
E25K	**Arctic Village**	**6.96**	**19**	P		**Pn**	**13 09 15.3**	**+0.5**
	baz=204								
M30M	**Minto, Yukon**	**7.01**	**76**	Pn		**Pn**	**13 09 15.7**	**+0.2**
P30M	**Million Dollar**	**7.32**	**96**	P		**Pn**	**13 09 19.6**	**-0.2**
	baz=289								
MAYO	**Mayo, Yukon**	**7.50**	**68**			**Pn**	**13 09 22.6**	**+0.5**
O30N	**Mendenhall**	**7.55**	**90**	P		**Pn**	**13 09 22.2**	**-0.7**
	baz=284								
N31M	**Braeburn, Yuko**	**7.56**	**84**	Pn		**Pn**	**13 09 23.0**	**0.0**
E27K	**Coleen River**	**7.79**	**29**	P		**Pn**	**13 09 25.6**	**-0.4**
	baz=218								
SDPT	**Sand Point**	**7.85**	**220**	Pn		**Pn**	**13 09 28.3**	**+1.4**
M31M	**Drury Creek, Y**	**8.14**	**79**	Pn		**Pn**	**13 09 31.3**	**+0.4**
WHY	**Whitehorse**	**8.16**	**90**	Pn		**Pn**	**13 09 30.9**	**-0.3**
WHY	**Whitehorse**	**8.16**	**90**	P		**Pn**	**13 09 30.7**	**-0.5**
	baz=284								
TNA	**Tin City**	**8.23**	**305**	Pn		**Pn**	**13 09 32.6**	**+0.6**
FARO	**Faro, Yukon**	**8.63**	**78**	Pn		**Pn**	**13 09 37.9**	**+0.5**
P33M	**Teslin, Yukon**	**9.26**	**91**	Pn		**Pn**	**13 09 45.5**	**-0.7**
JIS	**Juneau Island**	**9.28**	**104**	Pn		**Pn**	**13 09 47.8**	**+1.5**
INK	**Inuvik**	**10.11**	**41**	P		**Pn**	**13 09 56.7**	**-0.7**
	comp=E,2.8nm,0.6s,baz=230,slow=16,SNR=34								
INK				S		**Sn**	**13 11 45.1**	**-3.5**
	comp=E,2.9nm,0.8s,baz=301,slow=20,SNR=2.7								
INK	**Inuvik**	**10.11**	**41**	Pn		**Pn**	**13 09 57.6**	**+0.2**
DLBC	**Dease Lake**	**11.25**	**97**	Pn		**Pn**	**13 10 13.4**	**+0.3**
DIB	**Dawson Inlet,**	**13.31**	**121**	Pn		**Pn**	**13 10 41.5**	**+1.4**
MOBC	**Moresby Island**	**13.56**	**120**	Pn		**Pn**	**13 10 45.3**	**+1.9**
YKA	**Yellowknife Ar**	**17.20**	**71**	P		**Pn**	**13 11 28.5**	**-0.5**
	comp=E,1.2nm,0.9s,baz=281,slow=11,SNR=10								
RES	**Resolute Bay**	**23.53**	**34**	P		**P**	**13 12 35.6**	**-0.1**
	comp=E,1.4nm,0.5s,baz=260,slow=14,SNR=12								
	comp=E,1.4nm,0.5s								
TXAR	**Lajitas Array**	**44.98**	**113**	P		**P**	**13 15 41.0**	**+0.7**
	comp=E,0.4nm,1.0s,baz=340,slow=10,SNR=2.4								
	comp=E,0.4nm,1.0s								
SONM	**Songino Array**	**54.35**	**306**	P		**P**	**13 16 52.7**	**+1.6**
	comp=E,0.3nm,0.4s,baz=50,slow=7.7,SNR=2.0								
	comp=E,0.3nm,0.4s								
ZALV	**Zalesovo Beam**	**56.42**	**324**	P		**P**	**13 17 05.7**	**+0.1**
	comp=E,0.8nm,0.6s,baz=28,slow=6.7,SNR=3.9								
	comp=E,0.8nm,0.6s								
FINES	**FINESS Array B**	**57.19**	**1**	P		**P**	**13 17 10.6**	**-0.4**
	comp=E,0.6nm,0.4s,baz=358,slow=9.7,SNR=7.7								
	comp=E,0.6nm,0.4s								
MKAR	**Makanchi Array**	**63.54**	**322**	P		**P**	**13 17 53.7**	**-0.7**
	comp=E,0.2nm,0.5s,baz=48,slow=8.3,SNR=2.6								
	comp=E,0.2nm,0.5s								
XAN	**Xi'an**	**64.87**	**295**	P		P	13 18 18.9	+16	
XAN				pmax		pmax			
	comp=E,4.0nm,1.1s								
AKASG	**Malin Array Be**	**67.97**	**359**	P		**P**	**13 18 22.7**	**0.0**	
	comp=E,1.3nm,0.4s,baz=3.9,slow=6.3,SNR=8.3								
	comp=Z,1.3nm,0.4s								

*IDC **24** 13:12:03.9±0.6,40˚.30N×143˚.28E,h0km,mb4.2/23, mbtmp4.1/31,ML3.6/6,MS3.5/19,Error ellipse: s-maj=16.5km s-min=12.6km az=119.0*

*JMA **24** 13:12:05.7±0.3,40˚.3N±0˚.6×143˚.2E±0˚.9,h12km±3km, MD4.4/37,MV4.6/37,FAR E OFF SANRIKU*

JMA Felt I J1 at FAR E OFF SANRIKU .

*NIED **24** 13:12:05.7,40˚.30N×143˚.20E,h12km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; Mrr=0.45; Mθθ=1.34; Mφφ=-0.89; Mrθ=1.50; Mθφ=-2.09; Mφr=0.24; Fault plane solution: M0=2.82000×10^{15} NP1: φs=259.00000°,δ85.00000°,λ-146.00000°. NP2: φs=165.00000°,δ56.00000°,λ-6.00000°.*

*BJI **24** 13:12:05.4±0.0,40˚.36N×143˚.16E,h18km,mb4.3/41, mB4.9/19,Ms4.5/4,Ms7 4.1/3*

*MOS **24** 13:12:07.3±1.1,40˚.36N×143˚.23E,h33km,mb4.8/26,Error ellipse: s-maj=7.9km s-min=4.9km az=97.7*

*NEIC **24** 13:12:08.7±1.5,40˚.38N±0˚.06×143˚.13E±0˚.08,h25km±5km, mb4.7/72,Error ellipse: s-maj=11.7km s-min=6.4km az=135.0*

ISC 24 13:12:05.4±0.5,40˚.33N±0˚.05×143˚.29E±0˚.04,h10km,n243, σ1§33/229,mb4.6/83,MS3.7/14,9C-12D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.16**	**251**	P		**Pb**	**13 12 26.1**	**-1.4**
JTH				*e*S		**Sb**	**13 12 40.1**	**-2.5**
JTH	**Tanohata**	**1.16**	**251**	A		A	13 12 26.1	
	comp=E,5.0nm,0.9s,comp=E,7.0nm,1.0s							
JKEN	**Kujiedanarisaw**	**1.22**	**265**	P		**Pn**	**13 12 27.1**	**-1.3**
JKEN	**Kujiedanarisaw**	**1.22**	**265**	A		A	13 12 27.1	
	comp=E,10.0nm,1.0s,comp=E,11nm,3.2s							
MIYJ	**Miyakonagasawa**	**1.35**	**237**	*e*P		**Pn**	**13 12 29.0**	**-1.4**
JANG	**Nango**	**1.36**	**273**	P		**Pn**	**13 12 29.1**	**-1.3**
JANG				*e*S		**Sb**	**13 12 46.0**	**-2.3**
JARK	**Aomorirokkasho**	**1.61**	**296**	A		A	13 12 33.5	
	comp=E,6.0nm,1.1s,comp=E,6.0nm,4.6s							
ERM	**Erimo**	**1.69**	**357**			**Pn**	**13 12 34.6**	**-0.4**
ERM	**Erimo**	**1.69**	**357**	*ce*P		**Pn**	**13 12 35.2**	**+0.2**
ERM				pmax		pmax		
	comp=Z,437nm,1.3s							
JEM	**Erimo**	**1.69**	**357**	*e*P		**Pn**	**13 12 34.9**	**-0.1**
JEM	**Erimo**	**1.69**	**357**	A		A	13 12 34.9	
	comp=Z,6.0nm,3.8s,comp=Z,4.0nm,4.7s							
JTM	**Tenmabayashi**	**1.75**	**286**	Pn		**Pn**	**13 12 35.6**	**-0.2**
JTM	**Tenmabayashi**	**1.75**	**286**	*e*P		**Pn**	**13 12 35.8**	**-0.1**
JTM				*e*S		**Sn**	**13 12 57.2**	**-1.0**
JTM	**Tenmabayashi**	**1.75**	**286**	A		A	13 12 35.8	
	comp=Z,7.0nm,1.4s,comp=Z,6.0nm,1.0s							
JAHD	**Aomorihigashid**	**1.75**	**303**	A		A	13 12 35.7	
	comp=Z,13nm,0.7s,comp=Z,15nm,0.6s							
JOM	**Ohasama**	**1.76**	**242**	*e*P		**Pn**	**13 12 35.5**	**-0.4**
JOM	**Ohasama**	**1.76**	**242**	A		A	13 12 35.5	
	comp=Z,6.0nm,0.7s,comp=Z,6.0nm,0.3s							
JSZI	**Iwateshizukuis**	**1.89**	**253**	A		A	13 12 37.8	
	comp=Z,16nm,2.4s,comp=Z,19nm,2.7s							
JNBK	**Urakawa-nobuka**	**1.99**	**348**	P		**Pn**	**13 12 39.8**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.99**	**348**	A		A	13 12 39.8	
	comp=Z,5.0nm,0.5s,comp=Z,5.0nm,2.6s							
JOT	**Ohata**	**2.00**	**303**	P		**Pn**	**13 12 39.5**	**+0.3**
JOT	**Ohata**	**2.00**	**303**	A		A	13 12 39.5	
	comp=Z,4.0nm,1.7s,comp=Z,4.0nm,2.7s							
JAH	**Hinai**	**2.04**	**267**	*e*P		**Pn**	**13 12 40.4**	**+0.7**
JAH				*e*S		**Sn**	**13 13 05.8**	**+0.6**
JAH	**Hinai**	**2.04**	**267**	A		A	13 12 40.4	
	comp=Z,8.0nm,1.1s,comp=Z,8.0nm,0.7s							
JMK	**Ichinoseki**	**2.11**	**230**	P		**Pn**	**13 12 41.4**	**+0.7**
JSHD	**Hidakashinhida**	**2.17**	**344**	A		A	13 12 42.5	
	comp=Z,8.0nm,1.6s,comp=Z,8.0nm,1.3s							
JRG	**Rokugo**	**2.25**	**246**	*e*P		**Pn**	**13 12 44.0**	**+1.4**
JRG	**Rokugo**	**2.25**	**246**	A		A	13 12 44.0	
	comp=Z,5.0nm,1.8s,comp=Z,6.0nm,0.9s							
JCH	**Churui**	**2.29**	**1**	*e*P		**Pn**	**13 12 43.2**	**0.0**
JSI2	**Shiura 2**	**2.31**	**289**	A		A	13 12 43.7	
	comp=Z,6.0nm,0.8s,comp=Z,12nm,1.0s							
JSR	**Shiriuchi**	**2.49**	**300**	A		A	13 12 46.4	
	comp=Z,4.0nm,1.2s,comp=Z,4.0nm,2.3s							
JYW	**Yuwa**	**2.50**	**253**	A		A	13 12 46.2	
	comp=Z,12nm,1.4s,comp=Z,12nm,4.6s							
JIAM	**Iburiatsuma**	**2.52**	**336**	A		A	13 12 47.3	
	comp=Z,13nm,0.8s,comp=Z,11nm,0.7s							
JIW	**Iwasaki**	**2.52**	**277**	A		A	13 12 46.6	
	comp=Z,4.0nm,4.0s,comp=Z,6.0nm,2.8s							
JOU	**Okura**	**2.82**	**227**	A		A	13 12 51.0	
	comp=Z,4.0nm,3.9s,comp=Z,4.0nm,5.3s							
JEW	**Eniwo**	**2.87**	**332**	A		A	13 12 52.3	
	comp=Z,7.0nm,1.8s,comp=Z,6.0nm,4.1s							
JMM	**Marumori**	**3.13**	**219**	Pn		**Pn**	**13 12 54.5**	**-0.2**
JYA	**Atsumi**	**3.26**	**239**	A		A	13 12 57.2	
	comp=Z,5.0nm,1.2s,comp=Z,5.0nm,1.3s							
JYS	**Shirataka**	**3.27**	**231**	A		A	13 12 57.3	
	comp=Z,7.0nm,2.0s,comp=Z,5.0nm,4.2s							
NMR	**Nemuro--Hokkai**	**3.54**	**30**	*i*P		**Pn**	**13 12 59.7**	**-0.7**
NMR				*i* S		**Sn**	**13 13 39.2**	**-3.2**
ASAJ	**Asahikawa**	**3.82**	**352**	Pn		**Pn**	**13 13 05.0**	**+0.8**
	comp=Z,6.0nm,0.3s,baz=213,slow=10,SNR=62							
ASAJ				Sn		**Sn**	**13 13 52.6**	**+3.4**
	comp=Z,13nm,0.3s,baz=198,slow=21,SNR=3.6							
ASAJ				LR		LR	13 14 53.9	
	comp=Z,390nm,20.9s,baz=162,slow=44							
	comp=Z,18nm,0.4s							
JKA	**Kamikawa-asahi**	**3.82**	**353**	Pn		**Pn**	**13 13 04.0**	**-0.3**
RUSJ	**Misakicho**	**4.05**	**20**	*i*P		**Pn**	**13 13 07.8**	**+0.5**
RUSJ				*e*S		**Sn**	**13 13 53.9**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**4.17**	**26**	*e*P		**Pn**	**13 13 08.8**	**-0.2**
YUK				*e*S		**Sn**	**13 13 54.8**	**-3.0**
YUK				pmax		pmax		
	comp=N,109nm,0.2s							
YUK				pmax		pmax		
	comp=E,147nm,0.2s							
YUK				pmax		pmax		
	comp=Z,384nm,0.2s							
YUK				smax		smax		
	comp=E,426nm,0.5s							
YUK				smax		smax		
	comp=N,710nm,0.4s							
JSD	**Sado**	**4.53**	**241**	Pn		**Pn**	**13 13 12.6**	**-1.4**
MJAR	**Matsushiro Arr**	**5.49**	**228**	Pn		**Pn**	**13 13 27.9**	**+0.6**
	comp=N,1.0nm,0.3s,baz=40,slow=12,SNR=56							
MJAR				LR		LR	13 15 50.7	
	comp=N,427nm,18.2s,baz=44,slow=42							
	comp=N,20nm,0.5s							
MAJO	**Matsushiro**	**5.49**	**228**	Pn		**Pn**	**13 13 28.6**	**+1.4**
MAJO	**Matsushiro**	**5.49**	**228**	*d*P		**Pn**	**13 13 29.2**	**+1.9**
KUR	**Kuril'sk**	**5.95**	**33**	*e*P		**Pn**	**13 13 34.0**	**+0.6**
KUR				*e*S		**Sn**	**13 14 39.7**	**-1.9**
KUR				pmax		pmax		
	comp=E,34nm,0.4s							
KUR				pmax		pmax		
	comp=Z,129nm,0.4s							
KUR				smax		smax		
	comp=E,119nm,0.5s							
KUR				smax		smax		
	comp=N,82nm,0.6s							
YSS	**Yuzh-Sakhalins**	**6.64**	**357**			**Pn**	**13 13 42.2**	**-0.7**
YSS	**Yuzh-Sakhalins**	**6.64**	**357**	*e*P		**Pn**	**13 13 44.8**	**+1.9**
YSS				*e*S		**Sn**	**13 14 58.4**	**-0.2**
YSS				pmax		pmax		
	comp=Z,30nm,0.8s							
YSS				smax		smax		
	comp=E,10.0nm,1.0s							
YSS				MLR		MLR		
	comp=Z,500nm,18.0s							
JGF	**Kuroka**	**6.65**	**227**			**Pn**	**13 13 44.4**	**+1.3**
INU	**Inuyama**	**7.02**	**227**	Pn		**Pn**	**13 13 50.3**	**+2.1**
JHJ	**Hachijo jima 2**	**7.72**	**202**	Pn		**Pn**	**13 13 58.8**	**+0.9**
	comp=Z,8.5nm,0.3s,baz=17,slow=19,SNR=1.3							
	comp=Z,108nm,0.7s							
USA0B	**Ussuriysk Arra**	**9.23**	**298**	*i*P		**Pn**	**13 14 22.3**	**+3.8**
USRK	**Ussuriysk Ar.**	**9.23**	**298**	Pn		**Pn**	**13 14 20.4**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=94,slow=14,SNR=12							
USRK				LR		LR	13 17 46.4	
	comp=Z,170nm,19.9s,baz=100,slow=37							
	comp=Z,6.0nm,0.6s							
JHS	**Saijyo**	**9.66**	**240**	Pn		**Pn**	**13 14 26.4**	**+2.0**
MDJ	**Mudanjiang**	**10.99**	**297**	P		**Pn**	**13 14 43.9**	**+1.4**
MDJ				pP			13 14 49.6	
MDJ				sP			13 14 54.3	
MDJ				pmax		pmax		
	comp=Z,9.0nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,310nm,5.9s							
KLR	**Kul'dur**	**12.09**	**321**	Pn		**Pn**	**13 14 59.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=6.0							
KLR				LR		LR	13 20 18.8	
	comp=Z,184nm,18.9s,baz=124,slow=41							
	comp=Z,2.8nm,0.9s							
KLR	**Kul'dur**	**12.09**	**321**	P		**Pn**	**13 14 59.0**	**+1.4**
JNU	**Nakatsue**	**12.27**	**238**	LR		LR	13 20 05.8	
	comp=Z,162nm,20.5s,baz=36,slow=39							
KSRS	**Korea Array**	**12.31**	**261**	Pn		**Pn**	**13 15 00.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=60,slow=13,SNR=1.5							
	comp=Z,0.3nm,0.3s							
BNX	**BinXian**	**12.81**	**300**	P		**Pn**	**13 15 09.1**	**+1.6**
BNX				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BNX				pmax		pmax		
	comp=Z,92nm,4.3s							
CN2	**Changchun**	**13.70**	**291**	*e*P		**Pn**	**13 15 20.9**	**+1.3**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HEH	**HeiHe**	**14.92**	**317**	*e*P		**P**	**13 15 40.3**	**-1.6**
HEH				pmax		pmax		
	comp=Z,4.0nm,1.0s							
HEH				pmax		pmax		
	comp=Z,430nm,4.7s							
HEH				LR		LR		
	comp=Z,330nm,13.1s							
HEH				LR		LR		
	comp=Z,240nm,13.1s							
HEH				LR		LR		
	comp=Z,530nm,11.5s							
PETK	**Petropavlovsk-**	**16.12**	**33**	Pn		**Pn**	**13 15 51.3**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=221,slow=28,SNR=0.8							
ZEA	**Zeya**	**17.25**	**326**	*e*P		**Pn**	**13 16 04.0**	**-2.2**
ZEA				pmax		pmax		
	comp=N,10.0nm,0.6s							
ZEA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ZEA				MLR		MLR		
	comp=N,200nm,14.0s							
ZEA				MLR		MLR		
	comp=Z,200nm,15.0s							
HIA	**Hailar**	**18.89**	**306**	P		**P**	**13 16 24.8**	**-1.0**
HIA	**Hailar**	**18.89**	**306**	P		**P**	**13 16 24.8**	**-1.0**
HIA				pmax		pmax		
	comp=Z,9.0nm,0.6s							
MA2	**Magadan**	**19.84**	**11**	P		**P**	**13 16 35.5**	**-0.6**
	comp=Z,8.1nm,0.6s,baz=194,slow=8.8,SNR=13							
MA2				LR		LR	13 23 51.3	
	comp=Z,48nm,20.4s,baz=144,slow=36							
MA2	**Magadan**	**19.84**	**11**	P		**P**	**13 16 35.3**	**-0.8**
MA2	**Magadan**	**19.84**	**11**	*d*P		**Pn**	**13 16 38.2**	**+0.5**
MA2				pmax		pmax		
	comp=Z,11nm,0.8s							
XLT	**XiLinHaoTe

ZAK pmax pmax
comp=Z,3.0nm,1.2s
H11S1 WAKE ISLAND Hy 29.64 130 T T 13 49 19.5
baz=322,slow=74
H11S3 WAKE ISLAND Hy 29.64 130 T T 13 49 14.2
baz=322
H11S2 WAKE ISLAND Hy 29.66 130 T T 13 49 16.2
baz=322,slow=74
BILL Bilibino 30.46 17 P **P** **13 18 17.9 0.0**
BILL IAmb IAmb 13 18 19.5
comp=Z,17nm,1.3s
BILL Bilibino 30.46 17 *e*P **P** **13 18 19.2 +1.4**
BILL *e*PPP PPP 13 19 26.2
BILL pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 32.23 351 LR LR 13 32 40.4
comp=Z,151nm,18.7s,baz=32,slow=38
TIXI Tiksi 32.23 351⇓ *e*P **P** **13 18 31.9 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
GTA Gaotai 33.13 283 *e*P **P** **13 18 42.3 +0.5**
GTA pP pwP 13 18 49.9 +3.3
GTA sP sP 13 18 54.5 +9.1
GTA pmax pmax
comp=Z,3.0nm,0.9s
GYA Guiyang 33.31 257 ⇓P **P** **13 18 45.5 +2.0**
GYA pmax pmax
comp=Z,14nm,0.6s
PZH PanZhiHua 36.98 261 P **P** **13 19 13.9 -1.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,6.0s
GOMU GeErMu 37.91 280 P **P** **13 19 23.6 +0.4**
GOMU pP sP 13 19 27.4 +0.5
GOMU sP pwP 13 19 28.9 +3.0
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU pmax pmax
comp=Z,170nm,5.2s
DGZ Jazzator, Alta 39.75 303*c i*P **P** **13 19 39.1 +0.9**
DGZ pmax pmax
comp=Z,7.0nm,0.7s
WMQ Urumqi 40.76 294 *e*P **P** **13 19 48.3 +1.7**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
ZAA0 Zalesovo Array 40.87 310 P **P** **13 19 47.0 -0.2**
ZALV Zalesovo Beam 40.87 310 P **P** **13 19 47.5 +0.3**
comp=Z,3.0nm,0.6s,baz=93,slow=8.8,SNR=11
ZALV PcP **PcP** **13 21 47.8 0.0**
comp=Z,1.2nm,0.7s,baz=108,slow=3.2,SNR=2.8
ZALV LR LR 13 38 26.5
comp=Z,61nm,18.3s,baz=82,slow=39
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 40.87 310 P **P** **13 19 46.8 -0.4**
NRIK Noril'sk 40.94 333 P **P** **13 19 47.9 +0.3**
comp=Z,2.4nm,0.6s,baz=73,slow=21,SNR=4.3
NRIK LR LR 13 38 53.5
comp=Z,99nm,18.5s,baz=79,slow=39
comp=Z,2.4nm,0.6s
NRIK Noril'sk 40.94 333 P **P** **13 19 47.2 -0.4**
A21K Barrow 42.86 24 P **P** **13 20 03.9 +0.7**
A21K IAmb IAmb 13 20 09.0
comp=Z,34nm,1.2s
IMAR Indian Mountai 43.08 32 P **P** **13 20 06.3 +1.2**
H21K Melozitna Rive 43.45 33 P **P** **13 20 09.6 +1.5**
H21K IAmb IAmb 13 20 16.4
comp=Z,17nm,1.4s
MK31 Makanchi Array 43.70 300 P **P** **13 20 09.8 -0.6**
MK31 Makanchi Array 43.70 300*d i*P **P** **13 20 10.6 +0.2**
MKAR Makanchi Array 43.70 300 P **P** **13 20 10.5 +0.1**
comp=Z,2.9nm,0.6s,baz=84,slow=9.6,SNR=26
comp=Z,2.9nm,0.6s
MKAR Makanchi Array 43.70 300 P **P** **13 20 09.8 -0.6**
CMAR Chiang Mai Arr 43.80 253 P **P** **13 20 11.7 +0.3**
comp=Z,0.3nm,0.3s,baz=42,slow=5.5,SNR=1.3
comp=Z,0.3nm,0.3s
MAKZ Makanchi 43.90 300 P **P** **13 20 11.9 -0.2**
MAKZ Makanchi 43.90 300 P **P** **13 20 11.9 -0.2**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MLY Manley 44.29 34 P **P** **13 20 16.6 +1.6**
SUA Susitna One 44.36 39 P **P** **13 20 18.2 +2.5**
SUA IAmb IAmb 13 20 19.7
comp=Z,7.0nm,1.0s
BRLK Bradley Lake 44.41 41 P **P** **13 20 17.2 +1.3**
CUT Chulitna 44.54 37 P **P** **13 20 18.4 +1.5**
COLD Coldfoot 44.57 31 P **P** **13 20 18.4 +1.3**
COLD IAmb IAmb 13 20 25.4
comp=Z,9.9nm,1.2s
I23K Minto, Yukon-K 44.88 34 P **P** **13 20 21.4 +1.9**
PMR Palmer 45.12 39 P **P** **13 20 22.2 +0.6**
PMR IAmb IAmb 13 20 52.7
comp=Z,13nm,1.3s
PMR Palmer 45.12 39 P **P** **13 20 22.2 +0.6**
PMR pmax pmax
comp=Z,13nm,1.3s
KURK Kurchatov 45.13 306 P **P** **13 20 21.4 -0.3**
KURK IAmb IAmb 13 20 36.3
comp=Z,8.5nm,0.7s
KURK Kurchatov 45.13 306*ce*P **P** **13 20 21.5 -0.2**
KURK pmax pmax
comp=Z,7.0nm,0.8s
GHO Glory Hole Cre 45.21 38 P **P** **13 20 23.3 +1.0**
MDM Murphy Dome 45.36 34 P **P** **13 20 24.5 +1.1**
MDM IAmb IAmb 13 20 26.1
comp=Z,13nm,1.3s
H24K Noodor Dome 45.48 33 P **P** **13 20 25.6 +1.2**
H24K IAmb IAmb 13 20 34.1
comp=Z,6.5nm,0.9s
COLA College 45.52 34⇑ *e*P **P** **13 20 26.5 +1.8**
COLA pmax pmax
comp=Z,8.0nm,0.9s
POKR Poker Plat Res 45.69 34 P **P** **13 20 27.7 +1.7**
POKR IAmb IAmb 13 20 29.0
comp=Z,12nm,1.0s
HDA Harding Lake 45.93 35 P **P** **13 20 28.4 +0.4**
HDA IAmb IAmb 13 20 38.3
comp=Z,12nm,1.4s
IL31 45.94 34 P **P** **13 20 28.7 +0.7**
IL31 IAmb IAmb 13 20 58.2
comp=Z,17nm,1.4s
ILAR Eielson Array 45.94 34 P **P** **13 20 28.9 +1.0**
comp=Z,2.0nm,0.8s,baz=265,slow=5.9,SNR=23
comp=Z,2.0nm,0.8s
ILAR Eielson Array 45.94 34 P **P** **13 20 28.5 +0.5**
ILAR Eielson Array 45.94 34 P **P** **13 20 29.0 +1.0**
SCM Sheep Creek Mo 45.96 38 P **P** **13 20 29.4 +1.2**
SCM Sheep Creek Mo 45.96 38 P **P** **13 20 29.5 +1.2**
SCM pmax pmax
comp=Z,42nm,1.3s
M24K Tolsona, Glenn 46.47 38 P **P** **13 20 34.3 +2.0**
FYU Fort Yukon 46.53 32 P **P** **13 20 35.0 +2.4**
KLU Klutina 46.66 39 P **P** **13 20 35.1 +1.3**
BMAR Burnt Mountain 46.75 30 P **P** **13 20 36.7 +2.3**
SCRK Sand Creek 47.26 35 P **P** **13 20 39.2 +0.7**
SCRK IAmb IAmb 13 20 47.6
comp=Z,4.4nm,0.8s
BMRM Bremner River 47.37 39 P **P** **13 20 39.7 +0.4**
J26L Joseph Creek 47.39 34 P **P** **13 20 39.1 -0.4**
MENT Mentasta 47.51 36 P **P** **13 20 42.2 +1.8**
MENT IAmb IAmb 13 20 53.1
comp=Z,17nm,1.5s
TARG Taragay, Kyrgy 48.33 294 P **P** **13 20 47.9 +0.5**
TARG IAmb IAmb 13 21 11.8
comp=Z,9.9nm,1.0s
TARG Taragay, Kyrgy 48.33 294 P **P** **13 20 47.9 +0.5**
TARG pmax pmax
comp=Z,10.0nm,1.0s
L27K Beaver Creek, 48.34 36 P **P** **13 20 48.2 +1.4**
L27K IAmb IAmb 13 20 49.8
comp=Z,12nm,1.2s
BCAR Beaver Creek A 48.36 36 P **P** **13 20 48.7 +1.7**
EGAK Eagle 48.38 34 P **P** **13 20 48.0 +1.0**
EGAK IAmb IAmb 13 20 56.6
comp=Z,4.8nm,0.8s
DAWY Dawson 49.25 34 P **P** **13 20 54.9 +1.1**
BRVK Borovoye 49.55 311 P **P** **13 20 56.1 0.0**
BRVK IAmb IAmb 13 21 18.7
comp=Z,4.4nm,0.8s
BRVK Borovoye 49.55 311⇑ *e*P **P** **13 20 56.3 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 50.28 297 P **P** **13 21 01.7 -0.4**
AAK Ala-Archa 50.28 297 P **P** **13 21 01.7 -0.4**

AAK pmax pmax
comp=Z,6.0nm,1.4s
INK Inuvik 50.79 28 P **P** **13 21 07.0 +1.7**
comp=Z,3.2nm,0.5s,baz=300,slow=6.8,SNR=36
comp=Z,3.2nm,0.5s
INK Inuvik 50.79 28 P **P** **13 21 06.5 +1.2**
INK IAmb IAmb 13 21 14.0
comp=Z,4.6nm,0.7s
HYT Haines Junctio 50.80 38 P **P** **13 21 08.0 +2.3**
HYT IAmb IAmb 13 21 09.2
comp=Z,15nm,0.9s
N31M Braeburn, Yuko 51.44 37 P **P** **13 21 12.7 +2.3**
N31M IAmb IAmb 13 21 13.5
comp=Z,17nm,1.1s
M31M Drury Creek, Y 51.88 36 P **P** **13 21 15.3 +1.7**
M31M IAmb IAmb 13 21 23.6
comp=Z,8.5nm,1.2s
WHY Whitehorse 52.08 38 P **P** **13 21 16.9 +1.6**
WHY IAmb IAmb 13 21 29.4
comp=Z,16nm,1.4s
FARO Faro, Yukon 52.34 36 P **P** **13 21 18.8 +1.7**
A36M Sachs Harbour 52.66 23 P **P** **13 21 20.9 +1.7**
A36M IAmb IAmb 13 21 27.4
comp=Z,7.8nm,1.1s
KK31 Karatay Array 52.80 299 P **P** **13 21 19.7 -1.0**
KK31 Karatay Array 52.80 299 P **P** **13 21 19.7 -1.0**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 52.80 299 P **P** **13 21 19.9 -0.8**
KKAR Karatay Array 52.80 299 P **P** **13 21 19.9 -0.8**
SVE Sverdlovsk 53.69 317 *e*P **P** **13 21 27.1 +0.1**
SVE pmax pmax
comp=Z,13nm,0.7s
C36M Paulatuk 53.83 26 P **P** **13 21 28.9 +1.1**
C36M IAmb IAmb 13 21 39.1
comp=Z,6.6nm,1.2s
PSI Prapat 54.75 239 LR LR 13 47 24.8
comp=Z,38nm,18.3s,baz=29,slow=39
ARU Arti 54.90 317 LR LR 13 47 50.0
comp=Z,123nm,18.1s,baz=30,slow=39
ARU Arti 54.90 317 P **P** **13 21 35.8 0.0**
ARU IAmb IAmb 13 21 37.0
comp=Z,7.6nm,0.9s
ARU Arti 54.90 317*c i*P **P** **13 21 36.0 +0.1**
ARU 13 22 35.2
ARU 13 23 35.0
ARU S **S** **13 29 17.5 +0.5**
ARU SS **SS** **13 32 58.1 -1.7**
ARU pmax pmax
comp=Z,14nm,1.4s
CHGR Chuyangaron 55.62 294 P **P** **13 21 40.9 -0.6**
CHGR IAmb IAmb 13 21 42.0
comp=Z,10nm,0.7s
CHGR Chuyangaron 55.62 294 P **P** **13 21 40.9 -0.6**
CHGR pmax pmax
comp=Z,10.0nm,0.7s
EUNU Eureka 56.71 9 P **P** **13 21 48.8 +0.2**
EUNU IAmb IAmb 13 22 20.8
comp=Z,9.8nm,1.4s
ABKAR Akbulak array 56.98 309 P **P** **13 21 50.8 0.0**
ABKAR Akbulak array 56.98 309 P **P** **13 21 50.9 +0.1**
ABKAR IAmb IAmb 13 21 51.7
comp=Z,6.5nm,0.6s
KIRV Kirov 58.53 322*d i*P **P** **13 22 02.2 +0.6**
RES Resolute Bay 59.05 15 P **P** **13 22 05.3 +0.3**
comp=Z,3.2nm,0.8s,baz=300,slow=6.3,SNR=13
comp=Z,3.2nm,0.8s
RES Resolute Bay 59.05 15 P **P** **13 22 05.0 +0.1**
RES IAmb IAmb 13 22 13.9
comp=Z,5.9nm,1.1s
YKA Yellowknife Ar 60.23 32 P **P** **13 22 13.8 +0.5**
comp=Z,0.8nm,0.7s,baz=297,slow=6.8,SNR=12
comp=Z,0.8nm,0.7s
WB0 Warramunga Arr 60.35 190 P **P** **13 22 13.8 -0.8**
WR0 Warramunga Arr 60.52 189 P **P** **13 22 14.9 -0.8**
WR0 IAmb IAmb 13 22 34.3
comp=Z,12nm,1.4s
WB2 Warramunga Arr 60.53 190 P **P** **13 22 15.1 -0.7**
WB2 IAmb IAmb 13 22 18.0
comp=Z,8.4nm,1.1s
WRA Warramunga Arr 60.53 190 P **P** **13 22 15.1 -0.7**
comp=Z,1.5nm,0.7s,baz=6.4,slow=6.8,SNR=9.6
comp=Z,1.5nm,0.7s
ARCES ARCESS Array B 61.44 339 P **P** **13 22 21.6 +0.2**
ARCES ARCESS Array B 61.44 339 P **P** **13 22 21.6 +0.2**
ARCES pmax pmax
comp=Z,20nm,1.5s
KLMR Klimovskoe 61.77 327 *e*P P 13 22 18.4 -5.4
KLMR AMP 13 22 24.7
comp=Z,14nm,1.3s
KLMR *e*PP **PP** **13 24 37.8 -1.4**
KLMR Klimovskoe 61.77 327 *e*P P 13 22 18.3 -5.5
KLMR *e* 13 24 37.8
KLMR pmax pmax
comp=Z,14nm,1.3s
BELG Belogornoye 62.41 317*c i*P **P** **13 22 28.4 +0.2**
BELG pmax pmax
comp=Z,3.0nm,0.9s
GEYT Alibeck 63.55 298 P **P** **13 22 34.5 -1.6**
comp=Z,1.4nm,0.5s,baz=49,slow=14,SNR=2.0
GEYT LR LR 13 52 40.3
comp=Z,44nm,18.2s,baz=26,slow=38
comp=Z,1.4nm,0.5s
ASAR Alice Springs 64.26 190 P **P** **13 22 39.9 -0.8**
comp=Z,0.8nm,0.7s,baz=11,slow=10,SNR=7.8
comp=Z,0.8nm,0.7s
ASAR Alice Springs 64.26 190 P **P** **13 22 41.2 +0.5**
ASAR Alice Springs 64.26 190 P **P** **13 22 41.2 +0.5**
MSVF Nonsavu 66.20 144 LR LR 13 49 20.2
comp=Z,17nm,20.2s,baz=3.4,slow=34
OBN Obninsk 66.35 323 LR LR 13 55 22.0
comp=Z,21nm,18.2s,baz=15,slow=39
OBN Obninsk 66.35 323 *e*P **P** **13 22 53.0 -0.9**
OBN *e* 13 23 24.8
OBN *e*PPP PPP 13 26 55.2
OBN pmax pmax
comp=Z,3.0nm,0.8s
FIA1 FINESS Array S 66.59 332 P **P** **13 22 55.5 +0.1**
FINES FINESS Array B 66.59 332 P **P** **13 22 55.2 -0.1**
comp=Z,4.4nm,0.7s,baz=64,slow=4.9,SNR=9.0
FINES LR LR 13 55 42.3
comp=Z,123nm,18.0s,baz=9.0,slow=39
comp=Z,4.4nm,0.7s
ZEI Tsey 69.85 309 *e*P **P** **13 23 14.6 -1.8**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 69.86 311 P **P** **13 23 17.2 +0.9**
KIV Kislovodsk 69.86 311 *e*P **P** **13 23 18.0 +1.6**
KIV pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 69.88 311 P **P** **13 23 17.4 +1.2**
comp=Z,4.4nm,0.8s,baz=46,slow=4.1,SNR=11
comp=Z,4.4nm,0.8s
FCC Fort Churchill 70.41 28 P **P** **13 23 19.1 -0.1**
FCC Fort Churchill 70.41 28 P **P** **13 23 19.1 -0.1**
FCC pmax pmax
comp=Z,4.0nm,1.5s
MNK Minsk 70.59 326 *i* P **P** **13 23 22.8 +2.3**
comp=E,3.0nm,1.1s
MNK *i* P **P** **13 23 22.8 +2.3**
comp=N,25nm,1.1s
MNK *i* P **P** **13 23 22.8 +2.3**
comp=Z,6.0nm,0.7s,baz=47
MNK *i* PP **PP** **13 25 57.9 +1.6**
MNK *i* PPP PPP 13 27 40.3
MNK *i* S **S** **13 32 34.5 +0.6**
MNK *i* SS **SS** **13 37 05.3 +0.9**
MNK *i* SSS SSS 13 40 23.7
MNK *i* LQ LQ 13 49 30.7
MNK *i* LR LR 13 54 35.7
MNK *i* LRM MLR 13 58 36.1
comp=N,361nm,20.4s
MNK *i* LRM MLR 13 58 48.9
comp=E,35nm,22.9s
MNK *i* LRM MLR 13 59 00.7
comp=Z,154nm,22.9s
MNK Minsk 70.59 326 *i* P **P** **13 23 22.7 +2.3**
MNK *i* 13 25 57.8
MNK *i* PPP PPP 13 27 40.2
MNK *i* S **S** **13 32 34.5 +0.6**
MNK *i* SS **SS** **13 37 05.2 +0.9**
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=E,3.0nm,1.1s

MNK pmax pmax
comp=N,25nm,1.1s
MNK MLR MLR
comp=N,361nm,20.0s
MNK MLR MLR
comp=E,35nm,23.0s
MNK MLR MLR
comp=Z,154nm,23.0s
NACGM Naroch 70.78 327 *e*P **P** **13 23 22.3 +0.7**
comp=Z,18nm,0.7s,baz=46
BOZ Bozeman (W) 71.38 46 P **P** **13 23 26.5 +0.9**
BOZ IAmb IAmb 13 23 27.7
comp=Z,11nm,1.4s
BOZ Bozeman (W) 71.38 46 P **P** **13 23 26.5 +0.9**
BOZ pmax pmax
comp=Z,11nm,1.4s
NC204 NORSAR Array S 71.65 338 P **P** **13 23 27.0 +0.1**
NB201 NORSAR Array S 71.68 338 P **P** **13 23 27.3 +0.3**
NB2 NORSAR Subarra 71.71 338 P **P** **13 23 27.2 0.0**
comp=Z,1.2nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 71.71 338 P **P** **13 23 27.4 +0.1**
comp=Z,2.9nm,0.9s,baz=36,slow=6.1,SNR=6.4
NOA LR LR 13 58 50.5
comp=Z,36nm,18.0s,baz=280,slow=39
comp=Z,2.9nm,0.9s
AKASG Malin Array Be 72.59 323 P **P** **13 23 32.2 -0.3**
comp=Z,1.8nm,0.6s,baz=44,slow=5.8,SNR=11
comp=Z,1.8nm,0.6s
AKASG Malin Array Be 72.59 323 *i* P **P** **13 23 32.4 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
PDAR Pinedale Array 74.33 47 P **P** **13 23 43.6 +0.3**
comp=Z,0.3nm,0.5s,baz=356,slow=1.3,SNR=5.7
comp=Z,0.3nm,0.5s
PDAR Pinedale Array 74.33 47 P **P** **13 23 44.0 +0.7**
BUR08 Bucovina Ar. S 76.62 322 P **P** **13 23 56.6 +0.4**
BURAR Bucovina Array 76.63 322 P **P** **13 23 56.6 +0.3**
BRTR Keskin Array B 77.76 312 P **P** **13 24 02.5 -0.3**
comp=Z,0.6nm,0.6s,baz=66,slow=4.9,SNR=2.1
comp=Z,0.6nm,0.6s
MLR Muntele Rosu 77.81 320 LR LR 13 59 24.5
comp=Z,70nm,19.4s,baz=326,slow=36
DPC Dobruska-Polom 78.44 329 *e*P **P** **13 24 07.1 +0.9**
DPC Dobruska-Polom 78.44 329 *e*P **P** **13 24 07.1 +0.9**
CLL Collm 78.96 331 *i* P **P** **13 24 09.5 +0.5**
CLL Collm 78.96 331 *i* P **P** **13 24 09.5 +0.5**
CKRC Cesky Krumlov 80.45 329 *e*P **P** **13 24 18.5 +1.3**
KHC Kasperske Hory 80.49 329 *e*P **P** **13 24 18.3 +0.9**
KHC Kasperske Hory 80.49 329⇓ *i*P **P** **13 24 18.6 +1.2**
KHC pmax pmax
comp=Z,10.0nm,0.8s
GERES GERESS Array B 80.67 329 P **P** **13 24 18.9 +0.4**
comp=Z,1.0nm,0.7s,baz=50,slow=5.2,SNR=7.2
comp=Z,1.0nm,0.7s
SCHQ Schefferville 81.77 17 P **P** **13 24 24.4 +0.3**
SCHQ IAmb IAmb 13 24 45.4
comp=Z,6.1nm,1.2s
PRED Cave del Predi 82.66 328 P **P** **13 24 29.1 +0.1**
PRED IAmb IAmb 13 24 29.4
comp=Z,3.8nm,0.8s
R32A Long Quarter, 83.28 44 P **P** **13 24 32.6 +0.3**
TXAR Lajitas Array 86.97 54 P **P** **13 24 51.7 +0.6**
comp=Z,0.6nm,0.9s,baz=289,slow=2.5,SNR=4.8
comp=Z,0.6nm,0.9s
ESDC Sonseca Array 94.96 335 P **P** **13 25 27.5 -0.6**
comp=Z,0.5nm,0.8s,baz=1.9,slow=3.9,SNR=2.2
comp=Z,0.5nm,0.8s
NVL N'lazarevskaya 140.89 203 *e*P **Pdif** **13 28 47.9 -3.6**
NVL pmax pmax
comp=Z,7.0nm,0.7s

NEIC ***24*** *13:44:00.1±2.8, 48°.73N±0°.03×123°.03W±0°.03, h21km±8km, Error ellipse: s-maj=4.5km s-min=3.3km az=184.0*
PGC ***24*** *13:44:00.9±0.2, 48°.74N×123°.03W, h18km, ML2.5, ML2.1/23, 28km Ene of Sidney, Bc Vancouver Island, Canada Region*
SEA ***24*** *13:44:01±1.7, 48°.73N±0°.03×123°.02W±0°.02, h18km±2km, ML2.5/16, ML2.4/24(NEIC), Error ellipse: s-maj=3.8km s-min=2.1km az=166.0*
PNSN ***24*** *13:44:01.0, 48°.73N×123°.02W, h18km, MD2.5, Fault plane solution: NP1:φ≈180.00000°, δ≈40.00000°, λ≈130.00000°.*

ISC 24 13:44:00.4±0.9, 48°.74N±0°.02×123°.05W±0°.02, h22km±4km, n111, σθ99/157, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
SNB	**Saturna Island**	**0.09**	**291**		**Pb**	**13 44 04.3**	**-0.3**
SNB					**Sb**	**13 44 07.2**	**-0.3**
SNB	**Saturna Island**	**0.09**	**291**	P	**Pb**	**13 44 04.3**	**-0.3**
SNB				S	**Sb**	**13 44 07.2**	**-0.3**
MCW	**Mount Constitu**	**0.15**	**114**		**Pb**	**13 44 04.6**	**-0.7**
MCW	**Mount Constitu**	**0.15**	**114**	P	**Pb**	**13 44 04.6**	**-0.7**
UWFH	**University of**	**0.20**	**174**		**Pb**	**13 44 05.2**	**-0.6**
UWFH					**Sb**	**13 44 08.5**	**-0.8**
PA01	**PA01 North**	**0.28**	**251**	P	**Pb**	**13 44 06.7**	**-0.2**
PA01				S	**Sb**	**13 44 11.0**	**-0.3**
B011	**North Saanich**	**0.28**	**251**		**Pb**	**13 44 06.6**	**-0.3**
B011					**Sb**	**13 44 10.9**	**-0.4**
B011	**North Saanich**	**0.28**	**251**	P	**Pb**	**13 44 06.6**	**-0.3**
B011				S	**Sb**	**13 44 10.6**	**-0.7**
B010	**North Saanich**	**0.28**	**251**	P	**Pb**	**13 44 06.7**	**-0.3**
B010				S	**Sb**	**13 44 10.7**	**-0.7**
PGC	**Sidney**	**0.28**	**251**		**Pb**	**13 44 06.7**	**-0.2**
PGC				IAML		13 44 11.2	
comp=E,572nm,0.1s							
PGC	**Sidney**	**0.28**	**251**		**Sb**	**13 44 11.1**	**-0.3**
PGC	**Sidney**	**0.28**	**251**	IAML		13 44 09.8	
comp=N,2.4nm,0.8s							
PGC	**Sidney**	**0.28**	**251**	P	**Pb**	**13 44 06.7**	**-0.2**
PGC				S	**Sb**	**13 44 10.7**	**-0.6**
B009	**North Saanich**	**0.28**	**251**	P	**Pb**	**13 44 06.7**	**-0.2**
B009				S	**Sb**	**13 44 10.6**	**-0.8**
GOBB	**Galiano Island**	**0.37**	**304**	P	**Pb**	**13 44 08.1**	**-0.2**
GOBB				S	**Sb**	**13 44 13.3**	**-0.4**
VGZ	**Gonzales**	**0.38**	**209**		**Pb**	**13 44 08.0**	**-0.4**
VGZ					**Sb**	**13 44 13.3**	**-0.6**
VGZ	**Gonzales**	**0.38**	**209**	P	**Pb**	**13 44 08.0**	**-0.4**
VGZ				S	**Sb**	**13 44 13.2**	**-0.6**
ERW	**Mount Erie**	**0.40**	**136**		**Pb**	**13 44 08.6**	**-0.3**
SYMB	**Survey Mountai**	**0.53**	**250**	P	**Pb**	**13 44 10.6**	**-0.5**
SYMB				S	**Sb**	**13 44 17.7**	**-0.7**
HNBB	**Haney**	**0.63**	**30**	P	**Pb**	**13 44 11.7**	**-1.0**
HNBB				S	**Sb**	**13 44 19.8**	**-1.3**
SQM	**Sequim**	**0.67**	**180**		**Pb**	**13 44 12.2**	**-0.1**
VDB	**Vedder Mountai**	**0.68**	**65**		**Pb**	**13 44 12.5**	**-1.1**
VDB	**Vedder Mountai**	**0.68**	**65**	P	**Pb**	**13 44 12.6**	**-1.1**
VDB				S	**Sb**	**13 44 21.2**	**-1.4**
BIB	**Bowen Island**	**0.69**	**346**	P	**Pb**	**13 44 13.0**	**-0.6**
BIB				S	**Sb**	**13 44 21.7**	**-0.9**
CMW	**Cultus Mountai**	**0.69**	**117**		**Pb**	**13 44 13.4**	**-0.5**
CMW	**Cultus Mountai**	**0.69**	**117**	P	**Pb**	**13 44 13.4**	**-0.5**
CMW				S	**Sb**	**13 44 22.1**	**-0.9**
B926	**Mesachie Lake**	**0.72**	**277**		**Pb**	**13 44 14.1**	**-0.2**
B926					**Sb**	**13 44 23.9**	**+0.2**
B926	**Mesachie Lake**	**0.72**	**277**	P	**Pb**	**13 44 14.0**	**-0.3**
B926				S	**Sb**	**13 44 23.6**	**-0.1**
CLRS	**Cowichan Lake**	**0.72**	**277**		**Pb**	**13 44 13.6**	**-0.6**
CLRS	**Cowichan Lake**	**0.72**	**277**	P	**Pb**	**13 44 13.6**	**-0.6**
CLRS				S	**Sb**	**13 44 23.1**	**-0.7**
STW	**Striped Peak**	**0.72**	**215**		**Pb**	**13 44 13.8**	**-0.5**
STW					**Sb**	**13 44 23.7**	**-0.1**
STW	**Striped Peak**	**0.72**	**215**	P	**Pb**	**13 44 13.8**	**-0.5**
STW				S	**Sb**	**13 44 23.1**	**-0.7**
B04A	**Port Angeles**	**0.75**	**204**		**Pb**	**13 44 14.1**	**-0.6**
B04A	**Port Angeles**	**0.75**	**204**		**Pb**	**13 44 13.1**	**-1.7**
MBW	**Mount Baker**	**0.76**	**86**		**Pb**	**13 44 14.5**	**-0.4**
MBW	**Mount Baker**	**0.76**	**86**	P	**Pb**	**13 44 14.6**	**-0.4**
NLLB	**Nanaimo Lost L**	**0.79**	**308**		**Pb**	**13 44 14.6**	**-0.8**
NLLB	**Nanaimo Lost L**	**0.79**	**308**	P	**Pb**	**13 44 14.6**	**-0.8**
NLLB				S	**Sb**	**13 44 24.9**	**-0.7**
WPB	**Watts Point**	**0.92**	**353**	P	**Pb**	**13 44 16.5**	**-1.1**
WPB				S	**Sb**	**13 44 28.1**	**-1.4**
JCW	**Jim Creek**	**0.92**	**126**		**Pb**	**13 44 17.0**	**-0.7**
JCW	**Jim Creek**	**0.92**	**126**	P	**Pb**	**13 44 17.0**	**-0.7**
JCW				S	**Sb**	**13 44 28.6**	**-0.9**
B013	**Quilcene**	**0.94**	**174**		**Pb**	**13 44 15.9**	**-2.0**
B013	**Quilcene**	**0.94**	**174**		**Pb**	**13 44 16.9**	**-1.0**
PFB	**Port Renfrew**	**0.94**	**260**		**Pb**	**13 44 17.1**	**-0.9**
PFB	**Port Renfrew**	**0.94**	**260**	P	**Pb**	**13 44 17.4**	**-0.6**
PFB				S	**Sb**	**13 44 29.7**	**-0.3**
GHNB	**Nanoose**	**0.96**	**306**	P	**Pb**	**13 44 17.6**	**-0.8**

GHNB			S		Sb	13 44 30.2	-0.5
OBC	**Olympics--Boni**	**0.99 225**			**Pb**	**13 44 18.2**	**-0.6**
OBC	**Olympics--Boni**	**0.99 225**	P		**Pb**	**13 44 18.2**	**-0.6**
P403	**Sandy Floe Qua**	**1.00 227**			**Pb**	**13 44 18.1**	**-0.9**
P403					**Sb**	**13 44 31.5**	**-0.2**
SHB	**Sechelt**	**1.01 328**			**Pb**	**13 44 17.2**	**-2.0**
SHB	**Sechelt**	**1.01 328**	P		**Pb**	**13 44 18.2**	**-1.1**
SHB			S		**Sb**	**13 44 31.7**	**-0.5**
OSD	**Olympics--Snow**	**1.02 206**			**Pb**	**13 44 19.0**	**-0.5**
OSD	**Olympics--Snow**	**1.02 206**	P		**Pb**	**13 44 19.0**	**-0.5**
C04A	**Brinnon**	**1.03 177**			**Pb**	**13 44 17.4**	**-2.0**
RPW	**Rockport**	**1.06 106**			**Pb**	**13 44 19.3**	**-0.8**
RPW	**Rockport**	**1.06 106**	P		**Pb**	**13 44 19.6**	**-0.5**
B06A	**Marblemount**	**1.06 102**			**Pb**	**13 44 19.8**	**-0.2**
B06A	**Marblemount**	**1.06 102**	P		**Pb**	**13 44 19.8**	**-0.2**
B06A			S		**Sb**	**13 44 33.2**	**-0.2**
HDW	**Hoodsport**	**1.09 180**			**Pn**	**13 44 18.4**	**-2.0**
HDW	**Hoodsport**	**1.09 180**	P		**Pn**	**13 44 19.5**	**-0.9**
MGB	**Mount Grey**	**1.12 284**	P		**Pn**	**13 44 20.2**	**-0.6**
MGB			S		**Sb**	**13 44 34.6**	**-0.6**
OCP	**Olym-Cheeka Pk**	**1.14 248**	P		**Pn**	**13 44 20.4**	**-0.6**
OCP			S		**Sb**	**13 44 35.8**	**0.0**
GNW	**Green Mountain**	**1.19 173**			**Pn**	**13 44 19.8**	**-1.8**
GNW	**Green Mountain**	**1.19 173**	P		**Pn**	**13 44 20.8**	**-0.8**
GNW			S		**Sb**	**13 44 35.8**	**-1.3**
GMW	**Gold Mountain**	**1.21 172**			**Pn**	**13 44 20.1**	**-1.8**
B927	**Port Alberni**	**1.26 293**			**Pn**	**13 44 22.0**	**-0.5**
B927	**Port Alberni**	**1.26 293**	P		**Pn**	**13 44 22.6**	**+0.1**
B927			S		**Sn**	**13 44 38.2**	**-0.5**
HTW	**Haystack Looko**	**1.27 137**			**Pn**	**13 44 21.7**	**-1.1**
TXB	**Texada**	**1.32 317**	P		**Pn**	**13 44 23.2**	**-0.3**
TXB			S		**Sn**	**13 44 40.4**	**0.0**
OLQ	**Olympics--Lake**	**1.33 203**			**Pn**	**13 44 23.5**	**-0.1**
B928	**Bamfield**	**1.38 275**	P		**Pn**	**13 44 24.6**	**+0.4**
BFSB	**Bamfield**	**1.39 275**	P		**Pn**	**13 44 24.6**	**+0.3**
BFSB			S		**Sn**	**13 44 42.2**	**+0.3**
C05A	**Tolt Reservoir**	**1.39 139**			**Pn**	**13 44 23.8**	**-0.6**
C05A	**Tolt Reservoir**	**1.39 139**	P		**Pn**	**13 44 24.7**	**+0.3**
C05A			S		**Sn**	**13 44 42.0**	**0.0**
GPW	**Glacier Peak**	**1.42 116**			**Pn**	**13 44 25.0**	**0.0**
GPW	**Glacier Peak**	**1.42 116**	P		**Pn**	**13 44 25.5**	**+0.5**
GPW			S		**Sn**	**13 44 43.5**	**+0.5**
SMW	**South Mountain**	**1.44 188**	P		**Pb**	**13 44 26.4**	**-0.1**
NLWA	**Neilton Lookou**	**1.46 203**			**Pn**	**13 44 26.1**	**+0.7**
NLWA			IAML			13 44 52.6	
	comp=N,36nm,1.3s						
RATT	**Rattlesnake La**	**1.56 147**			**Pn**	**13 44 26.1**	**-0.6**
OZB	**Mount Ozzard**	**1.63 279**	Pn		**Pn**	**13 44 28.4**	**+0.7**
OZB			IAML			13 44 54.6	
	comp=E,51nm,2.7s						
OZB			IAML			13 44 59.8	
	comp=N,49nm,3.3s						
OZB	**Mount Ozzard**	**1.63 279**	P		**Pn**	**13 44 28.4**	**+0.7**
D05A	**Enumclaw**	**1.71 155**			**Pn**	**13 44 29.3**	**+0.5**
D05A			IAML			13 44 42.5	
	comp=N,36nm,4.9s						
D05A			IAML			13 44 59.3	
	comp=E,26nm,2.7s						
D05A	**Enumclaw**	**1.71 155**	P		**Pb**	**13 44 30.5**	**-0.6**
D05A			S		**Sb**	**13 44 52.4**	**+0.3**
CPW	**Capitol Peak**	**1.77 182**	P		**Pn**	**13 44 30.9**	**+1.2**
CPW			S		**Sb**	**13 44 53.1**	**-0.8**
CBB	**Campbell River**	**1.99 311**	S		**Sb**	**13 44 58.9**	**-1.4**
LLLB	**Lillooet**	**2.02 22**			**Pn**	**13 44 33.5**	**+0.5**
LLLB			IAML			13 45 02.8	
	comp=E,55nm,0.5s						
LLLB			IAML			13 45 05.4	
	comp=N,42nm,0.6s						
LLLB	**Lillooet**	**2.02 22**	P		**Pb**	**13 44 35.1**	**-1.2**
LLLB			S		**Sb**	**13 45 00.8**	**-0.2**
OBSR	**Observation Ro**	**2.02 155**			**Pn**	**13 44 34.2**	**+0.9**
FMW	**Mount Fremont**	**2.04 152**			**Pn**	**13 44 33.7**	**+0.3**
FMW	**Mount Fremont**	**2.04 152**	P		**Pn**	**13 44 34.8**	**+1.3**
SPLB	**Strathcona Par**	**2.06 305**	P		**Pn**	**13 44 35.2**	**+1.7**
SPLB			S		**Sn**	**13 45 00.3**	**+1.9**
RCS	**Mount Rainier-**	**2.07 154**			**Pn**	**13 44 35.6**	**+1.5**
SR41	**SR410 Landslid**	**2.12 151**			**Pn**	**13 44 35.0**	**+0.5**
LON	**Longmire**	**2.16 157**			**Pn**	**13 44 36.1**	**+1.0**
LON	**Longmire**	**2.16 157**			**Pn**	**13 44 35.8**	**+0.8**
LON			IAML			13 45 04.9	
	comp=E,14nm,0.7s						
LON			IAML			13 45 08.2	
	comp=N,16nm,2.4s						
LON	**Longmire**	**2.16 157**	P		**Pn**	**13 44 36.6**	**+1.6**
LON			S		**Sn**	**13 45 02.9**	**+1.7**
LTY	**Liberty**	**2.18 132**			**Pn**	**13 44 36.2**	**+0.9**
LTY			IAML			13 45 07.3	
	comp=N,20nm,0.8s						
LTY			IAML			13 45 08.3	
	comp=E,16nm,0.8s						
LTY	**Liberty**	**2.18 132**	P		**Pn**	**13 44 37.2**	**+1.9**
LTY			S		**Sb**	**13 45 04.8**	**-1.0**
WPW	**White Pass**	**2.28 153**			**Pn**	**13 44 38.4**	**+1.6**
PNT	**Penticton**	**2.33 74**	P		**Pn**	**13 44 39.0**	**+1.7**
PNT			Sg		**Sb**	**13 45 10.8**	**+0.8**
EBG	**Ellensburg**	**2.48 137**			**Pb**	**13 44 42.3**	**-2.0**
B08A	**Colville Reser**	**2.50 97**	Pn		**Pn**	**13 44 40.6**	**+0.9**
B08A			IAML			13 45 08.7	
	comp=E,12nm,4.8s						
B08A			IAML			13 45 29.2	
	comp=N,12nm,4.8s						
B08A	**Colville Reser**	**2.50 97**	Sg		**Sb**	**13 45 16.9**	**+2.1**
B201	**Coldwater, Mou**	**2.50 167**			**Pn**	**13 44 41.1**	**+1.5**
NCRB	**Newcastle Ridg**	**2.57 311**	P		**Pn**	**13 44 42.8**	**+2.1**
B202	**Windy Ridge, M**	**2.58 166**			**Pn**	**13 44 42.3**	**+1.6**
SEPW	**September Lobe**	**2.61 167**			**Pn**	**13 44 44.0**	**+2.6**
WOSB	**Woss**	**2.70 303**	P		**Pb**	**13 44 45.9**	**-2.2**
WOSB			Sg		**Sb**	**13 45 20.6**	**-0.2**
F03A	**Seaside**	**2.84 187**	Pn		**Pn**	**13 44 45.4**	**+1.2**
MAYB	**Maynard**	**3.16 303**	P		**Pn**	**13 44 52.3**	**+3.5**
MAYB			Sg		**Sb**	**13 45 33.2**	**-0.7**
F10A	**Beach Ranch, E**	**4.83 123**	Pn		**Pn**	**13 45 12.5**	**+0.8**

WEL 24 14:41:18.3±0.4,42°S±2°×17°4E±°,h9km±2km,M2.8/8, ML2.9/13,MLv2.8/8,Error ellipse: s-maj=0.0km s-min=0.0km az=122.0,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.23**	**198**	P	Pg	14 41 24.6	+1.7
KHZ				S	Sg	14 41 28.7	+2.6
BSWZ	**Blackbirch Sta**	**0.52**	**20**	P	Pb	14 41 29.2	-0.3
BSWZ				S	Sb	14 41 36.6	-0.5
THZ	**Tophouse**	**0.70**	**309**	P	Pg	14 41 31.8	0.0
THZ				S	Sg	14 41 40.8	-0.1
GVZ	**Greta Valley S**	**0.89**	**210**	P	Pn	14 41 37.1	+0.2
TCW	**Tory Channel**	**1.10**	**26**	P	Pg	14 41 39.4	0.0
TCW				S	Sg	14 41 53.7	-0.1
LTZ	**Lake Taylor**	**1.16**	**240**	P	Pb	14 41 40.4	-0.2
LTZ				S	Sg	14 41 55.8	0.0
AMCZ	**Amberley**	**1.22**	**216**	P	Pg	14 41 42.3	+0.6
DUWZ	**D'Urville Isla**	**1.41**	**9**	P	Pb	14 41 44.9	0.0
DUWZ				S	Sg	14 42 04.0	+0.2
DSZ	**Denniston Nort**	**1.44**	**288**	P	Pg	14 41 45.6	-0.3
DSZ				S	Sg	14 42 04.7	+0.1
CAW	**Cannon Point**	**1.53**	**45**	P	Pn	14 41 45.3	-0.5
CAW				S	Sn	14 42 05.7	-0.1
OKCZ	**Okains Bay**	**1.58**	**195**	P	Pn	14 41 46.4	0.0
MQZ	**McQueen's Vall**	**1.67**	**205**	P	Pn	14 41 46.3	-1.4
MQZ				S	Sn	14 42 07.2	-1.9
INZ	**Inchbonnie**	**1.70**	**251**	P	Pn	14 41 48.7	+0.6
INZ				S	Sb	14 42 10.6	-0.6
MTW	**Mount Morrison**	**1.74**	**54**	P	Pn	14 41 48.0	-0.7
MTW				S	Sn	14 42 10.2	-0.8
AKCZ	**Akaroa Harbour**	**1.75**	**197**	P	Pn	14 41 48.2	-0.7
AKCZ				S	Sn	14 42 10.2	-1.1
OGWZ	**Otaki Gorge**	**1.80**	**40**	P	Pn	14 41 49.4	-0.1
OGWZ				S	Sn	14 42 12.0	-0.4
RACZ	**Rakaia**	**1.88**	**215**	P	Pn	14 41 49.7	-0.8
WACZ	**Wakanui South**	**2.18**	**216**	P	Pn	14 41 53.6	-1.1
WACZ				S	Sn	14 42 19.1	-2.7
TMZ	**Timaru**	**2.91**	**220**	P	Pn	14 42 04.5	-0.2
BHHZ	**Black Hill Sta**	**3.27**	**35**	P	Pn	14 42 08.1	-1.7

IDC 24 14:49:41.3±6.2,25°34S×68°80E,h0km,mb3.7/4, mbtmp3.7/4,MS3.3/3,Error ellipse: s-maj=171.0km s-min=40.8km az=58.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**17.94**	**12**	T	T	15 11 20.7	
	baz=189,slow=76,SNR=6.2						
H08S2	**Diego Garcia H**	**17.94**	**12**	T	T	15 11 20.6	
	baz=189,slow=76,SNR=8.2						
H08S3	**Diego Garcia H**	**17.96**	**12**	T	T	15 11 26.3	
	baz=189,slow=76,SNR=5.0						
BOSA	**Boshof**	**38.78**	**255**	LR	LR	15 10 32.0	
	comp=Z,71nm,18.7s,baz=6.5,slow=32						
LSZ	**Lusaka**	**39.24**	**277**	LR	LR	15 11 43.8	
	comp=Z,71nm,18.6s,baz=176,slow=34						
H01W2	**Cape Leeuwin H**	**40.07**	**115**	T	T	15 39 03.3	
	baz=272						
H01W3	**Cape Leeuwin H**	**40.07**	**115**	T	T	15 39 06.0	
	baz=272						
H01W1	**Cape Leeuwin H**	**40.09**	**115**	T	T	15 39 06.5	
	baz=272						
CMAR	**Chiang Mai Arr**	**52.49**	**37**	P	P	14 58 56.1	-0.3
	0.2nm,0.3s,baz=230,slow=7.0,SNR=1.2						
CMAR				LR	LR	15 16 09.5	
	comp=Z,7.8nm,20.2s,baz=175,slow=30 0.2nm,0.3s						
ASAR	**Alice Springs**	**58.73**	**103**	P	P	14 59 41.8	+0.5
	0.9nm,0.9s,baz=246,slow=6.6,SNR=8.1 0.9nm,0.9s						
WRA	**Warramunga Arr**	**60.22**	**99**	P	P	14 59 51.0	-0.6
	1.2nm,0.9s,baz=253,slow=6.8,SNR=4.5 1.2nm,0.9s						
MKAR	**Makanchi Array**	**72.82**	**10**	P	P	15 01 11.8	+0.2
	0.4nm,0.8s,baz=202,slow=7.2,SNR=3.6 0.4nm,0.8s						

*NEIC **24** 14:52:13.8±1.8,6°81N±0°08×72°99W±0°08,h152km±8km, mb4.3/52,Error ellipse: s-maj=13.3km s-min=9.5km az=129.0*

*IDC **24** 14:52:13.6±0.7,6°79N×73°05W,h161km±7km,mb3.5/10, mbtmp4.0/13,Error ellipse: s-maj=16.5km s-min=7.5km az=126.0*

*RSNC **24** 14:52:14.8±0.9,6°78N×73°19W,h148km±3km,ML4.0, Mw4.1,Fault plane solution: NP1:φ=0.00000°,δ66.00000°, λ50.00000°.*

*VAO **24** 14:52:15.2±0.4,6°66N×72°87W,h150km±5km,mb4.2*

ISC 24 14:52:13.1±0.5,6°83N±0°03×73°10W±0°03,h153km±5km, n151,σ1°37/186,mb4.2/34,4C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**199**	↑*iP*	**Pn**	**14 52 34.7**	**+0.4**
BARC				*eS*	**Sn**	**14 52 49.9**	**-0.4**
BARC				*i*		14 52 52.5	
	comp=Z,5μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**38**	*eP*	**Pn**	**14 52 37.6**	**+1.3**
PAMC				*eS*	**Sn**	**14 52 54.7**	**+0.9**
PAMC				*i*		14 52 57.8	
	comp=Z,2μm,0.4s						
PAMC				*i*		14 52 57.8	
	comp=Z,2μm,0.4s						
BRRC	**Barranca, Sant**	**0.67**	**295**	↑*iP*	**Pn**	**14 52 36.5**	**+0.7**
BRRC				*eS*	**Sn**	**14 52 53.3**	**+0.2**
BRRC				*i*		14 52 57.5	
	comp=Z,2μm,0.3s						
BRRC				*i*		14 52 57.5	
	comp=Z,2μm,0.3s						
RUSC	**La Rusia**	**0.93**	**179**		**Pn**	**14 52 38.4**	**+0.2**
RUSC				Sn	**Sn**	**14 52 56.9**	**-0.4**
RUSC	**La Rusia**	**0.93**	**179**	*eP*	**Pn**	**14 52 38.6**	**+0.4**
RUSC				*eS*	**Sn**	**14 52 56.7**	**-0.7**
RUSC				*i*		14 52 58.5	
	comp=Z,2μm,0.3s						
RUSC				*i*		14 52 58.5	
	comp=Z,2μm,0.3s						
TAMC	**Tame, Arauca**	**1.36**	**107**	↑*iP*	**Pn**	**14 52 43.1**	**+1.6**
TAMC				*eS*	**Sn**	**14 53 04.7**	**+1.5**
TAMC				*i*		14 53 06.0	
	comp=Z,846nm,0.5s						
TAMC				*i*		14 53 06.0	
	comp=Z,847nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*eP*	**Pn**	**14 52 41.1**	**-0.6**
PTBC				*eS*	**Sn**	**14 53 02.0**	**-1.6**
PTBC				*i*		14 53 08.0	
	comp=Z,1μm,0.3s						
PTBC				*i*		14 53 08.0	
	comp=Z,1μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*eP*	**Pn**	**14 52 47.0**	**0.0**
ZARC				*eS*	**Sn**	**14 53 12.2**	**-0.7**
ZARC				*i*		14 53 17.8	
	comp=Z,2μm,0.4s						
ZARC				*i*		14 53 17.8	
	comp=Z,2μm,0.4s						
CHIC	**Chingaza**	**2.27**	**196**	↑*eP*	**Pn**	**14 52 52.5**	**+0.4**
CHIC				*eS*	**Sn**	**14 53 22.1**	**0.0**
CHIC				*i*		14 53 27.3	
	comp=Z,622nm,0.4s						
CHIC				*i*		14 53 27.3	
	comp=Z,622nm,0.4s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**14 52 54.4**	**+1.8**
	comp=Z,731nm,0.4s,baz=314,slow=22,SNR=365						
ROSC				S	**Sn**	**14 53 24.1**	**+1.2**
	comp=Z,2μm,0.4s,baz=58,slow=20,SNR=8.9						
ROSC	**El Rosal**	**2.32**	**212**		**Pn**	**14 52 54.2**	**+1.6**
ROSC	**El Rosal**	**2.32**	**212**	*eP*	**Pn**	**14 52 53.5**	**+1.0**
ROSC				*eS*	**Sn**	**14 53 23.8**	**+0.8**
UREC	**San Jos de Ur**	**2.58**	**291**	*eP*	**Pn**	**14 52 54.5**	**-1.0**
UREC				*eS*	**Sn**	**14 53 26.0**	**-2.1**
UREC				*i*		14 53 38.7	
	comp=Z,688nm,0.3s						
UREC				*i*		14 53 38.8	
	comp=Z,705nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.74**	**351**	*eP*	**Pn**	**14 52 59.0**	**+1.6**
LL1C				*eS*	**Sn**	**14 53 33.6**	**+2.1**
PTGC	**Puerto Gaitan,**	**2.78**	**160**	*eP*	**Pn**	**14 52 57.8**	**-0.1**
PTGC				*eS*	**Sn**	**14 53 31.2**	**-1.4**
PTGC				*i*		14 53 36.6	
	comp=Z,519nm,0.3s						
PTGC				*i*		14 53 36.8	
	comp=Z,520nm,0.3s						
NIZA	**Niza - Manizal**	**2.94**	**233**	*eP*	**Pn**	**14 53 03.4**	**+3.2**
NIZA				*eS*	**Sn**	**14 53 39.8**	**+3.3**
LL5C	**La Loma 5 El P**	**2.97**	**348**	*eP*	**Pn**	**14 53 01.6**	**+1.4**
LL5C				*eS*	**Sn**	**14 53 37.8**	**+1.1**
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*eP*	**Pn**	**14 53 02.1**	**+0.7**
CBOC				*eS*	**Sn**	**14 53 39.0**	**+0.3**
CBOC				*i*		14 53 49.4	
	comp=Z,254nm,0.5s						
CBOC				*i*		14 53 49.4	
	comp=Z,254nm,0.5s						
DBBC	**Dabeiba**	**3.09**	**274**	*eP*	**Pn**	**14 53 02.1**	**+0.2**
DBBC				*eS*	**Sn**	**14 53 38.1**	**-1.5**
DBBC				*i*		14 53 40.0	
	comp=Z,361nm,0.4s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**14 53 04.2**	**+1.0**
	comp=Z,288nm,0.4s,baz=233,slow=8.8,SNR=342						
SDV				S	**Sn**	**14 53 43.0**	**+1.1**
	comp=Z,178nm,0.3s,baz=40,slow=14,SNR=15						
SDV	**Santo Domingo**	**3.19**	**50**		**Pn**	**14 53 04.0**	**+0.8**
SDV	**Santo Domingo**	**3.19**	**50**	*eP*	**Pn**	**14 53 04.3**	**+1.1**
ARGC	**Ariguani, Magd**	**3.22**	**339**	*eP*	**Pn**	**14 53 04.2**	**+0.8**
ARGC				*eS*	**Sn**	**14 53 44.4**	**+2.0**
ARGC				*i*		14 53 52.0	
	comp=Z,250nm,0.4s						
ARGC				*i*		14 53 52.0	
	comp=Z,250nm,0.4s						
ORTC	**Ortega, Tolima**	**3.60**	**217**	*eP*	**Pn**	**14 53 08.8**	**+0.4**
ORTC				*eS*	**Sn**	**14 53 52.8**	**+1.6**
ORTC				*i*		14 53 58.3	
	comp=Z,462nm,0.5s						
ORTC				*i*		14 53 58.4	
	comp=Z,432nm,0.4s						
APAC	**Apartado, Choc**	**3.61**	**287**	*eP*	**Pn**	**14 53 08.5**	**+0.1**
APAC				*eS*	**Sn**	**14 53 49.8**	**-1.6**
APAC				*i*		14 53 53.8	
	comp=Z,196nm,0.3s						
SJCC	**San Jacinto, C**	**3.68**	**326**	*eP*	**Pn**	**14 53 08.2**	**-1.2**
SJCC				*eS*	**Sn**	**14 53 49.8**	**-3.4**
SJCC				*i*		14 54 04.2	
	comp=Z,359nm,0.4s						
SJCC				*i*		14 54 04.3	
	comp=Z,467nm,0.8s						
PLMC	**San Jos del P**	**3.70**	**239**	*eP*	**Pn**	**14 53 10.1**	**+0.5**
PLMC				*eS*	**Sn**	**14 53 50.0**	**-3.5**
PLMC				*i*		14 53 59.9	
	comp=Z,162nm,0.2s						

LCBC	**Los crdobas,**	**3.81**	**302**	*eP*	**Pn**	**14 53 09.5**	**-1.5**
LCBC				*eS*	**Sn**	**14 53 57.6**	**+1.5**
LCBC				*i*		14 54 04.6	
	comp=Z,239nm,0.3s						
LCBC				*i*		14 54 10.8	
	comp=Z,270nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*eP*	**Pn**	**14 53 15.0**	**-0.9**
CRJC				*eS*	**Sn**	**14 54 03.0**	**-1.7**
CRJC				*i*		14 54 13.2	
	comp=Z,278nm,0.4s						
CRJC				*i*		14 54 13.2	
	comp=Z,278nm,0.4s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	*eP*	**Pn**	**14 53 16.9**	**-0.5**
YOTC				*eS*	**Sn**	**14 54 03.0**	**-4.4**
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	**Pn**	**14 53 19.3**	**-0.1**
SMRC				*eS*	**Sn**	**14 54 07.8**	**-3.2**
SMRC				*i*		14 54 12.0	
	comp=Z,236nm,0.3s						
SMRC				*i*		14 54 12.2	
	comp=Z,227nm,0.3s						
PIZC	**Pizarro, Choco**	**4.62**	**247**	*eS*	**Sn**	**14 54 21.1**	**+6.1**
PIZC				*i*		14 54 29.4	
	comp=Z,76nm,0.6s						
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*	**Pn**	**14 53 21.4**	**-1.4**
MACC				*eS*	**Sn**	**14 54 13.1**	**-4.1**
MACC				*i*		14 54 17.6	
	comp=Z,119nm,0.3s						
BETC	**Betania**	**4.73**	**210**	*eP*	**Pn**	**14 53 22.8**	**-0.4**
URIC	**Uribia, Colomb**	**4.97**	**13**		**Pn**	**14 53 24.9**	**-1.2**
URIC	**Uribia, Colomb**	**4.97**	**13**	*eP*	**Pn**	**14 53 25.2**	**-1.0**
URIC				*eS*	**Sn**	**14 54 20.1**	**-3.1**
URIC				*i*		14 54 27.8	
	comp=Z,81nm,0.4s						
GARC	**Garzon, Huila**	**5.19**	**207**	*eP*	**Pn**	**14 53 28.8**	**-0.6**
GARC				*eS*	**Sn**	**14 54 25.7**	**-3.2**
GARC				*i*		14 54 30.9	
	comp=Z,175nm,0.2s						
GARC				*i*		14 54 31.0	
	comp=Z,158nm,0.2s						
BAUV	**El Baul**	**5.43**	**67**		**Pn**	**14 53 30.5**	**-1.8**
FLOC	**Florencia**	**5.80**	**206**	*eP*	**Pn**	**14 53 36.9**	**-0.3**
FLOC				*eS*	**Sn**	**14 54 43.4**	**+0.4**
FLOC				*i*		14 54 47.5	
	comp=Z,32nm,0.4s						
FLOC				*i*		14 54 47.5	
	comp=Z,32nm,0.4s						
GR1C	**Gorgona, Isla**	**6.32**	**233**	*eP*	**Pn**	**14 53 43.2**	**-1.0**
GCUF	**Volcan Galeras**	**6.99**	**217**	*eP*	**Pn**	**14 53 55.8**	**+2.2**
GCUF				*eS*	**Sn**	**14 55 08.9**	**-3.4**
TULM	**Tulcn-Chalpat**	**7.66**	**218**		**Pn**	**14 54 03.0**	**+0.5**
OTAV	**Otavalo**	**8.45**	**219**		**Pn**	**14 54 13.2**	**+0.3**
OTAV	**Otavalo**	**8.45**	**219**	*eP*	**Pn**	**14 54 13.9**	**+1.0**
SGCB	**S£o Gabriel d**	**9.18**	**139**	*eP*	**Pn**	**14 54 19.9**	**-2.4**
HDC	**Heredia**	**11.34**	**287**	*eP*	**P**	**14 54 56.3**	**-2.4**
TBTG	**Tabatinga, AM**	**11.39**	**164**	*eP*	**Pn**	**14 54 52.1**	**+0.6**
MTDJ	**Mount Denham**	**12.13**	**340**		**Pn**	**14 55 02.5**	**+1.4**
ACON	**Acoyapa**	**12.96**	**294**	P	**P**	**14 55 16.9**	**+0.4**
AOPR	**Arecibo Observ**	**13.01**	**28**	P	**P**	**14 55 17.8**	**+0.7**
MCRA	**Macar, Loja**	**13.06**	**212**	P	**P**	**14 55 17.6**	**-0.1**
GTBY	**Guantanamo Bay**	**13.17**	**352**	P	**P**	**14 55 18.3**	**-0.5**
TOSP	**Speyside**	**13.18**	**69**	P	**P**	**14 55 17.7**	**-1.2**
BOAV	**Boa Vista**	**13.28**	**109**	Pn	**Pn**	**14 55 14.5**	**-1.4**
BOAV	**Boa Vista**	**13.28**	**109**	*eP*	**Pn**	**14 55 14.8**	**-1.1**
TEFE	**Tefe**	**13.30**	**140**	*eP*	**Pn**	**14 55 15.1**	**-1.0**
GCPR	**Guaynabo City**	**13.30**	**30**	Pn	**Pn**	**14 55 16.6**	**+0.4**
CZSB	**Cruzeiro do Su**	**14.46**	**178**	P	**Pn**	**14 55 31.8**	**+0.9**
CZSB	**Cruzeiro do Su**	**14.46**	**178**	*eP*	**Pn**	**14 55 31.7**	**+0.9**
ATAH	**Atahualpa**	**14.84**	**201**	P	**P**	**14 55 37.6**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=18,slow=20,SNR=2.8						
MACA	**Manacapuru-AM**	**15.88**	**128**	*eP*	**Pn**	**14 55 47.6**	**-0.7**
ETMB	**Extrema**	**17.90**	**157**	P	**P**	**14 56 10.4**	**-0.7**
ETMB				IAmb	IAmb	14 56 11.5	
	comp=Z,4.8nm,0.7s						
ETMB	**Extrema**	**17.90**	**157**	*eP*	**P**	**14 56 10.4**	**-0.7**
MALB	**Monte Alegre**	**20.68**	**114**	*eP*	**P**	**14 56 40.7**	**-0.6**
MCPB	**Macapa, AP**	**22.18**	**108**	*eP*	**P**	**14 56 56.4**	**-0.7**
NPGB	**Novo Progresso**	**22.43**	**128**	*eP*	**P**	**14 56 59.4**	**-0.1**
VILB	**Vilhena**	**23.46**	**147**	*eP*	**P**	**14 57 09.3**	**+0.3**
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**14 57 09.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=335,slow=9.9,SNR=4.3						
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**14 57 09.8**	**0.0**
LPAZ	**La Paz**	**23.49**	**168**	*eP*	**P**	**14 57 09.8**	**0.0**
CLDB	**Colider**	**24.61**	**135**	*eP*	**P**	**14 57 19.2**	**-0.3**
PB16	**IPOC Station P**	**25.25**	**172**	P	**P**	**14 57 26.3**	**+0.5**
PB16				IAmb	IAmb	14 57 57.2	
	comp=Z,5.2nm,1.3s						
TMAB	**Tom-Au,PA,Br**	**26.58**	**109**	*eP*	**P**	**14 57 37.1**	**-0.1**
BBSD	**Serra de San D**	**26.86**	**153**	*eP*	**P**	**14 57 38.5**	**-1.2**
HODGE	**Hodges**	**28.56**	**344**	P	**P**	**14 57 56.2**	**+1.6**
HODGE				IAmb	IAmb	14 58 33.1	

DGMT	**Dagmar**	**49.16**	**333**	P	**P**	**15 00 46.4 +1.0**
R11A	**Troy Canyon, C**	**49.55**	**316**	P	**P**	**15 00 50.5 +1.7**
YNM	**Yellowstone No**	**49.94**	**325**	P	**P**	**15 00 52.1 +0.4**
GCMT	**Greycliff**	**50.03**	**327**	P	**P**	**15 00 53.4 +1.2**
DSP	**Deep Springs**	**50.80**	**314**	P	**P**	**15 00 59.8 +1.9**
BOZ	**Bozeman (W)**	**50.99**	**326**	P	**P**	**15 01 00.7 +1.3**
NVAR	**Mina Array Bea**	**51.49**	**315**	P	**P**	**15 01 04.4 +1.0**
	comp=Z,0.5nm,0.7s,baz=126,slow=7.5,SNR=3.5					
	comp=Z,0.5nm,0.7s					
MFID	**Camas Ranch**	**52.24**	**321**	P	**P**	**15 01 09.6 +0.9**
MFID				IAmb	IAmb	15 01 10.7
	comp=Z,2.9nm,1.0s					
PLID	**Pearl Lake**	**53.23**	**323**	P	**P**	**15 01 16.2 +0.1**
FCC	**Fort Churchill**	**54.27**	**347**	P	**P**	**15 01 22.8 -0.3**
FCC				IAmb	IAmb	15 01 35.3
	comp=Z,4.5nm,1.4s					
F10A	**Beach Ranch, E**	**54.43**	**323**	P	**P**	**15 01 24.9 +0.3**
G08A	**Pilot Rock**	**55.12**	**322**	P	**P**	**15 01 30.4 +0.8**
PINE	**Pine Mountain**	**55.66**	**319**	P	**P**	**15 01 35.1 +1.5**
PINE				IAmb	IAmb	15 01 35.5
	comp=Z,7.9nm,1.1s					
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**15 02 25.2 +0.1**
	comp=Z,2.2nm,0.7s,baz=132,slow=6.9,SNR=52					
	comp=Z,2.2nm,0.7s					
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**15 02 25.4 +0.3**
DLBC	**Dease Lake**	**67.33**	**331**	P	**P**	**15 02 52.6 +1.1**
DLBC				IAmb	IAmb	15 03 17.0
	comp=Z,12nm,1.4s					
N31M	**Braeburn, Yuko**	**71.20**	**333**	P	**P**	**15 03 17.2 +2.0**
N31M				IAmb	IAmb	15 03 46.8
	comp=Z,10nm,1.1s					
M30M	**Minto, Yukon**	**72.04**	**334**	P	**P**	**15 03 21.1 +1.0**
M30M				IAmb	IAmb	15 03 21.3
	comp=Z,7.6nm,1.2s					
A36M	**Sachs Harbour**	**72.44**	**345**	P	**P**	**15 03 22.4 +0.2**
A36M				IAmb	IAmb	15 03 23.6
	comp=Z,6.4nm,0.9s					
INK	**Inuvik**	**73.03**	**340**	P	**P**	**15 03 25.4 -0.4**
	comp=Z,1.3nm,0.8s,baz=122,slow=4.2,SNR=3.8					
	comp=Z,1.3nm,0.8s					
INK	**Inuvik**	**73.03**	**340**	P	**P**	**15 03 25.9 +0.1**
INK				IAmb	IAmb	15 03 30.2
	comp=Z,7.4nm,1.5s					
M27K	**Edge Creek, AK**	**74.21**	**333**	P	**P**	**15 03 34.9 +1.8**
BCAR	**Beaver Creek A**	**74.37**	**334**	P	**P**	**15 03 35.1 +1.2**
L27K	**Beaver Creek,**	**74.38**	**334**	P	**P**	**15 03 35.7 +1.7**
L27K				IAmb	IAmb	15 03 42.9
	comp=Z,8.8nm,1.4s					
BMAR	**Burnt Mountain**	**76.66**	**338**	P	**P**	**15 03 47.8 +0.9**
ILAR	**Eielson Array**	**76.97**	**335**	P	**P**	**15 03 48.6 +0.1**
	comp=Z,0.5nm,0.9s,baz=95,slow=4.2,SNR=3.6					
	comp=Z,0.5nm,0.9s					
ILAR	**Eielson Array**	**76.97**	**335**	P	**P**	**15 03 49.6 +1.0**
GHO	**Glory Hole Cre**	**77.32**	**332**	P	**P**	**15 03 52.2 +1.5**
SUA	**Susitna One**	**78.14**	**331**	P	**P**	**15 03 55.7 +0.5**
TRF	**Thorofare Moun**	**78.20**	**333**	P	**P**	**15 03 56.4 +0.8**
TRF				IAmb	IAmb	15 03 57.6
	comp=Z,11nm,1.3s					
KTH	**Kantishna Hill**	**78.50**	**333**	P	**P**	**15 03 57.8 +0.7**
KTH				IAmb	IAmb	15 04 18.6
	comp=Z,14nm,1.4s					
SKT	**Skwentna**	**78.57**	**332**	P	**P**	**15 03 58.2 +0.7**
SKT				IAmb	IAmb	15 03 59.2
	comp=Z,9.7nm,1.3s					
M20K	**Styx River**	**79.31**	**332**	P	**P**	**15 04 01.8 +0.1**
IMAR	**Indian Mountai**	**79.99**	**336**	P	**P**	**15 04 05.5 +0.4**
L19K	**White Mountain**	**80.15**	**332**	P	**P**	**15 04 06.0 -0.1**
L19K				IAmb	IAmb	15 04 21.5
	comp=Z,4.6nm,1.2s					
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**15 10 49.1 -1.1**
	comp=Z,0.1nm,0.4s,baz=300,slow=1.6,SNR=1.6					
ASAR	**Alice Springs**	**149.13**	**234**	PKP	**PKPdf**	**15 11 39.4 -0.6**
	comp=Z,2.5nm,0.7s,baz=114,slow=3.8,SNR=16					
ASAR				PKPbc	**PKPbc**	**15 11 42.9 -1.4**
	comp=Z,2.4nm,0.7s,baz=114,slow=3.8,SNR=13					
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**15 11 46.4 -0.9**
	comp=Z,1.5nm,0.4s,baz=107,slow=2.7,SNR=31					

*DJA **24** 15:34:47.9±1.2,3°S±4°×13°0E±°, h11km±9km, M3.6/7, mb4.1/5, MLv3.3/7*
*IDC **24** 15:34:52.3±5.5,3°.51S×128°.12E, h44km±58km, mb3.4/3, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=207.7km s-min=15.4km az=70.0*
ISC 24 15:34:45.0±1.4,**3°.0S**±0°.1×**129°.8E**±0°.1,**h10**km,**n9,**
σ**2s 33**/11,**Seram**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.98**	**247**	P			**Pg**	**15 35 03.9**	**+0.1**
AAI	**Ambon**	**1.78**	**246**	P			**Pb**	**15 35 18.3**	**+0.5**
NLAI	**Namlea**	**2.74**	**264**	P			**Pn**	**15 35 29.5**	**+0.5**
SANI	**Sanana**	**3.95**	**283**	P			**Pn**	**15 35 43.2**	**-2.5**
GTOI	**Gorontalo**	**7.70**	**298**	P			**Pn**	**15 36 37.5**	**+0.2**
	9.0nm,0.9s,0.0nm								
WRA	**Warramunga Arr**	**17.43**	**166**	P			**Pn**	**15 38 50.6**	**+2.1**
	0.1nm,0.3s,baz=342,slow=13,SNR=1.3								
WRA				S			**Sn**	**15 41 58.1**	**-4.6**
	0.6nm,1.0s,baz=43,slow=28,SNR=1.3								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**20.95**	**170**	P			**P**	**15 39 31.1**	**+2.9**
	1.2nm,0.4s,baz=343,slow=11,SNR=55								
ASAR				S			**S**	**15 43 20.5**	**-1.3**
	0.3nm,0.9s,baz=168,slow=25,SNR=2.7								
	1.2nm,0.4s								
MKAR	**Makanchi Array**	**64.80**	**326**	P			**P**	**15 45 23.0**	**-1.0**
	0.4nm,0.6s,baz=136,slow=6.4,SNR=4.5								
	0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**69.02**	**328**	P			**P**	**15 45 50.5**	**-0.2**
	0.6nm,0.5s,baz=129,slow=5.7,SNR=7.9								
	0.6nm,0.5s								

IDC 24 15:42:10.8±7.9,**6°.20S**×**153°.26E**,**h55**km±53km,**mb3.1/2, mbtmp3.3/3, ML3.2/1, MS2.6/1, Error ellipse: s-maj=92.4km s-min=30.8km az=88.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.24**	**327**	P			Pn	15 42 45.4	-0.1
	6.2nm,0.3s,baz=314,slow=1.4,SNR=8.5								
KRVT				S			Sn	15 43 12.8	+0.8
	70nm,0.5s,baz=207,slow=1.9,SNR=4.9								
	29nm,0.5s								
PMG	**Port Moresby**	**6.83**	**242**	LR			LR	15 46 29.5	
	comp=Z,48nm,20.1s,baz=93,slow=38								
ASAR	**Alice Springs**	**25.46**	**225**	P			P	15 47 33.8	-0.1
	0.4nm,0.8s,baz=55,slow=8.5,SNR=5.0								
	0.4nm,0.8s								
MKAR	**Makanchi Array**	**81.67**	**319**	P			P	15 54 22.6	-0.7
	0.3nm,0.8s,baz=90,slow=6.2,SNR=2.8								
	0.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**151.15**	**286**	PKPbc			PKiKP	16 01 59.4	-0.1
	1.0nm,0.8s,baz=80,slow=2.5,SNR=3.9								

IDC 24 16:11:33.1±1.9,**6°.66S**×**131°.12E**,**h0**km,**mb3.4/1, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=96.4km s-min=28.3km az=79.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.75**	**1**	Pn			Pn	16 12 57.9	-2.0
	1.1nm,0.3s,baz=198,slow=20,SNR=19								
	2.7nm,0.3s								
WRA	**Warramunga Arr**	**13.57**	**167**	Pn			Pn	16 14 45.4	-1.6
	0.1nm,0.3s,baz=344,slow=14,SNR=2.5								
WRA				Sn			Sn	16 17 11.6	-7.0
	0.3nm,0.3s,baz=350,slow=24,SNR=6.8								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**17.12**	**171**	P			Pn	16 15 34.2	+0.3
	0.1nm,0.3s,baz=358,slow=15,SNR=9.3								
	0.3nm,0.6s								
MKAR	**Makanchi Array**	**68.56**	**326**	P			P	16 22 38.4	+0.6
	0.2nm,0.4s,baz=116,slow=7.3,SNR=7.1								
	0.2nm,0.4s								

*IDC **24** 16:16:59.4±4.6,31°.50S×138°.62E, h0km, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=79.1km s-min=18.3km az=28.0*
*AUST **24** 16:17:00.0±0.8,31°.69S×138°.54E, h10km, Error ellipse: s-maj=9.9km s-min=8.1km az=28.0*
ISC 24 16:16:59.9±0.9,**31°.67S**±0°.05×**138°.55E**±0°.04,**h14**km,**n12,**
σ**2s 02**/22,**South Australia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**1.25**	**347**	P			**Pg**	**16 17 24.3**	**+0.2**
	baz=1.3								
LCRK				S			**Sg**	**16 17 42.7**	**+2.3**
	baz=1.3								
BBOO	**Buckleboo**	**2.40**	**241**	P			**Pn**	**16 17 41.1**	**+2.3**
	baz=2.4								
BBOO				S			**Sn**	**16 18 09.4**	**+1.5**
	baz=2.4								
STKA	**Stephens Creek**	**2.60**	**95**	Pn			**Pn**	**16 17 42.5**	**+1.0**
	0.3nm,0.3s,baz=276,slow=10,SNR=2.0								
STKA				Pg			**Pb**	**16 17 47.6**	**+1.4**
	1.5nm,0.3s,baz=275,slow=15,SNR=14								
STKA				Sn			**Sn**	**16 18 13.9**	**+1.0**
	1.5nm,0.3s,baz=273,slow=13,SNR=4.0								
STKA				Lg			Lg	16 18 19.6	
	3.4nm,0.3s,baz=297,slow=18,SNR=9.6								
	0.9nm,0.3s								
STKA	**Stephens Creek**	**2.60**	**95**	P			**Pn**	**16 17 42.5**	**+1.0**
	baz=2.6								
STKA				S			**Sn**	**16 18 14.1**	**+1.2**
	baz=2.6								
MULG	**Mulgathing**	**4.10**	**289**	P			**Pn**	**16 18 03.6**	**+1.5**
	baz=4.1								
MULG				S			**Sn**	**16 18 50.0**	**+0.1**
	baz=4.1								
INKA	**Innaminka**	**4.36**	**27**	P			**Pn**	**16 18 07.5**	**+1.8**
	baz=4.4								
INKA				S			**Sn**	**16 18 56.5**	**+0.2**
	baz=4.4								
OOD	**Oodnadatta**	**4.60**	**326**	P			**Pn**	**16 18 10.4**	**+1.5**
	baz=4.6								
OOD				S			**Sn**	**16 19 03.0**	**+0.8**
	baz=4.6								
ARPS	**Mount Arapiles**	**5.77**	**153**	P			**Pn**	**16 18 25.2**	**+0.1**
	baz=5.8								
CMSA	**Cobar Meteorol**	**6.09**	**91**	P			**Pn**	**16 18 29.4**	**-0.1**
	baz=6.1								
ASAR	**Alice Springs**	**8.97**	**332**	Pn			**Pn**	**16 19 08.1**	**-1.1**
	0.1nm,0.3s,baz=150,slow=14,SNR=4.2								
ASAR				Sn			**Sn**	**16 20 45.9**	**-4.2**
	0.2nm,0.3s,baz=156,slow=22,SNR=5.3								
	0.2nm,0.4s								
FORT	**Forrest**	**9.03**	**273**	P			**Pn**	**16 19 09.1**	**-0.8**
	baz=9.0								
FORT				S			**Sn**	**16 20 45.9**	**-5.4**
	baz=9.0								
WRA	**Warramunga Arr**	**12.28**	**341**	Pn			**Pn**	**16 19 53.3**	**-1.1**
	0.1nm,0.3s,baz=169,slow=13,SNR=1.3								
	0.7nm,1.0s								

*BJI **24** 16:17:49.0±0.0, 19°.20S×169°.40E, h240km, mb4.5/46, mB5.1/22*
*NEIC **24** 16:17:50.6±1.3, 19°.18S±0°.09×169°.44E±0°.09, h241km±6km, mb5.1/103, Error ellipse: s-maj=14.1km s-min=11.3km az=149.0*
*MOS **24** 16:17:50.9±0.9, 19°.25S×169°.39E, h263km, mb5.0/26, Error ellipse: s-maj=10.1km s-min=9.7km az=129.9*
*NOU **24** 16:17:51.5, 19°.21S×169°.40E, h241km, mb4.6/52, Vanuatu Islands*
*IDC **24** 16:17:51.4±0.9, 19°.26S×169°.38E, h258km±8km, mb4.2/27, mbtmp4.7/29, Error ellipse: s-maj=10.7km s-min=7.8km az=152.0*
*GCMT **24** 16:17:51.6±0.3, 19°.20S±0°.02×169°.35E±0°.02, h251km±2km, MW5.2/94, Moment Tensor Solution. s49,c68; s94,c125; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.83±.19; $M_{\theta\theta}$1.19±.20; $M_{\phi\phi}$-4.02±.20; $M_{r\theta}$3.45±.21; $M_{\theta\phi}$-5.30±.18; $M_{\phi r}$-1.72±.19; Best double couple: $M_0$7.46300×10^{16} NP1:ϕ_s70.00000°, δ65.00000°, λ149.00000°. NP2:ϕ_s174.00000°, δ62.00000°, λ28.00000°. Principal axes: T 7.5900, Plg39.0000°, Azm31.0000°; N -0.2550, Plg51.0000°, Azm216.0000°; P -7.3350, Plg2.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 16:17:50.7±0.4,**19°.21S**±0°.05×**169°.39E**±0°.04,**h250**km±3km, **h250**km:**pP-P,n572,**σ**1s 00/573, mb4.9/106, 6C-30D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.68**	**327**	P			**Pn**	**16 18 31.2**	**+0.8**
DVP	**Devils Point**	**1.86**	**322**	P			**Pn**	**16 18 32.0**	**0.0**
LIFNC	**LIFOU**	**2.56**	**232**	Pn			**Pn**	**16 18 36.9**	**-1.6**
LIFNC	**LIFOU**	**2.56**	**232**	P			**Pn**	**16 18 37.2**	**-1.3**
MARNC	**Mare, Loyalty**	**2.60**	**209**				**Pn**	**16 18 38.2**	**-0.7**
MARNC	**Mare, Loyalty**	**2.60**	**209**	P			**Pn**	**16 18 38.4**	**-0.5**
YATNC	**Mamie plateau,**	**3.68**	**219**	P			**Pn**	**16 18 49.9**	**-0.9**
PINNC	**Pines Island,**	**3.85**	**208**				**Pn**	**16 18 52.5**	**-0.2**
PINNC	**Pines Island,**	**3.85**	**209**	P			**Pn**	**16 18 52.9**	**+0.2**
DZM	**Mont Dzumac**	**3.97**	**224**	P			**Pn**	**16 18 54.0**	**-0.2**
	549nm,0.9s,baz=190,slow=23,SNR=235								
DZM				S			**S**	**16 19 43.2**	**-1.5**
	167nm,0.6s,baz=86,slow=18,SNR=4.1								
DZM	**Mont Dzumac**	**3.97**	**224**	*e*Pn			**Pn**	**16 18 54.0**	**-0.2**
	3μm,1.4s								
DZM	**Mont Dzumac**	**3.97**	**224**	Pn			**Pn**	**16 18 54.7**	**+0.5**
DZM	**Mont Dzumac**	**3.97**	**224**	P			**Pn**	**16 18 54.9**	**+0.7**
OUENC	**Ouen Island, N**	**3.99**	**216**	Pn			**Pn**	**16 18 54.7**	**+0.4**
OUENC	**Ouen Island, N**	**3.99**	**216**	P			**Pn**	**16 18 55.0**	**+0.7**
NOUC	**Port Laguerre**	**4.08**	**225**	P			**Pn**	**16 18 56.4**	**+1.0**
ONTNC	**Ouen Toro**	**4.13**	**221**	Pn			**Pn**	**16 18 56.7**	**+0.7**
ONTNC	**Ouen Toro**	**4.13**	**221**	P			**Pn**	**16 18 56.9**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.99**	**254**	Pn			**Pn**	**16 19 07.3**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.99**	**254**	P			**Pn**	**16 19 08.5**	**+2.2**
MSVF	**Nonsavu**	**8.35**	**81**	P			**Pn**	**16 19 49.3**	**+0.7**
	210nm,1.0s,baz=252,slow=10,SNR=85								
MSVF	**Nonsavu**	**8.35**	**81**	Pn			**Pn**	**16 19 49.4**	**+0.8**
MSVF	**Nonsavu**	**8.35**	**81**	P			**Pn**	**16 19 49.9**	**+1.4**
MSVF	**Nonsavu**	**8.35**	**81**	*d*iP			**Pn**	**16 19 50.0**	**+1.4**
NFK	**Norfolk Island**	**9.88**	**187**	P			**Pn**	**16 20 09.2**	**+1.4**
DGTI	**Dogotuki**	**10.27**	**75**	P			**Pn**	**16 20 13.7**	**+0.9**
TAVE	**Taveuni**	**10.48**	**78**	P			**Pn**	**16 20 16.5**	**+1.0**
FUTU	**Fugatoga**	**12.91**	**70**	P			**P**	**16 20 47.3**	**-0.2**
HNR	**Honiara**	**13.34**	**315**	P			**P**	**16 20 52.0**	**-0.3**
	10μm,0.9s,baz=178,slow=4.3,SNR=41								
HNR	**Honiara**	**13.34**	**315**				**P**	**16 20 51.6**	**-0.6**
HNR	**Honiara**	**13.34**	**315**	P			**P**	**16 20 52.4**	**+0.1**
HNR	**Honiara**	**13.34**	**315**	P			**P**	**16 20 51.7**	**-0.6**
FUNA	**Funafuti**	**14.25**	**43**				**Pn**	**16 21 01.1**	**-1.0**
FUNA	**Funafuti**	**14.25**	**43**	P			**Pn**	**16 21 02.0**	**0.0**
AUBSH	**Beerwah State**	**16.93**	**240**	P			**Pn**	**16 21 34.6**	**+0.8**
GD1S	**Gladstone Soft**	**17.57**	**252**	P			**Pn**	**16 21 40.6**	**-0.6**
EIDS	**Eidsvold**	**18.01**	**247**	P			**Pn**	**16 21 45.6**	**-0.9**
EIDS	**Eidsvold**	**18.01**	**247**	P			**Pn**	**16 21 46.1**	**-0.4**
KUZ	**Kuaotunu**	**18.34**	**164**	P			**P**	**16 21 48.3**	**+1.4**
KUZ	**Kuaotunu**	**18.34**	**164**	P			**P**	**16 21 48.3**	**+1.4**
MKAZ	**Moumakai**	**18.54**	**165**	P			**P**	**16 21 50.5**	**+1.5**
TOZ	**Tahuroa Road**	**19.21**	**165**	P			**P**	**16 21 57.7**	**+1.4**
TLZ	**Tolley Road**	**19.79**	**166**	P			**P**	**16 22 03.5**	**+1.1**
HIZ	**Hauiti**	**19.82**	**167**	P			**P**	**16 22 03.7**	**+1.1**
HIZ	**Hauiti**	**19.82**	**167**	P			**P**	**16 22 04.4**	**+1.8**
HAZ	**Te Kaha**	**19.88**	**160**	P			**P**	**16 22 04.1**	**+0.8**
RUGZ	**Raukumara Rang**	**20.04**	**161**	P			**P**	**16 22 06.6**	**+1.3**
URZ	**Urewera**	**20.14**	**162**	P			**P**	**16 22 06.9**	**+0.8**
	26nm,0.8s,baz=96,slow=4.4,SNR=9.2								
	26nm,0.8s								
URZ	**Urewera**	**20.14**	**162**	P			**P**	**16 22 07.1**	**+1.0**
URZ	**Urewera**	**20.14**	**162**	P			**P**	**16 22 07.1**	**+1.0**
PUZ	**Puketiti**	**20.32**	**159**	P			**P**	**16 22 08.5**	**+0.4**
TWGZ	**Tauwhareparae**	**20.33**	**160**	P			**P**	**16 22 08.9**	**+0.7**
MWZ	**Matawai**	**20.33**	**161**	P			**P**	**16 22 09.5**	**+1.2**
RMQ	**Roma**	**20.33**	**245**	P			**P**	**16 22 10.6**	**+2.2**
VRZ	**Vera Road**	**20.39**	**168**	P			**P**	**16 22 09.6**	**+0.8**
RTZ	**Ruatahuna**	**20.43**	**163**	P			**P**	**16 22 09.9**	**+0.6**
MRHZ	**Matea Rd**	**20.49**	**164**	P			**P**	**16 22 11.6**	**+1.6**
TKGZ	**Te Karaka**	**20.53**	**161**	P			**P**	**16 22 09.9**	**-0.3**
NNVZ	**North Ngauruho**	**20.57**	**166**	P			Pn	16 22 15.3	-1.3
TMVZ	**Te Maari**	**20.58**	**166**	P			Pn	16 22 14.4	-2.2
ETVZ	**East Tongariro**	**20.60**	**166**	P			Pn	16 22 15.3	-1.5
NGZ	**Ngauruhoe**	**20.61**	**166**	P			Pn	16 22 14.9	-2.1
MTHZ	**Maungataniwha**	**20.62**	**163**	P			**P**	**16 22 12.6**	**+1.3**
CNGZ	**Carnagh Statio**	**20.68**	**160**	P			**P**	**16 22 13.3**	**+1.4**
SNGZ	**Shannon Statio**	**20.69**	**162**	P			**P**	**16 22 12.8**	**+0.7**
WNVZ	**Wahianoa**	**20.76**	**166**	P			**P**	**16 22 15.0**	**+2.1**
BKZ	**Black Stump Fm**	**20.82**	**164**	P			**P**	**16 22 13.6**	**+0.2**
BKZ	**Black Stump Fm**	**20.82**	**164**	P			**P**	**16 22 13.8**	**+0.4**
BKZ	**Black Stump Fm**	**20.82**	**164**	P			**P**	**16 22 14.0**	**+0.6**
MOVZ	**Moawhango**	**20.87**	**166**	P			**P**	**16 22 15.3**	**+1.4**
BHHZ	**Black Hill Sta**	**21.02**	**165**	P			**P**	**16 22 16.2**	**+0.8**
KWHZ	**Kaweka Forest**	**21.05**	**165**	P			**P**	**16 22 16.6**	**+0.9**
MCHZ	**McNeill Hill**	**21.13**	**164**	P			**P**	**16 22 17.3**	**+0.8**
MHGZ	**Mahia Peninsul**	**21.20**	**161**	P			**P**	**16 22 18.4**	**+1.2**
KRHZ	**Kereru**	**21.24**	**165**	P			**P**	**16 22 18.3**	**+0.7**
KAHZ	**Kahuranaki**	**21.51**	**164**	P			**P**	**16 22 20.4**	**+0.3**
PXZ	**Pawanui**	**21.73**	**164**	P			**P**	**16 22 22.2**	**+0.1**
CTA	**Charters Tower**	**21.81**	**264**	P			**P**	**16 22 23.9**	**+0.8**
	25nm,1.0s,baz=70,slow=7.2,SNR=25								
CTA				S			**S**	**16 26 07.2**	**+0.9**
	10nm,1.2s,baz=252,slow=16,SNR=5.5								
	25nm,1.0s								
CTA	**Charters Tower**	**21.81**	**264**	P			**P**	**16 22 24.6**	**+1.4**
CTAO	**Charters Tower**	**21.81**	**264**	P			**P**	**16 22 23.9**	**+0.8**
CTAO	**Charters Tower**	**21.81**	**264**	P			**P**	**16 22 24.5**	**+1.4**
CTAO	**Charters Tower**	**21.81**	**264**	P			**P**	**16 22 23.9**	**+0.8**
AULRC	**Lightning Ridg**	**21.97**	**238**	P			**P**	**16 22 25.9**	**+1.4**
MRZ	**Mangatainoka R**	**22.03**	**167**	P			**P**	**16 22 25.2**	**+0.3**
TCW	**Tory Channel**	**22.33**	**170**	P			**P**	**16 22 28.2**	**+0.6**
THZ	**Tophouse**	**22.68**	**173**	P			**P**	**16 22 31.5**	**+0.6**
AUDCS	**Dubbo College**	**22.71**	**231**	P			**P**	**16 22 33.2**	**+2.0**
PLWZ	**Palliser**	**22.84**	**169**	P			**P**	**16 22 32.1**	**-0.3**
PMG	**Port Moresby**	**23.61**	**291**	P			**P**	**16 22 40.7**	**+1.1**
	40nm,0.9s,baz=129,slow=5.9,SNR=14								
	40nm,0.9s								
PMG	**Port Moresby**	**23.61**	**291**	P			**P**	**16 22 40.5**	**+0.9**
PMG	**Port Moresby**	**23.61**	**291**	P			**P**	**16 22 40.9**	**+1.3**
PMG	**Port Moresby**	**23.61**	**291**	P			**P**	**16 22 40.5**	**+0.9**
MTSU	**Mount Surprise**	**23.77**	**268**	P			**P**	**16 22 42.7**	**+1.6**
QLP	**Quilpie**	**24.28**	**248**	P			**P**	**16 22 47.2**	**+1.6**
COEN	**Coen**	**25.65**	**278**	P			**P**	**16 22 58.6**	**+0.6**
COEN	**Coen**	**25.65**	**278**	P			**P**	**16 22 59.2**	**+1.2**
INKA	**Innaminka**	**27.56**	**247**	P			**P**	**16 23 16.3**	**+1.4**
STKA	**Stephens Creek**	**27.98**	**238**	P			**P**	**16 23 19.1**	**+0.5**
	1.5nm,0.3s,baz=68,slow=9.7,SNR=5.4								
	5nm,0.3s								
STKA	**Stephens Creek**	**27.98**	**238**	P			**P**	**16 23 19.1**	**+0.5**
STKA	**Stephens Creek**	**27.98**	**238**	‖*i*P			**P**	**16 23 19.7**	**+1.1**
QIS	**Mount Isa**	**28.03**	**262**	P			**P**	**16 23 21.8**	**+2.7**
OOD	**Oodnadatta**	**31.99**	**248**	P			**P**	**16 23 54.8**	**+1.0**
WR0	**Warramunga Arr**	**32.81**	**263**	P			**P**	**16 24 00.3**	**-0.8**
WR0				IAmb			IAmb	16 24 01.7	
	comp=Z,48nm,1.5s								
WB0	**Warramunga Arr**	**32.96**	**263**	P			**P**	**16 24 01.6**	**-0.8**
WB2	**Warramunga Arr**	**32.99**	**263**	P			**P**	**16 24 02.1**	**-0.6**
WRAB	**Tennant Creek**	**32.99**	**263**	P			**P**	**16 24 02.4**	**-0.3**
WRAB	**Tennant Creek**	**32.99**	**263**	*d*iP			**P**	**16 24 01.8**	**-0.9**
WRAB				pmax			pmax		
	comp=Z,20nm,1.3s								
WRAB	**Tennant Creek**	**32.99**	**263**	P			**P**	**16 24 02.2**	**-0.4**
WRAB				pP			**pP**	**16 24 51.7**	**+0.5**
WRAB				sP			**sP**	**16 25 18.6**	**-0.9**
WRA	**Warramunga Arr**	**33.00**	**263**	P			**P**	**16 24 02.2**	**-0.6**
	comp=Z,9.7nm,0.9s,baz=83,slow=6.7,SNR=58								
WRA				S			**S**	**16 29 00.2**	**-2.3**
	comp=Z,1.4nm,1.1s,baz=87,slow=17,SNR=6.6								
WRA				ScP			**ScP**	**16 29 59.4**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=107,slow=3.2,SNR=3.1								
	comp=Z,9.7nm,0.9s								
WRA	**Warramunga Arr**	**33.00**	**263**	*i*P			**P**	**16 24 02.5**	**-0.2**
WRA				pmax			pmax		
	comp=Z,3.0nm,0.4s								
GENI	**Genyem**	**33.01**	**296**	P			**P**	**16 24 04.5**	**+1.7**
GENI	**Genyem**	**33.01**	**296**	P			**P**	**16 24 03.8**	**+1.0**

comp=Z,31nm,1.3s
USA0B **Ussuriysk Arra** 71.77 333 ⇓*i*P P 16 28 47.0 +1.1
USRK **Ussuriysk Ar.** 71.77 333 P P 16 28 46.5 +0.7
comp=Z,12nm,1.1s,baz=132,slow=2.8,SNR=12
comp=Z,12nm,1.1s
PEA0B **Petropavlovsk-** 72.72 353 P P 16 28 52.3 +1.0
PEA0B IAmb IAmb 16 28 53.4
comp=Z,72nm,1.2s
PEA0B **Petropavlovsk-** 72.72 353 P P 16 28 52.3 +1.0
PEA0B pmax pmax
comp=Z,72nm,1.3s
PETK **Petropavlovsk-** 72.72 353 P P 16 28 51.9 +0.6
comp=Z,20nm,1.0s,baz=168,slow=5.8,SNR=12
comp=Z,20nm,1.0s
DL2 **Dalian** 73.08 323 P P 16 28 54.6 +0.9
DL2 pmax pmax
comp=Z,22nm,1.1s
MDJ **Mudanjiang** 73.16 331 P P 16 28 55.1 +1.0
MDJ pmax pmax
comp=Z,18nm,1.2s
MDJ pmax pmax
comp=Z,330nm,5.7s
MDJ **Mudanjiang** 73.16 331 P P 16 28 56.6 +2.5
NIKH **Nikolski High** 74.31 13 P P 16 29 00.2 -0.3
NIKH **Nikolski High** 74.31 13 P P 16 29 00.4 -0.1
baz=201
CN2 **Changchun** 74.51 329 *e*P P 16 29 02.8 +1.0
CN2 pP pP 16 30 02.6 +2.8
CN2 S S 16 38 16.4 +0.4
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
BNX **BinXian** 75.02 331 ⇓P P 16 29 05.0 +0.3
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,170nm,5.1s
UNV **Unalaska Valle** 75.66 14 P P 16 29 07.9 -0.3
baz=203
KLR **Kul'dur** 75.90 336 *c i*P P 16 29 10.5 +0.9
KLR pmax pmax
comp=Z,28nm,1.7s
HNS **HongShan** 76.27 318 ⇑P P 16 29 12.9 +0.9
HNS pmax pmax
comp=Z,6.0nm,1.5s
BJT **Baijiatuau** 76.99 321 P P 16 29 17.6 +1.6
BJI **Beijing** 77.00 321 P P 16 29 16.9 +0.9
BJI pmax pmax
comp=Z,4.0nm,1.0s
SPIA **Saint Paul Isl** 77.98 11 P P 16 29 21.1 +0.1
baz=200
XAN **Xi'an** 78.19 312 P P 16 29 23.6 +0.8
XAN pmax pmax
comp=Z,9.0nm,1.0s
KMI **Kunming** 78.38 302 ⇓P P 16 29 26.3 +2.0
KMI PcP PcP 16 29 32.6 +0.1
KMI pmax pmax
comp=Z,14nm,1.5s
S12K **Black Hills** 78.44 16 P P 16 29 23.3 -0.3
baz=207
HEH **HeiHe** 78.45 334 *e*P P 16 29 23.8 +0.1
HEH pmax pmax
comp=Z,11nm,1.1s
HEH pmax pmax
comp=Z,360nm,5.4s
CMAR **Chiang Mai Arr** 78.62 294 P P 16 29 26.6 +1.2
comp=Z,1.7nm,1.0s,baz=115,slow=4.4,SNR=11
comp=Z,1.7nm,1.0s
CMAR **Chiang Mai Arr** 78.62 294 P P 16 29 26.2 +0.7
CMAR **Chiang Mai Arr** 78.62 294 *i* P P 16 29 27.0 +1.6
CMAR pmax pmax
comp=Z,2.0nm,1.0s
XLT **XiLinHaoTe** 79.50 324 *e*P P 16 29 30.5 +0.8
XLT pmax pmax
comp=Z,9.0nm,1.2s
XLT pmax pmax
comp=Z,130nm,4.8s
PZH **PanZhiHua** 79.81 303 P P 16 29 33.3 +1.4
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,140nm,5.1s
CHGN **Chignik** 79.96 18 P P 16 29 31.7 -0.1
CHGN **Chignik** 79.96 18 P P 16 29 31.9 +0.2
baz=211
HHC **Hu-ho-hao-te** 80.29 319 *e*P P 16 29 35.4 +1.3
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,400nm,5.2s
CD2 **Chengdu** 80.33 307 P P 16 29 36.6 +2.2
ZEA **Zeya** 81.19 336 *e*P P 16 29 39.3 +1.0
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
R16K **Pilot Point** 81.29 17 P P 16 29 38.4 -0.3
baz=211
SII **Sitkinak Islan** 81.45 19 P P 16 29 40.2 +0.5
SII **Sitkinak Islan** 81.45 19 P P 16 29 39.9 +0.2
baz=214
R17K **Ugashik Creek** 81.69 18 P P 16 29 40.9 +0.1
baz=212
TNCH **TengChong** 81.76 300 ⇓P P 16 29 43.4 +1.2
TNCH sP sP 16 31 05.3 -2.5
TNCH pmax pmax
comp=Z,8.0nm,1.2s
BELA **Belgrano 2** 82.12 175 P P 16 29 41.8 -1.2
BELA IAmb IAmb 16 30 34.1
comp=Z,18nm,0.6s
OHAK **Old Harbor** 82.28 19 P P 16 29 44.1 +0.3
baz=215
Q17K **Contact Creek** 82.36 18 P P 16 29 44.3 -0.2
baz=213
P16K **Nushagak River** 82.43 16 P P 16 29 44.5 -0.1
baz=211
Q16K **King Salmon** 82.49 17 P P 16 29 44.5 -0.5
baz=212
MND **Mandalay** 82.50 296 P P 16 29 47.7 +1.8
LZH **Lanzhou** 82.81 312 *e*P P 16 29 49.3 +1.9
LZH pmax pmax
comp=Z,13nm,1.3s
O16K **Kokwok River B** 82.89 16 P P 16 29 47.1 +0.1
baz=211
Q18K **Katmai Hardscr** 82.94 18 P P 16 29 47.4 -0.1
baz=214,SNR=16
KDAK **Kodiak Island** 82.95 19 P P 16 29 48.0 +0.6
comp=Z,34nm,1.0s,baz=252,slow=4.8,SNR=6.7
comp=Z,34nm,1.0s
KDAK **Kodiak Island** 82.95 19 P P 16 29 48.0 +0.6
KDAK **Kodiak Island** 82.95 19 P P 16 29 47.6 +0.2
baz=216
KDAK **Kodiak Island** 82.95 19 P P 16 29 48.0 +0.6
KDAK pmax pmax
comp=Z,216nm,1.8s
SEY **Seymchan** 82.96 352 P P 16 29 46.6 -0.7
comp=Z,4.1nm,0.9s,baz=173,slow=22,SNR=11
comp=Z,4.1nm,0.9s
SEY **Seymchan** 82.96 352 ⇓*i*P P 16 29 47.5 +0.2
SEY pmax pmax
comp=Z,14nm,2.5s
O17K **Koliganek Bris** 83.31 16 P P 16 29 48.9 -0.3
baz=212
N16K **Nishlik Lake** 83.48 15 P P 16 29 50.6 +0.6
baz=210
P18K **Big Mountain,** 83.49 17 P P 16 29 50.0 -0.2
P18K **Big Mountain,** 83.49 17 P P 16 29 49.8 -0.4
baz=213,SNR=26
Q19K **Cape Douglas,** 83.57 18 P P 16 29 51.0 +0.5
Q19K **Cape Douglas,** 83.57 18 P P 16 29 50.4 -0.2
baz=215
Q20K **Shuyak Island** 83.69 19 P P 16 29 51.0 -0.1
baz=216
O18K **Koktuh Hills** 83.89 17 P P 16 29 52.2 +0.1
O18K **Koktuh Hills** 83.89 17 P P 16 29 52.0 -0.1
baz=213,SNR=5.3
GAMB **Gambell** 84.02 8 P P 16 29 53.4 +0.8
baz=198
P19K **Oil Pt** 84.28 18 P P 16 29 54.3 +0.1
P19K **Oil Pt** 84.28 18 P P 16 29 54.3 +0.1
baz=215
O19K **Port Alsworth** 84.42 17 P P 16 29 54.3 -0.4
baz=214,SNR=13
O20K **Slope Mountain** 84.81 18 P P 16 29 56.6 -0.2
baz=216

SVW2 **Sparrevohn** 84.83 16 P P 16 29 58.1 +1.3
SVW2 IAmb IAmb 16 29 59.3
comp=Z,28nm,1.3s
SVW2 **Sparrevohn** 84.83 16 P P 16 29 58.4 +1.6
N19K **Bonanza Creek** 84.89 17 P P 16 29 56.9 -0.3
baz=214
BRLK **Bradley Lake** 85.08 19 P P 16 29 58.7 +0.6
BRSE **Bradley Lake S** 85.10 19 P P 16 29 58.3 +0.1
baz=217
HOPS **Hoplund Field** 85.61 46 P P 16 30 01.8 +0.5
ANM **Nome** 85.74 11 P P 16 30 02.0 +0.8
baz=204
L19K **White Mountain** 85.93 16 P P 16 30 03.0 +0.7
L19K IAmb IAmb 16 30 05.7
comp=Z,24nm,0.9s
L19K **White Mountain** 85.93 16 P P 16 30 02.7 +0.5
baz=214
PKM **Mcpherson Peak** 86.02 51 P P 16 30 03.2 -0.3
baz=243
KHMM **Horse Mountain** 86.09 44 P P 16 30 03.9 +0.2
KHMM IAmb IAmb 16 30 06.2
comp=Z,48nm,1.1s
ELIB **Princess Elisa** 86.20 190 *d*P P 16 30 03.8 +0.1
ELIB *d*pP pP 16 31 00.8 -2.7
TNA **Tin City** 86.25 9 P P 16 30 04.1 +0.5
baz=201
TTA **Tatalina** 86.27 15 P P 16 30 04.1 +0.1
TTA IAmb IAmb 16 32 20.9
comp=Z,48nm,2.0s
TTA **Tatalina** 86.27 15 P P 16 30 04.0 +0.1
baz=212
TTA **Tatalina** 86.27 15 P P 16 30 05.6 +1.7
TTA **Tatalina** 86.27 15 P P 16 30 04.1 +0.1
TTA pmax pmax
comp=Z,48nm,2.0s
L20K **Farewell, AK** 86.43 16 P P 16 30 04.8 +0.1
baz=214
SUA **Susitna One** 86.47 18 P P 16 30 04.9 -0.1
baz=217
RC01 **Rabbit Creek A** 86.48 19 P P 16 30 05.9 +1.0
RC01 IAmb IAmb 16 30 14.9
comp=Z,30nm,1.2s
RC01 **Rabbit Creek A** 86.48 19 P P 16 30 05.1 +0.2
baz=218
SKT **Skwentna** 86.66 17 P P 16 30 06.6 +0.8
baz=217
PWL **Port Wells** 86.73 19 P P 16 30 06.3 +0.2
baz=220
ARVC **Arvin** 86.85 51 P P 16 30 06.5 -0.8
baz=244
YAK **Yakutsk** 86.88 342 *e*P P 16 30 05.0 -1.8
YAK pmax pmax
comp=Z,14nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.3s
M22K **Willow** 86.89 18 P P 16 30 07.6 +0.8
baz=218
ULN **Ulaanbaatar** 86.92 323 P P 16 30 07.0 -0.5
ULN IAmb IAmb 16 30 09.4
comp=Z,30nm,1.2s
ULN **Ulaanbaatar** 86.92 323 *c i*P P 16 30 08.0 +0.4
ULN pmax pmax
comp=Z,29nm,1.3s
ORV **Oroville** 86.95 46 P P 16 30 07.8 +0.1
ORV IAmb IAmb 16 30 09.6
comp=Z,26nm,1.1s
ORV **Oroville** 86.95 46 P P 16 30 07.8 +0.1
ORV pmax pmax
comp=Z,26nm,1.1s
VES **Vestal, Richgr** 86.98 51 P P 16 30 07.5 -0.4
baz=244
BILL **Bilibino** 87.02 359 P P 16 30 07.3 -0.1
BILL **Bilibino** 87.02 359 *de*P P 16 30 07.1 -0.2
BILL *e**PP pP 16 31 09.3 +2.2
BILL *e**SP sP 16 31 34.9 +1.8
BILL pmax pmax
comp=Z,20nm,1.3s
CMB **Columbia Colle** 87.03 48 P P 16 30 08.0 -0.1
CMB IAmb IAmb 16 30 10.0
comp=Z,27nm,1.1s
CMB **Columbia Colle** 87.03 48 P P 16 30 08.0 -0.1
CMB pmax pmax
comp=Z,27nm,1.1s
AFDM **Forest Hills D** 87.04 47 P P 16 30 07.6 -0.5
AFDM IAmb IAmb 16 30 10.0
comp=Z,42nm,1.2s
PMR **Palmer** 87.05 18 P P 16 30 07.8 +0.2
baz=219
K20K **Telida** 87.11 16 P P 16 30 08.1 +0.2
baz=214
KNK **Knik Glacier** 87.12 19 P P 16 30 08.2 +0.2
KNK **Knik Glacier** 87.12 19 P P 16 30 08.4 +0.4
baz=219
YBH **Yreka Blue Hor** 87.18 44 P P 16 30 09.2 +0.3
comp=Z,16nm,1.0s,baz=178,slow=3.5,SNR=18
comp=Z,16nm,1.0s
GTA **Gaotai** 87.21 313 *e*P P 16 30 09.9 +0.8
GTA pmax pmax
comp=Z,7.0nm,1.2s
SONM **Songino Array** 87.28 323 P P 16 30 09.5 +0.3
comp=Z,7.6nm,0.9s,baz=138,slow=5.3,SNR=30
comp=Z,7.6nm,0.9s
SONM **Songino Array** 87.28 323 P P 16 30 09.0 -0.2
SONM **Songino Array** 87.28 323 P P 16 30 09.0 -0.2
SONM pmax pmax
comp=Z,17nm,1.2s
BFSC **Mount Baldy Ra** 87.34 52 P P 16 30 09.0 -0.9
baz=245
ISA **Isabella, Lake** 87.35 51 P P 16 30 10.2 +0.4
ISA IAmb IAmb 16 30 11.9
comp=Z,36nm,1.1s
ISA **Isabella, Lake** 87.35 51 P P 16 30 09.1 -0.6
baz=244,SNR=10
ISA **Isabella, Lake** 87.35 51 P P 16 30 10.2 +0.4
ISA pmax pmax
comp=Z,36nm,1.2s
EDW2 **Edwards Air Fo** 87.36 52 P P 16 30 09.2 -0.7
baz=244,SNR=5.5
MURC **Murrieta** 87.42 53 P P 16 30 09.4 -0.7
baz=245
HUMO **Hull Mountain** 87.44 43 P P 16 30 10.6 +0.6
HUMO IAmb IAmb 16 30 12.5
comp=Z,37nm,1.1s
SML **Sawmill** 87.46 19 P P 16 30 10.2 +0.6
baz=219
GCSA **Galena City Sc** 87.61 14 P P 16 30 11.0 +0.8
baz=212
CAST **Castle Rocks** 87.68 16 P P 16 30 10.3 -0.3
baz=216
MONP2 **Monument Peak** 87.71 54 P P 16 30 11.0 -0.7
baz=245
SCM **Sheep Creek Mo** 87.79 19 P P 16 30 10.5 -0.7
SCM **Sheep Creek Mo** 87.79 19 P P 16 30 11.4 +0.2
baz=220
SCM **Sheep Creek Mo** 87.79 19 P P 16 30 10.5 -0.7
SCM pmax pmax
comp=Z,114nm,1.8s
LRMC **Laurel Mtn Rad** 87.85 51 P P 16 30 11.8 -0.4
baz=245
CWC **Cottonwood Cre** 87.97 50 P P 16 30 12.6 -0.2
baz=244
PFO **Pinyon Flats O** 87.98 53 P P 16 30 12.2 -0.6
comp=Z,9.7nm,1.0s,baz=72,slow=0.8,SNR=4.5
comp=Z,9.7nm,1.0s
PFO **Pinyon Flats O** 87.98 53 P P 16 30 12.9 0.0
baz=245
PFO **Pinyon Flats O** 87.98 53 ⇓*e*P P 16 30 12.7 -0.2
PFO pmax pmax
comp=Z,41nm,1.3s
TPFO **Pinon Flats** 87.98 53 P P 16 30 12.8 -0.1
baz=245
CHUM **Lake Minchumin** 87.99 16 P P 16 30 11.8 -0.2
baz=216
VCNR **Virginia City** 88.11 47 P P 16 30 14.1 +0.7
VCNR IAmb IAmb 16 30 15.5
comp=Z,24nm,1.4s
TIN **Tinemaha, Big** 88.13 50 P P 16 30 13.0 -0.4
baz=244
TRF **Thorofare Moun** 88.19 17 P P 16 30 12.6 -0.6
baz=218
WAT1 **Susitna Watana** 88.19 18 P P 16 30 13.7 +0.7
baz=219
SWSC **Sam W. Stewart** 88.21 54 P P 16 30 12.9 -0.9
baz=246
WAT6 **Susitna Watana** 88.24 18 P P 16 30 14.2 +0.8
baz=220
MPMC **Manual Prospec** 88.24 51 P P 16 30 13.3 -0.8
baz=245,SNR=11
GSC **Goldstone, Bar** 88.42 52 P P 16 30 14.4 -0.5
baz=245
LHV **Little Huntoon** 88.45 49 P P 16 30 15.5 +0.7
LHV IAmb IAmb 16 30 17.3
comp=Z,47nm,1.3s
N25K **Chitina, Valde** 88.48 20 P P 16 30 15.1 +0.6
baz=223
BPAW **Bear Paw Mtn.** 88.52 16 P P 16 30 15.2 +0.6
baz=217
TROLL **Troll, Antarti** 88.58 184 P P 16 30 14.5 -0.5
TROLL **Troll, Antarti** 88.58 184 pP pP 16 31 12.8 -2.3
HEC **Hector,Ludlow** 88.58 52 P P 16 30 15.7 +0.1
baz=245,SNR=7.0
RYN **Ryan** 88.60 48 P P 16 30 15.7 0.0
RYN IAmb IAmb 16 30 17.7
comp=Z,21nm,1.2s
LCH **Last Change Ra** 88.63 50 P P 16 30 16.1 +0.2
QSM **Queen of Sheba** 88.66 51 P P 16 30 16.1 +0.2
QSM IAmb IAmb 16 30 18.2
comp=Z,29nm,1.2s
NVAR **Mina Array Bea** 88.67 48 P P 16 30 16.8 +0.6
comp=Z,10nm,1.0s,baz=227,slow=7.7,SNR=40
comp=Z,10nm,1.0s
NVAR **Mina Array Bea** 88.67 48 P P 16 30 16.3 +0.1
GRAC **Grapevine Rang** 88.73 50 P P 16 30 16.8 +0.6
GRAC IAmb IAmb 16 30 18.5
comp=Z,43nm,1.2s
GRAC **Grapevine Rang** 88.73 50 P P 16 30 15.7 -0.5
baz=245,SNR=9.6
BC3 **Big Chuckawall** 88.77 54 P P 16 30 15.6 -0.9
baz=246,SNR=5.8
K05A **Summer Lake** 88.83 44 P P 16 30 17.3 +0.5
SIT **Sitka** 88.84 27 P P 16 30 16.2 +0.1
baz=231
MOD **Modoc Plateau** 88.84 45 P P 16 30 17.2 +0.5
MOD IAmb IAmb 16 30 18.7
comp=Z,30nm,1.1s
FURC **Furnace Creek,** 88.87 51 P P 16 30 16.0 -0.7
baz=245
GWY **Greenwater Val** 88.90 51 P P 16 30 17.3 +0.2
GWY IAmb IAmb 16 30 18.8
comp=Z,25nm,1.1s
H04A **Detroit Lake** 88.93 42 P P 16 30 17.0 +0.1
H04A IAmb IAmb 16 30 18.5
comp=Z,42nm,1.2s
BWN **Browne** 88.98 17 P P 16 30 17.0 +0.4
E03A **Lebam** 88.98 39 P P 16 30 17.4 +0.3
GLA **Glamis** 89.00 55 P P 16 30 16.8 -0.8
baz=246
S31K **Pelican** 89.04 26 P P 16 30 17.7 +0.7
baz=230
GMRC **Granite Mounta** 89.07 53 P P 16 30 17.7 -0.2
baz=246,SNR=5.2
KVN **Kaiserville** 89.08 48 P P 16 30 17.9 -0.1
KVN IAmb IAmb 16 30 19.9
comp=Z,26nm,1.2s
KVN **Kaiserville** 89.08 48 P P 16 30 17.9 -0.1
KVN pmax pmax
comp=Z,27nm,1.2s
I21K **Tanana** 89.13 15 P P 16 30 17.6 +0.2
I21K **Tanana** 89.13 15 P P 16 30 17.2 -0.1
baz=216
TUQ **Turquoise Moun** 89.14 52 P P 16 30 17.7 -0.6
baz=246,SNR=10
WCT **Wildcat Mounta** 89.18 51 P P 16 30 18.4 +0.1
WCT IAmb IAmb 16 30 20.4
comp=Z,27nm,1.1s
SNAA **Sanae** 89.20 182 P P 16 30 17.5 -0.4
SNAA **Sanae** 89.20 182 pP pP 16 31 15.2 -2.7
SNAA **Sanae** 89.20 182 P P 16 30 16.9 -0.9
SNAA IAmb IAmb 16 31 16.1
comp=Z,24nm,1.4s
SNAA **Sanae** 89.20 182 P P 16 30 17.0 -0.9
SNAA pmax pmax
comp=Z,24nm,1.4s
IRM **Iron Mountain** 89.20 53 P P 16 30 17.9 -0.6
baz=246,SNR=13
TPH **Tonopah** 89.29 49 P P 16 30 19.2 +0.2
TPH **Tonopah** 89.29 49 P P 16 30 19.2 +0.2
TPH pmax pmax
comp=Z,104nm,1.2s
PINE **Pine Mountain** 89.30 43 P P 16 30 19.5 +0.6
PINE IAmb IAmb 16 30 21.2
comp=Z,38nm,1.1s
H21K **Melozitna Rive** 89.32 15 P P 16 30 18.2 0.0
baz=215
MLY **Manley** 89.33 16 P P 16 30 17.6 -0.8
baz=217
IMAR **Indian Mountai** 89.36 14 P P 16 30 17.9 -0.5
O28M **Mount Upton** 89.39 22 P P 16 30 18.5 -0.5
baz=227
V35K **Ketchikan** 89.44 29 P P 16 30 18.7 -0.2
baz=234
BLYC **Blythe** 89.51 54 P P 16 30 20.6 +0.7
BLYC IAmb IAmb 16 30 22.9
comp=Z,50nm,1.4s
R31K **City Hall, Gus** 89.53 25 P P 16 30 19.6 +0.3
baz=230
HOOD **Mount Hood Mea** 89.56 41 P P 16 30 20.3 +0.3
M26K **Nabesna, AK** 89.58 20 P P 16 30 20.2 +0.6
M26K IAmb IAmb 16 31 15.2
comp=Z,69nm,2.0s
113A **Mohawk Valley,** 89.71 55 P P 16 30 21.2 +0.4
113A IAmb IAmb 16 30 23.0
comp=Z,42nm,1.5s
K24K **Donnelly Dome** 89.75 18 P P 16 30 20.3 0.0
baz=222
WRAK **Wrangell Islan** 89.75 28 P P 16 30 20.4 0.0
baz=233
VNA3 **Neumayer Olymp** 89.78 180 P P 16 30 19.9 -0.7
VNA3 **Neumayer Olymp** 89.78 180 pP pP 16 31 17.7 -2.9
CCB **Clear Creek Bu** 89.81 17 P P 16 30 19.4 -1.1
NEE2 **Needles Airpor** 89.84 53 P P 16 30 20.3 -1.1
baz=246
H22K **Ishtalitna Cre** 89.86 15 P P 16 30 20.8 +0.1
baz=217
G21K **Allakaket** 89.86 14 P P 16 30 20.2 -0.5
baz=215
HDA **Harding Lake** 89.86 17 P P 16 30 19.4 -1.4
HDA **Harding Lake** 89.86 17 P P 16 30 20.5 -0.3
baz=221
YUK8 **Steele Glacier** 89.89 22 P P 16 30 20.8 -0.5
baz=227
M27K **Edge Creek, AK** 89.92 21 P P 16 30 21.2 0.0
M27K IAmb IAmb 16 32 24.4
comp=Z,48nm,1.8s
L26K **Log Cabin Wild** 89.92 20 P P 16 30 20.3 -0.8
baz=224
MDM **Murphy Dome** 89.93 17 P P 16 30 19.0 -2.1
PLBC **Pleasant Camp** 89.95 24 P P 16 30 20.9 -0.3
baz=230
TCOL **CIGO, UAF Yank** 89.97 17 P P 16 30 21.2 0.0
baz=220
COLA **College** 89.97 17 P P 16 30 20.7 -0.5
baz=220
COLA **College** 89.97 17 ⇓*e*P P 16 30 20.0 -1.2
COLA pmax pmax
comp=Z,49nm,2.9s
RIDG **Independent Ri** 89.98 19 P P 16 30 21.3 -0.1
baz=222
YUK3 **Moose Creek** 89.99 21 P P 16 30 21.4 -0.3
baz=226
PDMCI **Parker Dam,Lak** 90.02 54 P P 16 30 21.4 -0.8
baz=247,SNR=8.7
VNA2 **Neumayer--Watz** 90.08 181 pP pP 16 31 19.3 -2.7
baz=174,slow=4.0
SHPR **Sheep Range** 90.14 51 P P 16 30 23.0 0.0
LON **Longmire** 90.14 40 P P 16 30 22.7 +0.1
LON IAmb IAmb 16 30 24.1
comp=Z,20nm,1.4s
LON **Longmire** 90.14 40 P P 16 30 22.7 +0.1
LON pmax pmax
comp=Z,20nm,1.4s
214A **Organ Pipe Nat** 90.14 56 P P 16 30 23.1 +0.2
214A IAmb IAmb 16 30 25.2
comp=Z,39nm,1.4s
214A **Organ Pipe Nat** 90.14 56 P P 16 30 21.7 -1.2
baz=247
IL31 90.16 17 P P 16 30 20.5 -1.6
ILAR **Eielson Array** 90.16 17 P P 16 30 20.2 -1.9
comp=Z,2.9nm,0.8s,baz=235,slow=4.7,SNR=23
comp=Z,2.9nm,0.8s
YUK6 **Outpost Mounta** 90.17 23 P P 16 30 21.3 -1.3

	baz=228							
S11A	**Rachel**	**90.17**	**50**	P	**P**	**16 30 23.0**	**0.0**	
WVOR	**Wild Horse Val**	**90.19**	**45**	P	**P**	**16 30 23.2**	**+0.2**	
WVOR				IAmb	IAmb	16 30 25.1		
	comp=Z,41nm,1.3s							
WVOR	**Wild Horse Val**	**90.19**	**45**	P	**P**	**16 30 23.2**	**+0.2**	
WVOR				pmax	pmax			
	comp=Z,41nm,1.3s							
BMN	**Battle Mountai**	**90.29**	**47**	P	**P**	**16 30 23.5**	**0.0**	
BMN				IAmb	IAmb	16 30 25.5		
	comp=Z,22nm,1.2s							
BMN	**Battle Mountai**	**90.29**	**47**	P	**P**	**16 30 23.5**	**0.0**	
BMN				pmax	pmax			
	comp=Z,22nm,1.2s							
BVCY	**Beaver Creek**	**90.30**	**21**	P	**P**	**16 30 22.3**	**-0.5**	
	baz=226							
YUK4	**Talbot Arm**	**90.33**	**22**	P	**P**	**16 30 23.6**	**+0.3**	
	baz=228							
I07A	**Izee**	**90.35**	**43**	P	**P**	**16 30 23.6**	**-0.1**	
I07A				IAmb	IAmb	16 30 25.9		
	comp=Z,34nm,1.3s							
ZAK	**Zakamensk**	**90.36**	**324**	*e*P	**P**	**16 30 22.6**	**-0.9**	
ZAK				pmax	pmax			
	comp=Z,11nm,1.2s							
SKAG	**Skagway**	**90.36**	**25**	P	**P**	**16 30 22.3**	**-0.9**	
	baz=231							
VNA1	**Neumayer--Stat**	**90.37**	**181**	pP	pP	16 31 21.1	-2.2	
HYT	**Haines Junctio**	**90.41**	**23**	P	**P**	**16 30 22.6**	**-0.9**	
	baz=229							
SCRK	**Sand Creek**	**90.41**	**19**	P	**P**	**16 30 23.1**	**-0.4**	
	baz=223							
L27K	**Beaver Creek,**	**90.43**	**20**	P	**P**	**16 30 22.7**	**-0.8**	
	baz=225							
F21K	**Alatna River**	**90.45**	**14**	P	**P**	**16 30 23.5**	**+0.1**	
	baz=215							
R11A	**Troy Canyon, C**	**90.58**	**49**	P	**P**	**16 30 24.7**	**-0.3**	
R11A				IAmb	IAmb	16 30 26.5		
	comp=Z,25nm,1.9s							
R11A	**Troy Canyon, C**	**90.58**	**49**	P	**P**	**16 30 23.8**	**-1.1**	
	baz=246,SNR=7.1							
PRN	**Pahroc Range**	**90.58**	**50**	P	**P**	**16 30 25.1**	**+0.2**	
PRN				IAmb	IAmb	16 30 27.2		
	comp=Z,28nm,1.0s							
J08A	**Circle Bar Ran**	**90.70**	**44**	P	**P**	**16 30 25.6**	**+0.2**	
J08A				IAmb	IAmb	16 30 27.2		
	comp=Z,18nm,1.0s							
G23K	**Bananza Creek**	**90.84**	**15**	P	**P**	**16 30 25.4**	**0.0**	
	baz=218							
O30N	**Mendenhall**	**90.90**	**24**	P	**P**	**16 30 25.7**	**-0.1**	
	baz=230							
J26L	**Joseph Creek**	**90.92**	**18**	P	**P**	**16 30 25.4**	**-0.5**	
	baz=224							
T35M	**Bob Quinn**	**91.02**	**28**	P	**P**	**16 30 26.2**	**-0.2**	
	baz=235							
LTY	**Liberty**	**91.07**	**40**	P	**P**	**16 30 26.8**	**-0.1**	
LTY				IAmb	IAmb	16 30 28.6		
	comp=Z,31nm,1.4s							
P32M	**Atlin**	**91.09**	**25**	P	**P**	**16 30 26.7**	**+0.1**	
	baz=232							
M29M	**Somme Creek**	**91.13**	**22**	P	**P**	**16 30 26.9**	**0.0**	
	baz=228							
S34M	**Telegraph Cree**	**91.17**	**27**	P	**P**	**16 30 27.1**	**+0.1**	
	baz=234,SNR=5.8							
COLD	**Coldfoot**	**91.21**	**15**	P	**P**	**16 30 27.2**	**+0.2**	
COLD	**Coldfoot**	**91.21**	**15**	P	**P**	**16 30 27.5**	**+0.5**	
	baz=218							
G08A	**Pilot Rock**	**91.24**	**42**	P	**P**	**16 30 27.6**	**-0.2**	
G08A				IAmb	IAmb	16 30 29.6		
	comp=Z,25nm,1.4s							
WHY	**Whitehorse**	**91.29**	**24**	P	**P**	**16 30 28.0**	**+0.4**	
	baz=231							
Q32M	**Nakina River**	**91.30**	**26**	P	**P**	**16 30 27.8**	**0.0**	
	baz=234							
HAWA	**Hanford**	**91.37**	**41**	P	**P**	**16 30 28.2**	**+0.1**	
HAWA				IAmb	IAmb	16 30 30.3		
	comp=Z,47nm,1.4s							
G24K	**Hadweenzic Riv**	**91.47**	**16**	P	**P**	**16 30 28.6**	**+0.4**	
	baz=220							
N31M	**Braeburn, Yuko**	**91.47**	**23**	P	**P**	**16 30 28.6**	**+0.3**	
N31M	**Braeburn, Yuko**	**91.47**	**23**	P	**P**	**16 30 28.5**	**+0.2**	
	baz=230							
I26K	**Coal Creek Min**	**91.62**	**18**	P	**P**	**16 30 29.4**	**+0.5**	
	baz=224							
L29M	**L29M**	**91.69**	**21**	P	**P**	**16 30 29.2**	**-0.1**	
	baz=228							
LCMT	**Little Creek M**	**91.75**	**51**	P	**P**	**16 30 30.6**	**+0.3**	
LCMT				IAmb	IAmb	16 30 33.1		
	comp=Z,32nm,1.7s							
ELK	**Elko**	**91.79**	**47**	P	**P**	**16 30 30.4**	**-0.2**	
ELK	**Elko**	**91.79**	**47**	P	**P**	**16 30 30.4**	**-0.2**	
ELK				pmax	pmax			
	comp=Z,10.0nm,1.4s							
M30M	**Minto, Yukon**	**91.81**	**22**	P	**P**	**16 30 28.9**	**-1.0**	
M30M				IAmb	IAmb	16 30 30.5		
	comp=Z,18nm,1.1s							
M30M	**Minto, Yukon**	**91.81**	**22**	P	**P**	**16 30 29.7**	**-0.2**	
	baz=230							
P33M	**Teslin, Yukon**	**91.82**	**25**	P	**P**	**16 30 30.3**	**+0.3**	
	baz=233							
EGAK	**Eagle**	**91.85**	**19**	P	**P**	**16 30 30.1**	**+0.2**	
EGAK	**Eagle**	**91.85**	**19**	P	**P**	**16 30 30.2**	**+0.2**	
	baz=226							
TUC	**Tucson**	**91.87**	**57**	P	**P**	**16 30 31.5**	**+0.6**	
	baz=248							
CCUT	**Cedar City**	**91.87**	**51**	P	**P**	**16 30 31.4**	**+0.3**	
CCUT				IAmb	IAmb	16 30 33.4		
	comp=Z,36nm,1.7s							
DAWY	**Dawson**	**91.92**	**20**	P	**P**	**16 30 30.4**	**0.0**	
	baz=227							
LLLB	**Lillooet**	**91.92**	**36**	P	**P**	**16 30 30.8**	**+0.1**	
LLLB				IAmb	IAmb	16 30 32.3		
	comp=Z,16nm,1.2s							
DLBC	**Dease Lake**	**91.95**	**27**	P	**P**	**16 30 30.3**	**-0.4**	
	comp=Z,13nm,1.0s,baz=240,slow=8.7,SNR=7.3							
	comp=Z,13nm,1.0s							
DLBC	**Dease Lake**	**91.95**	**27**	P	**P**	**16 30 31.1**	**+0.4**	
	baz=235							
F24K	**Squaw Lake**	**92.00**	**15**	P	**P**	**16 30 30.5**	**-0.1**	
	baz=220							
E23K	**Chandalar**	**92.00**	**14**	P	**P**	**16 30 30.6**	**-0.2**	
	baz=218							
N32M	**Quiet Lake**	**92.29**	**24**	P	**P**	**16 30 32.1**	**0.0**	
	baz=233							
I27K	**Kandik River**	**92.29**	**18**	P	**P**	**16 30 31.9**	**-0.2**	
	baz=226							
M31M	**Drury Creek, Y**	**92.44**	**23**	P	**P**	**16 30 33.2**	**+0.4**	
	baz=232							
MFID	**Camas Ranch**	**92.47**	**45**	P	**P**	**16 30 32.4**	**-1.1**	
D23K	**Nanushuk River**	**92.48**	**13**	P	**P**	**16 30 34.0**	**+1.2**	
	baz=217							
WUAZ	**Wupatki**	**92.59**	**53**	P	**P**	**16 30 35.2**	**+0.9**	
	baz=248							
F25K	**Christian Rive**	**92.62**	**16**	P	**P**	**16 30 33.5**	**-0.1**	
	baz=222							
G26K	**Porcupine Rive**	**92.64**	**17**	P	**P**	**16 30 33.7**	**+0.1**	
	baz=224							
H27K	**Steamboat Moun**	**92.75**	**18**	P	**P**	**16 30 34.7**	**+0.5**	
	baz=226							
FARO	**Faro, Yukon**	**92.84**	**23**	P	**P**	**16 30 34.0**	**-0.7**	
	baz=233							
E25K	**Arctic Village**	**93.03**	**15**	P	**P**	**16 30 35.2**	**-0.2**	
	baz=222							
G27K	**Doyon Strip**	**93.12**	**17**	P	**P**	**16 30 36.2**	**+0.3**	
	baz=226							
I29M	**Ogilvie Camp,**	**93.13**	**19**	P	**P**	**16 30 36.0**	**+0.1**	
	baz=228							
WTLY	**Watson Lake, Y**	**93.41**	**26**	P	**P**	**16 30 36.9**	**-0.4**	
	baz=236							
HLID	**Hailey**	**93.48**	**45**	P	**P**	**16 30 37.6**	**-0.7**	
	baz=247							
C24K	**Franklin Bluff**	**93.51**	**13**	P	**P**	**16 30 38.1**	**+0.6**	
	baz=219							
NEW	**Newport**	**93.66**	**40**	P	**P**	**16 30 37.2**	**-1.6**	
	comp=Z,1.3nm,0.3s,baz=320,slow=4.9,SNR=3.9							
	comp=Z,1.3nm,0.3s							
W18A	**Petrified Fore**	**93.69**	**54**	P	**P**	**16 30 39.1**	**-0.3**	
	baz=249							
HVU	**Hansel Valley**	**93.91**	**47**	P	**P**	**16 30 40.3**	**+0.1**	
HVU	**Hansel Valley**	**93.91**	**47**	P	**P**	**16 30 40.3**	**+0.1**	
HVU				pmax	pmax			
	comp=Z,5.0nm,1.1s							
E27K	**Coleen River**	**94.11**	**16**	P	**P**	**16 30 40.6**	**+0.2**	
	baz=226							
LIRD	**Liard River Hi**	**94.19**	**28**	P	**P**	**16 30 40.7**	**-0.1**	
	baz=239							
121A	**Cookes Peak, D**	**94.32**	**57**	P	**P**	**16 30 40.6**	**-1.7**	
	baz=250							

C27K	**Jago River**	**94.60**	**15**	P	**P**	**16 30 43.0**	**+0.5**	
	baz=224							
TIXI	**Tiksi**	**94.74**	**348**↓	*e*P	**P**	**16 30 44.9**	**+1.8**	
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.3s							
G30M	**tAoh Zraii Nji**	**94.83**	**19**	P	**P**	**16 30 43.6**	**-0.1**	
	baz=230							
F31M	**Tsiigehtchic**	**95.88**	**19**	P	**P**	**16 30 48.1**	**-0.3**	
	baz=233							
BOZ	**Bozeman (W)**	**96.09**	**44**	P	**P**	**16 30 49.2**	**-0.8**	
	baz=249							
ANMO	**Albuquerque**	**96.16**	**55**↑	*e*P	**P**	**16 30 51.3**	**+0.6**	
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.2s							
INK	**Inuvik**	**96.47**	**18**	P	**P**	**16 30 50.1**	**-0.9**	
	comp=Z,6.4nm,1.1s,baz=218,slow=5.6,SNR=9.5							
	comp=Z,6.4nm,1.1s							
INK	**Inuvik**	**96.47**	**18**	P	**P**	**16 30 49.6**	**-1.4**	
INK				IAmb	IAmb	16 30 51.2		
	comp=Z,12nm,1.2s							
INK	**Inuvik**	**96.47**	**18**	P	**P**	**16 30 50.9**	**0.0**	
	baz=233							
INK	**Inuvik**	**96.47**	**18**	P	**P**	**16 30 49.6**	**-1.4**	
INK				pmax	pmax			
	comp=Z,12nm,1.2s							
BW06	**Boulder Array**	**96.49**	**47**	P	**P**	**16 30 50.5**	**-1.5**	
	baz=250							
PDAR	**Pinedale Array**	**96.49**	**47**	P	**P**	**16 30 51.5**	**-0.6**	
	comp=Z,0.3nm,0.6s,baz=222,slow=2.0,SNR=4.6							
PDAR				PP	**PP**	**16 34 48.1**	**-1.8**	
	comp=Z,1.8nm,1.1s,baz=251,slow=4.5,SNR=6.3							
	comp=Z,0.3nm,0.6s							
TXAR	**Lajitas Array**	**96.62**	**61**	P	**P**	**16 30 52.8**	**-0.1**	
	comp=Z,1.0nm,0.8s,baz=234,slow=5.2,SNR=8.8							
	comp=Z,1.0nm,0.8s							
WMQ	**Urumqi**	**97.29**	**314**	*e*P	Pdif	16 30 56.8	+1.4	
PLCA	**Paso Flores**	**98.46**	**138**	P	Pdif	16 30 59.4	-1.6	
	comp=Z,1.7nm,0.8s,baz=355,slow=5.5,SNR=2.8							
	comp=Z,1.7nm,0.8s							
DGZ	**Jazzator, Alta**	**99.37**	**319**↓	*i*P	**Pdif**	**16 31 04.9**	**+0.2**	
DGZ				pmax	pmax			
	comp=Z,4.0nm,1.4s							
C36M	**Paulatuk**	**99.92**	**19**	P	**Pdif**	**16 31 05.9**	**-0.5**	
	baz=242							
YKA	**Yellowknife Ar**	**100.57**	**27**	P	**Pdif**	**16 31 09.7**	**+0.2**	
	comp=Z,2.5nm,0.8s,baz=252,slow=4.8,SNR=24							
YKA				PP	**PP**	**16 35 18.8**	**-1.3**	
	comp=Z,1.4nm,1.1s,baz=246,slow=7.8,SNR=6.1							
A36M	**Sachs Harbour**	**100.85**	**17**	P	**Pdif**	**16 31 10.4**	**-0.1**	
	baz=241							
MKAR	**Makanchi Array**	**101.81**	**315**	P	**Pdif**	**16 31 16.6**	**+1.2**	
	comp=Z,0.8nm,0.9s,baz=86,slow=7.4,SNR=7.3							
MKAR	**Makanchi Array**	**101.81**	**315**	*i* P	**Pdif**	**16 31 18.7**	**+3.2**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ZALV	**Zalesovo Beam**	**102.18**	**323**	Pdiff	**Pdif**	**16 31 17.4**	**+0.6**	
	comp=Z,0.3nm,0.3s,baz=94,slow=4.3,SNR=1.7							
BRVK	**Borovoye**	**110.55**	**320**↓	*i*PKIKP	**PKiKP**	**16 35 52.2**	**-1.0**	
BRVK				pmax	pmax			
	comp=Z,6.0nm,2.5s							
O48B	**Farmland**	**113.78**	**54**	P	**PKiKP**	**16 35 58.7**	**-1.0**	
	baz=264							
ARU	**Arti**	**117.30**	**324**	*i* PKIKP	**PKPdf**	**16 36 05.0**	**-1.0**	
ARU						16 37 19.8		
ARU						16 42 52.7		
ARU				SP	SP	16 46 33.9	-4.6	
ARU				SS	**SS**	**16 53 02.8**	**-7.9**	
GEYT	**Alibeck**	**118.12**	**303**	PKP	**PKPdf**	**16 36 08.0**	**-0.2**	
	comp=Z,1.3nm,0.7s,baz=163,slow=5.7,SNR=5.7							
LONY	**Lake Ozonia**	**121.67**	**49**	P	**PKPdf**	**16 36 13.7**	**-1.2**	
	baz=274							
KIRV	**Kirov**	**121.73**	**328**↑	*i*PKIKP	**PKPdf**	**16 36 14.2**	**-0.2**	
L61B	**Northampton**	**123.20**	**51**	P	**PKPdf**	**16 36 16.5**	**-1.3**	
	baz=274							
BELG	**Belogornoye**	**124.28**	**321**	*d i*PKIKP	**PKPdf**	**16 36 18.8**	**-0.7**	
VRH	**Novokhopyorsk**	**128.13**	**321**	*e*PKIKP	**PKPdf**	**16 36 25.1**	**-1.8**	
VRH				pmax	pmax			
	comp=Z,10.0nm,1.6s							
LPSR	**Galich'ya Gora**	**129.29**	**323**	*e*PKIKP	**PKPdf**	**16 36 28.1**	**-1.0**	
LPSR				pmax	pmax			
	comp=Z,10.0nm,1.4s							
KIV	**Kislovodsk**	**129.35**	**312**	*e*PKIKP	**PKPdf**	**16 36 30.0**	**+0.4**	
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VORR	**Voronezh**	**129.46**	**322**	PKIKP	**PKPdf**	**16 36 28.4**	**-1.0**	
VORR				pmax	pmax			
	comp=Z,10.0nm,1.4s							
NEY	**Neytrino**	**129.47**	**311**↓	*e*PKIKP	**PKPdf**	**16 36 29.6**	**-0.4**	
OBN	**Obninsk**	**129.55**	**327**	*e*PKIKP	**PKPdf**	**16 36 29.7**	**+0.2**	
OBN				*e*		16 37 30.8		
OBN				*e*		16 38 43.0		
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VSR	**Storozhevoye**	**129.65**	**321**	*e*PKIKP	**PKPdf**	**16 36 29.0**	**-0.8**	
VSR				pmax	pmax			
	comp=Z,10.0nm,1.8s							
FINES	**FINESS Array B**	**130.61**	**338**	SKPbc	**SKPbc**	**16 39 30.6**	**-0.7**	
	comp=Z,1.6nm,0.5s,baz=73,slow=4.0,SNR=15							
NOA	**NORSAR Array B**	**135.45**	**345**	SKP		16 39 52.7		
	comp=Z,1.3nm,0.9s,baz=82,slow=3.2,SNR=3.2							
AKASG	**Malin Array Be**	**135.55**	**324**	PKP	**PKPdf**	**16 36 40.9**	**0.0**	
	comp=Z,0.6nm,0.6s,baz=57,slow=2.1,SNR=4.6							
AKASG				SKP		16 39 49.1		
	comp=Z,1.7nm,0.7s,baz=46,slow=4.2,SNR=9.6							
MORC	**Moravsky Berou**	**142.11**	**330**	*e*PKP	**PKPdf**	**16 36 48.7**	**-4.3**	
KRLC	**Kraliky**	**142.25**	**331**	*e*PKP	**PKPdf**	**16 36 47.9**	**-5.4**	
KRLC	**Kraliky**	**142.25**	**331**	*e*PKHKP	PKPpre	16 36 47.9		
DPC	**Dobruska-Polom**	**142.26**	**332**	*e*PKP	**PKPdf**	**16 36 48.6**	**-4.7**	
DPC	**Dobruska-Polom**	**142.26**	**332**	*e*PKHKP	PKPpre	16 36 48.6		
VYHS	**Vyhne**	**142.33**	**328**	*e*PKIKP	**PKPdf**	**16 36 54.7**	**+1.3**	
VYHS	**Vyhne**	**142.33**	**328**	*e*PKP	**PKPdf**	**16 36 54.7**	**+1.3**	
JAVC	**Velka Javorina**	**142.67**	**329**	*e*PKP	**PKPdf**	**16 36 52.0**	**-2.1**	
VRAC	**Vranov**	**142.88**	**330**	*e*PKP	**PKPdf**	**16 36 51.9**	**-2.5**	
BRG	**Berggiesshubel**	**142.90**	**334**	Amp		16 36 53.2		
	comp=Z,12nm,1.3s							
BRG	**Berggiesshubel**	**142.90**	**334**	*e*PKIKP	**PKPdf**	**16 36 51.6**	**-2.7**	
BRG				pmax	pmax			
	comp=Z,12nm,1.3s							
BRG	**Berggiesshubel**	**142.90**	**334**	*e*PKP	**PKPdf**	**16 36 51.6**	**-2.7**	
CLL	**Collm**	**142.95**	**335**	*e*pPKPdf	pPKPdf	16 37 58.0	-0.1	
CLL	**Collm**	**142.95**	**335**	*i* PKIKP	**PKPdf**	**16 36 51.6**	**-2.8**	
CLL				*e*		16 37 58.0		
CLL				pmax	pmax			
	comp=Z,9.0nm,1.1s							
CLL	**Collm**	**142.95**	**335**	*i* PKPdf	**PKPdf**	**16 36 51.6**	**-2.8**	
	comp=Z,9.0nm,1.1s							
KRUC	**Moravsky**	**143.14**	**330**	*e*PKP	PKPab	16 36 51.7	+0.7	
PRU	**Pruhonice**	**143.31**	**333**	*e*PKP	PKPbc	16 36 52.8	-0.1	
PRU	**Pruhonice**	**143.31**	**333**	*e*PKIKP	PKPbc	16 36 52.8	-0.1	
NKC	**Novy Kostel**	**144.01**	**335**	*e*PKP	**PKPab**	**16 36 53.7**	**-0.7**	
NKC	**Novy Kostel**	**144.01**	**335**	*e*PKIKP	**PKPab**	**16 36 53.7**	**-0.7**	
RONA	**Rosalia, Austr**	**144.13**	**329**	*e*PKP	PKPbc	16 36 55.8	+0.4	
	comp=Z,33nm,1.0s,SNR=9.8							
CONA	**Conrad Observa**	**144.19**	**329**	*e*PKP	PKPbc	16 36 55.8	+0.2	
	comp=Z,14nm,1.2s,SNR=14							
STIP	**Stip**	**144.26**	**316**	*i* P	**PKPab**	**16 36 54.5**	**-1.1**	
CKRC	**Cesky Krumlov**	**144.28**	**322**	*e*PKP	**PKPab**	**16 36 55.4**	**-0.1**	
DIVS	**Divibare**	**144.37**	**321**	PKPdf	PKPbc	16 36 56.5	+0.2	
KHC	**Kasperske Hory**	**144.37**	**332**	PKPdf	**PKPab**	**16 36 55.8**	**0.0**	
KHC	**Kasperske Hory**	**144.37**	**332**	*e*PKP	**PKPab**	**16 36 55.7**	**-0.2**	
KHC	**Kasperske Hory**	**144.37**	**332**	*e*PKIKP	**PKPab**	**16 36 55.7**	**-0.2**	
GEC2	**GERESS Array S**	**144.53**	**332**		**PKPab**	**16 36 56.1**	**-0.5**	
GERES	**GERESS Array B**	**144.53**	**332**	PKP	**PKPab**	**16 36 56.2**	**-0.4**	
	comp=Z,7.2nm,0.8s,baz=35,slow=3.3,SNR=40							
GERES	**GERESS Array B**	**144.53**	**332**		**PKPab**	**16 36 56.1**	**-0.5**	
GERES	**GERESS Array B**	**144.53**	**332**	PKIKP	**PKPab**	**16 36 56.1**	**-0.5**	
SKO	**Skopje**	**144.61**	**317**	*i* P	**PKPdf**	**16 36 57.5**	**-0.1**	
LIT	**Litokhoron**	**144.79**	**313**		PKPbc	16 36 56.4	-1.2	
LIT	**Litokhoron**	**144.79**	**313**	PKIKP	PKPbc	16 36 56.4	-1.3	
ARSA	**Arzberg**	**144.82**	**329**	*e*PKP	**PKPab**	**16 36 57.7**	**+0.1**	
	comp=Z,16nm,1.2s,SNR=8.2							
MOA	**Molln**	**145.00**	**330**	*e*PKP	**PKPab**	**16 36 58.3**	**0.0**	
	comp=Z,30nm,1.1s,SNR=15							
FNA	**Florina**	**145.23**	**315**	PKPdf	**PKPdf**	**16 36 58.1**	**-0.7**	
FNA	**Florina**	**145.23**	**315**	PKP2	**PKPdf**	**16 36 58.1**	**-0.7**	
OHR	**Ohrid**	**145.45**	**316**	*i* P	**PKPbc**	**16 36 59.7**	**0.0**	
SOKA	**Soboth**	**145.46**	**328**	*e*PKP	**PKPdf**	**16 36 59.1**	**+0.1**	
	comp=Z,12nm,1.2s							
PDG	**Podgorica**	**145.75**	**319**	PKPbc	**PKPbc**	**16 37 00.6**	**+0.2**	
BTNL	**Ternell**	**145.98**	**341**	*d*PKP	**PKPbc**	**16 37 00.5**	**-0.5**	
KBA	**Koelnbreinsper**	**145.99**	**330**	*e*PKP	**PKPdf**	**16 37 00.6**	**+0.5**	
	comp=Z,4.3nm,0.5s							
MEM	**Membach**	**146.00**	**341**	*d*PKP	**PKPbc**	**16 37 00.7**	**-0.2**	
BSTI	**Sart Tilman**	**146.16**	**341**	*d*PKP	**PKPbc**	**16 37 01.6**	**+0.2**	
BHOU	**Houvegnez**	**146.22**	**341**	*d*PKPdf	**PKPdf**	**16 37 00.7**	**+0.6**	

BHOU				*d*PKP	**PKPbc**	**16 37 01.8**	**+0.2**	
BCLA	**Clavier**	**146.38**	**342**	*d*PKP	**PKPdf**	**16 37 00.9**	**+0.5**	
BGES	**Gesves**	**146.47**	**342**	*d*PKPdf	**PKPdf**	**16 37 00.0**	**-0.5**	
WATA	**Walderalm**	**146.60**	**332**	*e*PKP	**PKPbc**	**16 37 02.6**	**-0.5**	
	comp=Z,19nm,1.4s							
ABTA	**Abfaltersbach**	**146.62**	**331**	*e*PKP	**PKPbc**	**16 37 03.0**	**0.0**	
	comp=Z,26nm,1.2s							
WTTA	**Wattenberg**	**146.63**	**332**	*e*PKP	**PKPdf**	**16 37 02.2**	**+1.0**	
	comp=Z,24nm,1.2s,SNR=6.1							
RCHB	**Rochefort**	**146.63**	**341**	*d*PKP	**PKPbc**	**16 37 02.2**	**-0.6**	
BMRD	**Maredsous**	**146.64**	**342**	*d*PKP	**PKPbc**	**16 37 02.6**	**-0.2**	
WLF	**Walferdange**	**146.78**	**340**	PKPbc	**PKPbc**	**16 37 03.5**	**+0.3**	
WLF	**Walferdange**	**146.78**	**340**	PKP2	**PKPbc**	**16 37 03.5**	**+0.3**	
WLF	**Walferdange**	**146.78**	**340**	*d*PKP	**PKPbc**	**16 37 03.8**	**+0.6**	
MOTA	**Moosalm**	**146.81**	**333**	*e*PKP	**PKPbc**	**16 37 03.0**	**-0.6**	
	comp=Z,18nm,1.2s,SNR=5.4							
RETA	**Reutte**	**146.84**	**333**	*e*PKP	**PKPbc**	**16 37 03.2**	**-0.4**	
	comp=Z,14nm,1.6s							
SQTA	**Sankt Quirin**	**146.85**	**332**	*e*PKP	**PKPbc**	**16 37 03.4**	**-0.3**	
	comp=Z,8.0nm,0.6s							
DOU	**Dourbes**	**146.88**	**342**	*d*PKP	**PKPbc**	**16 37 03.2**	**-0.3**	
BFO	**Black Forest**	**147.15**	**336**		**PKPbc**	**16 37 03.8**	**-0.5**	
BFO	**Black Forest**	**147.15**	**336**	PKP2	**PKPbc**	**16 37 03.8**	**-0.5**	
FETA	**Feichten**	**147.22**	**333**	*e*PKP	**PKPbc**	**16 37 04.4**	**-0.3**	
	comp=Z,9.5nm,0.7s,SNR=6.8							
DAVA	**Damuels**	**147.37**	**334**	*e*PKP	**PKPbc**	**16 37 04.9**	**-0.3**	
	comp=Z,22nm,1.3s							
CTI	**Castel Tesino**	**147.54**	**331**		**PKPbc**	**16 37 05.6**	**0.0**	
CTI	**Castel Tesino**	**147.54**	**331**	PKP2	**PKPbc**	**16 37 05.6**	**0.0**	
ECH	**Echery**	**147.67**	**338**		**PKPbc**	**16 37 05.0**	**-0.7**	
ECH	**Echery**	**147.67**	**338**	PKP2	**PKPbc**	**16 37 05.0**	**-0.7**	
FUORN	**Ofenpass-Fuorn**	**147.73**	**333**		**PKPbc**	**16 37 05.8**	**-0.5**	
SENIN	**Lac Senin/Sane**	**149.16**	**335**		**PKPbc**	**16 37 09.1**	**-0.7**	
AQU	**L'Aquila**	**149.25**	**324**		**PKPbc**	**16 37 09.4**	**-0.6**	
AQU	**L'Aquila**	**149.25**	**324**	PKP2	**PKPbc**	**16 37 09.4**	**-0.6**	
BNI	**Bardonecchia**	**150.49**	**335**		**PKPbc**	**16 37 12.9**	**-0.1**	
BNI	**Bardonecchia**	**150.49**	**335**	PKIKP	**PKPbc**	**16 37 12.9**	**-0.1**	
ESDC	**Sonseca Array**	**158.81**	**346**	PKPab	**PKPab**	**16 37 53.8**	**-2.1**	
	comp=Z,0.9nm,0.9s,baz=348,slow=6.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**166.74**	**245**	PKP	**PKPdf**	**16 37 26.0**	**-1.2**	
	comp=Z,1.5nm,0.8s,baz=242,slow=3.2,SNR=7.0							
TORD	**Torodi Ar. Bea**	**166.74**	**245**		**PKPdf**	**16 37 26.1**	**-1.0**	

*ATH **24** 16:26:10.0, 40.15N×23.85E, h10km±2km, ML2.0/6, Error ellipse: s-maj=2.9km s-min=1.1km az=129.0*
*ISK **24** 16:26:10.1, 40.20N×23.82E, h5km, ML2.4/10*
*THE **24** 16:26:10.1, 40.16N×23.82E, h8km±2km, ML2.1/10, Error ellipse: s-maj=2.3km s-min=0.4km az=140.0*

ISC 24 16:26:10.0±0.9, 40.15N±0.02×23.83E±0.02, h10km±7km, n32, σ0.966/51, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.21**	**32**	P	**Pg**	**16 26 14.6**	**+0.1**
OUR				S	**Sg**	**16 26 17.7**	**+0.2**
	2µm,0.3s						
OUR	**Ouranopolis**	**0.21**	**32**	Pg	**Pg**	**16 26 14.5**	**+0.1**
OUR				Sg	**Sg**	**16 26 17.9**	**+0.4**
**

AKHS				S	Sg	16 28 07.9	+1.3		
STEP	**BALIKESIR_Sava**	**0.39**	**13**	P	Pg	16 28 04.8	-2.7		
STEP				S	Sg	16 28 13.7	+1.1		
ZEDA	**zmir-Bergama**	**0.41**	**266**	P	Pg	16 28 06.6	-1.4		
ZEDA				S	Sb	16 28 15.1	-1.0		
BUHA	**Balikesir, Bur**	**0.65**	**321**	P	Pb	16 28 13.6	0.0		
BUHA				S	Sb	16 28 22.0	-0.9		
BALY	**Balya**	**0.74**	**1**	P	Pg	16 28 12.8	-1.4		
DEMI	**Demirci**	**0.86**	**87**	P	Pg	16 28 16.2	-0.3		
DEMI				S	Sb	16 28 29.3	+0.2		
MANT	**Manisa**	**0.90**	**124**	P	Pg	16 28 17.1	-0.1		
MANT				S	Sb	16 28 29.9	-0.3		
BAYC	**CANAKKALE_Bayr**	**1.11**	**312**	P	Pb	16 28 21.5	+0.1		
BAYC				*i* AML	AML	16 28 38.0			
	comp=E,14nm,1.2s								
BAYC				S	Sn	16 28 38.6	+1.2		
USAK	**Uak-Merkez**	**1.14**	**104**	P	Pg	16 28 21.6	-0.1		
USAK				*i* AML	AML	16 28 35.0			
	comp=N,69nm,1.3s								
USAK				S	Sg	16 28 35.3	-1.2		
GDZ	**Gediz**	**1.46**	**86**	P	Pg	16 28 39.4	+12		
GDZ				S	Sg	16 28 48.0	+1.1		
GDZ				*i* AML	AML	16 28 59.0			
	comp=E,18nm,3.2s								

ROM 24 16:34:41.4±0.1, 42°.545N±0°.004×13°.257E±0°.004, h12km±1km, ML1.4/4, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=357.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.16**	**320**	P	Pg	16 34 45.6	+0.4
T1218				S	Sg	16 34 48.6	+0.6
T1218				AML	AML		
	comp=E,157μm,0.1s						
T1218				AML	AML		
	comp=N,284μm,0.2s						
T1218				AML	AML		
	comp=E,162μm,1.2s						
T1218				AML	AML		
	comp=E,157μm,0.1s						
T1218				AML	AML		
	comp=N,289μm,0.2s						
T1218				AML	AML		
	comp=E,162μm,0.8s						
LNSS	**Leonessa**	**0.17**	**290**	P	Pg	16 34 45.8	+0.5
LNSS				S	Sg	16 34 48.9	+0.7
LNSS				AML	AML		
	comp=E,210μm,0.9s						
LNSS				AML	AML		
	comp=N,272μm,1.5s						
T1222	**Castel Sant'An**	**0.22**	**229**	P	Pg	16 34 46.5	+0.4
T1222				S	Sg	16 34 50.2	+1.0
GIGS	**Gran Sasso**	**0.25**	**112**	P	Pb	16 34 47.3	-0.6
GIGS				S	Sg	16 34 51.2	+0.9
TERO	**Teramo**	**0.27**	**73**	P	Pg	16 34 47.4	+0.4
TERO				S	Sb	16 34 51.7	-0.9
TERO				AML	AML		
	comp=E,101μm,0.5s						
TERO				AML	AML		
	comp=N,93μm,0.3s						
TERO				AML	AML		
	comp=N,93μm,1.7s						
TERO				AML	AML		
	comp=E,101μm,1.5s						
FIAM	**Fiamignano**	**0.29**	**201**	⇓P	Pg	16 34 47.9	+0.5
FIAM				S	Sb	16 34 52.6	-0.8
T1215	**Vallo di Nera,**	**0.39**	**312**	⇑P	Pg	16 34 47.0	-2.1
T1216	**Preci, Frazion**	**0.39**	**333**	P	Pn	16 34 51.5	-1.3

*IDC **24** 16:37:36.1±2.8, 31°.98S×67°.68W, h35km±22km, mb3.3/2, mbtmp3.5/4, ML3.8/2, MS3.0/2, Error ellipse: s-maj=35.0km s-min=31.9km az=61.0*

ISC 24 16:37:36.2±0.9, 31°.9S±0°.1×67°.7W±0°.1, h35km, n9, σ0s89/8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFA	**Coronel Fontan**	**0.52**	**305**	Pg	**Pn**	**16 37 47.9**	**+0.7**
	70nm,0.3s,baz=168,slow=20,SNR=635						
CFA				Lg	Lg	16 37 58.6	
	baz=329,slow=18						
CFA				LR	LR	16 38 17.2	
	comp=Z,176nm,19.0s,baz=179,slow=68						
PLCA	**Paso Flores**	**9.10**	**194**	Pn	**Pn**	**16 39 45.2**	**+0.2**
	0.2nm,0.3s,baz=7.3,slow=11,SNR=4.9						
PLCA				Lg	Lg	16 42 13.6	
	0.3nm,0.3s,baz=102,slow=22,SNR=3.0						
PLCA				LR	LR	16 43 07.2	
	comp=Z,31nm,21.5s,baz=77,slow=37						
	0.9nm,0.5s						
CPUP	**Villa Florida**	**10.66**	**61**	Pn	**Pn**	**16 40 06.3**	**0.0**
	0.2nm,0.3s,baz=147,slow=8.8,SNR=1.7						
CPUP				Lg	Lg	16 43 08.4	
	0.8nm,0.3s,baz=170,slow=11,SNR=3.3						
	0.8nm,0.3s						
PMSA	**Palmer Station**	**32.98**	**177**	LR	LR	16 57 00.1	
	comp=Z,100nm,19.3s,baz=156,slow=35						
TORD	**Torodi Ar. Bea**	**80.08**	**68**	P	**P**	**16 49 43.6**	**+0.9**
	0.4nm,0.6s,baz=265,slow=4.9,SNR=1.8						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**83.63**	**330**	P	**P**	**16 49 59.6**	**-1.4**
	0.2nm,0.7s,baz=142,slow=5.3,SNR=2.0						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**124.28**	**205**	PKP	**PKPdf**	**16 56 31.1**	**-0.8**
	0.4nm,1.1s,baz=164,slow=1.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**150.50**	**34**	PKPbc	**PKPbc**	**16 57 23.6**	**0.0**
	1.2nm,0.6s,baz=294,slow=4.7,SNR=5.5						
MKAR	**Makanchi Array**	**152.67**	**48**	PKPbc	**PKiKP**	**16 57 29.2**	**+0.1**
	0.4nm,0.7s,baz=321,slow=1.7,SNR=4.3						

*SOME **24** 17:04:54.9, 42°.37N×73°.33E, h10km*
*KRNET **24** 17:04:54.1±0.1, 42°.34N×73°.32E, h18km, mb2.4*
*KNET **24** 17:04:55.6±0.4, 42°.35N×73°.45E, h14km±1km, ml1.6, Error ellipse: s-maj=2.8km s-min=1.5km az=88.0*
*NNC **24** 17:04:55.1±0.5, 42°.39N×73°.33E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=3.9km s-min=2.2km az=4.0*

ISC 24 17:04:53.5±1.1, 42°.37N±0°.03×73°.25E±0°.02, h5km±10km, n52, σ0s95/77, 26C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**0.38**	**358**	P	**Pb**	**17 05 02.5**	**-0.3**
	56nm,0.1s						
MRKS				S	**Sb**	**17 05 08.0**	**-1.0**
	193nm,0.1s						
MRKS	**Merke**	**0.38**	**358**	*e*P	**Pb**	**17 05 02.5**	**-0.3**
	56nm,0.1s						
MRKS				*e*S	**Sb**	**17 05 08.0**	**-1.0**
	193nm,0.1s						
AML	**Almayashu**	**0.41**	**125**	⇓P	**Pg**	**17 05 01.6**	**+0.1**
	49nm,0.1s,SNR=22						
AML				⇓S	**Sg**	**17 05 06.8**	**-0.1**
	366nm,0.2s						
AML	**Almayashu**	**0.41**	**125**	⇑*i*P	**Pg**	**17 05 01.2**	**-0.3**
	baz=27						
AML				⇑*i*S	**Sg**	**17 05 06.2**	**-0.7**
	baz=27						
EKS2	**Erkin-Say**	**0.49**	**53**	⇑P	**Pg**	**17 05 03.7**	**+0.8**
	6.1nm,0.2s,SNR=21						
EKS2				⇑S	**Sg**	**17 05 09.9**	**+0.5**
	20nm,0.2s						
EKS2	**Erkin-Say**	**0.49**	**53**	⇓*i*P	**Pg**	**17 05 03.3**	**+0.3**
	baz=46						
EKS2				⇓*i*S	**Sg**	**17 05 09.8**	**+0.4**
	baz=46						
ARLS	**Aral**	**0.95**	**122**	⇑*i*P	**Pg**	**17 05 10.9**	**-0.8**
	baz=23						
ARLS				⇑*i*S	**Sg**	**17 05 23.0**	**-1.0**
	baz=23						
UCH	**Uchtor**	**0.95**	**98**	⇑P	**Pg**	**17 05 11.4**	**-0.4**
	4.7nm,0.1s,SNR=42						
UCH				⇑S	**Sg**	**17 05 23.9**	**-0.2**
	41nm,0.3s						
UCH	**Uchtor**	**0.95**	**98**	⇑*e*P	**Pg**	**17 05 11.0**	**-0.8**
	baz=97						
UCH				⇑*i*S	**Sg**	**17 05 23.2**	**-0.9**
	baz=97						
AAK	**Ala-Archa**	**0.96**	**73**	⇑P	**Pg**	**17 05 11.9**	**-0.1**
	3.4nm,0.1s,SNR=12						
AAK				⇑S	**Sg**	**17 05 24.0**	**-0.4**
	13nm,0.3s						
AAK	**Ala-Archa**	**0.96**	**73**	⇑*i*P	**Pg**	**17 05 11.4**	**-0.6**
	baz=71						
AAK				⇑*i*S	**Sg**	**17 05 23.8**	**-0.7**
	baz=71						
ARK	**Arkit**	**1.11**	**240**	⇑*i*P	**Pn**	**17 05 15.5**	**-0.3**
	baz=42						
ARK				⇑*i*S	**Sn**	**17 05 30.8**	**-0.8**
	baz=42						
FRU1	**Bishkek**	**1.11**	**66**	⇑*i*P	**Pg**	**17 05 14.1**	**-0.8**
	baz=64						
FRU1				⇑*i*S	**Sg**	**17 05 28.6**	**-0.7**
	baz=64						
CHMS	**Chumysh**	**1.28**	**60**	⇓P	**Pn**	**17 05 17.8**	**-0.3**
	2.0nm,0.1s						
CHMS				⇑S	**Sg**	**17 05 33.9**	**-0.7**
	8.1nm,0.1s						
CHMS	**Chumysh**	**1.28**	**60**	⇓*i*P	**Pn**	**17 05 17.1**	**-1.0**
	baz=58						
CHMS				⇓*i*S	**Sg**	**17 05 33.7**	**-0.9**
	baz=58						
USP	**Ospenovka**	**1.29**	**45**	⇑P	**Pn**	**17 05 18.0**	**-0.2**
	2.5nm,0.1s,SNR=10						
USP				⇑S	**Sg**	**17 05 35.3**	**+0.4**
	11nm,0.1s						
USP	**Ospenovka**	**1.29**	**45**	⇓*i*P	**Pn**	**17 05 17.6**	**-0.6**
	baz=43						
USP				⇓*i*S	**Sg**	**17 05 34.5**	**-0.4**
	baz=43						
SGDS	**Sogindy**	**1.49**	**43**	P	**Pb**	**17 05 22.0**	**+0.3**
	1.1nm,0.1s						
SGDS				S	**Sb**	**17 05 41.4**	**+0.5**
	8.7nm,0.1s						
DZA	**Taraz**	**1.51**	**291**	*e*P	**Pg**	**17 05 23.4**	**+1.0**
	28nm,0.1s						
DZA				*e*S	**Sg**	**17 05 43.8**	**+1.8**
	45nm,0.1s						
TRKS	**Terek-Say**	**1.78**	**243**	⇓*i*P	**Pg**	**17 05 27.5**	**-0.1**
	baz=42						
TRKS				⇓*i*S	**Sg**	**17 05 51.7**	**+1.1**
	baz=42						
TKM2	**Tokmak 2**	**1.82**	**72**	⇑P	**Pb**	**17 05 27.2**	**-0.2**
	1.8nm,0.1s,SNR=12						
TKM2				⇑S	**Sb**	**17 05 51.0**	**+0.3**
	22nm,0.2s						
TKM2	**Tokmak 2**	**1.82**	**72**	⇓*i*P	**Pn**	**17 05 26.6**	**+0.9**
	baz=70						
TKM2				⇓*i*S	**Sn**	**17 05 50.2**	**+0.9**
	baz=70						
DGS	**Degeres**	**2.06**	**64**	Pg	**Pb**	**17 05 31.7**	**+0.3**
	2.7nm,0.3s						
DGS				Lg	Lg	17 05 58.6	
	14nm,0.3s						
DGS	**Degeres**	**2.06**	**64**	*e*Pg	**Pb**	**17 05 31.7**	**+0.3**
	2.7nm,0.2s						
DGS				*e*Lg	Lg	17 05 58.6	
	19nm,0.2s						
KST	**Kastek**	**2.11**	**70**	Pg	**Pb**	**17 05 33.1**	**+0.7**
	0.9nm,0.1s						
KST				Lg	Lg	17 06 00.7	
	16nm,0.3s						
KST	**Kastek**	**2.11**	**70**	*e*Pg	**Pb**	**17 05 33.1**	**+0.7**
	2.8nm,0.1s						
KST				*e*Lg	Lg	17 06 00.7	
	20nm,0.2s						
KK31	**Karatay Array**	**2.14**	**291**	⇑Pn	**Pg**	**17 05 33.6**	**-1.0**
	1.5nm,0.4s,baz=109,slow=16,SNR=8.7						
KK31				⇓Sn	**Sg**	**17 06 02.0**	**-0.4**
	5.0nm,0.3s,baz=106,slow=30,SNR=18						
KKAR	**Karatay Array**	**2.14**	**291**	⇓*i*P	**Pb**	**17 05 32.6**	**-0.2**
	baz=91						
KKAR				⇓*i*S	**Sg**	**17 06 00.5**	**-1.9**
	baz=91						
KRBS	**Karabastau**	**2.22**	**52**	Pg	**Pb**	**17 05 33.7**	**-0.5**
	1.0nm,0.2s						
KRBS				Lg	Lg	17 06 03.1	
	4.9nm,0.4s						
KRBS	**Karabastau**	**2.22**	**52**	*e*Pg	**Pb**	**17 05 33.7**	**-0.5**
	1.0nm,0.1s						
KRBS				*e*Lg	Lg	17 06 02.4	
	4.9nm,0.2s						
NRN	**Naryn**	**2.26**	**113**	⇑*e*P	**Pn**	**17 05 32.3**	**+0.5**
	baz=14						
NRN				⇑*i*S	**Sn**	**17 06 00.1**	**-0.1**
	baz=14						
IUG	**Iuzhnay**	**2.40**	**266**	Pg	**Pg**	**17 05 39.6**	**+0.2**
	8.1nm,0.2s						
IUG				Lg	Lg	17 06 11.9	
	57nm,0.6s						
IUG	**Iuzhnay**	**2.40**	**266**	*e*Pg	**Pg**	**17 05 39.6**	**+0.2**
	8.1nm,0.1s						
IUG				*e*Lg	Lg	17 06 11.9	
	67nm,0.2s						
MTBS	**Maitube**	**2.47**	**71**	Pg	**Pb**	**17 05 39.1**	**+0.7**
	1.7nm,0.2s						
MTBS				Lg	Lg	17 06 10.7	
	10nm,0.3s						
MTBS	**Maitube**	**2.47**	**71**	*e*Pg	**Pb**	**17 05 39.1**	**+0.7**
	1.7nm,0.1s						
MTBS				*e*Lg	Lg	17 06 10.7	
	10nm,0.3s						
IZV	**Izvestkoviy**	**2.57**	**74**	Pg	**Pb**	**17 05 41.4**	**+1.2**
	0.5nm,0.1s						
IZV				Lg	Lg	17 06 14.6	
	3.6nm,0.2s						
IZV	**Izvestkoviy**	**2.57**	**74**	*e*Pg	**Pb**	**17 05 41.4**	**+1.2**
	1.7nm,0.1s						
IZV				*e*Lg	Lg	17 06 14.6	
	9.4nm,0.1s						
KUU	**Kurty**	**2.73**	**55**	Pg	**Pb**	**17 05 43.3**	**+0.5**
	0.6nm,0.1s						
KUU				Lg	Lg	17 06 17.9	
	3.3nm,0.2s						
KUU	**Kurty**	**2.73**	**55**	*e*Pg	**Pb**	**17 05 43.3**	**+0.5**
	0.6nm,0.1s						
KUU				*e*Lg	Lg	17 06 17.9	
	5.4nm,0.2s						
BTLS	**Baital**	**2.74**	**12**	Pg	**Pb**	**17 05 44.0**	**+1.1**
	0.4nm,0.1s						
BTLS				Lg	Lg	17 06 19.4	
	2.2nm,0.2s						
BTLS	**Baital**	**2.74**	**12**	*e*Pg	**Pb**	**17 05 44.0**	**+1.1**
	0.5nm,0.1s						
BTLS				*e*Lg	Lg	17 06 19.4	
	5.1nm,0.3s						
TNSS	**Tian-Shan**	**2.81**	**75**	Pg	**Pb**	**17 05 45.4**	**+1.0**
	1.7nm,0.3s						
TNSS				Lg	Lg	17 06 21.5	
	2.8nm,0.5s						
TNSS	**Tian-Shan**	**2.81**	**75**	*e*Pg	**Pb**	**17 05 45.4**	**+1.0**
	1.7nm,0.3s						
TNSS				*e*Lg	Lg	17 06 21.5	
	5.5nm,0.4s						
KTBS	**Karatobe**	**2.86**	**61**	Pg	**Pb**	**17 05 45.8**	**+0.8**
	0.3nm,0.1s						
KTBS				Lg	Lg	17 06 22.3	
	16nm,0.4s						
KTBS	**Karatobe**	**2.86**	**61**	*e*Pg	**Pb**	**17 05 45.8**	**+0.8**
	1.2nm,0.3s						
KTBS				*e*Lg	Lg	17 06 22.3	
	16nm,0.2s						
KOTS	**Kotyrbulak**	**2.98**	**72**	Pg	**Pb**	**17 05 49.1**	**+2.1**
	2.3nm,0.4s						
KOTS				Lg	Lg	17 06 28.5	
	5.2nm,0.2s						
KOTS	**Kotyrbulak**	**2.98**	**72**	*e*Pg	**Pb**	**17 05 49.1**	**+2.1**
	2.3nm,0.4s						
KOTS				*e*Lg	Lg	17 06 28.5	
	8.7nm,0.3s						
CHKK	**Chushkaly**	**3.12**	**60**	Pg	**Pb**	**17 05 50.2**	**+0.8**
	0.4nm,0.1s						
CHKK				Lg	Lg	17 06 29.9	
	3.7nm,0.2s						
CHKK	**Chushkaly**	**3.12**	**60**	*e*Pg	**Pb**	**17 05 50.2**	**+0.8**
	0.4nm,0.1s						
CHKK				*e*Lg	Lg	17 06 29.9	
	7.4nm,0.1s						
ARXS	**Arharly**	**3.82**	**60**	Pg	**Pb**	**17 06 04.4**	**+2.9**
	0.9nm,0.2s						
ARXS				Lg	Lg	17 06 54.1	
	1.9nm,0.1s						
ARXS	**Arharly**	**3.82**	**60**	*e*Pg	**Pb**	**17 06 04.4**	**+2.9**
	2.2nm,0.4s						
ARXS				*e*Lg	Lg	17 06 54.1	
	1.9nm,0.1s						
KPKS	**Kokpek**	**4.14**	**73**	*e*Pg	**Pg**	**17 06 11.5**	**-1.3**
	0.9nm,0.1s						
KPKS				*e*Lg	Lg	17 07 06.0	
	4.2nm,0.2s						

*IDC **24** 17:08:08.1±1.1, 56°.25S×150°.73W, h0km, mb3.9/3, mbtmp3.9/3, MS3.5/2, Error ellipse: s-maj=132.9km s-min=32.8km az=5.0*
*NEIC **24** 17:08:09.6±2.3, 56°.2S±0°.2×150°.7W±0°.3, h10km±1km, mb4.7/4, Error ellipse: s-maj=40.6km s-min=26.0km az=210.0*

ISC 24 17:08:09.0±0.9, 56°.4S±0°.6×150°.7W±0°.2, h10km, n24, σ0s64/16, mb4.1/5, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**41.52**	**63**	LR	LR	17 28 14.7	
	comp=Z,40nm,21.7s,baz=173,slow=29						
H03N3	**Juan Fernandez**	**53.04**	**96**	T	T	18 14 34.9	
	baz=222,slow=72,SNR=30						
H03N2	**Juan Fernandez**	**53.05**	**96**	T	T	18 14 39.8	
	baz=222,slow=72,SNR=24						
H03N1	**Juan Fernandez**	**53.06**	**96**	T	T	18 14 39.7	
	baz=222,slow=72,SNR=29						
AS31	**Alice Springs**	**62.58**	**268**	P	**P**	**17 18 33.0**	**-0.1**
ASAR	**Alice Springs**	**62.58**	**268**	P	**P**	**17 18 33.7**	**+0.6**
	1.2nm,0.8s,baz=134,slow=6.4,SNR=16						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**62.58**	**268**	P	**P**	**17 18 33.0**	**-0.1**
AC02	**Maricunga**	**63.52**	**99**	P	**P**	**17 18 39.4**	**-0.5**
WRA	**Warramunga Arr**	**65.31**	**271**	P	**P**	**17 18 51.8**	**+0.8**
	0.8nm,1.0s,baz=146,slow=5.2,SNR=2.5						
	0.8nm,1.0s						
MNMC	**Minye Minye**	**69.40**	**94**	P	**P**	**17 19 17.6**	**+0.2**
MNMC				IAmb	IAmb	17 19 19.0	
	comp=Z,7.1nm,0.9s						
PB16	**IPOC Station P**	**70.09**	**93**	P	**P**	**17 19 20.6**	**-1.3**
PB16				IAmb	IAmb	17 19 35.5	
	comp=Z,6.1nm,1.3s						
CPUP	**Villa Florida**	**70.30**	**108**	P	**P**	**17 19 23.5**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=207,slow=11,SNR=2.9						
	comp=Z,0.4nm,0.3s						
RCBR	**Riachuelo**	**98.53**	**114**	LR	LR	18 04 07.2	
	comp=Z,32nm,18.2s,baz=326,slow=34						
H10N3	**ASCENSION HYDR**	**106.56**	**134**	T	T	19 21 56.0	
	baz=203,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**106.57**	**134**	T	T	19 21 53.8	
	baz=203,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**106.58**	**134**	T	T	19 21 54.6	
	baz=203,slow=75,SNR=13						
ILAR	**Eielson Array**	**120.88**	**2**	PKP	**PKPdf**	**17 26 60.0**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=190,slow=2.8,SNR=5.7						
RAYN	**Ar Rayn**	**145.07**	**207**		**PKPab**	**17 27 45.1**	**-0.6**
MK31	**Makanchi Array**	**146.49**	**276**		**PKPbc**	**17 27 49.0**	**-0.4**
MKAR	**Makanchi Array**	**146.49**	**276**	PKPbc	**PKPab**	**17 27 50.0**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=124,slow=3.5,SNR=29						
MKAR	**Makanchi Array**	**146.49**	**276**		**PKPbc**	**17 27 49.5**	**+0.1**
MAKZ	**Makanchi**	**146.67**	**276**		**PKPbc**	**17 27 49.3**	**-0.6**
ZALV	**Zalesovo Beam**	**148.91**	**289**	PKPbc	**PKPbc**	**17 27 55.7**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=111,slow=2.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**148.91**	**289**		**PKPbc**	**17 27 55.5**	**-0.2**

DJA 24 17:11:12.5±0.4, 3°N±3°×97°8E±°, h11km±4km, M3.5/9, MLv3.5/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSI	**Tuntungan**	**0.34**	**39**	P	Pg	17 11 19.4	0.0
TSI	**Tuntungan**	**0.34**	**39**	P	Pg	17 11 19.9	+0.5
KCSI	**Kotacane, Aceh**	**0.65**	**297**	P	Pn	17 11 28.4	+0.8
KCSI	**Kotacane, Aceh**	**0.65**	**297**	P	Pn	17 11 26.9	-0.7
GSI	**Gunungsitoli**	**2.06**	**202**	P	Pb	17 11 51.0	+1.0
GSI	**Gunungsitoli**	**2.06**	**202**	P	Pb	17 11 49.6	-0.4
SNSI	**Sinabang, Aceh**	**2.18**	**248**	P	Pn	17 11 47.2	-1.5
MLSI	**Meulaboh, Aceh**	**2.20**	**298**	P	Pb	17 11 51.2	-1.1
MLSI	**Meulaboh, Aceh**	**2.20**	**298**	P	Pn	17 11 47.7	-1.3
LHMI	**Lhok Sumawe**	**2.43**	**325**	P	Pn	17 11 51.3	-0.9
BKNI	**Bangkinang**	**3.94**	**137**	P	Pn	17 12 12.8	-0.2

*NIED **24** 17:26:00.6, 33°.27N×138°.12E, h337km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.94; Mθθ0.57; Mϕϕ-1.52; Mrθ-0.03; Mθϕ0.52; Mϕr-1.82; Fault plane solution: M0 2.26000×10^15 NP1: ϕs182.00000°, δ74.00000°, λ104.00000°. NP2: ϕs320.00000°, δ22.00000°, λ50.00000°.*
*JMA **24** 17:26:00.6±0.4, 33°.N±1°×138°.8E±°, h337km±3km, MV3.9/30, FAR S OFF TOKAI DISTRICT*
*MOS **24** 17:26:00.9±1.0, 33°.21N×138°.00E, h317km, mb4.0/18, Error ellipse: s-maj=8.9km s-min=5.6km az=100.5*
*IDC **24** 17:26:02.2±0.6, 33°.26N×138°.00E, h314km±5km, mb3.5/18, mbtmp4.2/25, Error ellipse: s-maj=10.4km s-min=8.6km az=94.0*
*NEIC **24** 17:26:03±2.6, 33°.30N±0°.06×138°.11E±0°.07, h321km±3km, mb4.2/109, Error ellipse: s-maj=9.4km s-min=8.0km az=130.0*

ISC 24 17:26:02.2±0.4, 33°.28N±0°.04×138°.06E±0°.05, h317km±3km, n283, σ1s25/316, mb4.1/92, 9C-10D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK02	**Tokai 2**	**0.71**	**339**	P	**Pn**	**17 26 44.2**	**+1.3**
TK02				X		17 27 17.9	
TTO3	**TONANKAI O.B.S**	**0.80**	**316**	P	**Pn**	**17 26 44.8**	**+1.5**
TTO4	**TONANKAI O.B.S**	**0.85**	**329**	P	**Pn**	**17 26 44.5**	**+1.2**
TK03	**Tokai 3**	**0.89**	**355**	P	**Pn**	**17 26 45.2**	**+1.5**
TK03				*e*S	**S**	**17 27 19.8**	**+3.1**
TTO2	**TONANKAI O.B.S**	**0.98**	**298**	P	**Pn**	**17 26 45.4**	**+1.6**
TTO5	**TONANKAI O.B.S**	**1.01**	**343**	P	**Pn**	**17 26 45.5**	**+1.3**
TK04	**Tokai 4**	**1.11**	**352**	P	**Pn**	**17 26 46.1**	**+1.4**
TK04				S	**S**	**17 27 21.1**	**+2.6**
TTO1	**TONANKAI O.B.S**	**1.12**	**288**	P	**Pn**	**17 26 45.8**	**+1.3**
JSG	**Sagara**	**1.39**	**4**		**Pn**	**17 26 46.7**	**+0.4**
JSG				Sn	**S**	**17 27 20.9**	**-0.6**
JSG	**Sagara**	**1.39**	**4**	P	**Pn**	**17 26 47.8**	**+1.5**
JHJ	**Hachijo jima 2**	**1.45**	**96**	P	**Pn**	**17 26 47.1**	**+0.4**
	126nm,0.3s,baz=221,slow=9.3,SNR=10						
JHJ				S	**S**	**17 27 23.1**	**+0.9**
	144nm,0.3s,baz=270,slow=20,SNR=2.5						
JHJ2	**Mitsune**	**1.48**	**96**	Pn	**Pn**	**17 26 46.8**	**-0.1**
JHJ2				Sn	**S**	**17 27 22.7**	**+0.2**
JHJ2	**Mitsune**	**1.48**	**96**	P	**Pn**	**17 26 47.4**	**+0.5**
JHJ2	**Mitsune**	**1.48**	**96**	P	**Pn**	**17 26 47.1**	**+0.2**
JIE	**Ise**	**1.58**	**315**	P	**Pn**	**17 26 48.2**	**+0.8**
JFNN	**Fujinakano**	**1.98**	**15**	*e*P	**Pn**	**17 26 51.0**	**+0.8**
JTNC	**Tanabenakahech**	**2.12**	**285**	P	**Pn**	**17 26 51.8**	**+0.5**
JOD2	**Odawara 2**	**2.15**	**23**	⇓P	**Pn**	**17 26 51.8**	**+0.2**
JOD2				⇓*e*S	**S**	**17 27 32.0**	**+1.0**
INU	**Inuyama**	**2.24**	**338**	Pn	**Pn**	**17 26 52.9**	**+0.7**
INU				Sn	**S**	**17 27 31.9**	**-0.3**
INU	**Inuyama

JNU Nakatsue 6.03 270 P **Pn** **17 27 33.0 +0.7**
11nm,0.9s,baz=133,slow=2.6,SNR=8.4
JNU Nakatsue 6.03 270 Pn **Pn** **17 27 33.3 +1.0**
JNU Nakatsue 6.03 270 P **Pn** **17 27 33.4 +1.1**
JCJ Chichijima 7.12 149 Pn **Pn** **17 27 43.7 -1.7**
JTU Tsushima 7.31 282 Pn **Pn** **17 27 47.5 0.0**
JTU Tsushima 7.31 282 P **Pn** **17 27 49.3 +1.8**
JTM Tenmabayashi 7.87 17 Pn **Pn** **17 27 52.8 -1.4**
KSRS Korea Array 9.27 300 P **Pn** **17 28 12.2 +1.0**
7.4nm,0.7s,baz=113,slow=12,SNR=27
KSAR Wonju Array Be 9.29 299 Pn **Pn** **17 28 11.1 -0.4**
KSAR Wonju Array Be 9.29 299 P **Pn** **17 28 11.1 -0.4**
TJN Taejon 9.32 292 Pn **Pn** **17 28 13.2 +1.3**
TJN Taejon 9.32 292 P **Pn** **17 28 13.2 +1.3**
KS19 Wonju Array Si 9.33 300 **Pn** **17 28 11.9 -0.1**
ERM Erimo 9.61 23 **Pn** **17 28 14.7 -0.5**
ERM Erimo 9.61 23 P **Pn** **17 28 15.4 +0.1**
ERM Erimo 9.61 23 ⇑*iP* **Pn** **17 28 15.7 +0.4**
JEM Erimo 9.61 23 P **Pn** **17 28 15.5 +0.2**
INCN Inchon 10.23 297 **Pn** **17 28 24.0 +1.0**
INCN Inchon 10.23 297 P **Pn** **17 28 24.0 +1.0**
JOW Kunigami 10.64 235 P **Pn** **17 28 28.2 +0.2**
21nm,0.6s,baz=355,slow=7.5,SNR=2.7
JOW Kunigami 10.64 235 Pn **Pn** **17 28 27.7 -0.4**
ASAJ Asahikawa 11.38 17 P **Pn** **17 28 35.6 -1.2**
4.5nm,0.5s,baz=227,slow=12,SNR=11
ASAJ S S 17 30 33.6 -10
5.3nm,0.8s,baz=188,slow=14,SNR=1.3
JKA Kamikawa-asahi 11.38 17 Pn **Pn** **17 28 35.5 -1.3**
NMR Nemuro--Hokkai 11.73 29 *eP* **Pn** **17 28 41.0 0.0**
NMR *eS* **S** **17 30 44.7 -7.0**
USA0B Ussuriysk Arra 11.88 338⇓*eP* **Pn** **17 28 42.2 -0.7**
USRK Ussuriysk Ar. 11.88 338 P **P** **17 28 43.8 0.0**
1.8nm,0.4s,baz=145,slow=10,SNR=3.9
YUK Yuzh-Kuril'sk 12.34 27 *eP* **P** **17 28 49.1 +0.2**
YUK *eS* **S** **17 30 59.2 -6.0**
YUK pmax pmax
comp=Z,140nm,0.4s
YUK pmax pmax
comp=N,66nm,0.3s
MDJ Mudanjiang 13.09 332 P **Pn** **17 28 57.5 +0.2**
YSS Yuzh-Sakhalins 14.12 13 P **Pn** **17 29 10.2 +0.7**
YSS Yuzh-Sakhalins 14.12 13 P **Pn** **17 29 10.6 +1.1**
YSS Yuzh-Sakhalins 14.12 13 *eP* **Pn** **17 29 10.9 +1.4**
YSS *eS* **S** **17 31 41.2 -2.0**
YSS pmax pmax
comp=Z,30nm,0.6s
YSS smax smax
comp=N,20nm,0.8s
BNX BinXian 14.90 330 ⇑P **P** **17 29 17.3 +0.2**
BNX pmax pmax
comp=Z,14nm,0.9s
BNX pmax pmax
comp=Z,88nm,4.3s
KLR Kul'dur 16.62 345 P **P** **17 29 35.3 -0.5**
comp=Z,1.5nm,0.6s,baz=165,slow=8.5,SNR=9.6
KLR Kul'dur 16.62 345⇑*eP* **P** **17 29 35.7 -0.1**
KLR pmax pmax
comp=Z,19nm,3.7s
TATO Taipei 16.67 245 P **P** **17 29 35.7 -0.9**
YHNB Yeheng 16.92 244 P **P** **17 29 37.7 -1.8**
YHNB Yeheng 16.92 244 P **P** **17 29 39.7 +0.2**
NACB Ninganchiao 17.04 242 P **P** **17 29 37.8 -2.8**
NACB Ninganchiao 17.04 242 P **P** **17 29 39.3 -1.4**
YULB Yu-li 17.72 241 P **P** **17 29 45.2 -2.8**
YULB Yu-li 17.72 241 P **P** **17 29 47.5 -0.6**
SSLB Suanglung 17.74 242 P **P** **17 29 45.8 -2.4**
SSLB Suanglung 17.74 242 P **P** **17 29 47.6 -0.7**
TPUB Ta-pu 18.27 241 P **P** **17 29 51.9 -2.0**
TPUB Ta-pu 18.27 241 P **P** **17 29 54.1 +0.2**
BJT Baijiatuau 18.79 297 P **P** **17 29 57.2 -2.0**
BJT Baijiatuau 18.79 297 P **P** **17 29 59.1 -0.1**
BJT Baijiatuau 18.79 297 P **P** **17 29 57.2 -2.0**
BJT pmax pmax
comp=Z,5.0nm,0.9s
WHN Wuhan 20.31 269⇓P **P** **17 30 14.3 -0.9**
LYN LuoYang 21.27 281⇑*iP* **P** **17 30 23.4 -0.8**
LYN pmax pmax
comp=Z,14nm,0.6s
ZEA Zeya 21.85 343 *eP* **P** **17 30 30.3 +1.0**
HHC Hu-ho-hao-te 22.40 297 *eP* **P** **17 30 34.3 -0.3**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,440nm,5.3s
BTO Baotou 23.51 296 *eP* **P** **17 30 43.8 -0.8**
XAN Xi'an 24.24 280 ⇑P **P** **17 30 50.8 -0.4**
XAN pmax pmax
comp=Z,23nm,0.9s
XAN pmax pmax
comp=Z,220nm,5.0s
PETK Petropavlovsk- 24.30 29 P **P** **17 30 52.9 +1.4**
comp=Z,3.7nm,1.1s,baz=224,slow=6.6,SNR=4.8
comp=Z,3.7nm,1.1s
ENH Enshi 24.45 271 P **P** **17 30 51.9 -1.2**
ENH Enshi 24.45 271 P **P** **17 30 52.7 -0.4**
ULN Ulaanbaatar 27.47 311 P **P** **17 31 20.6 +0.6**
ULN IAmb IAmb 17 31 23.6
comp=Z,6.6nm,0.5s
ULN Ulaanbaatar 27.47 311⇓*iP* **P** **17 31 22.0 +2.0**
ULN pmax pmax
comp=Z,21nm,2.3s
MA2 Magadan 27.62 14 P **P** **17 31 21.9 +1.0**
comp=Z,1.5nm,0.4s,baz=210,slow=7.5,SNR=3.6
comp=Z,1.5nm,0.4s
SONM Songino Array 27.88 311 P **P** **17 31 24.3 +0.7**
comp=Z,5.1nm,0.8s,baz=108,slow=7.9,SNR=23
comp=Z,5.1nm,0.8s
SONM Songino Array 27.88 311 P **P** **17 31 24.1 +0.5**
GTA Gaotai 31.24 292 *eP* **P** **17 31 52.0 -1.2**
GTA pmax pmax
comp=Z,2.0nm,1.0s
KMI Kunming 31.77 265 ⇑P **P** **17 31 57.5 -0.6**
KMI pmax pmax
comp=Z,11nm,0.7s
PZH PanZhiHua 32.09 268 P **P** **17 31 59.8 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,4.5s
GOMU GeErMu 35.45 287 P **P** **17 32 29.9 +0.3**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU pmax pmax
comp=Z,75nm,5.6s
CRAI Chiangrai 35.88 258 P **P** **17 32 32.4 -0.7**
CRAI IAmb IAmb 17 32 33.9
comp=Z,5.9nm,0.8s
PHRA Phrae 36.86 256 P **P** **17 32 41.1 -0.1**
CHTO Chiang Mai 37.75 257 P **P** **17 32 47.5 -1.2**
CHTO Chiang Mai 37.75 257 P **P** **17 32 47.5 -1.2**
CHTO pmax pmax
comp=Z,3.0nm,0.9s
CM31 Chiang Mai Arr 37.93 257 P **P** **17 32 49.7 -0.5**
CMAR Chiang Mai Arr 37.93 257 P **P** **17 32 50.0 -0.2**
comp=Z,1.8nm,0.6s,baz=49,slow=8.2,SNR=21
comp=Z,1.8nm,0.6s
CMAR Chiang Mai Arr 37.93 257 P **P** **17 32 50.0 -0.2**
BILL Bilibino 38.40 17 *eP* **P** **17 32 55.2 +1.8**
BILL *e**PP **pP** **17 33 56.3 +0.2**
BILL *e**SP **sP** **17 34 33.1 +0.5**
BILL pmax pmax
comp=Z,5.0nm,0.9s
MND Mandalay 38.59 264 P **P** **17 32 55.2 -0.4**
MND IAmb IAmb 17 32 55.7
comp=Z,10.0nm,1.1s
WMQ Urumqi 40.22 300 *eP* **P** **17 33 09.8 +1.0**
WMQ pmax pmax
comp=Z,8.0nm,1.1s
DGZ Jazzator, Alta 40.50 309⇓*iP* **P** **17 33 11.8 +0.7**
DGZ pmax pmax
comp=Z,8.0nm,0.8s
SAUI Saumlaki 41.53 190 P **P** **17 33 16.7 -2.9**
CLES Cleveland East 41.69 46 P **P** **17 33 18.2 -2.2**
CLES IAmb IAmb 17 33 23.7
comp=Z,1μm,1.4s
ZALV Zalesovo Beam 42.54 316 P **P** **17 33 26.4 -0.8**
comp=Z,1.4nm,0.4s,baz=94,slow=8.5,SNR=8.6
comp=Z,1.4nm,0.4s
ZALV Zalesovo Beam 42.54 316 P **P** **17 33 26.6 -0.6**
ZALV Zalesovo Beam 42.54 316 *iP* **P** **17 33 27.2 0.0**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
PMG Port Moresby 43.32 167 P **P** **17 33 33.1 -0.8**
PMG IAmb IAmb 17 34 05.9
comp=Z,20nm,1.3s
PMG Port Moresby 43.32 167 P **P** **17 33 34.5 +0.6**
PMG Port Moresby 43.32 167 P **P** **17 33 33.1 -0.8**
PMG pmax pmax
comp=Z,20nm,1.3s
MK31 Makanchi Array 43.90 305 P **P** **17 33 38.1 0.0**
MK31 Makanchi Array 43.90 305 P **P** **17 33 38.2 0.0**
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 43.90 305 P **P** **17 33 38.2 0.0**
comp=Z,1.4nm,0.4s,baz=85,slow=9.6,SNR=45
MKAR ScP **ScP** **17 38 37.8 -1.1**
comp=Z,0.1nm,0.4s,baz=83,slow=2.2,SNR=4.2
comp=Z,1.4nm,0.4s
MAKZ Makanchi 44.11 305 P **P** **17 33 39.9 0.0**
MAKZ Makanchi 44.11 305 P **P** **17 33 39.9 0.0**
MAKZ pmax pmax
comp=Z,3.0nm,0.5s
KULM Kulim 44.56 240 P **P** **17 33 43.7 0.0**
KULM IAmb IAmb 17 34 19.9
comp=Z,46nm,1.5s
IPM Ipoh 44.84 238 P **P** **17 33 45.0 -1.0**
IPM IAmb IAmb 17 33 51.2
comp=Z,35nm,1.5s
KURK Kurchatov 46.19 311 P **P** **17 33 55.8 -0.1**
KURK Kurchatov 46.19 311 P **P** **17 33 55.8 -0.1**
KURK pmax pmax
comp=Z,5.0nm,0.7s
MTN Manton Dam 46.34 189 P **P** **17 33 56.5 -0.9**
CHGN Chignik 48.58 42 P **P** **17 34 13.4 -0.7**
KNRA Kununurra 49.48 192 P **P** **17 34 20.8 -0.6**
KSH Kashi 49.50 296 P **P** **17 34 25.6 +4.1**
KSH pmax pmax
comp=Z,4.0nm,0.7s
GSI Gunungsitoli 49.51 239 P **P** **17 34 21.3 -0.5**
GSI Gunungsitoli 49.51 239 P **P** **17 34 21.7 0.0**
TTA Tatalina 50.06 33 P **P** **17 34 24.5 -0.7**
TTA Tatalina 50.06 33 P **P** **17 34 24.5 -0.7**
TTA pmax pmax
comp=Z,5.0nm,1.4s
SVW2 Sparrevohn 50.16 35 P **P** **17 34 25.9 -0.1**
SVW2 IAmb IAmb 17 34 47.9
comp=Z,11nm,1.4s
SVW2 Sparrevohn 50.16 35 P **P** **17 34 26.2 +0.2**
P18K Big Mountain, 50.30 38 P **P** **17 34 27.8 +0.7**
O18K Koktuh Hills 50.32 37 P **P** **17 34 27.6 +0.5**
O18K IAmb IAmb 17 34 28.5
comp=Z,32nm,1.4s
K20K Telida 50.97 33 P **P** **17 34 34.1 +2.2**
K20K IAmb IAmb 17 34 34.7
comp=Z,5.2nm,0.6s
Q19K Cape Douglas, 51.12 38 P **P** **17 34 33.4 +0.3**
BRVK Borovoye 51.20 314⇓*eP* **P** **17 34 32.7 -1.0**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
IMAR Indian Mountai 51.27 29 P **P** **17 34 35.3 +1.2**
RSO Redoubt South 51.54 36 P **P** **17 34 37.8 +1.3**
KDAK Kodiak Island 51.73 40 P **P** **17 34 38.5 +1.0**
KDAK Kodiak Island 51.73 40 P **P** **17 34 38.5 +1.0**
KDAK pmax pmax
comp=Z,55nm,1.5s
FITZ Fitzroy Crossi 52.45 195 P **P** **17 34 42.8 -0.5**
KK31 Karatay Array 52.69 302 P **P** **17 34 44.9 0.0**
KK31 Karatay Array 52.69 302 P **P** **17 34 44.9 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 52.69 302 P **P** **17 34 44.8 0.0**
KKAR Karatay Array 52.69 302 P **P** **17 34 44.9 0.0**
KKAR IAmb IAmb 17 34 45.5
comp=Z,3.7nm,0.8s
KKAR Karatay Array 52.69 302 P **P** **17 34 44.8 0.0**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
WB0 Warramunga Arr 52.87 184 P **P** **17 34 45.6 -0.6**
WB0 IAmb IAmb 17 34 46.6
comp=Z,5.5nm,0.6s
WB0 PcP **PcP** **17 35 50.3 -0.5**
WRAB Tennant Creek 53.03 184 P **P** **17 34 46.7 -0.7**
WRAB Tennant Creek 53.03 184*ceP* **P** **17 34 46.8 -0.7**
WRAB pmax pmax
comp=Z,1.5nm,1.9s
WB2 Warramunga Arr 53.04 184 P **P** **17 34 46.9 -0.7**
WB2 IAmb IAmb 17 34 47.9
comp=Z,7.8nm,1.0s
WB2 PcP **PcP** **17 35 50.6 -0.8**
WRA Warramunga Arr 53.04 184 P **P** **17 34 47.0 -0.6**
comp=Z,2.8nm,0.4s,baz=358,slow=7.6,SNR=57
comp=Z,2.8nm,0.4s
WRA Warramunga Arr 53.04 184 P **P** **17 34 47.0 -0.6**
WR0 Warramunga Arr 53.05 184 P **P** **17 34 47.0 -0.6**
WR0 IAmb IAmb 17 34 47.6
comp=Z,8.4nm,0.6s
WR0 PcP **PcP** **17 35 49.6 -1.8**
GHO Glory Hole Cre 53.36 35 P **P** **17 34 50.5 +1.0**
GHO IAmb IAmb 17 34 59.6
comp=Z,32nm,1.4s
MDM Murphy Dome 53.54 31 P **P** **17 34 52.6 +2.0**
MDM IAmb IAmb 17 34 53.8
comp=Z,11nm,1.1s
QIS Mount Isa 53.56 178 P **P** **17 34 51.4 +0.1**
KNK Knik Glacier 53.60 35 P **P** **17 34 52.0 +0.9**
KNK IAmb IAmb 17 35 31.1
comp=Z,32nm,1.4s
SML Sawmill 53.63 34 P **P** **17 34 52.4 +1.0**
SML IAmb IAmb 17 35 23.8
comp=Z,32nm,1.4s
CTAO Charters Tower 53.64 170 P **P** **17 34 51.7 -0.2**
CTAO IAmb IAmb 17 35 08.1
comp=Z,22nm,1.5s
CTAO Charters Tower 53.64 170 P **P** **17 34 51.7 -0.2**
CTAO pmax pmax
comp=Z,22nm,1.5s
H24K Noodor Dome 53.67 29 **P** **17 34 52.3 +0.7**
CCB Clear Creek Bu 53.73 31 P **P** **17 34 53.0 +1.0**
POKR Poker Plat Res 53.87 30 P **P** **17 34 53.6 +0.6**
POKR IAmb IAmb 17 34 56.0
comp=Z,12nm,1.1s
SCM Sheep Creek Mo 54.11 34 P **P** **17 34 56.0 +1.2**
SCM IAmb IAmb 17 34 56.2
comp=Z,35nm,1.4s
SCM Sheep Creek Mo 54.11 34 P **P** **17 34 56.0 +1.2**
SCM pmax pmax
comp=Z,35nm,1.4s
IL31 54.12 31 P **P** **17 34 55.3 +0.6**
ILAR Eielson Array 54.12 31 P **P** **17 34 55.2 +0.4**
comp=Z,1.4nm,0.8s,baz=256,slow=5.1,SNR=18
comp=Z,1.4nm,0.8s
M24K Tolsona, Glenn 54.63 34 P **P** **17 35 00.3 +1.8**
KLU Klutina 54.81 35 P **P** **17 35 01.1 +1.3**
KLU IAmb IAmb 17 35 28.7
comp=Z,18nm,1.3s
CHGR Chuyangaron 54.84 297 P **P** **17 35 00.4 -0.1**
CHGR Chuyangaron 54.84 297 P **P** **17 35 00.4 -0.1**
CHGR pmax pmax
comp=Z,16nm,0.6s
BMAR Burnt Mountain 54.93 27 P **P** **17 35 02.8 +2.3**
BMAR PcP **PcP** **17 35 58.2 +0.1**
RIDG Independent Ri 55.08 32 P **P** **17 35 02.8 +1.0**
RIDG IAmb IAmb 17 35 22.4
comp=Z,15nm,1.2s
SCRK Sand Creek 55.44 32 P **P** **17 35 05.4 +1.0**
BMRM Bremner River 55.50 35 P **P** **17 35 06.8 +2.1**
BMRM IAmb IAmb 17 35 10.3
comp=Z,28nm,1.3s
J26L Joseph Creek 55.57 31 P **P** **17 35 06.0 +0.8**
J26L IAmb IAmb 17 35 07.1
comp=Z,5.4nm,0.8s
MENT Mentasta 55.67 33 P **P** **17 35 08.1 +2.2**
MENT IAmb IAmb 17 35 08.5
comp=Z,4.3nm,0.6s
L26K Log Cabin Wild 55.83 33 P **P** **17 35 09.0 +2.0**
L26K IAmb IAmb 17 35 09.8
comp=Z,5.5nm,0.8s
M26K Nabesna, AK 56.07 33 P **P** **17 35 10.2 +1.5**
BCAR Beaver Creek A 56.53 33 P **P** **17 35 14.0 +2.1**
EGAK Eagle 56.56 30 P **P** **17 35 13.0 +0.9**
AS01 Alice Springs 56.76 185 P **P** **17 35 13.7 -0.3**
AS31 Alice Springs 56.77 185 P **P** **17 35 13.2 -0.9**
ASAR Alice Springs 56.77 185 P **P** **17 35 13.7 -0.3**
comp=Z,2.2nm,0.6s,baz=14,slow=9.7,SNR=52
ASAR PcP **PcP** **17 36 07.0 +1.2**
comp=Z,0.4nm,0.5s,baz=0.7,slow=3.4,SNR=2.7
comp=Z,2.2nm,0.6s
ASAR Alice Springs 56.77 185 P **P** **17 35 13.7 -0.3**
ASAR **PcP** **17 36 06.7 +0.8**
MBWA Marble Bar 56.89 201 P **P** **17 35 14.4 -0.5**
MBWA IAmb IAmb 17 35 35.5
comp=Z,22nm,1.4s
ARU Arti 57.39 320*c iP* **P** **17 35 17.9 -0.1**
ARU *PP **pP** **17 36 24.1 -1.9**
ARU 17 37 27.1
ARU S **S** **17 42 51.2 +2.1**
ARU SS **SS** **17 46 44.8 +1.1**
ARU pmax pmax
comp=Z,8.0nm,1.4s
DAWY Dawson 57.43 31 P **P** **17 35 19.6 +1.4**
DAWY IAmb IAmb 17 35 24.8
comp=Z,7.9nm,1.4s
ABKAR Akbulak array 58.29 311 P **P** **17 35 24.1 -0.2**
ABKAR Akbulak array 58.29 311 P **P** **17 35 23.9 -0.4**
WRKA Warakurna 58.73 190 P **P** **17 35 27.5 -0.1**
M30M Minto, Yukon 58.87 33 P **P** **17 35 29.2 +1.1**
M30M IAmb IAmb 17 36 07.2
comp=Z,12nm,1.5s
HYT Haines Junctio 58.94 35 P **P** **17 35 30.5 +1.7**
HYT IAmb IAmb 17 35 44.5
comp=Z,15nm,1.3s
INK Inuvik 58.96 26 P **P** **17 35 29.5 +1.0**
INK Inuvik 58.96 26 P **P** **17 35 29.5 +1.0**
INK pmax pmax
comp=Z,5.0nm,1.4s
N31M Braeburn, Yuko 59.59 34 P **P** **17 35 35.0 +2.0**
N31M IAmb IAmb 17 35 35.7
comp=Z,24nm,1.5s
EIDS Eidsvold 59.63 166 P **P** **17 35 34.3 +0.7**
EIDS IAmb IAmb 17 36 02.9
comp=Z,9.0nm,1.3s
M31M Drury Creek, Y 60.05 33 P **P** **17 35 37.8 +1.7**
M31M IAmb IAmb 17 35 43.3
comp=Z,13nm,1.5s
WHY Whitehorse 60.23 35 P **P** **17 35 37.7 +0.2**
RMQ Roma 60.30 169 P **P** **17 35 38.5 +0.4**
FARO Faro, Yukon 60.51 33 P **P** **17 35 41.2 +1.9**
FARO IAmb IAmb 17 36 08.1
comp=Z,8.0nm,1.4s
INKA Innaminka 60.74 177 P **P** **17 35 41.5 +0.5**
A36M Sachs Harbour 60.74 21 P **P** **17 35 42.0 +1.4**
A36M IAmb IAmb 17 35 44.0
comp=Z,5.0nm,1.1s
OOD Oodnadatta 60.78 182 P **P** **17 35 41.7 +0.4**
KIRV Kirov 61.60 323⇑*eP* **P** **17 35 46.8 +0.4**
GEYT Alibeck 63.26 299 P **P** **17 35 57.3 -0.6**
comp=Z,0.5nm,0.4s,baz=64,slow=13,SNR=2.1
comp=Z,0.5nm,0.4s
MULG Mulgathing 63.33 184 P **P** **17 35 58.5 +0.4**
LCRK Leigh Creek 63.38 180 P **P** **17 35 59.8 +1.4**
EUNU Eureka 64.28 8 P **P** **17 36 04.0 +0.3**
FORT Forrest 64.41 190 P **P** **17 36 05.0 -0.1**
FORT Forrest 64.41 190 P **P** **17 36 05.3 +0.2**
CMSA Cobar Meteorol 64.87 173 P **P** **17 36 09.0 +1.0**
STKA Stephens Creek 64.89 177 P **P** **17 36 07.8 -0.3**
comp=Z,1.5nm,0.7s,baz=328,slow=11,SNR=3.2
comp=Z,1.5nm,0.7s
MORW Morawa 65.43 201 P **P** **17 36 11.9 +0.2**
BBOO Buckleboo 65.77 182 P **P** **17 36 13.6 -0.1**
BBOO Buckleboo 65.77 182 P **P** **17 36 14.2 +0.5**
BLDU Ballidu 66.68 200 P **P** **17 36 19.5 0.0**
RES Resolute Bay 66.89 13 P **P** **17 36 20.9 +0.6**
comp=Z,3.3nm,0.6s,baz=304,slow=7.5,SNR=15
comp=Z,3.3nm,0.6s
RES Resolute Bay 66.89 13 P **P** **17 36 20.9 +0.6**
RES IAmb IAmb 17 36 22.0
comp=Z,3.2nm,0.6s
YKA Yellowknife Ar 68.42 28 P **P** **17 36 30.4 +0.4**
comp=Z,0.6nm,0.6s,baz=296,slow=6.2,SNR=10.0
comp=Z,0.6nm,0.6s
YKA Yellowknife Ar 68.42 28 *i* P **P** **17 36 30.7 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.6s
NWAO Narrogin (SRO) 68.72 199 P **P** **17 36 31.4 -0.8**
NWAO Narrogin (SRO) 68.72 199 P **P** **17 36 31.7 -0.4**
NWAO IAmb IAmb 17 36 42.5
comp=Z,18nm,1.2s
NWAO Narrogin (SRO) 68.72 199 P **P** **17 36 31.7 -0.4**
NWAO pmax pmax
comp=Z,18nm,1.3s
CAN Canberra 69.01 170 P **P** **17 36 34.6 +0.7**
CAN Canberra 69.01 170 P **P** **17 36 34.6 +0.7**
CAN pmax pmax
comp=Z,32nm,1.4s
OBN Obninsk 69.44 323 *eP* **P** **17 36 35.1 -1.2**
OBN *e* 17 36 57.4
OBN *e**PP **pP** **17 37 48.2 +0.9**
OBN *e**SP **sP** **17 38 20.9 -0.4**
OBN pmax pmax
comp=Z,27nm,1.5s
FINES FINESS Array B 70.83 332 P **P** **17 36 44.8 +0.2**
comp=Z,1.2nm,0.6s,baz=77,slow=4.7,SNR=8.9
comp=Z,1.2nm,0.6s
FINES FINESS Array B 70.83 332 P **P** **17 36 44.5 -0.1**
KBZ Khabaz 71.25 310 P **P** **17 36 47.7 +0.3**
comp=Z,1.2nm,0.7s,baz=134,slow=6.0,SNR=3.8
comp=Z,1.2nm,0.7s
YBH Yreka Blue Hor 74.83 50 P **P** **17 37 10.8 +2.3**
YBH Yreka Blue Hor 74.83 50 P **P** **17 37 10.8 +2.3**
PINE Pine Mountain 74.87 47 P **P** **17 37 11.2 +2.4**
K05A Summer Lake 75.46 48 P **P** **17 37 14.4 +2.3**
K05A IAmb IAmb 17 37 15.3
comp=Z,5.5nm,0.9s
WALA Waterton Lakes 76.06 40 P **P** **17 37 16.6 +1.3**
WALA IAmb IAmb 17 37 18.0
comp=Z,2.9nm,0.8s
PLID Pearl Lake 77.14 44 P **P** **17 37 22.0 +0.5**
PNTR Pine Nut 78.25 51 P **P** **17 37 30.3 +2.6**
PNTR IAmb IAmb 17 38 09.0
comp=Z,6.6nm,0.9s
YERR Yerington 78.54 51 P **P** **17 37 29.9 +0.7**
YERR IAmb IAmb 17 37 31.3
comp=Z,4.5nm,0.6s
HRY Holter Researc 78.57 41 P **P** **17 37 28.5 -0.7**
BR131 Keskin Array S 79.24 311⇓*eP* **P** **17 37 33.0 0.0**
KVN Kaiserville 79.24 50 P **P** **17 37 34.6 +1.6**
KVN Kaiserville 79.24 50 P **P** **17 37 34.6 +1.6**
BOZ Bozeman (W) 79.35 42 P **P** **17 37 34.6 +1.1**
BOZ IAmb IAmb 17 37 35.5
comp=Z,2.6nm,0.8s
BOZ Bozeman (W) 79.35 42 P **P** **17 37 34.6 +1.1**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 79.46 51 P **P** **17 37 35.3 +1.1**
comp=Z,1.4nm,0.6s,baz=291,slow=5.7,SNR=7.7
comp=Z,1.4nm,0.6s
RAYN Ar Rayn 79.49 291 P **P** **17 37 34.6 +0.1**
RAYN IAmb IAmb 17 37 35.4
comp=Z,3.7nm,0.8s
RAYN Ar Rayn 79.49 291 P **P** **17 37 34.6 +0.1**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
BURAR Bucovina Array 79.51 321 P **P** **17 37 34.6 +0.4**
ELK Elko 80.08 48 P **P** **17 37 38.9 +1.3**
ELK Elko 80.08 48 P **P** **17 37 38.9 +1.3**
ELK pmax pmax
comp=Z,1.0nm,0.8s
LCH Last Change Ra 80.56 52 P **P** **17 37 41.2 +1.1**
LCH IAmb IAmb 17 37 43.0
comp=Z,4.3nm,1.3s
RLMT Red Lodge 80.96 41 P **P** **17 37 43.7 +1.6**
RLMT IAmb IAmb 17 37 44.1
comp=Z,2.4nm,0.5s
HVU Hansel Valley 80.97 46 P **P** **17 37 43.6 +1.4**
HVU IAmb IAmb 17 37 44.6
comp=Z,2.8nm,0.6s
HVU Hansel Valley 80.97 46 P **P** **17 37 43.6 +1.4**
HVU pmax pmax
comp=Z,3.0nm,0.6s
R11A Troy Canyon, C 81.25 50 P **P** **17 37 45.0 +1.3**
R11A IAmb IAmb 17 37 45.8
comp=Z,1.9nm,0.7s
QSM Queen of Sheba 81.80 52 P **P** **17 37 47.8 +1.4**
QSM IAmb IAmb 17 38 12.8
comp=Z,11nm,1.5s
GWY Greenwater Val 81.80 52 P **P** **17 37 47.9 +1.3**
BW06 Boulder Array 82.26 43 P **P** **17 37 49.7 +0.8**
BW06 IAmb IAmb 17 37 50.7
comp=Z,3.4nm,1.0s
PD31 Pinedale Array 82.26 43 P **P** **17 37 49.8 +0.9**
PD31 IAmb IAmb 17 37 50.7

comp=Z,3.6nm,1.1s
PDAR Pinedale Array 82.26 43 P P 17 37 50.0 +1.1
comp=Z,1.1nm,0.7s,baz=272,slow=2.5,SNR=14
comp=Z,1.1nm,0.7s
PDAR Pinedale Array 82.26 43 P P 17 37 50.0 +1.1
MSU Marysvale 83.31 48 P P 17 37 56.6 +2.2
MSU Marysvale 83.31 48 P P 17 37 56.6 +2.2
MTPU Mount Pierson 83.59 48 P 17 37 57.5 +1.5
MTPU IAmb IAmb 17 37 58.9
comp=Z,2.4nm,0.8s
P18A Preston Nutter 83.81 46 P P 17 37 58.7 +1.7
P18A IAmb IAmb 17 38 00.2
comp=Z,5.6nm,0.8s
SRU San Rafael Swe 83.96 47 P P 17 37 59.0 +1.4
SRU San Rafael Swe 83.96 47 P P 17 37 59.0 +1.4
SRU pmax pmax
comp=Z,7.0nm,0.7s
TXAR Lajitas Array 94.60 50 P P 17 38 48.6 +0.8
comp=Z,0.8nm,0.8s,baz=286,slow=2.0,SNR=6.1
comp=Z,0.8nm,0.8s
TORD Torodi Ar. Bea 117.85 311 PKP PKPdf 17 44 11.1 -0.7
comp=Z,0.2nm,0.4s,baz=48,slow=5.2,SNR=1.7

*NEIC **24** 17:37:13.4±2.3,32.˝10S±0.˝05×67.˝49W±0.˝06,h10km±1km, mb4.3/7, Error ellipse: s-maj=9.7km s-min=6.8km az=36.0*
*SJA **24** 17:37:13.9±0.7,32.˝09S×67.˝65W,h14km±2km,ML4.3, MW4.2*
*VAO **24** 17:37:15.3±1.9,31.˝85S×67.˝63W,h28km±19km,mb4.5*
*IDC **24** 17:37:15.1±2.0,32.˝01S×67.˝69W,h35km±16km,mb3.6/7, mbtmp3.9/10,ML4.2/3,MS3.1/2, Error ellipse: s-maj=23.0km s-min=22.0km az=100.0*
ISC 24 17:37:12.7±1.1,32.˝03S±0.˝02×67.˝65W±0.˝02,h13km±7km, n158,σ2§35/220,mb4.0/11,4C-6D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFA	**Coronel Fontan**	**0.65**	**310**	Pg	**Pb**	**17 37 27.8**	**+1.8**
	348nm,0.3s,baz=128,slow=16,SNR=3662						
CFA				Lg	Lg	17 37 36.9	
	5μm,0.3s,baz=230,slow=18,SNR=124						
CFA	**Coronel Fontan**	**0.65**	**310**	*eP*	**Pb**	**17 37 27.6**	**+1.6**
CFA				*eS*	**Sn**	**17 37 37.8**	**-0.1**
CFA				IAML		17 37 38.7	
	comp=Z,9μm,0.4s						
CFA	**Coronel Fontan**	**0.65**	**310**	*eP*	**Pb**	**17 37 27.6**	**+1.6**
CFA				*eS*	**Sn**	**17 37 37.8**	**-0.1**
CFA				IAML		17 37 38.7	
	comp=Z,9μm,0.4s						
RTLL	**Cerro Villicun**	**0.99**	**315**	⇓*iP*	**Pn**	**17 37 33.8**	**+1.4**
RTLL				*eS*	**Sn**	**17 37 47.8**	**+1.6**
RTLL	**Cerro Villicun**	**0.99**	**315**	*eP*	**Pn**	**17 37 33.7**	**+1.4**
RTLL				*eS*	**Sn**	**17 37 48.5**	**+2.3**
RTLL	**Cerro Villicun**	**0.99**	**315**	*eP*	**Pn**	**17 37 33.7**	**+1.4**
RTLL				*eS*	**Sn**	**17 37 48.5**	**+2.3**
ZON	**Zonda**	**1.00**	**299**		**Pb**	**17 37 33.2**	**+1.4**
ZON			Sg		**Sb**	**17 37 47.2**	**+2.2**
ZON	**Zonda**	**1.00**	**299**	*eP*	**Pg**	**17 37 27.9**	**-4.0**
ZON				*eP*	**Pn**	**17 37 33.7**	**+1.2**
ZON				*eS*	**Sn**	**17 37 49.1**	**+2.6**
ZON	**Zonda**	**1.00**	**299**	*eP*	**Pg**	**17 37 27.9**	**-4.0**
ZON				*eP*	**Pn**	**17 37 33.7**	**+1.2**
ZON				*eS*	**Sn**	**17 37 49.1**	**+2.6**
ASAL	**Salagasta**	**1.15**	**240**	*eP*	**Pg**	**17 37 35.4**	**+0.5**
ASAL				*eS*	**Sg**	**17 37 50.1**	**+0.3**
ASAL	**Salagasta**	**1.15**	**240**	*eP*	**Pg**	**17 37 35.4**	**+0.5**
ASAL				*eS*	**Sg**	**17 37 50.1**	**+0.3**
ARCO	**CERRO ARCO**	**1.35**	**233**	*eP*	**Pn**	**17 37 39.1**	**+1.6**
ARCO				*eS*	**Sb**	**17 37 57.8**	**+2.4**
ARCO	**CERRO ARCO**	**1.35**	**233**	*eP*	**Pn**	**17 37 39.1**	**+1.6**
ARCO				*eS*	**Sb**	**17 37 57.8**	**+2.4**
AAGR	**Agrelo**	**1.45**	**223**	*eP*	**Pn**	**17 37 40.5**	**+1.8**
AAGR				*eS*	**Sn**	**17 37 58.1**	**+0.5**
AAGR	**Agrelo**	**1.45**	**223**	*eP*	**Pn**	**17 37 40.5**	**+1.8**
AAGR				*eS*	**Sn**	**17 37 58.1**	**+0.5**
MRA	**San Martin**	**1.69**	**104**	*eP*	**Pb**	**17 37 44.3**	**+0.6**
MRA				*eS*	**Sg**	**17 38 08.1**	**+1.2**
MRA				IAML		17 38 10.2	
	comp=Z,9μm,0.5s						
MRA	**San Martin**	**1.69**	**104**	*eP*	**Pb**	**17 37 44.3**	**+0.6**
MRA				*eS*	**Sg**	**17 38 08.1**	**+1.2**
MRA				IAML		17 38 10.2	
	comp=Z,9μm,0.5s						
VA03	**San Esteban**	**2.56**	**253**		**Pn**	**17 37 57.8**	**+3.8**
VA03			Sn		**Sb**	**17 38 30.4**	**+0.4**
VA03	**San Esteban**	**2.56**	**253**	⇓*eP*	**Pb**	**17 37 57.9**	**-0.7**
VA03				*eS*	**Sb**	**17 38 30.2**	**+0.2**
VA03				IAML		17 38 36.5	
	comp=N,5μm,0.5s						
VA03	**San Esteban**	**2.56**	**253**	*eP*	**Pb**	**17 37 58.1**	**-0.5**
VA03				*eS*	**Sn**	**17 38 27.9**	**+2.9**
VA03				IAML		17 38 35.7	
	comp=Z,3μm,0.5s						
VA03	**San Esteban**	**2.56**	**253**	*eP*	**Pb**	**17 37 58.1**	**-0.5**
VA03				*eS*	**Sn**	**17 38 27.9**	**+2.9**
VA03				IAML		17 38 35.7	
	comp=Z,3μm,0.5s						
FCH	**Farellones**	**2.58**	**239**	*eP*	**Pn**	**17 37 57.4**	**+3.0**
FCH				*eS*	**Sb**	**17 38 31.0**	**+0.3**
FCH				IAML		17 38 35.2	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**2.79**	**246**		**Pn**	**17 38 00.4**	**+3.2**
PEL			Sn		**Sb**	**17 38 36.4**	**-0.2**
PEL	**Peldehue**	**2.79**	**246**	*eP*	**Pn**	**17 38 00.2**	**+3.1**
PEL				*eS*	**Sn**	**17 38 34.2**	**+3.5**
PEL				IAML		17 38 41.9	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**2.79**	**246**	*eP*	**Pn**	**17 38 01.1**	**+3.9**
PEL				*eS*	**Sn**	**17 38 34.5**	**+3.7**
PEL	**Peldehue**	**2.79**	**246**	*eP*	**Pn**	**17 38 01.1**	**+3.9**
PEL				*eS*	**Sn**	**17 38 34.5**	**+3.7**
LMEL	**Las Melosas**	**2.81**	**229**		**Pn**	**17 37 59.7**	**+2.2**
LMEL	**Las Melosas**	**2.81**	**229**	*eP*	**Pn**	**17 37 59.4**	**+1.9**
MT03	**Universidad Ad**	**2.82**	**238**		**Pn**	**17 38 00.9**	**+3.4**
MT03	**Universidad Ad**	**2.82**	**238**	*eP*	**Pn**	**17 37 59.6**	**+2.0**
MT03				*eS*	**Sn**	**17 38 35.8**	**+4.3**
MT03	**Universidad Ad**	**2.82**	**238**	*eP*	**Pn**	**17 37 57.5**	**-0.1**
MT03				*eP*	**Pb**	**17 38 02.4**	**-0.5**
MT03				*eS*	**Sb**	**17 38 40.9**	**+3.4**
MT03				IAML		17 38 42.3	
	comp=Z,1μm,0.5s						
MT03	**Universidad Ad**	**2.82**	**238**	*eP*	**Pn**	**17 37 57.5**	**-0.1**
MT03				*eP*	**Pb**	**17 38 02.4**	**-0.5**
MT03				*eS*	**Sb**	**17 38 40.9**	**+3.4**
MT03				IAML		17 38 42.3	
	comp=Z,1μm,0.5s						
CO03	**El Pedregal**	**2.85**	**294**		**Pb**	**17 38 02.6**	**-1.0**
CO03	**El Pedregal**	**2.85**	**294**	⇓*iP*	**Pb**	**17 38 02.8**	**-0.7**
CO03				*eS*	**Sb**	**17 38 39.5**	**+1.0**
CO03				IAML		17 38 45.0	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**2.85**	**294**	*eP*	**Pn**	**17 37 57.5**	**-0.6**
CO03				*eP*	**Pb**	**17 38 01.4**	**-2.1**
CO03				*eS*	**Sb**	**17 38 38.5**	**0.0**
CO03				IAML		17 38 43.5	
	comp=Z,1μm,0.9s						
CO03	**El Pedregal**	**2.85**	**294**	*eP*	**Pn**	**17 37 57.5**	**-0.6**
CO03				*eP*	**Pb**	**17 38 01.4**	**-2.1**
CO03				*eS*	**Sb**	**17 38 38.5**	**0.0**
CO03				IAML		17 38 43.5	
	comp=Z,1μm,0.9s						
CO01	**Juntas del Tor**	**2.93**	**314**		**Pb**	**17 38 04.4**	**-0.6**
CO01	**Juntas del Tor**	**2.93**	**314**	⇓*iP*	**Pb**	**17 38 04.6**	**-0.3**
CO01	**Juntas del Tor**	**2.93**	**314**	*eP*	**Pb**	**17 38 04.6**	**-0.3**
CO01				*eS*	**Sn**	**17 38 37.0**	**+2.6**
CO01				IAML		17 38 46.0	
	comp=Z,532nm,0.3s						
CO01	**Juntas del Tor**	**2.93**	**314**	*eP*	**Pb**	**17 38 04.6**	**-0.3**
CO01				*eS*	**Sn**	**17 38 37.0**	**+2.6**
CO01				IAML		17 38 46.0	
	comp=Z,532nm,0.3s						
MT05	**Renca**	**2.94**	**242**		**Pn**	**17 38 01.9**	**+2.7**
MT05	**Renca**	**2.94**	**242**	*eP*	**Pn**	**17 38 01.8**	**+2.7**
MT05	**Renca**	**2.94**	**242**	*eP*	**Pn**	**17 38 02.4**	**+3.3**
MT05				*eS*	**Sn**	**17 38 39.5**	**+5.1**
MT05				IAML		17 38 45.4	
	comp=Z,2μm,0.8s						
MT05	**Renca**	**2.94**	**242**	*eP*	**Pn**	**17 38 02.4**	**+3.3**
MT05				*eS*	**Sn**	**17 38 39.5**	**+5.1**
MT05				IAML		17 38 45.4	
	comp=Z,2μm,0.8s						
CO02	**Combarbal**	**2.97**	**285**		**Pn**	**17 38 03.6**	**+3.9**
CO02	**Combarbal**	**2.97**	**285**	⇓*iP*	**Pn**	**17 38 03.8**	**+4.1**
CO02	**Combarbal**	**2.97**	**285**	*eP*	**Pn**	**17 38 03.8**	**+4.1**
CO02				*eS*	**Sb**	**17 38 42.5**	**+0.6**
CO02				IAML		17 38 52.8	
	comp=Z,2μm,0.6s						
CO02	**Combarbal**	**2.97**	**285**	*eP*	**Pn**	**17 38 03.8**	**+4.1**
CO02				*eS*	**Sb**	**17 38 42.5**	**+0.6**
CO02				IAML		17 38 52.8	
	comp=Z,2μm,0.6s						
ROCH	**El Roble**	**2.99**	**251**	⇑*iP*	**Pn**	**17 38 03.1**	**+3.0**
ROCH				*i* S	**Sn**	**17 38 40.5**	**+4.6**
ROCH				IAML		17 38 48.8	
	comp=E,3μm,0.5s						
ROC1	**El Roble**	**3.00**	**251**		**Pn**	**17 38 02.8**	**+2.7**
ROC1	**El Roble**	**3.00**	**251**	*eP*	**Pn**	**17 38 03.1**	**+3.0**
ROC1				*eS*	**Sn**	**17 38 40.5**	**+4.5**
ROC1	**El Roble**	**3.00**	**251**	*eP*	**Pn**	**17 38 03.1**	**+3.0**
ROC1				*eS*	**Sn**	**17 38 40.5**	**+4.5**
VA06	**Catapilco**	**3.13**	**259**		**Pn**	**17 38 04.0**	**+2.3**
VA06	**Catapilco**	**3.13**	**259**	⇑*iP*	**Pn**	**17 38 04.1**	**+2.3**
VA06				*i* S	**Sn**	**17 38 42.1**	**+3.1**
BO04	**La Punta**	**3.16**	**231**		**Pn**	**17 38 04.2**	**+2.0**
BO04	**La Punta**	**3.16**	**231**	*eP*	**Pn**	**17 38 04.3**	**+2.1**
MT02	**Curacav**	**3.19**	**246**		**Pn**	**17 38 04.9**	**+2.4**
MT02	**Curacav**	**3.19**	**246**	*eP*	**Pn**	**17 38 05.0**	**+2.5**
MT02	**Curacav**	**3.19**	**246**	*eP*	**Pn**	**17 38 05.1**	**+2.5**
MT02				*eS*	**Sb**	**17 38 48.0**	**0.0**
MT02				IAML		17 38 59.4	
	comp=Z,829nm,0.8s						
MT02	**Curacav**	**3.19**	**246**	*eP*	**Pn**	**17 38 05.1**	**+2.5**
MT02				*eS*	**Sb**	**17 38 48.0**	**0.0**
MT02				IAML		17 38 59.4	
	comp=Z,829nm,0.8s						
GO04	**Tololo Observa**	**3.27**	**304**		**Pn**	**17 38 07.6**	**+3.7**
GO04	**Tololo Observa**	**3.27**	**304**	⇓*eP*	**Pn**	**17 38 07.8**	**+3.9**
GO04	**Tololo Observa**	**3.27**	**304**	*eP*	**Pb**	**17 38 08.7**	**-2.1**
GO04				*eS*	**Sn**	**17 38 48.0**	**+5.1**
GO04	**Tololo Observa**	**3.27**	**304**	*eP*	**Pb**	**17 38 08.7**	**-2.1**
GO04				*eS*	**Sn**	**17 38 48.0**	**+5.1**
MT09	**Talagante**	**3.31**	**237**		**Pn**	**17 38 06.7**	**+2.5**
MT09	**Talagante**	**3.31**	**237**	⇑*iP*	**Pn**	**17 38 06.9**	**+2.6**
VA01	**Torpederas**	**3.52**	**253**		**Pn**	**17 38 09.1**	**+2.0**
VA01	**Torpederas**	**3.52**	**253**	*eP*	**Pb**	**17 38 16.3**	**+1.5**
VA01				*eS*	**Sb**	**17 38 57.0**	**-0.5**
VA01				IAML		17 39 03.8	
	comp=Z,465nm,0.5s						
VA01	**Torpederas**	**3.52**	**253**	*eP*	**Pb**	**17 38 16.3**	**+1.5**
VA01				*eS*	**Sb**	**17 38 57.0**	**-0.5**
VA01				IAML		17 39 03.8	
	comp=Z,465nm,0.5s						
MT01	**Popeta**	**3.54**	**238**		**Pn**	**17 38 08.7**	**+1.4**
MT01	**Popeta**	**3.54**	**238**	*eP*	**Pn**	**17 38 09.2**	**+1.8**
MT01	**Popeta**	**3.54**	**238**	*eP*	**Pn**	**17 38 09.3**	**+2.0**
MT01				*eS*	**Sb**	**17 38 57.5**	**-0.6**
MT01				IAML		17 39 05.2	
	comp=Z,388nm,0.7s						
MT01	**Popeta**	**3.54**	**238**	*eP*	**Pn**	**17 38 09.3**	**+2.0**
MT01				*eS*	**Sb**	**17 38 57.5**	**-0.6**
MT01				IAML		17 39 05.2	
	comp=Z,388nm,0.7s						
VA05	**Santo Domingo**	**3.71**	**243**		**Pn**	**17 38 11.3**	**+1.6**
VA05	**Santo Domingo**	**3.71**	**243**	*eP*	**Pn**	**17 38 11.6**	**+1.9**
BO01	**Tunca**	**3.72**	**230**		**Pn**	**17 38 11.3**	**+1.4**
BO01	**Tunca**	**3.72**	**230**	*eP*	**Pn**	**17 38 12.0**	**+2.2**
BO01	**Tunca**	**3.72**	**230**	*eP*	**Pn**	**17 38 12.1**	**+2.2**
BO01				*eS*	**Sb**	**17 39 08.8**	**+5.6**
BO01				IAML		17 39 10.6	
	comp=Z,388nm,0.5s						
BO01	**Tunca**	**3.72**	**230**	*eP*	**Pn**	**17 38 12.1**	**+2.2**
BO01				*eS*	**Sb**	**17 39 08.8**	**+5.6**
BO01				IAML		17 39 10.6	
	comp=Z,388nm,0.5s						
CO05	**La Serena**	**3.73**	**303**	Pn	**Pn**	**17 38 12.8**	**+2.8**
CO05	**La Serena**	**3.73**	**303**	*eP*	**Pn**	**17 38 13.2**	**+3.2**
BO02	**Sierra Bellavi**	**3.80**	**223**		**Pn**	**17 38 13.2**	**+2.1**
BO02	**Sierra Bellavi**	**3.80**	**223**	*eP*	**Pn**	**17 38 13.7**	**+2.6**
BO02	**Sierra Bellavi**	**3.80**	**223**	*eP*	**Pn**	**17 38 13.9**	**+2.8**
BO02				*eS*	**Sg**	**17 39 13.4**	**-1.4**
BO02				IAML		17 39 24.5	
	comp=Z,323nm,1.1s						
BO02	**Sierra Bellavi**	**3.80**	**223**	*eP*	**Pn**	**17 38 13.9**	**+2.8**
BO02				*eS*	**Sg**	**17 39 13.4**	**-1.4**
BO02				IAML		17 39 24.5	
	comp=Z,323nm,1.1s						
AC05	**El Transito**	**3.91**	**324**		**Pn**	**17 38 16.9**	**+4.4**
AC05	**El Transito**	**3.91**	**324**	*eP*	Pn	17 38 17.6	+5.1
CYA	**Choya**	**3.92**	**25**	⇑*iP*	**Pn**	**17 38 15.8**	**+3.2**
CYA	**Choya**	**3.92**	**25**	*eP*	**Pn**	**17 38 16.2**	**+3.6**
CYA				*eS*	**Sg**	**17 39 23.0**	**+4.5**
CYA				IAML		17 39 33.4	
	comp=Z,534nm,0.5s						
CYA	**Choya**	**3.92**	**25**	*eP*	**Pn**	**17 38 16.2**	**+3.6**
CYA				*eS*	**Sg**	**17 39 23.0**	**+4.5**
CYA				IAML		17 39 33.4	
	comp=Z,534nm,0.5s						
LCO	**Las Campanas**	**4.00**	**318**	Pn	**Pn**	**17 38 17.6**	**+3.7**
LCO	**Las Campanas**	**4.00**	**318**	*eP*	**Pn**	**17 38 17.7**	**+3.8**
LCO	**Las Campanas**	**4.00**	**318**	*eP*	**Pn**	**17 38 17.9**	**+4.1**
LCO				*eS*	**Sg**	**17 39 22.3**	**+1.2**
LCO	**Las Campanas**	**4.00**	**318**	*eP*	**Pn**	**17 38 17.9**	**+4.1**
LCO				*eS*	**Sg**	**17 39 22.3**	**+1.2**
BO03	**Pichilemu**	**4.37**	**235**	*eP*	**Pn**	**17 38 20.8**	**+2.1**
GO05	**Huala**	**4.65**	**229**	Pn	**Pn**	**17 38 24.0**	**+1.3**
GO05	**Huala**	**4.65**	**229**	*eP*	**Pn**	**17 38 24.0**	**+1.3**
AC04	**Llanos de Chal**	**4.83**	**321**		**Pn**	**17 38 27.1**	**+2.0**
GO03	**Copiap**	**4.96**	**332**	Pn	**Pn**	**17 38 29.6**	**+2.7**
AC06	**Mina Casimiro**	**5.21**	**333**	Pn	**Pn**	**17 38 33.5**	**+3.0**
AC02	**Maricunga**	**5.33**	**346**	Pn	**Pn**	**17 38 34.8**	**+2.3**
AC01	**Pan de Azucar**	**6.40**	**336**	Pn	**Pn**	**17 38 49.8**	**+3.1**
BI05	**Punta Hualpn**	**6.57**	**223**	Pn	**Pn**	**17 38 48.2**	**-0.7**
TRQA	**Tornquist**	**7.60**	**144**		**Pn**	**17 39 03.0**	**-0.2**
GO06	**Curarrehue**	**8.15**	**201**	Pn	**Pn**	**17 39 12.8**	**+2.0**
TICA	**Tres Isletas**	**8.48**	**50**	*eP*	**Pn**	**17 39 14.6**	**-0.6**
TICA				*eS*	**Sn**	**17 40 49.1**	**-1.6**
MECA	**Mercedes**	**8.61**	**74**	*eP*	**Pn**	**17 39 17.4**	**+0.4**
PB10	**IPOC Station P**	**8.86**	**342**	Pn	**Pn**	**17 39 22.9**	**+2.4**
PLCA	**Paso Flores**	**9.00**	**194**	Pn	**Pn**	**17 39 23.9**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=5.1,slow=10,SNR=24						
PLCA				Lg	Lg	17 41 52.5	
	comp=Z,1.1nm,0.3s,baz=324,slow=15,SNR=3.5						
PLCA				LR	LR	17 43 21.4	
	comp=Z,126nm,18.3s,baz=352,slow=41						
	comp=Z,3.4nm,0.5s						
PLCA	**Paso Flores**	**9.00**	**194**	Pn	**Pn**	**17 39 22.4**	**+0.1**
PLCA	**Paso Flores**	**9.00**	**194**	*eP*	**Pn**	**17 39 25.8**	**+3.5**
LR04	**Corral**	**9.12**	**209**	Pn	**Pn**	**17 39 23.7**	**-0.4**
LVC	**Limon Verde**	**9.45**	**353**	LR	LR	17 43 28.6	
	comp=Z,115nm,21.7s,baz=206,slow=40						
LL04	**Puerto Octay**	**9.65**	**202**		**Pn**	**17 39 31.1**	**-0.2**
ITQB	**Itaqui**	**9.77**	**79**		**Pn**	**17 39 32.9**	**+0.1**
ITQB	**Itaqui**	**9.77**	**79**	*eP*	**Pn**	**17 39 32.6**	**-0.3**
CPUP	**Villa Florida**	**10.65**	**60**	Pn	**Pn**	**17 39 47.2**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=210,slow=9.8,SNR=7.5						
CPUP				Lg	Lg	17 42 47.6	
	comp=Z,3.3nm,0.3s,baz=178,slow=14,SNR=3.9						
	comp=Z,2.6nm,0.4s						
CPUP	**Villa Florida**	**10.65**	**60**		**Pn**	**17 39 47.0**	**+1.9**
RODS	**Rosario do Sul**	**10.80**	**84**	*eP*	**Pn**	**17 39 46.7**	**-0.3**
AZCA	**Azaras, Argent**	**10.85**	**72**	*eP*	**Pn**	**17 39 47.6**	**-0.1**
PB02	**IPOC Station P**	**10.85**	**349**		**Pn**	**17 39 48.6**	**+0.7**
PLTB	**Pedras Altas**	**11.94**	**92**	Pn	**Pn**	**17 40 00.5**	**-2.2**
PLTB	**Pedras Altas**	**11.94**	**92**	*eP*	**Pn**	**17 40 03.6**	**+0.9**
CPSB	**Cacapava Do Su**	**12.27**	**86**	*eP*	**Pn**	**17 40 07.9**	**+0.7**
CRSM	**Crissiumal (Br**	**12.65**	**73**	*eP*	**Pn**	**17 40 12.9**	**+0.5**
ALGR	**Alto Alegre (B**	**13.03**	**79**	*eP*	**Pn**	**17 40 18.3**	**+0.7**
MURT	**Porto Murtinho**	**13.66**	**43**	*eP*	**Pn**	**17 40 27.0**	**+0.8**
ITAB	**Concordia**	**14.31**	**74**		**Pn**	**17 40 37.1**	**+2.0**
ITAB	**Concordia**	**14.31**	**74**	*eP*	**Pn**	**17 40 35.8**	**+0.7**
BBRB	**Robore, Bolivi**	**15.41**	**29**	*eP*	**Pn**	**17 40 47.5**	**-2.5**
PTGB	**Pitanga**	**15.52**	**66**	*eP*	**Pn**	**17 40 52.0**	**+0.5**
BBSD	**Serra de San D**	**16.09**	**25**	*eP*	**Pn**	**17 40 57.2**	**-1.6**
SIV	**San Ignacio**	**17.05**	**22**	P	**Pn**	**17 41 11.5**	**+0.5**
	baz=211,slow=12,SNR=4.4						
	comp=Z,0.9nm,0.6s						
PTLB	**Pontes e Lacer**	**18.24**	**27**	P	**Pn**	**17 41 24.5**	**-1.1**
PTLB				IAmb	IAmb	17 41 44.4	
	comp=Z,5.8nm,1.2s						
ETMB	**Extrema**	**22.14**	**4**	P	**P**	**17 42 09.4**	**+1.2**
ETMB				IAmb	IAmb	17 42 34.4	
	comp=Z,5.5nm,0.9s						
ETMB	**Extrema**	**22.14**	**4**	*eP*	**P**	**17 42 07.6**	**-0.7**
IPMB	**Ipameri, GO**	**22.44**	**56**	*eP*	**P**	**17 42 10.4**	**-1.1**
SAML	**Samuel**	**23.34**	**11**	P	**P**	**17 42 21.7**	**+0.9**
SAML				IAmb	IAmb	17 42 32.3	
	comp=Z,3.7nm,0.8s						
BDFB	**Brasilia**	**24.20**	**52**	P	**P**	**17 42 27.2**	**-2.0**
	comp=Z,2.0nm,0.4s,baz=135,slow=11,SNR=3.2						
	comp=Z,2.0nm,0.4s						
CZSB	**Cruzeiro do Su**	**24.63**	**348**	P	**P**	**17 42 33.0**	**0.0**
CZSB				IAmb	IAmb	17 43 14.5	
	comp=Z,9.0nm,0.6s						
RUSC	**La Rusia**	**38.06**	**351**	P	**P**	**17 44 31.0**	**-0.6**
RUSC				IAmb	IAmb	17 44 42.3	
	comp=Z,8.3nm,0.8s						
VNA3	**Neumayer Olymp**	**49.83**	**159**	P	**P**	**17 46 03.7**	**-1.2**
VNA2	**Neumayer--Watz**	**50.43**	**158**	P	**P**	**17 46 08.5**	**-1.0**
	baz=284,slow=9.0						
SNAA	**Sanae**	**52.05**	**159**	P	**P**	**17 46 20.3**	**-1.4**
SNAA	**Sanae**	**52.05**	**159**	P	**P**	**17 46 20.7**	**-1.0**
TROLL	**Troll, Antarti**	**53.76**	**159**	P	**P**	**17 46 34.1**	**-0.4**
VNDA	**Vanda**	**66.72**	**190**	P	**P**	**17 48 02.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=122,slow=4.2,SNR=1.9						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**66.72**	**190**	P	**P**	**17 48 03.3**	**+0.3**
VNDA				IAmb	IAmb	17 48 18.6	
	comp=Z,3.1nm,1.2s						
TXAR	**Lajitas Array**	**69.96**	**327**	P	**P**	**17 48 24.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=166,slow=5.2,SNR=2.1						
	comp=Z,0.2nm,0.5s						
BOSA	**Boshof**	**77.67**	**116**	P	**P**	**17 49 08.2**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=183,slow=1.7,SNR=1.9						
	comp=Z,1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**80.06**	**68**	P	**P**	**17 49 22.1**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=252,slow=5.1,SNR=5.5						
	comp=Z,1.2nm,0.7s						
PDAR	**Pinedale Array**	**83.77**	**330**	P	**P**	**17 49 40.0**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=190,slow=2.7,SNR=4.2						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**84.47**	**322**	P	**P**	**17 49 42.6**	**-2.8**
	comp=Z,0.5nm,0.7s,baz=159,slow=5.8,SNR=1.1						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**120.91**	**203**	PKP	**PKPdf**	**17 56 03.0**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=128,slow=1.5,SNR=7.8						
WRA	**Warramunga Arr**	**124.19**	**205**	PKP	**PKPdf**	**17 56 09.7**	**-2.0**
	comp=Z,0.8nm,0.4s,baz=162,slow=1.6,SNR=11						
KSH	**Kashi**	**149.71**	**65**	PKPbc	**PKPbc**	**17 57 02.3**	**-0.1**
ZALV	**Zalesovo Beam**	**150.57**	**34**	PKPbc	**PKPbc**	**17 57 03.2**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=302,slow=3.1,SNR=17						
MKAR	**Makanchi Array**	**152.69**	**49**	PKPbc	**PKPbc**	**17 57 08.1**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=282,slow=2.1,SNR=9.4						

*NEIC **24** 17:41:52.3±1.3,59.˝90N±0.˝04×152.˝85W±0.˝05, h126km±7km, Error ellipse: s-maj=6.3km s-min=3.7km az=168.0*
*AEIC **24** 17:41:55.0±1.7,59.˝94N±0.˝04×152.˝81W±0.˝06, h104km±5km,ML3.2,ML3.6/102(NEIC), Error ellipse: s-maj=5.9km s-min=4.7km az=167.0*
*IDC **24** 17:41:56.4±8.2,60.˝02N×151.˝95W,h75km±87km,mb2.7/1, mbtmp3.4/3,ML3.7/2, Error ellipse: s-maj=58.1km s-min=56.6km az=43.0*
ISC 24 17:41:53.5±0.9,59.˝93N±0.˝03×152.˝81W±0.˝04, h116km±6km,n167,σ1§07/192,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
O20K	**Slope Mountain**	**0.18**	**31**	P	**Pn**	**17 42 09.3**	**-0.3**
	baz=213						
O20K				S	**Sn**	**17 42 20.8**	**-1.0**
	baz=213						
OPT	**Oil Point**	**0.35**	**218**	P	**Pn**	**17 42 09.8**	**-0.4**
	baz=36						
P19K	**Oil Pt**	**0.35**	**218**		**Pn**	**17 42 09.7**	**-0.5**
P19K				Sn	**Sn**	**17 42 21.1**	**-

baz=198
KDAK Kodiak Island 2.16 177 Pn Pn 17 42 27.6 -1.1
KDAK Sn Sn **17 42 53.0 -2.5**
KDAK IAML 17 42 55.5
comp=N,263nm,0.4s
KDAK IAML 17 43 05.0
comp=N,182nm,0.5s
O17K Koliganek Bris 2.17 268 P Pn 17 42 28.8 0.0
baz=84
M22K Willow 2.25 35 P Pn 17 42 30.1 +0.3
baz=217
Q17K Contact Creek 2.31 225 P Pn 17 42 31.1 +0.4
baz=42
PWL Port Wells 2.41 65 Pn 17 42 30.8 -1.0
PWL Sn Sn **17 42 59.1 -2.3**
PWL IAML 17 43 03.1
comp=N,351nm,0.5s
PWL IAML 17 43 06.5
comp=E,248nm,0.7s
PWL Port Wells 2.41 65 P Pn 17 42 31.0 -0.9
baz=249
PMR Palmer 2.46 46 Pn Pn 17 42 31.7 -0.7
PMR Sn Sn **17 42 59.5 -2.8**
PMR IAML 17 43 01.5
comp=E,135nm,0.7s
PMR IAML 17 43 03.5
comp=N,145nm,0.4s
PMR Palmer 2.46 46 P Pn 17 42 31.7 -0.7
baz=229
L19K White Mountain 2.47 337 Pn Pn 17 42 32.7 0.0
L19K Sn Sn **17 43 01.9 -0.8**
L19K White Mountain 2.47 337 P Pn 17 42 32.7 0.0
baz=155
KNK Knik Glacier 2.61 53 Pn 17 42 33.5 -0.9
KNK Sn Sn **17 43 03.5 -2.4**
KNK IAML 17 43 05.8
comp=N,341nm,0.5s
KNK IAML 17 43 05.8
comp=E,276nm,1.0s
KNK Knik Glacier 2.61 53 P Pn 17 42 33.7 -0.7
baz=237
L20K Farewell, AK 2.61 349 P Pn 17 42 34.9 +0.4
baz=168
GHO Glory Hole Cre 2.65 44 Pn 17 42 34.3 -0.8
GHO Sn Sn **17 43 04.8 -2.2**
GHO IAML 17 43 06.2
comp=N,183nm,0.6s
GHO IAML 17 43 08.4
comp=E,259nm,0.6s
O16K Kokwok River B 2.70 265 P Pn 17 42 35.9 +0.3
baz=80
P23K Montague Islan 2.72 86 P Pn 17 42 36.2 +0.3
baz=271
OHAK Old Harbor 2.73 185 Pn 17 42 35.0 -1.0
OHAK Sn Sn **17 43 05.7 -3.0**
OHAK Old Harbor 2.73 185 P Pn 17 42 35.0 -1.0
baz=5.0
CUT Chulitna 2.77 25 Pn 17 42 36.9 +0.3
CUT Sn Sn **17 43 07.7 -2.0**
CUT IAML 17 43 14.1
comp=N,224nm,0.3s
CUT IAML 17 43 14.3
comp=E,269nm,0.6s
CUT Chulitna 2.77 25 P Pn 17 42 37.2 +0.7
baz=208
P16K Nushagak River 2.79 253 P Pn 17 42 37.8 +0.9
baz=69
SML Sawmill 2.89 47 Pn 17 42 37.4 -0.7
SML Sn Sn **17 43 09.6 -3.0**
SML IAML 17 43 12.2
comp=E,157nm,0.6s
SML IAML 17 43 13.1
comp=N,130nm,0.6s
SML Sawmill 2.89 47 P Pn 17 42 37.4 -0.7
baz=231
R17K Ugashik Creek 2.96 221 P Pn 17 42 39.9 +0.8
baz=37
PPLA Purkeypile 2.99 5 Pn 17 42 40.3 +0.8
PPLA Purkeypile 2.99 5 P Pn 17 42 40.3 +0.8
baz=186
N16K Nishlik Lake 3.03 283 P Pn 17 42 40.4 +0.5
baz=98
M23K Glacier View 3.11 51 P Pn 17 42 40.4 -0.6
baz=235
SCM Sheep Creek Mo 3.29 52 Pn 17 42 42.9 -0.5
SCM IAML 17 43 23.1
comp=E,198nm,1.2s
SCM IAML 17 43 24.4
comp=N,139nm,0.7s
SCM Sheep Creek Mo 3.29 52 P Pn 17 42 42.9 -0.5
baz=237
Q23K Middleton Isla 3.31 96 Pn Pn 17 42 42.8 -0.8
Q23K Middleton Isla 3.31 96 P Pn 17 42 43.1 -0.6
baz=282
MID Middleton Isla 3.32 96 Pn Pn 17 42 42.9 -0.8
TTA Tatalina 3.38 334 Pn Pn 17 42 44.3 -0.3
TTA Tatalina 3.38 334 P Pn 17 42 44.3 -0.3
baz=152
SII Sitkinak Islan 3.46 193 Pn 17 42 44.7 -1.0
SII IAML 17 43 38.5
comp=N,175nm,2.1s
SII Sitkinak Islan 3.46 193 P Pn 17 42 44.6 -1.1
baz=12
WAT7 Susitna Watana 3.48 31 Pn 17 42 46.1 +0.1
K20K Telida 3.49 351 Pn 17 42 46.3 +0.3
K20K Telida 3.49 351 P Pn 17 42 46.5 +0.5
baz=170
CAST Castle Rocks 3.52 5 Pn 17 42 46.4 0.0
CAST Castle Rocks 3.52 5 P Pn 17 42 46.4 0.0
baz=186
WAT1 Susitna Watana 3.56 33 Pn 17 42 47.0 0.0
WAT1 Susitna Watana 3.56 33 P Pn 17 42 47.0 0.0
baz=217
WAT6 Susitna Watana 3.61 40 Pn 17 42 47.3 -0.5
WAT6 Susitna Watana 3.61 40 P Pn 17 42 47.3 -0.5
baz=225
DIV Divide 3.68 68 Pn 17 42 49.3 +0.7
KLU Klutina 3.73 62 Pn 17 42 47.9 -1.4
KLU IAML 17 43 34.1
comp=E,113nm,0.5s
KLU Klutina 3.73 62 P Pn 17 42 48.5 -0.8
baz=248
TRF Thorofare Moun 3.73 18 Pn 17 42 49.3 -0.1
TRF Thorofare Moun 3.73 18 IAML 17 43 56.8
comp=N,46nm,0.8s
TRF Thorofare Moun 3.73 18 P Pn 17 42 49.3 -0.1
baz=200
M24K Tolsona, Glenn 3.90 53 Pn 17 42 51.4 -0.1
M24K Tolsona, Glenn 3.90 53 P Pn 17 42 51.5 +0.1
baz=239
RND Reindeer 3.96 27 Pn 17 42 51.8 -0.6
DHY Denali Highway 4.09 37 Pn Pn 17 42 54.0 -0.2
DHY IAML 17 43 41.8
comp=E,94nm,0.5s
DHY IAML 17 43 44.0
comp=N,74nm,0.5s
DHY Denali Highway 4.09 37 P Pn 17 42 53.9 -0.2
baz=222
BMRM Bremner River 4.19 72 Pn 17 42 55.2 -0.2
BMRM Bremner River 4.19 72 P Pn 17 42 54.4 -1.1
baz=259
BPAW Bear Paw Mtn. 4.27 11 Pn Pn 17 42 55.4 -1.1
BPAW Bear Paw Mtn. 4.27 11 P Pn 17 42 55.9 -0.5
baz=192
N25K Chitina, Valde 4.36 64 Pn 17 42 57.0 -0.8
N25K IAML 17 43 48.0
comp=E,63nm,0.4s
N25K IAML 17 43 50.1
comp=N,80nm,0.5s
N25K Chitina, Valde 4.36 64 P Pn 17 42 57.1 -0.7
baz=251
CHIR Chirikof Islan 4.39 201 Pn Pn 17 42 55.9 -2.1
CHIR Chirikof Islan 4.39 201 P Pn 17 42 56.8 -1.2
baz=19
BWN Browne 4.54 19 Pn Pn 17 42 59.9 -0.1
BWN IAML 17 44 34.8
comp=N,71nm,2.5s
BWN IAML 17 45 55.0
comp=E,51nm,4.4s
PAX Paxson 4.66 46 Pn 17 43 00.1 -1.6
PAX Paxson 4.66 46 P Pn 17 43 01.5 -0.2
baz=232
GLB Gilahina Butte 4.68 67 Pn 17 43 01.2 -0.8
GLB Gilahina Butte 4.68 67 IAML 17 43 55.7
comp=E,48nm,0.7s
GLB IAML 17 43 56.2
comp=N,64nm,0.7s
CHGN Chignik 4.70 222 Pn Pn 17 43 02.3 +0.1
NEA2 Nenana 4.99 19 Pn Pn 17 43 05.8 -0.4
NEA2 IAML 17 44 54.2
comp=N,24nm,5.0s
NEA2 IAML 17 45 07.3
comp=E,23nm,4.5s
MCARA McCarthy VSAT 5.03 69 Pn 17 43 07.2 +0.5
MCARA McCarthy VSAT 5.03 69 P Pn 17 43 07.2 +0.5
baz=258
WRH Wood River Hil 5.06 24 Pn 17 43 06.6 -0.5
WRH IAML 17 44 03.4
comp=E,26nm,0.5s
WRH IAML 17 45 17.2
comp=N,24nm,4.9s
MLY Manley 5.21 10 Pn 17 43 08.9 -0.2
MLY IAML 17 45 07.7
comp=N,18nm,4.7s
MLY Manley 5.21 10 P Pn 17 43 09.7 +0.6
baz=192
HDA Harding Lake 5.26 29 Pn 17 43 09.3 -0.4
HDA Harding Lake 5.26 29 P Pn 17 43 09.5 -0.3
baz=214
CCB Clear Creek Bu 5.28 24 Pn Pn 17 43 09.1 -0.8
CCB IAML 17 44 43.5
comp=E,19nm,3.9s
CCB IAML 17 45 33.9
comp=N,16nm,4.7s
I21K Tanana 5.28 4 Pn 17 43 09.5 -0.5
I21K IAML 17 45 38.2
comp=N,26nm,5.0s
I21K IAML 17 46 47.9
comp=E,25nm,3.2s
MENT Mentasta 5.30 51 Pn Pn 17 43 09.3 -1.0
MENT IAML 17 44 26.9
comp=N,43nm,0.7s
MENT IAML 17 44 34.0
comp=E,38nm,0.7s
M26K Nabesna, AK 5.36 58 Pn 17 43 10.5 -0.6
M26K IAML 17 45 10.6
comp=E,25nm,4.3s
M26K IAML 17 46 40.1
comp=N,27nm,3.9s
M26K Nabesna, AK 5.36 58 P Pn 17 43 11.2 +0.1
baz=247
RIDG Independent Ri 5.37 41 Pn 17 43 09.4 -1.8
RIDG IAML 17 44 19.5
comp=N,39nm,1.0s
RIDG Independent Ri 5.37 41 P Pn 17 43 10.9 -0.4
baz=228
TCOL CIGO, UAF Yank 5.47 23 Pn Pn 17 43 12.0 -0.5
COLA College 5.47 23 Pn Pn 17 43 12.1 -0.4
I23K Minto, Yukon-K 5.47 15 Pn 17 43 12.4 -0.1
I23K Minto, Yukon-K 5.47 15 P Pn 17 43 12.7 +0.1
baz=198
MDM Murphy Dome 5.47 21 Pn 17 43 12.3 -0.3
DOT Dot Lake 5.58 44 Pn Pn 17 43 13.6 -0.4
IL31 5.58 27 Pn 17 43 13.4 -0.6
ILAR Eielson Array 5.58 27 P Pn 17 43 13.2 -0.9
comp=N,1.6nm,0.3s,baz=216,slow=14,SNR=82
ILAR S Sn **17 44 12.6 -4.4**
comp=N,4.6nm,0.5s,baz=201,slow=27,SNR=4.6
comp=N,3.8nm,0.4s
POKR Poker Plat Res 5.77 23 Pn Pn 17 43 16.1 -0.4
POKR Poker Plat Res 5.77 23 P Pn 17 43 16.2 -0.4
baz=208
SCRK Sand Creek 5.81 42 Pn Pn 17 43 15.5 -1.7
SCRK Sand Creek 5.81 42 P Pn 17 43 16.2 -1.0
baz=230
IMAR Indian Mountai 6.09 356 Pn Pn 17 43 20.6 -0.3
BCAR Beaver Creek A 6.14 54 Pn Pn 17 43 21.0 -0.7
PCA Pinnacle 6.30 83 Pn Pn 17 43 23.2 -0.6
J26L Joseph Creek 6.30 39 Pn 17 43 23.5 -0.3
J26L Joseph Creek 6.30 39 P Pn 17 43 23.3 -0.5
baz=228
YUK3 Moose Creek 6.31 68 P Pn 17 43 24.7 +0.6
baz=258
PRP Porcupine Dome 6.53 28 Pn Pn 17 43 26.3 -0.6
PRP Sn 17 44 34.5 -5.5
PRP Porcupine Dome 6.53 28 P Pn 17 43 26.8 -0.2
baz=214
YKU2 Yakutat 6.66 88 Pn Pn 17 43 27.8 -0.8
EGAK Eagle 7.27 43 Pn Pn 17 43 35.7 -1.2
COLD Coldfoot 7.42 8 Pn Pn 17 43 38.6 -0.2
COLD Coldfoot 7.42 8 P Pn 17 43 39.1 +0.3
baz=190
FYU Fort Yukon 7.48 24 Pn Pn 17 43 39.2 -0.5
DAWY Dawson 7.55 51 Pn Pn 17 43 40.3 -0.4
HYT Haines Junctio 7.64 77 Pn Pn 17 43 41.9 -0.1
M30M Minto, Yukon 8.16 64 Pn Pn 17 43 49.0 0.0
BMAR Burnt Mountain 8.36 22 Pn Pn 17 43 50.4 -1.2
N31M Braeburn, Yuko 8.49 72 Pn Pn 17 43 52.4 -1.1
SKAG Skagway 8.85 85 Pn 17 43 56.8 -1.4
WHY Whitehorse 8.93 78 Pn Pn 17 43 58.6 -0.9
AKUT Akutan 9.14 236 Pn Pn 17 44 00.7 -1.5
M31M Drury Creek, Y 9.21 68 Pn Pn 17 44 03.1 0.0
BESE Bessie Mountai 9.29 91 Pn Pn 17 44 03.9 -0.4
P33M Teslin, Yukon 9.99 80 Pn Pn 17 44 13.2 -0.6
DLBC Dease Lake 11.76 87 Pn Pn 17 44 37.5 0.0
INK Inuvik 11.84 37 Pn Pn 17 44 36.6 -1.6
YKA Yellowknife Ar 18.39 66 P P 17 46 00.8 +1.8
comp=N,0.3nm,0.3s,baz=276,slow=10,SNR=28
comp=N,0.7nm,0.5s
YKA Yellowknife Ar 18.39 66 P P 17 45 59.1 +0.1
PDAR Pinedale Array 31.28 104 P P 17 48 05.9 +3.5
comp=N,0.1nm,0.5s,baz=312,slow=6.4,SNR=2.0
comp=N,0.1nm,0.5s

KEA 24 17:57:09.5, 40.77N×122.79E, h16km, ML2.5/1, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUJ	**Sinuiju**	**1.46**	**116**	Pg	Pg	17 57 37.2	-0.4
SUJ				Sg	Sg	17 57 56.9	+0.2
SUJ				AML	AML		
	comp=N,112nm,0.4s						
SUJ				AML	AML		
	comp=E,114nm,0.7s						
SUJ				AML	AML		
	comp=Z,78nm,0.7s						
DL2	**Dalian**	**2.06**	**206**	Pg	Pb	17 57 46.3	-0.2
DL2				Sg	Sb	17 58 12.8	+0.9
DL2				smax	smax		
	comp=N,72nm,0.6s						
DL2				smax	smax		
	comp=E,98nm,0.6s						
PYS	**Pyongsong**	**2.80**	**122**	Sg	Sg	17 58 39.4	-0.1
PYAG	**Pyongyang**	**2.86**	**126**	Sg	Sg	17 58 40.1	-1.1
HJU	**Haeju**	**3.55**	**139**	Sg	Sg	17 59 02.8	-0.6

*IDC **24** 18:03:58.0±1.9, 7.°46S×128.°17E, h167km±24km, mb2.8/1, mbtmp3.7/5, Error ellipse: s-maj=26.9km s-min=19.7km az=128.0*

ISC 24 18:03:56.5±1.0, 7.°67S±0.°08×128.°45E±0.°10, h150km, n5, σ3°39/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.36**	**242**	P	**Pn**	**18 05 16.6**	**+1.8**
	16nm,0.4s,baz=60,slow=16,SNR=8.9						
BATI				S	**Sn**	**18 06 14.1**	**-1.8**
	14nm,0.4s,baz=66,slow=20,SNR=3.9						
SIJI	**Sorong**	**7.32**	**23**	P	**Pn**	**18 05 41.0**	**+0.2**
	2.7nm,0.3s,baz=198,slow=20,SNR=15						
WRA	**Warramunga Arr**	**13.47**	**156**	P	**Pn**	**18 07 04.6**	**+2.8**
	0.5nm,0.4s,baz=324,slow=13,SNR=9.7						
WRA				S	**Sn**	**18 09 27.3**	**-3.7**
	1.2nm,0.4s,baz=336,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.75**	**162**	P	**Pn**	**18 07 47.0**	**+4.5**
	2.0nm,0.5s,baz=343,slow=11,SNR=44						
ASAR				S	**S**	**18 10 46.9**	**-1.8**
	0.2nm,0.5s,baz=347,slow=22,SNR=2.4						
MKAR	**Makanchi Array**	**67.95**	**328**	P	**P**	**18 14 36.7**	**-2.5**
	0.1nm,0.5s,baz=119,slow=7.4,SNR=5.2						
	0.1nm,0.5s						

*NIED **24** 18:04:01.1, 26.°03N×128.°62E, h44km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr=0.59; Mθθ=2.38; Mφφ=2.96; Mrθ=-0.83; Mθφ=3.50; Mφr=2.70; Fault plane solution: M0=5.24000×10^14^ NP1: φs=163.00000°, δ=86.00000°, λ=-147.00000°. NP2: φs=71.00000°, δ=57.00000°, λ=-4.00000°.*

*JMA **24** 18:04:01.1±0.3, 26.°0N±0.°9×12.°9E±.°, h44km, MV4.1/13, NEAR OKINAWAJIMA ISLAND*

*IDC **24** 18:04:02.6±5.6, 26.°08N×128.°56E, h30km±39km, mb3.5/8, mbtmp3.7/11, ML3.5/3, MS2.7/1, Error ellipse: s-maj=30.7km s-min=20.9km az=74.0*

ISC 24 18:03:58.8±1.4, 25.°98N±0.°05×128.°71E±0.°04, h14km±9km, n36, σ1°60/47, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.82**	**311**	*i* P	**Pg**	**18 04 14.8**	**+0.1**
JNTH				*e*S	**Sg**	**18 04 24.9**	**-0.6**
JJT3	**Tamagusuku3**	**0.85**	**281**	*i* P	**Pg**	**18 04 15.6**	**+0.3**
JJT3				S	**Sg**	**18 04 26.9**	**+0.5**
JOW	**Kunigami**	**0.94**	**335**	Pn	**Pb**	**18 04 17.1**	**+0.3**
	213nm,0.3s,baz=133,slow=23,SNR=816						
JOW				Sn	**Sg**	**18 04 28.1**	**-1.1**
	441nm,0.3s,baz=131,slow=25,SNR=16						
JOW	**Kunigami**	**0.94**	**335**	P	**Pb**	**18 04 17.3**	**+0.5**
JOW	**Kunigami**	**0.94**	**335**	*i* P	**Pb**	**18 04 17.1**	**+0.3**
JOW				S	**Sg**	**18 04 28.1**	**-1.1**
JOW	**Kunigami**	**0.94**	**335**	A	A	18 04 17.1	
	comp=E,2.0nm,3.7s,comp=E,3.0nm,0.7s						
JYRO	**Yoronjima**	**1.07**	**348**	*i* P	**Pb**	**18 04 19.0**	**-0.1**
JYRO				S	**Sb**	**18 04 31.6**	**-1.2**
JIH	**Iheya**	**1.24**	**328**	*i* P	**Pn**	**18 04 21.8**	**0.0**
JIH				S	**Sb**	**18 04 36.9**	**-1.1**
JOKE	**Okinoerabujima**	**1.38**	**355**	*i* P	**Pn**	**18 04 23.9**	**+0.1**
JOKE				S	**Sn**	**18 04 40.1**	**-1.7**
JAGN	**Aguni-jima**	**1.45**	**295**	*i* P	**Pn**	**18 04 24.4**	**-0.2**
JAGN				*e*S	**Sn**	**18 04 41.7**	**-1.7**
JKE	**Kume jima 2**	**1.76**	**282**	*i* P	**Pn**	**18 04 27.9**	**-1.0**
JKE				S	**Sn**	**18 04 47.9**	**-3.3**
JTK	**Tokunoshima**	**1.81**	**7**	*i* P	**Pn**	**18 04 29.8**	**+0.1**
JTK				*e*S	**Sn**	**18 04 50.3**	**-2.1**
JMZ	**Minamidaito 2**	**2.27**	**93**	P	**Pn**	**18 04 35.3**	**-0.6**
JMZ	**Minamidaito 2**	**2.27**	**93**	P	**Pn**	**18 04 34.8**	**-1.0**
JMZ				S	**Sn**	**18 04 59.5**	**-4.1**
JKDJ	**Kitadaitoujima**	**2.33**	**90**	*i* P	**Pn**	**18 04 36.0**	**-0.8**
JKDJ				S	**Sn**	**18 05 01.7**	**-3.4**
JMJ	**Miyako jima 2**	**3.30**	**250**	P	**Pn**	**18 04 49.2**	**-0.9**
JSU	**Suzuyama**	**5.72**	**15**	P	**Pn**	**18 05 24.1**	**+0.8**
NACB	**Ningan chiao**	**6.70**	**256**	P	**Pn**	**18 05 33.8**	**-3.0**
YHNB	**Yeheng**	**6.76**	**260**	P	**Pn**	**18 05 37.7**	**-0.1**
YULB	**Yu-li**	**7.22**	**251**	P	Pn	18 05 39.3	-4.6
JNU	**Nakatsue**	**7.36**	**14**	Pn	**Pn**	**18 05 47.5**	**+1.6**
	4.1nm,0.3s,baz=186,slow=12,SNR=91						
JNU				Sn	**Sn**	**18 07 07.1**	**-2.3**
	0.4nm,0.3s,baz=78,slow=19,SNR=0.9						
	9.4nm,0.2s						
JNU	**Nakatsue**	**7.36**	**14**	P	**Pn**	**18 05 47.6**	**+1.6**
SSLB	**Suanglung**	**7.37**	**254**	P	**Pn**	**18 05 42.9**	**-3.2**
TPUB	**Ta-pu**	**7.82**	**252**	P	**Pn**	**18 05 50.1**	**-2.1**
JMN	**Monobe**	**8.93**	**29**	P	**Pn**	**18 06 07.7**	**+0.2**
JHS	**Saijyo**	**9.76**	**22**	P	**Pn**	**18 06 20.0**	**+1.2**
KSRS	**Korea Array**	**11.46**	**357**	Pn	**Pn**	**18 06 42.9**	**+0.8**
	0.1nm,0.3s,baz=176,slow=13,SNR=2.3						
KSRS				LR	LR	18 11 25.0	
	comp=Z,34nm,18.7s,baz=20,slow=39						
	0.7nm,0.7s						
MJAR	**Matsushiro Arr**	**13.29**	**35**	Pn	**Pn**	**18 07 09.2**	**+2.1**
	baz=215,slow=15,SNR=1.2						
	0.3nm,0.3s						
KLR	**Kul'dur**	**23.33**	**5**	P	**P**	**18 09 07.8**	**+1.3**
	1.7nm,0.7s,baz=310,slow=3.0,SNR=4.8						
	1.7nm,0.7s						
SONM	**Songino Array**	**28.00**	**327**	P	**P**	**18 09 50.8**	**+1.5**
	0.6nm,0.4s,baz=143,slow=11,SNR=14						
	0.6nm,0.4s						
SEY	**Seymchan**	**40.13**	**17**	P	**P**	**18 11 35.5**	**+1.6**
	0.6nm,0.5s,baz=203,slow=10,SNR=6.8						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**42.02**	**312**	P	**P**	**18 11 49.5**	**-0.2**
	0.6nm,0.6s,baz=90,slow=11,SNR=8.2						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**45.97**	**173**	P	**P**	**18 12 23.7**	**+2.0**
	0.2nm,0.5s,baz=355,slow=9.1,SNR=1.4						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**73.29**	**331**	P	**P**	**18 15 29.7**	**+0.2**
	2.3nm,0.9s,baz=26,slow=9.1,SNR=4.1						
	2.3nm,0.9s						
AKASG	**Malin Array Be**	**76.00**	**320**	P	**P**	**18 15 45.5**	**0.0**
	0.5nm,0.5s,baz=64,slow=6.4,SNR=3.1						
	0.5nm,0.5s						
YKA	**Yellowknife Ar**	**78.57**	**25**	P	**P**	**18 16 00.0**	**+0.4**
	0.2nm,0.6s,baz=300,slow=5.6,SNR=3.4						
	0.2nm,0.6s						

*IDC **24** 18:13:56.4±9.0, 14.°93N×93.°02E, h133km±76km, mb3.0/5, mbtmp3.3/6, Error ellipse: s-maj=71.1km s-min=20.3km az=61.0*

ISC 24 18:13:58.2±1.5, 15.°0N±0.°2×93.°1E±0.°1, h150km, n6, σ0°42/7, mb3.3/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.59**	**57**	P	**Pn**	**18 15 32.3**	**-0.5**
	0.3nm,0.4s,baz=246,slow=15,SNR=1.8						
CMAR				S	**Sn**	**18 16 47.2**	**+0.3**
	0.3nm,0.4s,baz=68,slow=31,SNR=1.5						
MKAR	**Makanchi Array**	**32.99**	**346**	P	**P**	**18 20 18.6**	**-0.2**
	0.3nm,0.7s,baz=166,slow=9.3,SNR=4.6						
	0.3nm,0.7s						
SONM	**Songino Array**	**34.58**	**16**	P	**P**	**18 20 33.1**	**+0.5**
	0.1nm,0.5s,baz=192,slow=5.3,SNR=1.4						
	0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**39.43**	**352**	P	**P**	**18 21 13.1**	**-0.2**
	0.4nm,0.6s,baz=170,slow=8.8,SNR=1.6						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**53.37**	**129**	P	**P**	**18 23 02.5**	**0.0**
	0.2nm,0.4s,baz=307,slow=8.3,SNR=1.3						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**55.37**	**133**	P	**P**	**18 23 17.1**	**+0.1**
	0.2nm,0.4s,baz=307,slow=7.2,SNR=7.0						
	0.2nm,0.4s						

*IDC **24** 18:23:44.5±6.2, 5.°40S×153.°97E, h28km±39km, mb3.7/10, mbtmp3.9/12, ML2.7/2, MS3.2/8, Error ellipse: s-maj=29.7km s-min=18.3km az=101.0*

*NEIC **24** 18:23:50.4±2.1, 5.°45S±0.°03×153.°6E±0.°1, h58km±10km, mb4.4/10, Error ellipse: s-maj=15.3km s-min=3.1km az=99.0*

ISC 24 18:23:47.9±0.7, 5.°39S±0.°07×153.°74E±0.°09, h50km, n33, σ1°54/29, mb3.9/14, MS3.1/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.97**	**307**		**Pn**	**18 24 20.3**	**+1.4**
RABL					**Sn**	**18 24 39.1**	**-3.4**
KRVT	**Keravat (AS076**	**2.02**	**302**	Pn	**Pn**	**18 24 20.1**	**+0.5**
	20nm,0.3s,baz=184,slow=19,SNR=25						
KRVT				Sn	**Sn**	**18 24 45.2**	**+1.6**
	157nm,0.3s,baz=108,slow=20,SNR=6.9						
KRVT				Lg	Lg	18 24 55.3	
	264nm,0.3s,baz=114,slow=20,SNR=6.7						
KRVT				LR	LR	18 25 32.4	
	comp=Z,555nm,18.7s,baz=266,slow=48						
	84nm,0.4s						
PMG	**Port Moresby**	**7.66**	**238**	Pn	**Pn**	**18 25 37.8**	**+0.9**
	1.3nm,0.3s,baz=51,slow=9.7,SNR=6.7						
PMG				Sn	**Sn**	**18 27 04.6**	**+2.3**
	1.7nm,0.3s,baz=37,slow=20,SNR=3.2						
PMG				LR	LR	18 28 40.5	
	comp=Z,119nm,21.4s,baz=81,slow=38						
	4.5nm,0.4s						
PMG	**Port Moresby**	**7.66**	**238**		**Pn**	**18 25 38.0**	**+1.1**
PMG				Sn	**Sn**	**18 26 59.1**	**-3.3**
CTA	**Charters Tower**	**16.33**	**206**	LR	LR	18 33 25.8	
	comp=Z,49nm,18.8s,baz=30,slow=35						
DZM	**Mont Dzumac**	**20.64**	**145**		Pn	18 28 25.0	-1.3
DZM				IAmb	IAmb	18 28 54.7	
	comp=Z,24nm,1.2s						
MTN	**Manton Dam**	**23.51**	**250**	P	**P**	**18 28 52.0**	**-1.7**
MTN				IAmb	IAmb	18 28 58.1	
	comp=Z,55nm,1.3s						
WB0	**Warramunga Arr**	**23.64**	**231**	P	**P**	**18 28 54.8**	**-0.1**
WB0				IAmb	IAmb	18 28 56.5	
	comp=Z,14nm,1.2s						
WB2	**Warramunga Arr**	**23.77**	**231**	P	**P**	**18 28 56.7**	**+0.6**
WRA	**Warramunga Arr**	**23.79**	**231**	P	**P**	**18 28 55.3**	**-0.9**
	comp=Z,3.1nm,0.8s,baz=53,slow=9.2,SNR=10.0						

WRA LR LR 18 37 51.7
comp=Z,67nm,20.1s,baz=30,slow=35
comp=Z,3.1nm,0.8s
ASAR Alice Springs 26.37 224 P **P 18 29 20.2 +0.5**
ASAR PcP **PcP 18 32 45.8 +1.1**
comp=Z,0.6nm,0.9s,baz=58,slow=2.3,SNR=5.0
comp=Z,1.7nm,0.9s
KNRA Kununurra 26.57 245 P **P 18 29 20.5 -1.1**
MSVF Nonsavu 26.74 119 LR LR 18 38 40.2
comp=Z,61nm,20.3s,baz=347,slow=34
H11S3 WAKE ISLAND Hy 26.94 28 T T 18 57 37.5
baz=207,slow=74
H11S2 WAKE ISLAND Hy 26.95 28 T T 18 57 40.2
baz=207
H11S1 WAKE ISLAND Hy 26.96 28 T T 18 57 41.3
baz=207,slow=74
FITZ Fitzroy Crossi 30.22 243 P **P 18 29 52.7 -1.4**
KAPI Kappang 33.85 269 LR LR 18 45 27.3
comp=Z,28nm,21.7s,baz=60,slow=38
RTZ Ruatahuna 39.23 151 P **P 18 31 11.1 -0.5**
RTZ IAmb IAmb 18 31 25.7
comp=Z,8.8nm,1.0s
BKZ Black Stump Fm 39.43 152 P **P 18 31 14.4 +1.2**
LEM Lembang 45.88 266 LR LR 18 53 14.5
comp=Z,22nm,21.5s,baz=170,slow=38
CMAR Chiang Mai Arr 58.98 295 P **P 18 33 44.1 +1.2**
comp=Z,0.7nm,0.8s,baz=118,slow=4.6,SNR=7.1
comp=Z,0.7nm,0.8s
MA2 Magadan 64.80 358 P **P 18 34 21.4 +0.2**
comp=Z,3.4nm,0.7s,baz=167,slow=8.2,SNR=4.8
comp=Z,3.4nm,0.7s
SONM Songino Array 67.32 328 P **P 18 34 38.5 +0.7**
comp=Z,0.5nm,0.6s,baz=124,slow=4.2,SNR=2.1
comp=Z,0.5nm,0.6s
SONM Songino Array 67.32 328 P **P 18 34 39.4 +1.6**
SONM IAmb IAmb 18 35 12.9
comp=Z,3.1nm,1.5s
VNDA Vanda 72.22 178 P **P 18 35 06.4 -0.8**
comp=Z,0.8nm,0.9s,baz=12,slow=15,SNR=3.2
comp=Z,0.8nm,0.9s
L19K White Mountain 77.93 22 P **P 18 35 42.6 +2.2**
L19K IAmb IAmb 18 36 23.4
comp=Z,6.5nm,1.2s
MKAR Makanchi Array 81.38 319 P **P 18 35 59.1 -0.4**
comp=Z,0.8nm,0.7s,baz=108,slow=4.0,SNR=6.4
comp=Z,0.8nm,0.7s
ZALV Zalesovo Beam 82.16 326 P **P 18 36 02.8 -0.5**
comp=Z,1.0nm,0.6s,baz=111,slow=7.9,SNR=1.7
comp=Z,1.0nm,0.6s
ILAR Eielson Array 82.35 22 P **P 18 36 01.8 -2.4**
comp=Z,1.0nm,1.1s,baz=251,slow=4.9,SNR=5.0
comp=Z,1.0nm,1.1s
YBH Yreka Blue Hor 88.74 48 LR LR 19 09 24.7
comp=Z,36nm,21.0s,baz=328,slow=31
YKA Yellowknife Ar 95.50 28 P **P 18 37 06.1 -1.1**
comp=Z,0.1nm,0.5s,baz=264,slow=3.7,SNR=1.9
comp=Z,0.1nm,0.5s
TORD Torodi Ar. Bea 151.38 288 PKPbc **PKiKP 18 43 36.9 -0.8**
comp=Z,0.2nm,0.3s,baz=34,slow=1.8,SNR=2.3

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*IDC **24** 18:41:54.2±1.0,38.24N×76.56E,h0km,mb3.8/13, mbtmp3.7/20,ML3.2/7,Error ellipse: s-maj=17.1km s-min=14.2km az=100.0*
*SOME **24** 18:41:57.9,38.52N×76.68E,h0km*
*NNC **24** 18:41:59.3±1.1,38.50N×76.66E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=8.0km s-min=6.0km az=148.0*
*MOS **24** 18:42:00.0±1.2,38.34N×76.63E,h46km,mb4.1/7,Error ellipse: s-maj=8.5km s-min=4.6km az=96.1*
*NEIC **24** 18:42:01.8±1.9,38.40N±0.07×76.72E±0.06,h44km±9km, mb4.5/24,Error ellipse: s-maj=12.9km s-min=1.5km az=147.0*

ISC 24 18:41:57.0±0.4,38.26N±0.04×76.58E±0.04,h10km,n183, σ2s12/189,mb4.2/30,5C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.34**	**340**	Pg	**Pn**	**18 42 20.0**	**-1.9**
KSH				Sg	**Sn**	**18 42 36.9**	**-3.0**
KSH				pmax	pmax		
	comp=Z,63nm,0.5s						
KSH				smax	smax		
	comp=N,3μm,0.4s						
KSH				smax	smax		
	comp=E,5μm,0.5s						
TARG	**Taragay, Kyrgy**	**3.59**	**15**		**Pn**	**18 42 55.6**	**+2.5**
TARG	**Taragay, Kyrgy**	**3.59**	**15**	P	**Pn**	**18 42 55.6**	**+2.5**
AAK	**Ala-Archa**	**4.65**	**341**	Pn	**Pn**	**18 43 09.9**	**+2.5**
	comp=E,1.8nm,0.3s,baz=116,slow=5.7,SNR=24						
AAK				Sn	**Sn**	**18 44 05.0**	**+3.4**
	comp=E,3.8nm,0.3s,baz=149,slow=2.1,SNR=5.1						
AAK				Lg	Lg	18 44 20.8	
	comp=E,11nm,0.3s,baz=108,slow=19,SNR=7.4						
	comp=E,3.3nm,0.3s						
AAK	**Ala-Archa**	**4.65**	**341**	Pn	**Pn**	**18 43 08.6**	**+1.1**
AAK				Sn	**Sn**	**18 43 59.2**	**-2.4**
TNSS	**Tian-Shan**	**4.78**	**3**	Pg	**Pb**	**18 43 21.6**	**+0.6**
	comp=E,5.8nm,0.4s						
TNSS				Lg	Lg	18 44 22.7	
	comp=E,24nm,0.8s						
TNSS	**Tian-Shan**	**4.78**	**3**	*e*Pn	**Pn**	**18 43 11.1**	**+1.7**
	baz=3.5						
TNSS				*i* Sn	**Sn**	**18 44 01.9**	**-3.1**
TNSS	**Tian-Shan**	**4.78**	**3**	*e*Pg	**Pb**	**18 43 21.6**	**+0.6**
	comp=E,15nm,0.2s						
TNSS				*e*Lg	Lg	18 44 22.4	
	comp=E,24nm,0.8s						
TNSS	**Tian-Shan**	**4.78**	**3**	*e*P	**Pn**	**18 43 11.1**	**+1.7**
KST	**Kastek**	**4.80**	**355**	Pg	**Pb**	**18 43 22.7**	**+1.5**
	comp=E,3.4nm,0.4s						
KST				Lg	Lg	18 44 23.7	
	comp=E,26nm,0.6s						
KST	**Kastek**	**4.80**	**355**	*e*Pg	**Pb**	**18 43 22.1**	**+0.8**
	comp=E,8.6nm,0.4s						
KST				*e*Lg	Lg	18 44 23.3	
	comp=E,24nm,0.5s						
MTBS	**Maitube**	**4.87**	**359**	Pg	**Pb**	**18 43 23.6**	**+1.2**
	comp=E,3.2nm,0.2s						
MTBS				Lg	Lg	18 44 25.3	
	comp=E,27nm,0.5s						
MTBS	**Maitube**	**4.87**	**359**	*e*Pg	**Pb**	**18 43 23.4**	**+1.0**
	comp=E,3.2nm,0.2s						
MTBS				*e*Lg	Lg	18 44 25.3	
	comp=E,37nm,0.4s						
MDOK	**Medeo**	**4.91**	**4**	Pg	**Pb**	**18 43 24.5**	**+1.3**
	comp=E,11nm,0.6s						
MDOK				Pg	Pg	18 43 26.0	-5.0
	comp=E,12nm,0.6s						
MDOK				Lg	Lg	18 44 26.0	
	comp=E,122nm,0.8s						
MDOK				Lg	Lg	18 44 27.1	
	comp=E,40nm,0.8s						
MDOK	**Medeo**	**4.91**	**4**	*e*Pn	**Pn**	**18 43 13.1**	**+2.1**
	baz=4.3						
MDOK				*i* Sn	**Sn**	**18 44 05.4**	**-2.5**
MDOK	**Medeo**	**4.91**	**4**	*e*Pg	**Pb**	**18 43 24.5**	**+1.3**
	comp=E,11nm,0.3s						
MDOK				*e*Lg	Lg	18 44 27.1	
	comp=E,40nm,0.8s						
MDOK	**Medeo**	**4.91**	**4**	*e*P	**Pn**	**18 43 13.1**	**+2.1**
AAA	**Alma-Ata**	**4.95**	**3**	*e*Pg	**Pb**	**18 43 25.3**	**+1.5**
	comp=E,28nm,0.2s						
AAA				*e*Lg	Lg	18 44 28.1	
	comp=E,89nm,0.2s						
GAR	**Garm**	**4.96**	**281**		**Pn**	**18 43 14.6**	**+3.0**
KNDC	**Almaty**	**4.96**	**3**	⇑Pg	**Pb**	**18 43 26.5**	**+2.5**
	comp=E,26nm,0.5s						
KNDC				⇓Lg	Lg	18 44 26.6	
	comp=E,134nm,0.7s						
SATY	**Saty**	**4.99**	**16**	Pg	**Pb**	**18 43 25.4**	**+0.9**
	comp=E,6.7nm,0.5s						
SATY				Lg	Lg	18 44 29.1	
	comp=E,43nm,0.5s						
SATY	**Saty**	**4.99**	**16**	*e*Pn	**Pn**	**18 43 14.3**	**+2.3**
	baz=17						
SATY	**Saty**	**4.99**	**16**	*e*Pg	**Pb**	**18 43 25.9**	**+1.4**
	comp=E,14nm,0.3s						
SATY				*e*Lg	Lg	18 44 29.4	
	comp=E,109nm,0.3s						
SATY	**Saty**	**4.99**	**16**	*e*P	**Pn**	**18 43 14.3**	**+2.3**
DGS	**Degeres**	**5.01**	**353**	Pg	**Pb**	**18 43 28.2**	**+3.3**
	comp=E,14nm,0.6s						
DGS				Lg	Lg	18 44 33.1	
	comp=E,40nm,0.6s						
DGS	**Degeres**	**5.01**	**353**	*e*Pg	**Pb**	**18 43 28.2**	**+3.3**
	comp=E,14nm,0.6s						
DGS				*e*Lg	Lg	18 44 33.1	
	comp=E,40nm,0.6s						
ZHN	**Zhinishke**	**5.10**	**15**	Pg	**Pb**	**18 43 27.9**	**+1.5**
	comp=E,2.9nm,0.1s						
ZHN				Lg	Lg	18 44 33.1	
	comp=E,98nm,0.4s						
ZHN	**Zhinishke**	**5.10**	**15**	*e*Pn	**Pn**	**18 43 15.8**	**+2.2**
	baz=17						
ZHN	**Zhinishke**	**5.10**	**15**	*e*Pg	**Pb**	**18 43 28.1**	**+1.7**
	comp=E,4.5nm,0.1s						
ZHN				*e*Lg	Lg	18 44 33.1	
	comp=E,98nm,0.2s						
ZHN	**Zhinishke**	**5.10**	**15**	*e*P	**Pn**	**18 43 15.7**	**+2.2**
MRKS	**Merke**	**5.16**	**331**	Pg	**Pb**	**18 43 31.6**	**+4.3**
	comp=E,6.4nm,0.4s						
MRKS				Lg	Lg	18 44 39.4	
	comp=E,26nm,0.7s						
MRKS	**Merke**	**5.16**	**331**	*e*Pg	Pb	18 43 31.7	+4.4
	comp=E,14nm,0.3s						
MRKS				*e*Lg	Lg	18 44 39.4	
	comp=E,28nm,0.4s						
UZB	**Uzynbulak**	**5.22**	**20**	Pg	**Pb**	**18 43 30.4**	**+1.9**
	comp=E,5.6nm,0.4s						
UZB				Lg	Lg	18 44 37.8	
	comp=E,26nm,0.5s						
UZB	**Uzynbulak**	**5.22**	**20**	*e*Pg	**Pb**	**18 43 30.5**	**+2.0**
	comp=E,19nm,0.3s						
UZB				*e*Lg	Lg	18 44 37.6	
	comp=E,37nm,0.3s						
CHCP	**Chirah Chowk**	**5.32**	**211**	P	Pb	18 43 22.0	-8.1
SHLS	**Shalkode**	**5.36**	**23**	Pg	Pb	18 43 34.9	+4.1
	comp=E,10.0nm,0.6s						
SHLS				Lg	Lg	18 44 45.3	
	comp=E,24nm,0.4s						
SHLS	**Shalkode**	**5.36**	**23**	*e*Pn	**Pn**	**18 43 20.9**	**+3.7**
	baz=28						
SHLS	**Shalkode**	**5.36**	**23**	*e*Pg	Pb	18 43 34.9	+4.1
	comp=E,10.0nm,0.6s						
SHLS				*e*Lg	Lg	18 44 45.0	
	comp=E,662nm,0.4s						
SHLS	**Shalkode**	**5.36**	**23**	*e*P	**Pn**	**18 43 20.8**	**+3.7**
KURS	**Kuram**	**5.36**	**12**	Pg	**Pb**	**18 43 32.6**	**+1.9**
	comp=E,15nm,0.7s						
KURS				Lg	Lg	18 44 41.3	
	comp=E,31nm,0.9s						
KURS	**Kuram**	**5.36**	**12**	*e*Pg	**Pb**	**18 43 32.4**	**+1.7**
	comp=E,15nm,0.4s						
KURS				*e*Lg	Lg	18 44 40.8	
	comp=E,31nm,0.3s						
SGDS	**Sogindy**	**5.39**	**345**	Pg	**Pb**	**18 43 35.1**	**+3.8**
	comp=E,2.9nm,0.4s						
SGDS				Lg	Lg	18 44 45.1	
	comp=E,34nm,0.6s						
SGDS	**Sogindy**	**5.39**	**345**	*e*Pn	**Pn**	**18 43 19.9**	**+2.4**
	baz=344						
SGDS	**Sogindy**	**5.39**	**345**	*e*P	**Pn**	**18 43 19.9**	**+2.4**
KPKS	**Kokpek**	**5.44**	**16**	Pg	**Pb**	**18 43 33.3**	**+1.2**
	comp=E,7.5nm,0.3s						
KPKS				Lg	Lg	18 44 43.3	
	comp=E,54nm,0.7s						
KPKS	**Kokpek**	**5.44**	**16**	*e*Pn	**Pn**	**18 43 19.6**	**+1.4**
	baz=18						
KPKS	**Kokpek**	**5.44**	**16**	*e*Pg	**Pb**	**18 43 33.8**	**+1.7**
	comp=E,5.4nm,0.2s						
KPKS				*e*Lg	Lg	18 44 43.3	
	comp=E,54nm,0.3s						
KPKS	**Kokpek**	**5.44**	**16**	*e*P	**Pn**	**18 43 19.6**	**+1.4**
KTBS	**Karatobe**	**5.45**	**1**	Pg	**Pb**	**18 43 36.0**	**+3.8**
	comp=E,3.8nm,0.3s						
KTBS				Lg	Lg	18 44 46.8	
	comp=E,40nm,0.5s						
KTBS	**Karatobe**	**5.45**	**1**	*e*Pg	**Pb**	**18 43 36.0**	**+3.8**
	comp=E,5.6nm,0.2s						
KTBS				*e*Lg	Lg	18 44 46.8	
	comp=E,52nm,0.3s						
KRBS	**Karabastau**	**5.47**	**353**	Pg	**Pb**	**18 43 34.7**	**+2.0**
	comp=E,2.8nm,0.4s						
KRBS				Lg	Lg	18 44 44.2	
	comp=E,22nm,0.6s						
KRBS	**Karabastau**	**5.47**	**353**	*e*Pg	**Pb**	**18 43 34.7**	**+2.0**
	comp=E,2.8nm,0.4s						
KRBS				*e*Lg	Lg	18 44 44.4	
	comp=E,22nm,0.6s						
CHKK	**Chushkaly**	**5.60**	**3**	Pg	**Pb**	**18 43 36.5**	**+1.8**
	comp=E,6.3nm,0.4s						
CHKK				Lg	Lg	18 44 48.1	
	comp=E,16nm,0.6s						
CHKK	**Chushkaly**	**5.60**	**3**	*e*Pn	**Pn**	**18 43 22.4**	**+2.1**
	baz=3.3						
CHKK	**Chushkaly**	**5.60**	**3**	*e*Pg	**Pb**	**18 43 36.5**	**+1.8**
	comp=E,6.3nm,0.4s						
CHKK				*e*Lg	Lg	18 44 47.2	
	comp=E,16nm,0.6s						
CHKK	**Chushkaly**	**5.60**	**3**	*e*P	**Pn**	**18 43 22.3**	**+2.1**
KUU	**Kurty**	**5.63**	**358**	Pg	**Pb**	**18 43 38.7**	**+3.4**
	comp=E,1.7nm,0.3s						
KUU				Lg	Lg	18 44 51.1	
	comp=E,54nm,0.6s						
KUU	**Kurty**	**5.63**	**358**	*e*Pn	**Pn**	**18 43 22.7**	**+2.0**
	baz=358						
KUU	**Kurty**	**5.63**	**358**	*e*Pg	**Pb**	**18 43 38.7**	**+3.4**
	comp=E,3.4nm,0.3s						
KUU				*e*Lg	Lg	18 44 51.1	
	comp=E,57nm,0.3s						
KUU	**Kurty**	**5.63**	**358**	*e*P	**Pn**	**18 43 22.7**	**+2.0**
JMU	**Jammu**	**5.70**	**194**	*e*P	Pn	18 43 26.1	+4.5
JMU				*e*S	**Sn**	**18 44 31.4**	**+4.3**
CEP	**Cherat**	**5.82**	**222**	P	Pb	18 43 29.4	-9.3
CEP				S	**Sn**	**18 44 36.0**	**+5.6**
CHGR	**Chuyangaron**	**5.84**	**276**		**Pn**	**18 43 26.1**	**+2.4**
CHGR				Sn	**Sn**	**18 44 35.1**	**+4.4**
CHGR	**Chuyangaron**	**5.84**	**276**	P	**Pn**	**18 43 26.1**	**+2.4**
CHGR						18 44 35.2	
ARXS	**Arharly**	**6.02**	**9**	Pg	**Pb**	**18 43 45.5**	**+3.5**
	comp=E,8.3nm,0.6s						
ARXS				Lg	Lg	18 45 02.7	
	comp=E,23nm,0.8s						
ARXS	**Arharly**	**6.02**	**9**	*e*Pg	**Pb**	**18 43 45.5**	**+3.5**
	comp=E,8.3nm,0.3s						
ARXS				*e*Lg	Lg	18 45 03.0	
	comp=E,3.2nm,0.1s						
DZA	**Taraz**	**6.11**	**321**	*e*Pn	**Pn**	**18 43 30.2**	**+2.8**
	baz=319						
DZA	**Taraz**	**6.11**	**321**	*e*P	**Pn**	**18 43 30.2**	**+2.8**
IUG	**Iuzhnay**	**6.34**	**310**	Pg	**Pg**	**18 43 54.4**	**-3.9**
	comp=E,19nm,0.3s						
IUG				Lg	Lg	18 45 18.7	
	comp=E,30nm,0.9s						
IUG	**Iuzhnay**	**6.34**	**310**	*e*Pn	**Pn**	**18 43 33.4**	**+2.9**
	baz=307						
IUG	**Iuzhnay**	**6.34**	**310**	*e*Pg	**Pg**	**18 43 54.4**	**-3.9**
	comp=E,20nm,0.2s						
IUG				*e*Lg	Lg	18 45 18.7	
	comp=E,49nm,0.3s						
IUG	**Iuzhnay**	**6.34**	**310**	*e*P	**Pn**	**18 43 33.4**	**+2.9**
DJR	**Jarkent**	**6.53**	**21**	Pg	**Pb**	**18 43 53.8**	**+3.1**
	comp=E,3.2nm,0.4s						
DJR				Lg	Lg	18 45 17.6	
	comp=E,11nm,0.6s						
DJR	**Jarkent**	**6.53**	**21**	*e*Pg	**Pb**	**18 43 53.8**	**+3.1**
	comp=E,4.7nm,0.6s						
DJR				*e*Lg	Lg	18 45 17.6	
	comp=E,19nm,0.3s						
KK31	**Karatay Array**	**6.68**	**318**		**Pn**	**18 43 35.4**	**+0.2**
KK31	**Karatay Array**	**6.68**	**318**	Pn	**Pn**	**18 43 35.9**	**+0.7**
	comp=E,1.4nm,0.3s,baz=128,slow=12,SNR=66						
KK31				⇑Sn	**Sn**	**18 44 53.1**	**+1.7**
	comp=E,3.1nm,0.4s						
KK31				⇓Lg	Lg	18 45 24.6	
	comp=E,11nm,0.6s,baz=140,slow=25,SNR=4.2						
KK31	**Karatay Array**	**6.68**	**318**	*e*P	**Pn**	**18 43 35.9**	**+0.7**
KKAR	**Karatay Array**	**6.68**	**318**		**Pn**	**18 43 35.8**	**+0.7**
KKAR	**Karatay Array**	**6.68**	**318**		**Pn**	**18 43 35.9**	**+0.7**
KKAR	**Karatay Array**	**6.68**	**318**	P	**Pn**	**18 43 35.9**	**+0.7**
THW	**Thamme Wali**	**6.73**	**217**	P	Pn	18 43 39.7	+3.8
BTLS	**Baital**	**7.04**	**345**	Pg	**Pb**	**18 44 03.3**	**+4.1**
	comp=E,0.3nm,0.1s						
BTLS				Lg	Lg	18 45 33.6	
	comp=E,2.8nm,0.4s						
BTLS	**Baital**	**7.04**	**345**	*e*Pg	**Pb**	**18 44 03.3**	**+4.1**
	comp=E,1.4nm,0.3s						
BTLS				*e*Lg	Lg	18 45 33.6	
	comp=E,13nm,0.4s						
SARP	**Sargodha**	**7.09**	**208**	P	Pn	18 43 44.8	+4.1
KBL	**Kabul**	**7.12**	**241**	Pn	Pn	18 43 45.7	+4.3
KBL	**Kabul**	**7.12**	**241**	P	Pn	18 43 45.7	+4.3
SMLA	**Simla**	**7.13**	**176**	*e*P	**Pn**	**18 43 43.8**	**+2.4**
SMLA				*e*S	**Sn**	**18 44 59.9**	**-2.5**
SMLA				IAML		18 45 15.2	
	comp=N,25nm,0.4s						
SMLA				IAML		18 45 15.2	
	comp=E,32nm,0.6s						
DDI	**Dehra Dun**	**8.01**	**171**	*ex*	x	18 43 50.8	
LGTI	**Lohaghat**	**9.30**	**160**	*e*P	**Pn**	**18 44 10.7**	**-0.3**
LGTI				*e*S	**Sn**	**18 45 50.2**	**-5.5**
MAKZ	**Makanchi**	**9.42**	**23**		**Pn**	**18 44 12.7**	**-0.1**
MAKZ	**Makanchi**	**9.42**	**23**	P	**Pn**	**18 44 12.7**	**-0.1**
MK31	**Makanchi Array**	**9.51**	**24**		**Pn**	**18 44 13.8**	**-0.1**
MK31	**Makanchi Array**	**9.51**	**24**	P	**Pn**	**18 44 13.6**	**-0.4**
	comp=E,0.3nm,0.3s,baz=204,slow=12,SNR=44						
MK31	**Makanchi Array**	**9.51**	**24**	P	**Pn**	**18 44 13.8**	**-0.1**
MKAR	**Makanchi Array**	**9.51**	**24**	Pn	**Pn**	**18 44 13.8**	**-0.2**
	comp=E,0.6nm,0.3s,baz=187,slow=12,SNR=38						
MKAR				Lg	Lg	18 46 55.9	
	comp=E,0.3nm,0.3s,baz=148,slow=47,SNR=1.7						
	comp=E,0.8nm,0.4s						
MKAR	**Makanchi Array**	**9.51**	**24**	Pn	**Pn**	**18 44 13.2**	**-0.7**
MKAR	**Makanchi Array**	**9.51**	**24**	*i* P	**Pn**	**18 44 14.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WMQ	**Urumqi**	**10.06**	**53**	*e*P	**Pn**	**18 44 21.6**	**0.0**
WMQ				sP		18 44 28.6	
WMQ				S	**Sn**	**18 46 10.3**	**-4.3**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ				smax	smax		
	comp=N,27nm,1.3s						
WMQ				smax	smax		
	comp=E,15nm,1.1s						
AJM	**Ajmer**	**11.86**	**188**	*e*P	Pn	18 44 50.3	+4.1
AJM				*e*S	**Sn**	**18 46 56.7**	**-1.9**
KURBB	**Kurchatov Arra**	**12.44**	**6**	Pn	**Pn**	**18 44 52.5**	**-1.4**
	baz=192,slow=12,SNR=6.1						
KURBB				Sn	**Sn**	**18 47 07.6**	**-5.0**
	baz=174,slow=21,SNR=2.9						
KURBB				Lg	Lg	18 48 26.8	
	baz=186,slow=23,SNR=5.2						
	comp=E,0.5nm,0.7s						
KURK	**Kurchatov**	**12.54**	**6**	Pn	**Pn**	**18 44 53.7**	**-1.6**
KURK	**Kurchatov**	**12.54**	**6**	P	**Pn**	**18 44 52.5**	**-2.8**
KURK						18 47 07.6	
DGZ	**Jazzator, Alta**	**13.83**	**31**	⇓*i* P	**Pn**	**18 45 12.8**	**-0.3**
GEYT	**Alibeck**	**14.55**	**274**	Pn	**Pn**	**18 45 20.1**	**-2.7**
	comp=E,0.6nm,0.3s,baz=117,slow=9.1,SNR=5.9						
GEYT				Sn	**Sn**	**18 48 01.0**	**-3.2**
	comp=E,0.2nm,0.3s,baz=29,slow=10,SNR=2.3						
	comp=E,1.1nm,0.3s						
GOMU	**GeErMu**	**14.68**	**92**	P	**P**	**18 45 32.3**	**+1.0**
GOMU				pP	Pn	18 45 35.5	+11
GOMU				sP		18 45 36.8	
GOMU				pmax	pmax		
	comp=Z,86nm,6.2s						
LSA	**Lhasa**	**14.79**	**121**	Pn	**Pn**	**18 45 27.5**	**+0.9**
LSA	**Lhasa**	**14.79**	**121**	P	**Pn**	**18 45 27.5**	**+0.9**
BVA0	**Borovoye Array**	**15.38**	**346**	⇓P	**Pn**	**18 45 33.5**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=150,slow=10,SNR=7.3						
BVAR	**Borovoye Array**	**15.38**	**346**	Pn	**Pn**	**18 45 29.3**	**-4.6**
	baz=148,slow=8.5,SNR=2.2						
BVAR				Lg	Lg	18 49 59.4	
	baz=133,slow=14,SNR=2.1						
	comp=Z,0.2nm,0.3s						
BRVK	**Borovoye**	**15.43**	**346**	Pn	**Pn**	**18 45 32.6**	**-2.0**
BRVK	**Borovoye**	**15.43**	**346**	P	**Pn**	**18 45 32.6**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AB31	**Akbulak array**	**16.25**	**318**	⇓P	**Pn**	**18 45 43.7**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=122,slow=13,SNR=20						
AB31	**Akbulak array**	**16.25**	**318**	*e*P	**Pn**	**18 45 43.2**	**-2.0**
ABKAR	**Akbulak array**	**16.25**	**318**		**Pn**	**18 45 44.0**	**-1.2**
ABKAR	**Akbulak array**	**16.25**	**318**	Pn	**Pn**	**18 45 42.3**	**-2.9**
ZALV	**Zalesovo Beam**	**16.68**	**17**	Pn	**Pn**	**18 45 48.5**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=283,slow=13,SNR=1.3						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**16.68**	**17**	Pn	**Pn**	**18 45 49.2**	**-1.4**
ZALV	**Zalesovo Beam**	**16.68**	**17**	P	**Pn**	**18 45 49.2**	**-1.4**
AKTO	**Aktyubinsk**	**17.95**	**319**	P	**Pn**	**18 46 03.6**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=112,slow=8.6,SNR=5.4						
	comp=Z,1.6nm,0.6s						
AKTO	**Aktyubinsk**	**17.95**	**319**	⇓P	**Pn**	**18 46 05.8**	**-0.7**
	comp=Z,2.9nm,1.0s						
GTA	**Gaotai**	**18.13**	**79**	*e*P	**P**	**18 46 10.0**	**+0.7**
GTA				pP	sP	18 46 19.4	+5.1
GTA				sP	pP	18 46 25.0	+12
GTA				pmax	pmax		
	comp=Z,2.0nm,1.7s						
ARU	**Arti**	**21.78**	**332**	P	**P**	**18 46 48.8**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=160,slow=5.5,SNR=12						
	comp=Z,5.1nm,0.7s						
ARU	**Arti**	**21.78**	**332**	P	**P**	**18 46 49.3**	**+0.7**
ARU	**Arti**	**21.78**	**332***c* *i*P		**P**	**18 46 48.7**	**+0.1**
ARU						18 47 09.5	
ARU				S	**S**	**18 50 47.2**	**-2.1**
ARU				SS	**SnSn**	**18 51 13.9**	**0.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TNCH	**TengChong**	**22.80**	**119**	P	**P**	**18 46 58.3**	**-1.7**
TNCH				pP	sP	18 47 08.9	+3.8
TNCH				S	S	18 50 48.1	-21
TNCH				sS	pS	18 51 11.9	-2.0
TNCH				SS	**SnSn**	**18 51 43.0**	**+3.4**
TNCH				pmax	pmax		
	comp=Z,6.0nm,1.8s						
TNCH				pmax	pmax		
	comp=Z,150nm,5.4s						
TNCH				LR	LR		
	comp=N,190nm,4.1s						
TNCH				LR	LR		
	comp=E,220nm,5.9s						
TNCH				LR	LR		
	comp=Z,100nm,6.4s						
SONM	**Songino Array**	**23.67**	**57**	P	**P**	**18 47 08.7**	**0.0**
	comp=Z,1.6nm,0.5s,baz=252,slow=11,SNR=15						
	comp=Z,1.6nm,0.5s						
SONM	**Songino Array**	**23.67**	**57**		**P**	**18 47 07.7**	**-1.0**
ULN	**Ulaanbaatar**	**24.11**	**57**		**P**	**18 47 10.6**	**-2.3**
ULN	**Ulaanbaatar**	**24.11**	**57**	P	**P**	**18 47 10.6**	**-2.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BELG	**Belogornoye**	**24.57**	**314**	P	**P**	**18 47 15.9**	**-0.9**
	comp=Z,3.3nm,0.6s,baz=171,slow=8.7,SNR=2.6						
	comp=Z,3.3nm,0.6s					

AKBB				pmax	pmax			
	comp=Z,8.0nm,1.5s							
LVZ	**Lovozero**	**37.59**	**336**	P	**P**	**18 49 10.6**	**-0.7**	
LVZ	**Lovozero**	**37.59**	**336**	P	**P**	**18 49 10.6**	**-0.7**	
LVZ				pmax	pmax			
	comp=Z,36nm,1.3s							
KAAM	**Kaadhehdhoo**	**37.73**	**186**	P	**P**	**18 49 13.1**	**+0.2**	
MLR	**Muntele Rosu**	**37.86**	**298**	P	**P**	**18 49 15.2**	**+1.2**	
MLR				IAmb	IAmb	18 49 43.4		
	comp=Z,13nm,1.5s							
MLR	**Muntele Rosu**	**37.86**	**298**	P	**P**	**18 49 15.2**	**+1.2**	
MLR				pmax	pmax			
	comp=Z,13nm,1.5s							
BURAR	**Bucovina Array**	**38.13**	**301**	P	**P**	**18 49 15.8**	**-0.4**	
BUR08	**Bucovina Ar. S**	**38.13**	**301**	P	**P**	**18 49 16.9**	**+0.7**	
BUR08				IAmb	IAmb	18 49 35.7		
	comp=Z,7.1nm,1.5s							
FIA1	**FINESS Array S**	**38.61**	**324**	P	**P**	**18 49 19.9**	**0.0**	
FINES	**FINESS Array B**	**38.61**	**324**	P	**P**	**18 49 19.8**	**-0.1**	
	comp=Z,0.6nm,0.3s,baz=110,slow=9.7,SNR=11							
	comp=Z,0.6nm,0.3s							
FINES	**FINESS Array B**	**38.61**	**324**	P	**P**	**18 49 20.1**	**+0.2**	
FINES	**FINESS Array B**	**38.61**	**324**	P	**P**	**18 49 20.1**	**+0.2**	
PABE	**Paberze**	**38.82**	**314**	P	**P**	**18 49 22.1**	**+0.4**	
PABE				IAmb	IAmb	18 49 25.9		
	comp=Z,18nm,1.4s							
CRVS	**Cervenica-Dubn**	**40.50**	**304**	*e*P	**P**	**18 49 34.7**	**-1.2**	
CRVS	**Cervenica-Dubn**	**40.50**	**304**	*e*P	**P**	**18 49 34.7**	**-1.2**	
ARCES	**ARCESS Array B**	**41.30**	**336**	P	**P**	**18 49 42.4**	**+0.2**	
ARCES				IAmb	IAmb	18 49 58.8		
	comp=Z,11nm,1.3s							
ARCES	**ARCESS Array B**	**41.30**	**336**	P	**P**	**18 49 42.4**	**+0.2**	
ARCES				pmax	pmax			
	comp=Z,11nm,1.3s							
GERES	**GERESS Array B**	**45.57**	**305**	P	**P**	**18 50 16.2**	**-0.8**	
	comp=Z,0.8nm,0.7s,baz=59,slow=8.0,SNR=6.9							
	comp=Z,0.8nm,0.7s							
NC303	**NORSAR Array S**	**45.62**	**322**	P	**P**	**18 50 16.6**	**-0.5**	
NC303				IAmb	IAmb	18 50 19.1		
	comp=Z,23nm,1.3s							
NB201	**NORSAR Array S**	**45.66**	**322**	P	**P**	**18 50 16.1**	**-1.4**	
NB2	**NORSAR Subarra**	**45.70**	**322**	P	**P**	**18 50 17.4**	**-0.4**	
	comp=Z,2.2nm,0.8s,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**45.70**	**322**	P	**P**	**18 50 16.7**	**-1.1**	
	comp=Z,1.2nm,0.6s,baz=90,slow=7.8,SNR=5.2							
	comp=Z,1.2nm,0.6s							
NC204	**NORSAR Array S**	**45.91**	**322**	P	**P**	**18 50 18.5**	**-1.0**	
NC204				IAmb	IAmb	18 50 25.6		
	comp=Z,18nm,1.2s							
FDMO	**Fiordimonte**	**47.39**	**297**	P	**P**	**18 50 31.4**	**+0.1**	
FUORN	**Ofenpass-Fuorn**	**48.34**	**302**	P	**P**	**18 50 38.1**	**-0.7**	
FUORN				IAmb	IAmb	18 51 01.6		
	comp=Z,4.5nm,1.3s							
SENIN	**Lac Senin/Sane**	**50.38**	**303**	P	**P**	**18 50 54.3**	**-0.1**	
BNI	**Bardonecchia**	**51.19**	**301**	P	**P**	**18 51 00.1**	**-0.4**	
BNI				IAmb	IAmb	18 51 01.0		
	comp=Z,11nm,1.3s							
BNI	**Bardonecchia**	**51.19**	**301**	P	**P**	**18 51 00.1**	**-0.4**	
BNI				pmax	pmax			
	comp=Z,11nm,1.3s							
SSB	**Saint Sauveur**	**52.55**	**302**	P	**P**	**18 51 10.3**	**-0.2**	
SSB				IAmb	IAmb	18 51 11.2		
	comp=Z,12nm,1.3s							
SSB	**Saint Sauveur**	**52.55**	**302**	P	**P**	**18 51 10.3**	**-0.2**	
SSB				pmax	pmax			
	comp=Z,12nm,1.3s							
BILL	**Bilibino**	**55.04**	**27**	*e*P	**P**	**18 51 29.8**	**+1.5**	
BILL				*e*		18 53 31.8		
BILL				pmax	pmax			
	comp=Z,1.0nm,1.1s							
ESDC	**Sonseca Array**	**60.53**	**299**	P	**P**	**18 52 06.6**	**-0.8**	
	comp=Z,0.3nm,0.5s,baz=44,slow=7.1,SNR=2.2							
	comp=Z,0.3nm,0.5s							
BMAR	**Burnt Mountain**	**70.12**	**16**	P	**P**	**18 53 08.4**	**-0.6**	
TORD	**Torodi Ar. Bea**	**70.16**	**271**	P	**P**	**18 53 08.4**	**-1.7**	
	comp=Z,1.0nm,0.5s,baz=80,slow=2.0,SNR=6.0							
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**70.16**	**271**	P	**P**	**18 53 08.3**	**-1.7**	
YKA	**Yellowknife Ar**	**79.19**	**5**	P	**P**	**18 54 00.7**	**-0.9**	
	comp=Z,0.2nm,0.7s,baz=342,slow=5.0,SNR=3.9							
	comp=Z,0.2nm,0.7s							
YKA	**Yellowknife Ar**	**79.19**	**5**	*i* P	**P**	**18 54 02.7**	**+1.0**	
ASAR	**Alice Springs**	**81.75**	**129**	P	**P**	**18 54 13.8**	**-2.2**	
	comp=Z,0.5nm,0.7s,baz=308,slow=5.4,SNR=7.1							
	comp=Z,0.5nm,0.7s							
ELIB	**Princess Elisa**	**116.04**	**196**	*d*PKPdf	**PKiKP**	**19 00 38.7**	**-0.4**	

WEL 24 18:42:43.1±0.6, **45°S**±4°×**16°8E**±°, **h37**km±6km, **M3.7**/13, **ML3.9**/13, **MLv3.7**/13, **Error ellipse: s-maj=0.0km s-min=0.0km az=120.7, confirmed, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.16**	**20**	P	Pn	18 42 51.0	-2.8
MSZ				S	Sn	18 42 57.0	-7.3
MLZ	**Mavora Lakes**	**0.58**	**161**	P	Pn	18 42 55.7	+0.7
MLZ				S	Sn	18 43 05.8	+2.6
DCZ	**Deep Cove**	**0.81**	**217**	P	Pn	18 42 57.7	-0.3
DCZ				S	Sn	18 43 09.8	+0.9
WKZ	**Wanaka**	**0.83**	**91**	P	Pn	18 42 59.4	+1.1
WKZ				S	Sn	18 43 11.4	+2.0
JCZ	**Jackson Bay**	**1.00**	**42**	P	Pn	18 43 00.8	+0.1
WHZ	**Wether Hill Ro**	**1.07**	**176**	P	Pn	18 43 02.1	+0.5
WHZ				S	Sn	18 43 16.6	+1.3
EAZ	**Earnscleugh**	**1.11**	**112**	P	Pn	18 43 03.4	+1.3
TUZ	**Tuapeka**	**1.69**	**133**	P	Pn	18 43 10.7	+0.7
LBZ	**Lake Benmore**	**1.72**	**76**	P	Pn	18 43 10.6	0.0
FOZ	**Fox Glacier**	**1.91**	**48**	P	Pn	18 43 12.2	-0.9
SYZ	**Scrubby Hill**	**1.94**	**153**	P	Pn	18 43 14.0	+0.6
SYZ				S	Sn	18 43 37.4	+0.9
ODZ	**Otahua Downs**	**2.00**	**97**	P	Pn	18 43 14.4	+0.1
ODZ				S	Sn	18 43 36.4	-1.6
APZ	**The Paps**	**2.01**	**177**	P	Pn	18 43 14.8	+0.3
HHSZ	**Highcliff Hill**	**2.21**	**120**	P	Pn	18 43 18.1	+0.9
TMZ	**Timaru**	**2.29**	**80**	P	Pn	18 43 17.9	-0.5
GCSZ	**Gaunt Creek Bo**	**2.33**	**51**	P	Pn	18 43 19.4	+0.5
ARCZ	**Arundel**	**2.54**	**71**	P	Pn	18 43 20.8	-1.0
RPZ	**Rata Peaks**	**2.55**	**65**	P	Pn	18 43 21.1	-0.8
WACZ	**Wakanui South**	**2.99**	**74**	P	Pn	18 43 26.9	-1.0
WACZ				S	Sn	18 44 00.2	-2.2
MQZ	**McQueen's Vall**	**3.62**	**74**	P	Pn	18 43 35.1	-1.6
AKCZ	**Akaroa Harbour**	**3.75**	**77**	P	Pn	18 43 37.0	-1.4
LTZ	**Lake Taylor**	**3.79**	**59**	P	Pn	18 43 37.4	-1.6
AMCZ	**Amberley**	**3.83**	**66**	P	Pn	18 43 37.9	-1.6
GVZ	**Greta Valley S**	**4.18**	**65**	P	Pn	18 43 42.4	-1.9
DSZ	**Dennistoun Nort**	**4.22**	**45**	P	Pn	18 43 44.0	-0.9
THZ	**Tophouse**	**4.79**	**52**	P	Pn	18 43 52.0	-0.8
MRNZ	**Matariki Terra**	**4.96**	**48**	P	Pn	18 43 54.5	-0.5
QRZ	**Quartz Range**	**5.27**	**42**	P	Pn	18 43 58.2	-1.1
TKNZ	**Takaka Hill**	**5.33**	**47**	P	Pn	18 43 59.6	-0.5
NNZ	**Nelson**	**5.42**	**50**	P	Pn	18 44 01.2	-0.1
TCW	**Tory Channel**	**5.93**	**55**	P	Pn	18 44 10.1	+1.8
DUWZ	**D'Urville Isla**	**6.00**	**50**	P	Pn	18 44 11.2	+1.8
HOWZ	**Holdsworth Sta**	**6.86**	**58**	P	Pn	18 44 27.4	+6.3
NBEZ	**Newall Road No**	**7.13**	**41**	P	Pn	18 44 24.0	-0.7
KHEZ	**Kahui Hut**	**7.18**	**42**	P	Pn	18 44 25.2	-0.3
VRZ	**Vera Road**	**7.67**	**44**	P	Pn	18 44 32.9	+0.7
NGZ	**Ngauruhoe**	**8.07**	**48**	P	Pn	18 44 40.2	+2.4
WTVZ	**West Tongariro**	**8.10**	**48**	P	Pn	18 44 40.0	+1.7
NNVZ	**North Ngauruho**	**8.11**	**48**	P	Pn	18 44 41.2	+2.8
ETVZ	**East Tongariro**	**8.15**	**49**	P	Pn	18 44 41.8	+2.8
HIZ	**Hauiti**	**8.19**	**42**	P	Pn	18 44 39.3	-0.1
RATZ	**Rangitukua**	**8.38**	**48**	P	Pn	18 44 44.1	+2.0
WIAZ	**Waiheke Island**	**9.73**	**37**	P	Pn	18 45 01.1	+0.6
WCZ	**Waipu Caves**	**10.16**	**31**	P	Pn	18 45 05.4	-0.9

*DJA **24** 18:52:02.1±0.5, 7°N±4°×12°7E±°, h53km±3km, M4.9/25, mB5.3/7, mb4.8/25, MLv5.1/7, Mw(mB)4.7/7*
*MAN **24** 18:52:07.6, 6°.81N×126°.73E, h39km, mb5.0, ML3.9, MS4.0*
*NEIC **24** 18:52:07.6±2.4, 6°.84N±0°.09×126°.90E±0°.09, h79km±8km, mb4.5/29, Error ellipse: s-maj=15.6km s-min=8.4km az=223.0*
*IDC **24** 18:52:08.3±1.5, 6°.82N×126°.83E, h87km±14km, mb3.7/12, mbtmp4.2/16, MS2.5/2, Error ellipse: s-maj=22.4km s-min=10.8km az=70.0*
ISC 24 18:52:06.6±0.8, **6°.81N**±0°.04×**126°.94E**±0°.06, **h70**km±8km, **n119**, σ1°**58**/128, **mb4.3**/22, **13C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDOP	**Cateel, Davao**	**1.08**	**333**	*i* P	**Pn**	**18 52 26.0**	**-0.2**
CDOP				*i* S	**Sn**	**18 52 39.6**	**-1.2**
DAV	**Davao City (W)**	**1.37**	**281**	P	**Pn**	**18 52 29.9**	**0.0**
	1μm,0.3s,baz=180,slow=1.0,SNR=48						
DAV				S	**Sn**	**18 52 48.2**	**+0.8**
	2μm,0.4s,baz=82,slow=23,SNR=25						
DAV	**Davao City (W)**	**1.37**	**281**		**Pn**	**18 52 30.2**	**+0.3**
DAV					**Sn**	**18 52 46.3**	**-1.1**
BIPH	**Bislig**	**1.48**	**337**	*i* P	**Pn**	**18 52 31.0**	**-0.2**
BIPH				*i* S	**Sn**	**18 52 48.0**	**-1.9**
KCP	**Kidapawan**	**1.84**	**276**	*i* P	**Pn**	**18 52 34.8**	**-1.4**
KCP				*i* S	**Sn**	**18 52 55.5**	**-3.3**
TASP	**Talacogon, Agu**	**1.98**	**326**	*i* P	**Pn**	**18 52 39.9**	**+2.0**
TASP				*i* S	**Sn**	**18 53 05.1**	**+3.3**
GSPH	**General Santos**	**2.10**	**250**	*i* P	**Pn**	**18 52 36.3**	**-3.5**
GSPH				*i* S	Sn	18 52 53.8	-11
CTBH	**Cotabato--PC H**	**2.70**	**279**	*e* P	**Pn**	**18 52 46.6**	**-1.1**
CTBH				*i* S	**Sn**	**18 53 15.8**	**-3.6**
CGP	**Cagayan de Oro**	**2.76**	**306**	*i* P	**Pn**	**18 52 49.4**	**+0.9**
CGP				*i* S	**Sn**	**18 53 20.5**	**-0.2**
SCPH	**Surigao**	**3.28**	**334**	*e* P	**Pn**	**18 52 57.3**	**+1.6**
SCPH				*e* S	**Sn**	**18 53 38.1**	**+4.6**
SGSI	**Sangihe**	**3.41**	**204**	P	**Pn**	**18 52 58.4**	**+1.0**
PAGZ	**Pagadian**	**3.67**	**286**	*i* P	**Pn**	**18 53 01.0**	**0.0**
GHBP	**Garcia Hernand**	**3.81**	**317**	*i* P	**Pn**	**18 53 03.8**	**+0.9**
GHBP				*i* S	**Sn**	**18 53 46.4**	**-0.2**
DCPH	**Dipolog City**	**3.96**	**297**	*i* P	**Pn**	**18 53 05.3**	**+0.4**
LSIP	**Lazi, Siquijor**	**4.00**	**305**	*i* P	**Pn**	**18 53 05.7**	**+0.2**
TBP	**Tagbilaran**	**4.18**	**313**	*i* P	**Pn**	**18 53 08.1**	**+0.2**
TBP				*i* S	**Sn**	**18 53 53.0**	**-2.5**
SNPH	**Sibulan**	**4.44**	**305**	*i* P	**Pn**	**18 53 12.3**	**+0.7**
SNPH				*e* S	**Sn**	**18 54 04.5**	**+2.4**
LLP	**Lapu-Lapu**	**4.56**	**320**	*e* P	**Pn**	**18 53 14.0**	**+0.9**
LLP				*e* S	**Sn**	**18 54 08.7**	**+3.9**
ZCP	**Zamboanga City**	**4.83**	**272**	*i* P	**Pn**	**18 53 16.6**	**-0.2**
ZCP				*e* S	**Sn**	**18 54 18.5**	**+7.1**
CNOP	**Candoni, Negro**	**5.20**	**305**	*i* P	**Pn**	**18 53 22.3**	**+0.4**
TNTI	**Ternate**	**6.02**	**176**		**Pn**	**18 53 33.3**	**+0.2**
TNTI	**Ternate**	**6.02**	**176**	P	**Pn**	**18 53 34.2**	**+1.1**
	59nm,0.8s,974nm0.2nm						
RCP	**Roxas**	**6.28**	**319**	*i* P	**Pn**	**18 53 38.2**	**+1.6**
JAP	**San Jose, Anti**	**6.29**	**309**	*i* P	**Pn**	**18 53 39.0**	**+2.2**
GTOI	**Gorontalo**	**7.28**	**213**	P	**Pn**	**18 53 49.4**	**-0.9**
	178nm,0.8s,1μm0.6nm						
MRSI	**Marisa**	**8.03**	**219**	P	**Pn**	**18 54 00.4**	**-0.2**
	203nm,1.2s,2μm0.6nm						
TOLI2	**Tolitoli**	**8.35**	**228**		**Pn**	**18 54 01.9**	**-3.2**
MYLDM	**Lahad Datu**	**8.55**	**260**	Pn	**Pn**	**18 54 10.0**	**+2.4**
SIJI	**Sorong**	**8.77**	**150**	P	**Pn**	**18 54 11.6**	**+0.9**
	29nm,0.3s,baz=347,slow=17,SNR=45						
SIJI				S	**Sn**	**18 55 44.4**	**-3.7**
	6.5nm,0.3s,baz=319,slow=19,SNR=2.5						
SIJI				LR	LR	18 57 39.0	
	comp=Z,47nm,19.4s,baz=323,slow=38						
LUWI	**Luwuk**	**8.84**	**208**		**Pn**	**18 54 14.7**	**+3.0**
LUWI	**Luwuk**	**8.84**	**208**	P	**Pn**	**18 54 15.3**	**+3.6**
LUWI	**Luwuk**	**8.84**	**208**	P	**Pn**	**18 54 14.8**	**+3.1**
	166nm,0.9s,2μm						
SANI	**Sanana**	**8.86**	**186**	P	**Pn**	**18 54 10.7**	**-1.2**
MPSI	**Mapaga**	**9.52**	**228**	P	**Pn**	**18 54 20.8**	**-0.2**
	12nm,0.8s						
NLAI	**Namlea**	**9.99**	**179**	P	**Pn**	**18 54 26.8**	**-0.5**
	22nm,0.7s						
AAI	**Ambon**	**10.51**	**173**	P	**Pn**	**18 54 35.7**	**+1.3**
	22nm,0.7s						
FAKI	**Fak Fak**	**11.03**	**151**	Pn	**Pn**	**18 54 42.5**	**+1.0**
FAKI	**Fak Fak**	**11.03**	**151**	P	**Pn**	**18 54 43.5**	**+2.0**
FAKI	**Fak Fak**	**11.03**	**151**	P	**Pn**	**18 54 43.1**	**+1.6**
	47nm,1.5s						
KAPI	**Kappang**	**13.77**	**212**	P	**Pn**	**18 55 18.1**	**-0.6**
	8.7nm,0.6s,baz=40,slow=10.0,SNR=6.8						
KAPI	**Kappang**	**13.77**	**212**	P	**Pn**	**18 55 20.2**	**+1.6**
SBUM	**Sibu**	**15.29**	**254**	P	**P**	**18 55 42.8**	**+1.0**
SBUM				IAmb	IAmb	18 55 45.1	
	comp=Z,13nm,0.9s						
MMRI	**Maumere**	**16.05**	**197**	P	**Pn**	**18 55 47.7**	**-0.3**
MMRI				IAmb	IAmb	18 56 26.4	
	comp=Z,30nm,1.0s						
MMRI	**Maumere**	**16.05**	**197**	P	**Pn**	**18 55 49.4**	**+1.4**
	comp=Z,25nm,0.9s						
SOEI	**Soe**	**16.67**	**189**	P	**P**	**18 55 58.7**	**+1.4**
SOEI				IAmb	IAmb	18 56 21.0	
	comp=Z,21nm,0.8s						
SOEI	**Soe**	**16.67**	**189**	P	Pn	18 55 44.9	-11
SOEI	**Soe**	**16.67**	**189**	P	**P**	**18 55 58.1**	**+0.8**
	comp=Z,19nm,0.7s						
BATI	**Baumata**	**17.22**	**191**	P	**P**	**18 56 04.0**	**+0.8**
	comp=Z,13nm,0.3s,baz=340,slow=1.4,SNR=11						
BATI	**Baumata**	**17.22**	**191**	P	**P**	**18 56 04.5**	**+1.3**
	comp=Z,37nm,0.7s						
PLAI	**Plampang**	**18.02**	**211**	P	**Pn**	**18 56 12.4**	**0.0**
PLAI	**Plampang**	**18.02**	**211**	P	**P**	**18 56 10.7**	**-1.3**
	comp=Z,21nm,0.9s						
BASI	**Baing, Sumba**	**18.07**	**201**	P	**Pn**	**18 56 13.6**	**+0.7**
	comp=Z,102nm,1.2s						
TWSI	**Taliwang, Sumb**	**18.41**	**213**	P	**P**	**18 56 16.1**	**-0.3**
	comp=Z,19nm,0.8s						
JOW	**Kunigami**	**19.95**	**4**	P	**Pn**	**18 56 34.7**	**-0.6**
	comp=Z,7.5nm,0.6s,baz=112,slow=19,SNR=1.2						
MTN	**Manton Dam**	**19.97**	**168**	P	**P**	**18 56 34.5**	**+1.2**
MTN				IAmb	IAmb	18 56 58.4	
	comp=Z,52nm,1.3s						
KNRA	**Kununurra**	**22.42**	**175**	P	**P**	**18 57 00.3**	**+0.7**
KNRA				IAmb	IAmb	18 57 11.1	
	comp=Z,21nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.79**	**183**	P	**P**	**18 57 22.3**	**+0.3**
WB0	**Warramunga Arr**	**27.41**	**165**	P	**P**	**18 57 44.8**	**-1.0**
WB0				IAmb	IAmb	18 57 49.8	
	comp=Z,6.6nm,0.5s						
WRAB	**Tennant Creek**	**27.56**	**165**	P	**P**	**18 57 47.9**	**+0.8**
WRAB				IAmb	IAmb	18 58 11.0	
	comp=Z,9.1nm,0.6s						
WRAB	**Tennant Creek**	**27.56**	**165**	P	**P**	**18 57 48.3**	**+1.2**
WRA	**Warramunga Arr**	**27.57**	**165**	P	**P**	**18 57 47.6**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=346,slow=11,SNR=27						
	comp=Z,1.5nm,0.5s						
WRA	**Warramunga Arr**	**27.57**	**165**	P	**P**	**18 57 49.4**	**+2.2**
WB2	**Warramunga Arr**	**27.57**	**165**	P	**P**	**18 57 47.7**	**+0.5**
WR0	**Warramunga Arr**	**27.64**	**164**	P	**P**	**18 57 48.0**	**+0.2**
PSA00	**Pilbara Seismi**	**29.05**	**194**	P	**P**	**18 57 59.2**	**-1.2**
PSA00				IAmb	IAmb	18 58 41.6	
	comp=Z,15nm,1.2s						
PSA00	**Pilbara Seismi**	**29.05**	**194**	P	**P**	**18 58 00.2**	**-0.2**
QIS	**Mount Isa**	**29.91**	**156**	P	**P**	**18 58 09.1**	**+1.1**
KSRS	**Korea Array**	**30.51**	**2**	LR	LR	19 10 38.4	
	comp=Z,6.9nm,21.8s,baz=345,slow=36						
AS31	**Alice Springs**	**31.05**	**168**	P	**P**	**18 58 17.6**	**-0.5**
ASAR	**Alice Springs**	**31.05**	**168**	P	**P**	**18 58 18.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=345,slow=7.1,SNR=23						
ASAR				PcP	**PcP**	**19 01 12.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=1.2,slow=3.1,SNR=2.9						
ASAR				ScP	**ScP**	**19 04 48.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=349,slow=3.6,SNR=2.7						
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**31.05**	**168**	P	**P**	**18 58 17.0**	**-1.0**
AS01	**Alice Springs**	**31.06**	**167**	P	**P**	**18 58 18.0**	**-0.1**
WRKA	**Warakurna**	**31.68**	**178**	P	**P**	**18 58 22.8**	**-0.8**
JMM	**Marumori**	**33.38**	**20**	P	**P**	**18 58 37.8**	**-0.4**
MEEK	**Meekatharra**	**34.22**	**193**	P	**P**	**18 58 44.9**	**-0.8**
OOD	**Oodnadatta**	**35.43**	**167**	P	**P**	**18 58 56.3**	**+0.2**
MORW	**Morawa**	**37.19**	**196**	P	**P**	**18 59 11.3**	**+0.2**
MORW				IAmb	IAmb	18 59 12.4	
	comp=Z,19nm,1.1s						
MORW	**Morawa**	**37.19**	**196**	P	**P**	**18 59 11.4**	**+0.3**
FORT	**Forrest**	**37.39**	**178**	P	**P**	**18 59 12.9**	**+0.1**
FORT	**Forrest**	**37.39**	**178**	P	**P**	**18 59 12.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**37.50**	**6**	P	**P**	**18 59 13.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=184,slow=23,SNR=2.2						
	comp=Z,1.3nm,0.6s						
MULG	**Mulgathing**	**37.51**	**170**	P	**P**	**18 59 14.4**	**+0.6**
KMBL	**Kambalda**	**38.27**	**187**	P	**P**	**18 59 20.1**	**-0.1**
BLDU	**Ballidu**	**38.48**	**194**	P	**P**	**18 59 22.8**	**+0.8**
LCRK	**Leigh Creek**	**38.59**	**164**	P	**P**	**18 59 23.7**	**+0.8**
KLBR	**Kellerberrin**	**39.18**	**192**	P	**P**	**18 59 27.9**	**+0.1**
ASAJ	**Asahikawa**	**39.61**	**18**	P	**P**	**18 59 32.7**	**+1.5**
	comp=Z,3.4nm,0.7s,baz=246,slow=12,SNR=1.2						
	comp=Z,3.4nm,0.7s						
MUN	**Mundaring**	**39.91**	**194**	P	**P**	**18 59 34.0**	**+0.2**
BBOO	**Buckleboo**	**40.35**	**168**	P	**P**	**18 59 38.0**	**+0.6**
BBOO				IAmb	IAmb	18 59 58.4	
	comp=Z,27nm,1.4s						
BBOO	**Buckleboo**	**40.35**	**168**	P	**P**	**18 59 38.2**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**40.38**	**69**	T	T	19 43 30.9	
	baz=257,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**40.40**	**69**	T	T	19 43 47.2	
	baz=257,slow=75,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**40.40**	**69**	T	T	19 43 55.2	
	baz=257,slow=75,SNR=7.2						
NWAO	**Narrogin (SRO)**	**40.58**	**193**	P	**P**	**18 59 39.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**40.58**	**193**	P	**P**	**18 59 39.8**	**+0.4**
NWAO				IAmb	IAmb	18 59 54.7	
	comp=Z,31nm,1.4s						
NWAO	**Narrogin (SRO)**	**40.58**	**193**	P	**P**	**18 59 39.8**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**40.83**	**68**	T	T	19 44 05.8	
	baz=265,slow=74,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**40.84**	**68**	T	T	19 44 09.4	
	baz=265,slow=74,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**40.85**	**68**	T	T	19 44 08.0	
	baz=265,slow=74,SNR=13						
STKA	**Stephens Creek**	**40.94**	**161**	P	**P**	**18 59 43.0**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=327,slow=8.9,SNR=6.7						
	comp=Z,1.7nm,0.5s						
STKA	**Stephens Creek**	**40.94**	**161**	P	**P**	**18 59 42.9**	**+0.6**
KLR	**Kul'dur**	**42.47**	**5**	P	**P**	**18 59 54.5**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=135,slow=8.6,SNR=3.1						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**44.47**	**340**	P	**P**	**19 00 09.8**	**-1.1**
	comp=Z,0.5nm,1.1s,baz=157,slow=6.1,SNR=2.5						
	comp=Z,0.5nm,1.1s						
CAN	**Canberra**	**46.78**	**155**	P	**P**	**19 00 29.8**	**+0.5**
PETK	**Petropavlovsk-**	**52.52**	**23**	P	**P**	**19 01 13.4**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=191,slow=6.0,SNR=4.5						
	comp=Z,2.1nm,0.9s						
PETK	**Petropavlovsk-**	**52.52**	**23**	P	**P**	**19 01 14.1**	**+1.6**
MK31	**Makanchi Array**	**55.18**	**324**	P	**P**	**19 01 30.5**	**-1.6**
MK31				IAmb	IAmb	19 01 32.1	
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**55.18**	**324**	P	**P**	**19 01 31.4**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=119,slow=7.8,SNR=51						
	comp=Z,1.9nm,0.5s						
MAKZ	**Makanchi**	**55.37**	**324**	P	**P**	**19 01 32.5**	**-1.0**
MAKZ				IAmb	IAmb	19 01 33.5	
	comp=Z,3.7nm,1.2s						
ZALV	**Zalesovo Beam**	**57.96**	**332**	P	**P**	**19 01 50.0**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=115,slow=8.1,SNR=3.7						
	comp=Z,0.7nm,0.3s						
KURK	**Kurchatov**	**59.28**	**326**	P	**P**	**19 01 59.6**	**-1.3**
KURK				IAmb	IAmb	19 02 01.3	
	comp=Z,2.7nm,1.0s						
KURBB	**Kurchatov Arra**	**59.29**	**326**	P	**P**	**19 01 59.4**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=126,slow=6.1,SNR=9.3						
	comp=Z,1.4nm,0.7s						
SMY	**Shemya**	**59.72**	**31**	P	**P**	**19 02 02.3**	**-1.6**
KKAR	**Karatay Array**	**61.16**	**316**	P	**P**	**19 02 12.6**	**-1.3**
OXZ	**Oxford**	**64.47**	**145**	P	**P**	**19 02 36.7**	**+0.8**
BRVK	**Borovoye**	**64.95**	**326**	P	**P**	**19 02 38.0**	**-0.8**
BRVK				IAmb	IAmb	19 02 39.1	
	comp=Z,2.3nm,0.8s			

GUIM	**Jordan**	**3.37**	**240**⇑	*eP*		**Pb**	**19 36 02.5**	**-1.9**
GUIM				*eS*		**Sn**	**19 36 37.1**	**-0.2**
BUTP	**Butuan**	**3.37**	**179**⇑	*eP*		**Pn**	**19 36 01.4**	**+4.1**
BUTP				*eS*		**Sn**	**19 36 29.5**	**-7.9**
WRA	**Warramunga Arr**	**33.25**	**165**	P		**P**	**19 41 41.3**	**-0.9**
	0.4nm,0.6s,baz=354,slow=5.2,SNR=5.2							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**36.73**	**167**	P		**P**	**19 42 12.4**	**+0.1**
	0.8nm,0.5s,baz=346,slow=7.0,SNR=14							
	0.8nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**40.33**	**74**	T		T	20 25 48.2	
	baz=266,slow=74,SNR=16							
H11N2	**WAKE ISLAND Hy**	**40.34**	**74**	T		T	20 25 48.4	
	baz=266,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hy**	**40.35**	**74**	T		T	20 25 49.2	
	baz=266,slow=74,SNR=16							
MKAR	**Makanchi Array**	**49.95**	**322**	P		**P**	**19 43 58.6**	**-0.2**
	0.3nm,0.7s,baz=115,slow=8.5,SNR=2.6							
	0.3nm,0.7s							

*VAO **24** 19:35:37.3±0.5, 4°.22N×76°.95W, h127km±4km, mb4.5*
*UPA **24** 19:35:37.8±1.3, 4°.20N×76°.92W, h0km±87km, MW4.2*
*NEIC **24** 19:35:38.1±2.1, 4°.01N±0°.02×76°.70W±0°.06, h101km±7km, mb4.3/61, Error ellipse: s-maj=8.9km s-min=0.7km az=112.0*
*IDC **24** 19:35:39.4±1.9, 4°.02N×76°.72W, h121km±17km, mb3.9/17, mbtmp4.3/21, MS2.7/3, Error ellipse: s-maj=16.5km s-min=10.7km az=68.0*
*RSNC **24** 19:35:39.0±1.0, 4°.12N×76°.82W, h88km±4km, ML4.1, Mw4.1, Fault plane solution: NP1:φs160.00000°, δ78.00000°, λ114.00000°.*

ISC 24 19:35:37.7±0.6, **4°.02N**±0°.02×**76°.77W**±0°.03, **h105**km±6km, **n219**, σ1**s21**/252, **mb4.3**/37, **4C-8D, Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOTC	**Yotoco, Valle**	**0.42**	**95**	⇓ *i*	*P*	**Pn**	**19 35 52.6**	**-1.0**
YOTC					*eS*	**Sn**	**19 36 04.2**	**-1.5**
YOTC					*i*		19 36 05.2	
	comp=Z,3μm,0.4s							
PLMC	**San Jos del P**	**1.00**	**29**	⇓ *i*	*P*	**Pn**	**19 35 57.1**	**-1.5**
PLMC					*eS*	**Sn**	**19 36 11.6**	**-2.8**
PLMC					*i*		19 36 12.0	
	comp=Z,10μm,0.3s							
PIZC	**Pizarro, Choco**	**1.11**	**328**	⇑ *i*	*P*	**Pn**	**19 35 59.8**	**+0.1**
PIZC					*eS*	**Sn**	**19 36 15.9**	**-0.4**
PIZC					*i*		19 36 21.8	
	comp=Z,8μm,0.4s							
ORTC	**Ortega, Tolima**	**1.52**	**94**	⇓ *i*	*P*	**Pn**	**19 36 05.0**	**+0.5**
ORTC					*eS*	**Sn**	**19 36 24.9**	**-0.1**
ORTC					*i*		19 36 26.7	
	comp=Z,3μm,0.3s							
CMAN1	**Manizales, Cal**	**1.62**	**50**	*eP*		**Pn**	**19 36 08.0**	**+2.0**
CMAN1				*eS*		**Sn**	**19 36 29.0**	**+1.5**
NIZA	**Niza - Manizal**	**1.65**	**51**	*eP*		**Pn**	**19 36 08.2**	**+1.8**
NIZA				*eS*		**Sn**	**19 36 29.4**	**+1.2**
GR1C	**Gorgona, Isla**	**1.73**	**234**	⇑ *i*	*P*	**Pn**	**19 36 06.7**	**-0.4**
GR1C				*eS*		**Sn**	**19 36 28.9**	**-0.5**
BETC	**Betania**	**1.88**	**135**	*eP*		**Pn**	**19 36 11.0**	**+2.0**
BETC				*eS*		**Sn**	**19 36 35.6**	**+2.7**
CBOC	**Ciudad Bolivar**	**1.98**	**22**	⇓ *eP*		**Pn**	**19 36 09.8**	**-0.6**
CBOC				*eS*		**Sn**	**19 36 33.5**	**-1.8**
CBOC				*i*			19 36 44.0	
	comp=Z,742nm,0.6s							
GARC	**Garzon, Huila**	**2.22**	**145**	*eP*		**Pn**	**19 36 15.2**	**+1.5**
GARC				*eS*		**Sn**	**19 36 42.8**	**+1.7**
GARC				*i*			19 36 44.0	
	comp=Z,2μm,0.5s							
SOLC	**Bahia Solano**	**2.28**	**344**	*eP*		**Pn**	**19 36 13.4**	**-0.7**
SOLC				*eS*		**Sn**	**19 36 39.6**	**-2.4**
SOLC				*i*			19 36 40.1	
	comp=N,856nm,0.4s							
NORC	**Norcasia**	**2.43**	**51**	⇓ *eP*		**Pn**	**19 36 16.6**	**+0.4**
NORC				*eS*		**Sn**	**19 36 45.0**	**-0.6**
NORC				*i*			19 36 50.2	
	comp=Z,466nm,0.4s							
CRUC	**La Cruz**	**2.45**	**184**	*eP*		**Pn**	**19 36 18.2**	**+1.6**
CRUC				*eS*		**Sn**	**19 36 46.8**	**+0.4**
ROSC	**El Rosal**	**2.57**	**72**	P		**Pn**	**19 36 20.5**	**+2.2**
	comp=Z,332nm,0.5s,baz=315,slow=20,SNR=43							
ROSC	**El Rosal**	**2.57**	**72**	P		**Pn**	**19 36 20.2**	**+1.9**
ROSC					Sn	**Sn**	**19 36 47.0**	**-2.3**
ROSC	**El Rosal**	**2.57**	**72**	⇓ *eP*		**Pn**	**19 36 20.4**	**+2.2**
ROSC				*eS*		**Sn**	**19 36 52.1**	**+2.7**
ROSC				*i*			19 36 54.8	
	comp=Z,824nm,0.7s							
FLOC	**Florencia**	**2.67**	**155**	⇑ *i*	*P*	**Pn**	**19 36 21.0**	**+1.7**
FLOC				*eS*		**Sn**	**19 36 52.5**	**+1.4**
GCUF	**Volcan Galeras**	**2.84**	**192**	*eP*		**Pn**	**19 36 22.2**	**+0.2**
GCUF				*eS*		**Sn**	**19 36 57.8**	**+1.9**
GCUF				*i*			19 37 03.2	
	comp=Z,354nm,0.4s							
TUMC	**Tumaco**	**2.93**	**222**	P		**Pn**	**19 36 22.8**	**0.0**
TUMC					Sn	**Sn**	**19 36 55.4**	**-2.1**
TUMC	**Tumaco**	**2.93**	**222**	*eP*		**Pn**	**19 36 22.5**	**-0.2**
DBBC	**Dabeiba**	**3.03**	**11**	*eP*		**Pn**	**19 36 24.0**	**-0.1**
DBBC				*eS*		**Sn**	**19 37 01.2**	**+1.5**
CHIC	**Chingaza**	**3.08**	**79**	⇑ *i*	*P*	**Pn**	**19 36 26.7**	**+1.6**
CHIC				*eS*		**Sn**	**19 36 58.3**	**-3.3**
CHIC				*i*			19 37 06.5	
	comp=Z,336nm,0.4s							
PTBC	**PUERTO BERRIO,**	**3.40**	**43**	*eP*		**Pn**	**19 36 29.1**	**+0.2**
PTBC				*eS*		**Sn**	**19 37 08.0**	**-0.5**
PTBC				*i*			19 37 12.7	
	comp=Z,320nm,0.5s							
TULM	**Tulcn-Chalpat**	**3.44**	**197**			**Pn**	**19 36 31.9**	**+1.9**
TULM					Sn	**Sn**	**19 37 09.9**	**-0.3**
MACC	**Macarena, Meta**	**3.46**	**123**	*eP*		**Pn**	**19 36 30.6**	**+0.9**
APAC	**Apartado, Choc**	**3.86**	**3**	*eP*		**Pn**	**19 36 36.8**	**+1.7**
APAC				*eS*		**Sn**	**19 37 22.7**	**+3.2**
UREC	**San Jos de Ur**	**3.90**	**18**	*eP*		**Pn**	**19 36 35.6**	**-0.1**
ZARC	**Zaragoza, Cauc**	**3.93**	**29**	*eP*		**Pn**	**19 36 36.5**	**+0.3**
ZARC				*eS*		**Sn**	**19 37 19.7**	**-1.7**
ZARC				*i*			19 37 23.6	
	comp=Z,237nm,0.6s							
IMBA	**Imbabura, San**	**3.99**	**201**			**Pn**	**19 36 38.9**	**+1.6**
CUSE	**Cuicocha Este**	**4.04**	**204**	*eP*		**Pn**	**19 36 39.1**	**+1.1**
CUSE				*eS*		**Sn**	**19 37 25.0**	**+0.5**
CUSE				*i*			19 37 32.3	
	comp=Z,710nm,0.5s							
RUSC	**La Rusia**	**4.11**	**63**	P		**Pn**	**19 36 39.8**	**+0.9**
RUSC	**La Rusia**	**4.11**	**63**	*eP*		**Pn**	**19 36 41.1**	**+2.1**
RUSC				*eS*		**Sn**	**19 37 26.8**	**+0.4**
RUSC				*i*			19 37 33.4	
	comp=Z,112nm,0.7s							
OTAV	**Otavalo**	**4.12**	**204**			**Pn**	**19 36 39.5**	**+0.4**
OTAV					Sn	**Sn**	**19 37 26.1**	**-0.5**
OTAV	**Otavalo**	**4.12**	**204**	⇓ *eP*		**Pn**	**19 36 39.4**	**+0.3**
OTAV	**Otavalo**	**4.12**	**204**	*eP*		**Pn**	**19 36 39.3**	**+0.3**
PAC1	**Pacto, Paraso**	**4.25**	**209**	*eP*		**Pn**	**19 36 39.3**	**-1.2**
PAC1				*eS*		**Sn**	**19 37 26.4**	**-2.7**
BRRC	**Barranca, Sant**	**4.32**	**45**	*eP*		**Pn**	**19 36 41.4**	**+0.1**
BRRC				*eS*		**Sn**	**19 37 28.7**	**-1.9**
PULU	**Pululahua**	**4.34**	**204**			**Pn**	**19 36 42.0**	**0.0**
PULU					Sn	**Sn**	**19 37 32.6**	**+0.9**
BARC	**Barichara**	**4.39**	**54**	*eP*		**Pn**	**19 36 43.5**	**+1.1**
BARC				*eS*		**Sn**	**19 37 31.4**	**-1.3**
BARC				*i*			19 37 36.1	
	comp=Z,376nm,0.5s							
UPD2	**Meteti**	**4.66**	**345**	*eP*		**Pn**	**19 36 47.0**	**+1.1**
UPD2				*eS*		**Sn**	**19 37 38.3**	**-0.7**
UPD2	**Meteti**	**4.66**	**345**	⇓ *eP*		**Pn**	**19 36 47.1**	**+1.1**
UPD2				*eS*		**Sn**	**19 37 38.6**	**-0.4**
PEDA3	**Pedasi**	**4.76**	**317**	*eP*		**Pn**	**19 36 47.2**	**-0.1**
PEDA3				*eS*		**Sn**	**19 37 39.0**	**-2.3**
SLOR	**San Lorenzo -**	**5.03**	**200**			**Pn**	**19 36 51.7**	**+0.4**
AZU	**Azuero**	**5.12**	**317**	*i*	*P*	**Pn**	**19 36 52.0**	**-0.1**
AZU				*eS*		**Sn**	**19 37 48.5**	**-1.5**
AZU	**Azuero**	**5.12**	**317**	*eP*		**Pn**	**19 36 51.6**	**-0.5**
PAMC	**Pamplona, Colo**	**5.22**	**51**	*eP*		**Pn**	**19 36 54.3**	**+0.4**
CACAO	**El Cacao, Vera**	**5.24**	**309**	*eP*		**Pn**	**19 36 54.0**	**+0.2**
PESE3	**Pese, Herrera**	**5.43**	**315**	*eP*		**Pn**	19 36 51.7	-4.7
PESE3				*eS*		**Sn**	**19 37 56.0**	**-1.7**
TABO3	**Taboga, Panama**	**5.49**	**330**	*eP*		**Pn**	**19 36 56.9**	**-0.2**
TABO3				*eS*		**Sn**	**19 37 58.2**	**-0.8**
CNTA3	**Canitas, Panam**	**5.58**	**338**	*eP*		**Pn**	19 37 05.8	+7.4
VTON	**El Valle, Cocl**	**5.64**	**324**	*eP*		**Pn**	**19 37 00.1**	**+0.8**
VTON				*eS*		**Sn**	**19 38 03.0**	**+0.1**
CHOR3	**La Chorrera**	**5.69**	**329**	*eP*		**Pn**	**19 37 00.1**	**+0.2**
CHOR3				*eS*		**Sn**	**19 38 04.5**	**+0.6**
ARRA3	**Arraijan, Pena**	**5.69**	**330**	*eP*		**Pn**	**19 36 59.7**	**-0.1**
ARRA3				*eS*		**Sn**	**19 38 02.1**	**-1.8**
GMAL	**Guarumal, Vera**	**5.79**	**310**	*eP*		**Pn**	**19 37 02.5**	**+1.2**
GMAL				*eS*		**Sn**	**19 38 07.1**	**+0.7**
PORT	**Chimborazo Vol**	**5.81**	**200**			**Pn**	**19 37 01.7**	**-0.3**
CHSH	**Refugio Sur-Vo**	**5.87**	**201**			**Pn**	**19 37 02.8**	**-0.1**
BCIP	**Isla Barro Col**	**5.95**	**329**			**Pn**	**19 37 04.1**	**+0.7**
BCIP					Sn	**Sn**	**19 38 11.3**	**+1.1**
BCIP	**Isla Barro Col**	**5.95**	**329**	*eP*		**Pn**	**19 37 03.9**	**+0.5**
BCIP				*eS*		**Sn**	**19 38 09.1**	**-1.1**
BCIP				*i*			19 38 18.1	
	comp=Z,157nm,0.5s							
BRU2	**Volcan**	**7.56**	**309**	Pn		**Pn**	**19 37 27.5**	**+2.1**
SDV	**Santo Domingo**	**7.78**	**51**	P		**Pn**	**19 37 29.0**	**+0.6**
	comp=Z,10nm,0.4s,baz=201,slow=11,SNR=19							
SDV	**Santo Domingo**	**7.78**	**51**	Pn		**Pn**	**19 37 27.1**	**-1.3**
SDV	**Santo Domingo**	**7.78**	**51**	*eP*		**Pn**	**19 37 29.0**	**+0.6**
SRBA	**San Rafael, Bu**	**8.35**	**309**			**Pn**	**19 37 37.2**	**+1.1**
MCRA	**Macar, Loja**	**8.93**	**201**			**Pn**	**19 37 42.3**	**-1.6**
URIC	**Uribia, Colomb**	**8.97**	**32**	Pn		**Pn**	**19 37 44.4**	**-0.1**
RIMA	**Rio Macho**	**9.06**	**309**	Pn		**Pn**	**19 37 48.1**	**+2.1**
CVTR	**Volcan Turrial**	**9.14**	**311**	Pn		**Pn**	**19 37 47.0**	**-0.2**
HDC	**Heredia**	**9.40**	**310**	*eP*		Pn	19 37 45.9	-4.6
BAUV	**El Baul**	**9.95**	**60**	Pn		Pn	19 37 53.3	-4.4
JTS	**Las Juntas de**	**10.23**	**308**	LR		LR	19 41 16.3	
	comp=Z,31nm,19.6s,baz=158,slow=33							
SGCB	**Gabriel d**	**10.56**	**113**	*eP*		**Pn**	**19 38 09.1**	**+2.9**
TBTG	**Tabatinga, AM**	**10.65**	**140**	*eP*		Pn	19 38 10.7	+3.4
ATAH	**Atahualpa**	**11.20**	**188**	P		P	19 38 18.5	-6.7
	comp=Z,4.7nm,0.6s,baz=14,slow=11,SNR=4.1							
ATAH						LR	LR	19 43 24.9
	comp=Z,77nm,20.0s,baz=8.6,slow=42							
CZSB	**Cruzeiro do Su**	**12.36**	**161**	*eP*		P	19 38 32.3	-5.6
PCJ	**Portland Cotta**	**13.64**	**358**	*i*	*P*	**Pn**	**19 38 50.3**	**+3.5**
HOJ	**Hope**	**13.89**	**0**	*i*	*P*	**P**	**19 38 54.8**	**-0.1**
GWJ	**Greenwich**	**13.96**	**0**	*i*	*P*	**P**	**19 38 54.7**	**-1.1**
STH	**Stony Hill**	**13.97**	**360**	*i*	*P*	**P**	**19 38 55.1**	**-0.6**
CVJ	**Coleyville**	**14.14**	**357**	*i*	*P*	**Pn**	**19 38 56.7**	**+3.3**
MTDJ	**Mount Denham**	**14.14**	**357**			**Pn**	**19 38 56.3**	**+2.9**
BNJ	**Bonny Gate**	**14.21**	**359**	*i*	*P*	**P**	**19 38 58.7**	**+0.3**
TEFE	**Tefe**	**14.24**	**122**	*eP*		**P**	**19 38 57.5**	**-1.4**
BBJ	**Bamboo Saint A**	**14.28**	**358**	*i*	*P*	**P**	**19 38 59.7**	**+0.4**
PAYG	**Puerto Ayora**	**14.29**	**251**	P		**P**	**19 39 02.5**	**+3.1**
SDDR	**Presa de Saban**	**15.80**	**19**			**Pn**	**19 39 15.9**	**+1.5**
SDDR					IAmb	IAmb	19 39 30.1	
	comp=Z,24nm,1.1s							
GTBY	**Guantanamo Bay**	**15.89**	**6**	Pn		**Pn**	**19 39 15.6**	**+0.1**
NNA	**Nana**	**15.91**	**180**	LR		LR	19 46 14.9	
	comp=Z,26nm,20.4s,baz=348,slow=40							
BOAV	**Boa Vista**	**16.30**	**95**	Pn		**Pn**	**19 39 17.4**	**-3.2**
BOAV					IAmb	IAmb	19 39 25.1	
	comp=Z,15nm,0.8s							
BOAV	**Boa Vista**	**16.30**	**95**	*eP*		**Pn**	**19 39 18.4**	**-2.2**
MLPR	**Magueyes Islan**	**16.81**	**34**			**Pn**	**19 39 25.5**	**-1.3**
MLPR					IAmb	IAmb	19 39 54.5	
	comp=Z,35nm,1.2s							
CELP	**Cerrillos**	**17.16**	**35**	P		**P**	**19 39 31.8**	**+0.7**
CELP					IAmb	IAmb	19 39 36.1	
	comp=Z,15nm,0.9s							
ETMB	**Extrema**	**17.31**	**143**	P		**Pn**	**19 39 32.4**	**-0.6**
ETMB					IAmb	IAmb	19 40 05.5	
	comp=Z,3.0nm,0.7s							
ETMB	**Extrema**	**17.31**	**143**	*eP*		**Pn**	**19 39 32.7**	**-0.2**
SJG	**San Juan**	**17.44**	**36**	P		**Pn**	**19 39 35.4**	**+1.0**
	comp=Z,11nm,0.3s,baz=222,slow=3.0,SNR=3.3							
MACA	**Manacapuru-AM**	**17.58**	**114**	*eP*		**Pn**	**19 39 36.6**	**+0.4**
TOSP	**Speyside**	**17.63**	**65**	P		**P**	**19 39 35.9**	**-0.3**
TOSP					IAmb	IAmb	19 39 39.8	
	comp=Z,50nm,1.2s							
HUMP	**Col San Antoni**	**17.64**	**36**	P		**P**	**19 39 37.3**	**+1.0**
HUMP					IAmb	IAmb	19 39 40.1	
	comp=Z,16nm,0.9s							
CBYP	**Canovanas**	**17.73**	**36**	P		**Pn**	**19 39 39.5**	**+1.4**
MTP	**Monte Pirata**	**17.78**	**37**	P		**P**	**19 39 38.4**	**+0.4**
MTP					IAmb	IAmb	19 40 13.7	
	comp=Z,15nm,0.9s							
SVB	**Belmont**	**17.87**	**58**	P		**P**	**19 39 39.4**	**+0.5**
CUPR	**Culebra, Puert**	**18.11**	**37**	P		**P**	**19 39 41.8**	**+0.4**
MCLT	**Moule a Chique**	**18.34**	**57**	P		**P**	**19 39 44.3**	**+0.2**
MPOM	**Morne Pois Mar**	**18.79**	**56**	P		**P**	**19 39 48.2**	**-0.8**
SMRT	**St. Maarten**	**19.34**	**43**	P		**P**	**19 39 54.7**	**-0.3**
ANWB	**Willy Bob**	**19.98**	**46**	P		**P**	**19 40 00.5**	**-1.5**
LPAZ	**La Paz**	**21.91**	**157**	P		**P**	**19 40 22.1**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=314,slow=9.4,SNR=5.7							
	comp=Z,1.5nm,0.8s							
LPAZ	**La Paz**	**21.91**	**157**	P		**P**	**19 40 22.7**	**-0.6**
LPAZ	**La Paz**	**21.91**	**157**	*eP*		**P**	**19 40 23.8**	**+0.5**
ITTB	**Itaituba**	**22.61**	**111**	*eP*		**P**	**19 40 28.6**	**-1.3**
MALB	**Monte Alegre**	**23.23**	**104**	*eP*		**P**	**19 40 35.0**	**-0.9**
PB16	**IPOC Station P**	**23.34**	**162**	P		**P**	**19 40 35.6**	**-1.9**
PB12	**IPOC Station P**	**23.37**	**164**	P		**P**	**19 40 35.4**	**-1.9**
PB12					IAmb	IAmb	19 41 05.2	
	comp=Z,28nm,1.3s							
VILB	**Vilhena**	**23.56**	**136**	P		**P**	**19 40 38.6**	**-0.4**
VILB					IAmb	IAmb	19 40 41.0	
	comp=Z,33nm,0.7s							
VILB	**Vilhena**	**23.56**	**136**	*eP*		**P**	**19 40 39.5**	**+0.5**
NPGB	**Novo Progresso**	**24.03**	**117**	*eP*		**P**	**19 40 42.8**	**-0.5**
MNMC	**Minye Minye**	**24.07**	**163**	P		**P**	**19 40 42.2**	**-1.5**
MNMC					IAmb	IAmb	19 40 47.0	
	comp=Z,8.1nm,0.7s							
MDP	**Montagnes des**	**24.07**	**87**	P		**P**	**19 40 42.7**	**-0.8**
	comp=Z,12nm,0.5s,baz=252,slow=11,SNR=20							
	comp=Z,12nm,0.5s							
PSGCX	**Pisagua**	**24.36**	**165**	P		**P**	**19 40 45.8**	**-0.5**
PB11	**IPOC Station P**	**24.65**	**164**	P		**P**	**19 40 49.4**	**+0.5**
PB11					IAmb	IAmb	19 40 51.6	
	comp=Z,9.2nm,0.6s							
GO01	**Chusmiza**	**24.69**	**163**	P		**P**	**19 40 49.5**	**-0.1**
GO01					IAmb	IAmb	19 40 54.3	
	comp=Z,6.7nm,0.7s							
MCPB	**Macapa, AP**	**25.07**	**99**	*eP*		**P**	**19 40 53.0**	**+0.3**
SIV	**San Ignacio**	**25.23**	**142**	P		**P**	**19 40 53.3**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=314,slow=8.1,SNR=12							
	comp=Z,2.9nm,0.8s							
CLDB	**Colider**	**25.59**	**126**	*eP*		**P**	**19 40 58.1**	**+0.8**
PB01	**IPOC Station P**	**25.91**	**164**	P		**P**	**19 40 60.0**	**-0.3**
PB01					IAmb	IAmb	19 41 03.2	
	comp=Z,8.8nm,1.1s							
PTLB	**Pontes e Lacer**	**26.06**	**138**	P		**P**	**19 41 01.3**	**-0.2**
PTLB					IAmb	IAmb	19 41 02.3	
	comp=Z,3.8nm,0.9s							
PTLB	**Pontes e Lacer**	**26.06**	**138**	*eP*		**P**	**19 41 02.1**	**+0.6**
PB02	**IPOC Station P**	**26.07**	**165**	P		**P**	**19 41 02.3**	**+0.6**
PB02					IAmb	IAmb	19 41 07.0	
	comp=Z,8.6nm,0.8s							
BBSD	**Serra de San D**	**26.43**	**143**	*eP*		**P**	**19 41 04.7**	**-0.2**
PB09	**IPOC Station P**	**26.70**	**164**	P		**P**	**19 41 06.7**	**-0.8**
PB09					IAmb	IAmb	19 41 42.0	
	comp=Z,19nm,1.5s							
LVC	**Limon Verde**	**27.56**	**164**	P		**P**	**19 41 15.2**	**-0.1**
LVC	**Limon Verde**	**27.56**	**164**	*eP*		**P**	**19 41 15.5**	**+0.2**
BBRB	**Robore, Bolivi**	**27.76**	**143**	*eP*		**P**	**19 41 16.1**	**-0.7**
SALV	**Santo Antonio**	**28.75**	**134**	*eP*		**P**	**19 41 25.5**	**-0.1**
PRPB	**Parauapebas**	**28.75**	**110**	*eP*		**P**	**19 41 25.0**	**-0.7**
SNDB	**Serra Nova Dou**	**29.90**	**122**	*eP*		**P**	**19 41 35.7**	**-0.1**
ARAG	**Araguaiana, MT**	**31.53**	**129**	*eP*		**P**	**19 41 49.7**	**-0.4**
MURT	**Porto Murtinho**	**31.68**	**144**	*eP*		**P**	**19 41 51.5**	**+0.1**
SMTB	**Santa Maria do**	**31.78**	**114**	*eP*		**P**	**19 41 52.4**	**0.0**
AQDB	**Aquidauana**	**31.95**	**140**	P		**P**	**19 41 53.5**	**-0.2**
AQDB					IAmb	IAmb	19 41 54.2	
	comp=Z,4.7nm,0.8s							
AQDB	**Aquidauana**	**31.95**	**140**	*eP*		**P**	**19 41 53.8**	**0.0**
ROSB	**Rosario**	**33.34**	**101**	*eP*		**P**	**19 42 05.0**	**-1.1**
ESFA	**Espinillo Form**	**33.84**	**149**	*eP*		**P**	**19 42 10.1**	**-0.1**
AMBA	**Amambai (Brazi**	**34.20**	**143**	*eP*		**P**	**19 42 12.5**	**-0.9**
BDFB	**Brasilia**	**34.52**	**125**	P		**P**	**19 42 16.7**	**+0.3**
	comp=Z,8.1nm,0.8s,baz=273,slow=9.0,SNR=13							
	comp=Z,8.1nm,0.8s							
BDFB	**Brasilia**	**34.52**	**125**	P		**P**	**19 42 16.0**	**-0.3**
BDFB					IAmb	IAmb	19 42 17.4	
	comp=Z,10nm,0.9s							
BDFB	**Brasilia**	**34.52**	**125**	*eP*		**P**	**19 42 16.2**	**-0.1**
VACA	**Villa Angela C**	**35.09**	**155**	*eP*		**P**	**19 42 20.8**	**-0.1**
SDBA	**SAO DESIDERIO**	**35.63**	**118**	*eP*		**P**	**19 42 25.3**	**-0.5**
IPMB	**Ipameri, GO**	**35.65**	**129**	*eP*		**P**	**19 42 25.4**	**-0.6**
PCMB	**Pacaembu**	**35.67**	**137**	*eP*		**P**	**19 42 25.3**	**-0.8**
TXAR	**Lajitas Array**	**35.83**	**318**	P		**P**	**19 42 27.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=194,slow=10,SNR=1.5							
	comp=Z,0.2nm,0.3s							
CFA	**Coronel Fontan**	**36.35**	**168**	P		**P**	**19 42 31.8**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=225,slow=17,SNR=6.8							
	comp=Z,2.0nm,0.3s							
JANB	**Januaria**	**37.32**	**121**	*eP*		**P**	**19 42 39.3**	**-0.9**
CROK	**Carrier**	**37.76**	**332**	P		**P**	**19 42 47.3**	**+3.7**
FRTB	**Fartura**	**38.00**	**137**	*eP*		**P**	**19 42 45.1**	**-0.7**
CRSM	**Crissiumal (Br**	**38.24**	**146**	*eP*		**P**	**19 42 45.9**	**-1.9**
RCLB	**Rio Claro- Sao**	**38.83**	**134**	*eP*		**P**	**19 42 52.3**	**-0.5**
ITAB	**Concordia**	**39.14**	**144**	*eP*		**P**	**19 42 54.2**	**-1.0**
DIAM	**Diamantina, MG**	**39.44**	**125**	*eP*		**P**	**19 42 57.7**	**-0.3**
VAO	**Valinhos**	**39.60**	**134**	*eP*		**P**	**19 42 58.4**	**-0.8**
PET01	**Itanhaem-SP**	**40.20**	**136**	*eP*		**P**	**19 43 03.0**	**-1.1**
CMC01	**Camacan, BA**	**41.60**	**118**	*eP*		**P**	**19 43 13.6**	**-2.1**
SJMB	**Sao Joao De Ma**	**41.69**	**124**	*eP*		**P**	**19 43 16.0**	**-0.3**
VAS01	**Vassouras-RJ**	**41.77**	**130**	*eP*		**P**	**19 43 16.0**	**-1.0**
DUB01	**Friburgo-RJ**	**42.48**	**129**	*eP*		**P**	**19 43 22.4**	**-0.5**
SDCO	**Great Sand Dun**	**42.62**	**326**	P		**P**	**19 43 25.9**	**+1.8**
RIB01	**Linhares ES**	**42.64**	**124**	*eP*		**P**	**19 43 23.6**	**-0.5**
ALF01	**Guarapari-ES**	**43.01**	**126**	*eP*		**P**	**19 43 26.6**	**-0.4**
ABR01	**Abrolhos, BA**	**43.43**	**121**	*eP*		**P**	**19 43 30.4**	**0.0**
PLCA	**Paso Flores**	**44.90**	**173**	P		**P**	**19 43 41.6**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=340,slow=7.9,SNR=6.1							
	comp=Z,1.4nm,0.6s							
PLCA	**Paso Flores**	**44.90**	**173**	P		**P**	**19 43 42.7**	**+0.8**
PLCA					IAmb	IAmb	19 44 25.9	
	comp=Z,4.4nm,1.1s							
PLCA	**Paso Flores**	**44.90**	**173**	*eP*		**P**	**19 43 41.2**	**-0.8**
EYMN	**Ely**	**45.55**	**346**	P		**P**	**19 43 46.6**	**-0.3**
EYMN					IAmb	IAmb	19 43 47.1	
	comp=Z,4.7nm,0.6s							
RSSD	**Black Hills**	**46.61**	**333**	P		**P**	**19 43 57.2**	**+1.7**
RSSD					IAmb	IAmb	19 43 57.7	
	comp=Z,3.0nm,0.7s							
PDAR	**Pinedale Array**	**48.34**	**328**	P		**P**	**19 44 08.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=125,slow=9.8,SNR=3.8							
	comp=Z,0.4nm,0.7s							
PDAR	**Pinedale Array**	**48.34**	**328**	P		**P**	**19 44 09.0**	**0.0**
ULM	**Lac du Bonnet**	**48.81**	**344**	P		**P**	**19 44 11.4**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=148,slow=8.3,SNR=4.1						

EDH	**Donghe**	**0.30**	**145**	*i* P	Pn	19 54 45.6	+0.3
	baz=144							
LONT	**Longtian**	**0.31**	**178**	*i* P	Pn	19 54 45.6	+0.2
	baz=177							
STYH	**Taoyuan**	**0.32**	**262**	*i* P	Pn	19 54 45.7	+0.4
	baz=263							
STYH				S	Sn	19 54 52.1	-0.2
	baz=263							
EHY	**Hungye**	**0.34**	**33**	P	Pn	19 54 46.0	+0.4
	baz=34							
EHY				*e*S	Sn	19 54 52.2	-0.1
	baz=34							

WEL 24 19:57:45.0±0.6, 42°S±2°×17°3E±°, h5km±2km, M3.1/6, ML3.3/7, MLv3.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=111.4, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.08**	**53**	P	Pg	19 57 46.9	+0.1
KHZ				S	Sg	19 57 48.8	+0.8
GVZ	**Greta Valley S**	**0.59**	**211**	P	Pg	19 57 56.7	+0.4
GVZ				S	Sb	19 58 05.5	-1.0
THZ	**Tophouse**	**0.81**	**330**	P	Pg	19 58 00.9	+0.3
THZ				S	Sg	19 58 11.4	+0.3
BSWZ	**Blackbirch Sta**	**0.81**	**23**	P	Pg	19 58 01.1	+0.5
BSWZ				S	Sn	19 58 15.0	-0.7
AMCZ	**Amberley**	**0.92**	**219**	P	Pg	19 58 02.8	+0.1
AMCZ				S	Sb	19 58 16.5	+0.4
LTZ	**Lake Taylor**	**0.93**	**250**	P	Pg	19 58 02.5	-0.2
LTZ				S	Sg	19 58 14.7	-0.1
MRNZ	**Matariki Terra**	**1.19**	**334**	P	Pg	19 58 07.8	+0.1
NNZ	**Nelson**	**1.25**	**358**	P	Pn	19 58 09.4	+0.3
OKCZ	**Okains Bay**	**1.29**	**193**	P	Pg	19 58 07.1	-2.6
OXZ	**Oxford**	**1.35**	**230**	P	Pn	19 58 08.1	-2.4
OXZ				S	Sg	19 58 25.9	-2.4
MQZ	**McQueen's Vall**	**1.37**	**205**	P	Pn	19 58 07.0	-3.8
TCW	**Tory Channel**	**1.40**	**27**	P	Pn	19 58 10.2	-1.0
DSZ	**Denniston Nort**	**1.42**	**300**	P	Pb	19 58 11.8	-0.2
AKCZ	**Akaroa Harbour**	**1.46**	**195**	P	Pn	19 58 09.2	-2.9
TKNZ	**Takaka Hill**	**1.48**	**346**	P	Pb	19 58 12.9	-0.1
RACZ	**Rakaia**	**1.58**	**217**	P	Pn	19 58 11.0	-2.7
DUWZ	**D'Urville Isla**	**1.70**	**12**	P	Pb	19 58 16.6	-0.2
QRZ	**Quartz Range**	**1.78**	**337**	P	Pb	19 58 17.5	-0.6
CAW	**Cannon Point**	**1.82**	**42**	P	Pn	19 58 15.5	-1.5
WACZ	**Wakanui South**	**1.89**	**218**	P	Pn	19 58 15.2	-2.7
WVZ	**Waitaha Valley**	**2.09**	**252**	P	Pn	19 58 20.3	-0.3
RPZ	**Rata Peaks**	**2.15**	**234**	P	Pn	19 58 19.3	-2.2
ARCZ	**Arundel**	**2.23**	**228**	P	Pn	19 58 20.6	-2.6
TMZ	**Timaru**	**2.62**	**222**	P	Pn	19 58 25.5	-2.5
FOZ	**Fox Glacier**	**2.87**	**247**	P	Pn	19 58 32.2	+0.8
AWAZ	**Awhitu Peninsu**	**5.47**	**10**	P	Pn	19 59 10.1	+2.9

*SOME **24** 20:08:48.8, 38°.70N×72°.50E, h0km*
*IDC **24** 20:08:48.5±3.8, 37°.32N×71°.56E, h83km±27km, mb3.3/9, mbtmp3.8/15, MS2.6/1, Error ellipse: s-maj=38.0km s-min=15.6km az=155.0*
*NEIC **24** 20:08:51.2±2.0, 37°.44N±0°.05×71°.70E±0°.08, h108km±7km, mb4.0/16, Error ellipse: s-maj=9.7km s-min=7.7km az=90.0*
*NNC **24** 20:08:54.2±6.5, 37°.70N×71°.13E, h135km±101km, mb3.2, mpv3.9, Error ellipse: s-maj=59.5km s-min=31.4km az=147.0*

ISC 24 20:08:50.1±0.5, 37°.40N±0°.05×71°.65E±0°.05, h109km, n87, σ2s41/101, mb3.9/15, 2C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**1.91**	**327**		**Pn**	**20 09 22.8**	**+0.8**
GAR				Sn	**Sn**	**20 09 46.0**	**-0.4**
CHGR	**Chuyangaron**	**2.33**	**303**	Pn	**Pn**	**20 09 27.5**	**+0.1**
CHGR				Sn	**Sn**	**20 09 54.7**	**-1.3**
KBL	**Kabul**	**3.55**	**217**	Pn	**Pn**	**20 09 45.2**	**+1.7**
CEP	**Cherat**	**3.57**	**177**	P	**Pn**	**20 09 47.2**	**+3.4**
CEP				S	**Sn**	**20 10 28.0**	**+2.6**
CHCP	**Chirah Chowk**	**3.96**	**160**	P	**Pn**	**20 09 51.8**	**+2.9**
TAS	**Tashkent**	**4.33**	**336**	Pn	**Pn**	**20 09 52.1**	**-1.6**
THW	**Thamme Wali**	**4.59**	**179**	P	**Pn**	**20 09 58.7**	**+1.2**
IUG	**Iuzhnay**	**4.90**	**346**	*e*Pg	**Pn**	**20 10 02.7**	**+1.0**
	38nm,0.1s						
IUG				*e*Lg	Lg	20 10 56.1	
	233nm,0.2s						
AML	**Almayashu**	**4.98**	**18**	P	**Pn**	**20 10 04.4**	**+1.4**
	SNR=20						
CHM	**Chimkent**	**5.16**	**343**	*e*Pg	**Pn**	**20 10 06.7**	**+1.6**
	42nm,0.1s						
CHM				*e*Lg	Lg	20 11 02.7	
	257nm,0.2s						
UCH	**Uchtor**	**5.30**	**24**	P	**Pn**	**20 10 09.3**	**+1.9**
	SNR=11						
JMU	**Jammu**	**5.38**	**149**	*e*P	**Pn**	**20 10 09.6**	**+1.6**
JMU				*e*S	**Sn**	**20 11 06.0**	**-2.6**
MRKS	**Merke**	**5.48**	**12**	*e*Pg	**Pn**	**20 10 07.9**	**-1.4**
	5.1nm,0.2s						
MRKS				*e*Lg	Lg	20 11 04.8	
	34nm,0.2s						
DZA	**Taraz**	**5.49**	**358**	*e*Pg	**Pn**	**20 10 10.6**	**+1.1**
	40nm,0.2s						
DZA				*e*Lg	Lg	20 11 09.8	
	141nm,0.2s						
EKS2	**Erkin-Say**	**5.50**	**17**	P	**Pn**	**20 10 12.4**	**+2.6**
	SNR=33						
SARP	**Sargodha**	**5.53**	**171**	P	**Pn**	**20 10 10.6**	**+0.6**
AAK	**Ala-Archa**	**5.67**	**22**	P	**Pn**	**20 10 14.3**	**+2.2**
	SNR=13						
AAK	**Ala-Archa**	**5.67**	**22**	P	**Pn**	**20 10 13.6**	**+1.5**
	6.1nm,0.3s,baz=156,slow=3.3,SNR=50						
AAK				S	**Sn**	**20 11 16.0**	**+0.1**
	5.3nm,0.5s,baz=331,slow=23,SNR=11						
AAK	**Ala-Archa**	**5.67**	**22**	Pn	**Pn**	**20 10 13.9**	**+1.8**
AAK				Sn	**Sn**	**20 11 14.6**	**-1.4**
KK31	**Karatay Array**	**5.76**	**352**	Pn	**Pn**	**20 10 14.1**	**+0.9**
KK31				Sn	**Sn**	**20 11 14.9**	**-3.1**
KK31	**Karatay Array**	**5.76**	**352**	P	**Pn**	**20 10 13.8**	**+0.6**
	4.0nm,0.2s,baz=171,slow=9.6,SNR=149						
KK31				⇓S	**Sn**	**20 11 15.0**	**-3.0**
	12nm,0.4s,baz=176,slow=21,SNR=9.6						
KKAR	**Karatay Array**	**5.76**	**352**	Pn	**Pn**	**20 10 13.6**	**+0.4**
KKAR	**Karatay Array**	**5.76**	**352**		**Pn**	**20 10 13.8**	**+0.6**
CHMS	**Chumysh**	**6.08**	**22**	P	**Pn**	**20 10 19.2**	**+1.8**
	SNR=9.5						
USP	**Ospenovka**	**6.25**	**19**	P	**Pn**	**20 10 21.5**	**+1.7**
	SNR=9.3						
TARG	**Taragay, Kyrgy**	**6.43**	**46**	Pn	**Pn**	**20 10 22.1**	**-0.5**
DGS	**Degeres**	**6.63**	**27**	*e*Pg	**Pn**	**20 10 26.5**	**+1.5**
	3.2nm,0.2s						
DGS				*e*Lg	Lg	20 11 36.9	
	4.9nm,0.4s						
KRBS	**Karabastau**	**7.00**	**25**	*e*Pg	**Pn**	**20 10 30.5**	**+0.6**
	1.2nm,0.2s						
KRBS				*e*Lg	Lg	20 11 43.9	
	1.0nm,0.2s						
BHK	**Bhakra**	**7.15**	**145**	*e*P	**Pn**	**20 10 32.3**	**+0.2**
BHK				*e*S	**Sn**	**20 11 47.1**	**-4.7**
BHK				IAML		20 11 50.5	
	comp=E,121nm,0.4s						
BHK				IAML		20 11 52.0	
	comp=N,121nm,0.2s						
KOTS	**Kotyrbulak**	**7.17**	**34**	*e*Pg	**Pn**	**20 10 35.1**	**+2.8**
	comp=N,4.5nm,0.2s						
KOTS				*e*Lg	Lg	20 11 51.7	
	comp=N,6.3nm,0.4s						
KTBS	**Karatobe**	**7.38**	**30**	*e*Pg	**Pn**	**20 10 39.0**	**+3.9**
	comp=N,1.6nm,0.2s						
KTBS				*e*Lg	Lg	20 11 58.2	
	comp=N,2.6nm,0.3s						
SMLA	**Simla**	**7.74**	**142**	*e*P	**Pn**	**20 10 40.4**	**+0.4**
SMLA				*e*S	**Sn**	**20 11 59.1**	**-7.0**
SMLA				IAML		20 12 06.0	
	comp=E,146nm,0.2s						
SMLA				IAML		20 12 06.2	
	comp=N,100nm,0.4s						
DDI	**Dehra Dun**	**8.84**	**141**	*e*P	**Pn**	**20 10 55.7**	**+0.7**
DDI				*e*S	**Sn**	**20 12 27.0**	**-5.9**
DDI				IAML		20 12 33.8	
	comp=E,96nm,0.2s						
DDI				IAML		20 12 34.6	
	comp=N,127nm,0.4s						
KHET	**Khetri**	**9.93**	**158**	*e*P	**Pn**	**20 11 08.4**	**-1.4**
KHET				*e*S	**Sn**	**20 12 52.2**	**-7.2**

KUDL	**Kundal**	**10.09**	**155**	*e*P	**Pn**	**20 11 10.7**	**-1.2**
KUDL				*e*S	Sn	20 12 53.7	-9.3
PTH	**Pithoragarh**	**10.60**	**135**	*e*P	**Pn**	**20 11 16.9**	**-2.2**
LGTI	**Lohaghat**	**10.69**	**135**	*e*P	**Pn**	**20 11 17.8**	**-2.2**
LGTI				*e*S	Sn	20 13 05.8	-12
LGTI				IAML		20 13 11.4	
	comp=E,13nm,0.0s						
LGTI				IAML		20 13 11.7	
	comp=N,20nm,0.5s						
GEYT	**Alibeck**	**10.74**	**277**	P	**Pn**	**20 11 18.1**	**-2.6**
	comp=N,6.7nm,0.3s,baz=108,slow=10,SNR=27						
GEYT				S	**Sn**	**20 13 13.1**	**-5.8**
	comp=N,6.3nm,0.4s,baz=114,slow=18,SNR=10.0						
GEYT				LR	LR	20 15 58.2	
	comp=N,33nm,21.7s,baz=331,slow=40						
GYA0B	**ALIBECK ARRAY**	**10.74**	**277**	⇓P	**Pn**	**20 11 17.9**	**-2.8**
GYA0B				⇑S	Sn	20 13 11.7	-7.2
MAKZ	**Makanchi**	**12.12**	**36**	Pn	**Pn**	**20 11 36.7**	**-2.3**
MK31	**Makanchi Array**	**12.26**	**37**	Pn	**Pn**	**20 11 39.8**	**-1.1**
MK31	**Makanchi Array**	**12.26**	**37**	⇓P	**Pn**	**20 11 41.2**	**+0.3**
	comp=N,0.3nm,0.4s,baz=225,slow=15,SNR=6.8						
MKAR	**Makanchi Array**	**12.26**	**37**	P	**Pn**	**20 11 41.0**	**+0.1**
	comp=N,0.5nm,0.6s,baz=226,slow=16,SNR=8.5						
MKAR	**Makanchi Array**	**12.26**	**37**	Pn	**Pn**	**20 11 38.9**	**-2.0**
DANN	**Dangsing**	**13.59**	**128**	*e*P	**Pn**	**20 11 56.9**	**-1.8**
	comp=N,8.7nm,0.3s						
KURK	**Kurchatov**	**14.22**	**18**		**Pn**	**20 12 06.6**	**+0.4**
GKN	**Gorkha**	**14.39**	**127**	*e*P	**Pn**	**20 12 07.4**	**-1.4**
	comp=N,9.4nm,0.2s						
AB31	**Akbulak array**	**14.57**	**328**	⇑P	**Pn**	**20 12 09.2**	**-1.6**
	comp=N,0.7nm,0.4s,baz=138,slow=13,SNR=57						
AB31				⇓S	Sn	20 14 38.4	-13
	comp=N,6.0nm,0.7s,baz=136,slow=23,SNR=13						
ABKAR	**Akbulak array**	**14.57**	**328**	Pn	**Pn**	**20 12 09.4**	**-1.4**
ABKAR	**Akbulak array**	**14.57**	**328**	Pn	**Pn**	**20 12 08.5**	**-2.3**
DMN	**Daman**	**14.96**	**127**	*e*P	**Pn**	**20 12 14.2**	**-1.9**
	comp=N,7.2nm,0.3s						
PKIN	**Phulchoki**	**15.17**	**126**	*e*P	**Pn**	**20 12 17.4**	**-1.4**
	comp=N,5.8nm,0.2s						
PKI	**Pulchoki**	**15.18**	**126**	*e*P	**Pn**	**20 12 17.5**	**-1.5**
	comp=N,2.9nm,0.2s						
GUN	**Gumba**	**15.25**	**124**	*e*P	**Pn**	**20 12 18.0**	**-1.9**
	comp=N,4.6nm,0.3s						
JIRN	**Jiri**	**15.63**	**124**	*e*P	**Pn**	**20 12 22.6**	**-2.0**
	comp=N,21nm,0.4s						
BVAR	**Borovoye Array**	**15.65**	**357**	P	**Pn**	**20 12 24.6**	**+0.2**
	comp=N,0.6nm,0.5s,baz=145,slow=8.2,SNR=5.1						
BRVK	**Borovoye**	**15.69**	**357**	P	**P**	**20 12 27.8**	**+1.2**
AKTO	**Aktyubinsk**	**16.28**	**327**	P	**P**	**20 12 33.8**	**+0.6**
	comp=N,12nm,0.5s,baz=132,slow=10,SNR=29						
AKTO				S	**Sn**	**20 15 25.2**	**-7.5**
	comp=N,1.3nm,0.4s,baz=154,slow=20,SNR=2.9						
AKTO	**Aktyubinsk**	**16.28**	**327**	⇓P	**P**	**20 12 34.8**	**+1.6**
	comp=N,5.3nm,0.5s						
RAMN	**Ramite**	**16.37**	**125**	*e*P	**Pn**	**20 12 30.9**	**-2.9**
	comp=N,3.1nm,0.2s						
TAPN	**Taplejung**	**16.84**	**122**	*e*P	**Pn**	**20 12 37.5**	**-2.1**
	comp=N,4.7nm,0.3s						
LSA	**Lhasa**	**17.96**	**110**	P	**Pn**	**20 12 53.7**	**+0.5**
ZALV	**Zalesovo Beam**	**18.88**	**25**	P	**Pn**	**20 13 02.6**	**-0.9**
	comp=N,0.7nm,0.3s,baz=230,slow=9.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**18.88**	**25**	P	**P**	**20 13 02.3**	**+0.6**
SHL	**Shillong**	**20.86**	**119**	P	**P**	**20 13 24.7**	**+1.3**
SHL				IAmb	IAmb	20 13 26.4	
	comp=Z,5.0nm,0.5s						
ARU	**Arti**	**20.96**	**339**	P	**P**	**20 13 25.6**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=148,slow=15,SNR=5.0						
	comp=Z,1.4nm,0.4s						
ARU	**Arti**	**20.96**	**339**	P	**P**	**20 13 24.1**	**0.0**
GNI	**Garni**	**21.13**	**286**	P	**P**	**20 13 29.3**	**+3.0**
GNI				IAmb	IAmb	20 13 31.1	
	comp=Z,7.6nm,0.7s						
GTA	**Gaotai**	**22.13**	**76**	⇓P	**P**	**20 13 40.0**	**+3.1**
GTA				sP	pP	20 14 04.8	+5.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ONI	**Oni**	**22.16**	**292**	P	**P**	**20 13 40.7**	**+3.6**
ONI				IAmb	IAmb	20 13 48.3	
	comp=Z,5.8nm,1.1s						
KIV	**Kislovodsk**	**22.85**	**296**	P	**P**	**20 13 45.1**	**+1.0**
KIV				IAmb	IAmb	20 13 53.4	
	comp=Z,6.7nm,1.1s						
RAYN	**Ar Rayn**	**26.34**	**246**	P	**P**	**20 14 22.1**	**+6.2**
SONM	**Songino Array**	**27.40**	**57**	P	**P**	**20 14 27.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=264,slow=8.8,SNR=2.2						
	comp=Z,0.1nm,0.3s						
BRTR	**Keskin Array B**	**29.67**	**286**	P	**P**	**20 14 47.6**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=110,slow=8.2,SNR=4.6						
	comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**32.80**	**308**	P	**P**	**20 15 14.1**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=82,slow=6.7,SNR=2.4						
	comp=Z,1.4nm,0.7s						
MLR	**Muntele Rosu**	**34.81**	**298**	P	**P**	**20 15 33.0**	**+2.7**
MLR				IAmb	IAmb	20 16 05.2	
	comp=Z,4.2nm,1.1s						
BURAR	**Bucovina Array**	**35.24**	**302**	P	**P**	**20 15 36.2**	**+2.1**
BURAR				IAmb	IAmb	20 16 13.9	
	comp=Z,2.1nm,1.3s						
FINES	**FINESS Array B**	**37.03**	**325**	P	**P**	**20 15 50.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=121,slow=8.2,SNR=6.0						
	comp=Z,0.6nm,0.3s						
FINES	**FINESS Array B**	**37.03**	**325**	P	**P**	**20 15 50.0**	**+1.0**
GSI	**Gunungsitoli**	**43.14**	**140**	P	**P**	**20 16 40.2**	**+0.4**
NC303	**NORSAR Array S**	**43.92**	**323**	P	**P**	**20 16 46.3**	**+0.7**
NB2	**NORSAR Subarra**	**43.98**	**322**	P	**P**	**20 16 46.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**43.98**	**322**	P	**P**	**20 16 47.1**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=116,slow=8.0,SNR=3.3						
	comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**57.50**	**298**	P	**P**	**20 18 29.1**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=62,slow=6.4,SNR=7.1						
	comp=Z,0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**66.26**	**269**	P	**P**	**20 19 26.9**	**0.0**
	comp=Z,0.3nm,0.4s,baz=47,slow=6.4,SNR=6.3						
	comp=Z,0.3nm,0.4s						
INK	**Inuvik**	**72.94**	**10**	P	**P**	**20 20 06.0**	**-1.0**
INK				IAmb	IAmb	20 20 38.4	
	comp=Z,4.3nm,1.3s						
YKA	**Yellowknife Ar**	**80.33**	**3**	P	**P**	**20 20 49.4**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=343,slow=5.8,SNR=2.6						
	comp=Z,0.3nm,0.8s						

*NEIC **24** 20:15:28.6±0.6, 18°.0S±0°.3×178°.6W±0°.2, h596km±8km, mb4.3/13, Error ellipse: s-maj=39.4km s-min=27.7km az=180.0*
*IDC **24** 20:15:29.2±2.0, 17°.45S×178°.86W, h604km±19km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=88.3km s-min=17.3km az=149.0*

ISC 24 20:15:27.7±1.4, 17°.8S±0°.2×178°.6W±0°.2, h600km, n25, σ0s45/22, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.18**	**270**	P	**P**	**20 16 48.6**	**+0.6**
	31nm,0.6s,baz=124,slow=4.2,SNR=38						
MSVF	**Nonsavu**	**3.18**	**270**	P	**P**	**20 16 48.2**	**+0.3**
PINNC	**Pines Island,**	**13.95**	**247**	P	**P**	**20 18 25.8**	**-0.3**
ONTNC	**Ouen Toro**	**14.74**	**250**	P	**P**	**20 18 33.3**	**-0.2**
EIDS	**Eidsvold**	**29.13**	**250**	P	**P**	**20 20 42.1**	**+0.1**
EIDS				IAmb	IAmb	20 20 42.5	
	comp=Z,4.9nm,1.0s						
ARMA	**Armidale**	**29.85**	**239**	P	**P**	**20 20 48.9**	**+0.6**
CTAO	**Charters Tower**	**33.28**	**260**	P	**P**	**20 21 17.3**	**-0.1**
CTAO				IAmb	IAmb	20 21 22.3	
	comp=Z,10.0nm,1.1s						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**20 22 01.1**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=96,slow=12,SNR=6.8						
	comp=Z,1.8nm,0.5s						
BBOO	**Buckleboo**	**43.31**	**241**	P	**P**	**20 22 38.0**	**-0.1**
WB0	**Warramunga Arr**	**44.43**	**260**	P	**P**	**20 22 46.6**	**-0.5**
WB0				IAmb	IAmb	20 23 27.7	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**44.45**	**259**	P	**P**	**20 22 46.7**	**-0.5**
WB2				IAmb	IAmb	20 22 50.5	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**20 22 46.9**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=95,slow=7.1,SNR=18						
	comp=Z,1.8nm,0.7s						
AS31	**Alice Springs**	**44.64**	**254**	P	**P**	**20 22 49.1**	**+0.5**
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**20 22 49.0**	**+0.4**
	comp=Z,9.6nm,0.6s,baz=86,slow=8.6,SNR=106						
ASAR				PcP	**PcP**	**20 24 18.3**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=96,slow=5.2,SNR=1.2						
	comp=Z,9.6nm,0.6s						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**20 22 48.5**	**-0.2**

MTN	**Manton Dam**	**48.60**	**268**	P	**P**	**20 23 19.0**	**+0.5**
FORT	**Forrest**	**49.89**	**244**	P	**P**	**20 23 27.2**	**-0.4**
FORT				IAmb	IAmb	20 23 27.9	
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.86**	**260**	P	**P**	**20 23 49.2**	**+0.1**
SOEI	**Soe**	**55.87**	**270**	P	**P**	**20 24 12.7**	**+2.2**
SOEI				IAmb	IAmb	20 24 26.1	
	comp=Z,39nm,1.2s						
MORW	**Morawa**	**60.36**	**246**	P	**P**	**20 24 39.5**	**-0.9**
MORW				IAmb	IAmb	20 24 42.8	
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**60.58**	**185**	P	**P**	**20 24 41.0**	**+0.1**
NVAR	**Mina Array Bea**	**79.45**	**44**	P	P	20 26 35.0	+1.6
	comp=Z,0.3nm,0.3s,baz=226,slow=8.1,SNR=4.3						
	comp=Z,0.3nm,0.3s						
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**20 27 04.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=228,slow=4.4,SNR=4.8						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**86.08**	**58**	P	P	20 27 07.1	+0.6
	comp=Z,0.9nm,0.8s,baz=224,slow=7.6,SNR=2.7						
	comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**87.38**	**44**	P	P	20 27 13.2	+0.7
	comp=Z,0.3nm,0.6s,baz=210,slow=4.8,SNR=3.8						
	comp=Z,0.3nm,0.6s						

*JMA **24** 20:15:57.3±0.8, 46°N±6°×15°1E±°, h30km, MV3.9/11, KURILE ISLANDS REGION*

SKHL 24 20:15:59.5±0.4, 44°.90N×151°.10E, h37km±5km, mb4.4/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.31**	**279**	*e*P	Pn	20 16 35.7	+0.7
KUR				AMB	AMB	20 16 36.2	
	30nm,0.2s						
KUR				*i* S	Sn	20 17 02.1	-0.1
KUR				A	A	20 17 07.3	
	110nm,0.3s						
KUR				A	A	20 17 07.3	
	120nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.85**	**259**	*e*P	Pn	20 16 57.0	+0.9
YUK				AMB	AMB	20 16 57.5	
	90nm,0.4s						
YUK				*e*S	Sn	20 17 39.9	-0.1
YUK				A	A	20 17 41.7	
	130nm,0.3s						
YUK				A	A	20 17 41.7	
	100nm,0.3s						
NEM2	**Nemuro 2**	**4.15**	**250**	*e*P	Pn	20 17 01.8	+1.6
NEM2				*e*S	Sn	20 17 49.9	+2.5
NMR	**Nemuro--Hokkai**	**4.16**	**250**	*e*P	Pn	20 17 01.8	+1.5
NMR				AMB	AMB	20 17 04.7	
	10.0nm,0.2s						
NMR				*e*S	Sn	20 17 47.5	-0.1
NMR				A	A	20 17 54.4	
	20nm,0.5s						
NMR				A	A	20 17 54.4	
	20nm,0.5s						
JRA	**Rausu**	**4.39**	**259**	*e*P	Pn	20 17 06.3	+2.8
JNK	**Nakash**	**4.77**	**256**	*e*P	Pn	20 17 11.4	+2.7
JAK	**Akkeshi**	**5.00**	**250**	*e*P	Pn	20 17 13.3	+1.4
JAK				*e*S	Sn	20 18 08.6	+0.2
JTKR	**Abashiri--Toko**	**5.23**	**262**	*e*P	Pn	20 17 18.1	+3.0
JAR	**Ashorobuto**	**5.52**	**256**	*e*P	Pn	20 17 22.0	+3.0
JAR				*e*S	Sn	20 18 24.5	+3.3
JOB	**Onbets**	**5.62**	**252**	*e*P	Pn	20 17 22.6	+2.2
JOB				*e*S	Sn	20 18 24.8	+1.2
JCH	**Churui**	**6.05**	**251**	*e*P	Pn	20 17 28.5	+2.1
JCH				*e*S	Sn	20 18 36.0	+1.8
MYR	**Moyori**	**6.25**	**248**	*e*P	Pn	20 17 31.3	+2.3
MYR				*e*S	Sn	20 18 39.0	-0.1
JNBK	**Urakawa-nobuka**	**6.60**	**250**	*e*P	Pn	20 17 35.3	+1.4

*IDC **24** 20:22:11.9±1.2, 23°.32S×66°.53W, h206km±18km, mb3.2/1, mbtmp3.9/6, Error ellipse: s-maj=23.5km s-min=18.4km az=116.0*
*GUC **24** 20:22:13.8±0.5, 23°.26S×66°.95W, h249km±9km, ML4.0*
*NEIC **24** 20:22:13±1.7, 23°.31S±0°.08×66°.8W±0°.2, h232km±15km, mb4.1/4, ML4.0(GUC), Error ellipse: s-maj=24.7km s-min=9.8km az=102.0*
*SJA **24** 20:22:14.4±2.0, 23°.36S×66°.65W, h175km, ML4.1, MW3.8*
*VAO **24** 20:22:14.9±0.5, 22°.72S×66°.54W, h201km±7km, mb3.8*

ISC 24 20:22:12.0±0.6, 23°.32S±0°.04×66°.68W±0°.04, h225km±7km, n117, σ1s35/165, 11C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.57**	**44**	*i* P	**Pn**	**20 22 49.2**	**+0.1**
YJA				*i* S	**S**	**20 23 17.1**	**-0.8**
YJA	**Yavi**	**1.57**	**44**	*i* P	**Pn**	**20 22 49.2**	**+0.1**
YJA				*i* S	**S**	**20 23 17.1**	**-0.8**
AZAP	**Zapla**	**1.73**	**121**	*i* P	**Pn**	**20 22 49.6**	**-0.6**
AZAP	**Zapla**	**1.73**	**121**	*i* P	**Pn**

PB01	**IPOC Station P**	**3.45 311**	*e*P		**Pn**	**20 23 09.0**	**+0.7**
PB01			*e*S		**S**	**20 23 51.7**	**-0.8**
PB01			IAML			20 23 54.3	
	comp=Z,219nm,0.2s						
PB10	**IPOC Station P**	**3.56 266**			**Pn**	**20 23 10.2**	**+0.8**
PB10			Sn		**S**	**20 23 52.2**	**-2.3**
PB10	**IPOC Station P**	**3.56 266**‖	*e*P		**Pn**	**20 23 10.3**	**+0.8**
PB10			*e*S		**S**	**20 23 52.5**	**-2.1**
PB10	**IPOC Station P**	**3.56 266**	*i* P		**Pn**	**20 23 10.3**	**+0.9**
PB10			*e*S		**S**	**20 23 53.9**	**-0.6**
PB10	**IPOC Station P**	**3.56 266**	*i* P		**Pn**	**20 23 10.3**	**+0.9**
PB10			*e*S		**S**	**20 23 53.9**	**-0.6**
PB02	**IPOC Station P**	**3.58 303**			**Pn**	**20 23 09.9**	**0.0**
PB02			Sn		**S**	**20 23 52.6**	**-2.7**
PB02	**IPOC Station P**	**3.58 303**‖	*e*P		**Pn**	**20 23 10.0**	**+0.2**
PB02			*e*S		**S**	**20 23 52.8**	**-2.4**
PB02	**IPOC Station P**	**3.58 303**	*i* P		**Pn**	**20 23 10.3**	**+0.5**
PB02			*e*S		**S**	**20 23 53.6**	**-1.6**
PB02	**IPOC Station P**	**3.58 303**	*i* P		**Pn**	**20 23 10.3**	**+0.5**
PB02			*e*S		**S**	**20 23 53.6**	**-1.6**
PB14	**IPOC Station P**	**3.64 248**			**Pn**	**20 23 11.1**	**+0.4**
PB14			Sn		**S**	**20 23 54.9**	**-1.9**
PB14	**IPOC Station P**	**3.64 248**	*i* P		**Pn**	**20 23 11.2**	**+0.5**
PB14			*e*S		**S**	**20 23 55.7**	**-1.1**
PB14	**IPOC Station P**	**3.64 248**	*i* P		**Pn**	**20 23 11.2**	**+0.5**
PB14			*e*S		**S**	**20 23 55.7**	**-1.1**
PATCX	**Punta Patache**	**4.07 307**			**Pn**	**20 23 15.3**	**-0.3**
PATCX	**Punta Patache**	**4.07 307**	*e*P		**Pn**	**20 23 15.5**	**-0.2**
PATCX			*e*S		**S**	**20 24 02.7**	**-3.0**
PATCX	**Punta Patache**	**4.07 307**	*i* P		**Pn**	**20 23 15.7**	**+0.1**
PATCX	**Punta Patache**	**4.07 307**	*i* P		**Pn**	**20 23 15.7**	**+0.1**
AC02	**Maricunga**	**4.14 212**	Pn		**Pn**	**20 23 17.9**	**+1.0**
TA01	**Diego Aracena**	**4.25 310**	Pn		**Pn**	**20 23 17.3**	**-0.5**
TA01			Sn		**S**	**20 24 06.7**	**-2.9**
TA01	**Diego Aracena**	**4.25 310**	*e*P		**Pn**	**20 23 17.3**	**-0.5**
TA01			*e*S		**S**	**20 24 06.6**	**-3.0**
TA01	**Diego Aracena**	**4.25 310**	*e*P		**Pn**	**20 23 17.6**	**-0.2**
TA01	**Diego Aracena**	**4.25 310**	*e*P		**Pn**	**20 23 17.6**	**-0.2**
GO01	**Chusmiza**	**4.32 327**			**Pn**	**20 23 20.0**	**+0.8**
GO01	**Chusmiza**	**4.32 327**‖	*e*P		**Pn**	**20 23 20.0**	**+0.8**
GO01			*e*S		**S**	**20 24 10.7**	**-1.4**
GO01	**Chusmiza**	**4.32 327**	*i* P		**Pn**	**20 23 20.1**	**+0.9**
GO01	**Chusmiza**	**4.32 327**	*i* P		**Pn**	**20 23 20.1**	**+0.9**
TA02	**Huaiquique**	**4.42 313**	Pn		**Pn**	**20 23 20.4**	**+0.6**
PB11	**IPOC Station P**	**4.50 321**			**Pn**	**20 23 20.7**	**-0.3**
PB11	**IPOC Station P**	**4.50 321**	*e*P		**Pn**	**20 23 20.7**	**-0.3**
PB11			*e*S		**S**	**20 24 12.8**	**-2.6**
PB11	**IPOC Station P**	**4.50 321**	*i* P		**Pn**	**20 23 20.7**	**-0.3**
PB11	**IPOC Station P**	**4.50 321**	*i* P		**Pn**	**20 23 20.7**	**-0.3**
AC01	**Pan de Azucar**	**4.54 231**	Pn		**Pn**	**20 23 20.8**	**-0.5**
AC01	**Pan de Azucar**	**4.54 231**	*e*P		**Pn**	**20 23 20.7**	**-0.5**
AC01	**Pan de Azucar**	**4.54 231**	*e*P		**Pn**	**20 23 20.7**	**-0.5**
PSGCX	**Pisagua**	**4.90 319**			**Pn**	**20 23 24.7**	**-1.2**
PSGCX	**Pisagua**	**4.90 319**	*e*P		**Pn**	**20 23 25.0**	**-0.9**
PSGCX	**Pisagua**	**4.90 319**	*e*P		**Pn**	**20 23 25.0**	**-0.9**
MNMC	**Minye Minye**	**4.98 326**			**Pn**	**20 23 27.1**	**0.0**
MNMC	**Minye Minye**	**4.98 326**‖	*e*P		**Pn**	**20 23 27.2**	**+0.1**
MNMC			*e*S		**S**	**20 24 24.0**	**-2.5**
MNMCX	**Minye Minye**	**4.98 326**	*e*P		**Pn**	**20 23 27.4**	**+0.4**
MNMCX			*e*S		**S**	**20 24 25.4**	**-1.0**
MNMCX			IAML			20 24 31.6	
	comp=Z,131nm,0.2s						
MNMCX	**Minye Minye**	**4.98 326**	*e*P		**Pn**	**20 23 27.4**	**+0.4**
MNMCX			*e*S		**S**	**20 24 25.4**	**-1.0**
MNMCX			IAML			20 24 31.6	
	comp=Z,131nm,0.2s						
CYA	**Choya**	**5.16 171**	*i* P		**Pn**	**20 23 29.9**	**+0.9**
CYA	**Choya**	**5.16 171**	*i* P		**Pn**	**20 23 29.9**	**+0.9**
AC06	**Mina Casimiro**	**5.21 219**	Pn		**Pn**	**20 23 29.2**	**-0.4**
GO03	**Copiap**	**5.33 216**	Pn		**Pn**	**20 23 30.3**	**-0.8**
GO03	**Copiap**	**5.33 216**	*i* P		**Pn**	**20 23 30.6**	**-0.6**
GO03			*i* S		**S**	**20 24 30.0**	**-3.9**
GO03	**Copiap**	**5.33 216**	*i* P		**Pn**	**20 23 30.6**	**-0.6**
GO03			*i* S		**S**	**20 24 30.0**	**-3.9**
PB16	**IPOC Station P**	**5.62 331**	Pn		**Pn**	**20 23 36.3**	**+0.8**
PB12	**IPOC Station P**	**5.79 323**	Pn		**Pn**	**20 23 35.3**	**-1.8**
AP01	**Chacalluta**	**6.00 325**	Pn		**Pn**	**20 23 37.8**	**-1.9**
AC05	**El Transito**	**6.37 210**	Pn		**Pn**	**20 23 43.2**	**-1.2**
LCO	**Las Campanas**	**6.71 212**	Pn		**Pn**	**20 23 47.5**	**-1.4**
LPAZ	**La Paz**	**7.13 349**	P		**Pn**	**20 23 56.0**	**+1.2**
	comp=Z,8.5nm,0.7s,baz=180,slow=7.2,SNR=32						
LPAZ			S		**S**	**20 25 15.0**	**-1.7**
	comp=Z,3.2nm,0.8s,baz=305,slow=15,SNR=2.6						
LPAZ	**La Paz**	**7.13 349**			**Pn**	**20 23 54.8**	**0.0**
ESFA	**Espinillo Form**	**7.66 104**	*e*P		Pn	20 24 05.1	+4.3
GO04	**Tololo Observa**	**7.75 207**	Pn		**Pn**	**20 24 02.6**	**+0.4**
BBRB	**Robore, Bolivi**	**8.16 53**	*e*P		**Pn**	**20 24 04.4**	**-3.0**
CFA	**Coronel Fontan**	**8.36 189**	P		**Pn**	**20 24 09.1**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=14,slow=9.7,SNR=13						
CFA			S		**S**	**20 25 38.5**	**-6.0**
	comp=Z,1.7nm,0.2s,baz=267,slow=18,SNR=2.1						
MURT	**Porto Murtinho**	**8.55 81**	*e*P		**Pn**	**20 24 12.7**	**+0.3**
SIV	**San Ignacio**	**9.01 37**	P		**Pn**	**20 24 16.7**	**-1.6**
	comp=Z,2.7nm,0.6s,baz=224,slow=12,SNR=15						
SALV	**Santo Antonio**	**12.71 56**	*e*P		**Pn**	**20 25 03.1**	**-2.1**
ALGR	**Alto Alegre (B**	**13.43 117**	*e*P		P	20 25 20.5	+4.6
PTGB	**Pitanga**	**13.43 99**	*e*P		**P**	**20 25 16.6**	**+0.5**
PLTB	**Pedras Altas**	**14.32 129**			**P**	**20 25 26.8**	**+1.1**
PCMB	**Pacaembu**	**14.36 86**	*e*P		**P**	**20 25 26.3**	**0.0**
SAML	**Samuel**	**14.68 14**			**P**	**20 25 29.2**	**-0.7**
TRQA	**Tornquist**	**15.23 166**	P		**Pn**	**20 25 36.3**	**+0.5**
PLCA	**Paso Flores**	**17.66 190**	P		**Pn**	**20 26 09.4**	**+4.7**
	comp=Z,0.9nm,0.5s,baz=0.1,slow=10,SNR=6.4						
PLCA	**Paso Flores**	**17.66 190**	P		**P**	**20 26 03.0**	**+0.6**
IPMB	**Ipameri, GO**	**18.08 76**	*e*P		**Pn**	**20 26 08.8**	**-1.0**
SNDB	**Serra Nova Dou**	**18.49 55**	*e*P		**Pn**	**20 26 12.6**	**-2.0**
BDFB	**Brasilia**	**19.18 70**	P		**P**	**20 26 19.4**	**+0.3**
	comp=Z,4.0nm,0.5s,baz=243,slow=12,SNR=7.9						
BDFB	**Brasilia**	**19.18 70**	P		**P**	**20 26 19.7**	**+0.6**
BDFB			IAmb		IAmb	20 26 21.0	
	comp=Z,6.2nm,0.9s						
BDFB	**Brasilia**	**19.18 70**	*e*P		**Pn**	**20 26 20.9**	**-1.9**
SMTB	**Santa Maria do**	**23.27 55**	*e*P		**P**	**20 26 59.6**	**-0.1**
HDC	**Heredia**	**37.26 331**	*e*P		**P**	**20 29 03.7**	**+1.2**
SNAA	**Sanae**	**59.89 161**	P		**P**	**20 31 56.1**	**+2.4**
SNAA			IAmb		IAmb	20 31 57.4	
	comp=Z,6.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.06 69**	P		**P**	**20 33 35.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=238,slow=5.0,SNR=2.6						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**145.82 39**	PKPbc		**PKiKP**	**20 41 26.3**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=310,slow=2.8,SNR=8.2						

NOU 24 20:30:10.2, 14.75S×166.97E, h57km, MLv4.8/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.18**	**159**	P	Pn	20 30 58.0	+0.2
RTV	**Rentapao**	**3.33**	**155**	P	Pn	20 31 00.9	+1.0
KOUNC	**Koumac, New Ca**	**6.31**	**204**	P	Pn	20 31 40.8	+0.1
	46nm,0.7s						
MARNC	**Mare, Loyalty**	**6.77**	**172**	P	Pn	20 31 46.9	-0.1
	1.6nm,0.7s						
YATNC	**Mamie plateau,**	**7.27**	**181**	P	Pn	20 31 52.4	-1.4
	29nm,0.7s						
DZM	**Mont Dzumac**	**7.30**	**184**	P	Pn	20 31 53.3	-1.0
NOUC	**Port Laguerre**	**7.34**	**185**	P	Pn	20 31 55.4	+0.6
OUENC	**Ouen Island, N**	**7.63**	**181**	P	Pn	20 31 59.9	+1.2
	28nm,1.0s						

DJA 24 20:31:38.3±3.5, 4°S±7'×10°1'E±°, h18km±33km, M3.9/9, mb4.2/1, MLv3.7/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**1.46**	**328**	P	Pn	20 32 03.8	+0.1
MASI	**Maura Aman, Be**	**1.68**	**60**	P	Pn	20 32 06.4	-0.4
KSI	**Kapahiang**	**1.83**	**79**	P	Pn	20 32 09.1	+0.1
MNAI	**Manna**	**2.19**	**99**	P	Pn	20 32 13.7	-0.1
LWLI	**Liwa**	**3.41**	**107**	P	Pn	20 32 31.2	+0.4
MDSI	**Maura Dua**	**3.41**	**98**	P	Pn	20 32 31.5	+0.8
KASI	**Kota Agung**	**3.99**	**112**	P	Pn	20 32 38.9	+0.3
PBSI	**Pulau Batu**	**4.65**	**327**	P	Pn	20 32 47.7	0.0
CNJI	**Cibinong**	**7.11**	**118**	P	Pn	20 33 20.2	-1.4

DJA 24 20:36:04.7±0.4, 9°S±5'×12°4E±°, h131km±7km, M3.8/9, mb4.0/5, MLv3.7/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.00**	**177**	P	Pn	20 36 28.0	+0.1
BATI	**Baumata**	**1.54**	**200**	P	Pn	20 36 33.5	+0.1
MMRI	**Maumere**	**1.95**	**273**	P	Pn	20 36 39.7	+1.5
BASI	**Baing, Sumba**	**3.87**	**248**	P	Pn	20 37 02.0	-0.8
BSSI	**Bau Bau, Buton**	**4.51**	**305**	P	Pn	20 37 09.5	-1.8
PLAI	**Plampang**	**6.36**	**269**	P	Pn	20 37 37.0	+0.9
	12nm,1.1s,0.1nm						
SAUI	**Saumlaki**	**7.06**	**84**	P	Pn	20 37 45.4	-0.1
	204nm,0.8s,0.7nm						
TWSI	**Taiwing, Sumb**	**7.24**	**270**	P	Pn	20 37 48.7	+0.7
	7.7nm,0.9s,0.1nm						

*BJI **24** 20:37:56.0±0.0, 6°36'S×154°07'E, h26km, mb4.7/52, mB5.2/21, Ms4.7/7, Ms7 4.4/10*
*MOS **24** 20:37:56.9±1.0, 6°03'S×154°17'E, h32km, mb5.0/27, Error ellipse: s-maj=8.9km s-min=7.9km az=95.5*
*NEIC **24** 20:37:59.1±1.8, 6°09S±0°02×154°17E±0°07, h35km±1km, mb5.2/106, Error ellipse: s-maj=11.4km s-min=3.0km az=84.0*
*IDC **24** 20:38:00.3±2.1, 6°04S×154°17E, h47km±19km, mb4.2/25, mbtmp4.5/28, ML4.4/4, MS4.0/47, Error ellipse: s-maj=14.0km s-min=10.6km az=67.0*
*GCMT **24** 20:38:02.1±0.3, 6°23S±0°02×154°05E±0°02, h38km±1km, MW5.0/65, Moment Tensor Solution. s28,c30; s65,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.17±.23; $M_{\theta\theta}$-0.77±.15; $M_{\phi\phi}$-1.41±.14; $M_{r\theta}$0.73±.14; $M_{r\phi}$2.42±.12; $M_{\theta\phi}$-2.47±.15; Best double couple: M_o3.94100×10^{16} NP1:∅s161.00000°, δ69.00000°, λ114.00000°. NP2: ∅s289.00000°, δ32.00000°, λ43.00000°. Principal axes: T 3.4930, Plg59.0000°, Azm105.0000°; N 0.8880, Plg23.0000°, Azm332.0000°; P -4.3900, Plg20.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **24** 20:38:02.1±0.3, 6°S±3'×15°4E±°, h49km±2km, M5.2/45, mb5.1/45, mB5.6/12, MLv5.5/4, Mw(mB)5.1/12, MwMwp5.7/1, Mwp5.8/1*

ISC 24 20:38:00.3±0.2, 6°05S±0°04×154°15E±0°04, h48km, n402, σ1°45/367, mb5.0/124, MS4.1/50, 12C-10D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.70**	**313**		**Pn**	**20 38 42.5**	**+1.2**
RABL	**Rabaul**	**2.70**	**313**	P	**Pn**	**20 38 43.8**	**+2.5**
KRVT	**Keravat (AS076**	**2.73**	**309**	P	**Pn**	**20 38 42.4**	**+0.7**
	200nm,0.3s,baz=303,slow=1.5,SNR=116						
KRVT				S	**Sn**	**20 39 13.4**	**-0.1**
	952nm,0.4s,baz=290,slow=23,SNR=11						
KRVT				LR	LR	20 39 59.3	
	comp=Z,5μm,20.4s,baz=261,slow=43						
	449nm,0.3s						
HNR	**Honiara**	**6.66**	**121**	P	**Pn**	**20 39 39.4**	**+3.9**
	6μm,0.8s,baz=237,slow=4.0,SNR=21						
HNR				S	Sn	20 41 01.5	+11
	13μm,1.0s,baz=352,slow=4.7,SNR=6.6						
HNR				LR	LR	20 42 11.6	
	comp=Z,47μm,19.6s,baz=295,slow=38						
HNR	**Honiara**	**6.66**	**121**	Pn	**Pn**	**20 39 36.2**	**+0.6**
HNR	**Honiara**	**6.66**	**121**	P	Pn	20 39 42.9	+7.3
HNR	**Honiara**	**6.66**	**121**	P	**Pn**	**20 39 36.2**	**+0.6**
PMG	**Port Moresby**	**7.69**	**244**	P	**Pn**	**20 39 49.7**	**-0.1**
	33nm,0.3s,baz=69,slow=7.1,SNR=41						
PMG				S	**Sn**	**20 41 18.0**	**+2.5**
	78nm,0.5s,baz=171,slow=23,SNR=7.5						
PMG				LR	LR	20 43 25.2	
	comp=Z,2μm,18.3s,baz=3.0,slow=42						
PMG	**Port Moresby**	**7.69**	**244**	P	**Pn**	**20 39 50.4**	**+0.7**
PMG	**Port Moresby**	**7.69**	**244**	*d* iP	**Pn**	**20 39 49.9**	**+0.2**
MANU	**Manus Island**	**7.85**	**300**	P	**Pn**	**20 39 55.1**	**+3.2**
COEN	**Coen**	**13.36**	**233**	P	**Pn**	**20 41 08.7**	**+1.3**
	baz=13,SNR=8.1						
COEN	**Coen**	**13.36**	**233**	P	**Pn**	**20 41 07.6**	**+0.2**
PATS	**Pohnpei**	**13.46**	**18**	Pn	**Pn**	**20 41 07.2**	**-1.5**
GENI	**Genyem**	**14.36**	**283**	P	**P**	**20 41 24.3**	**-2.5**
GENI	**Genyem**	**14.36**	**283**	P	**Pn**	**20 41 18.6**	**-2.3**
	148nm,1.5s						
MTSU	**Mount Surprise**	**15.38**	**218**	P	**Pn**	**20 41 35.1**	**+0.9**
	baz=15,SNR=29						
MTSU	**Mount Surprise**	**15.38**	**218**	P	**Pn**	**20 41 35.6**	**+1.4**
SMPI	**Sarmi**	**15.92**	**284**	P	**Pn**	**20 41 41.2**	**0.0**
	126nm,1.4s						
CTA	**Charters Tower**	**15.93**	**208**	P	**Pn**	**20 41 41.0**	**-0.3**
	1.5nm,0.3s,baz=25,slow=12,SNR=30						
CTA				LR	LR	20 48 05.1	
	comp=Z,715nm,18.5s,baz=26,slow=38						
	14nm,1.0s						
CTA	**Charters Tower**	**15.93**	**208**	P	**Pn**	**20 41 41.7**	**+0.4**
CTAO	**Charters Tower**	**15.93**	**208**	P	**Pn**	**20 41 39.6**	**-1.7**
CTAO				IAmb	IAmb	20 41 46.9	
	comp=Z,253nm,1.9s						
CTAO	**Charters Tower**	**15.93**	**208**	P	**Pn**	**20 41 41.7**	**+0.4**
CTAO	**Charters Tower**	**15.93**	**208**	P	**Pn**	**20 41 39.6**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,253nm,1.9s						
KOUNC	**Koumac, New Ca**	**17.45**	**147**	P	**Pn**	**20 41 56.0**	**-4.4**
LIFOU	**LIFOU**	**19.38**	**140**	P	**P**	**20 42 19.3**	**-2.9**
LIFNC	**LIFOU**	**19.38**	**140**	P	**Pn**	**20 42 24.5**	**+0.8**
	comp=Z,569nm,1.2s						
EIDS	**Eidsvold**	**19.44**	**188**	P	**Pn**	**20 42 24.1**	**-0.3**
	baz=19,SNR=8.3						
EIDS	**Eidsvold**	**19.44**	**188**	P	**P**	**20 42 20.9**	**-2.0**
EIDS	**Eidsvold**	**19.44**	**188**	P	**Pn**	**20 42 24.1**	**-0.3**
NOUC	**Port Laguerre**	**19.82**	**145**	P	**Pn**	**20 42 28.1**	**-0.8**
DZM	**Mont Dzumac**	**19.88**	**144**	P	**P**	**20 42 28.6**	**+0.9**
	comp=Z,4.7nm,0.3s,baz=294,slow=8.6,SNR=35						
	comp=Z,42nm,0.7s						
DZM	**Mont Dzumac**	**19.88**	**144**	*e*Pn	**P**	**20 42 27.9**	**+0.1**
	comp=Z,138nm,1.1s						
DZM				*e*LR	LR	20 47 11.9	
	comp=Z,1μm,22.9s						
DZM	**Mont Dzumac**	**19.88**	**144**	P	**P**	**20 42 26.4**	**-1.4**
DZM				IAmb	IAmb	20 42 29.9	
	comp=Z,103nm,1.2s						
DZM	**Mont Dzumac**	**19.88**	**144**	P	**Pn**	**20 42 29.1**	**-0.6**
KWAJ	**Kwajalein Atol**	**19.94**	**42**	P	**Pn**	**20 42 28.7**	**+0.3**
KWAJ	**Kwajalein Atol**	**19.94**	**42**	P	**P**	**20 42 28.7**	**+0.3**
KWAJ				pmax	pmax		
	comp=Z,359nm,1.4s						
ONTNC	**Ouen Toro**	**20.07**	**145**	P	**P**	**20 42 27.9**	**-1.8**
ONTNC				IAmb	IAmb	20 42 33.9	
	comp=Z,76nm,1.0s						
TARA	**Tarawa**	**20.14**	**69**	P	**P**	**20 42 30.5**	**-0.1**
QIS	**Mount Isa**	**20.18**	**223**	P	**P**	**20 42 31.7**	**+0.7**
	baz=20,SNR=54						
QIS	**Mount Isa**	**20.18**	**223**	P	**P**	**20 42 31.2**	**+0.2**
OUENC	**Ouen Island, N**	**20.38**	**144**	P	**P**	**20 42 31.1**	**-2.0**
MARNC	**Mare, Loyalty**	**20.40**	**140**	P	**P**	**20 42 31.6**	**-1.7**
MARNC	**Mare, Loyalty**	**20.40**	**140**	P	Pn	20 42 35.3	-0.5
	comp=Z,7nm,1.0s						
RKPI	**Rasiki, Papua**	**20.43**	**282**	P	**P**	**20 42 35.0**	**+1.2**
	comp=Z,93nm,0.9s						
AUBSH	**Beerwah State**	**20.73**	**183**	P	Pn	20 42 39.7	0.0
RMQ	**Roma**	**20.97**	**194**	P	**P**	**20 42 40.8**	**+1.4**
	baz=21,SNR=6.8						
RMQ	**Roma**	**20.97**	**194**	P	Pn	20 42 41.2	-1.3
GUMO	**Guam**	**21.57**	**335**	LR	LR	20 51 54.1	
	comp=Z,64nm,19.3s,baz=134,slow=39						
FAKI	**Fak Fak**	**22.05**	**277**	P	**P**	**20 42 50.4**	**-0.8**
FAKI	**Fak Fak**	**22.05**	**277**	P	**P**	**20 42 50.5**	**-0.8**
	comp=Z,46nm,1.1s						
KDU	**Kakadu**	**22.37**	**251**	P	**P**	**20 42 54.2**	**-0.4**
	baz=22,SNR=5.7						
KDU	**Kakadu**	**22.37**	**251**	P	**P**	**20 42 54.5**	**-0.1**
QLP	**Quilpie**	**22.50**	**204**	P	**P**	**20 42 56.4**	**+0.4**
	baz=22,SNR=6.8						
QLP	**Quilpie**	**22.50**	**204**	P	**P**	**20 42 56.5**	**+0.5**
SAUI	**Saumlaki**	**22.76**	**264**	P	**P**	**20 42 56.9**	**-1.9**
SAUI	**Saumlaki**	**22.76**	**264**	P	**P**	**20 43 00.7**	**+1.9**
SAUI	**Saumlaki**	**22.76**	**264**	P	**P**	**20 42 59.1**	**+0.3**
	comp=Z,280nm,1.4s,comp=Z,6μm						
SIJI	**Sorong**	**23.41**	**282**	P	**P**	**20 43 05.4**	**+0.1**
	comp=Z,44nm,0.9s,baz=72,slow=9.1,SNR=8.5						
	comp=Z,44nm,0.9s						
WR0	**Warramunga Arr**	**23.54**	**232**	P	**P**	**20 43 05.1**	**-1.4**
WR0				IAmb	IAmb	20 43 08.0	
	comp=Z,268nm,1.9s						
WB0	**Warramunga Arr**	**23.56**	**233**	P	**P**	**20 43 05.8**	**-0.8**
WB0				IAmb	IAmb	20 43 08.1	
	comp=Z,42nm,0.9s						
MTN	**Manton Dam**	**23.67**	**252**	P	**P**	**20 43 08.0**	**+0.2**
	baz=24,SNR=6.6						
MTN	**Manton Dam**	**23.67**	**252**	P	**P**	**20 43 07.0**	**-0.7**
MTN				IAmb	IAmb	20 43 25.0	
	comp=Z,45nm,0.9s						
MTN	**Manton Dam**	**23.67**	**252**	P	**P**	**20 43 10.2**	**+2.4**
WRAB	**Tennant Creek**	**23.68**	**233**	P	**P**	**20 43 06.8**	**-1.0**
WRAB				IAmb	IAmb	20 43 09.2	
	comp=Z,272nm,1.9s						
WRAB	**Tennant Creek**	**23.68**	**233**	P	**P**	**20 43 08.1**	**+0.3**
WRAB	**Tennant Creek**	**23.68**	**233**	*d* iP	**P**	**20 43 07.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,113nm,1.7s						
WB2	**Warramunga Arr**	**23.68**	**232**	P	**P**	**20 43 07.6**	**-0.2**
WB2				IAmb	IAmb	20 43 09.4	
	comp=Z,209nm,1.8s						
WRA	**Warramunga Arr**	**23.69**	**233**	P	**P**	**20 43 07.5**	**-0.4**
	comp=Z,18nm,0.7s,baz=56,slow=9.9,SNR=60						
WRA				PcP	**PcP**	**20 46 52.2**	**+0.9**
	comp=Z,4.7nm,0.5s,baz=58,slow=2.6,SNR=12						
WRA				ScP	**ScP**	**20 50 27.9**	**+2.0**
	comp=Z,2.4nm,1.0s,baz=53,slow=3.0,SNR=5.7						
WRA				LR	LR	20 53 04.2	
	comp=Z,632nm,18.2s,baz=64,slow=38						
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**23.69**	**233**	P	**P**	**20 43 06.5**	**-1.4**
WRA	**Warramunga Arr**	**23.69**	**233**	*i* P	**P**	**20 43 07.5**	**-0.4**
WRA				pmax	pmax		
	comp=Z,19nm,0.7s						
AULRC	**Lightning Ridg**	**23.98**	**193**	P	**P**	**20 43 09.8**	**-0.6**
ARMA	**Armidale**	**24.36**	**185**	P	**P**	**20 43 12.7**	**-1.3**
ARMA				IAmb	IAmb	20 43 30.0	
	comp=Z,46nm,1.3s						
FUNA	**Funafuti**	**24.96**	**97**	P	**P**	**20 43 18.0**	**-1.6**
INKA	**Innaminka**	**25.05**	**209**	P	**P**	**20 43 20.5**	**+0.3**
AAI	**Ambon**	**25.96**	**274**	P	**P**	**20 43 28.5**	**-0.2**
	comp=Z,85nm,0.9s						
MSVF	**Nonsavu**	**26.07**	**119**	P	**P**	**20 43 30.1**	**+0.5**
	comp=Z,6.3nm,0.7s,baz=240,slow=20,SNR=4.8						
MSVF				LR	LR	20 53 05.0	
	comp=Z,1μm,19.4s,baz=299,slow=35						
	comp=Z,6.3nm,0.7s						
MSVF	**Nonsavu**	**26.07**	**119**	P	**P**	**20 43 29.1**	**-0.6**
MSVF	**Nonsavu**	**26.07**	**119**‖	*e*P	**P**	**20 43 29.7**	**0.0**
AS01	**Alice Springs**	**26.16**	**226**	P	**P**	**20 43 30.6**	**+0.2**
	comp=Z,44nm,1.0s						
AS31	**Alice Springs**	**26.20**	**226**	P	**P**	**20 43 30.2**	**-0.5**
ASAR	**Alice Springs**	**26.20**	**226**	P	**P**	**20 43 30.7**	**0.0**
	comp=Z,31nm,0.9s,baz=56,slow=8.9,SNR=66						
ASAR				PcP	**PcP**	**20 46 58.0**	**+1.1**
	comp=Z,4.5nm,0.5s,baz=46,slow=2.3,SNR=14						
ASAR				ScP	**ScP**	**20 50 35.2**	**+2.3**
	comp=Z,2.5nm,0.9s,baz=54,slow=3.4,SNR=6.5						
ASAR				LR	LR	20 54 21.2	
	comp=Z,562nm,19.1s,baz=64,slow=37						
	comp=Z,31nm,0.9s						
ASAR	**Alice Springs**	**26.20**	**226**	P	**P**	**20 43 30.4**	**-0.3**
ASAR					**PcP**	**20 46 56.9**	**0.0**
ASAR	**Alice Springs**	**26.20**	**226**	P	**P**	**20 43 30.4**	**-0.3**
CMSA	**Cobar Meteorol**	**26.57**	**196**	P	**P**	**20 43 33.8**	**-0.1**
	baz=26,SNR=16						
CMSA	**Cobar Meteorol**	**26.57**	**196**	P	**P**	**20 43 34.6**	**+0.7**
KNRA	**Kununurra**	**26.67**	**247**	P	**P**	**20 43 35.4**	**+0.4**
	baz=26,SNR=5.3						
KNRA	**Kununurra**	**26.67**	**247**	P	**P**	**20 43 35.1**	**0.0**
KNRA				IAmb	IAmb	20 43 36

comp=Z,77nm,0.8s
KUZ Kuaotunu 36.37 150 P **P** **20 45 03.6 +3.7**
comp=Z,25nm,1.1s
MBWA Marble Bar 36.55 242 P **P** **20 45 01.0 -0.8**
MBWA IAmb IAmb 20 45 36.1
comp=Z,26nm,1.4s
PSA00 Pilbara Seismi 36.59 242 P **P** **20 45 00.6 -1.5**
PSA00 Pilbara Seismi 36.59 242 P **P** **20 45 01.3 -0.8**
PSA00 IAmb IAmb 20 45 34.8
comp=Z,37nm,1.3s
TWSI Taliwang, Sumb 37.04 264 P **P** **20 45 05.0 -1.0**
comp=Z,34nm,0.9s
TAU Tasmania Unive 37.20 188 P **P** **20 45 06.6 -0.3**
TAU Tasmania Unive 37.20 188 P **P** **20 45 06.6 -0.3**
TAU pmax pmax
comp=Z,116nm,1.4s
OMRZ Omania 37.76 151 P **P** **20 45 12.5 +0.8**
URZ Urewera 38.24 150 P **P** **20 45 15.6 -0.2**
comp=Z,10nm,0.6s,baz=8.2,slow=3.3,SNR=23
comp=Z,10nm,0.6s
URZ Urewera 38.24 150 P **P** **20 45 17.0 +1.3**
RUGZ Raukumara Rang 38.30 149 P **P** **20 45 18.3 +1.9**
MXZ Matakaoa Point 38.31 148 P **P** **20 45 15.2 -1.2**
MXZ Matakaoa Point 38.31 148 P **P** **20 45 19.0 +2.6**
QRZ Quartz Range 38.34 157 P **P** **20 45 17.2 +0.6**
RTZ Ruatahuna 38.46 151 P **P** **20 45 17.1 -0.6**
RTZ IAmb IAmb 20 45 23.4
comp=Z,31nm,0.7s
MWZ Matawai 38.51 150 P **P** **20 45 20.2 +2.1**
TWGZ Tauwhareparae 38.61 149 P **P** **20 45 21.2 +2.2**
BKZ Black Stump Fm 38.66 152 P **P** **20 45 19.1 -0.2**
BKZ IAmb IAmb 20 45 25.4
comp=Z,52nm,1.4s
BKZ Black Stump Fm 38.66 152 P **P** **20 45 20.9 +1.6**
PUZ Puketiti 38.67 149 P **P** **20 45 20.0 +0.5**
RAHZ Arahi 38.74 151 P **P** **20 45 23.5 +3.4**
MRNZ Matariki Terra 38.92 158 P **P** **20 45 21.5 0.0**
CNGZ Carnagh Statio 38.96 149 P **P** **20 45 23.1 +1.3**
BBKI Banjar Baru 39.25 272 P **P** **20 45 25.8 +1.2**
comp=Z,45nm,1.2s,comp=Z,7µm
KMBL Kambalda 39.33 226 P **P** **20 45 25.0 0.0**
baz=39,SNR=6.9
KMBL Kambalda 39.33 226 P **P** **20 45 25.5 +0.5**
MEEK Meekatharra 39.55 235 P **P** **20 45 26.8 -0.2**
baz=39,SNR=6.7
BFZ Birch Farm 39.76 153 P **P** **20 45 28.2 -0.2**
BFZ IAmb IAmb 20 45 51.0
comp=Z,96nm,1.4s
RPZ Rata Peaks 40.36 161 LR LR 21 00 06.9
comp=Z,340nm,19.5s,baz=323,slow=33
JOW Kunigami 41.19 324 LR LR 20 59 14.6
comp=Z,162nm,21.5s,baz=126,slow=31
PWJI Pagerwojo 42.06 265 P **P** **20 45 47.3 -0.5**
comp=Z,34nm,1.5s
KLBR Kellerberrin 42.46 229 P **P** **20 45 50.3 -0.6**
baz=42,SNR=9.5
MORW Morawa 42.64 233 P **P** **20 45 52.2 -0.2**
baz=42,SNR=5.0
MORW Morawa 42.64 233 P **P** **20 45 50.7 -1.6**
MORW IAmb IAmb 20 46 00.5
comp=Z,37nm,1.2s
BLDU Ballidu 42.80 230 P **P** **20 45 53.2 -0.3**
baz=43,SNR=10
UGM Wanagama 43.33 265 P **P** **20 45 57.2 -0.9**
YULB Yu-li 43.42 314 P **P** **20 45 57.5 -1.2**
NWAO Narrogin (SRO) 43.50 227 LR LR 21 03 56.5
comp=Z,511nm,21.7s,slow=36
NWAO Narrogin (SRO) 43.50 227 P **P** **20 45 58.0 -1.2**
NWAO IAmb IAmb 20 46 22.7
comp=Z,79nm,1.8s
NWAO Narrogin (SRO) 43.50 227 P **P** **20 45 57.8 -1.4**
NWAO IAmb IAmb 20 46 22.7
comp=Z,68nm,1.9s
NWAO Narrogin (SRO) 43.50 227 P **P** **20 45 58.0 -1.2**
NWAO pmax pmax
comp=Z,79nm,1.8s
MUN Mundaring 43.81 229 P **P** **20 46 01.6 0.0**
baz=44,SNR=3.4
TPUB Ta-pu 43.85 313 P **P** **20 46 01.9 -0.3**
TPUB IAmb IAmb 20 46 46.0
comp=Z,107nm,1.4s
SSLB Suanglung 43.91 314 P **P** **20 46 04.4 +1.7**
SSLB IAmb IAmb 20 47 04.8
comp=Z,106nm,1.7s
YHNB Yeheng 44.17 315 P **P** **20 46 05.2 +0.5**
INU Inuyama 44.22 340 P **P** **20 46 05.5 +0.7**
JNU Nakatsue 44.78 332 P **P** **20 46 08.9 -0.6**
comp=Z,7.7nm,0.8s,baz=72,slow=9.7,SNR=6.1
JNU LR LR 21 01 48.3
comp=Z,58nm,18.4s,baz=164,slow=32
comp=Z,7.7nm,0.8s
JNU Nakatsue 44.78 332 P **P** **20 46 07.8 -1.7**
JNU IAmb IAmb 20 46 17.9
comp=Z,29nm,1.0s
MJAR Matsushiro Arr 44.92 342 LR LR 21 05 33.7
comp=Z,61nm,19.0s,baz=163,slow=37
MAJO Matsushiro 44.92 342↓ *e*P **P** **20 46 08.6 -1.9**
MAJO pmax pmax
comp=Z,78nm,2.9s
JHS Saijyo 45.39 336 P **P** **20 46 13.3 -0.9**
KNMB Chin-men Tao 46.19 312 P **P** **20 46 19.9 -0.7**
LEM Lembang 46.23 266 LR LR 21 10 00.9
comp=Z,88nm,19.8s,baz=105,slow=42
JTU Tsushima 46.63 332 P **P** **20 46 23.9 0.0**
RAR Rarotonga 47.05 113 LR LR 21 03 03.3
comp=Z,197nm,21.8s,baz=294,slow=32
RAR Rarotonga 47.05 113 P **P** **20 46 26.1 -1.5**
TJN Taejon 49.10 331 P P 20 46 49.7 +6.6
KSRS Korea Array 49.72 333 P **P** **20 46 47.8 +0.1**
comp=Z,1.5nm,0.8s,baz=156,slow=9.6,SNR=5.2
KSRS LR LR 21 04 48.1
comp=Z,36nm,21.5s,baz=150,slow=32
comp=Z,1.5nm,0.8s
NJ2 Nanjing 50.65 321 *e*P **P** **20 46 58.4 +3.5**
NJ2 pmax pmax
comp=Z,17nm,0.8s
JKA Kamikawa-asahi 51.01 349 P **P** **20 46 57.2 -0.2**
JKA IAmb IAmb 20 47 06.4
comp=Z,55nm,1.4s
ASAJ Asahikawa 51.01 349 P **P** **20 46 58.0 +0.7**
comp=Z,4.9nm,0.7s,baz=264,slow=11,SNR=4.1
ASAJ LR LR 21 05 59.2
comp=Z,117nm,21.8s,baz=160,slow=33
comp=Z,4.9nm,0.7s
ASAJ Asahikawa 51.01 349 P **P** **20 46 57.2 -0.2**
ASAJ pmax pmax
comp=Z,55nm,1.4s
WHN Wuhan 52.68 316⇑P P 20 47 19.6 +10
YSS Yuzh-Sakhalins 53.73 350 *e*P P 20 47 22.6 +5.1
YSS pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 53.86 340 P **P** **20 47 18.6 +0.1**
USA0B IAmb IAmb 20 48 11.2
comp=Z,61nm,1.9s
USA0B Ussuriysk Arra 53.86 340 P **P** **20 47 18.6 +0.1**
USA0B pmax pmax
comp=Z,61nm,1.9s
USRK Ussuriysk Ar. 53.86 340 P **P** **20 47 18.5 0.0**
comp=Z,1.7nm,0.8s,baz=156,slow=3.8,SNR=2.6
USRK LR LR 21 10 02.9
comp=Z,61nm,18.3s,baz=137,slow=36
comp=Z,1.7nm,0.8s
USRK Ussuriysk Ar. 53.86 340 P **P** **20 47 18.6 +0.1**
USRK Ussuriysk Ar. 53.86 340 P **P** **20 47 18.6 +0.1**
KULM Kulim 54.59 281 P **P** **20 47 24.6 +0.2**
KULM IAmb IAmb 20 49 26.4
comp=Z,76nm,1.8s
NONG Nongkai 55.73 297 P **P** **20 47 34.6 +2.1**
comp=Z,25nm,1.3s
PSI Prapat 55.84 277 LR LR 21 13 44.3
comp=Z,93nm,21.7s,baz=84,slow=38
ENH Enshi 55.98 313 P **P** **20 47 34.4 +0.2**
ENH Enshi 55.98 313 P **P** **20 47 36.9 +2.7**
ENH Enshi 55.98 313 P **P** **20 47 34.8 +0.6**
ENH pP **pP** **20 47 43.4 -3.1**
CN2 Changchun 55.98 335 *e*P **P** **20 47 38.6 +4.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
PPT Papeete 56.07 107 LR LR 21 06 58.7
comp=Z,90nm,20.7s,baz=288,slow=31
PPT2 Papeete2 56.08 107 *e*S **S** **20 55 23.0 +2.1**
comp=Z,120nm,25.0s
PPT2 *e*SS **SS** **20 59 11.1 +3.3**
comp=Z,84nm,24.5s
PPT2 *e*LR LR 21 03 59.8
comp=Z,190nm,28.2s
PPT2 *e*LR LR 21 03 59.9
comp=Z,241nm,26.2s
NAYO Nakonayok 56.17 292 P **P** **20 47 38.2 +2.5**
comp=Z,238nm,0.9s
LYN LuoYang 56.36 319⇑ *i*P P 20 47 45.3 +8.6
LYN pmax pmax
comp=Z,10.0nm,1.3s
HNS HongShan 56.75 323⇑P P 20 47 48.1 +8.7
HNS pmax pmax
comp=Z,16nm,0.9s
TBI Tubuai 56.83 114 *e*LR LR 21 04 19.8
comp=Z,3µm,27.2s
TBI *e*LR LR 21 04 20.2
comp=Z,10µm,24.5s
GSI Gunungsitoli 56.95 275 P **P** **20 47 40.9 -0.5**
GSI IAmb IAmb 20 47 46.0
comp=Z,11nm,0.8s
BJT Baijiatuan 57.66 326 P P 20 47 54.4 +8.6
KLR Kul'dur 58.42 343 P **P** **20 47 50.9 -0.1**
comp=Z,2.1nm,0.9s,baz=208,slow=3.6,SNR=4.3
KLR LR LR 21 10 45.2
comp=Z,78nm,21.6s,baz=150,slow=34
comp=Z,2.1nm,0.9s
KLR Kul'dur 58.42 343⇑ *e*P **P** **20 47 50.4 -0.6**
KLR pmax pmax
comp=Z,11nm,1.0s
XAN Xi'an 58.45 316 P **P** **20 47 52.1 +0.6**
XAN pmax pmax
comp=Z,42nm,1.0s
XAN pmax pmax
comp=Z,190nm,4.5s
XAN Xi'an 58.45 316 P **P** **20 47 51.7 +0.2**
XAN pP **pP** **20 48 00.2 -4.2**
PHRA Phrae 58.48 296 P **P** **20 47 53.0 +1.0**
KMI Kunming 58.79 304⇑P **P** **20 47 56.8 +2.5**
KMI pP pP 20 48 04.3 -1.9
KMI sP sP 20 48 08.8 -2.3
KMI pmax pmax
comp=Z,11nm,1.3s
KMI LR LR
comp=Z,190nm,19.5s
KMI LR LR
comp=Z,260nm,25.6s
KMI LR LR
comp=Z,220nm,24.4s
CRAI Chiangrai 58.94 298 P **P** **20 47 56.3 +1.1**
CRAI IAmb IAmb 20 48 06.3
comp=Z,17nm,1.2s
PETK Petropavlovsk- 59.01 2 P **P** **20 47 55.2 +0.2**
comp=Z,0.8nm,0.6s,baz=166,slow=7.2,SNR=1.7
PETK LR LR 21 10 04.2
comp=Z,114nm,20.8s,baz=177,slow=33
comp=Z,0.8nm,0.6s
CM31 Chiang Mai Arr 59.62 295 P **P** **20 48 01.6 +1.7**
CM31 IAmb IAmb 20 48 03.6
comp=Z,19nm,1.2s
CMAR Chiang Mai Arr 59.62 295 P **P** **20 48 01.5 +1.6**
comp=Z,6.5nm,1.0s,baz=113,slow=5.1,SNR=36
CMAR LR LR 21 11 60.0
comp=Z,71nm,21.9s,baz=110,slow=34
comp=Z,6.5nm,1.0s
CMAR Chiang Mai Arr 59.62 295 P **P** **20 47 59.9 0.0**
CMAR Chiang Mai Arr 59.62 295 *ce*P **P** **20 48 02.2 +2.3**
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 59.73 296 P **P** **20 48 01.9 +1.2**
CHTO IAmb IAmb 20 48 04.0
comp=Z,12nm,1.1s
CHTO Chiang Mai 59.73 296 P **P** **20 48 01.9 +1.2**
CHTO pmax pmax
comp=Z,12nm,1.2s
PZH PanZhiHua 60.18 305 P **P** **20 48 06.6 +2.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,150nm,6.1s
XLT XiLinHaoTe 60.42 329 *e*P **P** **20 48 04.8 -0.2**
XLT pP pP 20 48 14.8 -2.9
XLT sP pwP 20 48 19.8 -1.2
XLT ScP **ScP** **20 52 49.5 +2.5**
XLT pmax pmax
comp=Z,16nm,0.8s
XLT pmax pmax
comp=Z,54nm,7.4s
CD2 Chengdu 60.56 311 P **P** **20 48 07.5 +1.3**
CD2 pP pP 20 48 15.5 -2.4
CD2 sP pwP 20 48 19.6 -5.6
CD2 pmax pmax
comp=Z,60nm,0.8s
HEH HeiHe 60.66 341 *e*P **P** **20 48 05.5 -0.9**
HEH pmax pmax
comp=Z,3.0nm,0.8s
HEH pmax pmax
comp=Z,340nm,5.3s
HHC Hu-ho-hao-te 60.84 324 *e*P **P** **20 48 12.0 +4.0**
HHC pmax pmax
comp=Z,12nm,0.9s
SHEM Shemya Is, Ala 60.96 14 LR LR 21 10 39.8
comp=Z,287nm,20.5s,baz=196,slow=32
DRV Dumont d'Urvil 61.30 186 P **P** **20 48 11.3 +0.8**
DRV sP **pP** **20 48 23.9 +1.7**
TNCH TengChong 62.27 302 P **P** **20 48 19.9 +1.9**
TNCH pP pP 20 48 29.0 -1.0
TNCH sP sP 20 48 32.3 -2.6
TNCH pmax pmax
comp=Z,7.0nm,2.5s
TNCH pmax pmax
comp=Z,68nm,3.7s
HIA Hailar 62.72 335 P **P** **20 48 20.2 -0.1**
HIA IAmb IAmb 20 48 29.6
comp=Z,9.9nm,0.9s
HIA Hailar 62.72 335 P **P** **20 48 20.2 -0.1**
HIA pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 63.05 316⇑P **P** **20 48 24.8 +1.8**
LZH pP pP 20 48 32.3 -3.7
LZH pmax pmax
comp=Z,17nm,1.4s
ZEA Zeya 63.72 343 *e*P **P** **20 48 27.7 +0.9**
ZEA *e* 20 49 10.4
ZEA pmax pmax
comp=Z,10.0nm,0.7s
TAOE Nuku Hiva Isla 65.14 97 *e*LR LR 21 08 11.9
comp=Z,281nm,23.9s
MA2 Magadan 65.47 358 LR LR 21 15 32.1
comp=Z,42nm,20.3s,baz=182,slow=34
MA2 Magadan 65.47 358⇑ *e*P **P** **20 48 40.9 +2.8**
MA2 Magadan 65.47 358 P **P** **20 48 37.6 -0.5**
BRDH Bariadhala 67.42 297 LR LR 21 19 02.3
comp=Z,59nm,19.9s,baz=5.0,slow=36
GTA Gaotai 67.48 317 *e*P **P** **20 48 53.0 +1.4**
GTA pP pP 20 49 01.5 -3.1
GTA sP pwP 20 49 04.8 -2.4
GTA pmax pmax
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 67.76 328 P **P** **20 48 53.3 +0.1**
ULN Ulaanbaatar 67.76 328 *i*P **P** **20 48 53.5 +0.3**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 67.76 328 P **P** **20 48 54.1 +0.9**
ULN pP **pP** **20 49 02.6 -3.5**
SONM Songino Array 68.09 327 P **P** **20 48 55.6 +0.4**
comp=Z,1.3nm,0.6s,baz=149,slow=6.0,SNR=11
comp=Z,1.3nm,0.6s
SONM Songino Array 68.09 327 P **P** **20 48 55.6 +0.4**
SONM Songino Array 68.09 327 P **P** **20 48 55.6 +0.4**
SONM pmax pmax
comp=Z,18nm,1.8s
SHL Shillong 68.09 300 P **P** **20 48 56.4 +0.6**
SHL IAmb IAmb 20 49 30.9
comp=Z,14nm,0.9s
SHL Shillong 68.09 300 P **P** **20 48 56.4 +0.6**
SHL pmax pmax
comp=Z,14nm,0.9s
GOMU GeErMu 69.59 312 P P 20 49 11.8 +6.7
GOMU pP pP 20 49 16.0 -1.8
GOMU sS sS 20 58 33.5 +1.8
GOMU pmax pmax
comp=Z,49nm,3.8s
GOMU LR LR
comp=Z,110nm,16.6s
GOMU LR LR
comp=Z,210nm,19.0s
GOMU LR LR
comp=Z,250nm,20.0s
LSA Lhasa 70.05 304 P **P** **20 49 09.3 +1.1**
LSA Lhasa 70.05 304 P **P** **20 49 09.3 +1.1**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 70.05 304 P **P** **20 49 09.9 +1.8**
LSA pP **pP** **20 49 18.4 -2.6**
YAK Yakutsk 70.46 348 P **P** **20 49 09.1 -0.3**
YAK Yakutsk 70.46 348 *e*P **P** **20 49 08.8 -0.6**
YAK pmax pmax
comp=Z,8.0nm,1.2s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.1s
CCD Concordia, Ant 71.22 188 P **P** **20 49 15.0 +0.6**
CCD sP **pP** **20 49 28.4 +2.0**
ZAK Zakamensk 71.25 328 *e*P **P** **20 49 14.9 +0.3**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 71.55 178 P **P** **20 49 16.4 +0.5**
comp=Z,2.7nm,0.9s,baz=333,slow=8.0,SNR=9.6
comp=Z,2.7nm,0.9s
VNDA Vanda 71.55 178 P **P** **20 49 16.3 +0.5**
VNDA IAmb IAmb 20 50 33.4
comp=Z,24nm,1.7s
VNDA Vanda 71.55 178 P **P** **20 49 16.3 +0.5**
VNDA pmax pmax
comp=Z,24nm,1.7s
VNDA Vanda 71.55 178 P **P** **20 49 16.5 +0.7**
VNDA pP **pP** **20 49 26.3 -1.4**
VNDA sP **sP** **20 49 30.5 -1.9**
TAPN Taplejung 72.20 301 *e*P **P** **20 49 19.9 -1.1**
MOY Mondy 73.17 329 *e*P P 20 49 31.9 +5.8
JIRN Jiri 73.58 301 *e*P **P** **20 49 29.7 +0.4**
comp=Z,0.9nm,0.2s
GUN Gumba 73.91 301 *e*P **P** **20 49 31.9 +0.7**
PKI Pulchoki 74.22 301 *e*P **P** **20 49 33.7 +0.7**
comp=Z,2.8nm,0.3s
PKIN Phulchoki 74.23 301 *e*P **P** **20 49 33.8 +0.8**
comp=Z,2.4nm,0.3s
BILL Bilibino 74.41 5 *e*P **P** **20 49 31.7 -1.1**
BILL *e* 20 49 47.3
BILL *e* 20 52 20.8
BILL pmax pmax
comp=Z,8.0nm,1.0s
R16K Pilot Point 74.42 25 P P 20 49 37.9 +4.9
baz=230
R17K Ugashik Creek 74.97 25 P **P** **20 49 40.8 +4.6**
baz=231
GKN Gorkha 75.00 301 *e*P **P** **20 49 38.3 +1.0**
Q17K Contact Creek 75.56 25 P **P** **20 49 42.7 +2.8**
baz=232
DANN Dangsing 75.83 301 *e*P **P** **20 49 42.6 +0.3**
Q18K Katmai Hardscr 76.16 25 P **P** **20 49 46.1 +2.8**
baz=232
P18K Big Mountain, 76.53 24 P **P** **20 49 45.0 -0.2**
ANM Nome 76.57 17 P **P** **20 49 45.6 +0.3**
ANM Nome 76.57 17 P **P** **20 49 45.6 +0.3**
ANM pmax pmax
comp=Z,11nm,1.3s
KDAK Kodiak Island 76.69 26 P **P** **20 49 47.1 +1.0**
KDAK Kodiak Island 76.69 26 P **P** **20 49 47.1 +1.0**
KDAK pmax pmax
comp=Z,218nm,2.0s
Q18K Koktuh Hills 76.82 24 P **P** **20 49 46.9 +0.1**
SVW2 Sparrevohn 77.45 23 P **P** **20 49 51.0 +0.6**
SVW2 IAmb IAmb 20 52 00.8
comp=Z,47nm,1.7s
WMQ Urumqi 77.56 317 *e*P **P** **20 49 52.8 +1.4**
WMQ PcP **PcP** **20 50 02.8 +1.3**
WMQ pP pwP 20 50 07.1 -1.8
WMQ sP sP 20 50 09.1 -0.1
WMQ pmax pmax
comp=Z,12nm,1.3s
WMQ LR LR
comp=Z,120nm,19.5s
RSO Redoubt South 78.17 24 P **P** **20 49 57.5 +2.9**
CNPM China Poot 78.26 25 P **P** **20 49 54.4 -0.4**
L19K White Mountain 78.39 22 P **P** **20 49 55.7 +0.1**
L19K IAmb IAmb 20 50 25.6
comp=Z,17nm,1.1s
TTA Tatalina 78.44 21 P **P** **20 49 55.8 -0.1**
TTA Tatalina 78.44 21 P **P** **20 49 55.8 -0.1**
TTA pmax pmax
comp=Z,12nm,1.2s
BRLK Bradley Lake 78.54 25 P **P** **20 49 59.7 +3.3**
M20K Styx River 78.86 23 P **P** **20 49 58.0 -0.2**
M20K IAmb IAmb 20 50 28.1
comp=Z,30nm,1.5s
K20K Telida 79.40 21 P **P** **20 50 01.2 +0.1**
SUA Susitna One 79.55 24 P **P** **20 50 00.7 -1.3**
SUA IAmb IAmb 20 50 08.6
comp=Z,94nm,2.0s
SUA Susitna One 79.55 24 P P 20 50 06.9 +4.9
baz=236
DGZ Jazzator, Alta 79.88 323↓ *e*P **P** **20 50 04.7 +0.5**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
CAST Castle Rocks 80.15 22 P **P** **20 50 04.4 -0.7**
CAST Castle Rocks 80.15 22 P **P** **20 50 08.6 +3.4**
baz=234
SML Sawmill 80.70 24 P **P** **20 50 07.1 -1.0**
SML IAmb IAmb 20 50 35.4
comp=Z,41nm,1.3s
TRF Thorofare Moun 80.84 22 P **P** **20 50 08.0 -1.0**
TRF IAmb IAmb 20 51 41.4
comp=Z,53nm,1.9s
WAT1 Susitna Watana 81.16 23 P **P** **20 50 14.7 +4.1**
baz=238
MCK McKinley 81.50 22 P **P** **20 50 10.7 -1.6**
MCK IAmb IAmb 20 50 19.6
comp=Z,11nm,0.8s
MCK McKinley 81.50 22 P **P** **20 50 16.2 +3.9**
baz=237
MCK McKinley 81.50 22 P **P** **20 50 10.7 -1.6**
MCK pmax pmax
comp=Z,11nm,0.8s
KLU Klutina 81.53 25 P **P** **20 50 11.9 -0.7**
M24K Tolsona, Glenn 81.73 24 P **P** **20 50 13.1 -0.6**
DHY Denali Highway 81.75 23 P **P** **20 50 14.0 +0.2**
DHY IAmb IAmb 20 50 45.7
comp=Z,57nm,2.0s
NEA2 Nenana 81.92 21 P **P** **20 50 19.0 +4.6**
baz=237
I23K Minto, Yukon-K 82.11 21 P **P** **20 50 16.5 +1.1**
I23K IAmb IAmb 20 52 17.0
comp=Z,24nm,1.8s
MK31 Makanchi Array 82.14 319 P **P** **20 50 16.1 0.0**
MK31 Makanchi Array 82.14 319 *d*iP **P** **20 50 16.9 +0.8**
MKAR Makanchi Array 82.14 319 P **P** **20 50 16.2 +0.2**
comp=Z,1.2nm,0.5s,baz=91,slow=9.2,SNR=22
MKAR LR LR 21 28 12.0
comp=Z,89nm,19.0s,baz=126,slow=37
comp=Z,1.2nm,0.5s
MKAR Makanchi Array 82.14 319 P **P** **20 50 15.6 -0.5**
MAKZ Makanchi 82.35 319 P **P** **20 50 16.7 -0.5**
MAKZ Makanchi 82.35 319 P **P** **20 50 16.7 -0.5**
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
CCB Clear Creek Bu 82.41 22 P **P** **20 50 16.1 -0.9**
COLA College 82.51 21⇑ *e*P **P** **20 50 20.8 +3.3**
COLA pmax pmax
comp=Z,7.0nm,0.8s
IL31 82.81 22 P **P** **20 50 17.6 -1.4**
IL31 IAmb IAmb 20 51 35.0
comp=Z,19nm,1.6s
ILAR Eielson Array 82.81 22 P **P** **20 50 17.4 -1.7**
comp=Z,1.1nm,0.9s,baz=250,slow=4.9,SNR=13
comp=Z,1.1nm,0.9s
ZALV Zalesovo Beam 82.93 326 P **P** **20 50 19.1 -0.8**
comp=Z,0.8nm,0.4s,baz=123,slow=5.5,SNR=5.1
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 82.93 326 P **P** **20 50 18.7 -1.3**
ZALV Zalesovo Beam 82.93 326 *i*P **P** **20 50 19.6 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
H24K Noodor Dome 83.01 21 P **P** **20 50 19.3 -0.9**
H24K IAmb IAmb 20 50 40.7
comp=Z,21nm,1.9s
M27K Edge Creek, AK 83.63 25 P **P** **20 50 23.3 -0.3**
M27K IAmb IAmb 20 51 18.9
comp=Z,30nm,1.4s
QSPA South Pole Qui 83.92 180 P **P** **20 50 25.5 +0.5**
comp=Z,12nm,0.9s,baz=341,slow=2.1,SNR=23
comp=Z,12nm,0.9s

QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**20 50 25.0**	**0.0**
QSPA				IAmb	IAmb	20 50 44.2	
	comp=Z,32nm,1.0s						
J26L	**Joseph Creek**	**83.92**	**23**	P	**P**	**20 50 25.0**	**0.0**
J26L				IAmb	IAmb	20 50 48.2	
	comp=Z,32nm,1.8s						
L27K	**Beaver Creek,**	**83.96**	**24**	P	P	20 50 30.7	+5.6
	baz=244						
BCAR	**Beaver Creek A**	**83.98**	**24**	P	**P**	**20 50 24.8**	**-0.4**
KSH	**Kashi**	**84.76**	**311**	P	**P**	**20 50 32.8**	**+3.0**
KSH				pP	pP	20 50 41.3	-1.5
KSH				pmax	pmax		
	comp=Z,12nm,1.2s						
HYT	**Haines Junctio**	**84.92**	**27**	P	**P**	**20 50 28.7**	**-1.4**
HYT				IAmb	IAmb	20 50 37.9	
	comp=Z,15nm,0.8s						
HYT	**Haines Junctio**	**84.92**	**27**	P	P	20 50 36.0	+5.8
	baz=248						
MAW	**Mawson**	**84.94**	**203**	LR	LR	21 24 55.8	
	comp=Z,78nm,21.2s,baz=101,slow=33						
MAW	**Mawson**	**84.94**	**203**	P	**P**	**20 50 30.8**	**+0.8**
MAW				IAmb	IAmb	20 50 56.7	
	comp=Z,30nm,1.4s						
MAW	**Mawson**	**84.94**	**203**	P	**P**	**20 50 30.8**	**+0.8**
MAW				pmax	pmax		
	comp=Z,31nm,1.4s						
G26K	**Porcupine Rive**	**84.99**	**20**	P	P	20 50 35.2	+5.0
	baz=242						
DAWY	**Dawson**	**85.37**	**24**	P	P	20 50 37.1	+4.9
	baz=246						
R32K	**Eaglecrest**	**85.45**	**30**	P	P	20 50 37.7	+5.1
	baz=251						
KURK	**Kurchatov**	**85.57**	**322**⇓	*e*P	**P**	**20 50 34.9**	**+1.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
I29M	**Ogilvie Camp,**	**86.32**	**23**	P	**P**	**20 50 41.5**	**+4.6**
	baz=247						
AAK	**Ala-Archa**	**86.49**	**313**	LR	LR	21 29 26.4	
	comp=Z,113nm,21.5s,baz=79,slow=36						
AAK	**Ala-Archa**	**86.49**	**313**	P	**P**	**20 50 38.2**	**-0.3**
AAK	**Ala-Archa**	**86.49**	**313**⇑	*e*P	**P**	**20 50 40.2**	**+1.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
M31M	**Drury Creek, Y**	**86.80**	**26**	P	P	20 50 44.1	+4.8
	baz=251						
S34M	**Telegraph Cree**	**87.05**	**31**	P	P	20 50 45.6	+5.1
	baz=254						
N32M	**Quiet Lake**	**87.06**	**28**	P	P	20 50 46.5	+5.9
	baz=252						
BBB	**Bella Bella**	**87.27**	**37**	LR	LR	21 23 13.4	
	comp=Z,148nm,19.7s,baz=255,slow=31						
NRIK	**Noril'sk**	**87.57**	**341**	P	**P**	**20 50 43.0**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=113,slow=4.3,SNR=5.6						
	comp=Z,2.4nm,0.5s						
NRIK	**Noril'sk**	**87.57**	**341**⇑	*e*P	**P**	**20 50 45.8**	**+3.0**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DLBC	**Dease Lake**	**87.76**	**31**	LR	LR	21 28 04.2	
	comp=Z,107nm,18.2s,baz=276,slow=34						
YBH	**Yreka Blue Hor**	**88.88**	**48**	LR	LR	21 23 09.1	
	comp=Z,350nm,21.8s,baz=276,slow=30						
GAR	**Garm**	**88.99**	**309**	P	**P**	**20 50 50.0**	**-0.4**
GAR				IAmb	IAmb	20 50 59.9	
	comp=Z,24nm,1.4s						
INK	**Inuvik**	**89.13**	**21**	P	**P**	**20 50 50.5**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=206,slow=3.1,SNR=4.1						
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**89.13**	**21**	P	**P**	**20 50 54.4**	**+4.2**
	baz=251						
KKAR	**Karatay Array**	**89.46**	**313**	P	**P**	**20 50 52.2**	**-0.2**
KKAR	**Karatay Array**	**89.46**	**313**	P	**P**	**20 50 52.2**	**-0.2**
CHGR	**Chuyangaron**	**89.83**	**309**	P	**P**	**20 50 53.6**	**-0.8**
CHGR				IAmb	IAmb	20 51 31.9	
	comp=Z,13nm,1.1s						
CHGR	**Chuyangaron**	**89.83**	**309**	P	**P**	**20 50 53.6**	**-0.8**
CHGR				pmax	pmax		
	comp=Z,13nm,1.1s						
BVAR	**Borovoye Array**	**91.04**	**323**	LR	LR	21 31 07.8	
	comp=Z,60nm,21.7s,baz=80,slow=35						
NVAR	**Mina Array Bea**	**91.80**	**52**	P	**P**	**20 51 03.7**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=268,slow=5.2,SNR=6.5						
	comp=Z,1.9nm,1.0s						
PFO	**Pinyon Flats O**	**92.80**	**57**	P	P	20 51 14.7	+6.5
	comp=Z,5.1nm,0.8s,baz=274,slow=5.6,SNR=5.4						
PFO				LR	LR	21 29 44.4	
	comp=Z,236nm,18.3s,baz=255,slow=34						
RPN	**Rapa Nui**	**93.05**	**118**	LR	LR	21 24 49.5	
	comp=Z,118nm,21.7s,baz=224,slow=30						
NEW	**Newport**	**93.62**	**42**	LR	LR	21 30 52.7	
	comp=Z,402nm,18.4s,baz=243,slow=34						
ELK	**Elko**	**94.36**	**50**	LR	LR	21 26 56.1	
	comp=Z,144nm,21.0s,baz=260,slow=31						
SPR3	**Spring Creek 3**	**94.94**	**51**	P	**P**	**20 51 18.7**	**+0.5**
YKA	**Yellowknife Ar**	**95.90**	**28**	P	**P**	**20 51 21.8**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=266,slow=4.6,SNR=5.7						
	comp=Z,1.1nm,1.0s						
ELIB	**Princess Elisa**	**95.92**	**194**	*d*P	**P**	**20 51 22.0**	**+0.2**
LPIG	**La Paz**	**97.48**	**67**	LR	LR	21 31 46.9	
	comp=Z,178nm,18.4s,baz=234,slow=33						
ARU	**Arti**	**98.09**	**326**	LR	LR	21 38 49.9	
	comp=Z,30nm,19.3s,baz=46,slow=37						
GEYT	**Alibeck**	**98.44**	**307**	LR	LR	21 35 49.6	
	comp=Z,50nm,22.0s,baz=86,slow=35						
AKTO	**Aktyubinsk**	**98.53**	**320**	LR	LR	21 35 47.1	
	comp=Z,47nm,21.7s,baz=5.5,slow=35						
PDAR	**Pinedale Array**	**98.69**	**48**	LR	LR	21 29 17.9	
	comp=Z,174nm,21.7s,baz=280,slow=31						
OBN	**Obninsk**	**110.50**	**327**	*i* PKIKP	**PKiKP**	**20 56 27.6**	**+0.3**
OBN				*e*		20 57 03.6	
OBN				*e*PPP	PPP	20 59 23.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
Y49A	**Blount Mountai**	**117.70**	**55**		**PKPdf**	**20 56 39.3**	**-2.5**
PLCA	**Paso Flores**	**117.98**	**143**	PKP	**PKPdf**	**20 56 42.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=288,slow=4.2,SNR=5.2						
KLNR	**Kaliningrad**	**119.12**	**331**⇓	*i* PKIKP	**PKiKP**	**20 56 46.6**	**+2.7**
BOSA	**Boshof**	**119.94**	**232**	PKP	**PKiKP**	**20 56 46.6**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=148,slow=2.2,SNR=10						
JSC	**Jenkinsville**	**121.75**	**53**		**PKPdf**	**20 56 48.4**	**-1.1**
JSC	**Jenkinsville**	**121.75**	**53**	PKIKP	**PKPdf**	**20 56 48.4**	**-1.1**
CLL	**Collm**	**124.58**	**331**	*e*PKPdf	**PKiKP**	**20 56 55.0**	**+0.2**
CLL	**Collm**	**124.58**	**331**	*e*PKIKP	**PKiKP**	**20 56 55.0**	**+0.2**
GERES	**GERESS Array B**	**125.81**	**329**	PKP	**PKiKP**	**20 56 59.2**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=79,slow=2.1,SNR=1.4						
LPAZ	**La Paz**	**132.65**	**119**	PKP	**PKPdf**	**20 57 10.9**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=352,slow=0.6,SNR=6.1						
LPAZ	**La Paz**	**132.65**	**119**		**PKPdf**	**20 57 10.2**	**-1.4**
LPAZ	**La Paz**	**132.65**	**119**	PKIKP	**PKPdf**	**20 57 10.2**	**-1.4**
SDV	**Santo Domingo**	**135.53**	**84**	PKP	**PKPdf**	**20 57 16.0**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=219,slow=6.5,SNR=1.8						
CPUP	**Villa Florida**	**135.64**	**138**	PKP	**PKPdf**	**20 57 16.1**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=262,slow=3.3,SNR=4.1						
MACA	**Manacapuru-AM**	**144.03**	**104**		**PKPab**	**20 57 28.1**	**-1.1**
BOAV	**Boa Vista**	**145.24**	**94**		**PKPbc**	**20 57 30.9**	**-2.7**
BDFB	**Brasilia**	**149.24**	**135**	PKPbc	**PKPdf**	**20 57 42.4**	**+1.9**
	comp=Z,3.8nm,0.5s,baz=171,slow=0.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**151.96**	**287**	PKPbc	**PKPbc**	**20 57 51.0**	**-0.2**
	comp=Z,3.9nm,0.4s,baz=34,slow=3.1,SNR=69						
TORD				PKPab	**PKPab**	**20 57 59.7**	**-0.9**
	comp=Z,14nm,0.9s,baz=70,slow=3.3,SNR=21						
TORD	**Torodi Ar. Bea**	**151.96**	**287**	PKPdf	**PKPdf**	**20 57 43.7**	**-1.0**
TORD					**PKPbc**	**20 57 50.1**	**-1.1**

IDC ***24*** *20:40:10.0±5.0,22.˚91N×121.˚67E,h0km,mb3.6/3, mbtmp3.7/5,ML3.3/2,Error ellipse: s-maj=110.6km s-min=37.7km az=176.0*
JMA ***24*** *20:40:20.0±0.1,23.˚9N±0.˚6×121.˚6E±0.˚7,h38km,MV3.5/15, TAIWAN REGION*
TAP ***24*** *20:40:21.7,23.˚99N×121.˚66E,h40km,ML3.8,B*
ISC 24 20:40:21.9±0.8,23˚98N±0.˚02×121˚68E±0.˚02,h33km±2km, n162,σ0s85/263,mb3.5/3,8C-29D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.07**	**264**⇑	*i* P	**Pb**	**20 40 28.6**	**+1.0**
	baz=258						
HWA				*e*S	**Sb**	**20 40 33.7**	**+2.3**
	baz=258						
TWD	**Chiawan**	**0.12**	**322**⇑	*i* P	**Pb**	**20 40 28.5**	**+0.7**
	baz=319						
TWD				S	**Sb**	**20 40 33.3**	**+1.3**
	baz=319						
TEYL	**Yanliau Villag**	**0.14**	**212**⇑	*i* P	**Pb**	**20 40 28.7**	**+0.7**
	baz=214						
TEYL				*e*S	**Sb**	**20 40 34.0**	**+2.0**
	baz=214						
ETM	**Tongmen**	**0.17**	**264**⇑	*i* P	**Pb**	**20 40 28.6**	**+0.3**
	baz=263						
ETM				*e*S	**Sb**	**20 40 33.3**	**+0.7**
	baz=263						
ETL	**Fush Village**	**0.18**	**344**⇑	P	**Pb**	**20 40 28.9**	**+0.4**
	baz=338						
ETL				*e*S	**Sb**	**20 40 33.8**	**+0.9**
	baz=338						
NACB	**Ninganchiao**	**0.20**	**338**	P	**Pb**	**20 40 29.0**	**+0.4**
NACB	**Ninganchiao**	**0.20**	**338**⇑	*i* P	**Pn**	**20 40 28.9**	**+1.1**
	baz=332						
NACB				*i* S	**Sb**	**20 40 33.9**	**+0.8**
	baz=332						
ESL	**Shilin**	**0.28**	**233**⇑	*i* P	**Pn**	**20 40 29.4**	**-0.1**
	baz=238						
ESL				*e*S	**Sn**	**20 40 34.6**	**+0.8**
	baz=238						
ETLH	**Xiulin Townshi**	**0.28**	**321**	*e*P	**Pn**	**20 40 29.6**	**0.0**
	baz=318						
ETLH				S	**Sn**	**20 40 34.9**	**+0.8**
	baz=318						
TEGC	**Jichi Village**	**0.30**	**205**	*e*P	**Pn**	**20 40 30.3**	**+0.5**
	baz=194						
TEGC				*e*S	**Sb**	**20 40 37.5**	**+2.5**
	baz=194						
EHP	**Heping Village**	**0.33**	**10**	*e*P	**Pb**	**20 40 30.2**	**+0.1**
	baz=21						
EHP				*e*S	**Sb**	**20 40 37.0**	**+1.4**
	baz=21						
EGFH	**Guangfu**	**0.39**	**216**⇑	P	**Pb**	**20 40 30.6**	**-0.3**
	baz=224						
EGFH				*e*S	**Sb**	**20 40 37.0**	**0.0**
	baz=224						
WHF	**Hehuan Shan**	**0.41**	**293**⇓	*i* P	**Pb**	**20 40 31.4**	**-0.2**
	baz=290						
WHF				*e*S	**Sb**	**20 40 37.9**	**-0.2**
	baz=290						
ENA	**Nanau**	**0.45**	**8**	*e*P	**Pb**	**20 40 31.7**	**0.0**
	baz=17						
ENA				*e*S	**Sb**	**20 40 39.2**	**+0.8**
	baz=17						
OWD	**Renai**	**0.46**	**266**	⇓P	**Pb**	**20 40 32.0**	**0.0**
	baz=270						
OWD				*e*S	**Sb**	**20 40 38.4**	**-0.6**
	baz=270						
CHGB	**Renai**	**0.47**	**279**⇓	*i* P	**Pb**	**20 40 32.2**	**+0.1**
	baz=276						
CHGB				*e*S	**Sb**	**20 40 38.5**	**-0.8**
	baz=276						
EWUT	**Wuta**	**0.47**	**11**	*e*P	**Pb**	**20 40 32.1**	**+0.1**
	baz=19						
EWUT				*e*S	**Sb**	**20 40 39.8**	**+0.8**
	baz=19						
FUSS	**Fushou**	**0.47**	**304**⇓	*e*P	**Pb**	**20 40 32.4**	**+0.1**
	baz=308						
WUSB	**Renai**	**0.51**	**271**⇓	*i* P	**Pn**	**20 40 32.9**	**-0.1**
	baz=274						
WUSB				S	**Sb**	**20 40 39.9**	**-0.4**
	baz=274						
NNSB	**Datong**	**0.52**	**329**⇓	*i* P	**Pn**	**20 40 32.8**	**-0.3**
	baz=327						
NNSB				*e*S	**Sb**	**20 40 40.4**	**-0.1**
	baz=327						
NNSH	**Datong**	**0.52**	**329**⇓	*i* P	**Pn**	**20 40 32.7**	**-0.3**
	baz=329						
NNSH				*e*S	**Sb**	**20 40 40.3**	**-0.2**
	baz=329						
TWT	**Tachien**	**0.53**	**300**⇓	*i* P	**Pn**	**20 40 33.4**	**+0.1**
	baz=300						
TWT				S	**Sb**	**20 40 41.0**	**+0.2**
	baz=300						
NNS	**Nan Shan**	**0.53**	**329**⇓	*i* P	**Pn**	**20 40 33.0**	**-0.3**
	baz=330						
NNS				*e*S	**Sb**	**20 40 40.7**	**-0.1**
	baz=330						
HGSD	**Ruisui**	**0.54**	**205**	*e*P	**Pn**	**20 40 33.2**	**0.0**
	baz=216						
HGSD				*e*S	**Sn**	**20 40 42.0**	**+0.9**
	baz=216						
VWDT	**VWDT**	**0.54**	**245**⇓	*i* P	**Pn**	**20 40 33.3**	**+0.1**
	baz=239						
VWDT				S	**Sn**	**20 40 40.9**	**-0.3**
	baz=239						
TDCB	**Techi**	**0.55**	**300**⇓	*i* P	**Pn**	**20 40 33.4**	**0.0**
	baz=300						
TDCB				S	**Sb**	**20 40 40.8**	**-0.4**
	baz=300						
LATG	**Datong**	**0.57**	**346**⇓	*i* P	**Pn**	**20 40 33.2**	**-0.5**
	baz=347						
EHY	**Hungye**	**0.58**	**214**	*e*P	**Pn**	**20 40 32.5**	**-1.2**
	baz=212						
TWC	**Suao**	**0.64**	**14**	*e*P	**Pn**	**20 40 34.9**	**+0.3**
	baz=23						
TWC				*e*S	**Sb**	**20 40 44.4**	**+0.7**
	baz=23						
NDS	**Dongshan**	**0.65**	**3**	*e*P	**Pn**	**20 40 34.4**	**-0.3**
	baz=354						
NDS				*e*S	**Sn**	**20 40 43.6**	**-0.2**
	baz=354						
WPL	**Puli Township**	**0.66**	**273**⇓	*i* P	**Pn**	**20 40 34.8**	**-0.1**
	baz=268						
WPL				*e*S	**Sn**	**20 40 44.1**	**0.0**
	baz=268						
ENTT	**Nioudou**	**0.66**	**351**	⇓P	**Pn**	**20 40 34.7**	**-0.2**
	baz=353						
YULB	**Yu-li**	**0.68**	**211**	P	**Pn**	**20 40 35.3**	**+0.1**
YULB	**Yu-li**	**0.68**	**211**	*e*P	**Pn**	**20 40 33.9**	**-1.4**
	baz=209						
DPDB	**Guoxing**	**0.69**	**274**⇓	*i* P	**Pn**	**20 40 35.4**	**+0.1**
	baz=272						
DPDB				*e*S	**Sn**	**20 40 44.8**	**-0.1**
	baz=272						
SSLB	**Suanglung**	**0.69**	**254**	P	**Pn**	**20 40 35.0**	**-0.3**
SSLB	**Suanglung**	**0.69**	**254**⇓	*i* P	**Pn**	**20 40 35.0**	**-0.3**
	baz=258						
SSLB				*e*S	**Sn**	**20 40 44.3**	**-0.6**
	baz=258						
ECBN	**Changbin**	**0.70**	**197**	*e*P	**Pn**	**20 40 35.2**	**-0.1**
	baz=208						
ECBN				*e*S	**Sb**	**20 40 46.5**	**+1.4**
	baz=208						
WCS	**Beigang Elemen**	**0.70**	**276**⇓	*e*P	**Pn**	**20 40 35.6**	**+0.1**
	baz=276						
WCS				*e*S	**Sn**	**20 40 45.2**	**0.0**
	baz=276						
EYUL	**Yuli**	**0.71**	**207**	*e*P	**Pn**	**20 40 36.3**	**+0.6**
	baz=217						
EYUL				*e*S	**Sn**	**20 40 45.0**	**-0.5**
	baz=217						
SMLT	**Sun Moon Lake**	**0.72**	**262**	⇓P	**Pn**	**20 40 35.7**	**-0.1**
	baz=262						
SMLT				*e*S	**Sn**	**20 40 45.3**	**-0.4**
	baz=262						
TWF1	**Yuli**	**0.72**	**209**	*e*P	**Pn**	**20 40 34.3**	**-1.4**
	baz=217						
WHP	**Taichung City**	**0.73**	**294**	*e*P	**Pn**	**20 40 36.2**	**+0.2**
	baz=296						
WHP				*e*S	**Sn**	**20 40 45.8**	**-0.2**
	baz=296						
TWE	**Neicheng**	**0.73**	**359**⇓	*i* P	**Pn**	**20 40 35.7**	**-0.2**
	baz=353						
TWE				*e*S	**Sn**	**20 40 46.1**	**+0.1**
	baz=353						
YHNB	**Yeheng**	**0.74**	**338**	P	**Pn**	**20 40 36.1**	**+0.1**
YHNB	**Yeheng**	**0.74**	**338**⇓	*i* P	**Pn**	**20 40 36.0**	**-0.1**
	baz=338						
YHNB				*e*S	**Sn**	**20 40 45.8**	**-0.4**
	baz=338						
NSK	**Sanguang**	**0.75**	**337**⇓	*i* P	**Pn**	**20 40 36.1**	**-0.1**
	baz=338						
NSK				*e*S	**Sn**	**20 40 46.0**	**-0.4**
	baz=338						
TYC	**Yuchr**	**0.76**	**264**⇓	*i* P	**Pn**	**20 40 36.0**	**-0.2**
	baz=264						
TYC				*e*S	**Sn**	**20 40 46.1**	**-0.3**
	baz=264						
FUSB	**Fushanzhiwuyua**	**0.78**	**354**⇓	*i* P	**Pn**	**20 40 36.3**	**-0.3**
	baz=354						
FUSB				*e*S	**Sn**	**20 40 47.2**	**+0.1**
	baz=354						
ILA	**Ilan**	**0.78**	**5**	*e*P	**Pn**	**20 40 36.6**	**0.0**
	baz=357						
NWLT	**Wulai**	**0.81**	**349**	*e*P	**Pn**	**20 40 36.9**	**-0.1**
	baz=343						
NWLT				*e*S	**Sn**	**20 40 47.0**	**-0.8**
	baz=343						
NFF	**Wufeng Townshi**	**0.82**	**322**⇓	*e*P	**Pn**	**20 40 37.5**	**+0.3**
	baz=322						
NFF				*e*S	**Sn**	**20 40 48.3**	**+0.1**
	baz=322						
YUS	**Yu-Shan**	**0.83**	**234**	*i* P	**Pn**	**20 40 37.8**	**+0.1**
	baz=239						
FULB	**Fuli**	**0.86**	**204**	*e*P	**Pn**	**20 40 37.8**	**+0.1**
	baz=214						
FULB				*e*S	**Sn**	**20 40 50.0**	**+1.0**
	baz=214						
WJS	**Zhushan**	**0.88**	**260**	*e*P	**Pn**	**20 40 38.9**	**+0.9**
	baz=259						
WJS				*e*S	**Sn**	**20 40 50.8**	**+1.1**
	baz=259						
EGS		**0.89**	**15**	*e*P	**Pn**	**20 40 37.8**	**-0.3**
	baz=17						
NSTT	**Nanjuang**	**0.89**	**316**⇓	*e*P	**Pn**	**20 40 39.1**	**+1.0**
	baz=316						
NSTT				*e*S	**Sn**	**20 40 49.8**	**0.0**
	baz=316						
LIOB	**Emei**	**0.89**	**318**	⇓P	**Pn**	**20 40 39.2**	**+1.1**
	baz=317						
LIOB				*e*S	**Sn**	**20 40 51.1**	**+1.1**
	baz=317						
WWF	**Wufeng**	**0.90**	**274**⇓	*i* P	**Pb**	**20 40 39.5**	**+0.5**
	baz=273						
TWQ1	**Liyutan**	**0.90**	**294**	⇓P	**Pn**	**20 40 39.2**	**+0.9**
	baz=293						
TWQ1				*e*S	**Sn**	**20 40 50.7**	**+0.5**
	baz=293						
WNT	**Mingjian**	**0.92**	**264**	*e*P	**Pn**	**20 40 39.5**	**+1.0**
	baz=263						
WNT				*e*S	**Sb**	**20 40 51.9**	**+0.7**
	baz=263						
NJD	**Zhudong**	**0.92**	**324**	*e*P	**Pb**	**20 40 39.9**	**+0.4**
	baz=329						
CHKT	**Chengkung**	**0.93**	**198**	*e*P	**Pn**	**20 40 37.9**	**-0.6**
	baz=187						
CHKT				*e*S	**Sb**	**20 40 52.4**	**+0.8**
	baz=187						
ALS	**Alishan**	**0.93**	**240**	*e*P	**Pn**	**20 40 39.1**	**+0.3**
	baz=233						
ALS				*e*S	**Sn**	**20 40 51.3**	**+0.1**
	baz=233						
TCU	**Taichung**	**0.93**	**280**⇓	*e*P	**Pn**	**20 40 40.0**	**+1.3**
	baz=280						
TCU				*e*S	**Sb**	**20 40 53.4**	**+1.8**
	baz=280						
EHD	**Haiduan**	**0.94**	**208**	*e*P	**Pn**	**20 40 37.6**	**-1.2**
	baz=215						
NSY	**Sanyi**	**0.94**	**297**	*e*P	**Pn**	**20 40 39.8**	**+1.0**
	baz=297						
NSY				*e*S	**Sn**	**20 40 52.4**	**+1.3**
	baz=297						
NMLH	**Miaoli**	**0.98**	**304**	*e*P	**Pn**	**20 40 40.1**	**+0.8**
	baz=303						
NMLH				*e*S	**Sn**	**20 40 53.3**	**+1.3**
	baz=303						
NHDH	**Xindian Distri**	**0.98**	**352**	*e*P	**Pn**	**20 40 39.8**	**+0.4**
	baz=352						
NHDH				*e*S	**Sn**	**20 40 52.6**	**+0.5**
	baz=352						
CHN5	**Tsauling**	**0.99**	**247**	*e*P	**Pn**	**20 40 40.2**	**+0.6**
	baz=238						
CHN5				*e*S	**Sn**	**20 40 53.8**	**+1.3**
	baz=238						
TIPB	**Shuangxi**	**0.99**	**8**	*e*P	**Pn**	**20 40 40.1**	**+0.6**
	baz=359						
TIPB				*e*S	**Sb**	**20 40 54.7**	**+1.2**
	baz=359						
ELDTW	**Lidau**	**1.00**	**218**	*e*P	**Pn**	**20 40 38.7**	**-0.9**
	baz=211						
TWA	**Mucha**	**1.00**	**355**	*e*P	**Pn**	**20 40 39.9**	**+0.3**
	baz=355						
TWA				*e*S	**Sn**	**20 40 52.6**	**+0.1**
	baz=355						
TATO	**Taipei**	**1.00**	**350**	P	**Pn**	**20 40 39.9**	**+0.3**
WDJ	**Dajia District**	**1.01**	**291**	*e*P	**Pn**	**20 40 40.5**	**+0.7**
	baz=291						
WDJ				*e*S	**Sb**	**20 40 54.6**	**+0.6**
	baz=291						
SBCB	**Hsinchu**	**1.02**	**322**	*e*P	**Pn**	**20 40 41.0**	**+1.1**
	baz=321						
SBCB				*e*S	**Sb**	**20 40 54.8**	**+0.4**
	baz=321						
WCHH	**Zhanghua**	**1.03**	**276**	*e*P	**Pn**	**20 40 41.3**	**+1.4**
	baz=275						
WCHH				*e*S	**Sb**	**20 40 55.4**	**+0.9**
	baz=275						
HSN	**Hsinchu**	**1.04**	**322**	*e*P	**Pn**	**20 40 41.2**	**+1.0**
	baz=323						
HSN				*e*S	**Sn**	**20 40 54.0**	**+0.5**
	baz=323						
TWB1	**Santiao Chiao**	**1.06**	**15**	*e*P	**Pn**	**20 40 41.6**	**+1.2**
	baz=27						
TWB1				*e*S	**Sb**	**20 40 56.2**	**+0.9**
	baz=27						
TAP	**Taipei**	**1.06**	**352**	*e*P	**Pn**	**20 40 40.1**	**-0.3**
	baz=351						
TAP				*e*S	**Sn**	**20 40 54.8**	**+0.7**
	baz=351						
EDH	**Donghe**	**1.06**	**199**	*e*P	**Pn**	**20 40 39.5**	**-0.9**
	baz=210						
EDH				*e*S	**Sn**	**20 40 54.1**	**0.0**
	baz=210						
NCUH	**Zhongli**	**1.08**	**336**	*e*P	**Pn**	**20 40 41.2**	**+0.5**
	baz=334						
NCUH				*e*S	**Sb**	**20 40 56.4**	**+0.5**
	baz=334						
WDLH	**Douliu**	**1.08**	**254**	*e*P	**Pn**	**20 40 42.0**	**+1.2**
	baz=254						
WDLH				*e*S	**Sb**	**20 40 57.4**	**+1.3**
	baz=254						
NWF	**Wu-fen Shan**	**1.09**	**5**	*e*P	**Pn**	**20 40 41.2**	**+0.3**
	baz=353						
NWF				*e*S	**Sb**	**20 40 57.7**	**+1.4**
	baz=353						
SXI1	**Grass Mountain**	**1.12**	**9**	*e*P	**Pn**	**20 40 42.1**	**+0.8**
	baz=352						
SXI1				*e*S	**Sb**	**20 40 58.5**	**+1.3**
	baz=352						
WCKO	**Fanlu**	**1.12**	**241**	*e*P	**Pn**	**20 40 42.6**	**+1.3**
	baz=241						
WCKO				*e*S	**Sb**	**20 40 57.5**	**+0.3**
	baz=241						
TWS1	**Kuangyinshan**	**1.14**	**348**	*e*P	**Pn**	**20 40 42.4**	**+0.9**
	baz=356						
TWS1				*e*S	**Sn**	**20 40 56.2**	**+0.3**
	baz=356						
STYH	**Taoyuan**	**1.16**	**226**	*e*P	**Pn**	**20 40 41.9**	**+0.2**
	baz=227						
STYH				*e*S	**Sn**	**20 40 56.5**	**+0.1**
	baz=227						
YM01	**YM01**	**1.16**	**

	baz=247							
CHY					*e*S		**Sb**	**20 41 00.8 +0.1**
	baz=247							
JYNG	**Yonagunijimaku**	**1.25**	**68**	P			**Pn**	**20 40 43.3 +0.3**
JYNG				S			**Sn**	**20 40 59.4 +0.8**
WTCT	**Ta-ch'eng**	**1.28**	**265**	*e*P			**Pn**	**20 40 44.4 +0.9**
	baz=274							
WTCT					*e*S		**Sb**	**20 41 02.4 +0.7**
	baz=274							
TWG	**Pinlang**	**1.28**	**206**	*e*P			**Pn**	**20 40 41.9 -1.6**
	baz=194							
TWGBT	**Beinan**	**1.28**	**205**	P			**Pn**	**20 40 43.7 +0.2**
TWGBT	**Beinan**	**1.28**	**205**	*e*P			**Pn**	**20 40 41.7 -1.8**
	baz=198							
TWGBT					*e*S		**Sn**	**20 40 57.9 -1.7**
	baz=198							
TWY	**Chenhua**	**1.29**	**357**	*e*P			**Pn**	**20 40 43.6 +0.1**
	baz=357							
TWK	**Hsinying**	**1.30**	**237**	*e*P			**Pn**	**20 40 44.8 +1.0**
	baz=229							
TWK					*e*S		**Sn**	**20 41 01.1 +1.0**
	baz=229							
YOJ	**Yonaguni jima**	**1.31**	**68**	P			**Pn**	**20 40 44.1 +0.3**
YOJ	**Yonaguni jima**	**1.31**	**68**	P			**Pn**	**20 40 44.2 +0.4**
YOJ					*e*S		**Sn**	**20 41 00.7 +0.7**
YOJ	**Yonaguni jima**	**1.31**	**68**	*e*P			**Pn**	**20 40 44.0 +0.3**
	baz=68							
YOJ					*e*S		**Sn**	**20 41 00.8 +0.7**
	baz=68							
LDUT	**Ludao**	**1.32**	**188**	*e*P			**Pn**	**20 40 42.4 -1.6**
	baz=183							
LDUT					*e*S		**Sn**	**20 40 59.8 -0.6**
	baz=183							
CHN1	**Nanshi**	**1.32**	**233**	*e*P			**Pn**	**20 40 45.1 +1.1**
	baz=234							
CHN1					*e*S		**Sn**	**20 41 01.9 +1.4**
	baz=234							
SGST	**Jiashian**	**1.35**	**228**	P			**Pn**	**20 40 44.7 +0.3**
	baz=220							
SGST					*e*S		**Sb**	**20 41 03.4 -0.1**
	baz=220							
WSF	**Szhu**	**1.38**	**256**	*e*P			**Pn**	**20 40 45.9 +1.2**
	baz=255							
WSF					*e*S		**Sb**	**20 41 04.9 +0.5**
	baz=255							
WSL	**Shuilin Townsh**	**1.41**	**251**	*e*P			**Pn**	**20 40 46.4 +1.3**
	baz=251							
WSL					*e*S		**Sb**	**20 41 05.2 0.0**
	baz=251							
ICHU	**Yijhu**	**1.42**	**244**	*e*P			**Pn**	**20 40 46.6 +1.1**
	baz=244							
ICHU					*e*S		**Sb**	**20 41 05.7 0.0**
	baz=244							
CHN8	**Yiju**	**1.49**	**245**	*e*P			**Pn**	**20 40 45.2 -1.0**
	baz=244							
ECL	**Taimali**	**1.53**	**206**	*e*P			**Pn**	**20 40 46.0 -1.0**
	baz=199							
SCST	**Cishan**	**1.54**	**225**	*e*P			**Pn**	**20 40 48.6 +1.6**
	baz=227							
SCST					*e*S		**Sb**	**20 41 09.7 +0.7**
	baz=227							
TSMG	**Majia**	**1.59**	**217**	*e*P			**Pn**	**20 40 49.0 +1.3**
	baz=220							
TSMG					*e*S		**Sn**	**20 41 09.3 +2.2**
	baz=220							
MASBT	**Mashibuluo**	**1.67**	**215**	*e*P			**Pn**	**20 40 49.4 +0.6**
	baz=218							
MASBT					*e*S		**Sn**	**20 41 10.8 +1.7**
	baz=218							
TSCK	**Chigu Township**	**1.68**	**241**	*e*P			**Pn**	**20 40 49.9 +1.0**
	baz=241							
TSCK					*e*S		**Sn**	**20 41 10.4 +1.1**
	baz=241							
EAST	**Anshuo**	**1.77**	**206**	*e*P			**Pn**	**20 40 51.0 +0.8**
	baz=201							
TAWH	**Dawu Township**	**1.79**	**204**	*e*P			**Pn**	**20 40 50.5 +0.1**
	baz=196							
SCZT	**Fangliau**	**1.88**	**211**	*e*P			**Pn**	**20 40 53.0 +1.3**
	baz=227							
SCZT					*e*S		**Sn**	**20 41 14.8 +0.6**
	baz=227							
IRIF	**Iriomote-Funau**	**1.91**	**79**	P			**Pn**	**20 40 52.5 +0.4**
IRIF				S			**Sn**	**20 41 15.3 +0.4**
SLIU	**Shizi**	**1.94**	**205**	*e*P			**Pn**	**20 40 53.5 +1.0**
	baz=202							
LAY	**Lan-yu**	**1.94**	**183**	*e*P			**Pn**	**20 40 51.2 -1.3**
	baz=178							
HATJ	**Hateruma jima**	**1.95**	**87**	*e*P			**Pn**	**20 40 53.1 +0.5**
LYUB	**Lan-yu**	**1.98**	**183**	*e*P			**Pn**	**20 40 50.8 -2.3**
	baz=176							
PHUB	**P'eng-hu**	**1.98**	**257**	*e*P			**Pn**	**20 40 53.0 -0.2**
	baz=256							
PNG	**Penghu**	**1.99**	**258**	*e*P			**Pn**	**20 40 53.1 0.0**
	baz=257							
SMST	**Manzhou Townsh**	**2.10**	**202**	*e*P			**Pn**	**20 40 55.0 +0.2**
	baz=194							
JKRS	**Kuro-shima**	**2.15**	**83**	P			**Pn**	**20 40 56.2 +0.9**
JKRS				S			**Sn**	**20 41 22.3 +1.5**
HEN	**Hengchun**	**2.15**	**204**	*e*P			**Pn**	**20 40 55.7 +0.3**
	baz=198							
TWK1	**Hengchun**	**2.18**	**202**	*e*P			**Pn**	**20 40 56.4 +0.5**
	baz=195							
TWKBT	**Hengchun**	**2.18**	**202**	*e*P			**Pn**	**20 40 56.3 +0.4**
	baz=194							
JIJ	**Ishigaki jima**	**2.28**	**80**	P			**Pn**	**20 40 57.5 +0.2**
JIJ				S			**Sn**	**20 41 23.4 -0.8**
JISG	**Ishigakijimahi**	**2.48**	**75**	P			**Pn**	**20 40 60.0 +0.1**
JISG				S			**Sn**	**20 41 28.3 -0.7**
PTMZ	**Houxiangcun**	**2.56**	**295**	*e*P			**Pn**	**20 40 59.9 -1.1**
	baz=293							
MATB	**Ma-tsu**	**2.67**	**324**	*e*P			**Pn**	**20 41 01.4 -1.2**
	baz=321							
JTJ	**Tarama**	**2.84**	**76**	P			**Pn**	**20 41 05.5 +0.6**
JTJ				*e*S			**Sn**	**20 41 38.6 +0.7**
KNM	**Kinmen**	**2.99**	**279**	*e*P			**Pn**	**20 41 07.7 +0.7**
	baz=277							
KNMB	**Chin-men Tao**	**3.04**	**280**	*e*P			**Pn**	**20 41 06.6 -1.1**
	baz=278							
LYJJ	**Jianjiangzhen**	**3.09**	**326**	*e*P			**Pn**	**20 41 07.2 -1.2**
	baz=323							
MHZQ	**Yeshan**	**3.19**	**312**	*e*P			**Pn**	**20 41 08.7 -1.0**
	baz=310							
JIRB	**Irabujima**	**3.30**	**75**	*e*P			**Pn**	**20 41 11.5 +0.3**
JIRB				*e*S			**Sn**	**20 41 49.3 +0.1**
JIKM	**Ikemajima**	**3.39**	**73**	*e*P			**Pn**	**20 41 13.1 +0.7**
JIKM				S			**Sn**	**20 41 52.0 +0.6**
JMJ2	**Miyako jima3**	**3.41**	**77**	*e*P			**Pn**	**20 41 13.6 +0.8**
JMJ2				S			**Sn**	**20 41 53.2 +1.1**
JOGS	**Gusukube**	**3.49**	**76**	*e*P			**Pn**	**20 41 14.8 +1.0**
AXDP	**Jialang**	**3.50**	**286**	*e*P			**Pn**	**20 41 13.3 -0.6**
	baz=284							
ZPLA	**Ao Xicun**	**3.59**	**270**	*e*P			**Pn**	**20 41 15.1 -0.2**
	baz=269							
DSXP	**Dongshan**	**3.90**	**267**	*e*P			**Pn**	**20 41 19.0 -0.5**
	baz=265							
JOW	**Kunigami**	**6.61**	**63**	Pn			**Pn**	**20 41 55.4 -1.2**
	0.9nm,0.3s,baz=254,slow=19,SNR=7.9							
JOW				Sn			**Sn**	**20 43 08.7 -2.2**
	0.6nm,0.3s,baz=60,slow=5.0,SNR=2.9							
	11nm,0.7s							
JOW	**Kunigami**	**6.61**	**63**	P			**Pn**	**20 41 56.9 +0.2**
	39nm,1.0s							
KSRS	**Korea Array**	**14.46**	**20**	Pn			**P**	**20 43 50.4 0.0**
	0.3nm,0.3s,baz=202,slow=11,SNR=6.3							
	0.9nm,0.6s							
MKAR	**Makanchi Array**	**38.79**	**316**	P			**P**	**20 47 43.5 0.0**
	0.5nm,0.8s,baz=106,slow=9.7,SNR=4.4							
	0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**40.66**	**327**	P			**P**	**20 47 57.9 -0.9**
	0.5nm,0.5s,baz=116,slow=6.8,SNR=2.6							
	0.5nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**42.17**	**89**	T			T	21 33 31.4
	baz=278							
H11S1	**WAKE ISLAND Hy**	**42.18**	**89**	T			T	21 33 42.1
	baz=278							
H11S2	**WAKE ISLAND Hy**	**42.19**	**89**	T			T	21 34 00.7
	baz=278							
YKA	**Yellowknife Ar**	**82.98**	**23**	P			**P**	**20 52 42.1 -1.3**
	0.5nm,0.6s,baz=309,slow=4.9,SNR=5.4							
	0.5nm,0.6s							

*NOU **24** 21:17:48.5, 42°58S×173°95E, h0km, MLv4.0/6, South Island, New Zealand*
*WEL **24** 21:17:52.9±0.6, 42°S±3°×17°4E±°, h5km±4km, M3.5/13, ML3.8/13, MLv3.5/13, Error ellipse: s-maj=0.0km*

2017 JAN

s-min=0.0km az=105.0, confirmed

ISC 24 21:17:51.5±1.0, **42°53S**±0°04×**173°86E**±0°05, **h21**km, **n57,** σ1**s30**/59, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**296**	P	**Pb**	**21 17 54.8**	**-2.9**
KHZ	**Kahutara**	**0.26**	**296**	P	**Pb**	**21 17 54.9**	**-2.8**
KHZ				S	**Sb**	**21 17 57.6**	**-4.4**
GVZ	**Greta Valley S**	**0.75**	**234**	P	**Pb**	**21 18 07.1**	**+1.3**
GVZ				S	**Sn**	**21 18 18.8**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.81**	**1**	P	**Pb**	**21 18 06.3**	**-0.6**
CMWZ	**Cape Campbell**	**0.82**	**19**	P	**Pb**	**21 18 07.9**	**+0.9**
THZ	**Tophouse**	**1.04**	**317**	P	**Pb**	**21 18 09.4**	**-1.5**
AMCZ	**Amberley**	**1.10**	**233**	P	**Pn**	**21 18 12.1**	**+0.5**
LTZ	**Lake Taylor**	**1.20**	**257**	P	**Pn**	**21 18 12.9**	**-0.1**
OKCZ	**Okains Bay**	**1.33**	**206**	P	**Pn**	**21 18 15.6**	**+0.8**
TCW	**Tory Channel**	**1.35**	**14**	P	**Pn**	**21 18 14.7**	**-0.4**
NNZ	**Nelson**	**1.36**	**345**	P	**Pn**	**21 18 14.8**	**-0.4**
MRNZ	**Matariki Terra**	**1.40**	**324**	P	**Pn**	**21 18 15.6**	**-0.1**
PLWZ	**Palliser**	**1.42**	**48**	P	**Pn**	**21 18 15.9**	**-0.2**
WEL	**Wellington**	**1.42**	**29**	P	**Pn**	**21 18 16.0**	**0.0**
MQZ	**McQueen's Vall**	**1.47**	**216**	P	**Pn**	**21 18 16.3**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.51**	**207**	P	**Pn**	**21 18 17.7**	**+0.4**
OXZ	**Oxford**	**1.56**	**239**	P	**Pn**	**21 18 17.5**	**-0.4**
TKNZ	**Takaka Hill**	**1.64**	**336**	P	**Pn**	**21 18 19.3**	**+0.2**
PAWZ	**Paruwai Farm**	**1.64**	**46**	P	**Pn**	**21 18 18.8**	**-0.3**
CAW	**Cannon Point**	**1.68**	**33**	P	**Pn**	**21 18 19.6**	**-0.1**
DSZ	**Denniston Nort**	**1.72**	**296**	P	**Pn**	**21 18 21.1**	**+0.9**
DUWZ	**D'Urville Isla**	**1.73**	**2**	P	**Pn**	**21 18 20.8**	**+0.5**
RACZ	**Rakaia**	**1.74**	**226**	P	**Pn**	**21 18 20.1**	**-0.3**
TRWZ	**Traveller**	**1.77**	**51**	P	**Pn**	**21 18 20.5**	**-0.4**
MTW	**Mount Morrison**	**1.84**	**42**	P	**Pn**	**21 18 21.3**	**-0.6**
KIW	**Kapiti Island**	**1.84**	**26**	P	**Pn**	**21 18 22.0**	**+0.1**
QRZ	**Quartz Range**	**1.97**	**329**	P	**Pn**	**21 18 24.3**	**+0.7**
QRZ	**Quartz Range**	**1.97**	**329**	P	**Pn**	**21 18 24.3**	**+0.7**
OGWZ	**Otaki Gorge**	**1.97**	**30**	P	**Pn**	**21 18 23.4**	**-0.2**
WACZ	**Wakanui South**	**2.04**	**226**	P	**Pn**	**21 18 24.5**	**-0.1**
HOWZ	**Holdsworth Sta**	**2.05**	**38**	P	**Pn**	**21 18 24.2**	**-0.5**
TMWZ	**Te Maipa**	**2.08**	**48**	P	**Pn**	**21 18 24.5**	**-0.6**
MRZ	**Mangatainoka R**	**2.27**	**35**	P	**Pn**	**21 18 27.2**	**-0.6**
WVZ	**Waitaha Valley**	**2.36**	**256**	P	**Pn**	**21 18 29.5**	**+0.5**
RPZ	**Rata Peaks**	**2.37**	**239**	P	**Pn**	**21 18 29.0**	**-0.1**
RPZ	**Rata Peaks**	**2.37**	**239**	P	**Pn**	**21 18 28.7**	**-0.4**
ARCZ	**Arundel**	**2.42**	**233**	P	**Pn**	**21 18 29.3**	**-0.4**
BFZ	**Birch Farm**	**2.57**	**45**	P	**Pn**	**21 18 30.8**	**-1.1**
BFZ	**Birch Farm**	**2.57**	**45**	P	**Pn**	**21 18 30.7**	**-1.2**
TMZ	**Timaru**	**2.78**	**227**	P	**Pn**	**21 18 34.9**	**+0.1**
WAZ	**Wanganui**	**2.90**	**17**	P	**Pn**	**21 18 39.6**	**+3.2**
KHEZ	**Kahui Hut**	**3.23**	**2**	P	**Pn**	**21 18 41.3**	**+0.2**
ODZ	**Otahua Downs**	**3.42**	**222**	P	**Pn**	**21 18 43.3**	**-0.3**
ODZ	**Otahua Downs**	**3.42**	**222**	P	**Pn**	**21 18 43.4**	**-0.2**
KRHZ	**Kereru**	**3.45**	**34**	P	**Pn**	**21 18 42.5**	**-1.5**
WNVZ	**Wahianoa**	**3.46**	**23**	P	**Pn**	**21 18 46.2**	**+2.0**
BHHZ	**Black Hill Sta**	**3.46**	**30**	P	**Pn**	**21 18 43.7**	**-0.5**
VRZ	**Vera Road**	**3.47**	**12**	P	**Pn**	**21 18 46.6**	**+1.4**
KAHZ	**Kahuranaki**	**3.56**	**41**	P	**Pn**	**21 18 44.0**	**-1.5**
NGZ	**Ngauruhoe**	**3.60**	**22**	P	**Pn**	**21 18 48.7**	**+2.5**
NNVZ	**North Ngauruho**	**3.65**	**22**	P	**Pn**	**21 18 47.7**	**+0.9**
WTVZ	**West Tongariro**	**3.66**	**22**	P	**Pn**	**21 18 48.2**	**+1.3**
URZ	**Urewera**	**4.94**	**31**	P	**Pn**	**21 19 02.2**	**-2.1**
TOZ	**Tahuroa Road**	**4.96**	**15**	P	**Pn**	**21 19 04.7**	**+0.1**
AWAZ	**Awhitu Peninsu**	**5.49**	**7**	P	**Pn**	**21 19 12.9**	**+0.9**
MKAZ	**Moumakai**	**5.51**	**11**	P	**Pn**	**21 19 12.4**	**+0.1**
RIZ	**Raoul Island**	**14.82**	**29**	P	**Pn**	**21 21 22.7**	**+2.9**

*DJA **24** 21:32:31.9±0.4, 8°S±5°×12°8E±°, h224km±10km, M4.4/6, mb4.1/6, mB5.1/1, MLv4.5/6, Mw(mB)4.4/1, MwMwp4.9/1, Mwp5.2/1*
*IDC **24** 21:32:34.5±2.2, 8°39S×128°09E, h0km, mb3.3/1, mbtmp4.1/4, ML4.4/3, Error ellipse: s-maj=51.5km s-min=33.4km az=61.0*
*NEIC **24** 21:32:34.6±1.6, 7°54S±0°08×127°91E±0°08, h168km±7km, mb4.2/8, Error ellipse: s-maj=12.4km s-min=11.6km az=138.0*

ISC 24 21:32:32.0±0.8, **7°52S**±0°09×**127°83E**±0°07, **h142**km, **n36,** σ1**s91**/35, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.47**	**98**	Pn	**Pn**	**21 33 27.4**	**+2.3**
SAUI	**Saumlaki**	**3.47**	**98**	P	**Pn**	**21 33 28.0**	**+2.9**
SAUI	**Saumlaki**	**3.47**	**98**	P	**Pn**	**21 33 28.2**	**+3.1**
SOEI	**Soe**	**4.16**	**238**	Pn	**Pn**	**21 33 38.0**	**+3.7**
SOEI	**Soe**	**4.16**	**238**	P	**Pn**	**21 33 38.4**	**+4.1**
SOEI	**Soe**	**4.16**	**238**	P	**Pn**	**21 33 38.3**	**+4.0**
BATI	**Baumata**	**4.91**	**237**	Pn	**Pn**	**21 33 47.6**	**+3.6**
	13nm,0.3s,baz=90,slow=2.3,SNR=16						
BATI				Sn	**Sn**	**21 34 38.6**	**-1.6**
	20nm,0.3s,baz=72,slow=2.6,SNR=6.3						
	49nm,0.5s						
BATI	**Baumata**	**4.91**	**237**	P	**Pn**	**21 33 46.9**	**+2.8**
MMRI	**Maumere**	**5.65**	**258**	P	Pn	21 33 59.8	+5.9
MTN	**Manton Dam**	**6.21**	**149**	P	**Pn**	**21 34 01.9**	**+0.5**
MTN	**Manton Dam**	**6.21**	**149**	P	**Pn**	**21 34 02.0**	**+0.6**
FAKI	**Fak Fak**	**6.35**	**44**	Pn	**Pn**	**21 34 04.0**	**+0.6**
FAKI	**Fak Fak**	**6.35**	**44**	P	**Pn**	**21 34 04.6**	**+1.3**
FAKI	**Fak Fak**	**6.35**	**44**	P	**Pn**	**21 34 03.8**	**+0.5**
	23nm,1.1s,0.1nm						
KDU	**Kakadu**	**6.87**	**139**	P	**Pn**	**21 34 10.9**	**+0.6**
BASI	**Baing, Sumba**	**7.65**	**249**	P	**Pn**	**21 34 20.8**	**0.0**
	47nm,1.4s,0.4nm						
KNRA	**Kununurra**	**8.15**	**174**		**Pn**	**21 34 27.5**	**0.0**
KNRA	**Kununurra**	**8.15**	**174**	P	**Pn**	**21 34 27.6**	**0.0**
PLAI	**Plampang**	**10.04**	**262**	P	**Pn**	**21 34 54.7**	**+2.0**
PLAI	**Plampang**	**10.04**	**262**	P	**Pn**	**21 34 52.9**	**+0.2**
	13nm,0.7s						
FITZ	**Fitzroy Crossi**	**10.72**	**191**	Pn	**Pn**	**21 35 02.3**	**+0.5**
TWSI	**Taliwang, Sumb**	**10.90**	**263**	P	**Pn**	**21 35 02.1**	**-2.1**
	7.0nm,0.9s						
WB0	**Warramunga Arr**	**13.74**	**153**		**Pn**	**21 35 38.8**	**-2.2**
WRA	**Warramunga Arr**	**13.87**	**154**	Pn	**Pn**	**21 35 40.3**	**-2.3**
	2.3nm,0.3s,baz=324,slow=14,SNR=40						
WRA				Sn	Sn	21 38 03.0	-13
	1.6nm,0.3s,baz=330,slow=23,SNR=7.7						
	5.3nm,0.4s						
PSA00	**Pilbara Seismi**	**15.95**	**208**		**P**	**21 36 09.5**	**+0.1**
PSA00				IAmb	IAmb	21 36 29.9	
	comp=Z,18nm,1.2s						
COEN	**Coen**	**16.37**	**114**		**P**	**21 36 14.8**	**+0.7**
COEN				IAmb	IAmb	21 36 27.8	
	comp=Z,3.9nm,0.8s						
AS31	**Alice Springs**	**17.08**	**161**	P	**Pn**	**21 36 22.9**	**+0.5**
AS31				IAmb	IAmb	21 36 40.1	
	comp=Z,2.9nm,0.3s						
ASAR	**Alice Springs**	**17.08**	**161**	Pn	**Pn**	**21 36 23.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=337,slow=10,SNR=56						
ASAR				Sn	S	21 39 16.7	-16
	comp=Z,0.1nm,0.3s,baz=339,slow=18,SNR=3.1						
	comp=Z,2.7nm,0.5s						
ASAR	**Alice Springs**	**17.08**	**161**		**Pn**	**21 36 22.3**	**-0.1**
FORT	**Forrest**	**23.14**	**179**	P	**P**	**21 37 25.1**	**-0.6**
MORW	**Morawa**	**24.14**	**206**	P	**P**	**21 37 34.1**	**-0.8**
MORW				IAmb	IAmb	21 37 55.0	
	comp=Z,28nm,1.4s						
BBOO	**Buckleboo**	**26.30**	**164**	P	**P**	**21 37 54.1**	**-0.3**
MK31	**Makanchi Array**	**67.50**	**328**	P	**P**	**21 43 12.8**	**0.0**
MKAR	**Makanchi Array**	**67.50**	**328**	P	P	21 43 37.8	+25
	comp=Z,0.2nm,0.6s,baz=120,slow=7.5,SNR=2.4						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**67.50**	**328**	P	**P**	**21 43 12.5**	**-0.3**
VNDA	**Vanda**	**72.20**	**173**	P	**P**	**21 43 40.9**	**0.0**

*DJA **24** 22:00:37.3±0.2, 8°S±3°×12°8E±°, h192km±6km, M4.5/13, mb4.4/13, mB5.0/5, MLv4.7/12, Mw(mB)4.3/5, MwMwp5.5/1, Mwp5.6/1*
*IDC **24** 22:00:38.3±1.4, 7°56S×127°59E, h159km±12km, mb3.9/9, mbtmp4.5/12, MS2.3/1, Error ellipse: s-maj=15.7km s-min=9.9km az=96.0*
*NEIC **24** 22:00:38.6±1.0, 7°54S±0°06×127°65E±0°07, h162km±6km, mb4.4/37, Error ellipse: s-maj=10.2km s-min=8.2km az=59.0*

ISC 24 22:00:38.1±0.4, **7°61S**±0°04×**127°61E**±0°05, **h162**km, **n127,** σ1**s30**/132, **mb4.4**/37, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.67**	**96**	Pn	**Pn**	**22 01 34.5**	**0.0**
SAUI	**Saumlaki**	**3.67**	**96**	P	**Pn**	**22 01 35.2**	**+0.7**

AAI	**Ambon**	**3.94**	**8**	P			**Pn**	**22 01 39.2 +1.3**
SOEI	**Soe**	**3.94**	**237**	Pn			**Pn**	**22 01 38.6 +0.6**
SOEI	**Soe**	**3.94**	**237**	P			**Pn**	**22 01 38.7 +0.7**
SOEI	**Soe**	**3.94**	**237**	P			**Pn**	**22 01 38.6 +0.6**
MSAI	**Masohi**	**4.43**	**17**	P			**Pn**	**22 01 44.4 +0.1**
BATI	**Baumata**	**4.68**	**236**	P			**Pn**	**22 01 48.6 +1.0**
	190nm,0.3s,baz=126,slow=3.2,SNR=50							
BATI				S			**Sn**	**22 02 42.1 +0.3**
	309nm,0.3s,baz=30,slow=1.8,SNR=15							
BATI	**Baumata**	**4.68**	**236**	P			**Pn**	**22 01 48.4 +0.8**
MMRI	**Maumere**	**5.42**	**259**	Pn			**Pn**	**22 01 58.2 +0.9**
MMRI	**Maumere**	**5.42**	**259**	P			**Pn**	**22 01 58.0 +0.7**
	98nm,0.8s,0.5nm							
SANI	**Sanana**	**5.75**	**344**	P			**Pn**	**22 02 03.7 +2.0**
	54nm,0.7s							
SANI	**Sanana**	**5.75**	**344**	P			**Pn**	**22 02 02.5 +0.8**
	53nm,0.7s,0.2nm							
MTN	**Manton Dam**	**6.25**	**147**	Pn			**Pn**	**22 02 07.3 -1.0**
MTN	**Manton Dam**	**6.25**	**147**	P			**Pn**	**22 02 07.5 -0.8**
FAKI	**Fak Fak**	**6.55**	**45**	Pn			**Pn**	**22 02 10.8 -1.5**
FAKI	**Fak Fak**	**6.55**	**45**	P			**Pn**	**22 02 11.0 -1.3**
	58nm,0.7s							
FAKI	**Fak Fak**	**6.55**	**45**	P			**Pn**	**22 02 10.5 -1.8**
	60nm,0.7s,0.2nm							
KDU	**Kakadu**	**6.95**	**137**	P			**Pn**	**22 02 16.2 -1.4**
	329nm,0.5s							
BASI	**Baing, Sumba**	**7.42**	**249**	P			**Pn**	**22 02 22.9 -0.9**
	77nm,1.0s,1.0nm							
SIJI	**Sorong**	**7.62**	**29**	P			**Pn**	**22 02 26.2 -0.3**
	20nm,0.3s,baz=217,slow=23,SNR=25							
SIJI				S			**Sn**	**22 03 52.1 +0.2**
	10nm,0.6s,baz=270,slow=20,SNR=1.9							
KNRA	**Kununurra**	**8.10**	**172**	Pn			**Pn**	**22 02 31.1 -1.8**
KNRA	**Kununurra**	**8.10**	**172**	P			**Pn**	**22 02 30.9 -1.9**
	299nm,0.7s							
LUWI	**Luwuk**	**8.11**	**323**	P			**Pn**	**22 02 31.0 -2.0**
KAPI	**Kappang**	**8.23**	**288**	LR			LR	22 05 52.3
	comp=Z,18nm,19.1s,baz=110,slow=38							
RKPI	**Ransiki, Papua**	**8.91**	**48**	P			**Pn**	**22 02 42.5 -1.1**
	78nm,0.6s							
PLAI	**Plampang**	**9.81**	**262**	P			**Pn**	**22 02 54.5 -1.0**
PLAI	**Plampang**	**9.81**	**262**	P			**Pn**	**22 02 54.6 -1.0**
FITZ	**Fitzroy Crossi**	**10.61**	**190**	Pn			**Pn**	**22 03 02.4 -3.6**
TWSI	**Taliwang, Sumb**	**10.68**	**263**	P			**Pn**	**22 03 04.6 -2.4**
	15nm,0.7s							
TOLI2	**Tolitoli**	**11.02**	**322**	Pn			**Pn**	**22 03 12.9 +1.5**
WRAB	**Tennant Creek**	**13.89**	**153**	P			**Pn**	**22 03 46.0 -2.2**
	39nm,0.6s							
WRA	**Warramunga Arr**	**13.89**	**153**	P			**Pn**	**22 03 44.7 -3.5**
	23nm,0.6s,baz=321,slow=14,SNR=135							
WRA				S			Sn	22 06 12.5 -10
	22nm,0.6s,baz=328,slow=23,SNR=6.2							
WB2	**Warramunga Arr**	**13.89**	**153**	Pn			**Pn**	**22 03 44.6 -3.7**
WR0	**Warramunga Arr**	**14.00**	**152**				**Pn**	**22 03 46.4 -3.2**
MBWA	**Marble Bar**	**15.48**	**209**	P			**Pn**	**22 04 07.2 -0.7**
MBWA				IAmb			IAmb	22 04 25.1
	comp=Z,22nm,1.2s							
MBWA	**Marble Bar**	**15.48**	**209**	P			**Pn**	**22 04 07.9 0.0**
	comp=Z,7.2nm,0.9s							
PWJI	**Pagerwojo**	**15.67**	**267**	P			**Pn**	**22 04 09.6 -0.7**
	comp=Z,18nm,1.6s							
PSA00	**Pilbara Seismi**	**15.78**	**208**				**Pn**	**22 04 11.6 -0.1**
PSA00				IAmb			IAmb	22 04 27.3
	comp=Z,22nm,0.5s							
PSA00	**Pilbara Seismi**	**15.78**	**208**	P			**Pn**	**22 04 11.5 -0.1**
	comp=Z,35nm,1.1s							
UGM	**Wanagama**	**16.94**	**268**	P			**P**	**22 04 25.1 0.0**
AS31	**Alice Springs**	**17.07**	**160**				**Pn**	**22 04 27.9 +0.6**
AS31				IAmb			IAmb	22 04 28.8
	comp=Z,12nm,0.4s							
ASAR	**Alice Springs**	**17.07**	**160**	P			**Pn**	**22 04 28.3 +1.0**
	comp=Z,20nm,0.4s,baz=339,slow=11,SNR=280							
ASAR				S			**S**	**22 07 29.8 -6.5**
	comp=Z,9.6nm,1.0s,baz=340,slow=21,SNR

	comp=Z,3.3nm,0.6s						
TAPN	**Taplejung**	**51.95**	**314**	*eP*	**P**	**22 09 30.5**	**-0.6**
	comp=Z,5.3nm,0.4s						
RAMN	**Ramite**	**52.52**	**312**	*eP*	**P**	**22 09 35.4**	**+0.1**
	comp=Z,24nm,0.6s						
JIRN	**Jiri**	**53.23**	**313**	*eP*	**P**	**22 09 39.0**	**-1.6**
GTA	**Gaotai**	**53.40**	**333**	*eP*	**P**	**22 09 43.3**	**+2.0**
GTA				pP	pP	22 09 49.5	-27
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GUN	**Gumba**	**53.60**	**313**	*eP*	**P**	**22 09 42.8**	**-0.4**
	comp=Z,14nm,0.6s						
PKI	**Pulchoki**	**53.75**	**312**	*eP*	**P**	**22 09 43.3**	**-1.0**
	comp=Z,8.6nm,0.6s						
PKIN	**Phulchoki**	**53.76**	**312**	*eP*	**P**	**22 09 43.7**	**-0.6**
	comp=Z,5.9nm,0.5s						
BKZ	**Black Stump Fm**	**53.88**	**134**	P	**P**	**22 09 45.0**	**+0.3**
RTZ	**Ruatahuna**	**54.02**	**133**	P	**P**	**22 09 46.7**	**+0.8**
RTZ				IAmb	IAmb	22 09 47.7	
	comp=Z,6.9nm,0.9s						
GKN	**Gorkha**	**54.56**	**312**	*eP*	**P**	**22 09 49.6**	**-0.3**
DANN	**Dangsing**	**55.39**	**312**	*eP*	**P**	**22 09 55.1**	**-1.0**
SONM	**Songino Array**	**58.30**	**343**	P	**P**	**22 10 16.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=163,slow=8.5,SNR=12						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**58.30**	**343**	P	**P**	**22 10 16.4**	**+0.4**
CASY	**Casey**	**59.76**	**188**	P	**P**	**22 10 26.7**	**+1.1**
WMQ	**Urumqi**	**62.64**	**328**	*eP*	**P**	**22 10 44.1**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MK31	**Makanchi Array**	**67.46**	**328**	P	**P**	**22 11 16.3**	**-0.1**
MKAR	**Makanchi Array**	**67.46**	**328**	P	**P**	**22 11 16.6**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=120,slow=7.0,SNR=38						
	comp=Z,2.2nm,0.7s						
MKAR	**Makanchi Array**	**67.46**	**328**	P	**P**	**22 11 16.3**	**-0.1**
MAKZ	**Makanchi**	**67.63**	**328**	P	**P**	**22 11 17.4**	**-0.1**
AAK	**Ala-Archa**	**69.50**	**321**	P	**P**	**22 11 28.8**	**-0.5**
GAR	**Garm**	**70.43**	**316**	P	**P**	**22 11 34.8**	**-0.3**
GAR				IAmb	IAmb	22 11 38.6	
	comp=Z,3.4nm,0.7s						
CHGR	**Chuyangaron**	**71.08**	**315**	P	**P**	**22 11 38.6**	**-0.4**
CHGR				IAmb	IAmb	22 11 40.6	
	comp=Z,3.2nm,0.7s						
ZAA0	**Zalesovo Array**	**71.10**	**335**	P	**P**	**22 11 38.0**	**-0.6**
ZAA0				IAmb	IAmb	22 11 39.5	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**71.10**	**335**	P	**P**	**22 11 38.8**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=122,slow=4.8,SNR=16						
	comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	**71.10**	**335**	P	**P**	**22 11 38.0**	**-0.5**
KURK	**Kurchatov**	**71.82**	**330**	P	**P**	**22 11 42.7**	**-0.3**
KURK				IAmb	IAmb	22 11 44.0	
	comp=Z,5.0nm,0.5s						
VNDA	**Vanda**	**72.14**	**173**	P	**P**	**22 11 45.6**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=318,slow=9.6,SNR=22						
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**72.14**	**173**	P	**P**	**22 11 45.2**	**+0.7**
SEY	**Seymchan**	**72.85**	**12**	P	**P**	**22 11 48.9**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=214,slow=4.7,SNR=8.6						
	comp=Z,1.8nm,0.6s						
VOI	**Vohitsoka**	**78.72**	**249**	P	**P**	**22 12 23.3**	**0.0**
VOI				IAmb	IAmb	22 12 29.1	
	comp=Z,8.4nm,1.1s						
TIXI	**Tiksi**	**79.09**	**0**	P	**P**	**22 12 22.9**	**-1.1**
ABKAR	**Akbulak array**	**81.52**	**322**	P	**P**	**22 12 36.9**	**-0.6**
ABKAR	**Akbulak array**	**81.52**	**322**	P	**P**	**22 12 36.5**	**-1.0**
QSPA	**South Pole Qui**	**82.38**	**180**	P	**P**	**22 12 42.4**	**+0.6**
QSPA				IAmb	IAmb	22 12 44.9	
	comp=Z,5.7nm,0.9s						
RAYN	**Ar Rayn**	**85.83**	**294**	P	**P**	**22 12 59.1**	**-1.0**
RAYN				IAmb	IAmb	22 13 00.4	
	comp=Z,7.6nm,1.3s						
TROLL	**Troll, Antarti**	**92.99**	**195**	P	**P**	**22 13 34.4**	**+1.6**
SNAA	**Sanae**	**94.52**	**194**	P	**P**	**22 13 40.8**	**+1.0**
GERES	**GERESS Array B**	**111.36**	**320**	PKiKP	**PKiKP**	**22 18 53.0**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=129,slow=3.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**126.60**	**281**	PKP	**PKPdf**	**22 19 22.8**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=61,slow=2.3,SNR=11						
CPUP	**Villa Florida**	**145.93**	**172**	PKPbc	**PKPbc**	**22 19 59.5**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=160,slow=1.6,SNR=4.6						
LPAZ	**La Paz**	**151.60**	**147**	PKPbc	**PKiKP**	**22 20 15.7**	**+0.3**
	comp=Z,2.2nm,0.4s,baz=34,slow=5.9,SNR=15						
LPAZ				PKPab	**PKPab**	**22 20 24.9**	**+0.9**
	comp=Z,3.9nm,0.6s,baz=199,slow=4.0,SNR=13						

*DNK **24** 22:23:16.6±1.6, 77°.25N×21°.31E, h21km±7km, ML2.0*
*NAO **24** 22:23:16.4±1.0, 77°.20N×21°.16E, h14km±9km, ML2.5*
*BER **24** 22:23:17.9±0.9, 77°.21N×21°.34E, h17km±5km, ML1.8, ML2.5(NAO), Confirmed Earthquake*
*IEPN **24** 22:23:18.0, 77°.32N×21°.33E, h10km*

ISC 24 22:23:15.4±1.1, 77°.28N±0°.04×21°.34E±0°.03, h17km±10km, n22, σ1§03/42, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**1.14**	**131**		Pg	**Pg**	**22 23 37.0**	**-0.3**
HOPEN					Lg	Lg	22 23 52.5	
HOPEN	**Hopen**	**1.14**	**131**		P	**Pn**	**22 23 36.4**	**-0.1**
HOPEN					*eS*	**Sb**	**22 23 51.1**	**0.0**
HOPEN	**Hopen**	**1.14**	**131**		*eP*	**Pg**	**22 23 37.5**	**+0.2**
HOPEN					*eS*	**Sb**	**22 23 50.9**	**-0.2**
HSPB	**Hornsund (broa**	**1.33**	**261**		Pn	**Pn**	**22 23 39.0**	**-0.2**
HSPB					Pg	**Pb**	**22 23 40.2**	**+0.4**
HSPB					Lg	Lg	22 23 58.0	
HSPB	**Hornsund (broa**	**1.33**	**261**		*eP*	**Pn**	**22 23 38.8**	**-0.4**
HSPB					*eS*	**Sn**	**22 23 55.9**	**-0.5**
HSPB	**Hornsund (broa**	**1.33**	**261**		*eP*	**Pb**	**22 23 40.3**	**+0.4**
HSPB					*eS*	**Sn**	**22 23 56.5**	**0.0**
HSPB					IAML		22 23 58.7	
	comp=Z,24nm,0.2s							
SPA0	**Spitsbergen Ar**	**1.40**	**313**		Pn	**Pb**	**22 23 41.1**	**+0.1**
	baz=132,slow=22							
SPA0					Pg	**Pg**	**22 23 42.8**	**+0.6**
	baz=132,slow=18							
SPA0					Lg	Lg	22 24 01.5	
	baz=135,slow=37							
SPA0	**Spitsbergen Ar**	**1.40**	**313**		*eP*	**Pb**	**22 23 41.0**	**+0.1**
SPA0					*eS*	**Sb**	**22 23 58.8**	**+0.3**
SPA0	**Spitsbergen Ar**	**1.40**	**313**		Pn	**Pb**	**22 23 41.1**	**+0.1**
	slow=22							
SPA0					Pg	**Pg**	**22 23 42.8**	**+0.6**
	slow=18							
SPA0					Sg	**Sg**	**22 24 01.5**	**+1.1**
	slow=37							
BRBA	**Barentsburg A**	**1.72**	**301**		Pn	**Pb**	**22 23 45.6**	**-0.9**
BRBA					Pg	**Pg**	**22 23 48.0**	**-0.3**
BRBA					Lg	Lg	22 24 10.5	
BRBA	**Barentsburg A**	**1.72**	**301**		*eP*	**Pg**	**22 23 48.1**	**-0.3**
BRBA					*eSg*	**Sg**	**22 24 10.5**	**-0.2**
BRBA	**Barentsburg A**	**1.72**	**301**		*eP*	**Pg**	**22 23 48.1**	**-0.3**
BRBA					*eSg*	**Sg**	**22 24 10.5**	**-0.2**
BRBB	**Barentsburg B**	**1.74**	**302**		Pn	**Pn**	**22 23 45.7**	**+1.0**
BRBB					Pg	**Pg**	**22 23 48.2**	**-0.5**
BRBB					Sn	**Sn**	**22 24 06.8**	**+0.4**
BRBB					Lg	Lg	22 24 11.3	
BRBB	**Barentsburg B**	**1.74**	**302**		*eP*	**Pg**	**22 23 48.2**	**-0.5**
BRBB					*eS*	**Sn**	**22 24 07.0**	**+0.5**
BRBB					*eSg*	**Sg**	**22 24 11.0**	**-0.2**
BRBB	**Barentsburg B**	**1.74**	**302**		*eP*	**Pg**	**22 23 48.2**	**-0.5**
BRBB					*eS*	**Sn**	**22 24 07.0**	**+0.5**
BRBB					*eSg*	**Sg**	**22 24 11.0**	**-0.2**
KBS	**Kingsbay**	**2.56**	**315**		*e*	Pn	22 23 50.1	-5.9
KBS					*eSg*	**Sg**	**22 24 35.6**	**-1.8**
KBS	**Kingsbay**	**2.56**	**315**		*e*	Pn	22 23 50.1	-5.9
KBS					*eSg*	**Sg**	**22 24 35.6**	**-1.8**
ZFI	**Zemlya Franca-**	**6.07**	**42**		P	**Pn**	**22 24 47.1**	**+2.9**
ZFI					*eS*	**Sn**	**22 25 51.1**	**-2.1**
	comp=Z,21nm,1.5s							
ZFI2	**Zemlya Franca-**	**6.07**	**42**		P	**Pn**	**22 24 47.2**	**+2.9**
ZFI2					*eS*	**Sn**	**22 25 50.8**	**-2.5**
ARA0	**ARCESS Array S**	**7.87**	**169**		Pn	**Pn**	**22 25 08.7**	**-0.3**
	baz=359,slow=10							
ARA0					Sn	Sn	22 26 27.8	-10
	baz=360,slow=22							
ARA0	**ARCESS Array S**	**7.87**	**169**		Pn	**Pn**	**22 25 08.7**	**-0.3**
	slow=10							
ARA0	**ARCESS Array S**	**7.87**	**169**		Pn	**Pn**	**22 25 08.7**	**-0.3**
	slow=10							

*IDC **24** 22:42:41.9±1.9, 18°.95N×39°.25E, h0km, mb3.8/9, mbtmp3.8/9, MS3.3/16, Error ellipse: s-maj=44.1km s-min=22.5km az=165.0*
*SGS **24** 22:42:42.0, 19°.14N×39°.35E, h15km, Ml3.2*
*NEIC **24** 22:42:44.0±1.0, 18°.9N±0°.2×39°.3E±0°.1, h10km±2km, mb4.3/14, Error ellipse: s-maj=29.1km s-min=18.9km az=141.0*

ISC 24 22:42:43.3±0.6, 19°.05N±0°.06×39°.42E±0°.07, h10km, n55, σ1§89/41, mb4.1/13, MS3.4/13, Red Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NLITH	**NLITH**	**1.48**	**22**		P	**Pn**	**22 43 06.2**	**-3.8**
LTHS	**Al Lith**	**1.53**	**37**		P	**Pn**	**22 43 07.0**	**-3.8**
QNFDS	**Al Qunfudhah**	**1.62**	**62**		P	**Pn**	**22 43 09.1**	**-2.8**
QNF01	**Al Qunfudhah**	**1.79**	**79**		S	**Sn**	**22 43 33.8**	**-3.3**
QNF01	**Al Qunfudhah**	**1.79**	**79**		P	**Pn**	**22 43 11.8**	**-2.4**
AMGES	**AMGES**	**2.09**	**106**		P	**Pn**	**22 43 16.3**	**-2.1**
FRAS	**Faraa**	**2.25**	**27**		P	**Pn**	**22 43 18.6**	**-2.2**
NAMS	**An Nimas**	**2.63**	**87**		P	**Pn**	**22 43 25.6**	**-0.5**
ENMS	**ENMS**	**2.98**	**89**		P	**Pn**	**22 43 31.0**	**+0.1**
DRBS	**Ad Darb**	**2.99**	**114**		S	**Sn**	**22 44 04.7**	**-2.1**
DRBS	**Ad Darb**	**2.99**	**114**		P	**Pn**	**22 43 29.8**	**-1.0**
FRSS2	**Sair Farasan I**	**3.15**	**134**		P	**Pn**	**22 43 31.0**	**-1.9**
FRSS	**Farasan al Kab**	**3.45**	**131**		P	**Pn**	**22 43 35.3**	**-1.8**
AKWA	**Algayed**	**3.59**	**119**		P	**Pn**	**22 43 37.4**	**-1.7**
ATD	**Arta Tunnel**	**8.18**	**156**		LR	LR	22 47 24.9	
	comp=Z,94nm,20.9s,baz=9.0,slow=35							
EIL	**Elat**	**11.32**	**340**		LR	LR	22 49 32.3	
	comp=Z,14nm,18.4s,baz=154,slow=36							
MMAI	**Mount Meron Ar**	**14.36**	**346**		LR	LR	22 51 04.0	
	comp=Z,78nm,21.4s,baz=52,slow=35							
LODK	**Lodwar**	**16.04**	**195**		Pn	**Pn**	**22 46 27.1**	**-2.0**
UOSS	**Minazif**	**16.63**	**66**		Pn	**P**	**22 46 38.8**	**-0.3**
UOSS					IAmb	IAmb	22 46 59.9	
	comp=Z,66nm,1.4s							
BRTR	**Keskin Array B**	**21.20**	**348**		P	**P**	**22 47 31.1**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=168,slow=14,SNR=10.0							
BRTR					LR	LR	22 56 20.3	
	comp=Z,50nm,18.3s,baz=170,slow=38							
	comp=Z,1.8nm,0.8s							
BRTR	**Keskin Array B**	**21.20**	**348**		P	**P**	**22 47 30.5**	**+1.3**
BR131	**Keskin Array S**	**21.20**	**348**		P	**P**	**22 47 30.3**	**+1.1**
BR131					IAmb	IAmb	22 47 36.6	
	comp=Z,19nm,1.2s							
MBAR	**Mbarara**	**21.31**	**205**		LR	LR	22 55 17.3	
	comp=Z,65nm,21.5s,baz=336,slow=36							
GNI	**Garni**	**21.52**	**11**		LR	LR	22 56 35.4	
	comp=Z,75nm,19.6s,baz=222,slow=38							
AKH	**Akhalkalaki**	**22.55**	**8**		P	**P**	**22 47 46.6**	**+2.8**
ONI	**Oni**	**23.71**	**7**		P	**P**	**22 47 58.2**	**+2.7**
ONI					IAmb	IAmb	22 48 03.8	
	comp=Z,17nm,1.4s							
GEYT	**Alibeck**	**24.89**	**37**		LR	LR	22 58 54.2	
	comp=Z,115nm,21.1s,baz=272,slow=39							
KIV	**Kislovodsk**	**24.98**	**6**		P	**P**	**22 48 09.4**	**+2.2**
KIV					IAmb	IAmb	22 48 13.2	
	comp=Z,13nm,1.4s							
AKASG	**Malin Array Be**	**32.60**	**348**		P	**P**	**22 49 15.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=159,slow=7.1,SNR=5.4							
	comp=Z,0.4nm,0.6s							
CASP	**Castiglione de**	**33.78**	**321**		P	**P**	**22 49 26.4**	**+1.1**
ABKAR	**Akbulak array**	**34.35**	**24**		P	**P**	**22 49 30.7**	**+0.4**
ABKAR	**Akbulak array**	**34.35**	**24**		P	**P**	**22 49 30.9**	**+0.6**
AKTO	**Aktyubinsk**	**34.63**	**21**		LR	LR	23 06 47.4	
	comp=Z,45nm,20.6s,baz=279,slow=42							
KKAR	**Karatay Array**	**35.49**	**41**		P	**P**	**22 49 42.5**	**+2.3**
LSZ	**Lusaka**	**35.86**	**199**		LR	LR	23 02 57.8	
	comp=Z,66nm,20.2s,baz=344,slow=34							
GERES	**GERESS Array B**	**36.24**	**331**		P	**P**	**22 49 46.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=127,slow=8.6,SNR=5.3							
	comp=Z,0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**36.67**	**267**		P	**P**	**22 49 49.3**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=77,slow=8.5,SNR=13							
	comp=Z,2.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**36.67**	**267**		P	**P**	**22 49 49.1**	**-1.5**
TORD					IAmb	IAmb	22 49 50.5	
	comp=Z,2.9nm,1.1s							
AAK	**Ala-Archa**	**37.79**	**44**		LR	LR	23 05 32.8	
	comp=Z,61nm,20.7s,baz=296,slow=36							
ESDC	**Sonseca Array**	**42.53**	**308**		P	**P**	**22 50 38.5**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=90,slow=10,SNR=5.7							
	comp=Z,0.9nm,0.9s							
PAB	**San Pablo**	**42.78**	**308**		P	**P**	**22 50 40.7**	**-0.6**
FINES	**FINESS Array B**	**43.38**	**351**		P	**P**	**22 50 45.9**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=161,slow=13,SNR=1.6							
	comp=Z,1.4nm,0.8s							
TSUM	**Tsumeb**	**43.64**	**211**		LR	LR	23 09 48.6	
	comp=Z,52nm,19.2s,baz=330,slow=37							
MAKZ	**Makanchi**	**44.40**	**42**		P	**P**	**22 50 55.7**	**+1.5**
MAKZ					IAmb	IAmb	22 50 57.5	
	comp=Z,2.9nm,0.8s							
MK31	**Makanchi Array**	**44.59**	**42**		P	**P**	**22 50 57.4**	**+1.6**
MK31					IAmb	IAmb	22 50 58.9	
	comp=Z,2.7nm,0.9s							
MKAR	**Makanchi Array**	**44.59**	**42**		P	**P**	**22 50 57.2**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=243,slow=6.7,SNR=16							
MKAR					LR	LR	23 12 53.9	
	comp=Z,54nm,18.1s,baz=312,slow=40							
	comp=Z,2.1nm,0.8s							
DBIC	**Dimbokro**	**44.75**	**260**		LR	LR	23 08 45.0	
	comp=Z,66nm,18.2s,baz=24,slow=35							
ZALV	**Zalesovo Beam**	**49.13**	**34**		P	**P**	**22 51 32.5**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=248,slow=7.8,SNR=7.4							
	comp=Z,1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**49.13**	**34**		P	**P**	**22 51 32.4**	**+1.3**
BOSA	**Boshof**	**49.33**	**196**		LR	LR	23 13 47.4	
	comp=Z,71nm,18.9s,baz=12,slow=38							
SUR	**Sutherland**	**54.16**	**199**		LR	LR	23 15 58.1	
	comp=Z,51nm,19.7s,baz=344,slow=37							
SONM	**Songino Array**	**60.72**	**45**		P	**P**	**22 52 56.6**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=262,slow=7.6,SNR=8.4							
	comp=Z,0.9nm,0.8s							
SONM	**Songino Array**	**60.72**	**45**		P	**P**	**22 52 57.0**	**+1.8**
SONM					IAmb	IAmb	22 52 58.9	
	comp=Z,3.7nm,1.4s							
KSRS	**Korea Array**	**77.52**	**55**		LR	LR	23 33 34.9	
	comp=Z,25nm,18.5s,baz=5.0,slow=39							
SCHQ	**Schefferville**	**83.60**	**326**		P	**P**	**22 55 11.6**	**-0.2**

*DJA **24** 23:22:45.1±0.2, 7°.5×3°×12°.8E±°, h335km±5km, M4.3/17, mB5.1/2, mb4.1/17, MLv4.4/13, Mw(mB)4.5/2*
*IDC **24** 23:22:45.3±1.4, 6°.47S×127°.91E, h346km±19km, mb3.2/5, mbtmp4.0/8, Error ellipse: s-maj=24.3km s-min=17.3km az=98.0*

ISC 24 23:22:45.1±0.6, 6°.47S±0°.06×128°.06E±0°.07, h353km, n41, σ1§47/45, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.67**	**44**		P	**Pn**	**23 23 42.1**	**+0.3**
AAI	**Ambon**	**2.77**	**3**		P	**Pn**	**23 23 41.6**	**-1.1**
MSAI	**Masohi**	**3.22**	**16**		P	**Pn**	**23 23 45.6**	**-1.1**
SAUI	**Saumlaki**	**3.55**	**115**		P	**Pn**	**23 23 50.7**	**+0.9**
SAUI	**Saumlaki**	**3.55**	**115**		P	**Pn**	**23 23 48.9**	**-0.9**
SANI	**Sanana**	**4.85**	**335**		P	**Pn**	**23 24 03.1**	**-0.2**
SANI	**Sanana**	**4.85**	**335**		P	**Pn**	**23 24 02.2**	**-1.1**
SOEI	**Soe**	**4.98**	**229**		P	**Pn**	**23 24 03.6**	**-1.2**
SOEI	**Soe**	**4.98**	**229**		P	**Pn**	**23 24 03.0**	**-1.8**
FAKI	**Fak Fak**	**5.46**	**50**		P	**Pn**	**23 24 09.5**	**-0.5**
FAKI	**Fak Fak**	**5.46**	**50**		P	**Pn**	**23 24 08.9**	**-1.1**
	51nm,0.6s,0.6nm							
BATI	**Baumata**	**5.72**	**229**		P	**Pn**	**23 24 12.2**	**-0.7**
	479nm,0.4s,baz=51,slow=1.4,SNR=69							
BATI					S	**S**	**23 25 21.3**	**-2.7**
	187nm,0.3s,baz=258,slow=23,SNR=8.4							
BATI	**Baumata**	**5.72**	**229**		P	**Pn**	**23 24 12.0**	**-0.9**
SIJI	**Sorong**	**6.42**	**30**		P	**Pn**	**23 24 21.6**	**+0.8**
	7.0nm,0.4s,baz=208,slow=23,SNR=6.0							
SIJI					S	**S**	**23 25 32.2**	**-6.3**
	8.0nm,0.3s,baz=100,slow=23,SNR=6.8							
MTN	**Manton Dam**	**7.02**	**155**		P	**Pn**	**23 24 28.1**	**+0.3**
KDU	**Kakadu**	**7.56**	**145**		P	**Pn**	**23 24 34.7**	**+0.6**
RKPI	**Ransiki, Papua**	**7.84**	**51**		P	**Pn**	**23 24 38.5**	**+1.0**
	72nm,0.6s,6µm1.1nm							
BKSI	**Bulukumba**	**7.98**	**278**		P	**Pn**	**23 24 39.4**	**+0.3**
	30nm,0.8s,0.1nm							
KAPI	**Kappang**	**8.39**	**279**		P	**Pn**	**23 24 45.6**	**+1.6**
	7.6nm,0.3s,baz=184,slow=11,SNR=6.2							
SPSI	**Sidrap Palu**	**8.62**	**286**		P	**Pn**	**23 24 46.9**	**+0.2**
	25nm,1.1s							
KNRA	**Kununurra**	**9.18**	**176**		P	**Pn**	**23 24 53.4**	**+0.1**
MRSI	**Marisa**	**9.21**	**318**		P	**Pn**	**23 24 53.9**	**+0.1**
	34nm,0.8s							
PLAI	**Plampang**	**10.46**	**256**		P	**Pn**	**23 25 07.0**	**-1.6**
PLAI	**Plampang**	**10.46**	**256**		P	**Pn**	**23 25 07.4**	**-1.2**
	19nm,0.9s							
MPSI	**Mapaga**	**10.59**	**309**		P	**P**	**23 25 12.6**	**+1.6**
	19nm,1.4s,858nm							
TWSI	**Taliwang, Sumb**	**11.31**	**258**		P	**Pn**	**23 25 17.2**	**-1.5**
	13nm,1.2s							
WRAB	**Tennant Creek**	**14.71**	**156**		P	**P**	**23 25 57.3**	**+0.8**
WRA	**Warramunga Arr**	**14.72**	**156**		P	**P**	**23 25 57.4**	**+0.8**
	3.5nm,0.5s,baz=331,slow=12,SNR=50							
WRA					S	**S**	**23 28 33.1**	**-2.2**
	2.9nm,0.6s,baz=339,slow=17,SNR=6.9							
COEN	**Coen**	**16.62**	**118**		P	**P**	**23 26 19.0**	**+1.7**
MBWA	**Marble Bar**	**16.68**	**208**		P	**P**	**23 26 17.5**	**-0.4**
PSA00	**Pilbara Seismi**	**16.99**	**207**		P	**P**	**23 26 20.7**	**-0.5**
QIS	**Mount Isa**	**17.93**	**142**		P	**P**	**23 26 31.8**	**+0.5**
ASAR	**Alice Springs**	**18.00**	**162**		P	**P**	**23 26 33.2**	**+1.2**
	2.3nm,0.7s,baz=344,slow=12,SNR=25							
ASAR					S	**S**	**23 29 39.7**	**-0.4**
	3.6nm,0.6s,baz=346,slow=18,SNR=15							
AS01	**Alice Springs**	**18.01**	**162**		P	**P**	**23 26 33.5**	**+1.4**
WRKA	**Warakurna**	**18.47**	**179**		P	**P**	**23 26 37.6**	**+0.7**
GIRL	**Giralia**	**20.89**	**218**		P	**P**	**23 27 00.5**	**-0.6**
KSRS	**Korea Array**	**43.69**	**360**		P	**P**	**23 30 17.2**	**+0.8**
	1.9nm,0.6s,baz=179,slow=10,SNR=8.7							
	1.9nm,0.6s							
USRK	**Ussuriysk Ar.**	**50.56**	**4**		P	**P**	**23 31 09.1**	**+0.3**
	1.0nm,0.5s,baz=195,slow=7.0,SNR=4.8							
	1.0nm,0.5s							
SONM	**Songino Array**	**57.35**	**343**		P	**P**	**23 31 58.9**	**+1.4**
	0.7nm,0.6s,baz=168,slow=5.5,SNR=7.0							
	0.7nm,0.6s							
MKAR	**Makanchi Array**	**66.74**	**328**		P	**P**	**23 32 59.6**	**+0.3**
	0.3nm,0.5s,baz=118,slow=7.5,SNR=9.0							
	0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**70.27**	**335**		P	**P**	**23 33 20.5**	**-0.2**
	0.6nm,0.4s,baz=134,slow=6.2,SNR=2.6							
	0.6nm,0.4s							

*IDC **24** 23:51:58.6±6.8, 32°.09S×179°.91E, h366km±75km, mb3.0/3, mbtmp3.9/4, Error ellipse: s-maj=85.4km s-min=32.8km az=12.0*
*WEL **24** 23:52:00.8±0.6, 32°.5±9°×18°.0W±2°.3, h282km±14km, M4.2/19, mB4.7/14, MLv4.8/19, Mw(mB)4.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6, confirmed*

ISC 24 23:51:59.8±1.6, 32°.07S±0°.09×179°.7E±0°.2, h350km, n43, σ1§56/64, mb3.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.47**	**37**		P	Pn	23 52 55.6	-8.0
GLKZ					S	S	23 53 42.2	-13
MXZ	**Matakaoa Point**	**5.60**	**191**		P	**Pn**	**23 53 28.7**	**+2.8**
MXZ					S	**S**	**23 54 36.0**	**+0.2**
WMGZ	**Waiomatatini S**	**5.83**	**190**		P	**Pn**	**23 53 29.6**	**+1.0**
WMGZ					S	**S**	**23 54 42.5**	**+1.9**
HAZ	**Te Kaha**	**5.89**	**195**		P	**Pn**	**23 53 29.7**	**+0.5**
HAZ					S	**S**	**23 54 42.0**	**+0.3**
PKGZ	**Pakihiroa**	**5.96**	**193**		P	**Pn**	**23 53 32.1**	**+2.0**
PKGZ					S	**S**	**23 54 45.0**	**+1.7**
PUZ	**Puketiti**	**6.10**	**191**		P	**Pn**	**23 53 31.9**	**+0.2**
PUZ					S	**S**	**23 54 44.5**	**-1.8**
RUGZ	**Raukumara Rang**	**6.11**	**195**		P	**Pn**	**23 53 32.1**	**+0.2**
RUGZ					S	**S**	**23 54 46.2**	**-0.4**
TWGZ	**Tauwhareparae**	**6.25**	**193**		P	**Pn**	**23 53 34.6**	**+1.1**
TWGZ					S	**S**	**23 54 51.6**	**+2.1**
MWZ	**Matawai**	**6.50**	**195**		P	**Pn**	**23 53 36.2**	**-0.1**
MWZ					S

AKUT	**Akutan**	**2.10**	**243**	Pn	**Pn**	**00 02 23.3**	**-1.2**
AKUT				IAML		00 02 51.4	
	comp=E,140nm,3.6s						
AKUT				IAML		00 03 54.0	
	comp=N,185nm,4.5s						
UNV	**Unalaska Valle**	**2.62**	**242**	Pn	**Pn**	**00 02 29.4**	**-2.0**
CHGN	**Chignik**	**2.64**	**62**	Pn	**Pn**	**00 02 33.6**	**+1.9**
CHGN				IAML		00 03 10.0	
	comp=N,74nm,0.3s						
CHIR	**Chirikof Islan**	**4.03**	**77**	Pn	**Pn**	**00 02 51.9**	**+1.7**
CHIR				IAML		00 05 31.2	
	comp=N,170nm,3.3s						
CHIR				IAML		00 05 41.2	
	comp=E,177nm,2.8s						
NIKH	**Nikolski High**	**4.27**	**242**	Pn	**Pn**	**00 02 53.9**	**+0.3**
SII	**Sitkinak Islan**	**4.95**	**70**	Pn	**Pn**	**00 03 04.1**	**+1.3**
OHAK	**Old Harbor**	**5.61**	**64**	Pn	**Pn**	**00 03 12.3**	**+0.7**
P18K	**Big Mountain,**	**5.86**	**40**	Pn	**Pn**	**00 03 16.8**	**+1.8**
KDAK	**Kodiak Island**	**6.16**	**60**	P	**Pn**	**00 03 19.5**	**+0.5**
	comp=E,1.9nm,0.3s,baz=244,slow=7.6,SNR=51						
KDAK				S	**Sn**	**00 04 25.8**	**-2.1**
	comp=E,26nm,1.3s,baz=217,slow=20,SNR=12						
KDAK	**Kodiak Island**	**6.16**	**60**	Pn	**Pn**	**00 03 19.8**	**+0.8**
O18K	**Koktuh Hills**	**6.19**	**37**	Pn	**Pn**	**00 03 22.3**	**+2.7**
Q19K	**Cape Douglas,**	**6.20**	**48**	Pn	**Pn**	**00 03 22.6**	**+3.0**
N19K	**Bonanza Creek**	**7.15**	**34**	Pn	**Pn**	**00 03 34.2**	**+1.6**
RSO	**Redoubt South**	**7.50**	**40**	Pn	**Pn**	**00 03 39.7**	**+2.3**
CNPM	**China Poot**	**7.56**	**50**	Pn	**Pn**	**00 03 38.9**	**+0.7**
BRLK	**Bradley Lake**	**7.84**	**49**	Pn	**Pn**	**00 03 42.0**	**+0.1**
L19K	**White Mountain**	**8.14**	**26**	Pn	**Pn**	**00 03 46.0**	**-0.1**
M20K	**Styx River**	**8.39**	**32**	Pn	**Pn**	**00 03 51.7**	**+2.3**
SUA	**Susitna One**	**8.90**	**40**	Pn	**Pn**	**00 03 57.4**	**+1.1**
SKT	**Skwentna**	**8.97**	**36**	Pn	**Pn**	**00 03 58.6**	**+1.3**
RC01	**Rabbit Creek A**	**9.05**	**43**	Pn	**Pn**	**00 03 58.4**	**+0.1**
K20K	**Telida**	**9.33**	**24**	Pn	**Pn**	**00 04 02.7**	**+0.5**
PPLA	**Purkeypile**	**9.45**	**30**	Pn	**Pn**	**00 04 06.8**	**+2.9**
PWL	**Port Wells**	**9.49**	**47**	Pn	**Pn**	**00 04 04.3**	**-0.1**
ANM	**Nome**	**9.58**	**353**	Pn	**Pn**	**00 04 05.4**	**-0.1**
KNK	**Knik Glacier**	**9.74**	**44**	Pn	**Pn**	**00 04 07.4**	**-0.4**
CAST	**Castle Rocks**	**9.89**	**29**	Pn	**Pn**	**00 04 11.8**	**+2.1**
SML	**Sawmill**	**10.02**	**42**	Pn	**Pn**	**00 04 11.0**	**-0.6**
KTH	**Kantishna Hill**	**10.33**	**30**	Pn	**Pn**	**00 04 15.4**	**-0.3**
SCM	**Sheep Creek Mo**	**10.43**	**44**	Pn	**Pn**	**00 04 16.1**	**-1.0**
EYAK	**Cordova Ski Ar**	**10.48**	**52**		**Pn**	**00 04 17.1**	**-0.7**
DIV	**Divide**	**10.72**	**49**	Pn	**Pn**	**00 04 20.2**	**-0.9**
KLU	**Klutina**	**10.82**	**47**	Pn	**Pn**	**00 04 21.7**	**-0.8**
M24K	**Tolsona, Glenn**	**11.03**	**44**		**Pn**	**00 04 24.1**	**-1.2**
BMRM	**Bremner River**	**11.17**	**51**		**Pn**	**00 04 26.1**	**-1.0**
N25K	**Chitina, Valde**	**11.44**	**48**	Pn	**Pn**	**00 04 29.8**	**-1.0**
GLB	**Gilahina Butte**	**11.71**	**50**	Pn	**Pn**	**00 04 33.4**	**-1.0**
PAX	**Paxson**	**11.78**	**41**	Pn	**Pn**	**00 04 34.5**	**-0.8**
VRDI	**Verde Repeater**	**11.78**	**51**	Pn	**Pn**	**00 04 34.8**	**-0.7**
MCARA	**McCarthy VSAT**	**12.03**	**51**	Pn	**Pn**	**00 04 38.8**	**+0.2**
IL31		**12.43**	**33**	Pn	**Pn**	**00 04 45.2**	**+1.4**
ILAR	**Eielson Array**	**12.43**	**33**	P	**Pn**	**00 04 45.5**	**+1.6**
	comp=E,0.2nm,0.6s,baz=214,slow=13,SNR=1.5						
ILAR	**Eielson Array**	**12.43**	**33**	Pn	**Pn**	**00 04 44.9**	**+1.1**
RIDG	**Independent Ri**	**12.45**	**39**	Pn	**Pn**	**00 04 45.5**	**+1.3**
M26K	**Nabesna, AK**	**12.47**	**46**	Pn	**Pn**	**00 04 43.6**	**-0.9**
BARN	**Barnard Glacie**	**12.54**	**53**	Pn	**Pn**	**00 04 46.1**	**+0.7**
L26K	**Log Cabin Wild**	**12.63**	**43**	Pn	**Pn**	**00 04 46.5**	**0.0**
SCRK	**Sand Creek**	**12.90**	**39**	Pn	**Pn**	**00 04 50.0**	**-0.2**
H24K	**Noodor Dome**	**12.92**	**28**	P	**P**	**00 04 56.0**	**-1.1**
M27K	**Edge Creek, AK**	**12.93**	**48**	Pn	**Pn**	**00 04 50.1**	**-0.4**
L27K	**Beaver Creek,**	**13.26**	**45**	Pn	**Pn**	**00 04 54.1**	**-0.6**
BCAR	**Beaver Creek A**	**13.28**	**45**	Pn	**Pn**	**00 04 54.1**	**-0.9**
J26L	**Joseph Creek**	**13.36**	**38**	Pn	**Pn**	**00 04 55.0**	**-1.1**
I26K	**Coal Creek Min**	**13.98**	**35**	Pn	**Pn**	**00 05 03.6**	**-0.5**
EGAK	**Eagle**	**14.37**	**39**	Pn	**Pn**	**00 05 09.1**	**0.0**
HYT	**Haines Junctio**	**14.43**	**56**	Pn	**Pn**	**00 05 09.1**	**-0.9**
DAWY	**Dawson**	**14.69**	**43**	Pn	**Pn**	**00 05 13.2**	**0.0**
BMAR	**Burnt Mountain**	**14.99**	**27**	Pn	**Pn**	**00 05 17.8**	**+0.8**
M30M	**Minto, Yukon**	**15.21**	**50**	Pn	**Pn**	**00 05 19.9**	**0.0**
M30M				IAmb	IAmb	00 05 48.2	
	comp=Z,7.3nm,1.4s						
N31M	**Braeburn, Yuko**	**15.38**	**55**	Pn	**P**	**00 05 24.3**	**-0.2**
M31M	**Drury Creek, Y**	**16.19**	**53**		**P**	**00 05 33.7**	**+0.3**
M31M				IAmb	IAmb	00 05 49.9	
	comp=Z,8.8nm,1.4s						
P33M	**Teslin, Yukon**	**16.63**	**60**	Pn	**Pn**	**00 05 37.9**	**+0.4**
P33M				IAmb	IAmb	00 06 06.6	
	comp=Z,9.4nm,1.4s						
FARO	**Faro, Yukon**	**16.67**	**53**		**P**	**00 05 40.3**	**+1.6**
YKA	**Yellowknife Ar**	**25.38**	**54**	P	**P**	**00 07 08.3**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=272,slow=10.0,SNR=14						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**25.38**	**54**	P	**P**	**00 07 07.2**	**-1.0**
PDAR	**Pinedale Array**	**36.08**	**87**	P	**P**	**00 08 44.8**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=309,slow=4.0,SNR=4.4						
	comp=Z,0.2nm,0.5s						

*NOU **25** 00:08:08.3, 41˚.80S×174˚.47E, h12km, MLv3.9/9, Cook Strait, New Zealand*
*WEL **25** 00:08:09.1±0.3, 42˚.2S×174˚.4E±˚, h10km±3km, M3.6/16, ML3.8/17, MLv3.6/16, Error ellipse: s-maj=0.0km s-min=0.0km az=147.0, confirmed*
ISC 25 00:08:08.3±0.9, 41˚.77S±0˚.03×174˚.37E±0˚.03, h15km±6km, n85, σ1s32/96, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**281**	P	**Pg**	**00 08 12.0**		**+0.2**
CMWZ				S	**Sg**	**00 08 14.8**		**+0.8**
BSWZ	**Blackbirch Sta**	**0.37**	**279**	P	**Pg**	**00 08 15.9**		**+0.1**
BSWZ				S	**Sg**	**00 08 21.5**		**+0.5**
SNZO	**South Karori**	**0.53**	**29**	P	**Pg**	**00 08 18.6**		**0.0**
TCW	**Tory Channel**	**0.56**	**353**	P	**Pg**	**00 08 18.3**		**-1.0**
TCW				S	**Sg**	**00 08 24.7**		**-2.2**
PLWZ	**Palliser**	**0.69**	**73**	P	**Pn**	**00 08 23.7**		**+0.1**
PLWZ				S	**Sn**	**00 08 35.9**		**+1.8**
CAW	**Cannon Point**	**0.85**	**39**	P	**Pg**	**00 08 24.5**		**-0.2**
PAWZ	**Paruwai Farm**	**0.89**	**64**	P	**Pn**	**00 08 26.6**		**+0.4**
PAWZ				S	**Sn**	**00 08 40.1**		**+1.3**
KHZ	**Kahutara**	**0.89**	**223**	P	**Pn**	**00 08 27.3**		**+1.1**
KHZ	**Kahutara**	**0.89**	**223**	P	**Pn**	**00 08 27.3**		**+1.1**
KHZ				S	**Sn**	**00 08 41.6**		**+2.7**
NNZ	**Nelson**	**0.93**	**306**	P	**Pg**	**00 08 24.9**		**-1.3**
NNZ				S	**Sg**	**00 08 36.2**		**-2.1**
KIW	**Kapiti Island**	**1.00**	**24**	P	**Pg**	**00 08 26.6**		**-0.9**
KIW				S	**Sg**	**00 08 39.8**		**-0.8**
DUWZ	**D'Urville Isla**	**1.02**	**341**	P	**Pg**	**00 08 26.4**		**-1.6**
DUWZ				S	**Sg**	**00 08 39.9**		**-1.6**
MTW	**Mount Morrison**	**1.05**	**55**	P	**Pb**	**00 08 28.6**		**+0.5**
TRWZ	**Traveller**	**1.06**	**70**	P	**Pb**	**00 08 28.8**		**+0.5**
THZ	**Tophouse**	**1.09**	**270**	P	**Pb**	**00 08 29.0**		**0.0**
OGWZ	**Otaki Gorge**	**1.13**	**33**	P	**Pb**	**00 08 29.2**		**-0.3**
HOWZ	**Holdsworth Sta**	**1.23**	**45**	P	**Pb**	**00 08 31.2**		**0.0**
HOWZ				S	**Sn**	**00 08 47.5**		**+0.2**
MRNZ	**Matariki Terra**	**1.26**	**287**	P	**Pn**	**00 08 31.7**		**+0.3**
TKNZ	**Takaka Hill**	**1.29**	**304**	P	**Pn**	**00 08 31.4**		**-0.4**
TKNZ				S	**Sb**	**00 08 47.8**		**-0.8**
TMWZ	**Te Maipa**	**1.32**	**60**	P	**Pn**	**00 08 32.2**		**0.0**
MRZ	**Mangatainoka R**	**1.44**	**40**	P	**Pn**	**00 08 34.1**		**+0.3**
MRZ				S	**Sg**	**00 08 53.5**		**-1.1**
GVZ	**Greta Valley S**	**1.55**	**219**	P	**Pn**	**00 08 35.4**		**0.0**
CPWZ	**Castlepoint**	**1.63**	**59**	P	**Pn**	**00 08 36.9**		**+0.6**
QRZ	**Quartz Range**	**1.68**	**304**	P	**Pn**	**00 08 37.9**		**+0.9**
QRZ	**Quartz Range**	**1.68**	**304**	P	**Pn**	**00 08 37.6**		**+0.6**
PRWZ	**Pori Road**	**1.72**	**45**	P	**Pn**	**00 08 38.0**		**+0.4**
POWZ	**Post Office Ro**	**1.74**	**38**	P	**Pn**	**00 08 38.9**		**+1.0**
BFZ	**Birch Farm**	**1.79**	**53**	P	**Pn**	**00 08 38.3**		**-0.3**
BFZ	**Birch Farm**	**1.79**	**53**	P	**Pn**	**00 08 38.3**		**-0.3**
LTZ	**Lake Taylor**	**1.85**	**236**	P	**Pn**	**00 08 40.4**		**+0.8**
DSZ	**Denniston Nort**	**1.92**	**270**	P	**Pn**	**00 08 42.3**		**+1.9**
WAZ	**Wanganui**	**2.07**	**13**	P	**Pb**	**00 08 46.3**		**+0.8**
PRHZ	**Porangahau**	**2.28**	**50**	P	**Pn**	**00 08 46.6**		**+1.2**
LREZ	**Lake Rotokare**	**2.31**	**1**	P	**Pb**	**00 08 50.8**		**+1.2**
MQZ	**McQueen's Vall**	**2.31**	**213**	P	**Pn**	**00 08 45.1**		**-0.6**
OXZ	**Oxford**	**2.32**	**227**	P	**Pn**	**00 08 45.6**		**-0.3**
WPHZ	**Waipukurau**	**2.32**	**43**	P	**Pb**	**00 08 51.0**		**+1.2**
INZ	**Inchbonnie**	**2.37**	**245**	P	**Pb**	**00 08 50.7**		**+0.1**
NMEZ	**Namu Road**	**2.38**	**351**	P	**Pg**	**00 08 52.5**		**-1.5**
KHEZ	**Kahui Hut**	**2.49**	**354**	P	**Pn**	**00 08 50.2**		**+1.9**
KHEZ	**Kahui Hut**	**2.49**	**354**	P	**Pb**	**00 08 52.5**		**-0.2**
NEZ	**North Egmont**	**2.51**	**355**	P	**Pb**	**00 08 53.0**		**0.0**
NBEZ	**Newall Road No**	**2.53**	**351**	P	**Pn**	**00 08 51.2**		**+2.5**
PXZ	**Pawanui**	**2.57**	**48**	P	**Pb**	**00 08 52.4**		**-1.6**
MOVZ	**Moawhango**	**2.59**	**25**	P	**Pb**	**00 08 52.4**		**-2.0**
PKE	**Pukeiti**	**2.59**	**353**	P	**Pb**	**00 08 55.5**		**+1.1**
KRHZ	**Kereru**	**2.62**	**36**	P	**Pn**	**00 08 49.4**		**-0.6**
WNVZ	**Wahianoa**	**2.62**	**21**	P	**Pb**	**00 08 54.8**		**-0.2**
BHHZ	**Black Hill Sta**	**2.62**	**30**	P	**Pn**	**00 08 51.3**		**+1.2**
WHVZ	**Whangaehu Hut**	**2.65**	**21**	P	**Pb**	**00 08 55.6**		**0.0**
VRZ	**Vera Road**	**2.66**	**7**	P	**Pb**	**00 08 54.1**		**-1.5**
FWVZ	**Far West T-bar**	**2.67**	**20**	P	**Pb**	**00 08 55.9**		**0.0**
TUVZ	**Tukino**	**2.69**	**22**	P	**Pb**	**00 08 56.1**		**0.0**
KAHZ	**Kahuranaki**	**2.74**	**45**	P	**Pn**	**00 08 52.2**		**+0.4**
NGZ	**Ngauruhoe**	**2.76**	**20**	P	**Pb**	**00 08 57.7**		**+0.4**
SNVZ	**South Ngauruho**	**2.76**	**21**	P	**Pb**	**00 08 57.7**		**+0.3**
OTVZ	**Oturere**	**2.79**	**21**	P	**Pn**	**00 08 54.3**		**+1.8**
NNVZ	**North Ngauruho**	**2.80**	**20**	P	**Pn**	**00 08 54.8**		**+2.1**
WTVZ	**West Tongariro**	**2.81**	**20**	P	**Pb**	**00 08 57.9**		**-0.3**
TWVZ	**Taurewa**	**2.82**	**17**	P	**Pb**	**00 08 58.4**		**+0.1**
KWHZ	**Kaweka Forest**	**2.82**	**34**	P	**Pb**	**00 08 58.1**		**-0.2**
ETVZ	**East Tongariro**	**2.83**	**22**	P	**Pn**	**00 08 55.5**		**+2.5**
TMVZ	**Te Maari**	**2.84**	**21**	P	**Pn**	**00 08 54.8**		**+1.7**
KRVZ	**Karewarewa**	**2.84**	**20**	P	**Pb**	**00 08 58.7**		**-0.1**
NTVZ	**North Tongarir**	**2.85**	**21**	P	**Pn**	**00 08 55.1**		**+1.8**
WACZ	**Wakanui South**	**2.86**	**220**	P	**Pn**	**00 08 53.3**		**0.0**
KATZ	**Kakaramea**	**2.97**	**20**	P	**Pb**	**00 09 01.2**		**+0.3**
WVZ	**Waitaha Valley**	**2.99**	**243**	P	**Pb**	**00 08 59.8**		**-1.3**
BKZ	**Black Stump Fm**	**3.07**	**33**	P	**Pn**	**00 08 56.6**		**+0.4**
RATZ	**Rangitukua**	**3.09**	**21**	P	**Pb**	**00 09 04.3**		**+1.3**
RPZ	**Rata Peaks**	**3.12**	**230**	P	**Pn**	**00 08 57.0**		**+0.1**
RPZ	**Rata Peaks**	**3.12**	**230**	P	**Pn**	**00 08 57.0**		**+0.1**
ARCZ	**Arundel**	**3.20**	**226**	P	**Pn**	**00 08 58.0**		**0.0**
WATZ	**Wairara**	**3.23**	**19**	P	**Pb**	**00 09 06.4**		**+1.0**
HIZ	**Hauiti**	**3.28**	**7**	P	**Pb**	**00 09 05.4**		**-0.7**
GCSZ	**Gaunt Creek Bo**	**3.36**	**241**	P	**Pb**	**00 09 07.1**		**-0.5**
TLZ	**Tolley Road**	**3.55**	**15**	P	**Pb**	**00 09 09.8**		**-1.1**
FOZ	**Fox Glacier**	**3.79**	**241**	P	Pn	00 09 11.1		+5.1
URZ	**Urewera**	**4.09**	**32**	P	**Pn**	**00 09 10.5**		**+0.3**
URZ	**Urewera**	**4.09**	**32**	P	**Pn**	**00 09 14.5**		**+4.3**
TOZ	**Tahuroa Road**	**4.13**	**13**	P	**Pb**	**00 09 16.6**		**-4.0**
ODZ	**Otahua Downs**	**4.25**	**218**	P	**Pn**	**00 09 12.8**		**+0.4**
ODZ	**Otahua Downs**	**4.25**	**218**	P	**Pn**	**00 09 11.8**		**-0.6**
MKAZ	**Moumakai**	**4.70**	**8**	P	**Pn**	**00 09 21.6**		**+3.0**
AWAZ	**Awhitu Peninsu**	**4.71**	**3**	P	**Pn**	**00 09 22.5**		**+3.8**

*PRU **25** 00:20:42.4±0.0, 42˚.87N×12˚.69E, h0km*
ROM 25 00:20:33.3±0.1, 42˚.495N±0˚.003×13˚.392E±0˚.005, h10km, ML2.8/52, 30C-12D, Error ellipse: s-maj=0.4km s-min=0.2km az=74.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.04**	**17**	P	Pg		00 20 35.6	+0.2
CAMP				S	Sg		00 20 36.8	0.0
CAMP				AML	AML			
	comp=E,18450μm,0.4s							
CAMP				AML	AML			
	comp=N,28000μm,0.4s							
T1247	**Pizzolo (AQ)**	**0.09**	**232**	↑P	Pg		00 20 36.4	+0.7
T1247				S	Sg		00 20 38.1	+0.6
T1247				AML	AML			
	comp=E,52550μm,0.7s							
T1247				AML	AML			
	comp=N,48000μm,0.5s							
GIGS	**Gran Sasso**	**0.14**	**109**	↑P	Pg		00 20 37.0	+0.5
GIGS				S	Sg		00 20 39.3	+0.5
GIGS				AML	AML			
	comp=N,3605μm,0.1s							
GIGS				AML	AML			
	comp=E,6370μm,0.1s							
AQU	**L'Aquila**	**0.14**	**177**	↑P	Pg		00 20 37.3	+0.7
AQU				S	Sg		00 20 39.9	+1.1
AQU				AML	AML			
	comp=E,12300μm,0.5s							
AQU				AML	AML			
	comp=E,12850μm,0.5s							
AQU				AML	AML			
	comp=N,13100μm,0.3s							
AQU				AML	AML			
	comp=N,13050μm,0.4s							
TERO	**Teramo**	**0.20**	**51**	↑P	Pg		00 20 38.0	+0.4
TERO				S	Sg		00 20 41.2	+0.8
TERO				AML	AML			
	comp=E,5315μm,0.5s							
TERO				AML	AML			
	comp=N,4655μm,0.3s							
TERO				AML	AML			
	comp=N,4475μm,0.3s							
TERO				AML	AML			
	comp=E,5510μm,0.5s							
TERO				AML	AML			
	comp=N,4470μm,0.3s							
FAGN	**Fagnano**	**0.27**	**148**	↑P	Pg		00 20 39.4	+0.6
FAGN				S	Sb		00 20 43.8	-1.2
FAGN				AML	AML			
	comp=E,9270μm,0.4s							
FAGN				AML	AML			
	comp=N,8380μm,0.4s							
T1218	**Civita (PG)**	**0.27**	**311**	↑P	Pg		00 20 39.3	+0.5
T1218				S	Sg		00 20 43.5	+1.0
T1218				AML	AML			
	comp=E,2835μm,0.3s							
T1218				AML	AML			
	comp=N,5360μm,0.3s							
T1218				AML	AML			
	comp=E,2730μm,0.3s							
T1218				AML	AML			
	comp=N,5255μm,0.3s							
T1218				AML	AML			
	comp=N,5260μm,0.3s							
T1222	**Castel Sant'An**	**0.28**	**251**	↑P	Pg		00 20 39.5	+0.5
T1222				S	Sg		00 20 43.8	+1.1
T1222				AML	AML			
	comp=E,2165μm,0.4s							
T1222				AML	AML			
	comp=E,2230μm,0.4s							
T1222				AML	AML			
	comp=N,1350μm,1.4s							
T1222				AML	AML			
	comp=N,1290μm,0.4s							
T1222				AML	AML			
	comp=E,2225μm,0.4s							
T1222				AML	AML			
	comp=E,2165μm,0.4s							
T1222				AML	AML			
	comp=N,1350μm,0.6s							
LNSS	**Leonessa**	**0.28**	**293**	↑P	Pg		00 20 39.6	+0.6
LNSS				S	Sg		00 20 44.1	+1.2
LNSS				AML	AML			
	comp=E,3325μm,0.6s							
LNSS				AML	AML			
	comp=N,3980μm,0.4s							
LNSS				AML	AML			
	comp=E,3325μm,1.4s							
FIAM	**Fiamignano**	**0.30**	**222**	↑P	Pg		00 20 40.0	+0.5
FIAM				AML	AML			
	comp=N,1920μm,0.7s							
FIAM				AML	AML			
	comp=E,1590μm,0.5s							
T1212	**Cascia, Frazio**	**0.36**	**315**	↓P	Pg		00 20 40.9	+0.3
T1212				S	Sg		00 20 46.5	+1.1
T1212				AML	AML			
	comp=E,2535μm,0.5s							
T1212				AML	AML			
	comp=E,2530μm,0.4s							
T1212				AML	AML			
	comp=N,2055μm,0.1s							
T1212				AML	AML			
	comp=N,2105μm,0.1s							
T1212				AML	AML			
	comp=N,2050μm,0.1s							
T1212				AML	AML			
	comp=E,2535μm,1.5s							
T0110	**Collepietro**	**0.39**	**133**	↑P	Pg		00 20 41.4	+0.3
T0110				S	Sb		00 20 47.8	-0.8
T0110				AML	AML			
	comp=N,2395μm,0.4s							
T0110				AML	AML			
	comp=E,2025μm,0.3s							
NRCA	**Norcia**	**0.40**	**329**	P	Pg		00 20 41.5	+0.3
NRCA				S	Sg		00 20 47.5	+1.1
T1211	**Morro Reatino**	**0.40**	**276**	↑P	Pg		00 20 41.4	+0.2
T1211				S	Sb		00 20 48.0	-0.8
T1211				AML	AML			
	comp=N,2565μm,0.2s							
T1211				AML	AML			
	comp=E,1950μm,0.4s							
T1211				AML	AML			
	comp=N,2605μm,0.2s							
T1211				AML	AML			
	comp=N,2565μm,0.2s							
T1211				AML	AML			
	comp=N,2605μm,0.2s							
T1211				AML	AML			
	comp=E,1950μm,0.4s							
T1217	**Poggiodomo (PG**	**0.40**	**303**	↑P	Pg		00 20 41.5	+0.2
T1217				S	Sb		00 20 48.1	-0.8
T1217				AML	AML			
	comp=E,1114μm,0.4s							
T1217				AML	AML			
	comp=N,1042μm,0.7s							
T1217				AML	AML			
	comp=E,1010μm,0.5s							
T1217				AML	AML			
	comp=N,1070μm,0.6s							
T1217				AML	AML			
	comp=E,1010μm,0.4s							
T1217				AML	AML			
	comp=N,1070μm,1.4s							
T1217				AML	AML			
	comp=E,1114μm,0.4s							
T1217				AML	AML			
	comp=N,1042μm,0.7s							
MC2	**Monte Cornacci**	**0.44**	**341**	S	Sb		00 20 49.7	-0.5
ARRO	**Arrone**	**0.47**	**281**	↑P	Pg		00 20 42.7	+0.2
ARRO				AML	AML			
	comp=N,1315μm,0.2s							
ARRO				AML	AML			
	comp=E,1135μm,0.7s							
PTQR	**Pietraquaria**	**0.47**	**179**	↑P	Pg		00 20 42.6	+0.1
PTQR				AML	AML			
	comp=E,488μm,0.7s							
PTQR				AML	AML			
	comp=N,536μm,0.5s							
PTQR				AML	AML			
	comp=N,536μm,1.5s							
T1216	**Preci, Frazion**	**0.48**	**325**	↓P	Pg		00 20 43.0	+0.2
T1216				AML	AML			
	comp=E,1890μm,0.4s							
T1216				AML	AML			
	comp=N,1705μm,1.6s							
T1216				AML	AML			
	comp=E,1885μm,0.4s							
T1216				AML	AML			
	comp=N,1705μm,0.4s							
OFFI	**Offida**	**0.49**	**26**	P	Pb		00 20 44.0	-0.1
OFFI				AML	AML			
	comp=N,9410μm,0.5s							
OFFI				AML	AML			
	comp=E,11475μm,0.7s							
T1215	**Vallo di Nera,**	**0.49**	**309**	↓P	Pg		00 20 43.1	+0.1
T1215				AML	AML			
	comp=E,514μm,1.1s							
T1215				AML	AML			
	comp=N,592μm,1.5s							
T1215				AML	AML			
	comp=E,554μm,1.1s							
T1215				AML	AML			
	comp=E,515μm,1.1s							
T1215				AML	AML			
	comp=N,574μm,1.5s							
TRTR	**Tortoreto Alta**	**0.50**	**51**	AML	AML			
	comp=N,3105μm,1.3s							
TRTR				AML	AML			
	comp=E,3465μm,0.3s							
TRTR				AML	AML			
	comp=N,3105μm,0.7s							
FEMA	**Monte Fema**	**0.53**	**332**	P	Pg		00 20 43.9	+0.2
FEMA				S	Sb		00 20 52.1	-0.6
GUMA	**Gualdo di Mace**	**0.57**	**356**	↓P	Pg		00 20 44.9	+0.5
GUMA				AML	AML			
	comp=N,5905μm,0.4s							
GUMA				AML	AML			
	comp=E,6960μm,0.3s							
GUMA				AML	AML			
	comp=E,5960μm,0.3s							
GUMA				AML	AML			
	comp=N,5585μm,0.4s							
FDMO	**Fiordimonte**	**0.59**	**338**	↓P	Pg		00 20 44.7	0.0
FDMO				S	Sb		00 20 54.1	-0.1
FDMO				AML	AML			
	comp=N,1235μm,1.5s							
FDMO				AML	AML			
	comp=N,1235μm,0.5s							
FDMO				AML	AML			
	comp=E,1048μm,0.5s							
CESX	**Cesi**	**0.61**	**281**	↓P	Pg		00 20 45.2	+0.1
CESX				S	Sb		00 20 54.6	-0.2
CESX				AML	AML			
	comp=N,792μm,0.6s							
CESX				AML	AML			
	comp=E,540μm,0.3s							
CSP1	**Cessapalombo**	**0.61**	**347**	↑P	Pg		00 20 45.2	-0.1
CSP1				S	Sb		00 20 54.8	-0.2
CSP1				AML	AML			
	comp=N,2305μm,0.3s							
CSP1				AML	AML			
	comp=E,1235μm,0.2s							
CSP1				AML	AML			
	comp=N,2305μm,1.7s							
CESI	**CESI - Serrava**	**0.62**	**325**	↓P	Pg		00 20 45.5	+0.1
CESI				AML	AML			
	comp=N,1440μm,0.3s							
CESI				AML	AML			
	comp=E,966μm,0.3s							
CERT	**Cerreto**	**0.62**	**209**	↑P	Pg		00 20 45.2	-0.2
CERT				AML	AML			
	comp=N,

comp=N,411μm,0.4s
LPEL AML AML
comp=E,473μm,0.7s
LPEL AML AML
comp=E,473μm,1.3s
ASSB Assisi San Ben 0.77 316 ⇑P Pg 00 20 48.2 0.0
ASSB AML AML
comp=E,644μm,0.6s
ASSB AML AML
comp=N,923μm,0.3s
POFI Posta Fibreno 0.81 163 P Pg 00 20 49.0 0.0
POFI AML AML
comp=E,255μm,0.7s
POFI AML AML
comp=N,228μm,0.5s
POFI AML AML
comp=E,251μm,0.7s
POFI AML AML
comp=N,248μm,0.5s
POFI AML AML
comp=E,255μm,1.3s
POFI AML AML
comp=N,248μm,1.5s
POFI AML AML
comp=N,228μm,1.5s
POFI AML AML
comp=E,251μm,1.3s
SNTG Esanatoglia 0.83 337 ⇑P Pg 00 20 49.0 -0.3
SNTG AML AML
comp=N,506μm,1.1s
SNTG AML AML
comp=E,364μm,0.2s
SNTG AML AML
comp=N,527μm,0.5s
SNTG AML AML
comp=N,506μm,0.9s
SNTG AML AML
comp=E,390μm,1.2s
EL6 Elcito 0.86 346 P Pg 00 20 49.7 -0.2
EL6 AML AML
comp=E,1185μm,0.2s
EL6 AML AML
comp=N,1680μm,0.2s
EL6 AML AML
comp=N,1680μm,1.8s
VIVA Pratoni del Vi 0.88 212 P Pg 00 20 50.4 +0.2
VIVA AML AML
comp=N,805μm,0.9s
VIVA AML AML
comp=E,922μm,0.5s
ATCC AVT- Casa Cast 0.88 322 ⇑P Pg 00 20 50.1 -0.2
ATCC AML AML
comp=N,520μm,0.3s
ATCC AML AML
comp=E,521μm,1.0s
ATCC AML AML
comp=N,520μm,1.7s
CING Cingoli 0.89 351 ⇑P Pg 00 20 50.4 -0.1
CING AML AML
comp=N,740μm,0.4s
CING AML AML
comp=E,1057μm,0.3s
MA9 Marino 0.91 217 AML AML
comp=N,484μm,0.5s
MA9 AML AML
comp=E,479μm,1.5s
MA9 AML AML
comp=E,479μm,0.5s
FOSV Fossato di Vic 0.92 330 ⇓P Pg 00 20 51.0 -0.2
FOSV AML AML
comp=E,299μm,0.5s
FOSV AML AML
comp=N,477μm,0.4s
FOSV AML AML
comp=N,477μm,1.6s
GIUL Giuliano Di Ro 0.94 186 P Pg 00 20 51.1 -0.3
GIUL AML AML
comp=E,254μm,1.4s
GIUL AML AML
comp=N,262μm,0.9s
GIUL AML AML
comp=E,254μm,0.6s
GIUL AML AML
comp=N,262μm,1.1s
MURB Monte Urbino 1.00 321 S Sn 00 21 08.3 +0.6
MURB AML AML
comp=E,1195μm,0.4s
MURB AML AML
comp=N,924μm,1.6s
MURB AML AML
comp=E,1325μm,0.3s
MURB AML AML
comp=N,912μm,0.3s
MURB AML AML
comp=N,924μm,0.4s
MGAB Montegabbione 1.03 294 P Pg 00 20 53.0 -0.1
MGAB AML AML
comp=E,462μm,0.6s
MGAB AML AML
comp=N,348μm,0.8s
MGAB AML AML
comp=N,380μm,0.8s
MGAB AML AML
comp=N,348μm,1.2s
MGAB AML AML
comp=E,478μm,0.5s
MGAB AML AML
comp=N,380μm,1.2s
SSFR Montelago di S 1.04 335 ⇑P Pg 00 20 53.2 -0.2
SSFR AML AML
comp=E,1105μm,0.2s
SSFR AML AML
comp=N,1230μm,0.3s
SSFR AML AML
comp=E,949μm,0.2s
SSFR AML AML
comp=E,949μm,1.8s
SSFR AML AML
comp=E,1105μm,1.8s
SSFR AML AML
comp=N,1130μm,0.3s
LATB Latina 1.05 198 P Pg 00 20 53.5 0.0
LATB AML AML
comp=E,55μm,0.5s
LATB AML AML
comp=N,79μm,1.1s
ARVD Arcevia 1.06 342 ⇓P Pg 00 20 53.1 -0.5
ARVD AML AML
comp=E,250μm,1.3s
ARVD AML AML
comp=N,250μm,1.2s
ARVD AML AML
comp=N,250μm,0.8s
ARVD AML AML
comp=E,250μm,0.7s
ATVO AVT- Monte Val 1.15 321 ⇑P Pb 00 20 54.8 -0.5
ATVO AML AML
comp=E,206μm,0.9s
ATVO AML AML
comp=N,185μm,1.0s
ATVO AML AML
comp=N,185μm,1.0s
ATVO AML AML
comp=E,206μm,1.1s
ATPI Pietralunga - 1.20 323 P Pb 00 20 55.8 -0.4
ATPI AML AML
comp=N,180μm,0.5s
ATPI AML AML
comp=E,236μm,0.8s
PIEI Pieia 1.22 329 ⇑P Pb 00 20 56.1 -0.4
PIEI AML AML
comp=E,222μm,0.9s
PIEI AML AML
comp=E,222μm,1.1s
PIEI AML AML
comp=N,156μm,1.0s
MPAG Monte Paganucc 1.23 338 ⇑P Pn 00 20 56.3 -0.3
MPAG AML AML
comp=E,220μm,0.5s
MPAG AML AML
comp=N,206μm,0.5s
CRE Caprese Michel 1.54 317 ⇑P Pb 00 21 01.9 -0.2
MATE Matera 3.10 125 ⇑P Pb 00 21 28.3 -0.1
MATE Matera 3.10 125 P Pn 00 21 25.2 +3.0
OBKA Obir 4.10 11 *e*Pn Pn 00 21 36.1 0.0
comp=N,0.4nm,0.2s
ABTA Abfaltersbach 4.30 352 *e*Pn Pn 00 21 40.1 +1.3
comp=N,3.7nm,0.5s
PDG Podgorica 4.34 89 ⇑P Pn 00 21 43.0 +3.7
FETA Feichten 4.91 338 *e*Pn Pn 00 21 49.8 +2.5
comp=N,1.2nm,0.6s
WTTA Wattenberg 4.93 346 *e*Pn Pn 00 21 50.2 +2.5
comp=N,0.8nm,0.3s
SQTA Sankt Quirin 4.97 343 *e*Pn Pn 00 21 51.2 +3.0
comp=N,1.0nm,0.4s
MOA Mollin 5.39 6 *e*Pn Pn 00 21 56.2 +2.4
comp=N,0.4nm,0.2s
CKRC Cesky Krumlov 6.36 5 *e*SN Sn 00 23 20.9 +1.1
KHC Kasperske Hory 6.64 1 *e*PN Pn 00 22 14.5 +3.5
KHC *e*SN Sn 00 23 25.4 -1.3

IDC ***25*** *00:48:46.7±1.0,29.˚55N×102.˚12E,h0km,mb3.7/7, mbtmp3.7/8,ML3.2/1,MS3.5/3,Error ellipse: s-maj=36.5km s-min=18.3km az=54.0*
ISC 25 00:48:52.0±1.2,29.˚6N±0.˚2×102.˚2E±0.˚2,h35km,n11, σ1s02/8,mb3.6/7,Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.46**	**196**	LR		LR	LR	00 56 26.8	
	comp=Z,19nm,18.4s,baz=15,slow=40								
SONM	**Songino Array**	**18.51**	**9**	P		**Pn**		**00 53 06.6**	**+0.9**
	0.1nm,0.3s,baz=195,slow=10,SNR=3.4								
SONM				LR		LR		01 00 50.9	
	comp=Z,131nm,18.3s,baz=206,slow=39 1.2nm,1.1s								
KSRS	**Korea Array**	**22.81**	**63**	P		**P**		**00 53 51.6**	**-0.1**
	0.5nm,0.4s,baz=229,slow=13,SNR=2.4 0.5nm,0.4s								
MKAR	**Makanchi Array**	**23.12**	**323**	P		**P**		**00 53 53.7**	**-1.2**
	0.3nm,0.4s,baz=134,slow=12,SNR=2.8 0.3nm,0.4s								
ZALV	**Zalesovo Beam**	**27.42**	**337**	P		**P**		**00 54 32.7**	**-1.4**
	0.3nm,0.3s,baz=162,slow=10,SNR=2.2 0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**27.51**	**326**	P		**P**		**00 54 34.6**	**-0.4**
	0.4nm,0.3s,baz=107,slow=3.2,SNR=1.0 0.4nm,0.3s								
YAK	**Yakutsk**	**37.12**	**21**	LR		LR		01 10 54.2	
	comp=Z,51nm,19.1s,baz=94,slow=36								
GEYT	**Alibeck**	**37.28**	**295**	P		**P**		**00 56 01.4**	**+0.8**
	0.9nm,0.7s,baz=26,slow=14,SNR=1.9 0.9nm,0.7s								
MMAI	**Mount Meron Ar**	**56.29**	**292**	LR		LR		01 26 17.6	
	comp=Z,43nm,18.3s,baz=130,slow=40								
WRA	**Warramunga Arr**	**58.19**	**144**	P		**P**		**00 58 42.4**	**-0.3**
	3.2nm,0.7s,baz=331,slow=7.9,SNR=22 3.2nm,0.7s								
ASAR	**Alice Springs**	**61.10**	**147**	P		**P**		**00 59 02.9**	**+0.2**
	0.5nm,0.5s,baz=328,slow=6.9,SNR=8.5 0.5nm,0.5s								

IDC 25 00:54:10.1±2.0,4.˚21S×145.˚29E,h0km,mb3.3/2, mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=131.0km s-min=30.8km az=118.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.93**	**213**	P			Pn	00 58 33.1	-0.2
	0.3nm,0.3s,baz=35,slow=11,SNR=8.8 0.6nm,0.3s								
ASAR	**Alice Springs**	**22.24**	**209**	P			P	00 59 08.4	-0.3
	0.6nm,0.5s,baz=30,slow=13,SNR=13 0.6nm,0.5s								
ILAR	**Eielson Array**	**84.53**	**23**	P			P	01 06 44.9	+0.1
	0.3nm,0.8s,baz=230,slow=5.6,SNR=2.2 0.3nm,0.8s								

NEIC ***25*** *01:10:06.4±1.4,12.˚32S±0.˚08×166.˚2E±0.˚1,h10km±1km, mb4.7/45,Error ellipse: s-maj=17.4km s-min=12.7km az=64.0*
BJI ***25*** *01:10:08.5±0.0,12.˚01S×166.˚49E,h30km,mb4.6/36, mB5.2/20*
IDC ***25*** *01:10:11.3±2.1,12.˚38S×166.˚21E,h44km±19km,mb4.0/22, mbtmp4.3/24,ML3.5/2,MS4.0/42,Error ellipse: s-maj=15.2km s-min=14.3km az=59.0*
GCMT ***25*** *01:10:13.4±0.4,12.˚35S±0.˚03×166.˚14E±0.˚03,h34km±1km, MW5.1/57,Moment Tensor Solution. s34,c37; s57,c72; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.51±.33; Mθθ-0.78±.21; Mϕϕ-3.73±.20; Mrθ-1.15±.26; Mθϕ1.01±.14; Mϕr-3.00±.23; Best double couple: Ms5.29500×10^16 NP1:ϕs182.00000°,δ63.00000°,λ106.00000°. NP2: ϕs330.00000°,δ31.00000°,λ61.00000°. Principal axes: T 5.7890, Plg68.0000°, Azm124.0000°; N -0.9890, Plg14.0000°, Azm355.0000°; P -4.8020, Plg17.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 01:10:10.3±0.3,12.˚46S±0.˚06×166.˚21E±0.˚05,h40km,n147, σ1s16/123,mb4.6/53,MS4.1/42,2D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.85**	**295**	P			**Pn**	**01 11 49.8**	**+1.6**
	9μm,1.1s,baz=188,slow=15,SNR=7.1								
HNR				S			**Sn**	**01 13 06.3**	**+1.4**
	1μm,0.5s,baz=90,slow=16,SNR=1.3								
HNR				LR		LR	LR	01 14 51.6	
	comp=Z,22μm,20.3s,baz=131,slow=41								
HNR	**Honiara**	**6.85**	**295**	Pn			**Pn**	**01 11 45.2**	**-3.0**
KOUNC	**Koumac, New Ca**	**8.25**	**193**	Pn			**Pn**	**01 12 08.2**	**+0.7**
LIFNC	**LIFOU**	**8.33**	**173**	Pn			**Pn**	**01 12 08.8**	**+0.3**
MARNC	**Mare, Loyalty**	**9.14**	**169**	Pn			**Pn**	**01 12 19.1**	**-0.5**
DZM	**Mont Dzumac**	**9.56**	**179**	*e*Pn			**Pn**	**01 12 23.5**	**-2.0**
	49nm,0.8s								
DZM				*e*LR		LR	LR	01 14 38.6	
	comp=Z,587nm,25.1s								
DZM	**Mont Dzumac**	**9.56**	**179**	P			**Pn**	**01 12 26.5**	**+1.0**
	1.7nm,0.3s,baz=358,slow=23,SNR=15								
DZM				S			**Sn**	**01 14 10.5**	**-1.2**
	6.0nm,0.4s,baz=295,slow=20,SNR=1.4								
DZM				LR		LR	LR	01 15 44.8	
	comp=Z,449nm,20.9s,baz=29,slow=35 16nm,0.7s								
DZM	**Mont Dzumac**	**9.56**	**179**	Pn			**Pn**	**01 12 26.2**	**+0.7**
ONTNC	**Ouen Toro**	**9.79**	**179**	Pn			**Pn**	**01 12 29.1**	**+0.5**
OUENC	**Ouen Island, N**	**9.92**	**177**	Pn			**Pn**	**01 12 29.4**	**-1.0**
PINNC	**Pines Island,**	**10.16**	**174**	Pn			**Pn**	**01 12 33.6**	**-0.1**
MSVF	**Nonsavu**	**12.57**	**116**	P			**P**	**01 13 16.4**	**-1.2**
	9.9nm,0.6s,baz=250,slow=13,SNR=5.0								
MSVF				LR		LR	LR	01 16 59.0	
	comp=Z,3μm,18.2s,baz=334,slow=32								
MSVF	**Nonsavu**	**12.57**	**116**	Pn			**Pn**	**01 13 05.5**	**-1.3**
PMG	**Port Moresby**	**18.95**	**277**	P			**Pn**	**01 14 29.4**	**+0.3**
	1.8nm,0.3s,baz=124,slow=6.8,SNR=8.5								
PMG				LR		LR	LR	01 21 25.0	
	comp=Z,470nm,21.1s,baz=116,slow=36 30nm,0.9s								
PMG	**Port Moresby**	**18.95**	**277**	P			**P**	**01 14 26.4**	**-1.8**
PMG				IAmb		IAmb	IAmb	01 14 32.1	
	comp=Z,60nm,1.2s								
EIDS	**Eidsvold**	**19.20**	**226**	P			**Pn**	**01 14 32.8**	**+0.7**
EIDS				IAmb		IAmb	IAmb	01 14 50.0	
	comp=Z,25nm,0.8s								
CTA	**Charters Tower**	**20.59**	**246**	P			Pn	01 14 48.0	-0.5
	comp=Z,12nm,0.9s,baz=66,slow=12,SNR=10								
CTA				LR		LR	LR	01 21 38.1	
	comp=Z,814nm,21.6s,baz=74,slow=33 comp=Z,12nm,0.9s								
CTAO	**Charters Tower**	**20.59**	**246**	P			**P**	**01 14 46.2**	**+0.2**
CTAO				IAmb		IAmb	IAmb	01 14 49.6	
	comp=Z,26nm,1.1s								
MANU	**Manus Island**	**21.34**	**298**	P			**P**	**01 14 52.7**	**-1.5**
AFI	**Afiamalu**	**21.48**	**96**	P			**P**	**01 14 57.3**	**+1.5**
	comp=Z,11nm,0.5s,baz=314,slow=22,SNR=1.9								
AFI				LR		LR	LR	01 21 48.3	
	comp=Z,486nm,19.2s,baz=281,slow=32 comp=Z,11nm,0.5s								
ARMA	**Armidale**	**22.39**	**215**	P			**P**	**01 15 05.5**	**0.0**
ARMA				IAmb		IAmb	IAmb	01 15 09.5	
	comp=Z,41nm,1.2s								
COEN	**Coen**	**22.47**	**264**	P			**P**	**01 15 06.2**	**-0.1**
COEN				IAmb		IAmb	IAmb	01 15 17.7	
	comp=Z,61nm,1.4s								
URZ	**Urewera**	**27.47**	**161**	P			**P**	**01 15 54.5**	**+1.8**
	comp=Z,4.0nm,0.5s,baz=337,slow=4.6,SNR=1.8 comp=Z,4.0nm,0.5s								

RTZ Ruatahuna 27.75 162 P **P** **01 15 55.8 +0.4**
RTZ IAmb IAmb 01 16 18.2
comp=Z,14nm,1.2s
BKZ Black Stump Fm 28.12 163 P **P** **01 15 58.3 -0.2**
BKZ IAmb IAmb 01 16 12.0
comp=Z,22nm,1.1s
STKA Stephens Creek 29.75 226 P **P** **01 16 14.3 +1.2**
comp=Z,14nm,0.7s,baz=35,slow=9.5,SNR=40
STKA LR LR 01 27 38.7
comp=Z,640nm,19.9s,baz=45,slow=35
comp=Z,14nm,0.7s
STKA Stephens Creek 29.75 226 P **P** **01 16 13.5 +0.3**
TOO Toolangi 31.12 213 P **P** **01 16 25.1 -0.1**
TOO IAmb IAmb 01 16 36.8
comp=Z,16nm,1.3s
WB0 Warramunga Arr 31.38 252 P **P** **01 16 27.1 -0.5**
WB0 IAmb IAmb 01 16 35.7
comp=Z,13nm,1.1s
RPZ Rata Peaks 31.42 173 LR LR 01 26 49.5
comp=Z,250nm,21.8s,baz=334,slow=32
WB2 Warramunga Arr 31.44 252 P **P** **01 16 27.0 -1.2**
WB2 IAmb IAmb 01 16 29.5
comp=Z,12nm,1.2s
WRA Warramunga Arr 31.45 252 P **P** **01 16 27.7 -0.6**
comp=Z,1.8nm,0.8s,baz=84,slow=9.4,SNR=8.3
WRA PcP **PcP** **01 19 21.2 +0.1**
comp=Z,0.6nm,0.8s,baz=81,slow=3.7,SNR=2.2
WRA LR LR 01 28 02.5
comp=Z,291nm,20.5s,baz=81,slow=34
comp=Z,1.8nm,0.8s
WRA Warramunga Arr 31.45 252 P **P** **01 16 27.5 -0.8**
ASAR Alice Springs 32.59 245 P **P** **01 16 37.7 -0.6**
comp=Z,2.2nm,0.7s,baz=71,slow=9.6,SNR=20
ASAR PcP **PcP** **01 19 26.0 +1.9**
comp=Z,0.7nm,1.0s,baz=57,slow=3.9,SNR=1.5
ASAR ScP **ScP** **01 23 04.4 -0.7**
comp=Z,0.9nm,1.0s,baz=81,slow=3.9,SNR=5.1
comp=Z,2.2nm,0.7s
GUMO Guam 33.43 320 LR LR 01 30 39.4
comp=Z,103nm,20.6s,baz=126,slow=37
RAR Rarotonga 33.64 110 LR LR 01 27 44.3
comp=Z,192nm,20.9s,baz=305,slow=31
BBOO Buckleboo 34.22 229 P **P** **01 16 52.5 +0.2**
SIJI Sorong 36.51 286 LR LR 01 33 11.2
comp=Z,213nm,20.0s,baz=74,slow=38
FITZ Fitzroy Crossi 39.47 257 P **P** **01 17 37.1 -0.1**
FORT Forrest 39.62 236 P **P** **01 17 38.4 +0.1**
FORT IAmb IAmb 01 17 39.8
comp=Z,18nm,1.0s
NLAI Namlea 39.76 280 P **P** **01 17 41.0 +1.4**
comp=Z,22nm,1.4s
SANI Sanana 41.15 281 P **P** **01 17 51.9 +0.8**
comp=Z,29nm,1.1s
BATI Baumata 41.74 269 LR LR 01 34 34.8
comp=Z,271nm,21.4s,baz=160,slow=35
PPT Papeete 42.93 102 LR LR 01 34 22.9
comp=Z,277nm,18.5s,baz=222,slow=34
PPT2 Papeete2 42.93 102 *e*S **S** **01 24 31.0 +2.6**
comp=Z,130nm,26.5s
PPT2 *e*SS **SS** **01 27 44.0 +2.9**
comp=Z,88nm,27.0s
PPT2 *e*LR LR 01 30 05.2
comp=Z,633nm,26.0s
PPT2 *e*LR LR 01 30 05.2
comp=Z,381nm,28.5s
TBI Tubuai 43.39 111 *e*LR LR 01 30 17.0
comp=Z,4μm,25.2s
TBI *e*LR LR 01 30 18.3
comp=Z,1μm,28.0s
DAV Davao City (W) 44.81 293 LR LR 01 34 50.5
comp=Z,204nm,21.5s,baz=16,slow=33
KAPI Kappang 46.45 275 LR LR 01 40 15.5
comp=Z,52nm,21.1s,baz=95,slow=39
NWAO Narrogin (SRO) 49.06 237 LR LR 01 39 49.3
comp=Z,51nm,19.5s,slow=36
NWAO Narrogin (SRO) 49.06 237 P **P** **01 18 53.8 0.0**
TAOE Nuku Hiva Isla 52.77 92 *e*LR LR 01 34 38.1
comp=Z,342nm,22.1s
JOW Kunigami 53.69 317 LR LR 01 42 52.1
comp=Z,78nm,18.9s,baz=139,slow=37
JGF Kuroka 55.05 331 P **P** **01 19 36.4 -1.8**
JMN Monobe 55.30 327 P **P** **01 19 38.5 -1.4**
MJAR Matsushiro Arr 55.43 333 P **P** **01 19 40.0 -0.8**
comp=Z,1.2nm,0.5s,baz=168,slow=8.7,SNR=2.2
comp=Z,1.2nm,0.5s
LEM Lembang 57.94 270 LR LR 01 48 01.4
comp=Z,74nm,18.6s,baz=168,slow=39
ASAJ Asahikawa 60.27 341 LR LR 01 41 52.1
comp=Z,90nm,21.8s,baz=156,slow=32
KSRS Korea Array 61.30 326 P **P** **01 20 21.3 -0.4**
comp=Z,0.7nm,0.4s,baz=158,slow=7.9,SNR=6.2
comp=Z,0.7nm,0.4s
KSAR Wonju Array Be 61.31 326 P **P** **01 20 20.6 -1.2**
NJ2 Nanjing 63.34 316 *e*P **P** **01 20 36.4 +0.8**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
USRK Ussuriysk Ar. 64.41 333 P **P** **01 20 42.2 -0.2**
comp=Z,1.0nm,0.4s,baz=174,slow=6.7,SNR=4.3
USRK LR LR 01 47 15.5
comp=Z,51nm,21.4s,baz=128,slow=35
comp=Z,1.0nm,0.4s
USRK Ussuriysk Ar. 64.41 333 P **P** **01 20 40.9 -1.4**
VNDA Vanda 65.09 181 P **P** **01 20 47.6 +1.3**
comp=Z,2.0nm,0.9s,baz=12,slow=6.8,SNR=6.4
comp=Z,2.0nm,0.9s
VNDA Vanda 65.09 181 P **P** **01 20 47.9 +1.5**
VNDA IAmb IAmb 01 20 51.1
comp=Z,5.3nm,1.2s
CN2 Changchun 67.18 329 *e*P **P** **01 20 58.0 -2.2**
CN2 sP sP 01 21 12.3 -1.9
PSI Prapat 68.51 278 LR LR 01 56 01.6
comp=Z,55nm,18.8s,baz=81,slow=40
KLR Kul'dur 68.53 337 P **P** **01 21 09.3 +0.7**
comp=Z,1.1nm,0.6s,baz=84,slow=7.6,SNR=3.0
comp=Z,1.1nm,0.6s
HNS HongShan 69.23 318 ⇓P **P** **01 21 14.5 +1.3**
HNS pmax pmax
comp=Z,7.0nm,1.7s
GSI Gunungsitoli 69.46 276 P **P** **01 21 15.8 +0.7**
comp=Z,13nm,1.2s
XAN Xi'an 71.41 313 P **P** **01 21 22.3 -4.4**
XAN pmax pmax
comp=Z,6.0nm,1.3s
KMI Kunming 72.24 302 ⇓P **P** **01 21 32.6 +0.5**
KMI pP pP 01 21 42.8 +0.3
KMI pmax pmax
comp=Z,7.0nm,0.7s
XLT XiLinHaoTe 72.27 324 *e*P **P** **01 21 32.9 +1.2**
XLT pP sP 01 21 43.4 -2.4
XLT sP pwP 01 21 46.4 -2.9
XLT S **S** **01 30 53.5 +1.5**
XLT pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 73.09 294 P **P** **01 21 38.3 +1.3**
comp=Z,1.5nm,0.3s,baz=121,slow=4.6,SNR=4.7
CMAR LR LR 01 53 28.5
comp=Z,21nm,20.2s,baz=125,slow=36
comp=Z,1.5nm,0.3s
CMAR Chiang Mai Arr 73.09 294 P **P** **01 21 35.1 -1.9**
HHC Hu-ho-hao-te 73.20 320 *e*P **P** **01 21 39.3 +2.0**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,260nm,6.2s
PZH PanZhiHua 73.61 303 P **P** **01 21 41.3 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.2s
HIA Hailar 73.82 330 P **P** **01 21 40.8 +0.1**
TNCH TengChong 75.75 300 P P 01 21 59.1 +6.5
TNCH pmax pmax
comp=Z,110nm,5.0s
SEY Seymchan 75.92 354 P **P** **01 21 53.6 +1.1**
comp=Z,0.7nm,0.3s,baz=180,slow=20,SNR=1.6
comp=Z,0.7nm,0.3s
LZH Lanzhou 76.04 312 *e*P P **01 21 56.3 +2.3**
LZH pP PcP 01 22 03.8 -2.3
LZH sP pwP 01 22 08.4 -2.9
LZH pmax pmax
comp=Z,12nm,0.9s
QSPA South Pole Qui 77.55 180 P **P** **01 22 00.9 -1.0**
QSPA IAmb IAmb 01 22 12.6
comp=Z,7.9nm,1.0s
KDAK Kodiak Island 77.73 21 LR LR 01 49 43.7
comp=Z,360nm,20.4s,baz=231,slow=31
Q19K Cape Douglas, 78.23 20 P **P** **01 22 05.1 -0.5**

RPN	**Rapa Nui**	**79.55**	**116**	LR	LR	01 48 44.9		
	comp=Z,89nm,21.1s,baz=246,slow=29							
YAK	**Yakutsk**	**79.58**	**343**	LR	LR	01 59 03.4		
	comp=Z,89nm,18.0s,baz=106,slow=37							
ULN	**Ulaanbaatar**	**79.71**	**324**	P	**P**	**01 22 12.6**	**-1.4**	
ULN				IAmb	IAmb	01 22 28.9		
	comp=Z,6.3nm,1.1s							
SONM	**Songino Array**	**80.07**	**324**	P	**P**	**01 22 15.7**	**-0.3**	
	comp=Z,0.7nm,0.3s,baz=143,slow=6.6,SNR=6.5							
	comp=Z,0.7nm,0.3s							
SONM	**Songino Array**	**80.07**	**324**	P	**P**	**01 22 15.8**	**-0.3**	
GTA	**Gaotai**	**80.36**	**314**	*eP*	**P**	**01 22 19.6**	**+1.8**	
GTA				pP	pP	01 22 27.1	-1.1	
GTA				sP	sP	01 22 32.1	0.0	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KNK	**Knik Glacier**	**81.82**	**20**	P	**P**	**01 22 24.8**	**-0.1**	
CAST	**Castle Rocks**	**82.15**	**18**	P	**P**	**01 22 27.1**	**+0.5**	
KTH	**Kantishna Hill**	**82.60**	**18**	P	**P**	**01 22 28.5**	**-0.5**	
KTH				IAmb	IAmb	01 22 56.2		
	comp=Z,9.1nm,1.2s							
TRF	**Thorofare Moun**	**82.71**	**18**	P	**P**	**01 22 28.8**	**-0.9**	
TRF				IAmb	IAmb	01 22 44.8		
	comp=Z,13nm,1.5s							
GOMU	**GeErMu**	**82.76**	**309**	P	P	01 22 38.6	+7.8	
GOMU				pP	sP	01 22 43.6	-1.6	
GOMU				sP	pwP	01 22 44.8	-3.6	
GOMU				pmax	pmax			
	comp=Z,2.0nm,1.3s							
GOMU				pmax	pmax			
	comp=Z,120nm,4.6s							
M24K	**Tolsona, Glenn**	**83.08**	**20**	P	**P**	**01 22 31.6**	**0.0**	
N25K	**Chitina, Valde**	**83.29**	**21**	P	**P**	**01 22 32.5**	**-0.1**	
N25K				IAmb	IAmb	01 22 51.0		
	comp=Z,5.9nm,1.1s							
DHY	**Denali Highway**	**83.36**	**19**	P	**P**	**01 22 33.3**	**+0.2**	
GLB	**Gilahina Butte**	**83.47**	**22**	P	**P**	**01 22 33.4**	**-0.1**	
MAW	**Mawson**	**83.59**	**202**	LR	LR	01 51 57.5		
	comp=Z,98nm,21.2s,baz=122,slow=30							
H21K	**Melozitna Rive**	**83.66**	**16**	P	**P**	**01 22 34.9**	**+0.6**	
IMAR	**Indian Mountai**	**83.66**	**15**	P	**P**	**01 22 34.2**	**-0.1**	
WRH	**Wood River Hil**	**84.12**	**18**	P	**P**	**01 22 35.5**	**-1.2**	
WRH				IAmb	IAmb	01 22 51.3		
	comp=Z,4.3nm,1.2s							
CCB	**Clear Creek Bu**	**84.34**	**18**	P	**P**	**01 22 38.0**	**+0.2**	
CCB				IAmb	IAmb	01 22 38.9		
	comp=Z,2.3nm,0.6s							
M26K	**Nabesna, AK**	**84.39**	**21**	P	**P**	**01 22 37.5**	**-0.7**	
M26K				IAmb	IAmb	01 22 58.0		
	comp=Z,11nm,1.5s							
MDM	**Murphy Dome**	**84.43**	**18**	P	**P**	**01 22 38.0**	**-0.3**	
MDM				IAmb	IAmb	01 23 01.6		
	comp=Z,6.9nm,1.3s							
HDA	**Harding Lake**	**84.43**	**19**	P	**P**	**01 22 38.6**	**+0.3**	
YBH	**Yreka Blue Hor**	**84.56**	**45**	LR	LR	01 54 33.5		
	comp=Z,51nm,19.2s,baz=350,slow=32							
L26K	**Log Cabin Wild**	**84.67**	**21**	P	**P**	**01 22 40.4**	**+0.8**	
IL31		**84.71**	**18**	P	**P**	**01 22 39.0**	**-0.6**	
ILAR	**Eielson Array**	**84.71**	**18**	P	**P**	**01 22 39.0**	**-0.7**	
	comp=Z,3.0nm,0.6s,baz=242,slow=5.0,SNR=64							
ILAR				LR	LR	01 54 43.2		
	comp=Z,164nm,20.4s,baz=176,slow=32							
	comp=Z,3.0nm,0.6s							
ILAR	**Eielson Array**	**84.71**	**18**	P	**P**	**01 22 38.8**	**-0.9**	
M27K	**Edge Creek, AK**	**84.76**	**22**	P	**P**	**01 22 41.0**	**+0.8**	
SCRK	**Sand Creek**	**85.09**	**20**	P	**P**	**01 22 41.0**	**-0.8**	
SCRK				IAmb	IAmb	01 22 43.9		
	comp=Z,6.3nm,1.2s							
BBB	**Bella Bella**	**85.48**	**34**	LR	LR	01 54 33.6		
	comp=Z,179nm,19.4s,baz=235,slow=31							
PFO	**Pinyon Flats O**	**86.53**	**55**	LR	LR	01 53 09.0		
	comp=Z,181nm,20.8s,baz=310,slow=30							
NVAR	**Mina Array Bea**	**86.59**	**50**	P	**P**	**01 22 50.1**	**+0.2**	
	comp=Z,0.9nm,0.7s,baz=228,slow=7.4,SNR=7.7							
	comp=Z,0.9nm,0.7s							
DLBC	**Dease Lake**	**87.44**	**28**	LR	LR	01 55 08.6		
	comp=Z,143nm,20.0s,baz=5.0,slow=31							
LPIG	**La Paz**	**89.18**	**65**	LR	LR	02 01 10.9		
	comp=Z,81nm,18.1s,baz=336,slow=34							
ELK	**Elko**	**89.55**	**48**	LR	LR	01 56 04.1		
	comp=Z,159nm,19.7s,baz=260,slow=31							
WMQ	**Urumqi**	**90.41**	**315**	*eP*	**P**	**01 23 09.3**	**+1.6**	
NEW	**Newport**	**90.52**	**41**	P	**P**	**01 23 07.6**	**-0.5**	
	comp=Z,1.0nm,0.6s,baz=162,slow=5.6,SNR=2.0							
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**91.08**	**19**	LR	LR	01 59 40.6		
	comp=Z,113nm,19.1s,baz=262,slow=33							
PDAR	**Pinedale Array**	**94.17**	**47**	P	**P**	**01 23 25.4**	**0.0**	
	comp=Z,0.2nm,0.5s,baz=183,slow=1.8,SNR=2.5							
PDAR				LR	LR	02 00 13.5		
	comp=Z,92nm,18.6s,baz=294,slow=32							
	comp=Z,0.2nm,0.5s							
MK31	**Makanchi Array**	**94.86**	**317**	P	**P**	**01 23 27.5**	**-0.7**	
MK31				IAmb	IAmb	01 23 29.4		
	comp=Z,3.5nm,1.1s							
MKAR	**Makanchi Array**	**94.86**	**317**	P	**P**	**01 23 27.9**	**-0.2**	
	comp=Z,2.5nm,0.7s,baz=94,slow=6.3,SNR=26							
	comp=Z,2.5nm,0.7s							
MKAR	**Makanchi Array**	**94.86**	**317**	P	**P**	**01 23 27.7**	**-0.4**	
ANMO	**Albuquerque**	**94.87**	**55**	LR	LR	01 59 20.1		
	comp=Z,153nm,18.7s,baz=338,slow=31							
ZALV	**Zalesovo Beam**	**94.96**	**324**	P	**P**	**01 23 26.9**	**-1.5**	
	comp=Z,0.6nm,0.5s,baz=108,slow=4.8,SNR=4.0							
ZALV				LR	LR	02 05 15.2		
	comp=Z,54nm,20.9s,baz=46,slow=35							
	comp=Z,0.6nm,0.5s							
MAKZ	**Makanchi**	**95.07**	**317**	P	**P**	**01 23 27.9**	**-1.2**	
YKA	**Yellowknife Ar**	**96.02**	**27**	P	**P**	**01 23 32.3**	**-0.7**	
	comp=Z,0.2nm,0.6s,baz=256,slow=4.8,SNR=6.5							
YKA				LR	LR	02 08 31.3		
	comp=Z,58nm,18.2s,baz=324,slow=36							
	comp=Z,0.2nm,0.6s							
TXAR	**Lajitas Array**	**96.11**	**61**	P	**P**	**01 23 33.3**	**-1.0**	
	comp=Z,0.6nm,0.6s,baz=220,slow=6.9,SNR=2.9							
TXAR				LR	LR	01 58 27.1		
	comp=Z,113nm,20.8s,baz=290,slow=30							
	comp=Z,0.6nm,0.6s							
NRIK	**Noril'sk**	**97.60**	**339**	LR	LR	02 10 18.0		
	comp=Z,40nm,18.0s,baz=36,slow=37							
KURBB	**Kurchatov Arra**	**98.05**	**320**	LR	LR	02 10 51.7		
	comp=Z,40nm,18.0s,baz=180,slow=37							
AAK	**Ala-Archa**	**99.57**	**312**	LR	LR	02 08 13.0		
	comp=Z,38nm,21.6s,baz=30,slow=35							
SCHQ	**Schefferville**	**120.97**	**33**	PKP	**PKiKP**	**01 28 58.8**	**+0.3**	
	comp=Z,1.3nm,0.6s,baz=246,slow=10.0,SNR=1.4							
SCHQ	**Schefferville**	**120.97**	**33**	PKPdf	**PKiKP**	**01 28 58.6**	**+0.1**	
D62A	**Allapoint, All**	**122.47**	**42**	PKPdf	**PKiKP**	**01 29 01.0**	**-0.6**	
BATG	**Bathurst New B**	**124.33**	**41**	PKPdf	**PKiKP**	**01 29 04.2**	**-1.1**	
LMN	**Caledonia Moun**	**125.65**	**42**	PKPdf	**PKiKP**	**01 29 07.6**	**-0.4**	
BRTR	**Keskin Array B**	**130.25**	**312**	PKP	**PKiKP**	**01 29 17.2**	**-0.4**	
	comp=Z,0.3nm,0.6s,baz=104,slow=0.6,SNR=1.8							
BRTR	**Keskin Array B**	**130.25**	**312**	PKPdf	**PKiKP**	**01 29 17.1**	**-0.5**	
BURAR	**Bucovina Array**	**132.18**	**325**	PKPdf	**PKiKP**	**01 29 19.9**	**-1.2**	
DIVS	**Divibare**	**137.19**	**324**	PKPdf	**PKiKP**	**01 29 29.7**	**-1.7**	
KEST	**Kesra**	**148.81**	**322**	PKPbc	**PKiKP**	**01 29 54.6**	**-0.9**	
	comp=Z,4.1nm,0.9s,baz=93,slow=2.7,SNR=5.3							
KEST	**Kesra**	**148.81**	**322**		**PKPdf**	**01 29 49.9**	**-0.4**	
ESDC	**Sonseca Array**	**151.54**	**344**	PKPbc	**PKiKP**	**01 30 01.9**	**+0.9**	
	comp=Z,0.7nm,0.6s,baz=26,slow=5.3,SNR=4.8							
ESDC				PKPab	**pPKPbc**	**01 30 10.4**	**-1.3**	
	comp=Z,0.4nm,0.7s,baz=23,slow=5.1,SNR=5.8							
TORD	**Torodi Ar. Bea**	**164.88**	**274**	PKP	**PKPdf**	**01 30 11.7**	**+0.6**	
	comp=Z,0.9nm,1.0s,baz=101,slow=2.9,SNR=3.6							
TORD				PKPab	**PKPab**	**01 31 08.2**	**+0.9**	
	comp=Z,2.0nm,1.1s,baz=74,slow=2.2,SNR=4.9							

IDC ***25*** *01:11:30.0± 1.2, 32.˚89N× 84.˚65E, h0km, mb3.5/6, mbtmp3.5/9, ML2.7/1, MS3.3/2, Error ellipse: s-maj=31.6km s-min=23.3km az=62.0*

ISC 25 01:11:36.2±0.8, 33.°10N±0.°08× 84.°8E±0.°1, h35km, n17, σ1=44/15, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**4.82**	**191**	*eP*	**Pn**	**01 12 47.6**	**+1.1**
	17nm,0.3s						
GUN	**Gumba**	**5.26**	**169**	*eP*	**Pn**	**01 12 54.3**	**+1.7**
	5.8nm,0.3s						
PKIN	**Phulchoki**	**5.53**	**174**	*eP*	**Pn**	**01 12 57.9**	**+1.6**
	11nm,0.4s						
PKI	**Pulchoki**	**5.54**	**174**	*eP*	**Pn**	**01 12 57.7**	**+1.2**
	3.9nm,0.4s						
JIRN	**Jiri**	**5.56**	**167**	*eP*	**Pn**	**01 12 56.8**	**+0.1**
	11nm,0.4s						
TAPN	**Taplejung**	**6.26**	**156**	*eP*	**Pn**	**01 13 06.7**	**+0.3**
	2.0nm,0.2s						
AAK	**Ala-Archa**	**12.51**	**322**	LR	LR	01 19 02.7	
	comp=Z,31nm,21.5s,baz=342,slow=36						
MKAR	**Makanchi Array**	**13.81**	**353**	Pn	**Pn**	**01 14 48.6**	**-0.7**
	0.3nm,0.7s,baz=168,slow=14,SNR=2.6						
KURBB	**Kurchatov Arra**	**18.11**	**347**	P	**Pn**	**01 15 44.7**	**0.0**
	baz=165,slow=11,SNR=8.2						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.33**	**136**	P	**P**	**01 15 57.4**	**-1.1**
	1.0nm,0.6s,baz=342,slow=11,SNR=1.4						
ZALV	**Zalesovo Beam**	**20.84**	**0**	P	**P**	**01 16 14.7**	**+0.1**
	0.3nm,0.3s,baz=182,slow=9.5,SNR=1.8						
	0.3nm,0.3s						
SONM	**Songino Array**	**21.95**	**42**	P	**P**	**01 16 29.7**	**+2.8**
	1.0nm,0.8s,baz=228,slow=13,SNR=4.3						
	1.0nm,0.8s						
KSRS	**Korea Array**	**35.25**	**71**	P	**P**	**01 18 28.2**	**+0.9**
	1.1nm,0.9s,baz=334,slow=16,SNR=2.3						
	1.1nm,0.9s						
PETK	**Petropavlovsk-**	**54.38**	**45**	LR	LR	01 44 35.3	
	comp=Z,127nm,21.4s,baz=150,slow=36						
WRA	**Warramunga Arr**	**70.85**	**131**	P	**P**	**01 22 47.3**	**-2.3**
	0.7nm,0.8s,baz=326,slow=6.3,SNR=4.8						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.23**	**277**	P	**P**	**01 23 27.1**	**0.0**
	0.2nm,0.4s,baz=56,slow=4.6,SNR=5.2						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**83.46**	**9**	P	**P**	**01 23 59.0**	**-0.8**
	0.3nm,0.7s,baz=329,slow=5.1,SNR=5.6						
	0.3nm,0.7s						

IDC ***25*** *01:19:31.0± 0.7, 36.˚68N× 27.˚68E, h0km, mb3.9/15, mbtmp3.8/24, ML3.7/8, MS3.4/10, Error ellipse: s-maj=15.4km s-min=12.9km az=170.0*

DDA ***25*** *01:19:32.4± 0.0, 36.˚75N× 27.˚66E, h19km± 1km, MW4.3*

THE ***25*** *01:19:32.9, 36.˚79N× 27.˚67E, h2km± 1km, ML3.7/7, Error ellipse: s-maj=1.0km s-min=0.4km az=173.0*

NEIC ***25*** *01:19:33.6± 1.5, 36.˚77N± 0.˚04× 27.˚66E± 0.˚06, h11km± 6km, mb4.0/7, Error ellipse: s-maj=7.6km s-min=4.7km az=47.0*

ATH ***25*** *01:19:33.6, 36.˚76N× 27.˚69E, h15km± 1km, ML3.7/8, Error ellipse: s-maj=1.7km s-min=0.5km az=204.0*

ISK ***25*** *01:19:33.1, 36.˚80N× 27.˚66E, h8km, ML4.2/30*

GII ***25*** *01:19:39.1± 0.0, 36.˚19N× 27.˚81E, h20km, mb4.2/2, MD4.1/2*

HLW ***25*** *01:19:44.0, 36.˚07N× 28.˚19E, h22km± 30km, Md5.1, Ml4.8*

ISC 25 01:19:33.0±0.7, 36.°74N±0.°02× 27.°67E±0.°01, h11km±4km, n278, σ1=75/347, mb3.9/22, MS3.5/5, 8C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.08**	**259**	P	**Pg**	**01 19 35.0**	**-0.5**
DAT				S	**Sg**	**01 19 36.9**	**-0.4**
DAT	**Datca**	**0.08**	**259**	Pg	**Pg**	**01 19 35.8**	**+0.3**
DAT				Sg	**Sg**	**01 19 37.8**	**+0.5**
BDRM	**Kayabasi**	**0.37**	**330**	P	**Pg**	**01 19 40.0**	**-0.4**
BDRM				S	**Sg**	**01 19 45.8**	**+0.5**
NISR	**Nisiros**	**0.46**	**253**	P	**Pg**	**01 19 42.5**	**+0.5**
NISR				S	**Sg**	**01 19 49.6**	**+1.6**
	13μm,0.2s						
NISR	**Nisiros**	**0.46**	**253**	P	**Pg**	**01 19 42.5**	**+0.5**
NISR				S	**Sg**	**01 19 49.5**	**+1.4**
NISR				AML	AML	01 19 51.8	
	comp=E,32329μm,0.2s						
NISR				AML	AML	01 19 53.0	
	comp=N,18567μm,0.2s						
TURN	**Turunc**	**0.46**	**86**	Pg	**Pg**	**01 19 42.2**	**+0.2**
TURN	**Turunc**	**0.46**	**86**	P	**Pg**	**01 19 41.7**	**-0.3**
TURN				S	**Sg**	**01 19 49.2**	**+1.2**
MLSB	**Milas**	**0.56**	**8**	Pg	**Pg**	**01 19 43.4**	**-0.5**
MLSB				Sg	**Sg**	**01 19 50.8**	**-0.4**
KOSK	**Kos Island**	**0.56**	**271**	P	**Pg**	**01 19 44.4**	**+0.5**
KOSK				S	**Sb**	**01 19 53.0**	**+0.1**
	comp=N,11μm,0.4s						
KOSK	**Kos Island**	**0.56**	**271**	Pg	**Pg**	**01 19 44.4**	**+0.5**
KOSK	**Kos Island**	**0.56**	**271**	P	**Pb**	**01 19 45.3**	**+0.4**
KOSK				S	**Sb**	**01 19 52.9**	**0.0**
KOSK				AML	AML	01 19 56.2	
	comp=N,49242μm,0.4s						
KOSK				AML	AML	01 19 56.9	
	comp=E,77987μm,0.5s						
YER	**Yerkesik**	**0.62**	**51**	P	**Pg**	**01 19 44.6**	**-0.6**
YER				S	**Sb**	**01 19 54.3**	**-0.6**
YER	**Yerkesik**	**0.62**	**51**	Pg	**Pg**	**01 19 45.4**	**+0.2**
YER				Sg	**Sb**	**01 19 54.4**	**-0.5**
ARG	**Arkhangelos**	**0.64**	**145**		**Pg**	**01 19 45.8**	**+0.3**
ARG				Sg	**Sb**	**01 19 56.6**	**+1.4**
ARG	**Arkhangelos**	**0.64**	**145**	P	**Pg**	**01 19 45.8**	**+0.3**
ARG				S	**Sn**	**01 19 57.4**	**-0.9**
	comp=E,15μm,0.4s						
ARG	**Arkhangelos**	**0.64**	**145**	Pg	**Pg**	**01 19 46.5**	**+1.1**
ARG				Sg	**Sb**	**01 19 56.9**	**+1.7**
ARG	**Arkhangelos**	**0.64**	**145**	P	**Pg**	**01 19 46.1**	**+0.7**
ARG				S	**Sg**	**01 19 54.5**	**+0.7**
ARG				AML	AML	01 19 58.8	
	comp=N,36648μm,0.4s						
ARG				AML	AML	01 20 02.1	
	comp=E,27451μm,0.9s						
MULA	**Mugla, Merkez-**	**0.73**	**45**	P	**Pg**	**01 19 46.6**	**-0.5**
MULA				S	**Sg**	**01 19 57.0**	**+0.3**
MULA				*i* AML	AML	01 20 01.0	
	comp=E,1μm,0.6s						
DALY	**Dalyan (Mula)**	**0.79**	**84**	Pg	**Pg**	**01 19 48.9**	**+0.6**
DALY				Sg	**Sn**	**01 20 00.8**	**-1.2**
AYDN	**Tasoluk**	**0.93**	**10**	P	**Pb**	**01 19 50.2**	**-1.1**
AYDN				S	**Sb**	**01 20 03.2**	**-0.4**
GCAM	**G?zelcaml?**	**1.02**	**340**	Pg	**Pb**	**01 19 52.4**	**-0.3**
GCAM	**G?zelcaml?**	**1.02**	**340**	P	**Pb**	**01 19 52.1**	**-0.6**
GCAM				S	**Sn**	**01 20 07.7**	**+0.1**
FETY	**Fethiye**	**1.14**	**95**	Pn	**Pg**	**01 19 55.8**	**+0.9**
TAVA	**DENIZLI_Tavas**	**1.23**	**54**	P	**Pb**	**01 19 56.5**	**+0.2**
TAVA				S	**Sg**	**01 20 13.5**	**+1.0**
TAVA				*i* AML	AML	01 20 15.0	
	comp=E,2μm,0.7s						
CAME	**Cameli-Denizli**	**1.32**	**81**	Pn	**Pg**	**01 19 58.6**	**+0.2**
CAEL	**Denizli, Camel**	**1.37**	**73**	P	**Pg**	**01 20 00.5**	**+1.1**
CAEL				S	**Sg**	**01 20 20.0**	**+2.8**
DGB	**zmir**	**1.45**	**334**	P	**Pn**	**01 19 58.0**	**-1.3**
DGB				S	**Sg**	**01 20 21.2**	**+1.5**
APMY	**Acipayam-Deniz**	**1.49**	**60**	Pn	**Pb**	**01 20 00.5**	**-0.3**
GOLH	**Golhisar**	**1.59**	**71**	P	**Pg**	**01 20 03.8**	**+0.3**
GOLH				S	**Sg**	**01 20 25.5**	**+1.4**
AKAS	**Kas**	**1.64**	**108**	Pn	**Pb**	**01 20 03.7**	**+0.3**
AKAS	**Kas**	**1.64**	**108**	Pn	**Pb**	**01 20 03.4**	**+0.1**
AKAS	**Kas**	**1.64**	**108**	P	**Pg**	**01 20 05.2**	**+0.8**
AKAS				S	**Sg**	**01 20 27.2**	**+1.5**
KSL	**Kastellorizon**	**1.65**	**110**	P	**Pn**	**01 20 02.4**	**+0.4**
KSL				S	**Sb**	**01 20 24.4**	**+0.1**
	comp=E,2μm,0.6s						
KSL	**Kastellorizon**	**1.65**	**110**	P	**Pn**	**01 20 01.2**	**-0.8**
KSL				AML	AML	01 20 35.0	
	comp=E,4552μm,0.6s						
KSL				AML	AML	01 20 41.2	
	comp=N,3104μm,0.7s						
BLCB	**Balcova**	**1.71**	**343**	P	**Pn**	**01 20 01.4**	**-1.5**
BLCB				S	**Sn**	**01 20 23.6**	**-1.2**
BLCB	**Balcova**	**1.71**	**343**	Pn	**Pn**	**01 20 03.3**	**+0.4**
APE	**Apeiranthos**	**1.75**	**281**	⇓P	**Pn**	**01 20 02.6**	**-0.8**
APE	**Apeiranthos**	**1.75**	**281**	P	**Pn**	**01 20 02.6**	**-0.8**
APE				S	**Sn**	**01 20 25.9**	**+0.2**
APE	**Apeiranthos**	**1.75**	**281**	Pn	**Pn**	**01 20 04.2**	**+0.8**
APE	**Apeiranthos**	**1.75**	**281**	P	**Pn**	**01 20 02.6**	**-0.8**
APE				S	**Sn**	**01 20 24.0**	**-1.8**
APE				AML	AML	01 20 33.5	
	comp=N,1231μm,0.4s						
APE				AML	AML	01 20 43.9	
	comp=E,747μm,1.0s						
ZEYE	**Izmir, Urla-Ze**	**1.76**	**328**	P	**Pn**	**01 20 02.4**	**-1.1**
ZEYE				S	**Sg**	**01 20 29.1**	**-0.5**
ELL	**Elmali**	**1.79**	**89**	Pn	**Pn**	**01 20 04.5**	**+0.3**
ELL	**Elmali**	**1.79**	**89**	Pn	**Pb**	**01 20 05.4**	**-0.6**
URLA	**Izmir**	**1.83**	**332**	Pn	**Pn**	**01 20 04.8**	**+0.3**
URLA	**Izmir**	**1.83**	**332**	P	**Pn**	**01 20 03.0**	**-1.4**
URLA				S	**Sg**	**01 20 35.9**	**+4.1**
MANT	**Manisa**	**1.88**	**22**	Pn	**Pn**	**01 20 04.5**	**-0.8**
MANT	**Manisa**	**1.88**	**22**	P	**Pn**	**01 20 04.5**	**-0.8**
MANT				S	**Sg**	**01 20 33.0**	**-0.5**
KULA	**Kula-Manisa**	**1.93**	**24**	P	**Pn**	**01 20 05.3**	**-0.7**
KULA				S	**Sn**	**01 20 29.9**	**-0.5**
KULA	**Kula-Manisa**	**1.93**	**24**	Pn	**Pn**	**01 20 06.5**	**+0.5**
GOMA	**Golmarmara-Man**	**1.97**	**6**	Pn	**Pn**	**01 20 06.9**	**+0.5**
ZKR	**Zakros**	**2.01**	**216**	P	**Pn**	**01 20 07.3**	**+0.3**
ZKR				S	**Sn**	**01 20 33.0**	**+0.9**
	comp=E,1μm,0.8s						
ZKR	**Zakros**	**2.01**	**216**	Pn	**Pn**	**01 20 08.6**	**+1.7**
ZKR	**Zakros**	**2.01**	**216**	P	**Pn**	**01 20 07.2**	**+0.3**
ZKR				AML	AML	01 20 43.3	
	comp=N,1160μm,0.6s						
ZKR				AML	AML	01 20 49.1	
	comp=E,3055μm,0.9s						
CHOS	**Chios island**	**2.08**	**322**	P	**Pn**	**01 20 07.1**	**-0.9**
CHOS				S	**Sn**	**01 20 33.1**	**-1.0**
	comp=E,1μm,1.0s						
CHOS	**Chios island**	**2.08**	**322**	Pn	**Pn**	**01 20 08.5**	**+0.5**
CHOS	**Chios island**	**2.08**	**322**	P	**Pn**	**01 20 07.1**	**-0.9**
CHOS				AML	AML	01 20 45.7	
	comp=E,2860μm,1.1s						
CHOS				AML	AML	01 20 47.2	
	comp=N,1764μm,1.0s						
BRDR	**BURDUR-Merkez**	**2.13**	**63**	P	**Pb**	**01 20 10.6**	**-1.1**
BRDR				S	**Sg**	**01 20 42.3**	**+0.8**
AKHS	**Akhisar**	**2.13**	**3**	P	**Pn**	**01 20 09.7**	**+1.0**
AKHS				S	**Sb**	**01 20 36.8**	**-1.5**
AKS	**Akhisar**	**2.13**	**3**	Pn	**Pn**	**01 20 09.4**	**+0.7**
PASA	**Karahalli, USA**	**2.15**	**41**	P	**Pn**	**01 20 08.9**	**-0.1**
PASA				S	**Sg**	**01 20 43.8**	**+1.5**
KHL	**Karahalli**	**2.16**	**42**	Pn	**Pn**	**01 20 09.9**	**+0.9**
TNSA	**Tinos**	**2.16**	**292**	P	**Pn**	**01 20 09.0**	**+0.1**
KORT	**Korkueli**	**2.16**	**82**	Pn	**Pn**	**01 20 10.8**	**+1.6**
KORT	**Korkueli**	**2.16**	**82**	P	**Pb**	**01 20 11.9**	**-0.4**
KORT				S	**Sg**	**01 20 43.8**	**+1.3**
AKUM	**Antalya-Kumluc**	**2.19**	**100**	P	**Pb**	**01 20 12.1**	**-0.5**
AKUM				S	**Sg**	**01 20 42.6**	**-0.8**
AKUM				*i* AML	AML	01 20 50.0	
	comp=N,802nm,0.5s						
BASM	**Basmaki-Afyon**	**2.23**	**58**	Pn	**Pn**	**01 20 11.1**	**+1.1**
USAK	**Uak-Merkez**	**2.24**	**28**	P	**Pn**	**01 20 10.1**	**0.0**
USAK				S	**Sg**	**01 20 42.4**	**+0.8**
ZEDA	**zmir-Bergama**	**2.27**	**348**	P	**Pn**	**01 20 09.7**	**-0.8**
ZEDA				S	**Sg**	**01 20 47.6**	**+1.7**
BUCA	**Burdur, Bucak-**	**2.38**	**75**	P	**Pb**	**01 20 14.5**	**-1.5**
BUCA				S	**Sg**	**01 20 49.2**	**-0.4**
DKL	**Dikili**	**2.40**	**346**	Pn	**Pn**	**01 20 13.3**	**+1.0**
BCK	**Bucak**	**2.44**	**72**	Pn	**Pn**	**01 20 14.4**	**+1.5**
DEMI	**Demirci**	**2.44**	**19**	P	**Pn**	**01 20 12.3**	**-0.6**
DEMI				S	**Sg**	**01 20 53.1**	**+1.7**
KZIL	**AFYON_Kizioren**	**2.48**	**52**	P	**Pn**	**01 20 14.2**	**+0.7**
KZIL				S	**Sg**	**01 20 59.2**	**+6.6**
KZIL				*i* AML	AML	01 21 03.0	
	comp=N,586nm,0.8s						
ISP	**Isparta**	**2.51**	**64**	Pn	**Pn**	**01 20 14.5**	**+0.5**
ISP	**Isparta**	**2.51**	**64**	Pn	**Pn**	**01 20 15.3**	**+1.3**
ISP	**Isparta**	**2.51**	**64**	P	**Pn**	**01 20 14.2**	**+0.2**
HRKL	**Herakleio**	**2.53**	**236**	Pn	**Pn**	**01 20 16.1**	**+2.1**
HRKL	**Herakleio**	**2.53**	**236**	P	**Pn**	**01 20 13.4**	**-0.6**
KSTL	**Kastelli Herak**	**2.55**	**237**	P	**Pn**	**01 20 13.7**	**-0.7**
SIMA	**Simav-Kutahya**	**2.56**	**24**	Pn	**Pn**	**01 20 15.3**	**+0.8**
SMAA	**Simav-Kutahya**	**2.57**	**23**	Pn	**Pn**	**01 20 15.5**	**+0.8**
STEP	**BALIKESIR_Sava**	**2.63**	**1**	P	**Pn**	**01 20 15.3**	**-0.2**
STEP				S	**Sg**	**01 20 56.1**	**-1.3**
AYVA	**Ayvalik**	**2.68**	**343**	P	**Pg**	**01 20 23.8**	**-0.5**
AYVA				S	**Sg**	**01 20 57.3**	**-1.6**
IDI	**Anoyia**	**2.68**	**238**	Pn	**Pn**	**01 20 16.7**	**+0.4**
	comp=N,3.7nm,0.3s,baz=42,slow=2.9,SNR=19						
IDI				Sn	**Sn**	**01 20 48.6**	**-0.2**
	comp=N,10nm,0.3s,baz=344,slow=15,S

AKO	Adana	6.25	81	P		Pn	01 21 09.3	+4.0	
AKO				S		Sn	01 22 20.4	+3.6	
FNA	Florina	6.36	311	Pn		Pn	01 21 07.1	+0.3	
STIP	Stip	6.53	321	*i* Pn		Pn	01 21 09.3	+0.3	
KBN	Korca	6.63	308	Pn		Pn	01 21 10.8	+0.2	
VTS	Vitosha	6.79	331	⇑P		Pn	01 21 14.0	+1.3	
VTS	Vitosha	6.79	331	Pn		Pn	01 21 12.6	-0.2	
VTS	Vitosha	6.79	331	*e*P		Pn	01 21 14.1	+1.3	
BNN	Bunyan	6.80	70	Pn		Pn	01 21 13.4	+0.5	
KAGI	orum-Kargı	6.88	48	P		Pn	01 21 14.5	+0.6	
BHL	Bhannes	7.11	111	*e*P		Pn	01 21 18.1	+0.9	
DQRL	Deir Qamar	7.14	113	*e*P		Pn	01 21 18.3	+0.8	
BZK	Bozkurt	7.15	41	Pn		Pn	01 21 17.4	-0.2	
HNTI	Hanita	7.16	118	Pn		Pn	01 21 18.7	+0.9	
HNTI				Sn		Sn	01 22 35.6	-3.5	
HWQ	Hawqa	7.18	108	*e*P		Pn	01 21 20.6	+2.5	
BEIL	Beino	7.27	105	*e*P		Pn	01 21 19.9	+0.6	
OFRI	`Ofer	7.29	122	Pn		Pn	01 21 19.6	0.0	
ZAHL	Zahle	7.30	111	*e*P		Pn	01 21 21.1	+1.2	
MMA0B	Mount Meron ar	7.36	118	Pn		Pn	01 21 20.7	+0.2	
MMA0B				Sn		Sn	01 22 40.9	-3.2	
MMAI	Mount Meron Ar	7.36	118	Pn		Pn	01 21 20.8	+0.3	
	comp=E,6.0nm,0.3s,baz=304,slow=12,SNR=44								
MMAI				Sn		Sn	01 22 39.7	-4.4	
	comp=E,14nm,0.3s,baz=313,slow=27,SNR=13								
	comp=E,11nm,0.5s								
GEM	Giv'at Ha'Em	7.44	116	Pn		Pn	01 21 22.3	+0.7	
GEM				Sn		Sn	01 22 42.2	-3.9	
NATI	Neve Ativ	7.47	115	Pn		Pn	01 21 23.1	+1.1	
NATI				Sn		Sn	01 22 43.5	-3.2	
KOT	Kottamia	7.63	152	P		Pn	01 21 23.6	-0.7	
	baz=152								
GAZ	Gaziantep	7.65	84	Pn		Pn	01 21 25.5	+1.0	
MMLI	Mount Malkishu	7.70	122	Pn		Pn	01 21 26.0	+0.9	
HSAF	As Saff	7.81	154	P		Pn	01 21 25.5	-1.2	
	baz=155								
HMDT	Nahal Hemdat	7.88	122	Pn		Pn	01 21 28.2	+0.6	
HMDT				Sn		Sn	01 22 53.3	-3.4	
HMDT	Nahal Hemdat	7.88	122	P		Pn	01 21 29.3	+1.7	
GLL	Jalalah	7.91	154	P		Pn	01 21 27.4	-0.7	
	baz=154								
AMAZ	Amatzia	7.94	129	Pn		Pn	01 21 27.7	-0.7	
AMAZ				Sn		Sn	01 22 53.5	-4.8	
UJAP	Al Uja	8.02	124	Pn		Pn	01 21 30.2	+0.7	
UJAP				Sn		Sn	01 22 56.8	-3.4	
KZIT	Kziot	8.07	134	Pn		Pn	01 21 29.5	-0.8	
KZIT				Sn		Sn	01 22 55.5	-6.0	
YTIR	Yattir	8.18	129	Pn		Pn	01 21 30.8	-1.0	
YTIR				Sn		Sn	01 22 59.2	-5.1	
DSI	Dead Sea	8.21	127	Pn		Pn	01 21 32.2	+0.1	
DSI	Dead Sea	8.21	127	P		Pn	01 21 34.8	+2.7	
BOVS	Bovan	8.26	328	⇑P		Pn	01 21 33.8	+1.1	
MDBI	Mazsada	8.37	128	P		Pn	01 21 34.0	-0.2	
MSBI	Mazada	8.37	128	Pn		Pn	01 21 34.4	+0.2	
ZAF	Zafarana	8.49	150	P		Pn	01 21 35.7	-0.3	
	baz=150								
KARJ	KARJ	8.68	128	P		Pn	01 21 33.0	-5.6	
PRNI	Paran	8.83	134	Pn		Pn	01 21 40.0	-0.7	
PRNI				Sn		Sn	01 23 13.8	-6.5	
MLR	Muntele Rosu	8.84	352	Pn		Pn	01 21 42.2	+1.4	
	comp=E,2.2nm,1.0s,baz=218,slow=18								
MLR				LR		LR	01 24 51.1		
	comp=E,152nm,18.6s,baz=186,slow=36								
MLR	Muntele Rosu	8.84	352	⇑P		Pn	01 21 44.7	+3.9	
KRMI	Paran Flat	8.85	136	Pn		Pn	01 21 39.7	-1.3	
ASF	Jabal al Asfar	8.88	118	Pn		Pn	01 21 42.1	+0.8	
	comp=E,0.9nm,0.3s,baz=8.9,slow=13,SNR=3.5								
ASF				Sn		Sn	01 23 20.4	-1.0	
	comp=E,1.4nm,0.3s,baz=336,slow=20,SNR=2.0								
	comp=E,3.8nm,0.4s								
VOIR		8.91	348	⇑P		Pn	01 21 47.6	+5.8	
TIP	Timpagrande	8.96	289	Pn		Pn	01 21 42.6	+0.1	
HRFI	Mount Harif	9.09	135	Pn		Pn	01 21 43.4	-0.8	
HRFI				Sn		Sn	01 23 19.8	-6.8	
MBRI	Mt Berech	9.20	137	Pn		Pn	01 21 44.9	-1.0	
MBRI	Mt Berech	9.20	137	P		Pn	01 21 45.7	-0.2	
MDVR	Moldovita	9.21	332	⇑P		Pn	01 21 47.0	+1.1	
HSNJ	Maan	9.30	132	P		Pn	01 21 56.9	+10	
EIL	Elat	9.32	137	Pn		Pn	01 21 46.2	-1.2	
	comp=E,0.8nm,0.3s,baz=339,slow=15,SNR=17								
EIL				Sn		Sn	01 23 24.4	-7.8	
	comp=E,6.7nm,0.3s,baz=356,slow=14,SNR=10								
	comp=E,6.7nm,0.5s								
EIL	Elat	9.32	137	Pn		Pn	01 21 46.0	-1.4	
EIL				Sn		Sn	01 23 25.1	-7.1	
AQBJ	Aqaba	9.33	136	P		Pn	01 21 47.6	+0.1	
DOPR	Dopca	9.37	350	⇑P		Pn	01 21 54.1	+6.0	
DIVS	Divibare	9.39	324	Pn		Pn	01 21 48.4	+0.1	
GZR	Gura Zlata	9.40	338	⇓P		Pn	01 21 51.4	+3.0	
TAMRE	El Minia	9.44	162	P		Pn	01 21 48.8	-0.3	
	baz=163								
GRB	Gharib	9.48	152	P		Pn	01 21 49.1	-0.5	
	baz=152								
HBST	Basata	9.56	140	P		Pn	01 21 50.0	-0.7	
	baz=139								
HBST				S		Sn	01 23 23.2	-15	
	baz=139								
NUB	Nuweibaa	9.67	141	P		Pn	01 21 51.8	-0.4	
	baz=140								
HKAT	Jabal Katrina	9.77	145	P		Pn	01 21 54.0	+0.2	
	baz=145								
HKAT				S		Sn	01 23 26.9	-17	
	baz=145								
CUC	Castrocucco	9.86	293	Pn		Pn	01 21 53.3	-1.5	
HDHB	Dhahab	9.90	142	P		Pn	01 21 54.9	-0.5	
	baz=141								
BZS	Buzias	9.97	335	⇑P		Pn	01 21 56.5	+0.3	
MARD	Mardin	10.49	83	Pn		Pn	01 22 02.7	-0.8	
GNI	Garni	13.80	71	LR		LR	01 29 31.7		
	comp=E,48nm,18.9s,baz=282,slow=44								
AKASG	Malin Array Be	14.00	4	Pn		Pn	01 22 52.5	+1.3	
	comp=E,0.3nm,0.3s,baz=278,slow=9.2,SNR=1.8								
AKASG				LR		LR	01 28 52.8		
	comp=E,105nm,20.8s,baz=300,slow=40								
	comp=E,0.1nm,0.3s								
CONA	Conrad Observa	14.17	326	*e*P		P	01 23 03.2	+1.9	
	comp=E,3.8nm,1.3s								
KBA	Koelnbreinsper	14.82	319	pP		P	01 23 12.1	+3.5	
	comp=E,7.2nm,1.2s								
KEST	Kesra	14.83	272	Pn		Pn	01 23 05.7	+2.9	
	comp=E,0.1nm,0.3s,baz=54,slow=22,SNR=4.4								
KEST	Kesra	14.83	272	P		P	01 23 06.8	-1.9	
VRAC	Vranov	14.92	331	Pn		P	01 23 07.3	-2.2	
	comp=E,0.2nm,0.3s,baz=135,slow=4.3,SNR=1.3								
	comp=E,0.6nm,0.5s								
BIOA	Bad Ischl, Aus	15.07	321	*e*pP		pP	01 23 15.5	+1.3	
	comp=E,7.1nm,1.5s								
KRLC	Kraliky	15.47	333	*e*P		P	01 23 18.7	+3.0	
CKRC	Cesky Krumlov	15.52	325	*e*P		Pn	01 23 13.4	+1.5	
GERES	GERESS Array B	15.82	324	Pn		P	01 23 18.0	-1.7	
	comp=E,0.1nm,0.3s,baz=102,slow=9.1,SNR=2.3								
GERES				LR		LR	01 29 07.5		
	comp=E,70nm,20.5s,baz=336,slow=36								
	comp=E,0.4nm,0.6s								
DPC	Dobruska-Polom	15.87	333	*e*P		Pn	01 23 13.1	-3.3	
OSTC	Ostas	16.08	333	*e*P		P	01 23 28.6	+6.2	
KHC	Kasperske Hory	16.08	325	*e*P		P	01 23 23.5	+1.0	
MOTA	Moosalm	16.20	316	pP		P	01 23 24.9	+0.9	
	comp=E,8.1nm,1.4s								
DAVOX	Davos/Dischmat	16.60	313	Pn		P	01 23 29.8	+1.4	
	comp=E,0.1nm,0.3s,baz=126,slow=19,SNR=1.8								
DAVOX				LR		LR	01 30 29.8		
	comp=E,118nm,18.0s,baz=334,slow=40								
BRG	Berggiesshubel	17.21	329	*e*P		P	01 23 39.9	+5.0	
BRG				Amp			01 23 48.1		
	comp=Z,3.6nm,1.0s								
MNK	Minsk	17.76	0	*i* P		Pn	01 23 38.7	-1.4	
	comp=E,3.0nm,0.9s								
MNK				*i* P		Pn	01 23 38.7	-1.4	
	comp=N,39nm,0.8s								
MNK				*i* P		Pn	01 23 38.7	-1.4	
	comp=Z,4.0nm,0.7s,baz=181								
MNK				*i* PP		PnPn	01 23 49.2	-1.5	
MNK				*i* PPP		PPP	01 23 56.9		
MNK				*i* S		Sn	01 26 57.1	-0.8	
MNK				*i* SS		SnSn	01 27 12.1	+0.6	
MNK				*i* SSS		SSS	01 27 24.8		
MNK				*i* LQ		LQ	01 28 17.3		
MNK				*i* LR		LR	01 30 15.8		
MNK				*i* LRM		MLR	01 32 00.3		
	comp=E,21nm,15.3s								
MNK				*i* LRM		MLR	01 32 08.8		
	comp=N,457nm,20.4s								
MNK				*i* LRM		MLR	01 32 09.7		
	comp=Z,81nm,17.8s								
CLL	Collm	17.93	329	*e*pP		pP	01 23 45.0	-0.8	
CLL				*e*(PP)			01 23 51.0		
CLL				*es*PP			01 23 56.0		
SENIN	Lac Senin/Sane	17.98	309	P		Pn	01 23 42.8	-0.4	
BELG	Belogornoye	21.03	36	P		P	01 24 18.1	+1.5	
	comp=Z,8.4nm,0.9s,baz=205,slow=6.5,SNR=4.8								
	comp=Z,8.4nm,0.9s								
GEYT	Alibeck	24.19	78	P		P	01 24 50.7	+1.1	
	comp=Z,0.8nm,0.4s,baz=249,slow=11,SNR=2.8								
	comp=Z,0.8nm,0.4s								
FINES	FINESS Array B	24.74	358	P		P	01 24 53.4	-0.9	
	comp=Z,1.7nm,0.7s,baz=153,slow=13,SNR=4.5								
	comp=Z,1.7nm,0.7s								
FINES	FINESS Array B	24.74	358	P		P	01 24 53.0	-1.3	
ESDC	Sonseca Array	24.96	286	P		P	01 24 56.1	-0.5	
	comp=Z,2.2nm,0.9s,baz=76,slow=9.6,SNR=12								
	comp=Z,2.2nm,0.9s								
HFS	Hagfors	25.07	343	P		P	01 24 56.9	-0.3	
	comp=Z,2.0nm,0.8s,baz=106,slow=9.4,SNR=4.0								
HFS				LR		LR	01 36 59.6		
	comp=Z,146nm,20.2s,baz=331,slow=42								
	comp=Z,2.0nm,0.8s								
PAB	San Pablo	25.27	286	P		P	01 24 59.3	-0.1	
PAB				IAmb		IAmb	01 25 09.5		
	comp=Z,8.3nm,1.3s								
KLMR	Klimovskoe	25.28	14	*e*P		P	01 24 57.3	-1.8	
KLMR				AMP			01 25 04.4		
	comp=Z,42nm,1.8s								
AKTO	Aktyubinsk	25.68	48	P		P	01 25 02.4	-0.6	
	comp=Z,2.0nm,0.5s,baz=251,slow=8.2,SNR=7.5								
	comp=Z,2.0nm,0.5s								
NOA	NORSAR Array B	26.46	342	P		P	01 25 10.6	+0.7	
	comp=Z,1.1nm,0.9s,baz=156,slow=8.7,SNR=2.4								
	comp=Z,1.1nm,0.9s								
ABKAR	Akbulak array	26.49	52	P		P	01 25 10.5	+0.2	
TORD	Torodi Ar. Bea	33.07	231	P		P	01 26 08.1	-0.7	
	comp=Z,0.9nm,0.9s,baz=25,slow=8.8,SNR=6.9								
TORD				PcP		PcP	01 28 50.4	-2.0	
	comp=Z,0.5nm,0.8s,baz=31,slow=2.8,SNR=2.5								
	comp=Z,0.9nm,0.9s								
AAK	Ala-Archa	36.14	66	P		P	01 26 39.1	+3.7	
	comp=Z,1.3nm,0.6s,baz=213,slow=8.3,SNR=5.1								
MBAR	Mbarara	37.27	175	LR		LR	01 43 22.4		
	comp=Z,5nm,18.0s,baz=320,slow=38								
KURBB	Kurchatov Arra	38.54	52	P		P	01 26 55.5	0.0	
	comp=Z,2.3nm,0.8s,baz=280,slow=8.7,SNR=10								
	comp=Z,2.3nm,0.8s								
KURK	Kurchatov	38.60	52	P		P	01 26 55.9	-0.1	
KURK				IAmb		IAmb	01 26 56.9		
	comp=Z,2.4nm,0.8s								
MAKZ	Makanchi	40.99	58	P		P	01 27 15.3	-0.6	
MAKZ				IAmb		IAmb	01 27 18.7		
	comp=Z,1.9nm,1.1s								
MK31	Makanchi Array	41.20	58	P		P	01 27 17.1	-0.6	
MK31				IAmb		IAmb	01 27 18.6		
	comp=Z,2.4nm,1.0s								
MKAR	Makanchi Array	41.20	58	P		P	01 27 17.6	-0.1	
	comp=Z,1.5nm,0.7s,baz=282,slow=6.8,SNR=16								
MKAR				PcP		PcP	01 29 15.5	-1.2	
	comp=Z,0.5nm,0.6s,baz=260,slow=4.8,SNR=3.2								
MKAR				LR		LR	01 48 09.2		
	comp=Z,44nm,18.7s,baz=9.0,slow=42								
	comp=Z,1.5nm,0.7s								
ZALV	Zalesovo Beam	42.44	47	P		P	01 27 27.4	-0.3	
	comp=Z,1.8nm,0.5s,baz=277,slow=7.9,SNR=7.5								
	comp=Z,1.8nm,0.5s								
ZALV	Zalesovo Beam	42.44	47	P		P	01 27 27.9	+0.3	
WMQ	Urumqi	45.45	62	*e*P		P	01 27 55.5	+3.4	
TSUM	Tsumeb	56.45	191	LR		LR	01 54 20.1		
	comp=Z,49nm,18.6s,baz=358,slow=37								
SONM	Songino Array	56.91	52	P		P	01 29 17.4	-0.8	
	comp=Z,0.7nm,0.7s,baz=294,slow=6.1,SNR=5.7								
	comp=Z,0.7nm,0.7s								
SONM	Songino Array	56.91	52	P		P	01 29 18.1	-0.1	
SONM				IAmb		IAmb	01 29 24.4		
	comp=Z,3.2nm,1.4s								
TIXI	Tiksi	58.96	21	P		P	01 29 35.7	+3.7	
	comp=Z,1.6nm,0.7s,baz=270,slow=17,SNR=6.6								
PZH	PanZhiHua	62.49	76	P		P	01 29 58.1	+1.2	
PZH				pmax		pmax			
	comp=Z,7.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,100nm,5.1s								
KSRS	Korea Array	75.70	54	P		P	01 31 17.3	-1.3	
	comp=Z,1.0nm,0.7s,baz=232,slow=20,SNR=2.7								
	comp=Z,1.0nm,0.7s								
YKA	Yellowknife Ar	76.55	343	P		P	01 31 23.6	+0.6	
	comp=Z,0.8nm,1.0s,baz=34,slow=5.4,SNR=7.0								
	comp=Z,0.8nm,1.0s								
ILAR	Eielson Array	78.73	358	P		P	01 31 34.3	-0.8	
	comp=Z,0.3nm,0.8s,baz=1.1,slow=4.6,SNR=2.9								
	comp=Z,0.3nm,0.8s								
TKL	Tuckaleechee C	83.89	310	LR		LR	02 10 57.5		
	comp=Z,178nm,18.1s,baz=288,slow=37								

NEIC ***25*** *01:21:29.9±1.4, 15.7°S±0.1×167.8°E±0.1, h124km±7km, mb4.6/28, Error ellipse: s-maj=19.3km s-min=14.5km az=87.0*

IDC ***25*** *01:21:30.7±2.2, 15.61°S×167.70°E, h131km±19km, mb4.0/18, mbtmp4.4/20, MS4.0/2, Error ellipse: s-maj=15.2km s-min=14.3km az=111.0*

NOU ***25*** *01:21:33.4, 15.68°S×167.66°E, h94km, mb4.8/13, Vanuatu Islands*

ISC 25 01:21:29.8±0.4, 15°62′S±0′06×167°70′E±0′08, h124km, n123,σ1°810/125, mb4.5/26, 13C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s		Res ISC
DVP	Devils Point	2.14	167	P		Pn	01 22 07.4	+2.2	
LIFNC	LIFOU	5.14	185	Pn		Pn	01 22 43.2	-1.6	
MARNC	Mare, Loyalty	5.83	177	Pn		Pn	01 22 53.0	-1.1	
KOUNC	Koumac, New Ca	5.88	213	Pn		Pn	01 22 55.0	+0.3	
KOUNC	Koumac, New Ca	5.88	213	P		Pn	01 22 56.7	+2.1	
YATNC	Mamie plateau,	6.45	187	P		Pn	01 23 03.3	+1.0	
DZM	Mont Dzumac	6.52	190	P		Pn	01 23 05.2	+1.8	
	38nm,0.4s,baz=11,slow=5.6,SNR=97								
DZM				S		Sn	01 24 14.9	-1.7	
	9.4nm,0.3s,baz=336,slow=20,SNR=1.0								
DZM	Mont Dzumac	6.52	190	Pn		Pn	01 23 03.6	+0.2	
DZM	Mont Dzumac	6.52	190	P		Pn	01 23 05.6	+2.2	
NOUC	Port Laguerre	6.58	191	P		Pn	01 23 06.7	+2.6	
ONTNC	Ouen Toro	6.75	190	Pn		Pn	01 23 06.0	-0.4	
ONTNC	Ouen Toro	6.75	190	P		Pn	01 23 10.3	+3.9	
OUENC	Ouen Island, N	6.81	187	Pn		Pn	01 23 07.7	+0.6	
OUENC	Ouen Island, N	6.81	187	P		Pn	01 23 10.5	+3.3	
PINNC	Pines Island,	6.96	182	Pn		Pn	01 23 09.3	+0.1	
PINNC	Pines Island,	6.96	182	P		Pn	01 23 12.1	+2.9	
HNR	Honiara	9.75	308	LR		LR	01 27 18.5		
	comp=Z,2μm,18.4s,baz=98,slow=36								
MSVF	Nonsavu	10.14	103	P		Pn	01 24 04.5	+12	
	26nm,0.9s,baz=251,slow=8.8,SNR=12								
EIDS	Eidsvold	18.32	235	P		P	01 25 35.4	+0.8	
EIDS				IAmb		IAmb	01 25 38.1		
	comp=Z,21nm,0.8s								
AFI	Afiamalu	19.92	88	P		P	01 25 53.0	+0.9	
	comp=Z,6.8nm,0.3s,baz=198,slow=20,SNR=5.3								
ARMA	Armidale	20.83	222	P		P	01 26 01.8	0.0	
ARMA				IAmb		IAmb	01 26 02.5		
	comp=Z,29nm,1.3s								
CTA	Charters Tower	20.89	255	P		P	01 26 03.4	+1.0	
	comp=Z,5.9nm,0.7s,baz=85,slow=11,SNR=8.0								
	comp=Z,5.9nm,0.7s								
CTAO	Charters Tower	20.89	255	P		P	01 26 03.0	+0.7	
PMG	Port Moresby	20.97	285	P		P	01 26 04.5	+1.2	
	comp=Z,7.2nm,0.2s,baz=56,slow=3.6,SNR=1.6								
	comp=Z,7.2nm,0.2s								
PMG	Port Moresby	20.97	285	P		P	01 26 03.2	-0.1	
PMG				IAmb		IAmb	01 26 09.1		
	comp=Z,25nm,1.1s								
COEN	Coen	23.77	271	P		P	01 26 30.8	-0.4	
COEN				IAmb		IAmb	01 26 33.7		
	comp=Z,11nm,0.8s								
URZ	Urewera	24.03	162	P		P	01 26 34.5	+1.3	
	comp=Z,12nm,1.0s,baz=64,slow=4.8,SNR=3.7								
	comp=Z,12nm,1.0s								
MRZ	Mangatainoka R	25.87	166	P		P	01 26 49.7	-0.2	
LTZ	Lake Taylor	27.35	173	P		P	01 27 03.0	-0.2	
STKA	Stephens Creek	28.75	231	P		P	01 27 16.7	+0.9	
	comp=Z,1.2nm,0.4s,baz=27,slow=9.7,SNR=4.1								
STKA				PcP		PcP	01 30 22.9	-0.1	
	comp=Z,2.7nm,0.6s,baz=107,slow=2.9,SNR=6.2								
	comp=Z,1.2nm,0.4s								
STKA	Stephens Creek	28.75	231	P		P	01 27 15.5	-0.3	
WB0	Warramunga Arr	31.97	258	P		P	01 27 43.6	-0.7	
WB0				IAmb		IAmb	01 27 50.8		
	comp=Z,18nm,1.5s								
WB2	Warramunga Arr	32.01	257	P		P	01 27 43.4	-1.4	
WB2				IAmb		IAmb	01 27 44.8		
	comp=Z,5.6nm,0.8s								
WRA	Warramunga Arr	32.02	257	P		P	01 27 43.6	-1.2	
	comp=Z,2.6nm,0.5s,baz=86,slow=8.9,SNR=18								
WRA				PcP		PcP	01 30 30.9	-0.9	
	comp=Z,1.0nm,0.7s,baz=79,slow=0.4,SNR=5.1								
WRA				LR		LR	01 38 54.6		
	comp=Z,72nm,19.2s,baz=85,slow=33								
	comp=Z,2.6nm,0.5s								
WRA	Warramunga Arr	32.02	257	P		P	01 27 44.8	0.0	
ASAR	Alice Springs	32.76	250	P		P	01 27 51.0	-0.3	
	comp=Z,4.1nm,0.3s,baz=79,slow=9.2,SNR=50								
ASAR				PcP		PcP	01 30 33.2	-0.6	
	comp=Z,1.3nm,0.7s,baz=89,slow=2.9,SNR=8.2								
ASAR				ScP		ScP	01 34 06.8	+0.3	
	comp=Z,1.1nm,0.9s,baz=94,slow=3.5,SNR=8.3								
	comp=Z,4.1nm,0.3s								
ASAR	Alice Springs	32.76	250	P		P	01 27 50.4	-0.8	
BBOO	Buckleboo	33.37	233	P		P	01 27 55.4	-1.0	
BBOO				IAmb		IAmb	01 28 07.3		
	comp=Z,17nm,1.1s								
FAKI	Fak Fak	37.12	286	P		P	01 28 28.5	-0.2	
FAKI				IAmb		IAmb	01 28 33.1		
	comp=Z,14nm,0.9s								
KNRA	Kununurra	37.46	265	P		P	01 28 31.1	-0.4	
FORT	Forrest	39.21	240	P		P	01 28 46.1	+0.1	
FITZ	Fitzroy Crossi	40.27	260	P		P	01 28 55.2	+0.3	
MBWA	Marble Bar	45.72	256	P		P	01 29 37.7	-1.2	
MBWA				IAmb		IAmb	01 30 07.0		
	comp=Z,30nm,1.5s								
MORW	Morawa	49.26	245	P		P	01 30 06.5	+0.3	
MORW				IAmb		IAmb	01 30 16.0		
	comp=Z,22nm,1.3s								
MJAR	Matsushiro Arr	58.88	332	P		P	01 31 14.7	-1.1	
	comp=Z,2.2nm,0.7s,baz=169,slow=8.6,SNR=4.6								
	comp=Z,2.2nm,0.7s								
VNDA	Vanda	61.98	181	P		P	01 31 36.6	+0.4	
	comp=Z,2.1nm,0.7s,baz=359,slow=5.2,SNR=8.6								
	comp=Z,2.1nm,0.7s								
VNDA	Vanda	61.98	181	P		P	01 31 36.3	0.0	
CASY	Casey	62.86	202	P		P	01 31 42.5	+0.3	
KSRS	Korea Array	64.71	326	P		P	01 31 55.1	+0.3	
	comp=Z,1.1nm,0.6s,baz=147,slow=7.1,SNR=5.7								
	comp=Z,1.1nm,0.6s								
USRK	Ussuriysk Ar.	67.87	333	P		P	01 32 15.9	+1.2	
	comp=Z,6.5nm,0.8s,baz=180,slow=4.8,SNR=6.0								
	comp=Z,6.5nm,0.8s								
PETK	Petropavlovsk-	68.99	354	P		P	01 32 22.1	+0.6	
	comp=Z,1.4nm,0.6s,baz=158,slow=12,SNR=1.6								
	comp=Z,1.4nm,0.6s								
QSPA	South Pole Qui	74.41	180	P		P	01 32 54.0	-0.1	
QSPA				IAmb		IAmb	01 32 56.5		
	comp=Z,13nm,0.8s								
L19K	White Mountain	82.96	17	P		P	01 33 40.9	+0.2	
ULN	Ulaanbaatar	83.10	324	P		P	01 33 42.6	+0.8	
ULN				IAmb		IAmb	01 33 43.8		
	comp=Z,12nm,0.8s								
SONM	Songino Array	83.46	323	P		P	01 33 44.3	+0.6	
	comp=Z,2.6nm,0.5s,baz=156,slow=10,SNR=32								
	comp=Z,2.6nm,0.5s								
SONM	Songino Array	83.46	323	P		P	01 33 43.6	0.0	
SONM				IAmb		IAmb	01 33 45.4		
	comp=Z,8.8nm,1.0s								
SUA	Susitna One	83.60	19	P		P	01 33 44.0	-0.1	
SUA				IAmb		IAmb	01 33 46.2		
	comp=Z,8.0nm,1.2s								
CAST	Castle Rocks	84.72	17	P		P	01 33 48.6	-1.0	
BELA	Belgrano 2	85.80	175	P		P	01 33 54.0	-0.8	
ILAR	Eielson Array	87.

KEST	**Kesra**	**152.16**	**320**	PKPbc	**PKPbc**	**01 41 12.2**	**+0.9**
	comp=Z,17nm,0.7s,baz=42,slow=0.7,SNR=35						
ESDC	**Sonseca Array**	**154.95**	**345**	PKPbc	**PKPbc**	**01 41 16.9**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=6.5,slow=3.8,SNR=4.4						
ESDC				PKPab	**PKPab**	**01 41 33.2**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=41,slow=2.8,SNR=8.2						
MDT	**Midelt**	**161.52**	**339**	PKPab	**PKPab**	**01 42 02.1**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=9.4,slow=6.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**166.22**	**262**	PKP	**PKPdf**	**01 41 20.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=24,slow=0.6,SNR=6.6						
TORD				PKPab	**PKPab**	**01 42 21.8**	**-1.1**
	comp=Z,1.7nm,1.0s,baz=99,slow=2.6,SNR=5.1						

NNC 25 01:29:38.0±7.2, 37°.95N×71°.01E, h0km, mb3.8, mpv3.5, 2C-2D, Error ellipse: s-maj=56.3km s-min=49.9km az=151.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.26**	**350**	Pg	Pn	01 30 45.4	+1.2
	8.1nm,0.4s						
IUG				Lg	Lg	01 31 39.6	
	25nm,0.5s						
MRKS	**Merke**	**5.08**	**19**	Pg	Pn	01 30 53.9	-1.6
	1.8nm,0.7s						
MRKS				Lg	Lg	01 31 54.2	
	17nm,0.5s						
KK31	**Karatay Array**	**5.16**	**356**	⇓P	Pn	01 30 57.3	+0.7
	2.1nm,0.2s,baz=176,slow=13						
KK31				⇓S	Sn	01 31 58.1	+1.3
	3.1nm,0.3s,baz=174,slow=22						
AB31	**Akbulak array**	**13.84**	**328**	⇑P	Pn	01 32 53.6	-1.7
	0.3nm,0.4s						
AB31				⇑S	Sn	01 35 28.9	-0.7
	1.3nm,0.6s						

ISN 25 01:47:10.1±0.3, 35°.72N×45°.01E, h9km, ML2.8
TEH 25 01:47:14.6, 35°.85N×45°.00E, h9km±119km, ML2.8
ISC 25 01:47:12.2±1.4, 35°.94N±0°.05×44°.6E±0°.1, h10km, n7, σ0s52/9, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKRK	**Kirkuk**	**0.58**	**203**	*e*Pg	**Pb**	**01 47 24.0**	**-0.6**
	baz=60						
IKRK				*e*Sg	**Sb**	**01 47 33.7**	**+0.8**
IKRK				AML	AML	01 47 38.0	
	comp=E,359nm,0.4s						
IKRK				AML	AML	01 47 41.2	
	comp=N,518nm,0.4s						
MAHB	**Mahabad**	**1.20**	**47**	Pg	**Pn**	**01 47 35.4**	**+0.1**
IDHR	**Dehrash**	**1.91**	**130**	Pg	**Pn**	**01 47 44.6**	**-0.4**
IDHR				Sg	**Sn**	**01 48 08.9**	**-0.2**
ILIN	**Lien**	**2.17**	**117**	Pn	**Pn**	**01 47 48.9**	**+0.2**
IGHG	**Ghaleghazi**	**2.27**	**135**	Pn	**Pn**	**01 47 50.6**	**+0.6**
ISHB	**Shabestar**	**2.47**	**19**	Pn	**Pb**	**01 47 56.6**	**-0.3**
IMRD	**Marand**	**2.90**	**17**	Pn	**Pb**	**01 48 04.0**	**-0.2**

DDA 25 02:01:55.6±0.0, 36°.74N×27°.71E, h7km±1km, ML2.2
ISK 25 02:01:57.3, 36°.84N×27°.76E, h27km, ML2.5/6
ISC 25 02:01:56.4±1.4, 36°.78N±0°.06×27°.74E±0°.05, h13km±10km, n12, σ0s72/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.37**	**320**	P	**Pg**	**02 02 03.4**	**-0.6**
BDRM				*i* AML	AML	02 02 09.0	
	comp=E,184nm,0.2s						
BDRM				S	**Sg**	**02 02 09.0**	**0.0**
TURN	**Turunc**	**0.40**	**90**	P	**Pg**	**02 02 04.1**	**-0.4**
TURN				S	**Sb**	**02 02 12.0**	**+0.5**
MLSB	**Milas**	**0.52**	**3**	Pg	**Pb**	**02 02 07.5**	**+0.1**
MLSB				Sg	**Sb**	**02 02 14.8**	**0.0**
YER	**Yerkesik**	**0.56**	**51**	Pg	**Pb**	**02 02 08.2**	**0.0**
YER				Sg	**Sb**	**02 02 16.6**	**+0.5**
ARG	**Arkhangelos**	**0.64**	**151**	Pg	**Pn**	**02 02 11.7**	**+0.5**
MULA	**Mugla, Merkez-**	**0.66**	**44**	P	**Pg**	**02 02 08.7**	**-0.7**
MULA				S	**Sb**	**02 02 19.6**	**+0.5**
DALY	**Dalyan (Mula)**	**0.73**	**87**	Pg	**Pn**	**02 02 11.4**	**-1.1**
AYDN	**Tasoluk**	**0.89**	**7**	P	**Pg**	**02 02 13.4**	**-0.2**
AYDN				S	**Sn**	**02 02 26.4**	**-1.1**
GCAM	**G?zelcaml?**	**1.00**	**336**	P	**Pn**	**02 02 16.6**	**+0.4**
GCAM				S	**Sn**	**02 02 30.6**	**+0.4**
FETY	**Fethiye**	**1.09**	**97**	Pn	**Pg**	**02 02 17.0**	**-0.4**
TAVA	**DENİZLİ_Tavas**	**1.16**	**53**	P	**Pb**	**02 02 18.1**	**-0.3**
TAVA				S	**Sg**	**02 02 35.8**	**+1.8**
ELL	**Elmali**	**1.74**	**90**	Pn	**Pn**	**02 02 26.2**	**-0.3**

JMA 25 02:58:39.9±0.3, 26°N±2°, 14°1E±°, h121km, MV4.0/11, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.51**	**54**	P	Pn	02 59 07.7	+0.2
JHH2				S	Sn	02 59 29.1	+0.6
CBIJ	**Chichi jima**	**1.82**	**42**	P	Pn	02 59 11.7	+0.5
CBIJ				S	Sn	02 59 35.6	+0.5
BSO3	**Boso 3**	**9.03**	**358**	P	Pn	03 00 44.1	-2.9

ROM 25 03:11:14.4±0.2, 38°.412N±0°.009×15°.445E±0°.009, h81km±1km, ML2.2/9, 6C-3D, Error ellipse: s-maj=0.9km s-min=0.7km az=304.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MILZ	**Milazzo**	**0.22**	**230**	P	Pn	03 11 26.2	-0.2
MILZ				S	Sn	03 11 35.0	-0.3
MILZ				AML	AML		
	comp=N,438μm,0.4s						
MILZ				AML	AML		
	comp=N,437μm,0.4s						
MILZ				AML	AML		
	comp=E,282μm,0.2s						
MILZ	**Milazzo**	**0.22**	**230**	P	Pn	03 11 26.2	-0.2
MILZ	**Milazzo**	**0.22**	**230**	P	Pn	03 11 26.2	-0.2
MILZ				AML	AML		
	comp=E,282μm,0.2s						
MILZ				AML	AML		
	comp=N,438μm,0.4s						
MILZ				AML	AML		
	comp=E,282μm,0.2s						
MILZ				AML	AML		
	comp=N,437μm,0.4s						
MILZ				AML	AML		
	comp=E,282μm,0.2s						
MILZ				AML	AML		
	comp=N,437μm,0.4s						
MSCL	**Scilla**	**0.33**	**123**	P	Pn	03 11 26.9	-0.2
MSCL				S	Sn	03 11 36.5	0.0
GMB	**Gambarie**	**0.39**	**129**	P	Pn	03 11 27.8	+0.2
GMB				S	Sn	03 11 37.3	0.0
GMB				AML	AML		
	comp=N,313μm,0.2s						
GMB				AML	AML		
	comp=E,316μm,1.0s						
GMB				AML	AML		
	comp=N,314μm,0.2s						
GMB	**Gambarie**	**0.39**	**129**	P	Pn	03 11 27.8	+0.2
GMB	**Gambarie**	**0.39**	**129**	P	Pn	03 11 27.8	+0.2
GMB	**Gambarie**	**0.39**	**129**	P	Pn	03 11 27.8	+0.2
GMB				AML	AML		
	comp=E,316μm,1.0s						
GMB				AML	AML		
	comp=N,313μm,0.2s						
GMB				AML	AML		
	comp=E,316μm,1.0s						
GMB				AML	AML		
	comp=N,314μm,0.2s						
GMB				AML	AML		
	comp=E,316μm,1.0s						
GMB				AML	AML		
	comp=N,313μm,0.2s						
LLI	**Lipari**	**0.39**	**275**	P	Pn	03 11 27.9	+0.4
LLI				S	Sn	03 11 37.8	+0.7
LLI				AML	AML		
	comp=N,532μm,0.9s						
LLI				AML	AML		
	comp=E,371μm,0.7s						
LLI				AML	AML		
	comp=N,532μm,1.1s						
LLI	**Lipari**	**0.39**	**275**	⇑P	Pn	03 11 27.9	+0.4
LLI				AML	AML		
	comp=E,371μm,0.7s						
LLI				AML	AML		
	comp=N,532μm,0.9s						
LLI				AML	AML		
	comp=E,371μm,0.7s						
LLI				AML	AML		
	comp=N,532μm,0.9s						
LLI				AML	AML		
	comp=E,371μm,0.7s						
LLI				AML	AML		
	comp=N,532μm,0.9s						
IST3	**Stromboli F**	**0.42**	**337**	P	Pn	03 11 27.9	+0.2
NOV	**Novara**	**0.45**	**212**	P	Pn	03 11 28.3	+0.3
NOV				S	Sn	03 11 38.5	+0.4
NOV				AML	AML		
	comp=E,150μm,0.2s						
NOV				AML	AML		
	comp=N,161μm,0.5s						
NOV	**Novara**	**0.45**	**212**	P	Pn	03 11 28.3	+0.3
NOV				AML	AML		
	comp=E,150μm,0.2s						
NOV				AML	AML		
	comp=N,161μm,0.5s						
NOV				AML	AML		
	comp=E,150μm,0.2s						
NOV				AML	AML		
	comp=N,161μm,0.5s						
NOV				AML	AML		
	comp=E,150μm,0.2s						
NOV				AML	AML		
	comp=N,161μm,0.5s						
AIO	**Antillo**	**0.47**	**201**	P	Pn	03 11 28.5	+0.3
AIO				S	Sn	03 11 39.0	+0.7
AIO				AML	AML		
	comp=N,78μm,1.1s						
AIO				AML	AML		
	comp=E,99μm,0.7s						
AIO				AML	AML		
	comp=E,81μm,0.2s						
AIO				AML	AML		
	comp=N,62μm,0.3s						
AIO				AML	AML		
	comp=E,99μm,1.3s						
AIO				AML	AML		
	comp=N,78μm,0.9s						
AIO	**Antillo**	**0.47**	**201**	⇓P	Pn	03 11 28.6	+0.5
AIO				AML	AML		
	comp=E,99μm,0.7s						
AIO				AML	AML		
	comp=N,78μm,1.1s						
AIO				AML	AML		
	comp=E,99μm,0.7s						
AIO				AML	AML		
	comp=N,78μm,1.1s						
AIO				AML	AML		
	comp=E,99μm,0.7s						
AIO				AML	AML		
	comp=N,78μm,1.1s						
MSFR	**San Fratello**	**0.77**	**241**	P	Pn	03 11 31.2	+0.2
MSFR				S	Sn	03 11 43.0	-0.4
GRI	**Girifalco**	**0.87**	**61**	P	Pn	03 11 32.7	+0.7
GRI				S	Sn	03 11 45.8	+0.6
CAR1	**CAROLEI**	**1.03**	**35**	P	Pn	03 11 34.1	+0.1
CAR1				S	Sn	03 11 48.9	+0.3
CAR1				AML	AML		
	comp=N,39μm,0.3s						
CAR1				AML	AML		
	comp=E,55μm,0.3s						
CAR1				AML	AML		
	comp=E,55μm,1.7s						
CAR1	**CAROLEI**	**1.03**	**35**	⇓P	Pn	03 11 34.2	+0.2
SPS2	**Spezzano della**	**1.12**	**38**	P	Pn	03 11 35.4	+0.3
SPS2				S	Sn	03 11 50.8	+0.2
SPS2	**Spezzano della**	**1.12**	**38**	⇑P	Pn	03 11 35.4	+0.3
SPS2	**Spezzano della**	**1.12**	**38**	⇑P	Pn	03 11 35.4	+0.3
SPS2	**Spezzano della**	**1.12**	**38**	⇑P	Pn	03 11 35.4	+0.3
HAGA	**Augusta**	**1.15**	**192**	⇑P	Pn	03 11 34.1	-1.2
HAGA	**Augusta**	**1.15**	**192**	AML	AML		
	comp=N,40μm,0.1s						
HAGA				AML	AML		
	comp=E,40μm,0.1s						
HLNI	**Lentini**	**1.16**	**203**	P	Pn	03 11 34.4	-1.0
HLNI				S	Sn	03 11 49.4	-1.8
HLNI	**Lentini**	**1.16**	**203**	AML	AML		
	comp=N,38μm,0.3s						
HLNI				AML	AML		
	comp=E,32μm,0.2s						
CET2	**Cetraro**	**1.18**	**19**	P	Pn	03 11 36.3	+0.4
CET2				S	Sn	03 11 52.0	+0.1
CET2				AML	AML		
	comp=E,169μm,0.4s						
CET2				AML	AML		
	comp=N,208μm,0.7s						
CET2				AML	AML		
	comp=N,208μm,1.3s						
CET2				AML	AML		
	comp=N,198μm,0.3s						
CET2	**Cetraro**	**1.18**	**19**	⇑P	Pn	03 11 36.4	+0.5
CET2				AML	AML		
	comp=E,169μm,0.4s						
CET2				AML	AML		
	comp=N,208μm,0.7s						
MEU	**Monte Lauro**	**1.37**	**197**	S	Sn	03 11 55.0	-1.2
MEU				AML	AML		
	comp=E,171μm,1.6s						
MEU				AML	AML		
	comp=N,207μm,1.6s						
MEU				AML	AML		
	comp=E,172μm,1.6s						
MEU				AML	AML		
	comp=N,207μm,1.6s						
MEU	**Monte Lauro**	**1.37**	**197**	AML	AML		
	comp=E,171μm,1.6s						
MEU				AML	AML		
	comp=N,207μm,1.6s						
MEU				AML	AML		
	comp=E,172μm,1.6s						
NOCI	**Noci**	**2.68**	**27**	⇓P	Pn	03 11 55.0	-0.6
FIAM	**Fiamignano**	**4.24**	**336**	AML	AML		
	comp=E,168μm,0.8s						
FIAM				AML	AML		
	comp=N,168μm,0.4s						
GIGS	**Gran Sasso**	**4.28**	**341**	AML	AML		
	comp=E,134μm,1.0s						
GIGS				AML	AML		
	comp=N,95μm,1.1s						

ROM 25 03:12:26.8±0.0, 42°.535N±0°.003×13°.297E±0°.005, h11km, Md1.8/12, 6C-11D, Error ellipse: s-maj=0.4km s-min=0.1km az=237.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.08**	**89**	⇓P	Pg	03 12 29.7	+0.3
CAMP				S	Sg	03 12 31.5	+0.1
CAMP				END			
T1247	**Pizzolo (AQ)**	**0.09**	**179**	⇓P	Pg	03 12 30.0	+0.5
T1247				S	Sg	03 12 32.4	+0.9
T1247				END			
T1218	**Civita (PG)**	**0.19**	**315**	⇓P	Pg	03 12 31.4	+0.4
T1218				S	Sg	03 12 34.5	+0.5
T1218				END			
AQU	**L'Aquila**	**0.20**	**157**	P	Pg	03 12 31.5	+0.4
AQU				S	Sg	03 12 35.4	+1.4
AQU				END			
LNSS	**Leonessa**	**0.20**	**290**	⇓P	Pg	03 12 31.7	+0.5
LNSS				S	Sg	03 12 35.4	+1.2
LNSS				END			
GIGS	**Gran Sasso**	**0.22**	**113**	⇓P	Pg	03 12 31.6	+0.1
GIGS				S	Sg	03 12 35.6	+1.0
GIGS				AML	AML		
	comp=E,134μm,1.0s						
GIGS				AML	AML		
	comp=N,95μm,1.1s						
GIGS				END			
T1222	**Castel Sant'An**	**0.23**	**235**	⇑P	Pg	03 12 32.2	+0.5
T1222				S	Sg	03 12 36.2	+1.2
T1222				END			
FIAM	**Fiamignano**	**0.30**	**207**	⇑P	Pg	03 12 33.3	+0.4
FIAM				S	Sb	03 12 38.4	-0.8
FIAM				AML	AML		
	comp=E,168μm,0.8s						
FIAM				AML	AML		
	comp=N,168μm,0.4s						
T1217	**Poggiodomo (PG**	**0.32**	**303**	⇓P	Pg	03 12 33.6	+0.2
T1217				S	Sg	03 12 38.7	+0.9
T1217				END			
FAGN	**Fagnano**	**0.34**	**142**	P	Pg	03 12 33.8	+0.1
MC2	**Monte Cornacci**	**0.39**	**348**	⇓P	Pg	03 12 34.8	+0.2
MC2				S	Sb	03 12 40.8	-1.1
MC2				END			
ARRO	**Arrone**	**0.40**	**277**	⇓P	Pg	03 12 34.9	+0.2
ARRO				S	Sg	03 12 40.2	+0.3
ARRO				END			
T1215	**Vallo di Nera,**	**0.41**	**310**	⇓P	Pg	03 12 35.1	0.0
T1215				S	Sg	03 12 41.4	+0.9
T1215				END			
OFFI	**Offida**	**0.49**	**35**	P	Pb	03 12 37.2	-0.3
FDMO	**Fiordimonte**	**0.53**	**343**	P	Pg	03 12 37.1	0.0
FDMO				S	Sg	03 12 44.9	+0.8
GUMA	**Gualdo di Mace**	**0.53**	**3**	⇑P	Pg	03 12 37.4	+0.2
CESX	**Cesi**	**0.54**	**278**	⇓P	Pg	03 12 37.4	+0.2
CESI	**CESI - Serrava**	**0.55**	**329**	⇓P	Pg	03 12 37.5	-0.1
CESI				S	Sb	03 12 45.8	-0.8
MOMA	**Monte Martano**	**0.60**	**297**	⇑P	Pg	03 12 38.5	-0.1
MOMA				S	Sb	03 12 48.2	+0.3
ASSB	**Assisi San Ben**	**0.69**	**317**	⇑P	Pg	03 12 40.1	-0.1
SNTG	**Esanatoglia**	**0.77**	**340**	⇑P	Pg	03 12 41.6	-0.1
SNTG				S	Sb	03 12 52.9	+0.2
CING	**Cingoli**	**0.84**	**355**	P	Pg	03 12 42.8	-0.4
MGAB	**Montegabbione**	**0.95**	**294**	P	Pg	03 12 45.1	0.0

IDC 25 03:48:28.5±1.4, 18°.23S×175°.94E, h0km, mb3.8/3, mbtmp3.7/4, ML4.5/1, MS3.3/6, Error ellipse: s-maj=102.5km s-min=23.9km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.07**	**77**	Pn	Pn	03 49 04.7	0.0
	7.9nm,0.3s,baz=243,slow=13,SNR=24						
MSVF				Sn	Sn	03 49 28.3	-2.9
	7.7nm,0.3s,baz=324,slow=23,SNR=6.8						
MSVF				LR	LR	03 49 28.8	
	comp=Z,166nm,18.1s,baz=180,slow=29 37nm,0.6s						
DZM	**Mont Dzumac**	**9.70**	**245**	*e*LR	LR	03 53 03.9	
	comp=Z,170nm,26.5s						
DZM	**Mont Dzumac**	**9.70**	**245**	LR	LR	03 53 54.4	
	comp=Z,150nm,18.3s,baz=240,slow=34						
HNR	**Honiara**	**17.80**	**297**	LR	LR	03 57 39.0	
	comp=Z,916nm,20.5s,baz=330,slow=31						
RAR	**Rarotonga**	**23.05**	**101**	LR	LR	04 00 42.6	
	comp=Z,31nm,21.9s,baz=283,slow=32						
CTA	**Charters Tower**	**28.09**	**261**	LR	LR	04 03 56.5	
	comp=Z,59nm,19.4s,baz=84,slow=33						
TBI	**Tubuai**	**32.70**	**105**	*e*LR	LR	04 03 49.2	
	comp=Z,954nm,33.5s						
TBI				*e*LR	LR	04 03 49.3	
	comp=Z,2μm,30.5s						
PPT2	**Papeete2**	**32.80**	**94**	*e*LR	LR	04 03 51.4	
	comp=Z,104nm,26.5s						
PPT2				*e*LR	LR	04 03 52.0	
	comp=Z,87nm,24.2s						
PPT	**Papeete**	**32.80**	**94**	LR	LR	04 04 40.8	
	comp=Z,47nm,20.1s,baz=272,slow=30						
STKA	**Stephens Creek**	**33.80**	**240**	P	P	03 55 12.0	-0.4
	2.2nm,0.7s,baz=72,slow=11,SNR=5.7 2.2nm,0.7s						
WRA	**Warramunga Arr**	**39.28**	**261**	P	P	03 55 58.6	-0.8
	0.5nm,0.9s,baz=92,slow=6.8,SNR=2.3 0.5nm,0.9s						
ASAR	**Alice Springs**	**39.52**	**255**	P	P	03 56 02.0	+0.6
	1.2nm,0.9s,baz=85,slow=8.9,SNR=12 1.2nm,0.9s						
TAOE	**Nuku Hiva Isla**	**43.60**	**84**	*e*LR	LR	04 08 50.5	
	comp=Z,33nm,24.0s						
GERES	**GERESS Array B**	**146.23**	**339**	PKPbc	PKPdf	04 08 10.3	+0.2
	0.2nm,0.2s,baz=41,slow=6.5,SNR=1.9						

MOS 25 03:49:48.9±1.4, 53°.08N×108°.18E, h10km, mb3.8/1, Error ellipse: s-maj=11.5km s-min=7.1km az=59.0
IDC 25 03:49:49.3±1.4, 53°.16N×108°.01E, h0km, mb3.3/4, mbtmp3.4/8, ML3.0/3, MS3.4/2, Error ellipse: s-maj=30.2km s-min=21.4km az=134.0
BYKL 25 03:49:51.4±0.1, 53°.08N×108°.09E, h18km±3km, FELT I=III MSK at Gremyachinsk
ISC 25 03:49:50.1±1.0, 53°.07N±0°.02×108°.18E±0°.02, h9km±7km, n72, σ2s04/130, mb3.3/4, 3C-14D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KELR	**Kotokel**	**0.31**	**191**	⇓*i*Pg	**Pg**	**03 49 57.5**	**+1.2**
KELR				*e*Sg	**Sg**	**03 50 01.8**	**+1.3**
MXMB	**Maximikha**	**0.39**	**60**	⇓*i*Pg	**Pb**	**03 49 59.7**	**+0.4**
MXMB				*e*Sg	**Sb**	**03 50 05.8**	**+0.4**
OGRR	**Ongureny**	**0.68**	**329**	⇑*i*PG	**Pn**	**03 50 07.2**	**+1.3**
OGRR				*e*		03 50 15.8	
OGRR				pmax	pmax		
	comp=Z,748nm,0.1s						
OGRR				smax	smax		
	comp=N,12μm,0.2s						
ZRHB	**Zarechye**	**0.81**	**231**	*e*Pg	**Pg**	**03 50 06.2**	**+0.6**
ZRHB				Pmax		03 50 06.4	
	comp=N,872nm,0.3s						
ZRHB				*e*Sg	**Sb**	**03 50 17.3**	**0.0**
ZRHB				Smax		03 50 20.6	
	comp=N,9μm,0.7s						
TRG	**Tyrgan**	**1.15**	**255**	⇓*i*Pg	**Pb**	**03 50 11.6**	**-0.6**
TRG				Pmax		03 50 12.7	
	comp=N,733nm,0.1s						
TRG				*e*Sg	**Sg**	**03 50 27.0**	**-0.1**
TRG				Smax		03 50 29.1	
	comp=N,7μm,0.2s						
TRG	**Tyrgan**	**1.15**	**255**	*e*PG	**Pb**	**03 50 11.9**	**-0.3**
TRG				*e*		03 50 27.2	
TRG				pmax	pmax		
	comp=Z,733nm,0.2s						
TRG				smax	smax		
	comp=N,7μm,0.2s						
SYVR	**Suvo**	**1.24**	**61**	⇓*i*Pg	**Pb**	**03 50 14.5**	**+0.7**
SYVR				*e*Pb	**Pg**	**03 50 15.0**	**+1.1**
SYVR				max		03 50 15.4	
	comp=N,650nm,0.2s						
SYVR				*e*Sg	**Sg**	**03 50 31.8**	**+1.8**
SYVR				*e*Sb	**Sn**	**03 50 33.2**	**+2.7**
SYVR				max		03 50 33.7	
	comp=N,5μm,0.4s						
SYVR	**Suvo**	**1.24**	**61**	*e*PG	**Pb**	**03 50 14.4**	**+0.7**
SYVR				*e*		03 50 31.9	
SYVR				pmax	pmax		
	comp=Z,657nm,0.2s						
SYVR				smax	smax		
	comp=N,6μm,0.3s						
FFNB	**Fofonovo**	**1.34**	**221**	⇓*i*Pg	**Pb**	**03 50 15.8**	**+0.5**
FFNB				*e*Pb	**Pg**	**03 50 16.3**	**+0.6**
FFNB				*e*Sg	**Sg**	**03 50 33.5**	**+0.4**
KAB	**Kabansk**	**1.38**	**223**	*e*Pg	**Pb**	**03 50 16.1**	**0.0**
KAB				*e*Pb	**Pg**	**03 50 16.7**	**+0.1**
KAB				max		03 50 16.9	
	comp=N,1μm,0.7s						
KAB				*e*Sg	**Sg**	**03 50 34.8**	**+0.4**
KAB				Smax		03 50 37.2	
	comp=N,4μm,0.3s						
KAB	**Kabansk**	**1.38**	**223**	*e*PG	**Pb**	**03 50 16.1**	**0.0**
KAB				*e*		03 50 35.2	
KAB				pmax	pmax		
	comp=Z,1μm,0.6s						
KAB				smax	smax		
	comp=N,5μm,0.9s						
BGT	**Bolshoye Golou**	**1.98**	**240**	*e*Pn	**Pn**	**03 50 23.9**	**+0.2**
BGT				*e*Pg	**Pb**	**03 50 26.4**	**+0.2**
BGT				Pmax		03 50 27.2	
	comp=N,328nm,0.5s						
BGT				*e*Sg	**Sb**	**03 50 51.9**	**+0.9**
BGT				Smax		03 50 56.2	
	comp=N,1μm,0.4s						
LSTR	**Listvyanka**	**2.37**	**241**	*e*Pn	**Pn**	**03 50 29.5**	**+0.3**
LSTR				*e*Pg	**Pb**	**03 50 32.8**	**-0.2**
LSTR				Pmax		03 50 33.9	
	comp=N,161nm,0.2s						
LSTR				*e*Sn	**Sn**	**03 50 57.7**	**-0.7**
LSTR				*e*Sg	**Sb**	**03 51 02.7**	**+0.3**
LSTR				Smax		03 51 06.7	
	comp=N,766nm,0.5s						
LSTR	**Listvyanka**	**2.37**	**241**	⇓*i*PN	**Pn**	**03 50 29.4**	**+0.3**

LSTR			*e*			03 50 33.2	
LSTR			*e*			03 51 02.7	
LSTR			pmax	pmax			
	comp=Z,157nm,0.3s						
LSTR			smax	smax			
	comp=N,766nm,0.5s						
IRK	**Irkutsk**	**2.52 252**	*e*Pg		**Pb**	**03 50 36.4 +0.9**	
IRK			Pmax			03 50 43.3	
	comp=N,350nm,0.3s						
IRK			*e*Sn		**Sn**	**03 51 00.8 -1.2**	
IRK			*e*Sg		**Sb**	**03 51 07.8 +1.3**	
IRK			Smax			03 51 10.5	
	comp=N,3μm,0.3s						
IRK	**Irkutsk**	**2.52 252**	*e*PN		**Pn**	**03 50 35.5 0.0**	
IRK			*e*			03 51 07.8	
IRK			pmax	pmax			
	comp=Z,409nm,0.1s						
IRK			smax	smax			
	comp=N,3μm,0.3s						
YLYR	**Ulyunkhan**	**2.53 43**⇓	*i*Pn		**Pn**	**03 50 32.6 +1.3**	
YLYR			*e*Pg		**Pb**	**03 50 36.4 +0.8**	
YLYR			*e*			03 50 38.3	
YLYR			max			03 50 38.5	
	comp=N,246nm,0.8s						
YLYR			*e*Sg		**Sg**	**03 51 10.2 -1.0**	
YLYR			Smax			03 51 12.8	
	comp=N,815nm,0.5s						
YLYR	**Ulyunkhan**	**2.53 43**⇓	*i*PN		**Pn**	**03 50 32.7 +1.4**	
YLYR			*e*			03 50 35.5	
YLYR			*e*			03 51 09.6	
YLYR			pmax	pmax			
	comp=Z,183nm,0.5s						
YLYR			smax	smax			
	comp=N,824nm,0.5s						
IVK	**Ivanovka**	**2.63 243**⇓	*i*Pn		**Pn**	**03 50 33.1 +0.4**	
IVK			*e*Pg		**Pb**	**03 50 38.0 +0.6**	
IVK			Pmax			03 50 38.3	
	comp=N,237nm,0.6s						
IVK			*e*Sn		**Sn**	**03 51 04.3 -0.4**	
IVK			*e*Sg		**Sb**	**03 51 11.3 +1.5**	
IVK			Smax			03 51 14.4	
	comp=N,2μm,0.5s						
NIZ	**Nizh Angarsk**	**2.83 16**	*e*Pn		**Pn**	**03 50 37.0 +1.6**	
NIZ			*e*Pg		**Pb**	**03 50 41.9 +1.2**	
NIZ			Pmax			03 50 42.9	
	comp=N,135nm,0.3s						
NIZ			*e*Sn		**Sn**	**03 51 10.3 +0.7**	
NIZ			*e*Sg		**Sg**	**03 51 18.8 -2.1**	
NIZ			Smax			03 51 22.0	
	comp=N,681nm,0.6s						
NIZ	**Nizh Angarsk**	**2.83 16**	*e*PN		**Pn**	**03 50 37.0 +1.6**	
NIZ			*e*			03 50 41.8	
NIZ			*e*			03 51 18.9	
NIZ			pmax	pmax			
	comp=Z,135nm,0.3s						
NIZ			smax	smax			
	comp=N,680nm,0.6s						
TLY	**Talaya**	**3.11 245**	*e*Pn		**Pn**	**03 50 39.6 +0.3**	
TLY			*e*Pg		**Pb**	**03 50 46.2 +0.7**	
TLY			Pmax			03 50 52.4	
	comp=N,96nm,0.6s						
TLY			*e*Sg		**Sb**	**03 51 26.1 +2.6**	
TLY			Smax			03 51 31.8	
	comp=N,855nm,0.6s						
TLY	**Talaya**	**3.11 245**	*e*PN		**Pn**	**03 50 37.9 -1.4**	
TLY			*e*			03 50 46.4	
TLY			*e*			03 51 26.0	
TLY			pmax	pmax			
	comp=Z,106nm,1.1s						
TLY			smax	smax			
	comp=E,854nm,0.8s						
KMO	**Kumora**	**3.33 31**⇓	*i*Pn		**Pn**	**03 50 43.8 +1.5**	
KMO			*e*Pg		**Pb**	**03 50 51.3 +2.0**	
KMO			Pmax			03 50 53.4	
	comp=E,252nm,0.5s						
KMO			*e*Sn		**Sn**	**03 51 22.9 +0.9**	
KMO			*e*Sg		**Sg**	**03 51 35.6 -1.4**	
KMO			Smax			03 52 01.1	
	comp=E,669nm,1.3s						
KMO	**Kumora**	**3.33 31**	*e*PN		**Pn**	**03 50 43.5 +1.2**	
KMO			*e*			03 50 50.3	
KMO			*e*S		**Sn**	**03 51 22.1 +0.1**	
KMO			*e*			03 51 32.3	
KMO			pmax	pmax			
	comp=Z,382nm,0.3s						
KMO			smax	smax			
	comp=E,562nm,0.8s						
CIT	**Chita**	**3.44 106**	*e*Sg		**Sg**	**03 51 40.7 +0.1**	
CIT			Smax			03 51 45.6	
	comp=E,2μm,0.1s						
CIT	**Chita**	**3.44 106**	*e*PN		**Pb**	**03 50 50.8 -0.5**	
CIT			*e*S		**Sn**	**03 51 23.3 -1.6**	
CIT			*e*			03 51 38.5	
CIT			pmax	pmax			
	comp=Z,144nm,0.7s						
CIT			smax	smax			
	comp=N,707nm,1.5s						
ARS	**Arshan**	**3.70 254**	*e*Pn		**Pn**	**03 50 47.9 +0.4**	
ARS			*e*Pg		**Pb**	**03 50 56.3 +0.7**	
ARS			Pmax			03 50 58.6	
	comp=N,166nm,0.6s						
ARS			*e*Sn		**Sn**	**03 51 29.7 -1.5**	
ARS			*e*Sg		**Sb**	**03 51 42.9 +2.3**	
ARS			Smax			03 51 47.2	
	comp=N,3μm,0.9s						
ARS	**Arshan**	**3.70 254**	*e*PN		**Pn**	**03 50 48.6 +1.1**	
ARS			*e*			03 50 57.7	
ARS			*e*			03 51 42.2	
ARS			pmax	pmax			
	comp=Z,165nm,0.3s						
ARS			smax	smax			
	comp=E,3μm,0.7s						
YOA	**Uoyan**	**3.70 32**	*e*Pg		**Pb**	**03 50 57.8 +2.2**	
YOA			Pmax			03 51 24.2	
	comp=E,443nm,1.0s						
YOA			*e*Sn		**Sn**	**03 51 31.1 0.0**	
YOA			*e*Sg		**Sg**	**03 51 45.9 -2.9**	
YOA			Smax			03 52 07.3	
	comp=E,2μm,1.2s						
YOA	**Uoyan**	**3.70 32**	*e*PN		**Pb**	**03 50 58.7 +3.1**	
YOA			*e*			03 51 47.9	
YOA			pmax	pmax			
	comp=Z,238nm,0.4s						
YOA			smax	smax			
	comp=E,2μm,0.9s						
UKT	**Uakit**	**4.01 51**	*e*Pn		**Pn**	**03 50 54.0 +2.2**	
UKT			*e*Pg		**Pb**	**03 51 02.7 +1.8**	
UKT			Pmax			03 51 07.6	
	comp=E,85nm,0.7s						
UKT			*e*Sn		**Sn**	**03 51 38.2 -0.7**	
UKT			*e*Sg		**Sg**	**03 51 56.7 -2.1**	
UKT			Smax			03 52 02.6	
	comp=E,526nm,1.2s						
UKT	**Uakit**	**4.01 51**	*e*PN		**Pb**	**03 51 02.3 +1.4**	
UKT			*e*			03 51 55.6	
UKT			pmax	pmax			
	comp=Z,85nm,0.8s						
UKT			smax	smax			
	comp=E,528nm,0.6s						
ZAK	**Zakamensk**	**4.06 230**	*e*Pn		**Pn**	**03 50 53.7 +1.2**	
ZAK			*e*Pg		**Pb**	**03 51 03.3 +1.5**	
ZAK			Pmax			03 51 06.8	
	comp=E,113nm,1.1s						
ZAK			*e*			03 51 11.8	
ZAK			*e*Sn		**Sn**	**03 51 39.4 -0.8**	
ZAK			*e*Sg		**Sg**	**03 51 56.5 -4.0**	
ZAK			Smax			03 52 02.2	
	comp=E,549nm,0.5s						
ZAK	**Zakamensk**	**4.06 230**	*e*PN		**Pn**	**03 50 52.9 +0.4**	
ZAK			*e*			03 51 02.7	
ZAK			*e*			03 51 55.7	
ZAK			pmax	pmax			
	comp=Z,76nm,0.3s						
ZAK			smax	smax			
	comp=N,535nm,0.4s						
KPC	**Khapcheranga**	**4.27 140**⇑	*i*Pn		**Pn**	**03 50 55.3 -0.1**	
KPC			*e*Pg		**Pb**	**03 51 08.8 +3.4**	
KPC			Pmax			03 51 14.9	
	comp=N,62nm,0.6s						
KPC			*e*Sn		**Sn**	**03 51 45.2 -0.1**	
KPC			*e*Sg		**Sg**	**03 52 03.4 -3.8**	
KPC			Smax			03 52 12.4	
	comp=N,457nm,0.9s						
KPC	**Khapcheranga**	**4.27 140**⇑	*i*PN		**Pn**	**03 50 55.3 -0.1**	
KPC			*e*			03 51 05.9	
KPC			*e*			03 52 01.1	
KPC			pmax	pmax			
	comp=Z,50nm,0.3s						
KPC			smax	smax			
	comp=E,457nm,1.2s						
SVKR	**Severomuysk**	**4.37 44**	*e*Pg		**Pb**	**03 51 10.9 +3.8**	
SVKR			Pmax			03 51 17.7	
	comp=E,143nm,0.5s						
SVKR			*e*Sn		**Sn**	**03 51 48.2 +0.4**	
SVKR			*e*Sg		**Sg**	**03 52 08.3 -2.1**	
SVKR			Smax			03 52 16.1	
	comp=E,803nm,0.9s						
MOY	**Mondy**	**4.62 255**	*e*Pn		**Pn**	**03 51 02.3 +2.1**	
MOY			*e*Pg		**Pb**	**03 51 12.6 +1.2**	
MOY			Pmax			03 51 31.2	
	comp=E,56nm,0.9s						
MOY			*e*			03 51 57.1	
MOY			*e*Sg		**Sb**	**03 52 11.0 +3.9**	
MOY			Smax			03 52 15.4	
	comp=E,638nm,1.2s						
MOY	**Mondy**	**4.62 255**	*e*PN		**Pn**	**03 51 02.5 +2.3**	
MOY			*e*			03 51 13.5	
MOY			*e*S		**Sn**	**03 51 53.7 -0.3**	
MOY			*e*			03 52 10.2	
MOY			pmax	pmax			
	comp=E,67nm,0.5s						
MOY			smax	smax			
	comp=E,592nm,1.1s						
ORL	**Orlik**	**5.11 267**	*e*Pn		**Pn**	**03 51 07.8 +1.0**	
ORL			max			03 51 26.8	
	comp=E,30nm,0.8s						
ORL			*e*			03 52 08.9	
ORL			*e*Sg		**Sg**	**03 52 27.3 -6.6**	
ORL			Smax			03 52 35.8	
	comp=E,263nm,1.0s						
ORL	**Orlik**	**5.11 267**	*e*PN		**Pn**	**03 51 09.0 +2.2**	
ORL			*e*			03 51 23.2	
ORL			*e*S		**Sn**	**03 52 05.6 -0.3**	
ORL			*e*			03 52 27.3	
ORL			pmax	pmax			
	comp=Z,32nm,0.4s						
ORL			smax	smax			
	comp=E,263nm,1.0s						
ULN	**Ulaanbaatar**	**5.26 188**⇓	*e*PN		**Pn**	**03 51 11.2 +2.2**	
SONM	**Songino Array**	**5.36 193**	Pn		**Pn**	**03 51 11.7 +1.3**	
	comp=E,1.8nm,0.3s,baz=6.2,slow=14,SNR=41						
SONM			Pg		**Pb**	**03 51 27.4 +3.4**	
	comp=E,14nm,0.3s,baz=7.9,slow=16,SNR=42						
SONM			Lg	Lg		03 52 36.5	
	comp=E,19nm,0.3s,baz=8.3,slow=32,SNR=2.6						
	comp=E,2.9nm,0.3s						
NLYR	**Nelyaty**	**5.54 49**	*e*Pn		**Pn**	**03 51 14.8 +2.1**	
NLYR			*e*Pg		**Pb**	**03 51 30.8 +3.8**	
NLYR			*e*			03 51 43.9	
NLYR			max			03 51 44.3	
	comp=E,44nm,0.8s						
NLYR			*e*			03 52 22.7	
NLYR			*e*Sg		**Sg**	**03 52 44.6 -3.3**	
NLYR			Smax			03 53 00.7	
	comp=E,432nm,1.3s						
BOD	**Bodaibo**	**5.80 33**	*e*Pn		**Pn**	**03 51 18.1 +1.9**	
BOD			*e*			03 51 24.8	
BOD			*e*Pg		**Pb**	**03 51 35.8 +4.5**	
BOD			Pmax			03 51 50.6	
	comp=E,25nm,1.2s						
BOD			*e*Sn		**Sn**	**03 52 22.2 -0.6**	
BOD			*e*Sg		**Sg**	**03 52 50.8 -5.4**	
BOD			Smax			03 53 12.4	
	comp=E,164nm,0.4s						
VTMR	**Vitim**	**6.83 19**	*e*Sg		**Sg**	**03 53 24.0 -5.3**	
CRS	**Chara**	**6.96 53**	*e*Pn		**Pn**	**03 51 34.0 +1.8**	
CRS			*e*Pg		Pb	03 51 57.8 +6.7	
CRS			Pmax			03 52 00.3	
	comp=E,27nm,0.8s						
CRS			*e*Sn		**Sn**	**03 52 47.8 -3.6**	
CRS			*e*			03 53 01.9	
CRS			*e*Sg		**Sg**	**03 53 27.7 -5.6**	
CRS			*e*			03 53 34.3	
CRS			max			03 53 36.3	
	comp=E,467nm,2.2s						
CRS	**Chara**	**6.96 53**	*e*PG		Pb	03 51 57.8 +6.7	
CRS			*e*			03 53 26.8	
CRS			pmax	pmax			
	comp=Z,25nm,0.6s						
CRS			smax	smax			
	comp=E,164nm,0.6s						
TUP	**Tupik**	**7.12 74**	*e*Pn		**Pn**	**03 51 35.5 +1.2**	
TUP			*e*Pg		Pg	03 52 01.4 -4.9	
TUP			Pmax			03 52 23.1	
	comp=E,12nm,0.8s						
TUP			*e*Sg		**Sg**	**03 53 33.4 -4.9**	
TUP			*e*			03 53 36.4	
TUP			max			03 53 37.2	
	comp=E,589nm,0.8s						
TUP	**Tupik**	**7.12 74**	*e*PN		**Pn**	**03 51 34.2 -0.1**	
TUP			*e*			03 51 57.1	
TUP			*e*			03 53 33.4	
TUP			pmax	pmax			
	comp=Z,7.0nm,0.3s						
TUP			smax	smax			
	comp=N,589nm,0.8s						
KHNR	**Khani**	**7.81 56**	*e*Pg		Pb	03 52 12.9 +7.4	
KHNR			*e*			03 52 19.4	
KHNR			*e*			03 53 18.6	
KHNR			*e*Sg		**Sg**	**03 53 56.0 -4.4**	
HIA	**Hailar**	**8.20 113**⇓	*e*PN		**Pn**	**03 51 48.6 -0.6**	
YKLR	**Yuktali**	**8.54 60**	*e*Pn		**Pn**	**03 51 55.2 +1.4**	
YKLR			*e*Pg		Pg	03 52 27.1 -6.4	
YKLR			*e*			03 54 00.7	
YKLR			*e*Sg		**Sg**	**03 54 18.1 -5.8**	
ARDR	**Aradan**	**8.95 273**	*e*Sg		Sg	03 54 26.4 -11	
IENR	**Iengra**	**10.17 65**	*e*Pg		Pg	03 52 56.9	
IENR			*e*Sg		Sg	03 55 08.2	
CLNS	**Chul'man**	**10.32 62**	*e*Sg		Sg	03 55 11.3	
HEH	**HeiHe**	**12.27 96**	*e*P		**Pn**	**03 52 44.9 +0.1**	
HEH			S		**Sn**	**03 55 02.1 +0.6**	
HEH			smax	smax			
	comp=N,140nm,1.0s						
HEH			smax	smax			
	comp=E,88nm,0.8s						
ZALV	**Zalesovo Beam**	**13.92 283**	Pn		**Pn**	**03 53 06.6 -0.7**	
	comp=E,0.1nm,0.3s,baz=89,slow=12,SNR=1.9						
ZALV			Lg	Lg		03 57 01.9	
	comp=E,0.2nm,0.3s,baz=78,slow=22,SNR=7.0						
	comp=E,0.4nm,0.3s						
KLR	**Kul'dur**	**15.26 95**	Lg	Lg		03 57 52.4	
	comp=E,0.2nm,0.3s,baz=48,slow=16,SNR=5.6						
MK31	**Makanchi Array**	**17.75 260**⇓	P		**Pn**	**03 53 56.7 -0.6**	
MKAR	**Makanchi Array**	**17.75 260**	Pn		**Pn**	**03 53 55.8 -1.5**	
	baz=64,slow=11,SNR=3.9						
MKAR			Lg	Lg		03 59 04.9	
	baz=61,slow=25,SNR=3.1						
	comp=E,0.3nm,0.6s						
MKAR	**Makanchi Array**	**17.75 260**	*i* P		**P**	**03 53 59.2 +1.1**	
KURK	**Kurchatov**	**18.34 275**	P		**P**	**03 54 04.5 0.0**	
KURBB	**Kurchatov Arra**	**18.42 274**	P		**P**	**03 54 04.5 -1.0**	
	comp=E,0.5nm,0.3s,baz=66,slow=12,SNR=1.0						
KURBB			Lg	Lg		03 59 22.4	
	baz=90,slow=25,SNR=1.5						
TIXI	**Tiksi**	**20.75 18**⇓	*e*P		**P**	**03 54 30.5 -0.1**	
TIXI			pmax	pmax			
	comp=Z,3.0nm,0.8s						
KSRS	**Korea Array**	**20.79 131**	LR	LR		04 03 31.2	
	comp=Z,33nm,18.8s,baz=75,slow=39						
BVAR	**Borovoye Array**	**22.55 285**	P		**P**	**03 54 48.5 -1.6**	
	comp=Z,0.5nm,0.6s,baz=72,slow=14,SNR=1.4						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**42.34 315**	P		**P**	**03 57 42.5 -1.3**	
	comp=Z,0.9nm,0.9s,baz=52,slow=11,SNR=0.8						
	comp=Z,0.9nm,0.9s						
ILAR	**Eielson Array**	**49.17 33**	P		**P**	**03 58 38.4 +0.5**	
	comp=Z,0.2nm,0.5s,baz=301,slow=6.0,SNR=6.2						
	comp=Z,0.2nm,0.5s						
INK	**Inuvik**	**50.66 25**	LR	LR		04 24 10.2	
	comp=Z,123nm,18.4s,baz=326,slow=41						
YKA	**Yellowknife Ar**	**59.96 21**	P		**P**	**03 59 56.4 +0.3**	
	comp=Z,0.2nm,0.9s,baz=334,slow=6.9,SNR=2.4						
	comp=Z,0.2nm,0.9s						

DJA 25 03:57:37.4±0.9, 10°S±5°×12°5E±°, h12km±7km, M3.9/7, mb4.2/2, MLv3.7/7, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.75**	**341**	P	Pg	03 57 51.4	-0.6
BATI	**Baumata**	**0.87**	**287**	P	Pb	03 57 54.9	+0.4
BATI				S	Sb	03 58 07.1	+0.9
MMRI	**Maumere**	**2.89**	**309**	P	Pn	03 58 22.6	-0.7
PLAI	**Plampang**	**6.84**	**283**	P	Pn	03 59 17.6	0.0

WEL 25 04:02:30.1±1.2, 31°S±8°×17°8E±3°5, h33km, M4.7/6, mB4.9/3, ML4.8/13, MLv4.7/6, Mw(mB)4.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=95.2, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.97**	**180**	P	Pn	04 04 10.8	+0.9
HAZ	**Te Kaha**	**7.18**	**183**	P	Pn	04 04 14.2	+1.5
HAZ				S	Sn	04 05 35.0	+1.9
WMGZ	**Waiomatatini S**	**7.23**	**179**	P	Pn	04 04 14.7	+1.4
PKGZ	**Pakihiroa**	**7.30**	**181**	P	Pn	04 04 16.1	+1.6
RUGZ	**Raukumara Rang**	**7.39**	**184**	P	Pn	04 04 16.4	+0.6
RUGZ				S	Sn	04 05 38.9	+0.3
PUZ	**Puketiti**	**7.48**	**180**	P	Pn	04 04 17.1	+0.2
PUZ				S	Sn	04 05 39.2	-1.4
TWGZ	**Tauwhareparae**	**7.59**	**182**	P	Pn	04 04 19.9	+1.5
TWGZ				S	Sn	04 05 44.5	+1.2
URZ	**Urewera**	**7.73**	**187**	P	Pn	04 04 19.6	-0.7
URZ				S	Sn	04 05 47.0	+0.3
MWZ	**Matawai**	**7.77**	**185**	P	Pn	04 04 21.8	+0.9
CNGZ	**Carnagh Statio**	**7.89**	**181**	P	Pn	04 04 22.2	-0.3
MTHZ	**Maungataniwha**	**8.35**	**188**	P	Pn	04 04 28.0	-0.8
MTHZ				S	Sn	04 06 03.2	+1.3
KNZ	**Kokohu**	**8.45**	**183**	P	Pn	04 04 27.3	-2.7
BKZ	**Black Stump Fm**	**8.70**	**189**	P	Pn	04 04 31.6	-2.0
BKZ				S	Sn	04 06 12.8	+2.2
ARHZ	**Aropaoanui**	**8.74**	**187**	P	Pn	04 04 32.3	-1.8
TRVZ	**Turoa**	**9.00**	**194**	P	Pn	04 04 40.9	+3.0
KRHZ	**Kereru**	**9.19**	**189**	P	Pn	04 04 36.7	-3.5

IDC 25 04:04:12.3±1.9, 32°82N×93°47E, h0km, mb3.4/3, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=72.4km s-min=25.6km az=64.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.36**	**332**	Pn	Pn	04 08 02.3	-1.1
	0.3nm,0.6s,baz=144,slow=12,SNR=1.5						
SONM	**Songino Array**	**17.91**	**29**	P	Pn	04 08 22.7	-0.1
	0.1nm,0.3s,baz=220,slow=13,SNR=4.2						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**20.93**	**333**	P	P	04 08 55.7	-0.7
	1.0nm,0.5s,baz=142,slow=12,SNR=11						
	1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**22.00**	**346**	P	P	04 09 08.4	+0.5
	0.4nm,0.3s,baz=146,slow=10,SNR=2.0						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**68.14**	**140**	P	P	04 15 14.4	0.0
	0.2nm,0.5s,baz=322,slow=6.2,SNR=5.4						
	0.2nm,0.5s						

*TEH **25** 04:07:10.8, 36°60N×51°90E, h13km±47km, ML3.6*
*IDC **25** 04:07:11.6±2.6, 36°90N×51°79E, h0km, mb3.5/7, mbtmp3.5/10, ML2.8/3, Error ellipse: s-maj=58.1km s-min=17.8km az=1.0*
*AZER **25** 04:07:14.2±0.0, 36°66N×51°19E, h10km, Error ellipse: s-maj=0.3km s-min=0.2km az=29.0*
ISC 25 04:07:11.5±0.6, 36°63N±0°04×51°88E±0°03, h7km, n101, σ1°68/125, mb3.3/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZPU	**Pul - Mazandar**	**0.32**	**233**	Pg	**Pg**	**04 07 16.9**	**-0.9**
MZPU				Sg	**Sg**	**04 07 21.9**	**-0.1**
IPRN	**Peran**	**0.54**	**136**	Pg	**Pg**	**04 07 20.6**	**-1.4**
IPRN				Sg	**Sg**	**04 07 28.9**	**0.0**
KLST	**Kelardasht - M**	**0.67**	**260**	Pg	**Pg**	**04 07 24.8**	**+0.3**
KLST				Sg	**Sb**	**04 07 35.4**	**0.0**
TEHA	**Amirabad Tehra**	**0.97**	**204**	Pg	**Pg**	**04 07 29.1**	**-1.1**
TEH	**Tehran**	**0.98**	**204**	Pg	**Pg**	**04 07 28.6**	**-1.8**
QALM	**Alamut, Qazvin**	**1.01**	**259**	Pg	**Pg**	**04 07 31.0**	**0.0**
IDMV	**Damavand**	**1.06**	**173**	Pg	**Pg**	**04 07 30.1**	**-1.8**
IFIR	**Firoozkooh**	**1.22**	**144**	Pg	Pg	04 07 32.5	-2.4
IHSB	**Hasanabad**	**1.29**	**203**	Pg	**Pn**	**04 07 34.2**	**-1.9**
IGZV	**Ghazvin**	**1.36**	**260**	Pg	**Pn**	**04 07 37.1**	**0.0**
IMHD	**Mahdasht**	**1.36**	**226**	Pg	**Pn**	**04 07 36.0**	**-1.1**
ISHM	**Shahmirzad**	**1.41**	**125**	Pg	**Pn**	**04 07 36.7**	**-1.1**
ILAS	**Lasjerd**	**1.52**	**145**	Pg	**Pn**	**04 07 39.2**	**-0.3**
LHJ2	**Lahijan - Gila**	**1.55**	**291**	Pg	**Pn**	**04 07 39.3**	**-0.3**
IGLO	**Ghaloghah**	**1.57**	**94**	Pg	**Pn**	**04 07 39.0**	**-0.5**
IVRN	**Varamin**	**1.64**	**184**	Pg	**Pn**	**04 07 40.2**	**-0.7**
JIR1	**Jirandeh**	**1.67**	**273**	Pg	**Pn**	**04 07 42.0**	**+0.6**
IQOM	**Qom**	**1.90**	**200**	Pn	**Pn**	**04 07 45.0**	**+0.3**
IRAZ	**Razeghan**	**2.00**	**233**	Pn	**Pn**	**04 07 46.9**	**+0.9**
IANJ	**Anjilo**	**2.02**	**125**	Pn	**Pn**	**04 07 47.0**	**+0.8**
ISFB	**Sefidab**	**2.29**	**173**	Pn	**Pn**	**04 07 50.7**	**+0.8**
KRSH	**Karshahi**	**2.67**	**175**	Pn	**Pn**	**04 07 55.8**	**+0.7**
HAGD	**Aghdareh**	**2.87**	**232**	Pn	**Pn**	**04 07 59.7**	**+1.7**
QAMS	**Qamsar**	**2.92**	**188**	Pn	**Pn**	**04 07 59.5**	**+0.9**
GAS1	**Astara - Iran**	**2.98**	**307**	Pn	**Pn**	**04 07 59.5**	**+0.3**
ASTR	**Astara**	**3.12**	**309**	P	**Pn**	**04 08 00.8**	**-0.3**
	SNR=13						
ASTR				S	**Sn**	**04 08 37.4**	**-1.2**
ASTR	**Astara**	**3.12**	**309**	Pn	**Pn**	**04 08 00.8**	**-0.3**
LKRN	**Lenkeran, Azer**	**3.22**	**311**	P	**Pn**	**04 08 02.1**	**-0.3**
LKRN				S	**Sn**	**04 08 40.1**	**-0.9**
LKRN	**Lenkeran, Azer**	**3.22**	**311**	Pn	**Pn**	**04 08 02.1**	**-0.3**
IKLH	**Kolahrood**	**3.32**	**184**	Pn	**Pn**	**04 08 05.2**	**+1.1**
LRK	**Lerik**	**3.45**	**307**	P	**Pn**	**04 08 05.7**	**-0.2**
	SNR=6.7						
LRK				S	**Sn**	**04 08 45.0**	**-2.1**
LRK	**Lerik**	**3.45**	**307**	Pn	**Pn**	**04 08 05.6**	**-0.2**
MRVT	**Maraveh tapeh**	**3.52**	**72**	Pn	**Pn**	**04 08 06.7**	**0.0**
ISRB	**Sarab**	**3.57**	**291**	Pn	**Pn**	**04 08 08.9**	**+1.5**
HSAM	**Samen**	**3.61**	**229**	Pn	**Pn**	**04 08 10.6**	**+2.6**
YRD	**Yardimli**	**3.67**	**309**	P	**Pn**	**04 08 08.6**	**-0.3**
	SNR=8.2						
YRD				S	**Sn**	**04 08 50.6**	**-2.0**
YRD	**Yardimli**	**3.67**	**309**	Pn	**Pn**	**04 08 08.6**	**-0.3**
IZEF	**Zefreh**	**3.75**	**174**	Pn	**Pn**	**04 08 11.0**	**+1.6**
ANAR	**Anarak**	**3.76**	**156**	Pn	**Pn**	**04 08 11.0**	**+1.0**
IHSH	**Hashtrud**	**3.76**	**282**	Pn	**Pn**	**04 08 11.6**	**+1.4**
GLBA	**Clilabad**	**3.79**	**314**	P	**Pn**	**04 08 10.4**	**+0.1**
	SNR=7.9						
GLBA				S	**Sn**	**04 08 54.1**	**-1.1**
GLBA	**Clilabad**	**3.79**	**314**	Pn	**Pn**	**04 08 10.4**	**+0.1**
GRMI	**Germi**	**3.83**	**306**	Pn	**Pn**	**04 08 12.0**	**+0.9**
IBZA	**Bozab**	**3.92**	**238**	Pn	**Pn**	**04 08 15.2**	**+2.8**
IDOB	**Doab**	**4.15**	**228**	Pn	**Pn**	**04 08 18.4**	**+2.8**
IHRS	**Heris**	**4.20**	**295**	Pn	**Pn**	**04 08 17.1**	**+0.9**
IKOM	**Komasi**	**4.33**	**237**	Pn	**Pn**	**04 08 19.9**	**+2.0**
IKFM	**Kafar-mosalman**	**4.53**	**228**	Pn	**Pn**	**04 08 23.6**	**+3

ISHB	**Shabestar**	**5.25**	**290**	Pn	**Pn**	**04 08 32.2**	**+1.6**
IMRD	**Marand**	**5.32**	**295**	Pn	**Pn**	**04 08 33.8**	**+2.2**
QBL	**Gabala**	**5.34**	**325**	P	**Pn**	**04 08 32.2**	**+0.5**
QBL				S	**Sn**	**04 09 31.2**	**-2.2**
XNQ	**Khinaliq**	**5.39**	**328**	P	**Pn**	**04 08 33.5**	**+1.0**
XNQ				S	**Sn**	**04 09 32.6**	**-2.3**
AMIS	**Naft Sefid**	**5.40**	**204**	Pn	**Pn**	**04 08 33.8**	**+1.3**
QUBA	**Quba, Azerbaij**	**5.40**	**332**	P	**Pn**	**04 08 33.6**	**+1.0**
QUBA				S	**Sn**	**04 09 35.7**	**+0.7**
IEMG	**Emamgholi**	**5.47**	**80**	Pn	**Pn**	**04 08 34.2**	**+0.4**
ILBA	**Ilam Banvizeh**	**5.53**	**239**	Pn	**Pn**	**04 08 36.2**	**+1.8**
QSAR	**Qusar** SNR=7.5	**5.63**	**331**	P	**Pn**	**04 08 36.7**	**+1.0**
QSAR				S	**Sn**	**04 09 41.4**	**+0.9**
SBZ	**Shahbuz**	**5.71**	**301**	P	**Pn**	**04 08 39.2**	**+2.4**
SBZ				S	**Sn**	**04 09 36.5**	**-6.1**
IPAY	**Payeh**	**5.73**	**90**	Pn	**Pn**	**04 08 39.9**	**+2.6**
SEKA	**Sheki**	**5.85**	**323**	P	**Pn**	**04 08 39.1**	**+0.4**
SEKA				S	**Sn**	**04 09 45.2**	**-0.8**
IBAF	**Bafgh**	**5.89**	**148**	Pn	**Pn**	**04 08 40.0**	**+0.7**
GANJ	**Ganja**	**5.91**	**314**	P	**Pn**	**04 08 40.0**	**+0.5**
GANJ				S	**Sn**	**04 09 48.4**	**+0.8**
IKRD	**Kardeh**	**6.14**	**86**	Pn	**Pn**	**04 08 44.2**	**+1.3**
GDB	**GEDABAY**	**6.29**	**312**	P	**Pn**	**04 08 45.7**	**+0.8**
GDB				S	**Sn**	**04 09 50.4**	**-6.7**
MAKU	**Maku**	**6.30**	**298**	Pn	**Pn**	**04 08 48.0**	**+3.0**
ZKTA	**Zakatala** SNR=4.1	**6.46**	**322**	P	**Pn**	**04 08 48.5**	**+1.5**
ZKTA				S	**Sn**	**04 09 59.1**	**-1.8**
AFRZ	**Afriz**	**6.67**	**117**	Pn	**Pn**	**04 08 51.4**	**+1.3**
QZX	**Qazax, Azerbai**	**6.73**	**313**	P	**Pn**	**04 08 52.1**	**+1.3**
QZX				S	**Sn**	**04 10 04.6**	**-3.1**
ITEG	**Tejag**	**6.77**	**121**	Pn	**Pn**	**04 08 53.4**	**+1.9**
JRKH	**Jarkhoshk**	**6.88**	**94**	Pn	**Pn**	**04 08 54.7**	**+1.7**
BAGH	**Bagheran - Bir**	**7.15**	**120**	Pn	**Pn**	**04 08 57.5**	**+0.7**
IKOO	**Kooshah**	**7.22**	**123**	Pn	**Pn**	**04 08 59.1**	**+1.4**
IMON	**Monand**	**7.26**	**116**	Pn	**Pn**	**04 09 01.1**	**+2.9**
SHRT	**Shahrakht**	**7.51**	**111**	Pn	**Pn**	**04 09 03.6**	**+2.1**
BSRN	**Basiran**	**7.59**	**126**	Pn	**Pn**	**04 09 04.3**	**+1.6**
IDAH	**Dahanechah**	**7.64**	**118**	Pn	**Pn**	**04 09 04.5**	**+1.0**
KBZ	**Khabaz** 0.1nm,0.3s,baz=117,slow=4.5,SNR=1.9 2.0nm,1.1s	**9.87**	**319**	Pn	**Pn**	**04 09 33.3**	**-0.4**
BRTR	**Keskin Array B** baz=128,slow=9.3,SNR=1.1 0.1nm,0.3s	**14.68**	**288**	Pn	**Pn**	**04 10 43.2**	**+3.5**
BVAR	**Borovoye Array** 2.3nm,0.7s,baz=218,slow=9.4,SNR=9.2 2.3nm,0.7s	**20.90**	**33**	P	**P**	**04 11 54.0**	**-0.3**
MLR	**Muntele Rosu** 5.0nm,0.7s,baz=178,slow=3.5,SNR=7.7 5.0nm,0.7s	**21.39**	**302**	P	**P**	**04 12 00.1**	**+0.3**
AKASG	**Malin Array Be** 0.4nm,0.5s,baz=120,slow=11,SNR=4.3 0.4nm,0.5s	**21.48**	**318**	P	**P**	**04 11 59.5**	**-1.0**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=240,slow=6.8,SNR=4.8 0.4nm,0.6s	**24.73**	**56**	P	**P**	**04 12 34.4**	**+0.9**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=258,slow=7.2,SNR=1.5 0.5nm,0.3s	**28.57**	**42**	P	**P**	**04 13 07.8**	**-0.1**
ESDC	**Sonseca Array** 0.4nm,0.6s,baz=64,slow=7.9,SNR=7.0 0.4nm,0.6s	**43.42**	**292**	P	**P**	**04 15 14.5**	**-0.4**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=6.9,slow=5.9,SNR=5.2 0.2nm,0.7s	**80.62**	**354**	P	**P**	**04 19 23.1**	**-1.3**

NEIC ***25*** *04:14:42.0±1.5,53°.60N×0°.01×159°.1W×0°.1, h43km±51km, Error ellipse: s-maj=11.8km s-min=2.2km az=85.0*
AEIC ***25*** *04:14:41.2±1.5,53°.6N±0°.1×159°.0W×0°.1, h42km±9km, ML3.4, Error ellipse: s-maj=16.1km s-min=10.8km az=152.0*
IDC ***25*** *04:14:42.6±6.6, 53°.58N×158°.26W, h0km, mb3.1/2, mbtmp3.4/5, ML3.5/3, Error ellipse: s-maj=126.0km s-min=35.0km az=87.0*

ISC 25 04:14:42.9±1.2, 53°.67N±0°.10×159°.01W±0°.07, h35km, n59, σ1°08/56, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.89**	**334**	Pn	**Pn**	**04 15 12.4**	**-0.2**
SDPT					**Sn**	**04 15 34.5**	**-0.6**
SDPT	**Sand Point**	**1.89**	**334**	P	**Pn**	**04 15 12.4**	**-0.2**
CHGN	**Chignik**	**2.66**	**7**	Pn	**Pn**	**04 15 23.4**	**+0.3**
CHGN					**Sn**	**04 15 56.1**	**+2.0**
CHIR	**Chirikof Islan**	**2.91**	**41**		**Pn**	**04 15 26.0**	**-0.7**
SII	**Sitkinak Islan**	**4.00**	**42**		**Pn**	**04 15 41.6**	**-0.1**
SII	**Sitkinak Islan**	**4.00**	**42**	P	**Pn**	**04 15 41.8**	**+0.1**
AKUT	**Akutan**	**4.03**	**279**	Pn	**Pn**	**04 15 40.5**	**-1.5**
UNV	**Unalaska Valle**	**4.45**	**275**		**Pn**	**04 15 46.7**	**-1.2**
OHAK	**Old Harbor**	**4.82**	**40**	Pn	**Pn**	**04 15 52.6**	**-0.3**
OHAK	**Old Harbor**	**4.82**	**40**	P	**Pn**	**04 15 52.4**	**-0.5**
KDAK	**Kodiak Island** 0.9nm,0.3s,baz=185,slow=4.7,SNR=23	**5.49**	**39**	Pn	**Pn**	**04 16 01.0**	**-1.0**
KDAK	0.3nm,0.3s,baz=268,slow=23,SNR=1.9 12nm,0.9s				**Sn**	**04 16 59.6**	**-4.3**
KDAK	**Kodiak Island**	**5.49**	**39**	Pn	**Pn**	**04 16 02.4**	**+0.3**
NIKH	**Nikolski High**	**5.94**	**267**		**Pn**	**04 16 06.9**	**-1.4**
P18K	**Big Mountain,**	**6.10**	**18**	Pn	**Pn**	**04 16 09.2**	**-1.3**
O18K	**Koktuh Hills**	**6.54**	**17**	Pn	**Pn**	**04 16 17.1**	**+0.6**
BRLK	**Bradley Lake**	**7.56**	**33**	Pn	**Pn**	**04 16 28.6**	**-1.9**
SVW2	**Sparrevohn**	**7.67**	**13**	P	**Pn**	**04 16 33.2**	**+1.2**
M20K	**Styx River**	**8.81**	**18**	Pn	**Pn**	**04 16 48.9**	**+1.2**
L19K	**White Mountain**	**8.81**	**13**	Pn	**Pn**	**04 16 48.0**	**+0.4**
RC01	**Rabbit Creek A**	**8.96**	**30**	Pn	**Pn**	**04 16 49.7**	**+0.1**
SUA	**Susitna One**	**8.98**	**26**	Pn	**Pn**	**04 16 49.4**	**-0.6**
PWL	**Port Wells**	**9.23**	**34**	Pn	**Pn**	**04 16 53.1**	**-0.2**
TTA	**Tatalina**	**9.42**	**8**	Pn	**Pn**	**04 16 55.8**	**-0.2**
KNK	**Knik Glacier**	**9.60**	**32**	Pn	**Pn**	**04 16 58.9**	**+0.5**
GHO	**Glory Hole Cre**	**9.73**	**29**	Pn	**Pn**	**04 17 00.9**	**+0.6**
PPLA	**Purkeypile**	**9.91**	**18**	Pn	**Pn**	**04 17 03.9**	**+1.1**
SML	**Sawmill**	**9.94**	**31**	Pn	**Pn**	**04 17 03.5**	**+0.4**
EYAK	**Cordova Ski Ar**	**9.96**	**41**	Pn	**Pn**	**04 17 03.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**9.96**	**41**	P	**Pn**	**04 17 03.7**	**+0.4**
SCM	**Sheep Creek Mo**	**10.27**	**33**	Pn	**Pn**	**04 17 07.7**	**0.0**
CAST	**Castle Rocks**	**10.41**	**17**	Pn	**Pn**	**04 17 09.7**	**+0.1**
KLU	**Klutina**	**10.51**	**37**	Pn	**Pn**	**04 17 11.6**	**+0.7**
BMRM	**Bremner River**	**10.66**	**41**	Pn	**Pn**	**04 17 13.1**	**+0.1**
M24K	**Tolsona, Glenn**	**10.85**	**34**	Pn	**Pn**	**04 17 15.0**	**-0.5**
KIWB	**Kanaga Island**	**11.14**	**268**	Pn	**Pn**	**04 17 19.7**	**+0.2**
DHY	**Denali Highway**	**11.21**	**28**	Pn	**Pn**	**04 17 20.1**	**-0.5**
GLB	**Gilahina Butte**	**11.25**	**40**	Pn	**Pn**	**04 17 20.9**	**-0.2**
MCK	**McKinley**	**11.35**	**23**	Pn	**Pn**	**04 17 23.3**	**+1.0**
PAX	**Paxson**	**11.70**	**32**	Pn	**Pn**	**04 17 27.2**	**+0.1**
PCA	**Pinnacle**	**12.08**	**50**	Pn	**Pn**	**04 17 31.2**	**-1.1**
WRH	**Wood River Hil**	**12.17**	**23**	Pn	**Pn**	**04 17 32.5**	**-1.1**
HDA	**Harding Lake**	**12.40**	**25**	Pn	**Pn**	**04 17 35.9**	**-0.8**
I23K	**Minto, Yukon-K**	**12.49**	**19**	Pn	**Pn**	**04 17 36.8**	**-1.1**
IL31		**12.71**	**24**	Pn	**Pn**	**04 17 40.4**	**-0.5**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=213,slow=13,SNR=12 0.4nm,0.5s	**12.71**	**24**	Pn	**Pn**	**04 17 39.5**	**-1.4**
BCAR	**Beaver Creek A**	**13.00**	**37**	Pn	**Pn**	**04 17 46.1**	**+1.2**
J26L	**Joseph Creek**	**13.40**	**30**	Pn	**Pn**	**04 17 49.4**	**-1.0**
I26K	**Coal Creek Min**	**14.11**	**28**	Pn	**Pn**	**04 17 58.8**	**-1.2**
EGAK	**Eagle**	**14.33**	**32**	Pn	**Pn**	**04 18 02.3**	**-0.7**
BMAR	**Burnt Mountain**	**15.45**	**21**	Pn	**Pn**	**04 18 17.2**	**-0.7**
INK	**Inuvik** 0.3nm,0.3s,baz=248,slow=11,SNR=24 2.4nm,0.6s	**18.95**	**30**	P	**Pn**	**04 19 03.0**	**+1.6**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=259,slow=8.5,SNR=4.3 0.2nm,0.7s	**24.60**	**51**	P	**P**	**04 20 01.0**	**+1.6**
H11N2	**WAKE ISLAND Hy** baz=29,slow=76,SNR=6.0	**42.79**	**231**	T	T	05 08 13.7	
H11N3	**WAKE ISLAND Hy** baz=29,slow=76,SNR=6.0	**42.79**	**231**	T	T	05 08 13.7	
H11N1	**WAKE ISLAND Hy** baz=29,slow=76,SNR=5.3	**42.81**	**231**	T	T	05 08 13.7	
H11S1	**WAKE ISLAND Hy** baz=29,slow=76,SNR=7.8	**43.94**	**230**	T	T	05 09 40.9	
H11S2	**WAKE ISLAND Hy** baz=29,slow=76,SNR=6.1	**43.95**	**230**	T	T	05 09 41.5	
H11S3	**WAKE ISLAND Hy** baz=29,slow=76,SNR=9.3	**43.96**	**230**	T	T	05 09 42.8	
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=309,slow=7.9,SNR=4.7 0.4nm,0.8s	**46.59**	**99**	P	**P**	**04 23 08.8**	**+1.4**

IDC ***25*** *04:15:54.9±0.7, 58°.56S×24°.99W, h0km, mb4.2/9, mbtmp4.2/10, ML4.1/1, MS3.4/3, Error ellipse: s-maj=29.6km s-min=18.9km az=74.0*
NEIC ***25*** *04:15:58.6±0.8, 58°.9S±0°.2×25°.1W±0°.2, h35km±2km, mb4.4/10, Error ellipse: s-maj=26.8km s-min=18.9km az=172.0*

ISC 25 04:15:58.5±0.6, 58°.71S±0°.09×25°.0W±0°.2, h28km, n36, σ1°67/31, mb4.3/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.89**	**156**	P	**Pn**	**04 19 14.6**	**+1.5**
VNA1				S	**Sn**	**04 21 42.6**	**-3.5**
VNA3	**Neumayer Olymp**	**14.09**	**159**	P	**Pn**	**04 19 16.8**	**+0.8**
VNA3				S	**Sn**	**04 21 45.6**	**-5.6**
VNA2	**Neumayer--Watz** baz=321,slow=14	**14.29**	**156**	P	**Pn**	**04 19 19.4**	**+0.7**
VNA2	baz=317,slow=14			S	Sn	04 21 48.0	-7.9
SNAA	**Sanae**	**15.84**	**154**	P	**Pn**	**04 19 40.3**	**+1.1**
SNAA				S	Sn	04 22 09.8	-24
SNAA	**Sanae** 0.7nm,0.3s,baz=326,slow=18,SNR=38 2.9nm,0.4s	**15.84**	**154**	Pn	**Pn**	**04 19 40.4**	**+1.1**
SNAA	**Sanae**	**15.84**	**154**	P	**Pn**	**04 19 40.5**	**+1.2**
TROLL	**Troll, Antarti**	**17.35**	**151**	P	**Pn**	**04 19 59.1**	**+0.7**
TROLL				S	Sn	04 22 29.7	-41
PMSA	**Palmer Station** comp=Z,120nm,18.8s,baz=127,slow=34	**19.18**	**235**	LR	LR	04 26 59.4	
QSPA	**South Pole Qui** 3.6nm,1.0s,baz=237,slow=3.9,SNR=5.3	**31.54**	**180**	P	**P**	**04 22 20.5**	**+2.4**
QSPA	comp=Z,32nm,19.3s,baz=162,slow=36 3.6nm,1.0s			LR	LR	04 34 55.4	
PLTB	**Pedras Altas**	**33.14**	**312**	P	**P**	**04 22 30.8**	**-1.4**
PLCA	**Paso Flores** 2.3nm,0.9s,baz=150,slow=5.0,SNR=5.0 2.3nm,0.9s	**33.65**	**282**	P	**P**	**04 22 36.4**	**-0.3**
GO06	**Curarrehue**	**34.98**	**282**	P	**P**	**04 22 48.6**	**+0.4**
GO06	comp=Z,12nm,1.5s			IAmb	IAmb	04 23 28.0	
CFA	**Coronel Fontan** comp=Z,89nm,21.0s,baz=125,slow=35	**39.69**	**294**	LR	LR	04 39 17.7	
VNDA	**Vanda** comp=Z,2.5nm,1.0s,baz=182,slow=10,SNR=4.1 comp=Z,2.5nm,1.0s	**43.96**	**182**	P	**P**	**04 24 05.7**	**+3.3**
BDFB	**Brasilia** comp=Z,2.6nm,0.6s,baz=121,slow=4.3,SNR=5.1 comp=Z,2.6nm,0.6s	**46.25**	**329**	P	**P**	**04 24 21.7**	**+0.4**
BDFB	**Brasilia**	**46.25**	**329**	P	**P**	**04 24 21.2**	**-0.1**
BDFB	comp=Z,3.3nm,0.9s			IAmb	IAmb	04 24 36.8	
PB10	**IPOC Station P**	**47.61**	**298**	P	**P**	**04 24 30.7**	**-1.1**
H10S2	**ASCENSION HYDR** baz=33,slow=74,SNR=4.9	**50.27**	**13**	T	T	05 19 09.4	
H10S3	**ASCENSION HYDR** baz=187,slow=74,SNR=5.6	**50.27**	**13**	T	T	05 19 11.1	
H10N1	**ASCENSION HYDR** baz=182,slow=71,SNR=3.4	**51.38**	**13**	T	T	05 20 33.8	
H10N3	**ASCENSION HYDR** baz=182,slow=71,SNR=3.6	**51.39**	**13**	T	T	05 20 33.4	
H10N2	**ASCENSION HYDR** baz=182,slow=71,SNR=4.8	**51.40**	**13**	T	T	05 20 34.0	
LPAZ	**La Paz** comp=Z,0.7nm,0.5s,baz=205,slow=7.5,SNR=3.9 comp=Z,0.7nm,0.5s	**52.85**	**305**	P	**P**	**04 25 11.4**	**-0.9**
LPAZ	**La Paz**	**52.85**	**305**	P	**P**	**04 25 11.1**	**-1.1**
BOAV	**Boa Vista**	**67.09**	**321**	P	**P**	**04 26 48.1**	**-1.2**
BOAV	comp=Z,2.5nm,0.8s			IAmb	IAmb	04 26 49.4	
DBIC	**Dimbokro** comp=Z,2.3nm,0.8s,baz=204,slow=9.5,SNR=3.6 comp=Z,2.3nm,0.8s	**67.16**	**22**	P	**P**	**04 26 49.1**	**-0.5**
DBIC	**Dimbokro**	**67.16**	**22**	P	**P**	**04 26 50.0**	**+0.4**
DBIC	comp=Z,6.6nm,1.0s			IAmb	IAmb	04 27 05.5	
MCRA	**Macar, Loja** comp=Z,2.1nm,0.6s	**68.67**	**299**	P	**P**	**04 26 58.6**	**-0.7**
MCRA	comp=Z,3.2nm,1.1s			IAmb	IAmb	04 26 59.1	
TORD	**Torodi Ar. Bea** comp=Z,2.1nm,0.6s,baz=200,slow=6.7,SNR=18 comp=Z,2.1nm,0.6s	**74.85**	**27**	P	**P**	**04 27 36.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**74.85**	**27**	P	**P**	**04 27 36.1**	**-0.1**
TORD	comp=Z,6.9nm,1.4s			IAmb	IAmb	04 27 38.5	
NWAO	**Narrogin (SRO)** comp=Z,2.0nm,0.5s comp=Z,2.0nm,0.5s	**83.44**	**149**	P	**P**	**04 28 23.1**	**0.0**
ASAR	**Alice Springs** comp=Z,3.3nm,0.7s,baz=186,slow=3.7,SNR=2.6 comp=Z,0.3nm,0.7s	**96.10**	**161**	P	**P**	**04 29 23.2**	**-0.2**
FINES	**FINESS Array B** comp=Z,3.1nm,1.0s,baz=235,slow=6.6,SNR=2.1	**126.20**	**28**	PKP	**PKPdf**	**04 34 56.3**	**-0.3**
YKA	**Yellowknife Ar** comp=Z,1.0nm,0.8s,baz=136,slow=2.3,SNR=12	**138.90**	**315**	PKP	**PKPdf**	**04 35 20.6**	**+0.1**
SONM	**Songino Array** comp=Z,1.1nm,0.7s,baz=208,slow=3.4,SNR=6.1	**149.66**	**89**	PKPbc	**PKPbc**	**04 35 44.9**	**+0.4**
ILAR	**Eielson Array** comp=Z,3.3nm,0.8s,baz=138,slow=2.1,SNR=17	**152.71**	**307**	PKPbc	**PKiKP**	**04 35 52.3**	**+1.2**

TEH ***25*** *04:23:40.9, 37°.01N×44°.16E, h8km, ML2.9*
DDA ***25*** *04:23:41.8±0.0, 37°.03N×44°.12E, h8km±1km, ML2.8*
ISK ***25*** *04:23:41.9, 37°.05N×44°.05E, h5km, ML2.7/5*
ISN ***25*** *04:23:42.7±2.2, 37°.00N×44°.14E, h8km, ML2.7*

ISC 25 04:23:42.2±1.3, 37°.01N±0°.04×44°.15E±0°.03, h5km±12km, n23, σ1°09/33, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.49**	**299**	Pg	**Pg**	**04 23 50.8**	**-0.9**
CUKT				Sg	**Sg**	**04 23 58.1**	**-0.1**
YOVA	**Hakkari_Yksek**	**0.59**	**11**	P	**Pg**	**04 23 53.0**	**-0.6**
YOVA				S	**Sg**	**04 24 01.3**	**0.0**
MAHB	**Mahabad**	**1.27**	**100**	Pg	**Pn**	**04 24 06.3**	**-0.5**
GEVA	**Gevas**	**1.56**	**327**	P	**Pb**	**04 24 11.9**	**+0.2**
GEVA				S	**Sg**	**04 24 35.0**	**+2.6**
PERV	**Siirt/Pervari-**	**1.58**	**307**	P	**Pn**	**04 24 10.6**	**-0.5**
PERV				S	**Sg**	**04 24 33.2**	**+0.1**
PERV	comp=N,210nm,0.7s			*i* AML	AML	04 24 35.0	
IAZR	**Azarshahr**	**1.61**	**65**	Pg	**Pb**	**04 24 12.5**	**0.0**
AKDM	**Akdamar-Van**	**1.61**	**325**	Pn	**Pn**	**04 24 11.7**	**+0.3**
AKDM				Sn	**Sb**	**04 24 33.4**	**+0.2**
IKRK	**Kirkuk** baz=354	**1.61**	**174**	*e*Pg	**Pn**	**04 24 10.0**	**-1.3**
IKRK				*e*Sg	**Sb**	**04 24 34.0**	**+0.9**
IKRK	comp=N,107nm,0.6s			AML	AML	04 24 36.3	
IKRK	comp=E,112nm,0.5s			AML	AML	04 24 38.1	
OZAP	**Van, Ozalp-Mer**	**1.65**	**356**	P	**Pb**	**04 24 13.2**	**-0.1**
OZAP				S	**Sg**	**04 24 38.2**	**+2.8**
VANB	**Van**	**1.69**	**340**	Pn	**Pn**	**04 24 11.9**	**-0.6**
VANB				Sn	**Sn**	**04 24 33.6**	**-1.0**
ISHB	**Shabestar**	**1.73**	**42**	Pg	**Pn**	**04 24 12.8**	**-0.3**
IMRD	**Marand**	**2.10**	**35**	Pn	**Pb**	**04 24 20.1**	**-0.8**
MIDY	**Mardin/Midyat-**	**2.23**	**281**	P	**Pn**	**04 24 20.5**	**+0.7**
MIDY				S	**Sb**	**04 24 51.3**	**+0.3**
MIDY	comp=E,58nm,0.4s			*i* AML	AML	04 24 54.0	
GURO	**Guroymak-BITLI**	**2.27**	**313**	Pn	**Pn**	**04 24 20.9**	**+0.3**
MAKU	**Maku**	**2.38**	**10**	Pn	**Pb**	**04 24 23.7**	**-2.0**
SVAN	**Silvan-Diyarba**	**2.60**	**297**	Pn	**Pn**	**04 24 25.8**	**+0.8**
MARD	**Mardin**	**2.71**	**277**	P	**Pb**	**04 24 30.3**	**-0.9**
MARD				S	**Sb**	**04 25 04.7**	**0.0**
MARD	comp=E,43nm,0.5s			*i* AML	AML	04 25 09.0	
AGRB	**Hanur-Agry**	**2.72**	**341**	Pn	**Pn**	**04 24 27.5**	**+0.8**
KOTA	**Agri, Merkez-K**	**2.88**	**345**	P	**Pn**	**04 24 30.1**	**+1.1**
IDHR	**Dehrash**	**2.94**	**141**	Pn	**Pn**	**04 24 30.4**	**+0.7**
MAZI	**Mazidag**	**2.99**	**280**	Pn	**Pn**	**04 24 31.4**	**+1.1**
IGHG	**Ghaleghazi**	**3.32**	**143**	Pn	**Pn**	**04 24 36.0**	**+0.9**
IKOM	**Komasi**	**3.94**	**135**	Pn	**Pn**	**04 24 45.2**	**+1.8**

IDC ***25*** *04:39:37.7±1.2, 53°.85S×7°.02E, h0km, mb4.1/7, mbtmp4.1/8, ML3.7/1, MS3.5/14, Error ellipse: s-maj=39.5km s-min=23.3km az=52.0*

ISC 25 04:39:39.1±1.1, 53°.9S±0°.1×7°.0E±0°.2, h10km, n28, σ0°52/17, mb4.2/7, MS3.5/13, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.18**	**196**	P	**P**	**04 43 51.6**	**+0.2**
VNA2	**Neumayer--Watz** baz=17,slow=14	**18.28**	**195**	P	**Pn**	**04 43 52.0**	**-0.4**
TROLL	**Troll, Antarti**	**18.31**	**184**	P	**Pn**	**04 43 52.5**	**-0.5**
SNAA	**Sanae**	**18.38**	**190**	P	**Pn**	**04 43 53.5**	**-0.3**
SNAA	**Sanae** 0.2nm,0.3s,baz=10,slow=12,SNR=15	**18.38**	**190**	Pn	**Pn**	**04 43 53.2**	**-0.6**
SNAA	comp=Z,171nm,21.4s,baz=5.0,slow=32 6.0nm,0.9s			LR	LR	04 49 32.7	
VNA3	**Neumayer Olymp**	**18.92**	**197**	P	**P**	**04 43 59.6**	**-0.1**
SUR	**Sutherland** comp=Z,122nm,20.2s,baz=181,slow=31	**23.64**	**30**	LR	LR	04 51 45.7	
BOSA	**Boshof** comp=Z,138nm,19.6s,baz=192,slow=32	**28.55**	**35**	LR	LR	04 54 50.8	
LBTB	**Lobatse** comp=Z,82nm,20.7s,baz=186,slow=32	**31.99**	**33**	LR	LR	04 56 43.7	
TSUM	**Tsumeb** comp=Z,78nm,20.8s,baz=153,slow=32	**35.55**	**17**	LR	LR	04 58 19.2	
QSPA	**South Pole Qui** 5.5nm,0.8s,baz=241,slow=3.9,SNR=16	**36.37**	**180**	P	**P**	**04 46 43.3**	**+0.1**
QSPA	comp=Z,70nm,20.2s,baz=228,slow=35 5.5nm,0.8s			LR	LR	05 00 37.8	
LSZ	**Lusaka** comp=Z,104nm,20.4s,baz=205,slow=32	**41.93**	**31**	LR	LR	05 02 19.7	
VNDA	**Vanda** 1.7nm,0.8s,baz=217,slow=6.5,SNR=6.6	**47.94**	**173**	P	**P**	**04 48 18.0**	**+0.9**
VNDA	comp=Z,76nm,19.6s,baz=204,slow=35 1.7nm,0.8s			LR	LR	05 07 27.3	
PLCA	**Paso Flores** 2.0nm,1.1s,baz=342,slow=22,SNR=2.2 2.0nm,1.1s	**51.64**	**251**	P	**P**	**04 48 46.1**	**+0.3**
CPUP	**Villa Florida** 2.1nm,1.0s,baz=41,slow=12,SNR=3.4	**54.16**	**274**	P	**P**	**04 49 05.1**	**+0.7**
CPUP	comp=Z,320nm,20.9s,baz=32,slow=31 2.1nm,1.0s			LR	LR	05 07 51.3	
MBAR	**Mbarara** comp=Z,84nm,19.9s,baz=184,slow=34	**56.59**	**29**	LR	LR	05 11 27.5	
CFA	**Coronel Fontan** 1.3nm,0.5s,baz=166,slow=5.6,SNR=4.0	**56.71**	**261**	P	**P**	**04 49 21.9**	**-1.0**
CFA	comp=Z,26nm,21.1s,baz=175,slow=32 1.3nm,0.5s			LR	LR	05 10 02.0	
LPAZ	**La Paz** 2.2nm,0.8s,baz=111,slow=3.9,SNR=8.5	**68.26**	**272**	P	**P**	**04 50 41.0**	**+0.1**
LPAZ	comp=Z,26nm,20.0s,baz=61,slow=34 2.2nm,0.8s			LR	LR	05 17 51.3	
H01W2	**Cape Leeuwin H** baz=217	**71.60**	**124**	T	T	06 10 25.2	
H01W3	**Cape Leeuwin H** baz=217	**71.61**	**124**	T	T	06 10 25.2	
H01W1	**Cape Leeuwin H** baz=217	**71.61**	**124**	T	T	06 10 21.1	
NNA	**Nana** comp=Z,24nm,19.7s,baz=297,slow=35	**76.81**	**268**	LR	LR	05 24 00.8	
MDT	**Midelt** comp=Z,36nm,18.6s,baz=358,slow=32	**86.91**	**350**	LR	LR	05 26 41.1	
ASAR	**Alice Springs** 1.1nm,0.9s,baz=195,slow=4.7,SNR=7.5 1.1nm,0.9s	**90.25**	**133**	P	**P**	**04 52 39.8**	**-0.3**
TXAR	**Lajitas Array** 0.6nm,0.9s,baz=126,slow=1.6,SNR=4.5	**125.13**	**273**	PKP	**PKiKP**	**04 58 40.0**	**+0.1**
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=96,slow=3.0,SNR=4.0	**137.75**	**282**	PKP	**PKPdf**	**04 59 02.8**	**-0.3**
YKA	**Yellowknife Ar** 2.4nm,0.7s,baz=102,slow=2.4,SNR=44	**149.07**	**310**	PKPbc	**PKPbc**	**04 59 25.6**	**-0.4**
ILAR	**Eielson Array** 0.4nm,1.0s,baz=69,slow=3.1,SNR=4.3	**162.93**	**320**	PKPab	**PKPab**	**05 00 29.7**	**0.0**

WEL ***25*** *05:09:45.9±0.3, 43°.5S±2°.×17°.3E±°, h10km±3km, M3.1/13, ML3.3/16, MLv3.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8, confirmed*
NOU ***25*** *05:09:45.0, 42°.81S×172°.72E, h3km, MLv3.6/6, South Island, New Zealand*

ISC 25 05:09:45.2±1.3, 42°.73S±0°.03×172°.74E±0°.03, h11km±12km, n35, σ0°61/45, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.32**	**137**	P	**Pb**	**05 09 53.6**	**+0.6**
GVZ				S	**Sb**	**05 09 59.2**	**+1.0**
LTZ	**Lake Taylor**	**0.35**	**261**	P	**Pb**	**05 09 53.6**	**+0.3**
LTZ				S	**Sb**	**05 09 59.2**	**+0.4**
AMCZ	**Amberley**	**0.45**	**188**	P	**Pn**	**05 09 56.6**	**-1.0**
KHZ	**Kahutara**	**0.67**	**62**	P	**Pb**	**05 09 58.8**	**-0.1**
KHZ	**Kahutara**	**0.67**	**62**	P	**Pb**	**05 09 58.7**	**-0.1**
KHZ				S	**Sb**	**05 10 07.8**	**-0.4**
OXZ	**Oxford**	**0.79**	**220**	P	**Pn**	**05 10 02.1**	**-0.1**
OXZ				S	**Sn**	**05 10 14.0**	**+0.1**
INZ	**Inchbonnie**	**0.95**	**270**	P	**Pn**	**05 10 04.4**	**0.0**
THZ	**Tophouse**	**0.97**	**8**	P	**Pg**	**05 10 03.4**	**-0.5**
MQZ	**McQueen's Vall**	**0.98**	**183**	P	**Pn**	**05 10 04.3**	**-0.5**
MQZ				S	**Sn**	**05 10

BSO3				S	**S**	05 14 37.8	-3.1
BSO4	**Boso 4**	**3.31**	**34**	P	**Pn**	05 13 48.4	-0.6
JAI	**Aioi**	**3.39**	**298**	P	**Pn**	05 13 48.4	-1.5
JRY	**Ryogami san**	**3.80**	**10**	P	**Pn**	05 13 53.7	+0.2
MJAR	**Matsushiro Arr**	**4.26**	**2**	P	**Pn**	05 13 57.2	-0.7
	2.5nm,0.7s,baz=199,slow=9.1,SNR=4.2						
JTO	**Tosashimizu**	**4.48**	**279**	P	**Pn**	05 13 58.6	-1.5
JHS	**Saijyo**	**4.94**	**305**	P	**Pn**	05 14 03.6	-1.2
MKAR	**Makanchi Array**	**44.48**	**306**	P	**P**	05 20 17.7	+0.8
	0.5nm,0.4s,baz=92,slow=8.7,SNR=13						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**71.72**	**332**	P	**P**	05 23 24.6	+1.6
	0.8nm,0.5s,baz=46,slow=5.5,SNR=7.7						
	0.8nm,0.5s						
AKASG	**Malin Array Be**	**76.34**	**322**	P	**P**	05 23 50.5	+1.0
	0.3nm,0.3s,baz=51,slow=5.6,SNR=4.1						
	0.3nm,0.3s						

TAP 25 05:22:59.3, 22°.87N × 120°.95E, h8 km ± 1 km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.12**	**115**	*i* P	Pg	05 23 03.0	+1.0
	baz=114						
TWG				*i* S	Sg	05 23 05.0	+1.2
	baz=114						
TWGBT	**Beinan**	**0.13**	**115**	P	Pg	05 23 03.1	+0.9
	baz=114						
TWGBT				S	Sg	05 23 05.2	+1.1
	baz=114						
LONT	**Longtian**	**0.17**	**78**	*i* P	Pg	05 23 04.0	+1.2
	baz=77						
LONT				*i* S	Sg	05 23 06.6	+1.4
	baz=77						
ELDTW	**Lidau**	**0.32**	**10**	S	Sg	05 23 11.3	+1.3
	baz=11						
EDH	**Donghe**	**0.34**	**73**	*i* P	Pb	05 23 08.0	+0.4
	baz=72						
EDH				*i* S	Sb	05 23 13.5	+0.3
	baz=72						
STYH	**Taoyuan**	**0.34**	**331**	P	Pb	05 23 08.2	+0.6
	baz=332						
STYH				S	Sb	05 23 12.5	-0.7
	baz=332						
STYT	**Tauyuan**	**0.34**	**328**	P	Pb	05 23 07.3	-0.4
	baz=328						
STYT				S	Sb	05 23 12.6	-0.8
	baz=328						
EHD	**Haiduan**	**0.36**	**40**	P	Pb	05 23 07.4	-0.7
	baz=39						
EHD				S	Sg	05 23 12.1	+0.9
	baz=39						
FULB	**Fuli**	**0.45**	**44**	P	Pb	05 23 10.3	+0.7
	baz=43						
FULB				*i* S	Sb	05 23 16.3	-0.2
	baz=43						
EAST	**Anshuo**	**0.49**	**191**	P	Pb	05 23 10.1	-0.2
	baz=190						
EAST				S	Sb	05 23 16.6	-1.1
	baz=190						
YULB	**Yu-li**	**0.61**	**31**	P	Pg	05 23 11.5	+0.4
	baz=31						

WEL 25 05:25:58.9 ± 0.3, 43°.5 ± 2°.1 × 17°.3 E ± °, h11 km ± 4 km, M2.8/6, ML2.9/12, MLv2.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=105.4, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.34**	**160**	P	Pb	05 26 06.4	-0.5
GVZ				S	Sb	05 26 12.0	-0.4
LTZ	**Lake Taylor**	**0.47**	**254**	P	Pg	05 26 08.5	+0.5
LTZ				S	Sb	05 26 15.2	-0.8
KHZ	**Kahutara**	**0.54**	**64**	P	Pb	05 26 10.2	-0.2
KHZ				S	Sb	05 26 18.1	-0.1
AMCZ	**Amberley**	**0.55**	**197**	P	Pb	05 26 10.7	+0.2
AMCZ				S	Sb	05 26 19.7	+1.3
THZ	**Tophouse**	**0.89**	**1**	P	Pg	05 26 16.1	+0.1
THZ				S	Sb	05 26 28.4	+0.2
OXZ	**Oxford**	**0.91**	**222**	P	Pb	05 26 16.8	+0.1
OXZ				S	Sb	05 26 29.5	+0.6
INZ	**Inchbonnie**	**1.06**	**266**	P	Pb	05 26 18.8	-0.4
MQZ	**McQueen's Vall**	**1.07**	**189**	P	Pb	05 26 18.6	-0.7
MQZ				S	Sg	05 26 33.0	-0.3
OKCZ	**Okains Bay**	**1.08**	**173**	P	Pb	05 26 19.4	-0.2
BSWZ	**Blackbirch Sta**	**1.20**	**39**	P	Pg	05 26 22.2	+0.4
RACZ	**Rakaia**	**1.20**	**206**	P	Pn	05 26 20.6	-1.0
DSZ	**Denniston Nort**	**1.21**	**318**	P	Pg	05 26 22.3	+0.3
DSZ				S	Sn	05 26 38.5	+0.4
AKCZ	**Akaroa Harbour**	**1.22**	**179**	P	Pn	05 26 20.8	-1.1
AKCZ				S	Sb	05 26 36.7	-1.1
MRNZ	**Matariki Terra**	**1.25**	**356**	P	Pn	05 26 20.7	-1.7
NNZ	**Nelson**	**1.48**	**15**	P	Pb	05 26 26.8	+0.4
WACZ	**Wakanui South**	**1.50**	**210**	P	Pn	05 26 24.7	-1.0
TKNZ	**Takaka Hill**	**1.62**	**2**	P	Pb	05 26 28.6	-0.1
WVZ	**Waitaha Valley**	**1.63**	**254**	P	Pb	05 26 28.3	-0.7
RPZ	**Rata Peaks**	**1.71**	**231**	P	Pn	05 26 27.9	-0.6
RPZ				S	Sn	05 26 49.1	-1.3
TCW	**Tory Channel**	**1.78**	**36**	P	Pb	05 26 30.5	-1.0
ARCZ	**Arundel**	**1.79**	**223**	P	Pn	05 26 29.0	-0.8
ARCZ				S	Sn	05 26 50.9	-1.7
QRZ	**Quartz Range**	**1.84**	**352**	P	Pb	05 26 32.6	0.0
GCSZ	**Gaunt Creek Bo**	**1.99**	**250**	P	Pb	05 26 34.0	-1.0
TMZ	**Timaru**	**2.20**	**218**	P	Pn	05 26 34.5	-0.9
CAW	**Cannon Point**	**2.25**	**47**	P	Pn	05 26 35.9	-0.1
ODZ	**Otahua Downs**	**2.88**	**213**	P	Pn	05 26 43.6	-1.2

*IDC **25** 05:33:35.5 ± 1.0, 43°.86N × 138°.16E, h258 km ± 10 km, mb3.2/15, mbtmp3.8/20, Error ellipse: s-maj=13.6km s-min=10.7km az=142.0*
*JMA **25** 05:33:35.2 ± 0.5, 44°.N ± 2° × 13°.8E ± °, h272 km, MV3.0/26, EASTERN SEA OF JAPAN*
ISC 25 05:33:34.4 ± 0.6, 43°.77N ± 0°.06 × 138°.22E ± 0°.06, h250 km, n35, σ2 s 05/40, mb3.5/15, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**1.69**	**103**	*e*P	**Pn**	**05 34 16.6**	**+2.6**
JOSM	**Okushiri--Mats**	**1.92**	**151**	*e*P	**Pn**	**05 34 19.3**	**+3.2**
JHR	**Hokuryu**	**2.54**	**89**	*e*P	**Pn**	**05 34 24.4**	**+2.5**
JRBN	**Rebuntou**	**2.62**	**50**	*e*P	**Pn**	**05 34 24.1**	**+1.4**
JSS	**Shosan**	**2.69**	**75**	*e*P	**Pn**	**05 34 25.9**	**+2.4**
JWK2	**Keihoku**	**3.05**	**58**	*e*P	**Pn**	**05 34 29.8**	**+2.6**
ASAJ	**Asahikawa**	**3.18**	**82**	P	**Pn**	**05 34 30.7**	**+2.0**
	28nm,0.4s,baz=324,slow=1.7,SNR=18						
ASAJ				S	**S**	**05 35 14.5**	**+2.8**
	3.4nm,0.4s,baz=253,slow=20,SNR=1.1						
JKK2	**Kamakawa 2**	**3.28**	**87**	*e*P	**Pn**	**05 34 31.8**	**+2.0**
JKK2				*e*S	**S**	**05 35 17.0**	**+3.2**
JCH	**Churui**	**3.93**	**105**	*e*P	**Pn**	**05 34 37.5**	**+0.2**
JCH				*e*S	**S**	**05 35 25.1**	**-2.2**
JAR	**Ashorobuto**	**4.06**	**95**	*e*P	**Pn**	**05 34 40.7**	**+1.9**
JTKR	**Abashiri--Toko**	**4.12**	**85**	*e*P	**Pn**	**05 34 41.2**	**+1.8**
JANG	**Nango**	**4.18**	**143**	*e*P	**Pn**	**05 34 42.2**	**+1.9**
JANG				*e*S	**S**	**05 35 31.9**	**-0.9**
USRK	**Ussuriysk Ar.**	**4.52**	**278**	P	**Pn**	**05 34 44.8**	**+0.6**
	2.8nm,0.7s,baz=91,slow=15,SNR=2.5						
JAK	**Akkeshi**	**4.78**	**97**	*e*S	**S**	**05 35 41.6**	**-3.9**
JOM	**Ohasama**	**4.87**	**151**	*e*P	**Pn**	**05 34 50.5**	**+2.0**
JMK	**Ichinoseki**	**5.31**	**154**	*e*P	**Pn**	**05 34 55.7**	**+1.7**
NEM2	**Nemuro 2**	**5.48**	**92**	*e*P	**Pn**	**05 34 55.6**	**-0.3**
NEM2				*e*S	**S**	**05 35 55.6**	**-5.4**
MJAR	**Matsushiro Arr**	**7.21**	**180**	P	**Pn**	**05 35 19.9**	**+2.1**
	1.9nm,0.3s,baz=310,slow=18,SNR=6.0						
KSRS	**Korea Array**	**10.05**	**235**	P	**P**	**05 35 56.5**	**-2.7**
	3.3nm,0.8s,baz=52,slow=12,SNR=8.9						
PETK	**Petropavlovsk-**	**15.90**	**47**	P	**P**	**05 37 05.0**	**+1.1**
	1.0nm,0.5s,baz=251,slow=9.0,SNR=2.3						
MKAR	**Makanchi Array**	**38.77**	**295**	P	**P**	**05 40 34.2**	**-0.6**
	0.2nm,0.5s,baz=81,slow=8.9,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**40.16**	**301**	P	**P**	**05 40 46.1**	**+0.1**
	1.4nm,0.4s,baz=75,slow=9.0,SNR=7.9						
	1.4nm,0.4s						
BVAR	**Borovoye Array**	**44.40**	**307**	P	**P**	**05 41 20.7**	**+0.5**
	0.7nm,0.3s,baz=82,slow=8.1,SNR=4.8						
	0.7nm,0.3s						
ILAR	**Eielson Array**	**45.27**	**36**	P	**P**	**05 41 26.9**	**+0.2**
	0.5nm,0.8s,baz=273,slow=6.9,SNR=4.1						
	0.5nm,0.8s						
INK	**Inuvik**	**49.60**	**29**	P	**P**	**05 42 00.2**	**+0.3**
	0.8nm,0.4s,baz=297,slow=6.9,SNR=15						
	0.8nm,0.4s						
RES	**Resolute Bay**	**56.70**	**15**	P	**P**	**05 42 51.0**	**-0.4**
	1.1nm,0.6s,baz=302,slow=6.0,SNR=5.6						
	1.1nm,0.6s						
YKA	**Yellowknife Ar**	**59.26**	**31**	P	**P**	**05 43 09.3**	**+0.1**
	0.2nm,0.5s,baz=305,slow=6.3,SNR=5.9						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**61.75**	**330**	P	**P**	**05 43 24.6**	**-1.5**
	1.8nm,0.7s,baz=101,slow=5.8,SNR=5.5						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**63.49**	**184**	P	**P**	**05 43 38.1**	**+0.2**
	0.7nm,0.6s,baz=1.9,slow=6.9,SNR=7.3						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**67.22**	**184**	P	**P**	**05 44 02.8**	**+1.0**
	0.5nm,0.7s,baz=351,slow=5.8,SNR=5.4						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**67.54**	**319**	P	**P**	**05 44 02.2**	**-1.3**
	0.8nm,0.6s,baz=44,slow=6.0,SNR=4.7						
	0.8nm,0.6s						
FRB	**Frobisher Bay**	**70.75**	**12**	P	**P**	**05 44 22.3**	**-0.6**
	2.3nm,0.5s,baz=345,slow=6.4,SNR=12						
	2.3nm,0.5s						
NVAR	**Mina Array Bea**	**72.90**	**53**	P	**P**	**05 44 36.5**	**+0.1**
	0.6nm,0.6s,baz=297,slow=4.1,SNR=5.2						
	0.6nm,0.6s						
PDAR	**Pinedale Array**	**74.66**	**45**	P	**P**	**05 44 47.0**	**+0.4**
	0.6nm,0.6s,baz=309,slow=2.0,SNR=8.0						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**75.34**	**177**	P	**P**	**05 44 52.0**	**+1.9**
	0.7nm,0.5s,baz=5.9,slow=7.6,SNR=3.0						
	0.7nm,0.5s						

*IDC **25** 05:34:54.5 ± 3.6, 28°.12N × 57°.08E, h0 km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=73.4km s-min=31.6km az=179.0*
*TEH **25** 05:35:00.5, 28°.46N × 57°.03E, h11 km ± 57 km, ML3.8*
*OMAN **25** 05:35:02.7 ± 1.8, 28°.47N × 56°.97E, h33 km, mb5.2/2, ml3.8/7, Error ellipse: s-maj=18.6km s-min=10.1km az=37.0*
*DSN **25** 05:35:03.0 ± 2.1, 27°.83N × 57°.89E, h10 km, ML3.5/7, Error ellipse: s-maj=55.1km s-min=14.2km az=141.0*
ISC 25 05:35:02.1 ± 0.7, 28°.41N ± 0°.04 × 57°.02E ± 0°.05, h31 km, n59, σ1 s 92/67, mb3.8/8, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.76**	**127**	Pg	**Pn**	**05 35 14.7**	**-2.1**
IBND	**Bandar-abas**	**1.05**	**204**	Pg	**Pb**	**05 35 22.2**	**+0.4**
NGRK	**Negar Kerman**	**1.25**	**348**	Pg	**Pb**	**05 35 22.3**	**-1.6**
GENO	**Geno**	**1.26**	**217**	Pg	**Pb**	**05 35 25.4**	**0.0**
CHMN	**Cheshme madani**	**1.51**	**17**	Pg	**Pn**	**05 35 27.0**	**-0.4**
TVBK	**TV Kerman**	**1.58**	**352**	Pg	**Pn**	**05 35 28.2**	**-0.2**
KHGB	**Koh Gabri**	**2.01**	**346**	Pn	**Pn**	**05 35 35.3**	**+1.1**
SHME	**Shamm**	**2.48**	**199**	P	**Pn**	**05 35 41.4**	**+0.9**
	SNR=15						
BANOM	**Banah**	**2.56**	**195**	P	**Pn**	**05 35 42.6**	**+1.0**
BANOM	**Banah**	**2.56**	**195**	P	**Pn**	**05 35 42.8**	**+1.3**
ZRDN	**Zarand Kerman**	**2.58**	**351**	Pn	**Pn**	**05 35 44.6**	**+2.6**
JASK	**Jask - Hormozg**	**2.65**	**163**	P	**Pn**	**05 35 44.1**	**+1.4**
	SNR=5.1						
JASK				S	**Sn**	**05 36 16.3**	**+2.5**
JASK	**Jask - Hormozg**	**2.65**	**163**	Pn	**Pn**	**05 35 44.1**	**+1.4**
MASF	**Masafi**	**3.13**	**194**	P	**Pn**	**05 35 50.7**	**+1.4**
MASF				S	**Sn**	**05 36 28.6**	**+2.9**
IBAF	**Bafgh**	**3.41**	**339**	Pn	**Pn**	**05 35 55.2**	**+1.8**
ZHDN	**Zahedan**	**3.46**	**73**	Pn	**Pn**	**05 35 56.2**	**+2.1**
UOSS	**Minazif**	**3.53**	**192**	P	**Pn**	**05 35 55.1**	**+0.3**
UOSS	**Minazif**	**3.53**	**192**	P	**Pn**	**05 35 56.9**	**+2.0**
NAZ	**Nazwa, Dubai**	**3.62**	**200**	*i* P	**Pn**	**05 35 57.4**	**+1.3**
	SNR=7.0						
NAZ	**Nazwa, Dubai**	**3.62**	**200**	P	**Pn**	**05 35 58.4**	**+2.3**
	SNR=7.9						
NAZ				S	**Sn**	**05 36 40.4**	**+2.6**
IMEH	**Mehriz**	**3.63**	**325**	Pn	**Pn**	**05 35 58.0**	**+1.5**
HATD	**Hatta, Dubai**	**3.66**	**193**	P	**Pn**	**05 35 54.6**	**-2.1**
ASHO	**Ashiyiah**	**3.81**	**193**	P	**Pn**	**05 36 00.7**	**+1.9**
	SNR=9.4						
ASHO				S	**Sn**	**05 36 45.2**	**+2.6**
FAQ	**Al Faqa, Dubai**	**3.87**	**200**	*i* P	**Pn**	**05 36 01.1**	**+1.5**
	SNR=13						
NHDN	**Nehbandan**	**3.97**	**41**	Pn	**Pn**	**05 36 03.4**	**+2.4**
BSRN	**Basiran**	**3.98**	**27**	Pn	**Pn**	**05 36 03.5**	**+2.3**
ASUD	**Al Ashush, Dub**	**4.07**	**202**	*i* P	**Pn**	**05 36 04.0**	**+1.8**
	SNR=45						
ASUD	**Al Ashush, Dub**	**4.07**	**202**	P	**Pn**	**05 36 04.5**	**+2.3**
	SNR=45						
AJN	**Ajban**	**4.25**	**206**	P	**Pn**	**05 36 06.3**	**+1.6**
IKOO	**Kooshah**	**4.35**	**23**	Pn	**Pn**	**05 36 08.0**	**+1.7**
ICHK	**Chekchek**	**4.44**	**330**	Pn	**Pn**	**05 36 09.1**	**+1.6**
TPRV	**Parvadeh(Tabas**	**4.61**	**356**	Pn	**Pn**	**05 36 12.7**	**+3.0**
ITEG	**Tejag**	**4.71**	**18**	Pn	**Pn**	**05 36 14.2**	**+2.9**
BAGH	**Bagheran - Bir**	**4.74**	**23**	Pn	**Pn**	**05 36 13.5**	**+1.7**
SRVN	**Saravan**	**4.86**	**101**	Pn	**Pn**	**05 36 17.2**	**+3.9**
IDAH	**Dahanechah**	**4.96**	**29**	Pn	**Pn**	**05 36 17.5**	**+2.7**
ARQ	**Araqi**	**5.08**	**185**	P	**Pn**	**05 36 18.4**	**+2.2**
	SNR=11						
ARQ				S	**Sn**	**05 37 16.4**	**+2.7**
TKDS	**Koohdasht(Taba**	**5.18**	**1**	Pn	**Pn**	**05 36 20.6**	**+2.9**
IRAM	**Ramesheh**	**5.25**	**311**	Pn	**Pn**	**05 36 20.4**	**+1.7**
KLNJ	**Kolanjah**	**5.38**	**300**	Pn	**Pn**	**05 36 21.7**	**+1.0**
ANAR	**Anarak**	**5.54**	**330**	Pn	**Pn**	**05 36 24.0**	**+1.4**
TNSJ	**Nastanj**	**5.54**	**356**	Pn	**Pn**	**05 36 26.0**	**+3.4**
GHWR	**Ruwais**	**5.79**	**221**	P	**Pn**	**05 36 26.4**	**+0.5**
GHWR				S	**Sn**	**05 37 31.0**	**-0.2**
SHRT	**Shahrakht**	**5.92**	**27**	Pn	Pn	05 36 32.3	+4.5
IZEF	**Zefreh**	**6.02**	**319**	Pn	**Pn**	**05 36 30.3**	**+1.0**
WBK	**Wadi Bani Khal**	**6.04**	**163**	P	**Pn**	**05 36 30.5**	**+1.1**
	SNR=7.3						
WBK				S	**Sn**	**05 37 37.5**	**-0.1**
MZR	**Muzera**	**6.26**	**211**	P	**Pn**	**05 36 33.0**	**+0.5**
MZR				S	**Sn**	**05 37 42.0**	**-1.0**
ISFB	**Sefidab**	**7.19**	**327**	Pn	**Pn**	**05 36 49.3**	**+4.1**
TBJM	**Torbat-e-JAM**	**7.39**	**22**	Pn	**Pn**	**05 36 51.8**	**+3.8**
AB31	**Akbulak array**	**20.93**	**5**	⇑P	**P**	**05 39 41.9**	**-0.2**
	2.7nm,0.5s,baz=207,slow=12,SNR=46						
AB31				⇓S	**pPn**	**05 39 53.7**	**+0.3**
	1.2nm,0.4s,baz=191,slow=10,SNR=11						
AKTO	**Aktyubinsk**	**22.01**	**2**	P	**P**	**05 39 53.1**	**-0.5**
	5.9nm,0.9s,baz=180,slow=9.7,SNR=9.7						
	5.9nm,0.9s						
AKTO	**Aktyubinsk**	**22.01**	**2**	⇑P	**P**	**05 39 54.0**	**+0.4**
	1.9nm,0.6s						
BRTR	**Keskin Array B**	**22.35**	**306**	P	**P**	**05 39 57.3**	**-0.4**
	1.8nm,0.8s,baz=117,slow=9.5,SNR=9.3						
	1.8nm,0.8s						
BVAR	**Borovoye Array**	**26.50**	**18**	P	**P**	**05 40 36.4**	**-0.3**
	1.7nm,0.7s,baz=208,slow=8.4,SNR=6.8						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**26.97**	**40**	P	**P**	**05 40 40.5**	**-0.5**
	0.4nm,0.7s,baz=221,slow=8.9,SNR=5.0						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**32.60**	**31**	P	**P**	**05 41 29.6**	**-1.2**
	0.7nm,0.4s,baz=230,slow=6.9,SNR=1.6						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**38.91**	**337**	P	**P**	**05 42 23.1**	**-1.6**
	0.9nm,0.5s,baz=129,slow=9.1,SNR=11						
	0.9nm,0.5s						
SEY	**Seymchan**	**67.46**	**30**	P	**P**	**05 45 52.5**	**-2.1**
	1.0nm,0.2s,baz=260,slow=8.1,SNR=7.1						
	1.0nm,0.2s						
YKA	**Yellowknife Ar**	**89.16**	**356**	P	**P**	**05 47 53.3**	**-1.0**
	0.5nm,0.7s,baz=359,slow=4.9,SNR=14						
	0.5nm,0.7s						

*DSN **25** 05:41:36.5 ± 1.4, 28°.92N × 57°.07E, h10 km, ML5.0/15, Error ellipse: s-maj=18.3km s-min=12.5km az=76.0*
*MOS **25** 05:41:38.6 ± 1.0, 28°.36N × 56°.95E, h11 km, mb4.9/33, Error ellipse: s-maj=7.2km s-min=4.6km az=99.7*
*BJI **25** 05:41:38.3 ± 0.0, 28°.50N × 57°.00E, h5 km, mb4.4/42, mB5.0/21, Ms4.2/9, Ms7 4.1/9*
*TEH **25** 05:41:41.7, 28°.48N × 57°.03E, h9 km ± 31 km, ML4.7*
*NEIC **25** 05:41:41.7 ± 2.9, 28°.57N ± 0°.08 × 56°.9E ± 0°.1, h10 km ± 1 km, mb4.9/74, Error ellipse: s-maj=17.1km s-min=12.7km az=123.0*
*SGS **25** 05:41:43.9, 28°.63N × 56°.98E, h7 km, Ml4.7*
*THR **25** 05:41:43.5 ± 0.8, 28°.49N × 56°.92E, h15 km ± 7 km, ML4.6*
*IDC **25** 05:41:45.5 ± 2.3, 28°.33N × 57°.01E, h54 km ± 20 km, mb4.2/37, mbtmp4.5/43, ML4.1/6, MS4.0/53, Error ellipse: s-maj=13.8km s-min=9.2km az=142.0*
*OMAN **25** 05:41:46.9 ± 5.0, 28°.40N × 56°.91E, h33 km, mb6.0/10, ml4.9/13, ms3.6/4, Error ellipse: s-maj=55.0km s-min=18.4km az=176.0*
ISC 25 05:41:40.9 ± 0.3, 28°.47N ± 0°.03 × 56°.99E ± 0°.03, h10 km, n481, σ1 s 98/435, mb4.8/137, MS4.1/55, 22C-35D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.82**	**130**	Pg	**Pg**	**05 41 56.9**	**+0.1**
IBND	**Bandar-abas**	**1.10**	**202**	Pg	**Pn**	**05 42 04.2**	**+1.9**
NGRK	**Negar Kerman**	**1.19**	**349**	Pg	**Pn**	**05 42 04.2**	**+0.2**
GENO	**Geno**	**1.29**	**214**	Pg	**Pg**	**05 42 07.5**	**+1.7**
CHMN	**Cheshme madani**	**1.46**	**19**	Pg	**Pg**	**05 42 09.2**	**+0.2**
KRBR	**Kerman**	**1.52**	**352**	*e*Pg	**Pg**	**05 42 10.7**	**+0.6**
KRBR				*e*Sg	**Sg**	**05 42 31.2**	**+1.4**
KRBR				IAML		05 42 42.1	
	comp=E,6μm,0.2s						
KRBR	**Kerman**	**1.52**	**352**	Pg	**Pg**	**05 42 10.7**	**+0.6**
TVBK	**TV Kerman**	**1.52**	**352**	Pg	**Pg**	**05 42 10.1**	**-0.1**
KHGB	**Koh Gabri**	**1.95**	**347**	Pn	**Pb**	**05 42 17.3**	**+0.7**
LAR1	**LAR**	**2.45**	**252**	Pn	**Pb**	**05 42 24.1**	**-0.9**
ZRDN	**Zarand Kerman**	**2.52**	**351**	Pn	**Pb**	**05 42 26.5**	**+0.1**
SHME	**Shamm**	**2.53**	**198**	P	**Pn**	**05 42 24.2**	**+2.1**
	SNR=85						
SHME	**Shamm**	**2.53**	**198**	Pn	**Pn**	**05 42 23.7**	**+1.6**
BANOM	**Banah**	**2.61**	**194**	*i* P	**Pn**	**05 42 24.8**	**+1.5**
	SNR=41						
BANOM	**Banah**	**2.61**	**194**	P	**Pn**	**05 42 25.7**	**+2.5**
	SNR=41						
BANOM	**Banah**	**2.61**	**194**	Pn	**Pn**	**05 42 25.1**	**+1.8**
JASK	**Jask - Hormozg**	**2.71**	**163**	P	**Pn**	**05 42 26.4**	**+1.9**
	SNR=21						
JASK	**Jask - Hormozg**	**2.71**	**163**	Pn	**Pn**	**05 42 26.5**	**+1.9**
JHRM	**Jahrom**	**3.01**	**271**	Pn	**Pn**	**05 42 32.2**	**+3.4**
UMQ	**Umm Al-Quwin**	**3.17**	**202**	*i* P	**Pn**	**05 42 34.4**	**+3.6**
	SNR=24						
UMQ	**Umm Al-Quwin**	**3.17**	**202**	P	**Pn**	**05 42 34.4**	**+3.6**
	SNR=24						
UMQ	**Umm Al-Quwin**	**3.17**	**202**	Pn	**Pn**	**05 42 34.7**	**+3.9**
MASF	**Masafi**	**3.18**	**194**	P	**Pn**	**05 42 34.0**	**+3.0**
	SNR=23						
MSFE	**Esma-Masafi**	**3.19**	**194**	*i* P	**Pn**	**05 42 34.0**	**+2.8**
	SNR=23						
MSFE	**Esma-Masafi**	**3.19**	**194**	Pn	**Pn**	**05 42 34.4**	**+3.2**
MDH	**Madha**	**3.22**	**191**	Pn	**Pn**	**05 42 35.6**	**+4.0**
IBAF	**Bafgh**	**3.34**	**339**	Pn	**Pn**	**05 42 36.4**	**+2.9**
ZHDN	**Zahedan**	**3.47**	**74**	Pn	**Pn**	**05 42 38.0**	**+2.8**
QIR1	**Qir**	**3.48**	**271**	Pn	**Pn**	**05 42 38.3**	**+3.1**
ZHSF	**Zahedan**	**3.50**	**70**	*e*Pn	**Pb**	**05 42 41.0**	**-2.1**
ZHSF	**Zahedan**	**3.50**	**70**	Pn	**Pb**	**05 42 41.0**	**-2.1**
GHIR	**Ghir-Karzin**	**3.54**	**268**	*e*Pn	**Pn**	**05 42 39.0**	**+3.0**
GHIR				IAML		05 43 43.0	
	comp=N,972nm,0.6s						
GHIR				IAML		05 43 46.9	
	comp=E,1μm,0.6s						
GHIR	**Ghir-Karzin**	**3.54**	**268**	Pn	**Pn**	**05 42 39.0**	**+3.0**
IMEH	**Mehriz**	**3.57**	**325**	Pn	**Pn**	**05 42 40.1**	**+3.5**
LMD1	**Lamerd**	**3.57**	**252**	Pn	**Pn**	**05 42 40.1**	**+3.6**
UOSS	**Minazif**	**3.58**	**192**	Pn	**Pn**	**05 42 39.0**	**+2.4**
UOSS	**Minazif**	**3.58**	**192**	*i* P	**Pn**	**05 42 39.3**	**+2.7**
	SNR=16						
UOSS	**Minazif**	**3.58**	**192**	Pn	**Pn**	**05 42 38.8**	**+2.3**
NAZ	**Nazwa, Dubai**	**3.67**	**199**	*i* P	**Pn**	**05 42 40.5**	**+2.7**
	SNR=64						
NAZ	**Nazwa, Dubai**	**3.67**	**199**	P	**Pn**	**05 42 41.0**	**+3.2**
	SNR=47						
NAZ	**Nazwa, Dubai**	**3.67**	**199**	Pn	**Pn**	**05 42 40.6**	**+2.9**
HATD	**Hatta, Dubai**	**3.71**	**192**	P	**Pn**	**05 42 40.6**	**+2.2**
HATD	**Hatta, Dubai**	**3.71**	**192**	P	**Pn**	**05 42 41.8**	**+3.4**
	SNR=10						
HATD	**Hatta, Dubai**	**3.71**	**192**	Pn	**Pn**	**05 42 42.2**	**+3.9**
ASHO	**Ashiyiah**	**3.87**	**193**	*i* P	**Pn**	**05 42 42.7**	**+2.2**
	SNR=65						
ASHO	**Ashiyiah**	**3.87**	**193**	P	**Pn**	**05 42 43.4**	**+2

QAMS Qamsar 7.11 319 Pn **Pn** **05 43 28.2 +3.0**
ISFB Sefidab 7.13 326 Pn **Pn** **05 43 28.8 +3.4**
TBJM Torbat-e-JAM 7.34 22 Pn Pn 05 43 34.0 +5.6
AMIS Naft Sefid 7.40 297 Pn **Pn** **05 43 30.2 +1.2**
MHTO MHTO 7.51 173 P **Pn** **05 43 32.5 +2.0**
SNR=14
MHTO P **Pn** **05 43 32.5 +2.0**
SNR=14
SHRO Shahrood 7.54 354 *e*Pn **Pn** **05 43 35.6 +4.6**
SHRO Shahrood 7.54 354 Pn **Pn** **05 43 35.6 +4.6**
KFJS2 Khafji 7.57 271 P **Pn** **05 43 32.8 +1.4**
GHVR GHOM 7.71 322 *e*Pn **Pn** **05 43 37.5 +4.1**
GHVR GHOM 7.71 322 Pn **Pn** **05 43 37.5 +4.1**
IMOG Moghan 7.87 14 Pn Pn 05 43 41.3 +5.6
IVRN Varamin 7.90 327 Pn Pn 05 43 40.7 +4.8
JRKH Jarkhoshk 7.94 20 Pn **Pn** **05 43 41.0 +4.5**
ISHM Shahmirzad 7.96 338 Pn **Pn** **05 43 40.5 +3.6**
KHMZ Khomeyn 7.99 313 *e*Pn **Pn** **05 43 40.5 +3.1**
KHMZ Khomeyn 7.99 313 Pn **Pn** **05 43 40.5 +3.1**
IFIR Firoozkooh 8.00 334 Pn **Pn** **05 43 41.4 +3.9**
IQOM Qom 8.11 323 Pn **Pn** **05 43 43.7 +4.7**
IPAY Payeh 8.13 11 Pn Pn 05 43 46.3 +7.1
IDMV Damavand 8.24 331 Pn **Pn** **05 43 45.2 +4.5**
IAKL Akhelmad 8.24 10 Pn Pn 05 43 47.5 +6.7
IMYA Miami 8.27 18 Pn Pn 05 43 47.3 +6.1
DAMV Damavand 8.31 330 *e*Pn **Pn** **05 43 45.9 +4.1**
DAMV Damavand 8.31 330 Pn **Pn** **05 43 45.9 +4.1**
IGLO Ghaloghah 8.44 342 Pn Pn 05 43 53.0 +10
ASAO Ashtian 8.49 317 *e*Pn **Pn** **05 43 47.4 +3.3**
ASAO Ashtian 8.49 317 Pn **Pn** **05 43 47.4 +3.3**
IKRD Kardeh 8.55 14 Pn Pn 05 43 52.0 +7.0
ISFR Sfrayin 8.60 5 Pn Pn 05 43 51.5 +5.8
IPRN Peran 8.69 334 Pn Pn 05 43 56.0 +9.2
IMND Minoodasht 8.86 352 Pn Pn 05 43 57.1 +8.1
CHTH Charan 8.92 328 *e*Pn **Pn** **05 43 53.8 +3.6**
CHTH Charan 8.92 328 Pn **Pn** **05 43 53.8 +3.6**
IEMG Emamgholi 9.03 8 Pn Pn 05 43 57.6 +6.0
THKV Tehran--Karaj 9.05 327 *e*Pn **Pn** **05 43 55.6 +3.8**
THKV Tehran--Karaj 9.05 327 Pn **Pn** **05 43 55.6 +3.8**
IRAZ Razeghan 9.15 321 Pn **Pn** **05 43 57.6 +4.3**
MZPU Pul - Mazandar 9.17 331 Pn Pn 05 44 00.8 +7.4
MRVT Maraveh tapeh 9.19 356 *e*Pn Pn 05 43 59.2 +5.5
MRVT Maraveh tapeh 9.19 356 Pn Pn 05 43 59.7 +6.1
BJRD Bojnurd 9.21 2 *e*Pn Pn 05 43 59.3 +5.4
BJRD Bojnurd 9.21 2 Pn Pn 05 43 59.3 +5.4
HADD Aghdareh 9.21 315 Pn **Pn** **05 43 53.9 -0.2**
IDOB Doab 9.22 307 Pn **Pn** **05 43 55.3 +1.0**
IKFM Kafar-mosalman 9.32 305 Pn **Pn** **05 43 55.5 +0.2**
KLST Kelardasht - M 9.46 330 Pn Pn 05 44 02.6 +5.1
GEYT Alibeck 9.48 5 P Pn 05 44 02.5 +5.0
comp=N,1.2nm,0.3s,baz=194,slow=9.2,SNR=27
GEYT Lg Lg 05 46 31.6
comp=N,0.5nm,0.3s,baz=189,slow=35,SNR=1.5
GEYT LR LR 05 48 08.7
comp=N,2µm,19.0s,baz=190,slow=40
comp=N,28nm,1.1s
RMAH Rumah 9.54 253 P **Pn** **05 43 58.8 +0.3**
QALM Alamut, Qazvin 9.57 328 *i* Pn Pn 05 44 05.1 +6.0
RQBS RQBS 9.82 266 P **Pn** **05 44 02.3 0.0**
IKOM Komasi 9.90 307 Pn **Pn** **05 44 03.6 +0.2**
DOK Doka 10.15 196 P **Pn** **05 44 07.0 +0.2**
SNR=13
DOK P **Pn** **05 44 07.0 +0.2**
SNR=13
SNGE Sanandaj 10.53 311 *e*Pn **Pn** **05 44 13.7 +1.6**
SNGE Sanandaj 10.53 311 Pn **Pn** **05 44 13.7 +1.6**
ILBA Ilam Banvizeh 10.58 302 *e*Pn **Pn** **05 44 13.3 +0.7**
IGHG Ghaleghazi 10.65 306 Pn **Pn** **05 44 16.2 +2.5**
ZNJK Zanjan 10.76 322 *e*Pn **Pn** **05 44 20.0 +4.7**
ZNJK Zanjan 10.76 322 Pn **Pn** **05 44 20.0 +4.7**
DMTO DMTO 10.87 190 P **Pn** **05 44 18.0 +1.3**
SNR=12
WHFO Wadi Hawf 10.91 196 P **Pn** **05 44 17.0 -0.3**
SNR=16
WHFO P **Pn** **05 44 17.0 -0.3**
SNR=16
IDHR Dehrash 10.96 307 Pn **Pn** **05 44 18.0 0.0**
RAYN Ar Rayn 11.45 247 Pn **Pn** **05 44 22.4 -2.2**
RAYN Ar Rayn 11.45 247 P **Pn** **05 44 22.4 -2.2**
RAYN Ar Rayn 11.45 247 *i* P **Pn** **05 44 22.3 -2.2**
SNR=96
ABTO Aybut 11.58 198 P **Pn** **05 44 26.0 -0.4**
SNR=16
ABTO P **Pn** **05 44 26.0 -0.4**
SNR=16
GRMI Germi 12.79 326 *e*Pn Pn 05 44 48.7 +5.8
GRMI Germi 12.79 326 Pn Pn 05 44 48.7 +5.8
CHGR Chuyangaron 14.34 42 Pn **Pn** **05 45 05.0 +0.9**
CHGR Chuyangaron 14.34 42 P **Pn** **05 45 05.0 +0.9**
MAKU Maku 14.89 320 *e*Pn **P** **05 45 17.9 +0.4**
AKT Akhty 15.02 332 *e*P **P** **05 45 22.0 +3.2**
AKT pmax pmax
comp=Z,17nm,0.7s
GEVA Gevas 15.21 314 Pn **Pn** **05 45 13.8 -2.1**
GAR Garm 15.25 43 Pn **Pn** **05 45 17.6 +1.2**
GNI Garni 15.41 322 P **P** **05 45 22.0 -1.2**
comp=Z,1.1nm,0.3s,baz=41,slow=19,SNR=3.7
GNI LR LR 05 51 40.6
comp=Z,466nm,18.4s,baz=128,slow=38
comp=Z,10nm,0.5s
GNI Garni 15.41 322 P **P** **05 45 22.1 -1.1**
GURO Guroymak-BITLI 16.00 313 P **P** **05 45 29.8 +0.1**
MARD Mardin 16.21 307 Pn **Pn** **05 45 26.2 -2.6**
AKH Akhalkalaki 16.97 323 Pn **Pn** **05 45 34.5 -4.1**
AKH IAmb IAmb 05 45 44.7
comp=Z,167nm,1.5s
AKH Akhalkalaki 16.97 323 P **Pn** **05 45 34.5 -4.1**
AKH pmax pmax
comp=Z,167nm,1.5s
ASF Jabal al Asfar 17.73 287 P **P** **05 45 50.9 +2.0**
comp=Z,1.1nm,0.3s,baz=105,slow=5.3,SNR=16
ASF S Sn 05 48 44.9 -21
comp=Z,5.0nm,0.7s,baz=114,slow=9.4,SNR=2.4
comp=Z,20nm,0.8s
ZEI Tsey 17.78 327 *e*P **P** **05 45 50.3 +0.8**
ZEI pmax pmax
comp=Z,25nm,1.1s
ONI Oni 17.85 326 P **Pn** **05 45 49.1 -0.3**
ONI Oni 17.85 326 P **Pn** **05 45 49.1 -0.3**
ONI pmax pmax
comp=Z,79nm,1.9s
KK31 Karatay Array 18.22 33 **P** **05 45 55.4 +1.3**
KK31 Karatay Array 18.22 33 P **P** **05 45 55.7 +1.5**
KKAR Karatay Array 18.22 33 **P** **05 45 55.7 +1.5**
KKAR Karatay Array 18.22 33 P **P** **05 45 55.7 +1.5**
GAZ Gaziantep 18.73 303 **P** **05 45 57.8 -2.0**
GAZ IAmb IAmb 05 46 04.9
comp=Z,48nm,0.8s
KBZ Khabaz 18.97 327 P **Pn** **05 46 05.7 +2.7**
comp=Z,0.1nm,0.3s,baz=128,slow=13,SNR=3.9
KBZ LR LR 05 54 46.7
comp=Z,130nm,20.6s,baz=113,slow=41
comp=Z,3.1nm,0.8s
MMAI Mount Meron Ar 19.09 289 P **P** **05 46 04.5 +0.6**
comp=Z,2.0nm,0.3s,baz=116,slow=18,SNR=7.2
MMAI LR LR 05 55 22.9
comp=Z,513nm,18.1s,baz=306,slow=43
comp=Z,11nm,0.7s
KSH Kashi 19.17 50 P **P** **05 46 02.8 -1.9**
KSH sP pP 05 46 08.4 +0.2
KSH pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 19.24 327 P **P** **05 46 06.1 +0.7**
KIV Kislovodsk 19.24 327 *e*P **Pn** **05 46 06.4 0.0**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,83nm,14.0s
EIL Elat 19.30 279 P **P** **05 46 06.8 +0.6**
comp=Z,0.7nm,0.3s,baz=28,slow=6.6,SNR=11
EIL LR LR 05 54 11.2
comp=Z,100nm,18.9s,baz=86,slow=39
comp=Z,24nm,0.9s
AAK Ala-Archa 20.01 40 P **Pn** **05 46 15.6 0.0**
comp=Z,3.3nm,0.8s,baz=223,slow=12,SNR=11
AAK LR LR 05 55 01.1
comp=Z,567nm,18.7s,baz=237,slow=40
comp=Z,3.3nm,0.8s
AAK Ala-Archa 20.01 40 P **P** **05 46 15.0 +1.1**
AAK Ala-Archa 20.01 40*d* *i*P **Pn** **05 46 16.3 +0.7**
AAK pmax pmax
comp=Z,21nm,2.5s
BNN Bunyan 20.38 306 **P** **05 46 17.6 -0.3**
SOC Sochi 20.50 322 *e*P **P** **05 46 18.0 -1.0**

SOC *e*PPP PPP 05 46 44.4
SOC *e*S **S** **05 50 07.6 -0.7**
SOC *e*SS **SnSn** **05 50 24.4 -2.5**
SOC *e*SSS SSS 05 50 38.8
SOC MLR MLR
comp=Z,257nm,16.0s
AB31 Akbulak array 20.88 5 *e*P **P** **05 46 24.4 +1.3**
ABKAR Akbulak array 20.88 5 P **P** **05 46 24.5 +1.4**
ATD Arta Tunnel 21.43 221 P **P** **05 46 28.8 -0.6**
comp=Z,3.3nm,0.3s,baz=17,slow=19,SNR=1.6
ATD LR LR 05 56 32.6
comp=Z,623nm,18.1s,baz=28,slow=42
comp=Z,3.3nm,0.3s
AKTO Aktyubinsk 21.95 2 P **P** **05 46 36.0 +1.4**
comp=Z,24nm,0.6s,baz=182,slow=9.6,SNR=59
AKTO LR LR 05 56 48.2
comp=Z,741nm,18.8s,baz=227,slow=41
comp=Z,24nm,0.6s
BR131 Keskin Array S 22.29 306 P **P** **05 46 39.1 +0.5**
BR131 IAmb IAmb 05 46 42.0
comp=Z,53nm,0.9s
BR131 Keskin Array S 22.29 306*d* *i*P **P** **05 46 39.8 +1.2**
BRTR Keskin Array B 22.29 306 P **P** **05 46 39.7 +1.2**
comp=Z,30nm,0.8s,baz=128,slow=8.0,SNR=87
BRTR LR LR 05 57 00.8
comp=Z,724nm,21.0s,baz=119,slow=41
comp=Z,30nm,0.8s
ANTO Ankara 22.95 306 P **P** **05 46 45.0 -0.5**
ANTO IAmb IAmb 05 46 58.5
comp=Z,35nm,0.9s
ANTO Ankara 22.95 306 P **P** **05 46 45.0 -0.5**
ANTO pmax pmax
comp=Z,35nm,0.9s
DANN Dangsing 23.53 84 *e*P **P** **05 46 52.3 +0.6**
SIM Simferopol' 24.51 318 *e*P **P** **05 47 01.2 +0.8**
SIM *e*S **S** **05 51 20.0 -0.7**
SIM pmax pmax
comp=Z,20nm,0.7s
SIM MLR MLR
comp=Z,96nm,17.0s
BORA Eskisehir 24.64 304 P **P** **05 47 01.6 -0.2**
BORA IAmb IAmb 05 47 04.0
comp=Z,45nm,1.0s
BELG Belogornoye 24.89 346 LR LR 05 59 23.8
comp=Z,129nm,21.5s,baz=161,slow=42
BELG Belogornoye 24.89 346*d* *i*P **P** **05 47 03.7 0.0**
BELG pmax pmax
comp=Z,6.0nm,0.9s
PKIN Phulchoki 25.07 85 *e*P **P** **05 47 07.1 +1.1**
comp=Z,12nm,0.5s
PKI Pulchoki 25.08 85 *e*P **P** **05 47 07.2 +1.1**
comp=Z,14nm,0.6s
GUN Gumba 25.44 84 *e*P **P** **05 47 09.5 +0.1**
VRH Novokhopyorsk 25.45 337 *e*P **P** **05 47 09.3 +0.5**
VRH pmax pmax
comp=Z,30nm,0.8s
JIRN Jiri 25.75 85 *e*P **P** **05 47 13.4 +1.1**
comp=Z,6.6nm,0.4s
VSR Storozhevoye 26.38 334 *e*P **P** **05 47 17.5 +0.2**
VSR pmax pmax
comp=Z,8.0nm,1.0s
BVA0 Borovoye Array 26.45 18 P **P** **05 47 17.4 -0.5**
BVAR Borovoye Array 26.45 18 P **P** **05 47 18.7 +0.7**
comp=Z,12nm,0.8s,baz=201,slow=7.9,SNR=45
BVAR LR LR 05 59 15.4
comp=Z,759nm,18.3s,baz=205,slow=40
comp=Z,12nm,0.8s
BRVK Borovoye 26.45 18 P **P** **05 47 18.6 +0.7**
BRVK IAmb IAmb 05 47 32.2
comp=Z,34nm,1.0s
BRVK Borovoye 26.45 18*d* *i*P **P** **05 47 18.9 +1.0**
BRVK pmax pmax
comp=Z,23nm,1.7s
VORR Voronezh 26.73 335 *e*P **P** **05 47 20.9 +0.5**
VORR pmax pmax
comp=Z,20nm,1.1s
MAKZ Makanchi 26.77 40 P **P** **05 47 21.6 +0.7**
MAKZ IAmb IAmb 05 47 36.1
comp=Z,31nm,1.2s
MAKZ Makanchi 26.77 40 P **P** **05 47 21.6 +0.7**
MAKZ pmax pmax
comp=Z,31nm,1.3s
MK31 Makanchi Array 26.94 40 P **P** **05 47 21.9 -0.5**
MK31 Makanchi Array 26.94 40*ce*P **P** **05 47 22.6 +0.2**
MKAR Makanchi Array 26.94 40 P **P** **05 47 23.0 +0.6**
comp=Z,3.4nm,0.8s,baz=226,slow=7.9,SNR=24
MKAR LR LR 05 59 32.9
comp=Z,251nm,19.1s,baz=254,slow=40
comp=Z,3.4nm,0.8s
MKAR Makanchi Array 26.94 40 P **P** **05 47 21.8 -0.7**
KURBB Kurchatov Arra 27.47 30 P **P** **05 47 28.0 +0.9**
comp=Z,3.2nm,1.1s,baz=230,slow=8.4,SNR=15
comp=Z,2.2nm,1.1s
KURK Kurchatov 27.58 30 P **P** **05 47 29.3 +1.2**
KURK IAmb IAmb 05 47 42.1
comp=Z,51nm,1.9s
KURK Kurchatov 27.58 30⇓ *e*P **P** **05 47 29.4 +1.3**
KURK pmax pmax
comp=Z,17nm,2.5s
ARU Arti 27.96 2 P **P** **05 47 32.1 +0.7**
comp=Z,3.2nm,0.5s,baz=201,slow=9.3,SNR=3.4
ARU LR LR 06 00 05.6
comp=Z,159nm,19.9s,baz=175,slow=39
comp=Z,3.2nm,0.5s
IDI Anoyia 28.01 292 P **P** **05 47 32.7 +0.5**
comp=Z,2.9nm,0.3s,baz=102,slow=19,SNR=1.2
IDI LR LR 06 02 05.4
comp=Z,118nm,20.8s,baz=103,slow=43
comp=Z,2.9nm,0.3s
WMQ Urumqi 28.94 50 *e*P **P** **05 47 41.9 +1.5**
WMQ pP sP 05 47 48.3 +2.7
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ LR LR
comp=Z,500nm,17.5s
WMQ LR LR
comp=Z,420nm,21.7s
VRI Vrincioaia 29.47 314⇓ P **P** **05 47 45.9 +0.9**
VRI Vrincioaia 29.47 314⇓ P **P** **05 47 45.9 +0.9**
PLOR Plostina 29.52 314⇑ P **P** **05 47 45.1 -0.4**
PLOR Plostina 29.52 314⇑ P **P** **05 47 45.1 -0.4**
SORM Soroca 29.57 319⇑ P **P** **05 47 45.0 -0.9**
SORM Soroca 29.57 319⇑ P **P** **05 47 45.0 -0.9**
MLR Muntele Rosu 29.81 313 P **P** **05 47 48.7 +0.5**
comp=Z,1.4nm,0.3s,baz=179,slow=21,SNR=2.9
comp=Z,1.4nm,0.3s
MLR Muntele Rosu 29.81 313⇓ P **P** **05 47 48.9 +0.7**
MLR Muntele Rosu 29.81 313⇓ P **P** **05 47 48.9 +0.7**
DOPR Dopca 30.36 314⇓ P **P** **05 47 53.3 +0.4**
VOIR 30.37 313⇑ P **P** **05 47 53.8 +0.8**
VOIR 30.37 313⇑ P **P** **05 47 53.8 +0.8**
OBN Obninsk 30.44 337⇓ *e*P **P** **05 47 53.8 +0.4**
OBN *e* 05 48 53.6
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,159nm,20.0s
AKASG Malin Array Be 30.53 324 P **P** **05 47 53.5 -0.7**
comp=Z,2.5nm,0.7s,baz=127,slow=7.9,SNR=11
AKASG PcP **PcP** **05 50 51.6 -1.4**
comp=Z,0.7nm,0.6s,baz=88,slow=2.5,SNR=5.3
AKASG LR LR 06 02 55.7
comp=Z,136nm,18.1s,baz=84,slow=41
comp=Z,2.5nm,0.7s
AKBB Malin Array Si 30.53 324 P **P** **05 47 53.0 -1.3**
AKBB IAmb IAmb 05 48 07.6
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 30.53 324⇓ *e*P **P** **05 47 53.4 -0.8**
AKBB pmax pmax
comp=Z,13nm,1.1s
KIRV Kirov 30.56 352 LR LR 06 02 48.9
comp=Z,668nm,18.9s,baz=169,slow=41
KIRV Kirov 30.56 352⇑ *e*P **P** **05 47 55.8 +1.4**
ARR Arges 30.61 312⇑ P **P** **05 47 55.5 +0.3**
VTS Vitosha 30.66 306 P **P** **05 47 55.6 -0.1**
VTS IAmb IAmb 05 47 57.5
comp=Z,12nm,1.0s
VTS Vitosha 30.66 306 P **P** **05 47 55.6 -0.1**
VTS pmax pmax
comp=Z,12nm,1.0s
BURAR Bucovina Array 31.17 317⇓ P **P** **05 47 59.7 -0.5**
BURAR Bucovina Array 31.17 317⇓ P **P** **05 47 59.7 -0.5**
DGZ Jazzator, Alta 31.40 39⇑ *i*P **P** **05 48 03.0 +0.8**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
BOVS Bovan 32.02 308⇑ P **P** **05 48 08.0 +0.5**

MARR Marisel-Cluj 32.09 314⇓ P **P** **05 48 07.9 -0.3**
LODK Lodwar 32.32 223 P **P** **05 48 11.5 +1.0**
ZAA0 Zalesovo Array 32.57 31 IAmb IAmb 05 48 26.0
comp=Z,26nm,1.0s
ZALV Zalesovo Beam 32.57 31 P **P** **05 48 12.2 0.0**
comp=Z,6.0nm,0.6s,baz=240,slow=9.3,SNR=20
ZALV LR LR 06 02 52.7
comp=Z,180nm,19.1s,baz=97,slow=39
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 32.57 31 *i* P **P** **05 48 13.1 +0.9**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
GOMU GeErMu 32.71 67 P **P** **05 48 14.4 +0.3**
GOMU pP pP 05 48 18.6 +0.8
GOMU sP sP 05 48 19.8 +0.5
GOMU pmax pmax
comp=Z,2.0nm,0.9s
GOMU pmax pmax
comp=Z,75nm,5.1s
SIRR Siria 32.88 312⇓ P **P** **05 48 16.2 +1.2**
DIVS Divibare 33.34 308 IAmb IAmb 05 48 33.2
comp=Z,10nm,0.9s
UZH Uzhgorod 33.38 317 *e*P P 05 48 30.8 +11
UZH *e* 05 48 35.2
MNK Minsk 33.50 329 *i* P **P** **05 48 18.3 -2.0**
comp=E,3.0nm,0.8s
MNK *i* P **P** **05 48 18.3 -2.0**
comp=N,24nm,0.8s
MNK *i* P **P** **05 48 18.3 -2.0**
comp=Z,13nm,0.9s,baz=129
MNK *i* PP **PnPn** **05 49 29.1 -2.3**
MNK *i* PPP PPP 05 49 39.9
MNK *i* S **S** **05 53 40.4 -1.6**
MNK *i* SS **SnSn** **05 55 42.9 -1.1**
MNK *i* SSS SSS 05 55 58.6
MNK *i* LR LR 06 02 21.1
MNK *i* LRM MLR 06 04 26.8
comp=Z,159nm,20.0s
MNK *i* LRM MLR 06 04 30.0
comp=N,250nm,16.8s
MNK *i* LRM MLR 06 04 37.1
comp=E,18nm,17.4s
MNK Minsk 33.50 329 *i* P **P** **05 48 18.3 -2.0**
MNK *i* 05 49 29.1
MNK *i* 05 50 59.4
MNK *i* S **S** **05 53 40.3 -1.6**
MNK *i* SS **SnSn** **05 55 42.9 -1.1**
MNK *i* 05 58 44.9
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=Z,159nm,20.0s
MNK MLR MLR
comp=N,250nm,17.0s
MNK MLR MLR
comp=E,18nm,17.0s
NACGM Naroch 34.25 329 *e*P **P** **05 48 24.7 -2.2**
comp=Z,12nm,1.0s,baz=128
KLMR Klimovskoe 34.45 345 *e*P **P** **05 48 26.8 -1.7**
KLMR AMP 05 48 32.1
comp=Z,35nm,1.9s
KLMR Klimovskoe 34.45 345 *e*P **P** **05 48 26.7 -1.7**
KLMR pmax pmax
comp=Z,35nm,1.9s
MORH Mrgy, Hungar 34.84 311⇑ P **P** **05 48 33.1 +1.0**
KMBO Kilima Mbogo 34.99 216 P **P** **05 48 30.6 -3.3**
comp=Z,0.2nm,0.8s,baz=34,slow=23,SNR=11
KMBO Kilima Mbogo 34.99 216 P **P** **05 48 34.1 +0.2**
KMBO Kilima Mbogo 34.99 216 P **P** **05 48 34.1 +0.2**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
OJC Ojcow 35.51 318 *e*P **P** **05 48 38.1 +0.3**
OJC Ojcow 35.51 318 IAmb IAmb 05 48 38.8
comp=Z,14nm,0.8s
CUC Castrocucco 35.64 300 P **P** **05 48 38.5 -0.6**
PABE Paberze 35.91 328 P **P** **05 48 39.1 -2.0**
PABE IAmb IAmb 05 48 42.8
comp=Z,24nm,0.9s
PABE Paberze 35.91 328 *e*P **P** **05 48 41.4 +0.3**
JAVC Velka Javorina 36.30 315 *e*P **P** **05 48 44.7 0.0**
MAUC Maruska 36.38 316 *e*P **P** **05 48 46.0 +0.7**
MODS Modra-Piesok 36.39 314 *e*P **P** **05 48 45.9 +0.5**
MODS Modra-Piesok 36.39 314 *e*P **P** **05 48 45.9 +0.5**
VSU Vasula 36.57 334*d* *i*P **P** **05 48 46.9 +0.2**
VSU pmax pmax
comp=Z,118nm,0.7s
VSU Vasula 36.57 334 *e*P **P** **05 48 46.7 +0.1**
MORC Moravsky Berou 36.70 316 *e*P **P** **05 48 47.3 -0.7**
RONA Rosalia, Austr 36.81 313 *e*P **P** **05 48 48.5 -0.6**
comp=Z,5.6nm,0.7s
GTA Gaotai 36.86 61 *e*P **P** **05 48 50.8 +1.2**
GTA pP sP 05 48 55.5 +0.7
GTA pmax pmax
comp=Z,4.0nm,1.1s
TNCH TengChong 37.11 85 P **P** **05 48 52.8 +0.8**
TNCH pmax pmax
comp=Z,100nm,4.5s
VRAC Vranov 37.12 315 LR LR 06 05 31.6
comp=Z,119nm,20.2s,baz=100,slow=38
VRAC Vranov 37.12 315 *e*P **P** **05 48 50.8 -0.8**
CONA Conrad Observa 37.16 313 *e*P **P** **05 48 49.7 -2.3**
comp=Z,8.1nm,1.3s
KRUC Moravsky 37.16 315 *e*P **P** **05 48 51.2 -0.7**
ARSA Arzberg 37.19 312 *e*P **P** **05 48 50.8 -1.5**
comp=Z,7.9nm,0.9s
KRLC Kraliky 37.26 317 *e*P **P** **05 48 52.5 -0.3**
KRLC Kraliky 37.26 317 *e*P **P** **05 48 52.5 -0.3**
DPC Dobruska-Polom 37.63 317 *e*P **P** **05 48 56.0 0.0**
DPC Dobruska-Polom 37.63 317 *e*P **P** **05 48 56.0 0.0**
MTSE Matsula 37.90 332 *e*P **P** **05 48 57.8 -0.2**
MOA Molln 38.17 312 *e*P **P** **05 48 58.6 -1.9**
comp=Z,15nm,1.5s
MBAR Mbarara 38.32 226 P **P** **05 49 00.2 -2.1**
comp=Z,2.5nm,0.3s,baz=24,slow=5.1,SNR=8.0
MBAR LR LR 06 06 45.6
comp=Z,426nm,18.8s,baz=18,slow=39
comp=Z,2.5nm,0.3s
MBAR Mbarara 38.32 226 P **P** **05 49 01.9 -0.3**
MBAR Mbarara 38.32 226⇑ *e*P **P** **05 49 02.9 +0.7**
CKRC Cesky Krumlov 38.40 314 *e*P **P** **05 49 02.9 +0.4**
BIOA Bad Ischl, Aus 38.54 312 *e*P **P** **05 49 03.3 -0.3**
comp=Z,10nm,0.8s
KBA Koelnbreinsper 38.59 311 *e*P **P** **05 49 03.5 -0.7**
comp=Z,15nm,1.2s
MEF Metsahovi 38.63 334 *e*P **P** **05 49 03.9 -0.2**
GEC2 GERESS Array S 38.80 314 IAmb IAmb 05 49 06.5
comp=Z,36nm,1.6s
GERES GERESS Array B 38.80 314 P **P** **05 49 05.6 -0.3**
comp=Z,3.4nm,0.8s,baz=112,slow=8.8,SNR=19
GERES PcP **PcP** **05 51 15.3 -1.8**
comp=Z,1.6nm,0.7s,baz=147,slow=2.7,SNR=4.4
GERES ScP **S** **05 55 01.6 -1.8**
comp=Z,0.2nm,0.5s,baz=137,slow=3.3,SNR=3.9
GERES LR LR 06 06 49.9
comp=Z,134nm,19.2s,baz=118,slow=39
comp=Z,3.4nm,0.8s
FINES FINESS Array B 38.84 337 P **P** **05 49 05.8 -0.1**
comp=Z,7.0nm,0.6s,baz=132,slow=9.4,SNR=45
FINES LR LR 06 08 38.2
comp=Z,110nm,18.7s,baz=140,slow=41
comp=Z,7.0nm,0.6s
FINES FINESS Array B 38.84 337 *i* P **P** **05 49 06.4 +0.5**
FINES pmax pmax
comp=Z,7.0nm,0.6s
KHC Kasperske Hory 38.95 314 IAmb IAmb 05 49 27.5
comp=Z,18nm,1.0s
KHC Kasperske Hory 38.95 314 *e*P **P** **05 49 06.2 -0.9**
KHC *ex* x 05 49 14.0
ABTA Abfaltersbach 39.08 310 *e*P **P** **05 49 07.3 -0.9**
comp=Z,7.6nm,0.9s
BRG Berggiesshubel 39.24 317 *e*P **P** **05 49 09.3 -0.1**
BRG Amp 05 49 10.0
comp=Z,8.6nm,1.2s
BRG Berggiesshubel 39.24 317 *e*P **P** **05 49 09.3 -0.1**
BRG pmax pmax
comp=Z,9.0nm,1.2s
PZH PanZhiHua 39.58 82 P **P** **05 49 14.8 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.3s

ZCCA	Zocca	39.73	306	P		P		05 49 14.2	+0.5	
WTTA	Wattenberg	39.77	311	*e*P		P		05 49 13.2	-1.0	
	comp=Z,40nm,1.3s,SNR=6.9									
WATA	Walderalm	39.83	311	*e*P		P		05 49 13.5	-1.0	
	comp=Z,18nm,1.3s,SNR=6.5									
CLL	Collm	39.93	317	IAmb		IAmb		05 49 16.9		
	comp=Z,16nm,1.0s									
CLL	Collm	39.93	317	*i* P		P		05 49 14.8	-0.4	
	comp=Z,19nm,1.1s									
CLL				*i* x		x		05 49 26.2		
CLL				*e*PP		PP		05 50 46.0	-0.8	
CLL				*e*PPP		PPP		05 51 11.0		
CLL	Collm	39.93	317	*i* P		P		05 49 14.8	-0.4	
CLL				pmax		pmax				
	comp=Z,19nm,1.1s									
LZH	Lanzhou	40.02	67	*e*P		P		05 49 12.0	-4.3	
LZH				pP		pP		05 49 17.9	-2.1	
LZH				sP		sP		05 49 23.9	+2.4	
LZH				pmax		pmax				
	comp=Z,9.0nm,0.8s									
SQTA	Sankt Quirin	40.05	311	*e*P		P		05 49 15.3	-1.0	
	comp=Z,8.8nm,0.8s									
MOY	Mondy	40.05	42	*e*P		P		05 49 17.2	+0.9	
MOY				pmax		pmax				
	comp=Z,20nm,2.6s									
MOTA	Moosalm	40.14	311	*e*P		P		05 49 15.3	-1.9	
	comp=Z,24nm,1.3s									
BSD	Bornholm Skovb	40.22	323	*i* P		P		05 49 15.8	-1.7	
BSD				IAmb		IAmb		05 49 27.4		
	comp=Z,21nm,0.6s									
BSD	Bornholm Skovb	40.22	323	*e*P		P		05 49 15.8	-1.7	
BLEU	Blekinge	40.26	325	*i* P		P		05 49 18.6	+0.8	
FETA	Feichten	40.33	310	*e*P		P		05 49 17.5	-1.2	
	comp=Z,28nm,1.3s,SNR=8.9									
RETA	Reutte	40.40	311	*e*P		P		05 49 17.9	-1.3	
	comp=Z,11nm,1.3s									
GRA1	Grafenberg Arr	40.58	314	IAmb		IAmb		05 49 22.2		
	comp=Z,25nm,1.1s									
GRFO	Grafenberg	40.59	314	P		P		05 49 20.2	-0.4	
GRFO				IAmb		IAmb		05 49 22.2		
	comp=Z,23nm,1.1s									
GRFO	Grafenberg	40.59	314	P		P		05 49 20.2	-0.4	
GRFO				pmax		pmax				
	comp=Z,23nm,1.1s									
KEST	Kesra	40.69	293	P		P		05 49 21.8	0.0	
	comp=Z,7.2nm,1.1s,baz=288,slow=7.6,SNR=2.8									
	comp=Z,7.2nm,1.1s									
KMI	Kunming	40.79	84	⇑P		P		05 49 27.3	+4.4	
KMI				sP		sP		05 49 34.0	+5.9	
KMI				pmax		pmax				
	comp=Z,9.0nm,0.9s									
DAVA	Damuels	40.95	310	*e*P		P		05 49 22.1	-1.8	
	comp=Z,41nm,1.3s,SNR=11									
ZAK	Zakamensk	41.08	45	*e*P		P		05 49 24.7	-0.1	
ZAK				pmax		pmax				
	comp=Z,3.0nm,1.2s									
DEL	Delary	41.31	325	*i* P		P		05 49 25.3	-1.1	
LLD	Lille Linde	41.73	323	*i* P		P		05 49 29.3	-0.6	
BORU	Boraas	42.34	326	*i* P		P		05 49 34.3	-0.6	
SONM	Songino Array	42.57	49	P		P		05 49 36.3	-0.8	
	comp=Z,1.7nm,0.8s,baz=238,slow=8.5,SNR=5.3									
SONM				LR		LR		06 09 24.8		
	comp=Z,286nm,19.9s,baz=195,slow=39									
	comp=Z,1.7nm,0.8s									
BNI	Bardonecchia	42.86	307	P		P		05 49 38.6	-0.9	
BNI	Bardonecchia	42.86	307	P		P		05 49 38.6	-0.9	
BNI				pmax		pmax				
	comp=Z,74nm,1.4s									
ULN	Ulaanbaatar	43.01	49	P		P		05 49 39.6	-1.1	
ULN	Ulaanbaatar	43.01	49⇑	*e*P		P		05 49 41.9	+1.2	
ULN				pmax		pmax				
	comp=Z,4.0nm,1.1s									
WLF	Walferdange	43.80	313	IAmb		IAmb		05 49 47.9		
	comp=Z,17nm,1.0s									
WLF	Walferdange	43.80	313	*d*P		P		05 49 47.0	+0.1	
BTNL	Ternell	43.98	315	*d*P		P		05 49 49.0	+0.7	
	comp=Z,8.6nm,1.0s									
BHOU	Houvegnez	44.01	314	*d*P		P		05 49 48.3	-0.3	
	comp=Z,9.3nm,1.0s									
MEM	Membach	44.06	315	*d*P		P		05 49 49.7	+0.8	
	comp=Z,13nm,1.0s									
NC405	NORSAR Array S	44.32	330	P		P		05 49 49.2	-1.7	
BSTI	Sart Tilman	44.33	314	*d*P		P		05 49 52.4	+1.4	
XAN	Xi'an	44.35	69	P		P		05 49 52.3	+0.8	
XAN				pmax		pmax				
	comp=Z,5.0nm,0.8s									
SSB	Saint Sauveur	44.38	307	P		P		05 49 49.8	-1.8	
SSB				IAmb		IAmb		05 49 51.8		
	comp=Z,22nm,1.0s									
SSB	Saint Sauveur	44.38	307	P		P		05 49 49.8	-1.8	
SSB				pmax		pmax				
	comp=Z,22nm,1.0s									
BCLA	Clavier	44.47	314	*d*P		P		05 49 52.6	+0.5	
	comp=Z,12nm,1.0s									
RCHB	Rochefort	44.47	314	*d*P		P		05 49 52.9	+0.7	
	comp=Z,16nm,1.1s									
NB2	NORSAR Subarra	44.51	330	P		P		05 49 51.7	-0.7	
	comp=Z,12nm,1.2s,baz=116,slow=7.9									
NOA	NORSAR Array B	44.51	330	P		P		05 49 51.8	-0.7	
	comp=Z,4.8nm,0.8s,baz=116,slow=8.0,SNR=17									
	comp=Z,4.8nm,0.8s									
NRIK	Noril'sk	44.57	15	P		P		05 49 52.8	+0.2	
	comp=Z,6.7nm,0.8s,baz=228,slow=5.2,SNR=6.3									
NRIK				LR		LR		06 12 02.8		
	comp=Z,324nm,18.5s,baz=226,slow=41									
	comp=Z,6.7nm,0.8s									
NRIK	Noril'sk	44.57	15	P		P		05 49 52.9	+0.2	
NRIK				IAmb		IAmb		05 50 03.1		
	comp=Z,12nm,1.1s									
NRIK	Noril'sk	44.57	15	*d i* P		P		05 49 53.4	+0.7	
BGES	Gesves	44.60	314	*d*P		P		05 49 53.6	+0.4	
	comp=Z,14nm,1.1s									
BMRD	Maredsous	44.79	314	*d*P		P		05 49 55.1	+0.4	
	comp=Z,14nm,1.0s									
DOU	Dourbes	44.86	314	*d*P		P		05 49 55.8	+0.4	
	comp=Z,16nm,1.1s									
SNF	Seneffe	45.12	314	*d*P		P		05 49 58.3	+1.0	
HHC	Hu-ho-hao-te	45.88	59	*e*P		P		05 50 03.3	-0.4	
HHC				pmax		pmax				
	comp=Z,9.0nm,0.8s									
HHC				pmax		pmax				
	comp=Z,300nm,5.8s									
LYN	LuoYang	47.19	68	⇓P		P		05 50 16.9	+3.0	
PSI	Prapat	47.37	115	LR		LR		06 10 50.2		
	comp=Z,57nm,21.7s,baz=312,slow=37									
OPO	Ambohidratompo	47.72	193	LR		LR		06 07 57.8		
	comp=Z,103nm,22.0s,baz=118,slow=33									
HNS	HongShan	48.60	64	⇑P		P		05 50 34.3	+10	
HNS				pmax		pmax				
	comp=Z,4.0nm,1.0s									
BOD	Bodaibo	48.92	37	*e*P		P		05 50 26.2	-0.7	
BOD				pmax		pmax				
	comp=Z,17nm,1.7s									
XLT	XiLinHaoTe	49.11	55	*e*P		P		05 50 31.9	+3.2	
XLT				pP		sP		05 50 37.0	+3.0	
XLT				sP		pP		05 50 38.9	+6.4	
XLT				pmax		pmax				
	comp=Z,3.0nm,0.8s									
XLT				pmax		pmax				
	comp=Z,130nm,5.0s									
ESDC	Sonseca Array	50.84	300	P		P		05 50 41.8	-0.2	
	comp=Z,3.2nm,0.9s,baz=65,slow=6.2,SNR=15									
	comp=Z,3.2nm,0.9s									
PBRG	Braganca	52.68	303	*e*P		P		05 50 56.0	+0.4	
	comp=Z,25nm,1.7s									
PBRG				*i* LQ		LQ		05 51 08.8		
NJ2	Nanjing	52.91	70	*e*P		P		05 50 56.9	-0.5	
NJ2				pmax		pmax				
	comp=Z,6.0nm,0.5s									
MVO	Moncorvo	52.98	302	*e*P		P		05 50 58.5	+0.7	
	comp=Z,26nm,1.1s									
MVO				*i* LQ		LQ		05 51 12.3		
SPITS	Spitsbergen Ar	53.00	350	LR		LR		06 17 36.8		
	comp=Z,207nm,19.0s,baz=121,slow=40									
PBAR	Barrancos	53.44	298	*e*P		P		05 51 01.3	+0.1	
	comp=Z,21nm,0.9s									
PBAR				*i* LQ		LQ		05 51 14.1		
TORD	Torodi Ar. Bea	53.46	265	P		P		05 51 00.8	-0.8	
	comp=Z,14nm,0.7s,baz=59,slow=7.0,SNR=17									
	comp=Z,14nm,0.7s									
TORD	Torodi Ar. Bea	53.46	265	P		P		05 51 00.3	-1.3	
TORD				IAmb		IAmb		05 51 01.6		
	comp=Z,8.9nm,0.8s									
MTE	Manteigas	53.47	301	*e*P		P		05 51 03.2	+1.7	
	comp=Z,33nm,1.6s									
MTE				*i* LQ		LQ		05 51 16.2		

PVRL	Vila Real	53.48	302	*e*P		P		05 51 02.4	+0.9	
	comp=Z,41nm,1.4s									
PMRV	Marv??o	53.50	300	*e*P		P		05 51 01.9	+0.2	
PMRV				*i* LQ		LQ		05 51 16.9		
PCBR	Castelo Branco	53.50	300	*e*P		P		05 51 03.4	+1.8	
	comp=Z,29nm,1.4s									
PCBR				*i* LQ		LQ		05 51 12.8		
POLO	Lamas de Olo	53.52	302	*e*P		P		05 51 02.5	+0.6	
POLO				*i* LQ		LQ		05 51 11.0		
PCAB	Cabril	53.65	303	*e*P		P		05 51 03.6	+0.9	
PCAB				*i* LQ		LQ		05 51 14.6		
PVIS	Viseu	53.69	301	*e*P		P		05 51 04.5	+1.4	
PVIS				*i* LQ		LQ		05 51 12.5		
PESTR	Estremoz	53.74	299	*e*P		P		05 51 05.0	+1.5	
	comp=Z,19nm,2.0s									
PGAV	Gavieira, Arco	53.79	303	*e*P		P		05 51 04.8	+0.9	
	comp=Z,52nm,1.6s									
PGAV				*i* LQ		LQ		05 51 15.4		
PBEJ	Beja	54.10	298	*e*P		P		05 51 07.9	+1.8	
	comp=Z,14nm,1.5s									
EVO	Evora	54.13	299	*e*P		P		05 51 06.7	+0.5	
	comp=Z,20nm,1.2s									
COI	Coimbra	54.16	301	*e*P		P		05 51 08.6	+2.2	
PMTG	Montargil	54.20	299	*e*P		P		05 51 08.6	+1.9	
PCAS	Casmilo, Conde	54.24	301	*e*P		P		05 51 08.2	+1.1	
	comp=Z,32nm,1.7s									
PCVE	Castro Verde	54.31	298	*e*P		P		05 51 09.3	+1.7	
PCVE				*i* LQ		LQ		05 51 21.6		
PNCL	Nicolau / Gran	54.60	298	*e*P		P		05 51 11.2	+1.5	
ZEA	Zeya	56.07	42	*e*P		P		05 51 29.0	+9.0	
ZEA				*e*				05 59 13.8		
ZEA				pmax		pmax				
	comp=Z,10.0nm,0.4s									
ZEA				MLR		MLR				
	comp=E,200nm,19.0s									
ZEA				MLR		MLR				
	comp=Z,100nm,16.0s									
HEH	HeiHe	56.42	47	*e*P		P		05 51 21.6	-1.0	
HEH				pmax		pmax				
	comp=Z,7.0nm,0.9s									
HEH				pmax		pmax				
	comp=Z,350nm,5.1s									
YAK	Yakutsk	57.20	32	LR		LR		06 18 21.2		
	comp=Z,328nm,18.4s,baz=250,slow=38									
TIXI	Tiksi	57.55	21	P		P		05 51 29.1	-1.1	
	comp=Z,3.9nm,0.5s,baz=270,slow=22,SNR=11									
	comp=Z,3.9nm,0.5s									
TIXI	Tiksi	57.55	21	P		P		05 51 28.8	-1.4	
TIXI				IAmb		IAmb		05 51 42.8		
	comp=Z,8.6nm,0.6s									
TIXI	Tiksi	57.55	21	*c e* P		P		05 51 30.2	0.0	
TIXI				pmax		pmax				
	comp=Z,8.0nm,1.3s									
KSRS	Korea Array	58.93	61	P		P		05 51 39.4	-1.0	
	comp=Z,1.2nm,0.6s,baz=274,slow=6.1,SNR=2.6									
KSRS				LR		LR		06 20 24.1		
	comp=Z,69nm,19.2s,baz=280,slow=39									
	comp=Z,1.2nm,0.6s									
KLR	Kul'dur	59.34	47	P		P		05 51 41.9	-1.2	
	comp=Z,2.6nm,0.9s,baz=288,slow=8.5,SNR=7.2									
KLR				LR		LR		06 20 11.5		
	comp=Z,171nm,18.4s,baz=256,slow=39									
	comp=Z,2.6nm,0.9s									
KLR	Kul'dur	59.34	47⇑	*e*P		P		05 51 42.1	-1.0	
USRK	Ussuriysk Ar.	60.43	53	LR		LR		06 19 20.5		
	comp=Z,85nm,18.1s,baz=314,slow=37									
TSUM	Tsumeb	60.81	223	LR		LR		06 20 19.5		
	comp=Z,181nm,18.7s,baz=333,slow=38									
LBTB	Lobatse	61.16	213	LR		LR		06 19 31.1		
	comp=Z,66nm,19.8s,baz=12,slow=37									
DBIC	Dimbokro	62.14	262	P		P		05 52 01.6	-1.1	
	comp=Z,2.1nm,0.5s,baz=60,slow=7.0,SNR=8.0									
DBIC				LR		LR		06 21 04.5		
	comp=Z,139nm,18.6s,baz=62,slow=38									
	comp=Z,2.1nm,0.5s									
KIC	Kosan Boka	62.19	262⇑	*e*P		P		05 52 01.8	-1.2	
	comp=Z,2.4nm,0.4s									
JOW	Kunigami	62.27	73	LR		LR		06 20 33.6		
	comp=Z,148nm,18.9s,baz=313,slow=37									
TIC	Toumodi	62.30	262⇓	*e*P		P		05 52 02.7	-1.0	
	comp=Z,2.2nm,0.6s									
JNU	Nakatsue	62.42	65	LR		LR		06 22 21.2		
	comp=Z,68nm,19.5s,baz=307,slow=39									
LIC	Lamto	62.50	262⇑	*e*P		P		05 52 03.8	-1.3	
	comp=Z,19nm,0.9s									
BOSA	Boshof	64.38	211	P		P		05 52 16.1	-1.2	
	comp=Z,2.9nm,0.4s,baz=25,slow=6.5,SNR=13									
BOSA				LR		LR		06 21 46.6		
	comp=Z,63nm,18.7s,baz=16,slow=37									
	comp=Z,2.9nm,0.4s									
SUMG	Summit	64.72	341	*i* P		P		05 52 19.2	-0.1	
YSS	Yuzh-Sakhalins	67.04	48	*e*P		P		05 52 45.1	+11	
YSS				pmax		pmax				
	comp=Z,20nm,0.8s									
MJAR	Matsushiro Arr	67.08	60	LR		LR		06 27 08.7		
	comp=Z,54nm,20.0s,baz=328,slow=41									
SEY	Seymchan	67.42	30	P		P		05 52 36.2	-0.2	
	comp=Z,11nm,0.7s,baz=280,slow=7.2,SNR=33									
	comp=Z,11nm,0.7s									
SEY	Seymchan	67.42	30⇓	*e*P		P		05 52 36.4	0.0	
SEY				pmax		pmax				
	comp=Z,16nm,1.0s									
MA2	Magadan	67.74	33	LR		LR		06 24 32.5		
	comp=Z,100nm,18.0s,baz=340,slow=38									
MA2	Magadan	67.74	33⇓	*i* P		P		05 52 38.9	+0.4	
MA2				pmax		pmax				
	comp=Z,20nm,2.5s									
ASAJ	Asahikawa	67.81	51	LR		LR		06 25 01.2		
	comp=Z,123nm,18.6s,baz=48,slow=38									
BBTS	Bbate	68.84	276	LR		LR		06 24 17.2		
	comp=Z,111nm,18.4s,baz=67,slow=37									
KAPI	Kappang	68.88	108	LR		LR		06 25 15.7		
	comp=Z,22nm,19.5s,baz=294,slow=38									
JHJ	Hachijo jima 2	69.47	63	LR		LR		06 24 57.0		
	comp=Z,32nm,20.0s,baz=184,slow=37									
SUR	Sutherland	69.61	212	LR		LR		06 25 50.1		
	comp=Z,74nm,19.1s,baz=6.5,slow=38									
BILL	Bilibino	70.72	22	P		P		05 52 56.6	-0.2	
BILL				IAmb		IAmb		05 53 10.8		
	comp=Z,12nm,1.0s									
BILL	Bilibino	70.72	22⇑	*e*P		P		05 52 57.0	+0.2	
BILL				*e*				05 53 21.0		
BILL				*e*				05 55 38.8		
BILL				*e*PPP		PPP		05 57 22.8		
BILL				*e*S		SKKSac		06 02 57.9	-0.9	
BILL				*e*SS		SS		06 06 38.6	-3.5	
BILL				pmax		pmax				
	comp=Z,12nm,1.7s									
BILL				MLR		MLR				
	comp=Z,77nm,12.0s									
PETK	Petropavlovsk-	73.75	38	P		P		05 53 15.1	0.0	
	comp=Z,0.7nm,0.5s,baz=284,slow=5.8,SNR=1.4									
PETK				LR		LR		06 28 20.5		
	comp=Z,147nm,21.2s,baz=354,slow=38									
	comp=Z,0.7nm,0.5s									
RES	Resolute Bay	75.47	353	P		P		05 53 24.3	-0.4	
	comp=Z,0.9nm,0.8s,baz=7.6,slow=9.0,SNR=3.8									
RES				LR		LR		06 31 00.2		
	comp=Z,120nm,20.0s,baz=14,slow=39									
	comp=Z,0.9nm,0.8s									
FRB	Frobisher Bay	78.63	338	P		P		05 53 42.1	-0.5	
	comp=Z,7.1nm,0.8s,baz=46,slow=6.1,SNR=12									
FRB				LR		LR		06 30 38.6		
	comp=Z,247nm,18.1s,baz=126,slow=37									
	comp=Z,7.1nm,0.8s									
COLD	Coldfoot	82.41	10	IAmb		IAmb		05 54 16.9		
	comp=Z,13nm,1.2s									
C36M	Paulatuk	82.47	0	IAmb		IAmb		05 54 02.9		
	comp=Z,9.9nm,0.6s									
BMAR	Burnt Mountain	83.02	8	P		P		05 54 05.9	-0.3	
INK	Inuvik	83.20	4	P		P		05 54 05.3	-1.6	
	comp=Z,3.3nm,0.9s,baz=13,slow=10,SNR=11									
INK				LR		LR		06 35 33.0		
	comp=Z,81nm,19.9s,baz=282,slow=39									
	comp=Z,3.3nm,0.9s									
INK	Inuvik	83.20	4	IAmb		IAmb		05 54 07.4		
	comp=Z,15nm,1.4s									
H21K	Melozitna Rive	83.40	12	IAmb		IAmb		05 54 19.0		
	comp=Z,11nm,1.2s									
SCHQ	Schefferville	84.07	331	P		P		05 54 10.1	-1.7	
	comp=Z,4.4nm,0.9s,baz=26,slow=2.6,SNR=3.6									
	comp=Z,4.4nm,0.9s									
MLY	Manley	84.34	11	IAmb		IAmb		05 54 26.1		
	comp=Z,17nm,1.4s									
PRP	Porcupine Dome	84.71	9	IAmb		IAmb		05 54 28.6		
	comp=Z,7.8nm,1.2s									
COLA	College	84.96	10⇑	*e*P		P		05 54 16.0	0.0	

BPAW	Bear Paw Mtn.	85.14	12	P		P		05 54 15.8	-1.3	
ILAR	Eielson Array	85.21	10	P		P		05 54 15.1	-2.2	
	comp=Z,1.0nm,0.8s,baz=321,slow=3.6,SNR=11									
ILAR				LR		LR		06 37 44.8		
	comp=Z,57nm,18.1s,baz=132,slow=39									
	comp=Z,1.0nm,0.8s									
K20K	Telida	85.22	13	IAmb		IAmb		05 54 31.2		
	comp=Z,8.9nm,1.0s									
I29M	Ogilvie Camp,	85.72	6	IAmb		IAmb		05 54 20.5		
	comp=Z,6.6nm,0.8s									
J26L	Joseph Creek	85.94	9	IAmb		IAmb		05 54 21.9		
	comp=Z,10nm,0.8s									
EGAK	Eagle	85.98	8	P		P		05 54 20.9	-0.3	
SCRK	Sand Creek	86.39	9	P		P		05 54 22.7	-0.7	
SCRK				IAmb		IAmb		05 54 37.2		
	comp=Z,19nm,1.3s									
DOT	Dot Lake	86.69	9	P		P		05 54 24.3	-0.4	
DOT				IAmb		IAmb		05 54 33.6		
	comp=Z,11nm,0.9s									
DHY	Denali Highway	86.72	11	IAmb		IAmb		05 54 25.3		
	comp=Z,11nm,1.2s									
DAWY	Dawson	86.87	7	P		P		05 54 24.4	-1.2	
DAWY				IAmb		IAmb		05 54 39.2		
	comp=Z,15nm,1.1s									
WRA	Warramunga Arr	88.82	113	P		P		05 54 33.4	-2.2	
	comp=Z,2.6nm,0.9s,baz=319,slow=4.0,SNR=12									
	comp=Z,2.6nm,0.9s									
WRAB	Tennant Creek	88.82	113⇓	*e*P		P		05 54 35.0	-0.6	
WRAB				pmax		pmax				
	comp=Z,12nm,1.5s									
YKA	Yellowknife Ar	89.10	356	P		P		05 54 35.8	-0.4	
	comp=Z,5.0nm,0.8s,baz=358,slow=4.8,SNR=89									
YKA				LR		LR		06 41 51.4		
	comp=Z,107nm,18.1s,baz=302,slow=40									
	comp=Z,5.0nm,0.8s									
ASAR	Alice Springs	90.37	117	P		P		05 54 42.4	-0.5	
	comp=Z,1.6nm,0.6s,baz=307,slow=4.8,SNR=20									
	comp=Z,1.6nm,0.6s									
KDAK	Kodiak Island	90.56	15	P		P		05 54 42.5	-0.6	
	comp=Z,6.7nm,0.8s,baz=292,slow=5.4,SNR=1.9									
KDAK				LR		LR		06 41 25.5		
	comp=Z,179nm,18.6s,baz=53,slow=40									
	comp=Z,6.7nm,0.8s									
DLBC	Dease Lake	93.22	4	LR		LR		06 41 36.1		
	comp=Z,145nm,18.7s,baz=274,slow=38									
RCBR	Riachuelo	95.28	266	LR		LR		06 39 16.7		
	comp=Z,92nm,18.7s,baz=149,slow=36									
MAW	Mawson	95.88	178	LR		LR		06 33 01.9		
	comp=Z,61nm,19.0s,baz=100,slow=32									
ELIB	Princess Elisa	102.83	190	*d*PKiKP		PKiKP		05 59 58.8	+0.2	
TXAR	Lajitas Array	119.62	341	PKP		PKPdf		06 00 29.9	-1.8	
	comp=Z,0.2nm,0.6s,baz=28,slow=4.1,SNR=1.9									

IDC ***25*** *06:04:00.2±0.9, 47°.45N×27°.55W, h0km, mb3.8/11, mbtmp3.8/13, ML4.3/2, MS3.6/22, Error ellipse: s-maj=34.2km s-min=16.0km az=15.0*
NEIC ***25*** *06:04:02.4±1.0, 47°.48N±0°.04×27°.4W±0°.2, h10km±2km, mb4.5/23, Error ellipse: s-maj=24.9km s-min=6.9km az=93.0*

ISC 25 06:04:01.5±0.6, 47°.5N±0°.1×27°.44W±0°.09, h6km, n64, σ0 75/42, mb4.4/24, MS3.6/21, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSA	Rosais	8.80	184	Pn	Pn	06 06 09.1	-0.1
EKA	Eskdalemuir Ar	16.98	54	P	P	06 08 00.8	-0.6
	baz=243,slow=13						
EKA				LR	LR	06 13 35.1	
	comp=Z,269nm,18.0s,baz=187,slow=34						
	2.0nm,0.7s						
ESDC	Sonseca Array	18.67	106	P	Pn	06 08 21.8	+1.3
	0.5nm,0.3s,baz=296,slow=13,SNR=24						
	1.5nm,0.3s						
ESDC	Sonseca Array	18.67	106	P	P	06 08 19.9	-0.3
DAVOX	Davos/Dischmat	25.24	78	LR	LR	06 18 23.4	
	comp=Z,71nm,20.4s,baz=282,slow=34						
GERES	GERESS Array B	27.23	72	LR	LR	06 19 35.9	
	comp=Z,186nm,19.1s,baz=284,slow=34						
FRB	Frobisher Bay	27.68	321	P	P	06 09 49.7	-0.1
	3.3nm,0.8s,baz=90,slow=7.9,SNR=11						
	3.3nm,0.8s						
VRAC	Vranov	28.98	70	LR	LR	06 21 14.7	
	comp=Z,126nm,19.4s,baz=324,slow=36						
KEST	Kesra	29.64	100	LR	LR	06 20 10.4	
	comp=Z,119nm,20.2s,baz=188,slow=33						
FINES	FINESS Array B	33.03	45	LR	LR	06 24 50.7	
	comp=Z,80nm,18.8s,baz=277,slow=38						
MLR	Muntele Rosu	36.20	73	LR	LR	06 24 21.

H10S2	**ASCENSION HYDR**	**57.35**	**165**	T	T	07 15 29.3	
	baz=231,slow=74,SNR=13						
P18A	**Preston Nutter**	**57.82**	**295**	P	**P**	**06 13 53.9**	**-0.1**
P18A				IAmb	IAmb	06 13 55.3	
	comp=Z,6.6nm,0.9s						
BVAR	**Borovoye Array**	**57.99**	**45**	LR	LR	06 38 46.8	
	comp=Z,72nm,18.9s,baz=311,slow=36						
SRU	**San Rafael Swe**	**58.31**	**295**	P	**P**	**06 13 58.0**	**+0.8**
SRU				IAmb	IAmb	06 13 59.8	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**58.58**	**334**	P	**P**	**06 13 59.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=47,slow=5.1,SNR=5.6						
	comp=Z,0.5nm,0.8s						
H21K	**Melozitna Rive**	**59.58**	**337**	P	**P**	**06 14 06.0**	**+0.5**
H21K				IAmb	IAmb	06 14 41.3	
	comp=Z,5.0nm,1.4s						
MSU	**Marysvale**	**59.70**	**295**	P	**P**	**06 14 06.8**	**-0.2**
MVU	**Marysvale**	**59.72**	**295**	P	**P**	**06 14 08.2**	**+1.1**
TX31	**Lajitas Ar. Si**	**60.05**	**282**	P	**P**	**06 14 10.4**	**+1.1**
TXAR	**Lajitas Array**	**60.05**	**282**	P	**P**	**06 14 08.7**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=68,slow=7.4,SNR=10						
	comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**60.05**	**282**	P	**P**	**06 14 09.3**	**0.0**
TRF	**Thorofare Moun**	**60.57**	**334**	P	**P**	**06 14 12.9**	**+0.5**
TRF				IAmb	IAmb	06 14 48.8	
	comp=Z,6.3nm,1.4s						
CCUT	**Cedar City**	**61.03**	**295**	P	**P**	**06 14 16.5**	**+0.5**
CCUT				IAmb	IAmb	06 14 18.4	
	comp=Z,7.9nm,1.3s						
CMIG	**Matias Romero**	**62.39**	**265**	LR	LR	06 40 44.5	
	comp=Z,55nm,18.8s,baz=22,slow=35						
S11A	**Rachel**	**62.42**	**296**	P	**P**	**06 14 27.1**	**+1.7**
ZALV	**Zalesovo Beam**	**63.83**	**38**	LR	LR	06 41 49.5	
	comp=Z,64nm,19.0s,baz=16,slow=36						
AAK	**Ala-Archa**	**66.88**	**52**	LR	LR	06 43 22.5	
	comp=Z,41nm,19.5s,baz=352,slow=35						
MKAR	**Makanchi Array**	**67.86**	**44**	P	**P**	**06 14 59.1**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=314,slow=3.6,SNR=2.5						
MKAR				LR	LR	06 44 47.5	
	comp=Z,44nm,18.4s,baz=36,slow=36						
	comp=Z,0.2nm,0.6s						
SONM	**Songino Array**	**76.89**	**30**	P	**P**	**06 15 55.3**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=290,slow=9.3,SNR=3.5						
	comp=Z,0.8nm,0.6s						
TSUM	**Tsumeb**	**77.73**	**137**	LR	LR	06 49 09.7	
	comp=Z,42nm,18.6s,baz=344,slow=35						
WRA	**Warramunga Arr**	**148.77**	**35**	PKPbc	**PKPbc**	**06 23 49.0**	**-0.9**
	comp=Z,2.9nm,0.9s,baz=342,slow=2.9,SNR=14						
ASAR	**Alice Springs**	**151.93**	**39**	PKPbc	**PKPbc**	**06 23 56.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=348,slow=2.8,SNR=3.4						

WEL 25 06:10:18.7,42°S±3°×17°5E±°, h12km±3km, M2.0/7, ML2.2/8, MLv2.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=141.2, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLWZ	**Palliser**	**0.04**	**286**	P	Pg	06 10 21.5	+0.5
PLWZ				S	Sg	06 10 23.9	+1.4
MSWZ	**Moikau Station**	**0.17**	**347**	P	Pb	06 10 23.5	-0.3
MSWZ				S	Sg	06 10 27.3	+2.2
PAWZ	**Paruwai Farm**	**0.22**	**26**	P	Pb	06 10 24.4	-0.3
PAWZ				S	Sg	06 10 28.9	+2.3
TRWZ	**Traveller**	**0.34**	**58**	P	Pb	06 10 26.7	-0.1
TRWZ				S	Sb	06 10 33.7	+1.5
MTW	**Mount Morrison**	**0.45**	**20**	P	Pb	06 10 28.7	+0.1
MTW				S	Sb	06 10 36.8	+1.6
CAW	**Cannon Point**	**0.50**	**340**	P	Pb	06 10 29.7	+0.2
CAW				S	Sb	06 10 37.9	+1.1
HOWZ	**Holdsworth Sta**	**0.70**	**14**	P	Pb	06 10 32.9	0.0
HOWZ				S	Sb	06 10 43.6	+1.1
OGWZ	**Otaki Gorge**	**0.77**	**353**	P	Pb	06 10 34.5	+0.5
OGWZ				S	Sb	06 10 45.4	+0.9
KIW	**Kapiti Island**	**0.78**	**338**	P	Pb	06 10 34.6	+0.4
KIW				S	Sn	06 10 46.2	-0.9
MRZ	**Mangatainoka R**	**0.94**	**13**	P	Pg	06 10 36.8	0.0

*NOU **25** 06:10:55.8,36°66S×178°54E, h61km, ML4.2/8, Off E. Coast of N. Island, N.Z.*
*WEL **25** 06:10:57.4±0.8,37°S±5°×17°8E±°, h33km, M3.6/35, ML3.9/38, MLv3.6/35, Error ellipse: s-maj=0.0km s-min=0.0km az=59.3, confirmed*
ISC 25 06:10:56.0±3.2, 36.74S±0.08×178.21E±0.08, h8km±24km, n76, σ1§21/86, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.82**	**175**	P	**Pb**	**06 11 12.2**	**+0.7**
MXZ	**Matakaoa Point**	**0.82**	**175**	P	**Pb**	**06 11 12.2**	**-0.3**
HAZ	**Te Kaha**	**1.07**	**199**	P	**Pn**	**06 11 15.8**	**-1.4**
WMGZ	**Waiomatatini S**	**1.09**	**172**	P	**Pb**	**06 11 17.6**	**+0.5**
WIZ	**White Island**	**1.13**	**226**	P	**Pn**	**06 11 18.1**	**0.0**
WSRZ	**White Island S**	**1.13**	**227**	S	**Sn**	**06 11 33.5**	**-0.4**
WSRZ	**White Island S**	**1.13**	**227**	P	**Pb**	**06 11 19.3**	**+1.4**
PKGZ	**Pakihiroa**	**1.15**	**185**	P	**Pn**	**06 11 18.1**	**-0.3**
PKGZ				S	**Sn**	**06 11 37.0**	**+2.7**
RUGZ	**Raukumara Rang**	**1.29**	**199**	P	**Pn**	**06 11 20.3**	**-0.1**
PUZ	**Puketiti**	**1.33**	**178**	S	**Sb**	**06 11 39.5**	**+1.2**
PUZ	**Puketiti**	**1.33**	**178**	P	**Pn**	**06 11 21.0**	**+0.1**
TWGZ	**Tauwhareparae**	**1.44**	**187**	S	**Sb**	**06 11 46.0**	**+4.3**
TWGZ	**Tauwhareparae**	**1.44**	**187**	P	**Pb**	**06 11 23.4**	**+0.2**
WHRZ	**Whale Island**	**1.49**	**221**	P	**Pb**	**06 11 25.5**	**+1.7**
MYRZ	**Mayor Island**	**1.67**	**251**	S	**Sb**	**06 11 47.9**	**-0.2**
MYRZ	**Mayor Island**	**1.67**	**251**	P	**Pn**	**06 11 25.8**	**+0.3**
MWZ	**Matawai**	**1.68**	**199**	P	**Pn**	**06 11 25.8**	**+0.1**
TKGZ	**Te Karaka**	**1.72**	**190**	P	**Pn**	**06 11 27.1**	**+1.0**
OPRZ	**Ohinepanea**	**1.72**	**230**	P	**Pn**	**06 11 26.2**	**0.0**
URZ	**Urewera**	**1.75**	**210**	P	**Pn**	**06 11 26.6**	**0.0**
URZ	**Urewera**	**1.75**	**210**	P	**Pn**	**06 11 26.2**	**-0.4**
URZ				S	**Sn**	**06 11 48.5**	**-0.6**
EDRZ	**Edgecumbe**	**1.80**	**220**	P	**Pb**	**06 11 28.8**	**-0.3**
TGRZ	**Tauranga**	**1.84**	**237**	P	**Pn**	**06 11 28.2**	**+0.3**
RIGZ	**Rimuhau**	**1.99**	**190**	P	**Pn**	**06 11 30.1**	**+0.1**
RIGZ				S	**Sb**	**06 11 56.8**	**-0.6**
KUZ	**Kuaotunu**	**2.00**	**269**	P	**Pn**	**06 11 30.1**	**0.0**
KUZ	**Kuaotunu**	**2.00**	**269**	S	**Sn**	**06 11 54.2**	**-1.1**
KUZ	**Kuaotunu**	**2.00**	**269**	P	**Pn**	**06 11 30.0**	**-0.1**
TARZ	**Mount Tarawera**	**2.02**	**222**	P	**Pb**	**06 11 32.8**	**-0.1**
KARZ	**Kaharoa**	**2.02**	**230**	P	**Pn**	**06 11 30.7**	**+0.4**
MUGZ	**Murupara**	**2.08**	**213**	P	**Pn**	**06 11 31.3**	**+0.2**
RRRZ	**Republican Roa**	**2.09**	**220**	P	**Pn**	**06 11 33.1**	**+1.8**
RTZ	**Ruatahuna**	**2.11**	**207**	P	**Pn**	**06 11 32.4**	**+0.8**
HLRZ	**Highlands Stat**	**2.11**	**224**	P	**Pb**	**06 11 33.9**	**-0.7**
SNGZ	**Shannon Static**	**2.15**	**199**	P	**Pn**	**06 11 33.0**	**+0.9**
SNGZ				S	**Sb**	**06 12 01.0**	**-1.0**
PRRZ	**Plateau Road**	**2.27**	**219**	P	**Pn**	**06 11 34.2**	**+0.3**
GRZ	**Great Barrier**	**2.27**	**282**	P	**Pn**	**06 11 33.8**	**0.0**
KNZ	**Kokohu**	**2.31**	**190**	P	**Pn**	**06 11 33.4**	**-1.0**
KNZ				S	**Sn**	**06 12 02.3**	**-0.7**
RAHZ	**Arahi**	**2.35**	**202**	P	**Pn**	**06 11 35.9**	**+1.0**
RAHZ				S	**Sb**	**06 12 06.0**	**-1.7**
MTHZ	**Maungataniwha**	**2.37**	**207**	P	**Pn**	**06 11 36.0**	**+0.8**
TOZ	**Tahuroa Road**	**2.38**	**245**	P	**Pn**	**06 11 35.8**	**+0.5**
TOZ				S	**Sn**	**06 12 03.6**	**-1.0**
MHGZ	**Mahia Peninsul**	**2.42**	**186**	P	**Pn**	**06 11 35.0**	**-0.8**
WHHZ	**Waihua**	**2.46**	**198**	P	**Pn**	**06 11 36.5**	**+0.2**
WHHZ				S	**Sn**	**06 12 08.0**	**+1.5**
MKAZ	**Moumakai**	**2.47**	**261**	P	**Pn**	**06 11 37.0**	**+0.5**
MKAZ				S	**Sn**	**06 12 06.2**	**-0.7**
MRHZ	**Matea Rd**	**2.53**	**214**	P	**Pn**	**06 11 37.5**	**+0.1**
NMHZ	**Naumai**	**2.60**	**205**	P	**Pn**	**06 11 38.9**	**+0.5**
ETAZ	**East Tamaki Re**	**2.64**	**264**	P	**Pn**	**06 11 39.6**	**+0.7**
MBAZ	**Motutapu North**	**2.66**	**268**	P	**Pn**	**06 11 39.8**	**+0.6**
ARHZ	**Aropaoanui**	**2.69**	**201**	P	**Pn**	**06 11 39.4**	**-0.2**
BKZ	**Black Stump Fm**	**2.77**	**209**	P	**Pn**	**06 11 40.8**	**0.0**
BKZ	**Black Stump Fm**	**2.77**	**209**	P	**Pn**	**06 11 40.8**	**0.0**
AWAZ	**Awhitu Peninsu**	**2.88**	**263**	P	**Pn**	**06 11 43.0**	**+0.8**
AWAZ				S	**Sn**	**06 12 16.9**	**0.0**
RITZ	**Rihia Road**	**2.91**	**219**	P	**Pn**	**06 11 44.7**	**+2.1**
WTAZ	**Waiatarua**	**2.93**	**265**	P	**Pn**	**06 11 43.9**	**+1.1**
MCHZ	**McNeill Hill**	**2.95**	**203**	P	**Pn**	**06 11 42.9**	**-0.3**
KWHZ	**Kaweka Forest**	**3.03**	**207**	P	**Pn**	**06 11 44.2**	**-0.1**
CKHZ	**Cape Kidnapper**	**3.04**	**197**	P	**Pn**	**06 11 43.3**	**-1.1**
CKHZ				S	**Sn**	**06 12 20.1**	**-0.9**
TMVZ	**Te Maari**	**3.09**	**219**	P	**Pn**	**06 11 47.0**	**+1.8**
NTVZ	**North Tongarir**	**3.09**	**220**	P	**Pn**	**06 11 47.7**	**+2.5**
ETVZ	**East Tongariro**	**3.10**	**219**	P	**Pn**	**06 11 47.5**	**+2.2**
KAHZ	**Kahuranaki**	**3.22**	**199**	P	**Pn**	**06 11 45.9**	**-1.0**
BHHZ	**Black Hill Sta**	**3.22**	**211**	P	**Pn**	**06 11 46.6**	**-0.4**
WCZ	**Waipu Caves**	**3.22**	**283**	P	**Pn**	**06 11 47.3**	**+0.4**
KRHZ	**Kereru**	**3.24**	**206**	P	**Pn**	**06 11 45.8**	**-1.3**
FWVZ	**Far West T-bar**	**3.27**	**219**	P	**Pb**	**06 11 51.6**	**-2.9**
MOVZ	**Moawhango**	**3.29**	**215**	P	**Pn**	**06 11 48.2**	**+0.3**
WNVZ	**Wahianoa**	**3.30**	**218**	P	**Pn**	**06 11 49.2**	**+1.0**
TRVZ	**Turoa**	**3.31**	**219**	P	**Pn**	**06 11 49.8**	**+1.6**
VRZ	**Vera Road**	**3.62**	**228**	P	**Pn**	**06 11 54.1**	**+1.7**
WAZ	**Wanganui**	**3.94**	**219**	P	**Pn**	**06 11 58.5**	**+1.8**
OUZ	**Omahuta**	**4.04**	**291**	P	**Pn**	**06 11 58.6**	**+0.5**
OUZ	**Omahuta**	**4.04**	**291**	P	**Pn**	**06 11 58.5**	**+0.4**
KHEZ	**Kahui Hut**	**4.18**	**231**	P	**Pn**	**06 12 01.0**	**+0.9**
KHEZ	**Kahui Hut**	**4.18**	**231**	P	Pn	06 12 04.9	+4.7
QRZ	**Quartz Range**	**6.03**	**226**	P	**Pn**	**06 12 25.3**	**-0.1**
QRZ	**Quartz Range**	**6.03**	**226**	P	**Pn**	**06 12 24.3**	**-1.1**
CTZ	**Chatham Island**	**8.02**	**152**	P	**Pn**	**06 12 48.8**	**-4.0**

*IDC **25** 06:15:22.0±1.5, 1°47N×127°00E, h0km, mb4.2/5, mbtmp4.2/5, Error ellipse: s-maj=155.5km s-min=18.3km az=66.0*
*DJA **25** 06:15:38.8±0.6, 1°N±5°×12°7E±°, h125km±6km, M4.4/10, mb4.4/2, mB5.2/1, MLv4.4/10, Mw(mB)4.6/1*
*NEIC **25** 06:15:39.0±1.1, 1°33N±0°08×127°2E±0°1, h146km±9km, mb4.5/18, Error ellipse: s-maj=16.8km s-min=9.1km az=61.0*
ISC 25 06:15:38.3±0.9, 1°41N±0°08×127°22E±0°10, h150km, n50, σ0§89/51, mb4.4/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.65**	**167**	Pn	**Pn**	**06 16 00.3**	**-0.1**
TNTI	**Ternate**	**0.65**	**167**	P	**Pn**	**06 15 59.6**	**-0.8**
TNTI				S	**Sn**	**06 16 15.9**	**-1.5**
SGSI	**Sangihe**	**2.83**	**323**	P	**Pn**	**06 16 22.3**	**-1.2**
SANI	**Sanana**	**3.65**	**200**	P	**Pn**	**06 16 33.0**	**-0.9**
SANI	**Sanana**	**3.65**	**200**	P	**Pn**	**06 16 33.1**	**-0.9**
GTOI	**Gorontalo**	**4.28**	**260**	P	**Pn**	**06 16 42.9**	**+0.7**
NLAI	**Namlea**	**4.61**	**182**	P	**Pn**	**06 16 47.3**	**+0.7**
LUWI	**Luwuk**	**5.07**	**241**	Pn	**Pn**	**06 16 52.1**	**-0.5**
LUWI	**Luwuk**	**5.07**	**241**	P	**Pn**	**06 16 51.9**	**-0.8**
	31nm,0.7s,3μm1.6nm						
MRSI	**Marisa**	**5.36**	**260**	P	**Pn**	**06 16 55.6**	**-0.9**
TOLI2	**Tolitoli**	**6.45**	**267**		**Pn**	**06 17 08.7**	**-2.3**
FAKI	**Fak Fak**	**6.61**	**131**	Pn	**Pn**	**06 17 11.2**	**-2.0**
MTN	**Manton Dam**	**14.68**	**165**	Pn	**Pn**	**06 18 57.9**	**-0.9**
MTN	**Manton Dam**	**14.68**	**165**	P	**Pn**	**06 18 57.7**	**-1.1**
KNRA	**Kununurra**	**17.04**	**175**	P	**Pn**	**06 19 27.8**	**+0.1**
KNRA				IAmb	IAmb	06 19 28.7	
	comp=Z,17nm,0.8s						
KNRA	**Kununurra**	**17.04**	**175**	P	**Pn**	**06 19 28.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.44**	**185**	P	**P**	**06 19 53.3**	**0.0**
WB0	**Warramunga Arr**	**22.18**	**162**	P	**P**	**06 20 22.4**	**-0.1**
WB0				IAmb	IAmb	06 20 29.6	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**22.33**	**162**	P	**P**	**06 20 23.6**	**-0.3**
WRAB				IAmb	IAmb	06 20 31.3	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**22.33**	**162**	P	**P**	**06 20 23.7**	**-0.1**
WRA	**Warramunga Arr**	**22.33**	**162**	P	**P**	**06 20 23.8**	**-0.1**
	comp=Z,5.0nm,0.4s,baz=340,slow=11,SNR=32						
	comp=Z,5.0nm,0.4s						
WRA	**Warramunga Arr**	**22.33**	**162**	P	**P**	**06 20 22.5**	**-1.4**
WB2	**Warramunga Arr**	**22.34**	**162**	P	**P**	**06 20 23.8**	**-0.2**
WB2				IAmb	IAmb	06 20 31.4	
	comp=Z,15nm,0.8s						
WR0	**Warramunga Arr**	**22.41**	**162**	P	**P**	**06 20 24.4**	**-0.3**
WR0				IAmb	IAmb	06 20 33.4	
	comp=Z,6.7nm,0.9s						
MBWA	**Marble Bar**	**23.59**	**198**	P	**P**	**06 20 35.5**	**0.0**
MBWA				IAmb	IAmb	06 21 08.7	
	comp=Z,28nm,1.4s						
PSA00	**Pilbara Seismi**	**23.95**	**197**	P	**P**	**06 20 38.4**	**-0.4**
PSA00				IAmb	IAmb	06 20 40.8	
	comp=Z,11nm,0.8s						
QIS	**Mount Isa**	**24.97**	**152**	P	**P**	**06 20 49.7**	**+1.6**
AS31	**Alice Springs**	**25.75**	**166**	P	**P**	**06 20 55.2**	**+0.1**
ASAR	**Alice Springs**	**25.75**	**166**	P	**P**	**06 20 55.5**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=350,slow=7.5,SNR=28						
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**25.75**	**166**	P	**P**	**06 20 55.4**	**+0.2**
AS01	**Alice Springs**	**25.76**	**166**	P	**P**	**06 20 55.8**	**+0.5**
WRKA	**Warakurna**	**26.31**	**178**	P	**P**	**06 21 00.6**	**+0.5**
GIRL	**Giralia**	**27.05**	**207**	P	**P**	**06 21 07.0**	**+0.3**
GIRL	**Giralia**	**27.05**	**207**	P	**P**	**06 21 08.4**	**+1.7**
MEEK	**Meekatharra**	**29.09**	**196**	P	**P**	**06 21 26.4**	**+1.5**
OOD	**Oodnadatta**	**30.15**	**165**	P	**P**	**06 21 34.6**	**+0.4**
FORT	**Forrest**	**32.02**	**179**	P	**P**	**06 21 49.8**	**-0.8**
FORT				IAmb	IAmb	06 21 51.0	
	comp=Z,9.8nm,0.8s						
FORT	**Forrest**	**32.02**	**179**	P	**P**	**06 21 51.0**	**+0.5**
MORW	**Morawa**	**32.14**	**199**	P	**P**	**06 21 50.6**	**-1.0**
MORW	**Morawa**	**32.14**	**199**	P	**P**	**06 21 52.3**	**+0.7**
MULG	**Mulgathing**	**32.18**	**169**	P	**P**	**06 21 52.7**	**+0.7**
BLDU	**Ballidu**	**33.38**	**197**	P	**P**	**06 22 03.4**	**+1.0**
BBOO	**Buckleboo**	**35.04**	**167**	P	**P**	**06 22 16.2**	**-0.5**
BBOO				IAmb	IAmb	06 22 56.2	
	comp=Z,20nm,1.4s						
NWAO	**Narrogin (SRO)**	**35.43**	**195**	P	**P**	**06 22 19.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**35.43**	**195**	P	**P**	**06 22 20.1**	**0.0**
NWAO				IAmb	IAmb	06 22 57.2	
	comp=Z,109nm,1.4s						
STKA	**Stephens Creek**	**35.80**	**159**	P	**P**	**06 22 23.6**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=325,slow=11,SNR=6.1						
	comp=Z,1.3nm,0.3s						
STKA	**Stephens Creek**	**35.80**	**159**	P	**P**	**06 22 23.4**	**+0.2**
ARMA	**Armidale**	**39.27**	**146**	P	**P**	**06 22 54.2**	**+1.6**
ARMA				IAmb	IAmb	06 23 28.1	
	comp=Z,10nm,1.1s						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**06 25 28.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=119,slow=8.8,SNR=12						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**63.95**	**328**	P	**P**	**06 25 55.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=126,slow=6.3,SNR=8.4						
	comp=Z,1.1nm,0.5s						

WEL 25 06:15:56.7±0.8, 45°S±4°×16°8E±°, h63km±6km, M3.1/5, ML3.4/13, MLv3.1/5, Error ellipse: s-maj=0.0km s-min=0.0km az=117.8, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.41**	**36**	P	Pn	06 16 10.1	+2.1
MSZ				S	Sn	06 16 19.6	+3.4
MLZ	**Mavora Lakes**	**0.52**	**134**	P	Pn	06 16 10.8	+1.6
MLZ				S	Sn	06 16 21.4	+3.0
DCZ	**Deep Cove**	**0.56**	**213**	P	Pn	06 16 10.5	+0.9
DCZ				S	Sn	06 16 20.8	+1.9
WHZ	**Wether Hill Ro**	**0.93**	**164**	P	Pn	06 16 14.9	+0.9
WHZ				S	Sn	06 16 28.0	+1.2
WKZ	**Wanaka**	**1.03**	**81**	P	Pn	06 16 16.9	+1.6
WKZ				S	Sn	06 16 31.7	+2.6
EAZ	**Earnscleugh**	**1.24**	**101**	P	Pn	06 16 19.3	+1.3
EAZ				S	Sn	06 16 35.4	+1.5
JCZ	**Jackson Bay**	**1.26**	**43**	P	Pn	06 16 19.8	+1.4
TUZ	**Tuapeka**	**1.72**	**124**	P	Pn	06 16 25.4	+0.9
TUZ				S	Sn	06 16 45.6	+0.2
APZ	**The Paps**	**1.85**	**171**	P	Pn	06 16 26.8	+0.5
APZ				S	Sn	06 16 48.6	0.0
SYZ	**Scrubby Hill**	**1.88**	**145**	P	Pn	06 16 27.2	+0.7
SYZ				S	Sn	06 16 49.5	+0.3
LBZ	**Lake Benmore**	**1.95**	**72**	P	Pn	06 16 27.4	-0.2
LBZ				S	Sn	06 16 50.3	-0.7
ODZ	**Otahua Downs**	**2.17**	**92**	P	Pn	06 16 30.5	0.0
ODZ				S	Sn	06 16 54.4	-1.8
FOZ	**Fox Glacier**	**2.17**	**48**	P	Pn	06 16 30.8	+0.3
TMZ	**Timaru**	**2.51**	**77**	P	Pn	06 16 34.4	-0.9
ARCZ	**Arundel**	**2.78**	**69**	P	Pn	06 16 37.7	-1.1
RPZ	**Rata Peaks**	**2.80**	**64**	P	Pn	06 16 38.0	-1.1
WACZ	**Wakanui South**	**3.22**	**72**	P	Pn	06 16 43.4	-1.4

*IDC **25** 06:19:02.1±1.1, 34°26N×137°75E, h0km, mb3.8/5, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=32.3km s-min=18.0km az=59.0*
*JMA **25** 06:19:08.3±0.3, 35°1N±0°8×14°0E±°, h115km±2km, MV3.2/38, SAGAMINADA*
ISC 25 06:19:09.3±0.9, 35°08N±0°04×139°68E±0°07, h113km±6km, n27, σ1§12/34, mb3.6/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	**Yokosk**	**0.14**	**355**	*i* P	**Pn**	**06 19 24.6**	**-0.4**
JYO				S	**Sn**	**06 19 37.5**	**+0.8**
TATJ	**Tateyama 2**	**0.18**	**106**	*i* P	**Pn**	**06 19 24.8**	**-0.2**
TATJ				*e*S	**Sn**	**06 19 37.4**	**+0.6**
JIM2	**Oshima 3**	**0.42**	**210**	*i* P	**Pn**	**06 19 25.1**	**-0.9**
JIM2				S	**Sn**	**06 19 37.6**	**-1.0**
JOD2	**Odawara 2**	**0.52**	**291**	*i* P	**Pn**	**06 19 25.8**	**-0.9**
JOD2				S	**Sn**	**06 19 39.0**	**-0.6**
BSO3	**Boso 3**	**0.74**	**112**	*i* P	**Pn**	**06 19 27.7**	**-0.3**
BSO3				X		06 19 43.1	
JIZS	**Izushimoda**	**0.75**	**241**	P	**Pn**	**06 19 28.1**	**-0.2**
JFNN	**Fujinakano**	**0.82**	**278**	P	**Pn**	**06 19 29.0**	**0.0**
JFNN				S	**Sn**	**06 19 44.3**	**+0.4**
JYN	**Shimob**	**1.02**	**294**	*i* P	**Pn**	**06 19 30.9**	**-0.1**
JYN				S	**Sn**	**06 19 48.2**	**+0.8**
JMYK	**Miyake Tsubota**	**1.02**	**186**	P	**Pn**	**06 19 30.9**	**-0.1**
JMYK				S	**Sn**	**06 19 47.5**	**+0.2**
JRY	**Ryogami san**	**1.13**	**326**	*i* P	**Pn**	**06 19 31.8**	**-0.3**
JRY				S	**Sn**	**06 19 49.1**	**-0.3**
BSO1	**Boso 1**	**1.15**	**111**	P	**Pn**	**06 19 31.3**	**-0.4**
JAG	**Ashikaga**	**1.35**	**352**	*i* P	**Pn**	**06 19 33.6**	**-1.0**
JAG				S	**Sn**	**06 19 52.3**	**-1.5**
MJAR	**Matsushiro Arr**	**1.89**	**321**	Pn	**Pn**	**06 19 40.5**	**-0.5**
	2.6nm,0.3s,baz=150,slow=11,SNR=47						
MJAR				Sn	**Sn**	**06 20 02.7**	**-2.5**
	1.9nm,0.3s,baz=138,slow=11,SNR=5.4						
	10.0nm,0.4s						
MAT	**Matsushiro**	**1.89**	**321**	P	**Pn**	**06 19 40.9**	**-0.1**
MAT				S	**Sn**	**06 20 04.8**	**-0.4**
JHJ	**Hachijo jima 2**	**1.96**	**177**	Pn	**Pn**	**06 19 38.6**	**-3.2**
	146nm,0.3s,baz=88,slow=24,SNR=15						
JHJ				Sn	**Sn**	**06 20 05.8**	**-1.0**
	118nm,0.3s,baz=71,slow=22,SNR=9.3						
	245nm,0.3s						
JHJ2	**Mitsune**	**1.97**	**177**	P	**Pn**	**06 19 41.8**	**-0.2**
JHJ2				S	**Sn**	**06 20 06.5**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**28.47**	**115**	T	T	06 54 48.2	
	baz=308,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**28.48**	**115**	T	T	06 54 42.3	
	baz=308,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**28.49**	**115**	T	T	06 54 51.1	
	baz=308,slow=76,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**29.09**	**118**	T	T	06 55 25.2	
	baz=310,slow=76,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**29.09**	**118**	T	T	06 55 25.3	
	baz=310,slow=76,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**29.11**	**118**	T	T	06 55 26.7	
	baz=310,slow=76,SNR=3.7						
MKAR	**Makanchi Array**	**44.00**	**304**	P	**P**	**06 27 05.5**	**+0.2**
	0.2nm,0.5s,baz=93,slow=8.7,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**46.12**	**309**	P	**P**	**06 27 21.9**	**0.0**
	0.6nm,0.5s,baz=80,slow=6.8,SNR=4.7						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**54.95**	**186**	P	**P**	**06 28 27.6**	**-1.0**
	0.4nm,0.3s,baz=0.1,slow=7.5,SNR=8.2						
	0.4nm,0.3s						
CTA	**Charters Tower**	**55.22**	**172**	P	**P**	**06 28 33.4**	**+2.9**
	5.4nm,0.7s,baz=4.8,slow=12,SNR=9.3						
	5.4nm,0.7s						
ASAR	**Alice Springs**	**58.68**	**186**	P	**P**	**06 28 54.0**	**-0.9**
	0.2nm,0.4s,baz=19,slow=11,SNR=7.2						
	0.2nm,0.4s						

*KOLA **25** 06:21:15.5, 67°69N×33°72E, h0km, ML2.7, Khibiny, mines Kirovsk, Yukspor*
*NAO **25** 06:21:15.7±1.1, 67°61N×33°77E, ML3.2*
*HEL **25** 06:21:15.4±0.1, 67°64N×33°76E, h0km, ML2.2, Explosion*
*BER **25** 06:21:17.1±3.3, 67°60N×33°66E, h0km, ML2.7, ML3.2(NAO), Suspected explosion*
ISC 25 06:21:15.2±0.8, 67°66N±0°03×33°77E±0°03, h0km, n35, σ1§49/67, Baltic States-Belarus-Northwestern Russia

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h

KALU	**Kalix**	**4.50**	**251**	SN	**Sn**	**06 23 16.2**	**-1.3**
ERTU	**Ertsjaerv**	**4.66**	**262**	PN	**Pn**	**06 22 25.9**	**-0.8**
ERTU				SN	**Sn**	**06 23 19.1**	**-2.2**
KIF	**Kilpisjarvi**	**4.99**	**292**	*e*P	**Pn**	**06 22 31.7**	**+0.5**
FIA0	**FINESS Array S** baz=23,slow=16	**7.06**	**212**	Pn	**Pn**	**06 22 58.8**	**-0.8**
FIA0				Sn	**Sn**	**06 24 16.8**	**-3.7**
FIA0	baz=30,slow=22			Lg	Lg	06 24 49.4	
FIA0	baz=27,slow=28 **FINESS Array S** baz=23,slow=16	**7.06**	**212**	Pn	**Pn**	**06 22 58.8**	**-0.8**
FIA0				Sn	**Sn**	**06 24 16.8**	**-3.7**
FIA0	baz=30,slow=22			Sg	**Sb**	**06 24 49.4**	**+6.2**
	baz=27,slow=28						

IDC 25 06:24:27.6±3.3, 54.70N×87.55E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=29.5km s-min=24.1km az=34.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**246**	I	I	06 34 10.0	
	0.2nm,0.9s,baz=67,slow=354,SNR=7.1						
ZALV	**Zalesovo Beam**	**1.77**	**246**	Pn	Pn	06 24 57.8	-1.7
	1.2nm,0.3s,baz=65,slow=16,SNR=15						
ZALV				Lg	Lg	06 25 24.2	
	1.7nm,0.3s,baz=72,slow=20,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.84**	**237**	Pn	Pn	06 26 09.1	0.0
	0.1nm,0.3s,baz=53,slow=14,SNR=13						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**8.59**	**205**	Pn	Pn	06 26 35.0	+1.9
	0.2nm,0.3s,baz=11,slow=8.1,SNR=1.7						
MKAR				Lg	Lg	06 29 01.7	
	0.2nm,0.3s,baz=22,slow=25,SNR=2.0						
	0.2nm,0.4s						

*ISK **25** 06:25:40.2, 39.47N×26.29E, h6km, ML2.5/9*
*DDA **25** 06:25:41.5±0.0, 39.55N×26.14E, h4km±1km, ML1.8*
ISC 25 06:25:40.5±1.1, 39.48N±0.03×26.26E±0.04, h4km±11km, n15, σ0.99/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.10**	**283**	P	**Pg**	**06 25 43.1**	**+0.5**
KOCA				*i* AML	AML	06 25 44.0	
	comp=E,1μm,0.5s						
KOCA				*i* AML	AML	06 25 44.0	
	comp=N,874nm,0.2s						
KOCA				S	**Sg**	**06 25 44.3**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.34**	**40**	P	**Pb**	**06 25 48.9**	**-0.2**
BAYC				S	**Sb**	**06 25 53.9**	**-1.1**
BAYC				*i* AML	AML	06 25 54.0	
	comp=N,133nm,0.4s						
BAYC				*i* AML	AML	06 25 54.0	
	comp=E,100nm,0.3s						
EZN	**Ezine**	**0.35**	**8**	Pg	**Pg**	**06 25 47.9**	**+0.6**
EZN				Sg	**Sg**	**06 25 52.8**	**+0.9**
AYVA	**Ayvalik**	**0.37**	**117**	P	**Pn**	**06 25 50.8**	**-1.9**
BOZC	**Bozcaada**	**0.40**	**336**	P	**Pg**	**06 25 47.5**	**-0.7**
BOZC				*i* AML	AML	06 25 52.0	
	comp=N,134nm,0.3s						
BOZC				*i* AML	AML	06 25 52.0	
	comp=E,162nm,0.3s						
BOZC				S	**Sg**	**06 25 52.0**	**-1.4**
SIGR	**SIGRI**	**0.41**	**230**	Pg	**Pb**	**06 25 49.3**	**-1.1**
SIGR				Sg	**Sg**	**06 25 53.2**	**+1.3**
ECEA	**Canakkale, Ece**	**0.57**	**353**	P	**Pn**	**06 25 55.1**	**-0.3**
ECEA				S	**Sg**	**06 25 59.0**	**+0.1**
DKL	**Dikili**	**0.64**	**129**	Pg	**Pg**	**06 25 52.3**	**-0.6**
ZEDA	**zmir-Bergama**	**0.81**	**129**	P	**Pn**	**06 25 59.9**	**+1.2**
ZEDA				*i* AML	AML	06 26 05.0	
	comp=N,32nm,2.6s						
ZEDA				S	**Sn**	**06 26 13.6**	**+2.4**
GELI	**Tayfur-Gelibol**	**0.93**	**10**	Pg	**Pb**	**06 25 59.2**	**0.0**
GELI				Sg	**Sb**	**06 26 11.7**	**-0.2**
LPK	**Lapseki**	**0.97**	**23**	Pg	**Pb**	**06 25 59.8**	**-0.1**
LPK				Sg	**Sb**	**06 26 13.5**	**+0.4**
CHOS	**Chios island**	**1.10**	**189**	Pn	**Pb**	**06 26 01.7**	**-0.5**
ERIK	**Erikli-Kesan**	**1.21**	**9**	Pn	**Pb**	**06 26 03.6**	**-0.3**
ENEZ	**Enez**	**1.26**	**356**	Pn	**Pb**	**06 26 04.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.40**	**30**	Pn	**Pg**	**06 26 06.9**	**-0.4**

*NOU **25** 06:27:23.2, 41.19S×172.61E, h227km, MLv3.9/8, South Island, New Zealand*
*WEL **25** 06:27:27.2±1.0, 41.35±5.5×17.3E±1.1, h186km±6km, M2.9/9, MLv2.9/9, Error ellipse: s-maj=0.0km s-min=0.0km az=133.5, confirmed*
ISC 25 06:27:22.9±1.7, 41.21S±0.06×172.54E±0.06, h219km±9km, n83, σ1.920/99, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	**Matariki Terra**	**0.25**	**140**	P	**Pn**	**06 27 52.9**	**+1.4**
MRNZ				S	**S**	**06 28 13.0**	**-0.9**
TKNZ	**Takaka Hill**	**0.36**	**61**	P	**Pn**	**06 27 53.2**	**+1.4**
TKNZ				S	**S**	**06 28 13.0**	**-1.3**
QRZ	**Quartz Range**	**0.38**	**358**	P	**Pn**	**06 27 53.4**	**+1.6**
QRZ	**Quartz Range**	**0.38**	**358**	P	**Pn**	**06 27 53.4**	**+1.6**
QRZ				S	**S**	**06 28 13.5**	**-0.9**
THZ	**Tophouse**	**0.61**	**154**	P	**Pn**	**06 27 54.2**	**+1.5**
THZ				S	**S**	**06 28 14.8**	**-1.2**
NNZ	**Nelson**	**0.63**	**91**	P	**Pn**	**06 27 53.8**	**+1.2**
NNZ				S	**S**	**06 28 14.5**	**-1.3**
DSZ	**Denniston Nort**	**0.77**	**226**	P	**Pn**	**06 27 54.6**	**+1.3**
DSZ				S	**S**	**06 28 15.6**	**-1.5**
DUWZ	**D'Urville Isla**	**1.12**	**69**	P	**Pn**	**06 27 56.8**	**+1.4**
DUWZ				S	**S**	**06 28 20.2**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.12**	**117**	P	**Pn**	**06 27 56.7**	**+1.3**
BSWZ				S	**S**	**06 28 18.7**	**-1.9**
TCW	**Tory Channel**	**1.31**	**91**	P	**Pn**	**06 27 58.0**	**+1.3**
TCW				S	**S**	**06 28 21.6**	**-1.3**
CMWZ	**Cape Campbell**	**1.36**	**114**	P	**Pn**	**06 27 58.8**	**+1.7**
CMWZ				S	**S**	**06 28 24.0**	**+0.3**
KHZ	**Kahutara**	**1.42**	**149**	P	**Pn**	**06 27 58.6**	**+1.2**
KHZ	**Kahutara**	**1.42**	**149**	P	**Pn**	**06 27 58.7**	**+1.2**
KHZ				S	**S**	**06 28 23.2**	**-1.3**
LTZ	**Lake Taylor**	**1.58**	**187**	P	**Pn**	**06 28 00.3**	**+1.4**
LTZ				S	**S**	**06 28 25.3**	**-1.8**
WEL	**Wellington**	**1.68**	**93**	P	**Pn**	**06 28 00.9**	**+1.2**
INZ	**Inchbonnie**	**1.72**	**208**	P	**Pn**	**06 28 01.5**	**+1.4**
INZ				S	**S**	**06 28 27.9**	**-1.3**
GVZ	**Greta Valley S**	**1.79**	**168**	P	**Pn**	**06 28 02.0**	**+1.2**
GVZ				S	**S**	**06 28 28.9**	**-1.5**
KIW	**Kapiti Island**	**1.82**	**80**	P	**Pn**	**06 28 02.4**	**+1.2**
KIW				S	**S**	**06 28 29.1**	**-1.6**
CAW	**Cannon Point**	**1.91**	**88**	P	**Pn**	**06 28 03.0**	**+1.1**
CAW				S	**S**	**06 28 30.0**	**-2.1**
AMCZ	**Amberley**	**1.97**	**178**	P	**Pn**	**06 28 03.8**	**+1.4**
OGWZ	**Otaki Gorge**	**2.03**	**80**	P	**Pn**	**06 28 04.5**	**+1.5**
PLWZ	**Palliser**	**2.07**	**101**	P	**Pn**	**06 28 04.6**	**+1.0**
OXZ	**Oxford**	**2.15**	**190**	P	**Pn**	**06 28 05.3**	**+1.1**
PAWZ	**Paruwai Farm**	**2.18**	**95**	P	**Pn**	**06 28 05.7**	**+1.1**
KHEZ	**Kahui Hut**	**2.22**	**31**	P	**Pn**	**06 28 06.0**	**+0.9**
KHEZ	**Kahui Hut**	**2.22**	**31**	P	**Pn**	**06 28 06.4**	**+1.3**
MTW	**Mount Morrison**	**2.23**	**90**	P	**Pn**	**06 28 06.3**	**+1.2**
HOWZ	**Holdsworth Sta**	**2.27**	**83**	P	**Pn**	**06 28 06.8**	**+1.2**
WVZ	**Waitaha Valley**	**2.30**	**215**	P	**Pn**	**06 28 06.9**	**+1.2**
WAZ	**Wanganui**	**2.36**	**53**	P	**Pn**	**06 28 08.2**	**+1.6**
MRZ	**Mangatainoka R**	**2.36**	**78**	P	**Pn**	**06 28 07.7**	**+1.2**
TRWZ	**Traveller**	**2.38**	**96**	P	**Pn**	**06 28 08.1**	**+1.5**
MQZ	**McQueen's Vall**	**2.50**	**178**	P	**Pn**	**06 28 08.2**	**+0.4**
TMWZ	**Te Maipa**	**2.53**	**89**	P	**Pn**	**06 28 09.8**	**+1.5**
RACZ	**Rakaia**	**2.53**	**187**	P	**Pn**	**06 28 09.6**	**+1.4**
OKCZ	**Okains Bay**	**2.54**	**172**	P	**Pn**	**06 28 09.2**	**+0.9**
TIWZ	**Tintock**	**2.57**	**81**	P	**Pn**	**06 28 10.1**	**+1.4**
POWZ	**Post Office Ro**	**2.58**	**73**	P	**Pn**	**06 28 09.9**	**+1.1**
GCSZ	**Gaunt Creek Bo**	**2.67**	**217**	P	**Pn**	**06 28 10.9**	**+1.1**
PRWZ	**Pori Road**	**2.68**	**77**	P	**Pn**	**06 28 11.5**	**+1.6**
RPZ	**Rata Peaks**	**2.73**	**203**	P	**Pn**	**06 28 11.9**	**+1.4**
RPZ	**Rata Peaks**	**2.73**	**203**	P	**Pn**	**06 28 11.7**	**+1.2**
WAZC	**Wakanui South**	**2.78**	**191**	P	**Pn**	**06 28 12.5**	**+1.6**
PKVZ	**Pokaka**	**2.88**	**49**	P	**Pn**	**06 28 13.0**	**+0.8**
ARCZ	**Arundel**	**2.92**	**200**	P	**Pn**	**06 28 13.4**	**+0.9**
TRVZ	**Turoa**	**2.99**	**51**	P	**Pn**	**06 28 14.6**	**+1.0**
WNVZ	**Wahianoa**	**3.00**	**52**	P	**Pn**	**06 28 14.1**	**+0.4**
MOVZ	**Moawhango**	**3.04**	**55**	P	**Pn**	**06 28 14.6**	**+0.5**
FOZ	**Fox Glacier**	**3.08**	**220**	P	**Pn**	**06 28 15.1**	**+0.8**
WTVZ	**West Tongariro**	**3.13**	**49**	P	**Pn**	**06 28 15.8**	**+0.6**
NNVZ	**North Ngauruho**	**3.14**	**50**	P	**Pn**	**06 28 16.9**	**+1.6**
BHHZ	**Black Hill Sta**	**3.19**	**59**	P	**Pn**	**06 28 16.4**	**+0.6**
PRHZ	**Porangahau**	**3.25**	**74**	P	**Pn**	**06 28 18.0**	**+1.6**
KRHZ	**Kereru**	**3.31**	**63**	P	**Pn**	**06 28 18.1**	**+1.0**
TMZ	**Timaru**	**3.37**	**199**	P	**Pn**	**06 28 18.9**	**+1.1**
LBZ	**Lake Benmore**	**3.62**	**208**	P	**Pn**	**06 28 21.2**	**+0.6**
MCHZ	**McNeill Hill**	**3.63**	**62**	P	**Pn**	**06 28 22.1**	**+1.2**
BKZ	**Black Stump Fm**	**3.65**	**57**	P	**Pn**	**06 28 21.5**	**+0.3**
BKZ	**Black Stump Fm**	**3.65**	**57**	P	**Pn**	**06 28 21.5**	**+0.3**
MRHZ	**Matea Rd**	**3.80**	**53**	P	**Pn**	**06 28 23.0**	**0.0**
ARHZ	**Aropaoanui**	**3.92**	**62**	P	**Pn**	**06 28 25.7**	**+1.3**
JCZ	**Jackson Bay**	**3.98**	**223**	P	**Pn**	**06 28 26.2**	**+1.0**
JCZ	**Jackson Bay**	**3.98**	**223**	P	**Pn**	**06 28 26.2**	**+1.0**
MTHZ	**Maungataniwha**	**4.05**	**56**	P	**Pn**	**06 28 26.1**	**+0.1**
ODZ	**Otahua Downs**	**4.08**	**199**	P	**Pn**	**06 28 27.4**	**+1.2**
ODZ	**Otahua Downs**	**4.08**	**199**	P	**Pn**	**06 28 27.1**	**+0.9**
WHHZ	**Waihua**	**4.18**	**61**	P	**Pn**	**06 28 28.5**	**+1.0**
WKZ	**Wanaka**	**4.44**	**214**	P	**Pn**	**06 28 31.0**	**+0.2**
KNZ	**Kokohu**	**4.50**	**63**	P	**Pn**	**06 28 32.1**	**+0.6**
URZ	**Urewera**	**4.59**	**52**	P	**Pn**	**06 28 32.0**	**-0.6**
URZ	**Urewera**	**4.59**	**52**	P	**Pn**	**06 28 32.0**	**-0.6**
MHGZ	**Mahia Peninsul**	**4.59**	**65**	P	**Pn**	**06 28 34.2**	**+1.5**
EAZ	**Earnscleugh**	**4.66**	**209**	P	**Pn**	**06 28 33.4**	**0.0**
RIGZ	**Rimuhau**	**4.72**	**60**	P	**Pn**	**06 28 35.3**	**+1.0**
MWZ	**Matawai**	**4.79**	**55**	P	**Pn**	**06 28 36.3**	**+1.0**
RUGZ	**Raukumara Rang**	**5.12**	**52**	P	**Pn**	**06 28 39.9**	**+0.5**
CNGZ	**Carnagh Statio**	**5.14**	**60**	P	**Pn**	**06 28 41.0**	**+1.5**
TWGZ	**Tauwhareparae**	**5.17**	**56**	P	**Pn**	**06 28 40.6**	**+0.6**
MLZ	**Mavora Lakes**	**5.26**	**216**	P	**Pn**	**06 28 42.2**	**+1.2**
PUZ	**Puketiti**	**5.41**	**56**	P	**Pn**	**06 28 43.6**	**+0.7**
PKGZ	**Pakihiroa**	**5.41**	**54**	P	**Pn**	**06 28 44.3**	**+1.3**
WMGZ	**Waiomatatini S**	**5.66**	**55**	P	**Pn**	**06 28 46.0**	**-0.1**
WHZ	**Wether Hill Ro**	**5.75**	**214**	P	**Pn**	**06 28 47.7**	**+0.6**

IDC 25 06:27:59.9±7.5, 18.95S×176.01W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=385.6km s-min=112.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.69**	**260**	P	P	06 36 30.4	-0.4
	0.5nm,0.7s,baz=96,slow=7.9,SNR=2.9						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**46.71**	**255**	P	P	06 36 31.1	+0.1
	0.6nm,0.8s,baz=97,slow=8.3,SNR=6.0						
	0.6nm,0.8s						
H03S2	**Juan Fernandez** baz=246	**85.31**	**124**	T	T	08 13 01.9	
H03S1	**Juan Fernandez** baz=246	**85.32**	**124**	T	T	08 13 03.7	
H03S3	**Juan Fernandez** baz=246	**85.33**	**124**	T	T	08 12 56.9	
H03N2	**Juan Fernandez** baz=248,slow=71,SNR=12	**85.44**	**124**	T	T	08 12 57.1	
H03N3	**Juan Fernandez** baz=248,slow=71,SNR=6.9	**85.44**	**124**	T	T	08 13 05.0	
H03N1	**Juan Fernandez** baz=248,slow=71,SNR=6.8	**85.45**	**124**	T	T	08 12 52.0	
AKASG	**Malin Array Be**	**142.52**	**334**	PKP	PKPdf	06 47 33.9	-0.8
	0.5nm,0.3s,baz=36,slow=3.9,SNR=6.6						

*IDC **25** 06:38:01.4±0.8, 30.04N×103.59E, h0km, mb4.0/15, mbtmp4.0/16, ML3.2/1, Error ellipse: s-maj=24.5km s-min=15.6km az=45.0*
ISC 25 06:38:07.0±0.7, 30.1N±0.1×103.6E±0.1, h35km, n17, σ0.68/17, mb4.0/15, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.38**	**201**	Pn	**Pn**	**06 41 01.5**	**+0.6**
	0.6nm,0.3s,baz=27,slow=12,SNR=1.9						
SONM	**Songino Array**	**17.81**	**6**	P	**P**	**06 42 12.5**	**-0.1**
	0.1nm,0.3s,baz=190,slow=13,SNR=6.4						
	1.6nm,0.9s						
KSRS	**Korea Array**	**21.43**	**64**	P	**P**	**06 42 51.5**	**-0.4**
	1.7nm,0.6s,baz=241,slow=11,SNR=9.6						
	1.7nm,0.6s						
JNU	**Nakatsue**	**23.36**	**76**	P	**P**	**06 43 12.6**	**+0.1**
	11nm,1.0s,baz=225,slow=1.4,SNR=4.0						
	11nm,1.0s						
MKAR	**Makanchi Array**	**23.46**	**321**	P	**P**	**06 43 13.3**	**0.0**
	2.0nm,0.6s,baz=127,slow=11,SNR=17						
	2.0nm,0.6s						
AAK	**Ala-Archa**	**26.43**	**306**	P	**P**	**06 43 40.2**	**-0.5**
	1.2nm,0.6s,baz=101,slow=10,SNR=2.3						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**27.43**	**336**	P	**P**	**06 43 48.4**	**-0.9**
	1.8nm,0.5s,baz=150,slow=9.4,SNR=1.0						
	1.8nm,0.5s						
GEYT	**Alibeck**	**38.21**	**294**	P	**P**	**06 45 23.8**	**+0.3**
	2.0nm,0.5s,baz=100,slow=4.5,SNR=3.5						
	2.0nm,0.5s						
NRIK	**Noril'sk**	**40.33**	**351**	P	**P**	**06 45 42.2**	**+1.6**
	1.6nm,0.4s,baz=146,slow=4.8,SNR=4.1						
	1.6nm,0.4s						
AKASG	**Malin Array Be**	**57.76**	**314**	P	**P**	**06 47 53.5**	**-0.8**
	0.4nm,0.5s,baz=67,slow=7.1,SNR=4.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**57.90**	**145**	P	**P**	**06 47 55.1**	**-0.5**
	2.6nm,0.7s,baz=336,slow=7.9,SNR=21						
	2.6nm,0.7s						
FINES	**FINESS Array B**	**58.15**	**326**	P	**P**	**06 47 56.4**	**-0.6**
	0.9nm,0.7s,baz=104,slow=8.0,SNR=3.7						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**60.88**	**148**	P	**P**	**06 48 15.6**	**-0.7**
	0.8nm,0.7s,baz=331,slow=6.6,SNR=12						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**70.89**	**25**	P	**P**	**06 49 20.7**	**+0.6**
	0.2nm,0.6s,baz=287,slow=5.2,SNR=1.8						
	0.2nm,0.6s						
KDAK	**Kodiak Island**	**71.87**	**33**	P	**P**	**06 49 26.3**	**+0.2**
	12nm,1.1s,baz=308,slow=12,SNR=1.9						
	12nm,1.1s						
INK	**Inuvik**	**73.20**	**19**	P	**P**	**06 49 33.9**	**0.0**
	1.0nm,1.0s,baz=331,slow=7.9,SNR=3.9						
	1.0nm,1.0s						
YKA	**Yellowknife Ar**	**82.74**	**17**	P	**P**	**06 50 27.1**	**+0.2**
	0.2nm,0.5s,baz=322,slow=4.7,SNR=5.3						
	0.2nm,0.5s						

*SSNC **25** 06:42:21.1±3.0, 19.65N×70.70W, h120km±66km, MD3.7, ML3.0*
*OSPL **25** 06:42:23.2±3.3, 19.71N×70.75W, h0km±12km, ML2.9*
ISC 25 06:42:21.1±1.2, 19.74N±0.04×70.66W±0.06, h25km, n16, σ1.830/25, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.32**	**191**	*i* P	**Pb**	**06 42 27.9**	**-0.6**
SDDR	**Presa de Saban**	**0.96**	**218**	*i* P	**Pn**	**06 42 38.0**	**-1.1**
SDDR				*e*S	**Sb**	**06 42 50.8**	**-0.6**
SDDR				IAML		06 42 52.0	
	comp=Z,465nm,0.3s						
LODA1	**ITESIL, Dajabo**	**1.00**	**259**	*e*S	**Sb**	**06 42 53.0**	**+0.4**
PODR	**Polo**	**1.67**	**201**	*i* P	**Pb**	**06 42 51.4**	**0.0**
PODR				*e*S	**Sb**	**06 43 15.3**	**+3.2**
GRTK	**Grand Turk**	**1.81**	**346**	*i* P	**Pb**	**06 42 53.3**	**-0.4**
GRTK				*e*S	**Sb**	**06 43 17.7**	**+1.7**
GRTK				IAML		06 43 26.3	
	comp=Z,168nm,5.0s						
PAPH	**Port-au-Prince**	**1.97**	**232**	*i* P	**Pb**	**06 42 55.6**	**-0.6**
PAPH				IAML		06 43 30.5	
	comp=Z,68nm,0.5s						
LOPE2	**Hotel El Peder**	**1.99**	**211**	*i* P	**Pb**	**06 42 56.3**	**-0.3**
LOPE2				*e*S	**Sn**	**06 43 18.9**	**+1.6**
LOPE2				IAML		06 43 35.1	
	comp=Z,99nm,0.6s						
PCDR	**Punta Cana, DR**	**2.48**	**119**	*i* P	**Pb**	**06 43 04.2**	**-0.8**
PCDR				IAML		06 43 55.6	
	comp=Z,109nm,1.2s						
MASC	**Masc**	**3.38**	**278**	*e*P	**Pn**	**06 43 11.7**	**-0.7**
MASC				*e*S	**Sn**	**06 43 51.8**	**+0.1**
MASC				IAML		06 43 59.3	
	comp=E,11nm,0.2s						
MASC				IAML		06 44 05.7	
	comp=N,29nm,0.2s						
MASC	**Masc**	**3.38**	**278**	*i* P	**Pn**	**06 43 11.7**	**-0.7**
MASC				*e*S	**Sn**	**06 43 52.1**	**+0.3**
MASC				IAML		06 44 10.4	
	comp=Z,20nm,0.7s						
MOAC	**Moa**	**4.14**	**283**	*e*P	**Pn**	**06 43 22.1**	**-0.7**
MOAC				*e*S	**Sn**	**06 44 09.2**	**-1.2**
MOAC				IAML		06 44 10.7	
	comp=E,11nm,0.1s						
MOAC				IAML		06 44 12.7	
	comp=N,7.5nm,0.2s						
GTBY	**Guantanamo Bay**	**4.19**	**273**	*e*P	**Pn**	**06 43 23.6**	**+0.1**
GTBY				⇓*e*S	**Sn**	**06 44 11.2**	**-0.5**
RCC	**Rio Carpintero**	**4.74**	**274**	*e*P	**Pn**	**06 43 29.8**	**-1.3**
RCC				*e*S	**Sn**	**06 44 24.4**	**-0.9**
RCC				IAML		06 44 31.9	
	comp=N,3.1nm,0.3s						
RCC				IAML		06 44 34.7	
	comp=E,3.5nm,0.3s						
HLGC	**Holguin**	**5.19**	**284**	*e*P	**Pn**	**06 43 38.5**	**+1.2**
HLGC				*e*S	**Sn**	**06 44 39.4**	**+3.0**
HLGC				IAML		06 44 41.5	
	comp=E,3.8nm,0.1s						
HLGC				IAML		06 44 41.7	
	comp=N,5.5nm,0.3s						
LMGC	**Las Mercedes**	**5.98**	**274**	*e*P	**Pn**	**06 43 46.5**	**-1.5**
LMGC				*e*S	Sn	06 44 47.2	-8.5
LMGC				IAML		06 45 00.0	
	comp=N,2.5nm,0.1s						
LMGC				IAML		06 45 01.8	
	comp=E,2.0nm,0.1s						
CCCC	**Cccc**	**6.81**	**284**	*e*P	Pn	06 43 50.9	-8.6
CCCC				*e*S	Sn	06 45 04.8	-12
CCCC				IAML		06 45 08.7	
	comp=E,1.8nm,0.2s						
CCCC				IAML		06 45 08.8	
	comp=N,1.3nm,0.2s						

*IDC **25** 06:46:58.9±1.7, 31.91S×71.84W, h0km, mb3.4/1, mbtmp3.6/6, ML3.6/5, MS3.1/4, Error ellipse: s-maj=29.4km s-min=27.1km az=89.0*
*SJA **25** 06:47:00.1±0.8, 31.98S×72.00W, h41km±494km, ML4.4, MW4.2*
*GUC **25** 06:47:02.3±0.8, 32.00S×71.66W, h36km±2km, ML4.1*
*NEIC **25** 06:47:03.0±2.6, 32.03S±0.05×71.84W±0.07, h47km±27km, mb4.0/2, ML4.1(GUC), Error ellipse: s-maj=8.3km s-min=6.7km az=113.0*
ISC 25 06:47:00.5±1.1, 31.98S±0.02×71.64W±0.04, h13km±8km, n115, σ1.960/157, mb3.9/4, 3C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.65**	**153**		**Pb**	**06 47 14.8**	**+1.1**
VA06	**Catapilco**	**0.65**	**153**	⇓*i* P	**Pb**	**06 47 14.8**	**+1.1**
VA06				*i* S	**Sb**	**06 47 23.6**	**+1.0**
VA06				IAML		06 47 24.5	
	comp=E,23μm,0.3s						
CO02	**Combarbal**	**0.95**	**35**		**Pn**	**06 47 20.0**	**+0.5**
CO02	**Combarbal**	**0.95**	**35**	⇓*i* P	**Pn**	**06 47 20.1**	**+0.5**
CO02				*i* S	**Sb**	**06 47 32.9**	**+1.6**
VA01	**Torpederas**	**1.04**	**180**		**Pg**	**06 47 20.6**	**+0.1**
VA01	**Torpederas**	**1.04**	**180**	*e*P	**Pg**	**06 47 20.5**	**0.0**
VA01				*e*S	**Sg**	**06 47 34.3**	**+0.2**
VA01	**Torpederas**	**1.04**	**180**	*e*P	**Pg**	**06 47 20.0**	**-0.6**
VA01				*e*S	**Sb**	**06 47 35.2**	**+1.4**
VA01	**Torpederas**	**1.04**	**180**	*e*P	**Pg**	**06 47 20.0**	**-0.6**
VA01				*e*S	**Sb**	**06 47 35.2**	**+1.4**
ROCH	**El Roble**	**1.12**	**152**	⇓*i* P	**Pg**	**06 47 22.1**	**-0.1**
ROCH				*i* S	**Sg**	**06 47 36.7**	**-0.2**
ROCH				IAML		06 47 40.0	
	comp=N,6μm,0.2s						
ROC1	**El Roble**	**1.12**	**152**		**Pg**	**06 47 21.6**	**-0.7**
VA03	**San Esteban**	**1.21**	**130**		**Pb**	**06 47 23.7**	**+0.4**
VA03	**San Esteban**	**1.21**	**130**	⇓*i* P	**Pg**	**06 47 23.6**	**-0.3**
VA03				*i* S	**Sg**	**06 47 39.4**	**-0.2**
VA03				IAML		06 47 41.2	
	comp=E,11μm,0.2s						
MT02	**Curacav**	**1.34**	**162**		**Pg**	**06 47 25.5**	**-0.8**
MT02	**Curacav**	**1.34**	**162**	⇓*i* P	**Pg**	**06 47 25.3**	**-1.1**
MT02	**Curacav**	**1.34**	**162**	*e*P	**Pg**	**06 47 25.4**	**-1.0**
MT02				*e*S	**Sb**	**06 47 44.1**	**+1.5**
MT02	**Curacav**	**1.34**	**162**	*e*P	**Pg**	**06 47 25.4**	**-1.0**
MT02				*e*S	**Sb**	**06 47 44.1**	**+1.5**
CO03	**El Pedregal**	**1.40**	**36**		**Pb**	**06 47 27.1**	**+0.6**
CO03	**El Pedregal**	**1.40**	**36**	⇓*i* P	**Pb**	**06 47 27.1**	**+0.6**
CO03				*i* S	**Sn**	**06 47 45.7**	**+1.5**
CO03				IAML		06 47 48.6	
	comp=E,6μm,0.3s						
CO03	**El Pedregal**	**1.40**	**36**	*e*P	**Pb**	**06 47 27.4**	**+0.9**
CO03				*e*S	**Sn**	**06 47 46.1**	**+1.9**
CO03				IAML		06 47 48.3	
	comp=Z,3μm,0.2s						
CO03	**El Pedregal**	**1.40**	**36**	*e*P	**Pb**	**06 47 27.4**	**+0.9**
CO03				*e*S	**Sn**	**06 47 46.1**	**+1.9**
CO03				IAML		06 47 48.3	
	comp=Z,3μm,0.2s						
PEL	**Peldehue**	**1.41**	**145**		**Pn**

comp=E,2µm,0.4s
BO04 La Punta 2.18 157 Pn 06 47 38.3 +1.8
BO04 La Punta 2.18 157 ⇑ iP Pn 06 47 38.0 +1.4
BO04 *i* S **Sn 06 48 05.0 +1.5**
BO04 IAML 06 48 12.0
comp=E,2µm,0.6s
LMEL Las Melosas 2.22 147 Pn 06 47 38.7 +1.5
LMEL Las Melosas 2.22 147 ⇑ iP Pn 06 47 39.1 +2.0
LMEL eS **Sn 06 48 06.2 +1.7**
LMEL IAML 06 48 15.0
comp=N,2µm,0.3s
CO01 Juntas del Tor 2.40 34 eP **Pb 06 47 42.7 -1.0**
CO01 eS **Sn 06 48 11.9 +2.9**
CO01 IAML 06 48 18.0
comp=N,1µm,0.4s
CO01 Juntas del Tor 2.40 34 eP **Pn 06 47 42.0 +2.3**
CO01 eS **Sb 06 48 14.0 +0.7**
CO01 IAML 06 48 16.4
comp=Z,918nm,0.5s
CO01 Juntas del Tor 2.40 34 eP **Pn 06 47 42.0 +2.3**
CO01 eS **Sb 06 48 14.0 +0.7**
CO01 IAML 06 48 16.4
comp=Z,918nm,0.5s
BO01 Tunca 2.45 169 Pn 06 47 41.2 +1.1
BO01 Tunca 2.45 169 eP **Pn 06 47 41.1 +1.0**
BO01 Tunca 2.45 169 eP **Pn 06 47 40.0 -0.1**
BO01 eS **Sn 06 48 08.1 -1.8**
BO01 Tunca 2.45 169 eP **Pn 06 47 40.0 -0.1**
BO01 eS **Sn 06 48 08.1 -1.8**
BO03 Pichilemu 2.52 186 eP **Pn 06 47 40.6 -0.5**
ZON Zonda 2.56 81 Pb 06 47 46.3 -0.1
AAGR Agrelo 2.62 116 eP **Pb 06 47 47.0 -0.4**
AAGR eS **Sg 06 48 26.9 +2.2**
AAGR Agrelo 2.62 116 eP **Pb 06 47 47.0 -0.4**
AAGR eS **Sg 06 48 26.9 +2.2**
RTLL Cerro Villicun 2.78 77 eP **Pb 06 47 49.3 -0.7**
RTLL eS **Sb 06 48 23.6 -0.4**
RTLL Cerro Villicun 2.78 77 eP **Pb 06 47 49.3 -0.7**
RTLL eS **Sb 06 48 23.6 -0.4**
BO02 Sierra Bellavi 2.90 166 Pn 06 47 48.1 +1.7
BO02 Sierra Bellavi 2.90 166 eP **Pn 06 47 47.8 +1.5**
BO02 Sierra Bellavi 2.90 166 eP **Pn 06 47 47.0 +0.7**
BO02 eS **Sn 06 48 23.6 +2.6**
BO02 IAML 06 48 33.2
comp=Z,1µm,0.5s
BO02 Sierra Bellavi 2.90 166 eP **Pn 06 47 47.0 +0.7**
BO02 eS **Sn 06 48 23.6 +2.6**
BO02 IAML 06 48 33.2
comp=Z,1µm,0.5s
CFA Coronel Fontan 2.92 84 Pn **Pb 06 47 50.4 -2.2**
comp=Z,109nm,0.3s,baz=261,slow=13,SNR=16
CFA Sn **Sb 06 48 27.6 -0.6**
comp=Z,36nm,0.3s,baz=52,slow=10,SNR=6.6
CFA LR LR 06 49 16.3
comp=Z,329nm,20.3s,baz=285,slow=45
CFA Coronel Fontan 2.92 84 eP **Pb 06 47 51.2 -1.3**
CFA eS **Sb 06 48 29.1 +0.9**
CFA Coronel Fontan 2.92 84 eP **Pb 06 47 51.2 -1.3**
CFA eS **Sb 06 48 29.1 +0.9**
GO05 Huala 3.03 184 Pn 06 47 47.3 -0.9
GO05 Huala 3.03 184 ⇓ eP Pn 06 47 47.7 -0.5
GO05 Huala 3.03 184 eP **Pn 06 47 47.0 -1.2**
GO05 eP 06 47 47.6
GO05 eS **Sn 06 48 28.6 +4.3**
GO05 Huala 3.03 184 eP **Pn 06 47 47.0 -1.2**
GO05 eP 06 47 47.6
GO05 eS **Sn 06 48 28.6 +4.3**
LCO Las Campanas 3.07 16 Pn 06 47 50.0 +1.1
LCO Las Campanas 3.07 16 eP **Pn 06 47 50.4 +1.5**
LCO eS **Sn 06 48 27.5 +1.9**
LCO Las Campanas 3.07 16 eP **Pn 06 47 50.3 +1.4**
LCO eS **Sn 06 48 26.1 +0.5**
LCO IAML 06 48 41.2
comp=Z,3µm,0.6s
LCO Las Campanas 3.07 16 eP **Pn 06 47 50.3 +1.4**
LCO eS **Sn 06 48 26.1 +0.5**
LCO IAML 06 48 41.2
comp=Z,3µm,0.6s
AC04 Llanos de Chal 3.80 8 Pn 06 47 59.7 +1.0
GO03 Copiap 4.54 16 Pn 06 48 09.7 +0.7
GO03 Copiap 4.54 16 eP **Pn 06 48 11.4 +2.4**
GO03 eS **Sn 06 49 07.1 +5.5**
GO03 Copiap 4.54 16 eP **Pn 06 48 11.4 +2.4**
GO03 eS **Sn 06 49 07.1 +5.5**
AC06 Mina Casimiro 4.74 14 Pn 06 48 14.1 +2.4
AC02 Maricunga 5.58 24 Pn 06 48 27.3 +3.7
H03N1 Juan Fernandez 6.30 255 T T 06 55 12.6
baz=82,slow=73,SNR=7631
H03N3 Juan Fernandez 6.31 255 T T 06 55 06.0
baz=82,slow=73,SNR=6032
H03N2 Juan Fernandez 6.31 255 T T 06 55 06.8
baz=82,slow=73,SNR=5029
H03S3 Juan Fernandez 6.38 251 T T 06 55 13.8
baz=85,slow=75,SNR=14
H03S1 Juan Fernandez 6.38 251 T T 06 55 17.0
baz=85,slow=75,SNR=16
H03S2 Juan Fernandez 6.40 251 T T 06 55 15.9
baz=85,slow=75,SNR=17
GO06 Curarrehue 7.59 179 Pn **Pn 06 48 51.1 +0.3**
LR03 Panguipulli 7.66 184 Pn **Pn 06 48 51.2 -0.4**
LR04 Corral 8.01 190 Pn **Pn 06 48 54.5 -2.0**
PLCA Paso Flores 8.78 175 Pn **Pn 06 49 07.7 +0.5**
comp=Z,0.3nm,0.3s,baz=335,slow=13,SNR=14
comp=Z,0.9nm,0.4s
PLCA Paso Flores 8.78 175 Pn **Pn 06 49 07.5 +0.3**
LVC Limon Verde 9.64 15 Pn **Pn 06 49 19.1 -0.3**
comp=Z,0.1nm,0.3s,baz=225,slow=7.1,SNR=1.0
LVC Sn **Sn 06 51 09.0 +1.2**
comp=Z,0.9nm,0.3s,baz=177,slow=10,SNR=2.4
LVC LR LR 06 53 20.0
comp=Z,37nm,20.9s,baz=114,slow=40
comp=Z,0.6nm,0.2s
TRQA Tornquist 9.97 130 Pn 06 49 24.0 +0.6
ITQB Itaqui 13.11 84 Pn 06 50 06.9 +0.5
CPUP Villa Florida 13.71 69 Pn **Pn 06 50 15.2 +0.6**
comp=Z,0.3nm,0.3s,baz=242,slow=15,SNR=5.0
CPUP Sn **Sn 06 52 40.8 -6.0**
comp=Z,0.2nm,0.3s,baz=200,slow=15,SNR=2.0
CPUP LR LR 06 56 08.5
comp=Z,83nm,18.2s,baz=148,slow=40
comp=Z,1.7nm,0.7s
CPUP Villa Florida 13.71 69 Pn **Pn 06 50 15.5 +0.9**
PLTB Pedras Altas 15.33 94 Pn **Pn 06 50 35.8 -0.8**
PLTB IAmb IAmb 06 50 54.8
comp=Z,22nm,1.5s
LPAZ La Paz 15.95 12 Pn **Pn 06 50 44.9 -0.4**
comp=Z,0.1nm,0.3s,baz=187,slow=6.8,SNR=3.5
comp=Z,1.5nm,0.8s
SIV San Ignacio 18.60 34 P **P 06 51 16.7 -0.9**
baz=220,slow=13,SNR=2.7
comp=Z,0.9nm,0.5s
ETMB Extrema 22.62 14 P **P 06 51 59.7 -1.4**
ETMB IAmb IAmb 06 52 11.3
comp=Z,8.0nm,1.4s
BDFB Brasilia 26.96 58 P **P 06 52 40.5 -1.5**
comp=Z,1.3nm,0.5s,baz=211,slow=12,SNR=3.9
BDFB LR LR 07 03 33.3
comp=Z,134nm,19.7s,baz=154,slow=37
TXAR Lajitas Array 68.15 330 P **P 06 58 00.6 +0.2**
comp=Z,0.4nm,0.9s,baz=144,slow=7.8,SNR=2.4
comp=Z,0.4nm,0.9s
DBIC Dimbokro 74.22 72 P **P 06 58 35.9 -1.6**
comp=Z,1.1nm,0.4s,baz=256,slow=3.9,SNR=4.1
H11S2 WAKE ISLAND Hyl 26.11 270 T T 09 25 01.9
baz=117,slow=75,SNR=27
H11S1 WAKE ISLAND Hyl 26.12 270 T T 09 24 59.7
baz=117,slow=75,SNR=19
H11S3 WAKE ISLAND Hyl 26.13 270 T T 09 25 03.8
baz=117,slow=75,SNR=32
H11N3 WAKE ISLAND Hyl 26.47 272 T T 09 25 27.9
baz=116,slow=76,SNR=39
H11N1 WAKE ISLAND Hyl 26.49 272 T T 09 25 27.8
baz=116,slow=76,SNR=9.5
H11N2 WAKE ISLAND Hyl 26.49 272 T T 09 25 29.2
baz=116,slow=76,SNR=37
BVAR Borovoye Array 145.56 41 PKPbc **PKPdf 07 06 38.0 +0.1**
comp=Z,1.0nm,0.5s,baz=320,slow=3.9,SNR=5.7

*WEL **25** 07:02:59.4±0.4,31°S±6″×17°9W±1°4,h116km±13km, M4.8/13,mB5.0/8,ML5.2/8,MLv5.4/13,Mw(mB)4.3/8,Error ellipse: s-maj=0.0km s-min=0.0km az=111.0,confirmed*
*NEIC **25** 07:02:59.7±1.5,31°61S±0°.05×178°3W±0°.2,h102km±11km, mb4.9/26,Error ellipse: s-maj=29.3km s-min=4.9km az=99.0*
*IDC **25** 07:03:02.3±2.7,31°67S×178°43W,h127km±21km,mb4.0/4, mbtmp4.4/7,Error ellipse: s-maj=30.7km s-min=22.2km az=133.0*

ISC 25 07:02:59.4±0.7,31°52S±0°.05×178°4W±0°.1,h100km,n116, σ2s04/132,mb5.1/13,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.30**	**11**	P		**Pn**	**Pn**	**07 03 35.6**	**-0.3**
GLKZ				S		**Sn**	**Sn**	**07 04 01.7**	**-2.0**
RAO	**Raoul Island**	**2.31**	**11**			**Pn**	**Pn**	**07 03 37.8**	**+1.8**
RIZ	**Raoul Island**	**2.31**	**11**	P		**Pn**	**Pn**	**07 03 36.3**	**+0.3**
RIZ				S		**Sn**	**Sn**	**07 04 03.3**	**-0.8**
MXZ	**Matakaoa Point**	**6.60**	**203**	Pn		**Pn**	**Pn**	**07 04 35.8**	**+2.1**
MXZ	**Matakaoa Point**	**6.60**	**203**	P		**Pn**	**Pn**	**07 04 34.3**	**+0.5**
MXZ				S		**Sn**	**Sn**	**07 05 48.4**	**+0.9**
WMGZ	**Waiomatatini S**	**6.80**	**202**	P		**Pn**	**Pn**	**07 04 36.9**	**+0.4**
PUZ	**Puketiti**	**7.08**	**202**	P		**Pn**	**Pn**	**07 04 40.8**	**+0.5**
RUGZ	**Raukumara Rang**	**7.18**	**205**	P		**Pn**	**Pn**	**07 04 42.7**	**+0.9**
RUGZ				S		**Sn**	**Sn**	**07 06 04.9**	**+3.1**
TWGZ	**Tauwhareparae**	**7.26**	**203**	P		**Pn**	**Pn**	**07 04 43.6**	**+0.8**
TWGZ				S		**Sn**	**Sn**	**07 06 05.0**	**+1.2**
CNGZ	**Carnagh Statio**	**7.47**	**201**	P		**Pn**	**Pn**	**07 04 47.0**	**+1.4**
CNGZ				S		**Sn**	**Sn**	**07 06 10.9**	**+2.2**
TKGZ	**Te Karaka**	**7.54**	**203**	P		**Pn**	**Pn**	**07 04 46.7**	**+0.1**
TKGZ				S		**Sn**	**Sn**	**07 06 11.3**	**+0.8**
MWZ	**Matawai**	**7.56**	**205**	P		**Pn**	**Pn**	**07 04 47.7**	**+0.8**
MWZ				S		**Sn**	**Sn**	**07 06 11.1**	**+0.1**
OUZ	**Omahuta**	**7.62**	**239**	P		Pn	Pn	07 04 53.9	+6.3
URZ	**Urewera**	**7.65**	**207**	P		**Pn**	**Pn**	**07 04 48.7**	**+0.6**
	6.0nm,0.3s,baz=335,slow=3.1,SNR=63								
URZ				S		**Sn**	**Sn**	**07 06 13.6**	**+0.5**
	85nm,0.3s,baz=175,slow=20,SNR=15								
URZ	**Urewera**	**7.65**	**207**	P		**Pn**	**Pn**	**07 04 47.9**	**-0.2**
URZ				S		**Sn**	**Sn**	**07 06 13.8**	**+0.7**
RIGZ	**Rimuhau**	**7.81**	**202**	P		**Pn**	**Pn**	**07 04 51.2**	**+0.8**
RIGZ				S		**Sn**	**Sn**	**07 06 18.2**	**+1.1**
RTZ	**Ruatahuna**	**8.01**	**207**	Pn		**Pn**	**Pn**	**07 04 53.4**	**+0.4**
KNZ	**Kokohu**	**8.13**	**202**	P		**Pn**	**Pn**	**07 04 53.8**	**-0.8**
KNZ				S		**Sn**	**Sn**	**07 06 22.9**	**-1.9**
MTHZ	**Maungataniwha**	**8.27**	**207**	P		**Pn**	**Pn**	**07 04 53.7**	**-2.9**
MTHZ				S		**Sn**	**Sn**	**07 06 28.9**	**+0.6**
WHHZ	**Waihua**	**8.33**	**204**	P		**Pn**	**Pn**	**07 04 57.5**	**+0.2**
WHHZ				S		**Sn**	**Sn**	**07 06 30.6**	**+1.0**
MRHZ	**Matea Rd**	**8.42**	**209**	P		**Pn**	**Pn**	**07 04 59.0**	**+0.3**
MRHZ				S		**Sn**	**Sn**	**07 06 33.1**	**+1.1**
NMHZ	**Naumai**	**8.50**	**206**	P		**Pn**	**Pn**	**07 04 59.4**	**-0.3**
NMHZ				S		**Sn**	**Sn**	**07 06 33.8**	**-0.1**
ARHZ	**Aropaoanui**	**8.58**	**205**	P		**Pn**	**Pn**	**07 05 01.2**	**+0.5**
ARHZ				S		**Sn**	**Sn**	**07 06 37.3**	**+1.7**
BKZ	**Black Stump Fm**	**8.68**	**207**	Pn		**Pn**	**Pn**	**07 05 03.2**	**+1.1**
MRZ	**Mangatainoka R**	**10.32**	**206**	Pn		**Pn**	**Pn**	**07 05 25.1**	**+0.7**
MRZ	**Mangatainoka R**	**10.32**	**206**	P		**Pn**	**Pn**	**07 05 20.0**	**-4.4**
MRZ				S		**Sn**	**Sn**	**07 07 13.4**	**-4.7**
HOWZ	**Holdsworth Sta**	**10.55**	**206**	P		**Pn**	**Pn**	**07 05 24.1**	**-3.4**
HOWZ				S		**Sn**	**Sn**	**07 07 17.8**	**-5.9**
TMWZ	**Te Maipa**	**10.60**	**204**	P		**Pn**	**Pn**	**07 05 26.7**	**-2.1**
TMWZ				S		**Sn**	**Sn**	**07 07 17.9**	**-7.0**
OGWZ	**Otaki Gorge**	**10.62**	**207**	P		**Pn**	**Pn**	**07 05 25.2**	**-3.2**
OGWZ				S		**Sn**	**Sn**	**07 07 20.7**	**-4.5**
CAW	**Cannon Point**	**10.90**	**207**	P		**Pn**	**Pn**	**07 05 29.3**	**-3.0**
CAW				S		**Sn**	**Sn**	**07 07 26.3**	**-6.0**
SNZO	**South Karori**	**11.22**	**208**	Pn		**Pn**	**Pn**	**07 05 36.2**	**-0.3**
SNZO						**Sn**	**Sn**	**07 07 35.9**	**-4.0**
PLWZ	**Palliser**	**11.23**	**205**	Pn		**Pn**	**Pn**	**07 05 35.9**	**-0.9**
BHW	**Baring Head**	**11.24**	**207**	Pn		**Pn**	**Pn**	**07 05 35.6**	**-1.1**
TCW	**Tory Channel**	**11.31**	**209**	Pn		**Pn**	**Pn**	**07 05 36.5**	**-1.2**
TCW	**Tory Channel**	**11.31**	**209**	P		Pn	Pn	07 05 31.9	-5.8
TCW				S		**Sn**	**Sn**	**07 07 35.6**	**-6.4**
NNZ	**Nelson**	**11.71**	**212**	Pn		**Pn**	**Pn**	**07 05 44.5**	**+1.5**
NNZ	**Nelson**	**11.71**	**212**	P		**Pn**	**Pn**	**07 05 41.5**	**-1.5**
NNZ				S		Sn	Sn	07 07 44.2	-7.4
TKNZ	**Takaka Hill**	**11.76**	**214**	Pn		**Pn**	**Pn**	**07 05 43.6**	**-0.1**
QRZ	**Quartz Range**	**11.81**	**216**	Pn		**Pn**	**Pn**	**07 05 45.3**	**+0.9**
QRZ	**Quartz Range**	**11.81**	**216**	P		**Pn**	**Pn**	**07 05 46.5**	**+2.1**
QRZ				S		**Sn**	**Sn**	**07 07 48.9**	**-5.2**
BSWZ	**Blackbirch Sta**	**11.90**	**209**	Pn		**Pn**	**Pn**	**07 05 46.4**	**+0.8**
MRNZ	**Matariki Terra**	**12.14**	**213**	Pn		**Pn**	**Pn**	**07 05 47.0**	**-1.8**
THZ	**Tophouse**	**12.36**	**212**	Pn		**Pn**	**Pn**	**07 05 52.0**	**+0.3**
THZ	**Tophouse**	**12.36**	**212**	P		**Pn**	**Pn**	**07 05 52.2**	**+0.4**
THZ				S		**Sn**	**Sn**	**07 08 01.5**	**-6.1**
KHZ	**Kahutara**	**12.62**	**208**	Pn		**Pn**	**Pn**	**07 05 52.7**	**-2.5**
DSZ	**Denniston Nort**	**12.86**	**215**	Pn		**Pn**	**Pn**	**07 05 57.5**	**-0.8**
DSZ	**Denniston Nort**	**12.86**	**215**	P		**Pn**	**Pn**	**07 05 58.1**	**-0.3**
DSZ				S		Sn	Sn	07 08 11.1	-8.6
GVZ	**Greta Valley S**	**13.28**	**208**	Pn		**Pn**	**Pn**	**07 06 03.7**	**-0.2**
LTZ	**Lake Taylor**	**13.45**	**211**	Pn		**Pn**	**Pn**	**07 06 05.5**	**-0.6**
LTZ	**Lake Taylor**	**13.45**	**211**	P		**Pn**	**Pn**	**07 06 03.1**	**-3.1**
LTZ				S		Sn	Sn	07 08 21.6	-13
INZ	**Inchbonnie**	**13.78**	**213**	Pn		**Pn**	**Pn**	**07 06 10.6**	**+0.2**
INZ	**Inchbonnie**	**13.78**	**213**	P		**Pn**	**Pn**	**07 06 08.0**	**-2.4**
INZ				S		Sn	Sn	07 08 29.6	-12
OXZ	**Oxford**	**13.99**	**210**	P		**Pn**	**Pn**	**07 06 17.2**	**-0.7**
MQZ	**McQueen's Vall**	**14.05**	**208**	P		Pn	Pn	07 06 08.6	-5.3
MQZ				S		Sn	Sn	07 08 34.3	-14
MSVF	**Nonsavu**	**14.10**	**346**	P		**Pn**	**Pn**	**07 06 13.6**	**-1.1**
	7.6nm,0.7s,baz=169,slow=14,SNR=4.5								
WVZ	**Waitaha Valley**	**14.38**	**214**	P		**Pn**	**Pn**	**07 06 19.7**	**+1.6**
WACZ	**Wakanui South**	**14.58**	**209**	P		**Pn**	**Pn**	**07 06 20.3**	**-0.3**
RPZ	**Rata Peaks**	**14.73**	**211**	P		**Pn**	**Pn**	**07 06 21.8**	**-0.9**
	8.5nm,0.3s,baz=18,slow=6.4,SNR=2.2								
RPZ				S		Sn	Sn	07 08 51.5	-14
	8.2nm,0.3s,baz=132,slow=15,SNR=8.3								
RPZ	**Rata Peaks**	**14.73**	**211**	Pn		**Pn**	**Pn**	**07 06 20.9**	**-1.8**
RPZ	**Rata Peaks**	**14.73**	**211**	P		**Pn**	**Pn**	**07 06 22.8**	**+0.1**
FOZ	**Fox Glacier**	**15.17**	**215**	Pn		**Pn**	**Pn**	**07 06 27.8**	**-0.3**
FOZ						IAmb	IAmb	07 06 52.7	
	comp=Z,104nm,1.2s								
OUENC	**Ouen Island, N**	**15.95**	**301**			**P**	**Pn**	**07 06 40.6**	**+1.0**
OUENC						IAmb	IAmb	07 06 42.4	
	comp=Z,57nm,1.2s								
ODZ	**Otahua Downs**	**15.97**	**209**	Pn		**Pn**	**Pn**	**07 06 37.2**	**-1.0**
ODZ						IAmb	IAmb	07 06 51.6	
	comp=Z,46nm,1.1s								
DZM	**Mont Dzumac**	**16.45**	**301**	P		**Pn**	**Pn**	**07 06 46.2**	**+1.8**
	comp=Z,23nm,1.1s,baz=93,slow=18,SNR=3.4								
DZM	**Mont Dzumac**	**16.45**	**301**			**Pn**	**Pn**	**07 06 45.9**	**+1.6**
WKZ	**Wanaka**	**16.52**	**213**			**P**	**P**	**07 06 46.0**	**+0.1**
WKZ						IAmb	IAmb	07 06 57.8	
	comp=Z,169nm,1.4s								
MLZ	**Mavora Lakes**	**17.35**	**213**	P		**P**	**P**	**07 06 54.1**	**-0.8**
MLZ						IAmb	IAmb	07 07 04.3	
	comp=Z,52nm,1.2s								
KOUNC	**Koumac, New Ca**	**18.97**	**301**	P		**P**	**P**	**07 07 14.3**	**+1.5**
KOUNC						IAmb	IAmb	07 07 15.5	
	comp=Z,29nm,0.7s								
ARMA	**Armidale**	**25.67**	**265**	P		**P**	**P**	**07 08 22.1**	**+2.0**
CAN	**Canberra**	**27.38**	**253**	P		**P**	**P**	**07 08 36.8**	**+1.4**
CAN						IAmb	IAmb	07 08 41.6	
	comp=Z,20nm,1.3s								
EIDS	**Eidsvold**	**27.45**	**275**	P		**P**	**P**	**07 08 36.5**	**+0.5**
TOO	**Toolangi**	**30.20**	**248**	P		**P**	**P**	**07 09 02.3**	**+2.0**
CTAO	**Charters Tower**	**33.64**	**281**	P		**P**	**P**	**07 09 31.4**	**+0.8**
CTAO						IAmb	IAmb	07 09 32.0	
	comp=Z,21nm,0.6s								
CTAO	**Charters Tower**	**33.64**	**281**	P		**P**	**P**	**07 09 31.5**	**+0.9**
CTAO				pP		**pP**	**pP**	**07 09 51.8**	**-0.8**
CTAO				sP		**sP**	**sP**	**07 10 04.7**	**+0.8**
STKA	**Stephens Creek**	**33.88**	**259**	P		**P**	**P**	**07 09 33.9**	**+1.2**
	comp=Z,25nm,0.8s,baz=102,slow=10,SNR=51								
	comp=Z,25nm,0.8s								
STKA	**Stephens Creek**	**33.88**	**259**	P		**P**	**P**	**07 09 34.5**	**+1.9**
BBOO	**Buckleboo**	**38.32**	**256**	P		**P**	**P**	**07 10 10.5**	**0.0**
BBOO						IAmb	IAmb	07 10 11.4	
	comp=Z,25nm,0.6s								
COEN	**Coen**	**39.24**	**288**	P		**P**	**P**	**07 10 18.9**	**+0.6**
COEN						IAmb	IAmb	07 10 19.4	
	comp=Z,11nm,0.8s								
TAOE	**Nuku Hiva Isla**	**42.09**	**66**	P		P	P	07 10 44.9	+3.1
TAOE				pP		sP	pP	07 11 08.0	-6.1
TAOE				sP		pwP	pwP	07 11 19.3	+8.7
AS31	**Alice Springs**	**42.70**	**268**	P		**P**	**P**	**07 10 46.8**	**+0.1**
AS31						IAmb	IAmb	07 10 47.2	
	comp=Z,23nm,0.5s								
ASAR	**Alice Springs**	**42.70**	**268**	P		**P**	**P**	**07 10 46.6**	**0.0**
	comp=Z,44nm,0.5s,baz=105,slow=7.4,SNR=1015								
ASAR				ScP		**ScP**	**ScP**	**07 16 14.2**	**-4.3**
	comp=Z,1.5nm,0.9s,baz=107,slow=5.0,SNR=6.3								
DRV	**Dumont d'Urvil**	**42.97**	**203**	P		**P**	**P**	**07 10 50.2**	**+2.1**
DRV				pP		**pwP**	**pwP**	**07 11 12.5**	**-1.1**
WR0	**Warramunga Arr**	**43.61**	**274**	P		**P**	**P**	**07 10 53.9**	**-0.1**
WB2	**Warramunga Arr**	**43.78**	**274**	P		**P**	**P**	**07 10 55.1**	**-0.2**
WRAB	**Tennant Creek**	**43.78**	**274**	P		**P**	**P**	**07 10 55.4**	**0.0**
WRAB	**Tennant Creek**	**43.78**	**274**	P		**P**	**P**	**07 10 55.1**	**-0.3**
WRA	**Warramunga Arr**	**43.79**	**274**	P		**P**	**P**	**07 10 54.9**	**-0.5**
	comp=Z,81nm,0.5s,baz=113,slow=7.6,SNR=588								
WRA				ScP		**ScP**	**ScP**	**07 16 19.8**	**-3.2**
	comp=Z,0.7nm,0.8s,baz=116,slow=3.9,SNR=3.4								
WRA	**Warramunga Arr**	**43.79**	**274**	P		**P**	**P**	**07 10 55.3**	**-0.1**
WRA				IAmb		IAmb	IAmb	07 10 55.9	
	comp=Z,8.2nm,0.7s								
WB0	**Warramunga Arr**	**43.82**	**274**	P		**P**	**P**	**07 10 55.4**	**-0.2**
FORT	**Forrest**	**45.42**	**256**	P		**P**	**P**	**07 11 08.0**	**-0.2**
FORT				IAmb		IAmb	IAmb	07 11 08.5	
	comp=Z,20nm,0.6s								
MTN	**Manton Dam**	**49.81**	**280**	P		**P**	**P**	**07 11 41.3**	**-1.0**
KNRA	**Kununurra**	**50.44**	**275**	P		**P**	**P**	**07 11 46.3**	**-0.8**
KNRA				IAmb		IAmb	IAmb	07 11 51.1	
	comp=Z,19nm,0.9s								
CCD	**Concordia, Ant**	**51.77**	**196**	P		**P**	**P**	**07 11 59.6**	**+2.8**
FITZ	**Fitzroy Crossi**	**52.00**	**271**	P		**P**	**P**	**07 11 58.3**	**-0.5**
CASY	**Casey**	**53.98**	**208**	P		**P**	**P**	**07 12 13.5**	**+1.0**
CASY	**Casey**	**53.98**	**208**	P		**P**	**P**	**07 12 14.5**	**+1.9**
CASY				sP		**sP**	**sP**	**07 12 48.8**	**+1.8**
TROLL	**Troll, Antarti**	**76.75**	**180**	P		P	P	07 14 46.1	+6.6
SNAA	**Sanae**	**77.04**	**179**	P		P	P	07 14 47.9	+6.8
VNA3	**Neumayer Olymp**	**77.21**	**176**	P		P	P	07 14 49.2	+7.3
VNA2	**Neumayer--Watz**	**77.64**	**177**	P		P	P	07 14 51.7	+7.4
	baz=196,slow=4.0								
VNA1	**Neumayer--Stat**	**77.87**	**177**	P		P	P	07 14 53.1	+7.5
H03S2	**Juan Fernandez**	**80.15**	**124**	T		T	T	08 44 24.8	
	baz=237								
H03S1	**Juan Fernandez**	**80.16**	**124**	T		T	T	08 44 24.6	
	baz=237								
H03S3	**Juan Fernandez**	**80.17**	**124**	T		T	T	08 44 25.7	
	baz=237								
H03N3	**Juan Fernandez**	**80.35**	**123**	T		T	T	08 44 22.5	
	baz=240,slow=72,SNR=37								
H03N2	**Juan Fernandez**	**80.35**	**123**	T		T	T	08 44 45.0	
	baz=240,slow=72,SNR=29								
H03N1	**Juan Fernandez**	**80.36**	**123**	T		T	T	08 44 14.7	
	baz=240,slow=72,SNR=53								
KSRS	**Korea Array**	**84.97**	**320**	P		**P**	**P**	**07 15 24.3**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=147,slow=5.3,SNR=2.4								
	comp=Z,0.8nm,0.6s								
NVAR	**Mina Array Bea**	**89.31**	**43**	P		P	P	07 15 46.4	+1.8
	comp=Z,0.5nm,0.7s,baz=222,slow=8.0,SNR=2.2								
	comp=Z,0.5nm,0.7s								
KLR	**Kul'dur**	**91.82**	**330**	P		**P**	**P**	**07 15 54.8**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=175,slow=11,SNR=3.7								
	comp=Z,0.8nm,0.6s								
MKAR	**Makanchi Array**	**118.21**	**310**	PKP		**PKiKP**	**PKiKP**	**07 21 33.5**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=167,slow=1.5,SNR=6.5								
FINES	**FINESS Array B**	**146.07**	**339**	PKPbc		**PKPab**	**PKPab**	**07 22 26.0**	**-1.7**
	comp=Z,7.7nm,0.6s,baz=50,slow=4.3,SNR=50								
NB2	**NORSAR Subarra**	**149.80**	**351**	PKP		**PKiKP**	**PKiKP**	**07 22 36.7**	**-1.3**
	comp=Z,10nm,1.2s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**149.80**	**351**	PKPbc		**PKiKP**	**PKiKP**	**07 22 36.4**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=14,slow=4.1,SNR=5.4								
AKASG	**Malin Array Be**	**151.96**	**321**	PKPbc		**PKiKP**	**PKiKP**	**07 22 41.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=53,slow=3.1,SNR=6.7								
BRTR	**Keskin Array B**	**152.79**	**296**	PKPbc		**PKiKP**	**PKiKP**	**07 22 44.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=90,slow=1.6,SNR=4.3								

*IDC **25** 07:17:39.8±2.0,60°32S×52°21W,h0km,mb4.0/4, mbtmp4.0/4,MS3.0/1,Error ellipse: s-maj=84.8km s-min=28.1km az=44.0*

ISC 25 07:17:40.7±1.7,60°4S±0°.4×52°4W±0°.3,h10km,n8,σ1s46/7, mb4.0/4,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**22.68**	**322**	P		**P**	**P**	**07 22 44.1**	**+2.1**
	2.6nm,0.7s,baz=153,slow=9.4,SNR=14								
	2.6nm,0.7s								
CPUP	**Villa Florida**	**34.23**	**352**	LR		LR	LR	07 36 44.0	
	comp=Z,29nm,21.9s,baz=14,slow=34								
BDFB	**Brasilia**	**44.82**	**6**	P		**P**	**P**	**07 25 54.9**	**+0.1**
	2.5nm,0.8s,baz=225,slow=16,SNR=1.3								
	2.5nm,0.8s								
LPAZ	**La Paz**	**

STCH				IAML		07 26 14.5		
	comp=E,498nm,0.7s							
MLH	**Mauna Loa**	**0.17**	**318**		Pg	07 26 11.3	+0.5	
MLH				IAML		07 26 14.5		
	comp=N,457nm,2.4s							
MLH				IAML		07 26 15.2		
	comp=E,448nm,0.6s							
MLH	**Mauna Loa**	**0.17**	**318**		Sg	07 26 13.6	+0.6	
AIN	**Ainahou**	**0.18**	**270**		Pg	07 26 11.6	+0.6	
AIN				IAML		07 26 15.5		
	comp=E,336nm,0.4s							
HTC	**Hot Caves**	**0.18**	**223**		Pg	07 26 10.7	-0.3	
HMH	**Humu'ula Sheep**	**0.31**	**319**		Pg	07 26 12.6	-0.8	
HMH	**Humu'ula Sheep**	**0.31**	**319**	IAML		07 26 15.8		
	comp=E,122nm,3.1s							
HMH				IAML		07 26 21.0		
	comp=N,222nm,1.9s							
MWH	**Moku'aweowe**	**0.33**	**290**	Pg	Pg	07 26 14.0	+0.1	
MLOA	**Mauna Loa Obse**	**0.33**	**300**	Pg	Pg	07 26 13.7	-0.3	
MLOA				IAML		07 26 16.2		
	comp=N,155nm,3.1s							
KHU	**Kahuku**	**0.35**	**249**		Pg	07 26 14.2	0.0	
KHU					Sb	07 26 21.1	-1.2	
ALEP	**Alea Permanent**	**0.39**	**296**		Pg	07 26 13.9	-1.1	
ALEP					Sg	07 26 19.8	-0.5	
POHA	**Pohakuloa**	**0.46**	**327**	Pg	Pg	07 26 15.2	-1.0	
HUH	**Hualalai**	**0.62**	**300**	Pg	Pg	07 26 18.9	-0.5	
KHLU	**Kahalu`u**	**0.63**	**291**		Pg	07 26 18.9	-0.6	

*NOU **25** 07:28:32.9, 39˚.11S×174˚.66E, h236km, MLv3.6/10, North Island, New Zealand*
*WEL **25** 07:28:37.2±0.5, 39˚.5±4˚×17˚.5E±˚, h193km±4km, M3.3/37, ML2.8/8, MLv3.3/37, Error ellipse: s-maj=0.0km s-min=0.0km az=141.6, confirmed*
ISC 25 07:28:32.0±1.7, **39˚.15S**±0˚.05×**174˚.69E**±0˚.05, **h232**km±9km, **n114**, σ1§**71**/133, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
VRZ	**Vera Road**	**0.06**	**68**	P	**Pn**	**07 29 03.0**	**+0.9**	
MHEZ	**Mangahewa**	**0.29**	**284**	P	**Pn**	**07 29 04.1**	**+1.8**	
LREZ	**Lake Rotokare**	**0.38**	**215**	P	**Pn**	**07 29 04.3**	**+1.8**	
LREZ				S	**S**	**07 29 26.1**	**-0.4**	
NEZ	**North Egmont**	**0.47**	**255**	P	**Pn**	**07 29 04.7**	**+1.8**	
NEZ				S	**S**	**07 29 26.8**	**-0.3**	
PKVZ	**Pokaka**	**0.53**	**106**	P	**Pn**	**07 29 04.4**	**+1.4**	
PKVZ				S	**S**	**07 29 24.2**	**-3.1**	
KHEZ	**Kahui Hut**	**0.54**	**254**	P	**Pn**	**07 29 04.8**	**+1.7**	
KHEZ	**Kahui Hut**	**0.54**	**254**	P	**Pn**	**07 29 05.0**	**+1.8**	
NBEZ	**Newall Road No**	**0.65**	**259**	P	**Pn**	**07 29 05.1**	**+1.8**	
WAZ	**Wanganui**	**0.65**	**159**	P	**Pn**	**07 29 05.6**	**+2.2**	
WAZ				S	**S**	**07 29 26.9**	**-1.2**	
MTVZ	**Mangateitei**	**0.65**	**112**	P	**Pn**	**07 29 05.1**	**+1.6**	
FWVZ	**Far West T-bar**	**0.68**	**99**	P	**Pn**	**07 29 05.4**	**+1.6**	
NMEZ	**Namu Road**	**0.68**	**247**	P	**Pn**	**07 29 05.5**	**+2.0**	
NMEZ				S	**S**	**07 29 28.6**	**+0.4**	
TRVZ	**Turoa**	**0.69**	**103**	P	**Pn**	**07 29 05.5**	**+1.6**	
TRVZ				S	**S**	**07 29 25.3**	**-3.5**	
NGZ	**Ngauruhoe**	**0.71**	**93**	P	**Pn**	**07 29 05.5**	**+1.6**	
NGZ				S	**S**	**07 29 25.0**	**-3.7**	
NNVZ	**North Ngauruho**	**0.72**	**89**	P	**Pn**	**07 29 05.6**	**+1.6**	
WNVZ	**Wahianoa**	**0.73**	**105**	P	**Pn**	**07 29 05.7**	**+1.7**	
TUVZ	**Tukino**	**0.76**	**99**	P	**Pn**	**07 29 05.9**	**+1.8**	
MOVZ	**Moawhango**	**0.87**	**108**	P	**Pn**	**07 29 05.8**	**+1.3**	
MOVZ				S	**S**	**07 29 27.1**	**-2.9**	
BHHZ	**Black Hill Sta**	**1.12**	**108**	P	**Pn**	**07 29 07.4**	**+1.4**	
BHHZ				S	**S**	**07 29 30.6**	**-1.9**	
KWHZ	**Kaweka Forest**	**1.38**	**102**	P	**Pn**	**07 29 10.0**	**+2.3**	
KWHZ				S	**S**	**07 29 34.7**	**-1.0**	
MRHZ	**Matea Rd**	**1.39**	**77**	P	**Pn**	**07 29 08.8**	**+1.0**	
MRHZ				S	**S**	**07 29 32.5**	**-3.3**	
KRHZ	**Kereru**	**1.40**	**111**	P	**Pn**	**07 29 09.7**	**+1.9**	
KRHZ				S	**S**	**07 29 34.8**	**-1.1**	
BKZ	**Black Stump Fm**	**1.40**	**91**	P	**Pn**	**07 29 09.3**	**+1.4**	
BKZ	**Black Stump Fm**	**1.40**	**91**	P	**Pn**	**07 29 09.4**	**+1.4**	
BKZ				S	**S**	**07 29 33.6**	**-2.4**	
POWZ	**Post Office Ro**	**1.50**	**146**	P	**Pn**	**07 29 10.5**	**+1.9**	
POWZ				S	**S**	**07 29 35.4**	**-1.9**	
MCHZ	**McNeill Hill**	**1.59**	**101**	P	**Pn**	**07 29 11.9**	**+2.6**	
MCHZ				S	**S**	**07 29 38.6**	**0.0**	
WPHZ	**Waipukurau**	**1.64**	**125**	P	**Pn**	**07 29 12.0**	**+2.2**	
WPHZ				S	**S**	**07 29 38.8**	**-0.5**	
NMHZ	**Naumai**	**1.65**	**89**	P	**Pn**	**07 29 12.6**	**+2.6**	
NMHZ				S	**S**	**07 29 38.9**	**-0.7**	
MRZ	**Mangatainoka R**	**1.66**	**156**	P	**Pn**	**07 29 11.8**	**+1.8**	
MRZ				S	**S**	**07 29 37.4**	**-2.3**	
MTHZ	**Maungataniwha**	**1.71**	**81**	P	**Pn**	**07 29 11.8**	**+1.4**	
OGWZ	**Otaki Gorge**	**1.71**	**168**	P	**Pn**	**07 29 12.5**	**+2.2**	
OGWZ				S	**S**	**07 29 38.9**	**-1.6**	
PRWZ	**Pori Road**	**1.72**	**145**	P	**Pn**	**07 29 12.6**	**+2.2**	
KIW	**Kapiti Island**	**1.72**	**174**	P	**Pn**	**07 29 12.3**	**+1.9**	
DUWZ	**D'Urville Isla**	**1.75**	**199**	P	**Pn**	**07 29 12.6**	**+1.9**	
ARHZ	**Aropaoanui**	**1.80**	**94**	P	**Pn**	**07 29 13.4**	**+2.2**	
KAHZ	**Kahuranaki**	**1.81**	**112**	P	**Pn**	**07 29 13.8**	**+2.5**	
HOWZ	**Holdsworth Sta**	**1.86**	**160**	P	**Pn**	**07 29 13.5**	**+1.7**	
RTZ	**Ruatahuna**	**1.87**	**74**	P	**Pn**	**07 29 13.1**	**+1.2**	
TIWZ	**Tintock**	**1.87**	**151**	P	**Pn**	**07 29 13.7**	**+1.9**	
PRHZ	**Porangahau**	**1.87**	**127**	P	**Pn**	**07 29 14.1**	**+2.3**	
RAHZ	**Arahi**	**1.88**	**84**	P	**Pn**	**07 29 14.0**	**+2.0**	
PXZ	**Pawanui**	**1.90**	**118**	P	**Pn**	**07 29 14.3**	**+2.2**	
CKHZ	**Cape Kidnapper**	**1.92**	**106**	P	**Pn**	**07 29 14.7**	**+2.5**	
BFZ	**Birch Farm**	**1.95**	**142**	P	**Pn**	**07 29 14.3**	**+1.8**	
BFZ	**Birch Farm**	**1.95**	**142**	P	**Pn**	**07 29 14.3**	**+1.8**	
CAW	**Cannon Point**	**1.98**	**172**	P	**Pn**	**07 29 14.8**	**+2.0**	
WHHZ	**Waihua**	**1.98**	**89**	P	**Pn**	**07 29 14.9**	**+2.0**	
MKAZ	**Moumakai**	**2.07**	**11**	P	**Pn**	**07 29 15.3**	**+1.5**	
AWAZ	**Awhitu Peninsu**	**2.08**	**359**	P	**Pn**	**07 29 15.5**	**+1.6**	
TCW	**Tory Channel**	**2.08**	**189**	P	**Pn**	**07 29 16.0**	**+2.2**	
URZ	**Urewera**	**2.09**	**66**	P	**Pn**	**07 29 14.5**	**+0.5**	
URZ	**Urewera**	**2.09**	**66**	P	**Pn**	**07 29 14.4**	**+0.5**	
SNGZ	**Shannon Statio**	**2.10**	**81**	P	**Pn**	**07 29 15.6**	**+1.6**	
MTW	**Mount Morrison**	**2.10**	**163**	P	**Pn**	**07 29 15.6**	**+1.6**	
CPWZ	**Castlepoint**	**2.11**	**147**	P	**Pn**	**07 29 16.4**	**+2.4**	
WEL	**Wellington**	**2.13**	**178**	P	**Pn**	**07 29 16.3**	**+2.0**	
SNZO	**South Karori**	**2.16**	**180**	P	**Pn**	**07 29 16.3**	**+1.8**	
TMWZ	**Te Maipa**	**2.16**	**155**	P	**Pn**	**07 29 16.4**	**+1.8**	
ETAZ	**East Tamaki Re**	**2.20**	**5**	P	**Pn**	**07 29 16.7**	**+1.6**	
WTAZ	**Waiatarua**	**2.21**	**358**	P	**Pn**	**07 29 17.1**	**+1.9**	
RAGZ	**Rawiri**	**2.23**	**74**	P	**Pn**	**07 29 16.6**	**+1.3**	
NNZ	**Nelson**	**2.30**	**205**	P	**Pn**	**07 29 17.5**	**+1.7**	
PAWZ	**Paruwai Farm**	**2.30**	**166**	P	**Pn**	**07 29 17.7**	**+1.7**	
TKNZ	**Takaka Hill**	**2.30**	**215**	P	**Pn**	**07 29 17.2**	**+1.3**	
KNZ	**Kokohu**	**2.33**	**88**	P	**Pn**	**07 29 17.8**	**+1.6**	
QRZ	**Quartz Range**	**2.36**	**224**	P	**Pn**	**07 29 17.5**	**+1.0**	
QRZ	**Quartz Range**	**2.36**	**224**	P	**Pn**	**07 29 17.6**	**+1.0**	
MWZ	**Matawai**	**2.37**	**71**	P	**Pn**	**07 29 17.7**	**+1.1**	
RVAZ	**Riverhead Bore**	**2.38**	**358**	P	**Pn**	**07 29 18.3**	**+1.5**	
TRWZ	**Traveller**	**2.38**	**162**	P	**Pn**	**07 29 18.5**	**+1.8**	
RIGZ	**Rimuhau**	**2.44**	**81**	P	**Pn**	**07 29 19.1**	**+1.7**	
PLWZ	**Palliser**	**2.46**	**170**	P	**Pn**	**07 29 19.1**	**+1.6**	
MHGZ	**Mahia Peninsul**	**2.50**	**91**	P	**Pn**	**07 29 20.2**	**+2.2**	
KUZ	**Kuaotunu**	**2.53**	**19**	P	**Pn**	**07 29 20.0**	**+1.6**	
KUZ	**Kuaotunu**	**2.53**	**19**	P	**Pn**	**07 29 20.0**	**+1.6**	
TKGZ	**Te Karaka**	**2.57**	**75**	P	**Pn**	**07 29 20.3**	**+1.6**	
CMWZ	**Cape Campbell**	**2.62**	**188**	P	**Pn**	**07 29 22.4**	**+3.2**	
RUGZ	**Raukumara Rang**	**2.62**	**64**	P	**Pn**	**07 29 19.6**	**+0.1**	
BSWZ	**Blackbirch Sta**	**2.64**	**193**	P	**Pn**	**07 29 21.9**	**+2.5**	
MRNZ	**Matariki Terra**	**2.69**	**213**	P	**Pn**	**07 29 21.2**	**+1.2**	
TWGZ	**Tauwhareparae**	**2.75**	**70**	P	**Pn**	**07 29 22.2**	**+1.4**	
HAZ	**Te Kaha**	**2.80**	**61**	P	**Pn**	**07 29 21.3**	**+0.1**	
CNGZ	**Carnagh Statio**	**2.83**	**78**	P	**Pn**	**07 29 23.3**	**+1.8**	
PKGZ	**Pakihiroa**	**2.94**	**66**	P	**Pn**	**07 29 23.6**	**+0.7**	
THZ	**Tophouse**	**2.94**	**207**	P	**Pn**	**07 29 24.2**	**+1.4**	
PUZ	**Puketiti**	**3.00**	**70**	P	**Pn**	**07 29 24.1**	**+0.7**	
WMGZ	**Waiomatatini S**	**3.21**	**67**	P	**Pn**	**07 29 26.4**	**+0.6**	
WCZ	**Waipu Caves**	**3.21**	**355**	P	**Pn**	**07 29 27.6**	**+1.7**	
MXZ	**Matakaoa Point**	**3.26**	**62**	P	**Pn**	**07 29 27.4**	**+1.1**	
MXZ	**Matakaoa Point**	**3.26**	**62**	P	**Pn**	**07 29 27.1**	**+0.8**	
KHZ	**Kahutara**	**3.38**	**195**	P	**Pn**	**07 29 29.9**	**+2.3**	
KHZ	**Kahutara**	**3.38**	**195**	P	**Pn**	**07 29 29.5**	**+1.8**	
DSZ	**Denniston Nort**	**3.40**	**219**	P	**Pn**	**07 29 29.0**	**+1.0**	
GVZ	**Greta Valley S**	**4.02**	**198**	P	**Pn**	**07 29 36.7**	**+1.5**	
LTZ	**Lake Taylor**	**4.07**	**206**	P	**Pn**	**07 29 37.2**	**+1.4**	
AMCZ	**Amberley**	**4.31**	**200**	P	**Pn**	**07 29 39.9**	**+1.3**	
INZ	**Inchbonnie**	**4.34**	**213**	P	**Pn**	**07 29 39.6**	**+0.6**	
OXZ	**Oxford**	**4.63**	**205**	P	**Pn**	**07 29 43.2**	**+0.7**	
OKCZ	**Okains Bay**	**4.73**	**194**	P	**Pn**	**07 29 45.1**	**+1.2**	
MQZ	**McQueen's Vall**	**4.80**	**198**	P	**Pn**	**07 29 45.0**	**+0.3**	
AKCZ	**Akaroa Harbour**	**4.91**	**195**	P	**Pn**	**07 29 46.9**	**+0.9**	
WVZ	**Waitaha Valley**	**4.93**	**216**	P	**Pn**	**07 29 47.4**	**+1.1**	
RACZ	**Rakaia**	**4.96**	**202**	P	**Pn**	**07 29 47.3**	**+0.7**	
WACZ	**Wakanui South**	**5.25**	**203**	P	**Pn**	**07 29 51.1**	**+0.9**	
GCSZ	**Gaunt Creek Bo**	**5.30**	**217**	P	**Pn**	**07 29 51.2**	**+0.2**	
RPZ	**Rata Peaks**	**5.32**	**210**	P	**Pn**	**07 29 51.8**	**+0.6**	
RPZ	**Rata Peaks**	**5.32**	**210**	P	**Pn**	**07 29 51.7**	**+0.6**	
ARCZ	**Arundel**	**5.47**	**208**	P	**Pn**	**07 29 53.4**	**+0.4**	
FOZ	**Fox Glacier**	**5.71**	**218**	P	**Pn**	**07 29 56.3**	**+0.3**	
TMZ	**Timaru**	**5.91**	**207**	P	**Pn**	**07 29 59.6**	**+1.0**	
LBZ	**Lake Benmore**	**6.22**	**211**	P	**Pn**	**07 30 02.8**	**+0.3**	
ODZ	**Otahua Downs**	**6.61**	**206**	P	**Pn**	**07 30 08.9**	**+1.4**	
JCZ	**Jackson Bay**	**6.62**	**220**	P	**Pn**	**07 30 07.9**	**+0.4**	
EAZ	**Earnscleugh**	**7.27**	**212**	P	**Pn**	**07 30 16.3**	**+0.5**	

*IDC **25** 07:30:52.3±1.0, 21˚.88S×68˚.08W, h104km±11km, mb3.5/1, mbtmp3.7/5, MS4.4/1, Error ellipse: s-maj=27.4km s-min=11.6km az=109.0*
*VAO **25** 07:30:53.6±0.6, 21˚.81S×68˚.24W, h107km±9km, mb3.7*
*GUC **25** 07:30:54.5±0.6, 21˚.85S×68˚.48W, h116km±4km, ML3.7*
ISC 25 07:30:52.1±0.7, **21˚.86S**±0˚.04×**68˚.37W**±0˚.06, **h125**km±8km, **n32**, σ1§**56**/51, **6C-2D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
PB09	**IPOC Station P**	**0.81**	**274**	⇑*i*	**Pn**	**07 31 14.0**	**+0.9**	
PB09				*i* S	**Sn**	**07 31 28.5**	**-0.4**	
PB09				IAML		07 31 31.8		
	comp=E,1μm,0.6s							
LVC	**Limon Verde**	**0.90**	**214**	P	**Pn**	**07 31 15.2**	**+1.1**	
	comp=E,339nm,0.3s,baz=38,slow=6.5,SNR=933							
LVC				S	**Sn**	**07 31 30.5**	**-0.1**	
	comp=E,259nm,0.3s,baz=172,slow=19,SNR=12							
LVC				LR	LR	07 31 48.5		
	comp=E,33nm,21.2s,baz=59,slow=53							
LVC	**Limon Verde**	**0.90**	**214**	*e*P	**Pn**	**07 31 14.6**	**+0.5**	
LVC				*e*S	**Sn**	**07 31 30.9**	**+0.2**	
LVC	**Limon Verde**	**0.90**	**214**	*e*P	**Pn**	**07 31 15.2**	**+1.1**	
LVC				*e*S	**Sn**	**07 31 30.8**	**+0.1**	
PB03	**IPOC Station P**	**1.29**	**261**	⇑*i*P	**Pn**	**07 31 18.0**	**+0.2**	
PB03				*i* S	**Sn**	**07 31 36.1**	**-1.1**	
PB03				IAML		07 31 37.4		
	comp=E,1μm,0.1s							
PB01	**IPOC Station P**	**1.32**	**308**	⇓*i*P	**Pn**	**07 31 18.4**	**+0.4**	
PB01				*i* S	**Sn**	**07 31 36.7**	**-0.9**	
PB01				IAML		07 31 38.3		
	comp=N,1μm,0.3s							
PB06	**IPOC Station P**	**1.39**	**233**	⇑*i*P	**Pn**	**07 31 19.7**	**+0.9**	
PB06				*i* S	**Sn**	**07 31 38.8**	**-0.4**	
PB06				IAML		07 31 40.9		
	comp=E,934nm,0.6s							
PB07	**IPOC Station P**	**1.41**	**275**	⇑*i*P	**Pn**	**07 31 19.3**	**+0.2**	
PB07				*i* S	**Sn**	**07 31 38.1**	**-1.5**	
PB07				IAML		07 31 39.3		
	comp=N,1μm,0.3s							
PB02	**IPOC Station P**	**1.52**	**290**	⇑*i*P	**Pn**	**07 31 20.4**	**+0.3**	
PB02				*i* S	**Sn**	**07 31 39.9**	**-1.6**	
PB02				IAML		07 31 40.9		
	comp=E,1μm,0.3s							
PB04	**IPOC Station P**	**1.71**	**254**	⇑*i*P	**Pn**	**07 31 22.7**	**+0.2**	
PB04				*i* S	**Sn**	**07 31 44.4**	**-1.4**	
PB04				IAML		07 31 46.6		
	comp=E,1μm,0.2s							
PATCX	**Punta Patache**	**1.96**	**302**	*e*P	**Pn**	**07 31 25.6**	**+0.3**	
PATCX				*e*S	**Sn**	**07 31 49.3**	**-1.5**	
PATCX				IAML		07 31 53.9		
	comp=E,831nm,0.2s							
HMBC	**Humberstone**	**2.12**	**318**	*e*P	**Pn**	**07 31 27.4**	**-0.1**	
HMBC				*i* S	**Sn**	**07 31 53.5**	**-0.9**	
HMBC				IAML		07 31 54.7		
	comp=N,772nm,0.2s							
TA01	**Diego Aracena**	**2.12**	**307**	*e*P	**Pn**	**07 31 27.2**	**-0.1**	
TA01				*e*S	**Sn**	**07 31 52.6**	**-1.7**	
TA01				IAML		07 31 54.1		
	comp=E,505nm,0.3s							
GO01	**Chusmiza**	**2.31**	**340**	*i* P	**Pn**	**07 31 31.7**	**+1.5**	
PB11	**IPOC Station P**	**2.41**	**330**	⇓*i*P	**Pn**	**07 31 31.7**	**+0.5**	
PB11				*i* S	**Sn**	**07 32 00.6**	**-0.4**	
PB11				IAML		07 32 02.3		
	comp=E,585nm,0.2s							
PB10	**IPOC Station P**	**2.60**	**230**	*i* P	**Pn**	**07 31 33.4**	**0.0**	
PB10				*e*S	**Sn**	**07 32 02.1**	**-3.1**	
PB10				IAML		07 32 14.4		
	comp=E,139nm,0.4s							
PSGC	**Pisagua**	**2.78**	**324**	*i* P	**Pn**	**07 31 35.2**	**-0.7**	
PSGC				*e*S	**Sn**	**07 32 07.9**	**-1.7**	
MNMC	**Minye Minye**	**2.95**	**337**	*e*P	**Pn**	**07 31 39.2**	**+1.0**	
MNMC				*e*S	**Sn**	**07 32 13.8**	**+0.1**	
MNMC				IAML		07 32 17.0		
	comp=E,399nm,0.3s							
LPAZ	**La Paz**	**5.55**	**2**	P	**Pn**	**07 32 14.7**	**+1.6**	
	comp=E,2.1nm,0.3s,baz=191,slow=5.2,SNR=18							
LPAZ				S	**Sn**	**07 33 14.6**	**-1.5**	
	comp=E,1.8nm,0.5s,baz=191,slow=11,SNR=1.4							
BBSD	**Serra de San D**	**8.67**	**59**	*e*P	**Pn**	**07 32 54.6**	**-0.1**	
BBRB	**Robore, Bolivi**	**8.80**	**68**	*e*P	**Pn**	**07 32 54.5**	**-2.0**	
SIV	**San Ignacio**	**9.04**	**51**	P	**Pn**	**07 32 59.0**	**-0.7**	
	comp=E,2.1nm,0.3s,baz=234,slow=11,SNR=37							
SIV				S	**Sn**	**07 34 34.4**	**-5.5**	
	comp=E,1.7nm,0.9s,baz=198,slow=11,SNR=1.5							
CFA	**Coronel Fontan**	**9.71**	**179**	P	**Pn**	**07 33 07.4**	**-1.2**	
	comp=E,1.2nm,0.3s,baz=357,slow=14,SNR=3.9							
CFA				S	**Sn**	**07 34 50.8**	**-5.0**	
	comp=E,0.6nm,0.3s,baz=11,slow=14,SNR=1.6							
MURT	**Porto Murtinho**	**10.01**	**91**	*e*P	**Pn**	**07 33 13.4**	**+0.8**	
PTLB	**Pontes e Lacer**	**10.83**	**55**	*e*P	**Pn**	**07 33 24.6**	**+1.0**	
RODS	**Rosario do Sul**	**14.54**	**128**	*e*P	**Pn**	**07 34 12.9**	**+1.1**	
PLCA	**Paso Flores**	**18.91**	**185**	P	**Pn**	**07 35 05.7**	**+0.7**	
	comp=E,1.1nm,0.7s,baz=2.6,slow=9.5,SNR=5.7							
SNDB	**Serra Nova Dou**	**19.05**	**62**	*e*P	**Pn**	**07 35 06.5**	**-0.4**	
ITTB	**Itaituba**	**21.27**	**37**	*e*P	**P**	**07 35 29.8**	**+1.1**	
USHA	**Ushuaia**	**32.92**	**180**	LR	LR	07 52 34.9		
	comp=E,731nm,20.9s,baz=336,slow=40							
YKA	**Yellowknife Ar**	**91.69**	**340**	P	**P**	**07 43 47.3**	**+2.5**	
	comp=E,0.3nm,0.6s,baz=136,slow=4.7,SNR=9.0							
	comp=E,0.3nm,0.6s							
MKAR	**Makanchi Array**	**145.63**	**37**	PKPbc	**PKiKP**	**07 50 18.5**	**-1.2**	
	comp=E,0.2nm,0.4s,baz=315,slow=5.0,SNR=3.0							

*NEIC **25** 07:33:00.3±2.2, 24˚.18N±0˚.03×122˚.07E±0˚.03, h10km±1km, mb4.6/26, Error ellipse: s-maj=5.0km s-min=4.6km az=180.0*
*JMA **25** 07:33:05.8±0.1, 24˚.2N±0˚.6×121˚.8E±0˚.5, h63km±1km, MD4.1/15, MV4.6/15, TAIWAN REGION*
*NIED **25** 07:33:05.8, 24˚.24N×121˚.82E, h63km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.55; $M_{\theta\theta}$0.47; $M_{\phi\phi}$-2.02; $M_{r\theta}$0.54; $M_{\theta\phi}$0.93; $M_{\phi r}$0.01; Fault plane solution: $M_0$2.07000×10¹⁵ NP1: ϕ_s138.00000°, δ53.00000°, λ56.00000°. NP2:ϕ_s6.00000°, δ48.00000°, λ126.00000°.*
*ASIES **25** 07:33:06.9, 24˚.22N×121˚.86E, h46km, MW4.1*
*TAP **25** 07:33:06.4, 24˚.24N×121˚.83E, h57km, ML5.0, B*
*IDC **25** 07:33:07.1±3.1, 24˚.23N×121˚.93E, h76km±30km, mb3.5/11, mbtmp3.8/12, MS3.2/8, Error ellipse: s-maj=21.8km s-min=14.1km az=73.0*
*BJI **25** 07:33:09.8±0.0, 24˚.53N×121˚.55E, h60km, mb3.8/17, mB4.5/11, ML4.0/5, Ms4.3/1*
ISC 25 07:33:06.1±0.6, **24˚.21N**±0˚.02×**121˚.88E**±0˚.02, **h56**km±4km, **n265**, σ1§**46**/402, **mb4.3**/28, **MS3.1**/6, **32C-47D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
EHP	**Heping Village**	**0.16**	**309**	P	**Pn**	**07 33 15.4**	**+0.5**	
	baz=311							
EHP				S	**Sn**	**07 33 22.4**	**+1.1**	
	baz=311							
ETL	**Fush Village**	**0.24**	**258**	*i* P	**Pn**	**07 33 15.7**	**+0.4**	
	baz=244							
ETL				S	**Sn**	**07 33 23.3**	**+1.2**	
	baz=244							
ENA	**Nanau**	**0.25**	**330**	⇑*i*P	**Pn**	**07 33 15.8**	**+0.4**	
	baz=343							
ENA				*e*S	**Sn**	**07 33 22.8**	**+0.6**	
	baz=343							
EWUT	**Wuta**	**0.25**	**339**	⇑P	**Pn**	**07 33 15.9**	**+0.5**	
	baz=352							
EWUT				*e*S	**Sn**	**07 33 22.9**	**+0.8**	
	baz=352							
NACB	**Ninganchiao**	**0.26**	**262**		**Pn**	**07 33 15.9**	**+0.4**	
NACB	**Ninganchiao**	**0.26**	**262**	P	**Pn**	**07 33 16.3**	**+0.8**	
NACB	**Ninganchiao**	**0.26**	**262**	⇑*i*P	**Pn**	**07 33 15.8**	**+0.3**	
	baz=254							
NACB				S	**Sn**	**07 33 22.9**	**+0.6**	
	baz=254							
TWD	**Chiawan**	**0.29**	**244**	⇓P	**Pn**	**07 33 16.2**	**+0.6**	
	baz=225							
TWD				S	**Sn**	**07 33 23.4**	**+0.8**	
	baz=225							
HWA	**Hwalien**	**0.34**	**227**	P	**Pn**	**07 33 17.1**	**+1.0**	
	baz=211							
HWA				S	**Sn**	**07 33 26.0**	**+2.6**	
	baz=211							
ETLH	**Xiulin Townshi**	**0.36**	**270**	⇓*i*P	**Pn**	**07 33 16.8**	**+0.4**	
	baz=257							
ETLH				S	**Sn**	**07 33 23.9**	**0.0**	
	baz=257							
TWC	**Suao**	**0.40**	**356**	⇑*i*P	**Pn**	**07 33 17.5**	**+0.8**	
	baz=7.0							
TWC				*i* S	**Sn**	**07 33 25.4**	**+1.1**	
	baz=7.0							
TEYL	**Yanliau Villag**	**0.42**	**217**	P	**Pn**	**07 33 17.6**	**+0.6**	
	baz=206							
TEYL				*e*S	**Sn**	**07 33 26.7**	**+1.9**	
	baz=206							
ETM	**Tongmen**	**0.43**	**236**	⇓*i*P	**Pn**	**07 33 17.2**	**+0.3**	
	baz=240							
ETM				*e*S	**Sn**	**07 33 25.0**	**+0.1**	
	baz=240							
NDS	**Dongshan**	**0.45**	**341**	⇑*i*P	**Pn**	**07 33 17.8**	**+0.5**	
	baz=344							
NDS				*e*S	**Sn**	**07 33 26.1**	**+0.8**	
	baz=344							
LATG	**Datong**	**0.46**	**315**	⇑*i*P	**Pn**	**07 33 17.6**	**+0.2**	
	baz=310							
LATG				*i* S	**Sn**	**07 33 25.8**	**+0.2**	
	baz=310							
NNSB	**Datong**	**0.50**	**296**	⇓*i*P	**Pn**	**07 33 18.1**	**+0.2**	
	baz=289							
NNSB				S	**Sn**	**07 33 26.6**	**+0.1**	
	baz=289							
NNSH	**Datong**	**0.50**	**296**	⇓P	**Pn**	**07 33 18.2**	**+0.3**	
	baz=291							
NNSH				*i* S	**Sn**	**07 33 26.6**	**+0.1**	
	baz=291							
ENTT	**Nioudou**	**0.52**	**327**	⇑*i*P	**Pn**	**07 33 18.2**	**+0.3**	
	baz=329							
ENTT				*e*S	**Sn**	**07 33 27.2**	**+0.7**	
	baz=329							
NNS	**Nan Shan**	**0.52**	**297**	⇓*i*P	**Pn**	**07 33 18.3**	**+0.2**	
	baz=292							
NNS				S	**Sn**	**07 33 26.6**	**-0.2**	
	baz=292							
TWE	**Neicheng**	**0.55**	**339**	⇑*i*P	**Pn**	**07 33 18.8**	**+0.5**	
	baz=338							
TWE				S	**Sn**	**07 33 28.5**	**+1.4**	
	baz=338							
WHF	**Hehuan Shan**	**0.56**	**264**	⇓*i*P	**Pn**	**07 33 19.2**	**+0.3**	
	baz=254							
WHF				*e*S	**Sn**	**07 33 28.0**	**-0.1**	
	baz=254

WFSB	**Wu-fen Shan**	**0.86**	**354**	⇑	*i*	P	**Pn**	**07 33 23.2**	**+1.1**
	baz=356								
WFSB					*i*	S	**Sn**	**07 33 35.6**	**+1.6**
	baz=356								
WPL	**Puli Township**	**0.86**	**257**	⇓	*i*	P	**Pn**	**07 33 23.0**	**+0.8**
	baz=253								
WPL					*e*	S	**Sn**	**07 33 35.2**	**+1.2**
	baz=253								
EHY	**Hungye**	**0.86**	**216**		*i*	P	**Pn**	**07 33 21.7**	**-0.5**
	baz=222								
EHY					*e*	S	**Sn**	**07 33 33.1**	**-1.0**
	baz=222								
NHY	**Taipei**	**0.87**	**341**		*e*	P	**Pn**	**07 33 22.9**	**+0.6**
	baz=332								
NHY					*e*	S	**Sn**	**07 33 34.7**	**+0.5**
	baz=332								
BACT	**New Taipei Cit**	**0.88**	**333**		*e*	P	**Pn**	**07 33 22.8**	**+0.4**
	baz=334								
BACT					*e*	S	**Sn**	**07 33 35.1**	**+0.7**
	baz=334								
SXI1	**Grass Mountain**	**0.88**	**360**	⇑	*i*	P	**Pn**	**07 33 23.3**	**+0.8**
	baz=1.0								
SXI1					*e*	S	**Sn**	**07 33 35.1**	**+0.5**
	baz=1.0								
DPDB	**Guoxing**	**0.89**	**259**	⇓		P	**Pn**	**07 33 23.5**	**+1.0**
	baz=257								
DPDB					*e*	S	**Sn**	**07 33 35.4**	**+0.7**
	baz=257								
TAP1	**Taipei**	**0.89**	**339**		*e*	P	**Pn**	**07 33 24.0**	**+1.5**
	baz=329								
NJD	**Zhudong**	**0.89**	**306**		*e*	P	**Pn**	**07 33 23.7**	**+1.2**
	baz=306								
NJD						S	**Sn**	**07 33 36.6**	**+1.9**
	baz=306								
TAP	**Taipei**	**0.89**	**338**	⇑	*i*	P	**Pn**	**07 33 23.0**	**+0.4**
	baz=329								
TAP					*e*	S	**Sn**	**07 33 35.0**	**+0.3**
	baz=329								
WCS	**Beigang Elemen**	**0.90**	**260**	⇓		P	**Pn**	**07 33 23.6**	**+1.0**
	baz=252								
WCS					*e*	S	**Sn**	**07 33 36.2**	**+1.4**
	baz=252								
LIOB	**Emei**	**0.90**	**299**			P	**Pn**	**07 33 23.4**	**+0.7**
	baz=298								
NSTT	**Nanjuang**	**0.90**	**298**	⇓	*i*	P	**Pn**	**07 33 23.3**	**+0.6**
	baz=297								
NSTT						S	**Sn**	**07 33 35.4**	**+0.4**
	baz=297								
TNOU	**National Taiwa**	**0.94**	**354**	⇑		P	**Pn**	**07 33 23.9**	**+0.7**
	baz=4.0								
TNOU					*e*	S	**Sn**	**07 33 36.5**	**+0.7**
	baz=4.0								
SSLB	**Suanglung**	**0.94**	**244**			Pn	**Pn**	**07 33 23.7**	**+0.4**
SSLB						Sn	**Sn**	**07 33 37.2**	**+1.3**
SSLB	**Suanglung**	**0.94**	**244**			P	**Pn**	**07 33 23.9**	**+0.6**
SSLB	**Suanglung**	**0.94**	**244**		*e*	P	**Pn**	**07 33 23.8**	**+0.6**
	baz=235								
NTY	**Taoyuan**	**0.95**	**326**			P	**Pn**	**07 33 23.8**	**+0.5**
	baz=327								
NTY					*e*	S	**Sn**	**07 33 36.4**	**+0.4**
	baz=327								
SMLT	**Sun Moon Lake**	**0.95**	**250**	⇓	*i*	P	**Pn**	**07 33 24.2**	**+0.7**
	baz=242								
SMLT					*e*	S	**Sn**	**07 33 37.3**	**+1.1**
	baz=242								
HSN1	**Hsinchu**	**0.97**	**306**		*e*	P	**Pn**	**07 33 24.6**	**+1.0**
	baz=306								
HSN1					*e*	S	**Sn**	**07 33 37.5**	**+1.0**
	baz=306								
ECBN	**Changbin**	**0.97**	**204**		*e*	P	**Pn**	**07 33 23.5**	**-0.1**
	baz=192								
ECBN					*i*	S	**Sn**	**07 33 37.1**	**+0.6**
	baz=192								
YULB	**Yu-li**	**0.97**	**213**			Pn	**Pn**	**07 33 23.1**	**-0.5**
YULB						Sn	**Sn**	**07 33 36.0**	**-0.6**
YULB	**Yu-li**	**0.97**	**213**			P	**Pn**	**07 33 23.5**	**-0.1**
YULB	**Yu-li**	**0.97**	**213**	⇓	*i*	P	**Pn**	**07 33 23.0**	**-0.6**
	baz=219								
YULB					*e*	S	**Sn**	**07 33 34.4**	**-2.2**
	baz=219								
YM01	**YM01**	**0.97**	**343**	⇑	*i*	P	**Pn**	**07 33 23.9**	**+0.2**
	baz=334								
YM01					*e*	S	**Sn**	**07 33 36.5**	**-0.2**
	baz=334								
TYC	**Yuchr**	**0.98**	**252**	⇓	*i*	P	**Pn**	**07 33 24.6**	**+0.9**
	baz=245								
TYC					*e*	S	**Sn**	**07 33 38.3**	**+1.5**
	baz=245								
TWS1	**Kuangyinshan**	**0.98**	**335**	⇑	*e*	P	**Pn**	**07 33 24.2**	**+0.4**
	baz=336								
TWS1					*e*	S	**Sn**	**07 33 37.3**	**+0.5**
	baz=336								
NCUH	**Zhongli**	**0.98**	**320**		*e*	P	**Pn**	**07 33 24.1**	**+0.4**
	baz=321								
NCUH					*e*	S	**Sn**	**07 33 37.3**	**+0.4**
	baz=321								
NCU	**National Centr**	**0.98**	**320**			P	**Pn**	**07 33 24.3**	**+0.5**
	baz=321								
NCU					*e*	S	**Sn**	**07 33 37.4**	**+0.5**
	baz=321								
EYUL	**Yuli**	**1.00**	**211**		*e*	P	**Pn**	**07 33 24.1**	**+0.1**
	baz=217								
SBCB	**Hsinchu**	**1.00**	**306**		*e*	P	**Pn**	**07 33 24.7**	**+0.7**
	baz=306								
SBCB					*e*	S	**Sn**	**07 33 37.4**	**+0.2**
	baz=306								
JYNG	**Yonagunijimaku**	**1.00**	**76**			P	**Pn**	**07 33 25.1**	**+1.1**
JYNG						eS	**Sn**	**07 33 38.8**	**+1.6**
JYNG	**Yonagunijimaku**	**1.00**	**76**			A	A	07 33 25.1	
	comp=E,14nm,0.9s,comp=E,11nm,1.1s								
TWF1	**Yuli**	**1.00**	**212**		*e*	P	**Pn**	**07 33 23.8**	**-0.2**
	baz=218								
NWRT	**Kuosheng**	**1.01**	**349**			P	**Pn**	**07 33 24.4**	**+0.3**
	baz=350								
NWRT					*e*	S	**Sn**	**07 33 37.6**	**+0.2**
	baz=350								
YM08	**YM08**	**1.01**	**345**	⇑	*e*	P	**Pn**	**07 33 24.1**	**-0.1**
	baz=335								
YM08						S	**Sn**	**07 33 36.5**	**-0.9**
	baz=335								
HSN	**Hsinchu**	**1.02**	**306**		*e*	P	**Pn**	**07 33 24.8**	**+0.6**
	baz=308								
HSN					*i*	S	**Sn**	**07 33 38.3**	**+0.7**
	baz=308								
TWQ1	**Liyutan**	**1.02**	**278**	⇓	*i*	P	**Pn**	**07 33 25.1**	**+0.9**
	baz=276								
TWQ1					*e*	S	**Sn**	**07 33 38.8**	**+1.1**
	baz=276								
ANP	**Anpu**	**1.03**	**342**	⇑		P	**Pn**	**07 33 24.3**	**-0.1**
	baz=334								
NTST	**Danshui**	**1.03**	**338**	⇑		P	**Pn**	**07 33 24.9**	**+0.5**
	baz=339								
NTST					*e*	S	**Sn**	**07 33 38.5**	**+0.7**
	baz=339								
NJN	**Zhunan**	**1.03**	**297**		*e*	P	**Pn**	**07 33 25.1**	**+0.8**
	baz=305								
NJN					*e*	S	**Sn**	**07 33 38.6**	**+0.7**
	baz=305								
NSY	**Sanyi**	**1.04**	**282**	⇓	*i*	P	**Pn**	**07 33 25.5**	**+1.0**
	baz=280								
NSY					*e*	S	**Sn**	**07 33 39.6**	**+1.5**
	baz=280								
NMLH	**Miaoli**	**1.04**	**288**	⇓		P	**Pn**	**07 33 25.5**	**+1.0**
	baz=287								
NMLH					*e*	S	**Sn**	**07 33 38.9**	**+0.7**
	baz=287								
YOJ	**Yonaguni jima**	**1.06**	**76**			Pn	**Pn**	**07 33 25.8**	**+1.0**
YOJ						Sn	**Sn**	**07 33 39.1**	**+0.4**
YOJ	**Yonaguni jima**	**1.06**	**76**			P	**Pn**	**07 33 26.1**	**+1.3**
YOJ	**Yonaguni jima**	**1.06**	**76**			P	**Pn**	**07 33 25.8**	**+1.0**
YOJ						eS	**Sn**	**07 33 40.1**	**+1.4**
YOJ	**Yonaguni jima**	**1.06**	**76**			A	A	07 33 25.8	
	comp=E,7.0nm,2.0s,comp=E,7.0nm,1.2s								
YOJ	**Yonaguni jima**	**1.06**	**76**	⇓	*i*	P	**Pn**	**07 33 25.8**	**+1.0**
	baz=77								
YOJ					*i*	S	**Sn**	**07 33 39.8**	**+1.1**
	baz=77								
WWF	**Wufeng**	**1.09**	**262**		*e*	P	**Pn**	**07 33 26.6**	**+1.4**
	baz=272								
WWF					*e*	S	**Sn**	**07 33 42.0**	**+2.7**
	baz=272								
TWY	**Chenhua**	**1.09**	**347**	⇑	*i*	P	**Pn**	**07 33 25.8**	**+0.6**
	baz=337								
TWY					*e*	S	**Sn**	**07 33 39.4**	**0.0**
	baz=337								
NHW	**Xinwu Township**	**1.10**	**317**		*e*	P	**Pn**	**07 33 25.5**	**+0.3**
	baz=326								
NHW					*e*	S	**Sn**	**07 33 39.5**	**0.0**
	baz=326								
TCU	**Taichung**	**1.10**	**267**	⇓		P	**Pn**	**07 33 26.4**	**+1.1**
	baz=265								
TCU					*e*	S	**Sn**	**07 33 40.8**	**+1.2**
	baz=265								
NSM	**Shimen**	**1.11**	**346**		*e*	P	**Pn**	**07 33 25.6**	**+0.2**
	baz=337								
YUS	**Yu-Shan**	**1.11**	**230**	⇓		P	**Pn**	**07 33 26.6**	**+0.8**
	baz=220								
YUS						S	**Sn**	**07 33 41.1**	**+0.6**
	baz=220								
WJS	**Zhushan**	**1.12**	**250**	⇓		P	**Pn**	**07 33 27.4**	**+1.9**
	baz=239								
WJS						S	**Sn**	**07 33 42.4**	**+2.3**
	baz=239								
WNT1	**Nantou City**	**1.14**	**255**		*e*	P	**Pn**	**07 33 27.4**	**+1.6**
	baz=252								
WNT1					*e*	S	**Sn**	**07 33 43.8**	**+3.4**
	baz=252								
WDJ	**Dajia District**	**1.14**	**277**	⇓	*i*	P	**Pn**	**07 33 26.7**	**+0.9**
	baz=276								
WDJ					*e*	S	**Sn**	**07 33 42.3**	**+1.9**
	baz=276								
FULB	**Fuli**	**1.14**	**208**	⇓		P	**Pn**	**07 33 26.4**	**+0.5**
	baz=216								
FULB					*e*	S	**Sn**	**07 33 42.1**	**+1.5**
	baz=216								
WNT	**Mingjian**	**1.14**	**253**	⇓		P	**Pn**	**07 33 27.4**	**+1.5**
	baz=251								
WNT					*e*	S	**Sn**	**07 33 43.5**	**+3.0**
	baz=251								
CHKT	**Chengkung**	**1.20**	**203**		*e*	P	**Pn**	**07 33 26.8**	**+0.1**
	baz=194								
CHKT						S	**Sn**	**07 33 41.3**	**-0.7**
	baz=194								
ALS	**Alishan**	**1.20**	**235**	⇓	*i*	P	**Pn**	**07 33 28.2**	**+1.2**
	baz=227								
ALS					*e*	S	**Sn**	**07 33 44.6**	**+2.1**
	baz=227								
WCHH	**Zhanghua**	**1.21**	**264**	⇓	*e*	P	**Pn**	**07 33 28.0**	**+1.2**
	baz=262								
WCHH					*e*	S	**Sn**	**07 33 44.2**	**+2.0**
	baz=262								
WYL	**Yuanlin Townsh**	**1.21**	**259**		*e*	P	**Pn**	**07 33 28.0**	**+1.3**
	baz=267								
EHD	**Haiduan**	**1.22**	**210**		*e*	P	**Pn**	**07 33 26.3**	**-0.7**
	baz=215								
EHD					*e*	S	**Sn**	**07 33 41.4**	**-1.1**
	baz=215								
CHN5	**Tsauling**	**1.26**	**241**	⇓	*i*	P	**Pn**	**07 33 28.9**	**+1.4**
	baz=231								
CHN5					*e*	S	**Sn**	**07 33 46.0**	**+2.6**
	baz=231								
ECS	**Chishang**	**1.26**	**209**		*e*	P	**Pn**	**07 33 27.5**	**0.0**
	baz=216								
ECS					*e*	S	**Sn**	**07 33 43.9**	**+0.4**
	baz=216								
ELDTW	**Lidau**	**1.29**	**218**	⇓		P	**Pn**	**07 33 27.8**	**-0.1**
	baz=217								
ELDTW					*e*	S	**Sn**	**07 33 44.0**	**-0.2**
	baz=217								
WGK	**Gukeng**	**1.31**	**247**		*e*	P	**Pn**	**07 33 29.8**	**+1.7**
	baz=244								
WGK					*e*	S	**Sn**	**07 33 47.6**	**+3.0**
	baz=244								
WDLH	**Douliu**	**1.33**	**247**			P	**Pn**	**07 33 30.1**	**+1.7**
	baz=245								
WDLH					*e*	S	**Sn**	**07 33 49.4**	**+4.3**
	baz=245								
EDH	**Donghe**	**1.34**	**203**		*e*	P	**Pn**	**07 33 28.8**	**+0.3**
	baz=197								
EDH					*e*	S	**Sn**	**07 33 45.2**	**-0.1**
	baz=197								
WCKO	**Fanlu**	**1.40**	**237**	⇓		P	**Pn**	**07 33 31.3**	**+2.0**
	baz=235								
WCKO						S	**Sn**	**07 33 49.5**	**+2.8**
	baz=235								
WRL	**Guolierlin Hig**	**1.41**	**258**		*e*	P	**Pn**	**07 33 30.3**	**+0.9**
	baz=255								
WRL					*e*	S	**Sn**	**07 33 49.2**	**+2.3**
	baz=255								
PCYT	**Pengchaiyu**	**1.43**	**7**		*e*	P	**Pn**	**07 33 29.9**	**+0.3**
	baz=9.0								
STYH	**Taoyuan**	**1.45**	**225**	⇓		P	**Pn**	**07 33 31.5**	**+1.5**
	baz=224								
STYH					*e*	S	**Sn**	**07 33 49.2**	**+1.4**
	baz=224								
CHN4	**Tsaushan**	**1.45**	**234**	⇓	*i*	P	**Pn**	**07 33 31.8**	**+1.8**
	baz=233								
CHN4						S	**Sn**	**07 33 51.4**	**+3.3**
	baz=233								
TPUB	**Ta-pu**	**1.46**	**232**			Pn	**Pn**	**07 33 31.8**	**+1.7**
TPUB						Sn	**Sn**	**07 33 50.3**	**+2.1**
TPUB	**Ta-pu**	**1.46**	**232**			P	**Pn**	**07 33 32.1**	**+2.0**
TPUB	**Ta-pu**	**1.46**	**232**			P	**Pn**	**07 33 31.9**	**+1.7**
	baz=223								
TPUB					*i*	S	**Sn**	**07 33 50.1**	**+1.9**
	baz=223								
WTK	**Tuku**	**1.46**	**249**			P	**Pn**	**07 33 31.4**	**+1.3**
	baz=259								
WTK					*e*	S	**Sn**	**07 33 50.0**	**+1.8**
	baz=259								
STYT	**Tauyuan**	**1.46**	**225**	⇓	*i*	P	**Pn**	**07 33 31.4**	**+1.2**
	baz=224								
STYT					*e*	S	**Sn**	**07 33 50.3**	**+1.9**
	baz=224								
LONT	**Longtian**	**1.47**	**208**	⇓	*e*	P	**Pn**	**07 33 29.8**	**-0.4**
	baz=200								
LONT					*e*	S	**Sn**	**07 33 48.0**	**-0.4**
	baz=200								
WTCT	**Ta-ch'eng**	**1.50**	**257**		*e*	P	**Pn**	**07 33 31.3**	**+0.7**
	baz=254								
WTCT					*e*	S	**Sn**	**07 33 50.5**	**+1.4**
	baz=254								
WTP	**Ta-pu**	**1.50**	**231**	⇓	*i*	P	**Pn**	**07 33 32.2**	**+1.5**
	baz=229								
WTP					*e*	S	**Sn**	**07 33 51.7**	**+2.3**
	baz=229								
CHY	**Chiayi**	**1.51**	**242**		*e*	P	**Pn**	**07 33 32.7**	**+1.9**
	baz=231								
CHY						S	**Sn**	**07 33 53.4**	**+4.0**
	baz=231								
TWGBT	**Beinan**	**1.57**	**208**			P	**Pn**	**07 33 31.5**	**-0.1**
TWGBT	**Beinan**	**1.57**	**208**	⇓		P	**Pn**	**07 33 30.8**	**-0.8**
	baz=201								
TWGBT						S	**Sn**	**07 33 49.7**	**-1.1**
	baz=201								
TWG	**Pinlang**	**1.57**	**208**			Pn	**Pn**	**07 33 30.6**	**-1.0**
TWG						Sn	**Sn**	**07 33 48.1**	**-2.7**
TWG	**Pinlang**	**1.57**	**208**	⇑		P	**Pn**	**07 33 31.1**	**-0.5**
	baz=201								
TWG					*e*	S	**Sn**	**07 33 49.6**	**-1.3**
	baz=201								
LDUT	**Ludao**	**1.57**	**194**		*e*	P	**Pn**	**07 33 31.5**	**-0.2**
	baz=188								
LDUT					*e*	S	**Sn**	**07 33 49.4**	**-1.6**
	baz=188								
TWK	**Hsinying**	**1.58**	**234**	⇓	*i*	P	**Pn**	**07 33 33.4**	**+1.5**
	baz=232								
TWK						S	**Sn**	**07 33 53.8**	**+2.5**
	baz=232								
CHN1	**Nanshi**	**1.60**	**231**	⇓	*i*	P	**Pn**	**07 33 33.6**	**+1.5**
	baz=230								
CHN1					*e*	S	**Sn**	**07 33 53.7**	**+2.0**
	baz=230								
WSF	**Szhu**	**1.62**	**250**			P	**Pn**	**07 33 33.1**	**+0.8**
	baz=257								
WSF						S	**Sn**	**07 33 53.9**	**+1.9**
	baz=257								
SGST	**Jiashian**	**1.63**	**227**	⇓	*i*	P	**Pn**	**07 33 33.4**	**+0.9**
	baz=220								
SGST					*i*	S	**Sn**	**07 33 54.7**	**+2.2**
	baz=220								
WSL	**Shuilin Townsh**	**1.66**	**246**		*e*	P	**Pn**	**07 33 34.2**	**+1.4**
	baz=254								
WSL					*e*	S	**Sn**	**07 33 55.8**	**+2.8**
	baz=254								
ICHU	**Yijhu**	**1.69**	**240**		*e*	P	**Pn**	**07 33 35.1**	**+1.9**
	baz=229								
ICHU					*e*	S	**Sn**	**07 33 57.3**	**+3.5**
	baz=229								
IRIF	**Iriomote-Funau**	**1.69**	**85**			P	**Pn**	**07 33 34.2**	**+0.9**
IRIF						S	**Sn**	**07 33 54.9**	**+1.0**
IRIF	**Iriomote-Funau**	**1.69**	**85**			A	A	07 33 34.2	
	comp=E,6.0nm,6.4s,comp=E,5.0nm,1.6s								
CHN8	**Yiju**	**1.75**	**241**		*e*	P	**Pn**	**07 33 35.6**	**+1.5**
	baz=238								
CHN8					*e*	S	**Sn**	**07 33 57.9**	**+2.6**
	baz=238								
HATJ	**Hateruma jima**	**1.77**	**95**			P	**Pn**	**07 33 35.9**	**+1.6**
HATJ						S	**Sn**	**07 33 57.9**	**+2.2**
CHN3	**Shinhua**	**1.79**	**231**		*e*	P	**Pn**	**07 33 36.8**	**+2.2**
	baz=230								
CHN3					*e*	S	**Sn**	**07 33 59.6**	**+3.4**
	baz=230								
SSHA	**Shanhua**	**1.81**	**234**		*e*	P	**Pn**	**07 33 36.8**	**+2.0**
	baz=232								
SSHA					*e*	S	**Sn**	**07 34 00.5**	**+3.8**
	baz=232								
ECL	**Taimali**	**1.81**	**208**		*e*	P	**Pn**	**07 33 34.7**	**-0.3**
	baz=202								
ECL					*e*	S	**Sn**	**07 33 55.0**	**-1.8**
	baz=202								
SCST	**Cishan**	**1.83**	**224**			P	**Pn**	**07 33 37.8**	**+2.7**
	baz=224								
SCST					*e*	S	**Sn**	**07 34 00.8**	**+3.6**
	baz=224								
SHHT	**Tainan City**	**1.83**	**230**		*e*	P	**Pn**	**07 33 37.9**	**+2.6**
	baz=238								
SCLT	**Jiali**	**1.85**	**237**		*e*	P	**Pn**	**07 33 36.8**	**+1.3**
	baz=226								
SCLT					*e*	S	**Sn**	**07 34 00.9**	**+3.1**
	baz=226								
TSMG	**Majia**	**1.88**	**217**		*e*	P	**Pn**	**07 33 38.0**	**+2.2**
	baz=218								
TAI1	**Yung-k'ang**	**1.91**	**233**		*e*	P	**Pn**	**07 33 38.5**	**+2.3**
	baz=230								
TAI1					*e*	S	**Sn**	**07 34 03.1**	**+4.0**
	baz=230								
TWM1	**Shoushan**	**1.92**	**224**		*e*	P	**Pn**	**07 33 39.3**	**+2.9**
	baz=224								
TWM1					*e*	S	**Sn**	**07 34 02.9**	**+3.4**
	baz=224								
JKRS	**Kuro-shima**	**1.95**	**89**			P	**Pn**	**07 33 38.2**	**+1.5**
JKRS						eS	**Sn**	**07 34 02.9**	**+2.8**
SGLT	**Jiouru**	**1.95**	**221**		*e*	P	**Pn**	**07 33 40.1**	**+3.3**
	baz=221								
TSCK	**Chigu Township**	**1.95**	**238**			P	**Pn**	**07 33 37.9**	**+1.0**
	baz=235								
TSCK					*e*	S	**Sn**	**07 34 02.0**	**+1.8**
	baz=235								
MASBT	**Mashibuluo**	**1.96**	**216**			P	**Pn**	**07 33 38.3**	**+1.4**
	baz=217								
MASBT					*e*	S	**Sn**	**07 34 02.9**	**+2.5**
	baz=217								
EAST	**Anshuo**	**2.05**	**208**		*e*	P	**Pn**	**07 33 38.4**	**+0.2**
	baz=202								
TAW	**Tawu**	**2.05**	**206**		*e*	P	**Pn**	**07 33 38.7**	**+0.5**
	baz=202								
TAWH	**Dawu Township**	**2.07**	**206**		*e*	P	**Pn**	**07 33 40.5**	**+2.1**
	baz=202								
JIJ	**Ishigaki jima**	**2.07**	**85**			P	**Pn**	**07 33 39.0**	**+0.5**
JIJ						S	**Sn**	**07 34 03.8**	**+0.6**
SCZT	**Fangliau**	**2.16**	**213**		*e*	P	**Pn**	**07 33 41.8**	**+2.1**
	baz=214								
LAY	**Lan-yu**	**2.18**	**188**		*e*	P	**Pn**	**07 33 39.5**	**-0.4**
	baz=189								
LYUB	**Lan-yu**	**2.21**	**187**		*e*	P	**Pn**	**07 33 39.3**	**-1.1**
	baz=182								
SLIU	**Shizi**	**2.22**	**207**		*e*	P	**Pn**	**07 33 42.6**	**+2.1**
	baz=202								
PNG	**Penghu**	**2.22**	**254**		*e*	P	**Pn**	**07 33 40.0**	**-0.4**
	baz=249								
PHUB	**P'eng-hu**	**2.22**	**252**			P	**Pn**	**07 33 40.0**	**-0.4**
	baz=248								
PHUB					*e*	S	**Sn**	**07 34 04.3**	**-2.5**
	baz=248								
WDGT	**Dungji**	**2.24**	**246**			P	**Pn**	**07 33 41.1**	**+0.4**
	baz=241								
WDGT					*e*	S	**Sn**	**07 34 07.4**	**+0.1**
	baz=241								
JISG	**Ishigakijimahi**	**2.25**	**80**			P	**Pn**	**07 33 41.5**	**+0.7**
JISG						eS	**Sn**	**07 34 08.5**	**+1.0**
SMST	**Manzhou Townsh**	**2.38**	**204**		*e*	P	**Pn**	**07 33 43.7**	**+1.1**
	baz=201								
HEN	**Hengchun**	**2.43**	**206**		*e*	P	**Pn**	**07 33 46.9**	**+3.6**
	baz=208								
HEN					*e*	S	**Sn**	**07 34 13.9**	**+1.9**
	baz=208								
TWK1	**Hengchun**	**2.46**	**204**		*e*	P	**Pn**	**07 33 45.0**	**+1.2**
	baz=207								
TWK1					*e*	S	**Sn**	**07 34 13.2**	**+0.6**
	baz=207								
TWKBT	**Hengchun**	**2.46**	**204**		*e*	P	**Pn**	**07 33 44.8**	**+1.0**
	baz=199								
TSEB	**Hengchuen, Pin**	**2.47**	**202**		*e*	P	**Pn**	**07 33 42.8**	**-1.1**
	baz=198								
JTJ	**Tarama**	**2.61**	**80**			P	**Pn**	**07 33 47.0**	**+1.2**
JTJ						eS	**Sn**	**07 34 17.7**	**+1.4**
PTMZ	**Houxiangcun**	**2.64**	**289**		*e*	P	**Pn**	**07 33 45.5**	**-0.8**
	baz=288								
LYJJ	**Jianjiangzhen**	**3.02**	**321**		*e*	P	**Pn**	**07 33 50.3**	**-1.0**
	baz=322								
JIRB	**Irabujima**	**3.06**	**78**			P	**Pn**	**07 33 53.3**	**+1.3**
XPSS	**Dashiqiu**	**3.11**	**331**		*e*	P	**Pn**	**07 33 51.6**	**-1.0**
	baz=332								
KNM	**Kinmen**	**3.15**	**274**		*e*	P	**Pn**	**07 33 54.0**	**+0.9**
	baz=260								
JIKM	**Ikemajima**	**3.15**	**76**			P	**Pn**	**07 33 54.5**	**+1.4**
JIKM						eS	**Sn**	**07 34 32.0**	**+2.5**
JMJ	**Miyako jima 2**	**3.17**	**78**			P	**Pn**	**07 33 56.1**	**+2.6**
JMJ2	**Miyako jima3**	**3.19**	**80**			P	**Pn**	**07 33 55.3**	**+1.6**
JMJ2						eS	**Sn**	**07 34 32.9**	**+2.4**
KNMB	**Chin-men Tao**	**3.19**	**275**			Pn	**Pn**	**07 33 52.5**	**-1.3**
KNMB	**Chin-men Tao**	**3.19**	**275**		*e*	P	**Pn**	**07 33 52.7**	**-1.1**
	baz=261								
MHZQ	**Yeshan**	**3.19**	**307**		*e*	P	**Pn**	**07 33 52.7**	**-1.1**
	baz=307								
JOGS	**Gusukube**	**3.26**	**80**		*e*	P	**Pn**	**07 33 56.5**	**+1.8**
JOGS					*e*	S	**Sn**	**07 34 34.9**	**+2.6**
AXDP	**Jialang**	**3.62**	**282**		*e*	P	**Pn**	**07 33 58.9**	**-0.8**
	baz=281								
ZPLA	**Ao Xicun**	**3.78**	**267**		*e*	P	**Pn**	**07 34 01.5**	**-0.4**
	baz=261								
DSXP	**Dongshan**	**4.10**	**264**		*e*	P	**Pn**	**07 34 05.5**	**-0.8**

	comp=E,3.0nm,0.7s							
XLT					pmax	pmax		
	comp=E,200nm,4.9s							
TNCH	**TengChong**	**21.25**	**277**	*eP*	**P**	**P**	**07 37 47.8**	**0.0**
TNCH				pP	pP		07 38 00.3	-0.8
CMAR	**Chiang Mai Arr**	**22.10**	**259**	P	**P**	**P**	**07 37 57.4**	**+0.5**
	comp=E,0.9nm,0.3s,baz=78,slow=8.6,SNR=1.4							
CMAR				LR	LR		07 46 29.8	
	comp=E,51nm,18.7s,baz=65,slow=36							
	comp=E,0.9nm,0.3s							
SBUM	**Sibu**	**23.56**	**205**	P	**P**		**07 38 10.5**	**-1.1**
GTA	**Gaotai**	**24.02**	**314**	*eP*	**P**		**07 38 17.5**	**+1.7**
GTA				pP	pP		07 38 31.3	+1.1
GTA				sP	sP		07 38 37.8	+0.8
KLR	**Kul'dur**	**26.15**	**15**	P	**P**		**07 38 34.5**	**-0.4**
	comp=E,1.1nm,0.6s,baz=221,slow=7.7,SNR=7.0							
KLR				LR	LR		07 48 26.4	
	comp=E,51nm,19.9s,baz=136,slow=35							
	comp=E,1.1nm,0.6s							
GOMU	**GeErMu**	**26.17**	**303**	P	**P**		**07 38 41.8**	**+6.1**
GOMU				pP	pP		07 38 47.0	-3.3
GOMU				pmax	pmax			
	comp=E,1.0nm,1.1s							
GOMU				pmax	pmax			
	comp=E,110nm,5.2s							
HEH	**HeiHe**	**26.35**	**8**	*eP*	**P**		**07 38 36.8**	**+0.1**
HEH				pmax	pmax			
	comp=E,4.0nm,1.2s							
SONM	**Songino Array**	**26.59**	**336**	P	**P**		**07 38 39.0**	**-0.1**
	comp=E,0.6nm,0.5s,baz=153,slow=9.7,SNR=2.5							
	comp=E,0.6nm,0.5s							
KAPI	**Kappang**	**29.12**	**184**	LR	LR		07 50 28.5	
	comp=E,38nm,20.0s,baz=68,slow=36							
WMQ	**Urumqi**	**34.10**	**313**	*eP*	**P**		**07 39 47.5**	**+2.2**
BATI	**Baumata**	**34.25**	**177**	LR	LR		07 56 51.0	
	comp=E,55nm,18.7s,baz=310,slow=42							
MK31	**Makanchi Array**	**38.76**	**316**	P	**P**		**07 40 25.5**	**+0.5**
MKAR	**Makanchi Array**	**38.76**	**316**	P	**P**		**07 40 24.4**	**-0.6**
	comp=E,0.7nm,0.5s,baz=101,slow=11,SNR=9.0							
	comp=E,0.7nm,0.5s							
MKAR	**Makanchi Array**	**38.76**	**316**	P	**P**		**07 40 24.3**	**-0.7**
ZALV	**Zalesovo Beam**	**40.57**	**327**	P	**P**		**07 40 37.3**	**-2.5**
	comp=E,0.9nm,0.4s,baz=111,slow=7.9,SNR=2.5							
	comp=E,0.9nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**41.98**	**89**	T	T		08 26 09.8	
	baz=284,slow=74,SNR=17							
H11S1	**WAKE ISLAND Hy**	**41.99**	**89**	T	T		08 26 10.5	
	baz=284,slow=74,SNR=8.1							
H11S2	**WAKE ISLAND Hy**	**42.00**	**89**	T	T		08 26 18.8	
	baz=284,slow=74,SNR=8.3							
KURBB	**Kurchatov Arra**	**42.50**	**320**	P	**P**		**07 40 54.1**	**-1.6**
	comp=E,0.4nm,0.5s,baz=112,slow=8.0,SNR=4.4							
	comp=E,0.4nm,0.5s							
MBWA	**Marble Bar**	**45.14**	**183**	P	**P**		**07 41 14.4**	**-2.8**
WB0	**Warramunga Arr**	**45.38**	**163**	P	**P**		**07 41 17.5**	**-1.6**
WB0				IAmb	IAmb		07 41 45.9	
	comp=E,1.1nm,1.4s							
WRA	**Warramunga Arr**	**45.53**	**163**	P	**P**		**07 41 18.9**	**-1.4**
	comp=E,1.7nm,0.5s,baz=345,slow=8.6,SNR=16							
WRA				LR	LR		08 01 59.8	
	comp=E,30nm,20.6s,baz=83,slow=38							
	comp=E,1.7nm,0.5s							
WB2	**Warramunga Arr**	**45.54**	**163**	P	**P**		**07 41 18.6**	**-1.8**
WB2				IAmb	IAmb		07 41 46.8	
	comp=E,12nm,1.3s							
PSA00	**Pilbara Seismi**	**45.55**	**183**	P	**P**		**07 41 17.3**	**-3.1**
WR0	**Warramunga Arr**	**45.60**	**163**	P	**P**		**07 41 19.2**	**-1.6**
WR0				IAmb	IAmb		07 41 30.0	
	comp=E,7.8nm,1.2s							
GIRL	**Giralia**	**47.16**	**190**	P	**P**		**07 41 32.5**	**-0.5**
BRVK	**Borovoye**	**48.13**	**321**	P	**P**		**07 41 39.5**	**-0.7**
BRVK				IAmb	IAmb		07 41 40.8	
	comp=E,3.4nm,0.9s							
AS31	**Alice Springs**	**49.00**	**165**	P	**P**		**07 41 46.6**	**-0.6**
ASAR	**Alice Springs**	**49.00**	**165**	P	**P**		**07 41 46.3**	**-1.0**
	comp=E,0.9nm,0.7s,baz=331,slow=6.4,SNR=15							
ASAR				LR	LR		08 02 44.6	
	comp=E,35nm,18.2s,baz=145,slow=36							
	comp=E,0.9nm,0.7s							
ASAR	**Alice Springs**	**49.00**	**165**	P	**P**		**07 41 45.8**	**-1.5**
CTAO	**Charters Tower**	**50.02**	**150**	P	**P**		**07 41 55.2**	**+0.1**
CTAO				IAmb	IAmb		07 41 56.9	
	comp=E,5.6nm,0.8s							
ABKAR	**Akbulak array**	**53.88**	**314**	P	**P**		**07 42 23.4**	**-0.1**
STKA	**Stephens Creek**	**58.87**	**160**	P	**P**		**07 42 58.4**	**-0.7**
	comp=E,1.8nm,0.7s,baz=353,slow=7.0,SNR=5.8							
	comp=E,1.8nm,0.7s							
STKA	**Stephens Creek**	**58.87**	**160**	P	**P**		**07 42 58.4**	**-0.7**
TOO	**Toolangi**	**65.34**	**160**	P	**P**		**07 43 40.5**	**-2.0**
TOO				IAmb	IAmb		07 43 49.0	
	comp=E,11nm,1.3s							
L19K	**White Mountain**	**65.77**	**31**	P	**P**		**07 43 44.8**	**-0.2**
L19K				IAmb	IAmb		07 43 45.6	
	comp=E,4.6nm,1.1s							
H21K	**Melozitna Rive**	**66.30**	**27**	P	**P**		**07 43 47.6**	**-0.6**
H21K				IAmb	IAmb		07 43 57.6	
	comp=E,5.4nm,1.2s							
M20K	**Styx River**	**66.62**	**31**	P	**P**		**07 43 50.4**	**0.0**
M20K				IAmb	IAmb		07 44 32.2	
	comp=E,15nm,1.5s							
PPLA	**Purkeypile**	**66.91**	**30**	P	**P**		**07 43 52.2**	**-0.2**
SUA	**Susitna One**	**67.81**	**31**	P	**P**		**07 43 56.9**	**-1.2**
MDM	**Murphy Dome**	**68.30**	**27**	P	**P**		**07 44 00.8**	**-0.1**
MDM				IAmb	IAmb		07 44 01.6	
	comp=E,5.0nm,1.2s							
ILAR	**Eielson Array**	**68.90**	**27**	P	**P**		**07 44 02.6**	**-2.0**
	comp=E,0.2nm,0.4s,baz=292,slow=7.1,SNR=7.7							
	comp=E,0.2nm,0.4s							
BMAR	**Burnt Mountain**	**69.24**	**24**	P	**P**		**07 44 07.0**	**+0.2**
SCM	**Sheep Creek Mo**	**69.33**	**30**	P	**P**		**07 44 06.8**	**-0.7**
M24K	**Tolsona, Glenn**	**69.80**	**30**	P	**P**		**07 44 10.1**	**-0.2**
M24K				IAmb	IAmb		07 44 20.4	
	comp=E,10nm,1.3s							
GLB	**Gilahina Butte**	**71.06**	**30**	P	**P**		**07 44 18.2**	**+0.2**
GLB				IAmb	IAmb		07 44 20.3	
	comp=E,14nm,1.4s							
EGAK	**Eagle**	**71.28**	**27**	P	**P**		**07 44 18.5**	**-0.7**
EGAK				IAmb	IAmb		07 44 34.2	
	comp=E,6.8nm,1.4s							
BCAR	**Beaver Creek A**	**71.51**	**29**	P	**P**		**07 44 21.0**	**+0.3**
DAWY	**Dawson**	**72.22**	**27**	P	**P**		**07 44 23.8**	**-1.2**
DAWY				IAmb	IAmb		07 44 25.1	
	comp=E,2.5nm,1.0s							
INK	**Inuvik**	**72.96**	**22**	P	**P**		**07 44 28.3**	**-0.9**
NACGM	**Naroch**	**73.38**	**323**	*eP*	P		07 44 21.9	-10
	comp=E,11nm,1.1s,baz=72							
C36M	**Paulatuk**	**75.57**	**20**	P	**P**		**07 44 42.6**	**-1.7**
YKA	**Yellowknife Ar**	**82.70**	**23**	P	**P**		**07 45 22.4**	**-1.0**
	comp=E,0.4nm,0.6s,baz=308,slow=5.0,SNR=15							
	comp=E,0.4nm,0.6s							

*IDC **25** 07:41:26.8±0.7, 3°.06N×126°.63E, h0km, mb4.2/14, mbtmp4.2/15, ML3.7/1, MS3.1/3, Error ellipse: s-maj=32.9km s-min=13.4km az=66.0*
*NEIC **25** 07:41:38.4±1.4, 3°.25N±0°.10×127°.3E±0°.1, h97km±7km, mb4.3/14, Error ellipse: s-maj=19.4km s-min=13.0km az=67.0*

ISC 25 07:41:38.7±0.6, 3°.19N±0°.08×126°.9E±0°.1, h100km, n43, σ1s33/37, mb4.2/21, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.45**	**168**		**Pn**	**07 42 16.4**	**-0.8**
KCP	**Kidapawan**	**4.19**	**335**	*eP*	**Pn**	**07 42 37.1**	**-3.4**
CTBH	**Cotabato--PC H**	**4.79**	**327**	*eP*	**Pn**	**07 42 45.5**	**-3.1**
LUWI	**Luwuk**	**5.87**	**224**	Pn	Pn	07 43 07.3	+4.0
SIJI	**Sorong**	**5.96**	**132**	Pn	Pn	07 42 58.8	-5.7
	1.8nm,0.3s,baz=210,slow=22,SNR=1.9						
SIJI				Sn	**Sn**	**07 44 09.2**	**-2.2**
	1.7nm,0.3s,baz=141,slow=23,SNR=1.4						
	9.8nm,0.5s						
FAKI	**Fak Fak**	**8.10**	**138**	Pn	Pn	07 43 27.4	-6.3
KNRA	**Kununurra**	**18.84**	**174**	P	**P**	**07 45 50.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.19**	**183**	P	**P**	**07 46 15.4**	**-0.9**
WB0	**Warramunga Arr**	**23.98**	**162**	P	**P**	**07 46 43.0**	**-1.1**
WB0				IAmb	IAmb	07 46 55.6	
	comp=E,12nm,0.7s						
WRA	**Warramunga Arr**	**24.13**	**163**	P	**P**	**07 46 43.9**	**-1.6**
	comp=E,3.9nm,0.6s,baz=336,slow=11,SNR=23						
	comp=E,3.9nm,0.6s						
WRA	**Warramunga Arr**	**24.13**	**163**	P	**P**	**07 46 43.3**	**-2.2**
WB2	**Warramunga Arr**	**24.13**	**163**	P	**P**	**07 46 44.5**	**-1.0**
WB2				IAmb	IAmb	07 47 01.2	
	comp=E,8.1nm,0.8s						

WR0	**Warramunga Arr**	**24.20**	**162**	P	**P**		**07 46 45.5**	**-0.6**
WR0				IAmb	IAmb		07 46 58.5	
	comp=E,18nm,1.4s							
PSA00	**Pilbara Seismi**	**25.55**	**195**	P	**P**		**07 46 58.3**	**0.0**
PSA00				IAmb	IAmb		07 47 12.2	
	comp=E,17nm,1.1s							
AS31	**Alice Springs**	**27.55**	**166**	P	**P**		**07 47 15.7**	**-0.8**
ASAR	**Alice Springs**	**27.56**	**166**	P	**P**		**07 47 15.1**	**-1.3**
	comp=E,0.9nm,0.6s,baz=356,slow=7.9,SNR=9.0							
	comp=E,0.9nm,0.6s							
ASAR	**Alice Springs**	**27.56**	**166**	P	**P**		**07 47 15.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**31.27**	**301**	P	**P**		**07 47 49.2**	**-0.2**
	comp=E,0.9nm,0.3s,baz=112,slow=6.9,SNR=4.6							
CMAR				LR	LR		08 00 57.4	
	comp=E,22nm,18.9s,baz=15,slow=38							
	comp=E,0.9nm,0.3s							
FORT	**Forrest**	**33.80**	**178**	P	**P**		**07 48 11.3**	**+0.1**
KSRS	**Korea Array**	**34.12**	**1**	P	**P**		**07 48 14.7**	**+0.8**
	comp=E,0.7nm,0.4s,baz=177,slow=9.9,SNR=5.0							
	comp=E,0.7nm,0.4s							
MJAR	**Matsushiro Arr**	**34.80**	**16**	LR	LR		08 01 04.5	
	comp=E,32nm,20.3s,baz=191,slow=34							
BBOO	**Buckleboo**	**36.84**	**167**	P	**P**		**07 48 37.1**	**-0.2**
STKA	**Stephens Creek**	**37.57**	**159**	P	**P**		**07 48 42.9**	**-0.6**
	comp=E,6.3nm,0.6s,baz=334,slow=8.7,SNR=20							
	comp=E,6.3nm,0.6s							
STKA	**Stephens Creek**	**37.57**	**159**	P	**P**		**07 48 43.4**	**-0.2**
STKA				IAmb	IAmb		07 48 44.5	
	comp=E,1.5nm,0.7s							
USRK	**Ussuriysk Ar.**	**41.09**	**6**	P	**P**		**07 49 11.3**	**-1.3**
H11S3	**WAKE ISLAND Hy**	**41.82**	**66**	T	T		08 33 54.7	
	baz=253,slow=74,SNR=14							
H11S2	**WAKE ISLAND Hy**	**41.83**	**66**	T	T		08 33 56.1	
	baz=253,slow=74,SNR=13							
H11S1	**WAKE ISLAND Hy**	**41.83**	**66**	T	T		08 33 56.4	
	baz=253							
ASAJ	**Asahikawa**	**43.06**	**17**	P	**P**		**07 49 29.9**	**+1.2**
	comp=E,4.7nm,0.6s,baz=186,slow=9.2,SNR=2.0							
ASAJ				LR	LR		08 08 19.9	
	comp=E,27nm,18.8s,baz=184,slow=37							
	comp=E,4.7nm,0.6s							
SONM	**Songino Array**	**47.85**	**341**	P	**P**		**07 50 08.7**	**+2.2**
	comp=E,0.5nm,0.5s,baz=145,slow=5.3,SNR=3.2							
	comp=E,0.5nm,0.5s							
PETK	**Petropavlovsk-**	**55.87**	**22**	P	**P**		**07 51 07.5**	**+1.7**
	comp=E,4.4nm,0.8s,baz=169,slow=3.0,SNR=5.3							
	comp=E,4.4nm,0.8s							
MK31	**Makanchi Array**	**58.08**	**325**	P	**P**		**07 51 22.2**	**+0.6**
MK31				IAmb	IAmb		07 51 23.8	
	comp=E,1.3nm,0.7s							
MKAR	**Makanchi Array**	**58.08**	**325**	P	**P**		**07 51 21.5**	**-0.1**
	comp=E,1.8nm,0.5s,baz=128,slow=7.2,SNR=24							
	comp=E,1.8nm,0.5s							
MKAR	**Makanchi Array**	**58.08**	**325**	P	**P**		**07 51 22.1**	**+0.5**
MAKZ	**Makanchi**	**58.27**	**325**	P	**P**		**07 51 24.4**	**+1.5**
MAKZ				IAmb	IAmb		07 51 26.5	
	comp=E,2.5nm,0.8s							
ZALV	**Zalesovo Beam**	**61.13**	**333**	P	**P**		**07 51 41.7**	**-0.6**
	comp=E,1.4nm,0.5s,baz=139,slow=4.8,SNR=5.7							
	comp=E,1.4nm,0.5s							
KURK	**Kurchatov**	**62.27**	**328**	P	**P**		**07 51 50.5**	**+0.5**
KURK				IAmb	IAmb		07 52 05.0	
	comp=E,3.5nm,0.8s							
KKAR	**Karatay Array**	**63.73**	**317**	P	**P**		**07 52 01.5**	**+1.5**
NRIK	**Noril'sk**	**70.99**	**346**	P	**P**		**07 52 46.3**	**+1.1**
	comp=E,2.2nm,0.5s,baz=128,slow=4.4,SNR=4.4							
	comp=E,2.2nm,0.5s							
ABKAR	**Akbulak array**	**72.66**	**321**	P	**P**		**07 52 56.3**	**+0.7**
AKTO	**Aktyubinsk**	**74.17**	**322**	P	**P**		**07 53 04.5**	**+0.1**
	comp=E,1.8nm,0.5s,baz=99,slow=9.5,SNR=8.1							
	comp=E,1.8nm,0.5s							
ARU	**Arti**	**75.47**	**328**	P	**P**		**07 53 11.7**	**-0.1**
	comp=E,1.3nm,0.4s,baz=168,slow=4.1,SNR=3.8							
	comp=E,1.3nm,0.4s							
BRTR	**Keskin Array B**	**90.48**	**310**	P	**P**		**07 54 29.7**	**0.0**
	comp=E,0.5nm,0.8s,baz=70,slow=6.7,SNR=2.4							
	comp=E,0.5nm,0.8s							

IDC 25 07:44:39.8±2.6, 8°.19S×118°.06E, h0km, mb3.6/2, mbtmp3.6/4, ML3.4/2, MS3.2/2, Error ellipse: s-maj=77.8km s-min=26.3km az=66.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.57**	**28**	Pn	Pn	07 45 36.1	-0.4
	2.7nm,0.3s,baz=212,slow=13,SNR=2.3						
KAPI				Sn	Sn	07 46 13.6	-5.8
	1.7nm,0.3s,baz=167,slow=14,SNR=1.4						
	10nm,0.3s						
WRA	**Warramunga Arr**	**19.62**	**128**	P	P	07 49 10.5	+0.5
	0.1nm,0.3s,baz=303,slow=12,SNR=4.2						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**21.62**	**137**	P	P	07 49 31.4	-0.3
	1.2nm,0.7s,baz=309,slow=8.4,SNR=11						
	1.2nm,0.7s						
PSI	**Prapat**	**21.99**	**299**	LR	LR	07 58 12.3	
	comp=Z,93nm,18.6s,baz=109,slow=37						
GUMO	**Gumm**	**34.30**	**51**	LR	LR	08 05 09.4	
	comp=Z,27nm,20.0s,baz=92,slow=36						
SONM	**Songino Array**	**56.73**	**351**	P	P	07 54 25.4	0.0
	1.1nm,0.8s,baz=169,slow=8.7,SNR=5.3						
	1.1nm,0.8s						

*LDG **25** 07:58:32.2±0.1, 43°.09N×0°.32W, h2km, Md2.6/2, Ml2.5/9, Error ellipse: s-maj=1.5km s-min=1.1km az=164.0*
*STR **25** 07:58:32.2±0.4, 43°N±3°×±°, h2km, MLv1.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=9.9, preliminary*
*MDD **25** 07:58:33.4±0.4, 43°.06N×0°.36W, h11km, mb_Lg2.4/5, Error ellipse: s-maj=2.8km s-min=1.8km az=179.0*

ISC 25 07:58:31.3±0.9, 43°.14N±0°.02×0°.32W±0°.02, h11km±7km, n32, σ1s03/60, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.20**	**100**	Pg	**Pg**	**07 58 36.0**	**+0.4**
PYLO				Sg	**Sg**	**07 58 39.2**	**+0.5**
ATE	**Arette**	**0.28**	**260**	Pg	**Pb**	**07 58 37.2**	**-1.2**
ATE				Sg	**Sg**	**07 58 41.4**	**+0.5**
ETSF	**Etsaut**	**0.29**	**216**	*e*Pg	**Pg**	**07 58 36.8**	**-0.5**
ETSF				*e*Sg	**Sg**	**07 58 40.4**	**-0.9**
	64nm,0.2s						
VIEF	**Viey**	**0.36**	**134**	Pg	**Pg**	**07 58 38.2**	**-0.2**
VIEF				Sg	**Sg**	**07 58 42.4**	**-0.8**
CANF	**Canfranc**	**0.40**	**201**	Pg	**Pg**	**07 58 38.6**	**-0.6**
CANF				Sg	**Sg**	**07 58 43.5**	**-1.0**
EPF	**Esparros**	**0.50**	**102**	*e*Pg	**Pb**	**07 58 41.5**	**-0.5**
EPF				*e*Sg	**Sb**	**07 58 48.2**	**-1.1**
	22nm,0.1s						
SJPF	**Ste Jean**	**0.66**	**268**	*e*Pg	**Pb**	**07 58 44.5**	**-0.3**
SJPF				*e*Sg	**Sb**	**07 58 53.5**	**-0.5**
	12nm,0.2s						
OSSF	**Osses**	**0.70**	**280**	Pg	**Pb**	**07 58 45.5**	**+0.1**
OSSF				Sg	**Sb**	**07 58 55.7**	**+0.6**
EORO	**Oroz-Betelu**	**0.76**	**252**	Pg	**Pb**	**07 58 46.9**	**+0.3**
EORO				Sg	**Sb**	**07 58 57.6**	**+0.6**
EORO				*i* Vmb_Lg		07 58 59.8	
TERF	**Tercis-les-Bai**	**0.79**	**314**	Pg	**Pn**	**07 58 48.1**	**-0.2**
TERF				Sg	**Sb**	**07 58 59.8**	**+2.1**
MLS	**Moulis**	**1.05**	**99**	Pg	**Pb**	**07 58 51.3**	**-0.2**
MLS				Sg	**Sb**	**07 59 06.3**	**+1.0**
SALF	**Salau**	**1.17**	**108**	Pg	**Pn**	**07 58 54.1**	**+0.4**
SALF				Sg	**Sb**	**07 59 09.6**	**+0.8**
ESAC	**San Caprasio**	**1.42**	**184**	Pg	**Pb**	**07 58 58.8**	**+1.1**
ESAC				Sg	**Sn**	**07 59 18.0**	**+2.4**
ESAC				*i* Vmb_Lg		07 59 21.4	
MONQ	**Montcuq**	**1.65**	**41**	Pn	**Pg**	**07 59 02.5**	**-0.5**
MONQ				Sn	**Sg**	**07 59 26.0**	**+1.6**
LRVF	**chteau la Riv**	**1.81**	**0**	Pn	**Pg**	**07 59 05.3**	**-0.7**
MTLF	**Montolieu**	**1.87**	**83**	*e*Pn	**Pn**	**07 59 03.4**	**+0.2**
MTLF	**Montolieu**	**1.87**	**83**	*e*Pg	**Pg**	**07 59 07.1**	**0.0**
MTLF				*e*Sg	**Sg**	**07 59 31.0**	**-0.3**
	18nm,0.6s						
MTLF	**Montolieu**	**1.87**	**83**	Pn	**Pb**	**07 59 04.8**	**-0.6**
MTLF				Sn	**Sg**	**07 59 30.0**	**-1.3**
LFF	**La Frestale**	**1.96**	**23**	*e*Pn	**Pn**	**07 59 05.0**	**+0.6**
LFF	**La Frestale**	**1.96**	**23**	*e*Pg	**Pg**	**07 59 09.8**	**+0.9**
LFF				*e*Sg	**Sg**	**07 59 34.5**	**+0.2**
	11nm,0.3s						
EPOB	**Poblet**	**2.06**	**149**	Pg	**Pg**	**07 59 10.9**	**+0.1**
EPOB				Sg	**Sg**	**07 59 37.1**	**-0.4**
EPOB				*i* Vmb_Lg		07 59 39.2	
CAF	**Calviac**	**2.48**	**43**	*e*Pn	**Pn**	**07 59 12.2**	**+0.5**
CAF	**Calviac**	**2.48**	**43**	*e*Pg	**Pg**	**07 59 18.2**	**-0.7**
CAF				*e*Sn	**Sn**	**07 59 41.3**	**-0.7**
CAF				*e*Sg	**Sg**	**07 59 51.6**	**+0.5**
	2.2nm,0.1s						
RJF	**Les Rejaudoux**	**2.54**	**31**	*e*Pn	**Pn**	**07 59 12.7**	**+0.3**
RJF	**Les Rejaudoux**	**2.54**	**31**	*e*Pg	**Pg**	**07 59 20.1**	**+0.1**
RJF				*e*Sg	**Sg**	**07 59 52.5**	**-0.4**
	4.3nm,0.2s						
ETOR	**Torete**	**2.65**	**210**	Pn	**Pn**	**07 59 14.1**	**+0.1**
ETOR				Sn	**Sn**	**07 59 43.8**	**-2.4**
ETOR				Sg	**Sb**	**07 59 52.8**	**+1.5**
LASF	**Ste Croix**	**3.18**	**71**	*e*Pn	**Pn**	**07 59 21.3**	**+0.1**
LASF	**Ste Croix**	**3.18**	**71**	*e*Pg	**Pg**	**07 59 31.5**	**-0.7**
LASF				*e*Sn	**Sn**	**07 59 58.3**	**-0.8**
LASF				*e*Sg	**Sg**	**08 00 12.8**	**-0.5**
	2.7nm,0.4s						
MFF	**Saint Martin d**	**3.47**	**2**	*e*Pg	**Pg**	**07 59 38.2**	**+0.5**
MFF				*e*Sn	**Sn**	**08 00 05.0**	**-1.2**
MFF				*e*Sg	**Sg**	**08 00 21.8**	**-0.9**
	2.1nm,0.2s						
VIVF	**Saint-Julien-l**	**3.99**	**63**	*e*Pn	**Pn**	**07 59 33.2**	**+0.8**
VIVF	**Saint-Julien-l**	**3.99**	**63**	*e*Pg	**Pg**	**07 59 46.5**	**-1.3**
VIVF				*e*Sg	**Sg**	**08 00 37.1**	**-2.4**
	1.9nm,0.3s						
SMRF	**Simiane la Rot**	**4.37**	**77**	*e*P	**Pn**	**07 59 40.9**	**+3.3**

ROM 25 07:59:16.8±0.1, 42°.649N±0°.004×13°.238E±0°.004, h12km, ML1.7/3, 8C-2D, Error ellipse: s-maj=0.4km s-min=0.1km az=207.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.09**	**283**	↑P	Pg	07 59 20.1	+0.4
T1218				S	Sg	07 59 21.9	+0.1
T1218				AML	AML		
	comp=N,1168μm,0.3s						
T1218				AML	AML		
	comp=N,1172μm,0.3s						
T1218				AML	AML		
	comp=E,928μm,0.1s						
T1218				AML	AML		
	comp=E,966μm,0.1s						
RM33	**Pellescritta (**	**0.14**	**187**	↑P	Pg	07 59 20.8	+0.5
RM33				S	Sg	07 59 23.4	+0.6
LNSS	**Leonessa**	**0.15**	**252**	↑P	Pg	07 59 21.0	+0.5
T1212	**Cascia, Frazio**	**0.18**	**306**	↑P	Pg	07 59 21.3	+0.4
T1212				S	Sg	07 59 24.2	+0.6
T1212				AML	AML		
	comp=E,154μm,0.2s						
T1212				AML	AML		
	comp=N,220μm,0.4s						
T1212				AML	AML		
	comp=N,220μm,0.4s						
T1217	**Poggiodomo (PG**	**0.23**	**286**	P	Pg	07 59 22.2	+0.4
TERO	**Teramo**	**0.27**	**95**	↑P	Pg	07 59 22.8	+0.4
TERO				S	Sg	07 59 27.0	+0.8
TERO				AML	AML		
	comp=E,74500μm,1.6s						
TERO				AML	AML		
	comp=N,9200μm,1.6s						
TERO				AML	AML		
	comp=E,74500μm,0.4s						
TERO				AML	AML		
	comp=N,9200μm,0.4s						
T1222	**Castel Sant'An**	**0.29**	**211**	↓P	Pg	07 59 23.2	+0.4
T1222				S	Sg	07 59 27.6	+0.9
T1211	**Morro Reatino**	**0.31**	**248**	↑P	Pg	07 59 23.4	+0.3
T1215	**Vallo di Nera,**	**0.31**	**299**	↑P	Pg	07 59 23.5	+0.3
GIGS	**Gran Sasso**	**0.32**	**129**	↑P	Pg	07 59 23.6	+0.3
GIGS				S	Sg	07 59 28.4	+0.9
FIAM	**Fiamignano**	**0.39**	**193**	P	Pg	07 59 24.9	+0.3
RMP	**Rome, Mte Porz**	**0.93**	**206**	↓P	Pg	07 59 34.1	-0.5

*IDC **25** 08:00:23.3±2.4, 5°.89S×154°.67E, h160km±18km, mb3.2/4, mbtmp3.8/6, Error ellipse: s-maj=31.6km s-min=18.9km az=62.0*

ISC 25 08:00:21.4±1.3, 5°.9S±0°.2×154°.8E±0°.2, h150km, n6, σ0s64/8, mb3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.24**	**300**	P	**Pn**	**08 01 12.6**	**+0.8**
	39nm,0.4s,baz=346,slow=4.2,SNR=2.2						
KRVT				S	**Sn**	**08 01 49.8**	**-1.0**
	44nm,0.3s,baz=146,slow=23,SNR=9.4						
DZM	**Mont Dzumac**	**19.57**	**146**	P	**Pn**	**08 04 40.4**	**-0.4**
	5.3nm,0.5s,baz=252,slow=9.5,SNR=13						
WRA	**Warramunga Arr**	**24.30**	**233

GTBY				IAML		08 21 22.0		
	comp=Z,16nm,0.5s							
MTDJ	**Mount Denham**	**1.71**	**208**	*i* P	**Pn**	**08 21 02.0**	**+0.6**	
MTDJ				*e*S	**Sn**	**08 21 21.8**	**-1.3**	
MTDJ				IAML		08 21 23.4		
	comp=Z,32nm,1.4s							
CCCC	**Cccc**	**1.75**	**326**	*e*P	Pn	08 20 59.4	-2.6	
CCCC				*e*S	Sn	08 21 19.9	-4.1	
CCCC				IAML		08 21 24.3		
	comp=N,9.6nm,0.3s							
CCCC				IAML		08 21 24.5		
	comp=E,7.9nm,0.2s							
MASC	**Masc**	**2.36**	**79**	*i* P	**Pn**	**08 21 13.1**	**+2.8**	
MASC				IAML		08 21 45.1		
	comp=Z,18nm,2.7s							

HEL ***25*** *08:31:43.0±0.3, 67°.77N×20°.02E, h0km, ML1.5, Explosion*
DNK ***25*** *08:31:44.4±0.4, 67°.82N×20°.20E, h0km, ML2.9(UPP), Suspected explosion*
UPP ***25*** *08:31:44.0±0.1, 67°.82N×20°.18E, h0km, ML2.9, Confirmed Induced event*

ISC 25 08:31:43.4±0.8**, 67°.81N**±0°.03**×20°.27E**±0°.02**, h0**km**, n29, σ0^{s}88/39**, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.26**	**273**	P	**Pg**	**08 31 48.4**	**+0.1**
RATU				S	**Sg**	**08 31 51.7**	**0.0**
RATU	**Laukkuluspa**	**0.26**	**273**	P	**Pg**	**08 31 48.4**	**+0.1**
RATU				S	**Sg**	**08 31 51.7**	**0.0**
NIKU	**Nikkaluokta**	**0.47**	**277**	P	**Pg**	**08 31 52.4**	**0.0**
NIKU				S	**Sg**	**08 31 58.5**	**-0.1**
NIKU	**Nikkaluokta**	**0.47**	**277**	P	**Pg**	**08 31 52.4**	**0.0**
NIKU				S	**Sg**	**08 31 58.5**	**-0.1**
LANU	**Lannavaara**	**0.69**	**69**	P	**Pb**	**08 31 57.7**	**-0.7**
LANU	**Lannavaara**	**0.69**	**69**	P	**Pb**	**08 31 57.7**	**-0.7**
LANU	**Lannavaara**	**0.69**	**69**	PG	**Pb**	**08 31 57.4**	**-1.0**
LANU				SG	**Sb**	**08 32 07.1**	**-1.4**
DUNU	**Dundret**	**0.70**	**171**	P	**Pg**	**08 31 57.6**	**+0.7**
DUNU	**Dundret**	**0.70**	**171**	P	**Pg**	**08 31 57.6**	**+0.7**
MASU	**Masugnsbyn**	**0.75**	**117**	P	**Pb**	**08 31 58.8**	**-0.5**
MASU	**Masugnsbyn**	**0.75**	**117**	P	**Pb**	**08 31 58.8**	**-0.5**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**08 31 58.8**	**0.0**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**08 31 58.8**	**0.0**
KIF	**Kilpisjarvi**	**1.22**	**9**	PG	**Pg**	**08 32 06.3**	**-0.4**
KIF				MSG		08 32 22.4	
	comp=Z,4.4nm,0.2s						
KIF				SG	**Sb**	**08 32 23.3**	**-0.2**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**08 32 09.1**	**-0.2**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**08 32 09.1**	**-0.2**
HEF	**Hetta**	**1.40**	**63**	PG	**Pb**	**08 32 10.6**	**+0.1**
HEF				MSG		08 32 28.4	
	comp=Z,2.4nm,0.2s						
HEF				SG	**Sn**	**08 32 29.2**	**-0.2**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pg**	**08 32 11.3**	**-0.2**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pg**	**08 32 11.3**	**-0.2**
ERTU	**Ertsjaerv**	**1.47**	**148**	PN	**Pn**	**08 32 11.0**	**-0.1**
ERTU				SN	**Sn**	**08 32 32.0**	**+1.0**
KTK1	**Kautokeino**	**1.63**	**41**	PG	**Pg**	**08 32 14.2**	**-0.5**
KTK1				SN	**Sg**	**08 32 38.3**	**+2.5**
HARU	**Harads**	**1.68**	**170**	P	**Pb**	**08 32 14.6**	**-0.5**
HARU	**Harads**	**1.68**	**170**	P	**Pb**	**08 32 14.6**	**-0.5**
KALU	**Kalix**	**2.31**	**147**	PG	**Pb**	**08 32 24.6**	**-1.3**
TOF	**Tornio**	**2.36**	**136**	PG	**Pb**	**08 32 25.7**	**-1.0**
TOF				MSG		08 32 54.0	
	comp=Z,1.6nm,0.2s						
SGF	**Sodankyl**	**2.42**	**96**	SG	**Sg**	**08 32 59.7**	**-1.4**
RNF	**Rovaniemi**	**2.54**	**116**	PG	**Pb**	**08 32 28.6**	**-1.2**
RNF				SG	**Sb**	**08 33 02.0**	**+0.4**
KEV	**Kevo**	**3.13**	**48**	SN	**Sn**	**08 33 13.7**	**+1.8**
KU6	**Riekki**	**4.19**	**111**	PG	**Pb**	**08 32 60.0**	**+2.1**

IDC ***25*** *08:44:34.0±4.3, 13°.34N×143°.85E, h120km±80km, mb3.2/4, mbtmp3.5/4, Error ellipse: s-maj=152.4km s-min=23.2km az=84.0*

ISC 25 08:44:35.0±1.1**, 13°.4N**±0°.2**×144°.2E**±0°.2**, h142**km**, n5, σ0^{s}50/6, mb3.6/4, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.69**	**71**	P	**Pn**	**08 44 56.3**	**-0.3**
	449nm,0.3s,baz=135,slow=1.8,SNR=39						
GUMO				S	**Sn**	**08 45 13.4**	**+0.4**
	272nm,0.3s,baz=51,slow=21,SNR=14						
WRA	**Warramunga Arr**	**34.49**	**197**	P	**P**	**08 51 09.4**	**-0.2**
	0.9nm,1.1s,baz=18,slow=10.0,SNR=5.6						
	0.9nm,1.1s						
ASAR	**Alice Springs**	**38.16**	**195**	P	**P**	**08 51 41.0**	**+0.3**
	0.1nm,0.3s,baz=18,slow=13,SNR=5.6						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**61.20**	**316**	P	**P**	**08 54 35.3**	**+0.5**
	0.5nm,0.6s,baz=95,slow=7.6,SNR=4.2						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**64.37**	**320**	P	**P**	**08 54 55.3**	**-0.4**
	0.5nm,0.5s,baz=106,slow=6.2,SNR=2.3						
	0.5nm,0.5s						

IDC ***25*** *08:47:28.8±1.6, 54°.67N×83°.77E, h0km, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=13.7km s-min=9.6km az=3.0*

ISC 25 08:47:29.7±2.7**, 54°.8N**±0°.2**×83°.9E**±0°.1**, h35**km**, n5, σ1^{s}98/7, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**148**	I	I	08 53 20.0	
	0.3nm,0.9s,baz=320,slow=346,SNR=8.4						
ZALV	**Zalesovo Beam**	**1.01**	**148**	Pg	**Pn**	**08 47 47.0**	**-0.3**
	3.5nm,0.3s,baz=325,slow=15,SNR=19						
ZALV				Lg	Lg	08 48 00.5	
	12nm,0.3s,baz=320,slow=29,SNR=32						
KURBB	**Kurchatov Arra**	**5.31**	**220**	Pn	**Pn**	**08 48 46.6**	**+0.2**
	0.1nm,0.3s,baz=42,slow=14,SNR=2.8						
KURBB				Sn	**Sn**	**08 49 46.2**	**0.0**
	0.1nm,0.3s,baz=106,slow=5.7,SNR=3.3						
KURBB				Lg	Lg	08 50 13.7	
	0.1nm,0.3s,baz=18,slow=28,SNR=1.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.08**	**188**	Pn	**Pn**	**08 49 25.1**	**+0.6**
	0.1nm,0.3s,baz=2.1,slow=11,SNR=4.1						
MKAR				Sn	**Sn**	**08 50 54.6**	**+0.1**
	0.1nm,0.3s,baz=40,slow=51,SNR=1.2						
MKAR				Lg	Lg	08 51 41.0	
	0.1nm,0.3s,baz=32,slow=30,SNR=3.1						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**8.18**	**263**	Pn	**Pn**	**08 49 27.0**	**+1.3**
	0.1nm,0.3s,baz=67,slow=15,SNR=4.7						
BVAR				Sn	**Sn**	**08 50 53.2**	**-3.7**
	baz=57,slow=26,SNR=2.8						
	0.7nm,0.3s						

GUC ***25*** *08:49:02.0±0.8, 17°.98S×69°.65W, h133km±3km, ML3.3*
VAO ***25*** *08:49:05.4±1.4, 18°.04S×69°.18W, h144km±7km, mb3.9*
IDC ***25*** *08:49:09.7±4.7, 14°.41S×68°.87W, h90km±50km, mb3.8/2, mbtmp4.0/4, ML3.5/2, Error ellipse: s-maj=48.5km s-min=28.9km az=158.0*

ISC 25 08:49:01.1±0.8**, 18°.02S**±0°.06**×69°.57W**±0°.08**, h136**km**±7km, n30, σ1^{s}35/39, 4C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.31**	**170**	⇓*i*P	**Pn**	**08 49 21.7**	**+0.9**
PB16				*i* S	**Sn**	**08 49 36.4**	**+0.8**
PB16				IAML		08 49 37.3	
	comp=N,1μm,0.2s						
AP01	**Chacalluta**	**0.81**	**245**	⇑*i*P	**Pn**	**08 49 22.8**	**-0.2**
AP01				*i* S	**Sn**	**08 49 39.0**	**-0.5**
PB12	**IPOC Station P**	**0.93**	**231**	⇑*i*P	**Pn**	**08 49 23.6**	**-0.5**
PB12				*i* S	**Sn**	**08 49 40.2**	**-1.3**
PB12				IAML		08 49 41.8	
	comp=N,1μm,0.1s						
MNMC	**Minye Minye**	**1.10**	**182**	⇓*i*P	**Pn**	**08 49 26.8**	**+0.9**
MNMC				*i* S	**Sn**	**08 49 45.5**	**+0.8**
MNMC				IAML		08 49 49.5	
	comp=E,1μm,0.3s						
PSGC	**Pisagua**	**1.65**	**199**	⇑*i*P	**Pn**	**08 49 31.3**	**-0.1**
PSGC				*i* S	**Sn**	**08 49 53.0**	**-1.6**
PSGC				IAML		08 49 54.7	
	comp=N,208nm,0.5s						
GO01	**Chusmiza**	**1.67**	**168**	*e*P	**Pn**	**08 49 33.8**	**+1.7**
GO01				*e*S	**Sn**	**08 49 57.5**	**+1.8**
PB11	**IPOC Station P**	**1.73**	**183**	*i* P	**Pn**	**08 49 33.3**	**+0.9**
PB11				*i* S	**Sn**	**08 49 56.6**	**+0.3**
PB11				IAML		08 49 58.2	
	comp=E,220nm,0.7s						
LPAZ	**La Paz**	**2.21**	**39**	P	**Pn**	**08 49 40.8**	**+2.2**
	comp=E,11nm,0.3s,baz=225,slow=2.1,SNR=260						
LPAZ				S	**Sn**	**08 50 08.4**	**+1.2**
	comp=E,14nm,0.7s,baz=234,slow=14,SNR=5.2						
	comp=E,34nm,0.3s						
LPAZ	**La Paz**	**2.21**	**39**	⇓*i*P	**Pn**	**08 49 40.7**	**+2.2**
LPAZ	**La Paz**	**2.21**	**39**	*e*P	**Pn**	**08 49 40.8**	**+2.2**
HMBC	**Humberstone**	**2.26**	**188**	*e*P	**Pn**	**08 49 38.9**	**+0.1**
TA01	**Diego Aracena**	**2.59**	**193**	*i* P	**Pn**	**08 49 42.7**	**-0.1**
TA01				IAML		08 50 25.1	
	comp=E,59nm,0.1s						
PATCX	**Punta Patache**	**2.84**	**191**	*i* P	**Pn**	**08 49 46.5**	**+0.5**
PB01	**IPOC Station P**	**3.00**	**179**	⇑*i*P	**Pn**	**08 49 48.5**	**+0.4**
PB02	**IPOC Station P**	**3.29**	**185**	*i* P	**Pn**	**08 49 51.9**	**+0.1**
SIV	**San Ignacio**	**8.37**	**77**	P	**Pn**	**08 50 58.2**	**-1.5**
	comp=E,0.1nm,0.3s,baz=276,slow=11,SNR=32						
SIV				S	**Sn**	**08 52 28.3**	**-4.4**
	comp=E,2.2nm,0.8s,baz=315,slow=20,SNR=2.5						
	comp=E,2.5nm,0.3s						
BBSD	**Serra de San D**	**8.58**	**86**	*e*P	**Pn**	**08 51 01.0**	**-1.5**
VILB	**Vilhena**	**10.34**	**62**	*e*P	**Pn**	**08 51 26.5**	**+0.5**
MURT	**Porto Murtinho**	**11.82**	**110**	*e*P	**Pn**	**08 51 44.0**	**-1.4**
ARAG	**Araguaiana, MT**	**17.15**	**85**	*e*P	**P**	**08 52 52.5**	**+0.4**
PTGB	**Pitanga**	**17.60**	**115**	*e*P	**Pn**	**08 52 58.2**	**+0.1**
ITAB	**Concordia**	**18.50**	**123**	*e*P	**Pn**	**08 53 08.1**	**-0.6**
SNDB	**Serra Nova Dou**	**18.64**	**74**	*e*P	**P**	**08 53 08.7**	**+0.2**
CPSB	**Cacapava Do Su**	**19.16**	**133**	*e*P	**P**	**08 53 14.5**	**+0.4**
ITTB	**Itaituba**	**19.17**	**47**	*e*P	**P**	**08 53 13.6**	**-0.7**
PLTB	**Pedras Altas**	**19.88**	**136**	*e*P	**P**	**08 53 22.2**	**+0.3**
SMTB	**Santa Maria do**	**23.21**	**70**	*e*P	**P**	**08 53 57.4**	**+1.1**
JANB	**Januaria**	**24.38**	**87**	*e*P	**P**	**08 54 06.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.80**	**71**	P	**P**	**09 00 40.2**	**+1.8**
	comp=E,3.7nm,0.3s,baz=262,slow=5.6,SNR=1.3						
	comp=E,3.7nm,0.3s						
YKA	**Yellowknife Ar**	**87.72**	**341**	P	**P**	**09 01 33.9**	**-0.2**
	comp=E,0.2nm,0.6s,baz=138,slow=4.5,SNR=6.4						
	comp=E,0.2nm,0.6s						

IDC ***25*** *08:50:48.6±1.2, 22°.42S×67°.48W, h146km±15km, mb3.2/1, mbtmp3.7/5, Error ellipse: s-maj=25.9km s-min=16.8km az=114.0*
GUC ***25*** *08:50:49.8±0.7, 22°.44S×67°.87W, h180km±6km, ML3.7*
SCB ***25*** *08:50:49.9±1.1, 22°.41S×67°.70W, h143km±18km, ML3.6/1, MW3.2, Error ellipse: s-maj=9.0km s-min=4.4km az=0.0*

ISC 25 08:50:48.4±0.9**, 22°.46S**±0°.05**×67°.70W**±0°.05**, h164**km**±8km, n32, σ1^{s}36/51, 6C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.13**	**262**	P	**Pn**	**08 51 17.2**	**+1.1**
	116nm,0.3s,baz=74,slow=5.9,SNR=25						
LVC				S	**Sn**	**08 51 37.8**	**+0.5**
	92nm,0.4s,baz=212,slow=21,SNR=26						
LVC	**Limon Verde**	**1.13**	**262**	*e*P	**Pn**	**08 51 17.1**	**+1.1**
LVC				*e*S	**Sn**	**08 51 37.7**	**+0.5**
LVC	**Limon Verde**	**1.13**	**262**	Pg	**Pn**	**08 51 17.2**	**+1.1**
PB09	**IPOC Station P**	**1.58**	**295**	⇑*e*P	**Pn**	**08 51 21.5**	**+1.4**
PB06	**IPOC Station P**	**1.75**	**262**	*e*P	**Pn**	**08 51 23.0**	**+1.2**
PB06				IAML		08 51 50.9	
	comp=N,372nm,0.1s						
PB06	**IPOC Station P**	**1.75**	**262**	Pg	**Pn**	**08 51 23.0**	**+1.2**
PB03	**IPOC Station P**	**1.95**	**282**	⇑*i*P	**Pn**	**08 51 24.7**	**+0.7**
PB03				*i* S	**Sn**	**08 51 51.0**	**-0.4**
PB03				IAML		08 51 52.1	
	comp=E,873nm,0.3s						
PB07	**IPOC Station P**	**2.16**	**289**	⇑*i*P	**Pn**	**08 51 27.2**	**+0.8**
PB07				*i* S	**Sn**	**08 51 55.1**	**-0.6**
PB07				IAML		08 51 55.7	
	comp=N,550nm,0.2s						
PB01	**IPOC Station P**	**2.18**	**310**	⇑*i*P	**Pn**	**08 51 27.2**	**+0.6**
PB01				*i* S	**Sn**	**08 51 56.1**	**0.0**
PB01				IAML		08 51 57.6	
	comp=E,247nm,0.2s						
MOCB	**Mochara**	**2.26**	**58**	Pg	**Pn**	**08 51 28.4**	**+0.5**
MOCB				Sg	**Sn**	**08 51 57.7**	**-0.6**
PB04	**IPOC Station P**	**2.27**	**273**	⇑*i*P	**Pn**	**08 51 28.4**	**+0.7**
PB04				*i* S	**Sn**	**08 51 57.3**	**-0.8**
PB04				IAML		08 51 58.4	
	comp=N,484nm,0.3s						
PB04	**IPOC Station P**	**2.27**	**273**	Pg	**Pn**	**08 51 28.5**	**+0.7**
PB02	**IPOC Station P**	**2.34**	**299**	⇑*i*P	**Pn**	**08 51 28.9**	**+0.5**
PB02				*i* S	**Sn**	**08 51 58.5**	**-0.9**
PB02				IAML		08 52 01.7	
	comp=N,282nm,0.1s						
PB02	**IPOC Station P**	**2.34**	**299**	Pg	**Pn**	**08 51 28.9**	**+0.5**
PB02				Sg	**Sn**	**08 51 58.8**	**-0.5**
PB02				IAML		08 52 01.7	
	comp=N,240nm,0.2s						
PATCX	**Punta Patache**	**2.81**	**305**	*e*P	**Pn**	**08 51 34.1**	**0.0**
PATCX				*e*S	**Sn**	**08 52 08.3**	**-1.2**
PATCX				IAML		08 52 13.5	
	comp=N,144nm,0.2s						
PB10	**IPOC Station P**	**2.83**	**248**	*e*P	**Pn**	**08 51 34.8**	**+0.6**
PB10				*e*S	**Sn**	**08 52 08.9**	**-1.0**
PB10				IAML		08 52 13.8	
	comp=E,97nm,0.4s						
HMBC	**Humberstone**	**2.98**	**316**	*e*P	**Pn**	**08 51 35.9**	**-0.3**
HMBC				*e*S	**Sn**	**08 52 11.3**	**-2.0**
HMBC				IAML		08 52 15.6	
	comp=E,248nm,0.3s						
TA01	**Diego Aracena**	**2.98**	**309**	*e*P	**Pn**	**08 51 35.7**	**-0.5**
TA01				*e*S	**Sn**	**08 52 11.4**	**-1.8**
TA01				IAML		08 52 13.7	
	comp=N,117nm,0.3s						
GO01	**Chusmiza**	**3.11**	**333**	*e*P	**Pn**	**08 51 38.9**	**+0.7**
GO01	**Chusmiza**	**3.11**	**333**	Pg	**Pn**	**08 51 39.0**	**+0.7**
PB11	**IPOC Station P**	**3.25**	**325**	*e*P	**Pn**	**08 51 39.4**	**-0.3**
PB11				*i* S	**Sn**	**08 52 17.8**	**-1.6**
PB11				IAML		08 52 21.6	
	comp=E,256nm,0.3s						
PB14	**IPOC Station P**	**3.29**	**229**	*e*P	**Pn**	**08 51 41.1**	**+0.9**
PB14				*e*S	**Sn**	**08 52 19.6**	**-0.9**
PB14				IAML		08 52 23.7	
	comp=E,44nm,0.2s						
PSGC	**Pisagua**	**3.64**	**321**	*e*P	**Pn**	**08 51 43.2**	**-1.4**
PSGC				*e*S	**Sn**	**08 52 25.8**	**-2.4**
MNMC	**Minye Minye**	**3.76**	**331**	*e*P	**Pn**	**08 51 46.4**	**+0.2**
MNMC				*e*S	**Sn**	**08 52 30.3**	**-1.0**
BBOE	**La Paz, Chanca**	**5.62**	**357**	Pg	**Pn**	**08 52 12.2**	**+1.3**
LPAZ	**La Paz**	**6.15**	**356**	P	**Pn**	**08 52 18.9**	**+1.0**
	comp=E,1.1nm,0.3s,baz=198,slow=3.2,SNR=2.3						
LPAZ				S	**Sn**	**08 53 27.1**	**-1.0**
	comp=E,2.0nm,0.6s,baz=292,slow=21,SNR=3.1						
LPAZ	**La Paz**	**6.15**	**356**	Pg	**Pn**	**08 52 18.5**	**+0.6**
SIV	**San Ignacio**	**8.97**	**45**	P	**Pn**	**08 52 51.4**	**-3.4**
	comp=E,4.9nm,0.3s,baz=221,slow=7.0,SNR=22						
SIV				S	Sn	08 54 24.9	-10
	comp=E,2.3nm,0.3s,baz=135,slow=23,SNR=8.7						
CFA	**Coronel Fontan**	**9.12**	**183**	P	**Pn**	**08 52 56.5**	**-0.1**
	comp=E,0.4nm,0.3s,baz=7.6,slow=15,SNR=1.2						
CFA				S	**Sn**	**08 54 32.8**	**-5.3**
	comp=E,0.8nm,0.3s,baz=126,slow=19,SNR=1.8						
BDFB	**Brasilia**	**19.79**	**73**	P	**P**	**08 55 06.3**	**-0.1**
	comp=E,1.9nm,0.4s,baz=256,slow=9.5,SNR=5.2						
YKA	**Yellowknife Ar**	**92.47**	**340**	P	**P**	**09 03 41.8**	**+1.7**
	comp=E,0.2nm,0.6s,baz=133,slow=4.6,SNR=5.2						
	comp=E,0.2nm,0.6s						
MKAR	**Makanchi Array**	**145.73**	**38**	PKPbc	**PKPab**	**09 10 09.7**	**+1.1**
	comp=E,0.4nm,0.8s,baz=281,slow=2.3,SNR=2.1						

HEL 25 09:03:46.0±0.3**, 65°.58N**×**21°.84E, h0**km**, ML1.3, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALU	**Kalix**	**0.69**	**65**	PG	Pg	09 03 57.9	-1.3
KALU				SG	Sg	09 04 06.9	-1.1
ERTU	**Ertsjaerv**	**0.99**	**8**	PG	Pg	09 04 03.8	-1.1
ERTU				SB	Sg	09 04 17.5	-0.2
BURU	**Burvik**	**1.02**	**191**	PN	Pg	09 04 05.2	-0.3
TOF	**Tornio**	**1.14**	**63**	PG	Pg	09 04 06.3	-1.5
TOF				MSG		09 04 20.7	
	comp=Z,0.9nm,0.2s						
OBF0	**Syolatti, Pyha**	**1.49**	**136**	PG	Pn	09 04 12.7	-1.2
OBF0				MSG		09 04 30.6	
	comp=Z,2.7nm,0.2s						
OBF0				SN	Sn	09 04 35.1	+1.0
OBF4	**Vikkela, Lumij**	**1.58**	**118**	PG	Pn	09 04 14.3	-0.9
OBF4				MSG		09 04 33.2	
	comp=Z,2.7nm,0.2s						
OBF4				SG	Sn	09 04 34.9	-1.4
OUF	**Merijarvi**	**1.73**	**133**	PG	Pn	09 04 17.0	-0.3
	baz=311						
OUF				MSG		09 04 37.6	
	comp=Z,2.4nm,0.2s						
OUF				SN	Sb	09 04 41.1	+0.3
OUL	**Oulu**	**1.77**	**104**	PG	Pn	09 04 17.8	0.0
OUL				SG	Sb	09 04 41.6	-0.5
RNF	**Rovaniemi**	**1.99**	**57**	PB	Pn	09 04 21.1	+0.3
RNF				SB	Sb	09 04 48.2	-0.1
LANU	**Lannavaara**	**2.48**	**1**	PB	Pn	09 04 28.4	+0.7
VAF	**Ylistaro**	**2.57**	**172**	PG	Pn	09 04 30.3	+1.4
VAF				MSG		09 05 01.7	
	comp=Z,1.0nm,0.2s						
VAF				SG	Sb	09 05 04.7	-0.4
SGF	**Sodankyl**	**2.65**	**43**	SB	Sb	09 05 06.8	-0.5
HEF	**Hetta**	**2.93**	**13**	PN	Pn	09 04 31.6	-2.2
HEF				MSG		09 05 12.0	
	comp=Z,0.8nm,0.2s						
HEF				SG	Sb	09 05 16.7	+1.3
KU6	**Riekki**	**3.35**	**79**	SB	Sb	09 05 27.5	+0.2
KIF	**Kilpisjarvi**	**3.46**	**354**	SB	Sb	09 05 27.7	-3.0
KTK1	**Kautokeino**	**3.49**	**8**	PN	Pn	09 04 42.6	+1.1

JMA ***25*** *09:09:59.9±0.2, 30°.1°×13°.9E±°, h450km, MV3.3/23, NEAR TORISHIMA IS*
MOS ***25*** *09:10:01.3±0.9, 30°.08N×138°.74E, h417km, mb4.0/13, Error ellipse: s-maj=13.7km s-min=7.1km az=105.9*
IDC ***25*** *09:10:03.3±1.0, 30°.13N×138°.73E, h425km±11km, mb3.3/18, mbtmp4.1/27, Error ellipse: s-maj=13.3km s-min=9.7km az=95.0*
NEIC ***25*** *09:10:03.1±1.7, 30°.1N±0°.1×138°.9E±0°.2, h418km±8km, mb4.1/23, Error ellipse: s-maj=19.2km s-min=15.1km az=93.0*

ISC 25 09:10:02.9±0.5**, 30°.08N**±0°.06**×138°.86E**±0°.07**, h421**km**, n118, σ1^{s}16/124, mb3.8/38, 7C, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.13**	**14**	P	**P**	**09 11 08.7**	**+0.1**
	64nm,0.4s,baz=245,slow=19,SNR=1.6						
JHJ				S	**S**	**09 11 59.5**	**-2.5**
	138nm,0.5s,baz=252,slow=19,SNR=1.8						
JHJ2	**Mitsune**	**3.13**	**15**	*e*P	**P**	**09 11 08.2**	**-0.4**
CBIJ	**Chichi jima**	**4.17**	**135**	*e*P	**P**	**09 11 15.4**	**-2.5**
CBIJ				*e*S	**S**	**09 12 15.4**	**-3.5**
JCJ	**Chichijima**	**4.17**	**135**	P	**P**	**09 11 19.6**	**+1.7**
	56nm,0.4s,baz=277,slow=22,SNR=6.4						
JCJ				S	**S**	**09 12 18.8**	**-0.1**
	330nm,0.4s,baz=296,slow=23,SNR=16						
JCJ	**Chichijima**	**4.17**	**135**	P	**P**	**09 11 16.9**	**-1.0**
JCJ	**Chichijima**	**4.17**	**135**	P	**P**	**09 11 16.7**	**-1.2**
JTNC	**Tanabenakahech**	**4.63**	**324**	*e*P	**P**	**09 11 22.8**	**+0.7**
JIE	**Ise**	**4.67**	**338**	*e*P	**P**	**09 11 23.6**	**+1.2**
JKN2	**Miekihoku**	**4.69**	**333**	P	**P**	**09 11 23.2**	**+0.6**
BSO1	**Boso 1**	**4.89**	**21**	*e*P	**P**	**09 11 23.0**	**-1.0**
BSO1				*e*S	**S**	**09 12 27.4**	**-3.0**
JOD2	**Odawara 2**	**5.17**	**2**	*e*P	**P**	**09 11 26.1**	**-1.3**
INU	**Inuyama**	**5.47**	**344**	P	**P**	**09 11 31.6**	**+1.1**
INU	**Inuyama**	**5.47**	**344**	P	**P**	**09 11 31.7**	**+1.2**
JMN	**Monobe**	**5.58**	**312**	P	**P**	**09 11 32.9**	**+1.2**
JGF	**Kuroka**	**5.64**	**347**	P	**P**	**09 11 33.0**	**+0.7**
JGF	**Kuroka**	**5.64**	**347**	P	**P**	**09 11 32.9**	**+0.6**
JTO	**Tosashimizu**	**5.87**	**300**	*e*P	**P**	**09 11 35.2**	**+0.6**
JRY	**Ryogami san**	**5.92**	**0**	P	**P**	**09 11 34.1**	**-1.0**
JRY				*e*S	**S**	**09 12 47.6**	**-3.1**
MJAR	**Matsushiro Arr**	**6.46**	**355**	P	**P**	**09 11 39.5**	**-1.5**
	3.9nm,0.5s,baz=168,slow=13,SNR=16						
MJAR				S	**S**	**09 12 58.7**	**-2.6**
	2.2nm,0.7s,baz=285,slow=29,SNR=2.2						
MAJO	**Matsushiro**	**6.46**	**355**	P	**P**	**09 11 40.4**	**-0.5**
MAJO	**Matsushiro**	**6.46**	**355**	P	**P**	**09 11 40.4**	**-0.5**
MAJO	**Matsushiro**	**6.46**	**355**	P	**P**	**09 11 40.4**	**-0.5**
JHS	**Saijyo**	**6.89**	**317**	P	**P**	**09 11 46.7**	**+0.6**
JHS	**Saijyo**	**6.89**	**317**	P	**P**	**09 11 46.7**	**+0.6**
JHS	**Saijyo**	**6.89**	**317**	*e*P	**P**	**09 11 46.5**	**+0.4**
JSU	**Suzuyama**	**7.38**	**277**	P	**P**	**09 11 52.3**	**+1.0**
JNU	**Nakatsue**	**7.45**	**296**	P	**P**	**09 11 51.5**	**-0.7**
	8.2nm,0.7s,baz=84,slow=5.6,SNR=6.6						
JNU

NRIK					pmax	pmax			
	comp=Z,5.0nm,1.5s								
KURK	**Kurchatov**	**48.81**	**313**		P	**P**	**09 18 07.1**	**-0.7**	
KURK	**Kurchatov**	**48.81**	**313**		P	**P**	**09 18 07.1**	**-0.7**	
KURK					pmax	pmax			
	comp=Z,5.0nm,1.1s								
KURBB	**Kurchatov Arra**	**48.87**	**313**		P	**P**	**09 18 07.0**	**-1.2**	
	comp=Z,2.2nm,0.5s,baz=92,slow=7.4,SNR=38								
	comp=Z,2.2nm,0.5s								
WB0	**Warramunga Arr**	**49.75**	**186**		P	**P**	**09 18 15.5**	**+0.5**	
WB0					IAmb	IAmb	09 18 30.5		
	comp=Z,8.8nm,1.4s								
WB2	**Warramunga Arr**	**49.93**	**186**		P	**P**	**09 18 16.8**	**+0.5**	
WB2					IAmb	IAmb	09 18 28.7		
	comp=Z,9.1nm,1.4s								
WRA	**Warramunga Arr**	**49.93**	**186**		P	**P**	**09 18 16.4**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=0.2,slow=7.7,SNR=15								
	comp=Z,1.1nm,0.5s								
AAK	**Ala-Archa**	**52.17**	**303**		P	**P**	**09 18 32.7**	**-0.1**	
AAK	**Ala-Archa**	**52.17**	**303**		P	**P**	**09 18 32.7**	**-0.1**	
AAK					pmax	pmax			
	comp=Z,5.0nm,1.2s								
ASAR	**Alice Springs**	**53.66**	**186**		P	**P**	**09 18 43.5**	**0.0**	
	comp=Z,0.7nm,0.5s,baz=1.5,slow=6.0,SNR=15								
	comp=Z,0.7nm,0.5s								
ASAR	**Alice Springs**	**53.66**	**186**		P	**P**	**09 18 44.1**	**+0.6**	
ASAR	**Alice Springs**	**53.66**	**186**		P	**P**	**09 18 44.1**	**+0.6**	
BRVK	**Borovoye**	**53.93**	**316**	*iP*		**P**	**09 18 44.0**	**-1.1**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
H21K	**Melozitna Rive**	**54.09**	**28**		P	**P**	**09 18 47.8**	**+1.7**	
H21K					IAmb	IAmb	09 18 48.3		
	comp=Z,20nm,1.4s								
SKT	**Skwentna**	**54.39**	**33**		P	**P**	**09 18 49.5**	**+1.3**	
SKT					IAmb	IAmb	09 19 07.0		
	comp=Z,17nm,1.4s								
SUA	**Susitna One**	**54.75**	**34**		P	**P**	**09 18 51.8**	**+0.9**	
KK31	**Karatay Array**	**54.98**	**304**		P	**P**	**09 18 52.6**	**-0.1**	
KK31					IAmb	IAmb	09 18 52.9		
	comp=Z,5.5nm,0.8s								
KK31	**Karatay Array**	**54.98**	**304**		P	**P**	**09 18 52.7**	**-0.1**	
KK31					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KKAR	**Karatay Array**	**54.98**	**304**		P	**P**	**09 18 52.6**	**-0.1**	
KKAR	**Karatay Array**	**54.98**	**304**		P	**P**	**09 18 52.7**	**-0.1**	
KNK	**Knik Glacier**	**55.85**	**34**		P	**P**	**09 18 59.4**	**+0.9**	
KNK					IAmb	IAmb	09 19 27.2		
	comp=Z,36nm,1.5s								
GAR	**Garm**	**55.97**	**299**		P	**P**	**09 18 59.4**	**-0.5**	
SCM	**Sheep Creek Mo**	**56.38**	**33**		P	**P**	**09 19 03.3**	**+1.0**	
SCM					IAmb	IAmb	09 19 28.5		
	comp=Z,17nm,1.4s								
SCM	**Sheep Creek Mo**	**56.38**	**33**		P	**P**	**09 19 03.3**	**+1.0**	
SCM					pmax	pmax			
	comp=Z,17nm,1.4s								
ILAR	**Eielson Array**	**56.53**	**30**		P	**P**	**09 19 02.8**	**-0.4**	
	comp=Z,0.8nm,0.8s,baz=257,slow=5.3,SNR=4.4								
	comp=Z,0.8nm,0.8s								
CHGR	**Chuyangaron**	**56.93**	**299**		P	**P**	**09 19 06.5**	**0.0**	
CHGR	**Chuyangaron**	**56.93**	**299**		P	**P**	**09 19 06.5**	**0.0**	
CHGR					pmax	pmax			
	comp=Z,27nm,0.6s								
ABKAR	**Akbulak array**	**60.92**	**313**		P	**P**	**09 19 32.7**	**-0.6**	
FORT	**Forrest**	**61.39**	**191**		P	**P**	**09 19 36.6**	**+0.2**	
INK	**Inuvik**	**61.55**	**25**		P	**P**	**09 19 37.3**	**+0.3**	
	comp=Z,0.4nm,0.3s,baz=299,slow=6.2,SNR=5.2								
	comp=Z,0.4nm,0.3s								
INK	**Inuvik**	**61.55**	**25**		P	**P**	**09 19 37.7**	**+0.7**	
INK	**Inuvik**	**61.55**	**25**		P	**P**	**09 19 37.7**	**+0.7**	
INK					pmax	pmax			
	comp=Z,1.0nm,1.0s								
YKA	**Yellowknife Ar**	**70.90**	**28**		P	**P**	**09 20 35.7**	**0.0**	
	comp=Z,0.5nm,0.7s,baz=296,slow=6.4,SNR=6.7								
	comp=Z,0.5nm,0.7s								
YKA	**Yellowknife Ar**	**70.90**	**28**	*ce*	P	**P**	**09 20 36.0**	**+0.3**	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
OBN	**Obninsk**	**72.41**	**324**	*i*	P	**P**	**09 20 42.6**	**-2.1**	
OBN					*e*		09 23 29.4		
OBN					pmax	pmax			
	comp=Z,6.0nm,1.0s								
KBZ	**Khabaz**	**73.84**	**311**		P	**P**	**09 20 52.6**	**-0.6**	
	comp=Z,2.6nm,0.8s,baz=96,slow=5.0,SNR=4.7								
	comp=Z,2.6nm,0.8s								
KBZ	**Khabaz**	**73.84**	**311**	*i*	P	**P**	**09 20 52.7**	**-0.5**	
KBZ					pmax	pmax			
	comp=Z,3.0nm,0.9s								
FINES	**FINESS Array B**	**73.97**	**333**		P	**P**	**09 20 52.6**	**-0.9**	
	comp=Z,1.8nm,0.8s,baz=73,slow=5.1,SNR=11								
	comp=Z,1.8nm,0.8s								
FINES	**FINESS Array B**	**73.97**	**333**		P	**P**	**09 20 53.3**	**-0.2**	
FINES	**FINESS Array B**	**73.97**	**333**		P	**P**	**09 20 53.3**	**-0.2**	
AKASG	**Malin Array Ba**	**76.48**	**322**		P	**P**	**09 21 17.9**	**-1.0**	
	comp=Z,0.4nm,0.4s,baz=60,slow=4.1,SNR=2.1								
	comp=Z,0.4nm,0.4s								
FFC	**Flin Flon**	**80.72**	**31**	*ce*	P	**P**	**09 21 31.1**	**+0.5**	
NVAR	**Mina Array Bea**	**80.94**	**51**		P	**P**	**09 21 33.8**	**+1.4**	
	comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=1.4								
	comp=Z,0.3nm,0.6s								
RAYN	**Ar Rayn**	**81.29**	**292**		P	**P**	**09 21 34.3**	**0.0**	
RAYN					IAmb	IAmb	09 21 53.1		
	comp=Z,6.9nm,1.5s								
RAYN	**Ar Rayn**	**81.29**	**292**		P	**P**	**09 21 34.3**	**0.0**	
RAYN					pmax	pmax			
	comp=Z,7.0nm,1.5s								
BR131	**Keskin Array S**	**81.84**	**311**		P	**P**	**09 21 36.7**	**-0.3**	
BR131					IAmb	IAmb	09 21 37.8		
	comp=Z,9.1nm,1.1s								
BR131	**Keskin Array S**	**81.84**	**311**		P	**P**	**09 21 36.7**	**-0.3**	
BR131					pmax	pmax			
	comp=Z,9.0nm,1.2s								
BRTR	**Keskin Array B**	**81.84**	**311**		P	**P**	**09 21 36.4**	**-0.5**	
	comp=Z,2.5nm,0.9s,baz=98,slow=4.8,SNR=11								
	comp=Z,2.5nm,0.9s								
BRTR	**Keskin Array B**	**81.84**	**311**		P	**P**	**09 21 36.9**	**0.0**	
BRTR	**Keskin Array B**	**81.84**	**311**		P	**P**	**09 21 36.9**	**0.0**	
BURAR	**Bucovina Array**	**82.41**	**321**		P	**P**	**09 21 39.5**	**-0.2**	
BURAR					IAmb	IAmb	09 21 40.5		
	comp=Z,1.8nm,0.7s								

*SJA **25** 09:11:04.6±0.8,21°.24S×68°.73W,h141km±5km, ML4.0, MW3.9*
*NEIC **25** 09:11:06.8±1.3,21°.25S±0°.04×68°.8W±0°.1, h127km±7km, mb4.3/9, ML4.0(GUC), Error ellipse: s-maj=16.8km s-min=5.8km az=84.0*
*GUC **25** 09:11:07.0±0.7,21°.23S×68°.66W, h121km±4km, ML4.0*
*IDC **25** 09:11:07.2±1.2,21°.22S×68°.41W, h113km± 16km, mb3.3/2, mbtmp3.8/4, Error ellipse: s-maj=34.6km s-min=17.3km az=118.0*
*VAO **25** 09:11:07.1±0.5,21°.40S×68°.39W, h137km±8km, mb4.3*
ISC 25 09:11:06.0±0.6,21°.24S±0°.03×68°.64W±0°.05, h129km±6km, n114, σ1§54/170, mb4.2/4, 10C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.79**	**225**		**Pn**	**09 11 27.4**	**+0.2**
PB09				Sn	**Sn**	**09 11 42.7**	**-0.5**
PB09	**IPOC Station P**	**0.79**	**225**	*iP*	**Pn**	**09 11 27.3**	**+0.2**
PB09				*i* S	**Sn**	**09 11 42.8**	**-0.5**
PB09				IAML		09 11 44.1	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**0.79**	**225**	*eP*	**Pn**	**09 11 27.5**	**+0.4**
PB09				*eS*	**Sn**	**09 11 43.5**	**+0.2**
PB09				IAML		09 11 44.9	
	comp=Z,1μm,0.2s						
PB09	**IPOC Station P**	**0.79**	**225**	*eP*	**Pn**	**09 11 27.5**	**+0.4**
PB09				*eS*	**Sn**	**09 11 43.5**	**+0.2**
PB09				IAML		09 11 44.9	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**0.82**	**284**		**Pn**	**09 11 26.9**	**-0.4**
PB01				Sn	**Sn**	**09 11 41.5**	**-2.0**
PB01	**IPOC Station P**	**0.82**	**284**	*iP*	**Pn**	**09 11 26.6**	**-0.7**
PB01				*i* S	**Sn**	**09 11 41.8**	**-1.6**
PB01				IAML		09 11 43.0	
	comp=E,5μm,0.2s						
PB01	**IPOC Station P**	**0.82**	**284**	*eP*	**Pn**	**09 11 27.5**	**+0.2**
PB01				*eS*	**Sn**	**09 11 42.0**	**-1.4**
PB01				IAML		09 11 43.6	
	comp=Z,3μm,0.3s						
PB01	**IPOC Station P**	**0.82**	**284**	*eP*	**Pn**	**09 11 27.5**	**+0.2**
PB01				*eS*	**Sn**	**09 11 42.0**	**-1.4**
PB01				IAML		09 11 43.6	
	comp=Z,3μm,0.1s						
PB02	**IPOC Station P**	**1.18**	**266**		**Pn**	**09 11 30.5**	**-0.2**
PB02				Sn	**Sn**	**09 11 47.7**	**-1.8**
PB02	**IPOC Station P**	**1.18**	**266**	*iP*	**Pn**	**09 11 30.4**	**-0.3**
PB02				*i* S	**Sn**	**09 11 47.9**	**-1.5**
PB02				IAML		09 11 49.4	
	comp=E,6μm,0.1s						
PB02	**IPOC Station P**	**1.18**	**266**	*eP*	**Pn**	**09 11 30.1**	**-0.5**
PB02				*eS*	**Sn**	**09 11 48.3**	**-1.1**
PB02				IAML		09 11 54.1	
	comp=Z,4μm,0.2s						
PB02	**IPOC Station P**	**1.18**	**266**	*eP*	**Pn**	**09 11 30.1**	**-0.5**
PB02				*eS*	**Sn**	**09 11 48.3**	**-1.1**
PB02				IAML		09 11 54.1	
	comp=Z,4μm,0.2s						
PB07	**IPOC Station P**	**1.26**	**247**		**Pn**	**09 11 31.3**	**-0.3**
PB07				Sn	**Sn**	**09 11 49.5**	**-1.5**
PB07	**IPOC Station P**	**1.26**	**247**	*iP*	**Pn**	**09 11 31.4**	**-0.2**
PB07				*i* S	**Sn**	**09 11 49.7**	**-1.4**
PB07				IAML		09 11 51.0	
	comp=N,3μm,0.2s						
PB07				IAML		09 11 51.6	
	comp=E,3μm,0.3s						
PB07	**IPOC Station P**	**1.26**	**247**	*eP*	**Pn**	**09 11 31.1**	**-0.5**
PB07				*eS*	**Sn**	**09 11 50.7**	**-0.4**
PB07				IAML		09 11 52.5	
	comp=Z,2μm,0.4s						
PB07	**IPOC Station P**	**1.26**	**247**	*eP*	**Pn**	**09 11 31.1**	**-0.5**
PB07				*eS*	**Sn**	**09 11 50.7**	**-0.4**
PB07				IAML		09 11 52.5	
	comp=Z,2μm,0.4s						
PB03	**IPOC Station P**	**1.32**	**232**		**Pn**	**09 11 32.0**	**-0.1**
PB03	**IPOC Station P**	**1.32**	**232**	*iP*	**Pn**	**09 11 32.1**	**-0.1**
PB03				*i* S	**Sn**	**09 11 50.8**	**-1.3**
PB03				IAML		09 11 51.7	
	comp=E,2μm,0.3s						
PB03	**IPOC Station P**	**1.32**	**232**	*eP*	**Pn**	**09 11 32.0**	**-0.1**
PB03				*eS*	**Sn**	**09 11 51.4**	**-0.7**
PB03				IAML		09 11 52.2	
	comp=Z,2μm,0.3s						
PB03	**IPOC Station P**	**1.32**	**232**	*eP*	**Pn**	**09 11 32.0**	**-0.1**
PB03				*eS*	**Sn**	**09 11 51.4**	**-0.7**
PB03				IAML		09 11 52.2	
	comp=Z,2μm,0.3s						
LVC	**Limon Verde**	**1.39**	**191**	P	**Pn**	**09 11 33.8**	**+0.6**
	comp=Z,551nm,0.4s,baz=19,slow=11,SNR=1594						
LVC				S	**Sn**	**09 11 54.4**	**+0.5**
	comp=Z,164nm,0.3s,baz=122,slow=20,SNR=21						
LVC	**Limon Verde**	**1.39**	**191**	*eP*	**Pn**	**09 11 33.3**	**+0.1**
LVC				*eS*	**Sn**	**09 11 54.2**	**+0.4**
LVC	**Limon Verde**	**1.39**	**191**	*eP*	**Pn**	**09 11 33.0**	**-0.2**
LVC				*eP*		09 11 33.6	
LVC				*eS*	**Sn**	**09 11 55.7**	**+1.8**
LVC	**Limon Verde**	**1.39**	**191**	*eP*	**Pn**	**09 11 33.0**	**-0.2**
LVC				*eP*		09 11 33.6	
LVC				*eS*	**Sn**	**09 11 55.7**	**+1.8**
LVC	**Limon Verde**	**1.39**	**191**	*eP*	**Pn**	**09 11 33.5**	**+0.3**
PATCX	**Punta Patache**	**1.48**	**286**		**Pn**	**09 11 33.7**	**-0.1**
PATCX	**Punta Patache**	**1.48**	**286**	*iP*	**Pn**	**09 11 33.8**	**-0.1**
PATCX				*i* S	**Sn**	**09 11 53.8**	**-1.3**
PATCX	**Punta Patache**	**1.48**	**286**	*eP*	**Pn**	**09 11 33.0**	**-0.8**
PATCX				*eS*	**Sn**	**09 11 54.7**	**-0.4**
PATCX				IAML		09 11 56.2	
	comp=Z,2μm,0.3s						
PATCX	**Punta Patache**	**1.48**	**286**	*eP*	**Pn**	**09 11 33.0**	**-0.8**
PATCX				*eS*	**Sn**	**09 11 54.7**	**-0.4**
PATCX				IAML		09 11 56.2	
	comp=Z,2μm,0.3s						
TA01	**Diego Aracena**	**1.59**	**295**	Pn	**Pn**	**09 11 34.4**	**-0.7**
TA01	**Diego Aracena**	**1.59**	**295**	*iP*	**Pn**	**09 11 34.5**	**-0.5**
TA01				*i* S	**Sn**	**09 11 55.6**	**-1.6**
TA01				IAML		09 11 57.0	
	comp=E,3μm,0.2s						
TA01	**Diego Aracena**	**1.59**	**295**	*eP*	**Pn**	**09 11 33.0**	**-2.0**
TA01				*eP*		09 11 34.6	
TA01				*eS*	**Sn**	**09 11 50.9**	**-6.3**
TA01				*eS*		09 11 56.3	
TA01				IAML		09 12 00.1	
	comp=Z,741nm,0.2s						
TA01	**Diego Aracena**	**1.59**	**295**	*eP*	**Pn**	**09 11 33.0**	**-2.0**
TA01				*eP*		09 11 34.6	
TA01				*eS*	**Sn**	**09 11 50.9**	**-6.3**
TA01				*eS*		09 11 56.3	
TA01				IAML		09 12 00.1	
	comp=Z,741nm,0.2s						
GO01	**Chusmiza**	**1.65**	**341**		**Pn**	**09 11 36.5**	**+0.3**
GO01	**Chusmiza**	**1.65**	**341**	*iP*	**Pn**	**09 11 36.3**	**+0.1**
GO01	**Chusmiza**	**1.65**	**341**	*eP*	**Pn**	**09 11 36.3**	**+0.1**
GO01				*eS*	**Sn**	**09 12 00.5**	**+1.2**
GO01	**Chusmiza**	**1.65**	**341**	*eP*	**Pn**	**09 11 36.3**	**+0.1**
GO01				*eS*	**Sn**	**09 12 00.5**	**+1.2**
PB06	**IPOC Station P**	**1.70**	**211**		**Pn**	**09 11 36.8**	**+0.4**
PB06	**IPOC Station P**	**1.70**	**211**	*iP*	**Pn**	**09 11 36.9**	**+0.4**
PB06				*i* S	**Sn**	**09 11 59.7**	**0.0**
PB06				IAML		09 12 00.7	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**1.70**	**211**	*eP*	**Pn**	**09 11 36.0**	**-0.5**
PB06				*eS*	**Sn**	**09 12 00.3**	**+0.5**
PB06				IAML		09 12 03.3	
	comp=Z,651nm,0.2s						
PB06	**IPOC Station P**	**1.70**	**211**	*eP*	**Pn**	**09 11 36.0**	**-0.5**
PB06				*eS*	**Sn**	**09 12 00.3**	**+0.5**
PB06				IAML		09 12 03.3	
	comp=Z,651nm,0.2s						
TA02	**Huaiquique**	**1.70**	**304**		**Pn**	**09 11 35.8**	**-0.6**
TA02	**Huaiquique**	**1.70**	**304**	*iP*	**Pn**	**09 11 35.8**	**-0.6**
TA02				*eS*	**Sn**	**09 11 58.0**	**-1.4**
TA02				IAML		09 12 03.3	
	comp=N,4μm,0.1s						
TA02	**Huaiquique**	**1.70**	**304**	*eP*	**Pn**	**09 11 35.7**	**-0.6**
TA02				*eS*	**Sn**	**09 11 58.4**	**-1.0**
TA02				IAML		09 11 60.0	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**1.70**	**304**	*eP*	**Pn**	**09 11 35.7**	**-0.6**
TA02				*eS*	**Sn**	**09 11 58.4**	**-1.0**
TA02				IAML		09 11 60.0	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**1.75**	**327**		**Pn**	**09 11 37.0**	**-0.1**
PB11	**IPOC Station P**	**1.75**	**327**	*iP*	**Pn**	**09 11 36.7**	**-0.4**
PB11				*i* S	**Sn**	**09 11 59.8**	**-1.1**
PB11				IAML		09 12 01.6	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**1.75**	**327**	*eP*	**Pn**	**09 11 36.0**	**-1.1**
PB11				*eP*		09 11 36.7	
PB11				*eS*	**Sn**	**09 12 00.5**	**-0.4**
PB11				IAML		09 12 01.5	
	comp=Z,814nm,0.2s						
PB11	**IPOC Station P**	**1.75**	**327**	*eP*	**Pn**	**09 11 36.0**	**-1.1**
PB11				*eP*		09 11 36.7	
PB11				*eS*	**Sn**	**09 12 00.5**	**-0.4**
PB11				IAML		09 12 01.5	
	comp=Z,814nm,0.2s						
PB04	**IPOC Station P**	**1.78**	**232**	Pn	**Pn**	**09 11 37.4**	**0.0**
PB04	**IPOC Station P**	**1.78**	**232**	*iP*	**Pn**	**09 11 37.1**	**-0.3**
PB04				*i* S	**Sn**	**09 12 00.1**	**-1.3**
PB04				IAML		09 12 05.7	
	comp=N,1μm,0.1s						
PB04	**IPOC Station P**	**1.78**	**232**	*eP*	**Pn**	**09 11 36.0**	**-1.4**
PB04				*eP*		09 11 37.1	
PB04				*eS*	**Sn**	**09 12 00.5**	**-1.0**
PB04				IAML		09 12 05.6	
	comp=Z,977nm,0.2s						
PB04	**IPOC Station P**	**1.78**	**232**	*eP*	**Pn**	**09 11 36.0**	**-1.4**
PB04				*eP*		09 11 37.1	
PB04				*eS*	**Sn**	**09 12 00.5**	**-1.0**
PB04				IAML		09 12 05.6	
	comp=Z,977nm,0.2s						
PSGC	**Pisagua**	**2.15**	**319**	*iP*	**Pn**	**09 11 40.8**	**-1.1**
PSGC				*i* S	**Sn**	**09 12 07.4**	**-1.9**
PSGC				IAML		09 12 09.5	
	comp=E,849nm,0.4s						
PSGCX	**Pisagua**	**2.15**	**319**		**Pn**	**09 11 41.0**	**-0.8**
PSGCX	**Pisagua**	**2.15**	**319**	*eP*	**Pn**	**09 11 40.8**	**-1.0**
PSGCX				*eS*	**Sn**	**09 12 08.7**	**-0.6**
PSGCX				IAML		09 12 12.0	
	comp=Z,445nm,0.3s						
PSGCX	**Pisagua**	**2.15**	**319**	*eP*	**Pn**	**09 11 40.8**	**-1.0**
PSGCX				*eS*	**Sn**	**09 12 08.7**	**-0.6**
PSGCX				IAML		09 12 12.0	
	comp=Z,445nm,0.3s						
MNMC	**Minye Minye**	**2.28**	**337**		**Pn**	**09 11 43.9**	**+0.2**
MNMC	**Minye Minye**	**2.28**	**337**	*iP*	**Pn**	**09 11 43.8**	**+0.1**
MNMC				*i* S	**Sn**	**09 12 12.4**	**-0.2**
MNMC				IAML		09 12 15.3	
	comp=N,2μm,0.1s						
MNMCX	**Minye Minye**	**2.28**	**337**	*eP*	**Pn**	**09 11 43.0**	**-0.7**
MNMCX				*eS*	**Sn**	**09 12 13.3**	**+0.7**
MNMCX				IAML		09 12 14.1	
	comp=Z,910nm,0.3s						
MNMCX	**Minye Minye**	**2.28**	**337**	*eP*	**Pn**	**09 11 43.0**	**-0.7**
MNMCX				*eS*	**Sn**	**09 12 13.3**	**+0.7**
MNMCX				IAML		09 12 14.1	
	comp=Z,910nm,0.3s						
PB10	**IPOC Station P**	**2.88**	**218**	Pn	**Pn**	**09 11 50.8**	**-0.1**
PB10	**IPOC Station P**	**2.88**	**218**	*eP*	**Pn**	**09 11 50.6**	**-0.3**
PB10	**IPOC Station P**	**2.88**	**218**	*eP*	**Pn**	**09 11 50.6**	**-0.3**
PB10				*eS*	**Sn**	**09 12 21.9**	**-3.8**
PB10	**IPOC Station P**	**2.88**	**218**	*eP*	**Pn**	**09 11 50.6**	**-0.3**
PB10				*eS*	**Sn**	**09 12 21.9**	**-3.8**
PB16	**IPOC Station P**	**3.00**	**344**	Pn	**Pn**	**09 11 53.6**	**+0.5**
PB16	**IPOC Station P**	**3.00**	**344**	*eP*	**Pn**	**09 11 53.8**	**+0.6**
PB16				*eS*	**Sn**	**09 12 29.7**	**+0.2**
PB16				IAML		09 12 36.6	
	comp=N,152nm,0.3s						
PB16	**IPOC Station P**	**3.00**	**344**	*eP*	**Pn**	**09 11 53.0**	**-0.2**
PB16				*eS*	**Sn**	**09 12 29.9**	**+0.4**
PB16	**IPOC Station P**	**3.00**	**344**	*eP*	**Pn**	**09 11 53.0**	**-0.2**
PB16				*eS*	**Sn**	**09 12 29.9**	**+0.4**
YJA	**Yavi**	**3.05**	**108**	*eP*	**Pn**	**09 11 50.9**	**-2.7**
YJA	**Yavi**	**3.05**	**108**	*eP*	**Pn**	**09 11 50.9**	**-2.7**
PB12	**IPOC Station P**	**3.06**	**328**	Pn	**Pn**	**09 11 52.9**	**-0.5**
PB12	**IPOC Station P**	**3.06**	**328**	*eP*	**Pn**	**09 11 52.0**	**-1.5**
PB12					IAML	09 12 30.7	
	comp=E,340nm,0.1s						
PB12	**IPOC Station P**	**3.06**	**328**	*eP*	**Pn**	**09 11 52.2**	**-1.2**
PB12				*eS*	**Sn**	**09 12 27.9**	**-2.2**
PB12				IAML		09 12 29.6	
	comp=Z,198nm,0.3s						
PB12	**IPOC Station P**	**3.06**	**328**	*eP*	**Pn**	**09 11 52.2**	**-1.2**
PB12				*eS*	**Sn**	**09 12 27.9**	**-2.2**
PB12				IAML		09 12 29.6	
	comp=Z,198nm,0.3s						
PB14	**IPOC Station P**	**3.75**	**205**	Pn	**Pn**	**09 12 02.3**	**-0.3**
LPAZ	**La Paz**	**4.95**	**6**	P	**Pn**	**09 12 20.6**	**+1.7**
	comp=Z,11nm,0.4s,baz=204,slow=4.6,SNR=86						
LPAZ	**La Paz**	**4.95**	**6**	*eP*	**Pn**	**09 12 21.3**	**+2.4**
AC01	**Pan de Azucar**	**5.21**	**200**	Pn	**Pn**	**09 12 20.5**	**-1.3**
AC02	**Maricunga**	**5.59**	**185**	Pn	**Pn**	**09 12 27.6**	**+0.2**
AC06	**Mina Casimiro**	**6.29**	**194**		**Pn**	**09 12 35.2**	**-1.1**
AC05	**El Transito**	**7.71**	**191**		**Pn**	**09 12 53.4**	**-2.2**
LCO	**Las Campanas**	**7.96**	**193**	Pn	**Pn**	**09 12 55.8**	**-3.3**
CO01	**Juntas del Tor**	**8.80**	**188**	Pn	**Pn**	**09 13 08.9**	**-1.5**
SIV	**San Ignacio**	**8.87**	**55**	P	**Pn**	**09 13 08.6**	**-2.6**
	comp=Z,2.2nm,0.3s,baz=254,slow=9.3,SNR=35						
SIV				S	**Sn**	**09 14 42.4**	**-7.1**
	comp=Z,0.8nm,0.5s,baz=314,slow=18,SNR=3.5						
GO04	**Tololo Observa**	**9.11**	**192**	Pn	**Pn**	**09 13 11.1**	**-3.4**
CO02	**Combarbal**	**10.15**	**192**	Pn	**Pn**	**09 13 24.3**	**-4.1**
CFA	**Coronel Fontan**	**10.33**	**178**	P	**Pn**	**09 13 28.7**	**-2.1**
	comp=Z,1.5nm,0.3s,baz=14,slow=13,SNR=7.0						
CFA				S	Sn	09 15 15.0	-10
	comp=Z,0.8nm,0.4s,baz=149,slow=19,SNR=1.4						
VILB	**Vilhena**	**11.52**	**46**	*eP*	**Pn**	**09 13 46.8**	**+0.1**
ETMB	**Extrema**	**11.59**	**12**	Pn	**Pn**	**09 13 45.4**	**-2.2**
MT02	**Curacav**	**12.18**	**190**	Pn	**Pn**	**09 13 55.5**	**+0.3**
CZSB	**Cruzeiro do Su**	**13.99**	**343**	*eP*	**P**	**09 14 24.5**	**+1.9**
TBTG	**Tabatinga, AM**	**17.00**	**356**	P	**Pn**	**09 14 56.2**	**+0.2**
TBTG				IAmb	IAmb	09 14 58.5	
	comp=Z,26nm,1.0s						
TBTG	**Tabatinga, AM**	**17.00**	**356**	*eP*	**Pn**	**09 14 57.6**	**+1.6**
TRQA	**Tornquist**	**17.72**	**163**	P	**Pn**	**09 15 04.4**	**-0.2**
TRQA				IAmb	IAmb	09 15 09.7	
	comp=Z,19nm,1.4s						
SNDB	**Serra Nova Dou**	**18.98**	**64**	*eP*	**P**	**09 15 17.9**	**+0.4**
NPGB	**Novo Progresso**	**19.08**	**44**	*eP*	**P**	**09 15 18.7**	**+0.1**
IPMB	**Ipameri, GO**	**19.51**	**84**	*eP*	**P**	**09 15 21.4**	**-1.9**
MACA	**Manacapuru-AM**	**19.56**	**24**	*eP*	**Pn**	**09 15 25.3**	**-1.1**
RCLB	**Rio Claro- Sao**	**19.63**	**97**	*eP*	**P**	**09 15 22.4**	**-2.1**
BDFB	**Brasilia**	**20.33**	**78**	P	**P**	**09 15 32.6**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=239,slow=9.5,SNR=4.3						
	comp=Z,2.0nm,0.6s						
BDFB	**Brasilia**	**20.33**	**78**	P	Pn	09 15 33.4

	baz=40							
OHAK	**Old Harbor**	**2.49**	**84**	Pn	**Pn**	**09 13 32.9**	**+1.3**	
OHAK	**Old Harbor**	**2.49**	**84**	P	**Pn**	**09 13 32.7**	**+1.1**	
	baz=267							
O16K	**Kokwok River B**	**2.54**	**357**	P	**Pn**	**09 13 32.8**	**+0.5**	
	baz=176							
S12K	**Black Hills**	**2.71**	**242**	P	**Pn**	**09 13 35.1**	**+0.4**	
	baz=59							
P18K	**Big Mountain,**	**2.71**	**30**		**Pn**	**09 13 35.3**	**+0.5**	
O17K	**Koliganek Bris**	**2.75**	**8**	P	**Pn**	**09 13 34.8**	**-0.3**	
	baz=188							
Q19K	**Cape Douglas,**	**2.92**	**48**	Pn	**Pn**	**09 13 38.1**	**+0.6**	
Q19K				IAML		09 14 42.1		
	comp=N,485nm,1.1s							
KDAK	**Kodiak Island**	**2.94**	**74**	P	**Pn**	**09 13 39.2**	**+1.5**	
	comp=N,6.6nm,0.3s,baz=233,slow=3.8,SNR=250							
KDAK				S	**Sn**	**09 14 11.4**	**-2.0**	
	comp=N,48nm,0.7s,baz=316,slow=18,SNR=3.8							
	comp=N,16nm,0.3s							
KDAK	**Kodiak Island**	**2.94**	**74**	Pn	**Pn**	**09 13 38.9**	**+1.1**	
O18K	**Koktuh Hills**	**3.12**	**25**		**Pn**	**09 13 40.7**	**+0.3**	
O18K				IAML		09 14 33.1		
	comp=E,249nm,1.1s							
O18K				IAML		09 14 33.2		
	comp=N,352nm,0.7s							
O18K	**Koktuh Hills**	**3.12**	**25**	P	**Pn**	**09 13 40.6**	**+0.3**	
	baz=207							
N16K	**Nishlik Lake**	**3.46**	**352**	P	**Pn**	**09 13 45.2**	**+0.3**	
	baz=171							
O19K	**Port Alsworth**	**3.64**	**29**		**Pn**	**09 13 48.0**	**+0.6**	
O19K	**Port Alsworth**	**3.64**	**29**	P	**Pn**	**09 13 47.7**	**+0.3**	
	baz=211							
N19K	**Bonanza Creek**	**4.14**	**23**		**Pn**	**09 13 55.1**	**+0.6**	
N19K				IAML		09 15 02.1		
	comp=E,164nm,1.1s							
N19K				IAML		09 15 23.3		
	comp=N,142nm,1.2s							
N19K	**Bonanza Creek**	**4.14**	**23**	P	**Pn**	**09 13 55.0**	**+0.6**	
	baz=206							
SVW2	**Sparrevohn**	**4.21**	**15**		**Pn**	**09 13 55.5**	**+0.2**	
SVW2				IAML		09 15 14.1		
	comp=E,126nm,1.0s							
SVW2				IAML		09 15 24.4		
	comp=N,121nm,1.0s							
RSO	**Redoubt South**	**4.32**	**36**		**Pn**	**09 13 58.2**	**+1.3**	
SPU	**Mount Spurr**	**5.09**	**33**		**Pn**	**09 14 09.2**	**+1.7**	
SEW	**Seward**	**5.34**	**52**	Pn	**Pn**	**09 14 10.5**	**-0.2**	
L19K	**White Mountain**	**5.36**	**15**	Pn	**Pn**	**09 14 11.1**	**+0.1**	
M20K	**Styx River**	**5.40**	**24**		**Pn**	**09 14 13.0**	**+1.4**	
TTA	**Tatalina**	**5.96**	**8**	Pn	**Pn**	**09 14 19.3**	**0.0**	
K20K	**Telida**	**6.59**	**15**		**Pn**	**09 14 27.8**	**-0.1**	
BMRM	**Bremner River**	**7.87**	**55**	Pn	**Pn**	**09 14 44.9**	**-0.6**	
ANM	**Nome**	**8.37**	**337**	Pn	**Pn**	**09 14 52.6**	**+0.3**	
H21K	**Melozitna Rive**	**8.95**	**14**		**Pn**	**09 15 00.1**	**-0.2**	
I23K	**Minto, Yukon-K**	**9.08**	**23**		**Pn**	**09 15 03.0**	**+1.0**	
IMAR	**Indian Mountai**	**9.16**	**11**	Pn	**Pn**	**09 15 03.2**	**+0.1**	
MDM	**Murphy Dome**	**9.18**	**26**		**Pn**	**09 15 04.0**	**+0.5**	
ILAR	**Eielson Array**	**9.38**	**30**	P	**Pn**	**09 15 07.2**	**+1.1**	
	comp=N,0.2nm,0.3s,baz=223,slow=10,SNR=5.9							
	comp=N,1.0nm,0.6s							
TNA	**Tin City**	**9.79**	**335**	Pn	**Pn**	**09 15 12.6**	**+0.9**	
BMAR	**Burnt Mountain**	**12.06**	**25**	Pn	**Pn**	**09 15 42.7**	**-0.1**	
INK	**Inuvik**	**15.71**	**34**	P	**Pn**	**09 16 29.9**	**-2.3**	
	comp=N,0.1nm,0.3s,baz=225,slow=9.4,SNR=5.4							
	comp=N,0.5nm,0.6s							
INK	**Inuvik**	**15.71**	**34**	Pn	**Pn**	**09 16 30.3**	**-1.9**	
SHEM	**Shemya Is, Ala**	**16.65**	**267**	LR	LR	09 23 20.7		
	comp=N,61nm,19.0s,baz=346,slow=37							
C36M	**Paulatuk**	**19.23**	**37**	P	**P**	**09 17 14.7**	**-0.4**	
C36M				IAmb	IAmb	09 17 24.4		
	comp=Z,7.3nm,1.4s							
A36M	**Sachs Harbour**	**20.08**	**29**	P	**P**	**09 17 22.4**	**-1.9**	
A36M				IAmb	IAmb	09 17 49.9		
	comp=Z,3.6nm,0.9s							
YKA	**Yellowknife Ar**	**22.09**	**58**	P	**P**	**09 17 45.5**	**-0.5**	
	comp=Z,1.5nm,0.8s,baz=271,slow=10,SNR=20							
YKA				PcP	**PcP**	**09 21 43.4**	**+0.1**	
	comp=Z,0.4nm,0.6s,baz=278,slow=1.9,SNR=8.3							
	comp=Z,1.5nm,0.8s							
YKA	**Yellowknife Ar**	**22.09**	**58**	P	**P**	**09 17 45.1**	**-1.0**	
B04A	**Port Angeles**	**22.52**	**99**	P	**P**	**09 17 49.4**	**-1.4**	
SEY	**Seymchan**	**25.01**	**304**	P	**P**	**09 18 16.0**	**+1.1**	
	comp=Z,0.4nm,0.3s,baz=36,slow=19,SNR=1.8							
	comp=Z,0.4nm,0.3s							
EDM	**Edmonton**	**25.37**	**80**	P	**P**	**09 18 17.4**	**-0.9**	
EDM				IAmb	IAmb	09 18 20.3		
	comp=Z,4.9nm,0.7s							
PETK	**Petropavlovsk-**	**25.40**	**280**	P	**P**	**09 18 20.4**	**+1.9**	
	comp=Z,0.6nm,0.5s,baz=80,slow=19,SNR=4.2							
	comp=Z,0.6nm,0.5s							
NVAR	**Mina Array Bea**	**31.86**	**109**	P	**P**	**09 19 18.6**	**+2.1**	
	comp=Z,0.7nm,0.8s,baz=307,slow=9.0,SNR=5.0							
	comp=Z,0.7nm,0.8s							
PDAR	**Pinedale Array**	**33.45**	**94**	P	**P**	**09 19 31.8**	**+1.4**	
	comp=Z,0.3nm,0.8s,baz=312,slow=4.7,SNR=2.9							
	comp=Z,0.3nm,0.8s							
TXAR	**Lajitas Array**	**46.57**	**103**	P	**P**	**09 21 20.1**	**+0.8**	
	comp=Z,0.5nm,0.8s,baz=316,slow=5.2,SNR=4.2							
	comp=Z,0.5nm,0.8s							

DJA 25 09:13:28.4±0.5, 9°S±4°×12°4E±°, h116km±5km, M3.5/7, mb4.0/3, mB4.7/1, MLv3.2/7, Mw(mB)4.0/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.82**	**147**	P	Pn	09 13 49.4	+0.8
SOEI				S	Sn	09 14 04.5	+0.7
BATI	**Baumata**	**1.15**	**187**	P	Pn	09 13 52.7	+1.0
BATI				S	Sn	09 14 09.9	+0.6
MMRI	**Maumere**	**1.61**	**285**	P	Pn	09 13 57.4	+0.5
BASI	**Baing, Sumba**	**3.39**	**250**	P	Pn	09 14 19.6	-0.1
TWSI	**Taliwang, Sumb**	**6.85**	**272**	P	Pn	09 15 05.9	-0.5
	20nm,1.3s,0.1nm						

*MDD **25** 09:14:51.6±0.5, 39°.86N×8°.46W, h12km, mb_Lg2.2/7, Error ellipse: s-maj=4.9km s-min=2.3km az=107.0*
*SFS **25** 09:14:51.6, 39°.97N×8°.61W, h22km, ML2.5/7, MLv2.5/7*
ISC 25 09:14:49.0±1.4, 39°90N±0°.03×8°47W±0°.04, h5km±11km, n18, σ0s99/36, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**1.13**	**214**	S	**Sb**	**09 15 25.9**	**-0.1**
PMAFR				P	**Pg**	**09 15 10.2**	**-0.5**
PESTR	**Estremoz**	**1.23**	**146**	S	**Sb**	**09 15 29.7**	**+0.6**
PESTR				P	**Pg**	**09 15 13.0**	**+0.3**
EVO	**Evora**	**1.41**	**165**	S	**Sn**	**09 15 34.5**	**+0.2**
EVO				P	**Pb**	**09 15 15.7**	**-0.1**
EBAD	**Badajoz**	**1.60**	**135**	S	**Sn**	**09 15 39.8**	**+0.7**
EBAD				P	**Pb**	**09 15 19.4**	**+0.3**
EBAD	**Badajoz**	**1.60**	**135**	Pg	**Pb**	**09 15 19.4**	**+0.3**
EBAD				Sg	**Sn**	**09 15 39.8**	**+0.7**
EBAD				*i* Vmb_Lg		09 15 43.3	
PNCL	**Nicolau / Gran**	**1.78**	**181**	S	**Sn**	**09 15 42.2**	**-1.2**
PNCL				P	**Pb**	**09 15 21.4**	**-0.8**
EPLA	**Plasencia**	**1.84**	**84**	Pn	**Pn**	**09 15 20.8**	**-0.6**
EPLA				Sg	**Sg**	**09 15 48.6**	**+0.3**
EPLA				*i* Vmb_Lg		09 15 49.8	
ELOB	**Lobios**	**1.99**	**9**	Sn	**Sb**	**09 15 50.7**	**-0.3**
ELOB				*i* Vmb_Lg		09 15 55.5	
PBAR	**Barrancos**	**2.05**	**147**	S	**Sn**	**09 15 51.6**	**+1.5**
PBAR				Pg	**Pg**	**09 15 29.7**	**+1.5**
ECAL	**Calabor**	**2.43**	**32**	Pn	**Pn**	**09 15 30.0**	**+0.6**
ECAL				Sg	**Sg**	**09 16 07.7**	**+0.7**
ECAL				*i* Vmb_Lg		09 16 15.0	
EGRO	**El Granado**	**2.48**	**162**	S	**Sn**	**09 16 00.8**	**0.0**
EGRO				P	**Pn**	**09 15 31.1**	**+1.0**
EGRO	**El Granado**	**2.48**	**162**	Pg	**Pg**	**09 15 36.6**	**+0.1**
EGRO				Sn	**Sn**	**09 16 00.8**	**0.0**
EGRO				Sg	**Sg**	**09 16 07.7**	**-1.0**
EGRO				*i* Vmb_Lg		09 16 10.8	
EMIN	**Mina Concepcio**	**2.55**	**146**	Sn	**Sn**	**09 16 01.9**	**-0.5**
EMIN				Sg	**Sg**	**09 16 10.0**	**-0.9**
EMIN				*i* Vmb_Lg		09 16 16.1	
PVAQ	**Vaqueiros**	**2.56**	**166**	Sg	**Sg**	**09 16 11.7**	**+0.5**
PVAQ				Pg	**Pb**	**09 15 36.5**	**+1.2**
ECAB	**El Cabril**	**2.99**	**126**	Sg	**Sg**	**09 16 24.1**	**-1.1**
ECAB				Pg	**Pg**	**09 15 46.1**	**-0.2**
ECAB	**El Cabril**	**2.99**	**126**	Pn	**Pg**	**09 15 45.5**	**-0.8**
ECAB				Sn	**Sn**	**09 16 09.7**	**-3.7**
ECAB				Sg	**Sg**	**09 16 24.1**	**-1.1**
ECAB				*i* Vmb_Lg		09 16 31.1	

PAB	**San Pablo**	**3.20**	**95**	Sn	**Sn**	**09 16 18.2**	**-0.4**	
GUD	**Guadarrama**	**3.38**	**76**	Pg	**Pg**	**09 15 53.7**	**-0.2**	
GUD				Sg	**Sg**	**09 16 37.6**	**-0.1**	

IDC 25 09:44:30.4±4.1, 2°65S×138°48E, h0km, mb3.1/2, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=153.0km s-min=21.7km az=92.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.66**	**193**	P	P	09 48 39.0	-0.1
	baz=16,slow=12,SNR=2.7						
WRA				S	Sn	09 51 55.3	-0.2
	0.1nm,0.5s,baz=13,slow=14,SNR=1.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**21.36**	**192**	P	P	09 49 20.5	+1.0
	0.5nm,0.8s,baz=16,slow=10.0,SNR=3.7						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**69.60**	**322**	P	P	09 55 41.4	-0.2
	0.2nm,0.6s,baz=107,slow=7.8,SNR=2.0						
	0.2nm,0.6s						

*IDC **25** 10:00:10.7±0.7, 31°.26N×141°.81E, h0km, mb3.9/18, mbtmp3.9/25, ML3.3/7, Error ellipse: s-maj=19.8km s-min=14.9km az=63.0*
*NEIC **25** 10:00:13.0±1.2, 31°.32N±0°.08×141°.71E±0°.08, h10km±1km, mb4.5/13, Error ellipse: s-maj=16.0km s-min=8.0km az=221.0*
*JMA **25** 10:00:16.3±0.7, 32°N±2°×14°2E±°, h0km, MV4.1/26, NEAR TORISHIMA IS*
ISC 25 10:00:12.2±0.5, 31°.26N±0°.05×141°.74E±0°.07, h10km, n59, σ1s52/67, mb4.1/24, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.07**	**306**	*e*P	**Pn**	**10 00 48.5**	**+1.4**
JHJ2	**Mitsune**	**2.46**	**319**	Pn	**Pn**	**10 00 52.0**	**-0.5**
JHJ	**Hachijo jima 2**	**2.49**	**319**	Pn	**Pn**	**10 00 53.2**	**+0.4**
	13nm,0.3s,baz=220,slow=19,SNR=2.2						
JHJ				Sn	**Sb**	**10 01 26.7**	**-1.0**
	22nm,0.3s,baz=16,slow=12,SNR=2.0						
	134nm,0.8s						
BSO1	**Boso 1**	**3.44**	**349**	*e*P	**Pn**	**10 01 08.5**	**+3.1**
BSO1				*e*S	**Sn**	**10 01 46.9**	**+0.8**
BSO3	**Boso 3**	**3.68**	**344**	*e*P	**Pn**	**10 01 12.2**	**+3.2**
BSO4	**Boso 4**	**3.90**	**343**	*e*P	**Pn**	**10 01 15.5**	**+3.4**
JCJ	**Chichijima**	**4.17**	**175**	Pn	**Pn**	**10 01 16.8**	**+0.9**
	3.0nm,0.3s,baz=307,slow=20,SNR=1.9						
JCJ				Sn	**Sn**	**10 02 02.7**	**-2.0**
	5.5nm,0.3s,baz=295,slow=22,SNR=1.4						
	74nm,0.8s						
JHU	**Hanno**	**5.02**	**337**	*e*P	**Pn**	**10 01 30.2**	**+2.6**
JHU				*e*S	**Sn**	**10 02 27.2**	**+1.5**
JRY	**Ryogami san**	**5.30**	**334**	P	**Pn**	**10 01 34.5**	**+3.0**
JRY				*e*S	**Sn**	**10 02 33.3**	**+0.6**
JHO	**Hitachi**	**5.42**	**350**	P	**Pn**	**10 01 33.9**	**+0.7**
JHO				*e*S	**Sn**	**10 02 31.7**	**-4.0**
JAG	**Ashikaga**	**5.49**	**340**	P	**Pn**	**10 01 35.8**	**+1.7**
JAG				S	**Sn**	**10 02 37.5**	**+0.2**
JGF	**Kuroka**	**5.67**	**321**	Pn	**Pn**	**10 01 35.8**	**-0.8**
MJAR	**Matsushiro Arr**	**6.03**	**332**	Pn	**Pn**	**10 01 43.0**	**+1.5**
	0.4nm,0.3s,baz=160,slow=11,SNR=33						
MJAR				Sn	**Sn**	**10 02 52.8**	**+2.2**
	baz=139,slow=24,SNR=1.3						
	4.8nm,0.5s						
MAJO	**Matsushiro**	**6.03**	**332**		**Pn**	**10 01 40.1**	**-1.4**
JFK	**Kawauchi**	**6.13**	**354**	*e*S	**Sn**	**10 02 46.9**	**-6.3**
JMM	**Marumori**	**6.64**	**353**	Pn	**Pn**	**10 01 49.2**	**-0.6**
JMN	**Monobe**	**7.08**	**292**	Pn	**Pn**	**10 01 56.4**	**+0.4**
JNU	**Nakatsue**	**9.39**	**284**	Pn	**Pn**	**10 02 28.6**	**+0.9**
	0.1nm,0.3s,baz=100,slow=6.1,SNR=2.3						
	7.3nm,1.1s						
JTM	**Tenmabayashi**	**9.52**	**357**	Pn	**Pn**	**10 02 29.5**	**+0.1**
ASAJ	**Asahikawa**	**12.85**	**3**	Pn	**Pn**	**10 03 12.9**	**-2.0**
	0.3nm,0.3s,baz=140,slow=16,SNR=1.4						
ASAJ				Sn	Sn	10 05 29.6	-8.4
	0.3nm,0.3s,baz=226,slow=30,SNR=1.4						
	5.8nm,0.9s						
KSRS	**Kosa Array**	**12.97**	**302**	Pn	**Pn**	**10 03 15.2**	**-1.4**
	0.3nm,0.3s,baz=116,slow=13,SNR=1.7						
	0.3nm,0.4s						
USA0B	**Ussuriysk Arra**	**15.03**	**332**	Pn	**Pn**	**10 03 44.5**	**-0.1**
NACB	**Ninganchiao**	**19.17**	**253**	P	**P**	**10 04 35.5**	**-0.4**
NACB				IAmb	IAmb	10 04 46.2	
	comp=Z,32nm,1.2s						
KLR	**Kul'dur**	**19.47**	**340**	P	**P**	**10 04 39.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=170,slow=8.0,SNR=5.3						
	comp=Z,1.0nm,0.5s						
BJT	**Baijiatuan**	**22.49**	**300**	P	**P**	**10 05 11.5**	**-0.3**
HIA	**Hailar**	**24.45**	**324**	P	**P**	**10 05 30.1**	**-1.1**
SONM	**Songino Array**	**31.55**	**312**	P	**P**	**10 06 35.7**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=116,slow=7.9,SNR=13						
	comp=Z,2.6nm,0.9s						
SEY	**Seymchan**	**32.41**	**9**	P	**P**	**10 06 41.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=157,slow=7.7,SNR=4.4						
	comp=Z,0.5nm,0.3s						
UNV	**Unalaska Valle**	**43.11**	**43**	P	**P**	**10 08 11.8**	**-0.6**
COEN	**Coen**	**44.98**	**178**	P	**P**	**10 08 29.1**	**+1.2**
COEN				IAmb	IAmb	10 08 35.5	
	comp=Z,4.5nm,0.7s						
ZAA0	**Zalesovo Array**	**46.15**	**317**	P	**P**	**10 08 36.7**	**0.0**
ZAA0				IAmb	IAmb	10 08 38.7	
	comp=Z,4.2nm,1.1s						
ZALV	**Zalesovo Beam**	**46.15**	**317**	P	**P**	**10 08 37.3**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=80,slow=9.1,SNR=4.0						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**46.15**	**317**	P	**P**	**10 08 35.7**	**-1.0**
MKAR	**Makanchi Array**	**47.60**	**307**	P	**P**	**10 08 48.6**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=81,slow=11,SNR=4.0						
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**47.60**	**307**	P	**P**	**10 08 48.0**	**-0.3**
KURK	**Kurchatov**	**49.85**	**312**	P	**P**	**10 09 05.4**	**0.0**
KURK				IAmb	IAmb	10 09 07.3	
	comp=Z,6.7nm,1.1s						
KURBB	**Kurchatov Arra**	**49.91**	**312**	P	**P**	**10 09 06.1**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=86,slow=7.1,SNR=7.2						
	comp=Z,1.4nm,0.6s						
WB0	**Warramunga Arr**	**51.22**	**189**	P	**P**	**10 09 16.0**	**-0.1**
WB0				IAmb	IAmb	10 09 18.2	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**51.39**	**189**	P	**P**	**10 09 17.3**	**-0.1**
WR0				IAmb	IAmb	10 09 44.4	
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**51.40**	**189**	P	**P**	**10 09 17.1**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=4.9,slow=7.6,SNR=7.2						
	comp=Z,0.8nm,0.4s						
IMAR	**Indian Mountai**	**51.54**	**28**	P	**P**	**10 09 18.4**	**+0.4**
AAK	**Ala-Archa**	**53.64**	**302**	P	**P**	**10 09 33.2**	**-0.9**
ILAR	**Eielson Array**	**54.28**	**30**	P	**P**	**10 09 38.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=270,slow=5.9,SNR=4.5						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**54.77**	**316**	P	**P**	**10 09 42.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=80,slow=9.2,SNR=4.5						
	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**55.13**	**189**	P	**P**	**10 09 44.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=8.2,slow=6.8,SNR=7.1						
	comp=Z,0.5nm,0.4s						
KK31	**Karatay Array**	**56.40**	**304**	P	**P**	**10 09 53.8**	**-0.1**
KKAR	**Karatay Array**	**56.40**	**304**	P	**P**	**10 09 53.6**	**-0.2**
CHGR	**Chuyangaron**	**58.54**	**299**	P	**P**	**10 10 08.9**	**-0.2**
ARU	**Arti**	**60.93**	**321**	P	**P**	**10 10 24.6**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=350,slow=2.9,SNR=4.9						
	comp=Z,1.9nm,0.4s						
ABKAR	**Akbulak array**	**61.96**	**313**	P	**P**	**10 10 33.1**	**+0.9**
C36M	**Paulatuk**	**62.57**	**23**	P	**P**	**10 10 36.5**	**+0.5**
C36M				IAmb	IAmb	10 10 36.8	
	comp=Z,4.1nm,1.4s						
YKA	**Yellowknife Ar**	**68.69**	**29**	P	**P**	**10 11 15.0**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=299,slow=6.5,SNR=2.7						
	comp=Z,0.1nm,0.6s						
FINES	**FINESS Array B**	**74.06**	**333**	P	**P**	**10 11 47.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=76,slow=5.9,SNR=1.5						
	comp=Z,0.5nm,0.5s						
KBZ	**Khabaz**	**74.92**	**312**	P	**P**	**10 11 53.5**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=90,slow=2.4,SNR=3.8						
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**78.27**	**52**	P	**P**	**10 12 12.5**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=316,slow=5.0,SNR=6.7						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**79.05**	**323**	P	**P**	**10 12 16.5**	**0.0**
	comp=Z,0.7nm,0.5s,baz=51,slow=5.5,SNR=2.8						
	comp=Z,0.7nm,0.5s						
PDAR	**Pinedale Array**	**81.54**	**45**	P	**P**	**10 12 31.3**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=285,slow=1.8,SNR=2.6						
	comp=Z,0.2nm,0.6s						
BRTR	**Keskin Array B**	**82.91**	**312**	P	**P**	**10 12 38.9**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=114,slow=4.5,SNR=5.0						
	comp=Z,1.2nm,0.9s						
TXAR	**Lajitas Array**	**93.41**	**53**	P	**P**	**10 13 29.0**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=309,slow=3.0,SNR=6.2						
	comp=Z,0.6nm,0.7s						

*IDC **25** 10:05:00.9±1.3, 6°.68S×128°.44E, h262km±14km, mb3.5/3, mbtmp4.1/6, Error ellipse: s-maj=18.8km s-min=11.4km az=97.0*
ISC 25 10:05:00.8±0.9, 6°.68S±0°.07×128°.5E±0°.1, h250km, n7, σ1s63/11, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.90**	**233**	P	**Pn**	**10 06 29.4**	**+1.7**
	289nm,0.4s,baz=90,slow=2.0,SNR=45						
BATI				S	**S**	**10 07 36.5**	**-0.7**
	104nm,0.6s,baz=49,slow=20,SNR=4.5						
SIJI	**Sorong**	**6.42**	**26**	P	**Pn**	**10 06 36.1**	**+1.9**
	29nm,0.7s,baz=246,slow=20,SNR=17						
SIJI				S	**S**	**10 07 48.0**	**-1.1**
	14nm,0.4s,baz=239,slow=19,SNR=10.0						
WRA	**Warramunga Arr**	**14.37**	**157**	P	**Pn**	**10 08 12.0**	**-1.4**
	0.7nm,0.3s,baz=329,slow=13,SNR=14						
WRA				S	**S**	**10 10 54.5**	**+1.9**
	0.5nm,0.4s,baz=332,slow=23,SNR=1.2						
ASAR	**Alice Springs**	**17.68**	**163**	P	**P**	**10 08 50.3**	**+0.3**
	3.8nm,0.5s,baz=343,slow=11,SNR=71						
ASAR				S	**S**	**10 11 58.7**	**-1.8**
	0.2nm,0.5s,baz=342,slow=23,SNR=1.4						
MKAR	**Makanchi Array**	**67.13**	**327**	P	**P**	**10 15 26.4**	**-1.4**
	0.8nm,0.4s,baz=118,slow=8.2,SNR=26						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**70.63**	**334**	P	**P**	**10 15 48.2**	**-0.9**
	0.6nm,0.3s,baz=127,slow=9.3,SNR=1.7						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**71.45**	**329**	P	**P**	**10 15 53.0**	**-1.0**
	0.6nm,0.3s,baz=134,slow=4.8,SNR=8.3						
	0.6nm,0.3s						

*IDC **25** 10:21:02.0±2.0, 0°.13N×124°.88E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=246.4km s-min=26.2km az=64.0*
*DJA **25** 10:21:09.8±1.4, 0°N±5°×12°6E±°, h26km±13km, M3.9/6, mb4.2/1, MLv3.7/6*
ISC 25 10:21:11.3±1.2, 0°.09N±0°.07×125°.82E±0°.05, h50km, n8, σ1s36/10, mb3.1/3, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.69**	**66**	P	**Pn**	**10 21 37.9**	**-0.6**
TNTI				S	**Sn**	**10 21 59.4**	**+0.4**
SANI	**Sanana**	**2.13**	**175**	P	**Pn**	**10 21 44.8**	**+0.3**
SANI				S	**Sn**	**10 22 09.0**	**-0.8**
GTOI	**Gorontalo**	**2.86**	**281**	P	**Pn**	**10 21 54.6**	**+0.2**
GTOI				S	**Sn**	**10 22 29.8**	**+2.2**
LUWI	**Luwuk**	**3.25**	**250**	P	**Pn**	**10 21 59.1**	**-0.7**
MRSI	**Marisa**	**3.89**	**276**	P	**Pn**	**10 22 06.2**	**-2.5**
WRA	**Warramunga Arr**	**21.59**	**158**	P	**P**	**10 25 57.4**	**+0.3**
	0.8nm,0.8s,baz=333,slow=11,SNR=3.2						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**24.89**	**162**	P	**P**	**10 26 30.2**	**+0.5**
	0.6nm,0.8s,baz=345,slow=10,SNR=7.0						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**60.05**	**327**	P	P	10 31 07.0	-6.2
	0.3nm,0.4s,baz=122,slow=7.8,SNR=6.4						
	0.3nm,0.4s						

*MOS **25** 10:21:23.7±0.8, 10°.37S×161°.05E, h44km, mb5.3/32, Error ellipse: s-maj=8.5km s-min=7.1km az=95.1*
*IDC **25** 10:21:24.7±2.0, 10°.37S×161°.10E, h40km±17km, mb4.5/27, mbtmp4.7/32, ML4.7/4, MS4.4/58, Error ellipse: s-maj=14.6km s-min=11.4km az=86.0*
*GCMT **25** 10:21:25.3±0.2, 10°.48S±0°.02×161°.07E±0°.01, h24km, MW5.1/82, Moment Tensor Solution. s61,c74; s82,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.03±.15; $M_{\theta\theta}$0.52±.12; $M_{\phi\phi

CTAO IAmb IAmb 10 25 27.5
comp=Z,96nm,0.8s
CTAO Charters Tower 17.21 234 P P 10 25 24.1 -0.3
CTAO Charters Tower 17.21 234 P Pn 10 25 23.1 -0.4
CTAO pmax pmax
comp=Z,96nm,0.8s
PATS Pohnpei 17.34 351 P P 10 25 26.2 +0.3
baz=17,SNR=3.5
EIDS Eidsvold 17.64 211 P Pn 10 25 26.8 -1.9
baz=18,SNR=61
EIDS Eidsvold 17.64 211 Pn 10 25 28.4 -0.3
EIDS IAmb IAmb 10 25 33.3
comp=Z,194nm,1.0s
EIDS Eidsvold 17.64 211 P P 10 25 29.4 +0.3
COEN Coen 17.83 257 P P 10 25 32.8 +1.5
baz=18,SNR=14
COEN Coen 17.83 257 P P 10 25 31.8 +0.5
COEN Coen 17.83 257 P P 10 25 32.8 +1.5
MTSU Mount Surprise 17.94 243 P P 10 25 34.4 +1.8
baz=18,SNR=68
MTSU Mount Surprise 17.94 243 P P 10 25 34.3 +1.8
MSVF Nonsavu 18.01 116 P P 10 25 32.6 -0.7
comp=Z,0.2nm,0.3s,baz=233,slow=4.1,SNR=6.7
MSVF LR LR 10 31 14.6
comp=Z,919nm,19.0s,baz=293,slow=33
comp=Z,10nm,1.0s
MSVF Nonsavu 18.01 116 P P 10 25 33.3 -0.1
MSVF Nonsavu 18.01 116 P Pn 10 25 37.5 +4.1
MSVF Nonsavu 18.01 116 P P 10 25 33.3 -0.1
MSVF pmax pmax
comp=Z,159nm,1.7s
AUBSH Beerwah State 18.07 204 P Pn 10 25 34.8 +0.9
AUWSH Wavell State H 18.52 203 P Pn 10 25 40.6 +1.2
GC1S Gold Coast 1 S 19.04 201 P Pn 10 25 46.6 +1.0
DGTI Dogotuki 19.09 110 P Pn 10 25 47.2 +0.8
RMQ Roma 19.77 214 P Pn 10 25 54.7 +0.3
baz=20,SNR=199
RMQ Roma 19.77 214 P Pn 10 25 54.2 -0.2
KWAJ Kwajalein Atol 20.16 19 P P 10 25 57.8 +1.0
KWAJ Kwajalein Atol 20.16 19 P P 10 25 57.8 +1.0
KWAJ pmax pmax
comp=Z,1μm,1.5s
ARMA Armidale 21.76 202 P P 10 26 14.5 +0.5
baz=22,SNR=8.0
ARMA Armidale 21.76 202 P P 10 26 14.4 +0.3
ARMA IAmb IAmb 10 26 28.6
comp=Z,124nm,1.4s
ARMA Armidale 21.76 202 P P 10 26 14.6 +0.5
AULRC Lightning Ridg 22.53 211 P P 10 26 23.3 +1.1
QLP Quilpie 22.61 222 P P 10 26 23.0 -0.1
baz=23,SNR=8.1
QLP Quilpie 22.61 222 P P 10 26 23.7 +0.6
AUPHS Peel High Scho 22.66 203 P P 10 26 24.1 +0.6
QIS Mount Isa 22.98 241 P P 10 26 27.6 +0.6
baz=18,SNR=116
QIS Mount Isa 22.98 241 P P 10 26 27.7 +0.7
SMPI Sarmi 23.72 289 P P 10 26 33.9 -0.2
comp=Z,337nm,1.1s
AUDCS Dubbo College 24.57 206 P P 10 26 42.9 +1.2
CMSA Cobar Meteorol 25.40 212 P P 10 26 49.3 +0.2
baz=26,SNR=14
CMSA Cobar Meteorol 25.40 212 P P 10 26 49.4 +0.2
AUUHS Ulladulla High 26.65 200 P P 10 27 02.1 +1.7
AFI Afiamalu 26.78 100 LR LR 10 35 22.0
comp=Z,2μm,20.6s,baz=280,slow=31
CNB Canberra Magne 26.99 201 P P 10 27 05.5 +1.9
CAN Canberra 27.13 202 P P 10 27 04.8 0.0
CAN IAmb IAmb 10 27 35.8
comp=Z,98nm,1.7s
CAN Canberra 27.13 202 P P 10 27 04.8 0.0
CAN pmax pmax
comp=Z,98nm,1.7s
WR0 Warramunga Arr 27.26 246 P P 10 27 06.2 0.0
WR0 IAmb IAmb 10 27 12.4
comp=Z,39nm,0.9s
WB0 Warramunga Arr 27.34 247 P P 10 27 06.9 0.0
WB0 IAmb IAmb 10 27 23.5
comp=Z,43nm,0.9s
WRAB Tennant Creek 27.42 247 P P 10 27 07.3 -0.4
WRAB IAmb IAmb 10 27 24.2
comp=Z,68nm,1.2s
WRAB Tennant Creek 27.42 247 P P 10 27 08.2 +0.5
WRAB Tennant Creek 27.42 247 *e*P P 10 27 07.8 +0.1
WRAB pmax pmax
comp=Z,60nm,1.3s
WB2 Warramunga Arr 27.43 247 P P 10 27 07.2 -0.5
WRA Warramunga Arr 27.44 247 P P 10 27 07.2 -0.5
comp=Z,32nm,1.1s,baz=74,slow=9.0,SNR=50
WRA LR LR 10 37 30.8
comp=Z,2μm,19.6s,baz=52,slow=35
comp=Z,32nm,1.1s
WRA Warramunga Arr 27.44 247 *ce*P P 10 27 07.5 -0.3
WRA pmax pmax
comp=Z,32nm,1.1s
STKA Stephens Creek 27.94 217 P P 10 27 12.2 +0.1
comp=Z,5.8nm,0.7s,baz=36,slow=11,SNR=10
STKA LR LR 10 38 02.2
comp=Z,3μm,19.1s,baz=39,slow=36
comp=Z,5.8nm,0.7s
STKA Stephens Creek 27.94 217 P P 10 27 12.7 +0.6
baz=28,SNR=29
STKA Stephens Creek 27.94 217 P P 10 27 12.3 +0.1
STKA Stephens Creek 27.94 217 P P 10 27 12.9 +0.8
STKA Stephens Creek 27.94 217 P P 10 27 12.3 +0.1
STKA pmax pmax
comp=Z,51nm,1.9s
KDU Kakadu 28.09 263 P P 10 27 13.2 -0.5
baz=28,SNR=6.4
KDU Kakadu 28.09 263 P P 10 27 14.8 +1.2
MILA Mila 28.63 200 P P 10 27 18.1 -0.1
GUMO Guam 28.74 326 LR LR 10 38 03.4
comp=Z,578nm,21.0s,baz=138,slow=35
AS01 Alice Springs 29.01 239 P P 10 27 21.4 -0.4
AS31 Alice Springs 29.05 240 P P 10 27 21.0 -1.2
ASAR Alice Springs 29.05 240 P P 10 27 21.1 -1.1
comp=Z,18nm,0.9s,baz=69,slow=9.5,SNR=132
ASAR ScP **ScP 10 34 06.9 0.0**
comp=Z,1.1nm,1.0s,baz=84,slow=2.9,SNR=2.9
ASAR LR LR 10 39 03.5
comp=Z,4μm,18.1s,baz=64,slow=36
comp=Z,18nm,0.9s
ASAR Alice Springs 29.05 240 P P 10 27 21.0 -1.1
LCRK Leigh Creek 29.14 223 P P 10 27 23.3 +0.5
MTN Manton Dam 29.40 262 P P 10 27 26.6 +1.3
baz=30,SNR=4.0
MTN Manton Dam 29.40 262 P P 10 27 24.5 -0.8
MTN IAmb IAmb 10 28 09.9
comp=Z,45nm,1.2s
OOD Oodnadatta 29.46 231 P P 10 27 26.3 +0.7
FAKI Fak Fak 29.54 283 P P 10 27 26.8 +0.2
TOO Toolangi 30.46 205 P P 10 27 35.6 +1.1
baz=31,SNR=7.6
TOO Toolangi 30.46 205 P P 10 27 35.4 +0.9
TOO Toolangi 30.46 205 P P 10 27 35.9 +1.4
TOO Toolangi 30.46 205 P P 10 27 35.4 +0.9
TOO pmax pmax
comp=Z,25nm,1.0s
HTT Hallett 30.64 218 P P 10 27 36.7 +0.6
baz=31,SNR=15
HTT Hallett 30.64 218 P P 10 27 36.8 +0.7
SIJI Sorong 31.09 286 LR LR 10 40 17.8
comp=Z,761nm,21.8s,baz=135,slow=36
BRAT Ballarat 31.12 207 P P 10 27 41.6 +1.4
WHYH Whyalla 31.21 220 P P 10 27 42.3 +1.3
URZ Urewera 31.25 155 P P 10 27 41.2 -0.2
comp=Z,7.3nm,0.8s,baz=0.0,slow=3.0,SNR=2.0
URZ LR LR 10 39 10.4
comp=Z,609nm,18.7s,baz=56,slow=34
comp=Z,7.3nm,0.8s
ARPS Mount Arapiles 31.48 210 P P 10 27 44.3 +0.9
baz=32,SNR=5.5
ARPS Mount Arapiles 31.48 210 P P 10 27 44.6 +1.2
KNRA Kununurra 31.87 257 P P 10 27 47.2 +0.1
baz=32,SNR=14
KNRA Kununurra 31.87 257 P P 10 27 47.2 +0.1
KNRA Kununurra 31.87 257 P P 10 27 47.6 +0.5
MULG Mulgathing 31.98 228 P P 10 27 47.6 -0.3
BBOO Buckleboo 32.05 222 P P 10 27 48.4 0.0
baz=32,SNR=32
BBOO Buckleboo 32.05 222 P P 10 27 48.6 +0.1
BBOO Buckleboo 32.05 222 P P 10 27 48.9 +0.4
RPZ Rata Peaks 34.30 167 P P 10 28 07.7 -0.2
comp=Z,8.8nm,0.5s,baz=315,slow=3.6,SNR=7.5
comp=Z,8.8nm,0.5s
RPZ Rata Peaks 34.30 167 P P 10 28 07.8 -0.2

WRKA Warakurna 34.31 241 P P 10 28 07.6 -0.8
baz=34,SNR=12
WRKA Warakurna 34.31 241 P P 10 28 08.2 -0.2
TAU Tasmania Unive 34.53 198 P P 10 28 09.3 -0.6
TAU Tasmania Unive 34.53 198 P P 10 28 09.3 -0.6
TAU pmax pmax
comp=Z,64nm,1.2s
FITZ Fitzroy Crossi 35.12 253 P P 10 28 14.8 -0.5
SANI Sanana 35.80 281 P P 10 28 22.7 +1.5
SANI Sanana 35.80 281 P P 10 28 21.5 +0.3
comp=Z,73nm,1.0s
SOEI Soe 36.22 268 P P 10 28 22.8 -2.1
FORT Forrest 36.73 232 P P 10 28 28.6 -0.4
FORT IAmb IAmb 10 29 36.2
comp=Z,28nm,0.9s
FORT Forrest 36.73 232 P P 10 28 31.9 +2.9
BATI Baumata 36.78 267 P P 10 28 29.4 -0.2
comp=Z,50nm,0.8s,baz=78,slow=9.3,SNR=2.2
BATI LR LR 10 44 32.1
comp=Z,678nm,21.2s,baz=144,slow=38
comp=Z,50nm,0.8s
MMRI Maumere 38.31 269 P P 10 28 41.6 -0.9
MMRI Maumere 38.31 269 P P 10 28 41.9 -0.7
RAR Rarotonga 39.09 111 LR LR 10 42 06.8
comp=Z,277nm,18.1s,baz=296,slow=32
LUWI Luwuk 39.17 281 P P 10 28 49.2 -0.5
DAV Davao City (W) 39.36 295 LR LR 10 43 59.8
comp=Z,84nm,19.1s,baz=286,slow=34
GTOI Gorontalo 39.40 284 P P 10 28 53.4 +1.7
comp=Z,57nm,0.9s
MRSI Marisa 40.38 283 P P 10 29 00.1 +0.3
comp=Z,66nm,1.1s,comp=Z,1μm
PSA00 Pilbara Seismi 41.02 249 P P 10 29 04.8 -0.3
PSA00 IAmb IAmb 10 29 05.9
comp=Z,52nm,1.2s
PSA00 Pilbara Seismi 41.02 249 P P 10 29 05.3 +0.2
MBWA Marble Bar 41.06 250 P P 10 29 05.4 0.0
MBWA IAmb IAmb 10 29 06.2
comp=Z,52nm,1.0s
MBWA Marble Bar 41.06 250 P P 10 29 06.6 +1.2
MBWA Marble Bar 41.06 250 P P 10 29 05.3 0.0
MBWA pP **pP 10 29 18.6 +0.9**
KAPI Kappang 41.25 274 P P 10 29 06.1 -0.9
comp=Z,8.0nm,0.8s,baz=27,slow=2.3,SNR=2.0
KAPI LR LR 10 47 14.4
comp=Z,152nm,21.8s,baz=104,slow=38
comp=Z,8.0nm,0.8s
JCJ Chichijima 41.53 334 LR LR 10 45 05.3
comp=Z,404nm,18.5s,baz=102,slow=34
TOLI2 Tolitoli 41.67 284 P P 10 29 09.8 -0.6
TOLI2 IAmb IAmb 10 29 17.9
comp=Z,54nm,1.0s
TOLI2 Tolitoli 41.67 284 P P 10 29 09.7 -0.7
KMBL Kambalda 41.81 234 P P 10 29 11.5 +0.1
MPSI Mapaga 42.30 282 P P 10 29 14.6 -1.0
comp=Z,49nm,1.0s
PLAI Plampang 42.68 268 P P 10 29 19.3 +0.6
PLAI Plampang 42.68 268 P P 10 29 18.4 -0.3
comp=Z,75nm,1.3s
MEEK Meekatharra 43.13 242 P P 10 29 22.4 +0.2
baz=43,SNR=13
MEEK Meekatharra 43.13 242 P P 10 29 23.7 +1.5
BLDU Ballidu 45.78 237 P P 10 29 43.3 +0.1
baz=46,SNR=6.6
BLDU Ballidu 45.78 237 P P 10 29 43.5 +0.2
MORW Morawa 45.93 240 P P 10 29 44.7 +0.2
baz=46,SNR=6.3
MORW Morawa 45.93 240 P P 10 29 44.4 -0.1
MORW IAmb IAmb 10 31 32.7
comp=Z,35nm,1.1s
MORW Morawa 45.93 240 P P 10 29 44.5 0.0
NWAO Narrogin (SRO) 46.05 234 P P 10 29 44.9 -0.6
comp=Z,11nm,0.8s
NWAO LR LR 10 49 16.4
comp=Z,1μm,19.9s,slow=36
comp=Z,11nm,0.8s
NWAO Narrogin (SRO) 46.05 234 P P 10 29 45.2 -0.2
NWAO IAmb IAmb 10 31 33.3
comp=Z,54nm,1.4s
NWAO Narrogin (SRO) 46.05 234 P P 10 29 45.2 -0.2
NWAO pmax pmax
comp=Z,54nm,1.5s
NWAO Narrogin (SRO) 46.05 234 P P 10 29 44.8 -0.6
NWAO pP **pP 10 29 58.5 +0.5**
NWAO sP **sP 10 30 04.5 +0.8**
KKM Kota Kinabalu 47.55 288 P P 10 29 57.2 -0.2
PPT Papeete 48.32 104 LR LR 10 45 41.8
comp=Z,426nm,20.8s,baz=270,slow=30
PPT2 Papeete2 48.32 104 *e*P P 10 30 04.8 +1.4
comp=Z,64nm,25.5s
PPT2 *e*S **S 10 36 59.7 -0.4**
comp=Z,207nm,25.8s
PPT2 *e*SS **SS 10 40 30.5 +0.2**
comp=Z,135nm,26.8s
PPT2 *e*LQ LQ 10 41 47.1
comp=Z,650nm,24.0s
PPT2 *e*LR LR 10 43 48.6
comp=Z,652nm,23.2s
PPT2 *e*LR LR 10 43 48.6
comp=Z,788nm,22.2s
PWJI Pagerwojo 48.64 268 P P 10 30 04.4 -1.3
comp=Z,75nm,0.8s
JOW Kunigami 48.81 320 LR LR 10 47 35.1
comp=Z,240nm,21.8s,baz=123,slow=32
UGM Wanagama 49.91 268 P P 10 30 15.6 +0.1
INU Inuyama 50.87 335 P P 10 30 23.5 +1.2
INU Inuyama 50.87 335 P P 10 30 22.2 -0.1
JMN Monobe 50.94 331 P P 10 30 23.2 +0.4
JMN Monobe 50.94 331 P P 10 30 21.5 -1.4
JGF Kuroka 50.94 335 P P 10 30 25.2 +2.3
MJAR Matsushiro Arr 51.41 336 P P 10 30 24.5 -1.8
comp=Z,3.4nm,0.8s,baz=167,slow=8.8,SNR=9.1
comp=Z,3.4nm,0.8s
MAJO Matsushiro 51.41 336 P P 10 30 25.1 -1.3
KPJI Karang Pucung 51.55 269 P P 10 30 41.4 +14
NACB Ninganchiao 51.64 312 P P 10 30 28.4 +0.1
JNU Nakatsue 51.97 328 P P 10 30 30.4 -0.2
comp=Z,7.7nm,0.8s,baz=220,slow=9.7,SNR=10
comp=Z,7.7nm,0.8s
LEM Lembang 52.91 269 P P 10 30 38.3 +0.2
comp=Z,52nm,0.7s,baz=281,slow=22,SNR=6.8
LEM LR LR 10 56 50.7
comp=Z,160nm,18.4s,baz=42,slow=40
comp=Z,52nm,0.7s
CGJI Cibinong 54.83 269 P P 10 30 51.9 -0.1
comp=Z,188nm,1.0s,comp=Z,2μm
PPBI Pangkal Pinang 55.13 275 P P 10 31 02.9 +8.8
KASI Kota Agung 56.16 270 P P 10 31 10.2 +8.6
SSE Sheshan 56.25 319 P P 10 31 03.9 +2.0
TJN Taejon 56.31 327 P P 10 31 03.1 +1.0
MDSI Maura Dua 56.64 271 P P 10 31 05.0 +0.1
comp=Z,51nm,1.3s
JKA Kamikawa-asahi 56.79 344 P P 10 31 05.7 +0.3
ASAJ Asahikawa 56.79 344 P P 10 31 05.5 +0.1
comp=Z,10nm,0.5s,baz=200,slow=6.7,SNR=14
ASAJ LR LR 10 53 31.9
comp=Z,715nm,20.5s,baz=174,slow=34
comp=Z,10nm,0.5s
ASAJ Asahikawa 56.79 344 P P 10 31 05.7 +0.3
ASAJ pmax pmax
comp=Z,29nm,0.9s
KSRS Korea Array 56.84 329 P P 10 31 05.6 -0.3
comp=Z,5.4nm,1.0s,baz=142,slow=7.2,SNR=14
KSRS LR LR 10 54 08.4
comp=Z,176nm,19.5s,baz=130,slow=34
comp=Z,5.4nm,1.0s
KSAR Wonju Array Be 56.85 329 P P 10 31 05.9 0.0
KSAR Wonju Array Be 56.85 329 P P 10 31 05.9 0.0
TAOE Nuku Hiva Isla 57.92 94 *e*LR LR 10 48 15.9
comp=Z,596nm,24.1s
DRV Dumont d'Urvil 57.97 190 P P 10 31 13.0 -0.4
NJ2 Nanjing 58.39 318 *e*P P 10 31 19.5 +2.6
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MASI Maura Aman, Be 58.78 273 P P 10 31 31.7 +12
YSS Yuzh-Sakhalins 59.39 346 P P 10 31 23.4 -0.1
YSS IAmb IAmb 10 31 48.6
comp=Z,18nm,0.9s
YSS Yuzh-Sakhalins 59.39 346 P P 10 31 24.4 +0.9
YSS Yuzh-Sakhalins 59.39 346 *e*P P 10 31 23.5 0.0
YSS *e*S **S 10 39 29.1 +0.6**
YSS *e*SS **SS 10 43 29.9 +5.4**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=N,400nm,17.0s
YSS MLR MLR
comp=Z,700nm,17.0s
YSS Yuzh-Sakhalins 59.39 346 P P 10 31 23.7 +0.2
SDSI Sungai Dareh 59.98 275 P P 10 31 33.4 +5.1
USA0B Ussuriysk Arra 60.41 336 P P 10 31 30.7 +0.2
USA0B Ussuriysk Arra 60.41 336 P P 10 31 30.7 +0.2
USA0B pmax pmax
comp=Z,83nm,1.7s
USRK Ussuriysk Ar. 60.41 336 P P 10 31 30.2 -0.3
comp=Z,14nm,0.9s,baz=148,slow=6.4,SNR=25
USRK LR LR 10 56 11.2
comp=Z,214nm,20.3s,baz=130,slow=34
comp=Z,14nm,0.9s
USRK Ussuriysk Ar. 60.41 336 P P 10 31 30.9 +0.3
USRK Ussuriysk Ar. 60.41 336 P P 10 31 30.9 +0.3
PDSI Padang 60.94 275 P P 10 31 42.7 +7.9
IPM Ipoh 61.57 281 P P 10 31 40.4 +1.3
MDJ Mudanjiang 61.73 335 P P 10 31 39.7 +0.2
MDJ IAmb IAmb 10 31 58.1
comp=Z,14nm,0.9s
MDJ Mudanjiang 61.73 335 P P 10 31 39.3 -0.2
MDJ pmax pmax
comp=Z,13nm,1.8s
MDJ pmax pmax
comp=Z,290nm,7.1s
MDJ Mudanjiang 61.73 335 P P 10 31 40.5 +1.0
MDJ Mudanjiang 61.73 335 P P 10 31 39.6 +0.1
CN2 Changchun 62.91 332 *e*P P 10 31 46.8 -0.6
CN2 *es*P pwP 10 32 05.0 +1.0
CN2 *e*S **S 10 40 12.0 -1.4**
CN2 *es*S pS 10 40 33.8 +3.0
CN2 *e*SS **SS 10 44 20.0 +0.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 LR LR
comp=Z,320nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,260nm,19.0s
PET Petropavlovsk 63.21 358 *i*P P 10 31 49.0 -0.2
PET pmax pmax
comp=Z,24nm,1.1s
PSI Prapat 63.22 278 P P 10 31 50.6 +0.4
comp=Z,2.6nm,0.3s,baz=173,slow=8.9,SNR=2.1
comp=Z,2.6nm,0.3s
PBSI Pulau Batu 63.24 275 P P 10 31 49.9 -0.4
comp=Z,125nm,1.2s
PEA0B Petropavlovsk- 63.32 358 P P 10 31 49.8 -0.2
PEA0B Petropavlovsk- 63.32 358 P P 10 31 49.8 -0.2
PEA0B pmax pmax
comp=Z,38nm,1.1s
PETK Petropavlovsk- 63.32 358 P P 10 31 49.1 -0.9
comp=Z,6.7nm,0.6s,baz=137,slow=5.8,SNR=24
PETK LR LR 10 55 25.0
comp=Z,444nm,21.6s,baz=159,slow=32
comp=Z,6.7nm,0.6s
BNX BinXian 63.55 334 ⇓P P 10 31 51.3 -0.3
BNX pmax pmax
comp=Z,8.0nm,0.5s
BNX pmax pmax
comp=Z,59nm,3.6s
SHEM Shemya Is, Ala 63.87 9 LR LR 10 54 20.4
comp=Z,209nm,19.4s,baz=240,slow=31
ENH Enshi 63.96 311 P P 10 31 54.5 -0.2
ENH IAmb IAmb 10 32 20.5
comp=Z,25nm,1.3s
ENH Enshi 63.96 311 P P 10 31 57.4 +2.7
ENH Enshi 63.96 311 P P 10 31 56.2 +1.5
ENH sP **sP 10 32 15.4 +1.1**
LYN LuoYang 64.16 317 ⇓P P 10 31 57.8 +1.9
LYN pmax pmax
comp=Z,180nm,5.2s
LYN LR LR
comp=Z,300nm,14.6s
LYN LR LR
comp=Z,180nm,11.9s
LYN LR LR
comp=Z,220nm,17.1s
GSI Gunungsitoli 64.21 277 P P 10 31 58.4 +1.8
GSI Gunungsitoli 64.21 277 P P 10 31 57.9 +1.3
comp=Z,86nm,1.0s
GYA Guiyang 64.28 306 ⇓P P 10 32 00.8 +3.8
GYA pmax pmax
comp=Z,11nm,1.1s
HNS HongShan 64.39 320 ⇑P P 10 31 58.0 +0.7
HNS pmax pmax
comp=Z,9.0nm,1.4s
GRNR Gornyy 64.58 343 ⇑*i*P P 10 31 58.3 0.0
GRNR pmax pmax
comp=N,3.0nm,0.8s
GRNR pmax pmax
comp=Z,8.0nm,1.1s
KLR Kul'dur 64.73 339 LR LR 10 57 45.6
comp=Z,191nm,21.9s,baz=154,slow=34
KLR Kul'dur 64.73 339 *ce*P P 10 31 59.2 -0.1
KLR pmax pmax
comp=Z,21nm,1.7s
CASY Casey 65.35 200 P P 10 32 02.9 -0.2
MLSI Meulaboh, Aceh 66.00 279 P P 10 32 17.6 +9.3
XAN Xi'an 66.33 314 P P 10 32 10.0 0.0
XAN S **S 10 40 55.0 -1.1**
XAN pmax pmax
comp=Z,18nm,0.6s
XAN LR LR
comp=Z,200nm,17.2s
XAN LR LR
comp=Z,230nm,17.3s
XAN LR LR
comp=Z,400nm,16.3s
XAN Xi'an 66.33 314 P P 10 32 12.0 +2.0
XAN pP **pP 10 32 24.8 +0.9**
KMI Kunming 66.88 303 ⇑P P 10 32 15.8 +1.9
KMI pP pwP 10 32 31.0 +0.6
KMI S **S 10 41 10.8 +7.4**
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI LR LR
comp=Z,160nm,21.3s
KMI LR LR
comp=Z,220nm,18.4s
KMI LR LR
comp=Z,230nm,23.2s
CRAI Chiangrai 67.00 297 P P 10 32 14.5 0.0
CRAI IAmb IAmb 10 32 30.8
comp=Z,15nm,1.0s
VNDA Vanda 67.10 180 P P 10 32 14.0 -0.2
comp=Z,3.2nm,1.0s,baz=321,slow=5.6,SNR=7.1
VNDA LR LR 10 58 38.1
comp=Z,107nm,18.1s,baz=356,slow=33
comp=Z,3.2nm,1.0s
VNDA Vanda 67.10 180 P P 10 32 13.9 -0.3
VNDA Vanda 67.10 180 P P 10 32 14.0 -0.2
VNDA Vanda 67.10 180 P P 10 32 14.4 +0.2
HEH HeiHe 67.16 337 *e*P P 10 32 14.5 -0.4
HEH pmax pmax
comp=Z,19nm,0.9s
HEH pmax pmax
comp=Z,200nm,5.4s
CM31 Chiang Mai Arr 67.65 295 P P 10 32 17.9 -0.7
CM31 IAmb IAmb 10 32 40.8
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 67.65 295 P P 10 32 18.6 -0.1
comp=Z,1.4nm,0.5s,baz=125,slow=5.0,SNR=9.6
CMAR LR LR 11 01 24.6
comp=Z,48nm,20.4s,baz=95,slow=36
comp=Z,1.4nm,0.5s
CMAR Chiang Mai Arr 67.65 295 P P 10 32 18.0 -0.7
XLT XiLinHaoTe 67.72 326 *e*P P 10 32 19.5 +0.8
XLT pP pwP 10 32 35.8 +0.3
XLT sP PcP 10 32 42.8 -2.4
XLT pmax pmax
comp=Z,17nm,1.1s
XLT pmax pmax
comp=Z,190nm,4.3s
CHTO Chiang Mai 67.77 295 P P 10 32 19.4 0.0
CHTO Chiang Mai 67.77 295 P P 10 32 19.4 0.0
CCD Concordia, Ant 68.01 190 P P 10 32 20.4 -0.1
CCD pP **pP 10 32 33.9 +0.2**
PZH PanZhiHua 68.27 304 P P 10 32 24.0 +1.4
PZH pmax pmax
comp=Z,6.0nm,1.9s
PZH pmax pmax
comp=Z,100nm,4.3s
HHC Hu-ho-hao-te 68.42 322 *e*P P 10 32 27.0 +3.8

HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,160nm,6.6s
HIA Hailar 69.61 333 P **P** **10 32 29.9 -0.4**
HIA IAmb IAmb 10 32 33.6
comp=Z,52nm,1.7s
HIA Hailar 69.61 333 P **P** **10 32 30.8 +0.5**
HIA Hailar 69.61 333 P **P** **10 32 29.9 -0.4**
HIA pmax pmax
comp=Z,52nm,1.7s
HIA Hailar 69.61 333 P **P** **10 32 30.6 +0.3**
UNV Unalaska Valle 69.67 20 P **P** **10 32 28.9 -1.5**
baz=214
ZEA Zeya 70.04 339 *e*P **P** **10 32 33.4 +0.6**
ZEA *e* 10 32 41.1
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan 70.23 354 LR LR 11 00 28.8
comp=Z,141nm,20.3s,baz=164,slow=33
MA2 Magadan 70.23 354 P **P** **10 32 32.5 -1.3**
MA2 Magadan 70.23 354 P **P** **10 32 33.8 0.0**
MA2 Magadan 70.23 354*ce*P **P** **10 32 33.0 -0.8**
MA2 pmax pmax
comp=Z,49nm,1.7s
MA2 Magadan 70.23 354 P **P** **10 32 32.6 -1.2**
TNCH TengChong 70.36 301 *e*P **P** **10 32 37.8 +2.2**
TNCH pP pP 10 32 45.0 -4.8
TNCH pmax pmax
comp=Z,20nm,0.4s
LZH Lanzhou 70.95 314 *e*P **P** **10 32 39.8 +0.8**
LZH pmax pmax
comp=Z,17nm,1.5s
SPIA Saint Paul Isl 71.37 16 P **P** **10 32 40.2 -0.6**
baz=210
S12K Black Hills 72.69 21 P **P** **10 32 47.4 -1.3**
baz=218
SDPT Sand Point 72.98 22 P **P** **10 32 49.6 -0.9**
baz=220
SEY Seymchan 73.42 356 LR LR 11 07 01.0
comp=Z,218nm,18.4s,baz=296,slow=37
ULN Ulaanbaatar 75.13 326 P **P** **10 33 04.1 +0.7**
ULN IAmb IAmb 10 33 07.4
comp=Z,18nm,0.7s
ULN Ulaanbaatar 75.13 326*ce*P **P** **10 33 04.2 +0.8**
ULN pmax pmax
comp=Z,40nm,1.7s
GTA Gaotai 75.33 315 *e*P **P** **10 33 07.8 +3.1**
GTA pP pwP 10 33 22.0 +0.2
GTA pmax pmax
comp=Z,12nm,0.7s
GTA pmax pmax
comp=Z,140nm,6.8s
GTA LR LR
comp=Z,120nm,16.3s
GTA LR LR
comp=Z,190nm,16.7s
GTA LR LR
comp=Z,200nm,17.5s
SONM Songino Array 75.47 325 P **P** **10 33 05.8 +0.5**
comp=Z,21nm,0.6s,baz=142,slow=5.8,SNR=65
comp=Z,21nm,0.6s
SONM Songino Array 75.47 325 P **P** **10 33 04.2 -1.2**
SONM IAmb IAmb 10 33 09.2
comp=Z,23nm,0.6s
BRDH Bariadhala 75.48 297 LR LR 11 10 13.9
comp=Z,55nm,18.1s,baz=55,slow=39
SHL Shillong 76.18 300 P **P** **10 33 09.2 -0.7**
SHL Shillong 76.18 300 P **P** **10 33 09.2 -0.7**
SHL pmax pmax
comp=Z,13nm,0.8s
R17K Ugashik Creek 76.20 22 P **P** **10 33 08.7 -0.4**
baz=223
YAK Yakutsk 76.25 345 LR LR 11 03 56.5
comp=Z,366nm,21.5s,baz=98,slow=34
YAK Yakutsk 76.25 345 P **P** **10 33 08.5 -0.8**
YAK Yakutsk 76.25 345 *e*P **P** **10 33 08.4 -0.8**
YAK *e* 10 33 20.1
YAK *e**PP **pP** **10 33 23.3 -0.1**
YAK *e* 10 35 54.9
YAK *e*S **S** **10 42 49.3 -0.1**
YAK *e**SS **SKKSac** **10 43 16.0 0.0**
YAK *e* 10 43 21.6
YAK *e*SS **SS** **10 47 43.0 -1.4**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,198nm,5.1s
YAK pmax pmax
comp=E,171nm,4.7s
YAK smax smax
comp=E,187nm,5.5s
YAK smax smax
comp=N,146nm,5.1s
SII Sitkinak Islan 76.27 24 P **P** **10 33 09.6 +0.1**
baz=225
P16K Nushagak River 76.66 20 P **P** **10 33 11.3 -0.3**
baz=221
Q17K Contact Creek 76.84 22 P **P** **10 33 12.6 -0.2**
baz=224
Q16K King Salmon 76.87 21 P **P** **10 33 12.1 -0.7**
baz=223
O16K Kokwok River B 77.05 20 P **P** **10 33 12.5 -1.4**
baz=221
OHAK Old Harbor 77.09 24 P **P** **10 33 13.4 -0.6**
baz=226
Q18K Katmai Hardscr 77.44 22 P **P** **10 33 15.9 -0.3**
baz=224
N16K Nishlik Lake 77.50 19 P **P** **10 33 16.3 0.0**
baz=220
O17K Koliganek Bris 77.53 20 P **P** **10 33 15.7 -0.8**
baz=222
GOMU GeErMu 77.58 311 P **P** **10 33 22.5 +4.7**
GOMU pmax pmax
comp=N,120nm,5.8s
KDAK Kodiak Island 77.75 23 LR LR 11 04 05.2
comp=N,317nm,20.0s,baz=220,slow=33
KDAK Kodiak Island 77.75 23 P **P** **10 33 17.6 -0.2**
KDAK Kodiak Island 77.75 23 P **P** **10 33 17.3 -0.5**
baz=227
KDAK Kodiak Island 77.75 23 P **P** **10 33 17.6 -0.2**
KDAK pmax pmax
comp=Z,40nm,1.0s
P18K Big Mountain, 77.89 21 IAmb IAmb 10 33 18.6
comp=Z,32nm,1.1s
P18K Big Mountain, 77.89 21 P **P** **10 33 17.5 -1.1**
baz=224
BOD Bodaibo 78.04 336 *e*P **P** **10 33 17.8 -1.6**
BOD pmax pmax
comp=Z,15nm,1.7s
Q19K Cape Douglas, 78.14 22 P **P** **10 33 18.9 -1.1**
baz=226
O18K Koktuh Hills 78.24 21 P **P** **10 33 19.1 -1.4**
baz=224
BILL Bilibino 78.33 2 P **P** **10 33 20.5 -0.3**
BILL Bilibino 78.33 2*de*P **P** **10 33 20.5 -0.3**
BILL *e* 10 33 29.6
BILL *e* 10 36 27.4
BILL *e*S **S** **10 43 20.4 +8.5**
BILL pmax pmax
comp=Z,35nm,0.8s
BILL MLR MLR
comp=Z,118nm,18.0s
ZAK Zakamensk 78.58 326 *e*P **P** **10 33 22.2 -0.5**
ZAK pmax pmax
comp=Z,11nm,1.2s
O19K Port Alsworth 78.79 21 P **P** **10 33 22.3 -1.2**
baz=225
ANM Nome 78.92 14 P **P** **10 33 23.3 -0.8**
baz=214
SVW2 Sparrevohn 79.01 20 P **P** **10 33 25.2 +0.5**
N19K Bonanza Creek 79.18 20 P **P** **10 33 24.2 -1.5**
baz=224
TNA Tin City 79.19 13 P **P** **10 33 24.7 -0.8**
baz=211
O20K Slope Mountain 79.32 22 P **P** **10 33 25.0 -1.4**
baz=226
HOM Homer 79.39 22 P **P** **10 33 26.5 -0.3**
baz=227
QSPA South Pole Qui 79.59 180 LR LR 11 05 38.7
comp=Z,138nm,19.5s,baz=6.5,slow=33
QSPA South Pole Qui 79.59 180 P **P** **10 33 27.8 -0.3**
BRSE Bradley Lake S 79.78 23 P **P** **10 33 28.4 -0.6**
baz=228
L19K White Mountain 80.03 19 IAmb IAmb 10 33 31.6
comp=Z,21nm,0.9s
L19K White Mountain 80.03 19 P **P** **10 33 30.4 +0.1**
baz=224,SNR=13
TTA Tatalina 80.21 18 P **P** **10 33 31.1 -0.2**
baz=223,SNR=7.7
TTA Tatalina 80.21 18 P **P** **10 33 33.2 +1.9**
SPCR Spurr Chakacha 80.24 21 P **P** **10 33 32.6 +1.1**
baz=226
CAPN Captain Cook N 80.32 22 P **P** **10 33 32.1 +0.4**
baz=228
M20K Styx River 80.39 20 P **P** **10 33 32.8 +0.5**
baz=226
SEW Seward 80.51 23 P **P** **10 33 32.9 +0.1**
baz=229
L20K Farewell, AK 80.57 19 P **P** **10 33 33.4 +0.3**
baz=225
SUA Susitna One 80.94 21 IAmb IAmb 10 33 43.9
comp=Z,18nm,0.9s
SUA Susitna One 80.94 21 P **P** **10 33 34.5 -0.7**
baz=228
SKT Skwentna 81.01 21 P **P** **10 33 34.4 -1.1**
baz=227
RC01 Rabbit Creek A 81.05 22 P **P** **10 33 35.1 -0.6**
baz=229
K20K Telida 81.13 19 IAmb IAmb 10 33 37.5
comp=Z,19nm,1.1s
K20K Telida 81.13 19 P **P** **10 33 35.7 -0.4**
baz=224
GCSA Galena City Sc 81.30 17 P **P** **10 33 36.3 -0.6**
baz=222
M22K Willow 81.35 21 P **P** **10 33 36.6 -0.6**
baz=228
PPLA Purkeypile 81.42 20 P **P** **10 33 37.6 -0.2**
baz=226
PWL Port Wells 81.42 22 P **P** **10 33 37.5 -0.2**
baz=230
PMR Palmer 81.60 22 P **P** **10 33 38.0 -0.5**
baz=229
KNK Knik Glacier 81.73 22 P **P** **10 33 38.7 -0.6**
baz=230
CUT Chulitna 81.74 21 IAmb IAmb 10 33 46.8
comp=Z,27nm,0.9s
CUT Chulitna 81.74 21 P **P** **10 33 38.5 -0.8**
baz=228
CAST Castle Rocks 81.81 19 IAmb IAmb 10 33 47.2
comp=Z,21nm,0.7s
CAST Castle Rocks 81.81 19 P **P** **10 33 38.8 -0.9**
baz=226,SNR=19
SML Sawmill 82.03 22 P **P** **10 33 40.4 -0.5**
baz=230
CHUM Lake Minchumin 82.06 19 P **P** **10 33 41.0 0.0**
baz=226,SNR=8.8
M23K Glacier View 82.25 22 P **P** **10 33 41.4 -0.6**
baz=231
KTH Kantishna Hill 82.29 20 IAmb IAmb 10 33 41.9
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 82.42 22 P **P** **10 33 42.5 -0.5**
baz=231
TRF Thorofare Moun 82.43 20 IAmb IAmb 10 33 44.4
comp=Z,21nm,1.0s
TRF Thorofare Moun 82.43 20 P **P** **10 33 41.7 -1.4**
baz=228,SNR=9.2
WAT1 Susitna Watana 82.61 21 P **P** **10 33 43.1 -0.8**
baz=230
BPAW Bear Paw Mtn. 82.64 19 P **P** **10 33 42.6 -1.4**
baz=227
KLU Klutina 82.73 23 P **P** **10 33 44.3 -0.4**
baz=232
WAT6 Susitna Watana 82.74 21 P **P** **10 33 43.6 -1.1**
baz=230
BMRM Bremner River 82.93 24 P **P** **10 33 44.9 -0.7**
baz=234
M24K Tolsona, Glenn 83.02 22 P **P** **10 33 45.5 -0.6**
baz=232
I21K Tanana 83.06 18 IAmb IAmb 10 33 56.3
comp=Z,22nm,0.9s
I21K Tanana 83.06 18 P **P** **10 33 46.1 0.0**
baz=226
MCK McKinley 83.07 20 P **P** **10 33 45.6 -0.6**
baz=229,SNR=20
H21K Melozitna Rive 83.15 18 P **P** **10 33 46.6 0.0**
baz=226
DHY Denali Highway 83.19 21 P **P** **10 33 46.6 -0.4**
baz=231
N25K Chitina, Valde 83.31 23 P **P** **10 33 47.3 -0.3**
baz=234
MLY Manley 83.35 19 P **P** **10 33 47.6 -0.1**
baz=228,SNR=9.8
GLB Gilahina Butte 83.52 23 IAmb IAmb 10 33 58.0
comp=Z,17nm,0.9s
G21K Allakaket 83.55 17 P **P** **10 33 48.4 -0.3**
baz=225
MAW Mawson 83.57 202 P **P** **10 33 49.3 +0.5**
comp=Z,16nm,1.0s,baz=96,slow=15,SNR=2.5
MAW LR LR 11 06 01.7
comp=Z,236nm,21.8s,baz=100,slow=32
comp=Z,16nm,1.0s
HARP HAARP 83.57 22 P **P** **10 33 48.7 -0.1**
baz=233
NEA2 Nenana 83.59 19 IAmb IAmb 10 33 48.7
comp=Z,15nm,0.8s
NEA2 Nenana 83.59 19 P **P** **10 33 48.1 -0.8**
baz=229,SNR=6.3
H22K Ishtalitna Cre 83.74 18 P **P** **10 33 49.6 0.0**
baz=227
MCARA McCarthy VSAT 83.79 24 P **P** **10 33 49.8 -0.2**
baz=235
I23K Minto, Yukon-K 83.86 19 P **P** **10 33 49.2 -1.0**
baz=229,SNR=7.0
F21K Alatna River 84.06 16 P **P** **10 33 50.8 -0.5**
baz=225
TCOL CIGO, UAF Yank 84.17 20 IAmb IAmb 10 33 59.2
comp=Z,26nm,0.9s
TCOL CIGO, UAF Yank 84.17 20 P **P** **10 33 51.2 -0.5**
baz=230
COLA College 84.17 20 P **P** **10 33 50.1 -1.7**
COLA IAmb IAmb 10 33 59.2
comp=Z,24nm,0.9s
COLA College 84.17 20 P **P** **10 33 51.0 -0.8**
baz=230
COLA College 84.17 20 P **P** **10 33 51.5 -0.3**
COLA College 84.17 20*i* P **P** **10 33 51.0 -0.8**
COLA pmax pmax
comp=Z,18nm,0.9s
HDA Harding Lake 84.18 20 P **P** **10 33 50.7 -1.2**
HDA IAmb IAmb 10 34 01.6
comp=Z,17nm,1.0s
HDA Harding Lake 84.18 20 P **P** **10 33 51.4 -0.5**
baz=231,SNR=9.3
K24K Donnelly Dome 84.20 21 P **P** **10 33 51.5 -0.6**
baz=232,SNR=6.2
M26K Nabesna, AK 84.39 23 IAmb IAmb 10 34 02.0
comp=Z,14nm,0.9s
M26K Nabesna, AK 84.39 23 P **P** **10 33 53.1 0.0**
baz=235
ILAR Eielson Array 84.42 20 P **P** **10 33 51.5 -1.6**
comp=Z,3.1nm,0.7s,baz=250,slow=5.0,SNR=37
ILAR LR LR 11 08 11.8
comp=Z,414nm,18.6s,baz=220,slow=33
comp=Z,3.1nm,0.7s
MENT Mentasta 84.43 22 IAmb IAmb 10 34 07.9
comp=Z,12nm,0.8s
MENT Mentasta 84.43 22 P **P** **10 33 53.2 0.0**
POKR Poker Plat Res 84.46 19 P **P** **10 33 52.2 -1.2**
baz=231,SNR=5.1
RIDG Independent Ri 84.49 21 IAmb IAmb 10 34 19.8
comp=Z,20nm,1.2s
RIDG Independent Ri 84.49 21 P **P** **10 33 53.0 -0.6**
baz=233
O28M Mount Upton 84.60 25 P **P** **10 33 54.7 +0.3**
baz=238
L26K Log Cabin Wild 84.62 22 P **P** **10 33 54.3 +0.1**
baz=234
TIXI Tiksi 84.63 350 LR LR 11 13 56.3
comp=Z,161nm,18.6s,baz=94,slow=37
TIXI Tiksi 84.63 350 P **P** **10 33 53.1 -0.9**
TIXI IAmb IAmb 10 34 00.2
comp=Z,20nm,1.4s
TIXI Tiksi 84.63 350*ce*P **P** **10 33 53.2 -0.8**
TIXI pmax pmax
comp=Z,15nm,1.7s
G23K Bananza Creek 84.70 18 P **P** **10 33 54.6 +0.1**
baz=228
DOT Dot Lake 84.72 22 IAmb IAmb 10 34 03.0
comp=Z,12nm,0.8s
H24K Noodor Dome 84.78 19 P **P** **10 33 54.8 -0.1**
baz=230
M27K Edge Creek, AK 84.79 23 P **P** **10 33 55.7 +0.5**
baz=236
SCRK Sand Creek 84.94 21 IAmb IAmb 10 34 04.4
comp=Z,10.0nm,0.8s
SCRK Sand Creek 84.94 21 P **P** **10 33 55.8 -0.1**
baz=234,SNR=5.8
RPN Rapa Nui 84.99 117 LR LR 11 03 10.5
comp=Z,163nm,21.6s,baz=256,slow=30
COLD Coldfoot 84.99 17 P **P** **10 33 56.2 +0.3**
baz=228
YUK3 Moose Creek 85.03 24 P **P** **10 33 56.9 +0.4**
baz=237
YUK8 Steele Glacier 85.05 25 P **P** **10 33 57.2 +0.6**
baz=238
E22K Anaktuvuk Pass 85.16 16 P **P** **10 33 56.8 -0.1**
baz=226
L27K Beaver Creek, 85.21 23 IAmb IAmb 10 34 04.5
comp=Z,27nm,1.5s
L27K Beaver Creek, 85.21 23 P **P** **10 33 57.5 +0.3**
baz=236
BVCY Beaver Creek 85.22 23 P **P** **10 33 58.1 +0.9**
baz=237
PRP Porcupine Dome 85.34 20 P **P** **10 33 58.7 +0.8**
baz=232
J26L Joseph Creek 85.40 21 P **P** **10 33 58.5 +0.4**
baz=234
WMQ Urumqi 85.41 316 *e*P **P** **10 34 00.0 +1.4**
WMQ LR LR
comp=Z,110nm,21.3s
G24K Hadweenzic Riv 85.46 18 P **P** **10 33 58.6 +0.3**
baz=230
YUK4 Talbot Arm 85.54 25 P **P** **10 33 59.9 +0.9**
baz=239
P30M Million Dollar 85.64 26 P **P** **10 33 59.7 +0.4**
baz=240
E23K Chandalar 85.72 17 P **P** **10 33 59.9 +0.2**
baz=228
HYT Haines Junctio 85.75 26 P **P** **10 33 59.7 -0.3**
baz=240
F24K Squaw Lake 85.86 17 P **P** **10 34 00.7 +0.4**
baz=230
G25K Bearman Lake 85.92 18 P **P** **10 34 01.1 +0.6**
baz=232
I26K Coal Creek Min 86.01 20 P **P** **10 34 01.2 +0.1**
baz=235
D23K Nanushuk River 86.03 16 P **P** **10 34 01.4 +0.2**
baz=227
SKAG Skagway 86.04 27 P **P** **10 34 00.1 -1.1**
baz=242
E24K Your Creek 86.05 17 P **P** **10 34 01.5 +0.3**
baz=229
M29M Somme Creek 86.18 24 P **P** **10 34 02.5 +0.5**
baz=239
A21K Barrow 86.30 13 P **P** **10 34 01.9 -0.4**
baz=222
O30N Mendenhall 86.33 26 P **P** **10 34 02.8 0.0**
baz=241
EGAK Eagle 86.41 21 IAmb IAmb 10 34 04.3
comp=Z,20nm,1.1s
EGAK Eagle 86.41 21 P **P** **10 34 03.3 +0.3**
baz=236,SNR=5.3
F25K Christian Rive 86.58 18 P **P** **10 34 04.3 +0.4**
baz=232
L29M L29M 86.66 23 P **P** **10 34 05.1 +0.8**
baz=239
DAWY Dawson 86.67 22 IAmb IAmb 10 34 05.9
comp=Z,20nm,1.1s
DAWY Dawson 86.67 22 P **P** **10 34 04.9 +0.6**
baz=238,SNR=8.2
BBB Bella Bella 86.70 36 LR LR 11 05 19.2
comp=Z,209nm,21.5s,baz=304,slow=30
I27K Kandik River 86.71 20 P **P** **10 34 04.6 0.0**
baz=236
G26K Porcupine Rive 86.77 19 P **P** **10 34 05.2 +0.5**
baz=234
YBH Yreka Blue Hor 86.78 47 LR LR 11 05 24.4
comp=Z,246nm,21.4s,baz=297,slow=30
YBH Yreka Blue Hor 86.78 47 P **P** **10 34 05.5 0.0**
YBH IAmb IAmb 10 34 14.1
comp=Z,14nm,1.2s
YBH Yreka Blue Hor 86.78 47 P **P** **10 34 05.5 0.0**
YBH pmax pmax
comp=Z,14nm,1.2s
WHY Whitehorse 86.80 26 P **P** **10 34 05.0 -0.2**
baz=242
N31M Braeburn, Yuko 86.81 25 P **P** **10 34 05.3 +0.2**
baz=242
P32M Atlin 86.83 28 P **P** **10 34 05.1 -0.2**
baz=243
HUMO Hull Mountain 86.86 46 IAmb IAmb 10 34 15.7
comp=Z,10.0nm,0.9s
M30M Minto, Yukon 86.92 24 P **P** **10 34 06.4 +0.8**
baz=240
E25K Arctic Village 86.92 18 P **P** **10 34 05.7 +0.1**
baz=232
SNCC San Nicolas Is 86.94 56 P **P** **10 34 06.0 -0.3**
baz=256
C24K Franklin Bluff 87.06 16 P **P** **10 34 06.3 +0.3**
baz=229
H27K Steamboat Moun 87.09 20 P **P** **10 34 06.7 +0.3**
baz=236
F26K Sheenjek River 87.10 18 P **P** **10 34 07.1 +0.8**
baz=234
AFDM Forest Hills D 87.28 50 P **P** **10 34 07.4 -0.5**
J29M Klondike Camp 87.31 22 P **P** **10 34 08.1 +0.6**
baz=239,SNR=8.6
G27K Doyon Strip 87.37 19 P **P** **10 34 08.3 +0.6**
baz=236
CMB Columbia Colle 87.48 51 P **P** **10 34 08.5 -0.4**
CMB Columbia Colle 87.48 51 P **P** **10 34 08.5 -0.4**
CMB pmax pmax
comp=Z,5.0nm,0.9s
DGZ Jazzator, Alta 87.50 321*i* P **P** **10 34 09.4 +0.5**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
M31M Drury Creek, Y 87.72 25 P **P** **10 34 09.4 -0.1**
baz=243
I29M Ogilvie Camp, 87.75 21 IAmb IAmb 10 34 10.5
comp=Z,15nm,0.9s
I29M Ogilvie Camp, 87.75 21 P **P** **10 34 09.8 +0.3**
baz=239,SNR=12
CIS Catalina Islan 87.87 56 P **P** **10 34 10.5 -0.4**
baz=256
H04A Detroit Lake 87.99 44 IAmb IAmb 10 34 33.8
comp=Z,14nm,1.4s
DLBC Dease Lake 88.08 29 LR LR 11 10 45.6
comp=Z,278nm,18.3s,baz=262,slow=34
E27K Coleen River 88.17 18 P **P** **10 34 12.4 +0.9**
baz=236
K05A Summer Lake 88.35 46 IAmb IAmb 10 34 23.6
comp=Z,16nm,1.0s
ISA Isabella, Lake 88.37 53 P **P** **10 34 13.0 -0.3**
baz=256
C27K Jago River 88.37 17 P **P** **10 34 13.1 +0.7**
baz=234
MLAC Mammoth, Mammo 88.56 51 P **P** **10 34 14.4 +0.1**
baz=256
EDW2 Edwards Air Fo 88.56 54 P **P** **10 34 13.9 -0.3**
baz=256
PINE Pine Mountain 88.60 45 IAmb IAmb 10 34 25.2
comp=Z,8.3nm,0.9s
BFSC Mount Baldy Ra 88.68 55 P **P** **10 34 14.2 -0.6**
baz=256
CWC Cottonwood Cre 88.86 53 P **P** **10 34 15.0 -0.7**
baz=256
MURC Murrieta 88.91 56 P **P** **10 34 15.6 -0.2**
baz=257
LHV Little Huntoon 88.97 51 IAmb IAmb 10 34 31.5
comp=Z,11nm,1.0s
RYN Ryan 89.04 51 IAmb IAmb 10 34 27.5
comp=Z,7.1nm,1.0s
NVAR Mina Array Bea 89.16 51 P **P** **10 34 16.5 -0.6**
comp=Z,2.7nm,0.8s,baz=237,slow=5.3,SNR=15
comp=Z,2.7nm,0.8s
DSP Deep Springs 89.17 52 IAmb IAmb 10 34 18.5
comp=Z,14nm,1.2s
MPMC Manual Prospec 89.24 53 P **P** **10 34 18.1 +0.6**
baz=257,SNR=6.6
NV11 Mina Array Sit 89.28 51 IAmb IAmb 10 34 33.7
comp=Z,19nm,1.4s
G30M tAoh Zrail Nji 89.29 20 P **P** **10 34 17.9 +1.1**
baz=241

KVN	**Kaiserville**	**89.47**	**50**	IAmb	IAmb	10 34 24.8
	comp=Z,24nm,1.7s					
PFO	**Pinyon Flats O**	**89.51**	**56**	LR	LR	11 06 14.2
	comp=Z,487nm,20.9s,baz=306,slow=30					
PFO	**Pinyon Flats O**	**89.51**	**56**	P	**P**	**10 34 18.9 +0.1**
	baz=257					
GRAC	**Grapevine Rang**	**89.55**	**52**	IAmb	IAmb	10 34 39.1
	comp=Z,16nm,1.2s					
GRAC	**Grapevine Rang**	**89.55**	**52**	P	**P**	**10 34 19.2 +0.5**
	baz=257,SNR=6.0					
ESJX	**Sierra Juarez**	**89.58**	**57**	IAmb	IAmb	10 34 29.4
	comp=Z,16nm,1.2s					
IKP	**In-Ko-Pah, Jac**	**89.59**	**57**	P	**P**	**10 34 18.6 -0.4**
	baz=257					
GSC	**Goldstone, Bar**	**89.61**	**54**	IAmb	IAmb	10 34 25.7
	comp=Z,15nm,1.5s					
GSC	**Goldstone, Bar**	**89.61**	**54**	P	**P**	**10 34 19.0 -0.1**
	baz=257					
QSM	**Queen of Sheba**	**89.71**	**53**	IAmb	IAmb	10 34 33.5
	comp=Z,6.9nm,0.9s					
YUH	**Yuha Desert**	**89.74**	**57**	IAmb	IAmb	10 34 36.3
	comp=Z,11nm,1.1s					
FURC	**Furnace Creek,**	**89.82**	**53**	P	**P**	**10 34 20.4 +0.5**
	baz=257,SNR=13					
HEC	**Hector,Ludlow**	**89.88**	**55**	P	**P**	**10 34 19.6 -0.8**
	baz=257					
WVOR	**Wild Horse Val**	**89.88**	**47**	IAmb	IAmb	10 34 44.3
	comp=Z,20nm,1.3s					
SWSC	**Sam W. Stewart**	**89.91**	**57**	P	**P**	**10 34 19.7 -0.7**
	baz=258					
GWY	**Greenwater Val**	**89.91**	**53**	IAmb	IAmb	10 34 45.6
	comp=Z,15nm,1.3s					
MK31	**Makanchi Array**	**89.92**	**318**	P	**P**	**10 34 19.3 -0.9**
MK31	**Makanchi Array**	**89.92**	**318**	P	**P**	**10 34 19.3 -0.9**
MK31				pmax	pmax	
	comp=Z,4.0nm,1.1s					
MKAR	**Makanchi Array**	**89.92**	**318**	P	**P**	**10 34 19.7 -0.5**
	comp=Z,1.2nm,0.6s,baz=102,slow=5.9,SNR=15					
MKAR				LR	LR	11 13 53.4
	comp=Z,79nm,21.9s,baz=74,slow=35					
	comp=Z,1.2nm,0.6s					
MKAR	**Makanchi Array**	**89.92**	**318**	P	**P**	**10 34 19.4 -0.8**
MKAR	**Makanchi Array**	**89.92**	**318**	*i* P	**P**	**10 34 20.0 -0.2**
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
WCT	**Wildcat Mounta**	**90.08**	**53**	IAmb	IAmb	10 34 31.5
	comp=Z,14nm,1.1s					
SHOC	**Shoshone, Teco**	**90.16**	**54**	P	**P**	**10 34 21.3 -0.2**
	baz=257					
J08A	**Circle Bar Ran**	**90.22**	**46**	P	**P**	**10 34 21.2 -0.6**
J08A				IAmb	IAmb	10 34 23.7
	comp=Z,9.0nm,0.9s					
BC3	**Big Chuckawall**	**90.34**	**56**	P	**P**	**10 34 22.0 -0.5**
	baz=258					
TUQ	**Turquoise Moun**	**90.34**	**54**	P	**P**	**10 34 22.7 +0.2**
	baz=258					
G08A	**Pilot Rock**	**90.36**	**44**	IAmb	IAmb	10 34 37.5
	comp=Z,28nm,2.0s					
F31M	**Tsiigehtchic**	**90.36**	**21**	P	**P**	**10 34 22.6 +0.9**
	baz=243					
ZALV	**Zalesovo Beam**	**90.36**	**325**	P	**P**	**10 34 20.6 -1.5**
	comp=Z,0.6nm,0.4s,baz=145,slow=5.3,SNR=1.7					
ZALV				LR	LR	11 17 29.8
	comp=Z,52nm,18.1s,baz=37,slow=37					
	comp=Z,0.6nm,0.4s					
TPNV	**Topopah Spring**	**90.41**	**53**	IAmb	IAmb	10 34 33.5
	comp=Z,9.4nm,1.0s					
TPNV	**Topopah Spring**	**90.41**	**53**	P	**P**	**10 34 22.7 -0.1**
	baz=257,SNR=6.5					
GMRC	**Granite Mounta**	**90.41**	**55**	P	**P**	**10 34 22.7 -0.2**
	baz=258					
BMN	**Battle Mountai**	**90.45**	**49**	IAmb	IAmb	10 34 24.3
	comp=Z,8.8nm,1.0s					
E08A	**Dider Farm, El**	**90.59**	**43**	IAmb	IAmb	10 34 24.6
	comp=Z,18nm,1.4s					
IRM	**Iron Mountain**	**90.70**	**56**	P	**P**	**10 34 24.0 -0.1**
	baz=258					
GLA	**Glamis**	**90.73**	**57**	P	**P**	**10 34 24.7 +0.4**
	baz=258					
INK	**Inuvik**	**90.83**	**20**	LR	LR	11 11 36.0
	comp=Z,423nm,19.2s,baz=220,slow=33					
INK	**Inuvik**	**90.83**	**20**	P	**P**	**10 34 24.2 +0.4**
	baz=243					
B08A	**Colville Reser**	**90.88**	**41**	IAmb	IAmb	10 34 34.0
	comp=Z,7.2nm,1.0s					
BLYC	**Blythe**	**91.12**	**56**	IAmb	IAmb	10 34 36.8
	comp=Z,8.6nm,0.9s					
R11A	**Troy Canyon, C**	**91.23**	**51**	P	**P**	**10 34 25.4 -1.3**
R11A				IAmb	IAmb	10 34 33.6
	comp=Z,8.7nm,1.1s					
R11A	**Troy Canyon, C**	**91.23**	**51**	P	**P**	**10 34 26.3 -0.4**
	baz=258,SNR=11					
V12A	**Nelson**	**91.26**	**54**	IAmb	IAmb	10 34 37.0
	comp=Z,10nm,1.2s					
BMO	**Blue Mountains**	**91.39**	**45**	IAmb	IAmb	10 34 43.0
	comp=Z,8.6nm,1.1s					
BELA	**Belgrano 2**	**91.42**	**177**	P	**P**	**10 34 25.4 -1.2**
ELK	**Elko**	**91.99**	**49**	LR	LR	11 09 06.4
	comp=Z,233nm,19.8s,baz=248,slow=31					
ELK	**Elko**	**91.99**	**49**	IAmb	IAmb	10 34 40.3
	comp=Z,6.6nm,1.1s					
MFID	**Camas Ranch**	**92.12**	**46**	IAmb	IAmb	10 34 32.0
	comp=Z,11nm,1.3s					
NEW	**Newport**	**92.29**	**41**	LR	LR	11 15 16.8
	comp=Z,200nm,18.1s,baz=290,slow=35					
PLID	**Pearl Lake**	**92.35**	**45**	IAmb	IAmb	10 34 32.4
	comp=Z,7.4nm,1.1s					
LPIG	**La Paz**	**92.95**	**66**	LR	LR	11 07 49.6
	comp=Z,188nm,20.7s,baz=228,slow=30					
SZCU	**Shurtz Canyon**	**93.01**	**52**	IAmb	IAmb	10 34 52.1
	comp=Z,17nm,1.6s					
KNB	**Kanab**	**93.11**	**53**	IAmb	IAmb	10 34 59.0
	comp=Z,17nm,1.6s					
HLID	**Hailey**	**93.16**	**46**	IAmb	IAmb	10 34 50.2
	comp=Z,10nm,1.1s					
HLID	**Hailey**	**93.16**	**46**	P	**P**	**10 34 35.4 0.0**
	baz=259,SNR=9.7					
KURK	**Kurchatov**	**93.22**	**321**	*i* P	**P**	**10 34 35.6 +0.3**
KURK				pmax	pmax	
	comp=Z,8.0nm,1.3s					
KURBB	**Kurchatov Arra**	**93.25**	**321**	LR	LR	11 20 41.7
	comp=Z,58nm,18.0s,baz=136,slow=38					
U15A	**North Rim**	**93.42**	**54**	IAmb	IAmb	10 35 34.0
	comp=Z,13nm,1.6s					
NRIK	**Noril'sk**	**93.93**	**340**	LR	LR	11 17 11.4
	comp=Z,306nm,20.4s,baz=116,slow=36					
TUC	**Tucson**	**93.94**	**58**	P	**P**	**10 34 38.9 -0.3**
	baz=260					
WUAZ	**Wupatki**	**94.00**	**55**	P	**P**	**10 34 39.2 -0.3**
	baz=260					
HVU	**Hansel Valley**	**94.01**	**48**	IAmb	IAmb	10 34 49.7
	comp=Z,6.4nm,1.0s					
C36M	**Paulatuk**	**94.40**	**20**	IAmb	IAmb	10 35 14.8
	comp=Z,11nm,1.1s					
C36M	**Paulatuk**	**94.40**	**20**	P	**P**	**10 34 39.9 -0.4**
	baz=252					
AAK	**Ala-Archa**	**94.45**	**312**	LR	LR	11 19 24.6
	comp=Z,65nm,19.3s,baz=79,slow=37					
AAK	**Ala-Archa**	**94.45**	**312**	*i* P	**P**	**10 34 40.9 -0.5**
AAK				pmax	pmax	
	comp=Z,1.0nm,1.0s					
A36M	**Sachs Harbour**	**94.85**	**17**	IAmb	IAmb	10 34 43.3
	comp=Z,6.3nm,0.9s					
A36M	**Sachs Harbour**	**94.85**	**17**	P	**P**	**10 34 42.1 -0.2**
	baz=251					
W18A	**Petrified Fore**	**95.25**	**55**	P	**P**	**10 34 45.2 -0.2**
	baz=261					
BOZ	**Bozeman (W)**	**95.47**	**45**	IAmb	IAmb	10 34 59.7
	comp=Z,18nm,1.9s					
BOZ	**Bozeman (W)**	**95.47**	**45**	P	**P**	**10 34 45.7 -0.3**
	baz=261					
PDAR	**Pinedale Array**	**96.52**	**48**	P	**P**	**10 34 50.1 -0.8**
	comp=Z,1.1nm,0.8s,baz=197,slow=2.2,SNR=10					
PDAR				LR	LR	11 11 28.5
	comp=Z,154nm,21.1s,baz=324,slow=31					
	comp=Z,1.1nm,0.8s					
YKA	**Yellowknife Ar**	**96.54**	**28**	P	**P**	**10 34 48.6 -1.6**
	comp=Z,2.9nm,0.9s,baz=256,slow=4.8,SNR=35					
YKA				LR	LR	11 12 51.1
	comp=Z,268nm,19.6s,baz=264,slow=32					
	comp=Z,2.9nm,0.9s					
EGMT	**Eagleton**	**97.10**	**43**	IAmb	IAmb	10 35 03.2
	comp=Z,8.8nm,1.0s					
EGMT	**Eagleton**	**97.10**	**43**	P	**P**	**10 34 53.0 -0.2**
	baz=262					
PMSA	**Palmer Station**	**97.78**	**162**	LR	LR	11 16 51.7
	comp=Z,96nm,18.0s,baz=304,slow=34					
ANMO	**Albuquerque**	**97.89**	**56**	LR	LR	11 10 49.2
	comp=Z,216nm,21.4s,baz=339,slow=30					
ANMO	**Albuquerque**	**97.89**	**56**	P	**P**	**10 34 57.0 -0.3**
	baz=263					
ANMO	**Albuquerque**	**97.89**	**56**	*i* P	**P**	**10 34 56.9 -0.4**
ANMO				pmax	pmax	
	comp=Z,2.0nm,0.9s					
BVAR	**Borovoye Array**	**98.62**	**322**	LR	LR	11 21 23.9
	comp=Z,100nm,18.8s,baz=77,slow=36					
BRVK	**Borovoye**	**98.69**	**322**	*i* P	Pdif	10 35 01.7 +1.5
BRVK				pmax	pmax	
	comp=Z,2.0nm,1.1s					
LAO	**LASA Array**	**99.34**	**44**	P	**Pdif**	**10 35 03.5 +0.1**
	baz=265					
TXAR	**Lajitas Array**	**99.58**	**62**	P	**Pdif**	**10 35 04.2 -0.7**
	comp=Z,0.2nm,0.7s,baz=257,slow=3.6,SNR=1.4					
TXAR				LR	LR	11 11 47.2
	comp=Z,333nm,21.0s,baz=262,slow=30					
	comp=Z,0.2nm,0.7s					
KIV	**Kislovodsk**	**117.50**	**314**	*i* PKIKP	**PKPdf**	**10 40 05.7 -1.2**
KIV				pmax	pmax	
	comp=Z,4.0nm,1.0s					
OBN	**Obninsk**	**117.83**	**328**	*e*PKIKP	**PKiKP**	**10 40 09.9 +2.9**
OBN				*e*		10 41 19.2
OBN				*e*PPP	PPP	10 43 51.9
OBN				pmax	pmax	
	comp=Z,4.0nm,0.9s					
VSU	**Vasula**	**120.92**	**334**	*i* PKIKP	**PKPdf**	**10 40 12.6 -0.3**
VSU				pmax	pmax	
	comp=Z,18nm,0.9s					
PSGCX	**Pisagua**	**121.44**	**121**		**PKPdf**	**10 40 14.6 -0.6**
MNK	**Minsk**	**122.57**	**330**	*i* PKP	**PKPdf**	**10 40 12.2 -3.9**
	comp=E,1.0nm,0.7s					
MNK				*i* PKP	**PKPdf**	**10 40 12.2 -3.9**
	comp=N,20nm,0.7s					
MNK				*i* PKP	**PKPdf**	**10 40 12.2 -3.9**
	comp=Z,6.0nm,0.7s,baz=58					
MNK				*i* pPKP	**pPKPdf**	**10 40 29.8 -1.2**
MNK				*i* PP	**PP**	**10 41 50.1 -3.3**
MNK				*i* PPP	PPP	10 44 26.7
MNK				*i* SKS	**SKSdf**	**10 47 18.8 -4.9**
MNK				*i* PS	**PS**	**10 51 45.9 -3.5**
MNK				*i* SS	**SS**	**10 58 28.7 -2.0**
MNK				*i* SSS	SSS	11 03 00.8
MNK				*i* LR	LR	11 30 55.7
MNK				*i* LRM	MLR	11 32 59.5
	comp=N,371nm,21.9s					
MNK				*i* LRM	MLR	11 32 59.5
	comp=Z,159nm,19.3s					
MNK				*i* LRM	MLR	11 33 09.8
	comp=E,27nm,18.1s					
MNK	**Minsk**	**122.57**	**330**	*i* PKIKP	**PKPdf**	**10 40 12.2 -3.9**
MNK				*i*		10 40 29.8
MNK				*i*		10 41 50.0
MNK				*i* PPP	PPP	10 44 26.6
MNK				*i*		10 47 18.7
MNK				*i* PS	**PS**	**10 51 45.8 -3.5**
MNK				*i* SS	SS	10 58 28.6 -2.1
MNK				*i* SSS	SSS	11 03 00.8
MNK				pmax	pmax	
	comp=E,1.0nm,0.7s					
MNK				pmax	pmax	
	comp=Z,6.0nm,0.6s					
MNK				pmax	pmax	
	comp=N,20nm,0.7s					
MNK				MLR	MLR	
	comp=N,371nm,22.0s					
MNK				MLR	MLR	
	comp=Z,159nm,19.0s					
MNK				MLR	MLR	
	comp=E,27nm,18.0s					
AKASG	**Malin Array Be**	**123.76**	**325**	PKP	**PKPdf**	**10 40 17.1 -1.5**
	comp=E,0.6nm,0.4s,baz=51,slow=2.1,SNR=4.5					
MDUB	**Mudurnu**	**126.65**	**313**	PKPdf	**PKiKP**	**10 40 26.4 +1.4**
CLL	**Collm**	**131.58**	**334**	*e*PKPdf	**PKiKP**	**10 40 34.0 -0.5**
CLL				*e*pPKPdf	**pPKPdf**	**10 40 47.0 -1.3**
CLF	**Chambon-Foret**	**138.47**	**339**	PKPdf	**PKiKP**	**10 40 47.8 -0.8**
PGAV	**Gavieira, Arco**	**147.19**	**345**	*e*PKPab	**PKPab**	**10 41 06.2 +0.1**
MVO	**Moncorvo**	**147.61**	**343**	*e*PKPbc	**PKPbc**	**10 41 05.5 -0.1**
POLO	**Lamas de Olo**	**147.62**	**344**	*e*PKPbc	**PKPbc**	**10 41 05.5 -0.1**
ESDC	**Sonseca Array**	**147.94**	**338**	PKPbc	**PKPbc**	**10 41 05.2 -1.3**
	comp=E,1.8nm,1.0s,baz=20,slow=4.7,SNR=5.7					
ESDC	**Sonseca Array**	**147.94**	**338**	PKPdf	**PKPdf**	**10 41 03.7 +0.2**
MTE	**Manteigas**	**148.46**	**343**	*e*PKPbc	**PKPbc**	**10 41 08.1 +0.2**
PMRV	**Marv??o**	**149.32**	**342**	*e*PKPbc	**PKPbc**	**10 41 09.9 -0.1**
PMTG	**Montargil**	**149.89**	**343**	*e*PKPbc	**PKPbc**	**10 41 10.6 -0.8**
PESTR	**Estremoz**	**149.89**	**342**	*e*PKPbc	**PKPbc**	**10 41 11.1 -0.3**
EVO	**Evora**	**150.33**	**343**	*e*PKPbc	**PKPbc**	**10 41 12.7 +0.2**
EVO	**Evora**	**150.33**	**343**	*e*PKPab	**PKPab**	**10 41 19.2 +0.5**
PACT	**Alcochete**	**150.34**	**344**	*e*PKPdf	**PKPdf**	**10 41 06.5 -0.7**
PBEJ	**Beja**	**150.75**	**342**	*e*PKPbc	**PKPbc**	**10 41 13.6 +0.1**
PBEJ	**Beja**	**150.75**	**342**	*e*PKPab	**PKPab**	**10 41 20.0 -0.5**
PNCL	**Nicolau / Gran**	**150.87**	**343**	*e*PKPbc	**PKPbc**	**10 41 13.1 -0.6**
MESJ	**Messejana**	**151.03**	**342**	*e*PKPbc	**PKPbc**	**10 41 14.3 +0.2**
MESJ	**Messejana**	**151.03**	**342**	*e*PKPab	**PKPab**	**10 41 21.9 +0.2**
PCVE	**Castro Verde**	**151.17**	**342**	*e*PKPbc	**PKPbc**	**10 41 14.6 +0.1**
MORF	**Marmelete**	**151.65**	**343**	*e*PKPdf	**PKPdf**	**10 41 08.6 -0.8**
MORF	**Marmelete**	**151.65**	**343**	*e*PKPbc	**PKPbc**	**10 41 15.8 +0.1**
MORF	**Marmelete**	**151.65**	**343**	*e*PKPab	**PKPab**	**10 41 23.1 -1.2**
TORD	**Torodi Ar. Bea**	**159.61**	**280**	PKP	**PKPdf**	**10 41 18.8 -1.8**
	comp=E,1.1nm,0.9s,baz=33,slow=1.9,SNR=3.9					

*GUC **25** 10:24:38.7±0.8,22.°55S×67.°78W,h182$_{km}$±7$_{km}$,ML4.0*
*SCB **25** 10:24:39.6±1.3,22.°52S×67.°68W,h144$_{km}$±19$_{km}$,ML3.7/1,*
MW3.4,Error ellipse: s-maj=10.4km s-min=5.6km az=0.0
ISC 25 10:24:37.8±2.0,22.°55S±0.°07×67.°69W±0.°06,
h174$_{km}$±15$_{km}$,n26,σ1$03/40,7C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.13**	**267**		*e*P		**Pn**	**10 25 06.5**	**+0.3**
LVC					*e*S		**Sn**	**10 25 27.9**	**-0.3**
LVC	**Limon Verde**	**1.13**	**267**		Pg		**Pn**	**10 25 07.0**	**+0.7**
PB09	**IPOC Station P**	**1.62**	**297**	⇑	*i*P		**Pn**	**10 25 11.8**	**+1.2**
PB09					*i*S		**Sn**	**10 25 37.4**	**+1.5**
PB06	**IPOC Station P**	**1.74**	**264**	⇑	*i*P		**Pn**	**10 25 12.4**	**+0.6**
PB06	**IPOC Station P**	**1.74**	**264**		Pg		**Pn**	**10 25 12.7**	**+0.9**
PB03	**IPOC Station P**	**1.97**	**284**	⇑	*i*P		**Pn**	**10 25 14.9**	**+0.6**
PB03					*i*S		**Sn**	**10 25 42.2**	**-0.3**
PB03					IAML			10 25 42.7	
	comp=N,850nm,0.1s								
PB07	**IPOC Station P**	**2.19**	**291**	⇑	*i*P		**Pn**	**10 25 17.6**	**+0.8**
PB07					*i*S		**Sn**	**10 25 46.2**	**-0.7**
PB07					IAML			10 25 46.6	
	comp=N,705nm,0.2s								
PB04	**IPOC Station P**	**2.28**	**275**	⇑	*i*P		**Pn**	**10 25 18.4**	**+0.7**
PB04					*i*S		**Sn**	**10 25 48.1**	**-0.6**
PB04					IAML			10 25 50.7	
	comp=N,478nm,0.2s								
PB04	**IPOC Station P**	**2.28**	**275**		Pg		**Pn**	**10 25 18.5**	**+0.7**
MOCB	**Mochara**	**2.30**	**56**		Pg		**Pn**	**10 25 18.2**	**-0.1**
MOCB					Sg		**Sn**	**10 25 48.5**	**-1.2**
MOCB					IAML			10 25 49.3	
	comp=N,326nm,0.5s								
PB02	**IPOC Station P**	**2.38**	**300**	⇑	*i*P		**Pn**	**10 25 19.4**	**+0.5**
PB02					*i*S		**Sn**	**10 25 49.4**	**-1.3**
PB02					IAML			10 25 51.8	
	comp=N,446nm,0.1s								
PB02	**IPOC Station P**	**2.38**	**300**		Pg		**Pn**	**10 25 19.4**	**+0.5**
PB02					Sg		**Sn**	**10 25 49.7**	**-1.0**
PB10	**IPOC Station P**	**2.81**	**249**	⇑	*i*P		**Pn**	**10 25 24.2**	**+0.5**
PB10					*i*S		**Sn**	**10 25 58.6**	**-0.9**
PATCX	**Punta Patache**	**2.86**	**306**		*i*P		**Pn**	**10 25 24.7**	**+0.2**
PATCX					*i*S		**Sn**	**10 26 00.1**	**-0.7**
PATCX					IAML			10 26 02.1	
	comp=N,294nm,0.2s								
TA01	**Diego Aracena**	**3.04**	**310**		Pg		**Pn**	**10 25 27.5**	**+0.8**
HMBC	**Humberstone**	**3.05**	**317**		*i*P		**Pn**	**10 25 26.8**	**-0.1**
HMBC					*i*S		**Sn**	**10 26 03.6**	**-1.4**
HMBC					IAML			10 26 05.1	
	comp=E,376nm,0.3s								
GO01	**Chusmiza**	**3.19**	**334**		*e*P		**Pn**	**10 25 30.1**	**+1.1**
GO01					*e*S		**Sn**	**10 26 08.9**	**+0.1**
GO01	**Chusmiza**	**3.19**	**334**		Pg		**Pn**	**10 25 30.4**	**+1.4**
PB14	**IPOC Station P**	**3.23**	**230**		*e*P		**Pn**	**10 25 29.7**	**+0.4**
PB11	**IPOC Station P**	**3.32**	**326**		*i*P		**Pn**	**10 25 30.3**	**0.0**
PB11					*i*S		**Sn**	**10 26 09.8**	**-1.4**
PSGC	**Pisagua**	**3.71**	**322**		*e*P		**Pn**	**10 25 34.1**	**-1.0**
PSGC					*e*S		**Sn**	**10 26 17.4**	**-2.5**
MNMC	**Minye Minye**	**3.84**	**332**		*e*P		**Pn**	**10 25 37.2**	**+0.2**
PB16	**IPOC Station P**	**4.52**	**338**		*e*P		**Pn**	**10 25 47.3**	**+1.3**
BBOE	**La Paz, Chanca**	**5.71**	**357**		Pg		**Pn**	**10 26 03.4**	**+1.9**
BBOD	**La Paz, Gloria**	**5.94**	**352**		Pg		**Pn**	**10 26 05.9**	**+1.4**
LPAZ	**La Paz**	**6.24**	**356**		Pg		**Pn**	**10 26 09.4**	**+0.9**

*IDC **25** 10:39:45.0±2.9,21.°57S×70.°45W,h47$_{km}$±26$_{km}$,mb3.5/1,*
mbtmp3.8/4,ML3.8/3,MS4.5/6,Error ellipse: s-maj=29.9km
s-min=19.3km az=67.0
*GUC **25** 10:39:46.6±0.8,21.°41S×70.°06W,h74$_{km}$±3$_{km}$,ML3.8*
ISC 25 10:39:45.4±0.9,21.°42S±0.°03×70.°18W±0.°07,h74$_{km}$±7$_{km}$,
n44,σ1$00/45,14C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**0.28**	**69**	⇓	*i*P		**Pn**	**10 39 57.6**	**+0.6**
PB02					*i*S		**Sn**	**10 40 05.4**	**-0.2**
PB02					IAML			10 40 06.2	
	comp=E,10μm,0.4s								
PB07	**IPOC Station P**	**0.41**	**138**	⇓	*i*P		**Pn**	**10 39 58.6**	**+0.6**
PB07					*i*S		**Sn**	**10 40 07.2**	**-0.1**
PB07					IAML			10 40 08.1	
	comp=E,17μm,0.5s								
PATCX	**Punta Patache**	**0.60**	**2**	⇓	*i*P		**Pn**	**10 40 00.4**	**+0.7**
PATCX					*i*S		**Sn**	**10 40 10.8**	**+0.7**
PATCX					IAML			10 40 11.7	
	comp=E,5μm,0.2s								
PB03	**IPOC Station P**	**0.74**	**148**	⇑	*i*P		**Pn**	**10 40 01.6**	**+0.4**
PB03					*i*S		**Sn**	**10 40 12.8**	**-0.1**
PB03					IAML			10 40 13.6	
	comp=N,5μm,0.5s								
TA01	**Diego Aracena**	**0.85**	**360**	⇓	*i*P		**Pn**	**10 40 03.0**	**+0.7**
TA01					*i*S		**Sn**	**10 40 15.2**	**+0.4**
TA01					IAML			10 40 16.4	
	comp=N,5μm,0.3s								
PB04	**IPOC Station P**	**0.91**	**178**	⇑	*i*P		**Pn**	**10 40 03.9**	**+0.8**
PB04					*i*S		**Sn**	**10 40 16.9**	**+0.5**
PB04					IAML			10 40 21.4	
	comp=E,2μm,0.3s								
PB09	**IPOC Station P**	**0.95**	**113**	⇑	*i*P		**Pn**	**10 40 04.0**	**+0.4**
PB09					*i*S		**Sn**	**10 40 16.6**	**-0.6**
PB09					IAML			10 40 17.4	
	comp=N,4μm,0.4s								
TA02	**Huaiquique**	**1.15**	**2**		*e*P		**Pn**	**10 40 06.3**	**+0.4**
TA02					*e*S		**Sn**	**10 40 21.3**	**+0.1**
HMBC	**Humberstone**	**1.17**	**13**	⇑	*i*P		**Pn**	**10 40 06.7**	**+0.4**
HMBC					*i*S		**Sn**	**10 40 22.1**	**+0.1**
HMBC					IAML			10 40 26.8	
	comp=E,5μm,0.5s								
PB06	**IPOC Station P**	**1.40**	**156**	⇑	*i*P		**Pn**	**10 40 09.5**	**+0.2**
PB06					*i*S		**Sn**	**10 40 26.8**	**-0.4**
PB06					IAML			10 40 27.5	
	comp=E,1μm,0.6s								
LVC	**Limon Verde**	**1.67**	**135**		P		**Pn**	**10 40 13.9**	**+0.9**
	comp=E,408nm,0.3s,baz=305,slow=10,SNR=1924								
LVC					S		**Sn**	**10 40 34.8**	**+0.9**
	comp=E,587nm,0.3s,baz=312,slow=16,SNR=78								
LVC	**Limon Verde**	**1.67**	**135**		PKPdf		**PKPdf**	**10 40 14.3**	**-0.4**
LVC	**Limon Verde**	**1.67**	**135**	⇑	*e*P		**Pn**	**10 40 13.7**	**+0.7**
LVC					*e*S		**Sn**	**10 40 34.8**	**+0.9**
LVC	**Limon Verde**	**1.67**	**135**		PKIKP		**PKPdf**	**10 40 13.9**	**-0.8**
PB11	**IPOC Station P**	**1.72**	**17**	⇑	*i*P		**Pn**	**10 40 13.7**	**+0.1**
PB11					*i*S		**Sn**	**10 40 34.3**	**-0.6**
PB11					IAML			10 40 37.7	
	comp=N,2μm,0.2s								
PSGC	**Pisagua**	**1.82**	**2**	⇑	*i*P		**Pn**	**10 40 14.9**	**+0.1**
PSGC					*i*S		**Sn**	**10 40 36.2**	**-0.9**
PSGC					IAML			10 40 37.8	
	comp=N,2μm,0.3s								
GO01	**Chusmiza**	**1.97**	**28**	⇑	*i*P		**Pn**	**10 40 17.6**	**+0.4**
GO01					*i*S		**Sn**	**10 40 41.2**	**-0.1**
PB10	**IPOC Station P**	**2.11**	**189**	⇑	*i*P		**Pn**	**10 40 18.8**	**+0.1**
MNMC	**Minye Minye**	**2.34**	**14**	⇑	*i*P		**Pn**	**10 40 22.5**	**+0.5**
MNMC					*i*S		**Sn**	**10 40 50.0**	**0.0**
PB12	**IPOC Station P**	**2.80**	**357**	⇑	*i*P		**Pn**	**10 40 28.1**	**+0.1**
PB16	**IPOC Station P**	**3.13**	**12**	⇑	*i*P		**Pn**	**10 40 33.9**	**+0.9**
PB14	**IPOC Station P**	**3.20**	**184**	⇑	*i*P		**Pn**	**10 40 33.0**	**-0.6**
LPAZ	**La Paz**	**5.46**	**21**		P		**Pn**	**10 41 07.5**	**+2.7**
	comp=N,3.0nm,0.3s,baz=203,slow=15,SNR=64								
LPAZ					LR		LR	10 43 36.0	
	comp=N,42nm,21.1s,baz=124,slow=41								
	comp=N,5.6nm,0.3s								
SIV	**San Ignacio**	**10.18**	**59**		P		**Pn**	**10 42 05.3**	**-3.4**
	comp=N,2.2nm,0.5s,baz=250,slow=9.6,SNR=13								
CFA	**Coronel Fontan**	**10.29**	**171**		P		**Pn**	**10 42 07.5**	**-2.7**
	comp=N,1.5nm,0.3s,baz=342,slow=12,SNR=9.6								
CFA					S		Sn	10 43 54.5	-9.4
	comp=N,1.2nm,0.3s,baz=293,slow=22,SNR=1.4								
	comp=N,3.1nm,0.3s								
H03N1	**Juan Fernandez**	**14.26**	**211**		T		T	10 57 33.4	
	baz=36,slow=72,SNR=12								
H03N2	**Juan Fernandez**	**14.26**	**211**		T		T	10 57 45.2	
	baz=36,slow=72,SNR=12								
H03N3	**Juan Fernandez**	**14.27**	**211**		T		T	10 57 40.9	
	baz=36,slow=72

Islands
*NEIC **25** 10:56:16.3±1.3, 10°.38S±0°.05×161°.0E±0°.1, h49km±8km, mb4.5/23, Error ellipse: s-maj=17.8km s-min=4.8km az=68.0*

ISC 25 10:56:16.5±0.5, 10°.42S±0°.06×161°.15E±0°.08, h62km, n75, σ1$55/55, mb4.3/25, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.54**	**309**	P	**Pn**	**10 56 39.4**	**-2.3**
	14μm,0.5s,baz=171,slow=8.7,SNR=29						
HNR				S	**Sn**	**10 56 58.5**	**-2.2**
	55μm,0.3s,baz=176,slow=22,SNR=15						
HNR	**Honiara**	**1.54**	**309**	P	**Pn**	**10 56 40.1**	**-1.6**
LIFNC	**LIFOU**	**11.85**	**151**	Pn	**Pn**	**10 59 00.5**	**-2.2**
DZM	**Mont Dzumac**	**12.65**	**157**	*e*LR	LR	11 02 20.4	
	comp=Z,612nm,21.0s						
DZM	**Mont Dzumac**	**12.65**	**157**	P	**Pn**	**10 59 14.0**	**+0.2**
	0.7nm,0.3s,baz=354,slow=8.6,SNR=16						
DZM				S	**Sn**	**11 01 26.6**	**-6.5**
	5.5nm,0.8s,baz=323,slow=20,SNR=1.9						
DZM				LR	LR	11 03 42.1	
	comp=Z,737nm,18.9s,baz=18,slow=35						
	2.3nm,0.3s						
DZM	**Mont Dzumac**	**12.65**	**157**	Pn	**Pn**	**10 59 14.9**	**+1.1**
MARNC	**Mare, Loyalty**	**12.83**	**150**	Pn	**Pn**	**10 59 16.6**	**+0.5**
PMG	**Port Moresby**	**13.82**	**273**	LR	LR	11 04 29.6	
	comp=Z,478nm,19.8s,baz=102,slow=36						
CTA	**Charters Tower**	**17.28**	**234**	P	**P**	**11 00 14.8**	**+0.4**
	1.9nm,0.3s,baz=56,slow=12,SNR=19						
CTA				LR	LR	11 06 35.4	
	comp=Z,606nm,18.4s,baz=78,slow=36						
	11nm,0.6s						
CTA	**Charters Tower**	**17.28**	**234**	P	**P**	**11 00 15.1**	**+0.7**
CTAO	**Charters Tower**	**17.28**	**234**	P	**P**	**11 00 15.0**	**+0.6**
EIDS	**Eidsvold**	**17.68**	**211**	P	**P**	**11 00 18.2**	**-0.5**
EIDS				IAmb	IAmb	11 00 23.7	
	comp=Z,23nm,0.8s						
EIDS	**Eidsvold**	**17.68**	**211**	P	**P**	**11 00 20.1**	**+1.4**
COEN	**Coen**	**17.92**	**257**	Pn	**P**	**11 00 18.5**	**-3.0**
MSVF	**Nonsavu**	**17.92**	**116**	LR	LR	11 05 51.5	
	comp=Z,310nm,18.9s,baz=300,slow=32						
MTSU	**Mount Surprise**	**18.02**	**243**	P	**Pn**	**11 00 25.2**	**+2.4**
RMQ	**Roma**	**19.82**	**215**	P	**Pn**	**11 00 44.3**	**+0.1**
ARMA	**Armidale**	**21.79**	**203**	P	**P**	**11 01 04.9**	**+1.4**
ARMA				IAmb	IAmb	11 01 19.1	
	comp=Z,28nm,1.4s						
QLP	**Quilpie**	**22.67**	**223**	P	**P**	**11 01 13.4**	**+0.6**
QIS	**Mount Isa**	**23.05**	**242**	P	**P**	**11 01 17.9**	**+1.0**
INKA	**Innaminka**	**25.79**	**225**	P	**P**	**11 01 43.9**	**+2.1**
AFI	**Afiamalu**	**26.68**	**100**	LR	LR	11 10 49.5	
	comp=Z,239nm,18.2s,baz=281,slow=33						
CAN	**Canberra**	**27.15**	**202**	P	**P**	**11 01 53.4**	**-0.7**
CAN				IAmb	IAmb	11 02 02.9	
	comp=Z,28nm,1.5s						
WR0	**Warramunga Arr**	**27.34**	**247**	P	**P**	**11 01 54.6**	**-1.3**
WR0				IAmb	IAmb	11 02 07.4	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**27.42**	**247**	P	**P**	**11 01 54.5**	**-2.1**
WB0				IAmb	IAmb	11 02 07.2	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**27.51**	**247**	P	**P**	**11 01 55.8**	**-1.6**
WB2				IAmb	IAmb	11 01 59.8	
	comp=Z,8.9nm,1.1s						
WRA	**Warramunga Arr**	**27.52**	**247**	P	**P**	**11 01 57.0**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=75,slow=9.3,SNR=7.6						
WRA				PcP	**PcP**	**11 05 15.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=55,slow=1.2,SNR=1.8						
WRA				LR	LR	11 12 41.8	
	comp=Z,283nm,18.4s,baz=58,slow=36						
	comp=Z,1.9nm,0.5s						
STKA	**Stephens Creek**	**27.99**	**217**	P	**P**	**11 02 03.0**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=15,slow=12,SNR=4.2						
STKA				LR	LR	11 12 53.8	
	comp=Z,576nm,18.8s,baz=36,slow=36						
	comp=Z,2.5nm,0.6s						
STKA	**Stephens Creek**	**27.99**	**217**	P	**P**	**11 02 01.0**	**-0.5**
GUMO	**Guam**	**28.81**	**326**	LR	LR	11 12 57.1	
	comp=Z,185nm,20.4s,baz=128,slow=35						
GUMO	**Guam**	**28.81**	**326**	P	**P**	**11 02 07.8**	**-1.1**
ASAR	**Alice Springs**	**29.12**	**240**	P	**P**	**11 02 12.2**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=66,slow=9.4,SNR=8.1						
ASAR				LR	LR	11 13 55.3	
	comp=Z,813nm,18.0s,baz=66,slow=36						
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**29.12**	**240**	P	**P**	**11 02 11.4**	**-0.3**
TOO	**Toolangi**	**30.49**	**205**	P	**P**	**11 02 25.2**	**+1.5**
TOO				IAmb	IAmb	11 02 32.4	
	comp=Z,20nm,1.5s						
URZ	**Urewera**	**31.20**	**155**	LR	LR	11 13 41.6	
	comp=Z,265nm,18.1s,baz=56,slow=34						
KNRA	**Kununurra**	**31.96**	**257**	P	**P**	**11 02 36.0**	**-0.8**
BBOO	**Buckleboo**	**32.10**	**222**	P	**P**	**11 02 39.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**35.20**	**253**	P	**P**	**11 03 04.9**	**-0.2**
BATI	**Baumata**	**36.87**	**267**	LR	LR	11 19 32.9	
	comp=Z,127nm,18.9s,baz=154,slow=38						
MORW	**Morawa**	**46.01**	**240**	P	**P**	**11 04 34.6**	**+0.6**
NWAO	**Narrogin (SRO)**	**46.12**	**234**	LR	LR	11 24 08.0	
	comp=Z,255nm,19.6s,slow=36						
JHJ	**Hachijo jima 2**	**47.84**	**336**	LR	LR	11 27 03.9	
	comp=Z,53nm,18.1s,baz=70,slow=39						
PPT	**Papeete**	**48.23**	**104**	LR	LR	11 21 30.3	
	comp=Z,59nm,18.6s,baz=292,slow=31						
PPT2	**Papeete2**	**48.23**	**104**	*e*LR	LR	11 18 51.2	
PPT2	comp=Z,115nm,22.2s			*e*LR	LR	11 18 51.8	
	comp=Z,171nm,25.5s						
MJAR	**Matsushiro Arr**	**51.46**	**336**	P	**P**	**11 05 14.0**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=169,slow=7.8,SNR=4.3						
MJAR				LR	LR	11 26 33.9	
	comp=Z,52nm,19.9s,baz=173,slow=35						
	comp=Z,0.6nm,0.5s						
JNU	**Nakatsue**	**52.03**	**328**	LR	LR	11 26 52.0	
	comp=Z,32nm,18.2s,baz=104,slow=35						
ASAJ	**Asahikawa**	**56.83**	**344**	LR	LR	11 28 00.8	
	comp=Z,204nm,21.0s,baz=170,slow=34						
KSRS	**Korea Array**	**56.90**	**329**	P	**P**	**11 05 55.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=146,slow=7.4,SNR=4.8						
KSRS				LR	LR	11 28 40.7	
	comp=Z,47nm,20.1s,baz=135,slow=34						
	comp=Z,0.6nm,0.5s						
SDSI	**Sungai Dareh**	**60.08**	**275**	P	P	11 06 33.1	+15
USRK	**Ussuriysk Ar.**	**60.46**	**336**	P	**P**	**11 06 20.5**	**+0.8**
USRK				LR	LR	11 30 19.3	
	comp=Z,47nm,20.9s,baz=118,slow=34						
	comp=Z,1.8nm,0.7s						
PETK	**Petropavlovsk-**	**63.34**	**358**	LR	LR	11 30 14.4	
	comp=Z,92nm,21.8s,baz=140,slow=32						
KLR	**Kul'dur**	**64.78**	**339**	LR	LR	11 32 13.5	
	comp=Z,62nm,21.6s,baz=146,slow=33						
VNDA	**Vanda**	**67.09**	**180**	LR	LR	11 33 28.8	
	comp=Z,42nm,18.1s,baz=22,slow=33						
VNDA	**Vanda**	**67.09**	**180**	P	**P**	**11 07 04.3**	**+1.4**
VNDA				IAmb	IAmb	11 07 21.7	
	comp=Z,9.0nm,1.5s						
SBA	**Scott Base**	**67.48**	**179**	P	**P**	**11 07 05.3**	**-0.1**
CM31	**Chiang Mai Arr**	**67.74**	**295**	P	**P**	**11 07 07.1**	**-0.9**
CM31				IAmb	IAmb	11 07 08.6	
	comp=Z,4.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**67.74**	**295**	P	**P**	**11 07 09.6**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=134,slow=5.2,SNR=4.6						
CMAR				LR	LR	11 38 07.2	
	comp=Z,19nm,18.6s,baz=100,slow=37						
	comp=Z,0.6nm,0.4s						
MA2	**Magadan**	**70.25**	**354**	LR	LR	11 35 27.2	
	comp=Z,59nm,20.9s,baz=92,slow=34						
MA2	**Magadan**	**70.25**	**354**	P	**P**	**11 07 23.2**	**+0.5**
MA2				IAmb	IAmb	11 07 34.8	
	comp=Z,5.7nm,1.1s						
SONM	**Songino Array**	**75.54**	**325**	P	**P**	**11 07 55.4**	**+0.9**
	comp=Z,4.1nm,0.5s,baz=137,slow=5.5,SNR=23						
	comp=Z,4.1nm,0.5s						
SONM	**Songino Array**	**75.54**	**325**	P	**P**	**11 07 55.2**	**+0.7**
SONM				IAmb	IAmb	11 07 59.4	
	comp=Z,3.5nm,0.6s						
QSPA	**South Pole Qui**	**79.58**	**180**	P	**P**	**11 08 18.3**	**+1.5**
L19K	**White Mountain**	**80.02**	**19**	P	**P**	**11 08 20.6**	**+1.6**
L19K				IAmb	IAmb	11 08 35.4	
	comp=Z,12nm,1.5s						
TTA	**Tatalina**	**80.19**	**18**	P	**P**	**11 08 21.4**	**+1.4**
TTA				IAmb	IAmb	11 08 33.8	
	comp=Z,9.4nm,1.4s						
MAW	**Mawson**	**83.59**	**202**	LR	LR	11 41 54.4	
	comp=Z,48nm,18.2s,baz=88,slow=33						
ILAR	**Eielson Array**	**84.40**	**20**	P	**P**	**11 08 41.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=250,slow=5.0,SNR=16						
ILAR				LR	LR	11 41 00.3	
	comp=Z,127nm,20.3s,baz=136,slow=32						
	comp=Z,0.3nm,0.5s						
TIXI	**Tiksi**	**84.66**	**350**	LR	LR	11 45 07.5	
	comp=Z,30nm,21.2s,baz=3.5,slow=35						
YBH	**Yreka Blue Hor**	**86.72**	**47**	P	**P**	**11 08 55.1**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=300,slow=8.1,SNR=1.2						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**89.10**	**51**	P	**P**	**11 09 05.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=238,slow=5.0,SNR=4.1						
	comp=Z,0.4nm,0.7s						
PFO	**Pinyon Flats O**	**89.44**	**56**	LR	LR	11 41 22.9	
	comp=Z,159nm,20.1s,baz=332,slow=30						
MKAR	**Makanchi Array**	**90.00**	**318**	P	**P**	**11 09 09.5**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=109,slow=5.7,SNR=11						
	comp=Z,0.4nm,0.5s						
INK	**Inuvik**	**90.80**	**20**	P	**P**	**11 09 13.0**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=264,slow=1.5,SNR=2.3						
	comp=Z,0.6nm,0.6s						
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**	**11 09 38.8**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=256,slow=5.0,SNR=9.6						
	comp=Z,0.3nm,0.5s						
ANMO	**Albuquerque**	**97.82**	**56**	LR	LR	11 51 19.9	
	comp=Z,76nm,18.2s,baz=138,slow=34						
TXAR	**Lajitas Array**	**99.50**	**62**	LR	LR	11 46 46.7	
	comp=Z,103nm,20.4s,baz=354,slow=30						

*IDC **25** 11:42:21.8±3.5, 36°.78N×71°.47E, h81km±28km, mb3.5/9, mbtmp4.0/15, Error ellipse: s-maj=33.1km s-min=17.9km az=168.0*
*NNC **25** 11:42:22.2±4.5, 37°.29N×70°.95E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=44.2km s-min=20.3km az=149.0*
*BJI **25** 11:42:27.2±0.0, 37°.09N×71°.86E, h107km, mb4.0/9, mB4.5/4*

ISC 25 11:42:24.4±0.8, 36°.98N±0°.09×71°.31E±0°.06, h106km, n36, σ1$96/41, mb3.7/10, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**4.46**	**54**	P	**Pn**	**11 43 26.8**	**-3.2**
KSH				S	Sn	11 44 10.3	-11
KSH				smax	smax		
	comp=N,540nm,0.5s						
KSH				smax	smax		
	comp=E,330nm,0.5s						
IUG	**Iuzhnay**	**5.25**	**350**	Pg	**Pn**	**11 43 42.7**	**+2.1**
	12nm,0.3s						
IUG				Lg	Lg	11 44 36.4	
	72nm,0.6s						
AML	**Almayashu**	**5.46**	**19**	P	**Pn**	**11 43 44.5**	**+0.7**
	SNR=261						
UCH	**Uchtor**	**5.79**	**24**	P	**Pn**	**11 43 48.9**	**+0.5**
	SNR=38						
EKS2	**Erkin-Say**	**5.98**	**18**	P	**Pn**	**11 43 51.5**	**+0.9**
	SNR=22						
KK31	**Karatay Array**	**6.14**	**355**	P	**Pn**	**11 43 53.8**	**+1.1**
	6.1nm,0.3s,baz=175,slow=12,SNR=156						
KK31				⇓S	**Sn**	**11 44 58.7**	**-2.8**
	15nm,0.5s,baz=175,slow=25,SNR=7.5						
AAK	**Ala-Archa**	**6.16**	**22**	P	**Pn**	**11 43 53.9**	**+0.9**
	SNR=39						
AAK	**Ala-Archa**	**6.16**	**22**	P	**Pn**	**11 43 53.5**	**+0.5**
	33nm,0.4s,baz=196,slow=6.5,SNR=74						
AAK				S	**Sn**	**11 44 57.9**	**-4.2**
	8.2nm,0.3s,baz=143,slow=20,SNR=6.4						
KBK	**Karagaybulak**	**6.32**	**25**	P	**Pn**	**11 43 56.2**	**+0.9**
	SNR=9.9						
ULHL	**Ulahol**	**6.49**	**34**	P	**Pn**	**11 43 57.9**	**+0.3**
	SNR=14						
CHMS	**Chumysh**	**6.56**	**23**	P	**Pn**	**11 43 59.0**	**+0.6**
	SNR=35						
USP	**Ospenovka**	**6.74**	**20**	P	**Pn**	**11 44 00.9**	**+0.1**
	SNR=21						
TKM2	**Tokmak 2**	**6.78**	**28**	P	**Pn**	**11 44 02.0**	**+0.5**
	SNR=36						
TKM2	**Tokmak 2**	**6.78**	**28**	⇑P	**Pn**	**11 44 01.9**	**+0.5**
	18nm,0.5s,baz=175,slow=25						
TKM2				⇓S	**Sn**	**11 45 18.4**	**+1.0**
	9.8nm,0.7s,baz=175,slow=25						
SGDS	**Sogindy**	**6.94**	**20**	Pg	**Pn**	**11 44 03.3**	**-0.3**
	11nm,0.9s						
SGDS				Lg	Lg	11 45 13.0	
	8.8nm,0.6s						
KST	**Kastek**	**7.03**	**29**	Pg	**Pn**	**11 44 05.2**	**+0.4**
	11nm,0.9s						
KRBS	**Karabastau**	**7.49**	**25**	Pg	**Pn**	**11 44 10.6**	**-0.4**
	8.1nm,0.7s						
KRBS				Lg	Lg	11 45 25.5	
	2.6nm,0.9s						
GEYT	**Alibeck**	**10.53**	**279**	P	**Pn**	**11 44 51.4**	**-0.9**
	5.7nm,0.3s,baz=116,slow=12,SNR=14						
GEYT				S	**Sn**	**11 46 42.7**	**-5.5**
	5.6nm,0.3s,baz=185,slow=30,SNR=9.5						
GYA0B	**ALIBECK ARRAY**	**10.53**	**279**	⇑P	**Pn**	**11 44 51.5**	**-0.8**
	baz=175,slow=25						
GYA0B				⇓S	**Sn**	**11 46 43.5**	**-4.7**
	baz=175,slow=25						
MKAR	**Makanchi Array**	**12.76**	**36**	P	**Pn**	**11 45 20.4**	**-1.4**
	3.4nm,0.8s,baz=222,slow=14,SNR=26						
KURBB	**Kurchatov Arra**	**14.59**	**19**	P	**Pn**	**11 45 41.6**	**-3.8**
	0.3nm,0.4s,baz=210,slow=11,SNR=1.4						
BVAR	**Borovoye Array**	**16.05**	**358**	P	**Pn**	**11 46 03.2**	**-0.6**
	1.4nm,0.6s,baz=160,slow=11,SNR=8.8						
AKTO	**Aktyubinsk**	**16.49**	**329**	P	**Pn**	**11 46 10.3**	**+1.1**
	4.1nm,0.4s,baz=138,slow=10.0,SNR=13						
AKTO				S	Sn	11 49 03.7	-8.4
	1.7nm,0.5s,baz=199,slow=23,SNR=1.1						
GOMU	**GeErMu**	**18.89**	**85**	P	**P**	**11 46 35.0**	**-1.9**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,100nm,5.3s						
ZALV	**Zalesovo Beam**	**19.37**	**25**	P	**P**	**11 46 41.4**	**-0.3**
	6.4nm,0.4s,baz=220,slow=11,SNR=20						
GTA	**Gaotai**	**22.50**	**75**	*e*P	**P**	**11 47 16.5**	**+1.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**27.86**	**56**	P	**P**	**11 48 04.6**	**+0.6**
	0.9nm,0.9s,baz=255,slow=10,SNR=4.1						
	0.9nm,0.9s						
BRTR	**Keskin Array B**	**29.52**	**287**	P	**P**	**11 48 21.6**	**+2.7**
	0.6nm,0.7s,baz=87,slow=7.5,SNR=4.2						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**11 49 26.6**	**+1.4**
	1.6nm,0.7s,baz=115,slow=9.8,SNR=1.6						
	1.6nm,0.7s						
NB2	**NORSAR Subarra**	**44.14**	**323**	P	**P**	**11 50 23.5**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.14**	**323**	P	**P**	**11 50 23.3**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=95,slow=7.7,SNR=6.0						
	comp=Z,1.3nm,0.6s						
ESDC	**Sonseca Array**	**57.45**	**298**	P	**P**	**11 52 04.3**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=62,slow=8.4,SNR=6.1						
	comp=Z,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.97**	**269**	P	**P**	**11 52 59.5**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=51,slow=6.1,SNR=1.1						
	comp=Z,3.8nm,0.3s						
INK	**Inuvik**	**73.39**	**9**	P	**P**	**11 53 46.1**	**+1.8**
	comp=Z,1.1nm,1.0s,baz=344,slow=5.2,SNR=3.6						
	comp=Z,1.1nm,1.0s						
YKA	**Yellowknife Ar**	**80.75**	**3**	P	**P**	**11 54 26.3**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=347,slow=5.0,SNR=4.6						
	comp=Z,0.1nm,0.5s						
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**11 54 31.7**	**-1.4**
	comp=Z,0.6nm,1.1s,baz=303,slow=8.1,SNR=1.8						
	comp=Z,0.6nm,1.1s						

WEL 25 11:54:55.1±0.4, 42°S±3°×17°4E±°, h5km, M1.9/3, ML2.6/10, MLv1.9/3, Error ellipse: s-maj=0.0km s-min=0.0km az=124.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.31**	**14**	P	Pg	11 55 01.5	+0.4
BSWZ				S	Sg	11 55 06.8	+1.5
CMWZ	**Cape Campbell**	**0.43**	**51**	P	Pg	11 55 04.2	+0.9
CMWZ				S	Sg	11 55 12.3	+0.5
KHZ	**Kahutara**	**0.43**	**204**	P	Pg	11 55 03.2	-0.2
KHZ				S	Sg	11 55 09.6	+0.5
THZ	**Tophouse**	**0.70**	**291**	P	Pg	11 55 08.4	0.0
THZ				S	Sg	11 55 18.3	+0.9
NNZ	**Nelson**	**0.85**	**340**	P	Pg	11 55 11.2	-0.2
NNZ				S	Sg	11 55 23.3	+0.8
TCW	**Tory Channel**	**0.89**	**25**	P	Pg	11 55 12.0	-0.1
TCW				S	Sb	11 55 25.2	0.0
MRNZ	**Matariki Terra**	**0.98**	**309**	P	Pg	11 55 13.9	+0.1
GVZ	**Greta Valley S**	**1.09**	**210**	P	Pg	11 55 15.7	-0.3
GVZ				S	Sn	11 55 32.1	-0.5
TKNZ	**Takaka Hill**	**1.16**	**328**	P	Pg	11 55 17.0	-0.3
LTZ	**Lake Taylor**	**1.35**	**235**	P	Pn	11 55 19.7	-0.9
LTZ				S	Sg	11 55 38.1	-0.3
QRZ	**Quartz Range**	**1.52**	**322**	P	Pn	11 55 22.9	0.0
INZ	**Inchbonnie**	**1.86**	**247**	P	Pn	11 55 28.3	+0.6
TWVZ	**Taurewa**	**3.21**	**24**	P	Pb	11 55 49.6	-3.0

*OTT **25** 12:13:27.4±0.3, 74°.25N×92°.32W, h18km, MN3.6/4, 90km southeast from Resolute, Nu. Aftershock*

ISC 25 12:13:22.6±0.6, 74°.21N±0°.05×92°.22W±0°.04, h10km, n17, σ3$51/24, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**0.87**	**305**	PG	**Pn**	**12 13 43.6**	**+2.9**
RES				SG	**Sg**	**12 13 53.3**	**+2.8**
RES				Trac		12 13 53.6	
	comp=Z,739nm,0.1s						
ILON	**Igloolik, Nuna**	**5.84**	**141**	PN	Pn	12 14 55.6	+6.6
ILON				SN	**Sn**	**12 15 56.9**	**+0.9**
ILON				LG	Lg	12 16 32.5	
ILON				Trac		12 16 41.7	
	comp=Z,17nm,0.2s						
EUNU	**Eureka**	**6.01**	**10**	PN	**Pn**	**12 14 53.8**	**+2.3**
EUNU				SN	**Sn**	**12 15 55.9**	**-4.3**
EUNU				Trac		12 16 50.6	
	comp=Z,1μm,4.8s						
TULEG	**Thule**	**6.34**	**57**	*e*	**Pn**	**12 14 59.1**	**+3.3**
	baz=270,slow=11						
TULEG				*i* P	Pb	12 14 59.6	-13
TULEG				*i* S	**Sn**	**12 16 07.1**	**-1.0**
CLRN	**Clyde River**	**8.06**	**106**	PN	Pn	12 15 25.1	+5.8
CLRN				SN	**Sn**	**12 16 49.5**	**-0.8**
CLRN				Trac		12 16 59.3	
	comp=Z,5.6nm,0.2s						
KULLO	**Kullorsuaq**	**9.34**	**71**	SN	**Sn**	**12 17 18.9**	**-3.0**
KULLO				SN		12 17 19.3	
KULLO				Trac		12 17 34.4	
	comp=Z,34nm,0.7s						
KUKN	**Kugluktuk,NWT**	**9.75**	**241**	PN	**Pn**	**12 15 45.3**	**+2.7**
KUKN				SN	**Sn**	**12 17 27.9**	**-4.1**
KUKN				LG	Lg	12 18 33.4	
KUKN				Trac		12 19 08.8	
	comp=Z,291nm,2.6s						
A36M	**Sachs Harbour**	**9.78**	**273**	PN	**Pn**	**12 15 45.3**	**+2.4**
A36M				SN	**Sn**	**12 17 27.0**	**-5.6**
A36M				Trac		12 17 57.9	
	comp=Z,58nm,1.4s						
UPNV	**Upernavik**	**10.25**	**80**	*e*P	Pn	12 15 54.3	+5.0
UPNV				*i* S	**Sn**	**12 17 39.3**	**-4.8**
UPNV				IAML		12 17 45.2	
	comp=Z,2.1nm,0.4s						
NEEM	**North Greenlan**	**10.39**	**53**	*i* P	**Pn**	**12 15 54.1**	**+2.5**
NEEM				*i* S	**Sn**	**12 17 43.7**	**-4.3**
NEEM				IAML		12 17 57.9	
	comp=Z,5.0nm,0.4s						
C36M	**Paulatuk**	**10.97**	**260**	PN	**Pn**	**12 16 01.4**	**+2.2**
C36M				SN	Sn	12 17 54.9	-6.8
C36M				Trac		12 18 30.6	
	comp=Z,516nm,3.3s						
FRB	**Frobisher Bay**	**13.35**	**129**	PN	**Pn**	**12 16 34.7**	**+2.9**
FRB				SN	Sn	12 18 53.6	-6.4
FRB				Trac		12 20 16.9	
	comp=Z,528nm,3.6s						
INK	**Inuvik**	**14.23**	**267**	PN	**Pn**	**12 16 44.4**	**+0.6**
INK				SN	Sn	12 19 12.8	-8.6
INK				Trac		12 20 27.1	
	comp=Z,986nm,6.5s						
FCC	**Fort Churchill**	**15.54**	**184**	PN	**Pn**	**12 17 02.6**	**+1.3**
FCC				SN	**Sn**	**12 19 45.5**	**-7.6**
FCC				LG	Lg	12 21 35.3	
FCC				Trac		12 21 50.4	
	comp=Z,2μm,7.0s						
NOR	**Nord**	**15.97**	**31**	*i* P	**Pn**	**12 17 05.4**	**-1.4**
DAG	**Danmarks Havn**	**17.49**	**47**	*i* P	**Pn**	**12 17 24.0**	**-2.0**
DAWY	**Dawson**	**18.98**	**263**	PN	**P**	**12 17 46.5**	**+2.9**
DAWY				SN	Sn	12 21 02.9	-14

*IDC **25** 12:36:43.8±2.2, 5°.87S×154°.68E, h161km±17km, mb3.4/9, mbtmp3.9/12, Error ellipse: s-maj=23.9km s-min=15.8km az=91.0*

ISC 25 12:36:42.2±0.8, 5°.9S±0°.1×154°.8E±0°.1, h150km, n13, σ0$93/15, mb3.7/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.23**	**300**	P	**Pn**	**12 37 33.5**	**+1.0**
	27nm,0.4s,baz=251,slow=2.4,SNR=13						
KRVT				S	**Sn**	**12 38 10.1**	**-1.2**
	57nm,0.5s,baz=341,slow=23,SNR=5.8						
CTA	**Charters Tower**	**16.36**	**210**	P	**Pn**	**12 40 24.1**	**+0.7**
	2.7nm,0.9s,baz=5.2,slow=11,SNR=1.6						
DZM	**Mont Dzumac**	**19.58**	**146**	P	**Pn**	**12 41 01.2**	**-0.6**
	6.2nm,0.6s,baz=331,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**24.30**	**233**	P	**P**	**12 41 46.2**	**+0.2**
	0.8nm,0.3s,baz=57,slow=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.60**	**343**	P	**Pn**	**12 56 26.3**	**-0.4**
	331nm,0.3s,baz=307,slow=1.2,SNR=209						
KRVT				S	**Sn**	**12 56 37.1**	**+0.2**
	2μm,0.3s,baz=294,slow=1.2,SNR=33						
RABL	**Rabaul**	**0.69**	**357**		**Pn**	**12 56 28.0**	**+0.3**
PMG	**Port Moresby**	**6.73**	**228**	P	**Pn**	**12 57 49.1**	**+0.1**
	9.8nm,0.4s,baz=52,slow=14,SNR=7.7						
PMG				S	**Sn**	**12 59 06.0**	**+1.8**
	11nm,0.4s,baz=132,slow=21,SNR=2.5						
PMG				LR	LR	13 00 39.0	
	comp=Z,105nm,18.7s,baz=140,slow=40						
PMG	**Port Moresby**	**6.73**	**228**	Pn	**Pn**	**12 57 48.3**	**-0.7**
DZM	**Mont Dzumac**	**21.95**	**142**	P	**P**	**13 01 03.2**	**+2.2**
	3.7nm,0.6s,baz=309,slow=20,SNR=1.3						
	3.7nm,0.6s						
MTN	**Manton Dam**	**22.26**	**248**	P	**P**	**13 01 05.7**	**+1.4**
MTN				IAmb	IAmb	13 01 26.0	
	comp=Z,26nm,1.2s						
WB0	**Warramunga Arr**	**22.80**	**228**	P	**P**	**13 01 09.9**	**-0.1**
WB0				IAmb	IAmb	13 01 10.3	
	comp=Z,22nm,1.5s						
WR0	**Warramunga Arr**	**22.81**	**227**	P	**P**	**13 01 10.1**	**0.0**
WRAB	**Tennant Creek**	**22.93**	**228**	P	**P**	**13 01 11.0**	**-0.3**
WRAB				IAmb	IAmb	13 01 13.3	
	comp=Z,20nm,1.4s						
WB2	**Warramunga Arr**	**22.94**	**228**	P	**P**	**13 01 11.2**	**-0.3**
WB2				IAmb	IAmb	13 01 13.0	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**22.95**	**228**	P	**P**	**13 01 11.1**	**-0.5**
	comp=Z,5.2nm,0.6s,baz=53,slow=10,SNR=63						
	comp=Z,5.2nm,0.6s						
WRA	**Warramunga Arr**	**22.95**	**228**	P	**P**	**13 01 10.5**	**-1.0**
ARMA	**Armidale**	**25.40**	**181**	P	**P**	**13 01 32.4**	**-1.6**
ARMA				IAmb	IAmb	13 01 34.7	
	comp=Z,15nm,1.4s						
KNRA	**Kununurra**	**25.40**	**243**	P	**P**	**13 01 34.4**	**+0.3**
KNRA				IAmb	IAmb	13 01 55.6	
	comp=Z,32nm,1.3s						
ASAR	**Alice Springs**	**25.69**	**222**	P	**P**	**13 01 36.5**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=58,slow=8.9,SNR=61						
	comp=Z,2.3nm,0.5s						
BBOO	**Buckleboo**	**31.61**	**207**	P	**P**	**13 02 28.7**	**-0.5**
BBOO				IAmb	IAmb	13 02 51.4	
	comp=Z,27nm,1.5s						
FORT	**Forrest**	**34.35**	**219**	P	**P**	**13 02 52.5**	**-0.6**
VNDA	**Vanda**	**72.77**	**178**	P	**P**	**13 07 32.7**	**-0.5**
SCM	**Sheep Creek Mo**	**80.88**	**25**	P	**P**	**13 08 20.1**	**+1.0**
ILAR	**Eielson Array**	**82.46**	**22**	P	**P**	**13 08 27.1**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=246,slow=5.4,SNR=2.4						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.77**	**288**	PKPbc	**PKPbc**	**13 15 55.3**	**-0.6**
	comp=Z,4.6nm,0.4s,baz=56,slow=0.9,SNR=2.4						

*IDC **25** 13:07:42.5±0.8,3˚26S×146˚01E,h0km,mb4.2/15, mbtmp4.2/18,ML4.2/2,MS3.8/36,Error ellipse: s-maj=31.7km s-min=14.6km az=95.0*
*DJA **25** 13:07:43.4±1.8,3˚S×3˚×14˚6E±˚,h13km±14km,M4.8/26, mB5.5/6,mb4.7/26,MLv4.8/2,Mw(mB)5.0/6*
*NEIC **25** 13:07:43.8±2.2,3˚28S±0˚07˚×146˚17E±0˚08,h10km±1km, mb4.5/20,Error ellipse: s-maj=13.3km s-min=11.0km az=110.0*
*GCMT **25** 13:07:47.8±0.3,3˚37S±0˚02˚×146˚19E±0˚02,h15km±2km, MW4.8/83,Moment Tensor Solution. s12,c13; s83,c108; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.14±.11; Mθθ0.14±.09; Mφφ0.00±.11; Mrθ0.03±.18; Mrφ1.90±.08; Mθφ0.31±.19; Best double couple: M₀1.92700×10¹⁶ NP1:φs181.00000°,δ90.00000°,λ-171.00000°. NP2: φs91.00000°,δ81.00000°,λ0.00000°. Principal axes: T 1.9980, Plg6.0000°, Azm316.0000°; N -0.1440, Plg81.0000°, Azm184.0000°; P -1.8550, Plg7.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 13:07:45.6±0.5,3˚32S±0˚05×146˚21E±0˚08,h25km,n89, σ1§12/64,mb4.3/26,MS3.9/32,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.72**	**42**	Pn	**Pn**	**13 08 12.2**	**-1.8**
RABL	**Rabaul**	**6.01**	**98**	Pn	**Pn**	**13 09 12.1**	**-0.9**
PMG	**Port Moresby**	**6.12**	**171**	Pn	**Pn**	**13 09 13.9**	**-0.6**
	20nm,0.3s,baz=350,slow=6.5,SNR=18						
PMG				Sn	**Sn**	**13 10 21.6**	**-2.1**
	baz=345,slow=11						
PMG				LR	LR	13 11 22.4	
	comp=Z,392nm,19.7s,baz=354,slow=35						
PMG	**Port Moresby**	**6.12**	**171**	Pn	**Pn**	**13 09 13.6**	**-0.9**
COEN	**Coen**	**10.98**	**196**	Pn	**Pn**	**13 10 22.9**	**+1.7**
HNR	**Honiara**	**14.94**	**115**	LR	LR	13 16 56.5	
	comp=Z,4μm,18.7s,baz=280,slow=37						
SIJI	**Sorong**	**15.13**	**279**	Pn	**Pn**	**13 11 14.0**	**-3.8**
	0.3nm,0.3s,baz=9.3,slow=17,SNR=1.7						
SIJI				LR	LR	13 16 20.3	
	comp=Z,385nm,19.6s,baz=186,slow=35						
	7.2nm,0.9s						
BNDI	**Bandanaira**	**16.31**	**265**	P	**Pn**	**13 11 33.1**	**0.0**
	188nm,1.5s,10μm						
CTA	**Charters Tower**	**16.66**	**180**	Pn	**P**	**13 11 40.5**	**+0.7**
	1.4nm,0.3s,baz=357,slow=14,SNR=17						
CTA				LR	LR	13 18 07.8	
	comp=Z,209nm,19.5s,baz=11,slow=37						
	2.7nm,0.5s						
CTAO	**Charters Tower**	**16.66**	**180**	P	**P**	**13 11 39.1**	**-0.7**
GUMO	**Guam**	**16.86**	**356**	LR	LR	13 18 02.4	
	comp=Z,194nm,18.2s,baz=160,slow=37						
MSAI	**Masohi**	**17.25**	**269**	P	**P**	**13 11 45.8**	**-0.5**
MTN	**Manton Dam**	**17.65**	**237**	P	**P**	**13 11 50.4**	**-0.4**
MTN				IAmb	IAmb	13 11 53.7	
	comp=Z,48nm,1.1s						
AAI	**Ambon**	**17.98**	**268**	P	**P**	**13 11 54.2**	**-0.2**
	comp=Z,31nm,1.0s						
NLAI	**Namlea**	**19.07**	**270**	P	**Pn**	**13 12 07.1**	**-0.2**
	comp=Z,16nm,0.9s,comp=Z,8μm						
TNTI	**Ternate**	**19.26**	**282**	P	**P**	**13 12 07.1**	**-1.5**
TNTI				IAmb	IAmb	13 12 17.0	
	comp=Z,28nm,0.9s						
TNTI	**Ternate**	**19.26**	**282**	P	**Pn**	**13 12 08.6**	**-1.0**
	comp=Z,34nm,0.8s						
WB0	**Warramunga Arr**	**20.00**	**214**	P	**P**	**13 12 15.9**	**-0.6**
WB0				IAmb	IAmb	13 12 18.6	
	comp=Z,50nm,1.0s						
WB2	**Warramunga Arr**	**20.17**	**214**	P	**P**	**13 12 18.0**	**-0.3**
WB2				IAmb	IAmb	13 12 20.6	
	comp=Z,50nm,1.0s						
WRA	**Warramunga Arr**	**20.17**	**214**	P	**P**	**13 12 18.3**	**-0.1**
	comp=Z,27nm,0.8s,baz=39,slow=12,SNR=106						
WRA				LR	LR	13 21 09.5	
	comp=Z,345nm,19.3s,baz=38,slow=40						
	comp=Z,27nm,0.8s						
WRA	**Warramunga Arr**	**20.17**	**214**	P	**P**	**13 12 17.8**	**-0.6**
SANI	**Sanana**	**20.23**	**273**	P	Pn	13 12 19.6	-1.5
	comp=Z,13nm,1.0s						
KNRA	**Kununurra**	**21.11**	**233**	P	**P**	**13 12 27.5**	**-1.1**
EIDS	**Eidsvold**	**22.42**	**168**	P	**P**	**13 12 42.9**	**+0.4**
EIDS				IAmb	IAmb	13 12 50.6	
	comp=Z,13nm,0.8s						
SOEI	**Soe**	**22.70**	**253**	P	**P**	**13 12 44.9**	**-1.0**
SOEI	**Soe**	**22.70**	**253**	P	**P**	**13 12 46.5**	**+0.7**
	comp=Z,61nm,0.7s						
DAV	**Davao City (W)**	**23.03**	**297**	LR	LR	13 19 46.0	
	comp=Z,116nm,20.2s,baz=323,slow=32						
BATI	**Baumata**	**23.39**	**252**	P	**P**	**13 12 54.1**	**+1.3**
	comp=Z,70nm,1.1s						
ASAR	**Alice Springs**	**23.46**	**209**	P	**P**	**13 12 53.4**	**0.0**
	comp=Z,17nm,0.8s,baz=44,slow=7.6,SNR=182						
	comp=Z,17nm,0.8s						
ASAR	**Alice Springs**	**23.46**	**209**	P	**P**	**13 12 53.1**	**-0.2**
GTOI	**Gorontalo**	**23.52**	**279**	P	**P**	**13 12 55.9**	**+2.0**
	comp=Z,13nm,1.9s						
LUWI	**Luwuk**	**23.52**	**275**	P	**P**	**13 12 54.4**	**+0.4**
	comp=Z,61nm,1.1s,comp=Z,3μm						
MMRI	**Maumere**	**24.41**	**256**	P	**P**	**13 13 00.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**24.93**	**232**	P	**P**	**13 13 06.6**	**-0.4**
BSSI	**Bau Bau, Buton**	**25.78**	**263**	P	**P**	**13 13 16.3**	**+1.5**
	comp=Z,98nm,1.2s						
BASI	**Baing, Sumba**	**26.34**	**254**	P	**P**	**13 13 21.3**	**+1.5**
KAPI	**Kappang**	**26.43**	**265**	LR	LR	13 25 13.6	
	comp=Z,78nm,19.1s,baz=94,slow=40						
DZM	**Mont Dzumac**	**27.08**	**135**	LR	LR	13 22 52.1	
	comp=Z,372nm,18.8s,baz=310,slow=33						
DZM	**Mont Dzumac**	**27.08**	**135**	P	**P**	**13 13 27.4**	**+0.8**
DZM				IAmb	IAmb	13 13 47.0	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**28.73**	**188**	P	**P**	**13 13 42.3**	**+1.2**
	comp=Z,5.5nm,0.8s,baz=7.1,slow=14,SNR=5.3						
STKA				LR	LR	13 26 03.5	
	comp=Z,322nm,18.6s,baz=6.7,slow=38						
	comp=Z,5.5nm,0.8s						
STKA	**Stephens Creek**	**28.73**	**188**	P	**P**	**13 13 41.8**	**+0.7**
JCJ	**Chichijima**	**30.49**	**353**	LR	LR	13 24 58.9	
	comp=Z,46nm,19.7s,baz=93,slow=34						
BBOO	**Buckleboo**	**30.84**	**197**	P	**P**	**13 13 59.2**	**-0.5**
FORT	**Forrest**	**32.24**	**210**	P	**P**	**13 14 11.2**	**-0.9**
MSVF	**Nonsavu**	**34.34**	**117**	LR	LR	13 28 06.8	
	comp=Z,116nm,18.1s,baz=316,slow=35						
JOW	**Kunigami**	**34.62**	**331**	LR	LR	13 25 49.3	
	comp=Z,263nm,20.8s,baz=158,slow=32						
JHJ	**Hachijo jima 2**	**36.75**	**351**	LR	LR	13 28 41.9	
	comp=Z,169nm,19.2s,baz=128,slow=34						
LEM	**Lembang**	**38.58**	**263**	LR	LR	13 32 32.9	
	comp=Z,62nm,18.3s,baz=66,slow=39						
JNU	**Nakatsue**	**39.04**	**339**	LR	LR	13 28 20.9	
	comp=Z,115nm,19.7s,baz=148,slow=32						
NWAO	**Narrogin (SRO)**	**40.03**	**219**	LR	LR	13 33 16.5	
	comp=Z,344nm,19.2s,slow=38						
MJAR	**Matsushiro Arr**	**40.36**	**350**	P	**P**	**13 15 21.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=162,slow=6.9,SNR=2.4						
MJAR				LR	LR	13 29 36.1	
	comp=Z,79nm,20.9s,baz=144,slow=33						
	comp=Z,1.1nm,0.7s						
AFI	**Afiamalu**	**42.78**	**107**	LR	LR	13 30 49.0	
	comp=Z,120nm,19.1s,baz=290,slow=32						
KSRS	**Korea Array**	**43.99**	**339**	P	**P**	**13 15 49.5**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=155,slow=8.7,SNR=8.1						
KSRS				LR	LR	13 31 13.9	
	comp=Z,111nm,21.9s,baz=150,slow=32						
	comp=Z,1.7nm,0.8s						
URZ	**Urewera**	**44.78**	**145**	LR	LR	13 32 29.1	
	comp=Z,155nm,19.1s,baz=31,slow=33						
ASAJ	**Asahikawa**	**47.34**	**356**	LR	LR	13 38 50.9	
	comp=Z,53nm,18.1s,baz=168,slow=40						
USRK	**Ussuriysk Ar.**	**49.00**	**346**	P	**P**	**13 16 31.0**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=160,slow=4.6,SNR=2.5						
	comp=Z,3.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**49.00**	**346**	P	**P**	**13 16 31.5**	**+1.4**
XAN	**Xi'an**	**51.13**	**320**	P	**P**	**13 16 47.3**	**+0.7**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BJT	**Baijiatuan**	**51.18**	**330**	P	**P**	**13 16 46.3**	**-0.5**
BJT				IAmb	IAmb	13 16 51.0	
	comp=Z,3.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**51.32**	**297**	P	**P**	**13 16 47.2**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=110,slow=5.9,SNR=12						
CMAR				LR	LR	13 40 24.5	
	comp=Z,22nm,18.5s,baz=115,slow=38						
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**51.32**	**297**	P	**P**	**13 16 49.5**	**+1.3**
CHTO	**Chiang Mai**	**51.44**	**297**		**P**	**13 16 50.0**	**+0.8**
CHTO				IAmb	IAmb	13 17 07.6	
	comp=Z,5.7nm,1.2s						
KLR	**Kul'dur**	**53.83**	**348**	LR	LR	13 36 19.5	
	comp=Z,61nm,21.3s,baz=142,slow=32						
PETK	**Petropavlovsk-**	**57.05**	**8**	P	**P**	**13 17 30.2**	**+0.8**
	comp=Z,3.0nm,1.1s,baz=189,slow=6.6,SNR=1.8						
	comp=Z,3.0nm,1.1s						
GTA	**Gaotai**	**60.20**	**320**	*e*P	**P**	**13 17 53.5**	**+1.7**
GTA				pP	pwP	13 18 05.8	+4.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**61.40**	**331**	P	**P**	**13 17 59.7**	**-0.1**
ULN				IAmb	IAmb	13 18 02.2	
	comp=Z,4.2nm,1.2s						
SONM	**Songino Array**	**61.70**	**331**	P	**P**	**13 18 01.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=146,slow=6.7,SNR=6.0						
SONM				LR	LR	13 44 08.2	
	comp=Z,173nm,20.1s,baz=136,slow=36						
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**61.70**	**331**	P	**P**	**13 18 02.4**	**+0.6**
SEY	**Seymchan**	**66.24**	**3**	P	**P**	**13 18 32.3**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=175,slow=9.4,SNR=6.0						
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**74.61**	**177**	LR	LR	13 49 51.8	
	comp=Z,124nm,18.4s,baz=36,slow=34						
MK31	**Makanchi Array**	**74.94**	**320**	P	**P**	**13 19 25.4**	**+0.8**
MK31				IAmb	IAmb	13 19 37.4	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**74.94**	**320**	P	**P**	**13 19 25.2**	**+0.6**
	comp=Z,2.9nm,1.0s,baz=104,slow=7.3,SNR=13						
MKAR				LR	LR	13 50 25.8	
	comp=Z,54nm,21.6s,baz=100,slow=34						
	comp=Z,2.9nm,1.0s						
MKAR	**Makanchi Array**	**74.94**	**320**	P	**P**	**13 19 25.6**	**+0.9**
ZALV	**Zalesovo Beam**	**76.34**	**328**	P	**P**	**13 19 32.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=142,slow=4.9,SNR=4.2						
ZALV				LR	LR	13 51 53.9	
	comp=Z,94nm,21.5s,baz=69,slow=35						
	comp=Z,0.9nm,0.5s						
AAK	**Ala-Archa**	**78.91**	**314**	LR	LR	13 54 24.0	
	comp=Z,82nm,21.5s,baz=56,slow=36						
NRIK	**Noril'sk**	**82.50**	**342**	P	**P**	**13 20 05.0**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=122,slow=5.0,SNR=4.9						
NRIK				LR	LR	13 58 16.9	
	comp=Z,58nm,18.1s,baz=4.0,slow=37						
	comp=Z,2.9nm,0.5s						
ILAR	**Eielson Array**	**83.35**	**23**	P	**P**	**13 20 11.3**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=259,slow=5.0,SNR=6.7						
ILAR				LR	LR	13 52 53.5	
	comp=Z,102nm,21.6s,baz=112,slow=32						
	comp=Z,0.7nm,0.8s						
BCAR	**Beaver Creek A**	**84.89**	**26**	P	**P**	**13 20 18.1**	**0.0**
BMAR	**Burnt Mountain**	**85.20**	**21**	P	**P**	**13 20 20.8**	**+1.2**
ABKAR	**Akbulak array**	**90.05**	**319**	P	**P**	**13 20 40.9**	**-2.4**
GEYT	**Alibeck**	**90.51**	**308**	LR	LR	14 03 22.6	
	comp=Z,46nm,21.4s,baz=46,slow=37						
AKTO	**Aktyubinsk**	**91.38**	**320**	LR	LR	14 01 12.3	
	comp=Z,70nm,22.0s,baz=60,slow=35						
ARU	**Arti**	**91.44**	**326**	LR	LR	14 01 04.1	
	comp=Z,103nm,21.6s,baz=86,slow=35						
YBH	**Yreka Blue Hor**	**93.00**	**49**	LR	LR	13 55 26.5	
	comp=Z,105nm,20.5s,baz=340,slow=31						
YKA	**Yellowknife Ar**	**97.18**	**28**	P	Pdif	13 21 15.6	-0.2
	comp=Z,0.2nm,0.9s,baz=272,slow=4.5,SNR=1.9						
YKA				PP	**PP**	**13 25 12.5**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=248,slow=9.5,SNR=3.5						
	comp=Z,0.2nm,0.9s						
PFO	**Pinyon Flats O**	**97.94**	**57**	LR	LR	13 58 26.8	
	comp=Z,112nm,18.5s,baz=356,slow=31						
ELK	**Elko**	**98.64**	**49**	LR	LR	14 02 35.5	
	comp=Z,82nm,18.0s,baz=337,slow=33						
TORD	**Torodi Ar. Bea**	**143.60**	**288**	PKHKP	PKPpre	13 27 16.4	
	comp=Z,2.6nm,0.4s,baz=92,slow=2.6,SNR=1.8						
DBIC	**Dimbokro**	**150.99**	**278**	PKPbc	**PKiKP**	**13 27 37.9**	**-0.1**
	comp=Z,1.7nm,1.0s,baz=99,slow=22,SNR=1.5						

*WEL **25** 13:12:20.0±0.7,32˚S±4˚×17˚8W±1˚3,h33km,M4.4/19, mB4.9/11,ML5.1/28,MLv4.9/19,Mw(mB)4.2/11,Error ellipse: s-maj=0.0km s-min=0.0km az=105.9,confirmed*
*IDC **25** 13:12:26.3±2.5,31˚22S×179˚70W,h251km±21km,mb3.7/7, mbtmp4.3/9,Error ellipse: s-maj=21.7km s-min=18.2km az=50.0*

ISC 25 13:12:20.3±0.6,31˚43S±0˚06×179˚6W±0˚1,h200km,n66, σ1§96/86,mb4.0/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.59**	**34**	P	**Pn**	**13 13 06.0**	**+0.9**
GLKZ				S	**Sn**	**13 13 40.9**	**+0.8**
RIZ	**Raoul Island**	**2.60**	**33**	P	**Pn**	**13 13 03.6**	**-1.7**
RIZ				S	**Sn**	**13 13 43.7**	**+3.3**
MXZ	**Matakaoa Point**	**6.37**	**195**	P	**Pn**	**13 13 51.0**	**-1.2**
MXZ				S	**Sn**	**13 15 06.8**	**+1.7**
WMGZ	**Waiomatatini S**	**6.59**	**194**	P	**Pn**	**13 13 56.4**	**+1.4**
WMGZ				S	**Sn**	**13 15 11.6**	**+1.3**
HAZ	**Te Kaha**	**6.68**	**198**	P	**Pn**	**13 13 58.4**	**+2.1**
HAZ				S	**Sn**	**13 15 15.9**	**+3.5**
PKGZ	**Pakihiroa**	**6.73**	**196**	P	**Pn**	**13 13 58.0**	**+1.0**
PKGZ				S	**Sn**	**13 15 14.1**	**+0.3**
PUZ	**Puketiti**	**6.87**	**195**	P	**Pn**	**13 13 59.2**	**+0.5**
PUZ				S	**Sn**	**13 15 16.5**	**-0.3**
RUGZ	**Raukumara Rang**	**6.91**	**198**	P	**Pn**	**13 14 01.4**	**+2.1**
RUGZ				S	**Sn**	**13 15 16.6**	**-1.3**
TWGZ	**Tauwhareparae**	**7.03**	**196**	P	**Pn**	**13 14 02.2**	**+1.4**
TWGZ				S	**Sn**	**13 15 22.6**	**+1.8**
CNGZ	**Carnagh Statio**	**7.27**	**194**	P	**Pn**	**13 14 04.7**	**+0.7**
MWZ	**Matawai**	**7.29**	**198**	P	**Pn**	**13 14 04.5**	**+0.3**
MWZ				S	**Sn**	**13 15 26.3**	**-0.6**
TKGZ	**Te Karaka**	**7.31**	**196**	P	**Pn**	**13 14 04.2**	**-0.2**
TKGZ				S	**Sn**	**13 15 26.8**	**-0.4**
URZ	**Urewera**	**7.34**	**201**	P	**Pn**	**13 14 06.2**	**+1.3**
	6.0nm,0.5s,baz=353,slow=9.3,SNR=1.7						
URZ				S	**Sn**	**13 15 27.3**	**-0.6**
	26nm,0.3s,baz=354,slow=23,SNR=12						
URZ	**Urewera**	**7.34**	**201**	P	**Pn**	**13 14 07.3**	**+2.5**
URZ				S	**Sn**	**13 15 27.3**	**-0.6**
RIGZ	**Rimuhau**	**7.58**	**196**	P	**Pn**	**13 14 08.1**	**+0.1**
MUGZ	**Murupara**	**7.65**	**202**	P	**Pn**	**13 14 09.0**	**+0.1**
MUGZ				S	**Sn**	**13 15 34.3**	**-0.9**
RTZ	**Ruatahuna**	**7.71**	**201**	P	**Pn**	**13 14 09.3**	**-0.5**
SNGZ	**Shannon Statio**	**7.76**	**198**	P	**Pn**	**13 14 10.4**	**0.0**
KNZ	**Kokohu**	**7.91**	**196**	P	**Pn**	**13 14 13.6**	**+1.4**
RAHZ	**Arahi**	**7.96**	**199**	P	**Pn**	**13 14 13.2**	**+0.3**
RAHZ				S	**Sn**	**13 15 39.9**	**-2.7**
MTHZ	**Maungataniwha**	**7.97**	**201**	P	**Pn**	**13 14 13.9**	**+0.9**
MTHZ				S	**Sn**	**13 15 42.5**	**-0.4**
TLZ	**Tolley Road**	**7.97**	**209**	P	Pn	13 14 20.3	+7.2
MRHZ	**Matea Rd**	**8.09**	**203**	P	**Pn**	**13 14 16.8**	**+2.2**
NMHZ	**Naumai**	**8.21**	**200**	P	**Pn**	**13 14 15.6**	**-0.6**
NMHZ				S	**Sn**	**13 15 49.9**	**+1.3**
ARHZ	**Aropaoanui**	**8.30**	**199**	P	**Pn**	**13 14 19.4**	**+2.0**
ARHZ				S	**Sn**	**13 15 48.0**	**-2.8**
BKZ	**Black Stump Fm**	**8.36**	**202**	P	**Pn**	**13 14 18.2**	**0.0**
BKZ				S	**Sn**	**13 15 51.2**	**-1.1**
HIZ	**Hauiti**	**8.42**	**211**	P	Pn	13 14 27.0	+8.1
MCHZ	**McNeill Hill**	**8.56**	**200**	P	**Pn**	**13 14 23.4**	**+2.8**
MCHZ				S	**Sn**	**13 15 57.0**	**+0.2**
NTVZ	**North Tongarir**	**8.58**	**206**	P	**Pn**	**13 14 24.1**	**+3.0**
TMVZ	**Te Maari**	**8.59**	**205**	P	**Pn**	**13 14 24.9**	**+3.7**
ETVZ	**East Tongariro**	**8.60**	**205**	P	**Pn**	**13 14 25.1**	**+3.7**
OTVZ	**Oturere**	**8.64**	**205**	P	**Pn**	**13 14 22.8**	**+0.9**
SNVZ	**South Ngauruho**	**8.67**	**206**	P	**Pn**	**13 14 25.5**	**+3.1**
BHHZ	**Black Hill Sta**	**8.80**	**203**	P	**Pn**	**13 14 26.6**	**+2.7**
WNVZ	**Wahianoa**	**8.81**	**205**	P	**Pn**	**13 14 27.8**	**+3.6**
KAHZ	**Kahuranaki**	**8.84**	**198**	P	**Pn**	**13 14 21.3**	**-3.0**
KAHZ				S	**Sn**	**13 15 60.0**	**-3.4**
KRHZ	**Kereru**	**8.84**	**201**	P	**Pn**	**13 14 26.8**	**+2.4**
PKVZ	**Pokaka**	**8.87**	**206**	P	**Pn**	**13 14 28.9**	**+4.1**
VRZ	**Vera Road**	**8.97**	**210**	P	Pn	13 14 32.1	+6.1
PXZ	**Pawanui**	**9.06**	**198**	P	**Pn**	**13 14 26.0**	**-1.1**
PRHZ	**Porangahau**	**9.34**	**198**	P	**Pn**	**13 14 32.9**	**+2.1**
WAZ	**Wanganui**	**9.41**	**207**	P	**Pn**	**13 14 35.1**	**+3.3**
BFZ	**Birch Farm**	**9.84**	**199**	P	**Pn**	**13 14 36.4**	**-0.8**
MRZ	**Mangatainoka R**	**10.01**	**202**	P	**Pn**	**13 14 39.3**	**-0.2**
TIWZ	**Tintock**	**10.03**	**200**	P	**Pn**	**13 14 39.6**	**-0.1**
HOWZ	**Holdsworth Sta**	**10.25**	**201**	P	**Pn**	**13 14 42.7**	**+0.1**
OGWZ	**Otaki Gorge**	**10.29**	**203**	P	**Pn**	**13 14 42.2**	**-0.9**
TMWZ	**Te Maipa**	**10.33**	**199**	P	**Pn**	**13 14 44.1**	**+0.4**
KIW	**Kapiti Island**	**10.41**	**204**	P	**Pn**	**13 14 44.2**	**-0.6**
MTW	**Mount Morrison**	**10.49**	**201**	P	**Pn**	**13 14 44.9**	**-0.9**
MSVF	**Nonsavu**	**13.80**	**350**	P	**Pn**	**13 15 29.1**	**+1.2**
	12nm,0.6s,baz=94,slow=24,SNR=18						
RPZ	**Rata Peaks**	**14.33**	**209**	P	**Pn**	**13 15 33.4**	**-0.7**
	8.5nm,1.0s,baz=36,slow=24,SNR=1.2						
RPZ				S	S	13 18 01.8	-12
	23nm,1.1s,baz=218,slow=23,SNR=2.6						
DZM	**Mont Dzumac**	**15.57**	**303**	P	**P**	**13 15 50.1**	**+0.4**
	5.4nm,0.6s,baz=173,slow=16,SNR=2.2						
CTA	**Charters Tower**	**32.66**	**282**	P	**P**	**13 18 33.8**	**+0.1**
	2.3nm,0.7s,baz=109,slow=11,SNR=1.4						
	2.3nm,0.7s						
STKA	**Stephens Creek**	**32.95**	**259**	P	**P**	**13 18 36.4**	**+0.4**
	2.6nm,0.7s,baz=104,slow=12,SNR=5.2						
	2.6nm,0.7s						
ASAR	**Alice Springs**	**41.72**	**269**	P	**P**	**13 19 50.4**	**+0.5**
	2.4nm,0.6s,baz=106,slow=7.5,SNR=38						
ASAR				ScP	**ScP**	**13 25 07.5

TWA	**Mucha** baz=287	**0.73 282**	P	**Pn**	**13 20 33.8**	**+0.3**
NWRT	**Kuosheng** baz=316	**0.74 300**	*eP*	**Pn**	**13 20 34.1**	**+0.5**
ENTT	**Nioudou** baz=258	**0.76 255**	*eP*	**Pg**	**13 20 33.3**	**+0.7**
NHDH	**Xindian Distri** baz=276	**0.78 280**	*eP*	**Pn**	**13 20 34.8**	**+0.7**
NWLT	**Wulai** baz=269	**0.79 266**	P	**Pn**	**13 20 34.1**	**-0.3**
NWLT	baz=269		*eS*	**Sb**	**13 20 42.9**	**-0.8**
YM01	**YM01** baz=298	**0.79 293**	*eP*	**Pn**	**13 20 34.8**	**+0.4**
YM01	baz=298		S	**Sn**	**13 20 45.1**	**-0.7**
YM08	**YM08** baz=302	**0.79 297**	*eP*	**Pn**	**13 20 34.5**	**+0.2**
TATO	**Taipei** baz=277	**0.81 280**	*eP*	**Pn**	**13 20 34.8**	**+0.2**
LATG	**Datong** baz=245	**0.82 249**	P	**Pg**	**13 20 34.4**	**+0.5**
LATG	baz=245		S	**Sb**	**13 20 44.9**	**+0.2**
TWY	**Chenhua** baz=307	**0.83 302**	*eP*	**Pn**	**13 20 36.1**	**+1.3**
TWY	baz=307		*eS*	**Sn**	**13 20 47.4**	**+0.7**
PCYT	**Pengchaiyu** baz=346	**0.84 341**	P	**Pn**	**13 20 37.1**	**+2.1**
PCYT	baz=346		*eS*	**Sn**	**13 20 49.2**	**+2.2**
ANP	**Anpu** baz=300	**0.85 295**	*eP*	**Pn**	**13 20 35.6**	**+0.4**
NTST	**Danshui** baz=297	**0.90 292**	*eP*	**Pn**	**13 20 36.9**	**+1.1**
TWS1	**Kuangyinshan** baz=292	**0.90 287**	P	**Pn**	**13 20 37.2**	**+1.3**
YHNB	**Yeheng** baz=274	**0.92 260**	*eP*	**Pn**	**13 20 36.2**	**0.0**
NSK	**Sanguang** baz=258	**0.93 261**	P	**Pg**	**13 20 36.2**	**+0.2**
NSK	baz=258		*eS*	**Sb**	**13 20 46.9**	**-0.9**
ETL	**Fush Village** baz=225	**0.95 226**	*eP*	**Pb**	**13 20 36.4**	**+0.3**
NACB	**Ninganchiao** baz=221	**0.96 227**	P	**Pb**	**13 20 36.3**	**+0.1**
NNSH	**Datong** baz=241	**0.98 246**	P	**Pg**	**13 20 37.2**	**+0.3**
NNSH	baz=241		*eS*	**Sb**	**13 20 49.5**	**+0.2**
NNSB	**Datong** baz=255	**0.98 246**	P	**Pn**	**13 20 37.0**	**-0.1**
NNS	**Nan Shan** baz=239	**0.99 247**	P	**Pg**	**13 20 37.5**	**+0.4**
NNS	baz=239		S	**Sb**	**13 20 49.5**	**0.0**
ETLH	**Xiulin Townshi** baz=239	**1.02 233**	*eP*	**Pn**	**13 20 37.7**	**+0.1**
TWD	**Chiawan** baz=222	**1.03 223**	*eP*	**Pn**	**13 20 37.6**	**0.0**
NFF	**Wufeng Townshi** baz=263	**1.16 260**	P	**Pg**	**13 20 40.7**	**+0.5**
ETM	**Tongmen** baz=222	**1.18 223**	*eP*	**Pb**	**13 20 40.5**	**+0.7**
FUSS	**Fushou** baz=243	**1.18 241**	*eP*	**Pg**	**13 20 41.0**	**+0.4**
FUSS	baz=243		S	**Sb**	**13 20 55.6**	**+0.5**
WHF	**Hehuan Shan** baz=238	**1.22 236**	*eP*	**Pb**	**13 20 41.4**	**+0.6**
WHF	baz=238		*eS*	**Sb**	**13 20 55.9**	**-0.4**
LIOB	**Emei** baz=265	**1.25 262**	P	**Pg**	**13 20 42.2**	**+0.3**
NSTT	**Nanjuang** baz=265	**1.26 261**	*eP*	**Pg**	**13 20 42.2**	**0.0**
NSTT	baz=265		*eS*	**Sg**	**13 20 59.1**	**+0.5**
ESL	**Shilin** baz=199	**1.33 220**	*eP*	**Pg**	**13 20 43.4**	**-0.1**
CHGB	**Renai** baz=237	**1.33 235**	P	**Pg**	**13 20 43.6**	**0.0**
CHGB	baz=237		*eS*	**Sb**	**13 21 00.4**	**+0.9**
IRIF	**Iriomote-Funau**	**1.33 112**	*eP*	**Pb**	**13 20 42.4**	**-0.1**
OWD	**Renai** baz=228	**1.40 231**	*eP*	**Pb**	**13 20 44.4**	**+0.8**
WHP	**Taichung City** baz=250	**1.41 247**	P	**Pg**	**13 20 45.5**	**+0.5**
WHP	baz=250		*eS*	**Sb**	**13 21 02.4**	**+0.8**
WUSB	**Renai** baz=237	**1.42 234**	*eP*	**Pg**	**13 20 45.0**	**-0.2**
WUSB	baz=237		S	**Sb**	**13 21 02.7**	**+0.9**
EGFH	**Guangfu** baz=197	**1.44 217**	*eP*	**Pg**	**13 20 45.5**	**-0.2**
NMLH	**Miaoli** baz=278	**1.47 259**	*eP*	**Pg**	**13 20 46.2**	**+0.1**
HATJ	**Hateruma jima**	**1.52 120**	*eP*	**Pb**	**13 20 45.0**	**-0.7**
WPL	**Puli Township** baz=241	**1.52 238**	*eP*	**Pg**	**13 20 47.3**	**+0.1**
TWQ1	**Liyutan** baz=255	**1.53 252**	*eP*	**Pg**	**13 20 48.2**	**+0.9**
WCS	**Beigang Elemen** baz=243	**1.54 240**	*eP*	**Pg**	**13 20 47.2**	**-0.2**
DPDB	**Guoxing** baz=242	**1.54 239**	*eP*	**Pg**	**13 20 47.7**	**+0.2**
VWDT	**VWDT** baz=229	**1.55 226**	*eP*	**Pg**	**13 20 47.4**	**-0.3**
HGSD	**Ruisui** baz=195	**1.59 213**	*eP*	**Pb**	**13 20 47.9**	**+1.0**
JKRS	**Kuro-shima**	**1.61 111**	*eP*	**Pb**	**13 20 46.8**	**-0.4**
EHY	**Hungye** baz=215	**1.63 216**	*eP*	**Pb**	**13 20 47.9**	**+0.3**
SMLT	**Sun Moon Lake** baz=238	**1.64 235**	*eP*	**Pg**	**13 20 49.3**	**-0.1**
SSLB	**Suanglung** baz=235	**1.66 231**	*eP*	**Pb**	**13 20 49.1**	**+1.0**
TYC	**Yuchr** baz=239	**1.66 236**	*eP*	**Pg**	**13 20 49.5**	**-0.3**
JIJ	**Ishigaki jima**	**1.68 106**	*eP*	**Pb**	**13 20 48.2**	**-0.2**
YULB	**Yu-li** baz=214	**1.74 215**	*eP*	**Pb**	**13 20 49.2**	**-0.1**
EYUL	**Yuli** baz=197	**1.76 213**	*eP*	**Pb**	**13 20 50.2**	**+0.3**
TWF1	**Yuli** baz=213	**1.77 214**	*eP*	**Pb**	**13 20 50.3**	**+0.3**
WJS	**Zhushan** baz=229	**1.80 236**	*eP*	**Pb**	**13 20 51.7**	**+1.2**
WNT	**Mingjian** baz=242	**1.81 239**	*eP*	**Pg**	**13 20 52.8**	**+0.2**
YUS	**Yu-Shan** baz=227	**1.86 224**	*eP*	**Pb**	**13 20 51.9**	**+0.1**
FULB	**Fuli** baz=193	**1.90 211**	*eP*	**Pb**	**13 20 51.9**	**-0.3**
ALS	**Alishan** baz=211	**1.94 228**	*eP*	**Pb**	**13 20 53.5**	**+0.5**
CHN5	**Tsauling** baz=235	**1.97 232**	*eP*	**Pg**	**13 20 55.0**	**-0.8**
EHD	**Haiduan** baz=212	**1.98 213**	*eP*	**Pb**	**13 20 52.5**	**-1.1**
ELDTW	**Lidau** baz=200	**2.05 217**	*eP*	**Pb**	**13 20 54.1**	**-0.7**
WCKO	**Fanlu** baz=233	**2.13 230**	*eP*	**Pb**	**13 20 56.9**	**+0.8**
CHN4	**Tsaushan** baz=231	**2.19 228**	*eP*	**Pb**	**13 20 57.6**	**+0.4**
TPUB	**Ta-pu** baz=210	**2.20 227**	*eP*	**Pb**	**13 20 57.3**	**0.0**
STYH	**Taoyuan** baz=205	**2.21 222**	*eP*	**Pb**	**13 20 56.4**	**-1.0**
STYT	**Tauyuan** baz=204	**2.22 222**	*eP*	**Pb**	**13 20 57.4**	**-0.3**
WTP	**Ta-pu** baz=210	**2.25 226**	*eP*	**Pb**	**13 20 58.7**	**+0.5**
TWK	**Hsinying** baz=231	**2.32 228**	*eP*	**Pb**	**13 20 58.9**	**-0.5**
TWGBT	**Beinan** baz=211	**2.33 211**	*eP*	**Pb**	**13 20 58.3**	**-1.1**
CHN1	**Nanshi** baz=229	**2.35 226**	*eP*	**Pb**	**13 21 00.0**	**+0.2**
SGST	**Jiashian** baz=208	**2.39 224**	*eP*	**Pb**	**13 20 59.2**	**-1.3**
MASBT	**Mashibuluo** baz=200	**2.72 216**	*eP*	**Pb**	**13 21 04.4**	**-1.8**
XPSS	**Dashiqiu** baz=316	**2.87 317**	*eP*	**Pb**	**13 21 06.6**	**-2.0**
LYJJ	**Jianjiangzhen** baz=306	**2.91 307**	*eP*	**Pb**	**13 21 06.1**	**-3.3**

*DDA **25** 13:31:20.8±0.0, 37.46N×38.61E, h8km±2km, ML2.2*
*ISK **25** 13:31:21.1, 37.40N×38.61E, h9km, ML2.5/4*
ISC 25 13:31:21.3±1.0, 37.47N±0.03×38.61E±0.02, h11km±9km, n24, σ0s53/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.25**	**271**	P		**Pg**		**13 31 26.4**	**-0.1**
ATAB				S		**Sg**		**13 31 30.4**	**+0.4**
ATAB				*i*	AML	AML		13 31 32.0	
	comp=N,572nm,0.3s								
ATAB				*i*	AML	AML		13 31 32.0	
	comp=E,712nm,0.3s								
SANL	**SANLIURFA_Merk**	**0.42**	**134**	P		**Pg**		**13 31 29.3**	**-0.3**
SANL				S		**Sg**		**13 31 35.5**	**+0.3**
AKCA	**Adyaman/G¶l**	**0.80**	**294**	P		**Pg**		**13 31 36.4**	**-0.4**
AKCA				S		**Sg**		**13 31 47.3**	**-0.1**
AKCA				*i*	AML	AML		13 31 51.0	
	comp=N,252nm,0.5s								
AKCA				*i*	AML	AML		13 31 51.0	
	comp=E,127nm,0.2s								
GZT	**Gaziantep**	**0.84**	**263**	P		**Pg**		**13 31 37.5**	**-0.1**
GZT				S		**Sn**		**13 31 51.3**	**-0.5**
GZT				*i*	AML	AML		13 31 52.0	
	comp=N,150nm,0.2s								
GZT				*i*	AML	AML		13 31 52.0	
	comp=E,147nm,0.2s								
NZIP	**Nizip/Gaziante**	**0.86**	**241**	P		**Pg**		**13 31 37.8**	**-0.1**
NZIP				S		**Sn**		**13 31 51.6**	**-0.5**
NZIP				*i*	AML	AML		13 31 53.0	
	comp=N,68nm,0.3s								
MAYA	**Malatya/Merkez**	**0.87**	**350**	P		**Pg**		**13 31 37.3**	**-0.8**
MAYA				S		**Sn**		**13 31 52.2**	**-0.2**
MAYA				*i*	AML	AML		13 31 53.0	
	comp=E,59nm,0.3s								
AKCD	**Akcadag**	**0.99**	**327**	P		**Pg**		**13 31 40.0**	**-0.5**
AKCD				S		**Sn**		**13 31 55.7**	**+0.3**
AKCD				*i*	AML	AML		13 31 56.0	
	comp=N,141nm,0.6s								
AKCD				*i*	AML	AML		13 31 58.0	
	comp=E,93nm,0.3s								
ELZG	**Elazig**	**1.07**	**16**	P		**Pb**		**13 31 42.4**	**+0.4**
ELZG				S		**Sb**		**13 31 56.8**	**+0.7**
ELZG				*i*	AML	AML		13 31 58.0	
	comp=E,182nm,0.6s								
ELZG				*i*	AML	AML		13 31 59.0	
	comp=N,117nm,0.2s								
GAZ	**Gaziantep**	**1.16**	**256**	Pn		**Pn**		**13 31 43.4**	**-0.1**
GAZ				Sn		**Sn**		**13 31 59.5**	**+0.1**
DYBB	**Diyarbakir**	**1.30**	**68**	Pn		**Pg**		**13 31 46.5**	**+0.1**
DYBB				Sn		**Sg**		**13 32 04.7**	**+1.4**
HCB	**Kahramanmara**	**1.36**	**265**	P		**Pg**		**13 31 47.1**	**-0.3**
HCB				*i*	AML	AML		13 32 02.0	
	comp=N,58nm,0.0s								
HCB				S		**Sg**		**13 32 04.7**	**-0.4**
HCB				*i*	AML	AML		13 32 05.0	
	comp=E,56nm,0.2s								
KUZU	**Kuzuini**	**1.41**	**241**	P		**Pg**		**13 31 48.2**	**-0.1**
KUZU				S		**Sg**		**13 32 07.0**	**+0.3**
KUZU				*i*	AML	AML		13 32 08.0	
	comp=E,37nm,0.3s								
KUZU				*i*	AML	AML		13 32 09.0	
	comp=N,128nm,0.4s								
DARE	**Darende-Malaty**	**1.42**	**321**	Pn		**Pg**		**13 31 48.3**	**-0.2**
MAZI	**Mazidag**	**1.46**	**90**	Pn		**Pb**		**13 31 48.1**	**-0.5**
MAZI				Sn		**Sg**		**13 32 08.2**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.50**	**340**	P		**Pn**		**13 31 48.9**	**+0.4**
HEKM				S		**Sg**		**13 32 10.6**	**+0.9**
HEKM				*i*	AML	AML		13 32 13.0	
	comp=N,21nm,0.2s								
HEKM				*i*	AML	AML		13 32 17.0	
	comp=E,35nm,0.5s								
KOVA	**Elazig, Kovanc**	**1.56**	**37**	P		**Pb**		**13 31 49.8**	**-0.4**
KOVA				S		**Sn**		**13 32 09.6**	**+0.2**
KAMA	**Osmaniye**	**1.57**	**260**	P		**Pb**		**13 31 50.5**	**0.0**
KAMA				S		**Sg**		**13 32 12.4**	**+0.4**
KAMA				*i*	AML	AML		13 32 13.0	
	comp=N,23nm,0.4s								
ARPR	**Arapgir-MALATY**	**1.64**	**352**	Pn		**Pb**		**13 31 51.7**	**0.0**
HANI	**Diyarbakir_Han**	**1.70**	**56**	P		**Pn**		**13 31 50.8**	**-0.3**
HANI				S		**Sg**		**13 32 15.6**	**-0.4**
KEMA	**Kemaliye**	**1.80**	**357**	P		**Pn**		**13 31 53.3**	**+0.9**
KEMA				S		**Sb**		**13 32 17.3**	**+0.3**
KEMA				*i*	AML	AML		13 32 23.0	
	comp=E,16nm,0.5s								
KEMA				*i*	AML	AML		13 32 24.0	
	comp=N,16nm,0.5s								
ANDN	**Andirin**	**1.81**	**274**	P		**Pb**		**13 31 55.1**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.97**	**299**	Pn		**Pb**		**13 31 56.5**	**-0.9**
CUKAN	**kangal_SIVAS**	**2.06**	**334**	P		**Pb**		**13 31 57.8**	**-1.0**
CUKAN				S		**Sg**		**13 32 27.3**	**0.0**
CUKAN				*i*	AML	AML		13 32 28.0	
	comp=N,11nm,0.4s								
BNGB	**Bingl**	**2.23**	**46**	Pn		**Pb**		**13 32 00.6**	**-1.1**

*IDC **25** 13:32:12.6±1.8, 7.56S×127.73E, h174km±24km, mb2.9/1, mbtmp3.7/5, Error ellipse: s-maj=31.6km s-min=17.8km az=112.0*
ISC 25 13:32:10.8±0.9, 7.77S±0.07×127.93E±0.09, h150km, n5, σ2s46/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.86**	**240**	P			**Pn**	**13 33 24.1**	**+1.6**
	70nm,0.5s,baz=340,slow=0.9,SNR=24								
BATI				S			**Sn**	**13 34 17.3**	**-0.9**
	25nm,0.4s,baz=31,slow=22,SNR=5.6								
SIJI	**Sorong**	**7.62**	**26**	P			**Pn**	**13 33 59.8**	**+0.5**
	3.6nm,0.3s,baz=200,slow=17,SNR=7.9								
SIJI				S			**Sn**	**13 35 25.0**	**+0.7**
	6.1nm,0.6s,baz=229,slow=23,SNR=2.1								
WRA	**Warramunga Arr**	**13.60**	**153**	P			**P**	**13 35 20.6**	**-1.0**
	0.4nm,0.5s,baz=324,slow=12,SNR=7.0								
WRA				S			**Sn**	**13 37 46.0**	**-2.3**
	4.0nm,0.8s,baz=330,slow=22,SNR=8.8								
ASAR	**Alice Springs**	**16.81**	**161**	P			**Pn**	**13 36 01.7**	**+4.2**
	0.7nm,0.5s,baz=338,slow=12,SNR=2.1								
ASAR				S			**Sn**	**13 39 04.5**	**-0.9**
	0.7nm,0.7s,baz=319,slow=17,SNR=7.5								
MKAR	**Makanchi Array**	**67.77**	**328**	P			**P**	**13 42 49.7**	**-2.7**
	0.2nm,0.5s,baz=124,slow=6.7,SNR=2.3								
	0.2nm,0.5s								

*SNET **25** 13:45:11.6±1.1, 14.01N×91.35W, h3km±12km, ML4.1*
*GCG **25** 13:45:11.7±0.3, 14.14N×91.55W, h78km±38km, MD3.8*
ISC 25 13:45:10.5±3.0, 13.8N±0.1×91.7W±0.1, h50km, n16, σ0s73/19, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.50**	**13**	*eP*			**Pn**	**13 45 23.1**	**+1.2**
RTAL	**Retalhuleu**	**0.71**	**359**	*i*	P		**Pn**	**13 45 23.8**	**-0.6**
RTAL				*eS*			**Sn**	**13 45 33.9**	**-0.6**
STG3	**Santiaguito 3,**	**0.90**	**7**	*eP*			**Pn**	**13 45 26.6**	**-0.5**
FUG	**Fuego 3**	**1.03**	**52**	*eP*			**Pn**	**13 45 28.4**	**-0.4**
PCG	**Pacaya**	**1.19**	**61**	*eP*			**Pn**	**13 45 31.0**	**-0.1**
NBG	**Las Nubes**	**1.50**	**59**	*eP*			**Pn**	**13 45 36.4**	**+1.0**
NBG				*eS*			**Sn**	**13 45 54.9**	**+0.9**
HUEH	**Huehuetenango**	**1.51**	**6**	*eP*			**Pn**	**13 45 35.9**	**+0.5**
NUBE	**Las Nubes**	**1.85**	**87**	*i*	*eP*		**Pn**	**13 45 39.2**	**-0.8**
LOAL	**Lomas de Alarc**	**1.85**	**84**	*eP*			**Pn**	**13 45 39.7**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.85**	**83**	*eP*			**Pn**	**13 45 39.5**	**-0.4**
SLOZ				*eS*			**Sn**	**13 46 01.3**	**-0.9**
RTR	**El Retiro**	**1.98**	**87**	*eP*			**Pn**	**13 45 41.9**	**+0.2**
CEVE	**Cerro Verde**	**2.00**	**89**	*eP*			**Pn**	**13 45 41.8**	**-0.2**
CEVE					IAML			13 46 09.7	
	comp=Z,2µm,0.2s								
MTO3	**Montecristo**	**2.32**	**75**	*eP*			**Pn**	**13 45 45.8**	**-0.7**
SJTE	**Alcalda de S**	**2.60**	**94**	*eP*			**Pn**	**13 45 50.8**	**+0.6**
PAVA	**Las Pavas**	**2.67**	**92**	*eP*			**Pn**	**13 45 51.4**	**+0.3**
COEG	**Centro de Oper**	**2.73**	**94**	*eP*			**Pn**	**13 45 52.9**	**+1.0**

*BJI **25** 13:48:54.4±0.0, 6.07S×134.02E, h10km, mb4.7/68, mB5.1/36, Ms4.8/11, Ms7 4.4/11*

*MOS **25** 13:48:56.7±0.9, 5.83S×133.70E, h10km, mb5.2/33, MS4.6/4, Error ellipse: s-maj=10.0km s-min=5.6km az=109.3*
*IDC **25** 13:48:56.7±0.5, 5.80S×133.70E, h0km, mb4.6/19, mbtmp4.8/26, ML4.8/5, MS4.2/32, Error ellipse: s-maj=16.8km s-min=11.6km az=58.0*
*NEIC **25** 13:48:59.2±1.3, 5.77S±0.05×133.78E±0.07, h10km±1km, mb5.2/82, Error ellipse: s-maj=12.5km s-min=8.2km az=64.0*
*DJA **25** 13:49:00.1±0.7, 6°S±2°×133°4E±°, h18km±5km, M5.3/85, mB5.7/36, mb5.2/85, MLv5.6/14, Mw(mB)5.2/36, MwMwp6.8/3, Mwp6.7/3*
*GCMT **25** 13:49:03.2±0.2, 5.68S±0.02×133.59E±0.02, h24km, MW5.0/81, Moment Tensor Solution. s61,c76; s81,c122; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.64±.16; Mθθ0.64±.10; Mφφ3.00±.11; Mrθ0.22±.15; Mrφ1.27±.07; Mθφ1.77±.14; Best double couple: M0 4.01300×10^16 NP1: φs196.00000°, δ58.00000°, λ-97.00000°. NP2: φs30.00000°, δ33.00000°, λ-78.00000°. Principal axes: T 3.9420, Plg13.0000°, Azm292.0000°; N 0.1400, Plg6.0000°, Azm200.0000°; P -4.0850, Plg76.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 13:49:01.6±0.2, 5.85S±0.03×133.69E±0.04, h33km, n374, σ1s55/377, mb5.0/120, MS4.2/38, 12C-8D, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.18**	**228**	Pn			**Pn**	**13 49 52.1**	**+2.7**
SAUI	**Saumlaki**	**3.18**	**228**	P			**Pn**	**13 49 50.5**	**+1.0**
SAUI				S			**Sn**	**13 50 27.9**	**+1.6**
FAKI	**Fak Fak**	**3.25**	**334**				**Pn**	**13 49 48.1**	**-2.2**
FAKI	**Fak Fak**	**3.25**	**334**	P			**Pn**	**13 49 48.1**	**-2.2**
FAKI				S			**Sn**	**13 50 23.5**	**-4.4**
BNDI	**Bandanaira**	**4.00**	**289**	P			**Pn**	**13 50 00.9**	**+0.3**
RKPI	**Ransiki, Papua**	**4.34**	**6**	P			**Pn**	**13 50 05.1**	**-0.2**
RKPI				S			**Sn**	**13 50 52.3**	**-2.5**
SRPI	**Serui, Papua**	**4.70**	**33**	P			**Pn**	**13 50 09.4**	**-0.9**
MSAI	**Masohi**	**5.36**	**297**	P			**Pn**	**13 50 18.8**	**-0.6**
	133nm,0.7s,1µm0.6nm								
WAMI	**Wamena**	**5.37**	**69**	P			**Pn**	**13 50 22.5**	**+3.0**
SIJI	**Sorong**	**5.51**	**334**	Pn			**Pn**	**13 50 20.2**	**-1.2**
	83nm,0.3s,baz=158,slow=7.7,SNR=177								
SIJI				Sn			Sn	13 51 13.6	-10
	48nm,0.3s,baz=143,slow=21,SNR=3.4								
	290nm,0.4s								
AAI	**Ambon**	**5.89**	**291**	P			**Pn**	**13 50 26.1**	**-0.5**
	1µm,0.8s,13µm4.5nm								
SMPI	**Sarmi**	**6.30**	**53**	P			**Pn**	**13 50 32.3**	**-0.1**
	236nm,0.7s,2.2nm								
KDU	**Kakadu**	**6.90**	**190**	P			**Pn**	**13 50 41.5**	**+0.9**
	baz=6.9,SNR=370								
NLAI	**Namlea**	**7.07**	**291**	P			**Pn**	**13 50 43.5**	**+0.7**
	135nm,0.5s,56µm1.0nm								
GENI	**Genyem**	**7.22**	**64**	P			**Pn**	**13 50 45.6**	**+0.6**
	344nm,0.8s,5µm2.7nm								
MTN	**Manton Dam**	**7.39**	**200**	P			**Pn**	**13 50 48.2**	**+0.8**
	baz=7.4,SNR=412								
MTN	**Manton Dam**	**7.39**	**200**	Pn			**Pn**	**13 50 48.4**	**+1.1**
SANI	**Sanana**	**8.56**	**296**	P			**Pn**	**13 51 00.8**	**-2.6**
	282nm,0.8s,3µm								
TNTI	**Ternate**	**9.12**	**316**	Pn			**Pn**	**13 51 10.4**	**-0.6**
TNTI	**Ternate**	**9.12**	**316**	P			**Pn**	**13 51 10.8**	**-0.2**
	111nm,1.0s								
SOEI	**Soe**	**10.11**	**247**	Pn			**Pn**	**13 51 24.1**	**-0.7**
SOEI	**Soe**	**10.11**	**247**	P			**Pn**	**13 51 24.1**	**-0.7**
	335nm,0.7s,4µm								
BATI	**Baumata**	**10.83**	**246**	Pn			**Pn**	**13 51 34.0**	**-0.5**
	187nm,0.5s,baz=124,slow=2.7,SNR=41								
BATI				Sn			**Sn**	**13 53 30.6**	**-4.2**
	40nm,0.3s,baz=266,slow=5.9,SNR=4.5								
BATI	**Baumata**	**10.83**	**246**	P			**Pn**	**13 51 34.1**	**-0.5**
	248nm,0.7s,3µm								
KNRA	**Kununurra**	**10.90**	**206**	P			**Pn**	**13 51 35.3**	**-0.2**
	baz=11,SNR=199								
KNRA	**Kununurra**	**10.90**	**206**	Pn			**Pn**	**13 51 35.2**	**-0.2**
MMRI	**Maumere**	**11.70**	**256**	Pn			**Pn**	**13 51 46.0**	**-0.4**
MMRI	**Maumere**	**11.70**	**256**	P			**Pn**	**13 51 47.0**	**+0.6**
	120nm,0.6s								
LUWI	**Luwuk**	**11.90**	**293**	Pn			**Pn**	**13 51 48.0**	**-1.1**
LUWI	**Luwuk**	**11.90**	**293**	P			**Pn**	**13 51 48.0**	**-1.1**
	202nm,1.0s,2µm								
COEN	**Coen**	**12.33**	**132**	P			**Pn**	**13 51 53.2**	**-1.8**
	baz=12,SNR=13								
COEN	**Coen**	**12.33**	**132**	Pn			**Pn**	**13 51 52.4**	**-2.6**
BSSI	**Bau Bau, Buton**	**13.13**	**268**	P			**Pn**	**13 52 04.5**	**-1.5**
	157nm,0.8s								
MRSI	**Marisa**	**13.31**	**298**	P			**Pn**	**13 52 06.7**	**-1.7**
	96nm,1.0s,1µm								
BKSI	**Bulukumba**	**13.52**	**272**	P			**Pn**	**13 52 11.0**	**-0.2**
	71nm,0.8s,813nm								
BASI	**Baing, Sumba**	**13.69**	**251**	P			**Pn**	**13 52 11.5**	**-2.1**
	276nm,0.9s								
PMG	**Port Moresby**	**13.80**	**106**	Pn			**Pn**	**13 52 14.1**	**-1.0**
	52nm,0.7s,baz=295,slow=10,SNR=14								
PMG				Sn			**Sn**	**13 54 39.0**	**-8.4**
	1.8nm,0.3s,baz=283,slow=18,SNR=0.9								
PMG				Lg			Lg	13 56 10.5	
	1.3nm,0.3s,baz=184,slow=21,SNR=2.1								
PMG				LR			LR	13 58 47.2	
	comp=Z,3µm,18.7s,baz=301,slow=43								
PMG	**Port Moresby**	**13.80**	**106**	Pn			**Pn**	**13 52 14.8**	**-0.3**
PMG	**Port Moresby**	**13.80**	**106**	*ce*	P		**Pn**	**13 52 15.2**	**0.0**
PMG					pmax		pmax		
	comp=Z,139nm,1.7s								
WB0	**Warramunga Arr**	**13.85**	**177**				**Pn**	**13 52 12.9**	**-2.9**
KAPI	**Kappang**	**13.90**	**273**	Pn			**Pn**	**13 52 15.7**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=51,slow=11,SNR=1.6								
KAPI				LR			LR	13 59 12.2	
	comp=Z,1µm,19.1s,baz=90,slow=44								
	comp=Z,8.9nm,0.6s								
KAPI	**Kappang**	**13.90**	**273**	*i*	P		**Pn**	**13 52 15.8**	**-0.8**
KAPI					pmax		pmax		
	comp=Z,73nm,0.8s								
SPSI	**Sidrap Palu**	**14.00**	**277**	P			**Pn**	**13 52 17.1**	**-0.7**
	comp=Z,90nm,0.7s,comp=Z,1µm								
WRAB	**Tennant Creek**	**14.01**	**177**				**Pn**	**13 52 16.0**	**-2.0**
WRAB	**Tennant Creek**	**14.01**	**177**	P			**Pn**	**13 52 16.0**	**-2.0**
WRA	**Warramunga Arr**	**14.02**	**177**	Pn			**Pn**	**13 52 15.2**	**-3.0**
	comp=Z,4.8nm,0.3s,baz=354,slow=13,SNR=77								
WRA				Sn			**Sn**	**13 54 47.0**	**-5.7**
	comp=Z,4.5nm,0.3s,baz=359,slow=23,SNR=6.6								
WRA				Lg			Lg	13 56 22.3	
	comp=Z,7.8nm,0.3s,baz=342,slow=30,SNR=6.7								
WRA				LR			LR	13 57 59.5	
	comp=Z,1µm,19.4s,baz=349,slow=39								
WRA	**Warramunga Arr**	**14.02**	**177**	*e*	P		Pn	13 52 12.3	-5.9
WRA					pmax		pmax		
	comp=Z,32nm,0.7s			

comp=Z,3.5nm,0.3s,baz=319,slow=14,SNR=56
CTA S **S** **13 56 56.7 +8.1**
comp=Z,4.7nm,0.5s,baz=29,slow=19,SNR=1.4
CTA Lg Lg 13 58 53.5
comp=Z,1.7nm,0.3s,baz=40,slow=2.3,SNR=4.5
CTA LR LR 14 01 05.2
comp=Z,2µm,18.2s,baz=318,slow=39
comp=Z,39nm,0.6s
CTAO Charters Tower 18.69 140 P **P** **13 53 16.4 -0.9**
CTAO Charters Tower 18.69 140 P **P** **13 53 16.4 -0.9**
CTAO pmax pmax
comp=Z,42nm,0.9s
MYLDM Lahad Datu 18.71 306 P **Pn** **13 53 18.9 +0.7**
MYLDM IAmb IAmb 13 53 28.2
comp=Z,163nm,1.1s
BBKI Banjar Baru 18.94 276 P **Pn** **13 53 20.7 -0.2**
comp=Z,193nm,0.9s,comp=Z,3µm
MTKI Muara Teweh, K 19.38 284 P **Pn** **13 53 25.4 -0.9**
comp=Z,35nm,0.6s
ABJI Asem Bagus 19.42 263 P **Pn** **13 53 26.2 -0.5**
comp=Z,95nm,1.1s,comp=Z,2µm
WRKA Warakurna 19.77 195 P **Pn** **13 53 29.2 -1.6**
baz=20,SNR=97
BLJI Banyuglugur 20.05 263 P Pn 13 53 32.3 -1.8
comp=Z,123nm,0.8s
GMJI Gumukmas 20.24 262 P **P** **13 53 34.1 -0.2**
comp=Z,41nm,1.0s
MBWA Marble Bar 20.37 220 Pn 13 53 37.4 -0.4
MBWA Marble Bar 20.37 220 P Pn 13 53 36.4 -1.4
MBWA IAmb IAmb 13 53 46.4
comp=Z,48nm,0.9s
PSA00 Pilbara Seismi 20.59 219 P **P** **13 53 38.3 +0.3**
BWJI Bawean 20.93 269 P **P** **13 53 41.5 -0.3**
comp=Z,609nm,1.0s
KKM Kota Kinabalu 21.07 304 P **P** **13 53 43.6 +0.2**
KKM IAmb IAmb 13 53 46.9
comp=Z,99nm,0.7s
GRJI Gresik 21.11 266 P **P** **13 53 43.2 -0.5**
comp=Z,144nm,1.8s
TBJI Tambak Boyo 21.73 266 P **P** **13 53 51.2 +0.8**
comp=Z,356nm,1.4s
PWJI Pagerwojo 21.84 263 P **P** **13 53 51.6 +0.1**
comp=Z,46nm,0.8s
NGJI Ngawi 22.14 265 P **P** **13 53 55.1 +0.4**
comp=Z,69nm,1.9s
PBKI Pangkalan Bun 22.18 277 P **P** **13 53 54.9 -0.3**
comp=Z,142nm,1.0s,comp=Z,90µm
GUMO Guam 22.27 30 LR LR 14 03 28.2
comp=Z,207nm,18.6s,baz=204,slow=39
QLP Quilpie 22.94 155 P **P** **13 54 04.6 +1.5**
baz=23,SNR=76
SBUM Sibu 22.98 290 P **P** **13 54 03.7 0.0**
SBUM IAmb IAmb 13 54 11.6
comp=Z,77nm,1.1s
SMRI Semarang 23.14 266 P **P** **13 54 05.4 +0.1**
comp=Z,213nm,2.1s
KPJI Karang Pucung 24.64 265 P **P** **13 54 18.6 -0.9**
comp=Z,53nm,0.6s
RMQ Roma 25.06 147 P **P** **13 54 24.1 +1.0**
baz=25,SNR=20
GIRL Giralia 25.13 226 P **P** **13 54 23.3 -0.5**
baz=25,SNR=6.4
GIRL Giralia 25.13 226 P **P** **13 54 25.4 +1.6**
CMJI Cimerak 25.14 264 P **P** **13 54 24.7 +0.7**
comp=Z,79nm,1.0s
MEEK Meekatharra 25.18 213 P **P** **13 54 24.6 +0.3**
baz=25,SNR=7.1
FORT Forrest 25.36 191 P **P** **13 54 26.6 +0.8**
baz=26,SNR=86
FORT Forrest 25.36 191 P **P** **13 54 26.1 +0.3**
EIDS Eidsvold 25.57 141 P **P** **13 54 28.8 +1.0**
baz=26,SNR=7.2
EIDS Eidsvold 25.57 141 P **P** **13 54 28.1 +0.3**
EIDS IAmb IAmb 13 54 45.6
comp=Z,45nm,0.8s
LEM Lembang 25.93 266 P **P** **13 54 31.3 -0.1**
comp=Z,12nm,0.5s,baz=342,slow=22,SNR=2.0
LEM LR LR 14 08 00.7
comp=Z,451nm,19.1s,baz=43,slow=44
comp=Z,12nm,0.5s
LEM Lembang 25.93 266 P **P** **13 54 31.2 -0.2**
comp=Z,47nm,0.8s
HNR Honiara 26.26 99 LR LR 14 06 43.4
comp=Z,7µm,18.5s,baz=240,slow=41
BBOO Buckleboo 26.91 176 P **P** **13 54 40.1 +0.2**
baz=27,SNR=13
BBOO Buckleboo 26.91 176 P **P** **13 54 40.1 +0.2**
BBOO IAmb IAmb 13 55 13.9
comp=Z,33nm,0.9s
STKA Stephens Creek 26.93 165 P **P** **13 54 40.4 +0.4**
comp=Z,55nm,0.7s,baz=338,slow=8.9,SNR=112
STKA Lg Lg 14 03 08.3
baz=246,slow=13
STKA LR LR 14 05 50.8
comp=Z,473nm,19.4s,baz=339,slow=38
comp=Z,55nm,0.7s
STKA Stephens Creek 26.93 165 P **P** **13 54 40.8 +0.8**
baz=27,SNR=45
STKA Stephens Creek 26.93 165 P **P** **13 54 40.5 +0.5**
STKA Stephens Creek 26.93 165*d i* P **P** **13 54 40.8 +0.8**
KMBL Kambalda 27.70 202 P **P** **13 54 46.9 0.0**
baz=28,SNR=11
PPBI Pangkal Pinang 27.73 276 P **P** **13 54 46.8 -0.6**
comp=Z,30nm,1.1s,comp=Z,7µm
CGJI Cibinong 27.84 267 P **P** **13 54 48.4 0.0**
comp=Z,29nm,1.3s,comp=Z,3µm
HTT Hallett 27.87 171 P **P** **13 54 49.5 +1.0**
baz=28,SNR=8.2
CMSA Cobar Meteorol 27.92 158 P **P** **13 54 49.7 +0.9**
baz=28,SNR=67
MORW Morawa 28.50 214 P **P** **13 54 55.6 +1.5**
baz=29,SNR=5.3
MORW Morawa 28.50 214 P **P** **13 54 54.3 +0.2**
KASI Kota Agung 29.05 269 P **P** **13 54 58.9 -0.3**
comp=Z,35nm,1.3s
BLDU Ballidu 29.36 211 P **P** **13 55 02.6 +0.9**
baz=29,SNR=8.7
MDSI Maura Dua 29.43 271 P **P** **13 55 01.7 -0.8**
comp=Z,9.4nm,1.5s,comp=Z,1µm
LWLI Liwa 29.51 270 P **P** **13 55 04.0 +0.6**
DSRI Dabo 29.55 279 P **P** **13 55 03.2 -0.4**
comp=Z,24nm,1.5s,comp=Z,2µm
ARMA Armidale 29.70 148 P **P** **13 55 06.0 +1.1**
baz=30,SNR=9.8
ARMA Armidale 29.70 148 P **P** **13 55 04.8 -0.1**
ARMA IAmb IAmb 13 55 25.5
comp=Z,71nm,1.8s
MYKOM Kota Tinggi 30.75 283 P **P** **13 55 13.7 -0.6**
MYKOM IAmb IAmb 13 55 32.2
comp=Z,107nm,1.7s
NWAO Narrogin (SRO) 31.00 208 LR LR 14 09 35.8
comp=Z,442nm,18.2s,slow=40
NWAO Narrogin (SRO) 31.00 208 P **P** **13 55 16.9 +0.7**
NWAO IAmb IAmb 13 56 25.2
comp=Z,65nm,1.6s
NWAO Narrogin (SRO) 31.00 208 P **P** **13 55 16.9 +0.7**
NWAO pmax pmax
comp=Z,65nm,1.6s
MASI Maura Aman, Be 31.47 274 P **P** **13 55 21.2 +0.6**
comp=Z,23nm,0.8s
ARPS Mount Arapiles 31.67 167 P **P** **13 55 23.6 +1.6**
baz=32,SNR=128
CAN Canberra 32.55 156 P **P** **13 55 30.6 +0.8**
CAN Canberra 32.55 156 P **P** **13 55 30.6 +0.8**
CAN pmax pmax
comp=Z,16nm,0.8s
SDSI Sungai Dareh 32.57 277 P **P** **13 55 30.1 -0.1**
comp=Z,15nm,0.8s
BKNI Bangkinang 33.17 280 P **P** **13 55 36.3 +0.8**
comp=Z,90nm,0.6s
TOO Toolangi 33.36 163 P **P** **13 55 39.2 +2.3**
baz=34,SNR=25
TOO Toolangi 33.36 163 P **P** **13 55 38.5 +1.6**
TOO IAmb IAmb 13 55 40.0
comp=Z,28nm,0.7s
TOO Toolangi 33.36 163 P **P** **13 55 38.5 +1.6**
TOO pmax pmax
comp=Z,28nm,0.7s
PDSI Padang 33.52 277 P **P** **13 55 38.0 -0.6**
comp=Z,15nm,0.9s
KNMB Chin-men Tao 33.62 334 P **P** **13 55 38.4 -0.8**
JCJ Chichijima 33.77 14 LR LR 14 08 29.7
comp=Z,271nm,18.5s,baz=114,slow=35
IPM Ipoh 34.20 287 P **P** **13 55 44.5 0.0**
IPM IAmb IAmb 13 55 50.9
comp=Z,32nm,0.9s
DZM Mont Dzumac 35.52 120 *e*P **P** **13 55 57.5 +1.6**
comp=Z,92nm,1.2s
DZM *e*S **S** **14 01 30.2 +0.7**
comp=Z,232nm,35.5s
DZM *e*SS **SS** **14 04 05.9 +1.0**
comp=Z,158nm,23.1s
DZM *e*LR LR 14 05 30.6
comp=Z,353nm,23.0s
DZM Mont Dzumac 35.52 120 P **P** **13 55 56.3 +0.5**
DZM IAmb IAmb 13 56 13.4
comp=Z,29nm,0.8s
PSI Prapat 35.77 283 P **P** **13 55 56.5 -1.6**
comp=Z,19nm,0.9s,baz=99,slow=3.4,SNR=23
PSI LR LR 14 11 50.8
comp=Z,277nm,21.2s,baz=124,slow=38
comp=Z,19nm,0.9s
OUENC Ouen Island, N 35.99 121 P **P** **13 56 00.2 +0.4**
OUENC IAmb IAmb 13 56 23.1
comp=Z,37nm,1.1s
GSI Gunungsitoli 36.76 280 P **P** **13 56 05.7 -0.8**
GSI IAmb IAmb 13 56 23.6
comp=Z,31nm,0.7s
GSI Gunungsitoli 36.76 280 P **P** **13 56 05.5 -1.0**
comp=Z,47nm,0.7s
LHMI Lhok Sumawe 38.30 286 P **P** **13 56 19.9 +0.3**
MLSI Meulaboh, Aceh 38.57 284 P **P** **13 56 21.2 -0.6**
comp=Z,69nm,1.0s
TAU Tasmania Unive 38.83 164 P **P** **13 56 25.1 +1.6**
TAU IAmb IAmb 13 56 26.9
comp=Z,133nm,1.8s
TAU Tasmania Unive 38.83 164 P **P** **13 56 25.1 +1.6**
TAU pmax pmax
comp=Z,133nm,1.8s
JNU Nakatsue 38.85 356 P **P** **13 56 22.8 -1.1**
comp=Z,7.1nm,0.8s,baz=345,slow=3.1,SNR=8.3
JNU LR LR 14 12 37.0
comp=Z,301nm,20.2s,baz=164,slow=37
comp=Z,7.1nm,0.8s
JNU Nakatsue 38.85 356 P **P** **13 56 24.2 +0.3**
JNU IAmb IAmb 13 56 43.9
comp=Z,61nm,1.0s
JHJ Hachijo jima 2 39.18 8 LR LR 14 11 52.2
comp=Z,752nm,18.4s,baz=180,slow=35
JMN Monobe 39.36 0 P **P** **13 56 28.2 0.0**
JMN IAmb IAmb 13 56 44.8
comp=Z,65nm,1.1s
NJ2 Nanjing 40.26 340 *e*P **P** **13 56 36.5 +1.0**
NJ2 pP **sP** **13 56 46.8 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
JHS Saijyo 40.63 359 P **P** **13 56 38.6 -0.1**
JHS IAmb IAmb 13 56 55.0
comp=Z,98nm,1.4s
WHN Wuhan 40.65 334 ⇓P **P** **13 56 40.3 +1.4**
PHRA Phrae 40.92 307 P **P** **13 56 41.8 +0.6**
JGF Kuroka 41.37 5 P **P** **13 56 44.7 -0.1**
GYA Guiyang 41.45 322 ⇑P **P** **13 56 46.5 +0.9**
GYA sP pwP 13 57 00.8 +1.8
GYA PP **PnPn** **13 58 25.0 -1.7**
GYA S **S** **14 02 59.5 +0.5**
GYA pmax pmax
comp=Z,22nm,0.8s
GYA pmax pmax
comp=Z,240nm,4.4s
GYA LR LR
comp=Z,370nm,4.8s
GYA LR LR
comp=Z,220nm,8.0s
GYA LR LR
comp=Z,120nm,4.7s
CM31 Chiang Mai Arr 41.92 306 P **P** **13 56 49.6 +0.1**
CMAR Chiang Mai Arr 41.92 306 P **P** **13 56 49.4 -0.2**
comp=Z,5.1nm,0.8s,baz=133,slow=6.8,SNR=41
comp=Z,5.1nm,0.8s
CMAR Chiang Mai Arr 41.92 306 P **P** **13 56 49.5 -0.1**
CMAR Chiang Mai Arr 41.92 306 *i* P **P** **13 56 50.2 +0.7**
CMAR pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 42.11 306 P **P** **13 56 51.1 +0.1**
CHTO IAmb IAmb 13 56 58.8
comp=Z,51nm,1.6s
CHTO Chiang Mai 42.11 306 P **P** **13 56 51.1 +0.1**
CHTO pmax pmax
comp=Z,51nm,1.6s
MJAR Matsushiro Arr 42.38 5 P **P** **13 56 52.1 -0.9**
comp=Z,7.1nm,0.9s,baz=188,slow=9.0,SNR=11
MJAR LR LR 14 14 05.1
comp=Z,423nm,18.1s,baz=174,slow=36
comp=Z,7.1nm,0.9s
MAJO Matsushiro 42.38 5 P **P** **13 56 51.9 -1.1**
MAJO IAmb IAmb 13 57 09.8
comp=Z,38nm,0.9s
MAJO Matsushiro 42.38 5 P **P** **13 56 51.9 -1.1**
MAJO pmax pmax
comp=Z,38nm,0.9s
TJN Taejon 42.42 352 P **P** **13 56 54.4 +1.1**
TJN Taejon 42.42 352 P **P** **13 56 54.4 +1.1**
TJN pmax pmax
comp=Z,113nm,0.8s
ENH Enshi 42.76 329 P **P** **13 56 55.8 -0.4**
KMI Kunming 43.06 317 ⇑P **P** **13 56 59.8 +0.9**
KMI sP pwP 13 57 12.0 -0.3
KMI pmax pmax
comp=Z,10.0nm,1.0s
KSAR Wonju Array Be 43.41 353 P **P** **13 57 00.4 -0.8**
KSAR Wonju Array Be 43.41 353 P **P** **13 57 00.4 -0.8**
KSRS Korea Array 43.41 353 P **P** **13 57 01.5 +0.2**
comp=Z,1.6nm,0.9s,baz=177,slow=11,SNR=7.2
KSRS LR LR 14 15 16.3
comp=Z,290nm,20.0s,baz=180,slow=36
comp=Z,1.6nm,0.9s
JMM Marumori 43.99 8 P **P** **13 57 05.9 0.0**
TIA Tai'an 44.63 341 P **P** **13 57 11.0 -0.1**
TIA pmax pmax
comp=Z,5.0nm,0.6s
PZH PanZhiHua 44.64 318 ⇓P **P** **13 57 11.8 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,130nm,5.7s
MSVF Nonsavu 44.88 109 P **P** **13 57 13.5 0.0**
comp=Z,7.5nm,0.9s,baz=281,slow=14,SNR=4.4
comp=Z,7.5nm,0.9s
MSVF Nonsavu 44.88 109 *i* P **P** **13 57 13.6 +0.1**
MSVF pmax pmax
comp=Z,10.0nm,1.1s
LYN LuoYang 44.90 335 *e*P **P** **13 57 15.0 +1.7**
LYN pP pP 13 57 18.8 -3.2
LYN pmax pmax
comp=Z,13nm,0.7s
LYN pmax pmax
comp=Z,280nm,5.2s
TNCH TengChong 45.96 313 ⇑P **P** **13 57 22.3 +0.2**
TNCH pmax pmax
comp=Z,19nm,1.0s
XAN Xi'an 46.08 331 P **P** **13 57 22.5 -0.2**
XAN pP pP 13 57 27.3 -4.1
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN pmax pmax
comp=Z,110nm,4.1s
XAN LR LR
comp=Z,170nm,13.9s
XAN LR LR
comp=Z,130nm,12.5s
XAN LR LR
comp=Z,220nm,16.1s
CD2 Chengdu 46.43 324 P **P** **13 57 25.3 -0.2**
CD2 pmax pmax
comp=Z,20nm,1.4s
HNS HongShan 46.53 339 ⇓P **P** **13 57 26.3 +0.2**
HNS pmax pmax
comp=Z,12nm,1.4s
SNY Shenyang 48.34 350 ⇓P P 13 57 53.5 +13
SNY S S 14 05 00.5 +22
SNY pmax pmax
comp=Z,27nm,1.3s
SNY pmax pmax
comp=Z,450nm,5.0s
SNY LR LR
comp=N,250nm,5.5s
SNY LR LR
comp=E,250nm,6.2s
SNY LR LR
comp=Z,490nm,17.1s
ERM Erimo 48.41 9 *i* P **P** **13 57 41.1 +0.5**
BJT Baijiatuau 48.42 342 P **P** **13 57 40.7 0.0**
BJT IAmb IAmb 13 57 56.4
comp=Z,21nm,0.9s
BJT Baijiatuau 48.42 342 P **P** **13 57 40.7 0.0**
BJT pmax pmax
comp=Z,21nm,0.9s
FOZ Fox Glacier 49.16 145 P **P** **13 57 49.6 +3.1**
HIZ Hauiti 49.43 137 P **P** **13 57 49.0 +0.4**
TKNZ Takaka Hill 49.54 141 P **P** **13 57 50.9 +1.4**
USRK Ussuriysk Ar. 49.84 358 P **P** **13 57 50.9 -0.6**
comp=Z,4.4nm,0.8s,baz=172,slow=4.0,SNR=5.6
USRK LR LR 14 18 33.8
comp=Z,131nm,19.9s,baz=162,slow=36
comp=Z,4.4nm,0.8s
RPZ Rata Peaks 49.98 145 LR LR 14 19 56.4
comp=Z,449nm,18.2s,baz=306,slow=37
CN2 Changchun 49.98 352 *e*P **P** **13 57 54.0 +1.4**
CN2 *e*PP **PP** **13 59 50.0 +2.1**
CN2 *e*S **S** **14 05 04.3 +3.2**
CN2 *e*sS pS 14 05 11.8 +0.3
CN2 LR LR
comp=Z,260nm,13.0s
CN2 LR LR
comp=Z,210nm,13.0s
CN2 LR LR
comp=Z,370nm,14.0s
LZH Lanzhou 50.24 328 *e*P **P** **13 57 56.0 +1.0**
LZH pP pwP 13 58 07.3 -1.2
LZH pmax pmax
comp=Z,17nm,1.5s
MDJ Mudanjiang 50.37 356 P **P** **13 57 56.0 +0.4**
MDJ pmax pmax
comp=Z,12nm,1.5s
MDJ pmax pmax
comp=Z,160nm,5.2s
ASAJ Asahikawa 50.38 8 LR LR 14 20 09.5
comp=Z,160nm,18.5s,baz=184,slow=37
ASAJ Asahikawa 50.38 8 P **P** **13 57 55.9 +0.3**
ASAJ pmax pmax
comp=Z,42nm,1.4s
JKA Kamikawa-asahi 50.38 8 P **P** **13 57 55.9 +0.2**
JKA IAmb IAmb 13 58 00.6
comp=Z,42nm,1.4s
BSWZ Blackbirch Sta 50.49 141 P **P** **13 57 56.8 +0.2**
HHC Hu-ho-hao-te 50.72 338 *e*P P 13 58 04.3 +5.9
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,340nm,5.2s
URZ Urewera 50.85 136 LR LR 14 20 44.4
comp=Z,600nm,18.4s,baz=25,slow=38
BKZ Black Stump Fm 50.86 137 P **P** **13 57 59.8 +0.3**
RTZ Ruatahuna 50.93 136 P **P** **13 58 00.6 +0.5**
RTZ IAmb IAmb 13 58 01.2
comp=Z,18nm,0.6s
MRZ Mangatainoka R 51.01 139 P **P** **13 58 00.8 +0.3**
RAO Raoul Island 51.20 123 LR LR 14 18 54.8
comp=Z,174nm,21.1s,baz=146,slow=35
MXZ Matakaoa Point 51.37 134 P **P** **13 58 03.8 +0.5**
BNX BinXian 51.66 354 ⇑P **P** **13 58 05.3 0.0**
BNX pmax pmax
comp=Z,7.0nm,1.3s
BNX pmax pmax
comp=Z,70nm,3.5s
XLT XiLinHaoTe 52.01 344 *e*P P 13 58 13.5 +5.5
XLT pmax pmax
comp=Z,7.0nm,1.2s
XLT pmax pmax
comp=Z,83nm,5.4s
YSS Yuzh-Sakhalins 53.18 8 *e*P **P** **13 58 15.0 -1.5**
YSS *e*S **S** **14 05 43.0 -2.1**
YSS pmax pmax
comp=Z,300nm,5.3s
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,400nm,17.0s
LSA Lhasa 54.00 313 P **P** **13 58 23.8 +0.4**
LSA IAmb IAmb 13 58 46.8
comp=Z,74nm,1.7s
LSA Lhasa 54.00 313 P **P** **13 58 23.8 +0.4**
LSA pmax pmax
comp=Z,74nm,1.7s
GTA Gaotai 54.84 328 *e*P **P** **13 58 30.3 +1.4**
GTA pP sP 13 58 40.0 -1.4
GTA sP pwP 13 58 44.5 +2.0
GTA pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur 54.88 358*ce*P **P** **13 58 28.9 +0.1**
KLR pmax pmax
comp=Z,9.0nm,1.7s
UGL Uglegorsk 55.19 7 *e*P **P** **13 58 32.5 +1.5**
UGL pmax pmax
comp=Z,30nm,1.0s
GOMU GeErMu 55.47 322 P P 13 58 37.8 +4.0
GOMU pP pP 13 58 41.5 -1.2
GOMU sP sP 13 58 43.3 -3.0
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,120nm,7.9s
HEH HeiHe 56.14 355 *e*P **P** **13 58 38.0 +0.1**
GRNR Gornyy 56.44 2 ⇑*i* P **P** **13 58 40.4 +0.4**
GRNR pmax pmax
comp=Z,3.0nm,1.0s
JIRN Jiri 56.68 308 *e*P **P** **13 58 42.2 -0.4**
comp=Z,1.4nm,0.3s
TYV Tymovskoe 57.01 7 *e*P **P** **13 58 45.5 +1.4**
TYV pmax pmax
comp=Z,14nm,1.3s
TYV pmax pmax
comp=Z,500nm,5.3s
GUN Gumba 57.04 309 *e*P **P** **13 58 43.7 -1.5**
comp=Z,14nm,0.6s
PKI Pulchoki 57.24 308 *e*P **P** **13 58 49.2 +2.6**
PKIN Phulchoki 57.26 308 *e*P **P** **13 58 49.4 +2.8**
comp=Z,0.7nm,0.2s
DMN Daman 57.50 308 *e*P **P** **13 58 51.3 +3.0**
comp=Z,2.7nm,0.3s
GKN Gorkha 58.05 308 *e*P **P** **13 58 52.4 +0.3**
comp=Z,2.4nm,0.3s
ULN Ulaanbaatar 58.40 339 P **P** **13 58 54.6 +0.5**
ULN Ulaanbaatar 58.40 339 P **P** **13 58 54.6 +0.5**
ULN pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 58.61 339 P **P** **13 58 55.7 +0.1**
comp=Z,2.3nm,0.6s,baz=155,slow=7.1,SNR=10
SONM LR LR 14 25 28.5
comp=Z,101nm,19.7s,baz=346,slow=37
comp=Z,2.3nm,0.6s
SONM Songino Array 58.61 339 P **P** **13 58 56.4 +0.8**
SONM IAmb IAmb 13 59 12.6
comp=Z,25nm,1.6s
SONM Songino Array 58.61 339 P **P** **13 58 56.4 +0.8**
SONM pmax pmax
comp=Z,25nm,1.6s
DANN Dangsing 58.90 308 *e*P **P** **13 58 58.3 +0.2**
HYB Hyderabad 59.15 294 *e*P **P** **13 58 59.5 -0.2**
PCHI Peechi 59.37 286 *e*P P 13 59 07.5 +6.2
PCHI *e*S **S** **14 07 08.4 +0.1**
ZEA Zeya 59.61 356 *e*P **P** **13 59 02.9 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.6s
ZAK Zakamensk 61.87 338 *e*P **P** **13 59 13.6 -4.2**
ZAK pmax pmax
comp=Z,11nm,1.5s
PETK Petropavlovsk- 62.15 16 P **P** **13 59 19.9 +0.4**
comp=Z,1.4nm,0.7s,baz=169,slow=3.0,SNR=7.1
PETK LR LR 14 24 06.8
comp=Z,96nm,20.6s,baz=161,slow=34
comp=Z,1.4nm,0.7s
MOY Mondy 63.76 338 *e*P **P** **13 59 31.7 +1.4**
MOY pmax pmax
comp=Z,35nm,2.3s
WMQ Urumqi 64.51 325 *e*P **P** **13 59 37.0 +1.6**
WMQ pmax pmax
comp=Z,45nm,0.9s
WMQ pmax pmax
comp=Z,110nm,3.9s
MA2 Magadan 66.62 9 LR LR 14 28 48.9
comp=Z,154nm,18.7s,baz=168,slow=36
MA2 Magadan 66.62 9 P **P** **13 59 50.5 +1.9**
MA2 IAmb IAmb 13 59 57.1
comp=Z,31nm,1.5s
MA2 Magadan 66.62 9 P **P** **13 59 50.5 +1.9**
MA2 pmax pmax
comp=Z,31nm,1.5s

SHEM	Shemya Is, Ala	67.64	25	LR	LR	14 27 13.3			
	comp=Z,184nm,20.2s,baz=110,slow=34								
YAK	Yakutsk	67.75	358	P	P	13 59 56.0	+0.3		
YAK	Yakutsk	67.75	358	*c* iP	P	13 59 56.4	+0.7		
YAK				*e**PP	pP	13 59 59.9	-4.9		
YAK				*e*		14 00 21.6			
YAK				*e*S	S	14 08 54.6	+3.6		
YAK				*e*		14 09 58.6			
YAK				*e*SS	SS	14 13 16.6	+3.7		
YAK				pmax	pmax				
	comp=Z,38nm,0.9s								
YAK				pmax	pmax				
	comp=N,10.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,108nm,4.0s								
YAK				pmax	pmax				
	comp=N,103nm,5.0s								
YAK				smax	smax				
	comp=E,123nm,5.6s								
YAK				smax	smax				
	comp=N,79nm,5.9s								
DGZ	Jazzator, Alta	68.31	330	*e*P	P	14 00 00.4	+0.7		
DGZ				pmax	pmax				
	comp=Z,9.0nm,1.1s								
MK31	Makanchi Array	69.34	325	P	P	14 00 06.3	+0.3		
MK31				IAmb	IAmb	14 00 27.5			
	comp=Z,10nm,0.8s								
MK31	Makanchi Array	69.34	325	*i* P	P	14 00 06.4	+0.4		
MKAR	Makanchi Array	69.34	325	P	P	14 00 06.6	+0.6		
	comp=Z,6.7nm,0.6s,baz=113,slow=8.1,SNR=84								
MKAR				LR	LR	14 33 44.4			
	comp=Z,105nm,18.7s,baz=307,slow=39								
	comp=Z,6.7nm,0.6s								
MKAR	Makanchi Array	69.34	325	*i* P	P	14 00 06.9	+0.9		
MKAR				pmax	pmax				
	comp=Z,7.0nm,0.6s								
MAKZ	Makanchi	69.53	325	P	P	14 00 07.7	+0.6		
MAKZ				IAmb	IAmb	14 00 26.7			
	comp=Z,15nm,0.8s								
MAKZ	Makanchi	69.53	325	P	P	14 00 07.7	+0.6		
MAKZ				pmax	pmax				
	comp=Z,15nm,0.8s								
KSH	Kashi	69.71	316	P	P	14 00 10.8	+2.2		
KSH				pmax	pmax				
	comp=Z,6.0nm,0.7s								
SEY	Seymchan	70.06	9	*c**e*P	P	14 00 10.9	+0.9		
SEY				pmax	pmax				
	comp=Z,23nm,1.0s								
AAK	Ala-Archa	72.09	318	P	P	14 00 22.8	-0.2		
AAK	Ala-Archa	72.09	318	*i* P	P	14 00 23.7	+0.7		
AAK				pmax	pmax				
	comp=Z,11nm,1.4s								
ZAA0	Zalesovo Array	72.23	332	P	P	14 00 23.1	-0.3		
ZAA0				IAmb	IAmb	14 00 41.6			
	comp=Z,16nm,0.7s								
ZALV	Zalesovo Beam	72.23	332	P	P	14 00 23.4	0.0		
	comp=Z,8.0nm,0.5s,baz=118,slow=6.2,SNR=28								
	comp=Z,8.0nm,0.5s								
ZALV	Zalesovo Beam	72.23	332	P	P	14 00 23.1	-0.3		
VNDA	Vanda	73.17	174	P	P	14 00 29.3	+0.7		
	comp=Z,3.5nm,0.8s,baz=326,slow=6.0,SNR=11								
VNDA				LR	LR	14 32 38.5			
	comp=Z,176nm,18.1s,baz=348,slow=36								
	comp=Z,3.5nm,0.8s								
VNDA	Vanda	73.17	174	P	P	14 00 30.1	+1.5		
VNDA	Vanda	73.17	174	P	P	14 00 30.1	+1.5		
VNDA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KURK	Kurchatov	73.50	327	P	P	14 00 31.1	+0.1		
KURK	Kurchatov	73.50	327	*c**e*P	P	14 00 31.3	+0.3		
KURK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
CHGR	Chuyangaron	74.22	313	P	P	14 00 36.0	+0.4		
CHGR				IAmb	IAmb	14 00 54.6			
	comp=Z,22nm,1.0s								
CHGR	Chuyangaron	74.22	313	P	P	14 00 36.0	+0.4		
CHGR				pmax	pmax				
	comp=Z,22nm,1.0s								
KKAR	Karatay Array	74.94	317	P	P	14 00 40.2	+0.6		
KKAR	Karatay Array	74.94	317	P	P	14 00 40.2	+0.6		
PPT2	Papeete2	75.63	107	*e*SS	SS	14 15 15.9	+0.5		
	comp=Z,93nm,25.0s								
PPT2				*e*LR	LR	14 24 04.6			
	comp=Z,151nm,23.2s								
PPT2				*e*LR	LR	14 24 05.4			
	comp=Z,115nm,29.0s								
PPT	Papeete	75.63	107	P	P	14 00 44.9	+0.8		
	comp=Z,8.8nm,0.6s,baz=238,slow=22,SNR=1.4								
PPT				LR	LR	14 33 01.6			
	comp=Z,96nm,18.2s,baz=271,slow=35								
	comp=Z,8.8nm,0.6s								
BILL	Bilibino	77.20	12	P	P	14 00 51.2	-0.7		
BILL	Bilibino	77.20	12	⇓*e*P	P	14 00 51.6	-0.3		
BILL				*e*		14 01 05.3			
BILL				*e*		14 03 53.3			
BILL				pmax	pmax				
	comp=Z,10.0nm,2.7s								
BILL				MLR	MLR				
	comp=Z,116nm,17.0s								
MAW	Mawson	77.36	202	LR	LR	14 32 28.2			
	comp=Z,228nm,19.5s,baz=56,slow=34								
TIXI	Tiksi	77.41	358	LR	LR	14 36 08.0			
	comp=Z,138nm,18.4s,baz=178,slow=37								
TIXI	Tiksi	77.41	358	P	P	14 00 52.7	-0.3		
TIXI				IAmb	IAmb	14 01 11.5			
	comp=Z,11nm,0.7s								
TIXI	Tiksi	77.41	358	P	P	14 00 52.7	-0.3		
TIXI				pmax	pmax				
	comp=Z,11nm,0.7s								
BRVK	Borovoye	79.16	327	P	P	14 01 03.4	+0.3		
BRVK	Borovoye	79.16	327	P	P	14 01 03.4	+0.3		
BRVK				pmax	pmax				
	comp=Z,13nm,0.8s								
NRIK	Noril'sk	81.37	345	P	P	14 01 14.8	+0.2		
	comp=Z,6.4nm,0.8s,baz=121,slow=6.9,SNR=7.0								
	comp=Z,6.4nm,0.8s								
SDPT	Sand Point	81.40	32	P	P	14 01 14.5	-0.5		
GEYT	Alibeck	82.30	309	P	P	14 01 20.5	+0.2		
	comp=Z,3.2nm,0.9s,baz=165,slow=6.2,SNR=6.2								
	comp=Z,3.2nm,0.9s								
ANM	Nome	83.26	22	P	P	14 01 25.5	+0.9		
ANM	Nome	83.26	22	P	P	14 01 25.8	+1.3		
	baz=241								
ANM	Nome	83.26	22	P	P	14 01 25.5	+0.9		
ANM				pmax	pmax				
	comp=Z,12nm,1.5s								
ABKAR	Akbulak array	83.92	321	P	P	14 01 28.8	+0.5		
QSPA	South Pole Qui	84.12	180	LR	LR	14 37 49.7			
	comp=Z,208nm,21.4s,baz=350,slow=35								
QSPA	South Pole Qui	84.12	180	P	P	14 01 29.6	+0.4		
QSPA				IAmb	IAmb	14 01 30.4			
	comp=Z,16nm,0.8s								
O17K	Koliganek Bris	84.76	28	P	P	14 01 33.5	+1.1		
	baz=249								
VOI	Vohitsoka	84.98	249	P	P	14 01 35.4	+0.9		
VOI				IAmb	IAmb	14 01 44.8			
	comp=Z,15nm,1.2s								
TAOE	Nuku Hiva Isla	85.33	98	*e*LR	LR	14 28 34.3			
	comp=Z,277nm,31.3s								
Q18K	Katmai Hardscr	85.38	30	P	P	14 01 35.4	-0.3		
	baz=251								
SVW2	Sparrevohn	85.92	27	P	P	14 01 39.0	+0.9		
SVW2				IAmb	IAmb	14 02 08.8			
	comp=Z,28nm,1.6s								
KDAK	Kodiak Island	86.34	31	P	P	14 01 40.4	+0.2		
KDAK	Kodiak Island	86.34	31	P	P	14 01 40.4	+0.2		
KDAK				pmax	pmax				
	comp=Z,176nm,1.9s								
N19K	Bonanza Creek	86.34	28	P	P	14 01 40.3	0.0		
N19K				IAmb	IAmb	14 01 42.1			
	comp=Z,19nm,1.1s								
N19K	Bonanza Creek	86.34	28	P	P	14 01 41.4	+1.1		
	baz=251								
TTA	Tatalina	86.36	26	P	P	14 01 39.3	-1.1		
TTA				IAmb	IAmb	14 01 55.3			
	comp=Z,18nm,1.3s								
TTA	Tatalina	86.36	26	P	P	14 01 41.4	+1.1		
	baz=250								
TTA	Tatalina	86.36	26	P	P	14 01 39.3	-1.1		
TTA				pmax	pmax				
	comp=Z,19nm,1.3s								
L19K	White Mountain	86.61	26	P	P	14 01 42.8	+1.2		
	baz=251								
GCSA	Galena City Sc	86.64	24	P	P	14 01 42.7	+1.1		
	baz=249								
ARU	Arti	86.70	327	*c* iP	P	14 01 43.5	+1.5		
ARU						14 05 04.0			
ARU				S	SKSac	14 12 08.7	+2.4		
ARU				SS	SS	14 18 00.4	+1.6		
ARU				pmax	pmax				
	comp=Z,14nm,2.7s								
L20K	Farewell, AK	87.14	26	P	P	14 01 45.3	+1.2		
	baz=252								
M20K	Styx River	87.29	27	P	P	14 01 45.5	+0.6		
M20K	Styx River	87.29	27	P	P	14 01 46.2	+1.3		
	baz=252								
K20K	Telida	87.34	25	P	P	14 01 45.7	+0.7		
K20K				IAmb	IAmb	14 01 47.0			
	comp=Z,15nm,1.1s								
K20K	Telida	87.34	25	P	P	14 01 46.5	+1.4		
	baz=252								
SKT	Skwentna	88.04	27	P	P	14 01 48.2	-0.2		
	baz=254								
CAST	Castle Rocks	88.21	26	P	P	14 01 49.6	+0.4		
CAST				IAmb	IAmb	14 01 51.5			
	comp=Z,29nm,2.0s								
CAST	Castle Rocks	88.21	26	P	P	14 01 50.2	+1.0		
	baz=253								
CHUM	Lake Minchumin	88.24	25	P	P	14 01 50.7	+1.4		
	baz=253								
SUA	Susitna One	88.26	28	P	P	14 01 49.3	-0.3		
SUA				IAmb	IAmb	14 02 07.4			
	comp=Z,16nm,0.9s								
SUA	Susitna One	88.26	28	P	P	14 01 49.6	0.0		
	baz=254								
M22K	Willow	88.63	28	P	P	14 01 51.2	+0.1		
	baz=255								
RC01	Rabbit Creek A	88.64	28	P	P	14 01 51.1	-0.2		
RC01				IAmb	IAmb	14 02 09.0			
	comp=Z,18nm,0.8s								
RC01	Rabbit Creek A	88.64	28	P	P	14 01 51.5	+0.3		
	baz=255								
PMR	Palmer	89.04	28	P	P	14 01 53.4	+0.3		
	baz=256								
KNK	Knik Glacier	89.31	28	P	P	14 01 54.9	+0.4		
SML	Sawmill	89.47	28	P	P	14 01 55.5	+0.3		
WAT1	Susitna Watana	89.60	27	P	P	14 01 56.2	+0.4		
	baz=256								
E22K	Anaktuvuk Pass	89.67	21	P	P	14 01 56.6	+0.6		
	baz=253								
I23K	Minto, Yukon-K	89.82	24	P	P	14 01 57.2	+0.5		
I23K				IAmb	IAmb	14 02 06.2			
	comp=Z,30nm,1.7s								
I23K	Minto, Yukon-K	89.82	24	P	P	14 01 57.0	+0.3		
	baz=256								
DHY	Denali Highway	90.18	27	P	P	14 01 58.6	0.0		
DHY	Denali Highway	90.18	27	P	P	14 01 59.5	+0.9		
	baz=258								
D23K	Nanushuk River	90.30	20	P	P	14 01 59.5	+0.6		
	baz=254								
CCB	Clear Creek Bu	90.34	25	P	P	14 01 57.8	-1.3		
ELIB	Princess Elisa	90.67	197	*d*P	P	14 02 02.0	+1.2		
	comp=Z,17nm,0.7s								
ILAR	Eielson Array	90.75	25	P	P	14 01 59.4	-1.7		
	comp=Z,1.0nm,0.5s,baz=267,slow=4.3,SNR=25								
ILAR				PKKP	PKKPbc	14 19 27.2	-2.6		
	comp=Z,0.2nm,0.5s,baz=90,slow=2.7,SNR=6.4								
ILAR				LR	LR	14 44 49.3			
	comp=Z,84nm,19.8s,baz=119,slow=37								
	comp=Z,1.0nm,0.5s								
F24K	Squaw Lake	90.95	22	P	P	14 02 02.6	+0.6		
	baz=257								
FYU	Fort Yukon	91.78	23	P	P	14 02 05.9	+0.1		
E25K	Arctic Village	91.94	22	P	P	14 02 07.2	+0.7		
	baz=259								
J26L	Joseph Creek	92.11	25	P	P	14 02 07.6	+0.1		
	baz=261								
G26K	Porcupine Rive	92.41	23	P	P	14 02 09.5	+0.8		
	baz=261								
C27K	Jago River	92.86	20	P	P	14 02 11.0	+0.2		
	baz=261								
I27K	Kandik River	93.09	24	P	P	14 02 12.5	+0.6		
	baz=263								
H27K	Steamboat Moun	93.20	24	P	P	14 02 13.3	+0.8		
	baz=263								
G27K	Doyon Strip	93.22	23	P	P	14 02 13.0	+0.5		
	baz=263								
E27K	Coleen River	93.42	22	P	P	14 02 13.6	+0.2		
	baz=263								
NVL	N'lazarevskaya	94.50	196	*e*P	P	14 02 16.8	-1.5		
NVL				pmax	pmax				
	comp=Z,6.0nm,0.9s								
NVL				MLR	MLR				
	comp=Z,428nm,17.0s								
KBZ	Khabaz	94.58	313	P	P	14 02 19.8	+0.6		
	comp=Z,2.1nm,1.0s,baz=283,slow=15,SNR=2.3								
	comp=Z,2.1nm,1.0s								
KIV	Kislovodsk	94.74	314	*e*P	P	14 02 20.8	+0.7		
KIV				pmax	pmax				
	comp=Z,6.0nm,1.0s								
G30M	tAoh Zrail Nji	95.37	23	P	P	14 02 21.7	-0.7		
	baz=268								
F31M	Tsiigehtchic	96.35	23	P	P	14 02 25.8	-0.9		
	baz=270								
INK	Inuvik	96.43	22	P	P	14 02 26.1	-0.9		
	baz=270								
SNAA	Sanae	97.61	193	LR	LR	14 46 13.8			
	comp=Z,245nm,19.7s,baz=142,slow=35								
OBN	Obninsk	98.84	325	*c**e*P	Pdif	14 02 38.8	+0.6		
OBN				*e*		14 06 40.7			
OBN				pmax	pmax				
	comp=Z,4.0nm,0.9s								
APA	Apatity	99.30	338	⇓*i* P	Pdif	14 02 50.1	+10		
APA				pmax	pmax				
	comp=Z,11nm,1.0s								
C36M	Paulatuk	99.76	21	P	Pdif	14 02 41.7	-0.3		
	baz=279								
FINES	FINESS Array B	103.50	332	Pdiff	Pdif	14 02 59.1	+0.3		
	comp=Z,16nm,1.3s,baz=100,slow=7.2,SNR=4.2								
MNK	Minsk	103.91	325	*i* P	Pdif	14 02 56.8	-4.0		
	comp=E,2.0nm,0.8s								
MNK				*i* P	Pdif	14 02 56.8	-4.0		
	comp=N,30nm,0.8s								
MNK				*i* P	Pdif	14 02 56.8	-4.0		
	comp=Z,9.0nm,0.7s,baz=260								
MNK				*i* PP	PP	14 07 17.1	-1.0		
MNK				*i* PPP	PPP	14 09 28.5			
MNK				*i* SKS		14 13 36.8			
MNK				*i* S	Sdif	14 14 45.2	-3.2		
MNK				*i* SS	SS	14 22 05.4	+2.3		
MNK				*i* SSS	SSS	14 26 04.8			
MNK				*i* LQ	LQ	14 44 02.1			
MNK				*i* LR	LR	14 47 21.3			
MNK				*i* LRM	MLR	14 50 18.5			
	comp=N,316nm,15.5s								
MNK				*i* LRM	MLR	14 50 24.2			
	comp=E,25nm,13.5s								
MNK				*i* LRM	MLR	14 50 24.2			
	comp=Z,113nm,11.6s								
MNK	Minsk	103.91	325	*i* P	Pdif	14 02 56.7	-4.0		
MNK				*i*		14 07 17.0			
MNK				*i* PPP	PPP	14 09 28.4			
MNK				*i*		14 13 36.8			
MNK				*i* S	Sdif	14 14 45.1	-3.2		
MNK				*i* SS	SS	14 22 05.3	+2.3		
MNK				*i* SSS	SSS	14 26 04.8			
MNK				pmax	pmax				
	comp=E,2.0nm,0.8s								
MNK				pmax	pmax				
	comp=Z,9.0nm,0.7s								
MNK				pmax	pmax				
	comp=N,30nm,0.8s								
MNK				MLR	MLR				
	comp=N,316nm,15.0s								
MNK				MLR	MLR				
	comp=E,25nm,14.0s								
MNK				MLR	MLR				
	comp=Z,113nm,12.0s								
NACGM	Naroch	104.46	325	*e*PP	PKiKP	14 07 18.6	-0.8		
	baz=80								
YKA	Yellowknife Ar	105.10	27	Pdiff	Pdif	14 03 05.2	-0.7		
	comp=Z,0.2nm,0.8s,baz=287,slow=4.8,SNR=4.1								
YKA				PKiKP	PKiKP	14 07 20.4	+0.1		
	comp=Z,0.2nm,0.7s,baz=297,slow=2.0,SNR=4.2								
NVAR	Mina Array Bea	107.71	52	Pdiff	Pdif	14 03 19.2	+0.8		
	comp=Z,0.9nm,0.9s,baz=260,slow=5.2,SNR=5.2								
MODS	Modra-Piesok	111.75	320	*e*P	Pdif	14 03 33.8	-2.1		
PDAR	Pinedale Array	113.47	46	PKiKP	PKiKP	14 07 36.9	0.0		
	comp=Z,0.2nm,0.7s,baz=333,slow=1.0,SNR=2.0								
GERES	GERESS Array B	113.86	321	PKiKP	PKiKP	14 07 37.4	0.0		
	comp=Z,0.8nm,0.6s,baz=90,slow=1.7,SNR=4.3								
TXAR	Lajitas Array	121.19	59	PKP	PKiKP	14 07 52.4	+0.3		
	comp=Z,0.3nm,0.5s,baz=167,slow=2.8,SNR=4.6								
PLCA	Paso Flores	128.57	156	PKP	PKiKP	14 08 07.0	+0.5		
	comp=Z,2.3nm,0.7s,baz=247,slow=3.1,SNR=16								
PLCA	Paso Flores	128.57	156	PKIKP	PKiKP	14 08 07.0	+0.5		
TORD	Torodi Ar. Bea	132.17	282	PKP	PKiKP	14 08 12.9	-1.3		
	comp=Z,2.1nm,0.4s,baz=63,slow=2.6,SNR=2.0								
DBIC	Dimbokro	138.80	273	PKiKP	PKPpre	14 08 16.1			
	comp=Z,1.2nm,0.6s,baz=69,slow=1.3,SNR=3.6								
CPUP	Villa Florida	146.27	162	PKPbc	PKPab	14 08 39.8	-0.6		
	comp=Z,11nm,0.7s,baz=214,slow=2.8,SNR=26								
LPAZ	La Paz	149.18	136	PKPbc	PKiKP	14 08 48.6	-1.2		
	comp=Z,6.6nm,0.4s,baz=322,slow=0.9,SNR=21								
YOTC	Yotoco, Valle	150.02	92	*e*P	PKiKP	14 08 50.4	-0.6		
FLOC	Florencia	150.42	97	*e*P	PKiKP	14 08 52.0	+0.3		
CBOC	Ciudad Bolivar	150.45	88	*e*P	PKiKP	14 08 51.6	-0.3		
GARC	Garzon, Huila	150.66	96	*e*P	PKiKP	14 08 53.0	+0.5		
ORTC	Ortega, Tolima	151.10	92	*e*P	PKiKP	14 08 53.0	-0.1		
SJCC	San Jacinto, C	151.13	80	*e*P	PKiKP	14 08 53.5	+0.3		
SMRC	Santa Marta, M	151.90	77	*e*P	PKiKP	14 08 54.4	-0.3		
ROSC	El Rosal	152.09	91	PKPbc	PKiKP	14 08 55.4	-0.3		
	comp=Z,31nm,0.6s,baz=181,slow=21,SNR=7.3								
MACC	Macarena, Meta	152.29	97	*e*P	PKPbc	14 08 52.9	-2.4		
CHIC	Chingaza	152.66	91	*e*P	PKiKP	14 08 56.6	-0.2		
RUSC	La Rusia	153.36	89	*e*P	PKPbc	14 08 57.1	-1.2		
BDFB	Brasilia	158.58	175	PKP	PKPdf	14 08 57.1	0.0		
	comp=Z,1.3nm,0.5s,baz=59,slow=23,SNR=1.5								

*IDC **25** 14:42:27.2±0.8, 5.36N×32.77W, h0km, mb3.9/8, mbtmp3.9/8, MS3.9/36, Error ellipse: s-maj=34.4km s-min=23.5km az=7.0*
ISC 25 14:42:28.9±0.8, 5.3N±0.2×32.8W±0.1, h12km, n49, σ0.971/11, mb3.7/8, MS3.9/33, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	11.50	196	LR		LR	LR	14 48 49.0	
	comp=Z,303nm,19.0s,baz=155,slow=33								
BBTS	Babate	18.49	59	LR		LR	LR	14 52 02.6	
	comp=Z,391nm,20.5s,baz=236,slow=31								
MDP	Montagnes des	19.78	270	LR		LR	LR	14 52 58.1	
	comp=Z,177nm,21.1s,baz=110,slow=32								
H10N3	ASCENSION HYDR	22.44	125	T		T	T	15 11 06.2	
	baz=305,slow=75,SNR=37								
H10N2	ASCENSION HYDR	22.44	125	T		T	T	15 11 07.6	
	baz=305,slow=75,SNR=35								
H10N1	ASCENSION HYDR	22.46	125	T		T	T	15 11 05.2	
	baz=305,slow=75,SNR=59								
H10S3	ASCENSION HYDR	22.96	128	T		T	T	15 11 40.9	
	baz=305,slow=74,SNR=16								
H10S2	ASCENSION HYDR	22.98	128	T		T	T	15 11 43.6	
	baz=275,slow=74,SNR=7.1								
BDFB	Brasilia	25.71	216	LR		LR	LR	14 57 05.9	
	comp=Z,252nm,21.2s,baz=70,slow=34								
DBIC	Dimbokro	27.80	86	P		P	P	14 48 18.2	-0.1
	7.7nm,1.2s,baz=276,slow=13,SNR=2.9								
DBIC				LR		LR	LR	14 56 47.2	
	comp=Z,275nm,21.5s,baz=259,slow=31								
	7.7nm,1.2s								
H05S1	Guadeloupe/Mar	29.05	290	T		T	T	15 18 32.3	
	SNR=9.9								
TORD	Torodi Ar. Bea	34.87	75	P		P	P	14 49 20.5	0.0
	1.2nm,0.3s,baz=265,slow=9.7,SNR=1.9								
	1.2nm,0.3s								
SJG	San Juan	34.98	294	LR		LR	LR	15 00 20.9	
	comp=Z,142nm,21.9s,baz=28,slow=31								
SIV	San Ignacio	35.10	232	LR		LR	LR	15 03 08.7	
	comp=Z,102nm,18.6s,baz=109,slow=35								
MDT	Midelt	37.93	40	LR		LR	LR	15 04 36.8	
	comp=Z,198nm,18.0s,baz=204,slow=35								
CPUP	Villa Florida	39.45	216	LR		LR	LR	15 06 17.8	
	comp=Z,184nm,19.4s,baz=74,slow=36								
LPAZ	La Paz	41.03	238	P		P	P	14 50 12.4	-0.8
	0.4nm,0.4s,baz=86,slow=5.8,SNR=1.7								
LPAZ				LR		LR	LR	15 06 48.7	
	comp=Z,189nm,18.7s,baz=56,slow=36								
	0.4nm,0.4s								
ROSC	El Rosal	41.37	271	LR		LR	LR	15 07 47.6	
	comp=Z,147nm,18.7s,baz=100,slow=37								
ESDC	Sonseca Array	42.96	33	LR		LR	LR	15 07 24.3	
	comp=Z,82nm,18.1s,baz=316,slow=35								
NNA	Nana	47.06	248	LR		LR	LR	15 10 02.7	
	comp=Z,132nm,19.6s,baz=104,slow=35								
ATAH	Atahualpa	47.17	255	LR		LR	LR	15 11 19.6	
	comp=Z,249nm,18.1s,baz=48,slow=37								
CFA	Coronel Fontan	49.91	220	LR		LR	LR	15 12 45.1	
	comp=Z,96nm,19.0s,baz=117,slow=36								
EKA	Eskdalemuir Ar	55.24	20	LR		LR	LR	15 10 47.6	
	comp=Z,117nm,19.9s,baz=356,slow=31								
TSUM	Tsumeb	55.24	118	LR		LR	LR	15 10 20.9	
	comp=Z,116nm,21.2s,baz=334,slow=30								
DAVOX	Davos/Dischmat	55.24	35	LR		LR	LR	15 15 14.1	
	comp=Z,169nm,18.0s,baz=278,slow=36								
PLCA	Paso Flores	57.43	214	LR		LR	LR	15 16 46.8	
	comp=Z,149nm,21.5s,baz=62,slow=36								
GERES	GERESS Array B	58.53	34	LR		LR	LR	15 14 13.8	
	comp=Z,74nm,21.6s,baz=308,slow=33								
IDI	Anoyia	60.75	52	LR		LR	LR	15 18 58.2	
	comp=Z,110nm,21.9s,baz=267,slow=36								
SUR	Sutherland	63.19	130	LR		LR	LR	15 13 39.6	
	comp=Z,57nm,21.7s,baz=290,slow=30								
MBAR	Mbarara	63.70	93	LR		LR	LR	15 18 24.7	
	comp=Z,91nm,18.8s,baz=286,slow=34								
LSZ	Lusaka	63.75	110	LR		LR	LR	15 17 31.3	
	comp=Z,72nm,19.2s,baz=298,slow=33								
LBTB	Lobatse	64.22	121	LR		LR	LR	15 16 53.7	
	comp=Z,70nm,18.6s,baz=354,slow=32								
NOA	NORSAR Array B	64.59	22	LR		LR	LR	15 16 40.5	
	comp=Z,48nm,21.3s,baz=265,slow=32								
MLR	Muntele Rosu	64.59

ISC 25 15:00:13.2±1.7, **37°.37N**±0°.04×**141°.51E**±0°.06, **h17**km±10km, **n57**, σ**1s.08**/50, **mb3.7**/16, **18D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**270**	⇓P	**Pn**	**15 00 25.0**	**-0.7**
JFK				⇓S	**Sn**	**15 00 33.6**	**-0.4**
JFK	**Kawauchi**	**0.51**	**270**	A	A	15 00 25.0	
	comp=E,29nm,0.3s,comp=E,16nm,0.4s						
JMST	**Minamisoumatoc**	**0.61**	**306**	⇓P	**Pn**	**15 00 26.3**	**-0.7**
JMST				⇓S	**Sn**	**15 00 36.0**	**-0.4**
JMST	**Minamisoumatoc**	**0.61**	**306**	A	A	15 00 26.3	
	comp=E,12nm,0.7s,comp=E,9.0nm,0.5s						
ONAJ	**Iwakimizuishiy**	**0.63**	**245**	⇓P	**Pn**	**15 00 26.5**	**-0.8**
ONAJ				⇓S	**Sn**	**15 00 36.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.63**	**245**	A	A	15 00 26.5	
	comp=E,26nm,0.4s,comp=E,10.0nm,0.4s						
JMM	**Marumori**	**0.76**	**311**	P	**Pn**	**15 00 28.7**	**-0.3**
JMM	**Marumori**	**0.76**	**311**	⇓P	**Pn**	**15 00 28.5**	**-0.5**
JMM				⇓S	**Sn**	**15 00 39.6**	**-0.5**
JFFD	**Fukushimafurud**	**0.81**	**250**	⇓*i*P	**Pn**	**15 00 29.4**	**-0.4**
JFFD				⇓S	**Sn**	**15 00 41.3**	**-0.1**
JHO	**Hitachi**	**1.07**	**225**	⇓*i*P	**Pb**	**15 00 32.5**	**-0.7**
JHO				⇓S	**Sb**	**15 00 47.2**	**+0.3**
JIO	**Ouri**	**1.09**	**353**	*i* P	**Pn**	**15 00 32.8**	**-0.9**
JIO				S	**Sb**	**15 00 47.1**	**-0.4**
JOU	**Okura**	**1.20**	**326**	⇓*i*P	**Pg**	**15 00 36.0**	**-0.4**
JOU				⇓S	**Sg**	**15 00 52.8**	**+0.8**
JOU	**Okura**	**1.20**	**326**	A	A	15 00 36.0	
	comp=E,9.0nm,0.6s,comp=E,11nm,0.9s						
JYAR	**Yonezawaarcadi**	**1.21**	**297**	A	A	15 00 35.9	
	comp=E,10.0nm,0.7s,comp=E,11nm,0.5s						
JOFO	**Osakifurukawao**	**1.32**	**339**	A	A	15 00 36.6	
	comp=E,14nm,1.2s,comp=E,13nm,1.3s						
JSB	**Shiboa**	**1.33**	**253**	A	A	15 00 37.6	
	comp=E,9.0nm,0.9s,comp=E,8.0nm,1.4s						
JYS	**Shirataka**	**1.43**	**307**	P	**Pg**	**15 00 40.2**	**-0.4**
JYS				S	**Sg**	**15 00 59.8**	**+0.5**
JYS	**Shirataka**	**1.43**	**307**	A	A	15 00 40.2	
	comp=E,5.0nm,0.8s,comp=E,5.0nm,2.1s						
JFY	**Yanaizu**	**1.44**	**272**	⇓*i*P	**Pb**	**15 00 39.9**	**+0.4**
JFY				⇓S	**Sg**	**15 01 01.1**	**+1.4**
JFY	**Yanaizu**	**1.44**	**272**	A	A	15 00 39.9	
	comp=E,3.0nm,0.7s,comp=E,4.0nm,0.7s						
JYT	**Yasato**	**1.55**	**223**	A	A	15 00 40.3	
	comp=E,4.0nm,0.3s,comp=E,5.0nm,0.5s						
JMK	**Ichinoseki**	**1.60**	**352**	⇓*i*P	**Pb**	**15 00 41.0**	**-1.2**
JMK				⇓*e*S	**Sb**	**15 01 01.0**	**-1.1**
JYK	**Kaneyama**	**1.79**	**330**	A	A	15 00 43.8	
	comp=E,3.0nm,0.9s,comp=E,4.0nm,0.9s						
JYA	**Atsumi**	**1.87**	**311**	A	A	15 00 45.4	
	comp=E,4.0nm,0.6s,comp=E,3.0nm,2.9s						
JSD	**Sado**	**2.66**	**285**	P	**Pn**	**15 00 57.1**	**+1.8**
MJAR	**Matsushiro Arr**	**2.77**	**254**	Pn	**Pn**	**15 00 58.1**	**+1.4**
	1.3nm,0.3s,baz=124,slow=7.1,SNR=40						
MJAR				Sn	**Sb**	**15 01 35.6**	**-0.2**
	1.8nm,0.3s,baz=42,slow=21,SNR=3.4						
MJAR				LR	LR	15 02 12.4	
	comp=Z,97nm,19.2s,baz=154,slow=44						
	4.1nm,0.3s						
MAJO	**Matsushiro**	**2.77**	**254**	P	**Pb**	**15 00 59.4**	**-2.8**
JTM	**Tenmabayashi**	**3.43**	**354**	P	**Pn**	**15 01 07.8**	**+2.0**
JHJ	**Hachijo jima 2**	**4.47**	**199**	Pn	**Pn**	**15 01 20.4**	**+0.3**
	13nm,0.3s,baz=66,slow=21,SNR=1.4						
JHJ				Sn	**Sn**	**15 02 10.0**	**-1.7**
	30nm,0.3s,baz=279,slow=21,SNR=7.1						
	34nm,0.3s						
ASAJ	**Asahikawa**	**6.79**	**7**	Pn	**Pn**	**15 01 51.3**	**-0.7**
	0.3nm,0.3s,baz=346,slow=33,SNR=2.3						
ASAJ				Sn	**Sn**	**15 03 10.2**	**+1.3**
	0.2nm,0.3s,baz=109,slow=29,SNR=1.9						
	3.3nm,0.6s						
JMN	**Monobe**	**7.20**	**242**	P	**Pn**	**15 02 01.1**	**+3.4**
KSRS	**Korea Array**	**10.81**	**275**	Pn	**Pn**	**15 02 46.6**	**-0.4**
	0.1nm,0.3s,baz=84,slow=15,SNR=2.0						
	0.2nm,0.5s						
SEY	**Seymchan**	**26.45**	**11**	P	**P**	**15 05 50.3**	**+1.4**
	0.5nm,0.6s,baz=180,slow=23,SNR=1.7						
	0.5nm,0.6s						
SONM	**Songino Array**	**27.66**	**303**	P	**P**	**15 06 00.8**	**+0.6**
	1.8nm,0.8s,baz=102,slow=8.3,SNR=7.9						
	1.8nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	15 35 29.6	
	baz=314,slow=75,SNR=114						
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	15 35 30.4	
	baz=314,slow=75,SNR=109						
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	15 35 31.1	
	baz=314,slow=75,SNR=139						
H11S1	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	15 36 25.6	
	baz=316,slow=76,SNR=95						
H11S3	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	15 36 22.3	
	baz=316,slow=76,SNR=69						
H11S2	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	15 36 24.8	
	baz=316,slow=76,SNR=48						
CMAR	**Chiang Mai Arr**	**41.66**	**255**	P	**P**	**15 07 60.0**	**-0.9**
	0.3nm,0.2s,baz=51,slow=7.1,SNR=2.1						
	0.3nm,0.2s						
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**15 08 00.7**	**-0.4**
	0.9nm,0.3s,baz=90,slow=7.4,SNR=5.8						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**15 08 20.8**	**+1.1**
	2.8nm,0.7s,baz=88,slow=10,SNR=33						
	2.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.86**	**308**	P	**P**	**15 08 34.7**	**+0.5**
	2.7nm,0.7s,baz=84,slow=8.4,SNR=22						
KURBB				LR	LR	15 30 05.6	
	comp=Z,80nm,18.9s,baz=9.6,slow=39						
	2.7nm,0.7s						
ILAR	**Eielson Array**	**49.17**	**33**	P	**P**	**15 09 00.2**	**+0.4**
	0.4nm,0.7s,baz=262,slow=6.2,SNR=4.6						
	0.4nm,0.7s						
INK	**Inuvik**	**54.05**	**27**	P	**P**	**15 09 36.5**	**+0.3**
	0.7nm,0.7s,baz=302,slow=7.4,SNR=2.3						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**57.40**	**188**	P	**P**	**15 10 00.3**	**-0.4**
	0.5nm,0.6s,baz=8.1,slow=7.5,SNR=5.2						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**61.13**	**188**	P	**P**	**15 10 26.7**	**+0.1**
	0.3nm,0.8s,baz=15,slow=7.4,SNR=2.8						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**63.48**	**30**	P	**P**	**15 10 41.9**	**0.0**
	0.1nm,0.5s,baz=299,slow=6.5,SNR=2.1						
	0.1nm,0.5s						
FINES	**FINESS Array B**	**68.55**	**332**	P	**P**	**15 11 12.9**	**-1.5**
	1.3nm,0.7s,baz=61,slow=6.8,SNR=1.1						
	1.3nm,0.7s						
NOA	**NORSAR Array B**	**73.91**	**337**	P	**P**	**15 11 46.3**	**-0.6**
	0.5nm,0.6s,baz=38,slow=6.0,SNR=1.5						
	0.5nm,0.6s						
AKASG	**Malin Array Be**	**74.08**	**322**	P	**P**	**15 11 48.2**	**+0.1**
	0.8nm,0.5s,baz=45,slow=6.2,SNR=7.5						
	0.8nm,0.5s						
NVAR	**Mina Array Bea**	**74.73**	**53**	P	**P**	**15 11 52.9**	**+0.5**
	0.2nm,0.5s,baz=297,slow=6.0,SNR=2.8						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**77.38**	**46**	P	**P**	**15 12 08.1**	**+0.7**
	0.3nm,0.7s,baz=282,slow=5.4,SNR=2.4						
	0.3nm,0.7s						
H03N2	**Juan Fernandez**	**146.98**	**96**	T	T	18 04 05.9	
	baz=291						
H03N3	**Juan Fernandez**	**146.99**	**96**	T	T	18 04 09.7	
	baz=291						
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	18 04 27.4	
	baz=291						

*IDC **25** 15:44:26.3±1.1, 30°.22S×177°.11W, h0km, mb4.0/5, mbtmp4.0/6, ML3.0/1, MS3.5/4, Error ellipse: s-maj=29.0km s-min=20.5km az=54.0*

*NEIC **25** 15:44:28.3±1.4, 30°.25S±0°.07×177°.3W±0°.1, h10km±2km, mb4.5/12, Error ellipse: s-maj=22.7km s-min=9.2km az=71.0*

ISC 25 15:44:27.6±0.9, **30°.37S**±0°.06×**177°.4W**±0°.1, **h10**km, **n33**, σ**1s.29**/35, **mb4.3**/10, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.22**	**336**	Pn	**Pn**	**15 44 51.0**	**+0.2**
	113nm,0.3s,baz=98,slow=19,SNR=5.2						
RAO				Sn	**Sg**	**15 45 09.4**	**+2.4**
	202nm,0.3s,baz=300,slow=23,SNR=7.9						
RAO	**Raoul Island**	**1.22**	**336**		**Pn**	**15 44 49.6**	**-1.2**
RAO				Sg	**Sb**	**15 45 04.3**	**-2.3**
URZ	**Urewera**	**9.10**	**209**	Pn	**Pn**	**15 46 37.2**	**-1.8**
	0.2nm,0.3s,baz=355,slow=5.7,SNR=7.1						
URZ				Sn	**Sn**	**15 48 20.5**	**-1.1**
	1.3nm,0.3s,baz=190,slow=22,SNR=8.5						
RTZ	**Ruatahuna**	**9.46**	**208**	Pn	**Pn**	**15 46 45.1**	**+1.0**
BKZ	**Black Stump Fm**	**10.13**	**208**	Pn	**Pn**	**15 46 54.0**	**+0.8**
THZ	**Tophouse**	**13.82**	**212**	Pn	**Pn**	**15 47 42.3**	**-1.3**
KHZ	**Kahutara**	**14.07**	**209**	Pn	**Pn**	**15 47 46.5**	**-0.5**
GVZ	**Greta Valley S**	**14.73**	**209**	Pn	**Pn**	**15 47 55.0**	**-1.1**
DZM	**Mont Dzumac**	**16.72**	**296**	Pn	**P**	**15 48 25.2**	**+0.8**
	baz=7.6,slow=22,SNR=1.8						
DZM				LR	LR	15 53 54.3	
	comp=Z,144nm,18.7s,baz=36,slow=34						
	6.3nm,1.0s						
RAR	**Rarotonga**	**18.25**	**64**	LR	LR	15 54 49.3	
	comp=Z,105nm,20.0s,baz=137,slow=35						
CTAO	**Charters Tower**	**34.35**	**279**	P	**P**	**15 51 14.5**	**-0.3**
CTAO				IAmb	IAmb	15 51 37.4	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**35.03**	**257**	P	**P**	**15 51 23.1**	**+2.5**
	comp=Z,1.7nm,0.8s,baz=144,slow=11,SNR=5.1						
	comp=Z,1.7nm,0.8s						
STKA	**Stephens Creek**	**35.03**	**257**	P	**P**	**15 51 21.0**	**+0.4**
PMG	**Port Moresby**	**39.10**	**295**	LR	LR	16 06 13.9	
	comp=Z,75nm,18.1s,baz=42,slow=33						
BBOO	**Buckleboo**	**39.52**	**254**	P	**P**	**15 51 59.8**	**+1.1**
BBOO				IAmb	IAmb	15 52 02.4	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**43.67**	**267**	P	**P**	**15 52 33.1**	**+0.2**
ASAR	**Alice Springs**	**43.67**	**267**	P	**P**	**15 52 34.4**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=102,slow=6.9,SNR=18						
ASAR				PcP	**PcP**	**15 54 19.2**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=127,slow=3.6,SNR=1.6						
	comp=Z,2.1nm,0.8s						
ASAR	**Alice Springs**	**43.67**	**267**	P	**P**	**15 52 32.4**	**-0.5**
WR0	**Warramunga Arr**	**44.48**	**272**	P	**P**	**15 52 39.3**	**-0.1**
WR0				IAmb	IAmb	15 53 01.2	
	comp=Z,9.2nm,1.4s						
WB2	**Warramunga Arr**	**44.65**	**272**	P	**P**	**15 52 40.9**	**+0.2**
WB2				IAmb	IAmb	15 52 45.8	
	comp=Z,4.6nm,0.8s						
WRAB	**Tennant Creek**	**44.65**	**272**	P	**P**	**15 52 40.6**	**-0.2**
WRAB				IAmb	IAmb	15 52 47.9	
	comp=Z,3.9nm,0.9s						
WRA	**Warramunga Arr**	**44.66**	**272**	P	**P**	**15 52 42.5**	**+1.7**
	comp=Z,2.3nm,0.6s,baz=112,slow=7.5,SNR=16						
WRA				LR	LR	16 11 23.1	
	comp=Z,86nm,18.0s,baz=9.0,slow=36						
	comp=Z,2.3nm,0.6s						
WRA	**Warramunga Arr**	**44.66**	**272**	P	**P**	**15 52 41.8**	**+1.0**
WB0	**Warramunga Arr**	**44.68**	**272**	P	**P**	**15 52 41.9**	**+0.9**
FORT	**Forrest**	**46.60**	**255**	P	**P**	**15 52 57.0**	**+1.0**
NWAO	**Narrogin (SRO)**	**54.93**	**249**	P	**P**	**15 53 57.4**	**-1.4**
QSPA	**South Pole Qui**	**59.74**	**180**	P	**P**	**15 54 35.1**	**+2.7**
	comp=Z,1.1nm,1.0s,baz=112,slow=7.2,SNR=2.3						
	comp=Z,1.1nm,1.0s						
QSPA	**South Pole Qui**	**59.74**	**180**	P	**P**	**15 54 32.7**	**+0.3**
QSPA				IAmb	IAmb	15 54 57.3	
	comp=Z,6.9nm,1.4s						
NVAR	**Mina Array Bea**	**87.84**	**42**	P	**P**	**15 57 17.0**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=221,slow=8.0,SNR=5.2						
	comp=Z,0.8nm,0.8s						
FIA1	**FINESS Array S**	**145.31**	**340**		**PKPbc**	**16 04 03.7**	**-1.0**
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	**PKPbc**	**16 04 03.9**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=100,slow=2.3,SNR=7.9						
AKASG	**Malin Array Be**	**151.62**	**323**	PKPbc	**PKPbc**	**16 04 20.9**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=46,slow=3.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**162.84**	**177**	PKPab	**PKPab**	**16 05 20.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=169,slow=2.9,SNR=1.9						

*IDC **25** 15:51:47.0±1.5, 37°.38N×141°.68E, h0km, mb3.1/2, mbtmp3.3/5, ML2.6/3, Error ellipse: s-maj=32.4km s-min=23.5km az=106.0*

*JMA **25** 15:51:49.4±0.2, 37°.3N±0°.3×141°.6E±0°.9, h33km±1km, MV3.4/40, E OFF FUKUSHIMA PREF*

ISC 25 15:51:47.5±1.8, **37°.32N**±0°.04×**141°.65E**±0°.07, **h6**km±11km, **n22**, σ**1s.15**/29, **12D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.62**	**275**	⇓P	**Pb**	**15 52 00.5**	**-0.2**
JFK				⇓S	**Sg**	**15 52 08.3**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.71**	**253**	⇓P	**Pg**	**15 52 01.9**	**+0.7**
ONAJ				⇓S	**Sg**	**15 52 11.1**	**+0.6**
JMST	**Minamisoumatoc**	**0.73**	**304**	⇓P	**Pb**	**15 52 02.3**	**-0.3**
JMST				⇓S	**Sb**	**15 52 11.8**	**-1.1**
JMM	**Marumori**	**0.88**	**309**	⇓*i*P	**Pg**	**15 52 04.7**	**+0.4**
JMM				⇓S	**Sg**	**15 52 15.7**	**0.0**
JFFD	**Fukushimafurud**	**0.90**	**256**	⇓*i*P	**Pb**	**15 52 04.7**	**-0.8**
JFFD				⇓S	**Sb**	**15 52 15.6**	**-2.2**
JHO	**Hitachi**	**1.12**	**231**	*i* P	**Pb**	**15 52 08.1**	**-1.2**
JHO				S	**Sb**	**15 52 21.7**	**-2.3**
JIO	**Ouri**	**1.16**	**348**	⇓*i*P	**Pb**	**15 52 09.4**	**-0.5**
JIO				⇓S	**Sb**	**15 52 23.8**	**-1.4**
JOU	**Okura**	**1.31**	**324**	*i* P	**Pg**	**15 52 12.3**	**-0.2**
JOU				S	**Sg**	**15 52 29.1**	**-0.4**
JYS	**Shirataka**	**1.55**	**306**	P	**Pb**	**15 52 16.3**	**-0.2**
JYS				S	**Sb**	**15 52 35.8**	**-0.6**
JFY	**Yanaizu**	**1.55**	**274**	P	**Pb**	**15 52 15.7**	**-1.0**
JFY				*e*S	**Sb**	**15 52 35.1**	**-1.5**
MJAR	**Matsushiro Arr**	**2.87**	**255**	Pn	**Pn**	**15 52 34.4**	**+0.7**
	0.2nm,0.3s,baz=76,slow=16,SNR=9.2						
MJAR				Sn	**Sn**	**15 53 10.2**	**+1.6**
	0.3nm,0.3s,baz=231,slow=25,SNR=2.4						
	1.4nm,0.4s						
JHJ	**Hachijo jima 2**	**4.46**	**201**	Pn	**Pn**	**15 52 56.4**	**+0.8**
	1.0nm,0.3s,baz=298,slow=20,SNR=1.4						
JHJ				Sn	**Sn**	**15 53 46.0**	**-1.8**
	5.3nm,0.3s,baz=291,slow=7.2,SNR=2.3						
	135nm,0.8s						
ASAJ	**Asahikawa**	**6.83**	**6**	Pn	**Pn**	**15 53 27.1**	**-1.0**
	0.2nm,0.3s,baz=209,slow=16,SNR=6.5						
ASAJ				Sn	**Sn**	**15 54 47.6**	**+1.4**
	baz=234,slow=32,SNR=1.4						
	4.1nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	16 27 05.4	
	baz=314,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	16 27 07.1	
	baz=314,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	16 27 07.8	
	baz=314,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**28.86**	**124**	T	T	16 28 03.2	
	baz=316,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**28.86**	**124**	T	T	16 28 02.6	
	baz=316,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	16 28 01.8	
	baz=316,slow=76,SNR=16						
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**15 59 56.7**	**0.0**
	0.3nm,0.7s,baz=91,slow=8.8,SNR=4.0						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**61.09**	**188**	P	**P**	**16 02 03.6**	**+1.2**
	0.1nm,0.7s,baz=10,slow=5.7,SNR=1.3						
	0.1nm,0.7s						
PLCA	**Paso Flores**	**154.83**	**108**	PKPbc	**PKiKP**	**16 11 50.1**	**+0.4**
	0.6nm,0.5s,baz=56,slow=19,SNR=5.3						

*IDC **25** 15:54:48.0±0.9, 6°.88N×73°.18W, h161km±22km, mb3.0/1, mbtmp3.7/3, Error ellipse: s-maj=72.6km s-min=8.2km az=132.0*

*RSNC **25** 15:54:50.0±1.2, 6°.76N×73°.14W, h149km±5km, ML3.1, Mw3.6*

ISC 25 15:54:47.8±1.0, **6°.82N**±0°.03×**73°.12W**±0°.04, **h158**km±6km, **n29**, σ**1s.64**/56, **2C-4D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**196**	⇓*i*P	**Pn**	**15 55 09.9**	**+0.4**
BARC				*e*S	**Sn**	**15 55 25.2**	**-0.9**
BARC				*i*		15 55 26.5	
	comp=Z,783nm,0.2s						
BRRC	**Barranca, Sant**	**0.65**	**296**	⇑*i*P	**Pn**	**15 55 11.7**	**+0.8**
BRRC				*e*S	**Sn**	**15 55 29.2**	**+0.6**
BRRC				*i*		15 55 32.1	
	comp=Z,285nm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**39**	⇑*i*P	**Pn**	**15 55 12.7**	**+1.1**
PAMC				*e*S	**Sn**	**15 55 30.0**	**+0.3**
PAMC				*i*		15 55 32.1	
	comp=Z,196nm,0.5s						
RUSC	**La Rusia**	**0.92**	**178**	⇓*i*P	**Pn**	**15 55 13.7**	**+0.4**
RUSC				*e*S	**Sn**	**15 55 32.7**	**-0.2**
RUSC				*i*		15 55 33.7	
	comp=Z,154nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P	**Pn**	**15 55 16.4**	**-0.2**
PTBC				*e*S	**Sn**	**15 55 38.3**	**-0.4**
PTBC				*i*		15 55 40.8	
	comp=Z,184nm,0.2s						
TAMC	**Tame, Arauca**	**1.37**	**106**	⇓*i*P	**Pn**	**15 55 18.1**	**+1.3**
TAMC				*i*		15 55 39.0	
	comp=Z,97nm,0.3s						
TAMC				*e*S	**Sn**	**15 55 39.9**	**+0.9**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**	**15 55 22.4**	**+0.6**
ZARC				*e*S	**Sn**	**15 55 48.1**	**+0.2**
ZARC				*i*		15 55 53.2	
	comp=Z,211nm,0.4s						
CHIC	**Chingaza**	**2.26**	**196**	*e*P	**Pn**	**15 55 27.8**	**+0.9**
CHIC				*e*S	**Sn**	**15 55 57.2**	**+0.1**
CHIC				*i*		15 56 05.8	
	comp=Z,72nm,0.6s						
ROSC	**El Rosal**	**2.30**	**211**	P	**Pn**	**15 55 29.4**	**+2.0**
	comp=Z,47nm,0.3s,baz=314,slow=20,SNR=38						
ROSC				S	**Sn**	**15 55 58.9**	**+1.0**
	comp=Z,128nm,0.3s,baz=75,slow=21,SNR=9.1						
ROSC	**El Rosal**	**2.30**	**211**	*e*P	**Pn**	**15 55 29.6**	**+2.2**
ROSC				*e*S	**Sn**	**15 56 00.1**	**+2.2**
ROSC				*i*		15 56 03.8	
	comp=Z,168nm,0.7s						
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P	**Pn**	**15 55 30.0**	**-0.1**
UREC				*e*S	**Sn**	**15 56 01.0**	**-1.9**
UREC				*i*		15 56 12.4	
	comp=Z,115nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.74**	**351**	*e*P	**Pn**	**15 55 34.7**	**+2.5**
LL1C				*e*S	**Sn**	**15 56 10.4**	**+3.6**
PTGC	**Puerto Gaitan,**	**2.78**	**159**	⇓*i*P	**Pn**	**15 55 32.8**	**-0.1**
PTGC				*e*S	**Sn**	**15 56 06.2**	**-1.5**
PTGC				*i*		15 56 09.8	
	comp=Z,34nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*e*P	**Pn**	**15 55 37.8**	**+1.7**
CBOC				*e*S	**Sn**	**15 56 14.6**	**+1.3**
CBOC				*i*		15 56 20.0	
	comp=Z,34nm,0.1s						
DBBC	**Dabeiba**	**3.07**	**274**	*e*P	**Pn**	**15 55 37.8**	**+1.3**
DBBC				*e*S	**Sn**	**15 56 13.8**	**-0.5**
DBBC				*i*		15 56 14.7	
	comp=Z,44nm,0.2s						
SDV	**Santo Domingo**	**3.21**	**50**	P	**Pn**	**15 55 39.3**	**+1.0**
	comp=Z,34nm,0.3s,baz=220,slow=2.5,SNR=61						
SDV				S	**Sn**	**15 56 18.2**	**+0.7**
	comp=Z,19nm,0.3s,baz=40,slow=15,SNR=11						
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*P	**Pn**	**15 55 40.0**	**+1.7**
ARGC				*e*S	**Sn**	**15 56 20.0**	**+2.5**
ARGC				*i*		15 56 22.1	
	comp=Z,25nm,0.3s						
ORTC	**Ortega, Tolima**	**3.58**	**216**	*e*P	**Pn**	**15 55 44.1**	**+1.1**
ORTC				*e*S	**Sn**	**15 56 27.3**	**+1.4**
ORTC				*i*		15 56 34.4	
	comp=Z,51nm,0.5s						
APAC	**Apartado, Choc**	**3.60**	**288**	*e*P	**Pn**	**15 55 45.0**	**+1.9**
APAC				*e*S	**Sn**	**15 56 25.5**	**-0.6**
APAC				*i*		15 56 27.8	
	comp=Z,27nm,0.6s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	**Pn**	**15 55 43.5**	**-0.6**
SJCC				*e*S	**Sn**	**15 56 25.3**	**-2.7**
SJCC				*i*		15 56 30.4	
	comp=Z,28nm,0.2s						
PLMC	**San Jos del P**	**3.68**	**239**	*e*P	**Pn**	**15 55 45.2**	**+1.0**
PLMC				*e*S	**Sn**	**15 56 28.2**	**+0.1**
PLMC				*i*		15 56 33.7	
	comp=Z,23nm,0.5s						
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	*e*P	**Pn**	**15 55 50.2**	**-0.5**
CRJC				*e*S	**Sn**	**15 56 38.7**	**-1.1**
CRJC				*i*		15 56 43.9	
	comp=Z,50nm,0.4s						
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P	**Pn**	**15 55 52.2**	**+0.3**
YOTC				*e*S	**Sn**	**15 56 44.8**	**+2.8**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P	**Pn**	**15 55 54.7**	**+0.5**
SMRC				*e*S	**Sn**	**15 56 43.5**	**-2.5**
SMRC				*i*		15 56 48.8	
	comp=Z,18nm,0.3s						
MACC	**Macarena, Meta**	**4.70**	**189**	*e*P	**Pn**	**15 55 56.9**	**-0.6**
MACC				*e*S	**Sn**	**15 56 49.0**	**-2.9**
MACC				*i*		15 56 54.4	
	comp=Z,15nm,0.4s						
URIC	**Uribia, Colomb**	**4.98**	**13**	*e*P	**Pn**	**15 56 00.3**	**-0.7**
URIC				*e*S	**Sn**	**15 56 53.9**	**-4.4**
URIC				*i*		15 57 02.6	
	comp=Z,6.7nm,0.3s						
GARC	**Garzon, Huila**	**5.17**	**207**	*e*P	**Pn**	**15 56 03.8**	**-0.2**
GARC				*e*S	**Sn**	**15 56 59.7**	**-3.7**
GARC				*i*		15 57 05.4	
	comp=Z,23nm,0.2s						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**16 04 58.6**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=136,slow=7.1,SNR=7.2						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**16 14 17.6**	**-0.7**
	comp=Z,0.2nm,0.9s,baz=122,slow=3.6,SNR=1.9						

IDC 25 15:59:14.3±3.9, **0°.06S**×**132°.98E**, **h0**km, **mb3.2**/2, **mbtmp3.2**/3, **Error ellipse: s-maj=218.5km s-min=30.0km az=74.0**, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.81**	**176**	P	P	16 03 45.6	-1.0
	0.4nm,0.7s,baz=355,slow=11,SNR=0.9						
ASAR	**Alice Springs**	**23.48**	**178**	P	P	16 04 26.5	+0.6
	0.5nm,0.8s,baz=357,slow=10,SNR=8.9						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**64.24**	**324**	P	P	16 09 51.3	0.0
	0.2nm,0.7s,baz=102,slow=7.8,SNR=1.9						
	0.2nm,0.7s						

*IDC **25** 16:10:08.7±1.4, 36°.30N×31°.15E, h0km, mb3.5/2, mbtmp3.5/8, ML3.6/7, Error ellipse: s-maj=23.5km s-min=19.1km az=76.0*

*ISK **25** 16:10:11.9, 36°.20N×31°.18E, h15km, ML3.6/35*

*DDA **25** 16:10:13.0±0.0, 36°.24N×31°.23E, h34km±1km, ML3.0*

*NIC **25** 16:10:14.6±0.0, 36°.09N×31°.39E, h32km±20km, Ml3.7/5*

*HLW **25** 16:10:15.6, 35°.90N×31°.03E, h12km±11km, Md4.3, Ml4.3*

*GII **25** 16:10:15.9±0.0, 35°.93N×31°.54E, h3km, Mm3.3/4*

ISC 25 16:10:10.6±1.2, **36°.15N**±0°.03×**31°.26E**±0°.02, **h14**km±9km, **n97**, σ**1s.70**/124, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.76**	**284**	P	**Pn**	**16 10 27.9**	**+1.0**
AKUM				S	**Sn**	**16 10 40.7**	**+2.5**
AKUM				*i* AML	AML	16 10 42.0	
	comp=E,1μm,0.5s						
AKUM				*i* AML	AML	16 10 42.0	
	comp=N,2μm,0.7s						
GAZI	**Gazipasa**	**0.86**	**84**	Pg	**Pn**	**16 10 29.3**	**+1.0**
ANTB	**Antalya**	**0.90**	**327**	Pg	**Pn**	**16 10 28.8**	**0.0**
ANTB				Sg	**Sb**	**16 10 40.6**	**+0.8**
KORT	**Korkueli**	**1.12**	**320**	Pg	**Pb**	**16 10 32.3**	**+0.4**
ELL	**Elmali**	**1.25**	**299**	Pn	**Pg**	**16 10 34.8**	**+0.2**
HDMB	**Hadim**	**1.28**	**50**	Pn	**Pn**	**16 10 36.5**	**+2.2**
SEYD	**Seydisehir-KON**	**1.34**	**20**	Pn	**Pg**	**16 10 36.5**	**+0.1**
SEYD				Sn	**Sn**	**16 10 53.8**	**+1.1**
AKAS	**Kas**	**1.34**	**274**	Pn	**Pn**	**16 10 35.6**	**+0.6**
SEDI	**Konya, Seydise**	**1.36**	**17**	P	**Pg**	**16 10 36.8**	**-0.1**
SEDI				S	**Sn**	**16 10 54.2**	**+0.9**
SEDI				*i* AML	AML	16 10 55.0	
	comp=E,310nm,0.5s						
SEDI				*i* AML	AML	16 10 59.0	
	comp=N,347nm,0.4s						
BCK	**Bucak**	**1.42**	**338**	Pn	**Pg**	**16 10 37.2**	**-0.7**
AKMS	**Akamas**	**1.43**	**142**	P	**Pn**	**16 10 37.7**	**+1.7**
AKMS				AML	AML	16 11 04.2	
	6.7nm,0.3s						
AKMS				AML	AML	16 11 07.4	
	4.6nm,0.3s						
ALFC	**Alefka**	**1.47**	**132**	P	**Pn**	**16 10 37.2**	**+0.6**
ALFC				S	**Sn**	**16 10 54.8**	**-1.0**
ALFC				AML	AML	16 11 00.2	
	3.2nm,0.3s						
ALFC				AML	AML	16 11 00.2	
	3.2nm,0.3s						
ALFC				AML	AML	16 11 05.8	
	5.4nm,0.4s						
ALFC				AML	AML	16 11 05.8	
	5.4nm,0.4s						
LEF	**Lefka**	**1.68**	**127**	Pn	**Pn**	**16 10 39.9**	**+0.4**
KKBE	**Karaman, Kazim**	**1.73**	**51**	P	**Pg**	**16 10 43.5**	**-0.2**
KKBE				S	**Sg**	**16 11 05.8**	**-0.4**
KKBE				*i* AML	AML	16 11 08.0	
	comp=E,309nm,0.5s						
KKBE				*i* AML	AML	16 11 09.0	
	comp=N,398nm,0.4s						

YORU	**Yoruktepe-Mers**	**1.74**	**89**	Pn	**Pg**	**16 10 43.5**	**-0.4**
CAME	**Cameli-Denizli**	**1.77**	**297**	Pn	**Pn**	**16 10 42.3**	**+1.4**
ISP	**Isparta**	**1.78**	**341**	Pn	**Pb**	**16 10 42.2**	**-0.8**
OREN	**Orenkoy-Mersin**	**1.78**	**87**	Pn	**Pb**	**16 10 43.9**	**+0.9**
TEVE	**Tevekalti-Mers**	**1.79**	**80**	Pn	**Pg**	**16 10 44.2**	**-0.7**
BRDR	**BURDUR-Merkez**	**1.82**	**329**	P	**Pb**	**16 10 44.3**	**+0.5**
BRDR				S	**Sb**	**16 11 06.6**	**+0.1**
BRDR				*i* AML	AML	16 11 11.0	
	comp=E,101nm,0.4s						
BRDR				*i* AML	AML	16 11 16.0	
	comp=N,92nm,0.4s						
FETY	**Fethiye**	**1.82**	**286**	Pn	**Pn**	**16 10 42.7**	**+1.2**
CAEL	**Denizli, Camel**	**1.84**	**303**	P	**Pb**	**16 10 44.5**	**+0.4**
CAEL				S	**Sb**	**16 11 08.1**	**+1.1**
CAEL				*i* AML	AML	16 11 27.0	
	comp=N,376nm,0.7s						
CAEL				*i* AML	AML	16 11 28.0	
	comp=E,373nm,0.7s						
GULN	**MERSIN_Gulnar**	**1.85**	**88**	P	**Pb**	**16 10 44.7**	**+0.6**
GULN				*i* AML	AML	16 11 12.0	
	comp=E,145nm,0.8s						
GULN				*i* AML	AML	16 11 12.0	
	comp=N,140nm,0.3s						
KMER	**Konya-Meram**	**1.85**	**28**	P	**Pb**	**16 10 44.4**	**+0.2**
KMER				S	**Sg**	**16 11 07.7**	**-2.4**
KMER				*i* AML	AML	16 11 09.0	
	comp=E,132nm,0.3s						
KMER				*i* AML	AML	16 11 10.0	
	comp=N,270nm,0.4s						
TEPK	**Tepekoy-MERSIN**	**1.85**	**87**	Pn	**Pb**	**16 10 45.2**	**+1.0**
AKK2	**Akkuyu-Mersin**	**1.85**	**90**	Pn	**Pb**	**16 10 45.0**	**+0.8**
AKKU	**Akkuyu-Mersin**	**1.85**	**89**	Pn	**Pb**	**16 10 45.1**	**+0.9**
YESI	**Yesilovacik-Me**	**1.93**	**88**	Pn	**Pb**	**16 10 46.1**	**+0.6**
TISA	**Tisan-Mersin**	**1.96**	**89**	Pn	**Pb**	**16 10 46.7**	**+0.7**
IKL	**Isikli**	**1.96**	**87**	Pn	**Pb**	**16 10 46.9**	**+0.8**
KARG	**Kargicak-Mersi**	**1.98**	**88**	Pn	**Pb**	**16 10 47.1**	**+0.7**
KONT	**Konya--Tatoy**	**2.00**	**26**	Pn	**Pb**	**16 10 46.6**	**-0.2**
ATHAL	**Athalassa**	**2.01**	**119**	P	**Pn**	**16 10 44.8**	**+0.8**
BASM	**Basmaki-Afyon**	**2.02**	**332**	Pn	**Pb**	**16 10 46.2**	**-0.9**
APMY	**Acipayam-Deniz**	**2.06**	**311**	Pn	**Pn**	**16 10 45.9**	**+1.1**
CSS	**Mathiatis**	**2.06**	**124**	P	**Pn**	**16 10 45.4**	**+0.7**
CSS				S	**Sn**	**16 11 09.3**	**-1.0**
CSS				AML	AML	16 11 30.4	
	0.4nm,0.5s						
CSS				AML	AML	16 11 30.4	
	0.4nm,0.5s						
SILI	**Silifke-Mersin**	**2.16**	**83**	Pn	**Pb**	**16 10 49.6**	**+0.1**
DALY	**Dalyan (Mula)**	**2.21**	**288**	Pn	**Pn**	**16 10 47.9**	**+1.2**
LADK	**Ladik-KONYA**	**2.23**	**23**	Pn	**Pn**	**16 10 48.9**	**+1.6**
MVOU	**Mavrovouni**	**2.24**	**120**	P	**Pn**	**16 10 47.4**	**+0.2**
MVOU				S	**Sn**	**16 11 12.7**	**-1.9**
MVOU				AML	AML	16 11 18.4	
	1.2nm,0.4s						
MVOU				AML	AML	16 11 18.4	
	1.2nm,0.4s						
TAVA	**DENIZLI_Tavas**	**2.30**	**306**	P	**Pn**	**16 10 49.8**	**+1.7**
TAVA				S	**Sn**	**16 11 17.5**	**+1.2**
TAVA				*i* AML	AML	16 11 28.0	
	comp=E,285nm,0.6s						
TAVA				*i* AML	AML	16 11 28.0	
	comp=N,206nm,0.5s						
SHUT	**Suhut-Afyon**	**2.47**	**347**	Pn	**Pn**	**16 10 52.1**	**+1.6**
ALIN	**Konya, Altinte**	**2.51**	**31**	P	**Pn**	**16 10 52.9**	**+1.9**
ALIN				S	**Sn**	**16 11 22.4**	**+1.0**
ALIN				*i* AML	AML	16 11 24.0	
	comp=E,68nm,0.3s						
ALIN				*i* AML	AML	16 11 25.0	
	comp=N,59nm,0.7s						
TURN	**Turunc**	**2.51**	**285**	Pn	**Pn**	**16 10 52.3**	**+1.4**
ARG	**Arkhangelos**	**2.54**	**273**	Pn	**Pn**	**16 10 52.6**	**+1.3**
YESY	**Yesilyurt**	**2.57**	**50**	Pn	**Pb**	**16 10 55.1**	**-1.5**
YER	**Yerkesik**	**2.59**	**293**	Pn	**Pn**	**16 10 53.3**	**+1.2**
MULA	**Mugla, Merkez-**	**2.61**	**296**	P	**Pn**	**16 10 54.0**	**+1.6**
MULA				S	**Sn**	**16 11 23.4**	**-0.5**
MULA				*i* AML	AML	16 11 33.0	
	comp=N,43nm,0.3s						
MULA				*i* AML	AML	16 11 43.0	
	comp=E,100nm,0.7s						
OSC1	**CSNet OBS 1**	**2.64**	**180**	P	**Pn**	**16 10 54.3**	**+1.6**
OSC1				S	**Sn**	**16 11 25.3**	**+0.8**
CHBY	**Cihanbeyli**	**2.76**	**28**	Pn	**Pn**	**16 10 56.2**	**+1.7**
MLSB	**Milas**	**3.02**	**293**	Pn	**Pn**	**16 10 59.2**	**+1.1**
DAT	**Datca**	**3.03**	**282**	Pn	**Pn**	**16 10 59.5**	**+1.3**
USAK	**Uak-Merkez**	**3.12**	**326**	P	**Pn**	**16 11 01.0**	**+1.5**
USAK				S	**Sn**	**16 11 36.9**	**+0.3**
USAK				*i* AML	AML	16 11 38.0	
	comp=N,24nm,0.3s						
KULA	**Kula-Manisa**	**3.14**	**320**	Pn	**Pn**	**16 11 00.8**	**+1.0**
MANT	**Manisa**	**3.18**	**318**	P	**Pn**	**16 11 01.2**	**+0.8**
MANT				S	**Sn**	**16 11 37.6**	**-0.7**
MANT				*i* AML	AML	16 11 40.0	
	comp=N,46nm,0.2s						
MANT				*i* AML	AML	16 11 42.0	
	comp=E,45nm,0.5s						
CIFT	**Cifteler, Eski**	**3.21**	**357**	Pn	**Pn**	**16 11 02.2**	**+1.5**
SVRH	**Sivrihisar-ESK**	**3.30**	**4**	Pn	**Pn**	**16 11 03.0**	**+1.1**
SIMA	**Simav-Kutahya**	**3.45**	**329**	Pn	**Pn**	**16 11 05.7**	**+1.8**
BRTR	**Keskin Array B**	**4.04**	**27**	Pn	**Pn**	**16 11 13.6**	**+1.5**
	1.4nm,0.3s,baz=214,slow=16,SNR=39						
BRTR				Sn	**Sn**	**16 11 59.0**	**-0.3**
	3.1nm,0.3s,baz=210,slow=24,SNR=15						
	3.6nm,0.4s						
HNTI	**Hanita**	**4.44**	**132**	Pn	**Pn**	**16 11 20.5**	**+2.9**
HNTI	**Hanita**	**4.44**	**132**	P	**Pn**	**16 11 22.1**	**+4.5**
HNTI				S	**Sn**	**16 12 10.1**	**+1.0**
MMA0B	**Mount Meron ar**	**4.63**	**131**	Pn	**Pn**	**16 11 21.8**	**+1.6**
MMA0B				Sn	**Sn**	**16 12 13.7**	**0.0**
MMAI	**Mount Meron Ar**	**4.63**	**131**	Pn	**Pn**	**16 11 22.2**	**+2.1**
	6.6nm,0.3s,baz=318,slow=11,SNR=23						
MMAI				Sn	**Sn**	**16 12 14.3**	**+0.6**
	6.7nm,0.3s,baz=304,slow=18,SNR=5.1						
	3.2nm,0.2s						
GEM	**Giv'at Ha'Em**	**4.66**	**128**	Pn	**Pn**	**16 11 22.7**	**+2.2**
GEM				Sn	**Sn**	**16 12 15.1**	**+0.7**
GEM	**Giv'at Ha'Em**	**4.66**	**128**	P	**Pn**	**16 11 23.3**	**+2.8**
NATI	**Neve Ativ**	**4.68**	**127**	Pn	**Pn**	**16 11 22.8**	**+2.1**
NATI				Sn	**Sn**	**16 12 15.5**	**+0.8**
MMLI	**Mount Malkishu**	**5.05**	**136**	Pn	**Pn**	**16 11 28.3**	**+2.3**
HMDT	**Nahal Hemdat**	**5.25**	**136**	Pn	**Pn**	**16 11 31.6**	**+3.0**
HMDT				Sn	**Sn**	**16 12 29.4**	**+0.5**
IDI	**Anoyia**	**5.25**	**262**	Pn	**Pn**	**16 11 27.9**	**-0.8**
	1.1nm,0.3s,baz=70,slow=15,SNR=17						
IDI				Sn	**Sn**	**16 12 25.5**	**-3.6**
	3.1nm,0.3s,baz=280,slow=19,SNR=6.7						
	7.6nm,0.7s						
DSI	**Dead Sea**	**5.71**	**142**	Pn	**Pn**	**16 11 37.9**	**+3.0**
KZIT	**Kziot**	**5.84**	**152**	Pn	**Pn**	**16 11 40.0**	**+3.2**
KZIT				Sn	**Sn**	**16 12 43.4**	**-0.2**
MATC	**Matruh**	**5.85**	**216**	P	**Pn**	**16 11 37.6**	**+0.8**
	baz=216						
MDBI	**Mazsada**	**5.91**	**144**	P	Pn	16 11 43.1	+5.5
WALJ	**Wala**	**5.93**	**139**	P	**Pn**	**16 11 42.2**	**+4.2**
LISJ	**El Lisan**	**6.03**	**143**	P	Pn	16 11 45.4	+6.2
ASF	**Jabal al Asfar**	**6.13**	**129**	Pn	**Pn**	**16 11 44.9**	**+4.1**
	1.2nm,0.3s,baz=315,slow=8.4,SNR=6.3						
ASF				Sn	**Sn**	**16 12 52.9**	**+2.2**
	0.8nm,0.3s,baz=69,slow=20,SNR=1.6						
	2.6nm,0.3s						
ZFRI	**Zfri**	**6.47**	**148**	P	**Pb**	**16 12 00.7**	**-2.2**
HSAF	**As Saff**	**6.51**	**178**	P	**Pn**	**16 11 47.2**	**+1.2**
	baz=175						
GLL	**Jalalah**	**6.56**	**177**	P	**Pn**	**16 11 47.9**	**+1.2**
	baz=174						
PRNI	**Paran**	**6.57**	**150**	Pn	**Pn**	**16 11 49.8**	**+3.0**
KRMI	**Paran Flat**	**6.68**	**153**	Pn	**Pn**	**16 11 51.8**	**+3.5**
SLUM	**Salum**	**6.84**	**229**	P	**Pn**	**16 11 50.5**	**0.0**
	baz=230						
SLUM				S	Sn	16 12 59.5	-8.7
	baz=230						
HRFI	**Mount Harif**	**6.87**	**151**	Pn	**Pn**	**16 11 54.3**	**+3.4**
HRFI				Sn	**Sn**	**16 13 08.9**	**+0.1**
MBRI	**Mt Berech**	**7.04**	**153**	Pn	**Pn**	**16 11 56.1**	**+2.8**
MBRI	**Mt Berech**	**7.04**	**153**	P	**Pn**	**16 11 56.3**	**+3.0**
RYAN	**Fayoum**	**7.09**	**187**	P	**Pn**	**16 11 54.8**	**+0.8**
	baz=186						
EIL	**Elat**	**7.16**	**153**	Pn	**Pn**	**16 11 57.0**	**+2.1**
	0.7nm,0.3s,baz=343,slow=11,SNR=8.6						
EIL				Sn	**Sn**	**16 13 12.8**	**-3.3**
	0.7nm,0.3s,baz=98,slow=21,SNR=2.4						
	5.1nm,0.6s						
EIL	**Elat**	**7.16**	**153**	Pn	**Pn**	**16 11 57.8**	**+2.9**
HDHB	**Dhahab**	**7.93**	**158**	P	**Pn**	**16 12 07.8**	**+2.5**
	baz=156						
HKAT	**Jabal Katrina**	**7.94**	**162**	P	**Pn**	**16 12 06.7**	**+0.9**
	baz=160						
SWA2		**8.44**	**217**	P	**Pn**	**16 12 12.0**	**-0.5**
	baz=217						
HHRG	**Al Ghardaqah**	**9.11**	**167**	P	**Pn**	**16 12 24.5**	**+2.8**
	baz=165						
HFRF	**Wahat Farafira**	**9.31**	**196**	P	**Pn**	**16 12 24.5**	**0.0**
	baz=196						
VAE	**Valguarnera**	**13.57**	**281**	Pn	**Pn**	**16 13 22.1**	**-0.5**
	1.1nm,0.3s,baz=83,slow=8.9,SNR=4.8						
AKASG	**Malin Array Be**	**14.62**	**355**	Pn	**Pn**	**16 13 36.0**	**-0.9**
	0.7nm,0.3s,baz=176,slow=9.5,SNR=3.6						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**25.53**	**354**	P	**P**	**16 15 35.3**	**-3.1**
	2.3nm,1.0s,baz=145,slow=8.5,SNR=1.3						
	2.3nm,1.0s						
MKAR	**Makanchi Array**	**39.06**	**58**	P	**P**	**16 17 35.7**	**-1.3**
	0.1nm,0.3s,baz=269,slow=7.2,SNR=2.1						
	0.1nm,0.3s						

*JMA **25** 16:28:12.9±0.2,32.5N±0.9×141.6E±0.8,h63km, MV3.2/13, E OFF HACHIJOJIMA ISLAND*
*IDC **25** 16:28:13.7±1.4,31.80N×139.29E,h0km,mb3.3/3, mbtmp3.2/4,ML1.6/1,Error ellipse: s-maj=50.6km s-min=18.9km az=99.0*
ISC 25 16:28:13.1±1.4,32.46N±0.09×141.63E±0.10,h50km,n11, σ1§01/15,mb3.3/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.66**	**292**	*e*P	**Pn**	**16 28 40.0**	**+0.2**
JHCJ				*e*S	**Sn**	**16 29 00.3**	**+0.3**
JHJ2	**Mitsune**	**1.66**	**293**	*e*P	**Pn**	**16 28 40.2**	**+0.5**
JHJ2				*e*S	**Sn**	**16 29 00.3**	**+0.3**
JHJ	**Hachijo jima 2**	**1.69**	**293**	Pn	**Pn**	**16 28 40.4**	**+0.2**
	11nm,0.3s,baz=68,slow=21,SNR=2.1						
JHJ				Sn	**Sn**	**16 29 00.6**	**-0.1**
	16nm,0.3s,baz=46,slow=14,SNR=1.7						
BSO1	**Boso 1**	**2.25**	**346**	*e*P	**Pn**	**16 28 48.0**	**+0.6**
JYT	**Yasato**	**3.94**	**343**	P	**Pn**	**16 29 12.2**	**+1.2**
JHO	**Hitachi**	**4.23**	**348**	*e*P	**Pn**	**16 29 14.1**	**-0.9**
JHO				*e*S	**Sn**	**16 30 03.3**	**+0.2**
JAG	**Ashikaga**	**4.34**	**336**	*e*P	**Pn**	**16 29 18.0**	**+1.4**
MJAR	**Matsushiro Arr**	**4.95**	**326**	Pn	**Pn**	**16 29 25.9**	**+1.0**
	baz=167,slow=15,SNR=1.4						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**46.82**	**306**	P	**P**	**16 36 35.8**	**-2.0**
	0.2nm,0.7s,baz=81,slow=8.9,SNR=1.7						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**52.57**	**189**	P	**P**	**16 37 21.6**	**-0.1**
	0.6nm,0.6s,baz=3.8,slow=7.7,SNR=5.8						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**56.30**	**189**	P	**P**	**16 37 50.3**	**+1.5**
	0.3nm,1.0s,baz=12,slow=12,SNR=1.7						
	0.3nm,1.0s						

*SJA **25** 16:40:28.9±0.7,32.21S×68.40W,h133km±2km,ML4.1, MW3.9*
*NEIC **25** 16:40:29.4±2.2,32.30S±0.05×68.32W±0.08,h125km±5km, mb4.3/21,Error ellipse: s-maj=10.0km s-min=7.4km az=100.0*
*IDC **25** 16:40:29.7±0.7,32.21S×68.47W,h123km±4km,mb3.7/6, mbtmp3.9/9,Error ellipse: s-maj=25.2km s-min=17.8km az=101.0*
ISC 25 16:40:29.5±0.5,32.21S±0.03×68.40W±0.03,h131km±4km, n172,σ1§47/254,mb4.2/16,16C,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAL	**Salagasta**	**0.53**	**224**	*e*P	**Pn**	**16 40 49.2**	**+0.2**
ASAL				*e*S	**Sn**	**16 41 04.5**	**+0.7**
ASAL	**Salagasta**	**0.53**	**224**	*e*P	**Pn**	**16 40 49.2**	**+0.2**
ASAL				*e*S	**Sn**	**16 41 04.5**	**+0.7**
CFA	**Coronel Fontan**	**0.62**	**13**	P	**Pn**	**16 40 50.0**	**+0.4**
	444nm,0.3s,baz=210,slow=8.4,SNR=1757						
CFA				S	**Sn**	**16 41 04.3**	**-0.4**
	baz=322,slow=19						
CFA	**Coronel Fontan**	**0.62**	**13**	*e*P	**Pn**	**16 40 49.5**	**-0.1**
CFA				*e*S	**Sn**	**16 41 04.8**	**+0.2**
CFA				IAML		16 41 05.2	
	comp=Z,2μm,0.1s						
CFA	**Coronel Fontan**	**0.62**	**13**	*e*P	**Pn**	**16 40 49.5**	**-0.1**
CFA				*e*S	**Sn**	**16 41 04.8**	**+0.2**
CFA				IAML		16 41 05.2	
	comp=Z,2μm,0.1s						
ZON	**Zonda**	**0.70**	**340**	Pn	**Pn**	**16 40 50.2**	**0.0**
ZON				Sn	**Sn**	**16 41 05.3**	**-0.4**
ZON	**Zonda**	**0.70**	**340**	*e*P	**Pn**	**16 40 50.4**	**+0.2**
ZON				*e*S	**Sn**	**16 41 06.3**	**+0.6**
ZON				IAML		16 41 07.0	
	comp=Z,2μm,0.2s						
ZON	**Zonda**	**0.70**	**340**	*e*P	**Pn**	**16 40 50.4**	**+0.2**
ZON				*e*S	**Sn**	**16 41 06.3**	**+0.6**
ZON				IAML		16 41 07.0	
	comp=Z,2μm,0.2s						
ARCO	**CERRO ARCO**	**0.77**	**215**	*e*P	**Pn**	**16 40 51.0**	**+0.3**
ARCO				*e*S	**Sn**	**16 41 07.1**	**+0.2**
ARCO	**CERRO ARCO**	**0.77**	**215**	*e*P	**Pn**	**16 40 51.0**	**+0.3**
ARCO				*e*S	**Sn**	**16 41 07.1**	**+0.2**
RTLS	**Leoncito**	**0.86**	**298**	*e*P	**Pn**	**16 40 52.2**	**+0.5**
RTLS				*e*S	**Sn**	**16 41 09.0**	**+0.5**
RTLS				IAML		16 41 10.2	
	comp=Z,7μm,0.2s						
RTLS	**Leoncito**	**0.86**	**298**	*e*P	**Pn**	**16 40 52.2**	**+0.5**
RTLS				*e*S	**Sn**	**16 41 09.0**	**+0.5**
RTLS				IAML		16 41 10.2	
	comp=Z,7μm,0.2s						
RTLL	**Cerro Villicun**	**0.88**	**356**	*e*P	**Pn**	**16 40 51.3**	**-0.3**
RTLL				*e*S	**Sn**	**16 41 08.6**	**+0.4**
RTLL	**Cerro Villicun**	**0.88**	**356**	*e*P	**Pn**	**16 40 51.3**	**-0.3**
RTLL				*e*S	**Sn**	**16 41 08.6**	**+0.4**
AAGR	**Agrelo**	**0.94**	**202**	*e*P	**Pn**	**16 40 52.4**	**+0.3**
AAGR	**Agrelo**	**0.94**	**202**	*e*P	**Pn**	**16 40 52.4**	**+0.3**
VA03	**San Esteban**	**1.90**	**253**	Pn	**Pn**	**16 41 02.9**	**+0.5**
VA03				Sn	**Sn**	**16 41 27.9**	**+0.3**
VA03	**San Esteban**	**1.90**	**253**	*e*P	**Pn**	**16 41 03.0**	**+0.5**
VA03				*e*S	**Sn**	**16 41 29.1**	**+1.5**
VA03				IAML		16 41 35.6	
	comp=E,2μm,0.1s						
VA03	**San Esteban**	**1.90**	**253**	*e*P	**Pn**	**16 41 03.0**	**+0.6**
VA03				*e*S	**Sn**	**16 41 27.4**	**-0.2**
VA03				IAML		16 41 33.4	
	comp=Z,2μm,0.7s						
VA03	**San Esteban**	**1.90**	**253**	*e*P	**Pn**	**16 41 03.0**	**+0.6**
VA03				*e*S	**Sn**	**16 41 27.4**	**-0.2**
VA03				IAML		16 41 33.4	
	comp=Z,2μm,0.7s						
FCH	**Farellones**	**1.94**	**235**	*i* P	**Pn**	**16 41 03.9**	**+0.7**
FCH				*e*S	**Sn**	**16 41 29.5**	**+0.6**
FCH				IAML		16 41 34.5	
	comp=N,573nm,0.3s						
PEL	**Peldehue**	**2.14**	**244**	Pn	**Pn**	**16 41 05.4**	**+0.1**
PEL	**Peldehue**	**2.14**	**244**	*e*P	**Pn**	**16 41 05.5**	**+0.1**
PEL				*e*S	**Sn**	**16 41 32.7**	**0.0**
PEL				IAML		16 41 34.0	
	comp=N,696nm,0.3s						
PEL	**Peldehue**	**2.14**	**244**	*e*P	**Pn**	**16 41 05.5**	**+0.1**
PEL				*e*S	**Sn**	**16 41 34.2**	**+1.5**
PEL	**Peldehue**	**2.14**	**244**	*e*P	**Pn**	**16 41 05.5**	**+0.1**
PEL				*e*S	**Sn**	**16 41 34.2**	**+1.5**
MT03	**Universidad Ad**	**2.19**	**234**	Pn	**Pn**	**16 41 06.2**	**+0.2**
MT03	**Universidad Ad**	**2.19**	**234**	*i*P	**Pn**	**16 41 06.4**	**+0.4**
MT03				*e*S	**Sn**	**16 41 34.3**	**+0.4**
MT03				IAML		16 41 41.1	
	comp=E,1μm,0.2s						
MT03	**Universidad Ad**	**2.19**	**234**	*e*P	**Pn**	**16 41 06.4**	**+0.4**
MT03				*e*S	**Sn**	**16 41 38.1**	**+4.2**
MT03				IAML		16 41 41.7	
	comp=Z,881nm,0.4s						
MT03	**Universidad Ad**	**2.19**	**234**	*e*P	**Pn**	**16 41 06.4**	**+0.4**
MT03				*e*S	**Sn**	**16 41 38.1**	**+4.2**
MT03				IAML		16 41 41.7	
	comp=Z,881nm,0.4s						
LMEL	**Las Melosas**	**2.23**	**222**	Pn	**Pn**	**16 41 07.3**	**+0.8**
LMEL	**Las Melosas**	**2.23**	**222**	*i*P	**Pn**	**16 41 07.2**	**+0.7**
LMEL				IAML		16 41 46.7	
	comp=N,463nm,0.3s						
MRA	**San Martin**	**2.28**	**96**	*e*P	**Pn**	**16 41 08.0**	**+0.9**
MRA				*e*S	**Sn**	**16 41 35.9**	**0.0**
MRA				IAML		16 41 38.7	
	comp=Z,2μm,0.4s						
MRA	**San Martin**	**2.28**	**96**	*e*P	**Pn**	**16 41 08.0**	**+0.9**
MRA				*e*S	**Sn**	**16 41 35.9**	**0.0**
MRA				IAML		16 41 38.7	
	comp=Z,2μm,0.4s						
MT05	**Renca**	**2.29**	**238**	Pn	**Pn**	**16 41 07.2**	**0.0**
MT05	**Renca**	**2.29**	**238**	*e*P	**Pn**	**16 41 07.5**	**+0.3**
MT05				*e*S	**Sn**	**16 41 36.5**	**+0.4**
MT05				IAML		16 41 38.4	
	comp=E,2μm,0.7s						
MT05	**Renca**	**2.29**	**238**	*e*P	**Pn**	**16 41 07.6**	**+0.4**
MT05				*e*S	**Sn**	**16 41 37.6**	**+1.4**
MT05				IAML		16 41 37.9	
	comp=Z,751nm,0.7s						
MT05	**Renca**	**2.29**	**238**	*e*P	**Pn**	**16 41 07.6**	**+0.4**
MT05				*e*S	**Sn**	**16 41 37.6**	**+1.4**
MT05				IAML		16 41 37.9	
	comp=Z,751nm,0.7s						
ROCH	**El Roble**	**2.33**	**250**	*e*P	**Pn**	**16 41 07.5**	**-0.4**
ROCH				*e*S	**Sn**	**16 41 36.1**	**-1.1**
ROCH				IAML		16 41 39.4	
	comp=N,2μm,0.3s						
ROC1	**El Roble**	**2.34**	**250**	Pn	**Pn**	**16 41 07.3**	**-0.6**
CO03	**El Pedregal**	**2.38**	**304**	Pn	**Pn**	**16 41 09.4**	**+1.0**
CO03	**El Pedregal**	**2.38**	**304**	*i*P	**Pn**	**16 41 09.6**	**+1.2**
CO03				*e*S	**Sn**	**16 41 38.7**	**+0.4**
CO03				IAML		16 41 41.9	
	comp=E,4μm,0.2s						
CO03	**El Pedregal**	**2.38**	**304**	*e*P	**Pn**	**16 41 07.6**	**-0.8**
CO03				*e*P		16 41 09.8	
CO03				*e*S	**Sn**	**16 41 40.0**	**+1.8**
CO03				IAML		16 41 42.4	
	comp=Z,854nm,0.2s						
CO03	**El Pedregal**	**2.38**	**304**	*e*P	**Pn**	**16 41 07.6**	**-0.8**
CO03				*e*P		16 41 09.8	
CO03				*e*S	**Sn**	**16 41 40.0**	**+1.8**
CO03				IAML		16 41 42.4	
	comp=Z,854nm,0.2s						
CO02	**Combarbal**	**2.43**	**294**	Pn	**Pn**	**16 41 09.3**	**+0.3**
CO02	**Combarbal**	**2.43**	**294**	*i*P	**Pn**	**16 41 09.5**	**+0.5**
CO02				*e*S	**Sn**	**16 41 39.0**	**-0.4**
CO02				IAML		16 41 42.7	
	comp=E,6μm,0.3s						
CO02	**Combarbal**	**2.43**	**294**	*e*P	**Pn**	**16 41 09.6**	**+0.5**
CO02				*e*S	**Sn**	**16 41 40.0**	**+0.7**
CO02				IAML		16 41 40.9	
	comp=Z,1μm,0.4s						
CO02	**Combarbal**	**2.43**	**294**	*e*P	**Pn**	**16 41 09.6**	**+0.5**
CO02				*e*S	**Sn**	**16 41 40.0**	**+0.7**
CO02				IAML		16 41 40.9	
	comp=Z,1μm,0.4s						
VA06	**Catapilco**	**2.48**	**261**	Pn	**Pn**	**16 41 08.4**	**-1.0**
VA06	**Catapilco**	**2.48**	**261**	*i*P	**Pn**	**16 41 08.4**	**-1.0**
VA06				*e*S	**Sn**	**16 41 38.0**	**-2.1**
VA06				IAML		16 41 53.6	
	comp=N,713nm,0.5s						
MT02	**Curacav**	**2.53**	**245**	Pn	**Pn**	**16 41 09.4**	**-0.8**
MT02	**Curacav**	**2.53**	**245**	*i*P	**Pn**	**16 41 09.5**	**-0.6**
MT02				*i* S	**Sn**	**16 41 39.6**	**-1.8**
MT02				IAML		16 41 43.0	
	comp=E,428nm,0.3s						
MT02	**Curacav**	**2.53**	**245**	*e*P	**Pn**	**16 41 09.6**	**-0.6**
MT02				*e*S	**Sn**	**16 41 40.8**	**-0.6**
MT02	**Curacav**	**2.53**	**245**	*e*P	**Pn**	**16 41 09.6**	**-0.6**
MT02				*e*S	**Sn**	**16 41 40.8**	**-0.6**
BO04	**La Punta**	**2.57**	**226**	Pn	**Pn**	**16 41 10.9**	**+0.3**
BO04	**La Punta**	**2.57**	**226**	*i*P	**Pn**	**16 41 10.9**	**+0.3**
BO04				*e*S	**Sn**	**16 41 42.5**	**+0.2**
BO04				IAML		16 41 47.1	
	comp=N,526nm,0.2s						
CO01	**Juntas del Tor**	**2.66**	**326**	Pn	**Pn**	**16 41 14.3**	**+2.2**
CO01	**Juntas del Tor**	**2.66**	**326**	*i*P	**Pn**	**16 41 14.5**	**+2.5**
CO01				*e*S	**Sn**	**16 41 46.4**	**+1.7**
CO01				IAML		16 41 48.8	
	comp=E,341nm,0.3s						
CO01	**Juntas del Tor**	**2.66**	**326**	*e*P	**Pn**	**16 41 11.7**	**-0.4**
CO01				*e*S	**Sn**	**16 41 47.7**	**+3.0**
CO01	**Juntas del Tor**	**2.66**	**326**	*e*P	**Pn**	**16 41 11.7**	**-0.4**
CO01				*e*S	**Sn**	**16 41 47.7**	**+3.0**
MT09	**Talagante**	**2.68**	**234**	Pn	**Pn**	**16 41 11.4**	**-0.8**
MT09	**Talagante**	**2.68**	**234**	*i*P	**Pn**	**16 41 11.6**	**-0.6**
MT09				*e*S	**Sn**	**16 41 43.7**	**-1.2**
MT09				IAML		16 41 45.7	
	comp=N,718nm,0.3s						
VA01	**Torpederas**	**2.86**	**253**	Pn	**Pn**	**16 41 12.3**	**-2.0**
VA01	**Torpederas**	**2.86**

LCO				*e*S			16 42 09.9	
LCO				IAML			16 42 11.0	
	comp=Z,237nm,0.4s							
LCO	**Las Campanas**	**3.75**	**328**	*e*P		**Pn**	**16 41 26.9**	**+0.6**
LCO				*e*S		**Sn**	**16 42 09.6**	**-0.7**
LCO				*e*S			16 42 09.8	
LCO				*e*S			16 42 09.9	
LCO				IAML			16 42 11.0	
	comp=Z,237nm,0.4s							
GO05	**Huala**	**4.06**	**226**	P		**Pn**	**16 41 27.4**	**-2.6**
GO05	**Huala**	**4.06**	**226**‖	*e*P		**Pn**	**16 41 27.4**	**-2.6**
GO05				*e*S		**Sn**	**16 42 12.3**	**-4.8**
CYA	**Choya**	**4.38**	**32**	*e*P		**Pn**	**16 41 34.0**	**-0.3**
CYA				*e*S		**Sn**	**16 42 23.5**	**-1.2**
CYA				IAML			16 42 43.0	
	comp=Z,174nm,0.5s							
CYA	**Choya**	**4.38**	**32**	*e*P		**Pn**	**16 41 34.0**	**-0.3**
CYA				*e*S		**Sn**	**16 42 23.5**	**-1.2**
CYA				IAML			16 42 43.0	
	comp=Z,174nm,0.5s							
AC04	**Llanos de Chal**	**4.61**	**329**	Pn		**Pn**	**16 41 37.3**	**-0.2**
AC04	**Llanos de Chal**	**4.61**	**329**	*e*P		**Pn**	**16 41 37.7**	**+0.2**
AC04				*e*S		**Sn**	**16 42 26.9**	**-3.4**
AC04				IAML			16 42 34.8	
	comp=Z,67nm,0.4s							
AC04	**Llanos de Chal**	**4.61**	**329**	*e*P		**Pn**	**16 41 37.7**	**+0.2**
AC04				*e*S		**Sn**	**16 42 26.9**	**-3.4**
AC04				IAML			16 42 34.8	
	comp=Z,67nm,0.4s							
GO03	**Copiap**	**4.87**	**340**	Pn		**Pn**	**16 41 41.4**	**+0.4**
AC06	**Mina Casimiro**	**5.13**	**340**	Pn		**Pn**	**16 41 44.1**	**-0.2**
AC02	**Maricunga**	**5.39**	**353**	Pn		**Pn**	**16 41 49.5**	**+1.1**
AC01	**Pan de Azucar**	**6.34**	**342**	Pn		**Pn**	**16 41 59.9**	**-0.8**
PB14	**IPOC Station P**	**7.76**	**346**	Pn		**Pn**	**16 42 17.9**	**-2.2**
GO06	**Curarrehue**	**7.77**	**198**	Pn		**Pn**	**16 42 17.1**	**-2.8**
PLCA	**Paso Flores**	**8.68**	**191**	P		**Pn**	**16 42 30.9**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=346,slow=9.5,SNR=7.7							
PLCA	**Paso Flores**	**8.68**	**191**	Pn		**Pn**	**16 42 31.3**	**-0.8**
VA04	**Juan Fernndez**	**8.88**	**258**	Pn		**Pn**	**16 42 32.9**	**-1.9**
PB06	**IPOC Station P**	**9.53**	**353**	Pn		**Pn**	**16 42 41.8**	**-1.8**
LVC	**Limon Verde**	**9.57**	**357**	P		**Pn**	**16 42 43.1**	**-1.4**
	comp=Z,4.9nm,0.3s,baz=178,slow=8.6,SNR=11							
LVC				S		**Sn**	**16 44 22.0**	**-8.6**
	comp=Z,3.2nm,0.7s,baz=350,slow=23,SNR=1.4							
LVC	**Limon Verde**	**9.57**	**357**	Pn		**Pn**	**16 42 42.7**	**-1.8**
PB09	**IPOC Station P**	**10.40**	**356**	Pn		**Pn**	**16 42 53.5**	**-1.9**
ITQB	**Itaqui**	**10.42**	**79**	Pn		**Pn**	**16 42 53.2**	**-2.3**
PB02	**IPOC Station P**	**10.93**	**353**	Pn		**Pn**	**16 43 00.1**	**-2.3**
CPUP	**Villa Florida**	**11.30**	**62**	P		**Pn**	**16 43 04.4**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=238,slow=9.1,SNR=5.3							
CPUP	**Villa Florida**	**11.30**	**62**	Pn		**Pn**	**16 43 03.9**	**-3.3**
PLTB	**Pedras Altas**	**12.57**	**92**	Pn		**Pn**	**16 43 21.2**	**-2.6**
PSGCX	**Pisagua**	**12.66**	**353**	Pn		**Pn**	**16 43 24.3**	**-0.8**
MNMC	**Minye Minye**	**13.07**	**355**	Pn		**Pn**	**16 43 29.7**	**-0.9**
PB16	**IPOC Station P**	**13.85**	**356**	Pn		**Pn**	**16 43 40.7**	**-0.2**
ITAB	**Concordia**	**14.98**	**75**	Pn		**Pn**	**16 43 53.9**	**-0.6**
SIV	**San Ignacio**	**17.47**	**24**	P		**P**	**16 44 24.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=211,slow=14,SNR=1.7							
ETMB	**Extrema**	**22.38**	**6**	P		**P**	**16 45 18.7**	**+1.6**
ETMB				IAmb		IAmb	16 45 20.3	
	comp=Z,3.5nm,0.7s							
SAML	**Samuel**	**23.65**	**13**	P		**P**	**16 45 29.0**	**0.0**
CZSB	**Cruzeiro do Su**	**24.68**	**350**	P		**P**	**16 45 36.7**	**-1.7**
CZSB				IAmb		IAmb	16 45 37.7	
	comp=Z,13nm,0.5s							
BDFB	**Brasilia**	**24.81**	**53**	P		**P**	**16 45 41.1**	**+1.4**
	comp=Z,2.4nm,0.5s,baz=196,slow=9.4,SNR=4.7							
	comp=Z,2.4nm,0.5s							
BDFB	**Brasilia**	**24.81**	**53**	P		**P**	**16 45 40.5**	**+0.8**
BDFB				IAmb		IAmb	16 46 06.4	
	comp=Z,10nm,1.5s							
MCRA	**Macar, Loja**	**29.74**	**336**	P		**P**	**16 46 25.3**	**+1.6**
MCRA				IAmb		IAmb	16 46 25.7	
	comp=Z,2.1nm,0.4s							
RUSC	**La Rusia**	**38.15**	**352**	P		**P**	**16 47 36.5**	**-0.3**
BATAN	**Batan**	**44.44**	**339**	P		**P**	**16 48 27.3**	**-0.1**
CELP	**Cerrillos**	**50.03**	**2**	P		**P**	**16 49 10.5**	**-0.3**
SNAA	**Sanae**	**52.11**	**159**	P		**P**	**16 49 24.9**	**-0.9**
SNAA				IAmb		IAmb	16 49 48.0	
	comp=Z,5.0nm,1.2s							
TEIG	**Tepich**	**55.51**	**337**	P		**P**	**16 49 51.9**	**+1.0**
QSPA	**South Pole Qui**	**58.02**	**180**	P		**P**	**16 50 08.5**	**+0.1**
TXAR	**Lajitas Array**	**69.77**	**328**	P		**P**	**16 51 26.5**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=141,slow=8.1,SNR=5.1							
	comp=Z,0.5nm,0.5s							
TXAR	**Lajitas Array**	**69.77**	**328**	P		**P**	**16 51 27.2**	**+1.6**
TX31	**Lajitas Ar. Si**	**69.77**	**327**	P		**P**	**16 51 26.6**	**+1.0**
TX31				IAmb		IAmb	16 51 32.8	
	comp=Z,8.3nm,1.4s							
WVT	**Waverly**	**70.38**	**343**	P		**P**	**16 51 29.5**	**+0.5**
WVT				IAmb		IAmb	16 51 30.5	
	comp=Z,8.1nm,0.7s							
R40A	**Maddies Statio**	**73.58**	**341**	P		**P**	**16 51 48.6**	**+0.5**
R40A				IAmb		IAmb	16 51 49.9	
	comp=Z,4.5nm,0.6s							
P40A	**Paris**	**74.68**	**341**	P		**P**	**16 51 55.3**	**+0.9**
P40A				IAmb		IAmb	16 51 56.1	
	comp=Z,6.2nm,0.6s							
ECSD	**EROS Data Cent**	**79.86**	**340**	P		**P**	**16 52 23.4**	**+0.2**
ECSD				IAmb		IAmb	16 52 24.9	
	comp=Z,4.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**80.72**	**68**	P		**P**	**16 52 29.6**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=276,slow=4.0,SNR=7.5							
TORD				pP		**pP**	**16 53 01.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=267,slow=5.8,SNR=3.9							
	comp=Z,1.3nm,0.6s							
HWUT	**Hardware Ranch**	**83.53**	**329**	P		**P**	**16 52 42.6**	**-0.2**
HWUT				IAmb		IAmb	16 52 46.3	
	comp=Z,2.0nm,0.7s							
PD31	**Pinedale Array**	**83.62**	**331**	P		**P**	**16 52 44.3**	**+1.0**
PDAR	**Pinedale Array**	**83.62**	**331**	P		**P**	**16 52 44.4**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=133,slow=7.0,SNR=7.3							
	comp=Z,0.5nm,0.5s							
PDAR	**Pinedale Array**	**83.62**	**331**	P		**P**	**16 52 42.8**	**-0.5**
SPUT	**South Promonto**	**83.67**	**328**	P		**P**	**16 52 45.0**	**+1.5**
SPUT				IAmb		IAmb	16 53 18.9	
	comp=Z,4.3nm,1.2s							
HVU	**Hansel Valley**	**84.20**	**328**	P		**P**	**16 52 47.2**	**+1.1**
NVAR	**Mina Array Bea**	**84.23**	**323**	P		**P**	**16 52 48.3**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=162,slow=5.7,SNR=5.4							
NVAR				pP		**pP**	**16 53 17.7**	**-2.5**
	comp=Z,0.1nm,0.5s,baz=180,slow=2.7,SNR=1.7							
	comp=Z,0.6nm,0.8s							
REDW	**Red Top Meadow**	**84.65**	**330**	P		**P**	**16 52 48.6**	**+0.2**
REDW				IAmb		IAmb	16 52 49.5	
	comp=Z,7.8nm,1.4s							
ULM	**Lac du Bonnet**	**85.64**	**343**	P		**P**	**16 52 53.7**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=160,slow=7.2,SNR=3.6							
	comp=Z,1.9nm,0.6s							
IMAR	**Indian Mountai**	**117.12**	**333**	PKPdf		**PKiKP**	**16 58 59.1**	**+1.0**
ASAR	**Alice Springs**	**120.49**	**204**	PKP		**PKPdf**	**16 59 06.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=139,slow=1.6,SNR=11							
ASAR	**Alice Springs**	**120.49**	**204**	PKPdf		**PKPdf**	**16 59 05.5**	**-0.6**
WR0	**Warramunga Arr**	**123.67**	**206**	PKPdf		**PKPdf**	**16 59 11.7**	**-0.5**
WB2	**Warramunga Arr**	**123.75**	**206**	PKPdf		**PKPdf**	**16 59 12.3**	**-0.1**
WRA	**Warramunga Arr**	**123.75**	**206**	PKP		**PKPdf**	**16 59 12.7**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=158,slow=1.8,SNR=16							
WRAB	**Tennant Creek**	**123.76**	**206**	PKPdf		**PKPdf**	**16 59 12.7**	**+0.3**
WB0	**Warramunga Arr**	**123.90**	**206**	PKPdf		**PKPdf**	**16 59 12.4**	**-0.2**
KKAR	**Karatay Array**	**146.01**	**59**			**PKPdf**	**16 59 53.2**	**+0.4**
AAK	**Ala-Archa**	**148.97**	**60**	PKPbc		**PKPdf**	**17 00 00.4**	**+2.5**
KURK	**Kurchatov**	**149.49**	**43**	PKPbc		**PKPbc**	**17 00 03.1**	**+0.3**
KSH	**Kashi**	**150.36**	**66**	PKPbc		**PKiKP**	**17 00 07.5**	**+1.3**
ZAA0	**Zalesovo Array**	**151.07**	**33**	PKPdf		**PKPdf**	**16 59 59.9**	**-0.6**
ZALV	**Zalesovo Beam**	**151.07**	**33**	PKPbc		**PKiKP**	**17 00 08.1**	**+1.1**
	comp=Z,5.1nm,0.4s,baz=301,slow=2.6,SNR=18							
ZALV				pPKPbc		**pPKPbc**	**17 00 42.2**	**+0.5**
	comp=Z,5.1nm,0.6s,baz=317,slow=2.2,SNR=6.4							
ZALV	**Zalesovo Beam**	**151.07**	**33**	PKPbc		**PKPbc**	**17 00 06.8**	**+0.3**
MKAR	**Makanchi Array**	**153.29**	**48**	PKPbc		**PKiKP**	**17 00 13.0**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=268,slow=2.0,SNR=6.8							
MKAR				PKPab		**PKPab**	**17 00 25.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=297,slow=2.8,SNR=4.5							
MKAR				pPKPbc		**pPKPbc**	**17 00 45.9**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=303,slow=2.5,SNR=4.1							
MKAR	**Makanchi Array**	**153.29**	**48**	PKPbc		**PKPbc**	**17 00 12.2**	**+0.5**
PZH	**PanZhiHua**	**169.69**	**121**	PKP		**PKPdf**	**17 00 21.5**	**-0.4**

*IDC **25** 16:40:36.9±3.6,36.77N×71.44E,h92km±33km,mb3.4/4, mbtmp3.9/11,MS3.0/2,Error ellipse: s-maj=31.1km s-min=23.7km az=16.0*
*NNC **25** 16:40:42.2±16.0,38.40N×72.27E,h0km,mb4.2,mpv3.9,*

Error ellipse: s-maj=134.0km s-min=62.5km az=8.0
ISC 25 16:40:37.6±1.2,36.9N±0.1×71.28E±0.09,h100km,n23, σ1s51/24,mb3.5/4,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.34**	**350**	P	g	**Pn**	**16 41 56.4**	**+1.5**
	24nm,0.2s							
IUG				Lg		Lg	16 42 52.2	
	21nm,0.5s							
AML	**Almayashu**	**5.55**	**19**	P		**Pn**	**16 41 59.2**	**+1.1**
	SNR=221							
UCH	**Uchtor**	**5.88**	**24**	P		**Pn**	**16 42 03.3**	**+0.6**
	SNR=13							
MRKS	**Merke**	**6.03**	**14**	Pg		**Pn**	**16 42 05.7**	**+1.3**
	41nm,0.6s							
MRKS				Lg		Lg	16 43 08.6	
	13nm,0.4s							
EKS2	**Erkin-Say**	**6.07**	**18**	P		**Pn**	**16 42 06.4**	**+1.4**
	SNR=17							
AAK	**Ala-Archa**	**6.25**	**22**	P		**Pn**	**16 42 08.7**	**+1.4**
	SNR=33							
AAK	**Ala-Archa**	**6.25**	**22**	P		**Pn**	**16 42 08.8**	**+1.4**
	18nm,0.3s,baz=186,slow=6.0,SNR=124							
AAK				S		**Sn**	**16 43 14.9**	**-2.5**
	4.2nm,0.5s,baz=324,slow=21,SNR=2.1							
AAK				LR		LR	16 43 57.4	
	comp=Z,47nm,19.5s,baz=346,slow=32							
KBK	**Karagaybulak**	**6.41**	**25**	P		**Pn**	**16 42 11.1**	**+1.6**
	SNR=9.4							
CHMS	**Chumysh**	**6.66**	**23**	P		**Pn**	**16 42 13.9**	**+1.1**
	SNR=18							
USP	**Ospenovka**	**6.83**	**20**	P		**Pn**	**16 42 15.6**	**+0.5**
	SNR=17							
KST	**Kastek**	**7.12**	**29**	Pg		**Pn**	**16 42 20.2**	**+1.1**
	4.7nm,0.5s							
KST				Lg		Lg	16 43 33.4	
	2.5nm,0.7s							
DGS	**Degeres**	**7.21**	**27**	Pg		**Pn**	**16 42 21.2**	**+0.8**
	8.2nm,0.7s							
DGS				Lg		Lg	16 43 35.2	
	2.8nm,0.9s							
GEYT	**Alibeck**	**10.53**	**280**	P		**Pn**	**16 43 06.1**	**+0.7**
	2.8nm,0.4s,baz=112,slow=11,SNR=8.5							
GEYT				S		**Sn**	**16 44 57.6**	**-3.8**
	1.9nm,0.4s,baz=62,slow=16,SNR=5.6							
MKAR	**Makanchi Array**	**12.84**	**36**	P		**Pn**	**16 43 35.5**	**-0.7**
	1.0nm,0.8s,baz=224,slow=13,SNR=10							
KURBB	**Kurchatov Arra**	**14.68**	**18**	P		**P**	**16 44 02.2**	**-1.3**
	0.9nm,0.7s,baz=207,slow=10,SNR=10							
BVAR	**Borovoye Array**	**16.14**	**358**	P		**Pn**	**16 44 18.4**	**0.0**
	1.3nm,0.5s,baz=167,slow=8.5,SNR=5.5							
AKTO	**Aktyubinsk**	**16.56**	**329**	P		**P**	**16 44 25.7**	**+1.3**
	4.8nm,0.5s,baz=136,slow=11,SNR=15							
ZALV	**Zalesovo Beam**	**19.46**	**25**	P		**P**	**16 44 55.6**	**-0.6**
	2.6nm,0.4s,baz=224,slow=10,SNR=5.1							
FINES	**FINESS Array B**	**37.29**	**326**	P		**P**	**16 47 41.0**	**+1.5**
	3.4nm,1.1s,baz=131,slow=11,SNR=5.7							
	3.4nm,1.1s							
NOA	**NORSAR Array B**	**44.20**	**323**	P		**P**	**16 48 38.1**	**+1.7**
	0.6nm,0.7s,baz=96,slow=7.7,SNR=1.8							
	0.6nm,0.7s							
OPO	**Ambohidratompo**	**59.67**	**207**	LR		LR	17 14 51.1	
	comp=Z,43nm,20.4s,baz=84,slow=34							
WRA	**Warramunga Arr**	**82.00**	**122**	P		**P**	**16 52 46.2**	**-0.6**
	0.6nm,0.8s,baz=342,slow=5.2,SNR=6.8							
	0.6nm,0.8s							
ASAR	**Alice Springs**	**84.29**	**125**	P		**P**	**16 52 57.8**	**-0.7**
	0.5nm,1.0s,baz=318,slow=5.4,SNR=2.2							
	0.5nm,1.0s							

*IDC **25** 17:00:13.2±1.7,5.03S×153.82E,h0km,mb3.2/3, mbtmp3.4/4,ML2.2/1,MS3.0/2,Error ellipse: s-maj=32.0km s-min=30.5km az=100.0*
ISC 25 17:00:20.1±1.6,5.0S±0.1×153.8E±0.1,h50km,n7,σ0s53/9, mb3.1/3,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.87**	**293**	Pn		**Pn**	**17 00 49.4**	**-0.3**
	15nm,0.3s,baz=23,slow=1.4,SNR=37							
KRVT				Sn		**Sn**	**17 01 12.5**	**+0.4**
	36nm,0.3s,baz=322,slow=19,SNR=6.7							
PMG	**Port Moresby**	**7.86**	**236**	Pn		**Pn**	**17 02 11.7**	**-0.2**
	1.8nm,0.3s,baz=229,slow=19,SNR=6.1							
PMG				Sn		**Sn**	**17 03 39.8**	**+0.3**
	1.0nm,0.3s,baz=95,slow=21,SNR=2.5							
	7.9nm,0.5s							
CTA	**Charters Tower**	**16.65**	**205**	LR		LR	17 09 06.8	
	comp=Z,111nm,21.1s,baz=76,slow=32							
WRA	**Warramunga Arr**	**24.02**	**230**	P		**P**	**17 05 30.2**	**-0.4**
	0.5nm,0.5s,baz=50,slow=9.9,SNR=5.4							
WRA				LR		LR	17 15 03.8	
	comp=Z,23nm,20.8s,baz=342,slow=37							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**26.64**	**224**	P		**P**	**17 05 54.0**	**-0.4**
	0.3nm,0.8s,baz=57,slow=9.3,SNR=7.4							
ASAR				PcP		**PcP**	**17 09 18.5**	**+0.9**
	0.2nm,0.7s,baz=57,slow=3.4,SNR=1.8							
	0.3nm,0.8s							
MKAR	**Makanchi Array**	**81.12**	**319**	P		**P**	**17 12 30.4**	**+0.1**
	0.1nm,0.4s,baz=113,slow=4.4,SNR=2.1							
	0.1nm,0.4s							
TORD	**Torodi Ar. Bea**	**151.28**	**288**	PKPbc		**PKPbc**	**17 20 08.9**	**-0.4**
	0.3nm,0.4s,baz=103,slow=3.9,SNR=4.3							

TAP 25 17:52:42.2,23.25N×120.94E,h3km±1km,ML1.0,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.10**	**130**	*i* P		Pg	17 52 44.9	+0.7
	baz=128							
ELDTW				*i* S		Sg	17 52 46.4	+0.9
	baz=128							
STYH	**Taoyuan**	**0.17**	**242**	P		Pg	17 52 46.3	+0.8
	baz=242							
STYH				S		Sg	17 52 48.7	+0.9
	baz=242							
STYT	**Tauyuan**	**0.19**	**242**	*i* P		Pg	17 52 46.8	+0.9
	baz=240							
STYT				*i* S		Sg	17 52 49.3	+0.9
	baz=240							
EHD	**Haiduan**	**0.27**	**112**	P		Pg	17 52 48.0	+0.6
	baz=112							
ALS	**Alishan**	**0.28**	**335**	P		Pg	17 52 48.3	+0.5
	baz=338							
ALS				*e*S		Sg	17 52 52.9	+1.3
	baz=338							
TPUB	**Ta-pu**	**0.29**	**280**	*e*P		Pg	17 52 48.9	+1.1
	baz=286							
TPUB				*e*S		Sb	17 52 53.7	-1.6
	baz=286							
WTP	**Ta-pu**	**0.30**	**269**	*e*P		Pg	17 52 49.1	+1.1
	baz=258							
WTP				*e*S		Sb	17 52 54.0	-1.5
	baz=258							
CHN4	**Tsaushan**	**0.33**	**288**	*e*P		Pb	17 52 49.8	-1.0
	baz=302							
CHN4				*e*S		Sb	17 52 55.4	-1.1
	baz=302							
FULB	**Fuli**	**0.33**	**99**	*e*S		Sg	17 52 54.8	+1.8
	baz=98							
WCKO	**Fanlu**	**0.36**	**301**	*e*P		Pb	17 52 50.4	-0.9
	baz=315							
WCKO				*e*S		Sb	17 52 56.2	-1.1
	baz=315							

*ISK **25** 18:13:09.2,37.44N×38.63E,h7km,ML2.9/7*
*DDA **25** 18:13:09.2±0.0,37.46N×38.60E,h7km±2km,ML2.7*
ISC 25 18:13:09.6±1.0,37.46N±0.03×38.61E±0.02,h9km±9km, n23,σ0s67/40,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.25**	**272**	P		**Pg**	**18 13 14.7**	**0.0**
ATAB				*i* AML		AML	18 13 18.0	
	comp=E,2μm,0.2s							
ATAB				S		**Sg**	**18 13 18.5**	**+0.4**
ATAB				*i* AML		AML	18 13 19.0	
	comp=N,1μm,0.1s							
SANL	**SANLIURFA_Merk**	**0.42**	**133**	P		**Pg**	**18 13 17.8**	**0.0**
SANL				S		**Sg**	**18 13 23.8**	**+0.5**
SANL				*i* AML		AML	18 13 24.0	
	comp=N,521nm,0.3s							
SANL				*i* AML		AML	18 13 28.0	
	comp=E,393nm,0.3s							
SURC	**SANLIURFA_SURC**	**0.58**	**180**	P		**Pb**	**18 13 21.2**	**-0.7**
SURC				S		**Sb**	**18 13 29.4**	**-0.9**
SURC				*i* AML		AML	18 13 33.0	
	comp=E,497nm,0.7s							
SURC				*i* AML		AML	18 13 34.0	
	comp=N,242nm,0.5s							
AKCA	**Adyaman/Ç¶l**	**0.80**	**295**	P		**Pg**	**18 13 24.8**	**-0.3**
AKCA				S		**Sg**	**18 13 35.9**	**+0.3**
AKCA				*i* AML		AML	18 13 39.0	
	comp=N,736nm,0.5s							
AKCA				*i* AML		AML	18 13 39.0	
	comp=E,420nm,0.2s							
GZT	**Gaziantep**	**0.84**	**263**	P		**Pb**	**18 13 25.8**	**-0.6**
GZT				S		**Sn**	**18 13 39.4**	**-0.8**
GZT				*i* AML		AML	18 13 40.0	
	comp=E,415nm,0.3s							
GZT				*i* AML		AML	18 13 40.0	
	comp=N,451nm,0.2s							
NZIP	**Nizip/Gaziante**	**0.85**	**241**	P		**Pb**	**18 13 26.3**	**-0.3**
NZIP				S		**Sn**	**18 13 40.9**	**+0.4**
NZIP				*i* AML		AML	18 13 42.0	
	comp=N,207nm,0.3s							
NZIP				*i* AML		AML	18 13 42.0	
	comp=E,164nm,0.4s							
MAYA	**Malatya/Merkez**	**0.88**	**351**	P		**Pg**	**18 13 25.9**	**-0.7**
MAYA				S		**Sn**	**18 13 40.8**	**-0.3**
MAYA				*i* AML		AML	18 13 42.0	
	comp=N,106nm,0.4s							
MAYA				*i* AML		AML	18 13 42.0	
	comp=E,132nm,0.3s							
AKCD	**Akcadag**	**0.99**	**327**	P		**Pg**	**18 13 28.3**	**-0.5**
AKCD				S		**Sn**	**18 13 44.6**	**+0.5**
AKCD				*i* AML		AML	18 13 45.0	
	comp=N,313nm,0.6s							
AKCD				*i* AML		AML	18 13 46.0	
	comp=E,138nm,0.5s							
ELZG	**Elazig**	**1.08**	**16**	P		**Pn**	**18 13 30.8**	**-0.3**
ELZG				S		**Sb**	**18 13 45.2**	**+0.4**
ELZG				*i* AML		AML	18 13 46.0	
	comp=E,482nm,0.6s							
ELZG				*i* AML		AML	18 13 48.0	
	comp=N,249nm,0.2s							
GAZ	**Gaziantep**	**1.15**	**256**	Pn		**Pn**	**18 13 31.8**	**-0.1**
GAZ				Sn		**Sn**	**18 13 48.2**	**+0.4**
KAHM	**Kahramanmaras,**	**1.29**	**273**	P		**Pg**	**18 13 34.2**	**-0.2**
KAHM				S		**Sb**	**18 13 50.2**	**-0.6**
KAHM				*i* AML		AML	18 13 52.0	
	comp=N,162nm,0.5s							
KAHM				*i* AML		AML	18 13 53.0	
	comp=E,70nm,0.4s							
DYBB	**Diyarbakir**	**1.31**	**67**	Pn		**Pb**	**18 13 34.1**	**-0.3**
DYBB				Sn		**Sn**	**18 13 52.9**	**+1.1**
HCB	**Kahramanmara**	**1.36**	**266**	P		**Pn**	**18 13 38.3**	**-1.0**
HCB				S		**Sb**	**18 13 52.2**	**-0.5**
KUZU	**Kuzuini**	**1.40**	**241**	P		**Pg**	**18 13 36.7**	**+0.1**
KUZU				S		**Sg**	**18 13 56.2**	**+1.4**
KUZU				*i* AML		AML	18 13 57.0	
	comp=N,364nm,0.4s							
KUZU				*i* AML		AML	18 13 59.0	
	comp=E,215nm,0.5s							
DARE	**Darende-Malaty**	**1.42**	**322**	Pn		**Pb**	**18 13 36.3**	**-0.1**
DARE				Sn		**Sg**	**18 13 55.9**	**+0.5**
MAZI	**Mazidag**	**1.46**	**89**	Pn		**Pn**	**18 13 35.8**	**-0.5**
MAZI				Sn		**Sg**	**18 13 56.4**	**-0.3**
ARPR	**Arapgir-MALATY**	**1.65**	**353**	Pn		**Pb**	**18 13 39.9**	**-0.3**
ARPR				Sn		**Sg**	**18 14 01.9**	**-0.7**
SARI	**SarD1z-Kayseri**	**1.97**	**299**	Pn		**Pn**	**18 13 44.2**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.16**	**71**	Pn		**Pn**	**18 13 46.5**	**+0.6**
KOZT	**Kozan**	**2.21**	**271**	Pn		**Pn**	**18 13 47.9**	**+1.4**
BNGB	**Bingl**	**2.23**	**46**	Pn		**Pn**	**18 13 47.8**	**+0.9**
YAYL	**Yayladag**	**2.46**	**235**	Pn		**Pn**	**18 13 50.9**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.49**	**37**	Pn		**Pn**	**18 13 51.6**	**+1.1**

*ANF **25** 18:31:22.9±0.3,59.47N×134.66W,h6km±2km, ML2.0/2, Error ellipse: s-maj=2.4km s-min=1.6km az=175.0*
*NEIC **25** 18:31:23.3±0.9,59.41N±0.02×134.67W±0.06,h6km±10km, Error ellipse: s-maj=4.9km s-min=2.1km az=60.0*
*OTT **25** 18:31:23.6±0.8,59.41N±0.01×134.63W±0.07,h1km±2km, ML2.5,ML2.3/14(NEIC),Error ellipse: s-maj=6.2km s-min=3.0km az=278.0*
*PGC **25** 18:31:23.6±0.0,59.41N×134.63W,h1km,ML2.5/5,47km Ene of Haines, Ak Southeastern Alaska*
**ISC 25 18:31:22.6±1.2,59.45N±0.02×134.71W

M29M	Somme Creek	3.52 330	Sg	Sg	18 33 14.8 -0.7
YUK2	White River	3.83 310	Sg	Sg	18 33 23.8 -1.6
L29M	L29M	4.03 337	Sg	Sg	18 33 29.8 -2.0

BJI ***25*** *18:31:26.4±0.0,45°.77N×151°.62E,h56km,mb4.5/43, mB5.0/20,Ms4.8/3,Ms7 4.4/4*
MOS ***25*** *18:31:28.2±1.1,45°.52N×151°.46E,h72km,mb4.8/16, MS3.1/4,Error ellipse: s-maj=6.9km s-min=5.6km az=91.6*
NIED ***25*** *18:31:29.6,45°.43N×151°.31E,h30km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.23; Mθθ3.00; Mφφ-3.23; Mrθ2.51; Mθφ-4.42; Mφr0.27; Fault plane solution: M₀5.96000×10¹⁵ NP1:φs72.00000°, δ86.00000°,λ155.00000°. NP2:φs164.00000°,δ66.00000°, λ5.00000°.*
JMA ***25*** *18:31:29.6±0.8,45°N×4°×15°1E±°,h30km,MV5.4/19, KURILE ISLANDS REGION*
SKHL ***25*** *18:31:30.1±0.5,45°.40N×151°.40E,h86km±4km,mb5.6/9, msha6.2/8*
IDC ***25*** *18:31:31.2±0.5,45°.63N×151°.28E,h79km±4km,mb4.0/32, mbtmp4.3/37,MS3.1/7,Error ellipse: s-maj=13.9km s-min=9.1km az=154.0*
NEIC ***25*** *18:31:31.7±2.2,45°.7N±0°.1×151°.3E±0°.1,0,h74km±9km, mb4.8/63,Error ellipse: s-maj=22.1km s-min=2.4km az=154.0*

ISC 25 18:31:28.7±0.4,**45°.33N**±0°.05×**151°.50E**±0°.04,**h66**km±2km, **h67**km:**pP-P,n284,**σ1s**67**/324,**mb4.7**/91,**8C-7D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.57**	**269**	*e*P	N	**Pn**	**18 32 09.0**	**+1.1**
KUR				*i* S		**Sn**	**18 32 37.9**	**-0.1**
KUR				pmax	pmax			
	comp=N,445nm,0.5s							
KUR				pmax	pmax			
	comp=E,149nm,0.5s							
KUR				pmax	pmax			
	comp=Z,637nm,0.5s							
KUR				smax	smax			
	comp=N,15μm,0.6s							
KUR				smax	smax			
	comp=E,10μm,0.5s							
KUR	**Kuril'sk**	**2.57**	**269**	*e*P		**Pn**	**18 32 09.0**	**+1.1**
KUR				AMB		AMB	18 32 10.7	
	comp=E,650nm,0.4s							
KUR				*i* S		**Sn**	**18 32 37.3**	**-0.7**
KUR				A		A	18 32 39.3	
	comp=E,19μm,0.7s							
KUR				A		A	18 32 39.3	
	comp=E,12μm,0.7s							
YUK	**Yuzh-Kuril'sk**	**4.22**	**254**	*e*PN		**Pn**	**18 32 31.5**	**+1.0**
YUK				*e*S		**Sn**	**18 33 16.8**	**-1.7**
YUK				pmax	pmax			
	comp=Z,1μm,0.4s							
YUK				pmax	pmax			
	comp=N,337nm,0.2s							
YUK				pmax	pmax			
	comp=E,190nm,0.2s							
YUK				smax	smax			
	comp=N,1μm,0.3s							
YUK				smax	smax			
	comp=E,3μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.22**	**254**	*e*P		**Pn**	**18 32 31.7**	**+1.2**
YUK				AMB		AMB	18 32 34.6	
	comp=E,500nm,0.3s							
YUK				*e*S		**Sn**	**18 33 17.0**	**-1.5**
YUK				A		A	18 33 20.6	
	comp=E,1μm,0.5s							
YUK				A		A	18 33 20.6	
	comp=E,3μm,0.5s							
NEM2	**Nemuro 2**	**4.57**	**247**	*e*P		**Pn**	**18 32 35.1**	**-0.2**
NEM2				*e*S		**Sn**	**18 33 24.0**	**-3.1**
NMR	**Nemuro--Hokkai**	**4.58**	**247**	||*i*PN	**Pn**	**18 32 35.0**	**-0.3**
NMR	**Nemuro--Hokkai**	**4.58**	**247**	*i* P		**Pn**	**18 32 35.1**	**-0.3**
NMR				*i* S		**Sn**	**18 33 23.5**	**-3.8**
RUSJ	**Misakicho**	**4.62**	**257**	*e*PN		**Pn**	**18 32 38.0**	**+2.0**
RUSJ				*i* S		**Sn**	**18 33 30.1**	**+1.8**
JRA	**Rausu**	**4.76**	**255**	*e*P		**Pn**	**18 32 39.6**	**+1.8**
JRA				*e*S		**Sn**	**18 33 32.5**	**+0.8**
JNK	**Nakash**	**5.16**	**253**	*e*P		**Pn**	**18 32 44.3**	**+1.0**
JNK				*e*S		**Sn**	**18 33 40.1**	**-1.4**
JAK	**Akkeshi**	**5.42**	**247**	*e*P		**Pn**	**18 32 46.5**	**-0.4**
JAK				*e*S		**Sn**	**18 33 44.1**	**-3.8**
JTKR	**Abashiri--Toko**	**5.58**	**259**	*e*P		**Pn**	**18 32 50.8**	**+1.7**
JTKR				*e*S		**Sn**	**18 33 52.5**	**+0.7**
JAR	**Ashorobuto**	**5.91**	**253**	*e*P		**Pn**	**18 32 54.9**	**+1.4**
JAR				*e*S		**Sn**	**18 33 59.3**	**-0.5**
JOB	**Onbets**	**6.03**	**249**	*e*P		**Pn**	**18 32 55.6**	**+0.4**
JOB				*e*S		**Sn**	**18 33 59.7**	**-3.1**
SKR	**Severo-Kuril's**	**6.18**	**28**	||*i*PN	**Pn**	**18 32 56.1**	**-1.2**
SKR				pmax	pmax			
	comp=Z,1μm,4.5s							
SKR				pmax	pmax			
	comp=Z,969nm,0.6s							
SKR				MLR	MLR			
	comp=Z,400nm,10.0s							
SKR	**Severo-Kuril's**	**6.18**	**28**	*e*P		**Pn**	**18 33 01.7**	**+4.4**
SKR				AMB		AMB	18 33 03.6	
	comp=Z,1μm,0.6s							
SKR				*e*S		**Sn**	**18 34 06.7**	**+0.2**
SKR				A		A	18 34 10.7	
	comp=Z,810nm,0.4s							
SKR				A		A	18 34 10.7	
	comp=Z,500nm,0.4s							
YSS	**Yuzh-Sakhalins**	**6.29**	**288**	Pn		**Pn**	**18 32 59.4**	**+0.7**
YSS	**Yuzh-Sakhalins**	**6.29**	**288**	*ke*PN		**Pn**	**18 33 00.7**	**+2.0**
YSS				*e*S		**Sn**	**18 34 10.4**	**+1.3**
YSS				pmax	pmax			
	comp=Z,210nm,0.9s							
YSS				pmax	pmax			
	comp=Z,200nm,3.6s							
YSS				MLR	MLR			
	comp=Z,200nm,15.0s							
YSS	**Yuzh-Sakhalins**	**6.29**	**288**	*e*P		**Pn**	**18 32 59.8**	**+1.1**
YSS				AMB		AMB	18 33 01.3	
	comp=Z,140nm,0.5s							
YSS				*e*S		**Sn**	**18 34 07.3**	**-1.8**
JKK2	**Kamakawa 2**	**6.42**	**260**	*e*P		**Pn**	**18 33 02.5**	**+2.0**
JKA	**Kamikawa-asahi**	**6.46**	**262**	Pn		**Pn**	**18 33 03.2**	**+2.2**
JKA	**Kamikawa-asahi**	**6.46**	**262**	*e*P		**Pn**	**18 33 03.3**	**+2.2**
ASAJ	**Asahikawa**	**6.46**	**262**	P		**Pn**	**18 33 03.2**	**+2.2**
	comp=Z,31nm,0.5s,baz=74,slow=19,SNR=136							
ASAJ				S		**Sn**	**18 34 12.8**	**-0.5**
	comp=Z,25nm,0.6s,baz=53,slow=24,SNR=1.1							
ASAJ				LR		LR	18 35 33.2	
	comp=Z,142nm,21.1s,baz=119,slow=38							
JCH	**Churui**	**6.47**	**248**	*e*P		**Pn**	**18 33 01.0**	**-0.2**
JCH				*e*S		**Sn**	**18 34 09.9**	**-3.6**
MYR	**Moyori**	**6.67**	**246**	*e*P		**Pn**	**18 33 04.4**	**+0.4**
MYR				*e*S		**Sn**	**18 34 15.5**	**-3.1**
JWK2	**Keihoku**	**6.77**	**273**	*e*P		**Pn**	**18 33 09.8**	**+4.5**
JAB	**Ashibetsu**	**6.89**	**258**	*e*P		**Pn**	**18 33 09.8**	**+2.8**
ERM	**Erimo**	**6.90**	**244**	Pn		**Pn**	**18 33 08.2**	**+1.1**
ERM	**Erimo**	**6.90**	**244**	*ce*PN		**Pn**	**18 33 08.3**	**+1.2**
ERM				pmax	pmax			
	comp=Z,51nm,0.6s							
ERM	**Erimo**	**6.90**	**244**	*e*P		**Pn**	**18 33 08.3**	**+1.2**
JNBK	**Urakawa-nobuka**	**7.02**	**247**	*e*P		**Pn**	**18 33 08.6**	**-0.2**
JNBK				*e*S		**Sn**	**18 34 22.9**	**-4.3**
JRBN	**Rebuntou**	**7.35**	**274**	*e*P		**Pn**	**18 33 16.9**	**+3.6**
UGL	**Uglegorsk**	**7.43**	**304**	||*i*PN	**Pn**	**18 33 16.6**	**+2.2**
UGL				*e*S		**Sn**	**18 34 38.4**	**+1.3**
UGL				pmax	pmax			
	comp=Z,210nm,1.1s							
UGL				smax	smax			
	comp=E,70nm,0.5s							
UGL				smax	smax			
	comp=N,60nm,0.6s							
UGL	**Uglegorsk**	**7.43**	**304**	*i* P		**Pn**	**18 33 14.9**	**+0.5**
UGL				AMB		AMB	18 33 18.0	
	comp=N,130nm,0.8s							
UGL				*e*S		**Sn**	**18 34 33.5**	**-3.6**
UGL				A		A	18 34 44.0	
	comp=N,60nm,0.6s							
UGL				A		A	18 34 44.0	
	comp=N,120nm,0.6s							
TYV	**Tymovskoe**	**8.10**	**316**	*e*PN		**Pn**	**18 33 24.9**	**+1.5**
TYV				*e*S		**Sn**	**18 34 53.6**	**+0.2**
TYV				pmax	pmax			
	comp=Z,200nm,2.0s							
TYV				pmax	pmax			
	comp=Z,87nm,0.5s							
TYV				smax	smax			
	comp=N,19nm,0.9s							
TYV				smax	smax			
	comp=E,11nm,0.9s							
TYV				smax	smax			
	comp=N,100nm,3.1s							
TYV				smax	smax			
	comp=E,200nm,3.1s							
TYV	**Tymovskoe**	**8.10**	**316**	*e*P		**Pn**	**18 33 24.6**	**+1.2**
TYV				AMB		AMB	18 33 25.5	
	comp=E,90nm,0.5s							
TYV				*e*S		**Sn**	**18 34 50.7**	**-2.7**
PEA0B	**Petropavlovsk-**	**8.77**	**25**	Pn		**Pn**	**18 33 30.9**	**-1.8**
PEA0B	**Petropavlovsk-**	**8.77**	**25**	*e*PN		**Pn**	**18 33 31.0**	**-1.7**
PETK	**Petropavlovsk-**	**8.77**	**25**	P		**Pn**	**18 33 31.1**	**-1.5**
	comp=E,16nm,0.4s,baz=202,slow=7.4,SNR=164							
PETK				LR		LR	18 37 39.1	
	comp=E,107nm,18.5s,baz=144,slow=43							
PETK	**Petropavlovsk-**	**8.77**	**25**	Pn		**Pn**	**18 33 30.6**	**-2.0**
JANG	**Nango**	**8.85**	**239**	*e*P		**Pn**	**18 33 31.5**	**-2.3**
JTM	**Tenmabayashi**	**8.88**	**243**	Pn		**Pn**	**18 33 33.4**	**-0.9**
JTH	**Tanohata**	**8.91**	**236**	*e*P		**Pn**	**18 33 32.2**	**-2.4**
JTH				*e*S		Sn	18 35 04.3	-9.2
PET	**Petropavlovsk**	**9.01**	**29**	Pn		**Pn**	**18 33 33.1**	**-2.7**
PET	**Petropavlovsk**	**9.01**	**29**	*e*PN		**Pn**	**18 33 32.1**	**-3.7**
PET				MLR		MLR		
	comp=Z,200nm,19.0s							
PET	**Petropavlovsk**	**9.01**	**29**	*e*P		**Pn**	**18 33 34.5**	**-1.3**
OKH	**Okha**	**9.93**	**329**	*e*P		**Pn**	**18 33 50.0**	**+1.6**
OKH				AMB		AMB	18 33 53.8	
	comp=E,60nm,0.6s							
OKH				*e*S		**Sn**	**18 35 35.4**	**-2.7**
OKH				A		A	18 35 43.4	
	comp=Z,50nm,0.5s							
OKH				A		A	18 35 43.4	
	comp=Z,90nm,0.5s							
NKL	**Nikolayevsk**	**10.54**	**322**	*e*P		**Pn**	**18 33 57.4**	**+0.7**
NKL				AMB		AMB	18 33 58.5	
	comp=Z,20nm,0.3s							
NKL				*e*S		**Sn**	**18 35 47.9**	**-5.0**
NKL				A		A	18 35 55.3	
	comp=Z,100nm,0.4s							
NKL				A		A	18 35 55.3	
	comp=Z,100nm,0.4s							
JMM	**Marumori**	**10.94**	**231**			**Pn**	**18 33 59.7**	**-2.7**
GRNR	**Gornyy**	**11.46**	**304**	||*i*PN	**Pn**	**18 34 10.5**	**+1.2**
GRNR				*e*S		**Sn**	**18 36 20.5**	**+5.1**
GRNR				pmax	pmax			
	comp=E,2.0nm,1.0s							
GRNR				pmax	pmax			
	comp=N,2.0nm,0.9s							
GRNR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
GRNR				smax	smax			
	comp=N,2.0nm,0.6s							
GRNR				MLR	MLR			
	comp=E,110nm,16.0s							
GRNR				MLR	MLR			
	comp=N,100nm,15.0s							
GRNR				MLR	MLR			
	comp=Z,130nm,15.0s							
GRNR	**Gornyy**	**11.46**	**304**	*e*P		**Pn**	**18 34 10.5**	**+1.2**
JSD	**Sado**	**12.28**	**238**	Pn		**Pn**	**18 34 18.6**	**-2.0**
MAJO	**Matsushiro**	**13.33**	**233**	Pn		**Pn**	**18 34 33.5**	**-1.4**
MAJO	**Matsushiro**	**13.33**	**233**	*d*PN		**Pn**	**18 34 33.9**	**-1.0**
MAJO	**Matsushiro**	**13.33**	**233**	*e*P		**Pn**	**18 34 33.9**	**-1.0**
MJAR	**Matsushiro Arr**	**13.33**	**233**	P		**Pn**	**18 34 33.8**	**-1.0**
	comp=Z,11nm,0.6s,baz=29,slow=13,SNR=25							
USA0B	**Ussuriysk Arra**	**13.91**	**272**			**Pn**	**18 34 40.6**	**-1.9**
USA0B	**Ussuriysk Arra**	**13.91**	**272**	P		**Pn**	**18 34 40.6**	**-1.9**
USRK	**Ussuriysk Ar.**	**13.91**	**272**	P		**Pn**	**18 34 42.0**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=74,slow=11,SNR=1.6							
USRK	**Ussuriysk Ar.**	**13.91**	**272**	Pn		**Pn**	**18 34 42.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**13.91**	**272**	P		**Pn**	**18 34 42.6**	**+0.1**
KLR	**Kul'dur**	**13.95**	**293**	LR		LR	18 40 08.5	
	comp=Z,89nm,19.7s,baz=118,slow=38							
KLR	**Kul'dur**	**13.95**	**293**	*ce*P		**Pn**	**18 34 43.3**	**+0.2**
KLR				pmax	pmax			
	comp=Z,9.0nm,1.7s							
KLR	**Kul'dur**	**13.95**	**293**	*e*P		**Pn**	**18 34 41.8**	**-1.3**
MA2	**Magadan**	**14.27**	**358**	LR		LR	18 40 49.4	
	comp=Z,78nm,18.4s,baz=168,slow=40							
MA2	**Magadan**	**14.27**	**358**	Pn		**Pn**	**18 34 44.4**	**-2.8**
MA2	**Magadan**	**14.27**	**358**	*i* P		**Pn**	**18 34 46.2**	**-1.0**
MA2	**Magadan**	**14.27**	**358**	*e*P		**Pn**	**18 34 46.2**	**-1.0**
JGF	**Kuroka**	**14.48**	**233**	Pn		**Pn**	**18 34 50.6**	**+0.5**
INU	**Inuyama**	**14.86**	**333**			**Pn**	**18 34 54.9**	**0.0**
JHJ	**Hachijo jima 2**	**15.18**	**221**	S		**Sn**	**18 37 37.4**	**-8.9**
	comp=Z,143nm,1.1s,baz=63,slow=17,SNR=1.8							
MDJ	**Mudanjiang**	**15.52**	**275**	Pn		**Pn**	**18 35 02.5**	**-0.9**
MDJ	**Mudanjiang**	**15.52**	**275**	P		**Pn**	**18 35 04.8**	**+1.5**
MDJ				pmax	pmax			
	comp=Z,12nm,1.7s							
MDJ				pmax	pmax			
	comp=Z,230nm,5.8s							
SHEM	**Shemya Is, Ala**	**16.52**	**55**	P		**P**	**18 35 18.0**	**+0.5**
	comp=Z,40nm,0.4s,baz=249,slow=3.4,SNR=5.8							
SMY	**Shemya**	**16.52**	**55**	Pn		**Pn**	**18 35 15.3**	**-0.6**
SMY	**Shemya**	**16.52**	**55**	P		**Pn**	**18 35 15.3**	**-0.6**
HEH	**HeiHe**	**16.89**	**296**	*e*P		**Pn**	**18 35 20.0**	**-0.4**
HEH				pmax	pmax			
	comp=Z,11nm,0.7s							
SEY	**Seymchan**	**17.64**	**1**	*ce*P		**Pn**	**18 35 27.4**	**-2.2**
SEY				pmax	pmax			
	comp=Z,9.0nm,0.8s							
SEY	**Seymchan**	**17.64**	**1**	*e*P		**Pn**	**18 35 27.4**	**-2.2**
ZEA	**Zeya**	**17.77**	**307**	*e*P		**P**	**18 35 30.3**	**-1.0**
ZEA				pmax	pmax			
	comp=E,10.0nm,1.2s							
ZEA				pmax	pmax			
	comp=N,10.0nm,1.3s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ZEA	**Zeya**	**17.77**	**307**	*e*P		**P**	**18 35 28.2**	**-3.1**
JMN	**Monobe**	**17.82**	**236**	P		**Pn**	**18 35 34.3**	**+2.2**
KSRS	**Korea Array**	**19.31**	**254**	P		**Pn**	**18 35 50.6**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=290,slow=20,SNR=5.1							
KSRS				LR		LR	18 42 49.9	
	comp=Z,46nm,18.7s,baz=45,slow=35							
KSRS	**Korea Array**	**19.31**	**254**	*e*P		**Pn**	**18 35 50.6**	**+0.7**
YAK	**Yakutsk**	**20.96**	**331**	LR		LR	18 45 27.5	
	comp=Z,75nm,18.6s,baz=83,slow=41							
YAK	**Yakutsk**	**20.96**	**331**	P		**P**	**18 36 03.8**	**-2.1**
YAK				IAmb		IAmb	18 36 23.8	
	comp=Z,29nm,0.8s							
YAK	**Yakutsk**	**20.96**	**331**	*e*P		**P**	**18 36 04.3**	**-1.5**
YAK				*e*			18 36 24.3	
YAK				*e*S		**S**	**18 39 54.4**	**-0.9**
YAK				*e*			18 40 12.1	
YAK				*e*SS		**SnSn**	**18 40 23.2**	**+2.4**
YAK				*e*			18 47 23.4	
YAK				pmax	pmax			
	comp=Z,12nm,1.0s							
YAK				pmax	pmax			
	comp=N,2.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,26nm,0.8s							
YAK				pmax	pmax			
	comp=E,24nm,1.1s							
YAK				pmax	pmax			
	comp=N,20nm,1.2s							
YAK				smax	smax			
	comp=E,49nm,2.1s							
YAK				smax	smax			
	comp=N,25nm,1.1s							
YAK	**Yakutsk**	**20.96**	**331**	*e*P		**P**	**18 36 04.3**	**-1.5**
KIWB	**Kanaga Island**	**21.62**	**61**	P		**P**	**18 36 13.5**	**+0.4**
BILL	**Bilibino**	**24.03**	**14**	*ce*P		**P**	**18 36 35.3**	**-1.7**
BILL				*e*			18 37 09.5	
BILL				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BILL				MLR	MLR			
	comp=Z,58nm,10.0s							
BILL	**Bilibino**	**24.03**	**14**	*e*P		**P**	**18 36 35.3**	**-1.7**
XLT	**XiLinHaoTe**	**25.13**	**279**	*e*P		**P**	**18 36 47.8**	**+0.4**
XLT				pP		pP	18 37 01.5	-1.0
XLT				sP		pwP	18 37 07.0	+1.5
XLT				pmax	pmax			
	comp=Z,14nm,0.7s							
XLT				pmax	pmax			
	comp=Z,180nm,5.7s							
BJI	**Beijing**	**26.36**	**271**	P		**P**	**18 37 01.5**	**+3.1**
BJI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BJT	**Baijiatuau**	**26.37**	**271**	P		**P**	**18 36 58.4**	**-0.1**
BJT	**Baijiatuau**	**26.37**	**271**	P		**P**	**18 36 58.4**	**-0.1**
BJT				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BJT	**Baijiatuau**	**26.37**	**271**	*e*P		**P**	**18 36 58.4**	**-0.1**
NJ2	**Nanjing**	**28.51**	**254**	*e*P		**P**	**18 37 20.8**	**+3.1**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
TIXI	**Tiksi**	**28.53**	**345**	LR		LR	18 47 38.8	
	comp=Z,68nm,21.9s,baz=84,slow=34							
TIXI	**Tiksi**	**28.53**	**345**	P		**P**	**18 37 14.7**	**-2.8**
TIXI	**Tiksi**	**28.53**	**345**	P		**P**	**18 37 14.7**	**-2.8**
TIXI				pmax	pmax			
	comp=Z,12nm,1.4s							
HNS	**HongShan**	**28.53**	**267**	||P	P	18 37 23.5	+5.6
H11N2	**WAKE ISLAND Hy**	**28.54**	**148**	T		T	19 08 05.6	
	baz=338,slow=75,SNR=3142							
H11N1	**WAKE ISLAND Hy**	**28.55**	**148**	T		T	19 08 05.3	
	baz=338,slow=75,SNR=2331							
H11N3	**WAKE ISLAND Hy**	**28.56**	**148**	T		T	19 08 06.9	
	baz=338,slow=75,SNR=2337							
HHC	**Hu-ho-hao-te**	**29.29**	**276**	*e*P		**P**	**18 37 27.0**	**+2.3**
HHC				pmax	pmax			
	comp=Z,6.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,400nm,4.9s							
H11S1	**WAKE ISLAND Hy**	**29.59**	**150**	T		T	19 09 27.6	
	baz=338,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.60**	**150**	T		T	19 09 31.3	
	baz=338,slow=74							
H11S2	**WAKE ISLAND Hy**	**29.61**	**150**	T		T	19 09 29.3	
	baz=338							
ULN	**Ulaanbaatar**	**30.33**	**291**	P		**P**	**18 37 34.2**	**+0.4**
ULN	**Ulaanbaatar**	**30.33**	**291**	*ce*P		**P**	**18 37 34.7**	**+0.8**
ULN				pmax	pmax			
	comp=Z,9.0nm,2.5s							
ULN	**Ulaanbaatar**	**30.33**	**291**	*e*P		**P**	**18 37 34.7**	**+0.8**
ULN	**Ulaanbaatar**	**30.33**	**291**	P		**P**	**18 37 34.3**	**+0.4**
ANM	**Nome**	**30.50**	**36**	P		**P**	**18 37 35.2**	**+0.3**
ANM	**Nome**	**30.50**	**36**	P		**P**	**18 37 35.3**	**+0.3**
ANM				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SONM	**Songino Array**	**30.77**	**291**	P		**P**	**18 37 36.6**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=75,slow=7.5,SNR=9.5							
	comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**30.77**	**291**	P		**P**	**18 37 38.4**	**+0.7**
SONM	**Songino Array**	**30.77**	**291**	*e*P		**P**	**18 37 38.7**	**+1.0**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
XAN	**Xi'an**	**34.28**	**266**	P		P	18 38 24.0	+15
XAN				pmax	pmax			
	comp=Z,4.0nm,0.6s							
IMAR	**Indian Mountai**	**35.57**	**35**	P		**P**	**18 38 19.2**	**+0.1**
KDAK	**Kodiak Island**	**35.87**	**49**	P		**P**	**18 38 22.5**	**+0.7**
	comp=Z,7.4nm,0.8s,baz=20,slow=6.0,SNR=1.3							
	comp=Z,7.4nm,0.8s							
H21K	**Melozitna Rive**	**35.92**	**36**	P		**P**	**18 38 21.9**	**-0.3**
H21K				IAmb		IAmb	18 38 23.9	
	comp=Z,10nm,0.7s							
SPU	**Mount Spurr**	**36.00**	**43**	P		**P**	**18 38 23.4**	**+0.4**
CAST	**Castle Rocks**	**36.04**	**40**	P		**P**	**18 38 24.5**	**+1.3**
CAST				IAmb		IAmb	18 38 25.6	
	comp=Z,12nm,1.0s							
I21K	**Tanana**	**36.21**	**37**	P		**P**	**18 38 25.2**	**+0.6**
I21K				IAmb		IAmb	18 38 26.3	
	comp=Z,9.7nm,0.7s							
BPAW	**Bear Paw Mtn.**	**36.56**	**38**	P		**P**	**18 38 28.9**	**+1.2**
BPAW				IAmb		IAmb	18 38 29.7	
	comp=Z,12nm,1.0s							
KTH	**Kantishna Hill**	**36.57**	**39**	P		**P**	**18 38 29.0**	**+1.2**
MLY	**Manley**	**36.72**	**37**	P		**P**	**18 38 29.8**	**+0.8**
MLY				IAmb		IAmb	18 38 31.1	
	comp=Z,8.2nm,0.7s							
LZH	**Lanzhou**	**36.82**	**273**	*e*P		**P**	**18 38 32.0**	**+1.6**
LZH				pP		pwP	18 38 49.0	+0.1
LZH				sP		sP	18 38 57.0	+3.6
LZH				pmax	pmax			
	comp=Z,12nm,1.2s							
COLD	**Coldfoot**	**37.13**	**33**	P		**P**	**18 38 33.0**	**+0.5**
BWN	**Browne**	**37.23**	**38**	P		**P**	**18 38 34.7**	**+1.4**
I23K	**Minto, Yukon-K**	**37.31**	**37**	P		**P**	**18 38 35.1**	**+1.2**
I23K				IAmb		IAmb	18 38 35.6	
	comp=Z,6.8nm,0.8s							
NEA2	**Nenana**	**37.42**	**38**	P		**P**	**18 38 35.7**	**+0.8**
NEA2				IAmb		IAmb	18 38 36.7	
	comp=Z,14nm,0.8s							
MCK	**McKinley**	**37.46**	**39**	P		**P**	**18 38 35.3**	**0.0**
MCK				IAmb		IAmb	18 38 37.3	
	comp=Z,15nm,1.1s							
MCK	**McKinley**	**37.46**	**39**	P		**P**	**18 38 35.3**	**0.0**
MCK				pmax	pmax			
	comp=Z,15nm,1.1s							
RND	**Reindeer**	**37.49**	**40**	P		**P**	**18 38 35.0**	**-0.6**
RND				IAmb		IAmb	18 38 36.9	
	comp=Z,11nm,1.0s							
RND	**Reindeer**	**37.49**	**40**	P		**P**	**18 38 35.0**	**-0.6**
RND				pmax	pmax			
	comp=Z,11nm,1.0s							
KNK	**Knik Glacier**	**37.73**	**43**	P		**P**	**18 38 38.1**	**+0.5**
SML	**Sawmill**	**37.77**	**42**	P		**P**	**18 38 38.7**	**+0.7**
MDM	**Murphy Dome**	**37.78**	**37**	P		**P**	**18 38 38.5**	**+0.5**
MDM				IAmb		IAmb	18 38 39.9	
	comp=Z,11nm,0.8s							
WRH	**Wood River Hil**	**37.84**	**38**	P		**P**	**18 38 37.8**	**-0.6**
WRH				IAmb		IAmb	18 38 51.7	
	comp=Z,39nm,2.0s							
TCOL	**CIGO, UAF Yank**	**37.94**	**37**	P		**P**	**18 38 38.9**	**-0.4**
COLA	**College**	**37.95**	**37**	P		**P**	**18 38 39.2**	**-0.1**
COLA	**College**	**37.95**	**37**	P		**P**	**18 38 39.2**	**-0.1**
COLA				pmax	pmax			
	comp=Z,21nm,0.8s							
COLA	**College**	**37.95**	**37**	P		**P**	**18 38 40.3**	**+1.0**
COLA				sP		**sP**	**18 39 07.0**	**+5.4**
H24K	**Noodor Dome**	**37.96**	**

comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 42.54 307 P **P** **18 39 16.0 -1.4**
comp=Z,0.6nm,0.3s,baz=64,slow=9.8,SNR=1.5
comp=Z,0.6nm,0.3s
ZALV Zalesovo Beam 42.54 307 P **P** **18 39 16.0 -1.4**
GOMU GeErMu 43.10 278 P **P** **18 39 23.8 +1.2**
GOMU pmax pmax
comp=Z,5.0nm,1.1s
GOMU pmax pmax
comp=Z,110nm,5.4s
INK Inuvik 43.45 31 P **P** **18 39 25.2 +0.8**
comp=Z,8.5nm,0.7s,baz=283,slow=6.9,SNR=33
comp=Z,8.5nm,0.7s
INK Inuvik 43.45 31 P **P** **18 39 25.4 +0.8**
INK IAmb IAmb 18 39 26.6
comp=Z,10nm,0.8s
INK Inuvik 43.45 31 P **P** **18 39 25.4 +0.9**
INK pmax pmax
comp=Z,10.0nm,0.8s
PZH PanZhiHua 43.70 262 P **P** **18 39 28.8 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
M31M Drury Creek, Y 44.22 40 P **P** **18 39 30.8 -0.1**
M31M IAmb IAmb 18 39 34.3
comp=Z,26nm,1.6s
WMQ Urumqi 44.40 292 *eP* **P** **18 39 34.3 +1.7**
WMQ pP pP 18 39 46.8 -1.8
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ Urumqi 44.40 292 P **P** **18 39 33.8 +1.2**
A36M Sachs Harbour 45.62 26 P **P** **18 39 42.8 +1.0**
A36M IAmb IAmb 18 39 47.1
comp=Z,20nm,0.7s
MK31 Makanchi Array 46.60 298 *i* P **P** **18 39 48.2 -1.7**
MKAR Makanchi Array 46.60 298 P **P** **18 39 48.6 -1.2**
comp=Z,1.1nm,0.7s,baz=64,slow=6.6,SNR=6.8
MKAR pP **pwP** **18 40 08.3 -0.6**
comp=Z,1.0nm,0.7s,baz=69,slow=9.1,SNR=4.1
comp=Z,1.1nm,0.7s
MKAR Makanchi Array 46.60 298 *eP* **P** **18 39 48.7 -1.2**
C36M Paulatuk 46.60 29 P **P** **18 39 49.9 +0.4**
C36M IAmb IAmb 18 39 56.2
comp=Z,8.5nm,0.8s
KURK Kurchatov 47.22 304 P **P** **18 39 52.9 -1.7**
KURK Kurchatov 47.22 304 P **P** **18 39 53.8 -0.8**
KURK Kurchatov 47.22 304 *eP* **P** **18 39 53.8 -0.8**
KURK Kurchatov 47.22 304 P **P** **18 39 53.0 -1.7**
KURBB Kurchatov Arra 47.31 304 P **P** **18 39 53.8 -1.5**
comp=Z,3.3nm,0.7s,baz=71,slow=8.6,SNR=17
comp=Z,3.3nm,0.7s
LSA Lhasa 49.23 273 P **P** **18 40 14.8 +3.9**
BVAR Borovoye Array 50.89 310 P **P** **18 40 21.5 -1.2**
comp=Z,0.6nm,0.6s,baz=69,slow=7.9,SNR=2.2
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 50.94 256 P **P** **18 40 25.6 +2.1**
comp=Z,0.8nm,0.7s,baz=37,slow=7.3,SNR=7.5
CMAR pP **pwP** **18 40 43.2 -0.5**
comp=Z,1.4nm,0.7s,baz=37,slow=7.5,SNR=6.5
comp=Z,0.8nm,0.7s
WUS Wushi 51.16 293 P **P** **18 40 25.7 +0.7**
WUS pP **pwP** **18 40 44.3 +0.4**
SHL Shillong 51.21 268 P **P** **18 40 28.3 +2.7**
SHL IAmb IAmb 18 40 45.5
comp=Z,25nm,1.5s
SHL Shillong 51.21 268 P **P** **18 40 28.3 +2.7**
SHL pmax pmax
comp=Z,25nm,1.5s
ALE Alert 51.26 5 P **P** **18 40 24.6 -0.4**
ALE pP **pP** **18 40 42.5 +1.2**
ALE sP **sP** **18 40 51.1 +2.5**
RES Resolute Bay 52.53 18 P **P** **18 40 34.4 -0.1**
RES IAmb IAmb 18 40 37.7
comp=Z,15nm,0.9s
RES Resolute Bay 52.53 18 P **P** **18 40 34.4 -0.1**
RES pmax pmax
comp=Z,15nm,1.0s
YKA Yellowknife Ar 52.73 36 P **P** **18 40 36.8 +0.6**
comp=Z,1.4nm,0.7s,baz=295,slow=7.1,SNR=18
YKA pP **pwP** **18 40 55.2 -0.9**
comp=Z,1.5nm,0.6s,baz=300,slow=6.6,SNR=6.9
comp=Z,1.4nm,0.7s
AAK Ala-Archa 53.45 296 *ceP* **P** **18 40 43.0 +1.0**
AAK pmax pmax
comp=Z,8.0nm,2.5s
AAK Ala-Archa 53.45 296 *eP* **P** **18 40 43.0 +1.0**
AAK Ala-Archa 53.45 296 P **P** **18 40 41.4 -0.6**
AAK pP **pwP** **18 41 00.3 -1.5**
SPITS Spitsbergen Ar 53.80 350 P **P** **18 40 42.5 -1.4**
comp=Z,8.6nm,0.7s,baz=66,slow=8.3,SNR=7.9
comp=Z,8.6nm,0.7s
JIRN Jiri 53.94 274 *eP* **P** **18 40 49.2 +3.2**
GUN Gumba 54.00 275 *eP* **P** **18 40 49.3 +2.9**
comp=Z,9.0nm,0.3s
KSH Kashi 54.15 292 P **P** **18 40 51.8 +4.7**
KSH pmax pmax
comp=Z,4.0nm,0.7s
PKI Pulchoki 54.54 275 *eP* **P** **18 40 52.5 +2.2**
comp=Z,8.5nm,0.4s
PKIN Phulchoki 54.54 275 *eP* **P** **18 40 52.5 +2.2**
comp=Z,8.6nm,0.5s
DMN Daman 54.73 275 *eP* **P** **18 40 53.4 +1.8**
comp=Z,3.5nm,0.3s
GKN Gorkha 54.82 276 *eP* **P** **18 40 54.5 +2.4**
comp=Z,26nm,0.5s
HNR Honiara 55.04 170 LR LR 19 04 42.8
comp=Z,481nm,19.6s,baz=320,slow=36
DANN Dangsing 55.22 277 *eP* **P** **18 40 58.1 +2.9**
comp=Z,27nm,0.4s
ARU Arti 55.30 318 P **P** **18 40 53.2 -1.8**
comp=Z,2.9nm,0.5s,baz=79,slow=7.0,SNR=5.1
comp=Z,2.9nm,0.5s
ARU Arti 55.30 318 *eP* **P** **18 40 53.2 -1.8**
ARU Arti 55.30 318 P **P** **18 40 53.0 -1.9**
TULEG Thule 55.73 11 P **P** **18 40 56.1 -1.7**
TULEG IAmb IAmb 18 40 58.7
comp=Z,23nm,1.6s
NEEM North Greenlan 56.69 6 *i* P **P** **18 41 03.3 -1.7**
NEEM IAmb IAmb 18 41 04.8
comp=Z,5.6nm,0.5s
DAG Danmarks Havn 58.01 357 *i* P **P** **18 41 12.2 -1.7**
DAG IAmb IAmb 18 41 13.6
comp=Z,3.4nm,0.6s
PLID Pearl Lake 61.41 54 P **P** **18 41 37.4 -0.6**
SUMG Summit 62.19 3 *i* P **P** **18 41 41.9 -1.1**
SUMG IAmb IAmb 18 41 44.5
comp=Z,11nm,0.9s
FFC Flin Flon 62.55 39 P **P** **18 41 45.6 +0.4**
FFC Flin Flon 62.55 39 P **P** **18 41 45.6 +0.4**
FFC pmax pmax
comp=Z,32nm,1.9s
FFC Flin Flon 62.55 39 P **P** **18 41 46.0 +0.9**
BELG Belogornoye 62.84 318 P **P** **18 41 44.7 -2.4**
comp=Z,3.2nm,0.4s,baz=135,slow=10.0,SNR=2.2
comp=Z,3.2nm,0.4s
FCC Fort Churchill 63.06 32 **P** **18 41 48.1 -0.4**
FCC Fort Churchill 63.06 32 P **P** **18 41 48.1 -0.4**
FCC pmax pmax
comp=Z,44nm,2.0s
NVAR Mina Array Bea 64.10 61 P **P** **18 41 56.1 +0.1**
comp=Z,0.5nm,0.8s,baz=336,slow=4.2,SNR=4.1
NVAR pP **sP** **18 42 17.0 -1.6**
comp=Z,0.3nm,0.5s,baz=307,slow=6.8,SNR=2.5
comp=Z,0.5nm,0.8s
QLMT Earthquake Lak 64.13 52 P **P** **18 41 57.7 +1.6**
FINES FINESS Array B 64.83 334 P **P** **18 41 58.5 -1.6**
comp=Z,2.2nm,0.4s,baz=42,slow=6.4,SNR=28
FINES LR LR 19 12 36.7
comp=Z,202nm,18.0s,baz=194,slow=38
comp=Z,2.2nm,0.4s
FINES FINESS Array B 64.83 334 *eP* **P** **18 41 59.1 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.4s
ICESG Greenland Ices 65.60 4 *i* P **P** **18 42 06.3 +1.0**
ICESG IAmb IAmb 18 42 08.8
comp=Z,8.3nm,0.6s
OBN Obninsk 65.83 325⇑ *eP* **P** **18 42 04.8 -1.8**
OBN *e* 18 44 33.6
OBN *eS* S 18 51 10.3 +22
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,184nm,17.0s
OBN Obninsk 65.83 325 *eP* **P** **18 42 04.8 -1.8**
GEYT Alibeck 66.36 300 P **P** **18 42 10.8 +0.5**
comp=Z,2.2nm,0.5s,baz=48,slow=2.2,SNR=4.1
comp=Z,2.2nm,0.5s
WRAB Tennant Creek 66.80 198 P **P** **18 42 14.8 +1.6**
WRA Warramunga Arr 66.81 198 P **P** **18 42 14.7 +1.4**
comp=Z,2.5nm,0.8s,baz=17,slow=6.7,SNR=7.2
WRA pP **sP** **18 42 36.0 +0.6**
comp=Z,3.4nm,1.0s,baz=12,slow=6.7,SNR=5.1
comp=Z,2.5nm,0.8s
ULM Lac du Bonnet 68.33 40 P **P** **18 42 22.3 -0.3**
comp=Z,2.8nm,0.7s,baz=13,slow=8.0,SNR=4.7
comp=Z,2.8nm,0.7s
ULM Lac du Bonnet 68.33 40 *eP* **P** **18 42 24.1 +1.5**
ULM pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 69.20 341 P **P** **18 42 27.2 -0.7**
comp=Z,6.1nm,0.8s,baz=30,slow=6.5
NOA NORSAR Array B 69.20 341 P **P** **18 42 27.1 -0.7**
comp=Z,4.8nm,0.8s,baz=29,slow=6.6,SNR=14
comp=Z,4.8nm,0.8s
HFS Hagfors 69.38 339 P **P** **18 42 27.5 -1.4**
comp=Z,3.5nm,0.5s,baz=47,slow=2.6,SNR=15
comp=Z,3.5nm,0.5s
MNK Minsk 69.63 329 *i* P **P** **18 42 30.6 0.0**
comp=E,1.0nm,0.8s
MNK *i* P **P** **18 42 30.6 0.0**
comp=N,29nm,0.8s
MNK *i* P **P** **18 42 30.6 0.0**
comp=Z,14nm,1.0s,baz=219
MNK *i* pP **pP** **18 42 47.0 -0.7**
MNK *i* PP **PP** **18 45 04.8 +0.2**
MNK *i* PPP PPP 18 46 46.4
MNK *i* S **S** **18 51 34.5 +1.1**
MNK *i* sS **sS** **18 52 02.8 -0.2**
MNK *i* SS **SS** **18 56 04.2 +2.7**
MNK *i* SSS SSS 18 59 22.0
MNK *i* LR LR 19 11 36.0
MNK *i* LRM MLR 19 15 15.6
comp=Z,93nm,15.3s
MNK *i* LRM MLR 19 15 30.1
comp=N,208nm,19.5s
MNK *i* LRM MLR 19 15 43.5
comp=E,9.0nm,15.3s
MNK Minsk 69.63 329 *i* P **P** **18 42 30.5 0.0**
MNK *i* *PP **pP** **18 42 46.9 -0.7**
MNK *i* 18 42 53.0
MNK *i* 18 45 04.7
MNK *i* PPP PPP 18 46 46.4
MNK *i* S **S** **18 51 34.5 +1.1**
MNK *i* *SS **sS** **18 52 02.7 -0.2**
MNK *i* 18 52 26.5
MNK *i* SS **SS** **18 56 04.1 +2.7**
MNK pmax pmax
comp=Z,14nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,29nm,0.8s
MNK MLR MLR
comp=Z,93nm,15.0s
MNK MLR MLR
comp=N,208nm,20.0s
MNK MLR MLR
comp=E,9.0nm,15.0s
PV13 Radium Mtn., P 69.96 56 P **P** **18 42 34.0 +0.8**
ASAR Alice Springs 70.52 197 P **P** **18 42 38.9 +2.6**
comp=E,1.5nm,0.6s,baz=11,slow=6.0,SNR=37
ASAR pP **pwP** **18 43 00.0 +0.3**
comp=E,1.8nm,0.8s,baz=14,slow=6.3,SNR=7.2
comp=E,1.5nm,0.6s
KVAR Kislovodsk Arr 70.97 314 P **P** **18 42 38.0 -1.1**
comp=E,2.3nm,0.7s,baz=54,slow=8.7,SNR=2.1
comp=E,2.3nm,0.7s
KIV Kislovodsk 70.97 314 P **P** **18 42 40.7 +1.6**
KIV Kislovodsk 70.97 314 *eP* **P** **18 42 38.8 -0.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 70.97 314 *eP* **P** **18 42 38.8 -0.3**
KIV Kislovodsk 70.97 314 P **P** **18 42 40.7 +1.6**
KBZ Khabaz 71.02 313 P **P** **18 42 38.3 -0.9**
comp=Z,5.0nm,0.9s,baz=62,slow=2.8,SNR=11
comp=Z,5.0nm,0.9s
KBZ Khabaz 71.02 313 *i* P **P** **18 42 39.2 0.0**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 71.02 313 *eP* **P** **18 42 39.2 0.0**
SHA1 Shidzhatmaz 71.14 314 *i* P **P** **18 42 39.3 -1.0**
OGNE Ogallala 71.86 50 P **P** **18 42 45.5 +1.0**
OGNE IAmb IAmb 18 42 46.0
comp=Z,18nm,0.8s
AKASG Malin Array Be 72.09 326 P **P** **18 42 44.8 -0.7**
comp=Z,2.3nm,0.4s,baz=37,slow=6.2,SNR=22
comp=Z,2.3nm,0.4s
ECSD EROS Data Cent 72.68 45 P **P** **18 42 49.3 +0.1**
I37A Lemond, Waseca 74.04 43 P **P** **18 42 57.5 +0.4**
SCHQ Schefferville 75.05 22 P **P** **18 43 02.7 -0.1**
comp=Z,5.6nm,0.7s,baz=338,slow=7.5,SNR=6.0
comp=Z,5.6nm,0.7s
BUR08 Bucovina Ar. S 76.12 326 P **P** **18 43 09.1 -0.1**
BUR08 IAmb IAmb 18 43 56.5
comp=Z,33nm,1.9s
BURAR Bucovina Array 76.14 326 P **P** **18 43 09.2 -0.1**
STHS Stebnicka Huta 76.16 329 *eP* **P** **18 43 09.5 +0.2**
STHS Stebnicka Huta 76.16 329 *eP* **P** **18 43 09.5 +0.2**
CRVS Cervenica-Dubn 76.51 329 *eP* **P** **18 43 12.0 +0.7**
CRVS Cervenica-Dubn 76.51 329 *eP* **P** **18 43 12.0 +0.7**
GC02 Grant County # 77.06 50 P **P** **18 43 14.5 -0.1**
CLL Collm 77.28 335 P **P** **18 43 14.2 -1.3**
CLL Collm 77.28 335 *i* P **P** **18 43 15.7 +0.2**
CLL Collm 77.28 335 *i* P **P** **18 43 15.7 +0.2**
EKA Eskdalemuir Ar 77.44 345 P **P** **18 43 16.0 -0.4**
comp=Z,1.9nm,0.6s,baz=20,slow=5.0,SNR=4.7
comp=Z,1.9nm,0.6s
EKA Eskdalemuir Ar 77.44 345 P **P** **18 43 16.0 -0.4**
VYHS Vyhne 77.80 330 *eP* **P** **18 43 19.4 +0.9**
VYHS Vyhne 77.80 330 *eP* **P** **18 43 19.4 +0.9**
BRTR Keskin Array B 78.64 316 P **P** **18 43 23.1 -0.4**
comp=Z,0.4nm,0.7s,baz=32,slow=8.5,SNR=1.9
comp=Z,0.4nm,0.7s
KHC Kasperske Hory 79.01 333 P **P** **18 43 25.3 +0.1**
KHC IAmb IAmb 18 44 12.7
comp=Z,17nm,1.8s
KHC Kasperske Hory 79.01 333 P **P** **18 43 25.3 +0.1**
KHC pmax pmax
comp=Z,17nm,1.8s
TXAR Lajitas Array 79.17 59 P **P** **18 43 27.6 +1.0**
comp=Z,0.4nm,0.6s,baz=291,slow=3.8,SNR=3.6
TXAR pP **pwP** **18 43 48.9 -0.5**
comp=Z,1.4nm,0.5s,baz=304,slow=4.1,SNR=4.5
comp=Z,0.4nm,0.6s
GERES GERESS Array B 79.22 333 P **P** **18 43 26.2 -0.3**
comp=Z,1.1nm,0.7s,baz=35,slow=4.9,SNR=6.5
comp=Z,1.1nm,0.7s
GERES GERESS Array B 79.22 333 P **P** **18 43 25.5 -0.9**
U38A Gravette 79.23 49 P **P** **18 43 26.6 0.0**
CCM Cathedral Cave 79.62 46 P **P** **18 43 29.1 +0.4**
CCM Cathedral Cave 79.62 46 P **P** **18 43 29.1 +0.4**
CCM pmax pmax
comp=Z,47nm,1.9s
DAVOX Davos/Dischmat 82.25 334 P **P** **18 43 42.6 -0.1**
comp=Z,1.5nm,0.6s,baz=0.0,slow=1.0,SNR=4.6
comp=Z,1.5nm,0.6s
ASF Jabal al Asfar 82.73 309 P **P** **18 43 44.3 -1.1**
comp=Z,2.0nm,0.5s,baz=18,slow=3.2,SNR=2.1
comp=Z,2.0nm,0.5s
MMAI Mount Meron Ar 82.89 311 P **P** **18 43 46.2 0.0**
comp=Z,3.3nm,0.8s,baz=46,slow=4.2,SNR=2.6
comp=Z,3.3nm,0.8s
PLCA Paso Flores 149.18 97 PKPbc **PKiKP** **18 51 10.2 -0.2**
comp=Z,0.9nm,0.7s,baz=279,slow=3.3,SNR=4.9
PLCA pPKPbc **sPKPbc** **18 51 32.3 -0.6**
comp=Z,2.2nm,0.8s,baz=260,slow=6.7,SNR=5.7

*BJI **25** 18:34:41.6±0.0,35.96N×68.66E,h35km,mb4.3/8,ML4.0/1, Ms4.2/1,Ms7 4.0/1*
*IDC **25** 18:34:49.9±4.0,35.74N×69.59E,h68km±32km, mb3.5/5, mbtmp4.0/11,ML4.0/6,Error ellipse: s-maj=37.2km s-min=29.9km az=160.0*
*NEIC **25** 18:34:53.1±2.3,36.15N±0.07×69.3E±0.1,h117km±11km, mb4.2/7,Error ellipse: s-maj=18.0km s-min=7.5km az=111.0*
*NNC **25** 18:34:56.6±6.5,37.53N×71.45E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=47.4km s-min=34.6km az=4.0*

ISC 25 18:34:55.3±0.7,36.08N±0.05×69.80E±0.07,h124km,n60, σ2s49/69,mb3.7/6,1C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.66**	**202**	Pn	**Pn**	**18 35 22.5**	**-2.5**
KBL				Sn	**Sn**	**18 35 42.9**	**-4.7**
TAS	**Tashkent**	**5.25**	**356**	Pn	Pn	18 36 03.5	-8.0
TAS				Sn	Sn	18 37 00.6	-10
JMU	**Jammu**	**5.39**	**127**	*eP*	**Pn**	**18 36 14.4**	**+1.0**
JMU				*eS*	**Sn**	**18 37 14.3**	**-0.1**
KSH	**Kashi**	**5.97**	**53**	Pn	**Pn**	**18 36 20.3**	**-1.1**
KSH				pP		18 36 23.0	
KSH				Sn	**Sn**	**18 37 24.3**	**-4.3**
KSH				smax	smax		
	comp=N,75nm,0.6s						
KSH				smax	smax		
	comp=E,83nm,0.6s						
IUG	**Iuzhnay**	**6.06**	**2**	Pg	**Pn**	**18 36 22.6**	**0.0**
	comp=E,42nm,0.3s						
IUG				Lg	Lg	18 37 27.4	
	comp=E,384nm,0.6s						
AML	**Almayashu**	**6.76**	**25**	P	**Pn**	**18 36 32.8**	**+0.5**
	SNR=42						
KK31	**Karatay Array**	**7.03**	**4**	Pn	**Pn**	**18 36 35.0**	**-0.6**
KK31				Sn	**Sn**	**18 37 47.0**	**-7.1**
KK31	**Karatay Array**	**7.03**	**4**	⇓Pn	**Pn**	**18 36 35.2**	**-0.4**
	comp=E,2.2nm,0.3s,baz=195,slow=15,SNR=164						
KK31				⇓Sn	**Sn**	**18 37 50.1**	**-4.0**
	comp=E,9.6nm,0.4s,baz=196,slow=25,SNR=9.4						
KKAR	**Karatay Array**	**7.03**	**4**	Pn	**Pn**	**18 36 35.0**	**-0.6**
KKAR				Sn	**Sn**	**18 37 47.3**	**-6.8**
KKAR	**Karatay Array**	**7.03**	**4**		**Pn**	**18 36 35.3**	**-0.3**
KKAR				Sn	**Sn**	**18 37 47.0**	**-7.1**
UCH	**Uchtor**	**7.15**	**29**	P	**Pn**	**18 36 38.8**	**+1.2**
	SNR=36						
MRKS	**Merke**	**7.16**	**21**	Pg	**Pn**	**18 36 37.7**	**+0.3**
	comp=E,6.6nm,0.5s						
EKS2	**Erkin-Say**	**7.26**	**24**	P	**Pn**	**18 36 39.7**	**+1.0**
	SNR=26						
AAK	**Ala-Archa**	**7.49**	**28**	P	**Pn**	**18 36 43.3**	**+1.4**
	SNR=30						
AAK	**Ala-Archa**	**7.49**	**28**	P	**Pn**	**18 36 42.7**	**+0.9**
	comp=E,9.3nm,0.3s,baz=179,slow=5.3,SNR=78						
AAK				S	**Sn**	**18 38 06.8**	**+1.5**
	comp=E,10nm,0.4s,baz=287,slow=23,SNR=10						
	comp=E,16nm,0.3s						
AAK	**Ala-Archa**	**7.49**	**28**	Pn	**Pn**	**18 36 42.9**	**+1.0**
AAK				Sn	**Sn**	**18 38 06.0**	**+0.7**
KBK	**Karagaybulak**	**7.68**	**30**	P	**Pn**	**18 36 45.7**	**+1.2**
	SNR=16						
SMLA	**Simla**	**7.88**	**127**	*eP*	**Pn**	**18 36 47.4**	**+0.3**
SMLA				*eS*	**Sn**	**18 38 12.3**	**-2.4**
SMLA				IAML		18 38 15.4	
	comp=E,100nm,0.4s						
SMLA				IAML		18 38 18.2	
	comp=N,93nm,0.6s						
SMLA				IAML		18 38 19.6	
	comp=N,73nm,0.2s						
CHMS	**Chumysh**	**7.89**	**27**	P	**Pn**	**18 36 48.3**	**+1.1**
	SNR=7.7						
USP	**Ospenovka**	**8.04**	**25**	P	**Pn**	**18 36 49.9**	**+0.7**
	SNR=32						
SGDS	**Sogindy**	**8.25**	**25**	Pg	**Pn**	**18 36 52.0**	**+0.1**
	comp=N,7.6nm,0.4s						
SGDS				Lg	Lg	18 38 19.1	
	comp=N,22nm,0.9s						
TARG	**Taragay, Kyrgy**	**8.41**	**45**	Pn	**Pn**	**18 36 53.2**	**-1.4**
KST	**Kastek**	**8.42**	**33**	Pg	**Pn**	**18 36 55.7**	**+1.3**
	comp=N,29nm,0.7s						
KST				Lg	Lg	18 38 25.4	
	comp=N,10nm,0.8s						
DGS	**Degeres**	**8.50**	**31**	Pg	**Pn**	**18 36 55.2**	**-0.3**
	comp=N,3.6nm,0.7s						
DGS				Lg	Lg	18 38 24.5	
	comp=N,6.0nm,0.5s						
MDOK	**Medeo**	**9.01**	**36**	⇓P	**Pn**	**18 37 04.0**	**+1.5**
	comp=N,12nm,0.6s						
MDOK				⇑S	**Sn**	**18 38 42.5**	**+0.3**
	comp=N,5.3nm,0.8s						
KHET	**Khetri**	**9.47**	**146**	*eP*	**Pn**	**18 37 08.4**	**-0.2**
KHET				*eS*	Sn	18 38 45.6	-7.7
GEYT	**Alibeck**	**9.52**	**285**	P	Pn	18 37 03.8	-5.4
	comp=N,1.9nm,0.3s,baz=122,slow=9.4,SNR=19						
GEYT				S	Sn	18 38 43.2	-11
	comp=N,1.5nm,0.4s,baz=90,slow=19,SNR=1.7						
	comp=N,2.4nm,0.3s						
NDI	**New Delhi**	**9.68**	**138**	*eP*	**Pn**	**18 37 09.7**	**-1.7**
NDI				*eS*	**Sn**	**18 38 52.0**	**-6.3**
PTH	**Pithoragarh**	**10.92**	**124**	*eP*	**Pn**	**18 37 27.0**	**-1.2**
PTH				*eS*	**Sn**	**18 39 22.3**	**-6.2**
LGTI	**Lohaghat**	**11.00**	**124**	*eP*	**Pn**	**18 37 27.2**	**-1.9**
LGTI				*eS*	Sn	18 39 22.5	-7.7
MAKZ	**Makanchi**	**14.06**	**37**	Pn	**Pn**	**18 38 08.8**	**-0.1**
MAKZ				P	**P**	**18 38 13.8**	**+1.1**
DANN	**Dangsing**	**14.10**	**119**	*eP*	**Pn**	**18 38 08.9**	**-0.9**
	comp=N,13nm,0.3s						
MK31	**Makanchi Array**	**14.20**	**37**		**Pn**	**18 38 10.9**	**+0.2**
MKAR	**Makanchi Array**	**14.20**	**37**	P	**Pn**	**18 38 12.5**	**+1.8**
	comp=N,0.2nm,0.3s,baz=222,slow=15,SNR=20						
	comp=N,1.3nm,0.7s						
MKAR	**Makanchi Array**	**14.20**	**37**	Pn	**Pn**	**18 38 11.4**	**+0.7**
MKAR				P	**P**	**18 38 15.9**	**+1.6**
BHPL	**Bhopal**	**14.40**	**151**	*ex*	x	18 38 18.5	
GKN	**Gorkha**	**14.93**	**118**	*eP*	**Pn**	**18 38 19.3**	**-0.8**
	comp=N,7.5nm,0.2s						
ABKAR	**Akbulak array**	**15.01**	**334**		**Pn**	**18 38 17.8**	**-3.0**
ABKAR	**Akbulak array**	**15.01**	**334**	Pn	Pn	18 38 14.2	-6.5
PKIN	**Phulchoki**	**15.72**	**118**	*eP*	**Pn**	**18 38 30.0**	**-0.1**
	comp=N,9.1nm,0.3s						
WMQ	**Urumqi**	**15.73**	**55**	*eP*	**P**	**18 38 32.8**	**+1.5**
PKI	**Pulchoki**	**15.73**	**118**	*eP*	**Pn**	**18 38 29.8**	**-0.6**
	comp=N,7.0nm,0.3s						
KURBB	**Kurchatov Arra**	**15.84**	**21**	P	**P**	**18 38 33.7**	**+1.3**
	comp=N,0.4nm,0.3s,baz=211,slow=10.0,SNR=41						
	comp=N,3.3nm,0.6s						
GUN	**Gumba**	**15.88**	**116**	*eP*	**Pn**	**18 38 33.6**	**+1.5**
	comp=N,9.8nm,0.4s						
KURK	**Kurchatov**	**15.95**	**21**		**Pn**	**18 38 30.1**	**-2.4**
KURK				IAmb	IAmb	18 38 37.1	
	comp=Z,4.4nm,0.7s						
JIRN	**Jiri**	**16.25**	**117**	*eP*	**Pn**	**18 38 37.4**	**+0.7**
	comp=Z,15nm,0.4s						
AKTO	**Aktyubinsk**	**16.68**	**333**	P	**Pn**	**18 38 41.9**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=136,slow=11,SNR=13						
	comp=Z,3.7nm,0.5s						
BVAR	**Borovoye Array**	**16.95**	**1**	P	**P**	**18 38 45.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=170,slow=11,SNR=42						
	comp=Z,1.9nm,0.3s						
BRVK	**Borovoye**	**16.98**	**1**		**P**	**18 38 41.7**	**-3.2**
BRVK				IAmb	IAmb	18 38 47.5	
	comp=Z,4.5nm,0.6s						
LSA	**Lhasa**	**19.01**	**103**	P	**P**	**18 39 08.7**	**+0.8**
ZAA0	**Zalesovo Array**	**20.70**	**26**	P	**P**	**18 39 27.8**	**+2.4**
ZAA0				IAmb	IAmb	18 39 28.8	
	comp=Z,12nm,0.4s						
ZALV	**Zalesovo Beam**	**20.70**	**26**	P	**P**	**18 39 28.1**	**+2.7**
	comp=Z,11nm,0.4s,baz=222,slow=10,SNR=30						
	comp=Z,11nm,0.4s						
ZALV	**Zalesovo Beam**	**20.70**	**26**	P	**P**	**18 39 26.9**	**+1.6**
ARU	**Arti**	**21.73**	**343**	P	**P**	**18 39 36.4**	**0.0**
	comp=Z,1.3nm,0.5s,baz=163,slow=10,SNR=3.8						
	comp=Z,1.3nm,0.5s						
IMP	**Imphal**	**23.58**	**112**	*ex*	x	18 39 58.6	
IMP				IAmb	IAmb	18 39 59.9	
	comp=Z,2.4nm,0.5s						
HHC	**Hu-ho-hao-te**	**32.82**	**69**	*eP*	P	18 41 22.5	+5.6
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
IPM	**Ipoh**	**42.60**	**130**	P	**P**	**18 42 40.2**	**+0.9**
INK	**Inuvik**	**74.47**	**9**	P	**P**	**18 46 23.6**	**+4.2**
	comp=Z,1.0nm,0.7s,baz=7.2,slow=6.0,SNR=5.1						
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**81.70**	**2**	P	**P**	**18 47 02.7**	**+3.2**
	comp=Z,0.2nm,0.4s,baz=347,slow=5.0,SNR=5.3						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**84.82**	**124**	P	**P**	**18 47 16.1**	**0.0**
	comp=Z,0.2nm,0.7s,baz=313,slow=5.0,SNR=1.8						
	comp=Z,0.2nm,0.7s						

ROM 25 18:41:04.9±0.0,42.805N±0.002×13.097E±0.003, h11km,ML1.5/7,3C-1D,Error ellipse: s-maj=0.2km s-min=0.1km az=277.0,Central Italy

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

T1212	**Cascia, Frazio**	**0.07**	**216**	⇑P	Pg	18 41 07.7	+0.5
T1212				S	Sg	18 41 09.4	+0.4
T1212				AML	AML		
	comp=E,352μm,0.6s						
T1212				AML	AML		
	comp=N,427μm,0.3s						
T1212				AML	AML		
	comp=N,435μm,0.3s						
T1212				AML	AML		
	comp=E,360μm,0.6s						
T1245	**Castelsantange**	**0.08**	**53**	P	Pg	18 41 07.8	+0.3
T1245				S	Sg	18 41 09.6	+0.1
T1245				AML	AML		
	comp=E,352μm,0.2s						
T1245				AML	AML		
	comp=N,270μm,0.4s						
T1245				AML	AML		
	comp=N,270μm,1.6s						
T1216	**Preci, Frazion**	**0.10**	**326**	P	Pg	18 41 08.1	+0.4
T1216				S	Sg	18 41 10.3	+0.6
T1216				AML	AML		
	comp=N,154μm,0.9s						
T1216				AML	AML		
	comp=E,144μm,0.4s						
T1216				AML	AML		
	comp=N,155μm,0.9s						
MC2	**Monte Cornacci**	**0.13**	**33**	⇑P	Pg	18 41 08.6	+0.4
MC2				S	Sg	18 41 11.1	+0.6
T1218	**Civita (PG)**	**0.14**	**174**	P	Pg	18 41 08.8	+0.6
T1218				S	Sg	18 41 11.3	+0.8
T1217	**Poggiodomo (PG**	**0.15**	**233**	P	Pg	18 41 09.0	+0.5
T1217				S	Sg	18 41 11.8	+0.9
T1215	**Vallo di Nera,**	**0.17**	**269**	⇑P	Pg	18 41 09.2	+0.6
T1215				S	Sg	18 41 12.3	+1.0
LNSS	**Leonessa**	**0.21**	**192**	P	Pg	18 41 09.8	+0.5
LNSS				S	Sg	18 41 13.5	+1.1
LNSS				AML	AML		
	comp=E,85μm,1.3s						
LNSS				AML	AML		
	comp=N,95μm,1.1s						
LNSS				AML	AML		
	comp=N,95μm,0.9s						
LNSS				AML	AML		
	comp=E,85μm,0.7s						
FDMO	**Fiordimonte**	**0.23**	**358**	P	Pg	18 41 10.2	+0.5
FDMO				S	Sg	18 41 14.1	+1.0
CESI	**CESI - Serrava**	**0.24**	**325**	P	Pg	18 41 10.7	+0.7
CESI				S	Sg	18 41 14.6	+1.1
T1219	**Muccia, Frazio**	**0.26**	**345**	P	Pg	18 41 10.9	+0.6
T1219				S	Sg	18 41 14.9	+1.0
CSP1	**Cessapalombo**	**0.30**	**15**	P	Pg	18 41 11.4	+0.4
CSP1				S	Sb	18 41 16.2	-1.1
T1220	**Camerino, Fraz**	**0.30**	**359**	P	Pg	18 41 11.6	+0.5
T1220				S	Sb	18 41 17.0	-0.5
RM33	**Pellescritta (**	**0.31**	**164**	P	Pg	18 41 07.5	-3.6
RM33				AML	AML		
	comp=E,113μm,0.8s						
RM33				AML	AML		
	comp=N,185μm,1.0s						
TERO	**Teramo**	**0.42**	**116**	P	Pg	18 41 13.4	+0.3
TERO				S	Sg	18 41 19.6	+1.0
TRTR	**Tortoreto Alta**	**0.60**	**89**	⇓P	Pg	18 41 14.9	-1.7

GCMT ***25*** *18:50:51.8±0.2,35°.25N±0°.02×26°.55E±0°.02,h84km±2km, MW5.3/86,Moment Tensor Solution. s75,c90; s86,c100; Duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr0.30±.03; Mθθ0.96±.03; Mϕϕ-1.27±.03; Mrθ0.23±.03; Mθϕ0.56±.04; Mrϕ0.15±.04; Best double couple: M0 1.28900×10^17^ NP1:ϕs30.00000°,δ81.00000°, λ166.00000°. NP2:ϕs123.00000°,δ76.00000°,λ10.00000°. Principal axes: T 1.1700, Plg16.0000°, Azm346.0000°; N 0.2350, Plg73.0000°, Azm177.0000°; P -1.4070, Plg3.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***25*** *18:50:51.8±1.4,35°.32N×26°.67E,h41km±47km,Md5.5,Ml5.9*

NEIC ***25*** *18:50:51.8±1.8,35°.36N±0°.06×26°.42E±0°.05,h57km±5km, mb5.4/431,Mww5.2,Error ellipse: s-maj=8.7km s-min=6.2km az=169.0*

MED_RC ***25*** *18:50:52.0±0.3,35°.38N×26°.46E,h65km±2km,MW5.3/29, Moment Tensor Solution. Body waves: s8,c9;Mantle waves: s29,c44; Duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr0.14±.03; Mθθ0.82±.02; Mϕϕ-0.96±.03; Mrθ0.12±.02; Mϕϕ0.35±.03; Mθr0.12±.03; Best double couple: M0 0.98000×10^17^ NP1:ϕs34.00000°,δ86.00000°, λ169.00000°. NP2:ϕs125.00000°,δ79.00000°,λ4.00000°. Principal axes: T 0.9100, Plg11.0000°, Azm349.0000°; N 0.1200, Plg78.0000°, Azm193.0000°; P -1.0400, Plg5.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

IDC ***25*** *18:50:52.9±0.3,35°.50N×26°.42E,h63km±2km,mb5.0/54, mbtmp5.3/64,MS4.1/61 Error ellipse: s-maj=8.4km s-min=4.3km az=162.0*

ISK ***25*** *18:50:52.0,35°.44N×26°.45E,h22km,ML5.3/17*

DDA ***25*** *18:50:52.9±0.0,35°.51N×26°.51E,h37km±4km,MW5.0*

NIC ***25*** *18:50:53.5±0.0,35°.00N×26°.84E,h32km±68km,Ml5.5/5*

BEO ***25*** *18:50:53.3±0.7,35°.44N×26°.06E,h0km,ML5.0/4*

TIR ***25*** *18:50:53.4,35°.34N×25°.62E,h41km±10km,Ml5.8*

ATH ***25*** *18:50:53.6,35°.40N×26°.45E,h61km,Mw5.2,Moment Tensor Solution. s7 Moment tensor: Mrr-0.07; Mθθ6.95; Mϕϕ-6.88; Mrθ1.59; Mθϕ4.19; Mϕr0.47; Fault plane solution: NP1:ϕs29.00000°,δ82.00000°,λ172.00000°. NP2: ϕs120.00000°,δ82.00000°,λ8.00000°.*

THE ***25*** *18:50:54.3,35°.41N×26°.45E,h54km±1km,ML5.4/23 Error ellipse: s-maj=2.0km s-min=0.4km az=161.0*

PDG ***25*** *18:50:54.9±0.6,35°.33N×26°.46E,h50km±6km,MD5.3/7, ML5.2/13,Error ellipse: s-maj=2.1km s-min=1.6km az=90.0*

GII ***25*** *18:50:55.7±0.4,35°.00N×26°.99E,h40km,mb5.5/6, MD5.7/6,Mm5.5/5*

NEIC ***25*** *18:50:55,35°.40N×26°.44E,h50km,Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^16^Nm; Mrr-1.03; Mθθ8.45; Mϕϕ-7.42; Mrθ0.60; Mθϕ3.92; Mϕr-1.26; Fault plane solution: Mo9.00000×10^16^ NP1:ϕs32.00000°, δ82.00000°,λ-173.00000°. NP2:ϕs301.00000°, δ84.00000°,λ-8.00000°. Principal axes: T 9.3753, Plg2.0000°, Azm347.0000°; N -0.7940, Plg80.0000°, Azm86.0000°; P -8.5812, Plg10.0000°, Azm257.0000°;*

ISC 25 18:50:52.1±0.2,35°.43N±0°.02×26°.44E±0°.02,h63km±1km, h62km:pP-P,n2384,σ1s78/2711,mb5.4/414,151C-104D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.36**	**210**	P		**Pn**	**18 51 03.8**	**+0.8**
ZKR				S		**Sn**	**18 51 11.4**	**+0.5**
	1425μm,0.5s							
ZKR	**Zakros**	**0.36**	**210**	P		**Pn**	**18 51 03.8**	**+0.8**
ZKR				S		**Sn**	**18 51 11.4**	**+0.5**
	1425μm,0.5s							
ZKR	**Zakros**	**0.36**	**210**	P		**Pn**	**18 51 03.7**	**+0.8**
ZKR				AML	AML		18 51 10.9	
	1μm,0.6s							
ZKR				AML	AML		18 51 10.9	
	1μm,0.6s							
ZKR				AML	AML		18 51 11.1	
	4μm,0.6s							
ZKR				AML	AML		18 51 11.1	
	4μm,0.6s							
ZKR				S		**Sn**	**18 51 11.7**	**+0.8**
ZKR	**Zakros**	**0.36**	**210**	P		**Pn**	**18 51 03.8**	**+0.8**
ZKR				S		**Sn**	**18 51 11.4**	**+0.5**
FRMA	**Ierapetra Chan**	**0.71**	**234**	P		**Pn**	**18 51 06.2**	**-0.4**
FRMA				S		**Sn**	**18 51 16.5**	**-0.7**
	209μm,0.6s							
FRMA	**Ierapetra Chan**	**0.71**	**234**	P		**Pn**	**18 51 06.2**	**-0.4**
FRMA				S		**Sn**	**18 51 16.5**	**-0.7**
	209μm,0.6s							
FRMA	**Ierapetra Chan**	**0.71**	**234**	P		**Pn**	**18 51 06.3**	**-0.3**
FRMA				S		**Sn**	**18 51 16.6**	**-0.7**
HRKL	**Herakleio**	**1.10**	**264**	P		**Pn**	**18 51 13.2**	**+1.8**
HRKL				S		**Sn**	**18 51 28.4**	**+2.5**
	304μm,0.8s							
HRKL	**Herakleio**	**1.10**	**264**	Pn		**Pn**	**18 51 13.4**	**+1.9**
HRKL				Sn		**Sn**	**18 51 27.9**	**+2.0**
HRKL	**Herakleio**	**1.10**	**264**	P		**Pn**	**18 51 13.3**	**+1.8**
IACM	**Heraklion**	**1.12**	**264**	P		**Pn**	**18 51 13.5**	**+1.7**
IACM				S		**Sn**	**18 51 28.2**	**+1.7**
IACM	**Heraklion**	**1.12**	**264**	P		**Pn**	**18 51 13.5**	**+1.7**
IACM				S		**Sn**	**18 51 28.2**	**+1.7**
IACM	**Heraklion**	**1.12**	**264**	P		**Pn**	**18 51 13.6**	**+1.7**
IDI	**Anoyia**	**1.27**	**264**	P		**Pn**	**18 51 15.3**	**+1.5**
	30μm,0.7s,baz=71,slow=15,SNR=6756							
IDI				S		**Sn**	**18 51 31.3**	**+1.2**
	19μm,0.5s,baz=281,slow=19,SNR=23							
IDI				LR		LR	18 51 31.7	
	comp=Z,4μm,18.1s,baz=186,slow=31							
IDI	**Anoyia**	**1.27**	**264**	⇓P		**Pn**	**18 51 15.4**	**+1.5**
IDI				⇓S		**Sn**	**18 51 31.5**	**+1.4**
IDI	**Anoyia**	**1.27**	**264**	Pn		**Pn**	**18 51 14.6**	**+0.8**
IDI	**Anoyia**	**1.27**	**264**	P		**Pn**	**18 51 15.4**	**+1.5**
IDI				S		**Sn**	**18 51 31.4**	**+1.3**
	57μm,0.4s							
IDI	**Anoyia**	**1.27**	**264**	P		**Pn**	**18 51 15.4**	**+1.5**
IDI				S		**Sn**	**18 51 31.4**	**+1.3**
	57μm,0.4s							
IDI	**Anoyia**	**1.27**	**264**	Pn		**Pn**	**18 51 15.3**	**+1.5**
IDI				Sn		**Sn**	**18 51 32.3**	**+2.2**
IDI	**Anoyia**	**1.27**	**264**	⇓P		**Pn**	**18 51 14.7**	**+0.8**
IDI	**Anoyia**	**1.27**	**264**	P		**Pn**	**18 51 15.4**	**+1.5**
IDI				S		**Sn**	**18 51 31.5**	**+1.3**
IDI				AML	AML		18 51 36.0	
IDI				AML	AML		18 51 36.1	
THT2	**Imerovigli**	**1.30**	**321**	P		**Pn**	**18 51 16.0**	**+1.8**
THT2				S		**Sn**	**18 51 33.1**	**+2.4**
THT2	**Imerovigli**	**1.30**	**321**	P		**Pn**	**18 51 16.0**	**+1.8**
THT2				S		**Sn**	**18 51 33.1**	**+2.4**
NISR	**Nisiros**	**1.31**	**25**	P		**Pn**	**18 51 15.9**	**+1.7**
NISR				S		**Sn**	**18 51 32.5**	**+1.6**
NISR				AML	AML		18 51 34.7	
NISR				AML	AML		18 51 34.9	
CMBO	**Columbo, Santo**	**1.33**	**322**	P		**Pn**	**18 51 16.3**	**+1.7**
CMBO	**Columbo, Santo**	**1.33**	**322**	P		**Pn**	**18 51 16.3**	**+1.7**
SAP3	**Santorini-Thir**	**1.34**	**319**	P		**Pn**	**18 51 16.4**	**+1.7**
SAP3				S		**Sn**	**18 51 34.1**	**+2.5**
	214μm,0.6s							
SAP3	**Santorini-Thir**	**1.34**	**319**	P		**Pn**	**18 51 16.4**	**+1.7**
SAP3				S		**Sn**	**18 51 34.1**	**+2.5**
	214μm,0.6s							
SAP3	**Santorini-Thir**	**1.34**	**319**	P		**Pn**	**18 51 16.4**	**+1.7**
KOSK	**Kos Island**	**1.39**	**18**	P		**Pn**	**18 51 17.2**	**+1.8**
KOSK				S		**Sn**	**18 51 35.2**	**+2.3**
	66μm,0.6s							
KOSK	**Kos Island**	**1.39**	**18**	P		**Pn**	**18 51 17.2**	**+1.8**
KOSK				S		**Sn**	**18 51 35.2**	**+2.3**
	66μm,0.6s							
KOSK	**Kos Island**	**1.39**	**18**	Pn		**Pn**	**18 51 17.2**	**+1.8**
KOSK				Sn		**Sn**	**18 51 34.4**	**+1.5**
KOSK	**Kos Island**	**1.39**	**18**	P		**Pn**	**18 51 17.2**	**+1.8**
KOSK				S		**Sn**	**18 51 34.3**	**+1.5**
KOSK				AML	AML		18 51 41.7	
KOSK				AML	AML		18 51 56.4	
TMBK	**Timbaki Herakl**	**1.41**	**256**	P		**Pn**	**18 51 18.2**	**+2.6**
TMBK				S		**Sn**	**18 51 35.9**	**+2.6**
	51μm,0.8s							
TMBK	**Timbaki Herakl**	**1.41**	**256**	P		**Pn**	**18 51 18.2**	**+2.6**
TMBK				S		**Sn**	**18 51 35.9**	**+2.6**
	51μm,0.8s							
TMBK	**Timbaki Herakl**	**1.41**	**256**	P		**Pn**	**18 51 18.0**	**+2.4**
TMBK				AML	AML		18 51 46.0	
TMBK				AML	AML		18 51 52.6	
PRNS	**Prines Rethymn**	**1.58**	**268**	P		**Pn**	**18 51 19.4**	**+1.5**
PRNS	**Prines Rethymn**	**1.58**	**268**	P		**Pn**	**18 51 19.4**	**+1.5**
ARG	**Arkhangelos**	**1.58**	**60**	Pn		**Pn**	**18 51 19.9**	**+2.0**
ARG	**Arkhangelos**	**1.58**	**60**	P		**Pn**	**18 51 20.0**	**+2.0**
ARG				S		**Sn**	**18 51 38.9**	**+1.4**
	58μm,0.4s							
ARG	**Arkhangelos**	**1.58**	**60**	P		**Pn**	**18 51 20.0**	**+2.0**
ARG				S		**Sn**	**18 51 38.9**	**+1.4**
	58μm,0.4s							
ARG	**Arkhangelos**	**1.58**	**60**	Pn		**Pn**	**18 51 20.0**	**+2.0**
ARG				Sn		**Sn**	**18 51 39.4**	**+1.9**
ARG	**Arkhangelos**	**1.58**	**60**	P		**Pn**	**18 51 20.0**	**+2.0**
ARG				S		**Sn**	**18 51 39.2**	**+1.7**
ARG				AML	AML		18 51 40.6	
	139nm,0.4s							
ARG				AML	AML		18 51 40.6	
	139nm,0.4s							
ARG				AML	AML		18 51 42.5	
	95nm,0.5s							
ARG				AML	AML		18 51 42.5	
	95nm,0.5s							
ARG	**Arkhangelos**	**1.58**	**60**	⇓P		**Pn**	**18 51 20.0**	**+2.0**
ARG	**Arkhangelos**	**1.58**	**60**	P		**Pn**	**18 51 19.9**	**+2.0**
ARG	**Arkhangelos**	**1.58**	**60**	P		**Pn**	**18 51 20.0**	**+2.0**
ARG				AML	AML		18 51 41.1	
ARG				AML	AML		18 51 43.1	
	comp=N,94433μm,0.5s							
DAT	**Datca**	**1.59**	**35**	P		**Pn**	**18 51 19.9**	**+1.7**
DAT				S		**Sn**	**18 51 39.5**	**+1.5**
DAT	**Datca**	**1.59**	**35**	P		**Pn**	**18 51 19.9**	**+1.7**
DAT				S		**Sn**	**18 51 39.5**	**+1.5**
DAT	**Datca**	**1.59**	**35**	Pn		**Pn**	**18 51 19.8**	**+1.6**
DAT				Sn		**Sn**	**18 51 39.4**	**+1.5**
APE	**Apeiranthos**	**1.79**	**336**	⇑P		**Pn**	**18 51 22.7**	**+1.8**
APE				⇑S		**Sn**	**18 51 44.5**	**+1.9**
APE	**Apeiranthos**	**1.79**	**336**	P		**Pn**	**18 51 22.6**	**+1.8**
APE				S		**Sn**	**18 51 44.7**	**+2.1**
	comp=N,55μm,0.4s							
APE	**Apeiranthos**	**1.79**	**336**	P		**Pn**	**18 51 22.6**	**+1.8**
APE				S		**Sn**	**18 51 44.7**	**+2.1**
	comp=N,55μm,0.4s							
APE	**Apeiranthos**	**1.79**	**336**	Pn		**Pn**	**18 51 22.7**	**+1.8**
APE				Sn		**Sn**	**18 51 44.2**	**+1.6**
APE	**Apeiranthos**	**1.79**	**336**	P		**Pn**	**18 51 22.7**	**+1.8**
APE				S		**Sn**	**18 51 43.9**	**+1.2**
APE				AML	AML		18 51 45.0	
	comp=N,146nm,0.6s							
APE				AML	AML		18 51 45.0	
	comp=N,146nm,0.6s							
APE	**Apeiranthos**	**1.79**	**336**	c iP		**Pn**	**18 51 22.7**	**+1.8**
APE	**Apeiranthos**	**1.79**	**336**	P		**Pn**	**18 51 22.7**	**+1.8**
APE				AML	AML		18 51 45.3	
APE				AML	AML		18 51 46.6	
	comp=N,74697μm,0.2s							
BDRM	**Kayabasi**	**1.83**	**26**	P		**Pn**	**18 51 23.0**	**+1.7**
BDRM				S		**Sn**	**18 51 45.5**	**+2.1**
BDRM				*i* AML	AML		18 51 47.0	
	comp=N,8μm,0.5s							
CHAN	**Chania**	**1.96**	**273**	P		**Pn**	**18 51 24.0**	**+1.1**
CHAN				AML	AML		18 51 52.5	
	comp=E,92021μm,0.8s							
CHAN				AML	AML		18 51 55.5	
	comp=N,73281μm,0.6s							
TURN	**Turunc**	**1.99**	**47**	Pn		**Pn**	**18 51 25.1**	**+1.7**
TURN				Sn		**Sn**	**18 51 48.8**	**+1.6**
TURN	**Turunc**	**1.99**	**47**	P		**Pn**	**18 51 25.3**	**+1.9**
TURN				S		**Sn**	**18 51 48.9**	**+1.7**
TURN				*i* AML	AML		18 51 49.0	
	comp=N,2μm,0.4s							
TURN				*i* AML	AML		18 51 50.0	
	comp=N,3μm,0.5s							
IMMV	**Iera Moni Meta**	**2.00**	**272**	P		**Pn**	**18 51 24.5**	**+0.9**
IMMV	**Iera Moni Meta**	**2.00**	**272**	P		**Pn**	**18 51 24.5**	**+0.9**
IMMV	**Iera Moni Meta**	**2.00**	**272**	Pn		**Pn**	**18 51 25.5**	**+1.9**
IMMV				Sn		**Sn**	**18 51 50.4**	**+2.7**
IMMV	**Iera Moni Meta**	**2.00**	**272**	P		**Pn**	**18 51 24.9**	**+1.3**
GVDS	**Gavdos**	**2.01**	**254**	P		**Pn**	**18 51 25.3**	**+1.6**
GVDS				S		**Sn**	**18 51 50.5**	**+2.7**
	comp=N,23μm,0.9s							
GVDS	**Gavdos**	**2.01**	**254**	P		**Pn**	**18 51 25.3**	**+1.6**
GVDS				S		**Sn**	**18 51 50.5**	**+2.7**
	comp=N,23μm,0.9s							
GVDS	**Gavdos**	**2.01**	**254**	Pn		**Pn**	**18 51 25.5**	**+1.8**
GVD	**Gavdhos**	**2.01**	**254**	P		**Pn**	**18 51 25.0**	**+1.3**
GVD				S		**Sn**	**18 51 49.4**	**+1.6**
	comp=N,36μm,0.5s							
GVD	**Gavdhos**	**2.01**	**254**	P		**Pn**	**18 51 25.0**	**+1.3**
GVD				S		**Sn**	**18 51 49.4**	**+1.6**
	comp=N,36μm,0.5s							
GVD	**Gavdhos**	**2.01**	**254**	Pn		**Pn**	**18 51 25.4**	**+1.7**
GVD	**Gavdhos**	**2.01**	**254**	P		**Pn**	**18 51 25.4**	**+1.7**
MHLO	**Agia Marina, M**	**2.07**	**308**	P		**Pn**	**18 51 26.6**	**+2.0**
MHLO				S		**Sn**	**18 51 51.5**	**+2.2**
	comp=N,88μm,0.4s							
MHLO	**Agia Marina, M**	**2.07**	**308**	P		**Pn**	**18 51 26.6**	**+2.0**
MHLO				S		**Sn**	**18 51 51.5**	**+2.2**
	comp=N,88μm,0.4s							
MLSB	**Milas**	**2.15**	**30**	Pn		**Pn**	**18 51 27.9**	**+2.2**
MLSB				Sn		**Sn**	**18 51 53.2**	**+1.8**
RODP	**Rodopos**	**2.19**	**274**	P		**Pn**	**18 51 27.9**	**+1.8**
RODP				S		**Sn**	**18 51 54.7**	**+2.5**
RODP	**Rodopos**	**2.19**	**274**	P		**Pn**	**18 51 27.9**	**+1.8**
RODP				S		**Sn**	**18 51 54.7**	**+2.5**
RODP	**Rodopos**	**2.19**	**274**	Pn		**Pn**	**18 51 28.3**	**+2.1**
RODP				Sn		**Sn**	**18 51 54.7**	**+2.5**
KNDR	**Palaiochora Ch**	**2.26**	**266**	P		**Pn**	**18 51 30.0**	**+2.9**
KNDR	**Palaiochora Ch**	**2.26**	**266**	P		**Pn**	**18 51 30.0**	**+2.9**
KNDR	**Palaiochora Ch**	**2.26**	**266**	Pn		**Pn**	**18 51 29.9**	**+2.9**
KNDR				Sn		**Sn**	**18 51 57.8**	**+4.0**
KNDR	**Palaiochora Ch**	**2.26**	**266**	P		**Pn**	**18 51 30.0**	**+2.9**
YER	**Yerkesik**	**2.27**	**41**	P		**Pn**	**18 51 29.7**	**+2.5**
YER				S		**Sn**	**18 51 56.1**	**+2.0**
YER	**Yerkesik**	**2.27**	**41**	P		**Pn**	**18 51 29.7**	**+2.5**
YER				S		**Sn**	**18 51 56.1**	**+2.0**
YER	**Yerkesik**	**2.27**	**41**	Pn		**Pn**	**18 51 29.5**	**+2.3**
YER				Sn		**Sn**	**18 51 56.1**	**+2.0**
DALY	**Dalyan (Mula)**	**2.27**	**52**	Pn		**Pn**	**18 51 29.5**	**+2.3**
DALY				Sn		**Sn**	**18 51 56.2**	**+2.1**
GCAM	**G?zelcaml?**	**2.36**	**16**	Pn		**Pn**	**18 51 30.5**	**+2.1**
GCAM	**G?zelcaml?**	**2.36**	**16**	P		**Pn**	**18 51 30.6**	**+2.1**
GCAM				S		**Sn**	**18 51 57.7**	**+1.5**
GCAM				*i* AML	AML		18 52 00.0	
	comp=N,6μm,0.5s							
GCAM				*i* AML	AML		18 52 14.0	
	comp=N,5μm,0.6s							
MULA	**Mugla, Merkez-**	**2.38**	**39**	P		**Pn**	**18 51 31.5**	**+2.7**
MULA				S		**Sn**	**18 51 58.9**	**+2.0**
MULA				*i* AML	AML		18 52 02.0	
	comp=N,2μm,0.8s							
MULA				*i* AML	AML		18 52 05.0	
	comp=N,2μm,0.5s							
FETY	**Fethiye**	**2.46**	**60**	Pn		**Pn**	**18 51 31.3**	**+1.4**
AYDN	**Tasoluk**	**2.51**	**27**	P		**Pn**	**18 51 33.6**	**+2.9**
AYDN				S		**Sn**	**18 52 02.3**	**+2.1**
AYDN				*i* AML	AML		18 52 05.0	
	comp=N,9μm,0.8s							
AYDN				*i* AML	AML		18 52 15.0	
	comp=N,1μm,0.6s							
ANKY	**Antikythira Is**	**2.59**	**281**	P		**Pn**	**18 51 32.6**	**+1.0**
ANKY				S		**Sn**	**18 52 04.2**	**+2.3**
	comp=N,17μm,0.6s							
ANKY	**Antikythira Is**	**2.59**	**281**	P		**Pn**	**18 51 32.6**	**+1.0**
ANKY				S		**Sn**	**18 52 04.2**	**+2.3**
	comp=N,17μm,0.6s							
ANKY	**Antikythira Is**	**2.59**	**281**	P		**Pn**	**18 51 32.6**	**+1.0**
DGB	**zmir**	**2.64**	**8**	P		**Pn**	**18 51 34.3**	**+2.0**
DGB				S		**Sn**	**18 52 04.4**	**+1.2**
DGB				*i* AML	AML		18 52 05.0	
	comp=N,4μm,0.6s							
DGB				*i* AML	AML		18 52 08.0	
	comp=N,4μm,0.6s							
KSL	**Kastellorizon**	**2.66**	**73**	P		**Pn**	**18 51 33.6**	**+1.1**
KSL	**Kastellorizon**	**2.66**	**73**	P		**Pn**	**18 51 33.6**	**+1.1**
KSL	**Kastellorizon**	**2.66**	**73**	P		**Pn**	**18 51 33.6**	**+1.1**
KSL				S		**Sn**	**18 52 02.5**	**-1.2**
KSL				AML	AML		18 52 04.8	
	comp=N,56nm,0.4s							
KSL				AML	AML		18 52 04.8	
	comp=N,56nm,0.4s							
KSL				AML	AML		18 52 05.4	
	comp=N,36nm,0.6s							
KSL				AML	AML		18 52 05.4	
	comp=N,36nm,0.6s							
KSL	**Kastellorizon**	**2.66**	**73**	P		**Pn**	**18 51 33.5**	**+1.1**
AKAS	**Kas**	**2.70**	**72**			**Pn**	**18 51 34.3**	**+1.1**
AKAS	**Kas**	**2.70**	**72**	Pn		**Pn**	**18 51 34.4**	**+1.1**
AKAS	**Kas**	**2.70**	**72**	P		**Pn**	**18 51 34.3**	**+1.1**
AKAS				S		**Sn**	**18 52 03.9**	**-0.9**
AKAS				*i* AML	AML		18 52 07.0	
	comp=N,3μm,0.5s							
AKAS				*i* AML	AML		18 52 10.0	
	comp=N,2μm,0.5s							
CAME	**Cameli-Denizli**	**2.77**	**56**	Pn		**Pn**	**18 51 36.2**	**+2.0**
ZEYE	**Izmir, Urla-Ze**	**2.81**	**1**	P		**Pn**	**18 51 36.2**	**+1.7**
ZEYE				*i* AML	AML		18 52 20.0	
	comp=N,4μm,0.7s							
ZEYE				*i* AML	AML		18 52 21.0	
	comp=N,3μm,1.1s							
TAVA	**DENIZLI_Tavas**	**2.85**	**44**	P		**Pn**	**18 51 37.5**	**+2.3**
TAVA				S		**Sn**	**18 52 11.0**	**+2.6**
TAVA				*i* AML	AML		18 52 17.0	
	comp=N,8μm,0.7s							
TAVA				*i* AML	AML		18 52 18.0	
	comp=N,9μm,0.6s							
CAEL	**Denizli, Camel**	**2.88**	**53**	P		**Pn**	**18 51 38.2**	**+2.5**
CAEL				S		**Sn**	**18 52 12.3**	**+3.0**
CAEL				*i* AML	AML		18 52 23.0	
	comp=N,3μm,0.8s							
CAEL				*i* AML	AML		18 52 34.0	
	comp=N,3μm,0.8s							
KTHR	**Kythira**	**2.91**	**288**	P		**Pn**	**18 51 37.0**	**+1.1**
KTHR				S		**Sn**	**18 52 11.7**	**+2.0**
	comp=N,14μm,0.4s							
KTHR	**Kythira**	**2.91**	**288**	P		**Pn**	**18 51 37.0**	**+1.1**
KTHR				S		**Sn**	**18 52 11.7**	**+2.0**
	comp=N,14μm,0.4s							
KTHR	**Kythira**	**2.91**	**288**	P		**Pn**	**18 51 37.1**	**+1.1**
URLA	**Izmir**	**2.93**	**2**	Pn		**Pn**	**18 51 38.1**	**+1.8**
URLA	**Izmir**	**2.93**	**2**	P		**Pn**	**18 51 37.9**	**+1.6**
URLA				S		**Sn**	**18 52 15.1**	**+2.8**
URLA				*i* AML	AML		18 52 14.0	
	comp=N,6μm,0.9s							
URLA				*i* AML	AML		18 52 49.0	
	comp=N,6μm,0.9s							
CHOS	**Chios island**	**2.97**	**354**	Pn		**Pn**	**18 51 38.6**	**+1.8**
BLCB	**Balcova**	**2.99**	**9**	P		**Pn**	**18 51 39.3**	**+2.2**
BLCB				S		**Sn**	**18 52 13.4**	**+1.7**
BLCB	**Balcova**	**2.99**	**9**	P		**Pn**	**18 51 39.3**	**+2.2**
BLCB				S		**Sn**	**18 52 13.4**	**+1.7**

KORT	**Korkueli**	**3.53**	**62**	P		**Pn**	**18 51 46.9**	**+2.3**
KORT				S		**Sn**	**18 52 27.3**	**+2.1**
KORT				*i* AML	AML		18 52 29.0	
	comp=N,1µm,0.5s							
KORT				*i* AML	AML		18 52 31.0	
	comp=N,10µm,0.5s							
KULA	**Kula-Manisa**	**3.56**	**29**	P		**Pn**	**18 51 47.6**	**+2.7**
KULA	**Kula-Manisa**	**3.56**	**29**	P		**Pn**	**18 51 47.6**	**+2.7**
ZEDA	**zmir-Bergama**	**3.57**	**8**	P		**Pn**	**18 51 47.4**	**+2.4**
ZEDA				S		**Sn**	**18 52 27.5**	**+1.7**
ZEDA				*i* AML	AML		18 52 30.0	
	comp=N,1µm,0.4s							
ZEDA				*i* AML	AML		18 52 30.0	
	comp=N,2µm,0.7s							
AKHS	**Akhisar**	**3.62**	**17**	P		**Pn**	**18 51 48.3**	**+2.7**
AKHS				S		**Sn**	**18 52 30.1**	**+3.0**
AKHS				*i* AML	AML		18 52 31.0	
	comp=N,2µm,1.0s							
DKL	**Dikili**	**3.66**	**6**	⇑P		**Pn**	**18 51 48.4**	**+2.3**
BRDR	**BURDUR-Merkez**	**3.69**	**51**	P		**Pn**	**18 51 48.6**	**+1.8**
BRDR				*i* AML	AML		18 52 40.0	
	comp=N,4µm,0.7s							
BRDR				*i* AML	AML		18 52 42.0	
	comp=N,5µm,0.7s							
KYMI	**Kymi, Euboea I**	**3.70**	**330**	P		**Pn**	**18 51 49.7**	**+2.9**
KYMI	**Kymi, Euboea I**	**3.70**	**330**	P		**Pn**	**18 51 49.7**	**+2.9**
VILL	**Villia**	**3.71**	**318**	P		**Pn**	**18 51 50.0**	**+3.1**
VILL	**Villia**	**3.71**	**318**	P		**Pn**	**18 51 50.0**	**+3.1**
LOUT	**Loutraki**	**3.78**	**314**	P		**Pn**	**18 51 50.8**	**+3.0**
LOUT	**Loutraki**	**3.78**	**314**	P		**Pn**	**18 51 50.8**	**+3.0**
PASA	**Karahalli, USA**	**3.81**	**39**	P		**Pn**	**18 51 50.0**	**+1.8**
PASA				S		**Sn**	**18 52 31.2**	**-0.6**
PASA				*i* AML	AML		18 52 33.0	
	comp=N,4µm,0.5s							
PASA				*i* AML	AML		18 52 35.0	
	comp=N,2µm,0.5s							
SIGR	**SIGRI**	**3.81**	**353**	P		**Pn**	**18 51 50.1**	**+1.9**
SIGR				S		**Sn**	**18 52 33.3**	**+1.7**
SIGR	**SIGRI**	**3.81**	**353**	P		**Pn**	**18 51 50.1**	**+1.9**
SIGR				S		**Sn**	**18 52 33.3**	**+1.7**
BUCA	**Burdur, Bucak-**	**3.83**	**59**	P		**Pn**	**18 51 50.8**	**+2.2**
BUCA				S		**Sn**	**18 52 33.5**	**+1.1**
BUCA				*i* AML	AML		18 52 35.0	
	comp=N,9µm,0.5s							
BUCA				*i* AML	AML		18 52 35.0	
	comp=N,1µm,0.5s							
USAK	**Uak-Merkez**	**3.88**	**31**	P		**Pn**	**18 51 51.9**	**+2.7**
USAK				S		**Sn**	**18 52 33.3**	**-0.2**
USAK				*i* AML	AML		18 52 37.0	
	comp=N,1µm,0.6s							
AYVA	**Ayvalik**	**3.88**	**3**	P		**Pn**	**18 51 51.1**	**+1.9**
AYVA				*i* AML	AML		18 53 14.0	
	comp=N,1µm,0.9s							
AYVA				*i* AML	AML		18 53 27.0	
	comp=N,1µm,1.5s							
KLMT	**Kalamata**	**3.89**	**296**	P		**Pn**	**18 51 51.7**	**+2.3**
KLMT				S		**Sn**	**18 52 36.6**	**+2.8**
	comp=N,8µm,0.9s							
KLMT	**Kalamata**	**3.89**	**296**	P		**Pn**	**18 51 51.7**	**+2.3**
KLMT				S		**Sn**	**18 52 36.6**	**+2.8**
	comp=N,8µm,0.9s							
THAL	**Thalero**	**4.00**	**312**	P		**Pn**	**18 51 53.5**	**+2.7**
THAL				S		**Sn**	**18 52 38.4**	**+2.1**
	comp=N,12µm,0.5s							
THAL	**Thalero**	**4.00**	**312**	P		**Pn**	**18 51 53.5**	**+2.7**
THAL				S		**Sn**	**18 52 38.4**	**+2.1**
	comp=N,12µm,0.5s							
ITM	**Ithomi**	**4.04**	**297**	Pn		**Pn**	**18 51 53.4**	**+2.0**
ITM	**Ithomi**	**4.04**	**297**	P		**Pn**	**18 51 53.5**	**+2.0**
ITM	**Ithomi**	**4.04**	**297**	P		**Pn**	**18 51 53.5**	**+2.0**
ITM	**Ithomi**	**4.04**	**297**	⇓P		**Pn**	**18 51 53.4**	**+2.0**
DEMI	**Demirci**	**4.04**	**26**	P		**Pn**	**18 51 54.0**	**+2.5**
DEMI				S		**Sn**	**18 52 39.6**	**+2.0**
DEMI				*i* AML	AML		18 52 42.0	
	comp=N,2µm,0.6s							
DEMI				*i* AML	AML		18 52 42.0	
	comp=N,2µm,0.5s							
SLUM	**Salum**	**4.06**	**195**	P		**Pn**	**18 51 50.1**	**-1.5**
	baz=199							
SLUM				S		**Sn**	**18 52 31.7**	**-6.2**
	baz=199							
ISP	**Isparta**	**4.06**	**53**	Pn		**Pn**	**18 51 52.8**	**+1.0**
ISP	**Isparta**	**4.06**	**53**	P		**Pn**	**18 51 52.8**	**+1.0**
PYL	**PYLOS**	**4.07**	**292**	P		**Pn**	**18 51 52.5**	**+0.7**
PYL	**PYLOS**	**4.07**	**292**	P		**Pn**	**18 51 52.5**	**+0.7**
STEP	**BALIKESIR_Sava**	**4.07**	**14**	P		**Pn**	**18 51 54.3**	**+2.4**
STEP				*i* AML	AML		18 53 02.0	
	comp=N,2µm,0.7s							
STEP				*i* AML	AML		18 53 06.0	
	comp=N,3µm,1.2s							
KOCA	**Canakkale, Ayv**	**4.07**	**357**	P		**Pn**	**18 51 53.9**	**+2.1**
KOCA				S		**Sn**	**18 52 38.9**	**+0.6**
KOCA				*i* AML	AML		18 52 42.0	
	comp=N,2µm,0.6s							
KOCA				*i* AML	AML		18 52 42.0	
	comp=N,2µm,0.9s							
BUHA	**Balikesir, Bur**	**4.10**	**7**	P		**Pn**	**18 51 54.8**	**+2.6**
BUHA				*i* AML	AML		18 53 28.0	
	comp=N,1µm,1.7s							
BUHA				*i* AML	AML		18 53 29.0	
	comp=N,1µm,1.7s							
MATC	**Matruh**	**4.13**	**170**	P		**Pn**	**18 51 50.3**	**-2.3**
	baz=173							
BAYC	**CANAKKALE_Bayr**	**4.31**	**1**	P		**Pn**	**18 51 56.7**	**+1.6**
BAYC				*i* AML	AML		18 52 46.0	
	comp=N,654nm,0.8s							
BAYC				*i* AML	AML		18 53 39.0	
	comp=N,403nm,0.9s							
KLV	**Kalavryta, Ach**	**4.32**	**308**	P		**Pn**	**18 51 56.9**	**+1.6**
KLV				S		**Sn**	**18 52 46.3**	**+1.9**
	comp=N,6µm,0.8s							
KLV	**Kalavryta, Ach**	**4.32**	**308**	P		**Pn**	**18 51 56.9**	**+1.6**
KLV				S		**Sn**	**18 52 46.3**	**+1.9**
	comp=N,6µm,0.8s							
BALB	**Balikesir**	**4.36**	**15**	Pn		**Pn**	**18 51 58.5**	**+2.7**
GDZ	**Gediz**	**4.39**	**33**	P		**Pn**	**18 51 58.6**	**+2.3**
GDZ				S		**Sn**	**18 52 47.1**	**+0.9**
GDZ				*i* AML	AML		18 52 49.0	
	comp=N,1µm,0.7s							
GDZ				*i* AML	AML		18 53 25.0	
	comp=N,884nm,1.5s							
EZN	**Ezine**	**4.39**	**359**	P		**Pn**	**18 51 58.2**	**+2.0**
EZN	**Ezine**	**4.39**	**359**	P		**Pn**	**18 51 58.2**	**+2.0**
BALY	**Balya**	**4.41**	**12**	P		**Pn**	**18 51 58.8**	**+2.4**
BALY				*i* AML	AML		18 52 54.0	
	comp=N,887nm,0.8s							
BALY				*i* AML	AML		18 53 33.0	
	comp=N,1µm,0.9s							
BOZC	**Bozcaada**	**4.42**	**356**	P		**Pn**	**18 51 58.0**	**+1.5**
BOZC				*i* AML	AML		18 52 50.0	
	comp=N,697nm,0.6s							
BOZC				*i* AML	AML		18 52 51.0	
	comp=N,562nm,0.3s							
KEPZ	**Antalya-Kepez**	**4.43**	**69**	P		**Pn**	**18 51 58.2**	**+1.3**
KEPZ				S		**Sn**	**18 52 48.3**	**+1.2**
KEPZ				*i* AML	AML		18 52 50.0	
	comp=N,5µm,1.0s							
KEPZ				*i* AML	AML		18 52 51.0	
	comp=N,4µm,0.6s							
OSC1	**CSNet OBS 1**	**4.44**	**114**	P		**Pn**	**18 51 54.4**	**-2.5**
OSC1				S		**Sn**	**18 52 41.9**	**-5.3**
OSC1				AML	AML		18 52 44.0	
	comp=N,21nm,0.3s							
OSC1				AML	AML		18 52 44.0	
	comp=N,21nm,0.3s							
OSC1				AML	AML		18 52 48.6	
	comp=N,21nm,0.3s							
OSC1				AML	AML		18 52 48.6	
	comp=N,21nm,0.3s							
ALIK	**Aliki, Aigiali**	**4.47**	**310**	P		**Pn**	**18 51 59.8**	**+2.5**
ALIK				S		**Sn**	**18 52 49.8**	**+1.8**
ALIK	**Aliki, Aigiali**	**4.47**	**310**	P		**Pn**	**18 51 59.8**	**+2.5**
ALIK				S		**Sn**	**18 52 49.8**	**+1.8**
AXAR	**Agios Charalam**	**4.50**	**319**	P		**Pn**	**18 52 00.8**	**+3.1**
AXAR	**Agios Charalam**	**4.50**	**319**	P		**Pn**	**18 52 00.8**	**+3.1**
LAKA	**Lakka**	**4.54**	**309**	P		**Pn**	**18 52 00.0**	**+1.7**
LAKA				S		**Sn**	**18 52 51.5**	**+1.6**
	comp=N,7µm,1.1s							
LAKA	**Lakka**	**4.54**	**309**	P		**Pn**	**18 52 00.0**	**+1.7**
LAKA				S		**Sn**	**18 52 51.5**	**+1.6**
	comp=N,7µm,1.1s							
DRO	**Drossia**	**4.56**	**305**	P		**Pn**	**18 52 00.8**	**+2.3**
DRO				S		**Sn**	**18 52 52.3**	**+2.2**
	comp=N,12µm,0.6s							
DRO	**Drossia**	**4.56**	**305**	P		**Pn**	**18 52 00.8**	**+2.3**
DRO				S		**Sn**	**18 52 52.3**	**+2.2**
	comp=N,12µm,0.6s							
AFYO	**Afyonkarahisar**	**4.56**	**42**	P		**Pn**	**18 52 00.9**	**+2.3**
AFYO				S		**Sn**	**18 52 47.3**	**-3.0**
AFYO				*i* AML	AML		18 53 03.0	
	comp=N,3µm,0.7s							
AFYO				*i* AML	AML		18 53 36.0	
	comp=N,3µm,1.4s							
SERG	**Sergoula**	**4.60**	**312**	P		**Pn**	**18 52 01.5**	**+2.4**
SERG	**Sergoula**	**4.60**	**312**	P		**Pn**	**18 52 01.5**	**+2.4**
ECEA	**Canakkale, Ece**	**4.61**	**358**	P		**Pn**	**18 52 01.9**	**+2.6**
ECEA				S		**Sn**	**18 52 54.2**	**+2.8**
ECEA				*i* AML	AML		18 53 01.0	
	comp=N,1µm,0.9s							
ECEA				*i* AML	AML		18 53 39.0	
	comp=N,1µm,0.8s							
NEO	**Neokhori**	**4.64**	**328**	P		**Pn**	**18 52 02.9**	**+3.3**
NEO	**Neokhori**	**4.64**	**328**	P		**Pn**	**18 52 02.9**	**+3.3**
XOR	**Xorichti**	**4.70**	**328**	P		**Pn**	**18 52 03.7**	**+3.2**
XOR	**Xorichti**	**4.70**	**328**	P		**Pn**	**18 52 03.7**	**+3.2**
SEDI	**Konya, Seydise**	**4.74**	**63**	P		**Pn**	**18 52 03.3**	**+2.2**
SEDI				S		**Sn**	**18 52 56.4**	**+1.6**
SEDI				*i* AML	AML		18 52 59.0	
	comp=N,8µm,0.6s							
SEDI				*i* AML	AML		18 53 00.0	
	comp=N,6µm,0.5s							
GOKA	**anakkale-Gk**	**4.77**	**355**	P		**Pn**	**18 52 04.0**	**+2.5**
GOKA				*i* AML	AML		18 53 00.0	
	comp=N,1µm,0.5s							
YVAC	**Isparta, Yalva**	**4.79**	**52**	P		**Pn**	**18 52 03.4**	**+1.7**
YVAC				S		**Sn**	**18 52 53.6**	**-2.2**
YVAC				*i* AML	AML		18 53 01.0	
	comp=N,940nm,0.6s							
YVAC				*i* AML	AML		18 53 01.0	
	comp=N,942nm,0.5s							
ANX	**Ano Chora**	**4.80**	**313**	P		**Pn**	**18 52 03.7**	**+1.8**
ANX				S		**Sn**	**18 52 57.7**	**+1.5**
	comp=N,7µm,0.6s							
ANX	**Ano Chora**	**4.80**	**313**	P		**Pn**	**18 52 03.7**	**+1.8**
ANX				S		**Sn**	**18 52 57.7**	**+1.5**
	comp=N,7µm,0.6s							
AKMS	**Akamas**	**4.85**	**93**	P		**Pn**	**18 52 00.5**	**-2.0**
AKMS				S		**Sn**	**18 52 52.7**	**-4.6**
AGG	**Agios Georgios**	**4.86**	**319**	P		**Pn**	**18 52 05.7**	**+3.1**
AGG	**Agios Georgios**	**4.86**	**319**	P		**Pn**	**18 52 05.7**	**+3.1**
AGG	**Agios Georgios**	**4.86**	**319**	⇑P		**Pn**	**18 52 05.8**	**+3.1**
KNL	**Balıkesir**	**4.91**	**10**	P		**Pn**	**18 52 06.2**	**+2.9**
KNL				*i* AML	AML		18 53 38.0	
	comp=N,1µm,1.3s							
KNL				*i* AML	AML		18 53 51.0	
	comp=N,1µm,1.7s							
ANDZ	**Kutahya, Merke**	**4.92**	**33**	P		**Pn**	**18 52 06.0**	**+2.5**
ANDZ				S		**Sn**	**18 52 59.5**	**+0.4**
ANDZ				*i* AML	AML		18 53 02.0	
	comp=N,723nm,0.5s							
ANDZ				*i* AML	AML		18 53 04.0	
	comp=N,828nm,0.4s							
MAKR	**Makrakomi, Fth**	**4.96**	**317**	P		**Pn**	**18 52 07.2**	**+3.2**
MAKR	**Makrakomi, Fth**	**4.96**	**317**	P		**Pn**	**18 52 07.2**	**+3.2**
DOGA	**KONYA_Doganhis**	**4.98**	**56**	P		**Pn**	**18 52 06.4**	**+2.0**
DOGA				S		**Sn**	**18 53 00.4**	**-0.3**
DOGA				*i* AML	AML		18 53 02.0	
	comp=N,4µm,0.5s							
DOGA				*i* AML	AML		18 53 04.0	
	comp=N,3µm,0.6s							
PAIG	**Paliouri**	**4.99**	**335**	P		**Pn**	**18 52 07.3**	**+2.8**
PAIG	**Paliouri**	**4.99**	**335**	P		**Pn**	**18 52 07.3**	**+2.8**
ALFC	**Alefka**	**5.05**	**91**	P		**Pn**	**18 52 08.3**	**-1.9**
ALFC				S		**Sn**	**18 52 56.9**	**-5.4**
PVO	**Paravola**	**5.05**	**310**	P		**Pn**	**18 52 07.8**	**+2.5**
PVO				S		**Sn**	**18 53 04.6**	**+2.3**
	comp=N,5µm,0.6s							
PVO	**Paravola**	**5.05**	**310**	P		**Pn**	**18 52 07.8**	**+2.5**
PVO				S		**Sn**	**18 53 04.6**	**+2.3**
	comp=N,5µm,0.6s							
NATA	**Nata**	**5.07**	**96**	P		**Pn**	**18 52 03.7**	**-1.8**
NATA				S		**Sn**	**18 52 56.5**	**-6.3**
SMTH	**Samothraki Isl**	**5.08**	**352**	P		**Pn**	**18 52 07.6**	**+1.9**
SMTH	**Samothraki Isl**	**5.08**	**352**	P		**Pn**	**18 52 07.6**	**+1.9**
ULDT	**Uludag**	**5.17**	**24**	P		**Pn**	**18 52 09.3**	**+2.2**
ULDT				*i* AML	AML		18 53 24.0	
	comp=N,686nm,0.9s							
ULDT				*i* AML	AML		18 53 57.0	
	comp=N,603nm,1.0s							
ENEZ	**Enez**	**5.30**	**358**	P		**Pn**	**18 52 11.2**	**+2.5**
ENEZ	**Enez**	**5.30**	**358**	P		**Pn**	**18 52 11.2**	**+2.5**
AUBOZ	**BOZOYUK**	**5.31**	**31**	P		**Pn**	**18 52 11.4**	**+2.6**
AUBOZ				S		**Sn**	**18 53 11.0**	**+2.4**
AUBOZ				*i* AML	AML		18 53 37.0	
	comp=N,695nm,1.5s							
AUBOZ				*i* AML	AML		18 53 44.0	
	comp=N,568nm,1.4s							
SZAC	**Souni**	**5.33**	**95**	P		**Pn**	**18 52 07.1**	**-2.0**
SZAC				S		**Sn**	**18 53 03.5**	**-5.6**
THL	**Klokotos Trika**	**5.42**	**321**	P		**Pn**	**18 52 12.6**	**+2.3**
THL	**Klokotos Trika**	**5.42**	**321**	P		**Pn**	**18 52 12.6**	**+2.3**
VLS	**Valsamata**	**5.43**	**302**	P		**Pn**	**18 52 10.3**	**-0.2**
VLS	**Valsamata**	**5.43**	**302**	P		**Pn**	**18 52 10.3**	**-0.2**
ALN	**Alexandroupoli**	**5.47**	**357**	Pn		**Pn**	**18 52 13.1**	**+2.1**
ALN	**Alexandroupoli**	**5.47**	**357**	P		**Pn**	**18 52 13.1**	**+2.1**
ALN	**Alexandroupoli**	**5.47**	**357**	P		**Pn**	**18 52 13.1**	**+2.1**
ALN	**Alexandroupoli**	**5.47**	**357**	⇑P		**Pn**	**18 52 13.0**	**+2.1**
ALN	**Alexandroupoli**	**5.47**	**357**	P		**Pn**	**18 52 13.1**	**+2.1**
BORA	**Eskisehir**	**5.47**	**34**			**Pn**	**18 52 13.1**	**+2.1**
FSK	**Fiskardo**	**5.59**	**304**	P		**Pn**	**18 52 12.6**	**0.0**
FSK	**Fiskardo**	**5.59**	**304**	P		**Pn**	**18 52 12.6**	**0.0**
DMLN	**Damoulianata-K**	**5.61**	**302**	P		**Pn**	**18 52 12.5**	**-0.4**
DMLN	**Damoulianata-K**	**5.61**	**302**	P		**Pn**	**18 52 12.5**	**-0.4**
LIT	**Litokhoron**	**5.61**	**327**			**Pn**	**18 52 16.2**	**+3.2**
LIT	**Litokhoron**	**5.61**	**327**	P		**Pn**	**18 52 16.2**	**+3.2**
LIT	**Litokhoron**	**5.61**	**327**	P		**Pn**	**18 52 16.2**	**+3.2**
LIT	**Litokhoron**	**5.61**	**327**	⇑P		**Pn**	**18 52 16.2**	**+3.2**
LIT	**Litokhoron**	**5.61**	**327**	P		**Pn**	**18 52 16.2**	**+3.2**
EVGl	**Lefkada island**	**5.62**	**306**	P		**Pn**	**18 52 13.5**	**+0.5**
EVGl	**Lefkada island**	**5.62**	**306**	P		**Pn**	**18 52 13.5**	**+0.5**
ASGA	**Asgata**	**5.62**	**95**	P		**Pn**	**18 52 10.9**	**-2.1**
ASGA				S		**Sn**	**18 53 10.7**	**-5.6**
NYDR	**Nydri-Lefkada**	**5.64**	**307**	P		**Pn**	**18 52 14.2**	**+1.0**
NYDR	**Nydri-Lefkada**	**5.64**	**307**	P		**Pn**	**18 52 14.2**	**+1.0**
CSS	**Mathiatis**	**5.67**	**93**	Pn		**Pn**	**18 52 11.4**	**-2.2**
CSS	**Mathiatis**	**5.67**	**93**	P		**Pn**	**18 52 11.5**	**-2.2**
CSS				S		**Sn**	**18 53 12.2**	**-5.2**
CSS	**Mathiatis**	**5.67**	**93**	Pn		**Pn**	**18 52 10.7**	**-3.0**
CSS	**Mathiatis**	**5.67**	**93**	P		**Pn**	**18 52 12.2**	**-1.5**
ATHAL	**Athalassa**	**5.70**	**91**	P		**Pn**	**18 52 13.0**	**-1.1**
ATHAL				S		**Sn**	**18 53 13.8**	**-4.4**
DRAG	**Dragano-Lefkad**	**5.70**	**306**	P		**Pn**	**18 52 14.7**	**+0.5**
DRAG	**Dragano-Lefkad**	**5.70**	**306**	P		**Pn**	**18 52 14.7**	**+0.5**
LKD2	**Lefkada island**	**5.71**	**308**	P		**Pn**	**18 52 16.7**	**+2.5**
LKD2				S		**Sn**	**18 53 21.1**	**+2.7**
	comp=N,6µm,0.4s							
LKD2	**Lefkada island**	**5.71**	**308**	P		**Pn**	**18 52 16.7**	**+2.5**
LKD2				S		**Sn**	**18 53 21.1**	**+2.7**
	comp=N,6µm,0.4s							
LKD2	**Lefkada island**	**5.71**	**308**	P		**Pn**	**18 52 16.9**	**+2.7**
	baz=313							
LKD2				S		**Sn**	**18 53 15.7**	**-2.7**
	baz=313							
TSLK	**Tsoukalades, L**	**5.73**	**308**	P		**Pn**	**18 52 15.8**	**+1.3**
TSLK				S		**Sn**	**18 53 19.9**	**+1.0**
	comp=N,4µm,0.4s							
TSLK	**Tsoukalades, L**	**5.73**	**308**	P		**Pn**	**18 52 15.8**	**+1.3**
TSLK				S		**Sn**	**18 53 19.9**	**+1.0**
	comp=N,4µm,0.4s							
RDO	**Rodhopi**	**5.75**	**353**	Pn		**Pn**	**18 52 17.0**	**+2.2**
RDO	**Rodhopi**	**5.75**	**353**	⇑P		**Pn**	**18 52 17.0**	**+2.2**
HORT	**Hortiatis**	**5.79**	**334**	P		**Pn**	**18 52 19.0**	**+3.5**
HORT	**Hortiatis**	**5.79**	**334**	P		**Pn**	**18 52 19.0**	**+3.5**
THE	**Thessaloniki**	**5.87**	**333**	P		**Pn**	**18 52 20.0**	**+3.5**
THE	**Thessaloniki**	**5.87**	**333**	P		**Pn**	**18 52 20.0**	**+3.5**
THE	**Thessaloniki**	**5.87**	**333**	P		**Pn**	**18 52 20.0**	**+3.5**
	baz=340							
MVOU	**Mavrovouni**	**5.91**	**92**	P		**Pn**	**18 52 14.9**	**-2.0**
MVOU				S		**Sn**	**18 53 16.6**	**-6.6**
ISK	**Istanbul-Kandi**	**6.00**	**19**	P		**Pn**	**18 52 19.8**	**+1.7**
ISK	**Istanbul-Kandi**	**6.00**	**19**	P		**Pn**	**18 52 19.8**	**+1.7**
SRS	**Serrai**	**6.10**	**339**	P		**Pn**	**18 52 22.6**	**+2.9**
SRS	**Serrai**	**6.10**	**339**	P		**Pn**	**18 52 22.6**	**+2.9**
SRS	**Serrai**	**6.10**	**339**	*e*Pn		**Pn**	**18 52 22.5**	**+2.9**
SRS				*e*Sn		**Sn**	**18 53 28.7**	**+0.6**
KZN	**Kozani**	**6.11**	**324**	P		**Pn**	**18 52 22.8**	**+3.0**
KZN	**Kozani**	**6.11**	**324**	P		**Pn**	**18 52 22.8**	**+3.0**
JAN	**Janina**	**6.12**	**315**	P		**Pn**	**18 52 21.5**	**+1.6**
JAN	**Janina**	**6.12**	**315**	P		**Pn**	**18 52 21.5**	**+1.6**
SWA2		**6.22**	**188**	P		**Pn**	**18 52 19.1**	**-2.2**
	baz=190							
SWA2				S		**Sn**	**18 53 22.1**	**-8.9**
	baz=190							
NVR	**Nevrokopi**	**6.25**	**342**	P		**Pn**	**18 52 25.6**	**+3.9**
NVR	**Nevrokopi**	**6.25**	**342**	P		**Pn**	**18 52 25.6**	**+3.9**
KDZ	**Kurdzhali**	**6.26**	**353**	*i* P		**Pn**	**18 52 24.1**	**+2.3**
MDUB	**Mudurnu**	**6.29**	**35**			**Pn**	**18 52 24.8**	**+2.6**
PENT	**Pentalofos**	**6.34**	**320**	P		**Pn**	**18 52 24.8**	**+1.8**
PENT	**Pentalofos**	**6.34**	**320**	P		**Pn**	**18 52 24.8**	**+1.8**
IGT	**Igoumenitsa**	**6.35**	**312**	P		**Pn**	**18 52 23.3**	**+0.3**
IGT	**Igoumenitsa**	**6.35**	**312**	P		**Pn**	**18 52 23.3**	**+0.3**
IGT	**Igoumenitsa**	**6.35**	**312**	P		**Pn**	**18 52 23.2**	**+0.3**
	baz=317							
IGT				S		**Sn**	**18 53 31.0**	**-3.1**
	baz=317							
GRG	**Griva**	**6.37**	**331**	P		**Pn**	**18 52 26.9**	**+3.6**
GRG	**Griva**	**6.37**	**331**	P		**Pn**	**18 52 26.9**	**+3.6**
RZN	**Rozhen**	**6.39**	**348**	*i* P		**Pn**	**18 52 26.7**	**+2.9**
EDRB	**Edirne**	**6.41**	**2**	P		**Pn**	**18 52 25.9**	**+2.0**
EDRB	**Edirne**	**6.41**	**2**	P		**Pn**	**18 52 25.9**	**+2.0**
MMB	**Musomiste**	**6.51**	**342**	*i* P		**Pn**	**18 52 28.2**	**+3.0**
LSK	**Leskovik**	**6.60**	**317**	P		**Pn**	**18 52 28.3**	**+1.8**
LSK	**Leskovik**	**6.60**	**317**	P		**Pn**	**18 52 28.3**	**+1.8**
LSK	**Leskovik**	**6.60**	**317**	P		**Pn**	**18 52 28.4**	**+1.9**
	baz=322							
LSK				S		**Sn**	**18 53 38.0**	**-2.4**
	baz=322							
LSK				AMP				
	comp=N,16nm,0.6s,baz=322							
VAY	**Valandovo**	**6.62**	**334**	*e*Pn		**Pn**	**18 52 29.6**	**+2.9**
VAY	**Valandovo**	**6.62**	**334**	*i* Pn		**Pn**	**18 52 30.5**	**+3.8**
DIM	**Dimitrovgrad**	**6.65**	**354**	*i* P		**Pn**	**18 52 29.8**	**+2.7**
FNA	**Florina**	**6.67**	**325**			**Pn**	**18 52 29.5**	**+2.0**
FNA	**Florina**	**6.67**	**325**	P		**Pn**	**18 52 29.1**	**+1.7**
FNA	**Florina**	**6.67**	**325**	P		**Pn**	**18 52 29.1**	**+1.7**
FNA	**Florina**	**6.67**	**325**	P		**Pn**	**18 52 29.3**	**+1.9**
	baz=330							
FNA				S		**Sn**	**18 53 42.3**	**+0.3**
	baz=330							
FNA	**Florina**	**6.67**	**325**	⇑P		**Pn**	**18 52 29.4**	**+2.0**
FNA	**Florina**	**6.67**	**325**	P		**Pn**	**18 52 29.5**	**+2.0**
FNA	**Florina**	**6.67**	**325**	*e*Pn		**Pn**	**18 52 29.1**	**+1.7**
FNA				*e*Sn		**Sn**	**18 53 42.7**	**+0.7**
BR231	**Keskin MP Arra**	**6.69**	**47**			**Pn**	**18 52 29.5**	**+1.8**
ANTO	**Ankara**	**6.71**	**47**			**Pn**	**18 52 29.7**	**+1.6**
ANTO	**Ankara**	**6.71**	**47**	P		**Pn**	**18 52 30.0**	**+1.9**
ANTO	**Ankara**	**6.71**	**47**	P		**Pn**	**18 52 30.0**	**+1.9**
HMYD	**Mayadein**	**6.71**	**146**	P		**Pn**	**18 52 25.2**	**-2.9**
	baz=146							
SRN	**Sarande**	**6.77**	**313**	P		**Pn**	**18 52 27.7**	**-1.0**
SRN	**Sarande**	**6.77**	**313**	P		**Pn**	**18 52 27.7**	**-1.0**
SRN	**Sarande**	**6.77**	**313**	P		**Pn**	**18 52 27.7**	**-1.0**
	baz=318							
SRN				S		**Sn**	**18 53 39.1**	**-5.1**
	baz=318							
SRN				AMP				
	comp=N,6.3nm,0.2s,baz=318							
HNAT	**Natroun**	**6.77**	**147**	P		**Pn**	**18 52 24.8**	**-4.0**
	baz=148							
KEK	**Kerkira**	**6.79**	**311**	Pn		**Pn**	**18 52 29.9**	**+0.8**
KEK	**Kerkira**	**6.79**	**311**	P		**Pn**	**18 52 29.8**	**+0.8**
KEK	**Kerkira**	**6.79**	**311**	P		**Pn**	**18 52 29.8**	**+0.8**
KEK	**Kerkira**	**6.79**	**311**	⇓P		**Pn**	**18 52 29.9**	**+0.8**
PLD	**Plovdiv**	**6.80**	**349

TIR Tirane 7.84 321 P Pn 18 52 43.6 +0.2
QRWL Qaraoun 7.86 101 eP Pn 18 52 40.9 -3.0
HWQ Hawqa 7.90 96 eP Pn 18 52 41.6 -2.8
NBNS Bani Suef 7.94 147 P Pn 18 52 40.8 -4.1
baz=148
ZAHL Zahle 7.94 99 eP Pn 18 52 42.0 -3.0
GEM Giv'at Ha'Em 7.95 104 Pn Pn 18 52 41.6 -3.3
GEM Giv'at Ha'Em 7.95 104 P Pn 18 52 42.0 -2.9
NATI Neve Ativ 7.99 103 Pn Pn 18 52 42.1 -3.4
NATI Sn Sn 18 54 06.5 -7.9
RCY Rachaya 8.00 101 eP Pn 18 52 42.6 -3.2
ZAF Zafarana 8.02 138 P Pn 18 52 42.0 -3.9
baz=138
SALP Salfit 8.03 112 Pn Pn 18 52 42.2 -3.8
MMLI Mount Malkishu 8.04 109 Pn Pn 18 52 42.1 -4.1
KZIT Kziot 8.05 122 Pn Pn 18 52 42.2 -4.2
KZIT Sn Sn 18 54 06.2 -10
PLVB Pleven 8.07 351 ⇑P Pn 18 52 49.5 +2.9
AMAZ Amatzia 8.08 116 Pn Pn 18 52 43.3 -3.4
KALB Balgarevo 8.11 10 ⇑P Pn 18 52 50.0 +2.9
RAZG Razgrad 8.13 0 ⇑P Pn 18 52 49.6 +2.3
SHMJ Saham 8.20 107 P Pn 18 52 45.9 -2.4
HMDT Nahal Hemdat 8.20 110 Pn Pn 18 52 45.0 -3.3
HMDT Nahal Hemdat 8.20 110 P Pn 18 52 45.7 -2.6
BARS Barje 8.20 335 ePn Pn 18 52 51.3 +2.9
BNN Bunyan 8.26 63 Pn 18 52 51.3 +2.1
BNN Bunyan 8.26 63 ⇑P Pn 18 52 51.2 +2.0
ZIMR 8.26 355 P Pn 18 52 51.8 +2.7
UJAP Al Uja 8.28 112 Pn Pn 18 52 46.2 -3.3
UJAP Sn Sn 18 54 12.7 -8.8
UJAP Al Uja 8.28 112 P Pn 18 52 46.2 -3.3
YTIR Yattir 8.31 117 Pn Pn 18 52 46.7 -3.3
YTIR Sn Sn 18 54 13.1 -9.3
YTIR Yattir 8.31 117 P Pn 18 52 46.6 -3.4
PSN Preselentsi 8.35 9 iP Pn 18 52 52.2 +1.8
ZAPS Zavoj 8.37 341 ePn Pn 18 52 53.6 +2.9
DSI Dead Sea 8.40 115 Pn Pn 18 52 47.7 -3.4
DSI Sn Sn 18 54 15.2 -9.3
DSI Dead Sea 8.40 115 P Pn 18 52 48.4 -2.7
HFRF Wahat Farafira 8.41 168 P Pn 18 52 48.0 -3.2
baz=169
LADO San Nicola del 8.45 300 AML AML
comp=E,49µm,1.0s
LADO San Nicola del 8.45 300 AML AML
comp=N,34µm,0.6s
LADO San Nicola del 8.45 300 AML AML
comp=E,49µm,1.0s
LADO San Nicola del 8.45 300 ⇑P Pn 18 52 51.7 -0.1
MESG Mesagne 8.51 310 P Pn 18 52 51.4 -1.1
MESG Mesagne 8.51 310 AML AML
comp=E,672µm,1.4s
MESG Mesagne 8.51 310 AML AML
comp=N,518µm,1.5s
MESG Mesagne 8.51 310 AML AML
comp=E,672µm,0.6s
MESG Mesagne 8.51 310 AML AML
comp=N,518µm,0.5s
MDBI Mazsada 8.52 116 Pn Pn 18 52 49.1 -3.5
MDBI Mazsada 8.52 116 P Pn 18 52 50.0 -2.6
MSBI Mazada 8.52 116 Pn Pn 18 52 49.6 -3.0
BCI Bajram Curri 8.52 326 P Pn 18 52 53.5 +0.8
baz=331
BCI S Sn 18 54 25.2 -2.1
baz=331
BCI AMP
comp=N,12nm,0.8s,baz=331
MANR Mangalia 8.54 11 ⇓P Pn 18 52 55.4 +2.5
TIP Timpagrande 8.57 299 ⇓P Pn 18 52 52.6 -0.9
TIP ⇓S Sn 18 54 27.8 -0.8
TIP Timpagrande 8.57 299 Pn Pn 18 52 52.6 -0.9
TIP Timpagrande 8.57 299 ⇓P Pn 18 52 52.2 -1.2
TIP Timpagrande 8.57 299 AML AML
comp=E,487µm,0.7s
TIP Timpagrande 8.57 299 AML AML
comp=N,355µm,0.7s
TIP Timpagrande 8.57 299 AML AML
comp=E,408µm,0.7s
TIP Timpagrande 8.57 299 AML AML
comp=N,276µm,0.7s
TIP Timpagrande 8.57 299 ⇓P Pn 18 52 52.6 -0.9
ULC Ulcinj 8.61 321 ⇓iPn Pn 18 52 52.6 -1.3
ULC i Sn Sn 18 54 25.6 -3.9
TAMRE El Minia 8.62 152 P Pn 18 52 50.4 -3.7
baz=153
LISJ El Lisan 8.64 116 P Pn 18 52 52.0 -2.4
GRI Girifalco 8.69 296 AML AML
comp=E,613µm,0.4s
GRI Girifalco 8.69 296 AML AML
comp=N,588µm,0.3s
GRI Girifalco 8.69 296 ⇓P Pn 18 52 54.3 -0.7
VLAD Vladila 8.70 350 ⇑P Pn 18 52 57.5 +2.3
WALJ Wala 8.73 114 P Pn 18 52 53.4 -2.2
SOI Samo 8.74 291 AML AML
comp=N,1945µm,0.8s
SOI Samo 8.74 291 AML AML
comp=E,1870µm,0.7s
SOI Samo 8.74 291 ⇑P Pn 18 52 54.2 -1.5
ICOR Ion Corvin 8.74 6 ⇓P Pn 18 52 58.5 +2.8
COPA Copaceanca 8.75 354 ⇑P Pn 18 52 58.3 +2.6
PVY Plav 8.75 327 ⇑iPn Pn 18 52 56.0 0.0
PVY i Sn Sn 18 54 30.9 -2.2
KRMI Paran Flat 8.76 125 Pn Pn 18 52 51.6 -4.5
KRMI Sn Sn 18 54 22.4 -11
HSUJ Al Zarqa 8.77 109 P Pn 18 52 54.5 -1.8
RASA Rasa 8.79 3 ⇑P Pn 18 52 59.4 +3.1
SELS Selova 8.80 334 ePn Pn 18 52 59.1 +2.5
SELS eSn Sn 18 54 32.9 -1.3
BZK Bozkurt 8.80 40 Pn 18 52 57.0 +0.5
BZK Bozkurt 8.80 40 ⇑P Pn 18 52 57.2 +0.7
DRME Dracevica, Mon 8.80 322 ePn Pn 18 52 55.2 -1.4
DRME Dracevica, Mon 8.80 322 ⇓iPn Pn 18 52 55.5 -1.1
DRME i Sn Sn 18 54 31.0 -3.2
EFOR EFORIE 8.80 10 ⇑P Pn 18 52 59.5 +3.0
PRNI Paran 8.80 123 Pn Pn 18 52 52.1 -4.6
PRNI Sn Sn 18 54 23.6 -11
PRNI Paran 8.80 123 P Pn 18 52 52.9 -3.8
ZFRI Zfri 8.80 121 Pn Pn 18 52 52.0 -4.6
ZFRI Sn Sn 18 54 23.9 -10
ZFRI Zfri 8.80 121 P Pn 18 52 52.2 -4.4
KARJ KARJ 8.83 117 P Pn 18 52 47.3 -10
HRDS Abu Rudays 8.87 137 P Pn 18 52 53.0 -4.6
baz=137
MFTR Murfatlar 8.87 9 ⇓P Pn 18 53 00.1 +2.6
GAZ Gaziantep 8.87 76 Pn 18 52 55.9 -1.7
BAIL Bailesti 8.90 345 ⇑P Pn 18 53 00.4 +2.5
CEL Celeste 8.91 292 Pn 18 52 56.6 -1.5
CEL Celeste 8.91 292 ⇑P Pn 18 52 56.5 -1.6
CEL Celeste 8.91 292 AML AML
comp=E,577µm,0.5s
CEL Celeste 8.91 292 AML AML
comp=E,577µm,1.5s
CEL Celeste 8.91 292 AML AML
comp=N,680µm,0.4s
CEL Celeste 8.91 292 AML AML
comp=E,695µm,0.5s
CEL Celeste 8.91 292 AML AML
comp=E,695µm,1.5s
CEL Celeste 8.91 292 AML AML
comp=N,558µm,0.4s
CEL Celeste 8.91 292 ⇓P Pn 18 52 57.4 -0.7
GMB Gambarie 8.94 291 P Pn 18 52 57.2 -1.3
GMB Gambarie 8.94 291 AML AML
comp=E,3585µm,1.4s
GMB Gambarie 8.94 291 AML AML
comp=N,3045µm,1.4s
GMB Gambarie 8.94 291 AML AML
comp=N,3045µm,0.6s
GMB Gambarie 8.94 291 AML AML
comp=E,3585µm,0.6s
GRB Gharib 8.95 141 P Pn 18 52 54.5 -4.1
baz=141
PDG Podgorica 8.95 324 ⇑P Pn 18 52 57.9 -0.6
PDG Podgorica 8.95 324 Pn 18 52 57.2 -1.3
PDG Podgorica 8.95 324 ⇓P Pn 18 52 57.5 -1.1
PDG Podgorica 8.95 324 ⇑iPn Pn 18 52 57.5 -1.1
PDG i Sn Sn 18 54 34.3 -3.5
BOVS Bovan 8.97 337 ⇑P Pn 18 53 01.3 +2.5
BOVS Bovan 8.97 337 ePn Pn 18 53 01.3 +2.5
ZAGS Zajecar 8.98 340 ePn Pn 18 53 01.3 +2.4
MSCL Scilla 8.98 291 AML AML
comp=N,1350µm,0.6s
MSCL Scilla 8.98 291 AML AML
comp=E,1135µm,0.7s

MSCL Scilla 8.98 291 ⇓P Pn 18 52 57.4 -1.7
IVA Berane 9.00 328 ⇑iPn Pn 18 52 59.5 +0.2
IVA i Sn Sn 18 54 37.1 -2.1
HRFI Mount Harif 9.02 124 Pn Pn 18 52 56.2 -3.4
HRFI Sn Sn 18 54 28.8 -11
BUM Brajici-Budva 9.03 322 ⇓iPn Pn 18 52 58.1 -1.7
BUM i Sn Sn 18 54 35.8 -4.2
LEHL Lehliu 9.04 2 ⇓P Pn 18 53 02.3 +2.5
SWQJ Swaqa 9.07 115 P Pn 18 52 57.7 -2.6
MBRI Mt Berech 9.09 126 Pn Pn 18 52 56.8 -3.9
MBRI Mt Berech 9.09 126 P Pn 18 52 57.5 -3.2
NOCI Noci 9.12 309 AML AML
comp=E,590µm,0.9s
NOCI Noci 9.12 309 AML AML
comp=N,762µm,0.2s
NOCI Noci 9.12 309 AML AML
comp=E,590µm,1.1s
NOCI Noci 9.12 309 S Pn 18 52 59.2 -1.6
ASUT 9.12 150 P Pn 18 52 57.2 -3.8
baz=150
TIRR Tirgusor 9.15 9 ⇓P Pn 18 53 03.9 +2.7
TIRR Tirgusor 9.15 9 Pn 18 53 02.6 +1.4
TIRR Tirgusor 9.15 9 P Pn 18 53 04.1 +2.9
KOME Kolasin 9.15 326 ⇓iPn Pn 18 53 01.2 -0.2
KOME i Sn Sn 18 54 40.0 -2.9
HUMR Humele 9.16 353 ⇑P Pn 18 53 03.3 +1.9
TLBR Topalu 9.19 7 ⇑P Pn 18 53 04.3 +2.5
AMRR Amara 9.20 4 ⇑P Pn 18 53 04.4 +2.5
AMRR Amara 9.20 4 P Pn 18 53 05.9 +4.0
EIL Elat 9.20 126 P Pn 18 52 58.8 -3.2
comp=E,148nm,0.3s,baz=297,slow=2.8,SNR=306
EIL S Sn 18 54 32.0 -12
comp=E,648nm,0.3s,baz=284,slow=12,SNR=4.9
EIL Elat 9.20 126 Pn Pn 18 52 58.2 -3.8
EIL Sn Sn 18 54 33.2 -11
EIL Elat 9.20 126 P Pn 18 52 58.8 -3.2
CEME Cevo 9.20 323 ⇓iPn Pn 18 53 00.4 -1.7
CEME i Sn Sn 18 54 40.9 -3.2
MSRU Castanea 9.20 291 ⇓P Pn 18 53 00.9 -1.2
AQBJ Aqaba 9.22 126 P Pn 18 53 00.1 -2.3
PUNG Punghina 9.24 344 ⇑P Pn 18 53 04.5 +2.0
SULR 9.24 359 ⇑P Pn 18 53 04.9 +2.4
MATE Matera 9.28 307 ⇑P Pn 18 53 01.3 -1.7
MATE Matera 9.28 307 AML AML
comp=N,370µm,0.7s
MATE Matera 9.28 307 AML AML
comp=E,420µm,1.4s
MATE Matera 9.28 307 S Pn 18 53 01.6 -1.4
SJES Sjenica 9.28 329 ePn Pn 18 53 03.2 0.0
SJES eSn Sn 18 54 43.1 -3.0
HAGA Augusta 9.29 285 ⇓P Pn 18 52 59.8 -3.3
DIKM Dikmen 9.29 45 ⇑P Pn 18 53 05.9 +2.7
ASF Jabal al Asfar 9.29 107 P Pn 18 53 00.8 -2.6
comp=E,223nm,0.7s,baz=296,slow=6.7,SNR=170
ASF S Sn 18 54 39.1 -7.3
comp=E,244nm,0.3s,baz=13,slow=18,SNR=6.5
ASF Jabal al Asfar 9.29 107 P Pn 18 53 00.7 -2.7
CRAC Craco 9.31 305 AML AML
comp=N,772µm,0.6s
CRAC Craco 9.31 305 AML AML
comp=E,1105µm,1.1s
CRAC Craco 9.31 305 S Pn 18 53 02.8 -0.7
TOKA Tokat 9.32 55 Pn 18 53 05.0 +1.3
HARR Harsova 9.32 7 ⇑P Pn 18 53 05.8 +2.2
HARR Harsova 9.32 7 P Pn 18 53 05.8 +2.2
HSNJ Maan 9.34 121 P Pn 18 53 01.3 -2.7
HCY Herceg Novi 9.34 321 ePn Pn 18 53 01.1 -2.9
HCY Herceg Novi 9.34 321 ⇓iPn Pn 18 53 01.3 -2.7
HCY i Sn Sn 18 54 42.0 -5.5
AIO Antillo 9.35 289 AML AML
comp=N,557µm,0.2s
AIO Antillo 9.35 289 AML AML
comp=E,362µm,0.7s
AIO Antillo 9.35 289 ⇓P Pn 18 53 02.3 -1.8
NKME Niksic 9.35 324 ⇓iPn Pn 18 53 02.7 -1.4
NKME i Sn Sn 18 54 45.2 -2.5
HBST Basata 9.36 129 P Pn 18 53 00.7 -3.5
baz=129
EPOZ Pozzillo 9.38 286 AML AML
comp=E,888µm,0.7s
EPOZ Pozzillo 9.38 286 AML AML
comp=N,1023µm,1.1s
EPOZ Pozzillo 9.38 286 ⇓P Pn 18 53 01.2 -3.2
MMN Mormanno 9.40 301 AML AML
comp=E,226µm,0.6s
MMN Mormanno 9.40 301 AML AML
comp=N,498µm,0.2s
MMN Mormanno 9.40 301 S Pn 18 53 05.8 +1.1
HKAT Jabal Katrina 9.41 135 P Pn 18 53 00.1 -5.0
baz=135
NOV Novara 9.43 289 AML AML
comp=N,620µm,0.8s
NOV Novara 9.43 289 AML AML
comp=E,839µm,0.8s
NOV Novara 9.43 289 AML AML
comp=N,620µm,1.2s
NOV Novara 9.43 289 ⇓P Pn 18 53 03.7 -1.5
NUB Nuweibaa 9.44 130 P Pn 18 53 01.4 -3.9
baz=131
MEU Monte Lauro 9.44 284 ⇑P Pn 18 53 03.1 -2.3
AMUR Altamura 9.47 308 AML AML
comp=E,482µm,0.5s
AMUR Altamura 9.47 308 AML AML
comp=N,398µm,0.6s
AMUR Altamura 9.47 308 AML AML
comp=E,482µm,1.5s
AMUR Altamura 9.47 308 S Pn 18 53 04.1 -1.7
SCHR S. Chirico Rap 9.48 303 AML AML
comp=E,402µm,0.8s
SCHR S. Chirico Rap 9.48 303 AML AML
comp=N,422µm,0.3s
SCHR S. Chirico Rap 9.48 303 S Pn 18 53 05.5 -0.4
PLAR PLOIESTI 9.48 358 ⇑P Pn 18 53 08.7 +3.0
STFAR Stefanesti-Arg 9.49 354 ⇓P Pn 18 53 08.5 +2.6
JURR Jurilovca 9.51 11 ⇓P Pn 18 53 08.8 +2.6
HLNI Lentini 9.52 285 ⇑P Pn 18 53 02.9 -3.5
HLNI Lentini 9.52 285 AML AML
comp=E,2640µm,1.4s
HLNI Lentini 9.52 285 AML AML
comp=N,2200µm,0.4s
HLNI Lentini 9.52 285 AML AML
comp=N,2200µm,1.6s
HLNI Lentini 9.52 285 AML AML
comp=E,2640µm,0.6s
GRUS Gruza 9.53 334 ePn Pn 18 53 08.3 +1.8
GRUS eSn Sn 18 54 50.6 -1.3
EMSG Monte Spagnolo 9.54 288 ⇑P Pn 18 53 06.7 -0.1
TPGR Topolog 9.54 9 ⇑P Pn 18 53 09.0 +2.4
HMDC Modica 9.54 283 ⇑P Pn 18 53 04.0 -2.7
SRE Strehaia 9.55 346 ⇑P Pn 18 53 08.2 +1.5
SRE Strehaia 9.55 346 P Pn 18 53 08.7 +2.0
CUC Castrocucco 9.57 302 Pn 18 53 06.0 -1.1
CUC Castrocucco 9.57 302 AML AML
comp=E,854µm,0.6s
CUC Castrocucco 9.57 302 AML AML
comp=E,692µm,0.6s
CUC Castrocucco 9.57 302 AML AML
comp=N,594µm,0.5s
CUC Castrocucco 9.57 302 AML AML
comp=N,472µm,0.5s
CUC Castrocucco 9.57 302 S Pn 18 53 07.4 +0.3
PLE Pljevlja 9.59 327 ⇓iPn Pn 18 53 07.1 -0.3
PLE i Sn Sn 18 54 49.4 -4.2
SECR 9.60 358 ⇑P Pn 18 53 10.3 +2.8
EPZF Pizzo Felice 9.61 288 ⇑P Pn 18 53 08.4 +0.7
SIRI Monte Sirino - 9.61 303 AML AML
comp=E,911µm,1.1s
SIRI Monte Sirino - 9.61 303 AML AML
comp=N,682µm,0.5s
SIRI Monte Sirino - 9.61 303 AML AML
comp=N,697µm,0.5s
SIRI Monte Sirino - 9.61 303 AML AML
comp=E,904µm,1.1s
SIRI Monte Sirino - 9.61 303 S Pn 18 53 07.0 -0.7
TREB Trebinje 9.61 322 ePn Pn 18 53 04.6 -3.0
HDHB Dhahab 9.63 132 P Pn 18 53 04.3 -3.7
baz=132
BRY Bratogost 9.65 323 ePn Pn 18 53 06.3 -2.0
BRY Bratogost 9.65 323 ⇓iPn Pn 18 53 06.0 -2.3
BRY i Sn Sn 18 54 52.0 -3.2
ISR Istrita 9.68 0 ⇑P Pn 18 53 11.4 +2.8
ISR Istrita 9.68 0 P Pn 18 53 12.6 +4.0
SVIS Svilajnac 9.69 337 ePn Pn 18 53 11.5 +2.8
DJES Djerdap 9.70 343 ⇑P Pn 18 53 10.9 +2.1

DJES Djerdap 9.70 343 Pn 18 53 10.0 +1.2
UPM Unac-Piva 9.71 325 ePn Pn 18 53 08.3 -0.8
UPM Unac-Piva 9.71 325 ⇓iPn Pn 18 53 08.5 -0.6
UPM i Sn Sn 18 54 53.9 -2.7
GALF Gagliano Caste 9.81 287 ⇑P Pn 18 53 07.7 -2.8
MRVN Minervino Murg 9.82 308 ⇑P Pn 18 53 08.5 -2.0
CFR Carcaliu 9.82 7 ⇑P Pn 18 53 12.1 +1.6
CFR Carcaliu 9.82 7 P Pn 18 53 12.0 +1.6
RUDO Rudo 9.83 328 ePn Pn 18 53 07.5 -3.1
MTUR Matau 9.84 354 ⇑P Pn 18 53 13.2 +2.4
MTUR Matau 9.84 354 P Pn 18 53 13.4 +2.6
CAGR Agira 9.85 286 ⇓P Pn 18 53 10.6 -0.4
VAE Valguarnera 9.90 285 P Pn 18 53 11.4 -0.2
comp=E,180nm,0.5s,baz=124,slow=0.5,SNR=48
VAE S Sn 18 54 53.3 -7.9
comp=E,1µm,0.8s,baz=191,slow=20,SNR=7.9
RAFF Raffo Rosso 9.90 284 Pn 18 53 09.5 -2.2
RAFF Raffo Rosso 9.90 284 ⇓P Pn 18 53 09.5 -2.2
RAFF Raffo Rosso 9.90 284 AML AML
comp=N,2065µm,1.4s
RAFF Raffo Rosso 9.90 284 AML AML
comp=E,2140µm,1.2s
RAFF Raffo Rosso 9.90 284 AML AML
comp=N,2065µm,0.6s
RAFF Raffo Rosso 9.90 284 AML AML
comp=E,2140µm,0.8s
TLCR 9.91 10 ⇓P Pn 18 53 13.4 +1.7
TLCR 9.91 10 P Pn 18 53 14.5 +2.8
HERR Herculane 9.93 343 ⇑P Pn 18 53 13.7 +1.8
TRUS Trudelj 9.93 334 ePn Pn 18 53 13.7 +1.8
TRUS eSn Sn 18 54 58.7 -3.0
DIVS Divibare 9.97 332 Pn Pn 18 53 13.3 +0.7
DIVS Divibare 9.97 332 ⇑P Pn 18 53 13.3 +0.7
DIVS Divibare 9.97 332 ePn Pn 18 53 12.9 +0.3
DIVS eSn Sn 18 55 00.3 -2.7
DIVS Divibare 9.97 332 ePn Pn 18 53 15.8 +3.2
NEHR Nehoiu 9.99 359 ⇓P Pn 18 53 15.7 +2.9
BBLS Lazići 10.02 329 ePn Pn 18 53 12.6 -0.6
BBLS eSn Sn 18 55 00.9 -3.0
BBLS Lazići 10.02 329 ePn Pn 18 53 12.0 -1.2
MDVR Moldovita 10.02 340 ⇑P Pn 18 53 15.0 +1.9
ARR Arges 10.02 353 ⇑P Pn 18 53 15.2 +1.9
VOIR 10.05 354 ⇓P Pn 18 53 15.7 +2.0
VOIR 10.05 354 P Pn 18 53 15.7 +2.0
STON Ston 10.06 320 ePn Pn 18 53 10.5 -3.2
STON Ston 10.06 320 AML AML
comp=E,128µm,1.2s
STON Ston 10.06 320 AML AML
comp=E,128µm,0.8s
STON Ston 10.06 320 AML AML
comp=N,116µm,1.0s
STON Ston 10.06 320 S Pn 18 53 10.8 -2.9
MLR Muntele Rosu 10.06 358 P Pn 18 53 15.9 +2.0
comp=N,168nm,0.8s,baz=190,slow=5.7,SNR=144
MLR LR LR 18 58 08.6
comp=N,1µm,18.1s,baz=195,slow=44
MLR Muntele Rosu 10.06 358 ⇑P Pn 18 53 16.7 +2.8
MLR Muntele Rosu 10.06 358 Pn Pn 18 53 16.5 +2.6
MLR Muntele Rosu 10.06 358 P Pn 18 53 16.6 +2.8
GIUM Giurgiulesti 10.14 7 ⇑P Pn 18 53 17.6 +2.9
IZVR Izvoarele 10.15 5 ⇑P Pn 18 53 17.8 +2.9
HDK1 Dakhla 10.18 165 P Pn 18 53 12.6 -2.9
baz=165
HHRG Al Ghardaqah 10.20 141 P Pn 18 53 13.0 -2.8
baz=142
CLTA Licata 10.22 283 ⇓P Pn 18 53 15.2 -0.7
TATR Tatarca 10.23 6 ⇑P Pn 18 53 18.9 +2.9
SCTR Scanteiesti 10.30 6 ⇑P Pn 18 53 19.3 +2.3
ODBI Odobesti 10.34 2 ⇑P Pn 18 53 20.4 +3.0
GZR Gura Zlata 10.34 345 ⇑P Pn 18 53 19.6 +2.0
GZR Gura Zlata 10.34 345 P Pn 18 53 19.5 +2.0
COVR Voineasa-Covas 10.41 359 ⇓P Pn 18 53 21.2 +2.7
PLOR Plostina 10.41 1 ⇑P Pn 18 53 21.1 +2.5
PLOR Plostina 10.41 1 P Pn 18 53 21.1 +2.5
VRI Vrincioaia 10.43 1 ⇓P Pn 18 53 21.1 +2.3
VRI Vrincioaia 10.43 1 P Pn 18 53 21.1 +2.3
SGRT San Giovanni R 10.48 310 Pn Pn 18 53 17.2 -2.4
VLDR Vladesti 10.48 6 ⇓P Pn 18 53 21.3 +1.9
AKRG Al Kharijah 10.49 159 P Pn 18 53 15.7 -4.0
baz=160
GTR Jabal at Tayr 10.51 159 P Pn 18 53 16.3 -3.6
baz=160
VARL Varlezi 10.52 5 ⇑P Pn 18 53 22.3 +2.4
TEKS Tekeris 10.53 332 ePn Pn 18 53 20.4 +0.2
TEKS eSn Sn 18 55 13.1 -3.4
TEKS Tekeris 10.53 332 ePn Pn 18 53 18.8 -1.4
DOPR Dopca 10.56 356 ⇑P Pn 18 53 22.5 +1.9
GHRR 10.65 4 ⇑P Pn 18 53 23.2 +1.4
OZUR 10.67 358 ⇑P Pn 18 53 24.2 +2.1
DEV Deva 10.78 347 ⇑P Pn 18 53 26.1 +2.6
DEV Deva 10.78 347 P Pn 18 53 26.1 +2.6
BZS Buzias 10.81 342 ⇑P Pn 18 53 25.1 +1.1
BZS Buzias 10.81 342 P Pn 18 53 25.9 +1.9
MDB Medias 10.81 352 ⇓P Pn 18 53 27.0 +3.0
MDB Medias 10.81 352 P Pn 18 53 27.0 +3.0
SURR Surduc 10.82 344 ⇑P Pn 18 53 26.2 +2.1
PAOL Paolisi 10.88 304 Pn Pn 18 53 23.4 -1.5
FRGS Fruska Gora 10.95 335 ⇑P Pn 18 53 27.6 +1.7
FRGS Fruska Gora 10.95 335 ePn Pn 18 53 27.3 +1.4
FRGS eSn Sn 18 55 24.7 -2.0
FRGS Fruska Gora 10.95 335 ePn Pn 18 53 27.3 +1.4
TESR Tescani 11.07 1 ⇑P Pn 18 53 29.1 +1.6
LEOM Leova 11.12 7 ⇑P Pn 18 53 30.6 +2.5
LEOM Leova 11.12 7 P Pn 18 53 30.6 +2.5
SIM Simferopol' 11.17 29 eP Pn 18 53 30.9 +2.0
SIM eS Sn 18 55 36.0 +3.9
SIM pmax pmax
comp=Z,184nm,0.4s
SIM MLR MLR
comp=Z,357nm,18.0s
JOSR Joseni 11.29 357 ⇑P Pn 18 53 31.9 +1.4
PURM Purcari 11.39 12 ⇑P Pn 18 53 33.4 +1.5
SIRR Siria 11.41 343 ⇑P Pn 18 53 33.3 +1.1
CJR Cluj-Napoca 11.47 350 ⇑P Pn 18 53 35.3 +2.3
CJR Cluj-Napoca 11.47 350 P Pn 18 53 35.4 +2.3
MGRS Mrkonjic Grad 11.49 324 ePn Pn 18 53 31.1 -2.1
BIZ Bicaz 11.50 359 ⇑P Pn 18 53 35.5 +2.1
MARR Marisel-Cluj 11.51 348 ⇑P Pn 18 53 35.4 +1.7
MILM Milestii Mici 11.62 8 ⇑P Pn 18 53 37.2 +2.3
MILM Milestii Mici 11.62 8 eP Pn 18 53 37.0 +2.1
MILM pmax pmax
comp=Z,1µm,0.7s
BLY Banja Luka 11.69 326 ⇑P Pn 18 53 34.2 -1.8
BLY Banja Luka 11.69 326 ePn Pn 18 53 33.8 -2.2
DRGR 11.69 347 ⇑P Pn 18 53 38.6 +2.5
DRGR 11.69 347 P Pn 18 53 38.5 +2.5
KIS Kishinev 11.70 8 eP Pn 18 53 36.0 0.0
KIS eL L 18 56 48.0
KIS LgM 18 57 17.0
KIS Kishinev 11.70 8 ⇓P Pn 18 53 38.4 +2.4
KIS Kishinev 11.70 8 eP Pn 18 53 36.0 0.0
KIS pmax pmax
comp=Z,400nm,0.8s
ARCR ARCALIA 11.75 353 ⇓P Pn 18 53 38.3 +1.5
IAS Iasi 11.78 4 ⇑P Pn 18 53 39.3 +2.0
IAS Iasi 11.78 4 P Pn 18 53 39.2 +2.0
A050A Klekovaca 11.80 323 ePn Pn 18 53 35.6 -2.0
A052A Srbac 11.81 328 ePn Pn 18 53 34.0 -3.7
KTUT Trabzon 11.86 58 ⇑P Pn 18 53 42.5 +4.1
MESR Meseseni 12.00 348 ⇑P Pn 18 53 42.1 +1.9
A051A Mrakovica 12.02 326 ePn Pn 18 53 38.0 -2.5
BORR Bors 12.16 345 ⇑P Pn 18 53 44.8 +2.4
BUR01 Bucovina Ar. S 12.21 356 ⇑P Pn 18 53 45.7 +2.5
BURAR Bucovina Array 12.21 356 ⇑P Pn 18 53 45.4 +2.2
BURAR Bucovina Array 12.21 356 Pn Pn 18 53 42.2 -0.9
BURAR Bucovina Array 12.21 356 P Pn 18 53 45.4 +2.2
BUR08 Bucovina Ar. S 12.24 356 Pn Pn 18 53 45.0 +1.4
AQU L'Aquila 12.28 308 Pn Pn 18 53 43.1 -0.9
AQU L'Aquila 12.28 308 ⇑P Pn 18 53 45.2 +1.1
AQU L'Aquila 12.28 308 P Pn 18 53 43.1 -0.9
MORH Mrgy, Hungar 12.28 334 ⇓P Pn 18 53 45.2 +1.2
CAMP Campotosto 12.36 309 Pn Pn 18 53 43.7 -1.6
BMR Baia Mare 12.43 351 ⇑P Pn 18 53 47.8 +1.7
BMR Baia Mare 12.43 351 P Pn 18 53 47.7 +1.7
ANN Anapa 12.58 39 eP Pn 18 53 39.4 -8.6
ANN pmax pmax
comp=Z,45nm,1.0s
ANN MLR MLR
comp=Z,352nm,7.0s
GUMA Gualdo di Mace 12.69 311 Pn Pn 18 53 49.0 -0.7
BSZH Besenyszg 12.73 341 ⇑P Pn 18 53 50.5 +0.4

SORM Soroca 12.78 6 ⇓P Pn 18 53 52.0 +1.2
SORM Soroca 12.78 6 P Pn 18 53 51.9 +1.2
FDMO Fiordimonte 12.83 310 Pn 18 53 49.6 -2.0
GURO Guroymak-BITLI 12.85 71 Pn Pn 18 53 52.4 +0.4
CESX Cesi 12.93 308 Pn 18 53 52.0 -0.9
TRPA Tarpa 13.02 348 ⇑P Pn 18 53 55.8 +1.8
SOC Sochi 13.08 48 eP Pn 18 53 54.8 -0.2
SOC e 18 56 20.9
SOC pmax pmax
comp=Z,30nm,1.0s
BOJS Bojanci 13.17 323 i Pn Pn 18 53 53.1 -2.9
BOJS i Sn Sn 18 56 11.5 -9.2
BOJS Bojanci 13.17 323 ePn Pn 18 53 51.6 -4.5
MURB Monte Urbino 13.30 310 Pn 18 53 57.7 -0.2
CRES Cresnjev 13.30 325 ePn Pn 18 53 54.4 -3.6
MGAB Montegabbione 13.38 308 ⇑P Pn 18 53 59.0 0.0
PSZ Piszkesteto 13.39 341 ⇑P Pn 18 54 00.8 +1.5
PSZ Piszkesteto 13.39 341 Pn 18 53 59.5 +0.3
PSZ Piszkesteto 13.39 341 P Pn 18 54 00.7 +1.5
LATE Laterza 13.44 307 Pn 18 53 59.1 -0.7
UZH Uzhgorod 13.54 348 d iP Pn 18 54 02.5 +1.4
GEVA Gevas 13.62 73 P Pn 18 54 03.4 +1.0
CEY Cerknica 13.74 322 ePn Pn 18 53 59.7 -4.2
KECS Kecovo 13.77 343 eP Pn 18 54 05.4 +1.2
KECS Kecovo 13.77 343 eP Pn 18 54 05.3 +1.1
SRO Srobarova 13.77 336 eP P 18 54 08.1 -2.6
SRO Srobarova 13.77 336 eP P 18 54 08.1 -2.6
SKDS Skadanscina 13.82 321 ePn Pn 18 54 01.7 -3.2
LJU Ljubljana 13.91 323 ePn Pn 18 54 03.0 -3.0
LJU iP P 18 54 12.2 0.0
LJU i Sn Sn 18 56 28.6 -10
KEST Kesra 13.92 276 P Pn 18 54 05.2 -1.0
comp=Z,117nm,0.8s,baz=63,slow=2.8,SNR=52
KEST S Sn 18 56 28.8 -10
comp=Z,37nm,1.0s,baz=52,slow=22,SNR=1.7
KEST Kesra 13.92 276 Pn Pn 18 54 05.0 -1.3
KEST Kesra 13.92 276 P Pn 18 54 05.9 -0.4
SNR=20
KEST S Sn 18 56 46.8 +7.6
CRVS Cervenica-Dubn 13.96 346 eP Pn 18 54 07.7 +1.0
CRVS Cervenica-Dubn 13.96 346 eP Pn 18 54 07.7 +1.0
PERS Pernice 14.06 326 i Pn Pn 18 54 05.3 -2.9
PERS iP P 18 54 14.7 +0.7
KARS Kars 14.10 63 Pn 18 54 08.9 +0.1
KARS Kars 14.10 63 P Pn 18 54 08.9 +0.1
SOKA Soboth 14.13 326 i Pn Pn 18 54 07.5 -1.6
SNR=54
SOKA eSn Sn 18 56 39.7 -4.6
comp=Z,17nm,0.6s
CASP Castiglione de 14.14 306 Pn Pn 18 54 09.3 +0.3
CASP P P 18 54 15.6 +0.8
VYHS Vyhne 14.22 339 eP Pn 18 54 10.6 +0.5
VYHS eS S 18 56 56.4 -7.1
VYHS Vyhne 14.22 339 e 19 02 52.6
VYHS Vyhne 14.22 339 eP Pn 18 54 10.5 +0.5
VYHS Vyhne 14.22 339 eS S 18 56 56.4 -7.1
OSSC Osservatorio P 14.23 309 Pn Pn 18 54 11.0 +0.7
OSSC P P 18 54 16.2 +0.3
OBKA Obir 14.23 325 i Pn Pn 18 54 07.7 -2.7
comp=Z,34nm,0.6s,SNR=11
OBKA eSn Sn 18 56 42.6 -4.2
comp=Z,74nm,0.5s
OBKA Obir 14.23 325 ePn Pn 18 54 07.5 -2.9
SABO M.te Sabotino 14.33 321 Pn Pn 18 54 09.3 -2.3
ARSA Arzberg 14.36 329 i Pn Pn 18 54 12.4 +0.4
comp=Z,52nm,0.9s,SNR=52
ARSA eSn Sn 18 56 43.1 -6.6
comp=Z,8.9nm,0.5s
ARSA Arzberg 14.36 329 ⇑P Pn 18 54 12.1 +0.1
RONA Rosalia, Austr 14.40 331 i Pn Pn 18 54 13.3 +0.7
comp=Z,111nm,0.7s,SNR=82
RONA eSn Sn 18 56 49.0 -1.7
comp=Z,11nm,0.6s
LVV L'vov 14.49 354 eP Pn 18 54 15.8 +2.2
LVV pmax pmax
comp=Z,300nm,1.2s
STHS Stebnicka Huta 14.49 346 eP P 18 54 16.5 -2.2
STHS Stebnicka Huta 14.49 346 eP P 18 54 16.5 -2.2
ZST Bratislava 14.52 334 eP Pn 18 54 14.8 +0.8
ZST eS Sn 18 56 52.5 -0.9
ZST Bratislava 14.52 334 eP Pn 18 54 14.8 +0.8
ZST eS Sn 18 56 52.5 -0.9
MODS Modra-Piesok 14.61 335 eP Pn 18 54 16.6 +1.4
MODS eS Sn 18 56 56.1 +0.4
MODS Modra-Piesok 14.61 335 eP Pn 18 54 16.6 +1.4
MODS eS Sn 18 56 56.1 +0.4
AKH Akhalkalaki 14.64 61 Pn 18 54 17.6 +1.8
AKH Akhalkalaki 14.64 61 P Pn 18 54 17.6 +1.8
LANS Liptovska Anna 14.64 342 eP P 18 54 19.0 -1.4
LANS Liptovska Anna 14.64 342 eP P 18 54 19.0 -1.4
PRED Cave del Predi 14.66 323 Pn 18 54 14.2 -1.9
SMOL Smolenice 14.68 336 eP Pn 18 54 17.8 +1.7
NIE Niedzica 14.69 344 eP Pn 18 54 17.7 +1.4
PTCC Patocco-Chiusa 14.74 322 ⇑P Pn 18 54 14.8 -2.3
MYKA Terra Mystica 14.76 323 i Pn Pn 18 54 18.4 +1.2
comp=Z,40nm,0.7s,SNR=10
MYKA eSn Sn 18 56 56.4 -3.1
comp=Z,34nm,0.7s
CONA Conrad Observa 14.76 331 i Pn Pn 18 54 17.5 +0.2
comp=Z,37nm,0.8s,SNR=36
CONA eSn Sn 18 56 59.0 -0.5
comp=Z,6.7nm,0.4s
NEY Neytrino 14.81 53 c iP Pn 18 54 20.2 +2.2
ZCCA Zocca 14.82 312 P Pn 18 54 19.2 +1.2
JAVC Velka Javorina 14.90 337 ePN Pn 18 54 20.2 +1.2
STAL STALIGIAL 14.97 320 Pn 18 54 19.1 -0.9
TEOL Teolo 14.98 316 Pn 18 54 16.5 -3.5
TEOL IAmb IAmb 18 54 28.3
comp=Z,155nm,0.9s
SHA1 Shidzhatmaz 14.99 52 i P Pn 18 54 21.0 +0.6
CLUD Cludinico 15.02 321 Pn Pn 18 54 19.4 -1.1
CLUD IAmb IAmb 18 54 26.2
comp=Z,231nm,0.9s
ONI Oni 15.03 56 Pn 18 54 21.9 +1.2
ONI Oni 15.03 56 P Pn 18 54 21.9 +1.2
ONI pmax pmax
comp=Z,184nm,1.1s
VLC Villacollemand 15.09 310 Pn 18 54 21.7 +0.2
VLC Villacollemand 15.09 310 ⇑P P 18 54 23.6 -1.8
KIV Kislovodsk 15.12 51 Pn Pn 18 54 21.8 0.0
KIV Kislovodsk 15.12 51 ⇑P P 18 54 26.3 +0.5
KIV Kislovodsk 15.12 51 eP Pn 18 54 23.1 +1.2
KIV eS Sn 18 57 11.0 +2.8
KIV pmax pmax
comp=Z,94nm,1.0s
KIV MLR MLR
comp=Z,205nm,13.0s
KIV Kislovodsk 15.12 51 i P P 18 54 25.1 -0.6
SNR=5.7
KIV Kislovodsk 15.12 51 P P 18 54 24.0 -1.7
KVAR Kislovodsk Arr 15.12 51 P P 18 54 24.1 -1.7
comp=Z,4.1nm,0.5s,baz=255,slow=19,SNR=5.8
KBZ Khabaz 15.14 52 P Pn 18 54 23.8 +1.7
comp=Z,69nm,1.2s,baz=214,slow=10,SNR=47
KBZ LR LR 19 00 49.7
comp=Z,411nm,22.0s,baz=251,slow=40
CIMO Cimolais 15.15 320 Pn 18 54 21.0 -1.2
CIMO IAmb IAmb 18 54 28.4
comp=Z,175nm,0.9s
GNI Garni 15.22 67 P P 18 54 25.3 -1.7
comp=Z,125nm,0.7s,baz=294,slow=3.6,SNR=96
GNI LR LR 19 01 20.0
comp=Z,483nm,20.7s,baz=282,slow=41
GNI Garni 15.22 67 P 18 54 26.2 -0.8
GNI IAmb IAmb 18 54 27.8
comp=Z,150nm,0.8s
GNI Garni 15.22 67 ⇑P P 18 54 25.5 -1.5
GNI Garni 15.22 67 P P 18 54 26.2 -0.8
GNI pmax pmax
comp=Z,150nm,0.8s
GNI Garni 15.22 67 P P 18 54 26.2 -0.8
GNI Garni 15.22 67 P P 18 54 25.2 -1.8
KBA Koelnbreinsper 15.22 324 i Pn Pn 18 54 23.4 +0.2
comp=Z,146nm,0.8s,SNR=69
KBA Koelnbreinsper 15.22 324 ⇓P Pn 18 54 20.7 -2.6
MAUC Maruska 15.29 338 eP Pn 18 54 25.5 +1.4
MOA Molln 15.36 328 i Pn Pn 18 54 25.8 +0.8
comp=Z,103nm,0.8s,SNR=54
MOA eSn Sn 18 57 13.2 -0.9
comp=Z,27nm,0.5s
AKASG Malin Array Be 15.40 7 P Pn 18 54 24.6 -0.7
comp=Z,97nm,0.5s,baz=194,slow=11,SNR=106
AKASG LR LR 19 01 26.9
comp=Z,293nm,21.7s,baz=189,slow=41
AKASG ScP ScP 19 02 53.6 -0.6
comp=Z,5.0nm,0.9s,baz=228,slow=1.4,SNR=9.7
AKBB Malin Array Si 15.40 7 Pn Pn 18 54 24.5 -0.8
AKBB Malin Array Si 15.40 7 c eP Pn 18 54 24.9 -0.4
ABTA Abfaltersbach 15.40 321 i P P 18 54 29.1 +0.2
comp=Z,123nm,0.9s,SNR=35
ABTA eSn Sn 18 57 09.0 -6.1
comp=Z,75nm,0.7s
CTI Castel Tesino 15.40 318 Pn Pn 18 54 22.4 -3.2
CTI IAmb IAmb 18 54 32.5
comp=Z,125nm,0.7s
CTI Castel Tesino 15.40 318 P Pn 18 54 22.4 -3.2
CTI pmax pmax
comp=Z,125nm,0.7s
ZEI Tsey 15.41 56 eP Pn 18 54 25.3 -0.4
ZEI pmax pmax
comp=Z,163nm,1.1s
CMAH Djebel Manchou 15.44 280 P P 18 54 27.9 -1.4
PRMA PARMA 15.44 312 Pn 18 54 25.1 -0.8
NCK Nalchik 15.49 54 i P Pn 18 54 28.1 +1.5
NCK pmax pmax
comp=Z,151nm,1.1s
KRUC Moravsky 15.50 335 ePN Pn 18 54 27.0 +0.3
BIOA Bad Ischl, Aus 15.53 326 i Pn Pn 18 54 27.2 +0.2
comp=Z,54nm,0.7s,SNR=40
OJC Ojcow 15.55 344 eP Pn 18 54 27.5 +0.1
OJC Ojcow 15.55 344 Pn Pn 18 54 27.7 +0.4
OJC IAmb IAmb 18 54 32.3
comp=Z,147nm,0.7s
OJC Ojcow 15.55 344 ⇓P Pn 18 54 28.1 +0.8
OJC Ojcow 15.55 344 P Pn 18 54 27.7 +0.4
OJC pmax pmax
comp=Z,147nm,0.7s
OKC Ostrava-Krasne 15.62 340 eP Pn 18 54 29.3 +1.1
OKC Ostrava-Krasne 15.62 340 eP Pn 18 54 29.3 +1.1
VRAC Vranov 15.64 335 P Pn 18 54 28.6 +0.2
comp=Z,124nm,0.7s,baz=149,slow=11,SNR=64
VRAC LR LR 19 01 54.6
comp=Z,546nm,20.4s,baz=164,slow=42
VRAC Vranov 15.64 335 ⇑P P 18 54 30.0 -1.4
VRAC Vranov 15.64 335 ePN Pn 18 54 28.7 +0.2
VRAC Vranov 15.64 335 P P 18 54 30.0 -1.4
MSSA Maissana 15.71 310 P Pn 18 54 29.8 +0.3
MORC Moravsky Berou 15.74 338 ⇓P Pn 18 54 31.2 +1.3
MORC Moravsky Berou 15.74 338 Pn 18 54 30.6 +0.7
MORC IAmb IAmb 18 54 34.6
comp=Z,212nm,0.9s
MORC Moravsky Berou 15.74 338 ePN Pn 18 54 30.8 +1.0
MORC Moravsky Berou 15.74 338 P Pn 18 54 31.1 +1.3
SALO Salr 15.78 315 ⇑P Pn 18 54 30.1 -0.3
CKFL Kef-Lekhel 16.01 279 P Pn 18 54 32.4 -0.9
TREC Trest 16.02 333 eP Pn 18 54 34.5 +1.2
TREC Trest 16.02 333 eP Pn 18 54 34.5 +1.2
CKRC Cesky Krumlov 16.09 330 eP Pn 18 54 34.8 +0.6
CKRC eSCP ScP 19 02 55.3 -0.3
WTTA Wattenberg 16.19 321 i Pn Pn 18 54 35.1 -0.5
comp=Z,76nm,0.6s,SNR=41
WTTA eSn Sn 18 57 26.0 -8.4
comp=Z,56nm,0.6s
CASM Ain Smara 16.20 279 P Pn 18 54 35.4 -0.3
KRLC Kraliky 16.24 337 eP Pn 18 54 37.1 +1.0
KRLC eSCP ScP 19 02 56.4 +0.5
KRLC Kraliky 16.24 337 eP Pn 18 54 37.1 +1.0
WATA Walderalm 16.27 322 i Pn Pn 18 54 36.3 -0.3
comp=Z,118nm,0.7s,SNR=66
WATA eSn Sn 18 57 29.7 -6.5
comp=Z,69nm,0.7s
GEC2 GERESS Array S 16.37 329 Pn 18 54 37.6 -0.1
GEC2 IAmb IAmb 18 54 42.1
comp=Z,230nm,0.8s
GERES GERESS Array B 16.37 329 P Pn 18 54 37.5 -0.3
comp=Z,138nm,0.7s,baz=162,slow=31,SNR=86
GERES S Sn 18 57 35.2 -3.3
comp=Z,3.9nm,0.5s,baz=151,slow=25,SNR=1.8
GERES LR LR 19 02 30.8
comp=Z,725nm,18.6s,baz=148,slow=43
GERES ScP ScP 19 02 55.9 -0.3
comp=Z,2.9nm,0.9s,baz=128,slow=2.2,SNR=5.8
GERES GERESS Array B 16.37 329 P Pn 18 54 37.0 -0.7
SQTA Sankt Quirin 16.38 321 i Pn Pn 18 54 37.3 -0.7
comp=Z,95nm,0.7s,SNR=45
SQTA eSn Sn 18 57 31.2 -7.8
comp=Z,53nm,0.6s
FETA Feichten 16.51 319 i Pn Pn 18 54 39.4 -0.2
comp=Z,161nm,0.8s,SNR=75
FETA eSn Sn 18 57 33.4 -8.6
comp=Z,11nm,0.5s
FUORN Ofenpass-Fuorn 16.52 318 Pn Pn 18 54 39.2 -0.6
MOTA Moosalm 16.52 321 i Pn Pn 18 54 39.4 -0.4
comp=Z,79nm,0.9s,SNR=35
MOTA eSn Sn 18 57 35.3 -7.0
comp=Z,94nm,0.8s
DPC Dobruska-Polom 16.63 337 eP Pn 18 54 41.5 +0.6
DPC AMS AMS 19 02 10.0
comp=Z,800nm,16.5s
DPC eSCP ScP 19 02 57.1 +0.5
DPC Dobruska-Polom 16.63 337 eP Pn 18 54 41.5 +0.6
DPC MLR MLR
comp=Z,800nm,16.5s
KHC Kasperske Hory 16.64 329 Pn Pn 18 54 40.9 -0.2
KHC IAmb IAmb 18 54 45.3
comp=Z,285nm,0.9s
KHC Kasperske Hory 16.64 329 eP Pn 18 54 41.0 -0.1
KHC epP pP 18 54 52.0 -3.5
KHC Kasperske Hory 16.64 329 ⇑P Pn 18 54 40.9 -0.2
KHC Kasperske Hory 16.64 329 eP Pn 18 54 41.0 -0.1
DFRA Djebel Bou Aff 16.68 280 P P 18 54 43.3 +0.1
RETA Reutte 16.79 321 i Pn Pn 18 54 43.3 +0.3
comp=Z,54nm,0.5s,SNR=41
GOPC GO Pecny, Ondr 16.79 333 eP Pn 18 54 43.4 +0.5
GOPC GO Pecny, Ondr 16.79 333 eP Pn 18 54 43.4 +0.5
DAVOX Davos/Dischmat 16.82 317 P Pn 18 54 44.1 +0.5
comp=Z,49nm,0.6s,baz=148,slow=12,SNR=40
DAVOX S Sn 18 57 39.5 -10
comp=Z,23nm,0.9s,baz=243,slow=23,SNR=1.6
DAVOX LR LR 19 04 00.9
comp=Z,347nm,18.1s,baz=122,slow=47
OSTC Ostas 16.84 337 eP Pn 18 54 44.1 +0.6
GROC Groznyy 16.85 57 eP P 18 54 45.7 +0.8
GROC eS S 18 57 54.1 -3.3
GROC pmax pmax
comp=Z,183nm,0.8s
UPC Upice 16.86 337 eP P 18 54 44.5 -0.5
UPC Upice 16.86 337 eP P 18 54 44.5 -0.5
BEL Belsk 16.89 348 eP P 18 54 45.8 +0.5
BEL Belsk 16.89 348 ⇓P P 18 54 45.5 +0.2
PRU Pruhonice 16.94 333 eP Pn 18 54 44.7 -0.1
PRU Pruhonice 16.94 333 eP Pn 18 54 44.7 -0.1
TUE Stuetta 16.94 316 Pn 18 54 45.1 +0.1
TUE Stuetta 16.94 316 ⇓P P 18 54 47.6 +1.5
KSP Ksiaz 17.07 338 eP P 18 54 46.9 -0.3
KSP Ksiaz 17.07 338 ⇑P P 18 54 46.9 -0.3
MONC Moncucco Torin 17.07 310 ⇑P P 18 54 46.9 -0.4
SET Setif 17.08 279 P P 18 54 52.0 +4.4
DAVA Damuels 17.13 319 i Pn Pn 18 54 47.2 -0.1
comp=Z,166nm,0.7s,SNR=70
DAVA eSn Sn 18 57 51.0 -6.0
comp=Z,58nm,0.7s
DAVA Damuels 17.13 319 ⇑P Pn 18 54 47.3 0.0
PVCC Panska Ves 17.38 334 eP Pn 18 54 50.1 0.0
PVCC eSCP ScP 19 02 58.4 +0.3
PVCC Panska Ves 17.38 334 eP Pn 18 54 50.1 0.0
AKT Akhty 17.72 64 eP P 18 54 55.7 +1.0
AKT pmax pmax
comp=Z,50nm,0.9s
AKT pmax pmax
comp=E,20nm,1.1s
AKT pmax pmax
comp=N,20nm,1.2s
BNI Bardonecchia 17.85 309 Pn 18 54 56.2 +0.1
BNI Bardonecchia 17.85 309 P Pn 18 54 56.2 +0.1
BNI pmax pmax
comp=Z,71nm,1.0s
BRG Berggiesshubel 17.89 333 i P P 18 54 55.9 -0.3
BRG Amp 18 54 58.5
comp=Z,325nm,0.8s
BRG Berggiesshubel 17.89 333 S Sn 18 58 14.0 -1.0
BRG Amp 19 00 37.0
comp=Z,0.9nm,7.0s
BRG Amp 19 00 43.0
comp=N,0.7nm,6.9s
BRG Amp 19 00 55.0
comp=E,0.7nm,9.3s
BRG ⇑SP ScP 19 02 59.3 +0.2
BRG Amp 19 03 00.2
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 17.89 333 i P P 18 54 55.9 -0.3
BRG S Sn 18 58 14.0 -1.0
BRG pmax pmax
comp=Z,325nm,0.8s
BRG MLR MLR
comp=N,661nm,6.9s
BRG MLR MLR
comp=E,686nm,9.3s
MAK Makhachkala 17.95 59 eP Pn 18 54 58.5 +1.3
MAK eS S 18 58 19.7 +0.5
MAK pmax pmax
comp=Z,880nm,1.1s
MAK MLR MLR
comp=Z,245nm,14.0s
NKC Novy Kostel 17.96 330 eP P 18 54 57.1 0.0
NKC Novy Kostel 17.96 330 eP P 18 54 57.1 0.0
SENIN Lac Senin/Sane 18.08 313 Pn 18 54 59.1 +0.1
GRA1 Grafenberg Arr 18.08 327 P Pn 18 54 58.6 -0.1
GRA1 IAmb IAmb 18 55 00.7
comp=Z,206nm,1.0s
GRF Grafenberg Arr 18.08 327 P Pn 18 54 58.6 -0.1
GRF pmax pmax
comp=Z,206nm,1.0s
GRFO Grafenberg 18.08 327 P 18 54 58.5 +0.1
GRFO IAmb IAmb 18 55 00.6
comp=Z,202nm,1.0s
GRFO Grafenberg 18.08 327 P P 18 54 58.5 +0.1
GRFO pmax pmax
comp=Z,202nm,1.0s
MAHO Mahon 18.10 291 P Pn 18 54 59.3 +0.3
VSR Storozhevoye 18.25 26 eP Pn 18 55 00.6 -0.2
VSR S Sn 18 58 23.0 -0.8
VSR pmax pmax
comp=Z,80nm,1.0s
STU Stuttgart 18.42 322 P P 18 55 02.4 +0.3
STU Stuttgart 18.42 322 P P 18 55 02.4 +0.3
STU pmax pmax
comp=Z,378nm,0.8s
CLL Collm 18.59 333 P Pn 18 55 04.5 -0.3
CLL IAmb IAmb 18 55 07.1
comp=Z,206nm,0.6s
CLL Collm 18.59 333 i P P 18 55 03.5 -0.4
comp=Z,47nm,0.8s
CLL i Pmax 18 55 05.2
comp=Z,226nm,0.8s
CLL ePlp 18 55 07.0
comp=Z,300nm,17.5s
CLL i x x 18 55 15.0
comp=Z,164nm,0.7s
CLL eS Sn 18 58 26.0 -5.8
comp=N,300nm,22.0s
CLL eS Sn 18 58 26.0 -5.8
comp=E,300nm,19.4s
CLL eS Sn 18 58 26.0 -5.8
comp=Z,400nm,18.1s
CLL eSS SnSn 18 58 54.0 +7.4
CLL LmH 19 02 00.0
comp=N,600nm,21.1s
CLL LmH 19 02 00.0
comp=E,1μm,21.5s
CLL Collm 18.59 333 i P P 18 55 03.5 -0.4
CLL eS Sn 18 58 26.0 -5.8
CLL pmax pmax
comp=Z,47nm,0.8s
BFO Black Forest 18.59 319 P P 18 55 04.2 +0.2
BFO Black Forest 18.59 319 ⇑P P 18 55 04.0 -0.1
BFO Black Forest 18.59 319 P P 18 55 04.3 +0.2
BFO pmax pmax
comp=Z,107nm,0.8s
VORR Voronezh 18.64 26 ⇑P P 18 55 04.9 +0.4
VORR S Sn 18 58 30.7 -2.5
VORR pmax pmax
comp=Z,140nm,0.9s
GKP Gorka Klasztor 18.98 343 eP P 18 55 08.3 +0.1
GKP Gorka Klasztor 18.98 343 eP P 18 55 08.4 +0.1
MNK Minsk 19.10 3 iP P 18 55 08.0 -1.5
comp=E,16nm,0.8s
MNK i P P 18 55 08.0 -1.5
comp=N,244nm,0.9s
MNK i P P 18 55 08.0 -1.5
comp=Z,343nm,0.8s,baz=184
MNK i pP pP 18 55 20.8 -2.0
MNK i S S 18 58 42.1 -0.5
MNK i sS sS 18 58 58.2 -5.7
MNK i LR LR 19 01 44.8
MNK i LRM MLR 19 03 47.4
comp=Z,253nm,17.8s
MNK i LRM MLR 19 04 02.2
comp=E,56nm,19.5s
MNK i LRM MLR 19 04 11.6
comp=N,279nm,16.9s
MNK Minsk 19.10 3 eP P 18 55 08.0 -1.5
ECH Echery 19.16 318 P P 18 55 10.1 -0.2
ECH Echery 19.16 318 ⇑P P 18 55 10.2 -0.2
ECH Echery 19.16 318 P P 18 55 10.1 -0.2
ECH pmax pmax
comp=Z,144nm,1.2s
VRH Novokhopyorsk 19.23 30 eP Pn 18 55 11.9 -0.6
VRH S S 18 58 41.5 -3.9
VRH pmax pmax
comp=Z,500nm,0.8s
RUE Ruedersdorf 19.28 336 eP P 18 55 11.1 -0.4
SSB Saint Sauveur 19.32 307 P P 18 55 11.7 -0.4
SSB Saint Sauveur 19.32 307 ⇓P P 18 55 11.3 -0.7
SSB Saint Sauveur 19.32 307 P P 18 55 11.7 -0.4
SSB pmax pmax
comp=Z,110nm,0.8s
LPSR Galich'ya Gora 19.33 23 eP P 18 55 12.3 +0.3
LPSR eS S 18 58 43.2 -4.1
LPSR pmax pmax
comp=Z,280nm,1.0s
NACGM Naroch 19.48 1 ⇑P P 18 55 12.5 -1.1
comp=Z,215nm,0.8s,baz=180
KLNR Kaliningrad 19.66 349 iP P 18 55 14.7 -0.9
KLNR pmax pmax
comp=Z,1μm,1.2s
IDID Didziasalis 19.89 1 eP P 18 55 06.4 -12
IIGN Ignalina 19.92 360 eP P 18 54 57.4 -21
IIGN IAmb IAmb 18 55 24.4
comp=Z,117nm,0.9s
ISAL Salakas 20.15 359 eP P 18 55 21.5 +0.6
PABE Paberze 20.15 356 P P 18 55 20.4 -0.5
PABE Paberze 20.15 356 eP P 18 55 21.3 +0.4
IZAR Zarasai 20.32 360 eP P 18 55 20.4 -2.4
IZAR IAmb IAmb 18 55 31.8
comp=Z,28nm,0.6s
RAYN Ar Rayn 20.36 120 Pn 18 55 25.6 -0.6
RAYN Ar Rayn 20.36 120 ⇓P Pn 18 55 25.5 -0.6
RAYN Ar Rayn 20.36 120 P Pn 18 55 25.7 -0.4
RAYN Ar Rayn 20.36 120 iP Pn 18 55 25.2 -1.0
SNR=36
RAYN Ar Rayn 20.36 120 P Pn 18 55 25.6 -0.5
RAYN S S 18 59 08.0 -0.4
WLF Walferdange 20.54 320 P P 18 55 25.7 +0.5
WLF IAmb IAmb 18 55 26.8
comp=Z,231nm,0.9s
WLF Walferdange 20.54 320 P P 18 55 25.7 +0.5
WLF pmax pmax
comp=Z,231nm,0.9s
WLF Walferdange 20.54 320 dP P 18 55 25.7 +0.5
comp=Z,167nm,0.9s
VSVD Vaisvydziai 20.63 356 eP P 18 55 25.2 -0.8
PBUR Paburge 20.83 353 eP P 18 55 27.7 -0.5
OBN Obninsk 20.90 16 P P 18 55 27.6 -1.4
comp=Z,66nm,0.7s,baz=207,slow=2.2,SNR=38
OBN S S 18 59 14.3 -3.9
comp=Z,14nm,0.9s,baz=36,slow=22,SNR=3.8
OBN LR LR 19 04 37.2
comp=Z,110nm,19.9s,baz=202,slow=40
comp=Z,66nm,0.7s
OBN Obninsk 20.90 16 P P 18 55 27.5 -1.4
OBN Obninsk 20.90 16 ⇑P P 18 55 30.2 +1.2
OBN Obninsk 20.90 16 c eP P 18 55 27.6 -1.4
OBN eS S 18 59 20.2 +2.0
OBN pmax pmax
comp=Z,313nm,0.9s
OBN MLR MLR
comp=Z,420nm,18.0s
BHOU Houvegnez 21.03 321 dP P 18 55 30.6 +0.1
comp=Z,180nm,0.8s
BTNL Ternell 21.11 322 dP P 18 55 32.0 +0.6
comp=Z,323nm,0.9s

RGN **Rugen** 21.18 339 P **P** 18 55 31.4 -0.6
RGN lAmb lAmb 18 55 32.6
comp=Z,246nm,0.9s
MEM Membach 21.19 322 *d*P **P** 18 55 32.9 +0.8
comp=Z,523nm,0.8s
BSD Bornholm Skovb 21.24 342 *i* P **P** 18 55 30.3 -2.3
BSD lAmb lAmb 18 55 37.0
comp=Z,127nm,0.6s
BSD Bornholm Skovb 21.24 342 ⇑P **P** 18 55 30.6 -2.0
BSD Bornholm Skovb 21.24 342 *e*P **P** 18 55 31.0 -1.6
RCHB Rochefort 21.31 320 *d*P **P** 18 55 33.4 -0.1
comp=Z,145nm,0.8s
BSTI Sart Tilman 21.39 321 *d*P **P** 18 55 35.4 +1.1
comp=Z,59nm,0.8s
BCLA Clavier 21.43 321 *d*P **P** 18 55 35.3 +0.5
comp=Z,266nm,0.9s
BEBN Eben Emael 21.47 322 *d*P **P** 18 55 35.6 +0.5
comp=Z,148nm,1.0s
BGES Gesves 21.52 321 *d*P **P** 18 55 36.0 +0.3
comp=Z,121nm,0.7s
BMRD Maredsous 21.64 320 *d*P **P** 18 55 37.0 0.0
comp=Z,148nm,0.8s
ODJA Bouhanifia 21.66 278 P **P** 18 55 39.0 +1.6
MOS Moscow 21.72 17 *e*P **P** 18 55 35.1 -2.6
MOS *e* 18 56 15.5
MOS *e*S **S** 18 59 30.3 -4.1
MOS *e**SS **sS** 18 59 56.8 +0.6
MOS pmax pmax
comp=Z,500nm,2.3s
MOS pmax pmax
comp=Z,128nm,1.1s
MOS smax smax
comp=E,700nm,2.2s
MOS smax smax
comp=N,400nm,1.4s
CLF Chambon-Foret 21.89 313 P **P** 18 55 40.2 +0.5
CLF Chambon-Foret 21.89 313 ⇑P **P** 18 55 39.0 -0.7
SNF Seneffe 22.01 320 *d*P **P** 18 55 40.9 -0.1
comp=Z,373nm,0.8s
LUNU Lund 22.09 340 *i* P **P** 18 55 38.9 -2.8
BLEU Blekinge 22.10 344 *i* P **P** 18 55 38.3 -3.5
CART Cartagena 22.13 284 P **P** 18 55 42.4 +0.1
CART Cartagena 22.13 284 P **P** 18 55 42.0 -0.4
LLD Lille Linde 22.19 338 *i* P **P** 18 55 43.4 +0.6
LLD lAmb lAmb 18 55 45.0
comp=Z,156nm,0.6s
EMUR La Murta 22.31 284 P **P** 18 55 44.1 -0.3
SLIT Slitere, Latvi 22.38 354 *e*P **P** 18 55 43.4 -1.5
COP Copenhagen 22.42 339 *i* P **P** 18 55 43.2 -2.1
COP lAmb lAmb 18 55 45.4
comp=Z,135nm,0.7s
ETOB Tobarra 22.53 286 P **P** 18 55 46.1 -0.7
BJUU Bjuv 22.59 340 *i* P **P** 18 55 44.2 -3.0
BELG Belogornoye 22.68 35 P **P** 18 55 47.9 -0.2
comp=Z,294nm,0.4s,baz=286,slow=1.3,SNR=219
BELG S **S** 18 59 49.1 -2.5
comp=Z,156nm,0.9s,baz=333,slow=23,SNR=22
BELG LR LR 19 06 05.2
comp=Z,235nm,19.9s,baz=235,slow=40
comp=Z,294nm,0.4s
DEL Delary 22.71 342 *i* P **P** 18 55 44.8 -3.6
SAKB Bahrain 22.72 108 P **P** 18 55 48.5 -0.2
SAKB S **S** 18 59 51.4 -1.3
VSU Vasula 23.04 0 *i* P **P** 18 55 51.5 -0.2
VSU Vasula 23.04 0 *e*P **P** 18 55 50.7 -1.0
SHMA Al-Shehemyia 23.11 108 P **P** 18 55 53.3 +0.6
SHMA S **S** 18 59 59.7 +0.6
ENIJ Nijar 23.13 282 P **P** 18 55 52.9 0.0
FIGM Figuig 23.23 270 P **P** 18 55 56.3 +2.3
MTSE Matsula 23.36 357 *e*P **P** 18 55 54.1 -0.7
FABU Falkenberg 23.48 341 *i* P **P** 18 55 53.2 -2.7
TAF Taforalt 23.57 277 P **P** 18 55 60.0 +2.9
SMRA Abu-Samra 23.58 110 P **P** 18 55 57.8 +0.7
SMRA S **S** 19 00 05.6 -1.1
EBER Berja 23.68 282 P **P** 18 55 58.9 +0.6
UCM Universidad Co 23.87 291 P **P** 18 56 00.4 +0.7
BORU Boraas 24.03 342 *i* P **P** 18 55 59.3 -1.6
ELSH Elham, Standar 24.04 319 *e*P **P** 18 56 01.4 +0.4
ELSH lAmb lAmb 18 56 02.7
comp=Z,589nm,0.8s
ONAU Onsala 24.04 341 *i* P **P** 18 55 59.6 -1.4
MUD Monsted U'grnd 24.08 336 *i* P **P** 18 56 00.1 -1.3
MUD lAmb lAmb 18 56 01.8
comp=Z,42nm,0.7s
MUD Monsted U'grnd 24.08 336 ⇑P **P** 18 56 00.5 -0.8
HMNX Herstmonceux 24.33 317 *e*P **P** 18 56 03.7 0.0
HMNX lAmb lAmb 18 56 05.0
comp=Z,571nm,1.2s
ESBB Sonseca Array 24.41 289 P **P** 18 56 05.5 +0.9
ESDC Sonseca Array 24.41 289 P **P** 18 56 05.3 +0.7
comp=Z,31nm,0.6s,baz=81,slow=9.4,SNR=324
ESDC pP **pP** 18 56 21.0 +1.5
comp=Z,48nm,0.9s,baz=81,slow=9.0,SNR=9.8
ESDC ScP **ScP** 19 03 15.4 0.0
comp=Z,1.7nm,1.0s,baz=55,slow=2.1,SNR=4.5
comp=Z,31nm,0.6s
ESDC Sonseca Array 24.41 289 P **P** 18 56 04.9 +0.3
PUL Pulkovo 24.49 5 *c**e*P **P** 18 56 05.6 +0.6
PUL pmax pmax
comp=Z,776nm,1.0s
SLWR Sila 24.61 111 P **P** 18 56 07.4 +0.9
SLWR S **S** 19 00 22.3 -1.0
ELMS Elmsett, Ipswi 24.61 320 *e*P **P** 18 56 05.8 -0.5
ELMS lAmb lAmb 18 56 07.6
comp=Z,517nm,0.9s
PAB San Pablo 24.71 289 P **P** 18 56 07.8 +0.4
PAB San Pablo 24.71 289 P **P** 18 56 08.8 +1.4
PAB San Pablo 24.71 289 ⇓P **P** 18 56 08.1 +0.7
PAB San Pablo 24.71 289 P **P** 18 56 07.8 +0.4
PAB pmax pmax
comp=Z,68nm,1.0s
MEF Metsahovi 24.84 358 *e*P **P** 18 56 08.5 +0.2
EMAL Malaga-Limoner 24.93 282 P **P** 18 56 10.2 +0.9
PVLZ Peæn de 25.04 278 P **P** 18 56 11.3 +0.9
JSA Saint Aubin 25.05 312 *e*P **P** 18 56 09.9 -0.4
JSA lAmb lAmb 18 56 11.7
comp=Z,144nm,0.9s
JSA Saint Aubin 25.05 312 ⇑P **P** 18 56 10.1 -0.1
JVM Valle D.L. Mar 25.08 312 *e*P **P** 18 56 10.1 -0.5
WACR West Acre 25.14 321 *e*P **P** 18 56 10.2 -0.9
WACR lAmb lAmb 18 56 12.8
comp=Z,423nm,0.8s
WOL Wolverton 25.41 317 *e*P **P** 18 56 12.9 -0.6
WOL lAmb lAmb 18 56 13.7
comp=Z,293nm,0.6s
GEYT Alibeck 25.47 75 P **P** 18 56 15.5 +1.2
comp=Z,329nm,0.7s,baz=269,slow=9.1,SNR=205
comp=Z,329nm,0.7s
GHWR Ruwais 25.57 109 P **P** 18 56 16.7 +1.5
GHWR S **S** 19 00 38.6 0.0
STRU Stroemstad 25.66 342 *i* P **P** 18 56 12.9 -2.8
HOMB Homborsund 25.77 338 *e*P **P** 18 56 18.0 +1.4
MDT Midelt 25.78 273 P **P** 18 56 18.2 +1.1
comp=Z,90nm,0.9s,baz=86,slow=10,SNR=70
MDT LR LR 19 09 17.0
comp=Z,350nm,19.1s,baz=78,slow=43
comp=Z,90nm,0.9s
MDT Midelt 25.78 273 P **P** 18 56 18.7 +1.5
RAF Rauma 25.79 355 *e*P **P** 18 56 16.5 -0.3
ARF Arif 25.84 270 P **P** 18 56 20.0 +2.2
CHEFC Chefchaouen 25.89 279 P **P** 18 56 21.0 +2.8
LMK Market Rasen 26.02 322 *e*P **P** 18 56 18.6 -0.4
IFR Ifrane 26.04 275 P **P** 18 56 21.3 +1.7
FINES FINESS Array B 26.04 360 P **P** 18 56 18.4 -0.7
comp=Z,19nm,0.3s,baz=160,slow=11,SNR=205
FINES PcP **PcP** 18 59 45.4 0.0
comp=Z,12nm,0.7s,baz=201,slow=2.7,SNR=2.8
FINES S **S** 19 00 39.5 -5.7
comp=Z,11nm,0.8s,baz=169,slow=18,SNR=3.1
FINES ScP **ScP** 19 03 18.1 -1.4
comp=Z,7.8nm,0.8s,baz=126,slow=3.3,SNR=4.3
comp=Z,19nm,0.3s
FIA1 FINESS Array S 26.04 360 P **P** 18 56 18.3 -0.8
HFS Hagfors 26.07 345 P **P** 18 56 17.8 -1.6
comp=Z,30nm,0.6s,baz=147,slow=10,SNR=117
HFS pP **pP** 18 56 34.8 +0.8
comp=Z,34nm,0.8s,baz=157,slow=13,SNR=5.3
HFS LR LR 19 07 44.4
comp=Z,483nm,21.0s,baz=168,slow=39
comp=Z,30nm,0.6s
CZD Col de Zad 26.08 274 P **P** 18 56 22.2 +2.1
VALR Valaam 26.11 5 *i* P **P** 18 56 19.3 -0.4
VALR pmax pmax
comp=Z,57nm,0.9s
STRD Stroud 26.14 318 *e*P **P** 18 56 19.7 -0.4
STRD lAmb lAmb 18 56 22.1
comp=Z,273nm,0.6s
CWF Charnwood Fore 26.15 320 *e*P **P** 18 56 19.3 -0.9
CWF lAmb lAmb 18 56 22.4
comp=Z,181nm,1.0s
SNART Snartemo 26.23 337 *i* P **P** 18 56 18.8 -2.0
SNART Snartemo 26.23 337 *e*P **P** 18 56 20.5 -0.4
OLDB Oldbury-Upon-S 26.31 317 *e*P **P** 18 56 20.4 -1.2
GOLM Goulmima 26.36 271 P **P** 18 56 25.0 +2.5
MZWR Madinat Zayed 26.46 109 P **P** 18 56 24.3 +1.0
MZWR S **S** 19 00 50.3 -2.3
MONM Monmouth 26.53 317 *e*P **P** 18 56 22.3 -1.3
MONM lAmb lAmb 18 56 24.5
comp=Z,143nm,1.1s
MZR Muzera 26.56 110 *i* P **P** 18 56 25.2 +1.0
SNR=7.3
MZR Muzera 26.56 110 P **P** 18 56 25.3 +1.0
MZR S **S** 19 00 51.4 -3.0
OSL Oslo 26.57 342 *e*P **P** 18 56 22.5 -1.3
PBRG Braganca 26.58 294 *e*P **P** 18 56 24.9 +0.6
comp=Z,46nm,1.6s
KONO Kongsberg 26.61 341 P **P** 18 56 22.2 -2.0
KONO Kongsberg 26.61 341 P **P** 18 56 22.2 -2.0
KONO pmax pmax
comp=Z,41nm,1.0s
KONO Kongsberg 26.61 341 *e*P **P** 18 56 22.4 -1.9
LBWR Ladybower, Pea 26.70 321 *e*P **P** 18 56 24.3 -0.9
LBWR lAmb lAmb 18 56 25.1
comp=Z,86nm,0.9s
MCH1 Michaelchurch 26.70 317 *e*P **P** 18 56 24.2 -1.1
MCH1 lAmb lAmb 18 56 25.4
comp=Z,97nm,0.6s
MCH1 Michaelchurch 26.70 317 ⇓P **P** 18 56 24.6 -0.7
MVO Moncorvo 26.77 292 *e*P **P** 18 56 27.1 +1.0
comp=Z,80nm,1.6s
KLMR Klimovskoe 26.79 14 *e*P **P** 18 56 25.3 -0.6
KLMR *e*P **P** 18 56 25.3 -0.6
KLMR *e*P **P** 18 56 25.3 -0.6
KLMR AMP 18 56 27.6
comp=Z,113nm,0.8s
KLMR *e*pP **pP** 18 56 41.1 +0.3
KLMR *e*S **S** 19 00 54.1 -3.1
KLMR *e*S **S** 19 00 54.1 -3.1
KLMR Klimovskoe 26.79 14 *e*P **P** 18 56 25.2 -0.6
KLMR *e**PP **pP** 18 56 41.0 +0.3
KLMR *e*S **S** 19 00 54.1 -3.1
KLMR pmax pmax
comp=Z,113nm,0.8s
STNC Stoke 26.80 320 *e*P **P** 18 56 26.1 0.0
STNC lAmb lAmb 18 56 26.7
comp=Z,331nm,0.7s
GDLE Glaisdale, N Y 26.80 324 *e*P **P** 18 56 25.2 -0.9
GDLE lAmb lAmb 18 56 28.1
comp=Z,166nm,0.6s
PBAR Barrancos 26.86 286 *e*P **P** 18 56 27.2 +0.4
comp=Z,56nm,0.7s
PBAR *e*pP **pP** 18 56 44.8 +3.1
HLM1 Long Mynd 26.88 319 *e*P **P** 18 56 25.8 -1.0
HLM1 lAmb lAmb 18 56 26.7
comp=Z,132nm,0.7s
AJN Ajban 26.91 106 P **P** 18 56 28.4 +1.1
AJN S **S** 19 01 00.0 +0.4
HPK Haverah Park 26.95 322 *e*P **P** 18 56 26.2 -1.1
HPK lAmb lAmb 18 56 29.6
comp=Z,109nm,0.9s
UMQ Umm Al-Quwin 26.97 103 P **P** 18 56 29.0 +1.1
PMRV Marv??o 27.06 289 *e*P **P** 18 56 28.9 +0.3
comp=Z,49nm,1.3s
PMRV *e*pP **pP** 18 56 46.2 +2.6
PMRV eLR LR 19 02 07.0
comp=Z,231nm,16.0s
NC602 NORSAR Array S 27.07 344 P **P** 18 56 26.8 -1.7
NC602 lAmb lAmb 18 56 46.4
comp=Z,91nm,1.0s
SHME Shamm 27.11 102 P **P** 18 56 29.7 +0.7
SHME S **S** 19 01 02.6 -0.2
PCBR Castelo Branco 27.12 290 *e*P **P** 18 56 28.3 -0.7
comp=Z,45nm,1.3s
PCBR *e*pP **pP** 18 56 42.5 -1.5
HTL Hartland 27.13 315 *e*P **P** 18 56 28.8 -0.2
HTL lAmb lAmb 18 56 30.2
comp=Z,53nm,0.7s
TZRR Tazzarine 27.14 269 P **P** 18 56 30.5 +1.0
ASUD Al Ashush, Dub 27.14 105 *i* P **P** 18 56 30.6 +1.2
SNR=12
ASUD Al Ashush, Dub 27.14 105 P **P** 18 56 30.9 +1.5
SNR=12
MTE Manteigas 27.16 291 *e*P **P** 18 56 30.3 +0.8
comp=Z,40nm,1.1s
MTE *e*pP **pP** 18 56 47.4 +2.9
MTE Manteigas 27.16 291 P **P** 18 56 29.3 -0.2
NAZ Nazwa, Dubai 27.23 104 *i* P **P** 18 56 31.2 +1.1
SNR=17
NAZ Nazwa, Dubai 27.23 104 P **P** 18 56 31.5 +1.3
NAZ S **S** 19 01 00.9 -3.9
FOEL Foel Wylfa 27.23 319 *e*P **P** 18 56 29.4 -0.5
FOEL lAmb lAmb 18 56 30.1
comp=Z,204nm,0.7s
PESTR Estremoz 27.25 287 *e*P **P** 18 56 30.5 +0.2
comp=Z,37nm,0.8s
PESTR *e*pP **pP** 18 56 47.9 +2.7
PESTR Estremoz 27.25 287 P **P** 18 56 30.3 +0.1
PESTR Estremoz 27.25 287 ⇑P **P** 18 56 30.6 +0.4
ZHG ZHG 27.28 275 P **P** 18 56 34.1 +3.4
BANOM Banah 27.29 102 P **P** 18 56 31.5 +0.7
BANOM Banah 27.29 102 P **P** 18 56 31.9 +1.1
FAQ Al Faqa, Dubai 27.29 105 *i* P **P** 18 56 31.7 +0.9
SNR=9.5
FAQ Al Faqa, Dubai 27.29 105 P **P** 18 56 31.9 +1.1
FAQ S **S** 19 01 06.7 +0.9
PVRL Vila Real 27.29 293 *e*P **P** 18 56 31.8 +1.1
comp=Z,36nm,1.5s
PVRL *e*pP **pP** 18 56 42.8 -2.9
AKTO Aktyubinsk 27.30 47 P **P** 18 56 31.5 +0.9
comp=Z,48nm,0.5s,baz=253,slow=7.5,SNR=147
AKTO LR LR 19 12 20.4
comp=Z,159nm,19.9s,baz=235,slow=47
comp=Z,48nm,0.5s
NAO01 NORSAR Array S 27.32 343 P **P** 18 56 29.5 -1.2
NAO01 lAmb lAmb 18 56 30.9
comp=Z,115nm,0.8s
NAO01 NORSAR Array S 27.32 343 *e*P **P** 18 56 29.4 -1.2
BLS5 Blasjo 27.33 338 *e*P **P** 18 56 29.6 -1.2
POLO Lamas de Olo 27.36 293 *e*P **P** 18 56 32.5 +1.2
comp=Z,27nm,1.5s
POLO *e*pP **pP** 18 56 47.0 +0.8
NC405 NORSAR Array S 27.37 344 P **P** 18 56 28.2 -2.9
NC405 lAmb lAmb 18 56 39.3
comp=Z,54nm,0.7s
ZGR Zagora 27.39 268 P **P** 18 56 32.4 +0.6
NB201 NORSAR Array S 27.41 344 P **P** 18 56 29.9 -1.6
NB201 lAmb lAmb 18 57 09.6
comp=Z,111nm,1.1s
NB2 NORSAR Subarra 27.42 344 P **P** 18 56 30.1 -1.5
comp=Z,6.6nm,0.5s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.42 344 P **P** 18 56 30.1 -1.5
slow=9.3
NOA **NORSAR Array B** 27.42 344 P **P** 18 56 29.8 -1.7
comp=Z,4.5nm,0.4s,baz=162,slow=6.5,SNR=60
comp=Z,4.5nm,0.4s
PVIS Viseu 27.42 291 *e*P **P** 18 56 32.7 +0.8
comp=Z,70nm,1.1s
PVIS *e*pP **pP** 18 56 48.1 +1.2
MASF Masafi 27.44 103 P **P** 18 56 33.1 +0.9
MASF S **S** 19 01 07.1 -1.0
MSFE Esma-Masafi 27.44 103 P **P** 18 56 32.6 +0.5
LLW Llanuwychllyn 27.46 319 *e*P **P** 18 56 31.6 -0.3
PVAQ Vaqueiros 27.47 284 *e*P **P** 18 56 32.6 +0.4
comp=Z,125nm,1.6s
PVAQ *e*pP **pP** 18 56 48.0 +0.8
PVAQ eLR LR 19 01 40.0
comp=Z,222nm,18.0s
PVAQ Vaqueiros 27.47 284 P **P** 18 56 32.3 0.0
PVAQ Vaqueiros 27.47 284 P **P** 18 56 32.4 +0.1
PVAQ Vaqueiros 27.47 284 ⇓P **P** 18 56 32.2 0.0
NBO00 NORSAR Array S 27.51 343 P **P** 18 56 30.1 -2.3
NBO00 lAmb lAmb 18 56 32.0
comp=Z,61nm,0.8s
PBEJ Beja 27.52 286 *e*P **P** 18 56 33.3 +0.6
comp=Z,64nm,1.0s
PBEJ *e*pP **pP** 18 56 49.4 +1.7
PCAB Cabril 27.54 294 *e*P **P** 18 56 34.1 +1.2
comp=Z,89nm,1.5s
PCAB *e*pP **pP** 18 56 48.7 +0.9
NC303 NORSAR Array S 27.55 344 P **P** 18 56 30.8 -1.9
MDH Madha 27.58 103 P **P** 18 56 33.7 +0.4
MDH Madha 27.58 103 P **P** 18 56 34.4 +1.1
MDH S **S** 19 01 08.9 -1.5
EDMD Edmundbyers 27.58 324 *e*P **P** 18 56 32.2 -0.9
EDMD lAmb lAmb 18 56 35.6
comp=Z,156nm,0.7s
EVO Evora 27.60 287 *e*P **P** 18 56 33.9 +0.5
comp=Z,51nm,1.4s
EVO *e*pP **pP** 18 56 48.5 +0.2
EVO Evora 27.60 287 P **P** 18 56 34.0 +0.7
ODD1 Odda 27.67 338 *e*P **P** 18 56 32.7 -1.1
UOSS Minazif 27.68 104 P **P** 18 56 34.5 +0.3
UOSS lAmb lAmb 18 56 59.8
comp=Z,87nm,1.1s
UOSS Minazif 27.68 104 ⇓P **P** 18 56 34.7 +0.5
UOSS Minazif 27.68 104 *i* P **P** 18 56 34.5 +0.3
SNR=7.3
UOSS Minazif 27.68 104 P **P** 18 56 35.0 +0.8
UOSS S **S** 19 01 09.8 -2.1
HATD Hatta, Dubai 27.68 104 *i* P **P** 18 56 34.9 +0.7
SNR=11
HATD Hatta, Dubai 27.68 104 P **P** 18 56 35.3 +1.0
HATD S **S** 19 01 11.6 -0.3
ASHO Ashiyiah 27.69 105 *i* P **P** 18 56 34.8 +0.4
SNR=23
ASHO Ashiyiah 27.69 105 P **P** 18 56 35.1 +0.7
SNR=23
ASHO S **S** 19 01 11.2 -0.9
KIRV Kirov 27.70 26 P **P** 18 56 33.5 -0.4
comp=Z,85nm,0.8s,baz=232,slow=2.6,SNR=36
KIRV S **S** 19 01 08.3 -3.2
comp=Z,32nm,0.6s,baz=126,slow=14,SNR=12
KIRV LR LR 19 08 25.8
comp=Z,186nm,20.4s,baz=205,slow=38
comp=Z,85nm,0.8s
PCVE Castro Verde 27.70 285 *e*P **P** 18 56 34.5 +0.2
comp=Z,100nm,1.5s
PCVE *e*pP **pP** 18 56 50.1 +0.9
PGAV Gavieira, Arco 27.73 294 *e*P **P** 18 56 38.8 +4.2
PGAV *e*pP **sP** 18 56 53.4 -3.5
PMTG Montargil 27.73 288 *e*P **P** 18 56 34.4 -0.1
comp=Z,64nm,1.6s
NC204 NORSAR Array S 27.73 344 P **P** 18 56 33.3 -1.1
NC204 lAmb lAmb 18 56 45.1
comp=Z,57nm,0.8s
ALNE Al Ain 27.76 106 *i* P **P** 18 56 35.9 +0.9
SNR=31
ALNE Al Ain 27.76 106 P **P** 18 56 36.1 +1.1
SNR=14
ALNE S **S** 19 01 11.5 -1.7
MESJ Messejana 27.82 285 *e*P **P** 18 56 35.3 -0.1
MESJ lAmb lAmb 18 56 37.7
comp=Z,24nm,1.2s
MESJ *e*S **S** 19 01 14.1 +0.2
MESJ Messejana 27.82 285 *e*P **P** 18 56 36.0 +0.6
comp=Z,88nm,1.2s
MESJ *e*pP **pP** 18 56 51.3 +1.0
MESJ Messejana 27.82 285 P **P** 18 56 35.7 +0.3
MESJ Messejana 27.82 285 ⇓P **P** 18 56 35.4 0.0
MESJ Messejana 27.82 285 P **P** 18 56 35.7 +0.3
MESJ pmax pmax
comp=Z,63nm,1.0s
SKAR Skarslia 27.83 341 *e*P **P** 18 56 34.8 -0.5
PCAS Casmilo, Conde 27.89 290 *e*P **P** 18 56 39.1 +3.1
comp=Z,87nm,1.3s
PCAS *e*pP **pP** 18 56 52.6 +1.6
AVE Averroes 27.95 275 P **P** 18 56 36.3 -0.2
AVE lAmb lAmb 18 56 38.6
comp=Z,64nm,0.8s
AVE Averroes 27.95 275 P **P** 18 56 37.9 +1.3
AVE Averroes 27.95 275 P **P** 18 56 37.5 +1.0
UMZA Um Al Zommool 28.01 109 P **P** 18 56 38.1 +0.9
UMZA S **S** 19 01 15.1 -2.0
KESW Keswick, Cumbr 28.02 322 *e*P **P** 18 56 36.5 -0.4
KESW lAmb lAmb 18 56 40.4
comp=Z,108nm,0.9s
PNCL Nicolau / Gran 28.04 286 *e*P **P** 18 56 39.4 +2.1
comp=Z,80nm,1.5s
PNCL *e*pP **pP** 18 56 52.2 -0.1
ATD Arta Tunnel 28.07 144 P **P** 18 56 39.2 +1.5
comp=Z,7.4nm,0.6s,baz=335,slow=6.7,SNR=2.7
ATD LR LR 19 08 18.7
comp=Z,255nm,18.2s,baz=347,slow=37
comp=Z,7.4nm,0.6s
OUZM OUZ 28.07 270 P **P** 18 56 40.0 +2.1
AB31 Akbulak array 28.10 50 *i* P **P** 18 56 38.0 +0.3
ABKAR Akbulak array 28.10 50 P **P** 18 56 38.6 +0.9
ABKAR Akbulak array 28.10 50 P **P** 18 56 39.1 +1.4
ABKAR lAmb lAmb 18 57 13.1
comp=Z,38nm,0.7s
ABKAR Akbulak array 28.10 50 ⇑P **P** 18 56 38.6 +0.9
WPS Cemaes, Angles 28.16 319 *e*P **P** 18 56 38.5 +0.4
WPS lAmb lAmb 18 56 39.2
comp=Z,66nm,0.7s
MORF Marmelete 28.22 284 *e*pP **pP** 18 56 58.5 +4.5
MORF A A 18 57 04.9
comp=Z,48nm,1.8s
PACT Alcochete 28.22 287 *e*pP **pP** 18 56 52.4 -1.5
PACT A A 18 57 09.7
comp=Z,251nm,1.5s
PTEO Sao Teotonio 28.25 285 *e*P **P** 18 56 40.2 +1.0
comp=Z,102nm,1.2s
SOHO SOHO 28.34 105 *i* P **P** 18 56 40.8 +0.7
SNR=13
SOHO SOHO 28.34 105 P **P** 18 56 41.1 +1.0
SOHO S **S** 19 01 21.7 -0.6
PFVI Vila Bisbo 28.38 284 *e*P **P** 18 56 41.1 +0.7
comp=Z,51nm,1.4s
EKA Eskdalemuir Ar 28.43 324 P **P** 18 56 40.2 -0.4
comp=Z,59nm,0.6s,baz=132,slow=11,SNR=222
EKA pP **pP** 18 56 56.1 +0.9
comp=Z,28nm,0.7s,baz=109,slow=8.6,SNR=4.6
EKA LR LR 19 09 20.2
comp=Z,336nm,19.3s,baz=138,slow=39
comp=Z,59nm,0.6s
ESK Eskdalemuir 28.45 324 P **P** 18 56 39.8 -0.9
ESK lAmb lAmb 18 56 41.2
comp=Z,84nm,0.8s
ESK Eskdalemuir 28.45 324 *e*P **P** 18 56 39.8 -0.9
ESK lAmb lAmb 18 56 41.0
comp=Z,80nm,0.8s
ESK Eskdalemuir 28.45 324 ⇓P **P** 18 56 40.3 -0.4
ESK Eskdalemuir 28.45 324 P **P** 18 56 39.8 -0.9
ESK pmax pmax
comp=Z,84nm,0.9s
JASK Jask - Hormozg 28.57 101 P **P** 18 56 43.2 +1.0
SNR=26
IOMK Kirk Michael 28.59 321 *e*P **P** 18 56 41.7 -0.4
IOMK lAmb lAmb 18 56 42.5
comp=Z,271nm,0.8s
WIM Isle of Man 28.60 321 *e*P **P** 18 56 41.2 -0.8
EBL Broad Law 28.61 325 *e*P **P** 18 56 41.3 -0.9
ARQ Araqi 28.74 107 P **P** 18 56 45.0 +1.3
SNR=21
ARQ S **S** 19 01 29.3 +0.6
EDI Edinburgh 28.76 325 *e*P **P** 18 56 42.8 -0.7
EDI lAmb lAmb 18 56 43.7
comp=Z,148nm,0.7s
DOMB Dombas 28.80 343 *e*P **P** 18 56 43.4 -0.5
HYA Hoyanger 28.82 340 *e*P **P** 18 56 42.9 -1.0
NEWG New Galloway 28.84 323 *e*P **P** 18 56 43.3 -0.9
NEWG lAmb lAmb 18 56 44.6
comp=Z,82nm,0.8s
OUK Oukaimeden 28.88 271 P **P** 18 56 47.0 +1.7
GAL1 Galloway 28.96 322 *e*P **P** 18 56 45.1 -0.2
GAL1 lAmb lAmb 18 56 46.1
comp=Z,50nm,0.7s
DRUM Mains of Drumt 29.00 327 *e*P **P** 18 56 43.8 -1.9
DRUM lAmb lAmb 18 56 44.7
comp=Z,38nm,0.6s
EDU Dundee 29.03 326 *e*P **P** 18 56 44.7 -1.2
DSB Dublin 29.10 318 P **P** 18 56 46.1 -0.5
HOQ Hoqain 29.23 105 P **P** 18 56 48.8 +0.8
SNR=12
PGBU Glenifferbraes 29.32 324 *e*P **P** 18 56 48.4 -0.2
ADZR Andozero 29.44 11 *e*P **P** 18 56 49.0 -0.4
ADZR *e*S **S** 19 01 36.3 -2.5
ADZR pmax pmax
comp=Z,119nm,1.0s
INVG Invergeldie, C 29.44 325 *e*P **P** 18 56 48.5 -1.1
INVG lAmb lAmb 18 56 50.2
comp=Z,58nm,0.8s
FOO Floro 29.49 339 *e*P **P** 18 56 48.8 -1.1

BSY Bisya 29.58 107 P **P** 18 56 52.2 +1.1
DOK Doka 29.67 117 P **P** 18 56 52.9 +1.0
SNR=14
MCD Coleburn Disti 29.73 327 *e*P **P** 18 56 50.5 -1.6
CLGH Cloghs, Cushen 29.77 321 *e*P **P** 18 56 52.4 -0.1
CLGH IAmb IAmb 18 56 53.1
comp=Z,89nm,0.8s
WHFO Wadi Hawf 29.86 119 P **P** 18 56 54.5 +0.8
SNR=12
ABTO Aybut 29.90 120 P **P** 18 56 55.2 +1.1
BIDO Bidbid 29.91 105 P **P** 18 56 54.4 +0.4
LAWE Loch Awe, Argy 30.00 324 *e*P **P** 18 56 53.6 -0.8
LAWE IAmb IAmb 18 56 54.6
comp=Z,96nm,1.3s
SMDO Samad 30.08 106 P **P** 18 56 56.4 +0.8
ARU Arti 30.22 36 LR LR 19 12 36.6
comp=Z,288nm,18.2s,baz=230,slow=43
ARU Arti 30.22 36 P **P** 18 56 56.7 +0.3
ARU IAmb IAmb 18 56 57.6
comp=Z,119nm,1.3s
ARU Arti 30.22 36 ⇑P **P** 18 56 56.4 0.0
ARU Arti 30.22 36 *d* /P **P** 18 56 55.9 -0.6
ARU *PP **pP** 18 57 09.3 -2.0
ARU 18 57 55.0
ARU 18 59 55.5
ARU S **S** 19 01 51.9 +0.6
ARU *SS **sS** 19 02 17.7 +0.7
ARU SS **ScP** 19 03 31.8 -0.8
ARU pmax pmax
comp=Z,104nm,1.3s
ARU Arti 30.22 36 P **P** 18 56 56.5 0.0
ARU pP **pP** 18 57 10.5 -0.7
ARU ScP **ScP** 19 03 31.8 -0.8
NSS Namsos 30.43 348 *e*P **P** 18 56 57.1 -1.0
RBK Rabkut 30.45 119 P **P** 18 57 00.4 +1.5
LRW Lerwick 30.48 333 *e*P **P** 18 56 56.5 -2.2
JMDO Jabal Madar 30.48 107 P **P** 18 56 59.9 +0.7
IDGL Inch Island, C 30.49 321 *e*P **P** 18 56 58.2 -0.6
BIGH Upper Bighouse 30.55 329 *e*P **P** 18 56 57.6 -1.6
KPL Plockton 30.68 326 *e*P **P** 18 56 59.3 -1.1
IGLA Glengowla, Co 30.83 317 *e*P **P** 18 57 01.6 -0.2
DMTO DMTO 30.84 117 P **P** 18 57 03.1 +0.8
SNR=18
WBK Wadi Bani Khal 31.04 105 P **P** 18 57 05.4 +1.3
SNR=8.0
MHTO MHTO 31.14 109 P **P** 18 57 06.0 +1.2
DQM DQM 31.41 111 P **P** 18 57 08.3 +1.0
SVE Sverdlovsk 31.42 36 *de*P **P** 18 57 07.7 +0.7
SVE *eS **S** 19 02 10.0 0.0
SVE pmax pmax
comp=Z,120nm,0.7s
NGCH Negor - Chabah 31.43 99 P **P** 18 57 09.8 +2.3
SNR=11
TORD Torodi Ar. Bea 31.46 231 P **P** 18 57 07.8 0.0
comp=Z,32nm,0.8s,baz=37,slow=9.2,SNR=202
TORD pP **pP** 18 57 23.8 +0.6
comp=Z,68nm,0.8s,baz=35,slow=8.0,SNR=15
comp=Z,32nm,0.8s
TORD Torodi Ar. Bea 31.46 231 P **P** 18 57 07.3 -0.5
TORD IAmb IAmb 18 57 27.5
comp=Z,74nm,0.9s
MOR8 Moi Rana 31.58 351 *e*P **P** 18 57 07.8 -0.6
JLN Jalan Bani Buh 31.63 106 P **P** 18 57 10.5 +1.3
KONS Konsvik 32.08 350 *e*P **P** 18 57 11.8 -0.8
APA Apatity 32.44 5 ⇓ /P **P** 18 57 13.0 -2.8
APA *i* S **S** 19 02 21.0 -4.5
APA *i* SS **SnSn** 19 04 28.0 +4.2
APA pmax pmax
comp=Z,44nm,0.6s
FAUS Fauske 32.64 352 *e*P **P** 18 57 16.7 -0.8
LVZ Lovozero 32.85 6 P **P** 18 57 18.6 -0.9
LVZ Lovozero 32.85 6 P **P** 18 57 18.6 -0.9
LVZ pmax pmax
comp=Z,474nm,1.9s
LVZ Lovozero 32.85 6 P **P** 18 57 18.8 -0.7
LVZ pP **pP** 18 57 33.5 -1.1
LVZ ScP **ScP** 19 03 40.5 -0.8
LODK Lodwar 32.90 163 P **P** 18 57 21.5 +1.1
LODK Lodwar 32.90 163 P **P** 18 57 21.9 +1.5
SNR=17
STEI Steigen 33.17 352 *e*P **P** 18 57 21.0 -1.1
KTK1 Kautokeino 33.68 358 *e*P **P** 18 57 26.0 -0.7
CHM Chimkent 34.02 65 *e*P **P** 18 57 30.5 +0.6
comp=Z,16nm,0.5s,baz=65
CHM Chimkent 34.02 65 *e*P **P** 18 57 30.5 +0.6
CHM pmax pmax
comp=Z,16nm,0.5s
ARA0 ARCESS Array S 34.17 359 *e*P **P** 18 57 30.1 -0.7
ARCES ARCESS Array B 34.17 359 P **P** 18 57 29.7 -1.1
ARCES ARCESS Array B 34.17 359 P **P** 18 57 29.7 -1.1
ARCES pmax pmax
comp=Z,89nm,0.8s
IUG luzhnay 34.34 65 ⇓ *i* /P **P** 18 57 34.1 +1.3
baz=65
IUG luzhnay 34.34 65 *d* /P **P** 18 57 34.1 +1.3
JETT Jettan, Norway 34.34 356 *e*P **P** 18 57 31.6 -0.8
KEV Kevo 34.38 0 P **P** 18 57 32.4 -0.3
KEV Kevo 34.38 0 ⇓P **P** 18 57 32.4 -0.3
KEV Kevo 34.38 0 P **P** 18 57 32.4 -0.3
KEV pmax pmax
comp=Z,111nm,1.1s
KEV Kevo 34.38 0 P **P** 18 57 32.1 -0.6
KEV ScP **ScP** 19 03 43.4 -3.2
TRO Tromso 34.51 355 *e*P **P** 18 57 32.7 -1.1
KK31 Karatay Array 34.65 64 P **P** 18 57 36.9 +1.5
KK31 IAmb IAmb 18 57 38.5
comp=Z,43nm,0.6s
KK31 Karatay Array 34.65 64 P **P** 18 57 36.9 +1.5
KK31 pmax pmax
comp=Z,43nm,0.6s
KKAR Karatay Array 34.65 64 P **P** 18 57 37.0 +1.7
KKAR Karatay Array 34.65 64 P **P** 18 57 37.1 +1.7
KKAR IAmb IAmb 18 57 38.5
comp=Z,43nm,0.6s
KKAR Karatay Array 34.65 64 ⇓P **P** 18 57 36.9 +1.5
KKAR Karatay Array 34.65 64 P **P** 18 57 37.1 +1.7
KKAR pmax pmax
comp=Z,43nm,0.6s
VADS Vadso 34.79 2 *e*P **P** 18 57 36.0 -0.1
PMPST Porto Santo, M 35.23 279 *e*P **P** 18 57 41.7 +1.2
PMPS Porto Santo 35.23 279 *e*P **P** 18 57 41.9 +1.4
HAMF Hammerfest 35.31 358 *e*P **P** 18 57 39.6 -1.0
BRVK Borovoye 35.35 46 P **P** 18 57 42.5 +1.3
BRVK IAmb IAmb 18 57 44.4
comp=Z,53nm,0.9s
BRVK Borovoye 35.35 46 ⇑P **P** 18 57 42.6 +1.3
BRVK Borovoye 35.35 46 P **P** 18 57 42.5 +1.3
BRVK pmax pmax
comp=Z,53nm,1.0s
BRVK Borovoye 35.35 46 P **P** 18 57 42.7 +1.4
BRVK pP **pP** 18 57 57.2 +1.0
BVAR Borovoye Array 35.41 46 P **P** 18 57 43.0 +1.3
comp=Z,51nm,0.9s,baz=257,slow=5.7,SNR=124
BVAR LR LR 19 15 34.4
comp=Z,341nm,18.4s,baz=262,slow=42
comp=Z,51nm,0.9s
PMAR Madeira 35.80 278 *e*P **P** 18 57 47.3 +1.8
FUL Funchal 35.80 278 *e*pP pP 18 57 58.8 -1.9
OTUK Ortayu 35.99 55 P **P** 18 57 48.1 +1.3
PMOZ Porto Moniz, M 36.00 279 *e*pP pP 18 58 00.4 -2.2
MBAR Mbarara 36.07 173 P **P** 18 57 49.0 +1.1
comp=Z,9.5nm,0.7s,baz=344,slow=11,SNR=23
MBAR LR LR 19 13 47.2
comp=Z,317nm,18.5s,baz=338,slow=38
comp=Z,9.5nm,0.7s
MBAR Mbarara 36.07 173 P **P** 18 57 48.4 +0.5
MBAR Mbarara 36.07 173 ⇑P **P** 18 57 48.9 +0.9
MBAR Mbarara 36.07 173 P **P** 18 57 49.0 +1.1
MBAR Mbarara 36.07 173 P **P** 18 57 49.0 +1.1
MBAR Mbarara 36.07 173 P **P** 18 57 48.9 +0.9
MBAR pP **pP** 18 58 04.8 +1.6
MBAR sP **sP** 18 58 11.8 +1.5
MACI Morro de la Ar 36.95 271 P **P** 18 57 56.1 +0.7
AML Almayashu 37.06 65 P **P** 18 57 58.2 +1.8
SNR=10
EKS2 Erkin-Say 37.07 64 P **P** 18 57 58.5 +2.2
SNR=48
BTLS Baital 37.12 60 ⇓ /P **P** 18 57 58.3 +1.7
comp=Z,7.0nm,0.5s,baz=60
BTLS Baital 37.12 60 *d* /P **P** 18 57 58.2 +1.7
BTLS pmax pmax
comp=Z,7.0nm,0.5s
USP Ospenovka 37.55 63 P **P** 18 58 01.5 +1.3
SNR=22

AAK Ala-Archa 37.60 64 P **P** 18 58 02.9 +2.2
SNR=36
AAK Ala-Archa 37.60 64 P **P** 18 58 03.0 +2.3
comp=Z,23nm,0.7s,baz=248,slow=4.6,SNR=86
AAK pP **pwP** 18 58 19.0 0.0
comp=Z,35nm,0.6s,baz=150,slow=13,SNR=10
AAK S **S** 19 03 46.1 +0.2
comp=Z,2.5nm,0.9s,baz=230,slow=23,SNR=1.5
AAK LR LR 19 15 48.0
comp=Z,294nm,21.0s,baz=297,slow=40
comp=Z,23nm,0.7s
AAK Ala-Archa 37.60 64 P **P** 18 58 02.7 +2.0
AAK IAmb IAmb 18 58 19.5
comp=Z,44nm,0.7s
AAK Ala-Archa 37.60 64 ⇑P **P** 18 58 02.9 +2.2
AAK Ala-Archa 37.60 64 *i* P **P** 18 58 02.8 +2.0
SNR=54
AAK Ala-Archa 37.60 64 P **P** 18 58 03.1 +2.3
AAK Ala-Archa 37.60 64 P **P** 18 58 03.0 +2.2
AAK pP **pwP** 18 58 18.6 -0.4
AAK ScP **ScP** 19 04 00.1 +0.9
SGDS Sogindy 37.63 63 *e*P **P** 18 58 02.1 +1.1
baz=63
SGDS Sogindy 37.63 63 *e*P **P** 18 58 02.0 +1.1
UCH Uchtor 37.66 65 P **P** 18 58 03.6 +2.1
SNR=7.0
KMBO Kilima Mbogo 37.74 162 P **P** 18 58 04.0 +1.7
KMBO pP **pwP** 18 58 19.0 -0.8
CHMS Chumysh 37.76 63 P **P** 18 58 03.9 +2.0
SNR=24
KBK Karagaybulak 37.93 64 P **P** 18 58 06.0 +2.4
SNR=20
TKM2 Tokmak 2 38.38 64 P **P** 18 58 09.2 +1.8
SNR=6.1
KUU Kurty 38.83 62 ⇓ *i* P **P** 18 58 12.8 +1.8
comp=Z,18nm,0.7s,baz=62
KUU Kurty 38.83 62 *d* /P **P** 18 58 12.7 +1.8
KUU pmax pmax
comp=Z,18nm,0.7s
ULHL Ulahol 38.93 65 P **P** 18 58 14.7 +2.7
SNR=5.7
KIBK Kibwezi 39.11 161 P **P** 18 58 14.1 +0.6
KIBK Kibwezi 39.11 161 P **P** 18 58 15.3 +1.8
SNR=5.5
KSH Kashi 39.13 69 P **P** 18 58 14.0 +0.4
KSH pP pP 18 58 29.8 +0.8
KSH pmax pmax
comp=Z,23nm,0.5s
CHKK Chushkaly 39.30 62 *e*P **P** 18 58 16.6 +1.8
baz=62
CHKK Chushkaly 39.30 62 *e*P **P** 18 58 16.6 +1.8
AAA Alma-Ata 39.31 63 *e*P **P** 18 58 16.7 +1.6
comp=Z,16nm,0.6s,baz=63
AAA Alma-Ata 39.31 63 *e*P **P** 18 58 16.6 +1.6
AAA pmax pmax
comp=Z,16nm,0.6s
BJO1 Bjornoya 39.32 357 *e*P **P** 18 58 13.3 -1.2
TNSS Tian-Shan 39.36 63 *e*P **P** 18 58 17.5 +1.7
baz=63
TNSS Tian-Shan 39.36 63 *e*P **P** 18 58 17.4 +1.7
MDOK Medeo 39.42 63 *i* P **P** 18 58 17.9 +1.9
baz=63
MDOK Medeo 39.42 63 *i* P **P** 18 58 17.8 +1.9
JMU Jammu 39.92 80 *e*P **P** 18 58 21.4 +1.3
JMIC Jan Mayen 40.12 343 LR LR 19 15 06.8
comp=Z,174nm,18.4s,baz=72,slow=36
KURBB Kurchatov Arra 40.14 51 P **P** 18 58 23.2 +1.6
comp=Z,58nm,0.5s,baz=274,slow=8.6,SNR=637
comp=Z,58nm,0.5s
KURBB Kurchatov Arra 40.14 51 P **P** 18 58 22.7 +1.0
KURK Kurchatov 40.20 51 P **P** 18 58 23.5 +1.4
KURK IAmb IAmb 18 58 48.9
comp=Z,75nm,0.9s
KURK Kurchatov 40.20 51 ⇑P **P** 18 58 23.6 +1.4
KURK Kurchatov 40.20 51 P **P** 18 58 23.5 +1.4
KURK pmax pmax
comp=Z,75nm,0.9s
KURK Kurchatov 40.20 51 P **P** 18 58 23.7 +1.4
KURK Kurchatov 40.20 51 P **P** 18 58 23.6 +1.4
KURK pP **pP** 18 58 38.5 +1.3
KURK ScP **ScP** 19 04 07.6 -1.2
SATY Saty 40.42 63 ⇓ /P **P** 18 58 26.4 +2.1
comp=Z,13nm,0.7s,baz=63
SATY Saty 40.42 63 *d* /P **P** 18 58 26.3 +2.1
SATY pmax pmax
comp=Z,13nm,0.7s
ZHN Zhinishke 40.42 63 ⇓ /P **P** 18 58 26.2 +1.9
comp=Z,9.6nm,0.7s,baz=63
ZHN Zhinishke 40.42 63 *d* /P **P** 18 58 26.2 +1.9
ZHN pmax pmax
comp=Z,10.0nm,0.7s
DBIC Dimbokro 40.55 233 P **P** 18 58 25.2 -0.2
comp=Z,12nm,0.5s,baz=46,slow=9.2,SNR=29
DBIC pP **pP** 18 58 40.9 -0.4
comp=Z,45nm,0.8s,baz=64,slow=12,SNR=12
DBIC LR LR 19 18 04.5
comp=Z,305nm,18.6s,baz=37,slow=40
comp=Z,12nm,0.5s
DBIC Dimbokro 40.55 233 P **P** 18 58 25.2 -0.2
DBIC IAmb IAmb 18 58 45.5
comp=Z,45nm,0.8s
DBIC Dimbokro 40.55 233 ⇓P **P** 18 58 25.1 -0.2
DBIC Dimbokro 40.55 233 ⇑ /P **P** 18 58 25.2 -0.2
DBIC IAmb IAmb 18 58 45.1
comp=Z,45nm,0.8s
DBIC Dimbokro 40.55 233 P **P** 18 58 25.2 -0.2
DBIC pP **pP** 18 58 41.0 -0.4
KPKS Kokpek 40.57 62 *e*P **P** 18 58 27.1 +1.7
baz=62
KPKS Kokpek 40.57 62 *e*P **P** 18 58 27.1 +1.7
TIC Toumodi 40.68 233 ⇓ *e*P **P** 18 58 26.0 -0.5
comp=Z,32nm,0.6s
KIC Kosan Boka 40.71 232 ⇓ *e*P **P** 18 58 26.4 -0.4
comp=Z,20nm,0.5s
BORG Borgarnes 40.82 331 P **P** 18 58 28.3 +1.3
comp=Z,31nm,0.8s,baz=97,slow=6.3,SNR=8.2
comp=Z,31nm,0.8s
BORG Borgarnes 40.82 331 P **P** 18 58 28.4 +1.5
BORG Borgarnes 40.82 331 P **P** 18 58 28.5 +1.5
BORG pmax pmax
comp=Z,168nm,1.3s
UZB Uzynbulak 40.85 63 *e*P **P** 18 58 29.3 +1.5
baz=63
UZB Uzynbulak 40.85 63 *e*P **P** 18 58 29.3 +1.5
LIC Lamto 41.00 232 ⇓ *e*P **P** 18 58 28.7 -0.4
comp=Z,58nm,0.7s
SHLS Shalkode 41.17 63 *e*P **P** 18 58 35.0 +4.6
baz=63
SHLS Shalkode 41.17 63 *e*P **P** 18 58 35.0 +4.6
WUS Wushi 41.29 66 P **P** 18 58 33.4 +1.9
WUS pP **pwP** 18 58 48.9 -0.3
WUS ScP **ScP** 19 04 12.1 -1.3
BHK Bhakra 41.55 81 *e*P **P** 18 58 35.1 +1.5
AJM Ajmer 41.95 89 *e*P **P** 18 58 38.5 +1.6
HSPB Hornsund (broa 41.96 356 *e*P **P** 18 58 34.6 -1.6
HSPB Hornsund (broa 41.96 356 *e*P **P** 18 58 36.6 +0.4
SMLA Simla 42.26 81 *e*P **P** 18 58 40.3 +1.1
SMLA IAmb IAmb 18 58 44.8
comp=Z,100nm,1.1s
SMLA *i* pP **pP** 18 58 56.4 +1.3
MAKZ Makanchi 42.54 57 P **P** 18 58 42.9 +1.5
MAKZ Makanchi 42.54 57 ⇑P **P** 18 58 41.6 +0.2
MAKZ Makanchi 42.54 57 P **P** 18 58 43.1 +1.7
MAKZ Makanchi 42.54 57 P **P** 18 58 43.1 +1.7
MK31 Makanchi Array 42.76 57 P **P** 18 58 44.8 +1.6
MK31 IAmb IAmb 18 58 53.9
comp=Z,39nm,0.6s
MK31 Makanchi Array 42.76 57 P **P** 18 58 44.8 +1.6
MK31 pmax pmax
comp=Z,39nm,0.6s
MKAR Makanchi Array 42.76 57 P **P** 18 58 44.8 +1.6
comp=Z,24nm,0.4s,baz=269,slow=8.6,SNR=442
MKAR LR LR 19 17 43.5
comp=Z,195nm,20.4s,baz=280,slow=38
comp=Z,24nm,0.4s
KUDL Kundal 42.79 85 *e*P **P** 18 58 45.5 +1.9
SPB2 Spitsbergen Ar 43.07 357 P **P** 18 58 45.1 -0.2
SPA0 Spitsbergen Ar 43.07 357 *e*P **P** 18 58 45.0 -0.3
SPITS Spitsbergen Ar 43.07 357 P **P** 18 58 45.2 -0.1
comp=Z,85nm,0.6s,baz=148,slow=8.5,SNR=155
SPITS PcP **PcP** 19 00 35.0 +0.8
comp=Z,12nm,0.4s,baz=142,slow=8.3,SNR=9.3
SPITS LR LR 19 18 14.5
comp=Z,284nm,19.3s,baz=142,slow=38
comp=Z,85nm,0.6s

SPITS Spitsbergen Ar 43.07 357 P **P** 18 58 45.2 -0.1
SPITS pmax pmax
comp=Z,182nm,0.9s
NDI New Delhi 43.18 84 *e*P **P** 18 58 47.9 +1.2
SCO Scoresbysund 43.46 339 P **P** 18 58 48.8 +0.3
SCO Scoresbysund 43.46 339 *i* P **P** 18 58 47.6 -0.8
SCO IAmb IAmb 18 58 49.3
comp=Z,17nm,0.6s
SCO Scoresbysund 43.46 339 ⇓P **P** 18 58 49.3 +0.8
SCO Scoresbysund 43.46 339 P **P** 18 58 48.8 +0.3
SCO pmax pmax
comp=Z,26nm,0.7s
BBTS Babate 43.65 253 P **P** 18 58 52.5 +1.8
comp=Z,100nm,0.7s,baz=127,slow=5.3,SNR=13
BBTS LR LR 19 19 12.2
comp=Z,367nm,18.9s,baz=56,slow=39
comp=Z,100nm,0.7s
KBS Kingsbay 44.02 356 P **P** 18 58 52.9 0.0
KBS Kingsbay 44.02 356 *i* P **P** 18 58 52.3 -0.6
KBS Kingsbay 44.02 356 P **P** 18 58 52.9 0.0
KBS pmax pmax
comp=Z,224nm,0.7s
KBS Kingsbay 44.02 356 *e*P **P** 18 58 52.9 0.0
KBS Kingsbay 44.02 356 P **P** 18 58 52.8 0.0
ZAA0 Zalesovo Array 44.06 46 P **P** 18 58 54.4 +0.8
ZALV Zalesovo Beam 44.06 46 P **P** 18 58 54.4 +0.8
comp=Z,72nm,0.5s,baz=269,slow=8.4,SNR=221
ZALV S **S** 19 05 21.1 -0.2
comp=Z,4.0nm,0.7s,baz=241,slow=18,SNR=6.5
ZALV LR LR 19 20 37.4
comp=Z,112nm,19.7s,baz=299,slow=40
comp=Z,72nm,0.5s
ZSN Zaisan 44.44 56 *e*P **P** 18 58 58.9 +2.2
baz=56
ZSN Zaisan 44.44 56 *e*P **P** 18 58 58.9 +2.2
DBG Daneborg 44.94 344 *i* P **P** 18 58 59.3 -0.9
DBG IAmb IAmb 18 59 02.8
comp=Z,14nm,0.7s
DBG Daneborg 44.94 344 ⇓P **P** 18 59 00.6 +0.3
LGTI Lohaghat 45.34 82 *e*P **P** 18 59 04.3 +0.3
JHNI Jhansi 45.55 88 *e*P **P** 18 59 07.0 +1.2
BHPL Bhopal 45.63 91 *e*P **P** 18 59 07.6 +1.1
BHPL IAmb IAmb 18 59 18.6
comp=Z,38nm,0.3s
DGZ Jazzator, Alta 45.89 52 *c* /P **P** 18 59 09.9 +1.6
DGZ pmax pmax
comp=Z,34nm,0.5s
DAG Danmarks Havn 46.02 347 *i* P **P** 18 59 06.7 -2.1
DAG IAmb IAmb 18 59 08.3
comp=Z,30nm,0.7s
AKL Akola 46.50 94 *e*P **P** 18 59 14.7 +1.4
GOA Goa 46.67 103 *e*P **P** 18 59 16.4 +1.8
GOA IAmb IAmb 18 59 23.4
comp=Z,22nm,0.8s
WMQ Urumqi 46.97 60 *e*P **P** 18 59 19.3 +2.6
WMQ pP pwP 18 59 34.5 -0.7
WMQ ScP **ScP** 19 04 37.3 +0.8
WMQ S **S** 19 06 05.3 +1.8
WMQ pmax pmax
comp=Z,65nm,1.1s
WMQ pmax pmax
comp=Z,190nm,4.5s
WMQ LR LR
comp=Z,410nm,21.9s
WMQ LR LR
comp=Z,310nm,20.5s
WMQ Urumqi 46.97 60 P **P** 18 59 18.9 +2.1
WMQ pP **pwP** 18 59 34.9 -0.3
NRIK Noril'sk 47.19 25 P **P** 18 59 19.4 +1.4
comp=Z,62nm,0.5s,baz=237,slow=4.1,SNR=113
NRIK pP **pwP** 18 59 34.8 -0.9
comp=Z,28nm,0.6s,baz=341,slow=6.4,SNR=5.2
NRIK LR LR 19 23 42.1
comp=Z,136nm,18.3s,baz=266,slow=42
comp=Z,62nm,0.5s
NRIK Noril'sk 47.19 25 P **P** 18 59 19.5 +1.5
ANGG Ammassalik, Gr 47.68 330 P **P** 18 59 22.2 +0.4
ANGG IAmb IAmb 18 59 23.9
comp=Z,74nm,1.1s
ANGG Ammassalik, Gr 47.68 330 *i* P **P** 18 59 22.4 +0.6
ANGG IAmb IAmb 18 59 23.8
comp=Z,33nm,1.0s
ISOG Isortoq, Green 48.23 330 *i* P **P** 18 59 25.8 -0.2
ISOG IAmb IAmb 18 59 27.2
comp=Z,248nm,0.6s
ISOG Isortoq, Green 48.23 330 ⇑P **P** 18 59 26.7 +0.7
ALBI Allahabad 48.29 86 *e*P **P** 18 59 27.0 -0.1
MSEY Mahe Island 48.32 140 P **P** 18 59 28.6 +1.1
MSEY Mahe Island 48.32 140 P **P** 18 59 28.6 +1.1
MSEY pmax pmax
comp=Z,79nm,1.2s
MSEY Mahe Island 48.32 140 P **P** 18 59 28.8 +1.3
MSEY Mahe Island 48.32 140 P **P** 18 59 29.1 +1.6
DANN Dangsing 48.61 81 *e*P **P** 18 59 31.4 +1.5
NOR Nord 48.82 352 *i* P **P** 18 59 28.4 -2.0
NOR IAmb IAmb 18 59 29.8
comp=Z,77nm,0.6s
NOR Nord 48.82 352 ⇑P **P** 18 59 29.5 -0.9
NOR ⇑P pP 18 59 29.6 -16
ICESG Greenland Ices 48.89 334 *i* P **P** 18 59 30.4 -1.1
ICESG IAmb IAmb 18 59 31.8
comp=Z,42nm,0.9s
SUMG Summit 49.10 339 *i* P **P** 18 59 32.2 -1.0
SUMG IAmb IAmb 18 59 33.9
comp=Z,96nm,0.7s
HYB Hyderabad 49.42 97 *e*P **P** 18 59 35.8 -0.1
HYB Hyderabad 49.42 97 *e*P **P** 18 59 36.6 +0.7
HYB IAmb IAmb 18 59 53.1
comp=Z,19nm,0.6s
GKN Gorkha 49.45 81 *e*P **P** 18 59 37.0 +0.8
comp=Z,54nm,0.4s
DMN Daman 49.99 82 *e*P **P** 18 59 41.4 +1.0
KKN Kakani 50.06 81 *e*P **P** 18 59 41.6 +0.7
PKIN Phulchoki 50.24 82 *e*P **P** 18 59 42.9 +0.6
comp=Z,51nm,0.6s
PKI Pulchoki 50.26 82 *e*P **P** 18 59 43.1 +0.6
GUN Gumba 50.50 81 *e*P **P** 18 59 45.0 +0.7
comp=Z,83nm,0.6s
JIRN Jiri 50.85 81 *e*P **P** 18 59 47.8 +0.8
comp=Z,111nm,0.7s
NRS Narsarsuaq 51.09 324 *i* P **P** 18 59 47.5 -0.4
NRS IAmb IAmb 18 59 48.5
comp=Z,35nm,0.7s
DY2G Dye2 51.24 331 *i* P **P** 18 59 48.8 -0.4
DY2G IAmb IAmb 18 59 50.4
comp=Z,376nm,0.6s
HMDM Hanimaadhoo 51.44 112 P **P** 18 59 49.8 -1.3
PCHI Peechi 51.54 106 *ex* x 19 00 15.6
PCHI *ex* x 19 06 39.7
KRI Karoi 52.06 176 *i* P **P** 18 59 56.6 +0.9
BOK Bokaro 52.28 86 *e*P **P** 18 59 57.3 -0.1
SFJD Kangerlussuaq 52.95 331 P **P** 19 00 01.3 -0.3
comp=Z,107nm,0.6s,baz=80,slow=8.0,SNR=80
SFJD LR LR 19 23 47.7
comp=Z,264nm,18.1s,baz=137,slow=37
comp=Z,107nm,0.6s
SFJD Kangerlussuaq 52.95 331 **P** 19 00 01.2 -0.4
SFJD Kangerlussuaq 52.95 331 *i* P **P** 19 00 00.2 -1.3
SFJD IAmb IAmb 19 00 02.2
comp=Z,107nm,0.6s
SFJD Kangerlussuaq 52.95 331 ⇑P **P** 19 00 01.3 -0.3
SFJD Kangerlussuaq 52.95 331 P **P** 19 00 01.3 -0.3
ILULI Ilulissat 52.99 334 P **P** 19 00 01.3 -0.5
ILULI Ilulissat 52.99 334 *i* P **P** 19 00 00.1 -1.7
ILULI IAmb IAmb 19 00 01.8
comp=Z,112nm,0.7s
ILULI Ilulissat 52.99 334 P **P** 19 00 01.3 -0.5
ILULI pmax pmax
comp=Z,157nm,0.8s
NEEM North Greenlan 53.00 344 *i* P **P** 19 00 00.9 -1.4
NEEM IAmb IAmb 19 00 02.2
comp=Z,112nm,0.7s
NUUG Nuugaatsiaq 53.57 337 *i* P **P** 19 00 04.2 -1.8
NUUG IAmb IAmb 19 00 05.5
comp=Z,30nm,0.6s
NUUK Nuuk 53.69 328 *i* P **P** 19 00 05.9 -1.1
NUUK IAmb IAmb 19 00 06.9
comp=Z,47nm,0.7s
LSA Lhasa 53.99 77 P **P** 19 00 11.1 +0.8
LSA IAmb IAmb 19 00 12.6
comp=Z,20nm,0.7s
LSA Lhasa 53.99 77 P **P** 19 00 11.1 +0.8
LSA pmax pmax
comp=Z,20nm,0.7s
LSA Lhasa 53.99 77 P **P** 19 00 11.7 +1.3

LSA Lhasa 53.99 77 P **P** **19 00 11.6 +1.3**
LSA pP **pP** **19 00 27.5 +0.9**
LSA sP **sP** **19 00 34.4 +0.6**
MOY Mondy 54.06 48 *e*P **P** **19 00 12.1 +2.0**
MOY pmax pmax
comp=Z,27nm,1.4s
GOMU GeErMu 54.36 68 P **P** **19 00 14.0 +1.2**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
GOMU pmax pmax
comp=Z,100nm,4.4s
UPNV Upernavik 54.38 339 *i* P **P** **19 00 11.0 -1.0**
UPNV lAmb lAmb 19 00 12.2
comp=Z,105nm,0.5s
KULLO Kullorsuaq 54.53 341 *i* P **P** **19 00 11.9 -1.1**
KULLO lAmb lAmb 19 00 12.9
comp=Z,111nm,0.6s
ALE Alert 54.94 351 P **P** **19 00 15.3 -0.6**
ALE pP **pP** **19 00 30.2 -1.6**
ALE ScP **ScP** **19 05 10.4 +0.3**
TSUM Tsumeb 54.98 190 LR LR 19 25 30.6
comp=Z,350nm,20.7s,baz=4.5,slow=38
TSUM Tsumeb 54.98 190 P **P** **19 00 16.8 -0.2**
TSUM Tsumeb 54.98 190 ⇓P **P** **19 00 17.7 +0.7**
TSUM Tsumeb 54.98 190 ⇑*i*P **P** **19 00 17.4 +0.4**
TSUM Tsumeb 54.98 190 P **P** **19 00 16.8 -0.2**
TSUM pP **pP** **19 00 32.4 -0.9**
TSUM ScP **ScP** **19 05 11.0 -0.2**
ZAK Zakamensk 55.78 49 *e*P **P** **19 00 23.8 +1.2**
ZAK pmax pmax
comp=Z,32nm,1.0s
IRK Irkutsk 55.88 47 *e*P **P** **19 00 23.5 +0.4**
IRK pmax pmax
comp=Z,60nm,2.4s
SHL Shillong 56.34 81 P **P** **19 00 26.7 -0.4**
SHL lAmb lAmb 19 00 52.7
comp=Z,32nm,0.9s
SHL Shillong 56.34 81 *e*P **P** **19 00 26.9 -0.1**
SHL lAmb lAmb 19 00 28.5
comp=Z,16nm,0.8s
SHL Shillong 56.34 81 P **P** **19 00 26.7 -0.4**
SHL pmax pmax
comp=Z,32nm,0.9s
SHL Shillong 56.34 81 P **P** **19 00 27.0 -0.1**
SNR=7.8
GTA Gaotai 56.91 62 *e*P **P** **19 00 32.5 +1.7**
GTA pP **pP** 19 00 46.5 -0.3
GTA S **S** **19 08 21.5 +1.4**
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,88nm,6.8s
PALK Pallekele 56.92 106 P **P** **19 00 31.8 +0.7**
PALK lAmb lAmb 19 00 57.9
comp=Z,85nm,1.5s
PALK Pallekele 56.92 106 P **P** **19 00 31.8 +0.7**
PALK pmax pmax
comp=Z,85nm,1.5s
TULEG Thule 57.08 344 P **P** **19 00 30.1 -1.1**
TULEG Thule 57.08 344 *i* P **P** **19 00 29.1 -2.1**
TULEG lAmb lAmb 19 00 30.6
comp=Z,98nm,0.7s
OPO Ambohidratompo 57.20 156 LR LR 19 27 02.7
comp=Z,99nm,18.2s,baz=156,slow=38
MUSN Musina, Limpop 57.49 176 *i* P **P** **19 00 36.6 +1.8**
MUSN Musina, Limpop 57.49 176 ⇑*i*P **P** **19 00 36.2 +1.4**
MUSN lAmb lAmb 19 00 37.0
comp=Z,27nm,0.8s
ABPO Ambohimpanom 57.63 157 P **P** **19 00 36.5 +0.6**
ABPO Ambohimpanom 57.63 157 P **P** **19 00 36.5 +0.6**
ABPO pmax pmax
comp=Z,21nm,1.1s
ABPO Ambohimpanom 57.63 157 P **P** **19 00 37.5 +1.5**
ABPO pP **pP** **19 00 53.8 +1.6**
ABPO sP **sP** **19 01 00.5 +1.3**
WIN Windhoek 58.35 190 *e*P **P** **19 00 42.1 +1.1**
WIN lAmb lAmb 19 01 06.1
comp=Z,6.3nm,0.9s
SONM Songino Array 58.51 51 P **P** **19 00 43.2 +1.4**
comp=Z,22nm,0.7s,baz=285,slow=7.6,SNR=179
SONM pP **pwP** **19 01 00.7 +0.2**
comp=Z,32nm,0.8s,baz=289,slow=8.0,SNR=13
SONM ScP **ScP** **19 05 26.9 +0.3**
comp=Z,1.7nm,0.8s,baz=286,slow=5.8,SNR=2.9
SONM S **S** **19 08 41.0 +0.2**
comp=Z,0.6nm,0.8s,baz=262,slow=15,SNR=2.1
SONM LR LR 19 29 03.7
comp=Z,287nm,20.3s,baz=277,slow=39
comp=Z,22nm,0.7s
SONM Songino Array 58.51 51 P **P** **19 00 43.0 +1.2**
SONM lAmb lAmb 19 01 01.8
comp=Z,29nm,0.8s
MOPA Mopani 58.81 175 ⇑*i*P **P** **19 00 45.8 +1.9**
MOPA lAmb lAmb 19 01 08.7
comp=Z,33nm,1.0s
ULN Ulaanbaatar 58.91 51 P **P** **19 00 45.9 +1.1**
ULN lAmb lAmb 19 01 05.2
comp=Z,30nm,0.8s
ULN Ulaanbaatar 58.91 51 P **P** **19 00 46.2 +1.4**
ULN Ulaanbaatar 58.91 51 P **P** **19 00 46.1 +1.4**
ULN Ulaanbaatar 58.91 51 P **P** **19 00 46.0 +1.3**
ULN pP **pwP** **19 01 03.2 -0.2**
LEPH Lephalale, Lim 58.98 179 *e*P **P** **19 00 46.1 +0.9**
LEPH lAmb lAmb 19 00 46.9
comp=Z,48nm,0.7s
EUNU Eureka 59.12 349 P **P** **19 00 44.7 -0.9**
BOD Bodaibo 59.60 38 *e*P **P** **19 00 48.7 -0.4**
BOD pmax pmax
comp=Z,50nm,0.7s
LBTB Lobatse 60.12 181 LR LR 19 26 40.5
comp=Z,211nm,21.6s,baz=10,slow=36
LBTB Lobatse 60.12 181 P **P** **19 00 54.3 +1.2**
LBTB lAmb lAmb 19 00 55.4
comp=Z,37nm,1.0s
LBTB Lobatse 60.12 181 *i* P **P** **19 00 54.6 +1.5**
LBTB Lobatse 60.12 181 ⇑*i*P **P** **19 00 54.3 +1.2**
LBTB lAmb lAmb 19 00 55.2
comp=Z,37nm,1.0s
LBTB Lobatse 60.12 181 P **P** **19 00 54.3 +1.2**
LBTB pmax pmax
comp=Z,37nm,1.0s
LBTB Lobatse 60.12 181 P **P** **19 00 54.3 +1.2**
VOI Vohitsoka 60.20 158 P **P** **19 00 54.7 +1.0**
VOI Vohitsoka 60.20 158 ⇑*i*P **P** **19 00 54.6 +1.0**
DRLN Deer Lake 60.50 312 P **P** **19 00 55.6 +0.2**
TIXI Tiksi 60.55 21 LR LR 19 32 59.4
comp=Z,147nm,18.5s,baz=182,slow=42
TIXI Tiksi 60.55 21 P **P** **19 00 55.3 0.0**
TIXI Tiksi 60.55 21 P **P** **19 00 55.6 +0.3**
TIXI Tiksi 60.55 21 P **P** **19 00 55.6 +0.3**
FRB Frobisher Bay 60.97 330 P **P** **19 00 58.5 +0.3**
comp=Z,112nm,0.7s,baz=74,slow=7.4,SNR=145
FRB pP **pP** **19 01 15.1 +0.8**
comp=Z,31nm,0.8s,baz=98,slow=7.0,SNR=3.7
FRB LR LR 19 29 06.6
comp=Z,266nm,20.0s,baz=110,slow=38
comp=Z,112nm,0.7s
HRAO HartRAO 61.00 179 *e*P **P** **19 01 00.6 +1.5**
HRAO lAmb lAmb 19 01 27.1
comp=Z,368nm,3.2s
LZH Lanzhou 61.14 65 *e*P **P** **19 01 02.5 +2.3**
LZH pP pP 19 01 17.3 +1.0
LZH sP sP 19 01 26.0 +2.8
LZH pmax pmax
comp=Z,42nm,1.2s
CRLN Carolina, Mapu 61.18 176 *e*P **P** **19 01 02.2 +1.9**
CRLN lAmb lAmb 19 01 03.0
comp=Z,25nm,0.7s
CIT Chita 61.37 45 *e*P **P** **19 01 02.0 +0.7**
CIT *e* 19 01 23.5
CIT *e* 19 01 28.8
CIT pmax pmax
comp=Z,43nm,1.7s
MND Mandalay 61.43 82 P **P** **19 01 05.1 +3.0**
TNCH TengChong 61.92 78 *e*P **P** **19 01 06.3 +0.7**
TNCH pP pP 19 01 22.3 +0.1
TNCH sP sP 19 01 29.0 -0.3
TNCH S **S** **19 09 23.8 -1.4**
TNCH pmax pmax
comp=Z,15nm,1.3s
TNCH pmax pmax
comp=Z,180nm,5.7s
AUSN Aus 62.51 190 *e*P **P** **19 01 10.4 +1.1**
AUSN lAmb lAmb 19 01 12.6
comp=Z,48nm,1.3s
CD2 Chengdu 63.32 70 P **P** **19 01 15.8 +1.1**
CD2 pmax pmax
comp=Z,20nm,0.8s
ARMS Ukamas 63.44 187 *e*P **P** **19 01 15.6 +0.3**
ARMS lAmb lAmb 19 01 43.1
comp=Z,362nm,2.9s
SCHQ Schefferville 63.66 320 P **P** **19 01 16.9 +0.5**
comp=Z,103nm,0.6s,baz=62,slow=4.9,SNR=254
SCHQ pP **pwP** **19 01 34.7 -0.8**
comp=Z,51nm,0.6s,baz=52,slow=5.8,SNR=5.7
SCHQ LR LR 19 27 32.3
comp=Z,320nm,18.7s,baz=78,slow=35
comp=Z,103nm,0.6s
SCHQ Schefferville 63.66 320 P **P** **19 01 16.6 +0.1**
BTO Baotou 63.67 58 *e*P P 19 01 12.0 -4.9
RES Resolute Bay 63.67 345 P **P** **19 01 16.5 +0.3**
comp=Z,39nm,0.8s,baz=33,slow=9.4,SNR=134
RES LR LR 19 31 27.0
comp=Z,298nm,18.5s,baz=67,slow=38
comp=Z,39nm,0.8s
RES Resolute Bay 63.67 345 P **P** **19 01 16.3 +0.1**
RES lAmb lAmb 19 01 17.6
comp=Z,50nm,0.9s
BOSA Boshof 63.71 181 P **P** **19 01 18.3 +1.2**
comp=Z,16nm,0.5s,baz=3.8,slow=7.5,SNR=58
BOSA LR LR 19 29 51.2
comp=Z,196nm,20.5s,baz=8.5,slow=37
comp=Z,16nm,0.5s
BOSA Boshof 63.71 181 P **P** **19 01 18.0 +0.9**
BOSA lAmb lAmb 19 01 19.0
comp=Z,53nm,1.1s
BOSA Boshof 63.71 181 *i* P **P** **19 01 18.2 +1.2**
BOSA Boshof 63.71 181 ⇑*i*P **P** **19 01 18.2 +1.2**
BOSA lAmb lAmb 19 01 18.7
comp=Z,51nm,1.1s
BOSA Boshof 63.71 181 P **P** **19 01 18.0 +0.9**
PZH PanZhiHua 63.78 75 P **P** **19 01 18.3 +0.4**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,140nm,5.6s
HHC Hu-ho-hao-te 64.62 57 *e*P **P** **19 01 25.0 +1.9**
HHC pmax pmax
comp=Z,59nm,0.9s
HHC pmax pmax
comp=Z,160nm,3.9s
YAK Yakutsk 65.12 30 LR LR 19 34 12.8
comp=Z,168nm,18.2s,baz=284,slow=40
YAK Yakutsk 65.12 30 P **P** **19 01 25.1 -0.7**
YAK Yakutsk 65.12 30*c* *i*P **P** **19 01 25.2 -0.7**
YAK *e**PP **pwP** **19 01 46.6 +2.1**
YAK *e* 19 01 57.9
YAK *e*S **S** **19 10 01.4 -2.0**
YAK *e**SS sS 19 10 40.7 +10
YAK *e* 19 11 13.0
YAK *e*SS **SS** **19 14 12.0 -3.8**
YAK pmax pmax
comp=Z,62nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,14nm,1.1s
YAK smax smax
comp=E,199nm,4.6s
YAK smax smax
comp=N,64nm,3.3s
YAK Yakutsk 65.12 30 P **P** **19 01 25.4 -0.5**
YAK pP **pP** **19 01 41.4 -0.7**
KMI Kunming 65.23 76 ⇓P **P** **19 01 28.0 +0.5**
KMI pP pP 19 01 44.5 +0.5
KMI pmax pmax
comp=N,8.0nm,2.1s
KMI LR LR
comp=N,200nm,24.3s
KMI LR LR
comp=N,230nm,17.2s
KMI LR LR
comp=N,280nm,26.1s
KMI Kunming 65.23 76 P **P** **19 01 27.9 +0.4**
KMI pP **pP** **19 01 44.1 +0.1**
CHTO Chiang Mai 65.32 84 P **P** **19 01 27.8 -0.1**
CHTO Chiang Mai 65.32 84 P **P** **19 01 27.8 -0.1**
CHTO Chiang Mai 65.32 84 P **P** **19 01 27.9 0.0**
CM31 Chiang Mai Arr 65.51 84 P **P** **19 01 29.5 +0.4**
CM31 lAmb lAmb 19 01 58.5
comp=Z,57nm,1.1s
CM31 Chiang Mai Arr 65.51 84 P **P** **19 01 29.9 +0.8**
SNR=9.0
CMAR Chiang Mai Arr 65.51 84 P **P** **19 01 29.4 +0.4**
comp=Z,11nm,0.8s,baz=299,slow=8.2,SNR=101
comp=Z,11nm,0.8s
CRAI Chiangrai 65.76 82 P **P** **19 01 30.5 -0.2**
XAN Xi'an 65.78 65 P **P** **19 01 31.5 +0.9**
XAN pP pP 19 01 48.0 +1.0
XAN sP sP 19 01 54.3 +0.5
XAN pmax pmax
comp=Z,16nm,0.6s
XAN Xi'an 65.78 65 P **P** **19 01 31.6 +0.9**
XAN pP **pwP** **19 01 48.7 -0.8**
HIA Hailar 66.10 46 P **P** **19 01 33.7 +1.3**
HIA lAmb lAmb 19 01 53.0
comp=Z,30nm,1.0s
HIA Hailar 66.10 46 P **P** **19 01 33.7 +1.3**
HIA Hailar 66.10 46 P **P** **19 01 33.7 +1.3**
HIA pmax pmax
comp=Z,30nm,1.0s
HIA Hailar 66.10 46 P **P** **19 01 33.8 +1.3**
HIA pP **pP** **19 01 49.9 +1.0**
HAL Halifax 66.18 309 P **P** **19 01 32.7 -0.3**
HAL Halifax 66.18 309 P **P** **19 01 32.7 -0.3**
HAL pmax pmax
comp=Z,330nm,1.5s
XLT XiLinHaoTe 66.27 52 ⇑*i*P **P** **19 01 35.0 +1.3**
XLT pP pP 19 01 51.0 +1.0
XLT pmax pmax
comp=Z,22nm,0.9s
XLT pmax pmax
comp=Z,150nm,4.6s
BATG Bathurst New B 66.52 312 P **P** **19 01 36.0 +0.8**
PHRA Phrae 66.53 83 P **P** **19 01 36.5 +0.9**
TIY Taiyuan 66.63 60 P **P** **19 01 40.8 +4.7**
TIY S **S** **19 10 23.0 +0.2**
TIY pmax pmax
comp=Z,10.0nm,0.6s
TIY pmax pmax
comp=Z,140nm,3.5s
TIY LR LR
comp=Z,200nm,6.2s
TIY LR LR
comp=Z,180nm,10.3s
TIY LR LR
comp=Z,190nm,17.2s
CVNA Calvinia 66.85 186 *e*P **P** **19 01 38.3 +0.9**
CVNA lAmb lAmb 19 01 46.4
comp=Z,1μm,4.1s
BFON Badsfontein, M 66.92 183 *e*P **P** **19 01 39.4 +1.5**
BFON lAmb lAmb 19 01 40.2
comp=Z,743nm,2.9s
BRAK Brakfontein 66.94 183 ⇑*i*P **P** **19 01 39.4 +1.5**
BRAK lAmb lAmb 19 01 54.1
comp=Z,564nm,2.9s
FRAZ Fraserburg 67.17 185 *e*P **P** **19 01 40.5 +1.1**
FRAZ lAmb lAmb 19 02 13.4
comp=Z,1μm,3.7s
GRAF Camdeboo Natio 67.38 182 ⇑*i*P **P** **19 01 42.4 +1.8**
GRAF lAmb lAmb 19 02 07.0
comp=Z,205nm,1.7s
GRAN Grantham 67.49 184 *e*P **P** **19 01 43.0 +1.6**
GRAN lAmb lAmb 19 01 43.5
comp=Z,15nm,0.7s
SUR Sutherland 67.66 185 LR LR 19 32 03.9
comp=Z,343nm,19.2s,baz=3.0,slow=36
SUR Sutherland 67.66 185 P **P** **19 01 43.0 +0.5**
SUR Sutherland 67.66 185 P **P** **19 01 43.5 +1.0**
GYA Guiyang 67.67 73 ⇑P **P** **19 01 43.8 +0.9**
GYA pP pP 19 02 00.0 +0.8
GYA S **S** **19 10 34.0 -1.7**
GYA SKS **SKiKP** **19 11 33.3 -1.3**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,200nm,6.6s
GYA LR LR
comp=Z,92nm,3.8s
GYA LR LR
comp=Z,290nm,4.8s
GYA LR LR
comp=Z,120nm,3.7s
SOE Somerset East 67.79 181 P **P** **19 01 41.2 -2.0**
ENH Enshi 67.98 68 P **P** **19 01 46.3 +1.6**
ENH Enshi 67.98 68 P **P** **19 01 45.4 +0.7**
ENH pP **pwP** **19 02 03.1 -0.6**
ZEA Zeya 68.09 39 *e*P **P** **19 01 46.3 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
BJI Beijing 68.12 56 P **P** **19 01 46.5 +1.1**
BJI pmax pmax
comp=Z,6.0nm,0.6s
BJI pmax pmax
comp=Z,99nm,4.6s
BJT Baijiatuan 68.13 56 P **P** **19 01 45.3 -0.1**
BJT Baijiatuan 68.13 56 P **P** **19 01 46.6 +1.2**
BJT Baijiatuan 68.13 56 P **P** **19 01 45.3 -0.1**
BJT pmax pmax
comp=Z,23nm,0.9s
BJT Baijiatuan 68.13 56 P **P** **19 01 46.7 +1.3**
BJT pP **pwP** **19 02 03.6 -0.7**
LYN LuoYang 68.13 63 ⇑P **P** **19 01 47.0 +1.4**
LYN pP pP 19 02 02.8 +0.9
LYN sP PcP 19 02 12.0 +0.8
LYN pmax pmax
comp=Z,8.0nm,0.6s
LYN pmax pmax
comp=Z,220nm,4.9s
LYN LR LR
comp=Z,180nm,11.2s
E63A Oxbow 68.35 312 P **P** **19 01 47.9 +1.2**
baz=61
E63A P **P** **19 01 47.9 +1.2**
baz=61
HNS HongShan 68.37 59 ⇑P **P** **19 01 48.5 +1.6**
HNS pP **pwP** **19 02 06.3 +0.4**
HNS S **S** **19 10 45.5 +2.1**
D62A Allapoint, All 68.41 313 P **P** **19 01 48.2 +1.1**
D62A lAmb lAmb 19 01 49.5
comp=Z,58nm,0.9s
D62A Allapoint, All 68.41 313 P **P** **19 01 48.6 +1.5**
baz=61,SNR=6.6
D62A P **P** **19 01 48.6 +1.5**
baz=61,SNR=6.6
MATJ Matjiesfontein 68.55 185 *e*P **P** **19 01 48.8 +0.8**
MATJ lAmb lAmb 19 01 49.6
comp=Z,62nm,1.2s
F64A Sherman 68.58 312 P **P** **19 01 48.8 +0.7**
baz=61
F64A P **P** **19 01 48.8 +0.7**
baz=61
EMMW East Machias 68.59 310 P **P** **19 01 48.8 +0.7**
EMMW East Machias 68.59 310 P **P** **19 01 48.9 +0.7**
baz=61
E62A Clayton Lake 68.92 313 P **P** **19 01 51.3 +1.0**
baz=60
E62A P **P** **19 01 51.3 +1.0**
baz=60
F63A Nahmakanta, Br 69.12 312 P **P** **19 01 53.0 +1.5**
baz=60
F63A P **P** **19 01 53.0 +1.5**
baz=60
F62A Pittston Farm, 69.55 312 P **P** **19 01 55.9 +1.7**
baz=60
F62A P **P** **19 01 55.9 +1.7**
baz=60
HEH HeiHe 69.96 42 *e*P **P** **19 01 57.5 +0.9**
HEH pmax pmax
comp=Z,61nm,0.7s
G62A West of Eustis 70.23 312 P **P** **19 01 59.8 +1.5**
baz=59
G62A P **P** **19 01 59.8 +1.5**
baz=59
LATQ La Tuque 70.46 315 P **P** **19 02 01.3 +1.7**
LATQ lAmb lAmb 19 02 01.8
comp=Z,34nm,1.0s
H62A Milan 70.94 311 P **P** **19 02 04.3 +1.6**
baz=59
H62A P **P** **19 02 04.3 +1.6**
baz=59
A36M Sachs Harbour 71.05 351 P **P** **19 02 02.8 0.0**
A36M Sachs Harbour 71.05 351 P **P** **19 02 03.1 +0.3**
baz=24
RCBR Riachuelo 71.40 248 LR LR 19 34 00.9
comp=Z,111nm,18.4s,baz=186,slow=36
RCBR Riachuelo 71.40 248 *e*P **P** **19 02 06.1 +0.2**
LBNH Lisbon 71.59 311 P **P** **19 02 08.5 +1.9**
baz=58
LBNH Lisbon 71.59 311 P **P** **19 02 08.6 +1.9**
baz=58
CNSH ChangSha 71.63 68 ⇓P **P** **19 02 10.0 +2.9**
MNTQ Montreal, Queb 71.94 313 P **P** **19 02 09.7 +1.1**
VT1 Waterbury 72.04 312 P **P** **19 02 10.8 +1.5**
baz=58
SNY Shenyang 72.09 51 ⇓P **P** **19 02 10.3 +0.7**
SNY pmax pmax
comp=Z,32nm,1.0s
TRQ Mont Tremblant 72.11 314 P **P** **19 02 11.1 +1.4**
NBCL Cascavel-CE 72.21 251 *e*P **P** **19 02 11.2 +0.4**
CN2 Changchun 72.22 49 *e*P **P** **19 02 10.3 -0.1**
CN2 *e*PP **PP** **19 04 52.5 +1.4**
CN2 *e*S **S** **19 11 25.8 -2.4**
CN2 *e*SS **SS** **19 16 05.3 -0.8**
CN2 pmax pmax
comp=Z,20nm,1.0s
SNSI Sinabang, Aceh 72.27 100 P **P** **19 02 12.7 +1.6**
FRNY Flat Rock 72.28 313 P **P** **19 02 11.3 +0.6**
FRNY Flat Rock 72.28 313 P **P** **19 02 12.0 +1.3**
baz=58
BNX BinXian 72.36 46 ⇑P **P** **19 02 11.5 +0.4**
BNX pmax pmax
comp=Z,23nm,0.8s
BNX pmax pmax
comp=Z,160nm,4.8s
MCVT Middlebury Col 72.39 312 P **P** **19 02 13.3 +1.9**
baz=58
BILL Bilibino 72.55 15 P **P** **19 02 11.7 -0.2**
BILL lAmb lAmb 19 02 12.9
comp=Z,89nm,1.7s
BILL Bilibino 72.55 15*d* *i*P **P** **19 02 11.7 -0.2**
BILL *e* 19 02 30.6
BILL *e* 19 04 51.1
BILL *e*PPP PPP 19 06 37.7
BILL *e*S SKiKP 19 12 13.9 +33
BILL pmax pmax
comp=Z,52nm,1.7s
BILL MLR MLR
comp=Z,92nm,18.0s
KCSI Kotacane, Aceh 72.78 98 P **P** **19 02 15.8 +1.7**
comp=Z,43nm,0.9s
KLR Kul'dur 72.88 41 P **P** **19 02 15.0 +0.8**
comp=Z,20nm,0.9s,baz=304,slow=6.6,SNR=75
KLR pP **pP** **19 02 30.7 -0.1**
comp=Z,20nm,0.9s,baz=329,slow=14,SNR=11
KLR LR LR 19 38 06.7
comp=Z,145nm,20.3s,baz=310,slow=39
comp=Z,20nm,0.9s
SEY Seymchan 72.91 23 P **P** **19 02 15.0 +0.9**
comp=Z,18nm,0.5s,baz=306,slow=5.5,SNR=58
comp=Z,18nm,0.5s
SEY Seymchan 72.91 23 *e*P **P** **19 02 15.1 +1.0**
SEY pmax pmax
comp=Z,33nm,1.4s
LONY Lake Ozonia 72.99 313 P **P** **19 02 16.2 +1.3**
LONY Lake Ozonia 72.99 313 P **P** **19 02 16.5 +1.5**
baz=57
L61B Northampton 73.00 310 P **P** **19 02 16.8 +1.7**
baz=57
L61B Northampton 73.00 310 P **P** **19 02 16.6 +1.6**
baz=58
UCCT U. Connecticut 73.07 309 P **P** **19 02 16.7 +1.2**
ACCN Adirondack Com 73.11 311 P **P** **19 02 17.4 +1.7**
ACCN lAmb lAmb 19 02 18.4
comp=Z,31nm,0.8s
ACCN Adirondack Com 73.11 311 P **P** **19 02 18.1 +2.4**
baz=57
M63A Gales Ferry 73.17 309 P **P** **19 02 17.9 +1.9**
baz=58
M63A P **P** **19 02 17.9 +1.9**
baz=58
C36M Paulatuk 73.30 349 P **P** **19 02 16.0 -0.3**
C36M Paulatuk 73.30 349 P **P** **19 02 16.2 0.0**
baz=25
J59A Piesco 73.58 312 P **P** **19 02 19.7 +1.2**

baz=57
J59A P **P** **19 02 19.7 +1.2**
baz=57
KSCT Kent School, K 73.90 310 P **P**
KSCT IAmb IAmb 19 02 23.0
comp=Z,29nm,0.8s
GSI Gunungsitoli 73.92 100 P **P** **19 02 21.9 +1.0**
comp=Z,23nm,1.5s
HCNY Howe Caverns 73.93 311 P **P** **19 02 22.4 +1.8**
baz=56
FCC Fort Churchill 73.96 332 P **P** **19 02 20.4 +0.1**
FCC IAmb IAmb 19 02 22.0
comp=Z,132nm,1.8s
FCC Fort Churchill 73.96 332 P **P** **19 02 20.4 +0.1**
FCC pmax pmax
comp=Z,132nm,1.8s
WCNY West Carthage 73.99 313 P **P** **19 02 22.3 +1.5**
baz=56
NJ2 Nanjing 74.01 62 *e*P **P** **19 02 20.5 -0.6**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
KULM Kulim 74.09 95 P **P** **19 02 21.4 -0.5**
KULM IAmb IAmb 19 02 48.1
comp=Z,42nm,1.1s
J58A Remsen 74.11 312 P **P** **19 02 23.1 +1.5**
J58A Remsen 74.11 312 P **P** **19 02 23.4 +1.8**
baz=56,SNR=5.4
J58A P **P** **19 02 23.4 +1.8**
baz=56,SNR=5.4
PSI Prapat 74.13 98 P **P** **19 02 22.1 -0.1**
comp=Z,3.8nm,0.3s,baz=323,slow=9.7,SNR=4.9
PSI LR LR 19 39 16.4
comp=Z,54nm,22.0s,baz=298,slow=39
comp=Z,3.8nm,0.3s
PSI Prapat 74.13 98 P P 19 02 29.9 +7.7
PSI Prapat 74.13 98 P **P** **19 02 22.1 -0.1**
PSI pmax pmax
comp=Z,19nm,0.8s
RPSI Rantau Prapat 74.19 98 P **P** **19 02 21.8 -0.6**
RPSI Rantau Prapat 74.19 98 P **P** **19 02 22.1 -0.3**
MDJ Mudanjiang 74.27 46 P **P** **19 02 22.0 -0.4**
MDJ Mudanjiang 74.27 46 P **P** **19 02 22.3 -0.1**
MDJ pmax pmax
comp=Z,15nm,2.1s
MDJ pmax pmax
comp=Z,300nm,11.2s
MDJ Mudanjiang 74.27 46 P **P** **19 02 22.8 +0.4**
NPNY Mohonk Preserv 74.29 310 P **P** **19 02 24.0 +1.4**
baz=56
GRNR Gornyy 74.42 38 *i*P **P** **19 02 23.3 +0.1**
GRNR pmax pmax
comp=N,4.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,1.1s
PAL Palisades 74.56 309 P **P** **19 02 25.7 +1.5**
baz=56
PAL Palisades 74.56 309 P **P** **19 02 25.2 +1.0**
baz=56
L59A Walton 74.61 311 P **P** **19 02 26.1 +1.6**
L59A IAmb IAmb 19 02 27.4
comp=Z,52nm,0.8s
L59A Walton 74.61 311 P **P** **19 02 26.2 +1.6**
baz=56
L59A P **P** **19 02 26.2 +1.6**
baz=56
FOR Fordham 74.62 309 P **P** **19 02 25.2 +0.7**
baz=56
MA2 Magadan 74.79 26 P **P** **19 02 26.2 +1.0**
comp=Z,47nm,0.7s,baz=329,slow=8.3,SNR=76
comp=Z,47nm,0.7s
MA2 Magadan 74.79 26 P **P** **19 02 25.8 +0.6**
MA2 IAmb IAmb 19 02 27.1
comp=Z,58nm,0.9s
MA2 Magadan 74.79 26 P **P** **19 02 25.9 +0.7**
MA2 Magadan 74.79 26 *i*P **P** **19 02 25.9 +0.7**
MA2 pmax pmax
comp=Z,36nm,0.5s
DELO Deloro Mine 74.85 314 P **P** **19 02 27.2 +1.4**
DELO IAmb IAmb 19 03 00.2
comp=Z,55nm,1.3s
ODNJ Ogdensburg 74.96 310 P **P** **19 02 27.3 +0.8**
ODNJ Ogdensburg 74.96 310 P **P** **19 02 28.3 +1.8**
baz=56
C27K Jago River 75.00 356 P **P** **19 02 27.1 +0.9**
baz=8.3
C24K Franklin Bluff 75.10 358 P **P** **19 02 27.8 +1.1**
baz=4.1,SNR=28
J56A Wolcott 75.11 313 P **P** **19 02 28.0 +0.7**
J56A IAmb IAmb 19 02 29.8
comp=Z,57nm,0.9s
J56A Wolcott 75.11 313 P **P** **19 02 28.9 +1.6**
baz=55
J56A P **P** **19 02 28.9 +1.6**
baz=55
BRNJ Basking Ridge 75.15 309 P **P** **19 02 26.7 -0.9**
BRNJ Basking Ridge 75.15 309 P **P** **19 02 29.5 +1.9**
baz=56
BINY Binghamton 75.19 311 P **P** **19 02 28.7 +0.9**
BINY IAmb IAmb 19 02 30.5
comp=Z,40nm,1.1s
BINY Binghamton 75.19 311 P **P** **19 02 29.5 +1.7**
baz=56
BINY Binghamton 75.19 311 P **P** **19 02 29.5 +1.7**
baz=56
K57A Scipio Center 75.21 312 P **P** **19 02 28.2 +0.2**
K57A IAmb IAmb 19 02 32.8
comp=Z,68nm,1.4s
K57A Scipio Center 75.21 312 P **P** **19 02 29.7 +1.8**
baz=55
PBSI Pulau Batu 75.29 101 P **P** **19 02 30.4 +1.6**
comp=Z,54nm,1.1s
INK Inuvik 75.49 352 P **P** **19 02 28.7 -0.4**
comp=Z,14nm,0.5s,baz=13,slow=8.3,SNR=116
INK LR LR 19 38 53.4
comp=Z,234nm,18.7s,baz=124,slow=38
comp=Z,14nm,0.5s
INK Inuvik 75.49 352 P **P** **19 02 28.3 -0.8**
INK IAmb IAmb 19 02 30.0
comp=Z,73nm,1.5s
INK Inuvik 75.49 352 P **P** **19 02 28.7 -0.4**
baz=17
SADO Sadowa 75.59 315 P **P** **19 02 31.2 +1.1**
comp=Z,14nm,0.6s,baz=55,slow=4.7,SNR=12
SADO pP **pP** **19 02 47.6 +1.1**
comp=Z,20nm,0.8s,baz=52,slow=8.1,SNR=6.0
SADO LR LR 19 36 11.0
comp=Z,261nm,18.4s,baz=96,slow=36
comp=Z,14nm,0.6s
SADO Sadowa 75.59 315 P **P** **19 02 30.4 +0.3**
D23K Nanushuk River 75.89 359 P **P** **19 02 32.6 +1.3**
baz=2.4
USA0B Ussuriysk Arra 75.91 46 P **P** **19 02 31.4 -0.5**
USA0B Ussuriysk Arra 75.91 46 *i*P **P** **19 02 32.6 +0.7**
USRK Ussuriysk Ar. 75.91 46 P **P** **19 02 32.4 +0.5**
comp=Z,48nm,0.6s,baz=292,slow=4.7,SNR=124
USRK pP **pwP** **19 02 50.1 -0.6**
comp=Z,37nm,0.7s,baz=307,slow=5.6,SNR=9.0
comp=Z,48nm,0.6s
USRK Ussuriysk Ar. 75.91 46 P **P** **19 02 32.0 +0.2**
ROSB Rosrio 75.97 256 *e*P **P** **19 02 32.7 +0.1**
MMNY Mt. Morris Dam 76.05 313 P **P** **19 02 33.7 +1.0**
MEDO Medina 76.12 313 P **P** **19 02 33.7 +0.6**
MEDO IAmb IAmb 19 05 10.7
comp=Z,40nm,0.8s
PSUB Penn St. - Bra 76.14 309 P **P** **19 02 34.2 +0.9**
baz=55
L56A Greenwood 76.18 312 P **P** **19 02 34.7 +1.2**
L56A IAmb IAmb 19 02 39.9
comp=Z,95nm,1.4s
L56A Greenwood 76.18 312 P **P** **19 02 35.1 +1.6**
baz=55,SNR=7.0
L56A P **P** **19 02 35.1 +1.6**
baz=55,SNR=7.0
E27K Coleen River 76.31 355 P **P** **19 02 34.5 +0.7**
baz=10
GEDE Greenville 76.32 309 P **P** **19 02 35.3 +1.0**
baz=55
F31M Tsiigehtchic 76.35 352 P **P** **19 02 34.1 +0.1**
baz=17
M57A Sunshine Farm, 76.38 311 P **P** **19 02 35.8 +1.2**
M57A IAmb IAmb 19 02 56.9
comp=Z,44nm,1.2s
M57A Sunshine Farm, 76.38 311 P **P** **19 02 35.9 +1.2**
baz=55
M57A P **P** **19 02 35.9 +1.2**
baz=55
N58A Sunbury 76.41 311 P **P** **19 02 35.0 +0.2**
N58A IAmb IAmb 19 02 37.1
comp=Z,27nm,0.8s
N58A Sunbury 76.41 311 P **P** **19 02 36.4 +1.6**
baz=55
N58A P **P** **19 02 36.4 +1.6**
baz=55
E25K Arctic Village 76.59 357 P **P** **19 02 36.2 +0.8**
baz=6.7,SNR=41
WVNY West Valley, N 76.66 313 P **P** **19 02 36.7 +0.5**
WVNY IAmb IAmb 19 02 38.5
comp=Z,25nm,0.8s
WVNY West Valley, N 76.66 313 P **P** **19 02 37.6 +1.4**
baz=54
MVL Millersville 76.67 310 P **P** **19 02 37.4 +1.2**
MVL IAmb IAmb 19 02 38.6
comp=Z,30nm,0.9s
E24K Your Creek 76.74 358 P **P** **19 02 37.0 +0.8**
baz=4.3
PAGS Pennsylvania G 76.77 310 P **P** **19 02 37.6 +0.8**
PAGS IAmb IAmb 19 02 38.2
comp=Z,30nm,0.7s
E23K Chandalar 76.79 358 P **P** **19 02 37.5 +1.0**
baz=3.3
F26K Sheenjek River 76.95 356 P **P** **19 02 38.4 +1.0**
baz=7.9,SNR=25
G30M tAoh Zraii Nji 77.05 353 P **P** **19 02 38.0 0.0**
baz=14,SNR=28
F25K Christian Rive 77.12 357 P **P** **19 02 39.6 +1.2**
baz=6.6
KS19 Wonju Array Si 77.23 53 P **P** **19 02 39.4 0.0**
BMAR Burnt Mountain 77.23 356 P **P** **19 02 39.9 +0.9**
SSPA Standing Stone 77.25 311 P **P** **19 02 39.8 +0.2**
SSPA IAmb IAmb 19 03 02.5
comp=Z,78nm,1.7s
SSPA Standing Stone 77.25 311 P **P** **19 02 41.0 +1.5**
baz=54
SSPA Standing Stone 77.25 311 P **P** **19 02 40.8 +1.2**
baz=54
KSAR Wonju Array Be 77.27 53 P **P** **19 02 40.2 +0.5**
KSAR Wonju Array Be 77.27 53 P **P** **19 02 40.2 +0.5**
F24K Squaw Lake 77.28 358 P **P** **19 02 40.6 +1.4**
baz=4.8
KSRS Korea Array 77.29 53 P **P** **19 02 40.8 +1.0**
comp=Z,8.8nm,0.6s,baz=309,slow=4.6,SNR=42
KSRS LR LR 19 39 50.4
comp=Z,119nm,21.1s,baz=305,slow=38
comp=Z,8.8nm,0.6s
M55A Ridgway 77.30 312 P **P** **19 02 41.0 +1.2**
M55A IAmb IAmb 19 02 42.2
comp=Z,34nm,0.9s
M55A Ridgway 77.30 312 P **P** **19 02 41.4 +1.5**
baz=54,SNR=7.5
M55A P **P** **19 02 41.4 +1.5**
baz=54,SNR=7.5
SDMD Soldier's Deli 77.31 309 P **P** **19 02 41.1 +1.2**
SDMD Soldier's Deli 77.31 309 P **P** **19 02 41.1 +1.2**
baz=54,SNR=5.1
TYV Tymovskoe 77.42 36 *e*P **P** **19 02 41.2 +0.9**
TYV pmax pmax
comp=Z,10.0nm,1.4s
TYV pmax pmax
comp=Z,200nm,4.6s
PSDB Penn State Uni 77.50 312 P **P** **19 02 40.8 -0.1**
baz=54
YKA Yellowknife Ar 77.51 343 P **P** **19 02 40.6 +0.1**
comp=Z,48nm,0.7s,baz=31,slow=5.3,SNR=529
comp=Z,48nm,0.7s
YKA Yellowknife Ar 77.51 343 P **P** **19 02 40.4 -0.2**
E46A Sault Ste Mari 77.52 318 P **P** **19 02 41.8 +0.9**
E46A IAmb IAmb 19 02 43.1
comp=Z,34nm,0.8s
E46A Sault Ste Mari 77.52 318 P **P** **19 02 41.7 +0.8**
baz=51
TJN Taejon 77.54 54 **P** **19 02 41.0 -0.2**
TJN Taejon 77.54 54 P **P** **19 02 43.2 +2.0**
TJN Taejon 77.54 54 P **P** **19 02 41.0 -0.2**
TJN pmax pmax
comp=Z,88nm,1.0s
PDSI Padang 77.55 100 P **P** **19 02 42.1 +0.5**
comp=Z,36nm,1.0s
COLD Coldfoot 77.63 359 P **P** **19 02 41.9 +0.7**
COLD IAmb IAmb 19 02 42.9
comp=Z,57nm,1.2s
COLD Coldfoot 77.63 359 P **P** **19 02 41.9 +0.7**
baz=2.8,SNR=28
ERPA Erie 77.66 313 P **P** **19 02 41.9 +0.1**
ERPA IAmb IAmb 19 03 03.5
comp=Z,43nm,0.9s
ERPA Erie 77.66 313 P **P** **19 02 42.6 +0.9**
baz=53
ERPA Erie 77.66 313 P **P** **19 02 42.7 +0.9**
baz=53
F21K Alatna River 77.67 360 P **P** **19 02 42.5 +1.1**
baz=0.1
G26K Porcupine Rive 77.67 356 P **P** **19 02 42.9 +1.5**
baz=8.2
G27K Doyon Strip 77.68 355 P **P** **19 02 42.5 +1.0**
baz=9.9
G25K Bearman Lake 77.97 357 P **P** **19 02 44.3 +1.3**
baz=6.2
P57A Homestead Farm 78.01 310 P **P** **19 02 44.9 +1.2**
P57A IAmb IAmb 19 03 05.8
comp=Z,28nm,0.9s
P57A Homestead Farm 78.01 310 P **P** **19 02 45.1 +1.4**
baz=54
P57A P **P** **19 02 45.1 +1.4**
baz=54
ALLY Allegheny Colle 78.03 313 P **P** **19 02 44.6 +0.7**
baz=53
G24K Hadweenzic Riv 78.09 358 P **P** **19 02 44.8 +1.1**
baz=5.1,SNR=39
FYU Fort Yukon 78.13 357 P **P** **19 02 44.6 +0.7**
G23K Bananza Creek 78.15 359 P **P** **19 02 45.2 +1.1**
baz=3.0
MDP Montagnes des 78.16 268 LR LR 19 37 57.2
comp=Z,118nm,18.5s,baz=47,slow=36
H27K Steamboat Moun 78.24 355 P **P** **19 02 45.7 +1.1**
baz=10.0,SNR=49
PPSI Pulau Pagai 78.29 102 P **P** **19 02 47.2 +1.6**
comp=Z,53nm,1.2s
SDSI Sungai Dareh 78.34 100 P **P** **19 02 46.0 +0.1**
comp=Z,29nm,0.8s
G21K Allakaket 78.38 360 P **P** **19 02 46.3 +0.9**
baz=0.1
PAMR Moraine State 78.42 312 P **P** **19 02 46.8 +0.7**
baz=53
M53A WI Miller and 78.47 313 P **P** **19 02 47.1 +0.8**
baz=53
T60A Surry 78.56 307 P **P** **19 02 48.0 +1.2**
baz=54
T60A P **P** **19 02 48.0 +1.2**
baz=54
UPAO U. Pittsburgh 78.65 312 P **P** **19 02 48.8 +1.5**
baz=53
GLMI Grayling 78.66 317 P **P** **19 02 48.0 +0.7**
GLMI Grayling 78.66 317 P **P** **19 02 49.0 +1.7**
baz=51
GLMI Grayling 78.66 317 P **P** **19 02 48.4 +1.1**
baz=51
TNA Tin City 78.72 6 P **P** **19 02 47.0 -0.2**
TNA Tin City 78.72 6 P **P** **19 02 47.3 +0.1**
baz=348,SNR=10
GDSD La Dsirade Is 78.74 282 P **P** **19 02 46.7 -1.4**
WRGLY Wrigley 78.78 347 P **P** **19 02 48.7 +1.2**
baz=25,SNR=62
K50A Casco 78.81 315 P **P** **19 02 47.1 -1.0**
K50A IAmb IAmb 19 03 09.8
comp=Z,52nm,0.8s
K50A Casco 78.81 315 P **P** **19 02 49.2 +1.1**
baz=52
K50A P **P** **19 02 49.2 +1.1**
baz=52
R58B Mineral 78.82 309 P **P** **19 02 49.1 +0.8**
R58B Mineral 78.82 309 P **P** **19 02 49.0 +0.8**
baz=54
R58B P **P** **19 02 49.0 +0.8**
baz=54
M52A Chesterland 78.82 313 P **P** **19 02 47.3 -0.9**
M52A IAmb IAmb 19 02 50.3
comp=Z,85nm,1.4s
M52A Chesterland 78.82 313 P **P** **19 02 49.0 +0.7**
baz=52
M52A P **P** **19 02 49.0 +0.7**
baz=52
I29M Ogilvie Camp, 78.83 354 P **P** **19 02 47.8 -0.1**
I29M Ogilvie Camp, 78.83 354 P **P** **19 02 48.1 +0.2**
baz=13,SNR=85
I27K Kandik River 78.87 355 P **P** **19 02 48.9 +0.8**
baz=9.9
IMAR Indian Mountai 78.91 0 P **P** **19 02 48.6 +0.4**
N53A Lisbon 78.95 312 P **P** **19 02 49.9 +1.0**
baz=52
N53A P **P** **19 02 49.9 +1.0**
baz=52
E43A Lone Tree Farm 78.95 320 P **P** **19 02 49.6 +0.8**
baz=50
H24K Noodor Dome 78.96 358 P **P** **19 02 49.2 +0.6**
H24K Noodor Dome 78.96 358 P **P** **19 02 49.3 +0.7**
baz=4.7,SNR=16
H22K Ishtalitna Cre 78.99 359 P **P** **19 02 50.2 +1.5**
baz=1.8
Q56A Snyder Ridge, 79.00 310 P **P** **19 02 50.3 +1.0**
Q56A IAmb IAmb 19 03 11.2
comp=Z,42nm,0.9s
Q56A Snyder Ridge, 79.00 310 P **P** **19 02 50.6 +1.4**
baz=53,SNR=7.5
Q56A P **P** **19 02 50.6 +1.4**
baz=53,SNR=7.5
MCWV Mont Chateau 79.04 311 P **P** **19 02 50.2 +0.7**
MCWV IAmb IAmb 19 03 11.1
comp=Z,37nm,0.8s
MCWV Mont Chateau 79.04 311 P **P** **19 02 50.7 +1.2**
baz=53
MCWV Mont Chateau 79.04 311 P **P** **19 02 50.6 +1.1**
baz=53
O54A Avella 79.05 312 P **P** **19 02 50.6 +1.1**
baz=53
O54A P **P** **19 02 50.6 +1.1**
baz=53
G45A Suttons Bay 79.09 318 P **P** **19 02 50.2 +0.6**
G45A Suttons Bay 79.09 318 P **P** **19 02 50.9 +1.2**
baz=50
G45A P **P** **19 02 50.9 +1.2**
baz=50
PRP Porcupine Dome 79.19 357 P **P** **19 02 50.6 +0.6**
PRP IAmb IAmb 19 02 51.8
comp=Z,97nm,1.7s
PRP Porcupine Dome 79.19 357 P **P** **19 02 50.8 +0.8**
baz=6.7,SNR=22
T59A Double "B" Far 79.19 308 P **P** **19 02 51.0 +0.7**
T59A Double "B" Far 79.19 308 P **P** **19 02 51.3 +1.0**
baz=54
T59A P **P** **19 02 51.3 +1.0**
baz=54
H21K Melozitna Rive 79.24 360 P **P** **19 02 51.3 +1.2**
H21K IAmb IAmb 19 02 52.5
comp=Z,46nm,0.8s
H21K Melozitna Rive 79.24 360 P **P** **19 02 51.3 +1.2**
baz=0.6
I26K Coal Creek Min 79.26 356 P **P** **19 02 50.6 +0.4**
I26K IAmb IAmb 19 02 51.9
comp=Z,37nm,0.8s
I26K Coal Creek Min 79.26 356 P **P** **19 02 51.0 +0.8**
baz=8.7,SNR=25
D41A Chassel 79.33 321 P **P** **19 02 51.5 +0.6**
D41A IAmb IAmb 19 04 35.9
comp=Z,62nm,1.1s
D41A Chassel 79.33 321 P **P** **19 02 51.8 +0.9**
baz=49
O53A New Philadelph 79.52 312 P **P** **19 02 52.4 +0.3**
O53A New Philadelph 79.52 312 P **P** **19 02 53.1 +1.1**
baz=52
S57A Dark Hollow, R 79.62 309 P **P** **19 02 53.5 +0.8**
S57A IAmb IAmb 19 03 14.8
comp=Z,74nm,1.8s
S57A Dark Hollow, R 79.62 309 P **P** **19 02 53.4 +0.8**
baz=53
S57A P **P** **19 02 53.4 +0.8**
baz=53
EGAK Eagle 79.65 355 P **P** **19 02 52.4 +0.1**
EGAK Eagle 79.65 355 P **P** **19 02 52.6 +0.3**
baz=10,SNR=14
POKR Poker Plat Res 79.67 357 P **P** **19 02 53.0 +0.6**
POKR Poker Plat Res 79.67 357 P **P** **19 02 53.3 +0.9**
baz=5.1,SNR=29
I23K Minto, Yukon-K 79.70 358 P **P** **19 02 53.2 +0.7**
I23K IAmb IAmb 19 02 54.5
comp=Z,26nm,0.8s
I23K Minto, Yukon-K 79.70 358 P **P** **19 02 53.4 +0.9**
baz=3.5,SNR=22
I21K Tanana 79.71 359 P **P** **19 02 53.6 +1.0**
I21K IAmb IAmb 19 02 54.8
comp=Z,46nm,0.8s
I21K Tanana 79.71 359 P **P** **19 02 53.6 +1.0**
baz=1.3
U59A Littleton 79.72 307 P **P** **19 02 54.3 +1.1**
U59A Littleton 79.72 307 P **P** **19 02 54.4 +1.3**
baz=54,SNR=5.1
U59A P **P** **19 02 54.4 +1.3**
baz=54,SNR=5.1
J29M Klondike Camp 79.72 353 P **P** **19 02 53.7 +1.0**
J29M Klondike Camp 79.72 353 P **P** **19 02 53.7 +1.0**
baz=13
J47A Sunmer 79.77 316 P **P** **19 02 54.2 +0.8**
J47A IAmb IAmb 19 03 31.4
comp=Z,89nm,1.2s
N51A Ashland 79.81 313 P **P** **19 02 54.2 +0.6**
N51A IAmb IAmb 19 03 14.6
comp=Z,29nm,0.8s
N51A Ashland 79.81 313 P **P** **19 02 54.3 +0.7**
baz=52
N51A P **P** **19 02 54.3 +0.7**
baz=52
MLY Manley 79.85 359 P **P** **19 02 54.1 +0.7**
MLY IAmb IAmb 19 02 57.5
comp=Z,31nm,0.8s
MLY Manley 79.85 359 P **P** **19 02 54.3 +0.9**
baz=2.4,SNR=32
MDM Murphy Dome 79.86 358 P **P** **19 02 53.9 +0.5**
FFC Flin Flon 79.88 333 P **P** **19 02 53.9 +0.2**
FFC IAmb IAmb 19 02 55.1
comp=Z,44nm,0.8s
FFC Flin Flon 79.88 333 P **P** **19 02 53.9 +0.2**
FFC pmax pmax
comp=Z,44nm,0.8s
M50A Fremont 79.90 314 P **P** **19 02 55.0 +0.9**
baz=51
M50A P **P** **19 02 55.0 +0.9**
baz=51
ANM Nome 79.90 5 P **P** **19 02 53.7 0.0**
ANM IAmb IAmb 19 02 55.0
comp=Z,50nm,1.0s
ANM Nome 79.90 5 P **P** **19 02 53.9 +0.3**
baz=350,SNR=31
ANM Nome 79.90 5 P **P** **19 02 53.7 0.0**
ANM pmax pmax
comp=Z,50nm,1.0s
COLA College 79.93 358 P **P** **19 02 53.7 0.0**
COLA College 79.93 358 P **P** **19 02 54.3 +0.5**
baz=4.7
COLA College 79.93 358 P **P** **19 02 54.5 +0.8**
COLA College 79.93 358 *i*P **P** **19 02 54.3 +0.5**
COLA pmax pmax
comp=Z,17nm,1.0s
TCOL CIGO, UAF Yank 79.93 358 P **P** **19 02 53.6 -0.2**
TCOL CIGO, UAF Yank 79.93 358 P **P** **19 02 54.2 +0.5**
baz=4.7
F42A Maple Grove Fa 79.96 320 P **P** **19 02 55.2 +0.9**
baz=49
O52A Adamsville 79.98 312 P **P** **19 02 55.1 +0.6**
O52A IAmb IAmb 19 03 16.1
comp=Z,30nm,0.9s
O52A Adamsville 79.98 312 P **P** **19 02 55.6 +1.1**
baz=52,SNR=7.6
O52A P **P** **19 02 55.6 +1.1**
baz=52,SNR=7.6
IL31 79.99 357 P **P** **19 02 54.2 +0.1**
ILAR Eielson Array 79.99 357 P **P** **19 02 54.1 -0.1**
comp=Z,12nm,0.7s,baz=342,slow=3.7,SNR=150
ILAR PKKPbc **PKKPbc** **19 21 38.0 -0.8**
comp=Z,0.4nm,0.7s,baz=197,slow=2.8,SNR=5.1
comp=Z,12nm,0.7s
R55A Marlinton 80.04 310 P **P** **19 02 56.3 +1.3**
R55A Marlinton 80.04 310 P **P** **19 02 56.4 +1.3**
baz=52
R55A P **P** **19 02 56.4 +1.3**
baz=52
I45A Fountain 80.05 317 P **P** **19 02 55.9 +1.0**
baz=50
I45A P **P** **19 02 55.9 +1.0**
baz=50
Q54A Coxs Mills 80.06 311 P **P** **19 02 55.7 +0.7**
Q54A IAmb IAmb 19 02 56.8
comp=Z,125nm,1.9s

Q54A Coxs Mills 80.06 311 P P 19 02 55.7 +0.7
baz=52
Q54A P P 19 02 55.7 +0.7
baz=52
YSS Yuzh-Sakhalins 80.07 39 P P 19 02 55.7 +0.8
YSS Yuzh-Sakhalins 80.07 39 P P 19 02 55.9 +1.1
YSS Yuzh-Sakhalins 80.07 39 eP P 19 02 56.0 +1.1
YSS e 19 03 13.7
YSS pmax pmax
comp=Z,70nm,1.1s
J26L Joseph Creek 80.09 356 P P 19 02 54.8 0.0
J26L IAmb IAmb 19 02 56.0
comp=Z,34nm,0.7s
J26L Joseph Creek 80.09 356 P P 19 02 55.0 +0.2
baz=8.3
P53A Whipple 80.09 312 P P 19 02 56.3 +1.1
P53A IAmb IAmb 19 03 16.7
comp=Z,32nm,0.9s
P53A Whipple 80.09 312 P P 19 02 56.6 +1.5
baz=52,SNR=5.5
P53A P P 19 02 56.6 +1.5
baz=52,SNR=5.5
GCSA Galena City Sc 80.12 1 P P 19 02 55.6 +0.8
baz=357,SNR=10
CCB Clear Creek Bu 80.15 357 P P 19 02 55.0 0.0
CCB IAmb IAmb 19 02 56.1
comp=Z,35nm,0.9s
DAWY Dawson 80.20 354 P P 19 02 55.9 +0.5
DAWY Dawson 80.20 354 P P 19 02 55.9 +0.5
baz=12,SNR=50
NEA2 Nenana 80.25 358 P P 19 02 55.5 -0.1
NEA2 IAmb IAmb 19 02 56.9
comp=Z,46nm,1.2s
NEA2 Nenana 80.25 358 P P 19 02 55.6 +0.1
baz=3.7,SNR=8.7
T57A Hurt 80.27 309 P P 19 02 56.8 +0.6
baz=53
T57A P P 19 02 56.8 +0.6
baz=53
MASI Maura Aman, Be 80.30 101 P P 19 02 58.6 +1.9
comp=Z,24nm,0.9s
MAYO Mayo, Yukon 80.31 352 P P 19 02 56.8 +0.9
MAYO Mayo, Yukon 80.31 352 P P 19 02 56.6 +0.7
baz=15
WRH Wood River Hil 80.34 358 P P 19 02 56.0 -0.1
HDA Harding Lake 80.36 357 P P 19 02 55.9 -0.2
HDA Harding Lake 80.36 357 P P 19 02 56.3 +0.1
baz=5.5,SNR=34
L48A N Adams 80.37 315 P P 19 02 56.7 +0.1
L48A N Adams 80.37 315 P P 19 02 57.5 +0.8
baz=51
L48A P P 19 02 57.5 +0.8
baz=51
P52A Corning 80.45 312 P P 19 02 57.4 +0.3
P52A Corning 80.45 312 P P 19 02 57.6 +0.5
baz=52
ACSO Alum Creek Sta 80.59 313 P P 19 02 58.5 +0.6
ACSO IAmb IAmb 19 03 19.3
comp=Z,37nm,1.0s
ACSO Alum Creek Sta 80.59 313 P P 19 02 58.7 +0.9
baz=51,SNR=5.1
ACSO Alum Creek Sta 80.59 313 P P 19 02 58.5 +0.6
baz=51,SNR=5.1
H43A Windswept, Lux 80.61 319 P P 19 02 59.1 +1.2
baz=49
SCRK Sand Creek 80.64 356 P P 19 02 58.4 +0.6
SCRK IAmb IAmb 19 02 59.8
comp=Z,48nm,1.1s
SCRK Sand Creek 80.64 356 P P 19 02 58.6 +0.8
baz=7.9,SNR=26
ULM Lac du Bonnet 80.66 327 P P 19 02 57.9 -0.1
comp=Z,25nm,0.7s,baz=42,slow=4.8,SNR=48
comp=Z,25nm,0.7s
ULM Lac du Bonnet 80.66 327 P P 19 02 57.9 -0.1
ULM IAmb IAmb 19 04 50.1
comp=Z,45nm,0.9s
ULM Lac du Bonnet 80.66 327 P P 19 02 57.9 -0.1
ULM pmax pmax
comp=Z,45nm,0.9s
BWN Browne 80.68 358 P P 19 02 58.3 +0.5
BWN IAmb IAmb 19 03 41.6
comp=Z,30nm,0.8s
BPAW Bear Paw Mtn. 80.78 359 P P 19 02 58.0 -0.4
BPAW IAmb IAmb 19 02 59.4
comp=Z,40nm,0.8s
BPAW Bear Paw Mtn. 80.78 359 P P 19 02 58.5 +0.1
baz=2.1,SNR=32
MCPB Macapa, AP 80.83 263 eP P 19 02 59.2 -0.3
N49A Columbus Grove 80.87 314 P P 19 02 59.7 +0.3
N49A Columbus Grove 80.87 314 P P 19 02 59.9 +0.6
baz=51
N49A P P 19 02 59.9 +0.6
baz=51
BLA Blacksburg 80.88 309 P P 19 03 00.1 +0.6
baz=52
BLA Blacksburg 80.88 309 P P 19 02 59.8 +0.3
baz=52
V58A Windy Hill, Pi 80.91 308 P P 19 03 00.5 +0.9
baz=53
V58A P P 19 03 00.5 +0.9
baz=53
K24K Donnelly Dome 80.91 357 P P 19 02 59.5 +0.3
baz=6.4,SNR=20
RIDG Independent Ri 80.92 356 P P 19 02 59.6 +0.4
RIDG IAmb IAmb 19 03 01.0
comp=Z,48nm,0.8s
RIDG Independent Ri 80.92 356 P P 19 02 59.8 +0.6
baz=7.2,SNR=16
Q52A Bidwell 80.95 312 P P 19 03 00.5 +0.7
baz=52
Q52A P P 19 03 00.5 +0.7
baz=52
DOT Dot Lake 80.97 356 P P 19 03 00.2 +0.7
DOT IAmb IAmb 19 03 01.4
comp=Z,51nm,0.8s
CHUM Lake Minchumin 81.02 359 P P 19 03 00.2 +0.5
baz=1.1,SNR=27
L29M L29M 81.02 353 P P 19 03 00.6 +0.8
baz=13
S54A Dingess, Beckl 81.08 310 P P 19 03 01.5 +0.9
baz=52
S54A P P 19 03 01.5 +0.9
baz=52
MCK McKinley 81.11 358 P P 19 02 59.9 -0.3
MCK IAmb IAmb 19 03 01.2
comp=Z,52nm,0.9s
MCK McKinley 81.11 358 P P 19 03 00.1 0.0
baz=3.8,SNR=19
MCK McKinley 81.11 358 P P 19 02 59.9 -0.3
MCK pmax pmax
comp=Z,53nm,0.9s
P51A Williamsport 81.11 312 P P 19 03 01.0 +0.4
baz=51
P51A P P 19 03 01.0 +0.4
baz=51
R53A Hurricane 81.15 311 P P 19 03 01.7 +0.8
R53A IAmb IAmb 19 03 21.7
comp=Z,48nm,1.1s
R53A Hurricane 81.15 311 P P 19 03 02.1 +1.2
baz=52,SNR=6.3
R53A P P 19 03 02.1 +1.2
baz=52,SNR=6.3
FARO Faro, Yukon 81.32 351 P P 19 03 02.6 +1.3
FARO IAmb IAmb 19 03 03.9
comp=Z,66nm,1.1s
FARO Faro, Yukon 81.32 351 P P 19 03 02.6 +1.3
baz=17,SNR=27
KTH Kantishna Hill 81.33 359 P P 19 03 01.2 -0.2
KTH IAmb IAmb 19 03 03.0
comp=Z,36nm,0.8s
G40A Rib Lake 81.37 320 P P 19 03 02.5 +0.6
G40A IAmb IAmb 19 03 03.5
comp=Z,37nm,1.1s
G40A Rib Lake 81.37 320 P P 19 03 02.5 +0.6
baz=48
U56A King 81.39 309 P P 19 03 03.5 +1.4
U56A King 81.39 309 P P 19 03 03.6 +1.4
baz=52
U56A P P 19 03 03.6 +1.4
baz=52
BCAR Beaver Creek A 81.39 355 P P 19 03 02.5 +0.8
L27K Beaver Creek, 81.40 355 P P 19 03 02.3 +0.5
L27K IAmb IAmb 19 03 03.9
comp=Z,38nm,0.9s
L27K Beaver Creek, 81.40 355 P P 19 03 02.8 +1.0
baz=9.7
M30M Minto, Yukon 81.40 352 P P 19 03 01.9 +0.1
M30M Minto, Yukon 81.40 352 P P 19 03 02.3 +0.5
baz=14,SNR=7.1
TRF Thorofare Moun 81.42 359 P P 19 03 02.0 0.0
TRF IAmb IAmb 19 03 03.1
comp=Z,40nm,0.8s
TRF Thorofare Moun 81.42 359 P P 19 03 02.2 +0.2
baz=2.7,SNR=17
O49A Covington 81.43 314 P P 19 03 02.2 -0.1
O49A IAmb IAmb 19 03 03.7
comp=Z,29nm,0.7s
O49A Covington 81.43 314 P P 19 03 03.0 +0.7
baz=50,SNR=7.8
O49A P P 19 03 03.0 +0.7
baz=50,SNR=7.8
RND Reindeer 81.43 358 P P 19 03 01.1 -0.9
RND IAmb IAmb 19 03 03.3
comp=Z,22nm,0.6s
RND Reindeer 81.43 358 P P 19 03 01.1 -0.9
RND pmax pmax
comp=Z,22nm,0.6s
M31M Drury Creek, Y 81.48 351 P P 19 03 03.3 +1.1
M31M IAmb IAmb 19 03 04.5
comp=Z,58nm,0.8s
M31M Drury Creek, Y 81.48 351 P P 19 03 03.2 +1.0
baz=16,SNR=28
CAST Castle Rocks 81.48 359 P P 19 03 01.9 -0.3
CAST IAmb IAmb 19 03 03.7
comp=Z,40nm,0.9s
CAST Castle Rocks 81.48 359 P P 19 03 01.8 -0.3
baz=1.2,SNR=33
HILA High Level 81.52 342 P P 19 03 03.1 +0.7
L26K Log Cabin Wild 81.54 355 P P 19 03 03.2 +0.7
L26K IAmb IAmb 19 03 04.6
comp=Z,28nm,0.9s
L26K Log Cabin Wild 81.54 355 P P 19 03 03.5 +1.0
baz=8.4,SNR=15
K20K Telida 81.55 0 P P 19 03 03.1 +0.6
K20K IAmb IAmb 19 03 04.3
comp=Z,43nm,1.1s
K20K Telida 81.55 0 P P 19 03 03.2 +0.7
baz=360
Q51A Peebles 81.57 312 P P 19 03 03.2 +0.1
Q51A IAmb IAmb 19 03 24.6
comp=Z,40nm,0.9s
Q51A Peebles 81.57 312 P P 19 03 03.9 +0.8
baz=51,SNR=5.5
Q51A P P 19 03 03.9 +0.8
baz=51,SNR=5.5
I42A Draeger Farm, 81.61 319 P P 19 03 03.6 +0.4
I42A IAmb IAmb 19 05 19.9
comp=Z,43nm,0.8s
I42A Draeger Farm, 81.61 319 P P 19 03 03.7 +0.5
baz=48
MENT Mentasta 81.65 355 P P 19 03 03.8 +0.7
MENT IAmb IAmb 19 03 05.1
comp=Z,33nm,0.8s
MENT Mentasta 81.65 355 P P 19 03 04.1 +1.0
DHY Denali Highway 81.71 357 P P 19 03 03.8 +0.3
DHY Denali Highway 81.71 357 P P 19 03 04.0 +0.4
baz=5.1,SNR=31
M29M Somme Creek 81.71 353 P P 19 03 04.7 +1.2
baz=12
PAX Paxson 81.72 356 P P 19 03 03.5 0.0
PAX Paxson 81.72 356 P P 19 03 03.5 0.0
baz=6.7,SNR=7.5
PAX Paxson 81.72 356 P P 19 03 03.5 0.0
PAX pmax pmax
comp=Z,9.0nm,0.8s
KOTAN Kotaneelee Air 81.73 346 P P 19 03 04.9 +1.4
baz=24,SNR=14
N47A Urbana 81.78 315 P P 19 03 04.0 -0.1
N47A IAmb IAmb 19 03 25.2
comp=Z,45nm,0.9s
N47A Urbana 81.78 315 P P 19 03 04.7 +0.5
baz=50,SNR=7.7
N47A P P 19 03 04.7 +0.5
baz=50,SNR=7.7
JNU Nakatsue 81.78 55 P P 19 03 05.3 +1.0
comp=Z,7.3nm,0.8s,baz=128,slow=9.8,SNR=3.3
JNU LR LR 19 46 11.6
comp=Z,84nm,19.8s,baz=335,slow=41
comp=Z,7.3nm,0.8s
JNU Nakatsue 81.78 55 P P 19 03 02.3 -2.0
JNU IAmb IAmb 19 03 31.1
comp=Z,35nm,1.1s
W57A Gilead 81.86 307 P P 19 03 05.5 +0.9
baz=52
W57A P P 19 03 05.5 +0.9
baz=52
O48B Farmland 81.87 314 P P 19 03 05.1 +0.5
baz=50
O48B Farmland 81.87 314 P P 19 03 04.9 +0.3
baz=50
ASAJ Asahikawa 81.89 41 P P 19 03 05.4 +0.8
comp=Z,19nm,0.6s,baz=291,slow=6.2,SNR=34
ASAJ LR LR 19 44 32.3
comp=Z,207nm,19.5s,baz=324,slow=39
comp=Z,19nm,0.6s
JKA Kamikawa-asahi 81.90 41 P P 19 03 04.8 +0.1
JKA IAmb IAmb 19 03 40.0
comp=Z,42nm,1.2s
BVCY Beaver Creek 81.96 354 P P 19 03 05.9 +1.2
baz=10,SNR=25
TTA Tatalina 81.96 1 P P 19 03 05.4 +0.6
TTA IAmb IAmb 19 03 06.7
comp=Z,82nm,1.8s
TTA Tatalina 81.96 1 P P 19 03 05.6 +0.8
baz=358,SNR=11
TTA Tatalina 81.96 1 P P 19 03 05.6 +0.8
TTA Tatalina 81.96 1 P P 19 03 05.4 +0.6
TTA pmax pmax
comp=Z,82nm,1.8s
WAT1 Susitna Watana 82.00 358 P P 19 03 04.7 -0.2
baz=4.1
PPLA Purkeypile 82.01 359 P P 19 03 04.9 -0.2
PPLA Purkeypile 82.01 359 P P 19 03 05.7 +0.6
baz=1.1,SNR=16
AGMN Agassiz Nation 82.06 325 P P 19 03 05.5 +0.1
AGMN Agassiz Nation 82.06 325 P P 19 03 05.9 +0.5
baz=44,SNR=6.5
AGMN Agassiz Nation 82.06 325 P P 19 03 05.5 +0.1
baz=44
P49A Miami Univ. Ec 82.07 313 P P 19 03 06.0 +0.3
P49A Miami Univ. Ec 82.07 313 P P 19 03 06.2 +0.5
baz=50
P49A Miami Univ. Ec 82.07 313 P P 19 03 05.6 -0.1
baz=50
M27K Edge Creek, AK 82.10 355 P P 19 03 06.0 +0.4
M27K IAmb IAmb 19 03 08.0
comp=Z,51nm,1.0s
M27K Edge Creek, AK 82.10 355 P P 19 03 06.3 +0.7
baz=9.6
M26K Nabesna, AK 82.14 355 P P 19 03 06.5 +0.8
M26K IAmb IAmb 19 03 07.6
comp=Z,34nm,0.9s
M26K Nabesna, AK 82.14 355 P P 19 03 06.4 +0.8
baz=8.7
U54A Nelsons Funny 82.19 309 P P 19 03 07.4 +1.0
U54A IAmb IAmb 19 03 28.1
comp=Z,39nm,0.9s
U54A Nelsons Funny 82.19 309 P P 19 03 07.6 +1.2
baz=51,SNR=5.4
U54A P P 19 03 07.6 +1.2
baz=51,SNR=5.4
PEA0B Petropavlovsk- 82.20 27 i P P 19 03 06.2 +0.1
PETK Petropavlovsk- 82.20 27 P P 19 03 05.4 -0.7
comp=Z,5.1nm,0.6s,baz=45,slow=4.4,SNR=14
PETK pP pP 19 03 22.7 -0.3
comp=Z,7.3nm,0.8s,baz=266,slow=5.9,SNR=4.9
PETK PP PP 19 06 12.9 -1.5
comp=Z,11nm,1.1s,baz=252,slow=3.0,SNR=3.9
PETK LR LR 19 44 20.0
comp=Z,75nm,18.5s,baz=332,slow=39
comp=Z,5.1nm,0.6s
WAT6 Susitna Watana 82.22 357 P P 19 03 06.2 -0.1
baz=4.8,SNR=19
V55A Taylorsville 82.22 309 P P 19 03 07.3 +0.7
baz=52
V55A P P 19 03 07.3 +0.7
baz=52
HARP HAARP 82.28 356 P P 19 03 07.0 +0.6
baz=6.9
SMTB Santa Maria do 82.31 253 eP P 19 03 08.0 +0.8
N32M Quiet Lake 82.32 350 P P 19 03 07.6 +0.9
baz=17
N31M Braeburn, Yuko 82.35 351 P P 19 03 06.9 +0.1
N31M IAmb IAmb 19 03 08.0
comp=Z,39nm,0.8s
N31M Braeburn, Yuko 82.35 351 P P 19 03 06.9 +0.1
baz=15,SNR=9.4
SDBA SAO DESIDERIO 82.41 249 eP P 19 03 08.2 +0.4
L20K Farewell, AK 82.43 0 P P 19 03 07.4 +0.2
baz=360
PRPB Parauapebas 82.45 257 eP P 19 03 08.6 +0.6
CUT Chulitna 82.47 358 P P 19 03 06.9 -0.4
CUT Chulitna 82.47 358 P P 19 03 06.7 -0.6
baz=2.7,SNR=11
I40A Norwalk 82.52 320 P P 19 03 08.2 +0.2
I40A Norwalk 82.52 320 P P 19 03 08.1 +0.1
baz=47
P48A Milroy 82.54 314 P P 19 03 08.0 -0.1
P48A Milroy 82.54 314 P P 19 03 08.4 +0.3
baz=50
P48A P P 19 03 08.4 +0.3
baz=50
YUK3 Moose Creek 82.56 354 P P 19 03 09.1 +1.0
baz=11,SNR=34
S51A Beattyville 82.59 311 P P 19 03 09.2 +0.7
baz=51
S51A P P 19 03 09.2 +0.7
baz=51
M24K Tolsona, Glenn 82.62 357 P P 19 03 08.8 +0.6
M24K Tolsona, Glenn 82.62 357 P P 19 03 09.0 +0.8
baz=6.1,SNR=6.7
R50A Paris 82.63 312 P P 19 03 09.5 +0.8
R50A Paris 82.63 312 P P 19 03 08.9 +0.3
baz=50
R50A P P 19 03 08.9 +0.3
baz=50
WTLY Watson Lake, Y 82.64 348 P P 19 03 09.5 +1.2
WTLY Watson Lake, Y 82.64 348 P P 19 03 09.6 +1.2
baz=20,SNR=54
F36A Milaca 82.66 322 P P 19 03 08.3 -0.3
F36A Milaca 82.66 322 P P 19 03 08.8 +0.2
baz=45,SNR=11
L19K White Mountain 82.72 1 P P 19 03 08.9 +0.2
L19K IAmb IAmb 19 03 10.6
comp=Z,44nm,0.9s
L19K White Mountain 82.72 1 P P 19 03 09.3 +0.6
baz=359
KMSC Kings Mountain 82.74 308 P P 19 03 09.7 +0.5
baz=52
KMSC Kings Mountain 82.74 308 P P 19 03 10.2 +0.9
baz=52
SPMN Marine on St. 82.74 322 P P 19 03 09.1 0.0
baz=46
SPMN Marine on St. 82.74 322 P P 19 03 09.9 +0.9
baz=46
LIRD Liard River Hi 82.80 346 P P 19 03 10.6 +1.5
baz=22,SNR=37
YUK4 Talbot Arm 82.81 353 P P 19 03 09.7 +0.4
baz=12,SNR=15
SFIN Lafayette 82.92 315 P P 19 03 10.9 +0.9
baz=49
SFIN Lafayette 82.92 315 P P 19 03 10.5 +0.5
baz=49
SKT Skwentna 82.92 359 P P 19 03 09.1 -0.6
SKT IAmb IAmb 19 03 11.4
comp=Z,56nm,1.0s
SKT Skwentna 82.92 359 P P 19 03 09.4 -0.3
baz=1.7,SNR=20
SCM Sheep Creek Mo 82.95 357 P P 19 03 10.5 +0.6
SCM Sheep Creek Mo 82.95 357 P P 19 03 10.7 +0.8
baz=5.1,SNR=13
SCM Sheep Creek Mo 82.95 357 P P 19 03 10.5 +0.6
SCM pmax pmax
comp=Z,92nm,1.0s
YUK8 Steele Glacier 82.97 353 P P 19 03 10.8 +0.5
baz=11
JFWS Jewell Farm 82.99 319 P P 19 03 10.3 -0.1
JFWS IAmb IAmb 19 03 29.6
comp=Z,22nm,0.6s
JFWS Jewell Farm 82.99 319 P P 19 03 10.3 -0.1
baz=47
JFWS Jewell Farm 82.99 319 P P 19 03 10.5 +0.1
baz=47
JFWS Jewell Farm 82.99 319 P P 19 03 10.3 -0.1
JFWS pmax pmax
comp=Z,22nm,0.6s
M23K Glacier View 83.00 357 P P 19 03 10.6 +0.5
baz=4.8,SNR=14
SML Sawmill 83.01 357 P P 19 03 10.2 -0.1
SML IAmb IAmb 19 03 11.6
comp=Z,57nm,1.0s
SML Sawmill 83.01 357 P P 19 03 10.6 +0.3
baz=4.3,SNR=7.8
M20K Styx River 83.03 360 P P 19 03 10.1 -0.3
M20K IAmb IAmb 19 03 11.5
comp=Z,36nm,0.8s
M20K Styx River 83.03 360 P P 19 03 10.3 -0.1
baz=0.4
N25K Chitina, Valde 83.03 356 P P 19 03 10.8 +0.4
N25K IAmb IAmb 19 03 11.7
comp=Z,33nm,0.8s
N25K Chitina, Valde 83.03 356 P P 19 03 10.8 +0.4
baz=7.4,SNR=8.9
WHY Whitehorse 83.04 351 P P 19 03 10.4 0.0
WHY Whitehorse 83.04 351 P P 19 03 10.4 0.0
baz=15,SNR=10
GHO Glory Hole Cre 83.07 358 P P 19 03 11.0 +0.5
O30N Mendenhall 83.08 351 P P 19 03 10.8 +0.2
baz=14,SNR=8.2
M22K Willow 83.12 358 P P 19 03 10.9 +0.3
baz=2.8
R49A Shelbyville 83.14 313 P P 19 03 11.9 +0.7
R49A IAmb IAmb 19 03 31.9
comp=Z,46nm,1.0s
R49A Shelbyville 83.14 313 P P 19 03 12.3 +1.0
baz=50,SNR=7.3
R49A P P 19 03 12.3 +1.0
baz=50,SNR=7.3
MCARA McCarthy VSAT 83.15 355 P P 19 03 12.7 +1.9
baz=8.7,SNR=8.2
YUK6 Outpost Mounta 83.17 353 P P 19 03 12.3 +1.0
baz=12,SNR=7.5
HYT Haines Junctio 83.19 352 P P 19 03 12.4 +1.1
HYT Haines Junctio 83.19 352 P P 19 03 12.2 +1.0
baz=13,SNR=17
KLU Klutina 83.22 356 P P 19 03 11.8 +0.5
KLU IAmb IAmb 19 03 12.5
comp=Z,25nm,0.8s
KLU Klutina 83.22 356 P P 19 03 11.8 +0.5
baz=6.3,SNR=6.5
PAULI Pauline 83.25 308 P P 19 03 12.4 +0.5
baz=51
PMR Palmer 83.25 358 P P 19 03 11.7 +0.3
PMR Palmer 83.25 358 P P 19 03 11.7 +0.3
baz=3.7,SNR=12
PMR Palmer 83.25 358 P P 19 03 12.3 +0.9
PMR Palmer 83.25 358 P P 19 03 11.7 +0.3
PMR pmax pmax
comp=Z,80nm,1.1s
TZTN Tazewell 83.26 310 P P 19 03 13.0 +1.0
TZTN Tazewell 83.26 310 P P 19 03 12.8 +0.8
baz=50
TZTN Tazewell 83.26 310 P P 19 03 12.8 +0.8
baz=50
L42A Oliver, Polo 83.28 318 P P 19 03 12.3 +0.4
L42A IAmb IAmb 19 03 13.5
comp=Z,48nm,1.2s
L42A Oliver, Polo 83.28 318 P P 19 03 12.5 +0.6
baz=48,SNR=5.1
V53A Saluda 83.35 309 P P 19 03 13.1 +0.7
baz=51
V53A P P 19 03 13.1 +0.7
baz=51
KNK Knik Glacier 83.41 358 P P 19 03 12.8 +0.5
KNK Knik Glacier 83.41 358 P P 19 03 13.0 +0.8
baz=4.2,SNR=18
SUA Susitna One 83.42 359 P P 19 03 12.8 +0.4
SUA Susitna One 83.42 359 P P 19 03 12.8 +0.4
baz=2.3,SNR=23
RIB01 Linhares ES 83.47 241 eP P 19 03 13.6 +0.5
P46A Rosedale 83.48 315 P P 19 03 12.6 -0.3
baz=49
MALB Monte Alegre 83.49 263 eP P 19 03 12.5 -0.9
O28M Mount Upton 83.52 353 P P 19 03 13.8 +0.7
baz=11,SNR=8.2
JANB Januaria 83.62 247 eP P 19 03 14.5 +0.5
SJMB Sao Joao De Ma 83.64 242 eP P 19 03 14.7 +0.7
BMRM Bremner River 83.67 356 P P 19 03 14.1 +0.4
baz=7.4
N20K Mount Spurr 83.71 359 P P 19 03 13.5 -0.3
baz=1.1,SNR=9.9

SPCR Spurr Chakacha 83.71 359 P **P** 19 03 13.4 -0.4
baz=1.1,SNR=5.8
JOW Kunigami 83.72 62 P **P** 19 03 14.1 -0.4
comp=Z,7.1nm,0.5s,baz=109,slow=19,SNR=2.0
JOW LR LR 19 44 16.0
comp=Z,56nm,19.7s,baz=329,slow=38
comp=Z,7.1nm,0.5s
V52A Sevierville 83.73 310 P **P** 19 03 15.7 +1.3
baz=50,SNR=5.5
T50A Nancy 83.75 311 P **P** 19 03 15.5 +1.1
T50A IAmb IAmb 19 03 16.6
comp=Z,36nm,0.8s
T50A Nancy 83.75 311 P **P** 19 03 15.1 +0.7
baz=50
T50A P **P** 19 03 15.1 +0.7
baz=50
RC01 Rabbit Creek A 83.78 358 P **P** 19 03 14.4 +0.2
RC01 Rabbit Creek A 83.78 358 P **P** 19 03 14.3 +0.2
baz=3.1,SNR=12
SVW2 Sparrevohn 83.81 1 P **P** 19 03 15.1 +0.9
SVW2 IAmb IAmb 19 03 16.1
comp=Z,32nm,0.8s
SVW2 Sparrevohn 83.81 1 P **P** 19 03 15.4 +1.1
P30M Million Dollar 83.82 352 P **P** 19 03 15.6 +1.2
baz=14
O29M Mount Kennedy 83.82 353 P **P** 19 03 14.8 +0.3
baz=12,SNR=7.7
WCI Wyandotte Cave 83.85 313 P **P** 19 03 16.2 +1.3
baz=49,SNR=5.1
WCI Wyandotte Cave 83.85 313 P **P** 19 03 15.6 +0.7
baz=49
CASEE Lake Jocassee 83.85 309 P **P** 19 03 16.3 +1.3
baz=51
I37A Lemond, Waseca 83.89 321 P **P** 19 03 15.2 +0.2
I37B Waseca 83.89 321 P **P** 19 03 15.9 +0.9
baz=45,SNR=8.5
HODGE Hodges 83.90 308 P **P** 19 03 15.4 +0.2
baz=51
P32M Atlin 83.91 350 P **P** 19 03 15.0 +0.2
baz=16,SNR=9.9
PWL Port Wells 83.96 357 P **P** 19 03 15.6 +0.5
baz=4.3
TKL Tuckaleechee C 83.96 310 P **P** 19 03 16.5 +1.0
comp=Z,11nm,0.7s,baz=85,slow=5.4,SNR=12
TKL LR LR 19 40 14.7
comp=Z,113nm,20.0s,baz=11,slow=35
comp=Z,11nm,0.7s
TKL Tuckaleechee C 83.96 310 P **P** 19 03 16.2 +0.6
TKL Tuckaleechee C 83.96 310 P **P** 19 03 16.7 +1.2
baz=50,SNR=6.3
HAW Hawthorne Fire 84.02 307 P **P** 19 03 16.2 +0.4
baz=51
F33A 5 Mile Ranch, 84.03 324 P **P** 19 03 15.7 0.0
F33A IAmb IAmb 19 04 40.3
comp=Z,52nm,1.1s
F33A 5 Mile Ranch, 84.03 324 P **P** 19 03 15.7 0.0
baz=44
HDIL Hopedale 84.05 316 P **P** 19 03 16.1 +0.2
HDIL IAmb IAmb 19 03 36.0
comp=Z,28nm,0.7s
HDIL Hopedale 84.05 316 P **P** 19 03 16.4 +0.5
baz=48
HDIL Hopedale 84.05 316 P **P** 19 03 16.4 +0.5
baz=48
L40A Anamosa 84.09 318 P **P** 19 03 16.3 +0.2
L40A Anamosa 84.09 318 P **P** 19 03 16.6 +0.6
baz=47,SNR=10
MDND Maddock 84.09 327 P **P** 19 03 15.4 -0.5
MDND Maddock 84.09 327 P **P** 19 03 16.6 +0.6
baz=42,SNR=6.7
MDND Maddock 84.09 327 P **P** 19 03 16.2 +0.2
baz=42
N19K Bonanza Creek 84.10 0 P **P** 19 03 16.3 +0.4
N19K IAmb IAmb 19 03 18.1
comp=Z,41nm,1.0s
N19K Bonanza Creek 84.10 0 P **P** 19 03 16.5 +0.6
baz=359
CAPN Captain Cook N 84.13 359 P **P** 19 03 17.4 +1.6
CAPN Captain Cook N 84.13 359 P **P** 19 03 17.2 +1.4
baz=2.0
EYAK Cordova Ski Ar 84.15 356 P **P** 19 03 17.0 +1.0
baz=6.4
PINM Pinnacle 84.19 353 P **P** 19 03 17.7 +1.4
baz=11,SNR=5.3
V51A Loudon 84.23 310 P **P** 19 03 17.9 +1.1
V51A Loudon 84.23 310 P **P** 19 03 18.2 +1.3
baz=50
SKAG Skagway 84.26 351 P **P** 19 03 18.1 +1.6
baz=15
Q32M Nakina River 84.30 349 P **P** 19 03 18.3 +1.3
baz=17,SNR=14
N16K Nishlik Lake 84.35 3 P **P** 19 03 18.3 +1.2
baz=356
MAJO Matsushiro 84.37 49 P **P** 19 03 17.6 0.0
MAJO IAmb IAmb 19 03 19.3
comp=Z,36nm,1.1s
MAJO Matsushiro 84.37 49 P **P** 19 03 18.7 +1.1
MAJO Matsushiro 84.37 49 P **P** 19 03 17.6 0.0
MAJO pmax pmax
comp=Z,36nm,1.2s
MJAR Matsushiro Arr 84.37 49 P **P** 19 03 18.6 +1.0
comp=Z,17nm,0.9s,baz=313,slow=5.2,SNR=22
MJAR pP **pP** 19 03 34.5 -0.1
comp=Z,24nm,0.8s,baz=307,slow=4.5,SNR=12
MJAR LR LR 19 45 18.4
comp=Z,89nm,18.6s,baz=332,slow=39
comp=Z,17nm,0.9s
PLBC Pleasant Camp 84.39 351 P **P** 19 03 18.7 +1.4
baz=14,SNR=9.3
W52A Murphy 84.42 309 P **P** 19 03 18.9 +1.0
W52A IAmb IAmb 19 03 39.7
comp=Z,24nm,0.8s
W52A Murphy 84.42 309 P **P** 19 03 18.9 +1.0
baz=50
DLBC Dease Lake 84.43 348 P **P** 19 03 19.2 +1.6
comp=Z,25nm,0.8s,baz=358,slow=4.8,SNR=26
comp=Z,25nm,0.8s
DLBC Dease Lake 84.43 348 P **P** 19 03 19.1 +1.5
DLBC IAmb IAmb 19 03 19.8
comp=Z,23nm,0.8s
DLBC Dease Lake 84.43 348 P **P** 19 03 19.4 +1.8
baz=19,SNR=11
RSO Redoubt South 84.45 360 P **P** 19 03 17.5 -0.3
K38A Parkersburg 84.52 320 P **P** 19 03 17.9 -0.3
K38A IAmb IAmb 19 03 18.5
comp=Z,32nm,0.7s
K38A Parkersburg 84.52 320 P **P** 19 03 17.9 -0.3
baz=46
PNL Peninsula 84.53 353 P **P** 19 03 19.2 +1.3
baz=12
ALF01 Guarapari-ES 84.55 240 eP **P** 19 03 18.9 +0.4
CPCT Cooper Cave 84.56 310 P **P** 19 03 19.9 +1.3
CPCT IAmb IAmb 19 03 20.9
comp=Z,30nm,0.8s
OLIL Olney 84.58 314 P **P** 19 03 19.0 +0.4
OLIL IAmb IAmb 19 03 39.0
comp=Z,38nm,0.9s
OLIL Olney 84.58 314 P **P** 19 03 19.4 +0.8
baz=48
U49A Red Boiling Sp 84.66 311 P **P** 19 03 19.8 +0.8
U49A IAmb IAmb 19 03 39.9
comp=Z,54nm,1.0s
U49A Red Boiling Sp 84.66 311 P **P** 19 03 20.1 +1.1
baz=49,SNR=11
O19K Port Alsworth 84.72 0 P **P** 19 03 18.9 0.0
baz=359
SEW Seward 84.75 358 P **P** 19 03 19.6 +0.6
baz=3.4
P23K Montague Islan 84.79 357 P **P** 19 03 19.8 +0.6
baz=5.1
P43A Skaggs, Pawnee 84.80 316 P **P** 19 03 20.4 +0.7
P43A IAmb IAmb 19 03 20.9
comp=Z,28nm,0.7s
P43A Skaggs, Pawnee 84.80 316 P **P** 19 03 20.3 +0.6
baz=47
N41A Harden Midland 84.82 317 P **P** 19 03 19.9 +0.1
baz=47
O20K Slope Mountain 84.83 360 P **P** 19 03 19.7 +0.1
baz=0.8
Q44A Meyer Farm, Va 85.00 315 P **P** 19 03 21.3 +0.6
Q44A IAmb IAmb 19 03 42.1
comp=Z,20nm,0.7s
Q44A Meyer Farm, Va 85.00 315 P **P** 19 03 21.3 +0.6
baz=48
BESE Bessie Mountai 85.05 350 P **P** 19 03 21.8 +1.1
BESE IAmb IAmb 19 03 23.0
comp=Z,36nm,1.0s

JMM Marumori 85.06 46 P **P** 19 03 21.8 +0.8
JMM IAmb IAmb 19 03 22.4
comp=Z,45nm,0.9s
WAPA Wapiti River 85.08 341 P **P** 19 03 21.6 +0.8
O17K Koliganek Bris 85.10 2 P **P** 19 03 21.7 +0.9
baz=357
S34M Telegraph Cree 85.12 348 P **P** 19 03 22.7 +1.8
baz=18,SNR=30
BRLK Bradley Lake 85.13 359 P **P** 19 03 20.7 -0.3
T47A Sharon Grove 85.15 313 P **P** 19 03 21.7 +0.2
T47A IAmb IAmb 19 03 23.1
comp=Z,40nm,1.1s
T47A Sharon Grove 85.15 313 P **P** 19 03 22.2 +0.7
baz=49,SNR=8.9
BRSE Bradley Lake S 85.15 359 P **P** 19 03 21.7 +0.6
baz=2.3
DIAM Diamantina, MG 85.19 244 eP **P** 19 03 22.0 0.0
W50A Signal Mountai 85.22 310 P **P** 19 03 23.0 +1.1
W50A IAmb IAmb 19 03 24.2
comp=Z,40nm,0.9s
W50A Signal Mountai 85.22 310 P **P** 19 03 23.4 +1.4
baz=50,SNR=12
HOM Homer 85.25 359 P **P** 19 03 21.8 +0.2
baz=1.6
O16K Kokwok River B 85.25 2 P **P** 19 03 22.2 +0.6
baz=356
SDDR Presa de Saban 85.25 290 P **P** 19 03 23.6 +1.2
SDDR IAmb IAmb 19 03 43.9
comp=Z,28nm,0.8s
CLTN Cedars of Leba 85.27 311 P **P** 19 03 22.7 +0.6
CLTN IAmb IAmb 19 03 23.9
comp=Z,34nm,1.1s
SCIA State Center 85.27 319 P **P** 19 03 22.2 +0.2
SCIA IAmb IAmb 19 03 42.0
comp=Z,37nm,0.9s
SCIA State Center 85.27 319 P **P** 19 03 22.7 +0.7
baz=45
SCIA State Center 85.27 319 P **P** 19 03 22.4 +0.4
baz=45
JIS Juneau Island 85.27 350 P **P** 19 03 23.2 +1.6
JIS IAmb IAmb 19 03 24.2
comp=Z,43nm,1.0s
Y52A Lilburn 85.29 309 P **P** 19 03 23.4 +1.1
Y52A IAmb IAmb 19 03 24.5
comp=Z,28nm,0.8s
Y52A Lilburn 85.29 309 P **P** 19 03 23.8 +1.5
baz=50,SNR=8.3
Y52A P **P** 19 03 23.8 +1.5
baz=50,SNR=8.3
R32K Eaglecrest 85.29 350 P **P** 19 03 23.4 +1.6
baz=16
X51A Calhoun 85.34 310 P **P** 19 03 23.5 +1.0
X51A IAmb IAmb 19 05 52.7
comp=Z,26nm,1.0s
X51A Calhoun 85.34 310 P **P** 19 03 23.1 +0.6
baz=50
X51A P **P** 19 03 23.1 +0.6
baz=50
BRLDA Berland Lookou 85.53 340 P **P** 19 03 23.9 +0.7
E28A Huff 85.54 327 P **P** 19 03 23.7 +0.4
E28A Huff 85.54 327 P **P** 19 03 24.0 +0.7
baz=41,SNR=5.2
SWET Sewanee 85.59 311 P **P** 19 03 23.9 +0.1
DGMT Dagmar 85.59 330 P **P** 19 03 23.8 +0.3
DGMT Dagmar 85.59 330 P **P** 19 03 24.3 +0.8
baz=38
DGMT Dagmar 85.59 330 P **P** 19 03 24.5 +1.0
baz=38
P17K Kvichak River 85.70 1 P **P** 19 03 24.6 +0.9
baz=358
ECSD EROS Data Cent 85.72 322 P **P** 19 03 24.8 +0.6
ECSD IAmb IAmb 19 03 25.7
comp=Z,29nm,1.0s
ECSD EROS Data Cent 85.72 322 P **P** 19 03 25.0 +0.8
baz=43,SNR=17
ECSD EROS Data Cent 85.72 322 P **P** 19 03 24.7 +0.5
baz=43,SNR=17
V48A Smith Brothers 85.80 311 P **P** 19 03 24.9 +0.2
V48A IAmb IAmb 19 03 26.2
comp=Z,22nm,0.8s
V48A Smith Brothers 85.80 311 P **P** 19 03 25.3 +0.6
baz=49
P16K Nushagak River 85.82 2 P **P** 19 03 25.6 +1.2
baz=356
FPAL Fort Paine 85.83 310 P **P** 19 03 25.9 +1.0
FPAL IAmb IAmb 19 03 27.0
comp=Z,25nm,0.8s
T35M Bob Quinn 85.85 347 P **P** 19 03 26.2 +1.6
baz=19,SNR=8.0
SIUC Southern Illin 85.92 314 P **P** 19 03 25.9 +0.6
S44A Carbondale 85.95 314 P **P** 19 03 26.0 +0.5
S44A IAmb IAmb 19 03 27.1
comp=Z,33nm,0.9s
S44A Carbondale 85.95 314 P **P** 19 03 26.3 +0.9
baz=47,SNR=6.3
Q19K Cape Douglas, 86.00 0 P **P** 19 03 26.9 +1.6
baz=360
N38A Joes South For 86.06 319 P **P** 19 03 26.3 +0.3
N38A Joes South For 86.06 319 P **P** 19 03 26.8 +0.8
baz=45,SNR=11
ITTB Itaituba 86.14 262 eP **P** 19 03 27.1 +0.4
BOAV Boa Vista 86.14 270 P **P** 19 03 28.3 +1.5
BOAV IAmb IAmb 19 03 49.4
comp=Z,41nm,1.5s
BOAV Boa Vista 86.14 270 eP **P** 19 03 27.2 +0.5
WVT Waverly 86.15 312 P **P** 19 03 25.9 -0.6
WVT IAmb IAmb 19 03 27.3
comp=Z,22nm,0.7s
WVT Waverly 86.15 312 P **P** 19 03 26.6 +0.1
baz=48,SNR=13
WVT Waverly 86.15 312 P **P** 19 03 26.3 -0.2
baz=48
WVT Waverly 86.15 312 P **P** 19 03 25.9 -0.6
WVT pmax pmax
comp=Z,21nm,0.7s
P40A Paris 86.29 317 P **P** 19 03 27.4 +0.3
P40A IAmb IAmb 19 03 28.2
comp=Z,22nm,0.7s
P40A Paris 86.29 317 P **P** 19 03 27.7 +0.6
baz=46,SNR=9.5
Q20K Shuyak Island 86.31 359 P **P** 19 03 27.0 +0.2
baz=1.0
SUSD Miller 86.34 324 P **P** 19 03 27.9 +0.6
baz=42
SUSD Miller 86.34 324 P **P** 19 03 27.6 +0.3
baz=42
CGM3 Cape Girardeau 86.46 314 P **P** 19 03 28.1 +0.1
CGM3 IAmb IAmb 19 03 29.6
comp=Z,40nm,1.3s
152A Waverly Hall 86.48 308 P **P** 19 03 28.8 +0.7
152A IAmb IAmb 19 03 30.1
comp=Z,38nm,1.0s
152A Waverly Hall 86.48 308 P **P** 19 03 29.0 +0.8
baz=50
TIGA Tifton 86.53 306 P **P** 19 03 29.7 +1.3
baz=50
TIGA Tifton 86.53 306 P **P** 19 03 28.8 +0.4
baz=50
SIT Sitka 86.59 350 P **P** 19 03 29.6 +1.4
baz=15
SIT Sitka 86.59 350 P **P** 19 03 29.8 +1.7
Q17K Contact Creek 86.64 1 P **P** 19 03 28.5 -0.1
baz=358
DUB01 Friburgo-RJ 86.67 240 eP **P** 19 03 29.6 +0.4
WRAK Wrangell Islan 86.75 348 P **P** 19 03 30.2 +1.2
WRAK Wrangell Islan 86.75 348 P **P** 19 03 29.6 +0.6
baz=17,SNR=7.1
BDFB Brasilia 86.77 248 P **P** 19 03 31.7 +1.9
comp=Z,4.5nm,0.7s,baz=74,slow=4.8,SNR=6.7
BDFB pP **pP** 19 03 46.7 -0.6
comp=Z,15nm,0.7s,baz=72,slow=3.2,SNR=7.5
BDFB LR LR 19 42 32.4
comp=Z,132nm,19.3s,baz=306,slow=36
comp=Z,4.5nm,0.7s
BDFB Brasilia 86.77 248 P **P** 19 03 31.5 +1.7
BDFB IAmb IAmb 19 03 52.2
comp=Z,15nm,0.7s
BDFB Brasilia 86.77 248 eP **P** 19 03 30.0 +0.2
Y49A Blount Mountai 86.78 310 P **P** 19 03 30.5 +0.8
Y49A IAmb IAmb 19 03 31.5
comp=Z,27nm,0.8s
Y49A Blount Mountai 86.78 310 P **P** 19 03 30.4 +0.8
baz=49
X48A Hartselle 86.78 311 P **P** 19 03 29.8 +0.2
X48A IAmb IAmb 19 03 31.0
comp=Z,22nm,0.7s

X48A Hartselle 86.78 311 P **P** 19 03 30.2 +0.6
baz=48,SNR=10
CCM Cathedral Cave 86.86 316 P **P** 19 03 30.4 +0.5
CCM Cathedral Cave 86.86 316 P **P** 19 03 30.7 +0.8
baz=46,SNR=20
CCM Cathedral Cave 86.86 316 P **P** 19 03 30.1 +0.2
baz=46
CCM Cathedral Cave 86.86 316 P **P** 19 03 30.4 +0.5
CCM pmax pmax
comp=Z,30nm,0.7s
P38A Dawn 87.05 318 P **P** 19 03 30.9 +0.1
P38A IAmb IAmb 19 03 32.0
comp=Z,22nm,0.7s
P38A Dawn 87.05 318 P **P** 19 03 31.7 +0.9
baz=45,SNR=9.2
PLAL Pickwick Lake 87.07 312 P **P** 19 03 30.7 -0.2
PLAL IAmb IAmb 19 03 31.9
comp=Z,22nm,0.9s
SNDB Serra Nova Dou 87.08 253 eP **P** 19 03 31.9 +0.6
KDAK Kodiak Island 87.14 359 P **P** 19 03 31.6 +0.7
baz=0.8
U33K Whale Pass 87.17 349 P **P** 19 03 32.3 +1.3
baz=17
R40A Maddies Statio 87.28 316 P **P** 19 03 32.3 +0.4
R40A Maddies Statio 87.28 316 P **P** 19 03 33.0 +1.0
baz=46,SNR=22
N35A Tabor 87.30 320 P **P** 19 03 32.1 +0.2
N35A Tabor 87.30 320 P **P** 19 03 32.5 +0.5
baz=44
NPGB Novo Progresso 87.40 260 eP **P** 19 03 33.6 +0.8
T42A Van Buren 87.48 315 P **P** 19 03 33.3 +0.4
T42A IAmb IAmb 19 03 34.7
comp=Z,28nm,0.8s
T42A Van Buren 87.48 315 P **P** 19 03 33.7 +0.8
baz=46,SNR=14
VAS01 Vassouras-RJ 87.55 241 eP **P** 19 03 33.3 0.0
JHJ Hachijo jima 2 87.58 50 LR LR 19 45 41.8
comp=Z,71nm,18.1s,baz=123,slow=38
W45A Hickory Valley 87.62 312 P **P** 19 03 33.4 -0.2
baz=47
V35K Ketchikan 87.67 348 P **P** 19 03 33.9 +0.5
baz=18
LRAL Lakeview Retre 87.69 310 P **P** 19 03 34.4 +0.4
LRAL Lakeview Retre 87.69 310 P **P** 19 03 34.5 +0.4
baz=48
LRAL Lakeview Retre 87.69 310 P **P** 19 03 34.4 +0.4
baz=48
OHAK Old Harbor 87.71 360 P **P** 19 03 34.4 +0.8
OHAK Old Harbor 87.71 360 P **P** 19 03 34.3 +0.8
baz=0.2
OHAK Old Harbor 87.71 360 P **P** 19 03 34.6 +1.0
CRAG Craig 87.79 349 P **P** 19 03 34.3 +0.3
baz=17
SHEM Shemya Is, Ala 87.80 19 LR LR 19 46 13.6
comp=Z,129nm,19.6s,baz=9.0,slow=38
LAO LASA Array 87.84 330 P **P** 19 03 34.8 +0.2
LAO LASA Array 87.84 330 P **P** 19 03 35.0 +0.5
baz=37
LAO LASA Array 87.84 330 P **P** 19 03 35.3 +0.7
baz=37,SNR=20
250A Grady 87.92 308 P **P** 19 03 36.1 +1.0
250A Grady 87.92 308 P **P** 19 03 35.8 +0.7
baz=49
MGMO Mountain Grove 88.07 315 **P** 19 03 36.6 +0.9
MGMO IAmb IAmb 19 03 38.6
comp=Z,33nm,1.2s
EGMT Eagleton 88.16 332 P **P** 19 03 36.4 +0.3
EGMT Eagleton 88.16 332 P **P** 19 03 36.5 +0.4
baz=34,SNR=20
LCAR Lake Charles 88.17 314 P **P** 19 03 36.6 +0.4
LCAR IAmb IAmb 19 03 38.2
comp=Z,18nm,1.0s
LCAR Lake Charles 88.17 314 P **P** 19 03 37.2 +1.0
baz=46,SNR=9.2
BGNE Belgrade 88.19 322 P **P** 19 03 36.7 +0.4
BGNE Belgrade 88.19 322 P **P** 19 03 36.9 +0.6
baz=42
BGNE Belgrade 88.19 322 P **P** 19 03 36.3 0.0
baz=42
OXF Oxford 88.19 312 P **P** 19 03 36.1 -0.2
baz=47
OXF Oxford 88.19 312 P **P** 19 03 36.3 0.0
baz=47
S39A Bolivar 88.29 316 P **P** 19 03 36.6 -0.2
S39A IAmb IAmb 19 03 43.0
comp=Z,61nm,1.9s
S39A Bolivar 88.29 316 P **P** 19 03 37.1 +0.3
baz=45
IPMB Ipameri, GO 88.36 247 eP **P** 19 03 37.5 +0.1
SII Sitkinak Islan 88.37 0 P **P** 19 03 37.2 +0.4
baz=360
CHGN Chignik 88.54 3 P **P** 19 03 37.7 +0.2
baz=356
Y45A Yeager Farm, C 88.71 312 P **P** 19 03 38.8 0.0
baz=47
WALA Waterton Lakes 88.79 335 P **P** 19 03 39.1 0.0
WALA IAmb IAmb 19 03 58.9
comp=Z,26nm,0.9s
FCAR Ozark Folk Cen 88.87 314 P **P** 19 03 39.8 +0.3
FCAR IAmb IAmb 19 04 26.8
comp=Z,41nm,1.7s
RSSD Black Hills 88.93 327 P **P** 19 03 40.2 +0.2
RSSD IAmb IAmb 19 03 41.7
comp=Z,32nm,1.1s
RSSD Black Hills 88.93 327 P **P** 19 03 40.3 +0.4
baz=38
RSSD Black Hills 88.93 327 P **P** 19 03 40.4 +0.4
baz=38
RSSD Black Hills 88.93 327 P **P** 19 03 40.2 +0.2
RSSD pmax pmax
comp=Z,32nm,1.1s
S12K Black Hills 88.94 5 P **P** 19 03 39.7 +0.2
baz=353
BRAL Brewton 88.95 308 P **P** 19 03 41.1 +1.1
baz=48
KSU1 Kansas State U 89.08 319 P **P** 19 03 40.4 -0.1
baz=43
WHAR Wooly Hollow 89.38 314 P **P** 19 03 42.1 +0.2
WHAR IAmb IAmb 19 03 43.5
comp=Z,53nm,1.8s
SDPT Sand Point 89.39 4 P **P** 19 03 41.1 -0.4
baz=354
MACA Manacapuru-AM 89.46 266 eP **P** 19 03 42.9 +0.2
HHAR Hobbs 89.64 316 P **P** 19 03 42.8 -0.4
HHAR IAmb IAmb 19 03 44.3
comp=Z,30nm,1.6s
ARAG Araguaiana, MT 89.72 251 eP **P** 19 03 44.2 +0.6
U38A Gravette 89.78 316 P **P** 19 03 42.7 -1.1
U38A IAmb IAmb 19 03 45.0
comp=Z,45nm,1.5s
U38A Gravette 89.78 316 P **P** 19 03 43.6 -0.2
baz=44,SNR=5.0
BBB Bella Bella 89.96 345 P **P** 19 03 45.0 +0.7
comp=Z,20nm,1.0s,baz=31,slow=12,SNR=2.0
comp=Z,20nm,1.0s
GCMT Greycliff 89.97 331 P **P** 19 03 44.3 -0.4
CLDB Colider 89.98 257 eP **P** 19 03 45.4 +0.4
HRY Holter Researc 90.03 333 P **P** 19 03 45.2 +0.2
RLMT Red Lodge 90.36 330 P **P** 19 03 47.5 +0.9
RLMT IAmb IAmb 19 03 50.9
comp=Z,22nm,1.4s
RLMT Red Lodge 90.36 330 P **P** 19 03 46.3 -0.3
baz=35,SNR=9.6
UNV Unalaska Valle 90.39 8 P **P** 19 03 46.5 +0.3
baz=350
VBMS Vicksburg 90.43 311 P **P** 19 03 47.1 +0.2
baz=47
OGNE Ogallala 90.46 324 P **P** 19 03 47.8 +0.8
baz=40
VAO Valinhos 90.53 242 eP **P** 19 03 48.4 +1.0
NEW Newport 90.55 337 LR LR 19 45 21.8
comp=Z,231nm,20.9s,baz=254,slow=36
RCLB Rio Claro- Sao 90.58 243 eP **P** 19 03 48.2 +0.6
SDV Santo Domingo 90.61 281 P **P** 19 03 48.6 +0.3
SDV IAmb IAmb 19 04 14.7
comp=Z,22nm,0.9s
SDV Santo Domingo 90.61 281 eP **P** 19 03 48.2 0.0
T35A Sooner Cattle 90.62 318 P **P** 19 03 47.6 -0.1
T35B Sooner Cattle 90.62 318 P **P** 19 03 48.7 +1.0
baz=43,SNR=6.8
MIAR Mount Ida 90.65 314 P **P** 19 03 48.3 +0.5
MIAR IAmb IAmb 19 03 49.9
comp=Z,17nm,0.9s
MIAR Mount Ida 90.65 314 P **P** 19 03 48.4 +0.5
baz=45
MIAR Mount Ida 90.65 314 P **P** 19 03 47.8 -0.1

baz=45
MIAR Mount Ida 90.65 314 P P 19 03 48.3 +0.5
MIAR pmax pmax
comp=Z,17nm,1.0s
MSO Missoula 90.71 334 P P 19 03 48.2 +0.1
MSO IAmb IAmb 19 03 49.3
comp=Z,14nm,1.0s
MSO Missoula 90.71 334 P P 19 03 48.4 +0.4
baz=31,SNR=12
BOZ Bozeman (W) 90.89 332 P P 19 03 49.3 +0.3
BOZ Bozeman (W) 90.89 332 P P 19 03 49.3 +0.3
baz=33,SNR=11
BOZ Bozeman (W) 90.89 332 P P 19 03 49.3 +0.3
BOZ pmax pmax
comp=Z,9.0nm,0.9s
CBKS Cedar Bluff 90.94 321 P P 19 03 49.4 +0.2
baz=41
TUL1 Leonard 90.95 317 P P 19 03 48.5 -0.8
TUL1 IAmb IAmb 19 03 50.6
comp=Z,16nm,1.0s
TUL1 Leonard 90.95 317 P P 19 03 49.5 +0.3
baz=44
TUL1 Leonard 90.95 317 P P 19 03 49.7 +0.4
baz=44
ITRB Iturama 91.01 247 *e*P **P 19 03 50.2 +0.6**
LRM Limekiln Ridge 91.02 333 P P 19 03 49.9 +0.2
YMP Mirror Lake Pl 91.03 331 P P 19 03 50.9 +1.1
B08A Colville Reser 91.17 338 P P 19 03 50.0 0.0
OK044 Pawnee Station 91.17 318 P 19 03 49.4 -0.9
OK045 Pawnee Station 91.19 318 P 19 03 49.2 -1.1
K22A Casper 91.20 327 P P 19 03 50.1 -0.5
K22A IAmb IAmb 19 03 51.1
comp=Z,19nm,0.8s
K22A Casper 91.20 327 P P 19 03 49.9 -0.7
baz=37
K22A Casper 91.20 327 P P 19 03 50.5 0.0
baz=37,SNR=9.0
OK046 Pawnee Station 91.22 318 P 19 03 50.8 +0.3
OK048 Pawnee Station 91.22 318 P P 19 03 51.0 +0.4
SPB Sao Paulo 91.23 242 *e*P **P 19 03 51.3 +0.7**
OK050 Pawnee Station 91.26 318 P 19 03 51.2 +0.5
QUOK Quay 91.27 317 P 19 03 50.8 +0.1
OK034 N. Norfolk Rd. 91.39 317 P 19 03 52.0 +0.7
DEOK Depew 91.39 317 P 19 03 51.9 +0.6
YMR Madison River 91.41 331 P P 19 03 50.7 -0.8
YMR IAmb IAmb 19 03 55.3
comp=Z,12nm,1.0s
OK053 SW of W Deep R 91.43 317 P 19 03 51.0 -0.5
OK052 Battle Ridge R 91.45 317 P 19 03 50.6 -1.0
QLMT Earthquake Lak 91.46 331 P P 19 03 52.2 +0.5
H17A Grant Village 91.48 331 P P 19 03 53.3 +1.4
H17A IAmb IAmb 19 03 58.7
comp=Z,22nm,1.4s
H17A Grant Village 91.48 331 P P 19 03 53.9 +1.9
baz=34,SNR=9.6
OK030 Cody Creek RV 91.49 317 P 19 03 52.6 +0.9
X37A Clayton 91.66 315 P P 19 03 53.3 +0.7
X37A IAmb IAmb 19 04 23.2
comp=Z,18nm,1.0s
X37A Clayton 91.66 315 P P 19 03 52.8 +0.3
baz=44
PHWY Pilot Hill 91.80 326 P P 19 03 53.8 +0.3
MCMT McKenzie Canyo 92.01 332 P P 19 03 54.8 +0.5
MOOW Moose Ponds 92.09 330 P P 19 03 55.6 +0.9
W35A Tecumseh 92.11 317 P P 19 03 54.8 +0.2
W35A IAmb IAmb 19 03 56.2
comp=Z,26nm,1.1s
D08A Wollman Farm, 92.19 337 P P 19 03 55.3 +0.5
D08A IAmb IAmb 19 05 24.3
comp=Z,27nm,1.7s
RWWY Rawlins 92.28 327 P P 19 03 54.3 -1.3
RWWY IAmb IAmb 19 03 55.6
comp=Z,20nm,1.2s
N23A Red Feather La 92.35 326 P P 19 03 56.2 +0.2
N23A IAmb IAmb 19 03 57.5
comp=Z,19nm,1.0s
N23A Red Feather La 92.35 326 P P 19 03 56.4 +0.4
baz=37
Z38A Mt. Pleasant 92.39 314 P P 19 03 57.0 +1.1
baz=44
BW06 Boulder Array 92.41 329 P P 19 03 55.4 -0.8
BW06 Boulder Array 92.41 329 P P 19 03 55.6 -0.6
baz=34
PD31 Pinedale Array 92.41 329 P P 19 03 55.4 -0.8
PDAR Pinedale Array 92.41 329 P P 19 03 56.0 -0.3
comp=Z,4.2nm,0.9s,baz=54,slow=4.1,SNR=22
PDAR PP PP 19 07 34.1 -2.8
comp=Z,2.0nm,0.8s,baz=60,slow=7.5,SNR=4.7
PDAR LR LR 19 46 51.5
comp=Z,157nm,18.4s,baz=336,slow=36
comp=Z,4.2nm,0.9s
PDAR Pinedale Array 92.41 329 P P 19 03 55.2 -1.0
E09A Wood Farm, Sta 92.42 336 P P 19 03 56.1 +0.3
REDW Red Top Meadow 92.45 330 P P 19 03 57.0 +0.6
F10A Beach Ranch, E 92.59 336 P P 19 03 56.6 -0.2
BCYI Bear Canyon 92.66 332 P P 19 03 55.9 -1.4
E08A Dider Farm, El 92.74 337 P P 19 03 57.9 +0.6
E08A IAmb IAmb 19 03 59.7
comp=Z,20nm,1.3s
ECR Eagle Creek 92.92 330 P P 19 03 58.4 -0.1
PLID Pearl Lake 92.94 334 P P 19 03 57.8 -0.8
HAWA Hanford 92.98 337 P P 19 03 59.2 +0.8
HAWA IAmb IAmb 19 04 00.4
comp=Z,20nm,0.9s
AHID Auburn Hatcher 93.05 330 P P 19 03 59.0 -0.1
ISCO Idaho Springs 93.06 325 P P 19 03 59.2 -0.2
ISCO IAmb IAmb 19 04 01.2
comp=Z,13nm,1.2s
ISCO Idaho Springs 93.06 325 P P 19 03 59.9 +0.5
baz=37,SNR=7.5
ISCO Idaho Springs 93.06 325 P P 19 03 59.4 +0.1
baz=37
ISCO Idaho Springs 93.06 325 P P 19 03 59.2 -0.2
ISCO pmax pmax
comp=Z,13nm,1.3s
JCJ Chichijima 93.14 54 LR LR 19 51 19.6
comp=Z,63nm,18.9s,baz=88,slow=39
LON Longmire 93.35 339 P P 19 04 00.4 +0.2
LON Longmire 93.35 339 P P 19 04 00.4 +0.2
LON pmax pmax
comp=Z,9.0nm,0.9s
NLWA Neilton Lookou 93.36 340 P P 19 03 59.3 -0.9
NLWA IAmb IAmb 19 04 20.7
comp=Z,18nm,1.1s
WMOK Wichita Mounta 93.47 318 P P 19 04 01.2 +0.3
baz=42
WMOK Wichita Mounta 93.47 318 P P 19 04 01.3 +0.3
baz=42
Q24A Divide 93.51 324 P P 19 04 01.4 0.0
Q24A IAmb IAmb 19 04 03.2
comp=Z,16nm,1.4s
Q24A Divide 93.51 324 P P 19 04 01.0 -0.4
baz=38
F07A Phinny Hill Vi 93.54 337 P P 19 04 02.0 +1.0
F07A IAmb IAmb 19 04 03.4
comp=Z,23nm,1.3s
BMO Blue Mountains 93.60 335 P P 19 04 00.7 -0.7
BMO IAmb IAmb 19 04 21.0
comp=Z,9.8nm,0.8s
BMO Blue Mountains 93.60 335 P P 19 04 00.7 -0.7
BMO pmax pmax
comp=Z,10.0nm,0.8s
HLID Hailey 93.67 333 P P 19 04 01.5 -0.5
HLID Hailey 93.67 333 P P 19 04 02.1 +0.2
baz=31
O20A White River Ci 94.00 327 P P 19 04 02.4 -1.1
O20A White River Ci 94.00 327 P P 19 04 03.1 -0.4
baz=36
E03A Lebam 94.05 340 P P 19 04 04.6 +1.3
SMCO Snowmass 94.19 326 P P 19 04 03.7 -1.0
RDMU Red Mountain 94.22 328 P P 19 04 04.4 -0.2
RDMU IAmb IAmb 19 04 06.0
comp=Z,17nm,1.2s
MFID Camas Ranch 94.33 333 P P 19 04 05.0 +0.2
MFID IAmb IAmb 19 04 06.5
comp=Z,17nm,0.9s
TCUT Toone Canyon 94.55 329 P P 19 04 06.0 0.0
HVU Hansel Valley 94.55 331 P P 19 04 05.8 -0.2
HVU Hansel Valley 94.55 331 P P 19 04 05.8 -0.2
HVU pmax pmax
comp=Z,7.0nm,0.9s
T25A Trinidad 94.58 323 P P 19 04 06.5 +0.2
T25A Trinidad 94.58 323 P P 19 04 06.4 +0.2
baz=38
HOOD Mount Hood Mea 94.59 338 P P 19 04 06.2 +0.2
HOOD IAmb IAmb 19 04 27.1
comp=Z,24nm,1.1s
SDCO Great Sand Dun 94.64 324 P P 19 04 06.0 -0.6
SDCO Great Sand Dun 94.64 324 P P 19 04 06.5 -0.1
baz=38,SNR=8.1
SDCO Great Sand Dun 94.64 324 P P 19 04 06.7 0.0
baz=38
JLU Jordanelle 95.00 329 P P 19 04 08.4 +0.2
I07A Izee 95.02 336 P P 19 04 08.6 +0.6
S22A 4UR Ranch, Cre 95.27 325 P P 19 04 09.6 +0.1
S22A 4UR Ranch, Cre 95.27 325 P P 19 04 09.5 +0.1
baz=37
J08A Circle Bar Ran 95.31 335 P P 19 04 10.1 +0.7
H04A Detroit Lake 95.33 338 P P 19 04 09.5 +0.2
H04A IAmb IAmb 19 04 10.6
comp=Z,19nm,1.2s
BGU Big Grassy Mou 95.38 330 P P 19 04 09.7 0.0
ABTX Abilene, Hawle 95.52 317 P P 19 04 10.4 0.0
baz=41
ABTX Abilene, Hawle 95.52 317 P P 19 04 10.9 +0.5
baz=42
PV07 Paradox Valley 95.56 326 P P 19 04 09.9 -0.8
PV07 IAmb IAmb 19 04 11.7
comp=Z,10nm,1.0s
PV15 Paradox Valley 95.56 326 P P 19 04 09.7 -1.1
PV15 IAmb IAmb 19 04 11.7
comp=Z,11nm,1.0s
PV23 Carpenter Ridg 95.71 326 P P 19 04 11.5 0.0
PV23 IAmb IAmb 19 04 13.7
comp=Z,26nm,1.4s
PINE Pine Mountain 95.75 337 P P 19 04 12.6 +1.2
PINE IAmb IAmb 19 04 32.8
comp=Z,18nm,0.9s
PV11 David Mesa, Pa 95.77 326 P P 19 04 11.1 -0.6
PV11 IAmb IAmb 19 05 12.5
comp=Z,16nm,1.2s
NLU North Lily Min 95.80 329 P P 19 04 11.8 0.0
SRU San Rafael Swe 95.84 328 P P 19 04 11.2 -0.7
SRU San Rafael Swe 95.84 328 P P 19 04 11.3 -0.7
SRU pmax pmax
comp=Z,5.0nm,0.7s
DUG Dugway, Tooele 95.91 330 P P 19 04 11.8 -0.4
DUG Dugway, Tooele 95.91 330 P P 19 04 12.5 +0.3
baz=32
DUG Dugway, Tooele 95.91 330 P P 19 04 11.8 -0.4
DUG pmax pmax
comp=Z,6.0nm,0.8s
TMUT Trail Mountain 95.98 328 P P 19 04 12.4 -0.3
BUCK Buck Mountain 96.02 338 P P 19 04 11.6 -0.9
MSTX Muleshoe 96.20 320 P P 19 04 13.6 0.0
baz=40
ELK Elko 96.41 332 P P 19 04 15.1 +0.5
comp=Z,1.6nm,0.8s,baz=52,slow=7.0,SNR=3.8
ELK LR LR 19 50 06.0
comp=Z,133nm,18.8s,baz=350,slow=37
comp=Z,1.6nm,0.8s
K05A Summer Lake 96.69 336 P P 19 04 16.9 +1.2
K05A IAmb IAmb 19 04 18.1
comp=Z,15nm,1.1s
SIV San Ignacio 97.11 256 LR LR 19 52 20.8
comp=Z,121nm,18.1s,baz=107,slow=38
MOD Modoc Plateau 97.23 336 P Pdif 19 04 19.1 +0.9
MOD IAmb IAmb 19 04 20.2
comp=Z,11nm,1.1s
ANMO Albuquerque 97.33 323 LR LR 19 48 31.8
comp=Z,121nm,19.4s,baz=118,slow=36
ANMO Albuquerque 97.33 323 P P 19 04 18.7 -0.1
baz=37
BMN Battle Mountai 97.43 333 P Pdif 19 04 19.7 +0.6
BMN Battle Mountai 97.43 333 P Pdif 19 04 19.7 +0.6
BMN pmax pmax
comp=Z,11nm,1.4s
MTPU Mount Pierson 97.45 328 P Pdif 19 04 20.2 +0.7
MTPU IAmb IAmb 19 04 21.2
comp=Z,12nm,1.3s
PKCU Pink Cliffs 98.01 328 P P 19 04 21.2 -0.8
PKCU IAmb IAmb 19 04 33.5
comp=Z,8.6nm,0.9s
CCUT Cedar City 98.37 329 P Pdif 19 04 23.8 +0.3
R11A Troy Canyon, C 98.60 331 P Pdif 19 04 24.8 +0.4
baz=30
KVN Kaiserville 98.96 333 P P 19 04 25.6 -0.4
KVN Kaiserville 98.96 333 P P 19 04 25.6 -0.4
KVN pmax pmax
comp=Z,4.0nm,1.0s
WUAZ Wupatki 99.20 326 P Pdif 19 04 27.4 +0.3
baz=34
KHMM Horse Mountain 99.27 338 P Pdif 19 04 26.4 -0.9
KHMM IAmb IAmb 19 04 29.3
comp=Z,22nm,1.2s
MNTX Cornudas Mount 99.34 320 P Pdif 19 04 27.3 -0.3
MNTX IAmb IAmb 19 06 14.3
comp=Z,17nm,1.9s
MNTX Cornudas Mount 99.34 320 P Pdif 19 04 27.4 -0.3
baz=38
MNTX Cornudas Mount 99.34 320 P Pdif 19 04 27.6 0.0
baz=38
NVAR Mina Array Bea 99.58 333 P Pdif 19 04 29.0 +0.2
comp=Z,1.6nm,0.8s,baz=40,slow=4.0,SNR=9.9
NVAR PP PP 19 08 25.5 -6.8
comp=Z,1.9nm,0.8s,baz=26,slow=4.8,SNR=8.6
comp=Z,1.6nm,0.8s
121A Cookes Peak, D 99.92 322 P Pdif 19 04 29.7 -0.7
baz=36
TPNV Topopah Spring 100.07 330 P Pdif 19 04 30.8 -0.2
baz=30
TXAR Lajitas Array 100.26 317 P Pdif 19 04 32.4 +0.5
comp=Z,1.1nm,0.8s,baz=58,slow=5.3,SNR=6.3
TXAR PP PP 19 08 37.4 -0.3
comp=Z,0.8nm,0.7s,baz=46,slow=6.4,SNR=3.4
CWC Cottonwood Cre 101.24 331 P Pdif 19 04 35.5 -0.6
baz=29
EDW2 Edwards Air Fo 102.57 331 P Pdif 19 04 41.7 -0.2
baz=29
WRA Warramunga Arr 115.59 97 PKP **PKiKP 19 09 27.6 +0.1**
comp=Z,0.7nm,0.7s,baz=326,slow=1.8,SNR=3.5
ASAR Alice Springs 117.07 101 PKP **PKPdf 19 09 30.2 0.0**
comp=Z,0.6nm,0.6s,baz=310,slow=1.3,SNR=13
ASAR pPKP **pPKPdf 19 09 48.4 0.0**
comp=Z,1.3nm,0.6s,baz=338,slow=1.6,SNR=5.4
ASAR PKKPbc **PKKPbc 19 19 56.0 +1.7**
comp=Z,0.4nm,0.8s,baz=119,slow=3.3,SNR=2.7
QSPA South Pole Qui 125.28 180 PKP **PKiKP 19 09 45.1 +0.1**
comp=Z,5.0nm,0.7s,baz=248,slow=1.6,SNR=16
QSPA pPKP **pPKPdf 19 10 02.9 +0.1**
comp=Z,13nm,1.1s,baz=225,slow=3.3,SNR=6.5
CTA Charters Tower 125.36 91 PKP **PKPdf 19 09 46.2 0.0**
comp=Z,5.9nm,1.1s,baz=194,slow=0.6,SNR=3.1
STKA Stephens Creek 126.78 106 PKP **PKPdf 19 09 48.6 0.0**
comp=Z,1.7nm,0.8s,baz=8.1,slow=7.1,SNR=3.2
STKA pPKP **pPKPdf 19 10 07.1 +0.4**
comp=Z,4.6nm,0.9s,baz=331,slow=4.0,SNR=6.0
MSVF Nonsavu 149.26 62 PKPbc **PKiKP 19 10 34.9 -0.4**
comp=Z,7.8nm,0.7s,baz=300,slow=7.9,SNR=9.7
MSVF pPKPbc **pPKPbc 19 10 53.0 +1.0**
comp=Z,20nm,0.8s,baz=175,slow=2.2,SNR=7.9
MSVF Nonsavu 149.26 62 PKPbc 19 10 32.6 -1.6
RPZ Rata Peaks 151.67 118 PKPbc **PKiKP 19 10 39.8 +0.3**
comp=Z,14nm,1.0s,baz=248,slow=5.4,SNR=2.5
RPZ pPKPbc **sPKPdf 19 10 58.0 +0.4**
comp=Z,25nm,0.9s,baz=255,slow=9.6,SNR=3.9
OXZ Oxford 152.42 117 PKPdf 19 10 30.4 -3.4

ROM 25 18:51:56.4±0.1, 42.612N±0.006×13.310E±0.009, h10km, ML1.4/6, 2C-8D, Error ellipse: s-maj=0.7km s-min=0.7km az=258.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.15**	**292**	P	Pg	18 52 00.3	+0.4
T1218				S	Sg	18 52 03.3	+0.9
T1218				AML	AML		
	comp=N,183μm,1.4s						
T1218				AML	AML		
	comp=E,152μm,1.6s						
T1218				AML	AML		
	comp=E,152μm,1.6s						
T1218				AML	AML		
	comp=N,184μm,1.4s						
T1218				AML	AML		
	comp=E,152μm,0.4s						
T1218				AML	AML		
	comp=N,184μm,0.6s						
LNSS	**Leonessa**	**0.20**	**267**	⇑P	Pg	18 52 01.2	+0.6
LNSS				AML	AML		
	comp=E,78μm,0.7s						
LNSS				AML	AML		
	comp=N,69μm,0.1s						
TERO	**Teramo**	**0.22**	**87**	⇓P	Pg	18 51 54.9	-6.0
TERO				AML	AML		
	comp=E,144μm,0.2s						
TERO				AML	AML		
	comp=N,144μm,0.1s						
T1212	**Cascia, Frazio**	**0.24**	**306**	P	Pg	18 52 01.8	+0.5
T1212				S	Sg	18 52 05.9	+1.2
T1245	**Castelsantange**	**0.26**	**340**	P	Pb	18 52 02.6	-0.7
T1245				AML	AML		
	comp=E,78μm,1.1s						
T1245				AML	AML		
	comp=N,70μm,0.8s						
T1245				AML	AML		
	comp=N,70μm,1.2s						
T1222	**Castel Sant'An**	**0.29**	**224**	⇓P	Pb	18 52 04.0	+0.3
T1217	**Poggiodomo (PG**	**0.30**	**290**	⇓P	Pb	18 52 03.1	-0.7
T1217					S	Sg	18 52 07.6	+1.2
MC2	**Monte Cornacci**	**0.31**	**344**	⇓P	Pg	18 52 03.4	+0.7
T1211	**Morro Reatino**	**0.34**	**257**	P	Pg	18 52 03.8	+0.5
T1211				S	Sb	18 52 09.3	-0.9
T1215	**Vallo di Nera,**	**0.38**	**300**	P	Pg	18 52 04.5	+0.6
T1215				S	Sb	18 52 10.4	-0.7
FDMO	**Fiordimonte**	**0.46**	**339**	P	Pg	18 52 05.7	+0.4
FDMO				AML	AML		
	comp=N,162μm,0.2s						
FDMO				AML	AML		
	comp=E,129μm,0.4s						
CSP1	**Cessapalombo**	**0.48**	**351**	P	Pg	18 52 06.3	+0.4
T1220	**Camerino, Fraz**	**0.52**	**342**	⇓P	Pg	18 52 07.0	+0.4
T1220				AML	AML		
	comp=E,110μm,1.6s						
T1220				AML	AML		
	comp=N,124μm,1.5s						
T1220				AML	AML		
	comp=E,110μm,0.4s						
T1220				AML	AML		
	comp=N,124μm,0.5s						
TREG	**Tregnago**	**3.30**	**333**	⇓P	Pn	18 52 44.8	-3.2
ZONE	**Zone**	**3.90**	**325**	⇓P	Pn	18 52 53.6	-2.7
SARZ	**Sarezzano**	**3.91**	**307**	⇓P	Pb	18 53 06.7	+1.4
SARZ				AML	AML		
	comp=E,164μm,0.9s						
SARZ				AML	AML		
	comp=N,212μm,0.1s						
SARZ				AML	AML		
	comp=E,164μm,1.1s						
CANO	**Canova, Maglio**	**4.03**	**295**	⇑P	Pn	18 52 58.5	+0.4

IDC 25 18:53:08.6±1.4, 41.83N×29.44W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=103.2km s-min=28.8km az=36.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**39.34**	**127**	P	P	19 00 39.6	-0.1
	3.4nm,0.9s,baz=330,slow=5.0,SNR=1.9						
	3.4nm,0.9s						
YKA	**Yellowknife Ar**	**51.85**	**324**	P	P	19 02 18.1	-0.1
	0.4nm,0.7s,baz=73,slow=7.7,SNR=4.3						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**57.05**	**300**	P	P	19 02 56.1	-0.5
	0.9nm,0.9s,baz=69,slow=6.9,SNR=5.9						
	0.9nm,0.9s						
TXAR	**Lajitas Array**	**59.92**	**284**	P	P	19 03 16.5	-0.1
	0.3nm,0.6s,baz=77,slow=7.0,SNR=3.7						
	0.3nm,0.6s						
ELK	**Elko**	**61.73**	**301**	P	P	19 03 29.4	+0.4
	1.2nm,0.6s,baz=78,slow=9.3,SNR=5.9						
	1.2nm,0.6s						

IDC 25 18:57:45.2±2.3, 7.96S×129.73E, h0km, mb4.2/1, mbtmp3.4/3, ML2.9/2, MS3.8/2, Error ellipse: s-maj=121.9km s-min=34.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.39**	**249**	LR	LR	19 02 30.6	
	comp=Z,256nm,20.4s,baz=2.5,slow=45						
WRA	**Warramunga Arr**	**12.72**	**160**	Pn	Pn	19 00 46.3	-1.2
	0.1nm,0.3s,baz=338,slow=14,SNR=1.0						
WRA				Sn	Sn	19 03 04.3	-5.7
	0.2nm,0.3s,baz=349,slow=26,SNR=1.4						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**16.12**	**166**	Pn	Pn	19 01 34.7	+1.3
	0.1nm,0.3s,baz=350,slow=8.8,SNR=7.4						
ASAR				Sn	Sn	19 04 29.2	-3.7
	baz=358,slow=27,SNR=2.1						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**68.88**	**327**	P	P	19 08 51.8	0.0
	3.1nm,1.2s,baz=122,slow=6.3,SNR=3.0						
	3.1nm,1.2s						
SNAA	**Sanae**	**94.67**	**194**	LR	LR	19 54 13.3	
	comp=Z,176nm,20.1s,baz=18,slow=36						

*JMA **25** 19:04:07.6±0.6, 47.°N×3.°×14.°E±.°, h417km, MV3.6/21, SOUTHERN SEA OF OKHOTSK*
*NIED **25** 19:04:07.6, 46.95N×146.66E, h417km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr-4.98; Mθθ1.91; Mφφ3.08; Mrθ1.71; Mθφ2.16; Mφr-1.19; Fault plane solution: M0 5.22000×10^15 NP1: φs236.00000°, δ49.00000°, λ-64.00000°. NP2: φs19.00000°, δ48.00000°, λ-117.00000°.*
*SKHL **25** 19:04:08.5±0.2, 47.30N×146.20E, h395km±3km, mb4.8/12, msh4.6/4, msha5.0/11*
*MOS **25** 19:04:08.3±0.9, 47.31N×146.16E, h403km, mb4.3/34, Error ellipse: s-maj=8.4km s-min=5.3km az=107.8*
*NEIC **25** 19:04:09.5±1.5, 47.4N±0.1×146.1E±0.2, h396km±5km, mb4.3/80, Error ellipse: s-maj=18.1km s-min=13.5km az=147.0*
*IDC **25** 19:04:09.2±1.3, 47.41N×146.17E, h396km±14km, mb3.7/34, mbtmp4.4/40, Error ellipse: s-maj=10.6km s-min=8.2km az=155.0*

ISC 25 19:04:08.8±0.5, 47.23N±0.04×146.17E±0.05, h400km±5km, n346, σ1$25/383, mb4.2/104, 50C-14D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.32**	**149**	*e*P	**Pn**	**19 05 07.8**	**+1.0**
KUR				AMB	AMB	19 05 07.9	
	90nm,0.7s						
KUR				*e*S	**S**	**19 05 54.2**	**+0.5**
KUR				A	A	19 05 55.2	
	60nm,0.7s						
KUR				A	A	19 05 55.2	
	60nm,0.7s						
YSS	**Yuzh-Sakhalins**	**2.35**	**265**	Pn	**Pn**	**19 05 08.1**	**+1.1**
YSS	**Yuzh-Sakhalins**	**2.35**	**265**	*e*PN	**Pn**	**19 05 08.6**	**+1.7**
YSS				*e*S	**S**	**19 05 54.3**	**+0.4**
YSS				pmax	pmax		
	comp=Z,70nm,0.5s						
YSS				smax	smax		
	comp=N,200nm,0.9s						
YSS				smax	smax		
	comp=E,70nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.35**	**265**	*e*P	**Pn**	**19 05 08.0**	**+1.1**
YSS				AMB	AMB	19 05 08.8	
	comp=E,80nm,0.3s						
YSS				*e*S	**S**	**19 05 54.3**	**+0.4**
YSS				A	A	19 05 55.7	
	comp=E,430nm,2.0s						
YSS				A	A	19 05 55.7	
	comp=E,490nm,2.0s						
YSS				A	A	19 05 56.2	
	comp=E,70nm,0.5s						
YSS				A	A	19 05 56.2	
	comp=E,90nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.20**	**184**	*e*P	**Pn**	**19 05 13.4**	**-0.2**
YUK				AMB	AMB	19 05 13.6	
	comp=E,110nm,0.2s						
YUK				*e*S	**S**	**19 06 07.1**	**+1.0**
YUK				A	A	19 06 09.6	
	comp=E,600nm,0.7s						
YUK				A	A	19 06 09.6	
	comp=E,700nm,0.7s						
UGL	**Uglegorsk**	**3.31**	**306**	⇑*i*PN	**Pn**	**19 05 15.2**	**+0.8**
UGL				*e*S	**S**	**19 06 07.4**	**-0.2**
UGL				pmax	pmax		
	comp=Z,250nm,0.7s						

UGL smax smax
comp=E,340nm,1.2s
UGL smax smax
comp=N,250nm,1.4s
UGL Uglegorsk 3.31 306 *i* P **Pn** **19 05 15.2 +0.8**
UGL AMB AMB 19 05 16.0
comp=N,130nm,0.4s
UGL eS **S** **19 06 07.6 0.0**
UGL A A 19 06 09.2
comp=N,150nm,0.5s
UGL A A 19 06 09.2
comp=N,180nm,0.5s
UGL A A 19 06 09.4
comp=N,700nm,2.0s
UGL A A 19 06 09.4
comp=N,550nm,2.0s
JSE Soyaes 3.37 229 *e*P **Pn** **19 05 16.4 +1.4**
JSE eS **S** **19 06 10.0 +1.3**
JWK2 Keihoku 3.52 239 *e*P **Pn** **19 05 18.6 +2.2**
JWK2 eS **S** **19 06 13.9 +2.8**
JTKR Abashiri--Toko 3.62 207 *e*P **Pn** **19 05 17.8 +0.4**
JMP Maruseppu 3.77 212 *e*S **S** **19 06 15.7 +0.2**
JNK Nakash 3.78 196 *e*P **Pn** **19 05 18.4 -0.5**
JNK eS **S** **19 06 13.8 -1.8**
NEM2 Nemuro 2 3.88 185 *e*P **Pn** **19 05 17.3 -2.3**
NEM2 eS **S** **19 06 12.3 -4.8**
JRBN Rebuntou 3.97 245 *e*P **Pn** **19 05 21.6 +1.2**
JKA Kamikawa-asahi 3.99 220 Pn **Pn** **19 05 21.4 +0.7**
JKA Kamikawa-asahi 3.99 220 *e*P **Pn** **19 05 22.0 +1.2**
ASAJ Asahikawa 3.99 220 P **Pn** **19 05 22.0 +1.2**
comp=N,4.6nm,0.5s,baz=36,slow=6.5,SNR=6.4
ASAJ Asahikawa 3.99 220 PN **Pn** **19 05 22.0 +1.2**
JAR Ashorobuto 4.28 204 *e*S **S** **19 06 22.6 -1.6**
TYV Tymovskoe 4.31 329 *e*PN **Pn** **19 05 24.2 +0.6**
TYV eS **S** **19 06 23.7 -0.7**
TYV pmax pmax
comp=Z,400nm,2.1s
TYV pmax pmax
comp=Z,150nm,0.9s
TYV smax smax
comp=N,200nm,4.2s
TYV smax smax
comp=E,300nm,4.2s
TYV smax smax
comp=N,22nm,1.2s
TYV smax smax
comp=E,46nm,1.2s
TYV Tymovskoe 4.31 329 *e*P **Pn** **19 05 24.2 +0.6**
TYV AMB AMB 19 05 24.8
comp=E,150nm,0.9s
TYV eS **S** **19 06 23.7 -0.7**
TYV A A 19 06 24.5
comp=E,200nm,4.4s
TYV A A 19 06 24.5
comp=E,300nm,4.4s
TYV A A 19 06 24.6
comp=E,20nm,0.9s
TYV A A 19 06 24.6
comp=E,50nm,0.9s
JAK Akkeshi 4.36 194 *e*P **Pn** **19 05 22.5 -1.8**
JAK eS **S** **19 06 20.2 -5.3**
JCH Churui 5.02 204 *e*S **S** **19 06 32.1 -5.7**
JNBK Urakawa-nobuka 5.51 207 *e*S **S** **19 06 41.0 -6.2**
JEW Eniwo 5.51 219 *e*P **Pn** **19 05 37.2 +1.0**
ERM Erimo 5.64 203 Pn **Pn** **19 05 37.7 +0.3**
ERM Erimo 5.64 203 *i* PN **Pn** **19 05 37.9 +0.4**
ERM Erimo 5.64 203 *e*P **Pn** **19 05 37.9 +0.4**
OKH Okha 6.66 343 *e*P **Pn** **19 05 48.0 -0.3**
OKH AMB AMB 19 05 48.7
comp=E,60nm,0.3s
OKH eS **S** **19 07 07.1 -2.6**
OKH A A 19 07 10.1
comp=E,50nm,0.4s
OKH A A 19 07 10.1
comp=E,120nm,0.4s
NKL Nikolayevsk 6.89 331 *e*P **P** **19 05 51.3 -0.3**
NKL AMB AMB 19 05 52.3
comp=E,150nm,0.6s
NKL eS **S** **19 07 14.4 -0.1**
NKL A A 19 07 16.6
comp=E,10.0nm,0.8s
NKL A A 19 07 16.6
comp=E,10.0nm,0.8s
JOT Ohata 6.90 214 *e*P **Pn** **19 05 50.4 -0.9**
JOT eS **S** **19 07 07.6 -7.4**
GRNR Gornyy 7.32 303⇑ *i*PN **P** **19 05 56.6 +0.2**
GRNR eS **S** **19 07 22.1 -1.4**
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR smax smax
comp=N,6.0nm,0.7s
GRNR Gornyy 7.32 303 *e*P **P** **19 05 56.6 +0.2**
GRNR AMB AMB 19 05 57.4
comp=N,30nm,0.8s
JTM Tenmabayashi 7.41 212 Pn **Pn** **19 05 56.1 -1.0**
JSI2 Shiura 2 7.43 216 *e*P **Pn** **19 05 57.3 0.0**
JANG Nango 7.63 208 *e*S **S** **19 07 22.4 -7.8**
JIW Iwasaki 7.98 216 *e*P **Pn** **19 06 02.9 -0.6**
KLR Kul'dur 9.83 287 P **P** **19 06 24.4 +0.1**
comp=N,3.5nm,0.7s,baz=90,slow=9.1,SNR=4.5
KLR Kul'dur 9.83 287 *ce*PN **Pn** **19 06 26.2 +1.6**
KLR pmax pmax
comp=Z,11nm,1.4s
KLR Kul'dur 9.83 287 *e*P **Pn** **19 06 25.6 +1.0**
JMM Marumori 10.16 205 P **Pn** **19 06 29.1 +0.5**
USRK Ussuriysk Ar. 10.37 258 P **Pn** **19 06 30.7 -0.2**
comp=Z,4.0nm,0.7s,baz=61,slow=10,SNR=3.1
MJA0 Matsu Arr-Jizo 12.19 212 *e*PN **Pn** **19 06 52.5 +0.3**
MJA0 pmax pmax
comp=Z,6.0nm,0.6s
MAJO Matsushiro 12.20 212 P **Pn** **19 06 52.4 +0.1**
MAJO Matsushiro 12.20 212 PN **Pn** **19 06 52.4 +0.1**
MJAR Matsushiro Arr 12.20 212 P **Pn** **19 06 52.5 +0.2**
comp=Z,5.9nm,0.7s,baz=12,slow=12,SNR=14
MA2 Magadan 12.67 11 P **P** **19 06 55.7 +0.2**
comp=Z,6.9nm,0.7s,baz=191,slow=9.9,SNR=4.6
MA2 Magadan 12.67 11 P **P** **19 06 56.2 +0.7**
MA2 Magadan 12.67 11 *ce*PN **Pn** **19 06 56.4 -0.9**
MA2 pmax pmax
comp=Z,9.0nm,1.0s
MA2 Magadan 12.67 11 *e*P **Pn** **19 06 56.4 -0.9**
HEH HeiHe 12.74 291 *e*P **P** **19 06 56.8 +0.4**
ZEA Zeya 13.67 305 *e*P **P** **19 07 06.8 +0.3**
ZEA Zeya 13.67 305 *e*P **Pn** **19 07 09.5 +0.5**
CN2 Changchun 14.92 264 *e*P **P** **19 07 18.5 -1.7**
CN2 pmax pmax
comp=Z,20nm,0.9s
JHS Saijyo 15.66 223 P **P** **19 07 27.0 -1.3**
SEY Seymchan 16.12 10 *ce*P **P** **19 07 34.5 +1.6**
SEY pmax pmax
comp=Z,6.0nm,0.7s
SEY Seymchan 16.12 10 *e*P **P** **19 07 34.5 +1.6**
JMN Monobe 16.38 219 P **P** **19 07 36.6 +0.5**
KSRS Korea Array 16.62 241 P **Pn** **19 07 40.9 -1.7**
comp=Z,4.8nm,0.9s,baz=44,slow=11,SNR=16
KSRS Korea Array 16.62 241 *e*P **Pn** **19 07 40.9 -1.7**
KSAR Wonju Array Be 16.65 241 P **P** **19 07 38.7 -0.2**
KSAR Wonju Array Be 16.65 241 P **P** **19 07 38.7 -0.2**
YAK Yakutsk 17.55 334 P **P** **19 07 46.8 -1.3**
YAK Yakutsk 17.55 334 *d* iP **P** **19 07 46.6 -1.5**
YAK eS **S** **19 10 45.5 -4.2**
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=N,12nm,1.1s
YAK smax smax
comp=E,382nm,2.7s
YAK smax smax
comp=N,332nm,2.4s
YAK Yakutsk 17.55 334 *e*P **P** **19 07 46.6 -1.5**
JNU Nakatsue 18.25 225 P **P** **19 07 57.9 +1.8**
comp=N,4.5nm,0.8s,baz=3.0,slow=5.6,SNR=2.2
BJT Baijiatuau 22.78 263 P **P** **19 08 40.5 +2.1**
BJT IAmb IAmb 19 08 42.1
comp=Z,18nm,1.0s
BJT Baijiatuau 22.78 263 P **P** **19 08 40.5 +2.1**
BJT pmax pmax
comp=Z,18nm,1.0s
BJT Baijiatuau 22.78 263 *e*P **P** **19 08 40.5 +2.1**
BILL Bilibino 23.25 19⇑ *e*P **P** **19 08 41.8 -0.5**
BILL *e*S **S** **19 12 27.3 +3.2**
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 23.25 19 *e*P **P** **19 08 41.8 -0.5**
TIXI Tiksi 25.81 348 P **P** **19 09 03.0 -2.0**
comp=Z,1.8nm,0.7s,baz=90,slow=23,SNR=5.9
TIXI PcP **PcP** **19 12 21.4 -0.4**
comp=Z,0.9nm,0.3s,baz=89,slow=24,SNR=5.2
comp=Z,1.8nm,0.7s
TIXI Tiksi 25.81 348 P **P** **19 09 03.1 -1.9**
ULN Ulaanbaatar 26.22 286 P **P** **19 09 09.0 -0.2**
ULN Ulaanbaatar 26.22 286 *ce*P **P** **19 09 10.2 +1.0**
ULN pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 26.22 286 *e*P **P** **19 09 10.2 +1.0**
SONM Songino Array 26.66 286 P **P** **19 09 13.7 +0.6**
comp=Z,2.0nm,0.7s,baz=74,slow=8.1,SNR=11
SONM PcP **PcP** **19 12 24.7 +0.3**
comp=Z,0.2nm,0.6s,baz=104,slow=2.0,SNR=3.6
comp=Z,2.0nm,0.7s
SONM Songino Array 26.66 286 P **P** **19 09 13.1 +0.1**
ZAK Zakamensk 28.13 292 *e*P **P** **19 09 25.6 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ZAK Zakamensk 28.13 292 *e*P **P** **19 09 25.6 -0.4**
XAN Xi'an 30.88 258 P **P** **19 09 50.5 +0.4**
XAN pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 33.14 266 *e*P **P** **19 10 11.5 +1.8**
LZH pP PP 19 11 31.8 -3.3
LZH sP sP 19 11 55.0 -14
LZH pmax pmax
comp=Z,33nm,0.9s
GTA Gaotai 34.19 274 *e*P **P** **19 10 20.3 +1.7**
GTA PcP **PcP** **19 12 46.8 +2.1**
GTA pmax pmax
comp=Z,14nm,0.8s
IMAR Indian Mountai 36.22 37 P **P** **19 10 34.5 -0.6**
COLD Coldfoot 37.64 35 P **P** **19 10 46.7 -0.2**
DGZ Jazzator, Alta 38.17 296 *i* P **P** **19 10 51.2 -0.5**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 38.42 303 P **P** **19 10 53.0 -0.5**
comp=N,1.5nm,0.4s,baz=74,slow=8.9,SNR=5.7
ZALV PcP **PcP** **19 12 56.0 -1.2**
comp=Z,2.3nm,0.6s,baz=50,slow=2.3,SNR=7.2
comp=Z,1.5nm,0.4s
ZALV Zalesovo Beam 38.42 303 P **P** **19 10 52.4 -1.1**
ZALV PcP **PcP** **19 12 56.9 -0.2**
TCOL CIGO, UAF Yank 38.72 39 P **P** **19 10 55.4 -0.3**
TCOL IAmb IAmb 19 11 28.0
comp=Z,12nm,1.2s
COLA College 38.73 39 P **P** **19 10 55.3 -0.5**
COLA IAmb IAmb 19 10 56.6
comp=Z,10nm,1.1s
COLA College 38.73 39 P **P** **19 10 55.3 -0.5**
COLA pmax pmax
comp=Z,10.0nm,1.1s
IL31 39.15 39 P **P** **19 10 58.5 -0.7**
ILAR Eielson Array 39.15 39 P **P** **19 10 58.9 -0.4**
comp=Z,2.3nm,0.8s,baz=274,slow=7.6,SNR=20
comp=Z,2.3nm,0.8s
ILAR Eielson Array 39.15 39 *e*P **P** **19 10 59.2 -0.1**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
GOMU GeErMu 39.23 273 P **P** **19 11 01.8 +0.9**
GOMU pmax pmax
comp=Z,24nm,1.0s
GOMU pmax pmax
comp=Z,180nm,5.6s
PRP Porcupine Dome 39.63 37 P **P** **19 11 03.0 -0.4**
WMQ Urumqi 40.28 287 *e*P **P** **19 11 10.0 +1.1**
WMQ pmax pmax
comp=Z,17nm,0.7s
PZH PanZhiHua 40.45 255 P **P** **19 11 11.5 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
SCRK Sand Creek 40.51 40 P **P** **19 11 09.6 -0.9**
BCAR Beaver Creek A 41.66 41 P **P** **19 11 20.0 +0.4**
MK31 Makanchi Array 42.45 294 P **P** **19 11 25.8 -0.4**
MK31 IAmb IAmb 19 11 27.0
comp=Z,7.9nm,0.7s
MK31 Makanchi Array 42.45 294 P **P** **19 11 25.8 -0.4**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 42.45 294 P **P** **19 11 26.2 0.0**
comp=Z,5.8nm,0.6s,baz=72,slow=7.5,SNR=69
MKAR PcP **PcP** **19 13 10.5 0.0**
comp=Z,1.3nm,0.7s,baz=65,slow=6.3,SNR=4.8
comp=Z,5.8nm,0.6s
MKAR Makanchi Array 42.45 294 P **P** **19 11 25.6 -0.6**
MKAR Makanchi Array 42.45 294 *e*P **P** **19 11 26.2 0.0**
MAKZ Makanchi 42.64 294 P **P** **19 11 27.1 -0.6**
MAKZ IAmb IAmb 19 11 28.6
comp=Z,7.7nm,0.6s
MAKZ Makanchi 42.64 294 P **P** **19 11 27.1 -0.6**
MAKZ pmax pmax
comp=Z,8.0nm,0.6s
KURK Kurchatov 43.08 301 P **P** **19 11 30.4 -0.7**
KURK IAmb IAmb 19 11 31.6
comp=Z,17nm,0.7s
KURK Kurchatov 43.08 301 P **P** **19 11 31.6 +0.5**
KURK 19 13 13.0
KURK Kurchatov 43.08 301 *e*P **P** **19 11 31.6 +0.5**
KURBB Kurchatov Arra 43.17 301 P **P** **19 11 31.6 -0.2**
comp=Z,14nm,0.7s,baz=71,slow=8.8,SNR=84
KURBB PcP **PcP** **19 13 13.0 +0.2**
comp=Z,2.8nm,0.7s,baz=72,slow=3.2,SNR=15
comp=Z,14nm,0.7s
INK Inuvik 43.78 32 P **P** **19 11 35.4 -0.9**
comp=Z,1.5nm,0.6s,baz=296,slow=5.6,SNR=6.8
INK PcP **PcP** **19 13 14.4 -0.2**
comp=Z,1.4nm,0.8s,baz=259,slow=5.2,SNR=2.6
comp=Z,1.5nm,0.6s
LSA Lhasa 45.52 268 P **P** **19 11 52.7 +1.7**
LSA IAmb IAmb 19 11 53.8
comp=Z,9.2nm,0.6s
LSA Lhasa 45.52 268 P **P** **19 11 52.7 +1.7**
LSA pmax pmax
comp=Z,9.0nm,0.6s
A36M Sachs Harbour 45.52 26 P **P** **19 11 49.1 -0.6**
CRAI Chiangrai 45.75 250 P **P** **19 11 53.3 +1.0**
BVAR Borovoye Array 46.82 307 P **P** **19 11 59.9 -0.1**
comp=Z,4.0nm,0.6s,baz=67,slow=8.4,SNR=30
BVAR PcP **PcP** **19 13 25.6 +0.1**
comp=Z,2.2nm,0.7s,baz=70,slow=2.7,SNR=7.5
comp=Z,4.0nm,0.6s
BRVK Borovoye 46.86 307 P **P** **19 12 00.3 -0.1**
BRVK Borovoye 46.86 307 P **P** **19 12 00.3 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 46.86 307 *e*P **P** **19 12 00.3 -0.1**
SHL Shillong 47.67 263 P **P** **19 12 07.2 +0.1**
SHL Shillong 47.67 263 P **P** **19 12 07.2 +0.1**
SHL pmax pmax
comp=Z,24nm,0.9s
CHTO Chiang Mai 47.70 250 P **P** **19 12 08.2 +1.0**
CHTO Chiang Mai 47.70 250 P **P** **19 12 08.2 +1.0**
CMAR Chiang Mai Arr 47.96 250 P **P** **19 12 10.9 +1.8**
comp=Z,1.1nm,0.6s,baz=30,slow=7.3,SNR=8.9
CMAR PcP **PcP** **19 13 31.8 +1.6**
comp=Z,0.5nm,0.6s,baz=342,slow=2.7,SNR=4.3
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 47.96 250 P **P** **19 12 10.4 +1.3**
USP Ospenovka 48.98 293 P **P** **19 12 17.4 +0.8**
SNR=13
KBK Karagaybulak 49.01 292 P **P** **19 12 17.8 +0.8**
SNR=6.2
AAK Ala-Archa 49.30 292 P **P** **19 12 19.8 +0.6**
SNR=7.5
AAK Ala-Archa 49.30 292 P **P** **19 12 19.8 +0.6**
comp=Z,6.0nm,0.8s,baz=125,slow=4.2,SNR=22
comp=Z,6.0nm,0.8s
AAK Ala-Archa 49.30 292 P **P** **19 12 19.2 0.0**
AAK Ala-Archa 49.30 292 *e*P **P** **19 12 19.8 +0.6**
EKS2 Erkin-Say 49.74 293 P **P** **19 12 23.2 +0.8**
SNR=10
AML Almayashu 50.08 292 P **P** **19 12 26.2 +1.0**
SNR=5.4
JIRN Jiri 50.18 269 *e*P **P** **19 12 27.0 +0.9**
GUN Gumba 50.23 270 *e*P **P** **19 12 27.1 +0.6**
comp=Z,17nm,0.5s
PKI Pulchoki 50.77 270 *e*P **P** **19 12 30.9 +0.5**
PKIN Phulchoki 50.77 270 *e*P **P** **19 12 31.1 +0.7**
comp=Z,17nm,0.5s
DMN Daman 50.95 270 *e*P **P** **19 12 32.7 +1.0**
GKN Gorkha 51.02 271 *e*P **P** **19 12 32.9 +0.8**
ARU Arti 51.37 315 P **P** **19 12 33.2 -0.7**
comp=Z,4.9nm,0.5s,baz=39,slow=6.5,SNR=10
ARU PcP **PcP** **19 13 41.9 -0.2**
comp=Z,3.1nm,0.8s,baz=36,slow=0.3,SNR=4.2
comp=Z,4.9nm,0.5s
ARU Arti 51.37 315 *d* iP **P** **19 12 32.3 -1.7**
ARU *PP **pP** **19 13 54.8 0.0**
ARU 19 14 36.1
ARU S **S** **19 19 20.2 -1.6**
ARU pmax pmax
comp=Z,6.0nm,0.6s
DANN Dangsing 51.40 272 *e*P **P** **19 12 36.3 +1.3**
KK31 Karatay Array 51.54 295 P **P** **19 12 35.4 -0.1**
KK31 IAmb IAmb 19 12 36.5
comp=Z,6.8nm,0.8s
KK31 Karatay Array 51.54 295 P **P** **19 12 35.4 -0.1**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 51.54 295 P **P** **19 12 35.4 -0.1**
KKAR IAmb IAmb 19 12 36.5
comp=Z,6.8nm,0.8s
KKAR Karatay Array 51.54 295 P **P** **19 12 35.4 -0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 51.84 17 P **P** **19 12 36.2 -0.9**
comp=Z,13nm,0.7s,baz=310,slow=6.2,SNR=52
RES PcP **PcP** **19 13 43.5 -0.1**
comp=Z,1.2nm,0.8s,baz=314,slow=4.4,SNR=4.1
comp=Z,13nm,0.7s
RES Resolute Bay 51.84 17 P **P** **19 12 36.1 -1.1**
RES IAmb IAmb 19 12 37.1
comp=Z,12nm,0.7s
YKA Yellowknife Ar 53.32 35 P **P** **19 12 47.4 -0.6**
comp=Z,1.7nm,0.7s,baz=302,slow=6.9,SNR=13
YKA PcP **PcP** **19 13 49.8 +0.3**
comp=Z,1.2nm,0.8s,baz=301,slow=3.5,SNR=7.1
comp=Z,1.7nm,0.7s
ABKAR Akbulak array 54.39 306 P **P** **19 12 55.2 -0.7**
ABKAR Akbulak array 54.39 306 P **P** **19 12 55.5 -0.4**
AKTO Aktyubinsk 54.78 309 P **P** **19 12 57.8 -0.8**
comp=Z,1.3nm,0.6s,baz=89,slow=8.7,SNR=4.5
AKTO PcP **PcP** **19 13 55.3 0.0**
comp=Z,2.2nm,1.1s,baz=101,slow=3.5,SNR=4.9
comp=Z,1.3nm,0.6s
BELG Belogornoye 58.92 315 P **P** **19 13 26.6 -0.6**
comp=Z,6.2nm,0.5s,baz=128,slow=0.6,SNR=6.0
comp=Z,6.2nm,0.5s
E09A Wood Farm, Sta 61.15 52 P **P** **19 13 42.1 -0.2**
E09A IAmb IAmb 19 13 44.5
comp=Z,7.0nm,1.1s
PINE Pine Mountain 61.33 56 P **P** **19 13 45.6 +1.8**
FIA1 FINESS Array S 61.47 332 P **P** **19 13 43.4 -0.8**
FINES FINESS Array B 61.47 332 P **P** **19 13 43.4 -0.8**
comp=Z,12nm,0.6s,baz=41,slow=8.0,SNR=72
comp=Z,12nm,0.6s
FINES FINESS Array B 61.47 332 P **P** **19 13 43.7 -0.5**
FINES FINESS Array B 61.47 332 P **P** **19 13 43.7 -0.5**
OBN Obninsk 62.12 322 *de*P **P** **19 13 47.3 -1.2**
OBN *e*PP **pP** **19 15 16.8 +3.7**
OBN *e*SS SS 19 26 00.6 +9.3
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN Obninsk 62.12 322 *e*P **P** **19 13 47.3 -1.2**
GEYT Alibeck 62.21 297 P **P** **19 13 50.0 +0.6**
comp=Z,13nm,0.7s,baz=29,slow=3.4,SNR=43
comp=Z,13nm,0.7s
WVOR Wild Horse Val 63.50 55 P **P** **19 13 58.9 +1.0**
WVOR IAmb IAmb 19 14 00.3
comp=Z,4.8nm,1.1s
WVOR Wild Horse Val 63.50 55 P **P** **19 13 58.9 +1.0**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
HRY Holter Researc 64.31 48 P **P** **19 14 04.3 +1.2**
LRM Limekiln Ridge 64.59 49 P **P** **19 14 06.1 +1.1**
BOZ Bozeman (W) 65.17 49 P **P** **19 14 09.8 +1.2**
BOZ IAmb IAmb 19 14 10.5
comp=Z,4.5nm,0.8s
BOZ Bozeman (W) 65.17 49 P **P** **19 14 09.8 +1.2**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BMN Battle Mountai 65.62 56 P **P** **19 14 11.8 +0.3**
BMN Battle Mountai 65.62 56 P **P** **19 14 11.8 +0.3**
BMN pmax pmax
comp=Z,3.0nm,0.9s
QLMT Earthquake Lak 65.80 50 P **P** **19 14 13.5 +0.8**
NC405 NORSAR Array S 65.92 338 P **P** **19 14 11.0 -1.9**
AKT Akhty 65.94 306 *e*P **P** **19 14 14.1 +0.6**
AKT *e* 19 14 40.6
AKT pmax pmax
comp=Z,25nm,0.8s
NB201 NORSAR Array S 66.08 338 P **P** **19 14 12.6 -1.4**
NB2 NORSAR Subarra 66.11 338 P **P** **19 14 13.6 -0.5**
comp=Z,3.3nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 66.11 338 P **P** **19 14 13.5 -0.7**
comp=Z,4.6nm,0.6s,baz=32,slow=6.6,SNR=26
comp=Z,4.6nm,0.6s
NACGM Naroch 66.15 327 *e*P **P** **19 14 14.0 -0.5**
comp=Z,16nm,0.8s,baz=40
NVAR Mina Array Bea 66.34 59 P **P** **19 14 17.5 +1.4**
comp=Z,1.1nm,0.7s,baz=270,slow=5.9,SNR=5.5
comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 66.34 59 P **P** **19 14 17.2 +1.1**
H17A Grant Village 66.54 50 P **P** **19 14 20.2 +2.9**
H17A IAmb IAmb 19 14 22.7
comp=Z,5.6nm,1.3s
PABE Paberze 66.72 328 P **P** **19 14 17.5 -0.4**
DGMT Dagmar 66.81 43 P **P** **19 14 19.6 +0.8**
KVAR Kislovodsk Arr 66.95 310 P **P** **19 14 21.3 +1.6**
comp=Z,5.9nm,0.8s,baz=34,slow=13,SNR=4.8
comp=Z,5.9nm,0.8s
KIV Kislovodsk 66.96 310⇑ P **P** **19 14 21.1 +1.3**
KIV Kislovodsk 66.96 310 P **P** **19 14 21.0 +1.3**
KIV Kislovodsk 66.96 310⇑ P **P** **19 14 21.1 +1.3**
KBZ Khabaz 67.00 310 P **P** **19 14 20.9 +1.0**
comp=Z,11nm,0.9s,baz=53,slow=4.7,SNR=23
comp=Z,11nm,0.9s
KBZ Khabaz 67.00 310 *e*P **P** **19 14 20.9 +1.0**
SHA1 Shidzhatmaz 67.12 310 *i* P **P** **19 14 20.8 -0.2**
ZEI Tsey 67.12 309 *e*P **P** **19 14 19.9 -1.1**
ZEI pmax pmax
comp=Z,11nm,0.8s
ONI Oni 67.50 309 P **P** **19 14 24.6 +1.4**
ONI Oni 67.50 309 P **P** **19 14 24.6 +1.4**
ONI pmax pmax
comp=Z,9.0nm,0.8s
WRA Warramunga Arr 67.70 192 P **P** **19 14 25.2 +0.8**
comp=Z,0.8nm,0.5s,baz=7.1,slow=6.6,SNR=9.6
comp=Z,0.8nm,0.5s
HWUT Hardware Ranch 67.95 52 P **P** **19 14 27.1 +1.0**
BW06 Boulder Array 68.20 50 P **P** **19 14 28.8 +1.1**
BW06 IAmb IAmb 19 14 29.2
comp=Z,6.0nm,1.1s
PD31 Pinedale Array 68.20 50 P **P** **19 14 28.5 +0.8**
PD31 IAmb IAmb 19 14 29.2
comp=Z,5.8nm,1.1s
PDAR Pinedale Array 68.20 50 P **P** **19 14 28.4 +0.8**
comp=Z,2.6nm,0.7s,baz=312,slow=1.2,SNR=23
comp=Z,2.6nm,0.7s
PDAR Pinedale Array 68.20 50 P **P** **19 14 28.6 +0.9**
AKH Akhalkalaki 68.30 308 P **P** **19 14 29.1 +0.9**
AKH Akhalkalaki 68.30 308 P **P** **19 14 29.1 +0.9**
AKH pmax pmax
comp=Z,33nm,1.2s
AKASG Malin Array Be 68.38 322 P **P** **19 14 27.6 -0.7**
comp=Z,7.6nm,0.6s,baz=36,slow=6.3,SNR=33
comp=Z,7.6nm,0.6s
AKASG Malin Array Be 68.38 322 P **P** **19 14 27.6 -0.7**
AKASG Malin Array Be 68.38 322 P **P** **19 14 27.6 -0.7**
AKASG pmax pmax
comp=Z,3.0nm,1.0s
AKBB Malin Array Si 68.38 322 P **P** **19 14 27.7 -0.6**
AKBB Malin Array Si 68.38 322 P **P** **19 14 27.7 -0.6**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 68.50 306 P **P** **19 14 29.9 +0.5**
comp=Z,8.0nm,0.8s,baz=11,slow=5.2,SNR=2.2
comp=Z,8.0nm,0.8s
ULM Lac du Bonnet 69.15 37 P **P** **19 14 32.0 -1.0**
comp=Z,4.0nm,0.8s,baz=255,slow=6.5,SNR=4.0
comp=Z,4.0nm,0.8s
RDMU Red Mountain 69.75 52 P **P** **19 14 38.3 +1.3**

RDMU IAmb IAmb 19 14 39.2
comp=Z,6.9nm,0.9s
RWWY Rawlins 70.19 50 P P 19 14 38.1 -1.7
RWWY IAmb IAmb 19 14 40.2
comp=Z,8.0nm,1.1s
SRU San Rafael Swe 70.27 54 P P 19 14 41.1 +0.9
SRU IAmb IAmb 19 14 42.5
comp=Z,3.6nm,0.8s
SRU San Rafael Swe 70.27 54 P P 19 14 41.1 +0.9
SRU pmax pmax
comp=Z,4.0nm,0.8s
SORM Soroca 70.71 321 ⇑P P 19 14 41.4 -1.0
SORM Soroca 70.71 321 ⇑P P 19 14 41.4 -1.0
GURO Guroymak-BITLI 71.11 307 P P 19 14 46.8 +1.6
GURO IAmb IAmb 19 14 47.6
comp=Z,9.3nm,0.8s
ASAR Alice Springs 71.42 192 P P 19 14 48.6 +1.7
comp=Z,0.6nm,0.5s,baz=3.4,slow=5.4,SNR=10
comp=Z,0.6nm,0.5s
MILM Milestii Mici 71.45 320 ⇑P P 19 14 46.8 0.0
MILM Milestii Mici 71.45 320 ⇑P P 19 14 46.8 0.0
PV13 Radium Mtn., P 71.88 53 P P 19 14 50.9 +1.1
PV13 IAmb IAmb 19 14 51.8
comp=Z,3.9nm,0.8s
F33A 5 Mile Ranch, 72.36 41 P P 19 14 51.8 -0.4
F33A IAmb IAmb 19 14 52.4
comp=Z,7.1nm,1.0s
BUR08 Bucovina Ar. S 72.42 323 P P 19 14 52.5 -0.2
BUR08 IAmb IAmb 19 14 53.6
comp=Z,5.2nm,0.6s
BURAR Bucovina Array 72.44 323 ⇑P P 19 14 52.8 0.0
BURAR Bucovina Array 72.44 323 P P 19 14 53.0 +0.2
BURAR IAmb IAmb 19 14 53.9
comp=Z,5.9nm,0.8s
BURAR Bucovina Array 72.44 323 ⇑P P 19 14 52.8 0.0
OJC Ojcow 72.47 327 P P 19 14 52.8 +0.1
OJC IAmb IAmb 19 14 53.7
comp=Z,10nm,1.0s
OJC Ojcow 72.47 327 P P 19 14 52.8 +0.1
OJC pmax pmax
comp=Z,10.0nm,1.0s
STHS Stebnicka Huta 72.58 326 *e*P P 19 14 53.4 0.0
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 72.58 326 *e*P P 19 14 53.4 0.0
TESR Tescani 72.70 321 ⇓P P 19 14 54.0 -0.1
TLCR 72.78 319 ⇑P P 19 14 55.1 +0.5
TLCR 72.78 319 ⇑P P 19 14 55.1 +0.5
CRVS Cervenica-Dubn 72.91 325 *e*P P 19 14 55.7 +0.3
CRVS Cervenica-Dubn 72.91 325 *e*P P 19 14 55.7 +0.3
CFR Carcaliu 73.09 319 ⇑P P 19 14 56.1 -0.3
CFR Carcaliu 73.09 319 ⇑P P 19 14 56.1 -0.3
TRPA Tarpa 73.11 324 ⇓P P 19 14 56.9 +0.4
VRI Vrincioaia 73.17 321 ⇑P P 19 14 58.7 +1.7
VRI Vrincioaia 73.17 321 ⇑P P 19 14 58.7 +1.7
TPGR Topolog 73.22 319 ⇑P P 19 14 57.9 +0.7
PLOR Plostina 73.22 321 ⇑P P 19 14 59.2 +1.9
PLOR Plostina 73.22 321 ⇑P P 19 14 59.2 +1.9
OKC Ostrava-Krasne 73.39 328 *e*P P 19 14 58.3 +0.2
OKC Ostrava-Krasne 73.39 328 *e*P P 19 14 58.3 +0.2
OZUR 73.40 321 ⇓P P 19 14 59.4 +1.1
LANS Liptovska Anna 73.47 327 *e*P P 19 14 59.7 +1.1
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 73.47 327 *e*P P 19 14 59.7 +1.1
HARR Harsova 73.57 319 ⇓P P 19 14 58.5 -0.7
HARR Harsova 73.57 319 ⇓P P 19 14 58.5 -0.7
DPC Dobruska-Polom 73.61 329 *e*P P 19 14 59.9 +0.5
DPC Dobruska-Polom 73.61 329 *e*P P 19 14 59.9 +0.5
MORC Moravsky Berou 73.66 328 ⇑P P 19 15 00.2 +0.5
MORC Moravsky Berou 73.66 328 P P 19 15 00.0 +0.3
MORC IAmb IAmb 19 15 00.9
comp=Z,11nm,0.9s
MORC Moravsky Berou 73.66 328 *e*P P 19 15 00.2 +0.5
MORC Moravsky Berou 73.66 328 ⇑P P 19 15 00.2 +0.5
DOPR Dopca 73.67 321 ⇓P P 19 15 01.1 +1.3
KRLC Kraliky 73.68 329 *e*P P 19 14 59.9 +0.1
KRLC Kraliky 73.68 329 *e*P P 19 14 59.9 +0.1
MLR Muntele Rosu 73.81 321 ⇑P P 19 15 01.1 +0.4
MLR Muntele Rosu 73.81 321 P P 19 15 01.5 +0.8
MLR IAmb IAmb 19 15 02.3
comp=Z,5.6nm,0.6s
MLR Muntele Rosu 73.81 321 P P 19 15 01.5 +0.8
MLR pmax pmax
comp=Z,6.0nm,0.6s
ISR Istrita 73.84 320 ⇑P P 19 15 01.1 +0.2
ISR Istrita 73.84 320 ⇑P P 19 15 01.1 +0.2
ECSD EROS Data Cent 73.85 42 P P 19 15 00.9 0.0
ECSD IAmb IAmb 19 15 01.4
comp=Z,4.6nm,0.8s
CLL Collm 73.92 332 P P 19 15 00.8 -0.3
CLL Collm 73.92 332 ⇓*i*P P 19 15 00.7 -0.3
comp=Z,15nm,0.9s
CLL *e*PcP **PcP 19 15 14.0 -0.2**
CLL Collm 73.92 332 P P 19 15 00.8 -0.3
CLL pmax pmax
comp=Z,12nm,0.8s
ICOR Ion Corvin 74.07 319 ⇑P P 19 15 02.9 +0.8
BNN Bunyan 74.19 310 P P 19 15 04.1 +1.1
VOIR 74.24 321 ⇑P P 19 15 03.8 +0.7
VOIR 74.24 321 ⇑P P 19 15 03.8 +0.7
VYHS Vyhne 74.25 327 *e*P P 19 15 03.6 +0.6
VYHS Vyhne 74.25 327 *e*P P 19 15 03.6 +0.6
JAVC Velka Javorina 74.38 328 *e*P P 19 15 05.1 +1.3
VRAC Vranov 74.39 328 ⇑P P 19 15 03.7 -0.1
VRAC Vranov 74.39 328 *e*P P 19 15 04.5 +0.7
VRAC Vranov 74.39 328 ⇑P P 19 15 03.7 -0.1
PRU Pruhonice 74.53 330 *e*P P 19 15 05.1 +0.5
PRU Pruhonice 74.53 330 *e*P P 19 15 05.1 +0.5
SCHQ Schefferville 74.56 19 P P 19 15 02.8 -1.9
comp=Z,3.0nm,0.9s,baz=286,slow=7.4,SNR=1.5
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 74.67 312 P P 19 15 05.8 +0.1
BR131 IAmb IAmb 19 15 07.3
comp=Z,7.5nm,0.8s
BR131 Keskin Array S 74.67 312 P P 19 15 05.8 +0.1
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 74.67 312 P P 19 15 06.5 +0.7
comp=Z,3.8nm,0.8s,baz=80,slow=4.3,SNR=19
comp=Z,3.8nm,0.8s
BRTR Keskin Array B 74.67 312 P P 19 15 05.7 -0.1
KRUC Moravsky 74.67 328 *e*P P 19 15 06.0 +0.6
SMOL Smolenice 74.75 327 *e*P P 19 15 07.0 +1.1
SMOL pmax pmax
comp=Z,4.0nm,0.7s
MODS Modra-Piesok 74.92 327 *e*P P 19 15 08.0 +1.1
MODS Modra-Piesok 74.92 327 *e*P P 19 15 08.0 +1.1
SIRR Siria 74.97 324 ⇑P P 19 15 07.9 +0.6
ANTO Ankara 74.98 313 P P 19 15 07.9 +0.5
ANTO Ankara 74.98 313 P P 19 15 07.9 +0.5
ANTO pmax pmax
comp=Z,15nm,0.7s
T25A Trinidad 75.00 51 P P 19 15 08.6 +0.8
COPA Copaceanca 75.20 320 ⇑P P 19 15 08.3 -0.2
SURR Surduc 75.20 323 ⇑P P 19 15 08.9 +0.4
GZR Gura Zlata 75.23 323 ⇑P P 19 15 08.6 -0.1
GZR Gura Zlata 75.23 323 ⇑P P 19 15 08.6 -0.1
BZS Buzias 75.52 323 ⇑P P 19 15 10.4 +0.1
BZS Buzias 75.52 323 ⇑P P 19 15 10.4 +0.1
KHC Kasperske Hory 75.59 330 P P 19 15 10.4 -0.2
KHC IAmb IAmb 19 15 11.9
comp=Z,6.7nm,0.7s
KHC Kasperske Hory 75.59 330 *e*P P 19 15 10.8 +0.1
KHC Kasperske Hory 75.59 330 *e*P P 19 15 10.8 +0.1
CKRC Cesky Krumlov 75.61 329 *e*P P 19 15 10.9 +0.2
HERR Herculane 75.79 322 ⇑P P 19 15 11.2 -0.6
GEC2 GERESS Array S 75.79 330 P P 19 15 11.0 -0.9
GEC2 IAmb IAmb 19 15 13.0
comp=Z,8.7nm,1.2s
GERES GERESS Array B 75.79 330 P P 19 15 11.8 -0.1
comp=Z,2.3nm,0.6s,baz=30,slow=6.2,SNR=12
comp=Z,2.3nm,0.6s
GERES GERESS Array B 75.79 330 P P 19 15 11.3 -0.6
CONA Conrad Observa 75.81 328 *e*P P 19 15 12.9 +0.9
comp=Z,4.5nm,0.6s
RONA Rosalia, Austr 75.85 328 *i* P P 19 15 13.0 +0.8
comp=Z,2.9nm,0.5s,SNR=6.0
GRA1 Grafenberg Arr 75.89 332 P P 19 15 12.7 +0.4
GRF Grafenberg Arr 75.89 332 P P 19 15 12.7 +0.4
GRF pmax pmax
comp=Z,10.0nm,0.7s
GRFO Grafenberg 75.89 332 P P 19 15 12.7 +0.4
GRFO pmax pmax
comp=Z,9.0nm,0.7s
PLVB Pleven 76.06 320 ⇑P P 19 15 11.4 -1.9
MDVR Moldovita 76.16 323 ⇑P P 19 15 13.8 -0.2
MORH Mrgy, Hungar 76.21 325 ⇑P P 19 15 13.5 -0.6
MOA Molln 76.45 329 *e*P P 19 15 15.8 +0.4
comp=Z,3.6nm,0.7s
121A Cookes Peak, D 76.56 57 P P 19 15 17.7 +1.2
121A IAmb IAmb 19 15 19.0
comp=Z,3.6nm,0.9s
FRGS Fruska Gora 76.63 324 ⇑P P 19 15 17.0 +0.5
BIOA Bad Ischl, Aus 76.80 329 *e*P P 19 15 17.5 +0.1
comp=Z,2.5nm,0.6s
BCLA Clavier 77.04 336 *d*P P 19 15 18.4 -0.2
comp=Z,4.5nm,0.8s
BOVS Bovan 77.10 322 ⇑P P 19 15 18.5 -0.6
VTS Vitosha 77.28 321 ⇑P P 19 15 19.6 -0.7
VTS Vitosha 77.28 321 P P 19 15 21.0 +0.7
VTS IAmb IAmb 19 15 21.8
comp=Z,9.4nm,0.9s
VTS Vitosha 77.28 321 P P 19 15 21.0 +0.7
VTS pmax pmax
comp=Z,9.0nm,0.9s
BMRD Maredsous 77.29 336 *d*P P 19 15 19.9 -0.1
comp=Z,5.9nm,0.8s
BMRD *d*PcP **PcP 19 15 29.2 +0.4**
KBA Koelnbreinsper 77.43 329 *e*P P 19 15 21.8 +0.8
comp=Z,7.1nm,0.7s
WATA Walderalm 77.82 330 *i* P P 19 15 23.7 +0.5
comp=Z,4.7nm,0.5s,SNR=4.2
BFO Black Forest 78.00 333 P P 19 15 23.9 -0.1
BFO Black Forest 78.00 333 P P 19 15 23.9 -0.1
BFO pmax pmax
comp=Z,17nm,1.5s
DAVA Damuels 78.42 331 *e*P P 19 15 26.6 +0.1
ECH Echery 78.46 333 P P 19 15 26.4 -0.1
ECH IAmb IAmb 19 16 04.4
comp=Z,9.3nm,1.4s
ECH Echery 78.46 333 P P 19 15 26.4 -0.1
ECH pmax pmax
comp=Z,9.0nm,1.4s
DAVOX Davos/Dischmat 78.87 331 P P 19 15 28.8 -0.1
comp=Z,3.6nm,0.6s,baz=3.9,slow=4.4,SNR=8.4
comp=Z,3.6nm,0.6s
FUORN Ofenpass-Fuorn 78.88 331 P P 19 15 29.4 +0.3
FUORN IAmb IAmb 19 15 29.9
comp=Z,4.1nm,0.9s
CTI Castel Tesino 78.91 330 P P 19 15 28.0 -1.0
CTI IAmb IAmb 19 15 28.4
comp=Z,4.4nm,0.7s
CTI Castel Tesino 78.91 330 P P 19 15 28.0 -1.0
PDG Podgorica 79.11 323 ⇑P P 19 15 29.7 -0.3
RAYN Ar Rayn 79.94 294 P P 19 15 35.1 +0.3
RAYN IAmb IAmb 19 15 35.8
comp=Z,3.5nm,0.6s
RAYN Ar Rayn 79.94 294 ⇑P P 19 15 35.3 +0.5
TX31 Lajitas Ar. Si 81.29 56 P P 19 15 42.0 +0.2
TX31 IAmb IAmb 19 15 44.4
comp=Z,9.3nm,1.1s
TX32 Lajitas Array 81.29 56 P P 19 15 42.9 +1.0
TXAR Lajitas Array 81.29 56 P P 19 15 42.9 +1.1
comp=Z,2.3nm,0.9s,baz=290,slow=3.9,SNR=12
comp=Z,2.3nm,0.9s
TKL Tualeechee C 86.13 39 P P 19 16 06.1 +0.2
comp=Z,1.1nm,0.4s,baz=5.7,slow=10,SNR=1.4
comp=Z,1.1nm,0.4s
ESDC Sonseca Array 89.47 337 P P 19 16 20.3 -1.3
comp=Z,0.5nm,0.6s,baz=15,slow=4.7,SNR=2.6
comp=Z,0.5nm,0.6s
ELIB Princess Elisa 144.14 207 *d*PKP PKPbc 19 22 54.8 -0.7
BDFB Brasilia 146.38 25 PKPbc **PKPbc 19 23 03.7 -0.1**
comp=Z,2.0nm,0.5s,baz=126,slow=2.6,SNR=3.6
PLCA Paso Flores 152.98 90 PKPbc **PKiKP 19 23 19.1 0.0**
comp=Z,1.0nm,0.8s,baz=207,slow=7.8,SNR=3.5

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*IDC **25** 20:22:06.5±2.2,6.°61S×129.°08E,h0km,mb3.5/1, mbtmp3.8/3,ML4.0/2,Error ellipse: s-maj=124.8km s-min=32.0km az=67.0*
*NEIC **25** 20:22:20.7±1.9,6.°9S±0.°1×129.°0E±0.°1,h146km±19km, mb4.2/2,Error ellipse: s-maj=18.4km s-min=14.0km az=209.0*
ISC 25 20:22:20.3±0.8,7.°04S±0.°06×129.°17E±0.°07,h150km,n29, σ2.°73/34,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.31**	**114**		**Pn**	**20 23 01.5**	**+2.4**
SAUI				Sn	**Sn**	**20 23 26.8**	**-2.2**
SAUI	**Saumlaki**	**2.31**	**114**	P	**Pn**	**20 23 02.0**	**+2.9**
BNDI	**Bandanaira**	**2.60**	**16**	P	**Pn**	**20 23 06.8**	**+4.1**
FAKI	**Fak Fak**	**5.11**	**37**	Pn	**Pn**	**20 23 34.9**	**-0.4**
FAKI				Sn	**Sn**	**20 24 27.9**	**-5.8**
SOEI	**Soe**	**5.55**	**241**		**Pn**	**20 23 40.0**	**-1.2**
SOEI	**Soe**	**5.55**	**241**	P	**Pn**	**20 23 45.5**	**+4.3**
MTN	**Manton Dam**	**6.09**	**162**	Pn	**Pn**	**20 23 50.2**	**+1.9**
MTN				Sn	**Sn**	**20 24 53.8**	**-3.2**
MTN	**Manton Dam**	**6.09**	**162**	P	**Pn**	**20 23 50.1**	**+1.9**
KDU	**Kakadu**	**6.49**	**150**	P	**Pn**	**20 23 54.9**	**+1.3**
MMRI	**Maumere**	**7.05**	**257**	Pn	**Pn**	**20 24 00.3**	**-0.8**
KNRA	**Kununurra**	**8.60**	**183**	Pn	**Pn**	**20 24 23.1**	**+1.3**
KNRA					**Sn**	**20 25 52.3**	**-5.0**
KNRA	**Kununurra**	**8.60**	**183**	P	**Pn**	**20 24 23.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.52**	**197**	Pn	**Pn**	**20 25 01.0**	**+0.6**
WB0	**Warramunga Arr**	**13.63**	**159**	Pn	**Pn**	**20 25 26.8**	**-0.9**
WRA	**Warramunga Arr**	**13.78**	**159**	Pn	**Pn**	**20 25 28.5**	**-1.0**
	0.5nm,0.3s,baz=338,slow=12,SNR=6.7						
WRA				Sn	Sn	20 27 53.7	-8.5
	1.2nm,0.3s,baz=331,slow=22,SNR=8.8						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**13.78**	**159**	Pn	**Pn**	**20 25 30.8**	**+1.3**
WB2	**Warramunga Arr**	**13.78**	**159**	Pn	**Pn**	**20 25 29.4**	**-0.2**
WR0	**Warramunga Arr**	**13.86**	**158**	Pn	**Pn**	**20 25 31.0**	**+0.4**
QIS	**Mount Isa**	**16.82**	**144**	P	**Pn**	**20 26 08.6**	**+1.5**
AS31	**Alice Springs**	**17.15**	**165**	P	**Pn**	**20 26 13.1**	**+2.0**
AS31				IAmb	IAmb	20 26 13.9	
	comp=Z,3.2nm,0.4s						
ASAR	**Alice Springs**	**17.15**	**165**	P	**Pn**	**20 26 13.6**	**+2.5**
	comp=Z,1.1nm,0.3s,baz=348,slow=11,SNR=147						
ASAR				S	**S**	**20 29 15.3**	**-6.3**
	comp=Z,0.6nm,0.4s,baz=342,slow=26,SNR=5.9						
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**17.15**	**165**		**Pn**	**20 26 13.2**	**+2.1**
AS01	**Alice Springs**	**17.16**	**165**	P	**Pn**	**20 26 13.3**	**+2.1**
WRKA	**Warakurna**	**17.92**	**183**	P	**Pn**	**20 26 22.3**	**+2.0**
OOD	**Oodnadatta**	**21.55**	**164**	P	**P**	**20 27 00.0**	**+2.1**
MULG	**Mulgathing**	**23.58**	**169**	P	**P**	**20 27 19.5**	**+2.1**
FORT	**Forrest**	**23.64**	**182**	P	**P**	**20 27 19.7**	**+1.7**
FORT				IAmb	IAmb	20 27 22.3	
	comp=Z,10nm,0.7s						
FORT	**Forrest**	**23.64**	**182**	P	**P**	**20 27 20.9**	**+2.9**
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**20 33 03.9**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=112,slow=5.6,SNR=4.5						
	comp=Z,0.2nm,0.4s						

ROM 25 20:30:08.5±0.1,42.°566N±0.°004×13.°345E±0.°005, h8km,ML2.2/34,10C-15D,Error ellipse: s-maj=0.4km s-min=0.4km az=69.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.06**	**122**	P	Pg	20 30 10.7	+0.2
CAMP				S	Sg	20 30 11.8	0.0
CAMP				AML	AML		
	comp=E,5650μm,0.2s						
CAMP				AML	AML		
	comp=N,6915μm,0.6s						
CAMP				AML	AML		
	comp=N,6916μm,0.6s						
CAMP				AML	AML		
	comp=E,5648μm,0.2s						
RM33	**Pellescritta (**	**0.11**	**240**	⇑P	Pg	20 30 11.9	+0.8
RM33				S	Sg	20 30 14.1	+1.1
RM33				AML	AML		
	comp=E,3600μm,0.3s						
RM33				AML	AML		
	comp=N,3985μm,1.0s						
RM33				AML	AML		
	comp=N,4005μm,1.0s						
RM33				AML	AML		
	comp=E,3600μm,0.3s						
RM33				AML	AML		
	comp=E,3685μm,0.3s						
RM33				AML	AML		
	comp=N,3985μm,1.0s						
RM33				AML	AML		
	comp=E,3599μm,0.3s						
RM33				AML	AML		
	comp=N,3111μm,0.2s						
RM33				AML	AML		
	comp=N,3116μm,0.2s						
RM33				AML	AML		
	comp=E,3684μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.13**	**196**	P	Pg	20 30 12.2	+0.8
T1247				S	Sg	20 30 14.8	+1.4
T1247				AML	AML		
	comp=E,2770μm,0.7s						
T1247				AML	AML		
	comp=N,2065μm,1.1s						
T1247				AML	AML		
	comp=E,2770μm,0.7s						
T1247				AML	AML		
	comp=N,2065μm,1.1s						
T1247	**Pizzolo (AQ)**	**0.13**	**196**	⇑P	Pg	20 30 12.3	+0.9
T1247				S	Sg	20 30 14.8	+1.4
T1247				AML	AML		
	comp=E,4550μm,0.3s						
T1247				AML	AML		
	comp=N,4200μm,0.8s						
T1247				AML	AML		
	comp=E,4550μm,0.3s						
T1247				AML	AML		
	comp=N,3793μm,0.5s						
T1218	**Civita (PG)**	**0.20**	**302**	P	Pg	20 30 13.2	+0.5
T1218				S	Sg	20 30 16.7	+1.3
T1218				AML	AML		
	comp=E,67μm,1.6s						
T1218				AML	AML		
	comp=N,126μm,0.2s						
T1218				AML	AML		
	comp=E,67μm,0.7s						
T1218				AML	AML		
	comp=N,126μm,0.2s						
T1218				AML	AML		
	comp=N,126μm,0.2s						
T1218				AML	AML		
	comp=E,67μm,1.3s						
T1218	**Civita (PG)**	**0.20**	**302**	⇑P	Pg	20 30 13.2	+0.6
T1218				S	Sg	20 30 16.6	+1.2
T1218				AML	AML		
	comp=E,910μm,0.2s						
T1218				AML	AML		
	comp=N,1760μm,0.3s						
T1218				AML	AML		
	comp=N,1760μm,0.3s						
T1218				AML	AML		
	comp=E,866μm,0.3s						
T1218				AML	AML		
	comp=N,1760μm,0.2s						
T1218				AML	AML		
	comp=N,1761μm,0.3s						
T1218				AML	AML		
	comp=E,865μm,0.3s						
T1218				AML	AML		
	comp=E,910μm,0.2s						
T1218				AML	AML		
	comp=N,1760μm,0.3s						
TERO	**Teramo**	**0.20**	**73**	P	Pg	20 30 12.9	+0.3
TERO				S	Sg	20 30 16.2	+0.8
TERO	**Teramo**	**0.20**	**73**	P	Pg	20 30 13.0	+0.4
TERO				S	Sg	20 30 16.3	+0.9
TERO				AML	AML		
	comp=E,5610μm,0.4s						
TERO				AML	AML		
	comp=N,6900μm,0.3s						
TERO				AML	AML		
	comp=E,6155μm,0.4s						
TERO				AML	AML		
	comp=N,7395μm,0.3s						
TERO				AML	AML		
	comp=N,6902μm,0.3s						
TERO				AML	AML		
	comp=E,6157μm,0.4s						
TERO				AML	AML		
	comp=E,5612μm,0.4s						
TERO				AML	AML		
	comp=N,7393μm,0.3s						
GIGS	**Gran Sasso**	**0.20**	**125**	P	Pg	20 30 13.2	+0.6
GIGS				S	Sg	20 30 16.4	+0.9
GIGS	**Gran Sasso**	**0.20**	**125**	P	Pg	20 30 13.2	+0.5
GIGS				S	Sg	20 30 16.3	+0.8
GIGS				AML	AML		
	comp=N,718μm,0.5s						
GIGS				AML	AML		
	comp=E,873μm,0.5s						
GIGS				AML	AML		
	comp=N,679μm,0.5s						
GIGS				AML	AML		
	comp=E,759μm,0.2s						
AQU	**L'Aquila**	**0.22**	**169**	P	Pg	20 30 13.7	+0.8
AQU				S	Sg	20 30 18.0	+2.1
AQU	**L'Aquila**	**0.22**	**169**	P	Pg	20 30 13.7	+0.8
AQU				S	Sg	20 30 17.6	+1.7
AQU				AML	AML		
	comp=E,1245μm,0.3s						
AQU				AML	AML		
	comp=N,1440μm,0.3s						
AQU				AML	AML		
	comp=N,1495μm,1.1s						
AQU				AML	AML		
	comp=E,1295μm,0.3s						
AQU				AML	AML		
	comp=N,1488μm,0.3s						
AQU				AML	AML		
	comp=N,1440μm,0.3s						
AQU				AML	AML		
	comp=E,1296μm,0.3s						
AQU				AML	AML		
	comp=E,1246μm,0.3s						
LNSS	**Leonessa**	**0.23**	**279**	P	Pg	20 30 13.8	+0.7
LNSS				S	Sg	20 30 18.0	+1.7
LNSS				AML	AML		
	comp=E,100μm,0.8s						
LNSS				AML	AML		
	comp=N,95μm,0.4s						
LNSS				AML	AML		
	comp=E,101μm,0.8s						
LNSS				AML	AML		
	comp=N,95μm,0.4s						
LNSS				AML	AML		
	comp=N,95μm,0.4s						
LNSS				AML	AML		
	comp=E,101μm,0.8s						
LNSS	**Leonessa**	**0.23**	**279**	⇑P	Pg	20 30 13.9	+0.7
LNSS				S	Sg	20 30 17.8	+1.5
LNSS				AML	AML		
	comp=E,1675μm,1.4s						
LNSS				AML	AML		
	comp=N,1440μm,0.2s						
LNSS				AML	AML		
	comp=E,1658μm,0.5s						
LNSS				AML	AML		
	comp=N,1437μm,0.2s						
T1222	**Castel Sant'An**	**0.28**	**234**	P	Pg	20 30 14.8	+0.7
T1222				S	Sb	20 30 19.6	-1.1
T1222	**Castel Sant'An**	**0.28**	**234**	⇑P	Pg	20 30 14.8	+0.7
T1222				S	Sb	20 30 19.6	-1.1
T1222				AML	AML		
	comp=E,690μm,0.4s						
T1222				AML	AML		
	comp=N,833μm,0.3s						
T1222				AML	AML		
	comp=E,643μm,0.4s						
T1222				AML	AML		
	comp=N,754μm,0.2s						
T1222				AML	AML		
	comp=E,690μm,0.4s						
T1222				AML	AML		
	comp=E,644μm,0.5s						
T1222				AML	AML		
	comp=N,754μm,0.2s						
T1222				AML	AML		
	comp=E,689μm,0.4s						
T1222				AML	AML		
	comp=N,833μm,0.3s						
T1222				AML	AML		
	comp=E,643μm,0.5s						
T1212	**Cascia, Frazio**	**0.29**	**310**	P	Pg	20 30 14.7	+0.4
T1212				S	Sb	20 30 19.8	-1.3
T1212				AML	AML		

comp=N,579μm,1.5s
T1212 AML AML
comp=E,742μm,1.0s
T1212 AML AML
comp=E,773μm,1.0s
T1212 AML AML
comp=N,578μm,1.5s
T1212 AML AML
comp=E,742μm,1.0s
T1212 AML AML
comp=N,586μm,1.5s
T1212 AML AML
comp=N,541μm,0.3s
T1212 AML AML
comp=E,639μm,0.2s
T1212 AML AML
comp=E,690μm,0.6s
T1212 AML AML
comp=N,524μm,0.3s
T1245 Castelsantange 0.31 338 ⇓P Pg 20 30 15.5 +0.7
T1245 AML AML
comp=E,606μm,1.2s
T1245 AML AML
comp=N,964μm,1.1s
T1245 AML AML
comp=E,687μm,1.2s
T1245 AML AML
comp=N,969μm,1.1s
T1245 AML AML
comp=N,963μm,1.1s
T1245 AML AML
comp=E,611μm,1.0s
T1245 AML AML
comp=N,970μm,1.1s
T1245 AML AML
comp=E,584μm,0.8s
T1217 Poggiodomo (PG 0.34 296 P Pg 20 30 15.6 +0.4
T1217 S Sb 20 30 21.6 -0.8
T1217 AML AML
comp=E,252μm,0.3s
T1217 AML AML
comp=N,310μm,0.4s
T1217 AML AML
comp=N,311μm,0.5s
T1217 AML AML
comp=E,256μm,0.3s
T1217 AML AML
comp=N,309μm,0.4s
T1217 AML AML
comp=E,253μm,0.3s
FIAM Fiamignano 0.34 210 P Pg 20 30 15.9 +0.6
FIAM S Sb 20 30 21.6 -0.9
FIAM AML AML
comp=N,429μm,0.3s
FIAM AML AML
comp=E,534μm,0.6s
FIAM AML AML
comp=N,429μm,0.3s
FIAM AML AML
comp=E,534μm,0.6s
FAGN Fagnano 0.35 149 ⇓P Pg 20 30 15.8 +0.4
FAGN AML AML
comp=E,1085μm,1.5s
FAGN AML AML
comp=N,907μm,0.5s
FAGN AML AML
comp=N,909μm,0.5s
FAGN AML AML
comp=E,966μm,0.5s
T1211 Morro Reatino 0.36 265 P Pg 20 30 16.1 +0.4
T1211 S Sb 20 30 22.1 -1.1
T1211 AML AML
comp=E,446μm,0.4s
T1211 AML AML
comp=N,650μm,0.3s
T1211 AML AML
comp=E,446μm,0.4s
T1211 AML AML
comp=N,650μm,0.3s
T1211 AML AML
comp=E,446μm,0.4s
T1211 AML AML
comp=N,649μm,0.3s
MC2 Monte Cornacci 0.36 342 ⇓P Pg 20 30 16.3 +0.5
T1216 Preci, Frazion 0.40 324 P Pg 20 30 16.7 +0.2
T1216 S Sb 20 30 23.5 -0.8
T1216 AML AML
comp=N,589μm,1.0s
T1216 AML AML
comp=E,639μm,0.4s
T1216 AML AML
comp=N,562μm,0.3s
T1216 AML AML
comp=E,639μm,0.4s
T1215 Vallo di Nera, 0.42 304 ⇑P Pg 20 30 16.9 +0.2
T1215 AML AML
comp=E,172μm,1.1s
T1215 AML AML
comp=E,172μm,1.1s
T1215 AML AML
comp=N,154μm,0.1s
T1215 AML AML
comp=N,154μm,0.1s
T1215 AML AML
comp=N,147μm,1.2s
T1215 AML AML
comp=E,129μm,0.4s
T1215 AML AML
comp=E,195μm,1.1s
ARRO Arrone 0.43 272 ⇑P Pg 20 30 17.3 +0.4
ARRO AML AML
comp=E,231μm,0.9s
ARRO AML AML
comp=N,238μm,1.1s
ARRO AML AML
comp=N,200μm,0.8s
ARRO AML AML
comp=E,185μm,0.2s
OFFI Offida 0.45 34 ⇑P Pb 20 30 18.3 -0.3
OFFI S Sb 20 30 26.6 +1.1
OFFI AML AML
comp=E,730μm,0.7s
OFFI AML AML
comp=N,942μm,0.5s
OFFI AML AML
comp=N,942μm,0.5s
OFFI AML AML
comp=E,731μm,0.7s
T0110 Collepietro 0.47 136 ⇓P Pg 20 30 18.0 +0.4
T0110 AML AML
comp=E,575μm,0.9s
T0110 AML AML
comp=N,492μm,1.3s
T0110 AML AML
comp=N,480μm,0.4s
T0110 AML AML
comp=E,575μm,0.9s
TRTR Tortoreto Alta 0.48 60 ⇓P Pb 20 30 19.6 +0.3
TRTR AML AML
comp=E,1295μm,1.1s
TRTR AML AML
comp=N,1097μm,1.3s
TRTR AML AML
comp=E,1045μm,0.5s
TRTR AML AML
comp=N,1096μm,1.3s
GUMA Gualdo di Mace 0.50 359 ⇓P Pb 20 30 19.0 -0.5
GUMA AML AML
comp=E,669μm,0.4s
GUMA AML AML
comp=N,878μm,0.4s
GUMA AML AML
comp=N,877μm,0.5s
GUMA AML AML
comp=N,1062μm,0.5s
GUMA AML AML
comp=E,618μm,0.6s
GUMA AML AML
comp=E,669μm,0.5s
FDMO Fiordimonte 0.51 338 ⇓P Pg 20 30 18.8 +0.4
FDMO AML AML
comp=N,200μm,0.4s
FDMO AML AML
comp=E,214μm,0.2s
FDMO AML AML
comp=E,213μm,0.2s
FDMO AML AML

comp=N,199μm,0.4s
CSP1 Cessapalombo 0.54 349 ⇑P Pg 20 30 19.2 +0.3
CSP1 AML AML
comp=E,166μm,1.4s
CSP1 AML AML
comp=N,220μm,0.7s
CSP1 AML AML
comp=N,220μm,0.7s
CSP1 AML AML
comp=E,164μm,0.4s
CSP1 AML AML
comp=N,220μm,0.7s
CESI CESI - Serrava 0.55 324 ⇓P Pb 20 30 19.7 -0.6
CESI AML AML
comp=E,178μm,0.6s
CESI AML AML
comp=N,278μm,0.4s
CESI AML AML
comp=E,178μm,0.6s
CESI AML AML
comp=N,277μm,0.4s
T1219 Muccia, Frazio 0.55 333 ⇑P Pg 20 30 19.3 +0.2
T1219 S Sb 20 30 28.1 -0.4
T1219 AML AML
comp=E,259μm,1.6s
T1219 AML AML
comp=N,218μm,1.0s
T1219 AML AML
comp=N,231μm,1.0s
T1219 AML AML
comp=E,212μm,0.2s
T1219 AML AML
comp=E,229μm,0.5s
T1219 AML AML
comp=N,195μm,0.2s
T1219 AML AML
comp=E,212μm,0.2s
T1219 AML AML
comp=N,220μm,0.2s
CESX Cesi 0.57 275 ⇓P Pg 20 30 19.6 +0.1
CESX AML AML
comp=N,195μm,0.3s
CESX AML AML
comp=E,136μm,0.3s
CESX AML AML
comp=E,136μm,0.3s
CESX AML AML
comp=N,195μm,0.3s
T1220 Camerino, Fraz 0.58 341 ⇓P Pg 20 30 20.0 +0.3
T1220 S Sb 20 30 29.8 +0.6
T1220 AML AML
comp=E,850μm,1.1s
T1220 AML AML
comp=N,515μm,1.6s
T1220 AML AML
comp=E,860μm,1.1s
T1220 AML AML
comp=N,550μm,1.0s
T1220 AML AML
comp=E,850μm,1.1s
T1220 AML AML
comp=N,515μm,1.5s
T1220 AML AML
comp=E,860μm,1.1s
T1220 AML AML
comp=N,549μm,1.0s
T1220 AML AML
comp=E,747μm,0.5s
T1220 AML AML
comp=E,733μm,0.4s
T1220 AML AML
comp=N,515μm,0.6s
T1220 AML AML
comp=N,512μm,0.5s
MOMA Monte Martano 0.62 293 ⇓P Pg 20 30 20.6 +0.1
MOMA AML AML
comp=E,232μm,1.6s
MOMA AML AML
comp=N,350μm,1.0s
MOMA AML AML
comp=E,228μm,0.2s
MOMA AML AML
comp=E,230μm,0.1s
MOMA AML AML
comp=N,842μm,2.9s
MOMA AML AML
comp=N,301μm,0.2s
CERT Cerreto 0.67 204 ⇓P Pb 20 30 22.9 +0.4
CERT AML AML
comp=E,128μm,0.3s
CERT AML AML
comp=N,88μm,1.5s
CERT AML AML
comp=E,128μm,0.3s
CERT AML AML
comp=N,86μm,1.2s
ASSB Assisi San Ben 0.69 314 P Pg 20 30 22.1 +0.2
ASSB AML AML
comp=E,178μm,0.6s
ASSB AML AML
comp=N,180μm,0.5s
ASSB AML AML
comp=N,164μm,0.3s
ASSB AML AML
comp=E,178μm,0.6s
EL6 Elcito 0.78 347 ⇓P Pb 20 30 24.1 -0.4
EL6 S Sb 20 30 36.0 +0.8
EL6 AML AML
comp=E,188μm,1.1s
EL6 AML AML
comp=N,202μm,1.5s
EL6 AML AML
comp=N,203μm,1.5s
EL6 AML AML
comp=N,173μm,0.5s
EL6 AML AML
comp=E,165μm,1.2s
LPEL Lama dei Pelig 0.81 130 P Pg 20 30 23.5 -0.5
CING Cingoli 0.82 352 ⇓P Pb 20 30 24.6 -0.4
CING AML AML
comp=E,121μm,0.4s
CING AML AML
comp=N,88μm,0.3s
CING AML AML
comp=N,88μm,0.3s
CING AML AML
comp=E,122μm,0.4s
MGAB Montegabbione 0.97 291 ⇓P Pn 20 30 29.5 +1.0

*LDG **25** 20:43:33.9±0.1,36°.97N×11°.03W,h10km,Ml3.0/2,Error ellipse: s-maj=2.6km s-min=1.9km az=49.0*
*MDD **25** 20:43:33.6±0.6,36°.93N×11°.11W,h26km±7km, mb_Lg3.0/18,Error ellipse: s-maj=5.5km s-min=3.2km az=77.0*
*INMG **25** 20:43:35.1±1.4,36°.88N×11°.06W,h31km,MD2.8,ML2.6, Error ellipse: s-maj=5.0km s-min=3.3km az=81.0*
*CNRM **25** 20:43:37.4,36°.75N×10°.58W,h70km,ml3.1*

ISC 25 20:43:30.8±1.3,36°.92N±0°.04×11°.14W±0°.07,h35km,n96,
σ2s18/166,6C-2D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.86**	**83**	⇑*i*Pn	**Pn**	**20 44 02.5**	**+2.3**
PFVI				*e*Sn	**Sn**	**20 44 22.6**	**+0.1**
PFVI				A	A	20 44 25.3	
	31nm,0.2s						
PFVI	**Vila Bisbo**	**1.86**	**83**	P	**Pn**	**20 44 02.5**	**+2.3**
PFVI				S	**Sn**	**20 44 20.7**	**-1.8**
PFVI	**Vila Bisbo**	**1.86**	**83**	S	**Sn**	**20 44 21.9**	**-0.7**
PFVI				P	**Pn**	**20 44 02.5**	**+2.3**
MORF	**Marmelete**	**2.03**	**78**	*e*P	**Pn**	**20 44 04.8**	**+2.3**
MORF				*e*S	**Sn**	**20 44 26.3**	**-0.3**
MORF				IAML		20 44 29.1	
	comp=N,42nm,0.2s						
MORF	**Marmelete**	**2.03**	**78**	⇑*i*Pn	**Pn**	**20 44 04.8**	**+2.3**
MORF				*e*Sn	**Sn**	**20 44 27.1**	**+0.5**
MORF				A	A	20 44 33.0	
	comp=N,34nm,0.1s						
PTEO	**Sao Teotonio**	**2.03**	**71**	⇑*i*Pn	**Pn**	**20 44 05.0**	**+2.6**
PTEO				*e*Sn	**Sn**	**20 44 27.1**	**+0.5**
PTEO				A	A	20 44 33.3	
	comp=N,19nm,0.1s						
PNCL	**Nicolau / Gran**	**2.40**	**59**	*e*Pn	**Pn**	**20 44 10.1**	**+2.6**
PNCL				*e*Sn	**Sn**	**20 44 36.2**	**+0.6**
PNCL				A	A	20 44 38.7	
	comp=N,20nm,0.1s						
PNCL	**Nicolau / Gran**	**2.40**	**59**	S	**Sn**	**20 44 36.0**	**+0.3**
PNCL				P	**Pn**	**20 44 10.1**	**+2.6**
MESJ	**Messejana**	**2.50**	**67**	*e*P	**Pn**	**20 44 11.4**	**+2.5**
MESJ				*e*S	**Sn**	**20 44 38.0**	**-0.3**
MESJ				IAML		20 44 41.4	
	comp=N,24nm,0.1s						
MESJ	**Messejana**	**2.50**	**67**	⇓*e*Pn	**Pn**	**20 44 11.5**	**+2.5**
MESJ				*e*Sn	**Sn**	**20 44 38.6**	**+0.3**
MESJ				A	A	20 44 42.9	
	comp=N,13nm,0.1s						
PMAFR	**Mafra**	**2.51**	**35**	*e*Pn	**Pn**	**20 44 11.5**	**+2.4**
PMAFR				*e*Sn	**Sn**	**20 44 39.5**	**+1.0**
PMAFR				A	A	20 44 42.1	
	comp=N,49nm,0.2s						
PMAFR	**Mafra**	**2.51**	**35**	S	**Sn**	**20 44 39.4**	**+1.0**
PMAFR				P	**Pn**	**20 44 11.6**	**+2.4**
PCVE	**Castro Verde**	**2.58**	**73**	*e*Pn	**Pn**	**20 44 12.5**	**+2.5**
PCVE				*e*Sn	**Sn**	**20 44 40.4**	**+0.3**
PCVE				A	A	20 44 45.5	
	comp=N,8.8nm,0.2s						
PCVE	**Castro Verde**	**2.58**	**73**	S	**Sn**	**20 44 39.9**	**-0.2**
PCVE				P	**Pn**	**20 44 12.4**	**+2.5**
PBDV	**Barranco-do-Ve**	**2.59**	**82**	A	A	20 42 43.9	
	comp=N,28nm,0.6s						
PVAQ	**Vaqueiros**	**2.78**	**79**	⇑*e*Pn	**Pn**	**20 44 15.5**	**+2.7**
PVAQ				*e*Sn	**Sn**	**20 44 45.0**	**-0.1**
PVAQ				A	A	20 44 48.3	
	comp=N,20nm,0.3s						
PVAQ	**Vaqueiros**	**2.78**	**79**	P	**Pn**	**20 44 15.4**	**+2.7**
PVAQ	**Vaqueiros**	**2.78**	**79**	P	**Pn**	**20 44 15.4**	**+2.7**
PVAQ				S	**Sn**	**20 44 45.4**	**+0.4**
PBEJ	**Beja**	**2.83**	**66**	*e*Pn	**Pn**	**20 44 14.9**	**+1.4**
PBEJ				*e*Sn	**Sn**	**20 44 46.7**	**+0.3**
PBEJ				A	A	20 44 50.9	
	comp=N,11nm,0.2s						
EVO	**Evora**	**2.96**	**56**	⇓*e*Pn	**Pn**	**20 44 17.6**	**+2.3**
EVO				*e*Sn	**Sn**	**20 44 49.4**	**-0.1**
EVO				A	A	20 44 51.3	
	comp=N,26nm,0.1s						
EVO	**Evora**	**2.96**	**56**	P	**Pn**	**20 44 17.6**	**+2.3**
EVO				S	**Sn**	**20 44 49.4**	**-0.1**
EGRO	**El Granado**	**2.98**	**77**	P	**Pn**	**20 44 17.9**	**+2.4**
EGRO				S	**Sn**	**20 44 49.8**	**-0.3**
EGRO	**El Granado**	**2.98**	**77**	Pn	**Pn**	**20 44 17.9**	**+2.4**
EGRO				Sn	**Sn**	**20 44 49.2**	**-1.0**
EGRO				*i* Vmb_Lg		20 44 55.1	
PMTG	**Montargil**	**3.15**	**46**	⇑*e*Pn	**Pn**	**20 44 20.1**	**+2.2**
PMTG				*e*Sn	**Sn**	**20 44 54.3**	**+0.1**
PMTG				A	A	20 44 57.9	
	comp=N,8.7nm,0.1s						
PSBE	**So Bento**	**3.19**	**35**	*e*Pn	**Pn**	**20 44 21.1**	**+2.7**
PSBE				*e*Sn	**Sn**	**20 44 56.4**	**+1.3**
PSBE				A	A	20 44 59.2	
	comp=N,17nm,0.2s						
PESTR	**Estremoz**	**3.42**	**54**	*e*Pn	**Pn**	**20 44 24.0**	**+2.4**
PESTR				*e*Sn	**Sn**	**20 45 00.7**	**-0.2**
PESTR				A	A	20 45 05.8	
	comp=N,6.0nm,0.5s						
PESTR	**Estremoz**	**3.42**	**54**	P	**Pn**	**20 44 24.3**	**+2.7**
PESTR				S	**Sn**	**20 45 02.0**	**+1.2**
PESTR	**Estremoz**	**3.42**	**54**	P	**Pn**	**20 44 24.1**	**+2.4**
PESTR				S	**Sn**	**20 45 00.6**	**-0.2**
PBAR	**Barrancos**	**3.49**	**68**	*e*Pn	**Pn**	**20 44 24.9**	**+2.3**
PBAR				*e*Sn	**Sn**	**20 45 02.1**	**-0.6**
PBAR				A	A	20 45 05.2	
	comp=N,7.1nm,0.1s						
PBAR	**Barrancos**	**3.49**	**68**	P	**Pn**	**20 44 24.7**	**+2.1**
PBAR				S	**Sn**	**20 45 01.3**	**-1.4**
EMIN	**Mina Concepcio**	**3.66**	**75**	P	**Pn**	**20 44 27.1**	**+2.3**
EMIN				S	**Sn**	**20 45 06.5**	**-0.4**
EMIN	**Mina Concepcio**	**3.66**	**75**	Pn	**Pn**	**20 44 27.2**	**+2.3**
EMIN				Sn	**Sn**	**20 45 06.1**	**-0.7**
EMIN				*i* Vmb_Lg		20 45 08.3	
EBAD	**Badajoz**	**3.75**	**59**	P	**Pn**	**20 44 28.0**	**+1.9**
EBAD				S	**Sn**	**20 45 08.5**	**-0.4**
EBAD	**Badajoz**	**3.75**	**59**	Pn	**Pn**	**20 44 28.2**	**+2.1**
EBAD				Sn	**Sn**	**20 45 08.6**	**-0.4**
EBAD				*i* Vmb_Lg		20 45 09.9	
PCAS	**Casmilo, Conde**	**3.76**	**33**	*e*Pn	**Pn**	**20 44 29.2**	**+3.0**
PCAS				*e*Sn	**Sn**	**20 45 10.0**	**+0.8**
PCAS				A	A	20 45 12.3	
	comp=N,7.5nm,0.2s						
PMRV	**Marv??o**	**3.88**	**49**	⇑*e*Pn	**Pn**	**20 44 29.9**	**+2.0**
PMRV				*e*Sn	**Sn**	**20 45 11.4**	**-0.8**
PMRV				A	A	20 45 12.9	
	comp=N,14nm,0.4s						
COI	**Coimbra**	**3.92**	**32**	*e*Sn	**Sn**	**20 45 14.1**	**+0.9**
PCBR	**Castelo Branco**	**4.10**	**43**	*e*Pn	**Pn**	**20 44 33.8**	**+2.9**
PCBR				*e*Sn	**Sn**	**20 45 17.6**	**-0.1**
PCBR				A	A	20 45 18.5	
	comp=N,6.4nm,0.3s						
ESPR	**Espera**	**4.24**	**89**	P	**Pn**	**20 44 35.5**	**+2.6**
ESPR				S	**Sn**	**20 45 20.4**	**-0.6**
ESPR	**Espera**	**4.24**	**89**	Pn	**Pn**	**20 44 35.4**	**+2.6**
ESPR				Sn	**Sn**	**20 45 21.0**	**0.0**
ESPR				*i* Vmb_Lg		20 45 22.8	
MTE	**Manteigas**	**4.47**	**38**	*e*Pn	**Pn**	**20 44 37.8**	**+1.7**
MTE				*e*Sn	**Sn**	**20 45 25.4**	**-1.6**
MTE				A	A	20 45 28.0	
	comp=N,7.7nm,0.2s						
PVIS	**Viseu**	**4.56**	**33**	*e*Pn	**Pn**	**20 44 39.8**	**+2.4**
PVIS				*e*Sn	**Sn**	**20 45 28.4**	**-0.8**
PVIS				A	A	20 45 31.4	
	comp=N,9.6nm,0.1s						
EJIF	**Jimena Fronter**	**4.58**	**94**	Pn	**Pn**	**20 44 40.8**	**+3.3**
EJIF				Sn	**Sn**	**20 45 30.7**	**+1.1**
ECAB	**El Cabril**	**4.70**	**74**	P	**Pn**	**20 44 41.4**	**+2.2**
ECAB				S	**Sn**	**20 45 29.9**	**-2.5**
ECAB	**El Cabril**	**4.70**	**74**	Pn	**Pn**	**20 44 41.3**	**+2.2**
ECAB				Sn	**Sn**	**20 45 30.3**	**-2.1**
ECAB				*i* Vmb_Lg		20 45 32.6	
AVE	**Averroes**	**4.73**	**139**	P	**Pn**	**20 44 41.6**	**+2.0**
AVE				S	**Sn**	**20 45 30.4**	**-2.8**
AVE	**Averroes**	**4.73**	**139**	S	**Sn**	**20 45 31.7**	**-1.5**
AVE				P	**Pn**	**20 44 42.3**	**+2.7**
ECEU	**Ceuta**	**4.76**	**101**	Pn	**Pn**	**20 44 42.8**	**+2.8**
ECEU				*i* Vmb_Lg		20 45 37.9	
ZHG	**ZHG**	**5.05**	**132**	P	**Pn**	**20 44 46.9**	**+2.8**
ZHG				S	**Sn**	**20 45 37.2**	**-4.1**
EPLA	**Plasencia**	**5.06**	**50**	Pn	**Pn**	**20 44 46.8**	**+2.5**
EPLA				Sn	**Sn**	**20 45 39.0**	**-2.2**
EPLA				*i* Vmb_Lg		20 45 42.8	
PVRL	**Vila Real**	**5.10**	**30**	*e*Sn	**Sn**	**20 45 41.9**	**-0.6**
PVRL				A	A	20 45 44.4	
	comp=N,8.6nm,0.1s						
EMIJ	**Mijas**	**5.13**	**92**	Pn	**Pn**	**20 44 47.4**	**+2.3**
EMIJ				Sn	**Sn**	**20 45 42.4**	**-0.6**
EMIJ				*i* Vmb_Lg		20 45 47.2	
POLO	**Lamas de Olo**	**5.16**	**29**	*e*Pn	**Pn**	**20 44 48.4**	**+2.9**
POLO				*e*Sn	**Sn**	**20 45 42.0**	**-1.8**
POLO				A	A	20 45 45.2	
	comp=N,1.4nm,0.2s						
SRHM	**Skhour des Reh**	**5.18**	**148**	P	**Pn**	**20 44 48.0**	**+2.2**
SRHM	**Skhour des Reh**	**5.18**	**148**	P	**Pn**	**20 44 47.7**	**+1.8**
MVO	**Moncorvo**	**5.31**	**36**	*e*Pn	**Pn**	**20 44 50.2**	**+2.5**
MVO				*e*Sn	**Sn**	**20 45 46.3**	**-1.4**
MVO				A	A	20 45 49.1	
	comp=N,11nm,0.3s						
PCAB	**Cabril**	**5.36**	**26**	*e*Sn	**Sn**	**20 45 48.0**	**-0.8**
PCAB				A	A	20 45 52.2	
	comp=N,6.4nm,0.4s						
EADA	**Adamuz**	**5.36**	**75**	P	**Pn**	**20 44 50.3**	**+2.0**
EADA				S	**Sn**	**20 45 46.7**	**-2.2**
EADA	**Adamuz**	**5.36**	**75**	Pn	**Pn**	**20 44 50.4**	**+2.0**
EADA				Sn	**Sn**	**20 45 47.0**	**-1.8**
EADA				*i* Vmb_Lg		20 45 50.5	
ELOB	**Lobios**	**5.49**	**25**	Pn	**Pn**	**20 44 52.4**	**+2.3**
ELOB				Sn	**Sn**	**20 45 48.8**	**-3.2**
ELOB				*i* Vmb_Lg		20 45 53.9	
PGAV	**Gavieira, Arco**	**5.51**	**23**	*e*Pn	**Pn**	**20 44 53.0**	**+2.6**
PGAV				*e*Sn	**Sn**	**20 45 50.8**	**-1.8**
PGAV				A	A	20 45 55.3	
	comp=N,4.5nm,0.3s						
EGOR	**Sierra Gorda,**	**5.63**	**86**	P	**Pn**	**20 44 55.0**	**+2.9**
EGOR				Sg	**Sn**	**20 45 57.9**	**+2.3**
EGOR	**Sierra Gorda,**	**5.63**	**86**	Pn	**Pn**	**20 44 54.2**	**+2.1**
EGOR				Sn	**Sn**	**20 45 54.1**	**-1.5**
EJUZ	**Juzbado, Salam**	**5.84**	**43**	Sn	**Sn**	**20 45 58.6**	**-1.9**
PBRG	**Braganca**	**5.95**	**34**	*e*Pn	**Pn**	**20 44 59.8**	**+3.4**
PBRG				*e*Sn	**Sn**	**20 46 01.8**	**-1.6**
PBRG				A	A	20 46 04.5	

	comp=N,3.3nm,0.2s							
PAB	San Pablo	5.96	62	P		Pn	20 44 59.3	+2.7
PAB	San Pablo	5.96	62	Pn		Pn	20 44 58.5	+2.0
PAB				Sn		Sn	20 46 00.1	-3.4
PAB				*i* Vmb_Lg			20 46 03.6	
IFR	Ifrane	5.98	123	P		Pn	20 44 57.6	+0.7
IFR				S		Sn	20 46 00.1	-4.2
ELGU	Los Guajares,	6.02	88	Pn		Pn	20 44 59.9	+2.5
ELGU				Sn		Sn	20 46 06.1	+0.9
ELGU				*i* Vmb_Lg			20 46 14.7	
ECAL	Calabor	6.07	33	Pn		Pn	20 45 00.3	+2.2
ECAL				Sn		Sn	20 46 04.3	-1.9
ECAL				*i* Vmb_Lg			20 46 08.0	
EMAZ	Mazaricos	6.25	15	Sn		Sn	20 46 07.4	-3.3
EMAZ				*i* Vmb_Lg			20 46 10.2	
ESDC	Sonseca Array	6.28	62	Pn		Pn	20 45 03.2	+2.3
ESDC				Sn		Sn	20 46 08.3	-3.2
ESDC				*i* Vmb_Lg			20 46 12.2	
OUK	Oukaimeden	6.31	154	P		Pn	20 45 03.0	+1.3
OUK	Oukaimeden	6.31	154	P		Pn	20 45 03.5	+1.9
EAGO	Agolada(Pontev	6.33	21	Pn		Pn	20 45 04.0	+2.4
EAGO				Sn		Sn	20 46 09.8	-2.8
EAGO				*i* Vmb_Lg			20 46 15.9	
GUD	Guadarrama	6.61	54	Pn		Pn	20 45 07.7	+2.2
GUD				Sn		Sn	20 46 15.4	-4.2
GUD				*i* Vmb_Lg			20 46 19.6	
MD31	MD31	6.62	126	P		Pn	20 45 07.0	+1.3
MDT	Midelt	6.75	125	P		Pn	20 45 08.8	+1.2
MDT	Midelt	6.75	125	P		Pn	20 45 08.7	+1.2
OUZM	OUZ	7.01	147	P		Pn	20 45 12.5	+1.4
OUZM	OUZ	7.01	147	P		Pn	20 45 12.6	+1.5
UCM	Universidad Co	7.05	59	P		Pn	20 45 13.8	+2.3
UCM				S		Sn	20 46 27.5	-2.9
EPON	Pontenova	7.10	24	Pn		Pn	20 45 14.1	+2.1
EPON				Sn		Sn	20 46 28.3	-3.2
EZAR	Zarzadilla de	7.58	80	Pn		Pn	20 45 21.2	+2.4
EZAR				Sn		Sn	20 46 41.1	-2.4
ETOB	Tobarra	7.79	74	Pn		Pn	20 45 23.1	+1.4
ETOB				Sn		Sn	20 46 44.6	-4.1
ETOB				*i* Vmb_Lg			20 46 50.9	
EARI	Arriondas	7.83	34	Sn		Sn	20 46 46.6	-2.9
ETOR	Torete	8.09	58	Pn		Pn	20 45 27.3	+1.5
ETOR				Sn		Sn	20 46 50.8	-5.2
ECHE	Chera	8.44	68	P		Pn	20 45 33.3	+2.8
ECHE	Chera	8.44	68	Pn		Pn	20 45 33.1	+2.5
ECHE				Sn		Sn	20 47 02.1	-2.5
CFUE	Fuerteventura	8.57	197	Sn		Sn	20 47 05.5	-2.4
EMOS	Mosqueruela	9.03	64	Pn		Pn	20 45 41.5	+2.8
EMOS				Sn		Sn	20 47 16.1	-3.1
SJPF	Ste Jean	9.80	48	*e*Pn		Pn	20 45 50.9	+1.7
SJPF				*e*Sn		Sn	20 47 32.1	-5.9
	comp=N,0.5nm,0.3s							
ETSF	Etsaut	10.09	50	*e*Pn		Pn	20 45 55.6	+2.5
ETSF				*e*Sn		Sn	20 47 39.9	-5.1
	comp=N,0.4nm,0.1s							
EPF	Esparros	10.71	52	*e*Pn		Pn	20 46 03.3	+1.6
RJF	Les Rejaudoux	12.69	45	*e*Pn		Pn	20 46 29.5	+0.8
CAF	Calviac	12.79	47	*e*Pn		Pn	20 46 31.1	+1.1

IDC ***25*** *20:54:38.0±0.5, 17°.81N×94°.40W, h167km±4km, mb4.3/27, mbtmp4.8/29, MS3.9/8, Error ellipse: s-maj=13.7km s-min=7.5km az=61.0*

GCMT ***25*** *20:54:37.9±0.3, 17°.86N±0°.02×94°.56W±0°.01, h168km±2km, MW5.1/119, Moment Tensor Solution. s50,c56; s119,c163; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=-3.11±.14; Mθθ-2.18±.17; Mϕϕ5.29±.17; Mrθ2.09±.12; Mθϕ-0.69±.23; Mϕr-4.31±.13; Best double couple: Mo6.53600×10¹⁶ NP1:ϕs334.00000°, δ72.00000°, λ-112.00000°. NP2:ϕs205.00000°, δ28.00000°, λ-42.00000°. Principal axes: T 7.3340, Plg24.0000°, Azm80.0000°; N -1.5960, Plg20.0000°, Azm341.0000°; P -5.7370, Plg58.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***25*** *20:54:37.6±0.8, 17°.85N×94°.38W, h177km, mb5.0/49 Error ellipse: s-maj=9.7km s-min=4.2km az=109.8*

NEIC ***25*** *20:54:37.9±2.3, 17°.75N±0°.06×94°.56W±0°.04, h160km±5km, mb5.0/375, Md5.1/42(MEX), Error ellipse: s-maj=8.8km s-min=5.5km az=177.0*

MEX ***25*** *20:54:38.4±0.7, 17°.68N×94°.64W, h169km±3km, MD5.1*

ISC 25 20:54:37.4±0.3, 17°.69N±0°.03×94°.61W±0°.03, h169km±2km, h169km:pP-P,n1389,σ1§48/1569, mb5.0/252, 60C-21D, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIHL	Minatitlan	0.30	11	*e*P			Pn	20 54 59.9	-0.3
MIHL					*e*S		Sn	20 55 17.0	-0.8
TUIG	Tuzandepetl	0.39	27	⇓*e*P			Pn	20 55 00.4	0.0
TUIG					*i*S		Sn	20 55 17.5	-0.7
UXUV	UXUV	0.57	130	⇓*i*P			Pn	20 55 01.2	-0.1
UXUV					*i*S		Sn	20 55 18.0	-1.6
CMIG	Matias Romero	0.65	204	P			Pn	20 55 01.5	-0.2
	4μm,0.3s,baz=82,slow=1.3,SNR=9774								
CMIG				S			Sn	20 55 19.1	-1.2
	3μm,0.5s,baz=280,slow=23,SNR=7.3								
CMIG	Matias Romero	0.65	204	⇑*i*P			Pn	20 55 01.4	-0.2
CMIG					*i*S		Sn	20 55 18.8	-1.6
PMUV	Sontecomapan	0.98	330	⇑*e*P			Pn	20 55 03.4	-0.5
PMUV					*i*S		Sn	20 55 22.8	-1.7
NILT	Santiago Nilte	1.12	180	*e*P			Pn	20 55 05.0	0.0
NILT					*e*S		Sn	20 55 25.1	-1.1
NEUV	Arroyo Zacate	1.14	271	⇑*i*P			Pn	20 55 04.6	-0.5
NEUV					*i*S		Sn	20 55 24.7	-1.7
TGIG		1.68	122				Pn	20 55 10.5	+0.2
TGIG							Sn	20 55 34.7	-1.1
TGIG		1.68	122	⇓*i*P			Pn	20 55 10.5	+0.2
TGIG					*e*S		Sn	20 55 34.7	-1.1
TGBT	Tuxtla Gutierr	1.71	122	*e*P			Pn	20 55 10.5	0.0
TGBT					*i*S		Sn	20 55 34.9	-1.3
OXBJ	Oaxaca	2.11	253	*e*P			Pn	20 55 14.8	-0.4
OXBJ					*e*S		Sn	20 55 44.4	0.0
OXIG	Oaxaca	2.12	254				Pn	20 55 14.9	-0.3
OXIG							Sn	20 55 44.2	-0.3
VHO	Vista Hermosa	2.12	254	⇑*e*P			Pn	20 55 14.9	-0.3
VHO					*e*S		Sn	20 55 44.2	-0.3
TOIG	Toxpalan	2.38	280				Pn	20 55 18.2	+0.1
TOIG							Sn	20 55 48.3	-1.3
TOIG	Toxpalan	2.38	280	⇑*e*P			Pn	20 55 18.2	+0.1
TOIG					*e*S		Sn	20 55 48.3	-1.3
PCIG		2.38	146	⇓*e*P			Pn	20 55 17.8	-0.2
PCIG					*e*S		Sn	20 55 48.1	-1.4
HUIG	Huatulco	2.39	217				Pn	20 55 16.0	-2.2
HUIG							Sn	20 55 48.1	-1.7
HUIG	Huatulco	2.39	217	⇑*e*P			Pn	20 55 16.0	-2.2
HUIG					*e*S		Sn	20 55 48.1	-1.7
OZST	Orizaba	2.64	297	*e*P			Pn	20 55 20.7	-0.5
OZST					*e*S		Sn	20 55 52.0	-3.2
LVIG	Laguna Verde	2.65	320	⇑*i*P			Pn	20 55 20.1	-1.2
LVIG					*e*S		Sn	20 55 52.0	-3.5
JAUV	Jalcomulco	2.67	309	⇑*i*P			Pn	20 55 20.9	-0.6
JAUV					*e*S		Sn	20 55 52.9	-3.0
PANG	Puerto Angel	2.69	222	*e*P			Pn	20 55 19.2	-2.5
PANG					*e*S		Sn	20 55 54.4	-1.8
TPIG	Tehuac#an	2.72	286	⇑*e*P			Pn	20 55 22.6	+0.3
TPIG					*i*S		Sn	20 55 55.5	-1.6
CCIG	Comitan	2.75	120				Pn	20 55 22.9	+0.3
CCIG	Comitan	2.75	120	⇓*e*P			Pn	20 55 22.9	+0.3
CCIG					*e*S		Sn	20 55 54.3	-3.3
YOIG	Yosondua	2.93	254				Pn	20 55 23.8	-1.1
YOIG							Sn	20 55 57.5	-4.8
YOIG	Yosondua	2.93	254	⇑*e*P			Pn	20 55 23.8	-1.1
YOIG					*e*S		Sn	20 55 58.2	-3.6
PEIG	Puerto Escondi	2.96	236				Pn	20 55 22.5	-2.5
PEIG							Sn	20 55 59.3	-2.7
PEIG	Puerto Escondi	2.96	236	⇑*e*P			Pn	20 55 22.5	-2.5
PEIG					*e*S		Sn	20 55 59.3	-2.7
TXIG	Tlaxiaco	3.05	262	⇑*e*P			Pn	20 55 25.8	-0.6
TXIG					*i*S		Sn	20 55 58.5	-5.9
HLIG	Huajuapan de L	3.05	273	⇑*i*P			Pn	20 55 26.0	-0.3
HLIG					*e*S		Sn	20 56 00.9	-3.4
FTIG	Fresnillo de T	3.37	274				Pn	20 55 30.1	-0.1
FTIG							Sn	20 56 08.2	-3.1
FTIG	Fresnillo de T	3.37	274	⇑*e*P			Pn	20 55 30.1	-0.1
FTIG					*e*S		Sn	20 56 08.2	-3.1
PAVE	Pavencul	3.40	136	⇓*e*P			Pn	20 55 31.0	+0.2
PAVE					*e*S		Sn	20 56 10.9	-1.4
PATR	El Naranjo	3.42	138	⇓*e*P			Pn	20 55 30.9	-0.2
PATR					*e*S		Sn	20 56 11.5	-1.4
SCIG	Sabancuy	3.49	68	⇑*i*P			Pn	20 55 30.5	-1.1
SCIG					*i*S		Sn	20 56 10.3	-3.5
CHUJ	Union Juarez	3.52	137	⇓*e*P			Pn	20 55 32.3	0.0
CHUJ					*e*S		Sn	20 56 12.6	-2.5
THIG		3.56	141	*e*P			Pn	20 55 30.1	-2.5
THIG					*i*S		Sn	20 56 15.2	-0.4
PNIG	Pinotepa	3.61	250	⇑*i*P			Pn	20 55 30.7	-2.4
PNIG					*e*S		Sn	20 56 10.2	-6.4
PHPU	Puebla	3.64	292	*e*P			Pn	20 55 34.1	+0.3
PHPU					*i*S		Sn	20 56 16.3	-1.4
CXUV	Coxquihui	3.75	312	⇑*e*P			Pn	20 55 35.3	+0.3
CXUV					*e*S		Sn	20 56 17.9	-2.1
HMTT	Tlapaneco	3.77	272	*e*P			Pn	20 55 34.9	-0.4
HMTT					*e*S		Sn	20 56 16.5	-3.9
TLIG	Tlapa	3.78	269	Pn			Pn	20 55 34.9	-0.5
TLIG	Tlapa	3.78	269	⇑*e*P			Pn	20 55 35.1	-0.4
TLIG					*e*S		Sn	20 56 13.6	-7.1
HUEH	Huehuetenango	3.80	128				Pn	20 55 35.4	-0.4
MGIG	Malinaltepec	3.87	264	⇑*e*P			Pn	20 55 36.0	-0.7
MGIG					*e*S		Sn	20 56 18.4	-4.4
PPM	Popocatepetl	4.06	290	⇑*e*P			Pn	20 55 40.9	+1.5
PPM					*e*S		Sn	20 56 18.3	-9.3
RTAL	Retalhuleu	4.21	138	Pn			Pn	20 55 41.2	+0.3
AMVM	AMECAMECA	4.22	291	*e*P			Pn	20 55 41.9	+0.6
AMVM					*e*S		Sn	20 56 26.3	-4.8
YAIG	Yautepec	4.40	286	⇑*i*P			Pn	20 55 44.2	+0.8
YAIG					*e*S		Sn	20 56 25.2	-10
MPVM	San Francisco	4.44	290	⇑*e*P			Pn	20 55 45.2	+1.2
MPVM					*e*S		Sn	20 56 32.1	-4.1
THVM	De Xico	4.45	292	⇑*e*P			Pn	20 55 45.1	+0.9
THVM					*e*S		Sn	20 56 32.9	-3.5
VTVM	Tizayuca	4.46	298	⇑*e*P			Pn	20 55 45.8	+1.4
VTVM					*e*S		Sn	20 56 36.2	-0.5
XCVM	Xochimilco	4.55	291	*e*P			Pn	20 55 46.1	+0.5
XCVM					*e*S		Sn	20 56 36.8	-2.0
TLVM	San Miguel Top	4.57	290	⇑*e*P			Pn	20 55 47.1	+1.2
TLVM					*e*S		Sn	20 56 35.8	-3.6
PBVM	Pinon	4.59	293	⇑*e*P			Pn	20 55 46.9	+1.1
PBVM					*e*S		Sn	20 56 34.1	-5.1
PETF	Flores	4.59	99	Pn			Pn	20 55 45.6	-0.2
CNCY	Coyoacan	4.63	291	*e*P			Pn	20 55 47.7	+1.1
CNCY					*e*S		Sn	20 56 37.0	-3.6
GMVM	Gustavo A Made	4.63	294	⇑*e*P			Pn	20 55 47.6	+0.9
GMVM					*e*S		Sn	20 56 41.1	+0.4
UNM	Universidad Na	4.63	291				Pn	20 55 48.1	+1.5
UNM	Universidad Na	4.63	291	P			Pn	20 55 48.1	+1.5
BJVM	Benito Juarez	4.64	292	*e*P			Pn	20 55 48.1	+1.3
BJVM					*e*S		Sn	20 56 38.6	-2.3
PTVM	Pico Tres Padr	4.67	295	⇑*e*P			Pn	20 55 48.4	+1.2
PTVM					*e*S		Sn	20 56 35.4	-6.2
MHVM	Bosque de Chap	4.69	292	⇑*e*P			Pn	20 55 48.7	+1.3
PLIG	Platanillo	4.71	279				Pn	20 55 48.0	+0.6
PLIG							Sn	20 56 37.5	-4.7
PLIG	Platanillo	4.71	279	⇑*e*P			Pn	20 55 48.0	+0.6
PLIG					*e*S		Sn	20 56 37.5	-4.7
ZUVM	ZUMPANGO	4.74	297	⇑*e*P			Pn	20 55 49.4	+1.4
ZUVM					*i*S		Sn	20 56 37.4	-5.8
CJVM	Cuajimalpa	4.74	291	*e*P			Pn	20 55 45.1	-2.9
CJVM					*e*S		Sn	20 56 39.0	-4.2
AOVM	Tlapan	4.74	290	⇑*e*P			Pn	20 55 49.5	+1.3
AOVM					*e*S		Sn	20 56 40.9	-2.6
MEIG	Mezcala	4.78	274	⇑*e*P			Pn	20 55 48.5	+0.1
MEIG					*e*S		Sn	20 56 40.5	-3.4
INVM	La Marquesa	4.80	290	⇑*e*P			Pn	20 55 50.1	+1.2
INVM					*e*S		Sn	20 56 41.3	-3.6
MAVM	Malinalco, Edo	4.81	286	⇑*e*P			Pn	20 56 00.7	+12
MAVM					*e*S		Sn	20 56 53.5	+8.7
DAIG	Los Arroyos	4.86	263	⇑*i*P			Pn	20 55 47.9	-1.4
DAIG					*e*S		Sn	20 56 38.4	-7.2
DEIG	Demacu	4.93	303	⇑*i*P			Pn	20 55 51.9	+1.5
VNTA	La Mica	5.04	262	*e*P			Pn	20 55 50.4	-1.2
VNTA					*i*S		Sn	20 56 47.0	-2.8
TOVM	TOLUCA	5.07	289	⇑*e*P			Pn	20 55 53.8	+1.5
TOVM					*i*S		Sn	20 56 46.9	-4.1
ATVM	ATLACOMULCO	5.37	293	⇑*e*P			Pn	20 55 58.6	+2.3
ATVM					*e*S		Sn	20 56 54.5	-3.6
TEJU	Tejupilco	5.41	284	*e*P			Pn	20 55 58.1	+1.4
TEJU					*e*S		Sn	20 56 58.5	-0.3
CAIG	El Cayaco	5.44	264	⇑*i*P			Pn	20 55 55.6	-1.3
CAIG					*e*S		Sn	20 56 57.8	-1.6
ACIG	Acambay	5.49	295	⇑*i*P			Pn	20 55 59.8	+2.1
ACIG					*i*S		Sn	20 57 01.2	+0.5
ARIG	Puente Sto Nin	5.50	277	⇑*i*P			Pn	20 55 58.7	+1.0
ARIG					*e*S		Sn	20 56 58.0	-2.6
ESQI	Esquipulas	5.94	121				Pn	20 56 02.6	-1.0
MTO3	Montecristo	6.01	122				Pn	20 56 03.8	-0.9
TEIG	Tepich	6.50	66	Pn			Pn	20 56 08.9	-1.9
SNET	Serv Nac Est T	6.53	127	Pn			Pn	20 56 11.1	-0.3
ZIIG	Zihuatanejo	6.54	270	⇑*i*P			Pn	20 56 11.7	+0.3
ZIIG					*i*S		Sn	20 57 17.0	-8.4
MOIG	Morelia	6.54	289				Pn	20 56 13.8	+2.1
MOIG	Morelia	6.54	289	⇑*i*P			Pn	20 56 13.8	+2.1
MOIG					*e*S		Sn	20 57 24.1	-1.7
RPIG	Rio Verde	6.56	310	⇑*i*P			Pn	20 56 13.4	+1.6
RPIG					*i*S		Sn	20 57 19.4	-6.6
GTIG	Gomez Farias	6.85	322	*e*P			Pn	20 56 16.5	+1.0
IGIG	Irapuato, Guan	7.04	297	*e*P			Pn	20 56 20.2	+1.9
TGUH	Tegucigalpa,Un	7.93	116	Pn			Pn	20 56 30.4	+0.6
MMIG	Aquila	8.34	275	⇑*i*P			Pn	20 56 36.2	+1.0
MMIG					*e*S		Sn	20 58 01.7	-6.6
JUBC	Volcan de Coli	8.69	283	⇑*i*P			Pn	20 56 42.6	+2.5
JUBC					*i*S		Sn	20 58 11.6	-5.7
EZ5V		8.71	283	*e*P			Pn	20 56 42.9	+2.5
INCO	Volcan de Coli	8.72	283	⇑*e*P			Pn	20 56 43.4	+2.7
INCO					*e*S		Sn	20 58 16.0	-2.2
MNGA	Volcan de Coli	8.73	283	⇑*e*P			Pn	20 56 43.3	+2.7
MNGA					*e*S		Sn	20 58 18.1	0.0
COIG	Colima	8.75	281	⇑*i*P			Pn	20 56 42.7	+1.9
COIG					*e*S		Sn	20 58 16.8	-1.5
CRIN	San Cristobal	8.82	123				Pn	20 56 42.9	+1.2
CDAR	Ciudad de Arme	9.02	279	⇑*i*P			Pn	20 56 45.3	+1.1
CDAR					*e*S		Sn	20 58 25.5	+0.8
R15V		9.02	281	⇑*i*P			Pn	20 56 46.0	+1.7
R15V					*e*S		Sn	20 58 25.8	+1.0
ZAIG	Zacatecas	9.02	305	Pn			Pn	20 56 46.2	+1.7
CNGN	Cerro Negro	9.21	123				Pn	20 56 47.2	+0.4
MATN	Matagalpa	9.62	118				Pn	20 56 53.5	+1.3
ANIG	Ahuacatlan	9.94	291	⇑*i*P			Pn	20 56 59.4	+2.6
CJM	Chamela	10.06	282	*e*P			Pn	20 56 58.5	+0.6
BOAB	BOACO BROADBAN	10.08	120	Pn			Pn	20 56 59.1	+0.8
ACON	Acoyapa	10.74	121				Pn	20 57 07.2	+0.2
HZTE	Horizontes, Gu	11.15	127	Pn			Pn	20 57 13.0	+0.8
ESPN	Las Esperanzas	11.36	117				Pn	20 57 15.2	+0.3
833A	Chaparral WMA,	11.46	338				Pn	20 57 16.3	+0.2
833A	Chaparral WMA, baz=155,SNR=12	11.46	338	P			Pn	20 57 16.7	+0.5
833A	Chaparral WMA, baz=156,SNR=12	11.46	338	P			Pn	20 57 16.2	0.0
ORTG	Ortega, Santa	11.48	128				Pn	20 57 17.5	+1.0
735A	Kenedy	11.50	346	Pn			Pn	20 57 16.4	-0.2
735A	Kenedy baz=164	11.50	346	P			Pn	20 57 17.0	+0.4
DUNO	Dulce Nombre,	11.64	129				Pn	20 57 19.2	+0.7
JTS	Las Juntas de 54nm,0.5s,baz=282,slow=7.0,SNR=37	11.90	127	P			Pn	20 57 22.1	+0.1
JTS						S	Sn	20 59 33.5	-0.7
	16nm,0.3s,baz=292,slow=22,SNR=2.0								
JTS						LR	LR	21 02 41.2	
	comp=Z,231nm,18.1s,baz=278,slow=41								
JTS	Las Juntas de	11.90	127	P			Pn	20 57 22.2	+0.2
COVE	Coope Vega, Sa	12.07	124				Pn	20 57 24.9	+0.7
HKT	Hockley	12.26	355	Pn			Pn	20 57 25.9	-0.3
HKT	Hockley baz=174	12.26	355	P			Pn	20 57 26.4	+0.1
HKT	Hockley	12.26	355	P			Pn	20 57 26.0	-0.3
JACO	JACO, Garabito	12.53	128	Pn			Pn	20 57 30.4	+0.4
HDC	Heredia	12.73	126				Pn	20 57 32.6	-0.1
HDC	Heredia	12.73	126	*e*P			Pn	20 57 33.8	+1.1
CVTR	Volcan Turrial	13.00	124	Pn			Pn	20 57 35.8	-0.6
441A	DeRidder	13.07	5				Pn	20 57 33.1	-3.6
441A	DeRidder baz=185	13.07	5	P			Pn	20 57 36.6	-0.1
RIMA	Rio Macho	13.07	126				Pn	20 57 36.6	-0.5
BATAN	Batan	13.25	123	P			Pn	20 57 36.9	-2.3
435B	Jarrell	13.32	349				Pn	20 57 39.6	-0.2
435B	Jarrell baz=167	13.32	349	P			Pn	20 57 40.8	+0.9
435B	Jarrell	13.32	349	P			Pn	20 57 39.2	-0.7
	baz=167								
PEZE	Perez Zeledon,	13.45	126	P			Pn	20 57 42.0	+0.3
PRVC	Isla de Provid	13.46	107	Pn			Pn	20 57 39.8	-2.0
JCT	Junction City	13.59	341	Pn			Pn	20 57 43.4	+0.1
JCT	Junction City baz=158,SNR=28	13.59	341	P			Pn	20 57 43.6	+0.3
JCT	Junction City baz=158,SNR=28	13.59	341	P			Pn	20 57 43.3	0.0
JCT	Junction City	13.59	341	P			Pn	20 57 43.4	+0.1
HPIG		13.76	314				Pn	20 57 47.0	+1.4
342A	Flagon Creek P	13.78	8				Pn	20 57 43.4	-2.4
342B	Flagon Creek P baz=188,SNR=6.1	13.78	8	P			Pn	20 57 45.3	-0.4
SRBA	San Rafael, Bu	13.79	126				Pn	20 57 45.6	-0.4
NATX	Nacogdoches	14.01	360	Pn			Pn	20 57 47.5	-1.1
NATX	Nacogdoches baz=179	14.01	360	P			Pn	20 57 49.0	+0.4
NATX	Nacogdoches baz=180	14.01	360	P			Pn	20 57 47.9	-0.7
344A	Westbrook Farm	14.15	14				Pn	20 57 49.9	-0.4
344A	Westbrook Farm baz=195	14.15	14	P			Pn	20 57 50.3	0.0
TXAR	Lajitas Array 20nm,0.8s,baz=148,slow=14,SNR=104	14.25	326	P			P	20 57 53.5	-0.6
TXAR						S	S	21 00 34.6	-1.0
	0.3nm,0.3s,baz=140,slow=13,SNR=1.1								
TXAR						PcP	PcP	21 02 57.9	+1.0
	2.1nm,0.9s,baz=152,slow=5.7,SNR=4.4								
TXAR	Lajitas Array	14.25	326	P			P	20 57 53.3	-0.8
TXAR	Lajitas Array	14.25	326	P			P	20 57 53.3	-0.8
TX31	Lajitas Ar. Si	14.26	326	P			P	20 57 53.0	-1.1
TX31	Lajitas Ar. Si baz=142,SNR=58	14.26	326	P			P	20 57 53.7	-0.4
TX32	Lajitas Array	14.26	326	P			P	20 57 53.6	-0.5
237A	Washetta, Mont	14.29	356				Pn	20 57 51.5	-0.7
237A	Washetta, Mont baz=175	14.29	356	P			Pn	20 57 52.7	+0.6
WHTX	Lake Whitney,	14.47	350	P			Pn	20 57 54.1	-0.3
WHTX	Lake Whitney, baz=168,SNR=9.3	14.47	350	P			Pn	20 57 55.0	+0.6
WHTX	Lake Whitney, baz=169,SNR=9.3	14.47	350	P			Pn	20 57 54.3	-0.1
CDITO	Canoas	14.57	127	P			Pn	20 57 53.9	-1.9
BRU2	Volcan	14.58	126				Pn	20 57 55.0	-1.0
VBMS	Vicksburg	14.93	14	P			Pn	20 57 57.8	-2.3
VBMS	Vicksburg baz=195	14.93	14	P			Pn	20 57 59.6	-0.4
VBMS	Vicksburg baz=195	14.93	14	P			Pn	20 57 59.4	-0.6
BRAL	Brewton	15.07	26				Pn	20 58 00.5	-1.3
BRAL	Brewton baz=209	15.07	26	P			Pn	20 58 00.2	-1.6
061Z	Ochoppi	15.10	55	P			Pn	20 58 01.1	-1.0
061Z	Ochoppi baz=240,SNR=14	15.10	55	P			Pn	20 58 01.9	-0.2
143A	Socs Landing,	15.23	10	Pn			Pn	20 58 02.5	-1.1
143A	Socs Landing, baz=191	15.23	10	P			Pn	20 58 03.9	+0.2
FW06	Azle	15.45	351	P			Pn	20 58 05.3	-1.1
Z38A	Mt. Pleasant	15.51	359	P			Pn	20 58 06.2	-0.9
Z38A	Mt. Pleasant baz=178,SNR=22	15.51	359	P			P	20 58 08.0	+0.1
ABTX	Abilene, Hawle	15.55	344	P			Pn	20 58 08.0	+0.3
ABTX	Abilene, Hawle baz=161,SNR=45	15.55	344	P			P	20 58 08.3

X48A Hartselle 18.01 21 P P 20 58 34.4 -1.0
X48A Hartselle 18.01 21 P P 20 58 35.2 -0.2
baz=204,SNR=16
W45A Hickory Valley 18.06 14 P P 20 58 35.1 -0.8
W45A Hickory Valley 18.06 14 P P 20 58 36.1 +0.3
baz=196,SNR=5.4
BCOK Bluff Creek, N 18.10 352 P 20 58 37.0 +0.7
154A Montrose 18.12 33 P P 20 58 35.3 -1.3
154A Montrose 18.12 33 P P 20 58 35.7 -0.9
baz=217
HBAR Harrisburg 18.14 10 P P 20 58 36.8 +0.1
DEOK Depew 18.16 355 P 20 58 37.2 +0.2
PLAL Pickwick Lake 18.18 17 P P 20 58 36.8 -0.4
TUL1 Leonard 18.18 357 P 20 58 37.5 +0.2
TUL1 Leonard 18.18 357 P P 20 58 37.7 +0.5
baz=176,SNR=30
TUL1 Leonard 18.18 357 P P 20 58 37.4 +0.2
baz=176,SNR=30
OK029 Liberty Lake 18.21 353 P 20 58 37.9 +0.3
CSTR Hydro, Custer 18.25 349 P 20 58 38.1 +0.1
AMTX Amarillo 18.25 341 P P 20 58 39.0 +0.9
AMTX Amarillo 18.25 341 P Pn 20 58 39.1 -1.0
baz=157,SNR=77
AMTX Amarillo 18.25 341 P P 20 58 38.8 +0.7
baz=158
FCAR Ozark Folk Cen 18.26 6 P P 20 58 38.0 -0.1
OK030 Cody Creek RV 18.27 354 P P 20 58 38.1 -0.1
OK031 S. Brethren Rd 18.30 354 P 20 58 38.7 +0.2
OK052 Battle Ridge R 18.34 354 P 20 58 39.0 +0.1
OK034 N. Norfolk Rd. 18.35 355 P 20 58 39.1 +0.1
OK053 SW of W Deep R 18.36 354 P 20 58 39.3 +0.2
OK033 Mehan 18.40 354 P 20 58 39.5 -0.1
RLO Rose Lookout 18.41 359 P 20 58 39.8 +0.1
QUOK Quay 18.50 355 P 20 58 40.4 -0.4
UPD2 Meteti 18.52 117 eP Pn 20 58 42.7 -0.6
HHAR Hobbs 18.53 2 P P 20 58 41.2 +0.2
LCAR Lake Charles 18.56 9 P P 20 58 41.1 -0.3
LCAR Lake Charles 18.56 9 P P 20 58 41.7 +0.4
baz=190,SNR=26
GTBY Guantanamo Bay 18.59 80 P P 20 58 41.6 -0.2
GTBY Guantanamo Bay 18.59 80 eP P 20 58 42.3 +0.5
FPAL Fort Paine 18.61 24 P P 20 58 41.1 -0.8
GNAR Gosnell 18.66 12 P P 20 58 42.2 -0.1
U40A Yellville 18.66 4 P P 20 58 43.5 +1.0
baz=185,SNR=82
U40A P P 20 58 43.5 +1.0
baz=185,SNR=82
Y52A Lilburn 18.68 28 P P 20 58 42.0 -0.6
Y52A Lilburn 18.68 28 P P 20 58 42.5 -0.1
baz=213,SNR=36
Y52A P P 20 58 42.5 -0.1
baz=213,SNR=36
U38A Gravette 18.68 1 P P 20 58 42.9 +0.2
U38A Gravette 18.68 1 P P 20 58 43.2 +0.6
baz=180,SNR=24
OK044 Pawnee Station 18.71 354 P 20 58 42.9 -0.1
PAYG Puerto Ayora 18.74 166 P Pn 20 58 45.9 +0.1
HALT Halls 18.74 13 P P 20 58 42.4 -0.9
HSIG 18.75 310 P Pn 20 58 45.6 -0.3
OK046 Pawnee Station 18.75 354 P 20 58 43.5 +0.1
OK050 Pawnee Station 18.75 354 P P 20 58 43.4 -0.1
OK048 Pawnee Station 18.77 354 P P 20 58 43.7 +0.1
ELIS Ellis County 18.80 348 P P 20 58 43.8 -0.1
OK045 Pawnee Station 18.80 354 P 20 58 44.0 +0.1
PEBM Pemiscott Bayo 18.83 12 P P 20 58 43.0 -1.2
LNXT Lenox 18.89 13 P P 20 58 45.9 +0.9
baz=195
X51A Calhoun 18.93 26 P P 20 58 44.3 -1.1
X51A Calhoun 18.93 26 P P 20 58 44.6 -0.8
baz=209,SNR=17
X51A P P 20 58 44.6 -0.8
baz=209,SNR=17
121A Cookes Peak, D 18.97 324 P Pn 20 58 48.4 -0.2
121A Cookes Peak, D 18.97 324 P Pn 20 58 49.0 +0.4
baz=138,SNR=38
121A Cookes Peak, D 18.97 324 P Pn 20 58 48.3 -0.3
baz=138,SNR=38
CROK Carrier 18.98 352 P 20 58 46.1 +0.2
U32A Winter Ranch, 19.02 349 P 20 58 47.0 +0.7
U32A Winter Ranch, 19.02 349 P P 20 58 47.5 +1.1
baz=166,SNR=10
319A Douglas 19.05 318 P Pn 20 58 49.3 -0.1
OK038 West end E0370 19.07 350 P 20 58 47.1 +0.2
SWET Sewanee 19.09 22 P P 20 58 45.8 -1.3
BLOK Blackwell 19.14 354 P 20 58 47.6 0.0
T35A Sooner Cattle 19.23 355 P 20 58 48.6 0.0
T35B Sooner Cattle 19.23 355 P P 20 58 48.4 -0.2
baz=174,SNR=43
NOKA Waynoka 19.26 349 P 20 58 49.4 +0.5
GC02 Grant County # 19.30 352 P 20 58 48.7 -0.7
W50A Signal Mountai 19.31 24 P P 20 58 48.1 -1.4
W50A Signal Mountai 19.31 24 P P 20 58 48.5 -0.9
baz=207,SNR=28
OK032 Salt Plains WL 19.31 351 P 20 58 48.9 -0.5
WVT Waverly 19.33 17 P P 20 58 48.1 -1.5
WVT Waverly 19.33 17 P P 20 58 48.8 -0.8
baz=199,SNR=25
WVT Waverly 19.33 17 P P 20 58 48.9 -0.7
baz=200
WVT Waverly 19.33 17 P P 20 58 48.1 -1.5
PBMO Poplar Bluff 19.37 10 P P 20 58 50.0 0.0
PBMO Poplar Bluff 19.37 10 P P 20 58 50.5 +0.4
baz=192,SNR=7.4
PARMO Parma 19.38 12 P P 20 58 50.4 +0.2
KAN13 South Haven SW 19.42 353 P 20 58 48.8 -1.8
KAN14 Manchester OK 19.42 352 P P 20 58 49.7 -0.9
KAN17 Caldwell West 19.48 352 P 20 58 51.3 0.0
HAW Hawthorne Fire 19.49 34 P P 20 58 50.5 -1.0
baz=220,SNR=14
MGMO Mountain Grove 19.50 6 P P 20 58 51.8 +0.2
CRNM Carthage 19.50 328 P Pn 20 58 53.9 -1.0
T42A Van Buren 19.52 8 P P 20 58 51.2 -0.4
T42A Van Buren 19.52 8 P P 20 58 51.5 -0.2
baz=190,SNR=32
KAN09 Caldwell North 19.55 353 P P 20 58 52.4 +0.3
KAN01 Argonia South 19.59 352 P P 20 58 50.5 -1.9
Y22A Socorro 19.61 328 P Pn 20 58 55.7 -0.5
baz=142,SNR=24
BNM Barren Site 19.61 329 P Pn 20 58 55.1 -1.2
Y22D IRIS PASSCAL I 19.69 328 P P 20 58 53.8 0.0
Y22D IRIS PASSCAL I 19.69 328 P Pn 20 58 55.5 -1.6
baz=143
Y22F Passcal Instru 19.69 328 P P 20 58 55.3 +1.5
baz=143
KAN06 Argonia West S 19.70 352 P P 20 58 53.4 -0.2
DUN6 Lazy B Ranch 19.74 321 P Pn 20 58 56.7 -1.0
CLTN Cedars of Leba 19.74 20 P P 20 58 52.9 -1.2
SBM South Baldy 19.75 328 P P 20 58 54.6 0.0
W52A Murphy 19.77 27 P P 20 58 53.6 -0.9
W52A Murphy 19.77 27 P P 20 58 54.0 -0.5
baz=211,SNR=28
LENM Lemitar 19.79 328 P Pn 20 58 57.3 -1.0
CPCT Cooper Cave 19.83 25 P P 20 58 53.7 -1.4
HODGE Hodges 19.84 31 P P 20 58 54.2 -0.9
HODGE Hodges 19.84 31 P P 20 58 54.0 -1.2
baz=217,SNR=18
T45B Paducah 19.96 14 P P 20 58 56.7 +0.3
baz=196,SNR=5.1
S39A Bolivar 19.96 3 P P 20 58 56.1 -0.3
S39A Bolivar 19.96 3 P P 20 58 56.6 +0.2
baz=183,SNR=31
T45A Paducah 19.96 14 P P 20 58 55.8 -0.7
CGM3 Cape Girardeau 20.02 12 P P 20 58 56.7 -0.3
APAC Apartado, Choc 20.07 117 eP Pn 20 59 00.5 -1.2
CSU Charleston Sou 20.08 38 P P 20 58 56.8 -0.9
NHSC New Hope 20.10 37 P P 20 58 56.6 -1.4
NHSC New Hope 20.10 37 P P 20 58 57.5 -0.5
baz=223
NHSC New Hope 20.10 37 P P 20 58 56.7 -1.4
baz=224
BG3 Lake Jocassee 20.13 29 P P 20 58 57.4 -0.9
CASEE Lake Jocassee 20.13 29 P P 20 58 57.8 -0.6
baz=214,SNR=29
ANMO Albuquerque 20.18 331 P P 20 59 00.9 +1.9
42nm,0.8s,baz=239,slow=12,SNR=98
42nm,0.8s
ANMO Albuquerque 20.18 331 P P 20 59 00.8 +1.8
ANMO Albuquerque 20.18 331 P Pn 20 59 01.0 -2.0
baz=145,SNR=62
ANMO Albuquerque 20.18 331 P P 20 59 00.7 +1.7
baz=145
ANMO Albuquerque 20.18 331 ceP P 20 59 00.9 +1.9
ANMO pmax pmax
comp=Z,62nm,1.0s

V51A Loudon 20.21 25 P P 20 58 57.7 -1.4
V51A Loudon 20.21 25 P P 20 58 58.2 -0.9
baz=209,SNR=16
U49A Red Boiling Sp 20.31 21 P P 20 58 58.8 -1.4
U49A Red Boiling Sp 20.31 21 P P 20 58 59.6 -0.5
baz=204,SNR=48
TKL Tuckaleechee C 20.32 26 P P 20 58 59.7 -0.7
comp=Z,32nm,0.4s,baz=199,slow=11,SNR=44
comp=Z,32nm,0.4s
TKL Tuckaleechee C 20.32 26 P P 20 58 58.4 -1.9
TKL Tuckaleechee C 20.32 26 P P 20 58 59.6 -0.7
baz=211,SNR=30
TKL Tuckaleechee C 20.32 26 P P 20 58 58.4 -1.9
T47A Sharon Grove 20.33 18 P P 20 58 59.2 -1.2
T47A Sharon Grove 20.33 18 P P 20 58 59.8 -0.7
baz=200,SNR=38
SJCC San Jacinto, C 20.38 110 eP P 20 59 00.1 -1.1
JSC Jenkinsville 20.39 33 P P 20 59 00.1 -0.9
JSC Jenkinsville 20.39 33 P P 20 59 00.1 -0.9
baz=219,SNR=18
JSC Jenkinsville 20.39 33 P P 20 59 00.1 -0.9
S44A Carbondale 20.48 12 P P 20 59 00.1 -1.8
S44A Carbondale 20.48 12 P P 20 59 02.1 +0.2
baz=194
CCM Cathedral Cave 20.50 8 P P 20 59 01.8 -0.5
CCM Cathedral Cave 20.50 8 P P 20 59 01.7 -0.5
baz=189,SNR=28
CCM Cathedral Cave 20.50 8 P P 20 59 01.6 -0.7
baz=189
CCM Cathedral Cave 20.50 8 P P 20 59 01.8 -0.5
SIUC Southern Illin 20.51 12 P P 20 59 01.7 -0.6
PAULI Pauline 20.53 31 P P 20 59 01.6 -0.9
PAULI Pauline 20.53 31 P P 20 59 02.5 0.0
baz=217,SNR=17
V52A Sevierville 20.55 26 P P 20 59 01.5 -1.2
V52A Sevierville 20.55 26 P P 20 59 02.2 -0.6
baz=211,SNR=12
TUC Tucson 20.62 318 P P 20 59 05.7 +2.0
TUC Tucson 20.62 318 P Pn 20 59 06.1 -2.3
baz=131
TUC Tucson 20.62 318 P P 20 59 05.7 +2.0
R40A Maddies Statio 20.63 5 P P 20 59 02.8 -0.7
R40A Maddies Statio 20.63 5 P P 20 59 03.1 -0.5
baz=186,SNR=21
Y57A Sumter 20.65 35 P P 20 59 02.2 -1.6
V53A Saluda 20.75 28 P P 20 59 04.0 -0.9
V53A Saluda 20.75 28 P P 20 59 04.4 -0.5
baz=213,SNR=26
V53A P P 20 59 04.4 -0.5
baz=213,SNR=26
DBBC Dabeiba 20.84 118 eP Pn 20 59 13.0 +1.8
R32A Long Quarter, 20.97 351 P P 20 59 07.1 -0.1
R32A Long Quarter, 20.97 351 P P 20 59 07.2 -0.1
baz=168,SNR=6.9
KMSC Kings Mountain 21.02 32 P P 20 59 07.2 -0.6
KMSC Kings Mountain 21.02 32 P P 20 59 07.5 -0.2
baz=217,SNR=25
KMSC Kings Mountain 21.02 32 P P 20 59 06.8 -1.0
baz=218,SNR=25
UREC San Jos de Ur 21.04 116 eP P 20 59 09.1 +0.8
BIRD Birdtown, Kers 21.09 34 P P 20 59 07.4 -1.0
T50A Nancy 21.10 22 P P 20 59 06.1 -2.5
T50A Nancy 21.10 22 P P 20 59 06.9 -1.7
baz=206
T50A P P 20 59 06.9 -1.7
baz=206
USIN University of 21.10 15 P P 20 59 07.1 -1.5
TZTN Tazewell 21.17 25 P P 20 59 08.3 -1.1
TZTN Tazewell 21.17 25 P P 20 59 08.7 -0.8
baz=210,SNR=8.1
TZTN Tazewell 21.17 25 P P 20 59 08.7 -0.8
baz=210,SNR=8.1
T25A Trinidad 21.21 338 P P 20 59 11.6 +1.5
T25A Trinidad 21.21 338 P P 20 59 11.8 +1.7
baz=153,SNR=27
SLM Saint Louis 21.22 9 P P 20 59 09.0 -0.8
SLM Saint Louis 21.22 9 P P 20 59 09.0 -0.8
baz=191
SLM Saint Louis 21.22 9 P P 20 59 09.0 -0.8
KSU1 Kansas State U 21.41 356 P P 20 59 10.5 -1.4
KSU1 Kansas State U 21.41 356 P P 20 59 11.3 -0.5
baz=174
KSU1 Kansas State U 21.41 356 P P 20 59 12.2 +0.4
baz=175
CBKS Cedar Bluff 21.52 349 P P 20 59 13.2 +0.1
CBKS Cedar Bluff 21.52 349 P P 20 59 14.7 +1.5
baz=166,SNR=8.6
CBKS Cedar Bluff 21.52 349 P P 20 59 13.9 +0.8
baz=166,SNR=8.6
CBKS Cedar Bluff 21.52 349 P P 20 59 13.2 +0.1
X58A Rowland 21.63 36 P P 20 59 12.5 -1.8
X58A Rowland 21.63 36 P P 20 59 13.1 -1.1
baz=223
X58A P P 20 59 13.1 -1.1
baz=223
V55A Taylorsville 21.64 31 P P 20 59 13.2 -1.2
V55A Taylorsville 21.64 31 P P 20 59 13.4 -1.0
baz=216,SNR=38
V55A P P 20 59 13.4 -1.0
baz=216,SNR=38
X18A Snowflake 21.66 324 P P 20 59 16.5 +1.7
X18A IAmb IAmb 20 59 18.8
comp=Z,38nm,1.1s
Q44A Meyer Farm, Va 21.69 12 P P 20 59 14.3 -0.6
Q44A IAmb IAmb 20 59 15.0
comp=Z,76nm,0.9s
Q44A Meyer Farm, Va 21.69 12 P P 20 59 14.4 -0.5
baz=194,SNR=12
WCI Wyandotte Cave 21.72 18 P P 20 59 13.7 -1.5
WCI IAmb IAmb 20 59 16.4
comp=Z,89nm,1.0s
WCI Wyandotte Cave 21.72 18 P P 20 59 14.1 -1.1
baz=201,SNR=14
WCI Wyandotte Cave 21.72 18 P P 20 59 14.3 -0.9
baz=202
WCI Wyandotte Cave 21.72 18 P P 20 59 13.7 -1.5
WCI pmax pmax
comp=Z,89nm,1.0s
W57A Gilead 21.72 34 P P 20 59 13.6 -1.6
W57A Gilead 21.72 34 P P 20 59 14.2 -1.0
baz=220,SNR=32
W57A P P 20 59 14.2 -1.0
baz=220,SNR=32
OLIL Olney 21.73 14 P P 20 59 14.6 -0.6
OLIL IAmb IAmb 20 59 15.7
comp=Z,58nm,0.9s
OLIL Olney 21.73 14 P P 20 59 15.1 -0.1
baz=196,SNR=7.7
214A Organ Pipe Nat 21.74 314 P P 20 59 16.4 +0.9
214A IAmb IAmb 20 59 20.7
comp=Z,60nm,1.2s
214A Organ Pipe Nat 21.74 314 P P 20 59 17.5 +1.9
baz=126,SNR=12
GR1C Gorgona, Isla 21.75 130 eP P 20 59 16.1 +0.4
P40A Paris 21.88 5 P P 20 59 15.2 -1.5
P40A IAmb IAmb 20 59 16.5
comp=Z,62nm,0.8s
P40A Paris 21.88 5 P P 20 59 15.6 -1.2
baz=186,SNR=26
P38A Dawn 21.88 2 P P 20 59 15.2 -1.6
P38A IAmb IAmb 20 59 16.5
comp=Z,29nm,0.7s
P38A Dawn 21.88 2 P P 20 59 15.7 -1.1
baz=182,SNR=16
U54A Nelsons Funny 21.90 29 P P 20 59 15.8 -1.3
U54A Nelsons Funny 21.90 29 P P 20 59 16.1 -1.0
baz=214,SNR=9.8
U54A P P 20 59 16.1 -1.0
baz=214,SNR=9.8
PIX Pinacate 21.96 312 P P 20 59 15.2 -2.5
W18A Petrified Fore 21.97 325 P P 20 59 19.9 +1.9
W18A IAmb IAmb 20 59 23.0
comp=Z,89nm,1.4s
W18A Petrified Fore 21.97 325 P P 20 59 20.1 +2.1
baz=138,SNR=14
S51A Beattyville 22.11 24 P P 20 59 17.1 -2.0
S51A IAmb IAmb 20 59 18.6
comp=Z,38nm,0.8s
R49A Shelbyville 22.13 20 P P 20 59 16.6 -2.6
R49A Shelbyville 22.13 20 P P 20 59 17.8 -1.5
baz=204,SNR=20
R49A P P 20 59 17.8 -1.5
baz=204,SNR=20
SDCO Great Sand Dun 22.15 337 P P 20 59 20.2 +0.4
SDCO Great Sand Dun 22.15 337 P P 20 59 21.6 +1.8
baz=151,SNR=27

SDCO Great Sand Dun 22.15 337 P P 20 59 21.6 +1.8
baz=151,SNR=27
SDDR Presa de Saban 22.17 83 P P 20 59 18.7 -1.2
SDDR IAmb IAmb 20 59 45.5
comp=Z,43nm,1.1s
P43A Skaggs, Pawnee 22.32 10 P P 20 59 19.8 -1.3
P43A Skaggs, Pawnee 22.32 10 P P 20 59 20.9 -0.1
baz=192,SNR=7.7
KSCO Kaye Shedlock' 22.37 343 P P 20 59 20.8 -0.9
KSCO IAmb IAmb 20 59 24.0
comp=Z,79nm,0.9s
KSCO Kaye Shedlock' 22.37 343 P P 20 59 23.0 +1.3
baz=159,SNR=6.6
KSCO Kaye Shedlock' 22.37 343 P P 20 59 21.8 +0.1
baz=159,SNR=6.6
R50A Paris 22.40 22 P P 20 59 19.8 -2.1
R50A IAmb IAmb 20 59 21.5
comp=Z,38nm,0.6s
R50A Paris 22.40 22 P P 20 59 20.3 -1.6
baz=206,SNR=15
R50A P P 20 59 20.3 -1.6
baz=206,SNR=15
U56A King 22.45 31 P P 20 59 20.3 -2.0
U56A King 22.45 31 P P 20 59 21.6 -0.7
baz=218,SNR=17
U56A P P 20 59 21.6 -0.7
baz=218,SNR=17
YOTC Yotoco, Valle 22.48 125 eP P 20 59 18.8 -4.3
BLO Bloomington 22.54 17 P P 20 59 20.9 -2.2
BLO Bloomington 22.54 17 P P 20 59 20.9 -2.2
BLO pmax pmax
comp=Z,277nm,1.5s
PTBC PUERTO BERRIO, 22.57 117 eP P 20 59 25.5 +1.8
V58A Windy Hill, Pi 22.67 34 P P 20 59 22.4 -2.0
V58A Windy Hill, Pi 22.67 34 P P 20 59 23.4 -1.0
baz=221,SNR=26
V58A P P 20 59 23.4 -1.0
baz=221,SNR=26
S22A 4UR Ranch, Cre 22.68 334 P P 20 59 26.0 +1.2
S22A IAmb IAmb 20 59 28.3
comp=Z,63nm,1.4s
S22A 4UR Ranch, Cre 22.68 334 P P 20 59 26.5 +1.7
baz=148,SNR=29
P46A Rosedale 22.78 15 P P 20 59 24.1 -1.2
P46A Rosedale 22.78 15 P P 20 59 24.9 -0.4
baz=198,SNR=10
113A Mohawk Valley, 22.88 315 P P 20 59 28.2 +2.0
113A IAmb IAmb 20 59 31.3
comp=Z,117nm,1.6s
CNNC Cliffs of the 22.95 37 P P 20 59 26.5 -0.4
baz=225
MVCO Mesa Verde 22.97 331 P P 20 59 29.2 +1.8
MVCO IAmb IAmb 20 59 29.9
comp=Z,33nm,0.8s
MVCO Mesa Verde 22.97 331 P P 20 59 27.6 +0.1
baz=144,SNR=11
O44A Mansfield 23.01 12 P P 20 59 27.3 -0.1
baz=195
N38A Joes South For 23.06 3 P P 20 59 27.9 +0.1
baz=183,SNR=30
FLF1 Flavio Alfaro- 23.08 139 eP P 20 59 33.1 +4.8
Y14A Wickenburg 23.09 318 P P 20 59 30.2 +1.8
N33B J Bar K, Exete 23.10 354 P P 20 59 28.7 +0.5
baz=173,SNR=5.6
N33A J Bar K, Exete 23.10 354 P P 20 59 27.7 -0.6
Q24A Divide 23.11 339 P P 20 59 28.6 0.0
Q24A IAmb IAmb 20 59 32.1
comp=Z,50nm,1.1s
Q24A Divide 23.11 339 P P 20 59 29.3 +0.7
baz=154,SNR=14
N35A Tabor 23.11 358 P P 20 59 28.3 -0.1
baz=177
BLA Blacksburg 23.11 30 P P 20 59 26.7 -1.7
BLA Blacksburg 23.11 30 P P 20 59 27.5 -1.0
baz=216,SNR=14
BLA Blacksburg 23.11 30 P P 20 59 28.1 -0.4
baz=216,SNR=14
BLA Blacksburg 23.11 30 P P 20 59 26.7 -1.7
BLA pmax pmax
comp=Z,176nm,1.3s
P48A Milroy 23.12 18 P P 20 59 26.8 -1.6
P48A Milroy 23.12 18 P P 20 59 27.9 -0.5
baz=202,SNR=20
P48A P P 20 59 27.9 -0.5
baz=202,SNR=20
N41A Harden Midland 23.17 7 P P 20 59 28.2 -0.6
N41A Harden Midland 23.17 7 P P 20 59 28.5 -0.4
baz=189,SNR=18
WUAZ Wupatki 23.18 323 P P 20 59 30.8 +1.6
WUAZ Wupatki 23.18 323 P P 20 59 31.6 +2.4
baz=136,SNR=23
S54A Dingess, Beckl 23.19 28 P P 20 59 27.3 -1.8
S54A Dingess, Beckl 23.19 28 P P 20 59 28.1 -1.0
baz=214,SNR=6.0
S54A P P 20 59 28.1 -1.0
baz=214,SNR=6.0
HDIL Hopedale 23.25 10 P P 20 59 28.3 -1.2
HDIL IAmb IAmb 21 00 03.6
comp=Z,30nm,0.8s
HDIL Hopedale 23.25 10 P P 20 59 29.2 -0.4
baz=193
R53A Hurricane 23.36 26 P P 20 59 29.3 -1.3
R53A IAmb IAmb 20 59 31.3
comp=Z,56nm,0.7s
R53A Hurricane 23.36 26 P P 20 59 29.8 -0.8
baz=211,SNR=12
R53A P P 20 59 29.8 -0.8
baz=211,SNR=12
P49A Miami Univ. Ec 23.40 20 P P 20 59 29.5 -1.5
P49A Miami Univ. Ec 23.40 20 P P 20 59 30.1 -0.9
baz=204,SNR=9.3
P49A Miami Univ. Ec 23.40 20 P P 20 59 30.9 -0.2
baz=204,SNR=9.3
Q51A Peebles 23.42 23 P P 20 59 29.4 -1.7
Q51A IAmb IAmb 20 59 32.0
comp=Z,97nm,1.4s
Q51A Peebles 23.42 23 P P 20 59 30.0 -1.2
baz=208,SNR=10
Q51A P P 20 59 30.0 -1.2
baz=208,SNR=10
T57A Hurt 23.52 32 P P 20 59 30.1 -2.0
T57A Hurt 23.52 32 P P 20 59 31.1 -1.0
baz=219,SNR=21
T57A P P 20 59 31.1 -1.0
baz=219,SNR=21
OTAV Otavalo 23.52 136 P P 20 59 34.7 +1.8
OTAV Otavalo 23.52 136 P P 20 59 34.7 +1.8
OTAV pmax pmax
comp=Z,141nm,1.7s
OTAV Otavalo 23.52 136 eP P 20 59 35.2 +2.3
OTAV Otavalo 23.52 136 eP P 20 59 33.1 +0.3
SFIN Lafayette 23.53 14 P P 20 59 30.8 -1.3
SFIN IAmb IAmb 20 59 32.8
comp=Z,43nm,0.9s
SFIN Lafayette 23.53 14 P P 20 59 31.3 -0.8
baz=198,SNR=6.9
SFIN Lafayette 23.53 14 P P 20 59 32.2 +0.1
baz=198,SNR=6.9
GCUF Volcan Galeras 23.57 132 eP P 20 59 36.2 +2.9
ROSC El Rosal 23.60 120 P P 20 59 33.9 +0.4
comp=Z,7.4nm,0.3s,baz=196,slow=7.1,SNR=4.8
comp=Z,7.4nm,0.3s
CRUC La Cruz 23.61 131 eP P 20 59 36.7 +3.1
BARC Barichara 23.64 115 eP P 20 59 32.9 -0.8
PAMC Pamplona, Colo 23.70 113 eP P 20 59 34.4 -0.1
GLA Glamis 23.76 314 P P 20 59 35.0 +0.6
GLA IAmb IAmb 20 59 39.3
comp=Z,37nm,0.9s
GLA Glamis 23.76 314 P P 20 59 36.9 +2.4
baz=125,SNR=9.4
GLA Glamis 23.76 314 P P 20 59 35.0 +0.6
GLA pmax pmax
comp=Z,37nm,0.9s
Q52A Bidwell 23.77 24 P P 20 59 32.8 -1.6
Q52A Bidwell 23.77 24 P P 20 59 33.6 -0.7
baz=210,SNR=7.4
Q52A P P 20 59 33.6 -0.7
baz=210,SNR=7.4
U59A Littleton 23.81 35 P P 20 59 32.5 -2.2
U59A IAmb IAmb 21 00 11.3
comp=Z,32nm,1.1s
BGNE Belgrade 23.84 353 P P 20 59 34.8 -0.1
BGNE IAmb IAmb 20 59 41.5
comp=Z,56nm,0.8s
BGNE Belgrade 23.84 353 P P 20 59 35.4 +0.4
baz=171

BGNE Belgrade 23.84 353 P P 20 59 34.9 0.0
baz=172
PV15 Paradox Valley 23.89 332 P P 20 59 37.6 +1.9
PV15 IAmb IAmb 20 59 41.6
comp=Z,53nm,1.0s
PV13 Radium Mtn., P 23.89 331 P P 20 59 37.1 +1.3
PV13 IAmb IAmb 20 59 40.1
comp=Z,58nm,1.0s
P51A Williamsport 23.92 22 P P 20 59 34.0 -1.7
P51A Williamsport 23.92 22 P P 20 59 34.6 -1.1
baz=208,SNR=7.1
P51A P 20 59 34.6 -1.1
baz=208,SNR=7.1
O48B Farmland 23.93 18 P P 20 59 35.1 -0.7
baz=202,SNR=36
O48B Farmland 23.93 18 P P 20 59 34.8 -1.0
baz=203,SNR=36
SMCO Snowmass 23.97 336 P P 20 59 38.4 +1.8
BLYC Blythe 23.97 316 P P 20 59 38.2 +2.0
ESJX Sierra Juarez 23.98 310 P P 20 59 38.5 +1.9
ESJX IAmb IAmb 20 59 41.9
comp=Z,49nm,1.7s
ISCO Idaho Springs 24.01 339 P P 20 59 38.0 +1.1
ISCO Idaho Springs 24.01 339 P P 20 59 38.5 +1.6
baz=153,SNR=18
ISCO Idaho Springs 24.01 339 P P 20 59 38.5 +1.6
baz=153,SNR=18
ISCO Idaho Springs 24.01 339 P P 20 59 38.0 +1.1
ISCO pmax pmax
comp=Z,16nm,0.8s
PV11 David Mesa, Pa 24.03 332 P P 20 59 38.6 +1.7
PV07 Paradox Valley 24.04 332 P P 20 59 39.3 +2.2
PV07 IAmb IAmb 20 59 40.5
comp=Z,32nm,1.0s
OGNE Ogallala 24.05 346 P P 20 59 37.5 +0.5
OGNE Ogallala 24.05 346 P P 20 59 38.8 +1.8
baz=162,SNR=12
OGNE Ogallala 24.05 346 P P 20 59 37.4 +0.5
baz=162,SNR=12
PDMCI Parker Dam,Lak 24.05 317 P P 20 59 38.4 +1.4
baz=128,SNR=6.3
RUSC La Rusia 24.07 117 P P 20 59 36.9 -1.1
RUSC IAmb IAmb 21 00 16.2
comp=Z,34nm,1.1s
RUSC La Rusia 24.07 117 eP P 20 59 34.9 -3.0
O49A Covington 24.12 20 P P 20 59 35.9 -1.7
O49A Covington 24.12 20 P P 20 59 36.2 -1.3
baz=204,SNR=38
O49A P 20 59 36.2 -1.3
baz=204,SNR=38
R55A Marlinton 24.12 29 P P 20 59 35.8 -1.9
R55A IAmb IAmb 20 59 39.6
comp=Z,50nm,0.8s
R55A Marlinton 24.12 29 P P 20 59 36.8 -0.8
baz=215,SNR=16
R55A P 20 59 36.8 -0.8
baz=215,SNR=16
SCIA State Center 24.17 3 P P 20 59 37.7 -0.3
SCIA State Center 24.17 3 P P 20 59 38.6 +0.7
baz=183
SCIA State Center 24.17 3 P P 20 59 37.9 0.0
baz=183
PV10 Paradox Valley 24.17 331 P P 20 59 39.4 +1.1
PV10 IAmb IAmb 20 59 42.1
comp=Z,99nm,1.4s
CHIC Chingaza 24.20 120 eP P 20 59 38.7 -0.4
PV23 Carpenter Ridg 24.22 332 P P 20 59 40.2 +1.4
PV23 IAmb IAmb 20 59 41.7
comp=Z,49nm,0.9s
L34A Svendsen Farm, 24.25 357 P P 20 59 38.5 -0.2
L34A IAmb IAmb 20 59 40.8
comp=Z,63nm,1.0s
L34A Svendsen Farm, 24.25 357 P P 20 59 39.0 +0.3
baz=176
S57A Dark Hollow, R 24.26 31 P P 20 59 37.7 -1.1
S57A IAmb IAmb 20 59 38.7
comp=Z,80nm,1.4s
S57A Dark Hollow, R 24.26 31 P P 20 59 37.9 -0.9
baz=218,SNR=6.4
S57A P P 20 59 37.9 -0.9
baz=218,SNR=6.4
M44A Midewin, Midew 24.28 12 P P 20 59 38.6 -0.4
M44A Midewin, Midew 24.28 12 P P 20 59 39.0 0.0
baz=195,SNR=8.6
YUH Yuha Desert 24.30 312 P P 20 59 41.9 +2.6
YUH IAmb IAmb 20 59 44.3
comp=Z,46nm,1.4s
BRIGG Briggsdale 24.31 342 P P 20 59 39.2 -0.2
BRIGG IAmb IAmb 20 59 42.7
comp=Z,47nm,1.1s
N47A Urbana 24.36 17 P P 20 59 37.8 -1.9
N47A Urbana 24.36 17 P P 20 59 38.5 -1.1
baz=201,SNR=13
N47A P P 20 59 38.5 -1.1
baz=201,SNR=13
Q54A Coxs Mills 24.38 27 P P 20 59 36.0 -3.8
Q54A IAmb IAmb 20 59 41.4
comp=Z,110nm,1.4s
Q54A Coxs Mills 24.38 27 P P 20 59 39.7 -0.2
baz=213
Q54A P P 20 59 39.7 -0.2
baz=213
SWSC Sam W. Stewart 24.38 313 P P 20 59 42.1 +2.1
baz=123
RMX La Rumorosa 24.39 312 P P 20 59 40.6 +0.3
RMX IAmb IAmb 20 59 43.8
comp=Z,51nm,1.6s
T59A Double "B" Far 24.39 35 P P 20 59 38.6 -1.4
T59A IAmb IAmb 20 59 39.5
comp=Z,31nm,1.1s
T59A Double "B" Far 24.39 35 P P 20 59 38.5 -1.4
baz=222,SNR=5.1
T59A P P 20 59 38.5 -1.4
baz=222,SNR=5.1
W13A Hualapai Mount 24.40 319 P P 20 59 42.1 +1.8
P52A Corning 24.40 24 P P 20 59 38.4 -1.7
P52A IAmb IAmb 20 59 41.8
comp=Z,50nm,1.1s
P52A Corning 24.40 24 P P 20 59 38.9 -1.2
baz=210,SNR=7.1
IKP In-Ko-Pah, Jac 24.44 312 P P 20 59 43.2 +2.6
baz=122
L40A Anamosa 24.47 6 P P 20 59 40.6 0.0
L40A IAmb IAmb 20 59 41.9
comp=Z,47nm,0.7s
L40A Anamosa 24.47 6 P P 20 59 41.2 +0.6
baz=187,SNR=13
BC3 Big Chuckawall 24.54 314 P P 20 59 44.1 +2.5
baz=125,SNR=12
FLOC Florencia 24.55 129 eP P 20 59 43.7 +1.9
P53A Whipple 24.57 25 P P 20 59 40.0 -1.6
P53A IAmb IAmb 20 59 43.5
comp=Z,64nm,1.2s
P53A Whipple 24.57 25 P P 20 59 40.6 -1.0
baz=211,SNR=7.1
P53A P P 20 59 40.6 -1.0
baz=211,SNR=7.1
PIAT Ana Tenorio 24.57 137 eP P 20 59 46.2 +3.9
L42A Oliver, Polo 24.60 9 P P 20 59 41.2 -0.6
L42A IAmb IAmb 20 59 44.0
comp=Z,43nm,0.8s
L42A Oliver, Polo 24.60 9 P P 20 59 41.7 -0.2
baz=191,SNR=6.8
ACSO Alum Creek Sta 24.61 22 P P 20 59 40.2 -1.8
ACSO IAmb IAmb 20 59 43.6
comp=Z,30nm,0.7s
ACSO Alum Creek Sta 24.61 22 P P 20 59 41.1 -0.9
baz=207
IRM Iron Mountain 24.62 316 P P 20 59 44.5 +2.3
baz=126,SNR=10.0
HQIL Hanson Quary C 24.72 12 P P 20 59 42.9 0.0
HQIL IAmb IAmb 20 59 45.0
comp=Z,35nm,0.7s
MONP2 Monument Peak 24.79 312 P P 20 59 46.2 +2.2
baz=122
N49A Columbus Grove 24.84 19 P P 20 59 41.7 -2.3
N49A IAmb IAmb 20 59 46.2
comp=Z,32nm,0.6s
N49A Columbus Grove 24.84 19 P P 20 59 42.4 -1.6
baz=204,SNR=12
N49A P P 20 59 42.4 -1.6
baz=204,SNR=12
BAR Barrett 24.86 311 P P 20 59 46.4 +2.0
SDV Santo Domingo 24.89 107 P P 20 59 43.7 -1.3
comp=Z,22nm,0.6s,baz=322,slow=3.9,SNR=23
comp=Z,22nm,0.6s

SDV Santo Domingo 24.89 107 P P 20 59 42.8 -2.2
SDV IAmb IAmb 21 00 24.7
comp=Z,48nm,0.9s
SDV Santo Domingo 24.89 107 eP P 20 59 42.9 -2.1
K38A Parkersburg 24.93 3 P P 20 59 44.4 -0.4
K38A Parkersburg 24.93 3 P P 20 59 45.1 +0.3
baz=184,SNR=5.7
O52A Adamsville 24.93 24 P P 20 59 43.3 -1.6
O52A IAmb IAmb 20 59 44.5
comp=Z,52nm,1.1s
O52A Adamsville 24.93 24 P P 20 59 43.5 -1.4
baz=210,SNR=8.4
O52A P P 20 59 43.5 -1.4
baz=210,SNR=8.4
R58B Mineral 24.96 33 P P 20 59 43.1 -2.1
R58B Mineral 24.96 33 P P 20 59 43.3 -1.8
baz=220
R58B P P 20 59 43.3 -1.8
baz=220
T60A Surry 24.96 36 P P 20 59 43.2 -1.9
T60A IAmb IAmb 20 59 44.7
comp=Z,54nm,0.9s
KNB Kanab 25.07 324 P P 20 59 48.0 +1.6
KNB Kanab 25.07 324 P P 20 59 48.0 +1.6
KNB pmax pmax
comp=Z,19nm,1.0s
N23A Red Feather La 25.11 339 P P 20 59 47.4 +0.6
N23A Red Feather La 25.11 339 P P 20 59 48.1 +1.3
baz=154
Q56A Snyder Ridge, 25.16 29 P P 20 59 46.6 -0.4
Q56A IAmb IAmb 21 00 29.6
comp=Z,139nm,1.9s
PMD Palm Desert 25.17 313 P P 20 59 49.6 +2.4
TPFO Pinon Flats 25.20 313 P P 20 59 50.2 +2.6
baz=124
PFO Pinyon Flats O 25.21 313 P P 20 59 49.0 +1.4
comp=Z,9.3nm,1.1s,baz=125,slow=6.8,SNR=6.3
PFO LR LR 21 11 00.5
comp=Z,224nm,21.3s,baz=93,slow=39
comp=Z,9.3nm,1.1s
PFO Pinyon Flats O 25.21 313 P P 20 59 49.7 +2.1
PFO Pinyon Flats O 25.21 313 P P 20 59 50.2 +2.6
baz=124,SNR=5.1
PFO Pinyon Flats O 25.21 313 P P 20 59 49.7 +2.1
PFO pmax pmax
comp=Z,14nm,1.2s
109C Camp Elliot, M 25.28 311 P P 20 59 48.5 +0.4
109C IAmb IAmb 20 59 51.7
comp=Z,44nm,1.4s
109C Camp Elliot, M 25.28 311 P P 20 59 50.1 +2.0
baz=121
O20A White River Ci 25.29 335 P P 20 59 49.8 +1.5
O20A White River Ci 25.29 335 P P 20 59 50.6 +2.2
baz=148,SNR=6.8
O53A New Philadelph 25.29 25 P P 20 59 46.7 -1.4
O53A IAmb IAmb 20 59 47.9
comp=Z,40nm,0.9s
O53A New Philadelph 25.29 25 P P 20 59 47.4 -0.8
baz=211,SNR=6.7
LCMT Little Creek M 25.30 323 P P 20 59 49.8 +1.4
GMRC Granite Mounta 25.34 316 P P 20 59 50.7 +1.9
baz=SNR=13
MCWV Mont Chateau 25.36 27 P P 20 59 47.4 -1.5
baz=214
V12A Nelson 25.40 319 P P 20 59 51.1 +1.8
V12A IAmb IAmb 20 59 52.9
comp=Z,38nm,1.2s
JFWS Jewell Farm 25.42 7 P P 20 59 48.6 -0.6
JFWS Jewell Farm 25.42 7 P P 20 59 50.5 +1.2
baz=189,SNR=13
JFWS Jewell Farm 25.42 7 P P 20 59 50.1 +0.9
baz=190,SNR=13
JFWS Jewell Farm 25.42 7 P P 20 59 48.6 -0.6
JFWS pmax pmax
comp=Z,99nm,0.7s
N51A Ashland 25.44 22 P P 20 59 50.1 +0.7
N51A IAmb IAmb 21 00 26.6
comp=Z,58nm,1.4s
N51A Ashland 25.44 22 P P 20 59 49.9 +0.4
baz=208
N51A P P 20 59 49.9 +0.4
baz=208
SRU San Rafael Swe 25.45 330 P P 20 59 51.5 +1.7
SRU San Rafael Swe 25.45 330 P P 20 59 51.5 +1.7
SRU pmax pmax
comp=Z,15nm,1.0s
MTPU Mount Pierson 25.46 326 P P 20 59 51.9 +1.7
MTPU IAmb IAmb 21 00 33.4
comp=Z,38nm,1.1s
O54A Avella 25.57 26 P P 20 59 49.5 -1.2
baz=213
O54A P P 20 59 49.5 -1.2
baz=213
Q16A Castle Valley 25.61 329 P P 20 59 53.3 +2.0
Q16A IAmb IAmb 20 59 59.1
comp=Z,54nm,1.4s
SZCU Shurtz Canyon 25.63 324 P P 20 59 51.5 0.0
M50A Fremont 25.64 20 P P 20 59 49.0 -2.2
M50A IAmb IAmb 21 00 30.5
comp=Z,45nm,1.0s
M50A Fremont 25.64 20 P P 20 59 50.0 -1.2
baz=206
M50A P P 20 59 50.0 -1.2
baz=206
L48A N Adams 25.70 18 P P 20 59 49.7 -2.0
L48A N Adams 25.70 18 P P 20 59 50.5 -1.2
baz=202
L48A P P 20 59 50.5 -1.2
baz=202
MURC Murrieta 25.72 312 P P 20 59 54.5 +2.4
baz=122
P18A Preston Nutter 25.73 331 P P 20 59 54.1 +1.5
CCUT Cedar City 25.75 324 P P 20 59 55.2 +2.6
WTNK Soaring Height 25.80 320 P P 20 59 54.1 +1.3
MSU Marysvale 25.81 327 P P 20 59 54.3 +1.2
MSU PcP 21 03 19.7 +1.6
MSU Marysvale 25.81 327 P P 20 59 54.3 +1.2
MSU 21 03 19.7
HEC Hector,Ludlow 25.81 316 P P 20 59 55.7 +2.6
baz=126
MVU Marysvale 25.82 327 P P 20 59 54.7 +1.4
MVU PcP 21 03 20.3 +2.1
P17A Butcher Ranch, 25.84 330 P P 20 59 54.5 +1.2
P17A IAmb IAmb 21 00 36.2
comp=Z,40nm,1.4s
ELS Elsinore Mount 25.90 312 P P 20 59 55.0 +1.1
TUQ Turquoise Moun 25.91 317 P P 20 59 56.2 +2.3
baz=128
N53A Lisbon 25.92 24 P P 20 59 52.2 -1.6
N53A Lisbon 25.92 24 P P 20 59 52.4 -1.4
baz=211,SNR=11
N53A P P 20 59 52.4 -1.4
baz=211,SNR=11
TMUT Trail Mountain 25.92 330 P P 20 59 56.1 +1.9
ECSD EROS Data Cent 26.02 357 P P 20 59 54.3 -0.4
ECSD IAmb IAmb 21 00 33.7
comp=Z,67nm,1.4s
ECSD EROS Data Cent 26.02 357 P P 20 59 54.4 -0.3
baz=175,SNR=16
ECSD EROS Data Cent 26.02 357 P P 20 59 54.9 +0.2
baz=176,SNR=16
TCRU Three Creeks R 26.02 327 P P 20 59 56.9 +1.8
P57A Homestead Farm 26.07 30 P P 20 59 53.9 -1.2
P57A Homestead Farm 26.07 30 P P 20 59 54.3 -0.8
baz=218
P57A P P 20 59 54.3 -0.8
baz=218
SHPR Sheep Range 26.09 320 P P 20 59 58.0 +2.3
RDMU Red Mountain 26.21 334 P P 20 59 58.0 +1.3
RWWY Rawlins 26.25 338 P P 20 59 57.7 +0.6
RWWY IAmb IAmb 20 59 59.1
comp=Z,35nm,1.1s
AAM Ann Arbor 26.25 19 P P 20 59 55.4 -1.3
AAM Ann Arbor 26.25 19 P P 20 59 55.4 -1.3
AAM pmax pmax
comp=Z,33nm,0.4s
MCRA Macar, Loja 26.26 145 eP P 20 59 59.2 +2.1
I37A Lemond, Waseca 26.27 2 P P 20 59 56.4 -0.5
I37A IAmb IAmb 20 59 57.4
comp=Z,26nm,0.7s
I37B Waseca 26.27 2 P P 20 59 56.7 -0.1
baz=182,SNR=6.3
PAMR Moraine State 26.33 25 P P 20 59 56.1 -1.4
baz=212
I40A Norwalk 26.34 7 P P 20 59 57.2 -0.3

M52A Chesterland 26.35 23 P P 20 59 56.1 -1.5
baz=209
M52A P P 20 59 56.1 -1.5
baz=209
BFSC Mount Baldy Ra 26.38 313 P P 21 00 00.0 +1.8
baz=123
GSC Goldstone, Bar 26.40 316 P P 21 00 00.2 +1.9
baz=126
CIS Catalina Islan 26.48 311 P P 21 00 01.6 +2.6
baz=120
M53A WI Miller and 26.52 24 P P 20 59 57.5 -1.7
M53A WI Miller and 26.52 24 P P 20 59 57.4 -1.7
baz=211,SNR=6.6
I42A Draeger Farm, 26.56 9 P P 21 00 00.5 +1.0
baz=192
PRN Pahroc Range 26.62 322 P P 21 00 02.7 +2.4
MPU Maple Canyon 26.69 330 P P 21 00 01.1 +0.2
QSM Queen of Sheba 26.84 317 P P 21 00 04.3 +2.2
QSM PcP 21 03 21.9 +1.6
GWY Greenwater Val 26.84 318 P P 21 00 04.1 +1.7
GWY PcP 21 03 22.2 +1.7
NLU North Lily Min 26.86 329 P P 21 00 04.5 +2.0
K22A Casper 26.87 340 P P 21 00 02.8 +0.3
K22A IAmb IAmb 21 01 01.0
comp=Z,35nm,1.2s
K22A Casper 26.87 340 P P 21 00 04.0 +1.5
baz=154
K22A Casper 26.87 340 P P 21 00 03.0 +0.5
baz=154
SUSD Miller 26.92 353 P P 21 00 02.6 -0.2
SUSD IAmb IAmb 21 00 03.7
comp=Z,38nm,0.8s
SUSD Miller 26.92 353 P P 21 00 03.0 +0.2
baz=170
SUSD Miller 26.92 353 P P 21 00 02.8 +0.1
baz=171
EDW2 Edwards Air Fo 26.97 314 P P 21 00 05.3 +2.0
baz=123
K50A Casco 27.01 20 P P 21 00 02.0 -1.5
K50A IAmb IAmb 21 00 02.3
comp=Z,46nm,1.1s
SSPA Standing Stone 27.04 29 P P 21 00 02.9 -0.8
baz=217
SSPA Standing Stone 27.04 29 P P 21 00 02.7 -1.1
baz=217
PSDB Penn State Uni 27.05 27 P P 21 00 03.7 -0.2
baz=215
TPNV Topopah Spring 27.05 319 P P 21 00 06.6 +2.4
TPNV Topopah Spring 27.05 319 P P 21 00 07.1 +2.9
baz=129,SNR=10
TPNV Topopah Spring 27.05 319 P P 21 00 06.6 +2.4
TPNV pmax pmax
comp=Z,22nm,1.2s
JLU Jordanelle 27.07 331 P P 21 00 06.3 +1.9
LRMC Laurel Mtn Rad 27.09 315 P P 21 00 06.4 +1.9
baz=125,SNR=5.7
FURC Furnace Creek, 27.14 318 P P 21 00 06.7 +2.0
baz=128
WCT Wildcat Mounta 27.19 319 P P 21 00 07.1 +1.8
S11A Rachel 27.19 321 P P 21 00 07.0 +1.5
S11A IAmb IAmb 21 00 57.8
comp=Z,29nm,1.3s
BAUV El Baul 27.24 105 P P 21 00 04.4 -1.5
CTU Camp Tracy 27.28 331 P P 21 00 08.0 +1.9
MVL Millersville 27.28 32 P P 21 00 04.5 -1.5
MVL IAmb IAmb 21 00 05.6
comp=Z,29nm,1.2s
MPMC Manual Prospec 27.30 317 P P 21 00 08.1 +1.6
baz=126,SNR=14
SPR3 Spring Creek 3 27.31 325 P P 21 00 07.7 +1.0
SPR3 IAmb IAmb 21 00 09.5
comp=Z,66nm,2.0s
SPR3 PcP PcP 21 03 23.3 +1.5
DUG Dugway, Tooele 27.40 329 P P 21 00 07.2 0.0
DUG Dugway, Tooele 27.40 329 P P 21 00 07.3 0.0
DUG pmax pmax
comp=Z,24nm,1.7s
TCUT Toone Canyon 27.46 332 P P 21 00 10.0 +2.2
TCUT IAmb IAmb 21 00 11.0
comp=Z,54nm,1.5s
SPMN Marine on St. 27.50 3 P P 21 00 07.1 -0.8
SPMN Marine on St. 27.50 3 P P 21 00 07.9 +0.1
baz=183,SNR=13
SPMN Marine on St. 27.50 3 P P 21 00 07.9 +0.1
baz=184,SNR=13
RSSD Black Hills 27.53 345 P P 21 00 08.9 +0.5
RSSD Black Hills 27.53 345 P P 21 00 09.7 +1.3
baz=160
RSSD Black Hills 27.53 345 P P 21 00 08.9 +0.5
RSSD pmax pmax
comp=Z,7.0nm,0.9s
R11A Troy Canyon, C 27.57 323 P P 21 00 10.4 +1.6
R11A Troy Canyon, C 27.57 323 P P 21 00 11.2 +2.4
baz=132,SNR=12
MTP Monte Pirata 27.64 85 P P 21 00 08.9 -0.6
MTP IAmb IAmb 21 00 48.0
comp=Z,22nm,0.9s
SCZ2 Santa Cruz Isl 27.66 311 P P 21 00 11.6 +2.1
baz=120
ARVC Arvin 27.68 314 P P 21 00 12.3 +2.7
baz=123
ISA Isabella, Lake 27.73 315 P P 21 00 12.0 +1.9
ISA PcP 21 03 24.7 +2.1
ISA Isabella, Lake 27.73 315 P P 21 00 12.1 +1.9
baz=124
G40A Rib Lake 27.75 7 P P 21 00 10.5 +0.5
baz=189
GRAC Grapevine Rang 27.78 318 P P 21 00 12.4 +1.9
GRAC IAmb IAmb 21 00 14.7
comp=Z,32nm,1.1s
GRAC Grapevine Rang 27.78 318 P P 21 00 12.9 +2.4
baz=128
CWC Cottonwood Cre 27.91 317 P P 21 00 14.0 +2.2
baz=126
HWUT Hardware Ranch 27.92 332 P P 21 00 13.3 +1.4
BW06 Boulder Array 28.05 336 P P 21 00 13.9 +0.9
BW06 Boulder Array 28.05 336 P P 21 00 14.1 +1.0
baz=148
PD31 Pinedale Array 28.05 336 P P 21 00 13.7 +0.6
PDAR Pinedale Array 28.05 336 P P 21 00 13.6 +0.6
comp=Z,1.1nm,0.7s,baz=140,slow=7.8,SNR=9.8
PDAR PcP PcP 21 03 23.3 -0.1
comp=Z,0.6nm,0.4s,baz=136,slow=5.1,SNR=8.4
PDAR LR LR 21 12 19.1
comp=Z,137nm,18.8s,baz=140,slow=38
comp=Z,1.1nm,0.7s
BGU Big Grassy Mou 28.07 329 P P 21 00 14.7 +1.5
SPUT South Promonto 28.09 331 P P 21 00 15.0 +1.6
LCH Last Change Ra 28.10 318 P P 21 00 15.9 +2.4
F33A 5 Mile Ranch, 28.11 357 P P 21 00 12.4 -0.8
F33A 5 Mile Ranch, 28.11 357 P P 21 00 12.7 -0.6
baz=176
F36A Milaca 28.11 2 P P 21 00 12.8 -0.5
F36A IAmb IAmb 21 00 54.6
comp=Z,39nm,1.2s
F36A Milaca 28.11 2 P P 21 00 13.2 -0.1
baz=182,SNR=11
WVNY West Valley, N 28.16 26 P P 21 00 13.1 -0.8
baz=214
MZP Montezuma Peak 28.23 320 P P 21 00 15.6 +0.9
PKM Mcpherson Peak 28.24 312 P P 21 00 17.1 +2.3
baz=121,SNR=6.0
VES Vestal, Richgr 28.24 315 P P 21 00 17.0 +2.4
baz=123,SNR=6.7
G45A Suttons Bay 28.28 13 P P 21 00 13.8 -1.1
baz=198
G45A P P 21 00 13.8 -1.1
baz=198
TPH Tonopah 28.36 320 P P 21 00 18.1 +2.2
TPH Tonopah 28.36 320 P P 21 00 18.1 +2.2
TPH pmax pmax
comp=Z,66nm,1.2s
TIN Tinemaha, Big 28.37 318 P P 21 00 18.1 +2.2
baz=126
DSP Deep Springs 28.39 318 P P 21 00 18.4 +2.5
SMMC Simmler 28.58 313 P P 21 00 19.6 +1.9
baz=121
HVU Hansel Valley 28.61 331 P P 21 00 19.7 +1.8
HVU Hansel Valley 28.61 331 P P 21 00 19.7 +1.8
HVU pmax pmax
comp=Z,13nm,1.1s
AHID Auburn Hatcher 28.66 334 P P 21 00 18.9 +0.4
AHID IAmb IAmb 21 01 00.6
comp=Z,69nm,1.9s
BRNJ Basking Ridge 28.70 33 P P 21 00 17.3 -1.2
baz=223

MMNY Mt. Morris Dam 28.72 26 P P 21 00 16.5 -2.2
MMNY IAmb IAmb 21 00 17.7
comp=Z,39nm,1.2s
E38A The Farm, Brul 28.95 4 P P 21 00 20.8 +0.1
baz=186
ECR Eagle Creek 29.02 334 P P 21 00 21.3 -0.3
ELK Elko 29.05 327 P P 21 00 22.9 +1.0
comp=Z,7.2nm,0.7s,baz=138,slow=6.7,SNR=38
ELK PcP PcP 21 03 26.8 +0.8
comp=Z,3.8nm,0.8s,baz=156,slow=1.4,SNR=7.6
comp=Z,7.2nm,0.7s
ELK Elko 29.05 327 P P 21 00 22.5 +0.5
ELK PcP 21 03 27.6 +1.6
ELK Elko 29.05 327 P P 21 00 22.5 +0.5
ELK 21 03 27.6
ELK pmax pmax
comp=Z,9.0nm,0.8s
REDW Red Top Meadow 29.06 335 P P 21 00 23.3 +1.3
REDW IAmb IAmb 21 00 25.5
comp=Z,57nm,1.4s
BINY Binghamton 29.15 29 P P 21 00 20.8 -1.7
baz=219
LOHW Long Hollow 29.17 336 P P 21 00 23.9 +0.9
TRNY Table Rock, Ra 29.21 33 P P 21 00 21.3 -1.8
TRNY IAmb IAmb 21 00 22.9
comp=Z,34nm,1.1s
E28A Huff 29.24 351 P P 21 00 23.8 +0.4
E28A Huff 29.24 351 P P 21 00 24.2 +0.9
baz=168,SNR=7.1
NVAR Mina Array Bea 29.25 320 P P 21 00 24.5 +0.8
comp=Z,26nm,0.8s,baz=152,slow=6.7,SNR=8.0
comp=Z,26nm,0.8s
MDPB Devils Postpil 29.25 318 P P 21 00 26.2 +2.3
PAL Palisades 29.27 33 P P 21 00 21.9 -1.7
baz=223
PAL Palisades 29.27 33 P P 21 00 21.4 -2.2
baz=223
E43A Lone Tree Farm 29.30 11 P P 21 00 22.7 -1.1
baz=195
MOOW Moose Ponds 29.34 336 P P 21 00 26.1 +1.6
ATAH Atahualpa 29.41 146 P P 21 00 29.5 +4.0
comp=Z,20nm,0.8s,baz=35,slow=4.9,SNR=12
RYN Ryan 29.50 320 P P 21 00 27.8 +1.8
RYN IAmb IAmb 21 00 30.0
comp=Z,31nm,1.3s
KVN Kaiserville 29.51 321 P P 21 00 28.5 +2.5
KVN IAmb IAmb 21 00 29.8
comp=Z,23nm,1.1s
KVN Kaiserville 29.51 321 P P 21 00 28.5 +2.5
KVN pmax pmax
comp=Z,23nm,1.1s
BRNY Black Rk. Fore 29.52 32 P P 21 00 25.1 -0.7
baz=223
L59A Walton 29.59 30 P P 21 00 25.3 -1.2
baz=220
L59A P P 21 00 25.3 -1.2
baz=220
FLWY Flagg Ranch 29.60 336 P P 21 00 28.5 +1.7
FLWY IAmb IAmb 21 01 30.9
comp=Z,40nm,1.8s
PMPB Monarch Peak 29.61 314 P P 21 00 29.1 +2.3
PMPB IAmb IAmb 21 00 29.8
comp=Z,31nm,1.1s
H17A Grant Village 29.82 337 P P 21 00 29.2 +0.4
H17A Grant Village 29.82 337 P P 21 00 31.5 +2.7
baz=148,SNR=5.1
LKWY Lake 29.90 337 P P 21 00 32.1 +2.6
LKWY Lake 29.90 337 P P 21 00 32.1 +2.6
LKWY pmax pmax
comp=Z,14nm,1.2s
BMN Battle Mountai 29.91 324 P P 21 00 31.4 +1.9
BMN IAmb IAmb 21 00 33.0
comp=Z,18nm,1.0s
BMN Battle Mountai 29.91 324 P P 21 00 31.4 +1.9
BMN pmax pmax
comp=Z,18nm,1.0s
SADO Sadowa 29.95 22 P P 21 00 27.7 -1.9
comp=Z,8.1nm,0.3s,baz=235,slow=8.7,SNR=16
comp=Z,8.1nm,0.3s
SADO Sadowa 29.95 22 P P 21 00 28.3 -1.3
SADO IAmb IAmb 21 00 29.5
comp=Z,18nm,0.9s
RLMT Red Lodge 29.98 339 P P 21 00 31.4 +1.3
RLMT IAmb IAmb 21 00 32.5
comp=Z,28nm,1.4s
RLMT Red Lodge 29.98 339 P P 21 00 30.0 -0.1
baz=151,SNR=7.8
YUF Upper Falls 30.07 337 P P 21 00 30.5 -0.4
J57A Williamstown 30.09 28 P P 21 00 29.0 -1.8
J57A IAmb IAmb 21 00 30.2
comp=Z,41nm,1.1s
J57A Williamstown 30.09 28 P P 21 00 29.8 -1.0
baz=217
J57A P P 21 00 29.8 -1.0
baz=217
YNR Norris Junctio 30.13 337 P P 21 00 32.4 +0.9
YERR Yerington 30.17 320 P P 21 00 34.4 +2.6
YERR IAmb IAmb 21 00 35.7
comp=Z,40nm,1.5s
YMR Madison River 30.20 336 P P 21 00 33.8 +1.7
YMR IAmb IAmb 21 00 35.3
comp=Z,36nm,1.4s
EYMN Ely 30.29 4 P P 21 00 31.9 -0.6
EYMN IAmb IAmb 21 01 10.0
comp=Z,42nm,1.4s
EYMN Ely 30.29 4 P P 21 00 32.1 -0.4
baz=186,SNR=5.1
EYMN Ely 30.29 4 P P 21 00 32.1 -0.4
baz=186,SNR=5.1
DELO Deloro Mine 30.32 24 P P 21 00 30.8 -2.0
DELO IAmb IAmb 21 00 32.1
comp=Z,61nm,1.4s
CMB Columbia Colle 30.33 317 P P 21 00 34.0 +0.9
CMB Columbia Colle 30.33 317 P P 21 00 34.0 +0.9
CMB pmax pmax
comp=Z,10.0nm,1.2s
MDND Maddock 30.36 353 P P 21 00 33.1 0.0
MDND Maddock 30.36 353 P P 21 00 33.6 +0.5
baz=170,SNR=10
MDND Maddock 30.36 353 P P 21 00 33.1 0.0
baz=170,SNR=10
J58A Remsen 30.38 29 P P 21 00 32.0 -1.3
baz=218
J58A P P 21 00 32.0 -1.3
baz=218
PNTR Pine Nut 30.45 320 P P 21 00 35.5 +1.2
PNTR IAmb IAmb 21 00 38.3
comp=Z,21nm,1.0s
LAO LASA Array 30.47 344 P P 21 00 34.8 +0.6
baz=158
QLMT Earthquake Lak 30.52 336 P P 21 00 35.6 +0.8
M63A Gales Ferry 30.55 35 P P 21 00 33.3 -1.5
baz=226
M63A P P 21 00 33.3 -1.5
baz=226
AGMN Agassiz Nation 30.55 358 P P 21 00 34.3 -0.5
AGMN Agassiz Nation 30.55 358 P P 21 00 34.5 -0.3
baz=177,SNR=51
AGMN Agassiz Nation 30.55 358 P P 21 00 34.0 -0.8
baz=178,SNR=51
VCNR Virginia City 30.61 320 P P 21 00 35.7 0.0
GCMT Greycliff 30.70 339 P P 21 00 36.0 -0.3
HLID Hailey 30.75 331 P P 21 00 38.1 +1.2
HLID Hailey 30.75 331 P P 21 00 38.5 +1.6
baz=141,SNR=13
BCYI Bear Canyon 30.90 333 P P 21 00 38.6 +0.4
L61B Northampton 30.95 33 P P 21 00 35.9 -2.6
baz=224
MCMT McKenzie Canyo 31.08 334 P P 21 00 42.1 +2.3
AFDM Forest Hills D 31.23 318 P P 21 00 42.0 +1.0
BOZ Bozeman (W) 31.24 337 P P 21 00 42.5 +1.4
BOZ Bozeman (W) 31.24 337 P P 21 00 42.9 +1.8
baz=147,SNR=5.1
BOZ Bozeman (W) 31.24 337 P P 21 00 42.5 +1.4
BOZ pmax pmax
comp=Z,15nm,1.3s
MFID Camas Ranch 31.31 329 P P 21 00 43.0 +1.3
LONY Lake Ozonia 31.68 28 P P 21 00 43.1 -1.6
baz=218
DGMT Dagmar 31.68 348 P P 21 00 45.4 +0.6
DGMT IAmb IAmb 21 00 46.7
comp=Z,23nm,1.0s
DGMT Dagmar 31.68 348 P P 21 00 46.0 +1.2
baz=162,SNR=6.4
DGMT Dagmar 31.68 348 P P 21 00 45.4 +0.6
baz=162,SNR=6.4

LRM Limekiln Ridge 31.74 336 P P 21 00 46.9 +1.3
WVOR Wild Horse Val 32.05 325 P P 21 00 49.4 +1.2
WVOR IAmb IAmb 21 00 51.2
comp=Z,18nm,1.0s
WVOR Wild Horse Val 32.05 325 P P 21 00 49.4 +1.2
WVOR pmax pmax
comp=Z,18nm,1.0s
HRY Holter Researc 32.25 338 P P 21 00 50.5 +0.6
SGCB StZo Gabriel d 32.40 120 eP P 21 00 49.1 -2.3
ULM Lac du Bonnet 32.50 358 P P 21 00 51.1 -0.8
comp=Z,14nm,0.5s,baz=179,slow=9.6,SNR=26
comp=Z,14nm,0.5s
ULM Lac du Bonnet 32.50 358 P P 21 00 50.8 -1.0
ULM IAmb IAmb 21 00 51.5
comp=Z,20nm,0.7s
ULM Lac du Bonnet 32.50 358 P P 21 00 50.8 -1.0
ULM pmax pmax
comp=Z,20nm,0.7s
J08A Circle Bar Ran 32.60 327 P P 21 00 54.2 +1.2
MOD Modoc Plateau 32.63 323 P P 21 00 54.7 +1.4
LBNH Lisbon 32.63 31 P P 21 00 51.6 -1.5
baz=223
PLID Pearl Lake 32.66 331 P P 21 00 54.4 +0.9
PLID IAmb IAmb 21 00 56.0
comp=Z,44nm,1.4s
EGMT Eagleton 32.70 341 P P 21 00 54.9 +1.1
EGMT IAmb IAmb 21 00 56.2
comp=Z,77nm,1.8s
EGMT Eagleton 32.70 341 P P 21 00 54.3 +0.6
baz=152,SNR=6.3
MNTQ Montreal, Que 32.79 28 P P 21 00 52.7 -1.7
MNTQ IAmb IAmb 21 00 54.2
comp=Z,23nm,0.7s
TRQ Mont Tremblant 32.96 26 P P 21 00 54.7 -1.3
TRQ IAmb IAmb 21 01 36.3
comp=Z,88nm,1.7s
BMO Blue Mountains 33.09 330 P P 21 00 57.8 +0.6
BMO Blue Mountains 33.09 330 P P 21 00 57.8 +0.6
BMO pmax pmax
comp=Z,23nm,1.5s
MSO Missoula 33.16 335 P P 21 00 59.0 +1.2
MSO IAmb IAmb 21 01 00.1
comp=Z,26nm,1.2s
MSO Missoula 33.16 335 P P 21 00 58.8 +1.0
baz=145,SNR=9.2
I63A Otisfield 33.17 32 P P 21 00 56.4 -1.4
baz=225
I63A P P 21 00 56.4 -1.4
baz=225
CZSB Cruzeiro do Su 33.26 138 P P 21 01 01.1 +2.2
CZSB IAmb IAmb 21 01 03.1
comp=Z,81nm,0.8s
CZSB Cruzeiro do Su 33.26 138 eP P 21 01 01.1 +2.2
I07A Izee 33.64 327 P P 21 01 03.2 +1.3
KMRM Mail Ridge 33.69 318 P P 21 01 04.7 +2.2
F10A Beach Ranch, E 33.89 331 P P 21 01 04.7 +0.6
F10A IAmb IAmb 21 01 06.2
comp=Z,38nm,1.1s
G62A West of Eustis 34.02 31 P P 21 01 04.2 -1.0
baz=224
G62A P P 21 01 04.2 -1.0
baz=224
KMPM Mount Pierce 34.06 318 P P 21 01 07.5 +1.9
PINE Pine Mountain 34.21 325 P P 21 01 08.1 +1.1
G08A Pilot Rock 34.21 329 P P 21 01 07.0 +0.1
G08A PcP 21 03 41.3 +1.5
NNA Nana 34.31 148 P P 21 01 10.4 +2.4
NNA IAmb IAmb 21 01 13.5
comp=Z,35nm,1.1s
NNA Nana 34.31 148 P P 21 01 10.4 +2.4
NNA pmax pmax
comp=Z,35nm,1.2s
LATQ La Tuque 34.62 26 P P 21 01 08.3 -2.0
LATQ IAmb IAmb 21 01 10.8
comp=Z,68nm,1.5s
E09A Wood Farm, Sta 34.72 331 P P 21 01 11.7 +0.6
F62A Pittston Farm, 34.79 31 P P 21 01 10.7 -1.0
baz=224
F62A P P 21 01 10.7 -1.0
baz=224
WALA Waterton Lakes 34.99 338 P P 21 01 14.9 +1.4
H04A Detroit Lake 35.47 325 P P 21 01 19.1 +1.5
H04A IAmb IAmb 21 01 20.1
comp=Z,41nm,1.3s
D08A Wollman Farm, 35.48 331 P P 21 01 18.4 +0.9
E62A Clayton Lake 35.52 30 P P 21 01 17.5 -0.5
baz=224
E62A P P 21 01 17.5 -0.5
baz=224
G65A Princeton 35.52 34 P P 21 01 16.4 -1.5
baz=228
G65A P P 21 01 16.4 -1.5
baz=228
HOOD Mount Hood Mea 35.61 327 P P 21 01 20.6 +1.7
HOOD IAmb IAmb 21 01 22.2
comp=Z,51nm,1.1s
C09A Chrisman Ranch 35.74 332 P P 21 01 20.4 +0.5
C09A IAmb IAmb 21 01 22.2
comp=Z,24nm,1.1s
E63A Oxbow 35.92 31 P P 21 01 20.1 -1.3
baz=226
E63A P P 21 01 20.1 -1.3
baz=226
D62A Allapoint, All 36.08 30 P P 21 01 21.9 -0.8
D62A Allapoint, All 36.08 30 P P 21 01 22.3 -0.3
baz=224
D62A P P 21 01 22.3 -0.3
baz=224
TEFE Tefe 36.30 123 eP P 21 01 25.0 0.0
LTY Liberty 36.45 330 P P 21 01 26.8 +0.9
LTY IAmb IAmb 21 01 28.4
comp=Z,39nm,1.4s
B08A Colville Reser 36.63 332 P P 21 01 28.3 +0.9
LON Longmire 36.65 328 P P 21 01 28.6 +1.0
LON IAmb IAmb 21 01 30.4
comp=Z,34nm,1.4s
LON Longmire 36.65 328 P P 21 01 28.6 +1.0
LON pmax pmax
comp=Z,34nm,1.5s
BOAV Boa Vista 36.74 111 eP P 21 01 25.9 -2.8
FFC Flin Flon 37.40 353 P P 21 01 33.6 -0.1
FFC Flin Flin 37.40 353 P P 21 01 33.6 -0.1
FFC pmax pmax
comp=Z,135nm,2.0s
FFC Flin Flon 37.40 353 P P 21 01 33.9 +0.2
E03A Lebam 37.42 327 P P 21 01 35.2 +1.3
E03A IAmb IAmb 21 01 38.2
comp=Z,38nm,1.2s
NLWA Neilton Lookou 38.13 327 P P 21 01 41.5 +1.5
NLWA IAmb IAmb 21 01 43.0
comp=Z,29nm,1.3s
EDM Edmonton 38.36 342 P P 21 01 41.7 -0.2
EDM IAmb IAmb 21 01 43.6
comp=Z,26nm,1.0s
EDM Edmonton 38.36 342 P P 21 01 41.7 -0.2
EDM pmax pmax
comp=Z,26nm,1.0s
PGC Sidney 38.76 329 P P 21 01 45.6 +0.4
PGC IAmb IAmb 21 01 47.4
comp=Z,22nm,1.1s
ETMB Extrema 39.16 132 P P 21 01 47.4 -1.6
ETMB IAmb IAmb 21 03 01.4
comp=Z,9.5nm,1.4s
ETMB Extrema 39.16 132 eP P 21 01 47.7 -1.3
LLLB Lillooet 39.41 333 P P 21 01 51.3 +0.7
LLLB IAmb IAmb 21 01 53.0
comp=Z,42nm,1.3s
BRLDA Berland Lookou 40.38 339 P P 21 01 59.2 +0.5
SAML Samuel 40.79 128 P P 21 02 00.1 -2.3
SAML Samuel 40.79 128 P P 21 02 00.1 -2.3
SAML pmax pmax
comp=Z,5.0nm,1.2s
SAML Samuel 40.79 128 P P 21 01 59.7 -2.7
SAML pP pP 21 02 35.1 -4.2
FCC Fort Churchill 41.02 0 P P 21 02 02.8 -0.8
FCC IAmb IAmb 21 02 43.7
comp=Z,31nm,1.2s
FCC Fort Churchill 41.02 0 P P 21 02 02.8 -0.8
FCC pmax pmax
comp=Z,31nm,1.2s
WAPA Wapiti River 41.90 339 P P 21 02 11.6 +0.6
SCHQ Schefferville 42.75 23 P P 21 02 16.1 -1.8
comp=Z,7.9nm,0.7s,baz=69,slow=18,SNR=10
SCHQ pP pP 21 02 53.8 -0.9
comp=Z,16nm,1.0s,baz=222,slow=7.2,SNR=4.9
comp=Z,7.9nm,0.7s
SCHQ Schefferville 42.75 23 P P 21 02 16.5 -1.3
SCHQ IAmb IAmb 21 02 55.7
comp=Z,27nm,1.1s
PB12 IPOC Station P 43.26 145 P P 21 02 22.3 -0.1
PB12 IAmb IAmb 21 02 26.3
comp=Z,48nm,1.0s
PB16 IPOC Station P 43.48 144 P P 21 02 26.8 +2.0
PB16 IAmb IAmb 21 02 29.3
comp=Z,33nm,0.8s
HILA High Level 44.02 343 P P 21 02 27.9 0.0
MNMC Minye Minye 44.08 145 P P 21 02 31.1 +1.9
PSGCX Pisagua 44.17 146 P P 21 02 30.7 +1.1
PSGCX IAmb IAmb 21 02 34.3
comp=Z,30nm,0.9s
ITTB Itaituba 44.17 116 eP P 21 02 26.8 -2.9
MALB Monte Alegre 44.23 112 eP P 21 02 28.6 -1.6
PB11 IPOC Station P 44.56 146 P P 21 02 33.9 +1.1
GO01 Chusmiza 44.73 145 P P 21 02 36.4 +1.9
GO01 IAmb IAmb 21 02 39.3
comp=Z,72nm,1.1s
TA01 Diego Aracena 44.94 147 P P 21 02 36.8 +1.2
TA01 IAmb IAmb 21 02 40.6
comp=Z,48nm,0.9s
MCPB Macapa, AP 45.54 109 eP P 21 02 37.9 -2.7
VILB Vilhena 45.61 130 P P 21 02 40.2 -0.8
VILB IAmb IAmb 21 02 42.2
comp=Z,22nm,1.0s
VILB Vilhena 45.61 130 eP P 21 02 40.0 -1.1
PB01 IPOC Station P 45.69 146 P P 21 02 43.6 +1.9
PB01 IAmb IAmb 21 02 46.1
comp=Z,20nm,0.8s
PB02 IPOC Station P 45.71 147 P P 21 02 43.2 +1.4
NPGB Novo Progresso 45.90 119 eP P 21 02 40.0 -3.4
PB07 IPOC Station P 46.05 147 P P 21 02 45.9 +1.3
PB07 IAmb IAmb 21 02 49.7
comp=Z,31nm,0.9s
PB03 IPOC Station P 46.38 147 P P 21 02 48.0 +0.9
PB03 IAmb IAmb 21 02 51.8
comp=Z,39nm,1.1s
PB04 IPOC Station P 46.42 148 P P 21 02 48.8 +1.3
PB04 IAmb IAmb 21 02 52.7
comp=Z,41nm,1.1s
PB09 IPOC Station P 46.44 147 P P 21 02 49.3 +1.7
PB09 IAmb IAmb 21 02 53.2
comp=Z,47nm,1.1s
YKA Yellowknife Ar 46.89 347 P P 21 02 50.2 -0.1
comp=Z,9.4nm,0.9s,baz=153,slow=7.6,SNR=78
YKA pP pP 21 03 28.8 +0.9
comp=Z,2.9nm,0.8s,baz=153,slow=7.6,SNR=3.9
YKA PcP PcP 21 04 20.2 0.0
comp=Z,1.8nm,0.8s,baz=156,slow=3.3,SNR=6.4
YKA PP PP 21 04 44.3 +2.0
comp=Z,10nm,1.2s,baz=149,slow=9.7,SNR=6.8
YKA ScP ScP 21 07 59.3 +1.2
comp=Z,1.0nm,1.0s,baz=146,slow=4.0,SNR=4.6
comp=Z,9.4nm,0.9s
YKA Yellowknife Ar 46.89 347 P P 21 02 49.8 -0.5
YKA Yellowknife Ar 46.89 347 P P 21 02 49.8 -0.5
V35K Ketchikan 46.93 332 P P 21 02 52.9 +2.1
baz=128
PB06 IPOC Station P 47.02 148 P P 21 02 53.3 +1.2
PB06 IAmb IAmb 21 02 56.8
comp=Z,30nm,1.0s
LVC Limon Verde 47.28 147 P P 21 02 56.4 +2.1
comp=Z,20nm,0.8s,baz=318,slow=5.8,SNR=12
comp=Z,20nm,0.8s
LVC Limon Verde 47.28 147 P P 21 02 55.9 +1.5
LVC IAmb IAmb 21 02 59.4
comp=Z,21nm,0.8s
LVC Limon Verde 47.28 147 P P 21 02 55.9 +1.5
LVC pmax pmax
comp=Z,21nm,0.8s
LVC Limon Verde 47.28 147 eP P 21 02 56.5 +2.1
LVC Limon Verde 47.28 147 P P 21 02 56.5 +2.1
KOTAN Kotaneelee Air 47.39 340 P P 21 02 55.0 +0.7
baz=140
PDRB Porto dos Gac 47.40 125 eP P 21 02 52.2 -2.8
T35M Bob Quinn 47.40 334 P P 21 02 56.7 +2.3
baz=131
CLDB Colider 47.69 124 eP P 21 02 55.1 -2.2
PTLB Pontes e Lacer 48.03 131 P P 21 02 58.8 -1.0
PTLB IAmb IAmb 21 03 01.3
comp=Z,32nm,1.6s
PTLB Pontes e Lacer 48.03 131 eP P 21 02 58.5 -1.2
BBSD Serra de San D 48.18 134 eP P 21 03 00.6 -0.3
PB14 IPOC Station P 48.22 150 P P 21 03 03.0 +1.5
PB14 IAmb IAmb 21 03 06.6
comp=Z,22nm,0.9s
DLBC Dease Lake 48.28 336 LR LR 21 23 54.3
comp=Z,102nm,20.1s,baz=169,slow=36
DLBC Dease Lake 48.28 336 P P 21 03 03.0 +1.7
DLBC IAmb IAmb 21 03 05.1
comp=Z,31nm,0.9s
DLBC Dease Lake 48.28 336 P P 21 03 03.3 +2.1
baz=132,SNR=10
S34M Telegraph Cree 48.37 335 P P 21 03 03.6 +1.7
baz=131
T33K Petersburg 48.44 333 P P 21 03 03.9 +1.5
baz=128
WTLY Watson Lake, Y 48.98 338 P P 21 03 08.0 +1.5
WTLY IAmb IAmb 21 03 09.2
comp=Z,37nm,1.2s
WTLY Watson Lake, Y 48.98 338 P P 21 03 07.5 +1.0
baz=135,SNR=6.9
PTET Porto Estrela 49.42 129 eP P 21 03 09.3 -1.1
BBRB Robore, Bolivi 49.48 134 eP P 21 03 10.3 -0.6
Q32M Nakina River 49.51 335 P P 21 03 13.1 +2.4
baz=130
NBRS Nobres 49.79 127 eP P 21 03 11.5 -1.7
PRPB Parauapebas 50.18 114 eP P 21 03 14.8 -1.4
BBLB La Banda, Boli 50.44 134 eP P 21 03 17.7 -0.3
P32M Atlin 50.48 335 P P 21 03 19.6 +1.7
baz=129
POCN Pocone 50.53 130 eP P 21 03 19.0 +0.3
AC06 Mina Casimiro 50.58 152 P P 21 03 20.9 +1.9
AC06 IAmb IAmb 21 03 21.4
comp=Z,16nm,0.7s
AC02 Maricunga 50.70 150 P P 21 03 20.8 +0.3
AC02 IAmb IAmb 21 03 26.3
comp=Z,21nm,1.0s
SALV Santo Antonio 50.84 129 eP P 21 03 20.0 -1.1
SKAG Skagway 51.05 335 P P 21 03 23.9 +1.9
baz=127
N32M Quiet Lake 51.24 337 P P 21 03 25.7 +2.2
baz=130
PLBC Pleasant Camp 51.48 334 P P 21 03 26.8 +1.6
baz=126
WHY Whitehorse 51.61 336 P P 21 03 27.6 +1.3
baz=128
LCO Las Campanas 51.85 153 P P 21 03 30.4 +1.7
LCO IAmb IAmb 21 03 31.6
comp=Z,38nm,1.1s
LCO Las Campanas 51.85 153 P P 21 03 30.4 +1.7
LCO pmax pmax
comp=Z,38nm,1.2s
LCO Las Campanas 51.85 153 P P 21 03 30.4 +1.7
AC05 El Transito 51.89 153 P P 21 03 31.0 +2.2
AC05 IAmb IAmb 21 03 35.0
comp=Z,28nm,1.1s
SNDB Serra Nova Dou 51.94 122 eP P 21 03 28.1 -1.1
FARO Faro, Yukon 52.04 338 P P 21 03 31.1 +1.7
FARO Faro, Yukon 52.04 338 P P 21 03 30.6 +1.2
baz=131,SNR=5.4
P30M Million Dollar 52.11 335 P P 21 03 32.1 +2.1
baz=126
O30N Mendenhall 52.15 336 P P 21 03 32.4 +2.2
baz=127,SNR=6.1
PANT Pantanal (Braz 52.17 132 eP P 21 03 30.5 -0.5
M31M Drury Creek, Y 52.40 338 P P 21 03 34.0 +2.0
M31M Drury Creek, Y 52.40 338 P P 21 03 33.6 +1.6
baz=130,SNR=5.9
N31M Braeburn, Yuko 52.46 337 P P 21 03 34.6 +2.1
N31M IAmb IAmb 21 03 35.5
comp=Z,43nm,1.1s
N31M Braeburn, Yuko 52.46 337 P P 21 03 34.8 +2.3
baz=128
PP1B Ponte de Pedra 52.52 130 eP P 21 03 34.1 +0.6
HYT Haines Junctio 52.74 335 P P 21 03 37.4 +2.7
HYT IAmb IAmb 21 03 38.0
comp=Z,19nm,1.2s
HYT Haines Junctio 52.74 335 P P 21 03 37.0 +2.3
baz=125
PNL Peninsula 52.87 333 P P 21 03 37.7 +2.2
baz=123

O29M	Mount Kennedy	52.88 334	P	P	21 03 38.1	+2.4
	baz=124					
CO01	Juntas del Tor	52.95 153	P	P	21 03 39.0	+2.2
BDQN	Bodoquena, MS	53.06 134	eP	P	21 03 37.1	-0.3
YUK6	Outpost Mounta	53.15 335	P	P	21 03 40.1	+2.3
	baz=124					
MURT	Porto Murtinho	53.31 136	eP	P	21 03 38.7	-0.5
RVDE	Rio Verde (Bra	53.39 131	eP	P	21 03 39.5	-0.4
SMTB	Santa Maria do	53.41 116	eP	P	21 03 39.0	-1.1
CO03	El Pedregal	53.45 154	P	P	21 03 41.7	+1.5
CO03			IAmb	IAmb	21 03 43.1	
	comp=Z,37nm,0.8s					
PINM	Pinnacle	53.47 334	P	P	21 03 42.1	+2.2
	baz=122					
YUK4	Talbot Arm	53.49 335	P	P	21 03 42.2	+1.9
	baz=125					
M30M	Minto, Yukon	53.51 337	P	P	21 03 41.9	+1.7
M30M			IAmb	IAmb	21 03 43.0	
	comp=Z,43nm,1.2s					
M30M	Minto, Yukon	53.51 337	P	P	21 03 41.7	+1.5
	baz=127,SNR=10					
CO02	Combarbal	53.64 155	P	P	21 03 43.5	+1.9
CO02			IAmb	IAmb	21 03 44.5	
	comp=Z,34nm,0.8s					
ARAG	Araguaiana, MT	53.66 126	eP	P	21 03 40.7	-1.2
O28M	Mount Upton	53.80 334	P	P	21 03 43.8	+1.1
	baz=122					
AQDB	Aquidauana	53.81 133	P	P	21 03 42.9	+0.1
AQDB			IAmb	IAmb	21 03 44.4	
	comp=Z,20nm,1.1s					
AQDB	Aquidauana	53.81 133	eP	P	21 03 42.4	-0.4
YUK8	Steele Glacier	53.91 335	P	P	21 03 45.4	+2.0
	baz=123					
DVLD	Doverlandia	53.95 127	eP	P	21 03 43.9	-0.1
M29M	Somme Creek	54.05 337	P	P	21 03 46.3	+2.0
	baz=125,SNR=37					
L29M	L29M	54.32 337	P	P	21 03 47.8	+1.8
	baz=126					
YUK3	Moose Creek	54.46 335	P	P	21 03 49.1	+1.8
	baz=123,SNR=6.0					
K29M	Barlow Dome	54.54 338	P	P	21 03 48.4	+0.7
	baz=127					
ANTJ	Antonio Joao (	54.62 135	eP	P	21 03 49.1	+0.3
VA06	Catapilco	54.72 156	P	P	21 03 51.0	+1.8
ZON	Zonda	54.92 153	P	P	21 03 52.9	+2.2
ZON			IAmb	IAmb	21 03 54.0	
	comp=Z,18nm,0.9s					
ZON	Zonda	54.92 153	P	P	21 03 52.9	+2.2
ZON			pmax	pmax		
	comp=Z,18nm,0.9s					
BVCY	Beaver Creek	54.96 336	P	P	21 03 52.5	+1.8
	baz=123,SNR=6.3					
ESFA	Espinillo Form	55.09 139	eP	P	21 03 53.5	+1.5
CFA	Coronel Fontan	55.16 152	P	P	21 03 54.2	+1.8
	comp=Z,13nm,0.7s,baz=330,slow=7.5,SNR=4.1					
	comp=Z,13nm,0.7s					
VA03	San Esteban	55.19 155	P	P	21 03 54.9	+2.1
ROC1	El Roble	55.20 156	P	P	21 03 53.9	+0.9
ROC1			IAmb	IAmb	21 04 03.4	
	comp=Z,41nm,1.1s					
MCARA	McCarthy VSAT	55.30 334	P	P	21 03 55.7	+2.6
MCARA	McCarthy VSAT	55.30 334	P	P	21 03 55.7	+2.6
	baz=120,SNR=11					
M27K	Edge Creek, AK	55.33 335	P	P	21 03 55.2	+1.8
M27K	Edge Creek, AK	55.33 335	P	P	21 03 54.7	+1.2
	baz=122					
DAWY	Dawson	55.34 338	P	P	21 03 54.0	+0.6
DAWY	Dawson	55.34 338	P	P	21 03 53.9	+0.6
	baz=125,SNR=6.4					
VRDI	Verde Repeater	55.40 334	P	P	21 03 56.3	+2.3
VRDI			IAmb	IAmb	21 03 56.9	
	comp=Z,30nm,1.1s					
PEL	Peldehue	55.47 156	P	P	21 03 56.3	+1.6
PEL	Peldehue	55.47 156	P	P	21 03 56.3	+1.6
PEL			pmax	pmax		
	comp=Z,33nm,0.8s					
PEL	Peldehue	55.47 156	P	P	21 03 56.7	+2.0
GLB	Gilahina Butte	55.66 334	P	P	21 03 57.4	+1.8
GLB			IAmb	IAmb	21 03 59.1	
	comp=Z,34nm,1.0s					
BCAR	Beaver Creek A	55.67 336	P	P	21 03 56.6	+0.9
F31M	Tsiigehtchic	55.67 343	P	P	21 03 55.8	+0.2
	baz=133,SNR=7.1					
L27K	Beaver Creek,	55.69 336	P	P	21 03 56.9	+1.0
L27K			IAmb	IAmb	21 03 58.7	
	comp=Z,34nm,1.1s					
L27K	Beaver Creek,	55.69 336	P	P	21 03 57.2	+1.3
	baz=122					
I29M	Ogilvie Camp,	55.73 339	P	P	21 03 55.9	-0.2
I29M	Ogilvie Camp,	55.73 339	P	P	21 03 56.6	+0.5
	baz=127					
BMRM	Bremner River	55.77 333	P	P	21 03 58.9	+2.5
BMRM			IAmb	IAmb	21 04 00.0	
	comp=Z,27nm,1.0s					
BMRM	Bremner River	55.77 333	P	P	21 03 58.2	+1.8
	baz=118					
M26K	Nabesna, AK	55.80 335	P	P	21 03 58.7	+2.0
M26K			IAmb	IAmb	21 03 59.7	
	comp=Z,35nm,1.1s					
M26K	Nabesna, AK	55.80 335	P	P	21 03 58.3	+1.6
	baz=120					
MT09	Talagante	55.91 156	P	P	21 03 59.4	+1.5
MT09			IAmb	IAmb	21 04 00.7	
	comp=Z,33nm,0.9s					
AMBA	Amambai (Brazi	55.94 135	eP	P	21 03 58.5	+0.4
N25K	Chitina, Valde	56.07 334	P	P	21 04 00.9	+2.3
N25K	Chitina, Valde	56.07 334	P	P	21 04 00.3	+1.7
	baz=118,SNR=8.3					
G30M	tAoh Zrail Nji	56.09 342	P	P	21 03 59.1	+0.5
	baz=130					
INK	Inuvik	56.21 344	P	P	21 03 59.5	+0.1
INK			IAmb	IAmb	21 04 01.0	
	comp=Z,42nm,1.4s					
INK	Inuvik	56.21 344	P	P	21 03 59.9	+0.5
	baz=134,SNR=17					
INK	Inuvik	56.21 344	P	P	21 03 59.5	+0.1
INK			pmax	pmax		
	comp=Z,42nm,1.4s					
BO04	La Punta	56.25 156	P	P	21 04 02.1	+1.9
L26K	Log Cabin Wild	56.26 336	P	P	21 04 01.5	+1.6
L26K			IAmb	IAmb	21 04 02.9	
	comp=Z,25nm,1.4s					
L26K	Log Cabin Wild	56.26 336	P	P	21 04 01.1	+1.3
	baz=120,SNR=6.2					
LMEL	Las Melosas	56.28 156	P	P	21 04 02.0	+1.5
DIV	Divide	56.35 333	P	P	21 04 02.6	+2.0
EGAK	Eagle	56.37 338	P	P	21 04 00.9	+0.3
EGAK			IAmb	IAmb	21 04 02.3	
	comp=Z,18nm,1.2s					
EGAK	Eagle	56.37 338	P	P	21 04 01.6	+0.9
	baz=124,SNR=6.0					
BO01	Tunca	56.42 157	P	P	21 04 02.6	+1.3
BO01			IAmb	IAmb	21 04 04.3	
	comp=Z,25nm,0.8s					
KLU	Klutina	56.58 333	P	P	21 04 04.5	+2.3
KLU			IAmb	IAmb	21 04 05.5	
	comp=Z,35nm,1.0s					
KLU	Klutina	56.58 333	P	P	21 04 04.2	+1.9
	baz=117,SNR=6.4					
BDFB	Brasilia	56.62 123	P	P	21 04 03.2	0.0
	comp=Z,3.6nm,0.4s,baz=310,slow=8.0,SNR=7.8					
	comp=Z,3.6nm,0.4s					
BDFB	Brasilia	56.62 123	P	P	21 04 03.1	-0.1
BDFB	Brasilia	56.62 123	P	P	21 04 03.1	-0.1
BDFB			pmax	pmax		
	comp=Z,12nm,1.1s					
BDFB	Brasilia	56.62 123	eP	P	21 04 02.6	-0.6
GO05	Huala	56.66 158	P	P	21 04 04.8	+1.7
GO05			IAmb	IAmb	21 04 10.2	
	comp=Z,32nm,0.9s					
HARP	HAARP	56.68 335	P	P	21 04 04.7	+1.9
	baz=118					
CPUP	Villa Florida	56.80 139	P	P	21 04 03.7	-0.4
	comp=Z,8.3nm,0.8s,baz=332,slow=6.2,SNR=16					
	comp=Z,8.3nm,0.8s					
CPUP	Villa Florida	56.80 139	P	P	21 04 04.0	-0.2
CPUP			IAmb	IAmb	21 04 05.7	
	comp=Z,18nm,1.0s					
CPUP	Villa Florida	56.80 139	P	P	21 04 04.0	-0.2
CPUP			pmax	pmax		
	comp=Z,18nm,1.0s					
CPUP	Villa Florida	56.80 139	eP	P	21 04 03.5	-0.7
CPUP	Villa Florida	56.80 139	P	P	21 04 03.7	-0.4
CPUP			sP	PcP	21 04 58.1	+0.2
SFJD	Kangerlussuaq	56.82 19	P	P	21 04 02.5	-1.2
SFJD			pP	pP	21 04 41.4	-1.3
DOT	Dot Lake	56.85 336	P	P	21 04 05.7	+1.7
DOT			IAmb	IAmb	21 04 06.9	
	comp=Z,40nm,1.1s					
BO02	Sierra Bellavi	56.89 157	P	P	21 04 06.0	+1.2
BO02			IAmb	IAmb	21 04 07.7	
	comp=Z,19nm,0.8s					
M24K	Tolsona, Glenn	56.96 334	P	P	21 04 06.2	+1.3
M24K	Tolsona, Glenn	56.96 334	P	P	21 04 07.5	+2.6
	baz=117					
SCRK	Sand Creek	56.99 336	P	P	21 04 06.7	+1.5
SCRK			IAmb	IAmb	21 04 08.0	
	comp=Z,36nm,1.4s					
SCRK	Sand Creek	56.99 336	P	P	21 04 06.8	+1.7
	baz=120,SNR=9.8					
I27K	Kandik River	57.00 339	P	P	21 04 05.9	+0.8
	baz=124					
RES	Resolute Bay	57.01 360	P	P	21 04 04.2	-0.7
RES	Resolute Bay	57.01 360	P	P	21 04 04.3	-0.7
RES			pmax	pmax		
	comp=Z,16nm,1.6s					
PAX	Paxson	57.08 335	P	P	21 04 06.3	+0.6
PAX			IAmb	IAmb	21 04 08.2	
	comp=Z,30nm,1.0s					
PAX	Paxson	57.08 335	P	P	21 04 07.3	+1.5
	baz=118,SNR=9.4					
PAX	Paxson	57.08 335	P	P	21 04 06.3	+0.6
PAX			pmax	pmax		
	comp=Z,30nm,1.0s					
J26L	Joseph Creek	57.10 337	P	P	21 04 07.6	+1.7
J26L			IAmb	IAmb	21 04 08.8	
	comp=Z,35nm,1.3s					
J26L	Joseph Creek	57.10 337	P	P	21 04 07.7	+1.8
	baz=121					
A36M	Sachs Harbour	57.17 349	P	P	21 04 05.3	-0.7
A36M			IAmb	IAmb	21 04 07.0	
	comp=Z,17nm,1.0s					
A36M	Sachs Harbour	57.17 349	P	P	21 04 05.9	-0.2
	baz=145,SNR=5.9					
ITRB	Iturama	57.17 129	eP	P	21 04 06.7	-0.2
RIDG	Independent Ri	57.20 336	P	P	21 04 07.9	+1.3
RIDG	Independent Ri	57.20 336	P	P	21 04 08.1	+1.5
	baz=119,SNR=12					
H27K	Steamboat Moun	57.32 339	P	P	21 04 08.1	+0.8
	baz=124					
SCM	Sheep Creek Mo	57.33 333	P	P	21 04 09.7	+2.2
SCM	Sheep Creek Mo	57.33 333	P	P	21 04 08.7	+1.1
	baz=116					
SCM	Sheep Creek Mo	57.33 333	P	P	21 04 09.7	+2.2
SCM			pmax	pmax		
	comp=Z,46nm,1.1s					
I26K	Coal Creek Min	57.37 338	P	P	21 04 08.7	+1.1
	baz=122					
SDBA	SAO DESIDERIO	57.46 118	eP	P	21 04 07.7	-1.4
TRCB	Terra Rica	57.47 133	eP	P	21 04 08.8	-0.2
M23K	Glacier View	57.48 333	P	P	21 04 09.4	+0.9
	baz=115,SNR=6.0					
SEW	Seward	57.57 331	P	P	21 04 09.9	+0.9
	baz=112					
K24K	Donnelly Dome	57.59 336	P	P	21 04 10.7	+1.5
	baz=118					
MCR1	Marechal Candi	57.62 135	eP	P	21 04 10.4	+0.4
KNK	Knik Glacier	57.64 333	P	P	21 04 11.3	+1.7
	baz=114					
PCMB	Pacaembu	57.68 131	eP	P	21 04 10.8	+0.3
G27K	Doyon Strip	57.69 340	P	P	21 04 10.6	+0.8
	baz=124					
SML	Sawmill	57.75 333	P	P	21 04 12.1	+1.6
SML	Sawmill	57.75 333	P	P	21 04 11.4	+0.9
	baz=115					
IPMB	Ipameri, GO	57.78 125	eP	P	21 04 10.9	-0.4
WAT6	Susitna Watana	57.83 334	P	P	21 04 12.0	+0.9
	baz=116,SNR=9.0					
DHY	Denali Highway	57.90 335	P	P	21 04 12.2	+0.7
	baz=116					
GHO	Glory Hole Cre	57.99 333	P	P	21 04 13.7	+1.6
PMR	Palmer	58.01 333	P	P	21 04 13.7	+1.6
PMR			IAmb	IAmb	21 04 18.0	
	comp=Z,24nm,1.2s					
PMR	Palmer	58.01 333	P	P	21 04 13.4	+1.3
	baz=114					
PMR	Palmer	58.01 333	P	P	21 04 13.7	+1.6
PMR			pmax	pmax		
	comp=Z,24nm,1.2s					
RC01	Rabbit Creek A	58.08 332	P	P	21 04 13.8	+1.2
RC01			IAmb	IAmb	21 04 15.3	
	comp=Z,37nm,1.2s					
RC01	Rabbit Creek A	58.08 332	P	P	21 04 13.6	+0.9
	baz=113					
BRLK	Bradley Lake	58.11 330	P	P	21 04 14.4	+1.4
WAT1	Susitna Watana	58.27 334	P	P	21 04 14.8	+0.8
	baz=115					
HDA	Harding Lake	58.33 336	P	P	21 04 15.5	+1.1
HDA			IAmb	IAmb	21 04 16.3	
	comp=Z,23nm,1.0s					
HDA	Harding Lake	58.33 336	P	P	21 04 14.9	+0.6
	baz=118,SNR=9.8					
PRP	Porcupine Dome	58.33 338	P	P	21 04 15.6	+1.1
PRP			IAmb	IAmb	21 04 16.8	
	comp=Z,26nm,1.0s					
PRP	Porcupine Dome	58.33 338	P	P	21 04 15.4	+0.9
	baz=120,SNR=7.8					
E27K	Coleen River	58.46 341	P	P	21 04 15.9	+0.7
	baz=125					
G26K	Porcupine Rive	58.47 340	P	P	21 04 16.5	+1.3
	baz=122					
MECA	Mercedes	58.47 143	eP	P	21 04 16.6	+0.9
OHAK	Old Harbor	58.47 327	P	P	21 04 16.3	+0.9
	baz=107					
IL31		58.48 337	P	P	21 04 15.9	+0.6
IL31			IAmb	IAmb	21 04 17.5	
	comp=Z,33nm,1.2s					
ILAR	Eielson Array	58.48 337	P	P	21 04 16.1	+0.8
	comp=Z,8.0nm,0.9s,baz=118,slow=5.5,SNR=50					
ILAR			pP	pP	21 04 55.6	+0.9
	comp=Z,1.3nm,0.9s,baz=139,slow=5.6,SNR=1.1					
	comp=Z,8.0nm,0.9s					
M22K	Willow	58.51 333	P	P	21 04 17.4	+1.8
	baz=113					
CAPN	Captain Cook N	58.60 331	P	P	21 04 18.0	+1.8
	baz=111					
RND	Reindeer	58.64 335	P	P	21 04 18.0	+1.4
RND	Reindeer	58.64 335	P	P	21 04 18.0	+1.4
RND			pmax	pmax		
	comp=Z,58nm,1.0s					
SUA	Susitna One	58.67 332	P	P	21 04 18.1	+1.2
SUA	Susitna One	58.67 332	P	P	21 04 18.2	+1.3
	baz=112,SNR=10.0					
FYU	Fort Yukon	58.76 339	P	P	21 04 18.4	+1.2
CCB	Clear Creek Bu	58.77 336	P	P	21 04 17.6	+0.2
CCB			IAmb	IAmb	21 04 19.9	
	comp=Z,21nm,1.4s					
WRH	Wood River Hil	58.80 336	P	P	21 04 18.1	+0.5
MCK	McKinley	58.81 335	P	P	21 04 18.2	+0.5
MCK			IAmb	IAmb	21 04 20.1	
	comp=Z,24nm,1.0s					
MCK	McKinley	58.81 335	P	P	21 04 18.2	+0.5
	baz=115,SNR=10					
MCK	McKinley	58.81 335	P	P	21 04 18.2	+0.5
MCK			pmax	pmax		
	comp=Z,25nm,1.0s					
CUT	Chulitna	58.83 333	P	P	21 04 18.6	+0.9
POKR	Poker Plat Res	58.85 337	P	P	21 04 18.6	+0.7
POKR			IAmb	IAmb	21 04 20.0	
	comp=Z,20nm,1.1s					
POKR	Poker Plat Res	58.85 337	P	P	21 04 18.7	+0.7
	baz=117					
AZCA	Azaras, Argent	58.89 140	eP	P	21 04 19.3	+0.6
COLA	College	58.89 336	P	P	21 04 18.6	+0.4
COLA			IAmb	IAmb	21 04 20.0	
	comp=Z,25nm,0.9s					
COLA	College	58.89 336	P	P	21 04 18.8	+0.6
	baz=117					
COLA	College	58.89 336	P	P	21 04 18.6	+0.4
COLA			pmax	pmax		
	comp=Z,25nm,0.9s					
COLA	College	58.89 336	P	P	21 04 19.0	+0.9
TCOL	CIGO, UAF Yank	58.90 336	P	P	21 04 18.3	+0.1
TCOL			IAmb	IAmb	21 04 20.0	
	comp=Z,27nm,0.9s					
TCOL	CIGO, UAF Yank	58.90 336	P	P	21 04 18.7	+0.5
	baz=117					
F26K	Sheenjek River	58.98 340	P	P	21 04 19.6	+0.7
	baz=122					
BMAR	Burnt Mountain	58.99 340	P	P	21 04 19.8	+0.9
O20K	Slope Mountain	59.04 330	P	P	21 04 21.0	+1.6
	baz=109					
MDM	Murphy Dome	59.08 336	P	P	21 04 20.2	+0.7
MDM			IAmb	IAmb	21 04 23.1	
	comp=Z,23nm,1.4s					
PTGB	Pitanga	59.12 134	eP	P	21 04 20.3	-0.2
SPU	Mount Spurr	59.16 332	P	P	21 04 21.1	+1.0
G25K	Bearman Lake	59.16 339	P	P	21 04 21.4	+1.5
	baz=120					
Q19K	Cape Douglas,	59.16 329	P	P	21 04 22.6	+2.4
	baz=108					
P19K	Oil Pt	59.19 330	P	P	21 04 23.0	+2.6
	baz=109					
SKT	Skwentna	59.21 333	P	P	21 04 21.3	+0.9
SKT	Skwentna	59.21 333	P	P	21 04 21.4	+0.9
	baz=112,SNR=9.8					
BWN	Browne	59.21 335	P	P	21 04 20.7	+0.3
RSO	Redoubt South	59.23 331	P	P	21 04 21.8	+0.9
N20K	Mount Spurr	59.23 332	P	P	21 04 21.7	+1.0
	baz=110,SNR=6.4					
SPCR	Spurr Chakacha	59.23 332	P	P	21 04 21.4	+0.7
	baz=110					
NEA2	Nenana	59.24 336	P	P	21 04 21.9	+1.3
NEA2			IAmb	IAmb	21 04 22.6	
	comp=Z,50nm,1.8s					
NEA2	Nenana	59.24 336	P	P	21 04 21.2	+0.6
	baz=115					
TRF	Thorofare Moun	59.25 334	P	P	21 04 21.6	+0.7
TRF	Thorofare Moun	59.25 334	P	P	21 04 22.0	+1.1
	baz=114,SNR=23					
FRBT	Francisco Belt	59.29 136	eP	P	21 04 22.2	+0.6
JANB	Januaria	59.31 120	eP	P	21 04 21.5	-0.4
H24K	Noodor Dome	59.34 337	P	P	21 04 22.0	+0.6
H24K			IAmb	IAmb	21 04 23.6	
	comp=Z,30nm,1.0s					
H24K	Noodor Dome	59.34 337	P	P	21 04 21.9	+0.6
	baz=117					
BB19B	Bebedouro	59.36 129	eP	P	21 04 22.2	+0.1
F25K	Christian Rive	59.42 340	P	P	21 04 23.3	+1.4
	baz=120					
PMNB	Patos De Minas	59.48 125	eP	P	21 04 23.0	0.0
KTH	Kantishna Hill	59.55 334	P	P	21 04 23.6	+0.8
I23K	Minto, Yukon-K	59.59 336	P	P	21 04 24.1	+1.2
I23K	Minto, Yukon-K	59.59 336	P	P	21 04 24.4	+1.4
	baz=115,SNR=22					
G24K	Hadweenzic Riv	59.60 338	P	P	21 04 24.1	+1.1
	baz=118					
ITQB	Itaqui	59.65 142	P	P	21 04 24.6	+0.7
ITQB	Itaqui	59.65 142	eP	P	21 04 24.2	+0.3
NBCL	Cascavel-CE	59.66 106	eP	P	21 04 24.3	+0.1
E25K	Arctic Village	59.67 340	P	P	21 04 24.6	+1.1
	baz=121,SNR=9.4					
CRSM	Crissiumal (Br	59.69 138	eP	P	21 04 23.5	-0.7
Q18K	Katmai Hardscr	59.76 328	P	P	21 04 25.3	+0.9
	baz=106					
BPAW	Bear Paw Mtn.	59.79 335	P	P	21 04 25.0	+0.6
BPAW	Bear Paw Mtn.	59.79 335	P	P	21 04 25.0	+0.6
	baz=113,SNR=21					
PPLA	Purkeypile	59.83 333	P	P	21 04 25.4	+0.6
PPLA	Purkeypile	59.83 333	P	P	21 04 25.6	+0.7
	baz=111					
O19K	Port Alsworth	59.88 330	P	P	21 04 25.0	0.0
O19K	Port Alsworth	59.88 330	P	P	21 04 25.3	+0.2
	baz=108					
M20K	Styx River	59.88 332	P	P	21 04 26.0	+0.8
M20K	Styx River	59.88 332	P	P	21 04 25.7	+0.6
	baz=110					
C27K	Jago River	59.91 342	P	P	21 04 25.5	+0.4
	baz=124					
CAST	Castle Rocks	59.98 334	P	P	21 04 25.8	0.0
CAST			IAmb	IAmb	21 04 27.4	
	comp=Z,37nm,1.1s					
CAST	Castle Rocks	59.98 334	P	P	21 04 25.9	+0.1
	baz=112,SNR=19					
FRTB	Fartura	59.99 131	eP	P	21 04 27.6	+1.2
MLY	Manley	60.07 336	P	P	21 04 27.2	+0.8
MLY	Manley	60.07 336	P	P	21 04 27.2	+0.8
	baz=114,SNR=21					
P18K	Big Mountain,	60.08 329	P	P	21 04 27.1	+0.6
	baz=106					
Q17K	Contact Creek	60.10 328	P	P	21 04 27.0	+0.2
	baz=105					
F24K	Squaw Lake	60.13 339	P	P	21 04 27.9	+1.2
	baz=118					
N19K	Bonanza Creek	60.15 331	P	P	21 04 27.9	+0.9
N19K	Bonanza Creek	60.15 331	P	P	21 04 28.0	+0.9
	baz=108					
R17K	Ugashik Creek	60.20 327	P	P	21 04 29.0	+1.8
	baz=104					
O18K	Koktuh Hills	60.21 330	P	P	21 04 28.5	+1.2
	baz=107					
CHUM	Lake Minchumin	60.25 334	P	P	21 04 28.0	+0.6
	baz=112,SNR=7.7					
L20K	Farewell, AK	60.42 333	P	P	21 04 29.7	+1.0
	baz=110					
G23K	Bananza Creek	60.51 338	P	P	21 04 30.2	+0.9
	baz=116					
Q16K	King Salmon	60.60 328	P	P	21 04 31.4	+1.5
	baz=105					
E24K	Your Creek	60.60 340	P	P	21 04 31.4	+1.6
	baz=118					
I21K	Tanana	60.61 336	P	P	21 04 30.4	+0.5
I21K			IAmb	IAmb	21 04 32.1	
	comp=Z,32nm,1.1s					
I21K	Tanana	60.61 336	P	P	21 04 30.5	+0.5
	baz=113					
P17K	Kvichak River	60.62 329	P	P	21 04 31.7	+1.6
	baz=105					
H22K	Ishtalitna Cre	60.67 337	P	P	21 04 30.7	+0.4
	baz=114					
SVW2	Sparrevohn	60.75 331	P	P	21 04 31.6	+0.6
SVW2			IAmb	IAmb	21 04 32.8	
	comp=Z,24nm,1.1s					
L19K	White Mountain	60.75 332	P	P	21 04 31.3	+0.3
L19K			IAmb	IAmb	21 04 33.0	
	comp=Z,30nm,1.2s					
L19K	White Mountain	60.75 332	P	P	21 04 31.8	+0.9
	baz=108					
ITAB	Concordia	60.75 136	P	P	21 04 31.5	+0.1
ITAB	Concordia	60.75 136	eP	P	21 04 31.7	+0.3
K20K	Telida	60.80 334	P	P	21 04 31.4	+0.2
K20K	Telida	60.80 334	P	P	21 04 31.9	+0.6
	baz=110,SNR=21					
COLD	Coldfoot	60.80 338	P	P	21 04 32.6	+1.5
COLD			IAmb	IAmb	21 04 34.1	
	comp=Z,24nm,1.2s					
COLD	Coldfoot	60.80 338	P	P	21 04 33.0	+1.9
	baz=116,SNR=9.3					
RCLB	Rio Claro- Sao	60.91 129	eP	P	21 04 32.5	-0.1
GO06	Curarrehue	60.93 160	P	P	21 04 33.7	+1.1
CHGN	Chignik	60.97 325	P	P	21 04 33.0	+0.6
	baz=102					
RODS	Rosario do Sul	60.99 141	eP	P	21 04 33.5	+0.5
O17K	Koliganek Bris	61.10 329	P	P	21 04 33.6	+0.3
	baz=105,SNR=5.1					
H21K	Melozitna Rive	61.12 336		P	21 04 33.2	-0.1
H21K			IAmb	IAmb	21 04 34.9	
	comp=Z,16nm,1.1s					
H21K	Melozitna Rive	61.12 336	P	P	21 04 33.6	+0.3
	baz=112					
ALGR	Alto Alegre (B	61.24 138	eP	P	21 04 35.0	+0.2
P16K	Nushagak River	61.36 328	P	P	21 04 36.8	+1.8
	baz=104					
C24K	Franklin Bluff	61.45 341	P	P	21 04 36.9	+1.4
	baz=118					
TTA	Tatalina	61.49 333	P	P	21 04 36.1	+0.1
TTA			IAmb	IAmb	21 04 37.7	
	comp=Z,27nm,1.1s					
TTA	Tatalina	61.49 333	P	P	21 04 36.6	+0.6
	baz=108,SNR=18					
TTA	Tatalina	61.49 333	P	P	21 04 36.1	+0.1
TTA			pmax	pmax		
	comp=Z,27nm,1.1s					
DIAM	Diamantina, MG	61.54 123	eP	P	21 04 37.0	0.0
O16K	Kokwok River B	61.55 329	P	P	21 04 37.1	+0.8
	baz=104					
IMAR	Indian Mountai	61.60 336	P	P	21 04 36.8	+0.2
VAO	Valinhos	61.67 129	eP	P	21 04 38.0	+0.2
SPB	Sao Paulo	61.69 130	eP	P	21 04 37.9	+0.2
G21K	Allakaket	61.70 337	P	P	21 04 38.3	+1.0
	baz=112					
D23K	Nanushuk River	61.73 340	P	P	21 04 38.7	+1.3
	baz=116					
LL04	Puerto Octay	61.84 161	P	P	21 04 39.5	+1.0
LL04			IAmb	IAmb	21 04 40.6	
	comp=Z,26nm,1.1s			

	baz=112								
N16K	**Nishlik Lake**	**62.09**	**330**		P		**P**	**21 04 41.2**	**+1.2**
	baz=104								
CPSB	**Cacapava Do Su**	**62.10**	**140**		*e*P		**P**	**21 04 40.4**	**-0.1**
BSCB	**Bom Sucesso**	**62.16**	**126**		*e*P		**P**	**21 04 40.5**	**-0.6**
PET01	**Itanhaem-SP**	**62.22**	**131**		*e*P		**P**	**21 04 41.8**	**+0.5**
PLCA	**Paso Flores**	**62.27**	**160**		P		**P**	**21 04 43.1**	**+1.7**
	comp=Z,19nm,0.9s,baz=334,slow=8.1,SNR=50								
	comp=Z,19nm,0.9s								
PLCA	**Paso Flores**	**62.27**	**160**		P		**P**	**21 04 42.9**	**+1.5**
PLCA	**Paso Flores**	**62.27**	**160**		P		**P**	**21 04 42.9**	**+1.5**
PLCA					pmax		pmax		
	comp=Z,37nm,1.1s								
PLCA	**Paso Flores**	**62.27**	**160**		*e*P		**P**	**21 04 43.0**	**+1.5**
PLCA	**Paso Flores**	**62.27**	**160**		P		**P**	**21 04 42.8**	**+1.3**
PLCA					*e*P		**pP**	**21 05 20.8**	**-0.7**
EUNU	**Eureka**	**62.52**	**2**		P		**P**	**21 04 43.3**	**+0.7**
EUNU					IAmb		IAmb	21 04 43.7	
	comp=Z,8.2nm,0.7s								
GDU01	**Guandu, BA**	**62.62**	**116**		*e*P		**P**	**21 04 43.7**	**-0.5**
LL06	**Loncomilla**	**62.67**	**163**		P		**P**	**21 04 45.9**	**+1.9**
LL06					IAmb		IAmb	21 04 46.4	
	comp=Z,28nm,0.8s								
PLTB	**Pedras Altas**	**62.96**	**141**		P		**P**	**21 04 46.6**	**+0.5**
PLTB	**Pedras Altas**	**62.96**	**141**		*e*P		**P**	**21 04 46.2**	**+0.1**
CNLB	**Canela**	**62.98**	**137**		*e*P		**P**	**21 04 47.0**	**+0.6**
TRQA	**Tornquist**	**63.36**	**152**		P		**P**	**21 04 50.0**	**+1.4**
TRQA	**Tornquist**	**63.36**	**152**		P		**P**	**21 04 50.0**	**+1.4**
TRQA					pmax		pmax		
	comp=Z,58nm,1.6s								
SUMG	**Summit**	**63.39**	**16**		*i* P		P	21 04 43.0	-5.8
CMC01	**Camacan, BA**	**63.46**	**118**		*e*P		**P**	**21 04 48.9**	**-0.7**
GO07	**Milladeo Hill,**	**63.49**	**163**		P		**P**	**21 04 51.1**	**+1.8**
TER01	**Tubaro-SC**	**63.60**	**136**		*e*P		**P**	**21 04 51.0**	**+0.7**
SJMB	**Sao Joao De Ma**	**63.76**	**122**		*e*P		**P**	**21 04 51.4**	**-0.1**
GUA01	**Guaratinga, BA**	**63.81**	**119**		*e*P		**P**	**21 04 51.9**	**-0.1**
LL02	**Futaleuf**	**64.09**	**162**		P		**P**	**21 04 54.9**	**+1.6**
LL02					IAmb		IAmb	21 04 56.1	
	comp=Z,26nm,1.2s								
BSFB	**Barra de Sao F**	**64.09**	**122**		*e*P		**P**	**21 04 54.0**	**+0.2**
NAN01	**Guarapari, ES**	**64.18**	**121**		*e*P		**P**	**21 04 54.4**	**+0.1**
A21K	**Barrow**	**64.53**	**342**		P		**P**	**21 04 56.9**	**+1.1**
A21K					IAmb		IAmb	21 04 58.0	
	comp=Z,37nm,1.3s								
A21K	**Barrow**	**64.53**	**342**		P		**P**	**21 04 56.8**	**+1.0**
	baz=111								
RIB01	**Linhares ES**	**64.71**	**122**		*e*P		**P**	**21 04 57.6**	**-0.1**
AY01	**Puyuhuapi**	**64.98**	**163**		P		**P**	**21 05 00.4**	**+1.5**
AY01					IAmb		IAmb	21 05 01.5	
	comp=Z,28nm,0.8s								
CAM01	**Campos-RJ**	**65.03**	**125**		*e*P		**P**	**21 04 58.2**	**-1.6**
ALF01	**Guarapari-ES**	**65.12**	**123**		*e*P		**P**	**21 04 59.6**	**-0.8**
ANM	**Nome**	**65.92**	**333**		P		**P**	**21 05 05.4**	**+0.5**
ANM	**Nome**	**65.92**	**333**		P		**P**	**21 05 05.9**	**+1.1**
	baz=100,SNR=5.7								
ANM	**Nome**	**65.92**	**333**		P		**P**	**21 05 05.4**	**+0.5**
ANM					pmax		pmax		
	comp=Z,13nm,1.1s								
ALE	**Alert**	**66.09**	**4**		P		**P**	**21 05 05.1**	**-0.6**
COYC	**Coyhaique**	**66.20**	**163**		P		**P**	**21 05 08.2**	**+1.4**
COYC	**Coyhaique**	**66.20**	**163**		P		**P**	**21 05 08.8**	**+2.0**
BORG	**Borgarnes**	**67.02**	**27**		LR		LR	21 35 48.1	
	comp=Z,150nm,18.0s,baz=317,slow=37								
TNA	**Tin City**	**67.14**	**334**		P		**P**	**21 05 14.0**	**+1.4**
TNA					IAmb		IAmb	21 05 15.2	
	comp=Z,24nm,1.1s								
TNA	**Tin City**	**67.14**	**334**		P		**P**	**21 05 13.5**	**+1.0**
	baz=98,SNR=6.9								
DAG	**Danmarks Havn**	**69.69**	**14**		*i* P		**P**	**21 05 26.0**	**-2.2**
PCAS	**Casmilo, Conde**	**75.92**	**52**		*e*P		**P**	**21 06 05.9**	**+0.3**
PCAS					*e*pP		**pP**	**21 06 48.3**	**+1.6**
COI	**Coimbra**	**75.96**	**52**		P		**P**	**21 06 05.5**	**-0.3**
COI	**Coimbra**	**75.96**	**52**		P		**P**	**21 06 05.5**	**-0.3**
COI					pmax		pmax		
	comp=Z,88nm,1.5s								
POLO	**Lamas de Olo**	**76.19**	**51**		*e*P		**P**	**21 06 07.0**	**-0.2**
	comp=Z,22nm,1.5s								
PVIS	**Viseu**	**76.24**	**51**		*e*P		**P**	**21 06 07.7**	**+0.2**
PTEO	**Sao Teotonio**	**76.25**	**55**		*e*P		**P**	**21 06 08.1**	**+0.6**
PFVI	**Vila Bisbo**	**76.26**	**55**		*e*P		**P**	**21 06 07.4**	**-0.1**
PFVI					*e*pP		**pP**	**21 06 48.2**	**-0.5**
PNCL	**Nicolau / Gran**	**76.29**	**54**		*e*P		**P**	**21 06 07.8**	**+0.1**
PNCL					*e*pP		**pP**	**21 06 49.7**	**+0.9**
PMTG	**Montargil**	**76.33**	**53**		*e*P		**P**	**21 06 08.1**	**+0.2**
EDI	**Edinburgh**	**76.33**	**35**		*e*P		**P**	**21 06 06.9**	**-0.6**
EDI					IAmb		IAmb	21 06 08.5	
	comp=Z,15nm,0.8s								
MORF	**Marmelete**	**76.36**	**55**		*e*P		**P**	**21 06 08.5**	**+0.3**
MORF					IAmb		IAmb	21 06 08.8	
	comp=Z,16nm,1.1s								
MORF	**Marmelete**	**76.36**	**55**		*e*P		**P**	**21 06 08.5**	**+0.3**
MORF					*e*pP		**pP**	**21 06 50.6**	**+1.3**
MORF	**Marmelete**	**76.36**	**55**		*e*P		**P**	**21 06 08.5**	**+0.3**
EBL	**Broad Law**	**76.44**	**36**		*e*P		**P**	**21 06 07.6**	**-0.6**
ESK	**Eskdalemuir**	**76.44**	**36**		*e*P		**P**	**21 06 07.4**	**-0.8**
ESK					IAmb		IAmb	21 06 08.0	
	comp=Z,11nm,0.7s								
DRUM	**Mains of Drumt**	**76.52**	**34**		*e*P		**P**	**21 06 07.8**	**-0.8**
DRUM					IAmb		IAmb	21 06 12.4	
	comp=Z,143nm,1.5s								
MESJ	**Messejana**	**76.58**	**54**		*e*P		**P**	**21 06 08.9**	**-0.5**
	comp=Z,29nm,1.4s								
MESJ					*e*pP		**pP**	**21 06 51.0**	**+0.5**
EVO	**Evora**	**76.60**	**54**		*e*P		**P**	**21 06 09.3**	**-0.1**
EVO					*e*pP		**pP**	**21 06 51.0**	**+0.4**
ESY	**Stoneypath**	**76.65**	**35**		*e*P		**P**	**21 06 08.9**	**-0.4**
PCBR	**Castelo Branco**	**76.73**	**52**		*e*P		**P**	**21 06 10.3**	**+0.1**
	comp=Z,37nm,1.8s								
PCBR					*e*pP		**pP**	**21 06 53.3**	**+1.9**
PCVE	**Castro Verde**	**76.77**	**55**		*e*P		**P**	**21 06 10.6**	**+0.2**
PBEJ	**Beja**	**76.82**	**54**		*e*P		**P**	**21 06 10.8**	**+0.1**
PBEJ					*e*pP		**pP**	**21 06 52.9**	**+1.0**
PMRV	**Marv??o**	**76.89**	**53**		*e*P		**P**	**21 06 11.1**	**0.0**
PVAQ	**Vaqueiros**	**77.06**	**55**		*e*P		**P**	**21 06 12.2**	**+0.1**
	comp=Z,36nm,1.5s								
PVAQ					*e*pP		**pP**	**21 06 54.8**	**+1.5**
BILL	**Bilibino**	**77.12**	**338**		P		**P**	**21 06 12.7**	**+0.9**
BILL					IAmb		IAmb	21 06 14.2	
	comp=Z,21nm,1.0s								
BILL	**Bilibino**	**77.12**	**338**	*ce*	P		**P**	**21 06 12.6**	**+0.9**
BILL					*e**PP		**pP**	**21 06 55.3**	**+2.1**
BILL					*e*			21 09 09.0	
BILL					*e*PPP		PPP	21 10 55.2	
BILL					*e*S		**SKSac**	**21 16 03.9**	**-4.2**
BILL					pmax		pmax		
	comp=Z,39nm,1.7s								
EDMD	**Edmundbyers**	**77.24**	**36**		*e*P		**P**	**21 06 12.0**	**-0.7**
EDMD					IAmb		IAmb	21 06 14.0	
	comp=Z,38nm,1.0s								
PBAR	**Barrancos**	**77.42**	**54**		*e*P		**P**	**21 06 14.2**	**+0.1**
	comp=Z,31nm,1.5s								
GDLE	**Glaisdale, N Y**	**77.98**	**37**		*e*P		**P**	**21 06 16.5**	**-0.3**
AVE	**Averroes**	**78.22**	**59**		P		**P**	**21 06 18.3**	**-0.3**
AVE					IAmb		IAmb	21 06 19.6	
	comp=Z,37nm,1.0s								
OUK	**Oukaimeden**	**78.34**	**61**		P		**P**	**21 06 21.0**	**+1.3**
ZHG	**ZHG**	**78.82**	**58**		P		**P**	**21 06 22.0**	**+0.1**
PAB	**San Pablo**	**79.15**	**52**		P		**P**	**21 06 23.5**	**-0.2**
PAB	**San Pablo**	**79.15**	**52**		P		**P**	**21 06 23.5**	**-0.2**
PAB					pmax		pmax		
	comp=Z,18nm,1.1s								
OUZM	**OUZ**	**79.33**	**61**		P		**P**	**21 06 26.0**	**+1.1**
ESDC	**Sonseca Array**	**79.41**	**52**		P		**P**	**21 06 24.7**	**-0.3**
	comp=Z,10nm,1.1s,baz=293,slow=5.7,SNR=25								
ESDC					pP		**pP**	**21 07 06.6**	**+0.2**
	comp=Z,8.5nm,1.1s,baz=288,slow=5.5,SNR=6.6								
	comp=Z,10nm,1.1s								
ESDC	**Sonseca Array**	**79.41**	**52**		P		**P**	**21 06 24.9**	**-0.1**
TZRR	**Tazzarine**	**80.35**	**61**		P		**P**	**21 06 31.0**	**+0.7**
ZGR	**Zagora**	**80.48**	**61**		P		**P**	**21 06 32.0**	**+1.0**
MDT	**Midelt**	**80.63**	**59**		LR		LR	21 38 19.4	
	comp=Z,50nm,19.5s,baz=308,slow=33								
MDT	**Midelt**	**80.63**	**59**		P		**P**	**21 06 32.2**	**+0.5**
AKLM	**AKL**	**80.79**	**57**		P		**P**	**21 06 33.0**	**+0.4**
ARF	**Arif**	**81.30**	**60**		P		**P**	**21 06 37.0**	**+1.6**
NB2	**NORSAR Subarra**	**82.11**	**28**		P		**P**	**21 06 39.0**	**+0.1**
	comp=Z,6.7nm,1.1s,baz=294,slow=5.3								
NOA	**NORSAR Array B**	**82.11**	**28**		P		**P**	**21 06 39.3**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=289,slow=5.3,SNR=3.5								
NOA					pP		**pP**	**21 07 21.0**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=292,slow=5.2,SNR=3.6								
	comp=Z,1.5nm,0.7s								
DOU	**Dourbes**	**82.37**	**40**		*d*P		**P**	**21 06 40.3**	**-0.1**
	comp=Z,6.2nm,1.1s								
DOU					*d*pP		**pP**	**21 07 22.6**	**+0.5**
BMRD	**Maredsous**	**82.41**	**40**		*d*P		**P**	**21 06 40.5**	**0.0**
BMRD					*d*pP		**pP**	**21 07 22.9**	**+0.6**
BGES	**Gesves**	**82.58**	**40**		*d*P		**P**	**21 06 41.5**	**+0.1**
	comp=Z,11nm,0.0s								
BGES					*d*PcP		**PcP**	**21 06 47.0**	**+0.9**
BGES					*d*pP		**pP**	**21 07 23.4**	**+0.2**
BCLA	**Clavier**	**82.69**	**39**		*d*P		**P**	**21 06 41.8**	**-0.3**
BCLA					*d*PcP		**PcP**	**21 06 46.5**	**-0.1**
BCLA					*d*pP		**pP**	**21 07 24.5**	**+0.7**
WLF	**Walferdange**	**83.46**	**40**		*d*P		**P**	**21 06 46.5**	**+0.5**
	comp=Z,6.6nm,0.9s								
SEY	**Seymchan**	**84.37**	**335**	*ce*	P		**P**	**21 06 51.1**	**+0.8**
SEY					pmax		pmax		
	comp=Z,10.0nm,1.0s								
TIXI	**Tiksi**	**86.14**	**347**		P		**P**	**21 06 59.2**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=272,slow=23,SNR=18								
TIXI					pP		**pP**	**21 07 41.3**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=270,slow=23,SNR=3.5								
TIXI					LR		LR	21 52 50.6	
	comp=Z,77nm,18.9s,baz=3.0,slow=41								
	comp=Z,1.7nm,0.3s								
TIXI	**Tiksi**	**86.14**	**347**		P		**P**	**21 06 59.1**	**+0.2**
TIXI	**Tiksi**	**86.14**	**347**		P		**P**	**21 06 59.1**	**+0.2**
TIXI					pmax		pmax		
	comp=Z,13nm,1.3s								
PETK	**Petropavlovsk-**	**86.20**	**325**		P		**P**	**21 07 00.9**	**+1.3**
	comp=Z,9.3nm,0.9s,baz=74,slow=11,SNR=7.1								
	comp=Z,9.3nm,0.9s								
DAVA	**Damuels**	**86.63**	**41**		*e*P		**P**	**21 07 02.5**	**+0.4**
MA2	**Magadan**	**86.69**	**332**		P		**P**	**21 07 02.8**	**+1.0**
MA2					IAmb		IAmb	21 07 04.4	
	comp=Z,18nm,1.0s								
MA2	**Magadan**	**86.69**	**332**	*ce*	P		**P**	**21 07 02.9**	**+1.0**
MA2					pmax		pmax		
	comp=Z,24nm,1.0s								
CLL	**Collm**	**86.90**	**37**		*e*P		**P**	**21 07 06.0**	**+2.9**
CLL					*e*(pP)		**pP**	**21 07 47.0**	**+1.8**
CLL	**Collm**	**86.90**	**37**		*e*P		**P**	**21 07 06.0**	**+2.9**
CLL					*e**PP		**pP**	**21 07 47.0**	**+1.8**
RETA	**Reutte**	**87.10**	**41**		PcP		**PcP**	**21 07 05.4**	**-0.7**
	comp=Z,6.7nm,1.3s								
FUORN	**Ofenpass-Fuorn**	**87.12**	**42**		P		**P**	**21 07 04.9**	**+0.3**
FETA	**Feichten**	**87.26**	**41**	*e*	PcP		**P**	**21 07 05.6**	**+0.5**
	comp=Z,6.3nm,1.0s								
DBIC	**Dimbokro**	**87.77**	**84**		P		**P**	**21 07 07.5**	**-0.4**
	comp=Z,42nm,1.3s,baz=294,slow=4.3,SNR=20								
	comp=Z,42nm,1.3s								
DBIC	**Dimbokro**	**87.77**	**84**		P		**P**	**21 07 07.2**	**-0.6**
DBIC					IAmb		IAmb	21 07 08.7	
	comp=Z,14nm,0.8s								
DBIC	**Dimbokro**	**87.77**	**84**		P		**P**	**21 07 07.3**	**-0.6**
DBIC					pmax		pmax		
	comp=Z,14nm,0.8s								
FINES	**FINESS Array B**	**88.22**	**24**		P		**P**	**21 07 08.7**	**-0.4**
	comp=Z,4.1nm,1.0s,baz=336,slow=4.2,SNR=6.5								
	comp=Z,4.1nm,1.0s								
GERES	**GERESS Array B**	**88.34**	**39**		P		**P**	**21 07 10.0**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=282,slow=1.8,SNR=4.7								
	comp=Z,1.2nm,0.9s								
TORD	**Torodi Ar. Bea**	**91.93**	**76**		P		**P**	**21 07 26.6**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=289,slow=4.6,SNR=12								
	comp=Z,2.9nm,0.9s								
TORD	**Torodi Ar. Bea**	**91.93**	**76**		P		**P**	**21 07 25.9**	**-1.4**
NACGM	**Naroch**	**92.31**	**30**	*e*	P		**P**	**21 07 26.1**	**-2.2**
	comp=Z,11nm,1.0s,baz=305								
MNK	**Minsk**	**93.06**	**30**		*i* P		**P**	**21 07 30.5**	**-1.2**
	comp=E,2.0nm,0.8s								
MNK					*i* P		**P**	**21 07 30.5**	**-1.2**
	comp=N,26nm,0.7s								
MNK					*i* P		**P**	**21 07 30.5**	**-1.2**
	comp=Z,8.0nm,0.7s,baz=306								
MNK					*i* pP		**pP**	**21 08 13.1**	**-1.1**
MNK					*i* PP		**PP**	**21 11 15.1**	**-1.3**
MNK					*i* PPP		PPP	21 13 15.9	
MNK					*i* S		**SKSac**	**21 17 47.6**	**-2.1**
MNK					*i* sS		pS	21 19 05.7	-12
MNK					*i* SS		**SS**	**21 24 40.4**	**-0.6**
MNK					*i* SSS		SSS	21 28 21.6	
MNK					*i* LRM		MLR	21 50 31.3	
	comp=E,23nm,18.6s								
MNK					*i* LRM		MLR	21 50 31.3	
	comp=N,261nm,16.1s								
MNK					*i* LRM		MLR	21 50 31.3	
	comp=Z,127nm,17.8s								
MNK	**Minsk**	**93.06**	**30**		*i* P		**P**	**21 07 30.5**	**-1.2**
MNK					*i* *PP		**pP**	**21 08 13.1**	**-1.1**
MNK					*i*			21 11 15.1	
MNK					*i* PPP		PPP	21 13 15.8	
MNK					*i* S		**SKSac**	**21 17 47.5**	**-2.1**
MNK					*i* SS		**SS**	**21 24 40.3**	**-0.6**
MNK					*i* SSS		SSS	21 28 21.5	
MNK					pmax		pmax		
	comp=Z,8.0nm,0.7s								
MNK					pmax		pmax		
	comp=E,2.0nm,0.8s								
MNK					pmax		pmax		
	comp=N,26nm,0.7s								
MNK					MLR		MLR		
	comp=E,23nm,19.0s								
MNK					MLR		MLR		
	comp=Z,127nm,18.0s								
MNK					MLR		MLR		
	comp=N,261nm,16.0s								
YAK	**Yakutsk**	**93.18**	**341**		P		**P**	**21 07 33.0**	**+0.9**
	comp=N,2.5nm,0.3s,baz=121,slow=0.3,SNR=7.3								
	comp=N,2.5nm,0.3s								
YAK	**Yakutsk**	**93.18**	**341**		P		**P**	**21 07 32.1**	**0.0**
YAK	**Yakutsk**	**93.18**	**341**		*e*P		**P**	**21 07 32.8**	**+0.7**
YAK					*e**PP		**pP**	**21 08 16.6**	**+2.0**
YAK					*e*S		**SKSac**	**21 17 50.1**	**+0.1**
YAK					*e*SS		SS	21 24 54.1	+12
YAK					pmax		pmax		
	comp=Z,14nm,1.0s								
YAK					pmax		pmax		
	comp=E,3.0nm,1.1s								
YAK					pmax		pmax		
	comp=Z,170nm,4.8s								
YAK					pmax		pmax		
	comp=E,111nm,4.6s								
YAK					pmax		pmax		
	comp=N,111nm,5.1s								
YAK					smax		smax		
	comp=E,175nm,6.3s								
YAK					smax		smax		
	comp=N,111nm,5.9s								
NRIK	**Noril'sk**	**93.20**	**359**		*i* P		**P**	**21 07 32.3**	**+0.2**
NRIK					pmax		pmax		
	comp=Z,3.0nm,0.9s								
AKBB	**Malin Array Si**	**96.00**	**32**		*i* P		**P**	**21 07 45.6**	**+0.4**
AKBB					pmax		pmax		
	comp=Z,3.0nm,1.3s								
OBN	**Obninsk**	**96.51**	**26**	⫰	*e*P		**P**	**21 07 45.7**	**-1.8**
OBN					*e*			21 11 37.7	
OBN					*e*PPP		PPP	21 13 45.8	
OBN					pmax		pmax		
	comp=Z,4.0nm,1.0s								
KIRV	**Kirov**	**98.44**	**18**		LR		LR	21 54 48.6	
	comp=Z,74nm,18.2s,baz=339,slow=37								
KLR	**Kul'dur**	**101.73**	**331**		*i* P		**Pdif**	**21 08 09.7**	**-1.2**
KLR					pmax		pmax		
	comp=Z,1.0nm,1.1s								
SONM	**Songino Array**	**112.11**	**345**		PKiKP		**PKiKP**	**21 12 53.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=107,slow=0.5,SNR=5.2								
ELIB	**Princess Elisa**	**115.23**	**162**		*d*PKPdf		**PKPdf**	**21 12 58.9**	**+0.8**
MKAR	**Makanchi Array**	**115.76**	**2**		PKP		**PKiKP**	**21 12 59.6**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=3.4,slow=2.5,SNR=7.5								
HHC	**Hu-ho-hao-te**	**116.89**	**338**		*e*PKP		**PKiKP**	**21 13 04.0**	**+1.7**
WMQ	**Urumqi**	**118.76**	**358**		*e*PKP		**PKiKP**	**21 13 06.8**	**+1.0**
GEYT	**Alibeck**	**119.02**	**24**		PKP		**PKiKP**	**21 13 06.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=270,slow=3.0,SNR=3.7								
NJ2	**Nanjing**	**121.06**	**327**		*e*PKP		**PKiKP**	**21 13 12.0**	**+1.5**
KSH	**Kashi**	**122.42**	**9**		PKP		**PKiKP**	**21 13 15.3**	**+2.1**
LZH	**Lanzhou**	**123.74**	**342**		PKP		**PKiKP**	**21 13 17.0**	**+1.0**
XAN	**Xi'an**	**123.89**	**336**		PKP		**PKPdf**	**21 13 16.0**	**+0.1**
BOSA	**Boshof**	**124.14**	**113**		PKP		**PKPdf**	**21 13 16.5**	**0.0**
	comp=Z,5.1nm,0.8s,baz=277,slow=2.0,SNR=7.1								
STKA	**Stephens Creek**	**127.58**	**243**		PKP		**PKiKP**	**21 13 24.1**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=16,slow=1.9,SNR=22								
STKA	**Stephens Creek**	**127.58**	**243**		PKPdf		**PKiKP**	**21 13 23.7**	**+0.3**
STKA	**Stephens Creek**	**127.58**	**243**		PKiKP		**PKiKP**	**21 13 23.7**	**+0.3**
PZH	**PanZhiHua**	**133.29**	**340**		PKP		**PKPdf**	**21 13 34.3**	**+0.2**
WRAB	**Tennant Creek**	**133.73**	**259**	*c*	iPKiKP		**PKPdf**	**21 13 34.6**	**-0.2**
WRAB					pmax		pmax		
	comp=Z,12nm,1.7s								
WRA	**Warramunga Arr**	**133.74**	**259**		PKP		**PKiKP**	**21 13 36.0**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=75,slow=1.9,SNR=14								
WRA					pPKP		**pPKPdf**	**21 14 19.9**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=85,slow=3.1,SNR=1.9								
KMI	**Kunming**	**134.22**	**338**	⇑	PKP		**PKiKP**	**21 13 37.5**	**+0.2**
ASAR	**Alice Springs**	**134.40**	**254**		PKhKP		PKPpre	21 13 21.2	
	comp=Z,0.5nm,0.8s,baz=82,slow=3.0,SNR=5.0								
ASAR					PKP		**PKiKP**	**21 13 37.2**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=100,slow=1.9,SNR=20								
ASAR					PP		**PP**	**21 16 10.3**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=86,slow=5.7,SNR=4.2								
ASAR					SKPbc		**SKPbc**	**21 16 50.3**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=113,slow=4.1,SNR=4.4								
ASAR	**Alice Springs**	**134.40**	**254**		PKPdf		**PKPdf**	**21 13 36.7**	**+0.7**
ASAR	**Alice Springs**	**134.40**	**254**		PKiKP		**PKPdf**	**21 13 36.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**141.69**	**339**		PKhKP		PKPpre	21 13 44.6	
	comp=Z,1.3nm,0.9s,baz=339,slow=4.2,SNR=6.0								
CMAR					PKP		**PKPdf**	**21 13 49.7**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=317,slow=1.9,SNR=21								
HYB	**Hyderabad**	**144.47**	**11**	*e*	PKPab		**PKPab**	**21 13 53.1**	**-0.1**

NNC 25 21:07:47.4±6.8, 38.64N×74.04E, h0km, mb4.0, mpv3.6, 2C, Error ellipse: s-maj=51.6km s-min=44.3km az=131.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
MRKS	**Merke**	**4.14**	**352**	Pg Pb	21 09 01.5	+0.2
	5.8nm,0.3s					
MRKS				Lg Lg	21 09 58.6	
	4.6nm,0.7s					
IUG	**Iuzhnay**	**4.65**	**320**	Pg Pn	21 08 57.3	-1.7
	9.8nm,0.2s					
IUG				Lg Lg	21 09 51.0	
	23nm,0.3s					
KK31	**Karatay Array**	**5.20**	**330**	⇑Pn Pn	21 09 07.1	+0.6
	0.4nm,0.2s,baz=149,slow=11,SNR=12					
KK31				⇑Sn Sn	21 10 08.6	+1.5
	2.3nm,0.3s,baz=149,slow=25,SNR=20					

*UCR **25** 21:13:22.2±1.0, 10.28N×86.39W, h14km±7km, MW4.3*
*IDC **25** 21:13:24.4±1.8, 11.44N×85.27W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=115.3km s-min=11.3km az=70.0*
*INET **25** 21:13:33.2±0.7, 10.91N×86.22W, h21km±13km, ML3.6*
ISC 25 21:13:18.3±1.8, 10.02N±0.07×86.49W±0.06, h15km±11km, n67, σ1.04/74, mb3.5/4, 32C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.77**	**87**	⇑*e*P P	**21 13 36.2**	**+1.6**
HATIL	**Hatillo**	**0.83**	**71**	⇑*i*P Pg	**21 13 35.5**	**+1.2**
HATIL				*e*S Sb	**21 13 44.5**	**-0.9**
JUD3	**Juan Diaz 3**	**0.95**	**81**	⇑*e*P Pg	**21 13 38.4**	**+1.7**
JUD3				*e*S Sb	**21 13 49.1**	**+0.2**
DUNO	**Dulce Nombre,**	**0.98**	**87**	*e*P Pg	**21 13 38.9**	**+1.6**
DELF	**Filadelfia**	**1.02**	**65**	⇑*i*P Pg	**21 13 38.2**	**+0.3**
DELF				*e*S Sb	**21 13 49.9**	**-0.9**
NICO	**Nicoya**	**1.03**	**84**	⇑*e*P Pg	**21 13 39.4**	**+1.1**
SAAN	**San Antonio**	**1.04**	**80**	⇑*i*P Pg	**21 13 39.6**	**+1.1**
SAAN				*e*S Sb	**21 13 52.0**

BPAW	**Bear Paw Mtn.**	**18.49**	**37**	P	P	21 30 25.1	0.0	
IMAR	**Indian Mountai**	**18.62**	**30**	P	P	21 30 25.2	-1.4	
H21K	**Melozitna Rive**	**18.72**	**32**	P	P	21 30 27.1	-0.6	
MCK	**McKinley**	**19.11**	**40**	P	P	21 30 31.8	-0.2	
MCK				IAmb	IAmb	21 30 58.1		
	comp=Z,8.8nm,1.2s							
CCB	**Clear Creek Bu**	**19.97**	**38**	P	P	21 30 40.0	-1.2	
N25K	**Chitina, Valde**	**20.22**	**48**	P	P	21 30 43.6	-0.5	
N25K				IAmb	IAmb	21 31 11.9		
	comp=Z,8.6nm,1.1s							
GLB	**Gilahina Butte**	**20.54**	**48**	P	P	21 30 47.5	-0.1	
GLB				IAmb	IAmb	21 30 51.7		
	comp=Z,14nm,1.3s							
DOT	**Dot Lake**	**21.07**	**42**	P	P	21 30 51.4	-1.9	
DOT				IAmb	IAmb	21 31 04.9		
	comp=Z,9.1nm,1.4s							
J26L	**Joseph Creek**	**21.58**	**40**	P	P	21 30 57.6	-1.0	
J26L				IAmb	IAmb	21 31 13.1		
	comp=Z,2.4nm,0.9s							
M27K	**Edge Creek, AK**	**21.65**	**46**	P	P	21 30 59.1	-0.5	
BCPM	**Bancas Point**	**22.32**	**53**	P	P	21 31 04.7	-1.9	
BMAR	**Burnt Mountain**	**22.45**	**33**	P	P	21 31 06.8	-1.2	
EGAK	**Eagle**	**22.64**	**41**	P	P	21 31 08.4	-1.6	
EGAK				IAmb	IAmb	21 31 27.9		
	comp=Z,3.4nm,1.0s							
DAWY	**Dawson**	**23.17**	**43**	P	P	21 31 13.9	-1.5	
DAWY				IAmb	IAmb	21 31 36.9		
	comp=Z,2.7nm,1.1s							
HYT	**Haines Junctio**	**23.46**	**51**	P	P	21 31 18.6	+0.4	

*IDC **25** 21:47:26.3±1.1, 37.°05N×141.°20E, h0km, mb3.4/6, mbtmp3.3/8, ML2.2/2, MS2.7/2, Error ellipse: s-maj=26.6km s-min=23.9km az=117.0*

*NIED **25** 21:47:27.5, 37.°20N×141.°31E, h23km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.87; $M_{\theta\theta}$0.37; $M_{\phi\phi}$2.50; $M_{r\theta}$1.37; $M_{\theta\phi}$1.26; $M_{\phi r}$-0.99; Fault plane solution: $M_0$3.40000×10^{14} NP1:ϕ_s1.00000°, δ54.00000°, λ-122.00000°. NP2:ϕ_s228.00000°, δ47.00000°, λ-54.00000°.*

*JMA **25** 21:47:27.5±0.2, 37.°2N×0.°3×141.°3E±0.°8, h23km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*

ISC 25 21:47:26.8±2.4, 37.°19N±0.°05×141.°37E±0.°09, h4km±14km, n23, σ1°23/25, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.43**	**294**	*i* P	**Pg**	**21 47 35.3**	**+0.2**
JFK				S	**Sg**	**21 47 41.0**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.46**	**259**	P	**Pg**	**21 47 35.9**	**+0.2**
ONAJ				*e*S	**Sg**	**21 47 42.3**	**+0.6**
JFFD	**Fukushimafurud**	**0.65**	**262**	*i* P	**Pg**	**21 47 39.2**	**0.0**
JFFD				S	**Sg**	**21 47 47.5**	**-0.2**
JMST	**Minamisoumatoc**	**0.66**	**325**	*i* P	**Pg**	**21 47 39.5**	**+0.1**
JMST				S	**Sg**	**21 47 48.5**	**+0.6**
JMM	**Marumori**	**0.81**	**326**	*i* P	**Pg**	**21 47 42.2**	**-0.3**
JMM				S	**Sg**	**21 47 52.9**	**-0.1**
JHO	**Hitachi**	**0.86**	**228**	*e*S	**Sg**	**21 47 54.2**	**-0.2**
JSB	**Shiboa**	**1.18**	**260**	P	**Pb**	**21 47 49.1**	**-0.6**
JSB				S	**Sg**	**21 48 04.5**	**-0.2**
JIO	**Ouri**	**1.26**	**359**	P	**Pn**	**21 47 49.9**	**-1.3**
JIO				S	**Sb**	**21 48 06.6**	**-1.2**
MJAR	**Matsushiro Arr**	**2.61**	**257**	Pn	**Pn**	**21 48 08.5**	**-1.3**
	0.3nm,0.3s,baz=84,slow=14,SNR=13						
MJAR				Sn	**Sb**	**21 48 45.9**	**-0.7**
	1.2nm,0.3s,baz=96,slow=29,SNR=2.7						
MJAR				LR	LR	21 49 23.3	
	comp=Z,167nm,18.1s,baz=48,slow=48 4.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.98**	**317**	Pn	**Pn**	**21 49 51.5**	**+0.6**
	baz=119,slow=13,SNR=1.5 1.4nm,0.7s						
KSRS	**Korea Array**	**10.71**	**275**	Pn	**Pn**	**21 50 04.1**	**+3.2**
	0.1nm,0.3s,baz=81,slow=15,SNR=2.4						
KSRS				LR	LR	21 54 13.6	
	comp=Z,26nm,19.4s,baz=55,slow=38						
SONM	**Songino Array**	**27.67**	**304**	P	**P**	**21 53 15.4**	**-0.4**
	0.4nm,0.5s,baz=108,slow=7.7,SNR=4.2 0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	22 22 54.1	
	baz=314,slow=75,SNR=57						
H11N1	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	22 22 56.0	
	baz=314,slow=75,SNR=91						
H11N3	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	22 22 56.7	
	baz=314,slow=75,SNR=81						
H11S1	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	22 23 46.6	
	baz=316,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	22 23 46.1	
	baz=316,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	22 23 46.4	
	baz=316,slow=76,SNR=12						
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**21 55 34.2**	**-1.1**
	0.4nm,0.7s,baz=88,slow=7.4,SNR=5.4 0.4nm,0.7s						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**21 56 17.1**	**0.0**
	0.5nm,0.8s,baz=248,slow=6.8,SNR=5.4 0.5nm,0.8s						
WRA	**Warramunga Arr**	**57.21**	**188**	P	**P**	**21 57 13.6**	**-1.5**
	0.2nm,0.3s,baz=11,slow=7.7,SNR=1.4 0.2nm,0.3s						
ASAR	**Alice Springs**	**60.94**	**188**	P	**P**	**21 57 40.0**	**-0.9**
	0.2nm,0.8s,baz=0.0,slow=6.5,SNR=1.5 0.2nm,0.8s						
YKA	**Yellowknife Ar**	**63.69**	**30**	P	**P**	**21 58 02.2**	**+3.2**
	0.2nm,0.6s,baz=298,slow=6.6,SNR=4.7 0.2nm,0.6s						

*IDC **25** 21:47:43.4±1.0, 59.°51S×27.°14W, h0km, mb4.1/3, mbtmp4.0/3, MS3.4/3, Error ellipse: s-maj=69.6km s-min=32.5km az=97.0*

*NEIC **25** 21:47:45.5±0.6, 59.°4S±0.°1×26.°9W±0.°4, h10km±1km, mb4.5/12, Error ellipse: s-maj=37.5km s-min=9.8km az=61.0*

ISC 25 21:47:48.1±0.7, 59.°4S±0.°1×27.°1W±0.°2, h30km, n30, σ0°65/24, mb4.5/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.69**	**153**	P	**Pn**	**21 50 59.7**	**-0.2**
VNA3	**Neumayer Olymp**	**13.82**	**156**	P	**Pn**	**21 51 00.8**	**-0.9**
VNA2	**Neumayer--Watz**	**14.09**	**153**	P	**Pn**	**21 51 05.5**	**+0.2**
	baz=306,slow=15						
SNAA	**Sanae**	**15.68**	**151**	P	**Pn**	**21 51 27.3**	**+0.7**
SNAA	**Sanae**	**15.68**	**151**	LR	LR	21 56 07.5	
	comp=Z,118nm,20.0s,baz=338,slow=32						
SNAA	**Sanae**	**15.68**	**151**		**Pn**	**21 51 26.2**	**-0.5**
TROLL	**Troll, Antarti**	**17.25**	**149**	P	**P**	**21 51 48.8**	**+0.9**
BELA	**Belgrano 2**	**18.71**	**185**	P	**Pn**	**21 52 04.1**	**-0.2**
CFA	**Coronel Fontan**	**39.05**	**297**	LR	LR	22 11 29.9	
	comp=Z,44nm,19.8s,baz=108,slow=36						
CO01	**Juntas del Tor**	**41.27**	**296**	P	**P**	**21 55 30.9**	**+0.2**
CO01				IAmb	IAmb	21 55 53.6	
	comp=Z,14nm,1.4s						
VNDA	**Vanda**	**43.20**	**183**	P	**P**	**21 55 44.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=182,slow=6.6,SNR=2.1 comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**43.20**	**183**	P	**P**	**21 55 47.0**	**+1.4**
LVC	**Limon Verde**	**47.12**	**303**	LR	LR	22 14 56.8	
	comp=Z,50nm,21.5s,baz=350,slow=35						
LVC	**Limon Verde**	**47.12**	**303**	P	**P**	**21 56 18.2**	**+0.5**
LVC				IAmb	IAmb	21 56 23.2	
	comp=Z,4.7nm,0.9s						
PB01	**IPOC Station P**	**48.75**	**303**	P	**P**	**21 56 30.3**	**+0.3**
PTLB	**Pontes e Lacer**	**49.81**	**318**	P	**P**	**21 56 37.8**	**-0.3**
PTLB				IAmb	IAmb	21 56 40.8	
	comp=Z,6.5nm,1.1s						
MNMC	**Minye Minye**	**50.49**	**304**	P	**P**	**21 56 43.9**	**+0.4**
MNMC				IAmb	IAmb	21 56 50.6	
	comp=Z,4.8nm,0.9s						
H10N1	**ASCENSION HYDR**	**52.35**	**16**	T	T	22 53 34.0	
	baz=188,slow=75,SNR=142						
H10N3	**ASCENSION HYDR**	**52.35**	**16**	T	T	22 53 34.5	
	baz=188,slow=75,SNR=1179						
H10N2	**ASCENSION HYDR**	**52.36**	**16**	T	T	22 53 35.0	
	baz=188,slow=75,SNR=341						
VILB	**Vilhena**	**52.49**	**318**	P	**P**	**21 56 58.1**	**-0.2**
VILB				IAmb	IAmb	21 56 59.8	
	comp=Z,20nm,1.2s						
ETMB	**Extrema**	**57.56**	**313**	P	**P**	**21 57 35.2**	**+0.4**
ETMB				IAmb	IAmb	21 57 36.5	
	comp=Z,14nm,1.1s						
OTAV	**Otavalo**	**71.60**	**305**	P	**P**	**21 59 07.2**	**+0.2**
OTAV				IAmb	IAmb	21 59 10.1	
	comp=Z,10nm,1.5s						
TORD	**Torodi Ar. Bea**	**75.98**	**29**	P	**P**	**21 59 32.9**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=196,slow=6.9,SNR=13 comp=Z,2.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.98**	**29**	P	**P**	**21 59 31.8**	**-0.2**
TORD				IAmb	IAmb	21 59 34.4	
	comp=Z,3.9nm,0.9s						
ASAR	**Alice Springs**	**95.75**	**163**	P	**P**	**22 01 11.1**	**0.0**
	comp=Z,0.5nm,1.0s,baz=186,slow=4.6,SNR=7.5 comp=Z,0.5nm,1.0s						
YKA	**Yellowknife Ar**	**138.67**	**315**	PKP	**PKPdf**	**22 07 09.0**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=151,slow=1.5,SNR=4.6						
INK	**Inuvik**	**148.39**	**317**	PKPbc	**PKiKP**	**22 07 30.7**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=93,slow=5.8,SNR=4.8						
SONM	**Songino Array**	**150.70**	**92**	PKPbc	**PKPbc**	**22 07 35.4**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=219,slow=2.6,SNR=5.8						
ILAR	**Eielson Array**	**152.30**	**307**	PKPbc	**PKPbc**	**22 07 38.3**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=108,slow=2.9,SNR=9.1						

*IDC **25** 22:05:09.0±2.7, 29.°62N×68.°82E, h0km, mb3.2/6, mbtmp3.4/7, ML3.6/1, MS3.3/1, Error ellipse: s-maj=92.5km s-min=27.1km az=82.0*

ISC 25 22:05:10.7±2.2, 29.°6N±0.°2×68.°9E±0.°5, h10km, n8, σ0°36/6, mb3.4/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.74**	**18**	Pn	**Pn**	**22 08 25.7**	**0.0**
	0.3nm,0.3s,baz=192,slow=6.8,SNR=8.8 1.4nm,0.5s						
MKAR	**Makanchi Array**	**20.07**	**28**	P	Pn	22 09 44.9	-1.0
	0.5nm,0.7s,baz=207,slow=10.0,SNR=6.7 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**22.18**	**16**	P	**P**	**22 10 06.7**	**-0.2**
	0.2nm,0.5s,baz=209,slow=10,SNR=2.2 0.2nm,0.5s						
BVAR	**Borovoye Array**	**23.39**	**2**	P	**P**	**22 10 19.9**	**+0.4**
	0.6nm,0.8s,baz=162,slow=9.8,SNR=2.5 0.6nm,0.8s						
IDI	**Anoyia**	**37.28**	**290**	LR	LR	22 30 51.5	
	comp=Z,42nm,19.3s,baz=318,slow=41						
WRA	**Warramunga Arr**	**80.04**	**120**	P	**P**	**22 17 21.2**	**+0.3**
	0.3nm,0.7s,baz=321,slow=5.2,SNR=0.7 0.3nm,0.7s						
ASAR	**Alice Springs**	**81.94**	**123**	P	**P**	**22 17 30.8**	**-0.1**
	0.4nm,0.7s,baz=303,slow=5.2,SNR=4.2 0.4nm,0.7s						
YKA	**Yellowknife Ar**	**88.14**	**2**	P	**P**	**22 18 01.2**	**-0.2**
	0.1nm,0.5s,baz=354,slow=5.6,SNR=1.0 0.1nm,0.5s						

*IDC **25** 22:06:21.1±2.3, 4.°51S×130.°40E, h0km, mb3.5/4, mbtmp3.6/6, ML3.8/2, Error ellipse: s-maj=200.8km s-min=25.7km az=73.0*

ISC 25 22:06:25.4±0.8, 4.°31S±0.°08×131.°1E±0.°1, h35km, n16, σ2°13/16, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.23**	**260**	P	**Pn**	**22 06 46.9**	**+0.7**
FAKI	**Fak Fak**	**1.78**	**39**	P	**Sn**	**22 07 13.8**	**-1.3**
KDU	**Kakadu**	**8.44**	**171**	P	**Pn**	**22 08 27.3**	**+2.1**
MTN	**Manton Dam**	**8.48**	**180**	P	**Pn**	**22 08 26.8**	**+0.9**
LUWI	**Luwuk**	**8.95**	**291**	P	**Pn**	**22 08 33.4**	**+1.1**
KNRA	**Kununurra**	**11.54**	**191**	P	**Pn**	**22 09 04.4**	**-3.4**
WRAB	**Tennant Creek**	**15.85**	**169**	P	**Pn**	**22 10 07.0**	**+0.9**
WRA	**Warramunga Arr**	**15.86**	**169**	Pn	**Pn**	**22 10 03.3**	**-2.9**
	0.3nm,0.3s,baz=348,slow=11,SNR=8.7						
WRA				Sn	Sn	22 12 49.0	-12
	0.5nm,0.3s,baz=341,slow=21,SNR=8.5 1.2nm,0.6s						
QIS	**Mount Isa**	**18.14**	**154**	P	**P**	**22 10 39.0**	**+4.1**
ASAR	**Alice Springs**	**19.44**	**172**	P	**P**	**22 10 49.3**	**+0.3**
	0.9nm,0.3s,baz=351,slow=11,SNR=66						
ASAR				S	S	22 14 15.6	-11
	0.5nm,0.6s,baz=0.0,slow=26,SNR=5.5 1.9nm,0.3s						
AS01	**Alice Springs**	**19.44**	**172**	P	**P**	**22 10 49.5**	**+0.4**
WRKA	**Warakurna**	**20.79**	**187**	P	**P**	**22 11 00.7**	**-3.1**
SONM	**Songino Array**	**56.28**	**340**	P	**P**	**22 16 04.0**	**+1.3**
	0.1nm,0.4s,baz=165,slow=6.0,SNR=1.9 0.1nm,0.4s						
MKAR	**Makanchi Array**	**66.62**	**326**	P	**P**	**22 17 12.2**	**-0.3**
	0.2nm,0.4s,baz=120,slow=7.9,SNR=5.8 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**70.83**	**328**	P	**P**	**22 17 37.8**	**-0.7**
	0.4nm,0.5s,baz=128,slow=5.3,SNR=6.7 0.4nm,0.5s						
BVAR	**Borovoye Array**	**76.41**	**327**	P	**P**	**22 18 10.5**	**-0.7**
	0.4nm,0.6s,baz=122,slow=10,SNR=2.2 0.4nm,0.6s						

*BEO **25** 22:20:12.2±0.8, 42.°36N×15.°05E, h0km, ML3.3/7*

*LDG **25** 22:20:13.5±0.1, 42.°35N×15.°15E, h10km, MI3.4/20, Error ellipse: s-maj=3.4km s-min=1.9km az=58.0*

*ROM **25** 22:20:13.7±0.2, 42.°35N±0.°01×15.°20E±0.°02, h10km, ML3.1/34, Error ellipse: s-maj=1.6km s-min=1.0km az=226.0*

*PDG **25** 22:20:14.1±0.5, 42.°38N×15.°17E, h17km±1km, ML3.1/13, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*

*PRU **25** 22:20:14.4±0.0, 42.°44N×15.°10E, h0km*

ISC 25 22:20:13.8±1.2, 42.°36N±0.°03×15.°08E±0.°03, h26km±13km, n172, σ2°40/187, 9C-4D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRES	**Fresagrandinar**	**0.49**	**219**	P	**Pb**	**22 20 23.4**	**-0.4**
MELA	**Melanico ??? S**	**0.65**	**177**	P	**Pb**	**22 20 25.5**	**-1.0**
APRC	**Apricena**	**0.69**	**150**	P	**Pb**	**22 20 25.9**	**-1.3**
APRC				AML	AML		
	comp=E,3205μm,0.2s						
APRC				AML	AML		
	comp=N,4315μm,1.3s						
APRC				AML	AML		
	comp=N,4315μm,0.7s						
TRIV	**Trivento**	**0.71**	**214**	P	**Pn**	**22 20 27.9**	**-0.2**
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
	comp=E,782μm,1.0s						
TRIV				AML	AML		
TRIV				AML	AML		
	comp=E,782μm,1.0s						
TRIV				AML	AML		
	comp=N,944μm,1.2s						
TRIV				AML	AML		
CIGN	**Sant'Elia a Pi**	**0.71**	**191**	P	**Pn**	**22 20 28.4**	**+0.2**
CIGN				AML	AML		
	comp=E,818μm,0.4s						
CIGN				AML	AML		
	comp=N,878μm,0.8s						
CIGN				AML	AML		
	comp=N,878μm,1.2s						
CIGN				AML	AML		
	comp=E,818μm,1.6s						
LPEL	**Lama dei Peligi**	**0.74**	**246**	P	**Pn**	**22 20 28.1**	**-0.5**
LPEL				AML	AML		
	comp=E,2140μm,1.6s						
LPEL				AML	AML		
	comp=N,2220μm,1.0s						
LPEL				AML	AML		
	comp=E,2140μm,0.4s						
LPEL				AML	AML		
	comp=N,2220μm,1.0s						
GATE	**Gambatesa**	**0.85**	**189**	P	**Pn**	**22 20 30.9**	**+0.9**
GATE				AML	AML		
	comp=E,786μm,0.4s						
GATE				AML	AML		
	comp=N,1098μm,0.9s						
GATE				AML	AML		
	comp=N,1098μm,1.1s						
GATE				AML	AML		
	comp=N,1052μm,0.5s						
GATE				AML	AML		
	comp=E,1220μm,0.4s						
GATE				AML	AML		
	comp=E,786μm,1.6s						
BSSO	**Busso**	**0.89**	**204**	P	**Pn**	**22 20 31.4**	**+0.8**
BSSO				AML	AML		
	comp=N,920μm,0.7s						
BSSO				AML	AML		
	comp=N,358μm,0.5s						
BSSO				AML	AML		
	comp=E,1152μm,0.4s						
BSSO				AML	AML		
	comp=N,358μm,1.5s						
BSSO				AML	AML		
	comp=E,477μm,0.4s						
BSSO				AML	AML		
	comp=N,920μm,1.3s						
MSAG	**Monte S. Angel**	**0.89**	**136**	P	**Pb**	**22 20 30.5**	**-0.1**
MSAG				AML	AML		
	comp=N,13150μm,1.5s						
MSAG				AML	AML		
	comp=N,6340μm,1.6s						
MSAG				AML	AML		
	comp=N,6340μm,0.4s						
MSAG				AML	AML		
	comp=N,13150μm,0.5s						
MSAG				AML	AML		
	comp=E,5045μm,0.2s						
MSAG				AML	AML		
	comp=E,6300μm,0.2s						
MIDA	**Miranda**	**0.94**	**221**	P	**Pb**	**22 20 30.9**	**-0.6**
MIDA				AML	AML		
	comp=E,1245μm,0.4s						
MIDA				AML	AML		
	comp=N,808μm,0.5s						
MIDA				AML	AML		
	comp=E,1230μm,0.4s						
MIDA				AML	AML		
	comp=N,884μm,0.5s						
MIDA				AML	AML		
	comp=N,807μm,0.5s						
MIDA				AML	AML		
	comp=N,884μm,1.5s						
MIDA				AML	AML		
	comp=E,1245μm,1.6s						
RNI2	**Rionero Sannit**	**0.95**	**227**	P	**Pb**	**22 20 31.3**	**-0.3**
RNI2				AML	AML		
	comp=N,1060μm,0.6s						
RNI2				AML	AML		
	comp=N,1050μm,0.6s						
RNI2				AML	AML		
	comp=E,1015μm,0.3s						
RNI2				AML	AML		
	comp=E,1025μm,0.4s						
TRTR	**Tortoreto Alta**	**0.97**	**298**	P	**Pn**	**22 20 34.5**	**+2.7**
TRTR				AML	AML		
	comp=N,3960μm,1.4s						
TRTR				AML	AML		
	comp=E,4770μm,0.6s						
T0110	**Collepietro**	**0.98**	**263**	P	**Pn**	**22 20 34.2**	**+2.3**
T0110				AML	AML		
	comp=E,2680μm,0.5s						
T0110				AML	AML		
	comp=N,1970μm,1.2s						
T0110				AML	AML		
	comp=N,1970μm,0.8s						
PTRJ	**Pietraroja**	**1.07**	**203**	P	**Pb**	**22 20 34.4**	**+0.7**
PTRJ				AML	AML		
	comp=N,751μm,1.1s						
PTRJ				AML	AML		
	comp=N,941μm,1.1s						
PTRJ				AML	AML		
	comp=N,751μm,0.9s						
PTRJ				AML	AML		
	comp=N,941μm,0.9s						
PTRJ				AML	AML		
	comp=E,1240μm,0.6s						
PTRJ				AML	AML		
	comp=E,1170μm,0.5s						
CERA	**Filignano**	**1.10**	**227**	P	**Pb**	**22 20 35.9**	**+1.8**
CERA				AML	AML		
	comp=E,935μm,1.0s						
CERA				AML	AML		
	comp=N,898μm,0.6s						
CERA				AML	AML		
	comp=N,902μm,0.6s						
CERA				AML	AML		
	comp=N,898μm,1.4s						
CERA				AML	AML		
	comp=E,932μm,1.0s						
CERA				AML	AML		
	comp=E,934μm,1.0s						
CERA				AML	AML		
	comp=N,902μm,1.4s						
SGG	**Gregorio Mates**	**1.10**	**209**	P	**Pb**	**22 20 34.7**	**+0.5**
SGG				AML	AML		
	comp=N,819μm,0.5s						
SGG				AML	AML		
	comp=E,2.0nm,0.4s						
SGG				AML	AML		
	comp=E,672μm,1.3s						
SGG				AML	AML		
	comp=N,2.5nm,0.5s						
FAGN	**Fagnano**	**1.11**	**266**	P	**Pb**	**22 20 36.4**	**+2.0**
FAGN				AML	AML		
	comp=E,4455μm,0.5s						
FAGN				AML	AML		
	comp=N,3025μm,0.4s						
FAGN				AML	AML		
	comp=E,4455μm,1.5s						
GIGS	**Gran Sasso**	**1.12**	**275**	P	**Pb**	**22 20 35.5**	**+0.9**
GIGS				AML	AML		
	comp=E,315μm,1.4s						
GIGS				AML	AML		
	comp=N,291μm,0.6s						
GIGS				AML	AML		
	comp=E,398μm,0.6s						
GIGS				AML	AML		
	comp=N,306μm,0.7s						
TERO	**Teramo**	**1.13**	**284**	P	**Pb**	**22 20 36.0**	**+1.4**
TERO				AML	AML		
	comp=E,1115μm,1.0s						
TERO				AML	AML		
	comp=N,951μm,0.5s						
TERO				AML	AML		
	comp=E,1113μm,0.9s						
TERO				AML	AML		
	comp=N,952μm,0.5s						
TERO				AML	AML		
	comp=N,996μm,0.5s						
TERO				AML	AML		
	comp=N,1006μm,0.5s						
TERO				AML	AML		
	comp=E,1145μm,0.6s						
TERO				AML	AML		
	comp=E,1162μm,0.6s						
VAGA	**Valle Agricola**	**1.13**	**214**	P	**Pb**	**22 20 35.3**	**+0.6**
VAGA				AML	AML		
	comp=N,1045μm,1.2s						
VAGA				AML	AML		
	comp=N,1044μm,1.2s						
VAGA				AML	AML		
	comp=E,692μm,0.5s						
VAGA				AML	AML		
	comp=E,670μm,0.5s						
VAGA				AML	AML		
	comp=N,1092μm,1.2s						
PSB1	**Pescosannita**	**1.15**	**190**	P	**Pb**	**22 20 35.1**	**+0.1**
OFFI	**Offida**	**1.18**	**300**	P	**Pb**	**22 20 38.0**	**+2.5**
OFFI				AML	AML		
	comp=E,797μm,0.4s						
OFFI				AML	AML		
	comp=E,1435μm,1.2s						
OFFI				AML	AML		
	comp=N,1220μm,0.7s						
VVLD	**Villa Vallelon**	**1.19**	**247**	AML	AML		
	comp=E,869μm,1.2s						
VVLD				AML	AML		
	comp=N,1112μm,0.6s						
VVLD				AML	AML		
	comp=N,1112μm,1.4s						
POFI	**Posta Fibreno**	**1.20**	**239**	AML	AML		
	comp=E,398μm,1.3s						
POFI				AML	AML		
	comp=E,368μm,0.7s						
POFI				AML	AML		
	comp=N,312μm,0.7s						
POFI				AML	AML		
	comp=E,398μm,0.7s						
POFI				AML	AML		
	comp=N,316μm,0.6s						
POFI				AML	AML		
	comp=E,368μm,1.3s						
VITU	**Vitulano (BN)**	**1.22**	**196**	P	**Pb**	**22 20 37.0**	**+0.8**
VITU				AML	AML		
	comp=E,278μm,0.7s						
VITU				AML	AML		

comp=E,761µm,0.4s
VITU AML AML
comp=N,861µm,0.6s
VITU AML AML
comp=N,818µm,0.4s
MRB1 Monte Rocchett 1.23 184 P **Pb** **22 20 37.1 +0.7**
MRB1 AML AML
comp=E,647µm,1.1s
MRB1 AML AML
comp=E,657µm,1.1s
MRB1 AML AML
comp=N,788µm,0.5s
MRB1 AML AML
comp=E,657µm,0.9s
MRB1 AML AML
comp=E,647µm,0.9s
MRB1 AML AML
comp=N,788µm,1.5s
MRB1 AML AML
comp=N,868µm,0.7s
CAMP Campotosto 1.25 279 P **Pb** **22 20 38.0 +1.2**
CAMP AML AML
comp=E,610µm,0.8s
CAMP AML AML
comp=N,695µm,0.5s
CAMP AML AML
comp=E,610µm,1.2s
CAFE Carife 1.33 175 P **Pb** **22 20 38.4 +0.3**
CAFE AML AML
comp=N,357µm,0.9s
CAFE AML AML
comp=E,562µm,0.4s
MNTP Montappone 1.42 304 P **Pb** **22 20 40.8 +1.2**
VULT Monte Vulture 1.46 164 P **Pb** **22 20 40.0 -0.2**
VULT AML AML
comp=E,933µm,0.4s
VULT AML AML
comp=E,970µm,0.4s
VULT AML AML
comp=N,1394µm,0.3s
VULT AML AML
comp=N,1400µm,0.3s
FIAM Fiamignano 1.46 267 AML AML
comp=E,416µm,1.2s
FIAM AML AML
comp=E,478µm,0.7s
FIAM AML AML
comp=N,347µm,0.7s
FIAM AML AML
comp=N,347µm,1.3s
FIAM AML AML
comp=E,478µm,1.3s
GUMA Gualdo di Mace 1.47 299 P **Pb** **22 20 41.5 +1.1**
T1245 Castelsantange 1.49 290 AML AML
comp=E,737µm,0.5s
T1245 AML AML
comp=N,753µm,0.9s
T1245 AML AML
comp=E,661µm,0.5s
T1245 AML AML
comp=N,779µm,0.9s
T1245 AML AML
comp=N,753µm,1.1s
T1218 Civita (PG) 1.49 283 AML AML
comp=N,1265µm,0.4s
T1218 AML AML
comp=E,469µm,1.1s
T1218 AML AML
comp=E,469µm,0.9s
MODR Mondragone 1.51 217 P **Pb** **22 20 41.5 +0.4**
MODR AML AML
comp=N,386µm,1.1s
MODR AML AML
comp=E,265µm,0.8s
T1222 Castel Sant'An 1.52 272 AML AML
comp=N,424µm,0.4s
T1222 AML AML
comp=E,304µm,1.1s
T1222 AML AML
comp=E,364µm,1.1s
T1222 AML AML
comp=N,440µm,0.4s
T1222 AML AML
comp=E,364µm,0.9s
T1222 AML AML
comp=E,304µm,0.9s
MRVN Minervino Murg 1.54 147 P **Pn** **22 20 40.1 +0.6**
T1212 Cascia, Frazio 1.56 285 AML AML
comp=N,394µm,0.4s
T1212 AML AML
comp=E,404µm,0.6s
T1212 AML AML
comp=N,398µm,0.4s
T1212 AML AML
comp=E,394µm,0.8s
T1212 AML AML
comp=E,404µm,1.4s
CSP1 Cessapalombo 1.57 299 P **Pb** **22 20 42.8 +0.6**
CSP1 AML AML
comp=E,140µm,1.5s
CSP1 AML AML
comp=N,185µm,0.5s
CSP1 AML AML
comp=E,140µm,0.5s
GIUL Giuliano Di Ro 1.58 240 AML AML
comp=N,212µm,0.7s
GIUL AML AML
comp=E,167µm,0.6s
GIUL AML AML
comp=N,212µm,1.3s
VVDG Vesuvio Valle 1.60 198 P **Pb** **22 20 42.8 +0.2**
VVDG AML AML
VVDG AML AML
VVDG AML AML
CERT Cerreto 1.61 256 AML AML
comp=N,182µm,1.0s
CERT AML AML
comp=E,286µm,0.6s
CERT AML AML
comp=E,359µm,0.5s
CERT AML AML
comp=N,224µm,1.5s
T1216 Preci, Frazion 1.61 290 AML AML
comp=E,362µm,0.4s
T1216 AML AML
comp=N,338µm,0.4s
FDMO Fiordimonte 1.62 296 AML AML
comp=E,250µm,0.5s
FDMO AML AML
comp=N,167µm,0.4s
VTIR Vesuvio Tirone 1.62 198 P **Pb** **22 20 43.3 +0.3**
VTIR AML AML
comp=E,222µm,0.4s
VTIR AML AML
comp=N,200µm,0.5s
MRLC Muro Lucano 1.63 169 P **Pb** **22 20 42.0 -1.1**
T1220 Camerino, Fraz 1.65 298 P **Pb** **22 20 44.1 +0.5**
T1220 AML AML
comp=E,833µm,1.5s
T1220 AML AML
comp=N,677µm,1.4s
T1220 AML AML
comp=E,834µm,1.5s
T1220 AML AML
comp=N,632µm,0.5s
T1220 AML AML
comp=N,632µm,1.5s
T1220 AML AML
comp=N,677µm,0.6s
T1220 AML AML
comp=E,833µm,0.5s
T1220 AML AML
comp=E,834µm,0.5s
T1211 Morro Reatino 1.66 277 AML AML
comp=E,205µm,0.5s
T1211 AML AML
comp=N,435µm,1.4s
T1211 AML AML
comp=N,435µm,0.6s
T1219 Muccia, Frazio 1.68 295 AML AML
comp=E,215µm,0.3s
T1219 AML AML
comp=E,224µm,0.3s
T1219 AML AML
comp=E,214µm,0.3s
T1219 AML AML
comp=N,186µm,1.4s
T1219 AML AML
comp=E,224µm,0.3s
T1219 AML AML
comp=N,226µm,1.0s
T1219 AML AML
comp=N,186µm,1.4s
T1219 AML AML
comp=N,226µm,1.0s
T1219 AML AML
comp=E,215µm,1.7s
T1219 AML AML
comp=E,232µm,1.1s
T1219 AML AML
comp=N,226µm,1.0s
T1219 AML AML
comp=N,224µm,0.3s
ACER Acerenza 1.69 157 P **Pb** **22 20 43.2 -1.0**
T1215 Vallo di Nera, 1.69 286 AML AML
comp=N,132µm,0.4s
T1215 AML AML
comp=E,138µm,1.0s
CING Cingoli 1.72 307 P **Pb** **22 20 44.5 -0.2**
CING AML AML
comp=E,121µm,1.4s
CING AML AML
comp=N,129µm,0.4s
CING AML AML
comp=E,121µm,0.6s
ARRO Arrone 1.73 278 P **Pb** **22 20 45.6 +0.8**
ARRO AML AML
comp=E,178µm,1.4s
ARRO AML AML
comp=N,161µm,0.8s
ARRO AML AML
comp=E,178µm,0.6s
CESI CESI - Serrava 1.73 293 P **Pb** **22 20 46.0 +1.1**
CESI AML AML
comp=N,201µm,0.2s
CESI AML AML
comp=E,170µm,0.3s
EL6 Elcito 1.75 304 AML AML
comp=E,266µm,0.9s
EL6 AML AML
comp=N,250µm,0.4s
EL6 AML AML
comp=E,266µm,1.1s
EL6 AML AML
comp=N,328µm,1.2s
EL6 AML AML
comp=N,328µm,0.8s
SNTG Esanatoglia 1.81 300 P **Pb** **22 20 46.1 -0.2**
SNTG AML AML
comp=E,96µm,1.2s
SNTG AML AML
comp=N,246µm,1.6s
SNTG AML AML
comp=E,209µm,1.1s
SNTG AML AML
comp=N,123µm,1.6s
AMUR Altamura 1.84 141 P **Pn** **22 20 44.5 +0.8**
CESX Cesi 1.87 279 P **Pb** **22 20 47.4 +0.2**
CESX AML AML
comp=N,188µm,1.0s
CESX AML AML
comp=E,181µm,0.7s
CDRU Civita di Ruta 1.87 175 P **Pb** **22 20 46.4 -0.9**
MOMA Monte Martano 1.91 284 AML AML
comp=E,196µm,1.2s
MOMA AML AML
comp=N,198µm,0.5s
MOMA AML AML
comp=E,196µm,0.8s
SRES S.Oreste - Sor 1.91 267 AML AML
comp=E,113µm,1.6s
SRES AML AML
comp=N,114µm,1.0s
SRES AML AML
comp=N,114µm,1.0s
ASSB Assisi San Ben 1.92 292 AML AML
comp=N,123µm,0.3s
ASSB AML AML
comp=E,144µm,0.5s
SAMA S.Maria delle 1.94 254 AML AML
comp=N,382µm,0.1s
SAMA AML AML
comp=E,349µm,0.1s
ARVD Arcevia 1.94 307 P **Pb** **22 20 47.4 -1.1**
ARVD AML AML
comp=E,110µm,1.5s
ARVD AML AML
comp=N,128µm,0.7s
STON Ston 2.00 74 P **Pn** **22 20 47.4 +1.5**
STON AML AML
comp=N,359µm,0.9s
STON AML AML
comp=E,298µm,0.7s
STON AML AML
comp=N,359µm,1.1s
STON Ston 2.00 74 *e*Pn **Pn** **22 20 46.3 +0.5**
STON *e*Sn **Sb** **22 21 12.8 -1.1**
STON Ston 2.00 74 *e*Pn **Pn** **22 20 46.6 +0.8**
SSFR Montelago di S 2.01 303 AML AML
comp=E,310µm,0.2s
SSFR AML AML
comp=N,370µm,1.1s
SSFR AML AML
comp=N,344µm,0.3s
SSFR AML AML
comp=E,267µm,0.2s
SSFR AML AML
comp=N,370µm,0.9s
FRON Frontone 2.08 305 AML AML
comp=N,196µm,0.7s
FRON AML AML
comp=E,118µm,0.6s
MATE Matera 2.10 144 P **Pn** **22 20 48.0 +0.9**
MCEL Monticello 2.10 165 AML AML
comp=E,187µm,0.7s
MCEL AML AML
comp=N,160µm,0.8s
MCEL AML AML
comp=E,178µm,0.6s
MCEL AML AML
comp=N,160µm,1.2s
MCEL AML AML
comp=N,168µm,0.4s
ATFO Monte Foce - G 2.10 300 AML AML
comp=E,160µm,0.4s
ATFO AML AML
comp=E,160µm,1.6s
ATFO AML AML
comp=N,126µm,1.4s
ATFO AML AML
comp=N,126µm,0.6s
MPAG Monte Paganucc 2.13 308 AML AML
comp=N,94µm,0.5s
MPAG AML AML
comp=E,121µm,0.6s
MPAG AML AML
comp=E,121µm,1.4s
NOCI Noci 2.16 136 P **Pn** **22 20 48.7 +0.7**
LTRZ Laterza 2.18 143 P **Pn** **22 20 49.4 +1.0**
PIEI Pieia 2.21 303 AML AML
comp=N,73µm,0.5s
PIEI AML AML
comp=E,102µm,1.3s
PIEI AML AML
comp=E,102µm,0.7s
PIEI AML AML
comp=N,73µm,1.5s
ATVO AVT- Monte Val 2.22 298 AML AML
comp=N,82µm,0.6s
ATVO AML AML
comp=E,108µm,1.4s
ATVO AML AML
comp=N,82µm,1.4s
ATVO AML AML
comp=E,108µm,0.6s
MGAB Montegabbione 2.26 285 AML AML
comp=E,228µm,1.4s
MGAB AML AML
comp=N,157µm,0.2s
MGAB AML AML
comp=E,222µm,1.3s
MGAB AML AML
comp=N,170µm,0.5s
APEC Apecchio 2.29 303 AML AML
comp=N,146µm,0.3s
APEC AML AML
comp=E,134µm,0.5s
APEC AML AML
comp=N,146µm,1.7s
APEC AML AML
comp=E,134µm,1.5s
A050A Klekovaca 2.37 26 *e*Pn **Pb** **22 20 53.6 -2.3**
TREB Trebinje 2.44 80 *e*Pn **Pn** **22 20 53.1 +1.2**
TREB *e*Sn **Sb** **22 21 25.5 -1.1**
TREB Trebinje 2.44 80 *e*Pn **Pn** **22 20 52.9 +1.0**
PARC Parchiule 2.46 303 AML AML
comp=N,88µm,0.6s
PARC AML AML
comp=E,68µm,0.7s
PARC AML AML
comp=E,68µm,1.3s
CAFI Castiglion Fio 2.49 294 AML AML
comp=N,52µm,0.6s
CAFI AML AML
comp=E,47µm,1.2s
MGRS Mrkonjic Grad 2.52 35 *e*Pn **Pn** **22 20 54.5 +1.4**
HCY Herceg Novi 2.53 87 *e*Pn **Pn** **22 20 54.0 +0.9**
HCY Herceg Novi 2.53 87⇓*i*Pn **Pn** **22 20 54.6 +1.5**
HCY *i* Sn **Sn** **22 21 25.9 +2.8**
SF04 Casetta 2.57 282 AML AML
comp=E,79µm,0.3s
SF04 AML AML
comp=N,56µm,1.4s
BRY Bratogost 2.61 77 *e*Pn **Pn** **22 20 55.0 +0.6**
BRY Bratogost 2.61 77⇑*i*Pn **Pn** **22 20 56.0 +1.6**
BRY *i* Sn **Sn** **22 21 28.1 +2.8**
CRE Caprese Michel 2.62 300 AML AML
comp=E,70µm,0.6s
CRE AML AML
comp=N,64µm,0.6s
BRJN Brijuni 2.73 340 P **Pn** **22 20 56.9 +1.0**
BUM Brajici-Budva 2.83 90⇑*i*Pn **Pn** **22 20 59.1 +1.8**
BUM *i* Sn **Sn** **22 21 33.3 +2.8**
BLY Banja Luka 2.84 32 *e*Pn **Pn** **22 20 58.9 +1.5**
BLY *e*Sn **Sn** **22 21 34.3 +3.5**
BLY Banja Luka 2.84 32 *e*Pn **Pn** **22 20 59.4 +2.0**
CEME Cevo 2.84 85⇑*i*Pn **Pn** **22 20 59.1 +1.6**
CEME *i* Sn **Sn** **22 21 33.9 +2.9**
NKME Niksic 2.89 80⇑*i*Pn **Pn** **22 21 00.0 +1.9**
NKME *i* Sn **Sn** **22 21 35.0 +2.9**
UPM Unac-Piva 2.94 72 *e*Pn **Pn** **22 20 57.3 -1.7**
UPM Unac-Piva 2.94 72⇓*i*Pn **Pn** **22 21 02.1 +3.1**
UPM *i* Sn **Sn** **22 21 35.8 +2.3**
A051A Mrakovica 2.97 26 *e*Pn **Pn** **22 21 01.6 +2.4**
DRME Dracevica, Mon 3.05 92 *e*Pn **Pn** **22 21 01.7 +1.4**
DRME Dracevica, Mon 3.05 92⇑*i*Pn **Pn** **22 21 02.4 +2.1**
DRME *i* Sn **Sn** **22 21 38.4 +2.5**
PDG Podgorica 3.09 87 *e*Pn **Pn** **22 21 02.1 +1.2**
PDG *e*Sn **Sn** **22 21 39.8 +2.8**
PDG Podgorica 3.09 87⇑*i*Pn **Pn** **22 21 02.9 +2.0**
PDG *i* Sn **Sn** **22 21 39.5 +2.5**
ULC Ulcinj 3.12 96⇑*i*Pn **Pn** **22 21 03.1 +1.8**
ULC *i* Sn **Sn** **22 21 40.6 +2.9**
BOJS Bojanci 3.15 2 *e*Pn **Pn** **22 21 03.9 +2.2**
A052A Srbac 3.26 32 *e*Pn **Pn** **22 21 04.9 +1.7**
SKDS Skadanscina 3.28 347 *e*Pn **Pn** **22 21 04.3 +0.8**
KOME Kolasin 3.31 80⇓*i*Pn **Pn** **22 21 06.1 +2.1**
KOME *i* Sn **Sn** **22 21 45.1 +2.6**
PLE Pljevlja 3.31 71⇑*i*Pn **Pn** **22 21 05.8 +1.8**
PLE *i* Sn **Sn** **22 21 45.3 +2.7**
RUDO Rudo 3.39 67 *e*Pn **Pn** **22 21 06.8 +1.8**
CEY Cerknica 3.42 352 *e*Pn **Pn** **22 21 05.7 +0.3**
CRES Cresnjev 3.48 4 *e*Pn **Pn** **22 21 09.0 +2.8**
BBLS Lazići 3.51 63 *e*Pn **Pn** **22 21 08.4 +1.7**
BBLS *e*Sn **Sn** **22 21 49.1 +1.8**
BBLS Lazići 3.51 63 *e*Pn **Pn** **22 21 08.8 +2.1**
IVA Berane 3.59 80⇓*i*Pn **Pn** **22 21 10.3 +2.5**
IVA *i* Sn **Sn** **22 21 51.9 +2.5**
PVY Plav 3.62 85⇑*i*Pn **Pn** **22 21 10.4 +2.2**
PVY *i* Sn **Sn** **22 21 52.4 +2.3**
SJES Sjenica 3.71 74 *e*Pn **Pn** **22 21 12.0 +2.5**
SJES *e*Sn **Sn** **22 21 54.9 +2.5**
DIVS Divibare 3.99 62 *e*Pn **Pn** **22 21 14.6 +1.3**
DIVS *e*Sn **Sn** **22 22 01.4 +2.2**
DIVS Divibare 3.99 62 *e*Pn **Pn** **22 21 14.8 +1.5**
OBKA Obir 4.17 355 *e*Pn **Pn** **22 21 17.2 +1.4**
comp=N,6.1nm,0.2s,SNR=15
OBKA Obir 4.17 355 *e*Pn **Pn** **22 21 16.3 +0.5**
TRUS Trudelj 4.31 63 *e*Pn **Pn** **22 21 19.8 +2.2**
SOKA Soboth 4.32 360 *i* Pn **Pn** **22 21 19.4 +1.6**
comp=N,2.5nm,0.2s
MYKA Terra Mystica 4.40 347 *i* Pn **Pn** **22 21 20.2 +1.4**
comp=N,1.2nm,0.2s
GRUS Gruza 4.40 68 *e*Pn **Pn** **22 21 19.7 +0.9**
FRGS Fruska Gora 4.42 49 *e*Pn **Pn** **22 21 21.0 +1.8**
OHR Ohrid 4.45 104 *i* Pn **Pn** **22 21 22.5 +2.8**
PGF Pioggiola 4.50 275 *e*P **Pn** **22 21 24.2 +3.8**
PGF *e*Sn **Sn** **22 22 10.6 -1.4**
comp=N,1.6nm,0.5s
SELS Selova 4.53 77 *e*Pn **Pn** **22 21 21.8 +1.2**
ABTA Abfaltersbach 4.76 338 *i* Pn **Pn** **22 21 25.5 +1.6**
comp=N,1.7nm,0.5s
ABTA *e*Sn **Sn** **22 22 19.3 +1.1**
comp=N,11nm,0.5s
KBA Koelnbreinsper 4.88 346 *e*Pn **Pn** **22 21 27.5 +1.9**
comp=N,1.6nm,0.3s
ARSA Arzberg 4.91 4 *i* Pn **Pn** **22 21 27.4 +1.5**
comp=N,2.1nm,0.4s
BARS Barje 4.99 82 *e*Pn **Pn** **22 21 27.6 +0.6**
STIP Stip 5.33 95 *i* Pn **Pn** **22 21 35.9 +4.2**
RONA Rosalia, Austr 5.41 9 *i* Pn **Pn** **22 21 34.8 +2.0**
comp=N,0.6nm,0.2s
BIOA Bad Ischl, Aus 5.43 350 *e*Pn **Pn** **22 21 34.4 +1.3**
comp=N,1.8nm,0.2s
MOA Molln 5.53 354 *i* Pn **Pn** **22 21 36.6 +2.3**
comp=N,3.2nm,0.3s,SNR=5.8
WATA Walderalm 5.57 335 *i* Pn **Pn** **22 21 35.2 +0.1**
comp=N,3.5nm,0.3s
WATA *e*Sn **Sn** **22 22 41.0 +2.7**
comp=N,19nm,0.6s
SQTA Sankt Quirin 5.59 332 *e*Pn **Pn** **22 21 38.2 +2.8**
comp=N,3.7nm,0.5s
SQTA *e*Sn **Sn** **22 22 42.8 +4.0**
comp=N,27nm,0.5s
CONA Conrad Observa 5.60 5 *i* Pn **Pn** **22 21 37.3 +1.9**
comp=N,1.3nm,0.3s,SNR=6.1
FETA Feichten 5.60 328 *e*Pn **Pn** **22 21 37.4 +1.8**
comp=N,0.4nm,0.2s
FETA *e*Sn **Sn** **22 22 43.5 +4.4**
comp=N,15nm,0.6s
MOTA Moosalm 5.74 332 *e*Pn **Pn** **22 21 39.9 +2.6**
comp=N,1.9nm,0.3s
MOTA *e*Sn **Sn** **22 22 47.3 +5.0**
comp=N,18nm,0.4s
SBF Sospel 5.80 288 *e*P **Pn** **22 21 41.3 +3.2**
SBF *e*Sn **Sn** **22 22 41.5 -2.3**
comp=N,5.9nm,0.3s
RETA Reutte 5.98 331 *e*Pn **Pn** **22 21 43.3 +2.7**
comp=N,0.8nm,0.2s
DAVA Damuels 6.16 325 *i* Pn **Pn** **22 21 47.3 +4.1**
comp=N,1.4nm,0.2s
MODS Modra-Piesok 6.21 14 *e*PN **Pn** **22 21 45.6 +1.8**
MODS *e*SN **Sn** **22 22 53.0 -0.9**
LMR La Mourre 6.38 282 *e*P **Pn** **22 21 49.1 +3.1**
LMR *e*Sn **Sn** **22 22 55.3 -2.7**
comp=N,0.9nm,0.3s
CKRC Cesky Krumlov 6.49 355 *e*PN **Pn** **22 21 48.6 +1.1**
CKRC *e*SN **Sn** **22 23 00.3 -0.4**
MBDF Montbardon 6.49 294 *e*Pn **Pn** **22 21 47.6 -0.1**
MBDF *e*Sn **Sn** **22 22 58.4 -2.5**
comp=N,2.1nm,0.3s
VYHS Vyhne 6.68 22 *e*PN **Pn** **22 21 53.0 +2.8**
VYHS *e*SN **Sn** **22 23 05.1 -0.4**
LPL La Plagne 6.81 300 *e*Pn **Pn** **22 21 52.2 +0.1**
LPL La Plagne 6.81 300 *e*P Pn 22 21 57.0 +4.9
LPL *e*Sn **Sn** **22 23 04.3 -4.5**
comp=N,2.9nm,0.3s
KHC Kasperske Hory 6.86 352 *e*PN **Pn** **22 21 53.2 +0.6**
KHC *e*SN **Sn** **22 23 08.8 -1.0**
SMRF Simiane la Rot 7.14 286 *e*P **Pn** **22 22 00.9 +4.4**
SMRF *e*Sn **Sn** **22 23 13.7 -3.1**
comp=N,0.7nm,0.3s
ORIF Oris-en-Rattie 7.15 294 *e*P **Pn** **22 21 58.9 +2.2**
ORIF *e*Sn **Sn** **22 23 14.6 -2.5**
comp=N,1.8nm,0.3s
CABF La Chapelle 7.71 307 *e*Pn **Pn** **22 22 03.8 -0.6**
CABF *e*Sn **Sn** **22 23 26.6 -4.3**
comp=N,2.9nm,0.3s
VIVF Saint-Julien-l 7.96 292 *e*Pn **Pn** **22 22 07.4 -0.3**
VIVF *e*Sn **Sn** **22 23 31.8 -5.1**

HINF	**Hinteralfeld**	**7.98**	**316**	*e*Pn	**Pn**	**22 22 07.5**	**-0.5**
HINF				*e*Sn	**Sn**	**22 23 32.4**	**-5.0**
	comp=N,6,6nm,0.3s						
CDF	**Champ du Feu**	**8.18**	**320**	*e*Pn	**Pn**	**22 22 10.5**	**-0.2**
CDF				*e*Sn	**Sn**	**22 23 38.5**	**-3.8**
	comp=N,1,6nm,0.3s						
HAU	**Haudompre**	**8.36**	**315**	*e*Pn	**Pn**	**22 22 12.9**	**-0.4**
HAU				*e*Sn	**Sn**	**22 23 41.0**	**-5.8**
	comp=N,16nm,0.3s						
LASF	**Ste Croix**	**8.38**	**286**	*e*P	**Pn**	**22 22 17.9**	**+4.4**
PAGF	**Fort de Pagny**	**9.03**	**317**	*e*P	Pn	22 22 28.1	+5.7
	baz=136						
PAGF				*e*Sn	**Sn**	**22 23 58.8**	**-4.4**
	comp=N,3,1nm,0.3s						
SMF	**Signal de Mont**	**9.11**	**302**	*e*Pn	**Pn**	**22 22 23.2**	**-0.2**
SMF				*e*Sn	**Sn**	**22 23 59.3**	**-5.7**
SFTF	**Sexfontaines**	**9.18**	**313**	*e*Sn	**Sn**	**22 24 01.4**	**-5.5**
	comp=N,3,9nm,0.3s						
MEZF	**Maizieres J'vi**	**9.35**	**315**	*e*Pn	**Pn**	**22 22 26.4**	**-0.4**
MEZF				*e*Sn	**Sn**	**22 24 06.2**	**-4.8**
	comp=N,3,0nm,0.3s						
LOR	**Lormes**	**9.37**	**305**	*e*Pn	**Pn**	**22 22 26.5**	**-0.5**
	baz=125						
LOR				*e*Sn	**Sn**	**22 24 05.4**	**-6.0**
	comp=N,5,1nm,0.3s						
SAVF	**Savonnieres en**	**9.38**	**315**	*e*Sn	**Sn**	**22 24 06.5**	**-5.3**
	comp=N,1,9nm,0.3s						
AVF	**Avril sur Loir**	**9.47**	**302**	*e*Pn	**Pn**	**22 22 27.0**	**-1.4**
AVF				*e*Sn	**Sn**	**22 24 07.6**	**-6.4**
SSF	**Saint Saulge**	**9.49**	**304**	*e*Pn	**Pn**	**22 22 27.9**	**-0.8**
SSF				*e*Sn	**Sn**	**22 24 08.9**	**-5.5**
	comp=N,3,4nm,0.5s						
BGF	**Bois d'Agland**	**9.70**	**300**	*e*Pn	**Pn**	**22 22 31.0**	**-0.6**
BGF				*e*Sn	**Sn**	**22 24 14.4**	**-5.3**
	comp=N,2,9nm,0.3s						
TCF	**Toulx Ste Croi**	**10.03**	**297**	*e*Pn	**Pn**	**22 22 34.0**	**-2.1**
TCF				*e*Sn	**Sn**	**22 24 22.5**	**-5.2**
	comp=N,0.7nm,0.2s						

*IDC **25** 22:23:06.4±2.6, 6°.04S×147°.62E, h0km, mb3.7/4, mbtmp3.7/6, ML3.9/1, MS3.0/4, Error ellipse: s-maj=92.4km s-min=22.8km az=93.0*

ISC 25 22:23:12.5±1.8, 6°.18S±0°.10×147°.7E±0°.4, h50km, n10, σ1§16/9, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**189**	Pn	**Pn**	**22 24 01.5**	**+0.5**
	41nm,0.5s,baz=14,slow=8.0,SNR=12						
PMG				Sn	**Sn**	**22 24 37.1**	**-1.3**
	16nm,0.3s,baz=50,slow=9.7,SNR=8.6						
PMG				LR	LR	22 25 01.1	
	comp=Z,65nm,19.3s,baz=48,slow=34						
SIJI	**Sorong**	**17.22**	**287**	LR	LR	22 34 44.2	
	comp=Z,130nm,19.1s,baz=56,slow=41						
WRA	**Warramunga Arr**	**18.85**	**222**	P	**P**	**22 27 28.6**	**0.0**
	0.4nm,0.3s,baz=50,slow=11,SNR=7.3						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**21.87**	**216**	P	**P**	**22 28 01.6**	**+0.3**
	1.2nm,0.4s,baz=50,slow=9.6,SNR=41						
ASAR				S	**S**	**22 32 00.3**	**0.0**
	0.3nm,0.6s,baz=34,slow=25,SNR=4.5						
	1.2nm,0.4s						
STKA	**Stephens Creek**	**26.19**	**192**	P	**P**	**22 28 42.7**	**+0.2**
	0.5nm,0.3s,baz=27,slow=14,SNR=1.7						
	0.5nm,0.3s						
JNU	**Nakatsue**	**42.23**	**339**	LR	LR	22 46 11.2	
	comp=Z,35nm,19.5s,baz=80,slow=33						
KSRS	**Korea Array**	**47.17**	**338**	LR	LR	22 50 30.6	
	comp=Z,12nm,18.2s,baz=200,slow=35						
SONM	**Songino Array**	**64.90**	**331**	P	**P**	**22 33 44.9**	**-1.9**
	0.3nm,0.5s,baz=124,slow=7.2,SNR=1.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**78.08**	**320**	P	**P**	**22 35 07.2**	**+1.0**
	0.4nm,0.6s,baz=97,slow=7.7,SNR=4.5						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.81**	**284**	PKPbc	**PKPab**	**22 42 48.9**	**+1.1**
	1.5nm,0.5s,baz=68,slow=3.9,SNR=12						

*IDC **25** 22:34:36.8±1.8, 7°.34N×93°.09E, h0km, mb3.7/5, mbtmp3.7/6, MS3.5/1, Error ellipse: s-maj=71.2km s-min=24.7km az=59.0*

ISC 25 22:34:42.1±1.5, 7°.4N±0°.2×93°.1E±0°.3, h35km, n10, σ1§05/6, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.40**	**27**	Pn	**Pn**	**22 37 36.7**	**+0.4**
	0.8nm,0.3s,baz=209,slow=14,SNR=6.1						
H08S3	**Diego Garcia H**	**25.40**	**235**	T	T	23 07 08.1	
	baz=54,slow=76,SNR=8.1						
H08S2	**Diego Garcia H**	**25.41**	**235**	T	T	23 07 05.0	
	baz=54,slow=76,SNR=6.9						
H08S1	**Diego Carcia H**	**25.42**	**235**	T	T	23 07 09.6	
	baz=54,slow=76,SNR=6.7						
MKAR	**Makanchi Array**	**40.39**	**348**	P	**P**	**22 42 15.8**	**-0.9**
	0.1nm,0.4s,baz=164,slow=8.8,SNR=4.6						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**44.81**	**347**	LR	LR	23 04 19.9	
	comp=Z,50nm,19.1s,baz=232,slow=40						
ZALV	**Zalesovo Beam**	**46.95**	**353**	P	**P**	**22 43 08.3**	**-1.0**
	1.1nm,0.3s,baz=178,slow=5.9,SNR=4.1						
	1.1nm,0.3s						
WRA	**Warramunga Arr**	**48.78**	**125**	P	**P**	**22 43 23.8**	**-0.3**
	0.2nm,0.4s,baz=308,slow=8.5,SNR=1.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**50.36**	**129**	P	**P**	**22 43 36.3**	**+0.2**
	0.2nm,0.5s,baz=304,slow=6.6,SNR=1.8						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**72.70**	**332**	P	**P**	**22 46 07.4**	**+1.1**
	3.0nm,0.9s,baz=95,slow=7.4,SNR=4.2						
	3.0nm,0.9s						

*SEA **25** 22:36:08.3±1.0, 48°.62N±0°.01×123°.12W±0°.02, h11km±4km, ML2.0/12, ML2.0/7(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=155.0*

NEIC 25 22:36:07.0±0.5, 48°.64N±0°.02×123°.12W±0°.02, h19km±2km, Error ellipse: s-maj=3.2km s-min=2.1km az=178.0, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWFH	**University of**	**0.11**	**142**		Pg	22 36 10.7	-0.2
UWFH					Sg	22 36 12.8	-0.7
SNB	**Saturna Island**	**0.14**	**346**		Pg	22 36 11.8	+0.5
SNB					Sg	22 36 14.8	+0.6
MCW	**Mount Constitu**	**0.20**	**77**		Pg	22 36 12.2	+0.2
MCW					Sg	22 36 15.4	0.0
B011	**North Saanich**	**0.22**	**274**		Pg	22 36 12.5	+0.2
B011					Sg	22 36 15.8	-0.1
PGC	**Sidney**	**0.22**	**274**		Pg	22 36 12.6	+0.3
PGC					Sg	22 36 16.0	+0.1
PGC	**Sidney**	**0.22**	**274**	IAML		22 36 16.1	
	comp=E,170nm,0.2s						
VGZ	**Gonzales**	**0.26**	**212**		Pg	22 36 12.9	0.0
VGZ					Sb	22 36 16.5	-0.4
SQM	**Sequim**	**0.56**	**175**		Pg	22 36 18.5	+0.2
STW	**Striped Peak**	**0.61**	**217**		Pb	22 36 18.9	-0.1
STW					Sg	22 36 27.3	0.0
B04A	**Port Angeles**	**0.63**	**204**	IAML		22 36 28.0	
	comp=E,95nm,0.2s						
B04A				IAML		22 36 28.1	
	comp=N,109nm,0.3s						
B04A	**Port Angeles**	**0.63**	**204**		Pb	22 36 19.2	-0.2
B04A					Sb	22 36 27.8	-0.1
CLRS	**Cowichan Lake**	**0.69**	**286**	Pg	Pb	22 36 20.4	-0.1
CLRS				IAML		22 36 30.9	
	comp=N,24nm,1.4s						
VDB	**Vedder Mountai**	**0.78**	**59**		Pb	22 36 21.9	-0.1
P403	**Sandy Floe Qua**	**0.89**	**230**		Pb	22 36 23.7	-0.2
P403					Sb	22 36 35.4	0.0
OSD	**Olympics--Snow**	**0.90**	**206**		Pb	22 36 24.1	-0.1
JCW	**Jim Creek**	**0.91**	**119**		Pb	22 36 24.2	0.0
OZB	**Mount Ozzard**	**1.60**	**283**	Pn	Pg	22 36 37.1	-0.8
OZB				IAML		22 36 52.6	
	comp=N,47nm,2.0s						
LLLB	**Lillooet**	**2.13**	**22**	Pn	Pb	22 36 44.8	-0.3

*IDC **25** 22:37:58.6±2.1, 4°.43N×122°.73E, h652km±27km, mb2.9/4, mbtmp4.1/4, Error ellipse: s-maj=188.1km s-min=11.3km az=63.0*

ISC 25 22:37:58.5±1.8, 4°.7N±0°.9×123°.3E±°, h650km, n4, σ1§64/8, mb3.6/4, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.83**	**156**	P	**P**	**22 42 50.2**	**-0.3**
	2.7nm,0.4s,baz=332,slow=9.9,SNR=39						
WRA				S	**S**	**22 46 40.9**	**-3.0**
	1.3nm,0.9s,baz=338,slow=15,SNR=4.7						
	2.7nm,0.4s						
ASAR	**Alice Springs**	**30.06**	**160**	P	**P**	**22 43 18.9**	**+0.6**
	1.0nm,0.5s,baz=341,slow=7.4,SNR=21						
ASAR				S	**S**	**22 47 33.5**	**-0.2**
	0.6nm,0.8s,baz=330,slow=12,SNR=5.3						
ASAR				ScP	**ScP**	**22 48 42.1**	**+1.5**
	0.5nm,0.6s,baz=347,slow=3.0,SNR=7.2						
	1.0nm,0.5s						
STKA	**Stephens Creek**	**40.38**	**155**	P	**P**	**22 44 43.9**	**+0.9**
	1.0nm,0.4s,baz=314,slow=8.3,SNR=3.9						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**54.77**	**327**	P	**P**	**22 46 29.0**	**-0.5**
	0.5nm,0.3s,baz=124,slow=7.6,SNR=28						
MKAR				PcP	**PcP**	**22 47 20.9**	**-0.6**
	0.3nm,0.6s,baz=137,slow=4.8,SNR=3.9						
	0.5nm,0.3s						

*IDC **25** 22:38:45.3±1.4, 44°.91N×106°.72W, h0km, mbtmp3.4/2, ML2.1/1, Error ellipse: s-maj=53.8km s-min=10.2km az=137.0*

*NEIC **25** 22:38:47.0±2.3, 45°.03N±0°.05×106°.74W±0°.04, h0km±2km, ML3.0/34, Error ellipse: s-maj=8.5km s-min=5.3km az=181.0*

ISC 25 22:38:45.2±0.9, 45°.10N±0°.06×106°.73W±0°.05, h0km, n32, σ1§34/30, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.63**	**12**	P	**Pg**	**22 39 16.7**	**+0.2**
RLMT	**Red Lodge**	**1.80**	**272**	Pn	**Pn**	**22 39 18.7**	**+1.0**
RLMT				IAML		22 39 54.9	
	104nm,1.0s						
RLMT				IAML		22 39 55.1	
	108nm,0.7s						
RSSD	**Black Hills**	**2.16**	**116**		**Pb**	**22 39 23.9**	**-1.4**
GCMT	**Greycliff**	**2.18**	**290**	Pn	**Pn**	**22 39 24.1**	**+1.2**
K22A	**Casper**	**2.45**	**176**	Pn	**Pn**	**22 39 27.0**	**+0.4**
K22A				IAML		22 40 08.8	
	comp=E,109nm,0.6s						
YMP	**Mirror Lake Pl**	**2.46**	**263**	Pn	**Pn**	**22 39 27.6**	**+0.7**
YMP				IAML		22 40 01.3	
	comp=N,105nm,0.8s						
LKWY	**Lake**	**2.67**	**260**		**Pn**	**22 39 31.6**	**+2.0**
LKWY				IAML		22 40 29.4	
	comp=N,49nm,1.2s						
LKWY				IAML		22 40 33.0	
	comp=N,63nm,1.0s						
H17A	**Grant Village**	**2.83**	**257**		**Pn**	**22 39 34.0**	**+2.0**
YNR	**Norris Junctio**	**2.83**	**264**		**Pb**	**22 39 35.1**	**-1.7**
YNR				IAML		22 40 17.7	
	comp=E,37nm,0.9s						
YNR				IAML		22 40 26.4	
	comp=N,36nm,1.1s						
FLWY	**Flagg Ranch**	**3.01**	**252**		**Pn**	**22 39 36.6**	**+2.3**
FLWY				IAML		22 40 29.1	
	comp=N,78nm,1.0s						
FLWY				IAML		22 40 51.2	
	comp=N,53nm,1.4s						
YMR	**Madison River**	**3.04**	**263**		**Pb**	**22 39 38.1**	**-2.2**
YMR				IAML		22 40 49.9	
	comp=N,86nm,1.1s						
YMR				IAML		22 40 53.5	
	comp=E,76nm,1.1s						
PD31	**Pinedale Array**	**3.10**	**222**		**Pn**	**22 39 37.3**	**+1.7**
PDAR	**Pinedale Array**	**3.10**	**222**	Pn	**Pn**	**22 39 36.0**	**+0.4**
	comp=E,5.3nm,0.4s,baz=54,slow=18,SNR=170						
PDAR				Lg	Lg	22 40 18.8	
	comp=E,4.4nm,0.3s,baz=47,slow=33,SNR=3.6						
PDAR	**Pinedale Array**	**3.10**	**222**		**Pn**	**22 39 36.9**	**+1.3**
LOHW	**Long Hollow**	**3.15**	**243**		**Pn**	**22 39 38.0**	**+1.7**
LOHW				IAML		22 40 38.7	
	comp=E,29nm,4.7s						
MOOW	**Moose Ponds**	**3.18**	**246**		**Pn**	**22 39 37.2**	**+0.6**
BOZ	**Bozeman (W)**	**3.49**	**280**	Pn	**Pn**	**22 39 41.5**	**+0.6**
BOZ				IAML		22 40 38.9	
	comp=E,23nm,1.2s						
EGMT	**Eagleton**	**3.59**	**326**	Pn	**Pn**	**22 39 43.1**	**+0.8**
HRY	**Holter Researc**	**3.91**	**296**	Pn	**Pn**	**22 39 47.3**	**+0.6**
LRM	**Limekiln Ridge**	**4.09**	**282**		**Pn**	**22 39 49.9**	**+0.6**
N23A	**Red Feather La**	**4.24**	**172**	Pn	**Pn**	**22 39 51.4**	**+0.1**
BCYI	**Bear Canyon**	**4.82**	**263**	Pn	**Pn**	**22 39 58.4**	**-0.9**
O20A	**White River Ci**	**5.08**	**193**	Pn	**Pn**	**22 40 03.5**	**+0.6**
HVU	**Hansel Valley**	**5.51**	**235**	Pn	**Pn**	**22 40 10.5**	**+1.8**
SPUT	**South Promonto**	**5.64**	**230**	Pn	**Pn**	**22 40 12.8**	**+2.3**
P18A	**Preston Nutter**	**6.05**	**207**	Pn	**Pn**	**22 40 17.1**	**+0.8**
SRU	**San Rafael Swe**	**6.61**	**207**	Pn	**Pn**	**22 40 24.4**	**+0.6**
PV07	**Paradox Valley**	**6.81**	**193**		**Pn**	**22 40 27.5**	**+1.0**
ECSD	**EROS Data Cent**	**7.37**	**97**	Pn	**Pn**	**22 40 33.9**	**-0.2**
I56US	**NEWPORT INFRAS**	**7.82**	**298**	I	I	23 26 00.0	
	baz=112,slow=332,SNR=2.6						
I10CA	**LAC DU BONNET**	**8.84**	**51**	I	I	23 37 30.0	
	baz=236,slow=336,SNR=1.7						
ULM	**Lac du Bonnet**	**8.95**	**51**	Pn	**Pn**	**22 40 56.5**	**+0.8**
	comp=E,0.3nm,0.3s,baz=230,slow=15,SNR=1.7						
ULM				Lg	Lg	22 43 22.8	
	comp=E,0.2nm,0.3s,baz=156,slow=22,SNR=3.5						
	comp=E,0.8nm,0.2s						

*NEIC **25** 23:09:36.0±1.5, 24°.73N±0°.09×141°.4E±0°.1, h188km±7km, mb4.3/32, Error ellipse: s-maj=17.9km s-min=12.7km az=91.0*

*IDC **25** 23:09:37.5±0.7, 24°.75N×141°.32E, h203km±6km, mb3.4/10, mbtmp4.0/12, Error ellipse: s-maj=18.2km s-min=10.0km az=98.0*

*JMA **25** 23:09:38.3±0.1, 25°.1N±0°.5×14°.1E±°, h173km, MV5.0/15, IOTO ISLANDS REGION*

ISC 25 23:09:36.5±0.4, 24°.75N±0°.06×141°.37E±0°.1, h200km, n62, σ1§22/69, mb4.1/27, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.01**	**21**	P	**Pn**	**23 10 14.7**	**-0.4**
JHH2				S	**Sn**	**23 10 42.9**	**-2.4**
JHH2	**Haha-jima-NKT2**	**2.01**	**21**	A	A	23 10 14.7	
	comp=E,.5.0nm,5.5s,comp=E,3.0nm,5.4s						
CBIJ	**Chichi jima**	**2.44**	**17**	P	**Pn**	**23 10 19.4**	**-0.4**
CBIJ				S	**Sn**	**23 10 50.7**	**-2.9**
JCJ	**Chichijima**	**2.44**	**17**	P	**Pn**	**23 10 23.1**	**+3.3**
	2μm,0.3s,baz=145,slow=7.2,SNR=196						
JCJ				S	**Sn**	**23 10 55.2**	**+1.5**
	270nm,0.3s,baz=260,slow=22,SNR=16						
JCJ	**Chichijima**	**2.44**	**17**		**Pn**	**23 10 19.3**	**-0.5**
JCJ				Sn	**Sn**	**23 10 50.7**	**-3.0**
BSO3	**Boso 3**	**10.04**	**356**	P	**Pn**	**23 11 52.4**	**-3.6**
BSO3				eS	Sn	23 13 39.2	-8.8
BSO4	**Boso 4**	**10.24**	**355**	eS	Sn	23 13 44.4	-8.6
JHS	**Saijyo**	**12.47**	**327**	Pn	**Pn**	**23 12 29.1**	**+1.8**
KSRS	**Korea Array**	**17.09**	**321**	P	**Pn**	**23 13 24.5**	**+0.7**
	2.3nm,0.6s,baz=135,slow=13,SNR=7.9						
YHNB	**Yeheng**	**18.17**	**274**	P	**P**	**23 13 34.6**	**+0.3**
FAKI	**Fak Fak**	**28.90**	**199**	P	**P**	**23 15 14.1**	**-2.8**
TOLI2	**Tolitoli**	**30.80**	**223**	P	**P**	**23 15 32.5**	**-1.2**
TOLI2				IAmb	IAmb	23 15 47.8	
	comp=Z,16nm,1.1s						
BKB	**Balikpapan**	**35.10**	**226**	P	**P**	**23 16 11.1**	**+0.2**
COEN	**Coen**	**38.51**	**177**	P	**P**	**23 16 39.8**	**+0.1**
COEN				IAmb	IAmb	23 16 41.6	
	comp=Z,15nm,1.5s						
MTN	**Manton Dam**	**38.68**	**196**	P	**P**	**23 16 40.2**	**-0.9**
KNRA	**Kununurra**	**42.02**	**198**	P	**P**	**23 17 08.2**	**-0.3**
KNRA				IAmb	IAmb	23 17 36.9	
	comp=Z,36nm,1.4s						
MYKOM	**Kota Tinggi**	**42.81**	**244**	P	**P**	**23 17 15.3**	**+0.3**
MYKOM				IAmb	IAmb	23 17 26.7	
	comp=Z,27nm,1.3s						
KULM	**Kulim**	**43.59**	**250**	P	**P**	**23 17 21.4**	**+0.2**
KULM				IAmb	IAmb	23 17 31.2	
	comp=Z,17nm,1.3s						
WB0	**Warramunga Arr**	**44.77**	**189**	P	**P**	**23 17 30.4**	**0.0**
CTAO	**Charters Tower**	**44.82**	**173**	P	**P**	**23 17 31.8**	**+1.0**
CTAO				IAmb	IAmb	23 17 32.6	
	comp=Z,6.0nm,0.7s						
WB2	**Warramunga Arr**	**44.95**	**189**	P	**P**	**23 17 32.0**	**+0.2**
WRA	**Warramunga Arr**	**44.95**	**189**	P	**P**	**23 17 32.1**	**+0.3**
	comp=Z,42nm,0.5s,baz=9.3,slow=8.7,SNR=132						
WRA				PcP	**PcP**	**23 19 10.2**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=1.6,slow=3.7,SNR=5.2						
RPSI	**Rantau Prapat**	**46.40**	**249**	P	**P**	**23 17 43.8**	**+0.4**
RPSI				IAmb	IAmb	23 17 44.0	
	comp=Z,4.0nm,0.9s						
AS31	**Alice Springs**	**48.67**	**189**	P	**P**	**23 17 60.0**	**-0.7**
ASAR	**Alice Springs**	**48.67**	**189**	P	**P**	**23 18 00.5**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=12,slow=14,SNR=32						
ASAR				PcP	**PcP**	**23 19 23.5**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=12,slow=3.6,SNR=8.6						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**48.67**	**189**	P	**P**	**23 18 00.3**	**-0.4**
EIDS	**Eidsvold**	**50.70**	**169**	P	**P**	**23 18 16.1**	**+0.3**
EIDS				IAmb	IAmb	23 18 43.4	
	comp=Z,6.5nm,1.1s						
MK31	**Makanchi Array**	**51.43**	**311**	P	**P**	**23 18 21.2**	**+0.1**
MKAR	**Makanchi Array**	**51.43**	**311**	P	**P**	**23 18 21.2**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=86,slow=9.4,SNR=59						
MKAR				pP	**pP**	**23 19 06.1**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=96,slow=8.0,SNR=3.6						
	comp=Z,1.3nm,0.4s						
MKAR	**Makanchi Array**	**51.43**	**311**	P	**P**	**23 18 21.0**	**-0.2**
MAKZ	**Makanchi**	**51.64**	**311**	P	**P**	**23 18 22.9**	**+0.2**
KURK	**Kurchatov**	**54.12**	**316**	P	**P**	**23 18 40.2**	**-0.5**
STKA	**Stephens Creek**	**56.31**	**180**	P	**P**	**23 18 57.0**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=350,slow=7.9,SNR=17						
	comp=Z,4.9nm,0.5s						
STKA	**Stephens Creek**	**56.31**	**180**	P	**P**	**23 18 56.8**	**+0.3**
FORT	**Forrest**	**56.67**	**194**	P	**P**	**23 18 59.1**	**0.0**
AAK	**Ala-Archa**	**57.01**	**306**	P	**P**	**23 19 01.8**	**+0.2**
AAK				IAmb	IAmb	23 19 27.5	
	comp=Z,2.8nm,1.4s						
IMAR	**Indian Mountai**	**57.46**	**26**	P	**P**	**23 19 05.6**	**+1.4**
BBOO	**Buckleboo**	**57.47**	**185**	P	**P**	**23 19 04.4**	**-0.2**
BBOO				IAmb	IAmb	23 19 05.5	
	comp=Z,12nm,1.1s						
CAST	**Castle Rocks**	**57.68**	**29**	P	**P**	**23 19 06.3**	**+0.5**
CAST				IAmb	IAmb	23 19 27.6	
	comp=Z,3.3nm,1.5s						
H24K	**Noodor Dome**	**59.81**	**27**	P	**P**	**23 19 22.0**	**+1.5**
KK31	**Karatay Array**	**59.88**	**307**	P	**P**	**23 19 21.4**	**+0.1**
KK31				IAmb	IAmb	23 19 22.2	
	comp=Z,2.2nm,0.7s						
KKAR	**Karatay Array**	**59.88**	**307**	P	**P**	**23 19 21.5**	**+0.2**
ILAR	**Eielson Array**	**60.11**	**28**	P	**P**	**23 19 22.7**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=249,slow=5.3,SNR=7.8						
ILAR				pP	**pwP**	**23 20 09.7**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=262,slow=6.2,SNR=3.0						
	comp=Z,1.1nm,0.9s						
ILAR	**Eielson Array**	**60.11**	**28**	P	**P**	**23 19 23.5**	**+1.0**
BMAR	**Burnt Mountain**	**61.28**	**25**	P	**P**	**23 19 31.7**	**+1.3**
SCRK	**Sand Creek**	**61.32**	**29**	P	**P**	**23 19 31.8**	**+1.0**
SCRK				IAmb	IAmb	23 19 32.6	
	comp=Z,2.5nm,0.6s						
TOO	**Toolangi**	**62.11**	**176**	P	**P**	**23 19 37.7**	**+1.4**
TOO				IAmb	IAmb	23 19 38.2	
	comp=Z,5.8nm,0.8s						
INK	**Inuvik**	**65.45**	**24**	P	**P**	**23 19 58.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=287,slow=6.4,SNR=4.8						
	comp=Z,0.4nm,0.3s						
INK	**Inuvik**	**65.45**	**24**	P	**P**	**23 19 57.9**	**+0.3**
ABKAR	**Akbulak array**	**66.21**	**315**	P	**P**	**23 20 01.8**	**-1.0**
ABKAR	**Akbulak array**	**66.21**	**315**	P	**P**	**23 20 01.8**	**-1.0**
ABKAR				IAmb	IAmb	23 20 23.2	
	comp=Z,1.1nm,1.4s						
BKZ	**Black Stump Fm**	**71.57**	**152**	P	**P**	**23 20 35.6**	**-0.3**
BKZ				IAmb	IAmb	23 20 43.0	
	comp=Z,20nm,1.3s						
MRZ	**Mangatainoka R**	**72.44**	**153**	P	**P**	**23 20 40.6**	**-0.3**
YKA	**Yellowknife Ar**	**74.54**	**28**	P	**P**	**23 20 53.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=291,slow=5.7,SNR=8.8						
YKA				pP	**pwP**	**23 21 42.5**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=293,slow=6.0,SNR=4.6						
	comp=Z,0.3nm,0.5s						
KBZ	**Khabaz**	**79.07**	**313**	P	**P**	**23 21 18.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=255,slow=16,SNR=2.6						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**79.72**	**334**	P	**P**	**23 21 22.1**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=76,slow=4.1,SNR=6.2						
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**79.72**	**334**	P	**P**	**23 21 21.8**	**+0.1**
NVAR	**Mina Array Bea**	**82.54**	**51**	P	**P**	**23 21 39.0**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=305,slow=4.4,SNR=4.5						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**82.54**	**51**	P	**P**	**23 21 38.5**	**+1.0**
RLMT	**Red Lodge**	**85.37**	**42**	P	**P**	**23 21 53.7**	**+2.0**
RLMT				IAmb	IAmb	23 21 54.4	
	comp=Z,2.4nm,0.6s						
PDAR	**Pinedale Array**	**86.39**	**44**	P	**P**	**23 21 57.9**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=33,slow=2.2,SNR=3.9						
	comp=Z,0.1nm,0.4s						
PLCA	**Paso Flores**	**148.99**	**129**	PKPbc	**PKiKP**	**23 29 02.3**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=240,slow=2.4,SNR=5.7						

IDC 25 23:48:59.5±1.7, 3°.01S×121°.64E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=412.3km s-min=27.5km az=59.0, Sulawesi

| Code |

7.6nm,0.4s,baz=135,slow=10.0,SNR=8.2

MSVF	**Nonsavu**	**4.76**	**294**	P	**P**	**00 03 45.5**	**-0.4**
NIUE	**Niue**	**7.08**	**86**	P	**P**	**00 04 06.9**	**+0.2**
AFI	**Afiamalu**	**7.92**	**44**	P	**P**	**00 04 13.7**	**-1.3**
	41nm,0.5s,baz=229,slow=11,SNR=6.3						
AFI				S	**S**	**00 05 49.0**	**-1.9**
	29nm,0.4s,baz=240,slow=18,SNR=5.7						
AFI	**Afiamalu**	**7.92**	**44**	P	**P**	**00 04 13.4**	**-1.6**
MARNC	**Mare, Loyalty**	**13.75**	**260**	P	**P**	**00 05 12.9**	**-1.6**
PINNC	**Pines Island,**	**14.42**	**256**	P	**P**	**00 05 20.0**	**-1.4**
DZM	**Mont Dzumac**	**15.28**	**258**	P	**P**	**00 05 30.7**	**+0.4**
	5.9nm,0.7s,baz=82,slow=19,SNR=6.2						
DZM	**Mont Dzumac**	**15.28**	**258**	P	**P**	**00 05 30.6**	**+0.2**
DZM				IAmb	IAmb	00 05 32.1	
	comp=Z,9.0nm,0.9s						
RTZ	**Ruatahuna**	**19.42**	**193**	P	**P**	**00 06 06.5**	**-2.1**
RTZ				IAmb	IAmb	00 06 21.3	
	comp=Z,18nm,1.3s						
WHZ	**Wether Hill Ro**	**28.73**	**202**	P	**P**	**00 07 31.7**	**+0.5**
EIDS	**Eidsvold**	**29.60**	**253**	P	**P**	**00 07 39.1**	**+0.1**
EIDS				IAmb	IAmb	00 08 19.3	
	comp=Z,17nm,1.4s						
ARMA	**Armidale**	**29.91**	**243**	P	**P**	**00 07 42.0**	**+0.3**
ARMA				IAmb	IAmb	00 08 21.5	
	comp=Z,26nm,1.5s						
CTA	**Charters Tower**	**34.13**	**263**	P	**P**	**00 08 18.2**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=110,slow=12,SNR=2.6						
	comp=Z,3.7nm,0.6s						
CTAO	**Charters Tower**	**34.13**	**263**	P	**P**	**00 08 17.7**	**0.0**
CTAO				IAmb	IAmb	00 08 54.6	
	comp=Z,16nm,1.3s						
TOO	**Toolangi**	**36.80**	**233**	P	**P**	**00 08 39.4**	**-0.1**
TOO				IAmb	IAmb	00 08 51.5	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**38.62**	**243**	P	**P**	**00 08 55.1**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=70,slow=7.6,SNR=7.0						
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**38.62**	**243**	P	**P**	**00 08 54.6**	**+0.1**
BBOO	**Buckleboo**	**43.39**	**243**	P	**P**	**00 09 32.3**	**0.0**
WR0	**Warramunga Arr**	**45.08**	**261**	P	**P**	**00 09 46.0**	**+0.5**
AS31	**Alice Springs**	**45.24**	**256**	P	**P**	**00 09 46.9**	**+0.1**
ASAR	**Alice Springs**	**45.24**	**256**	P	**P**	**00 09 47.2**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=98,slow=7.7,SNR=94						
	comp=Z,5.0nm,0.6s						
ASAR	**Alice Springs**	**45.24**	**256**	P	**P**	**00 09 46.4**	**-0.3**
WB0	**Warramunga Arr**	**45.24**	**261**	P	**P**	**00 09 47.2**	**+0.4**
WB0				IAmb	IAmb	00 10 17.9	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**45.27**	**261**	P	**P**	**00 09 47.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=96,slow=7.6,SNR=45						
	comp=Z,1.4nm,0.3s						
FORT	**Forrest**	**50.11**	**246**	P	**P**	**00 10 22.6**	**-0.4**
FORT				IAmb	IAmb	00 10 35.2	
	comp=Z,25nm,1.1s						
SUA	**Susitna One**	**83.71**	**13**	P	**P**	**00 13 52.0**	**+3.1**
SUA				IAmb	IAmb	00 14 14.9	
	comp=Z,17nm,1.5s						
SCM	**Sheep Creek Mo**	**84.78**	**14**	P	**P**	**00 13 57.2**	**+3.1**

*HEL **26** 00:19:29.4±0.2, 67°82N×20°15E, h0km, ML1.6, Explosion*
*UPP **26** 00:19:29.3±0.0, 67°84N×20°19E, h0km, ML2.7, Suspected explosion*
ISC 26 00:19:28.8±0.8, 67°76N±0°03×20°24E±0°02, h0km, n30, σ1§02/45, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.25**	**285**	P	**Pg**	**00 19 33.8**	**+0.2**
RATU				S	**Sg**	**00 19 37.3**	**+0.4**
KOVU	**Salmi**	**0.47**	**357**	P	**Pg**	**00 19 36.8**	**-0.8**
NIKU	**Nikkaluokta**	**0.47**	**284**	P	**Pg**	**00 19 37.8**	**+0.1**
NIKU				S	**Sg**	**00 19 44.0**	**+0.2**
DUNU	**Dundret**	**0.65**	**169**	P	**Pb**	**00 19 43.0**	**-0.1**
LANU	**Lannavaara**	**0.72**	**65**	P	**Pg**	**00 19 42.7**	**+0.1**
LANU	**Lannavaara**	**0.72**	**65**	PG	**Pg**	**00 19 42.7**	**+0.1**
LANU				SG	**Sg**	**00 19 52.0**	**+0.1**
MASU	**Masugnsbyn**	**0.74**	**113**	P	**Pb**	**00 19 44.3**	**-0.2**
SALU	**Saltoluokta**	**0.77**	**241**	P	**Pb**	**00 19 44.2**	**-0.7**
KIF	**Kilpisjarvi**	**1.27**	**9**	*e*P	**Pg**	**00 19 52.4**	**-0.6**
KIF	**Kilpisjarvi**	**1.27**	**9**	PN	**Pg**	**00 19 52.2**	**-0.8**
	baz=190						
KIF				MSG		00 20 07.2	
	comp=Z,7.4nm,0.2s						
KIF				SB	**Sg**	**00 20 08.4**	**-1.0**
PAJU	**Pajala**	**1.33**	**122**	P	**Pn**	**00 19 54.7**	**+0.1**
ERTU	**Ertsjaerv**	**1.43**	**147**	P	**Pb**	**00 19 56.8**	**+0.5**
ERTU	**Ertsjaerv**	**1.43**	**147**	PG	**Pb**	**00 19 56.5**	**+0.3**
ERTU				SN	**Sn**	**00 20 17.5**	**+2.1**
HEF	**Hetta**	**1.44**	**62**	*e*P	**Pn**	**00 19 55.3**	**-0.8**
HEF	**Hetta**	**1.44**	**62**	PG	**Pn**	**00 19 55.2**	**-0.8**
	baz=251						
HEF				MSG		00 20 12.9	
	comp=Z,3.9nm,0.2s						
HEF				SN	**Sn**	**00 20 18.0**	**+2.4**
HARU	**Harads**	**1.63**	**169**	P	**Pg**	**00 20 00.3**	**+0.4**
KTK1	**Kautokeino**	**1.68**	**40**	PG	**Pn**	**00 19 59.1**	**-0.3**
KTK1				SN	**Sg**	**00 20 22.4**	**-0.2**
TRO	**Tromso**	**1.94**	**346**	PG	**Pn**	**00 20 03.0**	**+0.1**
TRO				SG	**Sn**	**00 20 28.0**	**0.0**
KALU	**Kalix**	**2.27**	**146**	P	**Pb**	**00 20 10.1**	**-0.4**
KALU	**Kalix**	**2.27**	**146**	PG	**Pb**	**00 20 10.0**	**-0.6**
	baz=329						
KALU				SG	**Sg**	**00 20 41.1**	**-0.6**
SJUU	**Sjulsmark**	**2.33**	**166**	P	**Pb**	**00 20 10.8**	**-0.6**
TOF	**Tornio**	**2.33**	**134**	PB	**Pb**	**00 20 11.1**	**-0.5**
TOF				MSG		00 20 40.4	
	comp=Z,1.4nm,0.2s						
TOF				SG	**Sg**	**00 20 43.0**	**-0.5**
SGF	**Sodankyl**	**2.43**	**95**	PG	**Pb**	**00 20 12.4**	**-0.9**
SGF				SG	**Sg**	**00 20 47.1**	**+0.4**
RNF	**Rovaniemi**	**2.53**	**114**	PB	**Pb**	**00 20 14.1**	**-0.9**
RNF				SG	**Sg**	**00 20 48.2**	**-1.7**
ARA0	**ARCESS Array S**	**2.63**	**45**	PB	**Pn**	**00 20 13.6**	**+1.2**
	baz=226						
ARA0				SB	**Sn**	**00 20 46.3**	**+1.4**
KEV	**Kevo**	**3.18**	**48**	SG	**Sb**	**00 21 05.0**	**-0.2**
OUL	**Oulu**	**3.52**	**137**	SB	**Sb**	**00 21 13.0**	**-2.0**
VRF	**Varrio**	**3.56**	**86**	PG	**Pb**	**00 20 33.6**	**+1.0**
OLKF	**Oulanka, Finla**	**3.87**	**108**	PG	**Pb**	**00 20 39.9**	**+2.1**
OLKF				SG	**Sg**	**00 21 31.1**	**-1.8**
KU6	**Riekki**	**4.18**	**110**	PG	**Pb**	**00 20 45.1**	**+2.0**
	baz=300						
KU6				SG	**Sg**	**00 21 41.8**	**-1.2**

IDC 26 00:20:33.2±5.4, 6°51S×153°89E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=187.7km s-min=38.9km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**25.69**	**226**	P	P	00 26 05.3	+0.1
	0.5nm,0.8s,baz=56,slow=8.6,SNR=5.9						
	0.5nm,0.8s						
SONM	**Songino Array**	**68.34**	**328**	P	P	00 31 36.5	0.0
	0.3nm,0.6s,baz=135,slow=5.8,SNR=4.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**82.31**	**319**	P	P	00 32 57.3	+0.4
	0.6nm,0.8s,baz=101,slow=6.7,SNR=5.1						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.84**	**286**	PKPbc	PKPbc	00 40 30.4	-0.7
	0.3nm,0.7s,baz=91,slow=4.3,SNR=1.9						

*UPP **26** 00:23:07.9±0.0, 67°81N×20°19E, h0km, ML2.7, Suspected explosion*
*HEL **26** 00:23:08.9±0.4, 67°79N×20°40E, h0km, ML1.2, Explosion*
ISC 26 00:23:07.5±0.8, 67°81N±0°03×20°30E±0°03, h0km, n20, σ1§25/29, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.27**	**274**	P	**Pg**	**00 23 12.4**	**-0.3**
RATU				S	**Sg**	**00 23 15.7**	**-0.5**
KOVU	**Salmi**	**0.42**	**353**	P	**Pg**	**00 23 15.8**	**+0.1**
NIKU	**Nikkaluokta**	**0.48**	**278**	P	**Pg**	**00 23 16.4**	**-0.4**
NIKU				S	**Sg**	**00 23 22.4**	**-0.6**
LANU	**Lannavaara**	**0.68**	**68**	P	**Pb**	**00 23 21.7**	**-0.6**
LANU	**Lannavaara**	**0.68**	**68**	PB	**Pg**	**00 23 21.4**	**+0.8**
LANU				SG	**Sg**	**00 23 24.3**	**-5.2**
DUNU	**Dundret**	**0.69**	**171**	P	**Pg**	**00 23 21.0**	**+0.2**
DUNU				S	**Sg**	**00 23 30.6**	**+0.9**
MASU	**Masugnsbyn**	**0.74**	**117**	P	**Pb**	**00 23 22.6**	**-0.6**
SALU	**Saltoluokta**	**0.81**	**239**	P	**Pg**	**00 23 22.5**	**-0.5**
KIF	**Kilpisjarvi**	**1.22**	**9**	PG	**Pb**	**00 23 31.5**	**+0.1**
	baz=184						
KIF				MSG		00 23 47.0	
	comp=Z,2.5nm,0.2s						
KIF				SG	**Sb**	**00 23 47.4**	**-0.2**
PAJU	**Pajala**	**1.34**	**125**	P	**Pg**	**00 23 33.1**	**-0.1**
HEF	**Hetta**	**1.40**	**63**	PN	**Pn**	**00 23 34.4**	**+0.1**
HEF				MSG		00 23 50.1	
	comp=Z,1.6nm,0.2s						
HEF				SN	**Sn**	**00 23 53.6**	**+0.2**
ERTU	**Ertsjaerv**	**1.46**	**149**	P	**Pb**	**00 23 35.4**	**-0.1**
ERTU	**Ertsjaerv**	**1.46**	**149**	PN	**Pb**	**00 23 35.5**	**+0.1**
ERTU				SN	**Sn**	**00 23 54.9**	**0.0**
KTK1	**Kautokeino**	**1.63**	**41**	PG	**Pb**	**00 23 38.0**	**-0.4**
KTK1				SN	**Sg**	**00 24 01.4**	**+1.6**
TRO	**Tromso**	**1.90**	**345**	SG	**Sg**	**00 24 08.9**	**+0.3**
KALU	**Kalix**	**2.30**	**147**	SG	**Sb**	**00 24 19.7**	**+1.0**
TOF	**Tornio**	**2.35**	**136**	MSG		00 24 17.6	
	comp=Z,0.7nm,0.2s						
TOF				SG	**Sb**	**00 24 20.7**	**+0.6**
SGF	**Sodankyl**	**2.41**	**96**	SG	**Sb**	**00 24 21.9**	**0.0**
RNF	**Rovaniemi**	**2.53**	**116**	PG	**Pb**	**00 23 52.7**	**-1.0**
RNF				SG	**Sb**	**00 24 25.9**	**+0.6**
KEV	**Kevo**	**3.13**	**48**	SB	**Sn**	**00 24 38.1**	**+2.2**
KEV				MSG		00 24 40.1	
	comp=Z,0.5nm,0.2s						

*BEO **26** 00:38:38.0±0.8, 39°89N×19°73E, h14km±3km, ML2.9/8*
*TIR **26** 00:38:40.0, 40°13N×19°85E, h2km±1km, Md3.1, Ml3.1*
*ATH **26** 00:38:41.3, 40°14N×19°87E, h8km±3km, ML2.8/7, Error ellipse: s-maj=4.0km s-min=1.1km az=231.0*
*THE **26** 00:38:41.4, 40°15N×19°91E, h4km±2km, ML2.8/6, Error ellipse: s-maj=2.3km s-min=0.9km az=191.0*
ISC 26 00:38:40.9±1.1, 40°13N±0°02×19°87E±0°02, h3km±9km, n60, σ1§01/84, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.27**	**158**	P	**Pg**	**00 38 45.3**	**-0.8**
SRN				S	**Sg**	**00 38 50.3**	**+0.7**
	2µm,0.3s						
SRN	**Sarande**	**0.27**	**158**	P	**Pg**	**00 38 45.4**	**-0.8**
	baz=154						
SRN				S	**Sg**	**00 38 50.3**	**+0.7**
	baz=154						
SRN				AMP			
	comp=E,11nm,0.2s,baz=154						
KASA	**Kassiopi**	**0.39**	**173**	P	**Pg**	**00 38 48.5**	**+0.1**
KASA				S	**Sg**	**00 38 54.2**	**+0.9**
KASA				AML	AML	00 38 55.2	
	comp=E,5612µm,0.4s						
KASA				AML	AML	00 38 56.1	
	comp=N,3813µm,0.2s						
KEK	**Kerkira**	**0.42**	**187**	P	**Pg**	**00 38 49.8**	**+0.9**
KEK				S	**Sb**	**00 38 56.9**	**-0.8**
	comp=N,2µm,0.2s						
KEK	**Kerkira**	**0.42**	**187**	P	**Pg**	**00 38 49.9**	**+0.9**
KEK				S	**Sg**	**00 38 55.2**	**+0.8**
KEK				AML	AML	00 38 58.2	
	comp=E,4748µm,0.2s						
KEK				AML	AML	00 38 59.0	
	comp=N,2514µm,0.3s						
VLO	**Vlora**	**0.44**	**320**	P	**Pg**	**00 38 49.5**	**+0.1**
VLO	**Vlora**	**0.44**	**320**	P	**Pg**	**00 38 49.6**	**+0.2**
	baz=322						
VLO				S	**Sg**	**00 38 56.2**	**+1.1**
	baz=322						
VLO				AMP			
	comp=E,11nm,0.4s,baz=322						
LSK	**Leskovik**	**0.56**	**88**	P	**Pg**	**00 38 51.1**	**-0.5**
LSK				S	**Sg**	**00 38 59.1**	**+0.2**
	comp=E,1µm,0.6s						
LSK	**Leskovik**	**0.56**	**88**	P	**Pg**	**00 38 51.2**	**-0.4**
	baz=87						
LSK				S	**Sb**	**00 39 01.1**	**-0.7**
	baz=87						
LSK				AMP			
	comp=N,5.9nm,0.5s,baz=87						
IGT	**Igoumenitsa**	**0.70**	**149**	P	**Pg**	**00 38 54.1**	**-0.1**
IGT	**Igoumenitsa**	**0.70**	**149**	P	**Pg**	**00 38 54.2**	**-0.1**
	baz=147						
IGT				S	**Sb**	**00 39 05.8**	**+0.2**
	baz=147						
IGT	**Igoumenitsa**	**0.70**	**149**	P	**Pg**	**00 38 54.1**	**-0.1**
IGT				AML	AML	00 39 10.7	
	comp=E,1046µm,0.4s						
IGT				AML	AML	00 39 11.5	
	comp=N,998µm,0.4s						
KBN	**Korca**	**0.86**	**55**	P	**Pg**	**00 38 56.5**	**-0.8**
KBN				S	**Sg**	**00 39 09.3**	**+0.9**
	comp=N,362nm,0.7s						
KBN	**Korca**	**0.86**	**55**	P	**Pg**	**00 38 57.8**	**+0.5**
	baz=54						
KBN				S	**Sn**	**00 39 11.7**	**-1.2**
	baz=54						
KBN				AMP			
	comp=N,1.5nm,0.5s,baz=54						
JAN	**Janina**	**0.89**	**122**	P	**Pg**	**00 38 58.6**	**+0.6**
JAN				S	**Sb**	**00 39 10.8**	**-0.5**
	comp=N,872nm,0.4s						
JAN	**Janina**	**0.89**	**122**	P	**Pg**	**00 38 58.4**	**+0.5**
JAN				AML	AML	00 39 17.0	
	comp=E,2022µm,0.4s						
JAN				AML	AML	00 39 17.4	
	comp=N,1459µm,0.3s						
PENT	**Pentalofos**	**0.97**	**86**	P	**Pg**	**00 38 59.1**	**-0.5**
PENT	**Pentalofos**	**0.97**	**86**	P	**Pg**	**00 38 59.3**	**-0.2**
SCTE	**Santa Cesarea**	**1.08**	**267**	P	**Pg**	**00 39 01.6**	**+0.1**
	baz=268						
SCTE				S	**Sn**	**00 39 17.2**	**-1.1**
	baz=268						
SCTE				AMP			
	comp=E,1.9nm,0.2s,baz=268						
SCTE	**Santa Cesarea**	**1.08**	**267**	P	**Pg**	**00 39 01.2**	**-0.3**
SCTE				AML	AML	00 39 18.7	
	comp=N,707µm,0.3s						
SCTE				AML	AML	00 39 19.8	
	comp=E,909µm,0.3s						
KPRO	**Kipourio**	**1.16**	**98**	P	**Pg**	**00 39 02.9**	**-0.3**
KPRO				AML	AML	00 39 26.8	
	comp=N,897µm,0.4s						
KPRO				AML	AML	00 39 27.5	
	comp=E,1137µm,0.5s						
OHR	**Ohrid**	**1.21**	**36**	*e*Pg	**Pn**	**00 39 04.5**	**-0.2**
OHR				*e*Sg	**Sn**	**00 39 24.7**	**+3.1**
OHR	**Ohrid**	**1.21**	**36**	*i* Pg	**Pn**	**00 39 04.6**	**-0.1**
OHR				*i* Sg	**Sn**	**00 39 24.8**	**+3.3**
TIR	**Tirane**	**1.22**	**360**	P	**Pb**	**00 39 04.1**	**-0.4**
TIR	**Tirane**	**1.22**	**360**	P	**Pn**	**00 39 04.6**	**-0.1**
	baz=0.0						
TIR				S	**Sn**	**00 39 21.6**	**0.0**
	baz=0.0						
TIR				AMP			
	comp=N,0.7nm,0.4s,baz=0.0						
TIR	**Tirane**	**1.22**	**360**	*e*Pg	**Pn**	**00 39 05.0**	**+0.3**
TIR				*e*Sg	**Sn**	**00 39 24.1**	**+2.4**
FNA	**Florina**	**1.32**	**60**	P	**Pn**	**00 39 06.1**	**-0.1**
FNA				S	**Sb**	**00 39 23.1**	**-0.6**
	comp=N,590nm,0.6s						
FNA	**Florina**	**1.32**	**60**	P	**Pn**	**00 39 06.1**	**-0.1**
	baz=60						
FNA				S	**Sn**	**00 39 25.7**	**+1.3**
	baz=60						
FNA	**Florina**	**1.32**	**60**	*e*Pg	**Pn**	**00 39 05.5**	**-0.8**
FNA				*e*Sg	**Sn**	**00 39 26.8**	**+2.4**
FNA	**Florina**	**1.32**	**60**	P	**Pn**	**00 39 05.8**	**-0.5**
TSLK	**Tsoukalades, L**	**1.44**	**155**	P	**Pn**	**00 39 07.8**	**0.0**
TSLK	**Tsoukalades, L**	**1.44**	**155**	P	**Pn**	**00 39 08.0**	**+0.2**
LKD2	**Lefkada island**	**1.47**	**155**	P	**Pg**	**00 39 09.5**	**+0.4**
	baz=154						
LKD2	**Lefkada island**	**1.47**	**155**	AML	AML	00 39 33.2	
	comp=E,658µm,0.3s						
LKD2				AML	AML	00 39 37.7	
	comp=N,875µm,0.4s						
NYDR	**Nydri-Lefkada**	**1.56**	**155**	P	**Pn**	**00 39 09.1**	**-0.3**
EVGI	**Lefkada island**	**1.63**	**158**	P	**Pb**	**00 39 11.0**	**-0.5**
THL	**Klokotos Trika**	**1.75**	**108**	P	**Pb**	**00 39 12.9**	**-0.6**
TYRN	**Tyrnavos**	**1.86**	**102**	P	**Pb**	**00 39 15.2**	**-0.3**
EVR	**Evrytania**	**1.93**	**128**	P	**Pn**	**00 39 15.6**	**+1.0**
PVO	**Paravola**	**1.98**	**139**	P	**Pn**	**00 39 15.1**	**-0.2**
LRSO	**Larissa Observ**	**1.99**	**103**	P	**Pb**	**00 39 17.0**	**-0.7**
MAKR	**Makrakomi, Fth**	**2.07**	**122**	P	**Pb**	**00 39 18.4**	**-0.8**
GRG	**Griva**	**2.10**	**66**	P	**Pb**	**00 39 18.5**	**-1.0**
SKO	**Skopje**	**2.19**	**32**	*i* Pn	**Pb**	**00 39 20.6**	**-0.5**
SKO				*i* Sn	**Sg**	**00 39 52.5**	**+1.3**
AGG	**Agios Georgios**	**2.20**	**119**	P	**Pb**	**00 39 20.1**	**-1.2**
ANX	**Ano Chora**	**2.21**	**133**	P	**Pb**	**00 39 20.3**	**-1.2**
BCI	**Bajram Curri**	**2.24**	**4**	P	**Pn**	**00 39 19.5**	**+0.7**
	baz=4.0						
BCI				AMP			
	comp=N,0.5nm,0.8s,baz=4.0						
PDG	**Podgorica**	**2.34**	**349**	*e*Pn	**Pn**	**00 39 19.4**	**-0.8**
PDG				*e*Sn	**Sn**	**00 39 50.2**	**+0.7**
STIP	**Stip**	**2.35**	**48**	*i* Pn	**Pb**	**00 39 24.1**	**+0.3**
VAY	**Valandovo**	**2.37**	**59**	*i* Pn	**Pb**	**00 39 22.9**	**-1.3**
PRVS	**Prvonek**	**2.90**	**34**	*e*Pn	**Pn**	**00 39 27.0**	**-0.9**
BARS	**Barje**	**3.06**	**28**	*e*Pn	**Pn**	**00 39 30.5**	**+0.5**
BARS				*e*Sn	**Sn**	**00 40 09.8**	**+2.7**
SJES	**Sjenica**	**3.13**	**1**	*e*Pn	**Pn**	**00 39 31.4**	**+0.3**
SELS	**Selova**	**3.22**	**16**	*e*Pn	**Pn**	**00 39 31.6**	**-0.8**
BBLS	**Lazići**	**3.75**	**355**	*e*Pn	**Pn**	**00 39 38.8**	**-0.8**
BBLS				*e*Sn	**Sn**	**00 40 24.0**	**-0.3**
ZAPS	**Zavoj**	**3.76**	**32**	*e*Pn	**Pn**	**00 39 38.1**	**-1.7**
GRUS	**Gruza**	**3.81**	**9**	*e*Pn	**Pn**	**00 39 39.0**	**-1.4**
DIVS	**Divibare**	**3.96**	**1**	*e*Pn	**Pn**	**00 39 41.4**	**-1.2**
DIVS				*e*Sn	**Sn**	**00 40 28.4**	**-1.2**
ZAGS	**Zajecar**	**4.08**	**25**	*e*Pn	**Pn**	**00 39 42.5**	**-1.6**
TRUS	**Trudelj**	**4.11**	**5**	*e*Pn	**Pn**	**00 39 43.5**	**-1.0**

*NNC **26** 00:44:22.0±7.2, 37°58N×71°49E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=57.2km s-min=36.7km az=173.0*
*MOS **26** 00:44:23.3±0.6, 37°25N×72°27E, h228km, mb3.9/4, Error ellipse: s-maj=12.0km s-min=4.8km az=77.0*
*IDC **26** 00:44:23.4±3.2, 37°21N×72°23E, h220km±22km, mb3.4/4, mbtmp4.2/11, Error ellipse: s-maj=39.8km s-min=17.9km az=141.0*
*NEIC **26** 00:44:25.4±1.3, 37°36N±0°06×72°1E±0°1, h224km±8km, mb4.5/5, Error ellipse: s-maj=16.2km s-min=7.4km az=78.0*
*SOME **26** 00:44:31.4, 37°92N×72°45E, h0km*
ISC 26 00:44:23.4±0.5, 37°33N±0°04×72°21E±0°05, h200km, n102, σ2§07/116, mb3.9/9, 13C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.51**	**184**	P	**Pn**	**00 45 23.2**	**+3.8**
CEP				S	**Sn**	**00 46 07.0**	**+3.9**
KSH	**Kashi**	**3.67**	**52**	Pn	**Pn**	**00 45 19.8**	**-1.4**
KSH				Sn	Sn	00 45 59.5	-7.1
KSH				smax	smax		
	comp=N,330nm,0.4s						
KSH				smax	smax		
	comp=E,350nm,0.5s						
CHCP	**Chirah Chowk**	**3.76**	**167**	P	**Pn**	**00 45 26.1**	**+3.7**
KBL	**Kabul**	**3.79**	**224**	Pn	**Pn**	**00 45 25.4**	**+2.5**
KBL				Sn	**Sn**	**00 46 11.1**	**+1.7**
THW	**Thamme Wali**	**4.54**	**185**	P	**Pn**	**00 45 34.4**	**+2.3**
TAS	**Tashkent**	**4.58**	**331**	Pn	**Pn**	**00 45 35.1**	**+2.6**
TAS	**Tashkent**	**4.58**	**331**	PN	**Pn**	**00 45 35.1**	**+2.6**
AML	**Almayashu**	**4.93**	**13**	P	**Pn**	**00 45 39.4**	**+2.2**
	SNR=83						
IUG	**Iuzhnay**	**5.09**	**341**	⇑*i* P	**Pn**	**00 45 42.1**	**+3.0**
	baz=341						
IUG	**Iuzhnay**	**5.09**	**341**	*e*Pg	**Pn**	**00 45 42.1**	**+3.0**
	comp=E,144nm,0.2s						
IUG				*e*Lg	Lg	00 46 38.4	
	comp=E,320nm,0.4s						
IUG	**Iuzhnay**	**5.09**	**341**	*c i*PN	**Pn**	**00 45 42.0**	**+3.0**
JMU	**Jammu**	**5.11**	**154**	*e*P	**Pn**	**00 45 39.6**	**+0.5**
JMU				*e*S	**Sn**	**00 46 38.2**	**-0.7**
UCH	**Uchtor**	**5.20**	**19**	P	**Pn**	**00 45 43.2**	**+2.5**
	SNR=45						
CHM	**Chimkent**	**5.37**	**339**	*e*P	**Pn**	**00 45 45.9**	**+3.3**
	baz=339						
CHM	**Chimkent**	**5.37**	**339**	*e*PN	**Pn**	**00 45 45.8**	**+3.3**
SARP	**Sargodha**	**5.41**	**176**	P	**Pn**	**00 45 44.2**	**+1.1**
EKS2	**Erkin-Say**	**5.46**	**12**	P	**Pn**	**00 45 46.1**	**+2.4**
	SNR=20						
MRKS	**Merke**	**5.46**	**8**	*e*Pg	**Pn**	**00 45 46.0**	**+2.2**
	comp=E,41nm,0.5s						
MRKS				*e*Lg	Lg	00 46 46.0	
	comp=E,250nm,0.4s						
AAK	**Ala-Archa**	**5.58**	**18**	P	**Pn**	**00 45 48.1**	**+2.7**
	SNR=26						
AAK	**Ala-Archa**	**5.58**	**18**	P	**Pn**	**00 45 48.1**	**+2.7**
	comp=E,19nm,0.3s,baz=195,slow=4.5,SNR=127						
AAK				S	**Sn**	**00 46 52.4**	**+2.3**
	comp=E,19nm,0.3s,baz=250,slow=1.9,SNR=5.3						
DZA	**Taraz**	**5.59**	**353**	*e*P	**Pn**	**00 45 47.4**	**+2.0**
	comp=E,7.5nm,0.7s,baz=353						
DZA	**Taraz**	**5.59**	**353**	*e*Pg	**Pn**	**00 45 48.0**	**+2.6**
	comp=E,39nm,0.2s						
DZA				*e*Lg	Lg	00 46 49.8	
	comp=E,427nm,0.7s						
DZA	**Taraz**	**5.59**	**353**	*e*PN	**Pn**	**00 45 47.3**	**+2.0**
DZA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KBK	**Karagaybulak**	**5.72**	**21**	P	**Pn**	**00 45 50.2**	**+3.1**
	SNR=19						
ULHL	**Ulahol**	**5.81**	**31**	P	**Pn**	**00 45 50.4**	**+2.1**
	SNR=5.4						
KK31	**Karatay Array**	**5.91**	**348**		**Pn**	**00 45 51.6**	**+2.2**
KK31	**Karatay Array**	**5.91**	**348**	⇑P	**Pn**	**00 45 49.7**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=168,slow=14,SNR=25						
KK31				⇑S

	comp=E,39nm,0.3s								
SMLA					IAML			00 47 33.4	
	comp=N,26nm,0.2s								
SATY	**Saty**	**7.43**	**38**	*e*P		**Pn**		**00 46 10.8**	**+1.5**
	baz=37								
SATY	**Saty**	**7.43**	**38**	*e*PN		**Pn**		**00 46 10.7**	**+1.5**
CHKK	**Chushkaly**	**7.46**	**28**	*e*P		**Pn**		**00 46 09.9**	**+0.4**
	baz=27								
CHKK	**Chushkaly**	**7.46**	**28**	*e*PN		**Pn**		**00 46 09.9**	**+0.4**
ZHN	**Zhinishke**	**7.52**	**37**	*e*P		**Pn**		**00 46 11.0**	**+0.5**
	baz=37								
ZHN	**Zhinishke**	**7.52**	**37**	*e*PN		**Pn**		**00 46 11.0**	**+0.5**
BTLS	**Baital**	**7.83**	**10**	*e*P		**Pn**		**00 46 16.2**	**+1.9**
	baz=9.3								
BTLS	**Baital**	**7.83**	**10**	*e*PN		**Pn**		**00 46 16.2**	**+1.9**
KPKS	**Kokpek**	**7.87**	**37**	*e*P		**Pn**		**00 46 15.7**	**+0.8**
	baz=36								
KPKS	**Kokpek**	**7.87**	**37**	*e*PN		**Pn**		**00 46 15.7**	**+0.8**
SHLS	**Shalkode**	**8.04**	**41**	*e*P		**Pn**		**00 46 21.3**	**+4.1**
	baz=42								
SHLS	**Shalkode**	**8.04**	**41**	*e*PN		**Pn**		**00 46 21.2**	**+4.1**
KUDL	**Kundal**	**9.84**	**157**	*e*S		Sn		00 48 23.0	-7.7
GEYT	**Alibeck**	**11.20**	**277**	P		**Pn**		**00 46 58.4**	**+0.3**
	comp=N,0.7nm,0.3s,baz=94,slow=12,SNR=4.3								
GEYT				S		**Sn**		**00 48 59.8**	**-3.1**
	comp=N,1.6nm,0.6s,baz=85,slow=18,SNR=2.5								
MAKZ	**Makanchi**	**11.92**	**34**	Pn		**Pn**		**00 47 07.1**	**-0.1**
MAKZ	**Makanchi**	**11.92**	**34**	P		**Pn**		**00 47 07.1**	**-0.1**
MK31	**Makanchi Array**	**12.05**	**35**			**Pn**		**00 47 09.1**	**+0.3**
MK31	**Makanchi Array**	**12.05**	**35**	P		**Pn**		**00 47 09.1**	**+0.3**
MKAR	**Makanchi Array**	**12.05**	**35**	P		**Pn**		**00 47 09.5**	**+0.7**
	comp=N,1.5nm,0.4s,baz=210,slow=9.4,SNR=37								
MKAR	**Makanchi Array**	**12.05**	**35**			**Pn**		**00 47 09.1**	**+0.3**
KURBB	**Kurchatov Arra**	**14.04**	**17**	P		**Pn**		**00 47 33.6**	**0.0**
	comp=N,2.4nm,0.5s,baz=207,slow=11,SNR=18								
KURK	**Kurchatov**	**14.14**	**17**	Pn		**Pn**		**00 47 34.9**	**0.0**
KURK	**Kurchatov**	**14.14**	**17**	*ce*P		**Pn**		**00 47 35.0**	**+0.1**
KURK				pmax		pmax			
	comp=Z,8.0nm,1.0s								
SEM	**Semipalatinsk**	**14.29**	**21**	*e*P		**Pn**		**00 47 38.0**	**+1.0**
	baz=21								
SEM	**Semipalatinsk**	**14.29**	**21**	*e*P		**Pn**		**00 47 37.9**	**+1.0**
AB31	**Akbulak array**	**14.87**	**327**	⇑P		**P**		**00 47 47.0**	**+2.4**
	comp=Z,0.7nm,0.5s,baz=137,slow=12,SNR=32								
AB31				⇑S		**S**		**00 50 26.3**	**-2.5**
	comp=Z,0.8nm,0.5s,baz=131,slow=25,SNR=4.5								
ABKAR	**Akbulak array**	**14.87**	**327**	P		**Pn**		**00 47 43.9**	**+0.1**
ABKAR	**Akbulak array**	**14.87**	**327**			**Pn**		**00 47 44.3**	**+0.4**
BVAR	**Borovoye Array**	**15.74**	**356**	P		**P**		**00 47 55.4**	**+1.1**
	comp=Z,3.7nm,0.3s,baz=163,slow=10,SNR=24								
BVAR				S		**S**		**00 50 50.2**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=161,slow=18,SNR=5.7								
BRVK	**Borovoye**	**15.79**	**356**	P		**P**		**00 47 55.0**	**+0.3**
BRVK				IAmb		IAmb		00 47 58.2	
	comp=Z,10nm,1.4s								
BRVK	**Borovoye**	**15.79**	**356**	*ce*P		**P**		**00 47 56.0**	**+1.3**
BRVK				pmax		pmax			
	comp=Z,21nm,3.1s								
DGZ	**Jazzator, Alta**	**16.53**	**37**	*i* P		**P**		**00 48 03.4**	**+0.2**
DGZ				pmax		pmax			
	comp=Z,9.0nm,0.7s								
AKTO	**Aktyubinsk**	**16.58**	**327**	P		**P**		**00 48 04.8**	**+1.2**
	comp=Z,3.9nm,0.6s,baz=134,slow=10.0,SNR=12								
AKTO				S		**S**		**00 51 07.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=315,slow=17,SNR=2.1								
AKTO	**Aktyubinsk**	**16.58**	**327**	⇓P		**Pn**		**00 48 05.7**	**+1.2**
	comp=Z,0.7nm,0.4s								
AKTO				⇓S		**Sn**		**00 51 09.9**	**-1.0**
	comp=Z,2.2nm,1.1s								
ZAA0	**Zalesovo Array**	**18.76**	**24**	P		**P**		**00 48 27.6**	**+0.4**
ZALV	**Zalesovo Beam**	**18.76**	**24**	P		**P**		**00 48 27.5**	**+0.3**
	comp=Z,28nm,0.4s,baz=223,slow=11,SNR=139								
ULN	**Ulaanbaatar**	**27.51**	**56**	*i* P		**P**		**00 49 50.6**	**-0.7**
ULN				pmax		pmax			
	comp=Z,8.0nm,2.1s								
OBN	**Obninsk**	**29.96**	**318**	*e*P		**P**		**00 50 13.1**	**+0.4**
OBN				pmax		pmax			
	comp=Z,5.0nm,1.0s								
NRIK	**Noril'sk**	**33.14**	**10**	P		**P**		**00 50 38.3**	**-2.0**
	comp=Z,1.4nm,0.2s,baz=214,slow=5.9,SNR=8.1								
	comp=Z,1.4nm,0.2s								
NRIK	**Noril'sk**	**33.14**	**10**	*i* P		**P**		**00 50 39.9**	**-0.4**
NRIK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
GSI	**Gunungsitoli**	**42.80**	**141**	P		**P**		**00 52 01.6**	**0.0**
GSI				IAmb		IAmb		00 52 02.6	
	comp=Z,20nm,0.7s								
TJN	**Taejon**	**43.60**	**74**	*ce*P		**P**		**00 52 07.1**	**-0.7**
TIXI	**Tiksi**	**44.64**	**22**	*ce*P		**P**		**00 52 14.4**	**-1.1**
TIXI				pmax		pmax			
	comp=Z,6.0nm,2.5s								
BFO	**Black Forest**	**46.85**	**305**	*ce*P		**P**		**00 52 31.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**66.71**	**269**	P		**P**		**00 54 50.6**	**-2.6**
	comp=Z,0.8nm,0.4s,baz=46,slow=5.4,SNR=10								
	comp=Z,0.8nm,0.4s								
INK	**Inuvik**	**72.93**	**10**	P		**P**		**00 55 29.7**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=296,slow=3.9,SNR=2.0								
	comp=Z,0.7nm,0.8s								
INK	**Inuvik**	**72.93**	**10**	P		**P**		**00 55 29.6**	**-0.6**
PPLA	**Purkeypile**	**73.98**	**19**	P		**P**		**00 55 35.7**	**-1.0**
PPLA				IAmb		IAmb		00 56 00.5	
	comp=Z,18nm,1.4s								
YKA	**Yellowknife Ar**	**80.37**	**3**	P		**P**		**00 56 10.7**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=349,slow=5.2,SNR=7.7								
	comp=Z,0.3nm,0.6s								
YKA	**Yellowknife Ar**	**80.37**	**3**	P		**P**		**00 56 11.0**	**-1.0**
YKA	**Yellowknife Ar**	**80.37**	**3**	P		**P**		**00 56 11.0**	**-1.0**

*BEO **26** 00:50:19.9±0.8,40.°01N×19.°76E,h0km,ML2.7/5*
*TIR **26** 00:50:19.9,40.°11N×19.°88E,h2km±1km,Md3.1,Ml2.8*
*ATH **26** 00:50:21.1,40.°15N×19.°83E,h9km±3km,ML2.6/6,Error ellipse: s-maj=3.7km s-min=1.1km az=198.0*
*THE **26** 00:50:21.6,40.°14N×19.°88E,h0km±3km,ML2.5/8,Error ellipse: s-maj=3.0km s-min=0.8km az=294.0*

ISC 26 00:50:20.9±1.1,40.°13N±0.°02×19.°84E±0.°02,h2km±10km, n48,σ1s23/74,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.28**	**154**	P	**Pg**	**00 50 25.1**	**-1.2**
	baz=156						
SRN				S	**Sg**	**00 50 29.6**	**-0.2**
	baz=156						
SRN				AMP			
	comp=N,4.8nm,0.3s,baz=156						
KASA	**Kassiopi**	**0.39**	**169**	P	**Pg**	**00 50 28.4**	**0.0**
KASA				S	**Sg**	**00 50 35.0**	**+1.5**
KASA				AML	AML	00 50 35.2	
	comp=E,3814μm,0.3s						
KASA				AML	AML	00 50 37.3	
	comp=N,3004μm,0.3s						
KEK	**Kerkira**	**0.42**	**184**	P	**Pg**	**00 50 29.6**	**+0.7**
KEK				S	**Sb**	**00 50 36.6**	**-1.2**
	comp=N,1μm,0.2s						
KEK	**Kerkira**	**0.42**	**184**	P	**Pg**	**00 50 29.6**	**+0.7**
KEK				S	**Sg**	**00 50 35.6**	**+1.3**
KEK				AML	AML	00 50 37.8	
	comp=E,3351μm,0.2s						
KEK				AML	AML	00 50 38.5	
	comp=N,2380μm,0.2s						
VLO	**Vlora**	**0.43**	**322**	P	**Pb**	**00 50 30.0**	**-1.3**
VLO	**Vlora**	**0.43**	**322**	P	**Pb**	**00 50 30.1**	**-1.3**
	baz=322						
VLO				S	**Sb**	**00 50 37.5**	**-0.7**
	baz=322						
VLO				AMP			
	comp=E,13nm,0.5s,baz=322						
LSK	**Leskovik**	**0.58**	**88**	P	**Pg**	**00 50 31.2**	**-0.9**
LSK				S	**Sg**	**00 50 40.6**	**+0.9**
	comp=E,692nm,0.5s						
LSK	**Leskovik**	**0.58**	**88**	P	**Pg**	**00 50 31.1**	**-1.0**
	baz=85						
LSK				S	**Sg**	**00 50 40.2**	**+0.6**
	baz=85						
LSK				AMP			
	comp=E,2.7nm,0.7s,baz=85						
IGT	**Igoumenitsa**	**0.71**	**147**	P	**Pg**	**00 50 34.0**	**-0.4**
IGT				S	**Sg**	**00 50 44.2**	**+0.6**
	comp=E,350nm,0.3s						
IGT	**Igoumenitsa**	**0.71**	**147**	P	**Pg**	**00 50 34.1**	**-0.4**
	baz=148						
IGT				S	**Sg**	**00 50 45.0**	**+1.4**
	baz=148						
IGT	**Igoumenitsa**	**0.71**	**147**	P	**Pg**	**00 50 34.5**	**0.0**
IGT				S	**Sg**	**00 50 45.1**	**+1.4**
IGT				AML	AML	00 50 51.7	
	comp=N,716μm,0.2s						
IGT				AML	AML	00 50 52.0	
	comp=E,745μm,0.3s						
KBN	**Korca**	**0.88**	**55**	P	**Pg**	**00 50 36.5**	**-1.2**
KBN				S	**Sb**	**00 50 49.9**	**-1.3**
	comp=E,238nm,0.4s						
KBN	**Korca**	**0.88**	**55**	P	**Pg**	**00 50 37.7**	**-0.1**
	baz=53						
KBN				S	**Sb**	**00 50 51.0**	**-0.1**
	baz=53						
KBN				AMP			
	comp=E,0.8nm,0.4s,baz=53						
JAN	**Janina**	**0.91**	**121**	P	**Pg**	**00 50 38.7**	**+0.3**
JAN				S	**Sb**	**00 50 51.8**	**-0.3**
	comp=E,490nm,0.4s						
JAN	**Janina**	**0.91**	**121**	P	**Pg**	**00 50 38.7**	**+0.3**
JAN				S	**Sb**	**00 50 51.6**	**-0.5**
JAN				AML	AML	00 50 56.2	
	comp=E,956μm,0.2s						
JAN				AML	AML	00 50 57.0	
	comp=N,751μm,0.2s						
PENT	**Pentalofos**	**1.00**	**86**	P	**Pg**	**00 50 39.1**	**-0.9**
PENT	**Pentalofos**	**1.00**	**86**	P	**Pg**	**00 50 39.9**	**-0.1**
SCTE	**Santa Cesarea**	**1.05**	**267**	P	**Pb**	**00 50 41.5**	**-0.4**
	baz=269						
SCTE				S	**Sn**	**00 50 57.7**	**-0.4**
	baz=269						
SCTE				AMP			
	comp=N,0.8nm,0.3s,baz=269						
SCTE	**Santa Cesarea**	**1.05**	**267**	P	**Pg**	**00 50 40.9**	**-0.3**
SCTE				AML	AML	00 50 59.2	
	comp=N,392μm,0.3s						
SCTE				AML	AML	00 51 00.4	
	comp=E,408μm,0.2s						
KPRO	**Kipourio**	**1.18**	**98**	P	**Pb**	**00 50 43.4**	**-0.8**
TIR	**Tirane**	**1.22**	**1**	P	**Pg**	**00 50 44.6**	**+0.3**
TIR				S	**Sn**	**00 51 02.5**	**+0.4**
	comp=E,102nm,0.5s						
TIR	**Tirane**	**1.22**	**1**	P	**Pg**	**00 50 44.8**	**+0.5**
	baz=0.0						
TIR				S	**Sn**	**00 51 03.0**	**+0.9**
	baz=0.0						
TIR				AMP			
	comp=E,0.4nm,0.5s,baz=0.0						
TIR	**Tirane**	**1.22**	**1**	*e*Pg	**Pb**	**00 50 43.2**	**-1.5**
TIR				*e*Sg	**Sn**	**00 51 04.2**	**+2.1**
OHR	**Ohrid**	**1.22**	**36**	*e*Pg	**Pb**	**00 50 44.2**	**-0.7**
OHR				*e*Sg	**Sn**	**00 51 02.1**	**-0.2**
OHR	**Ohrid**	**1.22**	**36**	*i* Pg	**Pg**	**00 50 44.4**	**0.0**
OHR				*i* Sg	**Sn**	**00 51 07.1**	**+4.7**
FNA	**Florina**	**1.34**	**60**	P	**Pn**	**00 50 45.8**	**-1.0**
FNA				S	**Sg**	**00 51 05.8**	**+1.8**
	comp=E,335nm,0.5s						
FNA	**Florina**	**1.34**	**60**	P	**Pn**	**00 50 45.8**	**-1.0**
	baz=59						
FNA				S	**Sg**	**00 51 05.8**	**+1.8**
	baz=59						
FNA	**Florina**	**1.34**	**60**	*e*Pg	**Pn**	**00 50 45.6**	**-1.2**
FNA				*e*Sg	**Sg**	**00 51 06.2**	**+2.1**
FNA	**Florina**	**1.34**	**60**	P	**Pn**	**00 50 45.7**	**-1.0**
FNA				AML	AML	00 51 09.6	
	comp=N,628μm,0.5s						
FNA				AML	AML	00 51 11.4	
	comp=E,706μm,0.6s						
TSLK	**Tsoukalades, L**	**1.45**	**154**	P	**Pn**	**00 50 48.2**	**0.0**
LKD2	**Lefkada island**	**1.48**	**154**	P	**Pn**	**00 50 48.7**	**+0.1**
KZN	**Kozani**	**1.49**	**83**	P	**Pb**	**00 50 48.8**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.56**	**155**	P	**Pn**	**00 50 49.1**	**-0.6**
NYDR				S	**Sg**	**00 51 11.8**	**+0.7**
	comp=E,138nm,0.4s						
EVGI	**Lefkada island**	**1.63**	**157**	P	**Pn**	**00 50 50.9**	**+0.2**
THL	**Klokotos Trika**	**1.77**	**108**	P	**Pn**	**00 50 52.6**	**0.0**
TYRN	**Tyrnavos**	**1.89**	**102**	P	**Pb**	**00 50 54.9**	**-1.2**
EVR	**Evrytania**	**1.94**	**128**	P	**Pb**	**00 50 56.4**	**-0.8**
GRG	**Griva**	**2.12**	**66**	P	**Pb**	**00 50 58.8**	**-1.3**
BCI	**Bajram Curri**	**2.24**	**4**	P	**Pb**	**00 50 59.7**	**-2.5**
	baz=3.0						
BCI				AMP			
	comp=E,0.3nm,0.6s,baz=3.0						
PDG	**Podgorica**	**2.34**	**349**	*e*Pn	**Pn**	**00 51 00.5**	**0.0**
PDG				*e*Sn	**Sb**	**00 51 30.2**	**-3.0**
STIP	**Stip**	**2.37**	**48**	*i* Pn	**Pb**	**00 51 04.1**	**-0.2**
VAY	**Valandovo**	**2.39**	**59**	*i* Pn	**Pb**	**00 51 02.8**	**-1.9**
PRVS	**Prvonek**	**2.91**	**35**	*e*Pn	**Pn**	**00 51 10.2**	**+1.8**
BARS	**Barje**	**3.07**	**28**	*e*Pn	**Pn**	**00 51 10.8**	**+0.3**
SJES	**Sjenica**	**3.13**	**2**	*e*Pn	**Pn**	**00 51 12.4**	**+0.9**
SJES				*e*Sn	**Sn**	**00 51 50.6**	**+1.1**
SELS	**Selova**	**3.23**	**17**	*e*Pn	**Pn**	**00 51 13.1**	**+1.1**
BBLS	**Lazići**	**3.75**	**355**	*e*Pn	**Pn**	**00 51 19.2**	**+0.7**
DIVS	**Divibare**	**3.97**	**2**	*e*Pn	**Pn**	**00 51 25.0**	**+2.1**

IDC 26 00:54:11.5±2.2,6.°58S×120.°29E,h0km,mb3.3/2, mbtmp3.3/3,ML3.3/1,MS3.1/1,Error ellipse: s-maj=286.2km s-min=26.5km az=55.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**14.55**	**21**	LR	LR	01 03 09.5	
	comp=Z,73nm,18.8s,baz=318,slow=37						
WRA	**Warramunga Arr**	**19.04**	**136**	P	P	00 58 35.0	-0.5
	0.1nm,0.3s,baz=310,slow=10,SNR=2.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**21.45**	**144**	P	P	00 59 01.9	+0.3
	0.8nm,0.7s,baz=320,slow=9.8,SNR=11						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**62.92**	**332**	P	P	01 04 39.8	0.0
	0.1nm,0.3s,baz=118,slow=8.3,SNR=7.1						
	0.1nm,0.3s						

*FUNV **26** 01:05:44.0,8.°17N×71.°03W,h5km,MW3.7*

ISC 26 01:05:42.5±1.1,8.°14N±0.°04×70.°96W±0.°03,h10km±8km, n22,σ1s20/43,1D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.18**	**36**	*e*P	**Pg**	**01 05 46.6**	**+0.2**
SOCV				*e*S	**Sg**	**01 05 50.2**	**+1.1**
CAPV	**Capacho**	**1.36**	**259**	*e*P	**Pn**	**01 06 07.0**	**-0.8**
CAPV				*e*S	**Sg**	**01 06 25.5**	**-1.0**
TAMC	**Tame, Arauca**	**1.88**	**206**	*e*P	**Pn**	**01 06 15.8**	**+1.1**
TAMC				*e*S	**Sn**	**01 06 40.9**	**+2.4**
TAMC				*i*		01 06 47.5	
	comp=Z,195nm,0.2s						
PAMC	**Pamplona, Colo**	**1.89**	**245**	*e*P	**Pn**	**01 06 15.9**	**+0.6**
PAMC				*e*S	**Sn**	**01 06 39.7**	**+0.3**
PAMC				*i*		01 06 44.1	
	comp=Z,211nm,0.3s						
CURV	**Curarigua**	**2.11**	**28**	*e*P	**Pb**	**01 06 20.1**	**-0.8**
CURV				*e*S	**Sb**	**01 06 46.6**	**-0.6**
MCQV	**Machiques**	**2.45**	**321**	*e*P	**Pn**	**01 06 22.7**	**+0.1**
MCQV				*e*S	**Sn**	**01 06 53.4**	**+0.7**
BARC	**Barichara**	**2.68**	**235**	*e*P	**Pn**	**01 06 27.6**	**+1.6**
BARC				*e*S	**Sn**	**01 07 01.1**	**+2.4**
BARC				*i*		01 07 09.8	
	comp=Z,101nm,0.4s						
SIQV	**Siquisique**	**2.75**	**24**	*e*P	**Pb**	**01 06 30.0**	**-1.7**
SIQV				*e*S	**Sn**	**01 07 01.2**	**+1.3**
BRRC	**Barranca, Sant**	**2.91**	**250**	*e*P	**Pn**	**01 06 30.7**	**+1.8**
BRRC				*e*S	**Sn**	**01 07 04.7**	**+0.8**
BRRC				*i*		01 07 17.8	
	comp=Z,51nm,0.4s						
MAPV	**Macapo**	**3.00**	**56**	*e*P	**Pn**	**01 06 30.7**	**+0.6**
MAPV				*e*S	**Sn**	**01 07 07.3**	**+1.3**
BAUV	**El Baul**	**3.00**	**74**	*e*P	**Pn**	**01 06 30.5**	**+0.4**
BAUV				*e*S	**Sn**	**01 07 07.9**	**+1.7**
RUSC	**La Rusia**	**3.06**	**223**	⇓*i*P	**Pn**	**01 06 32.7**	**+1.3**
RUSC				*e*S	**Sn**	**01 07 09.8**	**+1.4**
RUSC				*i*		01 07 18.7	
	comp=Z,30nm,0.5s						
JACV	**Jacura**	**3.61**	**35**	*e*P	**Pn**	**01 06 39.8**	**+1.3**
JACV				*e*S	**Sn**	**01 07 20.9**	**-0.3**
BENV	**Beln**	**3.79**	**61**	*e*P	**Pn**	**01 06 42.7**	**+1.7**
BENV				*e*S	**Sn**	**01 07 25.7**	**0.0**
PTBC	**PUERTO BERRIO,**	**3.81**	**246**	*e*P	**Pn**	**01 06 42.2**	**+0.9**
PTBC				*e*S	**Sn**	**01 07 25.6**	**-0.6**
PTBC				*i*		01 07 40.4	
	comp=Z,28nm,0.6s						
TURV	**Turiamo**	**3.85**	**53**	*e*P	**Pn**	**01 06 42.5**	**+0.7**
TURV				*e*S	**Sn**	**01 07 27.2**	**+0.2**
PTGC	**Puerto Gaitan,**	**4.08**	**197**	*e*P	**Pn**	**01 06 44.8**	**-0.1**
PTGC				*e*S	**Sn**	**01 07 32.1**	**-0.7**
PTGC				*i*		01 07 57.2	
	comp=Z,56nm,0.4s						
TACV	**Tcata**	**4.37**	**63**	*e*P	**Pn**	**01 06 50.6**	**+1.6**
TACV				*e*S	**Sn**	**01 07 39.7**	**-0.3**
CACV	**CAICARA DEL OR**	**4.42**	**97**	*e*P	**Pb**	**01 06 57.9**	**-2.3**
CACV				*e*S	**Sb**	**01 07 53.8**	**+0.2**
CHIC	**Chingaza**	**4.44**	**218**	*e*P	**Pn**	**01 06 51.0**	**+0.8**
CHIC				*e*S	**Sn**	**01 07 41.4**	**-0.9**
FUNV	**FUNVISIS**	**4.71**	**60**	*e*S	**Sn**	**01 07 47.8**	**-0.7**
MERV	**Las Mercedes**	**4.75**	**76**	*e*P	**Pn**	**01 06 55.3**	**+1.1**
MERV				*e*S	**Sn**	**01 07 48.6**	**-0.7**

*SOME **26** 01:11:16.1,41.°93N×82.°27E,h15km*
*NNC **26** 01:11:20.2±1.1,42.°05N×82.°18E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=8.8km s-min=4.6km az=157.0*

ISC 26 01:11:23.1±2.7,42.°2N±0.°1×82.°0E±0.°1,h14km,n37, σ2s19/41,8C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.75**	**317**	*e*Pg	**Pb**	**01 11 55.2**	**+0.1**
	31nm,0.6s						
KTMS				*e*Lg	Lg	01 12 23.4	
	26nm,0.6s						
SHLS	**Shalkode**	**2.11**	**298**	Pg	**Pn**	**01 11 58.6**	**+0.4**
	16nm,0.1s						
SHLS				Lg	Lg	01 12 26.8	
	575nm,0.7s						
SHLS	**Shalkode**	**2.11**	**298**	*e*Pg	**Pn**	**01 11 57.2**	**-1.0**
	16nm,0.1s						
SHLS				*e*Lg	Lg	01 12 26.9	
	575nm,0.7s						
UZB	**Uzynbulak**	**2.40**	**295**	Pg	**Pb**	**01 12 07.3**	**+1.1**
	6.2nm,0.4s						
UZB				Lg	Lg	01 12 42.2	
	30nm,0.7s						
UZB	**Uzynbulak**	**2.40**	**295**	*e*Pg	**Pb**	**01 12 06.2**	**0.0**
	6.2nm,0.4s						
UZB				*e*Lg	Lg	01 12 42.5	
	30nm,0.7s						
DJR	**Jarkent**	**2.69**	**324**	*e*Pg	**Pb**	**01 12 10.5**	**-0.6**
	3.3nm,0.3s						
DJR				*e*Lg	Lg	01 12 49.5	
	5.5nm,0.3s						
KPKS	**Kokpek**	**2.76**	**299**	Pg	**Pb**	**01 12 13.4**	**+1.2**
	10.0nm,0.2s						
KPKS				Lg	Lg	01 12 52.8	
	36nm,0.5s						
KPKS	**Kokpek**	**2.76**	**299**	*e*Pg	**Pb**	**01 12 09.7**	**-2.6**
	10.0nm,0.2s						
KPKS				*e*Lg	Lg	01 12 48.6	
	36nm,0.5s						
SATY	**Saty**	**2.80**	**289**	Pg	**Pg**	**01 12 14.7**	**-2.0**
	4.9nm,0.2s						
SATY				Lg	Lg	01 12 55.0	
	17nm,0.2s						
SATY	**Saty**	**2.80**	**289**	*e*Pg	**Pb**	**01 12 13.8**	**+0.9**
	4.9nm,0.2s						
SATY				*e*Lg	Lg	01 12 55.4	
	17nm,0.2s						
ZHN	**Zhinishke**	**2.81**	**292**	Pg	**Pb**	**01 12 14.3**	**+1.2**
	4.6nm,0.2s						
ZHN				Lg	Lg	01 12 54.6	
	17nm,0.2s						
ZHN	**Zhinishke**	**2.81**	**292**	*e*Pg	**Pb**	**01 12 13.3**	**+0.2**
	4.6nm,0.2s						
ZHN				*e*Lg	Lg	01 12 54.5	
	17nm,0.2s						
BLB	**Baldybastay**	**3.21**	**308**	Pg	**Pb**	**01 12 21.9**	**+1.9**
	6.0nm,0.2s						
BLB				Lg	Lg	01 13 07.0	
	10nm,0.3s						
ARXS	**Arharly**	**3.67**	**305**	Pg	**Pg**	**01 12 31.0**	**-2.4**
	9.6nm,0.5s						
ARXS				Lg	Lg	01 13 22.7	
	66nm,0.5s						
KOTS	**Kotyrbulak**	**3.75**	**288**	Pg	**Pb**	**01 12 30.5**	**+1.3**
	3.0nm,0.2s						
KOTS				Lg	Lg	01 13 22.3	
	6.9nm,0.3s						
KOTS	**Kotyrbulak**	**3.75**	**288**	*e*Pg	**Pb**	**01 12 28.1**	**-1.2**
	3.0nm,0.2s						
KOTS				*e*Lg	Lg	01 13 19.9	
	6.9nm,0.3s						
MDOK	**Medeo**	**3.78**	**287**	⇓Pn	**Pn**	**01 12 21.7**	**+0.5**
	4.8nm,1.0s						
MDOK				Pg	**Pg**	**01 12 32.8**	**-2.8**
	2.4nm,0.6s						
MDOK				Lg	Lg	01 13 24.8	
	11nm,0.8s						
MDOK				Lg	Lg	01 13 25.4	
	5.2nm,0.6s						
MDOK	**Medeo**	**3.78**	**287**	*e*Pg	**Pb**	**01 12 30.4**	**+0.7**
	2.3nm,0.8s						
MDOK				*e*Lg	Lg	01 13 24.1	
	5.6nm,1.5s						
TNSS	**Tian-Shan**	**3.83**	**285**	Pg	**Pb**	**01 12 31.9**	**+1.2**
	2.9nm,0.4s						
TNSS				Lg	Lg	01 13 23.8	
	2.9nm,0.6s						
TNSS	**Tian-Shan**	**3.83**	**285**	*e*Pg	**Pb**	**01 12 30.3**	**-0.4**
	2.9nm,0.4s						
TNSS				*e*Lg	Lg	01 13 23.6	
	2.9nm,0.6s						
CHKK	**Chushkaly**	**4.04**	**296**	Pg	**Pb**	**01 12 37.0**	**+3.0**
	1.0nm,0.1s						
CHKK				Lg	Lg	01 13 32.9	
	4.4nm,0.6s						

KRBS	**Karabastau**	**4.89**	**290**	Pg	**Pb**	**01 12 51.9**	**+3.4**
	1.6nm,0.5s						
KRBS				Lg	Lg	01 13 58.6	
	1.8nm,0.3s						
KRBS	**Karabastau**	**4.89**	**290**	*e*Pg	**Pb**	**01 12 50.8**	**+2.3**
	1.6nm,0.5s						
KRBS				*e*Lg	Lg	01 13 59.0	
	1.8nm,0.3s						
ZSN	**Zaisan**	**5.65**	**20**	Pg	**Pb**	**01 13 02.0**	**+0.6**
	1.4nm,0.3s						
ZSN				Lg	Lg	01 14 15.5	
	2.4nm,0.4s						

IDC ***26*** *01:28:59.3±2.5, 10°.44S×161°.33E, h59km±20km, mb4.2/20, mbtmp4.4/21, ML4.0/1, MS3.5/15, Error ellipse: s-maj=20.5km s-min=13.1km az=83.0*
NEIC ***26*** *01:29:00.4±1.2, 10°.4S±0°.1×161°.3E±0°.1, h62km±8km, mb4.9/69, Error ellipse: s-maj=19.3km s-min=11.3km az=46.0*
NOU ***26*** *01:29:18.5, 10°.92S×160°.91E, h200km, mb4.4/13, Solomon Islands*
ISC 26 01:28:59.7±0.5, 10°.43S±0°.06×161°.44E±0°.07, h61km, n137, σ1§04/132, mb4.8/63, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.77**	**304**	P	**Pn**	**01 29 26.7**	**-1.4**
	13μm,0.3s,baz=182,slow=9.9,SNR=38						
HNR				S	**Sn**	**01 29 47.3**	**-2.4**
	23μm,0.4s,baz=152,slow=9.6,SNR=10.0						
HNR				LR	LR	01 30 18.1	
	comp=Z,4μm,20.1s,baz=122,slow=47						
KOUNC	**Koumac, New Ca**	**10.43**	**165**		**Pn**	**01 31 27.2**	**+0.7**
LIFNC	**LIFOU**	**11.70**	**152**	Pn	**Pn**	**01 31 42.1**	**-1.8**
DZM	**Mont Dzumac**	**12.53**	**158**	P	**Pn**	**01 31 56.1**	**+0.8**
	0.8nm,0.3s,baz=263,slow=9.2,SNR=3.1						
DZM				S	**Sn**	**01 34 10.3**	**-3.0**
	5.0nm,0.5s,baz=260,slow=23,SNR=6.0						
DZM				LR	LR	01 36 22.3	
	comp=Z,212nm,19.1s,baz=24,slow=35						
	6.4nm,0.5s						
MARNC	**Mare, Loyalty**	**12.68**	**151**	Pn	**Pn**	**01 31 58.2**	**+0.9**
ONTNC	**Ouen Toro**	**12.75**	**158**	Pn	**Pn**	**01 31 59.6**	**+1.4**
OUENC	**Ouen Island, N**	**12.99**	**157**	Pn	**Pn**	**01 32 02.7**	**+1.1**
PMG	**Port Moresby**	**14.11**	**273**	LR	LR	01 36 30.7	
	comp=Z,155nm,21.8s,baz=89,slow=32						
PMG	**Port Moresby**	**14.11**	**273**	Pn	**Pn**	**01 32 14.3**	**-2.3**
PMG	**Port Moresby**	**14.11**	**273**	P	**P**	**01 32 23.8**	**+1.4**
PMG	**Port Moresby**	**14.11**	**273**	P	**P**	**01 32 24.2**	**+1.8**
CTA	**Charters Tower**	**17.50**	**235**	P	**P**	**01 33 00.6**	**+0.5**
	20nm,0.6s,baz=69,slow=12,SNR=27						
CTA				LR	LR	01 38 44.9	
	comp=Z,151nm,20.3s,baz=70,slow=34						
CTAO	**Charters Tower**	**17.50**	**235**		**P**	**01 33 00.1**	**0.0**
CTAO	**Charters Tower**	**17.50**	**235**	P	**P**	**01 33 00.8**	**+0.7**
EIDS	**Eidsvold**	**17.81**	**212**		**P**	**01 33 04.2**	**+0.8**
EIDS	**Eidsvold**	**17.81**	**212**	P	**P**	**01 33 04.3**	**+0.8**
COEN	**Coen**	**18.19**	**257**	P	**Pn**	**01 33 07.7**	**-0.5**
COEN	**Coen**	**18.19**	**257**	P	**Pn**	**01 33 09.4**	**+1.2**
MTSU	**Mount Surprise**	**18.27**	**243**	P	**Pn**	**01 33 10.6**	**+1.5**
RMQ	**Roma**	**19.97**	**215**	P	**Pn**	**01 33 28.8**	**-0.5**
MMPI	**Merauke**	**20.86**	**274**	P	Pn	01 33 38.6	-1.3
	15nm,0.8s						
ARMA	**Armidale**	**21.89**	**203**	P	**P**	**01 33 48.3**	**+0.5**
ARMA				IAmb	IAmb	01 33 57.1	
	comp=Z,72nm,1.9s						
GENI	**Genyem**	**22.51**	**289**	P	**P**	**01 33 57.3**	**+2.8**
	comp=Z,61nm,1.8s						
AULRC	**Lightning Ridg**	**22.71**	**212**	P	**P**	**01 33 56.2**	**-0.3**
QLP	**Quilpie**	**22.85**	**223**	P	**P**	**01 33 58.3**	**+0.3**
QIS	**Mount Isa**	**23.30**	**242**	P	**P**	**01 34 02.2**	**-0.3**
SMPI	**Sarmi**	**24.08**	**289**	P	**P**	**01 34 11.4**	**+1.7**
	comp=Z,37nm,1.3s						
AUDCS	**Dubbo College**	**24.71**	**207**	P	**P**	**01 34 15.7**	**+0.4**
INKA	**Innaminka**	**25.98**	**226**	P	**P**	**01 34 27.1**	**+0.2**
AFI	**Afiamalu**	**26.40**	**100**	LR	LR	01 42 46.1	
	comp=Z,67nm,21.3s,baz=311,slow=31						
CAN	**Canberra**	**27.25**	**203**	P	**P**	**01 34 39.1**	**+0.9**
CAN				IAmb	IAmb	01 35 06.2	
	comp=Z,69nm,2.0s						
WB0	**Warramunga Arr**	**27.68**	**247**	P	**P**	**01 34 41.3**	**-1.0**
WB2	**Warramunga Arr**	**27.76**	**247**	P	**P**	**01 34 41.4**	**-1.6**
WRA	**Warramunga Arr**	**27.77**	**247**	P	**P**	**01 34 41.9**	**-1.2**
	comp=Z,4.0nm,0.5s,baz=77,slow=8.7,SNR=54						
WRA				LR	LR	01 45 23.1	
	comp=Z,154nm,19.4s,baz=82,slow=36						
	comp=Z,4.0nm,0.5s						
WRA	**Warramunga Arr**	**27.77**	**247**	P	**P**	**01 34 40.0**	**-3.1**
STKA	**Stephens Creek**	**28.15**	**218**	P	**P**	**01 34 45.4**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=34,slow=11,SNR=4.4						
STKA				LR	LR	01 45 41.0	
	comp=Z,190nm,18.7s,baz=31,slow=36						
	comp=Z,1.3nm,0.6s						
RKPI	**Ransiki, Papua**	**28.50**	**286**	P	**P**	**01 34 52.0**	**+2.4**
	comp=Z,66nm,0.6s,comp=Z,31μm						
GUMO	**Guam**	**28.98**	**325**	LR	LR	01 47 53.3	
	comp=Z,47nm,18.2s,baz=128,slow=39						
ASAR	**Alice Springs**	**29.36**	**240**	P	**P**	**01 34 55.3**	**-1.9**
	comp=Z,2.0nm,0.7s,baz=71,slow=9.3,SNR=23						
ASAR				LR	LR	01 46 35.4	
	comp=Z,179nm,18.2s,baz=68,slow=36						
	comp=Z,2.0nm,0.7s						
LCRK	**Leigh Creek**	**29.39**	**224**	P	**P**	**01 34 56.9**	**-0.4**
BNDI	**Bandanaira**	**31.80**	**278**	P	**P**	**01 35 20.1**	**+1.3**
	comp=Z,235nm,1.9s						
BBOO	**Buckleboo**	**32.28**	**223**	P	**P**	**01 35 22.0**	**-0.8**
BBOO				IAmb	IAmb	01 35 23.1	
	comp=Z,14nm,0.7s						
AAI	**Ambon**	**33.65**	**279**	P	**P**	**01 35 36.4**	**+1.5**
	comp=Z,41nm,0.5s,comp=Z,3μm						
SOEI	**Soe**	**36.59**	**268**	P	**P**	**01 36 01.5**	**+1.1**
	comp=Z,26nm,1.2s						
BATI	**Baumata**	**37.15**	**267**	P	**P**	**01 36 07.0**	**+1.9**
	comp=Z,71nm,0.4s						
MRSI	**Marisa**	**40.75**	**283**	P	**P**	**01 36 36.7**	**+1.5**
	comp=Z,18nm,1.0s						
BKSI	**Bulukumba**	**41.22**	**274**	P	**P**	**01 36 40.9**	**+1.9**
	comp=Z,16nm,0.8s						
KAPI	**Kappang**	**41.63**	**274**	LR	LR	01 54 56.4	
	comp=Z,30nm,18.9s,baz=34,slow=38						
MJAR	**Matsushiro Arr**	**51.59**	**336**	P	**P**	**01 37 58.5**	**-1.4**
	comp=Z,2.9nm,0.6s,baz=168,slow=8.7,SNR=8.2						
MJAR				LR	LR	02 00 38.2	
	comp=Z,41nm,19.6s,baz=44,slow=37						
	comp=Z,2.9nm,0.6s						
JNU	**Nakatsue**	**52.19**	**327**	P	**P**	**01 38 03.8**	**-0.7**
	comp=Z,5.4nm,0.7s,baz=68,slow=12,SNR=3.5						
JNU				LR	LR	02 00 41.7	
	comp=Z,32nm,18.1s,baz=318,slow=36						
	comp=Z,5.4nm,0.7s						
ASAJ	**Asahikawa**	**56.92**	**344**	P	**P**	**01 38 38.7**	**+0.2**
	comp=Z,15nm,0.8s,baz=189,slow=11,SNR=6.7						
ASAJ				LR	LR	02 00 25.9	
	comp=Z,78nm,21.2s,baz=146,slow=33						
	comp=Z,15nm,0.8s						
KSRS	**Korea Array**	**57.06**	**328**	P	**P**	**01 38 38.9**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=134,slow=6.7,SNR=7.9						
	comp=Z,2.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**60.59**	**336**	P	**P**	**01 39 04.0**	**0.0**
	comp=Z,6.6nm,0.8s,baz=127,slow=6.3,SNR=6.8						
	comp=Z,6.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**60.59**	**336**	P	**P**	**01 39 04.5**	**+0.5**
PETK	**Petropavlovsk-**	**63.37**	**357**	P	**P**	**01 39 22.3**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=179,slow=8.6,SNR=3.7						
PETK				LR	LR	02 01 52.4	
	comp=Z,32nm,21.8s,baz=96,slow=31						
	comp=Z,3.3nm,0.8s						
KLR	**Kul'dur**	**64.89**	**339**	P	**P**	**01 39 32.4**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=147,slow=9.1,SNR=6.1						
	comp=Z,1.7nm,0.6s						
VNDA	**Vanda**	**67.07**	**180**	P	**P**	**01 39 46.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=354,slow=4.8,SNR=7.2						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**68.00**	**295**	P	**P**	**01 39 53.7**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=116,slow=4.1,SNR=2.0						
	comp=Z,1.9nm,0.3s						
ULN	**Ulaanbaatar**	**75.36**	**326**	P	**P**	**01 40 36.8**	**-0.1**
SONM	**Songino Array**	**75.71**	**325**	P	**P**	**01 40 38.8**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=143,slow=6.2,SNR=37						
	comp=Z,4.1nm,0.7s						
YAK	**Yakutsk**	**76.37**	**345**	P	**P**	**01 40 41.9**	**-0.2**
	comp=Z,12nm,0.4s,baz=148,slow=0.5,SNR=4.1						
	comp=Z,12nm,0.4s						
BILL	**Bilibino**	**78.34**	**2**	P	**P**	**01 40 52.7**	**-0.3**
P19K	**Oil Pt**	**78.68**	**22**	P	**P**	**01 40 55.2**	**+0.1**
SVW2	**Sparrevohn**	**78.91**	**20**	P	**P**	**01 40 57.3**	**+1.0**
N19K	**Bonanza Creek**	**79.07**	**20**	P	**P**	**01 40 57.3**	**0.0**
TNA	**Tin City**	**79.13**	**12**	P	**P**	**01 40 57.8**	**+0.4**
CNPM	**China Poot**	**79.33**	**22**	P	**P**	**01 40 59.3**	**+0.7**
L19K	**White Mountain**	**79.94**	**19**	P	**P**	**01 41 02.6**	**+0.8**
L19K				IAmb	IAmb	01 41 03.5	
	comp=Z,15nm,0.7s						
TTA	**Tatalina**	**80.12**	**18**	P	**P**	**01 41 03.5**	**+0.6**
TTA				IAmb	IAmb	01 41 04.2	
	comp=Z,8.7nm,0.8s						
M20K	**Styx River**	**80.29**	**20**	P	**P**	**01 41 04.2**	**+0.4**
M20K				IAmb	IAmb	01 41 05.6	
	comp=Z,7.9nm,0.8s						
SUA	**Susitna One**	**80.83**	**21**	P	**P**	**01 41 06.6**	**-0.2**
SUA				IAmb	IAmb	01 41 07.9	
	comp=Z,38nm,1.5s						
K20K	**Telida**	**81.03**	**19**	P	**P**	**01 41 08.1**	**+0.3**
PPLA	**Purkeypile**	**81.31**	**20**	P	**P**	**01 41 08.9**	**-0.5**
CAST	**Castle Rocks**	**81.71**	**19**	P	**P**	**01 41 10.9**	**-0.5**
CAST				IAmb	IAmb	01 41 12.0	
	comp=Z,19nm,0.7s						
SCM	**Sheep Creek Mo**	**82.30**	**22**	P	**P**	**01 41 15.1**	**+0.6**
TRF	**Thorofare Moun**	**82.32**	**20**	P	**P**	**01 41 13.8**	**-0.9**
BMRM	**Bremner River**	**82.80**	**23**	P	**P**	**01 41 17.4**	**+0.4**
M24K	**Tolsona, Glenn**	**82.90**	**22**	P	**P**	**01 41 18.1**	**+0.5**
MCK	**McKinley**	**82.97**	**20**	P	**P**	**01 41 18.0**	**+0.1**
I21K	**Tanana**	**82.97**	**18**	P	**P**	**01 41 18.1**	**+0.3**
I21K				IAmb	IAmb	01 41 19.9	
	comp=Z,24nm,1.4s						
IMAR	**Indian Mountai**	**83.02**	**17**	P	**P**	**01 41 18.3**	**+0.3**
H21K	**Melozitna Rive**	**83.06**	**17**	P	**P**	**01 41 18.5**	**+0.2**
N25K	**Chitina, Valde**	**83.19**	**23**	P	**P**	**01 41 19.8**	**+0.7**
MLY	**Manley**	**83.25**	**18**	P	**P**	**01 41 19.5**	**+0.2**
MLY				IAmb	IAmb	01 41 20.2	
	comp=Z,7.7nm,0.6s						
GLB	**Gilahina Butte**	**83.39**	**23**	P	**P**	**01 41 20.7**	**+0.5**
WRH	**Wood River Hil**	**83.73**	**20**	P	**P**	**01 41 21.1**	**-0.7**
WRH				IAmb	IAmb	01 41 21.9	
	comp=Z,7.4nm,0.7s						
I23K	**Minto, Yukon-K**	**83.76**	**19**	P	**P**	**01 41 22.1**	**+0.2**
I23K				IAmb	IAmb	01 43 36.8	
	comp=Z,22nm,1.8s						
CCB	**Clear Creek Bu**	**83.94**	**20**	P	**P**	**01 41 22.1**	**-0.6**
CCB				IAmb	IAmb	01 41 22.8	
	comp=Z,5.4nm,0.6s						
MDM	**Murphy Dome**	**84.00**	**19**	P	**P**	**01 41 22.7**	**-0.4**
MDM				IAmb	IAmb	01 41 23.3	
	comp=Z,6.6nm,0.8s						
BARN	**Barnard Glacie**	**84.02**	**24**	P	**P**	**01 41 24.3**	**+0.7**
HDA	**Harding Lake**	**84.07**	**20**	P	**P**	**01 41 23.8**	**+0.3**
HDA				IAmb	IAmb	01 41 24.5	
	comp=Z,12nm,0.8s						
M26K	**Nabesna, AK**	**84.27**	**23**	P	**P**	**01 41 25.7**	**+1.1**
M26K				IAmb	IAmb	01 41 26.4	
	comp=Z,9.6nm,0.8s						
MENT	**Mentasta**	**84.31**	**22**	P	**P**	**01 41 25.9**	**+1.1**
MENT				IAmb	IAmb	01 41 26.2	
	comp=Z,8.5nm,0.5s						
IL31		**84.32**	**20**	P	**P**	**01 41 24.0**	**-0.7**
IL31				IAmb	IAmb	01 41 41.4	
	comp=Z,39nm,1.9s						
ILAR	**Eielson Array**	**84.32**	**20**	P	**P**	**01 41 23.9**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=246,slow=4.9,SNR=56						
	comp=Z,2.7nm,0.4s						
ILAR	**Eielson Array**	**84.32**	**20**	P	**P**	**01 41 24.3**	**-0.4**
IL03	**Eielson Array**	**84.33**	**20**	P	**P**	**01 41 24.0**	**-0.8**
DOT	**Dot Lake**	**84.61**	**21**	P	**P**	**01 41 26.4**	**+0.2**
DOT				IAmb	IAmb	01 41 27.4	
	comp=Z,10nm,0.7s						
M27K	**Edge Creek, AK**	**84.67**	**23**	P	**P**	**01 41 28.0**	**+1.2**
M27K				IAmb	IAmb	01 41 28.6	
	comp=Z,33nm,1.6s						
H24K	**Noodor Dome**	**84.68**	**19**	P	**P**	**01 41 27.0**	**+0.4**
SCRK	**Sand Creek**	**84.83**	**21**	P	**P**	**01 41 28.2**	**+0.8**
SCRK				IAmb	IAmb	01 41 28.8	
	comp=Z,8.2nm,0.7s						
L27K	**Beaver Creek,**	**85.09**	**22**	P	**P**	**01 41 29.6**	**+0.9**
BCAR	**Beaver Creek A**	**85.11**	**22**	P	**P**	**01 41 29.5**	**+0.7**
J26L	**Joseph Creek**	**85.29**	**21**	P	**P**	**01 41 30.5**	**+0.8**
J26L				IAmb	IAmb	01 41 53.8	
	comp=Z,16nm,1.6s						
HYT	**Haines Junctio**	**85.61**	**25**	P	**P**	**01 41 32.6**	**+1.1**
HYT				IAmb	IAmb	01 42 46.0	
	comp=Z,20nm,1.4s						
I26K	**Coal Creek Min**	**85.91**	**20**	P	**P**	**01 41 33.4**	**+0.7**
I26K				IAmb	IAmb	01 43 14.3	
	comp=Z,24nm,1.9s						
EGAK	**Eagle**	**86.30**	**21**	P	**P**	**01 41 35.6**	**+1.1**
DAWY	**Dawson**	**86.55**	**22**	P	**P**	**01 41 37.0**	**+1.1**
DAWY				IAmb	IAmb	01 41 37.8	
	comp=Z,12nm,1.1s						
BMAR	**Burnt Mountain**	**86.71**	**18**	P	**P**	**01 41 37.5**	**+0.9**
M30M	**Minto, Yukon**	**86.79**	**24**	P	**P**	**01 41 37.6**	**+0.5**
M30M				IAmb	IAmb	01 41 38.8	
	comp=Z,6.2nm,0.6s						
J29M	**Klondike Camp**	**87.19**	**22**	P	**P**	**01 41 41.2**	**+2.1**
P33M	**Teslin, Yukon**	**87.36**	**27**	P	**P**	**01 41 40.7**	**+0.7**
M31M	**Drury Creek, Y**	**87.59**	**25**	P	**P**	**01 41 41.6**	**+0.7**
M31M				IAmb	IAmb	01 44 30.8	
	comp=Z,26nm,1.9s						
K05A	**Summer Lake**	**88.09**	**46**	P	**P**	**01 41 44.9**	**+0.9**
DSP	**Deep Springs**	**88.89**	**52**	P	**P**	**01 41 48.6**	**+1.0**
NVAR	**Mina Array Bea**	**88.89**	**51**	P	**P**	**01 41 48.8**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=236,slow=6.9,SNR=10						
	comp=Z,1.5nm,0.8s						
NVAR	**Mina Array Bea**	**88.89**	**51**	P	**P**	**01 41 49.5**	**+1.6**
PFO	**Pinyon Flats O**	**89.21**	**56**	LR	LR	02 14 13.0	
	comp=Z,98nm,20.0s,baz=336,slow=30						
I07A	**Izee**	**89.43**	**45**	P	**P**	**01 41 50.6**	**+0.4**
I07A				IAmb	IAmb	01 42 39.0	
	comp=Z,12nm,1.8s						
MK31	**Makanchi Array**	**90.20**	**318**	P	**P**	**01 41 52.9**	**-0.8**
MK31				IAmb	IAmb	01 43 20.5	
	comp=Z,9.3nm,2.0s						
MKAR	**Makanchi Array**	**90.20**	**318**	P	**P**	**01 41 52.9**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=96,slow=5.0,SNR=16						
	comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**90.20**	**318**	P	**P**	**01 41 52.8**	**-0.8**
ZALV	**Zalesovo Beam**	**90.60**	**325**	LR	LR	02 22 17.6	
	comp=Z,28nm,19.2s,baz=20,slow=35						
INK	**Inuvik**	**90.72**	**20**	P	**P**	**01 41 55.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=255,slow=4.8,SNR=7.6						
	comp=Z,0.9nm,0.6s						
INK	**Inuvik**	**90.72**	**20**	P	**P**	**01 41 55.2**	**-0.2**
INK				IAmb	IAmb	01 42 14.0	
	comp=Z,21nm,2.0s						
SHPR	**Sheep Range**	**90.88**	**53**	P	**P**	**01 41 58.9**	**+1.7**
R11A	**Troy Canyon, C**	**90.95**	**51**	P	**P**	**01 41 57.3**	**-0.2**
PRN	**Pahroc Range**	**91.16**	**52**	P	**P**	**01 41 58.7**	**+0.3**
PRN				IAmb	IAmb	01 42 00.8	
	comp=Z,4.5nm,0.9s						
F10A	**Beach Ranch, E**	**91.46**	**44**	P	**P**	**01 42 00.2**	**+0.6**
F10A				IAmb	IAmb	01 42 01.9	
	comp=Z,3.8nm,0.8s						
PLID	**Pearl Lake**	**92.10**	**45**	P	**P**	**01 42 03.1**	**+0.3**
HLID	**Hailey**	**92.90**	**46**	P	**P**	**01 42 05.4**	**-1.0**
HLID				IAmb	IAmb	01 42 09.8	
	comp=Z,4.2nm,1.1s						
BCYI	**Bear Canyon**	**93.76**	**46**	P	**P**	**01 42 12.0**	**+1.6**
WALA	**Waterton Lakes**	**94.31**	**41**	P	**P**	**01 42 13.3**	**+0.6**
WALA				IAmb	IAmb	01 44 14.1	
	comp=Z,6.2nm,1.4s						
A36M	**Sachs Harbour**	**94.76**	**17**	P	**P**	**01 42 14.7**	**+0.7**
A36M				IAmb	IAmb	01 42 15.4	
	comp=Z,3.7nm,0.9s						
PDAR	**Pinedale Array**	**96.26**	**48**	P	**P**	**01 42 21.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=201,slow=2.5,SNR=3.5						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**96.38**	**28**	P	**P**	**01 42 21.1**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=258,slow=4.8,SNR=47						
	comp=Z,1.8nm,0.6s						
ESDC	**Sonseca Array**	**148.11**	**338**	PKPbc	**PKPbc**	**01 48 38.7**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=32,slow=5.0,SNR=3.7						

IDC ***26*** *01:34:18.4±0.8, 12°.83N×92°.23E, h0km, mb3.9/16, mbtmp3.9/17, ML3.9/1, MS3.0/3, Error ellipse: s-maj=26.8km s-min=16.6km az=49.0*
ISC 26 01:34:24.3±0.8, 13°.1N±0°.1×92°.26E±0°.08, h35km, n23, σ1§66/22, mb3.9/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.37**	**49**	Pn	**Pn**	**01 36 25.2**	**+1.9**
	0.4nm,0.3s,baz=240,slow=14,SNR=1.6						
CMAR				Sn	**Sn**	**01 37 53.2**	**-3.4**
	0.9nm,0.3s,baz=238,slow=28,SNR=8.5						
CMAR				LR	LR	01 40 30.2	
	comp=Z,57nm,18.2s,baz=60,slow=44						
	0.8nm,0.4s						
PSI	**Prapat**	**12.14**	**147**	LR	LR	01 42 28.9	
	comp=Z,58nm,18.0s,baz=322,slow=41						
JBP	**Jabalpur**	**15.38**	**312**	*e*P	**P**	**01 38 02.4**	**-0.7**
JBP				*e*S	**Sn**	**01 40 43.5**	**-4.7**
H08S3	**Diego Garcia H**	**28.44**	**225**	T	T	02 10 04.1	
	baz=44,slow=76,SNR=121						
H08S2	**Diego Garcia H**	**28.45**	**225**	T	T	02 09 59.8	
	baz=44,slow=76,SNR=92						
H08S1	**Diego Garcia H**	**28.46**	**225**	T	T	02 10 00.8	
	baz=44,slow=76,SNR=68						
MKAR	**Makanchi Array**	**34.65**	**348**	P	**P**	**01 41 11.8**	**+1.3**
	2.1nm,0.8s,baz=162,slow=8.4,SNR=20						
	2.1nm,0.8s						
SONM	**Songino Array**	**36.61**	**16**	P	**P**	**01 41 28.8**	**+1.4**
	1.3nm,0.7s,baz=205,slow=7.0,SNR=7.2						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**39.09**	**346**	P	**P**	**01 41 48.8**	**+0.8**
	2.2nm,0.9s,baz=161,slow=8.0,SNR=16						
KURBB				PcP	**PcP**	**01 43 57.8**	**+0.4**
	0.1nm,0.6s,baz=163,slow=2.6,SNR=4.7						
	2.2nm,0.9s						
GEYT	**Alibeck**	**39.17**	**315**	P	**P**	**01 41 50.5**	**+1.4**
	2.3nm,0.7s,baz=142,slow=7.5,SNR=4.5						
	2.3nm,0.7s						
KSRS	**Korea Array**	**39.99**	**46**	P	**P**	**01 41 56.0**	**+0.2**
	0.9nm,0.5s,baz=238,slow=8.4,SNR=4.4						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**41.20**	**353**	P	**P**	**01 42 06.2**	**+0.7**
	2.2nm,0.5s,baz=175,slow=9.3,SNR=12						
	2.2nm,0.5s						
BVAR	**Borovoye Array**	**43.51**	**341**	P	**P**	**01 42 24.8**	**+0.5**
	0.4nm,0.4s,baz=144,slow=8.2,SNR=3.0						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**52.83**	**128**	P	**P**	**01 43 35.0**	**-1.7**
	0.5nm,0.5s,baz=303,slow=8.5,SNR=7.8						
WRA				PcP	**PcP**	**01 44 44.9**	**-1.0**
	0.5nm,0.6s,baz=325,slow=3.4,SNR=6.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**54.69**	**132**	P	**P**	**01 43 48.8**	**-1.6**
	0.3nm,0.3s,baz=310,slow=6.4,SNR=7.4						
	0.3nm,0.3s						
EIL	**Elat**	**55.34**	**297**	LR	LR	02 09 34.4	
	comp=Z,32nm,20.0s,baz=236,slow=38						
BRTR	**Keskin Array B**	**57.70**	**309**	P	**P**	**01 44 11.7**	**-0.1**
	0.6nm,0.7s,baz=153,slow=8.3,SNR=4.1						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**67.29**	**332**	P	**P**	**01 45 15.6**	**+0.3**
	1.6nm,0.7s,baz=50,slow=6.0,SNR=7.6						
	1.6nm,0.7s						
GERES	**GERESS Array B**	**72.76**	**317**	P	**P**	**01 45 49.8**	**+0.5**
	1.2nm,0.8s,baz=111,slow=7.4,SNR=4.5						
	1.2nm,0.8s						
NOA	**NORSAR Array B**	**74.33**	**330**	P	**P**	**01 45 58.4**	**+0.2**
	0.9nm,0.6s,baz=89,slow=5.7,SNR=2.4						
	0.9nm,0.6s						
ESDC	**Sonseca Array**	**86.48**	**310**	P	**P**	**01 47 04.0**	**+0.1**
	0.4nm,0.9s,baz=45,slow=7.1,SNR=1.5						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**87.63**	**283**	P	**P**	**01 47 10.0**	**+0.1**
	0.5nm,0.6s,baz=89,slow=3.3,SNR=4.0						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**90.64**	**22**	P	**P**	**01 47 22.5**	**-0.5**
	0.3nm,0.6s,baz=291,slow=4.9,SNR=4.1						
	0.3nm,0.6s						

IDC ***26*** *01:34:58.9±6.0, 36°.51N×70°.75E, h96km±51km, mbtmp3.6/7, Error ellipse: s-maj=70.1km s-min=20.2km az=154.0*
NNC ***26*** *01:34:59.5±4.6, 36°.93N×70°.61E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=36.4km s-min=28.4km az=169.0*
SOME ***26*** *01:35:06.7, 37°.22N×71°.05E, h15km*
ISC 26 01:35:00.2±2.0, 36°.6N±0°.1×70°.67E±0°.08, h100km, n24, σ0§87/30, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**5.55**	**355**	*e*Pg	**Pn**	**01 36 22.3**	**+1.9**
	7.3nm,0.3s						
IUG				*e*Lg	Lg

*GUC **26** 01:41:26.3±0.8, 25°.73S×69°.45W, h87^{km}±11^{km}, ML4.4*
*IDC **26** 01:41:27.2±0.5, 25°.82S×69°.37W, h95^{km}±3^{km}, mb3.8/9, mbtmp4.2/12, MS3.7/1, Error ellipse: s-maj=15.9km s-min=9.7km az=83.0*

ISC 26 01:41:26.1±0.4, 25°.77S±0°.03×69°.47W±0°.04, h91^{km}±3^{km}, n210, σ1°38/232, mb4.4/21, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**1.08**	**249**			**Pn**		**01 41 47.8**	**+0.9**
AC01				Sn		**Sn**		**01 42 03.4**	**+0.9**
AC01	**Pan de Azucar**	**1.08**	**249**	⇑*iP*		**Pn**		**01 41 47.7**	**+0.9**
AC01				*eS*		**Sn**		**01 42 03.5**	**+1.0**
AC01				IAML				01 42 08.4	
	comp=E,9μm,0.3s								
AC01	**Pan de Azucar**	**1.08**	**249**	*eP*		**Pn**		**01 41 47.6**	**+0.9**
AC01				*eS*		**Sn**		**01 42 03.9**	**+1.4**
AC01				IAML				01 42 07.8	
	comp=Z,6μm,0.3s								
AC01	**Pan de Azucar**	**1.08**	**249**	*eP*		**Pn**		**01 41 47.6**	**+0.9**
AC01				*eS*		**Sn**		**01 42 03.9**	**+1.4**
AC01				IAML				01 42 07.8	
	comp=Z,6μm,0.3s								
AC02	**Maricunga**	**1.11**	**164**			**Pn**		**01 41 48.9**	**+1.2**
AC02				Sn		**Sn**		**01 42 05.4**	**+1.6**
AC02	**Maricunga**	**1.11**	**164**	⇓*iP*		**Pn**		**01 41 49.4**	**+1.7**
AC02				*eS*		**Sn**		**01 42 05.5**	**+1.7**
AC02				IAML				01 42 07.2	
	comp=E,7μm,0.4s								
AC02				IAML				01 42 07.5	
	comp=N,6μm,0.5s								
AC02	**Maricunga**	**1.11**	**164**	*eP*		**Pn**		**01 41 49.3**	**+1.6**
AC02				*eS*		**Sn**		**01 42 05.4**	**+1.6**
AC02				IAML				01 42 08.1	
	comp=Z,3μm,0.2s								
AC02	**Maricunga**	**1.11**	**164**	*eP*		**Pn**		**01 41 49.3**	**+1.6**
AC02				*eS*		**Sn**		**01 42 05.4**	**+1.6**
AC02				IAML				01 42 08.1	
	comp=Z,3μm,0.2s								
PB14	**IPOC Station P**	**1.41**	**323**			**Pn**		**01 41 51.7**	**+0.6**
PB14	**IPOC Station P**	**1.41**	**323**	*eP*		**Pn**		**01 41 52.1**	**+0.9**
PB14				*eS*		**Sn**		**01 42 11.1**	**+1.0**
PB14				IAML				01 42 15.2	
	comp=E,12μm,0.6s								
PB14	**IPOC Station P**	**1.41**	**323**	*eP*		**Pn**		**01 41 52.0**	**+0.8**
PB14				*eS*		**Sn**		**01 42 11.3**	**+1.3**
PB14				IAML				01 42 11.9	
	comp=Z,14μm,0.7s								
PB14	**IPOC Station P**	**1.41**	**323**	*eP*		**Pn**		**01 41 52.0**	**+0.8**
PB14				*eS*		**Sn**		**01 42 11.3**	**+1.3**
PB14				IAML				01 42 11.9	
	comp=Z,14μm,0.7s								
AC06	**Mina Casimiro**	**1.77**	**206**			**Pn**		**01 41 56.2**	**+0.8**
AC06	**Mina Casimiro**	**1.77**	**206**	*eP*		**Pn**		**01 41 56.2**	**+0.8**
AC06				IAML				01 42 29.6	
	comp=E,2μm,0.1s								
GO03	**Copiap**	**1.94**	**200**			**Pn**		**01 41 58.6**	**+0.9**
GO03	**Copiap**	**1.94**	**200**	*eP*		**Pn**		**01 41 58.6**	**+0.9**
GO03				*eS*		**Sn**		**01 42 19.7**	**-2.0**
GO03				IAML				01 42 26.8	
	comp=E,2μm,0.5s								
GO03	**Copiap**	**1.94**	**200**	*eP*		**Pn**		**01 41 58.7**	**+0.9**
GO03				*eS*		**Sn**		**01 42 19.8**	**-2.0**
GO03	**Copiap**	**1.94**	**200**	*eP*		**Pn**		**01 41 58.7**	**+0.9**
GO03				*eS*		**Sn**		**01 42 19.8**	**-2.0**
PB10	**IPOC Station P**	**2.45**	**336**	Pn		**Pn**		**01 42 03.8**	**-0.5**
PB10	**IPOC Station P**	**2.45**	**336**	⇑*iP*		**Pn**		**01 42 04.2**	**-0.1**
PB10				IAML				01 42 44.3	
	comp=N,3μm,0.5s								
PB10	**IPOC Station P**	**2.45**	**336**	*eP*		**Pn**		**01 42 04.6**	**+0.3**
PB10				IAML				01 42 43.6	
	comp=Z,3μm,0.3s								
PB10	**IPOC Station P**	**2.45**	**336**	*eP*		**Pn**		**01 42 04.6**	**+0.3**
PB10				IAML				01 42 43.6	
	comp=Z,3μm,0.3s								
AC04	**Llanos de Chal**	**2.82**	**210**	Pn		**Pn**		**01 42 09.0**	**-0.2**
AC04	**Llanos de Chal**	**2.82**	**210**	*eP*		**Pn**		**01 42 09.0**	**-0.2**
AC04				IAML				01 42 54.3	
	comp=N,1μm,0.5s								
AC04	**Llanos de Chal**	**2.82**	**210**	*eP*		**Pn**		**01 42 09.5**	**+0.3**
AC04				IAML				01 42 57.1	
	comp=Z,1μm,0.6s								
AC04	**Llanos de Chal**	**2.82**	**210**	*eP*		**Pn**		**01 42 09.5**	**+0.3**
AC04				IAML				01 42 57.1	
	comp=Z,1μm,0.6s								
PB06	**IPOC Station P**	**3.05**	**358**			**Pn**		**01 42 09.9**	**-2.5**
PB06	**IPOC Station P**	**3.05**	**358**	*eP*		**Pn**		**01 42 12.5**	**+0.1**
PB06				*eS*		**Sn**		**01 42 50.5**	**+2.3**
PB06				IAML				01 42 53.5	
	comp=N,2μm,0.3s								
PB06	**IPOC Station P**	**3.05**	**358**	*eP*		**Pn**		**01 42 13.2**	**+0.8**
PB06				*eS*		Sn		01 42 38.5	-10
PB06				IAML				01 43 01.9	
	comp=Z,2μm,0.4s								
PB06	**IPOC Station P**	**3.05**	**358**	*eP*		**Pn**		**01 42 13.2**	**+0.8**
PB06				*eS*		Sn		01 42 38.5	-10
PB06				IAML				01 43 01.9	
	comp=Z,2μm,0.4s								
AC05	**El Transito**	**3.14**	**193**			**Pn**		**01 42 14.3**	**+0.6**
AC05	**El Transito**	**3.14**	**193**	*eP*		**Pn**		**01 42 14.7**	**+1.1**
AC05				IAML				01 42 59.7	
	comp=N,1μm,0.4s								
AC05	**El Transito**	**3.14**	**193**	*eP*		**Pn**		**01 42 14.8**	**+1.1**
AC05				IAML				01 43 23.3	
	comp=Z,1μm,0.7s								
AC05	**El Transito**	**3.14**	**193**	*eP*		**Pn**		**01 42 14.8**	**+1.1**
AC05				IAML				01 43 23.3	
	comp=Z,1μm,0.7s								
LVC	**Limon Verde**	**3.18**	**9**	P		**Pn**		**01 42 15.1**	**+0.6**
	comp=Z,122nm,0.3s,baz=158,slow=10,SNR=146								
LVC				S		**Sn**		**01 42 54.3**	**+2.6**
	comp=Z,986nm,0.4s,baz=4.0,slow=20,SNR=13								
LVC	**Limon Verde**	**3.18**	**9**	Pn		**Pn**		**01 42 14.0**	**-0.5**
LVC	**Limon Verde**	**3.18**	**9**	*eP*		**Pn**		**01 42 14.8**	**+0.3**
LVC	**Limon Verde**	**3.18**	**9**	*eP*		**Pn**		**01 42 14.8**	**+0.3**
LVC				IAML				01 43 00.6	
	comp=Z,1μm,0.5s								
LVC	**Limon Verde**	**3.18**	**9**	*eP*		**Pn**		**01 42 14.8**	**+0.3**
LVC				IAML				01 43 00.6	
	comp=Z,1μm,0.5s								
LCO	**Las Campanas**	**3.41**	**198**			**Pn**		**01 42 17.2**	**-0.2**
LCO	**Las Campanas**	**3.41**	**198**	*eP*		**Pn**		**01 42 17.5**	**0.0**
LCO				*eS*		**Sn**		**01 43 01.5**	**+4.4**
LCO	**Las Campanas**	**3.41**	**198**	*eP*		**Pn**		**01 42 18.0**	**+0.5**
LCO				IAML				01 43 09.7	
	comp=Z,3μm,1.6s								
LCO	**Las Campanas**	**3.41**	**198**	*eP*		**Pn**		**01 42 18.0**	**+0.5**
LCO				IAML				01 43 09.7	
	comp=Z,3μm,1.6s								
PB04	**IPOC Station P**	**3.47**	**350**	Pn		**Pn**		**01 42 16.6**	**-1.6**
PB04	**IPOC Station P**	**3.47**	**350**	*eP*		**Pn**		**01 42 17.3**	**-0.9**
PB04				IAML				01 43 10.8	
	comp=E,3μm,0.6s								
PB04	**IPOC Station P**	**3.47**	**350**	*eP*		**Pn**		**01 42 17.3**	**-0.9**
PB04				IAML				01 43 09.9	
	comp=Z,2μm,0.9s								
PB04	**IPOC Station P**	**3.47**	**350**	*eP*		**Pn**		**01 42 17.3**	**-0.9**
PB04				IAML				01 43 09.9	
	comp=Z,2μm,0.9s								
PB03	**IPOC Station P**	**3.71**	**356**			**Pn**		**01 42 20.5**	**-0.9**
PB03	**IPOC Station P**	**3.71**	**356**	*eP*		**Pn**		**01 42 20.6**	**-0.9**
PB03	**IPOC Station P**	**3.71**	**356**	*eP*		**Pn**		**01 42 20.5**	**-0.9**
PB03				IAML				01 43 27.2	
	comp=Z,1μm,0.8s								
PB03	**IPOC Station P**	**3.71**	**356**	*eP*		**Pn**		**01 42 20.5**	**-0.9**
PB03				IAML				01 43 27.2	
	comp=Z,1μm,0.8s								
PB09	**IPOC Station P**	**3.96**	**3**			**Pn**		**01 42 24.6**	**-0.1**
PB09	**IPOC Station P**	**3.96**	**3**	*eP*		**Pn**		**01 42 25.0**	**+0.2**
PB09	**IPOC Station P**	**3.96**	**3**	*eP*		**Pn**		**01 42 25.2**	**+0.4**
PB09				IAML				01 43 28.4	
	comp=Z,1μm,0.7s								
PB09	**IPOC Station P**	**3.96**	**3**	*eP*		**Pn**		**01 42 25.2**	**+0.4**
PB09				IAML				01 43 28.4	
	comp=Z,1μm,0.7s								
PB07	**IPOC Station P**	**4.04**	**355**			**Pn**		**01 42 24.6**	**-1.3**
PB07	**IPOC Station P**	**4.04**	**355**	*eP*		**Pn**		**01 42 24.8**	**-1.2**
PB07	**IPOC Station P**	**4.04**	**355**	*eP*		**Pn**		**01 42 24.7**	**-1.2**
PB07				IAML				01 43 40.6	
	comp=Z,1μm,0.5s								
PB07	**IPOC Station P**	**4.04**	**355**	*eP*		**Pn**		**01 42 24.7**	**-1.2**
PB07				IAML				01 43 40.6	
	comp=Z,1μm,0.5s								
CYA	**Choya**	**4.22**	**130**	*eP*		**Pn**		**01 42 29.1**	**+1.0**
CYA				IAML				01 43 24.8	
	comp=Z,44nm,1.0s								
CYA	**Choya**	**4.22**	**130**	*eP*		**Pn**		**01 42 29.1**	**+1.0**
CYA				IAML				01 43 24.8	
	comp=Z,44nm,1.0s								
CO01	**Juntas del Tor**	**4.23**	**187**			**Pn**		**01 42 29.6**	**+1.0**
CO01	**Juntas del Tor**	**4.23**	**187**	*eP*		**Pn**		**01 42 30.2**	**+1.6**
CO01	**Juntas del Tor**	**4.23**	**187**	*eP*		**Pn**		**01 42 30.8**	**+2.3**
CO01				IAML				01 43 48.6	
	comp=Z,179nm,0.4s								
CO01	**Juntas del Tor**	**4.23**	**187**	*eP*		**Pn**		**01 42 30.8**	**+2.3**
CO01				IAML				01 43 48.6	
	comp=Z,179nm,0.4s								
CO05	**La Serena**	**4.42**	**200**	Pn		**Pn**		**01 42 29.7**	**-1.2**
PB02	**IPOC Station P**	**4.44**	**355**			**Pn**		**01 42 29.8**	**-1.4**
PB02	**IPOC Station P**	**4.44**	**355**	*eP*		**Pn**		**01 42 29.8**	**-1.4**
PB02	**IPOC Station P**	**4.44**	**355**	*eP*		**Pn**		**01 42 29.9**	**-1.4**
PB02				IAML				01 43 48.5	
	comp=Z,1μm,0.4s								
PB02	**IPOC Station P**	**4.44**	**355**	*eP*		**Pn**		**01 42 29.9**	**-1.4**
PB02				IAML				01 43 48.5	
	comp=Z,1μm,0.4s								
GO04	**Tololo Observa**	**4.54**	**195**			**Pn**		**01 42 32.2**	**-0.5**
GO04	**Tololo Observa**	**4.54**	**195**	*eP*		**Pn**		**01 42 32.1**	**-0.7**
GO04	**Tololo Observa**	**4.54**	**195**	*eP*		**Pn**		**01 42 32.3**	**-0.5**
GO04	**Tololo Observa**	**4.54**	**195**	*eP*		**Pn**		**01 42 32.3**	**-0.5**
PB01	**IPOC Station P**	**4.70**	**360**			**Pn**		**01 42 33.6**	**-1.2**
PB01	**IPOC Station P**	**4.70**	**360**	*eP*		**Pn**		**01 42 33.6**	**-1.2**
PB01	**IPOC Station P**	**4.70**	**360**	*eP*		**Pn**		**01 42 34.5**	**-0.3**
PB01				IAML				01 43 48.2	
	comp=Z,348nm,0.2s								
PB01	**IPOC Station P**	**4.70**	**360**	*eP*		**Pn**		**01 42 34.5**	**-0.3**
PB01				IAML				01 43 48.2	
	comp=Z,348nm,0.2s								
ASTB	**Santa Barbara**	**4.90**	**69**	*eP*		**Pn**		**01 42 38.8**	**+1.2**
ASTB				IAML				01 43 40.6	
	comp=Z,1.0nm,1.9s								
ASTB	**Santa Barbara**	**4.90**	**69**	*eP*		**Pn**		**01 42 38.8**	**+1.2**
ASTB				IAML				01 43 40.6	
	comp=Z,1.0nm,1.9s								
PATCX	**Punta Patache**	**4.96**	**353**			**Pn**		**01 42 35.7**	**-2.6**
PATCX	**Punta Patache**	**4.96**	**353**	*eP*		**Pn**		**01 42 35.7**	**-2.6**
PATCX	**Punta Patache**	**4.96**	**353**	*eP*		**Pn**		**01 42 35.8**	**-2.6**
PATCX				IAML				01 43 52.8	
	comp=Z,626nm,1.1s								
PATCX	**Punta Patache**	**4.96**	**353**	*eP*		**Pn**		**01 42 35.8**	**-2.6**
PATCX				IAML				01 43 52.8	
	comp=Z,626nm,1.1s								
CO03	**El Pedregal**	**5.17**	**192**			**Pn**		**01 42 39.9**	**-1.2**
CO03	**El Pedregal**	**5.17**	**192**	*eP*		**Pn**		**01 42 40.4**	**-0.7**
CO03				IAML				01 44 24.4	
	comp=Z,277nm,0.7s								
CO03	**El Pedregal**	**5.17**	**192**	*eP*		**Pn**		**01 42 40.4**	**-0.7**
CO03				IAML				01 44 24.4	
	comp=Z,277nm,0.7s								
TA01	**Diego Aracena**	**5.22**	**353**	Pn		**Pn**		**01 42 38.9**	**-2.8**
TA01	**Diego Aracena**	**5.22**	**353**	*eP*		**Pn**		**01 42 38.8**	**-2.9**
TA01				IAML				01 44 15.2	
	comp=Z,333nm,0.8s								
TA01	**Diego Aracena**	**5.22**	**353**	*eP*		**Pn**		**01 42 38.8**	**-2.9**
TA01				IAML				01 44 15.2	
	comp=Z,333nm,0.8s								
CO02	**Combarbal**	**5.58**	**194**			**Pn**		**01 42 44.2**	**-2.6**
ZON	**Zonda**	**5.80**	**173**	Pn		**Pn**		**01 42 51.2**	**+1.5**
CFA	**Coronel Fontan**	**5.92**	**170**	P		**Pn**		**01 42 52.0**	**+0.7**
	comp=Z,63nm,0.3s,baz=345,slow=13,SNR=77								
CFA				S		**Sn**		**01 43 57.6**	**0.0**
	comp=Z,41nm,0.4s,baz=154,slow=20,SNR=1.7								
PB11	**IPOC Station P**	**5.98**	**358**	Pn		**Pn**		**01 42 49.3**	**-2.9**
GO01	**Chusmiza**	**6.07**	**2**			**Pn**		**01 42 51.8**	**-2.1**
PSGCX	**Pisagua**	**6.17**	**354**	Pn		**Pn**		**01 42 51.3**	**-3.5**
MNMC	**Minye Minye**	**6.60**	**359**			**Pn**		**01 42 58.4**	**-2.5**
VA06	**Catapilco**	**6.96**	**193**	Pn		**Pn**		**01 43 03.0**	**-2.4**
VA03	**San Esteban**	**7.04**	**187**			**Pn**		**01 43 05.2**	**-1.3**
PB12	**IPOC Station P**	**7.16**	**353**	Pn		**Pn**		**01 43 04.8**	**-3.4**
ROC1	**El Roble**	**7.31**	**190**			**Pn**		**01 43 07.2**	**-3.2**
PB16	**IPOC Station P**	**7.39**	**360**			**Pn**		**01 43 10.4**	**-1.5**
MT02	**Curacav**	**7.61**	**191**			**Pn**		**01 43 11.5**	**-2.8**
MT09	**Talagante**	**8.09**	**189**			**Pn**		**01 43 18.3**	**-2.7**
TICA	**Tres Isletas**	**8.20**	**96**	*eP*		**Pn**		**01 43 20.4**	**-1.9**
MT01	**Popeta**	**8.22**	**190**			**Pn**		**01 43 18.8**	**-3.7**
BO04	**La Punta**	**8.26**	**187**			**Pn**		**01 43 20.6**	**-2.5**
BO01	**Tunca**	**8.71**	**189**			**Pn**		**01 43 25.6**	**-3.7**
SCCA	**San Cayetano,**	**9.86**	**103**	*eP*		**Pn**		**01 43 42.5**	**-2.4**
ESFA	**Espinillo Form**	**9.97**	**88**	*eP*		**Pn**		**01 43 45.1**	**-1.3**
CPUP	**Villa Florida**	**10.93**	**96**	P		**Pn**		**01 43 59.0**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=288,slow=14,SNR=7.7								
CPUP	**Villa Florida**	**10.93**	**96**			**Pn**		**01 43 58.8**	**-0.8**
CPUP	**Villa Florida**	**10.93**	**96**	*eP*		**Pn**		**01 43 56.0**	**-3.6**
H03N1	**Juan Fernandez** baz=49	**11.22**	**225**	T		T		01 55 57.9	
H03N2	**Juan Fernandez** baz=49,slow=74,SNR=77	**11.23**	**225**	T		T		01 55 57.9	
H03N3	**Juan Fernandez** baz=49,slow=74,SNR=120	**11.24**	**225**	T		T		01 55 54.4	
MURT	**Porto Murtinho**	**11.61**	**72**	*eP*		**Pn**		**01 44 06.2**	**-2.5**
BBLB	**La Banda, Boli**	**12.14**	**57**	*eP*		**Pn**		**01 44 15.4**	**-0.6**
AZCA	**Azaras, Argent**	**12.26**	**104**	*eP*		**Pn**		**01 44 13.5**	**-3.9**
SIV	**San Ignacio**	**12.49**	**41**	P		Pn		01 44 15.7	-4.9
	comp=Z,6.8nm,0.4s,baz=239,slow=10.0,SNR=28								
SIV				S		**Sn**		**01 46 36.3**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=150,slow=20,SNR=1.5								
ANTJ	**Antonio Joao (**	**12.88**	**76**	*eP*		**Pn**		**01 44 23.3**	**-2.4**
AMBA	**Amambai (Brazi**	**13.50**	**81**	*eP*		**Pn**		**01 44 33.7**	**-0.2**
PTLB	**Pontes e Lacer**	**14.10**	**45**	Pn		**Pn**		**01 44 41.0**	**-0.7**
VBST	**Vila Bela da S**	**14.26**	**40**	*eP*		**Pn**		**01 44 42.5**	**-1.4**
PLCA	**Paso Flores**	**14.96**	**183**	P		**P**		**01 44 57.0**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=360,slow=9.7,SNR=7.2								
RPRD	**Ribas do Rio P**	**15.43**	**73**	*eP*		**Pn**		**01 44 58.6**	**-0.2**
VILB	**Vilhena**	**15.45**	**36**	Pn		**Pn**		**01 44 56.3**	**-2.7**
VILB				IAmb		IAmb		01 45 18.4	
	comp=Z,13nm,0.8s								
VILB	**Vilhena**	**15.45**	**36**	*eP*		**Pn**		**01 44 58.2**	**-0.8**
PTET	**Porto Estrela**	**15.47**	**50**	*eP*		**P**		**01 45 00.9**	**-0.8**
ITAB	**Concordia**	**15.60**	**99**	*eP*		**Pn**		**01 45 00.3**	**-0.4**
TRCB	**Terra Rica**	**15.64**	**83**	*eP*		**Pn**		**01 45 01.5**	**+0.1**
PTGB	**Pitanga**	**15.79**	**90**	*eP*		**Pn**		**01 45 04.0**	**+0.7**
ETMB	**Extrema**	**16.16**	**12**	Pn		**Pn**		**01 45 06.3**	**-1.6**
ETMB				IAmb		IAmb		01 45 12.0	
	comp=Z,7.3nm,0.9s								
ETMB	**Extrema**	**16.16**	**12**	*eP*		**P**		**01 45 08.9**	**-0.6**
SALV	**Santo Antonio**	**16.18**	**55**	*eP*		**Pn**		**01 45 08.3**	**+0.2**
C2SB	**Chapadao do Su**	**16.89**	**69**	*eP*		**Pn**		**01 45 16.9**	**0.0**
NBRS	**Nobres**	**17.16**	**51**	*eP*		**P**		**01 45 21.5**	**+1.0**
PCMB	**Pacaembu**	**17.18**	**80**	*eP*		**Pn**		**01 45 19.8**	**-0.7**
CZSB	**Cruzeiro do Su**	**18.20**	**350**	*eP*		**Pn**		**01 45 32.4**	**-0.4**
FRTB	**Fartura**	**18.27**	**87**	*eP*		**Pn**		**01 45 33.7**	**0.0**
DVLD	**Doverlandia**	**18.50**	**64**	*eP*		**P**		**01 45 35.0**	**-0.2**
ITRB	**Iturama**	**18.62**	**75**	*eP*		**P**		**01 45 36.6**	**0.0**
AY01	**Puyuhuapi**	**18.79**	**187**	P		**P**		**01 45 39.3**	**+1.1**
ARAG	**Araguaiana, MT**	**19.29**	**62**	*eP*		**Pn**		**01 45 45.7**	**-0.1**
VAO	**Valinhos**	**20.68**	**87**	*eP*		**P**		**01 45 59.4**	**+0.4**
IPMB	**Ipameri, GO**	**21.18**	**73**	*eP*		**P**		**01 46 04.5**	**+0.3**
TBTG	**Tabatinga, AM**	**21.46**	**359**	*eP*		**P**		**01 46 07.5**	**+0.3**
BDFB	**Brasilia**	**22.43**	**67**	P		**P**		**01 46 18.3**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=251,slow=10,SNR=6.7								
BDFB				pP		**pP**		**01 46 36.4**	**-0.6**
	comp=Z,3.8nm,0.6s,baz=231,slow=11,SNR=4.8								
	comp=Z,1.9nm,0.5s								
BDFB	**Brasilia**	**22.43**	**67**	*eP*		**P**		**01 46 17.9**	**+0.3**
PMNB	**Patos De Minas**	**22.49**	**76**	*eP*		**P**		**01 46 18.4**	**+0.1**
TEFE	**Tefe**	**22.61**	**13**	*eP*		**P**		**01 46 19.7**	**+0.3**
GO08	**Villa O'Higgin**	**22.79**	**185**	P		**P**		**01 46 22.3**	**+1.3**
GO08				IAmb		IAmb		01 46 23.7	
	comp=Z,13nm,1.1s								
MCRA	**Macar, Loja**	**23.53**	**333**	P		**P**		**01 46 27.3**	**-1.0**
MACA	**Manacapuru-AM**	**24.01**	**22**	*eP*		**P**		**01 46 31.6**	**-0.9**
ITTB	**Itaituba**	**25.03**	**34**	*eP*		**P**		**01 46 40.8**	**-1.0**
SGCB	**São Gabriel d**	**25.60**	**6**	*eP*		**P**		**01 46 47.8**	**+0.8**
JANB	**Januaria**	**25.83**	**71**	*eP*		**P**		**01 46 50.5**	**+1.4**
SDBA	**SAO DESIDERIO**	**26.69**	**65**	*eP*		**P**		**01 46 56.9**	**-0.1**
OTAV	**Otavalo**	**27.27**	**340**	*eP*		**P**		**01 47 03.9**	**+1.4**
BSFB	**Barra de Sao F**	**27.33**	**81**	*eP*		**P**		**01 47 03.7**	**+1.1**
BOAV	**Boa Vista**	**29.30**	**19**	P		**P**		**01 47 19.5**	**-0.6**
BOAV				IAmb		IAmb		01 47 50.3	
	comp=Z,5.4nm,1.2s								
MDP	**Montagnes des**	**34.76**	**30**	LR		LR		02 02 18.4	
	comp=Z,120nm,18.2s,baz=12,slow=36								
CELP	**Cerrillos**	**43.67**	**4**	P		**P**		**01 49 20.1**	**-1.8**
CCIG	**Comitan**	**47.26**	**330**	P		**P**		**01 49 49.0**	**-1.5**
CCIG				IAmb		IAmb		01 50 32.1	
	comp=Z,7.4nm,1.1s								
VNA3	**Neumayer Olymp**	**56.23**	**160**	P		**P**		**01 50 57.4**	**+0.9**
VNA2	**Neumayer--Watz** baz=280,slow=6.0	**56.83**	**160**	P		**P**		**01 51 01.1**	**+0.4**
SNAA	**Sanae**	**58.45**	**160**	P		**P**		**01 51 12.4**	**+0.3**
SNAA	**Sanae**	**58.45**	**160**	P		**P**		**01 51 12.3**	**+0.2**
TROLL	**Troll, Antarti**	**60.16**	**160**	P		**P**		**01 51 24.7**	**+0.7**
TXAR	**Lajitas Array**	**63.86**	**327**	P		**P**		**01 51 50.5**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=150,slow=9.8,SNR=4.5								
TXAR				pP		**pP**		**01 52 14.3**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=165,slow=8.9,SNR=1.8								
TXAR				PcP		**PcP**		**01 52 25.4**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=157,slow=6.7,SNR=4.4								
	comp=Z,0.3nm,0.6s								
WVT	**Waverly**	**63.96**	**344**	P		**P**		**01 51 48.9**	**-0.6**
WVT				IAmb		IAmb		01 52 13.4	
	comp=Z,3.3nm,0.8s								
QSPA	**South Pole Qui**	**64.44**	**180**	P		**P**		**01 51 52.3**	**-0.3**
QSPA				IAmb		IAmb		01 51 55.9	
	comp=Z,7.2nm,1.1s								
S39A	**Bolivar**	**66.98**	**340**	P		**P**		**01 52 09.2**	**+0.1**
S39A				IAmb		IAmb		01 52 10.2	
	comp=Z,5.0nm,0.7s								
R40A	**Maddies Statio**	**67.21**	**341**	P		**P**		**01 52 10.7**	**+0.3**
M55A	**Ridgway**	**67.44**	**352**	P		**P**		**01 52 11.9**	**0.0**
DBIC	**Dimbokro**	**70.48**	**72**	P		**P**		**01 52 31.4**	**+0.1**
	comp=Z,6.2nm,0.9s,baz=233,slow=9.1,SNR=6.3								
DBIC				pP		**pP**		**01 52 55.9**	**-0.1**
	comp=Z,8.6nm,0.7s,baz=233,slow=6.8,SNR=9.9								
	comp=Z,6.2nm,0.9s								
DBIC	**Dimbokro**	**70.48**	**72**	P		**P**		**01 52 30.6**	**-0.7**
TRQ	**Mont Tremblant**	**71.79**	**356**	P		**P**		**01 52 39.1**	**+0.5**
PV13	**Radium Mtn., P**	**73.52**	**329**	P		**P**		**01 52 48.1**	**-1.1**
CCUT	**Cedar City**	**75.28**	**325**	P		**P**		**01 52 59.4**	**-0.1**
CCUT				IAmb		IAmb		01 53 03.2	
	comp=Z,5.0nm,0.9s								
PDAR	**Pinedale Array**	**77.55**	**331**	P		**P**		**01 53 13.3**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=136,slow=6.6,SNR=3.7								
PDAR				pP		**pP**		**01 53 38.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=135,slow=7.3,SNR=3.3								
	comp=Z,0.3nm,0.6s								
PDAR	**Pinedale Array**	**77.55**	**331**	P		**P**		**01 53 12.3**	**+0.1**
NVAR	**Mina Array Bea**	**78.55**	**323**	P		**P**		**01 53 19.6**	**+1.9**
	comp=Z,0.9nm

CUR	**Chagan-Uzun**	**0.32**	**78**	⇑Pg		**Pg**	**02 19 37.3**	**-2.0**
CUR				Sg		**Sg**	**02 19 41.5**	**-2.1**
CHBI	**Chibit, Altay**	**0.36**	**321**	⇓Pg		**Pb**	**02 19 40.3**	**-1.1**
CHBI				Sg		**Sb**	**02 19 45.1**	**-2.2**
DGZ	**Jazzator, Alta**	**0.43**	**220**	⇑Pg		**Pg**	**02 19 39.7**	**-1.6**
DGZ				Sg		**Sg**	**02 19 45.0**	**-2.1**
ULGR	**Ulagan, Altay**	**0.59**	**6**	Pg		**Pg**	**02 19 44.2**	**-0.2**
ULGR				Sg		**Sg**	**02 19 52.1**	**-0.2**
ARTR	**Artybash**	**1.81**	**348**	Pg		**Pb**	**02 20 04.5**	**-1.4**
ARTR				Sg		**Sb**	**02 20 28.7**	**+0.1**
UKR	**Ust'-Kan**	**2.17**	**296**	Pg		**Pb**	**02 20 11.8**	**-0.4**
UKR				Sg		**Sg**	**02 20 40.8**	**-1.8**
GALT	**Gorno-Altaysk,**	**2.28**	**329**	Pg		**Pg**	**02 20 14.5**	**-1.9**
GALT				Sg		**Sg**	**02 20 45.5**	**-0.5**
TASR	**Tashtagol**	**2.73**	**0**	Pg		**Pb**	**02 20 20.2**	**-1.6**
TASR				Sg		**Sb**	**02 20 56.5**	**+1.3**
ELT	**Eltsovka**	**3.39**	**343**	Pg		**Pb**	**02 20 31.0**	**-1.9**
ELT				Sg		**Sb**	**02 21 16.4**	**+2.3**
MALIN	**Malinovka, Kuz**	**3.41**	**354**	Sg		**Sb**	**02 21 15.5**	**+0.7**
TAIL	**Tailep, Kuzbas**	**3.45**	**353**	Sg		**Sb**	**02 21 17.4**	**+1.7**
DJOS	**Djoyskaya Sosn**	**3.54**	**37**	Sg		**Sg**	**02 21 26.1**	**-0.4**
LUZB	**Luzhba, Kemero**	**3.69**	**10**	Pg		**Pn**	**02 20 32.5**	**+2.6**
LUZB				Sg		**Sg**	**02 21 29.2**	**-2.0**
ZAA0	**Zalesovo Array**	**4.35**	**336**	⇓Pn		**Pn**	**02 20 39.5**	**+0.6**
	0.5nm,0.8s							
ZAA0				⇑Sn		**Sn**	**02 21 29.5**	**-0.1**
	0.5nm,0.5s							
ZAA0				⇓Lg		Lg	02 21 49.2	
	1.7nm,0.8s							
MK31	**Makanchi Array**	**4.93**	**231**	⇑Pn		**Pn**	**02 20 49.8**	**+2.9**
	2.0nm,0.6s,baz=61,slow=13,SNR=54							
MK31				⇑Pg		**Pg**	**02 21 03.2**	**-4.0**
	4.2nm,0.7s,baz=46,slow=16,SNR=4.8							
MK31				⇑Sn		**Sn**	**02 21 48.9**	**+5.0**
	1.5nm,0.4s							
MK31				⇑Lg		Lg	02 22 10.8	
	6.3nm,0.6s,baz=53,slow=30,SNR=7.2							
MAKZ	**Makanchi**	**5.08**	**233**	⇑Pn		**Pn**	**02 20 52.1**	**+3.2**
	0.8nm,0.4s							
MAKZ				⇑Pg		**Pg**	**02 21 06.6**	**-3.3**
	2.2nm,0.6s							
MAKZ				⇑Sn		**Sn**	**02 21 51.7**	**+4.1**
	1.0nm,0.3s							
MAKZ				⇑Lg		Lg	02 22 15.8	
	3.4nm,0.5s							
KURK	**Kurchatov**	**5.95**	**280**	⇓Pn		**Pn**	**02 21 01.9**	**+1.0**
	1.7nm,0.7s							
KURK				⇑Lg		Lg	02 22 41.2	
	6.3nm,0.6s							
KURBB	**Kurchatov Arra**	**6.01**	**279**	⇓Pn		**Pn**	**02 21 02.9**	**+1.2**
	1.5nm,0.3s							
KURBB				⇑Sn		**Sn**	**02 22 13.7**	**+3.3**
	4.5nm,0.5s							
KURBB				⇓Lg		Lg	02 22 41.3	
	23nm,0.8s							

IDC ***26*** *02:24:46.2±0.9, 38.°18N×56.°94E, h0km, mb3.5/3, mbtmp3.8/9, ML3.9/5, Error ellipse: s-maj=8.2km s-min=5.5km az=99.0*
TEH ***26*** *02:24:47.8, 38.°46N×57.°09E, h8km±65km, ML3.8*
NNC ***26*** *02:24:49.3±1.9, 38.°63N×57.°57E, h0km, mb4.0, Error ellipse: s-maj=32.3km s-min=6.7km az=70.0*

ISC 26 02:24:47.3±0.6, 38°52N±0.°04×57°16E±0.°04, h10km, n57, σ2°57/65, 7C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**0.96**	**128**	Pg	**Pg**	**02 25 05.2**	**-0.6**
	62nm,0.3s,baz=285,slow=19,SNR=417						
GEYT				Lg	Lg	02 25 18.3	
	197nm,0.3s,baz=285,slow=39,SNR=20						
GYA0B	**ALIBECK ARRAY**	**0.96**	**128**	⇑P	**Pg**	**02 25 05.2**	**-0.6**
GYA0B				⇑S	**Sg**	**02 25 16.6**	**-1.7**
MRVT	**Maraveh tapeh**	**1.21**	**225**	Pg	**Pn**	**02 25 09.8**	**-0.5**
MRVT				Sg	**Sn**	**02 25 25.6**	**-1.2**
IEMG	**Emamgholi**	**1.62**	**133**	Pg	**Pn**	**02 25 16.9**	**+0.7**
IMND	**Minoodasht**	**1.88**	**228**	Pn	**Pb**	**02 25 21.4**	**-0.3**
IAKL	**Akhelmad**	**2.30**	**146**	Pn	**Pb**	**02 25 28.3**	**-0.8**
IPAY	**Payeh**	**2.53**	**144**	Pn	**Pb**	**02 25 31.2**	**-1.9**
IKRD	**Kardeh**	**2.56**	**132**	Pn	**Pn**	**02 25 31.6**	**+2.5**
SHRO	**Shahrood**	**2.69**	**200**	Pn	**Pn**	**02 25 31.2**	**+0.4**
IMOG	**Moghan**	**2.97**	**144**	Pn	**Pn**	**02 25 37.6**	**+2.8**
IMYA	**Miami**	**3.20**	**132**	Pn	**Pn**	**02 25 40.6**	**+2.8**
IGLO	**Ghaloghah**	**3.33**	**234**	Pn	**Pb**	**02 25 42.4**	**-4.2**
TBHD	**Torbat heydari**	**3.52**	**151**	Pn	**Pn**	**02 25 45.1**	**+2.8**
IANJ	**Anjilo**	**4.01**	**221**	Pn	**Pn**	**02 25 52.4**	**+3.4**
ISHM	**Shahmirzad**	**4.11**	**230**	Pn	**Pn**	**02 25 53.3**	**+2.8**
TBJM	**Torbat-e-JAM**	**4.12**	**141**	Pn	**Pn**	**02 25 52.7**	**+2.1**
TNSJ	**Nastanj**	**4.57**	**186**	Pn	**Pn**	**02 25 58.5**	**+1.9**
TABS	**Tabas**	**4.87**	**180**	Pn	**Pn**	**02 26 01.4**	**+0.7**
TKDS	**Koohdasht(Taba**	**4.90**	**180**	Pn	**Pn**	**02 26 03.3**	**+2.1**
MZPU	**Pul - Mazandar**	**4.91**	**247**	Pn	**Pn**	**02 26 03.6**	**+2.2**
DAMV	**Damavand**	**5.05**	**237**	Pn	**Pn**	**02 26 05.9**	**+2.5**
KLST	**Kelardasht - M**	**5.25**	**249**	Pn	**Pn**	**02 26 08.3**	**+2.2**
AFRZ	**Afriz**	**5.31**	**163**	Pn	**Pn**	**02 26 08.5**	**+1.7**
CHTH	**Charan**	**5.48**	**243**	Pn	**Pn**	**02 26 13.0**	**+3.7**
SHRT	**Shahrakht**	**5.49**	**152**	Pn	**Pn**	**02 26 11.5**	**+2.3**
QALM	**Alamut, Qazvin**	**5.58**	**250**	Pn	**Pn**	**02 26 13.2**	**+2.5**
THKV	**Tehran--Karaj**	**5.65**	**244**	Pn	**Pn**	**02 26 14.5**	**+3.0**
ISFB	**Sefidab**	**5.75**	**225**	Pn	**Pn**	**02 26 15.4**	**+2.6**
GIDE	**GILAN DEYLAMAN**	**5.96**	**257**	Pn	Pn	02 26 20.5	+4.7
ANAR	**Anarak**	**6.01**	**209**	Pn	**Pn**	**02 26 18.2**	**+1.8**
KRSH	**Karshahi**	**6.09**	**223**	Pn	**Pn**	**02 26 19.9**	**+2.2**
JIR1	**Jirandeh**	**6.12**	**255**	Pn	**Pn**	**02 26 19.3**	**+1.4**
GHVR	**GHOM**	**6.21**	**231**	Pn	**Pn**	**02 26 22.0**	**+2.9**
IKOO	**Kooshah**	**6.27**	**166**	Pn	**Pn**	**02 26 23.6**	**+3.5**
YZKH	**Yazd**	**6.47**	**200**	Pn	**Pn**	**02 26 23.1**	**+0.4**
IZEF	**Zefreh**	**6.85**	**216**	Pn	**Pn**	**02 26 29.5**	**+1.4**
ZNJK	**Zanjan**	**6.98**	**257**	Pn	**Pn**	**02 26 32.1**	**+2.3**
ASAO	**Ashtian**	**6.98**	**238**	Pn	**Pn**	**02 26 32.6**	**+2.7**
GRMI	**Germi**	**7.26**	**275**	Pn	**Pn**	**02 26 35.6**	**+2.0**
IRAM	**Ramesheh**	**7.76**	**212**	Pn	**Pn**	**02 26 43.3**	**+2.8**
IHRS	**Heris**	**7.95**	**272**	Pn	**Pn**	**02 26 45.2**	**+2.1**
GNI	**Garni**	**9.76**	**283**	Sn	**Sn**	**02 28 57.8**	**+0.2**
	0.2nm,0.3s,baz=126,slow=18,SNR=1.6						
AB31	**Akbulak array**	**10.91**	**10**	⇑P	**Pn**	**02 27 25.6**	**+2.2**
	0.4nm,0.4s,baz=193,slow=13,SNR=38						
AB31				⇓S	**Sn**	**02 29 24.4**	**-1.2**
	3.0nm,0.4s,baz=196,slow=23,SNR=17						
KK31	**Karatay Array**	**11.10**	**61**	P	**Pn**	**02 27 26.6**	**+0.4**
	2.2nm,0.4s,baz=242,slow=16,SNR=44						
KK31				⇑S	**Sn**	**02 29 25.0**	**-5.3**
	0.8nm,0.3s						
AKTO	**Aktyubinsk**	**11.93**	**3**	Pn	**Pn**	**02 27 40.4**	**+3.1**
	0.8nm,0.3s,baz=178,slow=15,SNR=14						
AKTO				Sn	**Sn**	**02 29 47.1**	**-3.3**
	1.3nm,0.3s,baz=255,slow=20,SNR=13						
	1.6nm,0.3s						
AKTO	**Aktyubinsk**	**11.93**	**3**	⇑P	**Pn**	**02 27 40.0**	**+2.7**
	2.6nm,0.8s						
AKTO				⇑S	**Sn**	**02 29 51.2**	**+0.9**
	6.4nm,0.8s						
KBZ	**Khabaz**	**11.94**	**300**	Pn	**Pn**	**02 27 37.7**	**+0.1**
	0.4nm,0.3s,baz=109,slow=7.9,SNR=10						
KBZ				Sn	**Sn**	**02 29 48.3**	**-2.5**
	0.2nm,0.3s,baz=39,slow=23,SNR=1.7						
	1.0nm,0.3s						
KVAR	**Kislovodsk Arr**	**12.16**	**301**	Pn	**Pn**	**02 27 41.1**	**+0.4**
	baz=67,slow=13						
KVAR				Sn	**Sn**	**02 29 49.8**	**-6.5**
	baz=330,slow=20						
	2.3nm,0.6s						
AAK	**Ala-Archa**	**13.80**	**67**	Pn	**Pn**	**02 28 04.2**	**+1.1**
	0.6nm,0.3s,baz=249,slow=4.8,SNR=5.4						
AAK				Sn	**Sn**	**02 30 33.1**	**-3.3**
	baz=212,slow=19						
	1.5nm,0.3s						
BELG	**Belogornoye**	**15.38**	**337**	Pn	**Pn**	**02 28 26.9**	**+2.7**
	0.7nm,0.3s,baz=168,slow=20,SNR=3.0						
BELG				Sn	**Sn**	**02 31 08.0**	**-6.5**
	0.4nm,0.3s,baz=78,slow=24,SNR=2.4						
	4.1nm,0.5s						
BRVK	**Borovoye**	**17.13**	**28**	⇑P	**Pn**	**02 28 48.4**	**+1.6**
	2.6nm,0.8s						
BVA0	**Borovoye Array**	**17.14**	**28**	P	**Pn**	**02 28 46.7**	**-0.2**
	2.9nm,0.8s,baz=219,slow=9.6,SNR=8.8						
BVAR	**Borovoye Array**	**17.14**	**28**	P	**P**	**02 28 49.6**	**+1.0**
	1.7nm,0.5s,baz=219,slow=11,SNR=9.4						
BVAR				S	Sn	02 31 44.8	-13
	0.9nm,0.5s,baz=225,slow=28,SNR=3.1						
KURBB	**Kurchatov Arra**	**19.36**	**44**	P	**Pn**	**02 29 15.9**	**+1.9**
	0.9nm,0.8s,baz=247,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**20.18**	**58**	P	Pn	02 29 25.4	+1.6
	1.8nm,0.6s,baz=246,slow=11,SNR=23						
	1.8nm,0.6s						
AKASG	**Malin Array Be**	**23.16**	**311**	P	**P**	**02 29 56.4**	**+2.6**
	1.0nm,0.6s,baz=94,slow=8.0,SNR=2.5						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**24.36**	**42**	P	**P**	**02 30 08.9**	**+3.7**
	0.3nm,0.3s,baz=249,slow=12,SNR=2.6						
	0.3nm,0.3s						

WEL 26 02:30:08.4±0.4, 43°S±2°×17°3E±°, h10km±3km, M3.0/13, ML3.1/13, MLv3.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=112.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.15**	**48**	P	Pg	02 30 12.1	+0.4
KHZ				S	Sg	02 30 14.8	+0.9
GVZ	**Greta Valley S**	**0.52**	**210**	P	Pb	02 30 19.8	+0.2
GVZ				S	Sb	02 30 28.6	+1.3
THZ	**Tophouse**	**0.83**	**334**	P	Pg	02 30 24.3	-0.2
THZ				S	Sg	02 30 34.5	-0.8
AMCZ	**Amberley**	**0.85**	**219**	P	Pb	02 30 25.8	+0.5
AMCZ				S	Sn	02 30 38.8	-0.3
LTZ	**Lake Taylor**	**0.87**	**252**	P	Pg	02 30 25.2	+0.1
LTZ				S	Sb	02 30 36.9	-0.4
BSWZ	**Blackbirch Sta**	**0.88**	**25**	P	Pb	02 30 25.6	-0.1
CMWZ	**Cape Campbell**	**0.98**	**39**	P	Pn	02 30 28.5	+0.2
CMWZ				S	Sn	02 30 41.7	-0.5
MRNZ	**Matariki Terra**	**1.21**	**337**	P	Pb	02 30 31.2	-0.2
MRNZ				S	Sn	02 30 48.0	+0.1
OKCZ	**Okains Bay**	**1.23**	**191**	P	Pn	02 30 30.4	-1.3
OXZ	**Oxford**	**1.28**	**230**	P	Pn	02 30 30.9	-1.4
OXZ				S	Sb	02 30 48.2	-1.0
NNZ	**Nelson**	**1.30**	**360**	P	Pb	02 30 32.8	0.0
NNZ				S	Sg	02 30 51.0	+0.9
MQZ	**McQueen's Vall**	**1.31**	**204**	P	Pn	02 30 30.8	-1.9
AKCZ	**Akaroa Harbour**	**1.40**	**194**	P	Pn	02 30 32.3	-1.7
DSZ	**Denniston Nort**	**1.41**	**303**	P	Pn	02 30 33.9	-0.2
DSZ				S	Sg	02 30 53.7	+0.1
INZ	**Inchbonnie**	**1.45**	**261**	P	Pn	02 30 34.4	-0.3
INZ				S	Sg	02 30 54.8	-0.2
TCW	**Tory Channel**	**1.46**	**27**	P	Pn	02 30 34.7	-0.1
TKNZ	**Takaka Hill**	**1.52**	**348**	P	Pb	02 30 36.3	-0.3
TKNZ				S	Sg	02 30 57.2	+0.1
RACZ	**Rakaia**	**1.52**	**217**	P	Pn	02 30 33.9	-1.7
RACZ				S	Sn	02 30 52.8	-2.6
PLWZ	**Palliser**	**1.68**	**56**	P	Pn	02 30 36.8	-1.1
DUWZ	**D'Urville Isla**	**1.76**	**13**	P	Pb	02 30 40.5	-0.2
QRZ	**Quartz Range**	**1.81**	**339**	P	Pn	02 30 40.3	+0.7
QRZ				S	Sb	02 31 03.7	-0.6
PAWZ	**Paruwai Farm**	**1.90**	**54**	P	Pb	02 30 42.1	-1.0
WVZ	**Waitaha Valley**	**2.03**	**253**	P	Pn	02 30 42.4	-0.2
WVZ				S	Sn	02 31 07.3	-0.8
RPZ	**Rata Peaks**	**2.09**	**234**	P	Pn	02 30 42.2	-1.3
RPZ				S	Sn	02 31 06.7	-2.9
ARCZ	**Arundel**	**2.16**	**228**	P	Pn	02 30 42.7	-1.8
TMZ	**Timaru**	**2.55**	**222**	P	Pn	02 30 49.1	-0.8
LBZ	**Lake Benmore**	**2.99**	**230**	P	Pn	02 30 54.8	-1.1
ODZ	**Otahua Downs**	**3.21**	**217**	P	Pn	02 30 57.1	-1.9
MTHZ	**Maungataniwha**	**4.50**	**37**	P	Pn	02 31 20.0	+3.3
URZ	**Urewera**	**5.11**	**35**	P	Pn	02 31 23.4	-1.6

ISK ***26*** *03:03:31.8, 38.°57N×25.°33E, h9km, ML2.5/10*
DDA ***26*** *03:03:33.3±0.0, 38.°58N×25.°40E, h7km±3km, ML1.9*
ATH ***26*** *03:03:34.0, 38.°61N×25.°44E, h16km±3km, ML2.2/1, Error ellipse: s-maj=4.0km s-min=1.0km az=98.0*
THE ***26*** *03:03:34.9, 38.°63N×25.°48E, h10km±3km, ML1.9/2, Error ellipse: s-maj=5.4km s-min=1.6km az=252.0*

ISC 26 03:03:33.3±1.0, 38°57N±0.°03×25°38E±0.°03, h14km±7km, n25, σ0°78/39, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.15**	**101**	P	**Pg**	**03 03 37.4**	**+0.4**
PSRA				S	**Sg**	**03 03 39.9**	**+0.4**
PSRA				AML	AML	03 03 40.5	
	comp=N,3576μm,0.3s						
PSRA				AML	AML	03 03 40.6	
	comp=E,2088μm,0.2s						
CHOS	**Chios island**	**0.56**	**109**	P	**Pb**	**03 03 44.2**	**-0.8**
CHOS				S	**Sb**	**03 03 52.7**	**-0.3**
	comp=E,160nm,0.2s						
CHOS	**Chios island**	**0.56**	**109**	Pg	**Pb**	**03 03 44.1**	**-0.9**
CHOS				Sg	**Sb**	**03 03 52.5**	**-0.5**
CHOS	**Chios island**	**0.56**	**109**	P	**Pb**	**03 03 44.2**	**-0.8**
CHOS				S	**Sb**	**03 03 52.0**	**-0.9**
SIGR	**SIGRI**	**0.74**	**30**	P	**Pg**	**03 03 46.8**	**-0.9**
SIGR				S	**Sg**	**03 03 57.1**	**-0.3**
	comp=E,120nm,0.4s						
SIGR	**SIGRI**	**0.74**	**30**	Pg	**Pg**	**03 03 46.9**	**-0.9**
SIGR	**SIGRI**	**0.74**	**30**	P	**Pg**	**03 03 46.8**	**-0.9**
SIGR				S	**Sg**	**03 03 56.9**	**-0.5**
ZEYE	**Izmir, Urla-Ze**	**0.94**	**110**	P	**Pb**	**03 03 51.4**	**0.0**
ZEYE				S	**Sb**	**03 04 04.2**	**+0.3**
ZEYE				*i* AML	AML	03 04 05.0	
	comp=E,28nm,0.3s						
ZEYE				*i* AML	AML	03 04 06.0	
	comp=E,32nm,0.4s						
URLA	**Izmir**	**0.98**	**102**	Pg	**Pb**	**03 03 51.9**	**-0.2**
URLA				Sg	**Sn**	**03 04 06.4**	**0.0**
URLA	**Izmir**	**0.98**	**102**	P	**Pb**	**03 03 52.1**	**0.0**
URLA				S	**Sn**	**03 04 07.6**	**+1.1**
URLA				*i* AML	AML	03 04 08.0	
	comp=E,41nm,0.7s						
TNSA	**Tinos**	**1.04**	**189**	P	**Pb**	**03 03 52.8**	**-0.3**
KOCA	**Canakkale, Ayv**	**1.10**	**32**	P	**Pg**	**03 03 53.5**	**-1.1**
KOCA				S	**Sb**	**03 04 10.0**	**+1.6**
KOCA				*i* AML	AML	03 04 11.0	
	comp=E,55nm,0.9s						
KOCA				*i* AML	AML	03 04 12.0	
	comp=E,22nm,0.2s						
DION	**Dionisos Attik**	**1.24**	**247**	P	**Pg**	**03 03 56.6**	**-0.5**
DION				S	**Sg**	**03 04 13.4**	**+0.2**
AYVA	**Ayvalik**	**1.26**	**54**	P	**Pn**	**03 03 57.5**	**+0.9**
AYVA				S	**Sn**	**03 04 14.0**	**+0.7**
AYVA				*i* AML	AML	03 04 15.0	
	comp=E,16nm,0.3s						
AYVA				*i* AML	AML	03 04 16.0	
	comp=E,31nm,0.4s						
DGB	**zmir**	**1.29**	**113**	P	**Pn**	**03 03 57.0**	**0.0**
DGB				S	**Sn**	**03 04 16.0**	**+2.0**
DGB				*i* AML	AML	03 04 17.0	
	comp=E,26nm,1.3s						
DGB				*i* AML	AML	03 04 18.0	
	comp=E,31nm,1.7s						
DKL	**Dikili**	**1.29**	**67**	Pn	**Pb**	**03 03 57.2**	**-0.2**
PTL	**Penteli**	**1.30**	**247**	P	**Pn**	**03 03 57.4**	**+0.3**
BLCB	**Balcova**	**1.32**	**98**	P	**Pn**	**03 03 58.4**	**+1.1**
BLCB				S	**Sb**	**03 04 14.3**	**-0.4**
BLCB	**Balcova**	**1.32**	**98**	Pn	**Pn**	**03 03 57.5**	**+0.2**
VLY	**Voula,Athens**	**1.44**	**241**	P	**Pn**	**03 03 60.0**	**+1.0**
EZN	**Ezine**	**1.45**	**30**	Pn	**Pn**	**03 03 59.0**	**-0.2**
APE	**Apeiranthos**	**1.50**	**175**	Pn	**Pn**	**03 03 58.9**	**-1.0**
GADA	**Gvkgeada**	**1.67**	**14**	Pn	**Pn**	**03 04 02.6**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.01**	**25**	Pn	**Pn**	**03 04 07.7**	**+0.8**
ERIK	**Erikli-Kesan**	**2.27**	**22**	Pn	**Pn**	**03 04 10.4**	**-0.1**

GCMT ***26*** *03:11:47.0±0.3, 7.°91S±0.°05×13.°52W±0.°02, h14km±1km, MW4.8/75, Moment Tensor Solution. s15,c17; s75,c98; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.63±.17; Mθθ0.05±.10; Mφφ1.58±.11; Mrθ0.51±.29; Mrφ-0.24±.06; Mθφ0.59±.18; Best double couple: M₀1.79200×10¹⁶ NP1:φs189.00000°, δ56.00000°, λ-70.00000°. NP2: φs336.00000°, δ39.00000°, λ-117.00000°. Principal axes: T 1.6980, Plg9.0000°, Azm265.0000°; N 0.1870, Plg16.0000°, Azm357.0000°; P -1.8860, Plg71.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 26 03:11:39.5±6.3, 9°20S×12°32W, h0km, mb3.9/2, mbtmp3.9/3, ML3.2/1, MS4.0/43 Error ellipse: s-maj=479.5km s-min=110.0km az=121.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**2.53**	**302**	Pn	Pn	03 12 00.1	-22
	baz=118,slow=17						
H10N1				Sn	Sn	03 12 54.2	+1.1
H10N2	**ASCENSION HYDR**	**2.54**	**302**	Pn	Pn	03 12 00.3	-22
	baz=118,slow=17						
H10N2				Sn	Sn	03 12 52.4	-1.0
H10N3	**ASCENSION HYDR**	**2.55**	**302**	Pn	Pn	03 12 00.8	-21
	baz=118,slow=17						
H10N3				Sn	Sn	03 12 53.0	-0.5
DBIC	**Dimbokro**	**17.43**	**25**	P	Pn	03 15 44.5	+0.3
	0.1nm,0.3s,baz=210,slow=14,SNR=2.4						
DBIC				LR	LR	03 20 47.7	
	comp=Z,288nm,19.4s,baz=212,slow=32						
	3.0nm,1.1s						
RCBR	**Riachuelo**	**23.62**	**276**	LR	LR	03 23 45.5	
	comp=Z,433nm,19.0s,baz=212,slow=31						
BBTS	**Babate**	**24.07**	**350**	LR	LR	03 25 10.5	
	comp=Z,98nm,18.3s,baz=253,slow=34						
TORD	**Torodi Ar. Bea**	**26.20**	**32**	P	P	03 17 16.1	-0.1
	4.4nm,1.1s,baz=215,slow=9.2,SNR=10						
	4.4nm,1.1s						
TSUM	**Tsumeb**	**30.59**	**112**	LR	LR	03 28 22.4	
	comp=Z,341nm,21.9s,baz=306,slow=33						
BDFB	**Brasilia**	**35.41**	**256**	LR	LR	03 30 02.8	
	comp=Z,236nm,20.4s,baz=78,slow=31						
SUR	**Sutherland**	**38.35**	**132**	LR	LR	03 31 35.1	
	comp=Z,217nm,20.2s,baz=294,slow=31						
LBTB	**Lobatse**	**39.33**	**118**	LR	LR	03 33 51.7	
	comp=Z,277nm,20.1s,baz=84,slow=34						
BOSA	**Boshof**	**40.21**	**124**	LR	LR	03 33 57.7	
	comp=Z,171nm,20.3s,baz=332,slow=33						
MDT	**Midelt**	**42.42**	**10**	LR	LR	03 35 59.1	
	comp=Z,162nm,18.3s,baz=209,slow=34						
MDP	**Montagnes des**	**42.63**	**288**	LR	LR	03 33 06.7	
	comp=Z,126nm,21.6s,baz=64,slow=30						
MBAR	**Mbarara**	**43.69**	**81**	LR	LR	03 36 47.5	
	comp=Z,568nm,19.8s,baz=235,slow=34						
CPUP	**Villa Florida**	**45.86**	**242**	LR	LR	03 37 06.3	
	comp=Z,155nm,19.3s,baz=66,slow=33						
SIV	**San Ignacio**	**47.97**	**257**	LR	LR	03 37 55.2	
	comp=Z,191nm,20.1s,baz=92,slow=33						
KEST	**Kesra**	**49.14**	**23**	LR	LR	03 40 46.9	
	comp=Z,172nm,19.3s,baz=286,slow=36						
LPAZ	**La Paz**	**54.76**	**257**	LR	LR	03 41 45.7	
	comp=Z,113nm,21.5s,baz=62,slow=33						
LVC	**Limon Verde**	**55.74**	**249**	LR	LR	03 44 04.5	
	comp=Z,124nm,18.9s,baz=68,slow=35						
CFA	**Conel Fontan**	**56.30**	**238**	LR	LR	03 43 24.5	
	comp=Z,132nm,19.4s,baz=87,slow=34						
IDI	**Anoyia**	**56.50**	**36**	LR	LR	03 47 21.7	
	comp=Z,79nm,18.9s,baz=212,slow=38						
OPO	**Ambohidratompo**	**58.29**	**106**	LR	LR	03 46 31.0	
	comp=Z,72nm,18.8s,baz=78,slow=36						
ATD	**Arta Tunnel**	**58.59**	**70**	LR	LR	03 46 26.2	
	comp=Z,158nm,18.8s,baz=186,slow=36						
DAVOX	**Davos/Flüschmat**	**59.15**	**18**	LR	LR	03 47 15.0	
	comp=Z,164nm,18.5s,baz=263,slow=36						
SJG	**San Juan**	**59.67**	**297**	LR	LR	03 43 03.1	
	comp=Z,59nm,19.7s,baz=65,slow=32						
EIL	**Elat**	**59.68**	**48**	LR	LR	03 46 11.2	
	comp=Z,60nm,21.5s,baz=236,slow=35						
PLCA	**Paso Flores**	**60.12**	**228**	LR	LR	03 46 26.2	
	comp=Z,64nm,18.6s,baz=95,slow=35						
SDV	**Santo Domingo**	**60.79**	**286**	LR	LR	03 47 11.6	
	comp=Z,100nm,18.8s,baz=86,slow=35						
MMAI	**Mount Meron Ar**	**61.84**	**45**	LR	LR	03 47 56.4	
	comp=Z,36nm,22.0s,baz=133,slow=35						
ROSC	**El Rosal**	**63.35**	**280**	LR	LR	03 46 56.5	
	comp=Z,300nm,20.2s,baz=121,slow=33						
NNA	**Nana**	**63.37**	**261**	LR	LR	03 47 49.1	
	comp=Z,144nm,20.6s,baz=100,slow=34						
VRAC	**Vranov**	**63.54**	**21**	LR	LR	03 50 54.3	
	comp=Z,117nm,18.1s,baz=255,slow=37						
MLR	**Muntele Rosu**	**64.38**	**29**	LR	LR	03 51 00.5	
	comp=Z,114nm,20.8s,baz=298,slow=37						
ATAH	**Atahualpa**	**65.36**	**266**	LR	LR	03 49 25.3	
	comp=Z,183nm,21.7s,baz=73,slow=35						
AKASG	**Malin Array Be**	**69.67**	**27**	P	P	03 22 51.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.45**	**319**	⇑*i*P	**Pn**	**03 32 11.9**	**-0.5**
LMGC				*e*S	**Sb**	**03 32 18.0**	**+1.3**
LMGC				IAML		03 32 18.4	
	comp=E,2μm,0.1s						
LMGC				IAML		03 32 18.9	
	comp=N,1μm,0.1s						
RCC	**Rio Carpintero**	**0.98**	**74**	*e*P	**Pn**	**03 32 20.8**	**+1.1**
RCC				*e*S	**Sn**	**03 32 33.4**	**-0.3**
RCC				IAML		03 32 34.4	
	comp=E,23nm,0.2s						
RCC				IAML		03 32 36.7	
	comp=N,23nm,0.2s						
HLGC	**Holguin**	**1.31**	**27**	*e*P	**Pg**	**03 32 26.2**	**+1.0**
HLGC				*e*S	**Sn**	**03 32 43.8**	**+2.1**
HLGC				IAML		03 32 46.7	
	comp=E,140nm,0.4s						
HLGC				IAML		03 32 47.0	
	comp=N,84nm,0.4s						
GTBY	**Guantanamo Bay**	**1.50**	**82**	*e*P	**Pg**	**03 32 28.8**	**-0.2**
GTBY				*e*S	**Sg**	**03 32 47.8**	**-0.7**
GTBY	**Guantanamo Bay**	**1.50**	**82**	*i* P	**Pg**	**03 32 29.2**	**+0.3**
GTBY				IAML		03 33 01.2	
	comp=Z,19nm,1.2s						
GWJ	**Greenwich**	**1.64**	**181**	*i* P	**Pb**	**03 32 30.7**	**+0.3**
STH	**Stony Hill**	**1.64**	**184**	*i* P	**Pb**	**03 32 30.4**	**0.0**
MTDJ	**Mount Denham**	**1.69**	**208**	*e*P	**Pb**	**03 32 31.0**	**-0.2**
MTDJ				*e*S	**Sn**	**03 32 50.7**	**-0.6**
MTDJ	**Mount Denham**	**1.69**	**208**	*i* P	**Pb**	**03 32 31.2**	**0.0**
MTDJ				IAML		03 32 51.0	
	comp=Z,41nm,2.6s						
HOJ	**Hope**	**1.71**	**182**	*i* P	**Pb**	**03 32 31.8**	**+0.3**
CCCC	**Cccc**	**1.78**	**326**	*e*P	**Pn**	**03 32 30.4**	**-0.4**
CCCC				*e*S	**Sn**	**03 32 51.7**	**-1.8**
CCCC				IAML		03 32 58.2	
	comp=N,19nm,0.1s						
CCCC				IAML		03 32 58.8	
	comp=E,25nm,0.4s						
MOAC	**Moa**	**1.88**	**60**	*e*P	**Pg**	**03 32 36.2**	**+0.1**
PCJ	**Portland Cotta**	**2.02**	**193**	*i* P	**Pb**	**03 32 36.2**	**-0.5**
MCJ	**Malvern**	**2.02**	**208**	*i* P	**Pb**	**03 32 36.2**	**-0.6**
MCJ				*i* S	**Sn**	**03 33 00.4**	**+1.0**
MASC	**Masc**	**2.36**	**79**	*e*P	**Pb**	**03 32 41.6**	**-1.0**
MASC				*e*S	**Sb**	**03 33 11.9**	**+0.2**
MASC				IAML		03 33 19.8	
	comp=N,5.2nm,0.5s						
MASC				IAML		03 33 23.8	
	comp=E,6.5nm,0.8s						
MASC	**Masc**	**2.36**	**79**	*i* P	**Pb**	**03 32 42.3**	**-0.3**
MASC				*e*S	**Sb**	**03 33 10.4**	**-1.4**
MASC				IAML		03 33 15.4	
	comp=Z,15nm,1.5s						

NEIC 26 03:46:04.9±0.7,31°.42N±0°.03×103°.54W±0°.03,h5km±2km, ML2.7/16,Error ellipse: s-maj=5.6km s-min=3.0km az=134.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLNB	**Carlsbad**	**0.90**	**341**	Pg	Pg	03 46 20.9	-1.2
CLNB				Sg	Sg	03 46 34.2	+0.5
GDL2	**Guadalupe Moun**	**1.05**	**318**	Pg	Pg	03 46 24.1	-1.0
HTMS	**Hat Mesa**	**1.06**	**355**	Pg	Pg	03 46 23.6	-1.6
MNTX	**Cornudas Mount**	**1.60**	**281**		Pn	03 46 33.2	-0.6
MNTX					Sn	03 46 54.6	-0.4
CPRX	**Cap Rock**	**1.64**	**350**		Pn	03 46 33.8	-0.7
TX31	**Lajitas Ar. Si**	**2.08**	**183**	Pn	Pn	03 46 40.2	-0.3
TX32	**Lajitas Array**	**2.08**	**183**	Pn	Pn	03 46 40.0	-0.5
TXAR	**Lajitas Array**	**2.08**	**183**	Pn	Pn	03 46 40.1	-0.4
MSTX	**Muleshoe**	**2.63**	**14**	Pn	Pn	03 46 47.5	-0.5
MSTX				IAML		03 47 23.3	
	comp=N,29nm,3.8s						
MSTX				IAML		03 47 27.2	
	comp=E,32nm,0.4s						
JCT	**Junction City**	**3.34**	**105**	Pn	Pn	03 46 56.2	-1.6
JCT				IAML		03 47 44.9	
	comp=E,15nm,3.8s						
ABTX	**Abilene, Hawle**	**3.52**	**69**	Pn	Pn	03 46 59.7	-0.6
ABTX				IAML		03 47 58.6	
	comp=E,15nm,1.4s						
ABTX				IAML		03 48 18.2	
	comp=N,14nm,3.2s						
121A	**Cookes Peak, D**	**3.78**	**288**	Pn	Pn	03 47 03.3	-0.7
121A				IAML		03 47 52.2	
	comp=N,12nm,4.2s						
AMTX	**Amarillo**	**3.79**	**24**	Pn	Pn	03 47 04.1	0.0
ANMO	**Albuquerque**	**4.29**	**326**	Pn	Pn	03 47 09.3	-1.7
ANMO				IAML		03 49 26.4	
	comp=N,9.3nm,4.8s						
ANMO				IAML		03 49 39.3	
	comp=N,6.8nm,4.7s						
WMOK	**Wichita Mounta**	**5.19**	**49**	Pn	Pn	03 47 22.5	-0.7

IDC 26 03:58:05.1±2.3,6°.20S×130°.11E,h0km,mb4.4/1, mbtmp3.8/3,ML3.8/2,Error ellipse: s-maj=151.6km s-min=30.7km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.26**	**164**	Pn	Pn	04 01 27.8	-0.7
	0.8nm,0.3s,baz=346,slow=13,SNR=3.8						
WRA				Sn	Sn	04 03 53.5	-14
	1.1nm,0.3s,baz=344,slow=22,SNR=8.5						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**17.75**	**169**	P	Pn	04 02 14.1	+0.3
	0.1nm,0.3s,baz=350,slow=10,SNR=6.9						
ASAR				S	Sn	04 05 16.1	-16
	0.8nm,0.6s,baz=356,slow=29,SNR=9.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.62**	**327**	P	P	04 09 03.9	0.0
	1.7nm,0.4s,baz=114,slow=8.1,SNR=35						
	1.7nm,0.4s						

*ROM **26** 04:05:12.7±0.2,37°.239N±0°.010×15°.96E±0°.01, h24km±1km,ML3.3/28,Error ellipse: s-maj=1.0km s-min=1.0km az=299.0*

*BEO **26** 04:05:16.8±0.9,37°.77N×16°.29E,h0km,ML3.7/5*

ISC 26 04:05:10.4±1.1,37°.23N±0°.04×16°.05E±0°.04,h10km,n59, σ1§47/69,3C-3D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAGA	**Augusta**	**0.71**	**274**	P	**Pg**	**04 05 25.5**	**+1.4**
HAGA				S	**Sg**	**04 05 33.9**	**+0.4**
HAGA				AML	AML		
	comp=N,2150μm,0.4s						
HAGA				AML	AML		
	comp=E,2305μm,0.5s						
HAGA				AML	AML		
	comp=E,2305μm,1.5s						
EPOZ	**Pozzillo**	**0.82**	**290**	P	**Pb**	**04 05 27.6**	**+1.0**
EPOZ				AML	AML		
	comp=N,1435μm,0.5s						
EPOZ				AML	AML		
	comp=E,1250μm,0.2s						
SOI	**Samo**	**0.84**	**1**	P	**Pg**	**04 05 28.5**	**+2.0**
SOI				S	**Sg**	**04 05 39.7**	**+2.2**
MEU	**Monte Lauro**	**0.90**	**262**	P	**Pb**	**04 05 29.5**	**+1.3**
MEU				S	**Sb**	**04 05 41.3**	**+1.0**
MEU				AML	AML		
	comp=N,3935μm,0.3s						
MEU				AML	AML		
	comp=E,3030μm,1.4s						
HPAC	**Pachino**	**0.92**	**235**	P	**Pb**	**04 05 30.2**	**+1.7**
HPAC				S	**Sb**	**04 05 42.4**	**+1.7**
HPAC				AML	AML		
	comp=E,2195μm,1.2s						
HPAC				AML	AML		
	comp=N,2515μm,0.5s						
HPAC				AML	AML		
	comp=N,2515μm,1.5s						
HLNI	**Lentini**	**0.94**	**277**	P	**Pg**	**04 05 29.0**	**+0.4**
HLNI				S	**Sg**	**04 05 40.0**	**-0.8**
HLNI				AML	AML		
	comp=E,6515μm,0.3s						
HLNI				AML	AML		
	comp=N,5570μm,0.4s						
HLNI				AML	AML		
	comp=N,5570μm,1.6s						
GMB	**Gambarie**	**0.95**	**350**	P	**Pg**	**04 05 30.1**	**+1.4**
GMB				S	**Sg**	**04 05 42.7**	**+1.6**
GMB				AML	AML		
	comp=N,7310μm,1.6s						
GMB				AML	AML		
	comp=N,7310μm,0.4s						
GMB				AML	AML		
	comp=E,9870μm,1.2s						
AIO	**Antillo**	**0.98**	**319**	P	**Pg**	**04 05 30.3**	**+1.0**
AIO				S	**Sb**	**04 05 43.1**	**+0.6**
AIO				AML	AML		
	comp=E,852μm,0.2s						
AIO				AML	AML		
	comp=N,1250μm,0.2s						
ESML	**S. M. di Licod**	**1.01**	**293**	P	**Pg**	**04 05 30.3**	**+0.5**
ESML				S	**Sg**	**04 05 42.6**	**-0.3**
ESML				AML	AML		
	comp=E,948μm,0.8s						
ESML				AML	AML		
	comp=E,948μm,1.2s						
ESML				AML	AML		
	comp=N,1022μm,0.5s						
MSCL	**Scilla**	**1.02**	**349**	P	**Pg**	**04 05 31.4**	**+1.4**
MSCL				AML	AML		
	comp=E,1760μm,0.6s						
MSCL				AML	AML		
	comp=N,1615μm,0.6s						
MSCL				AML	AML		
	comp=E,1760μm,1.4s						
CEL	**Celeste**	**1.03**	**353**	P	**Pg**	**04 05 31.8**	**+1.5**
CEL				S	**Sg**	**04 05 45.4**	**+1.7**
CEL				AML	AML		
	comp=N,888μm,0.3s						
CEL				AML	AML		
	comp=E,1000μm,1.2s						
CEL				AML	AML		
	comp=N,734μm,0.3s						
CEL				AML	AML		
	comp=E,1217μm,1.2s						
CEL				AML	AML		
	comp=E,1000μm,0.8s						
CEL				AML	AML		
	comp=E,1217μm,0.8s						
HMDC	**Modica**	**1.05**	**255**	P	**Pg**	**04 05 30.8**	**+0.3**
HMDC				S	**Sg**	**04 05 43.3**	**-0.9**
HMDC				AML	AML		
	comp=N,2145μm,0.5s						
HMDC				AML	AML		
	comp=E,3100μm,0.5s						
HMDC				AML	AML		
	comp=E,3100μm,1.5s						
HMDC				AML	AML		
	comp=N,2145μm,1.5s						
EMSG	**Monte Spagnolo**	**1.05**	**304**	P	**Pg**	**04 05 31.8**	**+1.2**
EMSG				AML	AML		
	comp=N,1985μm,0.2s						
EMSG				AML	AML		
	comp=E,2295μm,0.3s						
HVZN	**Vizzini**	**1.06**	**267**	P	**Pg**	**04 05 31.0**	**+0.1**
HVZN				S	**Sg**	**04 05 43.9**	**-0.8**
NOV	**Novara**	**1.07**	**318**	P	**Pg**	**04 05 31.6**	**+0.6**
NOV				AML	AML		
	comp=E,1079μm,0.4s						
NOV				AML	AML		
	comp=N,2040μm,0.4s						
EPZF	**Pizzo Felice**	**1.11**	**302**	P	**Pg**	**04 05 32.9**	**+1.1**
EPZF				AML	AML		
	comp=E,2245μm,1.6s						
EPZF				AML	AML		
	comp=N,1605μm,0.3s						
EPZF				AML	AML		
	comp=E,2245μm,0.4s						
MILZ	**Milazzo**	**1.22**	**328**	P	**Pb**	**04 05 34.1**	**+0.6**
MILZ				S	**Sb**	**04 05 50.1**	**+0.8**
MILZ				AML	AML		
	comp=N,1570μm,0.4s						
MILZ				AML	AML		
	comp=E,3780μm,0.3s						
GALF	**Gagliano Caste**	**1.27**	**292**	P	**Pb**	**04 05 35.0**	**+0.5**
GALF				S	**Sb**	**04 05 51.1**	**+0.2**
GALF				AML	AML		
	comp=E,834μm,0.4s						
GALF				AML	AML		
	comp=N,750μm,0.4s						
MNO	**Monte Soro**	**1.28**	**303**	P	**Pb**	**04 05 35.6**	**+0.8**
MNO				S	**Sg**	**04 05 52.1**	**+0.4**
MNO				AML	AML		
	comp=E,2540μm,0.4s						
MNO				AML	AML		
	comp=N,1530μm,0.6s						
MNO				AML	AML		
	comp=N,1530μm,1.4s						
CAGR	**Agira**	**1.29**	**288**	P	**Pn**	**04 05 35.8**	**+1.3**
CAGR				AML	AML		
	comp=N,814μm,0.5s						
CAGR				AML	AML		
	comp=E,730μm,0.3s						
RAFF	**Raffo Rosso**	**1.34**	**270**	P	**Pn**	**04 05 35.7**	**+0.5**
RAFF				S	**Sb**	**04 05 52.8**	**-0.1**
RAFF				AML	AML		
	comp=N,1025μm,0.5s						
RAFF				AML	AML		
	comp=E,1895μm,0.3s						
LLI	**Lipari**	**1.49**	**325**	P	**Pn**	**04 05 38.4**	**+1.1**
LLI				AML	AML		
	comp=N,5045μm,0.5s						
LLI				AML	AML		
	comp=E,3415μm,0.5s						
LLI				AML	AML		
	comp=N,5045μm,1.5s						
GRI	**Girifalco**	**1.61**	**10**	P	**Pn**	**04 05 40.2**	**+1.2**
RESU	**Resuttano**	**1.64**	**285**	P	**Pb**	**04 05 41.3**	**+0.6**
RESU				AML	AML		
	comp=N,260μm,0.5s						
RESU				AML	AML		
	comp=E,234μm,0.5s						
CLTA	**Licata**	**1.67**	**268**	⇑P	**Pn**	**04 05 41.2**	**+1.6**
CLTA				AML	AML		
	comp=N,1565μm,0.3s						
CLTA				AML	AML		
	comp=E,2095μm,0.4s						
PLLN	**Pollina**	**1.69**	**297**	P	**Pn**	**04 05 41.4**	**+1.4**
PLLN				AML	AML		
	comp=E,445μm,0.6s						
PLLN				AML	AML		
	comp=N,1073μm,0.4s						
IST3	**Stromboli F**	**1.69**	**338**	P	**Pn**	**04 05 40.2**	**+0.2**
IST3				AML	AML		
	comp=E,529μm,0.9s						
IST3				AML	AML		
	comp=N,732μm,0.8s						
IST3				AML	AML		
	comp=N,732μm,1.2s						
IFIL	**Filicudi I Eol**	**1.77**	**319**	P	**Pn**	**04 05 41.5**	**+0.4**
IFIL				S	**Sn**	**04 06 02.5**	**-1.1**
IFIL				AML	AML		
	comp=E,4435μm,0.4s						
IFIL				AML	AML		
	comp=N,1565μm,0.5s						
IACL	**Alicudi**	**1.86**	**315**	P	**Pn**	**04 05 42.6**	**+0.3**
IACL				AML	AML		
	comp=E,526μm,0.3s						
IACL				AML	AML		
	comp=E,526μm,1.7s						
IACL				AML	AML		
	comp=N,486μm,0.3s						
CAR1	**CAROLEI**	**2.02**	**4**	P	**Pn**	**04 05 45.4**	**+0.8**
CAR1				AML	AML		
	comp=E,354μm,0.6s						
CAR1				AML	AML		
	comp=N,362μm,1.0s						
TIP	**Timpagrande**	**2.02**	**16**	AML	AML		
	comp=E,65μm,0.4s						
TIP				AML	AML		
	comp=N,56μm,0.6s						
TIP				AML	AML		
	comp=N,71μm,1.2s						
TIP				AML	AML		
	comp=E,65μm,1.6s						
TIP				AML	AML		
	comp=E,72μm,1.1s						
TIP				AML	AML		
	comp=N,56μm,1.4s						
SPS2	**Spezzano della**	**2.07**	**6**	P	**Pn**	**04 05 47.6**	**+2.4**
SPS2				AML	AML		
	comp=E,71μm,0.9s						
SPS2				AML	AML		
	comp=N,76μm,1.6s						
SPS2				AML	AML		
	comp=N,76μm,0.4s						
LADO	**San Nicola del**	**2.17**	**19**	P	**Pn**	**04 05 47.9**	**+1.2**
LADO				AML	AML		
	comp=N,11μm,1.6s						
LADO				AML	AML		
	comp=N,11μm,0.4s						
LADO				AML	AML		
	comp=E,10μm,1.4s						
CORL	**Corleone**	**2.28**	**288**	AML	AML		
	comp=E,273μm,0.4s						
CORL				AML	AML		
	comp=N,181μm,1.1s						
CET2	**Cetraro**	**2.29**	**358**	AML	AML		
	comp=N,424μm,0.9s						
CET2				AML	AML		
	comp=E,390μm,0.6s						
CET2				AML	AML		
	comp=N,424μm,1.1s						
CDRU	**Civita di Ruta**	**3.30**	**350**	AML	AML		
	comp=E,53μm,0.9s						
CDRU				AML	AML		
	comp=N,30μm,1.4s						
CDRU				AML	AML		
	comp=E,53μm,1.1s						
CDRU				AML	AML		
	comp=N,30μm,0.6s						
SCTE	**Santa Cesarea**	**3.41**	**33**	P	**Pn**	**04 06 02.9**	**-0.7**
TAR1	**Taranto**	**3.43**	**16**	AML	AML		
	comp=E,170μm,1.0s						
TAR1				AML	AML		
	comp=N,170μm,1.6s						
TAR1				AML	AML		
	comp=N,170μm,0.4s						
NOCI	**Noci**	**3.64**	**12**	AML	AML		
	comp=N,213μm,1.1s						
NOCI				AML	AML		
	comp=N,213μm,0.9s						
NOCI				AML	AML		
	comp=E,179μm,1.5s						
VLS	**Valsamata**	**3.73**	**74**	P	**Pn**	**04 06 08.1**	**+0.1**
SRN	**Sarande**	**4.07**	**48**	P	**Pn**	**04 06 11.1**	**-1.7**
TIR	**Tirane**	**5.07**	**35**	*e*Pn	**Pn**	**04 06 25.8**	**-0.6**
TIR				*e*Sn	Sn	04 07 19.0	-5.9
VIVA	**Pratoni del Vi**	**5.17**	**332**	⇑P	**Pn**	**04 06 25.8**	**-2.1**
SAMA	**S.Maria delle**	**5.27**	**331**	⇑P	Pn	04 06 35.2	+6.1
SAMA				S	**Sn**	**04 07 22.4**	**-7.5**
T1247	**Pizzolo (AQ)**	**5.61**	**339**	P	**Pg**	**04 06 55.9**	**-2.1**
PDG	**Podgorica**	**5.75**	**24**	⇓P	**Pn**	**04 06 36.0**	**+0.2**
PDG	**Podgorica**	**5.75**	**24**	*e*Pn	**Pn**	**04 06 34.6**	**-1.1**
PDG				*e*Sn	Sn	04 07 33.8	-7.9
STON	**Ston**	**5.77**	**12**	⇓P	**Pn**	**04 06 35.4**	**-0.6**
STON	**Ston**	**5.77**	**12**	*e*Pn	**Pn**	**04 06 35.1**	**-1.0**
STON				*e*Sn	Sn	04 07 34.9	-7.4
PCRO	**Pietralacroce**	**6.65**	**344**	P	**Pn**	**04 06 49.8**	**+1.6**
SJES	**Sjenica**	**6.73**	**25**	*e*Pn	**Pn**	**04 06 49.0**	**-0.3**
SJES				*e*Sn	Sn	04 07 57.7	-8.4
BBLS	**Lazići**	**7.10**	**20**	*e*Pn	**Pn**	**04 06 54.0**	**-0.4**
BARS	**Barje**	**7.12**	**37**	*e*Pn	**Pn**	**04 06 53.5**	**-1.1**
SELS	**Selova**	**7.13**	**31**	*e*Pn	**Pn**	**04 06 53.1**	**-1.6**
DIVS	**Divibare**	**7.48**	**22**	⇓P	**Pn**	**04 06 59.1**	**-0.6**
DIVS	**Divibare**	**7.48**	**22**	*e*Pn	**Pn**	**04 06 58.7**	**-1.0**
DIVS				*e*Sn	Sn	04 08 13.4	-11
GRUS	**Gruza**	**7.54**	**27**	*e*Pn	**Pn**	**04 06 59.9**	**-0.4**
TRUS	**Trudelj**	**7.73**	**24**	*e*Pn	**Pn**	**04 07 02.1**	**-0.8**
ZAGS	**Zajecar**	**8.08**	**34**	*e*Pn	**Pn**	**04 07 06.3**	**-1.5**

*IDC **26** 04:33:20.8±0.6,56°.77S×150°.72W,h0km,mb4.3/8, mbtmp4.2/8,MS3.6/5,Error ellipse: s-maj=36.6km s-min=17.7km az=7.0*

*NEIC **26** 04:33:22.0±1.0,56°.7S±0°.2×150°.9W±0°.2,h10km±1km, mb4.9/18,Error ellipse: s-maj=26.6km s-min=20.3km az=19.0*

ISC 26 04:33:22.2±0.5,56°.6S±0°.1×150°.7W±0°.1,h10km,n52, σ1§06/34,mb4.7/16,MS3.6/5,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**25.75**	**199**	P	**P**	**04 38 52.0**	**-0.4**
MQZ	**McQueen's Vall**	**26.41**	**284**	P	**P**	**04 38 57.3**	**-1.4**
MQZ				IAmb	IAmb	04 39 36.0	
	comp=Z,58nm,1.3s						
VNDA	**Vanda**	**26.53**	**201**	P	**P**	**04 39 01.5**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=58,slow=9.5,SNR=1.9						
RPZ	**Rata Peaks**	**27.27**	**282**	LR	LR	04 48 21.4	
	comp=Z,141nm,18.1s,baz=111,slow=33						
DCZ	**Deep Cove**	**28.28**	**275**	P	P	04 39 11.7	-3.7
DCZ				IAmb	IAmb	04 39 34.8	
	comp=Z,54nm,1.3s						
QSPA	**South Pole Qui**	**33.54**	**180**	P	**P**	**04 40 00.7**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=57,slow=7.1,SNR=5.7						
	comp=Z,1.3nm,0.3s						
QSPA	**South Pole Qui**	**33.54**	**180**	P	**P**	**04 40 01.4**	**-0.4**
QSPA				IAmb	IAmb	04 40 06.5	
	comp=Z,16nm,1.2s						
PPTF	**Pamatai, Papee**	**38.96**	**2**	P	**P**	**04 40 47.8**	**-0.7**
PPT	**Papeete**	**38.98**	**2**	LR	LR	04 52 48.7	
	comp=Z,69nm,20.6s,baz=350,slow=30						
AFI	**Afiamalu**	**45.56**	**331**	LR	LR	04 56 23.0	
	comp=Z,56nm,19.7s,baz=122,slow=30						
KOUNC	**Koumac, New Ca**	**48.90**	**298**	P	**P**	**04 42 07.2**	**-1.0**
STKA	**Stephens Creek**	**51.92**	**268**	P	**P**	**04 42 32.5**	**+1.6**
	comp=Z,3.1nm,0.9s,baz=149,slow=6.5,SNR=6.2						
STKA				LR	LR	05 02 06.1	
	comp=Z,68nm,18.2s,baz=21,slow=33						
	comp=Z,3.1nm,0.9s						
PLCA	**Paso Flores**	**52.18**	**109**	P	**P**	**04 42 32.5**	**-0.4**
	comp=Z,4.3nm,1.0s,baz=221,slow=11,SNR=7.0						
PLCA				LR	LR	05 00 17.7	
	comp=Z,54nm,18.4s,baz=20,slow=31						
	comp=Z,4.3nm,1.0s						
PLCA	**Paso Flores**	**52.18**	**109**	P	**P**	**04 42 32.6**	**-0.2**
H03S2	**Juan Fernandez**	**52.74**	**96**	T	T	05 39 31.5	
	baz=219,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**52.75**	**97**	T	T	05 39 32.3	
	baz=219,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**52.76**	**96**	T	T	05 39 35.1	
	baz=219,slow=74,SNR=15						
H03N3	**Juan Fernandez**	**53.03**	**96**	T	T	05 39 49.9	
	baz=222,slow=72,SNR=55						
H03N2	**Juan Fernandez**	**53.03**	**96**	T	T	05 39 50.6	
	baz=222,slow=72,SNR=54						
H03N1	**Juan Fernandez**	**53.05**	**96**	T	T	05 39 48.8	
	baz=222,slow=72,SNR=75						
TRQA	**Tornquist**	**58.61**	**112**	P	**P**	**04 43 18.6**	**-0.4**
TRQA				IAmb	IAmb	04 43 34.4	
	comp=Z,16nm,1.5s						
AC05	**El Transito**	**61.31**	**99**	P	**P**	**04 43 37.6**	**-0.3**
AC05				IAmb	IAmb	04 43 37.9	
	comp=Z,10nm,0.9s						
AC04	**Llanos de Chal**	**61.36**	**98**	P	**P**	**04 43 37.4**	**-0.7**
ASAR	**Alice Springs**	**62.56**	**268**	P	**P**	**04 43 46.1**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=140,slow=6.5,SNR=29						
	comp=Z,2.7nm,0.7s						
ASAR	**Alice Springs**	**62.56**	**268**	P	**P**	**04 43 45.4**	**-0.8**
AS31	**Alice Springs**	**62.56**	**268**	P	**P**	**04 43 45.7**	**-0.6**
H01W1	**Cape Leeuwin H**	**64.27**	**245**	T	T	05 53 55.3	
	baz=142,slow=75,SNR=4.8						
H01W2	**Cape Leeuwin H**	**64.28**	**245**	T	T	05 54 07.2	
	baz=142,slow=75,SNR=5.8						
H01W3	**Cape Leeuwin H**	**64.29**	**245**	T	T	05 54 02.1	
	baz=142,slow=75,SNR=5.0						
WRA	**Warramunga Arr**	**65.30**	**271**	P	**P**	**04 44 04.0**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=145,slow=5.8,SNR=5.8						
	comp=Z,1.5nm,0.9s						
WB0	**Warramunga Arr**	**65.41**	**271**	P	**P**	**04 44 04.0**	**-1.0**
WB0				IAmb	IAmb	04 44 23.0	
	comp=Z,10.0nm,1.4s						
LVC	**Limon Verde**	**66.98**	**96**	P	**P**	**04 44 15.7**	**+0.2**
LVC				IAmb	IAmb	04 44 16.7	
	comp=Z,8.0nm,0.8s						
PB01	**IPOC Station P**	**67.92**	**95**	P	**P**	**04 44 21.2**	**+0.1**
MNMC	**Minye Minye**	**69.40**	**94**	P	**P**	**04 44 31.0**	**+0.5**
PB16	**IPOC Station P**	**70.09**	**93**	P	**P**	**04 44 35.2**	**+0.1**
PB16				IAmb	IAmb	04 44 36.9	
	comp=Z,12nm,1.2s						
CPUP	**Villa Florida**	**70.24**	**108**	P	**P**	**04 44 34.6**	**-0.7**
	comp=Z,5.3nm,0.9s,baz=237,slow=6.4,SNR=9.2						
	comp=Z,5.3nm,0.9s						
CPUP	**Villa Florida**	**70.24**	**108**	P	**P**	**04 44 34.8**	**-0.5**
CPUP				IAmb	IAmb	04 44 35.5	
	comp=Z,6.7nm,0.9s						
LPAZ	**La Paz**	**72.51**	**93**	P	**P**	**04 44 50.5**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=166,slow=3.7,SNR=15						

	comp=Z,4.7nm,0.8s							
LPAZ	**La Paz**	**72.51**	**93**	P	**P**	**04 44 49.6**	**-0.3**
LPAZ				IAmb	IAmb	04 44 51.5	
	comp=Z,8.3nm,1.0s							
TXAR	**Lajitas Array**	**94.44**	**40**	P	**P**	**04 46 43.9**	**+1.8**
	comp=Z,0.3nm,1.0s,baz=200,slow=7.6,SNR=1.8							
	comp=Z,0.3nm,1.0s							
H10S3	**ASCENSION HYDR**	**105.35**	**135**	T	T	06 45 45.9		
	baz=16,slow=74,SNR=9.3							
H10S2	**ASCENSION HYDR**	**105.35**	**135**	T	T	06 45 42.5		
	baz=204,slow=74,SNR=5.4							
H10N3	**ASCENSION HYDR**	**106.42**	**134**	T	T	06 47 07.7		
	baz=203,slow=75,SNR=13							
H10N1	**ASCENSION HYDR**	**106.43**	**134**	T	T	06 47 10.2		
	baz=203,slow=75,SNR=16							
H10N2	**ASCENSION HYDR**	**106.44**	**134**	T	T	06 47 07.5		
	baz=203,slow=75,SNR=14							
USRK	**Ussuriysk Ar.**	**119.42**	**306**	PKP	**PKPdf**	**04 52 09.9**	**-0.9**
	comp=Z,5.3nm,0.7s,baz=83,slow=7.9,SNR=6.7							
ILAR	**Eielson Array**	**121.09**	**2**	PKP	**PKPdf**	**04 52 13.8**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=239,slow=1.8,SNR=19							
YKA	**Yellowknife Ar**	**122.05**	**19**	PKP	**PKPdf**	**04 52 15.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=191,slow=2.1,SNR=5.7							
TORD	**Torodi Ar. Bea**	**131.75**	**143**	PKP	**PKPdf**	**04 52 35.0**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=216,slow=2.2,SNR=2.2							
MKAR	**Makanchi Array**	**146.50**	**276**	PKPbc	**PKPdf**	**04 53 02.6**	**+1.3**
	comp=Z,7.3nm,0.8s,baz=119,slow=4.6,SNR=68							
ZALV	**Zalesovo Beam**	**148.97**	**289**	PKPbc	**PKPdf**	**04 53 08.6**	**+3.6**
	comp=Z,2.4nm,0.6s,baz=108,slow=4.6,SNR=14							
ESDC	**Sonseca Array**	**152.48**	**114**	PKPbc	**PKPbc**	**04 53 17.8**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=269,slow=1.8,SNR=7.9							

DJA 26 04:51:20.0±0.3, 3°S±2°×12°9E±°, h10km, M3.9/10, mb4.2/2, MLv3.8/10, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.77**	**174**	P	Pg	04 51 33.7	-1.1
MSAI				S	Sb	04 51 46.7	+0.8
AAI	**Ambon**	**1.28**	**211**	P	Pn	04 51 43.5	-0.5
AAI				S	Sg	04 52 02.1	+0.8
NLAI	**Namlea**	**1.87**	**249**	P	Pn	04 51 52.9	+0.9
BNDI	**Bandanaira**	**2.20**	**151**	P	Pn	04 51 57.7	+1.1
SANI	**Sanana**	**2.91**	**280**	P	Pn	04 52 05.4	-1.0
FAKI	**Fak Fak**	**3.41**	**96**	P	Pn	04 52 14.0	+0.7
GTOI	**Gorontalo**	**6.66**	**299**	P	Pn	04 53 00.0	+2.1
	17nm,1.3s,0.1nm						

*NEIC **26** 04:54:13.7±1.9, 57.70N±0.02×132.35W±0.03, h1km±4km, Error ellipse: s-maj=3.8km s-min=1.3km az=146.0*
*AEIC **26** 04:54:14.2±2.4, 57.70N±0.03×132.40W±0.02, h11km±5km, Error ellipse: s-maj=3.9km s-min=1.7km az=176.0*
*PGC **26** 04:54:14.7±0.1, 57.72N×132.42W, h1km, ML3.1/3, 134km Ese of Juneau, Ak Southeastern Alaska*
*OTT **26** 04:54:14.7±2.1, 57.72N±0.02×132.42W±0.04, h1km±3km, ML3.1, ML2.5/14(NEIC), ML2.2(AEIC), Error ellipse: s-maj=3.6km s-min=2.0km az=217.0*

ISC 26 04:54:14.0±1.3, 57.71N±0.03×132.41W±0.03, h1km±12km, n27, σ1s23/51, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S34M	**Telegraph Cree**	**0.71**	**73**	P	**Pg**	**04 54 27.3**	**-0.4**
S34M				S	**Sg**	**04 54 36.5**	**-0.3**
JIS	**Juneau Island**	**1.20**	**299**		**Pn**	**04 54 36.0**	**-1.9**
JIS				Sg	**Sg**	**04 54 52.6**	**+0.3**
JIS				IAML		04 54 56.6	
	comp=N,102nm,0.5s						
JIS				IAML		04 54 56.7	
	comp=E,80nm,0.7s						
WRAK	**Wrangell Islan**	**1.30**	**179**		**Pn**	**04 54 38.1**	**-1.1**
WRAK				Sn	**Sg**	**04 54 57.1**	**+1.5**
WRAK				IAML		04 55 00.0	
	comp=E,136nm,0.3s						
T35M	**Bob Quinn**	**1.38**	**121**	P	**Pb**	**04 54 39.9**	**-0.7**
T35M				S	**Sg**	**04 54 58.0**	**-0.2**
DLBC	**Dease Lake**	**1.46**	**59**		**Pn**	**04 54 40.9**	**-0.7**
DLBC				Sn	**Sg**	**04 55 01.2**	**+0.4**
DLBC	**Dease Lake**	**1.46**	**59**	P	**Pn**	**04 54 40.6**	**-0.9**
DLBC				S	**Sg**	**04 55 02.2**	**+1.4**
BESE	**Bessie Mountai**	**1.56**	**305**		**Pn**	**04 54 42.0**	**-1.0**
BESE				Sn	**Sg**	**04 55 04.3**	**+0.1**
BESE	**Bessie Mountai**	**1.56**	**305**	Pn	**Pn**	**04 54 41.9**	**-1.0**
BESE				Sn	**Sb**	**04 55 03.5**	**-0.6**
P32M	**Atlin**	**2.00**	**341**	Pn	**Pn**	**04 54 48.3**	**-0.7**
P32M				Sg	**Sb**	**04 55 16.6**	**-0.1**
P32M	**Atlin**	**2.00**	**341**	Pn	**Pn**	**04 54 48.3**	**-0.7**
P32M				Sg	**Sb**	**04 55 16.6**	**-0.1**
SKAG	**Skagway**	**2.33**	**320**	Pn	**Pn**	**04 54 53.5**	**+0.1**
SKAG				IAML		04 55 27.1	
	comp=E,34nm,0.7s						
SKAG				IAML		04 55 28.1	
	comp=N,32nm,0.8s						
P33M	**Teslin, Yukon**	**2.52**	**355**	Pn	**Pn**	**04 54 56.0**	**-0.1**
P33M				IAML		04 55 59.8	
	comp=E,17nm,3.4s						
P33M	**Teslin, Yukon**	**2.52**	**355**	Pn	**Pn**	**04 54 55.8**	**-0.3**
P33M				Sn	**Sn**	**04 55 27.6**	**+0.2**
P33M				Sg	**Sb**	**04 55 32.8**	**+1.3**
PLBC	**Pleasant Camp**	**2.71**	**312**	Pn	**Pn**	**04 54 58.6**	**0.0**
PLBC				Sn	**Sn**	**04 55 31.7**	**-0.4**
PLBC				Sg	**Sb**	**04 55 37.7**	**+0.7**
PLBC	**Pleasant Camp**	**2.71**	**312**	Pn	**Pn**	**04 54 58.6**	**0.0**
PLBC				Sn	**Sn**	**04 55 31.7**	**-0.4**
PLBC				Sg	**Sb**	**04 55 37.7**	**+0.7**
WHY	**Whitehorse**	**3.22**	**338**	Pn	**Pn**	**04 55 05.6**	**-0.1**
WHY				IAML		04 55 52.8	
	comp=E,16nm,3.9s						
WHY				IAML		04 55 55.5	
	comp=N,14nm,4.1s						
WHY	**Whitehorse**	**3.22**	**338**	Pn	**Pn**	**04 55 06.2**	**+0.4**
WHY				Pg	**Pb**	**04 55 11.4**	**-0.5**
WHY				Sn	**Sn**	**04 55 43.7**	**-1.1**
WHY				Sg	**Sg**	**04 55 55.0**	**-2.3**
P30M	**Million Dollar**	**3.38**	**318**	Pg	**Pb**	**04 55 15.5**	**+0.8**
P30M				Sg	**Sb**	**04 55 58.4**	**+2.2**
P30M	**Million Dollar**	**3.38**	**318**	Pg	**Pb**	**04 55 15.5**	**+0.8**
P30M				Sg	**Sb**	**04 55 58.4**	**+2.2**
N32M	**Quiet Lake**	**3.47**	**355**	Pn	**Pn**	**04 55 09.4**	**+0.3**
N32M				Sg	**Sb**	**04 55 59.9**	**+1.1**
N32M	**Quiet Lake**	**3.47**	**355**	Pn	**Pn**	**04 55 09.4**	**+0.3**
N32M				Sg	**Sb**	**04 55 59.9**	**+1.1**
LIRD	**Liard River Hi**	**3.72**	**60**	Sg	**Sg**	**04 56 13.8**	**+0.5**
HYT	**Haines Junctio**	**4.07**	**322**	Pn	**Pn**	**04 55 18.6**	**+1.1**
HYT	**Haines Junctio**	**4.07**	**322**	Pg	**Pb**	**04 55 27.5**	**+1.0**
HYT				Sg	**Sg**	**04 56 21.3**	**-3.4**
YUK7	**Dusty Glacier**	**4.09**	**316**	Pg	**Pb**	**04 55 29.2**	**+2.4**
YUK7	**Dusty Glacier**	**4.09**	**316**	Pg	**Pb**	**04 55 29.2**	**+2.4**
N31M	**Braeburn, Yuko**	**4.16**	**337**	Pn	**Pn**	**04 55 15.9**	**-2.6**

*KRNET **26** 05:10:55.6±0.1, 40.40N×77.93E, h19km, mb3.0*
*SOME **26** 05:10:57.7, 40.47N×77.75E, h15km*
*NNC **26** 05:11:00.3±1.1, 40.60N×77.76E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.0km s-min=5.0km az=168.0*

ISC 26 05:10:55.7±2.4, 40.40N±0.09×77.78E±0.05, h1km±15km, n62, σ1s96/78, 17C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.33**	**1**	⇓*i*P	**Pg**	**05 11 21.0**	**-0.1**
	baz=56						
TARG				⇓*i*S	**Sg**	**05 11 39.5**	**+1.1**
	baz=56						
NRN	**Naryn**	**1.70**	**308**	⇓*i*P	**Pb**	**05 11 28.9**	**+1.0**
	baz=5.0						
NRN				⇓*i*S	**Sg**	**05 11 53.9**	**+3.6**
	baz=5.0						
KDJ	**Kajisay**	**1.79**	**346**	⇓*i*P	**Pb**	**05 11 29.5**	**+0.2**
	baz=42						
KDJ				⇓*i*S	**Sg**	**05 11 54.1**	**+1.0**
	baz=42						
PRZ	**Przheval'sk**	**2.13**	**12**	⇑*i*P	**Pb**	**05 11 34.4**	**-0.8**
	baz=9.0						
PRZ				⇑*i*S	**Sg**	**05 12 02.7**	**-1.5**
	baz=9.0						
ULHL	**Ulahol**	**2.18**	**328**	⇑*i*P	**Pb**	**05 11 35.9**	**-0.1**
	baz=26						
ULHL				⇑*i*S	**Sg**	**05 12 05.6**	**0.0**
	baz=26						
ANVS	**Anan'yevo**	**2.38**	**358**	⇓*i*P	**Pb**	**05 11 38.0**	**-1.5**
	baz=55						
ANVS				⇓*i*S	**Sb**	**05 12 09.3**	**-0.2**
	baz=55						
BOOM	**Boomskoye usch**	**2.50**	**327**	⇑*i*P	**Pb**	**05 11 40.5**	**-1.1**
	baz=25						
BOOM				⇑*i*S	**Sb**	**05 12 13.4**	**+0.4**
	baz=25						
SATY	**Saty**	**2.70**	**10**	Pg	**Pg**	**05 11 47.0**	**-0.4**
	6.8nm,0.5s						
SATY				Lg	Lg	05 12 22.1	
	41nm,0.7s						
SATY	**Saty**	**2.70**	**10**	*e*Pg	**Pg**	**05 11 47.0**	**-0.4**
	6.8nm,0.5s						
SATY				*e*Lg	Lg	05 12 22.1	
	41nm,0.7s						
TNSS	**Tian-Shan**	**2.71**	**347**	Pg	**Pg**	**05 11 46.5**	**-1.0**
	19nm,0.5s						
TNSS				Lg	Lg	05 12 21.7	
	16nm,0.5s						
TNSS	**Tian-Shan**	**2.71**	**347**	*e*Pg	**Pg**	**05 11 46.5**	**-1.0**
	19nm,0.5s						
TNSS				*e*Lg	Lg	05 12 21.7	
	16nm,0.5s						
IZV	**Izvestkoviy**	**2.77**	**342**	Pg	**Pg**	**05 11 47.5**	**-1.3**
	5.7nm,0.4s						
IZV				Lg	Lg	05 12 23.0	
	47nm,0.6s						
IZV	**Izvestkoviy**	**2.77**	**342**	*e*Pg	**Pg**	**05 11 47.5**	**-1.3**
	5.7nm,0.4s						
IZV				*e*Lg	Lg	05 12 23.0	
	47nm,0.6s						
MDOK	**Medeo**	**2.81**	**349**	Pg	**Pg**	**05 11 48.3**	**-1.3**
	24nm,0.5s						
MDOK				Pg	**Pg**	**05 11 48.3**	**-1.3**
	16nm,0.5s						
MDOK				Lg	Lg	05 12 24.7	
	30nm,0.5s						
MDOK				Lg	Lg	05 12 24.7	
	46nm,0.6s						
MDOK	**Medeo**	**2.81**	**349**	*e*Pg	**Pg**	**05 11 48.2**	**-1.3**
	24nm,0.5s						
MDOK				*e*Lg	Lg	05 12 24.7	
	46nm,0.6s						
KOTS	**Kotyrbulak**	**2.88**	**350**	Pg	**Pb**	**05 11 48.9**	**+1.0**
	8.7nm,0.3s						
KOTS				Lg	Lg	05 12 25.3	
	53nm,0.4s						
KOTS	**Kotyrbulak**	**2.88**	**350**	*e*Pg	**Pb**	**05 11 48.9**	**+1.0**
	8.7nm,0.3s						
KOTS				*e*Lg	Lg	05 12 25.4	
	53nm,0.4s						
UZB	**Uzynbulak**	**2.90**	**18**	Pg	**Pg**	**05 11 50.6**	**-0.6**
	5.9nm,0.6s						
UZB				Lg	Lg	05 12 28.6	
	38nm,0.7s						
UZB	**Uzynbulak**	**2.90**	**18**	*e*Pg	**Pg**	**05 11 50.6**	**-0.6**
	5.9nm,0.6s						
UZB				*e*Lg	Lg	05 12 28.6	
	38nm,0.7s						
MTBS	**Maitube**	**2.91**	**340**	Pg	**Pg**	**05 11 50.0**	**-1.4**
	5.9nm,0.4s						
MTBS				Lg	Lg	05 12 27.4	
	32nm,0.5s						
MTBS	**Maitube**	**2.91**	**340**	*e*Pg	**Pg**	**05 11 50.0**	**-1.4**
	5.9nm,0.4s						
MTBS				*e*Lg	Lg	05 12 27.4	
	32nm,0.5s						
KST	**Kastek**	**2.97**	**333**	Pg	**Pb**	**05 11 51.1**	**+1.6**
	12nm,0.4s						
KST				Lg	Lg	05 12 29.3	
	26nm,0.5s						
KST	**Kastek**	**2.97**	**333**	*e*Pg	**Pb**	**05 11 51.1**	**+1.6**
	12nm,0.4s						
KST				*e*Lg	Lg	05 12 29.3	
	26nm,0.5s						
ARLS	**Aral**	**2.99**	**300**	⇓*i*P	**Pb**	**05 11 47.6**	**-2.3**
	baz=99						
ARLS				⇓*i*S	**Sb**	**05 12 25.8**	**-1.2**
	baz=99						
TKM2	**Tokmak 2**	**3.00**	**328**	P	**Pg**	**05 11 56.0**	**+2.7**
	SNR=8.4						
TKM2	**Tokmak 2**	**3.00**	**328**	⇑Pg	**Pg**	**05 11 52.7**	**-0.5**
	6.5nm,0.5s						
TKM2				⇑Lg	Lg	05 12 30.7	
	7.0nm,0.5s						
TKM2	**Tokmak 2**	**3.00**	**328**	⇓*i*P	**Pb**	**05 11 47.8**	**-2.3**
	baz=26						
TKM2				⇓*i*S	**Sb**	**05 12 25.4**	**-2.0**
	baz=26						
SHLS	**Shalkode**	**3.03**	**24**	Pg	**Pg**	**05 11 54.0**	**+0.3**
	7.1nm,0.7s						
SHLS				Lg	Lg	05 12 34.2	
	171nm,0.7s						
SHLS	**Shalkode**	**3.03**	**24**	*e*Pg	**Pg**	**05 11 54.0**	**+0.3**
	7.1nm,0.7s						
SHLS				*e*Lg	Lg	05 12 34.2	
	171nm,0.7s						
UCH	**Uchtor**	**3.06**	**308**	⇑*i*P	**Pb**	**05 11 49.0**	**-2.3**
	baz=6.0						
UCH				⇑*i*S	**Sb**	**05 12 27.6**	**-1.7**
	baz=6.0						
KBK	**Karagaybulak**	**3.10**	**318**	P	**Pb**	**05 11 53.7**	**+2.0**
	SNR=12						
KBK	**Karagaybulak**	**3.10**	**318**	⇑*i*P	**Pb**	**05 11 49.3**	**-2.4**
	baz=16						
KBK				⇑*i*S	**Sb**	**05 12 28.3**	**-1.8**
	baz=16						
KURS	**Kuram**	**3.10**	**5**	Pg	**Pg**	**05 11 53.8**	**-1.3**
	6.7nm,0.7s						
KURS				Lg	Lg	05 12 33.7	
	18nm,0.8s						
KURS	**Kuram**	**3.10**	**5**	*e*Pg	**Pg**	**05 11 53.8**	**-1.3**
	6.7nm,0.7s						
KURS				*e*Lg	Lg	05 12 33.7	
	18nm,0.8s						
KPKS	**Kokpek**	**3.14**	**12**	Pg	**Pb**	**05 11 52.6**	**+0.4**
	8.8nm,0.4s						
KPKS				Lg	Lg	05 12 32.0	
	29nm,0.5s						
KPKS	**Kokpek**	**3.14**	**12**	*e*Pg	**Pb**	**05 11 52.6**	**+0.4**
	8.8nm,0.4s						
KPKS				*e*Lg	Lg	05 12 32.0	
	29nm,0.5s						
DGS	**Degeres**	**3.21**	**333**	Pg	**Pb**	**05 11 55.4**	**+1.8**
	15nm,0.6s						
DGS				Lg	Lg	05 12 36.3	
	18nm,0.6s						
DGS	**Degeres**	**3.21**	**333**	*e*Pg	**Pb**	**05 11 55.4**	**+1.8**
	15nm,0.6s						
DGS				*e*Lg	Lg	05 12 36.3	
	18nm,0.6s						
AAK	**Ala-Archa**	**3.33**	**313**	P	**Pb**	**05 11 57.4**	**+1.7**
	SNR=20						
AAK	**Ala-Archa**	**3.33**	**313**	⇓*i*P	**Pb**	**05 11 52.4**	**-3.2**
	baz=12						
AAK				⇓*i*S	**Sb**	**05 12 33.9**	**-2.8**
	baz=12						
KTBS	**Karatobe**	**3.41**	**346**	Pg	**Pb**	**05 11 58.2**	**+1.3**
	6.5nm,0.4s						
KTBS				Lg	Lg	05 12 41.6	
	20nm,0.4s						
KTBS	**Karatobe**	**3.41**	**346**	*e*Pg	**Pb**	**05 11 58.2**	**+1.3**
	6.5nm,0.4s						
KTBS				*e*Lg	Lg	05 12 41.6	
	20nm,0.4s						
CHMS	**Chumysh**	**3.45**	**320**	P	**Pg**	**05 12 02.8**	**+1.1**
	SNR=7.4						
CHMS	**Chumysh**	**3.45**	**320**	⇑Pg	**Pg**	**05 12 01.9**	**+0.2**
	11nm,0.6s						
CHMS				⇑Lg	Lg	05 12 43.1	
	14nm,0.6s						
CHMS	**Chumysh**	**3.45**	**320**	⇑*i*P	**Pb**	**05 11 53.9**	**-3.6**
	baz=19						
CHMS				⇑*i*S	**Sb**	**05 12 36.3**	**-3.7**
	baz=19						
CHKK	**Chushkaly**	**3.50**	**351**	Pg	**Pb**	**05 11 59.7**	**+1.2**
	5.9nm,0.3s						
CHKK				Lg	Lg	05 12 43.7	
	13nm,0.3s						
CHKK	**Chushkaly**	**3.50**	**351**	*e*Pg	**Pb**	**05 11 59.7**	**+1.2**
	5.9nm,0.3s						
CHKK				*e*Lg	Lg	05 12 43.7	
	13nm,0.3s						
AML	**Almayashu**	**3.53**	**301**	P	**Pb**	**05 12 01.9**	**+2.7**
	SNR=6.0						
AML	**Almayashu**	**3.53**	**301**	⇓*i*P	**Pb**	**05 11 55.4**	**-3.8**
	baz=0.0						
AML				⇓*i*S	**Sb**	**05 12 39.0**	**-3.8**
	baz=0.0						
KTMS	**Ketmen**	**3.60**	**31**	Pg	**Pg**	**05 12 03.0**	**-1.6**
	1.2nm,0.3s						
KTMS				Lg	Lg	05 12 50.0	
	4.6nm,0.3s						
KTMS	**Ketmen**	**3.60**	**31**	*e*Pg	**Pg**	**05 12 03.0**	**-1.6**
	1.2nm,0.3s						
KTMS				*e*Lg	Lg	05 12 50.0	
	4.6nm,0.3s						
KRBS	**Karabastau**	**3.65**	**335**	Pg	**Pb**	**05 12 02.4**	**+1.4**
	14nm,0.4s						
KRBS				Lg	Lg	05 12 48.8	
	13nm,0.9s						
KRBS	**Karabastau**	**3.65**	**335**	*e*Pg	**Pb**	**05 12 02.4**	**+1.4**
	14nm,0.4s						
KRBS				*e*Lg	Lg	05 12 48.8	
	13nm,0.9s						
BLB	**Baldybastay**	**3.73**	**8**	Pg	**Pg**	**05 12 04.8**	**-2.3**
	10nm,0.4s						
BLB				Lg	Lg	05 12 52.5	
	24nm,0.5s						
EKS2	**Erkin-Say**	**3.76**	**308**	P	**Pg**	**05 12 06.3**	**-1.4**
	SNR=5.4						
USP	**Ospenovka**	**3.77**	**321**	P	**Pb**	**05 12 05.4**	**+2.4**
	SNR=14						
USP	**Ospenovka**	**3.77**	**321**	⇓*i*P	**Pn**	**05 11 58.3**	**+3.3**
	baz=19						
USP				⇓*i*S	**Sb**	**05 12 43.9**	**-5.3**
	baz=19						
ARXS	**Arharly**	**3.81**	**0**	Pg	**Pg**	**05 12 06.4**	**-2.2**
	4.9nm,0.5s						
ARXS				Lg	Lg	05 12 55.2	
	7.5nm,0.4s						
ARXS	**Arharly**	**3.81**	**0**	*e*Pg	**Pg**	**05 12 06.4**	**-2.2**
	4.9nm,0.5s						
ARXS				*e*Lg	Lg	05 12 55.2	
	7.5nm,0.4s						
MRKS	**Merke**	**4.14**	**306**	Pg	**Pb**	**05 12 12.3**	**+2.9**
	3.2nm,0.3s						
MRKS				Lg	Lg	05 13 05.4	
	4.5nm,0.4s						
MRKS	**Merke**	**4.14**	**306**	*e*Pg	**Pb**	**05 12 12.3**	**+2.9**
	3.2nm,0.3s						
MRKS				*e*Lg	Lg	05 13 05.4	
	4.5nm,0.4s						
KK31	**Karatay Array**	**6.07**	**299**	⇑Pg	**Pg**	**05 12 49.8**	**-2.1**
	0.9nm,0.6s,baz=114,slow=17,SNR=6.1						
KK31				⇓Lg	Lg	05 14 10.2	
	0.7nm,0.6s,baz=110,slow=28						

*IDC **26** 05:45:35.0±1.8, 39.07N×142.68E, h0km, mb3.9/7, mbtmp3.8/10, ML3.0/3, MS2.4/1, Error ellipse: s-maj=43.2km s-min=25.1km az=75.0*
*JMA **26** 05:45:44.4±0.1, 38.9N±0.3×141.9E±0.6, h51km, MV3.6/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .

ISC 26 05:45:43.8±1.4, 38.90N±0.06×142.0E±0.1, h50km±8km, n26, σ0e66/27, mb3.9/7, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.30**	**306**	⇓*i*P	**Pn**	**05 45 53.4**	**+0.3**
OFUJ				⇓S	**Sn**	**05 45 59.6**	**0.0**
JKMT	**Kesennumamotoy**	**0.41**	**257**	⇓P	**Pn**	**05 45 54.3**	**+0.2**
JKMT				⇓S	**Sn**	**05 46 01.0**	**-0.4**
JMK	**Ichinoseki**	**0.60**	**275**	⇓*i*P	**Pn**	**05 45 56.4**	**+0.1**
JMK				⇓S	**Sn**	**05 46 04.9**	**-0.4**
JIO	**Ouri**	**0.67**	**228**	⇓*i*P	**Pn**	**05 45 57.3**	**+0.1**
JIO				⇓S	**Sn**	**05 46 06.1**	**-0.7**
JOM	**Ohasama**	**0.79**	**317**	⇓*i*P	**Pn**	**05 45 58.8**	**+0.1**
JOM				⇓S	**Sn**	**05 46 09.4**	**-0.2**
JRG	**Rokugo**	**1.16**	**296**	*i* P	**Pn**	**05 46 03.5**	**-0.3**
JRG				S	**Sn**	**05 46 18.1**	**-0.5**
JOU	**Okura**	**1.17**	**243**	⇓*i*P	**Pn**	**05 46 03.8**	**0.0**
JOU				⇓S	**Sn**	**05 46 18.0**	**-0.7**
JYK	**Kaneyama**	**1.27**	**271**	*i* P	**Pn**	**05 46 05.3**	**+0.1**
JMM	**Marumori**	**1.40**	**223**	P	**Pn**	**05 46 07.3**	**+0.3**
JMM				S	**Sn**	**05 46 24.0**	**-0.3**
JANG	**Nango**	**1.51**	**346**	P	**Pn**	**05 46 08.6**	**0.0**
MJAR	**Matsushiro Arr**	**3.81**	**233**	Pn	**Pn**	**05 46 42.5**	**+2.5**
	0.4nm,0.3s,baz=33,slow=12,SNR=9.1						
MJAR				LR	LR	05 48 43.8	
	comp=Z,44nm,21.4s,baz=244,slow=43						
	2.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**9.17**	**308**	Pn	**Pn**	**05 47 53.8**	**+0.3**
	0.2nm,0.3s,baz=117,slow=15,SNR=1.8						
	5.0nm,0.9s						
KSRS	**Korea Array**	**11.17**	**267**	Pn	Pn	05 48 24.7	+4.0
	0.1nm,0.3s,baz=72,slow=14,SNR=1.7						
	0.6nm,0.5s						
SONM	**Songino Array**	**27.17**	**301**	P	**P**	**05 51 23.6**	**+1.1**
	0.3nm,0.6s,baz=88,slow=8.7,SNR=2.1						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	06 22 03.9	
	baz=317,slow=76,SNR=122						
H11N1	**WAKE ISLAND Hy**	**28.78**	**125**	T	T	06 22 03.9	
	baz=317,slow=76,SNR=136						
H11N3	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	06 22 03.6	
	baz=317,slow=76,SNR=136						
H11S1	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	06 22 58.9	
	baz=319,slow=76,SNR=73						
H11S3	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	06 22 59.6	
	baz=319,slow=76,SNR=77						
H11S2	**WAKE ISLAND Hy**	**29.56**	**126**	T	T	06 23 00.2	
	baz=319,slow=76,SNR=76						
ZALV	**Zalesovo Beam**	**41.02**	**311**	P	**P**	**05 53 22.0**	**+0.2**
	1.9nm,0.7s,baz=86,slow=9.2,SNR=7.1						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**43.54**	**301**	P	**P**	**05 53 42.6**	**+0.2**
	1.9nm,0.7s,baz=88,slow=9.2,SNR=22						
	1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.23**	**307**	P	**P**	**05 53 55.8**	**-0.1**
	1.9nm,0.5s,baz=83,slow=8.3,SNR=15						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**58.97**	**188**	P	**P**	**05 55 37.9**	**-0.3**
	0.6nm,0.8s,baz=5.2,slow=7.1,SNR=7.3						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**67.38**	**332**	P	**P**	**05 56 33.0**	**-0.4**
	4.5nm,1.0s,baz=40,slow=6.2,SNR=3.7						
	4.5nm,1.0s						
AKASG	**Malin Array Be**	**73.10**	**322**	P	**P**	**05 57 08.2**	**-0.4**
	0.4nm,0.4s,baz=44,slow=6.3,SNR=3.0						
	0.4nm,0.4s						

**TEH

SHRO	**Shahrood**	**6.08**	**348**	Pn	Pn	05 56 10.1 +3.1
ISFB	**Sefidab**	**6.25**	**315**	Pn	Pn	05 56 12.4 +3.1

*TAP **26** 05:57:00.0, 23°.79N × 122°.97E, h23km, ML3.1, D*
*JMA **26** 05:57:01.0±0.2, 23°.8N±0°.9 × 122°.9E±0°.5, h30km±4km, MV3.0/9, NEAR ISHIGAKIJIMA ISLAND*
ISC 26 05:56:59.0±1.2**, 23°.72N**±0°.03 × **122°.93E**±0°.02**, h15**km±10km**, n73, σ0.971**/104**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.73**	**1**	P			**Pb**	**05 57 13.2**	**-0.3**
JYNG				*e*S			**Sg**	**05 57 21.4**	**-1.5**
YOJ	**Yonaguni jima**	**0.74**	**6**	P			**Pb**	**05 57 13.5**	**-0.2**
YOJ				S			**Sb**	**05 57 22.1**	**-1.6**
YOJ	**Yonaguni jima** baz=1.0	**0.74**	**6**	⇓*i*P			**Pb**	**05 57 13.5**	**-0.2**
YOJ	baz=1.0			*i* S			**Sb**	**05 57 22.4**	**-1.3**
HATJ	**Hateruma jima**	**0.87**	**67**	P			**Pn**	**05 57 16.7**	**-0.1**
HATJ				S			**Sg**	**05 57 28.0**	**+0.8**
IRIF	**Iriomote-Funau**	**0.95**	**50**	P			**Pg**	**05 57 17.8**	**+0.2**
IRIF				S			**Sb**	**05 57 29.6**	**-0.1**
JKRS	**Kuro-shima**	**1.11**	**62**	P			**Pg**	**05 57 21.0**	**+0.5**
JKRS				S			**Sn**	**05 57 35.3**	**+0.1**
TWD	**Chiawan** baz=283	**1.27**	**287**	*e*P			**Pn**	**05 57 22.4**	**0.0**
TWD	baz=283			S			**Sb**	**05 57 38.0**	**-0.9**
ETL	**Fush Village** baz=287	**1.28**	**290**	*e*P			**Pg**	**05 57 23.7**	**+0.1**
EWUT	**Wuta** baz=300	**1.28**	**305**	*e*P			**Pb**	**05 57 23.3**	**+0.5**
EWUT	baz=300			*e*S			**Sb**	**05 57 38.3**	**-0.8**
JIJ	**Ishigaki jima**	**1.28**	**60**	P			**Pb**	**05 57 23.0**	**+0.2**
JIJ				S			**Sb**	**05 57 39.0**	**-0.1**
ENA	**Nanau** baz=299	**1.30**	**303**	*e*P			**Pb**	**05 57 23.4**	**+0.2**
ENA	baz=299			S			**Sb**	**05 57 39.4**	**-0.2**
NACB	**Ninganchiao** baz=287	**1.30**	**291**	*e*P			**Pn**	**05 57 22.8**	**0.0**
TWC	**Suao** baz=308	**1.33**	**312**	P			**Pn**	**05 57 23.2**	**+0.2**
TWC	baz=308			S			**Sn**	**05 57 39.1**	**-1.4**
EGFH	**Guangfu** baz=266	**1.38**	**268**	*e*P			**Pb**	**05 57 24.7**	**+0.1**
HGSD	**Ruisui** baz=258	**1.40**	**261**	*i* P			**Pn**	**05 57 23.9**	**-0.1**
HGSD	baz=258			*e*S			**Sn**	**05 57 41.0**	**-1.3**
ETLH	**Xiulin Townshi** baz=287	**1.41**	**290**	*e*P			**Pb**	**05 57 25.5**	**+0.3**
NDS	**Dongshan** baz=305	**1.44**	**310**	P			**Pb**	**05 57 25.9**	**+0.4**
NDS	baz=305			*e*S			**Sn**	**05 57 43.3**	**+0.1**
EHY	**Hungye** baz=259	**1.49**	**262**	*e*P			**Pn**	**05 57 25.6**	**+0.3**
EHY	baz=259			S			**Sn**	**05 57 43.8**	**-0.7**
LATG	**Datong** baz=299	**1.52**	**303**	P			**Pb**	**05 57 26.9**	**-0.2**
LATG	baz=299			*e*S			**Sn**	**05 57 45.0**	**-0.5**
EYUL	**Yuli** baz=254	**1.52**	**256**	*e*P			**Pn**	**05 57 26.0**	**+0.2**
TWE	**Neicheng** baz=307	**1.53**	**311**	*e*P			**Pb**	**05 57 27.3**	**+0.2**
TWE	baz=307			*e*S			**Sn**	**05 57 45.7**	**+0.3**
JISG	**Ishigakijimahi**	**1.53**	**55**	S			**Sn**	**05 57 45.4**	**0.0**
YULB	**Yu-li** baz=256	**1.53**	**258**	P			**Pn**	**05 57 26.6**	**+0.6**
YULB	baz=256			S			**Sn**	**05 57 45.2**	**-0.4**
TWB1	**Santiao Chiao** baz=322	**1.55**	**326**	*e*P			**Pb**	**05 57 27.6**	**+0.2**
ENTT	**Nioudou** baz=303	**1.55**	**307**	*e*P			**Pb**	**05 57 28.2**	**+0.7**
ENTT	baz=303			*e*S			**Sb**	**05 57 47.4**	**+0.5**
NNSB	**Datong** baz=293	**1.58**	**297**	*e*P			**Pb**	**05 57 27.6**	**-0.5**
WHF	**Hehuan Shan** baz=270	**1.58**	**286**	*e*P			**Pn**	**05 57 26.6**	**-0.4**
FULB	**Fuli** baz=249	**1.59**	**251**	*e*P			**Pn**	**05 57 26.5**	**-0.2**
FULB	baz=249			*e*S			**Sn**	**05 57 46.0**	**-1.0**
NNS	**Nan Shan** baz=294	**1.60**	**297**	*e*P			**Pn**	**05 57 26.5**	**-0.4**
TIPB	**Shuangxi** baz=317	**1.61**	**321**	*e*P			**Pb**	**05 57 28.5**	**+0.1**
TIPB	baz=317			*e*S			**Sn**	**05 57 47.4**	**-0.1**
FUSB	**Fushanzhiwuyua** baz=306	**1.61**	**310**	P			**Pb**	**05 57 29.0**	**+0.5**
FUSB	baz=306			S			**Sb**	**05 57 49.4**	**+0.8**
OWD	**Renai** baz=276	**1.62**	**279**	*e*P			**Pn**	**05 57 27.0**	**-0.3**
FUSS	**Fushou** baz=286	**1.63**	**289**	*e*P			**Pb**	**05 57 29.0**	**0.0**
VWDT	**VWDT** baz=257	**1.64**	**272**	P			**Pn**	**05 57 28.0**	**+0.7**
VWDT	baz=257			S			**Sn**	**05 57 48.1**	**-0.1**
CHGB	**Renai** baz=267	**1.65**	**282**	*e*P			**Pn**	**05 57 27.8**	**+0.1**
EDH	**Donghe** baz=242	**1.67**	**244**	*e*P			**Pn**	**05 57 27.9**	**+0.1**
EDH	baz=242			S			**Sn**	**05 57 48.2**	**-0.8**
SXI1	**Grass Mountain** baz=321	**1.68**	**325**	P			**Pb**	**05 57 29.1**	**-0.6**
SXI1	baz=321			*e*S			**Sn**	**05 57 49.1**	**-0.1**
NWLT	**Wulai** baz=306	**1.68**	**309**	*e*P			**Pb**	**05 57 30.1**	**+0.4**
EHD	**Haiduan** baz=249	**1.68**	**251**	*e*P			**Pn**	**05 57 28.9**	**+0.9**
WUSB	**Renai** baz=277	**1.68**	**280**	*e*P			**Pn**	**05 57 29.0**	**+0.9**
TWT	**Tachien** baz=286	**1.69**	**289**	*e*P			**Pb**	**05 57 29.4**	**-0.6**
NWF	**Wu-fen Shan** baz=318	**1.71**	**322**	*e*P			**Pb**	**05 57 29.6**	**-0.6**
NWF	baz=318			*e*S			**Sn**	**05 57 50.3**	**+0.2**
TDCB	**Techi** baz=285	**1.71**	**289**	P			**Pb**	**05 57 29.7**	**-0.5**
TDCB	baz=285			S			**Sn**	**05 57 50.3**	**+0.2**
YHNB	**Yeheng** baz=300	**1.71**	**304**	*e*P			**Pb**	**05 57 30.2**	**-0.1**
YHNB	baz=300			*e*S			**Sn**	**05 57 50.4**	**+0.3**
NSK	**Sanguang** baz=300	**1.73**	**304**	*e*P			**Pb**	**05 57 30.7**	**+0.2**
NSK	baz=300			*e*S			**Sn**	**05 57 51.0**	**+0.5**
SSLB	**Suanglung** baz=270	**1.81**	**273**	*e*P			**Pn**	**05 57 29.9**	**+0.1**
YUS	**Yu-Shan** baz=261	**1.83**	**263**	P			**Pn**	**05 57 31.0**	**+0.6**
ELDTW	**Lidau** baz=252	**1.83**	**254**	*e*P			**Pn**	**05 57 30.5**	**+0.3**
SMLT	**Sun Moon Lake** baz=261	**1.87**	**275**	*e*P			**Pn**	**05 57 31.7**	**+1.1**
WCS	**Beigang Elemen** baz=278	**1.88**	**281**	*e*P			**Pb**	**05 57 32.9**	**-0.2**
YM01	**YM01** baz=316	**1.89**	**319**	*e*P			**Pb**	**05 57 32.6**	**-0.6**
NFF	**Wufeng Townshi** baz=296	**1.89**	**299**	*e*P			**Pb**	**05 57 33.6**	**+0.3**
WHP	**Taichung City** baz=284	**1.90**	**287**	*e*P			**Pb**	**05 57 34.4**	**+0.9**
WHP	baz=284			*e*S			**Sb**	**05 57 57.8**	**+0.7**
TYC	**Yuchr** baz=274	**1.91**	**276**	*e*P			**Pb**	**05 57 33.6**	**0.0**
TWGBT	**Beinan** baz=242	**1.92**	**243**	*e*P			**Pn**	**05 57 31.4**	**+0.1**
TWG	**Pinlang** baz=242	**1.93**	**243**	*e*P			**Pn**	**05 57 31.9**	**+0.6**
ALS	**Alishan** baz=263	**1.96**	**264**	*e*P			**Pn**	**05 57 33.4**	**+1.4**
LIOB	**Emei** baz=295	**1.98**	**298**	*e*P			**Pb**	**05 57 35.0**	**+0.3**
NSTT	**Nanjuang** baz=295	**1.98**	**298**	*e*P			**Pb**	**05 57 35.0**	**+0.2**
STYH	**Taoyuan** baz=244	**2.05**	**255**	*e*P			**Pn**	**05 57 33.6**	**+0.6**
CHN5	**Tsauling** baz=265	**2.07**	**267**	*e*P			**Pb**	**05 57 35.5**	**-0.9**
TWQ1	**Liyutan** baz=285	**2.07**	**288**	*e*P			**Pb**	**05 57 36.5**	**+0.2**
LYUB	**Lan-yu** baz=229	**2.11**	**216**	*e*P			**Pn**	**05 57 34.0**	**+0.2**
WCKO	**Fanlu** baz=261	**2.15**	**263**	*e*P			**Pb**	**05 57 37.8**	**0.0**
TPUB	**Ta-pu** baz=258	**2.15**	**259**	P			**Pb**	**05 57 36.8**	**-1.0**
CHN4	**Tsaushan** baz=251	**2.18**	**261**	*e*P			**Pb**	**05 57 37.6**	**-0.5**
CHN4	baz=251			*e*S			**Sb**	**05 58 05.0**	**0.0**
WTP	**Ta-pu** baz=256	**2.18**	**258**	*e*P			**Pn**	**05 57 36.7**	**+1.9**
CHN1	**Nanshi** baz=256	**2.27**	**257**	*e*P			**Pb**	**05 57 39.8**	**0.0**
TWK	**Hsinying** baz=257	**2.29**	**259**	*e*P			**Pb**	**05 57 38.6**	**-1.5**
TWK	baz=257			*e*S			**Sn**	**05 58 06.2**	**+1.9**
MASBT	**Mashibuluo** baz=242	**2.38**	**243**	*e*P			**Pn**	**05 57 39.4**	**+1.8**
SLIU	**Shizi** baz=232	**2.47**	**233**	*e*P			**Pn**	**05 57 39.6**	**+0.8**
SCZT	**Fangliau** baz=245	**2.52**	**238**	*e*P			**Pb**	**05 57 42.5**	**-1.4**
PTMZ	**Houxiangcun** baz=290	**3.72**	**292**	*e*P			**Pn**	**05 57 57.6**	**+1.7**

*SOME **26** 06:00:54.5, 39°.38N × 73°.38E, h10km*
*IDC **26** 06:00:56.9±2.6, 39°.37N × 73°.63E, h0km, mb3.5/4, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=52.9km s-min=16.2km az=119.0*
*KRNET **26** 06:00:57.1±0.1, 39°.43N × 73°.26E, mb3.6*
*NNC **26** 06:01:00.7±2.0, 39°.58N × 73°.48E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=15.6km s-min=9.1km az=174.0*
ISC 26 06:01:00.4±0.9**, 39°.54N**±0°.06 × **73°.23E**±0°.03**, h10**km**, n82, σ1.887**/106**, mb3.5**/4**, 34C-19D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh** baz=41	**1.04**	**341**	⇑*i*P			**Pb**	**06 01 19.1**	**-1.5**
OHH	baz=41			⇑*i*S			**Sb**	**06 01 34.9**	**+0.5**
DRK	**Karamyk** baz=73	**1.11**	**267**	⇓*i*P			**Pg**	**06 01 18.4**	**-3.4**
DRK	baz=73			⇓*i*S			**Sg**	**06 01 34.6**	**-1.6**
BTK	**Batken** baz=89	**1.93**	**286**	⇑*i*P			**Pb**	**06 01 33.8**	**-1.9**
BTK	baz=89			⇑*i*S			**Sb**	**06 02 00.8**	**+0.9**
ARK	**Arkit** baz=38	**2.45**	**337**	⇑*i*P			**Pn**	**06 01 41.7**	**+1.1**
ARK	baz=38			⇑*i*S			**Sb**	**06 02 14.5**	**-0.5**
ARLS	**Aral** baz=18	**2.46**	**19**	⇑*i*P			**Pn**	**06 01 41.5**	**+0.7**
ARLS	baz=18			⇑*i*S			**Sb**	**06 02 14.2**	**-1.1**
TRKS	**Terek-Say** baz=22	**2.55**	**322**	⇓*i*P			**Pn**	**06 01 42.3**	**+0.3**
TRKS	baz=22			⇓*i*S			**Sn**	**06 02 15.2**	**+2.1**
AML	**Almayashu** SNR=44	**2.61**	**8**	P			**Pn**	**06 01 44.9**	**+1.8**
AML	**Almayashu** baz=7.0	**2.61**	**8**	⇓*i*P			**Pn**	**06 01 44.4**	**+1.3**
AML	baz=7.0			⇓*i*S			**Sb**	**06 02 18.5**	**-1.4**
NRN	**Naryn** baz=45	**2.83**	**47**	⇑*i*P			**Pn**	**06 01 46.2**	**+0.2**
NRN	baz=45			⇑*i*S			**Sn**	**06 02 21.9**	**+1.5**
UCH	**Uchtor** SNR=24	**2.86**	**19**	P			**Pb**	**06 01 48.7**	**-3.0**
UCH	**Uchtor** baz=18	**2.86**	**19**	⇓*i*P			**Pn**	**06 01 47.5**	**+1.1**
UCH	baz=18			⇓*i*S			**Sn**	**06 02 24.1**	**+3.0**
EKS2	**Erkin-Say** SNR=10	**3.15**	**7**	P			**Pb**	**06 01 53.1**	**-3.4**
EKS2	**Erkin-Say** baz=7.0	**3.15**	**7**	⇑*i*P			**Pn**	**06 01 51.5**	**+1.4**
EKS2	baz=7.0			⇑*i*S			**Sn**	**06 02 31.2**	**+3.4**
MRKS	**Merke** 11nm,0.3s	**3.20**	**360**	Pg			**Pn**	**06 01 53.7**	**+2.8**
MRKS	43nm,0.3s			Lg			Lg	06 02 36.6	
MRKS	**Merke** 11nm,0.3s	**3.20**	**360**	*e*Pg			**Pn**	**06 01 53.7**	**+2.8**
MRKS	43nm,0.3s			*e*Lg			Lg	06 02 36.6	
AAK	**Ala-Archa** SNR=31	**3.24**	**17**	P			**Pb**	**06 01 54.3**	**-3.8**
AAK	**Ala-Archa** 6.6nm,0.3s,baz=189,slow=9.6,SNR=54	**3.24**	**17**	Pn			**Pb**	**06 01 54.2**	**-3.8**
AAK	4.1nm,0.3s,baz=133,slow=22,SNR=14			Sn			**Sb**	**06 02 35.9**	**-1.7**
AAK	7.5nm,0.3s,baz=71,slow=20,SNR=10 13nm,0.3s			Lg			Lg	06 02 42.1	
AAK	**Ala-Archa** baz=16	**3.24**	**17**	⇓*i*P			**Pn**	**06 01 52.6**	**+1.2**
AAK	baz=16			⇓*i*S			**Sn**	**06 02 33.1**	**+2.9**
KBK	**Karagaybulak** SNR=10	**3.37**	**22**	P			**Pn**	**06 01 56.1**	**+2.8**
KBK	**Karagaybulak** baz=21	**3.37**	**22**	⇓*i*P			**Pn**	**06 01 54.5**	**+1.2**
KBK	baz=21			⇓*i*S			**Sn**	**06 02 36.4**	**+2.9**
FRU1	**Bishkek** baz=17	**3.43**	**17**	⇑*e*P			**Pn**	**06 01 55.5**	**+1.5**
FRU1	baz=17			⇑*i*S			**Sn**	**06 02 38.2**	**+3.4**
TAS	**Tashkent** baz=3.0	**3.49**	**302**	⇓*i*P			**Pn**	**06 01 55.8**	**+1.0**
TAS	baz=3.0			⇓*i*S			**Sn**	**06 02 38.9**	**+2.7**
ULHL	**Ulahol** baz=38	**3.54**	**39**	⇑*e*P			**Pn**	**06 01 56.4**	**+0.8**
ULHL	baz=38			⇑*e*S			**Sn**	**06 02 39.6**	**+2.0**
BOOM	**Boomskoye usch** baz=33	**3.59**	**34**	⇓*i*P			**Pn**	**06 01 57.1**	**+0.8**
BOOM	baz=33			⇓*i*S			**Sn**	**06 02 41.2**	**+2.4**
CHMS	**Chumysh** SNR=7.7	**3.64**	**18**	P			**Pn**	**06 01 59.5**	**+2.6**
CHMS	**Chumysh** 5.6nm,0.5s	**3.64**	**18**	⇑Pn			**Pn**	**06 01 59.1**	**+2.2**
CHMS	34nm,0.8s			⇑Lg			Lg	06 02 55.3	
CHMS	**Chumysh** baz=17	**3.64**	**18**	⇑*i*P			**Pn**	**06 01 58.0**	**+1.1**
CHMS	baz=17			⇑*i*S			**Sn**	**06 02 42.6**	**+2.7**
TKM2	**Tokmak 2** SNR=7.0	**3.82**	**27**	P			**Pb**	**06 02 10.2**	**+2.2**
TKM2	**Tokmak 2** 3.4nm,0.8s	**3.82**	**27**	⇑Pn			**Pn**	**06 02 01.7**	**+2.3**
TKM2	8.1nm,0.5s			⇑Pg			**Pb**	**06 02 09.8**	**+1.8**
TKM2	30nm,0.6s			⇓Lg			Lg	06 02 59.9	
TKM2	**Tokmak 2** baz=26	**3.82**	**27**	⇓*i*P			**Pn**	**06 02 00.5**	**+1.0**
TKM2	baz=26			⇓*i*S			**Sn**	**06 02 46.7**	**+2.1**
USP	**Ospenovka** SNR=12	**3.84**	**14**	P			**Pn**	**06 02 01.7**	**+2.1**
USP	**Ospenovka** baz=13	**3.84**	**14**	⇑*i*P			**Pn**	**06 02 01.0**	**+1.3**
USP	baz=13			⇑*i*S			**Sn**	**06 02 47.5**	**+2.6**
KDJ	**Kajisay** baz=47	**3.96**	**48**	⇑*e*P			**Pn**	**06 02 02.2**	**+0.9**
KDJ	baz=47			⇑*i*S			**Sn**	**06 02 49.6**	**+1.7**
SGDS	**Sogindy** 7.6nm,0.7s	**4.05**	**15**	Pg			**Pb**	**06 02 10.0**	**-1.8**
SGDS	18nm,0.7s			Lg			Lg	06 03 03.7	
KST	**Kastek** 3.9nm,0.2s	**4.06**	**30**	Pg			**Pb**	**06 02 12.0**	**-0.1**
KST	84nm,0.5s			Lg			Lg	06 03 07.8	
KST	**Kastek** 3.9nm,0.2s	**4.06**	**30**	*e*Pg			**Pb**	**06 02 12.0**	**-0.1**
KST	84nm,0.5s			*e*Lg			Lg	06 03 07.8	
KK31	**Karatay Array** 1.7nm,0.3s,baz=147,slow=13,SNR=54	**4.11**	**331**	⇑Pn			**Pn**	**06 02 06.4**	**+3.1**
KK31	3.2nm,0.3s,baz=148,slow=18,SNR=18			⇑Pg			**Pb**	**06 02 15.3**	**+2.5**
KK31	10nm,0.5s,baz=165,slow=24,SNR=5.4			⇑Sn			**Sb**	**06 02 58.3**	**-4.2**
KK31	9.2nm,0.5s,baz=152,slow=30			⇑Lg			Lg	06 03 13.4	
KKAR	**Karatay Array** baz=31	**4.11**	**331**	⇑*i*P			**Pn**	**06 02 04.6**	**+1.3**
KKAR	baz=31			⇑*i*S			**Sn**	**06 02 54.1**	**+2.7**
DGS	**Degeres** 11nm,0.5s	**4.16**	**26**	Pg			**Pb**	**06 02 13.3**	**-0.5**
DGS	49nm,0.8s			Lg			Lg	06 03 10.0	
DGS	**Degeres** 11nm,0.5s	**4.16**	**26**	*e*Pg			**Pb**	**06 02 13.3**	**-0.5**
DGS	49nm,0.8s			*e*Lg			Lg	06 03 10.0	
MTBS	**Maitube** 6.3nm,0.3s	**4.32**	**33**	Pg			**Pb**	**06 02 15.6**	**-0.8**
MTBS	36nm,0.5s			Lg			Lg	06 03 14.7	
MTBS	**Maitube** 6.3nm,0.3s	**4.32**	**33**	*e*Pg			**Pb**	**06 02 15.6**	**-0.8**
MTBS	36nm,0.5s			*e*Lg			Lg	06 03 13.8	
IZV	**Izvestkoviy** 6.3nm,0.6s	**4.32**	**35**	Pg			**Pb**	**06 02 16.2**	**-0.3**
IZV	23nm,0.6s			Lg			Lg	06 03 14.6	
IZV	**Izvestkoviy** 6.3nm,0.6s	**4.32**	**35**	*e*Pg			**Pb**	**06 02 16.2**	**-0.3**
IZV	23nm,0.6s			*e*Lg			Lg	06 03 14.6	
TNSS	**Tian-Shan** 4.9nm,0.3s	**4.48**	**37**	Pg			**Pb**	**06 02 20.0**	**+0.7**
TNSS	19nm,0.6s			Lg			Lg	06 03 20.7	
TNSS	**Tian-Shan** 4.9nm,0.3s	**4.48**	**37**	*e*Pg			**Pb**	**06 02 20.0**	**+0.7**
TNSS	19nm,0.6s			*e*Lg			Lg	06 03 20.7	
KRBS	**Karabastau** 13nm,0.5s	**4.54**	**23**	Pg			**Pb**	**06 02 20.2**	**0.0**
KRBS	26nm,0.5s			Lg			Lg	06 03 21.4	
KRBS	**Karabastau** 13nm,0.5s	**4.54**	**23**	*e*Pg			**Pb**	**06 02 20.2**	**0.0**
KRBS	26nm,0.5s			*e*Lg			Lg	06 03 21.4	
MDOK	**Medeo** 4.0nm,0.4s	**4.62**	**37**	Pg			**Pb**	**06 02 21.1**	**-0.5**
MDOK	8.0nm,0.7s			Pg			Pg	06 02 23.7	-5.2
MDOK	28nm,0.7s			Lg			Lg	06 03 22.7	
MDOK	32nm,0.7s			Lg			Lg	06 03 25.3	
MDOK	**Medeo** 4.0nm,0.4s	**4.62**	**37**	*e*Pg			**Pb**	**06 02 21.1**	**-0.5**
MDOK	28nm,0.7s			*e*Lg			Lg	06 03 22.7	
ANVS	**Anan'yevo** baz=43	**4.66**	**44**	⇑*e*P			**Pn**	**06 02 11.9**	**+0.9**
ANVS	baz=43			⇑*e*S			**Sn**	**06 03 06.4**	**+1.2**
KOTS	**Kotyrbulak** 7.3nm,0.2s	**4.71**	**37**	Pg			**Pb**	**06 02 23.2**	**+0.1**
KOTS	81nm,0.6s			Lg			Lg	06 03 26.5	
KOTS	**Kotyrbulak** 7.3nm,0.2s	**4.71**	**37**	*e*Pg			**Pb**	**06 02 23.2**	**+0.1**
KOTS	81nm,0.6s			*e*Lg			Lg	06 03 26.5	
KTBS	**Karatobe** 4.8nm,0.5s	**4.91**	**31**	Pg			**Pb**	**06 02 27.4**	**+1.0**
KTBS	51nm,0.6s			Lg			Lg	06 03 33.5	
KTBS	**Karatobe** 4.8nm,0.5s	**4.91**	**31**	*e*Pg			**Pb**	**06 02 27.4**	**+1.0**
KTBS	51nm,0.6s			*e*Lg			Lg	06 03 33.5	
CHKK	**Chushkaly** 3.3nm,0.4s	**5.15**	**32**	Pg			**Pb**	**06 02 31.3**	**+0.8**
CHKK	23nm,0.6s			Lg			Lg	06 03 40.4	
CHKK	**Chushkaly** 3.3nm,0.4s	**5.15**	**32**	*e*Pg			**Pb**	**06 02 31.3**	**+0.8**
CHKK	23nm,0.6s			*e*Lg			Lg	06 03 40.4	
KURS	**Kuram** 2.8nm,0.5s	**5.41**	**42**	Pg			**Pb**	**06 02 36.2**	**+1.1**
KURS	12nm,0.9s			Lg			Lg	06 03 48.5	
KURS	**Kuram** 2.8nm,0.5s	**5.41**	**42**	*e*Pg			**Pb**	**06 02 36.2**	**+1.1**
KURS	12nm,0.9s			*e*Lg			Lg	06 03 48.5	
BTLS	**Baital** 2.7nm,0.7s	**5.53**	**6**	Pg			**Pb**	**06 02 37.4**	**+0.3**
BTLS	4.6nm,0.6s			Lg			Lg	06 03 50.9	
BTLS	**Baital** 2.7nm,0.7s	**5.53**	**6**	*e*Pg			**Pb**	**06 02 37.4**	**+0.3**
BTLS	4.6nm,0.6s			*e*Lg			Lg	06 03 50.9	
UZB	**Uzynbulak** 4.9nm,0.3s	**5.65**	**49**	Pg			**Pb**	**06 02 40.3**	**+1.1**
UZB	10nm,0.5s			Lg			Lg	06 03 55.4	
UZB	**Uzynbulak** 4.9nm,0.3s	**5.65**	**49**	*e*Pg			**Pb**	**06 02 40.3**	**+1.1**
UZB	10nm,0.5s			*e*Lg			Lg	06 03 55.4	
KPKS	**Kokpek** 3.2nm,0.3s	**5.67**	**44**	Pg			**Pb**	**06 02 38.6**	**-0.9**
KPKS	12nm,0.7s			Lg			Lg	06 03 52.9	
KPKS	**Kokpek** 3.2nm,0.3s	**5.67**	**44**	*e*Pg			**Pb**	**06 02 38.6**	**-0.9**
KPKS	12nm,0.7s			*e*Lg			Lg	06 03 52.9	
ARXS	**Arharly** 7.8nm,0.5s	**5.79**	**35**	Pg			**Pb**	**06 02 42.0**	**+0.5**
ARXS	25nm,1.0s			Lg			Lg	06 03 59.1	
ARXS	**Arharly** 7.8nm,0.5s	**5.79**	**35**	*e*Pg			**Pb**	**06 02 42.0**	**+0.5**
ARXS	25nm,1.0s			*e*Lg			Lg	06 03 59.1	
SHLS	**Shalkode** 2.3nm,0.2s	**5.92**	**50**	Pg			**Pg**	**06 02 49.8**	**-4.0**
SHLS	152nm,0.8s			Lg			Lg	06 04 12.3	
SHLS	**Shalkode** 2.3nm,0.2s	**5.92**	**50**	*e*Pg			**Pg**	**06 02 49.8**	**-4.0**
SHLS	152nm,0.8s			*e*Lg			Lg	06 04 12.3	
BLB	**Baldybastay** 7.0nm,0.7s	**6.01**	**39**	Pg			**Pb**	**06 02 45.9**	**+0.6**
BLB	24nm,0.8s			Lg			Lg	06 04 05.8	
KTMS	**Ketmen** 0.5nm,0.1s	**6.62**	**52**	Pg			**Pb**	**06 02 56.7**	**+1.1**
KTMS	2.8nm,0.4s			Lg			Lg	06 04 23.7	

KTMS	**Ketmen**	**6.62**	**52**	*e*Pg		**Pb**	**06 02 56.7**	**+1.1**
	0.5nm,0.1s								
KTMS				*e*Lg		Lg	06 04 23.7		
	2.8nm,0.4s								
DJR	**Jarkent**	**6.84**	**43**	Pg		**Pb**	**06 03 01.7**	**+2.3**
	1.2nm,0.4s								
DJR				Lg		Lg	06 04 32.6		
	7.2nm,0.6s								
DJR	**Jarkent**	**6.84**	**43**	*e*Pg		**Pb**	**06 03 01.7**	**+2.3**
	1.2nm,0.4s								
DJR				*e*Lg		Lg	06 04 32.6		
	7.2nm,0.6s								
MKAR	**Makanchi Array**	**9.81**	**39**	Lg		Lg	06 06 04.5		
	baz=220,slow=31,SNR=2.6								
KURBB	**Kurchatov Arra**	**11.69**	**17**	Lg		Lg	06 07 03.5		
	0.1nm,0.3s,baz=201,slow=28,SNR=1.9								
GEYT	**Allbeck**	**11.92**	**267**	Pn		**Pn**	**06 03 53.0**	**+2.7**
	0.3nm,0.3s,baz=80,slow=8.9,SNR=1.9								
	1.5nm,0.4s								
BVAR	**Borovoye Array**	**13.63**	**353**	Pn		**Pn**	**06 04 12.9**	**-0.8**
	baz=172,slow=11,SNR=2.3								
	0.7nm,0.7s								
AKASG	**Malin Array Be**	**32.54**	**305**	P		**P**	**06 07 31.3**	**-0.1**
	0.1nm,0.4s,baz=77,slow=6.7,SNR=2.5								
	0.1nm,0.4s								
FINES	**FINESS Array B**	**36.03**	**323**	P		**P**	**06 08 01.5**	**+0.1**
	4.2nm,0.9s,baz=106,slow=10,SNR=7.0								
	4.2nm,0.9s								
TORD	**Torodi Ar. Bea**	**67.55**	**269**	P		**P**	**06 11 57.8**	**+0.6**
	0.3nm,0.6s,baz=45,slow=5.1,SNR=2.0								
	0.3nm,0.6s								
YKA	**Yellowknife Ar**	**78.12**	**4**	P		**P**	**06 12 58.2**	**-1.0**
	0.1nm,0.4s,baz=349,slow=5.8,SNR=4.7								
	0.1nm,0.4s								

*IDC **26** 06:20:20.3±3.6, 53°.83N×90°.86E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=31.0km s-min=23.4km az=41.0*
*NNC **26** 06:20:25.1±8.8, 53°.30N×90°.61E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=71.6km s-min=50.3km az=40.0, Suspected Mining explosion.*
ISC 26 06:20:22.3±4.2, 53°.8N±0°.2×90°.6E±0°.2, h0km, n9, σ0s44/10, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.45**	**275**	I		I	06 43 20.0	
	baz=91,slow=327,SNR=3.0							
ZAA0	**Zalesovo Array**	**3.45**	**275**	⇑Pg		**Pg**	**06 21 28.5**	**+0.1**
	0.3nm,0.5s							
ZAA0				⇑Lg		Lg	06 22 14.9	
	3.8nm,0.9s							
ZALV	**Zalesovo Beam**	**3.45**	**275**	Pg		**Pb**	**06 21 23.6**	**-0.6**
	0.7nm,0.3s,baz=90,slow=16,SNR=7.9							
ZALV				Lg		Lg	06 22 13.6	
	1.9nm,0.3s,baz=86,slow=30,SNR=8.7							
KURK	**Kurchatov**	**7.99**	**252**	⇑Sn		**Sn**	**06 23 50.7**	**+0.1**
	3.0nm,0.8s							
KURK				⇑Lg		Lg	06 24 33.5	
	5.9nm,1.0s							
KURBB	**Kurchatov Arra**	**8.09**	**252**	Pn		**Pn**	**06 22 21.1**	**+0.2**
	0.1nm,0.3s,baz=65,slow=15,SNR=5.1							
KURBB				Sn		**Sn**	**06 23 53.4**	**+0.4**
	baz=67,slow=25,SNR=2.8							
KURBB				Lg		Lg	06 24 39.1	
	0.1nm,0.3s,baz=62,slow=30,SNR=6.5							
	0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**8.09**	**252**	⇓Pn		**Pn**	**06 22 21.5**	**+0.7**
	5.6nm,1.4s							
KURBB				⇓Sn		**Sn**	**06 23 52.6**	**-0.3**
	8.9nm,0.8s							
KURBB				⇓Lg		Lg	06 24 37.8	
	15nm,0.9s							
MK31	**Makanchi Array**	**8.81**	**221**	⇑Pn		**Pn**	**06 22 31.2**	**+0.4**
	0.1nm,0.2s,baz=38,slow=14,SNR=11							
MK31				⇓Lg		Lg	06 24 53.8	
	1.4nm,0.8s,baz=44,slow=28							
MKAR	**Makanchi Array**	**8.81**	**221**	Pn		**Pn**	**06 22 30.8**	**0.0**
	0.2nm,0.3s,baz=33,slow=12,SNR=10							
MKAR				Sn		**Sn**	**06 24 10.5**	**-0.3**
	0.1nm,0.3s,baz=39,slow=27,SNR=4.5							
MKAR				Lg		Lg	06 24 56.5	
	baz=32,slow=32,SNR=2.0							
	0.3nm,0.4s							
SONM	**Songino Array**	**11.61**	**115**	Lg		Lg	06 26 18.0	
	baz=293,slow=30							

TEH 26 06:36:01.7, 30°.02N×57°.61E, h13km±32km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHMN	**Cheshme madani**	**0.17**	**201**	Pg		Pg	06 36 06.0	-0.1
TVBK	**TV Kerman**	**0.74**	**267**	Pg		Pb	06 36 16.5	-0.1
KRBR	**Kerman**	**0.74**	**267**	Pg		Pb	06 36 16.6	-0.1
NGRK	**Negar Kerman**	**0.85**	**244**	Pg		Pb	06 36 18.6	0.0
NGRK				Sg		Sb	06 36 30.4	+0.3
KHGB	**Koh Gabri**	**1.04**	**290**	Pg		Pb	06 36 21.5	-0.3
ZRDN	**Zarand Kerman**	**1.32**	**316**	Pg		Pg	06 36 27.0	-0.1
KHNJ	**Kahnooj**	**2.07**	**178**	Pn		Pb	06 36 37.8	-1.4
BSRN	**Basiran**	**2.33**	**34**	Pn		Pn	06 36 40.8	+0.9
IBAF	**Bafgh**	**2.35**	**312**	Pn		Pb	06 36 43.0	-1.1
NHDN	**Nehbandan**	**2.50**	**56**	Pn		Pn	06 36 43.8	+1.5
IKOO	**Kooshah**	**2.67**	**26**	Pn		Pn	06 36 45.8	+1.1
ZHSF	**Zahedan**	**2.78**	**98**	Pn		Pn	06 36 48.3	+2.3
ZHDN	**Zahedan**	**2.85**	**102**	Pn		Pn	06 36 49.1	+2.0
GENO	**Geno**	**2.90**	**206**	Pn		Pb	06 36 52.0	-1.4
IMEH	**Mehriz**	**2.92**	**299**	Pn		Pn	06 36 50.7	+2.7
ITEG	**Tejag**	**3.02**	**18**	Pn		Pn	06 36 50.8	+1.4
TPRV	**Parvadeh(Tabas**	**3.10**	**345**	Pn		Pn	06 36 52.4	+2.0
YZKH	**Yazd**	**3.50**	**313**	Pn		Pn	06 36 59.0	+3.1
AFRZ	**Afriz**	**3.59**	**19**	Pn		Pn	06 36 58.5	+1.2
TKDS	**Koohdasht(Taba**	**3.60**	**353**	Pn		Pn	06 36 59.3	+2.0
TABS	**Tabas**	**3.64**	**354**	Pn		Pn	06 37 01.1	+3.3
TNSJ	**Nastanj**	**4.02**	**348**	Pn		Pn	06 37 03.8	+0.7
SHRT	**Shahrakht**	**4.27**	**32**	Pn		Pn	06 37 09.5	+3.0
GHIR	**Ghir-Karzin**	**4.40**	**248**	Pn		Pn	06 37 11.3	+3.0
ANAR	**Anarak**	**4.58**	**315**	Pn		Pn	06 37 13.7	+3.0
NASN	**Na'in**	**4.95**	**305**	Pn		Pn	06 37 19.4	+3.3
TBJM	**Torbat-e-JAM**	**5.71**	**23**	Pn		Pn	06 37 28.9	+2.5
SHRO	**Shahrood**	**6.10**	**348**	Pn		Pn	06 37 35.3	+3.7

IDC 26 06:52:45.8±1.9, 53°.94N×85°.55E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=12.7km s-min=5.7km az=83.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.43**	**271**	I		I	06 55 00.0	
	0.1nm,0.8s,baz=90,slow=347,SNR=2.9							
ZALV	**Zalesovo Beam**	**0.43**	**271**	Pg		Pg	06 52 53.5	-0.5
	1.6nm,0.3s,baz=88,slow=18,SNR=21							
ZALV				Lg		Lg	06 53 00.1	
	2.3nm,0.3s,baz=93,slow=31,SNR=97							
ZALV				Rg		Rg	06 53 01.7	
	76nm,1.0s,baz=88,slow=38,SNR=60							
KURBB	**Kurchatov Arra**	**5.44**	**235**	Pn		Pn	06 54 09.9	+1.8
	0.1nm,0.3s,baz=51,slow=13,SNR=1.9							
KURBB				Lg		Lg	06 55 40.8	
	0.1nm,0.3s,baz=55,slow=31,SNR=4.1							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**7.45**	**198**	Pn		Pn	06 54 36.7	+0.9
	0.1nm,0.3s,baz=22,slow=16,SNR=5.0							
MKAR				Sn		Sn	06 56 00.4	-0.5
	0.1nm,0.3s,baz=22,slow=25,SNR=3.1							
MKAR				Lg		Lg	06 56 41.3	
	baz=20,slow=29,SNR=2.9							
	0.2nm,0.4s							

*SOME **26** 06:55:10.9, 42°.93N×70°.72E, h0km*
*NNC **26** 06:55:11.8±0.2, 42°.92N×70°.66E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=1.4km s-min=1.1km az=50.0*
*KRNET **26** 06:55:11.7±0.1, 42°.91N×70°.56E, h12km, mb2.9*
ISC 26 06:55:11.8±0.8, 42°.92N±0°.04×70°.55E±0°.04, h15km±8km, n34, σ1s30/57, 30C-14D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK07	**Karatay Array**	**0.17**	**348**	⇓P		**Pg**	**06 55 16.0**	**0.0**
KK07				⇑S		**Sg**	**06 55 18.9**	**0.0**
KK06	**Karatay Array**	**0.18**	**354**	⇑P		**Pg**	**06 55 15.9**	**-0.1**
KK06				⇓S		**Sg**	**06 55 18.8**	**-0.1**
KK02	**Karatay Array**	**0.19**	**352**	⇑P		**Pg**	**06 55 16.2**	**-0.1**
KK02				⇑S		**Sg**	**06 55 19.3**	**+0.1**
KK03	**Karatay Array**	**0.19**	**349**	⇑P		**Pg**	**06 55 16.2**	**-0.1**
KK03				⇑S		**Sg**	**06 55 19.3**	**+0.1**
KK31	**Karatay Array**	**0.19**	**352**	⇓P		**Pg**	**06 55 16.1**	**-0.1**
	23nm,0.2s,baz=149,slow=14,SNR=3280							
KK31				⇑S		**Sg**	**06 55 18.9**	**-0.3**
	70nm,0.2s,baz=156,slow=25,SNR=4.2							
KKAR	**Karatay Array**	**0.19**	**352**	⇑*i*P		**Pg**	**06 55 15.7**	**-0.5**
	baz=50							
KKAR				⇑*i*S		**Sg**	**06 55 18.7**	**-0.5**
	baz=50							
KK01	**Karatay Array**	**0.19**	**351**	⇓P		**Pg**	**06 55 16.2**	**-0.1**
KK01				⇑S		**Sg**	**06 55 19.3**	**+0.1**
KK08	**Karatay Array**	**0.19**	**346**	⇑P		**Pg**	**06 55 16.2**	**-0.1**
KK08				⇓S		**Sg**	**06 55 19.4**	**+0.1**
KK04	**Karatay Array**	**0.19**	**351**	⇑P		**Pg**	**06 55 16.3**	**0.0**
KK04				⇑S		**Sg**	**06 55 19.4**	**+0.1**
KK05	**Karatay Array**	**0.20**	**355**	⇓P		**Pg**	**06 55 16.2**	**-0.2**
KK05				⇓S		**Sg**	**06 55 19.4**	**-0.1**
KK09	**Karatay Array**	**0.21**	**350**	⇑P		**Pg**	**06 55 16.4**	**-0.1**
KK09				⇑S		**Sg**	**06 55 19.5**	**-0.2**
IUG	**Iuzhnay**	**0.86**	**207**	P		**Pn**	**06 55 29.2**	**-0.3**
	11nm,0.1s							
IUG				S		**Sn**	**06 55 41.9**	**0.0**
	89nm,0.2s							
IUG	**Iuzhnay**	**0.86**	**207**	*e*P		**Pn**	**06 55 29.2**	**-0.3**
	11nm,0.1s							
IUG				*e*S		**Sn**	**06 55 41.9**	**0.0**
	89nm,0.2s							
TRKS	**Terek-Say**	**1.46**	**162**	⇑*i*P		**Pg**	**06 55 40.0**	**+0.2**
	baz=62							
TRKS				⇑*i*S		**Sg**	**06 56 00.6**	**+1.9**
	baz=62							
ARK	**Arkit**	**1.53**	**136**	⇓*i*P		**Pb**	**06 55 40.3**	**+0.3**
	baz=36							
ARK				⇓*i*S		**Sg**	**06 56 01.0**	**-0.2**
	baz=36							
TAS	**Tashkent**	**1.85**	**211**	⇓*i*P		**Pb**	**06 55 45.5**	**+0.3**
	baz=11							
TAS				⇓*i*S		**Sg**	**06 56 10.7**	**-0.4**
	baz=11							
MRKS	**Merke**	**1.98**	**94**	Pg		**Pb**	**06 55 46.5**	**-1.0**
	1.9nm,0.2s							
MRKS				Lg		Lg	06 56 12.4	
	11nm,0.2s							
MRKS	**Merke**	**1.98**	**94**	*e*P		**Pb**	**06 55 46.9**	**-0.7**
	1.9nm,0.2s							
MRKS				*e*S		**Sb**	**06 56 12.5**	**+0.4**
	8.5nm,0.2s							
EKS2	**Erkin-Say**	**2.39**	**95**	⇑*i*P		**Pb**	**06 55 53.7**	**-0.9**
	baz=95							
EKS2				⇑*i*S		**Sb**	**06 56 24.4**	**+0.5**
	baz=95							
AML	**Almayashu**	**2.46**	**108**	⇓*i*P		**Pb**	**06 55 54.7**	**-1.1**
	baz=7.0							
AML				⇓*i*S		**Sb**	**06 56 26.1**	**0.0**
	baz=7.0							
USP	**Ospenovka**	**2.92**	**82**	⇑*i*P		**Pb**	**06 56 01.0**	**-2.5**
	baz=82							
USP				⇑*i*S		**Sb**	**06 56 37.0**	**-2.0**
	baz=82							
AAK	**Ala-Archa**	**2.92**	**94**	⇑*i*P		**Pb**	**06 56 01.0**	**-2.6**
	baz=94							
AAK				⇑*i*S		**Sb**	**06 56 37.1**	**-2.1**
	baz=94							
UCH	**Uchtor**	**3.01**	**102**	⇑*i*P		**Pn**	**06 56 02.4**	**+3.1**
	baz=2.0							
UCH				⇑*i*S		**Sb**	**06 56 39.4**	**-2.7**
	baz=2.0							
SGDS	**Sogindy**	**3.03**	**78**	Pg		**Pb**	**06 56 05.4**	**-0.1**
	1.4nm,0.2s							
SGDS				Lg		Lg	06 56 43.7	
	4.9nm,0.1s							
CHMS	**Chumysh**	**3.09**	**87**	⇑Pg		**Pg**	**06 56 08.8**	**-2.1**
	3.1nm,0.7s							
CHMS				⇓Lg		Lg	06 56 45.9	
	2.6nm,0.6s							
KBK	**Karagaybulak**	**3.25**	**93**	⇑*i*P		**Pn**	**06 56 05.9**	**+3.5**
	baz=93							
KBK				⇑*i*S		**Sb**	**06 56 45.0**	**-3.7**
	baz=93							
BTLS	**Baital**	**3.30**	**49**	Pg		**Pb**	**06 56 10.1**	**+0.1**
BTLS				Lg		Lg	06 56 51.9	
TKM2	**Tokmak 2**	**3.71**	**88**	⇑Pg		**Pb**	**06 56 18.7**	**+1.6**
	4.1nm,1.1s							
TKM2				⇑Lg		Lg	06 57 06.9	
	2.1nm,0.5s							
KRBS	**Karabastau**	**3.82**	**77**	Pg		**Pb**	**06 56 19.8**	**+0.8**
	2.6nm,0.3s							
KRBS				Lg		Lg	06 57 08.5	
	1.3nm,0.2s							
KRBS	**Karabastau**	**3.82**	**77**	*e*Pg		**Pb**	**06 56 19.8**	**+0.8**
	2.6nm,0.3s							
KRBS				*e*Lg		Lg	06 57 08.5	
	1.3nm,0.2s							
DGS	**Degeres**	**3.84**	**83**	Pg		**Pb**	**06 56 19.4**	**+0.1**
	2.5nm,0.2s							
DGS				Lg		Lg	06 57 08.2	
	3.3nm,0.3s							
DGS	**Degeres**	**3.84**	**83**	*e*Pg		**Pb**	**06 56 19.8**	**+0.5**
	2.5nm,0.2s							
DGS				*e*Lg		Lg	06 57 08.2	
	3.3nm,0.3s							
KST	**Kastek**	**3.98**	**86**	Pg		**Pb**	**06 56 23.6**	**+2.0**
	1.6nm,0.6s							
KST				Lg		Lg	06 57 14.8	
	5.3nm,0.4s							
KST	**Kastek**	**3.98**	**86**	*e*Pg		**Pb**	**06 56 23.6**	**+2.0**
	2.1nm,0.3s							
KST				*e*Lg		Lg	06 57 14.8	
	3.0nm,0.3s							

*UPP **26** 07:11:52.0±0.0, 67°.82N×20°.21E, h0km, ML2.6, Confirmed Induced event*
*HEL **26** 07:11:52.7±0.5, 67°.72N×20°.29E, h0km, ML1.2, Explosion*
ISC 26 07:11:51.5±0.9, 67°.81N±0°.03×20°.28E±0°.03, h0km, n17, σ0s75/25, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.26**	**274**	P		**Pg**	**07 11 56.7**	**+0.2**
RATU				S		**Sg**	**07 12 00.1**	**+0.2**
KOVU	**Salmi**	**0.42**	**354**	P		**Pg**	**07 11 59.6**	**+0.1**
KOVU				S		**Sg**	**07 12 05.1**	**+0.1**
NIKU	**Nikkaluokta**	**0.48**	**278**	P		**Pg**	**07 12 00.6**	**0.0**
LANU	**Lannavaara**	**0.69**	**68**	P		**Pb**	**07 12 05.6**	**-0.8**
LANU	**Lannavaara**	**0.69**	**68**	PG		**Pg**	**07 12 05.2**	**+0.5**
LANU				SG		**Sb**	**07 12 15.0**	**-1.4**
DUNU	**Dundret**	**0.70**	**171**	P		**Pg**	**07 12 05.3**	**+0.5**
MASU	**Masugnsbyn**	**0.74**	**117**	P		**Pb**	**07 12 06.7**	**-0.6**
SALU	**Saltoluokta**	**0.81**	**239**	P		**Pg**	**07 12 07.1**	**+0.2**
KIF	**Kilpisjarvi**	**1.22**	**9**	PG		**Pn**	**07 12 17.0**	**+1.2**
KIF				SG		**Sn**	**07 12 32.5**	**-0.4**
KIF				MSG			07 12 33.1	
	comp=Z,1.7nm,0.2s							
PAJU	**Pajala**	**1.35**	**124**	P		**Pg**	**07 12 17.1**	**-0.2**
HEF	**Hetta**	**1.40**	**63**	PG		**Pn**	**07 12 18.2**	**-0.1**
	baz=247							
HEF				MSG			07 12 36.0	
	comp=Z,1.7nm,0.2s							
HEF				SG		**Sn**	**07 12 37.6**	**+0.1**
ERTU	**Ertsjaerv**	**1.46**	**149**	SN		**Sn**	**07 12 39.3**	**+0.4**
KTK1	**Kautokeino**	**1.63**	**41**	PG		**Pg**	**07 12 22.9**	**+0.1**
KTK1				SG		**Sg**	**07 12 45.1**	**+1.6**
TOF	**Tornio**	**2.35**	**136**	PG		**Pb**	**07 12 33.7**	**-1.0**
TOF				MSG			07 13 00.6	
	comp=Z,0.6nm,0.2s							
RNF	**Rovaniemi**	**2.53**	**116**	PG		**Pb**	**07 12 36.8**	**-1.0**
RNF				SG		**Sb**	**07 13 10.3**	**+0.8**
ARA0	**ARCESS Array S**	**2.58**	**45**	PB		**Pb**	**07 12 37.4**	**-1.2**
	baz=227							
ARA0				SB		**Sb**	**07 13 11.2**	**+0.4**
KU6	**Riekki**	**4.18**	**111**	SB		**Sb**	**07 13 56.6**	**-0.3**

*NNC **26** 07:15:09.1±0.5, 43°.36N×69°.86E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=7.0km s-min=2.6km az=33.0, Suspected Mining explosion.*
*KRNET **26** 07:15:09.8±0.1, 43°.39N×69°.94E, mb3.0*
*SOME **26** 07:15:09.9, 43°.37N×70°.03E*
ISC 26 07:15:12.9±1.7, 43°.33N±0°.07×70°.01E±0°.07, h0km, n26, σ1s01/44, 23C-15D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK09	**Karatay Array**	**0.42**	**120**	⇓P		**Pg**	**07 15 19.4**	**-1.5**
KK09				⇑S		**Sg**	**07 15 27.4**	**+1.1**
KK08	**Karatay Array**	**0.42**	**123**	⇓P		**Pg**	**07 15 19.3**	**-1.7**
KK08				⇑S		**Sg**	**07 15 27.1**	**+0.8**
KK04	**Karatay Array**	**0.43**	**121**	⇑P		**Pg**	**07 15 19.7**	**-1.4**
KK04				⇑S		**Sg**	**07 15 27.4**	**+0.8**
KK03	**Karatay Array**	**0.43**	**122**	⇓P		**Pg**	**07 15 19.7**	**-1.4**
KK03				⇑S		**Sg**	**07 15 27.4**	**+0.8**
KK01	**Karatay Array**	**0.43**	**122**	⇓P		**Pg**	**07 15 19.8**	**-1.3**
KK01				⇑S		**Sg**	**07 15 27.4**	**+0.7**
KK02	**Karatay Array**	**0.43**	**122**	⇑P		**Pg**	**07 15 19.8**	**-1.4**
KK02				⇓S		**Sg**	**07 15 27.5**	**+0.6**
KK05	**Karatay Array**	**0.43**	**120**	⇑P		**Pg**	**07 15 19.7**	**-1.5**
KK05				⇑S		**Sg**	**07 15 27.5**	**+0.6**
KK31	**Karatay Array**	**0.43**	**122**	⇓P		**Pg**	**07 15 19.6**	**-1.6**
	13nm,0.6s,baz=320,slow=17,SNR=760							
KK31				⇓S		**Sg**	**07 15 27.3**	**+0.4**
	93nm,0.6s,baz=296,slow=38,SNR=6.8							
KKAR	**Karatay Array**	**0.43**	**122**	⇓*i*P		**Pg**	**07 15 19.8**	**-1.4**
	baz=24							
KKAR				⇓*i*S		**Sg**	**07 15 27.1**	**+0.3**
	baz=24							
KK07	**Karatay Array**	**0.43**	**124**	⇑P		**Pg**	**07 15 19.5**	**-1.7**
KK07				⇑S		**Sg**	**07 15 27.4**	**+0.5**
KK06	**Karatay Array**	**0.45**	**122**	⇓P		**Pg**	**07 15 19.7**	**-1.8**
KK06				⇑S		**Sg**	**07 15 27.5**	**+0.3**
TRKS	**Terek-Say**	**1.99**	**155**	⇓*i*P		**Pn**	**07 15 48.8**	**+0.9**
	baz=54							
TRKS				⇓*i*S		**Sg**	**07 16 17.7**	**+1.0**
	baz=54							
TAS	**Tashkent**	**2.07**	**195**	⇑*i*P		**Pn**	**07 15 48.7**	**-0.3**
	baz=93							
TAS				⇑*i*S		**Sn**	**07 16 16.7**	**+1.1**
	baz=93							
ARK	**Arkit**	**2.11**	**136**	⇑*i*P		**Pn**	**07 15 49.8**	**+0.2**
	baz=36							
ARK				⇑*i*S		**Sb**	**07 16 19.0**	**+0.2**
	baz=36							
MRKS	**Merke**	**2.43**	**103**	Pg		**Pb**	**07 15 56.2**	**-1.4**
	2.4nm,0.3s							
MRKS				Lg		Lg	07 16 29.8	
	25nm,0.6s							
EKS2	**Erkin-Say**	**2.84**	**102**	⇑*i*P		**Pn**	**07 15 59.7**	**0.0**
	baz=3.0							
EKS2				⇑*i*S		**Sn**	**07 16 36.0**	**+1.2**
	baz=3.0							
AML	**Almayashu**	**2.97**	**113**	⇑*i*P		**Pn**	**07 16 01.9**	**+0.2**
	baz=13							
AML				⇑*i*S		**Sn**	**07 16 39.3**	**+1.1**
	baz=13							
USP	**Ospenovka**	**3.28**	**90**	⇓*i*P		**Pn**	**07 16 05.2**	**-0.4**
	baz=90							
USP				⇓*i*S		**Sn**	**07 16 45.9**	**+0.5**
	baz=90							
BTLS	**Baital**	**3.37**	**58**	Pg		**Pb**	**07 16 14.1**	**+0.6**
BTLS				Lg		Lg	07 16 59.9	
SGDS	**Sogindy**	**3.37**	**86**	Pg		**Pb**	**07 16 13.2**	**-0.4**
	1.5nm,0.2s							
SGDS				Lg		Lg	07 16 58.5	
	7.1nm,0.3s							
UCH	**Uchtor**	**3.50**	**107**	⇑*i*P		**Pn**	**07 16 08.8**	**-0.2**
	baz=7.0							
UCH				⇑*i*S		**Sn**	**07 16 51.7**	**+0.4**
	baz=7.0							
TKM2	**Tokmak 2**	**4.11**	**94**	⇑Pg		**Pb**	**07 16 25.8**	**-0.5**
	4.3nm,0.9s							
TKM2				⇓Lg		Lg	07 17 22.0	
	7.3nm,0.8s							
KRBS	**Karabastau**	**4.14**	**83**	Pg		**Pb**	**07 16 27.6**	**+0.9**
	1.5nm,0.7s							
KRBS				Lg		Lg	07 17 23.3	
	3.4nm,0.4s							
DGS	**Degeres**	**4.21**	**89**	Pg		**Pb**	**07 16 29.0**	**+1.1**
	1.5nm,0.6s							
DGS				Lg		Lg	07 17 25.6	
	9.1nm,0.6s							
KST	**Kastek**	**4.37**	**92**	Pg		**Pb**	**07 16 30.4**	**-0.1**
	1.9nm,0.8s							
KST				Lg		Lg	07 17 27.7	
	9.5nm,0.5s							
KTBS	**Karatobe**	**4.87**	**83**	Pg		**Pb**	**07 16 39.3**	**+0.2**
	1.2nm,0.7s							
KTBS				Lg		Lg	07 17 43.0	
	13nm,0.6s							

IDC 26 07:17:58.8±2.8, 2°.51N×128°.37E, h0km, mb3.3/3, mbtmp3.3/3, MS2.7/2, Error ellipse: s-maj=219.6km s-min=27.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.07**	**166**	P		P	07 23 06.5	+0.3
	0.6nm,0.6s,baz=345,slow=10,SNR=5.8							
	0.6nm,0.6s							
JOW	**Kunigami**	**24.19**	**360**	LR		LR	07 33 31.2	
	comp=Z,24nm,19.0s,baz=128,slow=38							
ASAR	**Alice Springs**	**26.57**	**169**	P		P	07 23 38.1	-0.6
	0.3nm,0.7s,baz=346,slow=8.0,SNR=5.1							
	0.3nm,0.7s							
KSRS	**Korea Array**	**34.78**	**359**	LR		LR	07 41 45.4	
	comp=Z,8.4nm,18.1s,baz=25,slow=41							
MKAR	**Makanchi Array**	**59.49**	**325**	P		P	07 28 04.0	+0.2
	0.3nm,0.5s,baz=114,slow=8.2,SNR=4.8							
	0.3nm,0.5s		

WACZ S **Sn** 07 21 54.0 +0.4
OGWZ Otaki Gorge 2.00 35 P **Pb** 07 21 31.5 -1.4
OGWZ S **Sb** 07 21 55.8 -1.5
HOWZ Holdsworth Sta 2.09 42 P **Pn** 07 21 32.4 +1.5
HOWZ S **Sb** 07 21 58.1 -1.9
TMWZ Te Maipa 2.15 52 P **Pn** 07 21 33.2 +1.5
WVZ Waitaha Valley 2.23 253 P **Pn** 07 21 34.1 +1.4
WVZ S **Sn** 07 22 00.8 +1.2
RPZ Rata Peaks 2.28 236 Pn **Pn** 07 21 33.8 +0.3
31nm,0.3s,baz=58,slow=4.0,SNR=72
RPZ Sn **Sn** 07 21 59.9 -0.9
38nm,0.3s,baz=38,slow=23,SNR=3.3
130nm,0.4s
RPZ Rata Peaks 2.28 236 P **Pn** 07 21 34.1 +0.6
RPZ Rata Peaks 2.28 236 P **Pn** 07 21 34.0 +0.5
RPZ S **Sn** 07 22 00.1 -0.8
MRZ Mangatainoka R 2.31 39 P **Pn** 07 21 35.3 +1.5
MRZ S **Sn** 07 22 03.1 +1.7
ARCZ Arundel 2.34 230 P **Pn** 07 21 34.8 +0.5
ARCZ S **Sn** 07 22 02.1 -0.3
PRWZ Pori Road 2.58 43 P **Pn** 07 21 39.1 +1.5
GCSZ Gaunt Creek Bo 2.59 250 P **Pb** 07 21 40.6 -2.4
POWZ Post Office Ro 2.61 38 P **Pn** 07 21 39.5 +1.6
TMZ Timaru 2.72 224 P **Pn** 07 21 40.4 +0.8
WAZ Wanganui 2.88 21 P **Pb** 07 21 45.1 -2.9
FOZ Fox Glacier 3.01 248 P **Pb** 07 21 45.9 +2.4
NMEZ Namu Road 3.05 3 P **Pb** 07 21 47.9 -2.9
LREZ Lake Rotokare 3.05 11 P **Pb** 07 21 47.9 -2.9
KHEZ Kahui Hut 3.17 5 P **Pn** 07 21 48.6 +2.8
KHEZ Kahui Hut 3.17 5 P **Pb** 07 21 49.4 -3.6
LBZ Lake Benmore 3.18 232 P **Pn** 07 21 46.8 +1.0
NBEZ Newall Road No 3.19 3 P **Pb** 07 21 49.5 -3.8
NEZ North Egmont 3.20 6 P **Pb** 07 21 49.9 -3.6
PKE Pukeiti 3.27 5 P **Pb** 07 21 50.8 -3.8
DREZ Durham Road 3.29 7 P **Pn** 07 21 49.9 +2.5
MTVZ Mangateitei 3.37 25 P **Pn** 07 21 51.7 +3.3
ODZ Otahua Downs 3.38 219 P **Pn** 07 21 49.2 +0.6
ODZ Otahua Downs 3.38 219 P **Pn** 07 21 48.9 +0.3
MHEZ Mangahewa 3.42 9 P **Pb** 07 21 55.5 -1.6
PKVZ Pokaka 3.42 23 P **Pn** 07 21 51.5 +2.4
VRZ Vera Road 3.44 15 P **Pn** 07 21 52.5 +3.2
MOVZ Moawhango 3.44 28 P **Pn** 07 21 51.0 +1.6
WNVZ Wahianoa 3.46 26 P **Pn** 07 21 52.1 +2.3
TRVZ Turoa 3.47 25 P **Pn** 07 21 52.5 +2.5
BHHZ Black Hill Sta 3.48 32 P **Pn** 07 21 51.8 +1.8
KRHZ Kereru 3.48 37 P **Pn** 07 21 50.6 +0.6
DRZ Dome Shelter 3.50 25 P **Pn** 07 21 53.4 +3.0
WHVZ Whangaehu Hut 3.50 25 P **Pn** 07 21 53.1 +2.7
FWVZ Far West T-bar 3.51 25 P **Pn** 07 21 53.3 +2.8
TUVZ Tukino 3.53 26 P **Pn** 07 21 53.1 +2.3
NGZ Ngauruhoe 3.60 25 P **Pn** 07 21 54.1 +2.4
SNVZ South Ngauruho 3.60 25 P **Pn** 07 21 54.3 +2.5
KAHZ Kahuranaki 3.61 44 P **Pn** 07 21 53.1 +1.3
OTVZ Oturere 3.63 26 P **Pn** 07 21 52.8 +0.7
NNVZ North Ngauruho 3.64 25 P **Pn** 07 21 54.8 +2.4
TWVZ Taurewa 3.65 22 P **Pn** 07 21 54.6 +2.3
WTVZ West Tongariro 3.65 24 P **Pn** 07 21 54.7 +2.3
ETVZ East Tongariro 3.67 26 P **Pn** 07 21 54.8 +2.2
KRVZ Karewarewa 3.68 25 P **Pn** 07 21 55.1 +2.2
TMVZ Te Maari 3.69 26 P **Pn** 07 21 55.1 +2.2
NTVZ North Tongarir 3.69 25 P **Pn** 07 21 55.4 +2.4
MCHZ McNeill Hill 3.79 38 P **Pn** 07 22 00.6 -2.8
JCZ Jackson Bay 3.90 244 P **Pn** 07 21 57.3 +1.5
JCZ Jackson Bay 3.90 244 P Pb 07 22 00.5 -5.0
BKZ Black Stump Fm 3.93 34 P **Pn** 07 21 57.0 +0.8
BKZ Black Stump Fm 3.93 34 P **Pn** 07 21 56.7 +0.5
RATZ Rangitukua 3.93 25 P **Pn** 07 21 59.2 +3.0
HIZ Hauiti 4.05 14 P **Pn** 07 22 00.5 +2.8
HIZ Hauiti 4.05 14 P **Pn** 07 22 01.1 +3.3
HHSZ Highcliff Hill 4.07 212 P **Pn** 07 21 59.4 +1.3
NMHZ Naumai 4.12 37 P **Pn** 07 21 60.0 +1.1
MRHZ Matea Rd 4.19 31 P **Pn** 07 21 60.0 +0.3
EAZ Earnscleugh 4.19 227 P **Pn** 07 21 59.5 -0.2
TLZ Tolley Road 4.37 20 P **Pn** 07 22 04.4 +2.2
TUZ Tuapeka 4.54 218 P **Pn** 07 22 05.3 +0.9
TOZ Tahuroa Road 4.93 17 P **Pn** 07 22 11.9 +2.0
URZ Urewera 4.96 33 Pn **Pn** 07 22 09.5 -0.7
3.3nm,0.3s,baz=239,slow=12,SNR=16
URZ Sn **Sn** 07 23 04.7 -2.1
3.3nm,0.3s,baz=190,slow=18,SNR=2.0
6.8nm,0.3s
URZ Urewera 4.96 33 P **Pn** 07 22 11.5 +1.3
SYZ Scrubby Hill 5.20 217 P **Pn** 07 22 15.6 +2.1
TWGZ Tauwhareparae 5.41 39 P **Pn** 07 22 18.7 +2.2
AWAZ Awhitu Peninsu 5.44 8 P **Pn** 07 22 19.7 +2.8
RUGZ Raukumara Rang 5.44 36 P **Pn** 07 22 17.5 +0.4
MKAZ Moumakai 5.47 13 P **Pn** 07 22 19.3 +2.0
WTAZ Waiatarua 5.56 8 P **Pn** 07 22 21.9 +3.3
ETAZ East Tamaki Re 5.58 11 P **Pn** 07 22 21.6 +2.8
EPAZ Eden Park BICE 5.64 9 P **Pn** 07 22 22.5 +2.9
HAZ Te Kaha 5.66 35 P **Pn** 07 22 20.6 +0.7
WIAZ Waiheke Island 5.77 12 P **Pn** 07 22 23.7 +2.2
WMGZ Waiomatatini S 5.90 40 P **Pn** 07 22 23.1 -0.1
KUZ Kuaotunu 5.92 16 P **Pn** 07 22 24.8 +1.3
KUZ Kuaotunu 5.92 16 P **Pn** 07 22 25.0 +1.5
MXZ Matakaoa Point 6.06 38 P **Pn** 07 22 26.7 +1.4
WCZ Waipu Caves 6.53 5 P **Pn** 07 22 35.2 +3.3
OUZ Omahuta 7.23 360 P **Pn** 07 22 44.4 +2.9
OUZ Omahuta 7.23 360 P Pn 07 22 44.3 +2.9
ASAR Alice Springs 37.80 287 P **P** 07 28 12.2 +0.3
0.3nm,0.8s,baz=123,slow=7.0,SNR=2.6
0.3nm,0.8s
WRA Warramunga Arr 39.94 292 P **P** 07 28 30.6 +0.8
0.3nm,0.6s,baz=127,slow=8.2,SNR=2.2
WRA LR LR 07 43 13.9
comp=Z,54nm,19.1s,baz=61,slow=34
0.3nm,0.6s
PMG Port Moresby 40.30 317 LR LR 07 45 53.3
comp=Z,70nm,18.8s,baz=16,slow=37
TORD Torodi Ar. Bea 149.97 196 PKPbc **PKPab** 07 40 49.5 -2.1
0.7nm,0.4s,baz=180,slow=1.3,SNR=1.4

IDC 26 07:27:41.5±2.5, 5°97.5S×154°69.6E, h154km±23km, mb3.1/3, mbtmp3.7/5, Error ellipse: s-maj=37.0km s-min=22.2km az=44.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.12**	**302**	P	Pn	07 28 30.2	-0.3
	32nm,0.4s,baz=117,slow=2.3,SNR=1.3						
KRVT				S	Sn	07 29 09.0	+0.5
	67nm,0.3s,baz=215,slow=23,SNR=9.3						
DZM	**Mont Dzumac**	**19.64**	**146**	P	P	07 31 58.3	-0.1
	5.5nm,0.5s,baz=297,slow=14,SNR=16						
WRA	**Warramunga Arr**	**24.17**	**233**	P	P	07 32 44.1	+0.4
	0.6nm,0.3s,baz=58,slow=9.8,SNR=19						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**26.64**	**227**	P	P	07 33 05.5	-0.5
	0.1nm,0.3s,baz=55,slow=9.2,SNR=7.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**82.43**	**319**	P	P	07 39 46.8	+0.1
	0.4nm,0.8s,baz=104,slow=6.1,SNR=2.7						
	0.4nm,0.8s						

*IDC **26** 07:28:16.8±1.2, 26°38N×140°71E, h512km±15km, mb3.1/9, mbtmp3.9/10, Error ellipse: s-maj=31.5km s-min=19.4km az=66.0*

ISC 26 07:28:15.9±1.0, 26°4N±0°2×140°8E±0°2, h500km, n11, σ1§37/12, mb3.5/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.45**	**60**	P	**P**	**07 29 20.5**	**+2.0**
	65nm,0.4s,baz=273,slow=19,SNR=11						
JCJ				S	**S**	**07 30 07.0**	**-2.6**
	97nm,0.6s,baz=258,slow=14,SNR=2.0						
KSRS	**Korea Array**	**15.50**	**319**	P	**P**	**07 31 33.2**	**+2.1**
	0.7nm,0.5s,baz=141,slow=8.8,SNR=5.4						
SONM	**Songino Array**	**34.37**	**318**	P	**P**	**07 34 19.6**	**-0.8**
	0.3nm,0.4s,baz=127,slow=7.0,SNR=4.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**46.47**	**188**	P	**P**	**07 35 57.4**	**0.0**
	0.6nm,0.6s,baz=4.6,slow=7.6,SNR=6.1						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**49.20**	**320**	P	**P**	**07 36 16.8**	**-0.7**
	1.1nm,0.3s,baz=102,slow=8.4,SNR=1.6						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**49.96**	**310**	P	**P**	**07 36 23.1**	**-0.1**
	0.6nm,0.5s,baz=90,slow=8.2,SNR=7.4						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**52.64**	**315**	P	**P**	**07 36 42.3**	**-0.3**
	1.5nm,0.4s,baz=100,slow=7.6,SNR=14						
	1.5nm,0.4s						
BVAR	**Borovoye Array**	**57.71**	**318**	P	**P**	**07 37 18.2**	**+0.1**
	3.2nm,0.4s,baz=88,slow=7.2,SNR=25						
	3.2nm,0.4s						
YKA	**Yellowknife Ar**	**73.37**	**28**	P	**P**	**07 38 56.5**	**+0.5**
	0.2nm,0.6s,baz=298,slow=5.6,SNR=5.0						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**78.02**	**333**	P	**P**	**07 39 21.5**	**-0.4**
	1.1nm,0.4s,baz=76,slow=5.7,SNR=12						
	1.1nm,0.4s						
AKASG	**Malin Array Be**	**82.44**	**323**	P	**P**	**07 39 44.4**	**-0.8**
	0.5nm,0.3s,baz=53,slow=5.0,SNR=5.5						
	0.5nm,0.3s						

*NNC **26** 07:33:11.3±7.1, 54°.28N×87°.09E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=67.9km s-min=35.7km az=4.0, Suspected Mining explosion.*

*IDC **26** 07:33:12.4±3.1, 54°.28N×87°.10E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=28.0km s-min=16.6km az=66.0*

ISC 26 07:33:12.5±4.0, 54°4N±0°2×86°9E±0°2, h0km, n8, σ1§49/11, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**250**	I	I	07 42 40.0	
	0.1nm,0.8s,baz=76,slow=339,SNR=8.7						
ZAA0	**Zalesovo Array**	**1.29**	**250**	⇑P	**Pn**	**07 33 36.6**	**-1.3**
	0.3nm,0.3s						
ZAA0				⇑S	**Sb**	**07 33 55.7**	**+0.8**
	1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**1.29**	**250**	Pg	**Pg**	**07 33 36.7**	**-0.6**
	3.5nm,0.3s,baz=71,slow=17,SNR=42						
ZALV				Lg	Lg	07 33 56.5	
	2.1nm,0.3s,baz=71,slow=26,SNR=6.7						
KURK	**Kurchatov**	**6.24**	**237**	⇑Sn	**Sn**	**07 35 58.6**	**+0.7**
	1.4nm,0.9s						
KURK				⇓Lg	Lg	07 36 32.3	
	4.5nm,0.9s						
KURBB	**Kurchatov Arra**	**6.35**	**237**	Pn	**Pn**	**07 34 49.2**	**+1.9**
	0.2nm,0.3s,baz=52,slow=13,SNR=9.5						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**6.35**	**237**	⇓Pn	**Pn**	**07 34 48.7**	**+1.4**
	2.8nm,0.9s						
KURBB				⇑Sn	**Sn**	**07 35 59.5**	**-0.9**
	4.4nm,0.7s						
KURBB				⇓Lg	Lg	07 36 35.4	
	5.3nm,0.7s						
MK31	**Makanchi Array**	**8.15**	**203**	Pn	**Pn**	**07 35 13.6**	**+1.4**
	0.3nm,0.5s,baz=26,slow=14,SNR=8.7						
MK31				⇑Sn	**Sn**	**07 36 45.1**	**+0.2**
	0.3nm,0.5s						
MK31				⇑Lg	Lg	07 37 29.3	
	0.1nm,0.3s,baz=33,slow=30						
MKAR	**Makanchi Array**	**8.15**	**203**	Pn	**Pn**	**07 35 12.0**	**-0.1**
	0.1nm,0.3s,baz=25,slow=14,SNR=3.8						
MKAR				Sn	**Sn**	**07 36 42.5**	**-2.4**
	0.1nm,0.3s,baz=19,slow=28,SNR=3.3						
MKAR				Lg	Lg	07 37 25.9	
	0.1nm,0.3s,baz=18,slow=29,SNR=2.3						
	0.1nm,0.3s						

*IDC **26** 07:48:11.9±1.0, 30°.67N×50°.21E, h0km, mb3.9/17, mbtmp3.9/22, ML3.6/5, Error ellipse: s-maj=22.9km s-min=15.5km az=170.0*

*TEH **26** 07:48:15.5, 30°.78N×50°.36E, h11km±18km, ML3.9*

ISC 26 07:48:15.7±0.5, 30°59N±0°05×50°24E±0°04, h25km, n89, σ1§53/94, mb3.7/19, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.02**	**53**	Pg	**Pb**	**07 48 20.0**	**0.0**
ABEH				Sg	**Sb**	**07 48 23.9**	**+1.0**
KLNJ	**Kolanjah**	**1.24**	**70**	Pg	**Pn**	**07 48 36.2**	**-1.5**
KLNJ				Sg	**Sn**	**07 48 52.8**	**-1.0**
AMIS	**Naft Sefid**	**1.35**	**323**	Pg	**Pn**	**07 48 39.7**	**+0.8**
KAZ1	**Kazerun**	**1.55**	**128**	Pg	**Pb**	**07 48 45.7**	**+2.0**
AHWZ	**Ahwaz**	**1.56**	**299**	Pg	**Pb**	**07 48 45.7**	**+1.9**
IBRJ	**Brojen**	**1.58**	**33**	Pg	**Pn**	**07 48 41.1**	**-1.3**
SHK1	**Shahrekord**	**1.82**	**18**	Pg	**Pn**	**07 48 45.8**	**+0.2**
AHBU	**AHRAM**	**1.95**	**152**	Pn	**Pb**	**07 48 52.2**	**+1.7**
IPIR	**Pirpir**	**2.16**	**15**	Pn	**Pn**	**07 48 51.9**	**+1.5**
SHI	**Shiraz**	**2.19**	**115**	Pn	**Pn**	**07 48 54.1**	**+3.4**
IRAM	**Rameseh**	**2.20**	**56**	Pn	**Pn**	**07 48 52.8**	**+1.9**
IGAR	**Aligarneh**	**2.38**	**40**	Pn	**Pn**	**07 48 54.7**	**+1.4**
DSBU	**Dashti - Bushe**	**2.39**	**158**	Pn	**Pb**	**07 48 58.4**	**+0.3**
IZEF	**Zefreh**	**2.91**	**37**	Pn	**Pn**	**07 49 01.9**	**+1.2**
IKLH	**Kolahrood**	**2.95**	**22**	Pn	**Pn**	**07 49 02.8**	**+1.6**
NASN	**Na'in**	**3.11**	**44**	Pn	**Pn**	**07 49 04.7**	**+1.3**
KHMZ	**Khomeyn**	**3.15**	**356**	Pn	**Pn**	**07 49 05.4**	**+1.5**
QIR1	**Qir**	**3.23**	**130**	Pn	**Pn**	**07 49 08.1**	**+3.2**
ISAD	**Sadrabad**	**3.23**	**65**	Pn	**Pn**	**07 49 06.8**	**+1.7**
QAMS	**Qamsar**	**3.29**	**17**	Pn	**Pn**	**07 49 07.4**	**+1.6**
GHIR	**Ghir-Karzin**	**3.32**	**133**	Pn	**Pn**	**07 49 08.5**	**+2.3**
IKFM	**Kafar-mosalman**	**3.56**	**326**	Pn	**Pn**	**07 49 11.0**	**+1.6**
KRSH	**Karshahi**	**3.73**	**25**	Pn	**Pn**	**07 49 12.8**	**+0.9**
IMEH	**Mehriz**	**3.84**	**77**	Pn	**Pn**	**07 49 15.2**	**+1.7**
ICHK	**Chekchek**	**3.93**	**64**	Pn	**Pn**	**07 49 15.6**	**+1.0**
ANAR	**Anarak**	**3.94**	**48**	Pn	**Pn**	**07 49 15.5**	**+0.8**
ASAO	**Ashtian**	**3.95**	**357**	Pn	**Pn**	**07 49 16.5**	**+1.6**
GHVR	**GHOM**	**3.98**	**13**	Pn	**Pn**	**07 49 16.6**	**+1.4**
ISFB	**Sefidab**	**4.12**	**24**	Pn	**Pn**	**07 49 17.3**	**+0.5**
YZKH	**Yazd**	**4.13**	**63**	Pn	**Pn**	**07 49 18.7**	**+1.5**
IQOM	**Qom**	**4.30**	**9**	Pn	**Pn**	**07 49 19.6**	**-0.2**
HAGD	**Aghdareh**	**4.32**	**348**	Pn	**Pn**	**07 49 21.4**	**+1.4**
IVRN	**Varamin**	**4.57**	**16**	Pn	**Pn**	**07 49 23.9**	**+0.6**
IBAF	**Bafgh**	**4.68**	**76**	Pn	**Pn**	**07 49 26.2**	**+1.3**
IRAZ	**Razeghan**	**4.81**	**357**	Pn	**Pn**	**07 49 27.0**	**+0.3**
IMHD	**Mahdasht**	**5.09**	**4**	Pn	**Pn**	**07 49 31.8**	**+1.3**
SNGE	**Sanandaj**	**5.11**	**332**	Pn	**Pn**	**07 49 30.8**	**0.0**
IDMV	**Damavand**	**5.20**	**16**	Pn	**Pn**	**07 49 32.6**	**+0.5**
IDHR	**Dehrash**	**5.23**	**323**	Pn	**Pn**	**07 49 33.9**	**+1.4**
DAMV	**Damavand**	**5.23**	**16**	Pn	**Pn**	**07 49 33.0**	**+0.5**
ILAS	**Lasjerd**	**5.30**	**25**	Pn	**Pn**	**07 49 34.0**	**+0.6**
CHTH	**Charan**	**5.36**	**8**	Pn	**Pn**	**07 49 35.1**	**+0.9**
KHGB	**Koh Gabri**	**5.39**	**91**	Pn	**Pn**	**07 49 35.9**	**+1.2**
IFIR	**Firoozkooh**	**5.46**	**22**	Pn	**Pn**	**07 49 36.5**	**+0.8**
KRBR	**Kerman**	**5.67**	**94**	Pn	**Pn**	**07 49 41.9**	**+3.2**
TVBK	**TV Kerman**	**5.67**	**94**	Pn	**Pn**	**07 49 40.9**	**+2.2**
NGRK	**New Kerman**	**5.70**	**98**	Pn	**Pn**	**07 49 41.4**	**+2.3**
IANJ	**Anjilo**	**5.76**	**31**	Pn	**Pn**	**07 49 40.2**	**+0.4**
ISHM	**Shahmirzad**	**5.80**	**25**	Pn	**Pn**	**07 49 40.6**	**+0.2**
QALM	**Alamut, Qazvin**	**5.84**	**3**	Pn	**Pn**	**07 49 41.3**	**+0.5**
IPRN	**Peran**	**5.90**	**17**	Pn	**Pn**	**07 49 42.3**	**+0.6**
MZPU	**Pul - Mazandar**	**5.94**	**10**	Pn	**Pn**	**07 49 42.8**	**+0.6**
KLST	**Kelardasht - M**	**5.95**	**6**	Pn	**Pn**	**07 49 43.5**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.00**	**64**	Pn	**Pn**	**07 49 43.9**	**+0.9**
ZNJK	**Zanjan**	**6.20**	**348**	Pn	**Pn**	**07 49 46.1**	**+0.3**
TNSJ	**Nastanj**	**6.36**	**56**	Pn	**Pn**	**07 49 48.2**	**+0.3**
TKDS	**Koohdasht(Taba**	**6.57**	**61**	Pn	**Pn**	**07 49 52.1**	**+1.2**
TABS	**Tabas**	**6.58**	**61**	Pn	**Pn**	**07 49 52.3**	**+1.3**
IGLO	**Ghaloghah**	**6.61**	**26**	Pn	**Pn**	**07 49 52.5**	**+1.0**
SHRO	**Shahrood**	**7.23**	**40**	Pn	**Pn**	**07 50 00.9**	**+1.0**
BSRN	**Basiran**	**7.73**	**78**	Pn	**Pn**	**07 50 07.7**	**+0.9**
MRVT	**Maraveh tapeh**	**8.56**	**33**	Pn	**Pn**	**07 50 18.9**	**+0.9**
SHRT	**Shahrakht**	**9.05**	**68**	Pn	**Pn**	**07 50 26.0**	**+1.1**
ISFR	**Sfrayin**	**9.12**	**43**	Pn	**Pn**	**07 50 26.8**	**+0.8**
GEYT	**Aliabedk**	**9.80**	**40**	Pn	**Pn**	**07 50 35.7**	**+0.6**
	0.7nm,0.3s,baz=260,slow=8.9,SNR=4.5						
GEYT				Sn	**Sn**	**07 52 23.4**	**-0.9**
	0.2nm,0.3s,baz=217,slow=29,SNR=2.4						
	1.8nm,0.4s						
WSAR	**Wadi Sarin**	**10.47**	**132**	Pn	**Pn**	**07 50 43.4**	**-0.9**
	0.9nm,0.3s,baz=343,slow=2.8,SNR=2.7						
WSAR				Sn	**Sn**	**07 52 35.6**	**-5.1**
	0.3nm,0.3s,baz=162,slow=20,SNR=0.9						
	12nm,1.0s						
ASF	**Jabal al Asfar**	**11.51**	**281**	Pn	**Pn**	**07 50 57.0**	**-1.6**
	1.5nm,0.3s,baz=125,slow=7.0,SNR=7.9						
ASF				Sn	**Sn**	**07 53 01.4**	**-5.0**
	0.8nm,0.3s,baz=282,slow=23,SNR=2.3						
	3.0nm,0.3s						
KBZ	**Khabaz**	**14.35**	**338**	Pn	**Pn**	**07 51 39.6**	**+2.4**
	0.1nm,0.3s,baz=158,slow=11,SNR=2.1						
	1.4nm,0.8s						
BRTR	**Keskin Array B**	**16.33**	**308**	Pn	**Pn**	**07 52 04.6**	**+1.2**
	0.1nm,0.3s,baz=122,slow=15,SNR=4.3						
	1.2nm,0.8s						
AKTO	**Aktyubinsk**	**20.66**	**14**	P	**P**	**07 52 54.2**	**+0.7**
	0.9nm,0.5s,baz=190,slow=12,SNR=3.4						
	0.9nm,0.5s						
IDI	**Anoyia**	**21.76**	**289**	P	**P**	**07 53 07.0**	**+1.5**
	4.1nm,0.3s,baz=124,slow=11,SNR=1.7						
BELG	**Belogornoye**	**21.87**	**356**	P	**P**	**07 53 08.3**	**+1.9**
	7.4nm,0.6s,baz=168,slow=20,SNR=2.4						
MLR	**Muntele Rosu**	**24.11**	**315**	P	**P**	**07 53 31.7**	**+2.2**
	1.8nm,0.4s,baz=160,slow=18,SNR=3.6						
AKASG	**Malin Array Be**	**25.49**	**328**	P	**P**	**07 53 40.0**	**-1.7**
	0.6nm,0.3s,baz=134,slow=9.5,SNR=9.2						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**26.80**	**27**	P	**P**	**07 53 53.5**	**-0.1**
	1.1nm,0.6s,baz=224,slow=6.2,SNR=4.5						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**29.07**	**38**	P	**P**	**07 54 14.3**	**+0.4**
	0.9nm,0.6s,baz=240,slow=9.7,SNR=10.0						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**29.53**	**48**	P	**P**	**07 54 18.3**	**+0.2**
	0.4nm,0.5s,baz=236,slow=9.9,SNR=6.2						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**34.10**	**37**	P	**P**	**07 54 56.9**	**-1.2**
	0.5nm,0.4s,baz=248,slow=8.8,SNR=3.8						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**34.70**	**340**	P	**P**	**07 55 01.8**	**-1.4**
	2.1nm,0.7s,baz=142,slow=8.8,SNR=11						
	2.1nm,0.7s						
NOA	**NORSAR Array B**	**39.79**	**331**	P	**P**	**07 55 44.4**	**-2.0**
	1.4nm,0.8s,baz=121,slow=9.4,SNR=2.2						
	1.4nm,0.8s						
ESDC	**Sonseca Array**	**44.66**	**297**	P	**P**	**07 56 26.9**	**+0.4**
	0.6nm,0.7s,baz=81,slow=8.7,SNR=2.0						
	0.6nm,0.7s						
SONM	**Songino Array**	**45.75**	**51**	P	**P**	**07 56 35.4**	**+0.3**
	0.4nm,0.8s,baz=280,slow=8.6,SNR=2.2						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**47.89**	**260**	P	**P**	**07 56 52.8**	**+0.8**
	1.6nm,0.3s,baz=55,slow=8.4,SNR=3.0						
	1.6nm,0.3s						
DBIC	**Dimbokro**	**56.73**	**257**	P	**P**	**07 57 58.8**	**+1.1**
	2.2nm,0.8s,baz=64,slow=10.0,SNR=1.9						
	2.2nm,0.8s						
KSRS	**Korea Array**	**63.06**	**61**	P	**P**	**07 58 40.8**	**-0.2**
	1.6nm,0.7s,baz=285,slow=7.0,SNR=5.2						
	1.6nm,0.7s						
SCHQ	**Schefferville**	**79.28**	**328**	P	**P**	**08 00 18.6**	**-0.3**
	2.0nm,0.7s,baz=58,slow=9.5,SNR=7.4						
	2.0nm,0.7s						
ILAR	**Eielson Array**	**84.01**	**7**	P	**P**	**08 00 43.0**	**-0.6**
	0.3nm,0.6s,baz=331,slow=3.9,SNR=7.5						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**86.44**	**353**	P	**P**	**08 00 55.3**	**-0.5**
	0.3nm,0.6s,baz=4.8,slow=4.7,SNR=8.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**96.60**	**113**	P	**P**	**08 01 43.1**	**-0.6**
	0.2nm,0.7s,baz=303,slow=4.5,SNR=1.7						
	0.2nm,0.7s						

*NNC **26** 07:55:08.3±3.4, 54°.32N×87°.01E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=38.7km s-min=17.3km az=179.0, Suspected Mining explosion.*

*IDC **26** 07:55:09.9±2.8, 54°.26N×86°.95E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=24.7km s-min=14.9km az=65.0*

ISC 26 07:55:13.1±5.1, 54°2N±0°2×86°6E±0°2, h0km, n9, σ0§76/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**257**	I	I	08 04 34.0	
	2.4nm,1.1s,baz=75,slow=338,SNR=32						
ZAA0	**Zalesovo Array**	**1.08**	**257**	⇑P	**Pg**	**07 55 32.8**	**-0.9**
	0.4nm,0.2s						
ZAA0				⇑S	**Sn**	**07 55 51.7**	**+0.6**
	11nm,1.1s						
ZALV	**Zalesovo Beam**	**1.08**	**257**	Pg	**Pg**	**07 55 32.8**	**-0.9**
	3.3nm,0.3s,baz=76,slow=17,SNR=37						
ZALV				Lg	Lg	07 55 51.7	
	3.0nm,0.3s,baz=79,slow=31,SNR=8.6						
KURK	**Kurchatov**	**6.00**	**238**	⇑Pn	**Pn**	**07 56 42.9**	**-0.1**
	6.7nm,1.4s						
KURK				⇑Lg	Lg	07 58 29.0	
	13nm,1.4s						
KUR15	**Kurchatov Arra**	**6.09**	**237**	⇓Pn	**Pn**	**07 56 44.8**	**+0.6**
	0.7nm,0.7s						
KUR15				⇓Lg	Lg	07 58 30.0	
	3.6nm,1.4s						
KURBB	**Kurchatov Arra**	**6.10**	**237**	Pn	**Pn**	**07 56 44.7**	**+0.3**
	0.1nm,0.3s,baz=54,slow=13,SNR=14						
KURBB				Lg	Lg	07 58 27.9	
	0.1nm,0.3s,baz=56,slow=32,SNR=9.6						
MK31	**Makanchi Array**	**7.91**

JTH **Tanohata** 0.52 241 ⇓*i*P Pn 08 06 38.6 -0.4
JTH ⇓S Sn 08 06 46.0 -0.7
JTH Tanohata 0.52 241 A A 08 06 38.6
comp=E,183nm,3.3s,comp=E,223nm,2.0s
JKEN Kujiedanarisaw 0.57 272 ⇓*i*P Pn 08 06 39.3 -0.4
JKEN ⇓S Sn 08 06 47.5 -0.5
JKEN Kujiedanarisaw 0.57 272 A A 08 06 39.3
comp=E,105nm,1.2s,comp=E,134nm,0.8s
JANG Nango 0.74 284 ⇓*i*P Pn 08 06 41.9 -0.2
JANG ⇓S Sn 08 06 52.5 +0.2
JANG Nango 0.74 284 A A 08 06 41.9
comp=E,48nm,1.9s,comp=E,26nm,1.5s
MIYJ Miyakonagasawa 0.78 218 *i*P Pn 08 06 42.1 -0.6
MIYJ S Sb 08 06 52.4 -0.8
MIYJ Miyakonagasawa 0.78 218 A A 08 06 42.1
comp=E,131nm,2.9s,comp=E,78nm,0.9s
JKZ Kuzumaki 0.88 257 ⇓P Pb 08 06 44.1 -0.6
JKZ ⇓S Sn 08 06 55.5 -0.4
JKZ Kuzumaki 0.88 257 A A 08 06 44.1
comp=E,43nm,1.9s,comp=E,51nm,1.2s
JOM Ohasama 1.14 231 ⇓*i*P Pb 08 06 48.0 -1.0
JOM ⇓S Sb 08 07 02.9 -0.6
JOM Ohasama 1.14 231 A A 08 06 48.0
comp=E,117nm,1.9s,comp=E,85nm,2.5s
JARK Aomorirokkasho 1.16 315 ⇓*i*P Pb 08 06 48.7 -0.6
JARK ⇓S Sb 08 07 03.8 -0.1
JARK Aomorirokkasho 1.16 315 A A 08 06 48.7
comp=E,139nm,1.1s,comp=E,77nm,3.4s
JTM Tenmabayashi 1.21 300 Pn Pb 08 06 49.4 -0.6
JTM Sn Sn 08 07 03.6 -0.2
JTM Tenmabayashi 1.21 300 P Pb 08 06 49.5 -0.6
JTM Tenmabayashi 1.21 300 ⇓P Pn 08 06 49.2 +0.7
JTM Tenmabayashi 1.21 300 A A 08 06 49.2
comp=E,44nm,1.2s,comp=E,67nm,2.6s
JSZI Iwateshizukuis 1.23 249 A A 08 06 49.7
comp=E,267nm,0.9s,comp=E,246nm,2.0s
OFUJ Ofunato 1.26 209 A A 08 06 49.4
comp=E,90nm,2.0s,comp=E,60nm,1.9s
JAHD Aomorihigashid 1.36 322 A A 08 06 51.6
comp=E,122nm,2.2s,comp=E,93nm,1.1s
JAH Hinai 1.39 270 ⇓P Pn 08 06 51.8 +0.7
JAH ⇓*e*S Sn 08 07 08.8 +0.5
JAH Hinai 1.39 270 A A 08 06 51.8
comp=E,79nm,1.0s,comp=E,71nm,1.0s
JMK Ichinoseki 1.56 218 P Pn 08 06 53.9 +0.5
JMK *e*S Sb 08 07 13.3 -2.1
JMK Ichinoseki 1.56 218 A A 08 06 53.9
comp=E,124nm,1.7s,comp=E,53nm,0.9s
JKMT Kesennumamotoy 1.57 209 A A 08 06 54.0
comp=E,43nm,1.1s,comp=E,33nm,2.3s
JOT Ohata 1.59 319 P Pn 08 06 54.7 +0.9
JOT *e*S Sn 08 07 14.6 +1.3
JOT Ohata 1.59 319 A A 08 06 54.7
comp=E,44nm,4.6s,comp=E,42nm,1.8s
JRG Rokugo 1.61 241 P Pn 08 06 54.6 +0.6
JRG *e*S Sn 08 07 14.1 +0.3
JRG Rokugo 1.61 241 A A 08 06 54.6
comp=E,61nm,0.8s,comp=E,62nm,0.9s
JHHS Hirosakihyakuz 1.66 287 A A 08 06 55.7
comp=E,114nm,1.7s,comp=E,97nm,4.1s
JNTW Noshirotokiwa 1.75 273 A A 08 06 57.0
comp=E,146nm,1.6s,comp=E,198nm,3.7s
JSI2 Shiura 2 1.77 300 A A 08 06 57.5
comp=E,71nm,2.1s,comp=E,54nm,1.1s
JYW Yuwa 1.84 250 A A 08 06 58.2
comp=E,148nm,1.4s,comp=E,158nm,2.1s
ERM Erimo 1.90 16 Pn Pn 08 06 59.6 +1.6
ERM Sn Sn 08 07 19.6 -1.2
ERM Erimo 1.90 16 P Pb 08 07 00.6 -1.1
ERM Erimo 1.90 16 P Pn 08 06 59.6 +1.6
ERM 08 07 19.6
JEM Erimo 1.90 16 P Pb 08 07 00.4 -1.4
JEM Erimo 1.90 16 A A 08 06 59.4
comp=E,25nm,7.6s,comp=E,19nm,1.2s
JIW Iwasaki 1.91 283 A A 08 06 59.3
comp=E,52nm,3.3s,comp=E,27nm,3.7s
JIO Ouri 1.93 207 A A 08 06 59.2
comp=E,24nm,0.5s,comp=E,21nm,0.8s
JOFO Osakifurukawao 1.99 217 A A 08 07 00.0
comp=E,177nm,1.4s,comp=E,161nm,1.2s
JKB Kayabe 2.00 328 A A 08 07 00.9
comp=E,24nm,3.1s,comp=E,26nm,3.0s
JIKH Ishinomakikobu 2.03 202 A A 08 07 00.5
comp=E,26nm,0.9s,comp=E,16nm,0.6s
JSR Shiriuchi 2.04 312 A A 08 07 01.4
comp=E,25nm,2.3s,comp=E,32nm,1.4s
JYK Kaneyama 2.06 232 A A 08 07 01.1
comp=E,37nm,2.2s,comp=E,36nm,1.7s
JNBK Urakawa-nobuka 2.10 6 A A 08 07 02.3
comp=E,41nm,1.8s,comp=E,39nm,0.8s
JTHR Tokachihiroo 2.19 17 A A 08 07 03.6
comp=E,24nm,2.1s,comp=E,20nm,0.9s
JSHD Hidakashinhida 2.21 0 A A 08 07 03.9
comp=E,54nm,2.7s,comp=E,57nm,2.8s
JYYZ Yamagatayuza 2.27 240 A A 08 07 04.2
comp=E,93nm,3.3s,comp=E,136nm,2.2s
JOMM Oshimamtsumae 2.28 306 A A 08 07 04.8
comp=E,16nm,2.5s,comp=E,14nm,1.6s
JOU Okura 2.29 218 A A 08 07 04.4
comp=E,55nm,1.1s,comp=E,42nm,0.8s
JTB Tobi-shima 2.44 247 A A 08 07 06.7
comp=E,31nm,1.8s,comp=E,49nm,3.7s
JIAM Iburiatsuma 2.46 351 A A 08 07 07.4
comp=E,64nm,0.9s,comp=E,78nm,1.1s
JYM2 Yakumo 2 2.48 321 A A 08 07 07.7
comp=E,17nm,3.5s,comp=E,18nm,1.5s
JNB Noboribetsu 2.51 335 A A 08 07 08.2
comp=E,14nm,3.4s,comp=E,14nm,2.8s
JCH Churui 2.52 16 A A 08 07 08.2
comp=E,21nm,3.3s,comp=E,15nm,1.5s
JBT2 Biratori 2 2.58 359 A A 08 07 09.2
comp=E,19nm,5.1s,comp=E,19nm,4.3s
JOG3 Oga3 2.60 265 A A 08 07 01.1
comp=E,33nm,2.0s,comp=E,53nm,4.4s
JYA Atsumi 2.65 234 A A 08 07 09.7
comp=E,99nm,1.6s,comp=E,119nm,1.6s
JMM Marumori 2.66 210 Pn Pn 08 07 09.8 +1.3
JMM Marumori 2.66 210 P Pn 08 07 10.1 +1.6
JMM Marumori 2.66 210 A A 08 07 09.5
comp=E,30nm,2.5s,comp=E,54nm,0.9s
JYS Shirataka 2.70 224 A A 08 07 10.3
comp=E,77nm,1.5s,comp=E,86nm,2.8s
JEW Eniwo 2.75 344 A A 08 07 11.6
comp=E,30nm,3.2s,comp=E,32nm,3.1s
JMST Minamisoumatoc 2.75 207 A A 08 07 10.9
comp=E,26nm,1.0s,comp=E,35nm,0.8s
JYAR Yonezawaarcadi 2.90 219 A A 08 07 13.1
comp=E,122nm,1.1s,comp=E,107nm,1.4s
JOB Onbets 2.90 21 A A 08 07 13.7
comp=E,25nm,1.2s,comp=E,22nm,2.2s
JHST Hiyamasetana 2.95 320 A A 08 07 14.4
comp=E,19nm,2.9s,comp=E,22nm,4.5s
JFR Furan 2.97 2 A A 08 07 14.7
comp=E,12nm,2.3s,comp=E,14nm,2.9s
JAW Awa shima 3.03 236 A A 08 07 15.0
comp=E,20nm,5.3s,comp=E,25nm,3.3s
JSH Shimam 3.04 324 A A 08 07 15.7
comp=E,10.0nm,3.7s,comp=E,6.0nm,2.6s
JFK Kawauchi 3.08 204 A A 08 07 15.5
comp=E,16nm,1.5s,comp=E,13nm,1.8s
JISS Ishikarishitsu 3.17 346 A A 08 07 17.6
comp=E,28nm,2.6s,comp=E,23nm,4.1s
JAR Ashorobuto 3.25 17 A A 08 07 18.7
comp=E,18nm,1.1s,comp=E,18nm,2.4s
JAK Akkeshi 3.27 30 A A 08 07 18.8
comp=E,18nm,1.4s,comp=E,17nm,2.6s
JAB Ashibetsu 3.31 357 A A 08 07 19.6
comp=E,27nm,1.5s,comp=E,30nm,3.7s
ONAJ Iwakimizuishiy 3.35 203 A A 08 07 19.3
comp=E,19nm,1.6s,comp=E,12nm,0.9s
JNS Sasagawa 3.40 227 A A 08 07 20.2
comp=E,14nm,2.9s,comp=E,17nm,2.3s
JFFD Fukushimafurud 3.43 206 A A 08 07 20.5
comp=E,13nm,0.8s,comp=E,11nm,0.8s
JSK Shakotan 3.48 336 A A 08 07 22.0
comp=E,6.0nm,2.7s,comp=E,10.0nm,5.4s
JFY Yanaizu 3.51 218 A A 08 07 21.7
comp=E,21nm,3.3s,comp=E,16nm,3.0s
JKHN Kushirohamanak 3.53 34 A A 08 07 22.5
comp=E,14nm,0.8s,comp=E,27nm,1.3s
JHR Hokuryu 3.59 352 A A 08 07 23.5
comp=E,23nm,1.5s,comp=E,18nm,1.7s
JKK2 Kamakawa 2 3.68 3 A A 08 07 24.8
comp=E,11nm,2.8s,comp=E,15nm,2.1s
JSB Shiboa 3.78 212 A A 08 07 25.5
comp=E,28nm,3.2s,comp=E,27nm,1.1s

JHO Hitachi 3.87 203 A A 08 07 26.7
comp=E,5.0nm,1.0s,comp=E,7.0nm,1.2s
JMP Maruseppu 3.87 10 A A 08 07 27.4
comp=E,11nm,4.4s,comp=E,7.0nm,4.5s
JSD Sado 3.91 238 Pn Pn 08 07 27.1 +1.5
JSD Sado 3.91 238 P Pn 08 07 28.1 +2.5
ASAJ Asahikawa 3.92 2 P Pn 08 07 28.2 +2.4
79nm,0.3s,baz=221,slow=13,SNR=87
ASAJ S Sn 08 08 13.2 +2.4
696nm,0.7s,baz=176,slow=28,SNR=3.8
ASAJ LR LR 08 09 27.5
comp=Z,8μm,21.6s,baz=196,slow=45
JKA Kamikawa-asahi 3.92 2 Pn Pn 08 07 28.3 +2.4
JIZZ Izumozaki 3.95 229 A A 08 07 27.9
comp=E,43nm,2.8s,comp=E,42nm,3.5s
JUON Uonuma 3.99 223 A A 08 07 28.5
comp=E,12nm,2.7s,comp=E,9.0nm,3.2s
NMR Nemuro--Hokkai 4.01 37 ⇓*i*P Pn 08 07 27.3 +0.3
NMR *i*S Sn 08 08 10.0 -2.9
NEM2 Nemuro 2 4.01 37 A A 08 07 29.3
comp=E,9.0nm,0.8s,comp=E,11nm,0.7s
JNSB Nemuroshibetsu 4.05 27 A A 08 07 29.9
comp=E,12nm,2.7s,comp=E,14nm,3.0s
JHYU Hitachinakayam 4.12 201 A A 08 07 30.2
comp=E,8.0nm,1.0s,comp=E,8.0nm,3.0s
JRA Rausu 4.24 27 A A 08 07 32.5
comp=E,7.0nm,3.0s,comp=E,5.0nm,1.3s
JYT Yasato 4.34 205 A A 08 07 33.3
comp=E,12nm,1.8s,comp=E,8.0nm,1.2s
RUSJ Misakicho 4.43 27 ⇓*i*P Pn 08 07 34.4 +1.6
RUSJ *e*S Sn 08 08 21.8 -1.4
JAG Ashikaga 4.44 213 A A 08 07 34.7
comp=E,9.0nm,4.0s,comp=E,8.0nm,2.1s
JIHU Itakohorinouch 4.48 200 A A 08 07 35.4
comp=E,29nm,2.7s,comp=E,45nm,1.7s
JJN Nakama 4.56 229 A A 08 07 36.5
comp=E,21nm,2.8s,comp=E,34nm,2.9s
YUK Yuzh-Kuril'sk 4.60 32 *d*/P Pn 08 07 36.0 +0.8
YUK *i*S Sn 08 08 25.1 -2.4
YUK pmax pmax
comp=E,567nm,0.3s
YUK pmax pmax
comp=Z,2μm,0.3s
YUK pmax pmax
comp=N,585nm,0.4s
YUK smax smax
comp=N,8μm,0.5s
YUK smax smax
comp=E,5μm,0.5s
YUK MLR MLR
comp=Z,4μm,13.0s
YUK MLR MLR
comp=E,3μm,14.0s
YUK MLR MLR
comp=N,4μm,11.0s
JGK Kuni 4.70 221 A A 08 07 38.5
comp=N,15nm,2.8s,comp=N,14nm,3.2s
MAJO Matsushiro 4.94 224 Pn Pn 08 07 42.5 +2.7
MAJO Matsushiro 4.94 224 P Pn 08 07 43.3 +3.4
MAJO Matsushiro 4.94 224 *c*/P Pn 08 07 42.7 +2.8
MJAR Matsushiro Arr 4.94 224 P Pn 08 07 42.5 +2.6
comp=N,353nm,0.6s,baz=32,slow=13,SNR=636
MJAR S Sn 08 08 40.6 +4.7
comp=N,91nm,0.8s,baz=41,slow=19,SNR=1.5
MJAR LR LR 08 09 51.7
comp=N,5μm,21.0s,baz=41,slow=42
TOK Tokyo 4.98 206 A A 08 07 42.2
comp=N,27nm,1.4s,comp=N,28nm,1.9s
JHU Hanno 5.00 211 A A 08 07 42.6
comp=N,10.0nm,1.4s,comp=N,6.0nm,1.3s
JWK2 Keihoku 5.14 356 A A 08 07 45.2
comp=N,6.0nm,3.0s,comp=N,6.0nm,4.5s
JTT Ttatey 5.38 230 A A 08 07 48.1
comp=N,5.0nm,3.8s,comp=N,8.0nm,3.4s
JYO Yokosk 5.43 205 A A 08 07 48.6
comp=N,13nm,2.8s,comp=N,15nm,1.9s
TATJ Tateyama 2 5.54 202 A A 08 07 50.1
comp=N,18nm,1.8s,comp=N,23nm,2.0s
JOD2 Odawara 2 5.59 209 A A 08 07 50.9
comp=N,7.0nm,5.6s,comp=N,8.0nm,2.3s
JFNN Fujinakano 5.81 212 A A 08 07 54.0
comp=N,9.0nm,2.2s,comp=N,10.0nm,2.3s
JNY Yasuok 6.04 218 A A 08 07 57.2
comp=N,5.0nm,4.3s,comp=N,6.0nm,6.3s
JGF Kuroka 6.10 223 Pn Pn 08 07 58.2 +2.4
JGF Kuroka 6.10 223 P Pn 08 07 59.5 +3.7
JIZS Izushimoda 6.16 209 A A 08 07 58.8
comp=N,6.0nm,2.1s,comp=N,4.0nm,2.4s
KUR Kuril'sk 6.42 37 *e*P Pn 08 08 01.7 +1.5
KUR *i*S Sn 08 09 10.7 -1.7
KUR pmax pmax
comp=N,251nm,0.6s
KUR pmax pmax
comp=Z,655nm,0.6s
KUR pmax pmax
comp=E,223nm,0.4s
KUR smax smax
comp=N,2μm,0.6s
KUR smax smax
comp=E,868nm,0.5s
JSG Sagara 6.47 213 Pn 08 08 02.9 +2.1
JSG Sagara 6.47 213 P Pn 08 08 03.1 +2.3
JSG Sagara 6.47 213 A A 08 08 03.1
comp=E,12nm,5.1s,comp=E,8.0nm,2.7s
INU Inuyama 6.47 223 Pn Pn 08 08 03.1 +2.2
INU Inuyama 6.47 223 P Pn 08 08 04.7 +3.8
TEY Ternei 6.48 320 ⇑*e*P Pn 08 08 03.5 +2.5
TEY pmax pmax
comp=N,50nm,0.6s
TEY pmax pmax
comp=E,50nm,0.6s
TEY pmax pmax
comp=Z,50nm,0.6s
TEY MLR MLR
comp=E,100nm,18.0s
TEY MLR MLR
comp=N,100nm,20.0s
TEY MLR MLR
comp=Z,200nm,18.0s
YSS Yuzh-Sakhalins 6.76 2 Pn Pn 08 08 07.0 +2.2
YSS Yuzh-Sakhalins 6.76 2 P Pn 08 08 07.6 +2.8
YSS Yuzh-Sakhalins 6.76 2 *oe*P Pn 08 08 07.3 +2.5
YSS *e*S Sn 08 09 20.0 -0.7
YSS pmax pmax
comp=Z,290nm,1.0s
YSS pmax pmax
comp=Z,400nm,3.1s
YSS pmax pmax
comp=N,400nm,3.0s
YSS smax smax
comp=N,700nm,3.4s
YSS smax smax
comp=E,900nm,3.4s
YSS smax smax
comp=N,220nm,1.1s
YSS smax smax
comp=E,130nm,1.0s
JHJ Hachijo jima 2 7.38 198 P Pn 08 08 14.1 +0.8
comp=E,140nm,0.3s,baz=34,slow=7.3,SNR=6.8
JHJ S Sn 08 09 30.0 -5.9
comp=E,211nm,0.4s,baz=88,slow=22,SNR=1.4
JHJ2 Mitsune 7.38 197 Pn Pn 08 08 14.4 +1.1
JHJ2 Mitsune 7.38 197 P Pn 08 08 15.3 +2.0
USA0B Ussuriysk Arra 8.73 301 Pn 08 08 34.8 +2.9
USA0B Ussuriysk Arra 8.73 301 *c*/P Pn 08 08 36.3 +4.4
USRK Ussuriysk Ar. 8.73 301 P Pn 08 08 36.4 +4.5
comp=E,134nm,0.8s,baz=107,slow=13,SNR=53
USRK LR LR 08 11 51.5
comp=E,4μm,18.7s,baz=117,slow=37
USRK Ussuriysk Ar. 8.73 301 Pn 08 08 34.5 +2.7
USRK Ussuriysk Ar. 8.73 301 P Pn 08 08 34.6 +2.7
UGL Uglegorsk 8.89 358 *e*P Pn 08 08 35.5 +1.5
UGL *e*S Sn 08 10 16.5 +3.5
UGL pmax pmax
comp=Z,380nm,4.0s
UGL pmax pmax
comp=Z,70nm,0.8s
UGL MLR MLR
comp=E,2μm,15.0s
UGL MLR MLR
comp=N,2μm,16.0s
UGL MLR MLR
comp=Z,3μm,22.0s
JHS Saijyo 9.04 238 Pn 08 08 39.3 +3.2
JHS Saijyo 9.04 238 P Pn 08 08 40.3 +4.2
JMN Monobe 9.41 229 Pn Pn 08 08 42.9 +1.6

JMN Monobe 9.41 229 P Pn 08 08 43.3 +2.0
MDJ Mudanjiang 10.48 299 Pn Pn 08 08 59.3 +3.5
MDJ Mudanjiang 10.48 299 P Pn 08 09 00.3 +4.4
MDJ S Sn 08 11 01.0 +8.8
MDJ pmax pmax
comp=Z,74nm,0.9s
MDJ pmax pmax
comp=Z,410nm,3.6s
MDJ LR LR
comp=Z,2μm,14.3s
MDJ LR LR
comp=Z,4μm,18.4s
MDJ LR LR
comp=Z,5μm,19.2s
MDJ Mudanjiang 10.48 299 P Pn 08 09 00.0 +4.1
TYV Tymovskoe 10.67 1 *e*P Pn 08 09 00.2 +1.8
TYV pmax pmax
comp=Z,100nm,3.2s
TYV pmax pmax
comp=Z,64nm,0.7s
TYV MLR MLR
comp=N,3μm,21.0s
TYV MLR MLR
comp=Z,4μm,21.0s
GRNR Gornyy 11.39 340 ⇓*i*P Pn 08 09 10.6 +2.4
GRNR *e*S Sn 08 11 19.1 +4.9
GRNR pmax pmax
comp=E,8.0nm,0.7s
GRNR pmax pmax
comp=N,10.0nm,0.6s
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR smax smax
comp=N,5.0nm,0.6s
GRNR MLR MLR
comp=E,640nm,12.0s
GRNR MLR MLR
comp=N,690nm,20.0s
GRNR MLR MLR
comp=Z,1μm,18.0s
KSRS Korea Array 11.66 261 P Pn 08 09 15.7 +3.8
comp=Z,35nm,1.0s,baz=79,slow=13,SNR=33
KSRS LR LR 08 13 27.9
comp=Z,3μm,18.5s,baz=70,slow=36
JNU Nakatsue 11.66 236 P Pn 08 09 13.5 +1.4
comp=Z,44nm,0.8s,baz=28,slow=6.4,SNR=22
JNU LR LR 08 14 06.9
comp=Z,2μm,18.1s,baz=47,slow=39
JNU Nakatsue 11.66 236 Pn 08 09 13.1 +1.1
KS19 Wonju Array Si 11.69 261 Pn 08 09 16.4 +4.1
KSAR Wonju Array Be 11.69 261 Pn 08 09 14.7 +2.3
KSAR Wonju Array Be 11.69 261 P Pn 08 09 14.7 +2.3
KLR Kul'dur 11.80 323 P Pn 08 09 15.3 +1.4
comp=Z,28nm,1.0s,baz=133,slow=12,SNR=40
KLR LR LR 08 14 01.9
comp=Z,3μm,18.1s,baz=138,slow=38
KLR Kul'dur 11.80 323 *de*P Pn 08 09 15.7 +1.8
KLR pmax pmax
comp=Z,34nm,1.0s
JTU Tsushima 11.82 246 P Pn 08 09 18.3 +4.1
BNX BinXian 12.33 302 ⇑P Pn 08 09 22.5 +1.4
BNX pP P 08 09 31.0 -1.9
BNX PP PnPn 08 09 33.0 +4.2
BNX sP 08 09 38.5
BNX S Sn 08 11 33.8 -3.5
BNX pmax pmax
comp=Z,8.0nm,1.1s
BNX pmax pmax
comp=Z,230nm,3.5s
BNX LR LR
comp=Z,1μm,14.7s
BNX LR LR
comp=Z,2μm,17.3s
BNX LR LR
comp=Z,3μm,16.7s
TJN Taejon 12.45 257 Pn 08 09 26.0 +3.2
TJN Taejon 12.45 257 P Pn 08 09 26.5 +3.7
TJN Taejon 12.45 257 P Pn 08 09 26.0 +3.2
JSU Suzuyama 13.02 232 Pn 08 09 31.2 +0.6
JCJ Chichijima 13.06 181 P Pn 08 09 33.4 +2.2
comp=Z,42nm,0.5s,baz=294,slow=19,SNR=5.8
JCJ S Sn 08 11 45.6 -10
comp=Z,47nm,0.6s,baz=270,slow=21,SNR=1.3
JCJ LR LR 08 15 46.7
comp=Z,496nm,20.8s,baz=318,slow=43
JCJ Chichijima 13.06 181 Pn Pn 08 09 29.8 -1.4
JCJ Chichijima 13.06 181 P Pn 08 09 32.0 +0.8
CN2 Changchun 13.15 291 *e*P Pn 08 09 35.0 +2.7
CN2 *e*S Sn 08 11 59.0 +1.6
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,20.0s
OKH Okha 13.37 1 *de*P Pn 08 09 32.9 -2.3
OKH *e*S Sn 08 11 57.8 -4.7
OKH smax smax
comp=E,200nm,15.3s
OKH smax smax
comp=N,200nm,15.2s
OKH MLR MLR
comp=Z,2μm,17.0s
OKH MLR MLR
comp=E,2μm,17.0s
OKH MLR MLR
comp=N,2μm,18.0s
SKR Severo-Kuril's 14.19 38 *e*P P 08 09 54.1 +0.6
SKR pmax pmax
comp=Z,200nm,3.5s
SKR pmax pmax
comp=Z,1μm,2.8s
SKR MLR MLR
comp=Z,400nm,16.0s
SNY Shenyang 14.35 283 ⇑P Pn 08 09 51.5 +2.9
SNY S S 08 12 37.8 -8.2
SNY pmax pmax
comp=Z,43nm,0.9s
SNY pmax pmax
comp=Z,560nm,8.8s
SNY LR LR
comp=Z,940nm,14.3s
SNY LR LR
comp=Z,2μm,20.1s
SNY LR LR
comp=Z,4μm,19.2s
HEH HeiHe 14.58 319 *e*P Pn 08 09 50.5 -1.3
HEH sP P 08 10 04.0 +6.1
HEH S Sn 08 12 31.0 -1.2
HEH pmax pmax
comp=Z,10.0nm,1.2s
HEH pmax pmax
comp=Z,300nm,5.2s
HEH LR LR
comp=Z,2μm,16.7s
HEH LR LR
comp=Z,2μm,18.2s
HEH LR LR
comp=Z,3μm,20.4s
DL2 Dalian 16.11 272 ⇑*i*P P 08 10 15.5 +0.6
DL2 *e*S Sn 08 13 14.8 +5.2
DL2 pmax pmax
comp=Z,120nm,0.8s
DL2 pmax pmax
comp=Z,360nm,4.3s
DL2 LR LR
comp=Z,810nm,18.9s
DL2 LR LR
comp=Z,920nm,21.1s
DL2 LR LR
comp=Z,1μm,27.4s
PEA0B Petropavlovsk- 16.58 34 Pn Pn 08 10 16.9 -0.8
PEA0B Petropavlovsk- 16.58 34 ⇑*e*P Pn 08 10 17.2 -0.6
PETK Petropavlovsk- 16.58 34 P Pn 08 10 15.6 -2.2
comp=Z,6.6nm,0.8s,baz=214,slow=10,SNR=5.2
PETK LR LR 08 17 11.5
comp=Z,442nm,18.1s,baz=219,slow=39
PET Petropavlovsk 16.94 35 Pn Pn 08 10 21.3 -0.9
PET Petropavlovsk 16.94 35 *e*P Pn 08 10 21.8 -0.4
PET *e*S Sn 08 13 19.7 -10
PET pmax pmax
comp=Z,44nm,1.3s

PET				MLR	MLR			
	comp=Z,800nm,18.0s							
PET				MLR	MLR			
	comp=Z,1μm,15.0s							
ZEA	**Zeya**	**17.01**	**328**	*e*P	**Pn**	**08**	**10**	**22.0 -1.2**
ZEA				pmax	pmax			
	comp=Z,100nm,1.2s							
ZEA				pmax	pmax			
	comp=E,40nm,1.1s							
ZEA				pmax	pmax			
	comp=N,70nm,0.9s							
ZEA				pmax	pmax			
	comp=Z,110nm,1.0s							
ZEA				MLR	MLR			
	comp=E,800nm,18.0s							
ZEA				MLR	MLR			
	comp=N,1μm,14.0s							
ZEA				MLR	MLR			
	comp=Z,1μm,16.0s							
JOW	**Kunigami**	**17.78**	**226**	P	**Pn**	**08**	**10**	**31.8 -1.1**
	comp=Z,33nm,0.8s,baz=15,slow=12,SNR=4.1							
JOW	**Kunigami**	**17.78**	**226**	P	**Pn**	**08**	**10**	**31.0 -1.9**
HIA	**Hailar**	**18.45**	**307**	P	**P**	**08**	**10**	**38.6 -2.1**
HIA	**Hailar**	**18.45**	**307**	P	**P**	**08**	**10**	**38.6 -2.1**
HIA				pmax	pmax			
	comp=Z,47nm,1.1s							
SSE	**Sheshan**	**19.48**	**249**	P	**P**	**08**	**10**	**51.5 -0.6**
SSE				pP	**pP**	**08**	**11**	**00.0 -0.3**
SSE				S	**S**	**08**	**14**	**28.8 -1.7**
SSE				pmax	pmax			
	comp=Z,59nm,1.0s							
XLT	**XiLinHaoTe**	**19.90**	**289**	*e*P	**P**	**08**	**10**	**55.0 -1.7**
XLT				pP	pP	08	11	05.8 +1.0
XLT				sP	sP	08	11	10.5 +1.7
XLT				S	**S**	**08**	**14**	**32.5 -6.5**
XLT				sS	sS	08	14	49.5 -2.3
XLT				SS	**SnSn**	**08**	**15**	**00.5 +5.0**
XLT				pmax	pmax			
	comp=Z,130nm,1.2s							
XLT				pmax	pmax			
	comp=Z,260nm,4.5s							
XLT				LR	LR			
	comp=Z,940nm,17.0s							
XLT				LR	LR			
	comp=Z,1μm,17.4s							
BJI	**Beijing**	**20.07**	**278**	P	**P**	**08**	**10**	**56.8 -1.7**
BJI				pP	**pP**	**08**	**11**	**04.3 -2.4**
BJI				sP	**sP**	**08**	**11**	**10.0 -0.6**
BJI				pmax	pmax			
	comp=Z,21nm,1.0s							
BJI				pmax	pmax			
	comp=Z,180nm,7.0s							
BJI				LR	LR			
	comp=Z,170nm,16.8s							
BJI				LR	LR			
	comp=Z,540nm,17.5s							
BJI				LR	LR			
	comp=Z,730nm,18.7s							
BJT	**Baijiatuau**	**20.08**	**278**	P	**P**	**08**	**10**	**57.2 -1.4**
MA2	**Magadan**	**20.10**	**12**	P	**P**	**08**	**10**	**57.8 -0.9**
	comp=Z,38nm,0.6s,baz=198,slow=10,SNR=43							
MA2				LR	LR	08	20	15.8
	comp=Z,620nm,18.4s,baz=200,slow=41							
	comp=Z,38nm,0.6s							
MA2	**Magadan**	**20.10**	**12**	P	**P**	**08**	**10**	**57.9 -0.7**
MA2	**Magadan**	**20.10**	**12**	*de*P	**P**	**08**	**10**	**58.4 -0.2**
MA2				pmax	pmax			
	comp=Z,52nm,0.6s							
TIA	**Tai'an**	**20.27**	**267**	P	**P**	**08**	**10**	**59.5 -1.2**
TIA				pP	**sP**	**08**	**11**	**14.5 +1.7**
TIA				S	**S**	**08**	**14**	**39.5 -6.9**
TIA				SS	**SnSn**	**08**	**15**	**13.3 +8.6**
TIA				pmax	pmax			
	comp=Z,39nm,0.8s							
TIA				pmax	pmax			
	comp=Z,200nm,3.5s							
TIA				LR	LR			
	comp=Z,630nm,18.7s							
TIA				LR	LR			
	comp=Z,1μm,15.8s							
TIA				LR	LR			
	comp=Z,2μm,17.2s							
NJ2	**Nanjing**	**20.68**	**254**	*e*P	**P**	**08**	**11**	**03.5 -1.6**
NJ2				pP	**pP**	**08**	**11**	**14.3 +1.0**
NJ2				sP	**sP**	**08**	**11**	**16.5 -0.8**
NJ2				pmax	pmax			
	comp=Z,190nm,0.8s							
NJ2				LR	LR			
	comp=Z,810nm,13.8s							
NJ2				LR	LR			
	comp=Z,900nm,16.6s							
NJ2				LR	LR			
	comp=Z,1μm,17.1s							
HNS	**HongShan**	**21.77**	**272**	⇓P	**P**	**08**	**11**	**14.0 -2.8**
HNS				pP	**pP**	**08**	**11**	**23.5 -1.5**
HNS				*e*S	**S**	**08**	**15**	**08.3 -7.6**
HNS				SS	**SnSn**	**08**	**15**	**47.5 +6.2**
HNS				pmax	pmax			
	comp=Z,31nm,1.0s							
HNS				LR	LR			
	comp=Z,590nm,18.7s							
HNS				LR	LR			
	comp=Z,1μm,18.3s							
HNS				LR	LR			
	comp=Z,1μm,19.9s							
CIT	**Chita**	**23.10**	**310**	*e*P	**P**	**08**	**11**	**28.3 -2.6**
CIT				*e*		08	11	40.7
CIT				*e*		08	11	58.7
CIT				*e*		08	12	10.7
CIT				pmax	pmax			
	comp=Z,442nm,1.3s							
YAK	**Yakutsk**	**23.20**	**345**	P	**P**	**08**	**11**	**29.5 -2.2**
	comp=Z,100nm,0.6s,baz=177,slow=0.3,SNR=38							
YAK				LR	LR	08	21	13.0
	comp=Z,494nm,18.2s,baz=144,slow=38							
YAK	**Yakutsk**	**23.20**	**345**	P	**P**	**08**	**11**	**29.3 -2.4**
YAK	**Yakutsk**	**23.20**	**345**	*c iP*	**P**	**08**	**11**	**29.5 -2.2**
YAK				*e**PP	**pP**	**08**	**11**	**40.1 +0.1**
YAK				*e*		08	11	55.7
YAK				*e*S	**S**	**08**	**15**	**36.0 -5.2**
YAK				*e**SS	**sS**	**08**	**15**	**55.5 -0.1**
YAK				pmax	pmax			
	comp=Z,247nm,0.9s							
YAK				pmax	pmax			
	comp=E,13nm,0.7s							
YAK				pmax	pmax			
	comp=N,81nm,1.0s							
YAK				pmax	pmax			
	comp=Z,119nm,1.2s							
YAK				pmax	pmax			
	comp=N,67nm,1.0s							
YAK				pmax	pmax			
	comp=E,27nm,0.6s							
YAK				smax	smax			
	comp=E,200nm,1.8s							
YAK				smax	smax			
	comp=N,403nm,2.5s							
YAK				MLR	MLR			
	comp=Z,791nm,14.0s							
YAK				MLR	MLR			
	comp=N,626nm,18.0s							
YAK				MLR	MLR			
	comp=E,278nm,14.0s							
TIY	**Taiyuan**	**23.42**	**274**	⇓P	**P**	**08**	**11**	**35.8 +1.6**
TIY				S	**S**	**08**	**15**	**37.0 -8.5**
TIY				pmax	pmax			
	comp=E,23nm,0.8s							
TIY				pmax	pmax			
	comp=E,72nm,4.2s							
TIY				LR	LR			
	comp=E,460nm,13.1s							
TIY				LR	LR			
	comp=E,630nm,17.2s							
TIY				LR	LR			
	comp=E,790nm,19.9s							
HHC	**Hu-ho-hao-te**	**23.43**	**282**	*e*P	**P**	**08**	**11**	**35.5 +1.2**
HHC				PP	**PnPn**	**08**	**12**	**07.5 +6.4**
HHC				S	**S**	**08**	**15**	**46.5 +0.9**
HHC				pmax	pmax			
	comp=E,55nm,1.0s							
HHC				pmax	pmax			
	comp=E,250nm,6.7s							
HHC				LR	LR			
	comp=E,1μm,16.9s							
HHC				LR	LR			
	comp=E,3μm,18.2s							
HHC				LR	LR			
	comp=E,4μm,18.1s							
YHNB	**Yeheng**	**23.49**	**235**	P	**P**	**08**	**11**	**32.0 -2.9**
SEY	**Seymchan**	**23.54**	**11**	P	**P**	**08**	**11**	**34.0 -1.0**
	comp=E,82nm,0.9s,baz=186,slow=8.2,SNR=65							
SEY				LR	LR	08	22	26.8
	comp=E,534nm,18.3s,baz=193,slow=41							
	comp=E,82nm,0.9s							
SEY	**Seymchan**	**23.54**	**11**	⇓*e*P	**P**	**08**	**11**	**34.7 -0.3**
SEY				pmax	pmax			
	comp=Z,24nm,0.6s							
NACB	**Ninganchiao**	**23.71**	**234**	P	**P**	**08**	**11**	**33.3 -3.8**
SSLB	**Suanglung**	**24.39**	**234**	P	**P**	**08**	**11**	**41.9 -1.5**
SSLB				IAmb	IAmb	08	11	47.3
	comp=Z,173nm,1.8s							
LYN	**LuoYang**	**24.41**	**266**	⇑P	**P**	**08**	**11**	**40.8 -2.7**
LYN				pP	pP	08	11	50.0 -2.4
LYN				sP	sP	08	12	00.3 +4.3
LYN				PP	**PnPn**	**08**	**12**	**22.8 +8.3**
LYN				S	**S**	**08**	**15**	**58.5 -2.8**
LYN				pmax	pmax			
	comp=Z,27nm,0.8s							
LYN				pmax	pmax			
	comp=Z,210nm,4.0s							
LYN				LR	LR			
	comp=Z,700nm,16.7s							
LYN				LR	LR			
	comp=Z,1μm,16.9s							
LYN				LR	LR			
	comp=Z,2μm,17.0s							
BTO	**Baotou**	**24.63**	**282**	*e*P	**P**	**08**	**11**	**44.0 -1.5**
BTO				LR	LR			
	comp=Z,2μm,14.3s							
BTO				LR	LR			
	comp=Z,6μm,18.8s							
WHN	**Wuhan**	**24.77**	**256**	⇓P	**P**	**08**	**11**	**46.0 -0.7**
WHN				sP	**sP**	**08**	**12**	**02.0 +2.8**
WHN				S	**S**	**08**	**16**	**03.3 -3.7**
WHN				pmax	pmax			
	comp=Z,190nm,0.7s							
WHN				LR	LR			
	comp=Z,2μm,16.0s							
WHN				LR	LR			
	comp=Z,3μm,14.7s							
WHN				LR	LR			
	comp=Z,5μm,17.9s							
SHEM	**Shemya Is, Ala**	**24.93**	**49**	LR	LR	08	20	47.1
	comp=Z,380nm,21.8s,baz=272,slow=34							
TPUB	**Ta-pu**	**24.95**	**234**	P	**P**	**08**	**11**	**46.4 -2.1**
TPUB				IAmb	IAmb	08	12	00.7
	comp=Z,208nm,1.5s							
TPUB	**Ta-pu**	**24.95**	**234**	P	**P**	**08**	**11**	**48.0 -0.5**
BOD	**Bodaibo**	**25.38**	**324**	*e*P	**P**	**08**	**11**	**51.1 -0.9**
BOD				pmax	pmax			
	comp=Z,142nm,1.0s							
KNMB	**Chin-men Tao**	**25.56**	**239**	P	**P**	**08**	**11**	**53.5 -0.4**
KNMB				IAmb	IAmb	08	11	57.2
	comp=Z,70nm,0.9s							
ULN	**Ulaanbaatar**	**26.40**	**299**	P	**P**	**08**	**12**	**01.4 -0.1**
ULN	**Ulaanbaatar**	**26.40**	**299**	P	**P**	**08**	**12**	**01.4 -0.1**
ULN				pmax	pmax			
	comp=Z,24nm,0.8s							
ULN	**Ulaanbaatar**	**26.40**	**299**	P	**P**	**08**	**12**	**00.8 -0.7**
ULN				S	**S**	**08**	**16**	**22.9 -10**
GUMO	**Guam**	**26.59**	**175**	LR	LR	08	21	27.1
	comp=Z,449nm,21.5s,baz=8.0,slow=34							
SONM	**Songino Array**	**26.84**	**299**	P	**P**	**08**	**12**	**05.3 -0.1**
	comp=Z,34nm,0.9s,baz=103,slow=7.5,SNR=109							
SONM				LR	LR	08	23	17.0
	comp=Z,2μm,18.7s,baz=104,slow=38							
	comp=Z,34nm,0.9s							
SONM	**Songino Array**	**26.84**	**299**	P	**P**	**08**	**12**	**05.4 -0.1**
SONM	**Songino Array**	**26.84**	**299**	P	**P**	**08**	**12**	**05.4 -0.1**
SONM				pmax	pmax			
	comp=Z,39nm,1.0s							
CNSH	**ChangSha**	**27.07**	**253**	⇑P	**P**	**08**	**12**	**06.5 -1.0**
CNSH				S	**S**	**08**	**16**	**41.0 -2.5**
CNSH				pmax	pmax			
	comp=Z,69nm,0.9s							
CNSH				LR	LR			
	comp=Z,570nm,17.7s							
CNSH				LR	LR			
	comp=Z,640nm,17.8s							
CNSH				LR	LR			
	comp=Z,460nm,18.4s							
XAN	**Xi'an**	**27.32**	**268**	⇑P	**P**	**08**	**12**	**07.8 -2.1**
XAN				pP	pP	08	12	18.5 -0.2
XAN				pmax	pmax			
	comp=Z,23nm,0.8s							
XAN				LR	LR			
	comp=Z,400nm,17.8s							
XAN				LR	LR			
	comp=Z,1μm,17.8s							
XAN				LR	LR			
	comp=Z,1μm,17.8s							
ENH	**Enshi**	**28.55**	**260**	P	**P**	**08**	**12**	**20.1 -0.7**
ENH				IAmb	IAmb	08	12	22.1
	comp=Z,58nm,0.8s							
ENH	**Enshi**	**28.55**	**260**	P	**P**	**08**	**12**	**20.1 -0.7**
IRK	**Irkutsk**	**28.69**	**308**	*e*P	**P**	**08**	**12**	**21.7 -0.1**
IRK				pmax	pmax			
	comp=Z,73nm,1.6s							
ZAK	**Zakamensk**	**29.07**	**304**	*e*P	**P**	**08**	**12**	**24.8 -0.5**
ZAK				pmax	pmax			
	comp=Z,61nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**29.24**	**127**	T	T	08	43	15.9
	baz=318,slow=75,SNR=3088							
H11N1	**WAKE ISLAND Hy**	**29.25**	**127**	T	T	08	43	14.7
	baz=318,slow=75,SNR=4862							
H11N3	**WAKE ISLAND Hy**	**29.25**	**127**	T	T	08	43	08.6
	baz=318,slow=75,SNR=1472							
H11S1	**WAKE ISLAND Hy**	**30.05**	**129**	T	T	08	44	00.9
	baz=321,slow=76,SNR=213							
H11S3	**WAKE ISLAND Hy**	**30.06**	**129**	T	T	08	44	28.1
	baz=321,slow=76,SNR=189							
H11S2	**WAKE ISLAND Hy**	**30.07**	**129**	T	T	08	44	28.7
	baz=321,slow=76,SNR=148							
LZH	**Lanzhou**	**30.48**	**275**	*e*P	**P**	**08**	**12**	**37.3 -0.7**
LZH				sP	sP	08	12	54.0 +3.5
LZH				PcP	**PcP**	**08**	**15**	**32.8 -3.9**
LZH				S	**S**	**08**	**17**	**35.3 -2.0**
LZH				SS	**ScP**	**08**	**19**	**21.5 +4.7**
LZH				pmax	pmax			
	comp=Z,59nm,1.2s							
LZH				pmax	pmax			
	comp=Z,210nm,4.5s							
LZH				LR	LR			
	comp=Z,490nm,15.5s							
LZH				LR	LR			
	comp=Z,740nm,16.8s							
LZH				LR	LR			
	comp=Z,1μm,17.1s							
MOY	**Mondy**	**30.63**	**306**	*e*P	**P**	**08**	**12**	**39.5 +0.4**
MOY				pmax	pmax			
	comp=Z,70nm,1.8s							
BILL	**Bilibino**	**30.77**	**17**	P	**P**	**08**	**12**	**40.4 +0.4**
BILL				IAmb	IAmb	08	12	56.4
	comp=Z,182nm,1.8s							
BILL	**Bilibino**	**30.77**	**17**	*d iP*	**P**	**08**	**12**	**40.4 +0.4**
BILL				*i* *PP	**sP**	**08**	**12**	**55.0 +2.5**
BILL				pmax	pmax			
	comp=Z,47nm,1.3s							
BILL				MLR	MLR			
	comp=Z,454nm,17.0s							
BILL	**Bilibino**	**30.77**	**17**	P	**P**	**08**	**12**	**41.5 +1.5**
BILL				sP	**sP**	**08**	**12**	**57.3 +4.8**
TIXI	**Tiksi**	**32.27**	**352**	P	**P**	**08**	**12**	**52.0 -1.1**
	comp=Z,21nm,0.8s,baz=90,slow=20,SNR=28							
TIXI				LR	LR	08	28	23.7
	comp=Z,485nm,18.3s,baz=152,slow=41							
	comp=Z,21nm,0.8s							
TIXI	**Tiksi**	**32.27**	**352**	P	**P**	**08**	**12**	**52.5 -0.5**
TIXI	**Tiksi**	**32.27**	**352**	P	**P**	**08**	**12**	**52.6 -0.5**
TIXI				pmax	pmax			
	comp=Z,20nm,0.8s							
TIXI	**Tiksi**	**32.27**	**352**	P	**P**	**08**	**12**	**52.5 -0.5**
GTA	**Gaotai**	**32.53**	**283**	⇑P	**P**	**08**	**12**	**55.8 -0.2**
GTA				pP	pP	08	13	02.3 -2.6
GTA				sP	sP	08	13	06.8 -1.8
GTA				PcP	**PcP**	**08**	**15**	**43.3 +1.1**
GTA				ScP	**ScP**	**08**	**19**	**23.5 -0.2**
GTA				PcS	**PcS**	**08**	**19**	**28.0 +0.6**
GTA				ScS	**ScS**	**08**	**23**	**21.3 -1.9**
GTA				pmax	pmax			
	comp=Z,44nm,1.0s							
GTA				pmax	pmax			
	comp=Z,190nm,5.5s							
GTA				LR	LR			
	comp=Z,630nm,20.0s							
GTA				LR	LR			
	comp=Z,2μm,18.5s							
GTA				LR	LR			
	comp=Z,2μm,18.5s							
CD2	**Chengdu**	**32.60**	**266**	P	**P**	**08**	**12**	**55.0 -1.6**
CD2				S	**S**	**08**	**18**	**08.5 -1.8**
CD2				pmax	pmax			
	comp=Z,90nm,0.8s							
CD2				LR	LR			
	comp=Z,860nm,24.5s							
CD2				LR	LR			
	comp=Z,760nm,19.6s							
GYA	**Guiyang**	**32.66**	**256**	⇓*iP*	**P**	**08**	**12**	**56.8 -0.4**
GYA				S	**S**	**08**	**18**	**04.5 -6.9**
GYA				pmax	pmax			
	comp=Z,83nm,0.8s							
GYA				LR	LR			
	comp=Z,620nm,15.2s							
GYA				LR	LR			
	comp=Z,1μm,18.6s							
GYA				LR	LR			
	comp=Z,2μm,20.4s							
QIZ	**Qiongzhong**	**35.04**	**243**	P	**P**	**08**	**13**	**20.0 +2.2**
QIZ				S	**S**	**08**	**18**	**50.3 +2.2**
QIZ				LR	LR			
	comp=Z,550nm,12.3s							
QIZ				LR	LR			
	comp=Z,420nm,10.6s							
QIZ				LR	LR			
	comp=Z,540nm,13.1s							
PZH	**PanZhiHua**	**36.33**	**261**	⇑P	**P**	**08**	**13**	**28.5 -0.4**
PZH				pP	**pP**	**08**	**13**	**37.3 -0.5**
PZH				PP	**PP**	**08**	**14**	**55.0 +3.2**
PZH				S	**S**	**08**	**19**	**06.3 -1.7**
PZH				PcS	**PcS**	**08**	**19**	**36.8 -4.4**
PZH				pmax	pmax			
	comp=Z,70nm,0.7s							
PZH				pmax	pmax			
	comp=Z,240nm,5.7s							
PZH				LR	LR			
	comp=Z,1μm,17.0s							
PZH				LR	LR			
	comp=Z,1μm,17.8s							
PZH				LR	LR			
	comp=Z,1μm,16.9s							
KMI	**Kunming**	**36.33**	**258**	⇑P	**P**	**08**	**13**	**29.0 -0.1**
KMI				pP	pP	08	13	38.0 -0.1
KMI				sP	sP	08	13	45.5 +3.8
KMI				S	**S**	**08**	**19**	**09.0 +0.7**
KMI				sS	sS	08	19	26.5 +3.2
KMI				pmax	pmax			
	comp=Z,96nm,0.9s							
KMI				pmax	pmax			
	comp=Z,310nm,3.4s							
KMI				LR	LR			
	comp=Z,980nm,15.8s							
KMI				LR	LR			
	comp=Z,980nm,19.6s							
KMI				LR	LR			
	comp=Z,1μm,17.7s							
KMI	**Kunming**	**36.33**	**258**	P	**P**	**08**	**13**	**28.8 -0.4**
KMI				sP	**sP**	**08**	**13**	**45.2 +3.5**
GOMU	**GeErMu**	**37.30**	**280**	P	**P**	**08**	**13**	**37.3 -0.1**
GOMU				sS	sS	08	19	44.3 +6.2
GOMU				pmax	pmax			
	comp=Z,80nm,1.0s							
GOMU				pmax	pmax			
	comp=Z,140nm,5.0s							
GOMU				LR	LR			
	comp=Z,340nm,16.1s							
GOMU				LR	LR			
	comp=Z,260nm,18.0s							
GOMU				LR	LR			
	comp=Z,500nm,19.0s							
TNA	**Tin City**	**37.72**	**31**	P	**P**	**08**	**13**	**41.5 +1.3**
TNA				IAmb	IAmb	08	13	48.3
	comp=Z,34nm,0.9s							
TNA	**Tin City**	**37.72**	**31**	P	**P**	**08**	**13**	**41.9 +1.8**
	baz=253,SNR=13							
ANM	**Nome**	**38.50**	**33**	P	**P**	**08**	**13**	**48.7 +2.0**
ANM				IAmb	IAmb	08	14	04.8
	comp=Z,50nm,0.8s							
ANM	**Nome**	**38.50**	**33**	P	**P**	**08**	**13**	**49.1 +2.4**
	baz=256,SNR=24							
ANM	**Nome**	**38.50**	**33**	P	**P**	**08**	**13**	**48.7 +2.0**
ANM				pmax	pmax			
	comp=Z,50nm,0.8s							
DGZ	**Jazzator, Alta**	**39.28**	**303**	*c iP*	**P**	**08**	**13**	**54.9 +1.2**
DGZ				pmax	pmax			
	comp=Z,246nm,0.9s							
TNCH	**TengChong**	**39.56**	**261**	⇑P	**P**	**08**	**13**	**57.0 +0.7**
TNCH				pP	sP	08	14	08.3 -0.7
TNCH				PP	**PnPn**	**08**	**15**	**32.5 +2.0**
TNCH				S	**S**	**08**	**19**	**56.0 -1.2**
TNCH				ScS	**ScS**	**08**	**24**	**00.0 -2.4**
TNCH				pmax	pmax			
	comp=Z,280nm,1.1s							
TNCH				pmax	pmax			
	comp=Z,660nm,3.8s							
TNCH				LR	LR			
	comp=Z,590nm,14.8s							
TNCH				LR	LR			
	comp=Z,550nm,17.7s							
TNCH				LR	LR			
	comp=Z,800nm,18.3s							
WMQ	**Urumqi**	**40.23**	**294**	*e*P	**P**	**08**	**14**	**02.3 +0.8**
WMQ				pP	sP	08	14	14.0 -0.2
WMQ				sP	pP	08	14	18.0 +7.5
WMQ				pmax	pmax			
	comp=Z,89nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,340nm,5.1s							
WMQ				LR	LR			
	comp=Z,570nm,22.3s							
WMQ				LR	LR			
	comp=Z,430nm,26.1s							
WMQ	**Urumqi**	**40.23**	**294**	P	**P**	**08**	**14**	**02.0 +0.5**
WMQ				pP	**sP**	**08**	**14**	**14.7 +0.4**
ZAA0	**Zalesovo Array**	**40.45**	**310**	P	**P**	**08**	**14**	**03.0 -0.1**
ZAA0				IAmb	IAmb	08	14	21.5
	comp=Z,50nm,0.7s							
ZALV	**Zalesovo Beam**	**40.45**	**310**	P	**P**	**08**	**14**	**02.8 -0.4**
	comp=Z,35nm,0.7s,baz=87,slow=7.5,SNR=133							
ZALV				PcP	**PcP**	**08**	**16**	**05.6 +0.1**
	comp=Z,10nm,0.6s,baz=87,slow=2.0,SNR=4.9							
ZALV				LR	LR	08	31	39.2
	comp=Z,1μm,19.0s,baz=66,slow=37							
	comp=Z,35nm,0.7s							
ZALV	**Zalesovo Beam**	**40.45**	**310**	P	**P**	**08**	**14**	**03.0 -0.1**
NRIK	**Noril'sk**	**40.77**	**334**	P	**P**	**08**	**14**	**05.3 -0.2**
	comp=Z,12nm,0.5s,baz=110,slow=8.5,SNR=16							
NRIK				pP	**sP**	**08**	**14**	**18.9 +0.7**
	comp=Z,34nm,0.7s,baz=99,slow=9.0,SNR=5.2							
NRIK				LR	LR	08	32	03.8
	comp=Z,2μm,19.4s,baz=106,slow=38							
	comp=Z,12nm,0.5s							
NRIK	**Noril'sk**	**40.77**	**334**	P	**P**	**08**	**14**	**05.6 0.0**
NRIK				IAmb	IAmb	08	14	24.0
	comp=Z,41nm,0.8s							
N16K	**Nishlik Lake**	**40.97**	**40**	P	**P**	**08**	**14**	**09.3 +2.0**
	baz=268							
CRAI	**Chiangrai**	**40.98**	**254**	P	**P**	**08**	**14**	**08.2 +0.2**
CRAI				IAmb	IAmb	08	14	09.8
	comp=Z,104nm,0.8s							
MYLDM	**Lahad Datu**	**40.98**	**218**	P	**P**	**08**	**14**	**09.6 +1.7**
MYLDM				IAmb	IAmb	08	14	11.3
	comp=Z,125nm,1.2s							
O16K	**Kokwok River B**	**41.28**	**42**	P	**P**	**08**	**14**	**12.2 +2.2**
	baz=269							
ZSN	**Zaisan**	**41.34**	**300**	⇑*iP*	**P**	**08**	**14**	**11.4 +0.7**
	comp=Z,37nm,1.0s,baz=300							
ZSN	**Zaisan**	**41.34**	**300**	*c iP*	**P**	**08**	**14**	**11.3 +0.7**
ZSN				pmax	pmax			
	comp=Z,37nm,1.0s							
KKM	**Kota Kinabalu**	**41.36**	**222**	P	**P**	**08**	**14**	**11.2 +0.1**
R16K	**Pilot Point**	**41.58**	**45**	P	**P**	**08**	**14**	**13.6 +1.3**
	baz=272							
O17K	**Koliganek Bris**	**41.79**	**41**	P	**P**	**08**	**14**	**14.9 +0.8**
	baz=270							
Q16K	**King Salmon**	**42.03**	**43**	P	**P**	**08**	**14**	**16.6 +0.6**
	baz=272							
SIJI	**Sorong**	**42.12**	**197**	P	**P**	**08**	**14**	**17.6 +0.3**
	comp=Z,17nm,0.6s,baz=344,slow=18,SNR=2.8							

SIJI LR LR 08 29 01.3
comp=Z,341nm,21.1s,baz=322,slow=32
comp=Z,17nm,0.6s
GCSA Galena City Sc 42.13 34 P P 08 14 18.1 +1.3
baz=265
PHRA Phrae 42.18 252 P P 08 14 18.4 +0.7
TTA Tatalina 42.39 37 P P 08 14 19.7 +0.7
TTA Tatalina 42.39 37 P P 08 14 20.6 +1.6
baz=268
TTA Tatalina 42.39 37 P P 08 14 20.8 +1.8
TTA Tatalina 42.39 37 P P 08 14 19.7 +0.7
TTA pmax pmax
comp=Z,20nm,1.1s
Q17K Contact Creek 42.45 44 P P 08 14 20.7 +1.1
baz=273
O18K Koktuh Hills 42.74 41 P P 08 14 23.3 +1.4
baz=272
P18K Big Mountain, 42.75 42 P P 08 14 23.1 +1.2
baz=272
LSA Lhasa 42.81 272 P P 08 14 23.5 +0.1
LSA Lhasa 42.81 272 P P 08 14 23.5 +0.1
LSA pmax pmax
comp=Z,27nm,0.9s
LSA Lhasa 42.81 272 *i* P **P 08 14 24.3 +1.0**
SNR=6.1
LSA Lhasa 42.81 272 P P 08 14 24.3 +1.0
LSA pP **sP 08 14 35.4 -0.7**
LSA sP pP 08 14 40.8 +8.4
Q18K Katmai Hardscr 42.89 43 P P 08 14 25.2 +2.0
baz=273
L19K White Mountain 42.90 38 P P 08 14 23.9 +0.8
L19K White Mountain 42.90 38 P P 08 14 25.0 +1.9
baz=269
CM31 Chiang Mai Arr 43.14 253 P P 08 14 26.2 +0.6
SNR=7.0
CM31 S **S 08 20 46.8 -3.3**
CMAR Chiang Mai Arr 43.14 253 P P 08 14 25.6 0.0
comp=Z,14nm,0.9s,baz=50,slow=6.1,SNR=50
CMAR PcP **PcP 08 16 15.5 +0.6**
comp=Z,2.2nm,0.3s,baz=25,slow=3.0,SNR=4.3
CMAR ScP **ScP 08 20 03.0 -0.7**
comp=Z,1.0nm,0.3s,baz=25,slow=2.8,SNR=5.4
CMAR LR LR 08 34 55.6
comp=Z,140nm,18.6s,baz=50,slow=40
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 43.14 253 P P 08 14 25.9 +0.3
MK31 Makanchi Array 43.20 299 P P 08 14 25.2 -0.6
MK31 IAmb IAmb 08 14 43.3
comp=Z,41nm,0.8s
MK31 Makanchi Array 43.20 299 *i* P **P 08 14 25.5 -0.3**
MK31 pmax pmax
comp=Z,16nm,0.8s
MKAR Makanchi Array 43.20 299 P P 08 14 25.6 -0.1
comp=Z,25nm,0.7s,baz=84,slow=9.8,SNR=66
MKAR LR LR 08 33 15.2
comp=Z,1µm,19.9s,baz=85,slow=37
comp=Z,25nm,0.7s
A21K Barrow 43.24 24 P P 08 14 26.1 +0.4
A21K IAmb IAmb 08 14 33.3
comp=Z,96nm,1.0s
A21K Barrow 43.24 24 P P 08 14 26.7 +1.0
baz=258,SNR=38
K20K Telida 43.28 36 P P 08 14 27.8 +1.6
K20K Telida 43.28 36 P P 08 14 28.4 +2.2
baz=269,SNR=8.5
MAKZ Makanchi 43.41 300 P P 08 14 27.7 +0.3
MAKZ sP **sP 08 14 43.6 +3.4**
IMAR Indian Mountai 43.54 32 P P 08 14 30.0 +1.8
G21K Allakaket 43.67 31 P P 08 14 31.3 +2.0
baz=266
M20K Styx River 43.71 38 P P 08 14 32.1 +2.3
baz=271
MRSI Marisa 43.72 210 P P 08 14 30.9 +0.8
comp=Z,143nm,1.2s,comp=Z,1µm
SEM Semipalatinsk 43.73 305 *eP* **P 08 14 29.6 -0.6**
comp=Z,55nm,1.3s,baz=305
SEM Semipalatinsk 43.73 305 *eP* **P 08 14 29.6 -0.6**
SEM pmax pmax
comp=Z,55nm,1.3s
F21K Alatna River 43.74 30 P P 08 14 31.2 +1.4
baz=265
H21K Melozitna Rive 43.91 33 P P 08 14 32.5 +1.3
H21K Melozitna Rive 43.91 33 P P 08 14 33.0 +1.8
baz=268
FAKI Fak Fak 43.91 195 P P 08 14 31.0 -0.7
FAKI Fak Fak 43.91 195 P P 08 14 31.6 -0.1
FAKI Fak Fak 43.91 195 P P 08 14 31.7 0.0
comp=Z,33nm,1.1s
RSO Redoubt South 43.95 40 P P 08 14 33.0 +1.3
CHUM Lake Minchumin 44.07 35 P P 08 14 34.9 +2.4
baz=270,SNR=9.0
PPLA Purkeypile 44.13 37 P P 08 14 34.9 +1.7
baz=271
CAST Castle Rocks 44.18 36 P P 08 14 34.9 +1.5
CAST Castle Rocks 44.18 36 P P 08 14 35.5 +2.1
baz=270,SNR=11
N20K Mount Spurr 44.18 39 P P 08 14 33.9 +0.4
baz=273
SPCR Spurr Chakacha 44.18 39 P P 08 14 34.3 +0.9
baz=273
I21K Tanana 44.23 33 P P 08 14 35.1 +1.4
I21K Tanana 44.23 33 P P 08 14 35.7 +2.0
baz=269
KDAK Kodiak Island 44.24 44 P P 08 14 34.7 +0.8
comp=Z,18nm,0.9s,baz=302,slow=5.0,SNR=16
comp=Z,18nm,0.9s
KDAK Kodiak Island 44.24 44 P P 08 14 35.6 +1.7
baz=276
KDAK Kodiak Island 44.24 44 P P 08 14 35.4 +1.5
KDAK pP **sP 08 14 46.9 +0.5**
KDAK sP pP 08 14 52.4 +10
SPU Mount Spurr 44.25 39 P P 08 14 35.8 +1.7
SHL Shillong 44.33 267 P P 08 14 35.3 +0.1
SNR=11
SKT Skwentna 44.47 38 P P 08 14 37.8 +2.1
baz=272
H22K Ishtalitna Cre 44.50 32 P P 08 14 38.1 +2.1
baz=269
BPAW Bear Paw Mtn. 44.66 35 P P 08 14 39.1 +1.9
baz=271
SANI Sanana 44.66 204 P P 08 14 37.2 -0.4
SANI Sanana 44.66 204 P P 08 14 37.3 -0.4
comp=Z,71nm,0.7s,comp=Z,995nm
MPSI Mapaga 44.67 213 P P 08 14 38.6 +0.8
comp=Z,25nm,0.9s,comp=Z,1µm
KURK Kurchatov 44.68 306 P P 08 14 37.1 -0.4
KURK Kurchatov 44.68 306 P P 08 14 37.6 0.0
KURK S **S 08 21 12.4 +0.6**
KURK Kurchatov 44.68 306 P P 08 14 37.2 -0.3
KURK S **S 08 21 06.6 -5.2**
KURK Kurchatov 44.68 306 P P 08 14 37.3 -0.3
KURK pP **sP 08 14 50.1 -0.2**
KURK sP pP 08 14 55.0 +8.4
KTH Kantishna Hill 44.70 36 P P 08 14 39.0 +1.4
KTH IAmb IAmb 08 14 54.4
comp=Z,36nm,0.9s
KURBB Kurchatov Arra 44.76 306 P P 08 14 37.6 -0.6
comp=Z,113nm,0.7s,baz=82,slow=8.6,SNR=354
KURBB S **S 08 21 12.4 -0.5**
comp=Z,0.8nm,1.0s,baz=87,slow=16,SNR=2.3
comp=Z,113nm,0.7s
KURBB Kurchatov Arra 44.76 306 P P 08 14 37.8 -0.4
MLY Manley 44.76 34 P P 08 14 40.0 +1.9
MLY Manley 44.76 34 P P 08 14 40.0 +1.9
baz=270,SNR=12
SUA Susitna One 44.87 39 P P 08 14 40.4 +1.4
SUA IAmb IAmb 08 14 58.2
comp=Z,37nm,0.8s
SUA Susitna One 44.87 39 P P 08 14 40.8 +1.7
baz=274
D23K Nanushuk River 44.92 28 P P 08 14 40.9 +1.7
baz=266
TRF Thorofare Moun 44.98 36 P P 08 14 41.3 +1.3
TRF Thorofare Moun 44.98 36 P P 08 14 41.2 +1.2
baz=272
BRSE Bradley Lake S 45.00 41 P P 08 14 41.1 +1.1
baz=275
COLD Coldfoot 45.01 31 P P 08 14 41.0 +1.0
COLD IAmb IAmb 08 14 57.4
comp=Z,38nm,1.0s
COLD Coldfoot 45.01 31 P P 08 14 41.6 +1.6
baz=268,SNR=14
CUT Chulitna 45.04 37 P P 08 14 41.6 +1.4
baz=273
G23K Bananza Creek 45.07 31 P P 08 14 42.1 +1.6
baz=269

KRVT Keravat (AS076 45.15 166 LR LR 08 30 32.8
comp=Z,170nm,20.6s,baz=125,slow=32
E23K Chandalar 45.26 29 P P 08 14 44.1 +2.1
baz=268
I23K Minto, Yukon-K 45.34 33 P P 08 14 43.8 +1.2
I23K Minto, Yukon-K 45.34 33 P P 08 14 44.3 +1.7
baz=271
RC01 Rabbit Creek A 45.38 39 P P 08 14 43.5 +0.5
RC01 IAmb IAmb 08 15 00.5
comp=Z,30nm,0.8s
RC01 Rabbit Creek A 45.38 39 P P 08 14 43.4 +0.4
baz=275
NEA2 Nenana 45.48 34 P P 08 14 45.3 +1.5
NEA2 IAmb IAmb 08 15 07.3
comp=Z,27nm,0.8s
NEA2 Nenana 45.48 34 P P 08 14 45.2 +1.5
baz=272,SNR=13
MCK McKinley 45.58 35 P P 08 14 45.3 +0.8
MCK McKinley 45.58 35 P P 08 14 45.7 +1.2
baz=273,SNR=6.6
MCK McKinley 45.58 35 P P 08 14 45.3 +0.8
MCK pmax pmax
comp=Z,22nm,0.9s
PMR Palmer 45.63 38 P P 08 14 45.5 +0.6
PMR IAmb IAmb 08 15 08.9
comp=Z,32nm,1.0s
PMR Palmer 45.63 38 P P 08 14 45.6 +0.7
baz=275
PMR Palmer 45.63 38 P P 08 14 46.1 +1.2
PMR Palmer 45.63 38 P P 08 14 45.5 +0.6
PMR pmax pmax
comp=Z,32nm,1.0s
C24K Franklin Bluff 45.66 27 P P 08 14 46.6 +1.5
baz=267
E24K Your Creek 45.69 29 P P 08 14 47.2 +1.8
baz=269
GHO Glory Hole Cre 45.71 38 P P 08 14 46.8 +1.1
GHO IAmb IAmb 08 15 01.1
comp=Z,43nm,0.8s
WAT1 Susitna Watana 45.80 37 P P 08 14 47.2 +0.9
baz=274
MDM Murphy Dome 45.83 34 P P 08 14 48.0 +1.5
MDM IAmb IAmb 08 15 09.6
comp=Z,24nm,0.8s
F24K Squaw Lake 45.91 30 P P 08 14 49.0 +1.9
baz=270
H24K Noodor Dome 45.94 32 P P 08 14 49.4 +2.0
H24K IAmb IAmb 08 14 58.5
comp=Z,30nm,0.8s
H24K Noodor Dome 45.94 32 P P 08 14 49.5 +2.0
baz=272
KNK Knik Glacier 45.97 39 P P 08 14 48.7 +1.1
baz=276
TCOL CIGO, UAF Yank 45.99 34 P P 08 14 48.9 +1.2
TCOL IAmb IAmb 08 15 27.1
comp=Z,65nm,1.2s
TCOL CIGO, UAF Yank 45.99 34 P P 08 14 49.4 +1.7
baz=273
SML Sawmill 45.99 38 P P 08 14 49.3 +1.5
SML Sawmill 45.99 38 P P 08 14 49.2 +1.3
baz=275
COLA College 45.99 34 P P 08 14 49.1 +1.4
baz=273
COLA College 45.99 34 P P 08 14 49.4 +1.7
COLA College 45.99 34⇑ *eP* **P 08 14 48.9 +1.2**
COLA pmax pmax
comp=Z,20nm,1.2s
COLA College 45.99 34 P P 08 14 49.0 +1.4
COLA pP **sP 08 15 00.3 +0.1**
COLA sP pP 08 15 04.8 +8.2
G24K Hadweenzic Riv 46.08 31 P P 08 14 51.0 +2.6
baz=271,SNR=12
PWL Port Wells 46.08 39 P P 08 14 50.4 +1.8
baz=276
BRDH Bariadhala 46.09 263 P P 08 14 49.4 +0.4
comp=Z,61nm,0.3s,baz=90,slow=11,SNR=12
BRDH LR LR 08 36 37.0
comp=Z,335nm,19.9s,baz=56,slow=39
comp=Z,61nm,0.3s
SHLS Shalkode 46.15 295 *eP* **P 08 14 47.3 -2.2**
comp=Z,14nm,0.6s,baz=295
SHLS Shalkode 46.15 295 *eP* **P 08 14 47.3 -2.2**
SHLS pmax pmax
comp=Z,14nm,0.6s
POKR Poker Plat Res 46.16 33 P P 08 14 50.5 +1.4
POKR IAmb IAmb 08 15 05.5
comp=Z,53nm,0.8s
POKR Poker Plat Res 46.16 33 P P 08 14 51.4 +2.3
baz=273,SNR=21
WAT6 Susitna Watana 46.20 37 P P 08 14 50.5 +0.9
baz=275
M23K Glacier View 46.28 38 P P 08 14 51.7 +1.6
baz=276
DHY Denali Highway 46.32 36 P P 08 14 51.5 +0.9
baz=275
HDA Harding Lake 46.41 34 P P 08 14 51.7 +0.7
HDA IAmb IAmb 08 15 08.5
comp=Z,54nm,1.4s
HDA Harding Lake 46.41 34 P P 08 14 51.7 +0.7
baz=274,SNR=8.5
IL31 46.41 34 P P 08 14 51.9 +0.9
IL31 IAmb IAmb 08 15 06.3
comp=Z,27nm,0.8s
ILAR Eielson Array 46.41 34 P P 08 14 52.0 +1.0
comp=Z,13nm,0.7s,baz=264,slow=6.1,SNR=207
ILAR LR LR 08 36 29.7
comp=Z,247nm,18.1s,baz=255,slow=39
comp=Z,13nm,0.7s
ILAR Eielson Array 46.41 34 P P 08 14 51.8 +0.7
SCM Sheep Creek Mo 46.46 38 P P 08 14 53.1 +1.5
baz=276
UZB Uzynbulak 46.46 295 *eP* **P 08 14 51.8 -0.1**
comp=Z,39nm,1.5s,baz=295
UZB Uzynbulak 46.46 295 *eP* **P 08 14 51.8 -0.1**
UZB pmax pmax
comp=Z,39nm,1.5s
KPKS Kokpek 46.59 296⇑ *iP* **P 08 14 53.0 +0.1**
comp=Z,24nm,1.3s,baz=296
KPKS Kokpek 46.59 296 *c iP* **P 08 14 52.9 +0.1**
KPKS pmax pmax
comp=Z,24nm,1.3s
TAPN Taplejung 46.60 272 *eP* **P 08 14 53.9 +0.5**
comp=Z,85nm,0.8s
G25K Bearman Lake 46.63 31 P P 08 14 54.8 +2.2
baz=272,SNR=8.8
F25K Christian Rive 46.77 30 P P 08 14 56.2 +2.3
baz=272
E25K Arctic Village 46.78 29 P P 08 14 56.5 +2.5
baz=272,SNR=18
ZHN Zhinishke 46.86 296 *eP* **P 08 14 55.0 -0.1**
baz=296
ZHN Zhinishke 46.86 296 *eP* **P 08 14 54.9 -0.1**
SATY Saty 46.92 296⇑ *iP* **P 08 14 55.8 +0.3**
comp=Z,24nm,1.4s,baz=296
SATY Saty 46.92 296 *c iP* **P 08 14 55.7 +0.3**
SATY pmax pmax
comp=Z,24nm,1.4s
PRP Porcupine Dome 46.93 33 P P 08 14 56.3 +1.0
PRP IAmb IAmb 08 15 06.5
comp=Z,31nm,0.7s
PRP Porcupine Dome 46.93 33 P P 08 14 56.9 +1.6
baz=274,SNR=8.1
K24K Donnelly Dome 46.97 35 P P 08 14 56.8 +1.3
baz=276
M24K Tolsona, Glenn 46.97 38 P P 08 14 57.3 +1.8
baz=277
FYU Fort Yukon 46.98 31 P P 08 14 57.5 +2.0
C26K Camden Bay 46.98 27 P P 08 14 57.7 +2.3
baz=271
WUS Wushi 46.99 293 P P 08 14 56.6 +0.5
WUS sP **sP 08 15 13.4 +4.5**
ODAN Odare 47.09 271 *eP* **P 08 14 57.5 +0.3**
comp=Z,17nm,1.0s
KLU Klutina 47.17 38 P P 08 14 58.8 +1.7
baz=278
BMAR Burnt Mountain 47.19 30 P P 08 14 59.2 +2.0
PAX Paxson 47.20 36 P P 08 14 59.3 +2.0
baz=277
F26K Sheenjek River 47.34 30 P P 08 15 01.1 +2.8
baz=275
EYAK Cordova Ski Ar 47.38 40 P P 08 15 00.3 +1.7
baz=279
EYAK Cordova Ski Ar 47.38 40 P P 08 14 59.0 +0.3
RIDG Independent Ri 47.39 35 P P 08 14 59.9 +1.1
baz=276,SNR=5.5
C27K Jago River 47.41 27 P P 08 15 00.7 +1.9
baz=272

HARP HAARP 47.41 37 P P 08 15 00.5 +1.6
baz=277
G26K Porcupine Rive 47.53 31 P P 08 15 02.0 +2.3
baz=274
JIRN Jiri 47.60 273 *eP* **P 08 15 01.6 +0.3**
comp=Z,140nm,0.8s
CHKK Chushkaly 47.63 297 *eP* **P 08 15 00.8 -0.1**
baz=297
CHKK Chushkaly 47.63 297 *eP* **P 08 15 00.8 -0.1**
RAMN Ramite 47.65 272 *eP* **P 08 15 01.2 -0.3**
comp=Z,351nm,1.0s
GUN Gumba 47.72 273 *eP* **P 08 15 02.3 +0.2**
comp=Z,414nm,0.8s
SCRK Sand Creek 47.74 35 P P 08 15 02.5 +0.9
SCRK IAmb IAmb 08 15 16.8
comp=Z,31nm,0.7s
SCRK Sand Creek 47.74 35 P P 08 15 02.4 +0.9
baz=277,SNR=22
TARG Taragay, Kyrgy 47.79 294 P P 08 15 02.7 +0.1
TARG Taragay, Kyrgy 47.79 294 P P 08 15 02.7 +0.1
TARG pmax pmax
comp=Z,54nm,0.7s
MDOK Medeo 47.82 296 *i* P **P 08 15 02.3 -0.2**
baz=296
MDOK Medeo 47.82 296 P P 08 15 02.6 +0.1
J26L Joseph Creek 47.86 34 P P 08 15 03.2 +0.8
baz=277
BMRM Bremner River 47.88 39 P P 08 15 03.4 +0.8
baz=279
AAA Alma-Ata 47.89 296 *eP* **P 08 15 03.2 +0.2**
baz=296
AAA Alma-Ata 47.89 296 *eP* **P 08 15 03.2 +0.2**
TNSS Tian-Shan 47.93 296 *eP* **P 08 15 04.4 +0.7**
baz=296
TNSS Tian-Shan 47.93 296 *eP* **P 08 15 04.4 +0.7**
I26K Coal Creek Min 47.94 33 P P 08 15 03.8 +0.9
baz=276
KUU Kurty 48.06 297⇑ *iP* **P 08 15 03.4 -0.8**
comp=Z,23nm,0.7s,baz=297
KUU Kurty 48.06 297 *c iP* **P 08 15 03.4 -0.8**
KUU pmax p74x
comp=Z,23nm,0.7s
L26K Log Cabin Wild 48.15 36 P P 08 15 06.6 +1.9
L26K IAmb IAmb 08 15 21.1
comp=Z,30nm,0.8s
L26K Log Cabin Wild 48.15 36 P P 08 15 06.9 +2.3
baz=278,SNR=20
KKN Kakani 48.23 274 *eP* **P 08 15 06.3 +0.3**
comp=Z,42nm,0.9s
PKI Pulchoki 48.25 273 *eP* **P 08 15 06.0 -0.2**
comp=Z,176nm,1.2s
PKIN Phulchoki 48.25 273 *eP* **P 08 15 06.0 -0.2**
E27K Coleen River 48.26 29 P P 08 15 07.5 +2.0
baz=275
G27K Doyon Strip 48.38 31 P P 08 15 08.9 +2.5
baz=276
M26K Nabesna, AK 48.41 37 P P 08 15 08.8 +2.1
baz=279,SNR=8.2
DMN Daman 48.46 273 *eP* **P 08 15 07.9 +0.1**
H27K Steamboat Moun 48.50 32 P P 08 15 09.8 +2.5
baz=277
I27K Kandik River 48.54 33 P P 08 15 09.4 +1.8
baz=278
MCARA McCarthy VSAT 48.56 38 P P 08 15 09.2 +1.4
MCARA IAmb IAmb 08 15 24.7
comp=Z,67nm,1.2s
MCARA McCarthy VSAT 48.56 38 P P 08 15 09.7 +1.9
baz=280
GKN Gorkha 48.62 274 *eP* **P 08 15 08.6 -0.3**
L27K Beaver Creek, 48.83 36 P P 08 15 11.8 +1.9
baz=280
BCAR Beaver Creek A 48.85 36 P P 08 15 11.6 +1.6
EGAK Eagle 48.85 34 P P 08 15 10.7 +0.8
EGAK IAmb IAmb 08 15 21.1
comp=Z,33nm,0.9s
EGAK Eagle 48.85 34 P P 08 15 10.8 +0.8
baz=279,SNR=5.2
TKM2 Tokmak 2 48.90 296 P P 08 15 10.8 -0.1
SNR=55
M27K Edge Creek, AK 48.93 37 P P 08 15 12.6 +1.9
baz=280,SNR=8.3
BVAR Borovoye Array 49.09 311 P P 08 15 11.8 -0.2
comp=Z,77nm,0.8s,baz=77,slow=8.1,SNR=248
BVAR S **S 08 22 14.6 -0.2**
comp=Z,0.6nm,0.5s,baz=64,slow=13,SNR=2.5
BVAR LR LR 08 37 23.8
comp=Z,946nm,18.2s,baz=70,slow=38
comp=Z,77nm,0.8s
DANN Dangsing 49.12 275 *eP* **P 08 15 12.7 -0.2**
comp=Z,446nm,0.7s
BRVK Borovoye 49.15 311 P P 08 15 12.7 +0.3
BRVK Borovoye 49.15 311 P P 08 15 12.7 +0.3
BRVK pmax pmax
comp=Z,63nm,0.9s
BRVK Borovoye 49.15 311 P P 08 15 12.6 +0.2
BRVK Borovoye 49.15 311 P P 08 15 12.7 +0.3
BRVK pP **sP 08 15 23.4 -1.7**
BTLS Baital 49.21 299⇑ *iP* **P 08 15 12.6 -0.4**
baz=300
BTLS Baital 49.21 299 *c iP* **P 08 15 12.6 -0.4**
SGDS Sogindy 49.37 297⇑ *iP* **P 08 15 14.5 +0.1**
baz=297
SGDS Sogindy 49.37 297 *c iP* **P 08 15 14.5 +0.1**
BVCY Beaver Creek 49.38 37 P P 08 15 16.1 +2.0
baz=281,SNR=5.4
SRIT Nakonsritamara 49.40 242 P P 08 15 15.8 +1.0
KBK Karagaybulak 49.44 296 P P 08 15 14.6 -0.5
SNR=59
CHMS Chumysh 49.45 297 P P 08 15 15.1 +0.2
SNR=97
USP Ospenovka 49.53 297 P P 08 15 15.9 +0.3
SNR=23
KOLN Koldanda 49.53 275 *eP* **P 08 15 14.4 -1.5**
comp=Z,32nm,1.3s
PMG Port Moresby 49.54 174 LR LR 08 33 37.2
comp=Z,93nm,21.6s,baz=340,slow=33
YUK3 Moose Creek 49.69 37 P P 08 15 17.9 +1.2
baz=282,SNR=5.0
DAWY Dawson 49.73 34 P P 08 15 18.0 +1.3
baz=281
AAK Ala-Archa 49.76 296 P P 08 15 17.1 -0.3
SNR=15
AAK Ala-Archa 49.76 296 P P 08 15 16.8 -0.7
comp=Z,17nm,0.9s,baz=119,slow=5.0,SNR=39
AAK LR LR 08 37 21.1
comp=Z,838nm,21.7s,baz=74,slow=37
comp=Z,17nm,0.9s
AAK Ala-Archa 49.76 296 P P 08 15 17.3 -0.2
AAK Ala-Archa 49.76 296 *c iP* **P 08 15 17.4 0.0**
AAK pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 49.76 296 *i* P **P 08 15 17.7 +0.3**
SNR=24
AAK Ala-Archa 49.76 296 P P 08 15 17.8 +0.3
AAK Ala-Archa 49.76 296 P P 08 15 17.1 -0.3
AAK sP **sP 08 15 34.5 +4.2**
UCH Uchtor 49.90 296 P P 08 15 17.2 -1.6
SNR=8.7
KSH Kashi 49.92 292 P P 08 15 23.0 +4.4
KSH sP sP 08 15 38.5 +7.0
KSH pmax pmax
comp=Z,23nm,1.0s
KSH LR LR
comp=Z,710nm,16.8s
KSH LR LR
comp=Z,770nm,17.2s
KSH LR LR
comp=Z,1µm,17.5s
I29M Ogilvie Camp, 49.94 33 P P 08 15 19.0 +0.7
I29M IAmb IAmb 08 15 34.6
comp=Z,29nm,0.9s
I29M Ogilvie Camp, 49.94 33 P P 08 15 20.5 +2.2
baz=281,SNR=23
O28M Mount Upton 50.03 39 P P 08 15 20.6 +1.2
baz=283
J29M Klondike Camp 50.15 34 P P 08 15 21.9 +1.9
baz=281
EKS2 Erkin-Say 50.24 297 P P 08 15 21.0 -0.1
SNR=27
M29M Somme Creek 50.47 36 P P 08 15 24.6 +2.1
baz=283
L29M L29M 50.47 35 P P 08 15 24.6 +2.2
baz=283
G30M tAoh Zraii Nji 50.47 30 P P 08 15 24.1 +1.7
baz=281
AML Almayashu 50.50 296 P P 08 15 23.8 +0.5
SNR=47

K29M Barlow Dome 50.58 34 P P 08 15 25.4 +2.1
baz=282,SNR=23
YUK4 Talbot Arm 50.63 38 P P 08 15 25.8 +1.9
baz=284
YUK6 Outpost Mounta 50.86 38 P P 08 15 27.7 +2.1
baz=284
O29M Mount Kennedy 50.92 39 P P 08 15 28.2 +2.3
baz=284
M30M Minto, Yukon 51.19 36 P P 08 15 30.3 +2.5
baz=284,SNR=8.1
INK Inuvik 51.22 28 P P 08 15 28.8 +1.0
comp=Z,32nm,0.8s,baz=293,slow=6.7,SNR=187
INK LR LR 08 39 41.2
comp=Z,289nm,18.5s,baz=284,slow=39
comp=Z,32nm,0.8s
INK Inuvik 51.22 28 P P 08 15 28.5 +0.7
INK IAmb IAmb 08 15 37.8
comp=Z,34nm,0.8s
INK Inuvik 51.22 28 P P 08 15 29.3 +1.5
baz=282,SNR=32
HYT Haines Junctio 51.30 38 P P 08 15 31.4 +2.6
baz=285,SNR=12
F31M Tsiigehtchic 51.32 29 P P 08 15 29.9 +1.2
baz=283,SNR=18
MAYO Mayo, Yukon 51.34 35 P P 08 15 30.9 +2.0
baz=284,SNR=9.7
P30M Million Dollar 51.75 39 P P 08 15 33.9 +1.9
baz=286
DZA Taraz 51.82 298 *e*P P 08 15 33.1 +0.2
comp=Z,40nm,0.8s,baz=298
DZA Taraz 51.82 298 *e*P P 08 15 33.0 +0.2
DZA pmax pmax
comp=Z,40nm,0.8s
N31M Braeburn, Yuko 51.93 37 P P 08 15 35.8 +2.4
baz=286,SNR=8.8
HNR Honiara 51.96 158 LR LR 08 33 58.0
comp=Z,1µm,21.3s,baz=322,slow=32
O30N Mendenhall 51.98 38 P P 08 15 35.2 +1.4
baz=286
PLBC Pleasant Camp 52.22 40 P P 08 15 37.5 +2.0
baz=287
KK31 Karatay Array 52.29 298 P P 08 15 35.9 -0.4
KK31 IAmb IAmb 08 15 37.2
comp=Z,41nm,0.8s
KK31 Karatay Array 52.29 298 P P 08 15 35.9 -0.4
KK31 pmax pmax
comp=Z,41nm,0.9s
KKAR Karatay Array 52.29 298 P P 08 15 35.6 -0.7
KKAR Karatay Array 52.29 298 P P 08 15 35.6 -0.7
M31M Drury Creek, Y 52.37 36 P P 08 15 38.5 +2.0
baz=286,SNR=9.2
WHY Whitehorse 52.58 38 P P 08 15 40.2 +2.0
baz=287,SNR=5.4
FARO Faro, Yukon 52.83 36 P P 08 15 41.8 +1.8
baz=287,SNR=9.0
IUG Iuzhnay 53.00 297⇑ *i*P P 08 15 42.0 +0.3
baz=297
IUG Iuzhnay 53.00 297 *c i*P P 08 15 41.9 +0.3
A36M Sachs Harbour 53.03 23 P P 08 15 42.9 +1.6
baz=287,SNR=42
BATI Baumata 53.08 203 LR LR 08 36 28.5
comp=Z,194nm,21.8s,baz=358,slow=34
CHM Chimkent 53.22 298 *e*P P 08 15 43.3 +0.2
comp=Z,50nm,1.0s,baz=298
CHM Chimkent 53.22 298 *e*P P 08 15 43.3 +0.2
CHM pmax pmax
comp=Z,50nm,1.0s
N32M Quiet Lake 53.27 37 P P 08 15 45.0 +1.7
baz=288
SVE Sverdlovsk 53.35 317 *d i*P P 08 15 44.8 +1.0
SVE pmax pmax
comp=Z,218nm,0.9s
SVE MLR MLR
comp=Z,2µm,16.0s
P33M Teslin, Yukon 53.70 38 P P 08 15 48.5 +2.1
baz=289,SNR=6.6
MTN Manton Dam 53.80 194 P P 08 15 47.2 -0.3
TAS Tashkent 53.84 297 P P 08 15 48.1 +0.4
TAS Tashkent 53.84 297 P P 08 15 48.1 +0.4
TAS pmax pmax
comp=Z,143nm,0.3s
COEN Coen 53.88 179 P P 08 15 47.9 -0.2
COEN IAmb IAmb 08 16 05.8
comp=Z,58nm,1.6s
PSI Prapat 54.13 238 P P 08 15 48.7 -1.5
comp=Z,33nm,0.8s,baz=16,slow=5.6,SNR=19
PSI LR LR 08 42 40.3
comp=Z,139nm,18.5s,baz=29,slow=40
comp=Z,33nm,0.8s
RPSI Rantau Prapat 54.21 238 P P 08 15 48.7 -1.9
C36M Paulatuk 54.23 26 P P 08 15 50.9 +0.8
C36M IAmb IAmb 08 16 06.9
comp=Z,22nm,0.7s
C36M Paulatuk 54.23 26 P P 08 15 51.2 +1.1
baz=290,SNR=21
Q32M Nakina River 54.38 39 P P 08 15 54.0 +2.4
baz=290
ARU Arti 54.56 317 P P 08 15 52.6 -0.1
comp=Z,103nm,0.7s,baz=72,slow=3.9,SNR=148
ARU LR LR 08 41 41.1
comp=Z,1µm,18.4s,baz=64,slow=39
comp=Z,103nm,0.7s
ARU Arti 54.56 317 P P 08 15 52.5 -0.1
ARU Arti 54.56 317 *c i*P P 08 15 53.0 +0.3
ARU pmax pmax
comp=Z,129nm,0.9s
ARU Arti 54.56 317 P P 08 15 53.1 +0.5
ARU sP **sP** 08 16 09.7 +4.3
BKNI Bangkinang 54.68 234 P P 08 15 55.0 +0.9
BKNI Bangkinang 54.68 234 P P 08 15 55.3 +1.2
comp=Z,212nm,0.9s
MLSI Meulaboh, Aceh 54.71 242 P P 08 15 53.2 -1.1
comp=Z,62nm,0.8s,comp=Z,3µm
U33K Whale Pass 54.96 43 P P 08 15 57.3 +1.7
baz=292
S34M Telegraph Cree 55.31 40 P P 08 16 00.0 +1.9
baz=292
SDSI Sungai Dareh 55.43 233 P P 08 15 58.9 -0.5
comp=Z,125nm,1.0s,comp=Z,15µm
WTLY Watson Lake, Y 55.62 37 P P 08 16 02.4 +2.1
baz=292
DLBC Dease Lake 55.66 40 LR LR 08 41 07.2
comp=Z,197nm,20.1s,baz=70,slow=37
DLBC Dease Lake 55.66 40 P P 08 16 02.3 +1.6
baz=292
PWJI Pagerwojo 55.70 218 P P 08 15 59.6 -1.7
comp=Z,83nm,0.8s
T35M Bob Quinn 56.10 41 P P 08 16 06.0 +2.1
baz=293
SNSI Sinabang, Aceh 56.13 240 P P 08 16 04.0 -0.5
comp=Z,66nm,1.0s,comp=Z,2µm
GSI Gunungsitoli 56.13 238 P P 08 16 04.8 +0.3
GSI Gunungsitoli 56.13 238 P P 08 16 04.5 0.0
comp=Z,109nm,1.4s,comp=Z,4µm
AB31 Akbulak array 56.56 309 *i*P P 08 16 06.6 -0.5
ABKAR Akbulak array 56.56 309 P P 08 16 06.6 -0.5
MDSI Maura Dua 56.66 228 P P 08 16 07.8 -0.4
comp=Z,44nm,1.2s
MASI Maura Aman, Be 56.69 230 P P 08 16 07.4 -1.1
comp=Z,59nm,1.1s
LEM Lembang 56.74 223 LR LR 08 44 45.4
comp=Z,28nm,18.2s,baz=180,slow=40
WRGLY Wrigley 56.74 33 P P 08 16 10.2 +2.0
baz=294,SNR=7.9
ALE Alert 56.91 4 P P 08 16 10.2 +1.0
ALE pP **sP** 08 16 22.4 +0.5
KNRA Kununurra 57.02 196 P P 08 16 10.6 -0.1
KBL Kabul 57.08 290 P P 08 16 10.8 -0.6
KBL Kabul 57.08 290 P P 08 16 10.8 -0.6
KBL pmax pmax
comp=Z,183nm,0.9s
KBL Kabul 57.08 290 P P 08 16 11.0 -0.3
SNR=66
LIRD Liard River Hi 57.15 37 P P 08 16 14.1 +2.9
baz=294,SNR=12
AKTO Aktyubinsk 57.20 311 P P 08 16 11.3 -0.3
comp=Z,69nm,0.8s,baz=69,slow=6.1,SNR=115
AKTO LR LR 08 42 13.8
comp=Z,726nm,18.4s,baz=57,slow=38
comp=Z,69nm,0.8s
SPITS Spitsbergen Ar 57.59 349 LR LR 08 42 29.7
comp=Z,163nm,20.2s,baz=342,slow=38
NOR Nord 57.95 356 *i*P P 08 16 16.0 -0.6
NOR IAmb IAmb 08 16 17.3
comp=Z,11nm,0.7s
KIRV Kirov 58.24 322 LR LR 08 45 03.6
comp=Z,537nm,18.1s,baz=52,slow=40
KIRV Kirov 58.24 322 *c e*P P 08 16 19.2 +0.4
HYB Hyderabad 59.13 267 *e*P P 08 16 25.4 -0.3
HYB IVmB_BB 08 16 25.7
comp=Z,232nm,0.9s
BBB Bella Bella 59.26 46 LR LR 08 39 05.4
comp=Z,242nm,21.4s,baz=266,slow=33
RES Resolute Bay 59.34 15 LR LR 08 46 29.2
comp=Z,300nm,18.1s,baz=344,slow=40
RES Resolute Bay 59.34 15 P P 08 16 26.6 +0.3
RES Resolute Bay 59.34 15 P P 08 16 26.6 +0.3
RES pmax pmax
comp=Z,41nm,0.8s
LVZ Lovozero 59.57 335⇑ *e*P P 08 16 28.3 +0.3
LVZ pmax pmax
comp=Z,32nm,1.0s
LVZ Lovozero 59.57 335 P P 08 16 28.1 +0.1
LVZ pP **sP** 08 16 39.9 -1.0
CTA Charters Tower 60.07 176 LR LR 08 40 19.5
comp=Z,103nm,21.8s,baz=346,slow=34
WRAB Tennant Creek 60.29 189 P P 08 16 32.5 -0.9
WRAB IAmb IAmb 08 16 48.0
comp=Z,18nm,0.8s
WRAB Tennant Creek 60.29 189 P P 08 16 32.8 -0.6
WRAB Tennant Creek 60.29 189 P P 08 16 32.5 -0.9
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 60.29 189 P P 08 16 32.3 -1.1
WRAB pP **sP** 08 16 44.2 -2.0
WRA Warramunga Arr 60.30 189 P P 08 16 32.1 -1.3
comp=Z,14nm,0.7s,baz=5.9,slow=7.0,SNR=108
WRA LR LR 08 42 14.0
comp=Z,132nm,21.6s,baz=7.0,slow=36
WRA PKP2bc 08 46 06.7
comp=Z,1.8nm,0.8s,baz=200,slow=2.1,SNR=9.2
comp=Z,14nm,0.7s
WRA Warramunga Arr 60.30 189 P P 08 16 32.3 -1.2
WRA Warramunga Arr 60.30 189 P P 08 16 32.3 -1.2
WRA pmax pmax
comp=Z,2.0nm,0.8s
ADZR Andozero 60.41 330 *e*P P 08 16 31.7 -2.0
ADZR pmax pmax
comp=Z,61nm,0.7s
QIS Mount Isa 60.49 183 P P 08 16 34.0 -0.8
YKA Yellowknife Ar 60.68 31 P P 08 16 36.4 +0.8
comp=Z,10.0nm,0.9s,baz=299,slow=6.5,SNR=72
YKA pP **sP** 08 16 48.3 0.0
comp=Z,11nm,0.7s,baz=301,slow=6.7,SNR=20
YKA PKP2bc 08 46 05.5
comp=Z,0.3nm,0.8s,baz=132,slow=2.5,SNR=3.6
comp=Z,10.0nm,0.9s
YKA Yellowknife Ar 60.68 31 P P 08 16 35.8 +0.1
KEV Kevo 60.78 339 P P 08 16 36.4 +0.2
ARA0 ARCESS Array S 61.34 339 *e*P P 08 16 40.5 +0.6
KLMR Klimovskoe 61.53 327 *e*P P 08 16 39.3 -2.1
KLMR AMP 08 16 43.4
comp=Z,125nm,1.3s
KLMR *e*pP **sP** 08 16 55.6 +1.3
KLMR *e*PP **PP** 08 18 55.4 -1.2
KLMR LR LR 08 41 34.3
KLMR Klimovskoe 61.53 327 *e*P P 08 16 39.3 -2.1
KLMR *e**PP **sP** 08 16 55.6 +1.3
KLMR *e* 08 18 55.3
KLMR pmax pmax
comp=Z,125nm,1.3s
TULEG Thule 61.87 8 *i*P P 08 16 42.3 -1.1
TULEG IAmb IAmb 08 16 44.0
comp=Z,27nm,0.6s
BELG Belogornoye 62.06 316 P P 08 16 44.7 -0.4
comp=Z,134nm,0.8s,baz=27,slow=2.2,SNR=62
BELG LR LR 08 46 12.3
comp=Z,978nm,18.6s,baz=45,slow=38
comp=Z,134nm,0.8s
BELG Belogornoye 62.06 316 *c i*P P 08 16 45.3 +0.2
BELG pmax pmax
comp=Z,23nm,0.9s
KTK1 Kautokeino 62.29 339 *e*P P 08 16 47.1 +0.7
NEEM North Greenlan 62.33 3 *i*P P 08 16 46.3 -0.6
NEEM IAmb IAmb 08 16 47.7
comp=Z,20nm,0.7s
JETT Jettan, Norway 62.67 340 *e*P P 08 16 49.5 +0.5
DAG Danmarks Havn 62.70 355 *i*P P 08 16 48.1 -0.9
DAG IAmb IAmb 08 16 50.0
comp=Z,23nm,0.8s
TRO Tromso 63.00 341 *e*P P 08 16 51.2 +0.1
GEYT Alibeck 63.04 298 P P 08 16 51.4 -0.6
comp=Z,63nm,0.8s,baz=29,slow=3.4,SNR=111
GEYT LR LR 08 46 08.1
comp=Z,276nm,18.8s,baz=70,slow=38
comp=Z,63nm,0.8s
GYA0 ALIBECK ARRAY 63.04 298 P P 08 16 51.5 -0.5
PALK Pallekele 63.86 257 *i*P P 08 16 51.5 -6.1
BRLDA Berland Lookou 63.90 40 P P 08 16 58.6 +1.1
BRLDA IAmb IAmb 08 17 13.1
comp=Z,34nm,1.1s
AS01 Alice Springs 64.02 189 P P 08 16 58.3 -0.1
AS31 Alice Springs 64.03 189 P P 08 16 57.4 -1.0
ASAR Alice Springs 64.03 189 P P 08 16 57.6 -0.8
comp=Z,11nm,0.8s,baz=7.6,slow=5.3,SNR=114
ASAR LR LR 08 44 38.8
comp=Z,170nm,21.8s,baz=15,slow=36
ASAR PKP2bc 08 45 56.4
comp=Z,0.9nm,0.8s,baz=190,slow=2.3,SNR=8.5
comp=Z,11nm,0.8s
ASAR Alice Springs 64.03 189 P P 08 16 57.4 -1.0
MBWA Marble Bar 64.61 204 P P 08 17 01.9 -0.3
MBWA Marble Bar 64.61 204 P P 08 17 01.5 -0.7
KULLO Kullorsuaq 64.76 6 *i*P P 08 17 01.6 -1.0
KULLO IAmb IAmb 08 17 02.9
comp=Z,11nm,0.7s
PCHI Peechi 65.05 263⇑ *e*P P 08 17 05.2 -0.2
PCHI *e*S SKiKP 08 26 45.4 -28
STEI Steigen 65.16 341 *e*P P 08 17 05.4 +0.1
DBG Daneborg 65.19 355 *i*P P 08 17 04.7 -0.7
DBG IAmb IAmb 08 17 10.6
comp=Z,3.5nm,0.8s
MOS Moscow 65.21 323 *e*P P 08 17 04.3 -1.5
MOS *e* 08 17 19.8
MOS pmax pmax
comp=Z,133nm,1.5s
MOS MLR MLR
comp=Z,700nm,15.0s
FAUS Fauske 65.56 340 *e*P P 08 17 08.4 +0.5
EIDS Eidsvold 65.72 171 P P 08 17 10.3 +1.0
EIDS IAmb IAmb 08 17 32.3
comp=Z,48nm,1.9s
VRH Novokhopyorsk 65.80 317 *e*P P 08 17 09.3 -0.4
VRH pmax pmax
comp=Z,120nm,0.8s
DZM Mont Dzumac 65.86 156 *e*P P 08 17 12.5 +2.1
comp=Z,60nm,1.1s
DZM *e*S **S** 08 25 56.5 +1.1
comp=Z,91nm,29.4s
DZM *e*SS **SS** 08 30 13.0 +1.9
comp=Z,108nm,25.6s
DZM *e*LR LR 08 37 00.5
comp=Z,622nm,22.6s
DZM Mont Dzumac 65.86 156 LR LR 08 42 17.1
comp=Z,329nm,21.9s,baz=22,slow=33
DZM Mont Dzumac 65.86 156 P P 08 17 12.5 +2.1
DZM IAmb IAmb 08 17 30.7
comp=Z,34nm,1.2s
DZM Mont Dzumac 65.86 156 P P 08 17 14.2 +3.7
DZM pP **sP** 08 17 25.9 +2.5
PUL Pulkovo 65.89 329⇓ *e*P P 08 17 11.1 +1.0
PUL pmax pmax
comp=Z,95nm,0.7s
OBN Obninsk 66.06 323 P P 08 17 11.0 -0.3
comp=Z,15nm,0.8s,baz=146,slow=1.9,SNR=14
OBN LR LR 08 49 12.0
comp=Z,105nm,19.0s,baz=356,slow=39
comp=Z,15nm,0.8s
OBN Obninsk 66.06 323 P P 08 17 11.0 -0.3
OBN Obninsk 66.06 323 *c e*P P 08 17 11.3 0.0
OBN *e* 08 19 38.9
OBN pmax pmax
comp=Z,175nm,1.7s
OBN MLR MLR
comp=Z,795nm,16.0s
OBN Obninsk 66.06 323 P P 08 17 11.6 +0.3
WRKA Warakurna 66.22 194 P P 08 17 12.2 -0.4
FIA1 FINESS Array S 66.40 332 P P 08 17 13.1 -0.3
FINES FINESS Array B 66.41 332 P P 08 17 13.5 +0.1
comp=Z,38nm,0.7s,baz=48,slow=8.5,SNR=60
FINES PP PP 08 19 38.5 -0.8
comp=Z,2.9nm,0.7s,baz=60,slow=8.2,SNR=1.7
FINES LR LR 08 48 21.7
comp=Z,866nm,20.2s,baz=48,slow=38
comp=Z,38nm,0.7s
FINES FINESS Array B 66.41 332 P P 08 17 13.2 -0.2
LPSR Galich'ya Gora 66.41 320 *e*P P 08 17 13.7 +0.1
LPSR pmax pmax
comp=Z,160nm,0.8s
MSVF Nonsavu 66.48 143 LR LR 08 43 03.7
comp=Z,238nm,19.1s,baz=341,slow=33
UPNV Upernavik 66.58 6 *i*P P 08 17 13.5 -0.9
UPNV IAmb IAmb 08 17 14.7
comp=Z,8.4nm,0.9s
MOR8 Moi Rana 66.69 340 *e*P P 08 17 14.2 -1.0
VORR Voronezh 66.81 319 *e*P P 08 17 16.5 +0.3
VORR pmax pmax
comp=Z,132nm,0.5s
VSR Storozhevoye 67.10 318 *e*P P 08 17 18.3 +0.3
VSR pmax pmax
comp=Z,120nm,0.9s
MAK Makhachkala 67.17 307 *e*P P 08 17 19.8 +1.2
MAK *e*S **S** 08 26 13.6 +2.8
MAK pmax pmax
comp=Z,44nm,0.5s
MAK MLR MLR
comp=Z,306nm,17.0s
NEW Newport 67.32 45 LR LR 08 45 57.8
comp=Z,217nm,19.8s,baz=256,slow=35
SUMG Summit 67.53 0 *i*P P 08 17 20.8 -0.1
SUMG IAmb IAmb 08 17 22.4
comp=Z,32nm,0.7s
INKA Innaminka 67.61 182 P P 08 17 21.9 +0.6
MEF Metsahovi 67.84 332 *e*P P 08 17 22.9 +0.3
AKT Akhty 67.86 306 *e*P P 08 17 23.2 0.0
AKT *e* 08 17 49.7
AKT pmax pmax
comp=Z,80nm,0.8s
OOD Oodnadatta 67.93 186 P P 08 17 22.8 -0.6
GROC Groznyy 68.06 308 *e*P P 08 17 24.0 -0.2
GROC *e* 08 17 50.8
GROC pmax pmax
comp=Z,68nm,0.6s
VSU Vasula 68.15 329 *d e*P P 08 17 25.4 +1.0
VSU pmax pmax
comp=Z,208nm,1.0s
VSU Vasula 68.15 329 *e*P P 08 17 25.5 +1.0
RAF Rauma 68.22 333 *e*P P 08 17 24.6 -0.3
AFI Afiamalu 68.58 132 LR LR 08 41 56.5
comp=Z,230nm,21.9s,baz=316,slow=31
SCO Scoresbysund 69.05 354 *i*P P 08 17 30.1 +0.1
SCO IAmb IAmb 08 17 31.2
comp=Z,6.0nm,0.8s
MTSE Matsula 69.10 331 *e*P P 08 17 30.8 +0.4
NCK Nalchik 69.20 310⇑ *e*P P 08 17 31.8 +0.4
NCK pmax pmax
comp=Z,63nm,1.0s
ZEI Tsey 69.43 309 *e*P P 08 17 32.1 -1.0
ZEI pmax pmax
comp=Z,54nm,1.0s
KVAR Kislovodsk Arr 69.46 311 P P 08 17 34.5 +1.5
comp=Z,43nm,0.8s,baz=267,slow=24,SNR=26
comp=Z,43nm,0.8s
KIV Kislovodsk 69.46 311 P P 08 17 33.5 +0.4
KIV Kislovodsk 69.46 311 *e*P P 08 17 34.4 +1.3
KIV pmax pmax
comp=Z,203nm,1.1s
KIV MLR MLR
comp=Z,522nm,17.0s
KIV Kislovodsk 69.46 311 *i*P P 08 17 34.5 +1.4
SNR=21
KIV Kislovodsk 69.46 311 P P 08 17 33.8 +0.7
KIV S **S** 08 26 31.7 -6.7
KIV Kislovodsk 69.46 311 P P 08 17 34.1 +1.0
KIV sP **sP** 08 17 49.9 +3.9
KBZ Khabaz 69.47 310 P P 08 17 33.4 +0.4
comp=Z,56nm,0.8s,baz=45,slow=4.9,SNR=78
KBZ LR LR 08 50 41.9
comp=Z,372nm,18.5s,baz=38,slow=38
comp=Z,56nm,0.8s
KBZ Khabaz 69.47 310 *c i*P P 08 17 33.8 +0.8
ONI Oni 69.82 309 P P 08 17 36.1 +0.8
ONI Oni 69.82 309 P P 08 17 36.1 +0.8
ONI pmax pmax
comp=Z,76nm,1.0s
MSO Missoula 69.91 45 P P 08 17 37.0 +1.2
baz=308,SNR=9.6
IDID Didziasalis 70.28 327 *e*P P 08 17 27.5 -10
MNK Minsk 70.34 326 *i*P P 08 17 39.5 +1.3
comp=E,9.0nm,1.2s
MNK *i*P P 08 17 39.5 +1.3
comp=N,58nm,1.0s
MNK *i*P P 08 17 39.5 +1.3
comp=Z,114nm,0.8s,baz=48
MNK *i*pP **sP** 08 17 52.1 +1.0
MNK *i*PP **PP** 08 20 06.4 -7.1
MNK *i*PPP PPP 08 21 56.6
MNK *i*S **S** 08 26 48.8 +0.6
MNK *i*sS **sS** 08 27 06.3 +2.6
MNK *i*SS SS 08 31 49.0 +31
MNK *i*SSS SSS 08 34 39.4
MNK *i*LQ LQ 08 43 40.7
MNK *i*LR LR 08 49 02.7
MNK *i*LRM MLR 08 50 58.6
comp=E,65nm,20.6s
MNK *i*LRM MLR 08 51 24.5
comp=Z,568nm,18.0s
MNK *i*LRM MLR 08 51 39.0
comp=N,503nm,15.0s
MNK Minsk 70.34 326 *i*P P 08 17 39.4 +1.3
MNK *i**PP **sP** 08 17 52.1 +1.0
MNK *i*PPP PPP 08 21 56.5
MNK *i*S **S** 08 26 48.7 +0.6
MNK *i**SS **sS** 08 27 06.3 +2.6
MNK pmax pmax
comp=Z,114nm,0.8s
MNK pmax pmax
comp=E,9.0nm,1.2s
MNK pmax pmax
comp=N,58nm,1.0s
MNK MLR MLR
comp=E,65nm,21.0s
MNK MLR MLR
comp=Z,568nm,18.0s
MNK MLR MLR
comp=N,503nm,15.0s
ISAL Salakas 70.36 327 *e*P P 08 17 39.5 +1.3
LCRK Leigh Creek 70.39 184 P P 08 17 39.1 +0.5
ILULI Ilulissat 70.45 5 P P 08 17 38.9 +0.4
ILULI IAmb IAmb 08 17 54.4
comp=Z,41nm,0.9s
ILULI Ilulissat 70.45 5 *i*P P 08 17 38.5 0.0
ILULI IAmb IAmb 08 17 39.6
comp=Z,13nm,0.8s
ILULI Ilulissat 70.45 5 P P 08 17 38.9 +0.4
ILULI pmax pmax
comp=Z,41nm,0.9s
GNI Garni 70.48 306 P P 08 17 40.6 +1.1
comp=Z,27nm,0.9s,baz=35,slow=2.8,SNR=8.2
GNI LR LR 08 51 33.7
comp=Z,474nm,19.5s,baz=82,slow=38
comp=Z,27nm,0.9s
GNI Garni 70.48 306 P P 08 17 40.9 +1.4
GNI Garni 70.48 306 P P 08 17 40.9 +1.4
GNI pmax pmax
comp=Z,113nm,1.4s
GNI Garni 70.48 306 P P 08 17 40.4 +0.9
GNI Garni 70.48 306 P P 08 17 40.9 +1.4
GNI pP **sP** 08 17 53.2 +0.7
NACGM Naroch 70.54 326 *e*P P 08 17 40.4 +1.0
comp=Z,159nm,0.8s,baz=47
MULG Mulgathing 70.55 188 P P 08 17 39.5 0.0
FFC Flin Flon 70.62 34 P P 08 17 40.4 +0.6
WSAR Wadi Sarin 70.85 285 LR LR 08 52 29.9
comp=Z,113nm,19.6s,baz=78,slow=39
WSAR Wadi Sarin 70.85 285 P P 08 17 39.7 -2.1
WSAR S **S** 08 26 47.2 -7.9
VSVD Vaisvydziai 70.97 329 *e*P P 08 17 42.5 +0.6
BANOM Banah 70.98 288 *i*P P 08 17 42.8 +0.2
SNR=19
BANOM Banah 70.98 288 P P 08 17 43.3 +0.7
SNR=6.7
ICESG Greenland Ices 71.02 1 *i*P P 08 17 42.8 +0.3
ICESG IAmb IAmb 08 17 44.1
comp=Z,54nm,0.7s
PABE Paberze 71.29 328 P P 08 17 44.3 +0.4
PABE Paberze 71.29 328 *e*P P 08 17 44.7 +0.9

LRM **Limekiln Ridge** 71.34 45 P P 08 17 45.3 +0.5
EGMT **Eagleton** 71.38 42 P P 08 17 46.0 +1.3
baz=310,SNR=14
MSFE **Esma-Masafi** 71.42 288 *i* P P 08 17 45.4 +0.2
SNR=12
HFS **Hagfors** 71.55 336 LR LR 08 51 16.7
comp=Z,574nm,22.0s,baz=38,slow=38
NB2 **NORSAR Subarra** 71.59 337 P P 08 17 46.2 +0.5
comp=Z,17nm,0.8s,baz=38,slow=6.2
NB2 **NORSAR Subarra** 71.59 337 P P 08 17 46.2 +0.5
baz=38,slow=6.2
NOA **NORSAR Array B** 71.59 337 P P 08 17 45.4 -0.3
comp=Z,29nm,0.8s,baz=38,slow=6.0,SNR=70
NOA PP PP 08 20 23.9 -0.2
comp=Z,2.3nm,0.8s,baz=34,slow=8.0,SNR=3.5
NOA LR LR 08 54 19.2
comp=Z,359nm,18.1s,baz=30,slow=40
comp=Z,29nm,0.8s
HOQ **Hoqain** 71.62 286 P P 08 17 46.9 +0.5
SNR=5.7
UOSS **Minazif** 71.63 287 *i* P P 08 17 46.2 -0.2
SNR=17
UOSS **Minazif** 71.63 287 P P 08 17 46.2 -0.2
UOSS pP sP 08 17 58.2 -1.2
HLID **Hailey** 71.65 48 P P 08 17 48.3 +1.8
baz=308,SNR=5.0
STKA **Stephens Creek** 71.71 181 P P 08 17 46.9 +0.3
comp=Z,2.6nm,0.7s,baz=340,slow=8.9,SNR=3.3
STKA LR LR 08 46 36.5
comp=Z,81nm,21.5s,baz=20,slow=34
comp=Z,2.6nm,0.7s
STKA **Stephens Creek** 71.71 181⇑ *e*P P 08 17 47.3 +0.7
HATD **Hatta, Dubai** 71.75 287 *i* P P 08 17 47.3 +0.1
SNR=22
HATD **Hatta, Dubai** 71.75 287 P P 08 17 47.9 +0.6
SNR=8.0
JMDO **Jabal Madar** 71.75 284 P P 08 17 47.4 +0.2
NAO01 **NORSAR Array S** 71.84 337 *e*P P 08 17 45.6 -1.6
FORT **Forrest** 71.86 193 P P 08 17 47.2 -0.3
SOHO **SOHO** 71.87 286 *i* P P 08 17 47.7 -0.2
SNR=13
SOHO **SOHO** 71.87 286 P P 08 17 47.8 -0.1
ASHO **Ashiyiah** 71.89 287 *i* P P 08 17 47.6 -0.5
SNR=18
ASHO **Ashiyiah** 71.89 287 P P 08 17 48.2 +0.1
SNR=9.1
BOZ **Bozeman (W)** 71.93 45 P P 08 17 49.1 +0.9
BOZ IAmb IAmb 08 18 04.2
comp=Z,38nm,0.8s
BOZ **Bozeman (W)** 71.93 45 P P 08 17 49.4 +1.2
baz=309,SNR=43
BOZ **Bozeman (W)** 71.93 45 P P 08 17 49.1 +0.9
BOZ pmax pmax
comp=Z,38nm,0.8s
ANN **Anapa** 71.93 314 *ce*P P 08 17 48.0 +0.1
ANN pmax pmax
comp=Z,81nm,1.2s
NAZ **Nazwa, Dubai** 72.00 288 P P 08 17 48.5 -0.2
FAQ **Al Faqa, Dubai** 72.19 288 *i* P P 08 17 49.2 -0.6
SNR=9.6
FAQ **Al Faqa, Dubai** 72.19 288 P P 08 17 49.9 +0.1
SNR=5.3
BSY **Bisya** 72.20 285 P P 08 17 50.3 +0.3
SNR=5.2
AKASG **Malin Array Be** 72.30 322 P P 08 17 49.6 -0.5
comp=Z,46nm,0.8s,baz=44,slow=6.1,SNR=151
AKASG pP sP 08 18 03.1 0.0
comp=Z,20nm,0.7s,baz=45,slow=6.1,SNR=8.9
AKASG PP PP 08 20 30.7 +0.3
comp=Z,2.3nm,0.6s,baz=41,slow=8.7,SNR=3.0
AKASG LR LR 08 53 00.9
comp=Z,280nm,20.3s,baz=52,slow=39
comp=Z,46nm,0.8s
AKBB **Malin Array Si** 72.30 322 *ce*P P 08 17 50.0 -0.1
ARQ **Araqi** 72.35 286 P P 08 17 51.1 +0.2
SNR=6.8
ASUD **Al Ashush, Dub** 72.46 288 *i* P P 08 17 51.2 -0.2
SNR=10.0
NVAR **Mina Array Bea** 72.47 54 P P 08 17 53.2 +1.6
comp=Z,2.2nm,0.7s,baz=290,slow=5.8,SNR=15
comp=Z,2.2nm,0.7s
ALNE **Al Ain** 72.49 287 *i* P P 08 17 51.2 -0.4
SNR=9.9
ALNE **Al Ain** 72.49 287 P P 08 17 51.9 +0.3
SNR=8.7
QLMT **Earthquake Lak** 72.52 46 P P 08 17 53.2 +1.4
OSL **Oslo** 72.62 337 *e*P P 08 17 52.5 +0.7
MLAC **Mammoth, Mammo** 72.62 55 P P 08 17 54.4 +1.9
baz=308
SFJD **Kangerlussuaq** 72.67 5 LR LR 08 51 26.8
comp=Z,430nm,20.7s,baz=341,slow=37
SFJD **Kangerlussuaq** 72.67 5 *i* P P 08 17 51.3 -0.7
SFJD IAmb IAmb 08 17 53.0
comp=Z,17nm,0.9s
MHTO **MHTO** 72.68 283 P P 08 17 53.2 +0.4
SNR=14
SKAR **Skarsla** 72.72 338 *e*P P 08 17 53.4 +0.9
GCMT **Greycliff** 72.86 44 P P 08 17 55.2 +1.5
BBOO **Buckleboo** 72.88 186 P P 08 17 53.9 +0.4
YMR **Madison River** 72.88 46 P P 08 17 55.5 +1.5
YMR IAmb IAmb 08 18 10.4
comp=Z,24nm,0.9s
ELK **Elko** 72.91 51 LR LR 08 51 26.8
comp=Z,139nm,18.9s,baz=318,slow=37
H17A **Grant Village** 73.27 46 P P 08 17 59.5 +3.2
baz=310,SNR=11
DY2G **Dye2** 73.45 4 *i* P P 08 17 56.8 -0.2
DY2G IAmb IAmb 08 17 57.9
comp=Z,35nm,0.7s
RLMT **Red Lodge** 73.51 45 P P 08 17 59.3 +1.7
baz=311,SNR=9.0
FRB **Frobisher Bay** 73.52 14 LR LR 08 54 40.7
comp=Z,272nm,18.2s,baz=349,slow=39
VES **Vestal, Richgr** 73.56 57 P P 08 17 58.1 +0.3
baz=308
SIM **Simferopol'** 73.65 315 *e*P P 08 17 58.6 +0.4
SIM *e*S SKiKP 08 27 21.0 -4.5
SIM pmax pmax
comp=Z,96nm,0.8s
SIM smax smax
comp=E,47nm,14.3s
SIM MLR MLR
comp=Z,384nm,19.1s
CWC **Cottonwood Cre** 73.83 56 P P 08 18 00.4 +0.8
baz=308
DGMT **Dagmar** 73.88 39 P P 08 17 59.9 +0.4
baz=313
DGMT **Dagmar** 73.88 39 P P 08 18 00.2 +0.8
baz=313,SNR=8.3
GRAC **Grapevine Rang** 73.94 55 P P 08 18 01.5 +1.5
baz=308,SNR=9.1
ISA **Isabella, Lake** 74.06 57 P P 08 18 01.0 +0.2
baz=308
LAO **LASA Array** 74.07 42 P P 08 18 02.0 +1.3
baz=312
LAO **LASA Array** 74.07 42 P P 08 18 02.0 +1.3
baz=312,SNR=12
ARVC **Arvin** 74.16 57 P P 08 18 03.2 +1.9
baz=308
R11A **Troy Canyon, C** 74.20 53 P P 08 18 03.4 +1.7
baz=309
BLDU **Ballidu** 74.39 203 P P 08 18 01.9 -0.5
MPMC **Manual Prospec** 74.44 56 P P 08 18 03.7 +0.5
baz=309
SORM **Soroca** 74.47 321 ⇓P P 08 18 03.0 +0.2
SORM **Soroca** 74.47 321 P P 08 18 03.0 +0.2
ANGG **Ammassalik, Gr** 74.53 0 *i* P P 08 18 02.5 -0.4
FURC **Furnace Creek,** 74.58 55 P P 08 18 06.0 +2.3
baz=309,SNR=5.8
BORG **Borgarnes** 74.62 353 LR LR 08 52 28.1
comp=Z,112nm,18.1s,baz=0.1,slow=37
MARD **Mardin** 74.66 306 P P 08 18 04.8 +0.4
TPNV **Topopah Spring** 74.66 55 P P 08 18 06.0 +1.5
baz=309,SNR=6.3
LRMC **Laurel Mtn Rad** 74.67 56 P P 08 18 04.9 +0.4
baz=309
DUG **Dugway, Tooele** 74.69 50 P P 08 18 06.0 +1.5
baz=310,SNR=7.6
MZR **Muzera** 74.78 287 *i* P P 08 18 04.2 -0.9
SNR=22
MZR **Muzera** 74.78 287 P P 08 18 04.7 -0.4
SNR=7.4
EDW2 **Edwards Air Fo** 74.85 57 P P 08 18 06.4 +1.0
baz=309
SHMA **Al-Shehemyia** 74.87 291 P P 08 18 05.1 -0.5
BW06 **Boulder Array** 74.89 47 P P 08 18 06.1 +0.4
BW06 **Boulder Array** 74.89 47 P P 08 18 06.4 +0.6
baz=311,SNR=6.8
PDAR **Pinedale Array** 74.89 47 P P 08 18 06.3 +0.5
comp=Z,2.8nm,0.6s,baz=262,slow=1.8,SNR=45
PDAR pP PcP 08 18 20.4 +0.8
comp=Z,5.2nm,0.7s,baz=289,slow=2.8,SNR=14
PDAR LR LR 08 47 57.5
comp=Z,204nm,21.4s,baz=309,slow=33
comp=Z,2.8nm,0.6s
MILM **Milestii Mici** 75.08 319 *i* P P 08 18 07.0 +0.6
comp=Z,140nm,0.8s
MILM **Milestii Mici** 75.08 319 ⇑P P 08 18 06.5 +0.1
MILM **Milestii Mici** 75.08 319 *c i* P P 08 18 07.0 +0.6
MILM pmax pmax
comp=Z,140nm,0.8s
BEL **Belsk** 75.25 327 *e*P P 08 18 08.4 +1.1
SHOC **Shoshone, Teco** 75.31 55 P P 08 18 09.0 +1.0
baz=309
LVV **L'vov** 75.31 324 *e*P P 08 18 08.2 +0.5
LVV *e*S S 08 27 43.1 -1.7
LVV pmax pmax
comp=Z,130nm,1.2s
LVV MLR MLR
comp=N,500nm,15.0s
LVV MLR MLR
comp=E,500nm,15.0s
LVV MLR MLR
comp=Z,600nm,15.0s
GSC **Goldstone, Bar** 75.34 56 P P 08 18 09.2 +0.9
baz=309
NUUK **Nuuk** 75.36 6 *i* P P 08 18 08.0 +0.3
NUUK IAmb IAmb 08 18 09.3
comp=Z,44nm,0.7s
BFSC **Mount Baldy Ra** 75.46 57 P P 08 18 09.9 +0.8
baz=309
COP **Copenhagen** 75.47 333 *i* P P 08 18 07.7 -0.8
CIS **Catalina Islan** 75.49 59 P P 08 18 10.3 +1.2
baz=309
VASR **Vaslui** 75.78 320 ⇑P P 08 18 11.2 +0.8
TUQ **Turquoise Moun** 75.82 56 P P 08 18 12.3 +1.3
baz=310,SNR=6.0
LLD **Lille Linde** 75.83 333 *i* P P 08 18 11.1 +0.6
MUD **Monsted U'grnd** 75.93 335 *i* P P 08 18 10.5 -0.6
HEC **Hector,Ludlow** 75.94 56 P P 08 18 13.4 +1.7
baz=309
RGN **Rugen** 76.06 332 *e*P P 08 18 12.8 +1.0
comp=Z,60nm,1.0s,baz=35,slow=5.4
MURC **Murrieta** 76.16 58 P P 08 18 13.7 +0.8
baz=309
VLDR **Vladesti** 76.19 319 ⇓P P 08 18 13.0 +0.2
TLCR 76.27 318 ⇑P P 08 18 13.6 +0.3
TLCR 76.27 318 P P 08 18 13.5 +0.3
BUR08 **Bucovina Ar. S** 76.32 322 P P 08 18 13.8 +0.1
BUR08 IAmb IAmb 08 18 15.5
comp=Z,37nm,0.8s
RDMU **Red Mountain** 76.33 48 P P 08 18 15.1 +1.1
RDMU IAmb IAmb 08 18 30.3
comp=Z,43nm,1.0s
BURAR **Bucovina Array** 76.34 322 ⇑P P 08 18 14.5 +0.7
BURAR **Bucovina Array** 76.34 322 P P 08 18 13.8 0.0
BURAR IAmb IAmb 08 18 15.9
comp=Z,50nm,0.8s
BURAR **Bucovina Array** 76.34 322 P P 08 18 14.4 +0.7
GHRR 76.37 320 ⇑P P 08 18 15.2 +1.4
GMRC **Granite Mounta** 76.40 56 P P 08 18 15.3 +0.9
baz=310
NWAO **Narrogin (SRO)** 76.40 202 P P 08 18 13.9 -0.1
TESR **Tescani** 76.43 320 ⇑P P 08 18 14.9 +0.7
ULM **Lac du Bonnet** 76.43 34 P P 08 18 13.9 -0.1
comp=Z,5.9nm,0.6s,baz=312,slow=7.9,SNR=14
ULM pP sP 08 18 28.0 +1.0
comp=Z,10nm,0.6s,baz=313,slow=7.5,SNR=8.7
ULM LR LR 08 51 35.3
comp=Z,70nm,21.3s,baz=299,slow=35
comp=Z,5.9nm,0.6s
MDND **Maddock** 76.51 38 P P 08 18 15.5 +0.9
baz=316
MDND **Maddock** 76.51 38 P P 08 18 15.6 +1.0
baz=316
IZVR **Izvoarele** 76.55 319 ⇑P P 08 18 16.1 +1.3
CFR **Carcaliu** 76.62 319 ⇑P P 08 18 15.8 +0.5
CFR **Carcaliu** 76.62 319 P P 08 18 15.7 +0.5
PFO **Pinyon Flats O** 76.63 57 LR LR 08 45 11.6
comp=Z,274nm,21.3s,baz=330,slow=30
PFO **Pinyon Flats O** 76.63 57 P P 08 18 16.8 +1.1
baz=310
PFO **Pinyon Flats O** 76.63 57 *i* P P 08 18 13.8 -1.9
K22A **Casper** 76.63 45 P P 08 18 16.6 +0.9
baz=313
K22A **Casper** 76.63 45 P P 08 18 16.3 +0.7
baz=313
TPFO **Pinon Flats** 76.64 57 P P 08 18 16.4 +0.6
baz=310
BNN **Bunyan** 76.66 310 P P 08 18 16.1 +0.2
TPGR **Topolog** 76.70 318 ⇑P P 08 18 16.5 +0.7
SRU **San Rafael Swe** 76.74 50 P P 08 18 17.1 +0.8
SRU IAmb IAmb 08 18 32.3
comp=Z,23nm,1.0s
SRU **San Rafael Swe** 76.74 50 P P 08 18 17.1 +0.8
SRU pmax pmax
comp=Z,23nm,1.0s
STHS **Stebnicka Huta** 76.84 325 *e*P P 08 18 17.2 +0.7
STHS pmax pmax
comp=Z,19nm,0.8s
STHS **Stebnicka Huta** 76.84 325 *e*P P 08 18 17.2 +0.7
VRI **Vrincioaia** 76.85 320 ⇑P P 08 18 17.2 +0.6
VRI **Vrincioaia** 76.85 320 P P 08 18 17.1 +0.6
OJC **Ojcow** 76.87 326 *e*P P 08 18 17.3 +0.7
OJC *e*pP sP 08 18 30.7 +1.1
OJC **Ojcow** 76.87 326 P P 08 18 16.8 +0.2
OJC IAmb IAmb 08 18 18.6
comp=Z,66nm,1.0s
OJC **Ojcow** 76.87 326 P P 08 18 16.8 +0.2
OJC pmax pmax
comp=Z,66nm,1.0s
PLOR **Plostina** 76.89 320 ⇑P P 08 18 17.7 +0.8
PLOR **Plostina** 76.89 320 P P 08 18 17.7 +0.8
E28A **Huff** 76.90 39 P P 08 18 17.9 +1.1
baz=316
GAZ **Gaziantep** 76.94 308 P P 08 18 18.4 +1.0
RSSD **Black Hills** 76.95 43 P P 08 18 17.8 +0.4
baz=314
RSSD **Black Hills** 76.95 43 P P 08 18 18.7 +1.3
baz=314
UZH **Uzhgorod** 76.95 324 *e*P P 08 18 17.2 +0.1
UZH *e* 08 18 28.2
UZH *e* 08 18 32.8
DOK **Doka** 76.98 283 P P 08 18 17.1 -0.6
TIRR **Tirgusor** 76.98 318 ⇑P P 08 18 17.8 +0.5
TIRR **Tirgusor** 76.98 318 P P 08 18 17.8 +0.5
COVR **Voinseaca-Covas** 77.12 320 ⇑P P 08 18 19.0 +0.9
ARCR **ARCALIA** 77.13 322 ⇑P P 08 18 19.3 +1.2
IRM **Iron Mountain** 77.13 56 P P 08 18 19.9 +1.5
baz=310
CRVS **Cervenica-Dubn** 77.13 325 *e*P P 08 18 18.7 +0.6
CRVS pmax pmax
comp=Z,153nm,2.1s
CRVS **Cervenica-Dubn** 77.13 325 *e*P P 08 18 18.7 +0.6
OZUR 77.15 320 ⇑P P 08 18 19.8 +1.5
TRPA **Tarpa** 77.21 323 ⇑P P 08 18 19.3 +0.7
BC3 **Big Chuckawall** 77.25 57 P P 08 18 20.1 +0.9
baz=310
NIE **Niedzica** 77.25 325 *e*P P 08 18 19.9 +1.1
BR131 **Keskin Array S** 77.37 312 P P 08 18 19.7 0.0
BR131 IAmb IAmb 08 18 21.5
comp=Z,74nm,1.4s
BR131 **Keskin Array S** 77.37 312 *c i* P P 08 18 20.0 +0.2
BR131 **Keskin Array S** 77.37 312 P P 08 18 20.5 +0.7
SNR=7.8
BRTR **Keskin Array B** 77.37 312 P P 08 18 19.9 +0.2
comp=Z,22nm,1.1s,baz=69,slow=4.1,SNR=30
BRTR PP PP 08 21 14.9 +1.2
comp=Z,2.8nm,0.9s,baz=56,slow=7.7,SNR=4.0
BRTR LR LR 08 57 39.6
comp=Z,279nm,20.1s,baz=57,slow=40
comp=Z,22nm,1.1s
BRTR **Keskin Array B** 77.37 312 *i* P P 08 18 20.2 +0.4
BRTR pmax pmax
comp=Z,22nm,1.1s
NEHR **Nehoiu** 77.37 320 ⇑P P 08 18 20.5 +0.9
O20A **White River Ci** 77.38 48 P P 08 18 19.8 -0.1
baz=312
DOPR **Dopca** 77.43 320 ⇑P P 08 18 21.2 +1.4
U15A **North Rim** 77.44 53 P P 08 18 21.4 +1.0
U15A IAmb IAmb 08 18 37.1
comp=Z,24nm,1.0s
ISR **Istrita** 77.47 319 ⇑P P 08 18 21.7 +1.5
ISR **Istrita** 77.47 319 P P 08 18 21.6 +1.5
IKP **In-Ko-Pah, Jac** 77.47 58 P P 08 18 20.6 +0.2
baz=310
MLR **Muntele Rosu** 77.50 320 LR LR 08 56 17.5
comp=Z,545nm,18.7s,baz=56,slow=39
MLR **Muntele Rosu** 77.50 320 ⇑P P 08 18 21.2 +0.8
MLR **Muntele Rosu** 77.50 320 P P 08 18 21.2 +0.8
ICOR **Ion Corvin** 77.53 318 ⇑P P 08 18 21.1 +0.7
BSEG **Bad Segeberg** 77.61 333 *e*P P 08 18 21.5 +0.9
comp=Z,37nm,1.0s,baz=35,slow=5.4
PDMCI **Parker Dam,Lak** 77.67 56 P P 08 18 22.2 +0.8
baz=310
MESR **Meseseni** 77.74 323 ⇑P P 08 18 23.2 +1.7
ANTO **Ankara** 77.75 312 ⇑P P 08 18 22.2 +0.3
ANTO **Ankara** 77.75 312 P P 08 18 22.1 +0.3
CJR **Cluj-Napoca** 77.75 322 ⇑P P 08 18 22.7 +1.0
CJR **Cluj-Napoca** 77.75 322 P P 08 18 22.7 +1.0
SECR 77.76 319 ⇑P P 08 18 22.3 +0.6
KSP **Ksiaz** 77.84 328 *e*P P 08 18 22.8 +0.7
KSP *e*pP sP 08 18 36.3 +1.2
OKC **Ostrava-Krasne** 77.86 327 *e*P P 08 18 22.7 +0.6
OKC **Ostrava-Krasne** 77.86 327 *e*P P 08 18 22.7 +0.6
AGMN **Agassiz Nation** 77.89 36 P P 08 18 22.3 -0.1
baz=318
AGMN **Agassiz Nation** 77.89 36 P P 08 18 22.7 +0.3
baz=318
VOIR 77.98 320 ⇑P P 08 18 23.6 +0.6
VOIR 77.98 320 P P 08 18 23.6 +0.6
MARR **Marisel-Cluj** 78.01 322 ⇑P P 08 18 23.7 +0.6
GLA **Glamis** 78.04 57 P P 08 18 23.8 +0.3
baz=310
OSTC **Ostas** 78.10 328 *e*P P 08 18 24.0 +0.5
PV10 **Paradox Valley** 78.10 50 P P 08 18 25.0 +1.0
PV10 IAmb IAmb 08 18 40.6
comp=Z,44nm,0.8s
DRGR 78.11 322 ⇑P P 08 18 24.5 +0.7
DRGR 78.11 322 P P 08 18 24.4 +0.7
MTUR **Matau** 78.12 320 ⇑P P 08 18 24.7 +0.8
MTUR **Matau** 78.12 320 P P 08 18 24.6 +0.8
N23A **Red Feather La** 78.15 46 P P 08 18 25.8 +1.5
baz=314,SNR=5.2
MORC **Moravsky Berou** 78.15 327 *e*P P 08 18 24.7 +0.9
DPC **Dobruska-Polom** 78.21 328 *e*P P 08 18 24.6 +0.4
DPC *e*pP sP 08 18 36.8 -0.4
DPC **Dobruska-Polom** 78.21 328 *e*P P 08 18 24.6 +0.4
DPC *e* 08 18 36.8
UPC **Upice** 78.22 328 *e*P P 08 18 24.7 +0.6
UPC **Upice** 78.22 328 *e*P P 08 18 24.7 +0.6
D32B **Dogwood Acres,** 78.23 37 P P 08 18 24.4 +0.1
baz=318
ARR **Arges** 78.23 320 ⇑P P 08 18 26.1 +1.7
KRLC **Kraliky** 78.24 328 *e*P P 08 18 24.9 +0.6
KRLC *e*pP sP 08 18 36.9 -0.5
KRLC **Kraliky** 78.24 328 *e*P P 08 18 24.9 +0.6
KRLC *e* 08 18 36.9
MAUC **Maruska** 78.35 327 *e*P P 08 18 25.2 +0.3
MAUC *ex* x 08 18 32.6
PSZ **Piszkesteto** 78.56 325 ⇑P P 08 18 27.2 +1.0
PSZ **Piszkesteto** 78.56 325 P P 08 18 27.1 +1.0
VYHS **Vyhne** 78.58 326 *e*P P 08 18 27.3 +1.1
VYHS pmax pmax
comp=Z,25nm,1.0s
VYHS **Vyhne** 78.58 326 *e*P P 08 18 27.3 +1.1
FLTG **Flechtingen** 78.59 332 *e*P P 08 18 26.2 +0.1
comp=Z,35nm,0.8s,baz=35,slow=5.4
WUAZ **Wupatki** 78.60 53 P P 08 18 28.5 +1.8
baz=312,SNR=5.8
HUMR **Humele** 78.67 320 ⇑P P 08 18 27.2 +0.6
BRG **Berggiesshubel** 78.75 330 *i* P P 08 18 27.6 +0.5
BRG Amp 08 18 28.8
comp=Z,21nm,1.2s
BRG pP sP 08 18 38.5 -1.6
BRG Amp 08 18 41.6
comp=Z,14nm,1.1s
BRG **Berggiesshubel** 78.75 330 *i* P P 08 18 27.5 +0.5
BRG 08 18 38.5
BRG 08 18 50.4
BRG pmax pmax
comp=Z,21nm,1.2s
BRG pmax pmax
comp=Z,14nm,1.1s
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=Z,653nm,19.3s
BRG **Berggiesshubel** 78.75 330 *e*P P 08 18 27.6 +0.5
comp=Z,14nm,1.0s,baz=35,slow=5.4
CLL **Collm** 78.76 330 ⇑ *i*P P 08 18 27.3 +0.2
comp=Z,29nm,0.8s
CLL *i* pP sP 08 18 39.8 -0.3
CLL *es*P pP 08 18 44.0 +7.4
CLL Lm MLR 08 54 00.0
comp=N,300nm,18.2s
CLL Lm MLR 08 54 00.0
comp=E,400nm,21.2s
CLL Lm MLR 08 54 00.0
comp=Z,400nm,21.5s
CLL **Collm** 78.76 330 ⇑ *i*P P 08 18 27.3 +0.2
CLL *i* *PP sP 08 18 39.8 -0.3
CLL pmax pmax
comp=Z,29nm,0.8s
CLL MLR MLR
comp=Z,400nm,21.5s
CLL **Collm** 78.76 330 *e*P P 08 18 27.3 +0.2
comp=Z,29nm,0.8s,baz=35,slow=5.4
PVCC **Panska Ves** 78.77 329 *e*P P 08 18 28.0 +0.8
PVCC **Panska Ves** 78.77 329 *e*P P 08 18 28.0 +0.8
JAVC **Velka Javorina** 78.81 326 *e*P P 08 18 29.3 +1.8
COPA **Copaceanca** 78.83 319 ⇑P P 08 18 28.5 +0.9
NRDL **Niedersach Rie** 78.86 333 *e*P P 08 18 28.2 +0.7
comp=Z,15nm,1.0s,baz=35,slow=5.4
VRAC **Vranov** 78.91 327 LR LR 08 56 28.2
comp=Z,691nm,19.2s,baz=27,slow=38
VRAC **Vranov** 78.91 327 ⇑P P 08 18 29.3 +1.3
VRAC **Vranov** 78.91 327 *e*P P 08 18 29.1 +1.1
VRAC **Vranov** 78.91 327 P P 08 18 29.2 +1.3
RETH **Rethem/Aller,** 78.92 333 *e*P P 08 18 28.6 +0.7
comp=Z,26nm,0.9s,baz=35,slow=5.4
FBE **Freiberg** 78.93 330 *e*P P 08 18 28.8 +0.8
comp=Z,22nm,0.8s,baz=35,slow=5.4
ASSE **Asse, Remlinge** 78.95 332 *e*P P 08 18 28.8 +0.8
comp=Z,21nm,1.2s,baz=35,slow=5.4
SIRR **Siria** 78.99 323 ⇑P P 08 18 29.9 +1.5
ISCO **Idaho Springs** 79.08 47 P P 08 18 29.4 -0.1
baz=314
ISCO **Idaho Springs** 79.08 47 P P 08 18 30.0 +0.5
baz=314
GZR **Gura Zlata** 79.11 321 ⇑P P 08 18 29.8 +0.6
GZR **Gura Zlata** 79.11 321 P P 08 18 29.8 +0.6
SURR **Surduc** 79.15 322 ⇑P P 08 18 29.8 +0.5
GOPC **GO Pecny, Ondr** 79.17 329 *e*P P 08 18 29.5 +0.1
GOPC **GO Pecny, Ondr** 79.17 329 *e*P P 08 18 29.5 +0.1
KRUC **Moravsky** 79.18 327 *e*P P 08 18 30.4 +0.9
KPL **Plockton** 79.19 343 *e*P P 08 18 29.5 +0.2
KPL IAmb IAmb 08 18 31.0
comp=Z,53nm,0.8s
MVCO **Mesa Verde** 79.20 50 P P 08 18 31.5 +1.5
baz=313,SNR=5.9
PRU **Pruhonice** 79.21 329 *e*P P 08 18 30.2 +0.6
PRU **Pruhonice** 79.21 329 *e*P P 08 18 30.2 +0.6
SUSD **Miller** 79.28 40 P P 08 18 30.8 +0.7
baz=317
SUSD **Miller** 79.28 40 P P 08 18 30.7 +0.5
baz=317
CLZ **Clausthal** 79.30 332 *e*P P 08 18 30.9 +0.8
comp=Z,28nm,1.0s,baz=35,slow=5.4
CLZ *e*pP sP 08 18 44.2 +1.0
NEUB **Neuenburg** 79.30 331 *e*P P 08 18 30.5 +0.5
comp=Z,32nm,1.0s,baz=35,slow=5.4
SRO **Srobarova** 79.33 325 *e*P P 08 18 31.5 +1.2
SRO pmax pmax
comp=Z,61nm,1.2s
SRO **Srobarova** 79.33 325 *e*P P 08 18 31.5 +1.2
VLAD **Vladila** 79.33 320 ⇑P P 08 18 31.7 +1.3
MODS **Modra-Piesok** 79.35 326 *e*P P 08 18 31.7 +1.3
MODS **Modra-Piesok** 79.35 326 *e*P P 08 18 31.7 +1.3
TREC **Trest** 79.38 328 *e*P P 08 18 31.1 +0.6
TREC **Trest** 79.38 328 *e*P P 08 18 31.1 +0.6
BZS **Buzias** 79.49 322 ⇑P P 08 18 31.6 +0.3
BZS **Buzias** 79.49 322 P P 08 18 31.5 +0.3
F33A **5 Mile Ranch,** 79.53 37 P P 08 18 32.1 +0.7

baz=318
HERR Herculane 79.66 321 ⇑P P P 08 18 32.2 +0.1
PLVB Pleven 79.67 319 ⇑P P P 08 18 32.9 +0.7
TANN Tannenbergstha 79.68 330 *eP* P P 08 18 32.8 +0.6
comp=Z,35nm,1.6s,baz=35,slow=5.4
GTTG Gottingen 79.69 332 *eP* P P 08 18 32.9 +0.8
comp=Z,44nm,1.2s,baz=35,slow=5.4
WERD Werda 79.71 330 *eP* P P 08 18 32.8 +0.4
comp=Z,23nm,1.2s,baz=35,slow=5.4
PLN Plauen 79.74 330 *eP* P P 08 18 32.8 +0.3
comp=Z,113nm,2.4s,baz=35,slow=5.4
ESY Stoneypath 79.76 341 *eP* P P 08 18 33.0 +0.5
DJES Djerdap 79.77 321 ⇑P P P 08 18 33.3 +0.6
GUNZ Gunzen 79.77 330 *eP* P P 08 18 33.0 +0.3
comp=Z,15nm,0.9s,baz=35,slow=5.4
S22A 4UR Ranch, Cre 79.81 49 P P P 08 18 34.5 +1.0
baz=313
MOX Moxa 79.81 331 *eP* P P 08 18 33.2 +0.4
comp=Z,25nm,1.2s,baz=35,slow=5.4
MOX *eL* L 08 56 45.1
comp=Z,412nm,19.2s
WERN Wernitzgruen 79.82 330 *eP* P P 08 18 33.5 +0.6
comp=Z,20nm,0.9s,baz=35,slow=5.4
IBBN Ibbenburen 79.83 334 *eP* P P 08 18 33.2 +0.4
comp=Z,35nm,0.8s,baz=35,slow=5.4
NKC Novy Kostel 79.83 330 *eP* P P 08 18 33.4 +0.4
NKC Novy Kostel 79.83 330 *eP* P P 08 18 33.4 +0.4
Q24A Divide 79.92 47 P P P 08 18 35.7 +1.6
baz=314,SNR=5.2
214A Organ Pipe Nat 80.04 57 P P P 08 18 33.8 -0.7
baz=311
EYMN Ely 80.05 33 P P P 08 18 34.4 +0.2
baz=321
EYMN Ely 80.05 33 P P P 08 18 34.0 -0.2
baz=321
MDVR Moldovita 80.07 322 ⇑P P P 08 18 34.7 +0.3
LAWE Loch Awe, Argy 80.12 342 *eP* P P 08 18 34.0 -0.3
MANZ Manzenberg 80.16 330 *eP* P P 08 18 35.5 +0.7
comp=Z,5.3nm,1.1s,baz=35,slow=5.4
RAYN Ar Rayn 80.21 292 P P P 08 18 35.4 -0.1
RAYN Ar Rayn 80.21 292 *i* P P P 08 18 35.1 -0.4
SNR=18
CKRC Cesky Krumlov 80.23 328 *eP* P P 08 18 36.0 +0.8
CKRC *ex* x 08 18 49.2
OGNE Ogallala 80.23 44 P P P 08 18 36.3 +1.0
baz=316
OGNE Ogallala 80.23 44 P P P 08 18 36.4 +1.0
baz=316
UBBA Unterbreizbach 80.27 332 *eP* P P 08 18 35.2 0.0
comp=Z,36nm,1.8s,baz=35,slow=5.4
KHC Kasperske Hory 80.27 329 P P P 08 18 36.2 +0.8
KHC IAmb IAmb 08 18 37.4
comp=Z,33nm,0.9s
KHC Kasperske Hory 80.27 329 *eP* P P 08 18 35.7 +0.3
KHC *epP* sP 08 18 49.2 +0.7
KHC Kasperske Hory 80.27 329 *eP* P P 08 18 35.7 +0.3
KHC *e* 08 18 49.2
RONA Rosalia, Austr 80.28 326 *i* P P P 08 18 36.7 +1.2
comp=Z,26nm,1.1s,SNR=12
CONA Conrad Observa 80.29 327 *i* P P P 08 18 36.7 +1.1
comp=Z,17nm,1.0s,SNR=11
ROTZ Rotzenmuhle 80.30 330 *eP* P P 08 18 36.5 +1.0
comp=Z,5.5nm,1.1s,baz=35,slow=5.4
ROTZ *epP* sP 08 18 49.6 +1.0
MORH Mrgy, Hungar 80.41 324 ⇑P P P 08 18 36.3 +0.2
EKA Eskdalemuir Ar 80.42 341 LR LR LR 08 59 08.6
comp=Z,358nm,18.5s,baz=22,slow=39
GEC2 GERESS Array S 80.45 329 P P P 08 18 36.6 +0.1
GEC2 GERESS Array S 80.45 329 *eP* P P 08 18 36.9 +0.4
comp=Z,15nm,0.9s,baz=35,slow=5.4
GERES GERESS Array B 80.45 329 P P P 08 18 36.2 -0.2
comp=Z,8.6nm,0.8s,baz=31,slow=5.4,SNR=31
GERES LR LR LR 08 57 24.2
comp=Z,550nm,19.2s,baz=36,slow=38
comp=Z,8.6nm,0.8s
GERES GERESS Array B 80.45 329 P P P 08 18 36.5 0.0
GERES GERESS Array B 80.45 329 P P P 08 18 36.5 0.0
PGB Panagyurishte 80.51 319 *i* P P P 08 18 37.8 +1.0
KASTN Kahler Asten 80.52 333 *eP* P P 08 18 37.1 +0.4
comp=Z,22nm,1.1s,baz=35,slow=5.4
SDCO Great Sand Dun 80.57 48 P P P 08 18 38.5 +0.9
SDCO Great Sand Dun 80.57 48 P P P 08 18 39.1 +1.6
baz=314
SDCO Great Sand Dun 80.57 48 P P P 08 18 39.4 +1.8
baz=314,SNR=5.1
FRGS Fruska Gora 80.68 323 ⇑P P P 08 18 38.1 +0.4
FRGS Fruska Gora 80.68 323 ⇑*i*P P P 08 18 38.6 +0.9
K31A O'Neill 80.71 41 P P P 08 18 38.8 +0.9
baz=317
BUG Bochum-Univer 80.72 333 *eP* P P 08 18 38.0 +0.3
comp=Z,20nm,0.9s,baz=35,slow=5.4
GRF Grafenberg Arr 80.74 330 *eP* P P 08 18 39.1 +1.2
comp=Z,46nm,0.8s,baz=35,slow=5.4
GRF *epP* sP 08 18 52.1 +1.2
GRF *eL* L 08 55 43.8
comp=Z,344nm,20.2s
CSS Mathiatis 80.75 308 P P P 08 18 38.3 +0.1
CSS IAmb IAmb 08 18 41.2
comp=Z,28nm,0.7s
F36A Milaca 80.78 36 P P P 08 18 37.9 -0.2
baz=320
MMAI Mount Meron Ar 80.80 306 LR LR LR 08 58 24.3
comp=Z,437nm,19.9s,baz=274,slow=39
RDO Rodhopi 80.82 317 P P P 08 18 39.2 +0.8
RDO IAmb IAmb 08 18 40.4
comp=Z,59nm,1.0s
RZN Rozhen 80.85 318 *i* P P P 08 18 39.5 +0.6
NEWG New Galloway 80.88 341 *eP* P P 08 18 38.9 +0.4
VTS Vitosha 80.93 319 P P P 08 18 39.9 +0.7
VTS IAmb IAmb 08 18 41.4
comp=Z,60nm,0.9s
VTS Vitosha 80.93 319 P P P 08 18 39.9 +0.7
VTS pmax pmax
comp=Z,60nm,0.9s
VTS Vitosha 80.93 319 *i* P P P 08 18 40.1 +0.9
ECSD EROS Data Cent 80.94 39 P P P 08 18 39.6 +0.5
baz=318
ECSD EROS Data Cent 80.94 39 P P P 08 18 39.1 0.0
baz=318,SNR=7.0
ARSA Arzberg 80.96 327 *i* P P P 08 18 40.0 +0.8
comp=Z,6.2nm,0.6s,SNR=6.1
MOA Molln 81.01 328 *eP* P P 08 18 40.2 +0.8
comp=Z,3.6nm,0.6s
TUC Tucson 81.09 55 P P P 08 18 41.6 +1.4
baz=312
GAL1 Galloway 81.23 342 *eP* P P 08 18 39.5 -0.8
GAL1 IAmb IAmb 08 18 42.0
comp=Z,38nm,0.8s
HPK Haverah Park 81.26 339 *eP* P P 08 18 40.1 -0.4
TEKS Tekeris 81.27 323 *eP* P P 08 18 39.1 -1.7
KSCO Kaye Shedlock' 81.29 46 P P P 08 18 41.6 +0.4
baz=316
KSCO Kaye Shedlock' 81.29 46 P P P 08 18 42.1 +1.0
baz=316
TNS Taunus Mts 81.32 332 *eP* P P 08 18 41.4 +0.4
comp=Z,17nm,0.9s,baz=35,slow=5.4
RAR Rarotonga 81.38 127 LR LR LR 08 49 46.4
comp=Z,228nm,19.4s,baz=298,slow=32
DIVS Divibare 81.40 322 ⇑*i*P P P 08 18 41.7 +0.1
BIOA Bad Ischl, Aus 81.40 328 *i* P P P 08 18 42.3 +0.8
comp=Z,9.8nm,0.5s,SNR=7.9
MMB Musomiste 81.43 318 *i* P P P 08 18 42.4 +0.6
AHRW Bad Neuenahr-A 81.54 333 *eP* P P 08 18 42.9 +0.8
comp=Z,32nm,1.2s,baz=35,slow=5.4
KKB Krupnik 81.56 319 *i* P P P 08 18 43.1 +0.7
SPMN Marine on St. 81.59 36 P P P 08 18 43.0 +0.6
baz=321
GROS Grobnik 81.59 326 *i* P P P 08 18 42.9 +0.3
T25A Trinidad 81.61 48 P P P 08 18 44.1 +1.0
baz=315,SNR=8.8
PERS Pernice 81.62 326 *i* P P P 08 18 43.2 +0.5
SOKA Soboth 81.62 326 *eP* P P 08 18 43.2 +0.5
comp=Z,20nm,0.6s,SNR=13
RJOB Jochberg 81.70 328 *eP* P P 08 18 44.1 +1.0
comp=Z,28nm,0.9s,baz=35,slow=5.4
RJOB *epP* sP 08 18 57.3 +1.1
WACR West Acre 81.72 338 *eP* P P 08 18 43.0 0.0
LBWR Ladybower, Pea 81.78 339 *eP* P P 08 18 43.5 +0.2
LBWR IAmb IAmb 08 18 44.9
comp=Z,80nm,0.9s
BTNL Ternell 81.83 334 *dP* P P 08 18 44.0 +0.4
comp=Z,12nm,1.0s
BTNL *dPcP* PcP 08 18 49.9 +0.6
BTNL *dpP* sP 08 18 55.1 -1.7
BBLS Lazići 81.85 322 ⇑*i*P P P 08 18 44.7 +0.8
MEM Membach 81.85 334 *dP* P P 08 18 44.5 +0.7
MEM *dpP* sP 08 18 56.5 -0.3
MEM *dsP* pP 08 18 59.8 +6.5
HAPS Han Pijesak,Bl 81.89 323 ⇑*i*P P P 08 18 44.1 -0.1
BGNE Belgrade 81.91 41 P P P 08 18 44.7 +0.4
baz=318
BGNE Belgrade 81.91 41 P P P 08 18 44.8 +0.5
baz=318
ANMO Albuquerque 81.95 51 LR LR 08 58 30.1
comp=Z,71nm,18.1s,baz=64,slow=38
ANMO Albuquerque 81.95 51 P P P 08 18 47.0 +2.2
baz=314,SNR=13
ANMO Albuquerque 81.95 51 P P P 08 18 46.7 +1.9
baz=314
ANMO Albuquerque 81.95 51⇑*eP* P P 08 18 46.1 +1.3
ANMO pmax pmax
comp=Z,8.0nm,1.1s
FUR Furstenfeldbru 81.96 329 *eP* P P 08 18 45.1 +0.8
comp=Z,53nm,0.7s,baz=35,slow=5.4
FUR *epP* sP 08 18 58.3 +0.8
OBKA Obir 81.96 327 *eP* P P 08 18 44.8 +0.3
comp=Z,14nm,0.6s
OBKA Obir 81.96 327 ⇑*i*P P P 08 18 44.0 -0.5
KBA Koelnbreinsper 82.01 328 *i* P P P 08 18 43.6 -1.3
comp=Z,21nm,0.7s,SNR=11
BSTI Sart Tilman 82.02 334 *dP* P P 08 18 45.3 +0.7
RUDO Rudo 82.05 322 *eP* P P 08 18 45.0 0.0
SCHQ Schefferville 82.08 17 P P P 08 18 45.1 +0.2
comp=Z,12nm,0.7s,baz=4.9,slow=7.5,SNR=15
SCHQ *pP* sP 08 18 58.8 +0.8
comp=Z,22nm,0.8s,baz=12,slow=4.6,SNR=9.6
SCHQ LR LR 08 58 53.7
comp=Z,165nm,18.1s,baz=16,slow=38
comp=Z,12nm,0.7s
A051A Mrakovica 82.11 324 ⇑*i*P P P 08 18 45.0 -0.3
CRES Cresnjev 82.11 326 ⇑*i*P P P 08 18 45.1 -0.1
PDKS Podkum 82.12 326 *i* P P P 08 18 45.4 +0.1
STIP Stip 82.13 319 *i* P P P 08 18 45.0 -0.4
BLY Banja Luka 82.19 324 *eP* P P 08 18 43.7 -1.9
VAY Valandovo 82.22 319 *i* P P P 08 18 46.5 +0.6
MYKA Terra Mystica 82.24 327 *i* P P P 08 18 45.9 -0.1
comp=Z,12nm,0.6s,SNR=8.0
BCLA Clavier 82.25 334 *dP* P P 08 18 46.0 +0.1
BCLA *dPcP* pP 08 18 53.3 -2.1
BCLA *dx* x 08 19 02.0
I37B Waseca 82.25 37 P P P 08 18 46.3 +0.3
baz=320
STU Stuttgart 82.25 331 *eP* P P 08 18 46.4 +0.5
comp=Z,90nm,0.8s,baz=35,slow=5.4
SKO Skopje 82.30 320 *i* P P P 08 18 47.7 +1.4
BGES Gesves 82.35 334 *dP* P P 08 18 46.0 -0.4
BOJS Bojanci 82.45 326 ⇑*i*P P P 08 18 46.8 -0.2
MGRS Mrkonjic Grad 82.49 324 *eP* P P 08 18 48.0 +0.7
RCHB Rochefort 82.50 334 *dP* P P 08 18 47.0 -0.2
comp=Z,11nm,1.2s
RCHB *dPcP* PcP 08 18 51.8 -0.4
SNF Seneffe 82.51 335 *dP* P P 08 18 47.3 +0.2
comp=Z,20nm,0.8s
SNF *dx* x 08 19 06.0
WATA Walderalm 82.51 329 *i* P P P 08 18 48.0 +0.6
comp=Z,11nm,0.7s,SNR=6.0
BMRD Maredsous 82.53 334 *dP* P P 08 18 47.4 +0.2
comp=Z,15nm,0.9s
BMRD *dpP* sP 08 18 59.2 -1.1
WTTA Wattenberg 82.55 329 *i* P P P 08 18 48.2 +0.5
comp=Z,13nm,0.7s,SNR=5.8
UPM Unac-Piva 82.59 322 *eP* P P 08 18 46.3 -1.7
WLF Walferdange 82.60 333 *eP* P P 08 18 48.8 +1.1
comp=Z,25nm,1.1s,baz=35,slow=5.4
CEY Cerknica 82.62 326 ⇑*i*P P P 08 18 47.7 -0.2
FOEL Foel Wylfa 82.64 340 *eP* P P 08 18 47.7 -0.1
FOEL IAmb IAmb 08 18 50.4
comp=Z,60nm,0.7s
A050A Klekovaca 82.69 324 *eP* P P 08 18 48.6 +0.2
MOTA Moosalm 82.69 329 *i* P P P 08 18 48.9 +0.5
comp=Z,22nm,0.8s,SNR=10
G40A Rib Lake 82.70 34 P P P 08 18 48.8 +0.5
baz=322
RETA Reutte 82.71 329 *i* P P P 08 18 49.2 +0.8
comp=Z,25nm,0.8s,SNR=9.4
SQTA Sankt Quirin 82.75 329 *i* P P P 08 18 49.3 +0.7
comp=Z,11nm,0.7s,SNR=7.2
DOU Dourbes 82.76 334 *dP* P P 08 18 48.0 -0.4
DOU *dx* x 08 19 04.8
121A Cookes Peak, D 82.81 53 P P P 08 18 50.6 +1.3
baz=314,SNR=5.7
121A Cookes Peak, D 82.81 53 P P P 08 18 50.9 +1.6
baz=314,SNR=5.7
UBR Ueberruh 82.81 330 *eP* P P 08 18 49.2 +0.3
comp=Z,12nm,0.8s,baz=35,slow=5.4
BFO Black Forest 82.94 331 *eP* P P 08 18 49.8 +0.3
comp=Z,22nm,0.8s,baz=35,slow=5.4
SKDS Skadanscina 82.95 326 *eP* P P 08 18 46.6 -3.0
BRY Bratogost 82.99 322 ⇑*i*P P P 08 18 49.4 -0.6
PDG Podgorica 83.01 321 ⇑P P P 08 18 50.4 +0.5
FETA Feichten 83.11 329 *i* P P P 08 18 51.1 +0.6
comp=Z,8.7nm,0.8s,SNR=7.5
DAVA Damuels 83.22 330 *i* P P P 08 18 51.6 +0.4
comp=Z,8.3nm,0.5s,SNR=6.3
DRME Dracevica, Mon 83.23 321 ⇑*i*P P P 08 18 51.4 +0.3
OHR Ohrid 83.26 320 *i* P P P 08 18 52.2 +0.9
EIL Elat 83.33 303 LR LR LR 09 00 40.8
comp=Z,205nm,19.8s,baz=56,slow=39
STRD Stroud 83.36 339 *eP* P P 08 18 51.7 +0.2
STRD IAmb IAmb 08 18 52.9
comp=Z,95nm,0.8s
HCY Herceg Novi 83.36 322 ⇑*i*P P P 08 18 51.0 -0.8
MCH1 Michaelchurch 83.39 339 *eP* P P 08 18 52.1 +0.4
STON Ston 83.41 323 *eP* P P 08 18 51.0 -0.9
MONM Monmouth 83.47 339 *eP* P P 08 18 52.2 0.0
MONM IAmb IAmb 08 18 53.9
comp=Z,34nm,0.8s
LPW Lampeter 83.56 340 *eP* P P 08 18 53.2 +0.6
N35A Tabor 83.58 40 P P P 08 18 53.3 +0.4
baz=319
I40A Norwalk 83.61 36 P P P 08 18 52.9 -0.1
baz=322
DAVOX Davos/Dischmat 83.64 329 LR LR 09 01 01.9
comp=Z,480nm,18.2s,baz=34,slow=39
R32A Long Quarter, 83.82 44 P P P 08 18 54.1 -0.2
baz=318
MXZ Matakaoa Point 84.08 152 P P P 08 18 54.5 -0.7
URZ Urewera 84.28 153 LR LR 08 54 29.9
comp=Z,157nm,20.6s,baz=45,slow=34
H43A Windswept, Lux 84.38 34 P P P 08 18 57.1 +0.2
baz=324
KSU1 Kansas State U 84.42 42 P P P 08 18 57.3 +0.1
baz=319
KSU1 Kansas State U 84.42 42 P P P 08 18 57.1 -0.1
baz=319
PMOR Pomariorio Ree 84.72 115 *eT* T 09 52 25.5
comp=Z,24nm,0.3s
AMTX Amarillo 84.77 48 P P P 08 19 00.2 +1.1
baz=316
AMTX Amarillo 84.77 48 P P P 08 19 00.5 +1.3
baz=316
MSTX Muleshoe 84.80 49 P P P 08 18 59.9 +0.6
MSTX IAmb IAmb 08 19 15.1
comp=Z,26nm,0.9s
MSTX Muleshoe 84.80 49 P P P 08 19 01.1 +1.7
baz=316,SNR=5.0
MSTX Muleshoe 84.80 49 P P P 08 19 01.1 +1.7
baz=316,SNR=5.0
N38A Joes South For 84.81 39 P P P 08 18 59.8 +0.6
baz=321
MNTX Cornudas Mount 84.85 52 P P P 08 19 00.9 +1.4
baz=315,SNR=9.6
MNTX Cornudas Mount 84.85 52 P P P 08 19 00.6 +1.0
baz=315,SNR=9.6
PPT Papeete 85.34 117 LR LR 08 50 05.2
comp=Z,290nm,21.1s,baz=308,slow=31
PPT2 Papeete2 85.36 117 *eS* S S 08 29 30.3 -0.8
comp=Z,75nm,25.2s
PPT2 Papeete2 85.36 117 *eLR* LR LR 08 46 01.9
comp=Z,732nm,22.2s
PPT2 *eLR* LR 08 46 02.7
comp=Z,626nm,22.8s
PPT2 Papeete2 85.36 117 *eT* T 09 53 14.3
comp=Z,11nm,0.3s
GLMI Grayling 85.39 32 P P P 08 19 02.6 +0.6
baz=326
GLMI Grayling 85.39 32 P P P 08 19 02.5 +0.5
baz=326
IDI Anoyia 85.42 313 LR LR 09 01 41.1
comp=Z,144nm,19.8s,baz=50,slow=39
P38A Dawn 85.56 40 P P P 08 19 03.2 +0.2
baz=321
T35B Sooner Cattle 86.11 43 P P P 08 19 06.0 +0.3
baz=319
TAOE Nuku Hiva Isla 86.17 105 *e*LR LR 08 46 23.9
comp=Z,557nm,21.2s
P40A Paris 86.36 39 P P P 08 19 07.2 +0.3
baz=322
WMOK Wichita Mounta 86.50 46 P P P 08 19 08.5 +0.8
baz=318,SNR=6.2
WMOK Wichita Mounta 86.50 46 P P P 08 19 08.5 +0.8
baz=318,SNR=6.2
MEH Mehetia 86.59 117 *e*T T 09 54 40.7
comp=Z,61nm,0.3s
J47A Sunmer 86.62 33 P P P 08 19 09.0 +0.9
baz=326
J47A P P 08 19 09.0 +0.9
baz=326
M44A Midewin, Midew 86.75 36 P P P 08 19 09.4 +0.7
baz=324
HDIL Hopedale 86.85 37 P P P 08 19 09.8 +0.4
baz=323
HDIL Hopedale 86.85 37 P P P 08 19 09.7 +0.4
baz=323
LPIG La Paz 86.93 61 LR LR 08 55 20.3
comp=Z,124nm,19.2s,baz=344,slow=34
S39A Bolivar 87.16 41 P P P 08 19 10.8 0.0
baz=321,SNR=10
R40A Maddies Statio 87.22 40 P P P 08 19 11.3 +0.2
baz=321,SNR=10
TUL1 Leonard 87.25 44 P P P 08 19 11.8 +0.6
baz=320
TUL1 Leonard 87.25 44 P P P 08 19 12.0 +0.7
baz=320
RPZ Rata Peaks 87.42 160 LR LR 08 56 06.1
comp=Z,322nm,20.5s,baz=314,slow=34
P43A Skaggs, Pawnee 87.47 38 P P P 08 19 12.7 +0.4
baz=323
SADO Sadowa 87.53 28 LR LR 09 01 38.0
comp=Z,294nm,19.4s,baz=312,slow=38
O44A Mansfield 87.55 37 P P P 08 19 13.1 +0.4
baz=324
TX31 Lajitas Ar. Si 87.56 53 P P P 08 19 13.5 +0.5
baz=316
TXAR Lajitas Array 87.56 53 P P P 08 19 13.8 +0.8
comp=Z,1.8nm,0.6s,baz=291,slow=3.8,SNR=24
TXAR pP sP 08 19 27.8 +1.7
comp=Z,3.3nm,0.6s,baz=293,slow=3.2,SNR=15
comp=Z,1.8nm,0.6s
ABTX Abilene, Hawle 87.57 48 P P P 08 19 14.1 +1.1
baz=318
ABTX Abilene, Hawle 87.57 48 P P P 08 19 13.8 +0.8
baz=318
U38A Gravette 87.58 43 P P P 08 19 13.3 +0.4
baz=320
L48A N Adams 87.85 33 P P P 08 19 14.5 +0.4
baz=326
L48A P P 08 19 14.5 +0.4
baz=326
AAM Ann Arbor 87.88 32 P P P 08 19 14.7 +0.6
baz=327
AAM Ann Arbor 87.88 32 P P P 08 19 15.2 +1.0
baz=327
K50A Casco 87.90 31 P P P 08 19 14.8 +0.6
baz=327
K50A P P 08 19 14.8 +0.6
baz=327
CCM Cathedral Cave 87.91 40 P P P 08 19 15.0 +0.6
baz=322,SNR=13
CCM Cathedral Cave 87.91 40 P P P 08 19 14.8 +0.4
baz=322
HHAR Hobbs 87.93 42 P P P 08 19 14.2 -0.4
baz=320
SFIN Lafayette 87.99 36 P P P 08 19 15.2 +0.5
baz=324
SFIN Lafayette 87.99 36 P P P 08 19 14.8 +0.1
baz=324
N47A Urbana 88.19 34 P P P 08 19 16.0 +0.3
baz=325
N47A P P 08 19 16.0 +0.3
baz=325
Q44A Meyer Farm, Va 88.30 38 P P P 08 19 16.7 +0.5
baz=323
Z35A Perchaven, San 88.39 46 P P P 08 19 17.8 +1.0
baz=319
U40A Yellville 88.43 42 P P P 08 19 17.4 +0.5
baz=321,SNR=14
U40A P P 08 19 17.4 +0.5
baz=321,SNR=14
P46A Rosedale 88.55 36 P P P 08 19 18.4 +0.9
baz=324,SNR=8.4
D62A Allapoint, All 88.69 21 P P P 08 19 18.3 +0.4
baz=336
D62A P P 08 19 18.3 +0.4
baz=336
N49A Columbus Grove 88.81 33 P P P 08 19 19.8 +1.1
baz=326,SNR=5.9
N49A P P 08 19 19.8 +1.1
baz=326,SNR=5.9
OLIL Olney 88.86 37 P P P 08 19 19.5 +0.6
baz=324
O48B Farmland 88.94 34 P P P 08 19 19.9 +0.6
baz=326
O48B Farmland 88.94 34 P P P 08 19 19.5 +0.3
baz=326
JCT Junction City 89.05 50 P P P 08 19 20.6 +0.6
baz=318
JCT Junction City 89.05 50 P P P 08 19 20.2 +0.2
baz=318
S44A Carbondale 89.15 39 P P P 08 19 21.5 +1.2
baz=323,SNR=6.1
VAE Valguarnera 89.20 321 LR LR 09 02 56.4
comp=Z,246nm,19.0s,baz=100,slow=38
PBMO Poplar Bluff 89.31 40 P P P 08 19 21.7 +0.6
baz=322
J55A Hilton 89.31 28 P P P 08 19 21.0 +0.1
baz=330
J55A P P 08 19 21.0 +0.1
baz=330
O49A Covington 89.35 34 P P P 08 19 22.1 +1.0
baz=326,SNR=5.2
O49A P P 08 19 22.1 +1.0
baz=326,SNR=5.2
M52A Chesterland 89.44 31 P P P 08 19 23.1 +1.5
baz=328
M52A P P 08 19 23.1 +1.5
baz=328
MIAR Mount Ida 89.45 43 P P P 08 19 22.9 +1.1
baz=321,SNR=7.8
MIAR Mount Ida 89.45 43 P P P 08 19 22.4 +0.6
baz=321,SNR=7.8
E63A Oxbow 89.46 21 P P P 08 19 21.4 -0.2
baz=337
E63A P P 08 19 21.4 -0.2
baz=337
P48A Milroy 89.48 35 P P P 08 19 21.9 +0.2
baz=326
P48A P P 08 19 21.9 +0.2
baz=326
ERPA Erie 89.49 30 P P P 08 19 22.9 +1.1
baz=329
ERPA Erie 89.49 30 P P P 08 19 22.1 +0.3
baz=329
WHAR Wooly Hollow 89.55 42 P P P 08 19 22.6 +0.4
J56A Wolcott 89.64 28 P P P 08 19 22.9 +0.4
baz=331
J56A P P 08 19 22.9 +0.4
baz=331
P49A Miami Univ. Ec 89.72 35 P P P 08 19 23.6 +0.6
baz=326
P49A Miami Univ. Ec 89.72 35 P P P 08 19 23.2 +0.3
baz=326
WVNY West Valley, N 89.77 29 P P P 08 19 23.5 +0.4
baz=330
M53A WI Miller and 89.80 31 P P P 08 19 24.2 +1.0
baz=329
J57A Williamstown 89.83 27 P P P 08 19 23.4 0.0
baz=332
J57A P P 08 19 23.4 0.0
baz=332
ATD Arta Tunnel 89.86 285 LR LR 09 03 23.2
comp=Z,105nm,19.8s,baz=56,slow=38
ACSO Alum Creek Sta 89.88 33 P P P 08 19 24.5 +0.8
baz=327,SNR=8.9
ACSO Alum Creek Sta 89.88 33 P P P 08 19 24.2 +0.5
baz=327
WCI Wyandotte Cave 90.10 36 P P P 08 19 25.5 +0.8
baz=325
WCI Wyandotte Cave 90.10 36 P P P 08 19 25.2 +0.5
baz=325

J58A	**Remsen**	**90.12**	**27**	P	**P**	**08 19 25.0**	**+0.3**
	baz=332						
J58A				P	**P**	**08 19 25.0**	**+0.3**
	baz=332						
HBAR	**Harrisburg**	**90.16**	**41**	P	**P**	**08 19 25.8**	**+0.7**
N53A	**Lisbon**	**90.28**	**31**	P	**P**	**08 19 26.2**	**+0.7**
	baz=328						
N53A				P	**P**	**08 19 26.2**	**+0.7**
	baz=328						
J59A	**Piesco**	**90.29**	**26**	P	**P**	**08 19 26.1**	**+0.5**
	baz=333						
J59A				P	**P**	**08 19 26.1**	**+0.5**
	baz=333						
H62A	**Milan**	**90.36**	**23**	P	**P**	**08 19 26.5**	**+0.6**
	baz=335						
H62A				P	**P**	**08 19 26.5**	**+0.6**
	baz=335						
PAMR	**Moraine State**	**90.45**	**31**	P	**P**	**08 19 27.3**	**+1.0**
	baz=329						
O52A	**Adamsville**	**90.46**	**32**	P	**P**	**08 19 26.5**	**+0.1**
	baz=328						
O52A				P	**P**	**08 19 26.5**	**+0.1**
	baz=328						
P51A	**Williamsport**	**90.48**	**34**	P	**P**	**08 19 26.8**	**+0.3**
	baz=327						
P51A				P	**P**	**08 19 26.8**	**+0.3**
	baz=327						
M55A	**Ridgway**	**90.51**	**30**	P	**P**	**08 19 28.0**	**+1.4**
	baz=330,SNR=6.1						
M55A				P	**P**	**08 19 28.0**	**+1.4**
	baz=330,SNR=6.1						
O53A	**New Philadelph**	**90.60**	**32**	P	**P**	**08 19 27.7**	**+0.7**
	baz=328						
ACCN	**Adirondack Com**	**90.64**	**25**	P	**P**	**08 19 27.2**	**+0.1**
	baz=333						
T47A	**Sharon Grove**	**90.73**	**38**	P	**P**	**08 19 28.3**	**+0.6**
T47A	**Sharon Grove**	**90.73**	**38**	P	**P**	**08 19 28.9**	**+1.2**
	baz=324,SNR=6.5						
Q51A	**Peebles**	**90.74**	**34**	P	**P**	**08 19 28.3**	**+0.6**
Q51A	**Peebles**	**90.74**	**34**	P	**P**	**08 19 28.6**	**+0.8**
	baz=327,SNR=8.9						
Q51A				P	**P**	**08 19 28.6**	**+0.8**
	baz=327,SNR=8.9						
P52A	**Corning**	**90.74**	**33**	P	**P**	**08 19 27.5**	**-0.2**
	baz=328						
PSDB	**Penn State Uni**	**90.81**	**30**	P	**P**	**08 19 28.7**	**+0.7**
	baz=330						
UPAO	**U. Pittsburgh**	**90.88**	**31**	P	**P**	**08 19 29.2**	**+0.9**
	baz=329						
BINY	**Binghamton**	**90.90**	**28**	P	**P**	**08 19 29.0**	**+0.6**
	baz=332						
BINY	**Binghamton**	**90.90**	**28**	P	**P**	**08 19 29.3**	**+0.9**
	baz=332						
R50A	**Paris**	**90.93**	**35**	P	**P**	**08 19 29.3**	**+0.7**
	baz=326						
R50A				P	**P**	**08 19 29.3**	**+0.7**
	baz=326						
O54A	**Avella**	**90.99**	**31**	P	**P**	**08 19 29.7**	**+0.9**
	baz=329						
O54A				P	**P**	**08 19 29.7**	**+0.9**
	baz=329						
I63A	**Otisfield**	**91.01**	**23**	P	**P**	**08 19 29.9**	**+1.0**
	baz=335						
I63A				P	**P**	**08 19 29.9**	**+1.0**
	baz=335						
WVT	**Waverly**	**91.08**	**39**	P	**P**	**08 19 30.2**	**+0.9**
	baz=324						
WVT	**Waverly**	**91.08**	**39**	P	**P**	**08 19 29.9**	**+0.6**
	baz=324						
P53A	**Whipple**	**91.17**	**32**	P	**P**	**08 19 30.1**	**+0.4**
	baz=328						
P53A				P	**P**	**08 19 30.1**	**+0.4**
	baz=328						
L59A	**Walton**	**91.23**	**27**	P	**P**	**08 19 30.7**	**+0.7**
	baz=332						
L59A				P	**P**	**08 19 30.7**	**+0.7**
	baz=332						
M57A	**Sunshine Farm,**	**91.24**	**29**	P	**P**	**08 19 30.1**	**+0.1**
M57A	**Sunshine Farm,**	**91.24**	**29**	P	**P**	**08 19 31.1**	**+1.1**
	baz=331,SNR=7.0						
M57A				P	**P**	**08 19 31.1**	**+1.1**
	baz=331,SNR=7.0						
SSPA	**Standing Stone**	**91.57**	**30**	P	**P**	**08 19 32.9**	**+1.4**
	baz=330						
SSPA	**Standing Stone**	**91.57**	**30**	P	**P**	**08 19 32.0**	**+0.5**
	baz=330						
OXF	**Oxford**	**91.61**	**41**	P	**P**	**08 19 31.9**	**+0.1**
	baz=323						
MCWV	**Mont Chateau**	**91.65**	**31**	P	**P**	**08 19 31.4**	**-0.5**
	baz=329						
U49A	**Red Boiling Sp**	**91.73**	**37**	P	**P**	**08 19 32.7**	**+0.3**
	baz=325						
T50A	**Nancy**	**91.75**	**36**	P	**P**	**08 19 33.2**	**+0.8**
	baz=326						
T50A				P	**P**	**08 19 33.2**	**+0.8**
	baz=326						
Q54A	**Coxs Mills**	**91.83**	**32**	P	**P**	**08 19 33.3**	**+0.6**
	baz=328						
Q54A				P	**P**	**08 19 33.3**	**+0.6**
	baz=328						
V48A	**Smith Brothers**	**91.88**	**38**	P	**P**	**08 19 33.2**	**+0.2**
	baz=325						
R53A	**Hurricane**	**91.91**	**33**	P	**P**	**08 19 33.5**	**+0.4**
	baz=328						
R53A				P	**P**	**08 19 33.5**	**+0.4**
	baz=328						
NPNY	**Mohonk Preserv**	**91.93**	**27**	P	**P**	**08 19 33.7**	**+0.6**
	baz=333						
Y45A	**Yeager Farm, C**	**92.06**	**41**	P	**P**	**08 19 34.9**	**+1.0**
	baz=323						
HRV	**Adam Dziewonsk**	**92.11**	**24**	P	**P**	**08 19 35.1**	**+1.1**
	baz=335						
ODNJ	**Ogdensburg**	**92.37**	**27**	P	**P**	**08 19 35.7**	**+0.6**
	baz=333						
Q56A	**Snyder Ridge,**	**92.44**	**31**	P	**P**	**08 19 36.6**	**+1.0**
	baz=330						
Q56A				P	**P**	**08 19 36.6**	**+1.0**
	baz=330						
PAL	**Palisades**	**92.68**	**27**	P	**P**	**08 19 37.3**	**+0.7**
	baz=333						
PAL	**Palisades**	**92.68**	**27**	P	**P**	**08 19 37.3**	**+0.7**
	baz=333						
R55A	**Marlinton**	**92.72**	**32**	P	**P**	**08 19 37.4**	**+0.5**
	baz=329						
R55A				P	**P**	**08 19 37.4**	**+0.5**
	baz=329						
TZTN	**Tazewell**	**92.72**	**35**	P	**P**	**08 19 37.1**	**+0.2**
	baz=327						
TZTN	**Tazewell**	**92.72**	**35**	P	**P**	**08 19 37.4**	**+0.5**
	baz=327						
BRNJ	**Basking Ridge**	**92.73**	**27**	P	**P**	**08 19 37.6**	**+0.8**
	baz=333						
X48A	**Hartselle**	**92.82**	**39**	P	**P**	**08 19 37.4**	**+0.1**
	baz=324						
TUPA	**Temple Univers**	**92.97**	**28**	P	**P**	**08 19 37.9**	**-0.1**
	baz=332						
V51A	**Loudon**	**92.97**	**36**	P	**P**	**08 19 38.6**	**+0.5**
	baz=326						
KEST	**Kesra**	**92.99**	**323**	P	**P**	**08 19 38.0**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=333,slow=6.8,SNR=4.8						
KEST				LR	LR	09 07 36.2	
	comp=Z,300nm,18.1s,baz=284,slow=39 comp=Z,4.7nm,0.8s						
SDMD	**Soldier's Deli**	**93.03**	**29**	P	**P**	**08 19 39.3**	**+1.0**
	baz=331						
W50A	**Signal Mountai**	**93.03**	**37**	P	**P**	**08 19 38.9**	**+0.5**
	baz=326						
GEDE	**Greenville**	**93.12**	**28**	P	**P**	**08 19 39.3**	**+0.7**
	baz=332						
V52A	**Sevierville**	**93.28**	**36**	P	**P**	**08 19 39.9**	**+0.4**
	baz=327						
Z47A	**Carrollton**	**93.33**	**40**	P	**P**	**08 19 40.7**	**+1.0**
	baz=324						
TKL	**Tuckaleechee C**	**93.35**	**36**	LR	LR	09 03 14.7	
	comp=Z,156nm,19.8s,baz=331,slow=36						
TKL	**Tuckaleechee C**	**93.35**	**36**	P	**P**	**08 19 40.3**	**+0.5**
	baz=326						
U54A	**Nelsons Funny**	**93.50**	**34**	P	**P**	**08 19 41.0**	**+0.4**
	baz=328						
U54A				P	**P**	**08 19 41.0**	**+0.4**
	baz=328						
BLA	**Blacksburg**	**93.50**	**33**	P	**P**	**08 19 40.9**	**+0.4**
	baz=329						
Y49A	**Blount Mountai**	**93.61**	**39**	P	**P**	**08 19 41.3**	**+0.2**
	baz=325						
X51A	**Calhoun**	**93.76**	**37**	P	**P**	**08 19 42.3**	**+0.6**
	baz=326						
X51A				P	**P**	**08 19 42.3**	**+0.6**
	baz=326						
LRAL	**Lakeview Retre**	**93.99**	**40**	P	**P**	**08 19 42.3**	**-0.5**
	baz=324						
CASEE	**Lake Jocassee**	**94.29**	**36**	P	**P**	**08 19 44.5**	**+0.4**
	baz=327						
Z51A	**Franklin**	**94.64**	**38**	P	**P**	**08 19 45.9**	**+0.1**
	baz=326						
Y52A	**Lilburn**	**94.71**	**37**	P	**P**	**08 19 47.0**	**+0.9**
	baz=326						
Y52A				P	**P**	**08 19 47.0**	**+0.9**
	baz=326						
ESDC	**Sonseca Array**	**94.80**	**335**	P	**P**	**08 19 46.2**	**-0.3**
	comp=Z,4.2nm,0.7s,baz=17,slow=4.1,SNR=17						
ESDC				pP	**sP**	**08 19 60.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=17,slow=3.9,SNR=4.9						
ESDC				LR	LR	09 07 43.6	
	comp=Z,424nm,18.5s,baz=22,slow=39 comp=Z,4.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**115.63**	**317**	PKP	**PKiKP**	**08 25 06.1**	**-1.2**
	comp=Z,1.8nm,0.4s,baz=50,slow=1.7,SNR=1.4						
TORD				PP	**PP**	**08 26 04.1**	**-4.9**
	comp=Z,4.8nm,0.5s,baz=23,slow=7.3,SNR=3.6						
VNDA	**Vanda**	**118.05**	**175**	PKP	**PKPdf**	**08 25 09.5**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=19,slow=5.8,SNR=1.6						
DBIC	**Dimbokro**	**124.48**	**319**	PKP	**PKPdf**	**08 25 23.9**	**-0.5**
	comp=Z,7.8nm,0.8s,baz=48,slow=1.0,SNR=12						
DBIC				PP	**PP**	**08 27 06.6**	**-3.2**
	comp=Z,6.4nm,0.9s,baz=44,slow=6.4,SNR=5.2						
BOSA	**Boshof**	**127.88**	**262**	PKP	**PKiKP**	**08 25 30.7**	**-0.4**
	comp=Z,7.3nm,1.0s,baz=105,slow=2.9,SNR=5.8						
BOSA				PP	**PP**	**08 27 33.1**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=21,slow=8.6,SNR=3.3						
TROLL	**Troll, Antarti**	**142.48**	**199**	PKPdf	**PKPdf**	**08 25 52.8**	**-3.6**
SNAA	**Sanae**	**144.00**	**198**	PKPdf	PKPbc	08 25 56.6	-0.4
LPAZ	**La Paz**	**144.34**	**57**	PKP	PKPbc	08 26 00.5	+0.2
	comp=Z,3.5nm,0.7s,baz=0.6,slow=5.3,SNR=10						
VNA2	**Neumayer--Watz**	**145.57**	**197**	PKPdf	**PKPab**	**08 26 01.8**	**-0.4**
	baz=114,slow=2.0						
VNA3	**Neumayer Olymp**	**145.82**	**196**	PKPdf	**PKPbc**	**08 26 02.2**	**-0.5**
VNA1	**Neumayer--Stat**	**145.97**	**197**	PKPdf	**PKPbc**	**08 26 02.7**	**-0.4**
BDFB	**Brasilia**	**153.89**	**23**	PKPbc	**PKiKP**	**08 26 24.6**	**0.0**
	comp=Z,6.9nm,0.8s,baz=96,slow=4.8,SNR=10						
PLCA	**Paso Flores**	**154.97**	**102**	PKPbc	**PKiKP**	**08 26 26.7**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=233,slow=3.5,SNR=9.4						
CPUP	**Villa Florida**	**158.51**	**56**	PKPab	**PKPab**	**08 26 57.2**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=268,slow=2.8,SNR=3.8						

JMA 26 08:07:38.1±0.1, 33.8N±0.3×134.3E±0.2, h10km, MV0.1/12, TOKUSHIMA PREF, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAI	**Aioi**	**0.11**	**81**	P	Pg	08 07 40.9	0.0
JAI				*e*S	Sg	08 07 42.6	-0.3
MRT2	**Murotomisaki 2**	**0.42**	**201**	*e*S	Sg	08 07 52.7	+0.9

*IDC **26** 08:29:14.1±1.1,5.47N×125.21E, h0km, mb3.5/4, mbtmp3.5/4, MS3.9/1, Error ellipse: s-maj=46.1km s-min=12.6km az=93.0*
*MAN **26** 08:29:18.4, 6.08N×126.44E, h1km, mb4.3, ML3.1, MS2.8*
ISC 26 08:29:15.5±1.0, 5.89N±0.07×126.46E±0.09, h10km, n9, σ2§17/12, mb3.4/4, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.46**	**323**	Pg	**Pb**	**08 29 43.1**	**+0.3**
	84nm,0.3s,baz=277,slow=17,SNR=3.8						
DAV				Lg	Lg	08 30 06.6	
	76nm,0.3s,baz=285,slow=20,SNR=8.7						
DAV				LR	LR	08 30 33.3	
	comp=Z,363nm,19.2s,baz=358,slow=48						
GSPH	**General Santos**	**1.51**	**277**	*e*P	**Pn**	**08 29 43.3**	**+0.5**
GSPH				*i* S	**Sn**	**08 30 02.9**	**+0.3**
KCP	**Kidapawan**	**1.75**	**309**	*i*P	**Pn**	**08 29 46.4**	**+0.3**
KCP				*i* S	**Sg**	**08 30 11.1**	**-0.9**
BIPH	**Bislig**	**2.28**	**358**	*i*P	**Pg**	**08 30 03.2**	**+4.0**
BIPH				*i* S	**Sg**	**08 30 25.4**	**-3.4**
WRA	**Warramunga Arr**	**26.82**	**163**	P	**P**	**08 34 56.8**	**+0.5**
	0.6nm,0.9s,baz=343,slow=10,SNR=3.2 0.6nm,0.9s						
ASAR	**Alice Springs**	**30.27**	**166**	P	P	08 35 26.5	-0.5
	0.2nm,0.5s,baz=343,slow=7.2,SNR=5.9						
ASAR				PcP	**PcP**	**08 38 25.6**	**-2.1**
	0.1nm,0.5s,baz=352,slow=2.5,SNR=1.1 0.2nm,0.5s						
STKA	**Stephens Creek**	**40.24**	**160**	P	**P**	**08 36 53.6**	**+1.0**
	1.0nm,0.8s,baz=336,slow=10.0,SNR=2.0 1.0nm,0.8s						
MKAR	**Makanchi Array**	**55.64**	**325**	P	**P**	**08 38 49.4**	**-2.5**
	0.2nm,0.5s,baz=129,slow=7.6,SNR=2.1						
MKAR				PcP	**PcP**	**08 39 50.1**	**-1.3**
	0.3nm,0.5s,baz=110,slow=3.4,SNR=2.3 0.2nm,0.5s						
ARU	**Arti**	**72.98**	**327**	LR	LR	09 12 13.4	
	comp=Z,82nm,20.3s,baz=5.0,slow=36						

*IDC **26** 08:39:19.2±3.3,51.45N×155.12E, h246km±16km, mb2.9/7, mbtmp3.5/7, Error ellipse: s-maj=61.7km s-min=26.0km az=172.0*
*KRSC **26** 08:39:21.3±1.2,51.35N×155.58E, h241km±11km, Ml3.7*
ISC 26 08:39:18.7±1.6, 51.3N±0.2×155.3E±0.1, h245km±9km, n26, σ1§61/32, mb3.2/7, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.83**	**72**	*e*P	**Pn**	**08 40 00.2**	**+1.0**
KDTR				*e*S	**S**	**08 40 30.3**	**-0.8**
APC	**Apacha**	**2.02**	**35**	*e*P	**Pn**	**08 40 01.6**	**+0.8**
APC				*e*S	**S**	**08 40 32.6**	**-1.5**
GRL	**Gorelyy**	**2.16**	**53**	*e*P	**Pn**	**08 40 04.1**	**+1.9**
MTVR	**Mutnovka**	**2.17**	**55**	*e*P	**Pn**	**08 40 04.0**	**+1.5**
RUS	**Russkaya**	**2.32**	**59**	*e*P	**Pn**	**08 40 05.0**	**+1.3**
RUS				*e*S	**S**	**08 40 38.6**	**-0.6**
KRMR	**Karymshinskiy**	**2.35**	**48**	*e*P	**Pn**	**08 40 05.6**	**+1.6**
PETK	**Petropavlovsk-**	**2.37**	**38**	P	**Pn**	**08 40 04.6**	**+0.4**
	1.1nm,0.4s,baz=226,slow=5.8,SNR=11						
PETK				S	**S**	**08 40 39.6**	**-0.5**
	2.1nm,0.7s,baz=238,slow=16,SNR=1.4						
DALK	**Dalny**	**2.77**	**49**	*e*P	**Pn**	**08 40 09.7**	**+1.4**
DALK				*e*S	**S**	**08 40 46.8**	**-0.8**
KOK	**Koryaka**	**2.89**	**44**	*e*P	**Pn**	**08 40 11.8**	**+2.1**
AVK	**Avacha**	**2.92**	**46**	*e*P	**Pn**	**08 40 13.2**	**+3.2**
UGLR	**Uglovaya**	**2.92**	**47**	*e*P	**Pn**	**08 40 12.4**	**+2.4**
GNL	**Ganaly**	**2.92**	**33**	*e*P	**Pn**	**08 40 11.3**	**+1.3**
KRX	**Arik**	**2.94**	**44**	*e*P	**Pn**	**08 40 11.8**	**+1.5**
SMAR	**Somma**	**2.94**	**46**	*e*P	**Pn**	**08 40 12.2**	**+1.8**
KRER	**Koryakskii**	**2.95**	**45**	*e*P	**Pn**	**08 40 12.4**	**+2.0**
SDLR	**Sedlovina**	**2.99**	**47**	*e*P	**Pn**	**08 40 12.8**	**+2.0**
SPN	**Mys Shipunski**	**3.45**	**56**	*e*P	**Pn**	**08 40 16.0**	**+0.2**
SPN				*e*S	**S**	**08 40 57.6**	**-3.4**
TUMR	**Tumrok**	**4.97**	**34**	*e*P	**Pn**	**08 40 36.1**	**+2.3**
KBTR	**Krutoberegovo**	**6.67**	**39**	*e*P	**Pn**	**08 40 55.8**	**+0.9**
ILAR	**Eielson Array**	**32.19**	**43**	P	**P**	**08 45 22.6**	**-0.7**
	0.6nm,0.9s,baz=266,slow=7.0,SNR=6.1 0.6nm,0.9s						
INK	**Inuvik**	**37.10**	**36**	P	**P**	**08 46 05.2**	**+0.1**
	0.3nm,0.3s,baz=295,slow=9.1,SNR=7.4 0.3nm,0.3s						
MKAR	**Makanchi Array**	**46.23**	**295**	P	**P**	**08 47 18.2**	**-1.1**
	0.1nm,0.4s,baz=72,slow=9.3,SNR=2.4 0.1nm,0.4s						
YKA	**Yellowknife Ar**	**46.49**	**40**	P	**P**	**08 47 20.8**	**-0.1**
	0.3nm,0.7s,baz=301,slow=7.9,SNR=4.0 0.3nm,0.7s						
NVAR	**Mina Array Bea**	**59.18**	**66**	P	**P**	**08 48 54.8**	**+0.8**
	0.3nm,0.5s,baz=299,slow=7.3,SNR=3.1 0.3nm,0.5s						
PDAR	**Pinedale Array**	**61.01**	**57**	P	**P**	**08 49 06.4**	**0.0**
	0.2nm,0.4s,baz=12,slow=4.6,SNR=4.1 0.2nm,0.4s						
TXAR	**Lajitas Array**	**74.10**	**63**	P	**P**	**08 50 28.4**	**+0.3**
	0.5nm,0.5s,baz=300,slow=5.4,SNR=9.9 0.5nm,0.5s						

*IDC **26** 08:44:07.2±2.5,35.87N×70.29E, h0km, mb3.4/4, mbtmp3.3/5, ML2.9/1, MS3.5/1, Error ellipse: s-maj=81.7km s-min=33.4km az=92.0*
ISC 26 08:44:08.8±1.7, 36.1N±0.1×70.1E±0.3, h10km, n8, σ1§73/6, mb3.2/3, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.03**	**2**	⇓Pn	Pn	08 46 00.1	+8.3
	1.1nm,0.2s,baz=188,slow=15,SNR=32						
KK31				⇑Sn	**Sn**	**08 47 10.3**	**-1.5**
	3.2nm,0.6s,baz=189,slow=24						
TKM2	**Tokmak 2**	**8.04**	**30**	⇑Pn	Pn	08 46 13.4	+7.5
	2.2nm,0.5s						
TKM2				⇑Sn	**Sn**	**08 47 35.8**	**-1.1**
	3.0nm,0.9s						
MKAR	**Makanchi Array**	**14.05**	**37**	Pn	**Pn**	**08 47 29.4**	**+1.5**
	0.1nm,0.3s,baz=223,slow=12,SNR=2.2 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**20.60**	**25**	P	Pn	08 48 48.9	-1.2
	2.4nm,0.5s,baz=221,slow=10,SNR=8.4 2.4nm,0.5s						
NOA	**NORSAR Array B**	**44.30**	**323**	LR	LR	09 10 44.1	
	comp=Z,57nm,21.1s,baz=20,slow=36						
YKA	**Yellowknife Ar**	**81.70**	**2**	P	**P**	**08 56 28.2**	**+1.1**
	0.1nm,0.4s,baz=352,slow=5.0,SNR=2.1 0.1nm,0.4s						
WRA	**Warramunga Arr**	**82.37**	**121**	P	**P**	**08 56 30.0**	**-1.2**
	0.2nm,0.4s,baz=321,slow=5.5,SNR=1.9 0.2nm,0.4s						
ASAR	**Alice Springs**	**84.59**	**124**	P	**P**	**08 56 41.7**	**-0.9**
	0.1nm,0.6s,baz=304,slow=5.5,SNR=1.0 0.1nm,0.6s						

*IDC **26** 08:45:39.7±2.2,23.93S×179.70W, h507km±25km, mb3.3/4, mbtmp4.3/7, Error ellipse: s-maj=33.9km s-min=20.4km az=149.0*
ISC 26 08:45:38.9±0.8, 23.94S±0.10×179.5W±0.1, h512km, n9, σ2§01/11, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.59**	**339**	P	**P**	**08 47 22.0**	**+0.2**
	6.0nm,0.8s,baz=252,slow=19,SNR=5.2						
AFI	**Afiamalu**	**12.35**	**37**	P	**P**	**08 48 22.1**	**+0.8**
	19nm,0.6s,baz=208,slow=15,SNR=2.8						
AFI				S	**S**	**08 50 30.8**	**-4.3**
	8.5nm,0.5s,baz=89,slow=21,SNR=1.3						
URZ	**Urewera**	**14.57**	**191**	P	**P**	**08 48 43.6**	**-0.6**
	6.4nm,0.4s,baz=26,slow=3.5,SNR=15						
URZ				S	**S**	**08 51 15.7**	**-1.4**
	7.3nm,0.7s,baz=127,slow=20,SNR=9.0						
STKA	**Stephens Creek**	**35.15**	**248**	P	**P**	**08 51 49.5**	**+0.1**
	0.9nm,0.4s,baz=88,slow=11,SNR=6.3 0.9nm,0.4s						
ASAR	**Alice Springs**	**42.50**	**261**	P	**P**	**08 52 48.6**	**-0.5**
	4.2nm,0.7s,baz=96,slow=7.4,SNR=59 4.2nm,0.7s						
WRA	**Warramunga Arr**	**42.88**	**266**	P	**P**	**08 52 51.0**	**-1.1**
	5.1nm,0.5s,baz=96,slow=8.3,SNR=58 5.1nm,0.5s						
TXAR	**Lajitas Array**	**90.05**	**58**	P	**P**	**08 57 47.1**	**+3.0**
	0.4nm,0.8s,baz=207,slow=5.8,SNR=3.6 0.4nm,0.8s						
AKASG	**Malin Array Be**	**145.26**	**328**	PKPbc	**PKPdf**	**09 04 17.8**	**+0.1**
	0.2nm,0.3s,baz=58,slow=4.0,SNR=1.8						
TORD	**Torodi Ar. Bea**	**169.21**	**186**	PKPab	**PKPab**	**09 06 04.1**	**+0.8**
	3.4nm,0.4s,baz=196,slow=5.5,SNR=2.2						

*TRN **26** 08:46:44.8, 10.57N×62.40W, h75km, MD2.9*
*FUNV **26** 08:46:44.9, 10.54N×62.46W, h29km, MW3.1*
ISC 26 08:46:43.4±1.3, 10.56N±0.07×62.52W±0.04, h72km±16km, n13, σ1§48/24, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.71**	**279**	*e*P	**Pn**	**08 46 59.2**	**+0.6**
CRUV				*e*S	**Sn**	**08 47 08.8**	**-1.0**
TRN	**Trinidad (W)**	**1.10**	**85**	⇑*i*P	**Pn**	**08 47 04.0**	**+0.8**
TRN				*e*S	**Sn**	**08 47 16.9**	**-1.1**
GRFF	**Grenada Fort F**	**1.67**	**27**	*e*P	**Pn**	**08 47 12.4**	**+1.8**
GRFF				*e*S	**Sn**	**08 47 30.4**	**-0.8**
GRGR	**Grenville**	**1.78**	**28**	*e*P	**Pn**	**08 47 12.5**	**+0.4**
GRGR				*e*S	**Sn**	**08 47 34.2**	**+0.3**
TOSP	**Speyside**	**2.08**	**69**	*e*P	**Pn**	**08 47 16.0**	**-0.1**
TOSP				*e*S	**Sn**	**08 47 39.7**	**-1.5**
GCMP	**Grenada, Carri**	**2.19**	**29**	*e*P	**Pn**	**08 47 18.1**	**+0.5**
GCMP				*e*S	**Sn**	**08 47 43.8**	**-0.1**
PRGV	**PARIAGUAN**	**2.76**	**230**	*e*P	**Pn**	**08 47 26.6**	**+1.3**
PRGV				*e*S	**Sn**	**08 47 58.3**	**+0.7**
MERV	**Las Mercedes**	**3.94**	**251**	*e*P	**Pn**	**08 47 43.1**	**+1.6**
MERV				*e*S	**Sn**	**08 48 26.0**	**-0.6**
TACV	**Tcata**	**4.46**	**265**	*e*P	**Pn**	**08 47 48.7**	**+0.2**
TACV				*e*S	**Sn**	**08 48 38.4**	**-0.8**
CACV	**CAICARA DEL OR**	**4.96**	**233**	*e*P	Pn	08 47 51.1	-4.3
CACV				*e*S	Sn	08 48 39.9	-12
BENV	**Beln**	**5.04**	**264**	*e*P	**Pn**	**08 47 58.5**	**+2.1**
BENV				*e*S	**Sn**	**08 48 51.6**	**-1.8**
BAUV	**El Baul**	**5.68**	**254**	*e*P	**Pn**	**08 48 05.8**	**+0.6**
BAUV				*e*S	**Sn**	**08 49 06.2**	**-2.8**
MAPV	**Macapo**	**5.89**	**263**	*e*P	**Pn**	**08 48 09.8**	**+1.7**
MAPV				*e*S	**Sn**	**08 49 11.2**	**-3.1**

*IDC **26** 09:04:01.5±1.1,5.25S×150.19E, h0km, mb3.6/4, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=67.1km s-min=18.9km az=141.0*
ISC 26 09:04:06.8±1.0, 5.1S±0.2×150.1E±0.2, h35km, n7, σ1§45/9, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.08**	**68**	Pn	**Pn**	**09 04 37.8**	**-1.4**
	160nm,0.3s,baz=202,slow=1.6,SNR=62						
KRVT				Sn	**Sn**	**09 05 06.2**	**+2.3**
	137nm,0.3s,baz=336,slow=18,SNR=9.6 380nm,0.4s						
PMG	**Port Moresby**	**5.17**	**214**	Pn	**Pn**	**09 05 22.9**	**+1.1**
	0.8nm,0.3s,baz=30,slow=20,SNR=1.5						
PMG				Sn	**Sn**	**09 06 19.0**	**-1.2**
	1.8nm,0.3s,baz=99,slow=22,SNR=2.2						
WRA	**Warramunga Arr**	**21.28**	**225**	P	**P**	**09 08 50.3**	**-0.1**
	1.3nm,0.7s,baz=52,slow=10,SNR=7.5 1.3nm,0.7s						
ASAR	**Alice Springs**	**24.17**	**219**	P	**P**	**09 09 18.8**	**-1.2**
	2.1nm,0.8s,baz=52,slow=8.7,SNR=23 2.1nm,0.8s						
ILAR

	baz=267							
EWUT				S		Sn	09 13 10.2	-0.4
	baz=267							
ENA	**Nanau**	**0.85**	**267**	P		**Pn**	09 12 57.5	-0.4
	baz=266							
ENA				*e*S		Sn	09 13 11.1	-0.1
	baz=266							
NDS	**Dongshan**	**0.88**	**281**	*e*P		**Pn**	09 12 58.2	0.0
	baz=279							
NDS				*e*S		Sn	09 13 12.5	+0.6
	baz=279							
TIPB	**Shuangxi**	**0.91**	**303**	*e*P		**Pn**	09 12 58.2	-0.3
	baz=302							
TIPB				*e*S		Sn	09 13 11.4	-1.2
	baz=302							
TWE	**Neicheng**	**0.94**	**285**	*e*P		**Pn**	09 12 58.7	-0.2
	baz=284							
TWE				*e*S		Sn	09 13 13.1	-0.1
	baz=284							
SXI1	**Grass Mountain**	**0.95**	**311**	*e*P		**Pn**	09 12 58.7	-0.4
	baz=310							
SXI1				*e*S		Sn	09 13 12.3	-1.1
	baz=310							
IRIF	**Iriomote-Funau**	**0.98**	**98**	*e*S		**Sn**	09 13 14.0	+0.3
NWF	**Wu-fen Shan**	**1.00**	**306**	*e*P		**Pn**	09 12 59.5	-0.1
	baz=306							
NWF				*e*S		Sn	09 13 14.0	-0.4
	baz=306							
WFSB	**Wu-fen Shan**	**1.00**	**306**	*e*P		**Pn**	09 12 59.4	-0.1
	baz=305							
WFSB				*e*S		Sn	09 13 13.9	-0.4
	baz=305							
ETL	**Fush Village**	**1.01**	**252**	*e*P		**Pn**	09 12 59.1	-0.5
	baz=251							
ETL				*e*S		Sn	09 13 13.9	-0.5
	baz=251							
ENTT	**Nioudou**	**1.02**	**280**	P		**Pn**	09 12 59.9	+0.1
	baz=278							
ENTT				S		Sn	09 13 15.1	+0.4
	baz=278							
FUSB	**Fushanzhiwuyua**	**1.02**	**286**	P		**Pn**	09 12 59.6	-0.3
	baz=285							
FUSB				S		Sn	09 13 15.4	+0.5
	baz=285							
NACB	**Ninganchiao**	**1.03**	**253**	P		**Pn**	09 12 59.1	-0.8
NACB	**Ninganchiao**	**1.03**	**253**	P		**Pn**	09 12 59.0	-0.8
	baz=252							
NACB				S		Sn	09 13 13.5	-1.3
	baz=252							
LATG	**Datong**	**1.04**	**274**	P		**Pn**	09 13 00.0	-0.1
	baz=272							
LATG				S		Sn	09 13 15.1	-0.3
	baz=272							
TWD	**Chiawan**	**1.06**	**248**	P		**Pn**	09 12 59.5	-0.7
	baz=247							
TWD				S		Sn	09 13 14.3	-1.0
	baz=247							
TNOU	**National Taiwa**	**1.06**	**310**	*e*P		**Pn**	09 12 59.8	-0.4
	baz=309							
HWA	**Hwalien**	**1.09**	**243**	*e*S		**Sn**	09 13 16.6	+0.5
	baz=242							
NWLT	**Wulai**	**1.10**	**286**	*e*P		**Pn**	09 13 00.6	-0.2
	baz=285							
NWLT				*e*S		Sn	09 13 16.5	+0.1
	baz=285							
TWA	**Mucha**	**1.11**	**297**	*e*P		**Pn**	09 13 00.5	-0.3
	baz=296							
TWA				*e*S		Sn	09 13 15.7	-0.9
	baz=296							
ETLH	**Xiulin Townshi**	**1.12**	**256**	*e*P		**Pn**	09 13 00.7	-0.3
	baz=255							
ETLH				*e*S		Sn	09 13 16.0	-0.8
	baz=255							
HATJ	**Hateruma jima**	**1.12**	**112**	P		**Pn**	09 13 01.5	+0.6
HATJ				*e*S		Sn	09 13 17.6	+1.0
NHDH	**Xindian Distri**	**1.15**	**295**	*e*P		**Pn**	09 13 00.9	-0.3
	baz=294							
NHDH				*e*S		Sn	09 13 16.8	-0.6
	baz=294							
TEYL	**Yanliau Villag**	**1.15**	**239**	*e*S		**Sn**	09 13 16.8	-0.6
	baz=239							
NNSB	**Datong**	**1.17**	**268**	*e*P		**Pn**	09 13 01.6	-0.1
	baz=267							
NNSB				*e*S		Sn	09 13 17.8	-0.3
	baz=267							
NNSH	**Datong**	**1.17**	**268**	*e*P		**Pn**	09 13 01.3	-0.4
	baz=267							
NNSH				*e*S		Sn	09 13 17.5	-0.6
	baz=267							
NNS	**Nan Shan**	**1.18**	**269**	*e*P		**Pn**	09 13 01.6	-0.1
	baz=267							
NNS				*e*S		Sn	09 13 18.2	-0.1
	baz=267							
TATO	**Taipei**	**1.19**	**295**	P		**Pn**	09 13 01.3	-0.4
TATO	**Taipei**	**1.19**	**295**	*e*P		**Pn**	09 13 01.4	-0.2
	baz=294							
TATO				*e*S		Sn	09 13 17.5	-0.6
	baz=294							
ETM	**Tongmen**	**1.19**	**245**	*e*P		**Pn**	09 13 01.0	-0.8
	baz=244							
ETM				S		Sn	09 13 17.1	-1.1
	baz=244							
YHNB	**Yeheng**	**1.19**	**280**	P		**Pn**	09 13 02.0	+0.1
YHNB	**Yeheng**	**1.19**	**280**	P		**Pn**	09 13 01.8	-0.1
	baz=279							
YHNB				S		Sn	09 13 18.5	0.0
	baz=279							
YM01	**YM01**	**1.20**	**304**	*e*P		**Pn**	09 13 01.7	-0.3
	baz=303							
YM01				*e*S		Sn	09 13 17.8	-0.8
	baz=303							
NSK	**Sanguang**	**1.21**	**280**	P		**Pn**	09 13 01.9	-0.1
	baz=279							
NSK				S		Sn	09 13 18.4	-0.4
	baz=279							
YM08	**YM08**	**1.21**	**306**	*e*P		**Pn**	09 13 01.6	-0.5
	baz=305							
YM08				*e*S		Sn	09 13 17.7	-1.0
	baz=305							
JKRS	**Kuro-shima**	**1.24**	**101**	P		**Pn**	09 13 02.7	+0.3
JKRS				*e*S		Sn	09 13 19.4	0.0
TEGC	**Jichi Village**	**1.28**	**234**	*e*S		**Sn**	09 13 20.5	+0.3
	baz=233							
TWS1	**Kuangyinshan**	**1.30**	**299**	*e*P		**Pn**	09 13 02.8	-0.3
	baz=298							
TWS1				*e*S		Sn	09 13 20.3	-0.2
	baz=298							
NTST	**Danshui**	**1.30**	**302**	*e*P		**Pn**	09 13 03.0	-0.2
	baz=301							
NTST				*e*S		Sn	09 13 20.4	-0.3
	baz=301							
FUSS	**Fushou**	**1.32**	**260**	P		**Pn**	09 13 03.8	+0.2
	baz=259							
FUSS				S		Sn	09 13 21.4	0.0
	baz=259							
WHF	**Hehuan Shan**	**1.32**	**256**	*e*P		**Pn**	09 13 03.4	-0.4
	baz=255							
WHF				S		Sn	09 13 21.3	-0.5
	baz=255							
JIJ	**Ishigaki jima**	**1.35**	**94**	P		**Pn**	09 13 03.5	-0.1
JIJ				S		Sn	09 13 20.8	-0.8
TWT	**Tachien**	**1.38**	**261**	P		**Pn**	09 13 04.7	+0.4
	baz=260							
TWT				S		Sn	09 13 22.6	0.0
	baz=260							
EGFH	**Guangfu**	**1.39**	**235**	*e*P		**Pn**	09 13 03.7	-0.6
	baz=234							
EGFH				*e*S		Sn	09 13 21.7	-0.9
	baz=234							
TDCB	**Techi**	**1.40**	**261**	P		**Pn**	09 13 04.6	+0.2
	baz=260							
TDCB				S		Sn	09 13 22.4	-0.6
	baz=260							
NFF	**Wufeng Townshi**	**1.42**	**277**	*e*P		**Pn**	09 13 04.7	0.0
	baz=276							
NFF				*e*S		Sn	09 13 23.2	-0.2
	baz=276							
CHGB	**Renai**	**1.43**	**253**	*e*P		**Pn**	09 13 04.8	-0.1
	baz=252							
CHGB				*e*S		Sn	09 13 23.9	+0.1
	baz=252							
NCU	**National Centr**	**1.44**	**290**	*e*S		**Sn**	09 13 24.2	+0.6
	baz=289							
NCUH	**Zhongli**	**1.44**	**290**	*e*P		**Pn**	09 13 04.8	0.0
	baz=289							
NCUH				*e*S		Sn	09 13 23.7	+0.1
	baz=289							
OWD	**Renai**	**1.46**	**250**	*e*P		**Pn**	09 13 05.0	-0.2
	baz=248							
OWD				S		Sn	09 13 22.9	-1.5
	baz=248							
WUSB	**Renai**	**1.50**	**252**	P		**Pn**	09 13 05.8	+0.1
	baz=251							
WUSB				S		Sn	09 13 24.7	-0.5
	baz=251							
JISG	**Ishigakijimahi**	**1.50**	**85**	P		**Pn**	09 13 05.7	+0.2
JISG				S		Sn	09 13 24.3	-0.7
HGSD	**Ruisui**	**1.50**	**230**	P		**Pn**	09 13 05.4	-0.3
	baz=229							
HGSD				*e*S		Sn	09 13 24.1	-1.0
	baz=229							
LIOB	**Emei**	**1.52**	**277**	P		**Pn**	09 13 05.8	0.0
	baz=276							
LIOB				S		Sn	09 13 25.5	+0.1
	baz=276							
NSTT	**Nanjuang**	**1.53**	**276**	P		**Pn**	09 13 06.0	+0.1
	baz=275							
NSTT				S		Sn	09 13 25.6	-0.1
	baz=275							
EHY	**Hungye**	**1.56**	**232**	*e*P		**Pn**	09 13 06.4	-0.1
	baz=231							
VWDT	**VWDT**	**1.57**	**243**	P		**Pn**	09 13 06.8	+0.3
	baz=242							
VWDT				S		Sn	09 13 26.6	-0.1
	baz=242							
WHP	**Taichung City**	**1.58**	**263**	*e*P		**Pn**	09 13 07.7	+0.9
	baz=262							
WHP				*e*S		Sn	09 13 27.6	+0.5
	baz=262							
ECBN	**Changbin**	**1.60**	**224**	*e*S		**Sn**	09 13 26.2	-1.2
	baz=223							
WPL	**Puli Township**	**1.63**	**254**	*e*P		**Pn**	09 13 07.5	+0.2
	baz=253							
WPL				*e*S		Sn	09 13 28.8	+0.7
	baz=253							
DPDB	**Guoxing**	**1.65**	**255**	*e*P		**Pn**	09 13 08.3	+0.7
	baz=254							
DPDB				*e*S		Sn	09 13 29.8	+1.2
	baz=254							
YULB	**Yu-li**	**1.66**	**230**	P		**Pn**	09 13 07.0	-0.6
YULB	**Yu-li**	**1.66**	**230**	P		**Pn**	09 13 07.0	-0.6
	baz=229							
YULB				*e*S		Sn	09 13 26.3	-2.4
	baz=229							
WCS	**Beigang Elemen**	**1.66**	**256**	*e*P		**Pn**	09 13 08.2	+0.5
	baz=255							
WCS				*e*S		Sn	09 13 29.7	+1.1
	baz=255							
EYUL	**Yuli**	**1.67**	**228**	*e*P		**Pn**	09 13 08.2	+0.4
	baz=227							
EYUL				*e*S		Sn	09 13 28.7	-0.2
	baz=227							
TWF1	**Yuli**	**1.68**	**229**	*e*P		**Pn**	09 13 07.3	-0.7
	baz=227							
TWF1				*e*S		Sn	09 13 27.4	-1.8
	baz=227							
SSLB	**Suanglung**	**1.71**	**247**	P		**Pn**	09 13 10.0	+1.7
SSLB	**Suanglung**	**1.71**	**247**	*e*P		**Pn**	09 13 09.1	+0.8
	baz=246							
SSLB				*e*S		Sn	09 13 30.5	+0.5
	baz=246							
NMLH	**Miaoli**	**1.71**	**272**	*e*S		**Sn**	09 13 30.1	+0.2
	baz=271							
SMLT	**Sun Moon Lake**	**1.72**	**250**	*e*P		**Pn**	09 13 09.1	+0.6
	baz=249							
SMLT				*e*S		Sn	09 13 31.3	+1.0
	baz=249							
TWQ1	**Liyutan**	**1.73**	**266**	*e*S		**Sn**	09 13 31.8	+1.4
	baz=265							
NSY	**Sanyi**	**1.74**	**268**	*e*S		**Sn**	09 13 31.1	+0.5
	baz=267							
TYC	**Yuchr**	**1.75**	**251**	*e*P		**Pn**	09 13 09.5	+0.7
	baz=250							
TYC				*e*S		Sn	09 13 32.3	+1.6
	baz=250							
FULB	**Fuli**	**1.79**	**225**	*e*P		**Pn**	09 13 09.8	+0.4
	baz=224							
FULB				*e*S		Sn	09 13 31.0	-0.8
	baz=224							
CHKT	**Chengkung**	**1.82**	**221**	*e*S		**Sn**	09 13 30.4	-1.9
	baz=220							
YUS	**Yu-Shan**	**1.85**	**238**	*e*P		**Pn**	09 13 10.6	-0.1
	baz=237							
YUS				*e*S		Sn	09 13 32.5	-1.4
	baz=237							
JTJ	**Tarama**	**1.86**	**84**	S		**Sn**	09 13 33.1	-0.1
EHD	**Haiduan**	**1.88**	**226**	*e*P		**Pn**	09 13 10.1	-0.4
	baz=225							
EHD				*e*S		Sn	09 13 32.9	-1.0
	baz=225							
WJS	**Zhushan**	**1.89**	**250**	*e*S		**Sn**	09 13 35.4	+1.4
	baz=249							
WNT	**Mingjian**	**1.91**	**252**	*e*S		**Sn**	09 13 35.7	+1.3
	baz=251							
EDH	**Donghe**	**1.95**	**220**	*e*P		**Pn**	09 13 10.0	-1.4
	baz=219							
EDH				*e*S		Sn	09 13 33.7	-1.7
	baz=219							
ALS	**Alishan**	**1.96**	**241**	*e*P		**Pn**	09 13 12.4	+0.6
	baz=240							
ALS				*e*S		Sn	09 13 35.8	-0.2
	baz=240							
ELDTW	**Lidau**	**1.98**	**230**	*e*P		**Pn**	09 13 11.5	-0.4
	baz=229							
ELDTW				*e*S		Sn	09 13 35.2	-1.2
	baz=229							
CHN5	**Tsauling**	**2.02**	**245**	*e*S		**Sn**	09 13 38.5	+1.3
	baz=244							
LONT	**Longtian**	**2.10**	**222**	*e*P		**Pn**	09 13 13.5	0.0
	baz=222							
LONT				*e*S		Sn	09 13 38.2	-0.9
	baz=222							
STYH	**Taoyuan**	**2.17**	**234**	*e*P		**Pn**	09 13 15.0	+0.7
	baz=233							
STYH				*e*S		Sn	09 13 41.0	+0.5
	baz=233							
WRL	**Guolierlin Hig**	**2.17**	**255**	*e*S		**Sn**	09 13 40.2	-0.5
	baz=254							
TWGBT	**Beinan**	**2.20**	**222**	P		**Pn**	09 13 14.0	-0.7
TWGBT	**Beinan**	**2.20**	**222**	*e*P		**Pn**	09 13 14.0	-0.7
	baz=221							
TWGBT				*e*S		Sn	09 13 39.7	-1.7
	baz=221							
TPUB	**Ta-pu**	**2.20**	**238**	P		**Pn**	09 13 15.6	+0.8
	baz=237							
TPUB				*e*S		Sn	09 13 42.5	+1.1
	baz=237							
TWG	**Pinlang**	**2.20**	**222**	*e*P		**Pn**	09 13 13.7	-1.1
	baz=221							
TWG				*e*S		Sn	09 13 39.5	-2.0
	baz=221							
CHN4	**Tsaushan**	**2.21**	**240**	*e*P		**Pn**	09 13 15.9	+1.1
	baz=239							
CHN4				*e*S		Sn	09 13 43.8	+2.3
	baz=239							
WTK	**Tuku**	**2.23**	**250**	*e*S		**Sn**	09 13 43.0	+1.0
	baz=249							
WTP	**Ta-pu**	**2.25**	**237**	*e*S		**Sn**	09 13 45.4	+2.9
	baz=236							
CHN1	**Nanshi**	**2.34**	**237**	*e*P		**Pn**	09 13 18.2	+1.5
	baz=236							
CHN1				*e*S		Sn	09 13 46.5	+1.7
	baz=236							
SGST	**Jiashian**	**2.36**	**234**	*e*S		**Sn**	09 13 46.4	+1.2
	baz=233							
MASBT	**Mashibuluo**	**2.63**	**226**	P		**Pn**	09 13 20.9	+0.3
	baz=225							
MASBT				S		Sn	09 13 52.4	+0.7
	baz=225							

WEL 26 09:31:00.4±0.2, 42°S±2°×17°4E±°, h12km±2km, M3.5/61, ML3.5/21, MLv3.5/61, Error ellipse: s-maj=0.0km s-min=0.0km az=109.4, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.24**	**184**	P		Pb	09 31 06.6	-0.2
KHZ				S		Sg	09 31 10.6	+1.6
BSWZ	**Blackbirch Sta**	**0.51**	**27**	P		Pb	09 31 11.3	-0.1
BSWZ				S		Sb	09 31 19.4	+0.7
THZ	**Tophouse**	**0.64**	**310**	P		Pb	09 31 13.6	0.0
CMWZ	**Cape Campbell**	**0.64**	**49**	P		Pn	09 31 14.6	-0.8
GVZ	**Greta Valley S**	**0.89**	**206**	P		Pb	09 31 18.2	+0.5
GVZ				S		Sn	09 31 31.8	+0.3
NNZ	**Nelson**	**0.96**	**352**	P		Pb	09 31 19.2	+0.2
MRNZ	**Matariki Terra**	**0.98**	**322**	P		Pn	09 31 19.8	-0.2
TCW	**Tory Channel**	**1.10**	**29**	P		Pb	09 31 21.4	+0.1
LTZ	**Lake Taylor**	**1.13**	**237**	P		Pb	09 31 21.7	-0.3
AMCZ	**Amberley**	**1.21**	**213**	P		Pn	09 31 22.5	-0.6
TKNZ	**Takaka Hill**	**1.22**	**338**	P		Pg	09 31 23.8	-0.1
WEL	**Wellington**	**1.27**	**46**	P		Pn	09 31 23.9	0.0
DSZ	**Denniston Nort**	**1.38**	**287**	P		Pg	09 31 27.0	+0.1
DUWZ	**D'Urville Isla**	**1.39**	**11**	P		Pb	09 31 26.1	-0.3
PLWZ	**Palliser**	**1.40**	**65**	P		Pn	09 31 25.0	-0.8
CAW	**Cannon Point**	**1.55**	**47**	P		Pn	09 31 27.5	-0.3
QRZ	**Quartz Range**	**1.55**	**330**	P		Pb	09 31 29.3	+0.2
PAWZ	**Paruwai Farm**	**1.60**	**61**	P		Pn	09 31 27.5	-1.0
OXZ	**Oxford**	**1.61**	**224**	P		Pn	09 31 27.4	-1.3
KIW	**Kapiti Island**	**1.65**	**38**	P		Pn	09 31 29.4	+0.2
INZ	**Inchbonnie**	**1.66**	**250**	P		Pn	09 31 30.0	+0.6
MQZ	**McQueen's Vall**	**1.67**	**203**	P		Pn	09 31 27.5	-2.0
AKCZ	**Akaroa Harbour**	**1.77**	**196**	P		Pn	09 31 29.3	-1.5
TRWZ	**Traveller**	**1.77**	**65**	P		Pn	09 31 29.6	-1.2
MTW	**Mount Morrison**	**1.77**	**56**	P		Pn	09 31 29.7	-1.2
OGWZ	**Otaki Gorge**	**1.81**	**42**	P		Pn	09 31 31.1	-0.3
RACZ	**Rakaia**	**1.87**	**213**	P		Pn	09 31 30.6	-1.7
HOWZ	**Holdsworth Sta**	**1.94**	**50**	P		Pn	09 31 32.5	-0.8
TMWZ	**Te Maipa**	**2.04**	**59**	P		Pn	09 31 33.2	-1.4
TMWZ				P		Pn	09 31 33.2	-1.4
MRZ	**Mangatainoka R**	**2.14**	**46**	P		Pn	09 31 35.1	-0.8
WACZ	**Wakanui South**	**2.17**	**215**	P		Pn	09 31 34.7	-1.7
WVZ	**Waitaha Valley**	**2.27**	**246**	P		Pn	09 31 38.0	+0.2
RPZ	**Rata Peaks**	**2.40**	**229**	P		Pn	09 31 38.5	-1.1
PRWZ	**Pori Road**	**2.43**	**49**	P		Pb	09 31 42.6	-1.4
POWZ	**Post Office Ro**	**2.43**	**44**	P		Pb	09 31 45.2	+1.1
ARCZ	**Arundel**	**2.49**	**224**	P		Pn	09 31 39.1	-1.7
WAZ	**Wanganui**	**2.64**	**25**	P		Pn	09 31 45.0	+2.2
GCSZ	**Gaunt Creek Bo**	**2.64**	**243**	P		Pn	09 31 43.1	+0.2
LREZ	**Lake Rotokare**	**2.78**	**14**	P		Pb	09 31 49.6	-0.4
KHEZ	**Kahui Hut**	**2.89**	**7**	P		Pb	09 31 50.5	-1.5
TMZ	**Timaru**	**2.89**	**219**	P		Pn	09 31 44.6	-1.7
NBEZ	**Newall Road No**	**2.91**	**5**	P		Pb	09 31 50.1	-2.1
NEZ	**North Egmont**	**2.93**	**8**	P		Pb	09 31 51.2	-1.4
FOZ	**Fox Glacier**	**3.07**	**242**	P		Pn	09 31 49.3	+0.6
VRZ	**Vera Road**	**3.18**	**17**	P		Pb	09 31 54.6	-2.2
PKVZ	**Pokaka**	**3.18**	**26**	P		Pb	09 31 55.5	-1.4
MOVZ	**Moawhango**	**3.22**	**32**	P		Pb	09 31 57.6	0.0
WNVZ	**Wahianoa**	**3.23**	**29**	P		Pn	09 31 52.2	+1.0
TRVZ	**Turoa**	**3.24**	**28**	P		Pn	09 31 52.2	+0.9
TUVZ	**Tukino**	**3.31**	**29**	P		Pn	09 31 53.3	+1.1
LBZ	**Lake Benmore**	**3.31**	**227**	P		Pn	09 31 51.3	-0.8
NNVZ	**North Ngauruho**	**3.41**	**28**	P		Pn	09 31 54.8	+1.2
ETVZ	**East Tongariro**	**3.44**	**29**	P		Pn	09 31 55.0	+1.0
ODZ	**Otahua Downs**	**3.57**	**215**	P		Pn	09 31 53.6	-2.0
BKZ	**Black Stump Fm**	**3.74**	**38**	P		Pn	09 31 56.4	-1.6
HIZ	**Hauiti**	**3.79**	**16**	P		Pn	09 32 01.9	+3.4
MRHZ	**Matea Rd**	**3.98**	**34**	P		Pn	09 31 59.6	-1.7
TLZ	**Tolley Road**	**4.12**	**22**	P		Pb	09 32 08.3	-4.7
TUZ	**Tuapeka**	**4.72**	**216**	P		Pn	09 32 09.8	-1.6
MKAZ	**Moumakai**	**5.21**	**14**	P		Pn	09 32 21.0	+2.9

*OSPL **26** 09:41:10.9±3.5, 17°.92N×68°.62W, h0km±24km, ML3.8*
*RSPR **26** 09:41:10.2, 17°.83N×68°.80W, h49km±23km, MD4.1/13*
*IDC **26** 09:41:11.1±2.8, 18°.09N×68°.66W, h46km±37km, mb3.4/5, mbtmp3.8/7, ML3.8/2, MS2.1/1, Error ellipse: s-maj=26.5km s-min=20.2km az=131.0*
*NEIC **26** 09:41:12.3±1.5, 18°.02N±0°.08×68°.63W±0°.03, h47km±24km, ML4.3/38, ML4.0/8(RSPR), Error ellipse: s-maj=11.5km s-min=4.3km az=176.0*

ISC 26 09:41:11.3±0.8, 17°.98N±0°.05×68°.57W±0°.04, h48km±11km, n155, σ2°45/165, mb3.6/5, 8C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.56**	**18**	*i*P		**Pn**	**09 41 22.9**	**-0.3**
PCDR	**Punta Cana, DR**	**0.56**	**18**	*e*S		**Sn**	**09 41 31.5**	**-0.2**
PCDR	**Punta Cana, DR**	**0.56**	**18**			**Pn**	**09 41 22.9**	**-0.3**
PCDR	**Punta Cana, DR**	**0.56**	**18**			**Sn**	**09 41 31.5**	**-0.2**
PCDR	**Punta Cana, DR**	**0.56**	**18**	IAML			09 41 31.9	
	comp=N,24μm,0.6s							
PCDR				IAML			09 41 32.1	
	comp=E,17μm,0.3s							
PCDR	**Punta Cana, DR**	**0.56**	**18**	*i*P		**Pn**	**09 41 22.9**	**-0.3**
PCDR				*e*S		**Sn**	**09 41 31.8**	**0.0**
PCDR				IAML			09 41 32.2	
	comp=Z,8μm,0.2s							
IDE	**Isla Desecheo**	**1.12**	**68**	*e*P		**Pn**	**09 41 31.7**	**+1.2**
IDE	**Isla Desecheo**	**1.12**	**68**	*e*S		**Sn**	**09 41 47.6**	**+2.8**
IDE	**Isla Desecheo**	**1.12**	**68**			**Pn**	**09 41 31.7**	**+1.2**
IDE						**Sn**	**09 41 47.6**	**+2.8**
SDD	**Santo Domingo**	**1.37**	**291**			**Pn**	**09 41 33.7**	**-0.2**
SDD	**Santo Domingo**	**1.37**	**291**	*i*P		**Pn**	**09 41 34.1**	**+0.1**
SDD				*e*S		**Sn**	**09 41 51.4**	**+0.5**
PRSN	**Puerto Rico Se**	**1.37**	**80**			**Pn**	**09 41 36.0**	**+2.0**
CRPR	**Cabo Rojo, PR**	**1.39**	**88**	*e*P		**Pn**	**09 41 35.8**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.39**	**88**	*e*S		**Sn**	**09 41 54.9**	**+3.5**
CRPR	**Cabo Rojo, PR**	**1.39**	**88**			**Pn**	**09 41 35.7**	**+1.5**
CRPR	**Cabo Rojo, PR**	**1.39**	**88**			**Sn**	**09 41 54.9**	**+3.5**
CRPR	**Cabo Rojo, PR**	**1.39**	**88**	IAML			09 42 02.6	
	comp=N,2μm,1.1s							
CRPR				IAML			09 42 04.2	
	comp=E,1μm,0.6s							
CRPR	**Cabo Rojo, PR**	**1.39**	**88**	*i*P		**Pn**	**09 41 35.8**	**+1.6**
CRPR				IAML			09 42 00.6	
	comp=Z,1μm,0.6s							
MLPR	**Magueyes Islan**	**1.45**	**90**	*e*P		**Pn**	**09 41 35.5**	**+0.4**
MLPR	**Magueyes Islan**	**1.45**	**90**	*e*S		**Sn**	**09 41 55.8**	**+2.9**
MLPR	**Magueyes Islan**	**1.45**	**90**			**Sn**	**09 41 55.8**	**+2.9**
MLPR	**Magueyes Islan**	**1.45**	**90**	Pn		**Pn**	**09 41 35.3**	**+0.3**
MLPR	**Magueyes Islan**	**1.45**	**90**	IAML			09 42 00.6	
	comp=N,906nm,0.8s							
MLPR				IAML			09 42 04.3	
	comp=E,912nm,0.6s							
AOPR	**Arecibo Observ**	**1.76**	**78**	*e*P		**Pn**	**09 41 41.0**	**+1.6**
AOPR	**Arecibo Observ**	**1.76**	**78**	Pn		**Pn**	**09 41 41.0**	**+1.6**
AOPR				IAML			09 42 12.7	
	comp=N,4μm,0.4s							
AOPR	**Arecibo Observ**	**1.76**	**78**			**Sn**	**09 42 04.6**	**+4.

comp=E,2µm,1.1s
SC01 IAML 09 42 27.3
comp=N,1µm,0.6s
SC01 Santiago de Io 2.51 306 *i* P **Pn 09 41 50.7 +1.1**
SC01 *e*S **Sn 09 42 21.6 +2.6**
SC01 IAML 09 42 31.9
comp=Z,737nm,0.8s
HUMP Col San Antoni 2.59 86⇓*e*P **Pn 09 41 52.1 +1.4**
HUMP Col San Antoni 2.59 86 *e*S **Sn 09 42 24.3 +3.3**
HUMP Col San Antoni 2.59 86 **Pn 09 41 52.7 +2.0**
HUMP IAML 09 42 30.8
comp=N,1µm,0.2s
HUMP Col San Antoni 2.59 86 **Sn 09 42 24.3 +3.3**
CBYP Canovanas 2.59 83⇑*e*P **Pn 09 41 52.4 +1.5**
CBYP Canovanas 2.59 83 **Pn 09 41 52.3 +1.5**
SDDR Presa de Saban 2.77 292 **Pn 09 41 55.8 +2.5**
SDDR IAML 09 42 33.5
comp=N,1µm,0.8s
SDDR IAML 09 42 33.5
comp=N,1µm,0.7s
SDDR Presa de Saban 2.77 292 *e*P **Pn 09 41 55.8 +2.5**
SDDR *e*S **Sn 09 42 28.5 +3.0**
SDDR Presa de Saban 2.77 292 *e*P **Pn 09 41 55.7 +2.5**
SDDR *e*S **Sn 09 42 29.8 +4.3**
SDDR Presa de Saban 2.77 292 *i* P **Pn 09 41 55.9 +2.5**
SDDR IAML 09 42 35.3
comp=Z,514nm,0.7s
MTP Monte Pirata 2.87 87⇑*e*P **Pn 09 41 56.0 +1.5**
MTP Monte Pirata 2.87 87 *e*S **Sn 09 42 32.9 +5.0**
MTP Monte Pirata 2.87 87 **Pn 09 41 56.4 +1.8**
MTP Monte Pirata 2.87 87 **Sn 09 42 32.9 +5.0**
MTP Monte Pirata 2.87 87 IAML 09 42 39.5
comp=N,493nm,0.2s
MTP IAML 09 42 40.2
comp=E,542nm,0.6s
LOPE2 Hotel El Peder 3.03 272 *i* P **Pn 09 41 57.6 +0.9**
LOPE2 *e*S **Sn 09 42 31.6 -0.1**
LOPE2 IAML 09 42 52.0
comp=Z,118nm,0.8s
CUPR Culebra, Puert 3.14 83⇑*e*P **Pn 09 41 59.2 +1.0**
CUPR Culebra, Puert 3.14 83 *e*S **Sn 09 42 37.0 +2.5**
CUPR Culebra, Puert 3.14 83 Pn **Pn 09 41 59.2 +1.0**
CUPR Culebra, Puert 3.14 83 **Sn 09 42 37.0 +2.5**
CUPR Culebra, Puert 3.14 83 IAML 09 42 41.9
comp=N,327nm,0.6s
CUPR IAML 09 42 46.8
comp=E,296nm,0.4s
PAPH Port-au-Prince 3.59 279 *e*P **Pn 09 42 06.5 +2.1**
PAPH *e*S **Sn 09 42 48.0 +2.4**
PAPH Port-au-Prince 3.59 279 *i* P **Pn 09 42 05.7 +1.3**
CDVI St. Croix 3.63 93 **Pn 09 42 05.7 +0.8**
CDVI IAML 09 43 02.9
comp=E,901nm,0.6s
CDVI St. Croix 3.63 93 *e*P **Pn 09 42 05.3 +0.4**
CDVI *e*S **Sn 09 42 47.7 +1.2**
GRTK Grand Turk 4.27 326 Pn **Pn 09 42 12.5 -1.3**
GRTK IAML 09 43 00.2
comp=E,275nm,0.5s
GRTK IAML 09 43 00.6
comp=E,362nm,0.6s
GRTK Grand Turk 4.27 326 *e*P **Pn 09 42 12.7 -1.0**
GRTK *e*S **Sn 09 42 59.0 -3.3**
GRTK Grand Turk 4.27 326 *i* P **Pn 09 42 12.9 -0.8**
GRTK IAML 09 43 00.1
comp=Z,145nm,0.6s
SABA Saba 5.08 93 Pn **Pn 09 42 27.2 +2.3**
SABA IAML 09 43 26.1
comp=N,276nm,0.9s
SABA Saba 5.08 93 *e*P **Pn 09 42 26.5 +1.6**
SABA Saba 5.08 93 *e*S **Sn 09 43 24.1 +1.7**
SMRT St. Maarten 5.23 88 *e*P **Pn 09 42 30.8 +3.9**
SMRT St. Maarten 5.23 88 *e*S **Sn 09 43 29.0 +3.1**
HATO Hato, Curacao 5.77 184 Pn **Pn 09 42 34.4 0.0**
MASC Masc 5.79 293 *e*P **Pn 09 42 32.4 -2.2**
MASC *e*S **Sn 09 43 35.5 -4.2**
MASC Masc 5.79 293 *i* P **Pn 09 42 34.5 0.0**
MASC *e*S **Sn 09 43 40.6 +0.9**
MASC IAML 09 43 41.7
comp=Z,28nm,1.0s
MBFL Flemmings, Mon 6.19 100 *e*P **Pn 09 42 41.2 +1.1**
MBFL Flemmings, Mon 6.19 100 *e*S **Sn 09 43 48.9 -0.7**
MLYT Lee's Yard 6.21 101 *e*P **Pn 09 42 41.6 +1.1**
MLYT Lee's Yard 6.21 101 *e*S **Sn 09 43 50.0 -0.3**
ANWB Willy Bob 6.47 92 Pn **Pn 09 42 46.0 +2.1**
ANWB Willy Bob 6.47 92 *e*P **Pn 09 42 45.5 +1.6**
ANDO Antigua, Disas 6.48 97 *e*P **Pn 09 42 45.6 +1.4**
GTBY Guantanamo Bay 6.49 288 Pn **Pn 09 42 44.1 -0.1**
GTBY Guantanamo Bay 6.49 288 *e*P **Pn 09 42 43.5 -0.8**
GTBY Guantanamo Bay 6.49 288 *i* P **Pn 09 42 43.8 -0.5**
GTBY IAML 09 44 11.2
comp=Z,15nm,1.9s
ANBD Bethesda, Anti 6.55 97 *e*P **Pn 09 42 45.8 +0.6**
ANBD Bethesda, Anti 6.55 97 *e*S **Sn 09 43 56.7 -1.9**
MOAC Moa 6.60 295 *e*P **Pn 09 42 41.3 -4.5**
GDHS Morne Mazeau, 6.72 104 Pn **Pn 09 42 49.1 +1.7**
CBE Ff, Capester 6.92 105 Pn **Pn 09 42 52.5 +2.2**
CBE Ff, Capester 6.92 105 *e*P **Pn 09 42 49.9 -0.3**
CBE Ff, Capester 6.92 105 *e*S **Sn 09 44 00.2 -7.5**
ABD La Joyeuse, An 6.93 101 Pn **Pn 09 42 51.8 +1.5**
ABD La Joyeuse, An 6.93 101 *e*P **Pn 09 42 51.5 +1.2**
ABD La Joyeuse, An 6.93 101 *e*S **Sn 09 44 06.1 -1.6**
RCC Rio Carpintero 7.04 288 *e*P **Pn 09 42 50.2 -1.5**
URIC Uribia, Colomb 7.06 208 Pn **Pn 09 42 51.1 -1.1**
MDCT Cottage Hill, 7.20 108 *e*P **Pn 09 42 56.3 +2.4**
MDCT Cottage Hill, 7.20 108 *e*S **Sn 09 44 12.1 -2.3**
MDVC Dominica, Viel 7.25 108 *e*P **Pn 09 42 57.2 +2.5**
MAGL Barre de l'ile 7.25 105 *e*P **Pn 09 42 57.1 +2.3**
MAGL Barre de l'ile 7.25 105 *e*S **Sn 09 44 14.3 -1.6**
GDSD La Dsirade Is 7.36 102 Pn **Pn 09 42 57.3 +1.1**
H05N1 Guadeloupe/Mar 7.37 102 P **Pn 09 42 58.4 +2.1**
SNR=9.0
H05N1 S **Sn 09 44 15.3 -3.3**
HLGC Holguin 7.64 294 *e*P Pn 09 42 53.6 -6.5
FDF Fort de France 7.81 113 *e*P **Pn 09 43 04.3 +1.9**
BIM Bigot 7.98 114 Pn **Pn 09 43 06.0 +1.3**
BIM Bigot 7.98 114 *e*P **Pn 09 43 06.5 +1.8**
BIM Bigot 7.98 114 *e*S **Sn 09 44 28.7 -4.9**
ILAM Ilet Lapin Mar 8.04 112 Pn **Pn 09 43 07.4 +1.9**
ILAM Ilet Lapin Mar 8.04 112 *e*P **Pn 09 43 08.6 +3.1**
MPOM Morne Pois Mar 8.19 114 Pn **Pn 09 43 09.4 +1.8**
MPOM Morne Pois Mar 8.19 114 *e*P **Pn 09 43 09.8 +2.2**
MPOM Morne Pois Mar 8.19 114 *e*S **Sn 09 44 34.1 -4.8**
H05S1 Guadeloupe/Mar 8.22 114 P **Pn 09 43 09.7 +1.7**
SNR=30
H05S1 S **Sn 09 44 34.0 -5.5**
SNR=9.4
LMGC Las Mercedes 8.25 286 *e*P **Pn 09 43 06.5 -1.9**
SLBI Saint Lucia, B 8.29 117 *e*P **Pn 09 43 10.4 +1.5**
SLBI Saint Lucia, B 8.29 117 *e*S **Sn 09 44 36.2 -5.1**
SLB Belfond 8.33 119 *e*P **Pn 09 43 09.4 -0.2**
SVB Belmont 8.46 123 **Pn 09 43 12.8 +1.6**
SVB Belmont 8.46 123 *e*P **Pn 09 43 13.1 +1.9**
GCMP Grenada, Carri 8.79 127 *e*P **Pn 09 43 15.9 +0.1**
GCMP Grenada, Carri 8.79 127 *e*S **Sn 09 44 47.9 -5.6**
GRFF Grenada Fort F 8.84 131 *e*S **Sn 09 44 49.8 -5.1**
GRGR Grenville 8.85 130 *e*P **Pn 09 43 18.9 +2.3**
GRGR *e*S 09 43 44.7
BAUV El Baul 8.99 177 **Pn 09 43 21.4 +2.9**
BAUV El Baul 8.99 177 *e*P **Pn 09 43 22.3 +3.7**
BAUV El Baul 8.99 177 *e*S **Sn 09 44 55.9 -2.7**
SDV Santo Domingo 9.26 193 P **Pn 09 43 23.6 +1.2**
comp=Z,3.9nm,0.3s,baz=21,slow=7.8,SNR=28
SDV S **Sn 09 45 00.2 -5.1**
comp=Z,7.5nm,0.5s,baz=310,slow=16,SNR=4.0
comp=Z,18nm,0.5s
SDV Santo Domingo 9.26 193 Pn **Pn 09 43 24.4 +2.0**
TRN Trinidad (W) 10.06 135 *e*P **Pn 09 43 37.3 +4.1**
TOSP Speyside 10.22 129 *e*P **Pn 09 43 38.1 +2.8**
RUSC La Rusia 12.79 201 **Pn 09 44 10.6 -0.4**
JTS Las Juntas de 17.62 247 P **P 09 45 16.5 +2.5**
comp=Z,3.0nm,0.5s,baz=164,slow=3.6,SNR=6.3
TXAR Lajitas Array 33.96 296 P **P 09 47 48.8 -1.6**
comp=Z,0.4nm,0.6s,baz=121,slow=8.4,SNR=5.6
comp=Z,0.4nm,0.6s
SIV San Ignacio 34.55 167 P **P 09 47 56.7 +1.2**
comp=Z,0.9nm,0.6s,baz=18,slow=11,SNR=5.0
comp=Z,0.9nm,0.6s
SCHQ Schefferville 36.81 2 P **P 09 48 14.6 +0.1**
comp=Z,2.1nm,0.5s,baz=200,slow=7.2,SNR=8.6
comp=Z,2.1nm,0.5s
NVAR Mina Array Bea 47.70 306 P **P 09 49 42.8 -0.8**
comp=Z,0.2nm,0.5s,baz=98,slow=6.7,SNR=3.8
comp=Z,0.2nm,0.5s

YKA Yellowknife Ar 54.66 336 P **P 09 50 32.9 -2.2**
comp=Z,0.4nm,0.6s,baz=113,slow=7.3,SNR=12
comp=Z,0.4nm,0.6s

*UPP **26** 10:04:28.9±2.8, 64°.55N×30°.86E, h0km, ML2.0*
*KOLA **26** 10:04:29.6, 64°.62N×30°.55E, h0km, ML2.5, Error ellipse: s-maj=25.6km s-min=20.7km az=10.0, Kostomuksha, Karelia*
ISC 26 10:04:25.8±2.7, 64°.6N±0°.1×31°.4E±0°.1, h10km, n12, σ1§40/17, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
APA	**Apatity**	**3.07**	**14**	P		**Pb**	**10 05 20.4**	**0.0**
APA				S		**Sb**	**10 05 57.8**	**0.0**
LVZ	**Lovozero**	**3.54**	**20**	P		**Pb**	**10 05 28.9**	**+0.5**
LVZ				S		**Sb**	**10 06 08.8**	**-2.6**
KALU	**Kalix**	**3.61**	**294**	P		**Pn**	**10 05 23.8**	**+2.1**
KALU				S		**Sn**	**10 06 04.0**	**-0.3**
PAJU	**Pajala**	**4.18**	**309**	P		**Pn**	**10 05 31.4**	**+1.9**
SJUU	**Sjulsmark**	**4.25**	**286**	P		**Pn**	**10 05 31.3**	**+0.9**
ERTU	**Ertsjaerv**	**4.29**	**301**	P		**Pn**	**10 05 32.6**	**+1.6**
BURU	**Burvik**	**4.33**	**274**	P		**Pn**	**10 05 32.0**	**+0.5**
BURU				S		**Sn**	**10 06 20.0**	**-1.9**
ODEU	**Stanfors**	**4.63**	**272**	P		**Pn**	**10 05 36.0**	**+0.3**
HARU	**Harads**	**4.63**	**294**	P		**Pn**	**10 05 36.5**	**+0.8**
LILU	**Lilltraesk**	**4.96**	**283**	P		**Pn**	**10 05 41.0**	**+0.8**
SVAU	**Svanoeiden**	**5.11**	**274**	P		**Pn**	**10 05 43.1**	**+0.8**
ARCES	**ARCESS Array B**	**5.45**	**338**	P		**Pn**	**10 05 48.3**	**+1.4**
ARCES				S		**Sn**	**10 06 48.3**	**-1.2**

*NNC **26** 10:07:47.9±3.8, 53°.82N×90°.77E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=28.6km s-min=22.9km az=46.0, Suspected Mining explosion.*
*IDC **26** 10:07:48.9±3.0, 53°.75N×90°.76E, h0km, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=27.3km s-min=21.0km az=64.0*
ISC 26 10:07:49.0±4.0, 53°.8N±0°.1×90°.7E±0°.2, h0km, n10, σ1§37/14, 9C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.47**	**274**	I		I	10 30 28.6	
	0.1nm,0.8s,baz=92,slow=335,SNR=9.0							
ZAA0	**Zalesovo Array**	**3.47**	**274**	⇑Pg		**Pb**	**10 08 50.8**	**-0.4**
	2.9nm,0.8s							
ZAA0				⇑Lg		Lg	10 09 41.8	
	18nm,0.9s							
ZALV	**Zalesovo Beam**	**3.47**	**274**	Pn		**Pn**	**10 08 44.9**	**+0.7**
	0.6nm,0.4s,baz=92,slow=13,SNR=4.3							
ZALV				Pg		**Pb**	**10 08 51.2**	**-0.1**
	2.2nm,0.3s,baz=90,slow=15,SNR=25							
ZALV				Lg		Lg	10 09 41.5	
	1.1nm,0.3s,baz=92,slow=25,SNR=5.7							
KURK	**Kurchatov**	**8.02**	**252**	⇑Pn		**Pn**	**10 09 47.1**	**+0.4**
	5.2nm,0.8s							
KURK				⇑Sn		**Sn**	**10 11 16.8**	**-1.2**
	15nm,0.9s							
KURK				⇑Lg		Lg	10 12 06.0	
	39nm,0.9s							
KUR15	**Kurchatov Arra**	**8.10**	**252**	⇓Pn		**Pn**	**10 09 48.0**	**+0.2**
	2.4nm,0.9s							
KUR15				⇑Sn		**Sn**	**10 11 23.7**	**+3.7**
	2.9nm,0.8s							
KUR15				⇓Lg		Lg	10 12 08.5	
	6.3nm,0.9s							
KURBB	**Kurchatov Arra**	**8.12**	**252**	Pn		**Pn**	**10 09 48.0**	**0.0**
	0.2nm,0.3s,baz=64,slow=14,SNR=18							
KURBB				Sn		**Sn**	**10 11 19.0**	**-1.4**
	0.1nm,0.3s,baz=69,slow=21,SNR=3.6							
KURBB				Lg		Lg	10 12 07.2	
	baz=67,slow=32,SNR=3.9							
	4.7nm,0.8s							
MK31	**Makanchi Array**	**8.84**	**221**	⇑Pn		**Pn**	**10 09 58.3**	**+0.3**
	0.3nm,0.4s,baz=36,slow=12,SNR=10							
MK31				⇑Sn		**Sn**	**10 11 38.4**	**+0.1**
	3.2nm,0.8s							
MK31				⇑Lg		Lg	10 12 29.4	
	29nm,1.2s,baz=38,slow=28,SNR=4.9							
MKAR	**Makanchi Array**	**8.84**	**221**	Pn		**Pn**	**10 09 58.3**	**+0.3**
	0.3nm,0.3s,baz=33,slow=12,SNR=11							
MKAR				Sn		**Sn**	**10 11 37.2**	**-1.1**
	0.1nm,0.3s,baz=38,slow=24,SNR=1.7							
MKAR				Lg		Lg	10 12 23.3	
	baz=36,slow=32							
	0.5nm,0.4s							
SONM	**Songino Array**	**11.59**	**115**	Lg		Lg	10 13 41.0	
	0.3nm,0.3s,baz=302,slow=25,SNR=6.0							
BVAR	**Borovoye Array**	**12.13**	**274**	Pn		**Pn**	**10 10 41.8**	**-1.1**
	baz=69,slow=16,SNR=1.9							
	0.3nm,0.4s							

IDC 26 10:26:13.8±2.3, 7°.38S×128°.68E, h0km, mb3.7/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=201.3km s-min=32.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.65**	**157**	Pn		Pn	10 29 27.6	-1.2
	0.2nm,0.3s,baz=330,slow=14,SNR=9.0							
WRA				Sn		Sn	10 31 47.6	-14
	0.2nm,0.3s,baz=330,slow=22,SNR=2.9							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**16.96**	**163**	Pn		P	10 30 13.7	-1.0
	0.1nm,0.3s,baz=339,slow=9.1,SNR=6.1							
ASAR				Sn		Sn	10 33 10.8	-11
	baz=356,slow=18,SNR=1.9							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**67.83**	**328**	P		P	10 37 13.8	0.0
	0.3nm,0.4s,baz=125,slow=7.3,SNR=6.9							
	0.3nm,0.4s							

*JMA **26** 10:35:02.2±0.2, 24°.3N±0°.8×121°.9E±0°.9, h44km±3km, MV3.2/10, TAIWAN REGION*
*TAP **26** 10:35:03.0, 24°.45N×121°.92E, h17km, ML3.7, B*
ISC 26 10:35:02.2±0.8, 24°.39N±0°.02×122°.00E±0°.01, h17km±6km, n131, σ1§15/203, 14C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EWUT	**Wuta**	**0.21**	**287**	⇓*i*P		**Pb**	**10 35 06.8**	**-0.7**
	baz=270							
EWUT				*i* S		**Sg**	**10 35 09.2**	**-1.2**
	baz=270							
EOS2	**EOS2**	**0.22**	**81**	*i* P		**Pg**	**10 35 09.4**	**+2.3**
	baz=95							
EOS2				S		**Sg**	**10 35 14.5**	**+3.9**
	baz=95							
ENA	**Nanau**	**0.24**	**280**	⇓*i*P		**Pb**	**10 35 07.3**	**-0.7**
	baz=263							
ENA				*i* S		**Sg**	**10 35 10.0**	**-1.2**
	baz=263							
EHP	**Heping Village**	**0.24**	**252**	P		**Pb**	**10 35 07.9**	**-0.3**
	baz=228							
EHP				*e*S		**Sb**	**10 35 11.8**	**-0.3**
	baz=228							
TWC	**Suao**	**0.26**	**329**	⇑*i*P		**Pg**	**10 35 07.4**	**-0.5**
	baz=343							
TWC				*i* S		**Sg**	**10 35 10.1**	**-1.8**
	baz=343							
EOS3	**EOS3**	**0.31**	**109**	⇓*i*P		**Pn**	**10 35 11.2**	**-0.5**
	baz=113							
EOS3				S		**Sb**	**10 35 17.3**	**+3.5**
	baz=113							
NDS	**Dongshan**	**0.36**	**314**	*i* P		**Pg**	**10 35 09.2**	**-0.4**
	baz=316							
NDS				S		**Sg**	**10 35 13.0**	**-1.7**
	baz=316							
EOS4	**EOS4**	**0.39**	**132**	P		**Pn**	**10 35 12.3**	**-0.4**
	baz=131							
EOS4				*e*S		**Sb**	**10 35 19.6**	**+3.6**
	baz=131							
ETL	**Fush Village**	**0.41**	**237**	P		**Pb**	**10 35 10.8**	**-0.2**
	baz=223							
ETL				*e*S		**Sb**	**10 35 16.7**	**-0.3**
	baz=223							
NACB	**Ninganchiao**	**0.42**	**240**	P		**Pb**	**10 35 10.8**	**-0.4**
NACB	**Ninganchiao**	**0.42**	**240**	⇓*i*P		**Pb**	**10 35 10.7**	**-0.4**
	baz=227							
NACB				*i* S		**Sb**	**10 35 16.7**	**-0.6**
	baz=227							
ILA	**Ilan**	**0.44**	**329**	⇑P		**Pg**	**10 35 11.0**	**-0.1**
	baz=335							
ILA				*e*S		**Sg**	**10 35 16.3**	**-0.8**
	baz=335							
TWE	**Neicheng**	**0.45**	**318**	⇑*i*P		**Pg**	**10 35 10.8**	**-0.5**
	baz=322							
TWE				S		**Sg**	**10 35 15.3**	**-2.1**
	baz=322							
LATG	**Datong**	**0.45**	**289**	⇓*i*P		**Pg**	**10 35 11.0**	**-0.4**
	baz=284							
LATG				S		**Sg**	**10 35 16.2**	**-1.4**
	baz=284							
EGS		**0.46**	**353**	⇑*i*P		**Pb**	**10 35 11.4**	**-0.4**
	baz=4.0							
EGS				*e*S		**Sg**	**10 35 17.6**	**-0.2**
	baz=4.0							
ENTT	**Nioudou**	**0.47**	**303**	⇓*i*P		**Pb**	**10 35 11.2**	**-0.4**
	baz=302							
ENTT				S		**Sg**	**10 35 16.2**	**-1.7**
	baz=302							
TWD	**Chiawan**	**0.48**	**230**	⇓*i*P		**Pb**	**10 35 11.9**	**-0.2**
	baz=218							
TWD				S		**Sb**	**10 35 18.9**	**+0.1**
	baz=218							
NTC	**Toucheng**	**0.49**	**342**	*e*P		**Pb**	**10 35 12.1**	**-0.3**
	baz=349							
ETLH	**Xiulin Townshi**	**0.50**	**249**	⇓*i*P		**Pb**	**10 35 11.9**	**-0.7**
	baz=239							
ETLH				*e*S		**Sg**	**10 35 18.2**	**-0.8**
	baz=239							
FUSB	**Fushanzhiwuyua**	**0.53**	**315**	⇑*i*P		**Pg**	**10 35 12.4**	**-0.3**
	baz=316							
FUSB				*e*S		**Sg**	**10 35 18.0**	**-1.8**
	baz=316							
HWA	**Hwalien**	**0.54**	**221**	*e*P		**Pn**	**10 35 14.4**	**-0.7**
	baz=211							
NNSB	**Datong**	**0.56**	**275**	⇓P		**Pg**	**10 35 13.0**	**-0.4**
	baz=268							
NNSB				*e*S		**Sg**	**10 35 19.5**	**-1.4**
	baz=268							
NNSH	**Datong**	**0.56**	**275**	⇓P		**Pg**	**10 35 13.0**	**-0.4**
	baz=268							
NNSH				*e*S		**Sg**	**10 35 19.4**	**-1.5**
	baz=268							
NNS	**Nan Shan**	**0.57**	**276**	⇓*i*P		**Pg**	**10 35 13.1**	**-0.4**
	baz=269							
NNS				S		**Sg**	**10 35 19.8**	**-1.5**
	baz=269							
NWLT	**Wulai**	**0.60**	**311**	⇑P		**Pg**	**10 35 13.5**	**-0.5**
	baz=311							
NWLT				*e*S		**Sg**	**10 35 19.9**	**-2.0**
	baz=311							
TIPB	**Shuangxi**	**0.60**	**345**	⇑*i*P		**Pg**	**10 35 13.8**	**-0.3**
	baz=351							
TIPB				*e*S		**Sg**	**10 35 20.9**	**-1.3**
	baz=351							
TWB1	**Santiao Chiao**	**0.62**	**359**	⇑P		**Pg**	**10 35 14.2**	**-0.2**
	baz=7.0							
TWB1				*e*S		**Sg**	**10 35 21.4**	**-1.4**
	baz=7.0							
ETM	**Tongmen**	**0.62**	**228**	*e*P		**Pb**	**10 35 14.2**	**-0.4**
	baz=219							
TEYL	**Yanliau Villag**	**0.63**	**215**	*e*P		**Pn**	**10 35 16.4**	**+0.1**
	baz=208							
YHNB	**Yeheng**	**0.63**	**297**	P		**Pg**	**10 35 14.4**	**-0.3**
YHNB	**Yeheng**	**0.63**	**297**	⇓*i*P		**Pg**	**10 35 14.3**	**-0.3**
	baz=294							
YHNB				S		**Sg**	**10 35 21.3**	**-1.9**
	baz=294							
NSK	**Sanguang**	**0.65**	**297**	⇓*i*P		**Pg**	**10 35 14.6**	**-0.4**
	baz=295							
NSK				*e*S		**Sg**	**10 35 21.7**	**-2.0**
	baz=295							
TWA	**Mucha**	**0.70**	**328**	⇑P		**Pg**	**10 35 15.8**	**-0.1**
	baz=331							
TWA				*e*S		**Sg**	**10 35 23.8**	**-1.5**
	baz=331							
WHF	**Hehuan Shan**	**0.71**	**250**	⇓P		**Pb**	**10 35 15.8**	**-0.5**
	baz=243							
WHF				*e*S		**Sg**	**10 35 25.0**	**-0.7**
	baz=243							
NWF	**Wu-fen Shan**	**0.71**	**344**	⇑P		**Pb**	**10 35 16.2**	**0.0**
	baz=349							
NWF				*e*S		**Sg**	**10 35 24.6**	**-1.0**
	baz=349							
WFSB	**Wu-fen Shan**	**0.71**	**344**	⇑*e*P		**Pb**	**10 35 16.0**	**-0.1**
	baz=349							
WFSB				*e*S		**Sg**	**10 35 24.5**	**-1.0**
	baz=349							
SXI1	**Grass Mountain**	**0.71**	**351**	⇑P		**Pb**	**10 35 16.1**	**-0.1**
	baz=357							
SXI1				*e*S		**Sg**	**10 35 24.6**	**-1.1**
	baz=357							
NHDH	**Xindian Distri**	**0.72**	**323**	*e*P		**Pb**	**10 35 16.0**	**-0.2**
	baz=325							
NHDH				*e*S		**Sg**	**10 35 24.3**	**-1.5**
	baz=325							
TATO	**Taipei**	**0.75**	**322**	P		**Pb**	**10 35 16.7**	**0.0**
TATO	**Taipei**	**0.75**	**322**	⇑*e*P		**Pg**	**10 35 16.5**	**-0.3**
	baz=324							
TATO				*e*S		**Sg**	**10 35 24.9**	**-1.8**
	baz=324							
NHY	**Taipei**	**0.76**	**329**	*e*P		**Pb**	**10 35 17.3**	**+0.3**
	baz=332							
TWT	**Tachien**	**0.76**	**260**	*e*P		**Pb**	**10 35 17.1**	**+0.1**
	baz=254							
TWT				*e*S		**Sg**	**10 35 27.0**	**-0.2**
	baz=254							
ESL	**Shilin**	**0.77**	**222**	*e*P		**Pn**	**10 35 17.4**	**-0.8**
	baz=215							
TDCB	**Techi**	**0.78**	**260**	*e*P		**Pb**	**10 35 17.1**	**-0.2**
	baz=254							
TDCB				*e*S		**Sg**	**10 35 26.6**	**-1.1**
	baz=254							
TAP1	**Taipei**	**0.78**	**327**	*e*P		**Pn**	**10 35 18.7**	**+0.3**
	baz=328							
TAP1				*e*S		**Sg**	**10 35 27.9**	**+0.2**
	baz=328							
TNOU	**National Taiwa**	**0.79**	**345**	⇑*e*P		**Pb**	**10 35 17.5**	**+0.1**
	baz=349							
TNOU				*e*S		**Sg**	**10 35 26.4**	**-1.6**
	baz=349							
TAP	**Taipei**	**0.79**	**326**	*e*P		**Pb**	**10 35 17.6**	**+0.2**
	baz=328							
TAP				*e*S		**Sg**	**10 35 27.1**	**-0.9**
	baz=328							
BACT	**New Taipei Cit**	**0.79**	**320**	*e*P		**Pb**	**10 35 17.9**	**+0.4**
	baz=322							
CHGB	**Renai**	**0.82**	**247**	*e*P		**Pb**	**10 35 18.0**	**0.0**
	baz=241							
CHGB				*e*S		**Sb**	**10 35 28.7**	**-0.1**
	baz=241							
NFF	**Wufeng Townshi**	**0.84**	**287**	*e*P		**Pg**	**10 35 18.1**	**-0.4**
	baz=284							
NFF				*e*S		**Sg**	**10 35 27.6**	**-2.0**
	baz=284							
YM01	**YM01**	**0.85**	**333**	*e*P		**Pb**	**10 35 18.8**	**+0.3**
	baz=336							
YM01				*e*S		**Sg**	**10 35 29.8**	**-0.3**
	baz=336							
OWD	**Renai**	**0.86**	**240**	*e*P		**Pb**	**10 35 18.8**	**0.0**
	baz=234							
OWD				*e*S		**Sb**	**10 35 30.4**	**+0.3**
	baz=234							
JYNG	**Yonagunijimaku**	**0.87**	**85**	P		**Pn**	**10 35 20.0**	**+0.4**
JYNG				S		**Sn**	**10 35 32.8**	**+1.0**
NWRT	**Kuosheng**	**0.87**	**339**	*e*P		**Pb**	**10 35 18.9**	**+0.1**
	baz=343							
YM08	**YM08**	**0.88**	**335**	*e*P		**Pb**	**10 35 19.1**	**+0.1**
	baz=338							
YM08				*e*S		**Sg**	**10 35 30.2**	**-0.7**
	baz=338							
NTY	**Taoyuan**	**0.88**	**314**	*e*P		**Pn**	**10 35 19.9**	**+0.1**
	baz=314							
EGFH	**Guangfu**	**0.88**	**216**	*e*P		**Pn**	**10 35 19.7**	**-0.1**
	baz=210							
TWS1	**Kuangyinshan**	**0.89**	**324**	*e*P

	baz=334								
NTST	**Danshui**	**0.92**	**327**	*eP*	**Pn**	**10 35 20.6**	**+0.2**
	baz=329								
YOJ	**Yonaguni jima**	**0.93**	**85**	P	**Pn**	**10 35 20.9**	**+0.5**
YOJ	**Yonaguni jima**	**0.93**	**85**	P	**Pn**	**10 35 20.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.93**	**85**	P	**Pn**	**10 35 20.6**	**+0.1**
	baz=89								
YOJ				*eS*	**Sn**	**10 35 34.4**	**+1.0**
	baz=89								
LIOB	**Emei**	**0.93**	**286**	*eP*	**Pb**	**10 35 20.2**	**+0.3**
	baz=284								
LIOB				*eS*	**Sg**	**10 35 31.5**	**-1.0**
	baz=284								
NCU	**National Centr**	**0.94**	**308**	*eP*	**Pn**	**10 35 20.9**	**+0.4**
	baz=308								
NCU				*eS*	**Sg**	**10 35 32.7**	**-0.1**
	baz=308								
NCUH	**Zhongli**	**0.94**	**308**	*eP*	**Pn**	**10 35 20.9**	**+0.3**
	baz=308								
NCUH				*eS*	**Sg**	**10 35 32.6**	**-0.2**
	baz=308								
NSTT	**Nanjuang**	**0.94**	**285**	*eP*	**Pb**	**10 35 20.3**	**+0.3**
	baz=283								
NSTT				*eS*	**Sg**	**10 35 31.3**	**-1.5**
	baz=283								
TWY	**Chenhua**	**0.96**	**338**	*eP*	**Pb**	**10 35 20.8**	**+0.5**
	baz=341								
TWY				*eS*	**Sg**	**10 35 32.4**	**-1.0**
	baz=341								
WHP	**Taichung City**	**0.96**	**264**	*eP*	**Pn**	**10 35 21.0**	**-0.1**
	baz=259								
VWDT	**VWDT**	**1.00**	**231**	*eP*	**Pn**	**10 35 21.7**	**+0.3**
	baz=226								
VWDT				*eS*	**Sn**	**10 35 36.7**	**+1.5**
	baz=226								
SBCB	**Hsinchu**	**1.01**	**294**	*eP*	**Pn**	**10 35 22.0**	**+0.5**
	baz=292								
SBCB				*eS*	**Sb**	**10 35 36.0**	**+1.9**
	baz=292								
WPL	**Puli Township**	**1.02**	**249**	*eP*	**Pb**	**10 35 21.2**	**-0.2**
	baz=244								
HSN	**Hsinchu**	**1.02**	**294**	*eP*	**Pn**	**10 35 22.2**	**+0.5**
	baz=295								
HSN				*eS*	**Sg**	**10 35 35.1**	**-0.3**
	baz=295								
HGSD	**Ruisui**	**1.03**	**211**	*eP*	**Pn**	**10 35 23.1**	**+1.3**
	baz=205								
DPDB	**Guoxing**	**1.04**	**251**	*eP*	**Pn**	**10 35 22.7**	**+0.7**
	baz=246								
WCS	**Beigang Elemen**	**1.04**	**252**	*eP*	**Pn**	**10 35 22.2**	**+0.2**
	baz=247								
WCS				*eS*	**Sg**	**10 35 35.2**	**-0.9**
	baz=247								
NHW	**Xinwu Township**	**1.06**	**306**	*eP*	**Pn**	**10 35 22.9**	**+0.6**
	baz=305								
EHY	**Hungye**	**1.07**	**215**	*eP*	**Pn**	**10 35 22.4**	**0.0**
	baz=210								
NMLH	**Miaoli**	**1.11**	**278**	*eP*	**Pn**	**10 35 24.0**	**+1.0**
	baz=275								
TWQ1	**Liyutan**	**1.12**	**268**	*eP*	**Pn**	**10 35 24.0**	**+0.9**
	baz=265								
SMLT	**Sun Moon Lake**	**1.12**	**244**	*eP*	**Pn**	**10 35 23.8**	**+0.6**
	baz=239								
SMLT				*eS*	**Sb**	**10 35 37.9**	**+0.4**
	baz=239								
SSLB	**Suanglung**	**1.12**	**238**	P	**Pn**	**10 35 23.9**	**+0.7**
SSLB	**Suanglung**	**1.12**	**238**	*eP*	**Pn**	**10 35 23.7**	**+0.5**
	baz=233								
SSLB				*eS*	**Sb**	**10 35 38.1**	**+0.6**
	baz=233								
TYC	**Yuchr**	**1.15**	**246**	*eP*	**Pn**	**10 35 24.0**	**+0.6**
	baz=241								
YULB	**Yu-li**	**1.18**	**213**	P	**Pn**	**10 35 25.1**	**+1.2**
YULB	**Yu-li**	**1.18**	**213**	*eP*	**Pn**	**10 35 23.8**	**-0.1**
	baz=208								
YULB				*eS*	**Sn**	**10 35 40.6**	**+1.1**
	baz=208								
EYUL	**Yuli**	**1.21**	**211**	*eP*	**Pn**	**10 35 25.0**	**+0.7**
	baz=207								
TWF1	**Yuli**	**1.21**	**212**	*eP*	**Pn**	**10 35 24.8**	**+0.5**
	baz=207								
TWF1				*eS*	**Sn**	**10 35 41.3**	**+0.9**
	baz=207								
TCU	**Taichung**	**1.23**	**259**	*eP*	**Pg**	**10 35 27.1**	**+1.2**
	baz=255								
WWF	**Wufeng**	**1.23**	**254**	*eP*	**Pg**	**10 35 27.0**	**+1.0**
	baz=250								
WDJ	**Dajia District**	**1.24**	**269**	*eP*	**Pg**	**10 35 27.1**	**+1.0**
	baz=265								
PCYT	**Pengchaiyu**	**1.24**	**3**	*eP*	**Pn**	**10 35 24.6**	**-0.1**
	baz=7.0								
WJS	**Zhushan**	**1.29**	**244**	*eP*	**Pg**	**10 35 27.9**	**+0.9**
	baz=240								
WJS				*eS*	**Sn**	**10 35 46.8**	**+4.6**
	baz=240								
WNT	**Mingjian**	**1.30**	**247**	*eP*	**Pg**	**10 35 28.6**	**+1.3**
	baz=243								
YUS	**Yu-Shan**	**1.31**	**227**	*eP*	**Pb**	**10 35 27.2**	**+0.6**
	baz=223								
YUS				*eS*	**Sn**	**10 35 46.3**	**+2.9**
	baz=223								
FULB	**Fuli**	**1.34**	**209**	*eP*	**Pg**	**10 35 27.1**	**-1.0**
	baz=205								
WCHH	**Zhanghua**	**1.35**	**257**	*eP*	**Pg**	**10 35 28.4**	**+0.2**
	baz=254								
ALS	**Alishan**	**1.40**	**232**	*eP*	**Pg**	**10 35 29.1**	**0.0**
	baz=227								
ALS				*eS*	**Sg**	**10 35 50.4**	**+3.1**
	baz=227								
EHD	**Haiduan**	**1.43**	**211**	*eP*	**Pg**	**10 35 28.1**	**-1.5**
	baz=207								
WGK	**Gukeng**	**1.48**	**242**	*eP*	**Pg**	**10 35 31.1**	**+0.3**
	baz=238								
ELDTW	**Lidau**	**1.49**	**217**	*eP*	**Pg**	**10 35 29.4**	**-1.5**
	baz=213								
WDLH	**Douliu**	**1.50**	**243**	*eP*	**Pg**	**10 35 31.2**	**+0.1**
	baz=239								
EDH	**Donghe**	**1.54**	**204**	*eP*	**Pb**	**10 35 29.5**	**-0.8**
	baz=201								
WRL	**Guolierlin Hig**	**1.56**	**252**	*eP*	**Pg**	**10 35 31.4**	**-0.7**
	baz=249								
IRIF	**Iriomote-Funau**	**1.58**	**91**	P	**Pb**	**10 35 30.0**	**-0.9**
IRIF				S	**Sg**	**10 35 50.9**	**-2.3**
WCKO	**Fanlu**	**1.58**	**234**	*eP*	**Pg**	**10 35 32.6**	**-0.1**
	baz=230								
CHN4	**Tsaushan**	**1.65**	**232**	*eP*	**Pg**	**10 35 33.4**	**-0.4**
	baz=228								
CHN4				*eS*	**Sg**	**10 35 57.9**	**+2.6**
	baz=228								
STYH	**Taoyuan**	**1.65**	**223**	*eP*	**Pg**	**10 35 32.6**	**-1.2**
	baz=220								
STYH				*eS*	**Sg**	**10 35 56.3**	**+1.0**
	baz=220								
TPUB	**Ta-pu**	**1.65**	**229**	P	**Pg**	**10 35 32.8**	**-1.2**
TPUB	**Ta-pu**	**1.65**	**229**	*eP*	**Pg**	**10 35 33.5**	**-0.5**
	baz=226								
STYT	**Tauyuan**	**1.66**	**223**	*eP*	**Pg**	**10 35 33.1**	**-1.1**
	baz=220								
LONT	**Longtian**	**1.67**	**209**	*eP*	**Pb**	**10 35 31.8**	**-0.7**
	baz=205								
CHY	**Chiayi**	**1.69**	**239**	*eP*	**Pg**	**10 35 34.0**	**-0.6**
	baz=235								
WTP	**Ta-pu**	**1.70**	**228**	*eP*	**Pg**	**10 35 34.0**	**-0.9**
	baz=225								
LDUT	**Ludao**	**1.77**	**196**	*eP*	**Pn**	**10 35 32.0**	**-0.1**
	baz=193								
LDUT				*eS*	**Sn**	**10 35 52.7**	**-1.5**
	baz=193								
TWG	**Pinlang**	**1.77**	**209**	*eP*	**Pb**	**10 35 32.7**	**-1.5**
	baz=205								
TWGBT	**Beinan**	**1.77**	**209**	P	**Pb**	**10 35 33.2**	**-1.0**
TWGBT	**Beinan**	**1.77**	**209**	*eP*	**Pb**	**10 35 32.8**	**-1.5**
	baz=205								
CHN1	**Nanshi**	**1.80**	**229**	*eP*	**Pg**	**10 35 35.5**	**-1.3**
	baz=225								
CHN1				*eS*	**Sg**	**10 36 00.2**	**0.0**
	baz=225								
WSL	**Shuilin Townsh**	**1.83**	**242**	*eP*	**Pg**	**10 35 35.6**	**-1.8**
	baz=239								
SGST	**Jiashian**	**1.83**	**225**	*eP*	**Pb**	**10 35 35.1**	**-0.1**
	baz=222								
SGST				*eS*	**Sg**	**10 35 59.5**	**-1.7**
	baz=222								
JKRS	**Kuro-shima**	**1.84**	**94**	P	**Pb**	**10 35 34.4**	**-1.0**
JKRS				S	**Sb**	**10 35 57.2**	**-0.9**
JIJ	**Ishigaki jima**	**1.96**	**90**	P	**Pb**	**10 35 35.5**	**-1.9**
JIJ				*eS*	**Sb**	**10 35 60.0**	**-1.5**
SCST	**Cishan**	**2.03**	**223**	*eP*	**Pg**	**10 35 39.3**	**-1.9**
	baz=220								
SSD	**Sandimen**	**2.06**	**218**	*eP*	**Pg**	**10 35 39.1**	**-2.5**
	baz=215								
JISG	**Ishigakijimahi**	**2.12**	**84**	P	**Pb**	**10 35 38.3**	**-1.8**
MASBT	**Mashibuluo**	**2.16**	**216**	*eP*	**Pb**	**10 35 40.0**	**-0.9**
	baz=213								
LAY	**Lan-yu**	**2.37**	**190**	*eP*	**Pn**	**10 35 40.3**	**0.0**
	baz=188								
JTJ	**Tarama**	**2.48**	**84**	P	**Pb**	**10 35 43.4**	**-2.8**

IDC 26 10:39:56.2±999.0, 56°49N×2°32E, h0km, Error ellipse: s-maj=479.4km s-min=201.3km az=114.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**10.30**	**133**	I	I	11 43 40.0	
	baz=322,slow=326,SNR=0.5						
I43RU	**DUBNA INFRASON**	**9.09**	**75**	I	I	12 38 40.0	
	baz=285,slow=310,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**32.93**	**77**	I	I	14 04 00.0	
	baz=302,slow=327,SNR=3.0						

MAN 26 11:00:27.1, 7°75N×125°52E, h26km, mb3.8, ML2.6, MS2.1, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.47**	**285**	⇓*i* P	Pn	11 00 37.6	-0.7
BUKP				*i* S	Sn	11 00 47.0	+1.3
KCP	**Kidapawan**	**0.85**	**210**	⇑*e* P	Pb	11 00 42.5	-0.8
BIPH	**Bislig**	**0.94**	**63**	⇑*i* P	Pb	11 00 45.0	+0.3
BIPH				*i* S	Sn	11 01 00.8	+3.6
BIPH	**Bislig**	**0.94**	**63**	⇑*e* P	Pb	11 00 45.0	+0.3
BIPH				eS	Sn	11 01 02.8	+5.6
CTBH	**Cotabato--PC H**	**1.37**	**247**	⇓*i* P	Pn	11 00 50.7	+0.2
CTBH				*i* S	Sn	11 01 07.8	0.0

*NNC **26** 11:11:02.7±0.9, 51°72N×75°47E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=13.9km s-min=5.7km az=25.0, Suspected Mining explosion.*
*IDC **26** 11:11:07.3±5.3, 51°64N×75°65E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=69.5km s-min=29.6km az=72.0*
ISC 26 11:11:08.1±1.4, 51°8N±0°1×76°03E±0°08, h0km, n10, σ2°39/11, 8C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**1.96**	**123**	⇑Pg	**Pn**	**11 11 42.8**	**+0.2**
	2.6nm,0.7s						
KURK				⇑Lg	Lg	11 12 13.6	
	6.2nm,0.5s						
KURBB	**Kurchatov Arra**	**1.96**	**126**	⇓Pg	**Pn**	**11 11 42.8**	**+0.1**
	2.1nm,0.2s						
KURBB				⇓Lg	Lg	11 12 13.3	
	26nm,0.6s						
BVA0	**Borovoye Array**	**3.67**	**292**	Pg	**Pn**	**11 12 04.2**	**-1.8**
	1.8nm,0.6s,baz=118,slow=16,SNR=12						
BVA0				⇑Lg	Lg	11 12 50.3	
	9.6nm,0.7s,baz=112,slow=27,SNR=10						
BRVK	**Borovoye**	**3.74**	**292**	⇓Pg	**Pn**	**11 12 04.8**	**-2.2**
	4.9nm,1.1s						
BRVK				⇑Lg	Lg	11 12 53.2	
	12nm,0.6s						
OTUK	**Ortayu**	**4.28**	**215**	⇑Pg	**Pn**	**11 12 17.5**	**+2.9**
	4.2nm,1.5s						
OTUK				⇑Lg	Lg	11 13 13.5	
	3.4nm,0.8s						
I46RU	**ZALESOVO INFRA**	**5.74**	**65**	I	I	11 45 30.0	
	baz=249,slow=338,SNR=3.8						
ZALV	**Zalesovo Beam**	**5.74**	**65**	Pn	**Pn**	**11 12 37.5**	**+3.0**
	0.5nm,0.3s,baz=260,slow=14,SNR=7.5						
	1.2nm,0.4s						
MAKZ	**Makanchi**	**6.33**	**140**	⇓Sn	**Sn**	**11 13 56.6**	**+0.9**
	1.2nm,1.1s						
MAKZ				⇓Lg	Lg	11 14 30.5	
	2.6nm,0.7s						
MK31	**Makanchi Array**	**6.47**	**138**	⇑Pn	**Pn**	**11 12 40.4**	**-4.2**
	0.4nm,0.5s,baz=324,slow=11,SNR=4.4						
MK31				⇓Sn	**Sn**	**11 13 59.9**	**+0.8**
	0.3nm,0.3s						
MK31				⇑Lg	Lg	11 14 32.2	
	1.6nm,0.6s,baz=320,slow=25,SNR=5.1						
MKAR	**Makanchi Array**	**6.47**	**138**	Pn	**Pn**	**11 12 43.7**	**-0.9**
	0.1nm,0.3s,baz=314,slow=12,SNR=4.6						
MKAR				Sn	**Sn**	**11 13 59.0**	**-0.1**
	0.1nm,0.3s,baz=332,slow=15,SNR=2.9						
MKAR				Lg	Lg	11 14 31.4	
	0.1nm,0.3s,baz=320,slow=24,SNR=3.8						
	0.3nm,0.6s						

WEL 26 11:42:47.9±0.5, 42°S±4°×17°4E±°, h14km±4km, M2.9/5, ML3.1/12, MLv2.9/5, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.38**	**6**	P	Pb	11 42 56.5	0.0
BSWZ				S	Sb	11 43 01.8	-0.3
KHZ	**Kahutara**	**0.39**	**213**	P	Pb	11 42 57.1	+0.5
KHZ				S	Sb	11 43 02.8	+0.3
THZ	**Tophouse**	**0.76**	**295**	P	Pg	11 43 02.6	-0.1
GVZ	**Greta Valley S**	**1.05**	**213**	P	Pn	11 43 09.2	+0.8
TKNZ	**Takaka Hill**	**1.24**	**328**	P	Pg	11 43 11.8	+0.1
LTZ	**Lake Taylor**	**1.34**	**238**	P	Pb	11 43 13.1	+0.2
OKCZ	**Okains Bay**	**1.73**	**199**	P	Pn	11 43 17.8	+0.2
OXZ	**Oxford**	**1.81**	**226**	P	Pn	11 43 18.2	-0.5
MQZ	**McQueen's Vall**	**1.83**	**208**	P	Pn	11 43 18.0	-0.9
AKCZ	**Akaroa Harbour**	**1.90**	**200**	P	Pn	11 43 19.9	-0.1
RACZ	**Rakaia**	**2.05**	**217**	P	Pn	11 43 21.4	-0.7
WACZ	**Wakanui South**	**2.35**	**217**	P	Pn	11 43 25.8	-0.4
RPZ	**Rata Peaks**	**2.60**	**230**	P	Pn	11 43 29.5	-0.1
ARCZ	**Arundel**	**2.69**	**225**	P	Pn	11 43 30.5	-0.3
TMZ	**Timaru**	**3.08**	**221**	P	Pn	11 43 36.2	0.0
ODZ	**Otahua Downs**	**3.75**	**217**	P	Pn	11 43 44.4	-0.9

NNC 26 11:49:02.5±6.0, 38°74N×73°87E, h0km, mb3.7, mpv3.3, 1C-3D, Error ellipse: s-maj=49.9km s-min=31.5km az=167.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**4.31**	**9**	⇓Pn	Pn	11 50 09.6	+0.3
	2.6nm,0.3s						
TKM2	**Tokmak 2**	**4.38**	**17**	⇓Pn	Pn	11 50 09.9	-0.5
	4.4nm,0.6s						
TKM2				⇓Sn	Sn	11 51 03.8	+1.6
	3.1nm,0.6s						
KK31	**Karatay Array**	**5.05**	**331**	Pn	Pn	11 50 19.3	-0.2
	0.8nm,0.2s,baz=152,slow=16,SNR=52						
KK31				⇑Sn	Sn	11 51 19.3	+0.8
	4.5nm,0.5s,baz=145,slow=27,SNR=5.5						

*DNK **26** 11:55:17.3±0.9, 59°35N×10°96E, h2km±3km*
*UPP **26** 11:55:17.2±0.4, 59°36N×10°99E, h1km, ML2.8*
*BER **26** 11:55:18.3±1.3, 59°34N×10°87E, h0km, ML1.3, Suspected explosion*
ISC 26 11:55:14.9±0.8, 59°34N±0°03×10°95E±0°03, h0km, n18, σ0°56/38, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STRU	**Stroemstad**	**0.33**	**158**	P	**Pb**	**11 55 23.6**	**+0.1**
STRU				S	**Sb**	**11 55 28.3**	**-1.1**
STRU	**Stroemstad**	**0.33**	**158**	*i* P	**Pb**	**11 55 23.1**	**-0.4**
STRU				P	**Pb**	**11 55 23.6**	**+0.1**
STRU				*i* S	**Sb**	**11 55 28.1**	**-1.3**
STRU				S	**Sb**	**11 55 28.3**	**-1.1**
KONO	**Kongsberg**	**0.76**	**295**	*e* P	**Pb**	**11 55 31.2**	**+0.3**
KONO				*e* S	**Sb**	**11 55 40.9**	**-0.8**
KONO				IAML		11 55 50.7	
	comp=Z,3.7nm,0.8s						
FINU	**Finntorp**	**0.79**	**85**	P	**Pb**	**11 55 31.4**	**0.0**
FINU				S	**Sb**	**11 55 41.8**	**-0.8**
FINU	**Finntorp**	**0.79**	**85**	P	**Pb**	**11 55 31.4**	**0.0**
FINU				S	**Sb**	**11 55 41.8**	**-0.8**
VANU	**Vaenersborg**	**1.03**	**145**	P	**Pn**	**11 55 36.2**	**-0.4**
VANU				S	**Sb**	**11 55 49.8**	**+0.2**
VANU	**Vaenersborg**	**1.03**	**145**	P	**Pn**	**11 55 36.2**	**-0.4**
VANU				S	**Sb**	**11 55 49.8**	**+0.2**
NASU	**Vaermlandsnaes**	**1.23**	**109**	P	**Pn**	**11 55 39.6**	**+0.4**
NASU				S	**Sn**	**11 55 55.8**	**-0.7**
NASU	**Vaermlandsnaes**	**1.23**	**109**	P	**Pn**	**11 55 39.6**	**+0.4**
NASU				S	**Sn**	**11 55 55.8**	**-0.7**
TJOU	**Tjoern**	**1.36**	**165**	P	**Pb**	**11 55 42.0**	**+0.8**
TJOU				S	**Sn**	**11 56 00.0**	**+0.3**
TJOU	**Tjoern**	**1.36**	**165**	*i* P	**Pb**	**11 55 41.1**	**0.0**
TJOU				P	**Pb**	**11 55 42.0**	**+0.8**
TJOU				S	**Sn**	**11 56 00.0**	**+0.3**
NC602	**NORSAR Array S**	**1.43**	**12**	*e* P	**Pb**	**11 55 42.8**	**+0.3**
NC602				*e* S	**Sn**	**11 56 01.7**	**+0.1**
UDD	**Uddeholm**	**1.54**	**60**	P	**Pg**	**11 55 44.9**	**+0.4**
UDD				S	**Sg**	**11 56 05.2**	**+0.8**
NB201	**NORSAR Array S**	**1.73**	**6**	*e* P	**Pg**	**11 55 48.0**	**+0.1**
NB201				*e* S	**Sg**	**11 56 10.2**	**0.0**
NB201				IAML		11 56 11.9	
	comp=Z,5.0nm,0.6s						
SKAR	**Skarslia**	**1.89**	**317**	*e* P	**Pb**	**11 55 49.8**	**-0.4**
SKAR				*e* Sg	**Sg**	**11 56 15.5**	**-0.1**
SKAR				IAML		11 56 17.8	
	comp=Z,9.2nm,0.4s						
BORU	**Boraas**	**1.96**	**150**	*i* P	**Pg**	**11 55 52.4**	**+0.1**
BORU				*i* S	**Sb**	**11 56 16.8**	**+0.5**
ONAU	**Onsala**	**2.01**	**165**	*i* P	**Pb**	**11 55 52.5**	**+0.2**
BLS5	**Blasjo**	**2.30**	**274**	*e* P	**Pn**	**11 55 54.5**	**+0.5**
BLS5				*e* Sg	**Sg**	**11 56 28.7**	**0.0**
BLS5				IAML		11 56 29.8	
	comp=Z,5.9nm,0.4s						

*ANF **26** 12:02:31.6±0.3, 36°43N×97°69W, h5km, ML4.0/16, Error ellipse: s-maj=3.0km s-min=2.6km az=89.0*
*NEIC **26** 12:02:32.0±0.5, 36°382N±0°010×97°71W±0°01, h4km±7km, Error ellipse: s-maj=1.6km s-min=1.1km az=140.0*
*TUL **26** 12:02:32±0.7, 36°39N±0°01×97°70W±0°02, h6km±7km, ML3.2, mb_Lg3.4/106(NEIC), ML3.3/62(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=45.0*
ISC 26 12:02:31.7±1.2, 36°38N±0°02×97°72W±0°02, h4km±10km, n105, σ0°80/61, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.25**	**301**	Pg	**Pg**	**12 02 37.4**	**+0.8**
CROK				IAML		12 02 43.4	
	comp=N,8μm,0.6s						
CROK				IAML		12 02 45.2	
	comp=E,5μm,0.5s						
GC02	**Grant County #**	**0.49**	**346**	Pg	**Pg**	**12 02 41.4**	**+0.3**
GC02				Sg	**Sg**	**12 02 47.9**	**+0.4**
BLOK	**Blackwell**	**0.56**	**46**	Pg	**Pg**	**12 02 42.8**	**+0.3**
BLOK				IAML		12 02 54.4	
	comp=E,3μm,0.6s						
OK032	**Salt Plains WL**	**0.58**	**317**	Pg	**Pg**	**12 02 43.4**	**+0.4**
OK032				IAML		12 02 53.6	
	comp=E,2μm,0.6s						
OK032				IAML		12 02 53.6	
	comp=E,2μm,0.4s						
OK050	**Pawnee Station**	**0.59**	**88**		**Pg**	**12 02 43.3**	**+0.2**
OK050				IAML		12 02 51.4	
	comp=E,2μm,0.3s						
OK050				IAML		12 02 53.6	
	comp=E,3μm,0.3s						
KAN14	**Manchester OK**	**0.61**	**341**		**Pg**	**12 02 43.8**	**+0.3**
OK048	**Pawnee Station**	**0.62**	**86**		**Pg**	**12 02 43.9**	**+0.2**
OK048				Sg	**Sg**	**12 02 51.7**	**-0.1**
OK048				IAmb_Lg		12 02 51.9	
	comp=Z,304nm,0.7s						
OK048				IAML		12 02 54.8	
	comp=Z,1μm,0.5s						
OK048				IAML		12 02 59.4	
	comp=Z,1μm,0.2s						
OK046	**Pawnee Station**	**0.65**	**88**	Pg	**Pg**	**12 02 44.5**	**+0.2**
OK046				IAML		12 02 55.8	
	comp=Z,2μm,0.2s						
OK046				IAML		12 02 56.5	
	comp=Z,2μm,0.3s						
KAN13	**South Haven SW**	**0.66**	**17**	Pg	**Pg**	**12 02 44.7**	**+0.2**
KAN13				Sg	**Sg**	**12 02 53.3**	**+0.2**
KAN13				IAML		12 02 54.2	
	comp=E,2μm,0.5s						
KAN13				IAML		12 03 02.7	
	comp=N,2μm,0.3s						
KAN17	**Caldwell West**	**0.67**	**357**	Pg	**Pg**	**12 02 44.7**	**+0.2**
KAN17				IAML		12 03 03.7	
	comp=E,1μm,0.5s						
OK033	**Mehan**	**0.71**	**118**	Pg	**Pg**	**12 02 45.6**	**+0.3**
BCOK	**Bluff Creek, N**	**0.72**	**173**	Pg	**Pg**	**12 02 46.0**	**+0.4**
BCOK				IAmb_Lg		12 02 55.6	
	comp=Z,250nm,0.9s						
KAN09	**Caldwell North**	**0.76**	**6**		**Pg**	**12 02 46.4**	**+0.1**
KAN09				IAML		12 03 04.1	
	comp=E,2μm,0.3s						
KAN09				IAML		12 03 09.7	
	comp=N,1μm,0.3s						
KAN01	**Argonia South**	**0.78**	**357**	Pg	**Pg**	**12 02 46.7**	**+0.1**
KAN01				IAML		12 03 03.0	
	comp=E,860nm,0.5s						
OK031	**S. Brethren Rd**	**0.83**	**121**	Pg	**Pg**	**12 02 47.8**	**+0.2**
OK053	**SW of W Deep R**	**0.83**	**115**	IAML		12 03 03.2	
	comp=E,2μm,0.2s						
QUOK	**Quay**	**0.84**	**104**	IAML		12 03 01.2	
	comp=E,2μm,0.2s						
OK025	**Westminster Rd**	**0.85**	**159**	IAML		12 03 04.7	
	comp=E,1μm,0.7s						
OK025				IAML		12 03 08.6	
	comp=E,1μm,0.2s						
KAN08	**Anthony NE Sta**	**0.87**	**347**	Pg	**Pg**	**12 02 48.5**	**0.0**
KAN06	**Argonia West S**	**0.88**	**353**	IAML		12 03 06.3	
	comp=N,686nm,0.3s						
OK030	**Cody Creek RV**	**0.88**	**120**		**Pg**	**12 02 48.7**	**+0.1**
KS21	**Milan North St**	**0.91**	**3**	Pg	**Pg**	**12 02 49.2**	**0.0**
KAN12	**Harper NE Stat**	**0.95**	**346**	IAML		12 03 11.7	
	comp=E,1μm,0.4s						
KAN12				IAML		12 03 11.7	
	comp=N,1μm,0.4s						
NOKA	**Waynoka**	**1.01**	**285**	Pg	**Pg**	**12 02 51.1**	**0.0**
NOKA				IAML		12 03 15.7	
	comp=E,698nm,0.3s						
NOKA				IAML		12 03 25.5	
	comp=N,1μm,1.0s						
U32A	**Winter Ranch,**	**1.04**	**271**	Pg	**Pg**	**12 02 51.6**	**0.0**
U32A				IAML		12 03 27.1	
	comp=N,801nm,1.0s						
U32A	**Winter Ranch,**	**1.04**	**271**	P	**Pg**	**12 02 51.6**	**0.0**
	baz=89,SNR=68						
CSTR	**Hydro, Custer**	**1.07**	**227**		**Pg**	**12 02 52.4**	**+

X37A	**Clayton**	**2.62**	**132**			**Pn**	**12 03 15.2**	**+0.4**
X37A				IAmb_Lg			12 04 00.2	
	comp=Z,192nm,0.8s							
X37A	**Clayton**	**2.62**	**132**	P		**Pn**	**12 03 15.6**	**+0.8**
	baz=314,SNR=42							
CBKS	**Cedar Bluff**	**2.91**	**327**	Sb		**Sb**	**12 04 01.6**	**+1.2**
	baz=146							
HHAR	**Hobbs**	**3.05**	**91**			**Pn**	**12 03 22.0**	**+1.2**
Z35A	**Perchaven, San**	**3.06**	**173**			**Pn**	**12 03 21.4**	**+0.4**
Z35A	**Perchaven, San**	**3.06**	**173**	P		**Pn**	**12 03 21.2**	**+0.3**
	baz=353							
Z35A				Sn		**Sn**	**12 04 00.4**	**+2.4**
	baz=353							
FW03	**Perrin-Whitt E**	**3.34**	**185**	IAmb_Lg			12 04 24.7	
	comp=Z,44nm,0.8s							
FW06	**Azle**	**3.40**	**178**	Pn		**Pn**	**12 03 27.5**	**+2.0**
FW06				IAmb_Lg			12 04 25.6	
	comp=Z,64nm,1.2s							
AMTX	**Amarillo**	**3.56**	**246**	IAmb_Lg			12 04 26.2	
	comp=Z,105nm,1.0s							
AMTX	**Amarillo**	**3.56**	**246**	Sb		**Sg**	**12 04 23.4**	**-2.6**
	baz=64							
FW07	**Weatherford**	**3.67**	**181**	IAmb_Lg			12 04 31.9	
	comp=Z,58nm,1.1s							
S39A	**Bolivar**	**3.75**	**68**	IAmb_Lg			12 04 34.4	
	comp=Z,87nm,0.9s							
S39A	**Bolivar**	**3.75**	**68**	P		**Pn**	**12 03 30.6**	**+0.2**
	baz=251,SNR=15							
Z38A	**Mt. Pleasant**	**3.84**	**143**	IAmb_Lg			12 04 41.6	
	comp=Z,106nm,0.8s							
MIAR	**Mount Ida**	**3.84**	**117**	IAmb_Lg			12 04 39.9	
	comp=Z,129nm,0.9s							
MIAR	**Mount Ida**	**3.84**	**117**	P		**Pn**	**12 03 32.0**	**+0.4**
	baz=300,SNR=26							
ABTX	**Abilene, Hawle**	**4.07**	**204**	IAmb_Lg			12 04 41.0	
	comp=Z,51nm,0.8s							
ABTX	**Abilene, Hawle**	**4.07**	**204**	P		**Pn**	**12 03 35.7**	**+1.0**
	baz=22							
N33A	**J Bar K, Exete**	**4.36**	**3**	IAmb_Lg			12 05 00.4	
	comp=Z,49nm,0.8s							
WHTX	**Lake Whitney,**	**4.38**	**177**	S		**Sn**	**12 04 32.3**	**+1.8**
	baz=357							
WHAR	**Wooly Hollow**	**4.54**	**102**	IAmb_Lg			12 04 58.9	
	comp=Z,113nm,1.1s							
FCAR	**Ozark Folk Cen**	**4.55**	**94**	IAmb_Lg			12 05 07.7	
	comp=Z,51nm,0.8s							
P38A	**Dawn**	**4.63**	**44**	IAmb_Lg			12 05 00.5	
	comp=Z,114nm,0.8s							
WLAR	**White Oak Lake**	**4.63**	**124**	IAmb_Lg			12 05 08.4	
	comp=Z,94nm,0.9s							
237A	**Washetta, Mont**	**4.64**	**160**	P		**Pn**	**12 03 42.6**	**0.0**
	baz=341,SNR=5.3							
237A				S		**Sn**	**12 04 36.2**	**-0.8**
	baz=341							
UALR	**University of**	**4.66**	**108**	IAmb_Lg			12 05 02.6	
	comp=Z,109nm,0.9s							
R40A	**Maddies Statio**	**4.74**	**65**	IAmb_Lg			12 05 05.9	
	comp=Z,61nm,0.8s							
R40A	**Maddies Statio**	**4.74**	**65**	P		**Pn**	**12 03 44.2**	**+0.2**
	baz=248,SNR=9.6							
R40A				S		**Sn**	**12 04 38.3**	**-1.2**
	baz=248							
BGNE	**Belgrade**	**5.04**	**356**	IAmb_Lg			12 05 25.8	
	comp=Z,101nm,0.7s							
BGNE	**Belgrade**	**5.04**	**356**	P		**Pn**	**12 03 47.9**	**-0.2**
	baz=176							
BGNE				S		**Sn**	**12 04 45.1**	**-1.6**
	baz=176							
LCAR	**Lake Charles**	**5.31**	**91**	IAmb_Lg			12 05 19.1	
	comp=Z,44nm,0.9s							
T25A	**Trinidad**	**5.43**	**280**	IAmb_Lg			12 05 37.0	
	comp=Z,40nm,0.7s							
CCM	**Cathedral Cave**	**5.43**	**70**	Pn		**Pn**	**12 03 53.7**	**+0.2**
CCM				IAmb_Lg			12 05 28.8	
	comp=Z,48nm,0.8s							
CCAR	**Cane Creek**	**5.45**	**115**	IAmb_Lg			12 05 31.9	
	comp=Z,101nm,0.9s							
435B	**Jarrell**	**5.58**	**179**	IAmb_Lg			12 05 33.8	
	comp=Z,50nm,1.0s							
OGNE	**Ogallala**	**5.67**	**325**	IAmb_Lg			12 05 44.5	
	comp=Z,57nm,0.7s							
PBMO	**Poplar Bluff**	**5.88**	**84**	IAmb_Lg			12 05 40.1	
	comp=Z,71nm,0.8s							
K31A	**O'Neill**	**6.29**	**353**	IAmb_Lg			12 06 08.1	
	comp=Z,71nm,0.8s							
SLM	**Saint Louis**	**6.36**	**67**	IAmb_Lg			12 05 57.8	
	comp=Z,41nm,0.8s							
143A	**Socs Landing,**	**6.37**	**123**	IAmb_Lg			12 06 05.7	
	comp=Z,54nm,0.7s							
PARMO	**Parma**	**6.42**	**85**	IAmb_Lg			12 05 57.3	
	comp=Z,77nm,0.8s							
Q24A	**Divide**	**6.44**	**296**	IAmb_Lg			12 06 02.6	
	comp=Z,34nm,0.8s							
CGM3	**Cape Girardeau**	**6.53**	**80**	IAmb_Lg			12 05 55.6	
	comp=Z,42nm,0.8s							
S44A	**Carbondale**	**6.89**	**76**	IAmb_Lg			12 06 08.4	
	comp=Z,51nm,0.8s							
SIUC	**Southern Illin**	**6.93**	**76**	IAmb_Lg			12 06 18.2	
	comp=Z,57nm,0.9s							
OXF	**Oxford**	**7.03**	**103**	IAmb_Lg			12 06 24.4	
	comp=Z,44nm,0.8s							
W45A	**Hickory Valley**	**7.04**	**97**	IAmb_Lg			12 06 22.1	
	comp=Z,62nm,0.8s							
ISCO	**Idaho Springs**	**7.10**	**301**	IAmb_Lg			12 06 22.9	
	comp=Z,24nm,0.9s							
Y45A	**Yeager Farm, C**	**7.15**	**108**	IAmb_Lg			12 06 36.8	
	comp=Z,51nm,0.8s							
ECSD	**EROS Data Cent**	**7.40**	**6**	IAmb_Lg			12 06 36.0	
	comp=Z,25nm,1.1s							
ECSD	**EROS Data Cent**	**7.40**	**6**	P		**Pn**	**12 04 19.2**	**-1.3**
	baz=187							
PHWY	**Pilot Hill**	**7.79**	**311**	IAmb_Lg			12 06 51.6	
	comp=Z,34nm,0.8s							
N23A	**Red Feather La**	**7.86**	**308**	IAmb_Lg			12 06 47.5	
	comp=Z,27nm,0.8s							
Y22D	**IRIS PASSCAL I**	**7.88**	**256**	IAmb_Lg			12 07 02.0	
	comp=Z,40nm,0.9s							
PLAL	**Pickwick Lake**	**7.97**	**97**	IAmb_Lg			12 06 52.2	
	comp=Z,21nm,0.9s							
OLIL	**Olney**	**7.99**	**70**	IAmb_Lg			12 07 05.3	
	comp=Z,50nm,0.9s							
146A	**Union**	**8.06**	**115**	IAmb_Lg			12 06 54.6	
	comp=Z,36nm,1.1s							
SUSD	**Miller**	**8.11**	**354**	IAmb_Lg			12 06 57.1	
	comp=Z,29nm,0.8s							
833A	**Chaparral WMA,**	**8.15**	**190**	IAmb_Lg			12 06 58.7	
	comp=Z,28nm,1.0s							
O44A	**Mansfield**	**8.19**	**60**	IAmb_Lg			12 06 53.5	
	comp=Z,48nm,0.8s							
K22A	**Casper**	**9.25**	**315**	IAmb_Lg			12 07 51.1	
	comp=Z,42nm,1.1s							
I40A	**Norwalk**	**9.26**	**34**	IAmb_Lg			12 07 35.4	
	comp=Z,24nm,0.8s							
SPMN	**Marine on St.**	**9.59**	**21**	IAmb_Lg			12 07 45.4	
	comp=Z,22nm,1.0s							

*NEIC **26** 12:37:02.3±2.5,30.60S±0.05×72.03W±0.10,h10km±1km, mb4.6/5,Mwr4.2/70,ML4.6(GUC),Error ellipse: s-maj=14.8km s-min=7.4km az=103.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.30; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-2.52; $M_{r\theta}$0.28; $M_{\theta\phi}$-0.07; $M_{\phi r}$-1.34; Fault plane solution: $M_0$2.78000×10^{15} NP1:ϕ_s174.49000°, δ59.84000°, λ82.58000°. NP2:ϕ_s9.02000°, δ30.97000°, λ102.54000°. Principal axes: T 2.6758, Plg74.0000°, Azm65.0000°; N 0.1964, Plg6.0000°, Azm178.0000°; P -2.8723, Plg15.0000°, Azm270.0000°;*

*GUC **26** 12:37:02.3±0.6,30.63S×72.04W,h35km±7km,ML4.6*

*NEIC **26** 12:37:02.2,30.63S×72.07W,h10km*

*IDC **26** 12:37:09.2±3.1,30.57S×71.78W,h59km±26km,mb3.9/9, mbtmp4.2/13,ML4.0/5,MS3.7/12,Error ellipse: s-maj=27.3km s-min=16.2km az=80.0*

*VAO **26** 12:37:09.4±1.4,30.52S×72.08W,h80km±7km,mb4.2*

ISC 26 12:37:01.5±2.9,30.60S±0.03×72.13W±0.06,h8km±18km, n141,σ1°33/140,mb4.4/10,MS3.9/8,7C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO05	**La Serena**	**1.03**	**49**	Pn		**Pb**	**12 37 21.2**	**-0.4**
CO05	**La Serena**	**1.03**	**49**	⇓*iP*		**Pb**	**12 37 21.2**	**-0.4**
CO05				*eS*		**Sb**	**12 37 34.9**	**-0.4**
CO05				IAML			12 37 36.9	
	comp=N,15μm,0.4s							
CO02	**Combarbal**	**1.14**	**122**			**Pb**	**12 37 22.4**	**-1.2**
CO02	**Combarbal**	**1.14**	**122**	⇓*iP*		**Pb**	**12 37 22.5**	**-1.1**
CO02				*i* S		**Sb**	**12 37 36.4**	**-2.2**
CO02				IAML			12 37 41.7	
	comp=N,37μm,0.2s							
GO04	**Tololo Observa**	**1.23**	**70**			**Pn**	**12 37 24.1**	**-1.2**
GO04	**Tololo Observa**	**1.23**	**70**	⇓*iP*		**Pn**	**12 37 24.0**	**-1.2**
GO04				*eS*		**Sb**	**12 37 40.0**	**-1.2**
GO04				IAML			12 37 43.2	
	comp=N,46μm,0.5s							
CO03	**El Pedregal**	**1.26**	**101**			**Pn**	**12 37 24.1**	**-1.5**
CO03	**El Pedregal**	**1.26**	**101**	⇓*iP*		**Pn**	**12 37 24.0**	**-1.5**
CO03				*eS*		**Sb**	**12 37 40.8**	**-1.3**
CO01	**Juntas del Tor**	**1.87**	**71**			**Pn**	**12 37 34.6**	**+0.6**
CO01	**Juntas del Tor**	**1.87**	**71**	⇑*eP*		**Pn**	**12 37 34.5**	**+0.5**
LCO	**Las Campanas**	**2.01**	**38**			**Pn**	**12 37 35.8**	**-0.2**
LCO	**Las Campanas**	**2.01**	**38**	⇑*iP*		**Pn**	**12 37 35.7**	**-0.3**
LCO				*eS*		**Sn**	**12 38 00.2**	**-1.4**
VA06	**Catapilco**	**2.08**	**160**	Pn		**Pn**	**12 37 36.5**	**-0.2**
VA06	**Catapilco**	**2.08**	**160**	⇑*eP*		**Pn**	**12 37 36.4**	**-0.3**
VA06				*eS*		**Sn**	**12 38 01.8**	**-0.9**
VA06				IAML			12 38 14.6	
	comp=E,6μm,0.4s							
AC05	**El Transito**	**2.39**	**43**			**Pn**	**12 37 41.5**	**+0.4**
AC05	**El Transito**	**2.39**	**43**	⇑*iP*		**Pn**	**12 37 41.5**	**+0.4**
VA01	**Torpederas**	**2.45**	**170**			**Pn**	**12 37 42.3**	**+0.5**
VA01	**Torpederas**	**2.45**	**170**	*eP*		**Pn**	**12 37 42.4**	**+0.5**
VA01				*eS*		**Sn**	**12 38 08.4**	**-3.5**
VA03	**San Esteban**	**2.54**	**148**			**Pn**	**12 37 44.4**	**+1.2**
VA03	**San Esteban**	**2.54**	**148**	*eP*		**Pn**	**12 37 43.5**	**+0.4**
VA03				*eS*		**Sn**	**12 38 15.1**	**+0.8**
VA03				IAML			12 38 24.1	
	comp=E,5μm,0.6s							
ROCH	**El Roble**	**2.55**	**158**	⇑*eP*		**Pn**	**12 37 43.3**	**-0.1**
ROCH				*eS*		**Sn**	**12 38 13.6**	**-1.1**
ROCH				IAML			12 38 29.3	
	comp=N,4μm,0.5s							
ROC1	**El Roble**	**2.55**	**158**			**Pn**	**12 37 43.9**	**+0.5**
AC04	**Llanos de Chal**	**2.56**	**21**	Pn		**Pn**	**12 37 42.4**	**-0.9**
AC04	**Llanos de Chal**	**2.56**	**21**	⇑*iP*		**Pn**	**12 37 42.3**	**-1.0**
MT02	**Curacav**	**2.78**	**163**			**Pn**	**12 37 47.4**	**+1.0**
MT02	**Curacav**	**2.78**	**163**	*eP*		**Pn**	**12 37 46.3**	**-0.1**
MT02				*eS*		**Sn**	**12 38 19.9**	**-0.2**
MT02				IAML			12 38 33.6	
	comp=E,1μm,0.5s							
PEL	**Peldehue**	**2.82**	**155**	Pn		**Pn**	**12 37 47.7**	**+0.8**
PEL	**Peldehue**	**2.82**	**155**	⇑*eP*		**Pn**	**12 37 47.4**	**+0.4**
PEL				*eS*		**Sn**	**12 38 21.6**	**+0.5**
PEL				IAML			12 38 37.2	
	comp=N,2μm,0.4s							
MT05	**Renca**	**3.02**	**157**			**Pn**	**12 37 51.3**	**+1.5**
MT05	**Renca**	**3.02**	**157**	*eP*		**Pn**	**12 37 50.5**	**+0.8**
MT05				*eS*		**Sn**	**12 38 26.8**	**+0.6**
MT05				IAML			12 38 40.5	
	comp=E,4μm,0.6s							
VA05	**Santo Domingo**	**3.08**	**172**			**Pn**	**12 37 50.7**	**+0.3**
VA05	**Santo Domingo**	**3.08**	**172**	*eP*		**Pn**	**12 37 50.4**	**0.0**
ZON	**Zonda**	**3.11**	**109**			**Pn**	**12 37 53.3**	**+2.4**
MT03	**Universidad Ad**	**3.19**	**155**			**Pn**	**12 37 52.9**	**+0.8**
MT03	**Universidad Ad**	**3.19**	**155**	*eP*		**Pn**	**12 37 52.9**	**+0.8**
MT09	**Talagante**	**3.31**	**163**			**Pn**	**12 37 54.2**	**+0.4**
MT09	**Talagante**	**3.31**	**163**	*eP*		**Pn**	**12 37 54.2**	**+0.4**
MT09				*eS*		**Sn**	**12 38 30.6**	**-2.8**
MT09				IAML			12 38 55.8	
	comp=N,1μm,0.7s							
MT01	**Popeta**	**3.34**	**167**			**Pn**	**12 37 54.0**	**0.0**
MT01	**Popeta**	**3.34**	**167**	*eP*		**Pn**	**12 37 53.6**	**-0.4**
MT01				IAML			12 38 54.6	
	comp=E,1μm,0.5s							
GO03	**Copiap**	**3.43**	**29**			**Pn**	**12 37 54.9**	**-0.5**
CFA	**Coronel Fontan**	**3.48**	**108**	P		**Pn**	**12 37 58.7**	**+2.6**
	comp=E,40nm,0.3s,baz=294,slow=13,SNR=104							
CFA				S		**Sn**	**12 38 39.9**	**+2.4**
	comp=E,367nm,0.6s,baz=288,slow=9.3,SNR=4.1							
CFA				LR		LR	12 39 05.0	
	comp=E,308nm,20.7s,baz=217,slow=36							
AC02	**Maricunga**	**4.58**	**36**	Pn		**Pn**	**12 38 11.8**	**+0.2**
AC01	**Pan de Azucar**	**4.64**	**17**	Pn		**Pn**	**12 38 09.7**	**-2.2**
H03N1	**Juan Fernandez**	**6.42**	**242**	T		T	12 45 34.7	
	baz=72,slow=72,SNR=2335							
H03N2	**Juan Fernandez**	**6.43**	**242**	T		T	12 45 36.3	
	baz=72,slow=72,SNR=2294							
H03N3	**Juan Fernandez**	**6.43**	**242**	T		T	12 45 36.5	
	baz=72,slow=72,SNR=1834							
LVC	**Limon Verde**	**8.46**	**21**	P		**Pn**	**12 39 08.5**	**+3.7**
	comp=E,0.5nm,0.3s,baz=255,slow=19,SNR=1.7							
	comp=E,2.5nm,0.5s							
PLCA	**Paso Flores**	**10.19**	**173**	P		**Pn**	**12 39 28.2**	**+0.1**
	comp=E,0.9nm,0.4s,baz=337,slow=12,SNR=9.4							
TICA	**Tres Isletas**	**11.15**	**71**	*eP*		Pn	12 39 46.5	+5.2
TRQA	**Tornquist**	**11.21**	**134**			Pn	12 39 37.6	-4.4
PB16	**IPOC Station P**	**12.44**	**12**			**Pn**	**12 39 58.5**	**-1.0**
ITQB	**Itaqui**	**13.45**	**90**			**Pn**	**12 40 10.4**	**-2.3**
ITQB	**Itaqui**	**13.45**	**90**	*eP*		**Pn**	**12 40 16.2**	**+3.4**
CPUP	**Villa Florida**	**13.70**	**76**	P		**Pn**	**12 40 14.8**	**-1.3**
	comp=E,0.1nm,0.3s,baz=75,slow=15,SNR=2.3							
CPUP				LR		LR	12 45 50.4	
	comp=E,294nm,19.6s,baz=251,slow=39							
	comp=E,1.1nm,0.6s							
CPUP	**Villa Florida**	**13.70**	**76**			**Pn**	**12 40 12.7**	**-3.4**
CPUP	**Villa Florida**	**13.70**	**76**	*eP*		**Pn**	**12 40 18.3**	**+2.2**
AZCA	**Azaras, Argent**	**14.31**	**84**	*eP*		**Pn**	**12 40 27.7**	**+3.2**
RODS	**Rosario do Sul**	**14.61**	**93**	*eP*		**Pn**	**12 40 31.7**	**+3.2**
LPAZ	**La Paz**	**14.71**	**15**	P		**Pn**	**12 40 32.2**	**+1.6**
	comp=E,0.4nm,0.3s,baz=181,slow=10.0,SNR=8.9							
	comp=E,5.4nm,1.0s							
LPAZ	**La Paz**	**14.71**	**15**	Pn		**Pn**	**12 40 31.4**	**+0.8**
LPAZ	**La Paz**	**14.71**	**15**	*eP*		**Pn**	**12 40 32.6**	**+2.0**
UNIS	**Unistalda (Bra**	**14.88**	**88**	*eP*		**Pn**	**12 40 34.2**	**+1.9**
MURT	**Porto Murtinho**	**15.78**	**59**	*eP*		**Pn**	**12 40 46.4**	**+2.2**
PLTB	**Pedras Altas**	**15.90**	**99**	*eP*		**Pn**	**12 40 46.9**	**+1.2**
CPSB	**Cacapava Do Su**	**16.11**	**94**	*eP*		**P**	**12 40 50.8**	**+1.0**
CRSM	**Crissiumal (Br**	**16.12**	**83**	*eP*		**Pn**	**12 40 50.5**	**+2.0**
BBRB	**Robore, Bolivi**	**16.61**	**45**	*eP*		**Pn**	**12 40 54.6**	**-0.2**
ALGR	**Alto Alegre (B**	**16.70**	**89**	*eP*		**P**	**12 40 58.0**	**-0.3**
ANTJ	**Antonio Joao (**	**16.79**	**63**	*eP*		**Pn**	**12 40 58.5**	**+1.4**
BBLB	**La Banda, Boli**	**16.95**	**49**	*eP*		**Pn**	**12 40 60.0**	**+0.8**
BBSD	**Serra de San D**	**16.99**	**41**	*eP*		**Pn**	**12 40 58.6**	**-1.1**
AMBA	**Amambai (Brazi**	**17.10**	**68**	*eP*		**Pn**	**12 41 01.4**	**+0.4**
FRBT	**Francisco Belt**	**17.41**	**79**	*eP*		**P**	**12 41 06.8**	**+0.6**
SIV	**San Ignacio**	**17.72**	**37**	P		**Pn**	**12 41 08.4**	**-0.4**
	comp=E,0.1nm,0.3s,baz=229,slow=12,SNR=53							
SIV				LR		LR	12 49 11.8	
	comp=E,267nm,18.3s,baz=236,slow=41							
	comp=E,16nm,0.9s							
ITAB	**Concordia**	**17.82**	**84**	*eP*		**P**	**12 41 11.7**	**+0.9**
AQDB	**Aquidauana**	**17.91**	**60**	*eP*		**P**	**12 41 13.5**	**+1.8**
PANT	**Pantanal (Braz**	**18.20**	**54**	*eP*		**Pn**	**12 41 13.7**	**-1.0**
PTGB	**Pitanga**	**18.71**	**77**	*eP*		**Pn**	**12 41 22.1**	**+1.2**
NNA	**Nana**	**19.03**	**346**	LR		LR	12 46 51.4	
	comp=E,70nm,18.2s,baz=180,slow=30							
TRCB	**Terra Rica**	**19.06**	**71**	*eP*		**Pn**	**12 41 26.0**	**+0.9**
PTLB	**Pontes e Lacer**	**19.22**	**41**	*eP*		**P**	**12 41 25.0**	**-1.1**
RVDE	**Rio Verde (Bra**	**19.37**	**57**	*eP*		**P**	**12 41 27.6**	**-0.2**
VBST	**Vila Bela da S**	**19.49**	**38**	*eP*		**P**	**12 41 28.3**	**-0.8**
POCN	**Pocone**	**19.78**	**49**	*eP*		**P**	**12 41 32.3**	**0.0**
TER01	**Tubaro-SC**	**20.11**	**90**	*eP*		**P**	**12 41 35.2**	**-0.6**
PP1B	**Ponte de Pedra**	**20.35**	**54**	*eP*		Pn	12 41 41.5	+1.0
PTET	**Porto Estrela**	**20.44**	**46**	*eP*		**P**	**12 41 38.6**	**-0.9**
VILB	**Vilhena**	**20.74**	**35**	P		**P**	**12 41 40.5**	**-2.2**
VILB				IAmb		IAmb	12 41 48.6	
	comp=Z,20nm,1.0s							
VILB	**Vilhena**	**20.74**	**35**	*eP*		**P**	**12 41 42.5**	**-0.2**
PCMB	**Pacaembu**	**20.74**	**69**	*eP*		**P**	**12 41 41.5**	**-1.3**
SALV	**Santo Antonio**	**20.99**	**49**	*eP*		**P**	**12 41 44.9**	**-0.5**
TIJ01	**Guaruva-PR**	**21.08**	**81**	*eP*		**P**	**12 41 45.8**	**-0.7**
C2SB	**Chapadao do Su**	**21.08**	**60**	*eP*		**P**	**12 41 48.5**	**+2.1**
FRTB	**Fartura**	**21.35**	**76**	*eP*		**P**	**12 41 48.6**	**-0.7**
ETMB	**Extrema**	**21.40**	**16**	P		**P**	**12 41 50.0**	**+0.1**
ETMB				IAmb		IAmb	12 41 54.7	
	comp=Z,20nm,1.1s							
ETMB	**Extrema**	**21.40**	**16**	*eP*		**P**	**12 41 50.0**	**+0.1**
NBRS	**Nobres**	**22.11**	**46**	*eP*		**P**	**12 41 56.4**	**-1.1**
ITRB	**Iturama**	**22.45**	**66**	*eP*		**P**	**12 42 01.2**	**0.0**
CZSB	**Cruzeiro do Su**	**22.76**	**359**	*eP*		**P**	**12 42 04.5**	**+0.1**
PET01	**Itanhaem-SP**	**22.91**	**80**	*eP*		**P**	**12 42 06.8**	**+0.9**
DVLD	**Doverlandia**	**22.92**	**57**	*eP*		**P**	**12 42 06.5**	**+0.3**
SPB	**Sao Paulo**	**23.04**	**78**	*eP*		**P**	**12 42 07.2**	**-0.1**
BB19B	**Bebedouro**	**23.23**	**71**	*eP*		**P**	**12 42 08.4**	**-1.0**
VAO	**Valinhos**	**23.67**	**77**	*eP*		**P**	**12 42 12.8**	**-1.0**
PDRB	**Porto dos Gac**	**23.68**	**40**	*eP*		**P**	**12 42 13.7**	**-0.2**
ARAG	**Araguaiana, MT**	**23.79**	**56**	*eP*		**P**	**12 42 14.7**	**-0.2**
IPMB	**Ipameri, GO**	**25.10**	**65**	*eP*		**P**	**12 42 25.4**	**-1.5**
BDFB	**Brasilia**	**26.63**	**61**	P		**P**	**12 42 39.9**	**-1.0**
	comp=Z,17nm,0.9s,baz=244,slow=9.1,SNR=14							
BDFB				LR		LR	12 54 38.1	
	comp=Z,164nm,19.0s,baz=242,slow=40							
	comp=Z,17nm,0.9s							
BDFB	**Brasilia**	**26.63**	**61**	P		**P**	**12 42 38.6**	**-2.3**
BDFB				IAmb		IAmb	12 42 40.6	
	comp=Z,12nm,0.7s							
BDFB	**Brasilia**	**26.63**	**61**	*eP*		**P**	**12 42 40.0**	**-1.0**
SNDB	**Serra Nova Dou**	**26.75**	**51**	*eP*		**P**	**12 42 41.2**	**-0.7**
NPGB	**Novo Progresso**	**28.22**	**37**	*eP*		**P**	**12 42 53.8**	**-1.2**
CAM01	**Campos-RJ**	**28.63**	**80**	*eP*		**P**	**12 42 56.5**	**-2.1**
JANB	**Januaria**	**29.83**	**65**	*eP*		**P**	**12 43 08.3**	**-1.1**
ITTB	**Itaituba**	**30.33**	**34**	*eP*		**P**	**12 43 11.9**	**-1.9**
SJMB	**Sao Joao De Ma**	**30.41**	**74**	*eP*		**P**	**12 43 13.3**	**-1.2**
SMTB	**Santa Maria do**	**31.50**	**52**	*eP*		**P**	**12 43 24.0**	**-0.1**
RPN	**Rapa Nui**	**32.67**	**267**	LR		LR	12 52 10.9	
	comp=Z,142nm,18.4s,baz=100,slow=27							
PMSA	**Palmer Station**	**34.56**	**174**	LR		LR	12 57 07.1	
	comp=Z,107nm,18.0s,baz=308,slow=35							
BOAV	**Boa Vista**	**34.63**	**21**	*eP*		**P**	**12 43 51.0**	**-0.4**
RUSC	**La Rusia**	**36.30**	**358**	P		**P**	**12 44 07.1**	**+0.9**
SDV	**Santo Domingo**	**39.29**	**2**	P		**P**	**12 44 31.0**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=220,slow=3.8,SNR=4.1							
	comp=Z,3.0nm,0.7s							
MDP	**Montagnes des**	**40.10**	**31**	LR		LR	13 03 19.8	
	comp=Z,194nm,18.2s,baz=256,slow=39							
RCBR	**Riachuelo**	**42.01**	**61**	LR		LR	13 03 53.8	
	comp=Z,178nm,18.9s,baz=8.0,slow=38							
SNAA	**Sanae**	**54.76**	**159**	P		**P**	**12 46 31.7**	**+0.4**
	comp=Z,3.9nm,0.5s,baz=286,slow=8.6,SNR=19							
	comp=Z,3.9nm,0.5s							
QSPA	**South Pole Qui**	**59.62**	**180**	P		**P**	**12 47 06.7**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=272,slow=1.2,SNR=14							
	comp=Z,2.5nm,0.8s							
QSPA	**South Pole Qui**	**59.62**	**180**	P		**P**	**12 47 05.9**	**+0.1**
QSPA				IAmb		IAmb	12 47 26.0	
	comp=Z,5.2nm,1.1s							
TXAR	**Lajitas Array**	**66.75**	**330**	P		**P**	**12 47 55.6**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=159,slow=7.7,SNR=6.5							
	comp=Z,0.7nm,0.8s							
DBIC	**Dimbokro**	**74.19**	**72**	P		**P**	**12 48 38.4**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=222,slow=5.1,SNR=4.3							
	comp=Z,2.6nm,0.7s							
MAW	**Mawson**	**76.45**	**164**	LR		LR	13 21 59.4	
	comp=Z,45nm,18.4s,baz=188,slow=35							
SUR	**Sutherland**	**76.55**	**120**	LR		LR	13 21 08.7	
	comp=Z,60nm,18.1s,baz=205,slow=35							
PDAR	**Pinedale Array**	**80.71**	**333**	P		**P**	**12 49 16.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=136,slow=5.6,SNR=4.0							
	comp=Z,0.6nm,0.8s							
NVAR	**Mina Array Bea**	**81.06**	**325**	P		**P**	**12 49 19.5**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=135,slow=3.3,SNR=2.6							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**83.14**	**70**	P		**P**	**12 49 28.0**

	SNR=7.2							
ASHO					S	Sn	13 12 47.0	-2.1
FAQ	**Al Faqa, Dubai**	**4.49**	**193**		P	Pn	13 11 58.7	+1.7
FAQ					S	Sn	13 12 47.6	-1.7
TABS	**Tabas**	**4.50**	**5**		Pn	Pn	13 11 59.2	+1.9
ASUD	**Al Ashush, Dub**	**4.66**	**195**		P	Pn	13 12 01.7	+2.4
	SNR=13							
ASUD					S	Sn	13 12 53.8	+0.3

IDC ***26*** *13:12:07.8±1.1,35°.65N×26°.58E,h83km±21km,mb3.4/4, mbtmp3.7/9,Error ellipse: s-maj=33.7km s-min=14.3km az=0.0*
GII ***26*** *13:12:07.2±0.8,35°.56N×26°.70E,h40km,MD3.5/2, Mm3.7/2*
HLW ***26*** *13:12:07.1,35°.75N×26°.72E,h47km±57km,Ml4.3*
ISK ***26*** *13:12:07.8,35°.92N×26°.57E,h22km,ML3.4/18*
DDA ***26*** *13:12:08.2±0.0,35°.96N×26°.68E,h30km±3km,MW3.5*
THE ***26*** *13:12:10.5,35°.91N×26°.52E,h47km±7km,ML3.4/2,Error ellipse: s-maj=7.2km s-min=0.6km az=157.0*
ATH ***26*** *13:12:10.1,35°.91N×26°.52E,h49km±9km,ML3.4/8,Error ellipse: s-maj=9.0km s-min=1.0km az=137.0*

ISC 26 13:12:07.6±0.7,35°.74N±0°.03×26°.66E±0°.04,h79km±8km, n98,σ1°974/143,mb3.9/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.72**	**210**	P	**Pn**	**13 12 25.6**	**+2.2**
ZKR				S	**Sn**	**13 12 37.3**	**+2.1**
	3μm,0.3s						
ZKR	**Zakros**	**0.72**	**210**	Pg	**Pn**	**13 12 25.1**	**+1.7**
ZKR				Sg	**Sn**	**13 12 37.5**	**+2.3**
ZKR	**Zakros**	**0.72**	**210**	P	**Pn**	**13 12 25.6**	**+2.2**
ZKR				S	**Sn**	**13 12 35.9**	**+0.8**
ZKR				AML	AML	13 12 38.5	
	comp=E,7691μm,0.4s						
ZKR				AML	AML	13 12 38.8	
	comp=N,2558μm,0.3s						
KOSK	**Kos Island**	**1.04**	**14**	P	**Pn**	**13 12 26.9**	**-0.1**
KOSK	**Kos Island**	**1.04**	**14**	Pg	**Pn**	**13 12 25.7**	**-1.3**
KOSK	**Kos Island**	**1.04**	**14**	P	**Pn**	**13 12 26.9**	**-0.1**
KOSK				S	**Sn**	**13 12 37.7**	**-3.8**
KOSK				AML	AML	13 12 41.3	
	comp=E,2977μm,0.4s						
KOSK				AML	AML	13 12 44.1	
	comp=N,2201μm,0.3s						
FRMA	**Ierapetra Chan**	**1.05**	**226**	P	**Pn**	**13 12 28.5**	**+1.4**
FRMA				S	**Sn**	**13 12 41.9**	**+0.2**
FRMA	**Ierapetra Chan**	**1.05**	**226**	P	**Pn**	**13 12 28.6**	**+1.4**
FRMA				S	**Sn**	**13 12 42.0**	**+0.3**
FRMA				AML	AML	13 12 43.3	
	comp=N,3209μm,0.4s						
FRMA				AML	AML	13 12 43.5	
	comp=E,4854μm,0.3s						
THT2	**Imerovigli**	**1.22**	**305**	P	**Pn**	**13 12 28.4**	**-0.8**
DAT	**Datca**	**1.23**	**37**	P	**Pn**	**13 12 30.2**	**+0.7**
DAT				S	**Sn**	**13 12 45.3**	**-0.7**
DAT	**Datca**	**1.23**	**37**	Pn	**Pn**	**13 12 29.5**	**0.0**
DAT				Sn	**Sn**	**13 12 44.7**	**-1.3**
SAP3	**Santorini-Thir**	**1.27**	**303**	P	**Pn**	**13 12 29.6**	**-0.3**
ARG	**Arkhangelos**	**1.28**	**68**	P	**Pn**	**13 12 31.8**	**+1.8**
ARG	**Arkhangelos**	**1.28**	**68**	Pn	**Pn**	**13 12 30.4**	**+0.4**
ARG				Sn	**Sn**	**13 12 47.9**	**+1.0**
ARG	**Arkhangelos**	**1.28**	**68**	P	**Pn**	**13 12 31.8**	**+1.8**
ARG				S	**Sn**	**13 12 48.2**	**+1.3**
ARG				AML	AML	13 12 49.5	
	comp=N,2648μm,0.2s						
ARG				AML	AML	13 12 49.6	
	comp=E,2273μm,0.2s						
HRKL	**Herakleio**	**1.34**	**252**	P	**Pn**	**13 12 31.7**	**+0.9**
HRKL				S	**Sn**	**13 12 48.4**	**+0.2**
	comp=E,2μm,0.5s						
HRKL	**Herakleio**	**1.34**	**252**	Pn	**Pn**	**13 12 31.4**	**+0.6**
HRKL	**Herakleio**	**1.34**	**252**	P	**Pn**	**13 12 31.1**	**+0.3**
HRKL				S	**Sn**	**13 12 47.8**	**-0.4**
HRKL				AML	AML	13 12 50.0	
	comp=N,7445μm,0.3s						
HRKL				AML	AML	13 12 54.2	
	comp=E,12192μm,0.8s						
IACM	**Heraklion**	**1.36**	**252**	P	**Pn**	**13 12 31.9**	**+0.8**
IACM				S	**Sn**	**13 12 47.7**	**-1.1**
KSTL	**Kastelli Herak**	**1.37**	**252**	P	**Pn**	**13 12 30.3**	**-0.8**
KSTL				S	**Sn**	**13 12 45.2**	**-3.6**
IDI	**Anoyia**	**1.51**	**253**	P	**Pn**	**13 12 33.5**	**+0.4**
	comp=E,58nm,0.3s,baz=41,slow=7.0,SNR=128						
IDI				S	**Sn**	**13 12 50.8**	**-1.5**
	comp=E,197nm,0.2s,baz=297,slow=21,SNR=31						
IDI	**Anoyia**	**1.51**	**253**	P	**Pn**	**13 12 33.5**	**+0.4**
IDI	**Anoyia**	**1.51**	**253**	Pn	**Pn**	**13 12 33.4**	**+0.4**
IDI	**Anoyia**	**1.51**	**253**	P	**Pn**	**13 12 33.5**	**+0.4**
IDI				S	**Sn**	**13 12 50.9**	**-1.3**
IDI				AML	AML	13 12 52.5	
	comp=N,1522μm,0.3s						
IDI				AML	AML	13 12 54.5	
	comp=E,1757μm,0.5s						
APE	**Apeiranthos**	**1.60**	**326**	P	**Pn**	**13 12 33.7**	**-0.6**
APE				S	**Sn**	**13 12 50.8**	**-3.6**
APE	**Apeiranthos**	**1.60**	**326**	Pn	**Pn**	**13 12 32.9**	**-1.4**
APE				Sn	**Sn**	**13 12 51.5**	**-2.9**
APE	**Apeiranthos**	**1.60**	**326**	P	**Pn**	**13 12 33.7**	**-0.6**
APE				S	**Sn**	**13 12 51.9**	**-2.5**
APE	**Apeiranthos**	**1.60**	**326**	Pn	**Pn**	**13 12 33.9**	**-0.3**
APE	**Apeiranthos**	**1.60**	**326**	P	**Pn**	**13 12 33.7**	**-0.6**
APE				S	**Sn**	**13 12 50.5**	**-3.9**
APE				AML	AML	13 12 52.9	
	comp=E,1237μm,0.3s						
APE				AML	AML	13 12 53.1	
	comp=N,1560μm,0.2s						
TURN	**Turunc**	**1.65**	**51**	P	**Pn**	**13 12 35.9**	**+1.2**
TURN				S	**Sn**	**13 12 55.5**	**+0.2**
TURN				*i* AML	AML	13 12 56.0	
	comp=N,199nm,0.2s						
MLSB	**Milas**	**1.79**	**30**	Pn	**Pn**	**13 12 36.9**	**+0.2**
MLSB				Sn	**Sn**	**13 12 57.3**	**-1.5**
YER	**Yerkesik**	**1.91**	**43**	P	**Pn**	**13 12 40.1**	**+1.8**
YER	**Yerkesik**	**1.91**	**43**	Pn	**Pn**	**13 12 39.1**	**+0.8**
YER				Sn	**Sn**	**13 13 01.9**	**+0.3**
YER	**Yerkesik**	**1.91**	**43**	P	**Pn**	**13 12 40.1**	**+1.8**
YER				S	**Sn**	**13 13 02.3**	**+0.6**
YER				*i* AML	AML	13 13 04.0	
	comp=N,56nm,0.8s						
DALY	**Dalyan (Mula)**	**1.94**	**56**	Pn	**Pn**	**13 12 40.0**	**+1.5**
MULA	**Mugla, Merkez-**	**2.02**	**41**	P	**Pn**	**13 12 41.2**	**+1.4**
MULA				*i* AML	AML	13 13 05.0	
	comp=N,218nm,0.9s						
MULA				S	**Sn**	**13 13 05.1**	**+0.8**
CHAN	**Chania**	**2.14**	**265**	P	**Pn**	**13 12 42.4**	**+1.2**
CHAN				S	**Sn**	**13 13 05.3**	**-1.8**
AYDN	**Tasoluk**	**2.15**	**27**	P	**Pn**	**13 12 42.5**	**+1.0**
AYDN				S	**Sn**	**13 13 08.1**	**+0.7**
AYDN				*i* AML	AML	13 13 20.0	
	comp=N,42nm,0.8s						
FETY	**Fethiye**	**2.15**	**65**	Pn	**Pn**	**13 12 43.2**	**+1.7**
IMMV	**Iera Moni Meta**	**2.20**	**263**	P	**Pn**	**13 12 43.0**	**+1.0**
IMMV	**Iera Moni Meta**	**2.20**	**263**	Pn	**Pn**	**13 12 43.1**	**+1.0**
IMMV	**Iera Moni Meta**	**2.20**	**263**	P	**Pn**	**13 12 42.6**	**+0.5**
IMMV				S	**Sn**	**13 13 07.2**	**-1.2**
GVDS	**Gavdos**	**2.28**	**248**	Pn	**Pn**	**13 12 45.8**	**+2.6**
GVD	**Gavdhos**	**2.29**	**247**	P	**Pn**	**13 12 45.4**	**+2.1**
GVD	**Gavdhos**	**2.29**	**247**	Pn	**Pn**	**13 12 45.4**	**+2.1**
GVD	**Gavdhos**	**2.29**	**247**	P	**Pn**	**13 12 45.5**	**+2.2**
GVD				AML	AML	13 13 13.6	
	comp=E,1031μm,0.5s						
GVD				AML	AML	13 13 13.9	
	comp=N,1537μm,0.3s						
RODP	**Rodopos**	**2.37**	**266**	Pn	**Pn**	**13 12 44.9**	**+0.5**
AKAS	**Kas**	**2.44**	**78**	P	**Pn**	**13 12 47.4**	**+1.9**
AKAS				S	**Sn**	**13 13 15.5**	**+1.0**
AKAS				*i* AML	AML	13 13 20.0	
	comp=N,128nm,1.1s						
KNDR	**Palaiochora Ch**	**2.48**	**259**	Pn	**Pn**	**13 12 48.4**	**+2.6**
KNDR	**Palaiochora Ch**	**2.48**	**259**	P	**Pn**	**13 12 48.6**	**+2.8**
KNDR				S	**Sn**	**13 13 15.2**	**+0.1**
TAVA	**DENIZLI_Tavas**	**2.50**	**46**	P	**Pn**	**13 12 48.3**	**+2.1**
TAVA				S	**Sn**	**13 13 17.4**	**+1.6**
TAVA				*i* AML	AML	13 13 26.0	
	comp=N,37nm,0.8s						
CAEL	**Denizli, Camel**	**2.55**	**57**	P	**Pn**	**13 12 49.0**	**+2.1**
CAEL				S	**Sn**	**13 13 18.2**	**+1.1**
CAEL				*i* AML	AML	13 13 30.0	
	comp=N,137nm,0.7s						
BLCB	**Balcova**	**2.65**	**7**	Pn	**Pn**	**13 12 48.4**	**+0.2**
CHOS	**Chios island**	**2.68**	**350**	P	**Pn**	**13 12 48.2**	**-0.4**
CHOS	**Chios island**	**2.68**	**350**	Pn	**Pn**	**13 12 48.1**	**-0.5**
ANKY	**Antikythira Is**	**2.73**	**274**	P	**Pn**	**13 12 49.4**	**+0.2**
APMY	**Acipayam-Deniz**	**2.74**	**50**	Pn	**Pn**	**13 12 51.0**	**+1.6**
GOLH	**Golhisar**	**2.77**	**57**	P	**Pn**	**13 12 52.1**	**+2.2**
GOLH				S	**Sn**	**13 13 24.2**	**+1.7**
GOLH				*i* AML	AML	13 13 30.0	
	comp=N,79nm,0.8s						
ELL	**Elmali**	**2.81**	**68**	Pn	**Pn**	**13 12 52.9**	**+2.4**
ELL	**Elmali**	**2.81**	**68**	P	**Pn**	**13 12 53.0**	**+2.6**
ELL				S	**Sn**	**13 13 25.1**	**+1.7**
ELL				*i* AML	AML	13 13 31.0	
	comp=N,51nm,0.5s						
KTHR	**Kythira**	**3.01**	**281**	P	**Pn**	**13 12 53.5**	**+0.5**
AKUM	**Antalya-Kumluc**	**3.04**	**78**	P	**Pn**	**13 12 55.2**	**+1.7**
AKUM				S	**Sn**	**13 13 29.1**	**+0.3**
AKUM				*i* AML	AML	13 13 33.0	
	comp=N,64nm,0.3s						
MANT	**Manisa**	**3.13**	**28**	P	**Pn**	**13 12 55.8**	**+0.9**
MANT				S	**Sn**	**13 13 30.4**	**-1.0**
MANT				*i* AML	AML	13 13 31.0	
	comp=N,22nm,0.7s						
VLI	**Velial**	**3.16**	**289**	P	**Pn**	**13 12 55.5**	**+0.5**
VLI				S	**Sn**	**13 13 28.5**	**-3.2**
KULA	**Kula-Manisa**	**3.20**	**29**	Pn	**Pn**	**13 12 56.9**	**+1.3**
ATHU	**Athens Univers**	**3.20**	**315**	P	**Pn**	**13 12 56.2**	**+0.7**
EPID	**Epidavros**	**3.40**	**304**	P	**Pn**	**13 12 59.4**	**+1.0**
SLUM	**Salum**	**4.41**	**196**	P	**Pn**	**13 13 13.0**	**+0.9**
	baz=197						
MATC	**Matruh**	**4.41**	**174**	P	**Pn**	**13 13 13.2**	**+1.1**
	baz=174						
MATC				S	**Sn**	**13 13 59.7**	**-2.5**
	baz=174						
CSS	**Mathiatis**	**5.51**	**96**	Pn	**Pn**	**13 13 26.5**	**-0.6**
SWA2		**6.56**	**189**	P	**Pn**	**13 13 42.1**	**+0.7**
	baz=190						
SWA2				S	**Sn**	**13 14 50.9**	**-3.9**
	baz=190						
BRTR	**Keskin Array B**	**6.81**	**52**	P	**Pn**	**13 13 44.7**	**-0.2**
	comp=N,0.3nm,0.5s,baz=233,slow=14,SNR=1.6						
HMYD	**Mayadein**	**6.88**	**148**	P	**Pn**	**13 13 46.0**	**+0.2**
	baz=148						
HNAT	**Natroun**	**6.95**	**150**	P	**Pn**	**13 13 48.3**	**+1.6**
	baz=150						
RYAN	**Fayoum**	**7.31**	**154**	P	**Pn**	**13 13 51.8**	**+0.1**
	baz=154						
RYAN				S	**Sn**	**13 15 09.6**	**-3.6**
	baz=154						
GLL	**Jalalah**	**7.48**	**144**	P	**Pn**	**13 13 54.2**	**+0.2**
	baz=144						
MMAI	**Mount Meron Ar**	**7.73**	**108**	P	**Pn**	**13 13 56.6**	**-0.7**
	comp=N,1.8nm,0.3s,baz=299,slow=12,SNR=6.5						
MMAI				S	**Sn**	**13 15 20.7**	**-2.7**
	comp=N,1.7nm,0.4s,baz=281,slow=26,SNR=1.8						
GEM	**Giv'at Ha'Em**	**7.85**	**106**	Pn	**Pn**	**13 13 58.5**	**-0.6**
NATI	**Neve Ativ**	**7.89**	**106**	Pn	**Pn**	**13 13 59.5**	**-0.1**
YTIR	**Yattir**	**8.30**	**119**	Pn	**Pn**	**13 14 03.4**	**-1.9**
DSI	**Dead Sea**	**8.38**	**117**	Pn	**Pn**	**13 14 04.6**	**-1.6**
MDBI	**Mazsada**	**8.50**	**119**	Pn	**Pn**	**13 14 07.3**	**-0.5**
MSBI	**Mazada**	**8.50**	**119**	Pn	**Pn**	**13 14 06.6**	**-1.3**
HFRF	**Wahat Farafira**	**8.68**	**170**	P	**Pn**	**13 14 11.7**	**+1.3**
	baz=170						
KRMI	**Paran Flat**	**8.80**	**127**	Pn	**Pn**	**13 14 10.6**	**-1.4**
PRNI	**Paran**	**8.83**	**125**	Pn	**Pn**	**13 14 11.4**	**-1.0**
PRNI				Sn	**Sn**	**13 15 45.4**	**-4.9**
HRFI	**Mount Harif**	**9.05**	**127**	Pn	**Pn**	**13 14 13.8**	**-1.7**
HRFI				Sn	**Sn**	**13 15 53.6**	**-2.2**
MBRI	**Mt Berech**	**9.14**	**128**	Pn	**Pn**	**13 14 16.1**	**-0.6**
EIL	**Elat**	**9.24**	**129**	P	**Pn**	**13 14 17.8**	**-0.2**
	comp=N,1.9nm,0.3s,baz=230,slow=1.0,SNR=18						
EIL				S	**Sn**	**13 15 53.5**	**-6.9**
	comp=N,8.2nm,0.3s,baz=34,slow=9.9,SNR=13						
EIL	**Elat**	**9.24**	**129**	Pn	**Pn**	**13 14 16.3**	**-1.8**
EIL				Sn	**Sn**	**13 15 56.6**	**-3.8**
HKAT	**Jabal Katrina**	**9.51**	**137**	P	**Pn**	**13 14 21.8**	**-0.1**
	baz=137						
KBZ	**Khabaz**	**14.81**	**53**	P	**Pn**	**13 15 34.6**	**+2.1**
	comp=N,2.2nm,0.8s,baz=261,slow=6.8,SNR=3.0						
AKASG	**Malin Array Be**	**15.07**	**6**	P	**P**	**13 15 38.4**	**-0.9**
	comp=N,0.3nm,0.3s,baz=199,slow=11,SNR=4.1						
GERES	**GERESS Array B**	**16.19**	**328**	P	**Pn**	**13 15 50.9**	**+0.7**
	comp=N,0.3nm,0.4s,baz=134,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**42.43**	**57**	P	**P**	**13 19 56.1**	**+1.7**
	comp=N,1.3nm,0.4s,baz=270,slow=8.5,SNR=38						
	comp=N,1.3nm,0.4s						
ZALV	**Zalesovo Beam**	**43.72**	**47**	P	**P**	**13 20 05.1**	**+0.5**
	comp=N,1.4nm,0.5s,baz=267,slow=8.8,SNR=7.9						
	comp=N,1.4nm,0.5s						
SONM	**Songino Array**	**58.17**	**51**	P	**P**	**13 21 53.7**	**+0.4**
	comp=N,0.3nm,0.5s,baz=283,slow=6.4,SNR=2.8						
	comp=N,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**77.26**	**343**	P	**P**	**13 23 51.4**	**-1.4**
	comp=N,0.1nm,0.5s,baz=27,slow=5.1,SNR=2.2						
	comp=N,0.1nm,0.5s						

IDC 26 13:14:08.5±52.0,15°.33S×173°.04W,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=1000.0km s-min=185.9km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.37**	**240**	P	P	13 22 20.7	-0.3
	1.3nm,0.5s,baz=90,slow=11,SNR=4.2						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**50.20**	**257**	P	P	13 23 06.8	+0.2
	0.5nm,0.5s,baz=91,slow=7.0,SNR=10						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**50.46**	**252**	P	P	13 23 08.2	-0.3
	5.4nm,0.6s,baz=89,slow=8.0,SNR=176						
	5.4nm,0.6s						

IDC ***26*** *13:16:31.1±1.4,20°.57S×178°.63W,h612km±15km, mb3.2/11,mbtmp4.2/12,Error ellipse: s-maj=23.1km s-min=14.8km az=145.0*

ISC 26 13:16:29.9±0.8,20°.75S±0°.2×178°.5W±0°.1,h600km,n15, σ1°31/17,mb3.9/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.35**	**312**	P	**P**	**13 17 58.4**	**+0.3**
	2.9nm,0.2s,baz=165,slow=14,SNR=6.4						
MSVF				S	**S**	**13 19 11.3**	**+1.4**
	1.8nm,0.6s,baz=252,slow=20,SNR=0.5						
CTA	**Charters Tower**	**32.98**	**265**	P	**P**	**13 22 17.1**	**0.0**
	2.7nm,0.5s,baz=86,slow=12,SNR=9.0						
	2.7nm,0.5s						
STKA	**Stephens Creek**	**37.26**	**244**	P	**P**	**13 22 52.5**	**0.0**
	2.9nm,0.8s,baz=80,slow=9.9,SNR=5.5						
	2.9nm,0.8s						
ASAR	**Alice Springs**	**43.99**	**257**	P	**P**	**13 23 45.5**	**-0.3**
	4.5nm,0.5s,baz=92,slow=7.3,SNR=45						
ASAR				PcP	**PcP**	**13 25 17.5**	**-0.5**
	1.2nm,0.6s,baz=100,slow=4.1,SNR=8.7						
	4.5nm,0.5s						
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**	**13 23 45.9**	**-0.7**
	2.0nm,0.5s,baz=98,slow=7.9,SNR=45						
	2.0nm,0.5s						
SIJI	**Sorong**	**52.80**	**285**	P	**P**	**13 24 50.8**	**-0.3**
	7.7nm,0.7s,baz=42,slow=1.9,SNR=3.7						
	7.7nm,0.7s						
QSPA	**South Pole Qui**	**69.40**	**180**	P	**P**	**13 26 39.5**	**+0.8**
	2.6nm,0.7s,baz=73,slow=11,SNR=16						
	2.6nm,0.7s						
NVAR	**Mina Array Bea**	**81.49**	**44**	P	**P**	**13 27 46.6**	**+0.6**
	0.5nm,0.7s,baz=222,slow=10,SNR=5.1						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**87.57**	**58**	P	**P**	**13 28 16.7**	**+1.0**
	0.8nm,0.8s,baz=210,slow=7.2,SNR=7.5						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**88.59**	**13**	P	**P**	**13 28 18.3**	**-1.2**
	0.5nm,0.6s,baz=220,slow=5.0,SNR=7.3						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**89.43**	**43**	P	**P**	**13 28 24.1**	**-0.1**
	0.6nm,0.7s,baz=213,slow=3.1,SNR=6.7						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P	**P**	**13 28 26.6**	**+0.9**
	0.8nm,0.8s,baz=120,slow=3.4,SNR=5.8						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**142.92**	**331**	PKP	**PKPdf**	**13 34 52.6**	**-3.4**
	2.9nm,0.4s,baz=43,slow=4.3,SNR=24						
BRTR	**Keskin Array B**	**146.58**	**312**	PKPbc	**PKPdf**	**13 35 04.8**	**+1.9**
	1.2nm,0.6s,baz=130,slow=4.0,SNR=4.7						
GERES	**GERESS Array B**	**150.22**	**344**	PKPbc	**PKPbc**	**13 35 13.1**	**-1.2**
	0.6nm,0.5s,baz=343,slow=2.0,SNR=4.1						

HEL 26 13:39:25.9±0.2,65°.39N×20°.77E,h0km,ML1.2, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALU	**Kalix**	**1.18**	**65**	PG	Pg	13 39 47.2	-1.2
	baz=247						
KALU				SG	Sg	13 40 02.6	-1.0
ERTU	**Ertsjaerv**	**1.31**	**26**	PG	Pg	13 39 49.7	-1.3
	baz=208						
ERTU				SG	Sg	13 40 07.7	-0.2
UMAU	**Umeaa**	**1.51**	**182**	PN	Pn	13 39 53.8	-0.3
UMAU				SN	Sg	13 40 13.9	-0.4
OBF8	**Ulkokalla**	**1.56**	**132**	PN	Pn	13 39 54.5	-0.3
OBF8				MSG		13 40 12.6	
	comp=Z,1.9nm,0.2s						
OBF8				SN	Sb	13 40 15.8	0.0
TOF	**Tornio**	**1.63**	**63**	PG	Pn	13 39 53.3	-2.4
TOF				MSG		13 40 14.6	
	comp=Z,0.9nm,0.2s						
TOF				SG	Sn	13 40 16.0	-1.3
OBF0	**Syolatti, Pyha**	**1.73**	**120**	MSG		13 40 17.5	
	comp=Z,2.4nm,0.2s						
OBF0				SN	Sg	13 40 22.1	+0.8
PAJU	**Pajala**	**1.90**	**29**	PG	Pn	13 39 59.5	0.0
PAJU				SG	Sn	13 40 24.7	+0.6
OBF4	**Vikkela, Lumij**	**1.92**	**105**	PG	Pn	13 40 00.4	+0.6
OBF4				MSG		13 40 23.2	
	comp=Z,1.4nm,0.2s						
OBF4				SG	Sb	13 40 26.6	+0.4
OUF	**Merijarvi**	**1.98**	**119**	PG	Pn	13 40 01.1	+0.5
OUF				MSG		13 40 24.7	
	comp=Z,1.1nm,0.2s						
OUF				SG	Sb	13 40 27.8	0.0
HUSU	**Husum**	**2.16**	**199**	PG	Pb	13 40 05.1	-0.7
KLF	**Kolari**	**2.26**	**33**	PG	Pn	13 40 05.1	+0.7
KLF				MSG		13 40 32.8	
	comp=Z,0.6nm,0.2s						
KLF				SB	Sn	13 40 33.7	+0.7
RNF	**Rovaniemi**	**2.47**	**58**	PB	Pn	13 40 08.4	+1.1
RNF				SG	Sb	13 40 42.0	0.0
VAF	**Ylistaro**	**2.50**	**160**	PG	Pn	13 40 09.5	+1.8
	baz=343						
VAF				MSG		13 40 39.5	
	comp=Z,0.6nm,0.2s						
LANU	**Lannavaara**	**2.72**	**10**	SG	Sb	13 40 49.7	+0.5
SGF	**Sodankyl**	**3.10**	**46**	SG	Sg	13 41 03.6	-1.8

IDC 26 13:39:49.1±2.0,0°.40N×125°.16E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=209.4km s-min=26.0km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.12**	**157**	P	P	13 44 45.6	-0.9
	0.5nm,0.8s,baz=334,slow=11,SNR=2.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**25.38**	**161**	P	P	13 45 18.9	+0.5
	0.4nm,0.8s,baz=347,slow=9.0,SNR=6.8						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**59.43**	**327**	P	P	13 49 53.7	-0.1
	0.1nm,0.3s,baz=124,slow=8.0,SNR=6.9						
	0.1nm,0.3s						

IDC ***26*** *13:50:36.8±3.0,0°.25S×96°.88E,h0km,mb4.1/6, mbtmp4.1/8,ML3.9/2,MS3.0/3,Error ellipse: s-maj=62.8km s-min=40.0km az=170.0*
DJA ***26*** *13:50:39.3±0.4,0°.5S±2°.×97°.7E±°,h48km±18km,M4.9/17, mb4.8/12,mB5.5/5,MLv4.8/17,Mw(mB)5.0/5*
NEIC ***26*** *13:50:40.5±1.9,0°.30S±0°.08×97°.1E±0°.2,h27km±7km, mb4.7/9,Error ellipse: s-maj=25.0km s-min=8.5km az=72.0*

ISC 26 13:50:38.4±0.9,0°.36S±0°.06×96°.91E±0°.08,h21km,n54, σ1°37/50,mb4.4/11,1C,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**1.40**	**78**	P	**Pb**	**13 51 03.5**	**-0.4**
PBSI				S	**Sn**	**13 51 20.8**	**+0.1**
GSI	**Gunungsitoli**	**1.78**	**22**		**Pn**	**13 51 07.1**	**-0.8**
GSI	**Gunungsitoli**	**1.78**	**22**	P	**Pn**	**13 51 07.3**	**-0.7**
GSI				S	**Sn**	**13 51 29.3**	**-0.7**
SNSI	**Sinabang, Aceh**	**2.81**	**348**	P	**Pn**	**13 51 20.8**	**-1.3**
SNSI				S	**Sn**	**13 51 51.5**	**-3.8**
PDSI	**Padang**	**3.60**	**99**	P	**Pn**	**13 51 33.1**	**+0.1**
PDSI				S	**Sn**	**13 52 13.1**	**-1.8**
RPSI	**Rantau Prapat**	**3.64**	**34**		**Pn**	**13 51 33.6**	**+0.1**
PSI	**Prapat**	**3.73**	**33**	Pn	**Pn**	**13 51 32.8**	**-2.1**
	2.1nm,0.3s,baz=186,slow=8.9,SNR=20						
	28nm,0.8s						
PPSI	**Pulau Pagai**	**3.92**	**128**	P	**Pn**	**13 51 36.1**	**-1.2**
PPSI				S	**Sn**	**13 52 19.6**	**-3.1**
KCSI	**Kotacane, Aceh**	**3.95**	**13**	P	**Pn**	**13 51 36.5**	**-1.3**
KCSI				S	**Sn**	**13 52 21.2**	**-2.3**
TSI	**Tuntungan**	**4.17**	**23**	P	**Pn**	**13 51 40.4**	**-0.5**
TSI				S	**Sn**	**13 52 29.2**	**+0.1**
BKNI	**Bangkinang**	**4.19**	**81**	P	**Pn**	**

	comp=Z,14nm,0.6s							
WR0	**Warramunga Arr**	**41.67**	**120**	P	P	13 58 20.4	-5.4	
WR0				IAmb	IAmb	13 58 32.2		
	comp=Z,15nm,0.6s							
KSRS	**Korea Array**	**47.29**	**34**	P	**P**	**13 59 11.1**	**+0.6**	
	comp=Z,1.4nm,0.7s,baz=324,slow=38,SNR=3.6							
KSRS				LR	LR	14 19 04.6		
	comp=Z,13nm,20.4s,baz=215,slow=36							
	comp=Z,1.4nm,0.7s							
MK31	**Makanchi Array**	**48.67**	**347**	P	**P**	**13 59 22.0**	**+0.9**	
MKAR	**Makanchi Array**	**48.67**	**347**	P	**P**	**13 59 22.3**	**+1.2**	
	comp=Z,1.4nm,0.6s,baz=163,slow=8.7,SNR=25							
	comp=Z,1.4nm,0.6s							
MKAR	**Makanchi Array**	**48.67**	**347**	P	**P**	**13 59 21.4**	**+0.3**	
SONM	**Songino Array**	**48.70**	**8**	P	**P**	**13 59 22.8**	**+1.4**	
	comp=Z,0.9nm,1.0s,baz=127,slow=21,SNR=3.2							
	comp=Z,0.9nm,1.0s							
GEYT	**Alibeck**	**52.23**	**321**	P	**P**	**13 59 48.3**	**+0.2**	
	comp=Z,1.3nm,0.6s,baz=179,slow=8.9,SNR=3.9							
	comp=Z,1.3nm,0.6s							
USRK	**Ussuriysk Ar.**	**54.25**	**31**	P	**P**	**14 00 03.6**	**+0.8**	
	comp=Z,5.1nm,0.8s,baz=225,slow=8.9,SNR=4.9							
	comp=Z,5.1nm,0.8s							
ZALV	**Zalesovo Beam**	**55.04**	**351**	P	**P**	**14 00 09.0**	**+0.6**	
	comp=Z,1.3nm,0.4s,baz=189,slow=7.1,SNR=6.7							
	comp=Z,1.3nm,0.4s							
TXAR	**Lajitas Array**	**145.13**	**32**	PKPbc	**PKPdf**	**14 10 16.2**	**+0.9**	
	comp=Z,0.4nm,0.7s,baz=263,slow=1.0,SNR=5.4							

NEIC ***26*** *13:52:13.6±2.2, 10.92°S±0.07°×121.64°E±0.08, h47km±6km, mb4.3/22, Error ellipse: s-maj=10.9km s-min=9.4km az=72.0*

DJA ***26*** *13:52:14.6±0.2, 11.2°S×12.2°E±°, h40km±7km, M4.7/24, mb4.8/24, mB5.1/6, MLv4.8/12, Mw(mB)4.4/6*

IDC ***26*** *13:52:16.5±2.2, 10.76°S×121.73°E, h66km±19km, mb4.0/11, mbtmp4.3/13, MS3.1/6, Error ellipse: s-maj=17.7km s-min=11.1km az=55.0*

ISC 26 13:52:13.7±0.8, 10.95°S±0.05°×121.64°E±0.04, h47km±9km, n78, σ1°88/85, mb4.3/18, MS3.0/3, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BASI	**Baing, Sumba**	**1.28**	**305**	P		**Pn**	**13 52 37.0**	**+1.9**
BASI				S		**Sn**	**13 52 53.4**	**+2.3**
BATI	**Baumata**	**2.12**	**70**	P		**Pn**	**13 52 48.9**	**+2.2**
	1μm,0.3s,baz=6.9,slow=0.6,SNR=345							
BATI				S		**Sn**	**13 53 12.2**	**+0.3**
	894nm,0.3s,baz=35,slow=21,SNR=23							
BATI	**Baumata**	**2.12**	**70**	P		**Pn**	**13 52 48.7**	**+2.0**
BATI				S		**Sn**	**13 53 14.6**	**+2.7**
MMRI	**Maumere**	**2.37**	**14**			**Pn**	**13 52 50.1**	**0.0**
MMRI	**Maumere**	**2.37**	**14**	P		**Pn**	**13 52 50.5**	**+0.3**
MMRI				S		**Sn**	**13 53 15.0**	**-3.1**
SOEI	**Soe**	**2.84**	**66**			**Pn**	**13 52 58.5**	**+1.8**
SOEI	**Soe**	**2.84**	**66**	P		**Pn**	**13 52 59.1**	**+2.4**
SOEI				S		**Sn**	**13 53 30.0**	**+0.2**
PLAI	**Plampang**	**4.36**	**299**	P		**Pn**	**13 53 19.1**	**+1.7**
PLAI				S		**Sn**	**13 54 05.8**	**-1.1**
BSSI	**Bau Bau, Buton**	**4.91**	**346**	P		**Pn**	**13 53 26.5**	**+1.5**
TWSI	**Taliwang, Sumb**	**5.18**	**295**	P		**Pn**	**13 53 30.0**	**+1.3**
	70nm,0.6s,3μm1.0nm							
BKSI	**Bulukumba**	**5.79**	**345**	P		**Pn**	**13 53 38.3**	**+1.2**
	94nm,0.6s,1μm0.4nm							
KAPI	**Kappang**	**6.19**	**342**	P		**Pn**	**13 53 45.2**	**+2.6**
	51nm,0.4s,baz=134,slow=7.1,SNR=38							
KAPI				S		**Sn**	**13 54 51.4**	**-0.6**
	18nm,1.0s,baz=202,slow=4.5,SNR=0.9							
KAPI	**Kappang**	**6.19**	**342**	Pn		**Pn**	**13 53 43.6**	**+1.0**
JAGI	**Jajag, Banyuwa**	**7.79**	**288**	Pn		**Pn**	**13 54 02.3**	**-2.2**
JAGI	**Jajag, Banyuwa**	**7.79**	**288**	P		**Pn**	**13 54 02.9**	**-1.6**
	51nm,1.1s,0.5nm							
FITZ	**Fitzroy Crossi**	**8.09**	**152**	Pn		**Pn**	**13 54 08.6**	**-0.1**
KNRA	**Kununurra**	**8.37**	**125**	Pn		**Pn**	**13 54 12.7**	**+0.2**
BLJI	**Banyuglugur**	**8.56**	**291**	P		**Pn**	**13 54 17.3**	**+2.2**
	71nm,0.8s							
MTN	**Manton Dam**	**9.47**	**102**	Pn		**Pn**	**13 54 27.0**	**-0.6**
AAI	**Ambon**	**9.71**	**42**	P		**Pn**	**13 54 32.2**	**+1.4**
	41nm,0.5s							
SANI	**Sanana**	**9.84**	**26**	P		**Pn**	**13 54 34.9**	**+2.3**
	36nm,0.7s							
SAUI	**Saumlaki**	**9.97**	**74**	P		**Pn**	**13 54 33.2**	**-1.2**
	72nm,0.5s							
PWJI	**Pagerwojo**	**10.13**	**286**	P		**Pn**	**13 54 39.7**	**+3.0**
	34nm,1.0s							
MBWA	**Marble Bar**	**10.32**	**190**			**Pn**	**13 54 38.7**	**-0.4**
MSAI	**Masohi**	**10.45**	**44**	P		Pn	13 54 45.0	+4.0
	6.2nm,0.4s							
PSA00	**Pilbara Seismi**	**10.70**	**189**			**Pn**	**13 54 43.5**	**-0.9**
FAKI	**Fak Fak**	**13.20**	**54**			**Pn**	**13 55 17.1**	**-1.6**
FAKI	**Fak Fak**	**13.20**	**54**	P		**Pn**	**13 55 18.4**	**-0.3**
	20nm,0.9s							
GIRL	**Giralia**	**13.62**	**210**	Pn		**Pn**	**13 55 22.5**	**-1.8**
SIJI	**Sorong**	**13.85**	**44**	P		**Pn**	**13 55 25.6**	**-1.9**
	3.6nm,0.4s,baz=171,slow=20,SNR=2.7							
SIJI				LR		LR	14 01 00.4	
	comp=Z,59nm,21.7s,baz=228,slow=38							
WB0	**Warramunga Arr**	**15.09**	**127**	Pn		**Pn**	**13 55 41.2**	**-2.8**
WB0				IAmb		IAmb	13 55 50.2	
	comp=Z,14nm,0.7s							
WRA	**Warramunga Arr**	**15.15**	**128**	P		**Pn**	**13 55 41.8**	**-2.9**
	comp=Z,2.9nm,0.5s,baz=306,slow=14,SNR=26							
WRA				S		Sn	13 58 18.6	-13
	comp=Z,7.1nm,0.6s,baz=302,slow=25,SNR=11							
WRA				LR		LR	14 01 32.7	
	comp=Z,82nm,19.2s,baz=288,slow=37							
WRA	**Warramunga Arr**	**15.15**	**128**			**Pn**	**13 55 41.7**	**-2.9**
WRAB	**Tennant Creek**	**15.15**	**128**			**Pn**	**13 55 42.2**	**-2.5**
WRAB				IAmb		IAmb	13 56 03.7	
	comp=Z,16nm,1.1s							
WB2	**Warramunga Arr**	**15.15**	**128**	Pn		**Pn**	**13 55 41.9**	**-2.9**
WB2				IAmb		IAmb	13 55 50.6	
	comp=Z,11nm,0.6s							
WR0	**Warramunga Arr**	**15.31**	**127**			**Pn**	**13 55 44.2**	**-2.6**
WR0				IAmb		IAmb	13 55 52.9	
	comp=Z,19nm,0.8s							
SBUM	**Sibu**	**16.28**	**324**	Pn		**Pn**	**13 55 58.9**	**-0.4**
AS31	**Alice Springs**	**17.21**	**139**			**Pn**	**13 56 09.9**	**-1.1**
ASAR	**Alice Springs**	**17.21**	**139**	P		**Pn**	**13 56 10.1**	**-0.9**
	comp=Z,5.3nm,0.6s,baz=316,slow=12,SNR=52							
ASAR				S		Sn	13 59 09.2	-12
	comp=Z,2.0nm,0.4s,baz=310,slow=20,SNR=5.4							
ASAR				LR		LR	14 02 50.5	
	comp=Z,84nm,20.2s,baz=316,slow=37							
ASAR	**Alice Springs**	**17.21**	**139**	P		**Pn**	**13 56 11.4**	**+0.5**
MORW	**Morawa**	**18.77**	**195**			**Pn**	**13 56 31.5**	**+1.6**
GENI	**Genyem**	**20.17**	**67**	P		**P**	**13 56 45.0**	**+0.6**
	comp=Z,58nm,0.7s							
FORT	**Forrest**	**20.61**	**164**			**P**	**13 56 49.7**	**+0.7**
FORT				IAmb		IAmb	13 57 11.3	
	comp=Z,30nm,0.8s							
NWAO	**Narrogin (SRO)**	**22.25**	**190**	P		**P**	**13 57 08.9**	**+2.3**
	comp=Z,5.0nm,0.7s							
NWAO				S		**S**	**14 01 01.4**	**-7.3**
NWAO				LR		LR	14 07 02.1	
	comp=Z,38nm,18.2s,slow=40							
	comp=Z,5.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**22.25**	**190**	P		**P**	**13 57 06.8**	**+0.1**
CTA	**Charters Tower**	**25.36**	**114**	P		**P**	**13 57 38.2**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=308,slow=8.8,SNR=6.1							
	comp=Z,2.9nm,0.6s							
CTAO	**Charters Tower**	**25.36**	**114**	P		**P**	**13 57 34.0**	**-2.7**
CTAO				IAmb		IAmb	13 57 34.1	
	comp=Z,17nm,1.4s							
BBOO	**Buckleboo**	**25.48**	**151**	P		**P**	**13 57 36.8**	**-0.8**
BBOO				IAmb		IAmb	13 57 39.8	
	comp=Z,9.4nm,0.8s							
PSI	**Prapat**	**26.41**	**300**	LR		LR	14 08 54.7	
	comp=Z,51nm,18.8s,baz=112,slow=38							
STKA	**Stephens Creek**	**27.81**	**142**	P		**P**	**13 58 00.0**	**+1.5**
	comp=Z,5.3nm,0.7s,baz=306,slow=9.2,SNR=12							
STKA				PcP		**PcP**	**14 01 13.9**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=325,slow=14,SNR=3.7							
	comp=Z,5.3nm,0.7s							
STKA	**Stephens Creek**	**27.81**	**142**	P		**P**	**13 57 58.6**	**+0.1**
ARMA	**Armidale**	**33.92**	**129**	P		**P**	**13 58 54.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**36.82**	**322**	PcP		**PcP**	**14 01 40.5**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=176,slow=2.4,SNR=4.1							
CMAR				LR		LR	14 16 52.9	
	comp=Z,24nm,18.2s,baz=25,slow=40							
MJAR	**Matsushiro Arr**	**49.75**	**18**	P		**P**	**14 00 59.9**	**-1.7**
	comp=Z,2.9nm,0.7s,baz=184,slow=8.7,SNR=9.3							
	comp=Z,2.9nm,0.7s							
KWAJ	**Kwajalein Atol**	**49.76**	**69**	P		**P**	**14 00 59.4**	**-2.6**
JMM	**Marumori**	**51.77**	**19**	P		**P**	**14 01 15.0**	**-1.7**

HHC	**Hu-ho-hao-te**	**52.37**	**350**	*eP*	**P**	**14 01 24.5**	**+3.2**	
HHC				pmax	pmax			
	comp=Z,6.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,230nm,6.5s							
XLT	**XiLinHaoTe**	**54.82**	**355**	*eP*	**P**	**14 01 42.5**	**+3.4**	
XLT				pP	sP	14 01 56.5	-0.9	
XLT				sP	pP	14 01 59.8	+7.7	
XLT				pmax	pmax			
	comp=Z,4.0nm,0.9s							
XLT				pmax	pmax			
	comp=Z,76nm,4.9s							
USRK	**Ussuriysk Ar.**	**55.69**	**9**	P	**P**	**14 01 44.0**	**-1.2**	
	comp=Z,2.0nm,0.4s,baz=195,slow=6.4,SNR=16							
	comp=Z,2.0nm,0.4s							
USRK	**Ussuriysk Ar.**	**55.69**	**9**	P	**P**	**14 01 44.7**	**-0.5**	
SONM	**Songino Array**	**60.07**	**348**	P	**P**	**14 02 15.7**	**-0.4**	
	comp=Z,1.5nm,0.6s,baz=166,slow=8.5,SNR=7.5							
	comp=Z,1.5nm,0.6s							
SONM	**Songino Array**	**60.07**	**348**	P	**P**	**14 02 15.7**	**-0.4**	
SONM				IAmb	IAmb	14 02 17.9		
	comp=Z,1.4nm,0.8s							
WMQ	**Urumqi**	**62.65**	**333**	*eP*	**P**	**14 02 35.5**	**+2.0**	
KSH	**Kashi**	**65.72**	**323**	P	**P**	**14 02 54.0**	**+0.2**	
KSH				pP	sP	14 03 10.5	-1.7	
KSH				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MK31	**Makanchi Array**	**67.38**	**332**	P	**P**	**14 03 03.5**	**-0.6**	
MK31				IAmb	IAmb	14 03 20.5		
	comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**67.38**	**332**	P	**P**	**14 03 03.8**	**-0.3**	
	comp=Z,1.8nm,0.5s,baz=151,slow=7.5,SNR=27							
	comp=Z,1.8nm,0.5s							
MKAR	**Makanchi Array**	**67.38**	**332**	P	**P**	**14 03 03.6**	**-0.6**	
MAW	**Mawson**	**68.32**	**201**	P	**P**	**14 03 10.7**	**+1.0**	
MAW				IAmb	IAmb	14 03 17.2		
	comp=Z,7.1nm,1.4s							
AAK	**Ala-Archa**	**68.56**	**324**	P	**P**	**14 03 12.0**	**+0.2**	
	comp=Z,1.3nm,0.6s,baz=167,slow=8.6,SNR=4.7							
	comp=Z,1.3nm,0.6s							
VNDA	**Vanda**	**69.67**	**171**	P	**P**	**14 03 20.0**	**+2.0**	
	comp=Z,1.9nm,0.7s,baz=316,slow=7.7,SNR=9.8							
	comp=Z,1.9nm,0.7s							
VNDA	**Vanda**	**69.67**	**171**	P	**P**	**14 03 19.4**	**+1.5**	
VNDA				IAmb	IAmb	14 03 39.0		
	comp=Z,4.9nm,1.4s							
PETK	**Petropavlovsk-**	**70.85**	**22**	P	**P**	**14 03 26.1**	**+0.6**	
	comp=Z,2.3nm,0.9s,baz=22,slow=1.6,SNR=4.2							
	comp=Z,2.3nm,0.9s							
ZALV	**Zalesovo Beam**	**71.79**	**338**	P	**P**	**14 03 29.6**	**-1.5**	
	comp=Z,1.0nm,0.4s,baz=141,slow=6.6,SNR=3.7							
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**71.79**	**338**	P	**P**	**14 03 29.8**	**-1.3**	
QSPA	**South Pole Qui**	**79.06**	**180**	P	**P**	**14 04 13.9**	**+1.0**	
QSPA				IAmb	IAmb	14 04 15.5		
	comp=Z,4.2nm,0.9s							
ABKAR	**Akbulak array**	**80.65**	**324**	P	**P**	**14 04 20.9**	**-0.7**	
YKA	**Yellowknife Ar**	**114.86**	**25**	PKP	**PKiKP**	**14 10 49.7**	**+0.8**	
	comp=Z,6.0nm,0.6s,baz=294,slow=1.8,SNR=13							
LPAZ	**La Paz**	**151.26**	**160**	PKPbc	**PKPbc**	**14 12 05.0**	**+1.2**	
	comp=Z,3.5nm,0.7s,baz=240,slow=3.1,SNR=8.5							

NEIC ***26*** *13:58:33.6±1.6, 57.69°N±0.02°×132.33°W±0.07, h10km±1km, ML2.3/8, ML2.8(OTT), Error ellipse: s-maj=6.7km s-min=3.3km az=85.0*

OTT ***26*** *13:58:34.1±2.9, 57.75°N±0.02°×132.40°W±0.04, h1km±1km, Error ellipse: s-maj=4.3km s-min=3.2km az=59.0*

PGC ***26*** *13:58:34.1±0.1, 57.75°N×132.40W, h1km, ML2.8/2, 133km Ese of Juneau, Ak Southeastern Alaska*

ISC 26 13:58:32.8±1.4, 57.68N±0.04°×132.41W±0.04, h8km±13km, n20, σ1°25/33, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
S34M	**Telegraph Cree**	**0.72**	**70**	P		**Pg**	**13 58 46.4**	**-0.2**
S34M				S		**Sg**	**13 58 55.2**	**-0.9**
JIS	**Juneau Island**	**1.21**	**301**			**Pn**	**13 58 54.6**	**-1.3**
JIS				Sg		**Sg**	**13 59 10.3**	**-1.3**
JIS				IAML			13 59 14.2	
	comp=E,56nm,0.5s							
JIS				IAML			13 59 15.3	
	comp=N,61nm,1.2s							
WRAK	**Wrangell Islan**	**1.26**	**178**			**Pb**	**13 58 57.0**	**+0.2**
WRAK				Sg		**Sb**	**13 59 13.3**	**+0.3**
WRAK				IAML			13 59 18.6	
	comp=N,72nm,0.3s							
T35M	**Bob Quinn**	**1.36**	**120**	P		**Pg**	**13 58 59.3**	**+0.4**
DLBC	**Dease Lake**	**1.48**	**58**	Pn		**Pb**	**13 59 00.3**	**-0.2**
DLBC	**Dease Lake**	**1.48**	**58**	P		**Pn**	**13 59 00.2**	**+0.5**
DLBC				S		**Sg**	**13 59 20.3**	**+0.1**
BESE	**Bessie Mountai**	**1.58**	**306**	Pn		**Pn**	**13 59 00.8**	**-0.3**
BESE	**Bessie Mountai**	**1.58**	**306**	Pn		**Pn**	**13 59 00.8**	**-0.3**
BESE				Sn		**Sn**	**13 59 21.8**	**+0.1**
P32M	**Atlin**	**2.04**	**341**	Pn		**Pn**	**13 59 08.7**	**+1.3**
P32M				Sn		**Sn**	**13 59 30.3**	**-2.6**
P32M				Sg		**Sb**	**13 59 36.0**	**+0.5**
P32M	**Atlin**	**2.04**	**341**	Pn		**Pn**	**13 59 08.7**	**+1.3**
P32M				Sn		**Sn**	**13 59 30.3**	**-2.6**
P32M				Sg		**Sb**	**13 59 36.0**	**+0.5**
P33M	**Teslin, Yukon**	**2.55**	**355**	Pn		**Pn**	**13 59 14.9**	**+0.4**
P33M				IAML			13 59 40.1	
	comp=E,14nm,4.2s							
P33M	**Teslin, Yukon**	**2.55**	**355**	Pn		**Pn**	**13 59 14.9**	**+0.4**
P33M				Sg		**Sb**	**13 59 50.4**	**+0.1**
P33M	**Teslin, Yukon**	**2.55**	**355**	Pn		**Pn**	**13 59 14.9**	**+0.4**
P33M				Sg		**Sb**	**13 59 50.4**	**+0.1**
PLBC	**Pleasant Camp**	**2.73**	**312**	Pn		**Pn**	**13 59 17.7**	**+0.8**
PLBC				Sg		**Sb**	**13 59 56.7**	**+1.2**
PLBC	**Pleasant Camp**	**2.73**	**312**	Pn		**Pn**	**13 59 17.7**	**+0.8**
PLBC				Sg		**Sb**	**13 59 56.7**	**+1.2**
WHY	**Whitehorse**	**3.25**	**338**	Sg		**Sb**	**14 00 12.9**	**+2.4**
P30M	**Million Dollar**	**3.40**	**318**	Sg		**Sb**	**14 00 17.0**	**+2.2**
P30M	**Million Dollar**	**3.40**	**318**	Sg		**Sb**	**14 00 17.0**	**+2.2**
N32M	**Quiet Lake**	**3.50**	**355**	Pn		**Pn**	**13 59 28.3**	**+0.8**
N32M	**Quiet Lake**	**3.50**	**355**	Pn		**Pn**	**13 59 28.3**	**+0.8**

NEIC ***26*** *14:01:23.2±1.3, 6.32°S±0.05°×154.40E±0.07, h49km±10km, mb4.3/14, Error ellipse: s-maj=11.3km s-min=5.7km az=121.0*

IDC ***26*** *14:01:26.3±1.9, 6.07°S×154.40E, h66km±16km, mb3.8/14, mbtmp4.1/18, MS3.5/6, Error ellipse: s-maj=18.8km s-min=15.4km az=93.0*

ISC 26 14:01:25.4±0.5, 6.19S±0.06°×154.34E±0.06, h61km, n42, σ2°22/44, mb4.1/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**2.94**	**312**	Pn		**Pn**	**14 02 09.2**	**-0.6**
KRVT	**Keravat (AS076**	**2.97**	**309**	P		**Pn**	**14 02 12.1**	**+1.9**
	77nm,0.4s,baz=293,slow=1.4,SNR=34							
KRVT				S		**Sn**	**14 02 49.4**	**+4.8**
	316nm,0.5s,baz=241,slow=23,SNR=11							
KRVT				LR		LR	14 03 35.1	
	comp=Z,268nm,21.6s,baz=243,slow=44							
HNR	**Honiara**	**6.42**	**120**	P		**Pn**	**14 03 00.3**	**+3.0**
	846nm,0.6s,baz=250,slow=6.6,SNR=6.4							
HNR				S		**Sn**	**14 04 16.0**	**+6.8**
	1μm,0.8s,baz=291,slow=20,SNR=5.9							
HNR				LR		LR	14 05 38.1	
	comp=Z,6μm,18.5s,baz=218,slow=39							
HNR	**Honiara**	**6.42**	**120**	Pn		**Pn**	**14 02 53.5**	**-3.8**
PMG	**Port Moresby**	**7.80**	**245**	P		**Pn**	**14 03 19.5**	**+3.2**
	87nm,0.7s,baz=50,slow=8.6,SNR=54							
PMG				S		**Sn**	**14 04 47.2**	**+4.0**
	53nm,1.0s,baz=174,slow=23,SNR=5.0							
PMG				LR		LR	14 06 41.3	
	comp=Z,274nm,19.4s,baz=42,slow=40							
PMG	**Port Moresby**	**7.80**	**245**	Pn		**Pn**	**14 03 13.9**	**-2.4**
COEN	**Coen**	**13.43**	**234**	Pn		**Pn**	**14 04 30.6**	**-2.5**
PATS	**Pohnpei**	**13.54**	**17**	Pn		**Pn**	**14 04 34.3**	**-0.3**
CTA	**Charters Tower**	**15.89**	**209**	P		**P**	**14 05 09.4**	**+1.5**
	12nm,0.8s,baz=36,slow=12,SNR=12							
CTA				LR		LR	14 11 03.6	
	comp=Z,97nm,18.9s,baz=62,slow=36							
CTAO	**Charters Tower**	**15.89**	**209**	P		**Pn**	**14 05 04.7**	**-0.6**
CTAO				IAmb		IAmb	14 05 10.1	
	comp=Z,12nm,0.8s							
EIDS	**Eidsvold**	**19.32**	**189**	P		**P**	**14 05 41.2**	**-4.5**
DZM	**Mont Dzumac**	**19.64**	**145**	P		**Pn**	**14 05 50.5**	**-0.7**
	comp=Z,6.4nm,0.9s,baz=330,slow=20,SNR=2.0							

FAKI	**Fak Fak**	**22.26**	**277**	P	**P**	**14 06 16.1**	**-1.5**	
FAKI				IAmb	IAmb	14 06 55.1		
	comp=Z,14nm,0.9s							
WR0	**Warramunga Arr**	**23.61**	**233**	P	**P**	**14 06 29.1**	**-2.0**	
WR0				IAmb	IAmb	14 06 33.0		
	comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**23.76**	**233**	P	**P**	**14 06 33.8**	**+1.3**	
	comp=Z,6.1nm,0.8s,baz=324,slow=10,SNR=21							
WRA				PcP	**PcP**	**14 10 15.7**	**+0.7**	
	comp=Z,1.9nm,0.8s,baz=56,slow=2.5,SNR=7.7							
	comp=Z,6.1nm,0.8s							
AS31	**Alice Springs**	**26.23**	**226**	P	**P**	**14 06 52.5**	**-2.4**	
ASAR	**Alice Springs**	**26.23**	**226**	P	**P**	**14 06 54.8**	**-0.2**	
	comp=Z,1.2nm,0.6s,baz=58,slow=9.0,SNR=21							
ASAR				PcP	**PcP**	**14 10 21.3**	**+0.8**	
	comp=Z,0.4nm,0.5s,baz=46,slow=2.3,SNR=5.4							
ASAR				ScP	**ScP**	**14 13 57.4**	**+2.2**	
	comp=Z,0.4nm,0.7s,baz=48,slow=2.6,SNR=5.0							
	comp=Z,1.2nm,0.6s							
ASAR	**Alice Springs**	**26.23**	**226**	P	**P**	**14 06 53.2**	**-1.7**	
H11S3	**WAKE ISLAND Hy**	**27.39**	**26**	T	T	14 35 44.1		
	baz=207,slow=74							
H11S2	**WAKE ISLAND Hy**	**27.39**	**26**	T	T	14 35 41.1		
	baz=207,slow=74							
H11S1	**WAKE ISLAND Hy**	**27.41**	**26**	T	T	14 35 34.6		
	baz=207							
STKA	**Stephens Creek**	**28.20**	**203**	P	**P**	**14 07 12.8**	**+0.4**	
	comp=Z,1.5nm,0.7s,baz=32,slow=15,SNR=1.7							
STKA				LR	LR	14 18 31.7		
	comp=Z,114nm,19.1s,baz=23,slow=36							
	comp=Z,1.5nm,0.7s							
YULB	**Yu-li**	**43.66**	**313**	P	**P**	**14 09 22.5**	**-1.9**	
NACB	**Ninganchiao**	**43.94**	**315**	P	**P**	**14 09 25.6**	**-0.9**	
TPUB	**Ta-pu**	**44.09**	**313**	P	**P**	**14 09 26.5**	**-1.3**	
JNU	**Nakatsue**	**45.00**	**332**	P	**P**	**14 09 34.6**	**-0.4**	
	comp=Z,5.7nm,0.8s,baz=118,slow=2.6,SNR=4.3							
	comp=Z,5.7nm,0.8s							
KSRS	**Korea Array**	**49.93**	**332**	P	**P**	**14 10 12.0**	**-1.1**	
	comp=Z,1.1nm,0.7s,baz=145,slow=6.6,SNR=3.2							
	comp=Z,1.1nm,0.7s							
KLR	**Kul'dur**	**58.61**	**343**	P	**P**	**14 11 15.3**	**-0.7**	
	comp=Z,1.8nm,0.8s,baz=191,slow=5.2,SNR=6.8							
	comp=Z,1.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**59.86**	**295**	P	**P**	**14 11 26.8**	**+1.6**	
	comp=Z,1.9nm,0.8s,baz=110,slow=4.7,SNR=2.1							
	comp=Z,1.9nm,0.8s							
SONM	**Songino Array**	**68.32**	**327**	P	**P**	**14 12 20.8**	**+0.4**	
	comp=Z,0.4nm,0.4s,baz=151,slow=27,SNR=3.5							
	comp=Z,0.4nm,0.4s							
SONM	**Songino Array**	**68.32**	**327**	P	**P**	**14 12 20.7**	**+0.4**	
SONM				IAmb	IAmb	14 12 28.7		
	comp=Z,4.2nm,1.3s							
MKAR	**Makanchi Array**	**82.38**	**319**	P	**P**	**14 13 41.7**	**+0.7**	
	comp=Z,0.6nm,0.7s,baz=140,slow=3.8,SNR=5.4							
	comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**82.87**	**22**	P	**P**	**14 13 41.1**	**-1.9**	
	comp=Z,0.7nm,0.8s,baz=248,slow=6.1,SNR=5.8							
	comp=Z,0.7nm,0.8s							
ZALV	**Zalesovo Beam**	**83.16**	**326**	P	**P**	**14 13 43.0**	**-1.7**	
	comp=Z,0.4nm,0.3s,baz=122,slow=7.5,SNR=1.9							
	comp=Z,0.4nm,0.3s							
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**14 13 47.4**	**-0.5**	
QSPA				IAmb	IAmb	14 13 57.6		
	comp=Z,7.6nm,1.4s							
BMAR	**Burnt Mountain**	**85.02**	**20**	P	**P**	**14 13 54.1**	**+0.1**	
NVAR	**Mina Array Bea**	**91.73**	**52**	P	**P**	**14 14 27.7**	**+0.8**	
	comp=Z,1.8nm,0.8s,baz=250,slow=6.9,SNR=10							
	comp=Z,1.8nm,0.8s				

PPLA	**Purkeypile**	**0.89**	**7**		**Pn**	**14 26 36.4**	**+0.1**		
PPLA	**Purkeypile**	**0.89**	**7**		**Sn**	**14 26 54.3**	**+0.3**		
PPLA	**Purkeypile**	**0.89**	**7**	P	**Pn**	**14 26 36.5**	**+0.1**		
	baz=186,SNR=1000								
PPLA				S	**Sn**	**14 26 54.2**	**+0.2**		
	baz=186								
SUA	**Susitna One**	**0.98**	**124**		**Pn**	**14 26 37.1**	**+0.1**		
SUA				Sn	**Sn**	**14 26 54.7**	**-0.5**		
SUA	**Susitna One**	**0.98**	**124**	P	**Pn**	**14 26 37.2**	**+0.1**		
	baz=306,SNR=733								
SUA				S	**Sn**	**14 26 54.7**	**-0.5**		
	baz=306								
CUT	**Chulitna**	**1.08**	**68**		**Pn**	**14 26 37.9**	**0.0**		
CUT	**Chulitna**	**1.08**	**68**	P	**Pn**	**14 26 38.1**	**+0.2**		
	baz=249,SNR=1000								
CUT				S	**Sn**	**14 26 57.3**	**+0.7**		
	baz=249								
M22K	**Willow**	**1.13**	**103**		**Pn**	**14 26 37.9**	**-0.3**		
M22K				Sn	**Sn**	**14 26 56.9**	**-0.4**		
M22K	**Willow**	**1.13**	**103**	P	**Pn**	**14 26 38.1**	**-0.1**		
	baz=285,SNR=542								
M22K				S	**Sn**	**14 26 57.0**	**-0.3**		
	baz=285								
L19K	**White Mountain**	**1.15**	**279**	Pn	**Pn**	**14 26 38.3**	**-0.2**		
L19K	**White Mountain**	**1.15**	**279**	P	**Pn**	**14 26 38.4**	**-0.2**		
	baz=97,SNR=235								
L19K				S	**Sn**	**14 26 56.9**	**-0.9**		
	baz=97								
FIS	**Fire Island**	**1.38**	**129**		**Pn**	**14 26 41.4**	**+0.7**		
CAPN	**Captain Cook N**	**1.40**	**153**		**Pn**	**14 26 41.9**	**+0.9**		
CAPN				IAML		14 27 17.5			
	comp=E,16µm,0.7s								
CAPN	**Captain Cook N**	**1.40**	**153**	P	**Pn**	**14 26 41.8**	**+0.8**		
	baz=335,SNR=28								
CAPN				S	**Sn**	**14 27 03.7**	**+1.6**		
	baz=335								
CAST	**Castle Rocks**	**1.41**	**6**		**Pn**	**14 26 41.1**	**-0.1**		
CAST	**Castle Rocks**	**1.41**	**6**		**Sn**	**14 27 02.1**	**-0.5**		
CAST	**Castle Rocks**	**1.41**	**6**	P	**Pn**	**14 26 41.1**	**-0.1**		
	baz=186,SNR=1000								
CAST				S	**Sn**	**14 27 01.8**	**-0.8**		
	baz=186								
K20K	**Telida**	**1.54**	**331**		**Pn**	**14 26 42.2**	**-0.3**		
K20K	**Telida**	**1.54**	**331**	P	**Pn**	**14 26 42.2**	**-0.3**		
	baz=150,SNR=193								
K20K				S	**Sn**	**14 27 03.9**	**-1.1**		
	baz=150								
N19K	**Bonanza Creek**	**1.56**	**220**	P	**Pn**	**14 26 42.6**	**-0.3**		
	baz=39								
N19K				S	**Sn**	**14 27 04.4**	**-1.2**		
	baz=39								
RC01	**Rabbit Creek A**	**1.59**	**125**		**Pn**	**14 26 42.5**	**-0.6**		
RC01				IAML		14 27 05.5			
	comp=N,15µm,0.4s								
RC01				IAML		14 27 07.1			
	comp=E,15µm,0.4s								
RC01	**Rabbit Creek A**	**1.59**	**125**	P	**Pn**	**14 26 42.4**	**-0.6**		
	baz=307,SNR=225								
RC01				S	**Sn**	**14 27 04.6**	**-1.4**		
	baz=307								
PMR	**Palmer**	**1.62**	**104**		**Pn**	**14 26 42.1**	**-1.3**		
PMR				IAML		14 27 06.4			
	comp=N,11µm,0.3s								
PMR				IAML		14 27 07.0			
	comp=E,9µm,0.3s								
PMR	**Palmer**	**1.62**	**104**	P	**Pn**	**14 26 42.3**	**-1.1**		
	baz=287,SNR=190								
PMR				S	**Sn**	**14 27 04.9**	**-1.6**		
	baz=287								
PMR	**Palmer**	**1.62**	**104**	P	**Pn**	**14 26 42.4**	**-1.0**		
PMR	**Palmer**	**1.62**	**104**	P	**Pn**	**14 26 42.1**	**-1.3**		
GHO	**Glory Hole Cre**	**1.68**	**97**		**Pn**	**14 26 43.4**	**-0.7**		
GHO					**Sn**	**14 27 06.9**	**-0.8**		
KTH	**Kantishna Hill**	**1.69**	**24**		**Pn**	**14 26 43.9**	**-0.3**		
KTH				IAML		14 27 08.8			
	comp=E,6µm,0.6s								
KTH				IAML		14 27 09.0			
	comp=N,6µm,1.0s								
KTH	**Kantishna Hill**	**1.69**	**24**		**Sn**	**14 27 07.9**	**-0.1**		
TRF	**Thorofare Moun**	**1.74**	**34**	Pn	**Pn**	**14 26 44.5**	**-0.4**		
TRF	**Thorofare Moun**	**1.74**	**34**		**Sn**	**14 27 09.7**	**+0.5**		
TRF	**Thorofare Moun**	**1.74**	**34**	IAML		14 27 11.0			
	comp=E,9µm,1.0s								
TRF				IAML		14 27 11.1			
	comp=N,9µm,0.9s								
TRF	**Thorofare Moun**	**1.74**	**34**	P	**Pn**	**14 26 44.6**	**-0.3**		
	baz=215,SNR=512								
TRF				S	**Sn**	**14 27 09.4**	**+0.2**		
	baz=215								
SVW2	**Sparrevohn**	**1.77**	**240**		**Pn**	**14 26 44.6**	**-0.5**		
SVW2	**Sparrevohn**	**1.77**	**240**	P	**Pn**	**14 26 44.8**	**-0.3**		
WAT7	**Susitna Watana**	**1.85**	**62**		**Pn**	**14 26 45.6**	**-0.5**		
SLKM	**Skilak Lake**	**1.86**	**144**		**Pn**	**14 26 45.4**	**-0.7**		
CHUM	**Lake Minchumin**	**1.87**	**2**		**Pn**	**14 26 46.1**	**-0.1**		
CHUM					**Sn**	**14 27 10.8**	**-0.7**		
CHUM	**Lake Minchumin**	**1.87**	**2**	P	**Pn**	**14 26 46.1**	**-0.1**		
	baz=181,SNR=281								
CHUM				S	**Sn**	**14 27 10.6**	**-0.9**		
	baz=181								
TTA	**Tatalina**	**1.90**	**300**		**Pn**	**14 26 46.3**	**-0.3**		
TTA	**Tatalina**	**1.90**	**300**	P	**Pn**	**14 26 46.3**	**-0.3**		
	baz=117,SNR=114								
TTA				S	**Sn**	**14 27 11.1**	**-1.2**		
	baz=117								
TTA	**Tatalina**	**1.90**	**300**	P	**Pn**	**14 26 46.5**	**-0.1**		
TTA	**Tatalina**	**1.90**	**300**	P	**Pn**	**14 26 46.3**	**-0.3**		
O20K	**Slope Mountain**	**1.95**	**183**	P	**Pn**	**14 26 47.0**	**-0.3**		
	baz=3.2,SNR=72								
O20K				S	**Sn**	**14 27 13.7**	**+0.4**		
	baz=3.2								
SML	**Sawmill**	**1.95**	**95**		**Pn**	**14 26 46.3**	**-0.9**		
SML				IAML		14 27 13.7			
	comp=N,10µm,0.6s								
SML				IAML		14 27 13.9			
	comp=E,9µm,0.6s								
SML	**Sawmill**	**1.95**	**95**	P	**Pn**	**14 26 46.4**	**-0.9**		
	baz=278,SNR=352								
SML				S	**Sn**	**14 27 11.9**	**-1.4**		
	baz=278								
WAT1	**Susitna Watana**	**1.98**	**64**		**Pn**	**14 26 46.9**	**-0.6**		
WAT1	**Susitna Watana**	**1.98**	**64**	P	**Pn**	**14 26 47.0**	**-0.5**		
	baz=247								
WAT1				S	**Sn**	**14 27 13.3**	**-0.6**		
	baz=247								
KNK	**Knik Glacier**	**1.99**	**106**		**Pn**	**14 26 46.7**	**-1.0**		
KNK	**Knik Glacier**	**1.99**	**106**		**Sn**	**14 27 13.1**	**-0.9**		
KNK	**Knik Glacier**	**1.99**	**106**	P	**Pn**	**14 26 46.7**	**-1.0**		
	baz=290,SNR=146								
KNK				S	**Sn**	**14 27 12.7**	**-1.4**		
	baz=290								
O19K	**Port Alsworth**	**2.05**	**207**		**Pn**	**14 26 48.1**	**-0.2**		
O19K	**Port Alsworth**	**2.05**	**207**	P	**Pn**	**14 26 48.2**	**-0.2**		
	baz=26,SNR=276								
O19K				S	**Sn**	**14 27 14.7**	**-0.5**		
	baz=26								
RND	**Reindeer**	**2.15**	**48**		**Pn**	**14 26 49.2**	**-0.5**		
RND				IAML		14 27 17.7			
	comp=E,6µm,0.7s								
RND				IAML		14 27 17.7			
	comp=N,3µm,0.6s								
RND	**Reindeer**	**2.15**	**48**		**Sn**	**14 27 17.0**	**-0.8**		
RND	**Reindeer**	**2.15**	**48**	P	**Pn**	**14 26 49.2**	**-0.5**		
RND						14 27 17.0			
BPAW	**Bear Paw Mtn.**	**2.19**	**17**	Pn	**Pn**	**14 26 49.5**	**-0.5**		
BPAW				IAML		14 27 18.8			
	comp=N,9µm,0.7s								
BPAW				IAML		14 27 18.0			
	comp=E,6µm,0.9s								
BPAW	**Bear Paw Mtn.**	**2.19**	**17**	P	**Pn**	**14 26 49.5**	**-0.5**		
	baz=198,SNR=578								
BPAW				S	**Sn**	**14 27 17.5**	**-0.8**		
	baz=198								
M23K	**Glacier View**	**2.24**	**94**	P	**Pn**	**14 26 49.7**	**-0.9**		
	baz=278,SNR=492								
M23K				S	**Sn**	**14 27 18.5**	**-0.9**		
	baz=278								
WAT6	**Susitna Watana**	**2.26**	**74**	P	**Pn**	**14 26 50.1**	**-1.0**		
	baz=257,SNR=348								
WAT6				S	**Sn**	**14 27 18.9**	**-1.2**		
	baz=257								
PWL	**Port Wells**	**2.29**	**119**	Pn	**Pn**	**14 26 49.7**	**-1.5**		
PWL	**Port Wells**	**2.29**	**119**	P	**Pn**	**14 26 50.0**	**-1.2**		
	baz=302,SNR=101								
PWL				S	**Sn**	**14 27 18.4**	**-2.0**		
	baz=302								
MCK	**McKinley**	**2.35**	**41**	Pn	**Pn**	**14 26 51.6**	**-0.4**		
	baz=224,SNR=143								
MCK				S	**Sn**	**14 27 21.2**	**-0.6**		
	baz=224								
MCK	**McKinley**	**2.35**	**41**	P	**Pn**	**14 26 51.6**	**-0.4**		
BRLK	**Bradley Lake**	**2.39**	**161**		**Pn**	**14 26 51.1**	**-1.4**		
BRLK				IAML		14 27 28.2			
	comp=N,2µm,0.7s								
HOM	**Homer**	**2.40**	**170**		**Pn**	**14 26 52.1**	**-0.6**		
HOM				IAML		14 27 26.2			
	comp=N,5µm,0.6s								
HOM				IAML		14 27 26.3			
	comp=E,4µm,0.6s								
HOM	**Homer**	**2.40**	**170**	P	**Pn**	**14 26 52.1**	**-0.6**		
	baz=352,SNR=55								
SEW	**Seward**	**2.41**	**142**	Pn	**Pn**	**14 26 51.6**	**-1.1**		
SEW	**Seward**	**2.41**	**142**	P	**Pn**	**14 26 51.7**	**-0.9**		
	baz=325,SNR=162								
P19K	**Oil Pt**	**2.41**	**190**	P	**Pn**	**14 26 52.8**	**0.0**		
	baz=9.4,SNR=66								
P19K				S	**Sn**	**14 27 23.3**	**+0.1**		
	baz=9.4								
SCM	**Sheep Creek Mo**	**2.42**	**92**		**Pn**	**14 26 52.0**	**-0.9**		
SCM	**Sheep Creek Mo**	**2.42**	**92**	P	**Pn**	**14 26 52.1**	**-0.9**		
	baz=277,SNR=269								
SCM				S	**Sn**	**14 27 22.6**	**-0.9**		
	baz=277								
SCM	**Sheep Creek Mo**	**2.42**	**92**	P	**Pn**	**14 26 52.0**	**-0.9**		
SCM						14 27 22.9			
BRSE	**Bradley Lake S**	**2.43**	**159**	P	**Pn**	**14 26 52.0**	**-1.0**		
	baz=341,SNR=65								
BRSE				S	**Sn**	**14 27 21.2**	**-2.5**		
	baz=341								
BWN	**Browne**	**2.54**	**31**		**Pn**	**14 26 54.7**	**+0.3**		
BWN				IAML		14 27 28.8			
	comp=N,3µm,0.9s								
BWN				IAML		14 27 43.0			
	comp=E,3µm,1.0s								
O18K	**Koktuh Hills**	**2.56**	**213**	P	**Pn**	**14 26 54.5**	**-0.2**		
	baz=31								
O18K				S	**Sn**	**14 27 26.9**	**+0.3**		
	baz=31								
DHY	**Denali Highway**	**2.57**	**63**	Pn	**Pn**	**14 26 54.2**	**-0.7**		
DHY				IAML		14 27 28.6			
	comp=N,4µm,0.7s								
DHY				IAML		14 27 29.1			
	comp=E,4µm,0.5s								
DHY	**Denali Highway**	**2.57**	**63**	P	**Pn**	**14 26 54.1**	**-0.7**		
	baz=248,SNR=308								
DHY				S	**Sn**	**14 27 26.4**	**-0.5**		
	baz=248								
CNPM	**China Poot**	**2.57**	**166**		**Pn**	**14 26 53.2**	**-1.6**		
CNPM				IAML		14 27 26.8			
	comp=N,3µm,0.4s								
CNPM				IAML		14 27 27.6			
	comp=E,2µm,0.6s								
M24K	**Tolsona, Glenn**	**2.94**	**86**		**Pn**	**14 26 59.2**	**-0.2**		
M24K	**Tolsona, Glenn**	**2.94**	**86**	P	**Pn**	**14 26 59.3**	**-0.2**		
	baz=271,SNR=123								
M24K				S	**Sn**	**14 27 35.7**	**+0.4**		
	baz=271								
P18K	**Big Mountain,**	**2.98**	**209**		**Pn**	**14 26 59.7**	**-0.2**		
P18K	**Big Mountain,**	**2.98**	**209**	P	**Pn**	**14 26 59.8**	**-0.2**		
	baz=27,SNR=87								
P18K				S	**Sn**	**14 27 34.9**	**-1.1**		
	baz=27								
NEA2	**Nenana**	**2.99**	**29**		**Pn**	**14 26 59.1**	**-0.9**		
NEA2				IAML		14 27 35.5			
	comp=E,2µm,0.8s								
NEA2				IAML		14 27 36.2			
	comp=N,2µm,1.1s								
NEA2	**Nenana**	**2.99**	**29**	P	**Pn**	**14 26 59.2**	**-0.9**		
	baz=212,SNR=276								
NEA2				S	**Sn**	**14 27 33.9**	**-2.4**		
	baz=212								
MLY	**Manley**	**3.12**	**13**		**Pn**	**14 27 01.4**	**-0.2**		
MLY				IAML		14 27 39.0			
	comp=E,1µm,0.5s								
MLY				IAML		14 27 39.8			
	comp=N,2µm,0.5s								
MLY	**Manley**	**3.12**	**13**	P	**Pn**	**14 27 01.4**	**-0.2**		
	baz=194,SNR=325								
MLY				S	**Sn**	**14 27 37.3**	**-1.8**		
	baz=194								
KLU	**Klutina**	**3.14**	**97**		**Pn**	**14 27 01.1**	**-0.9**		
KLU	**Klutina**	**3.14**	**97**	P	**Pn**	**14 27 01.1**	**-0.9**		
	baz=282,SNR=99								
KLU				S	**Sn**	**14 27 38.1**	**-1.6**		
	baz=282								
WRH	**Wood River Hil**	**3.15**	**37**		**Pn**	**14 27 01.3**	**-0.6**		
WRH				IAML		14 27 39.7			
	comp=N,1µm,0.7s								
I21K	**Tanana**	**3.18**	**3**	P	**Pn**	**14 27 02.6**	**+0.3**		
	baz=184								
I21K				S	**Sn**	**14 27 39.1**	**-1.4**		
	baz=184								
P23K	**Montague Islan**	**3.18**	**127**	P	**Pn**	**14 27 00.9**	**-1.5**		
	baz=312,SNR=15								
P23K				S	**Sn**	**14 27 37.0**	**-3.5**		
	baz=312								
O17K	**Koliganek Bris**	**3.21**	**227**	P	**Pn**	**14 27 02.8**	**0.0**		
	baz=44,SNR=49								
O17K				S	**Sn**	**14 27 39.5**	**-1.6**		
	baz=44								
DIV	**Divide**	**3.31**	**103**		**Pn**	**14 27 02.9**	**-1.3**		
CCB	**Clear Creek Bu**	**3.36**	**36**	Pn	**Pn**	**14 27 04.1**	**-0.6**		
PAX	**Paxson**	**3.37**	**71**		**Pn**	**14 27 04.6**	**-0.4**		
PAX	**Paxson**	**3.37**	**71**	P	**Pn**	**14 27 04.7**	**-0.3**		
	baz=256,SNR=214								
PAX				S	**Sn**	**14 27 44.8**	**-0.2**		
	baz=256								
PAX	**Paxson**	**3.37**	**71**	P	**Pn**	**14 27 04.6**	**-0.4**		
GCSA	**Galena City Sc**	**3.39**	**326**		**Pn**	**14 27 05.3**	**+0.3**		
GCSA	**Galena City Sc**	**3.39**	**326**	P	**Pn**	**14 27 05.4**	**+0.3**		
	baz=142,SNR=402								
GCSA				S	**Sn**	**14 27 44.9**	**-0.5**		
	baz=142								
Q20K	**Shuyak Island**	**3.42**	**180**	P	**Pn**	**14 27 04.1**	**-1.5**		
	baz=360,SNR=36								
I23K	**Minto, Yukon-K**	**3.42**	**22**		**Pn**	**14 27 05.2**	**-0.3**		
I23K				IAML		14 27 46.9			
	comp=E,994nm,1.2s								
I23K	**Minto, Yukon-K**	**3.42**	**22**	P	**Pn**	**14 27 05.3**	**-0.3**		
	baz=205,SNR=175								
I23K				S	**Sn**	**14 27 44.3**	**-1.9**		
	baz=205								
HARP	**HAARP**	**3.43**	**80**	P	**Pn**	**14 27 05.8**	**+0.1**		
	baz=267,SNR=96								
HARP				S	**Sn**	**14 27 46.1**	**-0.2**		
	baz=267								
N16K	**Nishlik Lake**	**3.44**	**246**	P	**Pn**	**14 27 06.0**	**+0.2**		
	baz=61,SNR=18								
HDA	**Harding Lake**	**3.45**	**44**		**Pn**	**14 27 05.1**	**-0.9**		
HDA				IAML		14 27 49.0			
	comp=E,3µm,0.3s								
HDA	**Harding Lake**	**3.45**	**44**	P	**Pn**	**14 27 05.2**	**-0.7**		
	baz=228,SNR=286								
P17K	**Kvichak River**	**3.46**	**217**	P	**Pn**	**14 27 06.3**	**+0.3**		
	baz=33,SNR=37								
MDM	**Murphy Dome**	**3.50**	**31**		**Pn**	**14 27 05.9**	**-0.7**		
MDM				IAML		14 27 46.8			
	comp=E,2µm,0.9s								
MDM				IAML		14 27 48.4			
	comp=N,1µm,1.1s								
TCOL	**CIGO, UAF Yank**	**3.52**	**34**		**Pn**	**14 27 06.3**	**-0.5**		
TCOL				IAML		14 27 47.1			
	comp=E,3µm,0.8s								
TCOL	**CIGO, UAF Yank**	**3.52**	**34**	P	**Pn**	**14 27 06.4**	**-0.5**		
	baz=217,SNR=236								
COLA	**College**	**3.52**	**34**		**Pn**	**14 27 06.2**	**-0.5**		
COLA				IAML		14 27 47.0			
	comp=E,3µm,0.8s								
COLA	**College**	**3.52**	**34**	P	**Pn**	**14 27 06.3**	**-0.5**		
	baz=217								
COLA	**College**	**3.52**	**34**	P	**Pn**	**14 27 06.8**	**0.0**		
COLA	**College**	**3.52**	**34**	P	**Pn**	**14 27 06.3**	**-0.5**		
K24K	**Donnelly Dome**	**3.53**	**57**	P	**Pn**	**14 27 07.5**	**+0.5**		
	baz=242,SNR=246								
EYAK	**Cordova Ski Ar**	**3.55**	**112**		**Pn**	**14 27 05.7**	**-1.5**		
EYAK	**Cordova Ski Ar**	**3.55**	**112**	P	**Pn**	**14 27 06.9**	**-0.3**		
	baz=298,SNR=10								
EYAK	**Cordova Ski Ar**	**3.55**	**112**	P	**Pn**	**14 27 07.2**	**0.0**		
Q18K	**Katmai Hardscr**	**3.62**	**202**	P	**Pn**	**14 27 07.9**	**-0.4**		
	baz=20,SNR=31								
H21K	**Melozitna Rive**	**3.65**	**358**	Pn	**Pn**	**14 27 08.8**	**+0.1**		
H21K				IAML		14 27 51.2			
	comp=E,868nm,1.3s								
H21K	**Melozitna Rive**	**3.65**	**358**	P	**Pn**	**14 27 08.7**	**+0.1**		
	baz=177								
O16K	**Kokwok River B**	**3.69**	**231**	P	**Pn**	**14 27 08.9**	**-0.2**		
	baz=46								
IL31		**3.72**	**40**		**Pn**	**14 27 08.6**	**-0.8**		
ILAR	**Eielson Array**	**3.72**	**40**	P	**Pn**	**14 27 08.9**	**-0.5**		
	comp=E,74nm,0.3s,baz=223,slow=14,SNR=1557								
ILAR				S	**Sn**	**14 27 49.8**	**-3.2**		
	comp=E,189nm,0.8s,baz=227,slow=16,SNR=10								
ILAR	**Eielson Array**	**3.72**	**40**		**Pn**	**14 27 08.2**	**-1.2**		
ILAR	**Eielson Array**	**3.72**	**40**	P	**Pn**	**14 27 08.2**	**-1.2**		
N25K	**Chitina, Valde**	**3.74**	**93**	Pn	**Pn**	**14 27 09.2**	**-0.6**		
N25K				IAML		14 27 53.6			
	comp=E,3µm,0.5s								
N25K	**Chitina, Valde**	**3.74**	**93**	P	**Pn**	**14 27 09.1**	**-0.6**		
	baz=280,SNR=50								
POKR	**Poker Plat Res**	**3.83**	**34**		**Pn**	**14 27 10.7**	**-0.2**		
POKR				IAML		14 27 55.9			
	comp=N,1µm,1.0s								
POKR	**Poker Plat Res**	**3.83**	**34**	P	**Pn**	**14 27 10.6**	**-0.2**		
	baz=218,SNR=126								
RIDG	**Independent Ri**	**3.88**	**60**		**Pn**	**14 27 11.0**	**-0.6**		
RIDG				IAML		14 28 00.8			
	comp=N,3µm,0.8s								
RIDG	**Independent Ri**	**3.88**	**60**	P	**Pn**	**14 27 11.6**	**0.0**		
	baz=247,SNR=222								
BMRM	**Bremner River**	**3.90**	**102**		**Pn**	**14 27 10.4**	**-1.4**		
BMRM	**Bremner River**	**3.90**	**102**	P	**Pn**	**14 27 11.2**	**-0.7**		
	baz=289,SNR=21								
H22K	**Ishtalitna Cre**	**3.92**	**6**	P	**Pn**	**14 27 11.9**	**-0.1**		
	baz=187								
Q16K	**King Salmon**	**3.96**	**214**	P	**Pn**	**14 27 13.0**	**+0.4**		
	baz=30,SNR=21								
Q23K	**Middleton Isla**	**3.96**	**128**	Pn	**Pn**	**14 27 12.0**	**-0.6**		
Q23K				IAML		14 28 06.1			
	comp=E,1µm,0.7s								
Q23K				IAML		14 28 18.1			
	comp=N,1µm,0.9s								
Q23K	**Middleton Isla**	**3.96**	**128**	P	**Pn**	**14 27 11.9**	**-0.6**		
	baz=314,SNR=7.5								
MID	**Middleton Isla**	**3.96**	**128**	Pn	**Pn**	**14 27 12.0**	**-0.6**		
MID				IAML		14 28 23.1			
	comp=N,1µm,1.1s								
MID				IAML		14 28 38.3			
	comp=E,1µm,1.3s								
MID	**Middleton Isla**	**3.96**	**128**	P	**Pn**	**14 27 12.0**	**-0.6**		
IMAR	**Indian Mountai**	**4.02**	**352**	Pn	**Pn**	**14 27 13.6**	**+0.3**		
P16K	**Nushagak River**	**4.07**	**225**	P	**Pn**	**14 27 13.9**	**-0.1**		
	baz=40,SNR=18								
GLB	**Gilahina Butte**	**4.14**	**94**	Pn	**Pn**	**14 27 14.5**	**-0.5**		
MENT	**Mentasta**	**4.14**	**73**		**Pn**	**14 27 14.5**	**-0.6**		
MENT				IAML		14 28 23.8			
	comp=N,2µm,0.5s								
MENT				IAML		14 28 24.1			
	comp=E,2µm,0.7s								
MENT	**Mentasta**	**4.14**	**73**	P	**Pn**	**14 27 15.0**	**-0.1**		
Q17K	**Contact Creek**	**4.15**	**206**	P	**Pn**	**14 27 15.2**	**0.0**		
	baz=23,SNR=29								
DOT	**Dot Lake**	**4.17**	**63**		**Pn**	**14 27 14.6**	**-0.8**		
KDAK	**Kodiak Island**	**4.25**	**181**	P	**Pn**	**14 27 14.3**	**-2.2**		
	comp=E,90nm,0.3s,baz=52,slow=6.8,SNR=854								
KDAK				S	**Sn**	**14 28 01.7**	**-4.0**		
	comp=E,223nm,0.4s,baz=238,slow=19,SNR=12								
KDAK	**Kodiak Island**	**4.25**	**181**	Pn	**Pn**	**14 27 13.9**	**-2.6**		
KDAK				IAML		14 28 10.1			
	comp=E,650nm,0.9s								
KDAK	**Kodiak Island**	**4.25**	**181**	P	**Pn**	**14 27 13.9**	**-2.6**		
SCRK	**Sand Creek**	**4.32**	**59**	Pn	**Pn**	**14 27 16.6**	**-0.8**		
SCRK				IAML		14 28 05.9			
	comp=N,808nm,0.5s								
SCRK				IAML		14 28 08.5			
	comp=E,715nm,0.9s								
SCRK	**Sand Creek**	**4.32**	**59**	P	**Pn**	**14 27 17.0**	**-0.5**		
	baz=247,SNR=338								
H24K	**Noodor Dome**	**4.32**	**26**	Pn	**Pn**	**14 27 16.7**	**-0.7**		
H24K	**Noodor Dome**	**4.32**	**26**	P	**Pn**	**14 27 16.6**	**-0.7**		
	baz=210								
L26K	**Log Cabin Wild**	**4.33**	**73**		**Pn**	**14 27 17.4**	**0.0**		
L26K				IAML		14 28 20.4			
	comp=N,1000nm,0.4s								
L26K				IAML		14 28 24.1			
	comp=E,1µm,0.5s								
L26K	**Log Cabin Wild**	**4.33**	**73**	P	**Pn**	**14 27 17.5**	**0.0**		
	baz=260,SNR=174								
VRDI	**Verde Repeater**	**4.36**	**97**		**Pn**	**14 27 17.1**	**-0.9**		
VRDI	**Verde Repeater**	**4.36**	**97**	IAML		14 28 08.6			
	comp=N,1µm,0.6s								
VRDI				IAML		14 28 08.6			
	comp=E,623nm,0.5s								
M26K	**Nabesna, AK**	**4.43**	**81**	Pn	**Pn**	**14 27 18.2**	**-0.7**		
M26K				IAML		14 28 29.4			
	comp=E,886nm,0.5s								
M26K				IAML		14 28 29.7			
	comp=N,758nm,0.7s								
M26K	**Nabesna, AK**	**4.43**	**81**	P	**Pn**	**14 27 18.5**	**-0.4**		
	baz=269								
MCARA	**McCarthy VSAT**	**4.52**	**94**		**Pn**	**14 27 19.6**	**-0.5**		
MCARA	**McCarthy VSAT**	**4.52**	**94**	P	**Pn**	**14 27 19.7**	**-0.3**		
	baz=282,SNR=36								
G21K	**Allakaket**	**4.54**	**355**	P	**Pn**	**14 27 20.5**	**+0.3**		
	baz=173								
PRP	**Porcupine Dome**	**4.66**	**38**	Pn	**Pn**	**14 27 21.2**	**-0.7**		
PRP				IAML		14 28 16.5	

baz=183
E23K **Chandalar** 6.18 10 P Pn 14 27 42.4 +0.3
baz=192
G26K **Porcupine Rive** 6.19 33 P Pn 14 27 41.3 -0.9
baz=221
PCA **Pinnacle** 6.22 103 Pn 14 27 43.1 +0.4
PINM **Pinnacle** 6.22 103 P Pn 14 27 42.7 0.0
baz=293,SNR=14
DAWY **Dawson** 6.27 65 Pn Pn 14 27 42.8 -0.5
DAWY **Dawson** 6.27 65 P Pn 14 27 42.9 -0.5
baz=257,SNR=280
F25K **Christian Rive** 6.30 24 P Pn 14 27 43.1 -0.6
baz=210
E24K **Your Creek** 6.30 14 P Pn 14 27 43.8 +0.1
baz=197
ANM **Nome** 6.37 299 Pn Pn 14 27 45.3 +0.7
ANM **Nome** 6.37 299 P Pn 14 27 45.4 +0.8
baz=108,SNR=40
ANM **Nome** 6.37 299 P Pn 14 27 45.3 +0.7
H27K **Steamboat Moun** 6.37 44 P Pn 14 27 44.1 -0.5
baz=233
BMAR **Burnt Mountain** 6.38 28 Pn Pn 14 27 43.6 -1.2
CHGN **Chignik** 6.51 211 Pn 14 27 44.5 -2.0
CHGN **Chignik** 6.51 211 P Pn 14 27 45.6 -0.9
baz=26
M29M **Somme Creek** 6.54 80 P Pn 14 27 47.3 +0.3
baz=272
BCPM **Bancas Point** 6.56 103 Pn 14 27 47.2 0.0
YUK4 **Talbot Arm** 6.59 90 P Pn 14 27 48.1 +0.3
baz=281,SNR=53
G27K **Doyon Strip** 6.69 39 P Pn 14 27 47.1 -1.8
baz=229
F26K **Sheenjek River** 6.69 28 P Pn 14 27 47.9 -1.1
baz=216,SNR=30
L29M **L29M** 6.70 74 P Pn 14 27 49.1 0.0
baz=267
E25K **Arctic Village** 6.77 22 P Pn 14 27 49.7 -0.3
baz=208,SNR=102
PNL **Peninsula** 6.79 105 Pn 14 27 50.1 -0.2
PNL **Peninsula** 6.79 105 P Pn 14 27 50.2 -0.2
baz=296
YUK6 **Outpost Mounta** 6.82 93 P Pn 14 27 50.8 -0.1
baz=285,SNR=9.1
J29M **Klondike Camp** 6.86 63 Pn 14 27 51.3 0.0
J29M **Klondike Camp** 6.86 63 P Pn 14 27 51.2 0.0
baz=256,SNR=22
O29M **Mount Kennedy** 6.92 98 P Pn 14 27 52.4 +0.3
baz=290
D23K **Nanushuk River** 7.01 5 P Pn 14 27 54.5 +1.3
baz=187
K29M **Barlow Dome** 7.04 68 P Pn 14 27 53.2 -0.5
baz=262
I29M **Ogilvie Camp,** 7.11 56 Pn 14 27 53.5 -1.0
I29M **Ogilvie Camp,** 7.11 56 P Pn 14 27 54.3 -0.2
baz=248,SNR=45
HYT **Haines Junctio** 7.26 93 Pn Pn 14 27 56.3 -0.3
HYT **Haines Junctio** 7.26 93 P Pn 14 27 56.3 -0.3
baz=286,SNR=11
M30M **Minto, Yukon** 7.31 79 Pn 14 27 57.0 -0.2
M30M **Minto, Yukon** 7.31 79 P Pn 14 27 57.0 -0.2
baz=272,SNR=17
E27K **Coleen River** 7.68 32 P Pn 14 28 00.7 -1.5
baz=221,SNR=17
TNA **Tin City** 7.72 304 Pn Pn 14 28 03.5 +0.9
TNA **Tin City** 7.72 304 P Pn 14 28 03.3 +0.7
baz=110,SNR=13
MAYO **Mayo, Yukon** 7.74 71 Pn 14 28 03.2 +0.3
MAYO **Mayo, Yukon** 7.74 71 P Pn 14 28 02.9 0.0
baz=266,SNR=9.2
P30M **Million Dollar** 7.74 97 P Pn 14 28 03.1 +0.1
baz=291
C24K **Franklin Bluff** 7.88 10 P Pn 14 28 05.1 +0.4
baz=193
N31M **Braeburn, Yuko** 7.92 87 Pn Pn 14 28 05.5 +0.1
N31M **Braeburn, Yuko** 7.92 87 P Pn 14 28 05.3 0.0
baz=281,SNR=17
O30N **Mendenhall** 7.94 92 P Pn 14 28 05.1 -0.6
baz=286
PLBC **Pleasant Camp** 8.28 101 P Pn 14 28 10.5 +0.4
baz=295,SNR=6.2
C27K **Jago River** 8.42 21 P Pn 14 28 11.8 -0.2
baz=209
M31M **Drury Creek, Y** 8.46 81 Pn 14 28 12.9 +0.4
M31M **Drury Creek, Y** 8.46 81 P Pn 14 28 12.7 +0.2
baz=277,SNR=7.8
C26K **Camden Bay** 8.49 18 P Pn 14 28 12.9 0.0
baz=205
WHY **Whitehorse** 8.54 91 Pn Pn 14 28 13.3 -0.5
WHY **Whitehorse** 8.54 91 P Pn 14 28 12.8 -1.0
baz=287
G30M **tAoh Zraii Nji** 8.56 47 P Pn 14 28 13.0 -1.0
baz=242
SKAG **Skagway** 8.76 99 Pn 14 28 16.8 +0.3
SKAG **Skagway** 8.76 99 P Pn 14 28 17.4 +0.9
baz=294,SNR=7.2
SKAG **Skagway** 8.76 99 P Pn 14 28 17.9 +1.4
FARO **Faro, Yukon** 8.94 80 Pn 14 28 19.4 +0.4
FARO **Faro, Yukon** 8.94 80 P Pn 14 28 19.2 +0.2
baz=277,SNR=13
N32M **Quiet Lake** 9.26 87 P Pn 14 28 23.3 0.0
baz=284,SNR=12
BESE **Bessie Mountai** 9.37 104 Pn 14 28 25.3 +0.5
P32M **Atlin** 9.46 97 P Pn 14 28 26.0 0.0
baz=293
A21K **Barrow** 9.48 352 Pn Pn 14 28 24.6 -1.5
A21K **Barrow** 9.48 352 P Pn 14 28 24.5 -1.7
baz=168,SNR=54
F31M **Tsiigehtchic** 9.63 48 P Pn 14 28 26.8 -1.3
baz=244,SNR=18
P33M **Teslin, Yukon** 9.65 92 Pn 14 28 28.5 -0.1
P33M **Teslin, Yukon** 9.65 92 P Pn 14 28 27.9 -0.7
baz=289
R32K **Eaglecrest** 9.68 105 P Pn 14 28 28.6 -0.3
baz=300
JIS **Juneau Island** 9.74 105 Pn 14 28 28.9 -0.7
JIS **Juneau Island** 9.74 105 P Pn 14 28 31.0 +1.4
SIT **Sitka** 9.99 112 Pn Pn 14 28 33.7 +0.7
SIT **Sitka** 9.99 112 P Pn 14 28 33.8 +0.8
baz=307
SIT **Sitka** 9.99 112 P Pn 14 28 33.7 +0.7
INK **Inuvik** 10.11 43 P Pn 14 28 33.6 -0.9
comp=N,26nm,0.9s,baz=238,slow=16,SNR=82
INK S Sn 14 30 22.9 -3.0
comp=N,34nm,1.0s,baz=197,slow=17,SNR=5.1
INK LR LR 14 32 20.1
comp=N,132nm,18.9s,baz=306,slow=37
INK **Inuvik** 10.11 43 Pn Pn 14 28 33.4 -1.1
INK **Inuvik** 10.11 43 P Pn 14 28 33.7 -0.8
baz=240,SNR=30
INK **Inuvik** 10.11 43 P Pn 14 28 33.4 -1.1
Q32M **Nakina River** 10.39 98 P Pn 14 28 38.9 +0.3
baz=296
UNV **Unalaska Valle** 11.07 229 Pn Pn 14 28 46.9 -0.5
UNV **Unalaska Valle** 11.07 229 P Pn 14 28 48.3 +0.9
baz=37
T33K **Petersburg** 11.19 109 P Pn 14 28 49.6 +0.8
baz=306
S34M **Telegraph Cree** 11.41 102 P Pn 14 28 54.0 +2.2
baz=300,SNR=5.7
U33K **Whale Pass** 11.54 112 P Pn 14 28 55.9 +2.5
baz=309
DLBC **Dease Lake** 11.68 98 P Pn 14 28 56.3 +1.0
comp=N,5.7nm,0.8s,baz=341,slow=16,SNR=11
DLBC S Sn 14 31 02.6 -1.5
comp=N,7.7nm,0.5s,baz=158,slow=19,SNR=2.5
DLBC **Dease Lake** 11.68 98 Pn Pn 14 28 55.9 +0.6
DLBC **Dease Lake** 11.68 98 P Pn 14 28 56.3 +1.0
baz=297
WRAK **Wrangell Islan** 11.69 110 P Pn 14 28 57.8 +2.4
baz=307
CRAG **Craig** 11.95 115 Pn Pn 14 28 59.3 +0.4
CRAG **Craig** 11.95 115 P Pn 14 29 00.9 +2.0
baz=311
NIKH **Nikolski High** 12.62 232 P Pn 14 29 09.7 +2.1
baz=38
V35K **Ketchikan** 12.70 112 P P 14 29 11.4 -2.7
baz=310
LIRD **Liard River Hi** 13.11 90 P Pn 14 29 15.3 +1.4
baz=293
WRGLY **Wrigley** 13.33 72 P Pn 14 29 17.7 +1.1
baz=276
C36M **Paulatuk** 13.67 45 Pn Pn 14 29 17.4 -3.4
C36M **Paulatuk** 13.67 45 P Pn 14 29 17.4 -3.4
baz=251,SNR=35
KOTAN **Kotaneelee Air** 13.81 85 P Pn 14 29 23.3 +0.6
baz=290
DIB **Dawson Inlet,** 13.81 121 Pn Pn 14 29 20.8 -2.0

MOBC **Moresby Island** 14.06 120 P P 14 29 29.4 0.0
A36M **Sachs Harbour** 14.40 35 Pn 14 29 27.8 -2.3
A36M **Sachs Harbour** 14.40 35 P Pn 14 29 27.8 -2.3
baz=240,SNR=63
BBB **Bella Bella** 16.37 116 P P 14 29 58.9 +4.1
comp=N,30nm,0.9s,baz=301,slow=8.2,SNR=17
BBB S S 14 32 57.7 +0.7
comp=N,12nm,0.8s,baz=336,slow=20,SNR=4.8
ADK **Adak** 16.57 243 P 14 29 57.5 +0.5
ADK **Adak** 16.57 243 P P 14 29 57.7 +0.7
ADK **Adak** 16.57 243 P P 14 29 57.5 +0.5
ADK pmax pmax
comp=Z,207nm,1.0s
KIWB **Kanaga Island** 16.78 244 P P 14 29 58.8 -0.7
YKA **Yellowknife Ar** 17.45 72 P Pn 14 30 08.3 +0.7
comp=Z,5.4nm,0.8s,baz=282,slow=12,SNR=54
YKA PcP PcP 14 34 39.0 -0.5
comp=Z,1.2nm,0.6s,baz=278,slow=2.0,SNR=5.4
YKA ScP ScP 14 37 59.9 -1.1
comp=Z,1.2nm,0.7s,baz=283,slow=2.2,SNR=8.4
YKA **Yellowknife Ar** 17.45 72 P Pn 14 30 08.2 +0.6
BILL **Bilibino** 18.14 307 *i* P P 14 30 07.1 -7.0
BILL pmax pmax
comp=Z,2.0nm,1.2s
AMKA **Amchitka** 18.66 248 P P 14 30 19.2 -0.7
LTY **Liberty** 23.26 115 P P 14 31 07.2 -0.6
RES **Resolute Bay** 23.45 34 P P 14 31 09.6 +0.3
comp=Z,7.3nm,0.7s,baz=262,slow=11,SNR=30
comp=Z,7.3nm,0.7s
RES **Resolute Bay** 23.45 34 P P 14 31 09.1 -0.1
RES **Resolute Bay** 23.45 34 P P 14 31 09.1 -0.1
RES pmax pmax
comp=Z,11nm,0.9s
NEW **Newport** 24.05 109 P P 14 31 16.1 +1.2
comp=Z,4.1nm,0.6s,baz=315,slow=10.0,SNR=8.9
comp=Z,4.1nm,0.6s
NEW **Newport** 24.05 109 P P 14 31 16.5 +1.5
NEW **Newport** 24.05 109 P P 14 31 16.5 +1.5
NEW pmax pmax
comp=Z,6.0nm,0.7s
D08A **Wollman Farm,** 24.17 113 P P 14 31 16.2 +0.2
SEY **Seymchan** 24.87 297 P P 14 31 21.3 -0.9
comp=Z,2.1nm,0.8s,baz=110,slow=8.0,SNR=10
comp=Z,2.1nm,0.8s
SEY **Seymchan** 24.87 297↑ *e*P P 14 31 21.5 -0.7
SEY pmax pmax
comp=Z,2.0nm,0.7s
WALA **Waterton Lakes** 24.92 104 P P 14 31 23.7 +0.7
EUNU **Eureka** 25.62 22 P P 14 31 29.3 +0.4
EUNU IAmb IAmb 14 31 34.1
comp=Z,9.2nm,0.8s
MSO **Missoula** 26.55 107 P P 14 31 39.0 +1.3
baz=319
K05A **Summer Lake** 26.83 121 P P 14 31 42.2 +1.9
K05A IAmb IAmb 14 31 44.1
comp=Z,13nm,1.0s
YBH **Yreka Blue Hor** 26.96 125 P P 14 31 42.9 +1.6
comp=Z,5.4nm,0.9s,baz=342,slow=3.2,SNR=7.7
comp=Z,5.4nm,0.9s
PLID **Pearl Lake** 26.98 112 P P 14 31 42.3 +0.7
MA2 **Magadan** 27.07 291 P P 14 31 41.1 -0.9
comp=Z,1.3nm,0.6s,baz=54,slow=10,SNR=3.9
comp=Z,1.3nm,0.6s
MA2 **Magadan** 27.07 291↑ *e*P P 14 31 41.8 -0.2
MA2 pmax pmax
comp=Z,3.0nm,1.0s
PEA0B **Petropavlovsk-** 27.53 274 P P 14 31 44.3 -1.9
PEA0B **Petropavlovsk-** 27.53 274 P P 14 31 44.3 -1.9
PEA0B pmax pmax
comp=Z,25nm,1.3s
PETK **Petropavlovsk-** 27.53 274 P P 14 31 45.3 -0.9
comp=Z,6.2nm,0.9s,baz=76,slow=12,SNR=7.9
comp=Z,6.2nm,0.9s
EGMT **Eagleton** 27.58 101 P P 14 31 47.9 +1.1
baz=316,SNR=5.9
LRM **Limekiln Ridge** 27.99 107 P P 14 31 51.2 +0.6
FCC **Fort Churchill** 28.16 70 P P 14 31 52.6 +0.9
FCC **Fort Churchill** 28.16 70 P P 14 31 52.6 +0.9
FCC pmax pmax
comp=Z,20nm,1.4s
MFID **Camas Ranch** 28.38 114 P P 14 31 54.8 +0.8
BOZ **Bozeman (W)** 28.53 106 P P 14 31 56.7 +1.4
baz=320
BCYI **Bear Canyon** 28.73 110 P P 14 31 57.6 +0.4
HLID **Hailey** 28.88 112 P P 14 32 00.5 +2.1
baz=323
YHL **Hebgen Lake** 29.30 107 P P 14 32 02.9 +0.5
H17A **Grant Village** 29.93 107 P P 14 32 09.8 +1.9
baz=321
RLMT **Red Lodge** 29.97 104 P P 14 32 08.2 +0.1
RLMT IAmb IAmb 14 32 12.2
comp=Z,11nm,0.8s
RLMT **Red Lodge** 29.97 104 P P 14 32 10.3 +2.2
baz=320,SNR=12
TIXI **Tiksi** 30.04 322 LR LR 14 46 57.5
comp=Z,49nm,19.3s,baz=177,slow=42
LAO **LASA Array** 30.20 99 P P 14 32 10.4 +0.5
LAO **LASA Array** 30.20 99 P P 14 32 11.6 +1.6
baz=318,SNR=6.1
HVU **Hansel Valley** 31.03 112 P P 14 32 18.5 +1.1
HVU IAmb IAmb 14 32 20.9
comp=Z,6.7nm,0.9s
HVU **Hansel Valley** 31.03 112 P P 14 32 18.5 +1.1
HVU pmax pmax
comp=Z,7.0nm,0.9s
KVN **Kaiserville** 31.07 122 P P 14 32 19.9 +2.0
KVN IAmb IAmb 14 32 21.1
comp=Z,8.8nm,1.2s
KVN **Kaiserville** 31.07 122 P P 14 32 19.9 +2.0
KVN pmax pmax
comp=Z,9.0nm,1.2s
RYN **Ryan** 31.26 123 P P 14 32 19.3 -0.2
NVAR **Mina Array Bea** 31.52 123 P P 14 32 24.2 +2.4
comp=Z,5.2nm,0.7s,baz=315,slow=9.1,SNR=44
NVAR PcP PcP 14 35 11.7 +0.7
comp=Z,1.1nm,0.7s,baz=307,slow=2.7,SNR=6.1
NVAR ScP ScP 14 38 40.4 -0.2
comp=Z,4.0nm,1.3s,baz=285,slow=2.5,SNR=4.5
comp=Z,5.2nm,0.7s
NVAR **Mina Array Bea** 31.52 123 P P 14 32 22.9 +1.1
SPUT **South Promonto** 31.55 112 P P 14 32 23.6 +1.6
SPUT IAmb IAmb 14 32 25.4
comp=Z,5.9nm,0.8s
LHV **Little Huntoon** 31.59 123 P P 14 32 23.8 +1.6
LHV IAmb IAmb 14 32 25.8
comp=Z,13nm,1.2s
BW06 **Boulder Array** 31.67 107 P P 14 32 23.9 +0.8
BW06 IAmb IAmb 14 32 26.3
comp=Z,10nm,1.3s
BW06 **Boulder Array** 31.67 107 P P 14 32 24.6 +1.5
baz=322,SNR=6.7
PD31 **Pinedale Array** 31.67 107 P P 14 32 24.9 +1.8
PD31 IAmb IAmb 14 32 26.2
comp=Z,9.6nm,1.3s
PDAR **Pinedale Array** 31.67 107 P P 14 32 25.1 +2.0
comp=Z,2.4nm,0.5s,baz=325,slow=4.1,SNR=69
PDAR PcP PcP 14 35 10.8 -0.6
comp=Z,0.9nm,0.7s,baz=117,slow=1.2,SNR=4.7
PDAR ScP ScP 14 38 39.8 -1.2
comp=Z,0.9nm,0.7s,baz=87,slow=0.5,SNR=8.0
comp=Z,2.4nm,0.5s
PDAR **Pinedale Array** 31.67 107 P P 14 32 24.5 +1.4
DUG **Dugway, Tooele** 32.31 114 P P 14 32 30.4 +1.8
baz=326,SNR=5.2
ULM **Lac du Bonnet** 32.55 85 P P 14 32 32.2 +1.8
comp=Z,5.5nm,0.6s,baz=290,slow=8.9,SNR=9.1
ULM pP pP 14 33 01.3 +0.6
comp=Z,2.5nm,0.5s,baz=287,slow=6.9,SNR=3.1
ULM PcP PcP 14 35 13.1 -0.2
comp=Z,6.7nm,0.6s,baz=324,slow=3.3,SNR=7.4
comp=Z,5.5nm,0.6s
ULM **Lac du Bonnet** 32.55 85 P P 14 32 32.0 +1.6
ULM IAmb IAmb 14 33 04.5
comp=Z,8.8nm,1.1s
ULM **Lac du Bonnet** 32.55 85 P P 14 32 32.0 +1.6
ULM pmax pmax
comp=Z,9.0nm,1.2s
DSP **Deep Springs** 32.57 123 P P 14 32 31.1 +0.4
R11A **Troy Canyon, C** 32.69 119 P P 14 32 32.9 +0.9
R11A **Troy Canyon, C** 32.69 119 P P 14 32 33.9 +1.9
baz=328,SNR=8.1
LCH **Last Change Ra** 32.82 123 P P 14 32 33.8 +0.8
LCH IAmb IAmb 14 32 36.7
comp=Z,9.3nm,1.4s
K22A **Casper** 33.13 104 P P 14 32 37.4 +1.6
baz=322

RSSD **Black Hills** 33.14 100 P P 14 32 37.8 +1.9
RSSD **Black Hills** 33.14 100 P P 14 32 37.9 +1.9
baz=320
RSSD **Black Hills** 33.14 100 P P 14 32 37.8 +1.9
RSSD pmax pmax
comp=Z,14nm,0.6s
CWC **Cottonwood Cre** 33.34 124 P P 14 32 40.2 +2.6
baz=331
RWWY **Rawlins** 33.58 106 P P 14 32 38.5 -1.3
SMMC **Simmler** 33.59 128 P P 14 32 41.4 +1.7
baz=333
TPNV **Topopah Spring** 33.62 121 P P 14 32 41.5 +1.5
TPNV **Topopah Spring** 33.62 121 P P 14 32 41.8 +1.8
baz=330,SNR=5.4
TPNV **Topopah Spring** 33.62 121 P P 14 32 41.5 +1.5
TPNV pmax pmax
comp=Z,3.0nm,0.7s
FURC **Furnace Creek,** 33.79 123 P P 14 32 43.2 +1.9
baz=331
ISA **Isabella, Lake** 33.86 125 P P 14 32 44.1 +2.0
baz=332
MPMC **Manual Prospec** 33.90 124 P P 14 32 44.6 +2.1
baz=331,SNR=8.8
MSU **Marysvale** 33.98 115 P P 14 32 44.8 +1.5
MSU **Marysvale** 33.98 115 P P 14 32 44.8 +1.5
SRU **San Rafael Swe** 34.20 112 P P 14 32 45.5 +0.5
SRU **San Rafael Swe** 34.20 112 P P 14 32 45.6 +0.5
SRU pmax pmax
comp=Z,15nm,0.8s
QSM **Queen of Sheba** 34.23 123 P P 14 32 46.6 +1.5
QSM IAmb IAmb 14 32 48.5
comp=Z,15nm,1.1s
LRMC **Laurel Mtn Rad** 34.33 124 P P 14 32 48.4 +2.2
baz=332
O20A **White River Ci** 34.37 109 P P 14 32 47.7 +1.2
O20A **White River Ci** 34.37 109 P P 14 32 48.1 +1.6
baz=324,SNR=7.5
YAK **Yakutsk** 34.48 305↑ *e*P P 14 32 46.6 -0.4
YAK pmax pmax
comp=Z,9.0nm,0.8s
EDW2 **Edwards Air Fo** 34.74 125 P P 14 32 51.2 +1.6
baz=332
GSC **Goldstone, Bar** 34.83 123 P P 14 32 52.4 +2.0
baz=331,SNR=6.8
KNB **Kanab** 34.97 117 P P 14 32 53.4 +1.7
KNB IAmb IAmb 14 32 55.4
comp=Z,9.8nm,0.9s
KNB **Kanab** 34.97 117 P P 14 32 53.4 +1.7
KNB pmax pmax
comp=Z,10.0nm,0.9s
TUQ **Turquoise Moun** 35.06 122 P P 14 32 54.4 +2.0
baz=331,SNR=7.2
HEC **Hector,Ludlow** 35.43 123 P P 14 32 57.3 +1.8
baz=332
BFSC **Mount Baldy Ra** 35.43 125 P P 14 32 57.9 +2.2
baz=332
PV15 **Paradox Valley** 35.73 111 P P 14 32 59.8 +1.5
GMRC **Granite Mounta** 35.73 122 P P 14 33 00.2 +2.0
baz=331,SNR=7.3
ISCO **Idaho Springs** 35.82 106 P P 14 33 01.0 +1.9
baz=324
CIS **Catalina Islan** 35.89 127 P P 14 33 01.9 +2.5
baz=333
TYV **Tymovskoe** 36.02 283 *e*P P 14 33 00.5 +0.3
TYV pmax pmax
comp=E,14nm,0.7s
NEE2 **Needles Airpor** 36.17 121 P P 14 33 03.4 +1.7
baz=331
MURC **Murrieta** 36.17 125 P P 14 33 03.3 +1.5
baz=333
EYMN **Ely** 36.21 84 P P 14 33 01.8 -0.2
EYMN IAmb IAmb 14 33 04.6
comp=Z,14nm,1.1s
EYMN **Ely** 36.21 84 P P 14 33 03.7 +1.7
baz=316
PFO **Pinyon Flats O** 36.45 124 P P 14 33 05.7 +1.4
baz=332
PFO **Pinyon Flats O** 36.45 124↓ *e*P P 14 33 05.7 +1.4
PFO pmax pmax
comp=Z,8.0nm,0.9s
TPFO **Pinon Flats** 36.46 124 P P 14 33 05.9 +1.6
baz=332
IRM **Iron Mountain** 36.49 122 P P 14 33 06.6 +2.1
baz=331,SNR=5.9
MVCO **Mesa Verde** 36.66 112 P P 14 33 07.5 +1.3
MVCO IAmb IAmb 14 33 08.6
comp=Z,5.5nm,0.8s
MVCO **Mesa Verde** 36.66 112 P P 14 33 07.7 +1.5
baz=327,SNR=5.4
Q24A **Divide** 36.71 107 P P 14 33 08.4 +1.8
baz=325,SNR=6.5
PDMCI **Parker Dam,Lak** 36.76 121 P P 14 33 08.7 +1.9
baz=331
BC3 **Big Chuckawall** 36.80 123 P P 14 33 09.1 +1.8
baz=332
WUAZ **Wupatki** 36.86 117 P P 14 33 09.8 +2.0
baz=329,SNR=11
ECSD **EROS Data Cent** 36.91 93 P P 14 33 07.6 -0.4
ECSD IAmb IAmb 14 33 41.8
comp=Z,12nm,1.1s
ECSD **EROS Data Cent** 36.91 93 P P 14 33 09.2 +1.2
baz=320
S22A **4UR Ranch, Cre** 36.95 110 P P 14 33 10.6 +1.9
baz=326,SNR=8.3
MONP2 **Monument Peak** 37.10 125 P P 14 33 11.9 +2.0
baz=333
SWSC **Sam W. Stewart** 37.30 124 P P 14 33 13.1 +1.8
baz=332
IKP **In-Ko-Pah, Jac** 37.44 125 P P 14 33 14.7 +2.1
baz=333
SDCO **Great Sand Dun** 37.55 108 P P 14 33 15.7 +2.0
baz=326,SNR=7.8
GLA **Glamis** 37.58 123 P P 14 33 16.2 +2.5
baz=332
W18A **Petrified Fore** 37.89 115 P P 14 33 19.1 +2.6
baz=329
BGNE **Belgrade** 37.99 97 P P 14 33 18.8 +1.8
baz=322
SUMG **Summit** 38.45 26 *e*P P 14 33 20.8 -0.2
DAG **Danmarks Havn** 38.47 16 *i* P P 14 33 19.0 -1.6
YSS **Yuzh-Sakhalins** 38.75 278↓ *e*P P 14 33 24.0 +0.7
YSS pmax pmax
comp=Z,17nm,0.9s
CBKS **Cedar Bluff** 39.31 101 P P 14 33 29.9 +1.8
baz=324
214A **Organ Pipe Nat** 39.35 121 P P 14 33 30.5 +2.0
baz=332
ANMO **Albuquerque** 39.46 112 P P 14 33 31.3 +1.8
baz=328
ANMO **Albuquerque** 39.46 112↓ *e*P P 14 33 32.1 +2.5
ANMO pmax pmax
comp=Z,3.0nm,1.3s
TUC **Tucson** 39.87 119 P P 14 33 34.8 +2.0
baz=331
KSU1 **Kansas State U** 40.53 98 P P 14 33 39.5 +1.3
baz=323
JFWS **Jewell Farm** 40.54 88 P P 14 33 39.0 +0.8
baz=320
ZEA **Zeya** 40.85 296 *e*P P 14 33 40.1 -0.4
ASAJ **Asahikawa** 40.94 275 P P 14 33 40.4 -1.0
comp=Z,6.3nm,0.8s,baz=14,slow=5.3,SNR=5.3
comp=Z,6.3nm,0.8s
121A **Cookes Peak, D** 40.94 115 P P 14 33 43.7 +1.9
baz=330
MSTX **Muleshoe** 41.91 109 P P 14 33 51.1 +1.5
baz=328,SNR=5.5
KLR **Kul'dur** 42.13 289 P P 14 33 50.6 -0.4
comp=Z,5.1nm,0.8s,baz=40,slow=8.1,SNR=16
comp=Z,5.1nm,0.8s
KLR **Kul'dur** 42.13 289 *de*P P 14 33 50.8 -0.2
KLR pmax pmax
comp=Z,7.0nm,1.3s
NRIK **Noril'sk** 42.21 333 P P 14 33 51.9 +0.5
comp=Z,2.5nm,0.3s,baz=25,slow=5.0,SNR=7.1
comp=Z,2.5nm,0.3s
NRIK **Noril'sk** 42.21 333 *ce*P P 14 33 52.2 +0.8
SCHQ **Schefferville** 42.25 59 P P 14 33 53.2 +1.2
comp=Z,4.8nm,1.1s,baz=318,slow=11,SNR=2.6
SCHQ pP pP 14 34 23.7 +0.2
comp=Z,3.1nm,0.6s,baz=289,slow=6.7,SNR=2.2
SCHQ PcP PcP 14 35 42.9 -0.1
comp=Z,5.3nm,0.8s,baz=328,slow=5.6,SNR=4.0
comp=Z,4.8nm,1.1s
MNTX **Cornudas Mount** 42.69 113 P P 14 33 56.8 +1.0
MNTX **Cornudas Mount** 42.69 113 P P 14 33 57.5 +1.7
baz=330,SNR=7.7
WMOK **Wichita Mounta** 43.08 104 P P 14 33 59.8 +0.9

baz=326,SNR=9.8
S39A **Bolivar** **43.20** **96** P **P** **14 33 59.3 -0.5**
S39A IAmb IAmb 14 34 00.3
comp=Z,9.3nm,0.6s
HEH **HeiHe** **43.29** **293** *eP* **P** **14 33 59.3 -1.1**
HEH pmax pmax
comp=Z,20nm,0.9s
TUL1 **Leonard** **43.49** **100** P **P** **14 34 02.6 +0.5**
baz=325
CCM **Cathedral Cave** **43.88** **94** P **P** **14 34 05.5 +0.2**
baz=324
ABTX **Abilene, Hawle** **44.45** **106** P **P** **14 34 10.8 +0.9**
baz=328
O48B **Farmland** **45.01** **87** P **P** **14 34 13.8 -0.3**
baz=322
TXAR **Lajitas Array** **45.47** **113** P **P** **14 34 19.7 +1.7**
comp=Z,2.8nm,0.7s,baz=328,slow=5.8,SNR=30
TXAR pP **pP** **14 34 52.3 +2.5**
comp=Z,1.0nm,0.7s,baz=332,slow=6.8,SNR=3.0
TXAR PcP **PcP** **14 35 54.8 +0.3**
comp=Z,0.6nm,0.4s,baz=11,slow=1.2,SNR=5.0
TXAR ScP **ScP** **14 39 33.5 -0.2**
comp=Z,0.8nm,0.9s,baz=209,slow=1.3,SNR=5.8
comp=Z,2.8nm,0.7s
MIAR **Mount Ida** **45.64** **99** P **P** **14 34 19.7 +0.5**
MIAR IAmb IAmb 14 34 21.2
comp=Z,11nm,0.7s
MIAR **Mount Ida** **45.64** **99** P **P** **14 34 19.8 +0.5**
baz=326,SNR=5.8
MIAR **Mount Ida** **45.64** **99** P **P** **14 34 19.7 +0.5**
MIAR pmax pmax
comp=Z,11nm,0.7s
WHTX **Lake Whitney,** **45.98** **105** P **P** **14 34 22.8 +0.9**
baz=328
WCI **Wyandotte Cave** **46.08** **89** P **P** **14 34 23.2 +0.6**
baz=323
JCT **Junction City** **46.20** **108** P **P** **14 34 24.8 +1.2**
baz=329,SNR=6.1
LONY **Lake Ozonia** **46.51** **74** P **P** **14 34 26.6 +0.6**
baz=321
O53A **New Philadelph** **46.86** **83** P **P** **14 34 29.0 +0.4**
baz=322
WVT **Waverly** **47.05** **92** P **P** **14 34 29.2 -0.9**
WVT IAmb IAmb 14 35 04.9
comp=Z,9.7nm,0.9s
WVT **Waverly** **47.05** **92** P **P** **14 34 31.1 +1.0**
baz=324
WVT **Waverly** **47.05** **92** P **P** **14 34 29.2 -0.9**
WVT pmax pmax
comp=Z,10.0nm,0.9s
OXF **Oxford** **47.62** **95** P **P** **14 34 35.8 +1.2**
baz=325,SNR=8.4
BINY **Binghamton** **47.76** **77** P **P** **14 34 36.0 +0.4**
baz=322
PLAL **Pickwick Lake** **47.86** **93** P **P** **14 34 35.8 -0.7**
SSPA **Standing Stone** **48.11** **80** P **P** **14 34 38.8 +0.5**
baz=322
TZTN **Tazewell** **48.73** **88** P **P** **14 34 43.5 +0.4**
baz=324
MAJO **Matsushiro** **48.96** **272** P **P** **14 34 43.1 -1.7**
MAJO IAmb IAmb 14 34 45.6
comp=Z,10nm,0.8s
MAJO **Matsushiro** **48.96** **272** *eP* **P** **14 34 44.9 +0.1**
MAJO pmax pmax
comp=Z,10.0nm,0.7s
MJAR **Matsushiro Arr** **48.96** **272** P **P** **14 34 44.5 -0.3**
comp=Z,4.6nm,0.9s,baz=32,slow=6.4,SNR=11
comp=Z,4.6nm,0.9s
BLA **Blacksburg** **49.66** **85** P **P** **14 34 50.3 +0.1**
baz=324
LRAL **Lakeview Retre** **49.97** **94** P **P** **14 34 52.6 +0.1**
baz=326
JGF **Kuroka** **50.12** **272** P **P** **14 34 52.8 -0.9**
KSRS **Korea Array** **53.03** **282** P **P** **14 35 15.9 +0.8**
comp=Z,12nm,0.8s,baz=29,slow=7.0,SNR=42
comp=Z,12nm,0.8s
XLT **XiLinHaoTe** **53.10** **295** *eP* **P** **14 35 16.0 +0.3**
XLT pP pP 14 35 48.8 +0.1
XLT sP sP 14 36 07.0 +2.6
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,230nm,5.6s
ULN **Ulaanbaatar** **53.56** **305** P **P** **14 35 19.4 +0.2**
ULN IAmb IAmb 14 35 20.4
comp=Z,3.7nm,0.7s
ULN **Ulaanbaatar** **53.56** **305** *ceP* **P** **14 35 19.7 +0.5**
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONM **Songino Array** **53.84** **305** P **P** **14 35 22.2 +1.0**
comp=Z,5.4nm,0.7s,baz=35,slow=7.2,SNR=40
SONM pP **pP** **14 35 54.4 +0.3**
comp=Z,3.4nm,1.0s,baz=42,slow=7.0,SNR=3.8
comp=Z,5.4nm,0.7s
SONM **Songino Array** **53.84** **305** P **P** **14 35 22.2 +1.0**
SONM IAmb IAmb 14 35 23.3
comp=Z,5.5nm,0.8s
SONM **Songino Array** **53.84** **305** P **P** **14 35 22.2 +1.0**
SONM pmax pmax
comp=Z,6.0nm,0.8s
TJN **Taejon** **54.16** **281** ⇑ *eP* **P** **14 35 24.7 +1.2**
ZAA0 **Zalesovo Array** **55.91** **323** P **P** **14 35 35.1 -0.7**
ZAA0 IAmb IAmb 14 35 36.5
comp=Z,4.7nm,0.7s
ZALV **Zalesovo Beam** **55.91** **323** P **P** **14 35 35.5 -0.3**
comp=Z,4.7nm,0.5s,baz=32,slow=7.3,SNR=22
ZALV pP **pP** **14 36 08.8 -0.1**
comp=Z,4.5nm,0.9s,baz=28,slow=6.7,SNR=4.1
comp=Z,4.7nm,0.5s
ZALV **Zalesovo Beam** **55.91** **323** P **P** **14 35 34.9 -0.9**
BJI **Beijing** **56.20** **293** P **P** **14 35 38.5 +0.5**
BJI pmax pmax
comp=Z,4.0nm,0.9s
NOA **NORSAR Array B** **56.63** **9** P **P** **14 35 40.4 -0.4**
comp=Z,0.4nm,0.5s,baz=352,slow=7.1,SNR=2.2
NOA pP **pP** **14 36 13.4 -0.7**
comp=Z,1.2nm,0.7s,baz=351,slow=7.2,SNR=3.0
comp=Z,0.4nm,0.5s
FINES **FINESS Array B** **56.85** **1** P **P** **14 35 42.1 -0.1**
comp=Z,0.9nm,0.4s,baz=9.6,slow=8.7,SNR=13
comp=Z,0.9nm,0.4s
FINES **FINESS Array B** **56.85** **1** *i P* **P** **14 35 42.7 +0.4**
FINES pmax pmax
comp=Z,1.0nm,0.3s
HHC **Hu-ho-hao-te** **57.51** **297** *eP* **P** **14 35 49.0 +1.6**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,200nm,6.7s
HFS **Hagfors** **57.70** **8** P **P** **14 35 47.1 -1.2**
comp=Z,2.0nm,0.5s,baz=1.9,slow=4.5,SNR=9.4
HFS pP **pP** **14 36 20.5 -1.4**
comp=Z,5.4nm,0.9s,baz=2.3,slow=7.2,SNR=2.8
comp=Z,2.0nm,0.5s
KIRV **Kirov** **58.54** **347** *eP* **P** **14 35 55.7 +1.6**
DGZ **Jazzator, Alta** **58.88** **319** ⇑ *eP* **P** **14 35 57.6 +0.8**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
HNS **HongShan** **59.03** **292** ⇑P **P** **14 35 57.8 0.0**
HNS pmax pmax
comp=Z,7.0nm,0.9s
ARU **Arti** **59.43** **341** P **P** **14 35 59.5 -0.8**
comp=Z,2.6nm,0.3s,baz=23,slow=13,SNR=5.3
ARU pP **pP** **14 36 33.3 -0.6**
comp=Z,1.5nm,0.3s,baz=26,slow=6.0,SNR=2.2
comp=Z,2.6nm,0.3s
ARU **Arti** **59.43** **341** *c iP* **P** **14 36 00.7 +0.4**
ARU *PP **pP** **14 36 33.4 -0.4**
ARU 14 36 46.8
ARU 14 38 12.1
ARU S **S** **14 44 01.7 +4.0**
ARU SS **SS** **14 47 54.9 +1.0**
ARU pmax pmax
comp=Z,11nm,1.7s
BRVK **Borovoye** **60.40** **332** ⇓ *eP* **P** **14 36 07.0 0.0**
BRVK pmax pmax
comp=Z,14nm,2.5s
KURK **Kurchatov** **60.51** **325** P **P** **14 36 06.9 -0.8**
KURK IAmb IAmb 14 36 43.3
comp=Z,6.9nm,1.1s
KURK **Kurchatov** **60.51** **325** *ceP* **P** **14 36 07.5 -0.2**
KURK pmax pmax
comp=Z,6.0nm,1.3s
EKA **Eskdalemuir Ar** **60.52** **20** P **P** **14 36 08.2 +0.5**
comp=Z,2.0nm,0.5s,baz=334,slow=5.4,SNR=11
EKA pP **pP** **14 36 40.5 -1.2**
comp=Z,0.9nm,0.5s,baz=335,slow=5.0,SNR=2.3
comp=Z,2.0nm,0.5s
JOW **Kunigami** **61.70** **274** P **P** **14 36 15.3 -0.8**
comp=Z,30nm,0.8s,baz=350,slow=5.7,SNR=5.6
comp=Z,30nm,0.8s
OBN **Obninsk** **62.99** **354** ⇓ *eP* **P** **14 36 25.6 +1.4**
OBN pmax pmax
comp=Z,4.0nm,0.7s
MK31 **Makanchi Array** **63.03** **321** ⇓ *eP* **P** **14 36 24.2 -0.5**
MKAR **Makanchi Array** **63.03** **321** P **P** **14 36 23.9 -0.8**
comp=Z,2.0nm,0.5s,baz=40,slow=7.0,SNR=33
MKAR pP **pP** **14 36 58.7 +0.1**
comp=Z,4.5nm,0.9s,baz=38,slow=6.1,SNR=6.4
comp=Z,2.0nm,0.5s
MKAR **Makanchi Array** **63.03** **321** P **P** **14 36 23.6 -1.1**
MKAR **Makanchi Array** **63.03** **321** P **P** **14 36 23.6 -1.1**
GTA **Gaotai** **63.50** **304** ⇑P **P** **14 36 28.5 +0.4**
GTA pP PcP 14 37 03.5 +0.1
GTA pmax pmax
comp=Z,16nm,0.9s
WMQ **Urumqi** **64.00** **316** *eP* **P** **14 36 34.8 +3.6**
XAN **Xi'an** **64.38** **294** P **P** **14 36 33.0 -0.7**
XAN pmax pmax
comp=Z,6.0nm,1.3s
LZH **Lanzhou** **64.76** **300** *eP* **P** **14 36 36.5 +0.2**
LZH pP PcP 14 37 09.3 +0.6
LZH sP sP 14 37 25.0 -0.9
LZH pmax pmax
comp=Z,19nm,1.1s
BELG **Belogornoye** **64.83** **347** ⇓ *eP* **P** **14 36 36.5 +0.3**
BELG pmax pmax
comp=Z,2.0nm,0.9s
WHN **Wuhan** **64.97** **288** ⇓P **P** **14 36 37.5 -0.1**
WHN pmax pmax
comp=Z,39nm,0.6s
AKTO **Aktyubinsk** **65.30** **339** P **P** **14 36 38.4 -0.9**
comp=Z,2.9nm,0.6s,baz=16,slow=5.1,SNR=5.4
AKTO pP **pP** **14 37 12.8 -0.8**
comp=Z,4.1nm,0.8s,baz=26,slow=4.6,SNR=4.1
comp=Z,2.9nm,0.6s
ABKAR **Akbulak array** **66.10** **337** P **P** **14 36 43.5 -1.0**
AKASG **Malin Array Be** **67.62** **359** P **P** **14 36 53.2 -0.9**
comp=Z,0.5nm,0.3s,baz=3.0,slow=6.3,SNR=5.9
AKASG pP **pP** **14 37 28.0 -0.5**
comp=Z,8.7nm,0.8s,baz=0.8,slow=6.1,SNR=8.0
comp=Z,0.5nm,0.3s
AKASG **Malin Array Be** **67.62** **359** *i* P **P** **14 36 54.4 +0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB **Malin Array Si** **67.62** **359** ⇑ *eP* **P** **14 36 54.6 +0.5**
GOMU **GeErMu** **68.23** **307** P **P** **14 36 59.5 +0.9**
GOMU pP PcP 14 37 03.5 -20
GOMU sP pP 14 37 04.5 -29
GOMU pmax pmax
comp=Z,12nm,0.9s
GOMU pmax pmax
comp=Z,110nm,5.7s
AAK **Ala-Archa** **69.06** **325** P **P** **14 37 02.7 -0.7**
AAK IAmb IAmb 14 37 40.3
comp=Z,6.0nm,1.0s
AAK **Ala-Archa** **69.06** **325** ⇓ *eP* **P** **14 37 03.9 +0.5**
AAK pmax pmax
comp=Z,5.0nm,1.3s
KKAR **Karatay Array** **69.66** **328** P **P** **14 37 06.5 -0.4**
KKAR **Karatay Array** **69.66** **328** P **P** **14 37 06.5 -0.4**
KSH **Kashi** **71.54** **322** P **P** **14 37 21.8 +3.3**
KSH pP pP 14 37 56.8 +3.5
KSH pmax pmax
comp=Z,3.0nm,0.6s
GYA **Guiyang** **71.89** **292** ⇓ *iP* **P** **14 37 21.0 +0.2**
GYA pmax pmax
comp=Z,17nm,0.8s
PZH **PanZhiHua** **73.97** **296** P **P** **14 37 33.5 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,100nm,5.3s
KMI **Kunming** **74.76** **295** ⇓P **P** **14 37 37.5 -0.2**
KMI pmax pmax
comp=Z,12nm,0.9s
ESDC **Sonseca Array** **75.49** **25** P **P** **14 37 40.7 -0.8**
comp=Z,0.7nm,0.8s,baz=348,slow=4.3,SNR=2.3
ESDC pP **pP** **14 38 15.8 -0.7**
comp=Z,1.4nm,0.8s,baz=344,slow=5.4,SNR=3.6
comp=Z,0.7nm,0.8s
GEYT **Alibeck** **77.37** **336** P **P** **14 37 52.6 +0.5**
comp=Z,1.5nm,0.6s,baz=280,slow=4.2,SNR=3.9
GEYT pP **pP** **14 38 27.1 -0.4**
comp=Z,0.5nm,0.3s,baz=5.7,slow=16,SNR=1.9
comp=Z,1.5nm,0.6s
TAPN **Taplejung** **78.81** **308** *eP* **P** **14 38 01.2 +0.7**
comp=Z,58nm,0.6s
GUN **Gumba** **78.97** **310** *eP* **P** **14 38 01.7 +0.3**
JIRN **Jiri** **79.08** **310** *eP* **P** **14 38 02.7 +0.6**
DANN **Dangsing** **79.32** **312** *eP* **P** **14 38 03.9 +0.6**
GKN **Gorkha** **79.33** **311** *eP* **P** **14 38 03.5 +0.3**
comp=Z,4.6nm,0.3s
PKIN **Phulchoki** **79.45** **310** *eP* **P** **14 38 03.6 -0.3**
comp=Z,2.5nm,0.3s
PKI **Pulchoki** **79.45** **310** *eP* **P** **14 38 03.7 -0.3**
DMN **Daman** **79.52** **310** *eP* **P** **14 38 04.9 +0.6**
comp=Z,5.8nm,0.3s
BAUV **El Baul** **79.53** **91** P **P** **14 38 02.9 -1.2**
RAMN **Ramite** **79.58** **309** *eP* **P** **14 38 04.8 +0.2**
comp=Z,43nm,1.0s
CRAI **Chiangrai** **80.09** **294** P **P** **14 38 06.3 -0.8**
CMAR **Chiang Mai Arr** **82.27** **295** P **P** **14 38 18.4 -0.3**
comp=Z,9.4nm,0.8s,baz=7.8,slow=5.9,SNR=66
CMAR pP **pP** **14 38 54.8 +0.5**
comp=Z,3.7nm,0.9s,baz=4.0,slow=6.4,SNR=4.0
comp=Z,9.4nm,0.8s
CMAR **Chiang Mai Arr** **82.27** **295** *i P* **P** **14 38 18.3 -0.3**
CMAR pmax pmax
comp=Z,10.0nm,0.8s
BOSA **Boshof** **146.56** **4** PKPbc **PKPbc** **14 45 37.1 -0.4**
comp=Z,1.7nm,0.7s,baz=332,slow=5.9,SNR=4.6
QSPA **South Pole Qui** **151.83** **180** **PKPbc** **14 45 48.9 -0.6**

IDC ***26*** *14:34:29.8±1.2,32.°36N×130.°62E,h0km,mb3.5/4, mbtmp3.5/7,ML2.7/3,MS2.9/2,Error ellipse: s-maj=27.4km s-min=10.4km az=102.0*
JMA ***26*** *14:34:33.1±0.1,32.°5N±0.°2×130.°6E±0.°2,h9km,MV3.9/20, SOUTHERN KUMAMOTO PREF .*
JMA Felt III J1 at SOUTHERN KUMAMOTO PREF .
NIED ***26*** *14:34:33.1,32.°49N×130.°63E,h9km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.22; Mθθ=2.94; Mφφ=-2.72; Mrθ=-0.70; Mθφ=2.39; Mφr=1.03; Fault plane solution: M₀3.91000×10¹⁴ NP1: φs=114.00000°,δ=81.00000°,λ=-16.00000°. NP2: φs=206.00000°,δ=74.00000°,λ=-170.00000°.*

ISC 26 14:34:33.2±0.9,32.°48N±0.°03×130.°65E±0.°06,h15km±7km, n13,σ1§32/18,mb3.3/4,2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.15**	**62**	⇓P	**Pg**	**14 34 36.5**	**-0.8**
JIU3				⇓S	**Sg**	**14 34 39.5**	**-0.4**
JZO	**Okuchi**	**0.34**	**188**	*i* P	**Pg**	**14 34 39.8**	**-0.4**
JZO				S	**Sg**	**14 34 44.7**	**-0.4**
JTA	**Tamana**	**0.49**	**348**	*i* P	**Pg**	**14 34 42.7**	**-0.4**
JTA				S	**Sg**	**14 34 49.4**	**-0.4**
JNU	**Nakatsue**	**0.67**	**16**	Pg	**Pg**	**14 34 45.7**	**-0.7**
	195nm,0.3s,baz=180,slow=9.5,SNR=2915						
JNU				Lg	Lg	14 34 55.0	
	1μm,0.3s,baz=288,slow=8.6,SNR=43						
JTZ	**Takazaki**	**0.68**	**147**	*i* P	**Pg**	**14 34 47.0**	**+0.4**
JTZ				S	**Sg**	**14 34 56.2**	**+0.5**
KSRS	**Korea Array**	**5.45**	**336**	Pn	**Pn**	**14 35 54.9**	**+1.1**
	0.2nm,0.3s,baz=156,slow=14,SNR=1.8						
KSRS				Pg	**Pb**	**14 36 10.5**	**+2.5**
	0.4nm,0.3s,baz=157,slow=16,SNR=4.4						
KSRS				Lg	Lg	14 37 25.8	
	0.9nm,0.3s,baz=158,slow=30,SNR=4.5						
KSRS				LR	LR	14 38 05.0	
	comp=Z,54nm,18.6s,baz=140,slow=39						
	0.5nm,0.3s						
JOW	**Kunigami**	**5.99**	**201**	Pn	**Pn**	**14 36 02.1**	**+0.8**
	2.2nm,0.3s,baz=83,slow=12,SNR=11						
JOW				Lg	Lg	14 37 36.0	
	0.8nm,0.3s,baz=65,slow=19,SNR=2.5						
MJAR	**Matsushiro Arr**	**7.44**	**55**	Pn	**Pn**	**14 36 22.7**	**+1.5**
	baz=243,slow=13,SNR=1.7						
	1.0nm,0.4s						
KLR	**Kul'dur**	**16.76**	**2**	Pn	**Pn**	**14 38 26.6**	**-0.6**
	0.2nm,0.3s,baz=180,slow=10.0,SNR=1.9						
	0.4nm,0.3s						
SONM	**Songino Array**	**23.92**	**317**	P	**P**	**14 39 46.6**	**0.0**
	0.7nm,0.8s,baz=132,slow=8.3,SNR=3.2						
SONM				LR	LR	14 49 59.5	
	comp=Z,63nm,18.8s,baz=1.0,slow=39						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**52.24**	**176**	P	**P**	**14 43 41.3**	**-2.5**
	0.4nm,1.0s,baz=356,slow=8.0,SNR=1.5						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**55.91**	**176**	P	**P**	**14 44 08.5**	**-2.1**
	0.2nm,0.8s,baz=9.6,slow=12,SNR=2.1						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**68.50**	**330**	P	**P**	**14 45 33.7**	**-0.9**
	6.0nm,1.2s,baz=68,slow=9.2,SNR=3.9						
	6.0nm,1.2s						

DDA ***26*** *14:34:51.8±0.0,38.°56N×25.°23E,h2km,3km,MW4.0*
IDC ***26*** *14:34:54.0±0.9,38.°51N×25.°45E,h0km,mb3.7/9, mbtmp3.7/14,ML3.8/4,MS3.2/8,Error ellipse: s-maj=17.4km s-min=15.9km az=119.0*
ATH ***26*** *14:34:54.0,38.°54N×25.°42E,h18km±1km,ML3.8/4,Error ellipse: s-maj=2.2km s-min=1.0km az=94.0*
THE ***26*** *14:34:54.8,38.°58N×25.°36E,h5km±2km,ML3.8/8,Error ellipse: s-maj=2.2km s-min=0.5km az=100.0*
ISK ***26*** *14:34:55.9,38.°62N×25.°36E,h14km,ML4.0/34*

ISC 26 14:34:54.6±1.0,38.°52N±0.°02×25.°35E±0.°02,h6km±8km, n148,σ1§52/173,mb3.7/9,MS3.5/4,14C-6D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSRA	**Psara**	**0.17**	**84**	P	**Pg**	**14 34 57.9**	**-0.2**
PSRA				S	**Sg**	**14 35 00.3**	**-0.1**
PSRA				AML	AML	14 35 03.7	
PSRA				AML	AML	14 35 03.8	
	comp=N,87568μm,0.2s						
CHOS	**Chios island**	**0.57**	**104**	P	**Pg**	**14 35 04.8**	**-0.8**
CHOS				S	**Sb**	**14 35 15.2**	**-0.2**
	comp=N,12μm,0.3s						
CHOS	**Chios island**	**0.57**	**104**	Pg	**Pn**	**14 35 07.8**	**-1.5**
CHOS				Sg	**Sn**	**14 35 16.7**	**-2.4**
CHOS	**Chios island**	**0.57**	**104**	P	**Pg**	**14 35 04.7**	**-0.9**
CHOS				AML	AML	14 35 17.1	
	comp=N,15660μm,0.3s						
CHOS				AML	AML	14 35 19.4	
	comp=E,32665μm,0.5s						
SIGR	**SIGRI**	**0.79**	**30**	P	**Pg**	**14 35 09.4**	**-0.4**
SIGR				S	**Sg**	**14 35 19.9**	**-0.3**
	comp=E,9μm,0.5s						
SIGR	**SIGRI**	**0.79**	**30**	Pg	**Pg**	**14 35 10.1**	**+0.3**
SIGR				Sg	**Sg**	**14 35 20.5**	**+0.3**
SIGR	**SIGRI**	**0.79**	**30**	P	**Pg**	**14 35 07.1**	**-2.7**
SIGR				AML	AML	14 35 24.8	
	comp=N,21267μm,0.5s						
SIGR				AML	AML	14 35 25.0	
	comp=E,13260μm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**0.95**	**107**	P	**Pg**	**14 35 11.6**	**-1.3**
ZEYE				S	**Sn**	**14 35 29.1**	**+0.8**
KYMI	**Kymi, Euboea I**	**0.98**	**277**	P	**Pb**	**14 35 11.1**	**-2.9**
TNSA	**Tinos**	**0.99**	**189**	P	**Pb**	**14 35 12.9**	**-1.2**
TNSA				AML	AML	14 35 30.6	
	comp=E,9918μm,0.4s						
TNSA				AML	AML	14 35 31.7	
	comp=N,6364μm,0.6s						
URLA	**Izmir**	**0.99**	**99**	Pg	**Pn**	**14 35 15.4**	**+0.3**
URLA				Sg	**Sn**	**14 35 30.1**	**+0.7**
GPNR	**Gulpinar-Canak**	**1.11**	**33**	Pg	**Pb**	**14 35 16.2**	**-0.1**
KOCA	**Canakkale, Ayv**	**1.16**	**32**	P	**Pn**	**14 35 14.8**	**-2.5**
KOCA				S	**Sb**	**14 35 31.4**	**-0.8**
DION	**Dionisos Attik**	**1.20**	**249**	P	**Pn**	**14 35 17.6**	**-0.3**
DION				S	**Sg**	**14 35 35.3**	**+2.2**
	comp=N,6μm,0.4s						
DION	**Dionisos Attik**	**1.20**	**249**	P	**Pn**	**14 35 15.4**	**-2.4**
PTL	**Penteli**	**1.26**	**248**	P	**Pn**	**14 35 18.2**	**-0.5**
PTL				S	**Sg**	**14 35 37.4**	**+2.3**
	comp=N,2μm,0.6s						
PTL	**Penteli**	**1.26**	**248**	P	**Pn**	**14 35 17.4**	**-1.4**
DGB	**zmir**	**1.30**	**111**	P	**Pn**	**14 35 17.6**	**-1.6**
DGB				S	**Sg**	**14 35 37.4**	**+1.1**
ALNA	**Alonissos**	**1.31**	**299**	P	**Pn**	**14 35 18.5**	**-1.0**
DKL	**Dikili**	**1.33**	**65**	Pn	**Pb**	**14 35 19.7**	**-0.3**
DKL				Sn	**Sg**	**14 35 37.5**	**0.0**
BLCB	**Balcova**	**1.34**	**95**	P	**Pn**	**14 35 18.4**	**-1.4**
BLCB	**Balcova**	**1.34**	**95**	Pn	**Pg**	**14 35 21.0**	**+0.8**
BLCB				Sn	**Sg**	**14 35 38.9**	**+1.3**
ATHU	**Athens Univers**	**1.35**	**246**	P	**Pn**	**14 35 19.2**	**-0.8**
ATHU				S	**Sg**	**14 35 38.8**	**+0.8**
ATHU	**Athens Univers**	**1.35**	**246**	P	**Pn**	**14 35 18.0**	**-2.0**
VLY	**Voula,Athens**	**1.40**	**242**	P	**Pn**	**14 35 20.3**	**-0.3**
VLY	**Voula,Athens**	**1.40**	**242**	P	**Pn**	**14 35 17.8**	**-2.8**
ATH	**Athens Observa**	**1.40**	**247**	P	**Pn**	**14 35 19.9**	**-0.7**
ATH				S	**Sg**	**14 35 40.2**	**+0.7**
	comp=N,3μm,0.6s						
ATH	**Athens Observa**	**1.40**	**247**	P	**Pn**	**14 35 18.9**	**-1.7**
ZEDA	**zmir-Bergama**	**1.42**	**71**	P	**Pn**	**14 35 19.4**	**-1.6**
ZEDA				S	**Sg**	**14 35 42.0**	**+1.7**
BOZC	**Bozcaada**	**1.43**	**22**	Pn	**Pn**	**14 35 20.4**	**-0.6**
BOZC				Sn	**Sn**	**14 35 38.8**	**-1.3**
APE	**Apeiranthos**	**1.46**	**174**	⇑P	**Pg**	**14 35 22.2**	**-0.4**
APE	**Apeiranthos**	**1.46**	**174**	P	**Pb**	**14 35 21.5**	**-0.6**
APE	**Apeiranthos**	**1.46**	**174**	Pn	**Pg**	**14 35 23.7**	**+1.1**
APE				Sn	**Sg**	**14 35 44.2**	**+2.7**
APE	**Apeiranthos**	**1.46**	**174**	P	**Pn**	**14 35 18.1**	**-3.4**
EZN	**Ezine**	**1.51**	**30**	P	**Pn**	**14 35 20.2**	**-1.9**
EZN				S	**Sn**	**14 35 41.2**	**-0.8**
	comp=N,3μm,0.4s						
EZN	**Ezine**	**1.51**	**30**	Pn	**Pn**	**14 35 21.9**	**-0.2**
EZN				Sn	**Sn**	**14 35 41.1**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**1.53**	**37**	P	**Pn**	**14 35 21.4**	**-1.1**
BAYC				S	**Sn**	**14 35 40.7**	**-2.1**
VILL	**Villia**	**1.64**	**258**	P	**Pn**	**14 35 24.0**	**0.0**
VILL				S	**Sn**	**14 35 45.4**	**0.0**
	comp=N,2μm,0.5s						
ECEA	**Canakkale, Ece**	**1.65**	**23**	P	**Pn**	**14 35 22.4**	**-1.6**
ECEA				S	**Sn**	**14 35 45.6**	**+0.1**
BUHA	**Balikesir, Bur**	**1.66**	**54**	P	**Pn**	**14 35 24.5**	**+0.3**
BUHA				S	**Sb**	**14 35 47.4**	**+0.6**
VILJ	**Platees**	**1.66**	**260**	P	**Pn**	**14 35 21.5**	**-2.8**
GADA	**Gvkgeada**	**1.72**	**14**	Pn	**Pn**	**14 35 25.1**	**+0.1**
NEO	**Neokhori**	**1.83**	**296**	P	**Pn**	**14 35 25.9**	**-0.7**
DDIM	**Aydin, Didim**	**1.84**	**125**	P	**Pg**	**14 35 29.9**	**+0.1**
DDIM				S	**Sg**	**14 35 54.2**	**+0.6**
PAIG	**Paliouri**	**1.91**	**318**	P	**Pn**	**14 35 26.7**	**-0.9**
PAIG				S	**Sn**	**14 35 51.2**	**-0.8**
	comp=N,540nm,0.6s						
PAIG	**Paliouri**	**1.91**	**318**	P	**Pn**	**14 35 25.3**	**-2.3**
SMTH	**Samothraki Isl**	**1.95**	**4**	P	**Pn**	**14 35 26.9**	**-1.3**
SMTH	**Samothraki Isl**	**1.95**	**4**	P	**Pn**	**14 35 24.8**	**-3.4**
MHLO	**Agia Marina, M**	**1.98**	**203**	P	**Pn**	**14 35 25.6**	**-3.0**
EPID	**Epidavros**	**1.98**	**243**	P	**Pn**	**14 35 27.6**	**-1.0**
STEP	**BALIKESIR_Sava**	**2.04**	**65**	P	**Pb**	**14 35 32.2**	**+0.2**
STEP				S	**Sg**	**14 35 59.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**2.07**	**25**	Pn	**Pn**	**14 35 29.8**	**0.0**
KRND	**KRANIDI**	**2.08**	**237**	P	**Pn**	**14 35 27.5**	**-2.4**
SAP3	**Santorini-Thir**	**2.08**	**180**	P	**Pn**	**14 35 27.9**	**-2.1**
OUR	**Ouranopolis**	**2.10**	**330**	P	**Pn**	**14 35 29.4**	**-0.8**
OUR	**Ouranopolis**	**2.10**	**330**	Pn	**Pn**	**14 35 30.5**	**+0.3**
OUR	**Ouranopolis**	**2.10**	**330**	P	**Pn**	**14 35 28.7**	**-1.5**
AXAR	**Agios Charalam**	**2.12**	**277**	P	**Pn**	**14 35 29.2**	**-1.4**
THAS	**Thassos island**	**2.14**	**347**	P	**Pn**	**14 35 29.4**	**-1.4**
THAS	**Thassos island**	**2.14**	**347**	P	**Pn**	**14 35 26.6**	**-4.1**
LPK	**Lapseki**	**2.15**	**30**	Pn	**Pn**	**14 35 31.1**	**+0.2**
KOSK	**Kos Island**	**2.19**	**143**	Pn	**Pb**	**14 35 33.6**	**-1.0**
BALB	**Balikesir**	**2.27**	**60**	Pn	**Pn**	**14 35 33.3**	**+0.8**
ENEZ	**Enez**	**2.30**	**15**	Pn	**Pn**	**14 35 33.1**	**+0.1**
ERIK	**Erikli-Kesan**	**2.33**	**22**	Pn	**Pn**	**14 35 32.9**	**-0.5**
GONE	**Gonen-Balikesi**	**2.37**	**49**	Pn	**Pn**	**14 35 34.3**	**+0.4**
KRBG	**Karabiga-Canak**	**2.40**	**38**	Pn	**Pn**	**14 35 34.7**	**+0.3**
AGG	**Agios Georgios**	**2.41**	**283**	Pn	**Pn**	**14 35 36.1**	**+1.5**
AGG	**Agios Georgios**	**2.41**	**283**	P	**Pn**	**14 35 32.3**	**-2.2**
ALN	**Alexandroupoli**	**2.43**	**13**	P	**Pn**	**14 35 33.5**	**-1.3**
ALN	**Alexandroupoli**	**2.43**	**13**	Pn	**Pn**	**14 35 35.1**	**+0.3**
ALN	**Alexandroupoli**	**2.43**	**13**	P	**Pn**	**14 35 32.2**	**-2.6**
MANT	**Manisa**	**2.52**	**90**	P	**Pn**	**14 35 36.7**	**+0.4**

RDO	Rodhopi	2.62	3	P	Pn	14 35 36.2	-1.3
RDO	Rodhopi	2.62	3	Pn	Pn	14 35 37.7	+0.2
RDO	Rodhopi	2.62	3	P	Pn	14 35 35.5	-2.0
VLI	Veliai	2.63	227	P	Pn	14 35 35.2	-2.3
LAKA	Lakka	2.66	265	P	Pn	14 35 36.9	-1.2
EDC	Edincik	2.67	46	Pn	Pn	14 35 38.9	+0.8
ANX	Ano Chora	2.69	273	P	Pn	14 35 36.0	-2.4
HORT	Hortiatis	2.70	321	Pn	Pn	14 35 39.4	+0.7
YER	Yerkesik	2.71	120	Pn	Pb	14 35 41.6	-1.8
UKOP	Uzunkopru-Edir	2.78	20	Pn	Pn	14 35 40.1	+0.4
EVR	Evrytania	2.80	279	P	Pn	14 35 39.4	-0.6
THL	Klokotos Trika	2.80	293	P	Pn	14 35 38.0	-1.8
SIMA	Simav-Kutahya	2.89	78	Pn	Pn	14 35 42.4	+1.1
DRO	Drossia	2.92	260	P	Pn	14 35 41.0	-0.5
SRS	Serrai	2.92	333	P	Pn	14 35 40.4	-1.1
KTHR	Kythira	2.93	220	P	Pn	14 35 40.2	-1.5
NVR	Nevrokopi	3.05	338	P	Pn	14 35 42.0	-1.3
KDZ	Kurdzhali	3.12	1	Pn	Pn	14 35 44.4	0.0
CRLT	Corlu	3.19	34	Pn	Pn	14 35 45.9	+0.7
KNT	Kendrikon	3.24	325	Pn	Pn	14 35 46.9	+0.9
IMMV	Iera Moni Meta	3.25	200	P	Pn	14 35 44.1	-1.9
IDI	Anoyia	3.25	187	Pn	Pn	14 35 46.3	+0.2
	comp=N,9.6nm,0.3s,baz=332,slow=15,SNR=31						
IDI				Sn	Sb	14 36 27.7	-4.8
	comp=N,16nm,0.3s,baz=324,slow=22,SNR=5.8						
IDI				LR	LR	14 37 21.4	
	comp=N,206nm,21.1s,baz=3.5,slow=45						
	comp=N,20nm,0.3s						
IDI	Anoyia	3.25	187	⇓P	Pn	14 35 46.7	+0.5
IDI	Anoyia	3.25	187	P	Pn	14 35 43.3	-2.9
PYL	PYLOS	3.29	242	P	Pn	14 35 45.6	-1.0
GRG	Griva	3.33	318	Pn	Pn	14 35 48.0	+0.8
EDRB	Edirne	3.49	17	Pn	Pn	14 35 49.9	+0.6
VAY	Valandovo	3.52	323	*i* Pn	Pg	14 36 01.9	-0.1
PHSR	Pinarhisar	3.52	28	Pn	Pn	14 35 50.4	+0.6
PLD	Plovdiv	3.61	352	Pn	Pn	14 35 51.9	+0.9
FNA	Florina	3.81	308	Pn	Pn	14 35 55.6	+1.8
STIP	Stip	3.99	324	*i* Pn	Pn	14 35 56.6	+0.3
OHR	Ohrid	4.35	308	*i* Pn	Pn	14 36 05.4	+4.1
PLVB	Pleven	4.89	354	⇑P	Pn	14 36 09.2	+0.6
BOVS	Bovan	5.80	333	⇑P	Pn	14 36 20.9	-0.2
DJES	Djerdap	6.49	342	⇓P	Pn	14 36 30.6	0.0
BRTR	Keskin Array B	6.56	77	Pn	Pn	14 36 32.1	+0.4
	comp=N,0.6nm,0.3s,baz=254,slow=13,SNR=9.6						
BRTR				LR	LR	14 38 46.2	
	comp=N,49nm,18.6s,baz=280,slow=36						
	comp=N,1.1nm,0.4s						
HERR	Herculane	6.72	342	⇓P	Pn	14 36 33.3	-0.4
MDVR	Moldovita	6.82	338	⇑P	Pn	14 36 34.5	-0.6
ARR	Arges	6.86	356	⇑P	Pn	14 36 37.1	+1.4
VOIR		6.91	358	⇑P	Pn	14 36 36.7	+0.2
MLR	Muntele Rosu	6.98	3	Pn	Pn	14 36 37.7	+0.3
	comp=N,1.1nm,0.3s,baz=190,slow=7.5,SNR=6.6						
MLR				LR	LR	14 39 52.4	
	comp=N,202nm,19.1s,baz=138,slow=43						
	comp=N,5.1nm,0.7s						
MLR	Muntele Rosu	6.98	3	⇓P	Pn	14 36 39.1	+1.7
GZR	Gura Zlata	7.13	345	⇑P	Pn	14 36 39.0	-0.4
COVR	Voineasa-Covas	7.34	5	⇑P	Pn	14 36 44.4	+2.1
PLOR	Plostina	7.39	7	⇑P	Pn	14 36 46.0	+3.1
VRI	Vrincioaia	7.41	7	⇑P	Pn	14 36 46.3	+3.1
BZS	Buzias	7.61	340	⇑P	Pn	14 36 45.9	-0.1
SURR	Surduc	7.61	343	⇑P	Pn	14 36 45.5	-0.5
TESR	Tescani	8.04	6	⇑P	Pn	14 36 52.9	+1.1
MARR	Marisel-Cluj	8.31	349	⇑P	Pn	14 36 55.3	-0.3
DRGR		8.49	348	⇓P	Pn	14 36 59.6	+1.5
VAE	Valguarnera	8.70	266	Pn	Pn	14 37 03.5	+2.6
	comp=N,4.4nm,0.5s,baz=90,slow=20,SNR=1.3						
BURAR	Bucovina Array	9.09	359	⇓P	Pn	14 37 08.4	+2.1
MMAI	Mount Meron Ar	9.84	121	Pn	Pn	14 37 16.5	-0.2
	comp=N,1.6nm,0.3s,baz=304,slow=12,SNR=5.9						
	comp=N,1.0nm,0.3s						
KEST	Kesra	13.07	263	LR	LR	14 43 55.2	
	comp=N,79nm,18.5s,baz=310,slow=41						
ESDC	Sonseca Array	22.74	282	P	P	14 39 59.3	+1.9
	comp=N,1.1nm,0.8s,baz=83,slow=9.7,SNR=3.4						
ESDC				LR	LR	14 48 24.1	
	comp=N,92nm,18.4s,baz=306,slow=36						
	comp=N,1.1nm,0.8s						
HFS	Hagfors	22.86	345	P	P	14 39 59.1	+0.7
	comp=N,2.7nm,0.9s,baz=169,slow=8.2,SNR=1.9						
	comp=N,2.7nm,0.9s						
FINES	FINESS Array B	22.95	1	P	P	14 40 01.0	+1.7
	comp=N,4.0nm,0.9s,baz=158,slow=11,SNR=2.4						
	comp=N,4.0nm,0.9s						
NB2	NORSAR Subarra	24.21	343	P	P	14 40 12.8	+1.1
	comp=Z,1.3nm,0.6s,baz=157,slow=10						
NOA	NORSAR Array B	24.21	343	P	P	14 40 12.2	+0.4
	comp=Z,2.5nm,0.9s,baz=156,slow=9.9,SNR=5.7						
	comp=Z,2.5nm,0.9s						
EKA	Eskdalemuir Ar	25.46	321	P	P	14 40 23.6	+0.5
	comp=Z,1.2nm,0.7s,baz=108,slow=11,SNR=1.9						
	comp=Z,1.2nm,0.7s						
GEYT	Alibeck	25.68	81	P	P	14 40 23.2	-2.1
	comp=Z,0.6nm,0.4s,baz=272,slow=10.0,SNR=2.0						
	comp=Z,0.6nm,0.4s						
ARU	Arti	28.32	40	LR	LR	14 53 11.7	
	comp=Z,29nm,18.0s,baz=333,slow=39						
TORD	Torodi Ar. Bea	32.85	226	P	P	14 41 29.2	0.0
	comp=Z,0.5nm,0.5s,baz=36,slow=9.0,SNR=6.2						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	41.87	60	P	P	14 42 45.8	+0.4
	comp=Z,0.7nm,0.8s,baz=267,slow=7.8,SNR=9.1						
	comp=Z,0.7nm,0.8s						
ZALV	Zalesovo Beam	42.62	49	P	P	14 42 53.0	+1.6
	comp=Z,0.5nm,0.5s,baz=286,slow=10,SNR=1.5						
	comp=Z,0.5nm,0.5s						
MDP	Montagnes des	77.44	267	LR	LR	15 22 20.2	
	comp=Z,38nm,18.1s,baz=92,slow=37						
PETK	Petropavlovsk-	79.85	27	LR	LR	15 27 48.5	
	comp=Z,49nm,18.1s,baz=86,slow=40						

IDC 26 14:41:22.8±999.0, 56°21N×1°93E, h0km, Error ellipse: s-maj=457.6km s-min=179.8km az=116.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	10.27	131	I	I	15 45 00.0	
	baz=320,slow=340,SNR=1.0						
I43RU	DUBNA INFRASON	19.38	74	I	I	16 42 40.0	
	baz=285,slow=313,SNR=0.6						
I31KZ	AKTYUBINSK INF	33.21	76	I	I	18 06 10.0	
	baz=300,slow=328,SNR=1.8						

*ISK **26** 14:53:02.4, 38°58N×25°33E, h19km, ML2.9/5*
*ATH **26** 14:53:03.9, 38°58N×25°39E, h16km±2km, ML2.7/4, Error ellipse: s-maj=2.5km s-min=0.9km az=81.0*
*THE **26** 14:53:04.8, 38°58N×25°43E, h29km±4km, ML2.7/3, Error ellipse: s-maj=5.6km s-min=0.8km az=137.0*
*DDA **26** 14:53:05.2±0.0, 38°62N×25°49E, h5km±2km, ML2.5*

ISC 26 14:53:03.1±0.9, 38°57N±0°02×25°36E±0°02, h17km±6km, n37, σ0°73/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSRA	Psara	0.16	99	P	Pg	14 53 08.1	+0.7
PSRA				S	Sg	14 53 10.2	-0.1
PSRA				AML	AML	14 53 10.7	
	comp=E,20339µm,0.2s						
PSRA				AML	AML	14 53 10.9	
	comp=N,12549µm,0.1s						
CHOS	Chios island	0.57	108	P	Pb	14 53 15.1	+0.4
CHOS				S	Sb	14 53 23.3	+0.7
	comp=N,872nm,0.2s						
CHOS	Chios island	0.57	108	Pg	Pb	14 53 14.9	+0.2
CHOS				Sg	Sb	14 53 23.5	+0.9
CHOS	Chios island	0.57	108	P	Pb	14 53 14.9	+0.2
CHOS				S	Sb	14 53 22.5	-0.2
CHOS				AML	AML	14 53 24.0	
	comp=E,2140µm,0.3s						
CHOS				AML	AML	14 53 26.2	
	comp=N,1809µm,0.2s						
SIGR	SIGRI	0.75	31	P	Pg	14 53 17.7	-0.2
SIGR				S	Sg	14 53 27.7	-0.1
	comp=N,742nm,0.3s						
SIGR	SIGRI	0.75	31	Pg	Pg	14 53 17.6	-0.2
SIGR				Sg	Sg	14 53 28.4	+0.6
SIGR	SIGRI	0.75	31	P	Pg	14 53 17.6	-0.2
SIGR				S	Sg	14 53 27.7	-0.1
SIGR				AML	AML	14 53 32.1	
	comp=N,1679µm,0.3s						
SIGR				AML	AML	14 53 32.8	
	comp=E,1287µm,0.4s						
ZEYE	Izmir, Urla-Ze	0.95	110	P	Pb	14 53 21.8	+0.6
ZEYE				S	Sb	14 53 33.9	+0.4
ZEYE				*i* AML	AML	14 53 41.0	
	comp=E,134nm,0.4s						
KYMI	Kymi, Euboea I	0.99	274	P	Pg	14 53 21.5	-0.8
KYMI				S	Sb	14 53 36.2	+1.7
URLA	Izmir	0.99	102	P	Pb	14 53 22.0	+0.1
URLA				S	Sg	14 53 33.9	-1.5
URLA				*i* AML	AML	14 53 39.0	
	comp=E,114nm,0.3s						
URLA				*i* AML	AML	14 53 39.0	
	comp=E,172nm,0.3s						
TNSA	Tinos	1.04	189	P	Pn	14 53 23.5	+0.6
TNSA				S	Sn	14 53 37.0	+0.1
TNSA				AML	AML	14 53 37.6	
	comp=N,623µm,0.3s						
TNSA				AML	AML	14 53 37.8	
	comp=E,578µm,0.3s						
KOCA	Canakkale, Ayv	1.11	33	P	Pg	14 53 22.5	-2.2
KOCA				S	Sg	14 53 38.9	-0.4
KOCA				*i* AML	AML	14 53 44.0	
	comp=E,141nm,0.6s						
KOCA				*i* AML	AML	14 53 45.0	
	comp=E,161nm,0.7s						
DION	Dionisos Attik	1.22	247	P	Pg	14 53 25.9	-0.9
DION				S	Sg	14 53 41.8	-1.0
	comp=E,395nm,0.8s						
DION	Dionisos Attik	1.22	247	P	Pb	14 53 26.2	+0.4
DION				S	Sn	14 53 42.7	+1.1
AYVA	Ayvalik	1.27	54	P	Pb	14 53 27.3	+0.7
AYVA				S	Sg	14 53 44.4	0.0
AYVA				*i* AML	AML	14 53 47.0	
	comp=E,144nm,0.5s						
AYVA				*i* AML	AML	14 53 48.0	
	comp=E,172nm,0.5s						
PTL	Penteli	1.28	247	P	Pn	14 53 26.7	+0.4
PTL	Penteli	1.28	247	P	Pn	14 53 27.1	+0.8
PTL				S	Sb	14 53 44.1	+1.0
DGB	zmir	1.30	113	P	Pg	14 53 27.8	-0.4
DGB				S	Sb	14 53 43.5	0.0
DGB				*i* AML	AML	14 53 48.0	
	comp=E,66nm,1.2s						
DKL	Dikili	1.31	67	Pn	Pn	14 53 26.5	-0.1
DKL				Sn	Sb	14 53 44.2	+0.5
BLCB	Balcova	1.33	97	Pn	Pn	14 53 26.9	0.0
ATHU	Athens Univers	1.38	245	P	Pn	14 53 28.0	+0.4
ATHU				S	Sb	14 53 46.3	+0.6
BOZC	Bozcaada	1.38	23	P	Pn	14 53 27.7	+0.1
BOZC				S	Sb	14 53 45.4	-0.4
BOZC				*i* AML	AML	14 53 51.0	
	comp=E,73nm,0.3s						
ZEDA	zmir-Bergama	1.40	73	P	Pn	14 53 28.2	+0.4
ZEDA				S	Sb	14 53 44.3	-2.0
ATH	Athens Observa	1.42	246	P	Pn	14 53 28.2	+0.1
ATH				S	Sb	14 53 47.6	+0.6
VLY	Voula,Athens	1.43	240	P	Pb	14 53 29.4	+0.2
VLY	Voula,Athens	1.43	240	P	Pn	14 53 28.0	-0.2
VLY				S	Sb	14 53 46.3	-0.7
EZN	Ezine	1.46	30	P	Pn	14 53 28.5	-0.2
EZN				S	Sn	14 53 46.5	-1.0
EZN	Ezine	1.46	30	Pn	Pn	14 53 29.1	+0.4
EZN				Sn	Sn	14 53 47.4	-0.1
BAYC	CANAKKALE_Bayr	1.49	38	P	Pn	14 53 29.3	+0.1
BAYC				S	Sn	14 53 48.3	+0.1
APE	Apeiranthos	1.50	175	P	Pn	14 53 29.4	+0.1
APE	Apeiranthos	1.50	175	Pn	Pn	14 53 29.4	+0.1
APE				Sn	Sn	14 53 48.4	-0.1
APE	Apeiranthos	1.50	175	P	Pn	14 53 29.1	-0.2
APE				S	Sn	14 53 48.1	-0.4
BUHA	Balikesir, Bur	1.63	55	P	Pn	14 53 32.5	+1.5
BUHA				S	Sn	14 53 52.9	+1.3
BUHA				*i* AML	AML	14 53 57.0	
	comp=E,104nm,0.8s						
BUHA				*i* AML	AML	14 53 58.0	
	comp=E,107nm,0.5s						
VILL	Villia	1.66	257	P	Pn	14 53 32.3	+0.8
VIL2	Platees	1.68	258	P	Pn	14 53 31.3	-0.4
STEP	BALIKESIR_Sava	2.01	66	P	Pg	14 53 41.7	0.0
STEP				*i* AML	AML	14 54 16.0	
	comp=E,45nm,0.5s						
STEP				*i* AML	AML	14 54 19.0	
	comp=E,59nm,0.8s						
BALY	Balya	2.11	56	P	Pb	14 53 41.6	+0.7

IDC 26 14:55:27.7±2.5, 4°11N×126°89E, h0km, mb3.3/3, mbtmp3.3/3, MS2.5/1, Error ellipse: s-maj=188.2km s-min=30.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.00	163	P	P	15 00 53.2	-0.2
	0.7nm,0.7s,baz=343,slow=11,SNR=3.7						
	0.7nm,0.7s						
ASAR	Alice Springs	28.45	166	P	P	15 01 24.7	+0.2
	0.1nm,0.4s,baz=344,slow=10,SNR=1.5						
	0.1nm,0.4s						
KSRS	Korea Array	33.20	2	LR	LR	15 16 05.9	
	comp=Z,7.4nm,19.8s,baz=30,slow=37						
MKAR	Makanchi Array	57.33	325	P	P	15 05 17.6	0.0
	0.3nm,0.8s,baz=132,slow=8.0,SNR=2.8						
	0.3nm,0.8s						

*IDC **26** 15:10:30.0±2.2, 5°68S×154°42E, h0km, mb3.5/4, mbtmp3.6/6, ML2.7/2, Error ellipse: s-maj=42.4km s-min=29.0km az=95.0*

ISC 26 15:10:33.1±1.9, 5°8S±0°1×154°2E±0°2, h10km, n9, σ1°58/8, mb3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.58	305	Pn	Pn	15 11 14.2	-0.8
	8.0nm,0.3s,baz=347,slow=2.5,SNR=17						
KRVT				Sn	Sn	15 11 48.2	+1.6
	11nm,0.3s,baz=125,slow=16,SNR=5.7						
	22nm,0.3s						
PMG	Port Moresby	7.81	242	Pn	Pn	15 12 27.9	+1.0
	1.7nm,0.3s,baz=56,slow=11,SNR=4.8						
PMG				Sn	Sn	15 13 53.3	-2.1
	0.2nm,0.3s,baz=64,slow=16,SNR=2.1						
	6.8nm,0.4s						
WRA	Warramunga Arr	23.85	232	P	P	15 15 47.7	+0.9
	0.6nm,0.8s,baz=67,slow=8.7,SNR=5.5						
	0.6nm,0.8s						
ASAR	Alice Springs	26.38	226	P	P	15 16 11.0	+1.1
	0.7nm,0.6s,baz=58,slow=9.2,SNR=18						
	0.7nm,0.6s						
H11S3	WAKE ISLAND Hy	27.12	27	T	T	15 44 43.9	
	baz=208,slow=74						
H11S2	WAKE ISLAND Hy	27.12	27	T	T	15 44 40.0	
	baz=208,slow=74						
H11S1	WAKE ISLAND Hy	27.13	27	T	T	15 44 43.8	
	baz=208						
MKAR	Makanchi Array	81.96	319	P	P	15 22 52.0	-1.3
	0.3nm,0.9s,baz=104,slow=6.1,SNR=2.4						
	0.3nm,0.9s						
ZALV	Zalesovo Beam	82.72	326	P	P	15 22 56.9	-0.1
	0.3nm,0.4s,baz=107,slow=5.0,SNR=1.7						
	0.3nm,0.4s						

*BGR **26** 15:14:18.2, 65°28N×23°48W, h10km, mb4.4*
*REY **26** 15:14:39.5, 63°63N×19°18W, h0km*
*IDC **26** 15:14:40.7±0.7, 63°54N×19°34W, h0km, mb3.8/15, mbtmp3.9/16, ML3.7/1, MS3.6/23, Error ellipse: s-maj=22.7km s-min=13.4km az=27.0*
*NEIC **26** 15:14:42.4±1.5, 63°6N±0°1×19°2W±0°2, h10km±1km, mb4.5/43, Error ellipse: s-maj=22.7km s-min=9.7km az=44.0*

ISC 26 15:14:41.5±0.4, 63°65N±0°02×19°20W±0°02, h10km, n142, σ1°91/143, mb4.3/42, MS3.6/20, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGOD	Go??abunga	0.05	276	P	Pg	15 14 41.4	-2.3
	baz=291						
IGOD				S	Sg	15 14 43.0	-2.2
	baz=291						
IGFL	Graenufjoll	0.14	162	P	Pg	15 14 42.5	-2.1
	baz=165						
IGFL				S	Sg	15 14 44.5	-2.3
	baz=165						
IALF	Alftagrof	0.16	177	P	Pg	15 14 43.0	-2.0
	baz=182						
IALF				S	Sg	15 14 45.9	-1.5
	baz=182						
IESK	Eystri-Skogar	0.17	221	P	Pg	15 14 43.3	-1.8
	baz=228						
IESK				S	Sg	15 14 46.7	-0.9
	baz=228						
ISLY	Slysaalda	0.17	13	P	Pg	15 14 44.0	-1.3
	baz=7.6						
IRJU	Rjupnafell	0.24	99	P	Pg	15 14 44.4	-1.9
	baz=94						
ISNB	Snabyli	0.27	72	P	Pg	15 14 44.9	-2.0
	baz=67						
ISNB				S	Sb	15 14 50.5	-2.5
	baz=67						
IMJO	Mjoaskard	0.35	324	P	Pg	15 14 47.3	-1.1
	baz=324						
IHES	Hestalda	0.42	338	P	Pg	15 14 48.6	-1.2
	baz=338						
IFED	Fedgar	0.43	330	P	Pg	15 14 48.6	-1.3
	baz=330						
IHAU	Haukadalur	0.46	313	P	Pg	15 14 49.0	-1.5
	baz=314						
IHAU				S	Sb	15 14 56.4	-2.2
	baz=314						
IVME	Vestmannaeyjar	0.54	245	P	Pg	15 14 50.5	-1.4
	baz=248						
ISAU	Saurbar	0.63	303	P	Pg	15 14 51.6	-2.2
	baz=304						
ISAU				S	Sb	15 15 01.6	-1.9
	baz=304						
IIEY	Innrieyrar	0.65	47	P	Pg	15 14 51.9	-2.2
	baz=45						
IIEY				S	Sb	15 15 02.4	-1.7
	baz=45						
IASM	Asmuli	0.65	287	P	Pg	15 14 52.0	-2.1
	baz=288						
IASM				S	Sb	15 15 02.3	-1.7
	baz=288						
IKAL	Kalfafell	0.73	66	P	Pg	15 14 53.2	-2.4
	baz=64						
IKAL				S	Sb	15 15 04.0	-2.4
	baz=64						
IGYG	Gygjarholskot	0.77	325	P	Pg	15 14 54.2	-2.1
	baz=325						
IGYG				S	Sb	15 15 06.1	-1.3
	baz=325						
IJOK	Jokulheimar	0.79	33	P	Pg	15 14 54.3	-2.4
	baz=31						
IJOK				S	Sb	15 15 06.1	-2.0
	baz=31						
ISOL	Solvholt	0.82	290	P	Pg	15 14 54.6	-2.6
	baz=291						
ISOL				S	Sg	15 15 06.1	-1.8
	baz=291						
IHUS	Husbondi	0.94	46	P	Pg	15 14 56.7	-2.8
	baz=45						
IKRO	Krokur	0.96	299	P	Pg	15 14 57.0	-2.9
	baz=299						
IKRO				S	Sg	15 15 11.1	-1.2
	baz=299						
IBJA	Bjarnastaoir	0.98	288	P	Pg	15 14 57.5	-2.7
	baz=289						
ISKR	Skrokkalda	0.98	21	P	Pg	15 14 57.7	-2.6
	baz=20						
IHEI	Heioarbar	1.05	302	P	Pg	15 14 58.5	-3.2
	baz=303						
IHEI				S	Sg	15 15 13.6	-1.7
	baz=303						
IEDA	Engidalur	1.06	295	P	Pg	15 14 58.8	-2.9
	baz=296						
IEDA				S	Sb	15 15 14.4	-1.3
	baz=296						
ISAN	Sandskeio	1.12	292	P	Pb	15 14 59.7	-3.3
	baz=293						
ISAN				S	Sb	15 15 15.8	-1.7
	baz=293						
IVOS	Vogsosar	1.13	281	P	Pb	15 14 59.6	-3.4
	baz=282						
IVOS				S	Sb	15 15 15.5	-2.3
	baz=282						
IGRF	Grimsfjall	1.14	48	P	Pb	15 15 00.0	-3.3
	baz=46						
IFAG	Fagurholsmyri	1.16	78	P	Pb	15 14 59.8	-3.7
	baz=77						
IFAG				S	Sb	15 15 15.3	-3.1
	baz=77						
IDJK	Dyngjujokull	1.22	45	P	Pb	15 15 01.2	-3.5
	baz=43						
ISTE	Stelbrattur	1.22	351	P	Pn	15 15 01.5	-3.1
	baz=351						
IKAS	Kald??rsel	1.23	289	P	Pn	15 15 01.0	-3.6
	baz=289						
IKAS				S	Sb	15 15 19.0	-1.6
	baz=289						
IKRI	Krysuvik	1.30	281	S	Sb	15 15 20.2	-2.4
	baz=282						
IKRI				P	Pn	15 15 01.4	-4.1
	baz=282						
IKSK	Karasker	1.31	66	P	Pn	15 15 02.1	-3.8
	baz=65						
IKSK				S	Sb	15 15 20.2	-2.9
	baz=65						
IDYN	Dyngjuhals	1.40	34	P	Pn	15 15 04.3	-2.8
	baz=33						
BORG	Borgarnes	1.44	321	Pg	Pn	15 15 04.8	-2.7
	116nm,0.3s,baz=143,slow=8.6,SNR=344						
BORG				Lg	Lg	15 15 25.4	
	37nm,0.3s,baz=323,slow=20,SNR=18						
BORG	Borgarnes	1.44	321		Pn	15 15 04.6	-2.9
BORG					Sg	15 15 26.7	-1.0
IASB	`sbjarnarst	1.44	321	P	Pn	15 15 04.8	-2.8
	baz=321						
IASB				S	Sb	15 15 25.7	-0.9
	baz=321						
IVOG	Vogar	1.45	284	P	Pn	15 15 04.9	-2.7
	baz=285						
IVOG				S	Sb	15 15 25.4	-1.5
	baz=285						
IGRV	Grindav??k	1.46	279	P	Pn	15 15 05.4	-2.4
	baz=280						
IGRV				S	Sn	15 15 24.9	-2.0
	baz=280						
INYL	Nylenda	1.60	283	P	Pn	15 15 07.6	-2.2
	baz=284						
INYL				S	Sb	15 15 29.4	-1.8
	baz=284						
IKRE	Kreppuhraun	1.68	46	P	Pn	15 15 08.7	-2.2
	baz=45						
THOR	Thorvaldshraun	1.69	40	P	Pn	15 15 08.9	-2.1
	baz=39						
IMKO	Mokollar	1.82	42	P	Pn	15 15 10.9	-2.0
	baz=41						
ISVA	Svartarkot	1.89	26	P	Pn	15 15 12.2	-1.6
	baz=25						
IVSH	V-Sauoahnukur	1.91	51	P	Pn	15 15 12.3	-1.8
	baz=50						
IADA	Aoalbol	2.09	47	P	Pn	15 15 15.1	-1.4
	baz=47						
IMEL	Melhnausar	2.21	29	P	Pn	15 15 16.8	-1.4
	baz=28						
IREN	Reynihlio	2.23	25	P	Pn	15 15 17.1	-1.3
	baz=25						
IKVO	Krokottuvotn	2.30	25	P	Pn	15 15 17.9	-1.5
	baz=24						
SCO	Scoresbysund	6.94	352	Pn	Pn	15 16 27.5	+4.4
SCO	Scoresbysund	6.94	352	*i* P	Pn	15 16 27.0	+4.0
EKA	Eskdalemuir Ar	11.63	128	Pn	Pn	15 17 25.8	-1.5
	baz=328,slow=13						
	3.7nm,0.7s						
SFJD	Kangerlussuaq	13.45	298	LR	LR

	comp=Z,19nm,1.4s						
PLN	**Plauen**	**21.26**	**114**	*e*P	**P**	**15 19 29.0**	**+1.5**
	comp=Z,20nm,1.3s,baz=324,slow=9.7						
WERD	**Werda**	**21.35**	**113**	*e*P	**P**	**15 19 29.4**	**+0.9**
	comp=Z,24nm,1.6s,baz=324,slow=9.7						
GUNZ	**Gunzen**	**21.43**	**114**	*e*P	**P**	**15 19 30.2**	**+0.8**
	comp=Z,10nm,1.1s,baz=324,slow=9.7						
FRB	**Frobisher Bay**	**21.43**	**293**	P	**P**	**15 19 31.1**	**+1.9**
	comp=Z,4.1nm,0.9s,baz=66,slow=8.8,SNR=6.2						
FRB				LR	LR	15 26 49.3	
	comp=Z,96nm,21.7s,baz=58,slow=34						
	comp=Z,4.1nm,0.9s						
TANN	**Tannenbergstha**	**21.44**	**113**	*e*P	**P**	**15 19 30.4**	**+0.8**
	comp=Z,18nm,1.4s,baz=324,slow=9.7						
STU	**Stuttgart**	**21.45**	**121**	P	**P**	**15 19 28.3**	**-1.2**
BFO	**Black Forest**	**21.48**	**123**	P	**P**	**15 19 29.8**	**-0.1**
BFO				IAmb	IAmb	15 19 33.0	
	comp=Z,19nm,1.1s						
BFO	**Black Forest**	**21.48**	**123**	*e*P	**P**	**15 19 31.2**	**+1.3**
	comp=Z,26nm,1.2s,baz=324,slow=9.7						
GRA1	**Grafenberg Arr**	**21.50**	**116**	P	**P**	**15 19 28.4**	**-1.7**
GRA1				IAmb	IAmb	15 19 33.0	
	comp=Z,16nm,1.1s						
GRF	**Grafenberg Arr**	**21.50**	**116**	*e*P	**P**	**15 19 31.2**	**+1.0**
	comp=Z,20nm,1.2s,baz=324,slow=9.7						
GRFO	**Grafenberg**	**21.50**	**116**	P	**P**	**15 19 28.5**	**-1.6**
GRFO				IAmb	IAmb	15 19 32.9	
	comp=Z,15nm,1.1s						
WERN	**Wernitzgruen**	**21.51**	**114**	*e*P	**P**	**15 19 31.0**	**+0.9**
	comp=Z,24nm,1.3s,baz=324,slow=9.7						
MANZ	**Manzenberg**	**21.63**	**114**	*e*P	**P**	**15 19 32.5**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=324,slow=9.7						
BRG	**Berggiesshubel**	**21.71**	**111**	*e*P	**P**	**15 19 33.1**	**+0.8**
BRG				Amp		15 19 35.1	
	comp=Z,13nm,1.2s						
BRG	**Berggiesshubel**	**21.71**	**111**	*e*P	**P**	**15 19 32.3**	**+0.1**
	comp=Z,12nm,1.2s,baz=324,slow=9.7						
KHC	**Kasperske Hory**	**22.90**	**114**	P	**P**	**15 19 44.8**	**-0.2**
PABE	**Paberze**	**22.91**	**91**	P	**P**	**15 19 45.1**	**+0.1**
PABE				IAmb	IAmb	15 19 46.4	
	comp=Z,27nm,1.2s						
GEC2	**GERESS Array S**	**23.17**	**114**	P	**P**	**15 19 48.4**	**+0.5**
GERES	**GERESS Array B**	**23.17**	**114**	P	**P**	**15 19 49.1**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=311,slow=8.7,SNR=3.9						
GERES				LR	LR	15 29 49.6	
	comp=Z,129nm,18.2s,baz=346,slow=39						
	comp=Z,0.5nm,0.5s						
GERES	**GERESS Array B**	**23.17**	**114**	P	**P**	**15 19 48.5**	**+0.6**
DAVOX	**Davos/Dischmat**	**23.35**	**123**	LR	LR	15 29 59.1	
	comp=Z,152nm,18.1s,baz=46,slow=39						
VRAC	**Vranov**	**24.01**	**110**	LR	LR	15 31 14.8	
	comp=Z,100nm,18.5s,baz=331,slow=41						
MORC	**Moravsky Berou**	**24.05**	**108**	P	**P**	**15 19 55.9**	**-0.6**
MORC				IAmb	IAmb	15 19 59.7	
	comp=Z,15nm,1.5s						
MTE	**Manteigas**	**24.29**	**158**	P	**P**	**15 19 59.2**	**+0.4**
EUNU	**Eureka**	**24.31**	**337**	P	**P**	**15 20 00.5**	**+1.9**
CIMO	**Cimolais**	**24.72**	**120**	P	**P**	**15 20 03.9**	**+1.3**
CIMO				IAmb	IAmb	15 20 33.9	
	comp=Z,4.6nm,1.2s						
CLUD	**Cludinico**	**24.77**	**119**	P	**P**	**15 20 03.2**	**+0.1**
CLUD				IAmb	IAmb	15 20 06.5	
	comp=Z,10nm,1.0s						
MODS	**Modra-Piesok**	**25.02**	**110**	*e*P	**P**	**15 20 07.6**	**+2.4**
PRED	**Cave del Predi**	**25.05**	**118**	P	**P**	**15 20 07.5**	**+1.9**
PRED				IAmb	IAmb	15 20 10.3	
	comp=Z,14nm,1.2s						
VYHS	**Vyhne**	**25.58**	**108**	*e*P	**P**	**15 20 12.8**	**+2.5**
ESDC	**Sonseca Array**	**25.67**	**152**	P	**P**	**15 20 11.6**	**+0.4**
	comp=Z,2.7nm,1.0s,baz=347,slow=8.8,SNR=6.8						
	comp=Z,2.7nm,1.0s						
PSZ	**Piszkesteto**	**26.48**	**108**	P	**P**	**15 20 18.8**	**+0.3**
PSZ				IAmb	IAmb	15 20 35.7	
	comp=Z,8.3nm,1.0s						
BURAR	**Bucovina Array**	**29.00**	**102**	P	**P**	**15 20 40.1**	**-1.0**
DJES	**Djerdap**	**30.16**	**109**	P	**P**	**15 20 51.9**	**+0.6**
BATG	**Bathurst New B**	**30.32**	**260**	P	**P**	**15 20 54.0**	**+1.3**
MLR	**Muntele Rosu**	**30.97**	**104**	LR	LR	15 34 48.8	
	comp=Z,88nm,19.6s,baz=341,slow=39						
CUC	**Castrocucco**	**31.39**	**122**	P	**P**	**15 21 02.2**	**0.0**
CUC				IAmb	IAmb	15 21 16.6	
	comp=Z,13nm,1.3s						
KIRV	**Kirov**	**32.05**	**67**	LR	LR	15 34 23.9	
	comp=Z,226nm,18.0s,baz=320,slow=37						
KEST	**Kesra**	**32.94**	**134**	P	**P**	**15 21 16.8**	**+0.8**
KEST				IAmb	IAmb	15 21 18.3	
	comp=Z,11nm,1.2s						
FCC	**Fort Churchill**	**34.47**	**297**		**P**	**15 21 30.3**	**+1.5**
FCC				IAmb	IAmb	15 21 32.5	
	comp=Z,16nm,1.5s						
TRQ	**Mont Tremblant**	**34.89**	**267**	P	**P**	**15 21 35.0**	**+2.2**
TRQ				IAmb	IAmb	15 21 38.1	
	comp=Z,3.0nm,0.6s						
A36M	**Sachs Harbour**	**35.69**	**329**	P	**P**	**15 21 41.0**	**+1.7**
A36M				IAmb	IAmb	15 21 42.5	
	comp=Z,7.1nm,1.1s						
ARU	**Arti**	**37.19**	**64**	LR	LR	15 37 16.1	
	comp=Z,194nm,18.2s,baz=322,slow=36						
NRIK	**Noril'sk**	**37.72**	**34**	P	**P**	**15 21 58.9**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=323,slow=5.1,SNR=2.5						
	comp=Z,0.9nm,0.3s						
K57A	**Scipio Center**	**38.50**	**265**	P	**P**	**15 22 04.6**	**+1.2**
BRTR	**Keskin Array B**	**38.97**	**102**	P	**P**	**15 22 08.8**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=354,slow=6.5,SNR=3.9						
	comp=Z,1.4nm,0.9s						
YKA	**Yellowknife Ar**	**39.36**	**313**	P	**P**	**15 22 10.7**	**+0.3**
	comp=Z,1.8nm,1.2s,baz=41,slow=8.1,SNR=8.3						
	comp=Z,1.8nm,1.2s						
KBZ	**Khabaz**	**39.84**	**90**	LR	LR	15 38 59.1	
	comp=Z,106nm,18.4s,baz=332,slow=36						
INK	**Inuvik**	**40.32**	**328**	P	**P**	**15 22 18.5**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=52,slow=12,SNR=3.4						
	comp=Z,1.3nm,0.9s						
FFC	**Flin Flon**	**40.40**	**297**	P	**P**	**15 22 20.3**	**+1.2**
AKTO	**Aktyubinsk**	**41.31**	**71**	LR	LR	15 39 36.6	
	comp=Z,124nm,18.3s,baz=250,slow=36						
GNI	**Garni**	**43.53**	**91**	LR	LR	15 42 39.2	
	comp=Z,73nm,18.2s,baz=323,slow=38						
BVAR	**Borovoye Array**	**44.35**	**60**	LR	LR	15 40 42.4	
	comp=Z,84nm,18.9s,baz=320,slow=35						
ILAR	**Eielson Array**	**46.24**	**332**	P	**P**	**15 23 07.7**	**+1.6**
	comp=Z,1.1nm,1.0s,baz=19,slow=5.8,SNR=8.4						
	comp=Z,1.1nm,1.0s						
H21K	**Melozitna Rive**	**46.62**	**336**	P	**P**	**15 23 11.0**	**+1.9**
TKL	**Tuckaleechee C**	**47.51**	**266**	LR	LR	15 39 59.6	
	comp=Z,118nm,18.5s,baz=330,slow=32						
EIL	**Elat**	**48.08**	**109**	LR	LR	15 49 12.1	
	comp=Z,21nm,18.2s,baz=301,slow=43						
EGMT	**Eagleton**	**48.67**	**297**	P	**P**	**15 23 27.4**	**+2.0**
ZALV	**Zalesovo Beam**	**48.86**	**50**	P	**P**	**15 23 26.4**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=343,slow=9.3,SNR=1.9						
	comp=Z,0.4nm,0.5s						
GEYT	**Alibeck**	**51.30**	**81**	P	**P**	**15 23 47.9**	**+2.6**
	comp=Z,1.0nm,0.4s,baz=339,slow=3.6,SNR=2.3						
	comp=Z,1.0nm,0.4s						
H17A	**Grant Village**	**51.95**	**294**	P	P	15 23 53.5	+3.1
H17A				IAmb	IAmb	15 23 55.7	
	comp=Z,4.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**52.53**	**154**	P	**P**	**15 23 54.1**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=343,slow=8.8,SNR=6.9						
	comp=Z,1.5nm,0.8s						
PD31	**Pinedale Array**	**52.88**	**293**	P	**P**	**15 23 57.8**	**+0.5**
PDAR	**Pinedale Array**	**52.88**	**293**	P	**P**	**15 23 57.6**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=63,slow=6.2,SNR=9.8						
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**53.90**	**56**	P	**P**	**15 24 06.6**	**+2.1**
	comp=Z,1.6nm,1.1s,baz=328,slow=4.4,SNR=7.3						
	comp=Z,1.6nm,1.1s						
BMO	**Blue Mountains**	**54.24**	**300**	P	**P**	**15 24 07.5**	**+0.4**
BMO				IAmb	IAmb	15 24 11.5	
	comp=Z,9.6nm,1.4s						
AAK	**Ala-Archa**	**54.36**	**65**	LR	LR	15 47 25.8	
	comp=Z,48nm,19.0s,baz=338,slow=36						
PV13	**Radium Mtn., P**	**56.43**	**289**	P	**P**	**15 24 23.9**	**+0.7**
PV13				IAmb	IAmb	15 24 25.0	
	comp=Z,5.1nm,1.1s						
ELK	**Elko**	**56.89**	**296**	LR	LR	15 48 05.3	
	comp=Z,85nm,19.6s,baz=285,slow=35						
K05A	**Summer Lake**	**57.43**	**301**	P	**P**	**15 24 31.9**	**+1.8**
JCT	**Junction City**	**59.03**	**277**	P	**P**	**15 24 41.2**	**-0.1**
R11A	**Troy Canyon, C**	**59.07**	**294**	P	**P**	**15 24 43.0**	**+1.4**
U15A	**North Rim**	**59.35**	**291**	P	**P**	**15 24 44.4**	**+0.6**
U15A				IAmb	IAmb	15 24 46.6	
	comp=Z,3.3nm,1.1s						
KVN	**Kaiserville**	**59.48**	**297**	P	**P**	**15 24 45.3**	**+0.8**
KVN				IAmb	IAmb	15 24 53.1	
	comp=Z,6.6nm,1.4s						
YERR	**Yerington**	**59.99**	**298**	P	**P**	**15 24 48.6**	**+0.6**
YERR				IAmb	IAmb	15 24 51.5	
	comp=Z,6.4nm,1.2s						
MNTX	**Cornudas Mount**	**60.44**	**282**	P	**P**	**15 24 52.0**	**+1.0**
MNTX				IAmb	IAmb	15 24 53.5	
	comp=Z,4.6nm,1.2s						
TX31	**Lajitas Ar. Si**	**61.72**	**279**	P	**P**	**15 25 00.6**	**+0.9**
TXAR	**Lajitas Array**	**61.72**	**279**	P	**P**	**15 25 00.8**	**+1.0**
	comp=Z,1.5nm,1.0s,baz=58,slow=4.7,SNR=8.9						
TXAR				LR	LR	15 53 26.1	
	comp=Z,86nm,20.0s,baz=323,slow=38						
	comp=Z,1.5nm,1.0s						
CMIG	**Matias Romero**	**68.47**	**265**	LR	LR	15 55 58.4	
	comp=Z,67nm,18.6s,baz=280,slow=36						
LPIG	**La Paz**	**69.17**	**282**	LR	LR	15 54 00.6	
	comp=Z,106nm,20.3s,baz=344,slow=34						
CMAR	**Chiang Mai Arr**	**85.31**	**57**	LR	LR	16 08 58.2	
	comp=Z,19nm,18.2s,baz=195,slow=38						

IDC 26 15:24:12.5±1.3, 28°05'N×101°06'E, h0km, mb3.3/4, mbtmp3.3/4, MS3.0/2, Error ellipse: s-maj=44.3km s-min=21.3km az=76.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.94**	**197**	Pg	Pn	15 27 14.6	+38
	baz=15,slow=18						
CMAR				Lg	Lg	15 29 24.3	
	0.1nm,0.3s,baz=17,slow=25,SNR=1.6						
CMAR				LR	LR	15 30 51.2	
	comp=Z,41nm,18.1s,baz=55,slow=40						
SONM	**Songino Array**	**20.05**	**9**	P	P	15 28 46.2	-1.1
	0.2nm,0.5s,baz=187,slow=10,SNR=1.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**24.25**	**326**	P	P	15 29 31.1	-0.1
	0.8nm,0.7s,baz=128,slow=9.3,SNR=8.5						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**57.08**	**143**	P	P	15 34 00.9	+0.2
	1.6nm,1.0s,baz=330,slow=8.0,SNR=7.0						
	1.6nm,1.0s						
ASAR	**Alice Springs**	**59.94**	**146**	P	P	15 34 21.1	+0.4
	0.3nm,0.7s,baz=327,slow=6.8,SNR=5.6						
ASAR				LR	LR	16 00 39.0	
	comp=Z,23nm,20.8s,baz=50,slow=36						
	0.3nm,0.7s						

IDC 26 15:28:03.8±6.8, 16°48'S×15°84'W, h0km, mb4.0/3, mbtmp4.0/3, MS3.4/11, Error ellipse: s-maj=374.1km s-min=153.1km az=122.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N1	**ASCENSION HYDR**	**8.68**	**9**	T	T	15 40 56.8	
	baz=184						
H10N3	**ASCENSION HYDR**	**8.68**	**9**	T	T	15 40 51.0	
	baz=184						
H10N2	**ASCENSION HYDR**	**8.70**	**9**	T	T	15 40 54.4	
	baz=184						
TSUM	**Tsumeb**	**31.90**	**100**	LR	LR	15 43 40.5	
	comp=Z,60nm,20.3s,baz=138,slow=29						
TORD	**Torodi Ar. Bea**	**34.16**	**32**	P	P	15 34 50.9	-0.1
	0.8nm,1.0s,baz=203,slow=8.6,SNR=3.6						
	0.8nm,1.0s						
SUR	**Sutherland**	**36.72**	**122**	LR	LR	15 47 41.0	
	comp=Z,40nm,19.5s,baz=356,slow=32						
LBTB	**Lobatse**	**39.54**	**109**	LR	LR	15 47 33.0	
	comp=Z,36nm,21.7s,baz=90,slow=30						
BOSA	**Boshof**	**39.64**	**115**	LR	LR	15 51 06.5	
	comp=Z,21nm,18.3s,baz=198,slow=35						
LSZ	**Lusaka**	**42.30**	**95**	LR	LR	15 51 13.8	
	comp=Z,50nm,18.8s,baz=282,slow=33						
SIV	**San Ignacio**	**43.37**	**264**	LR	LR	15 52 54.5	
	comp=Z,73nm,19.0s,baz=107,slow=34						
CFA	**Coronel Fontan**	**49.72**	**242**	LR	LR	15 57 18.4	
	comp=Z,30nm,18.6s,baz=81,slow=35						
MDT	**Midelt**	**50.18**	**12**	LR	LR	15 56 40.8	
	comp=Z,40nm,19.1s,baz=356,slow=34						
PLCA	**Paso Flores**	**52.81**	**231**	LR	LR	15 56 33.6	
	comp=Z,35nm,21.8s,baz=70,slow=32						
EIL	**Elat**	**67.10**	**47**	LR	LR	16 06 06.8	
	comp=Z,18nm,19.0s,baz=231,slow=34						
BRTR	**Keskin Array B**	**72.46**	**38**	P	P	15 39 32.6	+0.1
	2.4nm,0.8s,baz=216,slow=5.3,SNR=9.3						
	2.4nm,0.8s						
AKASG	**Malin Array Be**	**77.68**	**27**	P	P	15 40 02.1	0.0
	1.3nm,0.7s,baz=224,slow=5.3,SNR=8.5						
	1.3nm,0.7s						
WSAR	**Wadi Sarin**	**82.78**	**63**	LR	LR	16 15 49.2	
	comp=Z,47nm,18.9s,baz=270,slow=35						

ROM 26 15:28:16.8±0.1, 42°602N±0°006×13°320E±0°006, h10km, ML0.9/5, 1C-1D, Error ellipse: s-maj=0.7km s-min=0.4km az=178.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.09**	**135**	P	Pg	15 28 19.9	+0.4
CAMP				S	Sg	15 28 21.7	+0.3
RM33	**Pellescritta (**	**0.12**	**220**	⇑P	Pg	15 28 20.3	+0.5
RM33				S	Sg	15 28 22.4	+0.4
RM33				AML	AML		
	comp=E,44μm,0.3s						
RM33				AML	AML		
	comp=N,44μm,1.1s						
T1218	**Civita (PG)**	**0.17**	**294**	P	Pg	15 28 21.0	+0.5
T1218				S	Sg	15 28 24.1	+1.0
LNSS	**Leonessa**	**0.21**	**270**	P	Pg	15 28 21.9	+0.7
LNSS				S	Sg	15 28 25.4	+1.2
LNSS				AML	AML		
	comp=N,39μm,0.9s						
LNSS				AML	AML		
	comp=E,38μm,1.8s						
TERO	**Teramo**	**0.21**	**84**	⇓P	Pg	15 28 22.0	+0.7
TERO				S	Sg	15 28 25.1	+0.9
TERO				AML	AML		
	comp=E,53μm,0.4s						
TERO				AML	AML		
	comp=N,35μm,0.4s						
TERO				AML	AML		
	comp=N,59μm,1.8s						
T1217	**Poggiodomo (PG**	**0.31**	**291**	P	Pb	15 28 23.9	-0.6
T1217				S	Sg	15 28 28.4	+1.2
MC2	**Monte Cornacci**	**0.33**	**343**	P	Pb	15 28 24.7	-0.2
MC2				S	Sg	15 28 28.6	+0.8
T1211	**Morro Reatino**	**0.35**	**259**	P	Pg	15 28 24.4	+0.6
T1211				S	Sg	15 28 29.5	+1.0
T1211				AML	AML		
	comp=E,80μm,1.9s						
T1211				AML	AML		
	comp=E,33μm,0.1s						
T1215	**Vallo di Nera,**	**0.39**	**301**	P	Pb	15 28 25.2	-0.6
T1215				S	Sg	15 28 30.8	+1.1

*DDA **26** 15:28:27.8±0.0, 39°55N×26°15E, h4km±2km, ML2.1*
*ISK **26** 15:28:27.2, 39°53N×26°18E, h5km, ML2.4/15*
ISC 26 15:28:27.8±0.9, 39°53N±0°02×26°17E±0°03, h8km±6km, n27, σ0°49/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.04**	**215**	P	**Pg**	**15 28 29.4**	**+0.1**
KOCA				*i* AML	AML	15 28 30.0	
	comp=E,2μm,0.2s						
KOCA				S	**Sg**	**15 28 30.2**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.08**	**198**	Pg	**Pg**	**15 28 29.5**	**-0.3**
EZN	**Ezine**	**0.32**	**23**	Pg	**Pg**	**15 28 34.4**	**+0.3**
EZN				Sg	**Sg**	**15 28 39.1**	**+0.8**
BOZC	**Bozcaada**	**0.32**	**344**	P	**Pg**	**15 28 33.9**	**-0.2**
BOZC				*i* AML	AML	15 28 38.0	
	comp=N,202nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.36**	**55**	P	**Pg**	**15 28 35.2**	**+0.3**
BAYC				S	**Sg**	**15 28 40.4**	**+0.8**
SIGR	**SIGRI**	**0.40**	**217**	Pg	**Pg**	**15 28 35.6**	**0.0**
SIGR				Sg	**Sg**	**15 28 41.7**	**+0.8**
AYVA	**Ayvalik**	**0.46**	**119**	P	**Pg**	**15 28 37.2**	**+0.5**
ECEA	**Canakkale, Ece**	**0.51**	**1**	P	**Pb**	**15 28 38.4**	**-0.7**
ECEA				S	**Sg**	**15 28 44.4**	**0.0**
ECEA				*i* AML	AML	15 29 01.0	
	comp=N,154nm,1.2s						
ECEA				*i* AML	AML	15 29 05.0	
	comp=E,157nm,1.6s						
GADA	**Gvkgeada**	**0.69**	**343**	Pg	**Pg**	**15 28 41.1**	**0.0**
BUHA	**Balikesir, Bur**	**0.70**	**92**	P	**Pb**	**15 28 42.3**	**-0.1**
BUHA				S	**Sb**	**15 28 52.1**	**-0.2**
DKL	**Dikili**	**0.74**	**129**	Pg	**Pg**	**15 28 41.5**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.90**	**15**	Pg	**Pg**	**15 28 44.7**	**-0.3**
GELI				Sg	**Sb**	**15 28 57.6**	**-0.2**
ZEDA	**zmir-Bergama**	**0.91**	**128**	P	**Pn**	**15 28 46.5**	**-0.3**
ZEDA				S	**Sb**	**15 28 59.1**	**+1.1**
LPK	**Lapseki**	**0.96**	**28**	Pg	**Pg**	**15 28 45.7**	**-0.5**
LPK				Sg	**Sb**	**15 28 59.4**	**-0.1**
BALY	**Balya**	**1.14**	**79**	P	**Pg**	**15 28 48.5**	**-1.2**
BALY				S	**Sb**	**15 29 04.8**	**0.0**
BALY				*i* AML	AML	15 29 06.0	
	comp=N,32nm,0.3s						
CHOS	**Chios island**	**1.15**	**184**	Pn	**Pg**	**15 28 49.5**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**1.16**	**0**	P	**Pb**	**15 28 50.1**	**0.0**
ERIK	**Erikli-Kesan**	**1.17**	**13**	Pn	**Pg**	**15 28 49.5**	**-0.7**
ERIK				Sn	**Sb**	**15 29 05.5**	**-0.1**
ENEZ	**Enez**	**1.20**	**360**	Pn	**Pg**	**15 28 50.5**	**-0.4**
ENEZ				Sn	**Sn**	**15 29 07.7**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.21**	**97**	P	**Pn**	**15 28 51.5**	**+0.4**
STEP				S	**Sn**	**15 29 08.3**	**+0.6**
STEP				*i* AML	AML	15 29 17.0	
	comp=N,34nm,1.5s						
URLA	**Izmir**	**1.22**	**164**	P	**Pg**	**15 28 50.5**	**-0.6**
URLA				S	**Sg**	**15 29 06.6**	**-0.4**
URLA				*i* AML	AML	15 29 09.0	
	comp=E,49nm,1.2s						
KRBG	**Karabiga-Canak**	**1.22**	**45**	Pn	**Pg**	**15 28 50.8**	**-0.5**
BALB	**Balikesir**	**1.33**	**85**	Pn	**Pn**	**15 28 52.3**	**-0.4**
ALN	**Alexandroupoli**	**1.37**	**356**	Pn	**Pn**	**15 28 53.2**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.39**	**34**	Pn	**Pn**	**15 28 53.7**	**+0.1**
UKOP	**Uzunkopru-Edir**	**1.63**	**12**	Pn	**Pn**	**15 28 56.9**	**0.0**
RDO	**Rodhopi**	**1.68**	**344**	Pn	**Pn**	**15 28 57.9**	**+0.4**

*KRSZO **26** 15:29:54.8±1.2, 48°09N×23°20E, h11km±7km, ML2.8/12,*
Error ellipse: s-maj=5.6km s-min=3.0km az=39.0
*SIGU **26** 15:29:54.4±0.1, 48°1N±0°6×23°3E±0°6, h15km, mb2.0/5,*
MD2.2/11, ML2.0/7
*BUC **26** 15:29:55.8±0.2, 48°06N×23°17E, h12km±1km, ml2.6/11,*
Error ellipse: s-maj=2.0km s-min=1.4km az=22.0
*MCSM **26** 15:29:56.9±0.5, 48°N±4"×2"3E±", h5km±3km, MLv2.7*
ISC 26 15:29:55.6±0.8, 48°09N±0°02×23°18E±0°02, h13km±5km, n81, σ0°64/151, 24C-30D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KORU	**Korolevo**	**0.07**	**332**	*i* Pg	**Pg**	**15 29 57.7**	**-0.6**
KORU				Pm		15 29 57.8	
KORU				m		15 29 57.9	
KORU				*i* Sg	**Sg**	**15 29 59.8**	**-0.4**
KORU				Sm		15 30 00.0	
TRSU	**Trosnyk**	**0.15**	**270**	*i* Pg	**Pb**	**15 29 59.9**	**-0.4**
TRSU				m		15 30 02.5	
TRSU				Pm		15 30 02.7	
TRSU				*i* Sg	**Sb**	**15 30 03.5**	**+0.1**
TRSU				Sm		15 30 03.9	
BRIU	**Brid**	**0.27**	**336**	Pg	**Pg**	**15 30 00.3**	**-0.9**
BRIU				Sg	**Sg**	**15 30 03.9**	**-1.1**
BRIU	**Brid**	**0.27**	**336**	*i* Pg	**Pg**	**15 30 00.6**	**-0.6**
BRIU				m		15 30 00.8	
BRIU				*i* Sg	**Sg**	**15 30 05.3**	**+0.3**
BERU	**Beregovo**	**0.39**	**291**	Pg	**Pg**	**15 30 02.8**	**-0.5**
BERU				Sg	**Sg**	**15 30 07.1**	**-1.4**
BERU	**Beregovo**	**0.39**	**291**	*i* Pg	**Pg**	**15 30 03.3**	**0.0**
BERU				m		15 30 03.4	
BERU				Pm		15 30 03.5	
BERU				*i* Sg	**Sb**	**15 30 09.5**	**-0.6**
BERU				Sm		15 30 13.7	
TRPA	**Tarpa**	**0.43**	**275**	⇑P	**Pg**	**15 30 04.3**	**+0.2**
TRPA				⇑S	**Sg**	**15 30 10.4**	**+0.4**
TRPA	**Tarpa**	**0.43**	**275**	⇑P	**Pg**	**15 30 04.3**	**+0.2**
TRPA				⇑S	**Sg**	**15 30 10.4**	**+0.4**
TRPA	**Tarpa**	**0.43**	**275**	Pg	**Pg**	**15 30 04.3**	**+0.2**
	comp=Z,67nm,SNR=7.3						
TRPA				Lg	Lg	15 30 10.4	
TRPA				Lg	Lg	15 30 10.5	
BMR	**Baia Mare**	**0.47**	**153**	⇓P	**Pg**	**15 30 04.6**	**-0.2**
BMR				⇓S	**Sg**	**15 30 11.1**	**0.0**
BMR	**Baia Mare**	**0.47**	**153**	⇓P	**Pg**	**15 30 04.6**	**-0.2**
BMR				⇓S	**Sg**	**15 30 11.1**	**0.0**
BMR	**Baia Mare**	**0.47**	**153**	Pg	**Pg**	**15 30 04.5**	**-0.4**
	comp=Z,141nm,SNR=12						
BMR				Pg	**Pg**	**15 30 04.6**	**-0.2**
BMR				Pg	**Pg**	**15 30 04.6**	**-0.2**
BMR				Lg	Lg	15 30 11.2	
MEZ	**Mezhgor'ye**	**0.47**	**28**	Pg	**Pg**	**15 30 04.3**	**-0.6**
MEZ				Sg	**Sg**	**15 30 09.6**	**-1.7**
MEZ	**Mezhgor'ye**	**0.47**	**28**	*i* Pg	**Pg**	**15 30 04.3**	**-0.6**
MEZ				m		15 30 06.0	
MEZ				*e*Sg	**Sg**	**15 30 10.8**	**-0.5**
MUKU	**Mukachevo**	**0.49**	**318**	Pg	**Pg**	**15 30 03.7**	**-1.5**
**MUKU

BURAR	**Bucovina Array**	**1.45**	**109**	⇓P		**Pn**	**15 30 21.2**	**-0.3**
BURAR				⇓S		**Sb**	**15 30 41.4**	**+0.6**
BURAR	**Bucovina Array**	**1.45**	**109**	Pn		**Pn**	**15 30 21.2**	**-0.3**
BURAR				Pn		**Pn**	**15 30 21.2**	**-0.3**
BURAR				Pn		**Pb**	**15 30 21.3**	**-1.1**
BURAR				Sn		**Sb**	**15 30 41.4**	**+0.6**
BURAR				Sn		**Sg**	**15 30 42.1**	**-0.2**
KECS	**Kecovo**	**1.84**	**283**	Pn		**Pn**	**15 30 26.4**	**-0.5**
	comp=Z,21nm,SNR=2.5							
KECS				Pg		**Pg**	**15 30 30.3**	**-0.6**
KECS				Sn		**Sn**	**15 30 50.7**	**+0.7**
KECS	**Kecovo**	**1.84**	**283**	*e*PN		**Pn**	**15 30 26.7**	**-0.2**
KECS				*e*			15 30 30.2	
KECS	**Kecovo**	**1.84**	**283**	*e*SN		**Sn**	**15 30 50.4**	**+0.3**
KECS				*e*			15 30 54.8	
STHS	**Stebnicka Huta**	**1.84**	**317**	Pn		**Pn**	**15 30 26.2**	**-0.7**
	comp=Z,10nm,SNR=4.0							
STHS				Sn		**Sn**	**15 30 50.7**	**+0.6**
STHS	**Stebnicka Huta**	**1.84**	**317**	*e*PN		**Pb**	**15 30 29.9**	**+0.8**
STHS				*e*SN		**Sn**	**15 30 50.6**	**+0.5**
STHS				*e*PG		Pg	15 31 03.0	+32
SIRR	**Siria**	**2.10**	**210**	⇓P		**Pn**	**15 30 30.7**	**+0.2**
SIRR				⇓S		**Sn**	**15 30 56.9**	**+0.4**
SIRR	**Siria**	**2.10**	**210**	⇓S		**Sn**	**15 30 56.9**	**+0.4**
SIRR	**Siria**	**2.10**	**210**	Pn		**Pn**	**15 30 30.2**	**-0.3**
	comp=Z,10nm,SNR=1.9							
SIRR				Pn		**Pn**	**15 30 30.7**	**+0.2**
SIRR				Sn		**Sn**	**15 30 56.9**	**+0.4**
SIRR				Sn		**Sb**	**15 30 57.0**	**-2.6**
SIRR	**Siria**	**2.10**	**210**	⇓P		**Pn**	**15 30 30.7**	**+0.2**
PSZ	**Piszkesteto**	**2.22**	**267**	⇑P		**Pn**	**15 30 32.0**	**0.0**
PSZ	**Piszkesteto**	**2.22**	**267**	⇑P		**Pn**	**15 30 32.0**	**0.0**
PSZ	**Piszkesteto**	**2.22**	**267**	Pn		**Pn**	**15 30 32.0**	**0.0**
PSZ				Pn		**Pn**	**15 30 32.0**	**0.0**
KMPD	**K-Podol'skiy**	**2.24**	**77**	Pn		**Pb**	**15 30 36.1**	**+0.3**
KMPD				sP		**Pg**	**15 30 37.3**	**-1.1**
KMPD				Sn		**Sb**	**15 31 04.8**	**+1.5**
KMPD	**K-Podol'skiy**	**2.24**	**77**	*i* Pn		**Pn**	**15 30 31.0**	**-1.2**
KMPD				*e*Sn		**Sn**	**15 31 01.3**	**+1.6**
HORU	**Horodok**	**2.42**	**61**	*i* Sn		**Sn**	**15 31 05.3**	**+0.9**
SURR	**Surduc**	**2.45**	**198**	⇓P		**Pn**	**15 30 35.5**	**+0.3**
SURR				⇓S		**Sn**	**15 31 05.9**	**+0.9**
SURR	**Surduc**	**2.45**	**198**	⇓P		**Pn**	**15 30 35.5**	**+0.3**
SURR				⇓S		**Sn**	**15 31 05.9**	**+0.9**
SURR	**Surduc**	**2.45**	**198**	Pn		**Pn**	**15 30 35.5**	**+0.3**
SURR				Pn		**Pn**	**15 30 35.5**	**+0.3**
SURR				Sn		**Sn**	**15 31 05.9**	**+0.9**
DOPR	**Dopca**	**2.61**	**144**	⇓P		**Pn**	**15 30 37.3**	**-0.1**
DOPR	**Dopca**	**2.61**	**144**	⇓P		**Pn**	**15 30 37.3**	**-0.1**
DOPR	**Dopca**	**2.61**	**144**	Pn		**Pn**	**15 30 37.3**	**-0.1**
DOPR				Pn		**Pn**	**15 30 37.3**	**-0.1**
BZS	**Buzias**	**2.70**	**204**	⇑P		**Pn**	**15 30 38.3**	**-0.3**
BZS	**Buzias**	**2.70**	**204**	⇑P		**Pn**	**15 30 38.3**	**-0.3**
BZS	**Buzias**	**2.70**	**204**	Pn		**Pn**	**15 30 38.3**	**-0.3**
	comp=Z,6.7nm,SNR=1.3							
BZS				Sn		**Sn**	**15 31 10.8**	**-0.4**
GZR	**Gura Zlata**	**2.72**	**186**	⇑P		**Pn**	**15 30 39.7**	**+0.8**
GZR				⇑S		**Sn**	**15 31 12.1**	**+0.4**
GZR	**Gura Zlata**	**2.72**	**186**	⇑P		**Pn**	**15 30 39.7**	**+0.8**
GZR				⇑S		**Sn**	**15 31 12.1**	**+0.4**
GZR	**Gura Zlata**	**2.72**	**186**	Pn		**Pn**	**15 30 39.7**	**+0.8**
GZR				Pn		**Pn**	**15 30 39.7**	**+0.8**
GZR				Sn		**Sn**	**15 31 12.1**	**+0.4**
VYHS	**Vyhne**	**2.93**	**279**	Pn		**Pn**	**15 30 41.3**	**-0.6**
	comp=Z,4.3nm,SNR=1.0							
VYHS	**Vyhne**	**2.93**	**279**	*e*PN		**Pn**	**15 30 41.2**	**-0.6**
VYHS				*e*SN		**Sn**	**15 31 17.2**	**+0.3**
VYHS				*e*			15 31 28.8	
VOIR		**2.95**	**154**	⇑P		**Pn**	**15 30 42.1**	**0.0**
VOIR				⇓S		**Sn**	**15 31 18.9**	**+1.4**
VOIR		**2.95**	**154**	⇑P		**Pn**	**15 30 42.1**	**0.0**
VOIR				⇓S		**Sn**	**15 31 18.9**	**+1.4**
VOIR		**2.95**	**154**	Pn		**Pn**	**15 30 42.1**	**0.0**
VOIR				Pn		**Pn**	**15 30 42.1**	**0.0**
VOIR				Sn		**Sn**	**15 31 18.9**	**+1.4**
LUBAR	**Lubar, Ukraine**	**3.52**	**57**	Pn		**Pn**	**15 30 51.8**	**+1.9**

IDC ***26*** *15:43:07.3±3.4, 44.°45N×105.°62W, h0km, mbtmp2.2/1, ML3.5/1, Error ellipse: s-maj=54.5km s-min=24.8km az=151.0*

NEIC ***26*** *15:43:10.0±2.2, 44.°34N±0.°05×105.°44W±0.°02, h0km±2km, ML2.8/38, Error ellipse: s-maj=9.3km s-min=3.1km az=8.0*

ISC 26 15:43:09.5±1.1, 44.°34N±0.°05×105.°44W±0.°06, h0km, n27, σ1§14/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	**1.03**	**101**			**Pg**	**15 43 30.1**	**+0.8**
K22A	**Casper**	**1.86**	**205**			**Pb**	**15 43 43.8**	**-0.6**
K22A				IAML			15 44 12.8	
	comp=N,122nm,0.4s							
LAO	**LASA Array**	**2.42**	**347**			**Pn**	**15 43 49.1**	**-1.2**
RLMT	**Red Lodge**	**2.84**	**287**			**Pn**	**15 43 54.6**	**-1.7**
RLMT				IAML			15 45 02.0	
	comp=N,22nm,3.6s							
RWWY	**Rawlins**	**2.95**	**207**			**Pn**	**15 43 57.5**	**-0.3**
RWWY				IAML			15 45 05.3	
	comp=N,26nm,4.9s							
RWWY				IAML			15 45 21.1	
	comp=N,25nm,4.1s							
PHWY	**Pilot Hill**	**3.03**	**180**	Pn		**Pn**	**15 43 58.2**	**-0.8**
GCMT	**Greycliff**	**3.33**	**297**			**Pn**	**15 44 03.1**	**+0.1**
BW06	**Boulder Array**	**3.38**	**244**			**Pn**	**15 44 04.7**	**+1.0**
BW06				IAML			15 44 57.4	
	comp=N,13nm,0.6s							
PD31	**Pinedale Array**	**3.38**	**244**			**Pn**	**15 44 04.8**	**+1.1**
PDAR	**Pinedale Array**	**3.38**	**244**	Pn		**Pn**	**15 44 04.7**	**+0.9**
	comp=N,0.6nm,0.3s,baz=62,slow=18,SNR=11							
PDAR				Pg		**Pb**	**15 44 09.9**	**-0.5**
	comp=N,1.4nm,0.3s,baz=59,slow=19,SNR=23							
PDAR				Lg		Lg	15 44 51.0	
	comp=N,3.1nm,0.3s,baz=62,slow=33,SNR=22							
	comp=N,0.6nm,0.5s							
YMP	**Mirror Lake Pl**	**3.40**	**278**			**Pn**	**15 44 02.4**	**-1.6**
YMP				IAML			15 44 56.1	
	comp=E,27nm,1.1s							
N23A	**Red Feather La**	**3.46**	**186**			**Pn**	**15 44 03.9**	**-0.9**
N23A				IAML			15 45 16.0	
	comp=E,21nm,2.2s							
N23A				IAML			15 46 03.2	
	comp=N,22nm,4.2s							
LKWY	**Lake**	**3.56**	**275**			**Pn**	**15 44 03.8**	**-2.4**
LKWY				IAML			15 45 22.1	
	comp=N,16nm,4.6s							
LKWY				IAML			15 45 57.0	
	comp=N,20nm,4.9s							
FLWY	**Flagg Ranch**	**3.79**	**268**	Pn		**Pn**	**15 44 10.6**	**+1.3**
FLWY				IAML			15 45 34.3	
	comp=N,22nm,4.5s							
FLWY				IAML			15 45 42.3	
	comp=N,20nm,4.1s							
LOHW	**Long Hollow**	**3.80**	**261**			**Pn**	**15 44 11.3**	**+1.9**
LOHW				IAML			15 45 46.5	
	comp=N,13nm,4.8s							
MOOW	**Moose Ponds**	**3.87**	**263**			**Pn**	**15 44 11.6**	**+1.1**
YMR	**Madison River**	**3.97**	**277**			**Pn**	**15 44 12.1**	**+0.3**
YMR				IAML			15 45 45.2	
	comp=E,19nm,2.4s							
REDW	**Red Top Meadow**	**4.03**	**258**			**Pn**	**15 44 13.7**	**+1.0**
REDW				IAML			15 44 45.8	
	comp=E,15nm,4.3s							
REDW				IAML			15 45 58.7	
	comp=E,15nm,4.5s							
YHL	**Hebgen Lake**	**4.13**	**279**			**Pn**	**15 44 15.3**	**+1.1**
DGMT	**Dagmar**	**4.22**	**11**			**Pn**	**15 44 16.0**	**+0.9**
AHID	**Auburn Hatcher**	**4.40**	**251**			**Pn**	**15 44 17.6**	**-0.2**
AHID				IAML			15 45 37.0	
	comp=E,11nm,3.0s							
AHID				IAML			15 45 41.2	
	comp=E,11nm,2.4s							
BOZ	**Bozeman (W)**	**4.57**	**288**			**Pn**	**15 44 19.7**	**-0.3**
BOZ				IAML			15 45 26.1	
	comp=E,10nm,4.9s							
BOZ				IAML			15 45 44.0	
	comp=E,9.0nm,3.1s							
EGMT	**Eagleton**	**4.75**	**322**			**Pn**	**15 44 22.3**	**-0.1**
HRY	**Holter Researc**	**5.08**	**300**			**Pn**	**15 44 27.1**	**+0.1**
I10CA	**LAC DU BONNET**	**8.68**	**44**	I		I	16 39 56.7	
	baz=226,slow=330,SNR=2.1							
ULM	**Lac du Bonnet**	**8.79**	**44**	Lg		Lg	15 47 41.1	
	comp=E,0.1nm,0.3s,baz=119,slow=20,SNR=3.4							
I56US	**NEWPORT INFRAS**	**8.99**	**300**	I		I	16 37 40.0	

baz=114,slow=334,SNR=3.6

ROM 26 16:11:40.8±0.1, 38.°033N±0.°008×14.°709E±0.°008, h9km, ML1.4/4, Error ellipse: s-maj=0.9km s-min=0.7km az=204.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSFR	**San Fratello**	**0.09**	**270**	P		Pg	16 11 43.6	+0.3
MSFR				S		Sg	16 11 45.6	+0.6
MSFR				AML		AML		
	comp=N,326μm,0.5s							
MSFR				AML		AML		
	comp=N,326μm,1.5s							
MSFR				AML		AML		
	comp=E,240μm,0.8s							
MNO	**Monte Soro**	**0.10**	**186**	P		Pg	16 11 43.5	0.0
MNO				S		Sg	16 11 45.6	+0.2
MNO				AML		AML		
	comp=N,2800μm,0.6s							
MNO				AML		AML		
	comp=E,1260μm,0.7s							
MNO				AML		AML		
	comp=N,2805μm,0.6s							
MNO				AML		AML		
	comp=E,1260μm,1.3s							
EPZF	**Pizzo Felice**	**0.24**	**151**	P		Pg	16 11 46.5	+0.8
EPZF				S		Sg	16 11 51.5	+2.5
NOV	**Novara**	**0.34**	**91**	P		Pg	16 11 48.1	+0.6
NOV				S		Sb	16 11 54.3	-0.3
GALF	**Gagliano Caste**	**0.34**	**199**	P		Pb	16 11 48.5	-0.6
GALF				AML		AML		
	comp=E,113μm,0.5s							
GALF				AML		AML		
	comp=E,113μm,1.5s							
GALF				AML		AML		
	comp=N,174μm,0.9s							
VPL	**Vulcano Piano**	**0.41**	**32**	P		Pg	16 11 49.1	+0.3
AIO	**Antillo**	**0.42**	**98**	P		Pg	16 11 49.3	+0.3
AIO				S		Sb	16 11 56.1	-0.8
MILZ	**Milazzo**	**0.47**	**60**	P		Pg	16 11 50.1	0.0
MILZ				S		Sb	16 11 57.7	-0.7
CSLB	**Castelbuono**	**0.52**	**260**	P		Pg	16 11 51.5	+0.5
CSLB				S		Sg	16 11 58.7	+0.8
CSLB				AML		AML		
	comp=E,31μm,1.6s							
CSLB				AML		AML		
	comp=E,31μm,0.4s							
CSLB				AML		AML		
	comp=N,28μm,1.3s							
IFIL	**Filicudi I Eol**	**0.54**	**348**	P		Pb	16 11 52.5	0.0
IACL	**Alicudi**	**0.57**	**331**	P		Pb	16 11 52.7	-0.3

VAO ***26*** *16:12:05.4±0.6, 21.°35S×68.°67W, h105km±6km, mb4.2*

NEIC ***26*** *16:12:05.0±1.9, 21.°48S±0.°05×69.°0W±0.°1, h118km±11km, mb4.0/2, ML3.8(GUC), Error ellipse: s-maj=15.3km s-min=7.7km az=85.0*

GUC ***26*** *16:12:06.2±0.7, 21.°44S×68.°81W, h98km±4km, ML3.8*

IDC ***26*** *16:12:06.9±1.2, 21.°54S×68.°38W, h98km±14km, mb3.7/2, mbtmp3.9/5, MS3.6/3, Error ellipse: s-maj=43.7km s-min=17.3km az=114.0*

ISC 26 16:12:04.5±0.7, 21.°47S±0.°03×68.°83W±0.°07, h112km±7km, n66, σ1§31/80, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.51**	**230**			**Pn**	**16 12 22.0**	**+0.1**
PB09	**IPOC Station P**	**0.51**	**230**	⇑*i*P		**Pn**	**16 12 22.2**	**+0.3**
PB09				*e*S		**Sn**	**16 12 34.6**	**-0.3**
PB01	**IPOC Station P**	**0.75**	**304**			**Pn**	**16 12 23.4**	**-0.3**
PB01	**IPOC Station P**	**0.75**	**304**	⇑*i*P		**Pn**	**16 12 23.3**	**-0.3**
PB01				*i* S		**Sn**	**16 12 36.7**	**-1.3**
PB01				IAML			16 12 38.0	
	comp=N,4μm,0.2s							
PB02	**IPOC Station P**	**1.01**	**278**			**Pn**	**16 12 26.2**	**+0.1**
PB02	**IPOC Station P**	**1.01**	**278**	⇑*i*P		**Pn**	**16 12 26.1**	**+0.1**
PB02				*i* S		**Sn**	**16 12 42.0**	**-0.4**
PB02				IAML			16 12 43.1	
	comp=N,4μm,0.1s							
PB07	**IPOC Station P**	**1.02**	**255**			**Pn**	**16 12 26.6**	**+0.4**
PB07	**IPOC Station P**	**1.02**	**255**	⇑*i*P		**Pn**	**16 12 26.5**	**+0.3**
PB07				*e*S		**Sn**	**16 12 42.4**	**-0.3**
PB07				IAML			16 12 43.0	
	comp=E,3μm,0.4s							
PB03	**IPOC Station P**	**1.04**	**236**			**Pn**	**16 12 27.0**	**+0.5**
PB03	**IPOC Station P**	**1.04**	**236**	⇑*i*P		**Pn**	**16 12 26.9**	**+0.5**
PB03				*e*S		**Sn**	**16 12 42.8**	**-0.2**
PB03				IAML			16 12 43.3	
	comp=E,4μm,0.2s							
LVC	**Limon Verde**	**1.14**	**184**	P		**Pn**	**16 12 29.1**	**+1.4**
	comp=E,262nm,0.3s,baz=26,slow=16,SNR=1523							
LVC				LR		LR	16 12 38.3	
	comp=E,21nm,18.4s,baz=3.0,slow=27							
LVC				S		**Sn**	**16 12 46.5**	**+1.2**
	comp=E,656nm,0.4s,baz=250,slow=21,SNR=30							
LVC	**Limon Verde**	**1.14**	**184**	*e*P		**Pn**	**16 12 28.6**	**+0.9**
LVC				*e*S		**Sn**	**16 12 46.2**	**+0.9**
LVC	**Limon Verde**	**1.14**	**184**	*e*P		**Pn**	**16 12 29.2**	**+1.4**
PATCX	**Punta Patache**	**1.40**	**297**	Pn		**Pn**	**16 12 30.7**	**+0.4**
PATCX	**Punta Patache**	**1.40**	**297**	⇑*i*P		**Pn**	**16 12 30.7**	**+0.4**
PATCX				*e*S		**Sn**	**16 12 49.4**	**-0.5**
PATCX				IAML			16 12 51.0	
	comp=E,2μm,0.3s							
PB06	**IPOC Station P**	**1.41**	**209**			**Pn**	**16 12 31.6**	**+1.0**
PB06	**IPOC Station P**	**1.41**	**209**	⇓*i*P		**Pn**	**16 12 31.7**	**+1.1**
PB06				*i* S		**Sn**	**16 12 51.4**	**+1.0**
PB06				IAML			16 12 52.6	
	comp=E,2μm,0.2s							
PB04	**IPOC Station P**	**1.50**	**235**			**Pn**	**16 12 32.0**	**+0.4**
PB04	**IPOC Station P**	**1.50**	**235**	*e*P		**Pn**	**16 12 31.9**	**+0.2**
PB04				*e*S		**Sn**	**16 12 52.5**	**+0.3**
PB04				IAML			16 12 56.5	
	comp=N,1μm,0.2s							
HMBC	**Humberstone**	**1.55**	**320**	⇑*i*P		**Pn**	**16 12 32.2**	**+0.1**
HMBC				*e*S		**Sn**	**16 12 52.2**	**-0.9**
HMBC				IAML			16 12 53.8	
	comp=N,2μm,0.2s							
TA01	**Diego Aracena**	**1.55**	**305**			**Pn**	**16 12 31.8**	**-0.2**
TA01	**Diego Aracena**	**1.55**	**305**	⇑*i*P		**Pn**	**16 12 32.1**	**+0.1**
TA01				*e*S		**Sn**	**16 12 52.0**	**-1.0**
TA01				IAML			16 12 54.3	
	comp=E,1μm,0.2s							
TA02	**Huaiquique**	**1.71**	**314**			**Pn**	**16 12 33.9**	**-0.1**
TA02	**Huaiquique**	**1.71**	**314**	*e*P		**Pn**	**16 12 34.5**	**+0.6**
TA02				*e*S		**Sn**	**16 12 56.2**	**-0.1**
TA02				IAML			16 12 58.3	
	comp=N,1μm,0.1s							
GO01	**Chusmiza**	**1.82**	**349**			**Pn**	**16 12 36.5**	**+0.6**
GO01	**Chusmiza**	**1.82**	**349**	*e*P		**Pn**	**16 12 36.8**	**+0.9**
GO01				*e*S		**Sn**	**16 13 01.1**	**+1.4**
GO01				IAML			16 13 07.8	
	comp=N,796nm,0.2s							
PB11	**IPOC Station P**	**1.87**	**335**			**Pn**	**16 12 35.8**	**-0.3**
PB11	**IPOC Station P**	**1.87**	**335**	*e*P		**Pn**	**16 12 36.4**	**+0.3**
PB11				*e*S		**Sn**	**16 12 59.6**	**-0.5**
PB11				IAML			16 13 05.1	
	comp=N,731nm,0.3s							
PSGC	**Pisagua**	**2.22**	**327**	*e*P		**Pn**	**16 12 40.0**	**-0.5**
PSGC				*e*S		**Sn**	**16 13 05.3**	**-2.8**
PSGC				IAML			16 13 14.1	
	comp=N,344nm,0.3s							
PSGCX	**Pisagua**	**2.22**	**327**			**Pn**	**16 12 40.1**	**-0.4**
MNMC	**Minye Minye**	**2.44**	**343**			**Pn**	**16 12 44.2**	**+0.8**
MNMC	**Minye Minye**	**2.44**	**343**	*e*P		**Pn**	**16 12 44.2**	**+0.8**
MNMC				*e*S		**Sn**	**16 13 13.6**	**+0.4**
MNMC				IAML			16 13 19.0	
	comp=N,576nm,0.2s							
PB10	**IPOC Station P**	**2.59**	**218**	Pn		**Pn**	**16 12 46.3**	**+1.1**
PB12	**IPOC Station P**	**3.17**	**333**	Pn		**Pn**	**16 12 52.5**	**-0.4**
PB16	**IPOC Station P**	**3.18**	**348**			**Pn**	**16 12 53.2**	**-0.4**
PB14	**IPOC Station P**	**3.46**	**205**	Pn		**Pn**	**16 12 57.8**	**+0.8**
AC01	**Pan de Azucar**	**4.93**	**199**	Pn		**Pn**	**16 13 15.4**	**-1.0**
LPAZ	**La Paz**	**5.19**	**7**	P		**Pn**	**16 13 23.8**	**+3.2**
	comp=N,2.7nm,0.4s,baz=186,slow=8.2,SNR=10							
LPAZ	**La Paz**	**5.19**	**7**	Pn		**Pn**	**16 13 22.3**	**+1.7**
LPAZ	**La Paz**	**5.19**	**7**	*e*P		**Pn**	**16 13 20.0**	**-0.6**
AC02	**Maricunga**	**5.35**	**183**	Pn		**Pn**	**16 13 22.2**	**-0.4**
AC06	**Mina Casimiro**	**6.03**	**193**			**Pn**	**16 13 31.2**	**0.0**
GO03	**Copiap**	**6.23**	**192**	Pn		**Pn**	**16 13 32.4**	**-1.6**
AC04	**Llanos de Chal**	**7.01**	**196**	Pn		**Pn**	**16 13 41.8**	**-2.7**
AC05	**El Transito**	**7.45**	**190**	Pn		Pn	16 13 40.7	-10

LCO	**Las Campanas**	**7.70**	**192**	Pn		**Pn**	16 13 46.5	-7.6
BBSD	**Serra de San D**	**8.85**	**63**	*e*P		**Pn**	**16 14 07.8**	**-1.7**
BBRB	**Robore, Bolivi**	**9.06**	**71**	*e*P		**Pn**	**16 14 09.8**	**-2.6**
SIV	**San Ignacio**	**9.14**	**55**	P		**Pn**	**16 14 11.8**	**-1.8**
	comp=N,5.0nm,0.5s,baz=240,slow=12,SNR=34							
SIV				LR		LR	16 17 48.3	
	comp=N,84nm,18.8s,baz=208,slow=39							
CFA	**Coronel Fontan**	**10.11**	**177**	P		**Pn**	**16 14 23.4**	**-3.1**
	comp=N,1.2nm,0.3s,baz=10,slow=13,SNR=1.8							
CFA				S		**Sn**	**16 16 11.8**	**-6.2**
	comp=N,1.3nm,0.3s,baz=43,slow=12,SNR=1.8							
FRBT	**Francisco Belt**	**15.11**	**110**	*e*P		**Pn**	**16 15 32.8**	**+0.6**
ITAB	**Concordia**	**16.25**	**114**	P		**P**	**16 15 49.1**	**+1.8**
ITAB				IAmb		IAmb	16 15 49.5	
	comp=Z,7.8nm,0.7s							
FRTB	**Fartura**	**17.91**	**100**	*e*P		**P**	**16 16 05.8**	**+0.2**
SNDB	**Serra Nova Dou**	**19.24**	**63**	*e*P		**P**	**16 16 20.8**	**+0.7**
PLCA	**Paso Flores**	**19.26**	**184**	P		**Pn**	**16 16 23.6**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=348,slow=7.9,SNR=3.5							
BDFB	**Brasilia**	**20.55**	**77**	P		**P**	**16 16 34.4**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=218,slow=8.9,SNR=4.6							
	comp=Z,2.6nm,0.5s							
ITTB	**Itaituba**	**21.22**	**39**	*e*P		**P**	**16 16 40.7**	**-0.8**
JANB	**Januaria**	**24.12**	**79**	*e*P		**P**	**16 17 10.1**	**0.0**
BOAV	**Boa Vista**	**25.07**	**20**	P		**P**	**16 17 20.0**	**+1.4**
BOAV				IAmb		IAmb	16 17 29.2	
	comp=Z,7.4nm,1.3s							
BOAV	**Boa Vista**	**25.07**	**20**	*e*P		**P**	**16 17 17.6**	**-1.1**
MCPB	**Macapa, AP**	**26.61**	**40**	*e*P		**P**	**16 17 33.0**	**+0.5**
TMAB	**Tom-Au,PA,Br**	**27.70**	**50**	*e*P		**P**	**16 17 41.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**77.27**	**70**	P		**P**	**16 23 48.3**	**+1.4**
	comp=Z,3.7nm,1.2s,baz=256,slow=5.7,SNR=5.5							
	comp=Z,3.7nm,1.2s							
SUR	**Sutherland**	**78.53**	**120**	LR		LR	16 56 05.3	
	comp=Z,26nm,20.2s,baz=306,slow=34							
FRB	**Frobisher Bay**	**84.93**	**0**	LR		LR	17 03 16.0	
	comp=Z,159nm,20.3s,baz=314,slow=36							
MKAR	**Makanchi Array**	**145.56**	**36**	PKPbc		**PKiKP**	**16 31 33.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=326,slow=4.0,SNR=4.9							

NIED ***26*** *16:12:37.7, 23.°74N×121.°67E, h50km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr6.29; Mθθ-1.25; Mφφ-5.03; Mrθ4.38; Mrφ-1.82; Mθφ1.99; Fault plane solution: M0 7.61000×10¹⁴ NP1:φs45.00000°, δ64.00000°, λ109.00000°. NP2:φs187.00000°, δ32.00000°, λ57.00000°.*

JMA ***26*** *16:12:37.7±0.1, 23.°7N±0.°7×121.°7E±0.°6, h50km±1km, MV3.7/14, TAIWAN REGION*

IDC ***26*** *16:12:39.4±3.2, 23.°97N×121.°80E, h60km±29km, mb3.4/13, mbtmp3.7/14, ML3.3/1, MS2.3/1, Error ellipse: s-maj=19.3km s-min=17.9km az=168.0*

TAP ***26*** *16:12:39.8, 23.°93N×121.°69E, h53km, ML4.4, B*

ISC 26 16:12:39.1±0.7, 23.°88N±0.°02×121.°74E±0.°02, h53km±4km, n211, σ1§44/377, mb3.7/13, 20C-56D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEYL	**Yanliau Villag**	**0.13**	**264**	⇑*i*P		**Pn**	**16 12 47.9**	**+0.5**
	baz=254							
TEYL				S		**Sn**	**16 12 54.8**	**+1.5**
	baz=254							
HWA	**Hwalien**	**0.16**	**307**	⇑*i*P		**Pn**	**16 12 48.0**	**+0.4**
	baz=305							
HWA				*i* S		**Sn**	**16 12 54.6**	**+1.1**
	baz=305							
TWD	**Chiawan**	**0.24**	**326**	⇑*i*P		**Pn**	**16 12 48.2**	**+0.2**
	baz=333							
TWD				*i* S		**Sn**	**16 12 54.6**	**+0.2**
	baz=333							
ETM	**Tongmen**	**0.24**	**290**	⇓*i*P		**Pn**	**16 12 48.3**	**+0.2**
	baz=282							
ETM				*e*S		**Sn**	**16 12 54.4**	**-0.1**
	baz=282							
TEGC	**Jichi Village**	**0.25**	**227**	⇑*i*P		**Pn**	**16 12 48.8**	**+0.6**
	baz=211							
TEGC				*e*S		**Sn**	**16 12 56.3**	**+1.8**
	baz=211							
ESL	**Shilin**	**0.29**	**257**	⇑*i*P		**Pn**	**16 12 48.6**	**+0.2**
	baz=243							
ESL				*i* S		**Sn**	**16 12 54.9**	**-0.2**
	baz=243							
ETL	**Fush Village**	**0.30**	**338**	*i* P		**Pn**	**16 12 48.7**	**+0.1**
	baz=345							
ETL				*e*S		**Sn**	**16 12 55.8**	**+0.5**
	baz=345							
NACB	**Ninganchiao**	**0.32**	**335**	P		**Pn**	**16 12 48

TWT eS Sn 16 13 02.5 +0.5
baz=304
NNS Nan Shan 0.65 329⇓iP Pn 16 12 52.8 +0.3
baz=331
NNS eS Sn 16 13 02.5 +0.3
baz=331
TDCB Techi 0.65 305⇓iP Pn 16 12 53.2 +0.7
baz=304
TDCB S Sn 16 13 02.5 +0.2
baz=304
EYUL Yuli 0.66 216⇑iP Pn 16 12 52.6 +0.1
baz=210
EYUL eS Sn 16 13 02.2 +0.1
baz=210
EOS3 EOS3 0.66 52 P Pn 16 12 53.6 +1.2
baz=58
EOS3 S Sn 16 13 04.2 +2.2
baz=58
TWF1 Yuli 0.67 218⇑iP Pn 16 12 52.5 -0.1
baz=212
TWF1 eS Sn 16 13 02.0 -0.3
baz=212
LATG Datong 0.68 343⇓iP Pn 16 12 53.0 +0.1
baz=346
LATG eS Sn 16 13 03.4 +0.6
baz=346
EOS2 EOS2 0.70 40 P Pn 16 12 54.2 +1.4
baz=45
EOS2 eS Sn 16 13 04.7 +1.9
baz=45
SSLB Suanglung 0.73 263 P Pn 16 12 54.2 +0.8
SSLB Suanglung 0.73 263 ⇓P Pn 16 12 53.9 +0.5
baz=258
SSLB eS Sn 16 13 03.7 -0.1
baz=258
TWC Suao 0.73 8 ⇓P Pn 16 12 54.0 +0.7
baz=13
TWC eS Sn 16 13 04.8 +1.0
baz=13
WPL Puli Township 0.73 280 ⇓P Pn 16 12 54.1 +0.7
baz=277
WPL eS Sn 16 13 04.6 +0.8
baz=277
NDS Dongshan 0.75 358 eP Pn 16 12 54.0 +0.4
baz=2.0
NDS eS Sn 16 13 05.4 +1.2
baz=2.0
DPDB Guoxing 0.76 282⇓iP Pn 16 12 54.7 +0.8
baz=279
DPDB eS Sn 16 13 06.2 +1.6
baz=279
ENTT Nioudou 0.77 348⇓iP Pn 16 12 54.3 +0.4
baz=352
ENTT eS Sn 16 13 05.0 +0.2
baz=352
SMLT Sun Moon Lake 0.77 270⇓iP Pn 16 12 54.7 +0.6
baz=266
SMLT eS Sn 16 13 05.5 +0.6
baz=266
WCS Beigang Elemen 0.78 283⇓iP Pn 16 12 54.8 +0.8
baz=280
WCS eS Sn 16 13 07.2 +2.3
baz=280
FULB Fuli 0.80 211 ⇑P Pn 16 12 54.8 +0.5
baz=207
FULB eS Sn 16 13 06.5 +1.2
baz=207
TYC Yuchr 0.81 272 ⇓P Pn 16 12 55.1 +0.6
baz=268
TYC eS Sn 16 13 07.3 +1.7
baz=268
YUS Yu-Shan 0.82 242 eP Pn 16 12 56.0 +0.9
baz=237
YUS eS Sn 16 13 06.8 +0.2
baz=237
WHP Taichung City 0.83 299⇓eP Pn 16 12 55.6 +0.9
baz=297
WHP eS Sn 16 13 07.4 +1.2
baz=297
TWE Neicheng 0.84 355⇓iP Pn 16 12 55.3 +0.5
baz=360
TWE eS Sn 16 13 07.9 +1.7
baz=360
CHKT Chengkung 0.85 204 ⇑P Pn 16 12 55.0 0.0
baz=199
CHKT eS Sn 16 13 06.7 +0.1
baz=199
YHNB Yeheng 0.85 337 P Pn 16 12 55.5 +0.4
YHNB Yeheng 0.85 337⇓iP Pn 16 12 55.6 +0.6
baz=339
YHNB eS Sn 16 13 06.5 -0.2
baz=339
NSK Sanguang 0.86 336 ⇓P Pn 16 12 55.7 +0.5
baz=338
NSK eS Sn 16 13 07.0 -0.1
baz=338
ILA Ilan 0.88 0 eP Pn 16 12 56.5 +1.1
baz=4.0
ILA eS Sn 16 13 09.4 +2.2
baz=4.0
EHD Haiduan 0.88 214 ⇑P Pn 16 12 54.7 -0.6
baz=210
EHD eS Sn 16 13 06.3 -1.0
baz=210
FUSB Fushanzhiwuyua 0.89 351 ⇓P Pn 16 12 55.9 +0.4
baz=354
FUSB eS Sn 16 13 07.7 +0.2
baz=354
NWLT Wulai 0.92 346⇓iP Pn 16 12 56.3 +0.4
baz=349
NWLT eS Sn 16 13 08.8 +0.6
baz=349
ECS Chishang 0.92 212 eP Pn 16 12 55.9 +0.1
baz=208
ECS eS Sn 16 13 08.9 +0.7
baz=208
WJS Zhushan 0.93 267 ⇓P Pn 16 12 57.5 +1.5
baz=263
WJS eS Sn 16 13 10.5 +2.1
baz=263
ALS Alishan 0.94 247⇓eP Pn 16 12 57.5 +1.2
baz=243
ALS eS Sn 16 13 10.1 +1.1
baz=243
NFF Wufeng Townshi 0.94 323 ⇓P Pn 16 12 57.2 +1.0
baz=323
NFF eS Sn 16 13 10.0 +1.3
baz=323
ELDTW Lidau 0.96 224 ⇑P Pn 16 12 56.5 0.0
baz=220
ELDTW eS Sn 16 13 09.3 +0.1
baz=220
WNT Mingjian 0.97 270 ⇓P Pn 16 12 58.2 +1.7
baz=267
WNT eS Sn 16 13 11.8 +2.4
baz=267
WWF Wufeng 0.97 280⇓eP Pn 16 12 58.5 +1.9
baz=277
WWF eS Sn 16 13 12.2 +2.8
baz=277
NTC Toucheng 0.97 5 eP Pn 16 12 57.6 +1.0
baz=8.0
NTC eS Sn 16 13 10.9 +1.6
baz=8.0
WNT1 Nantou City 0.97 272⇓eP Pn 16 12 58.5 +1.9
baz=269
WNT1 eS Sn 16 13 11.8 +2.4
baz=269
EGS 0.97 10 eP Pn 16 12 58.4 +1.8
baz=14
EDH Donghe 0.99 204⇑eP Pn 16 12 56.9 +0.1
baz=200
EDH eS Sn 16 13 10.0 +0.1
baz=200
TWQ1 Liyutan 1.00 298⇓eP Pn 16 12 58.0 +1.1
baz=297
TWQ1 eS Sn 16 13 11.3 +1.2
baz=297
NSTT Nanjuang 1.01 318⇓eP Pn 16 12 58.2 +1.2
baz=318
NSTT eS Sn 16 13 12.3 +2.0
baz=318
LIOB Emei 1.01 319⇓eP Pn 16 12 58.5 +1.4
baz=319
LIOB eS Sn 16 13 12.5 +2.2
baz=319
TCU Taichung 1.01 285⇓eP Pn 16 12 58.6 +1.6
baz=283
TCU eS Sn 16 13 12.8 +2.5
baz=283
CHN5 Tsauling 1.02 254 ⇓P Pn 16 12 58.4 +1.2
baz=251
CHN5 eS Sn 16 13 13.0 +2.4
baz=251
NJD Zhudong 1.04 325 eP Pn 16 12 59.5 +2.1
baz=326
NJD eS Sn 16 13 14.3 +3.3
baz=326
WYL Yuanlin Townsh 1.07 274 eP Pn 16 12 59.7 +1.9
baz=272
WYL eS Sn 16 13 14.8 +3.2
baz=272
NMLH Miaoli 1.09 307⇓eP Pn 16 12 59.0 +0.9
baz=307
NMLH eS Sn 16 13 13.4 +1.2
baz=307
TIPB Shuangxi 1.09 4⇓eP Pn 16 12 59.3 +1.2
baz=7.0
TIPB eS Sn 16 13 13.5 +1.3
baz=7.0
NHDH Xindian Distri 1.09 350⇓eP Pn 16 12 59.0 +0.8
baz=352
NHDH eS Sn 16 13 13.1 +0.7
baz=352
WGK Gukeng 1.10 260 eP Pn 16 12 59.7 +1.5
baz=257
WGK eS Sn 16 13 15.2 +2.8
baz=257
WCHH Zhanghua 1.10 281⇓eP Pn 16 12 59.7 +1.4
baz=278
WCHH eS Sn 16 13 14.6 +2.1
baz=278
TWA Mucha 1.10 352⇓eP Pn 16 12 59.1 +0.8
baz=355
TWA eS Sn 16 13 13.8 +1.2
baz=355
WDJ Dajia District 1.11 295⇓eP Pn 16 12 59.5 +1.1
baz=294
WDJ eS Sn 16 13 14.8 +2.1
baz=294
TATO Taipei 1.11 348 P Pn 16 12 59.3 +0.8
TATO Taipei 1.11 348⇓eP Pn 16 12 59.1 +0.7
baz=350
TATO eS Sn 16 13 13.5 +0.7
baz=350
WDLH Douliu 1.12 260 eP Pn 16 12 60.0 +1.5
baz=257
WDLH eS Sn 16 13 15.3 +2.4
baz=257
LONT Longtian 1.12 210⇑eP Pn 16 12 58.0 -0.6
baz=207
LONT eS Sn 16 13 12.3 -0.7
baz=207
WCKO Fanlu 1.13 247 eP Pn 16 13 00.2 +1.5
baz=244
WCKO eS Sn 16 13 15.9 +2.6
baz=244
STYH Taoyuan 1.14 232⇑eP Pn 16 12 59.8 +1.1
baz=228
STYH eS Sn 16 13 14.5 +1.2
baz=228
SBCB Hsinchu 1.14 323 eP Pn 16 12 60.0 +1.2
baz=323
SBCB eS Sn 16 13 14.9 +1.5
baz=323
TWB1 Santiao Chiao 1.14 11⇓eP Pn 16 12 59.8 +0.9
baz=15
TWB1 eS Sn 16 13 14.1 +0.6
baz=15
BACT New Taipei Cit 1.14 346 eP Pn 16 12 59.2 +0.3
baz=348
BACT eS Sn 16 13 14.5 +1.0
baz=348
STYT Tauyuan 1.15 232 eP Pn 16 13 00.3 +1.3
baz=228
STYT eS Sn 16 13 15.2 +1.4
baz=228
HSN Hsinchu 1.16 323 eP Pn 16 13 00.1 +1.1
baz=326
HSN eS Sn 16 13 15.6 +1.8
baz=326
NHY Taipei 1.16 352 eP Pn 16 13 00.0 +0.9
baz=354
NHY eS Sn 16 13 15.1 +1.1
baz=354
TAP1 Taipei 1.17 350 eP Pn 16 13 01.1 +1.9
baz=352
TAP1 eS Sn 16 13 15.7 +1.6
baz=352
TAP Taipei 1.17 349 eP Pn 16 12 59.9 +0.6
baz=352
TAP eS Sn 16 13 15.2 +1.0
baz=352
TPUB Ta-pu 1.17 241 P Pn 16 13 00.4 +1.1
TPUB Ta-pu 1.17 241 eP Pn 16 13 00.7 +1.4
baz=237
TPUB eS Sn 16 13 16.6 +2.3
baz=237
CHN4 Tsaushan 1.18 244 eP Pn 16 13 01.1 +1.7
baz=240
CHN4 eS Sn 16 13 17.5 +3.1
baz=240
NTY Taoyuan 1.18 340 eP Pn 16 13 00.3 +0.9
baz=342
NTY eS Sn 16 13 16.1 +1.6
baz=342
NWF Wu-fen Shan 1.18 2 eP Pn 16 13 00.5 +1.0
baz=4.0
NWF eS Sn 16 13 16.0 +1.4
baz=4.0
WFSB Wu-fen Shan 1.18 2⇓eP Pn 16 13 00.5 +1.1
baz=4.0
WFSB eS Sn 16 13 16.0 +1.5
baz=4.0
NCUH Zhongli 1.20 335 eP Pn 16 13 00.3 +0.7
baz=336
NCUH eS Sn 16 13 15.8 +1.1
baz=336
NCU National Centr 1.20 335 eP Pn 16 13 00.8 +1.2
baz=336
NCU eS Sn 16 13 16.5 +1.7
baz=336
CHN2 Minshiung 1.21 254 eP Pn 16 13 01.8 +2.0
baz=251
CHN2 eS Sn 16 13 18.8 +3.7
baz=251
SXI1 Grass Mountain 1.21 6 eP Pn 16 13 01.0 +1.1
baz=8.0
SXI1 eS Sn 16 13 16.5 +1.2
baz=8.0
WTP Ta-pu 1.21 239 eP Pn 16 13 01.4 +1.5
baz=235
WTP eS Sn 16 13 17.6 +2.3
baz=235
TWGBT Beinan 1.22 210 P Pn 16 12 59.7 -0.2
TWGBT Beinan 1.22 210 eP Pn 16 12 59.1 -0.8
baz=207
TWGBT eS Sn 16 13 14.2 -1.2
baz=207
TWG Pinlang 1.22 210 eP Pn 16 12 59.1 -0.8
baz=207
TWG eS Sn 16 13 13.5 -1.9
baz=207
LDUT Ludao 1.23 192⇑eP Pn 16 12 59.5 -0.5
baz=189
LDUT eS Sn 16 13 14.2 -1.4
baz=189
JYNG Yonagunijimaku 1.24 62 P Pn 16 13 01.0 +0.9
JYNG eS Sn 16 13 17.4 +1.7
TTN Taitung 1.25 206 eP Pn 16 13 01.6 +1.3
baz=203
TTN eS Sn 16 13 17.9 +1.8
baz=203
TWS1 Kuangyinshan 1.25 346 eP Pn 16 13 01.0 +0.7
baz=348
TWS1 eS Sn 16 13 17.0 +1.0
baz=348
WRL Guolierlin Hig 1.25 271⇓eP Pn 16 13 01.5 +1.2
baz=269
WRL eS Sn 16 13 18.0 +1.9
baz=269
WTK Tuku 1.25 261 eP Pn 16 13 01.8 +1.5
baz=259
WTK eS Sn 16 13 18.9 +2.7
baz=259
TNOU National Taiwa 1.26 1 eP Pn 16 13 01.2 +0.7
baz=4.0
TNOU eS Sn 16 13 17.1 +0.7
baz=4.0
CHY Chiayi 1.27 253 eP Pn 16 13 02.0 +1.5
baz=250
CHY eS Sn 16 13 18.8 +2.3
baz=250
YM01 YM01 1.27 353⇓eP Pn 16 13 01.0 +0.4
baz=355
YM01 eS Sn 16 13 17.1 +0.5
baz=355
NHW Xinwu Township 1.29 331 eP Pn 16 13 01.7 +0.9
baz=331
NHW eS Sn 16 13 17.6 +0.6
baz=331
YOJ Yonaguni jima 1.29 63 P Pn 16 13 01.9 +1.0
YOJ Yonaguni jima 1.29 63 P Pn 16 13 01.7 +0.8
YOJ S Sn 16 13 19.0 +1.9
YOJ Yonaguni jima 1.29 63 eP Pn 16 13 01.6 +0.8
baz=66
YOJ eS Sn 16 13 18.0 +0.9
baz=66
NTST Danshui 1.30 348⇓eP Pn 16 13 01.6 +0.6
baz=350
NTST eS Sn 16 13 18.1 +0.8
baz=350
YM08 YM08 1.31 354 eP Pn 16 13 01.2 +0.1
baz=356
YM08 eS Sn 16 13 15.3 -2.2
baz=356
CHN1 Nanshi 1.31 238 eP Pn 16 13 02.7 +1.6
baz=235
CHN1 eS Sn 16 13 20.8 +3.1
baz=235
ANP Anpu 1.31 351 eP Pn 16 13 01.4 +0.2
baz=353
ANP eS Sn 16 13 17.6 -0.2
baz=353
NWRT Kuosheng 1.32 357 eP Pn 16 13 01.6 +0.4
baz=359
NWRT eS Sn 16 13 18.2 +0.5
baz=359
SNST Tainan City 1.32 240 eP Pn 16 13 05.0 +3.8
baz=237
SNST eS Sn 16 13 23.1 +5.3
baz=237
SGST Jiashian 1.33 233 eP Pn 16 13 02.3 +0.9
baz=230
SGST eS Sn 16 13 20.1 +2.0
baz=230
WTCT Ta-ch'eng 1.34 270 eP Pn 16 13 02.7 +1.2
baz=267
WTCT eS Sn 16 13 20.9 +2.7
baz=267
SLGT Liugui 1.34 229 eP Pn 16 13 04.5 +3.0
baz=226
SLGT eS Sn 16 13 22.1 +3.8
baz=226
TWY Chenhua 1.39 355 eP Pn 16 13 03.0 +0.7
baz=357
TWY eS Sn 16 13 20.1 +0.5
baz=357
WMLT Mailiao 1.39 267 eP Pn 16 13 03.7 +1.5
baz=265
WMLT eS Sn 16 13 22.7 +3.2
baz=265
WSF Szhu 1.41 260 eP Pn 16 13 01.8 -0.7
baz=258
WSF eS Sn 16 13 22.7 +2.6
baz=258
WSL Shuilin Townsh 1.43 256 eP Pn 16 13 04.0 +1.2
baz=253
WSL eS Sn 16 13 22.5 +2.0
baz=253
ICHU Yijhu 1.44 249 eP Pn 16 13 04.5 +1.6
baz=246
ICHU eS Sn 16 13 23.7 +3.1
baz=246
ECL Taimali 1.47 210 eP Pn 16 13 02.6 -0.7
baz=207
ECL eS Sn 16 13 20.0 -1.4
baz=207
CHN3 Shinhua 1.50 238 eP Pn 16 13 05.7 +2.1
baz=235
CHN8 Yiju 1.50 250 eP Pn 16 13 04.9 +1.2
baz=247
CHN8 eS Sn 16 13 24.3 +2.1
baz=247
SCST Cishan 1.52 229 eP Pn 16 13 06.4 +2.5
baz=227
SCST eS Sn 16 13 23.8 +1.2
baz=227
SSD Sandimen 1.52 222 eP Pn 16 13 05.5 +1.4
baz=219
SSD eS Sn 16 13 23.7 +1.0
baz=219
SSHA Shanhua 1.53 241 eP Pn 16 13 06.5 +2.4
baz=239
SHHT Tainan City 1.54 237 eP Pn 16 13 07.1 +2.9
baz=234
TSMG Majia 1.55 221 eP Pn 16 13 06.5 +2.1
baz=218
SCLT Jiali 1.59 244 eP Pn 16 13 06.2 +1.4
baz=241
SCLT eS Sn 16 13 26.6 +2.4
baz=241
TWM1 Shoushan 1.61 229 eP Pn 16 13 07.3 +2.2
baz=226
MASBT Mashibuluo 1.62 219 eP Pn 16 13 06.5 +1.1
baz=217
MASBT eS Sn 16 13 28.1 +2.8
baz=217
SGLT Jiouru 1.63 225 eP Pn 16 13 08.7 +3.3
baz=222
TSCK Chigu Township 1.69 245 eP Pn 16 13 07.6 +1.3
baz=242
TSCK eS Sn 16 13 28.3 +1.6
baz=242
EAST Anshuo 1.70 209 eP Pn 16 13 06.7 +0.1
baz=207
EAST eS Sn 16 13 28.2 +1.0
baz=207
TAW Tawu 1.71 207 eP Pn 16 13 07.0 +0.5
baz=205
TAW eS Sn 16 13 27.3 +0.1
baz=205
TAWH Dawu Township 1.73 207 eP Pn 16 13 06.8 +0.1
baz=205
TAWH eS Sn 16 13 27.6 0.0
baz=205
PCYT Pengchaiyu 1.77 10 eP Pn 16 13 08.5 +1.2
baz=12
PCYT eS Sn 16 13 30.0 +1.4
baz=12
SCZT Fangliau 1.82 215 eP Pn 16 13 09.8 +1.7
baz=212
SCZT eS Sn 16 13 32.7 +2.7
baz=212
LAY Lan-yu 1.84 186 eP Pn 16 13 07.7 -0.7
baz=184
LAY eS Sn 16 13 28.0 -2.6
baz=184
SLIU Shizi 1.87 208 eP Pn 16 13 09.3 +0.5
baz=206
SLIU eS Sn 16 13 31.9 +0.6
baz=206
LYUB Lan-yu 1.88 185 eP Pn 16 13 07.7 -1.2
baz=183
LYUB eS Sn 16 13 27.9 -3.5
baz=183
HATJ Hateruma jima 1.89 84 P Pn 16 13 09.9 +0.9
HATJ S Sn 16 13 33.0 +1.2
WDGT Dungji 2.01 252 eP Pn 16 13 11.4 +0.8
baz=250
WDGT eS Sn 16 13 34.2 -0.3
baz=250
PHUB P'eng-hu 2.02 260 eP Pn 16 13 11.1 +0.3
baz=258
PHUB eS Sn 16 13 34.9 0.0
baz=258
PNG Penghu 2.03 262 eP Pn 16 13 11.1 +0.3
baz=260
PNG eS Sn 16 13 35.1 +0.1
baz=260
SMST Manzhou Townsh 2.03 204 eP Pn 16 13 12.0 +1.0
baz=202
SMST eS Sn 16 13 36.0 +0.8
baz=202

HEN	**Hengchun**	**2.08**	**207**	*e*P		**Pn**	**16 13 14.1**	**+2.4**
	baz=204								
HEN				*e*S		**Sn**	**16 13 39.1**	**+2.7**
	baz=204								
JKRS	**Kuro-shima**	**2.10**	**80**	P		**Pn**	**16 13 13.2**	**+1.3**
JKRS				S		**Sn**	**16 13 39.0**	**+2.2**
TWK1	**Hengchun**	**2.11**	**204**	*e*P		**Pn**	**16 13 13.3**	**+1.2**
	baz=202								
TWKBT	**Hengchun**	**2.11**	**204**	*e*P		**Pn**	**16 13 13.3**	**+1.2**
	baz=202								
TWKBT				*e*S		**Sn**	**16 13 38.3**	**+1.1**
	baz=202								
VCHM	**Qimei**	**2.23**	**253**	*e*P		**Pn**	**16 13 14.3**	**+0.7**
	baz=251								
VCHM				*e*S		**Sn**	**16 13 40.5**	**+0.5**
	baz=251								
JIJ	**Ishigaki jima**	**2.25**	**77**	P		**Pn**	**16 13 14.5**	**+0.6**
JIJ				S		**Sn**	**16 13 39.7**	**-0.7**
JISG	**Ishigakijimahi**	**2.45**	**73**	P		**Pn**	**16 13 17.2**	**+0.6**
JISG				*e*S		**Sn**	**16 13 44.9**	**-0.4**
PTMZ	**Houxiangcun**	**2.65**	**296**⇓	*e*P		**Pn**	**16 13 18.9**	**-0.5**
	baz=295								
PTMZ				*e*S		**Sn**	**16 13 47.7**	**-2.7**
	baz=295								
MATB	**Ma-tsu**	**2.79**	**325**	*e*P		**Pn**	**16 13 20.6**	**-0.7**
	baz=324								
MATB				*e*S		**Sn**	**16 13 51.5**	**-2.2**
	baz=324								
JTJ	**Tarama**	**2.81**	**74**	P		**Pn**	**16 13 22.3**	**+0.8**
JTJ				*e*S		**Sn**	**16 13 54.9**	**+0.7**
MSUT	**Lienchiang**	**2.81**	**324**	*e*P		**Pn**	**16 13 20.9**	**-0.8**
	baz=324								
MSUT				*e*S		**Sn**	**16 13 52.1**	**-2.3**
	baz=324								
KNM	**Kinmen**	**3.07**	**281**	*e*P		**Pn**	**16 13 26.7**	**+1.5**
	baz=279								
KNM				*e*S		**Sn**	**16 14 00.4**	**-0.2**
	baz=279								
KNMB	**Chin-men Tao**	**3.12**	**281**⇓	*e*P		**Pn**	**16 13 25.3**	**-0.5**
	baz=280								
KNMB				*e*S		**Sn**	**16 13 58.8**	**-3.0**
	baz=280								
LYJJ	**Jianjiangzhen**	**3.21**	**326**	*e*P		**Pn**	**16 13 26.2**	**-0.9**
	baz=326								
LYJJ				*e*S		**Sn**	**16 14 02.1**	**-1.9**
	baz=326								
JIRB	**Irabujima**	**3.27**	**73**	P		**Pn**	**16 13 28.7**	**+0.8**
JIRB				*e*S		**Sn**	**16 14 05.8**	**+0.3**
MHZQ	**Yeshan**	**3.31**	**312**	*e*P		**Pn**	**16 13 27.5**	**-0.9**
	baz=312								
MHZQ				*e*S		**Sn**	**16 14 04.1**	**-2.3**
	baz=312								
XPSS	**Dashiqiu**	**3.34**	**335**	*e*P		**Pn**	**16 13 28.0**	**-0.9**
	baz=336								
XPSS				*e*S		**Sn**	**16 14 04.3**	**-3.0**
	baz=336								
JIKM	**Ikemajima**	**3.36**	**71**	P		**Pn**	**16 13 30.2**	**+1.1**
JIKM				*e*S		**Sn**	**16 14 08.0**	**+0.2**
JMJ	**Miyako jima 2**	**3.37**	**73**	P		**Pn**	**16 13 30.5**	**+1.2**
JMJ	**Miyako jima 2**	**3.37**	**73**	*e*P		**Pn**	**16 13 30.4**	**+1.2**
	baz=75								
JMJ				*e*S		**Sn**	**16 14 09.1**	**+1.1**
	baz=75								
JMJ2	**Miyako jima3**	**3.38**	**75**	P		**Pn**	**16 13 30.4**	**+1.0**
JMJ2				*e*S		**Sn**	**16 14 10.0**	**+1.7**
JOGS	**Gusukube**	**3.46**	**75**	*e*P		**Pn**	**16 13 31.6**	**+1.2**
JOGS				*e*S		**Sn**	**16 14 12.3**	**+2.2**
AXDP	**Jialang**	**3.59**	**287**⇓	*e*P		**Pn**	**16 13 31.8**	**-0.4**
	baz=286								
AXDP				*e*S		**Sn**	**16 14 10.2**	**-3.2**
	baz=286								
ZPLA	**Ao Xicun**	**3.65**	**272**	*e*P		**Pn**	**16 13 33.1**	**0.0**
	baz=270								
ZPLA				*e*S		**Sn**	**16 14 12.9**	**-2.2**
	baz=270								
DSXP	**Dongshan**	**3.96**	**268**	*e*P		**Pn**	**16 13 37.2**	**-0.1**
	baz=267								
DSXP				*e*S		**Sn**	**16 14 19.5**	**-3.0**
	baz=267								
SXFK	**Yanhouchang**	**4.48**	**305**	*e*P		**Pn**	**16 13 43.7**	**-0.8**
	baz=304								
SXFK				*e*S		**Sn**	**16 14 32.2**	**-3.2**
	baz=304								
JOW	**Kunigami**	**6.60**	**62**	P		**Pn**	**16 14 12.8**	**-0.8**
	1.4nm,0.3s,baz=120,slow=20,SNR=12								
JOW				S		**Sn**	**16 15 26.4**	**-1.0**
	3.2nm,0.3s,baz=147,slow=26,SNR=1.0 8.0nm,0.3s								
KSRS	**Korea Array**	**14.53**	**20**	P		**Pn**	**16 16 04.0**	**+2.3**
	1.6nm,0.7s,baz=196,slow=11,SNR=2.3								
KSRS					LR	LR	16 21 28.5		
	comp=Z,11nm,19.8s,baz=30,slow=37								
CMAR	**Chiang Mai Arr**	**21.93**	**260**	P		**P**	**16 17 30.5**	**+2.3**
	0.4nm,0.7s,baz=54,slow=7.6,SNR=6.3 0.4nm,0.7s								
SONM	**Songino Array**	**26.84**	**337**	P		**P**	**16 18 12.0**	**-2.8**
	0.6nm,0.7s,baz=152,slow=9.3,SNR=4.9 0.6nm,0.7s								
MKAR	**Makanchi Array**	**38.91**	**316**	P		**P**	**16 19 59.5**	**-0.1**
	0.9nm,0.7s,baz=108,slow=9.8,SNR=10 0.9nm,0.7s								
ZALV	**Zalesovo Beam**	**40.77**	**327**	P		P	16 20 13.2	-1.7
	1.1nm,0.6s,baz=117,slow=7.5,SNR=5.0 1.1nm,0.6s								
H11N1	**WAKE ISLAND Hy**	**41.99**	**87**	T		T	17 05 36.5		
	baz=283,slow=74,SNR=9.9								
H11N2	**WAKE ISLAND Hy**	**41.99**	**87**	T		T	17 05 35.8		
	baz=283,slow=74,SNR=11								
H11N3	**WAKE ISLAND Hy**	**42.01**	**87**	T		T	17 05 37.7		
	baz=283,slow=74,SNR=7.2								
H11S3	**WAKE ISLAND Hy**	**42.12**	**88**	T		T	17 05 42.7		
	baz=284,slow=75,SNR=20								
H11S1	**WAKE ISLAND Hy**	**42.12**	**88**	T		T	17 05 47.0		
	baz=284,slow=75,SNR=14								
H11S2	**WAKE ISLAND Hy**	**42.13**	**88**	T		T	17 05 45.7		
	baz=284,slow=75,SNR=13								
WRA	**Warramunga Arr**	**45.26**	**163**	P		**P**	**16 20 50.4**	**-1.2**
	0.2nm,0.5s,baz=344,slow=8.8,SNR=1.5 0.2nm,0.5s								
ASAR	**Alice Springs**	**48.72**	**165**	P		**P**	**16 21 18.1**	**-0.4**
	0.2nm,0.7s,baz=344,slow=6.7,SNR=4.5 0.2nm,0.7s								
ILAR	**Eielson Array**	**69.25**	**27**	P		**P**	**16 23 39.5**	**-0.8**
	0.4nm,0.6s,baz=297,slow=7.3,SNR=8.8 0.4nm,0.6s								
INK	**Inuvik**	**73.31**	**22**	P		**P**	**16 24 03.8**	**-0.9**
	2.4nm,0.8s,baz=300,slow=6.6,SNR=8.7 2.4nm,0.8s								
BRTR	**Keskin Array B**	**73.76**	**307**	P		**P**	**16 24 07.7**	**-0.4**
	1.1nm,1.0s,baz=123,slow=5.3,SNR=1.9 1.1nm,1.0s								
NOA	**NORSAR Array B**	**78.73**	**332**	P		P	16 24 33.7	-2.1
	1.1nm,0.9s,baz=41,slow=5.2,SNR=1.7 1.1nm,0.9s								
YKA	**Yellowknife Ar**	**83.05**	**23**	P		**P**	**16 24 57.9**	**-0.7**
	0.8nm,0.7s,baz=309,slow=4.9,SNR=14 0.8nm,0.7s								
GERES	**GERESS Array B**	**83.40**	**321**	P		**P**	**16 25 00.6**	**-0.3**
	0.4nm,0.7s,baz=11,slow=1.0,SNR=1.5 0.4nm,0.7s								
NVAR	**Mina Array Bea**	**96.30**	**43**	P		**P**	**16 26 03.1**	**+0.6**
	0.1nm,0.4s,baz=305,slow=3.2,SNR=1.8 0.1nm,0.4s								

*IDC **26** 16:17:48.5±5.9, 10˚.49S×161˚.36E, h61km±45km, mb3.4/6, mbtmp3.6/6, MS3.1/2, Error ellipse: s-maj=43.6km s-min=25.1km az=115.0*

ISC 26 16:17:48.9±0.8, 10˚.3S±0˚.1×161˚.4E±0˚.1, h61km, n16, σ1§48/11, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.71**	**302**	P		**Pn**	**16 18 15.8**	**-0.6**
	5μm,0.3s,baz=154,slow=8.4,SNR=144							
HNR				S		**Sn**	**16 18 38.0**	**+0.7**
	12μm,0.5s,baz=4.3,slow=23,SNR=15							
NOUC	**Port Laguerre**	**12.60**	**159**	P		P	16 21 13.0	+18
MARNC	**Mare, Loyalty**	**12.77**	**151**	P		**Pn**	**16 20 48.1**	**+0.4**
YATNC	**Mamie plateau,**	**12.78**	**156**	P		P	16 21 04.9	+8.0
ONTNC	**Ouen Toro**	**12.84**	**159**	P		P	16 21 12.6	+15
OUENC	**Ouen Island, N**	**13.09**	**157**	P		P	16 21 09.0	+8.8
PINNC	**Pines Island,**	**13.50**	**155**	P		**P**	**16 21 04.1**	**-0.7**
PMG	**Port Moresby**	**14.08**	**273**	LR		LR	16 26 11.9	
	comp=Z,82nm,20.8s,baz=80,slow=36							
CTA	**Charters Tower**	**17.54**	**235**	P		**P**	**16 21 52.8**	**+3.1**
	4.6nm,0.7s,baz=72,slow=10,SNR=8.0							
WRA	**Warramunga Arr**	**27.79**	**247**	P		**P**	**16 23 31.4**	**-1.1**
	0.8nm,0.5s,baz=76,slow=9.3,SNR=8.9 0.8nm,0.5s							
STKA	**Stephens Creek**	**28.21**	**218**	LR		LR	16 33 34.3	
	comp=Z,37nm,20.4s,baz=28,slow=34							
ASAR	**Alice Springs**	**29.39**	**240**	P		**P**	**16 23 44.9**	**-1.8**
	0.2nm,0.5s,baz=62,slow=10,SNR=10 0.2nm,0.5s							
SONM	**Songino Array**	**75.63**	**325**	P		**P**	**16 29 27.4**	**-0.2**
	0.4nm,0.6s,baz=141,slow=9.3,SNR=2.8 0.4nm,0.6s							
ILAR	**Eielson Array**	**84.24**	**20**	P		**P**	**16 30 14.0**	**+0.5**
	0.4nm,1.0s,baz=235,slow=4.3,SNR=4.2 0.4nm,1.0s							
MKAR	**Makanchi Array**	**90.12**	**318**	P		**P**	**16 30 41.6**	**-0.9**
	0.3nm,0.8s,baz=89,slow=6.2,SNR=2.2 0.3nm,0.8s							
YKA	**Yellowknife Ar**	**96.31**	**28**	P		**P**	**16 31 11.4**	**+0.9**
	0.1nm,0.5s,baz=251,slow=5.0,SNR=1.5 0.1nm,0.5s							

*THE **26** 16:30:37.7, 40˚.20N×19˚.80E, h0km±1km, ML2.1/2, Error ellipse: s-maj=2.0km s-min=0.6km az=292.0*
*TIR **26** 16:30:39.0, 40˚.07N×19˚.92E, h6km±1km, Md2.8, Ml2.0*
*ATH **26** 16:30:39.2, 40˚.14N×19˚.85E, h13km±6km, ML2.0/2, Error ellipse: s-maj=7.5km s-min=1.7km az=204.0*

ISC 26 16:30:39.0±1.3, 40˚.12N±0˚.04×19˚.87E±0˚.03, h6km±11km, n18, σ0§99/32, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SRN	**Sarande**	**0.26**	**158**	P		**Pg**	**16 30 42.6**	**-1.5**
	baz=162							
SRN				S		**Sg**	**16 30 47.2**	**-0.3**
	baz=162							
SRN				AMP				
	comp=N,1.1nm,0.2s,baz=162							
KASA	**Kassiopi**	**0.38**	**173**	P		**Pg**	**16 30 46.2**	**-0.2**
KASA				S		**Sg**	**16 30 52.5**	**+1.1**
KASA				AML		AML	16 30 52.7	
	comp=E,729μm,0.3s							
KASA				AML		AML	16 30 53.0	
	comp=N,523μm,0.2s							
KEK	**Kerkira**	**0.41**	**188**	P		**Pg**	**16 30 47.3**	**+0.3**
KEK				S		**Sb**	**16 30 54.4**	**-0.9**
	comp=N,272nm,0.1s							
KEK	**Kerkira**	**0.41**	**188**	P		**Pg**	**16 30 47.4**	**+0.4**
KEK				S		**Sb**	**16 30 54.4**	**-0.9**
KEK				AML		AML	16 30 55.6	
	comp=E,547μm,0.2s							
KEK				AML		AML	16 30 56.1	
	comp=N,529μm,0.1s							
VLO	**Vlora**	**0.45**	**320**	P		**Pn**	**16 30 50.9**	**-1.2**
	baz=321							
VLO				S		**Sb**	**16 30 58.0**	**+1.6**
	baz=321							
VLO				AMP				
	comp=E,1.9nm,0.2s,baz=321							
LSK	**Leskovik**	**0.56**	**87**	P		**Pg**	**16 30 48.9**	**-0.9**
LSK				S		**Sg**	**16 30 58.6**	**+1.6**
LSK	**Leskovik**	**0.56**	**87**	P		**Pg**	**16 30 49.1**	**-0.7**
	baz=81							
LSK				S		**Sb**	**16 30 59.0**	**-0.5**
	baz=81							
LSK				AMP				
	comp=N,0.6nm,0.3s,baz=81							
IGT	**Igoumenitsa**	**0.69**	**149**	P		**Pg**	**16 30 52.2**	**-0.1**
IGT				S		**Sb**	**16 31 03.8**	**+0.6**
IGT	**Igoumenitsa**	**0.69**	**149**	P		**Pg**	**16 30 52.1**	**-0.1**
	baz=149							
IGT				S		**Sb**	**16 31 03.2**	**0.0**
	baz=149							
IGT	**Igoumenitsa**	**0.69**	**149**	P		**Pg**	**16 30 52.0**	**-0.2**
IGT				S		**Sg**	**16 31 02.5**	**+1.4**
KBN	**Korca**	**0.86**	**54**	P		**Pn**	**16 30 57.5**	**-0.2**
	baz=50							
KBN				S		**Sn**	**16 31 10.1**	**-0.6**
	baz=50							
KBN				AMP				
	comp=E,0.2nm,0.8s,baz=50							
JAN	**Janina**	**0.88**	**121**	P		**Pg**	**16 30 56.6**	**+0.6**
JAN				S		**Sg**	**16 31 08.3**	**+0.8**
PENT	**Pentalofos**	**0.97**	**85**	P		**Pg**	**16 30 56.9**	**-0.8**
PENT	**Pentalofos**	**0.97**	**85**	P		**Pg**	**16 30 57.2**	**-0.5**
SCTE	**Santa Cesarea**	**1.08**	**268**	P		**Pg**	**16 30 59.3**	**-0.5**
FNA	**Florina**	**1.32**	**60**	P		**Pn**	**16 31 02.8**	**-1.3**
FNA				S		**Sn**	**16 31 22.1**	**0.0**
	comp=E,75nm,0.6s							
FNA	**Florina**	**1.32**	**60**	P		**Pn**	**16 31 03.9**	**-0.2**
	baz=57							
FNA				S		**Sn**	**16 31 24.6**	**+2.5**
	baz=57							
FNA	**Florina**	**1.32**	**60**	P		**Pn**	**16 31 03.0**	**-1.1**

*GUC **26** 16:32:20.7±0.8, 20˚.64S×71˚.07W, h15km±14km, ML3.1*
*IDC **26** 16:32:26.3±6.3, 20˚.78S×71˚.01W, h74km±35km, mb3.8/1, mbtmp3.7/3, ML3.1/2, Error ellipse: s-maj=92.7km s-min=23.1km az=70.0*

ISC 26 16:32:20.1±1.9, 20˚.64S±0˚.03×70˚.94W±0˚.08, h16km±10km, n22, σ0§89/33, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TA01	**Diego Aracena**	**0.71**	**84**	*e*P		**Pb**	**16 32 34.5**	**+0.3**
TA01				*e*S		**Sn**	**16 32 45.9**	**-0.2**
TA01				IAML			16 32 47.8	
	comp=N,1μm,0.5s							
PATCX	**Punta Patache**	**0.76**	**104**	*e*P		**Pg**	**16 32 35.4**	**+0.5**
PATCX				*e*S		**Sn**	**16 32 47.0**	**-0.4**
PATCX				IAML			16 32 49.8	
	comp=N,1μm,0.4s							
TA02	**Huaiquique**	**0.84**	**64**	*e*P		**Pn**	**16 32 37.1**	**-0.2**
TA02				*e*S		**Sn**	**16 32 49.0**	**-0.3**
TA02				IAML			16 32 51.5	
	comp=E,769nm,0.2s							
HMBC	**Humberstone**	**1.05**	**70**⇓	*e*P		**Pn**	**16 32 40.3**	**0.0**
HMBC				*e*S		**Sn**	**16 32 55.5**	**+0.9**
HMBC				IAML			16 33 02.5	
	comp=N,544nm,0.5s							
PB02	**IPOC Station P**	**1.18**	**125**	*e*P		**Pg**	**16 32 42.9**	**-0.1**
PB02				*e*S		**Sg**	**16 32 58.9**	**+0.4**
PB02				IAML			16 33 01.7	
	comp=E,2μm,0.4s							
PSGC	**Pisagua**	**1.29**	**36**	*e*P		**Pb**	**16 32 44.3**	**+0.2**
PSGC				*e*S		**Sb**	**16 32 59.9**	**-0.5**
PSGC				IAML			16 33 09.4	
	comp=E,239nm,0.5s							
PB01	**IPOC Station P**	**1.41**	**107**	*e*P		**Pb**	**16 32 46.3**	**+0.1**
PB01				*e*S		**Sg**	**16 33 05.6**	**-0.2**
PB01				IAML			16 33 11.0	
	comp=N,932nm,0.5s							
PB07	**IPOC Station P**	**1.46**	**138**⇓	*e*P		**Pb**	**16 32 46.6**	**-0.4**
PB07				*e*S		**Sb**	**16 33 05.2**	**-0.2**
PB11	**IPOC Station P**	**1.49**	**54**⇑	*e*P		**Pn**	**16 32 47.2**	**+0.8**
PB11				*e*S		**Sb**	**16 33 06.6**	**+0.3**
PB11				IAML			16 33 12.3	
	comp=E,553nm,0.4s							
PB03	**IPOC Station P**	**1.78**	**142**	*e*P		**Pn**	**16 32 51.1**	**+0.7**
PB03				*e*S		**Sn**	**16 33 13.4**	**+0.5**
PB03				IAML			16 33 25.6	
	comp=N,151nm,0.4s							
PB04	**IPOC Station P**	**1.84**	**157**⇓	*e*P		**Pn**	**16 32 51.2**	**0.0**
PB04				IAML			16 33 30.2	
	comp=N,394nm,0.5s							
GO01	**Chusmiza**	**1.90**	**60**	*e*P		**Pn**	**16 32 53.4**	**+1.1**
GO01				*e*S		**Sg**	**16 33 20.2**	**-1.3**
GO01				IAML			16 33 28.0	
	comp=N,231nm,0.3s							
PB09	**IPOC Station P**	**1.96**	**126**⇑	*i*P		**Pb**	**16 32 55.1**	**-0.4**
PB09				*i* S		**Sb**	**16 33 20.1**	**+0.5**
PB09				IAML			16 33 30.0	
	comp=N,308nm,0.6s							
MNMC	**Minye Minye**	**1.96**	**40**	*e*P		**Pb**	**16 32 54.8**	**-0.9**
MNMC				*e*S		**Sb**	**16 33 21.4**	**+1.4**
MNMC				IAML			16 33 29.8	
	comp=E,420nm,0.5s							
PB12	**IPOC Station P**	**2.10**	**16**	*e*P		**Pn**	**16 32 55.4**	**+0.7**
PB12				*e*S		**Sn**	**16 33 20.7**	**+0.2**
LVC	**Limon Verde**	**2.72**	**136**	P		**Pn**	**16 33 06.0**	**+2.5**
	comp=E,2.3nm,0.3s,baz=297,slow=11,SNR=71							
LVC				S		**Sb**	**16 33 39.9**	**-2.0**
	comp=E,29nm,0.4s,baz=241,slow=23,SNR=9.2 comp=E,10nm,0.4s							
LPAZ	**La Paz**	**5.08**	**32**	P		Pb	16 33 43.2	-5.9
	comp=E,0.5nm,0.3s,baz=250,slow=6.2,SNR=6.4 comp=E,1.3nm,0.4s							
H03N1	**Juan Fernandez**	**14.59**	**207**	T		T	16 50 55.7	
	baz=34,slow=72,SNR=10							
H03N2	**Juan Fernandez**	**14.59**	**207**	T		T	16 51 01.0	
	baz=34,slow=72,SNR=5.1							
H03N3	**Juan Fernandez**	**14.60**	**207**	T		T	16 50 58.2	
	baz=34,slow=72,SNR=5.3							
TORD	**Torodi Ar. Bea**	**78.86**	**71**	P		**P**	**16 44 21.7**	**-1.4**
	comp=E,1.9nm,0.9s,baz=252,slow=5.8,SNR=9.4 comp=E,1.9nm,0.9s							
MKAR	**Makanchi Array**	**146.01**	**34**	PKPbc		**PKPdf**	**16 51 59.2**	**+0.8**
	comp=E,0.3nm,0.8s,baz=292,slow=4.5,SNR=3.5							

*IDC **26** 16:32:41.9±0.7, 54˚.00N×164˚.01W, h0km, mb4.2/26, mbtmp4.2/28, ML3.5/2, MS3.8/34, Error ellipse: s-maj=18.4km s-min=10.5km az=162.0*
*MOS **26** 16:32:43.8±0.9, 53˚.95N×163˚.81W, h28km, mb4.7/23, Error ellipse: s-maj=12.5km s-min=6.7km az=89.9*
*NEIC **26** 16:32:45.7±2.0, 53˚.92N±0˚.06×163˚.86W±0˚.06, h27km±5km, mb4.5/37, ML4.4/8, ML4.3(AEIC), Error ellipse: s-maj=8.6km s-min=5.3km az=173.0*
*AEIC **26** 16:32:46.3±2.5, 53˚.9N±0˚.1×163˚.83W±0˚.08, h26km±5km, Error ellipse: s-maj=15.1km s-min=5.4km az=163.0*

ISC 26 16:32:47.2±0.5, 53˚.95N±0˚.08×163˚.84W±0˚.04, h39km, n252, σ1§14/228, mb4.5/58, MS3.8/34, 9C-12D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AKUT	**Akutan**	**1.16**	**280**			**Pn**	**16 33 06.9**	**+0.1**
AKUT				Sn		**Sn**	**16 33 20.9**	**-0.4**
AKUT				IAML			16 33 28.7	
	comp=E,9μm,0.5s							
UNV	**Unalaska Valle**	**1.58**	**267**			**Pn**	**16 33 11.9**	**-0.8**
UNV	**Unalaska Valle**	**1.58**	**267**			**Sn**	**16 33 32.9**	**+1.0**
UNV	**Unalaska Valle**	**1.58**	**267**	P		**Pn**	**16 33 11.9**	**-0.8**
	baz=89							
UNV				S		**Sn**	**16 33 32.9**	**+1.0**
	baz=89							
S12K	**Black Hills**	**2.03**	**30**	P		**Pn**	**16 33 21.4**	**+2.5**
	baz=209							
SDPT	**Sand Point**	**2.40**	**53**	Pn		**Pn**	**16 33 25.2**	**+1.3**
SDPT				Sn		**Sn**	**16 33 52.5**	**+0.4**
SDPT				IAML			16 34 06.4	
	comp=N,2μm,0.8s							
SDPT				IAML			16 34 06.9	
	comp=E,2μm,0.7s							
SDPT	**Sand Point**	**2.40**	**53**	P		**Pn**	**16 33 25.1**	**+1.3**
	baz=234							
NIKH	**Nikolski High**	**3.16**	**254**			**Pn**	**16 33 34.9**	**+0.6**
NIKH	**Nikolski High**	**3.16**	**254**	P		**Pn**	**16 33 35.0**	**+0.7**
	baz=72							
CLES	**Cleveland East**	**3.80**	**255**	Pn		**Pn**	**16 33 42.5**	**-0.6**
CLES				IAML			16 34 52.3	
	comp=E,2μm,0.9s							
CLES				IAML			16 34 54.6	
	comp=N,2μm,0.9s							
CHGN	**Chignik**	**3.90**	**51**			**Pn**	**16 33 45.8**	**+1.3**
CHGN				Sn		**Sn**	**16 34 29.6**	**+0.7**
CHGN				IAML			16 34 40.9	
	comp=E,504nm,0.7s							
CHGN	**Chignik**	**3.90**	**51**	P		**Pn**	**16 33 46.1**	**+1.6**
	baz=234							
SPIA	**Saint Paul Isl**	**4.87**	**314**			**Pn**	**16 33 57.6**	**-0.1**
R16K	**Pilot Point**	**5.06**	**42**	P		**Pn**	**16 34 02.7**	**+2.3**
	baz=226							
P16K	**Nushagak River**	**6.03**	**30**	P		**Pn**	**16 34 16.2**	**+2.5**
	baz=214							
O16K	**Kokwok River B**	**6.47**	**27**	P		**Pn**	**16 34 22.8**	**+3.0**
	baz=211							
OHAK	**Old Harbor**	**6.82**	**57**	Pn		**Pn**	**16 34 24.8**	**+0.4**
O17K	**Koliganek Bris**	**6.90**	**30**	P		**Pn**	**16 34 28.8**	**+3.2**
	baz=215							
P18K	**Big Mountain,**	**7.22**	**38**	Pn		**Pn**	**16 34 32.6**	**+2.5**
KDAK	**Kodiak Island**	**7.40**	**54**	Pn		**Pn**	**16 34 31.4**	**-1.1**
	comp=E,2.0nm,0.3s,baz=239,slow=3.4,SNR=41							
KDAK				Sn		**Sn**	**16 35 50.8**	**-4.2**
	baz=243,slow=15 comp=E,5.1nm,0.2s							
KDAK	**Kodiak Island**	**7.40**	**54**	Pn		**Pn**	**16 34 30.9**	**-1.6**
O18K	**Koktuh Hills**	**7.57**	**35**	Pn		**Pn**	**16 34 37.2**	**+2.5**
ADK	**Adak**	**8.04**	**260**			**Pn**	**16 34 42.2**	**+1.0**
ADK	**Adak**	**8.04**	**260**	P		**Pn**	**16 34 42.2**	**+1.0**
KIWB	**Kanaga Island**	**8.32**	**261**			**Pn**	**16 34 45.7**	**+0.5**
SVW2	**Sparrevohn**	**8.42**	**28**			**Pn**	**16 34 47.4**	**+0.9**
N19K	**Bonanza Creek**	**8.53**	**32**			**Pn**	**16 34 49.0**	**+1.0**
RSO	**Redoubt South**	**8.87**	**38**	Pn		**Pn**	**16 34 53.5**	**+0.8**
CNPM	**China Poot**	**8.89**	**46**	Pn		**Pn**	**16 34 52.9**	**0.0**
BRLK	**Bradley Lake**	**9.17**	**45**	Pn		**Pn**	**16 34 55.3**	**-1.4**
L19K	**White Mountain**	**9.52**	**26**			**Pn**	**16 35 03.5**	**+2.0**
SPU	**Mount Spurr**	**9.61**	**36**	Pn		**Pn**	**16 35 01.4**	**-1.3**
TTA	**Tatalina**	**9.88**	**21**	Pn		**Pn**	**16 35 08.2**	**+1.6**
TTA	**Tatalina**	**9.88**	**21**	P		**Pn**	**16 35 08.2**	**+1.6**
SEW	**Seward**	**9.96**	**46**	Pn		**Pn**	**16 35 07.2**	**-0.3**
SUA	**Susitna One**	**10.27**	**38**			**Pn**	**16 35 12.8**	**+1.0**
SKT	**Skwentna**	**10.35**	**34**	Pn		**Pn**	**16 35 13.8**	**+0.9**
RC01	**Rabbit Creek A**	**10.40**	**41**	Pn		**Pn**	**16 35 14.2**	**+0.5**
AMKA	**Amchitka**	**10.56**	**263**			**Pn**	**16 35 15.9**	**+0.2**
ANM	**Nome**	**10.68**	**356**	Pn		**Pn**	**16 35 18.2**	**+1.0**
ANM	**Nome**	**10.68**	**356**	P		**Pn**	**16 35 18.3**	**+1.0**
K20K	**Telida**	**10.70**	**24**			**Pn**	**16 35 19.8**	**+2.2**
PPLA	**Purkeypile**	**10.83**	**29**	Pn		**

N31M IAmb IAmb 16 36 56.2
comp=Z,26nm,0.8s
J29M Klondike Camp 16.68 41 P P 16 36 39.5 -0.1
J29M IAmb IAmb 16 36 52.5
comp=Z,29nm,0.4s
M31M Drury Creek, Y 17.48 50 P P 16 36 48.2 -0.4
M31M IAmb IAmb 16 37 04.8
comp=Z,18nm,0.9s
P33M Teslin, Yukon 17.86 57 P Pn 16 36 50.8 -1.6
FARO Faro, Yukon 17.96 50 P P 16 36 56.3 +2.4
BILL Bilibino 19.93 327 P P 16 37 14.6 -0.6
BILL IAmb IAmb 16 37 29.5
comp=Z,30nm,1.5s
BILL Bilibino 19.93 327 *i* P **Pn 16 37 16.3 -0.8**
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,311nm,18.0s
INK Inuvik 20.20 33 P P 16 37 16.4 -1.6
comp=Z,2.3nm,0.8s,baz=236,slow=11,SNR=8.9
INK S Sn 16 41 05.9 -0.3
comp=Z,1.0nm,1.1s,baz=356,slow=7.0,SNR=1.5
INK LR LR 16 45 48.9
comp=Z,200nm,19.6s,baz=274,slow=39
comp=Z,2.3nm,0.8s
INK Inuvik 20.20 33 P **P 16 37 17.7 -0.4**
INK IAmb IAmb 16 37 29.1
comp=Z,24nm,1.5s
INK Inuvik 20.20 33 P **P 16 37 17.7 -0.4**
INK pmax pmax
comp=Z,24nm,1.5s
BBB Bella Bella 21.40 80 LR LR 16 44 01.8
comp=Z,200nm,21.1s,baz=270,slow=32
PEA0B Petropavlovsk- 22.70 284 P **P 16 37 43.9 -1.2**
PEA0B IAmb IAmb 16 37 47.5
comp=Z,51nm,1.3s
PEA0B Petropavlovsk- 22.70 284⇓ *eP* **P 16 37 44.3 -0.8**
PETK Petropavlovsk- 22.70 284 P **P 16 37 43.6 -1.5**
comp=Z,5.5nm,0.4s,baz=89,slow=12,SNR=41
PETK LR LR 16 45 44.1
comp=Z,272nm,22.0s,baz=84,slow=35
comp=Z,5.5nm,0.4s
SEY Seymchan 24.15 309 P **P 16 37 58.8 -0.4**
comp=Z,1.7nm,0.8s,baz=110,slow=6.1,SNR=8.3
SEY LR LR 16 49 16.1
comp=Z,179nm,18.1s,baz=352,slow=41
comp=Z,1.7nm,0.8s
SEY Seymchan 24.15 309⇑ *eP* **P 16 38 01.0 +1.9**
SEY pmax pmax
comp=Z,2.0nm,1.3s
A36M Sachs Harbour 24.45 28 P **P 16 38 02.0 +0.3**
A36M IAmb IAmb 16 38 05.3
comp=Z,15nm,0.9s
MA2 Magadan 25.10 301 P **P 16 38 07.7 -0.1**
comp=Z,2.4nm,0.5s,baz=79,slow=10,SNR=6.5
MA2 LR LR 16 47 44.1
comp=Z,66nm,19.6s,baz=92,slow=36
comp=Z,2.4nm,0.5s
MA2 Magadan 25.10 301⇑ *eP* **P 16 38 08.6 +0.8**
MA2 pmax pmax
comp=Z,12nm,2.6s
YKA Yellowknife Ar 26.67 52 P **P 16 38 23.2 +1.2**
comp=Z,0.3nm,0.5s,baz=273,slow=8.0,SNR=8.3
comp=Z,0.3nm,0.5s
NEW Newport 29.43 82 LR LR 16 48 39.6
comp=Z,171nm,19.6s,baz=261,slow=32
K05A Summer Lake 30.22 94 P **P 16 38 53.8 -0.2**
K05A IAmb IAmb 16 39 06.8
comp=Z,7.0nm,1.1s
MOD Modoc Plateau 31.06 95 P **P 16 39 02.5 +1.1**
MOD IAmb IAmb 16 39 05.1
comp=Z,4.3nm,1.1s
TIXI Tiksi 33.14 328 LR LR 16 54 36.2
comp=Z,182nm,18.2s,baz=152,slow=40
TIXI Tiksi 33.14 328⇑ *eP* **P 16 39 19.3 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 33.48 27 P **P 16 39 22.1 0.0**
comp=Z,0.9nm,0.6s,baz=263,slow=11,SNR=4.7
RES LR LR 16 56 49.1
comp=Z,99nm,19.6s,baz=4.5,slow=43
comp=Z,0.9nm,0.6s
RES Resolute Bay 33.48 27 P **P 16 39 22.1 0.0**
RES Resolute Bay 33.48 27 P **P 16 39 22.1 0.0**
RES pmax pmax
comp=Z,2.0nm,1.0s
NVAR Mina Array Bea 34.46 98 P **P 16 39 32.5 +1.2**
comp=Z,0.7nm,0.5s,baz=308,slow=8.2,SNR=7.3
comp=Z,0.7nm,0.5s
YAK Yakutsk 34.66 311 LR LR 16 55 25.4
comp=Z,224nm,18.3s,baz=74,slow=40
YAK Yakutsk 34.66 311 *eP* **P 16 39 31.4 -1.0**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.2s
ELK Elko 34.77 92 P **P 16 39 35.2 +1.3**
comp=E,1.7nm,0.6s,baz=303,slow=9.9,SNR=8.2
ELK LR LR 16 50 32.0
comp=E,196nm,21.6s,baz=282,slow=31
comp=E,1.7nm,0.6s
ELK Elko 34.77 92 P **P 16 39 34.4 +0.5**
ELK Elko 34.77 92 P **P 16 39 34.4 +0.5**
ELK pmax pmax
comp=Z,2.0nm,0.7s
JKA Kamikawa-asahi 35.67 276 P **P 16 39 40.4 -0.9**
ASAJ Asahikawa 35.67 276 P **P 16 39 39.9 -1.4**
comp=Z,10nm,0.8s,baz=292,slow=1.0,SNR=5.8
ASAJ LR LR 16 53 04.6
comp=Z,102nm,21.4s,baz=123,slow=34
comp=Z,10nm,0.8s
ASAJ Asahikawa 35.67 276 P **P 16 39 40.4 -0.9**
ASAJ pmax pmax
comp=Z,45nm,1.5s
R11A Troy Canyon, C 36.11 96 P **P 16 39 46.2 +0.8**
R11A IAmb IAmb 16 39 48.4
comp=Z,3.6nm,1.0s
PDAR Pinedale Array 36.88 85 LR LR 16 52 20.6
comp=Z,111nm,21.4s,baz=294,slow=32
FCC Fort Churchill 37.34 54 P **P 16 39 56.6 +1.3**
FCC IAmb IAmb 16 40 07.5
comp=Z,10.0nm,1.5s
FCC Fort Churchill 37.34 54 P **P 16 39 56.6 +1.3**
FCC pmax pmax
comp=Z,10.0nm,1.5s
PFO Pinyon Flats O 38.88 102 LR LR 16 53 10.7
comp=Z,192nm,19.7s,baz=317,slow=32
KLR Kul'dur 39.06 290 LR LR 16 56 17.5
comp=Z,162nm,20.7s,baz=130,slow=36
KLR Kul'dur 39.06 290⇑ *eP* **P 16 40 08.7 -1.3**
KLR pmax pmax
comp=Z,2.0nm,1.2s
PV13 Radium Mtn., P 40.23 90 P **P 16 40 19.8 -0.3**
PV02 Paradox Valley 40.25 90 P **P 16 40 20.3 +0.1**
PV02 IAmb IAmb 16 41 02.5
comp=Z,5.5nm,1.1s
ULM Lac du Bonnet 40.46 66 LR LR 16 56 12.6
comp=Z,108nm,18.1s,baz=302,slow=35
H11N2 WAKE ISLAND Hy 40.85 225 T T 17 24 06.1
baz=26,slow=76,SNR=130
H11N3 WAKE ISLAND Hy 40.86 225 T T 17 24 10.6
baz=26,slow=76,SNR=107
H11N1 WAKE ISLAND Hy 40.87 225 T T 17 24 02.9
baz=26,slow=76,SNR=120
H11S1 WAKE ISLAND Hy 42.03 224 T T 17 25 29.0
baz=26,slow=76,SNR=251
H11S2 WAKE ISLAND Hy 42.04 224 T T 17 25 34.3
baz=26,slow=76,SNR=430
H11S3 WAKE ISLAND Hy 42.04 224 T T 17 25 33.5
baz=26,slow=76,SNR=165
MAJO Matsushiro 43.05 270 P **P 16 40 42.4 -0.5**
MAJO IAmb IAmb 16 40 44.6
comp=Z,12nm,0.9s
MAJO Matsushiro 43.05 270 *deP* **P 16 40 43.0 +0.1**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 43.05 270 P **P 16 40 42.6 -0.3**
comp=Z,1.1nm,0.4s,baz=34,slow=7.7,SNR=5.8
comp=Z,1.1nm,0.4s
ANMO Albuquerque 43.80 92 LR LR 16 57 22.4
comp=Z,97nm,18.7s,baz=32,slow=34
JGF Kuroka 44.20 270 P **P 16 40 52.0 -0.2**
JGF IAmb IAmb 16 40 56.2
comp=Z,23nm,1.3s
NRIK Noril'sk 46.59 332 LR LR 17 01 40.5
comp=Z,151nm,20.6s,baz=38,slow=37
NRIK Noril'sk 46.59 332⇑ *eP* **P 16 41 11.3 +0.7**
NRIK pmax pmax
comp=Z,4.0nm,1.3s
JCJ Chichijima 47.52 258 LR LR 16 58 39.5
comp=Z,42nm,21.9s,baz=37,slow=33
KSRS Korea Array 48.48 279 P **P 16 41 25.4 -0.3**
comp=Z,5.7nm,0.9s,baz=47,slow=9.1,SNR=9.0
comp=Z,5.7nm,0.9s
TX31 Lajitas Ar. Si 49.47 95 P **P 16 41 32.6 -0.9**
TX32 Lajitas Array 49.47 95 P **P 16 41 33.1 -0.4**
TX32 IAmb IAmb 16 41 48.4
comp=Z,3.7nm,1.0s
TXAR Lajitas Array 49.47 95 P **P 16 41 34.3 +0.8**
comp=Z,0.9nm,0.8s,baz=290,slow=4.8,SNR=8.9
TXAR LR LR 17 01 22.9
comp=Z,104nm,18.5s,baz=302,slow=35
comp=Z,0.9nm,0.8s
TXAR Lajitas Array 49.47 95 P **P 16 41 33.4 -0.1**
TXAR Lajitas Array 49.47 95 P **P 16 41 33.4 -0.1**
LPIG La Paz 49.56 105 LR LR 16 57 01.5
comp=Z,147nm,21.0s,baz=246,slow=29
XLT XiLinHaoTe 50.88 293 *eP* **P 16 41 41.5 -2.5**
XLT pP pP 16 41 50.5 -4.8
XLT sP sP 16 41 55.5 -4.4
ULN Ulaanbaatar 52.95 302 P **P 16 41 58.9 -0.5**
ULN IAmb IAmb 16 42 00.2
comp=Z,4.9nm,0.6s
ULN Ulaanbaatar 52.95 302⇑ *eP* **P 16 41 59.8 +0.4**
ULN pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 53.30 303 P **P 16 42 02.0 +0.1**
comp=Z,2.9nm,0.8s,baz=38,slow=7.5,SNR=21
SONM PcP **PcP 16 43 09.3 +0.1**
comp=Z,0.9nm,0.5s,baz=64,slow=2.6,SNR=5.6
comp=Z,2.9nm,0.8s
HHC Hu-ho-hao-te 55.41 293 *eP* **P 16 42 17.8 +0.4**
TKL Tuckaleechee C 56.55 74 LR LR 17 05 54.3
comp=Z,159nm,19.0s,baz=297,slow=35
BORG Borgarnes 58.16 18 LR LR 17 11 43.7
comp=Z,89nm,18.3s,baz=306,slow=40
ZALV Zalesovo Beam 58.44 320 P **P 16 42 38.1 -0.3**
comp=Z,0.7nm,0.5s,baz=15,slow=6.2,SNR=4.6
ZALV PcP **PcP 16 43 29.2 +0.5**
comp=Z,1.6nm,0.7s,baz=31,slow=4.3,SNR=6.2
comp=Z,0.7nm,0.5s
LYN LuoYang 59.41 288⇓ *iP* **P 16 42 45.8 +0.3**
LYN pmax pmax
comp=Z,10.0nm,0.9s
DGZ Jazzator, Alta 60.65 315⇓ *eP* **P 16 42 54.0 0.0**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
WHN Wuhan 61.28 283 P **P 16 42 58.3 0.0**
WHN pmax pmax
comp=Z,360nm,0.7s
XAN Xi'an 61.77 290 P **P 16 43 01.0 -0.7**
XAN pP pP 16 43 14.5 +1.3
XAN pmax pmax
comp=Z,11nm,1.1s
GTA Gaotai 62.65 300 *eP* **P 16 43 07.3 -0.3**
GTA pP pP 16 43 11.0 -8.2
GTA sP sP 16 43 13.8 -10
GTA pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 63.33 321 P **P 16 43 11.5 -0.2**
KURK Kurchatov 63.33 321⇓ *eP* **P 16 43 11.8 +0.1**
KURK pmax pmax
comp=Z,11nm,1.3s
CMIG Matias Romero 63.98 97 LR LR 17 09 07.6
comp=Z,77nm,18.6s,baz=1.0,slow=34
ENH Enshi 64.26 287 P **P 16 43 17.8 -0.5**
BVA0 Borovoye Array 64.27 327 *iP* **P 16 43 18.0 +0.1**
BVAR Borovoye Array 64.27 327 LR LR 17 12 02.9
comp=Z,84nm,19.8s,baz=44,slow=37
BRVK Borovoye 64.28 327 P **P 16 43 17.8 -0.2**
BRVK IAmb IAmb 16 43 19.7
comp=Z,7.2nm,0.9s
BRVK Borovoye 64.28 327⇓ *eP* **P 16 43 18.5 +0.6**
BRVK pmax pmax
comp=Z,14nm,1.7s
KIRV Kirov 64.64 341 LR LR 17 15 49.3
comp=Z,122nm,18.1s,baz=35,slow=40
KIRV Kirov 64.64 341⇓ *eP* **P 16 43 20.7 +0.5**
ARU Arti 64.64 336 P **P 16 43 20.0 -0.3**
ARU Arti 64.64 336 *deP* **P 16 43 20.4 +0.1**
ARU pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 64.68 355 P **P 16 43 19.5 -0.9**
comp=Z,3.5nm,0.6s,baz=16,slow=7.7,SNR=21
comp=Z,3.5nm,0.6s
FINES FINESS Array B 64.68 355 *iP* **P 16 43 20.0 -0.4**
FINES pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 65.06 316 *iP* **P 16 43 22.5 -0.7**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 65.06 316 P **P 16 43 22.6 -0.5**
comp=Z,2.4nm,0.8s,baz=44,slow=6.0,SNR=26
MKAR LR LR 17 12 17.2
comp=Z,124nm,18.2s,baz=36,slow=37
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 65.06 316 P **P 16 43 22.4 -0.8**
WMQ Urumqi 65.10 311 *eP* **P 16 43 23.8 +0.2**
WMQ PcP **PcP 16 43 56.5 +0.4**
WMQ pmax pmax
comp=Z,8.0nm,1.1s
WMQ LR LR
comp=Z,94nm,18.9s
NB2 NORSAR Subarra 65.29 3 P **P 16 43 24.4 -0.1**
comp=Z,23nm,1.2s,baz=359,slow=6.5
NB2 NORSAR Subarra 65.29 3 P **P 16 43 24.4 -0.1**
baz=359,slow=6.5
NOA NORSAR Array B 65.29 3 P **P 16 43 24.4 -0.1**
comp=Z,2.3nm,0.8s,baz=358,slow=6.6,SNR=5.9
comp=Z,2.3nm,0.8s
GYA Guiyang 68.77 286⇓ *iP* **P 16 43 47.8 +0.6**
GYA pmax pmax
comp=Z,24nm,1.0s
AKTO Aktyubinsk 70.21 333 LR LR 17 16 56.5
comp=Z,80nm,19.5s,baz=134,slow=38
AKTO Aktyubinsk 70.21 333 P **P 16 43 55.5 -0.1**
AB31 Akbulak array 70.74 331 *iP* **P 16 43 59.3 +0.5**
ABKAR Akbulak array 70.74 331 P **P 16 43 58.9 +0.1**
BELG Belogornoye 70.82 340 LR LR 17 17 10.2
comp=Z,90nm,19.1s,baz=335,slow=38
BELG Belogornoye 70.82 340⇓ *eP* **P 16 43 59.2 0.0**
BELG pmax pmax
comp=Z,4.0nm,1.4s
TKM2 Tokmak 2 70.94 318 P **P 16 44 01.1 +0.6**
SNR=8.2
TKM2 Tokmak 2 70.94 318 *iP* **P 16 44 01.0 +0.6**
TKM2 pmax pmax
comp=Z,9.0nm,1.3s
USP Ospenovka 71.08 319 P **P 16 44 01.4 +0.4**
SNR=15
CHMS Chumysh 71.21 319 P **P 16 44 02.8 +0.9**
SNR=6.2
KBK Karagaybulak 71.42 318 P **P 16 44 04.5 +1.2**
SNR=8.1
AAK Ala-Archa 71.61 319 P **P 16 44 05.3 +0.8**
SNR=14
AAK Ala-Archa 71.61 319 P **P 16 44 04.7 +0.3**
AAK Ala-Archa 71.61 319 *deP* **P 16 44 05.2 +0.8**
AAK pmax pmax
comp=Z,12nm,0.7s
EKS2 Erkin-Say 71.87 319 P **P 16 44 06.9 +1.0**
SNR=11
UCH Uchtor 71.95 318 P **P 16 44 07.9 +1.0**
SNR=5.4
AML Almayashu 72.36 319 P **P 16 44 09.9 +0.8**
SNR=17
KK31 Karatay Array 72.73 321 *iP* **P 16 44 10.8 -0.1**
KKAR Karatay Array 72.73 321 P **P 16 44 10.9 0.0**
KKAR Karatay Array 72.73 321 P **P 16 44 10.9 0.0**
KSH Kashi 73.66 316 P **P 16 44 21.0 +4.4**
LSA Lhasa 74.67 299 P **P 16 44 22.9 -0.1**
LSA Lhasa 74.67 299 P **P 16 44 23.0 -0.1**
LSA pmax pmax
comp=Z,11nm,0.9s
AKASG Malin Array Be 75.14 351 P **P 16 44 24.1 -0.8**
comp=Z,3.6nm,0.6s,baz=10,slow=5.8,SNR=20
comp=Z,3.6nm,0.6s
AKASG Malin Array Be 75.14 351 *iP* **P 16 44 24.3 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 75.14 351⇓ *eP* **P 16 44 24.5 -0.3**
AKBB IAmb IAmb 16 44 26.6
comp=Z,2.4nm,0.6s
AKBB Malin Array Si 75.14 351⇑ *eP* **P 16 44 24.7 -0.1**
GERES GERESS Array B 77.56 2 P **P 16 44 38.4 -0.3**
comp=Z,0.3nm,0.5s,baz=353,slow=6.9,SNR=2.1
comp=Z,0.3nm,0.5s
GUN Gumba 78.80 302 *eP* **P 16 44 46.8 +0.6**
comp=Z,6.8nm,0.4s
JIRN Jiri 78.85 302 *eP* **P 16 44 46.7 +0.2**
comp=Z,53nm,0.5s
RAMN Ramite 79.22 301 *eP* **P 16 44 48.7 +0.3**
comp=Z,28nm,0.8s
PKI Pulchoki 79.31 302 *eP* **P 16 44 49.2 +0.2**
PKIN Phulchoki 79.31 302 *eP* **P 16 44 48.8 -0.1**
GKN Gorkha 79.34 303 *eP* **P 16 44 49.2 +0.2**
DMN Daman 79.43 303 *eP* **P 16 44 49.4 -0.2**
comp=Z,1.7nm,0.2s
CMAR Chiang Mai Arr 79.44 287 P **P 16 44 49.8 +0.4**
comp=Z,3.2nm,0.5s,baz=15,slow=5.7,SNR=28
CMAR LR LR 17 21 48.7
comp=Z,29nm,20.4s,baz=70,slow=37
comp=Z,3.2nm,0.5s
CMAR Chiang Mai Arr 79.44 287 *i* P **P 16 44 49.0 -0.4**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
DANN Dangsing 79.48 304 *eP* **P 16 44 50.6 +0.7**
comp=Z,94nm,0.8s
KIV Kislovodsk 79.86 341 *eP* **P 16 44 51.0 -0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,50nm,19.0s
SJG San Juan 79.98 73 LR LR 17 20 20.4
comp=Z,61nm,20.1s,baz=212,slow=36
KBZ Khabaz 80.04 341 P **P 16 44 53.1 +0.9**
comp=Z,5.1nm,0.9s,baz=322,slow=2.2,SNR=5.8
comp=Z,5.1nm,0.9s
KBZ Khabaz 80.04 341⇓ *eP* **P 16 44 53.7 +1.5**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
ZEI Tsey 80.74 340 *eP* **P 16 44 56.3 -0.1**
ZEI pmax pmax
comp=Z,10.0nm,1.6s
GEYT Alibeck 81.59 328 P **P 16 45 01.8 +1.0**
comp=Z,6.6nm,0.9s,baz=319,slow=4.3,SNR=12
comp=Z,6.6nm,0.9s
ESDC Sonseca Array 85.15 15 P **P 16 45 19.9 +0.9**
comp=Z,2.1nm,0.7s,baz=341,slow=4.6,SNR=9.7
comp=Z,2.1nm,0.7s
BR131 Keskin Array S 85.49 347 *deP* **P 16 45 21.2 +0.4**
BRTR Keskin Array B 85.49 347 P **P 16 45 22.1 +1.3**
comp=Z,4.8nm,0.8s,baz=37,slow=3.0,SNR=17
comp=Z,4.8nm,0.8s
BRTR Keskin Array B 85.49 347 P **P 16 45 21.2 +0.4**
WRA Warramunga Arr 90.63 236 P **P 16 45 43.9 -1.4**
comp=Z,1.6nm,1.1s,baz=37,slow=5.7,SNR=3.2
comp=Z,1.6nm,1.1s
ASAR Alice Springs 94.00 234 P **P 16 46 02.5 +1.7**
comp=Z,0.5nm,0.7s,baz=23,slow=5.0,SNR=2.5
comp=Z,0.5nm,0.7s
EIL Elat 95.15 344 LR LR 17 35 40.9
comp=Z,28nm,18.1s,baz=46,slow=40
STKA Stephens Creek 97.61 224 *ceP* **P 16 46 16.2 -0.8**
MDP Montagnes des 98.14 70 LR LR 17 32 39.6
comp=Z,33nm,19.7s,baz=305,slow=37
H03N2 Juan Fernandez 113.49 115 T T 18 54 48.7
baz=322,slow=77,SNR=29
H03N1 Juan Fernandez 113.50 115 T T 18 54 57.5
baz=322,slow=77,SNR=65
H03N3 Juan Fernandez 113.50 115 T T 18 54 53.5
baz=322,slow=77,SNR=47

IDC ***26*** *16:33:55.2±0.6, 1°.10S×136°.54E, h0km, mb4.2/12, mbtmp4.3/16, ML4.4/3, MS3.9/31, Error ellipse: s-maj=21.9km s-min=11.8km az=77.0*
DJA ***26*** *16:33:57.3±1.0, 1°S±3°×13°7E±°, h21km±7km, M4.7/30, mB5.1/7, mb4.7/30, MLv5.0/7, Mw(mB)4.5/7*
GCMT ***26*** *16:33:59.5±0.3, 1°.01S±0°.02×136°.68E±0°.02, h15km, MW4.8/65, Moment Tensor Solution. s17,c18; s65,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.09±.10; Mθθ=0.62±.08; Mφφ=0.53±.09; Mrθ=0.12±.28; Mφθ=1.79±.06; Mrφ=1.33±.27; Best double couple: M=2.30700×10^16 NP1:φs190.00000°, δ88.00000°, λ-145.00000°. NP2: φs98.00000°, δ55.00000°, λ-3.00000°. Principal axes: T 2.2910, Plg22.0000°, Azm318.0000°; N 0.0340, Plg55.0000°, Azm193.0000°; P -2.3240, Plg26.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***26*** *16:33:59.5±1.5, 1°.09S±0°.09×136°.58E±0°.09, h30km±6km, mb4.7/42 Error ellipse: s-maj=14.1km s-min=12.0km az=223.0*

ISC 26 16:33:58.4±0.4, 1°.16S±0°.04×136°.68E±0°.04, h25km, n155, σ1s88/134, mb4.6/45, MS4.0/29, 2C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.83**	**212**	P	**Pb**	**16 34 13.2**	**-1.1**
SRPI				S	**Sn**	**16 34 25.9**	**-0.2**
SMPI	**Sarmi**	**2.19**	**112**	P	**Pn**	**16 34 32.5**	**-0.8**
SMPI				S	**Sn**	**16 34 57.2**	**-2.4**
RKPI	**Ransiki, Papua**	**2.53**	**262**	P	**Pn**	**16 34 38.2**	**+0.3**
RKPI				S	**Sn**	**16 35 08.6**	**+0.7**
GENI	**Genyem**	**3.77**	**112**	P	**Pn**	**16 34 51.9**	**-3.1**
FAKI	**Fak Fak**	**4.76**	**248**	Pn	**Pn**	**16 35 08.2**	**-0.5**
FAKI				Sn	**Sn**	**16 35 16.8**	**-0.3**
FAKI	**Fak Fak**	**4.76**	**248**	P	**Pn**	**16 35 09.5**	**+0.8**
FAKI	**Fak Fak**	**4.76**	**248**	P	**Pn**	**16 35 08.7**	**0.0**
SIJI	**Sorong**	**5.42**	**273**	Pn	**Pn**	**16 35 15.6**	**-2.1**
	11nm,0.3s,baz=170,slow=14,SNR=28						
SIJI				Sn	**Sn**	**16 36 20.4**	**+1.0**
	baz=20,slow=20						
SIJI				LR	LR	16 37 33.3	
	comp=Z,3μm,18.0s,baz=92,slow=41						
	23nm,0.3s						
BNDI	**Bandanaira**	**7.55**	**244**	P	**Pn**	**16 35 47.8**	**+0.9**
BNDI	**Bandanaira**	**7.55**	**244**	P	**Pn**	**16 35 46.2**	**-0.7**
	115nm,0.6s,1.6nm						
MSAI	**Masohi**	**8.04**	**254**	P	**Pn**	**16 35 52.5**	**-1.3**
	18nm,0.6s,173nm						
AAI	**Ambon**	**8.84**	**253**	P	**Pn**	**16 36 05.7**	**+1.0**
	80nm,0.6s						
TNTI	**Ternate**	**9.51**	**282**	Pn	**Pn**	**16 36 14.5**	**+0.7**
TNTI	**Ternate**	**9.51**	**282**	P	Pn	16 36 19.4	+5.5
TNTI	**Ternate**	**9.51**	**282**	P	**Pn**	**16 36 15.3**	**+1.4**
	39nm,0.6s						
SANI	**Sanana**	**10.72**	**265**	P	**Pn**	**16 36 31.3**	**+0.8**
	16nm,0.9s						
KDU	**Kakadu**	**12.19**	**200**	P	**Pn**	**16 36 49.5**	**-1.1**
MTN	**Manton Dam**	**12.85**	**205**	Pn	**Pn**	**16 36 58.5**	**-1.1**
MTN	**Manton Dam**	**12.85**	**205**	P	**Pn**	**16 36 59.4**	**-0.2**
PMG	**Port Moresby**	**13.26**	**129**	Pn	**Pn**	**16 37 06.7**	**+1.5**
	3.8nm,0.6s,baz=300,slow=7.4,SNR=3.9						
PMG				LR	LR	16 43 23.9	
	comp=Z,542nm,21.8s,baz=314,slow=42						
PMG	**Port Moresby**	**13.26**	**129**	Pn	**Pn**	**16 37 07.2**	**+2.0**
COEN	**Coen**	**14.25**	**154**	Pn	**Pn**	**16 37 18.2**	**-0.6**
COEN	**Coen**	**14.25**	**154**	P	**Pn**	**16 37 21.6**	**+2.8**
SOEI	**Soe**	**15.01**	**235**	Pn	**Pn**	**16 37 28.7**	**-0.5**
SOEI	**Soe**	**15.01**	**235**	P	**Pn**	**16 37 31.1**	**+1.9**
	73nm,1.1s						
KRVT	**Keravat (AS076**	**15.64**	**102**	Pn	**P**	**16 37 39.9**	**-1.5**
	2.0nm,0.3s,baz=197,slow=21,SNR=2.1						
KRVT				LR	LR	16 43 26.5	
	comp=Z,271nm,20.5s,baz=62,slow=36						
	24nm,0.7s						
TOLI2	**Tolitoli**	**16.06**	**278**	Pn	**Pn**	**16 37 41.7**	**-1.0**
TOLI2	**Tolitoli**	**16.06**	**278**	P	**P**	**16 37 48.0**	**+2.1**
KNRA	**Kununurra**	**16.41**	**208**	P	**Pn**	**16 37 45.5**	**-1.7**
KNRA				IAmb	IAmb	16 37 56.0	
	comp=Z,81nm,1.4s						
KNRA	**Kununurra**	**16.41**	**208**	P	**Pn**	**16 37 47.3**	**+0.1**
MPSI	**Mapaga**	**16.85**	**275**	P	**Pn**	**16 37 51.5**	**-1.3**
	comp=Z,14nm,1.8s						
KAPI	**Kappang**	**17.33**	**257**	LR	LR	16 45 28.2	
	comp=Z,313nm,19.9s,baz=76,slow=40						
MTSU	**Mount Surprise**	**18.46**	**156**	P	**Pn**	**16 38 15.9**	**+3.1**
WB0	**Warramunga Arr**	**18.63**	**187**	P	**P**	**16 38 13.1**	**-1.2**
WRAB	**Tennant Creek**	**18.80**	**187**	P	**P**	**16 38 15.3**	**-0.9**
WRAB	**Tennant Creek**	**18.80**	**187**	P	**Pn**	**16 38 17.7**	**+0.9**
WR0	**Warramunga Arr**	**18.80**	**186**	P	**P**	**16 38 15.1**	**-1.2**
WB2	**Warramunga Arr**	**18.81**	**187**	P	**P**	**16 38 15.3**	**-1.0**
WRA	**Warramunga Arr**	**18.81**	**187**	P	**Pn**	**16 38 17.2**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=8.6,slow=12,SNR=45						

WRA			S	**Sn**	**16 41 38.4**	**-8.6**
	comp=Z,4.4nm,0.8s,baz=11,slow=22,SNR=4.2					
	comp=Z,3.6nm,0.5s					
WRA	**Warramunga Arr**	**18.81 187**	P	**P**	**16 38 16.4**	**0.0**
MYLDM	**Lahad Datu**	**19.22 289**	P	**P**	**16 38 18.0**	**-2.9**
QIS	**Mount Isa**	**19.49 172**	P	**Pn**	**16 38 27.3**	**+2.1**
BKB	**Balikpapan**	**19.78 269**	P	**Pn**	**16 38 29.3**	**+0.7**
	comp=Z,63nm,1.1s					
PLAI	**Plampang**	**20.30 247**	P	Pn	16 38 36.2	+1.4
CTA	**Charters Tower**	**21.02 154**	P	**P**	**16 38 42.8**	**+2.4**
	comp=Z,6.6nm,0.9s,baz=4.0,slow=12,SNR=5.2					
CTA			LR	LR	16 48 18.1	
	comp=Z,732nm,19.2s,baz=334,slow=41					
	comp=Z,6.6nm,0.9s					
CTAO	**Charters Tower**	**21.02 154**	P	**P**	**16 38 41.1**	**+0.8**
CTAO	**Charters Tower**	**21.02 154**	P	**P**	**16 38 43.9**	**+3.5**
KKM	**Kota Kinabalu**	**21.65 290**	P	**P**	**16 38 45.3**	**-2.0**
KKM			IAmb	IAmb	16 38 48.4	
	comp=Z,44nm,1.0s					
BBKI	**Banjar Baru**	**21.94 264**	P	**P**	**16 38 52.6**	**+2.2**
AS31	**Alice Springs**	**22.54 187**	P	**P**	**16 38 57.2**	**+0.5**
AS31			IAmb	IAmb	16 39 04.5	
	comp=Z,12nm,0.7s					
ASAR	**Alice Springs**	**22.54 187**	P	**P**	**16 38 57.8**	**+1.1**
	comp=Z,10.0nm,0.5s,baz=11,slow=11,SNR=176					
ASAR			S	**S**	**16 43 06.2**	**+3.5**
	comp=Z,1.4nm,0.8s,baz=14,slow=21,SNR=1.8					
ASAR			LR	LR	16 49 01.8	
	comp=Z,689nm,18.2s,baz=10.0,slow=40					
	comp=Z,10.0nm,0.5s					
SBUM	**Sibu**	**24.71 278**	P	**P**	**16 39 16.1**	**-1.9**
SBUM			IAmb	IAmb	16 39 20.6	
	comp=Z,13nm,1.0s					
WRKA	**Warakurna**	**25.09 198**	P	**P**	**16 39 23.9**	**+2.7**
MBWA	**Marble Bar**	**25.86 219**	P	**P**	**16 39 31.4**	**+3.1**
PSA00	**Pilbara Seismi**	**26.10 218**	P	**P**	**16 39 33.6**	**+3.2**
QLP	**Quilpie**	**26.30 165**	P	**P**	**16 39 37.2**	**+5.0**
OOD	**Oodnadatta**	**26.50 182**	P	**P**	**16 39 37.5**	**+3.5**
INKA	**Innaminka**	**26.72 172**	P	**P**	**16 39 41.0**	**+5.1**
SMRI	**Semarang**	**26.81 257**	P	**P**	**16 39 35.2**	**-1.7**
RMQ	**Roma**	**27.73 156**	P	**P**	**16 39 51.5**	**+6.4**
EIDS	**Eidsvold**	**27.80 151**	P	**P**	**16 39 46.5**	**+0.8**
EIDS			IAmb	IAmb	16 39 55.8	
	comp=Z,28nm,1.4s					
JOW	**Kunigami**	**28.98 344**	LR	LR	16 51 48.1	
	comp=Z,133nm,19.2s,baz=149,slow=37					
LEM	**Lembang**	**29.52 258**	LR	LR	16 53 51.3	
	comp=Z,279nm,19.1s,baz=84,slow=41					
GIRL	**Giralia**	**30.53 224**	P	**P**	**16 40 11.2**	**+1.2**
FORT	**Forrest**	**30.58 195**	P	**P**	**16 40 10.9**	**+0.7**
STKA	**Stephens Creek**	**30.91 172**	P	**P**	**16 40 14.3**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=339,slow=10.0,SNR=8.0					
STKA			LR	LR	16 54 49.5	
	comp=Z,274nm,18.4s,baz=353,slow=40					
	comp=Z,1.9nm,0.5s					
STKA	**Stephens Creek**	**30.91 172**	P	**P**	**16 40 13.4**	**+0.2**
BBOO	**Buckleboo**	**31.49 181**	P	**P**	**16 40 18.4**	**+0.1**
ARMA	**Armidale**	**32.38 155**	P	**P**	**16 40 28.9**	**+2.6**
ARMA			IAmb	IAmb	16 40 34.1	
	comp=Z,9.9nm,1.1s					
MDSI	**Maura Dua**	**32.62 264**	P	**P**	**16 40 27.1**	**-1.5**
	comp=Z,10nm,0.6s,comp=Z,594nm					
MORW	**Morawa**	**34.03 213**	P	**P**	**16 40 42.8**	**+2.2**
MASI	**Maura Aman, Be**	**34.47 266**	P	**P**	**16 40 44.2**	**-0.5**
	comp=Z,30nm,0.7s					
JNU	**Nakatsue**	**34.53 351**	LR	LR	16 54 08.5	
	comp=Z,101nm,19.1s,baz=152,slow=35					
SDSI	**Sungai Dareh**	**35.25 270**	P	**P**	**16 40 50.6**	**-0.8**
	comp=Z,7.5nm,1.2s,comp=Z,882nm					
H11S3	**WAKE ISLAND Hy**	**35.38 55**	T	T	17 18 22.9	
	baz=240,slow=75,SNR=93					
H11S2	**WAKE ISLAND Hy**	**35.40 55**	T	T	17 18 21.5	
	baz=240,slow=75,SNR=75					
H11S1	**WAKE ISLAND Hy**	**35.40 55**	T	T	17 18 21.9	
	baz=240,slow=75,SNR=70					
DZM	**Mont Dzumac**	**35.66 128**	*e*S	**S**	**16 46 31.8**	**+1.7**
	comp=Z,90nm,26.4s					
DZM			*e*LR	LR	16 50 32.9	
	comp=Z,362nm,23.6s					
DZM	**Mont Dzumac**	**35.66 128**	LR	LR	16 55 12.9	
	comp=Z,226nm,21.3s,baz=220,slow=36					
PDSI	**Padang**	**36.21 270**	P	**P**	**16 40 57.3**	**-2.4**
	comp=Z,16nm,0.9s					
NWAO	**Narrogin (SRO)**	**36.51 208**	LR	LR	16 57 49.5	
	comp=Z,229nm,19.8s,slow=39					
NWAO	**Narrogin (SRO)**	**36.51 208**	P	**P**	**16 41 01.8**	**-0.1**
NWAO			IAmb	IAmb	16 41 15.3	
	comp=Z,14nm,1.1s					
NJ2	**Nanjing**	**37.09 334**	*e*P	**P**	**16 41 08.8**	**+1.9**
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.5s					
RPSI	**Rantau Prapat**	**37.94 276**	P	**P**	**16 41 13.2**	**-1.1**
RPSI			IAmb	IAmb	16 41 14.4	
	comp=Z,19nm,1.1s					
PSI	**Prapat**	**37.95 276**	LR	LR	16 58 16.0	
	comp=Z,90nm,19.0s,baz=122,slow=39					
JMM	**Marumori**	**39.01 5**	P	**P**	**16 41 23.0**	**0.0**
JMM			IAmb	IAmb	16 41 36.4	
	comp=Z,20nm,1.1s					
KCSI	**Kotacane, Aceh**	**39.17 277**	P	**P**	**16 41 21.4**	**-3.3**
	comp=Z,11nm,0.7s					
GSI	**Gunungsitoli**	**39.18 273**	P	**P**	**16 41 21.9**	**-2.9**
GSI			IAmb	IAmb	16 41 24.5	
	comp=Z,22nm,1.1s					
GSI	**Gunungsitoli**	**39.18 273**	P	**P**	**16 41 21.7**	**-3.1**
ENH	**Enshi**	**40.60 323**	P	**P**	**16 41 35.5**	**-0.9**
ENH			IAmb	IAmb	16 41 37.2	
	comp=Z,26nm,1.4s					
PHRA	**Phrae**	**40.81 300**	P	**P**	**16 41 36.8**	**-1.5**
CRAI	**Chiangrai**	**41.43 303**		**P**	**16 41 42.4**	**-0.9**
CM31	**Chiang Mai Arr**	**41.91 300**	P	**P**	**16 41 45.0**	**-2.3**
CM31			IAmb	IAmb	16 41 48.2	
	comp=Z,20nm,1.3s					
CMAR	**Chiang Mai Arr**	**41.91 300**	P	**P**	**16 41 47.0**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=121,slow=6.4,SNR=10					
CMAR			LR	LR	17 00 38.0	
	comp=Z,40nm,19.5s,baz=125,slow=38					
	comp=Z,3.5nm,0.8s					
CMAR	**Chiang Mai Arr**	**41.91 300**	P	**P**	**16 41 45.6**	**-1.7**
KMI	**Kunming**	**41.98 311**	⇑P	**P**	**16 41 48.3**	**+0.3**
KMI			sP	sP	16 41 59.3	+0.7
KMI			pmax	pmax		
	comp=Z,16nm,1.3s					
CHTO	**Chiang Mai**	**42.05 300**	P	**P**	**16 41 47.6**	**-0.8**
HNS	**HongShan**	**43.42 334**	⇓P	**P**	**16 41 59.0**	**-0.2**
HNS			pmax	pmax		
	comp=Z,12nm,1.3s					
PZH	**PanZhiHua**	**43.48 312**	P	**P**	**16 42 01.5**	**+1.4**
PZH			pmax	pmax		
	comp=Z,7.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,100nm,5.3s					
XAN	**Xi'an**	**43.65 326**	⇑P	**P**	**16 42 00.8**	**-0.5**
XAN			pP	pP	16 42 06.8	-1.7
XAN			pmax	pmax		
	comp=Z,13nm,1.4s					
MSVF	**Nonsavu**	**43.85 115**	LR	LR	16 59 11.5	
	comp=Z,146nm,20.3s,baz=308,slow=34					
USRK	**Ussuriysk Ar.**	**45.35 355**	P	**P**	**16 42 13.8**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=167,slow=13,SNR=2.7					
	comp=Z,2.2nm,0.8s					
HHC	**Hu-ho-hao-te**	**47.65 334**	*e*P	**P**	**16 42 36.3**	**+3.5**
HHC			pmax	pmax		
	comp=Z,13nm,0.9s					
HHC			pmax	pmax		
	comp=Z,170nm,5.7s					
HHC			pmax	pmax		
	comp=Z,7.0nm,0.5s					
HHC			pmax	pmax		
	comp=Z,160nm,6.3s					
LZH	**Lanzhou**	**48.03 324**	*e*P	**P**	**16 42 36.5**	**+0.5**
LZH			pP	pP	16 42 43.5	+0.3
LZH			sP	sP	16 42 48.8	+2.7
LZH			pmax	pmax		
	comp=Z,26nm,1.2s					
XLT	**XiLinHaoTe**	**48.50 340**	*e*P	P	16 42 33.8	-5.5
XLT			pP	pP	16 42 39.8	-6.9
XLT			sP	sP	16 42 42.8	-6.8
XLT			pmax	pmax		
	comp=Z,11nm,0.9s					
XLT			pmax	pmax		
	comp=Z,140nm,5.3s					
XLT			pmax	pmax		
	comp=Z,7.0nm,2.1s					
XLT			pmax	pmax		
	comp=Z,98nm,6.1s					

BRDH	**Bariadhala**	**49.84 301**	LR	LR	17 06 17.4		
	comp=Z,51nm,18.3s,baz=64,slow=39						
SHL	**Shillong**	**50.79 305**	P	**P**	**16 42 55.5**	**-1.7**
SHL			IAmb	IAmb	16 42 57.5		
	comp=Z,9.1nm,0.9s						
RAO	**Raoul Island**	**51.45 127**	LR	LR	17 05 06.8		
	comp=Z,76nm,18.4s,baz=92,slow=36						
RPZ	**Rata Peaks**	**52.25 149**	LR	LR	17 04 06.7		
	comp=Z,204nm,21.3s,baz=290,slow=35						
URZ	**Urewera**	**52.30 140**	LR	LR	17 05 46.7		
	comp=Z,173nm,19.3s,baz=50,slow=36						
LSA	**Lhasa**	**53.16 309**	P	**P**	**16 43 15.1**	**-0.1**
LSA			IAmb	IAmb	16 43 25.4		
	comp=Z,5.7nm,0.7s						
GOMU	**GeErMu**	**53.81 318**	P	**P**	**16 43 20.0**	**+0.3**
GOMU			pP	pP	16 43 23.5	-3.9
GOMU			sP	sP	16 43 25.3	-5.1
GOMU			pmax	pmax			
	comp=Z,3.0nm,1.2s						
GOMU			pmax	pmax			
	comp=Z,100nm,5.5s						
TAPN	**Taplejung**	**54.93 305**	*e*P	**P**	**16 43 28.0**	**+0.1**
	comp=Z,16nm,0.9s						
ODAN	**Odare**	**55.00 304**	*e*P	**P**	**16 43 28.2**	**-0.2**
ULN	**Ulaanbaatar**	**55.22 336**	P	**P**	**16 43 29.4**	**-0.1**
ULN			IAmb	IAmb	16 43 30.3		
	comp=Z,4.8nm,1.1s						
SONM	**Songino Array**	**55.47 336**	P	**P**	**16 43 31.0**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=125,slow=4.3,SNR=4.7						
	comp=Z,1.4nm,1.0s						
SONM	**Songino Array**	**55.47 336**	P	**P**	**16 43 30.3**	**-0.9**
SONM			IAmb	IAmb	16 43 33.9		
	comp=Z,6.6nm,1.4s						
RAMN	**Ramite**	**55.69 304**	*e*P	**P**	**16 43 33.2**	**-0.2**
	comp=Z,28nm,1.0s						
JIRN	**Jiri**	**56.29 305**	*e*P	**P**	**16 43 37.5**	**-0.3**
GUN	**Gumba**	**56.64 305**	*e*P	**P**	**16 43 40.3**	**0.0**
PETK	**Petropavlovsk-**	**56.86 15**	P	**P**	**16 43 41.6**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=180,slow=4.4,SNR=4.4						
PETK			LR	LR	17 03 18.9		
	comp=Z,28nm,21.5s,baz=202,slow=31						
	comp=Z,3.6nm,0.8s						
PKI	**Pulchoki**	**56.90 304**	*e*P	**P**	**16 43 41.5**	**-0.6**
PKIN	**Phulchoki**	**56.92 304**	*e*P	**P**	**16 43 41.5**	**-0.6**
DMN	**Daman**	**57.17 304**	*e*P	**P**	**16 43 43.8**	**-0.1**
GKN	**Gorkha**	**57.70 304**	*e*P	**P**	**16 43 47.3**	**-0.2**
	comp=Z,54nm,1.1s						
KOLN	**Koldanda**	**58.47 304**	*e*P	**P**	**16 43 53.2**	**+0.2**
	comp=Z,11nm,1.8s						
DANN	**Dangsing**	**58.54 304**	*e*P	**P**	**16 43 53.3**	**-0.3**
SHEM	**Shemya Is, Ala**	**62.16 25**	LR	LR	17 06 18.2		
	comp=Z,75nm,21.7s,baz=286,slow=31						
WMQ	**Urumqi**	**62.54 322**	*e*P	**P**	**16 44 21.0**	**+0.7**
WMQ			sP	sP	16 44 33.0	+1.8	
WMQ			pmax	pmax			
	comp=Z,16nm,1.3s						
WMQ			LR	LR			
	comp=Z,79nm,19.1s						
YAK	**Yakutsk**	**63.24 356**	LR	LR	17 08 06.7		
	comp=Z,76nm,21.2s,baz=202,slow=32						
YAK	**Yakutsk**	**63.24 356**	P	**P**	**16 44 23.5**	**-1.0**
MK31	**Makanchi Array**	**67.33 323**	P	**P**	**16 44 50.9**	**-0.5**
MK31			IAmb	IAmb	16 44 52.6		
	comp=Z,8.3nm,1.2s						
MKAR	**Makanchi Array**	**67.33 323**	P	**P**	**16 44 51.2**	**-0.1**
	comp=Z,5.9nm,1.0s,baz=114,slow=8.2,SNR=17						
	comp=Z,5.9nm,1.0s						
MKAR	**Makanchi Array**	**67.33 323**	P	**P**	**16 44 50.5**	**-0.9**
MAKZ	**Makanchi**	**67.53 323**	P	**P**	**16 44 51.7**	**-1.0**
KSH	**Kashi**	**68.55 314**	P	**P**	**16 45 01.3**	**+2.0**
KSH			pP	sP	16 45 11.3	+1.1	
KSH			pmax	pmax			
	comp=Z,16nm,0.8s						
KSH			pmax	pmax			
	comp=Z,10.0nm,1.1s						
ZALV	**Zalesovo Beam**	**69.58 330**	P	**P**	**16 45 04.4**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=123,slow=5.5,SNR=6.8						
	comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**69.58 330**	P	**P**	**16 45 03.0**	**-2.3**
KURK	**Kurchatov**	**71.29 325**	P	**P**	**16 45 14.7**	**-1.1**
KURK			IAmb	IAmb	16 45 16.5		
	comp=Z,5.5nm,0.9s						
TIXI	**Tiksi**	**72.86 357**	LR	LR	17 16 38.3		
	comp=Z,68nm,18.9s,baz=178,slow=35						
PPT2	**Papeete2**	**74.16 108**	*e*LR	LR	17 08 23.3		
	comp=Z,125nm,25.2s						
BRVK	**Borovoye**	**76.96 325**	P	**P**	**16 45 48.1**	**-0.7**
BRVK			IAmb	IAmb	16 45 49.1		
	comp=Z,5.1nm,0.8s						
VNDA	**Vanda**	**77.50 175**	LR	LR	17 20 13.2		
	comp=Z,146nm,18.5s,baz=351,slow=36						
NRIK	**Noril'sk**	**77.67 344**	P	**P**	**16 45 52.4**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=124,slow=5.2,SNR=5.9						
	comp=Z,2.5nm,0.7s						
NRIK	**Noril'sk**	**77.67 344**	P	**P**	**16 45 51.5**	**-1.0**
NRIK			IAmb	IAmb	16 45 53.6		
	comp=Z,11nm,1.2s						
KDAK	**Kodiak Island**	**80.81 31**	LR	LR	17 26 12.7		
	comp=Z,97nm,18.3s,baz=221,slow=39						
GEYT	**Alibeck**	**81.69 308**	P	**P**	**16 46 15.7**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=137,slow=5.0,SNR=3.9						
GEYT			LR	LR	17 25 50.4		
	comp=Z,47nm,19.4s,baz=94,slow=38						
	comp=Z,2.3nm,0.9s						
MAW	**Mawson**	**82.80 202**	LR	LR	17 22 12.7		
	comp=Z,86nm,19.4s,baz=59,slow=35						
ILAR	**Eielson Array**	**85.27 25**	P	**P**	**16 46 34.7**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=258,slow=4.6,SNR=2.1						
ILAR			LR	LR	17 29 06.8		
	comp=Z,63nm,18.6s,baz=214,slow=39						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**88.78 180**	LR	LR	17 25 54.2		
	comp=Z,170nm,21.7s,baz=358,slow=35						
QSPA	**South Pole Qui**	**88.78 180**	P	**P**	**16 46 51.7**	**+1.7**
DLBC	**Dease Lake**	**92.71 32**	LR	LR	17 28 01.5		
	comp=Z,81nm,20.1s,baz=276,slow=35						
MMAI	**Mount Meron Ar**	**100.09 303**	LR	LR	17 38 20.7		
	comp=Z,25nm,19.6s,baz=208,slow=39						
CPUP	**Villa Florida**	**149.51 155**	PKPbc	**PKiKP**	**16 53 47.8**	**+0.3**	
	comp=Z,2.4nm,1.0s,baz=180,slow=4.0,SNR=2.9						
LPAZ	**La Paz**	**149.99 126**	PKPab	**PKPab**	**16 53 54.6**	**+0.4**	
	comp=Z,2.1nm,0.6s,baz=349,slow=5.2,SNR=7.6						

*SOME **26** 16:52:02.2,41.93N×80.72E,h0km*
*NNC **26** 16:52:04.7±1.0,42.00N×80.74E,h0km,mb4.2,mpv4.0,*
Error ellipse: s-maj=7.0km s-min=4.5km az=151.0
*KRNET **26** 16:52:04.7±0.1,42.04N×80.77E,mb3.5*
*IDC **26** 16:52:05.3±2.3,42.03N×81.61E,h0km,mb3.7/1,*
mbtmp3.7/7,ML3.2/6,MS3.3/3,Error ellipse: s-maj=25.5km
s-min=16.6km az=135.0

ISC 26 16:52:05.4±1.1,42.03N±0.05,80.77E±0.04,h10km,n84,
s23/31/110,34C-15D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KTMS	**Ketmen**	**1.45 348**		P	**Pn**	**16 52 31.0**	**-0.7**
	128nm,0.2s						
KTMS				S	**Sg**	**16 52 51.2**	**-0.7**
	632nm,0.3s						
KTMS	**Ketmen**	**1.45 348**		*e*P	**Pn**	**16 52 31.0**	**-0.7**
	128nm,0.2s						
KTMS				*e*S	**Sg**	**16 52 51.2**	**-0.7**
	632nm,0.3s						
SHLS	**Shalkode**	**1.48 320**		P	**Pn**	**16 52 29.4**	**-2.9**
	237nm,0.2s						
SHLS				S	**Sn**	**16 52 48.8**	**-3.0**
	1μm,0.2s						
SHLS	**Shalkode**	**1.48 320**		*e*P	**Pn**	**16 52 29.4**	**-2.9**
	237nm,0.2s						
SHLS				*e*S	**Sn**	**16 52 48.8**	**-3.0**
	1μm,0.2s						
UZB	**Uzynbulak**	**1.71 311**		P	**Pb**	**16 52 36.3**	**-0.6**
	26nm,0.4s						
UZB				S	**Sg**	**16 53 00.6**	**+0.3**
	390nm,0.3s						
UZB	**Uzynbulak**	**1.71 311**		*e*P	**Pb**	**16 52 36.3**	**-0.6**
	26nm,0.4s						
UZB				*e*S	**Sg**	**16 53 00.2**	**0.0**
	390nm,0.3s						
PRZ	**Przheval'sk**	**1.82 285**		⇓*i*P	**Pg**	**16 52 39.0**	**-1.3**
	baz=85						
PRZ				⇓*i*S	**Sg**	**16 53 03.3**	**-0.6**
	baz=85						
SATY	**Saty**	**2.03 301**		*e*Pg	**Pg**	**16 52 42.8**	**-1.5**
	50nm,0.2s						
SATY				*e*Lg	Lg	16 53 11.6	
	568nm,0.3s						
ZHN	**Zhinishke**	**2.06 304**		Pg	**Pb**	**16 52 43.0**	**-0.1**
	35nm,0.2s						
ZHN				Lg	Lg	16 53 11.6	
	676nm,0.2s						
ZHN	**Zhinishke**	**2.06 304**		*e*Pg	**Pb**	**16 52 43.0**	**-0.1**
	35nm,0.2s						
ZHN				*e*Lg	Lg	16 53 11.6	
	676nm,0.2s						
KPKS	**Kokpek**	**2.10 314**		Pg	**Pb**	**16 52 43.3**	**-0.3**
	51nm,0.2s						
KPKS				Lg	Lg	16 53 12.2	
	2μm,0.5s						
KPKS	**Kokpek**	**2.10 314**		*e*Pg	**Pb**	**16 52 43.3**	**-0.3**
	51nm,0.2s						
KPKS				*e*Lg	Lg	16 53 12.2	
	2μm,0.5s						
TARG	**Taragay, Kyrgy**	**2.24 263**		⇑*i*P	**Pb**	**16 52 45.0**	**-1.2**
	baz=63						
TARG				⇑*i*S	**Sg**	**16 53 15.1**	**-2.2**
	baz=63						
KURS	**Kuram**	**2.41 308**		Pg	**Pb**	**16 52 48.3**	**-0.5**
	22nm,0.7s						
KURS				Lg	Lg	16 53 21.3	
	248nm,0.8s						
KURS	**Kuram**	**2.41 308**		*e*Pg	**Pb**	**16 52 48.3**	**-0.5**
	22nm,0.7s						
KURS				*e*Lg	Lg	16 53 21.3	
	248nm,0.8s						
ANVS	**Anan'yevo**	**2.42 289**		⇑*i*P	**Pb**	**16 52 47.9**	**-1.2**
	baz=89						
ANVS				⇑*i*S	**Sb**	**16 53 19.5**	**+0.4**
	baz=89						
BLB	**Baldybastay**	**2.66 322**		Pg	**Pb**	**16 52 53.1**	**-0.1**
	101nm,0.2s						
BLB				Lg	Lg	16 53 28.7	
	886nm,0.5s						
KDJ	**Kajisay**	**2.68 273**		⇑*i*P	**Pb**	**16 52 51.6**	**-1.9**
	baz=73						
KDJ				⇑*i*S	**Sb**	**16 53 25.6**	**-0.9**
	baz=73						
KOTS	**Kotyrbulak**	**2.96 295**		Pg	**Pb**	**16 52 58.2**	**0.0**
	39nm,0.3s						
KOTS				Lg	Lg	16 53 38.1	
	212nm,0.6s						
KOTS	**Kotyrbulak**	**2.96 295**		*e*Pg	**Pb**	**16 52 58.2**	**0.0**
	39nm,0.3s						
KOTS				*e*Lg	Lg	16 53 38.1	
	212nm,0.6s						
MDOK	**Medeo**	**2.97 294**		⇓Pg	**Pb**	**16 52 57.8**	**-0.7**
	21nm,0.4s						
MDOK				Pg	**Pb**	**16 52 58.4**	**-0.2**
	26nm,0.1s						
MDOK				Lg	Lg	16 53 38.5	
	175nm,0.7s						
MDOK				⇑Lg	Lg	16 53 38.8	
	156nm,0.6s						
MDOK	**Medeo**	**2.97 294**		*e*Pg	**Pb**	**16 52 58.4**	**-0.2**
	26nm,0.1s						
MDOK				*e*Lg	Lg	16 53 38.5	
	175nm,0.7s						
TNSS	**Tian-Shan**	**3.00 291**		Pg	**Pb**	**16 52 59.1**	**0.0**
	19nm,0.3s						
TNSS				Lg	Lg	16 53 39.0	
	70nm,0.3s						
TNSS	**Tian-Shan**	**3.00 291**		*e*Pg	**Pb**	**16 52 59.1**	**0.0**
	19nm,0.3s						
TNSS				*e*Lg	Lg	16 53 39.0	
	70nm,0.3s						
KNDC	**Almaty**	**3.05 294**		⇑Pn	**Pb**	**16 52 56.6**	**-3.2**
	74nm,0.7s						
KNDC				⇑Lg	Lg	16 53 42.5	
	399nm,0.8s						
ARXS	**Arharly**	**3.06 316**		*e*Pg	**Pb**	**16 53 00.1**	**0.0**
	26nm,0.6s						
ARXS				*e*Lg	Lg	16 53 41.1	
	294nm,0.4s						
AAA	**Alma-Ata**	**3.08 294**		Pg	**Pb**	**16 53 00.4**	**+0.1**
	47nm,0.3s						
AAA				Lg	Lg	16 53 42.6	
	262nm,0.5s						
AAA	**Alma-Ata**	**3.08 294**		*e*Pg	**Pb**	**16 53 00.4**	**+0.1**
	47nm,0.3s						
AAA				*e*Lg	Lg	16 53 42.6	
	262nm,0.5s						
IZV	**Izvestkoviy**	**3.23 289**		Pg	**Pb**	**16 53 02.6**	**-0.4**
	12nm,0.2s						
IZV				Lg	Lg	16 53 45.3	
	182nm,0.5s						
IZV	**Izvestkoviy**	**3.23 289**		*e*Pg	**Pb**	**16 53 02.6**	**-0.4**
	12nm,0.2s						
IZV				*e*Lg	Lg	16 53 45.3	
	182nm,0.5s						
CHKK	**Chushkaly**	**3.32 304**		Pg	**Pb**	**16 53 04.3**	**-0.1**
	4.2nm,0.3s						
CHKK				Lg	Lg	16 53 48.3	
	217nm,0.3s						
CHKK	**Chushkaly**	**3.32 304**		*e*Pg	**Pb**	**16 53 04.3**	**-0.1**
	4.2nm,0.3s						
CHKK				*e*Lg	Lg	16 53 48.2	
	217nm,0.3s						
ULHL	**Ulahol**	**3.38 275**		P	**Pb**	**16 53 06.6**	**+1.1**
	SNR=91						
ULHL	**Ulahol**	**3.38 275**		⇑*i*P	**Pn**	**16 53 00.8**	**+2.4**
	baz=75						
ULHL				⇑*i*S	**Sb**	**16 53 42.3**	**-4.3**
	baz=75						
MTBS	**Maitube**	**3.39 290**		Pg	**Pb**	**16 53 05.3**	**-0.3**
	12nm,0.4s						
MTBS				Lg	Lg	16 53 50.0	
	116nm,0.5s						
MTBS	**Maitube**	**3.39 290**		*e*Pg	**Pb**	**16 53 05.3**	**-0.3**
	12nm,0.4s						
MTBS				*e*Lg	Lg	16 53 50.0	
	116nm,0.5s						
KTBS	**Karatobe**	**3.44 301**		Pg	**Pb**	**16 53 06.3**	**-0.2**
	11nm,0.3s						
KTBS				Lg	Lg	16 53 52.4	
	207nm,0.6s						
KTBS	**Karatobe**	**3.44 301**		*e*Pg	**Pb**	**16 53 06.3**	**-0.2**
	11nm,0.3s						
KTBS				*e*Lg	Lg	16 53 52.4	
	207nm,0.6s						
BOOM	**Boomskoye usch**	**3.62 279**		⇑*i*P	**Pn**	**16 53 04.0**	**+2.4**
	baz=79						
BOOM				⇑*i*S	**Sn**	**16 53 47.7**	**+3.2**
	baz=79						
NRN	**Naryn**	**3.62 262**		⇑*i*P	**Pn**	**16 53 04.5

CHMS Chumysh 4.55 284 P Pb 16 53 26.3 +0.9
SNR=7.5
CHMS Chumysh 4.55 284 ⇑Pg Pg 16 53 29.2 -3.4
12nm,0.6s
CHMS ⇓Lg Lg 16 54 28.9
28nm,0.6s
CHMS Chumysh 4.55 284 ⇓*i*P Pn 16 53 17.3 +2.9
baz=84
CHMS ⇓*i*S Sn 16 54 10.2 +2.8
baz=84
UCH Uchtor 4.66 274 P Pb 16 53 25.5 -1.9
SNR=14
UCH Uchtor 4.66 274 ⇓*i*P Pn 16 53 19.1 +2.9
baz=74
UCH ⇓*i*S Sn 16 54 13.0 +2.4
baz=74
AAK Ala-Archa 4.69 279 P Pg 16 53 31.7 -3.6
SNR=8.7
AAK Ala-Archa 4.69 279 Pn Pb 16 53 30.1 +2.2
5.0nm,0.3s,baz=88,slow=14,SNR=21
AAK Sn Sg 16 54 31.1 -5.0
2.8nm,0.3s,baz=255,slow=20,SNR=2.2
11nm,0.4s
AAK Ala-Archa 4.69 279 ⇑*i*P Pn 16 53 19.5 +3.1
baz=79
AAK ⇑*i*S Sn 16 54 13.9 +2.9
baz=79
SGDS Sogindy 4.74 289 Pg Pb 16 53 29.9 +1.2
4.7nm,0.2s
SGDS Lg Lg 16 54 32.1
37nm,0.7s
USP Ospenovka 4.79 287 P Pg 16 53 36.3 -0.8
SNR=7.3
USP Ospenovka 4.79 287 ⇓*i*P Pn 16 53 20.4 +2.8
baz=87
USP ⇓*i*S Sn 16 54 15.7 +2.5
baz=87
ARLS Aral 4.81 270 ⇑*i*P Pn 16 53 20.8 +2.7
baz=70
ARLS ⇑*i*S Sn 16 54 16.4 +2.4
baz=70
MAKZ Makanchi 4.85 10 ⇓Pn Pn 16 53 20.0 +1.6
17nm,0.7s
MAKZ ⇑Sn Sn 16 54 18.2 +3.6
6.9nm,0.4s
MAKZ ⇑Lg Lg 16 54 39.3
42nm,1.1s
MK31 Makanchi Array 4.88 12 Pn Pn 16 53 20.4 +1.5
3.8nm,0.3s,baz=193,slow=13,SNR=313
MK31 ⇑Pg Pb 16 53 32.6 +1.6
3.4nm,0.4s,baz=181,slow=15,SNR=6.6
MK31 ⇑Sn Sn 16 54 19.3 +3.9
16nm,0.6s,baz=181,slow=27,SNR=5.5
MK31 ⇑Lg Lg 16 54 39.3
29nm,0.7s,baz=193,slow=27,SNR=4.0
MKAR Makanchi Array 4.88 12 Pn Pn 16 53 20.5 +1.7
4.1nm,0.3s,baz=188,slow=13,SNR=215
MKAR Sn Sn 16 54 17.7 +2.3
6.4nm,0.3s,baz=187,slow=24,SNR=9.1
MKAR Lg Lg 16 54 37.0
7.1nm,0.3s,baz=188,slow=29,SNR=7.0
MKAR LR LR 16 55 32.0
comp=Z,36nm,19.4s,baz=258,slow=43
5.9nm,0.3s
EKS2 Erkin-Say 5.22 279 P Pb 16 53 38.5 +1.7
SNR=11
AML Almayashu 5.27 273 P Pb 16 53 40.8 +3.0
SNR=29
AML Almayashu 5.27 273 ⇑*i*P Pn 16 53 27.6 +3.1
baz=73
AML ⇑*i*S Sn 16 54 27.7 +2.2
baz=73
WMQ Urumqi 5.39 68 *e*Pn Pn 16 53 24.0 -1.8
WMQ Sn Sn 16 54 24.5 -3.4
WMQ smax smax
comp=N,53nm,0.7s
WMQ smax smax
comp=E,93nm,1.1s
MRKS Merke 5.63 280 Pg Pb 16 53 47.5 +3.7
comp=E,6.6nm,0.4s
MRKS Lg Lg 16 55 02.3
comp=E,20nm,0.5s
MRKS Merke 5.63 280 *e*Pg Pb 16 53 47.5 +3.7
comp=E,6.6nm,0.4s
MRKS *e*Lg Lg 16 55 02.3
comp=E,20nm,0.5s
BTLS Baital 5.74 304 Pg Pb 16 53 49.0 +3.4
comp=E,1.5nm,0.2s
BTLS Lg Lg 16 55 05.1
comp=E,8.2nm,0.6s
BTLS Baital 5.74 304 *e*Pg Pb 16 53 49.0 +3.4
comp=E,1.5nm,0.2s
BTLS *e*Lg Lg 16 55 05.1
comp=E,8.2nm,0.6s
KK31 Karatay Array 7.65 281 Pg Pb 16 54 23.6 +5.5
comp=E,0.9nm,0.4s,baz=96,slow=17,SNR=10
KK31 ⇓Lg Lg 16 56 06.5
comp=E,3.0nm,0.5s,baz=100,slow=26,SNR=3.6
OTUK Ortayu 8.61 319 ⇑Pn Pn 16 54 12.0 +2.1
comp=E,4.0nm,1.0s
OTUK ⇑Lg Lg 16 56 37.6
comp=E,16nm,0.9s
KURBB Kurchatov Arra 8.73 351 Pn Pn 16 54 15.6 +4.0
comp=E,0.1nm,0.3s,baz=163,slow=15,SNR=6.0
KURBB Sn Sn 16 55 54.5 +4.4
comp=E,0.2nm,0.3s,baz=334,slow=22,SNR=4.1
KURBB Lg Lg 16 56 46.9
comp=E,0.3nm,0.3s,baz=165,slow=29,SNR=5.6
comp=E,0.7nm,0.2s
KURK Kurchatov 8.81 351 ⇑Pn Pn 16 54 13.2 +0.5
comp=E,1.9nm,0.5s
KURK ⇓Lg Lg 16 56 45.7
comp=E,7.8nm,0.7s
ZALV Zalesovo Beam 12.22 11 Pn Pn 16 54 58.5 -0.9
comp=E,0.2nm,0.3s,baz=194,slow=14,SNR=6.8
ZALV Sn Sn 16 57 14.5 -1.1
comp=E,0.4nm,0.3s,baz=194,slow=24,SNR=4.3
ZALV Lg Lg 16 58 29.6
baz=182,slow=24
comp=E,1.0nm,0.5s
GOMU GeErMu 12.36 114 P Pn 16 54 55.0 -6.7
GOMU pP 16 54 58.3
GOMU sP 16 54 59.5
GOMU pmax pmax
comp=E,1.0nm,0.5s
GOMU pmax pmax
comp=Z,52nm,4.1s
BVAR Borovoye Array 13.03 331 Pn Pn 16 55 13.4 +3.0
baz=145,slow=12,SNR=2.0
BVAR Lg Lg 16 59 02.1
baz=142,slow=24,SNR=2.3
comp=Z,0.2nm,0.3s
SONM Songino Array 19.00 64 P P 16 56 23.1 -4.1
comp=Z,0.2nm,0.3s,baz=258,slow=10.0,SNR=11
comp=Z,1.3nm,0.7s
NOA NORSAR Array B 44.82 320 P P 17 00 22.0 +2.8
comp=Z,1.2nm,0.9s,baz=81,slow=8.0,SNR=2.2
comp=Z,1.2nm,0.9s
MBAR Mbarara 61.87 240 LR LR 17 30 31.9
comp=Z,41nm,18.5s,baz=42,slow=37
FRB Frobisher Bay 71.79 346 LR LR 17 41 53.0
comp=Z,71nm,18.4s,baz=348,slow=42

*NEIC **26** 16:52:12.7±2.0, 19°.7S±0°.1×174°.9W±0°.1, h166km±11km, mb4.4/21, Error ellipse: s-maj=19.4km s-min=15.1km az=174.0*
*NOU **26** 16:52:15.6, 19°.45S×174°.73W, h196km, mb4.1/10, Tonga Islands*
*IDC **26** 16:52:22.2±2.8, 19°.84S×175°.31W, h236km±25km, mb3.5/10, mbtmp4.1/13, Error ellipse: s-maj=21.6km s-min=11.9km az=111.0*
ISC 26 16:52:12.3±0.5, 19°.73S±0°.08×174°.95W±0°.06, h150km, n47, σ2s09/47, mb4.0/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.78**	**83**	Pn	**Pn**	**16 53 24.2**	**+1.4**
NIUE				Sn	**Sn**	**16 54 15.4**	**-2.3**
NIUE	**Niue**	**4.78**	**83**	P	**Pn**	**16 53 24.8**	**+2.0**
AFI	**Afiamalu**	**6.53**	**28**	Pn	**Pn**	**16 53 43.2**	**-3.0**
AFI				Sn	Sn	16 54 48.1	-12
MSVF	**Nonsavu**	**6.93**	**286**	P	Pn	16 53 56.3	+4.9
	16nm,0.8s,baz=113,slow=15,SNR=13						
MSVF	**Nonsavu**	**6.93**	**286**	Pn	**Pn**	**16 53 55.4**	**+3.9**
MSVF	**Nonsavu**	**6.93**	**286**	P	Pn	16 53 56.7	+5.2
MARNC	**Mare, Loyalty**	**16.04**	**261**		**P**	**16 55 51.5**	**+1.5**
MARNC	**Mare, Loyalty**	**16.04**	**261**	P	**P**	**16 55 51.7**	**+1.7**
PINNC	**Pines Island,**	**16.67**	**257**	Pn	**Pn**	**16 55 59.6**	**+2.4**
PINNC	**Pines Island,**	**16.67**	**257**	P	**Pn**	**16 56 00.4**	**+3.2**
OUENC	**Ouen Island, N**	**17.21**	**258**	Pn	**P**	**16 56 04.7**	**+1.8**
OUENC				IAmb	IAmb	16 56 15.0	
	comp=Z,33nm,1.1s						
DZM	**Mont Dzumac**	**17.55**	**259**	P	**Pn**	**16 56 08.7**	**+0.9**
	comp=Z,20nm,0.7s,baz=77,slow=18,SNR=14						
DZM	**Mont Dzumac**	**17.55**	**259**		**P**	**16 56 07.8**	**+1.1**
DZM				IAmb	IAmb	16 56 11.2	
	comp=Z,24nm,0.8s						
DZM	**Mont Dzumac**	**17.55**	**259**	P	**Pn**	**16 56 10.4**	**+2.6**
URZ	**Urewera**	**19.71**	**199**	P	**P**	**16 56 32.2**	**+2.1**
	comp=Z,11nm,1.1s,baz=346,slow=4.4,SNR=7.8						
URZ				S	**S**	**16 59 58.2**	**-5.8**
	comp=Z,3.3nm,0.4s,baz=338,slow=23,SNR=8.9						
URZ	**Urewera**	**19.71**	**199**	P	**P**	**16 56 32.5**	**+2.5**
RTZ	**Ruatahuna**	**20.08**	**199**	P	**P**	**16 56 33.9**	**-0.2**
RTZ				IAmb	IAmb	16 56 46.8	
	comp=Z,22nm,1.5s						
BKZ	**Black Stump Fm**	**20.73**	**199**		**P**	**16 56 40.2**	**-0.8**
BKZ				IAmb	IAmb	16 57 19.9	
	comp=Z,19nm,1.3s						
QRZ	**Quartz Range**	**23.60**	**204**	P	**P**	**16 57 12.5**	**+3.1**
EIDS	**Eidsvold**	**31.82**	**254**	P	**P**	**16 58 21.3**	**-1.6**
EIDS				IAmb	IAmb	16 58 25.2	
	comp=Z,8.5nm,1.2s						
ARMA	**Armidale**	**31.98**	**244**	P	**P**	**16 58 24.4**	**0.0**
ARMA				IAmb	IAmb	16 58 55.9	
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**36.43**	**263**	P	**P**	**16 59 01.8**	**-0.9**
TOO	**Toolangi**	**38.67**	**234**	P	**P**	**16 59 20.1**	**-1.3**
TOO				IAmb	IAmb	16 59 36.1	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**40.70**	**244**	P	**P**	**16 59 37.4**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=33,slow=6.6,SNR=3.1						
	comp=Z,0.8nm,0.5s						
STKA	**Stephens Creek**	**40.70**	**244**	P	**P**	**16 59 36.5**	**-1.8**
BBOO	**Buckleboo**	**45.46**	**243**	P	**P**	**17 00 14.6**	**-1.8**
BBOO				IAmb	IAmb	17 00 55.9	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**47.36**	**261**	P	**P**	**17 00 29.1**	**-2.5**
AS31	**Alice Springs**	**47.49**	**256**	P	**P**	**17 00 31.8**	**-0.7**
ASAR	**Alice Springs**	**47.49**	**256**	P	**P**	**17 00 31.2**	**-1.2**
	comp=Z,5.0nm,0.6s,baz=91,slow=8.5,SNR=67						
ASAR				PcP	**PcP**	**17 02 00.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=103,slow=4.0,SNR=6.2						
	comp=Z,5.0nm,0.6s						
ASAR	**Alice Springs**	**47.49**	**256**	P	**P**	**17 00 30.9**	**-1.6**
WB0	**Warramunga Arr**	**47.53**	**261**	P	**P**	**17 00 31.1**	**-1.7**
WB0				IAmb	IAmb	17 00 34.5	
	comp=Z,5.1nm,1.0s						
WB2	**Warramunga Arr**	**47.54**	**261**	P	**P**	**17 00 31.1**	**-1.8**
WB2				IAmb	IAmb	17 00 33.0	
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**47.55**	**261**	P	**P**	**17 00 31.2**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=97,slow=5.8,SNR=28						
	comp=Z,1.5nm,0.5s						
KNRA	**Kununurra**	**53.58**	**265**	P	**P**	**17 01 15.9**	**-2.3**
FAKI	**Fak Fak**	**54.15**	**281**	P	**P**	**17 01 21.2**	**-1.2**
QSPA	**South Pole Qui**	**70.34**	**180**	P	**P**	**17 03 11.6**	**+2.1**
MJAR	**Matsushiro Arr**	**71.34**	**322**	P	**P**	**17 03 14.7**	**-1.1**
	comp=Z,2.8nm,0.9s,baz=140,slow=6.3,SNR=4.7						
	comp=Z,2.8nm,0.9s						
JHS	**Saijyo**	**73.43**	**318**	P	**P**	**17 03 28.7**	**+0.5**
TPUB	**Ta-pu**	**76.00**	**301**	P	**P**	**17 03 41.3**	**-2.0**
PETK	**Petropavlovsk-**	**76.31**	**343**	P	**P**	**17 03 43.3**	**-1.0**
	comp=Z,3.4nm,1.2s,baz=128,slow=8.0,SNR=1.3						
	comp=Z,3.4nm,1.2s						
NVAR	**Mina Array Bea**	**78.51**	**42**	P	**P**	**17 03 59.1**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=219,slow=8.5,SNR=7.3						
	comp=Z,0.7nm,0.6s						
TXAR	**Lajitas Array**	**84.23**	**56**	P	**P**	**17 04 29.8**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=214,slow=7.4,SNR=4.9						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**86.45**	**42**	P	**P**	**17 04 41.1**	**+2.8**
	comp=Z,0.2nm,0.7s,baz=279,slow=2.4,SNR=2.0						
	comp=Z,0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.58**	**289**	P	**P**	**17 05 07.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=112,slow=2.7,SNR=4.1						
	comp=Z,0.3nm,0.3s						
SONM	**Songino Array**	**97.08**	**318**	P	**P**	**17 05 26.5**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=98,slow=2.9,SNR=1.5						
	comp=Z,0.2nm,0.5s						
AKASG	**Malin Array Be**	**143.66**	**334**	PKP	PKPab	17 11 26.3	+0.1
	comp=Z,0.1nm,0.3s,baz=42,slow=4.1,SNR=5.9						
BRTR	**Keskin Array B**	**148.38**	**315**	PKPbc	**PKPbc**	**17 11 40.8**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=18,slow=2.6,SNR=1.5						

*SNET **26** 17:06:58.9±1.1, 13°.09N×89°.61W, h32km, ML4.2*
*GCG **26** 17:07:01.8±0.3, 13°.16N×90°.09W, h84km±35km, MD3.8*
ISC 26 17:06:53.4±2.2, 12°.89N±0°.09×89°.75W±0°.04, h17km±10km, n31, σ0s56/43, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.81**	**21**	*e*P	**Pn**	**17 07 10.8**	**+0.6**
ITCA	**Escuela Especi**	**0.90**	**30**	*e*P	**Pn**	**17 07 11.9**	**+0.5**
PMON	**Piamonte**	**0.92**	**27**	*e*P	**Pn**	**17 07 12.2**	**+0.6**
SNET	**Serv Nac Est T**	**0.93**	**32**	*e*P	**Pn**	**17 07 12.4**	**+0.6**
CEVE	**Cerro Verde**	**0.94**	**7**	*e*P	**Pn**	**17 07 13.0**	**+0.9**
BOQS	**Boqueron**	**0.95**	**28**	*e*P	**Pn**	**17 07 12.8**	**+0.6**
SEMO	**Seminario San**	**0.95**	**32**	*e*P	**Pn**	**17 07 12.4**	**+0.3**
UEES	**Universidad Ev**	**0.95**	**31**	*e*P	**Pn**	**17 07 12.7**	**+0.6**
UEES				*e*S	**Sg**	**17 07 24.1**	**-0.4**
UTEC	**Universidad Te**	**0.96**	**33**	*e*P	**Pn**	**17 07 12.8**	**+0.6**
CEDA	**San Andres**	**0.97**	**21**	*e*P	**Pn**	**17 07 12.9**	**+0.7**
CEDA				*e*S	**Sg**	**17 07 24.3**	**-0.6**
UESS	**Universidad de**	**0.98**	**33**	*e*P	**Pn**	**17 07 13.2**	**+0.7**
UESS				*e*S	**Sg**	**17 07 24.8**	**-0.5**
IGN	**Direccin Gen**	**0.99**	**34**	*e*P	**Pg**	**17 07 13.3**	**+0.7**
IGN				*e*P	**Pg**	**17 07 13.3**	**+0.7**
IGN				*e*S	**Sb**	**17 07 24.9**	**0.0**
NUBE	**Las Nubes**	**1.00**	**358**	*e*P	**Pn**	**17 07 13.8**	**+0.9**
NUBE				*e*S	**Sg**	**17 07 25.3**	**-0.8**
SJTE	**Alcalda de S**	**1.01**	**45**	*e*P	**Pg**	**17 07 13.8**	**+0.7**
LFU	**La Fuente**	**1.05**	**36**	*e*P	**Pg**	**17 07 14.3**	**+0.6**
LBRS	**Las Brisas**	**1.08**	**39**	*e*P	**Pg**	**17 07 15.1**	**+0.7**
COEG	**Centro de Oper**	**1.11**	**49**	*e*P	**Pg**	**17 07 14.9**	**+0.1**
COEG				*e*S	**Sb**	**17 07 28.1**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.13**	**358**	*e*P	**Pg**	**17 07 15.7**	**+0.5**
PAVA	**Las Pavas**	**1.13**	**44**	*e*P	**Pg**	**17 07 15.8**	**+0.5**
PAVA				*e*S	**Sb**	**17 07 29.1**	**0.0**
SNVI	**San Vicente**	**1.14**	**51**	*e*P	**Pg**	**17 07 15.7**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.27**	**51**	*e*P	**Pg**	**17 07 17.8**	**-0.3**
P5NO	**Presa 5 de nov**	**1.45**	**41**	*e*P	**Pb**	**17 07 19.8**	**-0.1**
P5NO				*e*S	**Sn**	**17 07 37.0**	**-0.6**
LLGN	**La Laguna**	**1.48**	**32**	*e*S	**Sn**	**17 07 38.3**	**-0.2**
PACA	**Pacayal**	**1.50**	**67**	*e*P	**Pg**	**17 07 21.8**	**-0.5**
RANC	**El Ranchito**	**1.52**	**69**	*e*P	**Pb**	**17 07 21.6**	**+0.4**
VSM	**San Miguel**	**1.53**	**70**	*e*P	**Pb**	**17 07 21.9**	**+0.4**
MTO3	**Montecristo**	**1.54**	**14**	*e*P	**Pb**	**17 07 21.4**	**-0.3**
PCG	**Pacaya**	**1.71**	**331**	*e*P	**Pg**	**17 07 26.1**	**-0.1**
PCG				*e*S	**Sb**	**17 07 45.0**	**-0.9**
NBG	**Las Nubes**	**1.78**	**341**	*e*P	**Pg**	**17 07 27.6**	**-0.1**
NBG				*e*S	**Sb**	**17 07 47.8**	**-0.2**
FUG	**Fuego 3**	**1.88**	**326**	*e*P	**Pb**	**17 07 27.7**	**+0.3**
FUG				*e*S	**Sn**	**17 07 47.9**	**-0.4**
CNCH	**Conchagua**	**1.90**	**78**	*e*P	**Pb**	**17 07 27.2**	**-0.6**

*DJA **26** 17:50:12.3±0.3, 8°.5S×103°.7E±°, h47km±3km, M4.7/42, mB5.2/9, mb4.8/42, MLv4.9/31, Mw(mB)4.5/9*
*NEIC **26** 17:50:15.3±2.1, 7°.64S±0°.08×107°.06E±0°.10, h89km±6km, mb4.5/54, Error ellipse: s-maj=14.2km s-min=11.5km az=114.0*
*IDC **26** 17:50:15.9±1.6, 7°.62S×107°.08E, h80km±11km, mb4.1/18, mbtmp4.5/19, MS3.4/24, Error ellipse: s-maj=24.2km s-min=10.5km az=53.0*
ISC 26 17:50:11.5±0.8, 7°.82S±0°.05×107°.04E±0°.04, h55km±7km, n192, σ1s89/185, mb4.5/41, MS3.4/23, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.51**	**10**	P	**Pn**	**17 50 24.4**	**+1.2**
CNJI				S	**Sn**	**17 50 32.9**	**+1.2**
BBJI	**Bungbulang**	**0.70**	**60**	P	**Pn**	**17 50 25.8**	**+0.2**
SKJI	**Sukabumi**	**0.94**	**329**	P	**Pn**	**17 50 30.0**	**+1.5**
SKJI				S	**Sn**	**17 50 43.7**	**+2.6**
LEM	**Lembang**	**1.14**	**30**	P	**Pn**	**17 50 34.1**	**+2.7**
	4μm,0.4s,baz=131,slow=2.5,SNR=637						
LEM				S	**Sn**	**17 50 49.6**	**+3.5**
	4μm,0.7s,baz=169,slow=21,SNR=6.5						
LEM	**Lembang**	**1.14**	**30**	P	**Pn**	**17 50 33.9**	**+2.5**
CMJI	**Cimerak**	**1.40**	**89**	P	**Pn**	**17 50 34.8**	**+0.1**
CMJI				S	**Sn**	**17 50 50.7**	**-1.4**
CGJI	**Cibinong**	**1.79**	**312**	P	**Pn**	**17 50 41.8**	**+1.8**
CGJI				S	**Sn**	**17 51 02.4**	**+0.7**
SBJI	**Serang**	**1.91**	**332**	P	**Pn**	**17 50 44.9**	**+3.2**
SBJI				S	**Sn**	**17 51 09.4**	**+4.8**
KPJI	**Karang Pucung**	**1.94**	**76**	P	**Pn**	**17 50 43.8**	**+1.8**
XMI	**Christmas Isla**	**2.94**	**207**	P	**Pn**	**17 50 54.6**	**-1.1**
BLSI	**Bandar Lampung**	**3.02**	**324**	P	**Pn**	**17 50 59.7**	**+2.9**
YOGI	**Yogyakarta**	**3.23**	**90**	P	**Pn**	**17 51 00.2**	**+0.5**
KASI	**Kota Agung**	**3.40**	**312**	P	**Pn**	**17 51 05.0**	**+2.9**
UGM	**Wanagama**	**3.45**	**92**	Pn	**Pn**	**17 51 03.7**	**+0.8**
UGM	**Wanagama**	**3.45**	**92**	P	**Pn**	**17 51 04.0**	**+1.2**
UGM	**Wanagama**	**3.45**	**92**	P	**Pn**	**17 51 03.2**	**+0.4**
UGM				S	**Sn**	**17 51 40.4**	**-2.2**
SMRI	**Semarang**	**3.46**	**77**		**Pn**	**17 51 03.7**	**+0.8**
SMRI	**Semarang**	**3.46**	**77**	P	**Pn**	**17 51 05.9**	**+3.0**
SMRI	**Semarang**	**3.46**	**77**	P	**Pn**	**17 51 05.2**	**+2.3**
SMRI				S	**Sn**	**17 51 45.7**	**+3.0**
KLI	**Kotabumi**	**3.65**	**323**	P	**Pn**	**17 51 09.8**	**+4.3**
LWLI	**Liwa**	**4.06**	**313**	P	**Pn**	**17 51 14.7**	**+3.4**
UWJI	**Ujung Watu**	**4.12**	**71**	P	**Pn**	**17 51 11.8**	**-0.1**
MDSI	**Maura Dua**	**4.36**	**319**	P	**Pn**	**17 51 19.1**	**+3.8**
NGJI	**Ngawi**	**4.41**	**84**	P	**Pn**	**17 51 19.4**	**+3.5**
PWJI	**Pagerwojo**	**4.72**	**93**	P	**Pn**	**17 51 21.5**	**+1.3**
PWJI				S	**Sn**	**17 52 12.1**	**-1.7**
TBJI	**Tambak Boyo**	**4.87**	**79**	P	**Pn**	**17 51 22.1**	**-0.2**
MNAI	**Manna**	**5.32**	**310**	Pn	**Pn**	**17 51 28.2**	**-0.2**
MNAI				Sn	**Sn**	**17 52 26.2**	**-2.1**
MNAI	**Manna**	**5.32**	**310**	P	**Pn**	**17 51 31.1**	**+2.7**
MNAI	**Manna**	**5.32**	**310**	P	**Pn**	**17 51 29.7**	**+1.3**
	148nm,0.6s,1.4nm						
PMBI	**Palembang**	**5.36**	**335**	P	**Pn**	**17 51 33.2**	**+4.3**
PMBI	**Palembang**	**5.36**	**335**	P	**Pn**	**17 51 32.4**	**+3.5**
	251nm,0.4s,1.4nm						
GRJI	**Gresik**	**5.47**	**81**	P	**Pn**	**17 51 28.5**	**-2.0**
	109nm,0.6s,0.8nm						
PPBI	**Pangkal Pinang**	**5.69**	**351**	P	**Pn**	**17 51 37.1**	**+3.6**
	81nm,1.0s,952nm0.3nm						
GMJI	**Gumukmas**	**6.36**	**95**	P	**Pn**	**17 51 42.1**	**-0.6**
	103nm,0.8s,0.6nm						
BLJI	**Banyuglugur**	**6.50**	**90**	P	**Pn**	**17 51 45.3**	**+0.8**
	75nm,0.5s,3μm0.7nm						
MASI	**Maura Aman, Be**	**6.66**	**314**	P	**Pn**	**17 51 48.4**	**+1.5**
	82nm,1.0s,0.3nm						
PBKI	**Pangkalan Bun**	**6.86**	**42**	P	**Pn**	**17 51 47.1**	**-2.4**
	76nm,0.8s,2μm0.4nm						
JAGI	**Jajag, Banyuwa**	**7.07**	**96**	Pn	**Pn**	**17 51 53.8**	**+1.3**
JAGI	**Jajag, Banyuwa**	**7.07**	**96**	P	**Pn**	**17 51 54.2**	**+1.7**
JAGI	**Jajag, Banyuwa**	**7.07**	**96**	P	**Pn**	**17 51 54.5**	**+2.0**
	117nm,0.7s,3μm0.7nm						
ABJI	**Asem Bagus**	**7.13**	**90**	P	Pn	17 52 00.0	+6.8
	444nm,0.7s,5μm1.6nm						
DSRI	**Dabo**	**7.69**	**341**	P	**Pn**	**17 52 04.8**	**+3.9**
	44nm,1.4s,0.3nm						
PPSI	**Pulau Pagai**	**8.61**	**305**	P	**Pn**	**17 52 12.9**	**-0.6**
	204nm,0.6s,3μm						
SDSI	**Sungai Dareh**	**8.83**	**320**	P	**Pn**	**17 52 15.5**	**-1.1**
	6.0nm,0.8s						
TPRI	**Tanjung Pinang**	**9.03**	**344**	P	**Pn**	**17 52 19.9**	**+0.6**
	37nm,0.7s						
PDSI	**Padang**	**9.49**	**316**	P	**Pn**	**17 52 22.6**	**-3.0**
	8.6nm,0.8s,278nm						
TWSI	**Taliwang, Sumb**	**9.79**	**96**	P	**Pn**	**17 52 30.7**	**+1.1**
	53nm,0.8s						
PLAI	**Plampang**	**10.67**	**96**	P	**Pn**	**17 52 43.6**	**+1.8**
PLAI	**Plampang**	**10.67**	**96**	P	**Pn**	**17 52 42.9**	**+1.1**
	84nm,0.9s						
COCO	**West Island**	**10.95**	**246**	Pn	**Pn**	**17 52 45.6**	**+0.1**
SBUM	**Sibu**	**11.43**	**27**	Pn	**Pn**	**17 52 51.9**	**-0.2**
PBSI	**Pulau Batu**	**11.65**	**311**	P	**Pn**	**17 52 52.7**	**-2.4**
	58nm,1.7s						
KAPI	**Kappang**	**12.94**	**78**	LR	LR	17 58 48.2	
	comp=Z,150nm,18.9s,baz=256,slow=40						
GSI	**Gunungsitoli**	**13.08**	**313**	Pn	**Pn**	**17 53 12.3**	**-2.4**
GSI	**Gunungsitoli**	**13.08**	**313**	P	**Pn**	**17 53 11.5**	**-3.2**
	21nm,0.6s						
BKSI	**Bulukumba**	**13.23**	**80**	P	**Pn**	**17 53 19.6**	**+2.9**
	33nm,0.6s						
KULM	**Kulim**	**14.50**	**334**	Pn	**Pn**	**17 53 32.3**	**-1.4**
MPSI	**Mapaga**	**15.17**	**58**	P	**P**	**17 53 45.1**	**-1.3**
	19nm,1.0s						
GIRL	**Giralia**	**16.29**	**156**	Pn	**Pn**	**17 53 54.1**	**-2.6**
GIRL	**Giralia**	**16.29**	**156**	P	**Pn**	**17 53 55.5**	**-1.1**
TOLI2	**Tolitoli**	**16.33**	**58**	P	**Pn**	**17 53 57.5**	**+0.3**
TOLI2	**Tolitoli**	**16.33**	**58**	P	**P**	**17 54 00.3**	**+1.0**
KKM	**Kota Kinabalu**	**16.53**	**34**	Pn	**Pn**	**17 53 58.6**	**-1.4**
KKM				IAmb	IAmb	17 54 11.0	
	comp=Z,58nm,1.4s						
BATI	**Baumata**	**16.59**	**99**	P	**P**	**17 54 04.5**	**+2.3**
	comp=Z,35nm,0.5s,baz=20,slow=2.1,SNR=8.1						
BATI				S	**S**	**17 57 11.3**	**-1.7**
	comp=Z,36nm,0.7s,baz=68,slow=19,SNR=1.9						
MRSI	**Marisa**	**16.99**	**62**	P	**P**	**17 54 06.1**	**-0.6**
	comp=Z,38nm,0.7s						
LUWI	**Luwuk**	**17.06**	**68**		**Pn**	**17 54 05.8**	**-0.6**
LUWI				IAmb	IAmb	17 54 23.8	
	comp=Z,53nm,1.1s						
LUWI	**Luwuk**	**17.06**	**68**	P	**Pn**	**17 54 06.0**	**-0.4**
	comp=Z,52nm,0.9s						
SOEI	**Soe**	**17.14**	**98**	Pn	**Pn**	**17 54 05.2**	**-2.2**
SOEI	**Soe**	**17.14**	**98**	P	**P**	**17 54 08.7**	**+0.3**
SOEI	**Soe**	**17.14**	**98**	P	**Pn**	**17 54 04.9**	**-2.5**
	comp=Z,145nm,1.2s						
GTOI	**Gorontalo**	**18.00**	**63**	P	**Pn**	**17 54 18.5**	**+0.5**
	comp=Z,9.5nm,0.9s						
MBWA	**Marble Bar**	**18.06**	**139**	P	**P**	**17 54 17.0**	**-1.5**
MBWA				IAmb	IAmb	17 54 43.7	
	comp=Z,46nm,1.5s						
MBWA	**Marble Bar**	**18.06**	**139**	P	**Pn**	**17 54 18.8**	**+0.1**
PSA00	**Pilbara Seismi**	**18.43**	**139**	P	**P**	**17 54 21.6**	**-1.0**
PSA00				IAmb	IAmb	17 54 29.2	
	comp=Z,57nm,1.5s						
PSA00	**Pilbara Seismi**	**18.43**	**139**	P	**Pn

CRAI	**Chiangrai**	**28.63**	**347**	P	**P**	**17 56 01.0**	**-1.9**
WB0	**Warramunga Arr**	**29.05**	**117**	P	**P**	**17 56 06.6**	**-0.2**
WB0				IAmb	IAmb	17 56 10.1	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**29.06**	**117**	P	**P**	**17 56 08.3**	**+1.4**
	comp=Z,4.9nm,0.8s,baz=291,slow=11,SNR=25						
WRA				PcP	**PcP**	**17 59 15.8**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=318,slow=1.8,SNR=6.1						
WRA				LR	LR	18 08 23.4	
	comp=Z,45nm,19.9s,baz=273,slow=37						
	comp=Z,4.9nm,0.8s						
WRA	**Warramunga Arr**	**29.06**	**117**	P	**P**	**17 56 06.4**	**-0.5**
WRAB	**Tennant Creek**	**29.07**	**117**	P	**P**	**17 56 07.9**	**+1.0**
WRAB				IAmb	IAmb	17 56 10.3	
	comp=Z,6.9nm,0.8s						
WRAB	**Tennant Creek**	**29.07**	**117**	P	**P**	**17 56 08.7**	**+1.8**
WB2	**Warramunga Arr**	**29.07**	**117**	P	**P**	**17 56 08.4**	**+1.4**
WR0	**Warramunga Arr**	**29.24**	**117**	P	**P**	**17 56 09.7**	**+1.2**
FORT	**Forrest**	**30.14**	**142**	P	**P**	**17 56 19.9**	**+3.6**
AS31	**Alice Springs**	**30.19**	**125**	P	**P**	**17 56 18.5**	**+1.6**
ASAR	**Alice Springs**	**30.19**	**125**	P	**P**	**17 56 18.6**	**+1.7**
	comp=Z,4.1nm,0.9s,baz=307,slow=8.5,SNR=28						
ASAR				PcP	**PcP**	**17 59 19.4**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=321,slow=1.9,SNR=8.5						
ASAR				LR	LR	18 08 14.8	
	comp=Z,73nm,20.8s,baz=309,slow=36						
	comp=Z,4.1nm,0.9s						
ASAR	**Alice Springs**	**30.19**	**125**	P	**P**	**17 56 18.7**	**+1.8**
OOD	**Oodnadatta**	**33.59**	**130**	P	**P**	**17 56 49.1**	**+2.5**
TPUB	**Ta-pu**	**33.66**	**23**	P	**P**	**17 56 46.3**	**-1.0**
MULG	**Mulgathing**	**33.76**	**135**	P	**P**	**17 56 50.6**	**+2.5**
BRDH	**Bariadhala**	**33.85**	**334**	LR	LR	18 11 21.2	
	comp=Z,53nm,20.6s,baz=91,slow=38						
QIS	**Mount Isa**	**33.94**	**115**	P	**P**	**17 56 52.3**	**+2.5**
H08S2	**Diego Garcia H**	**34.23**	**268**	T	T	18 34 08.4	
	baz=92,slow=76,SNR=175						
SSLB	**Suanglung**	**34.23**	**23**	P	**P**	**17 56 49.6**	**-2.5**
H08S3	**Diego Garcia H**	**34.24**	**268**	T	T	18 34 09.3	
	baz=92,slow=76,SNR=483						
H08S1	**Diego Garcia H**	**34.24**	**268**	T	T	18 34 09.9	
	baz=92,slow=76,SNR=135						
DGAR	**Diego Garcia**	**34.28**	**268**	P	**P**	**17 56 53.0**	**+0.3**
NACB	**Ninganchiao**	**34.83**	**24**	P	**P**	**17 56 56.3**	**-1.0**
SHL	**Shillong**	**36.31**	**337**	P	**P**	**17 57 08.1**	**-2.2**
SHL				IAmb	IAmb	17 57 08.9	
	comp=Z,5.9nm,1.1s						
BBOO	**Buckleboo**	**36.63**	**137**	P	**P**	**17 57 12.5**	**-0.2**
BBOO	**Buckleboo**	**36.63**	**137**	P	**P**	**17 57 14.8**	**+2.1**
LCRK	**Leigh Creek**	**36.85**	**132**	P	**P**	**17 57 17.3**	**+2.7**
INKA	**Innaminka**	**37.52**	**126**	P	**P**	**17 57 23.3**	**+3.0**
MTSU	**Mount Surprise**	**37.67**	**110**	P	**P**	**17 57 24.5**	**+2.7**
PMG	**Port Moresby**	**39.69**	**95**	P	**P**	**17 57 40.0**	**+1.4**
	comp=Z,7.5nm,0.8s,baz=288,slow=7.4,SNR=6.9						
	comp=Z,7.5nm,0.8s						
PMG	**Port Moresby**	**39.69**	**95**	P	**P**	**17 57 39.4**	**+0.7**
CTA	**Charters Tower**	**39.85**	**112**	P	**P**	**17 57 42.0**	**+1.9**
	comp=Z,9.4nm,0.8s,baz=271,slow=11,SNR=11						
CTA				LR	LR	18 14 43.5	
	comp=Z,45nm,20.7s,baz=284,slow=37						
	comp=Z,9.4nm,0.8s						
CTAO	**Charters Tower**	**39.85**	**112**	P	**P**	**17 57 39.5**	**-0.6**
CTAO	**Charters Tower**	**39.85**	**112**	P	**P**	**17 57 42.6**	**+2.5**
STKA	**Stephens Creek**	**40.07**	**131**	P	**P**	**17 57 44.4**	**+2.7**
	comp=Z,26nm,0.7s,baz=304,slow=8.6,SNR=59						
STKA				LR	LR	18 14 55.5	
	comp=Z,58nm,20.6s,baz=234,slow=37						
	comp=Z,26nm,0.7s						
STKA	**Stephens Creek**	**40.07**	**131**	P	**P**	**17 57 43.9**	**+2.3**
STKA				IAmb	IAmb	17 57 46.5	
	comp=Z,6.3nm,0.7s						
STKA	**Stephens Creek**	**40.07**	**131**	P	**P**	**17 57 45.2**	**+3.5**
JOW	**Kunigami**	**40.13**	**30**	LR	LR	18 14 26.0	
	comp=Z,31nm,20.0s,baz=214,slow=36						
LSA	**Lhasa**	**40.31**	**339**	P	**P**	**17 57 42.9**	**-1.3**
ARPS	**Mount Arapiles**	**42.79**	**138**	P	**P**	**17 58 07.4**	**+3.5**
CMSA	**Cobar Meteorol**	**43.03**	**129**	P	**P**	**17 58 08.9**	**+3.0**
GTA	**Gaotai**	**47.46**	**352**	*e*P	**P**	**17 58 41.5**	**+0.5**
GTA				pP	pP	17 58 46.0	-9.3
GTA				sP	sP	17 58 49.0	-13
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KSRS	**Korea Array**	**49.09**	**22**	P	**P**	**17 58 51.9**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=232,slow=6.0,SNR=3.0						
KSRS				LR	LR	18 22 47.7	
	comp=Z,14nm,18.0s,baz=35,slow=40						
	comp=Z,1.4nm,0.8s						
KBL	**Kabul**	**55.37**	**322**	P	**P**	**17 59 39.7**	**-0.6**
KBL				IAmb	IAmb	17 59 43.3	
	comp=Z,6.8nm,0.9s						
SONM	**Songino Array**	**55.41**	**359**	P	**P**	**17 59 40.5**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=179,slow=9.6,SNR=9.3						
SONM				PcP	**PcP**	**18 00 41.2**	**+1.2**
	comp=Z,2.4nm,0.6s,baz=176,slow=4.5,SNR=13						
SONM				ScP	**ScP**	**18 04 34.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=179,slow=3.6,SNR=5.5						
SONM				LR	LR	18 24 31.9	
	comp=Z,82nm,18.4s,baz=157,slow=37						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**55.41**	**359**	P	**P**	**17 59 39.2**	**-1.1**
ULN	**Ulaanbaatar**	**55.44**	**0**	P	**P**	**17 59 40.1**	**-0.4**
ULN				IAmb	IAmb	17 59 43.8	
	comp=Z,5.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**56.48**	**21**	P	**P**	**17 59 47.5**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=191,slow=4.9,SNR=8.2						
	comp=Z,2.1nm,0.5s						
WSAR	**Wadi Sarin**	**56.50**	**304**	LR	LR	18 22 04.3	
	comp=Z,40nm,19.8s,baz=154,slow=34						
AAK	**Ala-Archa**	**58.32**	**332**	LR	LR	18 29 57.2	
	comp=Z,54nm,18.2s,baz=116,slow=41						
MK31	**Makanchi Array**	**58.66**	**340**	P	**P**	**18 00 01.8**	**-1.4**
MK31				IAmb	IAmb	18 00 04.8	
	comp=Z,3.1nm,0.8s						
MKAR	**Makanchi Array**	**58.66**	**340**	P	**P**	**18 00 02.1**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=149,slow=7.4,SNR=30						
MKAR				LR	LR	18 27 37.7	
	comp=Z,58nm,21.4s,baz=40,slow=38						
	comp=Z,3.5nm,0.7s						
MKAR	**Makanchi Array**	**58.66**	**340**	P	**P**	**18 00 01.8**	**-1.4**
MAKZ	**Makanchi**	**58.78**	**340**	P	**P**	**18 00 03.3**	**-0.7**
MAKZ				IAmb	IAmb	18 00 07.2	
	comp=Z,2.3nm,0.9s						
KLR	**Kul'dur**	**60.79**	**18**	LR	LR	18 27 13.2	
	comp=Z,28nm,18.5s,baz=199,slow=37						
ASAJ	**Asahikawa**	**60.87**	**29**	LR	LR	18 29 15.5	
	comp=Z,31nm,18.0s,baz=175,slow=39						
YSS	**Yuzh-Sakhalins**	**63.09**	**27**	P	**P**	**18 00 31.5**	**-1.6**
KURK	**Kurchatov**	**63.28**	**340**	P	**P**	**18 00 34.0**	**-0.4**
KURK				IAmb	IAmb	18 00 37.0	
	comp=Z,6.5nm,0.8s						
ZAA0	**Zalesovo Array**	**64.33**	**346**	P	**P**	**18 00 39.5**	**-1.6**
ZALV	**Zalesovo Beam**	**64.33**	**346**	P	**P**	**18 00 41.8**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=122,slow=5.4,SNR=9.1						
ZALV				LR	LR	18 30 25.2	
	comp=Z,47nm,19.0s,baz=7.5,slow=38						
	comp=Z,0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**64.33**	**346**	P	**P**	**18 00 39.5**	**-1.6**
GEYT	**Alibeck**	**64.40**	**319**	P	**P**	**18 00 43.1**	**+1.1**
	comp=Z,3.7nm,0.6s,baz=167,slow=7.0,SNR=13						
	comp=Z,3.7nm,0.6s						
BRVK	**Borovoye**	**68.20**	**337**	P	**P**	**18 01 05.4**	**-0.6**
BRVK				IAmb	IAmb	18 01 07.5	
	comp=Z,5.0nm,0.7s						
ABKAR	**Akbulak array**	**70.13**	**329**	P	**P**	**18 01 17.5**	**-0.5**
YAK	**Yakutsk**	**71.82**	**11**	LR	LR	18 34 04.7	
	comp=Z,44nm,19.2s,baz=80,slow=37						
YAK	**Yakutsk**	**71.82**	**11**	P	**P**	**18 01 25.4**	**-2.6**
AKTO	**Aktyubinsk**	**71.84**	**329**	P	**P**	**18 01 29.1**	**+0.7**
	comp=Z,4.0nm,0.5s,baz=132,slow=9.3,SNR=12						
	comp=Z,4.0nm,0.5s						
LODK	**Lodwar**	**72.37**	**276**	P	**P**	**18 01 31.3**	**-1.1**
PETK	**Petropavlovsk-**	**74.28**	**29**	P	**P**	**18 01 43.5**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=90,slow=0.1,SNR=2.6						
	comp=Z,2.6nm,0.9s						
VNDA	**Vanda**	**75.16**	**169**	P	**P**	**18 01 50.0**	**+2.5**
	comp=Z,2.9nm,0.8s,baz=316,slow=4.6,SNR=6.3						
	comp=Z,2.9nm,0.8s						
ARU	**Arti**	**75.37**	**335**	LR	LR	18 38 48.3	
	comp=Z,50nm,18.2s,baz=7.5,slow=39						
ARU	**Arti**	**75.37**	**335**	P	**P**	**18 01 48.4**	**-0.6**
ARU				IAmb	IAmb	18 01 50.6	
	comp=Z,8.7nm,0.9s						
MBAR	**Mbarara**	**76.35**	**271**	LR	LR	18 30 59.1	
	comp=Z,19nm,20.7s,baz=164,slow=32						
MBAR	**Mbarara**	**76.35**	**271**	P	**P**	**18 01 54.1**	**-1.6**
MBAR				IAmb	IAmb	18 02 00.3	
	comp=Z,3.5nm,0.8s						

EIL	**Elat**	**78.54**	**302**	LR	LR	18 37 24.4		
	comp=Z,23nm,18.7s,baz=46,slow=36							
MMAI	**Mount Meron Ar**	**79.11**	**306**	LR	LR	18 36 20.0		
	comp=Z,21nm,21.8s,baz=130,slow=35							
TIXI	**Tiksi**	**80.61**	**7**	P	**P**	**18 02 16.5**	**-1.2**	
TIXI				IAmb	IAmb	18 02 21.2		
	comp=Z,2.9nm,0.6s							
QSPA	**South Pole Qui**	**82.18**	**180**	P	**P**	**18 02 26.8**	**+0.4**	
QSPA				IAmb	IAmb	18 02 50.7		
	comp=Z,7.9nm,1.4s							
BR131	**Keskin Array S**	**82.40**	**312**	P	**P**	**18 02 26.9**	**-1.2**	
BR131				IAmb	IAmb	18 02 35.4		
	comp=Z,7.3nm,1.0s							
BRTR	**Keskin Array B**	**82.40**	**312**	P	**P**	**18 02 29.1**	**+1.0**	
	comp=Z,2.8nm,0.7s,baz=139,slow=6.2,SNR=12							
	comp=Z,2.8nm,0.7s							
BRTR	**Keskin Array B**	**82.40**	**312**	P	**P**	**18 02 27.0**	**-1.1**	
SUR	**Sutherland**	**82.69**	**238**	LR	LR	18 32 08.4		
	comp=Z,41nm,20.6s,baz=142,slow=30							
BILL	**Bilibino**	**86.25**	**19**	P	**P**	**18 02 46.2**	**-0.5**	
BILL				IAmb	IAmb	18 02 58.9		
	comp=Z,2.8nm,0.5s							
AKASG	**Malin Array Be**	**88.35**	**322**	P	**P**	**18 02 58.1**	**+0.8**	
	comp=Z,1.0nm,0.5s,baz=86,slow=5.0,SNR=7.3							
	comp=Z,1.0nm,0.5s							
BURAR	**Bucovina Array**	**90.24**	**318**		**P**	**18 03 08.2**	**+1.9**	
BURAR				IAmb	IAmb	18 03 16.2		
	comp=Z,2.0nm,0.9s							
BUR08	**Bucovina Ar. S**	**90.25**	**318**		**P**	**18 03 08.1**	**+1.7**	
BUR08				IAmb	IAmb	18 03 37.1		
	comp=Z,2.8nm,1.1s							
FINES	**FINESS Array B**	**92.50**	**332**	P	**P**	**18 03 16.6**	**+0.3**	
	comp=Z,2.2nm,0.7s,baz=122,slow=10.0,SNR=5.7							
	comp=Z,2.2nm,0.7s							
NVAR	**Mina Array Bea**	**129.09**	**46**	PKP	**PKiKP**	**18 09 16.1**	**+1.3**	
	comp=Z,0.7nm,0.7s,baz=273,slow=4.3,SNR=3.9							
PDAR	**Pinedale Array**	**132.63**	**37**	PKP	**PKiKP**	**18 09 22.3**	**+0.5**	
	comp=Z,0.7nm,0.7s,baz=85,slow=1.0,SNR=1.9							
TXAR	**Lajitas Array**	**144.07**	**49**	PKP	**PKPdf**	**18 09 42.1**	**+0.3**	
	comp=Z,1.0nm,0.5s,baz=252,slow=1.8,SNR=15							
BDFB	**Brasilia**	**146.03**	**227**	PKPbc	**PKiKP**	**18 09 49.1**	**-0.6**	
	comp=Z,2.9nm,0.5s,baz=158,slow=4.5,SNR=4.6							
TKL	**Tuckaleechee C**	**150.57**	**18**	PKPbc	**PKiKP**	**18 09 58.8**	**+0.3**	
	comp=Z,6.3nm,0.5s,baz=63,slow=4.5,SNR=12							

*ATH **26** 17:52:32.5,38°.58N×25°.42E,h17km±2km, ML2.5/3, Error ellipse: s-maj=2.9km s-min=0.9km az=113.0*
*DDA **26** 17:52:32.8±0.0,38°.61N×25°.52E,h7km±4km, ML2.1*
*THE **26** 17:52:33.1,38°.60N×25°.49E,h21km±8km, ML2.3/2, Error ellipse: s-maj=8.7km s-min=0.7km az=92.0*

ISC 26 17:52:31.9±1.1, 38°.59N±0°.03×25°.42E±0°.03, h18km±4km, n18, σ0°65/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSRA	**Psara**	**0.12**	**111**	P	**Pg**	**17 52 36.1**	**+0.3**
PSRA				S	**Sg**	**17 52 38.5**	**+0.1**
PSRA				AML	AML	17 52 38.7	
	comp=E,9984μm,0.2s						
PSRA				AML	AML	17 52 38.9	
	comp=N,11500μm,0.2s						
CHOS	**Chios island**	**0.54**	**112**	P	**Pg**	**17 52 42.9**	**+0.1**
CHOS				S	**Sb**	**17 52 50.2**	**0.0**
	comp=N,542nm,0.3s						
CHOS	**Chios island**	**0.54**	**112**	P	**Pg**	**17 52 42.8**	**+0.1**
CHOS				S	**Sb**	**17 52 51.0**	**+0.8**
CHOS				AML	AML	17 52 52.0	
	comp=E,1216μm,0.4s						
CHOS				AML	AML	17 52 54.1	
	comp=N,958μm,0.3s						
SIGR	**SIGRI**	**0.71**	**28**	P	**Pg**	**17 52 45.7**	**-0.2**
SIGR				S	**Sb**	**17 52 55.8**	**+0.6**
	comp=N,268nm,0.4s						
SIGR	**SIGRI**	**0.71**	**28**	P	**Pg**	**17 52 45.7**	**-0.2**
SIGR				S	**Sb**	**17 52 56.1**	**+0.9**
SIGR				AML	AML	17 52 58.3	
	comp=E,448μm,0.4s						
SIGR				AML	AML	17 52 59.0	
	comp=N,615μm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.92**	**112**	P	**Pg**	**17 52 49.8**	**-0.1**
ZEYE				S	**Sg**	**17 53 01.7**	**-0.2**
ZEYE				*i* AML	AML	17 53 06.0	
	comp=N,57nm,0.3s						
ZEYE				*i* AML	AML	17 53 07.0	
	comp=N,73nm,0.3s						
KYMI	**Kymi, Euboea I**	**1.04**	**273**	P	**Pb**	**17 52 51.4**	**+0.1**
KYMI				S	**Sb**	**17 53 05.7**	**+1.1**
TNSA	**Tinos**	**1.06**	**191**	P	**Pb**	**17 52 51.4**	**-0.3**
TNSA				S	**Sb**	**17 53 05.4**	**0.0**
KOCA	**Canakkale, Ayv**	**1.07**	**31**	P	**Pb**	**17 52 52.0**	**0.0**
KOCA				S	**Sg**	**17 53 06.2**	**-0.7**
KOCA				*i* AML	AML	17 53 10.0	
	comp=N,56nm,0.5s						
KOCA				*i* AML	AML	17 53 10.0	
	comp=N,63nm,0.4s						
DGB	**zmir**	**1.27**	**114**	P	**Pb**	**17 52 55.7**	**+0.5**
DGB				S	**Sg**	**17 53 12.0**	**-1.0**
DION	**Dionisos Attik**	**1.27**	**247**	P	**Pn**	**17 52 55.3**	**+0.4**
DION	**Dionisos Attik**	**1.27**	**247**	P	**Pn**	**17 52 55.4**	**+0.6**
DION				S	**Sn**	**17 53 10.5**	**-1.0**
ZEDA	**zmir-Bergama**	**1.35**	**73**	P	**Pg**	**17 52 57.8**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.45**	**37**	P	**Pb**	**17 52 58.5**	**+0.1**
BAYC				S	**Sn**	**17 53 14.7**	**-1.1**
VLY	**Voula,Athens**	**1.48**	**241**	P	**Pn**	**17 52 58.6**	**+1.0**
VLY	**Voula,Athens**	**1.48**	**241**	P	**Pn**	**17 52 57.9**	**+0.3**
VLY				S	**Sn**	**17 53 15.0**	**-1.5**
BUHA	**Balikesir, Bur**	**1.58**	**54**	P	**Pg**	**17 53 01.6**	**-0.8**
BUHA				S	**Sg**	**17 53 23.1**	**+0.1**
BUHA				*i* AML	AML	17 53 25.0	
	comp=N,30nm,0.8s						
BUHA				*i* AML	AML	17 53 26.0	
	comp=N,34nm,0.4s						
STEP	**BALIKESIR_Sava**	**1.96**	**65**	P	**Pg**	**17 53 10.0**	**+0.4**
STEP				*i* AML	AML	17 53 38.0	
	comp=N,21nm,0.9s						
STEP				*i* AML	AML	17 53 41.0	
	comp=N,31nm,1.1s						

*IDC **26** 17:55:37.1±11.0, 13°.21S×167°.36E, h157km±97km, mb3.6/9, mbtmp4.1/9, Error ellipse: s-maj=56.6km s-min=28.7km az=123.0*
*NEIC **26** 17:55:41.8±1.8, 13°.3S±0°.1×167°.4E±0°.1, h200km±2km, mb4.5/23, Error ellipse: s-maj=23.7km s-min=20.6km az=94.0*

ISC 26 17:55:41.7±0.7, 13°.26S±0°.09×167°.3E±0°.1, h200km, n36, σ0°82/37, mb4.2/22, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**7.81**	**201**	Pn	**Pn**	**17 57 32.5**	**0.0**
EIDS	**Eidsvold**	**19.47**	**229**	P	**P**	**17 59 54.6**	**+1.1**
RAO	**Raoul Island**	**20.99**	**142**	P	**P**	**18 00 08.0**	**-1.6**
ARMA	**Armidale**	**22.40**	**218**	P	**P**	**18 00 25.1**	**+1.3**
ARMA				IAmb	IAmb	18 01 03.2	
	comp=Z,23nm,1.4s						
BKZ	**Black Stump Fm**	**27.05**	**164**	P	**P**	**18 01 07.0**	**+1.5**
CAN	**Canberra**	**27.50**	**214**	P	**P**	**18 01 09.9**	**+0.4**
CAN				IAmb	IAmb	18 01 27.9	
	comp=Z,23nm,1.4s						
MRZ	**Mangatainoka R**	**28.24**	**167**	P	**P**	**18 01 15.7**	**-0.3**
STKA	**Stephens Creek**	**30.00**	**228**	P	**P**	**18 01 32.7**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=34,slow=8.9,SNR=5.7						
	comp=Z,3.0nm,0.7s						
STKA	**Stephens Creek**	**30.00**	**228**	P	**P**	**18 01 32.7**	**+0.9**
TOO	**Toolangi**	**31.07**	**215**	P	**P**	**18 01 41.9**	**+0.8**
TOO				IAmb	IAmb	18 02 02.1	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**32.08**	**254**	P	**P**	**18 01 49.0**	**-1.1**
WB0	**Warramunga Arr**	**32.19**	**254**	P	**P**	**18 01 50.0**	**-1.1**
WB0				IAmb	IAmb	18 02 21.8	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**32.25**	**254**	P	**P**	**18 01 50.9**	**-0.7**
WB2				IAmb	IAmb	18 02 16.9	
	comp=Z,8.9nm,1.2s						
WRAB	**Tennant Creek**	**32.25**	**254**	P	**P**	**18 01 50.9**	**-0.8**
WRAB				IAmb	IAmb	18 01 54.7	
	comp=Z,8.6nm,1.3s						
WRA	**Warramunga Arr**	**32.27**	**254**	P	**P**	**18 01 50.9**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=85,slow=9.2,SNR=7.9						
	comp=Z,0.9nm,0.6s						
AS31	**Alice Springs**	**33.27**	**247**	P	**P**	**18 01 59.1**	**-1.3**
ASAR	**Alice Springs**	**33.27**	**247**	P	**P**	**18 01 59.7**	**-0.8**
ASAR				PcP	**PcP**	**18 04 38.0**	**0.0**
	comp=Z,2.3nm,0.6s,baz=75,slow=9.2,SNR=39						
	comp=Z,0.4nm,0.6s,baz=85,slow=2.9,SNR=2.1						
	comp=Z,2.3nm,0.6s						
BBOO	**Buckleboo**	**34.54**	**230**	P	**P**	**18 02 11.8**	**+0.6**
BBOO				IAmb	IAmb	18 02 45.4	
	comp=Z,18nm,1.3s						
MTN	**Manton Dam**	**35.24**	**266**	P	**P**	**18 02 17.7**	**+0.2**
MTN				IAmb	IAmb	18 02 54.2	
	comp=Z,34nm,1.5s						
KNRA	**Kununurra**	**37.39**	**261**	P	**P**	**18 02 35.5**	**-0.1**
FORT	**Forrest**	**40.11**	**238**	P	**P**	**18 02 57.0**	**-1.1**
FORT				IAmb	IAmb	18 03 28.5	
	comp=Z,17nm,1.1s						
PSA00	**Pilbara Seismi**	**45.91**	**253**	P	**P**	**18 03 43.9**	**-0.8**
PSA00				IAmb	IAmb	18 03 50.4	
	comp=Z,20nm,1.2s						
NWAO	**Narrogin (SRO)**	**49.56**	**238**	P	**P**	**18 04 12.5**	**-0.1**
CASY	**Casey**	**64.90**	**202**	P	**P**	**18 05 58.9**	**-0.4**
CASY				IAmb	IAmb	18 06 40.5	
	comp=Z,8.5nm,1.3s						
PETK	**Petropavlovsk-**	**66.62**	**354**	P	**P**	**18 06 10.5**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=120,slow=8.5,SNR=2.0						
	comp=Z,2.0nm,0.9s						
IPM	**Ipoh**	**68.13**	**280**	P	**P**	**18 06 19.9**	**-0.8**
IPM				IAmb	IAmb	18 06 51.1	
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**74.41**	**294**	P	**P**	**18 06 58.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=135,slow=5.3,SNR=9.3						
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.41**	**294**	P	**P**	**18 06 59.0**	**+0.7**
QSPA	**South Pole Qui**	**76.76**	**180**	P	**P**	**18 07 12.0**	**+1.1**
SEY	**Seymchan**	**76.84**	**353**	P	**P**	**18 07 11.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=89,slow=6.2,SNR=4.6						
	comp=Z,0.7nm,0.6s						
BILL	**Bilibino**	**81.08**	**360**	P	**P**	**18 07 34.3**	**+0.3**
BILL				IAmb	IAmb	18 07 35.1	
	comp=Z,7.8nm,1.5s						
SONM	**Songino Array**	**81.36**	**323**	P	**P**	**18 07 36.3**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=101,slow=4.3,SNR=3.6						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**85.12**	**18**	P	**P**	**18 07 54.4**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=238,slow=5.2,SNR=18						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**96.19**	**316**	P	**P**	**18 08 47.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=94,slow=5.9,SNR=9.8						
	comp=Z,0.6nm,0.6s						
KEST	**Kesra**	**150.10**	**322**	PKPbc	**PKPbc**	**18 15 09.2**	**0.0**
	comp=Z,2.6nm,0.8s,baz=56,slow=3.6,SNR=4.4						
ESDC	**Sonseca Array**	**152.59**	**345**	PKPbc	**PKiKP**	**18 15 15.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=20,slow=4.1,SNR=2.3						

*SOME **26** 17:59:19.6, 39°.77N×74°.00E, h5km*
*KRNET **26** 17:59:20.2±0.1, 39°.65N×74°.02E, mb3.8*
*NNC **26** 17:59:24.9±1.1, 39°.85N×74°.06E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=8.2km s-min=4.0km az=170.0*

ISC 26 17:59:23.0±1.2, 39°.83N±0°.05×73°.95E±0°.03, h10km, n64, σ2°49/86, 38C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.13**	**308**	⇓*i*P	**Pb**	**17 59 44.6**	**-0.1**
OHH	baz=13			⇓*i*S	**Sn**	**18 00 02.6**	**+1.9**
DRK	**Karamyk**	**1.70**	**259**	⇑*i*P	**Pn**	**17 59 52.1**	**-0.8**
DRK	baz=65			⇑*i*S	**Sb**	**18 00 16.0**	**0.0**
ARLS	**Aral**	**2.05**	**8**	⇑*i*P	**Pb**	**18 00 00.0**	**-0.4**
ARLS	baz=6.0			⇑*i*S	**Sg**	**18 00 29.1**	**+0.2**
NRN	**Naryn**	**2.24**	**43**	⇑*i*P	**Pb**	**18 00 01.4**	**-2.3**
NRN	baz=39			⇑*i*S	**Sb**	**18 00 31.6**	**+0.1**
AML	**Almayashu**	**2.31**	**355**	P	**Pg**	**18 00 06.1**	**-1.2**
	SNR=56						
AML	**Almayashu**	**2.31**	**355**	⇑*i*P	**Pb**	**18 00 04.0**	**-1.0**
AML	baz=54			⇑*i*S	**Sg**	**18 00 36.0**	**-1.3**
BTK	**Batken**	**2.42**	**276**	⇓*i*P	**Pn**	**18 00 04.2**	**+1.5**
BTK	baz=80			⇓*i*S	**Sb**	**18 00 36.2**	**-0.4**
UCH	**Uchtor**	**

DGS	**Degeres**	**3.67**	**21**	*e*Pg	**Pb**	**18 00 29.3**	**+1.2**
	19nm,0.6s							
DGS				eLg	Lg	18 01 19.8		
	50nm,0.9s							
IUG	**Iuzhnay**	**3.77**	**309**	Pg	**Pb**	**18 00 26.7**	**-2.9**
	10nm,0.2s							
IUG				Lg	Lg	18 01 12.5		
	188nm,0.8s							
IUG	**Iuzhnay**	**3.77**	**309**	*e*Pg	**Pg**	**18 00 34.4**	**-0.7**
	44nm,0.4s							
IUG				eLg	Lg	18 01 28.7		
	100nm,0.4s							
IZV	**Izvestkoviy**	**3.78**	**31**	Pg	**Pb**	**18 00 31.6**	**+1.8**
	6.2nm,0.7s							
IZV				Lg	Lg	18 01 21.1		
	86nm,0.7s							
IZV	**Izvestkoviy**	**3.78**	**31**	*e*Pg	**Pb**	**18 00 29.9**	**+0.1**
	6.2nm,0.7s							
IZV				eLg	Lg	18 01 21.1		
	86nm,0.7s							
MTBS	**Maitube**	**3.79**	**29**	Pg	**Pg**	**18 00 34.2**	**-1.3**
MTBS				Lg	Lg	18 01 25.4		
MTBS	**Maitube**	**3.79**	**29**	*e*Pg	**Pb**	**18 00 31.8**	**+1.8**
	5.4nm,0.4s							
MTBS				eLg	Lg	18 01 23.5		
	36nm,0.4s							
TAS	**Tashkent**	**3.85**	**294**	⇑*i*P	**Pn**	**18 00 24.3**	**+2.0**
	baz=96							
TAS				⇑*i*S	**Sn**	**18 01 11.3**	**+3.7**
	baz=96							
TNSS	**Tian-Shan**	**3.92**	**34**	Pg	**Pg**	**18 00 36.3**	**-1.8**
TNSS				Lg	Lg	18 01 28.9		
TNSS	**Tian-Shan**	**3.92**	**34**	*e*Pg	**Pb**	**18 00 34.1**	**+1.7**
	7.2nm,0.3s							
TNSS				eLg	Lg	18 01 27.5		
	31nm,0.6s							
AAA	**Alma-Ata**	**4.04**	**32**	Pg	**Pg**	**18 00 38.4**	**-2.0**
	12nm,0.1s							
AAA				Lg	Lg	18 01 32.6		
	170nm,0.8s							
AAA	**Alma-Ata**	**4.04**	**32**	*e*Pg	**Pg**	**18 00 37.2**	**-3.3**
	17nm,0.5s							
AAA				eLg	Lg	18 01 32.6		
	170nm,0.8s							
MDOK	**Medeo**	**4.06**	**34**	Pg	**Pg**	**18 00 37.9**	**-2.9**
MDOK				Lg	Lg	18 01 31.7		
MDOK	**Medeo**	**4.06**	**34**	*e*Pg	**Pb**	**18 00 36.4**	**+1.7**
	9.4nm,0.6s							
MDOK				eLg	Lg	18 01 31.7		
	56nm,0.8s							
ANVS	**Anan'yevo**	**4.07**	**42**	⇑*i*P	**Pn**	**18 00 27.3**	**+1.9**
	baz=40							
ANVS				⇑*i*S	**Sn**	**18 01 16.1**	**+2.9**
	baz=40							
KRBS	**Karabastau**	**4.08**	**18**	Pg	**Pg**	**18 00 38.3**	**-2.7**
	6.1nm,0.5s							
KRBS				Lg	Lg	18 01 32.4		
	36nm,0.7s							
KRBS	**Karabastau**	**4.08**	**18**	*e*Pg	**Pb**	**18 00 37.0**	**+2.2**
	6.1nm,0.5s							
KRBS				eLg	Lg	18 01 32.4		
	36nm,0.7s							
KOTS	**Kotyrbulak**	**4.15**	**34**	Pg	**Pg**	**18 00 39.7**	**-2.7**
	10nm,0.8s							
KOTS				Lg	Lg	18 01 35.0		
	130nm,0.9s							
KOTS	**Kotyrbulak**	**4.15**	**34**	*e*Pg	**Pg**	**18 00 38.5**	**-3.9**
	10nm,0.8s							
KOTS				eLg	Lg	18 01 35.0		
	130nm,0.9s							
KK31	**Karatay Array**	**4.17**	**323**	Pn	**Pn**	**18 00 30.4**	**+3.7**
KK31				⇑Pg	**Pg**	**18 00 39.9**	**-2.9**
	7.8nm,0.7s,baz=143,slow=15							
KK31				⇑Sn	**Sb**	**18 01 21.8**	**-5.1**
	5.1nm,0.3s,baz=138,slow=24,SNR=4.8							
KK31				Lg	Lg	18 01 38.6		
	7.8nm,0.3s,baz=138,slow=30,SNR=4.9							
KKAR	**Karatay Array**	**4.17**	**323**	⇑*i*P	**Pn**	**18 00 29.7**	**+3.0**
	baz=24							
KKAR				⇑*i*S	**Sn**	**18 01 20.3**	**+4.8**
	baz=24							
KTBS	**Karatobe**	**4.39**	**27**	Pg	**Pg**	**18 00 44.1**	**-2.9**
KTBS				Lg	Lg	18 01 42.3		
KTBS	**Karatobe**	**4.39**	**27**	*e*Pg	**Pb**	**18 00 42.3**	**+2.2**
	7.0nm,0.6s							
KTBS				eLg	Lg	18 01 41.3		
	62nm,0.6s							
CHKK	**Chushkaly**	**4.62**	**28**	Pg	**Pg**	**18 00 47.6**	**-3.8**
	2.6nm,0.4s							
CHKK				Lg	Lg	18 01 48.5		
	35nm,0.8s							
CHKK	**Chushkaly**	**4.62**	**28**	*e*Pg	**Pb**	**18 00 46.2**	**+2.2**
	2.6nm,0.4s							
CHKK				eLg	Lg	18 01 48.5		
	35nm,0.8s							
SATY	**Saty**	**4.65**	**45**	Pg	**Pg**	**18 00 48.6**	**-3.5**
SATY				Lg	Lg	18 01 50.0		
SATY	**Saty**	**4.65**	**45**	*e*Pg	**Pb**	**18 00 46.9**	**+2.2**
	7.0nm,0.8s							
SATY				eLg	Lg	18 01 49.1		
	31nm,1.0s							
KPKS	**Kokpek**	**5.08**	**43**	Pg	**Pb**	**18 00 55.0**	**+3.1**
	5.1nm,0.6s							
KPKS				Lg	Lg	18 02 01.4		
	36nm,0.6s							
KPKS	**Kokpek**	**5.08**	**43**	*e*Pg	**Pb**	**18 00 53.8**	**+1.8**
	5.1nm,0.6s							
KPKS				eLg	Lg	18 02 01.4		
	36nm,0.6s							
BTLS	**Baital**	**5.21**	**1**	Pg	**Pg**	**18 00 59.7**	**-3.1**
	2.5nm,0.7s							
BTLS				Lg	Lg	18 02 08.9		
	8.5nm,0.6s							
BTLS	**Baital**	**5.21**	**1**	*e*Pg	**Pb**	**18 00 57.5**	**+3.4**
	2.5nm,0.7s							
BTLS				eLg	Lg	18 02 08.9		
	8.5nm,0.6s							
ARXS	**Arharly**	**5.25**	**32**	Pg	**Pg**	**18 00 59.3**	**-4.2**
	12nm,0.8s							
ARXS				Lg	Lg	18 02 08.3		
	27nm,0.9s							
ARXS	**Arharly**	**5.25**	**32**	*e*Pg	**Pb**	**18 00 57.6**	**+2.8**
	12nm,0.8s							
ARXS				eLg	Lg	18 02 08.3		
	27nm,0.9s							
BLB	**Baldybastay**	**5.44**	**37**	Pg	**Pg**	**18 01 02.5**	**-4.6**
	8.4nm,0.8s							
BLB				Lg	Lg	18 02 13.7		
	16nm,1.0s							

*IDC **26** 18:01:23.6±1.8,22°.86N×11°.56W,h0km,mb3.7/7, mbtmp3.7/9,ML3.5/2,Error ellipse: s-maj=47.6km s-min=18.7km az=77.0*

ISC 26 18:01:24.6±1.5,22°.9N±0°.1×11°.7W±0°.2,h10km,n12, σ0s97/13,mb3.7/7,Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.94**	**125**	Pn	**Pn**	**18 05 09.6**	**+0.5**
	0.2nm,0.3s,baz=308,slow=12,SNR=9.3						
TORD				Sn	**Sn**	**18 08 06.1**	**0.0**
	0.1nm,0.3s,baz=302,slow=24,SNR=2.6						
TORD				Lg	Lg	18 09 48.6	
	0.1nm,0.3s,baz=318,slow=25,SNR=1.8						
	0.8nm,0.5s						
I17CI	**DIMBOKRO INFRA**	**17.38**	**157**	I	I	19 52 20.0	
	baz=338,slow=320,SNR=1.8						
DBIC	**Dimbokro**	**17.38**	**157**	P	**Pn**	**18 05 25.6**	**-1.7**
	0.2nm,0.3s,baz=345,slow=12,SNR=1.8						
DBIC				S	**Sn**	**18 08 41.9**	**+1.0**
	1.0nm,0.4s,baz=254,slow=17,SNR=1.5						
DBIC				Lg	Lg	18 10 29.7	
	0.1nm,0.3s,baz=296,slow=12,SNR=3.0						
	1.5nm,0.6s						
KEST	**Kesra**	**22.30**	**50**	P	**P**	**18 06 20.6**	**-1.8**
	2.2nm,1.1s,baz=235,slow=19,SNR=1.1						
	2.2nm,1.1s						
GERES	**GERESS Array B**	**32.80**	**31**	P	**P**	**18 07 58.1**	**0.0**
	0.3nm,0.3s,baz=216,slow=6.6,SNR=5.8						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**41.73**	**55**	P	**P**	**18 09 15.0**	**+0.9**
	0.6nm,0.7s,baz=258,slow=6.9,SNR=2.2						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**46.43**	**24**	P	**P**	**18 09 51.0**	**-0.3**
	1.5nm,0.7s,baz=232,slow=6.3,SNR=5.9						
	1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**75.52**	**37**	P	**P**	**18 13 09.3**	**+0.2**
	0.4nm,0.4s,baz=298,slow=8.5,SNR=2.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**76.29**	**45**	P	**P**	**18 13 14.3**	**+0.5**
	0.5nm,0.5s,baz=296,slow=5.5,SNR=6.6						
	0.5nm,0.5s						
SONM	**Songino Array**	**90.39**	**36**	P	**P**	**18 14 27.3**	**+0.8**
	0.3nm,0.7s,baz=290,slow=3.4,SNR=1.9						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**148.25**	**91**	PKPbc	**PKPbc**	**18 21 11.6**	**-0.2**
	0.8nm,0.8s,baz=299,slow=2.3,SNR=5.4						
ASAR	**Alice Springs**	**148.39**	**98**	PKPbc	**PKPbc**	**18 21 11.9**	**-0.2**
	0.7nm,0.7s,baz=291,slow=1.9,SNR=12						

*IDC **26** 18:21:08.8±1.3,21°.46N×145°.76E,h0km,mb3.3/6, mbtmp3.3/6,Error ellipse: s-maj=48.5km s-min=25.2km az=82.0*

ISC 26 18:21:14.1±1.2,21°.4N±0°.2×145°.7E±0°.3,h35km,n7, σ1s06/7,mb3.4/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.07**	**319**	P	**P**	**18 28 56.0**	**+1.5**
	0.2nm,0.6s,baz=123,slow=7.0,SNR=2.1						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**42.59**	**196**	P	**P**	**18 29 07.1**	**+0.1**
	0.5nm,0.7s,baz=18,slow=8.5,SNR=4.6						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**46.27**	**195**	P	**P**	**18 29 36.5**	**+0.1**
	0.2nm,0.7s,baz=16,slow=7.2,SNR=1.8						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**55.90**	**321**	P	**P**	**18 30 47.6**	**-0.8**
	0.3nm,0.4s,baz=108,slow=9.3,SNR=1.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**56.63**	**313**	P	**P**	**18 30 52.6**	**-1.1**
	0.2nm,0.6s,baz=99,slow=7.1,SNR=2.4						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**81.45**	**52**	P	**P**	**18 33 28.4**	**+0.2**
	0.2nm,0.5s,baz=250,slow=5.3,SNR=1.8						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**84.44**	**335**	P	**P**	**18 33 42.3**	**-0.6**
	6.2nm,1.2s,baz=56,slow=7.5,SNR=1.5						

*IDC **26** 18:24:40.2±1.1,35°.16N×141°.18E,h0km,mb3.8/10, mbtmp3.8/12,ML3.1/2,MS2.9/2,Error ellipse: s-maj=27.2km s-min=17.0km az=87.0*
*JMA **26** 18:24:43.5±0.3,35°.3N±0°.7×14°.1E±°,h28km±2km, MV3.4/28,E OFF BOSO PENINSULA*
*NEIC **26** 18:24:45.0±1.4,35°.20N±0°.05×141°.23E±0°.09,h36km±6km, mb4.6/9,Error ellipse: s-maj=11.2km s-min=7.4km az=90.0*

ISC 26 18:24:41.1±0.7,35°.21N±0°.05×141°.26E±0°.06,h10km,n62, σ1s31/55,mb4.2/15,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.59**	**327**	P	**Pg**	**18 24 53.0**	**+0.4**
CHOJ				S	**Sg**	**18 24 59.4**	**-1.0**
JSMT	**Sammumatsuo**	**0.79**	**304**	P	**Pb**	**18 24 56.7**	**-0.3**
JKUC	**kamogawauchiur**	**0.87**	**267**	P	**Pg**	**18 24 57.8**	**0.0**
JKUC				S	**Sg**	**18 25 08.0**	**-1.1**
JYT	**Yasato**	**1.33**	**320**	P	**Pb**	**18 25 04.4**	**-1.9**
JHJ2	**Mitsune**	**2.41**	**210**	Pn	**Pn**	**18 25 21.5**	**+0.9**
JHJ2	**Mitsune**	**2.41**	**210**	P	**Pn**	**18 25 23.0**	**+2.4**
JHJ	**Hachijo jima 2**	**2.41**	**211**	Pn	**Pn**	**18 25 19.4**	**-1.3**
	33nm,0.3s,baz=63,slow=18,SNR=7.2						
JHJ				Sn	**Sn**	**18 25 46.3**	**-4.0**
	42nm,0.3s,baz=89,slow=24,SNR=6.5						
	58nm,0.3s						
JSG	**Sagara**	**2.58**	**259**	Pn	**Pn**	**18 25 22.7**	**-0.2**
JMM	**Marumori**	**2.68**	**352**	Pn	**Pn**	**18 25 24.9**	**+0.6**
JMM	**Marumori**	**2.68**	**352**	P	**Pn**	**18 25 25.2**	**+0.9**
MJAR	**Matsushiro Arr**	**2.81**	**299**	Pn	**Pn**	**18 25 27.1**	**+1.0**
	0.9nm,0.3s,baz=157,slow=7.9,SNR=27						
MJAR				Sn	**Sn**	**18 26 01.4**	**+1.3**
	0.5nm,0.3s,baz=134,slow=14,SNR=2.2						
MJAR				LR	LR	18 26 31.1	
	comp=Z,153nm,20.1s,baz=137,slow=40						
	5.4nm,0.4s						
MAJO	**Matsushiro**	**2.81**	**299**	Pn	**Pn**	**18 25 27.2**	**+1.0**
MAJO	**Matsushiro**	**2.81**	**299**	P	**Pn**	**18 25 28.2**	**+2.0**
JGF	**Kuroka**	**3.21**	**278**		**Pn**	**18 25 32.3**	**+0.7**
JGF	**Kuroka**	**3.21**	**278**	P	**Pn**	**18 25 33.4**	**+1.8**
INU	**Inuyama**	**3.47**	**274**		**Pn**	**18 25 35.3**	**+0.2**
INU	**Inuyama**	**3.47**	**274**	P	**Pn**	**18 25 38.0**	**+2.8**
JSD	**Sado**	**3.71**	**320**	Pn	**Pn**	**18 25 39.3**	**+0.8**
JSD	**Sado**	**3.71**	**320**	P	**Pn**	**18 25 39.6**	**+1.1**
JTM	**Tenmabayashi**	**5.57**	**359**	Pn	**Pn**	**18 26 04.6**	**+0.5**
JTM	**Tenmabayashi**	**5.57**	**359**	P	**Pn**	**18 26 04.8**	**+0.7**
JMN	**Monobe**	**6.27**	**258**	Pn	**Pn**	**18 26 14.8**	**+1.1**
JHS	**Saijyo**	**6.67**	**271**	Pn	**Pn**	**18 26 19.0**	**-0.2**
ERM	**Erimo**	**6.96**	**12**	Pn	**Pn**	**18 26 22.9**	**-0.1**
ERM	**Erimo**	**6.96**	**12**	P	**Pn**	**18 26 23.5**	**+0.4**
JEM	**Erimo**	**6.96**	**12**	P	**Pn**	**18 26 24.0**	**+0.9**
JCJ	**Chichijima**	**8.13**	**174**	Pn	**Pn**	**18 26 42.5**	**+3.4**
	5.7nm,0.3s,baz=13,slow=19,SNR=1.6						
JCJ	**Chichijima**	**8.13**	**174**		**Pn**	**18 26 40.0**	**+0.9**
ASAJ	**Asahikawa**	**8.96**	**6**	Pn	**Pn**	**18 26 48.7**	**-1.8**
	1.3nm,0.3s,baz=217,slow=14,SNR=11						
JKA	**Kamikawa-asahi**	**8.96**	**6**	Pn	**Pn**	**18 26 48.6**	**-1.9**
KSRS	**Korea Array**	**10.99**	**286**	LR	LR	18 31 31.8	
	comp=Z,91nm,19.3s,baz=85,slow=38						
MA2	**Magadan**	**25.16**	**11**	P	**P**	**18 30 08.1**	**+1.8**
	6.7nm,0.8s,baz=210,slow=9.9,SNR=7.0						
	6.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.37**	**118**	T	T	18 59 17.5	
	baz=310,slow=75,SNR=102						
H11N1	**WAKE ISLAND Hy**	**27.38**	**118**	T	T	18 59 22.4	
	baz=310,slow=75,SNR=136						
H11N3	**WAKE ISLAND Hy**	**27.39**	**118**	T	T	18 59 23.2	
	baz=310,slow=75,SNR=94						
H11S3	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	19 00 18.9	
	baz=312,slow=75,SNR=383						
H11S1	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	19 00 10.6	
	baz=312,slow=75,SNR=394						
H11S2	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	19 00 13.3	
	baz=312,slow=75,SNR=292						
SEY	**Seymchan**	**28.61**	**11**	P	**P**	**18 30 39.0**	**+1.7**
	1.0nm,0.8s,baz=227,slow=5.1,SNR=5.4						
	1.0nm,0.8s						
SONM	**Songino Array**	**28.74**	**307**	P	**P**	**18 30 39.4**	**+0.6**
	0.3nm,0.5s,baz=112,slow=10,SNR=2.9						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.94**	**257**	P	**P**	**18 32 25.5**	**+1.5**
	0.3nm,0.4s,baz=58,slow=7.5,SNR=1.4						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**43.07**	**314**	P	**P**	**18 32 40.4**	**-0.5**
	0.5nm,0.4s,baz=100,slow=7.7,SNR=3.0						
	0.5nm,0.4s						
MK31	**Makanchi Array**	**45.00**	**304**	P	**P**	**18 32 56.4**	**-0.3**
MKAR	**Makanchi Array**	**45.00**	**304**	P	**P**	**18 32 55.8**	**-0.8**
	0.3nm,0.4s,baz=84,slow=9.2,SNR=12						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.00**	**304**	P	**P**	**18 32 56.4**	**-0.3**
KURK	**Kurchatov**	**46.97**	**309**	P	**P**	**18 33 11.3**	**-0.8**
KURK				IAmb	IAmb	18 33 16.7	
	comp=Z,2.6nm,0.8s						
MTN	**Manton Dam**	**48.74**	**193**	P	P	18 33 23.0	-3.0
BCAR	**Beaver Creek A**	**53.48**	**34**	P	**P**	**18 33 59.7**	**-1.6**
KKAR	**Karatay Array**	**53.94**	**301**	P	**P**	**18 34 04.9**	**-0.1**
WB0	**Warramunga Arr**	**55.06**	**188**	P	**P**	**18 34 13.2**	**+0.1**
WB0				IAmb	IAmb	18 34 22.7	
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**55.23**	**188**	P	**P**	**18 34 13.8**	**-0.6**
WRAB				IAmb	IAmb	18 34 27.0	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**55.23**	**188**	P	**P**	**18 34 14.6**	**+0.2**
WR0				IAmb	IAmb	18 34 24.3	
	comp=Z,6.4nm,1.1s						
WB2	**Warramunga Arr**	**55.24**	**188**	P	**P**	**18 34 14.1**	**-0.3**
WB2				IAmb	IAmb	18 34 41.2	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**55.24**	**188**	P	**P**	**18 34 14.5**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=6.7,slow=8.5,SNR=47						
	comp=Z,3.9nm,0.8s						
WRA	**Warramunga Arr**	**55.24**	**188**	P	**P**	**18 34 14.3**	**-0.1**
ASAR	**Alice Springs**	**58.97**	**188**	P	**P**	**18 34 41.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=18,slow=9.0,SNR=2.8						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**70.37**	**333**	P	**P**	**18 35 55.1**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=67,slow=15,SNR=0.8						
	comp=Z,2.1nm,1.0s						
AKASG	**Malin Array Be**	**75.66**	**323**	P	**P**	**18 36 26.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=52,slow=6.0,SNR=1.5						
	comp=Z,0.2nm,0.4s						
U56A	**King**	**98.94**	**33**	P	**P**	**18 38 21.5**	**-0.4**
H03N2	**Juan Fernandez**	**146.92**	**99**	T	T	21 28 45.5	
	baz=289,slow=76,SNR=19						
H03N3	**Juan Fernandez**	**146.93**	**99**	T	T	21 28 51.1	
	baz=289,slow=76,SNR=27						
H03N1	**Juan Fernandez**	**146.94**	**99**	T	T	21 28 56.4	
	baz=289,slow=76,SNR=27						

*SKHL **26** 18:29:03.3±0.2,43°.40N×145°.20E,h97km±5km,mb4.2/5, msha5.0/6*
*JMA **26** 18:29:03.2±0.1,43°.5N±0°.4×145°.1E±0°.5,h94km,MV2.6/39, NEMURO REGION*

ISC 26 18:29:03.7±1.6,43°.44N±0°.05×145°.10E±0°.04,h91km±9km, n17,σ0s30/33,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.31**	**297**	P	**Pn**	**18 29 17.0**	**-0.2**
JNK				*e*S	**Sn**	**18 29 27.0**	**-0.3**
JNSB	**Nemuroshibetsu**	**0.34**	**348**	*i* P	**Pn**	**18 29 17.4**	**0.0**
JNSB				*e*S	**Sn**	**18 29 28.1**	**+0.6**
JKHN	**Kushirohamanak**	**0.36**	**173**	*i* P	**Pn**	**18 29 17.6**	**+0.1**
JKHN				*e*S	**Sn**	**18 29 28.3**	**+0.5**
AKK	**Akkeshi**	**0.47**	**204**	*e*P	**Pn**	**18 29 18.1**	**-0.1**
AKK				AMB	AMB	18 29 18.2	
	150nm,0.3s						
AKK				*e*S	**Sn**	**18 29 29.0**	**0.0**
AKK				A	A	18 29 29.5	
	360nm,0.4s						
AKK				A	A	18 29 29.5	
	850nm,0.4s						
NMR	**Nemuro--Hokkai**	**0.47**	**99**	*i* P	**Pn**	**18 29 17.9**	**-0.3**
NMR				AMB	AMB	18 29 18.5	
	50nm,0.1s						
NMR				*i* S	**Sn**	**18 29 28.7**	**-0.2**
NMR				A	A	18 29 30.5	
	310nm,0.2s						
NMR				A	A	18 29 30.5	
	560nm,0.2s						
NEM2	**Nemuro 2**	**0.48**	**99**	*i* P	**Pn**	**18 29 18.0**	**-0.3**
NEM2				*e*S	**Sn**	**18 29 28.8**	**-0.3**
JRA	**Rausu**	**0.49**	**2**	*i* P	**Pn**	**18 29 18.2**	**-0.2**
JRA				*e*S	**Sn**	**18 29 29.4**	**+0.1**
JAK	**Akkeshi**	**0.54**	**213**	*i* P	**Pn**	**18 29 18.8**	**0.0**
JAK				*e*S	**Sn**	**18 29 30.3**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**0.81**	**43**	*i* P	**Pn**	**18 29 21.1**	**-0.2**
YUK				AMB	AMB	18 29 22.1	
	80nm,0.2s						
YUK				*i* S	**Sn**	**18 29 34.6**	**+0.1**
YUK				A	A	18 29 38.2	
	350nm,0.3s						
YUK				A	A	18 29 38.2	
	330nm,0.3s						
JAR	**Ashorobuto**	**0.98**	**262**	*i* P	**Pn**	**18 29 23.4**	**+0.2**
JAR				*e*S	**Sn**	**18 29 38.4**	**+0.6**
JTKR	**Abashiri--Toko**	**1.01**	**302**	*i* P	**Pn**	**18 29 23.3**	**-0.2**
JTKR				*e*S	**Sn**	**18 29 38.1**	**-0.3**
JOB	**Onbets**	**1.07**	**240**	*i* P	**Pn**	**18 29 24.4**	**+0.2**
JOB				*e*S	**Sn**	**18 29 40.0**	**+0.4**
JMP	**Maruseppu**	**1.38**	**295**	P	**Pn**	**18 29 27.8**	**-0.2**
JMP				*e*S	**Sn**	**18 29 46.2**	**-0.1**
JCH	**Churui**	**1.52**	**238**	*e*P	**Pn**	**18 29 29.4**	**-0.2**
JCH				*e*S	**Sn**	**18 29 49.0**	**-0.3**
JKK2	**Kamakawa 2**	**1.76**	**285**	P	**Pn**	**18 29 32.9**	**+0.1**
MYR	**Moyori**	**1.76**	**230**	*e*P	**Pn**	**18 29 32.6**	**-0.2**
MYR				AMB	AMB	18 29 34.5	
	20nm,0.2s						
MYR				*e*S	**Sn**	**18 29 54.5**	**-0.4**
MYR				A	A	18 29 57.7	
	140nm,0.2s						
MYR				A	A	18 29 57.7	
	60nm,0.2s						
KUR	**Kuril'sk**	**2.67**	**47**	*e*P	**Pn**	**18 29 45.1**	**+0.3**
KUR				*e*S	**Sn**	**18 30 16.5**	**+0.1**
KUR				A	A	18 30 19.0	
	20nm,0.3s						
KUR				A	A	18 30 19.0	
	40nm,0.3s						

*NEIC **26** 18:33:51.1±1.1,18°.15N±0°.10×145°.5E±0°.1,h243km±9km, mb4.3/33,Error ellipse: s-maj=17.1km s-min=13.8km az=102.0*
*IDC **26** 18:33:54.5±1.9,18°.14N×145°.64E,h288km±18km,mb3.2/9, mbtmp3.8/10,Error ellipse: s-maj=23.7km s-min=13.4km az=85.0*

ISC 26 18:33:51.1±0.5,18°.24N±0°.07×145°.51E±0°.10,h250km,n51, σ1s35/54,mb4.1/26,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.67**	**188**	P	**Pn**	**18 35 05.1**	**+2.1**
	42nm,0.4s,baz=305,slow=18,SNR=1.7						
GUMO				S	**S**	**18 36 06.1**	**+5.9**
	60nm,0.8s,baz=50,slow=19,SNR=1.1						
GUMO	**Guam**	**4.67**	**188**	Pn	**Pn**	**18 35 00.9**	**-2.1**
PATS	**Pohnpei**	**16.86**	**131**	P	**P**	**18 37 30.6**	**-0.9**
YHNB	**Yeheng**	**23.33**	**290**	P	**P**	**18 38 38.6**	**+1.2**
SSLB	**Suanglung**	**23.56**	**288**	P	**P**	**18 38 40.7**	**+1.3**
FAKI	**Fak Fak**	**24.75**	**213**	P	**P**	**18 38 49.2**	**-1.1**
FAKI				IAmb	IAmb	18 39 32.5	
	comp=Z,14nm,0.9s						
TOLI2	**Tolitoli**	**29.65**	**238**	P	**P**	**18 39 32.5**	**-1.4**
TOLI2				IAmb	IAmb	18 39 44.9	
	comp=Z,5.4nm,1.0s						
MTN	**Manton Dam**	**33.99**	**206**	P	**P**	**18 40 10.6**	**-1.0**
MIDW	**Midway**	**35.41**	**67**	P	**P**	**18 40 23.9**	**+0.3**
SBUM	**Sibu**	**36.20**	**248**	P	**P**	**18 40 30.3**	**-0.2**
SBUM				IAmb	IAmb	18 40 59.9	
	comp=Z,6.1nm,1.0s						
KNRA	**Kununurra**	**37.52**	**207**	P	**P**	**18 40 41.3**	**

MKAR **Makanchi Array** 58.65 314 P **P** 18 43 22.7 +0.3
O18K **Koktuh Hills** 59.10 30 P **P** 18 43 26.6 +1.4
TTA **Tatalina** 59.74 27 P **P** 18 43 30.0 +0.4
TTA IAmb IAmb 18 44 03.2
comp=Z,5.8nm,1.3s
KURK **Kurchatov** 61.49 318 P **P** 18 43 41.7 +0.2
CAST **Castle Rocks** 61.58 27 P **P** 18 43 43.1 +1.2
IMAR **Indian Mountai** 61.71 24 P **P** 18 43 44.7 +2.0
H21K **Melozitna Rive** 61.97 24 P **P** 18 43 46.1 +1.7
TRF **Thorofare Moun** 62.37 27 P **P** 18 43 47.4 0.0
TRF IAmb IAmb 18 43 50.5
comp=Z,6.4nm,1.1s
KLU **Klutina** 63.92 30 P **P** 18 43 58.9 +1.4
H24K **Noodor Dome** 63.97 25 P **P** 18 43 59.1 +1.4
H24K IAmb IAmb 18 44 16.5
comp=Z,8.1nm,1.4s
ILAR **Eielson Array** 64.13 26 P **P** 18 43 58.2 -0.4
comp=Z,0.4nm,0.5s,baz=250,slow=5.8,SNR=8.5
comp=Z,0.4nm,0.5s
PAX **Paxson** 64.39 28 P **P** 18 44 01.3 +0.9
PAX IAmb IAmb 18 44 04.7
comp=Z,12nm,1.4s
BMAR **Burnt Mountain** 65.61 23 P **P** 18 44 09.3 +1.2
L27K **Beaver Creek,** 66.05 28 P **P** 18 44 11.8 +0.8
BCAR **Beaver Creek A** 66.07 28 P **P** 18 44 11.9 +0.8
EGAK **Eagle** 66.55 27 P **P** 18 44 15.2 +1.1
EGAK IAmb IAmb 18 44 29.9
comp=Z,11nm,1.5s
KKAR **Karatay Array** 66.92 310 P **P** 18 44 17.2 +0.4
INK **Inuvik** 69.86 23 P **P** 18 44 34.9 +0.4
INK IAmb IAmb 18 45 06.8
comp=Z,5.5nm,1.4s
ABKAR **Akbulak array** 73.55 317 P **P** 18 44 56.6 -0.2
ABKAR PcP **PcP** 18 45 09.6 -1.9
NVAR **Mina Array Bea** 83.56 52 P **P** 18 45 51.4 -0.5
comp=Z,0.4nm,0.5s,baz=291,slow=7.2,SNR=4.1
comp=Z,0.4nm,0.5s

NEIC ***26*** *18:56:00.4±0.8,5.°30S±0.°09×146.°6E±0.°1,h104km±10km, mb4.1/16, Error ellipse: s-maj=17.7km s-min=12.4km az=111.0*
IDC ***26*** *18:56:03.2±4.3,5.°68S×146.°60E,h108km±42km, mb3.4/4, mbtmp3.8/6, Error ellipse: s-maj=40.5km s-min=29.4km az=119.0*

ISC 26 18:56:00.3±0.6,5.°39S±0.°06×146.°60E±0.°09,h100km,n29, σ1°68/31,mb3.8/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MANU	**Manus Island**	3.41	13	Pn		**Pn**	18 56 50.5	-1.1
PMG	**Port Moresby**	4.03	172	P		**Pn**	18 57 01.0	+1.1
	11nm,0.3s,baz=31,slow=6.3,SNR=22							
PMG				S		**Sn**	18 57 41.6	-4.6
	27nm,0.3s,baz=352,slow=20,SNR=3.9							
PMG	**Port Moresby**	4.03	172	Pn		**Pn**	18 57 01.1	+1.1
PMG				Sn		**Sn**	18 57 43.7	-2.5
COEN	**Coen**	9.16	201	Pn		**Pn**	18 58 10.5	+0.8
HNR	**Honiara**	13.83	108	Pn		**Pn**	18 59 11.3	-0.9
CTA	**Charters Tower**	14.62	181	P		**P**	18 59 25.7	-0.2
	1.4nm,0.3s,baz=358,slow=15,SNR=1.6							
PATS	**Pohnpei**	16.85	44			**Pn**	18 59 49.0	-1.2
MTN	**Manton Dam**	16.97	243			**Pn**	18 59 51.6	0.0
MTN				IAmb		IAmb	19 00 19.1	
	comp=Z,25nm,1.3s							
WB0	**Warramunga Arr**	18.59	219	P		**P**	19 00 09.7	-0.2
WR0	**Warramunga Arr**	18.64	218	P		**P**	19 00 10.0	-0.4
WR0				IAmb		IAmb	19 00 32.5	
	comp=Z,9.0nm,1.4s							
WRAB	**Tennant Creek**	18.74	218	P		**P**	19 00 10.8	-0.7
WRAB				IAmb		IAmb	19 00 13.4	
	comp=Z,9.7nm,1.4s							
WB2	**Warramunga Arr**	18.75	218	P		**P**	19 00 11.2	-0.3
WB2				IAmb		IAmb	19 00 13.2	
	comp=Z,3.2nm,0.8s							
WRA	**Warramunga Arr**	18.75	218	P		**P**	19 00 10.9	-0.7
	comp=Z,1.1nm,0.5s,baz=41,slow=12,SNR=24							
WRA	**Warramunga Arr**	18.75	218	P		**P**	19 00 11.6	0.0
TNTI	**Ternate**	20.16	287	P		**P**	19 00 23.3	-3.7
TNTI				IAmb		IAmb	19 00 32.8	
	comp=Z,45nm,1.5s							
KNRA	**Kununurra**	20.28	238	P		**P**	19 00 27.3	-0.9
EIDS	**Eidsvold**	20.33	168	P		**P**	19 00 29.5	+0.9
EIDS				IAmb		IAmb	19 00 53.4	
	comp=Z,7.9nm,1.4s							
AS31	**Alice Springs**	21.91	213	P		**P**	19 00 45.4	-0.2
ASAR	**Alice Springs**	21.91	213	P		**P**	19 00 45.6	0.0
	comp=Z,2.1nm,0.5s,baz=55,slow=8.7,SNR=51							
	comp=Z,2.1nm,0.5s							
ASAR	**Alice Springs**	21.91	213	P		**P**	19 00 44.8	-0.8
KOUNC	**Koumac, New Ca**	22.85	133	P		**P**	19 00 55.0	-0.4
KOUNC				IAmb		IAmb	19 01 28.0	
	comp=Z,14nm,1.1s							
ARMA	**Armidale**	25.35	170	P		**P**	19 01 21.4	+3.2
ARMA				IAmb		IAmb	19 01 29.4	
	comp=Z,10nm,1.2s							
STKA	**Stephens Creek**	26.77	189	P		**P**	19 01 31.2	+0.3
	comp=Z,1.2nm,0.5s,baz=18,slow=13,SNR=4.7							
	comp=Z,1.2nm,0.5s							
STKA	**Stephens Creek**	26.77	189	P		**P**	19 01 31.9	+1.0
PSA00	**Pilbara Seismi**	30.50	236	P		**P**	19 02 04.1	-0.1
FORT	**Forrest**	30.70	212	P		**P**	19 02 06.4	+0.7
CMAR	**Chiang Mai Arr**	52.61	298	P		**P**	19 05 06.9	+2.5
	comp=Z,0.2nm,0.3s,baz=104,slow=3.8,SNR=1.8							
	comp=Z,0.2nm,0.3s							
ILAR	**Eielson Array**	85.08	23	P		**P**	19 08 27.9	+3.2
	comp=Z,1.1nm,0.8s,baz=250,slow=5.3,SNR=8.8							
	comp=Z,1.1nm,0.8s							
TORD	**Torodi Ar. Bea**	144.55	285	PKP		**PKPdf**	19 15 26.7	+0.5
	comp=Z,0.5nm,0.7s,baz=90,slow=2.4,SNR=3.1							

IDC ***26*** *18:58:41.9±2.6,59.°81N×153.°63W,h68km±42km, mb3.3/3, mbtmp3.7/7, ML3.5/4, Error ellipse: s-maj=46.4km s-min=11.2km az=102.0*
NEIC ***26*** *18:58:43.9±0.9,59.°70N±0.°05×153.°20W±0.°08, h118km±4km, Error ellipse: s-maj=7.6km s-min=6.6km az=156.0*
AEIC ***26*** *18:58:45.9±1.1,59.°73N±0.°03×153.°16W±0.°08, h105km±6km, ML2.9, ML3.3/88(NEIC), Error ellipse: s-maj=6.9km s-min=2.1km az=121.0*

ISC 26 18:58:44.5±0.9,59.°72N±0.°05×153.°19W±0.°04, h111km±8km,n104,σ0°80/100,mb3.8/3,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
P19K	**Oil Pt**	0.07	197			**Pn**	18 58 59.9	+0.1
P19K				IAML			18 59 11.7	
	comp=E,804nm,0.5s							
P19K				IAML			18 59 11.8	
	comp=N,587nm,0.5s							
O19K	**Port Alsworth**	0.74	310			**Pn**	18 59 03.2	+0.1
RSO	**Redoubt South**	0.77	16			**Pn**	18 59 03.9	+0.2
HOM	**Homer**	0.79	94			**Sn**	18 59 18.4	+0.4
HOM	**Homer**	0.79	94			**Pn**	18 59 04.1	+0.5
Q19K	**Cape Douglas,**	0.83	197			**Pn**	18 59 04.5	+0.5
Q19K				IAML			18 59 24.4	
	comp=N,764nm,1.1s							
Q19K				IAML			18 59 26.7	
	comp=E,684nm,1.3s							
CNPM	**China Poot**	1.01	100			**Pn**	18 59 05.8	0.0
CNPM				IAML			18 59 24.6	
	comp=N,418nm,0.4s							
CNPM				IAML			18 59 24.8	
	comp=E,313nm,0.4s							
O18K	**Koktuh Hills**	1.03	278	Pn		**Pn**	18 59 06.0	0.0
P18K	**Big Mountain,**	1.09	253			**Pn**	18 59 06.4	-0.2
BRLK	**Bradley Lake**	1.17	87			**Pn**	18 59 07.1	-0.3
BRLK				IAML			18 59 24.7	
	comp=N,224nm,0.4s							
BRLK				IAML			18 59 27.6	
	comp=E,257nm,0.3s							
BRSE	**Bradley Lake S**	1.24	88			**Pn**	18 59 08.2	0.0
BRSE						**Sn**	18 59 25.5	-0.8
N19K	**Bonanza Creek**	1.27	330			**Pn**	18 59 08.9	+0.2
CAPN	**Captain Cook N**	1.46	43			**Pn**	18 59 12.7	+1.9
CAPN	**Captain Cook N**	1.46	43	IAML			18 59 36.0	
	comp=E,564nm,0.7s							
SLKM	**Skilak Lake**	1.68	61			**Pn**	18 59 14.0	+0.5
SLKM						**Sn**	18 59 34.5	-1.2
SVW2	**Sparrevohn**	1.82	320			**Pn**	18 59 15.0	-0.1
SVW2	**Sparrevohn**	1.82	320	P		**Pn**	18 59 15.2	0.0
SEW	**Seward**	1.92	77			**Pn**	18 59 16.5	+0.1
KDAK	**Kodiak Island**	1.97	171	P		**Pn**	18 59 16.5	-0.5
	comp=E,15nm,0.3s,baz=16,slow=14,SNR=104							
KDAK				S		**Sn**	18 59 40.1	-1.8
	comp=E,42nm,0.3s,baz=341,slow=22,SNR=23							
	comp=E,37nm,0.3s							
KDAK	**Kodiak Island**	1.97	171			**Pn**	18 59 16.5	-0.5
KDAK				IAML			18 59 42.7	
	comp=E,120nm,1.4s							
KDAK				IAML			18 59 56.2	
	comp=E,116nm,2.7s							
SUA	**Susitna One**	2.12	34			**Pn**	18 59 19.9	+0.8
SUA				IAML			18 59 46.9	
	comp=E,231nm,0.7s							
SUA				IAML			18 59 48.2	
	comp=N,201nm,0.7s							
SUA	**Susitna One**	2.12	34			**Sn**	18 59 45.9	+0.3
M20K	**Styx River**	2.17	1			**Pn**	18 59 20.1	+0.5
RC01	**Rabbit Creek A**	2.19	50			**Pn**	18 59 19.8	-0.1
RC01				IAML			18 59 47.4	
	comp=N,287nm,0.4s							
RC01				IAML			18 59 48.1	
	comp=E,240nm,0.3s							
M19K	**Big River Lodg**	2.27	345			**Pn**	18 59 20.9	0.0
SKT	**Skwentna**	2.41	19			**Pn**	18 59 22.9	+0.3
OHAK	**Old Harbor**	2.51	181	Pn		**Pn**	18 59 23.1	-0.8
OHAK				IAML			19 00 53.3	
	comp=E,72nm,4.2s							
M22K	**Willow**	2.54	35			**Pn**	18 59 24.8	+0.5
L19K	**White Mountain**	2.60	343			**Pn**	18 59 25.1	0.0
PWL	**Port Wells**	2.67	63			**Pn**	18 59 25.5	-0.6
PMR	**Palmer**	2.74	45			**Pn**	18 59 26.3	-0.6
PMR				IAML			18 59 59.1	
	comp=N,73nm,0.3s							
PMR	**Palmer**	2.74	45	P		**Pn**	18 59 26.8	-0.1
KNK	**Knik Glacier**	2.89	52			**Pn**	18 59 28.4	-0.5
KNK	**Knik Glacier**	2.89	52	IAML			19 00 02.2	
	comp=E,180nm,0.3s							
KNK				IAML			19 00 03.4	
	comp=N,164nm,0.5s							
GHO	**Glory Hole Cre**	2.94	44			**Pn**	18 59 29.3	-0.3
GHO				IAML			19 00 04.7	
	comp=N,92nm,0.4s							
GHO				IAML			19 00 11.3	
	comp=E,110nm,0.4s							
CUT	**Chulitna**	3.04	27			**Pn**	18 59 31.5	+0.6
CUT	**Chulitna**	3.04	27	IAML			19 00 19.8	
	comp=E,111nm,2.3s							
CUT				IAML			19 00 46.2	
	comp=N,98nm,2.4s							
SML	**Sawmill**	3.17	47			**Pn**	18 59 32.2	-0.5
SML	**Sawmill**	3.17	47	IAML			19 00 10.3	
	comp=N,91nm,0.9s							
SML				IAML			19 00 19.4	
	comp=E,83nm,3.6s							
PPLA	**Purkeypile**	3.22	8			**Pn**	18 59 34.7	+1.3
TTA	**Tatalina**	3.50	338	Pn		**Pn**	18 59 36.9	-0.1
TTA				IAML			19 01 55.7	
	comp=N,36nm,4.8s							
TTA	**Tatalina**	3.50	338	P		**Pn**	18 59 36.9	-0.1
SCM	**Sheep Creek Mo**	3.57	51			**Pn**	18 59 37.7	-0.3
SCM	**Sheep Creek Mo**	3.57	51	IAML			19 00 25.8	
	comp=E,74nm,3.2s							
SCM				IAML			19 00 25.9	
	comp=N,80nm,2.8s							
K20K	**Telida**	3.67	354			**Pn**	18 59 39.8	+0.5
K20K				IAML			19 00 47.7	
	comp=E,32nm,4.9s							
CAST	**Castle Rocks**	3.75	8			**Pn**	18 59 40.9	+0.5
WAT7	**Susitna Watana**	3.76	32			**Pn**	18 59 40.8	+0.2
EYAK	**Cordova Ski Ar**	3.81	74	P		**Pn**	18 59 41.2	0.0
WAT1	**Susitna Watana**	3.84	34			**Pn**	18 59 41.6	0.0
WAT6	**Susitna Watana**	3.90	40			**Pn**	18 59 42.2	-0.3
DIV	**Divide**	3.94	66			**Pn**	18 59 42.6	-0.3
TRF	**Thorofare Moun**	3.99	19	Pn		**Pn**	18 59 44.0	+0.2
TRF				IAML			19 01 03.9	
	comp=N,39nm,3.8s							
TRF				IAML			19 01 15.7	
	comp=E,46nm,4.7s							
KTH	**Kantishna Hill**	3.99	15	Pn		**Pn**	18 59 43.9	+0.2
KTH				IAML			19 00 41.9	
	comp=E,40nm,4.8s							
KTH				IAML			19 01 41.5	
	comp=N,34nm,3.7s							
KLU	**Klutina**	4.00	61			**Pn**	18 59 43.1	-0.6
KLU	**Klutina**	4.00	61	IAML			19 01 03.2	
	comp=E,56nm,3.7s							
M24K	**Tolsona, Glenn**	4.18	52	Pn		**Pn**	18 59 46.1	0.0
RND	**Reindeer**	4.24	27			**Pn**	18 59 47.2	+0.2
RND				IAML			19 01 06.1	
	comp=N,24nm,4.8s							
RND				IAML			19 01 11.5	
	comp=E,30nm,4.4s							
DHY	**Denali Highway**	4.37	37			**Pn**	18 59 48.7	-0.1
DHY	**Denali Highway**	4.37	37	IAML			19 00 37.6	
	comp=N,42nm,4.3s							
DHY				IAML			19 00 38.5	
	comp=E,32nm,3.7s							
CHGN	**Chignik**	4.41	221	Pn		**Pn**	18 59 49.8	+0.6
CHGN				IAML			19 02 09.3	
	comp=E,59nm,3.0s							
BMRM	**Bremner River**	4.45	70	Pn		**Pn**	18 59 49.8	0.0
MCK	**McKinley**	4.50	25	Pn		**Pn**	18 59 50.9	+0.4
BPAW	**Bear Paw Mtn.**	4.51	12	Pn		**Pn**	18 59 50.5	-0.1
BPAW				IAML			19 01 00.8	
	comp=E,40nm,4.9s							
BPAW				IAML			19 02 40.3	
	comp=N,26nm,4.4s							
N25K	**Chitina, Valde**	4.63	62	Pn		**Pn**	18 59 52.0	-0.3
N25K				IAML			19 00 34.2	
	comp=N,42nm,3.8s							
BWN	**Browne**	4.80	20	Pn		**Pn**	18 59 55.0	+0.6
GLB	**Gilahina Butte**	4.94	66			**Pn**	18 59 55.5	-0.9
PAX	**Paxson**	4.94	45			**Pn**	18 59 56.5	+0.1
NEA2	**Nenana**	5.25	20			**Pn**	19 00 00.5	-0.1
NEA2	**Nenana**	5.25	20	IAML			19 01 11.2	
	comp=N,23nm,4.6s							
NEA2				IAML			19 02 38.4	
	comp=E,29nm,4.1s							
MCARA	**McCarthy VSAT**	5.29	67			**Pn**	19 00 01.5	+0.5
WRH	**Wood River Hil**	5.33	24			**Pn**	19 00 01.3	-0.3
MLY	**Manley**	5.45	11			**Pn**	19 00 03.7	+0.5
KIAG	**Kiagie River**	5.52	73			**Pn**	19 00 05.0	+0.7
HDA	**Harding Lake**	5.54	29			**Pn**	19 00 04.3	-0.2
CCB	**Clear Creek Bu**	5.55	25	Pn		**Pn**	19 00 04.0	-0.5
M26K	**Nabesna, AK**	5.63	57			**Pn**	19 00 07.1	+1.4
RIDG	**Independent Ri**	5.65	41			**Pn**	19 00 06.6	+0.6
I23K	**Minto, Yukon-K**	5.73	16			**Pn**	19 00 07.0	+0.1
COLA	**College**	5.74	23	P		**Pn**	19 00 07.1	+0.1
MDM	**Murphy Dome**	5.74	22			**Pn**	19 00 06.9	-0.3
IL31		5.86	27			**Pn**	19 00 08.0	-0.7
ILAR	**Eielson Array**	5.86	27	P		**Pn**	19 00 08.2	-0.5
	comp=E,2.0nm,0.3s,baz=216,slow=13,SNR=86							
ILAR				S		**Sn**	19 01 10.3	-4.2
	comp=E,0.8nm,0.4s,baz=216,slow=22,SNR=1.7							
	comp=E,5.4nm,0.6s							
DOT	**Dot Lake**	5.86	44	Pn		**Pn**	19 00 09.8	+1.0
BARN	**Barnard Glacie**	5.87	72	Pn		**Pn**	19 00 10.4	+1.3
H21K	**Melozitna Rive**	5.96	2			**Pn**	19 00 10.3	+0.2
POKR	**Poker Plat Res**	6.04	24	Pn		**Pn**	19 00 11.2	+0.1
SCRK	**Sand Creek**	6.10	42			**Pn**	19 00 11.8	-0.3
M27K	**Edge Creek, AK**	6.10	59	Pn		**Pn**	19 00 13.5	+1.4
IMAR	**Indian Mountai**	6.29	358	Pn		**Pn**	19 00 15.5	+1.0
L27K	**Beaver Creek,**	6.40	54	Pn		**Pn**	19 00 17.1	+1.0
BCAR	**Beaver Creek A**	6.42	54	Pn		**Pn**	19 00 16.9	+0.6
J26L	**Joseph Creek**	6.58	39			**Pn**	19 00 18.3	-0.3
H24K	**Noodor Dome**	6.60	19			**Pn**	19 00 18.9	0.0
PRP	**Porcupine Dome**	6.80	28			**Pn**	19 00 21.5	-0.1
PNL	**Peninsula**	6.98	84	P		**Pn**	19 00 25.6	+1.6
I26K	**Coal Creek Min**	7.27	35			**Pn**	19 00 27.9	0.0
EGAK	**Eagle**	7.56	43	Pn		**Pn**	19 00 30.9	-0.8
COLD	**Coldfoot**	7.65	9	Pn		**Pn**	19 00 33.3	+0.3
BMAR	**Burnt Mountain**	8.63	23	Pn		**Pn**	19 00 44.9	-1.3
DLBC	**Dease Lake**	11.97	86	P		**Pn**	19 01 34.0	+2.7
	comp=E,0.3nm,0.3s,baz=317,slow=18,SNR=5.6							
	comp=E,4.2nm,1.0s							
INK	**Inuvik**	12.12	37	P		**Pn**	19 01 33.3	+0.2
	comp=E,0.1nm,0.3s,baz=232,slow=13,SNR=2.6							
	comp=E,1.7nm,1.1s							
SONM	**Songino Array**	54.88	306	P		**P**	19 08 04.0	+0.9
	comp=E,0.8nm,0.7s,baz=44,slow=7.3,SNR=5.6							
	comp=E,0.8nm,0.7s							
ZALV	**Zalesovo Beam**	57.54	324	P		**P**	19 08 22.3	+0.5
	comp=E,1.3nm,0.5s,baz=28,slow=6.7,SNR=6.6							
	comp=E,1.3nm,0.5s							
MKAR	**Makanchi Array**	64.59	321	P		**P**	19 09 09.2	-0.3
	comp=E,0.1nm,0.5s,baz=38,slow=7.3,SNR=1.7							
	comp=E,0.1nm,0.5s							

NEIC ***26*** *19:09:03.1±1.6,3.°78N±0.°08×128.°61E±0.°08,h10km±1km, mb4.5/27, Error ellipse: s-maj=15.2km s-min=12.9km az=47.0*
DJA ***26*** *19:09:06.8±1.2,4.°1N±6.°×12.°9E±.°,h32km±17km, M4.5/12, mb4.5/12, mB5.0/2, MLv4.5/11, Mw(mB)4.3/2*
IDC ***26*** *19:09:10.1±1.6,3.°65N×128.°80E,h76km±14km, mb3.7/12, mbtmp4.1/14, MS3.5/16, Error ellipse: s-maj=38.0km s-min=8.4km az=62.0*

ISC 26 19:09:06.6±0.5,3.°64N±0.°06×128.°66E±0.°09,h45km,n83, σ1°82/70,mb4.3/27,MS3.4/14,3C-1D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	3.13	205			**Pn**	19 09 53.9	+0.4
TNTI	**Ternate**	3.13	205	P		**Pn**	19 09 54.5	+1.1
SGSI	**Sangihe**	3.13	271	P		**Pn**	19 09 51.5	-2.0
GSPH	**General Santos**	4.43	303	eP		**Pn**	19 10 08.2	-3.3
DAV	**Davao City (W)**	4.59	318	P		**Pn**	19 10 18.3	+4.7
	112nm,0.4s,baz=129,slow=6.7,SNR=1.5							
DAV				S		**Sn**	19 11 13.9	+8.3
	149nm,0.4s,baz=66,slow=20,SNR=2.5							
DAV				LR		LR	19 12 32.3	
	comp=Z,1μm,18.5s,baz=348,slow=43							
KCP	**Kidapawan**	4.89	313	iP		**Pn**	19 10 17.5	-0.1
KCP				iS		**Sn**	19 11 16.0	+3.0
BIPH	**Bislig**	5.07	333	eP		**Pn**	19 10 28.3	+8.2
BIPH				iS		Sn	19 11 06.2	-11
SIJI	**Sorong**	5.18	150	P		**Pn**	19 10 23.1	+1.5
	12nm,0.5s,baz=348,slow=19,SNR=11							
SIJI				S		**Sn**	19 11 21.6	+1.4
	24nm,0.4s,baz=359,slow=23,SNR=26							
SIJI				LR		LR	19 11 45.3	
	comp=Z,85nm,18.4s,baz=222,slow=30							
CGP	**Cagayan de Oro**	6.20	321	eP		**Pn**	19 10 44.2	+8.5
CGP				eS		**Sn**	19 11 50.6	+5.2
SANI	**Sanana**	6.25	205	P		**Pn**	19 10 36.3	0.0
	32nm,0.8s,0.1nm							
GTOI	**Gorontalo**	6.39	242	P		**Pn**	19 10 38.2	0.0
	27nm,0.5s,390nm0.1nm							
MRSI	**Marisa**	7.42	245	P		**Pn**	19 10 52.3	0.0
	373nm,0.7s,3μm1.1nm							
FAKI	**Fak Fak**	7.43	151	Pn		**Pn**	19 10 53.9	+1.3
FAKI				Sn		**Sn**	19 12 13.9	-1.8
FAKI	**Fak Fak**	7.43	151	P		**Pn**	19 10 53.2	+0.6
	27nm,1.0s,0.1nm							
LUWI	**Luwuk**	7.50	232	Pn		**Pn**	19 10 53.6	+0.1
LUWI	**Luwuk**	7.50	232	P		**Pn**	19 10 51.8	-1.7
	46nm,0.8s,0.6nm							
TOLI2	**Tolitoli**	8.27	253	Pn		**Pn**	19 11 01.8	-2.2
MPSI	**Mapaga**	9.35	250	P		**Pn**	19 11 18.0	-0.9
	32nm,0.9s							
MYLDM	**Lahad Datu**	10.25	279	Pn		**Pn**	19 11 30.0	-1.2
SPSI	**Sidrap Palu**	11.66	230	P		**Pn**	19 11 49.5	-1.0
	17nm,2.4s							
SBUM	**Sibu**	16.46	266			**P**	19 12 55.9	-0.9
MTN	**Manton Dam**	16.56	172			**P**	19 12 57.8	+0.1
KNRA	**Kununurra**	19.19	180	P		**Pn**	19 13 27.8	-0.2
KNRA				IAmb	IAmb	IAmb	19 13 41.4	
	comp=Z,39nm,1.3s							
YULB	**Yu-li**	20.89	341	P		**P**	19 13 41.3	-3.9
YULB				IAmb	IAmb	IAmb	19 13 50.5	
	comp=Z,24nm,1.1s							
TPUB	**Ta-pu**	21.04	339	P		**P**	19 13 43.2	-3.6
YHNB	**Yeheng**	22.06	342	P		**P**	19 13 56.8	-1.0
PMG	**Port Moresby**	22.53	125	LR		LR	19 22 44.9	
	comp=Z,86nm,21.9s,baz=302,slow=36							
LEM	**Lembang**	23.44	244	LR		LR	19 24 47.0	
	comp=Z,60nm,18.2s,baz=209,slow=40							
WB0	**Warramunga Arr**	23.93	167	P		**P**	19 14 17.8	+1.2
WB0				IAmb	IAmb	IAmb	19 14 34.9	
	comp=Z,8.0nm,0.6s							
WRAB	**Tennant Creek**	24.08	167	P		**P**	19 14 19.6	+1.6
WRAB				IAmb	IAmb	IAmb	19 14 33.1	
	comp=Z,9.5nm,0.9s							
WRA	**Warramunga Arr**	24.09	167	P		**P**	19 14 19.0	+0.9
	comp=Z,1.8nm,0.5s,baz=345,slow=10,SNR=23							
WRA				S		**S**	19 18 30.6	-2.2
	comp=Z,0.6nm,0.8s,baz=341,slow=13,SNR=2.1							
	comp=Z,1.8nm,0.5s							
WB2	**Warramunga Arr**	24.09	167	P		**P**	19 14 19.7	+1.6
WB2				IAmb	IAmb	IAmb	19 14 33.1	
	comp=Z,11nm,1.0s							
WR0	**Warramunga Arr**	24.15	166	P		**P**	19 14 19.4	+0.8
WR0				IAmb	IAmb	IAmb	19 14 33.8	
	comp=Z,9.1nm,0.9s							
KRVT	**Keravat (AS076**	24.64	108	LR		LR	19 23 13.5	
	comp=Z,188nm,18.1s,baz=98,slow=34							
PSA00	**Pilbara Seismi**	26.50	199	P		**P**	19 14 40.3	+0.3
ASAR	**Alice Springs**	27.61	170	P		**P**	19 14 50.8	+0.8
	comp=Z,0.5nm,0.5s,baz=357,slow=7.7,SNR=8.8							
ASAR				PcP		**PcP**	19 18 07.8	+0.9
	comp=Z,0.5nm,0.5s,baz=350,slow=2.2,SNR=6.2							
	comp=Z,0.5nm,0.5

comp=Z,2.7nm,0.4s,baz=111,slow=7.9,SNR=116
MKAR LR LR 19 45 43.4
comp=Z,49nm,19.5s,baz=118,slow=37
comp=Z,2.7nm,0.4s
MKAR Makanchi Array 58.74 324 P P 19 19 00.0 0.0
MAKZ Makanchi 58.93 324 P P 19 19 01.5 +0.1
MAKZ IAmb IAmb 19 19 02.1
comp=Z,5.1nm,1.0s
TARG Taragay, Kyrgy 59.11 317 P P **19 19 03.1 -0.1**
TARG IAmb IAmb 19 19 23.0
comp=Z,3.7nm,0.8s
KSH Kashi 59.48 314 P P **19 19 07.8 +2.4**
KSH pP pP 19 19 15.8 -0.8
KSH pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 61.56 332 P P **19 19 17.9 -1.2**
comp=Z,0.6nm,0.4s,baz=124,slow=7.3,SNR=5.5
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 61.56 332 P P **19 19 17.2 -1.9**
KURK Kurchatov 62.87 327 P P **19 19 27.6 -0.3**
KBL Kabul 63.12 307 P P **19 19 28.1 -2.1**
KK31 Karatay Array 64.62 316 P P **19 19 39.5 -0.2**
KK31 IAmb IAmb 19 19 40.5
comp=Z,2.8nm,0.9s
KKAR Karatay Array 64.62 316 P P **19 19 39.4 -0.3**
BVAR Borovoye Array 68.46 326 LR LR 19 51 56.0
comp=Z,40nm,19.5s,baz=349,slow=37
BRVK Borovoye 68.53 326 P P **19 20 04.0 -0.4**
BRVK IAmb IAmb 19 20 04.8
comp=Z,5.3nm,1.1s
WSAR Wadi Sarin 70.23 293 LR LR 19 54 29.8
comp=Z,14nm,18.8s,baz=134,slow=39
NRIK Noril'sk 70.99 346 P P **19 20 19.7 +0.5**
comp=Z,1.5nm,0.6s,baz=164,slow=4.0,SNR=1.9
comp=Z,1.5nm,0.6s
GEYT Alibeck 72.46 309 P P **19 20 27.8 -1.0**
comp=Z,1.0nm,0.5s,baz=94,slow=4.5,SNR=4.4
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 73.45 320 P P **19 20 33.8 -0.5**
VNDA Vanda 83.10 173 P P **19 21 27.6 +0.5**
comp=Z,1.5nm,1.0s,baz=326,slow=7.3,SNR=1.8
comp=Z,1.5nm,1.0s
FINES FINESS Array B 92.82 332 P P **19 22 12.9 -1.4**
comp=Z,2.1nm,0.9s,baz=6.2,slow=15,SNR=3.9
comp=Z,2.1nm,0.9s
NOA NORSAR Array B 99.72 334 LR LR 20 15 28.0
comp=Z,16nm,18.0s,baz=5.0,slow=40
TORD Torodi Ar. Bea 124.78 289 PKP **PKiKP 19 28 03.1 +0.2**
comp=Z,0.5nm,0.6s,baz=117,slow=1.2,SNR=3.6

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*IDC **26** 19:09:10.8±1.8,6°.87S×149°.76E,h103km±19km,mb3.1/2, mbtmp3.7/5,Error ellipse: s-maj=45.2km s-min=14.2km az=140.0*
ISC 26 19:09:10.8±1.0,7°.02S±0°.2×149°.8E±0°.1,h100km,n7, σ1s37/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.45**	**40**	P		**Pn**		**19 10 03.9**	**+1.2**
	21nm,0.6s,baz=221,slow=19,SNR=1.5								
PMG	**Port Moresby**	**3.56**	**227**	P		**Pn**		**19 10 04.0**	**-0.1**
	15nm,0.3s,baz=34,slow=6.3,SNR=24								
PMG				S		**Sn**		**19 10 46.9**	**+1.5**
	16nm,0.4s,baz=29,slow=19,SNR=5.7								
HNR	**Honiara**	**10.34**	**104**	P		**Pn**		**19 11 36.0**	**-0.3**
	148nm,0.3s,baz=265,slow=12,SNR=3.5								
WRA	**Warramunga Arr**	**19.78**	**228**	P		**P**		**19 13 33.1**	**-0.2**
	1.5nm,0.4s,baz=54,slow=10,SNR=27								
ASAR	**Alice Springs**	**22.55**	**221**	P		**P**		**19 14 04.5**	**+1.6**
	0.8nm,0.7s,baz=55,slow=8.9,SNR=27								
	0.8nm,0.7s								
ILAR	**Eielson Array**	**85.29**	**23**	P		**P**		**19 21 34.9**	**-1.4**
	0.4nm,0.8s,baz=246,slow=4.9,SNR=4.6								
	0.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**148.02**	**284**	PKPbc		**PKPbc**		**19 28 44.7**	**-1.0**
	0.4nm,0.8s,baz=102,slow=2.3,SNR=1.5								

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*SJA **26** 19:11:00.2±0.7,22°.35S×67°.55W,h195km±4km,ML4.4, MW4.0*
*IDC **26** 19:11:01.5±0.8,22°.41S×67°.38W,h162km±9km,mb3.6/6, mbtmp4.2/12,Error ellipse: s-maj=17.4km s-min=14.7km az=131.0*
*VAO **26** 19:11:02.6±0.6,22°.27S×67°.46W,h172km±7km,mb4.3*
*GUC **26** 19:11:02.5±0.7,22°.33S×67°.86W,h213km±7km,ML4.6*
*NEIC **26** 19:11:02.4±0.9,22°.38S±0°.08×67°.6W±0°.1,h172km±8km, mb4.2/8,ML4.6(GUC),Error ellipse: s-maj=16.5km s-min=11.0km az=102.0*
*SCB **26** 19:11:03.2±1.3,22°.38S×67°.78W,h184km±17km,ML4.4/1, MW3.6,Error ellipse: s-maj=12.1km s-min=10.2km az=2.0*
ISC 26 19:11:01.9±0.6,22°.38S±0°.03×67°.59W±0°.03,h179km,6km, n151,σ1s50/224,mb4.1/7,13C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.24**	**259**	P		**Pn**		**19 11 32.5**	**+0.7**
	219nm,0.5s,baz=68,slow=4.7,SNR=18								
LVC				S		**Sn**		**19 11 54.6**	**-0.3**
	530nm,0.5s,baz=32,slow=2.1,SNR=12								
LVC				LR		LR		19 12 11.4	
	comp=Z,155nm,18.3s,baz=292,slow=49								
LVC	**Limon Verde**	**1.24**	**259**	Pn		**Pn**		**19 11 32.2**	**+0.4**
LVC				Sn		**Sn**		**19 11 54.8**	**-0.1**
LVC	**Limon Verde**	**1.24**	**259**	*eP*		**Pn**		**19 11 32.4**	**+0.7**
LVC				*i* S		**Sn**		**19 11 55.0**	**+0.1**
LVC	**Limon Verde**	**1.24**	**259**	*eP*		**Pn**		**19 11 32.7**	**+0.8**
LVC				*eP*				19 11 32.8	
LVC				*eS*		**Sn**		**19 11 56.4**	**+1.5**
LVC	**Limon Verde**	**1.24**	**259**	*eP*		**Pn**		**19 11 32.7**	**+0.8**
LVC				*eP*				19 11 32.8	
LVC				*eS*		**Sn**		**19 11 56.4**	**+1.5**
LVC	**Limon Verde**	**1.24**	**259**	Pg		**Pn**		**19 11 32.3**	**+0.4**
LVC				Sg		**Sn**		**19 11 54.8**	**-0.1**
LVC	**Limon Verde**	**1.24**	**259**	*eP*		**Pn**		**19 11 32.5**	**+0.7**
PB09	**IPOC Station P**	**1.64**	**291**	Pn		**Pn**		**19 11 36.4**	**+1.1**
PB09				Sn		**Sn**		**19 12 01.1**	**0.0**
PB09	**IPOC Station P**	**1.64**	**291**	*iP*		**Pn**		**19 11 36.5**	**+1.1**
PB09				*i* S		**Sn**		**19 12 01.9**	**+0.8**
PB09				IAML				19 12 03.9	
	comp=N,1μm,0.7s								
PB09	**IPOC Station P**	**1.64**	**291**	*eP*		**Pn**		**19 11 36.0**	**+0.7**
PB09				*eS*		**Sn**		**19 12 02.3**	**+1.2**
PB09				IAML				19 12 03.0	
	comp=Z,2μm,0.6s								
PB09	**IPOC Station P**	**1.64**	**291**	*eP*		**Pn**		**19 11 36.0**	**+0.7**
PB09				*eS*		**Sn**		**19 12 02.3**	**+1.2**
PB09				IAML				19 12 03.0	
	comp=Z,2μm,0.6s								
PB06	**IPOC Station P**	**1.86**	**260**	Pn		**Pn**		**19 11 37.9**	**+0.3**
PB06	**IPOC Station P**	**1.86**	**260**	*eP*		**Pn**		**19 11 38.3**	**+0.7**
PB06				*i* S		**Sn**		**19 12 05.6**	**+0.4**
PB06				IAML				19 12 08.8	
	comp=E,1μm,0.6s								
PB06	**IPOC Station P**	**1.86**	**260**	*eP*		**Pn**		**19 11 38.0**	**+0.4**
PB06				*eP*				19 11 38.9	
PB06				*eS*		**Sn**		**19 12 06.8**	**+1.6**
PB06				IAML				19 12 07.3	
	comp=Z,670nm,0.1s								
PB06	**IPOC Station P**	**1.86**	**260**	*eP*		**Pn**		**19 11 38.0**	**+0.4**
PB06				*eP*				19 11 38.9	
PB06				*eS*		**Sn**		**19 12 06.8**	**+1.6**
PB06				IAML				19 12 07.3	
	comp=Z,670nm,0.1s								
PB06	**IPOC Station P**	**1.86**	**260**	Pg		**Pn**		**19 11 37.8**	**+0.3**
YJA	**Yavi**	**1.94**	**84**	*eP*		**Pn**		**19 11 38.0**	**-0.7**
YJA				*eP*				19 11 38.9	
YJA				*eS*		**Sn**		**19 12 07.0**	**-0.1**
YJA	**Yavi**	**1.94**	**84**	*eP*		**Pn**		**19 11 38.0**	**-0.7**
YJA				*eP*				19 11 38.9	
YJA				*eS*		**Sn**		**19 12 07.0**	**-0.1**
PB03	**IPOC Station P**	**2.03**	**279**	Pn		**Pn**		**19 11 39.6**	**+0.2**
PB03				Sn		**Sn**		**19 12 07.3**	**-1.1**
PB03	**IPOC Station P**	**2.03**	**279**	*iP*		**Pn**		**19 11 39.9**	**+0.6**
PB03				*i* S		**Sn**		**19 12 07.9**	**-0.5**
PB03				IAML				19 12 08.6	
	comp=N,3μm,0.4s								
PB03	**IPOC Station P**	**2.03**	**279**	*eP*		**Pn**		**19 11 40.0**	**+0.6**
PB03				*eS*		**Sn**		**19 12 08.1**	**-0.3**
PB03				IAML				19 12 09.1	
	comp=Z,2μm,0.4s								
PB03	**IPOC Station P**	**2.03**	**279**	*eP*		**Pn**		**19 11 40.0**	**+0.6**
PB03				*eS*		**Sn**		**19 12 08.1**	**-0.3**
PB03				IAML				19 12 09.1	
	comp=Z,2μm,0.4s								
PB01	**IPOC Station P**	**2.21**	**307**	Pn		**Pn**		**19 11 41.7**	**+0.4**
PB01	**IPOC Station P**	**2.21**	**307**	*iP*		**Pn**		**19 11 41.7**	**+0.4**
PB01				*i* S		**Sn**		**19 12 11.4**	**-0.5**
PB01				IAML				19 12 13.0	
	comp=N,2μm,0.4s								
PB01	**IPOC Station P**	**2.21**	**307**	*eP*		**Pn**		**19 11 41.0**	**-0.3**
PB01				*eS*		**Sn**		**19 12 11.9**	**0.0**
PB01				IAML				19 12 13.0	
	comp=Z,1μm,0.3s								
PB01	**IPOC Station P**	**2.21**	**307**	*eP*		**Pn**		**19 11 41.0**	**-0.3**
PB01				*eS*		**Sn**		**19 12 11.9**	**0.0**
PB01				IAML				19 12 13.0	
	comp=Z,1μm,0.3s								
PB07	**IPOC Station P**	**2.22**	**287**	Pn		**Pn**		**19 11 41.7**	**+0.1**
PB07				Sn		**Sn**		**19 12 10.8**	**-1.5**
PB07	**IPOC Station P**	**2.22**	**287**	*iP*		**Pn**		**19 11 42.2**	**+0.6**
PB07				*i* S		**Sn**		**19 12 11.4**	**-0.9**
PB07				IAML				19 12 12.2	
	comp=N,3μm,0.1s								
PB07	**IPOC Station P**	**2.22**	**287**	*eP*		**Pn**		**19 11 41.0**	**-0.6**
PB07				*eP*				19 11 42.1	
PB07				*eS*		**Sn**		**19 12 12.4**	**+0.1**
PB07				IAML				19 12 13.9	
	comp=Z,2μm,0.8s								
PB07	**IPOC Station P**	**2.22**	**287**	*eP*		**Pn**		**19 11 41.0**	**-0.6**
PB07				*eP*				19 11 42.1	
PB07				*eS*		**Sn**		**19 12 12.4**	**+0.1**
PB07				IAML				19 12 13.9	
	comp=Z,2μm,0.8s								
PB04	**IPOC Station P**	**2.37**	**271**			**Pn**		**19 11 42.3**	**-0.9**
PB04	**IPOC Station P**	**2.37**	**271**	*iP*		**Pn**		**19 11 43.7**	**+0.5**
PB04				*i* S		**Sn**		**19 12 14.3**	**-0.9**
PB04				IAML				19 12 19.8	
	comp=N,2μm,0.4s								
PB04	**IPOC Station P**	**2.37**	**271**	*eP*		**Pn**		**19 11 43.7**	**+0.5**
PB04				*eS*		**Sn**		**19 12 15.5**	**+0.3**
PB04				IAML				19 12 19.6	
	comp=Z,1μm,0.5s								
PB04	**IPOC Station P**	**2.37**	**271**	*eP*		**Pn**		**19 11 43.7**	**+0.5**
PB04				*eS*		**Sn**		**19 12 15.5**	**+0.3**
PB04				IAML				19 12 19.6	
	comp=Z,1μm,0.5s								
PB04	**IPOC Station P**	**2.37**	**271**	Pg		**Pn**		**19 11 43.6**	**+0.4**
PB04				Sg		**Sn**		**19 12 14.4**	**-0.8**
PB02	**IPOC Station P**	**2.38**	**296**			**Pn**		**19 11 43.5**	**+0.2**
PB02	**IPOC Station P**	**2.38**	**296**	*iP*		**Pn**		**19 11 43.6**	**+0.2**
PB02				*i* S		**Sn**		**19 12 14.2**	**-1.2**
PB02				IAML				19 12 15.3	
	comp=N,2μm,0.3s								
PB02	**IPOC Station P**	**2.38**	**296**	*eP*		**Pn**		**19 11 43.7**	**+0.3**
PB02				*eS*		**Sn**		**19 12 15.0**	**-0.5**
PB02				IAML				19 12 16.8	
	comp=Z,2μm,0.4s								
PB02	**IPOC Station P**	**2.38**	**296**	*eP*		**Pn**		**19 11 43.7**	**+0.3**
PB02				*eS*		**Sn**		**19 12 15.0**	**-0.5**
PB02				IAML				19 12 16.8	
	comp=Z,2μm,0.4s								
PB02	**IPOC Station P**	**2.38**	**296**	Pg		**Pn**		**19 11 43.6**	**+0.3**
PB02				Sg		**Sn**		**19 12 13.9**	**-1.6**
PB02				IAML				19 12 15.0	
	comp=Z,2μm,0.3s								
PATCX	**Punta Patache**	**2.84**	**303**			**Pn**		**19 11 47.9**	**-0.8**
PATCX	**Punta Patache**	**2.84**	**303**	*iP*		**Pn**		**19 11 48.5**	**-0.2**
PATCX				*i* S		**Sn**		**19 12 23.4**	**-1.8**
PATCX				IAML				19 12 25.6	
	comp=N,1μm,0.2s								
PATCX	**Punta Patache**	**2.84**	**303**	*eP*		**Pn**		**19 11 48.6**	**-0.2**
PATCX				*eS*		**Sn**		**19 12 24.6**	**-0.6**
PATCX				IAML				19 12 27.0	
	comp=Z,593nm,0.3s								
PATCX	**Punta Patache**	**2.84**	**303**	*eP*		**Pn**		**19 11 48.6**	**-0.2**
PATCX				*eS*		**Sn**		**19 12 24.6**	**-0.6**
PATCX				IAML				19 12 27.0	
	comp=Z,593nm,0.3s								
PB10	**IPOC Station P**	**2.95**	**247**			**Pn**		**19 11 49.4**	**-0.5**
PB10	**IPOC Station P**	**2.95**	**247**	*iP*		**Pn**		**19 11 50.0**	**+0.1**
PB10				*i* S		**Sn**		**19 12 25.8**	**-1.5**
PB10				IAML				19 12 27.4	
	comp=N,318nm,0.7s								
PB10	**IPOC Station P**	**2.95**	**247**	*eP*		**Pn**		**19 11 50.0**	**+0.1**
PB10				*eP*				19 11 50.4	
PB10				*eS*		**Sn**		**19 12 27.0**	**-0.3**
PB10	**IPOC Station P**	**2.95**	**247**	*eP*		**Pn**		**19 11 50.0**	**+0.1**
PB10				*eP*				19 11 50.4	
PB10				*eS*		**Sn**		**19 12 27.0**	**-0.3**
HMBC	**Humberstone**	**2.99**	**314**	*iP*		**Pn**		**19 11 49.9**	**-0.6**
HMBC				*i* S		**Sn**		**19 12 26.9**	**-1.5**
HMBC				IAML				19 12 28.5	
	comp=N,2μm,0.5s								
TA01	**Diego Aracena**	**3.01**	**306**			**Pn**		**19 11 50.0**	**-0.7**
TA01	**Diego Aracena**	**3.01**	**306**	*eP*		**Pn**		**19 11 50.2**	**-0.5**
TA01				*i* S		**Sn**		**19 12 26.7**	**-1.9**
TA01	**Diego Aracena**	**3.01**	**306**	*eS*		**Sn**		**19 12 27.3**	**-1.3**
TA01				IAML				19 12 28.8	
	comp=Z,497nm,0.7s								
TA01	**Diego Aracena**	**3.01**	**306**	*eS*		**Sn**		**19 12 27.3**	**-1.3**
TA01				IAML				19 12 28.8	
	comp=Z,497nm,0.7s								
TA01	**Diego Aracena**	**3.01**	**306**	Pg		**Pn**		**19 11 50.4**	**-0.3**
SLA	**San Lorenzo**	**3.02**	**141**	*eP*		**Pn**		**19 11 51.0**	**+0.1**
SLA	**San Lorenzo**	**3.02**	**141**	*eP*		**Pn**		**19 11 51.0**	**+0.1**
GO01	**Chusmiza**	**3.08**	**331**			**Pn**		**19 11 52.6**	**+0.5**
GO01	**Chusmiza**	**3.08**	**331**	*iP*		**Pn**		**19 11 52.7**	**+0.6**
GO01				*i* S		**Sn**		**19 12 31.1**	**+0.1**
GO01				IAML				19 12 34.6	
	comp=N,1μm,0.1s								
GO01	**Chusmiza**	**3.08**	**331**	*eP*		**Pn**		**19 11 52.0**	**-0.1**
GO01				*eS*		**Sn**		**19 12 32.7**	**+1.6**
GO01	**Chusmiza**	**3.08**	**331**	*eP*		**Pn**		**19 11 52.0**	**-0.1**
GO01				*eS*		**Sn**		**19 12 32.7**	**+1.6**
GO01	**Chusmiza**	**3.08**	**331**	Pg		**Pn**		**19 11 52.6**	**+0.5**
TA02	**Huaiquique**	**3.16**	**311**			**Pn**		**19 11 51.5**	**-1.1**
TA02	**Huaiquique**	**3.16**	**311**	Pg		**Pn**		**19 11 53.4**	**+0.9**
PB11	**IPOC Station P**	**3.24**	**323**			**Pn**		**19 11 51.8**	**-1.9**
PB11	**IPOC Station P**	**3.24**	**323**	*iP*		**Pn**		**19 11 53.3**	**-0.4**
PB11				*i* S		**Sn**		**19 12 32.7**	**-1.3**
PB11	**IPOC Station P**	**3.24**	**323**	*eP*		**Pn**		**19 11 52.0**	**-1.7**
PB11				*eP*				19 11 53.2	
PB11				*eS*		**Sn**		**19 12 32.8**	**-1.3**
PB11				IAML				19 12 37.1	
	comp=Z,530nm,0.4s								
PB11	**IPOC Station P**	**3.24**	**323**	*eP*		**Pn**		**19 11 52.0**	**-1.7**
PB11				*eP*				19 11 53.2	
PB11				*eS*		**Sn**		**19 12 32.8**	**-1.3**
PB11				IAML				19 12 37.1	
	comp=Z,530nm,0.4s								
ASTB	**Santa Barbara**	**3.29**	**119**	*eP*		**Pn**		**19 11 54.0**	**-0.2**
ASTB				*eS*		**Sn**		**19 12 37.2**	**+2.2**
ASTB	**Santa Barbara**	**3.29**	**119**	*eP*		**Pn**		**19 11 54.0**	**-0.2**
ASTB				*eS*		**Sn**		**19 12 37.2**	**+2.2**
PB14	**IPOC Station P**	**3.41**	**229**			**Pn**		**19 11 55.8**	**-0.1**
PB14	**IPOC Station P**	**3.41**	**229**	*iP*		**Pn**		**19 11 56.1**	**+0.2**
PB14				*i* S		**Sn**		**19 12 36.9**	**-1.2**
PB14	**IPOC Station P**	**3.41**	**229**	*eP*		**Pn**		**19 11 56.4**	**+0.5**
PB14				*eS*		**Sn**		**19 12 37.2**	**-0.9**
PB14	**IPOC Station P**	**3.41**	**229**	*eP*		**Pn**		**19 11 56.4**	**+0.5**
PB14				*eS*		**Sn**		**19 12 37.2**	**-0.9**
ALOL	**LOMAS DE OLMED**	**3.62**	**114**	*eP*		**Pn**		**19 11 57.3**	**-0.9**
ALOL				*eS*		**Sn**		**19 12 42.5**	**+0.3**
ALOL	**LOMAS DE OLMED**	**3.62**	**114**	*eP*		**Pn**		**19 11 57.3**	**-0.9**
ALOL				*eS*		**Sn**		**19 12 42.5**	**+0.3**
PSGC	**Pisagua**	**3.64**	**319**	*eP*		**Pn**		**19 11 57.5**	**-1.0**
PSGC				*i* S		**Sn**		**19 12 39.5**	**-3.3**
PSGCX	**Pisagua**	**3.64**	**319**			**Pn**		**19 11 56.3**	**-2.3**
PSGCX	**Pisagua**	**3.64**	**319**	*eP*		**Pn**		**19 11 57.6**	**-1.0**
PSGCX				*eS*		**Sn**		**19 12 41.5**	**-1.3**
PSGCX				IAML				19 12 42.1	
	comp=Z,295nm,0.4s								
PSGCX	**Pisagua**	**3.64**	**319**	*eP*		**Pn**		**19 11 57.6**	**-1.0**
PSGCX				*eS*		**Sn**		**19 12 41.5**	**-1.3**
PSGCX				IAML				19 12 42.1	
	comp=Z,295nm,0.4s								
MNMC	**Minye Minye**	**3.74**	**330**			**Pn**		**19 12 00.0**	**0.0**
MNMC	**Minye Minye**	**3.74**	**330**	*iP*		**Pn**		**19 11 60.0**	**0.0**
MNMC				*i* S		**Sn**		**19 12 44.3**	**-1.0**
MNMCX	**Minye Minye**	**3.74**	**330**	*eP*		**Pn**		**19 11 59.0**	**-1.0**
MNMCX				*eS*		**Sn**		**19 12 45.2**	**-0.1**
MNMCX				IAML				19 12 46.7	
	comp=Z,1μm,0.5s								
PB16	**IPOC Station P**	**4.41**	**336**			**Pn**		**19 12 08.7**	**-0.1**
PB16	**IPOC Station P**	**4.41**	**336**	*iP*		**Pn**		**19 12 09.2**	**+0.4**
PB16				*i* S		**Sn**		**19 12 58.1**	**-2.9**
PB16	**IPOC Station P**	**4.41**	**336**	*eP*		**Pn**		**19 12 08.0**	**-0.8**
PB16				*eS*		**Sn**		**19 12 56.2**	**-4.9**
PB16	**IPOC Station P**	**4.41**	**336**	*eP*		**Pn**		**19 12 08.0**	**-0.8**
PB16				*eS*		**Sn**		**19 12 56.2**	**-4.9**
PB12	**IPOC Station P**	**4.54**	**325**			**Pn**		**19 12 08.4**	**-1.7**
PB12	**IPOC Station P**	**4.54**	**325**	*iP*		**Pn**		**19 12 08.2**	**-1.9**
PB12				*i* S		**Sn**		**19 13 00.5**	**-3.0**
PB12	**IPOC Station P**	**4.54**	**325**	*eP*		**Pn**		**19 12 08.5**	**-1.6**
PB12				*eS*		**Sn**		**19 13 00.4**	**-3.0**
PB12	**IPOC Station P**	**4.54**	**325**	*eP*		**Pn**		**19 12 08.5**	**-1.6**
PB12				*eS*		**Sn**		**19 13 00.4**	**-3.0**
AC01	**Pan de Azucar**	**4.65**	**216**			**Pn**		**19 12 09.9**	**-1.4**
AC02	**Maricunga**	**4.65**	**197**			**Pn**		**19 12 10.2**	**-1.6**
AP01	**Chacalluta**	**4.75**	**327**	Pn		**Pn**		**19 12 10.4**	**-2.2**
AP01	**Chacalluta**	**4.75**	**327**	*eP*		**Pn**		**19 12 12.5**	**-0.2**
AP01				*eS*		**Sn**		**19 13 05.2**	**-3.0**
AP01	**Chacalluta**	**4.75**	**327**	*eP*		**Pn**		**19 12 12.5**	**-0.2**
AP01				*eS*		**Sn**		**19 13 05.2**	**-3.0**
BBOE	**La Paz, Chanca**	**5.55**	**356**	Pg		**Pn**		**19 12 25.8**	**+2.2**
AC06	**Mina Casimiro**	**5.55**	**206**	Pn		**Pn**		**19 12 20.9**	**-2.2**
GO03	**Copiap**	**5.72**	**204**			**Pn**		**19 12 22.9**	**-2.3**
GO03						**Sn**		**19 13 27.0**	**-3.9**
BBOD	**La Paz, Gloria**	**5.79**	**350**	Pg		**Pn**		**19 12 28.6**	**+1.8**
LPAZ	**La Paz**	**6.08**	**355**	P		**Pn**		**19 12 31.7**	**+1.0**
	comp=Z,14nm,0.3s,baz=128,slow=4.1,SNR=71								
LPAZ				S		**Sn**		**19 13 38.0**	**-2.3**
	comp=Z,7.1nm,0.6s,baz=137,slow=19,SNR=4.7								
LPAZ	**La Paz**	**6.08**	**355**			**Pn**		**19 12 30.7**	**+0.1**
LPAZ	**La Paz**	**6.08**	**355**	Pg		**Pn**		**19 12 31.5**	**+0.9**
LPAZ	**La Paz**	**6.08**	**355**	*eP*		**Pn**		**19 12 31.6**	**+1.0**
AC04	**Llanos de Chal**	**6.60**	**208**	Pn		**Pn**		**19 12 33.9**	**-2.9**
AC04						**Sn**		**19 13 45.4**	**-6.2**
AC05	**El Transito**	**6.87**	**200**	Pn		**Pn**		**19 12 38.6**	**-1.8**
LCO	**Las Campanas**	**7.17**	**202**	Pn		**Pn**		**19 12 41.4**	**-3.1**
CO05	**La Serena**	**8.19**	**203**	Pn		**Pn**		**19 12 54.7**	**-3.0**
GO04	**Tololo Observa**	**8.28**	**200**	Pn		Pn		19 12 54.2	-4.9
SIV	**San Ignacio**	**8.85**	**45**	P		**Pn**		**19 13 03.4**	**-3.1**
	comp=Z,34nm,0.3s,baz=232,slow=7.6,SNR=156								
SIV				S		Sn		19 14 36.0	-9.5
	comp=Z,9.0nm,0.5s,baz=228,slow=17,SNR=5.7								
CFA	**Coronel Fontan**	**9.21**	**183**	P		**Pn**		**19 13 09.9**	**-1.2**
	comp=Z,4.3nm,0.3s,baz=311,slow=13,SNR=4.0								
CFA				S		**Sn**		**19 14 46.1**	**-7.7**
	comp=Z,2.2nm,0.3s,baz=34,slow=9.5,SNR=2.2								
PTLB	**Pontes e Lacer**	**10.56**	**51**	Pn		**Pn**		**19 13 25.5**	**-3.4**
PTLB	**Pontes e Lacer**	**10.56**	**51**	*eP*		**Pn**		**19 13 25.9**	**-3.0**
VILB	**Vilhena**	**11.72**	**38**	Pn		**Pn**		**19 13 42.3**	**-1.7**
VILB	**Vilhena**	**11.72**	**38**	*eP*		**Pn**		**19 13 42.7**	**-1.3**
ETMB	**Extrema**	**12.56**	**6**	*eP*		**Pn**		**19 13 52.5**	**-2.2**
SALV	**Santo Antonio**	**12.96**	**62**	*eP*		**Pn**		**19 13 58.8**	**-0.9**
CLDB	**Colider**	**16.07**	**47**	*eP*		**P**		**19 14 37.8**	**-0.4**
ARAG	**Araguaiana, MT**	**16.32**	**69**	*eP*		**P**		**19 14 40.7**	**-0.2**
TRQA	**Tornquist**	**16.35**	**164**	P		**Pn**		**19 14 41.6**	**+0.2**
TRQA				IAmb		IAmb		19 14 42.7	
	comp=Z,5.2nm,0.6s								
GO06	**Curarrehue**	**17.46**	**190**	P		**Pn**		**19 14 54.9**	**0.0**
GO06				IAmb		IAmb		19 14 56.6	
	comp=Z,9.3nm,0.8s								
ATAH	**Atahualpa**	**18.39**	**324**	P		**Pn**		**19 15 08.1**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=90,slow=8.7,SNR=1.8								
PLCA	**Paso Flores**	**18.47**	**187**	P		**Pn**		**19 15 05.9**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=12,slow=11,SNR=8.5								
SNDB	**Serra Nova Dou**	**18.68**	**59**	*eP*		**P**		**19 15 06.1**	**-0.6**
IPMB	**Ipameri, GO**	**18.71**	**80**	*eP*		**P**		**19 15 07.3**	**+0.2**
LL04	**Puerto Octay**	**18.92**	**191**			**P**		**19 15 10.2**	**+1.1**
NPGB	**Novo Progresso**	**19.28**	**40**	*eP*		**P**		**19 15 11.6**	**-1.6**
BDFB	**Brasilia**	**19.68**	**73**	P		**P**		**19 15 17.5**	**-0.1**
	comp=Z,4.5nm,0.6s

*DDA **26** 19:52:13.7±0.0,38.°64N×25.°52E,h7km±5km,ML2.3*
ISC 26 19:52:12.6±1.0,**38.°60N**±0.°03×**25.°34E**±0.°03,**h16**km±7km,
n37,σ0**972**/50,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PSRA	**Psara**	**0.18**	**108**	P	**Pg**		**19 52 17.6**	**+0.5**
PSRA				S	**Sg**		**19 52 20.0**	**0.0**
PSRA				AML	AML		19 52 20.7	
	comp=N,6687μm,0.2s							
PSRA				AML	AML		19 52 22.6	
	comp=E,5418μm,0.2s							
CHOS	**Chios island**	**0.60**	**110**	P	**Pg**		**19 52 24.2**	**-0.2**
CHOS				S	**Sg**		**19 52 31.8**	**-0.6**
	comp=E,570nm,0.3s							
CHOS	**Chios island**	**0.60**	**110**	Pg	**Pg**		**19 52 24.2**	**-0.2**
CHOS	**Chios island**	**0.60**	**110**	P	**Pg**		**19 52 24.4**	**0.0**
CHOS				S	**Sb**		**19 52 32.9**	**-0.1**
CHOS				AML	AML		19 52 35.9	
	comp=E,1350μm,0.5s							
CHOS				AML	AML		19 52 36.9	
	comp=N,936μm,0.2s							
SIGR	**SIGRI**	**0.73**	**33**	P	**Pg**		**19 52 26.7**	**-0.2**
SIGR				S	**Sg**		**19 52 36.3**	**-0.3**
	comp=N,370nm,0.4s							
SIGR	**SIGRI**	**0.73**	**33**	Pg	**Pg**		**19 52 26.7**	**-0.2**
SIGR	**SIGRI**	**0.73**	**33**	P	**Pg**		**19 52 26.7**	**-0.2**
SIGR				S	**Sb**		**19 52 36.8**	**0.0**
SIGR				AML	AML		19 52 40.3	
	comp=E,488μm,0.5s							
SIGR				AML	AML		19 52 41.3	
	comp=N,986μm,0.4s							
KYMI	**Kymi, Euboea I**	**0.97**	**273**	P	**Pg**		**19 52 30.9**	**-0.6**
KYMI	**Kymi, Euboea I**	**0.97**	**273**	P	**Pg**		**19 52 31.1**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**0.98**	**111**	P	**Pg**		**19 52 30.1**	**-1.4**
ZEYE				S	**Sg**		**19 52 43.3**	**-1.1**
ZEYE				*i* AML	AML		19 52 47.0	
	comp=N,73nm,0.6s							
TNSA	**Tinos**	**1.06**	**188**	P	**Pg**		**19 52 32.9**	**-0.3**
KOCA	**Canakkale, Ayv**	**1.10**	**34**	P	**Pg**		**19 52 32.3**	**-1.5**
KOCA				S	**Sb**		**19 52 47.6**	**+0.3**
KOCA				*i* AML	AML		19 52 52.0	
	comp=N,118nm,0.6s							
KOCA				*i* AML	AML		19 52 54.0	
	comp=N,78nm,0.9s							
DION	**Dionisos Attik**	**1.22**	**245**	P	**Pn**		**19 52 35.2**	**+0.1**
DION	**Dionisos Attik**	**1.22**	**245**	P	**Pn**		**19 52 35.1**	**+0.1**
PTL	**Penteli**	**1.28**	**245**	P	**Pn**		**19 52 35.8**	**-0.1**
PTL				S	**Sn**		**19 52 55.1**	**+2.3**
	comp=N,90nm,0.8s							
PTL	**Penteli**	**1.28**	**245**	P	**Pn**		**19 52 36.0**	**+0.1**
DKL	**Dikili**	**1.31**	**68**	Pn	**Pb**		**19 52 37.1**	**+0.3**
DGB	**zmir**	**1.33**	**114**	P	**Pb**		**19 52 37.5**	**+0.4**
DGB				S	**Sb**		**19 52 53.7**	**-0.2**
BLCB	**Balcova**	**1.35**	**98**	Pn	**Pn**		**19 52 37.4**	**+0.6**
ATHU	**Athens Univers**	**1.38**	**243**	P	**Pn**		**19 52 37.5**	**+0.3**
ATHU	**Athens Univers**	**1.38**	**243**	P	**Pn**		**19 52 36.4**	**-0.8**
ZEDA	**zmir-Bergama**	**1.41**	**74**	P	**Pn**		**19 52 38.2**	**+0.7**
ZEDA				S	**Sb**		**19 52 54.7**	**-1.4**
VLY	**Voula,Athens**	**1.43**	**239**	P	**Pn**		**19 52 38.3**	**+0.4**
VLY	**Voula,Athens**	**1.43**	**239**	P	**Pn**		**19 52 37.3**	**-0.6**
EZN	**Ezine**	**1.45**	**32**	Pn	**Pn**		**19 52 38.7**	**+0.6**
SMG	**Samos**	**1.47**	**127**	P	**Pn**		**19 52 38.8**	**+0.3**
SMG				S	**Sn**		**19 52 57.7**	**+0.2**
	comp=N,128nm,0.3s							
BAYC	**CANAKKALE_Bayr**	**1.48**	**39**	P	**Pn**		**19 52 38.4**	**-0.1**
APE	**Apeiranthos**	**1.53**	**174**	Pn	**Pn**		**19 52 38.2**	**-1.1**
APE	**Apeiranthos**	**1.53**	**174**	P	**Pn**		**19 52 40.3**	**+0.9**
ECEA	**Canakkale, Ece**	**1.58**	**24**	P	**Pn**		**19 52 41.0**	**+1.1**
ECEA				S	**Sn**		**19 52 59.9**	**-0.2**
ECEA				*i* AML	AML		19 53 10.0	
	comp=N,92nm,0.7s							
ECEA				*i* AML	AML		19 53 11.0	
	comp=N,91nm,0.4s							
BUHA	**Balikesir, Bur**	**1.62**	**56**	P	**Pb**		**19 52 42.6**	**+0.4**
BUHA				S	**Sb**		**19 53 02.7**	**+0.3**
BUHA				*i* AML	AML		19 53 09.0	
	comp=N,51nm,0.7s							
BUHA				*i* AML	AML		19 53 10.0	
	comp=N,29nm,0.5s							
GADA	**Gvkgeada**	**1.65**	**15**	Pn	**Pn**		**19 52 40.7**	**-0.2**
VIL2	**Platees**	**1.68**	**257**	P	**Pn**		**19 52 40.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**2.00**	**26**	Pn	**Pn**		**19 52 46.2**	**+0.5**
STEP	**BALIKESIR_Sava**	**2.01**	**66**	P	**Pg**		**19 52 50.1**	**-1.0**
STEP				*i* AML	AML		19 53 22.0	
	comp=N,18nm,0.4s							
STEP				*i* AML	AML		19 53 24.0	
	comp=N,48nm,1.1s							
BALB	**Balikesir**	**2.23**	**61**	Pn	**Pn**		**19 52 49.9**	**+1.0**
KLV	**Kalavryta, Ach**	**2.57**	**259**	P	**Pn**		**19 52 53.6**	**0.0**

*KRNET **26** 19:55:07.1±0.1,39.°41N×73.°26E,mb3.3*
*SOME **26** 19:55:10.6,39.°75N×73.°05E,h15km*
*NNC **26** 19:55:14.6±1.8,39.°74N×73.°53E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=14.0km s-min=7.6km az=172.0
ISC 26 19:55:10.2±1.5,**39.°75N**±0.°05×**73.°09E**±0.°03,**h5**km±11km,
n64,σ2**955**/84,**29C-19D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OHH	**Osh**	**0.81**	**343**	⇑*i*P	**Pn**		**19 55 29.4**	**+1.0**
	baz=42							
OHH				⇑*i*S	**Sn**		**19 55 45.5**	**+4.7**
	baz=42							
DRK	**Karamyk**	**1.03**	**255**	⇑*i*P	**Pb**		**19 55 28.4**	**-2.3**
	baz=74							
DRK				⇑*i*S	**Sn**		**19 55 44.8**	**-1.7**
	baz=74							
BTK	**Batken**	**1.77**	**281**	⇑*i*P	**Pg**		**19 55 44.1**	**-0.2**
	baz=90							
BTK				⇑*i*S	**Sg**		**19 56 10.9**	**+3.6**
	baz=90							
ARK	**Arkit**	**2.22**	**338**	⇑*i*P	**Pg**		**19 55 52.2**	**-0.6**
	baz=38							
ARK				⇑*i*S	**Sg**		**19 56 25.4**	**+3.8**
	baz=38							
ARLS	**Aral**	**2.31**	**24**	⇑*i*P	**Pb**		**19 55 52.1**	**-0.4**
	baz=18							
ARLS				⇑*i*S	**Sg**		**19 56 24.7**	**+0.2**
	baz=18							
TRKS	**Terek-Say**	**2.32**	**321**	⇓*i*P	**Pb**		**19 55 52.3**	**-0.3**
	baz=23							
TRKS				⇓*i*S	**Sg**		**19 56 25.4**	**+0.7**
	baz=23							
AML	**Almayashu**	**2.43**	**11**	P	**Pb**		**19 55 55.0**	**+0.5**
	SNR=32							
AML	**Almayashu**	**2.43**	**11**	⇑*i*P	**Pb**		**19 55 54.7**	**+0.1**
	baz=7.0							
AML				⇑*i*S	**Sg**		**19 56 29.3**	**+1.1**
	baz=7.0							
UCH	**Uchtor**	**2.70**	**23**	P	**Pb**		**19 55 58.7**	**-0.6**
	SNR=19							
UCH	**Uchtor**	**2.70**	**23**	⇑*i*P	**Pb**		**19 55 57.8**	**-1.5**
	baz=18							
UCH				⇑*i*S	**Sb**		**19 56 34.7**	**+1.8**
	baz=18							
NRN	**Naryn**	**2.78**	**52**	⇑*i*P	**Pn**		**19 55 56.3**	**+0.6**
	baz=45							
NRN				⇑*i*S	**Sb**		**19 56 32.2**	**-2.9**
	baz=45							
EKS2	**Erkin-Say**	**2.96**	**10**	P	**Pb**		**19 56 03.2**	**-0.3**
	SNR=12							
EKS2	**Erkin-Say**	**2.96**	**10**	⇓*i*P	**Pb**		**19 56 01.6**	**-1.9**
	baz=7.0							
EKS2				⇓*i*S	**Sb**		**19 56 41.8**	**+1.8**
	baz=7.0							
MRKS	**Merke**	**3.00**	**2**	Pg	**Pg**		**19 56 07.0**	**-0.7**
	9.5nm,0.3s							
MRKS				Lg	Lg		19 56 47.6	
	20nm,0.4s							
MRKS	**Merke**	**3.00**	**2**	*e*Pg	**Pb**		**19 56 03.7**	**-0.4**
	9.5nm,0.3s							
MRKS				*e*Lg	Lg		19 56 41.9	
	20nm,0.4s							
AAK	**Ala-Archa**	**3.08**	**20**	P	**Pb**		**19 56 04.3**	**-1.2**
	SNR=25							
AAK	**Ala-Archa**	**3.08**	**20**	⇓*i*P	**Pb**		**19 56 03.0**	**-2.5**
	baz=16							
AAK				⇓*i*S	**Sb**		**19 56 43.7**	**+0.3**
	baz=16							
KBK	**Karagaybulak**	**3.23**	**25**	P	**Pb**		**19 56 06.5**	**-1.6**
	SNR=9.9							
KBK	**Karagaybulak**	**3.23**	**25**	⇓*i*P	**Pb**		**19 56 04.8**	**-3.3**
	baz=21							
KBK				⇓*i*S	**Sb**		**19 56 46.7**	**-1.1**
	baz=21							
FRU1	**Bishkek**	**3.27**	**20**	⇑*i*P	**Pb**		**19 56 05.9**	**-2.9**
	baz=16							
FRU1				⇑*i*S	**Sb**		**19 56 48.7**	**-0.3**
	baz=16							
TAS	**Tashkent**	**3.29**	**300**	⇑*i*P	**Pb**		**19 56 06.1**	**-3.0**
	baz=4.0							
TAS				⇑*i*S	**Sb**		**19 56 49.1**	**-0.4**
	baz=4.0							
IUG	**Iuzhnay**	**3.33**	**317**	Pg	**Pb**		**19 56 10.7**	**+0.8**
	8.8nm,0.4s							
IUG				Lg	Lg		19 56 55.0	
	35nm,0.5s							
IUG	**Iuzhnay**	**3.33**	**317**	*e*Pg	**Pb**		**19 56 10.1**	**+0.2**
	8.8nm,0.4s							
IUG				*e*Lg	Lg		19 56 52.5	
	35nm,0.5s							
ULHL	**Ulahol**	**3.45**	**43**	⇑*i*P	**Pn**		**19 56 06.7**	**+1.9**
	baz=38							
ULHL				⇑*i*S	**Sb**		**19 56 50.3**	**-4.0**
	baz=38							
CHMS	**Chumysh**	**3.48**	**21**	⇑Pn	**Pb**		**19 56 09.3**	**-3.0**
	4.8nm,0.6s							
CHMS				⇓Lg	Lg		19 57 03.4	
	5.5nm,0.6s							
CHMS	**Chumysh**	**3.48**	**21**	⇓*i*P	**Pb**		**19 56 08.4**	**-3.9**
	baz=17							
CHMS				⇓*i*S	**Sb**		**19 56 53.1**	**-1.8**
	baz=17							
USP	**Ospenovka**	**3.67**	**16**	P	**Pb**		**19 56 12.2**	**-3.4**
	SNR=7.0							
USP	**Ospenovka**	**3.67**	**16**	⇑*i*P	Pb		19 56 11.3	-4.3
	baz=13							
USP				⇑*i*S	**Sb**		**19 56 58.0**	**-2.4**
	baz=13							
TKM2	**Tokmak 2**	**3.69**	**30**	P	**Pg**		**19 56 20.2**	**-0.7**
	SNR=6.1							
TKM2	**Tokmak 2**	**3.69**	**30**	⇑Pg	**Pb**		**19 56 18.4**	**+2.4**
	3.8nm,0.4s							
TKM2				⇑Lg	Lg		19 57 07.5	
	14nm,0.7s							
TKM2	**Tokmak 2**	**3.69**	**30**	⇓*i*P	**Pn**		**19 56 11.1**	**+3.0**
	baz=26							
TKM2				⇓*e*S	**Sb**		**19 56 57.5**	**-3.6**
	baz=26							
KK31	**Karatay Array**	**3.87**	**331**	⇓Pn	**Pb**		**19 56 16.3**	**-2.7**
	1.0nm,0.3s,baz=26,slow=47,SNR=20							
KK31				⇑Pg	**Pg**		**19 56 27.3**	**+2.8**
	1.5nm,0.3s,baz=140,slow=16,SNR=13							
KK31				⇑Sn	**Sb**		**19 57 09.1**	**+2.9**
	2.1nm,0.3s,baz=163,slow=25,SNR=4.9							
KK31				⇓Lg	Lg		19 57 25.3	
	3.2nm,0.3s,baz=140,slow=32							
SGDS	**Sogindy**	**3.88**	**17**	Pg	**Pg**		**19 56 22.9**	**-1.7**
	5.7nm,0.7s							
SGDS				Lg	Lg		19 57 14.5	
	7.7nm,0.5s							
KDJ	**Kajisay**	**3.91**	**51**	⇓*i*P	**Pn**		**19 56 12.4**	**+1.4**
	baz=47							
KDJ				⇓*i*S	**Sn**		**19 57 00.0**	**+2.7**
	baz=47							
KST	**Kastek**	**3.94**	**32**	Pg	**Pb**		**19 56 22.6**	**+2.4**
	3.4nm,0.6s							
KST				Lg	Lg		19 57 14.2	
	32nm,0.8s							
KST	**Kastek**	**3.94**	**32**	*e*Pg	**Pb**		**19 56 22.6**	**+2.4**
	3.4nm,0.6s							
KST				*e*Lg	Lg		19 57 14.2	
	32nm,0.8s							
DGS	**Degeres**	**4.03**	**29**	Pg	**Pg**		**19 56 25.6**	**-1.9**
	6.8nm,0.5s							
DGS				Lg	Lg		19 57 19.8	
	17nm,0.9s							
DGS	**Degeres**	**4.03**	**29**	*e*Pg	**Pg**		**19 56 25.6**	**-1.9**
	6.8nm,0.5s							
DGS				*e*Lg	Lg		19 57 19.8	
	17nm,0.9s							
MTBS	**Maitube**	**4.21**	**36**	Pg	**Pg**		**19 56 28.6**	**-2.3**
	3.1nm,0.3s							
MTBS				Lg	Lg		19 57 24.7	
	12nm,0.6s							
MTBS	**Maitube**	**4.21**	**36**	*e*Pg	**Pg**		**19 56 28.6**	**-2.3**
	3.1nm,0.3s							
MTBS				*e*Lg	Lg		19 57 24.7	
	12nm,0.6s							
IZV	**Izvestkoviy**	**4.22**	**38**	Pg	**Pg**		**19 56 28.4**	**-2.7**
	2.7nm,0.6s							
IZV				Lg	Lg		19 57 24.7	
	15nm,0.8s							
IZV	**Izvestkoviy**	**4.22**	**38**	*e*Pg	**Pg**		**19 56 28.4**	**-2.7**
	2.7nm,0.6s							
IZV				*e*Lg	Lg		19 57 24.7	
	15nm,0.8s							
TNSS	**Tian-Shan**	**4.38**	**40**	Pg	**Pg**		**19 56 31.7**	**-2.5**
	3.9nm,0.5s							
TNSS				Lg	Lg		19 57 29.8	
	9.5nm,0.6s							
TNSS	**Tian-Shan**	**4.38**	**40**	*e*Pg	**Pg**		**19 56 31.7**	**-2.5**
	3.9nm,0.5s							
TNSS				*e*Lg	Lg		19 57 29.8	
	9.5nm,0.6s							
KRBS	**Karabastau**	**4.39**	**25**	Pg	**Pg**		**19 56 31.8**	**-2.7**
	4.4nm,0.4s							
KRBS				Lg	Lg		19 57 30.1	
	12nm,0.8s							
KRBS	**Karabastau**	**4.39**	**25**	*e*Pg	**Pg**		**19 56 31.8**	**-2.7**
	4.4nm,0.4s							
KRBS				*e*Lg	Lg		19 57 30.1	
	12nm,0.8s							
MDOK	**Medeo**	**4.53**	**40**	Pg	**Pb**		**19 56 33.3**	**+3.0**
	2.5nm,0.5s							
MDOK				Pg	**Pg**		**19 56 36.1**	**-0.9**
	4.0nm,0.6s							
MDOK				Lg	Lg		19 57 33.0	
	10nm,0.3s							
MDOK				Lg	Lg		19 57 34.0	
	12nm,0.6s							
MDOK	**Medeo**	**4.53**	**40**	*e*Pg	**Pb**		**19 56 33.3**	**+3.0**
	2.5nm,0.5s							
MDOK				*e*Lg	Lg		19 57 33.0	
	10nm,0.3s							
ANVS	**Anan'yevo**	**4.59**	**47**	⇓*i*P	**Pn**		**19 56 22.1**	**+1.6**
	baz=43							
ANVS				⇓*i*S	**Sn**		**19 57 16.9**	**+2.6**
	baz=43							
KOTS	**Kotyrbulak**	**4.61**	**40**	Pg	**Pb**		**19 56 34.8**	**+3.1**
	2.5nm,0.4s							
KOTS				Lg	Lg		19 57 35.6	
	32nm,0.9s							
KOTS	**Kotyrbulak**	**4.61**	**40**	*e*Pg	**Pb**		**19 56 34.8**	**+3.1**
	2.5nm,0.4s							
KOTS				*e*Lg	Lg		19 57 35.6	
	32nm,0.9s							
KTBS	**Karatobe**	**4.79**	**33**	Pg	**Pb**		**19 56 38.4**	**+3.8**
	2.1nm,0.4s							
KTBS				Lg	Lg		19 57 42.4	
	27nm,0.8s							
KTBS	**Karatobe**	**4.79**	**33**	*e*Pg	**Pb**		**19 56 38.4**	**+3.8**
	2.1nm,0.4s							
KTBS				*e*Lg	Lg		19 57 41.9	
	27nm,0.8s							
CHKK	**Chushkaly**	**5.03**	**34**	Pg	**Pg**		**19 56 43.5**	**-3.1**
	1.9nm,0.4s							
CHKK				Lg	Lg		19 57 50.7	
	10nm,0.6s							
CHKK	**Chushkaly**	**5.03**	**34**	*e*Pg	**Pg**		**19 56 43.5**	**-3.1**
	1.9nm,0.4s							
CHKK				*e*Lg	Lg		19 57 50.7	
	10nm,0.6s							
SATY	**Saty**	**5.19**	**49**	Pg	**Pb**		**19 56 44.5**	**+3.0**
	3.1nm,0.8s							
SATY				Lg	Lg		19 57 52.1	
	15nm,0.6s							
SATY	**Saty**	**5.19**	**49**	*e*Pg	**Pb**		**19 56 44.5**	**+3.0**
	3.1nm,0.8s							
SATY				*e*Lg	Lg		19 57 52.1	
	15nm,0.6s							
KURS	**Kuram**	**5.33**	**44**	Pg	**Pb**		**19 56 47.5**	**+3.5**
	1.2nm,0.5s							
KURS				Lg	Lg		19 57 58.1	
	6.6nm,1.4s							
KURS	**Kuram**	**5.33**	**44**	*e*Pg	**Pb**		**19 56 47.5**	**+3.5**
	1.2nm,0.5s							
KURS				*e*Lg	Lg		19 57 57.7	
	6.6nm,1.4s							
KPKS	**Kokpek**	**5.60**	**47**	Pg	**Pb**		**19 56 53.2**	**+4.7**
	2.5nm,0.3s							
KPKS				Lg	Lg		19 58 07.2	
	9.4nm,0.5s							
KPKS	**Kokpek**	**5.60**	**47**	*e*Pg	**Pb**		**19 56 53.2**	**+4.7**
	2.5nm,0.3s							
KPKS				*e*Lg	Lg		19 58 07.2	
	9.4nm,0.5s							
ARXS	**Arharly**	**5.69**	**37**	Pg	**Pg**		**19 56 55.0**	**-4.2**
	3.5nm,0.7s							
ARXS				Lg	Lg		19 58 09.7	
	5.7nm,0.5s							
ARXS	**Arharly**	**5.69**	**37**	*e*Pg	**Pg**		**19 56 55.0**	**-4.2**
	3.5nm,0.7s							
ARXS				*e*Lg	Lg		19 58 09.7	
	5.7nm,0.5s							
BLB	**Baldybastay**	**5.92**	**41**	Pg	**Pb**		**19 56 57.6**	**+3.7**
	2.7nm,0.5s							

*IDC **26** 20:03:23.6±2.8,20.°67S×179.°44W,h636km±21km,mb3.0/5,*
mbtmp4.1/7,Error ellipse: s-maj=80.8km s-min=20.2km
az=148.0
*NEIC **26** 20:03:27.2±2.4,20.°39S±0.°09×180.°0E±0.°2,h632km±19km,*
mb4.4/16,Error ellipse: s-maj=30.7km s-min=10.1km
az=72.0
ISC 26 20:03:25.9±1.0,**20.°2S**±0.°2×**179.°8W**±0.°1,**h650**km,**n30**,
σ1§**10**/31,**mb4.1**/13,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSVF	**Nonsavu**	**3.20**	**320**	P	**P**		**20 04 50.8**	**+0.3**
	43nm,0.5s,baz=156,slow=4.3,SNR=90							
MSVF	**Nonsavu**	**3.20**	**320**	P	**P**		**20 04 50.6**	**+0.2**
MARNC	**Mare, Loyalty**	**11.45**	**262**	P	**P**		**20 05 58.9**	**-0.6**
LIFNC	**LIFOU**	**12.16**	**265**	P	**P**		**20 06 04.1**	**-1.9**
DZM	**Mont Dzumac**	**12.97**	**259**	P	**P**		**20 06 13.5**	**-0.1**
	10nm,1.0s,baz=75,slow=14,SNR=1.9							
DZM	**Mont Dzumac**	**12.97**	**259**	P	**P**		**20 06 13.0**	**-0.6**
MXZ	**Matakaoa Point**	**17.37**	**185**	P	**P**		**20 06 54.6**	**+1.1**
EIDS	**Eidsvold**	**27.30**	**254**	P	**P**		**20 08 22.2**	**+0.2**
EIDS					IAmb	IAmb	20 08 23.4	
	comp=Z,16nm,1.5s							
ARMA	**Armidale**	**27.68**	**243**	P	**P**		**20 08 24.2**	**-1.2**
ARMA					IAmb	IAmb	20 09 03.2	
	comp=Z,16nm,1.3s							
CTAO	**Charters Tower**	**31.84**	**264**	P	**P**		**20 09 02.6**	**+1.8**
CTAO					IAmb	IAmb	20 09 03.5	
	comp=Z,6.4nm,0.5s							
STKA	**Stephens Creek**	**36.40**	**243**	P	**P**		**20 09 37.6**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=85,slow=11,SNR=7.0							
	comp=Z,1.0nm,0.5s							
STKA	**Stephens Creek**	**36.40**	**243**	P	**P**		**20 09 37.6**	**-0.8**
BBOO	**Buckleboo**	**41.16**	**243**	P	**P**		**20 10 15.2**	**-1.4**
BBOO					IAmb	IAmb	20 10 53.8	
	comp=Z,25nm,1.4s							
WR0	**Warramunga Arr**	**42.77**	**262**	P	**P**		**20 10 29.2**	**-0.1**
AS31	**Alice Springs**	**42.94**	**257**	P	**P**		**20 10 30.2**	**-0.3**
ASAR	**Alice Springs**	**42.94**	**257**	P	**P**		**20 10 31.0**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=97,slow=7.6,SNR=80							
ASAR					ScP	**ScP**	**20 14 58.6**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=92,slow=5.1,SNR=5.2							
	comp=Z,4.1nm,0.6s							
ASAR	**Alice Springs**	**42.94**	**257**	P	**P**		**20 10 29.9**	**-0.6**
WB0	**Warramunga Arr**	**42.94**	**262**	P	**P**		**20 10 31.3**	**+0.8**
WB0					IAmb	IAmb	20 10 32.0	
	comp=Z,4.1nm,0.5s							
WB2	**Warramunga Arr**	**42.95**	**262**	P	**P**		**20 10 31.6**	**+0.9**
WB2					IAmb	IAmb	20 10 32.2	
	comp=Z,6.2nm,0.9s							
WRAB	**Tennant Creek**	**42.95**	**262**	P	**P**		**20 10 31.5**	**+0.8**
WRA	**Warramunga Arr**	**42.96**	**262**	P	**P**		**20 10 31.4**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=97,slow=7.6,SNR=49							
	comp=Z,2.4nm,0.5s							
MTN	**Manton Dam**	**47.47**	**271**	P	**P**		**20 11 06.7**	**+1.8**
FORT	**Forrest**	**47.86**	**246**	P	**P**		**20 11 06.6**	**-0.9**
FORT					IAmb	IAmb	20 11 24.1	
	comp=Z,14nm,0.9s							
KNRA	**Kununurra**	**48.99**	**267**	P	**P**		**20 11 15.6**	**-0.5**
FAKI	**Fak Fak**	**49.79**	**284**	P	**P**		**20 11 22.0**	**0.0**
FAKI					IAmb	IAmb	20 11 56.9	
	comp=Z,29nm,1.4s							
SOEI	**Soe**	**54.80**	**272**	P	**P**		**20 11 57.7**	**0.0**
TXAR	**Lajitas Array**	**88.33**	**58**	P	**P**		**20 15 10.0**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=189,slow=7.1,SNR=5.2							
	comp=Z,0.6nm,0.8s							
ILAR	**Eielson Array**	**88.42**	**13**	P	**P**		**20 15 10.7**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=212,slow=5.5,SNR=1.0							
	comp=Z,0.1nm,0.4s							
AKASG	**Malin Array Be**	**141.93**	**330**	PKP	**PKPdf**		**20 21 43.2**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=41,slow=4.2,SNR=4.4							
BRTR	**Keskin Array B**	**145.39**	**312**	PKPbc	**PKPdf**		**20 21 53.1**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=111,slow=3.8,SNR=1.7							

HEL 26 20:11:42.1±0.4,**67.°67N**×**33.°58E,h0**km,**ML0.9,**
Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LVZ	**Lovozero**	**0.47**	**60**	PG	Pg		20 11 51.7	+0.6
LVZ				SG	Sg		20 11 55.6	-1.6
VRF	**Varrio**	**1.52**	**275**	PG	Pn		20 12 09.9	-0.6
VRF				MSG			20 12 27.5	
	comp=Z,1.3nm,0.2s							
VRF				SN	Sg		20 12 30.2	-0.5
KU6	**Riekki**	**2.20**	**223**	PG	Pb		20 12 21.7	-1.0
KU6				MSG			20 12 47.4	
	comp=Z,0.3nm,0.2s							
KU6				SG	Sb		20 12 50.7	+0.2
RNF	**Rovaniemi**	**3.14**	**254**	PN	Pn		20 12 33.4	+0.7
	baz=67							
KEV	**Kevo**	**3.18**	**314**	PN	Pn		20 12 33.9	+0.6
ARA0	**ARCESS Array S**	**3.50**	**306**	PN	Pn		20 12 37.6	-0.1
	baz=122							
HEF	**Hetta**	**3.80**	**286**	SN	Sn		20 13 23.4	-3.7

*ISK **26** 20:12

SHTL	**Shatili**	**1.51**	**32**	P	**Pb**	**20 13 10.9**	**+0.3**
SHTL				S	**Sg**	**20 13 31.1**	**-0.4**
IGDI	**IGDIR**	**1.51**	**180**	P	**Pn**	**20 13 09.7**	**+0.2**
IGDI				S	**Sn**	**20 13 29.3**	**+0.4**
IGDI				*i* AML	AML	20 13 31.0	
	comp=E,18nm,0.7s						
IGDI				*i* AML	AML	20 13 31.0	
	comp=N,21nm,0.3s						
SENK	**Senkaya-Erzuru**	**1.54**	**238**	Pn	**Pb**	**20 13 10.9**	**-0.3**
SENK				Sn	**Sg**	**20 13 31.9**	**-0.6**
DDFL	**Dedoflistskaro**	**1.54**	**87**	P	**Pg**	**20 13 13.0**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.56**	**347**	*e*Pg	**Pg**	**20 13 11.4**	**-0.1**
DIGR				*e*Sg	**Sg**	**20 13 32.7**	**-0.5**
DAGI	**Agillar**	**1.65**	**260**	P	**Pb**	**20 13 13.1**	**0.0**
DAGI				S	**Sn**	**20 13 33.5**	**+1.0**
LGD	**Lagodekhi**	**1.69**	**74**	P	**Pb**	**20 13 13.5**	**-0.2**
LGD				S	**Sg**	**20 13 37.5**	**+0.1**
KORR	**Kora**	**1.70**	**360**	*e*Pg	**Pg**	**20 13 15.1**	**-0.5**
KORR				*e*Sg	**Sg**	**20 13 37.9**	**+0.2**
KOTA	**Agri, Merkez-K**	**1.71**	**203**	P	**Pg**	**20 13 14.9**	**-0.8**
KOTA				S	**Sg**	**20 13 37.9**	**0.0**
KMGR	**Komgaron**	**1.77**	**19**	*e*Pg	**Pg**	**20 13 16.5**	**-0.5**
KMGR				*e*Sg	**Sg**	**20 13 40.8**	**+0.7**
BATM	**Batumi**	**1.80**	**278**	P	**Pb**	**20 13 14.9**	**-0.6**
BATM				S	**Sb**	**20 13 38.1**	**+0.4**
ARNR	**Ardon**	**1.80**	**5**	*e*Pg	**Pg**	**20 13 17.1**	**-0.4**
ARNR				*e*Sg	**Sg**	**20 13 42.2**	**+1.2**
DBOC	**Borcka**	**1.81**	**270**	P	**Pn**	**20 13 14.0**	**+0.6**
DBOC				S	**Sn**	**20 13 35.5**	**-0.6**
DBOC				*i* AML	AML	20 13 40.0	
	comp=E,24nm,0.9s						
DDEM	**Demirkent**	**1.82**	**255**	P	**Pn**	**20 13 14.6**	**+1.0**
DDEM				*i* AML	AML	20 13 41.0	
	comp=N,37nm,0.3s						
DDEM				*i* AML	AML	20 13 42.0	
	comp=E,38nm,0.3s						
DBAD	**Bademkaya**	**1.83**	**259**	P	**Pn**	**20 13 15.1**	**+1.3**
DBAD				S	**Sb**	**20 13 38.8**	**0.0**
DBAD				*i* AML	AML	20 13 41.0	
	comp=E,25nm,0.4s						
DBAD				*i* AML	AML	20 13 42.0	
	comp=N,30nm,0.5s						
LSNR	**Lesken**	**1.90**	**355**	*e*Pg	**Pb**	**20 13 18.2**	**+0.9**
LSNR				*e*Sg	**Sg**	**20 13 44.2**	**+0.1**
HOPA	**Hopa-Artvin**	**1.97**	**271**	Pn	**Pn**	**20 13 16.7**	**+1.0**
BTLR	**Botlikh**	**2.05**	**51**	*e*Pg	**Pb**	**20 13 20.1**	**+0.3**
	6.0nm,0.4s						
BTLR				*e*Sg	**Sg**	**20 13 47.4**	**-1.5**
	8.0nm,0.6s						
NEY	**Neytrino**	**2.12**	**332**	*e*Pg	**Pb**	**20 13 20.7**	**-0.3**
NEY				*e*Sg	**Sb**	**20 13 48.7**	**+1.6**
HOMI	**Horasan**	**2.12**	**232**	P	**Pb**	**20 13 21.3**	**+0.2**
HOMI				*i* AML	AML	20 13 57.0	
	comp=E,9.4nm,0.5s						
DVE	**Vedeno**	**2.19**	**44**	*e*Pg	**Pb**	**20 13 23.0**	**+0.7**
DVE				*e*Sg	**Sg**	**20 13 52.4**	**-1.1**
XNZR	**Khunzakh**	**2.28**	**59**	*e*Pg	**Pb**	**20 13 23.9**	**0.0**
	4.0nm,0.4s						
XNZR				*e*Sg	**Sg**	**20 13 55.3**	**-1.0**
	16nm,0.4s						
GNBR	**Gunib**	**2.38**	**64**	*e*Pn	**Pb**	**20 13 25.4**	**-0.1**
	4.0nm,0.7s						
GNBR				*e*Sn	**Sg**	**20 13 57.6**	**-2.0**
	23nm,0.5s						
KMKR	**Kumukh**	**2.39**	**71**	*e*Pn	**Pb**	**20 13 25.4**	**-0.2**
	1.0nm,0.4s						
KMKR				*e*Sn	**Sg**	**20 13 57.7**	**-2.0**
	16nm,0.4s						
UNCR	**Uncukul**	**2.43**	**56**	*e*Pn	**Pb**	**20 13 26.5**	**+0.2**
	7.0nm,0.3s						
UNCR				*e*Sn	**Sg**	**20 13 59.4**	**-1.5**
	12nm,0.7s						
ARKR	**Arakani**	**2.50**	**60**	*e*Pn	**Pb**	**20 13 27.2**	**-0.2**
	1.0nm,0.5s						
ARKR				*e*Sn	**Sg**	**20 14 00.9**	**-2.3**
	37nm,0.5s						
DLMR	**Dylym**	**2.54**	**48**	*e*Pn	**Pb**	**20 13 27.0**	**-1.1**
	8.0nm,0.2s						
DLMR				*e*Sn	**Sb**	**20 14 01.3**	**+2.0**
	6.0nm,0.3s						
KRNR	**Karanay**	**2.56**	**55**	*e*Pn	**Pb**	**20 13 28.5**	**0.0**
	3.0nm,0.5s						
KRNR				*e*Sn	**Sg**	**20 14 03.0**	**-2.1**
	17nm,0.3s						
AKT	**Akhty**	**2.75**	**87**	*e*Pn	**Pb**	**20 13 30.2**	**-1.7**
	4.0nm,0.6s						
AKT				*e*Sn	**Sb**	**20 14 06.2**	**+0.7**
	17nm,0.3s						

*ATH **26** 20:19:20.0,38°.61N×25°.34E,h16km±2km, ML2.4/2, Error ellipse: s-maj=3.8km s-min=1.1km az=125.0*
*THE **26** 20:19:19.5,38°.60N×25°.32E,h3km±1km, ML2.4/4, Error ellipse: s-maj=1.6km s-min=0.5km az=4.0*
*ISK **26** 20:19:19.1,38°.60N×25°.36E,h15km, ML2.7/6*
*DDA **26** 20:19:21.6±0.0,38°.63N×25°.56E,h7km±3km, ML2.1*

ISC 26 20:19:19.7±1.0,38°.60N±0°.03×25°.34E±0°.03,h17km±8km, n28,σ0§48/46,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.18**	**109**	P	**Pg**	**20 19 24.5**	**+0.3**
PSRA				AML	AML	20 19 27.6	
	comp=N,5890μm,0.2s						
PSRA				AML	AML	20 19 29.6	
	comp=E,3405μm,0.2s						
CHOS	**Chios island**	**0.60**	**111**	P	**Pg**	**20 19 31.1**	**-0.4**
CHOS				S	**Sg**	**20 19 39.9**	**+0.4**
	comp=E,368nm,0.3s						
CHOS	**Chios island**	**0.60**	**111**	Pg	**Pg**	**20 19 31.1**	**-0.4**
CHOS				Sg	**Sg**	**20 19 39.7**	**+0.1**
CHOS	**Chios island**	**0.60**	**111**	P	**Pg**	**20 19 31.3**	**-0.3**
CHOS				S	**Sg**	**20 19 39.6**	**+0.1**
SIGR	**SIGRI**	**0.73**	**33**	P	**Pg**	**20 19 33.6**	**-0.4**
SIGR				S	**Sb**	**20 19 44.1**	**+0.5**
	comp=E,248nm,0.4s						
SIGR	**SIGRI**	**0.73**	**33**	Pg	**Pg**	**20 19 33.6**	**-0.4**
SIGR				Sg	**Sb**	**20 19 44.1**	**+0.5**
SIGR	**SIGRI**	**0.73**	**33**	P	**Pg**	**20 19 33.6**	**-0.4**
SIGR				S	**Sb**	**20 19 43.9**	**+0.2**
SIGR				AML	AML	20 19 45.4	
	comp=E,299μm,0.4s						
SIGR				AML	AML	20 19 48.2	
	comp=N,687μm,0.4s						
KYMI	**Kymi, Euboea I**	**0.97**	**272**	P	**Pb**	**20 19 37.7**	**-0.4**
KYMI	**Kymi, Euboea I**	**0.97**	**272**	P	**Pb**	**20 19 37.2**	**-0.9**
ZEYE	**Izmir, Urla-Ze**	**0.98**	**111**	P	**Pb**	**20 19 37.8**	**-0.4**
ZEYE				S	**Sb**	**20 19 50.2**	**-0.6**
ZEYE				*i* AML	AML	20 19 53.0	
	comp=N,73nm,0.4s						
ZEYE				*i* AML	AML	20 19 55.0	
	comp=N,65nm,1.0s						
TNSA	**Tinos**	**1.07**	**188**	P	**Pb**	**20 19 39.6**	**-0.1**
KOCA	**Canakkale, Ayv**	**1.09**	**34**	P	**Pb**	**20 19 40.0**	**-0.1**
KOCA				S	**Sg**	**20 19 54.8**	**-0.4**
KOCA				*i* AML	AML	20 20 00.0	
	comp=N,54nm,0.5s						
KOCA				*i* AML	AML	20 20 00.0	
	comp=N,67nm,1.1s						
DION	**Dionisos Attik**	**1.22**	**245**	P	**Pn**	**20 19 42.2**	**+0.2**
DION				S	**Sn**	**20 19 59.4**	**+1.2**
	comp=N,180nm,0.5s						
DION	**Dionisos Attik**	**1.22**	**245**	P	**Pn**	**20 19 42.0**	**0.0**
DION				S	**Sb**	**20 19 57.8**	**-0.1**
PTL	**Penteli**	**1.29**	**245**	P	**Pn**	**20 19 43.4**	**+0.5**
PTL				S	**Sn**	**20 20 01.0**	**+1.3**
PTL	**Penteli**	**1.29**	**245**	P	**Pn**	**20 19 42.8**	**-0.1**
DKL	**Dikili**	**1.31**	**68**	Pn	**Pn**	**20 19 43.2**	**0.0**
DKL				Sn	**Sn**	**20 20 00.9**	**+0.7**
DGB	**zmir**	**1.33**	**114**	P	**Pb**	**20 19 44.4**	**+0.2**
DGB				S	**Sn**	**20 20 00.6**	**-0.2**
DGB				*i* AML	AML	20 20 03.0	
	comp=N,41nm,0.9s						
DGB				*i* AML	AML	20 20 06.0	
	comp=N,24nm,0.4s						
BLCB	**Balcova**	**1.35**	**99**	Pn	**Pn**	**20 19 43.9**	**+0.2**
ZEDA	**zmir-Bergama**	**1.41**	**74**	P	**Pg**	**20 19 46.3**	**-0.4**
ZEDA				S	**Sn**	**20 20 01.6**	**-1.0**
ZEDA				*i* AML	AML	20 20 07.0	
	comp=N,27nm,0.5s						
VLY	**Voula,Athens**	**1.43**	**239**	P	**Pn**	**20 19 44.7**	**-0.1**
VLY	**Voula,Athens**	**1.43**	**239**	P	**Pn**	**20 19 44.4**	**-0.4**
EZN	**Ezine**	**1.44**	**32**	Pn	**Pn**	**20 19 45.2**	**+0.2**
EZN				Sn	**Sb**	**20 20 04.2**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.48**	**39**	P	**Pb**	**20 19 46.4**	**-0.2**
BAYC				S	**Sn**	**20 20 04.3**	**-0.1**
SMG	**Samos**	**1.48**	**127**	P	**Pb**	**20 19 46.7**	**0.0**
SMG				S	**Sg**	**20 20 07.0**	**-0.3**
	comp=N,112nm,0.4s						
BUHA	**Balikesir, Bur**	**1.62**	**56**	P	**Pb**	**20 19 49.2**	**+0.1**
BUHA				S	**Sb**	**20 20 10.2**	**+0.8**
BUHA				*i* AML	AML	20 20 14.0	
	comp=N,30nm,0.4s						
GADA	**Gvkgeada**	**1.65**	**15**	Pn	**Pn**	**20 19 48.2**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.00**	**26**	Pn	**Pn**	**20 19 52.9**	**+0.3**

*MAN **26** 20:49:38.4, 10°.67N×125°.55E, h52km, mb4.7, ML3.6, MS3.5*
*NEIC **26** 20:49:39.1±1.2, 10°.6N±0°.1×125°.5E±0°.2, h87km±9km, mb4.3/17, Error ellipse: s-maj=37.1km s-min=8.7km az=64.0*
*IDC **26** 20:49:41.9±7.8, 10°.61N×125°.46E, h121km±75km, mb3.6/9, mbtmp3.9/9, Error ellipse: s-maj=41.9km s-min=13.7km az=66.0*

ISC 26 20:49:37.8±1.2,10°.69N±0°.08×125°.54E±0°.08,h79km±11km, n46,σ1§10/49,mb4.2/18,7C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.87**	**230**	⇑*i*P	**Pn**	**20 49 54.5**	**-0.7**
MSLP				*i* S	**Sn**	**20 50 08.3**	**+0.2**
SCPH	**Surigao**	**0.90**	**183**	*e*P	**Pn**	**20 49 55.0**	**-0.7**
SCPH				*e*S	**Sn**	**20 50 08.0**	**-0.9**
TABP	**Talibon, Bohol**	**1.33**	**243**	⇑*i*P	**Pn**	**20 50 01.2**	**+0.3**
TABP				*i* S	**Sn**	**20 50 18.6**	**+0.4**
GHBP	**Garcia Hernand**	**1.59**	**229**	⇑*i*P	**Pn**	**20 50 05.0**	**+0.6**
GHBP				*i* S	**Sn**	**20 50 26.8**	**+2.4**
TBP	**Tagbilaran**	**1.93**	**239**	*e*P	**Pn**	**20 50 09.3**	**+0.6**
TBP				*i* S	**Sn**	**20 50 33.6**	**+1.4**
CGP	**Cagayan de Oro**	**2.37**	**201**	⇑*e*P	**Pn**	**20 50 15.2**	**+0.5**
CGP				*e*S	**Sn**	**20 50 43.5**	**+0.6**
BIPH	**Bislig**	**2.62**	**162**	⇓*e*P	**Pn**	**20 50 20.1**	**+2.1**
BIPH				*i* S	**Sn**	**20 50 50.7**	**+1.8**
RCP	**Roxas**	**2.87**	**288**	⇑*e*P	**Pn**	**20 50 23.1**	**+1.6**
DCPH	**Dipolog City**	**3.00**	**226**	⇑*e*P	**Pn**	**20 50 23.1**	**-0.2**
KCP	**Kidapawan**	**3.68**	**187**	⇑*e*P	**Pn**	**20 50 34.4**	**+1.8**
MTN	**Manton Dam**	**24.03**	**166**	P	**P**	**20 54 45.0**	**-0.7**
MTN				IAmb	IAmb	20 54 55.0	
	comp=Z,12nm,1.1s						
ENH	**Enshi**	**24.55**	**325**	P	**P**	**20 54 51.0**	**+0.6**
KSRS	**Korea Arrag**	**26.73**	**4**	P	**P**	**20 55 10.6**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=186,slow=10.0,SNR=1.7						
	comp=Z,1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.85**	**290**	P	**P**	**20 55 10.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=97,slow=7.0,SNR=8.3						
	comp=Z,0.8nm,0.6s						
WB0	**Warramunga Arr**	**31.50**	**164**	P	**P**	**20 55 50.5**	**-1.9**
WB0				IAmb	IAmb	20 55 53.6	
	comp=Z,5.4nm,1.2s						
WRAB	**Tennant Creek**	**31.64**	**164**	P	**P**	**20 55 51.9**	**-1.9**
WRAB				IAmb	IAmb	20 56 04.0	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**31.65**	**164**	P	**P**	**20 55 52.4**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=348,slow=10.0,SNR=7.4						
	comp=Z,0.4nm,0.6s						
WB2	**Warramunga Arr**	**31.65**	**164**	P	**P**	**20 55 52.0**	**-1.8**
WB2				IAmb	IAmb	20 56 16.8	
	comp=Z,5.1nm,1.2s						
WR0	**Warramunga Arr**	**31.72**	**164**	P	**P**	**20 55 53.1**	**-1.4**
WR0				IAmb	IAmb	20 56 12.2	
	comp=Z,6.9nm,1.4s						
ASAR	**Alice Springs**	**35.11**	**167**	P	**P**	**20 56 23.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=351,slow=7.2,SNR=14						
	comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**40.38**	**340**	P	**P**	**20 57 08.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=151,slow=8.9,SNR=4.9						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**40.38**	**340**	P	**P**	**20 57 08.9**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**40.50**	**74**	T	T	21 40 10.4	
	baz=247,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.51**	**74**	T	T	21 40 13.6	
	baz=247						
H11S2	**WAKE ISLAND Hy**	**40.51**	**74**	T	T	21 40 21.1	
	baz=247,slow=74						
H11N1	**WAKE ISLAND Hy**	**40.81**	**72**	T	T	21 40 43.0	
	baz=265,slow=74,SNR=19						
H11N2	**WAKE ISLAND Hy**	**40.82**	**72**	T	T	21 40 45.5	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.83**	**72**	T	T	21 40 43.4	
	baz=265,slow=74,SNR=14						
FORT	**Forrest**	**41.30**	**177**	P	**P**	**20 57 16.8**	**+1.0**
BBOO	**Buckleboo**	**44.41**	**167**	P	**P**	**20 57 39.6**	**-1.2**
STKA	**Stephens Creek**	**45.03**	**161**	P	**P**	**20 57 46.2**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=312,slow=7.3,SNR=7.0						
	comp=Z,1.1nm,0.3s						
STKA	**Stephens Creek**	**45.03**	**161**	P	**P**	**20 57 45.8**	**-0.1**
MK31	**Makanchi Array**	**51.26**	**323**	P	**P**	**20 58 33.8**	**0.0**
MKAR	**Makanchi Array**	**51.26**	**323**	P	**P**	**20 58 33.8**	**+0.1**
	comp=Z,3.7nm,0.6s,baz=124,slow=8.2,SNR=54						
MKAR				PcP	**PcP**	**20 59 46.7**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=161,slow=3.3,SNR=2.4						
	comp=Z,3.7nm,0.6s						
MAKZ	**Makanchi**	**51.45**	**323**	P	**P**	**20 58 35.4**	**+0.2**
MAKZ				IAmb	IAmb	20 58 35.9	
	comp=Z,2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**53.91**	**332**	P	**P**	**20 58 52.5**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=118,slow=7.5,SNR=6.9						
ZALV				PcP	**PcP**	**20 59 56.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=122,slow=5.1,SNR=1.4						
	comp=Z,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**53.91**	**332**	P	**P**	**20 58 52.7**	**-0.5**
KURK	**Kurchatov**	**55.32**	**326**	P	**P**	**20 59 03.6**	**+0.3**
KURK				IAmb	IAmb	20 59 03.8	
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**57.45**	**315**	P	**P**	**20 59 18.4**	**-0.2**
BRVK	**Borovoye**	**60.98**	**325**	P	**P**	**20 59 43.6**	**+0.7**
BRVK				IAmb	IAmb	21 00 02.2	
	comp=Z,3.9nm,1.4s						
ABKAR	**Akbulak array**	**66.09**	**319**	P	**P**	**21 00 15.9**	**-0.7**
MCK	**McKinley**	**78.51**	**27**	P	**P**	**21 01 30.8**	**+0.5**
BMAR	**Burnt Mountain**	**80.17**	**23**	P	**P**	**21 01 40.8**	**+1.5**
FIA1	**FINESS Array S**	**85.18**	**332**	P	**P**	**21 02 04.2**	**-1.1**
FIA1				IAmb	IAmb	21 02 27.1	
	comp=Z,3.7nm,0.9s						
FINES	**FINESS Array B**	**85.18**	**332**	P	**P**	**21 02 04.2**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=69,slow=4.7,SNR=19						
	comp=Z,1.0nm,0.3s						
BURAR	**Bucovina Array**	**89.05**	**318**	P	**P**	**21 02 24.4**	**-0.1**

*MDD **26** 20:54:41.7±1.1, 36°.96N×3°.14E, h0km, Mb3.6/7, M_mb2.9/7, Error ellipse: s-maj=11.0km s-min=6.7km az=118.0*
*CRAAG **26** 20:54:42.0, 36°.83N×3°.21E, Ml2.5, Algerie 04km NW El-Marsa*

ISC 26 20:54:41.1±1.2,37°.01N±0°.08×3°.20E±0°.07,h12km,n10, σ1§63/13,7C,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.25**	**212**	P	**Pg**	**20 54 45.7**	**-0.7**
ABMS	**Boumerdes**	**0.34**	**140**	P	**Pg**	**20 54 47.8**	**-0.3**
ADJB	**Djebel Djouab**	**0.88**	**167**	P	**Pg**	**20 54 57.4**	**-0.6**
EIBI	**Ibiza**	**2.49**	**324**	Pn	**Pn**	**20 55 22.3**	**+0.9**
EIBI				⇑*i*Vmb_V		20 55 24.5	
	186nm,SNR=0.7						
EIBI				Sn	**Sn**	**20 55 50.3**	**-1.4**
ETOS	**Mallorca**	**2.77**	**354**	Pn	**Pn**	**20 55 25.9**	**+0.6**
ETOS				⇑*i*Vmb_V		20 55 28.1	
	213nm,SNR=0.7						
AFON	**Font Roja**	**3.39**	**300**	Pn	**Pn**	**20 55 35.4**	**+1.4**
AFON				⇑*i*Vmb_V		20 55 38.6	
	159nm,SNR=0.7						
EVIV	**Cofrentes, Val**	**4.08**	**305**	Pn	**Pn**	**20 55 45.5**	**+2.1**
EVIV				⇑*i*Vmb_V		20 55 48.3	
	88nm,SNR=0.5						
EVIV				Sn	**Sn**	**20 56 30.6**	**-0.5**
ETOB	**Tobarra**	**4.10**	**295**	Pn	**Pn**	**20 55 45.8**	**+2.1**
ETOB				⇑*i*Vmb_V		20 55 49.0	
	105nm,SNR=0.5						
ETOB				Sn	**Sn**	**20 56 28.9**	**-2.7**
ECHE	**Chera**	**4.17**	**309**	Pn	**Pn**	**20 55 46.0**	**+1.4**
ECHE				⇑*i*Vmb_V		20 55 47.3	
	31nm,SNR=0.2						
EMOS	**Mosqueruela**	**4.41**	**320**	Pn	**Pn**	**20 55 49.3**	**+1.3**
EMOS				⇑*i*Vmb_V		20 55 51.2	
	60nm,SNR=0.4						

*IDC **26** 21:02:29.8±1.6, 43°.55N×105°.29W, h0km, mb3.9/6, mbtmp3.9/10, ML3.5/4, MS3.6/1, Error ellipse: s-maj=46.1km s-min=6.7km az=149.0*
*ANF **26** 21:02:32.0±0.2, 43°.76N×105°.32W, h0km, ML3.9/16, Error ellipse: s-maj=2.4km s-min=1.8km az=96.0*
*NEIC **26** 21:02:32.2±2.1, 43°.83N±0°.05×105°.26W±0°.05, h0km±2km, ML3.5/78, Error ellipse: s-maj=8.5km s-min=5.3km az=330.0*

ISC 26 21:02:31.7±0.6,43°.75N±0°.03×105°.31W±0°.03,h0km,n66, σ1§46/70,mb4.2/6,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**67**	Pg	**Pg**	**21 02 50.7**	**0.0**
RSSD	**Black Hills**	**0.99**	**67**	P	**Pg**	**21 02 50.9**	**+0.2**
	baz=249						
RSSD				S	**Sb**	**21 03 06.2**	**+0.5**
	baz=249						
K22A	**Casper**	**1.41**	**219**		**Pn**	**21 02 57.8**	**-1.0**
K22A				IAML		21 03 21.4	
	comp=N,592nm,0.6s						
K22A				IAML		21 03 26.2	
	comp=E,509nm,0.6s						
K22A	**Casper**	**1.41**	**219**	P	**Pn**	**21 02 57.8**	**-1.0**
	baz=38,SNR=456						
K22A				S	**Sg**	**21 03 17.8**	**+0.8**
	baz=38						
PHWY	**Pilot Hill**	**2.44**	**183**		**Pn**	**21 03 13.8**	**+0.7**
PHWY				Sn	**Sb**	**21 03 46.9**	**-0.6**
PHWY				IAML		21 03 53.7	
	comp=E,194nm,0.8s						
RWWY	**Rawlins**	**2.49**	**215**		**Pn**	**21 03 14.6**	**+0.9**
RWWY				Sn	**Sb**	**21 03 48.1**	**-0.6**
RWWY				IAML		21 03 51.0	
	comp=E,359nm,0.9s						
N23A	**Red Feather La**	**2.89**	**190**		**Pn**	**21 03 20.6**	**+1.4**
N23A				IAML		21 04 03.6	
	comp=N,217nm,0.6s						
N23A				IAML		21 04 09.9	
	comp=E,182nm,0.8s						
N23A	**Red Feather La**	**2.89**	**190**	P	**Pn**	**21 03 20.7**	**+1.5**
	baz=8.9,SNR=67						
LAO	**LASA Array**	**3.01**	**348**	Pn	**Pn**	**21 03 20.2**	**-0.5**
LAO	**LASA Array**	**3.01**	**348**	P	**Pn**	**21 03 20.8**	**0.0**
	baz=168						
LAO				S	**Sn**	**21 03 58.9**	**+1.4**
	baz=168						
RLMT	**Red Lodge**	**3.15**	**297**		**Pn**	**21 03 22.9**	**+0.1**
RLMT				IAML		21 04 16.4	
	comp=E,117nm,0.8s						
RLMT				IAML		21 04 21.1	
	comp=E,95nm,0.8s						
RLMT	**Red Lodge**	**3.15**	**297**	P	**Pn**	**21 03 23.2**	**+0.4**
	baz=114,SNR=45						
BRIGG	**Briggsdale**	**3.25**	**167**		**Pn**	**21 03 25.7**	**+1.6**
BW06	**Boulder Array**	**3.25**	**254**		**Pn**	**21 03 25.1**	**+0.9**
BW06				Pg	**Pg**	**21 03 34.3**	**+0.2**
BW06				IAML		21 04 14.5	
	comp=E,71nm,0.6s						
BW06	**Boulder Array**	**3.25**	**254**	P	**Pn**	**21 03 25.0**	**+0.8**
	baz=71,SNR=62						
BW06				Sb	**Sb**	**21 04 11.9**	**+1.2**
	baz=71						
PD31	**Pinedale Array**	**3.25**	**254**		**Pn**	**21 03 24.9**	**+0.7**
PD31				Pg	**Pg**	**21 03 34.2**	**+0.1**
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**21 03 24.9**	**+0.7**
	comp=E,5.3nm,0.3s,baz=61,slow=17,SNR=71						
PDAR				Pg	**Pb**	**21 03 30.9**	**+0.5**
	comp=E,12nm,0.3s,baz=66,slow=20,SNR=33						
PDAR				Lg	Lg	21 04 11.5	
	comp=E,13nm,0.3s,baz=72,slow=34,SNR=2.7						
	comp=E,10nm,0.5s						
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**21 03 24.4**	**+0.2**
PDAR				Pg	**Pg**	**21 03 34.0**	**0.0**
OGNE	**Ogallala**	**3.71**	**138**	P	**Pn**	**21 03 31.6**	**+1.3**
	baz=320,SNR=11						
OGNE				S	**Sn**	**21 04 16.2**	**+1.5**
	baz=320						
LKWY	**Lake**	**3.75**	**284**	IAML		21 04 03.6	
	comp=E,78nm,0.8s						
LKWY				IAML		21 05 02.3	
	comp=E,50nm,1.1s						
LOHW	**Long Hollow**	**3.84**	**270**	IAML		21 04 33.6	
	comp=E,46nm,0.8s						
H17A	**Grant Village**	**3.85**	**282**	IAML		21 04 36.2	
	comp=N,63nm,0.8s						
H17A	**Grant Village**	**3.85**	**282**	P	**Pn**	**21 03 33.5**	**+1.0**
	baz=98						
H17A				Sb	**Sb**	**21 04 29.6**	**+1.7**
	baz=98						
FLWY	**Flagg Ranch**	**3.91**	**277**	IAML		21 04 42.6	
	comp=N,84nm,1.3s						
FLWY				IAML		21 05 08.6	
	comp=N,87nm,1.1s						
ISCO	**Idaho Springs**	**3.95**	**183**	P	**Pn**	**21 03 34.3**	**+0.5**
	baz=3.0						
ISCO				Sb	**Sb**	**21 04 34.2**	**+3.4**
	baz=3.0						
REDW	**Red Top Meadow**	**4.05**	**266**	IAML		21 04 51.9	
	comp=N,78nm,0.8s						
YMR	**Madison River**	**4.17**	**285**	IAML		21 05 06.8	
	comp=E,79nm,1.0s						
YMR				IAML		21 05 36.0	
	comp=N,74nm,1.0s						
O20A	**White River Ci**	**4.22**	**212**	IAML		21 05 02.4	
	comp=N,89nm,0.9s						
O20A	**White River Ci**	**4.22**	**212**	P	**Pn**	**21 03 38.4**	**+0.9**
	ba

baz=85
DUG Dugway, Tooele 6.62 240 P Pn 21 04 10.7 +0.3
baz=55
T25A Trinidad 6.64 174 P Pn 21 04 11.1 +0.4
baz=354
MSO Missoula 6.82 300 P Pn 21 04 12.7 -0.4
baz=114
MVCO Mesa Verde 6.97 201 P Pn 21 04 15.7 +0.5
baz=19
ELK Elko 7.95 251 Pn Pn 21 04 28.7 -0.1
comp=N,0.2nm,0.3s,baz=59,slow=12,SNR=4.2
ELK Lg Lg 21 06 37.2
comp=N,0.1nm,0.3s,baz=16,slow=18,SNR=1.6
comp=N,0.7nm,0.3s
AGMN Agassiz Nation 8.00 52 P Pn 21 04 28.7 -0.4
baz=239
I10CA LAC DU BONNET 9.05 41 I I 22 01 30.0
baz=222,slow=332,SNR=2.6
SPMN Marine on St. 9.06 76 P Pn 21 04 44.0 +0.2
baz=265
ULM Lac du Bonnet 9.15 41 Pn Pn 21 04 43.0 -2.0
comp=N,2.1nm,0.3s,baz=232,slow=11,SNR=14
ULM Sn Sn 21 06 25.3 -3.3
comp=N,0.8nm,0.3s,baz=243,slow=7.0,SNR=3.7
ULM Lg Lg 21 07 14.3
comp=N,0.3nm,0.3s,baz=202,slow=11,SNR=2.7
comp=N,5.8nm,0.4s
NEW Newport 9.38 303 Lg Lg 21 07 20.3
comp=N,0.2nm,0.3s,baz=270,slow=20,SNR=2.1
WUAZ Wupatki 9.45 212 P Pn 21 04 50.2 +0.9
baz=28
WMOK Wichita Mounta 10.32 148 P Pn 21 04 59.0 -2.0
baz=333
NVAR Mina Array Bea 11.15 246 Pn Pn 21 05 13.2 +0.7
comp=N,0.2nm,0.3s,baz=51,slow=12,SNR=8.6
comp=N,1.2nm,0.7s
YBH Yreka Blue Hor 12.95 267 LR LR 21 11 40.5
comp=N,247nm,20.2s,baz=22,slow=42
ILAR Eielson Array 31.25 327 P P 21 08 52.3 -0.4
comp=N,0.4nm,0.8s,baz=93,slow=10,SNR=2.2
comp=N,0.4nm,0.8s
FINES FINESS Array B 68.03 23 P P 21 13 31.9 -0.5
comp=N,2.5nm,1.0s,baz=330,slow=5.3,SNR=1.6
comp=N,2.5nm,1.0s
ZALV Zalesovo Beam 82.30 354 P P 21 14 52.8 -2.0
comp=N,1.3nm,0.6s,baz=0.4,slow=3.5,SNR=7.3
comp=N,1.3nm,0.6s
BVAR Borovoye Array 83.53 3 P P 21 14 59.8 -1.4
comp=N,0.9nm,0.6s,baz=352,slow=5.1,SNR=5.5
comp=N,0.9nm,0.6s
SONM Songino Array 84.62 339 P P 21 15 05.6 -1.4
comp=N,0.5nm,0.7s,baz=21,slow=3.7,SNR=3.9
comp=N,0.5nm,0.7s
MKAR Makanchi Array 89.59 355 P P 21 15 30.2 -0.8
comp=N,0.9nm,0.7s,baz=14,slow=4.7,SNR=13
comp=N,0.9nm,0.7s

RSNC 26 21:22:35.3±0.5, 6°80N×73°16W, h138±6km, ML1.2, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAMC	Pamplona, Colo	0.70	40	⇓*i*P	Pn	21 22 57.0	-0.1
PAMC				*e*S	Sn	21 23 13.3	-0.3
PAMC				*i*		21 23 15.7	
	comp=Z,2.2nm,0.7s						
RUSC	La Rusia	0.90	175	*e*P	Pn	21 22 58.3	-0.4
RUSC				*e*S	Sn	21 23 16.1	-0.2
RUSC				*i*		21 23 18.0	
	comp=Z,2.7nm,0.5s						
PTBC	PUERTO BERRIO,	1.31	259	*e*P	Pn	21 23 01.2	-0.8
PTBC				*e*S	Sn	21 23 22.1	-0.2
PTBC				*i*		21 23 26.9	
	comp=Z,3.0nm,0.5s						
TAMC	Tame, Arauca	1.41	105	*e*P	Pn	21 23 03.9	+0.9
TAMC				*e*S	Sn	21 23 19.3	-4.7

*IDC **26** 21:40:23.1±1.8, 7°.41S×129°.24E, h114km±17km, mb3.8/5, mbtmp4.4/8, MS3.1/4, Error ellipse: s-maj=18.8km s-min=13.2km az=98.0*
*NEIC **26** 21:40:24.9±2.0, 7°.41S±0°.06×129°.26E±0°.07, h121km±7km, mb4.4/27, Error ellipse: s-maj=9.5km s-min=8.9km az=109.0*
*DJA **26** 21:40:25.5±0.2, 8°S±2°×12°9E±°, h119km±6km, M4.7/13, mb4.7/13, mB5.3/6, MLv4.6/13, Mw(mB)4.7/6*
ISC 26 21:40:25.3±0.4, 7°41S±0°.04×129°.22E±0°.05, h131km, n111, σ1°55/115, mb4.3/22, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	2.14	106	Pn	Pn	21 41 02.8	+1.8
SAUI	Saumlaki	2.14	106	P	Pn	21 41 02.7	+1.7
BNDI	Bandanaira	2.95	13	P	Pn	21 41 12.1	+0.7
AAI	Ambon	3.84	345	P	Pn	21 41 24.8	+1.8
MSAI	Masohi	4.05	356	P	Pn	21 41 27.9	+2.1
NLAI	Namlea	4.65	333	P	Pn	21 41 36.2	+2.4
FAKI	Fak Fak	5.39	34	Pn	Pn	21 41 42.8	-0.8
FAKI				Sn	Sn	21 42 41.8	-3.0
FAKI	Fak Fak	5.39	34	P	Pn	21 41 42.8	-0.8
	44nm,0.5s,0.3nm						
SOEI	Soe	5.42	244	Pn	Pn	21 41 44.5	+0.2
SOEI				Sn	Sn	21 42 45.5	-0.3
SOEI	Soe	5.42	244	P	Pn	21 41 44.9	+0.7
	130nm,0.9s,4μm2.1nm						
MTN	Manton Dam	5.72	161	Pn	Pn	21 41 48.1	0.0
MTN				Sn	Sn	21 42 49.7	-2.9
MTN	Manton Dam	5.72	161	P	Pn	21 41 48.2	+0.1
KDU	Kakadu	6.14	149	P	Pn	21 41 53.5	-0.3
BATI	Baumata	6.15	243	P	Pn	21 41 53.9	-0.1
	178nm,0.4s,baz=93,slow=1.2,SNR=70						
BATI				S	Sn	21 43 00.5	-2.7
	361nm,0.3s,baz=145,slow=17,SNR=12						
BATI	Baumata	6.15	243	P	Pn	21 41 54.4	+0.4
SANI	Sanana	6.22	329	P	Pn	21 41 56.5	+1.6
	20nm,0.9s,0.1nm						
SIJI	Sorong	6.81	18	P	Pn	21 42 01.9	-0.9
	7.5nm,0.4s,baz=234,slow=22,SNR=16						
SIJI				S	Sn	21 43 15.6	-3.5
	14nm,0.5s,baz=277,slow=23,SNR=2.9						
SIJI				LR	LR	21 44 47.7	
	comp=Z,129nm,18.9s,baz=114,slow=39						
MMRI	Maumere	7.02	260	Pn	Pn	21 42 05.2	-0.5
MMRI	Maumere	7.02	260	P	Pn	21 42 05.9	+0.3
	70nm,0.6s,0.6nm						
KNRA	Kununurra	8.23	183	Pn	Pn	21 42 20.4	-1.4
KNRA	Kununurra	8.23	183	P	Pn	21 42 20.6	-1.3
BASI	Baing, Sumba	8.98	251	P	Pn	21 42 29.6	-2.5
	187nm,0.9s						
LUWI	Luwuk	9.02	314	Pn	Pn	21 42 32.4	-0.2
KAPI	Kappang	9.71	284	LR	LR	21 46 31.2	
	comp=Z,53nm,18.8s,baz=87,slow=38						
FITZ	Fitzroy Crossi	11.18	198		Pn	21 42 58.7	-2.7
PLAI	Plampang	11.42	262	P	Pn	21 43 03.2	-1.4
	32nm,1.3s						
TOLI2	Tolitoli	11.94	315	Pn	P	21 43 16.4	-2.4
TWSI	Taliwang, Sumb	12.29	263	P	Pn	21 43 14.3	-1.7
	25nm,1.3s						
WB0	Warramunga Arr	13.27	158	Pn	Pn	21 43 25.9	-2.9
WRAB	Tennant Creek	13.40	159		Pn	21 43 27.4	-3.1
WRA	Warramunga Arr	13.41	159	P	Pn	21 43 27.4	-3.2
	33nm,0.5s,baz=340,slow=13,SNR=180						
WRA				S	Sn	21 45 47.7	-11
	24nm,0.5s,baz=322,slow=26,SNR=12						
WRA				LR	LR	21 49 49.3	
	comp=Z,129nm,18.3s,baz=335,slow=42						
WRA	Warramunga Arr	13.41	159	Pn	Pn	21 43 27.6	-3.0
WB2	Warramunga Arr	13.41	159	Pn	Pn	21 43 27.7	-2.9
WR0	Warramunga Arr	13.50	158		Pn	21 43 28.7	-3.0
COEN	Coen	15.17	117	P	P	21 43 56.0	+1.1
MBWA	Marble Bar	16.46	213	P	Pn	21 44 08.0	-0.7
MBWA				IAmb	IAmb	21 44 22.8	
	comp=Z,4.8nm,0.2s						
MBWA	Marble Bar	16.46	213	P	Pn	21 44 08.0	-0.7
QIS	Mount Isa	16.49	143	P	P	21 44 10.0	+0.6
PSA00	Pilbara Seismi	16.74	212		Pn	21 44 11.8	-0.3
PSA00				IAmb	IAmb	21 44 17.5	
	comp=Z,21nm,0.6s						
PSA00	Pilbara Seismi	16.74	212	P	Pn	21 44 11.6	-0.5
AS31	Alice Springs	16.78	165	P	P	21 44 11.4	-1.2
ASAR	Alice Springs	16.78	165	P	P	21 44 10.8	-1.8
	comp=Z,7.4nm,0.4s,baz=330,slow=8.3,SNR=166						
ASAR				S	Sn	21 47 07.9	-12
	comp=Z,5.7nm,0.5s,baz=350,slow=26,SNR=8.0						
ASAR				LR	LR	21 51 33.2	
	comp=Z,116nm,18.3s,baz=350,slow=40						
ASAR	Alice Springs	16.78	165		P	21 44 11.6	-1.0
AS01	Alice Springs	16.79	165	P	P	21 44 11.2	-1.5
WRKA	Warakurna	17.55	183	P	P	21 44 21.2	+0.1
PBKI	Pangkalan Bun	18.09	284	P	Pn	21 44 28.8	+0.3
	comp=Z,155nm,1.2s						
MTSU	Mount Surprise	18.16	127	P	Pn	21 44 31.3	+2.0
UGM	Wanagama	18.54	267	P	P	21 44 31.9	-0.1
KKM	Kota Kinabalu	18.63	316		Pn	21 44 34.8	-0.1
KKM				IAmb	IAmb	21 44 39.1	
	comp=Z,16nm,1.0s						
KKM	Kota Kinabalu	18.63	316	P	Pn	21 44 38.1	+3.2
SBUM	Sibu	19.59	299	P	Pn	21 44 45.7	-0.4
SBUM				IAmb	IAmb	21 44 49.7	
	comp=Z,10nm,0.9s						
GIRL	Giralia	20.91	222	P	P	21 44 59.5	+1.9
GIRL	Giralia	20.91	222	P	P	21 44 59.5	+1.9
OOD	Oodnadatta	21.18	164	P	P	21 45 01.3	+0.9
MEEK	Meekatharra	21.62	207	P	P	21 45 05.9	+0.8
INKA	Innaminka	22.98	153	P	P	21 45 20.9	+2.3
MULG	Mulgathing	23.20	169	P	P	21 45 22.5	+1.8
FORT	Forrest	23.27	183	P	P	21 45 22.6	+1.3
FORT	Forrest	23.27	183	P	P	21 45 22.9	+1.6
QLP	Quilpie	23.82	145	P	P	21 45 28.8	+2.4
LCRK	Leigh Creek	24.42	161	P	P	21 45 33.5	+1.7
MORW	Morawa	24.87	208	P	P	21 45 36.7	+0.8
MORW				IAmb	IAmb	21 45 42.2	
	comp=Z,10nm,1.1s						
MORW	Morawa	24.87	208	P	P	21 45 37.2	+1.3
BLDU	Ballidu	25.89	205	P	P	21 45 46.1	+1.0
BBOO	Buckleboo	26.06	167	P	P	21 45 46.9	+0.3
BBOO	Buckleboo	26.06	167	P	P	21 45 47.7	+1.1
MYKOM	Kota Tinggi	26.91	289	P	P	21 45 54.8	+0.3
MYKOM				IAmb	IAmb	21 45 56.8	
	comp=Z,7.2nm,0.8s						
STKA	Stephens Creek	26.94	156	P	P	21 45 53.8	-0.7
	comp=Z,2.4nm,0.6s,baz=331,slow=11,SNR=8.1						
	comp=Z,2.4nm,0.6s						
STKA	Stephens Creek	26.94	156	P	P	21 45 56.0	+1.5
MUN	Mundaring	27.29	205	P	P	21 45 58.9	+1.3
NWAO	Narrogin (SRO)	27.72	202	P	P	21 46 03.3	+1.9
NWAO				IAmb	IAmb	21 46 13.6	
	comp=Z,21nm,1.1s						
NWAO	Narrogin (SRO)	27.72	202	P	P	21 46 03.2	+1.7
NWAO				IAmb	IAmb	21 46 13.6	
	comp=Z,17nm,1.1s						
NWAO	Narrogin (SRO)	27.72	202	P	P	21 46 03.1	+1.7
CMSA	Cobar Meteorol	28.51	150	P	P	21 46 10.7	+2.2
IPM	Ipoh	30.51	292	P	P	21 46 26.2	-0.3
IPM				IAmb	IAmb	21 46 29.4	
	comp=Z,5.3nm,0.8s						
KULM	Kulim	31.18	293	P	P	21 46 31.7	-0.6
KULM				IAmb	IAmb	21 46 38.1	
	comp=Z,6.7nm,1.1s						
ARPS	Mount Arapiles	31.41	160	P	P	21 46 35.1	+1.1
CMAR	Chiang Mai Arr	39.41	311	P	P	21 47 42.7	0.0
	comp=Z,1.8nm,0.4s,baz=136,slow=6.6,SNR=4.7						
	comp=Z,1.8nm,0.4s						
CRAI	Chiangrai	39.49	315	P	P	21 47 43.8	+0.5
CHTO	Chiang Mai	39.63	312	P	P	21 47 45.0	+0.5
NJ2	Nanjing	40.47	346	*e*P	P	21 47 52.8	+1.6
NJ2				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KMI	Kunming	41.36	322	⇑P	P	21 48 00.0	+1.1
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PZH	PanZhiHua	42.98	323	P	P	21 48 10.8	-1.1
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
SHL	Shillong	48.91	313	P	P	21 48 58.1	-0.4
SHL				IAmb	IAmb	21 48 59.3	
	comp=Z,6.2nm,0.7s						
LZH	Lanzhou	49.41	333	*e*P	P	21 49 02.5	+0.4
LZH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC	Hu-ho-hao-te	50.70	343	*e*P	P	21 49 15.0	+3.3
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,6.2s						
ERM	Erimo	50.81	13	P	P	21 49 11.7	-0.6
LSA	Lhasa	51.97	317	P	P	21 49 22.4	+0.7
XLT	XiLinHaoTe	52.44	348	*e*P	P	21 49 24.8	+0.3
XLT				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XLT				pmax	pmax		
	comp=Z,120nm,4.2s						
TAPN	Taplejung	52.99	312	*e*P	P	21 49 29.0	-0.1
	comp=Z,10nm,0.4s						
RAMN	Ramite	53.58	311	*e*P	P	21 49 33.6	+0.2
	comp=Z,18nm,0.4s						
GTA	Gaotai	53.96	332	*e*P	P	21 49 36.8	+1.0
GTA				pP	pP	21 49 40.8	-25
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
JIRN	Jiri	54.28	312	*e*P	P	21 49 37.9	-0.7
	comp=Z,6.7nm,0.4s						
GUN	Gumba	54.64	312	*e*P	P	21 49 40.9	-0.3
	comp=Z,14nm,0.4s						
PKI	Pulchoki	54.81	311	*e*P	P	21 49 41.8	-0.6
PKIN	Phulchoki	54.82	311	*e*P	P	21 49 41.7	-0.7
	comp=Z,3.5nm,0.3s						
GKN	Gorkha	55.62	311	*e*P	P	21 49 47.7	-0.3
	comp=Z,15nm,0.3s						
DANN	Dangsing	56.46	311	*e*P	P	21 49 53.8	-0.3
	comp=Z,4.9nm,0.4s						
SONM	Songino Array	58.59	342	P	P	21 50 08.5	0.0
	comp=Z,0.3nm,0.4s,baz=170,slow=8.4,SNR=7.2						
	comp=Z,0.3nm,0.4s						
SONM	Songino Array	58.59	342	P	P	21 50 09.2	+0.7
WMQ	Urumqi	63.32	328	*e*P	P	21 50 43.5	+3.0
KSH	Kashi	67.80	318	P	P	21 51 12.0	+2.5
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK31	Makanchi Array	68.15	327	P	P	21 51 11.8	+0.4
MK31				IAmb	IAmb	21 51 13.3	
	comp=Z,1.8nm,0.5s						
MKAR	Makanchi Array	68.15	327	P	P	21 51 10.6	-0.7
	comp=Z,3.0nm,0.4s,baz=116,slow=8.1,SNR=98						
	comp=Z,3.0nm,0.4s						
MKAR	Makanchi Array	68.15	327	P	P	21 51 11.8	+0.5
MAKZ	Makanchi	68.33	327	P	P	21 51 12.8	+0.3
MAKZ				IAmb	IAmb	21 51 14.3	
	comp=Z,1.7nm,0.5s						
ZALV	Zalesovo Beam	71.61	334	P	P	21 51 31.1	-1.2
	comp=Z,1.0nm,0.4s,baz=138,slow=5.6,SNR=7.6						
	comp=Z,1.0nm,0.4s						
VNDA	Vanda	72.14	173	P	P	21 51 36.2	+1.1
KURK	Kurchatov	72.47	329	P	P	21 51 38.6	+1.2
KURK				IAmb	IAmb	21 51 40.1	
	comp=Z,2.6nm,0.6s						
TORD	Torodi Ar. Bea	128.13	281	PKP	PKiKP	21 59 17.9	+0.2
	comp=Z,0.6nm,0.6s,baz=86,slow=2.2,SNR=4.2						
LPAZ	La Paz	150.85	144	PKPbc	PKPbc	22 00 04.2	0.0
	comp=Z,1.2nm,0.4s,baz=247,slow=1.8,SNR=6.7						

*ISK **26** 21:43:08.6, 38°.57N×25°.17E, h9km, ML3.0/8*
*ATH **26** 21:43:11.6, 38°.60N×25°.38E, h18km±1km, ML2.8/4, Error ellipse: s-maj=2.0km s-min=1.1km az=133.0*
*THE **26** 21:43:11.2, 38°.62N×25°.36E, h10km±2km, ML2.8/4, Error ellipse: s-maj=2.2km s-min=0.5km az=47.0*
*DDA **26** 21:43:14.2±0.0, 38°.67N×25°.59E, h5km±3km, ML2.6*
ISC 26 21:43:11.2±0.9, 38°60N±0°.03×25°36E±0°.03, h17km±7km, n37, σ0°93/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSRA	Psara	0.17	108	P	Pg	21 43 15.9	+0.3
PSRA				S	Sg	21 43 18.6	0.0
PSRA				AML	AML	21 43 18.7	
	comp=E,18108μm,0.3s						
PSRA				AML	AML	21 43 19.1	
	comp=N,11088μm,0.1s						
CHOS	Chios island	0.59	111	P	Pg	21 43 22.8	-0.1
CHOS				S	Sg	21 43 31.0	+0.3
	comp=N,1μm,0.2s						
CHOS	Chios island	0.59	111	Pg	Pg	21 43 22.8	-0.1
CHOS	Chios island	0.59	111	P	Pg	21 43 22.8	-0.1
CHOS				S	Sg	21 43 31.0	+0.3
CHOS				AML	AML	21 43 35.2	
	comp=E,3442μm,0.2s						
CHOS				AML	AML	21 43 35.2	
	comp=N,2110μm,0.2s						
SIGR	SIGRI	0.73	32	P	Pg	21 43 25.0	-0.5
SIGR				S	Sg	21 43 34.8	-0.3
	comp=N,808nm,0.5s						
SIGR	SIGRI	0.73	32	Pg	Pg	21 43 25.2	-0.3
SIGR	SIGRI	0.73	32	P	Pg	21 43 24.9	-0.5
SIGR				S	Sg	21 43 34.9	-0.3
SIGR				AML	AML	21 43 38.4	
	comp=N,2108μm,0.5s						
SIGR				AML	AML	21 43 38.6	
	comp=E,1117μm,0.5s						
ZEYE	Izmir, Urla-Ze	0.97	111	P	Pg	21 43 29.1	-0.9
ZEYE				S	Sg	21 43 41.4	-1.3
ZEYE				*i* AML	AML	21 43 47.0	
	comp=E,157nm,0.4s						
KYMI	Kymi, Euboea I	0.98	273	P	Pg	21 43 29.6	-0.7
KYMI	Kymi, Euboea I	0.98	273	P	Pg	21 43 29.5	-0.9
GPNR	Gulpinar-Canak	1.05	35	Pn	Pg	21 43 31.3	-0.3
GPNR				Sn	Sn	21 43 47.7	+2.3
TNSA	Tinos	1.06	188	P	Pb	21 43 31.0	-0.2
TNSA				S	Sg	21 43 45.0	-0.8
KOCA	Canakkale, Ayv	1.09	34	P	Pg	21 43 31.1	-1.2
KOCA				S	Sg	21 43 45.3	-1.4
KOCA				*i* AML	AML	21 43 52.0	
	comp=E,213nm,0.4s						
KOCA				*i* AML	AML	21 43 56.0	
	comp=E,159nm,0.5s						
DION	Dionisos Attik	1.23	246	P	Pn	21 43 33.7	0.0
DION				S	Sb	21 43 51.0	+1.3
	comp=E,478nm,0.5s						
DION	Dionisos Attik	1.23	246	P	Pn	21 43 33.7	0.0
PTL	Penteli	1.29	246	P	Pn	21 43 34.6	0.0
PTL				S	Sb	21 43 53.2	+1.7
	comp=E,178nm,0.6s						
PTL	Penteli	1.29	246	P	Pn	21 43 34.5	0.0
DKL	Dikili	1.30	68	Pn	Pn	21 43 35.6	+1.0
BLCB	Balcova	1.34	98	P	Pn	21 43 35.0	-0.1
BLCB	Balcova	1.34	98	Pn	Pn	21 43 36.1	+1.0
ATHU	Athens Univers	1.39	244	P	Pn	21 43 36.2	+0.4
ATHU				S	Sn	21 43 54.6	+0.8
ATHU	Athens Univers	1.39	244	P	Pn	21 43 36.7	+0.9
ZEDA	zmir-Bergama	1.40	74	P	Pn	21 43 35.9	0.0
ZEDA				S	Sb	21 43 51.4	-2.9
VLY	Voula,Athens	1.44	239	P	Pn	21 43 36.2	-0.3
VLY	Voula,Athens	1.44	239	P	Pn	21 43 35.6	-0.9
VLY				AML	AML	21 44 00.1	
	comp=E,416μm,0.5s						
VLY				AML	AML	21 44 00.2	
	comp=N,350μm,0.5s						
EZN	Ezine	1.44	31	Pn	Pn	21 43 36.9	+0.4
EZN				Sn	Sg	21 43 57.5	-0.3
SMG	Samos	1.47	127	P	Pn	21 43 37.3	+0.4
BAYC	CANAKKALE_Bayr	1.47	39	P	Pn	21 43 36.5	-0.5
BAYC				S	Sn	21 43 54.2	-1.7
APE	Apeiranthos	1.53	175	P	Pn	21 43 37.3	-0.5
APE	Apeiranthos	1.53	175	Pn	Pn	21 43 36.7	-1.1
APE	Apeiranthos	1.53	175	P	Pn	21 43 37.1	-0.7
ECEA	Canakkale, Ece	1.58	23	P	Pb	21 43 40.4	+0.4
ECEA				S	Sn	21 43 58.4	-0.1
ECEA				*i* AML	AML	21 44 05.0	
	comp=N,136nm,0.4s						
ECEA				*i* AML	AML	21 44 08.0	
	comp=N,184nm,0.5s						
BUHA	Balikesir, Bur	1.62	55	P	Pb	21 43 41.4	+0.8
BUHA				S	Sn	21 44 00.6	+1.2
BUHA				*i* AML	AML	21 44 07.0	
	comp=N,96nm,0.4s						
BUHA				*i* AML	AML	21 44 11.0	
	comp=N,92nm,0.9s						
GADA	Gvkgeada	1.65	15	Pn	Pn	21 43 39.0	-0.4
GELI	Tayfur-Gelibol	2.00	25	Pn	Pn	21 43 44.7	+0.5
STEP	BALIKESIR_Sava	2.00	66	P	Pb	21 43 48.0	+0.9
STEP				*i* AML	AML	21 44 21.0	
	comp=N,69nm,1.1s						
BALB	Balikesir	2.22	61	Pn	Pn	21 43 48.7	+1.4

*JMA **26** 21:43:59.6±0.1, 24°N±2°×122°.5E±0°.5, h24km±1km, MV2.3/9, NW OFF ISHIGAKIJIMA IS*
*TAP **26** 21:44:00.2, 24°.51N×122°.51E, h12km, ML2.8, C*
ISC 26 21:43:57.9±1.0, 24°53N±0°.03×122°61E±0°.02, h17km±8km, n86, σ0°71/117, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonagunijimaku	0.32	105	P	Pn	21 44 07.4	-0.3
JYNG				S	Sn	21 44 13.3	-0.7
EOS2	EOS2	0.36	251	*e*P	Pb	21 44 05.9	+0.1
	baz=250						
EOS2				*e*S	Sg	21 44 10.8	+0.4
	baz=250						
EOS3	EOS3	0.36	227	⇑*i*P	Pb	21 44 06.0	+0.3
	baz=218						
YOJ	Yonaguni jima	0.38	101	P	Pn	21 44 08.4	-0.1
YOJ				*e*S	Sn	21 44 14.9	-0.4
YOJ	Yonaguni jima	0.38	101	*i* P	Pn	21 44 08.4	-0.1
	baz=95						
YOJ				*i* S	Sn	21 44 15.6	+0.3
	baz=95						
EOS4	EOS4	0.49	213	*e*P	Pb	21 44 08.6	+0.8
	baz=204						
EGS		0.69	297	*e*P	Pb	21 44 11.3	-0.1
	baz=302						
EGS				*e*S	Sb	21 44 21.3	+0.7
	baz=302						
TWC	Suao	0.69	276	*e*P	Pg	21 44 11.3	-0.2
	baz=279						
TWC				*e*S	Sb	21 44 20.9	+0.1
	baz=279						
TWB1	Santiao Chiao	0.73	310	P	Pn	21 44 12.8	-0.6
	baz=316						
TWB1				*e*S	Sg	21 44 21.2	-0.9
	baz=316						
EWUT	Wuta	0.76	263	*e*P	Pg	21 44 12.6	-0.2
	baz=264						
ENA	Nanau	0.80	263	*e*P	Pg	21 44 13.2	-0.3
	baz=263						
ILA	Ilan	0.81	287	*e*P	Pn	21 44 14.8	+0.3
	baz=290						
NDS	Dongshan	0.82	277	*e*P	Pb	21 44 13.9	+0.3
	baz=279						
NDS				*e*S	Sb	21 44 24.5	+0.2
	baz=279						
TIPB	Shuangxi	0.83	302	*e*P	Pn	21 44 14.6	-0.3
	baz=306						
TIPB				S	Sb	21 44 25.6	+0.7
	baz=306						
SXI1	Grass Mountain	0.87	310	⇑*i*P	Pn	21 44 15.4	0.0
	baz=315						
SXI1				S	Sn	21 44 27.1	-0.6
	baz=315						
TWE	Neicheng	0.88	282	*e*P	Pg	21 44 14.8	-0.1
	baz=285						
NWF	Wu-fen Shan	0.92	306	P	Pn	21 44 16.3	+0.1
	baz=309						
NWF				S	Sg	21 44 28.0	0.0
	baz=309						
WFSB	Wu-fen Shan	0.92	306	P	Pn	21 44 16.4	+0.4
	baz=309						
WFSB				S	Sg	21 44 27.9	0.0
	baz=309						
ENTT	Nioudou	0.95	277	*e*P	Pn	21 44 16.5	0.0
	baz=278						
FUSB	Fushanzhiwuyua	0.95	284	P	Pn	21

	baz=242							
TWA	**Mucha**	**1.03 296**	P		**Pn**	**21 44 18.1**	**+0.6**	
	baz=298							
TWA			S		**Sb**	**21 44 30.6**	**+0.1**	
	baz=298							
NWLT	**Wulai**	**1.03 284**	*e*P		**Pn**	**21 44 18.3**	**+0.7**	
	baz=286							
NWLT			*e*S		**Sb**	**21 44 30.6**	**0.0**	
	baz=286							
IRIF	**Iriomote-Funau**	**1.04 101**	P		**Pg**	**21 44 19.6**	**+1.5**	
NHDH	**Xindian Distri**	**1.07 294**	P		**Pg**	**21 44 18.7**	**0.0**	
	baz=296							
NHDH			S		**Sn**	**21 44 32.6**	**0.0**	
	baz=296							
ETLH	**Xiulin Townshi**	**1.08 253**	*e*P		**Pb**	**21 44 18.1**	**0.0**	
	baz=252							
ETLH			*e*S		**Sb**	**21 44 31.9**	**0.0**	
	baz=252							
NWRT	**Kuosheng**	**1.09 308**	*e*P		**Pg**	**21 44 20.2**	**+1.3**	
	baz=311							
TATO	**Taipei**	**1.11 294**	P		**Pg**	**21 44 18.9**	**-0.4**	
	baz=296							
TATO			S		**Sb**	**21 44 32.5**	**-0.2**	
	baz=296							
NNSB	**Datong**	**1.12 265**	P		**Pb**	**21 44 19.0**	**+0.1**	
	baz=265							
NNSB			*e*S		**Sb**	**21 44 32.0**	**-1.2**	
	baz=265							
NNSH	**Datong**	**1.12 265**	*e*P		**Pb**	**21 44 18.9**	**0.0**	
	baz=265							
YM01	**YM01**	**1.12 303**	*e*P		**Pg**	**21 44 19.5**	**-0.2**	
	baz=306							
NNS	**Nan Shan**	**1.13 265**	*e*P		**Pb**	**21 44 19.1**	**+0.1**	
	baz=265							
YHNB	**Yeheng**	**1.13 277**	*e*P		**Pg**	**21 44 19.8**	**+0.1**	
	baz=278							
YHNB			S		**Sb**	**21 44 33.2**	**-0.2**	
	baz=278							
YM08	**YM08**	**1.13 305**	*e*P		**Pg**	**21 44 19.2**	**+0.3**	
	baz=308							
NSK	**Sanguang**	**1.15 277**	*e*P		**Pg**	**21 44 20.0**	**-0.1**	
	baz=278							
ETM	**Tongmen**	**1.16 241**	P		**Pb**	**21 44 20.1**	**+0.6**	
	baz=239							
TWY	**Chenhua**	**1.18 309**	*e*P		**Pg**	**21 44 21.0**	**+0.3**	
	baz=312							
TWY			S		**Sg**	**21 44 35.5**	**-0.5**	
	baz=312							
ANP	**Anpu**	**1.18 304**	*e*P		**Pg**	**21 44 20.5**	**-0.3**	
	baz=306							
PCYT	**Pengchaiyu**	**1.19 336**	*e*P		**Pb**	**21 44 20.0**	**-0.1**	
	baz=340							
TWS1	**Kuangyinshan**	**1.22 298**	*e*P		**Pb**	**21 44 20.7**	**+0.2**	
	baz=300							
TWS1			*e*S		**Sn**	**21 44 36.3**	**+0.1**	
	baz=300							
NTST	**Danshui**	**1.22 301**	*e*P		**Pb**	**21 44 20.6**	**+0.1**	
	baz=303							
FUSS	**Fushou**	**1.27 257**	*e*P		**Pg**	**21 44 22.5**	**-0.1**	
	baz=257							
WHF	**Hehuan Shan**	**1.28 253**	*e*P		**Pn**	**21 44 21.5**	**+0.1**	
	baz=252							
ESL	**Shilin**	**1.29 236**	P		**Pn**	**21 44 21.4**	**+0.3**	
	baz=234							
JKRS	**Kuro-shima**	**1.31 103**	P		**Pg**	**21 44 23.6**	**+0.3**	
JKRS			S		**Sg**	**21 44 40.9**	**+0.6**	
NFF	**Wufeng Townshi**	**1.36 274**	*e*P		**Pg**	**21 44 23.6**	**-0.5**	
	baz=275							
CHGB	**Renai**	**1.39 250**	*e*P		**Pg**	**21 44 24.6**	**-0.2**	
	baz=249							
CHGB			*e*S		**Sg**	**21 44 42.3**	**-0.6**	
	baz=249							
JIJ	**Ishigaki jima**	**1.41 97**	P		**Pg**	**21 44 24.9**	**-0.2**	
OWD	**Renai**	**1.43 246**	*e*P		**Pb**	**21 44 24.1**	**0.0**	
	baz=245							
LIOB	**Emei**	**1.45 275**	*e*P		**Pn**	**21 44 23.3**	**0.0**	
	baz=275							
WUSB	**Renai**	**1.46 249**	P		**Pb**	**21 44 25.0**	**+0.3**	
	baz=247							
WUSB			*e*S		**Sg**	**21 44 44.5**	**-0.7**	
	baz=247							
NSTT	**Nanjuang**	**1.47 274**	*e*P		**Pg**	**21 44 26.5**	**+0.3**	
	baz=274							
HGSD	**Ruisui**	**1.50 226**	*e*P		**Pn**	**21 44 24.7**	**+0.7**	
	baz=224							
WHP	**Taichung City**	**1.54 261**	*e*P		**Pg**	**21 44 27.2**	**-0.2**	
	baz=260							
VWDT	**VWDT**	**1.55 240**	*e*P		**Pn**	**21 44 24.6**	**0.0**	
	baz=238							
JISG	**Ishigakijimahi**	**1.55 88**	P		**Pg**	**21 44 27.4**	**-0.4**	
JISG			*e*S		**Sg**	**21 44 47.4**	**-0.6**	
EHY	**Hungye**	**1.56 229**	*e*P		**Pn**	**21 44 24.8**	**0.0**	
	baz=227							
DPDB	**Guoxing**	**1.61 252**	*e*P		**Pb**	**21 44 27.8**	**+0.6**	
	baz=251							
WCS	**Beigang Elemen**	**1.62 253**	*e*P		**Pb**	**21 44 28.0**	**+0.7**	
	baz=252							
YULB	**Yu-li**	**1.65 227**	*e*P		**Pn**	**21 44 26.3**	**+0.2**	
	baz=224							
SSLB	**Suanglung**	**1.68 244**	*e*P		**Pb**	**21 44 27.8**	**-0.6**	
	baz=243							
SMLT	**Sun Moon Lake**	**1.69 248**	*e*P		**Pb**	**21 44 28.7**	**+0.2**	
	baz=246							
TYC	**Yuchr**	**1.72 249**	*e*P		**Pn**	**21 44 28.1**	**+1.1**	
	baz=248							
FULB	**Fuli**	**1.79 222**	*e*P		**Pn**	**21 44 28.4**	**+0.4**	
	baz=220							
YUS	**Yu-Shan**	**1.84 236**	P		**Pb**	**21 44 30.7**	**-0.6**	
	baz=234							
YUS			*e*S		**Sn**	**21 44 52.0**	**-0.2**	
	baz=234							
WNT	**Mingjian**	**1.87 250**	*e*P		**Pb**	**21 44 32.1**	**+0.5**	
	baz=249							
EHD	**Haiduan**	**1.88 223**	*e*P		**Pn**	**21 44 29.6**	**+0.3**	
	baz=221							
ALS	**Alishan**	**1.94 239**	*e*P		**Pb**	**21 44 32.2**	**-0.7**	
	baz=237							
ELDTW	**Lidau**	**1.98 228**	*e*P		**Pn**	**21 44 31.0**	**+0.4**	
	baz=225							
STYH	**Taoyuan**	**2.16 231**	*e*P		**Pn**	**21 44 34.7**	**+1.7**	
	baz=230							
CHN4	**Tsaushan**	**2.19 238**	*e*P		**Pb**	**21 44 36.2**	**-0.8**	
	baz=236							
TPUB	**Ta-pu**	**2.19 236**	*e*P		**Pb**	**21 44 36.1**	**-0.9**	
	baz=235							
TWGBT	**Beinan**	**2.21 220**	*e*P		**Pn**	**21 44 35.9**	**+2.1**	
	baz=217							
WTP	**Ta-pu**	**2.23 235**	*e*P		**Pb**	**21 44 37.2**	**-0.5**	
	baz=233							
CHN1	**Nanshi**	**2.33 235**	*e*P		**Pb**	**21 44 38.6**	**-0.8**	
	baz=233							
SGST	**Jiashian**	**2.35 232**	*e*P		**Pn**	**21 44 37.3**	**+1.6**	
	baz=231							
SSD	**Sandimen**	**2.54 226**	*e*P		**Pn**	**21 44 41.0**	**+2.7**	
	baz=224							
EAST	**Anshuo**	**2.68 217**	*e*P		**Pn**	**21 44 42.5**	**+2.2**	
	baz=215							
SCZT	**Fangliau**	**2.82 221**	*e*P		**Pb**	**21 44 45.7**	**-2.1**	
	baz=219							
SLIU	**Shizi**	**2.84 216**	*e*P		**Pb**	**21 44 45.8**	**-2.4**	
	baz=214							
MATB	**Ma-tsu**	**2.90 304**	*e*P		**Pn**	**21 44 44.5**	**+1.3**	
	baz=304							
XPSS	**Dashiqiu**	**3.23 318**	*e*P		**Pn**	**21 44 48.7**	**+0.9**	
	baz=318							

*IDC **26** 21:49:18.9±1.8, 0.°18S×18.°79W, h0km, mb4.0/4, mbtmp4.3/7, ML4.8/3, MS3.5/29, Error ellipse: s-maj=74.5km s-min=30.7km az=150.0*

*NEIC **26** 21:49:21.1±1.5, 0.°12S±0.°06×18.°62W±0.°09, h10km±1km, mb5.0/46, Error ellipse: s-maj=16.0km s-min=10.0km az=80.0*

ISC 26 21:49:21.0±0.4, **0.°13S**±0.°07×**18.°71W**±0.°07, **h14**km, **n89,** σ**1**§**10**/63, **mb5.0**/26, **MS3.5**/28, **3C, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.73**	**151**	Op Pn		**Pn**	**21 51 26.9**	**+0.2**
	baz=333,slow=12							
H10N2				T		T	22 00 04.4	
	baz=330,slow=73,SNR=151							
H10N3	**ASCENSION HYDR**	**8.73**	**151**	Pn		**Pn**	**21 51 27.1**	**+0.4**
	baz=333,slow=12							
H10N3				T		T	22 00 06.9	
	baz=330,slow=73,SNR=136							
H10N1	**ASCENSION HYDR**	**8.75**	**151**	Pn		**Pn**	**21 51 27.2**	**+0.2**
	baz=333,slow=12							
H10N1				T		T	22 00 08.2	
	baz=330,slow=73,SNR=227							
ASCN	**Ascension**	**8.88**	**151**	Pn		**Pn**	**21 51 28.6**	**-0.4**
H10S3	**ASCENSION HYDR**	**9.65**	**155**	Pn		**Pn**	**21 51 39.9**	**+0.6**
BBTS	**Babate**	**14.85**	**8**	Pn		**Pn**	**21 52 50.8**	**0.0**
	8.7nm,0.3s,baz=144,slow=19,SNR=10							
BBTS				Sn		Sn	21 55 23.6	-12
	2.3nm,0.3s,baz=151,slow=22,SNR=1.6 16nm,0.3s							
LIC	**Lamto**	**15.04**	**65**↑	*e*P		**Pn**	**21 52 55.7**	**+2.4**
	4.3nm,0.3s							
TIC	**Toumodi**	**15.23**	**64**↑	*e*P		**Pn**	**21 52 57.1**	**+1.3**
	9.2nm,0.4s							
KIC	**Kosan Boka**	**15.36**	**65**↑	*e*P		**Pn**	**21 52 58.5**	**+1.0**
	5.9nm,0.3s							
DBIC	**Dimbokro**	**15.38**	**64**	Pn		**Pn**	**21 52 57.6**	**-0.2**
	3.5nm,0.3s,baz=263,slow=16,SNR=30							
DBIC				Sn		Sn	21 55 37.5	-11
	0.8nm,0.3s,baz=305,slow=12,SNR=4.0							
DBIC				LR		LR	21 58 12.4	
	comp=Z,103nm,18.1s,baz=238,slow=34 6.1nm,0.3s							
DBIC	**Dimbokro**	**15.38**	**64**	P		**Pn**	**21 52 59.4**	**+1.6**
SACV	**Santiago Islan**	**15.77**	**342**	P		**P**	**21 53 05.9**	**-0.8**
SACV				IAmb		IAmb	21 53 07.3	
	comp=Z,65nm,1.1s							
RCBR	**Riachuelo**	**18.07**	**251**	P		**Pn**	**21 53 30.4**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=230,slow=14,SNR=8.1							
RCBR				S		Sn	21 56 38.7	-15
	comp=Z,9.7nm,0.9s,baz=137,slow=19,SNR=4.5 comp=Z,4.8nm,0.5s							
RCBR	**Riachuelo**	**18.07**	**251**			**Pn**	**21 53 31.9**	**0.0**
TORD	**Torodi Ar. Bea**	**24.15**	**56**	P		**P**	**21 54 37.9**	**+1.0**
	comp=Z,4.9nm,1.0s,baz=239,slow=8.6,SNR=14 comp=Z,4.9nm,1.0s							
TORD	**Torodi Ar. Bea**	**24.15**	**56**	P		**P**	**21 54 34.7**	**-2.2**
MDP	**Montagnes des**	**34.28**	**279**	LR		LR	22 07 53.6	
	comp=Z,52nm,20.6s,baz=74,slow=33							
MDT	**Midelt**	**35.36**	**21**	LR		LR	22 09 47.3	
	comp=Z,65nm,18.9s,baz=210,slow=35							
MESJ	**Messejana**	**39.00**	**13**	P		**P**	**21 56 46.1**	**-0.9**
MESJ				IAmb		IAmb	21 56 46.4	
	comp=Z,67nm,1.4s							
TSUM	**Tsumeb**	**40.32**	**120**	LR		LR	22 09 42.4	
	comp=Z,46nm,20.4s,baz=280,slow=30							
WIN	**Windhoek**	**41.37**	**125**	P		**P**	**21 57 06.7**	**-0.5**
BOAV	**Boa Vista**	**41.88**	**274**	P		**P**	**21 57 11.5**	**+0.3**
BOAV				IAmb		IAmb	21 57 16.9	
	comp=Z,11nm,1.5s							
KEST	**Kesra**	**44.22**	**33**	LR		LR	22 17 28.9	
	comp=Z,108nm,19.4s,baz=304,slow=38							
BIM	**Bigot**	**44.35**	**291**	P		**P**	**21 57 30.8**	**-0.5**
GDSD	**La Dsirade Is**	**44.85**	**293**	P		**P**	**21 57 36.2**	**+1.0**
GDSD				IAmb		IAmb	21 57 39.4	
	comp=Z,21nm,0.8s							
CPUP	**Villa Florida**	**45.40**	**232**	LR		LR	22 14 47.8	
	comp=Z,33nm,19.1s,baz=62,slow=34							
ANWB	**Willy Bob**	**45.91**	**295**	P		**P**	**21 57 42.8**	**-0.8**
VAE	**Valguarnera**	**48.32**	**36**	LR		LR	22 21 46.9	
	comp=Z,70nm,18.4s,baz=156,slow=40							
LBTB	**Lobatse**	**49.44**	**123**	LR		LR	22 16 31.8	
	comp=Z,35nm,19.1s,baz=272,slow=33							
MBAR	**Mbarara**	**49.45**	**91**	LR		LR	22 17 06.1	
	comp=Z,109nm,18.4s,baz=274,slow=34							
MBAR	**Mbarara**	**49.45**	**91**	P		**P**	**21 58 10.5**	**-0.9**
MTP	**Monte Pirata**	**49.47**	**294**	P		**P**	**21 58 11.8**	**+0.6**
MTP				IAmb		IAmb	21 58 50.2	
	comp=Z,18nm,1.1s							
CBYP	**Canovanas**	**49.79**	**294**	P		**P**	**21 58 13.2**	**-0.6**
CBYP				IAmb		IAmb	21 58 32.0	
	comp=Z,30nm,1.4s							
SJG	**San Juan**	**50.02**	**294**	LR		LR	22 15 04.3	
	comp=Z,44nm,20.1s,baz=78,slow=31							
BOSA	**Boshof**	**50.66**	**128**	LR		LR	22 16 26.5	
	comp=Z,29nm,19.2s,baz=286,slow=32							
CUC	**Castrocucco**	**50.84**	**34**	P		**P**	**21 58 21.5**	**+0.1**
PAOL	**Paolisi**	**50.87**	**32**	P		**P**	**21 58 21.8**	**+0.1**
PAOL				IAmb		IAmb	21 58 51.7	
	comp=Z,19nm,1.3s							
MSSA	**Maissana**	**50.88**	**26**	P		**P**	**21 58 21.7**	**+0.1**
MSSA				IAmb		IAmb	21 58 43.2	
	comp=Z,66nm,1.4s							
GUMA	**Gualdo di Mace**	**51.70**	**30**	P		**P**	**21 58 27.2**	**-0.6**
GUMA				IAmb		IAmb	21 58 34.9	
	comp=Z,68nm,1.5s							
SDV	**Santo Domingo**	**52.48**	**281**	LR		LR	22 21 00.8	
	comp=Z,38nm,18.4s,baz=230,slow=36							
SDV	**Santo Domingo**	**52.48**	**281**	P		**P**	**21 58 34.8**	**+0.6**
SOE	**Somerset East**	**52.78**	**132**	P		**P**	**21 58 35.1**	**-0.9**
SOE				IAmb		IAmb	21 58 51.8	
	comp=Z,13nm,1.0s							
DAVOX	**Davos/Dischmat**	**53.00**	**24**	LR		LR	22 20 37.8	
	comp=Z,76nm,19.5s,baz=256,slow=35							
PB11	**IPOC Station P**	**53.55**	**245**			**S**	**22 06 16.2**	**+1.0**
LVC	**Limon Verde**	**53.68**	**242**	LR		LR	22 21 23.8	
	comp=Z,37nm,19.5s,baz=322,slow=36							
LVC	**Limon Verde**	**53.68**	**242**	P		**P**	**21 58 42.5**	**-0.6**
IDI	**Anvia**	**53.76**	**44**	LR		LR	22 20 41.9	
	comp=Z,17nm,20.6s,baz=90,slow=35							
PSGCX	**Pisagua**	**53.93**	**246**	P		**P**	**21 58 44.6**	**-0.1**
PSGCX				IAmb		IAmb	21 58 52.1	
	comp=Z,16nm,1.2s							
TA01	**Diego Aracena**	**54.23**	**245**	P		**P**	**21 58 45.0**	**-1.8**
TA01				IAmb		IAmb	21 59 17.8	
	comp=Z,20nm,1.1s							
CFA	**Coronel Fontan**	**56.29**	**231**	LR		LR	22 22 50.6	
	comp=Z,48nm,18.7s,baz=70,slow=36							
ARG	**Arkhangelos**	**56.50**	**45**	P		**P**	**21 59 02.1**	**-0.8**
LCO	**Las Campanas**	**57.29**	**235**	P		**P**	**21 59 08.2**	**-0.8**
LCO				IAmb		IAmb	21 59 16.8	
	comp=Z,19nm,1.4s							
VRAC	**Vranov**	**57.83**	**27**	LR		LR	22 23 10.5	
	comp=Z,57nm,19.6s,baz=328,slow=35							
NNA	**Nana**	**58.87**	**256**	LR		LR	22 24 13.7	
	comp=Z,57nm,18.0s,baz=58,slow=36							
EIL	**Elat**	**59.03**	**55**	LR		LR	22 27 42.8	
	comp=Z,30nm,18.2s,baz=241,slow=39							
VA01	**Torpederas**	**59.50**	**231**	P		**P**	**21 59 24.7**	**+0.7**
ATAH	**Atahuipa**	**59.92**	**262**	LR		LR	22 23 59.5	
	comp=Z,68nm,19.6s,baz=82,slow=35							
MLR	**Muntele Rosu**	**60.08**	**35**	LR		LR	22 27 08.4	
	comp=Z,41nm,18.8s,baz=263,slow=38							
MMAI	**Mount Meron Ar**	**60.57**	**51**	LR		LR	22 27 11.2	
	comp=Z,29nm,18.2s,baz=156,slow=38							
TIRR	**Tirgusor**	**60.94**	**37**	P		**P**	**21 59 34.5**	**+0.9**
PLCA	**Paso Flores**	**61.90**	**223**	LR		LR	22 25 54.7	
	comp=Z,18nm,18.0s,baz=152,slow=36							
BR131	**Keskin Array S**	**61.98**	**44**	P		**P**	**21 59 37.1**	**-3.9**
BR131				IAmb		IAmb	21 59 51.9	
	comp=Z,17nm,1.5s							
BRTR	**Keskin Array B**	**61.98**	**44**	P		**P**	**21 59 42.6**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=260,slow=6.2,SNR=4.2							
BRTR				LR		LR	22 29 08.1	
	comp=Z,29nm,18.3s,baz=284,slow=38 comp=Z,1.5nm,0.9s							
LL04	**Puerto Octay**	**63.25**	**223**	P		**P**	**21 59 49.4**	**+0.2**
M63A	**Gales Ferry**	**63.40**	**318**	P		**P**	**21 59 49.2**	**-1.0**
K62A	**Royalston**	**64.09**	**319**	P		**P**	**21 59 54.6**	**-0.1**
K62A				IAmb		IAmb	22 00 15.3	
	comp=Z,15nm,1.1s							
PAL	**Palisades**	**64.50**	**316**	P		**P**	**21 59 58.0**	**+0.5**
AKASG	**Malin Array Be**	**64.89**	**31**	P		**P**	**22 00 00.3**	**+0.5**
	comp=Z,0.1nm,0.2s,baz=236,slow=5.3,SNR=5.6							
AKASG				LR		LR	22 28 25.3	
	comp=Z,45nm,18.1s,baz=1.5,slow=36 comp=Z,0.1nm,0.2s							
AY01	**Puyuhuapi**	**64.95**	**220**	P		**P**	**22 00 01.4**	**+1.1**
AY01				IAmb		IAmb	22 00 06.0	
	comp=Z,12nm,1.4s							
NOA	**NORSAR Array B**	**65.17**	**16**	LR		LR	22 28 00.2	
	comp=Z,17nm,18.7s,baz=265,slow=36							
J59A	**Piesco**	**65.94**	**319**	P		**P**	**22 00 07.2**	**+0.5**
J59A				IAmb		IAmb	22 00 35.8	
	comp=Z,15nm,1.2s							
FRNY	**Flat Rock**	**65.94**	**320**	P		**P**	**22 00 08.1**	**+1.4**
FRNY				IAmb		IAmb	22 00 18.8	
	comp=Z,23nm,1.4s							
SDMD	**Soldier's Deli**	**65.94**	**314**	P		**P**	**22 00 07.6**	**+0.7**
SDMD				IAmb		IAmb	22 00 11.5	
	comp=Z,15nm,1.2s							
JTS	**Las Juntas de**	**66.67**	**281**	LR		LR	22 28 26.8	
	comp=Z,54nm,18.9s,baz=342,slow=35							
SCHQ	**Schefferville**	**67.39**	**332**	LR		LR	22 26 45.0	
	comp=Z,21nm,18.6s,baz=99,slow=33							
GURO	**Guroymak-BITLI**	**67.55**	**48**	P		**P**	**22 00 18.2**	**+0.9**
O54A	**Avella**	**68.77**	**314**	P		**P**	**22 00 25.6**	**+0.8**
O54A				IAmb		IAmb	22 00 26.2	
	comp=Z,21nm,1.5s							
TIGA	**Tifton**	**68.80**	**304**	P		**P**	**22 00 25.3**	**+0.2**
KIV	**Kislovodsk**	**69.86**	**42**	P		**P**	**22 00 32.1**	**+0.5**
KIV				IAmb		IAmb	22 00 43.7	
	comp=Z,8.1nm,1.2s							
KBZ	**Khabaz**	**69.93**	**43**	P		**P**	**22 00 33.1**	**+1.2**
	comp=Z,3.0nm,0.9s,baz=306,slow=9.2,SNR=4.5 comp=Z,3.0nm,0.9s							
P48A	**Milroy**	**72.27**	**312**	P		**P**	**22 00 47.3**	**+1.2**
P48A				IAmb		IAmb	22 00 55.4	
	comp=Z,16nm,1.1s							
WCI	**Wyandotte Cave**	**72.61**	**310**	P		**P**	**22 00 45.6**	**-2.6**
WCI				IAmb		IAmb	22 00 46.2	
	comp=Z,8.1nm,0.8s							
L46A	**Eue Claire**	**73.58**	**314**	P		**P**	**22 00 55.0**	**+1.1**
S44A	**Carbondale**	**74.76**	**309**	P		**P**	**22 01 00.9**	**+0.1**
S44A				IAmb		IAmb	22 01 36.0	
	comp=Z,14nm,1.3s							
SMAI	**San Martin Ant**	**75.47**	**197**	P		**P**	**22 01 05.2**	**+0.9**
LCAR	**Lake Charles**	**75.93**	**307**	P		**P**	**22 01 08.5**	**+0.8**
K38A	**Parkersburg**	**78.40**	**314**	P		**P**	**22 01 22.2**	**+0.8**
K38A				IAmb		IAmb	22 01 49.0	
	comp=Z,23nm,1.4s							
AAK	**Ala-Archa**	**92.45**	**48**	LR		LR	22 50 33.6	
	comp=Z,30nm,18.3s,baz=2.0,slow=40							
ASAR	**Alice Springs**	**144.41**	**134**	PKP		**PKPdf**	**22 08 57.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=181,slow=6.5,SNR=2.8							

*DNK **26** 21:51:12.7±1.4, 51.°51N×16.°20E, h15km, ML2.7*

*IPEC **26** 21:51:14.7±0.2, 51.°64N×16.°08E, h1km, ML2.7/5, Error ellipse: s-maj=2.0km s-min=1.2km az=35.0*

*IDC **26** 21:51:15.9±1.2, 51.°53N×15.°99E, h0km, mbtmp3.1/3, ML2.4/3, Error ellipse: s-maj=28.6km s-min=9.4km az=110.0*

*BGR **26** 21:51:16.2±0.6, 51.°58N×15.°99E, h1km, ML3.0/12, Error ellipse: s-maj=5.6km s-min=3.3km az=18.0*

*PRU **26** 21:51:16.0±0.0, 51.°57N×15.°99E, h0km*

*VIE **26** 21:51:21.4, 51.°28N×15.°78E, h0km, mb2.7/7, ml2.7/9 72 km NE of Liberec Suspected Mining induced.*

ISC 26 21:51:13.9±0.8, **51.°67N**±0.°03×**16.°02E**±0.°02, **h0**km, **n60,** σ**1**§**03**/111, **Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.84**	**168**	Op *e*Pg		**Pg**	**21 51 30.4**	**+0.4**
KSP				*e*Sg		**Sg**	**21 51 40.8**	**0.0**
KSP	**Ksiaz**	**0.84**	**168**	*e*Pg		**Pg**	**21 51 30.4**	**+0.4**
KSP				*e*Sg		**Sg**	**21 51 40.8**	**0.0**
OSTC	**Ostas**	**1.12**	**174**	*e*PG		**Pg**	**21 51 35.2**	**-0.1**
OSTC				*e*SG		**Sg**	**21 51 48.3**	**-1.4**
	comp=Z,52nm,0.5s							
UPC	**Upice**	**1.16**	**180**	*e*PG		**Pg**	**21 51 35.8**	**-0.3**
UPC				*e*SG		**Sg**	**21 51 50.6**	**-0.5**
	comp=Z,168nm,0.8s							
DPC	**Dobruska-Polom**	**1.33**	**172**	*e*PG		**Pg**	**21 51 39.0**	**-0.3**
DPC				*e*SG		**Sg**	**21 51 55.3**	**-1.3**
	comp=Z,62nm,0.6s							
DPC	**Dobruska-Polom**	**1.33**	**172**	*e*Pg		**Pg**	**21 51 39.2**	**-0.2**
DPC				*e*Sg		**Sg**	**21 51 56.2**	**-0.4**
PVCC	**Panska Ves**	**1.46**	**219**	*e*PG		**Pn**	**21 51 41.5**	**0.0**
PVCC				*e*SG		**Sg**	**21 52 00.2**	**-0.6**
	comp=Z,157nm,0.4s							
BRG	**Berggiesshubel**	**1.53**	**240**	Pg		**Pg**	**21 51 43.4**	**+0.3**
BRG				Sg		**Sn**	**21 52 03.5**	**+0.5**
BRG				Amp			21 52 06.5	
	comp=Z,107nm,0.5s							
BRG	**Berggiesshubel**	**1.53**	**240**	*e*Pg		**Pb**	**21 51 43.2**	**+0.2**
BRG				*e*Sg		**Sn**	**21 52 03.5**	**+0.5**
KRLC	**Kraliky**	**1.66**	**163**	*e*PG		**Pn**	**21 51 44.2**	**-0.1**
KRLC				*e*SG		**Sn**	**21 52 06.5**	**+0.1**
	comp=Z,86nm,0.4s							
FBE	**Freiberg**	**1.83**	**247**	*e*Sg		**Sg**	**21 52 13.1**	**+0.4**
GOPC	**GO Pecny, Ondr**	**1.92**	**205**	*e*PG		**Pn**	**21 51 47.8**	**0.0**
GOPC				*e*SG		**Sb**	**21 52 13.6**	**-0.7**
	comp=Z,41nm,0.5s							
CLL	**Collm**	**1.92**	**260**	*i* Pn		**Pn**	**21 51 47.7**	**-0.1**
	comp=Z,14nm,0.5s							
CLL				*i* Pg		**Pg**	**21 51 50.8**	**+0.1**
CLL				*i x*		x	21 51 54.6	
CLL				*e*Sg		**Sg**	**21 52 16.0**	**+0.4**
	comp=Z,37nm,0.5s							
CLL	**Collm**	**1.92**	**260**	*e*Pn		**Pn**	**21 51 47.4**	**-0.4**
PRU	**Pruhonice**	**1.92**	**210**	*e*PN		**Pn**	**21 51 47.7**	**-0.2**
PRU				*e*PG		**Pb**	**21 51 49.5**	**-0.3**
PRU				*e*SG		**Sb**	**21 52 13.8**	**-0.5**
	comp=Z,46nm,0.5s							
MORC	**Moravsky Berou**	**2.12**	**152**	*e*PN		**Pn**	**21 51 50.8**	**+0.1**
MORC				*e*SG		**Sb**	**21 52 20.0**	**-0.1**
MORC	**Moravsky Berou**	**2.12**	**152**	*e*Pn		**Pn**	**21 51 50.8**	**+0.1**
MORC	**Moravsky Berou**	**2.12**	**152**	*e*Pn		**Pn**	**21 51 50.7**	**+0.1**
	baz=334							
MORC				*e*Sg		**Sb**	**21 52 20.0**	**-0.1**
	comp=Z,44nm

NIE	**Niedzica**	**3.54**	**128**	*e*P	**Pg**	**21 52 21.5**	**-0.1**
NIE				*e*S	**Sg**	**21 53 06.6**	**-0.8**
GRF	**Grafenberg Arr**	**3.64**	**239**	*e*Sg	**Sg**	**21 53 10.4**	**-0.3**
VYHS	**Vyhne**	**3.66**	**149**	*e*PN	**Pn**	**21 52 11.9**	**+0.2**
VYHS				*e*PG	**Pg**	**21 52 24.2**	**+0.3**
VYHS				*e*SG	**Sg**	**21 53 11.5**	**+0.3**
CONA	**Conrad Observa**	**3.74**	**182**	*i* Pn	**Pn**	**21 52 14.0**	**+1.0**
	comp=Z,0.7nm,0.2s						
CONA				*e*Sg	**Sg**	**21 53 11.8**	**-2.2**
RONA	**Rosalia, Austr**	**3.97**	**177**	Sg	**Sg**	**21 53 18.2**	**-3.2**
	comp=Z,0.7nm,0.2s						
MOA	**Molln**	**3.99**	**197**	*e*Pn	**Pn**	**21 52 14.7**	**-1.5**
	comp=Z,3.8nm,0.3s						
MOA				Sg	**Sg**	**21 53 21.0**	**-0.9**
STHS	**Stebnicka Huta**	**4.02**	**122**	*e*PN	**Pn**	**21 52 16.8**	**+0.1**
STHS				*e*PG	**Pg**	**21 52 31.4**	**+0.5**
STHS				*e*SG	**Sg**	**21 53 23.1**	**+0.2**
LUNU	**Lund**	**4.26**	**340**	*i* P	**Pn**	**21 52 19.8**	**-0.1**
LUNU				*e*S	**Sn**	**21 53 09.8**	**-0.5**
BIOA	**Bad Ischl, Aus**	**4.27**	**202**	*e*Pn	**Pn**	**21 52 21.5**	**+1.4**
	comp=Z,1.1nm,0.2s						
BJUU	**Bjuv**	**4.76**	**339**	*e*S	**Sn**	**21 53 20.8**	**-1.8**
KBA	**Koelnbreinsper**	**4.91**	**202**	*i* Pn	**Pn**	**21 52 29.7**	**+0.6**
	comp=Z,1.7nm,0.4s						
DEL	**Delary**	**4.98**	**346**	*i* P	**Pn**	**21 52 29.3**	**-0.5**
DEL				*e*S	**Sn**	**21 53 24.7**	**-3.2**
WATA	**Walderalm**	**5.21**	**215**	*e*Pn	**Pn**	**21 52 34.8**	**+1.6**
	comp=Z,0.4nm,0.2s						
WTTA	**Wattenberg**	**5.25**	**215**	*e*Pn	**Pn**	**21 52 35.8**	**+2.1**
	comp=Z,0.6nm,0.2s						
MOTA	**Moosalm**	**5.38**	**218**	*e*Pn	**Pn**	**21 52 36.7**	**+1.2**
	comp=Z,0.6nm,0.2s						
RETA	**Reutte**	**5.40**	**221**	*e*Pn	**Pn**	**21 52 40.0**	**+4.3**
	comp=Z,0.7nm,0.3s						
NOA	**NORSAR Array B**	**9.77**	**346**	Pn	**Pn**	**21 53 35.8**	**+0.4**
	baz=161,slow=14,SNR=1.4						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**11.24**	**25**	Pn	**Pn**	**21 53 55.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=221,slow=11,SNR=3.9						
	comp=Z,1.4nm,0.9s						

IDC ***26*** *22:07:27.1±1.4, 1.°48S×134.°30E, h0km, mb3.6/4, mbtmp3.8/6, ML4.1/2, Error ellipse: s-maj=40.4km s-min=19.8km az=65.0*

DJA ***26*** *22:07:30.9±0.5, 2.°5S×6.°3×13.°4E±.°, h12km±5km, M4.2/7, mb4.3/3, mB5.4/1, MLv4.1/7, Mw(mB)4.9/1*

ISC 26 22:07:29.8±0.9, **1.°51S**±0.°09×**134.°15E**±0.°06, **h17**km±5km, **n12**, σ1§**89**/15, **mb3.8**/4, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.03**	**97**	P		**Pg**		**22 07 32.9**	**+0.1**
RKPI				S		**Sg**		**22 07 35.8**	**+1.0**
SRPI	**Serui, Papua**	**2.12**	**100**	P		**Pb**		**22 08 04.8**	**-3.0**
FAKI	**Fak Fak**	**2.36**	**234**	P		**Pn**		**22 08 09.5**	**+1.6**
FAKI				S		**Sn**		**22 08 39.2**	**+2.6**
SIJI	**Sorong**	**2.95**	**282**	Pn		**Pn**		**22 08 16.9**	**+0.8**
	19nm,0.3s,baz=72,slow=13,SNR=107								
SIJI				Sn		**Sb**		**22 08 56.8**	**-1.2**
	12nm,0.3s,baz=127,slow=20,SNR=6.0								
	48nm,0.3s								
SWI	**Sorong**	**2.96**	**282**	P		**Pn**		**22 08 17.5**	**+1.4**
SMPI	**Sarmi**	**4.58**	**96**	P		**Pn**		**22 08 40.6**	**+2.2**
BNDI	**Bandanaira**	**5.19**	**235**	P		**Pn**		**22 08 43.6**	**-3.2**
WRA	**Warramunga Arr**	**18.32**	**179**	P		**Pn**		**22 11 43.3**	**-0.1**
	0.7nm,0.3s,baz=359,slow=12,SNR=40								
	2.0nm,0.4s								
ASAR	**Alice Springs**	**22.03**	**181**	P		**P**		**22 12 23.6**	**-0.2**
	1.9nm,0.6s,baz=6.1,slow=12,SNR=20								
	1.9nm,0.6s								
STKA	**Stephens Creek**	**31.01**	**168**	P		**P**		**22 13 46.8**	**+0.1**
	0.7nm,0.4s,baz=342,slow=13,SNR=3.4								
	0.7nm,0.4s								
SONM	**Songino Array**	**54.78**	**337**	P		**P**		**22 16 58.8**	**-0.1**
	0.2nm,0.7s,baz=140,slow=9.1,SNR=1.7								
	0.2nm,0.7s								
MKAR	**Makanchi Array**	**66.10**	**324**	P		**P**		**22 18 16.8**	**+0.6**
	0.5nm,0.5s,baz=110,slow=8.1,SNR=11								
	0.5nm,0.5s								

IDC 26 22:10:48.1±2.5, **5.°47N**×**123.°40E**, **h0**km, **mb3.9**/3, **mbtmp3.9**/3, **Error ellipse: s-maj=334.3km s-min=24.0km az=63.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.45**	**157**	P		P	P	22 16 36.2	+0.2
	1.4nm,0.3s,baz=336,slow=9.7,SNR=24								
	1.4nm,0.3s								
ASAR	**Alice Springs**	**30.72**	**161**	P		P	P	22 17 04.8	-0.3
	0.4nm,0.5s,baz=342,slow=7.8,SNR=6.4								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**54.26**	**326**	P		P	P	22 20 15.8	-0.1
	0.4nm,0.3s,baz=125,slow=7.4,SNR=18								
	0.4nm,0.3s								

IDC 26 22:19:29.0±2.2, **8.°73S**×**119.°81E**, **h0**km, **mb3.2**/2, **mbtmp3.2**/4, **ML2.7**/2, **Error ellipse: s-maj=82.8km s-min=24.4km az=64.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.69**	**359**	Pn		Pn	Pn	22 20 26.8	-0.6
	0.4nm,0.3s,baz=180,slow=6.1,SNR=1.7								
KAPI				Sn		Sn	Sn	22 21 13.4	+1.7
	2.0nm,0.3s,baz=151,slow=19,SNR=2.4								
	12nm,0.9s								
WRA	**Warramunga Arr**	**17.94**	**130**	P		P	Pn	22 23 39.2	-0.9
	baz=308,slow=13,SNR=0.9								
	0.2nm,0.6s								
ASAR	**Alice Springs**	**20.07**	**139**	P		P	P	22 24 04.8	+0.6
	0.6nm,0.7s,baz=308,slow=9.8,SNR=4.9								
	0.6nm,0.7s								
H08S2	**Diego Garcia H**	**46.82**	**268**	T		T	T	23 18 12.0	
	baz=96,slow=75,SNR=28								
H08S3	**Diego Garcia H**	**46.83**	**268**	T		T	T	23 18 13.1	
	baz=96,slow=75,SNR=23								
H08S1	**Diego Garcia H**	**46.84**	**268**	T		T	T	23 18 13.7	
	baz=96,slow=75,SNR=24								
MKAR	**Makanchi Array**	**64.58**	**332**	P		P	P	22 30 08.3	+0.1
	0.4nm,0.8s,baz=143,slow=5.0,SNR=3.2								
	0.4nm,0.8s								
H09N1	**TRISTAN DA CUNI**	**16.09**	**221**	T		T	T	00 45 19.3	
	SNR=21								

NNC ***26*** *22:27:35.9±3.2, 38.°00N×69.°16E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=26.1km s-min=22.7km az=51.0*

ISC 26 22:27:35.4±1.3, **37.°81N**±0.°08×**69.°1E**±0.°1, **h10**km, **n7**, σ2§**06**/10, **6C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.59**	**149**	P		**Pn**		**22 28 45.9**	**+0.9**
CHCP	**Chirah Chowk**	**5.36**	**139**	P		**Pn**		**22 28 55.1**	**-0.3**
KK31	**Karatay Array**	**5.40**	**11**	⇑Pn		**Pn**		**22 28 56.0**	**0.0**
	0.4nm,0.3s,baz=199,slow=15,SNR=26								
KK31				⇑Pg		**Pb**		**22 29 13.9**	**+4.1**
	1.2nm,0.3s,baz=185,slow=14,SNR=7.6								
KK31				⇑Sn		**Sn**		**22 29 56.2**	**-2.0**
	3.0nm,0.5s								
KK31				⇓Lg		Lg		22 30 22.3	
	3.2nm,0.3s,baz=191,slow=30,SNR=6.2								
THW	**Thamme Wali**	**5.46**	**156**	P		**Pn**		**22 28 56.6**	**-0.1**
TKM2	**Tokmak 2**	**7.13**	**42**	⇓Pn		**Pn**		**22 29 18.6**	**-1.3**
	1.4nm,0.5s								
TKM2				⇑Lg		Lg		22 31 15.9	
	3.3nm,0.6s								
MDOK	**Medeo**	**8.09**	**46**	⇑Pn		**Pn**		**22 29 31.3**	**-1.8**
	2.9nm,0.6s								
MDOK				Lg		Lg		22 31 47.4	
	3.4nm,0.7s								
AB31	**Akbulak array**	**13.21**	**333**	Pn		**Pn**		**22 30 42.0**	**-0.9**
	1.3nm,0.8s,baz=164,slow=12,SNR=28								
AB31				⇑Sn		**Sn**		**22 33 08.1**	**-1.7**
	1.3nm,0.7s,baz=156,slow=23,SNR=4.4								

TEH ***26*** *22:42:24.6, 32.°65N×47.°85E, h8km±40km, ML3.5*
ISN ***26*** *22:42:24.8±1.6, 32.°60N×47.°87E, h17km±9km, ML3.3*

ISC 26 22:42:26.4±0.9, **32.°64N**±0.°03×**47.°84E**±0.°03, **h15**km, **n47**, σ1§**05**/52, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.47**	**275**	P		Pg	**Pg**	**22 42 34.4**	**-1.4**
IKFM	**Kafar-mosalman**	**0.88**	**1**	P		Pg	**Pb**	**22 42 41.6**	**-1.8**
IDOB	**Doab**	**1.18**	**14**	P		Pg	**Pn**	**22 42 46.7**	**-1.8**
IDOB						Sg	**Sb**	**22 43 03.9**	**+0.1**
AHWZ	**Ahwaz**	**1.48**	**152**	P		Pg	**Pb**	**22 42 53.4**	**-0.1**
IKOM	**Komasi**	**1.56**	**350**	P		Pg	**Pb**	**22 42 54.4**	**-0.5**
AMIS	**Naft Sefid**	**1.57**	**128**	P		Pg	**Pb**	**22 42 54.4**	**-0.7**
IBDR	**Badra**	**1.67**	**287**	*e*Pg		**Pn**		**22 42 55.0**	**-0.1**
IBDR				*e*Sg		**Sb**		**22 43 18.0**	**+0.3**
IBDR				AML		AML		22 43 23.8	
	comp=N,206nm,0.4s								
IBDR				AML		AML		22 43 26.2	
	comp=E,164nm,0.8s								
ILBA	**Ilam Banvizeh**	**1.68**	**306**	Pg		**Pn**		**22 42 55.4**	**+0.1**
HSAM	**Samen**	**1.69**	**22**	Pg		**Pb**		**22 42 56.7**	**-0.7**
RAFI	**Al-Rafai**	**1.72**	**238**	*e*Pg		**Pn**		**22 42 56.0**	**+0.2**
RAFI				*e*Sg		**Sb**		**22 43 20.0**	**+0.8**
RAFI				AML		AML		22 43 34.3	
	comp=N,774nm,0.5s								
RAFI				AML		AML		22 43 34.6	
	comp=E,785nm,0.6s								
KCHF	**Cheshme Sefid,**	**1.76**	**338**	Pg		**Pb**		**22 42 58.0**	**-0.5**
KER	**Karmanshah**	**1.84**	**342**	Pn		**Pn**		**22 42 58.2**	**+0.6**
KHMZ	**Khomeyn**	**2.09**	**58**	Pn		**Pb**		**22 43 02.5**	**-1.6**
SNGE	**Sanandaj**	**2.48**	**351**	Pn		**Pn**		**22 43 08.1**	**+1.7**
IPIR	**Pirpir**	**2.58**	**88**	Pn		**Pn**		**22 43 08.8**	**+1.0**
SHK1	**Shahrekord**	**2.59**	**96**	Pn		**Pn**		**22 43 08.3**	**+0.3**
ASAO	**Ashtian**	**2.64**	**43**	Pn		**Pn**		**22 43 10.2**	**+1.6**
BHD	**Baghdad**	**2.97**	**283**	*e*Pn		**Pn**		**22 43 14.0**	**+1.0**
BHD				*e*Sn		**Sn**		**22 43 50.0**	**+1.6**
BHD				AML		AML		22 43 57.7	
	comp=E,144nm,0.6s								
IBRJ	**Brojen**	**2.99**	**103**	Pn		**Pn**		**22 43 13.5**	**0.0**
QAMS	**Qamsar**	**3.18**	**69**	Pn		**Pn**		**22 43 17.4**	**+1.3**
IKLH	**Kolahrood**	**3.22**	**77**	Pn		**Pn**		**22 43 18.0**	**+1.4**
IRAZ	**Razeghan**	**3.26**	**32**	Pn		**Pn**		**22 43 18.6**	**+1.4**
IQOM	**Qom**	**3.48**	**50**	Pn		**Pn**		**22 43 21.3**	**+1.1**
IGAR	**Gharneh**	**3.56**	**93**	Pn		**Pn**		**22 43 21.3**	**0.0**
KLNJ	**Kolanjah**	**3.59**	**116**	Pn		**Pn**		**22 43 21.9**	**+0.1**
IZEF	**Zefreh**	**3.79**	**85**	Pn		**Pn**		**22 43 25.1**	**+0.5**
KRSH	**Karshahi**	**3.84**	**69**	Pn		**Pn**		**22 43 25.8**	**+0.7**
IRAM	**Ramesheh**	**3.94**	**101**	Pn		**Pn**		**22 43 26.3**	**-0.3**
IKRK	**Kirkuk**	**4.00**	**314**	*e*Pn		**Pn**		**22 43 28.0**	**+0.8**
IKRK				*e*Sn		**Sn**		**22 44 15.0**	**+1.2**
IVRN	**Varamin**	**4.00**	**53**	Pn		**Pn**		**22 43 28.6**	**+1.4**
ISFB	**Sefidab**	**4.06**	**64**	Pn		**Pn**		**22 43 29.0**	**+1.0**
ZNJK	**Zanjan**	**4.08**	**10**	Pn		**Pn**		**22 43 29.6**	**+1.2**
THKV	**Tehran--Karaj**	**4.13**	**37**	Pn		**Pn**		**22 43 30.4**	**+1.4**
NASN	**Na'in**	**4.19**	**86**	Pn		**Pn**		**22 43 31.2**	**+1.1**
CHTH	**Charan**	**4.25**	**39**	Pn		**Pn**		**22 43 31.9**	**+1.1**
QALM	**Alamut, Qazvin**	**4.44**	**31**	Pn		**Pn**		**22 43 34.9**	**+1.5**
DAMV	**Damavand**	**4.54**	**48**	Pn		**Pn**		**22 43 35.6**	**+0.8**
IDMV	**Damavand**	**4.55**	**49**	Pn		**Pn**		**22 43 35.1**	**+0.1**
AHBU	**AHRAM**	**4.80**	**141**	Pn		**Pn**		**22 43 39.4**	**+1.3**
ANAR	**Anarak**	**4.99**	**82**	Pn		**Pn**		**22 43 41.3**	**+0.5**
IFIR	**Firoozkooh**	**5.06**	**52**	Pn		**Pn**		**22 43 43.4**	**+1.4**
ILAS	**Lasjerd**	**5.06**	**56**	Pn		**Pn**		**22 43 42.4**	**+0.5**
ISHM	**Shahmirzad**	**5.51**	**54**	Pn		**Pn**		**22 43 48.8**	**+0.6**
YZKH	**Yazd**	**5.71**	**91**	Pn		**Pn**		**22 43 51.0**	**+0.2**
IANJ	**Anjilo**	**5.78**	**59**	Pn		**Pn**		**22 43 51.9**	**+0.1**
GHIR	**Ghir-Karzin**	**6.21**	**133**	Pn		**Pn**		**22 43 56.3**	**-1.3**
SHRO	**Shahrood**	**7.54**	**61**	Pn		**Pn**		**22 44 17.5**	**+1.6**

MAN ***26*** *22:54:58.9, 13.°60N×120.°06E, h1km, mb5.0, ML3.9, MS3.9*
IDC ***26*** *22:54:58.4±1.1, 13.°86N×120.°79E, h0km, mb4.0/8, mbtmp4.0/8, MS3.2/4, Error ellipse: s-maj=57.6km s-min=16.4km az=61.0*
NEIC ***26*** *22:55:08.0±0.6, 13.°58N±0.°09×120.°5E±0.°1, h61km±10km, mb4.5/14, Error ellipse: s-maj=20.1km s-min=13.2km az=77.0*

ISC 26 22:55:07.2±0.6, **13.°66N**±0.°08×**120.°61E**±0.°09, **h70**km, **n32**, σ1§**44**/29, **mb4.4**/17, **1C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.37**	**115**	⇓*e*P		**Pn**		**22 55 15.5**	**-3.4**
PGP				*e*S		**Sn**		**22 55 24.5**	**-3.1**
RCP	**Roxas**	**2.95**	**135**	⇑*e*P		**Pn**		**22 55 54.0**	**+2.3**
RCP				*e*S		Sn		22 56 39.5	+13
MYLDM	**Lahad Datu**	**8.68**	**194**			**Pn**		**22 57 08.7**	**-1.3**
HKPS	**Hong Kong Po S**	**10.55**	**325**	Pn		**Pn**		**22 57 35.9**	**+0.3**
JMZ	**Minamidaito 2**	**15.68**	**38**	Pn		**P**		**22 58 46.5**	**-0.2**
KAPI	**Kappang**	**18.57**	**183**	LR		LR		23 06 29.6	
	comp=Z,47nm,19.5s,baz=336,slow=37								
CMAR	**Chiang Mai Arr**	**21.35**	**286**	P		**P**		**22 59 48.2**	**-0.6**
	2.1nm,0.9s,baz=96,slow=9.0,SNR=15								
	2.1nm,0.9s								
KULM	**Kulim**	**21.35**	**249**	P		**P**		**22 59 46.2**	**-2.7**
KULM				IAmb		IAmb		22 59 52.0	
	comp=Z,24nm,1.4s								
IPM	**Ipoh**	**21.36**	**247**	P		**P**		**22 59 49.2**	**+0.2**
BATI	**Baumata**	**23.90**	**173**	P		**P**		**23 00 15.6**	**+0.8**
	comp=Z,54nm,0.6s,baz=82,slow=4.6,SNR=4.4								
KSRS	**Korea Array**	**24.58**	**14**	LR		LR		23 11 44.2	
	comp=Z,26nm,18.1s,baz=225,slow=41								
WB0	**Warramunga Arr**	**35.88**	**157**	P		**P**		**23 02 01.2**	**+0.6**
WB0				IAmb		IAmb		23 02 01.8	
	comp=Z,7.6nm,0.8s								
WRAB	**Tennant Creek**	**36.02**	**158**	P		**P**		**23 02 02.6**	**+0.7**
WRAB				IAmb		IAmb		23 02 03.0	
	comp=Z,8.5nm,0.7s								
WRA	**Warramunga Arr**	**36.02**	**158**	P		**P**		**23 02 02.5**	**+0.6**
	comp=Z,7.0nm,0.7s,baz=335,slow=9.7,SNR=59								
	comp=Z,7.0nm,0.7s								
WB2	**Warramunga Arr**	**36.02**	**158**	P		**P**		**23 02 02.5**	**+0.6**
SONM	**Songino Array**	**36.07**	**344**	P		**P**		**23 02 03.7**	**+1.5**
WR0	**Warramunga Arr**	**36.11**	**157**	P		**P**		**23 02 03.2**	**+0.6**
WR0				IAmb		IAmb		23 02 03.5	
	comp=Z,5.8nm,0.9s								
KLR	**Kul'dur**	**36.64**	**12**	LR		LR		23 17 14.1	
	comp=Z,33nm,18.6s,baz=56,slow=37								
AS31	**Alice Springs**	**39.31**	**161**	P		**P**		**23 02 30.4**	**+0.8**
AS31				IAmb		IAmb		23 02 31.6	
	comp=Z,1.9nm,0.7s								
ASAR	**Alice Springs**	**39.31**	**161**	P		**P**		**23 02 30.6**	**+1.0**
	comp=Z,4.4nm,0.6s,baz=338,slow=6.8,SNR=50								
	comp=Z,4.4nm,0.6s								
ASAR	**Alice Springs**	**39.31**	**161**	P		**P**		**23 02 29.9**	**+0.3**
HNR	**Honiara**	**45.29**	**118**	P		**P**		**23 03 17.6**	**-0.7**
MK31	**Makanchi Array**	**46.01**	**324**	P		**P**		**23 03 25.1**	**+1.4**
MKAR	**Makanchi Array**	**46.01**	**324**	P		**P**		**23 03 24.5**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=110,slow=9.1,SNR=7.9								
	comp=Z,0.8nm,0.8s								
BBOO	**Buckleboo**	**48.51**	**163**	P		**P**		**23 03 43.7**	**+0.5**
BBOO				IAmb		IAmb		23 04 17.6	
	comp=Z,19nm,1.5s								
ZALV	**Zalesovo Beam**	**49.05**	**333**	P		**P**		**23 03 45.0**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=154,slow=7.5,SNR=4.1								
	comp=Z,0.7nm,0.6s								
KURBB	**Kurchatov Arra**	**50.17**	**326**	LR		LR		23 26 51.6	
	comp=Z,86nm,21.8s,baz=48,slow=38								
KURK	**Kurchatov**	**50.17**	**326**	P		**P**		**23 03 56.8**	**+1.2**
KURK				IAmb		IAmb		23 04 03.2	
	comp=Z,5.2nm,1.2s								
BRVK	**Borovoye**	**55.83**	**326**	P		**P**		**23 04 38.4**	**+1.2**
BRVK				IAmb		IAmb		23 04 46.5	
	comp=Z,2.4nm,0.6s								
GEYT	**Alibeck**	**60.09**	**306**	P		**P**		**23 05 08.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=151,slow=3.4,SNR=3.9								
	comp=Z,0.8nm,0.5s								
FINES	**FINESS Array B**	**80.28**	**331**	P		**P**		**23 07 10.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=46,slow=4.0,SNR=3.9								
	comp=Z,1.1nm,0.8s								
NOA	**NORSAR Array B**	**87.25**	**333**	P		**P**		**23 07 45.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=18,slow=9.4,SNR=2.0								
	comp=Z,0.6nm,0.7s								

ROM 26 23:13:37.4±0.6, **42.°81N**±0.°01×**13.°09E**±0.°01, **h8**km±3km, **ML0.7**/2, **Error ellipse: s-maj=1.4km s-min=0.4km az=321.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1212	**Cascia, Frazio**	**0.07**	**206**	P		P	Pg	23 13 39.7	+0.3
T1212				S		Sg		23 13 41.1	+0.4
T1212				AML		AML			
	comp=E,222μm,1.0s								
T1212				AML		AML			
	comp=N,282μm,0.1s								
T1212				AML		AML			
	comp=E,148μm,0.3s								
T1212				AML		AML			
	comp=N,282μm,0.1s								
T1212				AML		AML			
	comp=E,149μm,0.3s								
T1212				AML		AML			
	comp=N,288μm,0.1s								
T1212				AML		AML			
	comp=E,96μm,2.2s								
T1212				AML		AML			
	comp=N,79μm,2.1s								
T1212				AML		AML			
	comp=N,43μm,3.3s								
T1245	**Castelsantange**	**0.09**	**61**	P		Pg		23 13 40.3	+0.7
T1245				S		Sg		23 13 41.8	+0.4
T1245				AML		AML			
	comp=E,294μm,1.4s								
T1245				AML		AML			
	comp=N,370μm,1.1s								
T1245				AML		AML			
	comp=N,329μm,0.7s								
T1245				AML		AML			
	comp=E,255μm,0.3s								
T1245				AML		AML			
	comp=N,328μm,0.7s								
T1245				AML		AML			
	comp=E,87μm,0.2s								
T1245				AML		AML			
	comp=E,143μm,0.8s								
T1216	**Preci, Frazion**	**0.09**	**328**	P		Pg		23 13 40.1	+0.5
T1216				S		Sg		23 13 42.2	+0.9
T1216				AML		AML			
	comp=E,402μm,0.3s								
T1216				AML		AML			
	comp=N,430μm,1.0s								
T1216				AML		AML			
	comp=E,402μm,0.3s								
T1216				AML		AML			
	comp=N,431μm,1.0s								
MC2	**Monte Cornacci**	**0.12**	**38**	P		Pg		23 13 40.7	+0.5
MC2				S		Sg		23 13 41.7	-0.6
T1215	**Vallo di Nera,**	**0.16**	**266**	P		Pg		23 13 41.0	+0.3
T1215				S		Sg		23 13 43.6	+0.6
T1215				AML		AML			
	comp=E,77μm,1.2s								
T1215				AML		AML			
	comp=N,81μm,1.2s								
CSP1	**Cessapalombo**	**0.29**	**18**	AML		AML			
	comp=E,272μm,0.4s								
CSP1				AML		AML			
	comp=E,272μm,0.4s								
CSP1				AML		AML			
	comp=N,259μm,1.3s								
CSP1				AML		AML			
	comp=N,260μm,1.3s								
T1220	**Camerino, Fraz**	**0.30**	**1**	P		Pb		23 13 44.6	-0.3
T1220				AML		AML			
	comp=E,1065μm,1.0s								
T1220				AML		AML			
	comp=N,1350μm,0.3s								
T1220				AML		AML			
	comp=E,1070μm,0.4s								
T1220				AML		AML			
	comp=N,1350μm,0.3s								
GUMA	**Gualdo di Mace**	**0.31**	**36**	AML		AML			
	comp=E,424μm,0.3s								
GUMA				AML		AML			
	comp=N,408μm,0.3s								
ASSB	**Assisi San Ben**	**0.39**	**306**	AML		AML			
	comp=N,240μm,0.2s								
ASSB				AML		AML			
	comp=E,294μm,0.3s								
SNTG	**Esanatoglia**	**0.45**	**347**	AML		AML			
	comp=N,49μm,1.3s								
SNTG				AML		AML			
	comp=E,39μm,1.1s								

TEH ***26*** *23:49:38.2, 29.°19N×56.°55E, h12km, ML2.9*
OMAN ***26*** *23:49:43.7±0.1, 28.°82N×56.°72E, h12km, ml3.3/10, Error ellipse: s-maj=4.3km s-min=1.6km az=278.0*

ISC 26 23:49:37.6±0.9, **29.°15N**±0.°05×**56.7E**±0.°1, **h10**km, **n19**, σ1§**88**/33, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.49**	**4**	Pg		**Pb**		**23 49 48.5**	**0.0**
TVBK	**TV Kerman**	**0.83**	**4**	Pg		**Pg**		**23 49 53.9**	**+0.2**
CHMN	**Cheshme madani**	**1.02**	**46**	Pg		**Pg**		**23 49 57.7**	**+0.5**
KHGB	**Koh Gabri**	**1.23**	**351**	Pg		**Pb**		**23 49 59.5**	**-1.6**
IBND	**Bandar-abas**	**1.70**	**185**	Pg		**Pn**		**23 50 09.0**	**+1.7**
SHME	**Shamm**	**3.13**	**189**	P		**Pn**		**23 50 28.7**	**+1.7**
SHME				S		**Sn**		**23 51 03.6**	**-0.8**
BANOM	**Banah**	**3.24**	**186**	P		**Pn**		**23 50 30.3**	**+1.8**
	SNR=5.9			

PB01	**IPOC Station P**	**0.83 213**		**Pn**	**23 54 02.6 +0.9**	
PB01			Sn	**Sn**	**23 54 17.5 +1.1**	
PB01	**IPOC Station P**	**0.83 213**	⇑*iP*	**Pn**	**23 54 02.6 +0.9**	
PB01			*eS*	**Sn**	**23 54 17.7 +1.3**	
PB01			IAML		23 54 20.1	
	comp=N,11μm,0.3s					
PB01	**IPOC Station P**	**0.83 213**	*eP*	**Pn**	**23 54 02.5 +0.9**	
PB01			*eS*	**Sn**	**23 54 18.1 +1.7**	
PB01			IAML		23 54 19.4	
	comp=Z,5μm,0.2s					
PB01	**IPOC Station P**	**0.83 213**	*eP*	**Pn**	**23 54 02.5 +0.9**	
PB01			*eS*	**Sn**	**23 54 18.1 +1.7**	
PB01			IAML		23 54 19.4	
	comp=Z,5μm,0.2s					
PB11	**IPOC Station P**	**0.84 313**	Pn	**Pn**	**23 54 02.3 +0.5**	
PB11			Sn	**Sn**	**23 54 16.9 +0.2**	
PB11	**IPOC Station P**	**0.84 313**	⇓*iP*	**Pn**	**23 54 02.3 +0.5**	
PB11			*eS*	**Sn**	**23 54 17.0 +0.4**	
PB11			IAML		23 54 18.4	
	comp=N,19μm,0.2s					
PB11	**IPOC Station P**	**0.84 313**	*eP*	**Pn**	**23 54 02.3 +0.5**	
PB11			*eS*	**Sn**	**23 54 17.4 +0.8**	
PB11			IAML		23 54 20.3	
	comp=Z,5μm,0.3s					
PB11	**IPOC Station P**	**0.84 313**	*eP*	**Pn**	**23 54 02.3 +0.5**	
PB11			*eS*	**Sn**	**23 54 17.4 +0.8**	
PB11			IAML		23 54 20.3	
	comp=Z,5μm,0.3s					
TA02	**Huaiquique**	**1.06 274**		**Pn**	**23 54 04.5 +0.7**	
TA02			Sn	**Sn**	**23 54 20.7 +0.5**	
TA02	**Huaiquique**	**1.06 274**	*eP*	**Pn**	**23 54 04.7 +0.8**	
TA02			*eS*	**Sn**	**23 54 21.0 +0.7**	
TA02			IAML		23 54 21.4	
	comp=N,21μm,0.4s					
TA02	**Huaiquique**	**1.06 274**	*eP*	**Pn**	**23 54 04.0 +0.2**	
TA02			*eS*	**Sn**	**23 54 21.6 +1.3**	
TA02			IAML		23 54 22.5	
	comp=Z,10μm,0.1s					
TA02	**Huaiquique**	**1.06 274**	*eP*	**Pn**	**23 54 04.0 +0.2**	
TA02			*eS*	**Sn**	**23 54 21.6 +1.3**	
TA02			IAML		23 54 22.5	
	comp=Z,10μm,0.1s					
TA01	**Diego Aracena**	**1.13 258**		**Pn**	**23 54 05.0 +0.5**	
TA01			Sn	**Sn**	**23 54 21.8 +0.3**	
TA01	**Diego Aracena**	**1.13 258**	⇑*iP*	**Pn**	**23 54 05.1 +0.5**	
TA01			*eS*	**Sn**	**23 54 21.6 +0.1**	
TA01			IAML		23 54 26.2	
	comp=E,4μm,0.4s					
TA01	**Diego Aracena**	**1.13 258**	*eP*	**Pn**	**23 54 04.0 -0.5**	
TA01			*eP*		23 54 05.1	
TA01			*eS*	**Sn**	**23 54 22.4 +0.9**	
TA01			IAML		23 54 28.9	
	comp=Z,2μm,0.7s					
TA01	**Diego Aracena**	**1.13 258**	*eP*	**Pn**	**23 54 04.0 -0.5**	
TA01			*eP*		23 54 05.1	
TA01			*eS*	**Sn**	**23 54 22.4 +0.9**	
TA01			IAML		23 54 28.9	
	comp=Z,2μm,0.7s					
PATCX	**Punta Patache**	**1.18 246**		**Pn**	**23 54 06.0 +0.8**	
PATCX			Sn	**Sn**	**23 54 23.4 +0.7**	
PATCX	**Punta Patache**	**1.18 246**	*eP*	**Pn**	**23 54 05.8 +0.6**	
PATCX			*eS*	**Sn**	**23 54 23.0 +0.3**	
PATCX			IAML		23 54 24.8	
	comp=E,10μm,0.4s					
PATCX	**Punta Patache**	**1.18 246**	*eP*	**Pn**	**23 54 06.0 +0.8**	
PATCX			*eS*	**Sn**	**23 54 24.2 +1.6**	
PATCX			IAML		23 54 28.5	
	comp=Z,5μm,0.4s					
PATCX	**Punta Patache**	**1.18 246**	*eP*	**Pn**	**23 54 06.0 +0.8**	
PATCX			*eS*	**Sn**	**23 54 24.2 +1.6**	
PATCX			IAML		23 54 28.5	
	comp=Z,5μm,0.4s					
PB02	**IPOC Station P**	**1.28 220**		**Pn**	**23 54 07.5 +1.2**	
PB02			Sn	**Sn**	**23 54 26.5 +1.6**	
PB02	**IPOC Station P**	**1.28 220**	⇑*iP*	**Pn**	**23 54 07.6 +1.2**	
PB02			*eS*	**Sn**	**23 54 26.0 +1.1**	
PB02			IAML		23 54 27.6	
	comp=N,6μm,0.3s					
PB02	**IPOC Station P**	**1.28 220**	*eP*	**Pn**	**23 54 07.6 +1.2**	
PB02			*eS*	**Sn**	**23 54 26.8 +2.0**	
PB02			IAML		23 54 31.7	
	comp=Z,6μm,0.3s					
PB02	**IPOC Station P**	**1.28 220**	*eP*	**Pn**	**23 54 07.6 +1.2**	
PB02			*eS*	**Sn**	**23 54 26.8 +2.0**	
PB02			IAML		23 54 31.7	
	comp=Z,6μm,0.3s					
PSGC	**Pisagua**	**1.29 305**	⇓*iP*	**Pn**	**23 54 06.9 +0.4**	
PSGC			*eS*	**Sn**	**23 54 24.9 0.0**	
PSGC			IAML		23 54 29.8	
	comp=E,5μm,0.5s					
PSGCX	**Pisagua**	**1.29 305**	Pn	**Pn**	**23 54 06.9 +0.5**	
PSGCX			Sn	**Sn**	**23 54 25.3 +0.4**	
PSGCX	**Pisagua**	**1.29 305**	*eP*	**Pn**	**23 54 06.9 +0.5**	
PSGCX			*eS*	**Sn**	**23 54 25.6 +0.7**	
PSGCX			IAML		23 54 27.4	
	comp=Z,4μm,0.9s					
PSGCX	**Pisagua**	**1.29 305**	*eP*	**Pn**	**23 54 06.9 +0.5**	
PSGCX			*eS*	**Sn**	**23 54 25.6 +0.7**	
PSGCX			IAML		23 54 27.4	
	comp=Z,4μm,0.9s					
MNMC	**Minye Minye**	**1.32 335**		**Pn**	**23 54 08.1 +1.0**	
MNMC			Sn	**Sn**	**23 54 27.6 +1.6**	
MNMC	**Minye Minye**	**1.32 335**	⇓*iP*	**Pn**	**23 54 08.2 +1.1**	
MNMC			*eS*	**Sn**	**23 54 26.7 +0.7**	
MNMC			IAML		23 54 29.0	
	comp=E,16μm,0.6s					
MNMCX	**Minye Minye**	**1.32 335**	*eP*	**Pn**	**23 54 07.0 -0.1**	
MNMCX			*eS*	**Sn**	**23 54 28.1 +2.1**	
MNMCX			IAML		23 54 28.9	
	comp=Z,8μm,0.6s					
MNMCX	**Minye Minye**	**1.32 335**	*eP*	**Pn**	**23 54 07.0 -0.1**	
MNMCX			*eS*	**Sn**	**23 54 28.1 +2.1**	
MNMCX			IAML		23 54 28.9	
	comp=Z,8μm,0.6s					
PB09	**IPOC Station P**	**1.47 189**		**Pn**	**23 54 10.4 +1.7**	
PB09			Sn	**Sn**	**23 54 30.9 +2.1**	
PB09	**IPOC Station P**	**1.47 189**	⇑*iP*	**Pn**	**23 54 10.3 +1.7**	
PB09			*i S*	**Sn**	**23 54 31.1 +2.3**	
PB09			IAML		23 54 35.1	
	comp=N,2μm,0.5s					
PB09	**IPOC Station P**	**1.47 189**	*eP*	**Pn**	**23 54 09.9 +1.3**	
PB09			*eS*	**Sn**	**23 54 31.7 +2.9**	
PB09			IAML		23 54 34.5	
	comp=Z,2μm,0.5s					
PB09	**IPOC Station P**	**1.47 189**	*eP*	**Pn**	**23 54 09.9 +1.3**	
PB09			*eS*	**Sn**	**23 54 31.7 +2.9**	
PB09			IAML		23 54 34.5	
	comp=Z,2μm,0.5s					
PB07	**IPOC Station P**	**1.61 211**		**Pn**	**23 54 11.3 +0.9**	
PB07			Sn	**Sn**	**23 54 33.0 +1.2**	
PB07	**IPOC Station P**	**1.61 211**	⇑*iP*	**Pn**	**23 54 11.2 +0.9**	
PB07			*eS*	**Sn**	**23 54 32.8 +1.0**	
PB07			IAML		23 54 39.9	
	comp=E,2μm,0.4s					
PB07	**IPOC Station P**	**1.61 211**	*eP*	**Pn**	**23 54 11.2 +0.9**	
PB07			*eS*	**Sn**	**23 54 33.2 +1.4**	
PB07			IAML		23 54 40.5	
	comp=Z,2μm,0.5s					
PB07	**IPOC Station P**	**1.61 211**	*eP*	**Pn**	**23 54 11.2 +0.9**	
PB07			*eS*	**Sn**	**23 54 33.2 +1.4**	
PB07			IAML		23 54 40.5	
	comp=Z,2μm,0.5s					
PB03	**IPOC Station P**	**1.84 202**		**Pn**	**23 54 14.2 +1.0**	
PB03			Sn	**Sn**	**23 54 37.2 +0.4**	
PB03	**IPOC Station P**	**1.84 202**	⇑*iP*	**Pn**	**23 54 14.1 +1.0**	
PB03			*eS*	**Sn**	**23 54 37.3 +0.4**	
PB03			IAML		23 54 42.2	
	comp=E,1μm,0.3s					
PB03	**IPOC Station P**	**1.84 202**	*eP*	**Pn**	**23 54 14.1 +1.0**	
PB03			*eS*	**Sn**	**23 54 38.4 +1.6**	
PB03			IAML		23 54 41.6	
	comp=Z,1μm,0.4s					
PB03	**IPOC Station P**	**1.84 202**	*eP*	**Pn**	**23 54 14.1 +1.0**	
PB03			*eS*	**Sn**	**23 54 38.4 +1.6**	
PB03			IAML		23 54 41.6	
	comp=Z,1μm,0.4s					
PB16	**IPOC Station P**	**2.05 346**		**Pn**	**23 54 17.5 +1.2**	
PB16			Sn	**Sn**	**23 54 44.2 +2.0**	
PB16	**IPOC Station P**	**2.05 346**	⇓*iP*	**Pn**	**23 54 18.1 +1.8**	
PB16			*eS*	**Sn**	**23 54 44.4 +2.2**	
PB16			IAML		23 54 49.6	
	comp=E,980nm,0.5s					
PB16	**IPOC Station P**	**2.05 346**	*eP*	**Pn**	**23 54 17.0 +0.7**	
PB16			*eS*	**Sn**	**23 54 45.1 +2.8**	
PB16	**IPOC Station P**	**2.05 346**	*eP*	**Pn**	**23 54 17.0 +0.7**	
PB16			*eS*	**Sn**	**23 54 45.1 +2.8**	
PB12	**IPOC Station P**	**2.12 324**	Pn	**Pn**	**23 54 17.0 +0.3**	
PB12			Sn	**Sn**	**23 54 43.6 +0.4**	
PB12	**IPOC Station P**	**2.12 324**	*eP*	**Pn**	**23 54 17.0 +0.3**	
PB12			*eS*	**Sn**	**23 54 43.0 -0.2**	
PB12			IAML		23 54 49.0	
	comp=E,2μm,0.3s					
PB12	**IPOC Station P**	**2.12 324**	*eP*	**Pn**	**23 54 17.0 +0.3**	
PB12			*eS*	**Sn**	**23 54 44.4 +1.3**	
PB12			IAML		23 54 48.3	
	comp=Z,1μm,0.4s					
PB12	**IPOC Station P**	**2.12 324**	*eP*	**Pn**	**23 54 17.0 +0.3**	
PB12			*eS*	**Sn**	**23 54 44.4 +1.3**	
PB12			IAML		23 54 48.3	
	comp=Z,1μm,0.4s					
PB04	**IPOC Station P**	**2.25 208**		**Pn**	**23 54 18.9 +0.4**	
PB04	**IPOC Station P**	**2.25 208**	*eP*	**Pn**	**23 54 18.6 +0.1**	
PB04			*eS*	**Sn**	**23 54 45.4 -0.9**	
PB04	**IPOC Station P**	**2.25 208**	*eP*	**Pn**	**23 54 19.2 +0.8**	
PB04			*eS*	**Sn**	**23 54 47.7 +1.4**	
PB04			IAML		23 54 58.9	
	comp=Z,884nm,0.7s					
PB04	**IPOC Station P**	**2.25 208**	*eP*	**Pn**	**23 54 19.2 +0.8**	
PB04			*eS*	**Sn**	**23 54 47.7 +1.4**	
PB04			IAML		23 54 58.9	
	comp=Z,884nm,0.7s					
LVC	**Limon Verde**	**2.26 178**	P	**Pn**	**23 54 20.8 +2.1**	
	comp=Z,149nm,0.3s,baz=6.7,slow=8.1,SNR=142					
LVC			S	**Sn**	**23 54 49.0 +2.2**	
	comp=Z,627nm,0.5s,baz=338,slow=8.8,SNR=11					
LVC	**Limon Verde**	**2.26 178**		**Pn**	**23 54 20.4 +1.7**	
LVC	**Limon Verde**	**2.26 178**	⇑*eP*	**Pn**	**23 54 20.6 +1.9**	
LVC			*eS*	**Sn**	**23 54 48.8 +2.0**	
LVC	**Limon Verde**	**2.26 178**	*eP*	**Pn**	**23 54 20.0 +1.3**	
LVC			*eS*	**Sn**	**23 54 44.4 -2.3**	
LVC			*eS*		23 54 50.4	
LVC	**Limon Verde**	**2.26 178**	*eP*	**Pn**	**23 54 20.0 +1.3**	
LVC			*eS*	**Sn**	**23 54 44.4 -2.3**	
LVC			*eS*		23 54 50.4	
LVC	**Limon Verde**	**2.26 178**	*eP*	**Pn**	**23 54 20.9 +2.2**	
AP01	**Chacalluta**	**2.33 327**		**Pn**	**23 54 19.6 +0.4**	
AP01	**Chacalluta**	**2.33 327**	*eP*	**Pn**	**23 54 19.9 +0.6**	
AP01			*eS*	**Sn**	**23 54 48.5 +0.7**	
AP01			IAML		23 54 56.1	
	comp=N,5μm,0.4s					
AP01	**Chacalluta**	**2.33 327**	*eP*	**Pn**	**23 54 19.9 +0.6**	
AP01			*eS*	**Sn**	**23 54 48.9 +1.1**	
AP01			IAML		23 55 14.5	
	comp=Z,1μm,0.5s					
AP01	**Chacalluta**	**2.33 327**	*eP*	**Pn**	**23 54 19.9 +0.6**	
AP01			*eS*	**Sn**	**23 54 48.9 +1.1**	
AP01			IAML		23 55 14.5	
	comp=Z,1μm,0.5s					
PB06	**IPOC Station P**	**2.41 193**		**Pn**	**23 54 21.4 +0.9**	
PB06	**IPOC Station P**	**2.41 193**	*eP*	**Pn**	**23 54 21.2 +0.7**	
PB06			*eS*	**Sn**	**23 54 49.9 -0.1**	
PB06			IAML		23 54 51.6	
	comp=E,1μm,0.4s					
PB06	**IPOC Station P**	**2.41 193**	*eP*	**Pn**	**23 54 21.5 +1.0**	
PB06			IAML		23 54 55.9	
	comp=Z,865nm,0.3s					
PB06	**IPOC Station P**	**2.41 193**	*eP*	**Pn**	**23 54 21.5 +1.0**	
PB06			IAML		23 54 55.9	
	comp=Z,865nm,0.3s					
PB10	**IPOC Station P**	**3.47 204**	Pn	**Pn**	**23 54 33.9 -0.4**	
PB10	**IPOC Station P**	**3.47 204**	*eP*	**Pn**	**23 54 34.1 -0.2**	
PB10			*eS*	**Sn**	**23 55 12.5 -2.3**	
LPAZ	**La Paz**	**4.11 12**	P	**Pn**	**23 54 46.1 +2.6**	
	comp=Z,58nm,0.7s,baz=195,slow=5.0,SNR=142					
LPAZ			S	**Sn**	**23 55 32.1 +1.0**	
	comp=Z,19nm,0.6s,baz=195,slow=18,SNR=1.2					
LPAZ	**La Paz**	**4.11 12**	Pn	**Pn**	**23 54 45.7 +2.1**	
PB14	**IPOC Station P**	**4.46 197**	Pn	**Pn**	**23 54 47.2 -0.6**	
AC01	**Pan de Azucar**	**5.96 194**		**Pn**	**23 55 06.3 -1.7**	
AC02	**Maricunga**	**6.47 181**		**Pn**	**23 55 15.8 +0.6**	
AC05	**El Transito**	**8.54 188**		**Pn**	**23 55 40.8 -2.2**	
SIV	**San Ignacio**	**8.69 61**	P	**Pn**	**23 55 42.9 -2.1**	
	comp=Z,28nm,0.4s,baz=260,slow=9.4,SNR=170					
SIV			S	**Sn**	**23 57 17.4 -3.9**	
	comp=Z,2.7nm,0.6s,baz=179,slow=20,SNR=3.4					
LCO	**Las Campanas**	**8.77 190**	Pn	**Pn**	**23 55 43.2 -3.0**	
GO04	**Tololo Observa**	**9.93 189**	Pn	**Pn**	**23 56 00.6 -1.3**	
PTLB	**Pontes e Lacer**	**10.58 64**	Pn	**Pn**	**23 56 09.3 -1.3**	
PTLB	**Pontes e Lacer**	**10.58 64**	*eP*	**Pn**	**23 56 09.2 -1.4**	
ETMB	**Extrema**	**10.80 15**		**Pn**	**23 56 12.3 -1.3**	
ETMB	**Extrema**	**10.80 15**	*eP*	**Pn**	**23 56 12.2 -1.5**	
VILB	**Vilhena**	**11.18 50**	Pn	**Pn**	**23 56 18.0 -0.2**	
VILB	**Vilhena**	**11.18 50**	*eP*	**Pn**	**23 56 18.0 -0.7**	
CFA	**Coronel Fontan**	**11.24 177**	P	**Pn**	**23 56 17.5 -1.9**	
	comp=Z,1.1nm,0.3s,baz=351,slow=17,SNR=3.1					
CFA			S	**Sn**	**23 58 15.1 -8.0**	
	comp=Z,1.7nm,0.3s,baz=109,slow=20,SNR=2.2					
CPUP	**Villa Florida**	**12.27 121**	P	**Pn**	**23 56 31.9 -1.2**	
	comp=Z,8.7nm,0.7s,baz=305,slow=12,SNR=19					
CPUP	**Villa Florida**	**12.27 121**	Pn	**Pn**	**23 56 32.4 -0.7**	
AQDB	**Aquidauana**	**12.48 93**	*eP*	**Pn**	**23 56 37.8 +1.9**	
SALV	**Santo Antonio**	**13.40 73**	*eP*	**Pn**	**23 56 49.5 +1.5**	
PP1B	**Ponte de Pedra**	**13.64 81**	*eP*	**Pn**	**23 56 50.5 -0.6**	
BO01	**Tunca**	**14.12 187**	P	**P**	**23 57 02.3 +1.0**	
MCR1	**Marechal Candi**	**14.44 109**	*eP*	**P**	**23 57 03.9 -1.0**	
BO02	**Sierra Bellavi**	**14.48 186**	P	**P**	**23 57 07.7 +2.2**	
CRSM	**Crissiumal (Br**	**15.41 120**	*eP*	**P**	**23 57 16.5 +0.7**	
FRBT	**Francisco Belt**	**15.69 114**	*eP*	**P**	**23 57 19.8 +0.8**	
CLDB	**Colider**	**15.81 55**	*eP*	**Pn**	**23 57 18.5 -0.2**	
RODS	**Rosario do Sul**	**15.96 131**	*eP*	**P**	**23 57 21.6 -0.2**	
PTGB	**Pitanga**	**16.24 109**	*eP*	**P**	**23 57 26.9 +1.8**	
TRQA	**Tornquist**	**18.68 162**	P	**Pn**	**23 57 52.8 -0.4**	
MACA	**Manacapuru-AM**	**18.90 26**	P	**P**	**23 57 54.2 -0.1**	
MACA			IAmb	IAmb	23 57 56.1	
	comp=Z,17nm,0.7s					
MACA	**Manacapuru-AM**	**18.90 26**	*eP*	**P**	**23 57 53.8 -0.5**	
SNDB	**Serra Nova Dou**	**18.92 67**	*eP*	**P**	**23 57 54.3 -0.2**	
MCRA	**Macar, Loja**	**19.12 325**	P	**P**	**23 57 56.1 -0.6**	
BB19B	**Bebedouro**	**19.17 96**	*eP*	**P**	**23 57 57.1 -0.1**	
GO06	**Curarrehue**	**19.30 186**	P	**P**	**23 57 59.1 +0.5**	
GO06			IAmb	IAmb	23 58 02.1	
	comp=Z,11nm,1.1s					
IPMB	**Ipameri, GO**	**19.78 87**	*eP*	**P**	**23 58 02.6 -1.3**	
RCLB	**Rio Claro- Sao**	**20.10 100**	*eP*	**P**	**23 58 06.9 -0.5**	
SGCB	**SÃo Gabriel d**	**20.19 6**	*eP*	**P**	**23 58 07.2 -0.9**	
PLCA	**Paso Flores**	**20.37 183**	P	**P**	**23 58 11.6 +1.5**	
	comp=Z,5.5nm,0.8s,baz=16,slow=12,SNR=9.8					
	comp=Z,5.5nm,0.8s					
PLCA	**Paso Flores**	**20.37 183**	P	**P**	**23 58 11.6 +1.5**	
PLCA			IAmb	IAmb	23 58 13.0	
	comp=Z,11nm,1.0s					
PLCA	**Paso Flores**	**20.37 183**	*eP*	Pn	23 58 12.1 -1.0	
ITTB	**Itaituba**	**20.47 41**	*eP*	**P**	**23 58 09.7 -1.6**	
BDFB	**Brasilia**	**20.50 80**	P	**P**	**23 58 11.8 +0.1**	
	comp=Z,2.3nm,0.5s,baz=246,slow=9.2,SNR=5.7					
	comp=Z,2.3nm,0.5s					
VAO	**Valinhos**	**20.65 101**	*eP*	**P**	**23 58 12.3 -1.0**	
LL04	**Puerto Octay**	**20.71 187**	P	**P**	**23 58 13.5 -0.1**	
PMNB	**Patos De Minas**	**21.35 89**	*eP*	**P**	**23 58 19.8 -1.1**	
BSCB	**Bom Sucesso**	**22.68 96**	*eP*	**P**	**23 58 33.9 -0.7**	
MALB	**Monte Alegre**	**23.34 40**	*eP*	**P**	**23 58 38.9 -2.0**	
PRPB	**Parauapebas**	**23.35 56**	*eP*	**P**	**23 58 39.4 -1.6**	
SMTB	**Santa Maria do**	**23.62 64**	*eP*	**P**	**23 58 43.4 -0.1**	
DIAM	**Diamantina, MG**	**23.99 89**	*eP*	**P**	**23 58 47.3 +0.4**	
MC01	**Montes Claros**	**24.03 86**	*eP*	**P**	**23 58 47.2 0.0**	
BOAV	**Boa Vista**	**24.08 21**	P	**P**	**23 58 47.3 -0.2**	
BOAV			IAmb	IAmb	23 58 48.8	
	comp=Z,13nm,1.3s					
BOAV	**Boa Vista**	**24.08 21**	*eP*	**P**	**23 58 47.6 +0.1**	
JANB	**Januaria**	**24.09 81**	*eP*	**P**	**23 58 47.3 -0.4**	
AY01	**Puyuhuapi**	**24.20 186**	P	**P**	**23 58 48.4 0.0**	
AY01			IAmb	IAmb	23 58 50.4	
	comp=Z,5.5nm,0.8s					
SDBA	**SAO DESIDERIO**	**24.41 75**	*eP*	**P**	**23 58 50.5 -0.1**	
MCPB	**Macapa, AP**	**25.87 42**	*eP*	**P**	**23 59 04.5 +0.8**	
SJMB	**Sao Joao De Ma**	**26.26 91**	*eP*	**P**	**23 59 07.6 +0.3**	
RUSC	**La Rusia**	**26.37 351**	P	**P**	**23 59 09.5 +0.6**	
RUSC			IAmb	IAmb	23 59 13.0	
	comp=Z,7.8nm,0.9s					
MDP	**Montagnes des**	**29.96 34**	LR	LR	00 13 12.9	
	comp=Z,38nm,20.8s,baz=210,slow=39					
TXAR	**Lajitas Array**	**59.63 325**	P	**P**	**00 03 36.6 +1.7**	
	comp=Z,0.3nm,0.9s,baz=80,slow=10,SNR=2.2					
	comp=Z,0.3nm,0.9s					
DBIC	**Dimbokro**	**68.49 74**	P	**P**	**00 04 33.1 -0.1**	
	comp=Z,5.7nm,0.7s,baz=249,slow=7.4,SNR=8.2					
	comp=Z,5.7nm,0.7s					
NVAR	**Mina Array Bea**	**74.53 322**	P	**P**	**00 05 11.8 +2.7**	
	comp=Z,0.2nm,0.4s,baz=158,slow=5.5,SNR=2.1					
NVAR			pP	**pP**	**00 05 38.5 +1.0**	
	comp=Z,0.5nm,0.6s,baz=169,slow=5.1,SNR=2.4					
	comp=Z,0.2nm,0.4s					
SCHQ	**Schefferville**	**74.89 1**	P	**P**	**00 05 11.2 +0.7**	
	comp=Z,2.6nm,0.9s,baz=225,slow=14,SNR=2.0					
SCHQ			pP	**pP**	**00 05 39.5 -0.1**	
	comp=Z,2.7nm,0.8s,baz=76,slow=18,SNR=1.9					
	comp=Z,2.6nm,0.9s					
TORD	**Torodi Ar. Bea**	**77.05 71**	P	**P**	**00 05 23.3 -0.4**	
	comp=Z,2.0nm,0.5s,baz=255,slow=5.6,SNR=24					
TORD			pP	**pP**	**00 05 52.0 -1.0**	
	comp=Z,5.3nm,0.8s,baz=250,slow=5.5,SNR=12					
	comp=Z,2.0nm,0.5s					
NRS	**Narsarsuaq**	**83.41 11**	*i* P	**P**	**00 05 55.0 -1.7**	
ASAR	**Alice Springs**	**130.89 208**	PKP	**PKiKP**	**00 12 42.8 +0.4**	
	comp=Z,0.6nm,0.5s,baz=133,slow=1.5,SNR=9.8					
WRA	**Warramunga Arr**	**133.90 211**	PKP	**PKiKP**	**00 12 48.8 +0.3**	
	comp=Z,0.4nm,0.5s,baz=154,slow=1.7,SNR=11					
ZALV	**Zalesovo Beam**	**140.94 24**	PKhKP	PKPpre	00 12 56.0	
	comp=Z,0.3nm,0.4s,baz=301,slow=3.0,SNR=2.7					
ZALV			PKP	**PKiKP**	**00 13 00.9 -0.9**	
	comp=Z,0.7nm,0.4s,baz=264,slow=1.3,SNR=5.3					
ZALV			pPKP	pPKPdf	00 13 30.8 +0.5	
	comp=Z,1.6nm,0.8s,baz=325,slow=2.3,SNR=3.5					
KSH	**Kashi**	**144.43 50**	PKP	**PKPdf**	**00 13 06.8 +0.9**	
KSH			pPKP	pPKPdf	00 13 37.0 0.0	
SONM	**Songino Array**	**152.32 7**	PKPbc	**PKiKP**	**00 13 26.8 +1.2**	
	comp=Z,1.0nm,0.5s,baz=295,slow=1.2,SNR=8.7					
SONM			pPKPbc	**pPKPbc**	**00 13 56.6 +0.2**	
	comp=Z,1.1nm,0.7s,baz=323,slow=1.0,SNR=4.9					
PZH	**PanZhiHua**	**169.52 52**	PKP	**PKPdf**	**00 13 38.0 +0.6**	

JMA ***26*** *23:55:34.2±1.1, 47°N±6°×15°3E±°, h30km, MV4.6/14, KURILE ISLANDS REGION*
MOS ***26*** *23:55:36.0±2.1, 46°90N×153°20E, h33km, mb4.3/3, Error ellipse: s-maj=12.5km s-min=7.8km az=65.7*
SKHL ***26*** *23:55:38.8±0.9, 47°10N×152°90E, h72km±7km, mb4.9/3*
NEIC ***26*** *23:55:38.6±1.2, 47°0N±0°1×152°9E±0°2, h59km±10km, mb4.5/27, Error ellipse: s-maj=25.2km s-min=11.8km az=139.0*
IDC ***26*** *23:55:39.1±2.6, 46°99N×152°99E, h68km±23km, mb3.6/17, mbtmp3.9/23, MS3.1/9, Error ellipse: s-maj=18.7km s-min=14.1km az=147.0*

ISC 26 23:55:37.2±0.6, 46°78N±0°08×153°04E±0°07, h56km, n115, σ1§47/116, mb4.3/31, MS3.3/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.92**	**249**	*e*PN	**Pn**	**23 56 37.1**	**+2.2**
KUR				pmax	pmax		
	comp=Z,99nm,0.4s						
KUR	**Kuril'sk**	**3.92**	**249**	*eP*	**Pn**	**23 56 37.2**	**+2.3**
KUR				AMB	AMB	23 56 38.8	
	comp=Z,100nm,0.4s						
KUR				*eS*	**Sn**	**23 57 21.3**	**+1.7**
KUR				A	A	23 57 43.1	
	comp=Z,440nm,0.4s						
KUR				A	A	23 57 43.1	
	comp=Z,90nm,0.4s						
SKR	**Severo-Kuril's**	**4.40**	**26**	*e*PN	**Pn**	**23 56 40.5**	**-0.8**
SKR				pmax	pmax		
	comp=Z,121nm,0.8s						
SKR	**Severo-Kuril's**	**4.40**	**26**	*eP*	**Pn**	**23 56 40.6**	**-0.8**
SKR				AMB	AMB	23 56 41.3	
	comp=Z,30nm,0.2s						
SKR				*eS*	**Sn**	**23 57 26.2**	**-5.1**
SKR				A	A	23 57 32.5	
	comp=Z,260nm,0.2s						
SKR				A	A	23 57 32.5	
	comp=Z,300nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.75**	**244**	*e*PN	**Pn**	**23 57 01.9**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**5.75**	**244**	*eP*	**Pn**	**23 57 01.9**	**+2.0**
YUK				AMB	AMB	23 57 04.5	
	comp=Z,70nm,0.2s						
YUK				*eS*	**Sn**	**23 58 04.7**	**+0.2**
YUK				A	A	23 58 11.9	
	comp=Z,250nm,0.7s						
YUK				A	A	23 58 11.9	
	comp=Z,320nm,0.7s						
NEM2	**Nemuro 2**	**6.19**	**239**	*eP*	**Pn**	**23 57 05.8**	**-0.1**
NEM2				*eS*	**Sn**	**23 58 13.8**	**-1.6**
JRA	**Rausu**	**6.26**	**246**	*eP*	**Pn**	**23 57 09.2**	**+2.3**
RUS	**Russkaya**	**6.68**	**30**	*e*PN	Pn	23 57 06.8	-5.7
JNK	**Nakash**	**6.69**	**244**	*eP*	**Pn**	**23 57 14.4**	**+1.6**
JNK				*eS*	**Sn**	**23 58 29.9**

H11S3	**WAKE ISLAND Hy**	**30.37**	**154**	T	T	00 34 20.9		
	baz=341,slow=76,SNR=1111							
H11S2	**WAKE ISLAND Hy**	**30.38**	**154**	T	T	00 34 21.7		
	baz=341,slow=76,SNR=1033							
SONM	**Songino Array**	**31.27**	**289**	P	**P**	**00 01 52.2**	**+0.5**	
	comp=Z,0.4nm,0.8s,baz=76,slow=4.3,SNR=3.3							
SONM				LR	LR	00 15 16.8		
	comp=Z,60nm,18.1s,baz=157,slow=38							
	comp=Z,0.4nm,0.8s							
K20K	**Telida**	**33.34**	**41**	P	**P**	**00 02 10.2**	**+0.7**	
IMAR	**Indian Mountai**	**33.77**	**36**	P	**P**	**00 02 13.3**	**+0.2**	
A21K	**Barrow**	**34.00**	**26**	P	**P**	**00 02 15.1**	**+0.1**	
H21K	**Melozitna Rive**	**34.11**	**37**	P	**P**	**00 02 16.7**	**+0.5**	
CAST	**Castle Rocks**	**34.24**	**41**	P	**P**	**00 02 18.1**	**+0.9**	
CAST				IAmb	IAmb	00 02 30.6		
	comp=Z,9.6nm,1.5s							
CAST				pP	**pP**	**00 02 31.3**	**+0.7**	
SML	**Sawmill**	**35.98**	**44**	P	**P**	**00 02 32.4**	**+0.1**	
FYU	**Fort Yukon**	**37.25**	**36**	P	**P**	**00 02 43.8**	**+0.9**	
FYU				IAmb	IAmb	00 03 20.4		
	comp=Z,7.2nm,1.2s							
BMAR	**Burnt Mountain**	**37.52**	**34**	P	**P**	**00 02 46.4**	**+1.1**	
L27K	**Beaver Creek,**	**38.89**	**41**	P	**P**	**00 02 57.5**	**+0.7**	
L27K				pP	**pP**	**00 03 11.4**	**+1.1**	
L27K				IAmb	IAmb	00 03 17.0		
	comp=Z,5.4nm,1.2s							
BCAR	**Beaver Creek A**	**38.91**	**41**	P	**P**	**00 02 58.0**	**+1.0**	
BCAR				pP	**pP**	**00 03 11.7**	**+1.2**	
INK	**Inuvik**	**41.65**	**32**	P	**P**	**00 03 20.1**	**+0.6**	
	comp=Z,1.1nm,0.6s,baz=286,slow=7.7,SNR=6.5							
	comp=Z,1.1nm,0.6s							
INK	**Inuvik**	**41.65**	**32**	P	**P**	**00 03 20.1**	**+0.6**	
INK				pP	**pP**	**00 03 33.5**	**+0.4**	
ZALV	**Zalesovo Beam**	**42.55**	**306**	PcP	**PcP**	**00 05 18.5**	**0.0**	
	comp=Z,0.3nm,0.4s,baz=48,slow=8.6,SNR=2.5							
ZALV				LR	LR	00 22 32.8		
	comp=Z,53nm,18.1s,baz=42,slow=38							
A36M	**Sachs Harbour**	**43.84**	**26**	P	**P**	**00 03 38.3**	**+1.1**	
A36M				IAmb	IAmb	00 03 39.7		
	comp=Z,8.9nm,0.8s							
C36M	**Paulatuk**	**44.81**	**30**	P	**P**	**00 03 45.8**	**+0.8**	
C36M				IAmb	IAmb	00 03 46.2		
	comp=Z,4.3nm,0.5s							
MK31	**Makanchi Array**	**46.88**	**297**	P	**P**	**00 04 01.1**	**-0.5**	
MK31	**Makanchi Array**	**46.88**	**297**	P	**P**	**00 04 01.1**	**-0.5**	
MK31				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**00 04 00.8**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=63,slow=6.4,SNR=13							
MKAR				PcP	**PcP**	**00 05 33.3**	**-0.3**	
	comp=Z,0.4nm,0.6s,baz=74,slow=1.9,SNR=2.7							
MKAR				LR	LR	00 24 29.4		
	comp=Z,51nm,18.9s,baz=48,slow=37							
	comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**00 04 01.1**	**-0.6**	
BVAR	**Borovoye Array**	**50.80**	**309**	P	**P**	**00 04 30.1**	**-1.4**	
	comp=Z,0.6nm,0.3s,baz=55,slow=8.8,SNR=3.2							
BVAR				PcP	**PcP**	**00 05 47.2**	**-0.4**	
	comp=Z,0.8nm,0.5s,baz=22,slow=1.6,SNR=4.3							
	comp=Z,0.6nm,0.3s							
ARU	**Arti**	**54.95**	**317**	P	**P**	**00 05 02.1**	**0.0**	
	comp=Z,1.4nm,0.3s,baz=343,slow=11,SNR=3.6							
	comp=Z,1.4nm,0.3s							
ARU	**Arti**	**54.95**	**317**	*e*P	**P**	**00 05 02.1**	**0.0**	
K05A	**Summer Lake**	**58.27**	**60**	P	**P**	**00 05 26.4**	**+0.3**	
K05A				IAmb	IAmb	00 05 34.6		
	comp=Z,8.3nm,1.5s							
ABKAR	**Akbulak array**	**58.37**	**310**	P	**P**	**00 05 25.4**	**-1.0**	
PLID	**Pearl Lake**	**59.70**	**55**	P	**P**	**00 05 36.7**	**+0.7**	
PLID				IAmb	IAmb	00 05 37.4		
	comp=Z,2.3nm,0.8s							
SUMG	**Summit**	**60.67**	**4**	*i* P	**P**	**00 05 41.9**	**-0.5**	
HRY	**Holter Researc**	**61.00**	**52**	P	**P**	**00 05 45.8**	**+1.1**	
BOZ	**Bozeman (W)**	**61.80**	**52**	P	**P**	**00 05 51.1**	**+0.9**	
BOZ	**Bozeman (W)**	**61.80**	**52**	P	**P**	**00 05 51.1**	**+0.9**	
BOZ				pmax	pmax			
	comp=Z,3.0nm,1.2s							
NVAR	**Mina Array Bea**	**62.46**	**62**	P	**P**	**00 05 55.6**	**+0.9**	
	comp=Z,0.6nm,0.7s,baz=292,slow=8.5,SNR=3.6							
	comp=Z,0.6nm,0.7s							
RLMT	**Red Lodge**	**63.39**	**52**	P	**P**	**00 06 01.9**	**+1.1**	
RLMT				IAmb	IAmb	00 06 08.6		
	comp=Z,5.3nm,1.5s							
FINES	**FINESS Array B**	**63.99**	**335**	P	**P**	**00 06 02.9**	**-1.3**	
	comp=Z,2.6nm,0.6s,baz=43,slow=7.1,SNR=18							
	comp=Z,2.6nm,0.6s							
FINES	**FINESS Array B**	**63.99**	**335**	P	**P**	**00 06 03.4**	**-0.8**	
FINES	**FINESS Array B**	**63.99**	**335**	P	**P**	**00 06 03.4**	**-0.8**	
PDAR	**Pinedale Array**	**64.77**	**54**	P	**P**	**00 06 09.7**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=243,slow=1.6,SNR=7.1							
	comp=Z,0.7nm,0.7s							
PDAR	**Pinedale Array**	**64.77**	**54**	P	**P**	**00 06 10.8**	**+0.9**	
RSSD	**Black Hills**	**66.84**	**50**	P	**P**	**00 06 23.4**	**+0.2**	
RSSD				IAmb	IAmb	00 06 24.1		
	comp=Z,7.8nm,1.4s							
RSSD	**Black Hills**	**66.84**	**50**	P	**P**	**00 06 23.4**	**+0.2**	
RSSD				pmax	pmax			
	comp=Z,8.0nm,1.4s							
NC303	**NORSAR Array S**	**67.98**	**341**	P	**P**	**00 06 28.8**	**-1.0**	
NC405	**NORSAR Array S**	**68.00**	**341**	P	**P**	**00 06 28.3**	**-1.7**	
NC204	**NORSAR Array S**	**68.07**	**341**	P	**P**	**00 06 30.0**	**-0.5**	
NB201	**NORSAR Array S**	**68.15**	**341**	P	**P**	**00 06 29.9**	**-1.0**	
AFI	**Afiamalu**	**68.17**	**143**	LR	LR	00 33 54.9		
	comp=Z,17nm,20.2s,baz=317,slow=34							
NB2	**NORSAR Subarra**	**68.18**	**341**	P	**P**	**00 06 30.1**	**-1.0**	
	comp=Z,1.1nm,0.6s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.18**	**341**	P	**P**	**00 06 30.4**	**-0.8**	
	comp=Z,1.6nm,0.7s,baz=29,slow=6.6,SNR=8.1							
	comp=Z,1.6nm,0.7s							
WRA	**Warramunga Arr**	**68.53**	**199**	P	**P**	**00 06 34.3**	**+0.6**	
	comp=Z,0.4nm,0.7s,baz=14,slow=6.6,SNR=2.8							
	comp=Z,0.4nm,0.7s							
WUAZ	**Wupatki**	**68.56**	**61**	P	**P**	**00 06 35.0**	**+0.9**	
WUAZ				IAmb	IAmb	00 06 38.0		
	comp=Z,5.5nm,0.6s							
S22A	**4UR Ranch, Cre**	**69.69**	**56**	P	**P**	**00 06 41.4**	**+0.2**	
S22A				IAmb	IAmb	00 06 43.1		
	comp=Z,6.1nm,0.6s							
KBZ	**Khabaz**	**70.80**	**314**	P	**P**	**00 06 48.0**	**+0.5**	
	comp=Z,1.6nm,0.8s,baz=63,slow=4.5,SNR=4.9							
	comp=Z,1.6nm,0.8s							
KBZ	**Khabaz**	**70.80**	**314**	P	**P**	**00 06 48.0**	**+0.5**	
AKASG	**Malin Array Be**	**71.49**	**326**	P	**P**	**00 06 50.2**	**-1.3**	
	comp=Z,2.0nm,0.3s,baz=33,slow=6.4,SNR=11							
	comp=Z,2.0nm,0.3s							
ASAR	**Alice Springs**	**72.22**	**198**	P	**P**	**00 06 58.0**	**+1.8**	
	comp=Z,0.7nm,0.6s,baz=9.7,slow=5.6,SNR=11							
	comp=Z,0.7nm,0.6s							
BUR08	**Bucovina Ar. S**	**75.51**	**327**	P	**P**	**00 07 15.2**	**-0.2**	
BUR08				IAmb	IAmb	00 07 15.7		
	comp=Z,3.9nm,0.7s							
BURAR	**Bucovina Array**	**75.53**	**326**		**P**	**00 07 15.1**	**-0.4**	
BURAR				IAmb	IAmb	00 07 16.0		
	comp=Z,3.2nm,0.7s							
TXAR	**Lajitas Array**	**77.52**	**60**	P	**P**	**00 07 27.5**	**+0.5**	
	comp=Z,0.8nm,0.5s,baz=299,slow=5.0,SNR=17							
	comp=Z,0.8nm,0.5s							
BRTR	**Keskin Array B**	**78.33**	**317**	P	**P**	**00 07 31.8**	**+0.4**	
	comp=Z,1.3nm,0.8s,baz=51,slow=4.9,SNR=4.6							
	comp=Z,1.3nm,0.8s							
GERES	**GERESS Array B**	**78.40**	**334**	P	**P**	**00 07 31.1**	**-0.5**	
	comp=Z,0.4nm,0.5s,baz=35,slow=4.9,SNR=4.4							
	comp=Z,0.4nm,0.5s							
H03N2	**Juan Fernandez**	**138.80**	**90**	T	T	02 49 55.8		
	baz=309,slow=77,SNR=25							
H03N1	**Juan Fernandez**	**138.82**	**90**	T	T	02 49 57.6		
	baz=309,slow=77,SNR=34							
H03N3	**Juan Fernandez**	**138.82**	**90**	T	T	02 49 56.2		
	baz=309,slow=77,SNR=28							

IDC ***27*** *00:08:49.8±4.4,2˚.34S×104˚.64E,h0km,mb3.5/4, mbtmp3.5/4,MS2.7/1,Error ellipse: s-maj=220.3km s-min=27.2km az=53.0*

DJA ***27*** *00:08:54.5±0.3,1˚.5±3˚×10˚.6E±˚,h10km,M4.3/12,mb4.2/2, MLv4.3/12*

ISC 27 00:08:54.1±0.9,**1˚.46S**±0˚.05×**105˚.60E**±0˚.05,**h10**km,**n18,** σ1.9**39**/20,**mb3.5/3,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPBI	**Pangkal Pinang**	**0.88**	**143**	P	**Pg**	**00 09 10.6**	**-0.5**
PPBI				S	**Sb**	**00 09 23.2**	**-0.2**
DSRI	**Dabo**	**1.41**	**314**	P	**Pn**	**00 09 18.3**	**-1.6**
DSRI				S	**Sn**	**00 09 37.7**	**-0.8**
PMBI	**Palembang**	**1.68**	**209**	P	**Pn**	**00 09 22.3**	**-1.3**
PMBI				S	**Sn**	**00 09 44.1**	**-1.0**
JMBI	**JAMBI**	**1.96**	**265**	P	**Pb**	**00 09 29.9**	**-0.1**
JMBI				S	**Sb**	**00 09 55.0**	**+0.4**
TPI	**Tanjungpandan**	**2.42**	**122**	P	**Pn**	**00 09 33.7**	**-0.1**
TPRI	**Tanjung Pinang**	**2.59**	**336**	P	**Pn**	**00 09 38.2**	**+2.1**
MDSI	**Maura Dua**	**3.33**	**205**	P	**Pn**	**00 09 44.3**	**-1.9**
MASI	**Maura Aman, Be**	**3.75**	**243**	P	**Pn**	**00 09 52.8**	**+0.7**
LWLI	**Liwa**	**3.86**	**203**	P	**Pn**	**00 09 54.9**	**+1.2**
MNAI	**Manna**	**3.91**	**222**	P	**Pn**	**00 09 56.5**	**+2.2**
KASI	**Kota Agung**	**4.19**	**195**	P	**Pn**	**00 10 00.9**	**+2.8**
SDSI	**Sungai Dareh**	**4.20**	**277**	P	**Pn**	**00 09 58.7**	**+0.4**
CGJI	**Cibinong**	**5.12**	**179**	P	**Pn**	**00 10 12.8**	**+1.8**
	19nm,1.0s,0.1nm						
PSI	**Prapat**	**7.90**	**302**	LR	LR	00 13 39.0	
	comp=Z,48nm,18.9s,baz=202,slow=38						
CMAR	**Chiang Mai Arr**	**20.84**	**342**	P	Pn	00 13 41.3	+2.6
	0.8nm,0.3s,baz=175,slow=12,SNR=4.6						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**33.57**	**125**	P	**P**	**00 15 34.5**	**-0.2**
	0.5nm,0.7s,baz=305,slow=9.1,SNR=6.1						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**52.23**	**340**	P	**P**	**00 18 05.4**	**-0.1**
	0.3nm,0.7s,baz=152,slow=8.0,SNR=3.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**56.80**	**340**	P	**P**	**00 18 39.0**	**+0.5**
	0.2nm,0.3s,baz=148,slow=8.8,SNR=2.8						
	0.2nm,0.3s						

NOU ***27*** *00:09:44.8,41˚.91S×174˚.50E,h11km,MLv4.0/9,Cook Strait, New Zealand*

WEL ***27*** *00:09:45.6,42˚.3±3˚×17˚.4E±˚,h20km±4km,M3.6/22, ML3.9/22,MLv3.6/22,Error ellipse: s-maj=0.0km s-min=0.0km az=116.6,confirmed*

ISC 27 00:09:44.3±1.0,**41˚.85S**±0˚.04×**174˚.42E**±0˚.03,**h11**km±7km, **n92,**σ1.**924**/104,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.18**	**303**	P	**Pb**	**00 09 49.6**	**-0.1**
CMWZ				S	**Sb**	**00 09 52.8**	**+1.8**
BSWZ	**Blackbirch Sta**	**0.43**	**288**	P	**Pg**	**00 09 52.9**	**+0.2**
BSWZ				S	**Sg**	**00 09 58.3**	**-0.1**
SNZO	**South Karori**	**0.58**	**22**	P	**Pb**	**00 09 56.4**	**0.0**
WEL	**Wellington**	**0.62**	**25**	P	**Pb**	**00 09 57.3**	**+0.1**
WEL				S	**Sb**	**00 10 05.8**	**-0.1**
TCW	**Tory Channel**	**0.65**	**351**	P	**Pg**	**00 09 55.7**	**-1.1**
TCW				S	**Sg**	**00 10 03.4**	**-1.9**
PLWZ	**Palliser**	**0.69**	**66**	P	**Pn**	**00 10 00.7**	**+0.7**
MSWZ	**Moikau Station**	**0.76**	**56**	P	**Pn**	**00 10 01.8**	**+0.9**
MSWZ				S	**Sn**	**00 10 13.7**	**+1.2**
KHZ	**Kahutara**	**0.87**	**229**	P	**Pn**	**00 10 03.2**	**+0.8**
KHZ	**Kahutara**	**0.87**	**229**	P	**Pn**	**00 10 03.5**	**+1.1**
KHZ				S	**Sn**	**00 10 16.7**	**+1.7**
CAW	**Cannon Point**	**0.89**	**34**	P	**Pg**	**00 10 02.1**	**+0.7**
PAWZ	**Paruwai Farm**	**0.89**	**59**	P	**Pn**	**00 10 03.2**	**+0.4**
NNZ	**Nelson**	**1.00**	**309**	P	**Pb**	**00 10 02.2**	**-1.4**
KIW	**Kapiti Island**	**1.05**	**21**	P	**Pb**	**00 10 04.2**	**-0.3**
KIW				S	**Sg**	**00 10 18.5**	**+0.2**
TRWZ	**Traveller**	**1.05**	**65**	P	**Pg**	**00 10 05.3**	**+0.8**
MTW	**Mount Morrison**	**1.07**	**50**	P	**Pn**	**00 10 05.4**	**+0.2**
MTW				S	**Sn**	**00 10 21.9**	**+1.9**
DUWZ	**D'Urville Isla**	**1.11**	**340**	P	**Pb**	**00 10 03.9**	**-1.6**
THZ	**Tophouse**	**1.13**	**274**	P	**Pb**	**00 10 05.8**	**-0.1**
OGWZ	**Otaki Gorge**	**1.18**	**29**	P	**Pb**	**00 10 06.6**	**0.0**
OGWZ				S	**Sb**	**00 10 21.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.26**	**41**	P	**Pn**	**00 10 07.8**	**+0.1**
MRNZ	**Matariki Terra**	**1.32**	**289**	P	**Pn**	**00 10 08.6**	**-0.1**
MRNZ				S	**Sb**	**00 10 25.6**	**-0.5**
TMWZ	**Te Maipa**	**1.33**	**57**	P	**Pn**	**00 10 08.9**	**0.0**
TKNZ	**Takaka Hill**	**1.36**	**306**	P	**Pn**	**00 10 08.6**	**-0.7**
MRZ	**Mangatainoka R**	**1.47**	**37**	P	**Pn**	**00 10 10.7**	**0.0**
GVZ	**Greta Valley S**	**1.52**	**222**	P	**Pn**	**00 10 12.4**	**+1.0**
PRWZ	**Pori Road**	**1.75**	**43**	P	**Pn**	**00 10 14.3**	**-0.2**
QRZ	**Quartz Range**	**1.75**	**305**	P	**Pn**	**00 10 15.0**	**+0.4**
QRZ	**Quartz Range**	**1.75**	**305**	P	**Pn**	**00 10 15.0**	**+0.4**
QRZ				S	**Sn**	**00 10 36.4**	**-0.4**
POWZ	**Post Office Ro**	**1.78**	**36**	P	**Pn**	**00 10 14.8**	**-0.1**
BFZ	**Birch Farm**	**1.81**	**50**	P	**Pn**	**00 10 14.7**	**-0.6**
BFZ	**Birch Farm**	**1.81**	**50**	P	**Pn**	**00 10 14.6**	**-0.8**
LTZ	**Lake Taylor**	**1.84**	**239**	P	**Pn**	**00 10 16.5**	**+0.6**
DSZ	**Denniston Nort**	**1.96**	**272**	P	**Pn**	**00 10 18.5**	**+1.1**
DSZ				S	**Sb**	**00 10 45.2**	**+0.9**
WAZ	**Wanganui**	**2.13**	**12**	P	**Pn**	**00 10 22.7**	**-0.2**
MQZ	**McQueen's Vall**	**2.27**	**214**	P	**Pn**	**00 10 21.3**	**-0.4**
MQZ				S	**Sn**	**00 10 48.2**	**-1.4**
OXZ	**Oxford**	**2.29**	**229**	P	**Pn**	**00 10 22.1**	**0.0**
AKCZ	**Akaroa Harbour**	**2.31**	**208**	P	**Pn**	**00 10 22.6**	**+0.4**
WPHZ	**Waipukurau**	**2.35**	**41**	P	**Pn**	**00 10 22.2**	**-0.6**
INZ	**Inchbonnie**	**2.37**	**247**	P	**Pn**	**00 10 24.4**	**+1.2**
LREZ	**Lake Rotokare**	**2.38**	**360**	P	**Pb**	**00 10 25.9**	**-1.4**
NMEZ	**Namu Road**	**2.47**	**350**	P	**Pb**	**00 10 26.7**	**-1.9**
KHEZ	**Kahui Hut**	**2.57**	**353**	P	**Pb**	**00 10 28.1**	**-2.3**
KHEZ	**Kahui Hut**	**2.57**	**353**	P	**Pn**	**00 10 27.9**	**+2.0**
NEZ	**North Egmont**	**2.59**	**354**	P	**Pn**	**00 10 28.1**	**+2.0**
MTVZ	**Mangateitei**	**2.59**	**18**	P	**Pb**	**00 10 31.0**	**+0.3**
NBEZ	**Newall Road No**	**2.61**	**351**	P	**Pb**	**00 10 29.2**	**-1.9**
MOVZ	**Moawhango**	**2.64**	**23**	P	**Pn**	**00 10 28.1**	**+1.2**
PKVZ	**Pokaka**	**2.65**	**16**	P	**Pb**	**00 10 30.3**	**-1.6**
KRHZ	**Kereru**	**2.66**	**35**	P	**Pn**	**00 10 26.0**	**-1.0**
BHHZ	**Black Hill Sta**	**2.67**	**29**	P	**Pb**	**00 10 30.9**	**-1.2**
PKE	**Pukeiti**	**2.67**	**353**	P	**Pn**	**00 10 29.7**	**+1.9**
WNVZ	**Wahianoa**	**2.67**	**20**	P	**Pn**	**00 10 28.0**	**+0.5**
TRVZ	**Turoa**	**2.69**	**19**	P	**Pn**	**00 10 29.4**	**+1.8**
WHVZ	**Whangaehu Hut**	**2.71**	**20**	P	**Pn**	**00 10 31.7**	**-1.2**
DRZ	**Dome Shelter**	**2.71**	**19**	P	**Pb**	**00 10 33.2**	**+0.2**
FWVZ	**Far West T-bar**	**2.73**	**19**	P	**Pb**	**00 10 32.4**	**-0.9**
VRZ	**Vera Road**	**2.73**	**6**	P	**Pn**	**00 10 29.8**	**+1.7**
TUVZ	**Tukino**	**2.74**	**20**	P	**Pn**	**00 10 29.3**	**+0.9**
KAHZ	**Kahuranaki**	**2.77**	**43**	P	**Pn**	**00 10 27.2**	**-1.5**
SNVZ	**South Ngauruho**	**2.82**	**20**	P	**Pb**	**00 10 33.9**	**-0.8**
NGZ	**Ngauruhoe**	**2.82**	**19**	P	**Pb**	**00 10 33.3**	**-1.5**
WACZ	**Wakanui South**	**2.82**	**221**	P	**Pn**	**00 10 29.3**	**0.0**
OTVZ	**Oturere**	**2.84**	**20**	P	**Pb**	**00 10 35.0**	**-0.2**
KWHZ	**Kaweka Forest**	**2.86**	**33**	P	**Pg**	**00 10 37.7**	**-1.5**
NNVZ	**North Ngauruho**	**2.86**	**19**	P	**Pn**	**00 10 31.9**	**+1.9**
WTVZ	**West Tongariro**	**2.87**	**19**	P	**Pb**	**00 10 33.4**	**-2.2**
TWVZ	**Taurewa**	**2.88**	**16**	P	**Pb**	**00 10 33.1**	**-2.6**
ETVZ	**East Tongariro**	**2.88**	**20**	P	**Pb**	**00 10 35.0**	**-0.8**
TMVZ	**Te Maari**	**2.90**	**20**	P	**Pn**	**00 10 31.0**	**+0.5**
KRVZ	**Karewarewa**	**2.90**	**19**	P	**Pb**	**00 10 36.6**	**+0.4**
NTVZ	**North Tongarir**	**2.91**	**20**	P	**Pb**	**00 10 36.6**	**+0.3**
WVZ	**Waitaha Valley**	**2.99**	**245**	P	**Pn**	**00 10 33.3**	**+1.8**
RPZ	**Rata Peaks**	**3.10**	**232**	P	**Pn**	**00 10 33.2**	**0.0**
RPZ	**Rata Peaks**	**3.10**	**232**	P	**Pn**	**00 10 33.4**	**+0.2**
BKZ	**Black Stump Fm**	**3.11**	**31**	P	**Pn**	**00 10 35.1**	**+1.8**
BKZ	**Black Stump Fm**	**3.11**	**31**	P	**Pn**	**00 10 32.0**	**-1.3**
RATZ	**Rangitukua**	**3.15**	**20**	P	**Pb**	**00 10 41.6**	**+1.2**
ARCZ	**Arundel**	**3.17**	**228**	P	**Pn**	**00 10 34.1**	**0.0**
NMHZ	**Naumai**	**3.30**	**34**	P	**Pn**	**00 10 34.3**	**-1.6**
HIZ	**Hauiti**	**3.35**	**6**	P	**Pn**	**00 10 38.3**	**+1.8**
HIZ	**Hauiti**	**3.35**	**6**	P	**Pn**	**00 10 38.1**	**+1.5**
GCSZ	**Gaunt Creek Bo**	**3.36**	**243**	P	**Pn**	**00 10 38.7**	**+2.0**
MTHZ	**Maungataniwha**	**3.52**	**33**	P	**Pb**	**00 10 44.9**	**-1.7**
TMZ	**Timaru**	**3.56**	**223**	P	**Pn**	**00 10 39.4**	**0.0**
TLZ	**Tolley Road**	**3.62**	**14**	P	**Pb**	**00 10 47.7**	**-0.6**
LBZ	**Lake Benmore**	**4.00**	**229**	P	**Pn**	**00 10 46.1**	**+0.5**
URZ	**Urewera**	**4.14**	**31**	P	**Pn**	**00 10 49.1**	**+1.7**
TOZ	**Tahuroa Road**	**4.20**	**12**	P	**Pn**	**00 10 51.9**	**+3.7**
ODZ	**Otahua Downs**	**4.21**	**219**	P	**Pn**	**00 10 48.3**	**-0.1**
ODZ	**Otahua Downs**	**4.21**	**219**	P	**Pn**	**00 10 48.0**	**-0.5**
JCZ	**Jackson Bay**	**4.69**	**240**	P	Pn	00 10 59.9	+4.8
MKAZ	**Moumakai**	**4.77**	**7**	P	**Pn**	**00 10 58.5**	**+2.4**
AWAZ	**Awhitu Peninsu**	**4.78**	**2**	P	**Pn**	**00 10 58.3**	**+2.0**

MCSM ***27*** *00:16:24.0±0.9,46˚N±9˚×2˚.7E±˚,h77km±5km,ML3.5*

BUC ***27*** *00:16:24.5±0.1,45˚.78N×26˚.64E,h80km±1km,ml3.5/49, Error ellipse: s-maj=1.2km s-min=0.9km az=18.0*

SOF ***27*** *00:16:24.3,45˚.74N×26˚.64E,h100km,MD3.3*

BEO ***27*** *00:16:29.0±1.2,45˚.54N×25˚.68E,h0km,ML2.9/4*

ISC 27 00:16:24.0±1.2,**45˚.78N**±0˚.02×**26˚.63E**±0˚.02,**h85**km±4km, **n150,**σ0.**991**/234,**100C-102D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.07**	**11**	⇑P	**Pn**	**00 16 35.8**	**-0.4**
PLOR				⇑S	**Sn**	**00 16 44.2**	**-0.9**
PLOR	**Plostina**	**0.07**	**11**	⇑P	**Pn**	**00 16 35.8**	**-0.4**
PLOR				⇑S	**Sn**	**00 16 44.2**	**-0.9**
PLOR	**Plostina**	**0.07**	**11**	P	**Pn**	**00 16 35.5**	**-0.6**
PLOR				S	**Sn**	**00 16 44.4**	**-0.7**
VRI	**Vrincioaia**	**0.11**	**38**	⇑P	**Pn**	**00 16 36.0**	**-0.1**
VRI				⇑S	**Sn**	**00 16 45.1**	**-0.1**
VRI	**Vrincioaia**	**0.11**	**38**	⇑P	**Pn**	**00 16 36.0**	**-0.1**
VRI				⇑S	**Sn**	**00 16 45.1**	**-0.1**
VRI	**Vrincioaia**	**0.11**	**38**	P	**Pn**	**00 16 35.9**	**-0.3**
BISRR	**Bisoca**	**0.24**	**166**	⇓P	**Pn**	**00 16 37.1**	**+0.4**
BISRR				⇓S	**Sn**	**00 16 46.5**	**+0.6**
BISRR	**Bisoca**	**0.24**	**166**	⇓P	**Pn**	**00 16 37.1**	**+0.4**
BISRR				⇓S	**Sn**	**00 16 46.5**	**+0.6**
COVR	**Voineasa-Covas**	**0.30**	**283**	⇓P	**Pn**	**00 16 36.6**	**-0.3**
COVR				⇓S	**Sn**	**00 16 45.5**	**-0.9**
COVR	**Voineasa-Covas**	**0.30**	**283**	⇓P	**Pn**	**00 16 36.6**	**-0.3**
COVR				⇓S	**Sn**	**00 16 45.5**	**-0.9**
PANC	**Panciu**	**0.38**	**75**	⇓P	**Pn**	**00 16 37.8**	**+0.5**
PANC				⇓S	**Sn**	**00 16 47.4**	**+0.2**
PANC	**Panciu**	**0.38**	**75**	⇓P	**Pn**	**00 16 37.8**	**+0.5**
PANC				⇓S	**Sn**	**00 16 47.4**	**+0.2**
NEHR	**Nehoiu**	**0.42**	**214**	⇓P	**Pn**	**00 16 38.4**	**+0.7**
NEHR				⇓S	**Sn**	**00 16 47.7**	**0.0**
NEHR	**Nehoiu**	**0.42**	**214**	⇓P	**Pn**	**00 16 38.4**	**+0.7**
NEHR				⇓S	**Sn**	**00 16 47.7**	**0.0**
GRER		**0.47**	**148**	⇓P	**Pn**	**00 16 38.4**	**+0.4**
GRER				⇓S	**Sn**	**00 16 48.8**	**+0.6**
GRER		**0.47**	**148**	⇓P	**Pn**	**00 16 38.4**	**+0.4**
GRER				⇓S	**Sn**	**00 16 48.8**	**+0.6**
MLR	**Muntele Rosu**	**0.56**	**239**	⇓P	**Pn**	**00 16 39.3**	**+0.3**
MLR				⇓S	**Sn**	**00 16 49.6**	**-0.3**
MLR	**Muntele Rosu**	**0.56**	**239**	⇓P	**Pn**	**00 16 39.3**	**+0.3**
MLR				⇓S	**Sn**	**00 16 49.6**	**-0.3**
MLR	**Muntele Rosu**	**0.56**	**239**	P	**Pn**	**00 16 39.2**	**+0.3**
GHRR		**0.61**	**62**	⇓P	**Pn**	**00 16 40.1**	**+0.8**
GHRR				⇓S	**Sn**	**00 16 51.2**	**+0.7**
GHRR		**0.61**	**62**	⇓P	**Pn**	**00 16 40.1**	**+0.8**
GHRR				⇓S	**Sn**	**00 16 51.2**	**+0.7**
ISR	**Istrita**	**0.66**	**185**	⇓P	**Pn**	**00 16 40.7**	**+0.9**
ISR	**Istrita**	**0.66**	**185**	⇓P	**Pn**	**00 16 40.7**	**+0.9**
OZUR		**0.67**	**299**	⇑P	**P

COPA	**Copaceanca**			||P	**Pn**	**00 16 55.3**	**+0.3**
MFTR	**Murfatlar**	**2.04**	**141**	||P	**Pn**	**00 16 57.1**	**+0.5**
MFTR	**Murfatlar**	**2.04**	**141**	||P	**Pn**	**00 16 57.1**	**+0.5**
BURAR	**Bucovina Array**	**2.08**	**333**	||P	**Pn**	**00 16 58.5**	**+1.3**
BURAR				||S	**Sn**	**00 17 24.1**	**+1.6**
BURAR	**Bucovina Array**	**2.08**	**333**	||P	**Pn**	**00 16 58.5**	**+1.3**
BURAR				||S	**Sn**	**00 17 24.1**	**+1.6**
RAZG	**Razgrad**	**2.21**	**182**	||P	**Pn**	**00 16 58.9**	**0.0**
RAZG	**Razgrad**	**2.21**	**182**	||P	**Pn**	**00 16 58.9**	**0.0**
EFOR	**EFORIE**	**2.21**	**139**	||S	**Sn**	**00 17 25.2**	**-0.3**
EFOR	**EFORIE**	**2.21**	**139**	||S	**Sn**	**00 17 25.2**	**-0.3**
CJR	**Cluj-Napoca**	**2.30**	**295**	||P	**Pn**	**00 17 00.7**	**+0.6**
CJR				||S	**Sn**	**00 17 28.6**	**+0.9**
CJR	**Cluj-Napoca**	**2.30**	**295**	||P	**Pn**	**00 17 00.7**	**+0.6**
CJR				||S	**Sn**	**00 17 28.6**	**+0.9**
ZIMR		**2.30**	**203**	||P	**Pn**	**00 16 59.7**	**-0.4**
ZIMR		**2.30**	**203**	||P	**Pn**	**00 16 59.7**	**-0.4**
PSN	**Preselentsi**	**2.37**	**152**	*i*	P	**Pn**	**00 17 02.1**	**+1.1**
PURM	**Purcari**	**2.38**	**70**	||P	**Pn**	**00 17 00.5**	**-0.5**
PURM				||S	**Sn**	**00 17 29.5**	**+0.1**
PURM	**Purcari**	**2.38**	**70**	||P	**Pn**	**00 17 00.5**	**-0.5**
PURM				||S	**Sn**	**00 17 29.5**	**+0.1**
VLAD	**Vladila**	**2.38**	**222**	||P	**Pn**	**00 17 01.2**	**+0.1**
VLAD	**Vladila**	**2.38**	**222**	||P	**Pn**	**00 17 01.2**	**+0.1**
SZH	**Strazhica**	**2.56**	**191**	*i*	P	**Pn**	**00 17 04.1**	**+0.6**
MARR	**Marisel-Cluj**	**2.60**	**292**	||P	**Pn**	**00 17 04.6**	**+0.5**
MARR				||S	**Sn**	**00 17 35.4**	**+0.6**
MARR	**Marisel-Cluj**	**2.60**	**292**	||P	**Pn**	**00 17 04.6**	**+0.5**
MARR				||S	**Sn**	**00 17 35.4**	**+0.6**
PRD	**Provadia**	**2.63**	**168**	*i*	P	**Pn**	**00 17 05.8**	**+1.3**
SORM	**Soroca**	**2.64**	**26**	||P	**Pn**	**00 17 04.8**	**+0.3**
SORM	**Soroca**	**2.64**	**26**	||P	**Pn**	**00 17 04.8**	**+0.3**
KALB	**Balgarevo**	**2.69**	**151**	||S	**Sn**	**00 17 37.7**	**+0.7**
KALB	**Balgarevo**	**2.69**	**151**	||S	**Sn**	**00 17 37.7**	**+0.7**
PVL	**Pavlikeni**	**2.72**	**200**	*e*	P	**Pn**	**00 17 08.0**	**+2.3**
ROIA	**ROIAK**	**2.74**	**168**	*i*	P	**Pn**	**00 17 06.9**	**+1.0**
PLVB	**Pleven**	**2.79**	**212**	||P	**Pn**	**00 17 06.7**	**+0.1**
PLVB	**Pleven**	**2.79**	**212**	||P	**Pn**	**00 17 06.7**	**+0.1**
KMPD	**K-Podol'skiy**	**2.79**	**358**		P	**Pn**	**00 17 05.9**	**-0.6**
DRGR		**2.90**	**292**	||P	**Pn**	**00 17 08.5**	**+0.4**
DRGR				||S	**Sn**	**00 17 42.7**	**+0.6**
DRGR		**2.90**	**292**	||P	**Pn**	**00 17 08.5**	**+0.4**
DRGR				||S	**Sn**	**00 17 42.7**	**+0.6**
DRGR		**2.90**	**292**	*e*	Pn	**Pn**	**00 17 08.6**	**+0.4**
DRGR				*e*	Sn	**Sn**	**00 17 40.5**	**-1.6**
HERR	**Herculane**	**3.10**	**255**	||P	**Pn**	**00 17 11.1**	**+0.3**
HERR				||S	**Sn**	**00 17 48.2**	**+1.3**
HERR	**Herculane**	**3.10**	**255**	||P	**Pn**	**00 17 11.1**	**+0.3**
HERR				||S	**Sn**	**00 17 48.2**	**+1.3**
SURR	**Surduc**	**3.15**	**271**	||P	**Pn**	**00 17 12.2**	**+0.8**
SURR	**Surduc**	**3.15**	**271**	||P	**Pn**	**00 17 12.2**	**+0.8**
MPEP	**Malo Peshtene**	**3.18**	**221**	*i*	P	**Pn**	**00 17 13.4**	**+1.5**
SIRR	**Siria**	**3.50**	**280**	||P	**Pn**	**00 17 17.1**	**+1.0**
SIRR	**Siria**	**3.50**	**280**	||P	**Pn**	**00 17 17.1**	**+1.0**
BZS	**Buzias**	**3.52**	**269**	*e*	Pn	**Pn**	**00 17 16.4**	**0.0**
PGB	**Panagyurishte**	**3.68**	**210**	*i*	P	**Pn**	**00 17 19.5**	**+0.8**
ZAGS	**Zajecar**	**3.69**	**239**	*e*	Pn	**Pn**	**00 17 18.6**	**-0.2**
ZAPS	**Zavoj**	**3.80**	**230**	*e*	Pn	**Pn**	**00 17 19.4**	**-0.9**
ZAPS				*e*	Sn	**Sn**	**00 17 57.8**	**-6.0**
LUBAR	**Lubar, Ukraine**	**4.21**	**10**	P	**Pn**	**00 17 25.7**	**-0.1**
BARS	**Barje**	**4.55**	**231**	*e*	Pn	**Pn**	**00 17 30.9**	**+0.4**
BARS				*e*	Sn	**Sn**	**00 18 14.5**	**-7.6**
SEV	**Sevastopol'**	**5.13**	**101**	Pm			00 17 38.5	
	comp=Z,11nm,0.4s							
SEV				*e*	P	**Pn**	**00 17 38.0**	**-0.3**
SEV				*e*	S	**Sn**	**00 18 33.3**	**-2.8**
SEV				Sm			00 18 35.6	
	comp=N,7.0nm,0.3s							
SEV				Sm			00 18 35.6	
	comp=E,3.0nm,0.4s							
AK09	**Malin Array Si**	**5.16**	**19**	P		**Pn**	**00 17 38.6**	**0.0**
AK17	**Malin Array Si**	**5.17**	**17**	P		**Pn**	**00 17 38.3**	**-0.5**
MI28	**Mi28,Pidlybu**	**5.20**	**7**	P		**Pn**	**00 17 39.4**	**+0.1**
AK18	**Malin Array Si**	**5.21**	**17**	P		**Pn**	**00 17 39.0**	**-0.4**
AK20	**Malin Array Si**	**5.22**	**17**	P		**Pn**	**00 17 39.5**	**0.0**
SIM	**Simferopol'**	**5.34**	**96**	*e*S		**Sn**	**00 18 41.4**	**+0.1**
SIM				Sm			00 18 41.8	
	comp=N,6.0nm,0.5s							
SIM				Sm			00 18 41.8	
	comp=E,4.0nm,0.5s							
ALU	**Alushta**	**5.60**	**99**	*e*S		**Sn**	**00 18 46.2**	**-1.4**
ALU				Sm			00 18 49.5	
	comp=N,4.0nm,0.4s							

IDC ***27*** *00:22:03.0±1.4, 2.2′21N×125.67E, h0km, mb3.9/5, mbtmp3.9/5, MS2.5/1, Error ellipse: s-maj=165.9km s-min=18.8km az=64.0*
NEIC ***27*** *00:22:10.1±1.4, 2.2′2N±0.1′×125.7′7E±0.2, h47km±8km, mb4.2/17, Error ellipse: s-maj=28.0km s-min=12.9km az=70.0*

ISC 27 00:22:09.0±0.8, 2.2′2N±0.1′×125.7′7E±0.2, h41km, n26, σ1§18/25, mb4.2/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.21**	**131**	Pn	**Pn**	**00 22 44.1**	**+0.9**
DAV	**Davao City (W)**	**4.80**	**358**	LR	LR	00 25 30.6	
	comp=Z,54nm,21.8s,baz=186,slow=43						
KNRA	**Kununurra**	**18.06**	**170**	P	**P**	**00 26 18.6**	**+1.5**
KNRA				IAmb	IAmb	00 26 20.0	
	comp=Z,25nm,1.1s						
YOJ	**Yonaguni jima**	**22.25**	**353**	P	**P**	**00 27 02.4**	**-0.1**
KNMB	**Chin-men Tao**	**23.20**	**343**	P	**P**	**00 27 12.7**	**+0.3**
WB0	**Warramunga Arr**	**23.47**	**159**	P	**P**	**00 27 14.5**	**-0.7**
WB0				IAmb	IAmb	00 27 16.4	
	comp=Z,7.0nm,0.5s						
WRAB	**Tennant Creek**	**23.61**	**159**	P	**P**	**00 27 15.9**	**-0.5**
WRAB				IAmb	IAmb	00 27 16.1	
	comp=Z,5.5nm,0.6s						
WRA	**Warramunga Arr**	**23.62**	**159**	P	**P**	**00 27 15.5**	**-1.0**
	comp=Z,3.9nm,0.5s,baz=336,slow=11,SNR=47						
	comp=Z,3.9nm,0.5s						
WB2	**Warramunga Arr**	**23.62**	**159**	P	**P**	**00 27 15.8**	**-0.8**
WB2				IAmb	IAmb	00 27 16.5	
	comp=Z,5.4nm,0.7s						
WR0	**Warramunga Arr**	**23.70**	**159**	P	**P**	**00 27 16.9**	**-0.5**
WR0				IAmb	IAmb	00 27 19.1	
	comp=Z,4.1nm,0.8s						
JOW	**Kunigami**	**24.58**	**6**	P	**P**	**00 27 27.8**	**+2.4**
AS31	**Alice Springs**	**26.96**	**163**	P	**P**	**00 27 46.9**	**-0.1**
ASAR	**Alice Springs**	**26.96**	**163**	P	**P**	**00 27 47.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=348,slow=7.4,SNR=13						
	comp=Z,0.6nm,0.5s						
BBOO	**Buckleboo**	**36.21**	**165**	P	**P**	**00 29 08.5**	**+0.4**
STKA	**Stephens Creek**	**37.13**	**157**	P	**P**	**00 29 14.9**	**-1.0**
	comp=Z,3.8nm,0.7s,baz=338,slow=9.3,SNR=12						
	comp=Z,3.8nm,0.7s						
STKA	**Stephens Creek**	**37.13**	**157**	P	**P**	**00 29 15.7**	**-0.2**
ARMA	**Armidale**	**40.82**	**145**	P	**P**	**00 29 44.2**	**-2.7**
ARMA				IAmb	IAmb	00 29 53.7	
	comp=Z,7.2nm,1.1s						
CAN	**Canberra**	**43.26**	**152**	P	**P**	**00 30 06.5**	**-0.2**
CAN				IAmb	IAmb	00 30 12.6	
	comp=Z,8.8nm,1.1s						
MK31	**Makanchi Array**	**58.20**	**326**	P	**P**	**00 31 59.1**	**-0.1**
MKAR	**Makanchi Array**	**58.20**	**326**	P	**P**	**00 32 00.1**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=118,slow=7.3,SNR=7.0						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.20**	**326**	P	**P**	**00 31 60.0**	**+0.8**
MAKZ	**Makanchi**	**58.39**	**326**	P	**P**	**00 31 57.9**	**-2.6**
MAKZ				IAmb	IAmb	00 32 11.2	
	comp=Z,1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**62.45**	**328**	P	**P**	**00 32 26.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=6.3,SNR=5.3						
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**82.09**	**173**	P	**P**	**00 34 24.5**	**-0.2**
P18K	**Big Mountain,**	**82.51**	**30**	P	**P**	**00 34 26.9**	**-0.5**
P18K				IAmb	IAmb	00 34 43.8	
	comp=Z,1.8nm,0.7s						
O18K	**Koktuh Hills**	**82.59**	**30**	P	**P**	**00 34 27.6**	**-0.1**

DNK ***27*** *00:25:35.8±0.4, 67.83N×20.21E, h0km, ML2.8(UPP), Explosion*
UPP ***27*** *00:25:35.4±0.0, 67.82N×20.20E, h0km, ML2.8, Suspected explosion*
HEL ***27*** *00:25:36.6±0.5, 67.83N×20.34E, h0km, ML1.7, Explosion*

ISC 27 00:25:34.9±0.9, 67.79N±0.02×20.29E±0.03, h0km, n36, σ0§72/44, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.27**	**278**	P	**Pg**	**00 25 40.0**	**0.0**
RATU	**Laukkuluspa**	**0.27**	**278**	P	**Pg**	**00 25 40.0**	**0.0**
KOVU	**Salmi**	**0.44**	**354**	P	**Pg**	**00 25 43.2**	**-0.1**
KOVU				S	**Sg**	**00 25 48.5**	**-0.6**
KOVU	**Salmi**	**0.44**	**354**	P	**Pg**	**00 25 43.2**	**-0.1**
KOVU				S	**Sg**	**00 25 48.5**	**-0.6**
NIKU	**Nikkaluokta**	**0.48**	**280**	P	**Pg**	**00 25 43.9**	**-0.2**
NIKU	**Nikkaluokta**	**0.48**	**280**	P	**Pg**	**00 25 43.9**	**-0.2**
DUNU	**Dundret**	**0.68**	**171**	P	**Pb**	**00 25 48.8**	**-0.7**
DUNU				S	**Sb**	**00 25 58.9**	**-0.5**
DUNU	**Dundret**	**0.68**	**171**	P	**Pb**	**00 25 48.8**	**-0.7**
DUNU				S	**Sb**	**00 25 58.9**	**-0.5**
LANU	**Lannavaara**	**0.69**	**67**	P	**Pb**	**00 25 48.8**	**-1.0**
LANU	**Lannavaara**	**0.69**	**67**	P	**Pb**	**00 25 48.8**	**-1.0**
LANU	**Lannavaara**	**0.69**	**67**	PG	**Pb**	**00 25 48.8**	**-1.0**
	baz=260						
MASU	**Masugnsbyn**	**0.73**	**116**	P	**Pb**	**00 25 50.3**	**-0.2**
MASU	**Masugnsbyn**	**0.73**	**116**	P	**Pb**	**00 25 50.3**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**240**	P	**Pg**	**00 25 50.4**	**+0.3**
SALU	**Saltoluokta**	**0.80**	**240**	P	**Pg**	**00 25 50.4**	**+0.3**
KIF	**Kilpisjarvi**	**1.24**	**9**	*e*P	**Pg**	**00 25 57.9**	**-0.6**
KIF	**Kilpisjarvi**	**1.24**	**9**	PB	**Pb**	**00 25 58.8**	**-0.3**
	baz=183						
KIF				SG	**Sg**	**00 26 12.9**	**-1.7**
KIF				MSG		00 26 13.9	
	comp=Z,13nm,0.2s						
PAJU	**Pajala**	**1.33**	**124**	P	**Pb**	**00 26 00.7**	**-0.1**
PAJU	**Pajala**	**1.33**	**124**	P	**Pb**	**00 26 00.7**	**-0.1**
PAJU	**Pajala**	**1.33**	**124**	PG	**Pn**	**00 26 00.5**	**-0.3**
HEF	**Hetta**	**1.41**	**62**	*e*P	**Pb**	**00 26 01.7**	**-0.4**
HEF	**Hetta**	**1.41**	**62**	PG	**Pg**	**00 26 01.6**	**-0.3**
	baz=251						
HEF				MSG		00 26 18.1	
	comp=Z,5.7nm,0.2s						
ERTU	**Ertsjaerv**	**1.44**	**148**	P	**Pb**	**00 26 02.7**	**+0.1**
ERTU	**Ertsjaerv**	**1.44**	**148**	P	**Pb**	**00 26 02.7**	**+0.1**
ERTU	**Ertsjaerv**	**1.44**	**148**	PG	**Pb**	**00 26 02.6**	**+0.1**
KLF	**Kolari**	**1.52**	**110**	PG	**Pg**	**00 26 04.0**	**+0.1**
	baz=305						
KLF				MSG		00 26 22.0	
	comp=Z,3.4nm,0.2s						
KTK1	**Kautokeino**	**1.65**	**40**	PG	**Pb**	**00 26 05.4**	**-0.6**
HARU	**Harads**	**1.65**	**170**	P	**Pg**	**00 26 06.3**	**-0.2**
HARU	**Harads**	**1.65**	**170**	P	**Pg**	**00 26 06.3**	**-0.2**
KALU	**Kalix**	**2.28**	**146**	PG	**Pb**	**00 26 16.0**	**-0.9**
	baz=330						
TOF	**Tornio**	**2.34**	**135**	PB	**Pb**	**00 26 17.0**	**-0.7**
	baz=312						
TOF				MSG		00 26 46.3	
	comp=Z,2.4nm,0.2s						
SGF	**Sodankyl**	**2.41**	**95**	PG	**Pb**	**00 26 18.5**	**-0.5**
	baz=277						
RNF	**Rovaniemi**	**2.52**	**115**	PB	**Pb**	**00 26 20.3**	**-0.7**
RNF				SG	**Sg**	**00 26 56.1**	**+0.3**
ARA0	**ARCESS Array S**	**2.59**	**45**	PB	**Pn**	**00 26 19.7**	**+1.7**
	baz=224						
ARA0				SG	**Sb**	**00 26 55.1**	**+0.6**
KEV	**Kevo**	**3.14**	**48**	PN	**Pn**	**00 26 27.7**	**+2.2**
KEV				MSG		00 27 07.8	
	comp=Z,2.4nm,0.2s						
KEV				SG	**Sb**	**00 27 11.3**	**+1.0**
KU6	**Riekki**	**4.17**	**111**	PB	**Pb**	**00 26 48.3**	**-0.8**
	baz=296						

UPP 27 00:25:41.8±0.0, 67.82N×20.20E, h0km, ML2.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	00 25 46.5	+0.2
RATU				S	Sg	00 25 49.6	+0.4
KOVU	**Salmi**	**0.41**	**358**	P	Pg	00 25 49.7	+0.1
KOVU				S	Sg	00 25 55.4	+0.5
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	00 25 50.4	+0.1
NIKU				S	Sg	00 25 56.5	+0.4
DUNU	**Dundret**	**0.71**	**168**	P	Pg	00 25 55.2	-0.2
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	00 25 55.2	-0.2
LANU				S	Sg	00 26 04.7	0.0
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 25 56.6	0.0
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 26 07.0	-1.1
PAJU				S	Sg	00 26 25.5	-0.4
ERTU	**Ertsjaerv**	**1.48**	**148**	P	Pn	00 26 09.0	-0.7
HARU	**Harads**	**1.69**	**169**	P	Pn	00 26 12.4	0.0

LDG ***27*** *00:28:39.7±0.2, 51.5′53N×16.10E, h1km, Ml2.5/5, Error ellipse: s-maj=5.1km s-min=2.2km az=31.0, Suspected Mining induced.*
IPEC ***27*** *00:28:40.5±0.3, 51.5′54N×16.15E, h1km, ML2.8/5, Error ellipse: s-maj=2.1km s-min=1.1km az=36.0*
DNK ***27*** *00:28:40.6±1.7, 51.63N×16.10E, h0km±70km, ML2.1*
PRU ***27*** *00:28:41.8±0.0, 51.5′0N×16.05E, h0km*
IDC ***27*** *00:28:41.6±0.8, 51.51N×15.97E, h0km, mb3.3/1, mbtmp3.3/7, ML2.8/6, Error ellipse: s-maj=13.9km s-min=8.3km az=115.0*
BGR ***27*** *00:28:42.3±0.3, 51.47N×16.10E, h1km, ML3.0/7, Error ellipse: s-maj=4.4km s-min=3.3km az=170.0*

ISC 27 00:28:39.6±0.6, 51.58N±0.02×16.10E±0.02, h0km, n79, σ1§49/127, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**170**	*e*Pg	**Pg**	**00 28 54.3**	**+0.5**
KSP				*e*Sg	**Sg**	**00 29 03.3**	**-0.3**
KSP	**Ksiaz**	**0.75**	**170**	*e*Pg	**Pg**	**00 28 54.4**	**+0.5**
OSTC	**Ostas**	**1.03**	**176**	*e*PG	**Pg**	**00 28 59.7**	**+0.5**
OSTC				*e*SG	**Sg**	**00 29 12.0**	**-0.5**
	comp=Z,102nm,0.4s						
UPC	**Upice**	**1.07**	**183**	*e*PG	**Pg**	**00 29 00.5**	**+0.3**
UPC				*e*SG	**Sg**	**00 29 13.6**	**-0.5**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*PG	**Pg**	**00 29 03.2**	**-0.1**
DPC				*e*SG	**Sg**	**00 29 18.0**	**-1.3**
	comp=Z,80nm,0.6s						
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pg	**Pg**	**00 29 03.1**	**-0.1**
DPC				*e*Sg	**Sg**	**00 29 18.6**	**-0.7**
PVCC	**Panska Ves**	**1.43**	**223**	*e*PG	**Pn**	**00 29 07.3**	**+0.6**
PVCC				*e*SG	**Sb**	**00 29 26.2**	**+0.4**
	comp=Z,132nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**243**	Pn	**Pn**	**00 29 08.2**	**+0.1**
BRG				Pg	**Pg**	**00 29 10.1**	**+1.2**
BRG				Sg	**Sn**	**00 29 30.1**	**+1.4**
BRG				Amp		00 29 30.9	
	comp=Z,90nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**243**	*e*Pn	**Pn**	**00 29 07.9**	**-0.2**
BRG				*e*Sg	**Sg**	**00 29 28.8**	**+0.2**
KRLC	**Kraliky**	**1.57**	**164**	*e*PG	**Pn**	**00 29 08.7**	**0.0**
KRLC				*e*SG	**Sn**	**00 29 28.6**	**-1.1**
	comp=Z,97nm,0.5s						
RUE	**Ruedersdorf**	**1.69**	**303**	*e*P	**Pn**	**00 29 11.5**	**+1.1**
GKP	**Gorka Klasztor**	**1.83**	**22**	*e*Sg	**Sg**	**00 29 44.2**	**+5.8**
GKP	**Gorka Klasztor**	**1.83**	**22**	*e*P	Pg	00 29 21.1	+6.5
FBE	**Freiberg**	**1.85**	**250**	*e*Sg	**Sg**	**00 29 39.9**	**+1.0**
GOPC	**GO Pecny, Ondr**	**1.86**	**207**	*e*PN	**Pn**	**00 29 12.8**	**0.0**
GOPC				*e*SG	**Sb**	**00 29 38.4**	**+0.1**
PRU	**Pruhonice**	**1.87**	**212**	*e*PN	**Pn**	**00 29 12.9**	**0.0**
PRU				*e*PG	**Pb**	**00 29 14.6**	**-0.1**
PRU				*e*SG	**Sb**	**00 29 38.7**	**+0.1**
	comp=Z,79nm,0.6s						
CLL	**Collm**	**1.96**	**263**	*e*Pn	**Pn**	**00 29 14.0**	**0.0**
CLL				*e*Pg	**Pb**	**00 29 17.0**	**+0.9**
CLL				*ex*	x	00 29 21.0	
CLL				*e*Sg	**Sg**	**00 29 44.0**	**+1.6**
	comp=Z,43nm,0.7s						
CLL	**Collm**	**1.96**	**263**	*e*Pn	**Pn**	**00 29 14.4**	**+0.4**
MORC	**Moravsky Berou**	**2.02**	**152**	*e*PN	**Pn**	**00 29 14.9**	**-0.1**
MORC				*e*SG	**Sn**	**00 29 42.2**	**+1.2**
MORC	**Moravsky Berou**	**2.02**	**152**	*e*Pn	**Pn**	**00 29 14.9**	**-0.1**
MORC	**Moravsky Berou**	**2.02**	**152**	*e*Pn	**Pn**	**00 29 14.8**	**-0.2**
	baz=334						
MORC				*e*Sg	**Sn**	**00 29 42.1**	**+1.1**
	comp=Z,64nm,0.5s,baz=334						
OKC	**Ostrava-Krasne**	**2.18**	**142**	*e*PG	**Pb**	**00 29 20.2**	**+0.4**
OKC	**Ostrava-Krasne**	**2.18**	**142**	*e*Pn	**Pn**	**00 29 16.9**	**-0.1**
VRAC	**Vranov**	**2.30**	**172**	Pn	**Pn**	**00 29 19.3**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=330,slow=14,SNR=16						
VRAC				Lg	Lg	00 29 51.0	
	comp=Z,6.3nm,0.3s,baz=270,slow=20,SNR=11						
	comp=Z,10.0nm,0.5s						
VRAC	**Vranov**	**2.30**	**172**	*e*PN	**Pn**	**00 29 18.8**	**+0.1**
VRAC				*e*SG	**Sb**	**00 29 51.1**	**+0.3**
VRAC	**Vranov**	**2.30**	**172**	*e*Pn	**Pn**	**00 29 18.7**	**+0.1**
	baz=353						
VRAC				*e*Sg	**Sb**	**00 29 51.0**	**+0.3**
	comp=Z,51nm,0.7s,baz=353						
MAUC	**Maruska**	**2.48**	**153**	*e*PN	**Pn**	**00 29 21.6**	**+0.4**
KRUC	**Moravsky**	**2.53**	**176**	*e*PN	**Pn**	**00 29 22.5**	**+0.6**
KRUC				*e*SG	**Sb**	**00 29 58.3**	**+0.9**
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn	**Pn**	**00 29 22.4**	**+0.6**
	baz=356						
KRUC				*e*Sg	**Sb**	**00 29 58.3**	**+0.9**
	comp=Z,46nm,0.8s,baz=356						
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**00 29 23.3**	**+0.7**
TANN				*e*Sg	**Sg**	**00 30 02.0**	**-0.3**
WERD	**Werda**	**2.65**	**246**	*e*PN	**Pn**	**00 29 24.4**	**+0.8**
NKC	**Novy Kostel**	**2.67**	**241**	*e*PN	**Pn**	**00 29 25.0**	**+1.1**
NKC				*e*PG	**Pg**	**00 29 30.8**	**0.0**
NKC				*e*SG	**Sg**	**00 30 05.5**	**0.0**
	comp=Z,56nm,0.4s						
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**00 29 31.8**	**+0.3**
OJC				*e*Sg	**Sg**	**00 30 07.2**	**+0.6**
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN	**Pn**	**00 29 27.8**	**+0.3**
KHC				*e*PG	**Pb**	**00 29 34.0**	**+1.2**
KHC				*e*SN	**Sn**	**00 30 02.9**	**-0.5**
KHC				*e*SG	**Sg**	**00 30 12.1**	**-1.7**
	comp=Z,29nm,0.6s						
MOX	**Moxa**	**2.98**	**253**	*e*Pn	**Pn**	**00 29 29.4**	**+1.3**
MOX				*e*Sg	**Sg**	**00 30 16.9**	**+1.8**
CKRC	**Cesky Krumlov**	**2.99**	**203**	*e*PN	**Pn**	**00 29 29.3**	**+1.0**
CKRC				*e*PG	**Pb**	**00 29 35.1**	**+1.4**
CKRC				*e*SG	**Sb**	**00 30 13.5**	**+2.7**
	comp=Z,30nm,0.6s						
MANZ	**Manzenberg**	**2.99**	**239**	*e*Pn	**Pn**	**00 29 29.4**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.07**	**235**	*e*Pn	**Pn**	**00 29 30.3**	**+1.0**
GEC2	**GERESS Array S**	**3.14**	**210**	*e*Pn	**Pn**	**00 29 31.6**	**+1.2**
GERES	**GERESS Array B**	**3.14**	**210**	Pn	**Pn**	**00 29 31.0**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=33,slow=13,SNR=53						
GERES				Pg	**Pb**	**00 29 37.6**	**+1.3**
	comp=Z,4.3nm,0.3s,baz=28,slow=17,SNR=30						
GERES				Lg	Lg	00 30 16.8	
	comp=Z,5.5nm,0.3s,baz=30,slow=25,SNR=12						
	comp=Z,3.9nm,0.4s						
LANS	**Liptovska Anna**	**3.25**	**137**	*e*PN	**Pn**	**00 29 32.5**	**+0.7**
LANS				*e*PG	**Pg**	**00 29 41.8**	**-0.1**
LANS				*e*SG	**Sg**	**00 30 24.4**	**+0.4**
MODS	**Modra-Piesok**	**3.30**	**166**	*e*PN	**Pn**	**00 29 34.9**	**+2.4**
MODS				*e*PG	**Pg**	**00 29 42.4**	**-0.4**
NIE	**Niedzica**	**3.45**	**127**	*e*P	**Pg**	**00 29 45.5**	**-0.1**
NIE				*e*S	**Sg**	**00 30 30.4**	**+0.2**
ZST	**Bratislava**	**3.45**	**169**	*e*SG	**Sg**	**00 30 29.0**	**-1.3**
VYHS	**Vyhne**	**3.56**	**149**	*e*PN	**Pn**	**00 29 36.2**	**+0.2**
VYHS				*e*PG	**Pg**	**00 29 48.1**	**+0.4**
VYHS				*e*SG	**Sg**	**00 30 33.4**	**-0.4**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i*P	**Pn**	**00 29 37.7**	**+1.0**
BSD				*i*S	**Sn**	**00 30 17.6**	**-2.5**
BSD				IAML		00 30 22.6	
	comp=Z,2.0nm,0.2s						
BSD	**Bornholm Skovb**	**3.61**	**349**	*e*P	**Pn**	**00 29 37.7**	**+1.0**
CONA	**Conrad Observa**	**3.66**	**182**	*e*Pn	**Pn**	**00 29 38.6**	**+1.1**
	comp=Z,2.8nm,0.5s,SNR=5.3						
CONA				*e*Sg	**Sg**	**00 30 36.8**	**-0.2**
	comp=Z,34nm,0.5s						
RONA	**Rosalia, Austr**	**3.89**	**178**	*e*Pg	**Pg**	**00 29 55.0**	**+1.0**
	comp=Z,7.9nm,0.6s						
RONA				*e*Sn	**Sn**	**00 30 28.1**	**+1.2**
	comp=Z,6.4nm,0.4s						
MOA	**Molln**	**3.92**	**198**	*e*Pn	**Pn**	**00 29 41.9**	**+0.9**
	comp=Z,3.9nm,0.3s,SNR=10.0				

0.6nm,0.7s,baz=92,slow=6.7,SNR=12
0.6nm,0.7s
ASAR Alice Springs 50.59 252 P **P** **00 37 55.2 -0.3**
2.1nm,0.8s,baz=86,slow=8.5,SNR=22
2.1nm,0.8s
ILAR Eielson Array 82.34 11 P **P** **00 41 20.5 +2.9**
0.3nm,0.7s,baz=205,slow=5.0,SNR=4.8
0.3nm,0.7s
BRTR Keskin Array B 146.46 321 PKPbc **PKiKP** **00 48 40.2 -0.6**
1.0nm,0.9s,baz=60,slow=4.0,SNR=2.7

IDC ***27*** *00:35:14.5±0.8,37.81N×144.39E, h0km, mb3.6/9, mbtmp3.7/12, ML3.7/3, MS2.9/4, Error ellipse: s-maj=26.7km s-min=17.3km az=116.0*
JMA ***27*** *00:35:19.0±0.2,38.0N±0.8×14.4E±, h46km, MV4.0/26, FAR E OFF NORTH HONSHU*
NIED ***27*** *00:35:19.0, 38.02N×144.11E, h46km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr-4.22; Mθθ0.92; Mϕϕ3.30; Mrθ-1.36; Mθϕ0.86; Mϕr5.29; Fault plane solution: M06.65000×1014 NP1: ϕs173.00000°, δ73.00000°, λ-101.00000°. NP2: ϕs27.00000°, δ20.00000°, λ-58.00000°.*

ISC 27 00:35:19.7±0.8, 37.94N±0.06×144.14E±0.07, h35km, n28, σ1§14/31, mb3.7/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JIKH	**Ishinomakikobu**	**2.14**	**281**	P		**Pn**		**00 35 52.6**	**-0.3**
JIKH				eS		**Sn**		**00 36 17.7**	**-0.5**
OFUJ	**Ofunato**	**2.25**	**301**	P		**Pn**		**00 35 54.0**	**-0.4**
OFUJ				eS		**Sn**		**00 36 19.7**	**-1.3**
JIO	**Ouri**	**2.26**	**284**	P		**Pn**		**00 35 54.5**	**0.0**
JIO				eS		**Sn**		**00 36 20.5**	**-0.6**
JKMT	**Kesennumamotoy**	**2.27**	**293**	eP		**Pn**		**00 35 54.4**	**-0.3**
JKMT				eS		**Sn**		**00 36 20.9**	**-0.5**
JMK	**Ichinoseki**	**2.50**	**295**	P		**Pn**		**00 35 58.1**	**+0.2**
JMK				eS		**Sn**		**00 36 26.9**	**-0.3**
JOM	**Ohasama**	**2.70**	**305**	eP		**Pn**		**00 36 00.5**	**-0.2**
JOM				eS		**Sn**		**00 36 31.5**	**-0.6**
JYK	**Kaneyama**	**3.12**	**289**	eP		**Pn**		**00 36 07.1**	**+0.7**
JYK				eS		**Sn**		**00 36 43.8**	**+1.3**
JANG	**Nango**	**3.17**	**321**	eP		**Pn**		**00 36 07.0**	**-0.2**
JANG				eS		**Sn**		**00 36 41.9**	**-1.9**
JRY	**Ryogami san**	**4.61**	**247**	P		**Pn**		**00 36 27.2**	**+0.2**
JRY				eS		**Sn**		**00 37 16.9**	**-2.3**
JCH	**Churui**	**4.71**	**353**	eP		**Pn**		**00 36 26.0**	**-2.2**
MJAR	**Matsushiro Arr**	**4.93**	**255**	Pn		**Pn**		**00 36 32.4**	**+1.0**
	0.7nm,0.3s,baz=79,slow=16,SNR=22								
MJAR				LR		LR		00 38 29.0	
	comp=Z,74nm,18.4s,baz=46,slow=38								
	11nm,0.7s								
JHJ	**Hachijo jima 2**	**5.97**	**218**	Pn		**Pn**		**00 36 44.1**	**-1.5**
	11nm,0.3s,baz=61,slow=16,SNR=1.6								
	106nm,0.8s								
ASAJ	**Asahikawa**	**6.28**	**350**	Pn		**Pn**		**00 36 48.7**	**-1.1**
	2.6nm,0.3s,baz=297,slow=30,SNR=2.2								
	5.5nm,0.3s								
JNU	**Nakatsue**	**11.82**	**250**	LR		LR		00 42 25.7	
	comp=Z,49nm,20.7s,baz=53,slow=36								
KSRS	**Korea Array**	**12.86**	**273**	LR		LR		00 42 53.8	
	comp=Z,33nm,18.3s,baz=80,slow=35								
SEY	**Seymchan**	**25.53**	**9**	P		**P**		**00 40 46.7**	**+2.0**
	1.0nm,0.3s,baz=185,slow=5.9,SNR=6.4								
	1.0nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**26.84**	**126**	T		T		01 08 53.0	
	baz=318								
H11N1	**WAKE ISLAND Hy**	**26.85**	**126**	T		T		01 08 53.0	
	baz=318								
H11N3	**WAKE ISLAND Hy**	**26.86**	**126**	T		T		01 08 56.9	
	baz=318								
SONM	**Songino Array**	**29.11**	**302**	LR		LR		00 53 01.8	
	comp=Z,41nm,19.1s,baz=188,slow=36								
MKAR	**Makanchi Array**	**45.48**	**302**	P		**P**		**00 43 37.0**	**+1.6**
	0.3nm,0.6s,baz=83,slow=9.9,SNR=4.3								
	0.3nm,0.6s								
KURBB	**Kurchatov Arra**	**47.16**	**308**	P		**P**		**00 43 50.0**	**+1.5**
	0.4nm,0.5s,baz=82,slow=8.2,SNR=6.5								
	0.4nm,0.5s								
ILAR	**Eielson Array**	**47.57**	**33**	P		**P**		**00 43 51.2**	**-0.2**
	0.7nm,0.9s,baz=264,slow=5.8,SNR=6.6								
	0.7nm,0.9s								
INK	**Inuvik**	**52.59**	**28**	P		**P**		**00 44 29.3**	**-0.1**
	0.5nm,0.6s,baz=297,slow=7.2,SNR=5.3								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**58.30**	**191**	P		**P**		**00 45 11.0**	**-0.1**
	1.3nm,0.9s,baz=12,slow=7.3,SNR=12								
	1.3nm,0.9s								
ASAR	**Alice Springs**	**62.03**	**191**	P		**P**		**00 45 35.1**	**-1.5**
	0.3nm,0.8s,baz=12,slow=7.7,SNR=2.7								
	0.3nm,0.8s								
PDAR	**Pinedale Array**	**75.48**	**47**	P		**P**		**00 47 00.8**	**+0.3**
	0.2nm,0.6s,baz=321,slow=1.3,SNR=2.6								
	0.2nm,0.6s								
TXAR	**Lajitas Array**	**87.85**	**54**	P		**P**		**00 48 04.9**	**-0.9**
	0.1nm,0.6s,baz=266,slow=3.6,SNR=2.1								
	0.1nm,0.6s								

IDC 27 00:38:35.7±4.8, 30.70N×141.93E, h45km±27km, mb3.1/3, mbtmp3.4/5, ML3.0/2, MS2.9/1, Error ellipse: s-maj=154.2km s-min=17.3km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JCJ	**Chichijima**	**3.59**	**176**	P		Pn		00 39 30.2	+1.3
	2.8nm,0.3s,baz=314,slow=22,SNR=1.0								
JCJ				S		Sn		00 40 10.2	+0.1
	15nm,0.3s,baz=21,slow=16,SNR=1.2								
	29nm,0.6s								
MJAR	**Matsushiro Arr**	**6.60**	**333**	P		Pn		00 40 08.7	-1.5
	0.1nm,0.3s,baz=149,slow=11,SNR=2.3								
	1.3nm,0.4s								
CMAR	**Chiang Mai Arr**	**40.71**	**263**	LR		LR		01 03 26.3	
	comp=Z,14nm,18.1s,baz=305,slow=37								
MKAR	**Makanchi Array**	**48.07**	**307**	P		P		00 47 10.9	+0.2
	0.3nm,0.6s,baz=77,slow=9.1,SNR=4.9								
	0.3nm,0.6s								
KURBB	**Kurchatov Arra**	**50.41**	**312**	P		P		00 47 28.4	0.0
	0.2nm,0.5s,baz=88,slow=7.4,SNR=4.1								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**50.87**	**189**	P		P		00 47 31.6	-0.6
	0.2nm,0.4s,baz=5.1,slow=7.6,SNR=5.8								
	0.2nm,0.4s								

IDC ***27*** *00:57:58.8±9.2, 10.86S×162.62E, h0km, mb3.7/3, mbtmp4.0/5, ML4.4/2, MS3.4/7, Error ellipse: s-maj=146.1km s-min=37.6km az=59.0*
NEIC ***27*** *00:58:03.3±1.5, 10.55S±0.1×163.0E±0.1, h73km±8km, mb4.3/10, Error ellipse: s-maj=21.6km s-min=11.6km az=222.0*

ISC 27 00:57:58.7±1.4, 10.3S±0.2×163.0E±0.1, h35km, n27, σ1§62/18, mb4.0/8, MS3.1/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**3.14**	**286**	Pn		Pn		00 58 48.8	+3.1
	173nm,0.3s,baz=134,slow=15,SNR=1.3								
HNR				Sn		**Sn**		**00 59 24.7**	**+2.8**
	683nm,0.3s,baz=200,slow=23,SNR=2.2								
HNR				LR		LR		01 00 10.8	
	comp=Z,4μm,20.2s,baz=156,slow=44								
	709nm,0.3s								
HNR	**Honiara**	**3.14**	**286**	Pn		Pn		00 58 50.4	+4.7
HNR				Sn		Sn		00 59 26.1	+4.2
KOUNC	**Koumac, New Ca**	**10.27**	**173**	Pn		**Pn**		**01 00 25.5**	**+1.9**
MARNC	**Mare, Loyalty**	**12.12**	**157**	Pn		**Pn**		**01 00 50.4**	**+1.5**
DZM	**Mont Dzumac**	**12.16**	**165**	Pn		**Pn**		**01 00 51.5**	**+1.9**
PMG	**Port Moresby**	**15.64**	**272**	LR		LR		01 07 09.8	
	comp=Z,156nm,18.1s,baz=92,slow=36								
EIDS	**Eidsvold**	**18.78**	**216**	P		**Pn**		**01 02 13.8**	**-1.9**
CTA	**Charters Tower**	**18.85**	**237**	P		**Pn**		**01 02 14.7**	**-2.0**
	0.3nm,0.3s,baz=68,slow=12,SNR=6.4								
CTA				LR		LR		01 08 05.3	
	comp=Z,40nm,19.0s,baz=81,slow=33								
	4.1nm,0.7s								
CTAO	**Charters Tower**	**18.85**	**237**	P		**Pn**		**01 02 15.9**	**-0.8**
CTAO						IAmb	IAmb	01 02 46.2	
	comp=Z,16nm,1.4s								
AFI	**Afiamalu**	**24.91**	**101**	LR		LR		01 12 21.0	
	comp=Z,55nm,18.9s,baz=327,slow=34								
NIUE	**Niue**	**27.56**	**112**	P		**P**		**01 03 41.9**	**-0.7**
H11S2	**WAKE ISLAND Hy**	**28.84**	**7**	T		T		01 35 03.4	
	baz=189,slow=76,SNR=78								
H11S3	**WAKE ISLAND Hy**	**28.84**	**7**	T		T		01 35 03.4	
	baz=189,slow=76,SNR=56								
H11S1	**WAKE ISLAND Hy**	**28.86**	**7**	T		T		01 35 04.5	
	baz=189,slow=76,SNR=42								
WR0	**Warramunga Arr**	**29.07**	**247**	P		**P**		**01 03 55.9**	**-0.2**
WR0						IAmb	IAmb	01 04 28.6	
	comp=Z,5.7nm,1.3s								
WB0	**Warramunga Arr**	**29.15**	**248**	P		**P**		**01 03 54.3**	**-2.5**
WB0						IAmb	IAmb	01 04 10.1	
	comp=Z,3.4nm,1.1s								
STKA	**Stephens Creek**	**29.21**	**220**	P		**P**		**01 03 57.7**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=60,slow=14,SNR=3.4								
STKA				LR		LR		01 14 19.4	
	comp=Z,42nm,19.4s,baz=26,slow=34								
	comp=Z,0.8nm,0.5s								
STKA	**Stephens Creek**	**29.21**	**220**	P		**P**		**01 03 57.7**	**+0.5**
WB2	**Warramunga Arr**	**29.23**	**247**	P		**P**		**01 03 57.0**	**-0.5**
WB2						IAmb	IAmb	01 04 19.6	
	comp=Z,9.2nm,1.4s								
WRA	**Warramunga Arr**	**29.25**	**247**	P		**P**		**01 03 56.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=77,slow=9.3,SNR=2.0								
WRA				LR		LR		01 15 20.0	
	comp=Z,79nm,18.1s,baz=113,slow=36								
	comp=Z,0.3nm,0.6s								
H11N1	**WAKE ISLAND Hy**	**30.07**	**7**	T		T		01 36 37.8	
	baz=188,slow=76,SNR=24								
H11N3	**WAKE ISLAND Hy**	**30.07**	**7**	T		T		01 36 40.8	
	baz=188,slow=76,SNR=31								
H11N2	**WAKE ISLAND Hy**	**30.09**	**7**	T		T		01 36 36.9	
	baz=188,slow=76,SNR=23								
ASAR	**Alice Springs**	**30.76**	**241**	P		**P**		**01 04 09.4**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=77,slow=9.6,SNR=6.7								
ASAR				LR		LR		01 15 21.6	
	comp=Z,43nm,19.4s,baz=89,slow=35								
	comp=Z,0.5nm,0.6s								
BBOO	**Buckleboo**	**33.43**	**224**	P		**P**		**01 04 33.3**	**-1.0**
BBOO						IAmb	IAmb	01 04 41.2	
	comp=Z,11nm,1.1s								
KNRA	**Kununurra**	**33.77**	**257**	P		**P**		**01 04 36.0**	**-1.4**
NACB	**Ninganchiao**	**53.01**	**311**	P		**P**		**01 07 12.6**	**+0.3**
NACB						IAmb	IAmb	01 07 30.9	
	comp=Z,32nm,1.4s								

RHSSO ***27*** *01:02:19.1±0.6, 43.11N×20.92E, h3km±2km, ML2.5/12*
BEO ***27*** *01:02:19.7±0.3, 43.17N×20.97E, h0km, ML2.3/14*

ISC 27 01:02:18.2±1.0, 43.15N±0.02×20.93E±0.02, h7km±8km, n52, σ0§90/94, 16C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SELS	**Selova**	**0.15**	**62**	eP	g	**Pg**		**01 02 21.6**	**+0.1**
SELS				eS	g	**Sg**		**01 02 23.7**	**0.0**
SJES	**Sjenica**	**0.71**	**280**	eP	g	**Pg**		**01 02 32.2**	**+0.3**
SJES				eS	g	**Sb**		**01 02 42.5**	**-0.5**
SJES	**Sjenica**	**0.71**	**280**	eP	g	**Pg**		**01 02 32.3**	**+0.3**
SJES				eS	g	**Sb**		**01 02 41.9**	**-1.1**
BARS	**Barje**	**0.73**	**117**	eP	g	**Pg**		**01 02 32.7**	**+0.5**
BARS				eS	g	**Sg**		**01 02 42.8**	**+1.1**
BOVS	**Bovan**	**0.75**	**49**	↑P		**Pg**		**01 02 32.0**	**-0.6**
BOVS				↑S		**Sg**		**01 02 41.8**	**-0.5**
BOVS	**Bovan**	**0.75**	**49**	eP	g	**Pg**		**01 02 31.9**	**-0.7**
BOVS				eS	g	**Sg**		**01 02 41.8**	**-0.5**
GRUS	**Gruza**	**0.76**	**348**	eP	g	**Pg**		**01 02 33.0**	**+0.2**
GRUS				eS	g	**Sg**		**01 02 43.7**	**+1.0**
PRVS	**Prvonek**	**1.05**	**127**	eP	g	**Pb**		**01 02 39.0**	**+0.2**
PRVS				eS	g	**Sb**		**01 02 53.3**	**+0.5**
SVIS	**Svilajnac**	**1.14**	**10**	eP	g	**Pn**		**01 02 41.2**	**+0.7**
SVIS				eS	g	**Sg**		**01 02 55.4**	**+0.6**
TRUS	**Trudelj**	**1.14**	**341**	eP	g	**Pg**		**01 02 40.3**	**+0.1**
TRUS				eS	g	**Sn**		**01 02 56.7**	**+0.2**
ZAGS	**Zajecar**	**1.16**	**54**	eP	g	**Pb**		**01 02 40.0**	**-0.5**
ZAGS				eS	g	**Sg**		**01 02 55.5**	**0.0**
DIVS	**Divibare**	**1.17**	**325**	eP	g	**Pg**		**01 02 40.5**	**-0.2**
DIVS				eS	g	**Sn**		**01 02 57.7**	**+0.4**
DIVS	**Divibare**	**1.17**	**325**	↑P	g	**Pb**		**01 02 41.1**	**+0.3**
DIVS				eS	g	**Sb**		**01 02 57.1**	**+0.9**
RUDO	**Rudo**	**1.23**	**293**	↓P	g	**Pb**		**01 02 41.0**	**-0.8**
RUDO				eS	g	**Sn**		**01 02 58.9**	**+0.2**
ZAPS	**Zavoj**	**1.25**	**84**	eP	g	**Pb**		**01 02 42.6**	**+0.5**
ZAPS				eS	g	**Sb**		**01 02 58.6**	**+0.2**
BBLS	**Lazići**	**1.32**	**303**	eP	g	**Pb**		**01 02 43.5**	**+0.1**
BBLS				eS	g	**Sn**		**01 03 01.8**	**+0.7**
BBLS	**Lazići**	**1.32**	**303**	↑P	g	**Pn**		**01 02 43.3**	**+0.1**
BBLS				eS	g	**Sn**		**01 03 01.3**	**+0.2**
KUBS	**Kucevo**	**1.38**	**23**	eP	g	**Pn**		**01 02 42.7**	**-1.1**
KUBS				eS	g	**Sb**		**01 03 01.3**	**-0.7**
PDG	**Podgorica**	**1.43**	**240**	↓P		**Pg**		**01 02 45.4**	**-0.2**
PDG				↑S		**Sg**		**01 03 04.7**	**+0.6**
UPM	**Unac-Piva**	**1.48**	**273**	eP	g	**Pn**		**01 02 45.3**	**-0.2**
UPM				eS	g	**Sg**		**01 03 05.7**	**-0.3**
DRME	**Dracevica, Mon**	**1.61**	**234**	ePn		**Pb**		**01 02 47.5**	**-0.7**
DRME				eSn		**Sg**		**01 03 08.5**	**-0.9**
HAPS	**Han Pijesak,Bl**	**1.72**	**304**	↓iPn		**Pb**		**01 02 49.5**	**-0.7**
HAPS				eSn		**Sg**		**01 03 12.8**	**-0.7**
STIP	**Stip**	**1.72**	**147**	*i* Pn		**Pb**		**01 02 50.4**	**+0.3**
MDVR	**Moldovita**	**1.73**	**19**	↑P		**Pn**		**01 02 48.6**	**-0.1**
MDVR				↑S		**Sn**		**01 03 10.3**	**-0.8**
TEKS	**Tekeris**	**1.73**	**325**	ePg		**Pb**		**01 02 50.9**	**+0.6**
TEKS				eSg		**Sg**		**01 03 14.7**	**+0.8**
TEKS	**Tekeris**	**1.73**	**325**	ePg		**Pb**		**01 02 49.8**	**-0.5**
TEKS				eSg		**Sg**		**01 03 14.6**	**+0.7**
BRY	**Bratogost**	**1.77**	**263**	ePn		**Pb**		**01 02 50.6**	**-0.5**
BRY				eSn		**Sb**		**01 03 12.7**	**-0.9**
VTS	**Vitosha**	**1.77**	**107**	↑P		**Pb**		**01 02 50.9**	**-0.2**
VTS				↓S		**Sn**		**01 03 12.7**	**+0.5**
TREB	**Trebinje**	**1.94**	**258**	ePn		**Pb**		**01 02 52.6**	**-1.3**
TREB				eSn		**Sb**		**01 03 17.5**	**-0.9**
BAIL	**Bailesti**	**1.96**	**63**	↓P		**Pn**		**01 02 52.3**	**+0.5**
BAIL				↓S		**Sn**		**01 03 17.4**	**+0.8**
BLJ	**Bijeljina**	**2.03**	**324**	eSn		**Sb**		**01 03 18.6**	**-0.2**
HERR	**Herculane**	**2.04**	**31**	↓P		**Pn**		**01 02 53.3**	**+0.4**
HERR				↑S		**Sn**		**01 03 18.4**	**-0.2**
FRGS	**Fruska Gora**	**2.17**	**339**	↑P		**Pn**		**01 02 55.3**	**+0.6**
FRGS				↓S		**Sn**		**01 03 20.9**	**-0.9**
FRGS	**Fruska Gora**	**2.17**	**339**	ePn		**Pn**		**01 02 55.3**	**+0.6**
FRGS				eSg		**Sg**		**01 03 29.1**	**+1.2**
FRGS	**Fruska Gora**	**2.17**	**339**	ePn		**Pn**		**01 02 56.2**	**+1.5**
FRGS				eSn		**Sb**		**01 03 24.2**	**-0.6**
VAY	**Valandovo**	**2.19**	**146**	*i* Pn		**Pb**		**01 02 56.6**	**-1.6**
BANR	**Banloc**	**2.24**	**4**	↓S		**Sn**		**01 03 23.6**	**+0.1**
STON	**Ston**	**2.39**	**265**	ePn		**Pb**		**01 02 59.4**	**-2.1**
STON				eSn		**Sb**		**01 03 28.6**	**-2.5**
BZS	**Buzias**	**2.52**	**11**	↑P		**Pn**		**01 02 59.2**	**-0.4**
BZS				↑S		**Sn**		**01 03 29.6**	**-0.8**
GZR	**Gura Zlata**	**2.61**	**30**	↓P		**Pn**		**01 03 00.9**	**+0.1**
GZR				↓S		**Sn**		**01 03 33.4**	**+0.7**
SURR	**Surduc**	**2.74**	**18**	↑P		**Pn**		**01 03 02.1**	**-0.5**
SURR				↑S		**Sn**		**01 03 33.9**	**-2.0**
SRKY	**Kupres RS**	**2.89**	**290**	ePn		**Pn**		**01 03 05.5**	**+0.8**
MGRS	**Mrkonjic Grad**	**3.06**	**296**	ePn		**Pn**		**01 03 08.1**	**+1.1**
MGRS				eSn		**Sn**		**01 03 45.4**	**+1.5**
A052A	**Srbac**	**3.14**	**310**	ePn		**Pn**		**01 03 09.3**	**+1.2**
BLY	**Banja Luka**	**3.15**	**302**	ePn		**Pn**		**01 03 10.0**	**+1.9**
BLY				eSn		**Sn**		**01 03 47.6**	**+1.7**
SIRR	**Siria**	**3.16**	**9**	↑P		**Pn**		**01 03 07.6**	**-0.8**
SIRR				↓S		**Sn**		**01 03 44.5**	**-1.9**
A051A	**Mrakovica**	**3.45**	**304**	ePn		**Pn**		**01 03 13.6**	**+1.2**
A051A				eSn		**Sn**		**01 03 54.5**	**+1.0**
A050A	**Klekovaca**	**3.45**	**294**	↓iPn		**Pn**		**01 03 14.1**	**+1.7**
A050A				eSn		**Sn**		**01 03 54.7**	**+1.1**
VOIR		**3.74**	**51**	↑P		**Pn**		**01 03 17.0**	**+0.7**
BOJS	**Bojanci**	**4.71**	**302**	ePn		**Pn**		**01 03 31.1**	**+1.5**
CRES	**Cresnjev**	**4.75**	**306**	ePn		**Pn**		**01 03 31.3**	**+1.2**
CEY	**Cerknica**	**5.33**	**301**	ePn		**Pn**		**01 03 39.3**	**+1.1**

IDC ***27*** *01:03:03.5±1.3, 32.72N×91.81E, h0km, mb3.4/6, mbtmp3.5/10, ML3.4/4, MS3.2/5, Error ellipse: s-maj=50.5km s-min=18.9km az=63.0*

ISC 27 01:03:05.1±0.7, 32.62N±0.05×91.8E±0.1, h10km, n17, σ1§95/18, mb3.7/5, MS3.1/3, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
LSA	**Lhasa**	**2.96**	**191**	Pn		**Pn**		**01 03 55.0**	**+2.4**
LSA				Pg		**Pb**		**01 03 57.5**	**-0.7**
LSA				Sn		**Sb**		**01 04 35.0**	**+0.4**
LSA				Sg		**Sg**		**01 04 38.8**	**-1.4**
LSA				smax		smax			
	comp=N,290nm,0.8s								
LSA				smax		smax			
	comp=E,500nm,0.9s								
GOMU	**GeErMu**	**4.37**	**34**	Pg		**Pn**		**01 04 15.0**	**+3.1**
GOMU				Sg		**Pg**		**01 04 26.5**	**-2.3**
GOMU				smax		smax			
	comp=N,17nm,0.9s								
GOMU				smax		smax			
	comp=E,19nm,0.9s								
GTA	**Gaotai**	**9.40**	**42**	eP		**Pn**		**01 05 22.5**	**+1.8**
GTA				pP				01 05 30.0	
GTA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
WMQ	**Urumqi**	**11.63**	**345**	eP		**Pn**		**01 05 54.8**	**+3.5**
CMAR	**Chiang Mai Arr**	**15.51**	**154**	Pn		**Pn**		**01 06 43.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=334,slow=12,SNR=1.3								
	comp=Z,0.5nm,0.3s								
MKAR	**Makanchi Array**	**15.91**	**336**	Pn		**Pn**		**01 06 46.8**	**-2.3**
	baz=152,slow=14,SNR=6.3								
	comp=Z,0.5nm,0.8s								
AAK	**Ala-Archa**	**16.92**	**311**	Pn		**Pn**		**01 07 00.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=179,slow=20,SNR=1.9								
AAK				LR		LR		01 14 35.8	
	comp=Z,82nm,19.3s,baz=146,slow=41								
	comp=Z,0.8nm,0.6s								
SONM	**Songino Array**	**18.81**	**32**	P		**P**		**01 07 24.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=217,slow=12,SNR=13								
SONM				LR		LR		01 15 25.1	
	comp=Z,75nm,20.4s,baz=352,slow=40								
	comp=Z,1.5nm,0.8s								
KURBB	**Kurchatov Arra**	**20.48**	**335**	P		**P**		**01 07 40.7**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=141,slow=12,SNR=2.2								
	comp=Z,0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**21.89**	**349**	P		**P**		**01 07 56.5**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=172,slow=9.3,SNR=6.3								
	comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**25.55**	**329**	P		**P**		**01 08 34.0**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=119,slow=11,SNR=3.0								
	comp=Z,0.6nm,0.8s								
GEYT	**Alibeck**	**27.89**	**290**	LR		LR		01 21 58.1	
	comp=Z,65nm,18.0s,baz=136,slow=41								
KSRS	**Korea Array**	**29.87**	**70**	LR		LR		01 21 56.1	
	comp=Z,26nm,19.1s,baz=350,slow=38								
JOW	**Kunigami**	**32.11**	**91**	LR		LR		01 23 58.7	
	comp=Z,41nm,18.3s,baz=2.0,slow=39								
WRA	**Warramunga Arr**	**66.25**	**136**	P		**P**		**01 13 54.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=329,slow=6.7,SNR=3.3								
	comp=Z,0.5nm,0.6s								
ASAR	**Alice Springs**	**68.92**	**139**	P		**P**		**01 14 10.8**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=326,slow=6.1,SNR=5.9								
	comp=Z,0.5nm,0.8s								
ILAR	**Eielson Array**	**72.75**	**23**	P		**P**		**01 14 32.1**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=332,slow=5.5,SNR=4.3								
	comp=Z,0.6nm,0.9s								

ANF ***27*** *01:17:41.5±0.3, 59.10N×136.44W, h5km±2km, ML3.5/23, Error ellipse: s-maj=2.1km s-min=1.4km az=71.0*
OTT ***27*** *01:17:43.0±1.1, 59.12N±0.02×136.40W±0.04, h1km±2km, Error ellipse: s-maj=3.7km s-min=2.9km az=45.0*
PGC ***27*** *01:17:43.0±0.0, 59.12N×136.40W, h1km, ML3.2/14, 66km west of Haines, Ak Southeastern Alaska*
AEIC ***27*** *01:17:42.2±0.6, 59.105N±0.010×136.41W±0.05, h7km±6km, Error ellipse: s-maj=3.7km s-min=1.4km az=94.0*
NEIC ***27*** *01:17:42.5±0.8, 59.13N±0.03×136.41W±0.05, h8km±7km, ML3.3/34, ML3.2(OTT), ML3.0(AEIC), Error ellipse: s-maj=6.0km s-min=1.5km az=217.0*

ISC 27 01:17:42.1±0.9, 59.12N±0.02×136.44W±0.02, h17km±8km, n101, σ2§14/156, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PLBC	**Pleasant Camp**	**0.34**	**7**			**Pg**		**01 17 49.1**	**-0.1**
PLBC						**Sg**		**01 17 53.5**	**-0.6**
PLBC	**Pleasant Camp**	**0.34**	**7**	P		**Pg**		**01 17 49.1**	**-0.1**
PLBC				S		**Sg**		**01 17 53.5**	**-0.6**
PLBC	**Pleasant Camp**	**0.34

baz=151,SNR=55
P33M Teslin, Yukon 2.14 58 Pn 01 18 18.2 +1.1
P33M IAML 01 18 50.1
comp=N,250nm,0.4s
P33M Teslin, Yukon 2.14 58 Pn Pn 01 18 18.1 +1.1
P33M Sn Sb 01 18 47.2 +0.4
P33M Teslin, Yukon 2.14 58 P **Pn 01 18 18.2 +1.1**
baz=240,SNR=18
SIT Sitka 2.15 163 Pn **Pn 01 18 18.3 +1.2**
Q32M Nakina River 2.16 92 P **Pn 01 18 18.6 +1.1**
baz=276
Q32M Sb **Sg 01 18 50.6 -1.1**
baz=276
PINM Pinnacle 2.17 299 P **Pn 01 18 19.0 +1.5**
baz=115,SNR=10
PCA Pinnacle 2.17 299 Pn 01 18 18.8 +1.3
PCA **Sb 01 18 49.5 +1.9**
PCA Pinnacle 2.17 299 Pn **Pn 01 18 19.2 +1.7**
PCA Sn **Sb 01 18 48.5 +0.9**
N31M Braeburn, Yuko 2.40 8 Pn **Pn 01 18 21.2 +0.6**
N31M IAML 01 19 06.2
comp=N,210nm,0.8s
N31M IAML 01 19 06.5
comp=E,211nm,1.0s
N31M Braeburn, Yuko 2.40 8 Pn **Pn 01 18 22.8 +2.2**
N31M Pg **Pb 01 18 26.0 +1.2**
N31M Sg **Sg 01 18 56.9 -2.2**
N31M Braeburn, Yuko 2.40 8 P **Pn 01 18 22.6 +2.1**
baz=188,SNR=12
N31M Sb **Sg 01 18 56.9 -2.2**
baz=188
SAMH Samovar Hills 2.43 297 Pn 01 18 23.2 +2.2
SAMH Samovar Hills 2.43 297 Pn **Pn 01 18 23.3 +2.4**
SAMH Sg **Sb 01 18 55.6 +0.7**
YUK4 Talbot Arm 2.49 335 Pn **Pb 01 18 25.4 -1.0**
YUK4 Talbot Arm 2.49 335 P **Pb 01 18 24.7 -1.7**
baz=154,SNR=6.3
O28M Mount Upton 2.51 313 Pn **Pn 01 18 24.3 +2.0**
O28M Sg **Sb 01 18 59.1 +1.6**
O28M Mount Upton 2.51 313 P **Pn 01 18 23.9 +1.6**
baz=130
N32M Quiet Lake 2.65 38 Pn **Pn 01 18 25.6 +1.6**
N32M Sg **Sg 01 19 04.3 -2.7**
N32M Quiet Lake 2.65 38 P **Pn 01 18 25.4 +1.5**
baz=220
N32M Sb **Sg 01 19 04.1 -2.8**
baz=220
YUK8 Steele Glacier 2.73 324 Pn **Pb 01 18 28.7 -1.9**
YUK8 Pg **Pg 01 18 32.0 -2.4**
YUK8 Sg **Sg 01 19 08.7 -1.2**
S34M Telegraph Cree 3.04 111 Pn **Pn 01 18 30.3 +1.1**
S34M Sg **Sg 01 19 16.5 -3.1**
S34M Telegraph Cree 3.04 111 P **Pn 01 18 30.2 +0.9**
baz=296,SNR=33
M31M Drury Creek, Y 3.26 17 Pn **Pn 01 18 33.5 +1.1**
M31M IAML 01 19 29.1
comp=E,72nm,0.8s
M31M Drury Creek, Y 3.26 17 Pn **Pn 01 18 35.1 +2.8**
M31M Sg **Sb 01 19 22.5 +3.8**
M31M Drury Creek, Y 3.26 17 Pb **Pb 01 18 40.3 +0.9**
baz=198
M31M Sb **Sb 01 19 22.5 +3.8**
baz=198
BARN Barnard Glacie 3.26 309 Pn 01 18 34.2 +1.7
YUK3 Moose Creek 3.33 325 Pn **Pn 01 18 35.5 +2.1**
YUK3 Pg **Pb 01 18 42.6 +2.0**
YUK3 Sg **Sg 01 19 26.7 -2.1**
YUK3 Moose Creek 3.33 325 P **Pn 01 18 35.8 +2.4**
baz=141,SNR=16
DLBC Dease Lake 3.41 99 Pn 01 18 34.8 +0.3
DLBC IAML 01 19 30.5
comp=E,77nm,0.3s
DLBC Dease Lake 3.41 99 Pn **Pn 01 18 35.6 +1.1**
DLBC Pg **Pb 01 18 44.4 +2.3**
DLBC Sg **Sg 01 19 27.5 -4.0**
DLBC Dease Lake 3.41 99 P **Pn 01 18 35.6 +1.1**
baz=284,SNR=37
DLBC Sb **Sg 01 19 28.3 -3.2**
baz=284
YUK2 White River 3.45 323 Pn **Pn 01 18 37.5 +2.4**
YUK2 Pg **Pg 01 18 45.5 -2.6**
YUK2 Sg **Sg 01 19 30.2 -2.6**
FARO Faro, Yukon 3.48 25 Pn **Pn 01 18 36.7 +1.4**
FARO IAML 01 19 37.5
comp=N,86nm,1.0s
FARO Faro, Yukon 3.48 25 Pg **Pg 01 18 45.8 -2.8**
FARO Sg **Sg 01 19 29.4 -4.1**
FARO Faro, Yukon 3.48 25 Sb **Sb 01 19 28.9 +4.0**
baz=207
M30M Minto, Yukon 3.48 357 Pn **Pn 01 18 37.1 +1.8**
M30M IAML 01 19 44.0
comp=N,44nm,1.4s
M30M IAML 01 19 44.3
comp=E,67nm,1.2s
M30M Minto, Yukon 3.48 357 Sg **Sg 01 19 30.9 -2.6**
M30M Minto, Yukon 3.48 357 Sb **Sg 01 19 29.6 -4.0**
baz=177
KIAG Kiagna River 3.48 304 Pn 01 18 37.0 +1.5
KIAG Kiagna River 3.48 304 Pn **Pn 01 18 37.4 +1.9**
M29M Somme Creek 3.48 344 Pn **Pn 01 18 37.3 +1.8**
M29M Somme Creek 3.48 344 P **Pn 01 18 37.0 +1.5**
baz=162
WRAK Wrangell Islan 3.48 139 Pn **Pn 01 18 38.0 +2.7**
WRAK IAML 01 19 13.9
comp=E,60nm,2.7s
WRAK IAML 01 19 38.0
comp=E,82nm,0.6s
BALM Baldy 3.53 306 Pn **Pn 01 18 38.8 +2.7**
T35M Bob Quinn 3.93 120 Pn **Pn 01 18 43.0 +1.5**
T35M Sg **Sg 01 19 43.4 -4.7**
T35M Bob Quinn 3.93 120 Sb **Sb 01 19 42.8 +4.8**
baz=306
BVCY Beaver Creek 3.95 329 Pn **Pn 01 18 44.3 +2.4**
BVCY Pg **Pb 01 18 53.3 +2.0**
WTLY Watson Lake, Y 4.01 72 Pn **Pn 01 18 43.9 +1.2**
WTLY Watson Lake, Y 4.01 72 Pg **Pg 01 18 56.3 -2.5**
WTLY Sg **Sg 01 19 46.4 -4.3**
WTLY Watson Lake, Y 4.01 72 Sb **Sg 01 19 45.7 -5.0**
baz=259
L29M L29M 4.09 349 Pn **Pn 01 18 45.7 +2.0**
L29M Sg **Sg 01 19 49.7 -3.4**
L29M L29M 4.09 349 Sb **Sg 01 19 48.7 -4.4**
baz=167
M27K Edge Creek, AK 4.21 323 Pn **Pn 01 18 48.0 +2.5**
MAYO Mayo, Yukon 4.50 3 Sg **Sb 01 20 00.3 +5.8**
MAYO Mayo, Yukon 4.50 3 Sb **Sb 01 20 00.5 +6.0**
baz=183
BCAR Beaver Creek A 4.73 329 Pn **Pn 01 18 54.8 +2.2**
L27K Beaver Creek, 4.74 329 Pn **Pn 01 18 54.1 +1.4**
L27K IAML 01 20 41.0
comp=N,23nm,4.9s
L27K IAML 01 21 57.8
comp=E,19nm,4.5s
L27K Beaver Creek, 4.74 329 Pn **Pn 01 18 55.0 +2.2**
L27K Sg **Sg 01 20 09.7 -4.4**
K29M Barlow Dome 4.77 354 Pn **Pn 01 18 56.3 +3.1**
K29M Pg **Pg 01 19 11.1 -2.3**
K29M Sg **Sg 01 20 10.6 -4.5**
DIV Divide 5.08 297 Pn **Pn 01 19 00.4 +3.0**
L26K Log Cabin Wild 5.16 322 Pn **Pn 01 18 59.9 +1.5**
L26K IAML 01 20 54.3
comp=N,22nm,4.9s
L26K IAML 01 21 27.1
comp=E,16nm,4.8s
L26K Log Cabin Wild 5.16 322 P **Pn 01 19 00.1 +1.7**
baz=136,SNR=8.8
DAWY Dawson 5.16 345 Pn 01 18 59.9 +1.4
DAWY IAML 01 21 35.4
comp=N,19nm,5.0s
DAWY Dawson 5.16 345 Pn **Pn 01 19 00.4 +1.9**
DAWY Sg **Sg 01 20 22.5 -5.0**
LIRD Liard River Hi 5.32 82 Sg **Sg 01 20 28.5 -4.0**
J29M Klondike Camp 5.42 352 Sg **Sg 01 20 34.8 -1.0**

*IDC **27** 01:23:18.7±2.2, 13.43S×166.16E, h0km, mb4.0/8, mbtmp4.0/8, MS3.6/11, Error ellipse: s-maj=79.2km s-min=25.6km az=133.0*
*NOU **27** 01:23:26.9, 13.76S×166.37E, h7km, mb4.5/9, Vanuatu Islands*
ISC 27 01:23:24.3±0.9, 13.4S±0.1×166.2E±0.1, h36km, n23, σ0.9s76/15, mb4.0/8, MS3.5/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**4.73**	**156**	P	**Pn**	**01 24 33.6**	**+0.5**
RTV	**Rentapao**	**4.89**	**154**	P	**Pn**	**01 24 35.3**	**0.0**
HNR	**Honiara**	**7.25**	**302**	LR	LR	01 28 02.3	
	comp=Z,1μm,19.9s,baz=128,slow=39						
KOUNC	**Koumac, New Ca**	**7.34**	**194**	P	**Pn**	**01 25 10.5**	**+1.5**
DZM	**Mont Dzumac**	**8.64**	**178**	LR	LR	01 28 14.3	
	comp=Z,172nm,21.6s,baz=34,slow=34						
DZM	**Mont Dzumac**	**8.64**	**178**	P	**Pn**	**01 25 26.3**	**-0.6**
YATNC	**Mamie plateau,**	**8.65**	**176**	P	**Pn**	**01 25 27.4**	**+0.4**
OUENC	**Ouen Island, N**	**9.01**	**176**	P	**Pn**	**01 25 32.5**	**+0.7**
CTA	**Charters Tower**	**20.18**	**248**	LR	LR	01 35 01.6	
	comp=Z,173nm,18.6s,baz=82,slow=35						
STKA	**Stephens Creek**	**29.08**	**227**	P	**P**	**01 29 20.8**	**-0.8**
	1.3nm,0.6s,baz=38,slow=11,SNR=2.5						
STKA				LR	LR	01 40 39.6	
	comp=Z,98nm,18.5s,baz=30,slow=36						
	1.3nm,0.6s						
RPZ	**Rata Peaks**	**30.51**	**173**	LR	LR	01 40 16.8	
	comp=Z,100nm,18.6s,baz=78,slow=33						
WRA	**Warramunga Arr**	**31.14**	**254**	P	**P**	**01 29 39.5**	**-0.4**
	1.8nm,0.9s,baz=84,slow=8.9,SNR=9.2						
WRA				LR	LR	01 42 10.1	
	comp=Z,138nm,19.1s,baz=72,slow=36						
	1.8nm,0.9s						
ASAR	**Alice Springs**	**32.18**	**247**	P	**P**	**01 29 48.4**	**-0.6**
	1.5nm,0.6s,baz=73,slow=9.5,SNR=22						
ASAR				LR	LR	01 42 09.2	
	comp=Z,127nm,19.8s,baz=84,slow=35						
	1.5nm,0.6s						
JOW	**Kunigami**	**54.34**	**318**	LR	LR	01 56 30.0	
	comp=Z,22nm,18.4s,baz=298,slow=37						
KLR	**Kul'dur**	**69.36**	**337**	LR	LR	02 01 04.1	
	comp=Z,13nm,21.7s,baz=46,slow=33						
CMAR	**Chiang Mai Arr**	**73.42**	**294**	P	**P**	**01 34 54.2**	**+0.9**
	0.8nm,0.3s,baz=126,slow=4.7,SNR=1.6						
	0.8nm,0.3s						
SONM	**Songino Array**	**80.79**	**324**	P	**P**	**01 35 34.1**	**-0.2**
	0.2nm,0.4s,baz=131,slow=4.0,SNR=1.9						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**85.59**	**18**	P	**P**	**01 35 59.5**	**+0.9**
	0.8nm,0.6s,baz=249,slow=4.8,SNR=14						
	0.8nm,0.6s						
PFO	**Pinyon Flats O**	**87.09**	**55**	LR	LR	02 08 40.6	
	comp=Z,104nm,19.2s,baz=255,slow=31						
ANMO	**Albuquerque**	**95.43**	**56**	LR	LR	02 12 57.3	
	comp=Z,41nm,19.7s,baz=350,slow=31						
MKAR	**Makanchi Array**	**95.50**	**317**	P	**P**	**01 36 45.5**	**0.0**
	0.2nm,0.5s,baz=92,slow=5.3,SNR=5.5						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**95.68**	**324**	P	**P**	**01 36 45.4**	**-0.7**
	0.6nm,0.7s,baz=45,slow=2.3,SNR=3.7						
	0.6nm,0.7s						
ESDC	**Sonseca Array**	**152.41**	**343**	PKPbc	**PKPbc**	**01 43 16.4**	**-0.5**
	0.4nm,0.7s,baz=18,slow=3.3,SNR=1.7						

KRSZO 27 01:24:41.6±1.3, 47.44N×18.35E, h6km±9km, ML1.6/6, Error ellipse: s-maj=9.4km s-min=3.5km az=115.0, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSKK	**Cskako**	**0.10**	**219**	Pg	Pg	01 24 44.3	+0.6
	comp=Z,616nm,SNR=9.5						
CSKK				Lg	Lg	01 24 46.1	
A269A	**Baj**	**0.20**	**6**	Pg	Pg	01 24 45.6	0.0
	comp=Z,24nm,SNR=2.3						
A269A				Lg	Lg	01 24 49.0	
A268A	**Rede**	**0.29**	**269**	Pg	Pg	01 24 47.2	0.0
	comp=Z,10.0nm,SNR=1.5						
A268A				Lg	Lg	01 24 51.6	
SRO	**Srobarova**	**0.38**	**356**	Pg	Pb	01 24 50.9	+0.1
	comp=Z,29nm,SNR=2.2						
SRO				Lg	Lg	01 24 55.8	
MPLH	**Magyarpolny**	**0.61**	**244**	Pg	Pg	01 24 54.0	+0.6
	comp=Z,7.5nm,SNR=1.5						
MPLH				Lg	Lg	01 25 03.3	
TIH	**Tihany**	**0.62**	**210**	Lg	Lg	01 25 04.1	
EGYH	**Egyhazaskeszo**	**0.69**	**269**	Lg	Lg	01 25 05.3	
VYHS	**Vyhne**	**1.11**	**17**	Pg	Pb	01 25 03.1	-0.1
	comp=Z,2.2nm,SNR=2.0						
VYHS				Sn	Sb	01 25 17.8	-0.1
VYHS	**Vyhne**	**1.11**	**17**	*e*PG	Pb	01 25 03.2	0.0
VYHS				*e*SG	Sb	01 25 17.8	-0.1
MODS	**Modra-Piesok**	**1.18**	**323**	*e*PG	Pn	01 25 04.8	0.0
MORH	**Mrgy, Hungar**	**1.24**	**171**	Sn	Sg	01 25 21.2	-0.2
KOVH	**Kovagotottos**	**1.36**	**187**	Sn	Sb	01 25 24.1	-1.1

*SOME **27** 01:25:42.5, 40.78N×73.63E, h5km*
*ISU **27** 01:25:43.0, 40.69N×73.70E, h4km*
*NNC **27** 01:25:44.1±0.4, 40.84N×73.67E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=3.5km s-min=1.7km az=172.0*
*KRNET **27** 01:25:45.0±0.1, 40.90N×73.64E, h18km, mb2.8*
*KNET **27** 01:25:47.0±0.5, 41.02N×73.79E, h3km±2km, ml2.2, Error ellipse: s-maj=5.5km s-min=3.2km az=111.0*
ISC 27 01:25:44.6±1.2, 40.88N±0.03×73.65E±0.03, h5km±13km, n64, σ1.918/87, 31C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.75**	**242**	⇑*i*P	**Pg**	**01 25 59.2**	**+0.3**
	baz=40						
OHH				⇑*i*S	**Sb**	**01 26 09.9**	**-0.8**
	baz=40						
ANR	**Andizhan**	**0.98**	**263**	P	Pn	01 26 18.4	+13
ARLS	**Aral**	**1.10**	**27**	⇑*i*P	**Pg**	**01 26 05.3**	**-0.5**
	baz=28						
ARLS				⇑*i*S	**Sg**	**01 26 20.3**	**+0.1**
	baz=28						
AML	**Almayashu**	**1.25**	**2**	⇓P	**Pn**	**01 26 08.2**	**-1.0**
	30nm,0.1s,SNR=15						
AML				⇓S	**Sb**	**01 26 25.4**	**-0.3**
	36nm,0.2s						
AML	**Almayashu**	**1.25**	**2**	⇓*i*P	**Pn**	**01 26 08.2**	**-1.0**
	baz=2.0						
AML				⇓*i*S	**Sb**	**01 26 24.9**	**-0.7**
	baz=2.0						
UCH	**Uchtor**	**1.50**	**25**	⇓P	**Pb**	**01 26 12.6**	**-0.7**
	13nm,0.3s,SNR=25						
UCH				⇓S	**Sg**	**01 26 33.0**	**+0.2**
	18nm,0.2s						
UCH	**Uchtor**	**1.50**	**25**	⇓*e*P	**Pb**	**01 26 12.5**	**-0.7**
	baz=26						
UCH				⇓*e*S	**Sb**	**01 26 32.6**	**-0.1**
	baz=26						
FRG	**Fergana**	**1.51**	**251**	P	**Pg**	**01 26 13.4**	**-0.1**
FRG				S	**Sg**	**01 26 34.5**	**+1.5**
ARK	**Arkit**	**1.57**	**306**	⇑*i*P	**Pb**	**01 26 13.8**	**-0.4**
	baz=6.0						
ARK				⇑*i*S	**Sg**	**01 26 34.7**	**-0.3**
	baz=6.0						
ARK	**Arkit**	**1.57**	**306**	P	**Pn**	**01 26 13.2**	**-0.1**
ARK				S	**Sg**	**01 26 37.1**	**+2.1**
CHMI	**Chimion**	**1.73**	**250**	P	**Pb**	**01 26 16.9**	**0.0**
CHMI				S	**Sg**	**01 26 40.7**	**+0.5**
EKS2	**Erkin-Say**	**1.78**	**3**	⇓P	**Pb**	**01 26 17.8**	**-0.2**
	5.0nm,0.2s,SNR=20						
EKS2				⇑S	**Sg**	**01 26 42.5**	**+0.6**
	15nm,0.3s						
EKS2	**Erkin-Say**	**1.78**	**3**	⇑*i*P	**Pb**	**01 26 17.5**	**-0.4**
	baz=3.0						
EKS2				⇑*i*S	**Sb**	**01 26 41.2**	**+0.5**
	baz=3.0						
NRN	**Naryn**	**1.86**	**72**	⇑*i*P	**Pb**	**01 26 18.8**	**-0.5**
	baz=73						
NRN				⇑*i*S	**Sg**	**01 26 43.5**	**-0.9**
	baz=73						
AAK	**Ala-Archa**	**1.87**	**20**	⇓P	**Pb**	**01 26 19.2**	**-0.2**
	6.9nm,0.2s,SNR=14						
AAK				⇓S	**Sb**	**01 26 43.5**	**+0.4**
	15nm,0.3s						
AAK	**Ala-Archa**	**1.87**	**20**	⇑*i*P	**Pb**	**01 26 18.8**	**-0.6**
	baz=20						
AAK				⇑*i*S	**Sb**	**01 26 43.6**	**+0.5**
	baz=20						
MRKS	**Merke**	**1.89**	**351**	Pg	**Pb**	**01 26 19.7**	**-0.1**
	25nm,0.2s						
MRKS				Lg	Lg	01 26 46.6	
	60nm,0.3s						
MRKS	**Merke**	**1.89**	**351**	*e*Pg	**Pb**	**01 26 19.7**	**-0.1**
	25nm,0.2s						
MRKS				*e*Lg	Lg	01 26 46.6	
	60nm,0.3s						
DRK	**Karamyk**	**1.99**	**226**	⇓*i*P	**Pb**	**01 26 21.2**	**-0.3**
	baz=25						
DRK				⇓*i*S	**Sg**	**01 26 48.0**	**-0.5**
	baz=25						
TRKS	**Terek-Say**	**2.00**	**290**	⇑*e*P	**Pb**	**01 26 20.5**	**-1.1**
	baz=87						
TRKS				⇑*i*S	**Sb**	**01 26 46.5**	**-0.5**
	baz=87						
KBK	**Karagaybulak**	**2.02**	**28**	⇑P	**Pb**	**01 26 21.9**	**-0.2**
	8.9nm,0.2s,SNR=13						
KBK				⇑S	**Sb**	**01 26 48.1**	**+0.4**
	24nm,0.2s						
KBK	**Karagaybulak**	**2.02**	**28**	⇑*i*P	**Pb**	**01 26 21.5**	**-0.6**
	baz=29						
KBK				⇑*i*S	**Sb**	**01 26 47.9**	**+0.2**
	baz=29						
CHMS	**Chumysh**	**2.27**	**21**	⇓P	**Pb**	**01 26 26.0**	**-0.2**
	7.2nm,0.2s,SNR=11						
CHMS				⇑S	**Sg**	**01 26 56.6**	**-1.1**
	11nm,0.3s						
CHMS	**Chumysh**	**2.27**	**21**	⇓Pg	**Pb**	**01 26 26.0**	**-0.2**
	7.2nm,0.5s						
CHMS				⇑Lg	Lg	01 26 57.3	
	12nm,0.7s						
CHMS	**Chumysh**	**2.27**	**21**	⇑*i*P	**Pb**	**01 26 24.6**	**-1.6**
	baz=21						
CHMS				⇑*i*S	**Sb**	**01 26 53.5**	**-1.1**
	baz=21						
BTK	**Batken**	**2.31**	**250**	⇑*i*P	**Pb**	**01 26 25.6**	**-1.2**
	baz=49						
BTK				⇑*i*S	**Sb**	**01 26 55.4**	**-0.3**
	baz=49						
USP	**Ospenovka**	**2.47**	**15**	⇑P	**Pb**	**01 26 28.7**	**-0.8**
	7.7nm,0.4s,SNR=14						
USP				⇓S	**Sb**	**01 27 01.1**	**+0.8**
	11nm,0.2s						
USP	**Ospenovka**	**2.47**	**15**	⇓*i*P	**Pb**	**01 26 27.3**	**-2.3**
	baz=15						
USP				⇓*i*S	**Sb**	**01 26 58.5**	**-1.8**
	baz=15						
TKM2	**Tokmak 2**	**2.51**	**35**	⇑Pg	**Pb**	**01 26 30.5**	**+0.3**
	5.1nm,0.6s						
TKM2				⇑Lg	Lg	01 27 04.3	
	15nm,0.7s						
SGDS	**Sogindy**	**2.67**	**16**	Pg	**Pb**	**01 26 33.7**	**+0.6**
	3.3nm,0.2s						
SGDS				Lg	Lg	01 27 10.3	
	8.0nm,0.2s						
KST	**Kastek**	**2.77**	**38**	Pg	**Pb**	**01 26 35.0**	**+0.3**
	4.2nm,0.4s						
KST				Lg	Lg	01 27 12.8	
	9.1nm,0.2s						
KST	**Kastek**	**2.77**	**38**	*e*Pg	**Pb**	**01 26 35.0**	**+0.3**
	4.2nm,0.4s						
KST				*e*Lg	Lg	01 27 12.8	
	9.1nm,0.2s						
CHMG	**Chimgan**	**2.83**	**285**	P	Pg	01 27 14.1	+35
CHRV	**Charvak**	**2.89**	**286**	P	Pg	01 27 15.3	+35
IUG	**Iuzhnay**	**3.00**	**296**	Pg	**Pb**	**01 26 38.7**	**+0.1**
	18nm,0.3s						
IUG				Lg	Lg	01 27 19.3	
	134nm,0.4s						
IUG	**Iuzhnay**	**3.00**	**296**	*e*Pg	**Pb**	**01 26 38.7**	**+0.1**
	18nm,0.3s						
IUG				*e*Lg	Lg	01 27 19.3	
	134nm,0.4s						
MTBS	**Maitube**	**3.06**	**42**	Pg	**Pb**	**01 26 40.5**	**+0.9**
	4.8nm,0.2s						
MTBS				Lg	Lg	01 27 22.2	
	14nm,0.4s						
MTBS	**Maitube**	**3.06**	**42**	*e*Pg	**Pb**	**01 26 40.3**	**+0.7**
	4.8nm,0.2s						
MTBS				*e*Lg	Lg	01 27 21.9	
	14nm,0.4s						
IZV	**Izvestkoviy**	**3.09**	**45**	Pg	**Pb**	**01 26 40.9**	**+0.7**
	2.9nm,0.4s						
IZV				Lg	Lg	01 27 23.0	
	28nm,0.5s						
IZV	**Izvestkoviy**	**3.09**	**45**	*e*Pg	**Pb**	**01 26 40.9**	**+0.7**
	2.9nm,0.4s						
IZV				*e*Lg	Lg	01 27 23.0	
	28nm,0.5s						
KK31	**Karatay Array**	**3.23**	**315**	⇑Pn	**Pn**	**01 26 37.0**	**+1.0**
	0.2nm,0.3s,baz=128,slow=13,SNR=38						
KK31				⇑Pg	**Pb**	**01 26 43.2**	**+0.8**
	2.7nm,0.5s,baz=130,slow=16,SNR=6.3						
KK31				⇓Lg	Lg	01 27 26.6	
	2.7nm,0.3s,baz=133,slow=28,SNR=4.0						
TNSS	**Tian-Shan**	**3.27**	**48**	Pg	**Pb**	**01 26 44.5**	**+1.0**
	2.8nm,0.3s						
TNSS				Lg	Lg	01 27 29.1	
	7.0nm,0.3s						
TNSS	**Tian-Shan**	**3.27**	**48**	*e*Pg	**Pb**	**01 26 44.5**	**+1.0**
	2.8nm,0.3s						
TNSS				*e*Lg	Lg	01 27 29.1	
	7.0nm,0.3s						
MDOK	**Medeo**	**3.41**	**47**	Pg	**Pb**	**01 26 46.2**	**+0.6**
	3.6nm,0.3s						
MDOK				Pg	**Pg**	**01 26 46.8**	**-3.2**
	4.3nm,0.9s						
MDOK				Lg	Lg	01 27 32.3	
	8.3nm,0.5s						
MDOK				⇑Lg	Lg	01 27 32.5	
	7.7nm,0.6s						
MDOK	**Medeo**	**3.41**	**47**	*e*Pg	**Pb**	**01 26 46.2**	**+0.6**
	3.6nm,0.3s						
MDOK				*e*Lg	Lg	01 27 32.3	
	8.3nm,0.5s						
KOTS	**Kotyrbulak**	**3.49**	**46**	Pg	**Pb**	**01 26 47.9**	**+0.9**
	4.3nm,0.4s						
KOTS				Lg	Lg	01 27 34.8	
	16nm,0.3s						
KOTS	**Kotyrbulak**	**3.49**	**46**	*e*Pg	**Pb**	**01 26 47.9**	**+0.9**
	4.3nm,0.4s						
KOTS				*e*Lg	Lg	01 27 34.8	
	16nm,0.3s						
KUU	**Kurty**	**3.61**	**33**	Pg	**Pb**	**01 26 49.9**	**+0.9**
	2.9nm,0.3s						
KUU				Lg	Lg	01 27 38.5	
	11nm,0.5s						
KUU	**Kurty**	**3.61**	**33**	*e*Pg	**Pb**	**01 26 49.9**	**+0.9**
	2.9nm,0.3s						
KUU				*e*Lg	Lg	01 27 38.5	
	11nm,0.5s						
CHKK	**Chushkaly**	**3.87**	**39**	Pg	**Pb**	**01 26 55.0**	**+1.6**
	1.1nm,0.1s						
CHKK				Lg	Lg	01 27 47.3	
	7.5nm,0.2s						
CHKK	**Chushkaly**	**3.87**	**39**	*e*Pg	**Pb**	**01 26 55.0**	**+1.6**
	1.1nm,0.1s						
CHKK				*e*Lg	Lg	01 27 47.3	
	7.5nm,0.2s						
SATY	**Saty**	**4.16**	**57**	Pg	**Pb**	**01 27 00.1**	**+1.6**
	1.7nm,0.2s						
SATY				Lg	Lg	01 27 56.1	
	6.0nm,0.2s						
SATY	**Saty**	**4.16**	**57**	*e*Pg	**Pb**	**01 27 00.1**	**+1.6**
	1.7nm,0.2s						
SATY				*e*Lg	Lg	01 27 56.1	
	6.0nm,0.2s						
BTLS	**Baital**	**4.17**	**4**	Pg	**Pb**	**01 27 01.3**	**+2.8**
	3.2nm,0.4s						
BTLS				Lg	Lg	01 27 58.0	
	3.2nm,0.5s						
BTLS	**Baital**	**4.17**	**4**	*e*Pg	**Pb**	**01 27 01.3**	**+2.8**
	3.2nm,0.4s						
BTLS				*e*Lg	Lg	01 27 58.0	
	3.2nm,0.5s						
ARXS	**Arharly**	**4.54**	**41**	Pg	**Pb**	**01 27 07.2**	**+2.3**
	1.6nm,0.3s						
ARXS				Lg	Lg	01 28 08.3	
	4.9nm,0.3s						
ARXS	**Arharly**	**4.54**	**41**	*e*Pg	**Pb**	**01 27 07.2**	**+2.3**
	1.6nm,0.3s						
ARXS				*e*Lg	Lg	01 28 08.3	
	4.9nm,0.3s						
KPKS	**Kokpek**	**4.55**	**54**	Pg	**Pb**	**01 27 06.7**	**+1.7**
	1.5nm,0.2s						
KPKS				Lg	Lg	01 28 07.2	
	3.6nm,0.3s						
KPKS	**Kokpek**	**4.55**	**54**	*e*Pg	**Pb**	**01 27 06.7**	**+1.7**
	1.5nm,0.2s						
KPKS				*e*Lg	Lg	01 28 07.2	
	3.6nm,0.3s						
UZB	**Uzynbulak**	**4.60**	**59**	Pg	**Pb**	**01 27 08.2**	**+2.2**
	3.2nm,0.2s						
UZB				Lg	Lg	01 28 09.7	
	4.4nm,0.6s						

UZB	**Uzynbulak**	**4.60**	**59**	*e*Pg		**Pb**	**01 27 08.2**	**+2.2**
	3.2nm,0.2s							
UZB				*e*Lg		Lg	01 28 09.7	
	4.4nm,0.6s							
BLB	**Baldybastay**	**4.81**	**46**	Pg		**Pb**	**01 27 12.1**	**+2.7**
	2.0nm,0.2s							
BLB				Lg		Lg	01 28 16.8	
	6.8nm,0.2s							
SHLS	**Shalkode**	**4.89**	**60**	Pg		**Pg**	**01 27 18.6**	**+0.3**
	1.6nm,0.1s							
SHLS				Lg		Lg	01 28 27.9	
	3.8nm,0.5s							
SHLS	**Shalkode**	**4.89**	**60**	*e*Pg		**Pg**	**01 27 18.6**	**+0.3**
	1.6nm,0.1s							
SHLS				*e*Lg		Lg	01 28 27.9	
	3.8nm,0.5s							

ROM 27 01:26:26.5±0.1, 43°.023N±0°.004×13°.082E±0°.005, h8km, ML1.5/11, 1D, Error ellipse: s-maj=0.4km s-min=0.3km az=97.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.01**	**18**	P	Pg	01 26 27.7	-0.3
FDMO				S	Sg	01 26 28.1	-0.9
T1219	**Muccia, Frazio**	**0.06**	**301**	jP	Pg	01 26 28.8	+0.3
T1219				S	Sg	01 26 30.1	+0.3
T1220	**Camerino, Fraz**	**0.09**	**4**	P	Pg	01 26 29.2	+0.5
T1220				S	Sg	01 26 31.1	+0.8
T1220				AML	AML		
	comp=N,3515μm,0.3s						
T1220				AML	AML		
	comp=N,3430μm,0.3s						
T1220				AML	AML		
	comp=N,3515μm,1.7s						
T1220				AML	AML		
	comp=N,3430μm,1.7s						
T1220				AML	AML		
	comp=E,5155μm,0.3s						
T1220				AML	AML		
	comp=E,5165μm,0.3s						
CSP1	**Cessapalombo**	**0.11**	**53**	P	Pg	01 26 29.6	+0.5
CSP1				S	Sg	01 26 31.7	+0.6
CSP1				AML	AML		
	comp=E,348μm,0.6s						
CSP1				AML	AML		
	comp=N,367μm,1.0s						
CSP1				AML	AML		
	comp=N,367μm,1.0s						
CSP1	**Cessapalombo**	**0.11**	**53**	Pg	Pg	01 26 29.7	+0.5
CESI	**CESI - Serrava**	**0.13**	**262**	P	Pg	01 26 30.2	+0.7
CESI				S	Sg	01 26 32.6	+1.2
CESI				AML	AML		
	comp=E,201μm,0.4s						
CESI				AML	AML		
	comp=N,200μm,0.1s						
CESI				AML	AML		
	comp=E,201μm,1.6s						
MC2	**Monte Cornacci**	**0.14**	**144**	P	Pg	01 26 30.1	+0.5
MC2				S	Sg	01 26 32.6	+0.9
T1216	**Preci, Frazion**	**0.14**	**199**	P	Pg	01 26 30.1	+0.5
T1216				S	Sg	01 26 33.2	+1.6
T1216				AML	AML		
	comp=E,306μm,0.3s						
T1216				AML	AML		
	comp=N,222μm,0.9s						
GUMA	**Gualdo di Mace**	**0.19**	**78**	P	Pg	01 26 31.4	+1.0
GUMA				S	Sg	01 26 35.1	+2.1
GUMA				AML	AML		
	comp=E,299μm,0.5s						
GUMA				AML	AML		
	comp=N,166μm,1.4s						
GUMA				AML	AML		
	comp=N,166μm,0.6s						
GUMA	**Gualdo di Mace**	**0.19**	**78**	Pg	Pg	01 26 31.5	+1.0
SNTG	**Esanatoglia**	**0.25**	**336**	P	Pg	01 26 32.1	+0.5
SNTG				S	Sb	01 26 36.7	-1.4
SNTG				AML	AML		
	comp=N,74μm,1.5s						
SNTG				AML	AML		
	comp=N,74μm,0.5s						
SNTG				AML	AML		
	comp=E,73μm,0.1s						
T1215	**Vallo di Nera,**	**0.27**	**215**	P	Pg	01 26 32.6	+0.7
T1215				S	Sb	01 26 37.3	-1.2
T1212	**Cascia, Frazio**	**0.27**	**186**	P	Pg	01 26 32.6	+0.7
T1212				S	Sb	01 26 37.6	-1.0
EL6	**Elcito**	**0.31**	**3**	P	Pg	01 26 33.2	+0.6
EL6				S	Sb	01 26 38.6	-1.0
EL6				AML	AML		
	comp=E,161μm,0.4s						
EL6				AML	AML		
	comp=N,208μm,0.4s						
EL6				AML	AML		
	comp=E,161μm,1.6s						
ASSB	**Assisi San Ben**	**0.31**	**274**	P	Pg	01 26 33.4	+0.7
ASSB				S	Sb	01 26 38.6	-1.0
ASSB				AML	AML		
	comp=E,70μm,0.6s						
ASSB				AML	AML		
	comp=N,122μm,0.2s						
T1218	**Civita (PG)**	**0.35**	**176**	P	Pg	01 26 33.9	+0.4
T1218				S	Sb	01 26 39.9	-1.1
FOSV	**Fossato di Vic**	**0.36**	**319**	P	Pg	01 26 34.3	+0.7
FOSV				S	Sb	01 26 40.5	-0.5
FOSV				AML	AML		
	comp=E,46μm,0.6s						
FOSV				AML	AML		
	comp=N,82μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.36**	**297**	P	Pg	01 26 34.4	+0.7
ATCC				S	Sb	01 26 40.8	-0.3
ATCC				AML	AML		
	comp=E,94μm,0.5s						
ATCC				AML	AML		
	comp=N,63μm,0.2s						
ATCC				AML	AML		
	comp=N,63μm,1.8s						
ATCC	**AVT- Casa Cast**	**0.36**	**297**	Pg	Pg	01 26 34.4	+0.8
CING	**Cingoli**	**0.36**	**13**	P	Pg	01 26 34.2	+0.5
CING				S	Sb	01 26 40.4	-0.7
LNSS	**Leonessa**	**0.42**	**184**	P	Pg	01 26 35.0	+0.2
MOMA	**Monte Martano**	**0.43**	**240**	P	Pb	01 26 36.0	-0.5
SSFR	**Montelago di S**	**0.47**	**332**	P	Pg	01 26 36.1	+0.5
SSFR				S	Sb	01 26 44.2	0.0
SSFR				AML	AML		
	comp=N,91μm,0.2s						
SSFR				AML	AML		
	comp=E,93μm,0.3s						
MURB	**Monte Urbino**	**0.47**	**301**	P	Pg	01 26 36.3	+0.6
MURB				S	Sb	01 26 44.5	+0.2
FRON	**Frontone**	**0.56**	**332**	P	Pg	01 26 37.7	+0.3

*SKHL **27** 01:33:00.8±0.1, 43°.30N×145°.90E, h60km±3km, mb4.7/4*
*JMA **27** 01:33:00.4±0.2, 43°.4N±0°.5×145°.8E±0°.8, h68km±1km, MV3.6/40, NEMURO REGION*
JMA Felt I J1 at NEMURO REGION .

ISC 27 01:33:00.5±1.6, 43°.38N±0°.06×145°.81E±0°.06, h66km±9km, n14, σ0.44/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.05**	**252**	*e*P	**Pn**	**01 33 10.3**	**+0.2**
NEM2				*e*S	**Sn**	**01 33 17.3**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.06**	**259**	*i* P	**Pn**	**01 33 10.3**	**+0.2**
NMR				*i* S	**Sn**	**01 33 17.3**	**+0.2**
JKHN	**Kushirohamanak**	**0.56**	**238**	*e*P	**Pn**	**01 33 13.6**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.66**	**3**	*i* P	**Pn**	**01 33 14.5**	**-0.1**
YUK				AMB	AMB	01 33 17.7	
	800nm,0.2s						
YUK				*e*S	**Sn**	**01 33 24.8**	**-0.1**
YUK				A	A	01 33 27.4	
	4μm,0.3s						
YUK				A	A	01 33 27.4	
	2μm,0.3s						
JNSB	**Nemuroshibetsu**	**0.71**	**304**	*e*P	**Pn**	**01 33 15.1**	**-0.1**
JNSB				*e*S	**Sn**	**01 33 26.3**	**+0.4**
JRA	**Rausu**	**0.75**	**318**	*e*P	**Pn**	**01 33 15.7**	**+0.1**
JRA				*e*S	**Sn**	**01 33 27.2**	**+0.5**
AKK	**Akkeshi**	**0.80**	**243**	*e*P	**Pn**	**01 33 15.9**	**-0.3**
AKK				AMB	AMB	01 33 16.2	
	290nm,0.4s						
AKK				*e*S	**Sn**	**01 33 27.2**	**-0.6**
AKK				A	A	01 33 28.7	
	460nm,0.2s						
AKK				A	A	01 33 28.7	
	650nm,0.2s						
JNK	**Nakash**	**0.82**	**285**	*e*P	**Pn**	**01 33 16.0**	**-0.5**
JNK				*e*S	**Sn**	**01 33 27.1**	**-1.3**
JAK	**Akkeshi**	**0.90**	**245**	P	**Pn**	**01 33 17.2**	**-0.3**
JAK				*e*S	**Sn**	**01 33 29.5**	**-0.6**
JAR	**Ashorobuto**	**1.49**	**267**	*e*P	**Pn**	**01 33 25.5**	**+0.3**
JAR				*e*S	**Sn**	**01 33 43.7**	**-0.1**
JTKR	**Abashiri--Toko**	**1.50**	**294**	*e*P	**Pn**	**01 33 25.8**	**+0.5**
JTKR				*e*S	**Sn**	**01 33 44.1**	**+0.1**
JOB	**Onbets**	**1.52**	**252**	*e*P	**Pn**	**01 33 25.8**	**+0.2**
JOB				*e*S	**Sn**	**01 33 44.7**	**+0.2**
MYR	**Moyori**	**2.15**	**241**	*e*P	**Pn**	**01 33 34.7**	**+0.6**
MYR				AMB	AMB	01 33 35.3	
	70nm,0.4s						
MYR				*e*S	**Sn**	**01 33 59.9**	**+0.1**
MYR				A	A	01 34 02.5	
	500nm,0.3s						
MYR				A	A	01 34 02.5	
	200nm,0.3s						
KUR	**Kuril'sk**	**2.37**	**38**	*e*P	**Pn**	**01 33 37.1**	**+0.1**
KUR				*e*S	**Sn**	**01 34 04.3**	**-0.6**
KUR				A	A	01 34 15.8	
	170nm,0.3s						
KUR				A	A	01 34 15.8	
	240nm,0.3s						

IDC 27 01:37:51.2±2.1, 17°.05S×178°.85E, h408km±21km, mb2.8/3, mbtmp3.6/3, Error ellipse: s-maj=120.4km s-min=33.9km az=145.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.02**	**228**	P	P	01 38 43.3	0.0
	10nm,0.6s,baz=49,slow=20,SNR=14						
WRA	**Warramunga Arr**	**42.22**	**259**	P	P	01 45 05.8	-0.9
	0.3nm,0.8s,baz=95,slow=7.6,SNR=2.2						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**42.51**	**253**	P	P	01 45 09.2	+0.2
	1.4nm,0.4s,baz=85,slow=8.6,SNR=21						
	1.4nm,0.4s						
ILAR	**Eielson Array**	**85.67**	**14**	P	P	01 49 44.8	0.0
	0.1nm,0.4s,baz=211,slow=6.3,SNR=2.0						
	0.1nm,0.4s						

*ISK **27** 01:41:08.8, 38°.62N×25°.37E, h15km, ML2.7/8*
*ATH **27** 01:41:09.2, 38°.61N×25°.34E, h16km±2km, ML2.4/3, Error ellipse: s-maj=2.4km s-min=0.9km az=48.0*
*THE **27** 01:41:09.8, 38°.60N×25°.37E, h31km±29km, ML2.5/5, Error ellipse: s-maj=29.7km s-min=0.9km az=87.0*
*DDA **27** 01:41:11.0±0.0, 38°.68N×25°.56E, h7km±4km, ML2.4*

ISC 27 01:41:07.4±1.0, 38°.61N±0°.02×25°.36E±0°.02, h17km±9km, n33, σ0.65/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.18**	**114**	P	**Pb**	**01 41 13.8**	**+1.6**
PSRA				S	**Sb**	**01 41 16.2**	**+0.8**
CHOS	**Chios island**	**0.59**	**112**	P	**Pn**	**01 41 20.7**	**-0.4**
CHOS				S	**Sn**	**01 41 29.9**	**-0.5**
	568nm,0.2s						
CHOS	**Chios island**	**0.59**	**112**	Pg	**Pn**	**01 41 20.7**	**-0.4**
CHOS				Sg	**Sn**	**01 41 29.6**	**-0.8**
CHOS	**Chios island**	**0.59**	**112**	P	**Pn**	**01 41 20.7**	**-0.4**
CHOS				S	**Sn**	**01 41 29.4**	**-1.0**
CHOS				AML	AML	01 41 33.1	
	comp=N,1026μm,0.2s						
CHOS				AML	AML	01 41 33.1	
	comp=E,1247μm,0.3s						
SIGR	**SIGRI**	**0.71**	**33**	P	**Pn**	**01 41 23.0**	**+0.3**
SIGR				S	**Sn**	**01 41 33.2**	**0.0**
	comp=E,350nm,0.6s						
SIGR	**SIGRI**	**0.71**	**33**	Pg	**Pn**	**01 41 22.9**	**+0.3**
SIGR				Sg	**Sn**	**01 41 33.2**	**0.0**
SIGR	**SIGRI**	**0.71**	**33**	P	**Pn**	**01 41 22.7**	**0.0**
SIGR				S	**Sn**	**01 41 32.5**	**-0.7**
SIGR				AML	AML	01 41 36.2	
	comp=N,950μm,0.6s						
SIGR				AML	AML	01 41 37.0	
	comp=E,446μm,0.7s						
ZEYE	**Izmir, Urla-Ze**	**0.97**	**112**	P	**Pn**	**01 41 27.1**	**+0.8**
ZEYE				S	**Sn**	**01 41 40.2**	**+0.6**
KYMI	**Kymi, Euboea I**	**0.98**	**272**	P	**Pg**	**01 41 26.7**	**+0.3**
KYMI				S	**Sn**	**01 41 39.7**	**-0.2**
	comp=E,210nm,2.1s						
KYMI	**Kymi, Euboea I**	**0.98**	**272**	P	**Pg**	**01 41 26.8**	**+0.3**
KYMI				S	**Sg**	**01 41 39.3**	**-0.2**
KOCA	**Canakkale, Ayv**	**1.08**	**34**	P	**Pg**	**01 41 29.3**	**+1.1**
KOCA				S	**Sn**	**01 41 42.3**	**0.0**
KOCA				*i* AML	AML	01 41 49.0	
	comp=E,112nm,0.5s						
KOCA				*i* AML	AML	01 41 55.0	
	comp=E,102nm,1.2s						
TNSA	**Tinos**	**1.08**	**188**	P	**Pg**	**01 41 28.9**	**+0.5**
TNSA				S	**Sn**	**01 41 42.5**	**+0.3**
DION	**Dionisos Attik**	**1.24**	**245**	P	**Pg**	**01 41 31.0**	**-0.3**
DION				S	**Sn**	**01 41 46.9**	**+0.6**
	comp=E,235nm,0.8s						
DION	**Dionisos Attik**	**1.24**	**245**	P	**Pg**	**01 41 31.8**	**+0.5**
DION				S	**Sg**	**01 41 46.3**	**+0.2**
DKL	**Dikili**	**1.29**	**69**	Pn	**Pg**	**01 41 32.9**	**+0.5**
DKL				Sn	**Sg**	**01 41 50.3**	**+1.1**
PTL	**Penteli**	**1.30**	**245**	P	**Pg**	**01 41 32.2**	**-0.3**
PTL				S	**Sn**	**01 41 47.9**	**+0.1**
BLCB	**Balcova**	**1.34**	**99**	Pn	**Pg**	**01 41 33.4**	**+0.1**
ZEDA	**zmir-Bergama**	**1.39**	**75**	P	**Pg**	**01 41 35.1**	**+0.9**
ATHU	**Athens Univers**	**1.40**	**243**	P	**Pb**	**01 41 33.3**	**+0.3**
ATHU				S	**Sn**	**01 41 50.2**	**+0.2**
EZN	**Ezine**	**1.43**	**32**	Pn	**Pg**	**01 41 34.8**	**-0.1**
ATH	**Athens Observa**	**1.44**	**244**	P	**Pb**	**01 41 33.4**	**-0.4**
ATH				S	**Sb**	**01 41 52.5**	**+0.7**
VLY	**Voula,Athens**	**1.45**	**239**	P	**Pb**	**01 41 33.8**	**0.0**
VLY				S	**Sb**	**01 41 52.2**	**+0.3**
VLY				AML	AML	01 41 57.1	
	comp=E,217μm,0.6s						
VLY				AML	AML	01 42 02.6	
	comp=N,138μm,0.7s						
BAYC	**CANAKKALE_Bayr**	**1.46**	**39**	P	**Pg**	**01 41 35.0**	**-0.5**
BAYC				S	**Sg**	**01 41 53.8**	**-0.7**
SMG	**Samos**	**1.48**	**127**	P	**Pg**	**01 41 35.1**	**-0.7**
SMG				S	**Sb**	**01 41 53.3**	**+0.5**
APE	**Apeiranthos**	**1.55**	**175**	P	**Pb**	**01 41 34.7**	**-0.9**
APE				S	**Sn**	**01 41 53.0**	**-0.9**
	comp=N,78nm,0.3s						
APE	**Apeiranthos**	**1.55**	**175**	Pn	**Pg**	**01 41 36.8**	**-0.4**
APE	**Apeiranthos**	**1.55**	**175**	P	**Pb**	**01 41 34.8**	**-0.9**
APE				S	**Sn**	**01 41 53.3**	**-0.6**
BUHA	**Balikesir, Bur**	**1.61**	**56**	P	**Pg**	**01 41 39.1**	**+0.8**
BUHA				S	**Sg**	**01 41 58.0**	**-1.2**
BUHA				*i* AML	AML	01 42 03.0	
	comp=N,48nm,0.5s						
GADA	**Gvkgeada**	**1.63**	**15**	Pn	**Pg**	**01 41 37.7**	**-1.1**
VIL2	**Platees**	**1.69**	**257**	P	**Pn**	**01 41 36.6**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.98**	**26**	Pn	**Pb**	**01 41 42.6**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.99**	**67**	P	**Pg**	**01 41 46.0**	**+0.4**
STEP				*i* AML	AML	01 42 19.0	
	comp=N,34nm,1.2s						
STEP				*i* AML	AML	01 42 22.0	
	comp=N,29nm,0.7s						
BALB	**Balikesir**	**2.21**	**62**	Pn	**Pb**	**01 41 45.9**	**-1.0**

IDC 27 01:45:31.0±2.5, 3°.60S×150°.88E, h0km, mb3.4/2, mbtmp3.4/2, MS3.0/1, Error ellipse: s-maj=165.0km s-min=33.4km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.89**	**224**	P	P	01 50 36.8	+0.2
	0.4nm,0.3s,baz=50,slow=10.0,SNR=9.4						
	0.4nm,0.3s						
JCJ	**Chichijima**	**31.65**	**345**	LR	LR	02 02 19.2	
	comp=Z,29nm,21.1s,baz=89,slow=32						
ILAR	**Eielson Array**	**81.78**	**23**	P	P	01 57 52.0	+0.5
	0.2nm,0.6s,baz=253,slow=5.5,SNR=4.3						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.11**	**289**	PKPbc	PKPbc	02 05 18.4	-1.5
	0.5nm,0.8s,baz=80,slow=3.1,SNR=2.6						

JMA 27 02:12:11.8±0.3, 38°.8N±0°.9×14°.4E±°, h51km, MV3.6/22,

FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.11**	**291**	P	Pn	02 12 45.6	+1.0
MIYJ				*e*S	Sn	02 13 10.3	+0.6
OFUJ	**Ofunato**	**2.12**	**277**	P	Pn	02 12 45.9	+1.1
OFUJ				*e*S	Sn	02 13 10.8	+0.9
JTH	**Tanohata**	**2.23**	**300**	*e*P	Pn	02 12 47.2	+1.0
JTH				*e*S	Sn	02 13 13.9	+1.3
JKMT	**Kesennumamotoy**	**2.26**	**270**	*e*P	Pn	02 12 47.9	+1.2
JMK	**Ichinoseki**	**2.46**	**274**	P	Pn	02 12 50.9	+1.5
JOM	**Ohasama**	**2.47**	**286**	P	Pn	02 12 51.1	+1.5
JANG	**Nango**	**2.68**	**306**	*e*P	Pn	02 12 53.2	+0.7
JNBK	**Urakawa-nobuka**	**3.65**	**341**	*e*P	Pn	02 13 06.6	+0.8
JRY	**Ryogami san**	**5.18**	**239**	P	Pn	02 13 27.8	+0.9

*IDC **27** 02:20:25.2±1.1, 13°.31S×166°.16E, h0km, mb3.9/8, mbtmp3.9/9, ML4.1/1, MS3.6/10, Error ellipse: s-maj=41.7km s-min=22.1km az=128.0*

ISC 27 02:20:30.0±0.9, 13°.50S±0°.09×166°.3E±0°.2, h35km, n16, σ1.9/14/12, mb3.9/8, MS3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.41**	**302**	LR	LR	02 25 05.4	
	comp=Z,2μm,18.3s,baz=150,slow=39						
DZM	**Mont Dzumac**	**8.53**	**179**	Pn	**Pn**	**02 22 32.0**	**+0.8**
	2.4nm,0.3s,baz=195,slow=14,SNR=15						
DZM				Sn	**Sn**	**02 24 04.7**	**-1.6**
	baz=129,slow=23						
DZM				LR	LR	02 25 20.7	
	comp=Z,195nm,20.6s,baz=35,slow=34						
	4.9nm,0.4s						
MSVF	**Nonsavu**	**12.09**	**112**	LR	LR	02 26 58.5	
	comp=Z,174nm,18.5s,baz=184,slow=32						
CTA	**Charters Tower**	**20.25**	**248**	P	Pn	02 25 04.9	+0.2
	3.3nm,0.8s,baz=45,slow=4.1,SNR=3.9						
CTA				LR	LR	02 32 17.4	
	comp=Z,193nm,18.1s,baz=82,slow=35						
AFI	**Afiamalu**	**21.32**	**94**	LR	LR	02 31 22.8	
	comp=Z,61nm,20.5s,baz=302,slow=31						
STKA	**Stephens Creek**	**29.10**	**227**	P	**P**	**02 26 28.6**	**+1.1**
	1.3nm,0.5s,baz=50,slow=13,SNR=7.2						
STKA				LR	LR	02 37 26.3	
	comp=Z,82nm,20.1s,baz=26,slow=35						
	1.3nm,0.5s						
RPZ	**Rata Peaks**	**30.39**	**173**	LR	LR	02 38 34.2	
	comp=Z,85nm,19.6s,baz=13,slow=36						
WRA	**Warramunga Arr**	**31.22**	**254**	P	**P**	**02 26 45.8**	**-0.7**
	1.6nm,0.9s,baz=85,slow=8.4,SNR=8.6						
WRA				LR	LR	02 39 05.1	
	comp=Z,142nm,18.1s,baz=70,slow=36						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**32.24**	**247**	P	**P**	**02 26 55.0**	**-0.4**
	1.6nm,0.6s,baz=73,slow=9.5,SNR=19						
ASAR				PcP	**PcP**	**02 29 45.0**	**+1.5**
	0.2nm,0.6s,baz=64,slow=4.2,SNR=1.5						
ASAR				LR	LR	02 39 14.5	
	comp=Z,142nm,19.5s,baz=79,slow=35						
	1.6nm,0.6s						
PETK	**Petropavlovsk-**	**66.74**	**354**	LR	LR	02 57 36.5	
	comp=Z,29nm,18.2s,baz=100,slow=34						
SONM	**Songino Array**	**80.94**	**324**	P	**P**	**02 32 40.6**	**-0.4**
	0.3nm,0.7s,baz=134,slow=4.2,SNR=2.3						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**85.66**	**18**	P	**P**	**02 33 05.5**	**+0.8**
	0.6nm,0.6s,baz=245,slow=5.4,SNR=13						
	0.6nm,0.6s						
NVAR	**Mina Array Bea**	**87.20**	**50**	P	**P**	**02 33 12.6**	**-0.7**
	0.1nm,0.3s,baz=236,slow=7.5,SNR=2.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**95.66**	**317**	P	**P**	**02 33 51.6**	**-0.5**
	0.4nm,0.8s,baz=90,slow=5.8,SNR=1.8						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**95.84**	**324**	P	**P**	**02 33 51.1**	**-1.6**
	0.3nm,0.4s,baz=123,slow=5.3,SNR=1.5						
	0.3nm,0.4s						
ESDC	**Sonseca Array**	**152.54**	**344**	PKPbc	**PKiKP**	**02 40 24.2**	**+0.8**
	0.6nm,1.0s,baz=9.6,slow=4.8,SNR=1.4						

*IDC **27** 02:28:58.9±5.5, 34°.63N×137°.00E, h232km±116km, mb2.9/3, mbtmp3.4/4, MS3.4/1, Error ellipse: s-maj=207.8km s-min=27.5km az=58.0*
*JMA **27** 02:29:00.8±0.1, 35°.2N±0°.8×137°.7E±°, h287km, MV2.5/16, NE AICHI PREF*

ISC 27 02:29:00.2±1.2, 35°.2N±0°.1×137°.6E±0°.2, h300km, n8, σ2.9/49/10, mb3.0/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.32**	**287**	P	**Pn**	**02 29 37.5**	**-1.0**
JAO				*e*S	**S**	**02 30 06.2**	**-2.7**
JYTA	**Yamagatataniai**	**0.84**	**300**	P	**Pn**	**02 29 38.6**	**-1.2**
JYTA				*e*S	**S**	**02 30 08.1**	**-3.2**
JIE	**Ise**	**1.09**	**225**	P	**Pn**	**02 29 39.6**	**-1.4**
MJAR	**Matsushiro Arr**	**1.44**	**19**	P	**Pn**	**02 29 42.6**	**-0.3**
	11nm,0.6s,baz=206,slow=7.6,SNR=22						
MJAR				S	**S**	**02 30 14.8**	**-2.1**
	1.4nm,0.3s,baz=272,slow=31,SNR=5.1						
SONM	**Songino Array**	**26.40**	**308**	P	**P**	**02 34 13.4**	**+3.6**
	0.4nm,0.7s,baz=104,slow=9.9,SNR=2.8						
	0.4nm,0.7s						
DAV	**Davao City (W)**	**30.09**	**204**	LR	LR	02 44 01.5	
	comp=Z,81nm,21.2s,baz=316,slow=31						
WRA	**Warramunga Arr**	**54.90**	**184**	P	**P**	**02 38 01.0**	**+0.6**
	0.3nm,0.3s,baz=359,slow=7.6,SNR=8.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**58.62**	**184**	P	**P**	**02 38 28.3**	**+1.9**
	0.2nm,0.6s,baz=13,slow=12,SNR=4.1						
	0.2nm,0.6s						

IDC 27 02:40:32.6±4.1, 5°.73S×148°.71E, h0km, mb3.2/1, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=120.5km s-min=44.9km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.96**	**203**	Pn	Pn	02 41 36.5	+1.8
	19nm,0.4s,baz=22,slow=8.8,SNR=13						
PMG				Sn	Sn	02 42 20.3	-1.7
	7.0nm,0.3s,baz=52,slow=11,SNR=7.9						
WRA	**Warramunga Arr**	**19.87**	**223**	P	P	02 45 05.0	-0.6
	0.2nm,0.3s,baz=50,slow=11,SNR=8.3						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**22.83**	**217**	P	P	02 45 37.0	-0.5
	0.6nm,0.6s,baz=52,slow=9.5,SNR=9.9						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**146.67**	**285**	PKPbc	PKPbc	03 00 16.8	-0.7
	0.2nm,0.6s,baz=72,slow=2.7,SNR=1.7						

*ISK **27** 02:45:59.6, 38°.60N×25°.33E, h6km, ML2.7/6*
*ATH **27** 02:46:00.5, 38°.60N×25°.35E, h15km±3km, ML2.4/2, Error ellipse: s-maj=3.9km s-min=1.0km az=94.0*
*THE **27** 02:46:00.7, 38°.60N×25°.38E, h25km±5km, ML2.2/2, Error ellipse: s-maj=5.5km s-min=0.9km az=67.0*
*DDA **27** 02:46:01.9±0.0, 38°.62N×25°.47E, h7km±6km, ML2.0*

ISC 27 02:45:59.9±1.0, 38°.59N±0°.03×25°.34E±0°.02, h18km±3km, n28, σ0.49/42, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.18**	**106**	P	**Pg**	**02 46 05.0**	**+0.4**
PSRA				S	**Sb**

SIGR					AML	AML	02 46 27.3	
	comp=N,574µm,0.4s							
SIGR					AML	AML	02 46 27.6	
	comp=E,248µm,0.5s							
KYMI	**Kymi, Euboea I**	**0.97**	**273**		P	**Pb**	**02 46 18.4**	**+0.2**
KYMI					S	**Sg**	**02 46 31.7**	**+0.1**
KYMI	**Kymi, Euboea I**	**0.97**	**273**		P	**Pb**	**02 46 18.5**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**0.98**	**111**		P	**Pb**	**02 46 17.2**	**-1.1**
ZEYE					S	**Sg**	**02 46 31.8**	**0.0**
ZEYE				*i*	AML	AML	02 46 34.0	
	comp=E,48nm,0.6s							
ZEYE				*i*	AML	AML	02 46 38.0	
	comp=E,61nm,0.8s							
TNSA	**Tinos**	**1.06**	**188**		P	**Pn**	**02 46 20.1**	**+0.3**
KOCA	**Canakkale, Ayv**	**1.10**	**34**		P	**Pn**	**02 46 20.6**	**+0.2**
KOCA					S	**Sb**	**02 46 34.7**	**+0.3**
KOCA				*i*	AML	AML	02 46 43.0	
	comp=E,32nm,0.4s							
KOCA				*i*	AML	AML	02 46 44.0	
	comp=E,33nm,0.5s							
DION	**Dionisos Attik**	**1.22**	**246**		P	**Pn**	**02 46 22.2**	**+0.1**
DION					S	**Sb**	**02 46 37.2**	**-0.7**
DION	**Dionisos Attik**	**1.22**	**246**		P	**Pb**	**02 46 22.7**	**+0.3**
DKL	**Dikili**	**1.31**	**68**		Pn	**Pg**	**02 46 25.2**	**0.0**
DGB	**zmir**	**1.33**	**113**		P	**Pn**	**02 46 23.7**	**+0.2**
DGB					S	**Sn**	**02 46 40.3**	**-0.3**
BLCB	**Balcova**	**1.35**	**98**		Pn	**Pg**	**02 46 25.9**	**-0.1**
ATHU	**Athens Univers**	**1.38**	**243**		P	**Pb**	**02 46 25.1**	**+0.1**
ZEDA	**zmir-Bergama**	**1.41**	**74**		P	**Pb**	**02 46 25.5**	**-0.1**
ZEDA				*i*	AML	AML	02 46 47.0	
	comp=E,42nm,1.3s							
VLY	**Voula,Athens**	**1.42**	**239**		P	**Pn**	**02 46 25.0**	**+0.1**
EZN	**Ezine**	**1.45**	**32**		P	**Pn**	**02 46 24.5**	**-0.7**
EZN	**Ezine**	**1.45**	**32**		Pn	**Pb**	**02 46 27.1**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**1.48**	**39**		P	**Pg**	**02 46 28.6**	**+0.1**
BAYC					S	**Sn**	**02 46 43.4**	**-1.1**
APE	**Apeiranthos**	**1.53**	**174**		P	**Pn**	**02 46 26.1**	**-0.2**
APE					S	**Sn**	**02 46 45.1**	**-0.6**
APE	**Apeiranthos**	**1.53**	**174**		Pn	**Pb**	**02 46 28.1**	**+0.4**
APE	**Apeiranthos**	**1.53**	**174**		P	**Pn**	**02 46 26.0**	**-0.2**
BUHA	**Balikesir, Bur**	**1.63**	**56**		P	**Pb**	**02 46 30.4**	**+1.0**
BUHA				*i*	AML	AML	02 46 54.0	
	comp=E,29nm,0.5s							
BUHA				*i*	AML	AML	02 46 54.0	
	comp=E,18nm,0.8s							
GELI	**Tayfur-Gelibol**	**2.01**	**26**		Pn	**Pb**	**02 46 35.1**	**-0.7**

NNC 27 02:50:56.9±1.4, 38.74N×69.30E, h5km±5km, mb3.7, mpv3.3, 4C-5D, Error ellipse: s-maj=10.9km s-min=5.7km az=171.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.46**	**12**	Pn		Pn	Pn	02 52 05.4	+0.2
	1.1nm,0.4s,baz=198,slow=14,SNR=26								
KK31				Pg		Pb	Pb	02 52 18.4	+2.8
	1.2nm,0.3s,baz=330,slow=45,SNR=10.0								
KK31				⇓Lg		Lg	Lg	02 53 18.1	
	13nm,0.6s,baz=194,slow=26,SNR=7.8								
CHMS	**Chumysh**	**5.94**	**42**	⇓Pn		Pn	Pn	02 52 25.5	0.0
	4.5nm,0.8s								
CHMS				⇑Sn		Sn	Sn	02 53 35.4	+1.5
	7.7nm,0.7s								
CHMS				⇓Lg		Lg	Lg	02 54 04.6	
	6.3nm,0.8s								
TKM2	**Tokmak 2**	**6.35**	**47**	⇓Pn		Pn	Pn	02 52 31.0	-0.3
	3.2nm,0.8s								
TKM2				⇓Sn		Sn	Sn	02 53 45.1	+0.8
	7.9nm,0.9s								
TKM2				⇑Lg		Lg	Lg	02 54 19.1	
	3.9nm,0.7s								
AB31	**Akbulak array**	**12.47**	**330**	Pn		Pn	Pn	02 53 53.9	-1.2
	0.3nm,0.4s,baz=149,slow=12,SNR=24								
AB31				⇑Sn		Sn	Sn	02 56 15.4	+1.1
	1.3nm,0.7s,baz=146,slow=24,SNR=5.7								
AKTO	**Aktyubinsk**	**14.17**	**329**	⇑Pn		Pn	Pn	02 54 19.4	+1.2
	1.4nm,0.5s								
BVA0	**Borovoye Array**	**14.31**	**3**	Pn		Pn	Pn	02 54 19.9	-0.1
	1.6nm,0.8s,baz=167,slow=10,SNR=6.9								

INMG 27 03:21:39.2±1.7, 36.57N×7.59W, h17km±5km, ML2.0, Error ellipse: s-maj=4.1km s-min=3.1km az=55.0
MDD 27 03:21:39.3±0.4, 36.53N×7.57W, h36km±10km, mb_Lg2.3/16, Error ellipse: s-maj=3.8km s-min=2.5km az=49.0
CNRM 27 03:21:39.4, 36.65N×7.06W, h70km
SFS 27 03:21:40.2, 36.59N×7.52W, h38km, ML2.8/9, MLv2.8/9
ISC 27 03:21:38.3±5.3, 36.56N±0.04×7.48W±0.03, h36km±10km, n57, σ1s45/102, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.87**	**348**	⇓*e*P		**Pn**	**Pn**	**03 21 54.6**	**+0.6**
PVAQ				*e*S		**Sn**	**Sn**	**03 22 05.3**	**-0.1**
PVAQ				A		A	A	03 22 06.0	
	32nm,0.1s								
PVAQ	**Vaqueiros**	**0.87**	**348**	S		**Sn**	**Sn**	**03 22 04.9**	**-0.6**
PVAQ				P		**Pn**	**Pn**	**03 21 54.5**	**+0.6**
EGRO	**El Granado**	**0.98**	**0**	P		**Pn**	**Pn**	**03 21 56.5**	**+1.0**
EGRO				S		**Sn**	**Sn**	**03 22 08.6**	**+0.5**
EGRO				*i*	Vmb_Lg			03 22 09.5	
PCVE	**Castro Verde**	**1.16**	**338**	*e*P		**Pn**	**Pn**	**03 21 58.9**	**+0.8**
PCVE				*e*S		**Sn**	**Sn**	**03 22 13.1**	**+0.4**
PCVE				A		A	A	03 22 13.4	
	16nm,0.2s								
PCVE	**Castro Verde**	**1.16**	**338**	S		**Sn**	**Sn**	**03 22 12.9**	**+0.2**
PCVE				P		**Pn**	**Pn**	**03 21 58.9**	**+0.8**
MORF	**Marmelete**	**1.20**	**309**	*e*P		**Pn**	**Pn**	**03 21 58.6**	**0.0**
MORF				*e*S		**Sn**	**Sn**	**03 22 12.9**	**-0.7**
MORF				IAML				03 22 14.0	
	comp=E,19nm,0.2s								
MORF	**Marmelete**	**1.20**	**309**	*e*P		**Pn**	**Pn**	**03 21 58.6**	**0.0**
MORF				*e*S		**Sn**	**Sn**	**03 22 13.3**	**-0.3**
MORF				A		A	A	03 22 14.2	
	comp=E,15nm,0.1s								
PFVI	**Vila Bisbo**	**1.22**	**299**	*e*P		**Pn**	**Pn**	**03 21 59.1**	**+0.3**
PFVI				*e*S		**Sn**	**Sn**	**03 22 13.5**	**-0.6**
PFVI				A		A	A	03 22 17.8	
	comp=E,12nm,0.4s								
PFVI	**Vila Bisbo**	**1.22**	**299**	P		Pn	Pn	03 22 03.8	+4.9
PFVI				S		Sn	Sn	03 22 23.7	+10
PFVI	**Vila Bisbo**	**1.22**	**299**	P		**Pn**	**Pn**	**03 21 59.4**	**+0.5**
PFVI				S		**Sn**	**Sn**	**03 22 14.3**	**+0.2**
ESPR	**Espera**	**1.34**	**76**	P		**Pn**	**Pn**	**03 22 01.9**	**+1.4**
ESPR				S		**Sn**	**Sn**	**03 22 19.0**	**+1.8**
ESPR	**Espera**	**1.34**	**76**	P		**Pn**	**Pn**	**03 22 02.2**	**+1.7**
ESPR				S		**Sn**	**Sn**	**03 22 18.8**	**+1.7**
ESPR				*i*	Vmb_Lg			03 22 19.5	
PTEO	**Sao Teotonio**	**1.40**	**315**	*e*P		**Pn**	**Pn**	**03 22 01.9**	**+0.6**
PTEO				*e*S		**Sn**	**Sn**	**03 22 18.3**	**-0.2**
PTEO				A		A	A	03 22 19.5	
	comp=E,17nm,1.0s								
MESJ	**Messejana**	**1.41**	**336**	*e*P		**Pn**	**Pn**	**03 22 02.1**	**+0.6**
MESJ				*e*S		**Sn**	**Sn**	**03 22 18.4**	**-0.4**
MESJ				IAML				03 22 20.2	
	comp=N,13nm,0.0s								
MESJ	**Messejana**	**1.41**	**336**	*e*P		**Pn**	**Pn**	**03 22 02.2**	**+0.8**
MESJ				*e*S		**Sn**	**Sn**	**03 22 18.2**	**-0.6**
MESJ				A		A	A	03 22 26.0	
	comp=N,12nm,0.3s								
PBEJ	**Beja**	**1.50**	**348**	*e*P		**Pn**	**Pn**	**03 22 03.5**	**+0.8**
PBEJ				*e*S		**Sn**	**Sn**	**03 22 21.3**	**+0.3**
PBEJ				A		A	A	03 22 25.9	
	comp=N,5.7nm,0.2s								
EJIF	**Jimena Fronter**	**1.63**	**93**	P		**Pn**	**Pn**	**03 22 06.3**	**+1.9**
EJIF				S		**Sn**	**Sn**	**03 22 19.6**	**-4.6**
PBAR	**Barrancos**	**1.66**	**12**	*e*P		**Pn**	**Pn**	**03 22 06.0**	**+1.2**
PBAR				*e*S		**Sn**	**Sn**	**03 22 26.9**	**+2.1**
PBAR				A		A	A	03 22 30.8	
	comp=N,5.8nm,0.4s								
PBAR	**Barrancos**	**1.66**	**12**	S		**Sn**	**Sn**	**03 22 25.9**	**+1.1**
PBAR				P		**Pn**	**Pn**	**03 22 05.9**	**+1.2**
PNCL	**Nicolau / Gran**	**1.76**	**332**	*e*P		**Pn**	**Pn**	**03 22 06.9**	**+0.6**
PNCL				*e*S		**Sn**	**Sn**	**03 22 26.8**	**-0.7**
PNCL				A		A	A	03 22 29.2	
	comp=N,6.9nm,0.3s								
EMIJ	**Mijas**	**2.18**	**89**	S		**Sn**	**Sn**	**03 22 38.2**	**+0.3**
EBAD	**Badajoz**	**2.23**	**10**	P		**Pn**	**Pn**	**03 22 13.4**	**+0.7**
EBAD				S		**Sn**	**Sn**	**03 22 38.6**	**-0.4**
EBAD				*i*	Vmb_Lg			03 22 50.0	
ECAB	**El Cabril**	**2.24**	**47**	S		**Sn**	**Sn**	**03 22 38.5**	**-0.8**
ECAB				P		**Pn**	**Pn**	**03 22 14.9**	**+2.1**
ECAB	**El Cabril**	**2.24**	**47**	P		**Pn**	**Pn**	**03 22 13.8**	**+0.9**
ECAB				S		**Sn**	**Sn**	**03 22 38.4**	**-0.8**
ECAB				*i*	Vmb_Lg			03 22 41.7	
PESTR	**Estremoz**	**2.31**	**358**	*e*P		**Pn**	**Pn**	**03 22 14.6**	**+0.8**
PESTR				*e*S		**Sn**	**Sn**	**03 22 39.7**	**-1.3**
PESTR				A		A	A	03 22 47.1	
	comp=N,2.4nm,0.8s								
PESTR	**Estremoz**	**2.31**	**358**	P		**Pn**	**Pn**	**03 22 13.9**	**+0.1**
PESTR				S		**Sn**	**Sn**	**03 22 42.1**	**+1.1**
PMTG	**Montargil**	**2.58**	**347**	*e*P		**Pn**	**Pn**	**03 22 18.4**	**+0.9**
PMTG				*e*S		**Sn**	**Sn**	**03 22 47.8**	**+0.2**
PMTG				A		A	A	03 22 49.2	
	comp=N,4.6nm,0.2s								
PMAFR	**Mafra**	**2.79**	**330**	*e*P		**Pn**	**Pn**	**03 22 21.3**	**+0.9**
PMAFR				*e*S		**Sn**	**Sn**	**03 22 52.1**	**-0.7**
EADA	**Adamuz**	**2.82**	**54**	P		**Pn**	**Pn**	**03 22 22.6**	**+1.8**
EADA				S		**Sn**	**Sn**	**03 22 52.0**	**-1.6**
EADA	**Adamuz**	**2.82**	**54**	P		**Pn**	**Pn**	**03 22 22.1**	**+1.3**
EADA				S		**Sn**	**Sn**	**03 22 52.5**	**-1.1**
EADA				*i*	Vmb_Lg			03 22 55.2	
PMRV	**Marv??o**	**2.87**	**1**	*e*P		**Pn**	**Pn**	**03 22 22.4**	**+0.9**
PMRV				*e*S		**Sn**	**Sn**	**03 22 54.6**	**-0.2**
PMRV				A		A	A	03 22 56.8	
	comp=N,3.3nm,0.3s								
ELGU	**Los Guajares,**	**3.12**	**83**	P		**Pn**	**Pn**	**03 22 26.2**	**+1.2**
ELGU				S		**Sn**	**Sn**	**03 23 01.2**	**+0.2**
ELGU				*i*	Vmb_Lg			03 23 08.7	
PSBE	**So Bento**	**3.13**	**341**	*e*P		**Pn**	**Pn**	**03 22 26.3**	**+1.2**
PSBE				*e*S		**Sn**	**Sn**	**03 23 01.9**	**+0.6**
PCBR	**Castelo Branco**	**3.28**	**0**	*e*P		**Pn**	**Pn**	**03 22 28.1**	**+1.0**
PCBR				*e*S		**Sn**	**Sn**	**03 23 04.3**	**-0.6**
PCBR				A		A	A	03 23 05.6	
	comp=N,3.9nm,0.6s								
PCAS	**Casmilo, Conde**	**3.58**	**347**	*e*S		**Sn**	**Sn**	**03 23 12.3**	**-0.1**
IFR	**Ifrane**	**3.59**	**147**	P		**Pn**	**Pn**	**03 22 33.2**	**+1.6**
EPLA	**Plasencia**	**3.67**	**17**	P		**Pn**	**Pn**	**03 22 33.2**	**+0.6**
EPLA				S		**Sn**	**Sn**	**03 23 13.7**	**-1.0**
EPLA				*i*	Vmb_Lg			03 23 15.6	
MTE	**Manteigas**	**3.84**	**359**	*e*P		**Pn**	**Pn**	**03 22 35.7**	**+0.8**
MTE				*e*S		**Sn**	**Sn**	**03 23 17.9**	**-0.9**
MTE				A		A	A	03 23 19.0	
	comp=N,3.9nm,0.2s								
PAB	**San Pablo**	**3.88**	**39**	P		**Pn**	**Pn**	**03 22 36.6**	**+1.1**
PAB				S		**Sn**	**Sn**	**03 23 17.1**	**-2.7**
PAB				*i*	Vmb_Lg			03 23 18.9	
PVIS	**Viseu**	**4.17**	**356**	*e*S		**Sn**	**Sn**	**03 23 25.3**	**-1.5**
PVIS				A		A	A	03 23 28.4	
	comp=N,4.1nm,0.4s								
MD31	**MD31**	**4.31**	**148**	P		**Pn**	**Pn**	**03 22 41.9**	**+0.5**
MD31				S		**Sn**	**Sn**	**03 23 30.7**	**+0.3**
MDT	**Midelt**	**4.42**	**147**	P		**Pn**	**Pn**	**03 22 43.3**	**+0.4**
MDT				S		**Sn**	**Sn**	**03 23 31.7**	**-1.5**
JBK	**JBK**	**4.58**	**117**	P		**Pn**	**Pn**	**03 22 42.9**	**-2.4**
JBK				S		**Sn**	**Sn**	**03 23 31.2**	**-6.1**
MVO	**Moncorvo**	**4.62**	**4**	*e*P		**Pn**	**Pn**	**03 22 46.3**	**+0.7**
MVO				*e*S		**Sn**	**Sn**	**03 23 36.2**	**-1.8**
MVO				A		A	A	03 23 37.9	
	comp=N,3.0nm,0.3s								
PVRL	**Vila Real**	**4.72**	**358**	*e*S		**Sn**	**Sn**	**03 23 38.4**	**-2.0**
PVRL				A		A	A	03 23 40.7	
	comp=N,3.5nm,0.2s								
EZAR	**Zarzadilla de**	**4.80**	**72**	P		**Pn**	**Pn**	**03 22 49.8**	**+1.6**
EZAR				S		**Sn**	**Sn**	**03 23 41.5**	**-1.2**
EZAR				*i*	Vmb_Lg			03 23 45.6	
POLO	**Lamas de Olo**	**4.82**	**357**	*e*S		**Sn**	**Sn**	**03 23 41.5**	**-1.5**
POLO				A		A	A	03 23 43.1	
	comp=N,1.5nm,0.7s								
GUD	**Guadarrama**	**4.84**	**32**	P		**Pn**	**Pn**	**03 22 50.2**	**+1.5**
GUD				S		**Sn**	**Sn**	**03 23 41.1**	**-2.6**
GUD				*i*	Vmb_Lg			03 23 46.2	
ETOB	**Tobarra**	**5.15**	**64**	P		**Pn**	**Pn**	**03 22 53.7**	**+0.7**
ETOB				S		**Sn**	**Sn**	**03 23 49.6**	**-1.7**
ETOB				*i*	Vmb_Lg			03 23 52.6	
PCAB	**Cabril**	**5.17**	**355**	*e*S		**Sn**	**Sn**	**03 23 48.5**	**-2.9**
PCAB				A		A	A	03 23 51.7	
	comp=N,2.4nm,0.1s								
PBRG	**Braganca**	**5.27**	**6**	*e*S		**Sn**	**Sn**	**03 23 52.2**	**-1.9**
ELOB	**Lobios**	**5.32**	**355**	P		**Pn**	**Pn**	**03 22 55.9**	**+0.6**
ELOB				S		**Sn**	**Sn**	**03 23 52.2**	**-3.2**
ELOB				*i*	Vmb_Lg			03 23 55.1	
ECAL	**Calabor**	**5.41**	**6**	P		**Pn**	**Pn**	**03 22 57.0**	**+0.5**
ECAL				S		**Sn**	**Sn**	**03 23 55.3**	**-2.2**
ECAL				*i*	Vmb_Lg			03 23 58.5	
EVIV	**Cofrentes, Val**	**5.71**	**60**	S		**Sn**	**Sn**	**03 24 04.6**	**-0.4**
EVIV				*i*	Vmb_Lg			03 24 05.1	
ECHE	**Chera**	**5.97**	**58**	S		**Sn**	**Sn**	**03 24 10.7**	**-0.5**
ETOR	**Torete**	**6.01**	**43**	P		**Pn**	**Pn**	**03 23 06.4**	**+1.6**
ETOR				S		**Sn**	**Sn**	**03 24 10.2**	**-2.1**
ETOR				*i*	Vmb_Lg			03 24 15.2	
EAGO	**Agolada(Pontev**	**6.26**	**356**	P		**Pn**	**Pn**	**03 23 08.1**	**+0.1**
EAGO				S		**Sn**	**Sn**	**03 24 16.5**	**-1.8**
EAGO				*i*	Vmb_Lg			03 24 17.7	

JMA 27 03:25:18.8±0.2, 41.1N±0.4×142.6E±0.7, h28km±4km, MV3.8/35, E OFF AOMORI PREF
IDC 27 03:25:27.1±3.7, 41.24N×140.50E, h0km, mb3.4/3, mbtmp3.4/4, ML2.4/1, Error ellipse: s-maj=106.7km s-min=29.2km az=70.0
ISC 27 03:25:19.1±1.1, 41.07N±0.04×142.55E±0.05, h22km±5km, n25, σ0s87/32, mb3.5/3, 10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.90**	**267**	⇓*i*P		**Pb**	**Pb**	**03 25 35.7**	**-0.3**
JARK				⇓S		**Sb**	**Sb**	**03 25 47.6**	**+0.1**
JAHD	**Aomorihigashid**	**0.94**	**283**	⇓*i*P		**Pn**	**Pn**	**03 25 36.1**	**-0.9**
JAHD				⇓S		**Sb**	**Sb**	**03 25 48.7**	**+0.1**
JANG	**Nango**	**1.05**	**229**	*i*P		**Pn**	**Pn**	**03 25 37.7**	**-0.8**
JANG				S		**Sb**	**Sb**	**03 25 51.9**	**+0.1**
JEM	**Erimo**	**1.05**	**25**	P		**Pn**	**Pn**	**03 25 37.7**	**-0.8**
JEM				S		**Sb**	**Sb**	**03 25 52.3**	**+0.5**
JKEN	**Kujiedanarisaw**	**1.07**	**217**	P		**Pn**	**Pn**	**03 25 37.7**	**-1.1**
JTM	**Tenmabayashi**	**1.16**	**256**	⇓*i*P		**Pn**	**Pn**	**03 25 39.9**	**-0.1**
JTM				⇓S		**Sn**	**Sn**	**03 25 55.0**	**-0.2**
JOT	**Ohata**	**1.18**	**286**	⇓*i*P		**Pn**	**Pn**	**03 25 39.5**	**-0.7**
JOT				⇓S		**Sn**	**Sn**	**03 25 54.4**	**-1.2**
JNBK	**Urakawa-nobuka**	**1.22**	**7**	*i*P		**Pn**	**Pn**	**03 25 40.6**	**-0.2**
JNBK				S		**Sn**	**Sn**	**03 25 57.5**	**+0.9**
JKB	**Kayabe**	**1.41**	**306**	⇓*i*P		**Pn**	**Pn**	**03 25 42.6**	**-0.8**
JKB				⇓*e*S		**Sn**	**Sn**	**03 26 00.1**	**-1.1**
JIAM	**Iburiatsuma**	**1.62**	**343**	P		**Pn**	**Pn**	**03 25 47.8**	**+1.4**
JIAM				S		**Sn**	**Sn**	**03 26 08.6**	**+2.0**
JCH	**Churui**	**1.66**	**21**	P		**Pn**	**Pn**	**03 25 46.0**	**-0.9**
JCH				S		**Sn**	**Sn**	**03 26 06.6**	**-0.9**
JSR	**Shiriuchi**	**1.67**	**287**	P		**Pn**	**Pn**	**03 25 47.4**	**+0.4**
JSR				*e*S		**Sn**	**Sn**	**03 26 08.4**	**+0.6**
JAH	**Hinai**	**1.70**	**240**	P		**Pn**	**Pn**	**03 25 48.3**	**+0.9**
JAH				S		**Sn**	**Sn**	**03 26 09.8**	**+1.3**
JOM	**Ohasama**	**1.86**	**212**	*i*P		**Pn**	**Pn**	**03 25 49.9**	**+0.2**
JOM				S		**Sn**	**Sn**	**03 26 12.7**	**+0.2**
JEW	**Eniwo**	**1.95**	**335**	P		**Pn**	**Pn**	**03 25 51.5**	**+0.6**
JEW				S		**Sn**	**Sn**	**03 26 15.4**	**+0.7**
MJAR	**Matsushiro Arr**	**5.65**	**218**	Pn		**Pn**	**Pn**	**03 26 43.1**	**+1.4**
	0.1nm,0.3s,baz=26,slow=13,SNR=9.6 3.2nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**29.71**	**128**	T		T	T	04 02 51.0	
	baz=318,slow=75,SNR=19								
H11N1	**WAKE ISLAND Hy**	**29.72**	**128**	T		T	T	04 02 54.4	
	baz=318,slow=75,SNR=17								
H11N3	**WAKE ISLAND Hy**	**29.73**	**128**	T		T	T	04 02 52.7	
	baz=318,slow=75,SNR=17								
H11S1	**WAKE ISLAND Hy**	**30.55**	**130**	T		T	T	04 04 01.7	
	baz=322,slow=76,SNR=8.7								
H11S3	**WAKE ISLAND Hy**	**30.55**	**130**	T		T	T	04 04 00.5	
	baz=322,slow=76,SNR=3.4								
H11S2	**WAKE ISLAND Hy**	**30.57**	**130**	T		T	T	04 03 58.8	
	baz=322,slow=76,SNR=7.0								
ZALV	**Zalesovo Beam**	**39.96**	**309**	P		**P**	**P**	**03 32 51.5**	**-0.1**
	0.3nm,0.3s,baz=85,slow=9.4,SNR=2.1 0.3nm,0.3s								
MKAR	**Makanchi Array**	**42.84**	**299**	P		**P**	**P**	**03 33 15.2**	**-0.2**
	0.3nm,0.7s,baz=79,slow=7.5,SNR=4.2 0.3nm,0.7s								
WRA	**Warramunga Arr**	**61.17**	**189**	P		P	P	03 35 43.5	+11
	0.4nm,1.1s,baz=5.1,slow=7.0,SNR=4.6 0.4nm,1.1s								

KRNET 27 03:31:19.8±0.1, 43.20N×78.54E, h13km, mb2.7

NNC 27 03:31:19.5±0.3, 43.20N×78.55E, h2km±2km, mb2.5, mpv3.0, Error ellipse: s-maj=2.4km s-min=1.5km az=165.0
SOME 27 03:31:20.4, 43.20N×78.53E, h10km
ISC 27 03:31:20.3±0.8, 43.21N±0.02×78.52E±0.02, h6km±5km, n52, σ1s00/102, 18C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.07**	**238**	P		**Pg**	**Pg**	**03 31 22.1**	**+0.1**
	173nm,0.1s								
ZHN				S		**Sg**	**Sg**	**03 31 23.6**	**+0.2**
	358nm,0.1s								
ZHN	**Zhinishke**	**0.07**	**238**	⇑*e*P		**Pg**	**Pg**	**03 31 22.2**	**+0.1**
	baz=51								
ZHN				⇑*e*S		**Sg**	**Sg**	**03 31 23.6**	**+0.2**
	baz=51								
ZHN	**Zhinishke**	**0.07**	**238**	⇑*e*P		**Pg**	**Pg**	**03 31 22.1**	**+0.1**
	173nm,0.1s								
ZHN				*e*S		**Sg**	**Sg**	**03 31 23.6**	**+0.2**
	358nm,0.1s								
SATY	**Saty**	**0.17**	**209**	P		**Pg**	**Pg**	**03 31 23.7**	**0.0**
	65nm,0.1s								
SATY				S		**Sg**	**Sg**	**03 31 26.4**	**+0.4**
	662nm,0.1s								
SATY	**Saty**	**0.17**	**209**	⇑*e*P		**Pg**	**Pg**	**03 31 23.7**	**0.0**
	baz=16								
SATY				⇑*e*S		**Sg**	**Sg**	**03 31 26.3**	**+0.4**
	baz=16								
SATY	**Saty**	**0.17**	**209**	⇑*e*P		**Pg**	**Pg**	**03 31 23.7**	**0.0**
	65nm,0.1s								
SATY				*e*S		**Sg**	**Sg**	**03 31 26.4**	**+0.4**
	662nm,0.1s								
KPKS	**Kokpek**	**0.29**	**25**	P		**Pg**	**Pg**	**03 31 25.3**	**-0.7**
	8.1nm,0.1s								
KPKS				S		**Sg**	**Sg**	**03 31 29.0**	**-0.8**
	78nm,0.2s								
KPKS	**Kokpek**	**0.29**	**25**	*e*P		**Pg**	**Pg**	**03 31 25.6**	**-0.4**
	baz=21								
KPKS				*e*S		**Sg**	**Sg**	**03 31 29.6**	**-0.2**
	baz=21								
KPKS	**Kokpek**	**0.29**	**25**	*e*P		**Pg**	**Pg**	**03 31 25.6**	**-0.4**
	8.1nm,0.1s								
KPKS				*e*S		**Sg**	**Sg**	**03 31 29.5**	**-0.2**
	78nm,0.2s								
UZB	**Uzynbulak**	**0.37**	**99**	P		**Pg**	**Pg**	**03 31 26.8**	**-0.7**
	6.1nm,0.1s								
UZB				S		**Sg**	**Sg**	**03 31 31.6**	**-0.9**
	101nm,0.1s								
UZB	**Uzynbulak**	**0.37**	**99**	*e*P		**Pg**	**Pg**	**03 31 26.9**	**-0.7**
	baz=98								
UZB				*e*S		**Sg**	**Sg**	**03 31 31.7**	**-0.9**
	baz=98								
UZB	**Uzynbulak**	**0.37**	**99**	*e*P		**Pg**	**Pg**	**03 31 26.9**	**-0.7**
	6.1nm,0.1s								
UZB				*e*S		**Sg**	**Sg**	**03 31 31.6**	**-0.9**
	101nm,0.1s								
KURS	**Kuram**	**0.38**	**318**	P		**Pg**	**Pg**	**03 31 27.7**	**0.0**
	1.8nm,0.1s								
KURS				S		**Sg**	**Sg**	**03 31 33.2**	**+0.5**
	7.7nm,0.2s								
KURS	**Kuram**	**0.38**	**318**	⇓*e*P		**Pg**	**Pg**	**03 31 27.7**	**0.0**
	baz=18								
KURS				⇓*e*S		**Sg**	**Sg**	**03 31 33.1**	**+0.4**
	baz=18								
KURS	**Kuram**	**0.38**	**318**	⇓*e*P		**Pg**	**Pg**	**03 31 27.7**	**0.0**
	1.8nm,0.1s								
KURS				*e*S		**Sg**	**Sg**	**03 31 33.1**	**+0.4**
	7.7nm,0.2s								
**

KTBS	**Karatobe**	**1.43**	**291**	*e*P	**Pb**	**03 31 47.0**	**-0.3**
	baz=92							
KTBS				*e*S	**Sg**	**03 32 06.3**	**+0.1**
	baz=92							
KTBS	**Karatobe**	**1.43**	**291**	*e*P	**Pb**	**03 31 47.0**	**-0.3**
	4.0nm,0.1s							
KTBS				*e*S	**Sg**	**03 32 06.3**	**+0.1**
	21nm,0.4s							
DJR	**Jarkent**	**1.46**	**39**	P	**Pb**	**03 31 46.8**	**-1.1**
	3.7nm,0.2s							
DJR				S	**Sg**	**03 32 06.0**	**-1.1**
	6.9nm,0.2s							
DJR	**Jarkent**	**1.46**	**39**	*e*P	**Pb**	**03 31 46.8**	**-1.1**
	3.7nm,0.2s							
DJR				*e*S	**Sg**	**03 32 06.0**	**-1.1**
	6.9nm,0.2s							
KDJ	**Kajisay**	**1.46**	**223**	⇑*i*P	**Pg**	**03 31 47.6**	**-0.6**
	baz=23							
KDJ				⇑*i*S	**Sg**	**03 32 06.6**	**-0.5**
	baz=23							
TARG	**Taragay, Kyrgy**	**1.57**	**200**	⇑*i*P	**Pb**	**03 31 49.0**	**-0.9**
	baz=1.0							
TARG				⇑*i*S	**Sb**	**03 32 09.4**	**-0.7**
	baz=1.0							
KUU	**Kurty**	**1.73**	**294**	P	**Pb**	**03 31 52.5**	**+0.1**
	0.7nm,0.1s							
KUU				S	**Sg**	**03 32 15.6**	**-0.1**
	4.9nm,0.1s							
KUU	**Kurty**	**1.73**	**294**	*e*P	**Pb**	**03 31 52.5**	**+0.1**
	baz=94							
KUU				*e*S	**Sg**	**03 32 15.6**	**-0.1**
	baz=94							
KUU	**Kurty**	**1.73**	**294**	*e*P	**Pb**	**03 31 52.5**	**+0.1**
	0.7nm,0.1s							
KUU				*e*S	**Sg**	**03 32 15.6**	**-0.1**
	4.9nm,0.1s							
TKM2	**Tokmak 2**	**2.16**	**263**	⇓Pg	**Pb**	**03 31 59.5**	**-0.4**
	0.5nm,0.5s							
TKM2				⇑Lg	Lg	03 32 28.8		
	2.6nm,0.3s							
TKM2	**Tokmak 2**	**2.16**	**263**	⇑*i*P	**Pb**	**03 31 58.3**	**-1.6**
	baz=64							
TKM2				⇑*i*S	**Sb**	**03 32 26.0**	**-1.0**
	baz=64							
KBK	**Karagaybulak**	**2.68**	**259**	⇑*i*P	**Pb**	**03 32 05.8**	**-2.9**
	baz=60							
KBK				⇑*i*S	**Sb**	**03 32 38.7**	**-3.2**
	baz=60							

SOF ***27*** *03:34:53.9, 39°.28N×24°.74E, h5km, MD3.2*
ISK ***27*** *03:34:55.8, 39°.55N×26°.11E, h6km, ML3.3/20*
ATH ***27*** *03:34:56.5, 39°.53N×26°.10E, h9km±1km, ML3.0/9, Error ellipse: s-maj=1.9km s-min=0.8km az=262.0*
THE ***27*** *03:34:56.5, 39°.55N×26°.11E, h9km, ML3.0/7, Error ellipse: s-maj=1.3km s-min=0.5km az=103.0*
DDA ***27*** *03:34:57.1±0.0, 39°.53N×26°.16E, h4km, MW3.5*

ISC 27 03:34:55.9±0.8, 39°.53N±0°.02×26°.10E±0°.02, h11km±5km, n93, σ0.92/133, 8C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.04**	**126**	P	**Pg**	**03 34 57.9**	**-0.1**
KOCA				S	**Sg**	**03 34 58.9**	**-0.6**
KOCA				*i* AML	AML	03 34 59.0	
	comp=N,14μm,0.2s						
KOCA				*i* AML	AML	03 34 59.0	
	comp=E,5μm,0.4s						
GPNR	**Gulpinar-Canak**	**0.07**	**159**	Pg	**Pg**	**03 34 58.5**	**+0.2**
GPNR				Sg	**Sg**	**03 35 00.2**	**+0.2**
EZN	**Ezine**	**0.35**	**30**	P	**Pg**	**03 35 02.8**	**-0.1**
EZN				S	**Sg**	**03 35 07.4**	**-0.1**
	10μm,0.3s						
EZN	**Ezine**	**0.35**	**30**	Pg	**Pg**	**03 35 02.7**	**-0.1**
EZN				Sg	**Sg**	**03 35 07.6**	**+0.1**
SIGR	**SIGRI**	**0.36**	**211**	P	**Pb**	**03 35 04.1**	**-0.3**
SIGR				S	**Sb**	**03 35 10.1**	**+0.1**
	3μm,0.5s						
SIGR	**SIGRI**	**0.36**	**211**	Pg	**Pb**	**03 35 04.0**	**-0.3**
SIGR				Sg	**Sb**	**03 35 10.1**	**+0.1**
SIGR	**SIGRI**	**0.36**	**211**	P	**Pb**	**03 35 04.1**	**-0.3**
SIGR				S	**Sb**	**03 35 08.8**	**-1.2**
SIGR				AML	AML	03 35 12.0	
	comp=E,5800μm,0.5s						
SIGR				AML	AML	03 35 12.5	
	comp=N,6352μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.41**	**58**	P	**Pg**	**03 35 03.7**	**-0.2**
BAYC				S	**Sg**	**03 35 08.5**	**-0.9**
BAYC				*i* AML	AML	03 35 09.0	
	comp=N,4μm,0.2s						
ECEA	**Canakkale, Ece**	**0.52**	**6**	P	**Pg**	**03 35 06.3**	**+0.2**
ECEA				S	**Sg**	**03 35 13.5**	**+0.5**
ECEA				*i* AML	AML	03 35 14.0	
	comp=N,4μm,0.4s						
ECEA				*i* AML	AML	03 35 15.0	
	comp=N,3μm,0.6s						
GADA	**Gvkgeada**	**0.68**	**347**	Pg	**Pg**	**03 35 08.9**	**-0.2**
GADA				Sg	**Sg**	**03 35 18.3**	**+0.2**
BUHA	**Balikesir, Bur**	**0.76**	**91**	P	**Pg**	**03 35 10.6**	**+0.1**
BUHA				S	**Sg**	**03 35 19.7**	**-0.8**
DKL	**Dikili**	**0.77**	**126**	Pg	**Pb**	**03 35 11.9**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.92**	**18**	Pg	**Pg**	**03 35 13.3**	**-0.3**
ZEDA	**zmir-Bergama**	**0.94**	**126**	P	**Pb**	**03 35 14.2**	**0.0**
ZEDA				S	**Sn**	**03 35 27.8**	**-0.7**
ZEDA				*i* AML	AML	03 35 29.0	
	comp=N,828nm,0.2s						
LPK	**Lapseki**	**0.99**	**31**	Pg	**Pg**	**03 35 14.7**	**-0.2**
SMTH	**Samothraki Isl**	**1.04**	**335**	P	**Pg**	**03 35 15.8**	**-0.1**
SMTH				S	**Sg**	**03 35 29.9**	**+0.4**
	comp=N,595nm,0.3s						
SMTH	**Samothraki Isl**	**1.04**	**335**	P	**Pg**	**03 35 15.8**	**-0.1**
SMTH				S	**Sg**	**03 35 29.2**	**-0.2**
SMTH				AML	AML	03 35 32.3	
	comp=N,1351μm,0.6s						
SMTH				AML	AML	03 35 32.6	
	comp=E,1039μm,0.3s						
PSRA	**Psara**	**1.07**	**203**	P	**Pn**	**03 35 17.3**	**+0.6**
PSRA				S	**Sn**	**03 35 30.9**	**-0.6**
CHOS	**Chios island**	**1.14**	**182**	P	**Pn**	**03 35 18.0**	**+0.2**
CHOS				S	**Sn**	**03 35 34.0**	**+0.6**
	comp=E,978nm,0.4s						
CHOS	**Chios island**	**1.14**	**182**	Pn	**Pn**	**03 35 17.9**	**+0.2**
CHOS	**Chios island**	**1.14**	**182**	P	**Pn**	**03 35 17.9**	**+0.2**
CHOS				S	**Sn**	**03 35 34.0**	**+0.6**
CHOS				AML	AML	03 35 38.3	
	comp=N,1457μm,0.4s						
CHOS				AML	AML	03 35 38.3	
	comp=E,2483μm,0.3s						
CAVK	**Edirne/Enez-Ca**	**1.17**	**3**	P	**Pb**	**03 35 18.0**	**0.0**
CAVK				S	**Sb**	**03 35 31.7**	**-1.4**
CAVK				*i* AML	AML	03 35 36.0	
	comp=E,568nm,0.4s						
CAVK				*i* AML	AML	03 35 41.0	
	comp=E,483nm,0.4s						
ERIK	**Erikli-Kesan**	**1.19**	**15**	Pn	**Pb**	**03 35 18.1**	**-0.3**
ENEZ	**Enez**	**1.21**	**2**	P	**Pn**	**03 35 18.4**	**-0.3**
ENEZ				S	**Sb**	**03 35 34.8**	**+0.4**
ENEZ	**Enez**	**1.21**	**2**	Pn	**Pn**	**03 35 18.9**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.26**	**96**	P	**Pn**	**03 35 19.8**	**+0.4**
STEP				S	**Sb**	**03 35 36.2**	**+0.2**
STEP				*i* AML	AML	03 35 40.0	
	comp=E,491nm,0.3s						
STEP				*i* AML	AML	03 35 44.0	
	comp=E,578nm,0.6s						
KRBG	**Karabiga-Canak**	**1.27**	**46**	Pn	**Pn**	**03 35 19.6**	**+0.1**
ZEYE	**Izmir, Ürla-Ze**	**1.32**	**166**	P	**Pb**	**03 35 20.4**	**-0.3**
ZEYE				S	**Sb**	**03 35 37.5**	**-0.1**
ZEYE				*i* AML	AML	03 35 43.0	
	comp=E,662nm,0.4s						
ZEYE				*i* AML	AML	03 35 43.0	
	comp=E,584nm,0.5s						
KNL	**Balıkesir**	**1.33**	**55**	P	**Pn**	**03 35 19.1**	**-1.2**
KNL				S	**Sb**	**03 35 36.8**	**-1.0**
KNL				*i* AML	AML	03 35 41.0	
	comp=E,831nm,0.4s						
KNL				*i* AML	AML	03 35 41.0	
	comp=E,899nm,0.4s						
GONE	**Gonen-Balikesi**	**1.33**	**66**	Pn	**Pn**	**03 35 20.9**	**+0.6**
BLCB	**Balcova**	**1.35**	**147**	Pn	**Pg**	**03 35 22.3**	**+0.4**
ALN	**Alexandroupoli**	**1.37**	**358**	P	**Pn**	**03 35 20.4**	**-0.5**
ALN				S	**Sb**	**03 35 38.5**	**-0.5**
	comp=E,1μm,0.4s						
ALN	**Alexandroupoli**	**1.37**	**358**	Pn	**Pn**	**03 35 21.5**	**+0.6**
ALN	**Alexandroupoli**	**1.37**	**358**	P	**Pn**	**03 35 21.1**	**+0.2**
ALN				S	**Sb**	**03 35 38.5**	**-0.5**
ALN				AML	AML	03 35 40.9	
	comp=E,3366μm,0.5s						
ALN				AML	AML	03 35 41.1	
	comp=N,2278μm,0.4s						
BALB	**Balikesir**	**1.38**	**85**	Pn	**Pn**	**03 35 21.3**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.43**	**35**	Pn	**Pn**	**03 35 22.4**	**+0.7**
THAS	**Thassos island**	**1.51**	**316**	P	**Pn**	**03 35 22.8**	**0.0**
THAS				S	**Sn**	**03 35 42.0**	**-0.5**
	comp=N,298nm,0.6s						
EDC	**Edincik**	**1.59**	**58**	Pn	**Pn**	**03 35 24.6**	**+0.7**
DGB	**zmir**	**1.59**	**157**	P	**Pn**	**03 35 23.4**	**-0.5**
UKOP	**Uzunkopru-Edir**	**1.65**	**14**	Pn	**Pn**	**03 35 25.7**	**+0.9**
RDO	**Rodhopi**	**1.68**	**345**	P	**Pn**	**03 35 25.3**	**+0.2**
RDO				S	**Sn**	**03 35 46.8**	**+0.3**
	comp=N,268nm,0.8s						
RDO	**Rodhopi**	**1.68**	**345**	Pn	**Pn**	**03 35 25.9**	**+0.8**
RDO	**Rodhopi**	**1.68**	**345**	P	**Pn**	**03 35 25.2**	**+0.2**
RDO				S	**Sn**	**03 35 45.2**	**-1.4**
RDO				AML	AML	03 35 50.2	
	comp=N,684μm,0.6s						
RDO				AML	AML	03 35 51.3	
	comp=E,420μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.79**	**241**	P	**Pn**	**03 35 26.9**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.79**	**241**	P	**Pn**	**03 35 26.7**	**0.0**
KYMI				S	**Sn**	**03 35 48.9**	**-0.5**
OUR	**Ouranopolis**	**1.82**	**297**	P	**Pn**	**03 35 27.5**	**+0.5**
OUR	**Ouranopolis**	**1.82**	**297**	Pn	**Pn**	**03 35 28.0**	**+1.0**
OUR	**Ouranopolis**	**1.82**	**297**	P	**Pn**	**03 35 27.4**	**+0.3**
OUR				S	**Sn**	**03 35 49.9**	**-0.1**
TKR	**Tekirdag**	**1.83**	**36**	Pn	**Pn**	**03 35 28.7**	**+1.5**
SMG	**Samos**	**1.90**	**162**	P	**Pn**	**03 35 28.0**	**-0.3**
SMG				S	**Sn**	**03 35 52.0**	**-0.2**
SMG				AML	AML	03 36 03.4	
	comp=E,1113μm,0.6s						
SMG				AML	AML	03 36 06.5	
	comp=N,846μm,0.5s						
KAVA	**Kavala**	**1.91**	**321**	P	**Pn**	**03 35 28.4**	**+0.1**
KAVA	**Kavala**	**1.91**	**321**	P	**Pn**	**03 35 27.7**	**-0.5**
KAVA				S	**Sn**	**03 35 50.9**	**-1.3**
PAIG	**Paliouri**	**1.91**	**283**	P	**Pn**	**03 35 28.5**	**+0.2**
CRLT	**Corlu**	**2.03**	**37**	Pn	**Pn**	**03 35 31.2**	**+1.2**
TNSA	**Tinos**	**2.11**	**201**	P	**Pn**	**03 35 31.6**	**+0.5**
KDZ	**Kurdzhali**	**2.19**	**346**	*i* P	**Pb**	**03 35 34.9**	**-0.5**
DION	**Dionisos Attik**	**2.23**	**230**	P	**Pn**	**03 35 33.1**	**+0.5**
PTL	**Penteli**	**2.29**	**231**	P	**Pn**	**03 35 33.9**	**+0.4**
KIRK	**Kırklareli**	**2.38**	**18**	P	**Pn**	**03 35 35.1**	**+0.4**
KIRK				S	**Sn**	**03 36 02.6**	**-1.3**
RZN	**Rozhen**	**2.40**	**334**	*i* P	**Pn**	**03 35 36.3**	**+1.0**
ULDT	**Uludag**	**2.42**	**74**	P	**Pn**	**03 35 35.6**	**+0.1**
ULDT				S	**Sn**	**03 36 05.2**	**0.0**
ULDT				*i* AML	AML	03 36 14.0	
	comp=N,188nm,0.5s						
VLY	**Voula,Athens**	**2.46**	**228**	P	**Pn**	**03 35 36.2**	**+0.3**
SOH	**Sokhos**	**2.47**	**303**	P	**Pn**	**03 35 36.9**	**+0.9**
SOH				S	**Sn**	**03 36 05.9**	**-0.3**
SOH				AML	AML	03 36 18.1	
	comp=E,447μm,0.6s						
SOH				AML	AML	03 36 20.0	
	comp=N,211μm,0.5s						
SRS	**Serrai**	**2.49**	**310**	P	**Pn**	**03 35 36.7**	**+0.3**
SRS				S	**Sn**	**03 36 06.1**	**-0.6**
APE	**Apeiranthos**	**2.49**	**190**	P	**Pn**	**03 35 36.1**	**-0.3**
NVR	**Nevrokopi**	**2.50**	**318**	P	**Pn**	**03 35 37.1**	**+0.7**
NVR				S	**Sn**	**03 36 06.8**	**-0.1**
NVR				AML	AML	03 36 17.7	
	comp=E,155μm,0.5s						
NVR				AML	AML	03 36 18.9	
	comp=N,162μm,0.5s						
HORT	**Hortiatis**	**2.54**	**296**	P	**Pn**	**03 35 37.9**	**+0.8**
DIM	**Dimitrovgrad**	**2.56**	**351**	*e*P	**Pg**	**03 35 46.3**	**+1.4**
LIT	**Litokhoron**	**2.84**	**283**	P	**Pn**	**03 35 41.2**	**+0.1**
ANDZ	**Kutahya, Merke**	**2.94**	**89**	P	**Pn**	**03 35 43.6**	**+1.0**
ANDZ				*i* AML	AML	03 36 50.0	
	comp=N,132nm,1.4s						
KNT	**Kendrikon**	**2.94**	**305**	P	**Pn**	**03 35 43.0**	**+0.5**
KNT				S	**Sn**	**03 36 16.4**	**-1.4**
KNT				AML	AML	03 36 31.8	
	comp=E,114μm,0.5s						
KNT				AML	AML	03 36 31.9	
	comp=N,123μm,0.5s						
JMB	**Yambol**	**2.96**	**7**	*i* P	**Pg**	**03 35 51.3**	**-1.3**
TYRN	**Tyrnavos**	**2.99**	**275**	P	**Pn**	**03 35 43.2**	**0.0**
TYRN				S	**Sn**	**03 36 18.2**	**-0.8**
TAVA	**DENIZLI_Tavas**	**3.02**	**132**	P	**Pn**	**03 35 44.5**	**+0.8**
GRG	**Griva**	**3.17**	**298**	P	**Pn**	**03 35 47.1**	**+1.4**
VAY	**Valandovo**	**3.24**	**305**	*i* Pn	**Pg**	**03 35 58.7**	**+0.9**
STIP	**Stip**	**3.68**	**307**	*i* Pn	**Pn**	**03 35 52.5**	**-0.2**
PVL	**Pavlikeni**	**3.73**	**351**	*e*P	**Pn**	**03 35 55.8**	**+2.4**
VTS	**Vitosha**	**3.77**	**326**	⇑P	**Pn**	**03 35 55.5**	**+1.4**
VTS				⇓S	**Sg**	**03 36 56.7**	**-0.3**
PLVB	**Pleven**	**4.01**	**344**	⇓P	**Pn**	**03 35 59.0**	**+1.8**
PLVB				⇑S	**Sg**	**03 37 03.3**	**-1.5**
RAZG	**Razgrad**	**4.05**	**4**	⇑P	**Pn**	**03 35 58.9**	**+1.1**
BOVS	**Bovan**	**5.26**	**323**	⇑P	**Pn**	**03 36 15.5**	**+1.1**
VOIR		**5.96**	**353**	⇓P	**Pn**	**03 36 27.3**	**+3.3**
MLR	**Muntele Rosu**	**5.96**	**359**	⇑P	**Pn**	**03 36 26.1**	**+2.0**
HERR	**Herculane**	**6.01**	**334**	⇓P	**Pn**	**03 36 26.0**	**+1.3**
BISRR	**Bisoca**	**6.04**	**4**	⇑P	**Pn**	**03 36 27.2**	**+2.1**
MDVR	**Moldovita**	**6.18**	**330**	⇑P	**Pn**	**03 36 28.7**	**+1.6**
PLOR	**Plostina**	**6.34**	**3**	⇓P	**Pn**	**03 36 30.2**	**+1.0**
VRI	**Vrincioaia**	**6.35**	**4**	⇓P	**Pn**	**03 36 31.7**	**+2.3**
GZR	**Gura Zlata**	**6.36**	**338**	⇓P	**Pn**	**03 36 32.3**	**+2.8**
DOPR	**Dopca**	**6.46**	**356**	⇓P	**Pn**	**03 36 33.2**	**+2.3**
BZS	**Buzias**	**6.93**	**333**	⇑P	**Pn**	**03 36 39.1**	**+1.9**
TESR	**Tescani**	**7.00**	**3**	⇓P	**Pn**	**03 36 40.0**	**+1.8**

IDC 27 04:29:33.6±5.1, 22°.50S×147°.94E, h0km, mbtmp3.1/4, ML3.0/4, Error ellipse: s-maj=63.2km s-min=18.3km az=87.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.87**	**326**	Pn	Pn	04 30 20.0	-0.7
	1.1nm,0.3s,baz=132,slow=18,SNR=12						
CTA				Pg	Pg	04 30 27.3	-1.3
	1.7nm,0.3s,baz=151,slow=20,SNR=16						
CTA				Sn	Sn	04 30 54.5	-1.5
	2.2nm,0.3s,baz=164,slow=12,SNR=5.5						
CTA				Lg	Lg	04 31 04.2	
	9.2nm,0.3s,baz=19,slow=11,SNR=17						
	2.4nm,0.3s						
STKA	**Stephens Creek**	**10.91**	**210**	Pn	Pn	04 32 09.9	-1.2
	0.2nm,0.3s,baz=39,slow=14,SNR=5.0						
STKA				Sn	Sn	04 34 14.3	+0.2
	0.1nm,0.3s,baz=283,slow=21,SNR=1.8						
STKA				Lg	Lg	04 35 23.6	
	0.1nm,0.3s,baz=231,slow=6.2,SNR=1.9						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**12.94**	**279**	Pn	Pn	04 32 39.4	+0.5
	baz=95,slow=12,SNR=2.1						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**12.97**	**262**	Pn	Pn	04 32 39.6	+0.2
	0.1nm,0.3s,baz=86,slow=14,SNR=2.3						
	0.2nm,0.4s						

ROM 27 04:32:43.2±0.1, 42°.505N±0°.003×13°.404E±0°.004, h9km, ML1.7/17, 13C-9D, Error ellipse: s-maj=0.3km s-min=0.1km az=16.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.10**	**231**	⇑P	Pg	04 32 46.3	+0.6
T1247				S	Sg	04 32 48.0	+0.4
T1247				AML	AML		
	comp=E,2700μm,1.4s						
T1247				AML	AML		
	comp=N,2305μm,0.4s						
T1247				AML	AML		
	comp=E,2700μm,0.6s						
GIGS	**Gran Sasso**	**0.13**	**114**	⇑P	Pg	04 32 46.9	+0.6
GIGS				S	Sg	04 32 49.1	+0.7
GIGS				AML	AML		
	comp=E,252μm,0.2s						
GIGS				AML	AML		
	comp=N,206μm,0.1s						
RM33	**Pellescritta (**	**0.14**	**272**	⇑P	Pg	04 32 47.0	+0.6
RM33				S	Sg	04 32 49.2	+0.7
RM33				AML	AML		
	comp=E,705μm,1.0s						
RM33				AML	AML		
	comp=N,863μm,0.9s						
RM33				AML	AML		
	comp=E,693μm,1.0s						
RM33				AML	AML		
	comp=N,776μm,0.2s						
RM33				AML	AML		
	comp=E,706μm,1.0s						
RM33				AML	AML		
	comp=E,706μm,1.0s						
RM33				AML	AML		
	comp=N,863μm,1.1s						
RM33				AML	AML		
	comp=E,693μm,1.0s						
AQU	**L'Aquila**	**0.15**	**180**	⇑P	Pg	04 32 47.2	+0.7
AQU				S	Sg	04 32 49.8	+1.0
AQU				AML	AML		
	comp=E,724μm,1.2s						
AQU				AML	AML		
	comp=E,775μm,0.3s						
AQU				AML	AML		
	comp=E,724μm,1.2s						
AQU				AML	AML		
	comp=N,670μm,0.6s						
AQU				AML	AML		
	comp=N,783μm,0.6s						
TERO	**Teramo**	**0.19**	**51**	P	Pg	04 32 47.8	+0.6
TERO				S	Sg	04 32 50.9	+1.0
TERO				AML	AML		
	comp=E,260μm,0.1s						
TERO				AML	AML		
	comp=N,252μm,0.4s						
TERO				AML	AML		
	comp=N,269μm,0.4s						
TERO				AML	AML		
	comp=E,294μm,0.8s						
TERO				AML	AML		
	comp=N,252μm,0.4s						
TERO				AML	AML		
	comp=N,252μm,1.6s						
TERO				AML	AML		
	comp=N,269μm,1.6s						
TERO				AML	AML		
	comp=E,294μm,1.2s						
T1218	**Civita (PG)**	**0.27**	**308**	⇓P	Pg	04 32 49.1	+0.5
T1218				AML	AML		
	comp=N,251μm,0.3s						
T1218				AML	AML		
	comp=E,182μm,0.3s						
T1218				AML	AML		
	comp=N,250μm,0.3s						
FAGN	**Fagnano**	**0.27**	**151**	AML	AML		
	comp=N,375μm,0.3s						
FAGN				AML	AML		
	comp=E,473μm,0.4s						
LNSS	**Leonessa**	**0.29**	**290**	⇑P	Pg	04 32 49.7	+0.7
LNSS				AML	AML		
	comp=E,214μm,0.1s						
LNSS				AML	AML		
	comp=N,240μm,0.1s						
T1222	**Castel Sant'An**	**0.29**	**249**	⇓P	Pg	04 32 49.6	+0.7
FIAM	**Fiamignano**	**0.32**	**222**	⇑P	Pg	04 32 49.9	+0.4
FIAM				AML	AML		
	comp=N,68μm,0.5s						
FIAM				AML	AML		
	comp=E,73μm,0.6s						
FIAM				AML	AML		
	comp=E,73μm,0.6s						
FIAM				AML	AML		
	comp=E,73μm,1.4s						
FIAM				AML	AML		
	comp=N,68μm,0.5s						
T1212	**Cascia, Frazio**	**0.36**	**313**	⇓P	Pg	04 32 50.7	+0.4
T0110	**Collepietro**	**0.39**	**135**	⇑P	Pb	04 32 51.8	-0.6
T0110				AML	AML		
	comp=N,113μm,1.1s						
T0110				AML	AML		
	comp=E,122μm,0.4s						
T1217	**Poggiodomo (PG**	**0.41**	**301**	⇑P	Pg	04 32 51.5	+0.4
T1211	**Morro Reatino**	**0.41**	**274**	⇓P	Pg	04 32 51.9	+0.7
T1211				AML	AML		
	comp=N,131μm,0.2s						
T1211				AML	AML		
	comp=N,131μm,0.2s						
T1211				AML	AML		
	comp=E,102μm,0.4s						
MC2	**Monte Cornacci**	**0.44**	**339**	⇑P	Pg	04 32 52.3	+0.6
ARRO	**Arrone**	**0.48**	**279**	⇓P	Pg	04 32 52.9	+0.4
ARRO				AML	AML		
	comp=E,61μm,0.2s						
ARRO				AML	AML		
	comp=N,58μm,1.4s						
ARRO				AML	AML		
	comp=N,58μm,1.4s						
ARRO				AML	AML		
	comp=N,58μm,0.6s						
T1216	**Preci, Frazion**	**0.48**	**324**	⇓P	Pg	04 32 52.9	+0.4
T1216				AML	AML		
	comp=E,107μm,0.2s						
T1216				AML	AML		
	comp=N,110μm,1.2s						
T1216				AML	AML		
	comp=E,107μm,0.2s						
T1216				AML	AML		
	comp=N,110μm,1.2s						
T1215	**Vallo di Nera,**	**0.49**	**307**	⇑P	Pg	04 32 53.0	+0.2
GUMA	**Gualdo di Mace**	**0.56**	**355**	⇓P	Pb	04 32 54.9	-0.3
GUMA				AML	AML		
	comp=E,336μm,0.3s						
GUMA				AML	AML		
	comp=N,252μm,0.4s						
GUMA				AML	AML		
	comp=N,252μm,0.4s						
FDMO	**Fiordimonte**	**0.58**	**336**	⇓P	Pg	04 32 54.6	+0.2
FDMO				S	Sb	04 33 03.9	0.0
FDMO				AML	AML		
	comp=N,70μm,1.3s						
FDMO				AML	AML		
	comp=E,62μm,1.4s						
FDMO				AML	AML		
	comp=E,62μm,0.6s						
CSP1	**Cessapalombo**	**0.60**	**346**	⇑P	Pg	04 32 55.2	+0.3
CSP1				S	Sb	04 33 04.8	+0.1
CESX	**Cesi**	**0.62**	**280**	S	Sb	04 33 05.0	0.0
CESI	**CESI - Serrava**	**0.62**	**324**	⇓P	Pg	04 32 55.5	+0.3
CESI				AML	AML		
	comp=E,64μm,1.5s						
CESI				AML	AML		
	comp=N,86μm,0.2s						
CESI				AML	AML		
	comp=E,64μm,0.5s						
T1219	**Muccia, Frazio**	**0.62**	**332**	S	Sb	04 33 05.0	-0.2
T1220	**Camerino, Fraz**	**0.65**	**339**	⇑P	Pg	04 32 55.9	+0.1
T1220				AML	AML		
	comp=E,267μm,0.7s						
T1220				AML	AML		
	comp=E,219μm,0.2s						
T1220				AML	AML		
	comp=N,294μm,1.5s						
T1220				AML	AML		
	comp=N,294μm,1.5s						
T1220				AML	AML		
	comp=E,267μm,1.3s						
T1220				AML	AML		
	comp=N,294μm,0.5s						
T1220				AML	AML		
	comp=N,290μm,1.3s						
MOMA	**Monte Martano**	**0.68**	**296**	P	Pg	04 32 56.7	+0.3
ASSB	**Assisi San Ben**	**0.77**	**315**	P	Pg	04 32 58.0	0.0
SNTG	**Esanatoglia**	**0.82**	**336**	S	Sb	04 33 12.1	+1.2
EL6	**Elcito**	**0.85**

comp=N,31900µm,0.1s
NRCA AML AML
comp=E,32800µm,0.1s
NRCA AML AML
comp=N,31892µm,0.1s
NRCA AML AML
comp=N,302nm,0.2s
NRCA AML AML
comp=E,252nm,0.2s
T1212 Cascia, Frazio 0.07 241 P Pg 04 33 35.9 +0.5
T1212 S Sg 04 33 37.6 +0.4
T1212 AML AML
comp=N,30350µm,0.3s
T1212 AML AML
comp=E,23150µm,0.4s
T1212 AML AML
comp=E,22150µm,1.1s
T1212 AML AML
comp=E,22150µm,1.1s
T1212 AML AML
comp=N,30050µm,0.3s
T1212 AML AML
comp=E,22150µm,0.9s
T1212 AML AML
comp=E,18002µm,0.1s
T1212 AML AML
comp=N,27972µm,0.2s
T1212 AML AML
comp=N,27882µm,0.2s
T1212 AML AML
comp=E,19707µm,0.1s
T1218 Civita (PG) 0.12 186 P Pg 04 33 36.5 +0.5
T1218 S Sg 04 33 38.9 +0.7
T1218 AML AML
comp=E,11950µm,0.6s
T1218 AML AML
comp=N,11000µm,0.9s
T1218 AML AML
comp=N,11400µm,0.9s
T1218 AML AML
comp=N,11000µm,0.9s
T1218 AML AML
comp=E,11450µm,0.6s
T1218 AML AML
comp=N,10399µm,0.2s
T1218 AML AML
comp=E,8165µm,0.2s
T1218 AML AML
comp=N,10135µm,0.2s
T1218 AML AML
comp=E,7999µm,0.2s
MC2 Monte Cornacci 0.13 19 P Pg 04 33 36.7 +0.4
MC2 S Sg 04 33 39.3 +0.6
T1216 Preci, Frazion 0.13 321 ⇓P Pg 04 33 36.7 +0.5
T1216 S Sg 04 33 39.0 +0.6
T1216 AML AML
comp=N,8095µm,0.7s
T1216 AML AML
comp=N,8090µm,0.7s
T1216 AML AML
comp=E,8140µm,0.2s
T1216 AML AML
comp=N,7796µm,0.2s
T1216 AML AML
comp=E,8139µm,0.2s
T1217 Poggiodomo (PG 0.17 243 P Pg 04 33 37.3 +0.6
T1217 S Sg 04 33 40.5 +1.2
T1217 AML AML
comp=E,3325µm,0.7s
T1217 AML AML
comp=N,3335µm,0.4s
T1217 AML AML
comp=E,2950µm,0.7s
T1217 AML AML
comp=N,3230µm,0.4s
T1217 AML AML
comp=N,3340µm,0.4s
T1217 AML AML
comp=E,2945µm,0.7s
T1217 AML AML
comp=N,3225µm,0.4s
T1217 AML AML
comp=E,3330µm,0.7s
T1217 AML AML
comp=N,3230µm,0.4s
T1217 AML AML
comp=E,2950µm,1.3s
T1217 AML AML
comp=E,3330µm,1.3s
T1217 AML AML
comp=N,3335µm,0.4s
T1217 AML AML
comp=N,2918µm,0.3s
T1217 AML AML
comp=E,1975µm,0.1s
T1217 AML AML
comp=N,2820µm,0.3s
T1217 AML AML
comp=E,2101µm,0.1s
T1215 Vallo di Nera, 0.20 274 ⇑P Pg 04 33 37.8 +0.6
T1215 AML AML
comp=E,1335µm,0.2s
T1215 AML AML
comp=N,1930µm,0.2s
T1215 AML AML
comp=N,1855µm,0.2s
T1215 AML AML
comp=E,1335µm,0.2s
T1215 AML AML
comp=E,1415µm,0.2s
T1215 AML AML
comp=N,1850µm,0.2s
T1215 AML AML
comp=E,1335µm,1.8s
T1215 AML AML
comp=E,1415µm,1.8s
T1215 AML AML
comp=N,1930µm,0.2s
T1215 AML AML
comp=N,1930µm,0.2s
T1215 AML AML
comp=E,1261µm,0.1s
T1215 AML AML
comp=E,1249µm,0.1s
T1215 AML AML
comp=N,1852µm,0.2s
LNSS Leonessa 0.20 200 ⇑P Pg 04 33 37.8 +0.6
LNSS S Sg 04 33 41.3 +1.1
LNSS AML AML
comp=E,8675µm,1.0s
LNSS AML AML
comp=N,12750µm,0.4s
LNSS AML AML
comp=N,12750µm,1.6s
LNSS AML AML
comp=E,8675µm,1.0s
LNSS AML AML
comp=E,8654µm,0.1s
LNSS AML AML
comp=N,12021µm,0.1s
FDMO Fiordimonte 0.25 352 ⇑P Pg 04 33 38.6 +0.5
FDMO S Sg 04 33 42.7 +1.0
FDMO AML AML
comp=N,2235µm,0.3s
FDMO AML AML
comp=N,2235µm,1.7s
FDMO AML AML
comp=E,2425µm,0.2s
FDMO AML AML
comp=N,2235µm,0.3s
FDMO AML AML
comp=E,2429µm,0.2s
CESI CESI - Serrava 0.28 322 ⇑P Pg 04 33 39.2 +0.6
CESI S Sg 04 33 43.5 +1.1
CESI AML AML
comp=E,1160µm,0.3s
CESI AML AML
comp=N,2870µm,0.3s
CESI AML AML
comp=N,2869µm,0.3s
CESI AML AML
comp=E,1159µm,0.3s
T1219 Muccia, Frazio 0.28 341 ⇑P Pg 04 33 39.2 +0.4
T1219 AML AML
comp=E,2030µm,0.3s
T1219 AML AML
comp=N,2110µm,0.6s
T1219 AML AML
comp=E,2310µm,0.6s
T1219 AML AML
comp=E,2005µm,0.3s
T1219 AML AML
comp=N,2111µm,0.3s
T1219 AML AML
comp=N,2084µm,0.3s
T1219 AML AML
comp=E,2030µm,0.3s
T1219 AML AML
comp=E,2006µm,0.3s
RM33 Pellescritta (0.28 168 P Pg 04 33 39.1 +0.3
RM33 S Sb 04 33 44.0 -1.0
RM33 AML AML
comp=E,1190µm,0.7s
RM33 AML AML
comp=N,1105µm,0.3s
RM33 AML AML
comp=E,1240µm,1.2s
RM33 AML AML
comp=N,1150µm,0.3s
RM33 AML AML
comp=E,1190µm,0.7s
RM33 AML AML
comp=N,1105µm,0.3s
RM33 AML AML
comp=E,1190µm,1.3s
RM33 AML AML
comp=E,1240µm,0.8s
RM33 AML AML
comp=E,1082µm,0.1s
RM33 AML AML
comp=E,1077µm,0.1s
RM33 AML AML
comp=N,922µm,0.2s
RM33 AML AML
comp=N,961µm,0.2s
CSP1 Cessapalombo 0.31 10 ⇑P Pg 04 33 39.6 +0.4
CSP1 AML AML
comp=E,2250µm,1.0s
CSP1 AML AML
comp=N,3935µm,1.0s
CSP1 AML AML
comp=E,2250µm,1.0s
CSP1 AML AML
comp=E,2054µm,0.4s
CSP1 AML AML
comp=N,3567µm,0.3s
GUMA Gualdo di Mace 0.31 28 ⇑P Pb 04 33 40.0 -0.6
GUMA S Sb 04 33 45.3 -0.5
GUMA AML AML
comp=E,5885µm,0.4s
GUMA AML AML
comp=E,5885µm,0.4s
GUMA AML AML
comp=N,6165µm,0.5s
GUMA AML AML
comp=E,4575µm,1.0s
GUMA AML AML
comp=N,7650µm,0.6s
GUMA AML AML
comp=E,4575µm,1.0s
GUMA AML AML
comp=N,6164µm,0.5s
GUMA AML AML
comp=N,6087µm,0.3s
GUMA AML AML
comp=E,5470µm,0.4s
GUMA AML AML
comp=E,4520µm,0.5s
CAMP Campotosto 0.32 141 P Pg 04 33 39.8 +0.3
CAMP S Sg 04 33 44.8 +0.9
T1220 Camerino, Fraz 0.32 354 ⇑P Pg 04 33 39.7 +0.3
T1220 AML AML
comp=N,6850µm,0.4s
T1220 AML AML
comp=N,6795µm,0.4s
T1220 AML AML
comp=E,6350µm,0.3s
T1220 AML AML
comp=N,6850µm,0.4s
T1220 AML AML
comp=N,6795µm,0.4s
T1220 AML AML
comp=E,6370µm,0.3s
T1220 AML AML
comp=E,6350µm,0.3s
T1220 AML AML
comp=E,6373µm,0.3s
T1220 AML AML
comp=N,6794µm,0.4s
T1220 AML AML
comp=N,6852µm,0.4s
T1211 Morro Reatino 0.33 219 ⇑P Pg 04 33 40.0 +0.5
T1211 AML AML
comp=E,1955µm,0.8s
T1211 AML AML
comp=N,3640µm,0.3s
T1211 AML AML
comp=N,3645µm,0.3s
T1211 AML AML
comp=E,1955µm,0.9s
T1211 AML AML
comp=N,3640µm,0.2s
T1211 AML AML
comp=N,3645µm,0.2s
T1211 AML AML
comp=E,1895µm,0.9s
T1211 AML AML
comp=E,1742µm,0.1s
T1211 AML AML
comp=E,1725µm,0.1s
T1211 AML AML
comp=N,3647µm,0.3s
T1211 AML AML
comp=N,3641µm,0.3s
ARRO Arrone 0.34 233 ⇑P Pg 04 33 40.3 +0.5
ARRO AML AML
comp=N,819µm,0.2s
ARRO AML AML
comp=E,904µm,1.6s
ARRO AML AML
comp=N,818µm,0.2s
ARRO AML AML
comp=E,904µm,0.4s
ARRO AML AML
comp=E,847µm,0.2s
ARRO AML AML
comp=N,819µm,0.2s
T1247 Pizzolo (AQ) 0.37 161 ⇓P Pb 04 33 41.2 -0.4
T1247 AML AML
comp=N,1000µm,0.5s
T1247 AML AML
comp=E,930µm,0.3s
T1247 AML AML
comp=E,814µm,0.1s
T1247 AML AML
comp=N,998µm,0.3s
TERO Teramo 0.38 115 ⇓P Pg 04 33 40.1 -0.5
TERO AML AML
comp=E,936µm,1.1s
TERO AML AML
comp=N,1170µm,0.2s
TERO AML AML
comp=N,1256µm,1.4s
TERO AML AML
comp=N,1256µm,0.6s
TERO AML AML
comp=E,817µm,0.6s
TERO AML AML
comp=E,853µm,0.1s
TERO AML AML
comp=N,1241µm,0.2s
TERO AML AML
comp=N,1170µm,0.2s
TERO AML AML
comp=E,728µm,0.1s
T1222 Castel Sant'An 0.39 191 ⇑P Pg 04 33 40.9 +0.2
T1222 AML AML
comp=N,616µm,0.3s
T1222 AML AML
comp=E,1230µm,0.4s
T1222 AML AML
comp=N,643µm,1.6s
T1222 AML AML
comp=E,1190µm,0.4s
T1222 AML AML
comp=N,643µm,0.4s
T1222 AML AML
comp=E,1187µm,0.3s
T1222 AML AML
comp=N,586µm,0.4s
T1222 AML AML
comp=E,1229µm,0.4s
T1222 AML AML
comp=N,615µm,0.3s
MOMA Monte Martano 0.41 272 ⇑P Pg 04 33 41.7 +0.5
MOMA AML AML
comp=N,1200µm,0.2s
MOMA AML AML
comp=E,1285µm,0.2s
MOMA AML AML
comp=N,1215µm,0.2s
MOMA AML AML
comp=E,1225µm,0.2s
MOMA AML AML
comp=E,1224µm,0.2s
MOMA AML AML
comp=N,1202µm,0.2s
MOMA AML AML
comp=E,1287µm,0.2s
MOMA AML AML
comp=N,1213µm,0.2s
ASSB Assisi San Ben 0.43 306 P Pg 04 33 41.7 +0.2
ASSB AML AML
comp=E,663µm,1.1s
ASSB AML AML
comp=N,696µm,0.2s
ASSB AML AML
comp=E,663µm,0.9s
ASSB AML AML
comp=E,592µm,0.3s
ASSB AML AML
comp=N,696µm,0.2s
OFFI Offida 0.43 70 ⇑P Pb 04 33 42.5 -0.1
OFFI AML AML
comp=E,1265µm,1.4s
OFFI AML AML
comp=N,1845µm,1.2s
OFFI AML AML
comp=E,1265µm,0.6s
OFFI AML AML
comp=N,1845µm,0.8s
OFFI AML AML
comp=N,1633µm,0.3s
OFFI AML AML
comp=E,1235µm,0.2s
CESX Cesi 0.45 247 ⇑P Pg 04 33 42.0 +0.3
CESX AML AML
comp=E,604µm,0.4s
CESX AML AML
comp=N,708µm,1.4s
CESX AML AML
comp=N,708µm,0.6s
CESX AML AML
comp=N,608µm,0.3s
CESX AML AML
comp=E,603µm,0.4s
GIGS Gran Sasso 0.47 136 ⇓P Pg 04 33 42.0 -0.1
GIGS AML AML
comp=N,146µm,0.3s
GIGS AML AML
comp=E,154µm,1.3s
GIGS AML AML
comp=E,154µm,0.7s
GIGS AML AML
comp=N,146µm,1.7s
GIGS AML AML
comp=E,127µm,0.3s
GIGS AML AML
comp=N,106µm,0.1s
AQU L'Aquila 0.48 155 ⇑P Pg 04 33 42.8 +0.5
AQU AML AML
comp=E,359µm,0.7s
AQU AML AML
comp=N,380µm,0.6s
AQU AML AML
comp=E,359µm,1.3s
AQU AML AML
comp=N,380µm,0.6s
AQU AML AML
comp=E,410µm,0.7s
AQU AML AML
comp=N,424µm,0.3s
AQU AML AML
comp=E,359µm,0.3s
SNTG Esanatoglia 0.49 343 ⇓P Pg 04 33 42.8 +0.3
SNTG AML AML
comp=E,291µm,0.9s
SNTG AML AML
comp=N,481µm,0.2s
SNTG AML AML
comp=E,291µm,1.1s
SNTG AML AML
comp=E,271µm,0.1s
SNTG AML AML
comp=E,451µm,0.6s
SNTG AML AML
comp=N,551µm,0.2s
SNTG AML AML
comp=N,481µm,0.2s
FIAM Fiamignano 0.52 181 ⇑P Pg 04 33 43.1 0.0
FIAM S Sb 04 33 51.2 -0.5
FIAM AML AML
comp=N,450µm,0.4s
FIAM AML AML
comp=E,542µm,1.0s
FIAM AML AML
comp=N,450µm,1.6s
FIAM AML AML
comp=N,450µm,0.4s
FIAM AML AML
comp=E,427µm,0.3s
ATCC AVT- Casa Cast 0.54 318 ⇑P Pg 04 33 43.8 +0.3
ATCC AML AML
comp=N,509µm,0.3s
ATCC AML AML
comp=E,657µm,1.0s
ATCC AML AML
comp=N,509µm,0.3s
ATCC AML AML
comp=E,500µm,0.4s
EL6 Elcito 0.54 358 ⇑P Pg 04 33 43.7 +0.1
EL6 S Sb 04 33 52.4 0.0
EL6 AML AML
comp=N,1034µm,0.2s
EL6 AML AML
comp=E,829µm,0.3s
TRTR Tortoreto Alta 0.57 88 ⇑P Pb 04 33 45.4 +0.4
TRTR AML AML
comp=E,1730µm,1.2s
TRTR AML AML
comp=N,1430µm,0.5s
TRTR AML AML
comp=E,1730µm,0.8s
TRTR AML AML
comp=N,1432µm,0.5s
TRTR AML AML
comp=E,1723µm,0.4s
FOSV Fossato di Vic 0.58 332 ⇓P Pg 04 33 44.5 +0.3
FOSV AML AML
comp=E,223µm,0.9s
FOSV AML AML
comp=N,386µm,0.4s
FOSV AML AML
comp=N,386µm,0.4s
FOSV AML AML
comp=E,217µm,0.3s
CING Cingoli 0.59 4 ⇑P Pg 04 33 44.5 +0.1
CING AML AML
comp=E,412µm,1.5s
CING AML AML
comp=N,426µm,0.3s
CING AML AML
comp=E,412µm,0.5s
CING AML AML
comp=N,399µm,0.3s
CING AML AML
comp=E,378µm,0.4s
FAGN Fagnano 0.62 147 ⇑P Pg 04 33 45.2 +0.2
FAGN AML AML
comp=N,576µm,0.3s
FAGN AML AML
comp=N,576µm,1.7s
FAGN AML AML

comp=E,722µm,0.4s
FAGN AML AML
comp=E,721µm,0.4s
FAGN AML AML
comp=N,576µm,0.3s
MURB Monte Urbino 0.65 317 ⇓P Pg 04 33 45.9 +0.3
MURB AML AML
comp=E,873µm,0.3s
MURB AML AML
comp=N,901µm,1.1s
MURB AML AML
comp=N,906µm,0.3s
MURB AML AML
comp=N,901µm,0.9s
MURB AML AML
comp=E,1003µm,0.3s
MURB AML AML
comp=E,873µm,0.3s
MURB AML AML
comp=E,1005µm,0.3s
MURB AML AML
comp=N,907µm,0.3s
MURB AML AML
comp=N,888µm,0.3s
PP3 Marolino 0.69 30 ⇓P Pb 04 33 47.3 +0.3
PP3 AML AML
comp=E,2085µm,0.4s
PP3 AML AML
comp=E,1985µm,0.4s
PP3 AML AML
comp=N,2035µm,0.4s
PP3 AML AML
comp=N,2125µm,0.4s
PP3 AML AML
comp=N,2033µm,0.4s
PP3 AML AML
comp=N,2121µm,0.4s
PP3 AML AML
comp=E,1988µm,0.4s
PP3 AML AML
comp=E,2085µm,0.4s
SSFR Montelago di S 0.70 338 ⇓P Pg 04 33 46.7 +0.2
SSFR AML AML
comp=N,641µm,0.2s
SSFR AML AML
comp=N,624µm,0.2s
SSFR AML AML
comp=N,624µm,1.8s
SSFR AML AML
comp=N,641µm,1.8s
SSFR AML AML
comp=E,714µm,0.2s
SSFR AML AML
comp=E,700µm,0.6s
SSFR AML AML
comp=E,669µm,0.2s
SSFR AML AML
comp=N,624µm,0.2s
SSFR AML AML
comp=N,641µm,0.2s
SSFR AML AML
comp=E,713µm,0.2s
SRES S.Oreste - Sor 0.72 220 ⇓P Pb 04 33 47.2 -0.3
SRES AML AML
comp=N,152µm,0.4s
SRES AML AML
comp=E,229µm,0.2s
SRES AML AML
comp=E,229µm,0.2s
ARVD Arcevia 0.72 349 ⇓P Pg 04 33 47.0 0.0
ARVD S Sb 04 33 58.4 +0.8
ARVD AML AML
comp=E,188µm,0.2s
ARVD AML AML
comp=N,135µm,0.6s
ARVD AML AML
comp=E,188µm,0.2s
ARVD AML AML
comp=N,122µm,0.2s
T0110 Collepietro 0.74 139 ⇑P Pg 04 33 47.2 0.0
T0110 AML AML
comp=N,388µm,1.5s
T0110 AML AML
comp=N,388µm,0.5s
T0110 AML AML
comp=E,431µm,0.4s
MGAB Montegabbione 0.76 280 ⇓P Pb 04 33 48.1 -0.2
MGAB AML AML
comp=E,474µm,1.2s
MGAB AML AML
comp=N,544µm,0.3s
MGAB AML AML
comp=E,542µm,0.5s
MGAB AML AML
comp=N,453µm,0.3s
MGAB AML AML
comp=E,474µm,0.8s
MGAB AML AML
comp=E,542µm,0.5s
MGAB AML AML
comp=N,543µm,0.3s
MGAB AML AML
comp=N,453µm,0.3s
MGAB AML AML
comp=E,432µm,0.5s
FRON Frontone 0.79 338 ⇓P Pg 04 33 48.3 +0.1
FRON AML AML
comp=E,135µm,0.6s
FRON AML AML
comp=N,221µm,0.3s
FRON AML AML
comp=E,135µm,1.4s
FRON AML AML
comp=E,130µm,0.3s
FRON AML AML
comp=N,221µm,0.3s
ATVO AVT- Monte Val 0.80 318 P Pb 04 33 49.1 +0.2
ATVO AML AML
comp=E,148µm,1.4s
ATVO AML AML
comp=N,162µm,1.0s
ATVO AML AML
comp=N,162µm,1.0s
ATVO AML AML
comp=N,161µm,0.5s
ATVO AML AML
comp=E,144µm,0.6s
AOI Ancona 0.84 24 ⇑P Pb 04 33 49.7 +0.2
AOI AML AML
comp=E,224µm,1.5s
AOI AML AML
comp=N,248µm,1.6s
AOI AML AML
comp=N,248µm,0.4s
AOI AML AML
comp=E,224µm,0.5s
AOI AML AML
comp=N,222µm,0.3s
AOI AML AML
comp=E,222µm,0.5s
CERT Cerreto 0.85 188 ⇓P Pg 04 33 48.8 -0.4
CERT AML AML
comp=N,263µm,1.6s
CERT AML AML
comp=E,409µm,0.4s
CERT AML AML
comp=N,263µm,0.4s
CERT AML AML
comp=E,409µm,0.4s
CERT AML AML
comp=N,261µm,0.4s
MPAG Monte Paganucc 0.88 342 ⇓P Pb 04 33 50.3 -0.1
MPAG AML AML
comp=E,150µm,0.4s
MPAG AML AML
comp=N,170µm,0.6s
MPAG AML AML
comp=E,150µm,1.6s
MPAG AML AML
comp=E,150µm,0.4s
SACS San Casciano d 0.90 274 ⇑P Pb 04 33 50.8 +0.1
SACS AML AML
comp=N,182µm,0.7s
SACS AML AML
comp=E,163µm,0.9s
SACS AML AML
comp=E,176µm,0.9s
SACS AML AML
comp=N,179µm,1.0s
SACS AML AML
comp=E,163µm,1.1s
SACS AML AML
comp=E,176µm,1.1s
SACS AML AML
comp=N,182µm,1.3s
SACS AML AML
comp=N,179µm,1.0s
LPEL Lama dei Pelig 1.07 133 S Sn 04 34 08.4 -0.6
LPEL AML AML
comp=N,138µm,0.9s
LPEL AML AML
comp=E,168µm,0.3s
TOLF Tolfa 1.11 230 P Pb 04 33 53.0 -1.1
TOLF S Sn 04 34 10.1 +0.4
TOLF AML AML
comp=E,92µm,1.2s
TOLF AML AML
comp=N,110µm,0.5s
TOLF AML AML
comp=E,92µm,0.8s
TOLF AML AML
comp=N,110µm,1.5s
ABTA Abfaltersbach 3.98 354 *e*Pn Pn 04 34 36.9 +2.8
comp=N,1.8nm,0.3s
KBA Koelnbreinsper 4.29 2 *e*Pn Pn 04 34 41.4 +3.0
comp=N,0.8nm,0.2s
SQTA Sankt Quirin 4.64 344 *e*Pn Pn 04 34 44.8 +1.8
comp=N,1.7nm,0.3s

*IDC **27** 04:40:21.2±0.9, 10°.93S×162°.12E, h31km±5km, mb3.7/10, mbtmp3.9/12, ML3.4/2, MS3.4/11, Error ellipse: s-maj=23.7km s-min=18.1km az=132.0*
ISC 27 04:40:21.8±0.6, 10°.92S±0°.08×162°.18E±0°.09, h36km, n19, σ1s40/20, mb3.9/10, MS3.5/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.65**	**304**	Pn		**Pn**	**04 41 02.6**	**+0.6**
	2µm,0.3s,baz=184,slow=9.5,SNR=17							
HNR				Sn		**Sn**	**04 41 34.2**	**+1.2**
	3µm,0.3s,baz=270,slow=17,SNR=4.4							
HNR				LR		LR	04 42 11.7	
	comp=Z,13µm,18.7s,baz=147,slow=42							
DZM	**Mont Dzumac**	**11.82**	**160**	Pn		**Pn**	**04 43 11.2**	**+3.2**
	1.2nm,0.3s,baz=15,slow=7.9,SNR=17							
DZM				Sn		**Sn**	**04 45 16.0**	**-2.7**
	0.4nm,0.3s,baz=148,slow=9.7,SNR=1.8							
DZM				LR		LR	04 46 44.1	
	comp=Z,243nm,20.5s,baz=28,slow=32							
PMG	**Port Moresby**	**14.87**	**274**	Pn		**Pn**	**04 43 50.1**	**+0.6**
	1.3nm,0.3s,baz=120,slow=16,SNR=3.4							
PMG				LR		LR	04 49 05.8	
	comp=Z,280nm,20.6s,baz=98,slow=35							
	3.5nm,0.3s							
MSVF	**Nonsavu**	**16.79**	**116**	LR		LR	04 49 55.6	
	comp=Z,90nm,20.1s,baz=339,slow=34							
CTA	**Charters Tower**	**17.84**	**237**	P		**Pn**	**04 44 26.9**	**-0.5**
	0.4nm,0.3s,baz=65,slow=13,SNR=4.2							
CTA				LR		LR	04 51 00.0	
	comp=Z,56nm,18.4s,baz=81,slow=36							
	5.9nm,0.8s							
AFI	**Afiamalu**	**25.60**	**99**	LR		LR	04 54 11.6	
	comp=Z,143nm,19.0s,baz=272,slow=32							
STKA	**Stephens Creek**	**28.23**	**219**	P		**P**	**04 46 11.4**	**0.0**
	1.4nm,0.7s,baz=60,slow=9.5,SNR=3.4							
STKA				LR		LR	04 57 18.1	
	comp=Z,146nm,18.8s,baz=27,slow=36							
	1.4nm,0.7s							
WRA	**Warramunga Arr**	**28.26**	**248**	P		**P**	**04 46 10.7**	**-1.2**
	0.7nm,0.5s,baz=76,slow=9.1,SNR=7.5							
WRA				LR		LR	04 57 20.7	
	comp=Z,160nm,18.5s,baz=63,slow=36							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**29.76**	**241**	P		**P**	**04 46 23.8**	**-1.5**
	0.2nm,0.4s,baz=64,slow=9.9,SNR=7.0							
ASAR				LR		LR	04 57 21.5	
	comp=Z,125nm,20.4s,baz=96,slow=34							
	0.2nm,0.4s							
RAR	**Rarotonga**	**37.87**	**111**	LR		LR	05 02 40.3	
	comp=Z,26nm,18.2s,baz=244,slow=35							
MJAR	**Matsushiro Arr**	**52.33**	**336**	LR		LR	05 11 56.3	
	comp=Z,12nm,20.1s,baz=56,slow=36							
VNDA	**Vanda**	**66.59**	**180**	P		**P**	**04 51 08.6**	**+0.6**
	2.2nm,0.7s,baz=2.5,slow=7.7,SNR=6.2							
	2.2nm,0.7s							
MA2	**Magadan**	**70.85**	**354**	LR		LR	05 23 42.9	
	comp=Z,20nm,18.2s,baz=152,slow=37							
SEY	**Seymchan**	**74.01**	**355**	P		**P**	**04 51 53.5**	**+0.1**
	0.9nm,0.2s,baz=140,slow=9.1,SNR=3.6							
	0.9nm,0.2s							
SONM	**Songino Array**	**76.53**	**325**	P		**P**	**04 52 08.5**	**+0.1**
	0.4nm,0.6s,baz=134,slow=6.2,SNR=3.0							
SONM				pP		**pP**	**04 52 17.4**	**-2.1**
	3.1nm,0.7s,baz=141,slow=5.3,SNR=19							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**84.53**	**20**	P		**P**	**04 52 50.0**	**-0.8**
	0.4nm,0.5s,baz=243,slow=5.0,SNR=14							
ILAR				pP		**pP**	**04 53 01.5**	**-0.5**
	0.7nm,0.9s,baz=238,slow=4.9,SNR=2.9							
	0.4nm,0.5s							
NVAR	**Mina Array Bea**	**88.63**	**51**	P		**P**	**04 53 12.6**	**+0.9**
	0.4nm,0.6s,baz=224,slow=6.3,SNR=2.9							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**91.05**	**317**	P		**P**	**04 53 23.0**	**+0.4**
	0.2nm,0.6s,baz=104,slow=6.0,SNR=2.1							
MKAR				pP		**pP**	**04 53 32.2**	**-1.7**
	0.3nm,0.5s,baz=90,slow=7.4,SNR=3.9							
	0.2nm,0.6s							
YKA	**Yellowknife Ar**	**96.47**	**28**	P		**P**	**04 53 47.2**	**+0.1**
	0.2nm,0.7s,baz=255,slow=4.9,SNR=4.6							
YKA				pP		**pP**	**04 53 58.2**	**-0.2**
	0.3nm,0.6s,baz=255,slow=5.0,SNR=3.3							
	0.2nm,0.7s							

*DJA **27** 04:52:49.0±0.5, 7°.S±3°.×13°.0E±°, h250km±12km, M4.5/13, mb4.3/7, mB5.2/3, MLv4.6/13, Mw(mB)4.6/3*
ISC 27 04:52:51.4±1.0, 6°.74S±0°.08×129°.58E±0°.10, h200km, n20, σ1s99/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.10**	**126**	P		**Pn**	**04 53 31.9**	**+0.9**
BNDI	**Bandanaira**	**2.23**	**8**	P		**Pn**	**04 53 34.2**	**+1.9**
MSAI	**Masohi**	**3.44**	**349**	P		**Pn**	**04 53 47.2**	**+0.9**
NLAI	**Namlea**	**4.27**	**325**	P		**Pn**	**04 53 57.6**	**+1.1**
FAKI	**Fak Fak**	**4.64**	**35**	P		**Pn**	**04 53 58.4**	**-2.8**
SOEI	**Soe**	**6.05**	**240**	P		**Pn**	**04 54 18.1**	**-1.3**
	80nm,1.0s,0.3nm							
SWI	**Sorong**	**6.08**	**16**	P		**Pn**	**04 54 18.0**	**-1.7**
	16nm,0.5s,0.7nm							
MTN	**Manton Dam**	**6.25**	**166**	P		**Pn**	**04 54 21.0**	**-0.9**
KDU	**Kakadu**	**6.56**	**154**	P		**Pn**	**04 54 24.5**	**-1.4**
BATI	**Baumata**	**6.79**	**239**	P		**Pn**	**04 54 27.3**	**-1.6**
	128nm,0.8s,0.4nm							
RKPI	**Ransiki, Papua**	**6.93**	**42**	P		**Pn**	**04 54 30.3**	**-0.4**
	269nm,0.7s,7µm1.9nm							
KNRA	**Kununurra**	**8.92**	**185**	P		**Pn**	**04 54 55.2**	**-1.4**
WRAB	**Tennant Creek**	**13.91**	**161**	P		**Pn**	**04 55 57.3**	**-2.9**
QIS	**Mount Isa**	**16.82**	**146**	P		**Pn**	**04 56 36.0**	**+0.3**
AS01	**Alice Springs**	**17.34**	**166**	P		**Pn**	**04 56 39.8**	**-2.0**
OOD	**Oodnadatta**	**21.73**	**165**	P		**P**	**04 57 26.7**	**-0.2**
INKA	**Innaminka**	**23.42**	**154**	P		**P**	**04 57 44.9**	**+2.4**
MULG	**Mulgathing**	**23.79**	**170**	P		**P**	**04 57 47.9**	**+2.0**
FORT	**Forrest**	**23.96**	**183**	P		**P**	**04 57 49.4**	**+2.0**
LCRK	**Leigh Creek**	**24.94**	**162**	P		**P**	**04 58 00.2**	**+3.9**

IDC 27 04:57:50.9±5.5, 2°.66S×147°.99E, h0km, mb3.3/3, mbtmp3.3/3, MS2.6/1, Error ellipse: s-maj=173.8km s-min=37.6km az=97.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.76**	**187**	LR		LR	05 02 05.0	
	comp=Z,58nm,21.4s,baz=98,slow=38							
WRA	**Warramunga Arr**	**21.75**	**217**	P		P	05 02 44.0	-0.3
	1.2nm,0.8s,baz=42,slow=11,SNR=4.1							
	1.2nm,0.8s							
ASAR	**Alice Springs**	**24.94**	**212**	P		P	05 03 16.4	+0.2
	0.5nm,0.7s,baz=36,slow=7.9,SNR=4.4							
	0.5nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**27.94**	**40**	T		T	05 33 21.5	
	baz=222,slow=76,SNR=120							
H11S2	**WAKE ISLAND Hy**	**27.95**	**41**	T		T	05 33 23.1	
	baz=222,slow=76,SNR=111							
H11S1	**WAKE ISLAND Hy**	**27.95**	**40**	T		T	05 33 21.8	
	baz=222,slow=76,SNR=85							
H11N1	**WAKE ISLAND Hy**	**28.96**	**39**	T		T	05 34 36.3	
	baz=221,slow=76,SNR=30							
H11N3	**WAKE ISLAND Hy**	**28.98**	**39**	T		T	05 34 37.5	
	baz=221,slow=76,SNR=70							
H11N2	**WAKE ISLAND Hy**	**28.98**	**39**	T		T	05 34 37.6	
	baz=221,slow=76,SNR=54							
MKAR	**Makanchi Array**	**75.58**	**320**	P		P	05 09 37.8	+0.1
	0.2nm,0.8s,baz=100,slow=4.5,SNR=2.2							
	0.2nm,0.8s							

*DDA **27** 05:08:30.8±0.0, 39°.54N×26°.15E, h6km±1km, ML3.1*
*ISK **27** 05:08:30.5, 39°.56N×26°.10E, h5km, ML3.2/21*
*ATH **27** 05:08:31.3, 39°.55N×26°.13E, h9km±2km, ML2.9/5, Error ellipse: s-maj=4.5km s-min=1.1km az=267.0*
*THE **27** 05:08:31.1, 39°.56N×26°.09E, h3km±1km, ML2.8/7, Error ellipse: s-maj=2.1km s-min=0.6km az=112.0*
ISC 27 05:08:30.9±0.8, 39°.54N±0°.02×26°.12E±0°.02, h9km±5km, n61, σ0s70/90, 8C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**163**	P		**Pg**	**05 08 32.6**	**-0.2**
KOCA				*i* AML		AML	05 08 33.0	
	comp=N,3µm,0.3s							
KOCA				S		**Sg**	**05 08 33.4**	**-0.8**
GPNR	**Gulpinar-Canak**	**0.09**	**174**	Pg		**Pg**	**05 08 33.2**	**-0.1**
GPNR				Sg		**Sg**	**05 08 35.0**	**+0.1**
EZN	**Ezine**	**0.32**	**29**	P		**Pg**	**05 08 37.5**	**+0.1**
EZN				S		**Sg**	**05 08 42.3**	**+0.6**
	5µm,0.4s							
EZN	**Ezine**	**0.32**	**29**	Pg		**Pg**	**05 08 37.4**	**+0.1**
EZN				Sg		**Sg**	**05 08 42.2**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.38**	**59**	P		**Pg**	**05 08 38.5**	**0.0**
BAYC				S		**Sg**	**05 08 43.6**	**0.0**
SIGR	**SIGRI**	**0.39**	**212**	P		**Pg**	**05 08 38.7**	**+0.1**
SIGR				S		**Sg**	**05 08 44.3**	**+0.6**
	1µm,0.4s							
SIGR	**SIGRI**	**0.39**	**212**	Pg		**Pg**	**05 08 38.7**	**+0.1**
SIGR				Sg		**Sg**	**05 08 44.6**	**+0.9**
SIGR	**SIGRI**	**0.39**	**212**	P		**Pg**	**05 08 38.7**	**+0.1**
SIGR				S		**Sg**	**05 08 44.1**	**+0.4**
SIGR				AML		AML	05 08 45.3	
	comp=E,2101µm,0.3s							
SIGR				AML		AML	05 08 47.2	
	comp=N,3294µm,0.5s							
ECEA	**Canakkale, Ece**	**0.50**	**5**	P		**Pg**	**05 08 41.0**	**+0.2**
ECEA				S		**Sg**	**05 08 47.6**	**+0.2**
ECEA				*i* AML		AML	05 08 48.0	
	comp=N,2µm,0.4s							
ECEA				*i* AML		AML	05 08 50.0	
	comp=N,1µm,0.6s							
GADA	**Gvkgeada**	**0.67**	**345**	Pg		**Pg**	**05 08 43.6**	**-0.3**
GADA				Sg		**Sg**	**05 08 52.7**	**0.0**
BUHA	**Balikesir, Bur**	**0.74**	**93**	P		**Pg**	**05 08 45.2**	**0.0**
BUHA				S		**Sg**	**05 08 54.8**	**0.0**
DKL	**Dikili**	**0.77**	**128**	Pg		**Pg**	**05 08 46.8**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.90**	**17**	Pg		**Pg**	**05 08 48.4**	**+0.2**
GELI				Sg		**Sb**	**05 09 00.6**	**-0.1**
ZEDA	**zmir-Bergama**	**0.94**	**128**	P		**Pg**	**05 08 48.9**	**-0.1**
ZEDA				S		**Sg**	**05 09 00.5**	**-0.7**
ZEDA				*i* AML		AML	05 09 04.0	
	comp=N,474nm,0.2s							
ZEDA				*i* AML		AML	05 09 04.0	
	comp=N,461nm,0.6s							
LPK	**Lapseki**	**0.96**	**30**	Pg		**Pb**	**05 08 49.8**	**0.0**
LPK				Sg		**Sb**	**05 09 02.9**	**+0.3**
SMTH	**Samothraki Isl**	**1.03**	**334**	P		**Pg**	**05 08 50.6**	**-0.2**
SMTH				S		**Sg**	**05 09 04.2**	**0.0**
	comp=N,315nm,0.3s							
SMTH	**Samothraki Isl**	**1.03**	**334**	P		**Pg**	**05 08 50.4**	**-0.4**
SMTH				S		**Sg**	**05 09 03.8**	**-0.4**
SMTH				AML		AML	05 09 07.3	
	comp=E,499µm,0.3s							
SMTH				AML		AML	05 09 08.2	
	comp=N,752µm,0.3s							
PSRA	**Psara**	**1.09**	**204**	P		**Pg**	**05 08 52.3**	**+0.4**
PSRA				S		**Sb**	**05 09 07.5**	**+1.4**
PSRA				AML		AML	05 09 11.5	
	comp=N,1965µm,0.3s							
PSRA				AML		AML	05 09 11.5	
	comp=E,1879µm,0.4s							
CAVK	**Edirne/Enez-Ca**	**1.15**	**2**	P		**Pg**	**05 08 52.5**	**-0.5**
CAVK				S		**Sg**	**05 09 07.5**	**-0.4**
CAVK				*i* AML		AML	05 09 11.0	
	comp=E,335nm,0.4s							
CHOS	**Chios island**	**1.16**	**183**	P		**Pg**	**05 08 52.6**	**-0.5**
CHOS				S		**Sb**	**05 09 09.4**	**+1.2**
	comp=E,572nm,0.4s							
CHOS	**Chios island**	**1.16**	**183**	Pn		**Pg**	**05 08 52.6**	**-0.5**
CHOS	**Chios island**	**1.16**	**183**	P		**Pg**	**05 08 52.6**	**-0.5**
CHOS				S		**Sg**	**05 09 08.7**	**+0.6**
CHOS				AML		AML	05 09 13.0	
	comp=E,1512µm,0.2s							
CHOS				AML		AML	05 09 17.1	
	comp=N,696µm,0.3s							
ERIK	**Erikli-Kesan**	**1.17**	**15**	Pn		**Pg**	**05 08 53.2**	**-0.1**
ENEZ	**Enez**	**1.19**	**1**	P		**Pg**	**05 08 53.3**	**-0.5**
ENEZ				S		**Sb**	**05 09 09.5**	**+0.3**
	comp=N,915nm,0.4s							
ENEZ	**Enez**	**1.19**	**1**	Pn		**Pg**	**05 08 53.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.24**	**46**	Pn		**Pg**	**05 08 53.8**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.25**	**97**	P		**Pg**	**05 08 54.2**	**-0.6**
STEP				S		**Sg**	**05 09 10.8**	**-0.3**
KNL	**Balıkesir**	**1.30**	**56**	P		**Pn**	**05 08 54.6**	**-1.1**
KNL				S		**Sg**	**05 09 12.7**	**-0.2**
KNL				*i* AML		AML	05 09 15.0	
	comp=N,394nm,0.4s							
KNL				*i* AML		AML	05 09 16.0	
	comp=N,349nm,0.3s							
GONE	**Gonen-Balikesi**	**1.31**	**67**	Pn		**Pn**	**05 08 55.7**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**1.33**	**167**	P		**Pn**	**05 08 54.1**	**-1.5**
ZEYE				S		**Sb**	**05 09 12.2**	**-1.1**
ZEYE				*i* AML		AML	05 09 17.0	
	comp=N,328nm,0.4s							
ZEYE				*i* AML		AML	05 09 18.0	
	comp=N,332nm,0.8s							
ALN	**Alexandroupoli**	**1.35**	**358**	P		**Pn**	**05 08 56.0**	**+0.1**
ALN				S		**Sb**	**05 09 14.0**	**+0.1**
	comp=N,610nm,0.4s							
ALN	**Alexandroupoli**	**1.35**	**358**	Pn		**Pn**	**05 08 56.1**	**+0.1**
ALN	**Alexandroupoli**	**1.35**	**358**	P		**Pn**	**05 08 55.9**	**-0.1**
ALN				S		**Sb**	**05 09 12.5**	**-1.4**
ALN				AML		AML	05 09 15.6	
	comp=E,1360µm,0.5s							
ALN				AML		AML	05 09 15.7	
	comp=N,1079µm,0.4s							
BLCB	**Balcova**	**1.36**	**148**	Pn		**Pn**	**05 08 56.7**	**+0.7**
BALB	**Balikesir**	**1.36**	**85**	Pn		**Pn**	**05 08 56.7**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.40**	**35**	Pn		**Pn**	**05 08 57.1**	**+0.4**
AKS	**Akhisar**	**1.47**	**116**	Pn		**Pn**	**05 08 58.4**	**+0.8**
THAS	**Thassos island**	**1.51**	**315**	P		**Pn**	**05 08 57.4**	**-0.7**
EDC	**Edincik**	**1.56**	**58**	Pn		**Pn**	**05 08 59.4**	**+0.6**
DGB	**zmir**	**1.60**	**158**	P		**Pn**	**05 08 58.4**	**-1.0**
UKOP	**Uzunkopru-Edir**	**1.63**	**14**	Pn		**Pn**	**05 09 00.2**	**+0.4**
RDO	**Rodhopi**	**1.66**	**345**	P		**Pn**	**05 09 00.5**	**+0.3**
RDO				S		**Sn**	**05 09 22.4**	**+0.8**
	comp=N,122nm,0.5s							
RDO	**Rodhopi**	**1.66**	**345**	Pn		**Pn**	**05 09 00.5**	**+0.3**
RDO	**Rodhopi**	**1.66**	**345**	P		**Pn**	**05 09 00.5**	**+0.3**
RDO				S		**Sn**	**05 09 19.9**	**-1.7**
OUR	**Ouranopolis**	**1.83**	**296**	Pn		**Pn**	**05 09 03.2**	**+0.8**
KAVA	**Kavala**	**1.90**	**320**	P		**Pn**	**05 09 02.9**	**-0.7**
SMG	**Samos**	**1.92**	**163**	P		**Pn**	**05 09 02.8**	**-0.9**
PAIG	**Paliouri**	**1.92**	**282**	P		**Pn**	**05 09 03.2**	**-0.6**
MANT	**Manisa**	**2.17**	**118**	P		**Pn**	**05 09 06.9**	**-0.5**
KULA	**Kula-Manisa**	**2.23**	**117**	Pn		**Pn**	**05 09 09.0**	**+0.9**
SIMA	**Simav-Kutahya**	**2.27**	**101**	Pn		**Pn**	**05 09 09.4**	**+0.8**
SRS	**Serrai**	**2.49**	**310**	P		**Pn**	**05 09 11.1**	**-0.6**
NVR	**Nevrokopi**	**2.50**	**317**	P		**Pn**	**05 09 12.4**	**+0.6**
VTS	**Vitosha**	**3.77**	**326**	⇑P		**Pn**	**05 09 30.0**	**+0.7**
VTS				⇑S		**Sn**	**05 10 12.4**	**-1.5**
BOVS	**Bovan**	**5.26**	**322**	⇑P		**Pn**	**05 09 49.6**	**0.0**
VOIR		**5.94**	**353**	⇑P		**Pn**	**05 09 59.9**	**+0.8**
HERR	**Herculane**	**6.00**	**334**	⇓P		**Pn**	**05 10 00.6**	**+0.7**
PLOR	**Plostina**	**6.32**	**3**	⇑P		**Pn**	**05 10 06.0**	**+1.8**
VRI	**Vrincioaia**	**6.33**	**4**	⇑P		**Pn**	**05 10 05.6**	**+1.2**
GZR	**Gura Zlata**	**6.35**	**338**	⇑P		**Pn**	**05 10 05.1**	**+0.5**
TESR	**Tescani**	**6.98**	**3**	⇑P		**Pn**	**05 10 15.2**	**+2.0**

*ATH **27** 05:21:27.8,39˚.01N×27˚.75E,h5km±31km,ML3.1/5,Error ellipse: s-maj=31.6km s-min=2.3km az=0.0*
*ISK **27** 05:21:27.5,39˚.02N×27˚.70E,h8km,ML3.5/30*
*DDA **27** 05:21:28.3±0.0,39˚.01N×27˚.70E,h5km,MW3.6*
*THE **27** 05:21:29.5,38˚.95N×27˚.75E,h18km±2km,ML3.2/6,Error ellipse: s-maj=2.9km s-min=0.6km az=140.0*

ISC 27 05:21:27.6±0.9,38.95N±0.02×27.67E±0.02,h11km±7km, n85,σ1§07/110,12C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.14**	**122**	Pg	**Pg**	**05 21 31.4**	**+0.6**
AKS				Sg	**Sg**	**05 21 34.5**	**+1.4**
GOMA	**Golmarmara-Man**	**0.31**	**141**	Pg	**Pb**	**05 21 34.8**	**-0.4**
GOMA				Sg	**Sb**	**05 21 40.7**	**+0.4**
STEP	**BALIKESIR_Sava**	**0.43**	**5**	P	**Pg**	**05 21 35.0**	**-1.0**
STEP				S	**Sg**	**05 21 40.1**	**-1.7**
ZEDA	**zmir-Bergama**	**0.46**	**272**	P	**Pb**	**05 21 37.5**	**-0.2**
ZEDA				S	**Sb**	**05 21 44.5**	**-0.1**
DKL	**Dikili**	**0.60**	**282**	Pg	**Pb**	**05 21 40.3**	**+0.1**
BALB	**Balikesir**	**0.71**	**13**	Pg	**Pg**	**05 21 40.3**	**-1.0**
BUHA	**Balikesir, Bur**	**0.71**	**320**	P	**Pg**	**05 21 41.0**	**-0.4**
BUHA				S	**Sg**	**05 21 48.2**	**-2.7**
BLCB	**Balcova**	**0.75**	**221**	P	**Pn**	**05 21 43.7**	**-0.4**
BLCB				S	**Sn**	**05 21 55.4**	**0.0**
BLCB	**Balcova**	**0.75**	**221**	Pg	**Pn**	**05 21 43.6**	**-0.5**
BLCB				Sg	**Sn**	**05 21 55.8**	**+0.4**
MANT	**Manisa**	**0.83**	**123**	P	**Pb**	**05 21 44.0**	**-0.2**
MANT				S	**Sb**	**05 21 56.0**	**+0.4**
KULA	**Kula-Manisa**	**0.89**	**119**	P	**Pb**	**05 21 45.2**	**+0.1**
KULA				S	**Sg**	**05 21 56.1**	**-0.4**
KULA	**Kula-Manisa**	**0.89**	**119**	Pg	**Pb**	**05 21 45.2**	**+0.1**
SIMA	**Simav-Kutahya**	**1.03**	**82**	Pg	**Pg**	**05 21 47.3**	**-0.2**
SIMA				Sg	**Sg**	**05 22 01.3**	**+0.3**
SMAA	**Simav-Kutahya**	**1.03**	**81**	Pg	**Pg**	**05 21 47.3**	**-0.2**
USAK	**Uak-Merkez**	**1.08**	**102**	P	**Pb**	**05 21 48.0**	**-0.4**
USAK				S	**Sg**	**05 22 01.1**	**-1.4**
DGB	**zmir**	**1.09**	**215**	P	**Pn**	**05 21 49.5**	**+0.7**
DGB				S	**Sn**	**05 22 05.0**	**+1.2**
GONE	**Gonen-Balikesi**	**1.09**	**1**	Pg	**Pg**	**05 21 47.5**	**-1.2**
ZEYE	**Izmir, Urla-Ze**	**1.16**	**232**	P	**Pn**	**05 21 49.8**	**+0.1**
ZEYE				S	**Sn**	**05 22 05.6**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.17**	**313**	P	**Pb**	**05 21 50.1**	**+0.1**
BAYC				S	**Sg**	**05 22 05.2**	**-0.3**
KOCA	**Canakkale, Ayv**	**1.31**	**295**	P	**Pb**	**05 21 52.1**	**-0.1**
KOCA				S	**Sb**	**05 22 09.0**	**0.0**
KNL	**Balıkesir**	**1.32**	**355**	P	**Pn**	**05 21 50.6**	**-1.4**
EZN	**Ezine**	**1.36**	**310**	P	**Pn**	**05 21 52.7**	**+0.2**
EZN	680nm,0.4s			S	**Sn**	**05 22 11.3**	**+0.8**
EZN	**Ezine**	**1.36**	**310**	Pn	**Pb**	**05 21 53.3**	**+0.3**
GEDZ	**Gediz**	**1.36**	**86**	Pn	**Pb**	**05 21 53.7**	**+0.5**
CHOS	**Chios island**	**1.38**	**246**	P	**Pb**	**05 21 53.8**	**+0.2**
CHOS	802nm,0.5s			S	**Sn**	**05 22 12.6**	**+1.4**
CHOS	**Chios island**	**1.38**	**246**	Pn	**Pb**	**05 21 53.7**	**+0.2**
CHOS	**Chios island**	**1.38**	**246**	P	**Pb**	**05 21 53.7**	**+0.2**
CHOS				S	**Sn**	**05 22 13.9**	**+2.7**
CHOS	comp=E,1859μm,0.5s			AML	AML	05 22 16.2	
CHOS	comp=N,1243μm,0.4s			AML	AML	05 22 18.7	
EDC	**Edincik**	**1.40**	**6**	Pn	**Pn**	**05 21 52.7**	**-0.4**
SIGR	**SIGRI**	**1.43**	**281**	P	**Pg**	**05 21 54.1**	**-1.0**
SIGR	comp=N,530nm,0.5s			S	**Sn**	**05 22 13.3**	**+1.0**
SIGR	**SIGRI**	**1.43**	**281**	Pn	**Pg**	**05 21 54.5**	**-0.6**
SIGR	**SIGRI**	**1.43**	**281**	P	**Pb**	**05 21 53.9**	**-0.4**
SIGR				S	**Sn**	**05 22 14.3**	**+2.0**
SIGR	comp=E,877μm,0.4s			AML	AML	05 22 19.2	
SIGR	comp=N,1079μm,0.5s			AML	AML	05 22 23.9	
ORLT	**Orhaneli**	**1.45**	**41**	Pn	**Pn**	**05 21 53.7**	**-0.1**
KRBG	**Karabiga-Canak**	**1.47**	**349**	Pn	**Pn**	**05 21 54.1**	**+0.1**
LPK	**Lapseki**	**1.58**	**334**	Pn	**Pn**	**05 21 55.8**	**+0.2**
ECEA	**Canakkale, Ece**	**1.59**	**314**	P	**Pn**	**05 21 55.9**	**+0.3**
ECEA				S	**Sn**	**05 22 15.8**	**-0.3**
ULDT	**Uludag**	**1.64**	**43**	P	**Pn**	**05 21 56.1**	**-0.5**
ULDT				S	**Sn**	**05 22 16.0**	**-1.9**
MLSB	**Milas**	**1.66**	**177**	Pn	**Pg**	**05 21 58.7**	**-0.7**
PSRA	**Psara**	**1.69**	**257**	P	**Pg**	**05 21 59.6**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.70**	**33**	Pn	**Pn**	**05 21 56.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.71**	**328**	Pn	**Pn**	**05 21 57.9**	**+0.5**
MULA	**Mugla, Merkez-**	**1.77**	**163**	P	**Pb**	**05 21 58.6**	**-1.5**
RKY	**Sarkoy-Tekirda**	**1.77**	**348**	Pn	**Pn**	**05 21 58.1**	**-0.2**
TAVA	**DENIZLI_Tavas**	**1.78**	**146**	P	**Pn**	**05 21 58.0**	**-0.4**
ANDZ	**Kutahya, Merke**	**1.82**	**71**	P	**Pn**	**05 21 59.3**	**+0.3**
ANDZ				S	**Sb**	**05 22 24.8**	**+0.9**
GADA	**Gvkgeada**	**1.84**	**313**	Pn	**Pn**	**05 22 00.0**	**+0.8**
YER	**Yerkesik**	**1.88**	**165**	Pn	**Pg**	**05 22 01.8**	**-1.8**
GEMT	**Gemlik**	**1.89**	**38**	Pn	**Pn**	**05 21 59.9**	**+0.1**
ERIK	**Erikli-Kesan**	**1.93**	**333**	Pn	**Pn**	**05 22 01.0**	**+0.6**
ESNK	**Esenk¶y**	**1.95**	**31**	P	**Pn**	**05 21 59.0**	**-1.7**
APMY	**Acipayam-Deniz**	**1.96**	**138**	Pn	**Pn**	**05 22 01.6**	**+0.7**
KZIL	**AFYON_Kizioren**	**2.06**	**109**	P	**Pb**	**05 22 03.7**	**-1.4**
BILE	**Bilecik/Merkez**	**2.09**	**54**	P	**Pn**	**05 22 03.3**	**+0.6**
CAVI	**Cavuskoy**	**2.09**	**53**	Pn	**Pn**	**05 22 03.1**	**+0.4**
ENEZ	**Enez**	**2.13**	**327**	P	**Pn**	**05 22 03.8**	**+0.7**
ENEZ	comp=N,1μm,0.3s			S	**Sn**	**05 22 30.2**	**+0.7**
BASM	**Basmaki-Afyon**	**2.14**	**118**	Pn	**Pn**	**05 22 04.4**	**+1.1**
ADVT	**Abdulvahap**	**2.18**	**47**	Pn	**Pn**	**05 22 04.1**	**+0.3**
SMTH	**Samothraki Isl**	**2.24**	**313**	P	**Pn**	**05 22 05.0**	**+0.3**
SMTH	comp=N,280nm,0.4s			S	**Sn**	**05 22 33.7**	**+1.4**
SMTH	**Samothraki Isl**	**2.24**	**313**	P	**Pn**	**05 22 04.9**	**+0.3**
SMTH	comp=N,642μm,0.3s			AML	AML	05 22 41.6	
SMTH	comp=E,470μm,0.3s			AML	AML	05 22 45.3	
DALY	**Dalyan (Mula)**	**2.27**	**160**	Pn	**Pb**	**05 22 07.3**	**-1.3**
SHUT	**Suhut-Afyon**	**2.29**	**99**	Pn	**Pn**	**05 22 06.4**	**+1.0**
ALN	**Alexandroupoli**	**2.31**	**328**	P	**Pn**	**05 22 05.9**	**+0.3**
ALN	comp=E,258nm,0.4s			S	**Sn**	**05 22 34.5**	**+0.6**
ALN	**Alexandroupoli**	**2.31**	**328**	P	**Pn**	**05 22 05.8**	**+0.2**
ALN	comp=E,517μm,0.3s			AML	AML	05 22 40.7	
ALN	comp=N,477μm,0.4s			AML	AML	05 22 42.5	
APE	**Apeiranthos**	**2.53**	**223**	P	**Pb**	**05 22 10.5**	**-2.5**
RDO	**Rodhopi**	**2.73**	**324**	P	**Pn**	**05 22 12.4**	**+1.0**
RDO	**Rodhopi**	**2.73**	**324**	P	**Pn**	**05 22 12.4**	**+1.0**
RDO	comp=E,298μm,0.4s			AML	AML	05 22 59.1	
RDO	comp=N,256μm,0.7s			AML	AML	05 23 00.3	
ARG	**Arkhangelos**	**2.75**	**172**	P	**Pn**	**05 22 13.4**	**+1.7**
OUR	**Ouranopolis**	**3.16**	**297**	P	**Pn**	**05 22 17.4**	**+0.1**
KAVA	**Kavala**	**3.17**	**311**	P	**Pn**	**05 22 17.9**	**+0.5**
NVR	**Nevrokopi**	**3.77**	**311**	P	**Pn**	**05 22 26.0**	**+0.3**
HORT	**Hortiatis**	**3.88**	**296**	P	**Pn**	**05 22 28.6**	**+1.2**
ANTO	**Ankara**	**4.08**	**75**	⇑P	Pg	05 22 54.4	+8.8
KNT	**Kendrikon**	**4.27**	**303**	P	**Pn**	**05 22 33.6**	**+1.0**
RAZG	**Razgrad**	**4.69**	**350**	⇑P	**Pn**	**05 22 39.5**	**+1.2**
VTS	**Vitosha**	**4.97**	**319**	⇑P	**Pn**	**05 22 43.3**	**+1.0**
ICOR	**Ion Corvin**	**5.16**	**1**	⇑P	**Pn**	**05 22 48.3**	**+3.6**
BOVS	**Bovan**	**6.48**	**318**	⇑P	**Pn**	**05 23 03.7**	**+0.8**
VOIR		**6.77**	**344**	⇑P	**Pn**	**05 23 08.7**	**+1.8**
PLOR	**Plostina**	**6.94**	**354**	⇓P	**Pn**	**05 23 12.2**	**+3.1**
VRI	**Vrincioaia**	**6.94**	**355**	⇓P	**Pn**	**05 23 11.8**	**+2.5**
HERR	**Herculane**	**7.10**	**328**	⇑P	**Pn**	**05 23 12.2**	**+0.9**
DOPR	**Dopca**	**7.21**	**347**	⇑P	**Pn**	**05 23 14.8**	**+1.9**
MDVR	**Moldovita**	**7.32**	**325**	⇑P	**Pn**	**05 23 14.3**	**-0.3**
GZR	**Gura Zlata**	**7.39**	**332**	⇑P	**Pn**	**05 23 15.2**	**-0.2**
TESR	**Tescani**	**7.59**	**355**	⇑P	**Pn**	**05 23 19.5**	**+1.3**
BZS	**Buzias**	**8.03**	**328**	⇑P	**Pn**	**05 23 23.9**	**-0.2**

*DNK **27** 05:26:15.9±1.6,51˚.48N×15˚.96E,h3km±67km,ML2.0*
*PRU **27** 05:26:18.5±0.0,51˚.45N×16˚.11E,h0km*
*VIE **27** 05:26:22.3,51˚.19N×16˚.06E,h0km,mb2.5/3,ml2.5/5 67 km W of Wroclaw Suspected Mining induced.*

ISC 27 05:26:16.3±0.8,51.54N±0.03×16.11E±0.03,h0km,n31, σ1§27/59,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg	**Pg**	**05 26 30.2**	**+0.4**
KSP				*e*Sg	**Sg**	**05 26 38.7**	**-0.2**
OSTC	**Ostas**	**0.98**	**176**	*e*PG	**Pg**	**05 26 35.1**	**0.0**
OSTC	comp=Z,27nm,0.3s			*e*SG	**Sg**	**05 26 48.5**	**+0.6**
UPC	**Upice**	**1.03**	**183**	*e*PG	**Pg**	**05 26 35.5**	**-0.6**
UPC				*e*SG	**Sg**	**05 26 49.1**	**-0.3**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG	**Pg**	**05 26 37.4**	**-1.8**
DPC	comp=Z,22nm,0.5s			*e*SG	**Sg**	**05 26 53.4**	**-1.3**
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG	**Pb**	**05 26 43.8**	**+0.5**
PVCC	comp=Z,70nm,0.2s			*e*SG	**Sb**	**05 27 02.1**	**+0.4**
BRG	**Berggiesshubel**	**1.51**	**245**	Pg	**Pg**	**05 26 46.1**	**+0.8**
BRG				Sg	**Sg**	**05 27 06.0**	**+1.1**
BRG	comp=Z,26nm,0.4s			Amp		05 27 07.6	
KRLC	**Kraliky**	**1.52**	**163**	*e*PG	**Pb**	**05 26 45.3**	**-0.2**
KRLC				*e*SG	**Sg**	**05 27 03.8**	**-1.4**
PRU	**Pruhonice**	**1.84**	**213**	*e*PN	**Pn**	**05 26 48.9**	**-0.2**
PRU				*e*PG	**Pb**	**05 26 50.5**	**-0.3**
PRU	comp=Z,24nm,0.5s			*e*SG	**Sb**	**05 27 14.7**	**+0.3**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**05 26 51.0**	**+0.3**
CLL				*e*Pg	**Pg**	**05 26 54.0**	**+0.2**
CLL				*ex*	x	05 26 57.0	
CLL	comp=Z,12nm,0.4s			*e*Sg	**Sg**	**05 27 20.0**	**+0.9**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*PN	**Pn**	**05 26 50.2**	**-1.0**
MORC				*e*SG	**Sn**	**05 27 17.0**	**+0.3**
VRAC	**Vranov**	**2.25**	**172**	*e*PN	**Pn**	**05 26 55.7**	**+0.9**
VRAC				*e*SG	**Sb**	**05 27 26.2**	**0.0**
KRUC	**Moravsky**	**2.48**	**176**	*e*PN	**Pn**	**05 26 57.9**	**-0.1**
KRUC				*e*SG	**Sb**	**05 27 33.9**	**+1.0**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**05 27 01.5**	**+1.1**
NKC				*e*PG	**Pg**	**05 27 07.5**	**+0.3**
NKC	comp=Z,15nm,0.3s			*e*SG	**Sg**	**05 27 43.2**	**+1.5**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**05 27 09.5**	**+1.8**
OJC				*e*Sg	**Sg**	**05 27 43.6**	**+1.1**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**05 27 04.4**	**+0.6**
KHC				*e*PG	**Pb**	**05 27 09.9**	**+1.0**
KHC				*e*SG	**Sg**	**05 27 48.9**	**-0.6**
CKRC	**Cesky Krumlov**	**2.95**	**204**	*e*SG	**Sb**	**05 27 48.6**	**+2.1**
LANS	**Liptovska Anna**	**3.21**	**137**	*e*SG	**Sg**	**05 27 58.3**	**-1.2**
MODS	**Modra-Piesok**	**3.25**	**166**	*e*PG	**Pg**	**05 27 17.9**	**-0.8**
MODS				*e*		05 28 00.9	
VYHS	**Vyhne**	**3.52**	**149**	*e*PG	**Pg**	**05 27 23.5**	**-0.2**
VYHS				*e*SG	**Sb**	**05 28 05.7**	**+3.1**
CONA	**Conrad Observa**	**3.62**	**183**	*e*Pn	**Pn**	**05 27 14.7**	**+1.1**
CONA	comp=Z,0.3nm,0.1s			*e*Sg	**Sg**	**05 28 10.4**	**-2.0**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**05 27 14.0**	**0.0**
BSD				*i* S	**Sn**	**05 27 57.4**	**-0.4**
BSD				IAML		05 27 58.4	
MOA	**Molln**	**3.88**	**199**	*i* Pn	**Pn**	**05 27 18.1**	**+0.9**
MOA	comp=Z,0.6nm,0.2s			*e*Sg	**Sg**	**05 28 20.1**	**-0.7**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*SG	**Sg**	**05 28 23.5**	**+1.7**
BIOA	**Bad Ischl, Aus**	**4.17**	**204**	*e*Sg	**Sg**	**05 28 29.2**	**-1.0**
ARSA	**Arzberg**	**4.31**	**185**	Sg	**Sg**	**05 28 33.0**	**-1.6**
LUNU	**Lund**	**4.40**	**340**	*i* P	**Pn**	**05 27 24.4**	**+0.1**
LUNU				*i* S	**Sn**	**05 28 13.8**	**-2.4**
BLEU	**Blekinge**	**4.78**	**358**	*i* P	**Pn**	**05 27 31.1**	**+1.6**
BLEU				*i* S	**Sn**	**05 28 23.0**	**-2.5**
KBA	**Koelnbreinsper**	**4.81**	**203**	*e*Sg	**Sg**	**05 28 50.8**	**-0.1**
BJUU	**Bjuv**	**4.90**	**339**	*i* P	**Pn**	**05 27 31.4**	**+0.2**
BJUU				*i* S	**Sn**	**05 28 25.9**	**-2.6**
DEL	**Delary**	**5.12**	**346**	*i* P	**Pn**	**05 27 34.1**	**-0.1**
DEL				*i* S	**Sn**	**05 28 32.0**	**-1.8**
FABU	**Falkenberg**	**5.82**	**341**	*i* P	**Pn**	**05 27 42.6**	**-1.2**
FABU				*i* S	**Sn**	**05 28 47.9**	**-3.3**

*WEL **27** 05:34:11.6±0.8,36˚.5±6˚×17˚.8E±˚,h204km±8km,M4.2/30, ML4.6/24,MLv4.2/30,Error ellipse: s-maj=0.0km s-min=0.0km az=69.1,confirmed*
*IDC **27** 05:34:14.9±2.6,36˚.68S×178˚.61E,h259km±19km,mb3.6/2, mbtmp4.2/3,Error ellipse: s-maj=53.6km s-min=37.4km az=132.0*

ISC 27 05:34:12.5±1.5,35.93S±0.09×178.23E±0.10,h220km±9km, n70,σ1§47/83,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.64**	**178**	P	**Pn**	**05 34 47.8**	**-1.3**
MXZ				S	**S**	**05 35 14.6**	**-3.1**
HAZ	**Te Kaha**	**1.86**	**191**	P	**Pn**	**05 34 50.0**	**-1.2**
WMGZ	**Waiomatatini S**	**1.90**	**176**	P	**Pn**	**05 34 50.1**	**-0.5**
WMGZ				S	**S**	**05 35 22.0**	**+0.1**
PKGZ	**Pakihiroa**	**1.96**	**184**	P	**Pn**	**05 34 51.6**	**-0.7**
RUGZ	**Raukumara Rang**	**2.08**	**192**	P	**Pn**	**05 34 52.2**	**-1.3**
PUZ	**Puketiti**	**2.14**	**179**	P	**Pn**	**05 34 53.0**	**-0.9**
PUZ				S	**S**	**05 35 25.4**	**-0.9**
KUZ	**Kuaotunu**	**2.19**	**247**	P	**Pn**	**05 34 52.6**	**-1.8**
TWGZ	**Tauwhareparae**	**2.26**	**185**	P	**Pn**	**05 34 55.2**	**+0.1**
TWGZ				S	**S**	**05 35 28.3**	**-0.1**
GRZ	**Great Barrier**	**2.27**	**261**	P	**Pn**	**05 34 52.4**	**-2.8**
MWZ	**Matawai**	**2.47**	**193**	P	**Pn**	**05 34 57.1**	**-0.3**
MWZ				S	**S**	**05 35 32.2**	**-0.2**
EDRZ	**Edgecumbe**	**2.48**	**208**	P	**Pn**	**05 34 58.1**	**+0.5**
URZ	**Urewera**	**2.50**	**201**	P	**Pn**	**05 34 57.1**	**-0.5**
URZ	50nm,0.3s,baz=345,slow=4.7,SNR=132			S	**S**	**05 35 32.4**	**-0.4**
URZ	**Urewera**	**2.50**	**201**	P	**Pn**	**05 34 57.0**	**-0.6**
URZ	51nm,0.3s,baz=150,slow=9.3,SNR=5.7			S	**S**	**05 35 33.2**	**+0.4**
CNGZ	**Carnagh Statio**	**2.55**	**180**	P	**Pn**	**05 34 58.1**	**-0.2**
WIAZ	**Waiheke Island**	**2.65**	**250**	P	**Pn**	**05 34 57.9**	**-1.3**
RAGZ	**Rawiri**	**2.65**	**194**	P	**Pn**	**05 34 59.4**	**0.0**
RAGZ				S	**S**	**05 35 37.2**	**+1.2**
MKAZ	**Moumakai**	**2.74**	**244**	P	**Pn**	**05 34 59.5**	**-0.8**
RIGZ	**Rimuhau**	**2.80**	**188**	P	**Pn**	**05 35 00.4**	**-0.6**
MBAZ	**Motutapu North**	**2.82**	**252**	P	**Pn**	**05 35 00.3**	**-0.9**
TOZ	**Tahuroa Road**	**2.84**	**230**	P	**Pn**	**05 35 01.7**	**+0.4**
RTZ	**Ruatahuna**	**2.87**	**200**	P	**Pn**	**05 35 01.3**	**-0.5**
SNGZ	**Shannon Statio**	**2.94**	**194**	P	**Pn**	**05 35 02.8**	**+0.3**
SNGZ				S	**S**	**05 35 42.6**	**+1.0**
RAHZ	**Arahi**	**3.12**	**197**	P	**Pn**	**05 35 04.4**	**-0.2**
KNZ	**Kokohu**	**3.12**	**188**	P	**Pn**	**05 35 03.6**	**-1.0**
MTHZ	**Maungataniwha**	**3.12**	**200**	P	**Pn**	**05 35 04.2**	**-0.4**
MTHZ				S	**S**	**05 35 46.0**	**+0.5**
MHGZ	**Mahia Peninsul**	**3.23**	**184**	P	**Pn**	**05 35 05.3**	**-0.5**
WHHZ	**Waihua**	**3.25**	**194**	P	**Pn**	**05 35 05.9**	**-0.1**
WHHZ				S	**S**	**05 35 49.2**	**+1.3**
NMHZ	**Naumai**	**3.36**	**199**	P	**Pn**	**05 35 07.6**	**+0.1**
ARHZ	**Aropaoanui**	**3.47**	**196**	P	**Pn**	**05 35 08.3**	**-0.4**
BKZ	**Black Stump Fm**	**3.52**	**203**	P	**Pn**	**05 35 08.8**	**-0.5**
BKZ				S	**S**	**05 35 54.5**	**+0.7**
MCHZ	**McNeill Hill**	**3.72**	**199**	P	**Pn**	**05 35 11.5**	**-0.1**
HIZ	**Hauiti**	**3.73**	**225**	P	**Pn**	**05 35 13.9**	**+2.2**
KWHZ	**Kaweka Forest**	**3.78**	**202**	P	**Pn**	**05 35 12.5**	**+0.1**
ETVZ	**East Tongariro**	**3.78**	**211**	P	**Pn**	**05 35 12.7**	**+0.2**
NNVZ	**North Ngauruho**	**3.82**	**212**	P	**Pn**	**05 35 13.4**	**+0.5**
CKHZ	**Cape Kidnapper**	**3.84**	**193**	P	**Pn**	**05 35 12.4**	**-0.6**
CKHZ				S	**S**	**05 36 00.9**	**+0.3**
OUZ	**Omahuta**	**3.84**	**279**	P	**Pn**	**05 35 10.6**	**-2.6**
SNVZ	**South Ngauruho**	**3.85**	**212**	P	**Pn**	**05 35 11.4**	**-1.9**
FWVZ	**Far West T-bar**	**3.95**	**212**	P	**Pn**	**05 35 14.6**	**+0.1**
TRVZ	**Turoa**	**3.98**	**212**	P	**Pn**	**05 35 14.9**	**-0.1**
WNVZ	**Wahianoa**	**3.99**	**211**	P	**Pn**	**05 35 14.7**	**-0.3**
MOVZ	**Moawhango**	**3.99**	**209**	P	**Pn**	**05 35 14.0**	**-1.0**
KRHZ	**Kereru**	**3.99**	**201**	P	**Pn**	**05 35 13.9**	**-1.0**
KRHZ				S	**S**	**05 36 03.7**	**-0.4**
KAHZ	**Kahuranaki**	**4.01**	**195**	P	**Pn**	**05 35 14.4**	**-0.8**
WPHZ	**Waipukurau**	**4.37**	**198**	P	**Pn**	**05 35 18.5**	**-1.0**
WAZ	**Wanganui**	**4.61**	**213**	P	**Pn**	**05 35 22.8**	**+0.4**
POWZ	**Post Office Ro**	**4.86**	**203**	P	**Pn**	**05 35 24.4**	**-1.3**
MRZ	**Mangatainoka R**	**5.17**	**203**	P	**Pn**	**05 35 27.5**	**-2.0**
HOWZ	**Holdsworth Sta**	**5.40**	**202**	P	**Pn**	**05 35 30.0**	**-2.4**
OGWZ	**Otaki Gorge**	**5.44**	**205**	P	**Pn**	**05 35 31.0**	**-1.9**
TMWZ	**Te Maipa**	**5.49**	**199**	P	**Pn**	**05 35 31.5**	**-2.0**
KIW	**Kapiti Island**	**5.58**	**207**	P	**Pn**	**05 35 32.5**	**-2.1**
MTW	**Mount Morrison**	**5.65**	**201**	P	**Pn**	**05 35 32.9**	**-2.6**
CAW	**Cannon Point**	**5.74**	**205**	P	**Pn**	**05 35 34.1**	**-2.5**
TRWZ	**Traveller**	**5.82**	**199**	P	**Pn**	**05 35 35.3**	**-2.4**
PAWZ	**Paruwai Farm**	**5.87**	**201**	P	**Pn**	**05 35 35.9**	**-2.5**
DUWZ	**D'Urville Isla**	**5.93**	**214**	P	**Pn**	**05 35 37.0**	**-2.1**
PLWZ	**Palliser**	**6.10**	**202**	P	**Pn**	**05 35 38.4**	**-2.8**
TCW	**Tory Channel**	**6.12**	**209**	P	**Pn**	**05 35 38.7**	**-2.8**
NNZ	**Nelson**	**6.51**	**214**	P	**Pn**	**05 35 44.3**	**-2.1**
BSWZ	**Blackbirch Sta**	**6.71**	**209**	P	**Pn**	**05 35 46.9**	**-2.1**
KHZ	**Kahutara**	**7.43**	**208**	P	**Pn**	**05 35 55.9**	**-2.5**
DSZ	**Denniston Nort**	**7.67**	**219**	P	**Pn**	**05 36 00.0**	**-1.5**
GVZ	**Greta Valley S**	**8.10**	**208**	P	**Pn**	**05 36 04.3**	**-2.7**
LTZ	**Lake Taylor**	**8.26**	**212**	P	**Pn**	**05 36 06.8**	**-2.2**
RPZ	**Rata Peaks**	**9.54**	**213**	P	Pn	05 36 21.1	-4.3
RPZ	11nm,1.0s,baz=45,slow=17,SNR=6.7 7.5nm,0.6s,baz=90,slow=15,SNR=1.7			S	S	05 38 02.7	-10
ODZ	**Otahua Downs**	**10.78**	**210**	P	**Pn**	**05 36 39.2**	**-2.1**
ASAR	**Alice Springs** 1.7nm,0.6s,baz=114,slow=7.8,SNR=34 1.7nm,0.6s	**40.05**	**275**	P	**P**	**05 41 28.9**	**+2.4**
WRA	**Warramunga Arr** 2.6nm,0.4s,baz=118,slow=7.7,SNR=40 2.6nm,0.4s	**41.55**	**280**	P	**P**	**05 41 40.7**	**+1.9**
FINES	**FINESS Array B** 2.3nm,0.9s,baz=25,slow=11,SNR=2.9	**149.00**	**334**	PKPbc	**PKPbc**	**05 53 33.1**	**-0.3**

*NCEDC **27** 05:36:19.4±1.7,40˚.33N±0˚.05×125˚.60W±0˚.04,h24km±7km, ML3.0/7,ML3.0/26(NEIC),Error ellipse: s-maj=7.2km s-min=4.2km az=175.0*

NEIC 27 05:36:17.1±1.2,40.35N±0˚.06×125.54W±0˚.05,h9km±8km, Error ellipse: s-maj=8.6km s-min=5.9km az=187.0,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.93**	**82**		Pn	**05 36 36.0**	**-0.3**
KCTM					Sn	**05 36 49.2**	**-0.5**
KSMM	**Slide Mountain**	**1.05**	**99**		Pg	**05 36 37.2**	**-0.2**
KMPM	**Mount Pierce**	**1.08**	**86**		Pg	**05 36 37.7**	**-0.2**
JCC	**Jacoby Creek,**	**1.24**	**67**		Pn	**05 36 39.0**	**-1.5**
JCC	**Jacoby Creek,** comp=E,108nm,0.7s	**1.24**	**67**	IAML		**05 36 54.8**	
KCRM	**Chalk Rock**	**1.31**	**86**		Pn	**05 36 41.3**	**-0.4**
KMRM	**Mail Ridge**	**1.40**	**95**		Pn	**05 36 42.8**	**-0.1**
KMRM	**Mail Ridge** comp=E,235nm,0.8s	**1.40**	**95**	IAML		**05 37 03.2**	
KMRM	comp=N,225nm,0.8s			IAML		05 37 04.1	
KRPM	**Rodgers**	**1.40**	**54**		Pn	**05 36 41.0**	**-1.9**
KRPM	**Rodgers** comp=N,86nm,3.2s	**1.40**	**54**	IAML		**05 36 59.0**	
KRPM	comp=E,102nm,4.6s			IAML		05 37 09.0	
KHMM	**Horse Mountain**	**1.47**	**69**		Pn	**05 36 42.8**	**-1.1**
KHMM	**Horse Mountain** comp=E,84nm,0.7s	**1.47**	**69**	IAML		**05 37 02.1**	
KBSM	**Bell Springs**	**1.55**	**106**		Pn	**05 36 45.0**	**0.0**
KCPM	**Cahto Peak**	**1.64**	**113**		Pn	**05 36 45.9**	**-0.3**
KCPM	**Cahto Peak** comp=E,212nm,0.4s	**1.64**	**113**	IAML		**05 37 08.5**	
KCPM	comp=N,131nm,0.4s			IAML		05 37 08.6	
KPPM	**Pickett Peak**	**1.66**	**89**		Pn	**05 36 47.0**	**+0.5**
KIPM	**Iron Peak**	**1.67**	**108**		Pn	**05 36 46.7**	**+0.1**
KFPM	**Farley Peak**	**1.77**	**113**		Pn	**05 36 47.8**	**-0.2**
KHBM	**Hayfork Bally**	**1.79**	**79**		Pn	**05 36 47.8**	**-0.6**
GTC	**Three Chop

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.50**	**39**	⇑*e*P	**Pn**	**05 58 48.9**	**+0.3**
PCDR	**Punta Cana, DR**	**0.50**	**39**	*e*S	**Sn**	**05 59 06.5**	**+1.6**
PCDR	**Punta Cana, DR**	**0.50**	**39**		**Pn**	**05 58 48.9**	**+0.3**
PCDR					**Sn**	**05 59 06.5**	**+1.6**
PCDR	**Punta Cana, DR**	**0.50**	**39**	IAML		05 59 17.0	
	comp=N,118nm,2.0s						
PCDR				IAML		05 59 50.1	
	comp=E,64nm,2.6s						
PCDR	**Punta Cana, DR**	**0.50**	**39**	*i* P	**Pn**	**05 58 48.9**	**+0.3**
PCDR				*e*S	**Sn**	**05 59 05.1**	**+0.2**
PCDR				IAML		05 59 10.0	
	comp=Z,82nm,1.6s						
IDE	**Isla Desecheo**	**1.20**	**77**	⇑*e*P	**Pn**	**05 58 54.5**	**+0.6**
IDE	**Isla Desecheo**	**1.20**	**77**		**Pn**	**05 58 54.5**	**+0.6**
PRSN	**Puerto Rico Se**	**1.49**	**86**	Pn	**Pn**	**05 58 58.0**	**+1.3**
CRPR	**Cabo Rojo, PR**	**1.52**	**94**	⇑*e*P	**Pn**	**05 58 56.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.52**	**94**	*e*S	**Sn**	**05 59 19.6**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.52**	**94**		**Pn**	**05 58 56.8**	**-0.2**
CRPR					**Sn**	**05 59 19.6**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.52**	**94**	IAML		05 59 47.2	
	comp=E,34nm,1.9s						
CRPR	**Cabo Rojo, PR**	**1.52**	**94**	*i* P	**Pn**	**05 58 56.9**	**-0.2**
LSP	**Las Mesas**	**1.54**	**88**	⇑*e*P	**Pn**	**05 58 57.8**	**+0.5**
LSP	**Las Mesas**	**1.54**	**88**	*e*S	**Sn**	**05 59 21.6**	**+1.3**
LSP	**Las Mesas**	**1.54**	**88**		**Pn**	**05 58 57.8**	**+0.5**
LSP					**Sn**	**05 59 21.6**	**+1.3**
AGPR	**Aguadilla, PR**	**1.56**	**77**	⇑*e*P	**Pn**	**05 58 58.0**	**+0.6**
AGPR	**Aguadilla, PR**	**1.56**	**77**	*e*S	**Sn**	**05 59 22.1**	**+1.6**
AGPR	**Aguadilla, PR**	**1.56**	**77**		**Pn**	**05 58 58.0**	**+0.6**
AGPR					**Sn**	**05 59 22.1**	**+1.6**
AGPR	**Aguadilla, PR**	**1.56**	**77**	IAML		05 59 24.0	
	comp=E,95nm,0.9s						
AGPR				IAML		05 59 28.0	
	comp=N,110nm,1.1s						
MLPR	**Mageyes Islan**	**1.59**	**95**	⇑*e*P	**Pn**	**05 58 56.8**	**-1.0**
MLPR	**Mageyes Islan**	**1.59**	**95**	*e*S	**Sn**	**05 59 20.9**	**-0.2**
MLPR	**Mageyes Islan**	**1.59**	**95**		**Pn**	**05 58 56.8**	**-1.0**
GBPR	**Guanica, Bosqu**	**1.75**	**95**	⇑*e*P	**Pn**	**05 58 59.8**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.75**	**95**		**Pn**	**05 58 59.8**	**+0.3**
AOPR	**Arecibo Observ**	**1.87**	**83**	⇑*e*P	**Pn**	**05 59 00.8**	**-0.1**
AOPR	**Arecibo Observ**	**1.87**	**83**	*e*S	**Sn**	**05 59 27.4**	**+0.6**
AOPR	**Arecibo Observ**	**1.87**	**83**	IAML		05 59 30.4	
	comp=N,97nm,0.4s						
AOPR	**Arecibo Observ**	**1.87**	**83**		**Pn**	**05 59 00.8**	**-0.1**
AOPR					**Sn**	**05 59 27.4**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.89**	**86**	⇑*e*P	**Pn**	**05 59 01.4**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.89**	**86**		**Pn**	**05 59 01.4**	**+0.2**
OBIP	**Obispado Ponce**	**2.00**	**92**	⇑*e*P	**Pn**	**05 59 02.2**	**-0.2**
OBIP	**Obispado Ponce**	**2.00**	**92**	*e*S	**Sn**	**05 59 29.8**	**+0.4**
OBIP	**Obispado Ponce**	**2.00**	**92**		**Pn**	**05 59 02.2**	**-0.2**
OBIP					**Sn**	**05 59 29.8**	**+0.4**
EMPR	**Esperanza - Ma**	**2.10**	**80**	⇑*e*P	**Pn**	**05 59 03.1**	**-0.4**
EMPR	**Esperanza - Ma**	**2.10**	**80**		**Pn**	**05 59 03.1**	**-0.4**
SC01	**Santiago de lo**	**2.31**	**304**	*i* P	**Pn**	**05 59 04.3**	**-1.8**
SC01				*e*S	**Sn**	**05 59 34.4**	**-1.6**
SJG	**San Juan**	**2.43**	**90**	Pn	**Pn**	**05 59 07.5**	**0.0**
SJG				IAML		05 59 40.2	
	comp=N,24nm,0.3s						
SJG				IAML		05 59 46.3	
	comp=N,18nm,0.7s						
PODR	**Polo**	**2.45**	**271**	*i* P	**Pn**	**05 59 07.9**	**-0.1**
PODR				*e*S	**Sn**	**05 59 39.4**	**+0.2**
IGPR	**InterUniversit**	**2.48**	**93**	⇑*e*P	**Pn**	**05 59 07.8**	**-0.4**
IGPR	**InterUniversit**	**2.48**	**93**	*e*S	**Sn**	**05 59 39.5**	**-0.1**
GCPR	**Guaynabo City**	**2.50**	**85**	⇑*e*P	**Pn**	**05 59 07.2**	**-1.1**
GCPR	**Guaynabo City**	**2.50**	**85**		**Pn**	**05 59 07.2**	**-1.1**
GCPR	**Guaynabo City**	**2.50**	**85**	IAML		06 00 03.4	
	comp=E,18nm,4.2s						
SDDR	**Presa de Saban**	**2.59**	**290**	Pn	**Pn**	**05 59 11.5**	**+2.0**
SDDR				IAML		05 59 47.8	
	comp=E,16nm,0.6s						
SDDR				IAML		05 59 49.0	
	comp=E,15nm,0.9s						
SDDR	**Presa de Saban**	**2.59**	**290**	*e*S	**Sn**	**05 59 41.0**	**-1.2**
CBYP	**Canovanas**	**2.71**	**86**	⇑*e*P	**Pn**	**05 59 09.9**	**-1.2**
CBYP	**Canovanas**	**2.71**	**86**	*e*S	**Sn**	**05 59 44.0**	**-0.9**
CBYP	**Canovanas**	**2.71**	**86**		**Pn**	**05 59 09.9**	**-1.2**
CBYP					**Sn**	**05 59 44.0**	**-0.9**
HUMP	**Col San Antoni**	**2.72**	**89**	⇑*e*P	**Pn**	**05 59 10.9**	**-0.1**
HUMP	**Col San Antoni**	**2.72**	**89**	*e*S	**Sn**	**05 59 44.3**	**-0.6**
HUMP	**Col San Antoni**	**2.72**	**89**		**Pn**	**05 59 10.2**	**-0.8**
HUMP				IAML		05 59 46.5	
	comp=E,24nm,0.2s						
HUMP	**Col San Antoni**	**2.72**	**89**		**Sn**	**05 59 44.3**	**-0.6**
LOPE2	**Hotel El Peder**	**2.89**	**269**	*i* P	**Pn**	**05 59 13.9**	**+0.6**
MTP	**Monte Pirata**	**3.00**	**90**	⇑*e*P	**Pn**	**05 59 14.4**	**-0.3**
MTP	**Monte Pirata**	**3.00**	**90**	*e*S	**Sn**	**05 59 51.1**	**-0.2**
MTP	**Monte Pirata**	**3.00**	**90**		**Pn**	**05 59 14.4**	**-0.3**
MTP				IAML		06 00 18.2	
	comp=N,17nm,3.7s						
MTP	**Monte Pirata**	**3.00**	**90**		**Sn**	**05 59 51.1**	**-0.2**
MTP	**Monte Pirata**	**3.00**	**90**	IAML		05 59 45.1	
	comp=E,16nm,3.5s						
CUPR	**Culebra, Puert**	**3.26**	**86**	⇑*e*P	**Pn**	**05 59 17.4**	**-0.5**
CUPR	**Culebra, Puert**	**3.26**	**86**	*e*S	**Sn**	**05 59 56.8**	**-0.3**
CUPR	**Culebra, Puert**	**3.26**	**86**		**Pn**	**05 59 17.4**	**-0.5**
CUPR					**Sn**	**05 59 56.8**	**-0.3**

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*LDG **27** 06:00:04.8±0.1, 42°.61N×13°.35E, h10km, MI2.9/23, Error ellipse: s-maj=3.8km s-min=2.3km az=45.0*
*ROM **27** 06:00:04.8±0.1, 42°.628N±0°.004×13°.326E±0°.005, h10km, ML3.3/76, Error ellipse: s-maj=0.5km s-min=0.0km az=210.0*
*IDC **27** 06:00:05.8±1.3, 42°.70N×13°.35E, h0km, mb3.4/6, mbtmp3.4/8, ML3.4/2, Error ellipse: s-maj=30.1km s-min=15.8km az=84.0*
*PDG **27** 06:00:05.9±1.0, 42°.62N×13°.31E, h12km±1km, ML3.3/9, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*
*PRU **27** 06:00:07.6±0.0, 42°.61N×13°.56E, h10km*
*BEO **27** 06:00:09.1±0.9, 42°.66N×13°.28E, h29km±4km, ML3.5/6*
ISC 27 06:00:06.0±0.7, 42°.61N±0°.02×13°.27E±0°.02, h11km±4km, n191, σ2°.26/240, mb3.4/5, 47C-38D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.11**	**204**	P	**Pg**	**06 00 08.9**	**0.0**
RM33				S	**Sg**	**06 00 11.3**	**+0.4**
RM33				AML	AML		
	comp=E,53500μm,0.3s						
RM33				AML	AML		
	comp=N,39250μm,0.6s						
RM33				AML	AML		
	comp=E,53500μm,0.2s						
RM33				AML	AML		
	comp=N,37800μm,0.6s						
RM33				AML	AML		
	comp=E,53450μm,0.3s						
CAMP	**Campotosto**	**0.12**	**125**	P	**Pg**	**06 00 08.3**	**-0.8**
CAMP				S	**Sg**	**06 00 10.3**	**-1.1**
CAMP				AML	AML		
	comp=N,32200μm,0.2s						
CAMP				AML	AML		
	comp=E,35250μm,0.3s						
T1218	**Civita (PG)**	**0.13**	**299**	P	**Pg**	**06 00 09.1**	**-0.2**
T1218				S	**Sg**	**06 00 11.9**	**+0.3**
T1218				AML	AML		
	comp=E,20550μm,0.3s						
T1218				AML	AML		
	comp=N,37050μm,0.3s						
T1218				AML	AML		
	comp=E,20550μm,0.3s						
T1218				AML	AML		
	comp=E,21200μm,0.3s						
T1218				AML	AML		
	comp=E,20600μm,0.3s						
T1218				AML	AML		
	comp=N,36900μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.17**	**173**	P	**Pg**	**06 00 09.6**	**-0.1**
T1247				S	**Sg**	**06 00 12.9**	**+0.6**
T1247				AML	AML		
	comp=N,54800μm,0.5s						
T1247				AML	AML		
	comp=E,38450μm,0.8s						
LNSS	**Leonessa**	**0.17**	**269**	⇑P	**Pg**	**06 00 10.1**	**+0.2**
LNSS				AML	AML		
	comp=N,24950μm,0.5s						
LNSS				AML	AML		
	comp=E,29950μm,0.4s						
T1212	**Cascia, Frazio**	**0.22**	**311**	⇑P	**Pg**	**06 00 10.6**	**-0.1**
T1212				S	**Sg**	**06 00 14.7**	**+0.8**
T1212				AML	AML		
	comp=E,17250μm,0.6s						
T1212				AML	AML		
	comp=N,15500μm,0.9s						
T1212				AML	AML		
	comp=E,16250μm,0.6s						
T1212				AML	AML		
	comp=N,15100μm,0.8s						
T1212				AML	AML		
	comp=N,15500μm,0.8s						
T1212				AML	AML		
	comp=E,16250μm,0.6s						
T1212				AML	AML		
	comp=N,15100μm,0.8s						
T1212				AML	AML		
	comp=N,15100μm,1.2s						
T1212				AML	AML		
	comp=N,15500μm,1.2s						
TERO	**Teramo**	**0.24**	**86**	P	**Pg**	**06 00 10.1**	**-1.0**
TERO				S	**Sg**	**06 00 13.4**	**-1.1**
TERO				AML	AML		
TERO				AML	AML		
	comp=N,99200μm,1.0s						
NRCA	**Norcia**	**0.26**	**333**	⇑P	**Pg**	**06 00 11.1**	**-0.3**
NRCA				AML	AML		
	comp=E,12285μm,1.0s						
NRCA				AML	AML		
	comp=N,14350μm,0.7s						
NRCA				AML	AML		
	comp=E,12285μm,1.0s						
NRCA				AML	AML		
	comp=N,14350μm,0.7s						
GIGS	**Gran Sasso**	**0.27**	**125**	⇓P	**Pg**	**06 00 10.6**	**-0.9**
GIGS				S	**Sg**	**06 00 14.6**	**-0.7**
GIGS				AML	AML		
	comp=E,5990μm,0.4s						
GIGS				AML	AML		
	comp=N,5135μm,0.3s						
T1222	**Castel Sant'An**	**0.27**	**221**	⇑P	**Pg**	**06 00 11.7**	**+0.2**
T1222				AML	AML		
	comp=E,8625μm,0.4s						
T1222				AML	AML		
	comp=N,8730μm,0.5s						
T1222				AML	AML		
	comp=E,9530μm,1.5s						
T1222				AML	AML		
	comp=N,8490μm,0.5s						
T1222				AML	AML		
	comp=E,9525μm,1.5s						
T1222				AML	AML		
	comp=N,8490μm,0.5s						
T1222				AML	AML		
	comp=E,8630μm,0.4s						
T1222				AML	AML		
	comp=N,8730μm,0.4s						
AQU	**L'Aquila**	**0.27**	**159**	⇑P	**Pg**	**06 00 11.3**	**-0.2**
AQU				AML	AML		
	comp=E,11800μm,0.7s						
AQU				AML	AML		
	comp=E,11850μm,0.7s						
AQU				AML	AML		
	comp=N,14200μm,0.7s						
AQU				AML	AML		
	comp=N,13750μm,0.7s						
AQU				AML	AML		
	comp=E,11900μm,0.7s						
T1217	**Poggiodomo (PG**	**0.27**	**293**	⇑P	**Pg**	**06 00 11.6**	**0.0**
T1217				AML	AML		
	comp=N,11400μm,0.4s						
T1217				AML	AML		
	comp=E,8575μm,0.5s						
T1217				AML	AML		
	comp=N,10595μm,0.4s						
T1217				AML	AML		
	comp=E,8815μm,0.5s						
T1217				AML	AML		
	comp=N,11350μm,0.4s						
T1217				AML	AML		
	comp=E,8570μm,0.5s						
T1217				AML	AML		
	comp=N,10600μm,0.5s						
MC2	**Monte Cornacci**	**0.31**	**349**	⇓P	**Pg**	**06 00 11.9**	**-0.5**
T1211	**Morro Reatino**	**0.32**	**257**	⇑P	**Pg**	**06 00 12.5**	**+0.1**
T1211				AML	AML		
	comp=E,5930μm,1.5s						
T1211				AML	AML		
	comp=N,10145μm,0.5s						
T1211				AML	AML		
	comp=E,6090μm,1.5s						
T1211				AML	AML		
	comp=N,10140μm,0.5s						
T1211				AML	AML		
	comp=E,6085μm,1.5s						
T1211				AML	AML		
	comp=E,6085μm,0.5s						
T1211				AML	AML		
	comp=N,10070μm,0.5s						
T1211				AML	AML		
	comp=E,5930μm,0.5s						
T1216	**Preci, Frazion**	**0.34**	**327**	⇓P	**Pg**	**06 00 12.5**	**-0.3**
T1216				AML	AML		
	comp=E,14050μm,0.4s						
T1216				AML	AML		
	comp=N,11400μm,0.5s						
T1216				AML	AML		
	comp=N,11350μm,0.5s						
T1216				AML	AML		
	comp=E,14050μm,0.4s						
FIAM	**Fiamignano**	**0.36**	**199**	⇑P	**Pg**	**06 00 13.0**	**-0.1**
FIAM				AML	AML		
	comp=N,4735μm,1.4s						
FIAM				AML	AML		
	comp=E,6800μm,0.5s						
FIAM				AML	AML		
	comp=N,4735μm,0.6s						
FIAM				AML	AML		
	comp=E,6800μm,1.5s						
T1215	**Vallo di Nera,**	**0.36**	**304**	⇑P	**Pg**	**06 00 12.9**	**-0.2**
T1215				AML	AML		
	comp=E,3450μm,0.9s						
T1215				AML	AML		
	comp=N,2495μm,0.6s						
T1215				AML	AML		
	comp=E,3435μm,0.9s						
T1215				AML	AML		
	comp=N,2490μm,0.6s						
T1215				AML	AML		
	comp=N,2695μm,0.4s						
ARRO	**Arrone**	**0.38**	**266**	⇑P	**Pg**	**06 00 13.5**	**+0.1**
ARRO				AML	AML		
	comp=E,3905μm,0.7s						
ARRO				AML	AML		
	comp=N,2860μm,0.7s						
ARRO				AML	AML		
	comp=E,3900μm,0.7s						
ARRO				AML	AML		
	comp=N,2865μm,0.7s						
FAGN	**Fagnano**	**0.41**	**146**	⇑P	**Pg**	**06 00 13.4**	**-0.7**
FAGN				AML	AML		
	comp=E,14950μm,0.5s						
FAGN				AML	AML		
	comp=N,20750μm,0.4s						
OFFI	**Offida**	**0.45**	**43**	⇑P	**Pg**	**06 00 14.7**	**-0.1**
OFFI				AML	AML		
	comp=E,22250μm,0.3s						
OFFI				AML	AML		
	comp=N,25500μm,0.4s						
FDMO	**Fiordimonte**	**0.45**	**342**	⇓P	**Pg**	**06 00 14.2**	**-0.7**
FDMO				AML	AML		
	comp=E,4630μm,0.9s						
FDMO				AML	AML		
	comp=N,5055μm,1.2s						
FDMO				AML	AML		
	comp=N,5055μm,0.8s						
FDMO				AML	AML		
	comp=E,4630μm,1.1s						
GUMA	**Gualdo di Mace**	**0.46**	**6**	⇓P	**Pg**	**06 00 14.6**	**-0.5**
GUMA				AML	AML		
	comp=E,24700μm,0.5s						
GUMA				AML	AML		
	comp=E,25350μm,0.3s						
GUMA				AML	AML		
	comp=N,15800μm,0.7s						
GUMA				AML	AML		
	comp=E,24700μm,1.5s						
GUMA				AML	AML		
	comp=N,15250μm,0.5s						
CESI	**CESI - Serrava**	**0.48**	**326**	⇓P	**Pg**	**06 00 15.1**	**-0.4**
CESI				S	**Sb**	**06 00 23.1**	**-0.6**
CESI				AML	AML		
	comp=E,5435μm,0.3s						
CESI				AML	AML		
	comp=E,5435μm,1.7s						
CESI				AML	AML		
	comp=N,9005μm,0.4s						
CSP1	**Cessapalombo**	**0.49**	**354**	S	**Sg**	**06 00 22.9**	**+0.8**
CSP1				AML	AML		
	comp=E,6970μm,0.4s						
CSP1				AML	AML		
	comp=N,8080μm,0.9s						
CSP1				AML	AML		
	comp=E,6965μm,0.4s						
CSP1				AML	AML		
	comp=E,6965μm,1.6s						
CSP1				AML	AML		
	comp=N,8085μm,0.9s						
T1219	**Muccia, Frazio**	**0.49**	**337**	⇓P	**Pg**	**06 00 15.0**	**-0.6**
T1219				S	**Sb**	**06 00 23.0**	**-0.9**
T1219				AML	AML		
	comp=N,5465μm,1.2s						
T1219				AML	AML		
	comp=E,5010μm,0.6s						
T1219				AML	AML		
	comp=N,5285μm,1.2s						
T1219				AML	AML		
	comp=E,4985μm,0.5s						
T1219				AML	AML		
	comp=N,5465μm,1.3s						
T1219				AML	AML		
	comp=E,5010μm,0.5s						
T1219				AML	AML		
	comp=N,5290μm,1.3s						
T1219				AML	AML		
	comp=N,5290μm,0.7s						
T1219				AML	AML		
	comp=N,5465μm,0.7s						
CESX	**Cesi**	**0.51**	**271**	⇑P	**Pg**	**06 00 15.6**	**-0.3**
CESX				AML	AML		
	comp=E,2815μm,0.9s						
CESX				AML	AML		
	comp=N,3450μm,0.4s						
TRTR	**Tortoreto Alta**	**0.51**	**67**	⇑P	**Pg**	**06 00 16.3**	**+0.2**
TRTR				AML	AML		
	comp=N,19300μm,0.6s						
TRTR				AML	AML		
	comp=E,25150μm,0.3s						
T1220	**Camerino, Fraz**	**0.52**	**345**	⇓P	**Pg**	**06 00 15.5**	**-0.7**
T1220				AML	AML		
	comp=E,17400μm,0.4s						
T1220				AML	AML		
	comp=E,17150μm,0.4s						
T1220				AML	AML		
	comp=N,19050μm,1.0s						
T1220				AML	AML		
	comp=E,17400μm,0.4s						
T1220				AML	AML		
	comp=E,17100μm,0.4s						
T1220				AML	AML		
	comp=N,19000μm,1.0s						
T1220				AML	AML		
	comp=E,17100μm,1.6s						
T1220				AML	AML		
	comp=E,17400μm,1.6s						
T0110	**Collepietro**	**0.53**	**135**	⇓P	**Pg**	**06 00 15.3**	**-1.1**
T0110				AML	AML		
	comp=N,10250μm,0.4s						
T0110				AML	AML		
	comp=E,9255μm,0.5s						
T0110				AML	AML		
	comp=N,10250μm,1.6s						
MOMA	**Monte Martano**	**0.56**	**291**	⇑P	**Pg**	**06 00 16.5**	**-0.3**
MOMA				AML	AML		
	comp=E,3215μm,1.5s						
MOMA				AML	AML		
	comp=N,2860μm,0.5s						
MOMA				AML	AML		
	comp=N,2940μm,0.4s						
MOMA				AML	AML		
	comp=E,3260μm,1.5s						
MOMA				AML	AML		
	comp=N,2855μm,0.5s						
MOMA				AML	AML		
	comp=N,2940μm,1.6s						
PTQR	**Pietraquaria**	**0.59**	**171**	⇓P	**Pg**	**06 00 17.3**	**-0.2**
PTQR				AML	AML		
	comp=N,1415μm,0.3s						
PTQR				AML	AML		
	comp=E,1175μm,0.4s						
ASSB	**Assisi San Ben**	**0.63**	**314**	⇑P	**Pg**	**06 00 17.7**	**-0.5**
ASSB				AML	AML		
	comp=E,2925μm,1.3s						
ASSB				AML	AML		
	comp=E,2925μm,0.7s						
ASSB				AML	AML		
	comp=N,3220μm,1.0s						
SRES	**S.Oreste - Sor**	**0.67**	**237**	⇑P	**Pg**	**06 00 18.5**	**-0.5**
SRES				AML	AML		
	comp=N,1150μm,1.5s						
SRES				AML	AML		
	comp=E,1030μm,0.5s						
SRES				AML	AML		
	comp=N,1150μm,0.5s						
SNTG	**Esanatoglia**	**0.69**	**340**	⇓P	**Pg**	**06 00 18.5**	**-0.9**
SNTG				AML	AML		
	comp=E,1495μm,0.7s						
SNTG				AML	AML		
	comp=N,1855μm,0.4s						
SNTG				AML	AML		
	comp=E,1495μm,1.3s						
MTCE	**Montecelio**	**0.70**	**214**	⇓P	**Pg**	**06 00 19.0**	**-0.6**
MTCE				AML	AML		
	comp=N,1555μm,0.7s						
MTCE				AML	AML		
	comp=E,2740μm,0.5s						
MTCE				AML	AML		
	comp=N,1555μm,1.3s						
MTCE				AML	AML		
	comp=E,2740μm,1.5s						
EL6	**Elcito**	**0.73**	**350**	⇓P	**Pg**	**06 00 19.2**	**-1.0**
EL6				AML	AML		
	comp=E,4465μm,0.3s						
EL6				AML	AML		
	comp=N,4175μm,0.4s						
EL6				AML	AML		
	comp=E,4460μm,0.3s						
EL6				AML	AML		
	comp=N,4180μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.74**	**321**	P	**Pg**	**06 00 19.7**	**-0.7**
ATCC				AML	AML		
	comp=N,2855μm,0.9s						
ATCC				AML	AML		
	comp=E,3055μm,0.3s						
ATCC				AML	AML		
	comp=E,3055μm,1.7s						
ATCC				AML	AML		
	comp=N,2855μm,1.1s						
CING	**Cingoli**	**0.77**	**356**	⇑P	**Pg**	**06 00 19.9**	**-1.0**
CING				AML	AML		
	comp=E,3395μm,0.9s						
CING				AML	AML		
	comp=N,2935μm,0.3s						
VVLD	**Villa Vallelon**	**0.78**	**160**	⇑P	**Pg**	**06 00 20.3**	**-0.7**
VVLD				AML	AML		
	comp=N,1895μm,0.6s						
VVLD				AML	AML		
	comp=E,1315μm,0.6s						
VVLD				AML	AML		
	comp=N,1895μm,1.4s						
FOSV	**Fossato di Vic**	**0.79**	**332**	⇓P	**Pg**	**06 00 20.2**	**-0.9**
FOSV				AML	AML		
	comp=E,1490μm,0.4s						
FOSV				AML	AML		
	comp=N,1955μm,1.1s						
FOSV				AML	AML		
	comp=N,1955μm,0.9s						
PP3	**Marolino**	**0.81**	**18**	⇑P	**Pg**	**06 00 21.8**	**+0.1**
PP3				AML	AML		
	comp=E,6150μm,0.8s						
PP3				AML	AML		
	comp=N,5150μm,0.5s						
PP3				AML	AML		
	comp=E,6190μm,0.8s						
PP3				AML	AML		

comp=N,5150µm,1.5s
PP3 AML AML
comp=N,4860µm,0.4s
MURB Monte Urbino 0.86 320 ⇑P Pg 06 00 21.9 -0.7
MURB AML AML
comp=E,6505µm,1.0s
MURB AML AML
comp=E,6935µm,0.9s
MURB AML AML
comp=E,6510µm,1.0s
MURB AML AML
comp=N,5220µm,0.3s
MURB AML AML
comp=N,5115µm,1.0s
LPEL Lama dei Pelig 0.88 129 ⇑P Pg 06 00 21.0 -1.9
LPEL AML AML
comp=N,1680µm,0.6s
LPEL AML AML
comp=E,1845µm,1.0s
LPEL AML AML
comp=N,1680µm,1.4s
SSFR Montelago di S 0.91 337 ⇑P Pb 06 00 22.7 -1.1
SSFR AML AML
comp=E,3710µm,0.2s
SSFR AML AML
comp=E,3370µm,0.2s
SSFR AML AML
comp=N,2895µm,0.2s
SSFR AML AML
comp=N,3500µm,1.1s
MGAB Montegabbione 0.91 290 ⇓P Pg 06 00 23.3 -0.2
MGAB AML AML
comp=E,2810µm,0.6s
MGAB AML AML
comp=N,2935µm,0.4s
MGAB AML AML
comp=E,3380µm,0.5s
MGAB AML AML
comp=N,2410µm,0.4s
ATFO Monte Foce - G 0.92 326 ⇑P Pb 06 00 23.1 -0.9
ATFO AML AML
comp=E,1600µm,1.4s
ATFO AML AML
comp=N,1890µm,0.6s
ATFO AML AML
comp=N,1890µm,1.4s
ARVD Arcevia 0.93 345 ⇓P Pb 06 00 22.4 -1.7
ARVD AML AML
comp=E,971µm,0.6s
ARVD AML AML
comp=N,982µm,0.6s
AOI Ancona 0.97 14 ⇑P Pb 06 00 24.0 -0.9
AOI AML AML
comp=E,1690µm,0.5s
AOI AML AML
comp=N,2080µm,1.2s
FRON Frontone 1.00 336 ⇑P Pb 06 00 23.9 -1.4
FRON AML AML
comp=N,1790µm,0.4s
FRON AML AML
comp=E,1500µm,0.7s
FRON AML AML
comp=N,1790µm,1.6s
ATVO AVT- Monte Val 1.00 321 ⇑P Pb 06 00 24.2 -1.2
ATVO AML AML
comp=E,1365µm,0.8s
ATVO AML AML
comp=N,844µm,0.6s
SACS San Casciano d 1.03 284 ⇓P Pb 06 00 25.6 -0.4
SACS AML AML
comp=E,967µm,0.6s
SACS AML AML
comp=N,1163µm,0.6s
SACS AML AML
comp=E,916µm,0.6s
SACS AML AML
comp=N,1174µm,0.6s
SACS AML AML
comp=N,1174µm,1.4s
SACS AML AML
comp=N,1163µm,1.4s
ATMI Monte Miggiano 1.04 315 ⇓P Pn 06 00 26.7 +0.1
ATMI AML AML
comp=E,4080µm,0.7s
ATMI AML AML
comp=N,3355µm,0.6s
COR1 Corinaldo 1.04 349 P Pb 06 00 25.6 -0.6
COR1 AML AML
comp=E,2120µm,0.7s
COR1 AML AML
comp=N,2830µm,1.2s
COR1 AML AML
comp=N,2830µm,0.8s
COR1 AML AML
comp=E,2120µm,1.3s
GIUL Giuliano Di Ro 1.05 181 ⇑P Pn 06 00 27.1 +0.5
GIUL AML AML
comp=N,1051µm,0.6s
GIUL AML AML
comp=E,750µm,0.5s
ATPI Pietralunga - 1.06 323 ⇓P Pb 06 00 25.6 -0.8
ATPI AML AML
comp=E,185µm,0.4s
ATPI AML AML
comp=N,214µm,0.4s
PIEI Pieia 1.08 330 ⇓P Pb 06 00 25.6 -1.1
PIEI AML AML
comp=N,762µm,0.4s
PIEI AML AML
comp=E,926µm,0.4s
PIEI AML AML
comp=N,762µm,1.6s
LATE Laterza 1.08 271 ⇓P Pg 06 00 27.8 +0.9
TOLF Tolfa 1.09 241 P Pb 06 00 26.4 -0.5
TOLF AML AML
comp=N,1114µm,0.9s
TOLF AML AML
comp=N,1114µm,1.1s
TOLF AML AML
comp=E,1012µm,0.6s
MPAG Monte Paganucc 1.09 340 ⇓P Pb 06 00 25.6 -1.3
MPAG AML AML
comp=E,1244µm,0.6s
MPAG AML AML
comp=N,1360µm,0.5s
MPAG AML AML
comp=E,1192µm,0.6s
MPAG AML AML
comp=N,1330µm,0.5s
SENI Senigallia 1.10 358 ⇑P Pb 06 00 25.6 -1.5
SENI AML AML
comp=E,6845µm,0.8s
SENI AML AML
comp=N,7140µm,0.7s
SENI AML AML
comp=E,1775µm,0.9s
SENI AML AML
comp=N,1505µm,1.0s
SENI AML AML
comp=E,6845µm,1.2s
SENI AML AML
comp=E,1775µm,1.1s
LATB Latina 1.13 192 ⇓P Pn 06 00 27.5 -0.3
LATB AML AML
comp=E,274µm,0.9s
LATB AML AML
comp=N,259µm,0.7s
LATB AML AML
comp=N,259µm,1.3s
LATB AML AML
comp=E,274µm,1.1s
APEC Apecchio 1.14 327 ⇑P Pb 06 00 27.3 -0.4
APEC AML AML
comp=N,1310µm,0.7s
APEC AML AML
comp=E,1510µm,0.8s
APEC AML AML
comp=N,1310µm,1.3s
CERA Filignano 1.15 151 ⇓P Pb 06 00 26.3 -1.6
CERA AML AML
comp=E,946µm,0.7s
CERA AML AML
comp=N,1675µm,0.6s
CERA AML AML
comp=N,1600µm,0.6s
CERA AML AML
comp=E,994µm,0.7s
MCIV Monte Civitell 1.19 279 ⇓P Pg 06 00 29.0 +0.1
MCIV AML AML
comp=N,460µm,0.6s
MCIV AML AML
comp=E,456µm,0.4s
MCIV AML AML
comp=N,460µm,1.4s
CAFI Castiglion Fio 1.20 307 ⇑P Pg 06 00 30.0 +1.0
CAFI AML AML
comp=E,868µm,0.8s
CAFI AML AML
comp=N,802µm,1.0s
CAFI AML AML
comp=E,879µm,0.8s
CAFI AML AML
comp=N,836µm,1.0s
CAFI AML AML
comp=N,836µm,1.0s
CAFI AML AML
comp=E,879µm,1.2s
CAFI AML AML
comp=N,802µm,1.0s
CAFI AML AML
comp=E,868µm,1.2s
MIDA Miranda 1.21 143 ⇑P Pn 06 00 27.2 -1.7
MIDA AML AML
comp=E,958µm,0.8s
MIDA AML AML
comp=N,607µm,1.3s
MIDA AML AML
comp=E,998µm,0.8s
MIDA AML AML
comp=N,588µm,1.3s
MIDA AML AML
comp=N,588µm,0.7s
MIDA AML AML
comp=E,998µm,1.2s
MIDA AML AML
comp=E,958µm,1.2s
MIDA AML AML
comp=N,607µm,0.7s
PE3 Peglio 1.23 333 ⇓P Pn 06 00 28.9 -0.3
PE3 AML AML
comp=E,3785µm,0.5s
PE3 AML AML
comp=N,6µm,1.6s
PE3 AML AML
comp=N,6µm,0.4s
PE3 AML AML
comp=E,3785µm,1.5s
TRIV Trivento 1.27 131 ⇑P Pg 06 00 31.0 +0.7
SF01 Poggio Pratacc 1.28 280 P Pg 06 00 30.8 +0.2
SF01 AML AML
comp=E,1040µm,0.9s
SF01 AML AML
comp=N,943µm,0.6s
SF01 AML AML
comp=E,1040µm,1.1s
SF01 AML AML
comp=N,943µm,1.4s
PARC Parchiule 1.29 324 ⇓P Pb 06 00 29.9 -0.3
PARC AML AML
comp=E,996µm,1.6s
PARC AML AML
comp=N,830µm,0.5s
PARC AML AML
comp=E,996µm,0.4s
PARC AML AML
comp=N,830µm,1.5s
ARCI Arcidosso 1.35 281 P Pg 06 00 31.5 -0.3
ARCI AML AML
comp=E,232µm,0.6s
ARCI AML AML
comp=N,171µm,0.7s
ARCI AML AML
comp=N,171µm,1.3s
PESA Pesaro 1.37 347 P Pb 06 00 31.7 0.0
PESA AML AML
comp=E,1350µm,1.1s
PESA AML AML
comp=E,1350µm,0.9s
PESA AML AML
comp=N,1660µm,0.3s
CPGN Carpegna, Ital 1.38 330 P Pb 06 00 32.1 +0.1
CPGN AML AML
comp=N,1522µm,1.0s
CPGN AML AML
comp=E,1560µm,1.1s
CPGN AML AML
comp=N,961µm,1.1s
CPGN AML AML
comp=E,1230µm,0.6s
VAGA Valle Agricola 1.39 149 ⇑P Pg 06 00 33.3 +0.7
MELA Melanico ??? S 1.65 122 ⇓P Pb 06 00 36.0 -0.3
MELA AML AML
comp=E,1005µm,0.5s
MELA AML AML
comp=N,1260µm,0.5s
MELA AML AML
comp=E,991µm,0.6s
MELA AML AML
comp=N,1280µm,0.7s
MELA AML AML
comp=E,991µm,1.4s
MELA AML AML
comp=N,1260µm,1.5s
MELA AML AML
comp=E,1005µm,1.5s
RUFI Rufina 1.78 314 ⇑P Pb 06 00 38.8 +0.1
CASP Castiglione de 1.79 277 P Pn 06 00 37.1 +0.3
CASP AML AML
comp=E,102µm,0.8s
CASP AML AML
comp=E,102µm,1.2s
CASP AML AML
comp=N,120µm,0.8s
TRIF Trifonti 1.82 287 ⇓P Pb 06 00 38.0 -1.3
TRIF AML AML
comp=E,201µm,0.7s
TRIF AML AML
comp=N,162µm,0.8s
MSAG Monte S. Angel 2.15 114 ⇓P Pn 06 00 42.8 +0.9
MSAG AML AML
comp=N,968µm,0.4s
MSAG AML AML
comp=N,978µm,0.3s
MSAG AML AML
comp=E,444µm,0.5s
MSAG AML AML
comp=E,432µm,0.5s
MTCR Monte La Croce 2.19 311 P Pb 06 00 44.8 -0.8
BRJN Brijuni 2.33 8 P Pn 06 00 44.6 +0.4
HVAR Hvar 2.40 75 ⇑P Pn 06 00 45.7 +0.4
VULT Monte Vulture 2.41 132 ⇑P Pb 06 00 47.4 -2.0
CAVE Cavezzo 2.79 325 ⇓P Pn 06 00 49.8 -0.9
SKDS Skadanscina 2.99 10 *e*Pn Pn 06 00 52.9 -0.5
A050A Klekovaca 3.02 51 *e*Pn Pn 06 00 54.4 +0.5
MNTV Mantova 3.11 326 P Pb 06 01 01.6 +0.2
PGF Pioggiola 3.16 270 *e*P Pn 06 00 57.1 +1.4
PGF *e*Sn **Sn 06 01 30.2 -3.2**
comp=E,3.1nm,0.4s
SRKY Kupres RS 3.19 61 *e*Pn Pn 06 00 56.3 +0.1
BOJS Bojanci 3.23 26 *e*Pn Pn 06 00 56.9 +0.3
CEY Cerknica 3.24 14 *e*Pn Pn 06 00 56.8 0.0
STON Ston 3.27 84 *e*Pn Pn 06 00 57.3 +0.1
STON *e*Sn **Sn 06 01 36.3 +0.2**
STON Ston 3.27 84 *e*Pn Pn 06 00 51.9 -5.3
MGRS Mrkonjic Grad 3.31 56 *e*Pn Pn 06 00 57.9 +0.1
CGRP Cima Grappa 3.44 343 ⇓P Pn 06 00 59.7 0.0
CGRP AML AML
comp=E,162µm,0.6s
CGRP AML AML
comp=N,158µm,0.5s
CGRP AML AML
comp=N,158µm,1.5s
BLY Banja Luka 3.56 52 *e*Pn Pn 06 01 00.8 -0.3
A051A Mrakovica 3.56 46 *e*Pn Pn 06 01 01.2 -0.1
CRES Cresnjev 3.58 25 *e*Pn Pn 06 01 01.6 +0.1
CTI Castel Tesino 3.63 342 P Pn 06 01 03.2 +0.9
LEOD Capriano del C 3.65 323 ⇑P Pn 06 01 01.7 -0.6
TREB Trebinje 3.75 87 *e*Pn Pn 06 01 04.8 +1.1
LUSI Trento, Gardas 3.75 334 ⇑P Pn 06 01 05.5 +1.7
HCY Herceg Novi 3.86 91 *e*Pn Pn 06 01 06.3 +1.0
HCY Herceg Novi 3.86 91⇑*i*Pn Pn 06 01 05.6 +0.3
HCY *i* Sn **Sn 06 01 52.2 +1.5**
BRY Bratogost 3.89 84 *e*Pn Pn 06 01 05.9 +0.1
BRY Bratogost 3.89 84⇓*i*Pn Pn 06 01 06.3 +0.5
BRY *i* Sn **Sn 06 01 52.1 +0.5**
ACOM Acomizza, Ital 3.95 2 ⇑P Pn 06 01 07.0 +0.3
MABI Malga Bissina 3.98 331 ⇓P Pn 06 01 08.7 +1.6
FVI Forni Avoltri 4.01 355 ⇓P Pn 06 01 07.1 -0.3
FVI AML AML
comp=E,56µm,0.6s
FVI AML AML
comp=N,72µm,1.6s
FVI AML AML
comp=N,72µm,0.4s
OBKA Obir 4.01 13 *e*Pn Pn 06 01 08.1 +0.7
comp=N,2.1nm,0.2s
OBKA Obir 4.01 13 *e*Pn Pn 06 01 06.6 -0.8
MYKA Terra Mystica 4.03 4 *e*Pn Pn 06 01 08.6 +0.8
comp=N,2.8nm,0.2s
RORO Rocca Rossa 4.08 293 P Pb 06 01 20.0 +2.1
BOSI Bolzano 4.13 341 S Sn 06 02 00.6 +3.3
CEME Cevo 4.17 89⇑*i*Pn Pn 06 01 09.4 -0.2
CEME *i* Sn **Sn 06 01 59.4 +1.0**
BUM Brajici-Budva 4.17 92⇑*i*Pn Pn 06 01 10.2 +0.6
BUM *i* Sn **Sn 06 01 59.1 +0.7**
ABTA Abfaltersbach 4.18 353 *e*Pn Pn 06 01 10.9 +1.1
comp=N,7.6nm,0.3s
ABTA *e*Sn **Sn 06 02 02.8 +4.3**
comp=N,29nm,0.8s
UPM Unac-Piva 4.18 80 *e*Pn Pn 06 01 11.0 +1.1
UPM Unac-Piva 4.18 80⇓*i*Pn Pn 06 01 11.4 +1.5
UPM *i* Sn **Sn 06 01 58.2 -0.6**
NKME Niksic 4.19 86⇑*i*Pn Pn 06 01 10.7 +0.8
NKME *i* Sn **Sn 06 01 58.4 -0.5**
SOKA Soboth 4.26 17 *e*Pn Pn 06 01 15.1 +4.2
comp=N,2.2nm,0.2s
DRME Dracevica, Mon 4.40 93 *e*Pn Pn 06 01 13.7 +1.0
DRME Dracevica, Mon 4.40 93⇓*i*Pn Pn 06 01 13.0 +0.3
DRME *i* Sn **Sn 06 02 04.9 +1.0**
PDG Podgorica 4.42 90 *e*Pn Pn 06 01 14.2 +1.2
PDG *e*Sn **Sn 06 02 03.6 -0.9**
PDG Podgorica 4.42 90⇑*i*Pn Pn 06 01 13.9 +0.9
PDG *i* Sn **Sn 06 02 05.6 +1.1**
SBF Sospel 4.45 288 *e*P Pn 06 01 15.0 +1.6
SBF *e*Sn **Sn 06 02 00.8 -4.4**
comp=N,7.6nm,0.4s
KBA Koelnbreinsper 4.47 1 *e*Pn Pn 06 01 14.5 +0.6
comp=N,3.3nm,0.3s
RUDO Rudo 4.58 75 *e*Pn Pn 06 01 16.2 +1.0
KOME Kolasin 4.61 85⇓*i*Pn Pn 06 01 17.7 +2.1
KOME *i* Sn **Sn 06 02 09.9 +0.8**
BBLS Lazići 4.65 72 *e*Pn Pn 06 01 17.6 +1.3
FETA Feichten 4.77 339 *i* Pn Pn 06 01 20.7 +2.7
comp=N,2.2nm,0.3s,SNR=5.5
FETA *e*Sn **Sn 06 02 18.6 +5.3**
comp=N,5.9nm,0.8s
WTTA Wattenberg 4.80 347 *e*Pn Pn 06 01 20.5 +2.1
comp=N,4.6nm,0.3s
DAVOX Davos/Dischmat 4.82 331 Pn **Pn 06 01 20.9 +2.2**
comp=N,1.9nm,0.3s,baz=155,slow=19,SNR=13
DAVOX Sn **Sn 06 02 16.6 +1.9**
comp=N,1.0nm,0.3s,baz=297,slow=21,SNR=1.5
comp=N,5.7nm,0.4s
SQTA Sankt Quirin 4.84 343 *e*Pn Pn 06 01 21.9 +3.0
comp=N,6.2nm,0.3s
SQTA *e*Sn **Sn 06 02 19.5 +4.5**
comp=N,6.5nm,0.4s
WATA Walderalm 4.88 346 *i* Pn Pn 06 01 22.3 +2.9
comp=N,4.5nm,0.2s,SNR=4.5
IVA Berane 4.88 85⇑*i*Pn Pn 06 01 21.4 +2.0
IVA *i* Sn **Sn 06 02 16.9 +0.9**
PVY Plav 4.94 88⇑*i*Pn Pn 06 01 20.5 +0.3
SJES Sjenica 4.96 80 *e*Pn Pn 06 01 21.8 +1.2
SJES *e*Sn **Sn 06 02 15.1 -2.9**
SJES Sjenica 4.96 80 *e*Pn Pn 06 01 20.5 -0.1
MOTA Moosalm 4.98 343 *e*Pn Pn 06 01 24.1 +3.2
comp=N,1.3nm,0.2s
LMR La Mourre 5.02 281 *e*Pn Pn 06 01 19.4 -1.8
LMR *e*Sn **Sn 06 02 14.4 -4.7**
comp=N,1.3nm,0.3s
BIOA Bad Ischl, Aus 5.09 3 *e*Pn Pn 06 01 25.9 +3.6
comp=N,5.0nm,0.3s
DIVS Divibare 5.12 71 *e*Pn Pn 06 01 23.5 +0.8
DIVS *e*Sn **Sn 06 02 19.5 -2.4**
DIVS Divibare 5.12 71 *e*Pn Pn 06 01 21.3 -1.4
MBDF Montbardon 5.17 296 *e*P Pn 06 01 25.3 +1.8
MBDF *e*Sn **Sn 06 02 18.3 -4.9**
comp=N,1.9nm,0.4s
RETA Reutte 5.20 341 *e*Pn Pn 06 01 26.0 +2.3
comp=N,1.9nm,0.3s
DAVA Damuels 5.26 334 *i* Pn Pn 06 01 27.9 +3.2
comp=N,3.9nm,0.4s,SNR=6.2
MOA Molln 5.29 7 *i* Pn Pn 06 01 27.2 +2.2
comp=N,2.4nm,0.2s
MOA *e*Sn **Sn 06 02 27.5 +1.6**
comp=N,6.1nm,0.4s
MOA Molln 5.29 7 *e*Pn Pn 06 01 25.6 +0.6
MOA *e*Sn **Sn 06 02 22.5 -3.4**
FRGS Fruska Gora 5.37 59 *e*Pn Pn 06 01 14.4 -12
RONA Rosalia, Austr 5.52 22 *e*Pn Pn 06 01 30.7 +2.5
comp=N,2.2nm,0.2s
LPL La Plagne 5.54 304 *e*P Pn 06 01 30.8 +2.2
LPL *e*Sn **Sn 06 02 27.0 -5.3**
comp=N,2.4nm,0.4s
GRUS Gruza 5.58 74 *e*Pn Pn 06 01 29.6 +0.6
CONA Conrad Observa 5.63 18 *i* Pn Pn 06 01 31.4 +1.7
comp=N,1.3nm,0.2s
SMRF Simiane la Rot 5.78 286 *e*Pn Pn 06 01 29.7 -2.1
SMRF Simiane la Rot 5.78 286 *e*P Pn 06 01 33.9 +2.1
SMRF *e*Sn **Sn 06 02 33.1 -5.0**
comp=N,0.9nm,0.3s
SELS Selova 5.79 81 *e*Pn Pn 06 01 32.5 +0.6
SELS *e*Sn **Sn 06 02 35.2 -3.2**
ORIF Oris-en-Rattie 5.83 296 *e*Pn Pn 06 01 30.0 -2.5
ORIF Oris-en-Rattie 5.83 296 *e*P Pn 06 01 34.6 +2.1
ORIF *e*Sn **Sn 06 02 33.8 -5.6**
comp=N,1.4nm,0.3s
GERES GERESS Array B 6.25 3 Pn **Pn 06 01 37.7 -0.5**
comp=N,0.5nm,0.3s,baz=170,slow=12,SNR=9.8
GERES Sn **Sn 06 02 49.8 +0.2**
comp=N,1.3nm,0.3s,baz=166,slow=22,SNR=7.1
comp=N,0.6nm,0.4s
BARS Barje 6.30 85 *e*Pn Pn 06 01 39.7 +0.9
MODS Modra-Piesok 6.42 25 *e*PN Pn 06 01 43.5 +3.1
PRVS Prvonek 6.50 88 *e*Pn Pn 06 01 42.1 +0.5
CABF La Chapelle 6.51 310 *e*P Pn 06 01 43.9 +2.2
CABF *e*Sn **Sn 06 02 50.8 -5.2**
comp=N,0.8nm,0.2s
KHC Kasperske Hory 6.53 2 *e*PN Pn 06 01 43.1 +1.1
KHC *e*SN **Sn 06 02 54.6 -1.9**
VIVF Saint-Julien-l 6.62 293 *e*P Pn 06 01 46.0 +2.7
VIVF *e*Sn **Sn 06 02 53.2 -5.6**
comp=N,0.6nm,0.3s
ZAGS Zajecar 6.66 77 *e*Pn Pn 06 01 44.4 +0.7
ZAPS Zavoj 6.90 81 *e*Pn Pn 06 01 48.3 +1.2
ZAPS *e*Sn **Sn 06 03 02.8 -2.9**
HINF Hinteralfeld 6.91 321 *e*Pn Pn 06 01 44.5 -2.7
HINF Hinteralfeld 6.91 321 *e*P Pn 06 01 49.5 +2.3
HINF *e*Sn **Sn 06 03 00.3 -5.4**
comp=N,4.1nm,0.3s
LASF Ste Croix 7.02 285 *e*Pn Pn 06 01 46.2 -2.5
LASF *e*Sn **Sn 06 03 02.5 -6.0**
comp=N,0.8nm,0.3s
CDF Champ du Feu 7.17 326 *e*P Pn 06 01 51.5 +0.6
CDF *e*Sn **Sn 06 03 05.3 -7.0**
comp=N,2.8nm,0.4s
HAU Haudompre 7.28 320 *e*P Pn 06 01 53.3 +1.1
HAU *e*Sn **Sn 06 03 09.7 -5.1**
comp=N,6.0nm,0.3s
KEST Kesra 7.51 205 Pn Pn 06 02 01.4 +5.9
comp=N,0.6nm,0.3s,baz=327,slow=4.4,SNR=6.8
SMF Signal de Mont 7.85 304 *e*Pn Pn 06 01 57.4 -2.6
SMF Signal de Mont 7.85 304 *e*P Pn 06 02 02.4 +2.4
SMF *e*Sn **Sn 06 03 21.9 -6.9**
comp=N,1.3nm,0.3s
PAGF Fort de Pagny 7.96 321 *e*P Pn 06 02 04.3 +2.7
SFTF Sexfontaines 8.05 317 *e*Pn Pn 06 02 00.0 -2.9
baz=137
SFTF *e*Sn **Sn 06 03 26.7 -7.2**
comp=N,4.8nm,0.4s
LOR Lormes 8.14 308 *e*P Pn 06 02 06.0 +1.9
baz=129
LOR *e*Sn **Sn 06 03 28.7 -7.4**
comp=N,1.8nm,0.4s
AVF Avril sur Loir 8.21 304 *e*P Pn 06 02 06.7 +1.7
AVF *e*Sn **Sn 06 03 30.6 -7.1**
comp=N,0.5nm,0.2s

MEZF	**Maizieres J'vi**	**8.25**	**318**	*e*Sn	**Sn**	**06 03 30.9**	**-7.7**
	comp=N,3.8nm,0.3s						
SSF	**Saint Saulge**	**8.25**	**306**	*e*Pn	**Pn**	**06 02 01.5**	**-4.0**
SSF				*e*Sn	**Sn**	**06 03 33.2**	**-5.4**
	comp=N,0.8nm,0.3s						
BGF	**Bois d'Agland**	**8.42**	**302**	*e*Pn	**Pn**	**06 02 05.3**	**-2.7**
TCF	**Toulx Ste Croi**	**8.73**	**299**	*e*Pn	**Pn**	**06 02 09.4**	**-2.7**
TCF				*e*Sn	**Sn**	**06 03 44.0**	**-6.5**
	comp=N,0.4nm,0.2s						
FLN	**La Foliniere**	**11.41**	**307**	*e*Pn	**Pn**	**06 02 45.8**	**-3.1**
FINES	**FINESS Array B**	**20.37**	**18**	P	**P**	**06 04 42.5**	**+0.2**
	comp=N,0.8nm,0.7s,baz=205,slow=12,SNR=1.1 comp=N,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**31.02**	**202**	P	**P**	**06 06 26.4**	**+2.7**
	comp=N,0.2nm,0.4s,baz=28,slow=8.6,SNR=2.0 comp=N,0.2nm,0.4s						
GEYT	**Alibeck**	**34.23**	**82**	P	**P**	**06 06 52.8**	**+1.1**
	comp=N,0.9nm,0.4s,baz=273,slow=5.6,SNR=1.8 comp=N,0.9nm,0.4s						
MKAR	**Makanchi Array**	**47.80**	**60**	P	**P**	**06 08 43.9**	**+0.6**
	comp=N,0.2nm,0.7s,baz=275,slow=7.5,SNR=2.9 comp=N,0.2nm,0.7s						
SONM	**Songino Array**	**61.88**	**50**	P	**P**	**06 10 26.9**	**+1.5**
	comp=N,0.2nm,0.4s,baz=304,slow=8.5,SNR=3.0 comp=N,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**67.24**	**337**	P	**P**	**06 11 00.7**	**+0.8**
	comp=N,0.2nm,0.8s,baz=42,slow=5.7,SNR=3.1 comp=N,0.2nm,0.8s						

KRSC 27 06:18:52.0±0.9, 52.75N×170.90E, h68km±33km, Ml3.7, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**3.81**	**312**	*e*S	Sn	06 20 33.0	+1.4
KBTR	**Krutoberegovo**	**5.85**	**310**	*e*P	Pn	06 20 20.7	+4.8
SPN	**Mys Shipunski**	**6.59**	**277**	*e*S	Sn	06 21 41.2	+1.5
TUMD	**Tumrok D**	**6.66**	**296**	*e*S	Sn	06 21 44.5	+3.0
TUMR	**Tumrok**	**6.83**	**296**	*e*P	Pn	06 20 34.8	+5.4
NLC	**Nalytchevo**	**6.99**	**278**	*e*S	Sn	06 21 52.9	+3.4
UGLR	**Uglovaya**	**7.31**	**278**	*e*P	Pn	06 20 40.4	+4.4
AVH	**Avacha**	**7.36**	**279**	*e*P	Pn	06 20 40.7	+4.1
KRX	**Arik**	**7.41**	**280**	*e*P	Pn	06 20 40.9	+3.4
RUS	**Russkaya**	**7.55**	**273**	*e*S	Sn	06 22 05.5	+2.2
MTVR	**Mutnovka**	**7.75**	**273**	*e*P	Pn	06 20 46.8	+4.7
MTVR				*e*S	Sn	06 22 09.8	+1.6

*NNC **27** 06:26:47.8±1.3, 54.52N×86.70E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=14.1km s-min=7.1km az=167.0, Suspected Mining explosion.*
*IDC **27** 06:26:50.6±2.5, 54.52N×86.49E, h0km, mbtmp3.5/3, ML3.0/3, Error ellipse: s-maj=22.1km s-min=12.7km az=58.0*

ISC 27 06:26:48.9±3.4, 54.5N±0.2×86.6E±0.1, h0km, n10, σ1s06/14, 6C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**243**	I	I	06 33 40.0	
	0.2nm,0.7s,baz=56,slow=342,SNR=21						
ZAA0	**Zalesovo Array**	**1.21**	**243**	⇓P	**Pg**	**06 27 10.8**	**-1.3**
	0.2nm,0.2s						
ZAA0				⇑S	**Sg**	**06 27 28.4**	**+0.6**
	2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**1.21**	**243**	Pg	**Pg**	**06 27 11.0**	**-1.1**
	4.2nm,0.3s,baz=56,slow=17,SNR=43						
ZALV				Lg	Lg	06 27 28.6	
	5.3nm,0.3s,baz=56,slow=28,SNR=9.2						
KURK	**Kurchatov**	**6.19**	**235**	⇑Pn	**Pn**	**06 28 20.9**	**-0.6**
	3.2nm,0.8s						
KURK				⇓Sn	**Sn**	**06 29 33.9**	**+1.0**
	0.9nm,0.5s						
KURK				⇓Lg	Lg	06 30 05.6	
	6.6nm,0.8s						
KURBB	**Kurchatov Arra**	**6.29**	**235**	Pn	**Pn**	**06 28 24.0**	**+1.1**
	0.4nm,0.3s,baz=51,slow=14,SNR=20						
KURBB				Lg	Lg	06 30 09.9	
	baz=56,slow=33,SNR=2.8 3.5nm,0.4s						
KURBB	**Kurchatov Arra**	**6.29**	**235**	⇓Pn	**Pn**	**06 28 23.1**	**+0.2**
	6.2nm,0.3s						
MK31	**Makanchi Array**	**8.21**	**201**	⇑Pn	**Pn**	**06 28 49.8**	**+0.7**
	0.8nm,0.2s,baz=145,slow=80,SNR=35						
MK31				⇑Sn	**Sn**	**06 30 21.7**	**-0.9**
	2.4nm,1.0s,baz=28,slow=26,SNR=5.1						
MK31				⇓Lg	Lg	06 31 08.4	
	2.1nm,1.0s						
MKAR	**Makanchi Array**	**8.21**	**201**	Pn	**Pn**	**06 28 51.3**	**+2.1**
	0.5nm,0.3s,baz=24,slow=13,SNR=28						
MKAR				Sn	**Sn**	**06 30 22.4**	**-0.2**
	0.2nm,0.3s,baz=24,slow=28,SNR=8.0						
MKAR				Lg	Lg	06 31 07.9	
	baz=28,slow=30 0.5nm,0.3s						
MAKZ	**Makanchi**	**8.26**	**203**	⇑Pn	**Pn**	**06 28 50.2**	**+0.2**
	4.3nm,1.4s						
MAKZ				⇑Sn	**Sn**	**06 30 24.1**	**+0.2**
	1.0nm,0.7s						
MAKZ				⇓Lg	Lg	06 31 10.5	
	2.4nm,1.1s						
BVAR	**Borovoye Array**	**9.74**	**268**	Pn	**Pn**	**06 29 11.0**	**+0.9**
	baz=79,slow=16,SNR=3.1 1.0nm,0.5s						

IDC 27 06:35:41.5±2.7, 54.20N×86.42E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=20.9km s-min=13.5km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**256**	I	I	06 41 15.6	
	baz=75,slow=327,SNR=0.4						
ZALV	**Zalesovo Beam**	**0.97**	**256**	Pg	Pg	06 35 58.9	-1.3
	1.8nm,0.3s,baz=78,slow=17,SNR=12						
ZALV				Lg	Lg	06 36 14.3	
	4.4nm,0.3s,baz=76,slow=26,SNR=16						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	06 37 12.1	+0.5
	0.1nm,0.3s,baz=52,slow=13,SNR=2.8						
KURBB				Lg	Lg	06 38 54.4	
	0.1nm,0.3s,baz=334,slow=42,SNR=1.0 0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.87**	**201**	Pn	Pn	06 37 38.4	+1.3
	0.1nm,0.3s,baz=24,slow=15,SNR=8.6						
MKAR				Lg	Lg	06 39 52.7	
	baz=13,slow=27,SNR=3.3 0.2nm,0.3s						

WEL 27 06:36:40.8, 39.5S±3.5°, 177.8E±1°, h29km±6km, M3.5/41, ML3.8/41, MLv3.5/41, Error ellipse: s-maj=0.0km s-min=0.0km az=93.7, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.24**	**41**	P	Pn	06 36 48.3	-0.1
KNZ	**Kokohu**	**0.31**	**356**	P	Pb	06 36 48.0	-0.4
KNZ				S	Sn	06 36 54.4	-0.6
WHHZ	**Waihua**	**0.45**	**305**	P	Pb	06 36 49.9	-0.5
WHHZ				S	Sb	06 36 57.5	+0.6
ARHZ	**Aropaoanui**	**0.56**	**277**	P	Pb	06 36 51.8	-0.2
ARHZ				S	Sn	06 37 00.7	-0.3
CKHZ	**Cape Kidnapper**	**0.58**	**236**	P	Pn	06 36 53.0	-0.2
CKHZ				S	Sn	06 37 03.2	+1.4
SNGZ	**Shannon Statio**	**0.62**	**333**	P	Pb	06 36 53.0	-0.2
SNGZ				S	Sn	06 37 02.5	-0.2
RIGZ	**Rimuhau**	**0.63**	**4**	P	Pb	06 36 53.6	+0.2
RAHZ	**Arahi**	**0.64**	**311**	P	Pb	06 36 53.0	-0.5
RAHZ				S	Sb	06 37 02.5	+0.4
NMHZ	**Naumai**	**0.74**	**288**	P	Pb	06 36 54.8	-0.4
NMHZ				S	Sn	06 37 06.2	+0.5
KAHZ	**Kahuranaki**	**0.79**	**234**	P	Pn	06 36 56.0	0.0
MCHZ	**McNeill Hill**	**0.79**	**262**	P	Pb	06 36 56.0	0.0
MCHZ				S	Sn	06 37 08.4	+1.6
MTHZ	**Maungataniwha**	**0.83**	**305**	P	Pn	06 36 55.7	-0.8
MTHZ				S	Sb	06 37 07.6	+0.1
RAGZ	**Rawiri**	**0.87**	**345**	P	Pn	06 36 57.0	-0.1
RAGZ				S	Sn	06 37 09.6	+0.8
TKGZ	**Te Karaka**	**0.90**	**7**	P	Pn	06 36 57.5	0.0
RTZ	**Ruatahuna**	**0.91**	**322**	P	Pn	06 36 57.4	-0.4
RTZ				S	Sn	06 37 10.0	+0.1
CNGZ	**Carnagh Statio**	**0.94**	**25**	P	Pb	06 36 58.4	0.0
PXZ	**Pawanui**	**0.95**	**223**	P	Pn	06 36 56.3	-1.9
BKZ	**Black Stump Fm**	**0.96**	**280**	P	Pn	06 36 58.0	-0.4
BKZ				S	Sb	06 37 11.3	+0.2
KWHZ	**Kaweka Forest**	**1.00**	**264**	P	Pn	06 36 58.6	-0.3
MWZ	**Matawai**	**1.01**	**352**	P	Pn	06 36 58.7	-0.3
KRHZ	**Kereru**	**1.08**	**253**	P	Pn	06 36 59.8	-0.1
MRHZ	**Matea Rd**	**1.12**	**296**	P	Pn	06 37 00.6	0.0
URZ	**Urewera**	**1.17**	**336**	P	Pn	06 37 01.0	-0.2
URZ				S	Sn	06 37 16.5	+0.3
TWGZ	**Tauwhareparae**	**1.18**	**11**	P	Pn	06 37 01.5	+0.1
WPHZ	**Waipukurau**	**1.22**	**233**	P	Pn	06 37 01.5	-0.4
PRHZ	**Porangahau**	**1.24**	**221**	P	Pn	06 37 01.6	-0.7
BHHZ	**Black Hill Sta**	**1.28**	**263**	P	Pn	06 37 02.6	-0.2
BHHZ				S	Sn	06 37 18.4	-0.7
ALRZ	**Allen Road**	**1.31**	**306**	P	Pb	06 37 04.6	-0.3
ALRZ				S	Sb	06 37 21.2	-0.1
PUZ	**Puketiti**	**1.33**	**19**	P	Pn	06 37 03.1	-0.4
PUZ				S	Sn	06 37 20.8	+0.6
RUGZ	**Raukumara Rang**	**1.37**	**359**	P	Pn	06 37 03.3	-0.7
HRRZ	**Handcock Road**	**1.46**	**310**	P	Pb	06 37 06.8	-0.4
PKGZ	**Pakihiroa**	**1.47**	**12**	P	Pn	06 37 05.3	-0.1
HLRZ	**Highlands Stat**	**1.51**	**315**	P	Pb	06 37 08.2	0.0
MOVZ	**Moawhango**	**1.52**	**267**	P	Pn	06 37 06.4	+0.4
HSRZ	**Hossack Road**	**1.53**	**311**	P	Pb	06 37 08.4	-0.1
ETVZ	**East Tongariro**	**1.56**	**277**	P	Pb	06 37 08.6	-0.5
TMVZ	**Te Maari**	**1.57**	**277**	P	Pn	06 37 07.4	+0.6
HAZ	**Te Kaha**	**1.58**	**2**	P	Pn	06 37 06.5	-0.3
TUVZ	**Tukino**	**1.59**	**272**	P	Pn	06 37 07.7	+0.5
NTVZ	**North Tongarir**	**1.59**	**278**	P	Pn	06 37 07.9	+0.8
SNVZ	**South Ngauruho**	**1.61**	**275**	P	Pb	06 37 09.5	-0.5
WMGZ	**Waiomatatini S**	**1.61**	**20**	P	Pn	06 37 07.0	-0.3
WMGZ				S	Sb	06 37 28.6	-1.2
WNVZ	**Wahianoa**	**1.63**	**270**	P	Pn	06 37 10.2	-0.2
NNVZ	**North Ngauruho**	**1.64**	**276**	P	Pn	06 37 08.9	+1.2
NGZ	**Ngauruhoe**	**1.64**	**275**	P	Pn	06 37 08.5	+0.6
WTVZ	**West Tongariro**	**1.66**	**277**	P	Pb	06 37 10.8	0.0
FWVZ	**Far West T-bar**	**1.67**	**272**	P	Pb	06 37 10.2	-0.8
TRVZ	**Turoa**	**1.67**	**271**	P	Pn	06 37 08.7	+0.4
BFZ	**Birch Farm**	**1.75**	**219**	P	Pn	06 37 07.9	-1.3
BFZ				S	Sn	06 37 29.5	-1.0
PRWZ	**Pori Road**	**1.81**	**227**	P	Pn	06 37 09.3	-0.7
POWZ	**Post Office Ro**	**1.83**	**234**	P	Pn	06 37 09.6	-0.6
MXZ	**Matakaoa Point**	**1.83**	**15**	P	Pn	06 37 10.1	-0.2
TGRZ	**Tauranga**	**1.96**	**324**	P	Pb	06 37 19.2	+3.4
MRZ	**Mangatainoka R**	**2.10**	**230**	P	Pn	06 37 12.8	-1.2
MRZ				S	Sn	06 37 37.8	-1.5
WAZ	**Wanganui**	**2.14**	**258**	P	Pn	06 37 16.6	+2.0
TMWZ	**Te Maipa**	**2.25**	**218**	P	Pn	06 37 14.2	-1.9
HOWZ	**Holdsworth Sta**	**2.29**	**226**	P	Pn	06 37 14.9	-1.8
TOZ	**Tahuroa Road**	**2.35**	**312**	P	Pb	06 37 25.5	+3.0
HIZ	**Hauiti**	**2.37**	**289**	P	Pb	06 37 23.7	+1.0
OGWZ	**Otaki Gorge**	**2.44**	**232**	P	Pn	06 37 17.6	-1.1
MTW	**Mount Morrison**	**2.48**	**222**	P	Pn	06 37 16.9	-2.3
TRWZ	**Traveller**	**2.57**	**216**	P	Pn	06 37 18.1	-2.4
KIW	**Kapiti Island**	**2.63**	**234**	P	Pn	06 37 20.3	-1.0
CAW	**Cannon Point**	**2.69**	**228**	P	Pn	06 37 20.3	-1.8
PAWZ	**Paruwai Farm**	**2.69**	**220**	P	Pn	06 37 20.0	-2.1
NEZ	**North Egmont**	**2.80**	**270**	P	Pn	06 37 25.9	+2.1
KHEZ	**Kahui Hut**	**2.86**	**270**	P	Pn	06 37 27.1	+2.5
PKE	**Pukeiti**	**2.89**	**272**	P	Pn	06 37 27.3	+2.4
PLWZ	**Palliser**	**2.91**	**219**	P	Pn	06 37 22.2	-3.0
TCW	**Tory Channel**	**3.22**	**233**	P	Pn	06 37 27.4	-2.0
DUWZ	**D'Urville Isla**	**3.25**	**242**	P	Pn	06 37 28.5	-1.3
NNZ	**Nelson**	**3.81**	**239**	P	Pn	06 37 36.1	-1.3
MRNZ	**Matariki Terra**	**4.30**	**240**	P	Pn	06 37 43.0	-1.4
THZ	**Tophouse**	**4.39**	**235**	P	Pn	06 37 43.1	-2.4
CTZ	**Chatham Island**	**6.12**	**138**	P	Pn	06 38 10.3	+1.1
TMZ	**Timaru**	**7.10**	**223**	P	Pn	06 38 19.9	-2.8
ODZ	**Otahua Downs**	**7.75**	**220**	P	Pn	06 38 28.5	-3.0

*IDC **27** 06:50:30.1±3.0, 53.72N×88.15E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=26.4km s-min=17.0km az=60.0*
*NNC **27** 06:50:31.1±1.1, 53.69N×88.06E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=10.4km s-min=5.6km az=48.0, Suspected Mining explosion.*

ISC 27 06:50:30.4±4.0, 53.8N±0.1×88.1E±0.2, h0km, n8, σ0s75/9, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**277**	I	I	07 03 45.4	
	0.4nm,1.3s,baz=92,slow=337,SNR=7.9						
ZAA0	**Zalesovo Array**	**1.94**	**277**	⇑Pn	**Pn**	**06 51 05.1**	**+0.5**
	1.3nm,0.8s						
ZAA0				⇑Sn	**Sb**	**06 51 31.4**	**0.0**
	3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**1.94**	**277**	Pn	**Pb**	**06 51 05.8**	**-0.9**
	2.1nm,0.3s,baz=99,slow=16,SNR=26						
ZALV				Lg	Lg	06 51 32.8	
	3.4nm,0.3s,baz=93,slow=26,SNR=15						
KURK	**Kurchatov**	**6.56**	**246**	⇓Lg	Lg	06 53 58.5	
	5.8nm,1.2s						
KURBB	**Kurchatov Arra**	**6.66**	**246**	Pn	**Pn**	**06 52 10.1**	**+0.8**
	0.1nm,0.3s,baz=61,slow=14,SNR=2.9						
KURBB				Lg	Lg	06 54 01.6	
	baz=60,slow=32,SNR=1.9 0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**6.66**	**246**	⇑Pn	**Pn**	**06 52 10.6**	**+1.2**
	2.8nm,0.8s						
KURBB				⇓Lg	Lg	06 54 01.1	
	5.3nm,0.7s						
MK31	**Makanchi Array**	**7.89**	**210**	⇑Pn	**Pn**	**06 52 26.4**	**+0.1**
	0.3nm,0.5s,baz=31,slow=8.1,SNR=6.7						
MK31				⇑Sn	**Sn**	**06 53 56.3**	**0.0**
	0.7nm,0.7s						
MK31				⇓Lg	Lg	06 54 40.0	
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**7.89**	**210**	Pn	**Pn**	**06 52 26.7**	**+0.4**
	0.1nm,0.3s,baz=33,slow=14,SNR=8.6						
MKAR				Sn	**Sn**	**06 53 56.0**	**-0.3**
	0.1nm,0.3s,baz=21,slow=32,SNR=1.5						
MKAR				Lg	Lg	06 54 38.3	
	baz=27,slow=33,SNR=1.2 0.2nm,0.4s						

*IDC **27** 06:57:46.2±1.4, 30.70N×50.17E, h0km, mb3.6/10, mbtmp3.7/13, ML3.8/3, MS3.3/1, Error ellipse: s-maj=32.3km s-min=21.0km az=171.0*
*TEH **27** 06:57:49.5, 30.77N×50.34E, h9km±23km, ML3.5*
*OMAN **27** 06:57:56.4±0.1, 30.53N×50.63E, h10km±1km, mb4.7/18, Error ellipse: s-maj=1.5km s-min=1.1km az=20.0*

ISC 27 06:57:49.8±1.1, 30.72N±0.03×50.34E±0.04, h26km±8km, n90, σ2s61/119, mb3.5/10, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.14**	**212**	Pg	**Pb**	**06 57 54.0**	**-0.9**
KLNJ	**Kolanjah**	**1.12**	**75**	Pg	**Pn**	**06 58 10.2**	**+0.1**
AMIS	**Naft Sefid**	**1.30**	**317**	Pg	**Pn**	**06 58 13.5**	**+1.1**
IBRJ	**Brojen**	**1.43**	**33**	Pg	**Pb**	**06 58 15.6**	**-0.3**
KAZ1	**Kazerun**	**1.57**	**134**	Pg	**Pb**	**06 58 19.4**	**+1.2**
AHWZ	**Ahwaz**	**1.58**	**293**	Pg	**Pb**	**06 58 19.6**	**+1.3**
SHK1	**Shahrekord**	**1.67**	**16**	Pg	**Pb**	**06 58 20.1**	**-0.1**
IPIR	**Pirpir**	**2.02**	**13**	Pn	**Pb**	**06 58 25.6**	**-0.4**
AHBU	**AHRAM**	**2.02**	**155**	Pn	**Pb**	**06 58 26.3**	**+0.4**
IRAM	**Ramesheh**	**2.06**	**58**	Pn	**Pb**	**06 58 26.5**	**-0.2**
SHI	**Shiraz**	**2.17**	**119**	Pn	**Pb**	**06 58 28.4**	**-0.1**
IGAR	**Gharneh**	**2.23**	**40**	Pn	**Pb**	**06 58 29.0**	**-0.5**
DSBU	**Dashti - Bushe**	**2.48**	**161**	Pn	**Pb**	**06 58 32.5**	**-1.2**
IZEF	**Zefreh**	**2.76**	**37**	Pn	**Pb**	**06 58 35.8**	**+3.2**
IKLH	**Kolahrood**	**2.80**	**22**	Pn	**Pb**	**06 58 36.8**	**-2.6**
NASN	**Na'in**	**2.96**	**45**	Pn	**Pb**	**06 58 38.8**	**+3.4**
KHMZ	**Khomeyn**	**3.03**	**354**	Pn	**Pb**	**06 58 39.8**	**+3.5**
ISAD	**Sadrabad**	**3.11**	**67**	Pn	**Pb**	**06 58 40.9**	**+3.5**
QAMS	**Qamsar**	**3.14**	**16**	Pn	**Pb**	**06 58 41.1**	**+3.2**
QIR1	**Qir**	**3.25**	**133**	Pn	**Pb**	**06 58 42.6**	**+3.4**
GHIR	**Ghir-Karzin**	**3.35**	**136**	Pn	**Pb**	**06 58 43.1**	**+2.5**
IKFM	**Kafar-mosalman**	**3.51**	**324**	Pn	**Pb**	**06 58 45.3**	**+2.7**
IDOB	**Doab**	**3.57**	**330**	Pn	**Pb**	**06 58 45.6**	**+1.9**
KRSH	**Karshahi**	**3.58**	**25**	Pn	**Pb**	**06 58 47.2**	**+3.3**
IMEH	**Mehriz**	**3.73**	**79**	Pn	**Pb**	**06 58 49.7**	**+3.7**
HSAM	**Samen**	**3.78**	**338**	Pn	**Pb**	**06 58 49.3**	**+2.6**
ANAR	**Anarak**	**3.79**	**49**	Pn	**Pb**	**06 58 50.0**	**+3.3**
ICHK	**Chekchek**	**3.80**	**65**	Pn	**Pb**	**06 58 49.9**	**+3.1**
ISFB	**Sefidab**	**3.97**	**23**	Pn	**Pb**	**06 58 52.0**	**+2.9**
YZKH	**Yazd**	**4.00**	**64**	Pn	**Pb**	**06 58 53.0**	**+3.5**
IQOM	**Qom**	**4.16**	**8**	Pn	**Pb**	**06 58 54.6**	**+2.7**
HAGD	**Aghdareh**	**4.22**	**347**	Pn	**Pb**	**06 58 55.4**	**+2.7**
IBZA	**Bozab**	**4.29**	**331**	Pn	**Pb**	**06 58 55.4**	**+1.8**
IVRN	**Varamin**	**4.43**	**15**	Pn	**Pb**	**06 58 58.3**	**+3.0**
ILBA	**Ilam Banvizeh**	**4.54**	**311**	Pn	**Pb**	**06 58 58.1**	**+1.1**
IRAZ	**Razeghan**	**4.69**	**356**	Pn	**Pb**	**06 59 01.8**	**+2.7**
SAKB	**Bahrain**	**4.72**	**178**	P	**Pn**	**06 59 02.0**	**+2.6**
SAKB				S	**Sn**	**06 59 55.6**	**+2.2**
SHMA	**Al-Shehemyia**	**4.87**	**173**	P	**Pn**	**06 59 05.8**	**+4.4**
SHMA				S	**Sn**	**06 59 59.4**	**+2.4**
SNGE	**Sanandaj**	**5.04**	**331**	Pn	**Pn**	**06 59 05.4**	**+1.5**
IDMV	**Damavand**	**5.05**	**16**	Pn	**Pn**	**06 59 06.3**	**+2.1**
CHTH	**Charan**	**5.22**	**7**	Pn	**Pn**	**06 59 08.6**	**+2.1**
KHGB	**Koh Gabri**	**5.31**	**92**	Pn	**Pn**	**06 59 10.5**	**+2.8**
IFIR	**Firoozkooh**	**5.31**	**22**	Pn	**Pn**	**06 59 10.9**	**+3.1**
KRBR	**Kerman**	**5.60**	**96**	Pn	**Pn**	**06 59 14.8**	**+3.1**
IANJ	**Anjilo**	**5.61**	**31**	Pn	**Pn**	**06 59 14.6**	**+2.9**
QALM	**Alamut, Qazvin**	**5.71**	**3**	Pn	**Pn**	**06 59 16.3**	**+3.2**
SMRA	**Abu-Samra**	**5.96**	**176**	P	**Pn**	**06 59 17.1**	**+0.7**
SMRA				S	**Sn**	**07 00 26.3**	**+2.4**
ZNJK	**Zanjan**	**6.10**	**347**	Pn	**Pn**	**06 59 20.9**	**+2.5**
JRN	**Qarnain Island**	**6.17**	**158**	P	**Pn**	**06 59 21.2**	**+2.0**
JRN				S	**Sn**	**07 00 30.2**	**+1.2**
GIDE	**GILAN DEYLAMAN**	**6.20**	**357**	Pn	**Pn**	**06 59 22.6**	**+2.8**
TABS	**Tabas**	**6.45**	**61**	Pn	**Pn**	**06 59 26.2**	**+3.0**
SLWR	**Sila**	**6.73**	**169**	P	**Pn**	**06 59 27.7**	**+0.7**
SLWR				S	**Sn**	**07 00 44.0**	**+1.2**
SHME	**Shamm**	**6.91**	**131**	P	**Pn**	**06 59 30.7**	**+1.2**
SHME				S	**Sn**	**07 00 45.5**	**-1.7**
SHRO	**Shahrood**	**7.08**	**41**	Pn	**Pn**	**06 59 35.2**	**+3.3**
BANOM	**Banah**	**7.10**	**131**	P	**Pn**	**06 59 33.9**	**+1.8**
BANOM				S	**Sn**	**07 00 51.1**	**-0.9**
AJN	**Ajban**	**7.39**	**145**	P	**Pn**	**06 59 38.4**	**+2.4**
AJN				S	**Sn**	**07 00 58.6**	**-0.4**
NAZ	**Nazwa, Dubai**	**7.40**	**139**	P	**Pn**	**06 59 37.9**	**+1.8**
NAZ				S	**Sn**	**07 00 58.2**	**-1.1**
MASF	**Masafi**	**7.40**	**135**	P	**Pn**	**06 59 37.4**	**+1.1**
MASF				S	**Sn**	**07 00 57.6**	**-1.9**
ASUD	**Al Ashush, Dub**	**7.51**	**143**	P	**Pn**	**06 59 39.6**	**+2.0**
ASUD				S	**Sn**	**07 01 01.9**	**-0.1**
MDH	**Madha**	**7.54**	**134**	P	**Pn**	**06 59 38.9**	**+0.7**
MDH				S	**Sn**	**07 01 00.6**	**-2.2**
FAQ	**Al Faqa, Dubai**	**7.55**	**141**	P	**Pn**	**06 59 40.2**	**+1.9**
FAQ				S	**Sn**	**07 01 01.6**	**-1.5**
BSRN	**Basiran**	**7.62**	**78**	Pn	**Pn**	**06 59 42.2**	**+2.9**
UOSS	**Minazif**	**7.75**	**136**	P	**Pn**	**06 59 41.8**	**+0.9**
UOSS				S	**Sn**	**07 01 04.7**	**-3.2**
HATD	**Hatta, Dubai**	**7.79**	**137**	P	**Pn**	**06 59 43.3**	**+1.7**
HATD				S	**Sn**	**07 01 06.6**	**-2.5**
ASHO	**Ashiyiah** SNR=20	**7.86**	**138**	P	**Pn**	**06 59 43.7**	**+1.2**
ASHO				S	**Sn**	**07 01 08.4**	**-2.3**
ALNE	**Al Ain** SNR=13	**8.19**	**143**	P	**Pn**	**06 59 48.6**	**+1.5**
ALNE				S	**Sn**	**07 01 17.4**	**-1.5**
JASK	**Jask - Hormozg**	**8.21**	**124**	P	**Pn**	**06 59 46.6**	**-0.7**
JASK				S	**Sn**	**07 01 17.5**	**-1.7**
MRVT	**Maraveh tapeh**	**8.41**	**33**	Pn	**Pn**	**06 59 52.8**	**+2.8**
SOHO	**SOHO**	**8.56**	**138**	P	**Pn**	**06 59 52.5**	**+0.4**
SOHO				S	**Sn**	**07 01 24.7**	**-3.2**
UMZA	**Um Al Zommool**	**9.06**	**150**	P	**Pn**	**07 00 01.4**	**+2.4**
UMZA				S	**Sn**	**07 01 37.1**	**-3.1**
ARQ	**Araqi** SNR=11	**9.19**	**142**	P	**Pn**	**07 00 01.4**	**+0.7**
ARQ				S	**Sn**	**07 01 40.6**	**-2.7**
HOQ	**Hoqain**	**9.44**	**137**	P	**Pn**	**07 00 06.2**	**+2.1**
HOQ				S	**Sn**	**07 01 44.8**	**-4.6**
GEYT	**Alibeck**	**9.65**	**40**	Pn	**Pn**	**07 00 09.9**	**+2.9**
	0.7nm,0.3s,baz=213,slow=10,SNR=4.9 2.8nm,0.5s						
BSY	**Bisya** SNR=7.9	**10.03**	**141**	P	**Pn**	**07 00 13.0**	**+0.7**
BSY				S	**Sn**	**07 02 00.2**	**

DGB	**zmir**	**1.68**	**306**	P	**Pn**	**07 07 18.1**	**+0.2**
DGB				S	**Sb**	**07 07 41.0**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.69**	**46**	P	**Pb**	**07 07 19.2**	**-0.7**
KZIL				S	**Sg**	**07 07 46.9**	**+3.6**
BLCB	**Balcova**	**1.80**	**317**	Pn	**Pn**	**07 07 19.5**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**2.03**	**305**	P	**Pg**	**07 07 27.6**	**-0.3**
ZEDA	**zmir-Bergama**	**2.24**	**328**	P	**Pn**	**07 07 25.1**	**-0.6**
ZEDA				S	**Sn**	**07 07 54.0**	**+0.9**
SEDI	**Konya, Seydise**	**2.53**	**81**	P	**Pb**	**07 07 32.2**	**-2.1**
SEDI				S	**Sb**	**07 08 04.8**	**-0.6**
DOGA	**KONYA_Doganhis**	**2.63**	**66**	P	**Pb**	**07 07 34.5**	**-1.6**
BUHA	**Balikesir, Bur**	**2.70**	**334**	P	**Pn**	**07 07 32.3**	**+0.3**
IDI	**Anoyia**	**3.51**	**240**	P	**Pb**	**07 07 47.0**	**-3.8**
	2.2nm,0.3s,baz=61,slow=17,SNR=11						
IDI				S	**Sb**	**07 08 30.0**	**-3.3**
	10nm,0.5s,baz=300,slow=24,SNR=1.4						
IDI				LR	LR	07 09 51.1	
	comp=Z,23nm,20.9s,baz=278,slow=49						
	15nm,0.9s						
BRTR	**Keskin Array B**	**4.75**	**55**	P	**Pn**	**07 08 01.7**	**+1.4**
	0.8nm,0.3s,baz=240,slow=16,SNR=20						
BRTR				S	**Sn**	**07 08 56.3**	**+1.1**
	2.5nm,0.9s,baz=225,slow=24,SNR=3.0						
	1.8nm,0.5s						
MMAI	**Mount Meron Ar**	**6.89**	**124**	P	**Pn**	**07 08 29.6**	**-0.1**
	2.0nm,0.3s,baz=308,slow=12,SNR=6.5						
	1.7nm,0.3s						
FINES	**FINESS Array B**	**24.43**	**357**	P	**P**	**07 12 07.3**	**+0.3**
	1.6nm,0.8s,baz=178,slow=9.2,SNR=2.5						
	1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.87**	**232**	P	**P**	**07 13 32.7**	**+1.3**
	0.4nm,0.4s,baz=38,slow=7.3,SNR=4.1						
	0.4nm,0.4s						

*NNC **27** 07:07:00.7±1.6,54°.52N×87°.06E,h0km,mb3.0,mpv2.8, Error ellipse: s-maj=22.1km s-min=9.1km az=162.0, Suspected Mining explosion.*

*IDC **27** 07:07:05.7±2.8,54°.39N×86°.82E,h0km,mbtmp2.9/2, ML2.7/2,Error ellipse: s-maj=23.0km s-min=15.4km az=56.0.*

ISC 27 07:07:02.2±4.5,54°.5N±0°.2×86°.9E±0°.2,h0km,n8,σ1s21/11, 6C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**248**		I	I	07 14 09.6	
	baz=69,slow=326,SNR=0.6							
ZAA0	**Zalesovo Array**	**1.35**	**248**	⇑P		**Pg**	**07 07 26.7**	**-1.3**
	0.2nm,0.3s							
ZAA0				⇓S		**Sn**	**07 07 46.9**	**0.0**
	0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**1.35**	**248**	Pg		**Pb**	**07 07 28.0**	**-0.3**
	1.1nm,0.3s,baz=65,slow=16,SNR=14							
ZALV				Lg		Lg	07 07 46.5	
	1.5nm,0.3s,baz=70,slow=26,SNR=8.0							
KURK	**Kurchatov**	**6.31**	**237**	⇑Pn		**Pn**	**07 08 37.1**	**+0.7**
	3.3nm,1.3s							
KURK				⇑Sn		**Sn**	**07 09 51.5**	**+2.4**
	2.2nm,1.0s							
KURK				⇑Lg		Lg	07 10 24.1	
	4.1nm,1.3s							
KURBB	**Kurchatov Arra**	**6.41**	**236**	Pn		Pn	07 08 41.0	+3.2
	0.1nm,0.3s,baz=53,slow=14,SNR=9.2							
KURBB				Sn		**Sn**	**07 09 51.1**	**-0.5**
	baz=39,slow=37,SNR=1.1							
KURBB				Lg		Lg	07 10 29.1	
	baz=55,slow=32,SNR=2.0							
	1.0nm,0.4s							
KURBB	**Kurchatov Arra**	**6.41**	**236**	⇓Pn		**Pn**	**07 08 38.6**	**+0.8**
	0.8nm,0.3s							
KURBB				⇓Sn		**Sn**	**07 09 52.8**	**+1.2**
	1.3nm,0.4s							
KURBB				⇑Lg		Lg	07 10 27.1	
	4.4nm,0.8s							
MK31	**Makanchi Array**	**8.23**	**203**	Pn		**Pn**	**07 09 03.6**	**+0.8**
	0.2nm,0.3s,baz=26,slow=13,SNR=8.6							
MK31				Sn		**Sn**	**07 10 35.7**	**-0.7**
	0.4nm,0.6s,baz=77,slow=7.5,SNR=3.9							
MK31				⇑Lg		Lg	07 11 24.0	
	0.2nm,0.5s,baz=75,slow=8.1,SNR=3.6							
MKAR	**Makanchi Array**	**8.23**	**203**	Pn		Pn	07 09 06.2	+3.3
	0.1nm,0.3s,baz=23,slow=13,SNR=9.1							
MKAR				Sn		**Sn**	**07 10 36.5**	**+0.1**
	0.1nm,0.3s,baz=22,slow=27,SNR=2.9							
MKAR				Lg		Lg	07 11 24.3	
	baz=23,slow=30							
	0.2nm,0.4s							

IDC 27 07:11:55.8±3.0,53°.54N×87°.24E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=28.2km s-min=16.1km az=70.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**287**		I	I	07 22 10.0	
	0.3nm,0.8s,baz=103,slow=324,SNR=8.6							
ZALV	**Zalesovo Beam**	**1.49**	**287**	Pg		Pn	07 12 22.2	-1.7
	0.9nm,0.3s,baz=108,slow=16,SNR=17							
ZALV				Lg		Lg	07 12 42.9	
	0.7nm,0.3s,baz=108,slow=28,SNR=6.9							
ZALV				Rg		Rg	07 12 53.2	
	0.6nm,0.3s,baz=110,slow=32,SNR=2.7							
KURBB	**Kurchatov Arra**	**6.11**	**245**	Pn		Pn	07 13 28.3	+1.0
	0.1nm,0.3s,baz=61,slow=14,SNR=4.8							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**7.46**	**207**	Pn		Pn	07 13 47.3	+1.4
	0.1nm,0.3s,baz=25,slow=13,SNR=2.2							
MKAR				Lg		Lg	07 15 51.5	
	baz=28,slow=36,SNR=3.2							
	0.1nm,0.3s							

*NNC **27** 07:19:18.9±0.7,54°.22N×86°.28E,h0km,mb3.3,mpv2.2, Error ellipse: s-maj=8.2km s-min=3.5km az=174.0, Suspected Mining explosion.*

*IDC **27** 07:19:22.5±2.5,54°.31N×85°.95E,h0km,mbtmp2.7/2, ML2.6/2,Error ellipse: s-maj=17.9km s-min=10.7km az=52.0.*

ISC 27 07:19:14.1±1.8,53°.04N±0°.04×85°.89E±0°.10,h0km,n8, σ2s60/12,7C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**326**		I	I	07 24 10.0	
	0.1nm,0.7s,baz=61,slow=342,SNR=25							
ZAA0	**Zalesovo Array**	**1.11**	**326**	⇑P		**Pb**	**07 19 36.2**	**-0.1**
	0.1nm,0.6s							
ZAA0				⇑S		**Sg**	**07 19 48.8**	**-1.1**
	0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**1.11**	**326**	Pg		**Pg**	**07 19 35.7**	**+0.2**
	0.5nm,0.3s,baz=58,slow=17,SNR=6.3							
ZALV				Lg		Lg	07 19 48.1	
	2.9nm,0.3s,baz=63,slow=25,SNR=20							
ZALV				Rg		Rg	07 19 53.1	
	3.3nm,0.3s,baz=62,slow=28,SNR=10.0							
KURK	**Kurchatov**	**5.07**	**246**	⇑Sn		**Sg**	**07 21 55.6**	**-1.2**
	1.5nm,0.8s							
KURK				⇑Lg		Lg	07 22 25.9	
	8.4nm,1.4s							
KURBB	**Kurchatov Arra**	**5.16**	**245**	Pn		**Pg**	**07 20 51.7**	**-1.3**
	0.1nm,0.3s,baz=53,slow=14,SNR=4.8							
KURBB				Sn		**Sg**	**07 22 01.2**	**+1.4**
	0.1nm,0.3s,baz=71,slow=18,SNR=4.4							
KURBB				Lg		Lg	07 22 29.0	
	0.1nm,0.3s,baz=47,slow=18,SNR=2.1							
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**5.16**	**245**	⇑Pn		**Pb**	**07 20 48.2**	**+3.0**
	0.3nm,0.2s							
KURBB				⇑Sn		**Sg**	**07 21 57.3**	**-2.5**
	2.3nm,1.0s							
KURBB				⇓Lg		Lg	07 22 28.5	
	5.4nm,0.7s							
MK31	**Makanchi Array**	**6.67**	**202**	Pn		**Pb**	**07 21 15.2**	**+4.4**
	0.6nm,0.7s,baz=49,slow=0.2,SNR=12							
MK31				Sn		**Sg**	**07 22 44.7**	**-3.3**
	0.2nm,0.5s,baz=8.1,slow=15,SNR=2.8							
MK31				⇑Lg		Lg	07 23 27.6	
	1.3nm,0.8s							
MKAR	**Makanchi Array**	**6.67**	**202**	Pn		**Pg**	**07 21 19.1**	**-2.7**
	0.2nm,0.3s,baz=23,slow=14,SNR=10							
MKAR				Sn		**Sg**	**07 22 46.9**	**-1.2**
	baz=11,slow=12,SNR=1.3							
MKAR				Lg		Lg	07 23 32.0	
	baz=14,slow=30,SNR=1.7							
	0.2nm,0.3s							

*SJA **27** 07:26:36.5±0.8,30°.99S×71°.57W,h67km±6km, ML4.4, MW4.3*

*NEIC **27** 07:26:39.1±1.4,31°.02S±0°.03×71°.49W±0°.06,h57km±6km, mb4.7/13,ML4.5(GUC), Error ellipse: s-maj=8.0km s-min=4.3km az=98.0*

*IDC **27** 07:26:39.1±0.6,31°.05S×71°.47W,h69km±5km, mb3.9/9, mbtmp4.1/12,MS3.2/8, Error ellipse: s-maj=16.2km s-min=9.2km az=15.0*

*GUC **27** 07:26:40.1±0.8,30°.97S×71°.37W,h52km±6km, ML4.5*

ISC 27 07:26:38.3±0.5,31°.05S±0°.03×71°.48W±0°.04,h61km±5km, n154,σ2s23/221,mb4.6/14,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.43**	**111**			**Pn**	**07 26 50.8**	**+0.9**
CO02					Sn	**Sn**	**07 26 59.1**	**+0.9**
CO02	**Combarbal**	**0.43**	**111**		*eP*	**Pn**	**07 26 50.8**	**+0.9**
CO02					*i* S	**Sn**	**07 26 59.0**	**+0.9**
CO02	**Combarbal**	**0.43**	**111**		*eP*	**Pn**	**07 26 50.4**	**+0.6**
CO02					IAML		07 27 01.9	
	comp=Z,19μm,0.6s							
CO02	**Combarbal**	**0.43**	**111**		*eP*	**Pn**	**07 26 50.4**	**+0.6**
CO02					IAML		07 27 01.9	
	comp=Z,19μm,0.6s							
CO03	**El Pedregal**	**0.71**	**73**			**Pn**	**07 26 53.1**	**+0.3**
CO03					Sn	**Sn**	**07 27 03.1**	**-0.3**
CO03	**El Pedregal**	**0.71**	**73**	⇑	*iP*	**Pn**	**07 26 52.9**	**+0.1**
CO03					*i* S	**Sn**	**07 27 03.0**	**-0.3**
CO03					IAML		07 27 03.8	
	comp=E,89μm,0.3s							
CO03	**El Pedregal**	**0.71**	**73**		*eP*	**Pn**	**07 26 52.8**	**+0.1**
CO03					*eS*	**Sn**	**07 27 03.4**	**0.0**
CO03					IAML		07 27 04.5	
	comp=Z,23μm,0.5s							
CO03	**El Pedregal**	**0.71**	**73**		*eP*	**Pn**	**07 26 52.8**	**+0.1**
CO03					*eS*	**Sn**	**07 27 03.4**	**0.0**
CO03					IAML		07 27 04.5	
	comp=Z,23μm,0.5s							
GO04	**Tololo Observa**	**1.05**	**34**			**Pn**	**07 26 57.5**	**+0.2**
GO04					Sn	**Sn**	**07 27 10.9**	**-0.4**
GO04	**Tololo Observa**	**1.05**	**34**		*eP*	**Pn**	**07 26 57.9**	**+0.7**
GO04					*eS*	**Sn**	**07 27 11.4**	**+0.1**
GO04	**Tololo Observa**	**1.05**	**34**		*eP*	**Pn**	**07 26 57.0**	**-0.3**
GO04					*eS*	**Sn**	**07 27 11.9**	**+0.6**
GO04	**Tololo Observa**	**1.05**	**34**		*eP*	**Pn**	**07 26 57.0**	**-0.3**
GO04					*eS*	**Sn**	**07 27 11.9**	**+0.6**
CO05	**La Serena**	**1.15**	**10**			**Pn**	**07 26 59.2**	**+0.9**
CO05					Sn	**Sn**	**07 27 12.6**	**-0.5**
CO05	**La Serena**	**1.15**	**10**	⇓	*iP*	**Pn**	**07 26 59.5**	**+1.2**
CO05					*i* S	**Sn**	**07 27 13.0**	**-0.1**
VA06	**Catapilco**	**1.51**	**174**		Pn	**Pn**	**07 27 04.9**	**+1.7**
VA06	**Catapilco**	**1.51**	**174**	⇓	*iP*	**Pn**	**07 27 04.9**	**+1.7**
VA06					*i* S	**Sn**	**07 27 20.2**	**-1.7**
CO01	**Juntas del Tor**	**1.60**	**48**			**Pn**	**07 27 05.8**	**+1.1**
CO01	**Juntas del Tor**	**1.60**	**48**	⇑	*iP*	**Pn**	**07 27 05.8**	**+1.1**
CO01					*i* S	**Sn**	**07 27 25.1**	**+0.6**
CO01					IAML		07 27 25.6	
	comp=E,10μm,0.2s							
CO01	**Juntas del Tor**	**1.60**	**48**		*eP*	**Pn**	**07 27 05.0**	**+0.4**
CO01					*eS*	**Sn**	**07 27 25.2**	**+0.8**
CO01					IAML		07 27 26.4	
	comp=Z,4μm,0.5s							
CO01	**Juntas del Tor**	**1.60**	**48**		*eP*	**Pn**	**07 27 05.0**	**+0.4**
CO01					*eS*	**Sn**	**07 27 25.2**	**+0.8**
CO01					IAML		07 27 26.4	
	comp=Z,4μm,0.5s							
VA03	**San Esteban**	**1.88**	**156**			**Pn**	**07 27 09.6**	**+1.3**
VA03	**San Esteban**	**1.88**	**156**		*eP*	**Pn**	**07 27 10.4**	**+2.1**
VA03					*eS*	**Sn**	**07 27 33.6**	**+2.7**
VA03					IAML		07 27 38.0	
	comp=E,7μm,0.1s							
VA03	**San Esteban**	**1.88**	**156**		*eP*	**Pn**	**07 27 09.0**	**+0.7**
VA03					*eS*	**Sn**	**07 27 34.4**	**+3.4**
VA03					IAML		07 27 39.5	
	comp=Z,2μm,0.6s							
VA03	**San Esteban**	**1.88**	**156**		*eP*	**Pn**	**07 27 09.0**	**+0.7**
VA03					*eS*	**Sn**	**07 27 34.4**	**+3.4**
VA03					IAML		07 27 39.5	
	comp=Z,2μm,0.6s							
ROCH	**El Roble**	**1.96**	**168**		*eP*	**Pn**	**07 27 10.9**	**+1.5**
ROCH					*eP*	**Pn**	**07 27 10.9**	**+1.5**
ROCH					*eS*	**Sn**	**07 27 29.5**	**-3.5**
ROC1	**El Roble**	**1.96**	**169**			**Pn**	**07 27 10.5**	**+1.0**
VA01	**Torpederas**	**1.97**	**184**			**Pn**	**07 27 10.5**	**+1.2**
VA01	**Torpederas**	**1.97**	**184**		*eP*	**Pn**	**07 27 10.9**	**+1.6**
VA01					*eS*	**Sn**	**07 27 33.7**	**+0.6**
LCO	**Las Campanas**	**2.14**	**18**			**Pn**	**07 27 13.0**	**+1.1**
LCO	**Las Campanas**	**2.14**	**18**		*eP*	**Pn**	**07 27 13.2**	**+1.3**
LCO					*eS*	**Sn**	**07 27 38.4**	**+0.8**
LCO	**Las Campanas**	**2.14**	**18**		*eP*	**Pn**	**07 27 12.0**	**+0.1**
LCO					*eS*	**Sn**	**07 27 39.2**	**+1.6**
LCO					IAML		07 27 54.5	
	comp=Z,7μm,0.5s							
LCO	**Las Campanas**	**2.14**	**18**		*eP*	**Pn**	**07 27 12.0**	**+0.1**
LCO					*eS*	**Sn**	**07 27 39.2**	**+1.6**
LCO					IAML		07 27 54.5	
	comp=Z,7μm,0.5s							
PEL	**Peldehue**	**2.19**	**162**	Pn		**Pn**	**07 27 13.7**	**+1.2**
PEL	**Peldehue**	**2.19**	**162**		*eP*	**Pn**	**07 27 14.5**	**+2.1**
PEL					*eS*	**Sn**	**07 27 31.5**	**-7.0**
MT02	**Curacav**	**2.22**	**173**			**Pn**	**07 27 13.9**	**+1.0**
MT02	**Curacav**	**2.22**	**173**	⇓	*eP*	**Pn**	**07 27 13.8**	**+1.0**
MT02					*eS*	**Sn**	**07 27 32.1**	**-7.0**
MT02	**Curacav**	**2.22**	**173**		*eP*	**Pn**	**07 27 08.7**	**-4.1**
MT02					*eP*	**Pn**	**07 27 13.8**	**+1.0**
MT02					*eS*	**Sn**	**07 27 33.9**	**-5.2**
MT02					IAML		07 27 55.5	
	comp=Z,1μm,1.0s							
MT02	**Curacav**	**2.22**	**173**		*eP*	**Pn**	**07 27 08.7**	**-4.1**
MT02					*eP*	**Pn**	**07 27 13.8**	**+1.0**
MT02					*eS*	**Sn**	**07 27 33.9**	**-5.2**
MT02					IAML		07 27 55.5	
	comp=Z,1μm,1.0s							
MT05	**Renca**	**2.42**	**165**	Pn		**Pn**	**07 27 16.8**	**+1.3**
MT05	**Renca**	**2.42**	**165**		*eP*	**Pn**	**07 27 17.2**	**+1.7**
MT05					*eS*	**Sn**	**07 27 48.5**	**+4.5**
MT05					IAML		07 28 06.3	
	comp=E,4μm,0.4s							
MT05	**Renca**	**2.42**	**165**		*eP*	**Pn**	**07 27 16.0**	**+0.5**
MT05					*eS*	**Sn**	**07 27 36.4**	**-7.6**
MT05					IAML		07 27 37.0	
	comp=Z,1μm,0.6s							
MT05	**Renca**	**2.42**	**165**		*eP*	**Pn**	**07 27 16.0**	**+0.5**
MT05					*eS*	**Sn**	**07 27 36.4**	**-7.6**
MT05					IAML		07 27 37.0	
	comp=Z,1μm,0.6s							
AC05	**El Transito**	**2.44**	**26**			**Pn**	**07 27 17.6**	**+1.7**
AC05	**El Transito**	**2.44**	**26**	⇓	*iP*	**Pn**	**07 27 17.5**	**+1.6**
AC05					*eS*	**Sn**	**07 27 45.2**	**+0.5**
AC05					IAML		07 28 07.2	
	comp=N,2μm,0.5s							
ZON	**Zonda**	**2.44**	**102**			**Pn**	**07 27 18.3**	**+2.4**
FCH	**Farellones**	**2.48**	**156**		*eP*	**Pn**	**07 27 19.9**	**+3.2**
FCH					*eS*	**Sn**	**07 27 48.3**	**+2.4**
FCH					IAML		07 27 54.3	
	comp=E,1μm,0.2s							
MT03	**Universidad Ad**	**2.57**	**162**			**Pn**	**07 27 19.2**	**+1.6**
MT03	**Universidad Ad**	**2.57**	**162**		*eP*	**Pn**	**07 27 20.0**	**+2.4**
MT03					*eS*	**Sn**	**07 27 50.9**	**+3.1**
MT03	**Universidad Ad**	**2.57**	**162**		*eP*	**Pn**	**07 27 19.6**	**+2.0**
MT03					*eS*	**Sn**	**07 27 51.4**	**+3.6**
MT03					IAML		07 28 01.1	
	comp=Z,1μm,0.7s							
MT03	**Universidad Ad**	**2.57**	**162**		*eP*	**Pn**	**07 27 19.6**	**+2.0**
MT03					*eS*	**Sn**	**07 27 51.4**	**+3.6**
MT03					IAML		07 28 01.1	
	comp=Z,1μm,0.7s							
RTLL	**Cerro Villicun**	**2.59**	**97**		*eP*	**Pn**	**07 27 19.7**	**+1.9**
RTLL					*eS*	**Sn**	**07 27 51.1**	**+3.0**
RTLL	**Cerro Villicun**	**2.59**	**97**		*eP*	**Pn**	**07 27 19.7**	**+1.9**
RTLL					*eS*	**Sn**	**07 27 51.1**	**+3.0**
VA05	**Santo Domingo**	**2.60**	**183**			**Pn**	**07 27 18.9**	**+1.0**
VA05	**Santo Domingo**	**2.60**	**183**		*eP*	**Pn**	**07 27 19.4**	**+1.5**
MT09	**Talagante**	**2.75**	**172**			**Pn**	**07 27 21.6**	**+1.5**
MT09	**Talagante**	**2.75**	**172**		*eP*	**Pn**	**07 27 22.4**	**+2.3**
MT09					*eS*	**Sn**	**07 27 53.0**	**+0.8**
MT01	**Popeta**	**2.81**	**176**			**Pn**	**07 27 22.2**	**+1.4**
MT01	**Popeta**	**2.81**	**176**		*eP*	**Pn**	**07 27 22.4**	**+1.6**
MT01					*eS*	**Sn**	**07 27 53.9**	**+0.4**
MT01	**Popeta**	**2.81**	**176**		*eP*	**Pn**	**07 27 22.2**	**+1.4**
MT01					*eS*	**Sn**	**07 27 56.2**	**+2.6**
MT01	**Popeta**	**2.81**	**176**		*eP*	**Pn**	**07 27 22.2**	**+1.4**
MT01					*eS*	**Sn**	**07 27 56.2**	**+2.6**
CFA	**Coronel Fontan**	**2.83**	**102**		P	**Pn**	**07 27 22.9**	**+1.8**
	comp=Z,270nm,0.3s,baz=296,slow=6.4,SNR=1373							
CFA					S	**Sn**	**07 27 55.9**	**+2.0**
	comp=Z,837nm,0.3s,baz=327,slow=19,SNR=22							
CFA					LR	LR	07 28 04.0	
	comp=Z,292nm,18.8s,baz=297,slow=30							
CFA	**Coronel Fontan**	**2.83**	**102**		*eP*	**Pn**	**07 27 22.0**	**+0.9**
CFA					*eS*	**Sn**	**07 27 57.2**	**+3.2**
CFA					IAML		07 28 01.5	
	comp=Z,900nm,0.6s							
CFA	**Coronel Fontan**	**2.83**	**102**		*eP*	**Pn**	**07 27 22.0**	**+0.9**
CFA					*eS*	**Sn**	**07 27 57.2**	**+3.2**
CFA					IAML		07 28 01.5	
	comp=Z,900nm,0.6s							
AC04	**Llanos de Chal**	**2.86**	**7**	Pn		**Pn**	**07 27 22.4**	**+1.0**
AC04	**Llanos de Chal**	**2.86**	**7**	‖	*eP*	**Pn**	**07 27 22.4**	**+1.0**
AC04					*eS*	**Sn**	**07 27 55.0**	**+0.3**
AC04					IAML		07 28 10.2	
	comp=N,1μm,0.6s							
LMEL	**Las Melosas**	**2.99**	**159**			**Pn**	**07 27 25.7**	**+2.3**
LMEL	**Las Melosas**	**2.99**	**159**		*eP*	**Pn**	**07 27 26.2**	**+2.8**
LMEL					*eS*	**Sn**	**07 28 00.6**	**+2.4**
LMEL					IAML		07 28 03.6	
	comp=N,2μm,0.3s							
BO04	**La Punta**	**3.02**	**166**			**Pn**	**07 27 25.2**	**+1.5**
BO04	**La Punta**	**3.02**	**166**		*eP*	**Pn**	**07 27 25.7**	**+1.9**
BO04					*eS*	**Sn**	**07 27 59.9**	**+1.2**
AAGR	**Agrelo**	**3.03**	**133**		*eP*	**Pn**	**07 27 27.0**	**+3.1**
AAGR					*eS*	**Sn**	**07 27 52.5**	**-6.6**
AAGR	**Agrelo**	**3.03**	**133**		*eP*	**Pn**	**07 27 27.0**	**+3.1**
AAGR					*eS*	**Sn**	**07 27 52.5**	**-6.6**
BO01	**Tunca**	**3.35**	**174**	Pn		**Pn**	**07 27 29.1**	**+0.9**
BO01	**Tunca**	**3.35**	**174**		*eP*	**Pn**	**07 27 29.2**	**+1.1**
BO01					*eS*	**Sn**	**07 28 06.1**	**-0.6**
BO01	**Tunca**	**3.35**	**174**		*eP*	**Pn**	**07 27 29.2**	**+1.1**
BO01					*eS*	**Sn**	**07 28 08.7**	**+2.0**
BO01	**Tunca**	**3.35**	**174**		*eP*	**Pn**	**07 27 29.2**	**+1.1**
BO01					*eS*	**Sn**	**07 28 08.7**	**+2.0**
BO03	**Pichilemu**	**3.46**	**187**		*eP*	**Pn**	**07 27 30.4**	**+0.7**
BO03					*eS*	**Sn**	**07 28 08.2**	**-1.2**
GO03	**Copiap**	**3.61**	**18**			**Pn**	**07 27 32.8**	**+1.0**
GO03	**Copiap**	**3.61**	**18**		*eP*	**Pn**	**07 27 33.0**	**+1.2**
GO03					IAML		07 28 47.4	
	comp=E,720nm,0.0s							
BO02	**Sierra Bellavi**	**3.78**	**171**			**Pn**	**07 27 35.1**	**+1.0**
BO02	**Sierra Bellavi**	**3.78**	**171**		*eP*	**Pn**	**07 27 35.9**	**+1.8**
BO02					*eS*	**Sn**	**07 28 18.1**	**+0.7**
BO02	**Sierra Bellavi**	**3.78**	**171**		*eP*	**Pn**	**07 27 35.7**	**+1.6**
BO02					*eS*	**Sn**	**07 28 19.6**	**+2.3**
BO02					IAML		07 28 21.8	
	comp=Z,647nm,0.2s							
BO02	**Sierra Bellavi**	**3.78**	**171**		*eP*	**Pn**	**07 27 35.7**	**+1.6**
BO02					*eS*	**Sn**	**07 28 19.6**	**+2.3**
BO02					IAML		07 28 21.8	
	comp=Z,647nm,0.2s							
AC06	**Mina Casimiro**	**3.81**	**15**			**Pn**	**07 27 34.2**	**-0.3**
AC06	**Mina Casimiro**	**3.81**	**15**		*eP*	**Pn**	**07 27 35.4**	**+0.9**
AC06					*eS*	**Sn**	**07 28 21.1**	**+3.1**
GO05	**Huala**	**3.97**	**185**			**Pn**	**07 27 37.0**	**+0.3**
GO05	**Huala**	**3.97**	**185**		*eP*	**Pn**	**07 27 37.0**	**+0.3**
GO05	**Huala**	**3.97**	**185**		*eP*	**Pn**	**07 27 37.1**	**+0.4**
GO05					*eS*	**Sn**	**07 28 20.8**	**-1.1**
GO05	**Huala**	**3.97**	**185**		*eP*	**Pn**	**07 27 37.1**	**+0.4**
GO05					*eS*	**Sn**	**07 28 20.8**	**-1.1**
AC02	**Maricunga**	**4.68**	**27**			**Pn**	**07 27 47.9**	**+1.1**
AC02	**Maricunga**	**4.68**	**27**		*eP*	**Pn**	**07 27 48.0**	**+1.2**
AC01	**Pan de Azucar**	**4.95**	**9**		*eP*	**Pn**	**07 27 49.0**	**-1.0**
AC01	**Pan de Azucar**	**4.95**	**9**		*eP*	**Pn**	**07 27 48.0**	**-2.1**
AC01	**Pan de Azucar**	**4.95**	**9**		*eP*	**Pn**	**07 27 48.0**	**-2.1**
CYA	**Choya**	**5.58**	**64**		*eP*	**Pn**	**07 27 59.0**	**+0.3**
CYA					*eS*	**Sn**	**07 28 54.4**	**-7.1**
BI05	**Punta Hualpn**	**5.86**	**194**	Pn		**Pn**	**07 28 02.2**	**-0.3**
H03N1	**Juan Fernandez**	**6.74**	**247**	P		**Pn**	**07 28 16.6**	**+2.4**
	baz=116,slow=18,SNR=474							
H03N1				S		**Sn**	**07 29 29.4**	**0.0**
	baz=341,slow=30,SNR=3.6							
H03N1				T		T	07 35 14.1	
	baz=72,slow=72,SNR=560							
VA04	**Juan Fernndez**	**6.74**	**246**	Pn		**Pn**	**07 28 16.2**	**

	comp=Z,61nm,18.2s,baz=330,slow=36							
SNAA	**Sanae**	**54.14**	**159**	P		**P**	**07 35 57.1**	**+0.3**
	comp=Z,5.3nm,0.6s,baz=279,slow=8.0,SNR=14							
	comp=Z,5.3nm,0.6s							
SNAA	**Sanae**	**54.14**	**159**	P		**P**	**07 35 57.6**	**+0.8**
SNAA				IAmb		IAmb	07 35 58.0	
	comp=Z,7.1nm,0.7s							
SOR	**Soroa**	**54.67**	**347**	P		**P**	**07 36 01.9**	**+0.9**
QSPA	**South Pole Qui**	**59.18**	**180**	LR		LR	08 03 40.1	
	comp=Z,71nm,18.9s,baz=87,slow=38							
QSPA	**South Pole Qui**	**59.18**	**180**	P		**P**	**07 36 34.0**	**+1.3**
QSPA				IAmb		IAmb	07 36 35.3	
	comp=Z,9.4nm,1.1s							
TXAR	**Lajitas Array**	**67.42**	**330**	P		**P**	**07 37 28.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=156,slow=9.8,SNR=2.8							
TXAR				pP		**pP**	**07 37 46.7**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=151,slow=7.4,SNR=8.6							
	comp=Z,0.3nm,0.6s							
DBIC	**Dimbokro**	**73.79**	**72**	P		**P**	**07 38 06.3**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=236,slow=9.0,SNR=5.6							
	comp=Z,4.5nm,0.7s							
DBIC	**Dimbokro**	**73.79**	**72**	P		**P**	**07 38 06.3**	**-0.3**
DBIC				IAmb		IAmb	07 38 07.7	
	comp=Z,13nm,1.4s							
BOSA	**Boshof**	**81.02**	**118**	P		**P**	**07 38 46.5**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=222,slow=4.8,SNR=4.1							
	comp=Z,1.9nm,0.6s							
PDAR	**Pinedale Array**	**81.36**	**333**	P		**P**	**07 38 49.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=141,slow=9.6,SNR=3.6							
	comp=Z,0.3nm,0.6s							
NVAR	**Mina Array Bea**	**81.75**	**325**	P		**P**	**07 38 50.7**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=176,slow=4.2,SNR=2.3							
NVAR				pP		**pP**	**07 39 09.4**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=141,slow=7.3,SNR=4.3							
	comp=Z,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P		**P**	**07 38 56.0**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=273,slow=5.3,SNR=25							
TORD				pP		**pP**	**07 39 13.7**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=277,slow=6.8,SNR=4.3							
	comp=Z,4.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P		**P**	**07 38 56.3**	**+0.2**
TORD				IAmb		IAmb	07 38 56.9	
	comp=Z,3.1nm,0.8s							
LBTB	**Lobatse**	**83.11**	**115**	LR		LR	08 14 51.2	
	comp=Z,30nm,18.3s,baz=208,slow=35							
MLR	**Muntele Rosu**	**116.28**	**51**	PKP		**PKPdf**	**07 45 13.9**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=149,slow=7.8,SNR=3.4							
ASAR	**Alice Springs**	**120.40**	**207**	PKP		**PKPdf**	**07 45 22.3**	**-1.1**
	comp=Z,0.5nm,1.0s,baz=126,slow=1.5,SNR=2.4							
ASAR				pPKP		**pPKPdf**	**07 45 41.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=136,slow=1.7,SNR=1.9							
WRA	**Warramunga Arr**	**123.56**	**209**	PKP		**PKPdf**	**07 45 29.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=159,slow=1.6,SNR=7.8							
WRA				pPKP		**pPKPdf**	**07 45 48.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=170,slow=1.6,SNR=4.2							
H11S2	**WAKE ISLAND Hy**	**126.24**	**271**	T		T	10 04 36.6	
	baz=116,slow=75,SNR=79							
H11S1	**WAKE ISLAND Hy**	**126.26**	**271**	T		T	10 04 28.8	
	baz=116,slow=75,SNR=66							
H11S3	**WAKE ISLAND Hy**	**126.26**	**271**	T		T	10 04 39.3	
	baz=116,slow=75,SNR=61							
H11N3	**WAKE ISLAND Hy**	**126.58**	**272**	T		T	10 04 53.9	
	baz=116,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**126.60**	**272**	T		T	10 05 03.4	
	baz=116,slow=75,SNR=4.4							
H11N2	**WAKE ISLAND Hy**	**126.60**	**272**	T		T	10 04 55.2	
	baz=116,slow=75,SNR=27							
RPSI	**Rantau Prapat**	**150.37**	**160**			**PKPbc**	**07 46 22.5**	**-1.0**
PSI	**Prapat**	**150.47**	**160**	PKPbc		**PKPbc**	**07 46 22.5**	**-1.4**
	comp=Z,5.5nm,0.2s,baz=331,slow=20,SNR=8.6							
PSI				PKPab		**PKPab**	**07 46 29.9**	**-0.5**
	comp=Z,3.9nm,0.5s,baz=155,slow=6.8,SNR=5.0							
PZH	**PanZhiHua**	**172.52**	**126**	PKP		**PKPdf**	**07 46 41.0**	**+0.2**

*ISK **27** 07:30:25.9,39˚.57N×26˚.06E,h7km,ML3.0/20*
*THE **27** 07:30:26.4,39˚.54N×26˚.10E,h9km±1km,MJ2.4/6,Error ellipse: s-maj=1.7km s-min=0.7km az=102.0*
*ATH **27** 07:30:26.9,39˚.54N×26˚.09E,h12km±5km,ML2.3/2,Error ellipse: s-maj=10.3km s-min=1.2km az=262.0*
*DDA **27** 07:30:26.6±0.0,39˚.55N×26˚.16E,h2km±1km,ML2.6*

ISC 27 07:30:26.3±0.9,39˚.55N±0˚.02×26˚.10E±0˚.02,h8km±6km, n44,σ0°50'/67,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.05**	**147**	P	**Pg**	**07 30 28.0**	**-0.1**
KOCA				*i* AML	AML	07 30 29.0	
	comp=N,1μm,0.6s						
KOCA				*i* AML	AML	07 30 29.0	
	comp=E,6μm,0.3s						
KOCA				S	**Sg**	**07 30 29.1**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.10**	**164**	Pg	**Pg**	**07 30 28.5**	**-0.1**
EZN	**Ezine**	**0.33**	**32**	P	**Pg**	**07 30 32.8**	**+0.1**
EZN				S	**Sg**	**07 30 37.6**	**+0.5**
	2μm,0.3s						
EZN	**Ezine**	**0.33**	**32**	Pg	**Pg**	**07 30 32.8**	**+0.1**
EZN				Sg	**Sg**	**07 30 37.3**	**+0.2**
SIGR	**SIGRI**	**0.39**	**210**	P	**Pg**	**07 30 34.1**	**+0.3**
SIGR				S	**Sg**	**07 30 39.6**	**+0.7**
	502nm,0.3s						
SIGR	**SIGRI**	**0.39**	**210**	Pg	**Pg**	**07 30 34.1**	**+0.3**
SIGR				Sg	**Sg**	**07 30 39.8**	**+0.9**
SIGR	**SIGRI**	**0.39**	**210**	P	**Pg**	**07 30 34.1**	**+0.3**
SIGR				S	**Sg**	**07 30 39.7**	**+0.7**
SIGR				AML	AML	07 30 42.5	
	comp=E,855μm,0.3s						
SIGR				AML	AML	07 30 42.5	
	comp=N,1130μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.40**	**61**	P	**Pg**	**07 30 33.7**	**-0.3**
BAYC				S	**Sg**	**07 30 38.8**	**-0.5**
BAYC				*i* AML	AML	07 30 39.0	
	comp=N,466nm,0.2s						
ECEA	**Canakkale, Ece**	**0.50**	**7**	P	**Pg**	**07 30 36.7**	**+0.7**
ECEA				S	**Sg**	**07 30 43.8**	**+1.2**
ECEA				*i* AML	AML	07 30 44.0	
	comp=N,410nm,0.3s						
GADA	**Gvkgeada**	**0.66**	**346**	Pg	**Pg**	**07 30 38.7**	**-0.3**
GADA				Sg	**Sg**	**07 30 47.9**	**+0.2**
BUHA	**Balikesir, Bur**	**0.76**	**93**	P	**Pg**	**07 30 40.7**	**-0.2**
BUHA				S	**Sg**	**07 30 50.9**	**+0.2**
DKL	**Dikili**	**0.79**	**127**	Pg	**Pb**	**07 30 42.4**	**+0.2**
DKL				Sg	**Sb**	**07 30 54.2**	**+1.2**
GELI	**Tayfur-Gelibol**	**0.90**	**19**	Pg	**Pg**	**07 30 43.4**	**-0.1**
ZEDA	**zmir-Bergama**	**0.95**	**127**	P	**Pg**	**07 30 45.0**	**+0.3**
ZEDA				S	**Sb**	**07 30 58.5**	**+0.6**
LPK	**Lapseki**	**0.97**	**31**	Pg	**Pg**	**07 30 44.9**	**0.0**
SMTH	**Samothraki Isl**	**1.02**	**335**	P	**Pg**	**07 30 46.0**	**+0.1**
SMTH				S	**Sb**	**07 30 59.8**	**0.0**
	comp=N,172nm,0.1s						
SMTH	**Samothraki Isl**	**1.02**	**335**	P	**Pg**	**07 30 46.1**	**+0.2**
SMTH				S	**Sg**	**07 30 59.4**	**+0.2**
SMTH				AML	AML	07 31 02.1	
	comp=N,398μm,0.2s						
SMTH				AML	AML	07 31 02.1	
	comp=E,291μm,0.1s						
PSRA	**Psara**	**1.09**	**203**	P	**Pg**	**07 30 47.3**	**+0.1**
CAVK	**Edirne/Enez-Ca**	**1.14**	**3**	P	**Pg**	**07 30 48.2**	**0.0**
CAVK				S	**Sb**	**07 31 03.7**	**+0.4**
CHOS	**Chios island**	**1.16**	**182**	P	**Pg**	**07 30 47.9**	**-0.7**
CHOS				S	**Sg**	**07 31 03.8**	**+0.2**
	comp=E,182nm,0.3s						
CHOS	**Chios island**	**1.16**	**182**	P	**Pg**	**07 30 47.8**	**-0.8**
ERIK	**Erikli-Kesan**	**1.17**	**16**	Pn	**Pb**	**07 30 48.4**	**-0.3**
ENEZ	**Enez**	**1.19**	**2**	P	**Pb**	**07 30 49.0**	**-0.1**
ENEZ				S	**Sn**	**07 31 05.5**	**-0.1**
ENEZ	**Enez**	**1.19**	**2**	Pn	**Pb**	**07 30 48.7**	**-0.4**
KRBG	**Karabiga-Canak**	**1.25**	**47**	Pn	**Pn**	**07 30 49.7**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.26**	**97**	P	**Pn**	**07 30 49.6**	**-0.7**
STEP				S	**Sn**	**07 31 08.1**	**+0.6**
KNL	**Balıkesir**	**1.31**	**56**	S	**Sn**	**07 31 08.9**	**+0.2**
GONE	**Gonen-Balikesi**	**1.32**	**67**	Pn	**Pb**	**07 30 51.4**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**1.34**	**166**	P	**Pn**	**07 30 50.1**	**-1.2**
ZEYE				S	**Sn**	**07 31 09.6**	**+0.3**
ZEYE				*i* AML	AML	07 31 13.0	
	comp=E,91nm,0.5s						
ALN	**Alexandroupoli**	**1.35**	**358**	P	**Pn**	**07 30 50.8**	**-0.6**
ALN				S	**Sb**	**07 31 08.5**	**-0.7**
	comp=E,195nm,0.4s						
ALN	**Alexandroupoli**	**1.35**	**358**	Pn	**Pn**	**07 30 51.2**	**-0.2**
BALB	**Balikesir**	**1.38**	**86**	Pn	**Pb**	**07 30 52.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.41**	**36**	Pn	**Pn**	**07 30 52.4**	**+0.1**
EDC	**Edincik**	**1.57**	**59**	Pn	**Pn**	**07 30 54.9**	**+0.4**
DGB	**zmir**	**1.61**	**157**	P	**Pn**	**07 30 53.8**	**-1.2**
DGB				S	**Sb**	**07 31 17.1**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.63**	**14**	Pn	**Pn**	**07 30 55.4**	**+0.1**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pn**	**07 30 55.0**	**-0.6**
RDO				S	**Sn**	**07 31 16.3**	**-0.8**
	comp=E,45nm,0.3s						
RDO	**Rodhopi**	**1.65**	**345**	Pn	**Pn**	**07 30 55.5**	**-0.1**
RDO	**Rodhopi**	**1.65**	**345**	P	**Pn**	**07 30 55.1**	**-0.6**
OUR	**Ouranopolis**	**1.81**	**296**	Pn	**Pn**	**07 30 57.6**	**-0.1**
KDZ	**Kurdzhali**	**2.16**	**346**	Pn	**Pn**	**07 31 02.6**	**-0.1**
EDRB	**Edirne**	**2.35**	**12**	Pn	**Pn**	**07 31 05.6**	**+0.4**
KIRK	**Kırklareli**	**2.36**	**18**	P	**Pb**	**07 31 08.8**	**-0.2**
KIRK				S	**Sn**	**07 31 33.8**	**-0.6**
ULDT	**Uludag**	**2.41**	**75**	P	**Pb**	**07 31 10.0**	**0.0**

IDC 27 07:33:43.9±3.6,55˚.43N×85˚.89E,h0km,mbtmp2.5/2, ML2.3/2,Error ellipse: s-maj=27.7km s-min=25.6km az=43.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**203**	I	I	07 44 10.0	
	0.4nm,0.9s,baz=23,slow=344,SNR=34						
ZALV	**Zalesovo Beam**	**1.61**	**203**	Pg	Pn	07 34 12.6	-0.9
	2.1nm,0.3s,baz=21,slow=15,SNR=27						
ZALV				Lg	Lg	07 34 35.4	
	2.3nm,0.3s,baz=25,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**6.55**	**226**	Pn	Pn	07 35 20.6	-0.8
	baz=46,slow=14,SNR=1.8						
KURBB				Lg	Lg	07 37 12.0	
	0.1nm,0.3s,baz=47,slow=30,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.94**	**196**	Pn	Pn	07 35 55.0	+0.8
	baz=20,slow=13,SNR=2.9						
MKAR				Lg	Lg	07 38 25.9	
	baz=8.4,slow=21,SNR=5.3						
	0.1nm,0.4s						

WEL 27 07:33:49.9±0.5,42˚.S±4˚×17˚.4E±˚,h12km,M3.0/14, ML3.2/19,MLv3.0/14,Error ellipse: s-maj=0.0km s-min=0.0km az=129.6,confirmed,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.42**	**263**	P	Pb	07 33 58.7	-0.5
CMWZ	**Cape Campbell**	**0.62**	**7**	P	Pn	07 34 03.7	-0.8
BSWZ	**Blackbirch Sta**	**0.68**	**345**	P	Pb	07 34 03.3	-0.3
GVZ	**Greta Valley S**	**0.99**	**232**	P	Pn	07 34 09.7	+0.1
THZ	**Tophouse**	**1.08**	**304**	P	Pb	07 34 09.9	-0.6
TCW	**Tory Channel**	**1.16**	**6**	P	Pb	07 34 11.2	-0.7
PLWZ	**Palliser**	**1.17**	**47**	P	Pb	07 34 11.6	-0.5
WEL	**Wellington**	**1.19**	**25**	P	Pn	07 34 12.2	-0.1
NNZ	**Nelson**	**1.27**	**335**	P	Pn	07 34 12.9	-0.5
AMCZ	**Amberley**	**1.34**	**232**	P	Pb	07 34 14.7	-0.2
MRNZ	**Matariki Terra**	**1.40**	**313**	P	Pn	07 34 15.3	+0.1
LTZ	**Lake Taylor**	**1.42**	**252**	P	Pn	07 34 15.3	-0.2
CAW	**Cannon Point**	**1.45**	**30**	P	Pn	07 34 15.5	-0.4
DUWZ	**D'Urville Isla**	**1.57**	**355**	P	Pn	07 34 17.5	-0.1
TKNZ	**Takaka Hill**	**1.58**	**327**	P	Pn	07 34 18.1	+0.4
MTW	**Mount Morrison**	**1.60**	**41**	P	Pn	07 34 17.0	-0.9
KIW	**Kapiti Island**	**1.62**	**22**	P	Pn	07 34 18.1	-0.2
MQZ	**McQueen's Vall**	**1.71**	**218**	P	Pn	07 34 18.3	-1.1
AKCZ	**Akaroa Harbour**	**1.74**	**210**	P	Pn	07 34 19.4	-0.5
OGWZ	**Otaki Gorge**	**1.74**	**28**	P	Pn	07 34 19.5	-0.5
OXZ	**Oxford**	**1.80**	**237**	P	Pn	07 34 19.9	-0.7
DSZ	**Denniston Nort**	**1.82**	**289**	P	Pn	07 34 22.0	+1.0
QRZ	**Quartz Range**	**1.94**	**322**	P	Pn	07 34 23.6	+0.9
INZ	**Inchbonnie**	**2.00**	**259**	P	Pn	07 34 23.6	+0.1
MRZ	**Mangatainoka R**	**2.03**	**33**	P	Pn	07 34 23.1	-0.8
WACZ	**Wakanui South**	**2.29**	**226**	P	Pn	07 34 26.7	-0.7
WVZ	**Waitahu Valley**	**2.58**	**253**	P	Pn	07 34 31.7	+0.2
RPZ	**Rata Peaks**	**2.61**	**238**	P	Pn	07 34 31.4	-0.5
ARCZ	**Arundel**	**2.66**	**233**	P	Pn	07 34 32.2	-0.4
WAZ	**Wanganui**	**2.69**	**15**	P	Pn	07 34 34.6	+1.6
TMZ	**Timaru**	**3.03**	**227**	P	Pn	07 34 36.9	-0.7
KHEZ	**Kahui Hut**	**3.07**	**359**	P	Pb	07 34 41.9	-2.6
WNVZ	**Wahianoa**	**3.24**	**21**	P	Pn	07 34 40.7	0.0
VRZ	**Vera Road**	**3.28**	**9**	P	Pn	07 34 42.4	+1.3
TUVZ	**Tukino**	**3.31**	**21**	P	Pn	07 34 42.3	+0.6
TMVZ	**Te Maari**	**3.47**	**21**	P	Pn	07 34 44.0	+0.3
ODZ	**Otahua Downs**	**3.67**	**222**	P	Pn	07 34 45.7	-0.7
HIZ	**Hauiti**	**3.89**	**9**	P	Pn	07 34 51.3	+1.8

IDC 27 07:35:03.6±3.4,54˚.54N×86˚.33E,h0km,mbtmp2.8/2, ML2.2/2,Error ellipse: s-maj=25.3km s-min=15.0km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**237**	I	I	07 41 30.0	
	0.2nm,0.8s,baz=55,slow=343,SNR=31						
ZALV	**Zalesovo Beam**	**1.06**	**237**	Pg	Pg	07 35 22.9	-1.1
	baz=53,slow=17						
ZALV				Lg	Lg	07 35 39.3	
	1.9nm,0.3s,baz=56,slow=28,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.16**	**234**	Pn	Pn	07 36 36.5	+0.8
	baz=51,slow=14,SNR=3.1						
KURBB				Lg	Lg	07 38 18.3	
	baz=54,slow=31						
	0.7nm,0.2s						
MKAR	**Makanchi Array**	**8.16**	**200**	Pn	Pn	07 37 04.3	+1.0
	baz=21,slow=11,SNR=1.7						
MKAR				Lg	Lg	07 39 21.0	
	baz=21,slow=29,SNR=2.6						
	0.1nm,0.4s						

IDC 27 07:35:28.2±3.5,10˚.05S×117˚.27E,h0km,mb3.3/2, mbtmp3.6/5,ML3.4/3,Error ellipse: s-maj=74.6km s-min=28.7km az=65.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**5.58**	**26**	Pn	Pn	07 36 54.6	+2.1
	2.2nm,0.3s,baz=200,slow=7.6,SNR=10						
KAPI				Sn	Sn	07 37 44.4	-13
	0.9nm,0.3s,baz=60,slow=21,SNR=1.4						
	5.1nm,0.3s						
BATI	**Baumata**	**6.29**	**92**	Pn	Pn	07 37 01.1	-1.3
	2.8nm,0.3s,baz=79,slow=20,SNR=1.9						
BATI				Sn	Sn	07 38 01.7	-13
	3.3nm,0.3s,baz=299,slow=19,SNR=1.9						
	17nm,0.3s						
WRA	**Warramunga Arr**	**19.18**	**123**	P	P	07 39 52.4	-1.2
	baz=304,slow=10,SNR=1.5						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**20.86**	**133**	P	Pn	07 40 13.7	-0.7
	0.3nm,0.8s,baz=308,slow=9.5,SNR=2.0						
	0.3nm,0.8s						
H08S2	**Diego Garcia H**	**44.29**	**269**	T	T	08 32 08.0	
	baz=96						
H08S3	**Diego Garcia H**	**44.30**	**269**	T	T	08 32 09.2	
	baz=96						
H08S1	**Diego Carcia H**	**44.30**	**269**	T	T	08 32 14.1	
	baz=96						
USRK	**Ussuriysk Ar.**	**55.62**	**13**	P	P	07 45 05.2	-0.6
	0.8nm,0.4s,baz=195,slow=7.1,SNR=6.2						
	0.8nm,0.4s						

*IDC **27** 07:39:03.4±3.2,1˚.88N×128˚.23E,h130km±28km,mb3.3/4, mbtmp3.7/5,Error ellipse: s-maj=92.4km s-min=23.0km az=66.0*

ISC 27 07:39:00.9±1.0,1˚.7N±0˚.2×128˚.0E±0˚.2,h100km,n6, σ2°49'/9,mb3.6/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.16**	**127**	P	**Pn**	**07 40 04.1**	**+1.8**
	8.3nm,0.3s,baz=352,slow=20,SNR=4.8						
SIJI				S	**Sn**	**07 40 47.7**	**-2.2**
	7.4nm,0.5s,baz=284,slow=22,SNR=2.0						
WRA	**Warramunga Arr**	**22.36**	**164**	P	**P**	**07 43 52.3**	**+1.3**
	0.6nm,0.8s,baz=346,slow=11,SNR=2.3						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**25.83**	**167**	P	**P**	**07 44 23.1**	**-0.1**
	0.1nm,0.4s,baz=341,slow=8.1,SNR=1.3						
ASAR				PcP	**PcP**	**07 47 49.4**	**-0.9**
	0.2nm,0.7s,baz=349,slow=2.3,SNR=6.0						
ASAR				ScP	**ScP**	**07 51 16.3**	**-4.7**
	0.3nm,0.9s,baz=0.1,slow=1.9,SNR=2.1						
	0.1nm,0.4s						
STKA	**Stephens Creek**	**35.78**	**160**	P	**P**	**07 45 51.5**	**+1.0**
	1.3nm,0.4s,baz=341,slow=8.0,SNR=11						
	1.3nm,0.4s						
HHC	**Hu-ho-hao-te**	**41.73**	**341**	*e*P	**P**	**07 46 41.8**	**+1.5**
KURBB	**Kurchatov Arra**	**64.13**	**327**	P	**P**	**07 49 23.4**	**-1.2**
	3.0nm,0.6s,baz=122,slow=6.6,SNR=4.7						
	3.0nm,0.6s						

*IDC **27** 07:39:19.4±4.5, 19˚.2N±0˚.1×145˚.7E±0˚.2,h166km±43km, mb3.5/10,mbtmp4.0/11,Error ellipse: s-maj=30.0km s-min=13.3km az=100.0*

ISC 27 07:39:17.9±0.9,19˚.2N±0˚.1×145˚.7E±0˚.2,h150km,n14, σ1°38'/12,mb3.8/10,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**8.46**	**338**	P	**Pn**	**07 41 20.2**	**+2.8**
	42nm,0.8s,baz=266,slow=20,SNR=2.2						
JCJ				S	**Sn**	**07 42 49.1**	**-2.5**
	25nm,0.6s,baz=294,slow=23,SNR=1.2						
H11S3	**WAKE ISLAND Hy**	**19.87**	**89**	T	T	08 04 50.4	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**19.88**	**89**	T	T	08 04 55.0	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**19.89**	**89**	T	T	08 04 47.3	
	baz=276						
KSRS	**Korea Array**	**23.89**	**323**	P	**P**	**07 44 16.8**	**-0.9**
	0.9nm,0.7s,baz=144,slow=7.6,SNR=2.2						
	0.9nm,0.7s						
KLR	**Kul'dur**	**31.96**	**343**	P	**P**	**07 45 29.1**	**-0.4**
	1.3nm,0.5s,baz=163,slow=13,SNR=7.5						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**40.50**	**197**	P	**P**	**07 46 42.1**	**-0.2**
	3.2nm,0.5s,baz=32,slow=9.2,SNR=27						
	3.2nm,0.5s						
ASAR	**Alice Springs**	**44.17**	**196**	P	**P**	**07 47 11.3**	**-0.6**
	0.6nm,0.5s,baz=14,slow=7.8,SNR=12						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**58.09**	**314**	P	**P**	**07 48 56.3**	**+0.6**
	2.0nm,0.4s,baz=115,slow=7.8,SNR=7.7						
	2.0nm,0.4s						
ILAR	**Eielson Array**	**63.16**	**26**	P	**P**	**07 49 28.7**	**-0.9**
	0.8nm,0.4s,baz=258,slow=5.7,SNR=20						
	0.8nm,0.4s						
INK	**Inuvik**	**68.88**	**23**	P	**P**	**07 50 05.9**	**-0.1**
	1.1nm,0.7s,baz=276,slow=5.5,SNR=5.1						
	1.1nm,0.7s						
YKA	**Yellowknife Ar**	**77.51**	**28**	P	**P**	**07 50 56.4**	**-0.3**
	0.6nm,0.6s,baz=286,slow=5.5,SNR=13						
	0.6nm,0.6s						
NVAR	**Mina Array Bea**	**82.80**	**52**	P	**P**	**07 51 26.6**	**+0.7**
	0.9nm,0.7s,baz=265,slow=6.2,SNR=7.0						
	0.9nm,0.7s						
PDAR	**Pinedale Array**	**87.44**	**45**	P	**P**	**07 51 49.0**	**0.0**
	0.3nm,0.6s,baz=63,slow=0.7,SNR=3.6						
	0.3nm,0.6s						

*BJI **27** 07:40:50.4±0.0,36˚.40N×71˚.36E,h75km,mb4.7/51, mB4.6/22,Ms4.3/4,Ms7 4.0/4*
*IDC **27** 07:40:50.1±2.5,36˚.19N×71˚.31E,h75km±23km,mb4.1/45, mbtmp4.4/49,MS3.3/14,Error ellipse: s-maj=11.8km s-min=8.0km az=12.0*
*MOS **27** 07:40:51.1±1.0,36˚.40N×71˚.35E,h88km,mb4.4/19,Error ellipse: s-maj=5.9km s-min=3.6km az=85.9*
*NEIC **27** 07:40:52.5±1.7,36˚.43N±0˚.06×71˚.29E±0˚.08,h83km±6km, mb4.8/34,Error ellipse: s-maj=10.3km s-min=7.5km az=63.0*
*NNC **27** 07:40:53.5±1.3,36˚.63N×70˚.90E,h107km±18km,mb4.4, mpv4.9,Error ellipse: s-maj=12.4km s-min=8.0km az=168.0*
*SOME **27** 07:40:57.6,37˚.10N×71˚.33E,h0km*

ISC 27 07:40:51.7±0.4,36˚.36N±0˚.03×71˚.38E±0˚.03,h86km±3km, h85km:pP-P,n427,σ2°16'/469,mb4.5/93,22C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.57**	**170**	⇓P	**Pn**	**07 41 35.5**	**+3.9**
CEP				S	**Sn**	**07 42 08.0**	**+5.9**
KBL	**Kabul**	**2.63**	**227**	Pn	**Pn**	**07 41 33.3**	**+0.8**
KBL	**Kabul**	**2.63**	**227**	PN	**Pn**	**07 41 33.3**	**+0.8**
KBL	**Kabul**	**2.63**	**227**	P	**Pn**	**07 41 33.8**	**+1.4**
	SNR=187						
KBL				S	**Sn**	**07 42 05.9**	**+2.2**
CHCP	**Chirah Chowk**	**3.11**	**150**	P	**Pn**	**07 41 41.9**	**+3.2**
NIL	**Nilore**	**3.11**	**150**		**Pn**	**07 41 41.6**	**+2.8**
NIL	**Nilore**	**3.11**	**150**	PN	**Pn**	**07 41 41.6**	**+2.8**
NIL	**Nilore**	**3.11**	**150**	P	**Pn**	**07 41 42.0**	**+3.2**
THW	**Thamme Wali**	**3.57**	**175**	P	**Pn**	**07 41 47.4**	**+2.4**
SARP	**Sargodha**	**4.56**	**166

SMLA Simla 7.11 136 *e*P Pn 07 42 33.3 +0.3
SMLA eS Sn 07 43 49.9 -2.4
SMLA IAML 07 43 52.9
comp=N,825nm,0.7s
SMLA IAML 07 43 54.3
comp=E,763nm,0.1s
SMLA IAML 07 43 57.7
comp=N,825nm,0.7s
CHMS Chumysh 7.12 20 P Pn 07 42 34.6 +1.4
SNR=103
CHMS Chumysh 7.12 20 ⇑P Pn 07 42 34.3 +1.1
comp=N,132nm,0.7s
CHMS ⇓S Sn 07 43 51.3 -1.2
comp=N,114nm,0.7s
CHMS Chumysh 7.12 20 *i* PN Pn 07 42 34.2 +1.1
CHMS pmax pmax
comp=Z,132nm,0.6s
USP Ospenovka 7.30 18 P Pn 07 42 36.5 +0.9
SNR=18
TKM2 Tokmak 2 7.31 25 P Pn 07 42 38.0 +2.1
SNR=16
TKM2 Tokmak 2 7.31 25 ⇑P Pn 07 42 37.1 +1.1
comp=Z,92nm,0.9s
TKM2 ⇑S Sn 07 43 58.5 +1.0
comp=Z,102nm,1.2s
TKM2 Tokmak 2 7.31 25 *i* PN Pn 07 42 37.0 +1.1
TKM2 pmax pmax
comp=Z,92nm,0.9s
TARG Taragay, Kyrgy 7.33 41 Pn 07 42 37.5 +1.1
TARG Taragay, Kyrgy 7.33 41 PN Pn 07 42 37.5 +1.1
SGDS Sogindy 7.51 18 *i* P Pn 07 42 39.0 +0.5
baz=19
SGDS Sogindy 7.51 18 *i* PN Pn 07 42 39.0 +0.5
KST Kastek 7.55 27 P Pn 07 42 41.3 +2.1
comp=Z,47nm,0.3s
KST Kastek 7.55 27 *e*P Pn 07 42 41.3 +2.1
comp=Z,47nm,0.3s
IZV Izvestkoviy 7.79 30 P Pn 07 42 44.6 +2.1
comp=Z,26nm,0.4s
IZV Izvestkoviy 7.79 30 *e*P Pn 07 42 44.6 +2.1
comp=Z,26nm,0.4s
MTBS Maitube 7.80 28 P Pn 07 42 44.2 +1.8
comp=Z,50nm,0.3s
MTBS Maitube 7.80 28 *e*P Pn 07 42 44.2 +1.8
comp=Z,50nm,0.3s
TNSS Tian-Shan 7.93 31 P Pn 07 42 46.2 +1.6
comp=Z,16nm,0.3s
TNSS Tian-Shan 7.93 31 *e*P Pn 07 42 45.9 +1.3
baz=32
TNSS Tian-Shan 7.93 31 *e*P Pn 07 42 46.2 +1.6
comp=Z,16nm,0.3s
TNSS Tian-Shan 7.93 31 *e*PN Pn 07 42 45.8 +1.3
AAA Alma-Ata 8.05 30 *e*P Pn 07 42 48.2 +2.2
baz=31
AAA Alma-Ata 8.05 30 *e*PN Pn 07 42 48.1 +2.2
MDOK Medeo 8.07 31 ⇓P Pn 07 42 48.2 +1.9
comp=Z,21nm,0.6s
MDOK Pg Pn 07 42 49.0 +2.7
comp=Z,23nm,0.7s
MDOK ⇑S Sn 07 44 18.0 +2.1
comp=Z,72nm,1.0s
MDOK Medeo 8.07 31 *i* P Pn 07 42 48.0 +1.8
baz=32
MDOK Medeo 8.07 31 *e*P Pn 07 42 49.0 +2.7
comp=Z,23nm,0.7s
MDOK Medeo 8.07 31 PN Pn 07 42 48.2 +1.9
KOTS Kotyrbulak 8.16 31 P Pn 07 42 50.2 +2.8
comp=Z,19nm,0.8s
KOTS Kotyrbulak 8.16 31 *e*P Pn 07 42 50.2 +2.8
comp=Z,19nm,0.8s
DDI Dehra Dun 8.21 135 *e*P Pn 07 42 48.1 -0.2
DDI IAmb IAmb 07 42 49.5
comp=Z,177nm,0.5s
KTBS Karatobe 8.39 27 P Pn 07 42 51.5 +1.0
comp=Z,12nm,0.4s
KTBS Karatobe 8.39 27 *e*P Pn 07 42 51.5 +1.0
comp=Z,12nm,0.4s
KUU Kurty 8.42 25 P Pn 07 42 51.3 +0.3
comp=Z,15nm,0.4s
KUU Kurty 8.42 25 *e*P Pn 07 42 51.7 +0.7
baz=26
KUU Kurty 8.42 25 *e*P Pn 07 42 51.3 +0.3
comp=Z,15nm,0.4s
KUU Kurty 8.42 25 *e*PN Pn 07 42 51.6 +0.6
SATY Saty 8.60 37 P Pn 07 42 54.7 +1.2
comp=Z,26nm,0.7s
SATY Saty 8.60 37 *e*P Pn 07 42 54.6 +1.2
comp=Z,26nm,0.7s
CHKK Chushkaly 8.63 28 P Pn 07 42 54.7 +1.0
comp=Z,33nm,0.5s
CHKK Chushkaly 8.63 28 *e*P Pn 07 42 54.8 +1.0
baz=29
CHKK Chushkaly 8.63 28 *e*P Pn 07 42 54.7 +1.0
comp=Z,33nm,0.5s
CHKK Chushkaly 8.63 28 *e*PN Pn 07 42 54.7 +1.0
BTLS Baital 8.90 12 *e*P Pn 07 42 57.8 +0.3
baz=13
BTLS Baital 8.90 12 *e*Pg Pn 07 42 57.5 +0.1
comp=Z,15nm,0.6s
BTLS *e*Lg Lg 07 44 33.0
comp=Z,19nm,0.3s
BTLS Baital 8.90 12 *e*PN Pn 07 42 57.7 +0.3
UZB Uzynbulak 8.97 39 P Pn 07 42 59.7 +1.2
comp=Z,32nm,0.6s
UZB Uzynbulak 8.97 39 *e*P Pn 07 42 59.8 +1.2
baz=39
UZB Uzynbulak 8.97 39 *e*P Pn 07 42 59.7 +1.2
comp=Z,32nm,0.6s
UZB Uzynbulak 8.97 39 *e*PN Pn 07 42 59.7 +1.2
KPKS Kokpek 9.04 36 P Pn 07 43 00.8 +1.3
comp=Z,38nm,0.5s
KPKS Kokpek 9.04 36 *e*P Pn 07 43 00.7 +1.2
baz=37
KPKS Kokpek 9.04 36 *e*P Pn 07 43 00.8 +1.3
comp=Z,38nm,0.5s
KPKS Kokpek 9.04 36 *e*P Pn 07 43 00.6 +1.2
KHET Khetri 9.07 154 *e*P Pn 07 42 58.3 -1.6
KHET *e*S Sn 07 44 32.9 -7.6
NDI New Delhi 9.11 146 *e*P Pn 07 42 59.2 -1.2
NDI *e*P Pn 07 42 59.5 -0.8
NDI *e*S Sn 07 44 36.9 -4.2
NDI *e*S Sn 07 44 37.5 -3.6
NDI IAML 07 44 45.8
comp=E,206nm,0.9s
SHLS Shalkode 9.20 40 P Pn 07 43 05.8 +4.1
comp=E,16nm,0.5s
SHLS Shalkode 9.20 40 *e*P Pn 07 43 05.8 +4.1
baz=42
SHLS Shalkode 9.20 40 *e*P Pn 07 43 05.8 +4.1
comp=E,16nm,0.5s
SHLS Shalkode 9.20 40 *e*P Pn 07 43 05.7 +4.0
ARXS Arharly 9.26 30 P Pn 07 43 03.2 +0.8
comp=E,46nm,0.5s
ARXS Arharly 9.26 30 *e*P Pn 07 43 03.2 +0.8
comp=E,46nm,0.5s
KUDL Kundal 9.27 151 *e*P Pn 07 43 01.1 -1.4
SONA Sohna 9.42 148 *e*P Pn 07 43 03.1 -1.5
BLB Baldybastay 9.44 33 P Pn 07 43 05.1 +0.3
comp=E,12nm,0.3s
PTH Pithoragarh 10.06 130 *ex* Pn 07 43 11.6 -1.9
PTH *ex* Sn 07 44 58.5 -6.2
LGTI Lohaghat 10.15 130 *e*P Pn 07 43 12.8 -1.7
LGTI *ex* Sn 07 45 00.7 -5.8
LGTI IAML 07 45 06.4
comp=E,177nm,0.6s
AJM Ajmer 10.24 163 *e*P Pn 07 43 15.4 -0.5
AJM *e*S Sn 07 44 57.4 -11
AJM IAML 07 45 09.3
comp=E,229nm,0.5s
AJM IAML 07 45 11.1
comp=N,195nm,0.3s
GEYT Alibeck 10.70 282 P Pn 07 43 16.9 -5.1
comp=N,34nm,0.4s,baz=109,slow=13,SNR=54
GEYT S Sn 07 45 10.3 -10
comp=N,67nm,0.5s,baz=119,slow=27,SNR=14
GEYT LR LR 07 48 16.6
comp=N,96nm,21.1s,baz=104,slow=42
GYA0 ALIBECK ARRAY 10.70 282 P Pn 07 43 16.7 -5.3
GYA0B ALIBECK ARRAY 10.70 282 ⇑P Pn 07 43 16.8 -5.3
GYA0B ⇑S Sn 07 45 10.4 -10
JHNI Jhansi 12.48 149 *e*P **Pn** **07 43 43.3 -2.9**
JHNI IAmb IAmb 07 43 45.2
comp=Z,68nm,0.4s
JHNI *e*S Sn 07 45 52.6 -11
JHNI IAML 07 45 57.5
comp=E,115nm,0.9s

PYUN Piuthan 12.82 127 *e*P Pn 07 43 47.3 -3.6
MAKZ Makanchi 13.10 34 Pn Pn 07 43 53.2 -1.0
MAKZ Makanchi 13.10 34 ⇑P Pn 07 43 53.1 -1.1
comp=E,18nm,0.8s
MAKZ Makanchi 13.10 34 P Pn 07 43 53.3 -1.0
BHUJ Bhuj 13.15 187 *e*P Pn 07 43 52.7 -2.4
DANN Dangsing 13.16 124 *e*P Pn 07 43 51.9 -3.6
MK31 Makanchi Array 13.23 35 Pn 07 43 55.5 -0.4
MK31 Makanchi Array 13.23 35 ⇑P Pn 07 43 55.6 -0.4
comp=E,12nm,0.7s,baz=209,slow=14,SNR=84
MK31 Makanchi Array 13.23 35 P Pn 07 43 55.6 -0.4
MKAR Makanchi Array 13.23 35 P Pn 07 43 56.0 +0.1
comp=E,6.8nm,0.9s,baz=220,slow=14,SNR=46
MKAR Makanchi Array 13.23 35 Pn Pn 07 43 55.3 -0.7
KOLN Koldanda 13.44 126 *e*P Pn 07 43 55.5 -3.6
KOLN *e*S Sn 07 46 18.3 -8.5
GKN Gorkha 13.97 123 *e*P Pn 07 44 02.7 -3.3
comp=E,104nm,0.5s
NGCH Negor - Chabah 14.05 222 P Pn 07 44 09.4 +2.6
BHPL Bhopal 14.09 157 *e*P Pn 07 44 04.6 -2.8
ALBI Allahabad 14.19 138 *e*P Pn 07 44 04.6 -4.0
ALBI IAmb IAmb 07 44 06.6
comp=Z,35nm,0.5s
WMQ Urumqi 14.53 54 *e*P Pn 07 44 12.5 -0.5
WMQ pP P 07 44 26.0 +8.8
WMQ S Sn 07 46 51.0 -1.9
WMQ pmax pmax
comp=Z,14nm,0.9s
DMN Daman 14.54 123 *e*P Pn 07 44 10.2 -3.3
comp=Z,121nm,0.4s
KKN Kakani 14.55 122 *e*P Pn 07 44 09.4 -4.1
comp=Z,22nm,0.6s
KKN *e*S Sn 07 46 44.0 -10
PKIN Phulchoki 14.76 122 *e*P Pn 07 44 12.9 -3.4
comp=Z,203nm,0.5s
PKI Pulchoki 14.78 122 *e*P Pn 07 44 12.7 -3.8
GUN Gumba 14.89 120 *e*P Pn 07 44 14.1 -3.9
comp=Z,155nm,0.4s
ZSN Zaisan 14.93 38 *e*P P 07 44 20.0 -1.6
baz=38
ZSN Zaisan 14.93 38 *e*P P 07 44 19.9 -1.6
JBP Jabalpur 15.12 148 ⇓*e*P Pn 07 44 16.4 -4.2
JBP IAmb IAmb 07 44 25.0
comp=Z,63nm,0.7s
JBP *ex* x 07 46 54.0
KURBB Kurchatov Arra 15.16 18 P Pn 07 44 18.3 -2.6
comp=Z,2.8nm,0.7s,baz=208,slow=11,SNR=17
KURBB S Sn 07 47 11.6 +3.7
comp=Z,1.0nm,0.5s,baz=201,slow=29,SNR=1.6
KURBB Kurchatov Arra 15.16 18 ⇓P Pn 07 44 18.5 -2.4
comp=Z,19nm,0.8s
JIRN Jiri 15.26 120 *e*P Pn 07 44 19.6 -3.1
comp=Z,315nm,0.5s
KURK Kurchatov 15.27 18 Pn 07 44 20.2 -2.1
KURK Kurchatov 15.27 18 ⇑P Pn 07 44 19.1 -3.1
comp=Z,20nm,1.0s
KURK Kurchatov 15.27 18 *i* P P 07 44 23.9 -1.3
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 15.27 18 P Pn 07 44 20.5 -1.8
AB31 Akbulak array 15.35 331 ⇓P Pn 07 44 19.8 -3.7
comp=Z,10.0nm,0.5s,baz=140,slow=12,SNR=394
AB31 ⇑S Sn 07 46 59.9 -13
comp=Z,8.3nm,0.5s,baz=146,slow=24,SNR=4.5
AB31 Akbulak array 15.35 331 *i* P Pn 07 44 19.7 -3.7
ABKAR Akbulak array 15.35 331 Pn Pn 07 44 19.5 -3.9
ABKAR Akbulak array 15.35 331 Pn Pn 07 44 19.9 -3.5
SEM Semipalatinsk 15.43 22 *e*P Pn 07 44 25.9 +1.3
baz=22
SEM Semipalatinsk 15.43 22 *e*P Pn 07 44 25.9 +1.3
JASK Jask - Hormozg 15.58 232 P P 07 44 28.0 -1.0
RAMN Ramite 15.98 122 *e*P Pn 07 44 27.7 -4.1
comp=Z,161nm,0.5s
AKL Akola 16.36 161 *e*P Pn 07 44 35.7 -0.6
AKL IAmb IAmb 07 44 36.8
comp=Z,46nm,0.4s
TAPN Taplejung 16.51 118 *e*P Pn 07 44 35.2 -3.2
comp=Z,77nm,0.4s
BANOM Banah 16.56 235 *i* P Pn 07 44 38.3 -0.5
SNR=7.2
BANOM Banah 16.56 235 P Pn 07 44 38.2 -0.5
SHME Shamm 16.58 236 P P 07 44 39.9 -0.1
SNR=5.2
ODAN Odare 16.59 120 *e*P Pn 07 44 35.9 -3.4
comp=Z,15nm,0.6s
BVA0 Borovoye Array 16.67 358 P Pn 07 44 38.1 -1.8
comp=Z,10nm,0.8s,baz=172,slow=8.7,SNR=38
BVA0 Borovoye Array 16.67 358 *i* P Pn 07 44 38.1 -1.8
BVAR Borovoye Array 16.67 358 P Pn 07 44 38.0 -1.9
comp=Z,7.6nm,0.5s,baz=161,slow=12,SNR=45
BVAR S Sn 07 47 44.6 +0.1
comp=Z,6.6nm,0.7s,baz=167,slow=21,SNR=1.7
BRVK Borovoye 16.71 358 Pn 07 44 36.8 -3.6
BRVK Borovoye 16.71 358 *i* P Pn 07 44 37.9 -2.4
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK Borovoye 16.71 358 P Pn 07 44 38.4 -1.9
MDH Madha 16.99 234 P Pn 07 44 43.6 -0.4
MDH Madha 16.99 234 P Pn 07 44 43.8 -0.1
MASF Masafi 17.03 234 P P 07 44 47.0 +2.0
SNR=5.0
MSFE Esma-Masafi 17.04 234 *i* P P 07 44 45.3 +0.2
SNR=7.5
AKTO Aktyubinsk 17.05 330 P Pn 07 44 43.0 -1.5
comp=Z,32nm,0.6s,baz=141,slow=11,SNR=66
AKTO S Sn 07 47 43.9 -10
comp=Z,5.6nm,0.6s,baz=127,slow=16,SNR=1.7
AKTO LR LR 07 51 54.0
comp=Z,86nm,20.5s,baz=325,slow=39
AKTO Aktyubinsk 17.05 330 ⇓P Pn 07 44 42.9 -1.7
comp=Z,20nm,0.6s
AKTO ⇑S Sn 07 47 45.2 -8.5
comp=Z,23nm,0.8s
AKTO Aktyubinsk 17.05 330 P Pn 07 44 42.8 -1.7
AKTO S Sn 07 47 45.1 -8.5
SQUM Sultan Qaboos 17.09 225 P P 07 44 48.2 +2.5
WSAR Wadi Sarin 17.11 224 P Pn 07 44 42.2 -3.2
comp=Z,5.7nm,0.9s,baz=130,slow=23,SNR=2.8
WSAR LR LR 07 52 06.0
comp=Z,69nm,20.3s,baz=40,slow=40
WSAR Wadi Sarin 17.11 224 P P 07 44 46.2 +0.3
UMQ Umm Al-Quwin 17.25 236 P P 07 44 48.1 +0.7
UOSS Minazif 17.29 233 P Pn 07 44 43.1 -4.6
UOSS Minazif 17.29 233 P P 07 44 49.9 +2.0
HATD Hatta, Dubai 17.42 233 P Pn 07 44 44.6 -4.7
HATD Hatta, Dubai 17.42 233 P P 07 44 51.2 +1.8
WBK Wadi Bani Khal 17.43 222 P P 07 44 50.7 +1.3
ASHO Ashiyiah 17.57 233 *i* P Pn 07 44 51.5 +0.3
SNR=16
ASHO Ashiyiah 17.57 233 P Pn 07 44 51.9 +0.7
SNR=13
JLN Jalan Bani Buh 17.57 220 P Pn 07 44 52.7 +1.5
SMDO Samad 17.58 225 P Pn 07 44 51.6 +0.3
HOQ Hoqain 17.60 228 P P 07 44 51.1 -0.2
NAZ Nazwa, Dubai 17.62 234 P P 07 44 44.3 -7.2
NAZ Nazwa, Dubai 17.62 234 P Pn 07 44 52.4 +0.8
BOK Bokaro 17.71 131 *e*P P 07 44 51.4 -1.1
BOK IAmb IAmb 07 44 53.5
comp=Z,34nm,0.6s
DGZ Jazzator, Alta 17.71 36 *i* P P 07 44 51.9 -0.6
FAQ Al Faqa, Dubai 17.83 234 P P 07 44 53.6 -0.2
FAQ Al Faqa, Dubai 17.83 234 P Pn 07 44 54.3 +0.1
LSA Lhasa 17.85 106 P P 07 44 53.8 -0.7
LSA Lhasa 17.85 106 P P 07 44 54.5 0.0
LSA Lhasa 17.85 106 P P 07 44 53.8 -0.7
LSA Lhasa 17.85 106 P Pn 07 44 54.7 -0.2
ASUD Al Ashush, Dub 18.09 234 P P 07 44 53.2 -3.4
ASUD Al Ashush, Dub 18.09 234 P Pn 07 44 58.2 +0.9
JMDO Jabal Madar 18.09 223 P Pn 07 44 58.5 +1.1
ALNE Al Ain 18.21 232 *i* P Pn 07 44 59.3 +0.4
SNR=21
ALNE Al Ain 18.21 232 P Pn 07 44 59.6 +0.7
SNR=7.0
ARQ Araqi 18.26 229 P Pn 07 45 00.4 +0.9
BSY Bisya 18.31 226 P Pn 07 45 01.1 +1.0
SNR=6.4
GOMU GeErMu 18.89 84 P Pn 07 45 08.0 +0.7
GOMU pmax pmax
comp=Z,19nm,0.9s
GOMU pmax pmax
comp=Z,120nm,4.9s
MHTO MHTO 19.28 221 P Pn 07 45 11.8 +0.2
SNR=15
JRN Qarnain Island 19.55 240 P P 07 45 12.0 -0.7
UMZA Um Al Zommool 19.56 230 P P 07 45 13.7 +1.0

MZWR Madinat Zayed 19.64 235 P P 07 45 14.2 +0.6
HYB Hyderabad 19.91 160 *e*P Pn 07 45 18.7 -0.4
HYB Hyderabad 19.91 160 *ex* Pn 07 45 19.4 +0.3
HYB *i* x x 07 45 38.8
ZAA0 Zalesovo Array 19.91 24 P P 07 45 16.5 +0.2
ZAA0 Zalesovo Array 19.91 24 ⇑P P 07 45 16.2 -0.1
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 19.91 24 P P 07 45 16.6 +0.3
comp=Z,50nm,0.4s,baz=209,slow=9.7,SNR=144
ZALV S S 07 48 54.0 -1.6
comp=Z,0.3nm,0.3s,baz=213,slow=16,SNR=0.6
ZALV LR LR 07 53 02.7
comp=Z,64nm,18.0s,baz=260,slow=36
comp=Z,50nm,0.4s
ZALV Zalesovo Beam 19.91 24 P P 07 45 16.4 +0.1
GHWR Ruwais 20.17 237 P P 07 45 19.3 -0.1
SHMA Al-Shehemyia 20.34 245 P P 07 45 20.8 -0.4
DQM DQM 20.38 220 P Pn 07 45 25.8 +1.4
MZR Muzera 20.43 234 *i* P P 07 45 23.0 +0.9
SNR=7.2
MZR Muzera 20.43 234 P P 07 45 21.5 -0.6
SNR=7.3
SHL Shillong 20.57 116 P P 07 45 24.2 +0.3
SHL Shillong 20.57 116 *e*P P 07 45 24.8 +0.9
SHL IAmb IAmb 07 45 28.7
comp=Z,41nm,0.6s
SHL Shillong 20.57 116 P P 07 45 24.2 +0.3
SHL Shillong 20.57 116 P P 07 45 24.9 +0.9
SNR=20
TEZP TEZPUR 20.65 112 *e*P P 07 45 25.7 +1.2
SLWR Sila 20.92 240 P P 07 45 26.0 -1.4
SMRA Abu-Samra 21.10 242 P P 07 45 28.4 -0.9
GNI Garni 21.23 288 P P 07 45 29.9 -0.8
comp=Z,22nm,0.8s,baz=265,slow=21,SNR=3.8
comp=Z,22nm,0.8s
GNI Garni 21.23 288 P P 07 45 30.1 -0.7
GNI Garni 21.23 288 P P 07 45 30.1 -0.7
GNI Garni 21.23 288 P P 07 45 34.1 +3.3
SVE Sverdlovsk 21.71 344 *e*P P 07 45 35.8 +0.3
ARU Arti 21.86 341 P P 07 45 36.8 -0.4
comp=Z,15nm,0.7s,baz=148,slow=5.0,SNR=13
ARU S S 07 49 27.8 -5.9
comp=Z,1.6nm,0.4s,baz=108,slow=22,SNR=1.2
ARU LR LR 07 55 21.2
comp=Z,107nm,18.8s,baz=143,slow=40
comp=Z,15nm,0.7s
ARU Arti 21.86 341 P P 07 45 37.7 +0.5
ARU Arti 21.86 341 *c i*P P 07 45 38.1 +0.9
ARU 07 46 08.0
ARU S S 07 49 36.3 +2.6
ARU SS SnSn 07 50 16.8 +11
ARU pmax pmax
comp=Z,18nm,0.8s
ZEI Tsey 22.07 295 *e*P P 07 45 39.8 0.0
ZEI pmax pmax
comp=Z,18nm,1.1s
MOKO MOKOCHONG 22.11 110 *e*P P 07 45 41.8 +1.6
BRDH Bariadhala 22.23 122 P P 07 45 40.5 -0.9
comp=Z,66nm,0.4s,baz=270,slow=21,SNR=1.1
AKH Akhalkalaki 22.23 292 P P 07 45 41.0 -0.5
AKH Akhalkalaki 22.23 292 P P 07 45 41.0 -0.5
ONI Oni 22.38 295 P P 07 45 44.2 +1.3
ONI Oni 22.38 295 P P 07 45 44.2 +1.3
NCK Nalchik 22.40 297 *e*P P 07 45 43.9 +0.8
NCK pmax pmax
comp=Z,29nm,1.1s
IMP Imphal 22.52 114 *e*P P 07 45 46.3 +1.8
IMP IAmb IAmb 07 45 49.3
comp=Z,50nm,0.2s
IMP *i* x x 07 45 52.4
GTA Gaotai 22.61 74 ⇓P P 07 45 48.5 +3.0
GTA pP pP 07 46 08.0 +4.1
GTA pmax pmax
comp=Z,47nm,0.7s
KBZ Khabaz 22.93 297 P P 07 45 48.2 -0.3
comp=Z,3.6nm,0.6s,baz=120,slow=7.5,SNR=7.3
KBZ S S 07 49 59.1 +7.3
comp=Z,1.7nm,0.7s,baz=283,slow=22,SNR=1.0
comp=Z,3.6nm,0.6s
KBZ Khabaz 22.93 297 *ce*P P 07 45 48.6 +0.1
KBZ pmax pmax
comp=Z,11nm,0.8s
NEY Neytrino 22.99 296 *i* P P 07 45 48.5 -0.9
NEY pmax pmax
comp=Z,4.0nm,1.0s
SHA1 Shidzhatmaz 23.11 297 *i* P P 07 45 50.7 +0.2
KVAR Kislovodsk Arr 23.11 298 P P 07 45 50.5 0.0
comp=Z,4.0nm,0.7s,baz=264,slow=20,SNR=2.3
KVAR S S 07 49 57.4 +2.4
comp=Z,2.7nm,0.4s,baz=252,slow=17,SNR=1.7
comp=Z,4.0nm,0.7s
KIV Kislovodsk 23.12 298 P P 07 45 50.1 -0.4
KIV Kislovodsk 23.12 298 *e*P P 07 45 52.1 +1.6
KIV *e*S S 07 49 57.6 +2.5
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,39nm,14.0s
BELG Belogornoye 23.19 321 P P 07 45 50.4 -0.4
comp=Z,35nm,0.8s,baz=2.2,slow=2.2,SNR=13
BELG S S 07 49 51.3 -4.4
comp=Z,6.6nm,0.8s,baz=31,slow=22,SNR=1.1
comp=Z,35nm,0.8s
BELG Belogornoye 23.19 321 *i* P P 07 45 50.5 -0.4
BELG pmax pmax
comp=Z,10.0nm,1.3s
DOK Doka 23.31 225 P P 07 45 52.9 +0.5
DMTO DMTO 23.58 222 P P 07 45 55.0 +0.2
WHFO Wadi Hawf 24.07 225 P P 07 45 59.2 -0.1
RBK Rabkut 24.16 223 P P 07 46 00.0 -0.1
ABTO Aybut 24.79 225 P P 07 46 06.8 +0.9
SOC Sochi 25.20 296 *e*P P 07 46 07.3 -2.0
SOC *e* 07 46 47.1
SOC *e*S S 07 50 26.1 -2.2
SOC *e*SS SnSn 07 51 29.0 +1.4
RAYN Ar Rayn 25.73 247 P P 07 46 14.3 0.0
RAYN Ar Rayn 25.73 247 P P 07 46 14.3 0.0
RAYN pmax pmax
comp=Z,7.0nm,0.6s
MND Mandalay 25.80 117 P P 07 46 15.8 +0.9
VRH Novokhopyorsk 25.82 314 *e*P P 07 46 15.4 +0.6
VRH pmax pmax
comp=Z,9.0nm,0.8s
TNCH TengChong 25.84 108 P P 07 46 17.3 +1.8
TNCH pP pP 07 46 33.3 -2.8
TNCH sP sP 07 46 42.8 -3.8
TNCH PP PnPn 07 47 02.3 +4.8
TNCH S S 07 50 29.5 -10
TNCH sS sS 07 51 06.0 -8.9
TNCH pmax pmax
comp=Z,20nm,0.9s
MOY Mondy 25.99 45 *e*P P 07 46 19.1 +2.6
MOY pmax pmax
comp=Z,33nm,2.3s
PCHI Peechi 26.11 169 *ex* P 07 46 19.1 +1.4
PCHI *ex* x 07 48 59.9
LZH Lanzhou 26.13 81 *e*P P 07 46 20.5 +2.5
LZH pP pP 07 46 39.0 +0.3
LZH sP sP 07 46 49.8 +0.5
LZH pmax pmax
comp=Z,18nm,1.1s
KIRV Kirov 26.50 334 P P 07 46 22.2 +1.4
comp=Z,12nm,0.6s,baz=113,slow=4.6,SNR=2.1
KIRV LR LR 07 59 25.2
comp=Z,114nm,18.6s,baz=154,slow=42
comp=Z,12nm,0.6s
ZAK Zakamensk 26.85 49 *e*P P 07 46 25.7 +1.5
ZAK pmax pmax
comp=Z,4.0nm,1.0s
ANN Anapa 26.97 299 *e*P P 07 46 17.6 -7.6
ANN pmax pmax
comp=Z,55nm,1.1s
VSR Storozhevoye 27.32 313 *e*P P 07 46 29.2 +1.0
VSR pmax pmax
comp=Z,8.0nm,0.9s
CD2 Chengdu 27.42 92 P P 07 46 31.5 +2.0
CD2 pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 27.45 314 P P 07 46 30.2 +0.7
VORR pmax pmax
comp=Z,10.0nm,0.5s
PZH PanZhiHua 27.61 102 P P 07 46 32.5 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax

comp=Z,120nm,4.3s
LPSR Galich'ya Gora 27.96 316 *e*P **P** **07 46 34.1 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 28.16 55 P **P** **07 46 37.8 +1.8**
comp=Z,0.9nm,0.4s,baz=260,slow=9.1,SNR=13
SONM LR LR 07 59 12.1
comp=Z,74nm,20.1s,baz=199,slow=39
comp=Z,0.9nm,0.4s
SONM Songino Array 28.16 55 P **P** **07 46 38.1 +2.1**
SONM Songino Array 28.16 55 P **P** **07 46 38.1 +2.1**
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 28.60 55*ce*P **P** **07 46 43.0 +3.0**
ULN pmax pmax
comp=Z,2.0nm,1.0s
MMAI Mount Meron Ar 29.66 274 P **P** **07 46 47.6 -1.8**
comp=Z,6.3nm,0.9s,baz=55,slow=11,SNR=2.3
comp=Z,6.3nm,0.9s
BR131 Keskin Array S 29.77 288 P **P** **07 46 51.1 +0.8**
BR131 IAmb IAmb 07 47 21.8
comp=Z,42nm,1.9s
BR131 Keskin Array S 29.77 288 *i* P **P** **07 46 52.1 +1.8**
BRTR Keskin Array B 29.77 288 P **P** **07 46 49.4 -0.9**
comp=Z,1.9nm,0.8s,baz=103,slow=8.4,SNR=7.8
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 29.77 288 *i* P **P** **07 46 52.5 +2.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 29.89 118 P **P** **07 46 52.3 +0.9**
CHTO Chiang Mai 29.89 118 P **P** **07 46 52.3 +0.9**
MOS Moscow 29.96 321 *e*P **P** **07 46 50.5 -1.1**
CRAI Chiangrai 30.02 114 P **P** **07 46 53.8 +1.2**
CMAR Chiang Mai Arr 30.12 119 P **P** **07 46 52.0 -1.4**
comp=Z,2.3nm,0.4s,baz=302,slow=8.3,SNR=19
comp=Z,2.3nm,0.4s
CMAR Chiang Mai Arr 30.12 119 P **P** **07 46 54.9 +1.4**
CMAR Chiang Mai Arr 30.12 119 *i* P **P** **07 46 56.0 +2.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
OBN Obninsk 30.24 319 P **P** **07 46 54.2 +0.1**
comp=Z,5.5nm,0.4s,baz=351,slow=1.0,SNR=3.2
comp=Z,5.5nm,0.4s
OBN Obninsk 30.24 319⇑ *e*P **P** **07 46 55.3 +1.2**
OBN *PP **pP** **07 47 12.0 -2.6**
OBN *SP **sP** **07 47 24.0 -1.0**
OBN 07 47 54.0
OBN *e* 07 49 56.6
OBN pmax pmax
comp=Z,22nm,0.6s
BTO Baotou 30.38 70 *e*P **P** **07 46 56.8 +1.1**
XAN Xi'an 30.64 83 P **P** **07 47 00.0 +2.0**
XAN pP pP 07 47 22.0 +2.8
XAN sP sP 07 47 32.5 +2.8
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN Xi'an 30.64 83 P **P** **07 46 59.0 +1.0**
PHRA Phrae 31.01 117 P **P** **07 47 02.1 +0.8**
EIL Elat 31.13 268 P **P** **07 47 01.3 -1.0**
comp=Z,11nm,1.1s,baz=34,slow=22,SNR=3.5
EIL LR LR 07 59 43.3
comp=Z,36nm,20.4s,baz=44,slow=36
comp=Z,11nm,1.1s
HHC Hu-ho-hao-te 31.53 69 *e*P **P** **07 47 08.3 +2.5**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,190nm,5.0s
KLMR Klimovskoe 31.75 331 *e*P **P** **07 47 06.4 -0.9**
KLMR AMP 07 47 19.6
comp=Z,67nm,2.3s
KLMR Klimovskoe 31.75 331 *e*P **P** **07 47 06.4 -0.9**
KLMR pmax pmax
comp=Z,67nm,2.3s
ENH Enshi 32.27 90 P **P** **07 47 13.8 +1.5**
ENH IAmb IAmb 07 47 15.4
comp=Z,21nm,1.3s
ENH Enshi 32.27 90 P **P** **07 47 14.6 +2.3**
ENH Enshi 32.27 90 P **P** **07 47 14.4 +2.1**
ENH sP **sP** **07 47 42.3 -1.6**
AKASG Malin Array Be 33.27 309 P **P** **07 47 21.5 +0.8**
comp=Z,1.7nm,0.5s,baz=81,slow=7.1,SNR=26
AKASG LR LR 08 05 12.8
comp=Z,66nm,18.4s,baz=316,slow=44
comp=Z,1.7nm,0.5s
AKASG Malin Array Be 33.27 309 P **P** **07 47 21.0 +0.3**
AKBB Malin Array Si 33.27 309 P **P** **07 47 21.1 +0.3**
AKBB Malin Array Si 33.27 309*ce*P **P** **07 47 22.4 +1.7**
LYN LuoYang 33.34 81 ⇑P **P** **07 47 25.0 +3.4**
NONG Nongkai 33.41 115 P **P** **07 47 23.3 +1.0**
NRIK Noril'sk 34.21 10 P **P** **07 47 29.6 +0.9**
comp=Z,2.8nm,0.5s,baz=181,slow=4.1,SNR=9.4
comp=Z,2.8nm,0.5s
NRIK Noril'sk 34.21 10 P **P** **07 47 30.0 +1.4**
NRIK IAmb IAmb 07 48 10.2
comp=Z,9.7nm,0.8s
NRIK Noril'sk 34.21 10 P **P** **07 47 30.0 +1.4**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
HNS HongShan 34.45 75 ⇑P **P** **07 47 33.8 +2.7**
HNS pmax pmax
comp=Z,7.0nm,1.1s
NAYO Nakonayok 34.61 122 P **P** **07 47 35.1 +2.4**
XLT XiLinHaoTe 34.65 63 *e*P **P** **07 47 33.0 +0.1**
XLT pP pP 07 47 51.5 -2.7
XLT sP sP 07 48 01.5 -3.1
XLT pmax pmax
comp=Z,3.0nm,0.9s
XLT pmax pmax
comp=Z,98nm,6.9s
MLR Muntele Rosu 35.11 299 P **P** **07 47 38.3 +1.4**
comp=Z,9.3nm,0.8s,baz=139,slow=3.5,SNR=8.2
comp=Z,9.3nm,0.8s
MLR Muntele Rosu 35.11 299 P **P** **07 47 37.8 +0.9**
MLR IAmb IAmb 07 47 43.7
comp=Z,15nm,1.0s
BJT Baijiatuan 35.11 70 P **P** **07 47 38.4 +1.6**
BJI Beijing 35.12 70 P **P** **07 47 38.8 +2.0**
BJI pmax pmax
comp=Z,4.0nm,0.6s
NACGM Naroch 35.52 316 *e*P **P** **07 47 41.7 +1.5**
comp=Z,19nm,1.1s,baz=103
BURAR Bucovina Array 35.61 303 P **P** **07 47 41.5 +0.4**
BUR08 Bucovina Ar. S 35.63 303 P **P** **07 47 42.0 +0.8**
BUR08 IAmb IAmb 07 48 53.1
comp=Z,13nm,1.5s
VSU Vasula 36.48 322 *i* P **P** **07 47 49.6 +1.3**
VSU pmax pmax
comp=Z,45nm,1.0s
VSU Vasula 36.48 322 *e*P **P** **07 47 49.5 +1.3**
PABE Paberze 37.23 316 P **P** **07 47 55.8 +1.2**
PABE IAmb IAmb 07 47 58.8
comp=Z,14nm,0.7s
PABE Paberze 37.23 316 *e*P **P** **07 47 56.0 +1.4**
LVZ Lovozero 37.70 338 P **P** **07 47 59.5 +0.9**
FINES FINESS Array B 37.77 326 P **P** **07 47 59.9 +0.8**
comp=Z,3.6nm,0.4s,baz=117,slow=9.2,SNR=37
comp=Z,3.6nm,0.4s
FINES FINESS Array B 37.77 326 P **P** **07 48 00.0 +1.0**
FINES FINESS Array B 37.77 326 *i* P **P** **07 48 00.1 +1.0**
FINES pmax pmax
comp=Z,4.0nm,0.4s
MTSE Matsula 38.02 321 *e*P **P** **07 48 02.4 +1.2**
STHS Stebnicka Huta 38.28 306 *e*P **P** **07 48 04.1 +0.4**
STHS Stebnicka Huta 38.28 306 *e*P **P** **07 48 04.1 +0.4**
NJ2 Nanjing 39.19 82 ⇑P **P** **07 48 13.5 +2.1**
NJ2 pP **pP** **07 48 30.8 -2.2**
NJ2 pmax pmax
comp=Z,11nm,0.6s
VADS Vadso 40.55 339 *e*P **P** **07 48 22.1 0.0**
KEV Kevo 41.04 338 P **P** **07 48 27.1 +0.9**
KEV sP **sP** **07 48 56.0 -1.5**
VRAC Vranov 41.33 306 P **P** **07 48 30.3 +1.5**
comp=Z,3.9nm,0.7s,baz=92,slow=7.9,SNR=2.6
comp=Z,3.9nm,0.7s
ARA0 ARCESS Array S 41.39 338 *e*P **P** **07 48 30.3 +1.3**
KTK1 Kautokeino 41.86 336 *e*P **P** **07 48 33.9 +0.9**
CONA Conrad Observa 41.91 304 *i* P **P** **07 48 34.7 +1.0**
comp=Z,7.6nm,1.1s
PSI Prapat 41.97 136 P **P** **07 48 33.3 -1.3**
comp=Z,3.3nm,0.4s,baz=311,slow=12,SNR=3.6
comp=Z,3.3nm,0.4s
RPSI Rantau Prapat 42.06 136 P **P** **07 48 33.3 -1.9**
HEH HeiHe 42.09 53 *e*P **P** **07 48 36.3 +1.3**
ARSA Arzberg 42.20 303 *e*P **P** **07 48 34.5 -1.5**
comp=Z,3.5nm,0.8s
HAMF Hammerfest 42.46 339 *e*P **P** **07 48 39.4 +1.6**
BRG Berggiesshubel 42.95 308 *e*P **P** **07 48 43.9 +1.9**
BRG Amp 07 48 45.6
comp=Z,3.2nm,0.6s
BRG Berggiesshubel 42.95 308 *e*P **P** **07 48 43.9 +1.9**
BRG pmax pmax
comp=Z,3.0nm,0.6s
JETT Jettan, Norway 43.01 336 *e*P **P** **07 48 45.1 +2.8**
GERES GERESS Array B 43.26 305 P **P** **07 48 45.0 +0.3**
comp=Z,0.5nm,0.6s,baz=76,slow=7.0,SNR=4.6
GERES PP **PP** **07 50 29.2 +2.7**
comp=Z,0.2nm,0.3s,baz=92,slow=6.9,SNR=4.4
comp=Z,0.5nm,0.6s
GERES GERESS Array B 43.26 305 P **P** **07 48 45.0 +0.3**
HFS Hagfors 43.36 322 P **P** **07 48 45.9 +0.7**
comp=Z,5.1nm,0.5s,baz=98,slow=11,SNR=31
comp=Z,5.1nm,0.5s
YAK Yakutsk 43.90 35 *e*P **P** **07 48 49.7 +0.2**
YAK *e**PP **pP** **07 49 13.5 +2.2**
YAK *e* 07 50 30.8
YAK *e*PPP PPP 07 51 13.0
YAK *e*S **S** **07 55 12.6 -1.6**
YAK *e* 07 58 33.1
YAK *e*SSS SSS 07 59 18.4
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,180nm,4.8s
YAK pmax pmax
comp=N,106nm,5.1s
YAK pmax pmax
comp=E,125nm,5.1s
YAK smax smax
comp=N,107nm,6.6s
YAK smax smax
comp=E,74nm,4.6s
FAUS Fauske 44.06 333 *e*P **P** **07 48 51.1 +0.4**
MOR8 Moi Rana 44.08 331 *e*P **P** **07 48 51.3 +0.4**
STEI Steigen 44.23 333 *e*P **P** **07 48 54.8 +2.8**
NC602 NORSAR Array S 44.48 323 *e*P **P** **07 48 54.4 +0.3**
KSRS Korea Array 44.64 71 P **P** **07 48 56.6 +1.0**
comp=E,2.6nm,0.6s,baz=271,slow=6.7,SNR=10.0
KSRS LR LR 08 09 05.2
comp=E,28nm,18.2s,baz=210,slow=38
comp=E,2.6nm,0.6s
NB2 NORSAR Subarra 44.67 323 P **P** **07 48 56.2 +0.5**
comp=Z,1.6nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.67 323 P **P** **07 48 56.2 +0.5**
baz=97,slow=7.9
NOA NORSAR Array B 44.67 323 P **P** **07 48 55.7 0.0**
comp=Z,3.4nm,0.6s,baz=96,slow=7.7,SNR=16
comp=Z,3.4nm,0.6s
KONS Konsvik 44.68 331 *e*P **P** **07 48 56.6 +1.0**
LOF Lofoten 44.90 333 *e*P **P** **07 48 58.4 +1.0**
KLR Kul'dur 44.98 54 P **P** **07 48 59.2 +0.9**
comp=Z,1.4nm,0.6s,baz=291,slow=9.1,SNR=7.8
KLR LR LR 08 09 48.0
comp=Z,35nm,20.5s,baz=288,slow=38
comp=Z,1.4nm,0.6s
TIXI Tiksi 45.79 22 P **P** **07 49 04.6 +0.3**
comp=Z,3.1nm,0.3s,baz=270,slow=23,SNR=10.0
comp=Z,3.1nm,0.3s
TIXI Tiksi 45.79 22 P **P** **07 49 04.0 -0.3**
TIXI IAmb IAmb 07 49 38.4
comp=Z,7.3nm,0.8s
TIXI Tiksi 45.79 22*ce*P **P** **07 49 05.0 +0.7**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
TIXI Tiksi 45.79 22 P **P** **07 49 04.8 +0.5**
USRK Ussuriysk Ar. 45.97 61 P **P** **07 49 06.0 -0.2**
comp=Z,1.9nm,0.7s,baz=264,slow=7.8,SNR=2.7
comp=Z,1.9nm,0.7s
USRK Ussuriysk Ar. 45.97 61 P **P** **07 49 06.0 -0.2**
SKAR Skarsliv 46.07 322 *e*P **P** **07 49 07.9 +1.2**
DAVOX Davos/Dischmat 46.09 303 P **P** **07 49 07.1 -0.2**
comp=Z,4.4nm,0.7s,baz=317,slow=9.2,SNR=3.1
comp=Z,4.4nm,0.7s
JTU Tsushima 46.69 74 P **P** **07 49 13.2 +1.3**
SPB2 Spitsbergen Ar 47.69 347 P **P** **07 49 21.5 +2.4**
SPA0 Spitsbergen Ar 47.69 347 *e*P **P** **07 49 21.3 +2.1**
SENIN Lac Senin/Sane 47.92 303 P **P** **07 49 22.8 +1.2**
JNU Nakatsue 48.33 75 P **P** **07 49 25.6 +0.8**
comp=Z,15nm,1.0s,baz=323,slow=8.0,SNR=3.9
JNU LR LR 08 12 19.7
comp=Z,43nm,18.1s,baz=338,slow=39
comp=Z,15nm,1.0s
JOW Kunigami 48.78 84 P **P** **07 49 28.1 -0.1**
comp=Z,20nm,1.0s,baz=350,slow=9.9,SNR=3.5
comp=Z,20nm,1.0s
JOW Kunigami 48.78 84 P **P** **07 49 28.7 +0.5**
KMBO Kilima Mbogo 48.96 228 P **P** **07 49 30.5 +0.5**
KMBO IAmb IAmb 07 50 30.3
comp=Z,8.2nm,1.6s
KMBO Kilima Mbogo 48.96 228 P **P** **07 49 30.5 +0.5**
KMBO pmax pmax
comp=Z,8.0nm,1.6s
JHS Saijyo 49.40 72 P **P** **07 49 33.5 +0.7**
MBAR Mbarara 52.68 235 P **P** **07 49 57.0 -0.7**
comp=Z,3.6nm,0.5s,baz=37,slow=14,SNR=3.5
MBAR LR LR 08 14 57.2
comp=Z,58nm,18.9s,baz=325,slow=39
comp=Z,3.6nm,0.5s
MBAR Mbarara 52.68 235 P **P** **07 49 57.1 -0.7**
MJAR Matsushiro Arr 52.72 69 P **P** **07 49 57.9 +0.2**
comp=Z,2.4nm,0.8s,baz=297,slow=10,SNR=3.2
comp=Z,2.4nm,0.8s
MA2 Magadan 54.28 38 LR LR 08 16 44.5
comp=Z,32nm,18.4s,baz=326,slow=40
SEY Seymchan 54.36 34 P **P** **07 50 09.9 +0.6**
comp=Z,2.3nm,0.3s,baz=252,slow=7.6,SNR=3.7
comp=Z,2.3nm,0.3s
DAG Danmarks Havn 54.95 344 *i* P **P** **07 50 14.5 +1.2**
DAG IAmb IAmb 07 50 15.8
comp=Z,7.4nm,0.7s
ESDC Sonseca Array 57.79 298 P **P** **07 50 34.1 0.0**
comp=Z,0.7nm,0.6s,baz=58,slow=8.1,SNR=5.3
comp=Z,0.7nm,0.6s
BILL Bilibino 58.60 26 *e*P **P** **07 50 39.9 +0.7**
BILL *e**PP **pP** **07 51 03.7 +2.0**
BILL *e*SP **sP** **07 51 15.6 +3.9**
BILL *e* 07 51 30.7
BILL *e*SSS SSS 08 04 53.2
BILL pmax pmax
comp=Z,3.0nm,1.3s
ABPO Ambohimpanom 59.63 207 P **P** **07 50 48.1 +1.0**
ABPO IAmb IAmb 07 52 52.5
comp=Z,23nm,1.8s
ABPO Ambohimpanom 59.63 207 P **P** **07 50 48.1 +1.0**
ABPO pmax pmax
comp=Z,23nm,1.8s
ABPO Ambohimpanom 59.63 207 P **P** **07 50 48.2 +1.1**
NEEM North Greenlan 61.23 348 *i* P **P** **07 50 58.3 +0.8**
NEEM IAmb IAmb 07 51 02.3
comp=Z,5.5nm,0.4s
SUMG Summit 61.29 341 *i* P **P** **07 50 58.3 +0.2**
SUMG IAmb IAmb 07 51 01.5
comp=Z,11nm,0.8s
VOI Vohitsoka 62.44 206 P **P** **07 51 07.0 +0.9**
VOI IAmb IAmb 07 51 07.7
comp=Z,7.9nm,0.9s
LSZ Lusaka 65.58 227 P **P** **07 51 26.6 -0.1**
TORD Torodi Ar. Bea 66.02 269 P **P** **07 51 27.3 -2.2**
comp=Z,5.4nm,0.8s,baz=46,slow=6.0,SNR=31
comp=Z,5.4nm,0.8s
TORD Torodi Ar. Bea 66.02 269 P **P** **07 51 27.6 -1.9**
BATI Baumata 67.53 123 P **P** **07 51 39.1 -0.1**
comp=Z,32nm,0.7s,baz=258,slow=20,SNR=1.9
A36M Sachs Harbour 71.31 5 P **P** **07 52 02.0 +0.4**
A36M IAmb IAmb 07 52 55.4
comp=Z,8.6nm,0.8s
IMAR Indian Mountai 72.21 18 P **P** **07 52 07.0 -0.1**
BMAR Burnt Mountain 73.00 14 P **P** **07 52 12.8 +1.0**
H24K Noodor Dome 73.70 16 P **P** **07 52 16.4 +0.5**
H24K IAmb IAmb 07 52 58.4
comp=Z,16nm,1.5s
C36M Paulatuk 73.98 6 P **P** **07 52 17.3 -0.1**
C36M IAmb IAmb 07 52 55.5
comp=Z,6.6nm,0.6s
INK Inuvik 73.99 9 P **P** **07 52 18.1 +0.8**
comp=Z,1.6nm,0.4s,baz=348,slow=4.4,SNR=20
comp=Z,1.6nm,0.4s
INK Inuvik 73.99 9 P **P** **07 52 18.2 +0.8**
INK IAmb IAmb 07 53 07.4
comp=Z,18nm,1.6s
INK Inuvik 73.99 9 P **P** **07 52 18.2 +0.8**
INK pmax pmax
comp=Z,18nm,1.6s
K20K Telida 74.24 20 P **P** **07 52 19.6 +0.6**
ILAR Eielson Array 74.83 16 P **P** **07 52 21.8 -0.6**
comp=Z,0.5nm,0.7s,baz=324,slow=3.9,SNR=6.4
comp=Z,0.5nm,0.7s
DBIC Dimbokro 74.99 267 P **P** **07 52 21.8 -2.4**
comp=Z,1.8nm,0.7s,baz=146,slow=21,SNR=2.0
comp=Z,1.8nm,0.7s
BOSA Boshof 77.84 220 P **P** **07 52 39.4 -0.6**
comp=Z,5.7nm,0.8s,baz=47,slow=4.7,SNR=9.0
comp=Z,5.7nm,0.8s
YKA Yellowknife Ar 81.37 3 P **P** **07 52 58.6 0.0**
comp=Z,1.2nm,0.5s,baz=349,slow=5.3,SNR=40
comp=Z,1.2nm,0.5s
WB0 Warramunga Arr 81.58 122 P **P** **07 53 02.1 +1.8**
WB0 IAmb IAmb 07 54 54.9
comp=Z,30nm,1.8s
WRA Warramunga Ar 81.66 122 P **P** **07 53 00.1 -0.6**
comp=Z,0.7nm,0.4s,baz=325,slow=5.0,SNR=17
comp=Z,0.7nm,0.4s
WRA Warramunga Arr 81.66 122 P **P** **07 53 01.3 +0.5**
WRA Warramunga Arr 81.66 122 P **P** **07 53 01.3 +0.5**
P33M Teslin, Yukon 81.73 12 P **P** **07 53 01.5 +0.9**
P33M IAmb IAmb 07 53 09.5
comp=Z,43nm,1.9s
SCHQ Schefferville 82.34 337 P **P** **07 53 04.8 +0.9**
comp=Z,3.4nm,0.9s,baz=230,slow=19,SNR=2.3
comp=Z,3.4nm,0.9s
ASAR Alice Springs 83.93 125 P **P** **07 53 11.9 -0.5**
comp=Z,0.7nm,0.7s,baz=309,slow=4.8,SNR=10
comp=Z,0.7nm,0.7s
ASAR Alice Springs 83.93 125 P **P** **07 53 12.0 -0.5**
CTA Charters Tower 90.21 115 P **P** **07 53 42.2 -0.7**
comp=Z,2.3nm,0.7s,baz=352,slow=3.8,SNR=2.1
comp=Z,2.3nm,0.7s
ULM Lac du Bonnet 93.03 352 P **P** **07 53 55.5 0.0**
comp=Z,0.7nm,0.3s,baz=161,slow=12,SNR=1.5
comp=Z,0.7nm,0.3s
HNR Honiara 94.37 98 LR LR 08 39 27.5
comp=Z,475nm,18.8s,baz=46,slow=37
STKA Stephens Creek 94.46 127 P **P** **07 54 02.4 +0.1**
comp=Z,0.5nm,0.2s,baz=152,slow=10.0,SNR=1.3
comp=Z,0.5nm,0.2s
ELIB Princess Elisa 113.12 195 *d*PKiKP **PKiKP** **07 59 17.5 -0.7**
ELIB *dp*PKiKP **pPKiKP** **07 59 41.0 -2.5**
PLCA Paso Flores 150.06 250 PKPbc **PKPbc** **08 00 30.3 -2.0**
comp=Z,1.2nm,0.8s,baz=209,slow=3.8,SNR=3.9

IDC 27 07:42:03.0±4.2, 4.°42N×128.°82E, h0km, mb3.9/5, mbtmp3.9/5, MS3.0/2, Error ellipse: s-maj=377.4km s-min=22.3km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.81**	**168**	P	P		07 47 28.1	+1.0
	1.0nm,0.8s,baz=348,slow=11,SNR=4.9							
	1.0nm,0.8s							
JCJ	**Chichijima**	**25.91**	**28**	LR	LR		07 59 17.2	
	comp=Z,12nm,18.1s,baz=318,slow=40							
ASAR	**Alice Springs**	**28.35**	**170**	P	P		07 47 57.9	-1.1
	0.4nm,0.7s,baz=348,slow=7.8,SNR=2.4							
	0.4nm,0.7s							
MKAR	**Makanchi Array**	**58.20**	**324**	P	P		07 51 59.5	+0.4
	1.4nm,0.5s,baz=117,slow=6.2,SNR=9.5							
	1.4nm,0.5s							
URZ	**Urewera**	**61.64**	**138**	LR	LR		08 18 26.4	
	comp=Z,30nm,20.1s,baz=102,slow=35							
KURBB	**Kurchatov Arra**	**62.30**	**326**	P	P		07 52 27.5	+0.4
	1.4nm,0.5s,baz=120,slow=6.3,SNR=5.2							
	1.4nm,0.5s							
BVAR	**Borovoye Array**	**67.89**	**326**	P	P		07 53 02.2	-1.2
	1.8nm,0.7s,baz=115,slow=5.7,SNR=3.6							
	1.8nm,0.7s							

DDA ***27*** *07:46:03.8±0.0, 39.°56N×26.°15E, h2km±2km, ML2.2*
ISK ***27*** *07:46:03.3, 39.°57N×26.°08E, h10km, ML2.5/16*
ISC 27 07:46:03.7±0.9, 39.°56N±0.°02×26.°12E±0.°03, h8km±6km, n28, σ0.945/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.06**	**164**	P	**Pg**		**07 46 05.3**	**-0.1**
KOCA				*i* AML	AML		07 46 06.0	
	comp=N,7μm,0.3s							
KOCA				S	**Sg**		**07 46 06.4**	**-0.3**
KOCA				*i* AML	AML		07 46 07.0	
	comp=E,3μm,0.2s							
GPNR	**Gulpinar-Canak**	**0.10**	**173**	Pg	**Pg**		**07 46 05.9**	**-0.1**
BOZC	**Bozcaada**	**0.29**	**350**	P	**Pg**		**07 46 10.1**	**+0.6**
BOZC				S	**Sg**		**07 46 14.3**	**+1.0**
EZN	**Ezine**	**0.31**	**31**	Pg	**Pg**		**07 46 10.1**	**+0.2**
EZN				Sg	**Sg**		**07 46 15.0**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**0.38**	**61**	P	**Pg**		**07 46 11.2**	**+0.1**
BAYC				S	**Sg**		**07 46 16.5**	**+0.4**
BAYC				*i* AML	AML		07 46 17.0	
	comp=N,218nm,0.1s							
SIGR	**SIGRI**	**0.40**	**211**	Pg	**Pg**		**07 46 11.7**	**+0.3**
SIGR				Sg	**Sg**		**07 46 17.6**	**+0.9**
ECEA	**Canakkale, Ece**	**0.49**	**5**	P	**Pb**		**07 46 14.0**	**-0.5**
ECEA				S	**Sb**		**07 46 20.8**	**-1.0**
ECEA				*i* AML	AML		07 46 22.0	
	comp=N,150nm,0.3s							
ECEA				*i* AML	AML		07 46 22.0	
	comp=E,224nm,0.4s							
AYVA	**Ayvalik**	**0.51**	**119**	P	**Pb**		**07 46 14.8**	**-0.1**
AYVA				*i* AML	AML		07 46 27.0	
	comp=N,151nm,0.5s							
GADA	**Gvkgeada**	**0.66**	**345**	Pg	**Pg**		**07 46 16.1**	**-0.2**
GADA				Sg	**Sg**		**07 46 25.3**	**+0.4**
BUHA	**Balikesir, Bur**	**0.74**	**94**	P	**Pb**		**07 46 18.4**	**-0.4**
BUHA				S	**Sg**		**07 46 28.3**	**+0.7**
BUHA				*i* AML	AML		07 46 29.0	
	comp=E,84nm,0.3s							
DKL	**Dikili**	**0.78**	**128**	Pg	**Pb**		**07 46 19.5**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.89**	**18**	Pg	**Pg**		**07 46 20.7**	**0.0**
GELI				Sg	**Sb**		**07 46 33.3**	**+0.1**
LPK	**Lapseki**	**0.95**	**31**	Pg	**Pb**		**07 46 22.2**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.14**	**2**	P	**Pn**		**07 46 25.8**	**0.0**
CAVK				S	**Sn**		**07 46 42.3**	**+0.7**
CAVK				*i* AML	AML		07 46 44.0	
	comp=E,47nm,0.3s							
CAVK				*i* AML	AML		07 46 45.0	
	comp=N,32nm,0.2s							
ERIK	**Erikli-Kesan**	**1.15**	**15**	Pn	**Pg**		**07 46 25.6**	**-0.2**
CHOS	**Chios island**	**1.17**	**182**	Pn	**Pg**		**07 46 26.1**	**0.0**
BALY	**Balya**	**1.17**	**80**	P	**Pb**		**07 46 26.2**	**0.0**
BALY				S	**Sg**		**07 46 41.5**	**+0.1**
BALY				*i* AML	AML		07 46 43.0	
	comp=E,39nm,0.3s							
BALY				*i* AML	AML		07 46 46.0	
	comp=N,48nm,0.3s							
ENEZ	**Enez**	**1.18**	**1**	Pn	**Pg**		**07 46 25.9**	**-0.4**
KRBG	**Karabiga-Canak**	**1.23**	**47**	Pn	**Pg**		**07 46 26.9**	**-0.4**
URLA	**Izmir**	**1.25**	**163**	P	**Pn**		**07 46 26.7**	**-0.7**
URLA				*i* AML	AML		07 46 44.0	
	comp=N,60nm,0.4s							
URLA				S	**Sb**		**07 46 44.1**	**+0.3**
URLA				*i* AML	AML		07 46 47.0	
	comp=E,48nm,0.5s							
GONE	**Gonen-Balikesi**	**1.30**	**67**	Pn	**Pn**		**07 46 28.1**	**-0.1**
KESN	**Edirne-Kesan**	**1.34**	**19**	P	**Pn**		**07 46 29.1**	**+0.1**
KESN				S	**Sn**		**07 46 47.0**	**-0.2**
KESN				*i* AML	AML		07 46 51.0	
	comp=E,54nm,0.4s							
ALN	**Alexandroupoli**	**1.34**	**358**	Pn	**Pn**		**07 46 28.3**	**-0.4**
BALB	**Balikesir**	**1.36**	**86**	Pn	**Pn**		**07 46 28.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.39**	**35**	Pn	**Pn**		**07 46 29.2**	**-0.2**
SART	**Tekirdag**	**1.39**	**35**	P	**Pn**		**07 46 29.6**	**+0.1**
SART				S	**Sb**		**07 46 48.0**	**+0.1**
SART				*i* AML	AML		07 46 50.0	
	comp=N,76nm,0.5s							
SART				*i* AML	AML		07 46 50.0	
	comp=Z,32nm,0.4s							
SART				*i* AML	AML		07 46 51.0	
	comp=E,100nm,0.4s							
EDC	**Edincik**	**1.56**	**59**	Pn	**Pn**		**07 46 31.8**	**+0.1**
RDO	**Rodhopi**	**1.65**	**345**	Pn	**Pn**		**07 46 32.4**	**-0.5**

IDC 27 08:02:39.1±3.3, 10°92S×161°38E, h0km, mb3.5/5, mbtmp3.5/5, MS3.1/3, Error ellipse: s-maj=111.3km s-min=33.0km az=130.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.18**	**236**	LR	LR	08 11 53.1	
	comp=Z,49nm,21.6s,baz=78,slow=32						
WRA	**Warramunga Arr**	**27.54**	**248**	P	P	08 08 28.5	+0.7
	0.9nm,0.9s,baz=77,slow=9.8,SNR=4.4						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**29.07**	**241**	P	P	08 08 40.7	-0.8
	0.2nm,0.7s,baz=64,slow=9.5,SNR=1.8						
ASAR				LR	LR	08 18 41.5	
	comp=Z,44nm,19.9s,baz=88,slow=33						
	0.2nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**29.69**	**10**	T	T	08 39 48.8	
	baz=189						
H11S3	**WAKE ISLAND Hy**	**29.69**	**10**	T	T	08 39 50.6	
	baz=189						
H11S1	**WAKE ISLAND Hy**	**29.70**	**10**	T	T	08 39 53.5	
	baz=189						
H11N1	**WAKE ISLAND Hy**	**30.92**	**10**	T	T	08 41 15.9	
	baz=188						
H11N3	**WAKE ISLAND Hy**	**30.92**	**10**	T	T	08 41 20.7	
	baz=188						
H11N2	**WAKE ISLAND Hy**	**30.93**	**10**	T	T	08 41 21.1	
	baz=188						
SIJI	**Sorong**	**31.54**	**286**	LR	LR	08 23 37.1	
	comp=Z,30nm,19.7s,baz=234,slow=40						
SONM	**Songino Array**	**76.08**	**325**	P	P	08 14 29.4	+0.7
	0.7nm,0.6s,baz=142,slow=4.6,SNR=5.6						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**84.80**	**20**	P	P	08 15 14.8	-0.3
	0.2nm,0.9s,baz=227,slow=6.0,SNR=1.4						
	0.2nm,0.9s						
MKAR	**Makanchi Array**	**90.52**	**318**	P	P	08 15 42.4	-0.7
	0.2nm,0.5s,baz=106,slow=5.5,SNR=4.6						
	0.2nm,0.5s						

IDC 27 08:16:05.5±3.6, 55°38N×86°08E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=27.9km s-min=22.7km az=13.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**208**	I	I	08 26 20.0	
	0.6nm,0.8s,baz=23,slow=343,SNR=48						
ZALV	**Zalesovo Beam**	**1.61**	**208**	Pg	Pn	08 16 33.5	-1.7
	3.6nm,0.3s,baz=31,slow=18,SNR=39						
ZALV				Lg	Lg	08 16 56.9	
	1.9nm,0.3s,baz=31,slow=25,SNR=8.9						
KURBB	**Kurchatov Arra**	**5.89**	**227**	Pn	Pn	08 17 44.1	+0.5
	baz=42,slow=14,SNR=3.4						
KURBB				Sn	Sn	08 18 58.2	-1.1
	baz=75,slow=32						
KURBB				Lg	Lg	08 19 35.8	
	baz=37,slow=32,SNR=2.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**8.92**	**197**	Pn	Pn	08 18 15.7	+0.1
	baz=14,slow=12,SNR=2.1						
	0.1nm,0.4s						

HVO 27 08:16:32.1±1.6, 19°.428N±0°.007×155°.612W±0°.006, h3km±4km, ML3.1/40, ML2.9/48(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=193.0

NEIC 27 08:16:31.8±1.4, 19°.414N±0°.008×155°.610W±0°.009, h4km±6km, Error ellipse: s-maj=1.4km s-min=1.1km az=61.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Moku'aweowe**	**0.07**	**10**		Pg	08 16 34.1	+0.4
MWH					Sg	08 16 35.4	+0.4
MLOA	**Mauna Loa Obse**	**0.13**	**15**		Pg	08 16 35.2	+0.7
MLOA					Sg	08 16 37.2	+0.9
ALEP	**Alea Permanent**	**0.13**	**346**		Pg	08 16 34.2	-0.3
ALEP					Sg	08 16 36.7	+0.3
AIN	**Ainahou**	**0.15**	**106**		Pg	08 16 36.1	+1.3
KHU	**Kahuku**	**0.17**	**181**		Pg	08 16 36.1	+1.0
HMH	**Humu'ula Sheep**	**0.22**	**33**		Pg	08 16 37.0	+0.7
HMH					Sg	08 16 40.4	+1.2
MLH	**Mauna Loa**	**0.23**	**69**		Pg	08 16 37.3	+1.0
MLH				IAML		08 16 41.6	
	comp=N,3μm,0.7s						
MLH				IAML		08 16 41.7	
	comp=E,3μm,0.5s						
HTC	**Hot Caves**	**0.27**	**131**		Pg	08 16 36.8	-0.1
WRMHI	**West Rim**	**0.29**	**91**		Pg	08 16 37.3	-0.2
CPH	**Captain Cook**	**0.30**	**284**		Pg	08 16 37.7	+0.1
SDHHI	**Sand Hill**	**0.30**	**95**		Pg	08 16 38.4	+0.8
SDHHI				IAML		08 16 45.6	
	comp=E,2μm,0.4s						
UWE	**Uwekahuna**	**0.30**	**88**		Pg	08 16 38.4	+0.8
OBL	**Observatory Le**	**0.31**	**89**		Pg	08 16 38.5	+0.7
HLP	**Hilina Pali**	**0.31**	**112**		Pg	08 16 38.6	+0.9
HLP					Sg	08 16 43.6	+1.7
UWB	**Uwekahuna B**	**0.31**	**88**		Pg	08 16 38.6	+0.7
RIM	**Rim**	**0.32**	**93**		Pg	08 16 38.7	+0.7
RIM				IAML		08 16 49.6	
	comp=E,2μm,0.6s						
RIM				IAML		08 16 49.7	
	comp=N,2μm,0.4s						
RSD	**Rainshed**	**0.32**	**81**		Pg	08 16 38.9	+1.0
RSD				IAML		08 16 44.9	
	comp=E,1μm,0.8s						
RSD				IAML		08 16 48.6	
	comp=N,1μm,0.6s						
KHLU	**Kahalu`u**	**0.32**	**304**		Pb	08 16 39.1	-1.1
KHLU				IAML		08 16 45.4	
	comp=E,2μm,0.4s						
KHLU				IAML		08 16 49.4	
	comp=N,2μm,0.5s						
SBLHI	**Steaming Bluff**	**0.32**	**88**		Pg	08 16 38.6	+0.6
SBLHI				IAML		08 16 46.0	
	comp=N,2μm,0.5s						
SBLHI				IAML		08 16 46.0	
	comp=E,1μm,0.5s						
SBLHI	**Steaming Bluff**	**0.32**	**88**		Sg	08 16 42.6	+0.3
KKO	**Keanakako`i**	**0.33**	**93**		Pg	08 16 37.8	-0.3
KKO	**Keanakako`i**	**0.33**	**93**	IAML		08 16 46.6	
	comp=N,2μm,0.6s						
KKO				IAML		08 16 47.0	
	comp=E,1μm,0.5s						
HATHI	**Halema'uma'u T**	**0.33**	**88**		Pg	08 16 37.8	-0.4
HATHI	**Halema'uma'u T**	**0.33**	**88**	IAML		08 16 48.3	
	comp=N,2μm,0.6s						
BYL	**Byron's Ledge**	**0.33**	**90**		Pg	08 16 38.8	+0.6
BYL				IAML		08 16 46.9	
	comp=E,2μm,0.4s						
BYL				IAML		08 16 47.9	
	comp=N,2μm,0.6s						
HUH	**Hualalai**	**0.34**	**322**		Pb	08 16 39.8	-0.8
HUH				IAML		08 16 46.4	
	comp=E,1μm,0.6s						
HUH				IAML		08 16 47.2	
	comp=N,2μm,0.5s						
HUH	**Hualalai**	**0.34**	**322**		Sg	08 16 42.9	-0.2
POHA	**Pohakuloa**	**0.35**	**12**		Pg	08 16 39.2	+0.6
POHA				IAML		08 16 48.5	
	comp=N,1μm,0.4s						
POHA				IAML		08 16 49.0	
	comp=N,1μm,0.5s						
PUH	**Pauahi**	**0.37**	**96**		Pg	08 16 39.5	+0.5
PUH					Sg	08 16 44.2	+0.3
PUH				IAML		08 16 51.4	
	comp=N,1μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.42**	**95**		Pg	08 16 39.2	-0.7
NPOC	**North of Pu'u**	**0.47**	**92**		Pg	08 16 41.3	+0.4
NPOC					Sg	08 16 48.5	+1.4
NPOC				IAML		08 16 48.9	
	comp=E,716nm,0.6s						
NPOC				IAML		08 16 51.2	
	comp=N,811nm,1.0s						
JCUZ	**Jacuzzi**	**0.48**	**93**		Pg	08 16 40.7	-0.3
JCUZ	**Jacuzzi**	**0.48**	**93**	IAML		08 16 50.0	
	comp=E,958nm,0.6s						
JCUZ				IAML		08 16 52.4	
	comp=N,554nm,1.2s						
JOKA	**Jonika Flow**	**0.57**	**88**		Pg	08 16 41.7	-1.1
HPAH	**Hawaii Prepara**	**0.62**	**352**		Pg	08 16 43.3	-0.4
HPAH					Sg	08 16 51.2	-0.6

IDC 27 08:18:47.6±3.1, 54°48N×86°99E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=24.9km s-min=19.1km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**248**	I	I	08 26 00.0	
	baz=68,slow=342,SNR=0.1						
ZALV	**Zalesovo Beam**	**1.38**	**248**	Pg	Pg	08 19 11.5	-2.5
	1.1nm,0.3s,baz=66,slow=16,SNR=6.8						
ZALV				Lg	Lg	08 19 32.0	
	1.3nm,0.3s,baz=65,slow=24,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.45**	**237**	Pn	Pn	08 20 24.5	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=6.3						
KURBB				Sn	Sn	08 21 36.6	-1.2
	baz=9.2,slow=23,SNR=1.9						
KURBB				Lg	Lg	08 22 14.0	
	baz=48,slow=30,SNR=2.1						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**8.26**	**203**	Pn	Pn	08 20 50.0	+1.5
	baz=25,slow=13,SNR=2.6						
MKAR				Sn	Sn	08 22 21.7	-0.8
	baz=21,slow=29,SNR=1.8						
	0.2nm,0.5s						

NNC 27 08:21:02.9±2.9, 54°.21N×86°.70E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=33.2km s-min=14.5km az=3.0, Suspected Mining explosion.

IDC 27 08:21:06.2±2.3, 54°.07N×86°.50E, h0km, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=18.7km s-min=11.9km az=59.0

ISC 27 08:21:06.8±4.7, 54°.1N±0°.2×86°.3E±0°.2, h0km, n9, σ1s10/12, 5C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**259**	I	I	08 26 50.0	
	0.1nm,0.8s,baz=83,slow=342,SNR=17						
ZAA0	**Zalesovo Array**	**0.91**	**259**	⇓P	**Pg**	**08 21 23.9**	**-0.3**
	0.2nm,0.3s						
ZAA0				⇑S	**Sn**	**08 21 40.3**	**-0.2**
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**0.91**	**259**	Pg	**Pg**	**08 21 24.0**	**-0.2**
	1.4nm,0.3s,baz=78,slow=16,SNR=9.5						
ZALV				Lg	Lg	08 21 39.8	
	4.0nm,0.3s,baz=84,slow=27,SNR=14						
ZALV				Rg	Rg	08 21 45.0	
	17nm,0.8s,baz=81,slow=30,SNR=13						
KURK	**Kurchatov**	**5.82**	**237**	⇓Pn	**Pn**	**08 22 36.0**	**+1.7**
	1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**5.93**	**237**	Pn	**Pn**	**08 22 36.6**	**+0.9**
	0.3nm,0.3s,baz=55,slow=14,SNR=14						
KURBB				Sn	**Sn**	**08 23 44.9**	**+0.6**
	baz=32,slow=33,SNR=2.0						
KURBB				Lg	Lg	08 24 12.5	
	baz=56,slow=31,SNR=2.0						
	1.5nm,0.4s						
KURBB	**Kurchatov Arra**	**5.93**	**237**	⇑Pn	**Pn**	**08 22 37.0**	**+1.3**
	1.6nm,0.3s						
MK31	**Makanchi Array**	**7.78**	**201**	⇑Pn	**Pn**	**08 23 01.1**	**-0.1**
	0.1nm,0.2s,baz=24,slow=14,SNR=31						
MK31				⇑Sn	**Sn**	**08 24 29.4**	**-0.6**
	0.8nm,0.8s,baz=20,slow=28,SNR=5.5						
MK31				⇑Lg	Lg	08 25 10.4	
	4.2nm,1.2s,baz=25,slow=33,SNR=3.8						
MKAR	**Makanchi Array**	**7.78**	**201**	Pn	**Pn**	**08 23 01.4**	**+0.2**
	0.6nm,0.3s,baz=25,slow=14,SNR=29						
MKAR				Sn	**Sn**	**08 24 30.2**	**+0.3**
	0.2nm,0.3s,baz=25,slow=28,SNR=4.4						
MKAR				Lg	Lg	08 25 09.7	
	baz=26,slow=30,SNR=2.8						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**9.55**	**270**	Sn	**Sn**	**08 25 11.2**	**-2.1**
	0.1nm,0.3s,baz=124,slow=29,SNR=1.5						
BVAR				Lg	Lg	08 26 17.4	
	baz=267,slow=38						

IDC 27 08:25:23.5±2.4, 54°.28N×86°.10E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=17.7km s-min=10.9km az=53.0.

NNC 27 08:25:16.9±1.7, 54°.57N×86°.36E, h0km, mb2.9, mpv2.7, 4C-5D, Error ellipse: s-maj=28.1km s-min=9.3km az=151.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**236**	I	I	08 30 10.0	
	0.1nm,0.9s,baz=66,slow=340,SNR=29						
ZAA0	**Zalesovo Array**	**1.10**	**236**	⇑P	Pg	08 25 37.4	-0.5
	0.3nm,0.5s						
ZAA0				⇓S	Sb	08 25 53.0	-0.5
	2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**1.10**	**236**	Pg	Pg	08 25 37.6	-0.2
	1.3nm,0.3s,baz=64,slow=17,SNR=9.6						
ZALV				Lg	Lg	08 25 51.4	
	4.6nm,0.3s,baz=64,slow=28,SNR=10						
KURK	**Kurchatov**	**6.09**	**234**	⇓Pn	Pn	08 26 48.9	+0.9
	2.2nm,1.1s						
KURK				⇓Lg	Lg	08 28 30.1	
	3.6nm,0.9s						
KURBB	**Kurchatov Arra**	**6.19**	**234**	Pn	Pn	08 26 53.0	+3.5
	0.1nm,0.3s,baz=51,slow=13,SNR=7.1						
KURBB				Sn	Sn	08 28 00.7	-0.2
	baz=63,slow=32,SNR=2.8						
KURBB				Lg	Lg	08 28 31.3	
	baz=53,slow=28,SNR=1.5						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**6.19**	**234**	⇑Pn	Pn	08 26 51.1	+1.6
	0.6nm,0.3s						
KURBB				⇓Lg	Lg	08 28 33.4	
	2.9nm,0.6s						
MK31	**Makanchi Array**	**8.20**	**200**	⇑Pn	Pn	08 27 18.3	+1.2
	0.3nm,0.5s						
MK31				⇓Sn	Sn	08 28 50.9	+0.5
	0.6nm,0.7s						
MK31				⇑Lg	Lg	08 29 35.6	
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**8.20**	**200**	Pn	Pn	08 27 20.4	+3.3
	0.4nm,0.3s,baz=22,slow=13,SNR=2.1						
MKAR				Sn	Sn	08 28 48.4	-2.0
	0.1nm,0.3s,baz=24,slow=26,SNR=4.5						
MKAR				Lg	Lg	08 29 30.7	
	baz=18,slow=31,SNR=4.3						
	0.5nm,0.3s						

NOU 27 08:26:29.5, 16°.35S×167°.54E, h0km, MLv4.3/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.50**	**156**	P	Pn	08 26 57.3	-0.4
RTV	**Rentapao**	**1.67**	**150**	P	Pn	08 27 00.1	+0.1
MARNC	**Mare, Loyalty**	**5.12**	**175**	P	Pn	08 27 47.4	-0.2
KOUNC	**Koumac, New Ca**	**5.20**	**216**	P	Pn	08 27 47.9	-0.6
YATNC	**Mamie plateau,**	**5.71**	**186**	P	Pn	08 27 54.4	-1.3
DZM	**Mont Dzumac**	**5.78**	**190**	P	Pn	08 27 55.5	-1.2
NOUC	**Port Laguerre**	**5.84**	**191**	P	Pn	08 27 57.1	-0.3
ONTNC	**Ouen Toro**	**6.01**	**190**	P	Pn	08 27 59.9	+0.1
OUENC	**Ouen Island, N**	**6.07**	**186**	P	Pn	08 28 01.5	+0.9

IDC 27 08:29:35.8±1.1, 1.78N×99.73E, h162km±13km, mb3.3/3, mbtmp3.7/3, Error ellipse: s-maj=60.6km s-min=18.9km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.29**	**322**	P	Pn	08 30 03.7	-0.7
	16nm,0.3s,baz=148,slow=9.5,SNR=17						
PSI				S	Sn	08 30 25.1	-1.3
	4.3nm,0.4s,baz=297,slow=15,SNR=5.6						
DAV	**Davao City (W)**	**26.30**	**78**	P		08 34 56.6	-0.1
	206nm,0.4s,baz=231,slow=6.5,SNR=1.0						
WRA	**Warramunga Arr**	**40.23**	**124**	P	P	08 36 56.9	-0.1
	0.9nm,0.3s,baz=303,slow=9.0,SNR=18						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**41.77**	**129**	P	P	08 37 09.5	-0.1
	0.2nm,0.4s,baz=300,slow=7.8,SNR=4.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**47.35**	**344**	P	P	08 37 53.3	-0.1
	0.7nm,0.3s,baz=158,slow=8.4,SNR=25						
	0.7nm,0.3s						

NNC 27 08:36:16.0±1.1, 54°.25N×86°.59E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=11.6km s-min=6.0km az=0.0, Suspected Mining explosion.

IDC 27 08:36:19.2±2.4, 54°.12N×86°.47E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=19.2km s-min=12.4km az=55.0

ISC 27 08:36:17.9±4.3, 54°.2N±0°.2×86°.4E±0°.2, h0km, n8, σ0s94/11, 3C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**253**	I	I	08 42 00.0	
	0.2nm,0.7s,baz=80,slow=326,SNR=1.9						
ZAA0	**Zalesovo Array**	**0.98**	**253**	⇓P	**Pg**	**08 36 36.6**	**0.0**
	0.2nm,0.2s						
ZAA0				⇓S	**Sb**	**08 36 51.6**	**+0.5**
	2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**0.98**	**253**	Pg	**Pg**	**08 36 36.6**	**0.0**
	2.3nm,0.3s,baz=81,slow=17,SNR=17						
ZALV				Lg	Lg	08 36 52.4	
	3.6nm,0.3s,baz=83,slow=27,SNR=22						
ZALV				Rg	Rg	08 36 56.5	
	3.5nm,0.4s,baz=73,slow=32,SNR=4.9						
KURK	**Kurchatov**	**5.92**	**237**	⇑Pn	**Pn**	**08 37 46.4**	**-0.3**
	1.1nm,0.6s						
KURK				⇑Lg	Lg	08 39 26.6	
	7.2nm,1.1s						
KURBB	**Kurchatov Arra**	**6.03**	**236**	Pn	**Pn**	**08 37 49.6**	**+1.5**
	0.3nm,0.3s,baz=53,slow=13,SNR=17						
KURBB				Sn	**Sn**	**08 38 56.9**	**-0.9**
	baz=65,slow=33						
KURBB				Lg	Lg	08 39 31.7	
	0.1nm,0.3s,baz=53,slow=30,SNR=5.9						
	1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.03**	**236**	⇓Pn	**Pn**	**08 37 47.2**	**-1.0**
	1.6nm,0.3s						
KURBB				⇓Lg	Lg	08 39 31.2	
	7.2nm,0.8s						
MK31	**Makanchi Array**	**7.90**	**201**	Pn	**Pn**	**08 38 12.9**	**-1.1**
	0.3nm,0.5s,baz=28,slow=13,SNR=12						
MK31				Sn	**Sn**	**08 39 44.6**	**+0.6**
	0.1nm,0.3s,baz=200,slow=14,SNR=5.4						
MK31				⇑Lg	Lg	08 40 28.4	
	4.1nm,1.2s,baz=24,slow=32,SNR=3.9						
MKAR	**Makanchi Array**	**7.90**	**201**	Pn	**Pn**	**08 38 14.9**	**+1.0**
	0.2nm,0.3s,baz=25,slow=14,SNR=11						
MKAR				Sn	**Sn**	**08 39 43.5**	**-0.5**
	0.1nm,0.3s,baz=13,slow=28,SNR=5.5						
MKAR				Lg	Lg	08 40 27.4	
	0.1nm,0.3s,baz=23,slow=24,SNR=7.8						
	0.4nm,0.3s						

IDC 27 08:52:42.1±2.9, 53°.54N×87°.79E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.0km s-min=14.7km az=59.0.

NNC 27 08:52:42.9±2.0, 53°.44N×87°.67E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=16.5km s-min=10.3km az=61.0, Suspected Mining explosion.

ISC 27 08:52:43.5±3.5, 53°.5N±0°.1×87°.7E±0°.2, h0km, n8, σ0s76/13, 3C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**286**	I	I	09 05 00.0	
	0.2nm,0.8s,baz=100,slow=326,SNR=3.0						
ZAA0	**Zalesovo Array**	**1.74**	**286**	⇓Pn	**Pn**	**08 53 15.0**	**0.0**
	0.1nm,0.2s						
ZAA0				⇓Sn	**Sn**	**08 53 38.6**	**+0.7**
	1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**1.74**	**286**	Pg	**Pn**	**08 53 14.4**	**-0.6**
	1.2nm,0.3s,baz=100,slow=14,SNR=20						
ZALV				Lg	Lg	08 53 39.8	
	1.3nm,0.3s,baz=105,slow=20,SNR=9.7						
KURK	**Kurchatov**	**6.22**	**247**	⇑Pn	**Pn**	**08 54 16.2**	**-0.3**
	2.9nm,1.3s						
KURK				⇓Sn	**Sn**	**08 55 29.2**	**+1.0**
	4.2nm,1.2s						
KURK				⇓Lg	Lg	08 56 00.5	
	2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.32**	**247**	Pn	**Pn**	**08 54 18.4**	**+0.6**
	0.1nm,0.3s,baz=61,slow=14,SNR=5.9						
KURBB				Sn	**Sn**	**08 55 30.5**	**-0.1**
	baz=62,slow=26,SNR=2.1						
KURBB				Lg	Lg	08 56 06.2	
	baz=35,slow=24,SNR=5.6						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**6.32**	**247**	⇓Pn	**Pn**	**08 54 16.6**	**-1.2**
	1.2nm,0.5s						
KURBB				⇑Sn	**Sn**	**08 55 30.4**	**-0.2**
	4.0nm,0.7s						
KURBB				⇓Lg	Lg	08 56 02.8	
	3.6nm,0.7s						
MK31	**Makanchi Array**	**7.54**	**209**	⇓Pn	**Pn**	**08 54 34.4**	**-0.3**
	0.2nm,0.5s,baz=25,slow=12						
MK31				⇓Sn	**Sn**	**08 55 59.9**	**-0.9**
	0.8nm,0.9s,baz=29,slow=28						
MK31				⇑Lg	Lg	08 56 41.5	
	0.7nm,0.7s,baz=26,slow=34						
MKAR	**Makanchi Array**	**7.54**	**209**	Pn	**Pn**	**08 54 35.7**	**+1.1**
	0.1nm,0.3s,baz=26,slow=13,SNR=10						
MKAR				Sn	**Sn**	**08 56 00.8**	**+0.1**
	baz=29,slow=25,SNR=5.3						
MKAR				Lg	Lg	08 56 42.2	
	baz=27,slow=40,SNR=3.2						
	0.1nm,0.3s						

IDC 27 08:59:26.9±3.4, 53°.70N×87°.97E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=31.8km s-min=17.4km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**279**	I	I	09 12 30.0	
	baz=93,slow=321,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.89**	**279**	Pg	Pn	09 00 00.8	+0.5
	1.1nm,0.3s,baz=96,slow=13,SNR=16						
ZALV				Lg	Lg	09 00 26.5	
	2.4nm,0.3s,baz=100,slow=26,SNR=13						
KURBB	**Kurchatov Arra**	**6.58**	**246**	Pn	Pn	09 01 05.6	+0.8
	0.1nm,0.3s,baz=60,slow=14,SNR=8.0						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**7.81**	**210**	Pn	Pn	09 01 22.9	+1.1
	0.1nm,0.3s,baz=27,slow=14,SNR=6.5						
MKAR				Lg	Lg	09 03 33.0	
	baz=29,slow=30,SNR=2.6						
	0.2nm,0.4s						

NNC 27 09:02:44.6±0.6, 51°.72N×75°.36E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=11.9km s-min=4.3km az=22.0, Suspected Mining explosion.

IDC 27 09:02:45.8±1.0, 51°.56N×75°.48E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=29.0km s-min=7.6km az=30.0

ISC 27 09:02:42.9±1.1, 51°.62N±0°.07×75°.16E±0°.08, h0km, n10, σ1s73/11, 6C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.35**	**114**	Pg	**Pn**	**09 03 23.8**	**+1.1**
	0.5nm,0.3s,baz=302,slow=15,SNR=38						
KURBB				Lg	Lg	09 03 53.6	
	0.6nm,0.3s,baz=296,slow=33,SNR=6.4						
KURBB	**Kurchatov Arra**	**2.35**	**114**	⇓Pn	**Pn**	**09 03 23.8**	**+1.1**
	3.7nm,0.6s						
KURBB				⇓Lg	Lg	09 03 55.8	
	23nm,0.6s						
KURK	**Kurchatov**	**2.36**	**111**	⇑Pn	**Pn**	**09 03 23.9**	**+1.1**
	2.5nm,0.6s						
KURK				⇑Lg	Lg	09 03 55.8	
	5.2nm,0.4s						
**B

	1.7nm,0.6s							
BRVK				⇑Lg		Lg	09 04 32.4	
	6.6nm,0.5s							
OTUK	**Ortayu**	**3.84**	**209**	⇑Pg		**Pg**	**09 03 57.0**	**+0.6**
	2.8nm,1.2s							
OTUK				⇓Lg		Lg	09 04 52.2	
	4.6nm,0.9s							
I46RU	**ZALESOVO INFRA**	**6.31**	**65**	I		I	09 40 00.0	
	baz=250,slow=325,SNR=2.0							
ZALV	**Zalesovo Beam**	**6.31**	**65**	Pn		**Pn**	**09 04 18.5**	**+1.5**
	0.6nm,0.3s,baz=255,slow=15,SNR=6.2							
	1.5nm,0.4s							
MKAR	**Makanchi Array**	**6.72**	**133**	Pn		**Pn**	**09 04 24.2**	**+1.5**
	0.1nm,0.3s,baz=316,slow=12,SNR=3.0							
MKAR				Sn		**Sn**	**09 05 36.4**	**-3.6**
	baz=324,slow=22,SNR=1.7							
MKAR				Lg		Lg	09 06 11.9	
	0.3nm,0.3s,baz=316,slow=27,SNR=7.6							
	0.2nm,0.5s							

IDC 27 09:06:54.3±3.2, 53°.55N×87°.77E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=25.3km s-min=15.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**284**	I	I	09 19 30.0	
	0.1nm,0.9s,baz=100,slow=334,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.80**	**284**	Pg	Pn	09 07 26.3	-0.3
	1.2nm,0.3s,baz=100,slow=14,SNR=11						
ZALV				Lg	Lg	09 07 52.0	
	1.6nm,0.3s,baz=106,slow=15,SNR=10						
KURBB	**Kurchatov Arra**	**6.40**	**247**	Pn	Pn	09 08 30.9	+1.1
	0.1nm,0.3s,baz=63,slow=14,SNR=4.4						
KURBB				Sn	Sn	09 09 41.6	-1.9
	baz=58,slow=28,SNR=1.6						
KURBB				Lg	Lg	09 10 18.7	
	baz=65,slow=32						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	Pn	09 08 47.5	+1.0
	0.1nm,0.3s,baz=28,slow=13,SNR=2.5						
MKAR				Sn	Sn	09 10 13.8	+0.3
	0.1nm,0.3s,baz=28,slow=25,SNR=4.1						
MKAR				Lg	Lg	09 10 53.5	
	baz=21,slow=29,SNR=1.9						
	0.1nm,0.3s						

*IDC **27** 09:07:03.3±2.0, 2°.97S×128°.17E, h0km, mb3.9/3, mbtmp4.0/4, ML4.2/1, MS3.2/4, Error ellipse: s-maj=168.2km s-min=26.8km az=66.0*
*DJA **27** 09:07:05.9±0.3, 2°.5S±3°×12°.9E±°, h10km, M4.0/12, mb4.3/3, MLv3.9/12*
*NEIC **27** 09:07:09.1±2.3, 2°.7S±0°.1×128°.92E±0°.08, h35km±2km, mb4.1/11, Error ellipse: s-maj=18.3km s-min=13.3km az=1.0*

ISC 27 09:07:07.5±0.8, 2°.60S±0°.07×128°.95E±0°.07, h35km, n30, σ1s98/28, mb4.0/5, MS3.1/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.74**	**182**	P	**Pn**	**09 07 23.5**	**+2.0**
AAI	**Ambon**	**1.32**	**215**	P	**Pn**	**09 07 32.7**	**+3.2**
NLAI	**Namlea**	**1.96**	**251**	P	**Pn**	**09 07 39.0**	**+0.8**
BNDI	**Bandanaira**	**2.13**	**154**	P	**Pn**	**09 07 44.4**	**+3.7**
SANI	**Sanana**	**3.01**	**280**	P	**Pn**	**09 07 50.7**	**-2.1**
FAKI	**Fak Fak**	**3.31**	**96**	Pn	**Pn**	**09 07 57.5**	**+0.7**
FAKI	**Fak Fak**	**3.31**	**96**	P	**Pn**	**09 07 57.9**	**+1.1**
TOLI2	**Tolitoli**	**8.96**	**294**	Pn	**Pn**	**09 09 16.1**	**+1.5**
MTN	**Manton Dam**	**10.40**	**168**	Pn	**Pn**	**09 09 34.0**	**-0.3**
MYLDM	**Lahad Datu**	**12.99**	**307**	Pn	**Pn**	**09 10 11.9**	**+2.1**
KNRA	**Kununurra**	**13.00**	**181**	Pn	**Pn**	**09 10 09.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.74**	**192**	Pn	**Pn**	**09 10 43.7**	**-3.0**
WB0	**Warramunga Arr**	**17.87**	**163**		**Pn**	**09 11 12.1**	**-1.4**
WB0				IAmb	IAmb	09 11 15.3	
	comp=Z,8.4nm,1.0s						
WRAB	**Tennant Creek**	**18.02**	**163**		**Pn**	**09 11 14.3**	**-1.0**
WRAB				IAmb	IAmb	09 11 23.1	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**18.02**	**163**	P	**Pn**	**09 11 13.3**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=342,slow=13,SNR=24						
WRA				S	**Sn**	**09 14 31.6**	**-3.9**
	comp=Z,0.6nm,0.6s,baz=346,slow=20,SNR=1.9						
	comp=Z,1.6nm,0.3s						
WRA	**Warramunga Arr**	**18.02**	**163**		**Pn**	**09 11 14.2**	**-1.2**
WB2	**Warramunga Arr**	**18.03**	**163**		**Pn**	**09 11 14.5**	**-0.9**
WB2				IAmb	IAmb	09 11 21.6	
	comp=Z,18nm,1.3s						
WR0	**Warramunga Arr**	**18.10**	**163**		**Pn**	**09 11 15.4**	**-0.9**
WR0				IAmb	IAmb	09 11 33.7	
	comp=Z,4.6nm,0.9s						
MBWA	**Marble Bar**	**20.52**	**205**	P	**P**	**09 11 42.9**	**0.0**
PSA00	**Pilbara Seismi**	**20.84**	**204**	P	**P**	**09 11 45.0**	**-1.3**
PSA00				IAmb	IAmb	09 11 46.3	
	comp=Z,22nm,0.9s						
AS31	**Alice Springs**	**21.48**	**168**	P	**P**	**09 11 53.2**	**-0.1**
AS31				IAmb	IAmb	09 11 55.6	
	comp=Z,5.7nm,0.8s						
ASAR	**Alice Springs**	**21.48**	**168**	P	**P**	**09 11 53.2**	**-0.1**
	comp=Z,14nm,0.5s,baz=345,slow=11,SNR=190						
ASAR				S	**S**	**09 15 46.1**	**-3.8**
	comp=Z,1.4nm,0.8s,baz=348,slow=22,SNR=6.1						
	comp=Z,14nm,0.5s						
BBOO	**Buckleboo**	**30.78**	**168**	P	**P**	**09 13 20.5**	**+0.6**
BBOO				IAmb	IAmb	09 13 41.9	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**31.46**	**159**	P	**P**	**09 13 25.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=337,slow=7.7,SNR=4.0						
	comp=Z,1.0nm,0.5s						
JNU	**Nakatsue**	**35.57**	**3**	LR	LR	09 27 06.9	
	comp=Z,24nm,20.4s,baz=350,slow=33						
CAN	**Canberra**	**37.50**	**153**	P	**P**	**09 14 20.3**	**+2.2**
KSRS	**Korea Array**	**39.86**	**359**	LR	LR	09 29 40.2	
	comp=Z,19nm,21.9s,baz=270,slow=34						
ASAJ	**Asahikawa**	**48.09**	**13**	LR	LR	09 36 28.1	
	comp=Z,31nm,21.2s,baz=80,slow=36						
MKAR	**Makanchi Array**	**64.00**	**326**	P	**P**	**09 17 37.7**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=110,slow=6.3,SNR=2.3						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**89.84**	**25**	LR	LR	10 05 24.5	
	comp=Z,18nm,18.3s,baz=142,slow=39						

*NNC **27** 09:18:30.5±1.3, 53°.55N×87°.95E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=10.7km s-min=6.5km az=60.0, Suspected Mining explosion.*
*IDC **27** 09:18:32.5±2.9, 53°.53N×87°.79E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=26.2km s-min=14.5km az=61.0*

ISC 27 09:18:31.2±3.7, 53°.6N±0°.1×87°.9E±0°.2, h0km, n8, σ1s05/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**282**	I	I	09 31 15.6	
	0.1nm,0.9s,baz=98,slow=330,SNR=13						
ZAA0	**Zalesovo Array**	**1.86**	**282**	⇑Pn	**Pn**	**09 19 03.9**	**-0.4**
	0.7nm,0.6s						
ZAA0				⇑Sn	**Sb**	**09 19 30.0**	**+0.1**
	3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**1.86**	**282**	Pg	**Pn**	**09 19 04.6**	**+0.3**
	1.3nm,0.3s,baz=105,slow=12,SNR=29						
ZALV				Lg	Lg	09 19 30.3	
	3.0nm,0.3s,baz=104,slow=24,SNR=25						
KURK	**Kurchatov**	**6.40**	**247**	⇓Pn	**Pn**	**09 20 06.2**	**-0.4**
	2.5nm,0.7s						
KURK				⇑Sn	**Sn**	**09 21 19.8**	**-0.5**
	2.2nm,0.8s						
KURK				⇑Lg	Lg	09 21 51.9	
	3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**6.50**	**246**	Pn	**Pn**	**09 20 08.8**	**+0.8**
	0.1nm,0.3s,baz=62,slow=14,SNR=6.3						
KURBB				Lg	Lg	09 21 55.2	
	baz=62,slow=33,SNR=5.5						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**6.50**	**246**	⇓Pn	**Pn**	**09 20 07.7**	**-0.3**
	1.4nm,0.5s						
KURBB				⇑Sn	**Sn**	**09 21 23.1**	**+0.4**
	3.3nm,0.6s						
KURBB				⇓Lg	Lg	09 21 56.3	
	8.0nm,0.9s						
MK31	**Makanchi Array**	**7.70**	**210**	⇓Pn	**Pn**	**09 20 23.2**	**-1.4**
	0.2nm,0.4s,baz=31,slow=13,SNR=11						
MK31				⇑Sn	**Sn**	**09 21 53.8**	**+1.3**
	1.2nm,0.9s						
MK31				⇓Lg	Lg	09 22 35.0	
	2.3nm,1.0s,baz=7.8,slow=39,SNR=3.5						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	**Pn**	**09 20 26.1**	**+1.5**
	0.2nm,0.3s,baz=30,slow=13,SNR=13						
MKAR				Sn	**Sn**	**09 21 50.9**	**-1.6**
	baz=28,slow=22,SNR=4.1						
MKAR				Lg	Lg	09 22 30.5	
	baz=28,slow=28,SNR=1.3						
	0.3nm,0.3s						

WEL 27 09:28:15.0±0.7, 42°.5S±4°×17°.4E±°, h12km, M2.4/3, ML2.7/10, MLv2.4/3, Error ellipse: s-maj=0.0km s-min=0.0km az=132.1, confirmed, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.44**	**260**	P	Pg	09 28 23.8	+0.2
KHZ				S	Sb	09 28 30.6	-0.6
BSWZ	**Blackbirch Sta**	**0.65**	**344**	P	Pb	09 28 28.5	+0.2
BSWZ				S	Sb	09 28 38.5	+1.1
GVZ	**Greta Valley S**	**1.02**	**232**	P	Pn	09 28 35.0	-0.1
GVZ				S	Sn	09 28 49.3	0.0
THZ	**Tophouse**	**1.08**	**302**	P	Pb	09 28 35.3	-0.3
THZ				S	Sg	09 28 50.1	+0.4
TCW	**Tory Channel**	**1.14**	**6**	P	Pb	09 28 36.4	-0.1
NNZ	**Nelson**	**1.25**	**333**	P	Pn	09 28 37.3	-1.0
NNZ				S	Sg	09 28 55.5	+0.1
MRNZ	**Matariki Terra**	**1.39**	**312**	P	Pn	09 28 40.4	+0.3
CAW	**Cannon Point**	**1.42**	**30**	P	Pn	09 28 40.7	+0.1
CAW				S	Sb	09 28 59.6	+0.1
LTZ	**Lake Taylor**	**1.44**	**252**	P	Pn	09 28 40.5	-0.4
LTZ				S	Sn	09 28 58.7	-1.0
KIW	**Kapiti Island**	**1.59**	**22**	P	Pn	09 28 43.4	+0.4
KIW				S	Sn	09 29 01.3	-2.2
OGWZ	**Otaki Gorge**	**1.71**	**28**	P	Pn	09 28 44.7	+0.1
MRZ	**Mangatainoka R**	**2.00**	**34**	P	Pn	09 28 48.4	-0.3

IDC 27 09:29:07.6±3.6, 54°.27N×87°.32E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=33.1km s-min=20.4km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**259**	I	I	09 36 40.0	
	0.1nm,0.8s,baz=79,slow=330,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.51**	**259**	Pg	Pn	09 29 33.7	-2.1
	0.5nm,0.3s,baz=77,slow=14,SNR=8.0						
ZALV				Lg	Lg	09 29 56.2	
	0.6nm,0.3s,baz=76,slow=25,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.49**	**239**	Pn	Pn	09 30 44.9	+0.6
	0.1nm,0.3s,baz=54,slow=13,SNR=3.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.13**	**205**	Pn	Pn	09 31 08.2	+1.4
	0.1nm,0.3s,baz=18,slow=13,SNR=4.4						
	0.1nm,0.4s						

IDC 27 09:34:06.9±2.6, 6°.41N×123°.65E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=302.6km s-min=25.3km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.22**	**158**	P	P	09 40 01.1	-0.6
	0.7nm,0.9s,baz=334,slow=10,SNR=2.9						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**31.52**	**162**	P	P	09 40 31.4	+0.4
	0.1nm,0.3s,baz=348,slow=7.4,SNR=6.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**53.62**	**326**	P	P	09 43 30.0	-0.1
	0.9nm,0.4s,baz=119,slow=7.7,SNR=26						
	0.9nm,0.4s						

*NOU **27** 09:41:38.0, 17°.93S×168°.30E, h0km, MLv4.0/15, Vanuatu Islands*
*NEIC **27** 09:41:41.5±1.9, 18°.17S±0°.07×168°.5E±0°.1, h161km±19km, mb4.2/8, Error ellipse: s-maj=21.7km s-min=4.8km az=116.0*
*IDC **27** 09:41:45.4±7.7, 18°.44S×168°.37E, h190km±47km, mb3.5/4, mbtmp4.0/5, Error ellipse: s-maj=91.8km s-min=62.2km az=87.0*

ISC 27 09:41:34.0±2.3, 17°.7S±0°.1×168°.6E±0°.2, h100km, n32, σ2s68/32, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**0.21**	**254**	P	Pn	09 41 42.5	-5.7
DVP	**Devils Point**	**0.43**	**271**	P	Pn	09 41 41.1	-8.2
LIFNC	**LIFOU**	**3.31**	**203**	Pn	**Pn**	**09 42 25.2**	**+1.4**
LIFNC				Sn	**Sn**	**09 42 59.8**	**-2.5**
LIFNC	**LIFOU**	**3.31**	**203**	P	**Pn**	**09 42 25.2**	**+1.4**
MARNC	**Mare, Loyalty**	**3.77**	**189**	Pn	**Pn**	**09 42 32.0**	**+1.9**
MARNC	**Mare, Loyalty**	**3.77**	**189**	P	**Pn**	**09 42 32.7**	**+2.6**
YATNC	**Mamie plateau,**	**4.61**	**201**	P	**Pn**	**09 42 44.5**	**+3.1**
DZM	**Mont Dzumac**	**4.79**	**205**	P	**Pn**	**09 42 47.5**	**+3.6**
	3.6nm,0.3s,baz=89,slow=5.6,SNR=50						
DZM				S	**Sn**	**09 43 36.2**	**-2.0**
	21nm,0.4s,baz=328,slow=22,SNR=12						
DZM	**Mont Dzumac**	**4.79**	**205**	Pn	**Pn**	**09 42 47.1**	**+3.2**
DZM	**Mont Dzumac**	**4.79**	**205**	P	**Pn**	**09 42 47.3**	**+3.4**
NOUC	**Port Laguere**	**4.87**	**206**	P	**Pn**	**09 42 48.9**	**+3.9**
OUENC	**Ouen Island, N**	**4.96**	**200**	Pn	**Pn**	**09 42 49.9**	**+3.8**
OUENC	**Ouen Island, N**	**4.96**	**200**	P	**Pn**	**09 42 50.0**	**+3.8**
KOUNC	**Koumac, New Ca**	**4.98**	**235**	Pn	**Pn**	**09 42 50.6**	**+4.1**
KOUNC	**Koumac, New Ca**	**4.98**	**235**	P	**Pn**	**09 42 49.6**	**+3.2**
PINNC	**Pines Island,**	**4.98**	**193**	Pn	**Pn**	**09 42 50.4**	**+3.9**
PINNC	**Pines Island,**	**4.98**	**193**	P	**Pn**	**09 42 50.3**	**+3.9**
ONTNC	**Ouen Toro**	**4.99**	**204**	Pn	**Pn**	**09 42 48.9**	**+2.3**
ONTNC	**Ouen Toro**	**4.99**	**204**	P	**Pn**	**09 42 49.8**	**+3.2**
CTA	**Charters Tower**	**21.30**	**260**	P	**P**	**09 46 14.5**	**+1.6**
	2.5nm,0.5s,baz=93,slow=10,SNR=8.1						
	2.5nm,0.5s						
CTAO	**Charters Tower**	**21.30**	**260**	P	**P**	**09 46 13.4**	**+0.5**
CTAO				IAmb	IAmb	09 46 17.5	
	comp=Z,4.4nm,0.9s						
STKA	**Stephens Creek**	**28.20**	**235**	P	**P**	**09 47 15.6**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=66,slow=11,SNR=4.6						
	comp=Z,1.8nm,0.7s						
WB0	**Warramunga Arr**	**32.46**	**261**	P	**P**	**09 47 54.2**	**-0.9**
WB0				IAmb	IAmb	09 48 02.1	
	comp=Z,5.6nm,1.4s						
WB2	**Warramunga Arr**	**32.49**	**261**	P	**P**	**09 47 54.1**	**-1.2**
WB2				IAmb	IAmb	09 48 18.0	
	comp=Z,7.4nm,1.3s						
WRAB	**Tennant Creek**	**32.50**	**261**	P	**P**	**09 47 54.8**	**-0.6**
WRAB				IAmb	IAmb	09 47 57.4	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**32.51**	**261**	P	**P**	**09 47 54.2**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=94,slow=9.3,SNR=15						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**32.51**	**261**	P	**P**	**09 47 53.8**	**-1.7**
BBOO	**Buckleboo**	**32.91**	**237**	P	**P**	**09 47 56.5**	**-2.3**
AS31	**Alice Springs**	**32.97**	**254**	P	**P**	**09 47 59.0**	**-0.5**
ASAR	**Alice Springs**	**32.97**	**254**	P	**P**	**09 47 58.9**	**-0.7**
	comp=Z,2.4nm,0.4s,baz=82,slow=8.9,SNR=80						
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**32.97**	**254**	P	**P**	**09 47 58.4**	**-1.1**
KNRA	**Kununurra**	**38.20**	**267**	P	**P**	**09 48 43.0**	**-1.3**

WEL 27 09:46:01.2±0.4, 42°.5S±3°×17°.4E±°, h12km, M2.9/17, ML3.1/23, MLv2.9/17, Error ellipse: s-maj=0.0km s-min=0.0km az=132.2, confirmed, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.42**	**264**	P	Pb	09 46 10.1	-0.4
KHZ				S	Sb	09 46 17.2	+0.4
CMWZ	**Cape Campbell**	**0.63**	**8**	P	Pn	09 46 15.1	-0.8
BSWZ	**Blackbirch Sta**	**0.68**	**346**	P	Pb	09 46 14.7	-0.2
BSWZ				S	Sb	09 46 24.2	-0.1
GVZ	**Greta Valley S**	**0.99**	**232**	P	Pn	09 46 20.9	0.0
GVZ				S	Sn	09 46 36.1	+1.2
THZ	**Tophouse**	**1.08**	**304**	P	Pb	09 46 21.5	-0.3
THZ				S	Sb	09 46 35.8	-0.1
TCW	**Tory Channel**	**1.17**	**6**	P	Pb	09 46 22.7	-0.6
PLWZ	**Palliser**	**1.18**	**47**	P	Pb	09 46 23.1	-0.4
NNZ	**Nelson**	**1.27**	**335**	P	Pn	09 46 24.4	-0.5
AMCZ	**Amberley**	**1.34**	**232**	P	Pn	09 46 25.2	-0.5
MRNZ	**Matariki Terra**	**1.40**	**314**	P	Pn	09 46 26.7	+0.1
PAWZ	**Paruwai Farm**	**1.40**	**45**	P	Pn	09 46 25.8	-0.7
LTZ	**Lake Taylor**	**1.41**	**252**	P	Pn	09 46 26.7	-0.1
CAW	**Cannon Point**	**1.46**	**30**	P	Pn	09 46 27.0	-0.4
TRWZ	**Traveller**	**1.53**	**51**	P	Pn	09 46 28.2	-0.2
OKCZ	**Okains Bay**	**1.55**	**209**	P	Pn	09 46 28.7	0.0
DUWZ	**D'Urville Isla**	**1.57**	**355**	P	Pn	09 46 28.9	-0.1
TKNZ	**Takaka Hill**	**1.59**	**327**	P	Pn	09 46 29.4	+0.2
MTW	**Mount Morrison**	**1.60**	**41**	P	Pn	09 46 28.5	-0.8
KIW	**Kapiti Island**	**1.63**	**22**	P	Pn	09 46 29.7	0.0
MQZ	**McQueen's Vall**	**1.71**	**218**	P	Pn	09 46 29.8	-1.0
AKCZ	**Akaroa Harbour**	**1.74**	**210**	P	Pn	09 46 30.9	-0.4
OGWZ	**Otaki Gorge**	**1.75**	**28**	P	Pn	09 46 31.0	-0.4
OXZ	**Oxford**	**1.79**	**237**	P	Pn	09 46 31.3	-0.6
HOWZ	**Holdsworth Sta**	**1.81**	**36**	P	Pn	09 46 31.9	-0.4
DSZ	**Denniston Nort**	**1.82**	**289**	P	Pb	09 46 33.5	-1.0
QRZ	**Quartz Range**	**1.94**	**322**	P	Pb	09 46 35.3	-1.2
INZ	**Inchbonnie**	**2.00**	**259**	P	Pn	09 46 35.1	+0.3
MRZ	**Mangatainoka R**	**2.04**	**33**	P	Pn	09 46 34.6	-0.7
WACZ	**Wakanui South**	**2.28**	**226**	P	Pn	09 46 38.4	-0.3
WVZ	**Waitaha Valley**	**2.58**	**253**	P	Pn	09 46 43.3	+0.5
RPZ	**Rata Peaks**	**2.61**	**238**	P	Pn	09 46 43.0	-0.2
ARCZ	**Arundel**	**2.66**	**233**	P	Pn	09 46 43.6	-0.3
WAZ	**Wanganui**	**2.70**	**15**	P	Pn	09 46 46.0	+1.6
TMZ	**Timaru**	**3.02**	**227**	P	Pn	09 46 48.8	-0.1
KHEZ	**Kahui Hut**	**3.07**	**359**	P	Pn	09 46 52.4	+2.7
WNVZ	**Wahianoa**	**3.25**	**21**	P	Pn	09 46 52.5	+0.3
TRVZ	**Turoa**	**3.26**	**20**	P	Pn	09 46 53.0	+0.6
VRZ	**Vera Road**	**3.28**	**9**	P	Pn	09 46 53.8	+1.3
TUVZ	**Tukino**	**3.32**	**21**	P	Pn	09 46 53.5	+0.4
NNVZ	**North Ngauruho**	**3.43**	**20**	P	Pn	09 46 55.0	+0.3
ETVZ	**East Tongariro**	**3.46**	**21**	P	Pn	09 46 55.2	+0.3
TMVZ	**Te Maari**	**3.47**	**21**	P	Pn	09 46 55.5	+0.3
ODZ	**Otahua Downs**	**3.66**	**222**	P	Pn	09 46 57.1	-0.6
TOZ	**Tahuroa Road**	**4.76**	**14**	P	Pn	09 47 13.7	+1.0

*IDC **27** 09:51:16.0±1.1, 37°.20N×97°.77W, h0km, mb3.5/1, mbtmp3.3/5, ML3.5/4, Error ellipse: s-maj=15.5km s-min=12.9km az=2.0*
*TUL **27** 09:51:17.6±1.7, 36°.93N±0°.01×97°.65W±0°.01, h7km±7km, ML3.2, mb_Lg3.1/26(NEIC), ML3.4/58(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=138.0*
*NEIC **27** 09:51:18.0±1.3, 36°.92N±0°.01×97°.636W±0°.008, h4km±7km, Error ellipse: s-maj=1.7km s-min=0.8km az=201.0*
*ANF **27** 09:51:18.1±0.3, 36°.88N×97°.66W, h5km, ML3.9/17, Error ellipse: s-maj=3.2km s-min=2.7km az=11.0*

ISC 27 09:51:17.7±0.8, 36°.92N±0°.02×97°.65W±0°.02, h12km±6km, n127, σ1s15/151, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAN17	**Caldwell West**	**0.16**	**325**		**Pg**	**09 51 21.2**	**-0.2**
KAN17				Sg	**Sg**	**09 51 23.6**	**-0.3**
KAN17				IAML		09 51 23.8	
	comp=E,20µm,0.2s						
KAN17				IAML		09 51 25.2	
	comp=N,16µm,0.2s						
KAN13	**South Haven SW**	**0.17**	**55**		**Pg**	**09 51 21.3**	**-0.2**
KAN13				Sg	**Sg**	**09 51 23.9**	**-0.4**
KAN13				IAML		09 51 24.0	
	comp=N,8µm,0.4s						
KAN13				IAML		09 51 26.8	
	comp=E,13µm,0.3s						
GC02	**Grant County #**	**0.18**	**249**		**Pg**	**09 51 21.6**	**0.0**
GC02				Sg	**Sg**	**09 51 24.3**	**-0.1**
KAN09	**Caldwell North**	**0.22**	**7**		**Pg**	**09 51 22.3**	**-0.1**
KAN09				Sg	**Sg**	**09 51 24.6**	**-1.1**
KAN09				IAML		09 51 28.9	
	comp=E,13µm,0.2s						
KAN01	**Argonia South**	**0.25**	**340**		**Pg**	**09 51 22.9**	**-0.1**
KAN01				Sg	**Sg**	**09 51 26.5**	**0.0**
KAN01				IAML		09 51 26.8	
	comp=E,6µm,0.5s						
KAN01				IAML		09 51 29.2	
	comp=N,5µm,0.6s						
KAN14	**Manchester OK**	**0.25**	**279**		**Pg**	**09 51 23.0**	**0.0**
KAN14				Sg	**Sg**	**09 51 26.6**	**+0.1**
KAN14				IAML		09 51 29.1	
	comp=E,7µm,0.2s						
KS20	**Mayfield South**	**0.32**	**14**		**Pg**	**09 51 24.2**	**-0.1**
KS20				Sg	**Sg**	**09 51 28.6**	**0.0**
KS20				IAML		09 51 33.8	
	comp=E,4µm,0.5s						
KAN06	**Argonia West S**	**0.37**	**334**		**Pg**	**09 51 25.1**	**0.0**
KAN06				Sg	**Sg**	**09 51 30.3**	**+0.2**
KAN06				IAML		09 51 34.4	
	comp=N,3µm,0.4s						
KS21	**Milan North St**	**0.37**	**359**		**Pg**	**09 51 25.1**	**-0.1**
KS21				Sg	**Sg**	**09 51 30.3**	**+0.2**
KS21	**Milan North St**	**0.37**	**359**	IAML		09 51 30.4	
	comp=N,2µm,0.4s						
KS21				IAML		09 51 32.1	
	comp=N,2µm,0.3s						
BLOK	**Blackwell**	**0.38**	**114**	Pg	**Pg**	**09 51 25.3**	**0.0**
BLOK				Sg	**Sg**	**09 51 30.9**	**+0.5**
BLOK				IAML		09 51 32.5	
	comp=N,4µm,0.3s						
BLOK				IAML		09 51 34.5	
	comp=E,4µm,0.5s						
KAN08	**Anthony NE Sta**	**0.40**	**321**		**Pg**	**09 51 25.8**	**+0.1**
KAN08				Sg	**Sg**	**09 51 31.5**	**+0.4**
KA

comp=N,493nm,0.4s
U32A Winter Ranch, 1.21 244 P **Pg** **09 51 40.3 -0.7**
baz=64,SNR=46
U32A S **Sg** **09 51 57.0 +0.3**
baz=64
BCOK Bluff Creek, N 1.26 178 Pn **Pg** **09 51 41.4 -0.5**
OK025 Westminster Rd 1.36 169 **Pn** **09 51 43.2 +0.7**
DEOK Depew 1.42 139 **Pn** **09 51 43.8 +0.4**
CSTR Hydro, Custer 1.52 214 **Pn** **09 51 45.9 +1.1**
ELIS Ellis County 1.66 240 **Pn** **09 51 48.3 +1.6**
FNO Franklin 1.67 173 **Pn** **09 51 48.2 +1.4**
R32A Long Quarter, 1.72 331 **Pn** **09 51 48.9 +1.3**
R32A Long Quarter, 1.72 331 P **Pn** **09 51 49.1 +1.5**
baz=151,SNR=138
R32A S **Sb** **09 52 12.0 +1.0**
baz=151
TUL1 Leonard 1.81 123 **Pn** **09 51 50.1 +1.4**
TUL1 IAmb_Lg 09 52 18.9
comp=Z,95nm,0.9s
TUL1 Leonard 1.81 123 P **Pn** **09 51 50.0 +1.4**
baz=304,SNR=238
TUL1 S **Sb** **09 52 14.5 +1.2**
baz=304
TUL1 Leonard 1.81 123 P **Pn** **09 51 50.1 +1.4**
baz=304
TUL1 S **Sb** **09 52 14.5 +1.2**
baz=304
W35A Tecumseh 1.87 160 **Pn** **09 51 50.8 +1.2**
RLO Rose Lookout 2.25 109 **Pn** **09 51 56.3 +1.5**
RLO IAmb_Lg 09 52 30.1
comp=Z,180nm,0.7s
X34A Smith Ranch, M 2.31 184 Pn **Pn** **09 51 57.8 +2.1**
X34A IAmb_Lg 09 52 33.0
comp=Z,75nm,0.7s
KSU1 Kansas State U 2.33 20 **Pn** **09 51 57.4 +1.5**
KSU1 Kansas State U 2.33 20 P **Pn** **09 51 57.5 +1.5**
baz=201,SNR=41
KSU1 S **Sb** **09 52 29.6 +1.1**
baz=201
WMOK Wichita Mounta 2.36 203 **Pn** **09 51 57.9 +1.6**
WMOK Wichita Mounta 2.36 203 P **Pn** **09 51 57.9 +1.6**
baz=23,SNR=72
WMOK Wichita Mounta 2.36 203 P **Pn** **09 51 58.0 +1.6**
baz=23
WMOK Sb **Sb** **09 52 30.5 +1.2**
baz=23
CBKS Cedar Bluff 2.51 320 Pn **Pn** **09 51 59.9 +1.4**
CBKS Cedar Bluff 2.51 320 P **Pn** **09 52 00.3 +1.8**
baz=139,SNR=42
CBKS S **Sb** **09 52 35.2 +1.5**
baz=139
CBKS Cedar Bluff 2.51 320 Sb **Sb** **09 52 35.2 +1.5**
baz=139
U38A Gravette 2.67 99 Pn **Pn** **09 52 02.2 +1.7**
U38A IAmb_Lg 09 52 44.3
comp=Z,105nm,0.8s
U38A Gravette 2.67 99 P **Pn** **09 52 02.3 +1.7**
baz=281,SNR=41
LOOK Love County 2.94 172 Pn **Pn** **09 52 06.1 +1.8**
LOOK IAmb_Lg 09 52 59.1
comp=Z,62nm,0.9s
X37A Clayton 2.97 141 Pn **Pn** **09 52 06.3 +1.6**
X37A Clayton 2.97 141 P **Pn** **09 52 06.2 +1.6**
baz=322,SNR=72
HHAR Hobbs 3.05 101 **Pn** **09 52 07.3 +1.4**
HHAR IAmb_Lg 09 52 60.0
comp=Z,57nm,0.8s
S39A Bolivar 3.54 76 Pn **Pn** **09 52 13.1 +0.6**
S39A IAmb_Lg 09 53 12.2
comp=Z,35nm,0.8s
S39A Bolivar 3.54 76 P **Pn** **09 52 13.9 +1.4**
baz=258,SNR=42
Z35A Perchaven, San 3.59 175 Pn **Pn** **09 52 14.7 +1.4**
N33B J Bar K, Exete 3.82 2 P **Pn** **09 52 17.6 +1.2**
baz=182,SNR=13
N33A J Bar K, Exete 3.82 2 Pn **Pn** **09 52 17.1 +0.7**
AMTX Amarillo 3.85 239 Pn **Pn** **09 52 18.6 +1.7**
AMTX IAmb_Lg 09 53 21.5
comp=Z,40nm,0.7s
AMTX Amarillo 3.85 239 Sb **Sg** **09 53 18.4 -2.9**
baz=57
FW03 Perrin-Whitt E 3.88 185 Pn **Pn** **09 52 19.0 +1.7**
FW03 IAmb_Lg 09 53 26.9
comp=Z,30nm,0.8s
U40A Yellville 3.90 97 P **Pn** **09 52 19.7 +2.2**
baz=280,SNR=32
U40A P **Pn** **09 52 19.7 +2.2**
baz=280,SNR=32
FW06 Azle 3.94 179 Pn **Pn** **09 52 18.8 +0.9**
MIAR Mount Ida 4.07 124 **Pn** **09 52 22.3 +2.4**
MIAR Mount Ida 4.07 124 P **Pn** **09 52 21.2 +1.3**
baz=307,SNR=23
FW07 Weatherford 4.21 182 Pn **Pn** **09 52 22.0 +0.3**
FW07 IAmb_Lg 09 53 35.2
comp=Z,36nm,1.0s
P38A Dawn 4.22 49 Pn **Pn** **09 52 20.8 -1.1**
P38A IAmb_Lg 09 53 31.5
comp=Z,49nm,0.7s
P38A Dawn 4.22 49 P **Pn** **09 52 23.2 +1.3**
baz=231,SNR=12
Z38A Mt. Pleasant 4.25 148 Pn **Pn** **09 52 22.8 +0.4**
MGMO Mountain Grove 4.31 85 **Pn** **09 52 25.0 +1.8**
KSCO Kaye Shedlock' 4.45 300 Pn **Pn** **09 52 25.9 +0.7**
KSCO IAmb_Lg 09 53 43.9
comp=Z,42nm,0.7s
KSCO Kaye Shedlock' 4.45 300 P **Pn** **09 52 26.6 +1.4**
baz=117
KSCO Kaye Shedlock' 4.45 300 P **Pn** **09 52 26.6 +1.4**
baz=117
R40A Maddies Statio 4.49 71 **Pn** **09 52 25.9 +0.3**
R40A Maddies Statio 4.49 71 P **Pn** **09 52 26.9 +1.3**
baz=254,SNR=58
BGNE Belgrade 4.50 355 Pn **Pn** **09 52 26.8 +1.0**
BGNE Belgrade 4.50 355 P **Pn** **09 52 27.0 +1.2**
baz=175,SNR=14
BGNE Belgrade 4.50 355 P **Pn** **09 52 27.2 +1.4**
baz=175
FCAR Ozark Folk Cen 4.58 101 **Pn** **09 52 28.4 +1.6**
ABTX Abilene, Hawle 4.58 202 Pn **Pn** **09 52 28.8 +1.9**
X40A Basin Creek Fa 4.61 120 **Pn** **09 52 28.9 +1.7**
UALR University of 4.81 115 Pn **Pn** **09 52 32.0 +2.0**
WHTX Lake Whitney, 4.92 178 Pn **Pn** **09 52 30.9 -0.5**
WHTX Lake Whitney, 4.92 178 S **Sn** **09 53 29.4 +1.1**
baz=358
WHTX Lake Whitney, 4.92 178 P **Pn** **09 52 32.9 +1.5**
baz=358
WLAR White Oak Lake 4.92 130 IAmb_Lg 09 54 06.1
comp=Z,31nm,0.8s
MSTX Muleshoe 5.11 236 Pn **Pn** **09 52 35.0 +0.8**
CCM Cathedral Cave 5.22 75 Pn **Pn** **09 52 34.4 -1.2**
T42A Van Buren 5.25 87 Pn **Pn** **09 52 37.4 +1.3**
OGNE Ogallala 5.28 321 Pn **Pn** **09 52 35.2 -1.3**
LCAR Lake Charles 5.30 97 **Pn** **09 52 38.1 +1.3**
Z41A Richland Creek 5.40 131 Pn **Pn** **09 52 38.9 +0.9**
T25A Trinidad 5.41 274 **Pn** **09 52 39.6 +1.2**
T25A Trinidad 5.41 274 P **Pn** **09 52 39.5 +1.0**
baz=90
435B Jarrell 6.12 179 Pn **Pn** **09 52 48.1 +0.2**
Q24A Divide 6.27 291 **Pn** **09 52 50.8 +0.5**
Q24A Divide 6.27 291 P **Pn** **09 52 51.3 +1.0**
baz=107
SDCO Great Sand Dun 6.31 280 **Pn** **09 52 52.0 +1.2**
SDCO Great Sand Dun 6.31 280 P **Pn** **09 52 52.9 +2.0**
baz=95
HTMS Hat Mesa 6.63 230 Pn **Pn** **09 52 54.5 -0.6**
S44A Carbondale 6.74 81 Pn **Pn** **09 52 57.8 +1.3**
GLAT Glass 6.76 93 Pn **Pn** **09 52 56.5 -0.3**
ECSD EROS Data Cent 6.86 6 **Pn** **09 52 58.5 +0.4**
ECSD EROS Data Cent 6.86 6 P **Pn** **09 52 58.6 +0.5**
baz=187,SNR=16
ECSD EROS Data Cent 6.86 6 P **Pn** **09 52 58.6 +0.5**
baz=187
ISCO Idaho Springs 6.89 297 Pn **Pn** **09 52 60.0 +1.1**
ISCO Idaho Springs 6.89 297 P **Pn** **09 52 59.9 +1.1**
baz=112
ISCO Idaho Springs 6.89 297 P **Pn** **09 52 60.0 +1.1**
baz=112
CLNB Carlsbad 6.92 230 Pn **Pn** **09 52 58.9 -0.2**
OXF Oxford 7.12 107 Pn **Pn** **09 53 02.9 +1.2**
L40A Anamosa 7.15 42 Pn **Pn** **09 53 01.3 -0.8**
S22A 4UR Ranch, Cre 7.36 279 Pn **Pn** **09 53 05.0 -0.3**
ANMO Albuquerque 7.41 257 Pn **Pn** **09 53 06.6 +0.7**
comp=Z,0.1nm,0.3s,baz=30,slow=19,SNR=1.8
ANMO Lg Lg 09 55 07.8
comp=Z,0.6nm,0.3s,baz=229,slow=14,SNR=6.3
comp=Z,0.3nm,0.3s
N23A Red Feather La 7.59 304 Pn **Pn** **09 53 06.0 -2.4**
OLIL Olney 7.78 74 Pn **Pn** **09 53 11.1 +0.4**
MNTX Cornudas Mount 8.24 233 P **Pn** **09 53 18.1 +0.9**
baz=49
JFWS Jewell Farm 8.26 41 P **Pn** **09 53 18.3 +1.0**
baz=226
TXAR Lajitas Array 9.09 215 Pn **Pn** **09 53 29.2 +0.4**
comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=7.8
TXAR Lg Lg 09 56 01.8
comp=Z,0.5nm,0.3s,baz=40,slow=18,SNR=6.1
comp=Z,0.2nm,0.3s
PDAR Pinedale Array 10.86 306 Pn **Pn** **09 53 50.2 -2.9**
comp=Z,0.1nm,0.3s,baz=116,slow=17,SNR=4.5
PDAR Pg 09 54 34.1
comp=Z,0.2nm,0.3s,baz=117,slow=18,SNR=1.8
PDAR Lg Lg 09 56 47.3
comp=Z,0.2nm,0.3s,baz=121,slow=39,SNR=4.3
comp=Z,0.5nm,0.8s
TKL Tuckaleechee C 11.27 92 Pn **Pn** **09 53 59.2 +0.6**
comp=Z,0.2nm,0.3s,baz=274,slow=13,SNR=1.7
TKL Lg Lg 09 57 06.5
comp=Z,0.4nm,0.3s,baz=347,slow=21,SNR=2.8
comp=Z,3.5nm,0.8s
ILAR Eielson Array 40.12 330 P **P** **09 58 51.1 -1.9**
comp=Z,0.6nm,0.8s,baz=108,slow=6.1,SNR=7.2
comp=Z,0.6nm,0.8s

IDC 27 09:51:30.2±2.5, 54°.27N×86°.15E, h0km, mbtmp3.4/2, ML2.8/2, 2C-2D, Error ellipse: s-maj=19.4km s-min=11.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.85**	**248**	I	I	09 56 00.0	
	baz=66,slow=339,SNR=8.1						
ZAA0	**Zalesovo Array**	**0.85**	**248**	⇑P	Pg	09 51 45.1	-1.3
	0.1nm,0.3s						
ZAA0				⇓S	Sb	09 51 58.8	-0.9
	1.9nm,0.3s						
ZALV	**Zalesovo Beam**	**0.85**	**248**	Pg	Pg	09 51 45.2	-1.2
	0.9nm,0.3s,baz=63,slow=16,SNR=15						
ZALV				Lg	Lg	09 51 58.9	
	7.4nm,0.3s,baz=70,slow=27,SNR=16						
KURBB	**Kurchatov Arra**	**5.92**	**235**	Pn	Pn	09 53 00.5	+1.4
	0.1nm,0.3s,baz=54,slow=13,SNR=3.1						
	2.1nm,0.2s						
MK31	**Makanchi Array**	**7.88**	**200**	⇑Pn	Pn	09 53 26.9	+0.9
	0.1nm,0.2s,baz=22,slow=13,SNR=22						
MK31				⇓Sn	Sn	09 54 56.8	+1.0
	0.9nm,0.8s,baz=310,slow=20,SNR=3.9						
MKAR	**Makanchi Array**	**7.88**	**200**	Pn	Pn	09 53 26.9	+0.9
	0.3nm,0.3s,baz=22,slow=11,SNR=18						
MKAR				Sn	Sn	09 54 55.1	-0.7
	0.1nm,0.3s,baz=18,slow=28,SNR=3.6						
	0.4nm,0.3s						

IDC 27 09:55:09.8±3.8, 54°.19N×87°.41E, h0km, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=33.5km s-min=20.5km az=49.0

ISC 27 09:55:17.3±8.9, 54°.1N±0°.5×86°.6E±0°.6, h10km, n6, σ2s87/4, 1C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**263**	I	I	10 05 03.7	
	baz=82,slow=336						
ZALV	**Zalesovo Beam**	**1.08**	**263**	Pg	**Pn**	**09 55 36.6**	**-1.8**
	2.9nm,0.3s,baz=82,slow=15,SNR=7.7						
ZALV				Lg	Lg	09 55 59.4	
	1.9nm,0.3s,baz=77,slow=25,SNR=1.6						
KURBB	**Kurchatov Arra**	**6.06**	**238**	Pn	**Pn**	**09 56 47.2**	**+0.3**
	0.1nm,0.3s,baz=53,slow=13,SNR=1.7						
	1.9nm,0.2s						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	**Pn**	**09 57 10.0**	**-1.0**
	0.1nm,0.3s,baz=26,slow=14,SNR=2.0						
	0.2nm,0.3s						
AB31	**Akbulak array**	**17.20**	**265**	⇓P	**P**	**09 59 20.8**	**+1.9**
	0.4nm,0.3s,baz=259,slow=17,SNR=101						
AB31				⇓Rg	Rg	09 59 34.0	
	113nm,1.0s,baz=261,slow=29,SNR=139						
AKTO	**Aktyubinsk**	**17.84**	**270**	⇑P	P	09 59 35.4	+9.3
	0.5nm,0.5s						

NNC 27 09:58:08.9±0.7, 51°.81N×75°.46E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=39.0km s-min=3.6km az=27.0, Suspected Mining explosion.

IDC 27 09:58:13.0±1.5, 51°.79N×75°.71E, h0km, mbtmp2.6/3, ML1.5/2, Error ellipse: s-maj=34.9km s-min=12.2km az=32.0.

ISC 27 09:58:11.9±1.2, 51°.6N±0°.2×75°.3E±0°.1, h0km, n12, σ2s13/9, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.27**	**115**	Pg	**Pn**	**09 58 50.5**	**0.0**
	0.2nm,0.3s,baz=306,slow=19,SNR=1.9						
KURBB				Lg	Lg	09 59 19.4	
	0.2nm,0.3s,baz=308,slow=29,SNR=2.5						
KURBB	**Kurchatov Arra**	**2.27**	**115**	⇑Pg	**Pn**	**09 58 50.8**	**+0.3**
	4.2nm,0.7s						
KURBB				⇑Lg	Lg	09 59 21.4	
	38nm,0.7s						
KURK	**Kurchatov**	**2.27**	**113**	⇓Pg	**Pn**	**09 58 50.5**	**-0.1**
	6.1nm,1.2s						
KURK				⇑Lg	Lg	09 59 19.2	
	25nm,1.2s						
BVA0	**Borovoye Array**	**3.33**	**297**	⇓Pg	**Pb**	**09 59 10.1**	**-1.6**
	3.2nm,0.8s,baz=235,slow=37,SNR=7.2						
BVA0				⇑Lg	Lg	09 59 55.9	
	14nm,0.8s,baz=110,slow=26,SNR=8.0						
BVAR	**Borovoye Array**	**3.33**	**297**	Pn	**Pn**	**09 59 07.5**	**+2.4**
	baz=110,slow=17,SNR=2.7						
BVAR				Lg	Lg	09 59 56.6	
	0.2nm,0.3s,baz=117,slow=28,SNR=7.0						
	1.9nm,0.6s						
BRVK	**Borovoye**	**3.40**	**297**	⇑Pg	**Pn**	**09 59 10.0**	**+3.9**
	1.8nm,0.7s						
BRVK				⇑Lg	Lg	09 59 56.8	
	19nm,0.9s						
I46RU	**ZALESOVO INFRA**	**6.21**	**64**	I	I	10 33 40.0	
	baz=254,slow=350,SNR=3.6						
ZALV	**Zalesovo Beam**	**6.21**	**64**	Pn	**Pn**	**09 59 43.8**	**-0.9**
	0.1nm,0.3s,baz=255,slow=16,SNR=1.9						
	0.3nm,0.3s						
MAKZ	**Makanchi**	**6.51**	**135**	⇓Lg	Lg	10 01 37.6	
	8.0nm,1.1s						
MK31	**Makanchi Array**	**6.66**	**134**	Sn	**Sn**	**10 01 07.8**	**+0.3**
	0.5nm,0.8s,baz=332,slow=20,SNR=3.6						
MK31				Lg	Lg	10 01 41.0	
	1.8nm,0.7s,baz=324,slow=24,SNR=6.3						
MKAR	**Makanchi Array**	**6.66**	**134**	Pn	**Pn**	**09 59 52.7**	**+1.7**
	0.3nm,0.7s,baz=317,slow=11,SNR=1.6						
MKAR				Lg	Lg	10 01 39.9	
	0.2nm,0.3s,baz=320,slow=24,SNR=8.5						
AAK	**Ala-Archa**	**9.02**	**184**	Lg	Lg	10 02 58.8	
	0.2nm,0.3s,baz=256,slow=20,SNR=2.1						

IDC 27 10:08:12.7±2.5, 5°.57N×125°.17E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=230.4km s-min=27.7km az=65.0

MAN 27 10:08:20.9, 6°.21N×126°.35E, h15km, mb4.4, ML3.2, MS3.0

ISC 27 10:08:19.2±1.9, 5°.9N±0°.1×126°.4E±0°.1, h63km±23km, n9, σ1s94/14, mb3.2/3, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.40**	**324**	Sn	**Sn**	**10 09 04.4**	**+4.1**
	22nm,0.3s,baz=157,slow=9.3,SNR=1.3						
GSPH	**General Santos**	**1.46**	**276**	⇑*i*P	**Pn**	**10 08 42.4**	**-1.1**
GSPH				*i* S	**Sn**	**10 09 00.2**	**-1.5**
KCP	**Kidapawan**	**1.69**	**310**	⇓*i*P	**Pn**	**10 08 47.4**	**+0.8**
KCP				eS	**Sn**	**10 09 06.2**	**-1.1**
CDOP	**Cateel, Davao**	**1.85**	**1**	⇑eP	**Pn**	**10 08 47.2**	**-1.4**
CDOP				eS	**Sn**	**10 09 10.4**	**-0.6**
BIPH	**Bislig**	**2.25**	**359**	⇑eP	**Pn**	**10 08 54.9**	**+0.9**
BIPH				eS	**Sn**	**10 09 19.3**	**-1.3**
CTBH	**Cotabato--PC H**	**2.50**	**301**	⇑*i*P	**Pn**	**10 08 59.4**	**+1.9**
CTBH				*i* S	**Sn**	**10 09 25.6**	**-1.4**
WRA	**Warramunga Arr**	**26.86**	**163**	P	**P**	**10 13 55.8**	**+1.6**
	0.5nm,0.9s,baz=340,slow=10,SNR=2.2						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**30.31**	**166**	P	**P**	**10 14 25.7**	**+0.9**
	0.2nm,0.4s,baz=342,slow=7.3,SNR=6.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.59**	**325**	P	**P**	**10 17 47.1**	**-1.3**
	0.2nm,0.5s,baz=116,slow=7.7,SNR=5.3						
	0.2nm,0.5s						

NEIC 27 10:10:02.4±0.5, 19°.1N±0°.1×66°.05W±0°.04, h32km±17km, ML3.2/26, Md3.2/27(RSPR), Error ellipse: s-maj=14.8km s-min=4.4km az=189.0

OSPL 27 10:10:02.6±0.8, 18°.92N×65°.99W, h0km±8km, ML2.7

RSPR 27 10:10:03.5, 19°.12N×66°.04W, h25km±13km, MD3.2/11

ISC 27 10:10:02.0±1.8, 19°.09N±0°.08×66°.03W±0°.03, h29km±12km, n46, σ0s74/58, 13C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.77**	**218**	⇑eP	**Pb**	**10 10 16.8**	**0.0**
EMPR	**Esperanza - Ma**	**0.77**	**218**	eS	**Sb**	**10 10 27.2**	**+0.2**
EMPR	**Esperanza - Ma**	**0.77**	**218**		**Pb**	**10 10 16.9**	**0.0**
EMPR					**Sb**	**10 10 27.6**	**+0.6**
EMPR				IAML		10 10 27.8	
	comp=E,1μm,0.5s						
EMPR				IAML		10 10 28.4	
	comp=N,698nm,0.2s						
GCPR	**Guaynabo City**	**0.78**	**183**	⇑eP	**Pb**	**10 10 16.9**	**-0.2**
GCPR	**Guaynabo City**	**0.78**	**183**	eS	**Sb**	**10 10 27.6**	**+0.3**
GCPR	**Guaynabo City**	**0.78**	**183**		**Pb**	**10 10 16.9**	**-0.2**
GCPR					**Sb**	**10 10 27.8**	**+0.5**
GCPR				IAML		10 10 30.9	
	comp=N,507nm,0.7s						
CBYP	**Canovanas**	**0.83**	**168**	⇑eP	**Pb**	**10 10 17.7**	**-0.3**
CBYP	**Canovanas**	**0.83**	**168**	eS	**Sb**	**10 10 29.3**	**+0.4**
CBYP	**Canovanas**	**0.83**	**168**		**Pb**	**10 10 17.7**	**-0.3**
CBYP					**Sb**	**10 10 29.3**	**+0.4**
HUMP	**Col San Antoni**	**0.96**	**169**	⇑eP	**Pn**	**10 10 19.6**	**+0.1**
HUMP	**Col San Antoni**	**0.96**	**169**	eS	**Sn**	**10 10 32.1**	**-0.2**
HUMP	**Col San Antoni**	**0.96**	**169**		**Pn**	**10 10 19.6**	**+0.1**
HUMP					**Sb**	**10 10 32.5**	**+0.1**
HUMP				IAML		10 10 35.7	
	comp=N,479nm,0.2s						
SJG	**San Juan**	**0.98**	**186**		**Pn**	**10 10 20.2**	**+0.4**
SJG				IAML		10 10 34.3	
	comp=N,622nm,0.4s						
SJG				IAML		10 10 35.5	
	comp=N,528nm,0.3s						
AOPR	**Arecibo Observ**	**1.00**	**223**	⇑eP	**Pn**	**10 10 20.1**	**-0.1**
AOPR	**Arecibo Observ**	**1.00**	**223**	eS	**Sb**	**10 10 33.0**	**-0.8**
AOPR	**Arecibo Observ**	**1.00**	**223**		**Pn**	**10 10 20.1**	**-0.1**
AOPR					**Sb**	**10 10 33.0**	**-0.8**
AOPR				IAML		10 10 33.8	
	comp=N,2μm,0.4s						
CUPR	**Culebra, Puert**	**1.05**	**137**	⇑eP	**Pn**	**10 10 20.9**	**+0.1**
CUPR	**Culebra, Puert**	**1.05**	**137**	eS	**Sb**	**10 10 34.3**	**-0.8**
CUPR	**Culebra, Puert**	**1.05**	**137**		**Pn**	**10 10 20.9**	**+0.1**
CUPR					**Sb**	**10 10 34.6**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.05**	**218**	⇑eP	**Pn**	**10 10 20.9**	**0.0**
UUPR	**Utuado, UPR, P**	**1.05**	**218**		**Pn**	**10 10 20.9**	**0.0**
MTP	**Monte Pirata**	**1.09**	**155**	⇑eP	**Pn**	**10 10 21.4**	**+0.2**
MTP	**Monte Pirata**	**1.09**	**155**	eS	**Sn**	**10 10 34.7**	**-0.7**
MTP	**Monte Pirata**	**1.09**	**155**		**Pn**	**10 10 21.4**	**+0.2**
MTP					**Sn**	**10 10 34.8**	**-0.5**
MTP				IAML		10 10 40.9	
	comp=N,261nm,0.2s						
MTP				IAML		10 10 44.4	
	comp=E,364nm,0.3s						
IGPR	**InterUniversit**	**1.12**	**184**	⇑eP	**Pn**	**10 10 22.4**	**+0.6**
IGPR	**InterUniversit**	**1.12**	**184**	eS	**Sn**	**10 10 36.1**	**0.0**
OBIP	**Obispado Ponce**	**1.17**	**208**	⇑eP	**Pn**	**10 10 22.9**	**+0.4**
OBIP	**Obispado Ponce**	**1.17**	**208**	eS	**Sn**	**10 10 37.4**	**0.0**
OBIP	**Obispado Ponce**	**1.17**	**208**		**Pn**	**10 10 22.9**	**+0.4**
OBIP					**Sn**	**10 10 37.5**	**0.0**
AGPR	**Aguadilla, PR**	**1.19**	**239**	⇑eP	**Pn**	**10 10 22.3**	**-0.4**
AGPR	**Aguadilla, PR**	**1.19**	**239**	eS	**Sn**	**10 10 37.3**	**-0.6**
AGPR	**Aguadilla, PR**	**1.19**	**239**		**Pn**	**10 10 22.6**	**-0.1**
AGPR					**Sn**	**10 10 37.3**	**-0.6**
AGPR				IAML		10 10 46.8	
	comp=E,223nm,0.3s						
AGPR	**Aguadilla, PR**	**1.19**	**239**	*i* P	**Pn**	**10 10 22.8**	**+0.1**
PRSN	**Puerto Rico Se**	**1.36**	**231**		**Pn**	**10 10 25.2**	**+0.1**
PRSN				IAML		10 10 45.5	
	comp=E,1μm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.48**	**224**	⇑eP	**Pn**	**10 10 27.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.48**	**224**	eS	**Sn**	**10 10 44.8**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.48**	**224**		**Pn**	**10 10 27.3**	**+0.6**
CRPR					**Sn**	**10 10 46.6**	**+1.5**
CRPR				IAML		10 10 50.5	
	comp=E,180nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.48**	**224**	*i* P	**Pn**	**10 10 27.3**	**+0.6**
CRPR				eS	**Sn**	**10 10 45.9**	**+0.8**
CRPR				IAML		10 10 46.7	
	comp=Z,129nm,0.3s						
IDE	**Isla Desecheo**	**1.53**	**243**	⇑eP	**Pn**	**10 10 27.1**	**-0.3**
IDE	**Isla Desecheo**	**1.53**	**243**	eS	**Sn**	**10 10 44.7**	**-1.7**
IDE	**Isla Desecheo**	**1.53**	**243**		**Pn**	**10 10 27.1**	**-0.3**
IDE					**Sn**	**10 10 44.7**	**-1.7**
CDVI	**St. Croix**	**1.79**	**138**	Pn	**Pb**	**10 10 33.5**	**-0.7**
CDVI				IAML		10 10 57.1	
	comp=E,250nm,0.5s						
CDVI				IAML		10 11 09.5	
	comp=N,325nm,0.5s						
PCDR	**Punta Cana, DR**	**2.30**	**256**	*i* P	**Pn**	**10 10 40.2**	**+2.3**
ANBD	**Bethesda, Anti**	**4.54**	**116**	eP	**Pn**	**10 11 10.1**	**+1.3**
ANBD	**Bethesda, Anti**	**4.54**	**116**	eS	**Sn**	**10 11 59.3**	**-1.3**
CBE	**Ff, Capester**	**5.18**	**125**	Pn	**Pn**	**10 11 19.7**	**+2.1**

MAN 27 10:13:48.3, 11°.89N×125°.41E, h34km, mb4.6, ML3.4, MS3.3

MAN INTENSITY II - MAYDOLONG EASTERN SAMAR; BORONGAN EASTERN SAMAR.

IDC 27 10:13:53.3±7.2, 11°.70N×125°.10E, h97km±66km, mb3.5/12, mbtmp3.8/12, MS3.0/2, Error ellipse: s-maj=40.3km s-min=14.7km az=67.0

ISC 27 10:13:47.3±0.7, 12°.07N±0°.06×125°.34E±0°.07, h36km, n26, σ2s76/27, mb3.8/12, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**2.20**	**218**	*e*P	**Pn**	**10 14 20.3**	**-1.1**
LLP				eS	**Sn**	**10 14 46.5**	**-0.8**
SCPH	**Surigao**	**2.28**	**176**	⇑eP	**Pn**	**10 14 23.1**	**+0.6**
SCPH				eS	**Sn**	**10 14 50.6**	**+1.3**
RCP	**Roxas**	**2.59**	**259**	⇑eP	**Pn**	**10 14 28.9**	**+2.2**
RCP				eS	**Sn**	**10 14 58.1**	**+1.2**
TBP	**Tagbilaran**	**2.77**	**212**	*e*P	**Pn**	**10 14 28.0**	**-1.2**
TBP				*i* S	**Sn**	**10 15 07.0**	**+5.5**
TBP	**Tagbilaran**	**2.77**	**212**	*e*P	**Pn**	**10 14 28.0**	**-1.2**
TBP				*i* S	**Sn**	**10 15 07.0**	**+5.5**
BIPH	**Bislig**	**3.99**	**165**	⇓eP	**Pn**	**10 14 45.7**	**-0.3**
BIPH				eS	**Sn**	**10 15 38.9**	**+7.3**
JNU	**Nakatsue**	**21.56**	**13**	LR	LR	10 28 51.2	
	comp=Z,28nm,18.1s,baz=14,slow=41						
CMAR	**Chiang Mai Arr**	**26.22**	**287**	P	**P**	**10 19 19.2**	**+0.1**
	0.6nm,0.4s,baz=88,slow=10.0,SNR=4.1						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**33.02**	**164**	P	**P**	**10 20 15.7**	**-3.7**
	0.3nm,0.8s,baz=345,slow=8.6,SNR=2.0						
WRA				PcP	**PcP**	**10 23 00.7**	**-2.0**
	0.4nm,0.8s,baz=343,slow=3.2,SNR=2.1						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**36.49**	**167**	P	**P**	**10 20 47.0**	**-2.3**
	0.2nm,0.3s,baz=347,slow=7.3,SNR=12						
ASAR				PcP	**PcP**	**10 23 10.8**	**-2.0**
	0.3nm,0.4s,baz=346,slow=3.0,SNR=6.7

MKAR			PcP	PcP	10 23 56.8	-1.2
	0.3nm,0.6s,baz=116,slow=4.6,SNR=2.5					
	1.5nm,0.8s					
ZALV	Zalesovo Beam	52.62 331	P	P	10 22 58.2	+0.7
	0.4nm,0.4s,baz=128,slow=6.1,SNR=2.9					
	0.4nm,0.4s					
AAK	Ala-Archa	53.41 315	LR	LR	10 45 40.8	
	comp=Z,18nm,21.0s,baz=12,slow=36					
KURBB	Kurchatov Arra	54.08 325	P	P	10 23 08.8	+0.5
	2.3nm,0.6s,baz=126,slow=6.9,SNR=18					
	2.3nm,0.6s					
SEY	Seymchan	54.32 15	P	P	10 23 13.1	+3.2
	0.3nm,0.3s,baz=17,slow=24,SNR=1.8					
	0.3nm,0.3s					
BVAR	Borovoye Array	59.67 325	P	P	10 23 48.5	+0.6
	1.4nm,0.6s,baz=120,slow=8.8,SNR=7.6					
	1.4nm,0.6s					
FINES	FINESS Array B	83.88 332	P	P	10 26 12.8	-0.4
	1.2nm,0.7s,baz=64,slow=6.3,SNR=8.1					
	1.2nm,0.7s					
AKASG	Malin Array Be	84.60 321	P	P	10 26 15.9	-1.1
	0.7nm,0.6s,baz=67,slow=5.0,SNR=4.2					
	0.7nm,0.6s					
KMBO	Kilima Mbogo	88.36 269	P	P	10 26 33.6	-2.8
	0.2nm,0.6s,baz=47,slow=24,SNR=2.3					
	0.2nm,0.6s					

*WEL **27** 10:22:00,41˚.50S×174˚.54E,h24km,ML4.0,Mw3.7, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁴ Nm; Mrr1.99; Mθθ3.21; Mϕϕ-5.20; Mrθ-1.93; Mθϕ1.17; Mϕr-1.18; Fault plane solution: M0 5.19000×10¹⁴ NP1: ϕs313.00000°,δ59.00000°,λ22.00000°. NP2: ϕs211.00000°,δ71.00000°,λ147.00000°. Principal axes: T 48.9700, Plg36.0000°, Azm169.0000°; N 5.8400, Plg52.0000°, Azm4.0000°; P -54.8200, Plg8.0000°, Azm264.0000°;*

*IDC **27** 10:22:17.2±2.0,41˚.42S×174˚.46E,h0km,mb3.7/2, mbtmp3.5/4, ML2.9/2, MS3.7/1 Error ellipse: s-maj=47.3km s-min=26.3km az=136.0*

*NOU **27** 10:22:18.9,41˚.68S×174˚.69E,h7km,MLv4.2/14, Cook Strait, New Zealand*

*WEL **27** 10:22:20.4,42˚.2S±2˚×17˚.5E±˚,h19km±5km, M4.0/23, ML4.3/23, MLv4.0/23, Error ellipse: s-maj=0.0km s-min=0.0km az=115.0, confirmed*

ISC 27 10:22:18.2±1.2,41˚.65S±0˚.03×174˚.61E±0˚.02,h8km±9km, n131,σ1§47/148,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.31	252	P	Pn	10 22 28.1	-1.0
CMWZ				S	Sb	10 22 34.2	+2.8
SNZO	South Karori	0.35	12	P	Pb	10 22 26.5	-0.1
WEL	Wellington	0.38	18	P	Pb	10 22 27.4	+0.1
WEL				S	Sb	10 22 32.2	-1.2
PLWZ	Palliser	0.49	81	P	Pn	10 22 31.5	0.0
PLWZ				S	Sb	10 22 40.1	+3.7
TCW	Tory Channel	0.51	330	P	Pb	10 22 28.5	-0.8
TCW				S	Sg	10 22 33.9	-0.8
MSWZ	Moikau Station	0.53	64	P	Pn	10 22 31.7	-0.4
BSWZ	Blackbirch Sta	0.56	263	P	Pb	10 22 31.3	+1.1
BSWZ				S	Sb	10 22 39.7	+1.4
CAW	Cannon Point	0.64	32	P	Pb	10 22 32.0	+0.4
CAW				S	Sb	10 22 40.3	-0.4
PAWZ	Paruwai Farm	0.67	67	P	Pn	10 22 34.1	+0.1
PAWZ				S	Sn	10 22 45.7	+1.0
KIW	Kapiti Island	0.82	16	P	Pb	10 22 34.6	-0.1
KIW				S	Sg	10 22 44.3	-0.4
MTW	Mount Morrison	0.83	54	P	Pn	10 22 36.4	+0.2
MTW				S	Sn	10 22 49.6	+0.9
TRWZ	Traveller	0.85	73	P	Pn	10 22 37.3	+0.8
OGWZ	Otaki Gorge	0.93	27	P	Pb	10 22 36.8	+0.2
DUWZ	D'Urville Isla	0.99	328	P	Pg	10 22 37.2	-0.1
HOWZ	Holdsworth Sta	1.01	42	P	Pn	10 22 38.8	+0.1
NNZ	Nelson	1.02	295	P	Pb	10 22 38.0	-0.1
TMWZ	Te Maipa	1.10	61	P	Pn	10 22 40.6	+0.6
KHZ	Kahutara	1.11	226	P	Pn	10 22 40.8	+0.8
KHZ	Kahutara	1.11	226	P	Pn	10 22 41.4	+1.4
KHZ				S	Sn	10 22 57.2	+1.8
MRZ	Mangatainoka R	1.23	37	P	Pg	10 22 42.1	+0.4
THZ	Tophouse	1.28	264	P	Pg	10 22 43.1	+0.3
THZ				S	Sn	10 23 00.8	+0.9
TIWZ	Tintock	1.30	48	P	Pg	10 22 43.4	+0.3
TIWZ				S	Sn	10 23 00.7	+0.5
TKNZ	Takaka Hill	1.39	296	P	Pb	10 22 44.0	-0.4
TKNZ				S	Sg	10 23 02.3	-0.5
CPWZ	Castlepoint	1.41	59	P	Pg	10 22 47.6	+2.4
MRNZ	Matariki Terra	1.42	280	P	Pb	10 22 44.8	0.0
PRWZ	Pori Road	1.50	44	P	Pb	10 22 46.0	-0.3
PRWZ				S	Sg	10 23 06.6	+0.1
POWZ	Post Office Ro	1.53	35	P	Pb	10 22 46.7	-0.1
BFZ	Birch Farm	1.57	52	P	Pn	10 22 46.4	+0.1
BFZ	Birch Farm	1.57	52	P	Pn	10 22 46.5	+0.1
GVZ	Greta Valley S	1.76	221	P	Pn	10 22 50.1	+1.1
QRZ	Quartz Range	1.77	297	P	Pn	10 22 49.9	+0.7
QRZ	Quartz Range	1.77	297	P	Pb	10 22 50.2	-0.7
WAZ	Wanganui	1.92	9	P	Pb	10 22 53.5	+0.2
PRHZ	Porangahau	2.06	49	P	Pn	10 22 53.2	0.0
LTZ	Lake Taylor	2.07	236	P	Pn	10 22 54.3	+1.0
DSZ	Denniston Nort	2.10	266	P	Pn	10 22 55.1	+1.3
AMCZ	Amberley	2.11	223	P	Pn	10 22 54.9	+1.1
WPHZ	Waipukurau	2.11	42	P	Pn	10 22 53.9	+0.2
LREZ	Lake Rotokare	2.19	356	P	Pb	10 22 58.1	0.0
LREZ				S	Sg	10 23 29.0	+0.3
NMEZ	Namu Road	2.30	346	P	Pb	10 23 00.1	+0.1
NMEZ				S	Sg	10 23 31.1	-1.1
PXZ	Pawanui	2.35	47	P	Pn	10 22 56.4	-0.7
MTVZ	Mangateitei	2.36	16	P	Pn	10 22 59.0	+1.8
OKCZ	Okains Bay	2.37	208	P	Pn	10 22 57.8	+0.5
KHEZ	Kahui Hut	2.40	349	P	Pb	10 22 59.7	-1.9
KHEZ	Kahui Hut	2.40	349	P	Pb	10 23 01.2	-0.5
MOVZ	Moawhango	2.40	22	P	Pn	10 22 59.1	+1.2
KRHZ	Kereru	2.41	34	P	Pn	10 22 57.9	0.0
NEZ	North Egmont	2.41	350	P	Pb	10 23 01.1	-0.8
PKVZ	Pokaka	2.42	14	P	Pb	10 23 00.4	-1.7
BHHZ	Black Hill Sta	2.42	28	P	Pn	10 22 59.5	+1.3
WNVZ	Wahianoa	2.44	18	P	Pn	10 22 60.0	+1.5
NBEZ	Newall Road No	2.45	346	P	Pb	10 23 00.8	-1.6
NBEZ				S	Sg	10 23 35.8	-1.0
TRVZ	Turoa	2.46	17	P	Pn	10 23 00.5	+1.7
DREZ	Durham Road	2.48	353	P	Pb	10 23 02.3	-0.7
WHVZ	Whangaehu Hut	2.48	18	P	Pb	10 23 01.4	-1.8
DRZ	Dome Shelter	2.48	17	P	Pb	10 23 04.0	+0.8
FWVZ	Far West T-bar	2.50	17	P	Pb	10 23 04.0	+0.6
PKE	Pukeiti	2.50	349	P	Pb	10 23 02.2	-1.1
TUVZ	Tukino	2.51	19	P	Pn	10 23 01.1	+1.7
MQZ	McQueen's Vall	2.51	214	P	Pn	10 22 59.1	-0.2
MQZ				S	Sn	10 23 28.3	-1.7
VRZ	Vera Road	2.53	3	P	Pb	10 23 02.4	-1.4
KAHZ	Kahuranaki	2.53	44	P	Pn	10 22 59.0	-0.6
OXZ	Oxford	2.54	228	P	Pn	10 22 59.8	+0.1
AKCZ	Akaroa Harbour	2.55	209	P	Pn	10 23 00.2	+0.4
SNVZ	South Ngauruho	2.58	18	P	Pn	10 23 02.2	+1.7
NGZ	Ngauruhoe	2.58	17	P	Pn	10 23 02.2	+1.7
INZ	Inchbonnie	2.59	244	P	Pn	10 23 01.3	+1.0
OTVZ	Oturere	2.61	18	P	Pb	10 23 03.8	-1.6
KWHZ	Kaweka Forest	2.62	32	P	Pg	10 23 07.2	-1.1
NNVZ	North Ngauruho	2.63	17	P	Pn	10 23 02.8	+1.6
WTVZ	West Tongariro	2.64	17	P	Pn	10 23 03.4	+2.2
ETVZ	East Tongariro	2.65	19	P	Pn	10 23 02.9	+1.6
TWVZ	Taurewa	2.65	14	P	Pb	10 23 05.7	-0.4
TMVZ	Te Maari	2.67	19	P	Pn	10 23 02.9	+1.3
KRVZ	Karewarewa	2.67	17	P	Pb	10 23 06.2	-0.1
NTVZ	North Tongarir	2.67	18	P	Pn	10 23 03.1	+1.4
MCHZ	McNeill Hill	2.72	36	P	Pn	10 23 03.3	+1.1
RAZ	Rakaia	2.76	220	P	Pn	10 23 02.2	+0.5
KATZ	Kakaramea	2.80	18	P	Pb	10 23 09.6	+1.1
RITZ	Rihia Road	2.83	20	P	Pb	10 23 09.4	+0.3
BKZ	Black Stump Fm	2.87	31	P	Pn	10 23 04.5	+0.2
BKZ	Black Stump Fm	2.87	31	P	Pn	10 23 04.0	-0.3
RATZ	Rangitukua	2.92	18	P	Pb	10 23 11.7	+1.2
HATZ	Hinemaiaia	2.98	23	P	Pb	10 23 12.1	+0.5
ARHZ	Aropaoanui	3.00	38	P	Pn	10 23 06.7	+0.7
NMHZ	Naumai	3.05	34	P	Pn	10 23 06.4	-0.4
WATZ	Wairara	3.06	17	P	Pb	10 23 13.4	+0.4
WACZ	Wakanui South	3.07	221	P	Pn	10 23 07.3	+0.3
MRHZ	Matea Rd	3.13	27	P	Pn	10 23 08.2	+0.2
HIZ	Hauiti	3.14	3	P	Pn	10 23 09.9	+1.9
HIZ	Hauiti	3.14	3	P	Pn	10 23 10.8	+2.8
WVZ	Waitaha Valley	3.21	242	P	Pn	10 23 11.1	+2.2
MTHZ	Maungataniwha	3.27	32	P	Pn	10 23 08.7	-1.2
KUTZ	Kaahu Road	3.29	17	P	Pb	10 23 18.3	+1.4
RPZ	Rata Peaks	3.34	231	Pn	Pn	10 23 11.0	+0.3
	1.8nm,0.3s,baz=54,slow=1.9,SNR=11						
RPZ				Sn	Sn	10 23 48.2	-2.3
	5.7nm,0.3s,baz=327,slow=24,SNR=18						
	5.6nm,0.4s						
RPZ	Rata Peaks	3.34	231	P	Pn	10 23 11.8	+1.1
RPZ	Rata Peaks	3.34	231	P	Pn	10 23 11.5	+0.8
TLZ	Tolley Road	3.39	12	P	Pb	10 23 17.2	-1.4
ARCZ	Arundel	3.41	227	P	Pn	10 23 12.5	+0.7
PRRZ	Plateau Road	3.43	24	P	Pb	10 23 19.0	-0.2
GCSZ	Gaunt Creek Bo	3.58	241	P	Pb	10 23 19.0	-2.8
TMZ	Timaru	3.80	223	P	Pn	10 23 17.5	+0.4
URZ	Urewera	3.89	30	Pn	Pn	10 23 16.8	-1.5
	0.6nm,0.3s,baz=64,slow=14,SNR=1.3						
URZ				Sn	Sn	10 24 01.1	-3.1
	5.8nm,0.3s,baz=40,slow=2.9,SNR=2.6						
	6.1nm,0.8s						
URZ	Urewera	3.89	30	P	Pn	10 23 18.7	+0.4
URZ	Urewera	3.89	30	P	Pn	10 23 18.3	-0.1
TOZ	Tahuroa Road	3.97	10	P	Pn	10 23 22.2	+2.8
FOZ	Fox Glacier	4.01	240	P	Pn	10 23 21.6	+1.7
LBZ	Lake Benmore	4.24	228	P	Pn	10 23 24.4	+1.2
TWGZ	Tauwhareparae	4.33	38	P	Pn	10 23 23.5	-0.8
RUGZ	Raukumara Rang	4.37	34	P	Pn	10 23 24.2	-0.8
ODZ	Otahua Downs	4.46	219	P	Pn	10 23 26.4	+0.3
ODZ	Otahua Downs	4.46	219	P	Pn	10 23 26.1	+0.1
MKAZ	Moumakai	4.56	6	P	Pn	10 23 29.9	+2.5
AWAZ	Awhitu Peninsu	4.58	0	P	Pn	10 23 30.4	+2.7
ETAZ	East Tamaki Re	4.70	3	P	Pb	10 23 36.1	-4.7
WTAZ	Waiatarua	4.71	360	P	Pb	10 23 35.8	-5.3
WIAZ	Waiheke Island	4.87	5	P	Pn	10 23 35.8	+4.0
RVAZ	Riverhead Bore	4.87	360	P	Pn	10 23 35.4	+3.7
MBAZ	Motutapu North	4.88	3	P	Pb	10 23 37.8	-6.1
JCZ	Jackson Bay	4.92	239	P	Pn	10 23 34.2	+1.7
JCZ	Jackson Bay	4.92	239	P	Pn	10 23 33.9	+1.4
KUZ	Kuaotunu	4.97	10	P	Pn	10 23 34.5	+1.3
KUZ	Kuaotunu	4.97	10	P	Pn	10 23 37.5	+4.4
WCZ	Waipu Caves	5.71	358	P	Pn	10 23 47.8	+4.6
SYZ	Scrubby Hill	6.28	217	P	Pn	10 23 52.4	+1.4
OUZ	Omahuta	6.47	353	P	Pn	10 23 55.3	+1.6
OUZ	Omahuta	6.47	353	P	Pn	10 23 56.1	+2.4
ASAR	Alice Springs	38.27	285	P	P	10 29 37.6	-1.4
	0.3nm,0.5s,baz=124,slow=7.0,SNR=16						
	0.3nm,0.5s						
WRA	Warramunga Arr	40.32	290	P	P	10 29 55.0	-1.3
	1.0nm,0.5s,baz=134,slow=6.9,SNR=19						
	1.0nm,0.5s						
MAW	Mawson	59.66	204	LR	LR	10 57 14.8	
	comp=Z,57nm,18.2s,baz=116,slow=35						
TORD	Torodi Ar. Bea	150.94	194	PKPbc	PKiKP	10 42 12.6	+0.1
	0.2nm,0.7s,baz=165,slow=2.2,SNR=1.4						

*NEIC **27** 10:23:56.7±0.9,16˚.01N±0˚.06×107˚.39E±0˚.08,h10km±1km, mb4.4/9, Error ellipse: s-maj=12.9km s-min=10.0km az=70.0*

*IDC **27** 10:23:58.0±1.2,16˚.21N×107˚.26E,h0km,mb3.5/5, mbtmp3.6/6, ML4.3/1, Error ellipse: s-maj=41.8km s-min=19.5km az=48.0*

ISC 27 10:23:56.6±0.8,16˚.05N±0˚.10×107˚.37E±0˚.09,h10km,n24, σ1§74/24,mb3.9/9,Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIZ	Qiongzhong	3.79	38	Pn	Pn	10 24 55.3	+0.2
QIZ				Sn	Sn	10 25 36.2	-3.6
PHRA	Phrae	7.25	291	Pn	Pn	10 25 42.4	-0.2
CMAR	Chiang Mai Arr	8.40	288	Pn	Pn	10 25 58.8	+0.3
	1.2nm,0.3s,baz=109,slow=12,SNR=13						
CMAR				Lg	Lg	10 28 20.8	
	0.8nm,0.3s,baz=107,slow=30,SNR=4.6						
	2.2nm,0.4s						
CMAR	Chiang Mai Arr	8.40	288	Pn	Pn	10 25 57.5	-1.0
CHTO	Chiang Mai	8.50	290	Pn	Pn	10 26 00.1	+0.3
GSI	Gunungsitoli	17.55	214	Pn	Pn	10 27 58.7	-2.8
GSI				IAmb	IAmb	10 28 03.4	
	comp=Z,12nm,0.5s						
KSAR	Wonju Array Be	27.98	36	P	P	10 29 47.3	-0.3
SONM	Songino Array	31.71	359	P	P	10 30 22.4	+1.8
	comp=Z,0.3nm,0.6s,baz=195,slow=10,SNR=2.8						
	comp=Z,0.3nm,0.6s						
NIL	Nilore	35.36	306	P	P	10 30 52.1	-0.4
NIL				IAmb	IAmb	10 30 58.1	
	comp=Z,4.5nm,0.8s						
MKAR	Makanchi Array	37.07	331	P	P	10 31 08.1	+1.2
	comp=Z,0.4nm,0.8s,baz=123,slow=7.1,SNR=1.3						
	comp=Z,0.4nm,0.8s						
KK31	Karatay Array	41.37	318	P	P	10 31 42.7	-0.2
KKAR	Karatay Array	41.37	318	P	P	10 31 43.3	+0.4
KURK	Kurchatov	41.59	333	P	P	10 31 43.0	-1.5
KURK				IAmb	IAmb	10 31 54.3	
	comp=Z,8.1nm,0.9s						
ZALV	Zalesovo Beam	41.71	340	P	P	10 31 46.7	+1.2
	comp=Z,1.5nm,0.7s,baz=150,slow=9.2,SNR=3.1						
	comp=Z,1.5nm,0.7s						
ZALV	Zalesovo Beam	41.71	340	P	P	10 31 45.3	-0.3
WRA	Warramunga Arr	44.52	143	P	P	10 32 12.7	+4.1
	comp=Z,0.7nm,1.0s,baz=325,slow=9.6,SNR=2.9						
	comp=Z,0.7nm,1.0s						
WR0	Warramunga Arr	44.65	142	P	P	10 32 07.6	-2.1
ASAR	Alice Springs	47.23	146	P	P	10 32 34.7	+4.7
	comp=Z,0.3nm,0.7s,baz=319,slow=7.0,SNR=6.3						
	comp=Z,0.3nm,0.7s						
ABKAR	Akbulak array	50.67	321	P	P	10 32 56.1	-0.1
ABPO	Ambohimpanom	68.66	242	P	P	10 35 00.4	-0.5
BPAW	Bear Paw Mtn.	80.70	26	P	P	10 36 09.9	+0.1
BPAW				IAmb	IAmb	10 36 13.5	
	comp=Z,5.4nm,1.3s						
I23K	Minto, Yukon-K	81.04	25	P	P	10 36 11.9	+0.4
I23K				IAmb	IAmb	10 36 17.7	
	comp=Z,6.8nm,1.5s						
MDM	Murphy Dome	81.56	25	P	P	10 36 14.4	+0.1
BMAR	Burnt Mountain	82.05	22	P	P	10 36 20.3	+3.5

*IDC **27** 10:27:34.2±3.2,53˚.60N×90˚.46E,h0km,mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=27.3km s-min=21.0km az=61.0*

*NNC **27** 10:27:36.9±3.3,53˚.05N×90˚.46E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=26.9km s-min=15.5km az=106.0, Suspected Mining explosion.*

ISC 27 10:27:45.0±2.2,52˚.21N±0˚.06×87˚.9E±0˚.1,h0km,n10, σ1§49/12,4C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.56	314	I	I	10 47 16.0	
	0.2nm,1.0s,baz=93,slow=328,SNR=9.2						
ZAA0	Zalesovo Array	2.56	314	⇓Pn	Pb	10 28 31.5	-0.2
	0.8nm,1.3s,baz=102,slow=15						
ZAA0				⇑Lg	Lg	10 29 26.5	
	7.8nm,1.2s,baz=106,slow=25						
ZALV	Zalesovo Beam	2.56	314	Pn	Pn	10 28 28.2	+0.6
	0.5nm,0.3s,baz=92,slow=15,SNR=5.9						
ZALV				Pg	Pg	10 28 33.6	-0.4
	0.7nm,0.3s,baz=91,slow=16,SNR=8.6						
ZALV				Lg	Lg	10 29 22.5	
	0.7nm,0.3s,baz=94,slow=22,SNR=6.8						
	0.4nm,0.3s						
KURK	Kurchatov	6.01	259	⇑Pn	Pb	10 29 30.0	-0.5
	4.0nm,1.3s						
KURK				⇓Sn	Sg	10 31 00.1	+2.1
	6.5nm,0.9s						
KURK				⇓Lg	Lg	10 31 41.0	
	11nm,0.9s						
KURBB	Kurchatov Arra	6.09	259	Pn	Pb	10 29 30.6	-1.3
	0.1nm,0.3s,baz=63,slow=13,SNR=4.5						
KURBB				Sn	Sg	10 30 59.5	-1.1
	baz=67,slow=24						
KURBB				Lg	Lg	10 31 46.7	
	baz=64,slow=28						
	0.5nm,0.3s						
KURBB	Kurchatov Arra	6.09	259	⇓Pn	Pb	10 29 30.8	-1.1
	3.9nm,0.9s						
KURBB				⇓Sn	Sg	10 31 02.2	+1.6
	17nm,0.8s						
KURBB				⇑Lg	Lg	10 31 42.6	
	15nm,1.0s						
MK31	Makanchi Array	6.55	216	Sn	Sg	10 31 12.7	-2.5
	0.8nm,0.8s,baz=20,slow=34,SNR=4.1						
MK31				⇑Lg	Lg	10 31 57.3	
	3.6nm,0.9s,baz=47,slow=31,SNR=3.6						
MKAR	Makanchi Array	6.55	216	Pn	Pb	10 29 40.7	+1.0
	0.2nm,0.3s,baz=32,slow=13,SNR=10.0						
MKAR				Sn	Sg	10 31 16.0	+0.8
	baz=33,slow=16,SNR=4.4						
MKAR				Lg	Lg	10 32 06.0	
	baz=30,slow=32						
	0.2nm,0.3s						
MAKZ	Makanchi	6.65	218	⇓Lg	Lg	10 32 02.0	
	4.7nm,1.2s						
SONM	Songino Array	12.65	103	Lg	Lg	10 33 31.2	
	baz=304,slow=27						

*IDC **27** 10:38:55.8±2.3,53˚.66N×63˚.13E,h0km,mb3.2/1, mbtmp3.3/3, ML2.0/2, MS3.0/1, Error ellipse: s-maj=49.7km s-min=9.4km az=27.0*

*NNC **27** 10:38:56.9±1.3,53˚.16N×63˚.11E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=22.8km s-min=4.1km az=152.0, Suspected Mining explosion.*

ISC 27 10:38:53.3±1.0,53˚.32N±0˚.06×62˚.96E±0˚.04,h0km,n12, σ1§84/13,3C-6D,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARU	Arti	4.02	323	Pn	Pn	10 39 57.2	+1.1
	baz=184,slow=8.9,SNR=3.0						
ARU				Sn	Sn	10 40 43.5	-0.3
	baz=150,slow=22,SNR=3.5						
ARU				Lg	Lg	10 40 56.2	
	baz=121,slow=19,SNR=1.9						
	2.4nm,0.3s						
AKTO	Aktyubinsk	4.21	229	Sn	Sb	10 40 58.5	-1.1
	0.2nm,0.3s,baz=63,slow=11,SNR=1.7						
AKTO	Aktyubinsk	4.21	229	⇓Pg	Pg	10 40 13.7	-0.2
	1.4nm,0.9s						
AKTO				⇓Lg	Lg	10 41 08.7	
	9.0nm,1.4s						
I31KZ	AKTYUBINSK INF	4.22	228	I	I	11 05 10.0	
	baz=42,slow=327,SNR=2.7						
BRVK	Borovoye	4.41	90	⇑Pn	Pn	10 40 03.1	+1.6
	2.4nm,1.0s						
BRVK				⇓Pg	Pg	10 40 15.8	-2.0
	1.7nm,0.7s						
BRVK				⇑Lg	Lg	10 41 14.0	
	5.5nm,0.7s						
BVA0	Borovoye Array	4.48	91	⇓Pn	Pn	10 40 05.1	+2.7
	3.8nm,1.2s,baz=289,slow=14,SNR=17						
BVA0				⇓Pg	Pg	10 40 17.3	-1.8
	1.4nm,0.6s						
BVA0				⇓Lg	Lg	10 41 15.9	
	3.3nm,0.6s,baz=283,slow=28,SNR=4.7						
BVAR	Borovoye Array	4.48	91	Pn	Pn	10 40 05.1	+2.7
	0.2nm,0.3s,baz=287,slow=14,SNR=25						
BVAR				Sn	Sn	10 40 55.2	0.0
	0.1nm,0.3s,baz=277,slow=25,SNR=5.0						
BVAR				Lg	Lg	10 41 13.1	
	0.1nm,0.3s,baz=280,slow=25,SNR=5.3						
	1.5nm,0.2s						
AB31	Akbulak array	4.49	206	Pn	Pn	10 40 04.4	+1.8
	0.5nm,0.7s,baz=53,slow=18,SNR=12						
AB31				Pg	Pg	10 40 17.4	-1.9
	0.2nm,0.3s,baz=28,slow=13,SNR=11						
AB31				⇑Lg	Lg	10 41 15.4	
	4.0nm,0.6s,baz=21,slow=25,SNR=7.8						
KURBB	Kurchatov Arra	9.98	99	Lg	Lg	10 44 08.4	
	baz=277,slow=32,SNR=4.2						
I46RU	ZALESOVO INFRA	12.98	78	I	I	11 55 00.0	
	0.1nm,0.9s,baz=278,slow=333,SNR=5.1						
FINES	FINESS Array B	21.21	307	P	P	10 43 40.2	-0.1
	1.2nm,0.9s,baz=96,slow=13,SNR=1.5						
	1.2nm,0.9s						
YAK	Yakutsk	35.18	49	LR	LR	11 02 19.6	
	comp=Z,23nm,21.3s,baz=12,slow=40						

*SOME **27** 10:39:19.6,41˚.30N×83˚.35E,h0km*

*NNC **27** 10:39:21.0±1.9,41˚.14N×83˚.30E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=16.2km s-min=9.4km az=178.0*

ISC 27 10:39:25.5±4.7,41˚.3N±0˚.2×83˚.0E±0˚.2,h10km,n33, σ2§53/35,3C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.92	319	Pg	Pg	10 40 21.0	-0.4
	9.1nm,0.5s						
KTMS				Lg	Lg	10 41 06.1	
	21nm,0.4s						
KTMS	Ketmen	2.92	319	*e*Pg	Pb	10 40 18.0	+0.2
	7.5nm,0.3s						
KTMS				*e*Lg	Lg	10 41 01.1	
	5.9nm,0.3s						
SHLS	Shalkode	3.22	307	Pg	Pb	10 40 19.7	-3.2
	4.7nm,0.4s						
SHLS				Lg	Lg	10 41 03.5	
	40nm,0.5s						
SHLS	Shalkode	3.22	307	*e*Pg	Pb	10 40 19.7	-3.2
	4.7nm,0.4s						
SHLS				*e*Lg	Lg	10 41 03.5	
	40nm,0.5s						
UZB	Uzunbulak	3.48	304	Pg	Pb	10 40 28.1	+0.7
	3.6nm,0.2s						
UZB				Lg	Lg	10 41 18.1	
	32nm,0.5s						
UZB	Uzynbulak	3.48	304	*e*Pg	Pb	10 40 28.1	+0.7
	3.6nm,0.2s						
UZB				*e*Lg	Lg	10 41

MDOK				*e*Lg	Lg	10 42 03.3		
	11nm,0.4s							
TNSS	**Tian-Shan**	**4.81**	**294**	Pg	**Pb**	**10 40 53.7**	**+3.6**	
	1.0nm,0.3s							
TNSS				Lg	Lg	10 42 02.1		
	6.7nm,0.4s							
TNSS	**Tian-Shan**	**4.81**	**294**	*e*Pg	**Pb**	**10 40 53.7**	**+3.6**	
	1.0nm,0.3s							
TNSS				*e*Lg	Lg	10 42 02.1		
	6.7nm,0.4s							
MTBS	**Maitube**	**5.20**	**293**	Pg	**Pb**	**10 40 60.0**	**+3.4**	
	3.1nm,0.4s							
MTBS				Lg	Lg	10 42 12.8		
	8.9nm,0.4s							
MTBS	**Maitube**	**5.20**	**293**	*e*Pg	**Pb**	**10 40 60.0**	**+3.4**	
	3.1nm,0.4s							
MTBS				*e*Lg	Lg	10 42 12.8		
	8.9nm,0.4s							
KTBS	**Karatobe**	**5.25**	**300**	Pg	**Pb**	**10 40 59.8**	**+2.4**	
	1.0nm,0.6s							
KTBS				Lg	Lg	10 42 12.6		
	25nm,0.4s							
KTBS	**Karatobe**	**5.25**	**300**	*e*Pg	**Pb**	**10 40 59.9**	**+2.4**	
	1.0nm,0.6s							
KTBS				*e*Lg	Lg	10 42 12.6		
	25nm,0.4s							
KUU	**Kurty**	**5.55**	**301**	Pg	**Pb**	**10 41 06.8**	**+4.3**	
	3.0nm,0.6s							
KUU				Lg	Lg	10 42 24.5		
	11nm,0.6s							
KUU	**Kurty**	**5.55**	**301**	*e*Pg	**Pb**	**10 41 06.8**	**+4.3**	
	3.0nm,0.6s							
KUU				*e*Lg	Lg	10 42 24.6		
	11nm,0.6s							
MK31	**Makanchi Array**	**5.56**	**355**	⇑Pn	**Pn**	**10 40 47.4**	**-0.9**	
	0.1nm,0.3s,baz=174,slow=28,SNR=5.3							
MK31				⇓Pg	**Pb**	**10 41 03.9**	**+1.3**	
	0.8nm,0.5s,baz=168,slow=16,SNR=6.2							
MK31				Lg	Lg	10 42 20.4		
	4.1nm,0.6s,baz=174,slow=26,SNR=4.6							
MAKZ	**Makanchi**	**5.59**	**353**	⇑Pn	**Pn**	**10 40 47.9**	**-0.9**	
	2.3nm,1.2s							
MAKZ				⇑Pg	**Pb**	**10 41 04.5**	**+1.2**	
	2.5nm,0.8s							
MAKZ				⇓Lg	Lg	10 42 22.1		
	5.0nm,0.7s							
KRBS	**Karabastau**	**5.91**	**297**	Pg	**Pg**	**10 41 16.1**	**-2.7**	
	0.8nm,0.5s							
KRBS				Lg	Lg	10 42 40.7		
	3.1nm,0.4s							
KRBS	**Karabastau**	**5.91**	**297**	*e*Pg	**Pg**	**10 41 16.1**	**-2.7**	
	0.8nm,0.5s							
KRBS				*e*Lg	Lg	10 42 40.7		
	3.1nm,0.4s							

*ISK **27** 10:41:16.2,38.˚72N×25.˚20E,h13km,ML2.6/7*
*DDA **27** 10:41:17.2±0.0,38.˚79N×25.˚24E,h6km±3km,ML2.1*
*THE **27** 10:41:18.4,38.˚75N×25.˚24E,h32km±35km,ML2.3/5,Error ellipse: s-maj=35.0km s-min=1.1km az=113.0*
ISC 27 10:41:16.9±1.1,38.˚74N±0.˚03×25.˚20E±0.˚03,h14km±10km, n21,σ0§79/36,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SIGR	**SIGRI**	**0.69**	**47**	P		**Pg**	**10 41 30.4**		**0.0**
SIGR				S		**Sb**	**10 41 39.9**		**-0.3**
	448nm,0.4s								
SIGR	**SIGRI**	**0.69**	**47**	Pg		**Pg**	**10 41 30.3**		**-0.1**
SIGR				Sg		**Sb**	**10 41 40.3**		**+0.1**
CHOS	**Chios island**	**0.76**	**118**	P		**Pg**	**10 41 31.6**		**-0.1**
CHOS				S		**Sb**	**10 41 42.0**		**-0.1**
	402nm,0.5s								
CHOS	**Chios island**	**0.76**	**118**	Pg		**Pg**	**10 41 31.6**		**-0.1**
CHOS				Sg		**Sb**	**10 41 41.9**		**-0.1**
KYMI	**Kymi, Euboea I**	**0.87**	**263**	P		**Pg**	**10 41 33.8**		**+0.1**
KYMI				S		**Sg**	**10 41 45.7**		**+0.6**
	98nm,0.6s								
ZEYE	**Izmir, Urla-Ze**	**1.14**	**116**	P		**Pg**	**10 41 38.8**		**0.0**
URLA	**Izmir**	**1.16**	**109**	Pn		**Pb**	**10 41 37.8**		**-0.9**
URLA				Sn		**Sn**	**10 41 54.2**		**-0.1**
URLA	**Izmir**	**1.16**	**109**	P		**Pn**	**10 41 38.8**		**+0.1**
URLA				S		**Sn**	**10 41 56.1**		**+1.8**
URLA				*i* AML		AML	10 41 59.0		
	comp=E,48nm,0.5s								
URLA				*i* AML		AML	10 42 05.0		
	comp=N,44nm,0.6s								
DION	**Dionisos Attik**	**1.20**	**237**	P		**Pn**	**10 41 39.4**		**+0.2**
DION				S		**Sb**	**10 41 54.6**		**0.0**
	275nm,0.9s								
BOZC	**Bozcaada**	**1.28**	**31**	Pn		**Pn**	**10 41 40.3**		**-0.1**
BOZC				Sn		**Sg**	**10 41 58.2**		**-0.1**
DKL	**Dikili**	**1.37**	**76**	Pn		**Pn**	**10 41 41.4**		**-0.1**
EZN	**Ezine**	**1.39**	**39**	P		**Pn**	**10 41 41.4**		**-0.4**
EZN				S		**Sn**	**10 41 58.9**		**-1.1**
	35nm,0.3s								
EZN	**Ezine**	**1.39**	**39**	Pn		**Pn**	**10 41 41.7**		**-0.1**
EZN				Sn		**Sg**	**10 42 01.0**		**-0.8**
BAYC	**CANAKKALE_Bayr**	**1.45**	**46**	P		**Pb**	**10 41 43.3**		**-0.3**
BAYC				S		**Sg**	**10 42 02.4**		**-1.2**
ZEDA	**zmir-Bergama**	**1.48**	**81**	P		**Pg**	**10 41 46.1**		**+0.7**
BLCB	**Balcova**	**1.49**	**103**	Pn		**Pn**	**10 41 42.8**		**-0.4**
DGB	**zmir**	**1.49**	**117**	P		**Pg**	**10 41 45.1**		**-0.5**
DGB				*i* AML		AML	10 42 03.0		
	comp=E,22nm,1.1s								
DGB				S		**Sg**	**10 42 04.8**		**-0.1**
DGB				*i* AML		AML	10 42 17.0		
	comp=N,35nm,2.0s								
BUHA	**Balíkesir, Bur**	**1.65**	**62**	P		**Pb**	**10 41 47.2**		**+0.2**
BUHA				*i* AML		AML	10 42 09.0		
	comp=N,33nm,0.9s								
BUHA				S		**Sg**	**10 42 09.9**		**0.0**
BUHA				*i* AML		AML	10 42 15.0		
	comp=E,33nm,0.5s								
APE	**Apeiranthos**	**1.69**	**171**	Pn		**Pn**	**10 41 45.6**		**-0.4**
STEP	**BALIKESIR_Sava**	**2.06**	**71**	P		**Pg**	**10 41 56.6**		**+0.2**
STEP				S		**Sg**	**10 42 26.1**		**+2.9**
STEP				*i* AML		AML	10 42 33.0		
	comp=E,32nm,0.7s								
STEP				*i* AML		AML	10 42 35.0		
	comp=N,38nm,0.6s								
BALY	**Balya**	**2.13**	**61**	P		**Pg**	**10 41 59.2**		**+1.5**

*SOME **27** 10:50:34.0,42.˚08N×80.˚52E,h10km*
*KRNET **27** 10:50:35.5±0.1,42.˚23N×80.˚63E,h15km,mb3.3*
*NNC **27** 10:50:40.2±1.3,42.˚36N×80.˚40E,h0km,mb3.7,mpv3.3,Error ellipse: s-maj=13.2km s-min=4.3km az=147.0*
ISC 27 10:50:33.0±2.3,42.˚42N±0.˚08×80.˚85E±0.˚07,h5km±12km, n33,σ1§62/50,15C-12D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SHLS	**Shalkode**	**1.26**	**306**	*e*P		**Pb**	**10 50 55.5**		**-1.8**
	baz=30								
SHLS				*e*S		**Sb**	**10 51 10.8**		**-3.1**
	baz=30								
SHLS	**Shalkode**	**1.26**	**306**	*e*P		**Pb**	**10 50 55.5**		**-1.8**
	19nm,0.2s								
SHLS				*e*S		**Sb**	**10 51 10.8**		**-3.1**
	102nm,0.3s								
UZB	**Uzynbulak**	**1.53**	**299**	*e*P		**Pg**	**10 51 02.3**		**-0.1**
	baz=8.0								
UZB				*e*S		**Sg**	**10 51 23.5**		**+1.3**
	baz=8.0								
UZB	**Uzynbulak**	**1.53**	**299**	*e*P		**Pg**	**10 51 02.3**		**-0.1**
	17nm,0.2s								
UZB				*e*S		**Sg**	**10 51 23.4**		**+1.2**
	39nm,0.1s								
PRZ	**Przheval'sk**	**1.81**	**273**	⇓*e*P		**Pn**	**10 51 06.0**		**+0.9**
	baz=80								
PRZ				⇓*i*S		**Sb**	**10 51 28.5**		**-1.4**
	baz=80								
KPKS	**Kokpek**	**1.91**	**304**	*e*P		**Pg**	**10 51 10.7**		**+1.2**
KPKS				*e*S		**Sg**	**10 51 36.5**		**+2.3**
	275nm,0.3s								
SATY	**Saty**	**1.91**	**290**	*e*P		**Pb**	**10 51 09.1**		**+0.7**
	baz=98								
SATY				*e*S		**Sg**	**10 51 34.8**		**+0.4**
	baz=98								
SATY	**Saty**	**1.91**	**290**	*e*P		**Pg**	**10 51 09.5**		**-0.1**
	36nm,0.3s								
SATY				*e*S		**Sg**	**10 51 35.1**		**+0.7**
	72nm,0.2s								

ZHN	**Zhinishke**	**1.93**	**294**	*e*P		**Pg**	**10 51 09.4**	**-0.6**
	baz=1.0							
ZHN				*e*S		**Sg**	**10 51 35.5**	**+0.5**
	baz=1.0							
ZHN	**Zhinishke**	**1.93**	**294**	*e*P		**Pg**	**10 51 10.2**	**+0.2**
	37nm,0.2s							
ZHN				*e*S		**Sg**	**10 51 36.3**	**+1.4**
	165nm,0.2s							
KURS	**Kuram**	**2.24**	**299**	*e*Pg		**Pg**	**10 51 15.2**	**-0.7**
	47nm,0.4s							
KURS				*e*Lg		Lg	10 51 45.0	
	62nm,0.4s							
TARG	**Taragay, Kyrgy**	**2.37**	**254**	⇑*e*P		**Pn**	**10 51 14.1**	**+1.2**
	baz=58							
TARG				⇑*i*S		**Sn**	**10 51 41.8**	**-0.7**
	baz=58							
ANVS	**Anan'yevo**	**2.38**	**280**	⇑*i*P		**Pb**	**10 51 15.4**	**-1.0**
	baz=85							
ANVS				⇑*i*S		**Sb**	**10 51 44.0**	**-2.1**
	baz=85							
KDJ	**Kajisay**	**2.74**	**265**	⇓*e*P		**Pn**	**10 51 19.8**	**+2.0**
	baz=69							
KDJ				⇓*i*S		**Sn**	**10 51 51.3**	**0.0**
	baz=69							
ARXS	**Arharly**	**2.84**	**310**	*e*Pg		**Pg**	**10 51 25.8**	**-1.7**
	12nm,0.3s							
ARXS				*e*Lg		Lg	10 52 03.0	
	82nm,0.4s							
KOTS	**Kotyrbulak**	**2.87**	**288**	*e*Pg		**Pb**	**10 51 24.9**	**+0.2**
	22nm,0.3s							
KOTS				*e*Lg		Lg	10 52 02.4	
	149nm,0.5s							
MDOK	**Medeo**	**2.90**	**286**	⇑Pn		**Pb**	**10 51 24.2**	**-1.0**
	22nm,0.6s							
MDOK				Lg		Lg	10 52 01.8	
	43nm,0.7s							
MDOK	**Medeo**	**2.90**	**286**	*e*Pg		**Pb**	**10 51 24.4**	**-0.8**
	24nm,0.5s							
MDOK				*e*Lg		Lg	10 52 00.9	
	47nm,0.6s							
TNSS	**Tian-Shan**	**2.94**	**283**	*e*Pg		**Pb**	**10 51 25.6**	**-0.5**
	16nm,0.3s							
TNSS				*e*Lg		Lg	10 52 02.8	
	17nm,0.4s							
CHKK	**Chushkaly**	**3.17**	**298**	*e*Pg		**Pb**	**10 51 29.7**	**-0.1**
	2.0nm,0.1s							
CHKK				*e*Lg		Lg	10 52 10.6	
	33nm,0.3s							
KTBS	**Karatobe**	**3.32**	**294**	*e*Pg		**Pb**	**10 51 32.5**	**+0.2**
	5.0nm,0.2s							
KTBS				*e*Lg		Lg	10 52 15.1	
	103nm,0.3s							
MTBS	**Maitube**	**3.33**	**284**	*e*Pg		**Pb**	**10 51 31.3**	**-1.3**
	8.4nm,0.4s							
MTBS				*e*Lg		Lg	10 52 12.6	
	47nm,0.5s							
ULHL	**Ulahol**	**3.42**	**269**	⇑*e*P		**Pn**	**10 51 29.6**	**+2.4**
	baz=72							
ULHL				⇑*i*S		**Sn**	**10 52 08.2**	**0.0**
	baz=72							
KUU	**Kurty**	**3.62**	**296**	*e*Pg		**Pb**	**10 51 37.2**	**-0.2**
	1.8nm,0.1s							
KUU				*e*Lg		Lg	10 52 22.9	
	35nm,0.4s							
BOOM	**Boomskoye usch**	**3.63**	**273**	⇓*e*P		**Pn**	**10 51 32.6**	**+2.5**
	baz=76							
BOOM				⇓*i*S		**Sn**	**10 52 13.6**	**+0.2**
	baz=76							
NRN	**Naryn**	**3.75**	**256**	⇑*i*P		**Pn**	**10 51 34.2**	**+2.4**
	baz=59							
NRN				⇑*i*S		**Sn**	**10 52 16.1**	**-0.4**
	baz=59							
TKM2	**Tokmak 2**	**3.91**	**279**	⇓Pn		**Pn**	**10 51 37.7**	**+3.9**
	4.8nm,0.8s							
TKM2				⇓Lg		Lg	10 52 33.9	
	14nm,0.5s							
TKM2	**Tokmak 2**	**3.91**	**279**	⇓*e*P		**Pn**	**10 51 36.5**	**+2.7**
	baz=82							
TKM2				⇓*i*S		**Sn**	**10 52 20.6**	**+0.4**
	baz=82							
MAKZ	**Makanchi**	**4.46**	**10**	⇑Pn		**Pb**	**10 51 50.2**	**-1.7**
	4.7nm,0.5s							
MAKZ				⇑Sn		**Sb**	**10 52 45.8**	**-0.1**
	6.9nm,0.9s							
MK31	**Makanchi Array**	**4.50**	**13**	⇑Pn		**Pb**	**10 51 50.1**	**-2.3**
	1.5nm,0.4s,baz=198,slow=13,SNR=103							
MK31				Sn		**Sb**	**10 52 47.9**	**+1.1**
	7.5nm,0.8s,baz=186,slow=25,SNR=9.4							
CHMS	**Chumysh**	**4.53**	**279**	⇑Pg		**Pg**	**10 51 56.9**	**-2.9**
	2.2nm,0.5s							
CHMS				⇓Lg		Lg	10 52 53.7	
	12nm,0.8s							
KK31	**Karatay Array**	**7.64**	**279**	⇑Pg		Pb	10 52 52.5	+6.6
	0.9nm,0.7s,baz=90,slow=18,SNR=4.0							
KK31				⇓Lg		Lg	10 54 32.4	
	0.7nm,0.4s,baz=93,slow=29,SNR=4.9							
KURBB	**Kurchatov Arra**	**8.36**	**350**	⇑Lg		Lg	10 55 06.2	
	7.1nm,0.7s							

*KRNET **27** 11:08:43.3±0.1,43.˚80N×69.˚99E,mb2.9*
*SOME **27** 11:08:43.9,43.˚58N×69.˚75E*
*NNC **27** 11:08:44.5±0.8,43.˚63N×69.˚81E,h0km,mb3.6,mpv3.2,Error ellipse: s-maj=4.6km s-min=2.5km az=127.0,Suspected Mining explosion.*
ISC 27 11:08:37.9±1.3,43.˚86N±0.˚05×69.˚68E±0.˚06,h0km,n22, σ1§38/28,9C-8D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KK31	**Karatay Array**	**0.97**	**141**	⇑P		**Pb**	**11 08 57.9**		**+0.3**
	4.5nm,0.6s,baz=317,slow=17,SNR=7.6								
KK31				S		**Sg**	**11 09 09.4**		**+0.4**
	12nm,0.5s,baz=317,slow=30,SNR=78								
KKAR	**Karatay Array**	**0.97**	**141**	⇑*i*P		**Pn**	**11 08 58.6**		**-0.2**
	baz=51								
KKAR				⇑*i*S		**Sb**	**11 09 09.8**		**-1.2**
	baz=51								
IUG	**luzhnay**	**1.73**	**171**	P		**Pg**	**11 09 12.0**		**+0.9**
	26nm,0.5s								
IUG				S		**Sg**	**11 09 32.5**		**-1.0**
	54nm,0.4s								
TRKS	**Terek-Say**	**2.57**	**155**	⇑*i*P		**Pg**	**11 09 27.2**		**+0.1**
	baz=59								
TRKS				⇑*i*S		**Sg**	**11 09 59.4**		**-0.9**
	baz=59								
ARK	**Arkit**	**2.66**	**140**	⇑*i*P		**Pb**	**11 09 27.0**		**+0.6**
	baz=43								
ARK				⇑*i*S		**Sb**	**11 09 58.6**		**-1.1**
	baz=43								
MRKS	**Merke**	**2.82**	**112**	Pg		**Pg**	**11 09 32.7**		**+0.8**
	3.2nm,0.6s								
MRKS				Lg		Lg	11 10 08.3		
	10nm,0.4s								
EKS2	**Erkin-Say**	**3.23**	**110**	⇓*e*P		**Pb**	**11 09 34.3**		**-1.8**
	baz=11								
EKS2				⇓*i*S		**Sn**	**11 10 11.5**		**+2.4**
	baz=11								
BTLS	**Baital**	**3.34**	**68**	Pg		Pg	11 09 47.7		+5.8
	11nm,0.5s								
BTLS				Lg		Lg	11 10 33.4		
	4.0nm,0.7s								
AML	**Almayashu**	**3.42**	**119**	⇓*e*P		**Pb**	**11 09 37.3**		**-2.2**
	baz=20								
AML				⇓*i*S		**Sn**	**11 10 16.0**		**+1.8**
	baz=20								
USP	**Ospenovka**	**3.56**	**98**	⇑*e*P		**Pb**	**11 09 38.7**		**-2.9**
	baz=98								
USP				⇑*i*S		**Sn**	**11 10 19.1**		**+2.0**
	baz=98								
SGDS	**Sogindy**	**3.62**	**95**	Pg		**Pg**	**11 09 49.2**		**+2.0**
	2.7nm,0.6s								
SGDS				Lg		Lg	11 10 36.3		
	4.3nm,0.9s								
CHMS	**Chumysh**	**3.80**	**101**	⇓Lg		Lg	11 10 41.7		
	11nm,0.9s								
KRBS	**Karabastau**	**4.35**	**90**	Pg		**Pg**	**11 10 01.8**		**+0.6**
	4.0nm,0.7s								
KRBS				Lg		Lg	11 10 58.7		
	4.7nm,0.6s								
TKM2	**Tokmak 2**	**4.42**	**100**	⇓Pg		**Pg**	**11 10 02.2**		**-0.3**
	2.9nm,0.8s								
TKM2				⇓Lg		Lg	11 11 00.3		
	4.0nm,0.5s								
DGS	**Degeres**	**4.47**	**96**	Pg		**Pg**	**11 10 04.4**		**+0.8**
	2.6nm,0.4s								
DGS				Lg		Lg	11 11 02.0		
	4.4nm,0.6s								

KST	**Kastek**	**4.65**	**98**	Pg		**Pg**	**11 10 06.6**	**-0.3**
	2.3nm,0.7s							
KST				Lg		Lg	11 11 06.2	
	9.7nm,0.5s							
KUU	**Kurty**	**4.82**	**87**	Pg		**Pg**	**11 10 11.6**	**+1.4**
	3.4nm,0.1s							
KUU				Lg		Lg	11 11 14.2	
	7.8nm,0.5s							
KTBS	**Karatobe**	**5.07**	**89**	Pg		**Pg**	**11 10 16.1**	**+1.0**
	1.1nm,0.4s							
KTBS				Lg		Lg	11 11 22.3	
	7.2nm,0.5s							
CHKK	**Chushkaly**	**5.29**	**88**	Pg		**Pg**	**11 10 19.9**	**+0.7**
	0.8nm,0.2s							
CHKK				Lg		Lg	11 11 28.6	
	4.9nm,0.3s							
TNSS	**Tian-Shan**	**5.36**	**96**	Pg		**Pg**	**11 10 21.8**	**+1.3**
	0.7nm,0.2s							
TNSS				Lg		Lg	11 11 31.9	
	3.3nm,0.5s							
MDOK	**Medeo**	**5.41**	**95**	Pg		**Pg**	**11 10 22.4**	**+0.9**
	3.7nm,0.8s							
MDOK				Lg		Lg	11 11 33.8	
	3.6nm,0.6s							
AKTO	**Aktyubinsk**	**10.30**	**314**	⇓S		**Sn**	**11 13 03.0**	**0.0**
	1.3nm,0.3s							

*CNRM **27** 11:10:55.8,35.˚53N×3.˚71W,h10km,ml2.7*
*SFS **27** 11:10:58.0,35.˚35N×3.˚72W,h24km,ML3.2/16,MLv3.2/16*
*MDD **27** 11:10:58.0±0.6,35.˚38N×3.˚72W,h11km±4km,mb_Lg2.9/14,Error ellipse: s-maj=3.5km s-min=2.3km az=178.0*
*INMG **27** 11:10:58.1±1.7,35.˚50N×3.˚80W,h2km±8km,ML2.4,Error ellipse: s-maj=4.7km s-min=3.5km az=111.0*
ISC 27 11:10:57.9±0.9,35.˚44N±0.˚02×3.˚72W±0.˚02,h23km±8km, n57,σ1§44/98,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PVLZ	**Peæn de**	**0.55**	**241**	P		**Pb**	**11 11 07.4**		**-1.4**
PVLZ				S		**Sb**	**11 11 14.4**		**-1.8**
EMEL	**Melilla**	**0.64**	**103**	⇑Pg		**Pn**	**11 11 10.9**		**-0.6**
EMEL				Sg		**Sb**	**11 11 18.6**		**-0.2**
EALB	**Alboran**	**0.75**	**48**	S		**Sb**	**11 11 22.0**		**+0.1**
EALB				P		**Pb**	**11 11 11.8**		**-0.4**
EALB	**Alboran**	**0.75**	**48**	Pg		**Pb**	**11 11 11.8**		**-0.4**
EALB				Sg		**Sb**	**11 11 22.1**		**+0.1**
EALB				*i* Vmb_Lg			11 11 22.9		
AKLM	**AKL**	**0.94**	**187**	P		**Pb**	**11 11 15.2**		**-0.3**
AKLM				S		**Sn**	**11 11 28.9**		**+0.4**
CHAS	**Isla Isabel II**	**1.08**	**103**	S		**Sb**	**11 11 30.1**		**-1.5**
CHAS				P		**Pn**	**11 11 16.3**		**-1.3**
TAF	**Taforalt**	**1.24**	**120**	P		**Pn**	**11 11 19.1**		**-0.8**
TAF				S		**Sb**	**11 11 39.2**		**+3.0**
CHEFC	**Chefchaouen**	**1.37**	**256**	P		**Pn**	**11 11 21.9**		**+0.3**
CHEFC				S		**Sb**	**11 11 43.2**		**+3.3**
EMIJ	**Mijas**	**1.41**	**323**	S		**Sn**	**11 11 39.6**		**-0.4**
EMIJ				P		**Pn**	**11 11 21.6**		**-0.5**
EMIJ	**Mijas**	**1.41**	**323**	Pn		**Pn**	**11 11 21.6**		**-0.5**
EMIJ				Sn		**Sn**	**11 11 38.5**		**-1.6**
EMIJ				*i* Vmb_Lg			11 11 44.0		
CEU	**Ceuta**	**1.42**	**289**	P		**Pn**	**11 11 19.4**		**-2.9**
ELQU	**Los Guajares,**	**1.42**	**3**	S		**Sb**	**11 11 41.2**		**-0.3**
ELQU				P		**Pn**	**11 11 21.1**		**-1.3**
ELQU	**Los Guajares,**	**1.42**	**3**	Pn		**Pn**	**11 11 21.1**		**-1.3**
ELQU				Sn		**Sb**	**11 11 41.0**		**-0.5**
ELQU				*i* Vmb_Lg			11 11 43.4		
ECEU	**Ceuta**	**1.42**	**289**	Pn		**Pn**	**11 11 20.7**		**-1.6**
ECEU				Sn		**Sn**	**11 11 36.8**		**-3.5**
ECEU				*i* Vmb_Lg			11 11 39.0		
EMAL	**Malaga-Limoner**	**1.44**	**337**	P		**Pn**	**11 11 22.4**		**-0.1**
EMAL				S		**Sn**	**11 11 39.2**		**-1.4**
JBK	**JBK**	**1.46**	**139**	P		**Pn**	**11 11 22.2**		**-0.7**
JBK				S		**Sb**	**11 11 43.3**		**+0.8**
EGOR	**Sierra Gorda,**	**1.69**	**349**	Pg		**Pb**	**11 11 30.5**		**+2.1**
EGOR				S		**Sn**	**11 11 47.6**		**+0.3**
EGOR	**Sierra Gorda,**	**1.69**	**349**	Pn		**Pn**	**11 11 27.0**		**+0.8**
EGOR				Sn		**Sb**	**11 11 49.9**		**+0.6**
EGOR				*i* Vmb_Lg			11 11 50.3		
EQUE	**Quentar**	**1.77**	**7**	Pn		**Pn**	**11 11 28.4**		**+1.1**
EQUE				Sn		**Sb**	**11 11 50.4**		**-1.2**
ENIJ	**Nijar**	**1.96**	**38**	P		**Pn**	**11 11 29.3**		**-0.4**
ENIJ	**Nijar**	**1.96**	**38**	Pn		**Pn**	**11 11 29.6**		**0.0**
ENIJ				Sn		**Sn**	**11 11 51.2**		**-2.4**
ENIJ				*i* Vmb_Lg			11 11 51.9		
IFR	**Ifrane**	**2.25**	**212**	Pg		**Pn**	**11 11 35.4**		**+1.6**
IFR				Sg		**Sn**	**11 12 01.2**		**+0.3**
MD31	**MD31**	**2.71**	**199**	P		**Pn**	**11 11 40.4**		**+0.3**
MD31				S		**Sn**	**11 12 13.9**		**+1.7**
MDT	**Midelt**	**2.72**	**196**	P		**Pn**	**11 11 42.7**		**+2.3**
MDT				S		**Sn**	**11 12 12.3**		**-0.3**
EADA	**Adamuz**	**2.81**	**346**	P		**Pn**	**11 11 42.7**		**+1.3**
EADA	**Adamuz**	**2.81**	**346**	Pn		**Pn**	**11 11 42.3**		**+1.0**
EADA				Sn		**Sn**	**11 12 16.1**		**+1.6**
EZAR	**Zarzadilla de**	**2.92**	**33**	Pn		**Pn**	**11 11 43.3**		**+0.3**
EZAR				Sn		**Sn**	**11 12 17.3**		**-0.2**
EZAR				*i* Vmb_Lg			11 12 21.3		
ECAB	**El Cabril**	**2.96**	**333**	P		**Pn**	**11 11 45.1**		**+1.6**
ECAB	**El Cabril**	**2.96**	**333**	Pn		**Pn**	**11 11 45.0**		**+1.5**
ECAB				Sn		**Sn**	**11 12 21.0**		**+2.6**
ECAB				*i* Vmb_Lg			11 12 31.9		
EMUR	**La Murta**	**3.12**	**39**	Sn		**Sn**	**11 12 19.8**		**-2.3**
EMIN	**Mina Concepcio**	**3.32**	**315**	P		**Pn**	**11 11 48.2**		**-0.2**
EMIN	**Mina Concepcio**	**3.32**	**315**	Pn		**Pn**	**11 11 48.3**		**-0.1**
EMIN				Sn		**Sn**	**11 12 26.3**		**-0.9**
ETOB	**Tobarra**	**3.64**	**28**	P		**

PBRG **Braganca** 6.78 340 *e*Pn **Pn** 11 12 38.0 +2.1

IDC 27 11:12:46.7±1.8,2°02N×127°68E,h0km,mb4.1/4, mbtmp4.1/4,Error ellipse: s-maj=133.2km s-min=23.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.78**	**164**	P	P	11 17 51.5	+0.4
	6.7nm,0.5s,baz=343,slow=11,SNR=60						
	6.7nm,0.5s						
ASAR	**Alice Springs**	**26.24**	**167**	P	P	11 18 23.2	-0.5
	1.0nm,0.5s,baz=352,slow=7.4,SNR=33						
	1.0nm,0.5s						
STKA	**Stephens Creek**	**36.20**	**160**	P	P	11 19 51.2	-0.1
	3.5nm,0.5s,baz=323,slow=9.3,SNR=11						
	3.5nm,0.5s						
MKAR	**Makanchi Array**	**59.49**	**325**	P	P	11 22 51.8	+0.1
	0.4nm,0.4s,baz=116,slow=7.2,SNR=6.4						
	0.4nm,0.4s						

IDC 27 11:17:47.2±2.4,7°15S×130°25E,h110km±26km,mb3.9/1, mbtmp4.2/5,Error ellipse: s-maj=39.9km s-min=23.3km az=90.0

DJA 27 11:17:47.2±0.4,7°S±3°×13°0E±°,h172km±8km,M4.4/9, mb4.1/7,mB5.1/4,MLv4.6/9,Mw(mB)4.5/4

ISC 27 11:17:47.3±0.8,7°13S±0°05×130°21E±0°07,h150km,n21, σ3$05/25,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.37**	**128**	P	**Pn**	**11 18 17.4**	**+1.8**
SAUI				S	**Sn**	**11 18 39.4**	**+2.2**
BNDI	**Bandanaira**	**2.61**	**353**	P	**Pn**	**11 18 31.4**	**+1.6**
FAKI	**Fak Fak**	**4.65**	**26**	P	**Pn**	**11 18 55.7**	**-0.5**
FAKI	**Fak Fak**	**4.65**	**26**	P	**Pn**	**11 18 55.5**	**-0.7**
MTN	**Manton Dam**	**5.75**	**171**	P	**Pn**	**11 19 12.1**	**+1.4**
KDU	**Kakadu**	**5.96**	**158**	P	**Pn**	**11 19 14.3**	**+0.8**
SIJI	**Sorong**	**6.31**	**10**	P	**Pn**	**11 19 17.4**	**-0.8**
	11nm,0.2s,baz=209,slow=19,SNR=32						
SIJI				S	**Sn**	**11 20 23.9**	**-5.5**
	20nm,0.2s,baz=196,slow=22,SNR=2.3						
SOEI	**Soe**	**6.43**	**246**	P	**Pn**	**11 19 20.8**	**+0.9**
	53nm,1.8s,0.3nm						
RKPI	**Ransiki, Papua**	**6.84**	**36**	P	**Pn**	**11 19 25.9**	**+0.6**
	122nm,0.6s,5μm0.8nm						
BATI	**Baumata**	**7.16**	**244**	P	**Pn**	**11 19 30.8**	**+1.3**
	17nm,0.5s,baz=270,slow=2.8,SNR=6.1						
BATI				S	**Sn**	**11 20 47.3**	**-2.4**
	33nm,0.4s,baz=213,slow=21,SNR=11						
BATI	**Baumata**	**7.16**	**244**	P	**Pn**	**11 19 30.4**	**+0.9**
	38nm,1.2s,0.3nm						
KNRA	**Kununurra**	**8.61**	**189**	P	**Pn**	**11 19 48.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.78**	**202**	P	**Pn**	**11 20 29.9**	**-0.8**
PLAI	**Plampang**	**12.43**	**261**	P	**Pn**	**11 20 38.5**	**-0.8**
WRA	**Warramunga Arr**	**13.35**	**163**	P	**Pn**	**11 20 50.9**	**-0.2**
	1.6nm,0.4s,baz=340,slow=13,SNR=21						
WRA				S	**Sn**	**11 23 11.4**	**-7.6**
	2.3nm,0.5s,baz=333,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**16.82**	**168**	P	**Pn**	**11 21 36.4**	**+2.2**
	1.0nm,0.4s,baz=346,slow=14,SNR=29						
ASAR				S	**S**	**11 24 35.8**	**-5.5**
	1.1nm,0.6s,baz=352,slow=24,SNR=7.9						
AS01	**Alice Springs**	**16.83**	**168**	P	**Pn**	**11 21 37.2**	**+3.0**
WRKA	**Warakurna**	**17.90**	**186**	P	**Pn**	**11 21 49.5**	**+2.4**
OOD	**Oodnadatta**	**21.20**	**166**	P	P	11 22 29.1	+8.0
GIRL	**Giralia**	**21.79**	**223**	P	**P**	**11 22 32.1**	**+4.7**
MKAR	**Makanchi Array**	**68.45**	**327**	P	**P**	**11 28 37.7**	**+4.6**
	1.1nm,0.4s,baz=118,slow=8.1,SNR=44						
	1.1nm,0.4s						

NEIC 27 11:29:18.6±1.4,1°05N±0°08×125°96E±0°04,h102km±6km, mb4.7/55,Error ellipse: s-maj=11.4km s-min=6.3km az=183.0

DJA 27 11:29:19.4±0.2,1°N±3°×12°6E±°,h107km±3km,M4.6/19, mB5.2/6,mb4.5/19,MLv4.7/15,Mw(mB)4.6/6

IDC 27 11:29:20.4±1.9,0°98N×125°96E,h123km±17km,mb4.0/17, mbtmp4.4/19,MS3.1/1,Error ellipse: s-maj=20.5km s-min=8.6km az=73.0

ISC 27 11:29:18.2±0.3,1°05N±0°04×125°97E±0°06,h100km,n147, σ1$20/154,mb4.6/54,4C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.43**	**101**	Pn	**Pn**	**11 29 44.5**	**+1.0**
TNTI				Sn	**Sn**	**11 30 03.2**	**+0.5**
TNTI	**Ternate**	**1.43**	**101**	P	**Pn**	**11 29 44.7**	**+1.2**
TNTI	**Ternate**	**1.43**	**101**	P	**Pn**	**11 29 44.4**	**+0.9**
SGSI	**Sangihe**	**2.66**	**351**	P	**Pn**	**11 30 00.5**	**+1.1**
GTOI	**Gorontalo**	**2.98**	**262**	P	**Pn**	**11 30 06.5**	**+2.8**
SANI	**Sanana**	**3.07**	**180**	P	**Pn**	**11 30 04.5**	**-0.4**
SANI	**Sanana**	**3.07**	**180**	P	**Pn**	**11 30 04.3**	**-0.6**
LUWI	**Luwuk**	**3.81**	**237**		**Pn**	**11 30 15.4**	**+0.6**
LUWI	**Luwuk**	**3.81**	**237**	P	**Pn**	**11 30 17.7**	**+2.9**
LUWI	**Luwuk**	**3.81**	**237**	P	**Pn**	**11 30 17.0**	**+2.2**
MRSI	**Marisa**	**4.07**	**262**	P	**Pn**	**11 30 19.4**	**+1.2**
NLAI	**Namlea**	**4.40**	**165**	P	**Pn**	**11 30 23.5**	**+0.7**
GSPH	**General Santos**	**5.11**	**349**	*i*P	**Pn**	**11 30 32.7**	**+0.2**
GSPH				*e*S	**Sn**	**11 31 29.4**	**-1.0**
TOLI2	**Tolitoli**	**5.18**	**271**	Pn	**Pn**	**11 30 35.0**	**+1.6**
AAI	**Ambon**	**5.20**	**155**	P	**Pn**	**11 30 35.0**	**+1.3**
MSAI	**Masohi**	**5.27**	**146**	P	**Pn**	**11 30 37.1**	**+2.5**
	74nm,0.5s,2μm0.7nm						
SIJI	**Sorong**	**5.63**	**110**	P	**Pn**	**11 30 40.5**	**+1.0**
	8.3nm,0.5s,baz=168,slow=23,SNR=7.3						
KCP	**Kidapawan**	**5.99**	**352**	*i*P	**Pn**	**11 30 47.4**	**+3.0**
KCP				*i*S	**Sn**	**11 31 56.4**	**+4.7**
BIPH	**Bislig**	**7.10**	**3**	*i*P	**Pn**	**11 30 59.6**	**+0.1**
BIPH				*i*S	**Sn**	**11 32 16.4**	**-2.3**
FAKI	**Fak Fak**	**7.41**	**122**	Pn	**Pn**	**11 31 05.5**	**+1.8**
FAKI	**Fak Fak**	**7.41**	**122**	P	**Pn**	**11 31 04.7**	**+1.0**
SPSI	**Sidrap Palu**	**7.95**	**231**	P	**Pn**	**11 31 12.0**	**+1.0**
	47nm,0.6s,0.2nm						
MYLDM	**Lahad Datu**	**8.51**	**299**	Pn	**Pn**	**11 31 18.8**	**+0.2**
BKSI	**Bulukumba**	**8.61**	**223**	P	**Pn**	**11 31 21.1**	**+1.1**
	38nm,0.5s,771nm						
KAPI	**Kappang**	**8.65**	**226**	P	**Pn**	**11 31 21.6**	**+1.1**
	22nm,0.3s,baz=59,slow=6.0,SNR=18						
KAPI	**Kappang**	**8.65**	**226**	Pn	**Pn**	**11 31 20.8**	**+0.3**
KAPI	**Kappang**	**8.65**	**226**	P	**Pn**	**11 31 22.3**	**+1.8**
	30nm,0.8s						
BSSI	**Bau Bau, Buton**	**8.99**	**217**	P	**Pn**	**11 31 27.7**	**+2.5**
	127nm,0.5s						
SAUI	**Saumlaki**	**10.43**	**149**	Pn	**Pn**	**11 31 44.8**	**+0.1**
SOEI	**Soe**	**10.86**	**189**	Pn	**Pn**	**11 31 51.5**	**+0.7**
KKM	**Kota Kinabalu**	**10.93**	**297**	Pn	**Pn**	**11 31 51.6**	**0.0**
BATI	**Baumata**	**11.41**	**192**	LR	LR	11 36 23.2	
	comp=Z,89nm,20.6s,baz=36,slow=37						
PLAI	**Plampang**	**12.76**	**220**	P	**Pn**	**11 32 16.9**	**+0.9**
SBUM	**Sibu**	**13.81**	**276**	Pn	**Pn**	**11 32 29.4**	**-0.4**
MTN	**Manton Dam**	**14.72**	**160**	Pn	**Pn**	**11 32 40.9**	**-0.5**
MTN	**Manton Dam**	**14.72**	**160**	P	**Pn**	**11 32 40.5**	**-0.9**
JAGI	**Jajag, Banyuwa**	**15.10**	**231**	Pn	**Pn**	**11 32 46.8**	**+0.5**
JAGI				IAmb	IAmb	11 33 02.8	
	comp=Z,111nm,1.5s						
KNRA	**Kununurra**	**16.84**	**171**		**Pn**	**11 33 08.1**	**+0.1**
KNRA				IAmb	IAmb	11 33 13.9	
	comp=Z,51nm,1.3s						
KNRA	**Kununurra**	**16.84**	**171**	P	**Pn**	**11 33 08.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.02**	**181**	P	**P**	**11 33 32.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.02**	**181**	P	**P**	**11 33 32.3**	**-0.1**
WB0	**Warramunga Arr**	**22.27**	**159**	P	**P**	**11 34 06.5**	**-0.8**
WB0				IAmb	IAmb	11 34 08.7	
	comp=Z,31nm,0.6s						
WRAB	**Tennant Creek**	**22.41**	**159**	P	**P**	**11 34 08.1**	**-0.6**
WRAB				IAmb	IAmb	11 34 09.5	
	comp=Z,25nm,0.6s						
WRAB	**Tennant Creek**	**22.41**	**159**	P	**P**	**11 34 08.1**	**-0.6**
WRA	**Warramunga Arr**	**22.41**	**159**	P	**P**	**11 34 07.9**	**-0.8**
	comp=Z,16nm,0.5s,baz=338,slow=9.8,SNR=94						
WRA				S	**S**	**11 38 04.6**	**-3.6**
	comp=Z,1.8nm,1.1s,baz=348,slow=15,SNR=4.2						
	comp=Z,16nm,0.5s						
WRA	**Warramunga Arr**	**22.41**	**159**	P	**P**	**11 34 07.7**	**-1.1**
WB2	**Warramunga Arr**	**22.42**	**159**	P	**P**	**11 34 08.0**	**-0.8**
WB2				IAmb	IAmb	11 34 10.1	
	comp=Z,46nm,1.1s						
WR0	**Warramunga Arr**	**22.50**	**159**	P	**P**	**11 34 09.0**	**-0.7**
TPUB	**Ta-pu**	**22.72**	**347**	P	**P**	**11 34 09.5**	**-2.3**
TPUB				IAmb	IAmb	11 34 10.1	
	comp=Z,48nm,1.2s						
MBWA	**Marble Bar**	**22.89**	**195**	P	**P**	**11 34 12.7**	**-0.8**
MBWA				IAmb	IAmb	11 34 32.5	
	comp=Z,81nm,1.5s						
PSA00	**Pilbara Seismi**	**23.26**	**195**	P	**P**	**11 34 14.7**	**-2.4**
PSA00				IAmb	IAmb	11 34 25.4	
	comp=Z,64nm,1.4s						
IPM	**Ipoh**	**25.14**	**278**	P	**P**	**11 34 33.7**	**-0.5**
QIS	**Mount Isa**	**25.29**	**149**	P	**P**	**11 34 35.9**	**+0.4**
KULM	**Kulim**	**25.62**	**280**	P	**P**	**11 34 37.3**	**-1.3**
KULM				IAmb	IAmb	11 34 52.4	
	comp=Z,17nm,1.3s						
JOW	**Kunigami**	**25.73**	**5**	P	**P**	**11 34 40.2**	**+0.8**
	comp=Z,13nm,0.5s,baz=192,slow=8.1,SNR=4.6						
	comp=Z,13nm,0.5s						
JOW	**Kunigami**	**25.73**	**5**	P	**P**	**11 34 42.9**	**+3.5**
AS31	**Alice Springs**	**25.75**	**163**	P	**P**	**11 34 39.9**	**+0.3**
AS31				IAmb	IAmb	11 34 47.5	
	comp=Z,7.2nm,0.5s						
ASAR	**Alice Springs**	**25.75**	**163**	P	**P**	**11 34 39.8**	**+0.2**
	comp=Z,12nm,0.4s,baz=347,slow=12,SNR=102						
ASAR				PcP	**PcP**	**11 38 08.0**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=345,slow=2.3,SNR=4.5						
ASAR				S	**S**	**11 38 59.7**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=350,slow=21,SNR=4.5						
	comp=Z,12nm,0.4s						
ASAR	**Alice Springs**	**25.75**	**163**	P	**P**	**11 34 39.9**	**+0.3**
AS01	**Alice Springs**	**25.76**	**163**	P	**P**	**11 34 40.1**	**+0.4**
WRKA	**Warakurna**	**26.03**	**175**	P	**P**	**11 34 43.3**	**+1.2**
GSI	**Gunungsitoli**	**28.39**	**271**	P	**P**	**11 35 02.8**	**-0.6**
GSI				IAmb	IAmb	11 35 40.7	
	comp=Z,24nm,1.3s						
SRDT	**SRDT**	**29.65**	**298**	P	**P**	**11 35 17.8**	**+3.3**
OOD	**Oodnadatta**	**30.16**	**163**	P	**P**	**11 35 19.1**	**+0.3**
JCJ	**Chichijima**	**30.22**	**30**	P	**P**	**11 35 16.2**	**-3.2**
PHRA	**Phrae**	**30.64**	**306**	P	**P**	**11 35 23.1**	**-0.2**
NJ2	**Nanjing**	**31.56**	**348**	*e*P	**P**	**11 35 32.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.67**	**305**	P	**P**	**11 35 32.3**	**0.0**
	comp=Z,0.4nm,0.3s,baz=138,slow=9.0,SNR=6.0						
	comp=Z,0.4nm,0.3s						
FORT	**Forrest**	**31.71**	**177**	P	**P**	**11 35 33.0**	**+0.5**
FORT	**Forrest**	**31.71**	**177**	P	**P**	**11 35 33.0**	**+0.5**
MULG	**Mulgathing**	**32.09**	**167**	P	**P**	**11 35 36.4**	**+0.5**
ENH	**Enshi**	**33.02**	**333**	P	**P**	**11 35 43.4**	**-0.6**
ENH				IAmb	IAmb	11 35 44.5	
	comp=Z,6.8nm,0.7s						
LCRK	**Leigh Creek**	**33.42**	**161**	P	**P**	**11 35 48.2**	**+0.8**
PZH	**PanZhiHua**	**34.40**	**319**	P	**P**	**11 35 56.5**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
BBOO	**Buckleboo**	**35.00**	**165**	P	**P**	**11 36 01.2**	**+0.1**
BBOO				IAmb	IAmb	11 36 02.1	
	comp=Z,10nm,1.2s						
BBOO	**Buckleboo**	**35.00**	**165**	P	**P**	**11 36 01.3**	**+0.3**
STKA	**Stephens Creek**	**35.94**	**157**	P	**P**	**11 36 09.7**	**+0.5**
	comp=Z,4.5nm,0.5s,baz=323,slow=9.4,SNR=22						
	comp=Z,4.5nm,0.5s						
STKA	**Stephens Creek**	**35.94**	**157**	P	**P**	**11 36 09.6**	**+0.5**
STKA	**Stephens Creek**	**35.94**	**157**	P	**P**	**11 36 09.5**	**+0.4**
KSRS	**Korea Array**	**36.27**	**7**	P	**P**	**11 36 12.8**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=180,slow=9.7,SNR=5.9						
	comp=Z,1.0nm,0.5s						
KS19	**Wonju Array Si**	**36.32**	**3**	P	**P**	**11 36 11.8**	**-0.5**
HTT	**Hallett**	**36.40**	**162**	P	**P**	**11 36 12.8**	**-0.3**
XAN	**Xi'an**	**36.50**	**336**	⇑P	**P**	**11 36 13.0**	**-0.9**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MJAR	**Matsushiro Arr**	**37.10**	**16**	P	**P**	**11 36 18.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=190,slow=9.0,SNR=1.6						
	comp=Z,0.7nm,0.5s						
CMSA	**Cobar Meteorol**	**37.42**	**152**	P	**P**	**11 36 23.0**	**+1.3**
ARMA	**Armidale**	**39.70**	**144**	P	**P**	**11 36 39.5**	**-1.5**
ARMA	**Armidale**	**39.70**	**144**	P	**P**	**11 36 42.4**	**+1.4**
BJI	**Beijing**	**39.82**	**348**	P	**P**	**11 36 41.5**	**-0.2**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARPS	**Mount Arapiles**	**40.41**	**160**	P	**P**	**11 36 47.6**	**+1.0**
	comp=Z,19nm,0.6s						
LZH	**Lanzhou**	**40.46**	**332**	*e*P	**P**	**11 36 46.5**	**-0.7**
LZH				pP	pP	11 37 06.3	-3.5
LZH				sP	sP	11 37 23.5	+2.6
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**41.72**	**344**	*e*P	**P**	**11 36 59.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,4.8s						
JTM	**Tenmabayashi**	**41.86**	**17**	P	**P**	**11 36 57.5**	**-0.9**
CAN	**Canberra**	**42.10**	**151**	P	**P**	**11 37 00.5**	**0.0**
CAN				IAmb	IAmb	11 37 00.8	
	comp=Z,13nm,1.2s						
USA0B	**Ussuriysk Arra**	**43.30**	**6**	P	**P**	**11 37 10.1**	**+0.1**
USA0B				IAmb	IAmb	11 37 11.7	
	comp=Z,8.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**43.30**	**6**	P	**P**	**11 37 11.1**	**+1.0**
	comp=Z,6.1nm,0.5s,baz=184,slow=7.9,SNR=18						
	comp=Z,6.1nm,0.5s						
USRK	**Ussuriysk Ar.**	**43.30**	**6**	P	**P**	**11 37 10.4**	**+0.4**
MDJ	**Mudanjiang**	**43.51**	**4**	P	**P**	**11 37 12.7**	**+1.0**
MDJ				IAmb	IAmb	11 37 13.9	
	comp=Z,14nm,1.0s						
XLT	**XiLinHaoTe**	**43.57**	**350**	*e*P	**P**	**11 37 12.5**	**+0.2**
XLT				pP	pP	11 37 36.0	+0.8
XLT				sP	sP	11 37 44.5	-1.9
XLT				PcP	**PcP**	**11 38 59.8**	**+1.5**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XLT				pmax	pmax		
	comp=Z,210nm,4.9s						
ERM	**Erimo**	**43.62**	**19**	P	**P**	**11 37 11.4**	**-1.2**
LSA	**Lhasa**	**43.69**	**314**	P	**P**	**11 37 13.2**	**-0.7**
LSA				IAmb	IAmb	11 37 17.1	
	comp=Z,8.4nm,0.5s						
GTA	**Gaotai**	**45.03**	**331**	*e*P	**P**	**11 37 23.5**	**-0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GOMU	**GeErMu**	**45.35**	**324**	P	**P**	**11 37 28.3**	**+1.3**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,90nm,5.0s						
HEH	**HeiHe**	**49.04**	**1**	*e*P	**P**	**11 37 55.0**	**+0.1**
ULN	**Ulaanbaatar**	**49.44**	**343**	P	**P**	**11 37 58.4**	**+0.2**
ULN				IAmb	IAmb	11 37 59.6	
	comp=Z,4.0nm,0.5s						
SONM	**Songino Array**	**49.60**	**343**	P	**P**	**11 37 59.4**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=161,slow=10,SNR=9.7						
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**49.60**	**343**	P	**P**	**11 37 59.3**	**-0.1**
WMQ	**Urumqi**	**54.50**	**327**	*e*P	**P**	**11 38 35.5**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PETK	**Petropavlovsk-**	**58.19**	**22**	P	**P**	**11 39 02.9**	**+1.2**
	comp=Z,1.5nm,0.9s,baz=208,slow=3.8,SNR=5.2						
	comp=Z,1.5nm,0.9s						
PETK	**Petropavlovsk-**	**58.19**	**22**	P	**P**	**11 39 01.2**	**-0.4**
MK31	**Makanchi Array**	**59.34**	**327**	P	**P**	**11 39 09.3**	**-0.5**
MKAR	**Makanchi Array**	**59.34**	**327**	P	**P**	**11 39 09.2**	**-0.6**
	comp=Z,11nm,0.4s,baz=121,slow=7.9,SNR=216						
	comp=Z,11nm,0.4s						
MKAR	**Makanchi Array**	**59.34**	**327**	P	**P**	**11 39 09.4**	**-0.4**
MAKZ	**Makanchi**	**59.52**	**326**	P	**P**	**11 39 10.5**	**-0.5**
MA2	**Magadan**	**61.48**	**14**	P	**P**	**11 39 25.3**	**+1.3**
MA2				IAmb	IAmb	11 39 26.3	
	comp=Z,5.1nm,0.8s						
KBL	**Kabul**	**62.57**	**309**	P	**P**	**11 39 30.8**	**-1.3**
KBL				IAmb	IAmb	11 39 34.1	
	comp=Z,4.3nm,0.7s						
ZAA0	**Zalesovo Array**	**62.64**	**334**	P	**P**	**11 39 30.8**	**-1.1**
ZALV	**Zalesovo Beam**	**62.64**	**334**	P	**P**	**11 39 30.8**	**-1.1**
	comp=Z,2.5nm,0.4s,baz=130,slow=6.4,SNR=15						
	comp=Z,2.5nm,0.4s						
ZALV	**Zalesovo Beam**	**62.64**	**334**	P	**P**	**11 39 31.1**	**-0.8**
KURK	**Kurchatov**	**63.60**	**329**	P	**P**	**11 39 38.0**	**-0.4**
KK31	**Karatay Array**	**64.69**	**318**	P	**P**	**11 39 44.9**	**-0.8**
KKAR	**Karatay Array**	**64.69**	**318**	P	**P**	**11 39 44.8**	**-0.9**
BRVK	**Borovoye**	**69.23**	**328**	P	**P**	**11 40 13.8**	**-0.4**
TIXI	**Tiksi**	**70.52**	**1**	P	**P**	**11 40 21.9**	**+0.1**
TIXI				IAmb	IAmb	11 40 22.3	
	comp=Z,5.1nm,0.6s						
NRIK	**Noril'sk**	**72.84**	**347**	P	**P**	**11 40 36.1**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=127,slow=6.0,SNR=7.4						
	comp=Z,3.2nm,0.5s						
NRIK	**Noril'sk**	**72.84**	**347**	P	**P**	**11 40 35.5**	**-0.2**
ABKAR	**Akbulak array**	**73.75**	**321**	P	**P**	**11 40 40.6**	**-0.8**
ARU	**Arti**	**76.79**	**328**	P	**P**	**11 40 58.1**	**-0.7**
ARU				IAmb	IAmb	11 40 58.8	
	comp=Z,11nm,0.7s						
RAYN	**Ar Rayn**	**80.84**	**294**	P	**P**	**11 41 21.4**	**-0.2**
GEVA	**Gevas**	**83.78**	**308**	P	**P**	**11 41 37.4**	**+0.5**
KBZ	**Khabaz**	**84.26**	**314**	P	**P**	**11 41 39.0**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=186,slow=9.3,SNR=4.3						
	comp=Z,2.4nm,0.8s						
GURO	**Guroymak-BITLI**	**84.60**	**308**	P	**P**	**11 41 42.1**	**+1.1**
GURO				IAmb	IAmb	11 41 42.8	
	comp=Z,11nm,0.8s						
IMAR	**Indian Mountai**	**85.09**	**24**	P	**P**	**11 41 43.0**	**+0.4**
SKT	**Skwentna**	**85.55**	**28**	P	**P**	**11 41 44.8**	**-0.3**
SKT				IAmb	IAmb	11 42 00.4	
	comp=Z,8.8nm,1.4s						
BRLK	**Bradley Lake**	**85.64**	**30**	P	**P**	**11 41 45.5**	**-0.1**
COLD	**Coldfoot**	**86.65**	**23**	P	**P**	**11 41 50.3**	**0.0**
I23K	**Minto, Yukon-K**	**86.81**	**25**	P	**P**	**11 41 51.0**	**-0.1**
CCB	**Clear Creek Bu**	**87.44**	**25**	P	**P**	**11 41 53.6**	**-0.5**
ILAR	**Eielson Array**	**87.84**	**25**	P	**P**	**11 41 54.6**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=253,slow=4.3,SNR=8.7						
	comp=Z,0.3nm,0.5s						
BMAR	**Burnt Mountain**	**88.83**	**23**	P	**P**	**11 42 00.9**	**+0.2**
L27K	**Beaver Creek,**	**90.08**	**27**	P	**P**	**11 42 05.8**	**-0.9**
L27K				IAmb	IAmb	11 42 43.7	
	comp=Z,7.8nm,1.5s						
BCAR	**Beaver Creek A**	**90.10**	**27**	P	**P**	**11 42 05.4**	**-1.4**
BRTR	**Keskin Array B**	**91.13**	**310**	P	**P**	**11 42 12.8**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=132,slow=6.4,SNR=2.2						
	comp=Z,0.7nm,0.8s						
M30M	**Minto, Yukon**	**92.42**	**27**	P	**P**	**11 42 17.0**	**-0.6**
M30M				IAmb	IAmb	11 42 53.2	
	comp=Z,5.8nm,1.3s						
FINES	**FINESS Array B**	**93.82**	**332**	P	**P**	**11 42 24.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=66,slow=3.5,SNR=2.2						
	comp=Z,1.2nm,0.7s						
FARO	**Faro, Yukon**	**94.06**	**27**	P	**P**	**11 42 24.7**	**-0.4**
FARO				IAmb	IAmb	11 42 27.5	
	comp=Z,4.0nm,1.0s						
BURAR	**Bucovina Array**	**96.48**	**318**	P	**P**	**11 42 36.3**	**-0.3**
BURAR				IAmb	IAmb	11 42 37.9	
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**122.98**	**286**	PKP	**PKPdf**	**11 48 03.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=65,slow=2.0,SNR=9.8						

NIED 27 11:30:12.9,22°33N×121°40E,h0km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.22; $M_{\theta\theta}$-3.60; $M_{\phi\phi}$4.82; $M_{r\theta}$3.41; $M_{\theta\phi}$0.42; $M_{\phi r}$1.66; Fault plane solution: $M_0$5.76000×10^{14} NP1: ϕ_s224.00000°,δ79.00000°,λ-41.00000°. NP2: ϕ_s324.00000°,δ50.00000°,λ-166.00000°.

TAP 27 11:30:12.3,21°99N×121°29E,h38km,ML4.1,D

JMA 27 11:30:12.9±0.7,22°N±3°×12°1E±°,h0km,MV4.2/15, TAIWAN REGION

ISC 27 11:30:12.1±1.3,22°05N±0°03×121°25E±0°02,h19km±3km, n136,σ1$12/193,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.28**	**93**	P	**Pb**	**11 30 20.3**	**+1.8**
	baz=78						
LAY				*e*S	**Sb**	**11 30 25.1**	**+2.4**
	baz=78						
LYUB	**Lan-yu**	**0.32**	**99**	*i*P	**Pb**	**11 30 19.8**	**+0.6**
	baz=78						
LYUB				S	**Sb**	**11 30 25.2**	**+1.3**
	baz=78						
TSEB	**Hengchuen, Pin**	**0.36**	**245**	*i*P	**Pn**	**11 30 22.0**	**-0.2**
	baz=267						
TSEB				S	**Sn**	**11 30 29.1**	**+0.2**
	baz=267						
SMST	**Manzhou Townsh**	**0.38**	**265**	*i*P	**Pn**	**11 30 22.1**	**-0.5**
	baz=281						
SMST				S	**Sn**	**11 30 28.6**	**-0.8**
	baz=281						
TWKBT	**Hengchun**	**0.42**	**255**	*i*P	**Pn**	**11 30 22.3**	**-0.8**
	baz=270						
TWKBT				S	**Sn**	**11 30 29.7**	**-0.7**

	baz=340								
STYH	**Taoyuan**	**1.20**	**339**	*eP*	**Pb**	**11 30 34.5**	**+0.4**
	baz=347								
SHHT	**Tainan City**	**1.27**	**319**	*eP*	**Pg**	**11 30 37.9**	**+1.1**
	baz=321								
EYUL	**Yuli**	**1.29**	**3**	*eP*	**Pn**	**11 30 34.6**	**-0.6**
	baz=353								
CHN3	**Shinhua**	**1.31**	**321**	*eP*	**Pg**	**11 30 37.8**	**+0.4**
	baz=323								
CHN1	**Nanshi**	**1.31**	**330**	*eP*	**Pg**	**11 30 37.3**	**-0.1**
	baz=331								
WTP	**Ta-pu**	**1.32**	**334**	*eP*	**Pg**	**11 30 37.5**	**-0.2**
	baz=334								
WTP				*eS*	**Sg**	**11 30 55.2**	**+0.1**
	baz=334								
YULB	**Yu-li**	**1.33**	**2**	*eP*	**Pn**	**11 30 34.6**	**-1.2**
	baz=353								
TPUB	**Ta-pu**	**1.37**	**335**	*eP*	**Pg**	**11 30 38.0**	**-0.6**
	baz=336								
TPUB				*eS*	**Sg**	**11 30 56.6**	**+0.2**
	baz=336								
SSHA	**Shanhua**	**1.40**	**321**	*eP*	**Pb**	**11 30 37.3**	**-0.3**
	baz=323								
TWK	**Hsinying**	**1.40**	**330**	*eP*	**Pg**	**11 30 38.5**	**-0.6**
	baz=332								
CHN4	**Tzaushan**	**1.43**	**335**	*eP*	**Pg**	**11 30 38.9**	**-0.7**
	baz=336								
HGSD	**Ruisui**	**1.44**	**6**	*eP*	**Pn**	**11 30 37.5**	**+0.3**
	baz=14								
EHY	**Hungye**	**1.45**	**3**	*eP*	**Pn**	**11 30 36.4**	**-0.9**
	baz=354								
SCLT	**Jiali**	**1.48**	**319**	*eP*	**Pb**	**11 30 38.6**	**-0.4**
	baz=320								
SCLT				*eS*	**Sg**	**11 30 58.9**	**-1.2**
	baz=320								
WCKO	**Fanlu**	**1.50**	**337**	*eP*	**Pb**	**11 30 39.6**	**+0.2**
	baz=337								
WCKO				*eS*	**Sb**	**11 30 58.9**	**+0.8**
	baz=337								
ALS	**Alishan**	**1.51**	**344**	*eP*	**Pb**	**11 30 39.8**	**+0.2**
	baz=351								
TSCK	**Chigu Township**	**1.53**	**316**	*eP*	**Pb**	**11 30 39.4**	**-0.4**
	baz=302								
TSCK				*eS*	**Sb**	**11 30 58.6**	**-0.2**
	baz=302								
ICHU	**Yijhu**	**1.58**	**326**	*eP*	**Pb**	**11 30 40.4**	**-0.3**
	baz=326								
ICHU				*eS*	**Sb**	**11 31 01.0**	**+0.7**
	baz=326								
CHN8	**Yiju**	**1.60**	**324**	*eP*	**Pb**	**11 30 41.4**	**+0.3**
	baz=326								
EGFH	**Guangfu**	**1.62**	**6**	*eP*	**Pn**	**11 30 40.1**	**+0.5**
	baz=354								
EGFH				*eS*	**Sn**	**11 30 59.9**	**-0.1**
	baz=354								
CHY	**Chiayi**	**1.63**	**332**	*eP*	**Pb**	**11 30 41.0**	**-0.6**
	baz=333								
CHY				*eS*	**Sb**	**11 31 02.4**	**+0.7**
	baz=333								
CHN2	**Minshiung**	**1.64**	**334**	*eP*	**Pb**	**11 30 41.5**	**-0.2**
	baz=335								
VWDT	**VWDT**	**1.70**	**357**	*eP*	**Pn**	**11 30 41.0**	**+0.3**
	baz=1.0								
WSL	**Shuilin Townsh**	**1.74**	**327**	*eP*	**Pn**	**11 30 42.3**	**+1.0**
	baz=329								
SSLB	**Suanglung**	**1.75**	**351**	*eP*	**Pn**	**11 30 42.7**	**+1.2**
	baz=351								
WDLH	**Douliu**	**1.76**	**338**	*eP*	**Pn**	**11 30 42.7**	**+1.2**
	baz=338								
WDLH				*eS*	**Sb**	**11 31 05.6**	**+0.2**
	baz=338								
ESL	**Shilin**	**1.76**	**6**	*eP*	**Pn**	**11 30 41.0**	**-0.6**
	baz=5.0								
ESL				*eS*	**Sn**	**11 31 00.7**	**-2.9**
	baz=5.0								
WTK	**Tuku**	**1.81**	**334**	*eP*	**Pn**	**11 30 43.2**	**+1.0**
	baz=335								
WTK				*eS*	**Sb**	**11 31 06.7**	**-0.3**
	baz=335								
WJS	**Zhushan**	**1.83**	**345**	*eP*	**Pb**	**11 30 45.0**	**+0.1**
	baz=333								
WSF	**Szhu**	**1.84**	**329**	*eP*	**Pn**	**11 30 43.5**	**+0.8**
	baz=330								
WSF				*eS*	**Sn**	**11 31 06.3**	**+0.8**
	baz=330								
SMLT	**Sun Moon Lake**	**1.85**	**350**	P	**Pb**	**11 30 45.1**	**-0.3**
	baz=350								
SMLT				*eS*	**Sb**	**11 31 09.0**	**+0.8**
	baz=350								
TYC	**Yuchr**	**1.88**	**349**	P	**Pb**	**11 30 45.3**	**-0.5**
	baz=349								
TYC				*eS*	**Sb**	**11 31 09.1**	**+0.1**
	baz=349								
WNT	**Mingjian**	**1.89**	**344**	*eP*	**Pb**	**11 30 45.1**	**-0.9**
	baz=331								
OWD	**Renai**	**1.90**	**358**	*eP*	**Pn**	**11 30 43.9**	**+0.3**
	baz=5.0								
WDGT	**Dungji**	**1.90**	**310**	*eP*	**Pn**	**11 30 43.5**	**+0.1**
	baz=312								
WUSB	**Renai**	**1.94**	**356**	P	**Pn**	**11 30 45.0**	**+0.8**
	baz=7.0								
HWA	**Hwalien**	**1.94**	**10**	*eP*	**Pn**	**11 30 44.1**	**0.0**
	baz=19								
CHGB	**Renai**	**2.00**	**358**	*i* P	**Pn**	**11 30 45.9**	**+0.8**
	baz=8.0								
WRL	**Guolierlin Hig**	**2.01**	**337**	P	**Pn**	**11 30 45.6**	**+0.6**
	baz=337								
WRL				*eS*	**Sn**	**11 31 11.0**	**+1.4**
	baz=337								
WCS	**Beigang Elemen**	**2.02**	**351**	P	**Pb**	**11 30 47.2**	**-1.0**
	baz=351								
WCS				*eS*	**Sb**	**11 31 13.7**	**+0.7**
	baz=351								
TWD	**Chiawan**	**2.04**	**9**	*eP*	**Pn**	**11 30 44.6**	**-0.9**
WHF	**Hehuan Shan**	**2.08**	**0**	*eP*	**Pn**	**11 30 46.7**	**+0.3**
	baz=9.0								
WCHH	**Zhanghua**	**2.12**	**343**	P	**Pn**	**11 30 47.2**	**+0.7**
	baz=331								
WCHH				*eS*	**Sb**	**11 31 15.1**	**-0.7**
	baz=331								
PHUB	**P'eng-hu**	**2.12**	**314**	P	**Pn**	**11 30 46.3**	**-0.2**
	baz=304								
PHUB				*eS*	**Sn**	**11 31 10.4**	**-2.0**
	baz=304								
ETL	**Fush Village**	**2.12**	**9**	*eP*	**Pn**	**11 30 47.1**	**+0.5**
	baz=1.0								
NACB	**Ninganchiao**	**2.14**	**9**	*eP*	**Pn**	**11 30 45.5**	**-1.2**
TCU	**Taichung**	**2.15**	**346**	*eP*	**Pn**	**11 30 48.8**	**+1.8**
	baz=335								
TCU				*eS*	**Sb**	**11 31 16.9**	**+0.1**
	baz=335								
ETLH	**Xiulin Townshi**	**2.16**	**6**	*eP*	**Pn**	**11 30 46.3**	**-0.8**
	baz=5.0								
PNG	**Penghu**	**2.17**	**314**	P	**Pn**	**11 30 47.1**	**-0.2**
	baz=305								
PNG				*eS*	**Sn**	**11 31 13.0**	**-0.6**
	baz=305								
FUSS	**Fushou**	**2.19**	**360**	*eP*	**Pn**	**11 30 48.4**	**+0.8**
	baz=8.0								
TDCB	**Techi**	**2.19**	**358**	*eP*	**Pn**	**11 30 48.5**	**+0.8**
	baz=346								
TWT	**Tachien**	**2.19**	**358**	*eP*	**Pn**	**11 30 49.9**	**+2.2**
	baz=346								
WHP	**Taichung City**	**2.23**	**353**	P	**Pn**	**11 30 50.4**	**+2.2**
	baz=353								
WHP				*eS*	**Sb**	**11 31 19.6**	**+0.4**
	baz=353								
TWQ1	**Liyutan**	**2.33**	**349**	*eP*	**Pn**	**11 30 51.1**	**+1.7**
	baz=338								
WDJ	**Dajia District**	**2.35**	**346**	*eP*	**Pn**	**11 30 50.4**	**+0.6**
	baz=347								
NNSB	**Datong**	**2.37**	**3**	*eP*	**Pn**	**11 30 50.5**	**+0.4**
	baz=9.0								
NNS	**Nan Shan**	**2.38**	**3**	*eP*	**Pn**	**11 30 50.9**	**+0.7**
	baz=13								
NSY	**Sanyi**	**2.40**	**349**	*eP*	**Pn**	**11 30 52.4**	**+2.0**
	baz=338								
ENA	**Nanau**	**2.41**	**11**	*eP*	**Pn**	**11 30 51.5**	**+0.9**
	baz=1.0								
EWUT	**Wuta**	**2.43**	**11**	*eP*	**Pn**	**11 30 50.9**	**+0.1**
	baz=2.0								
LATG	**Datong**	**2.48**	**6**	*eP*	**Pn**	**11 30 51.9**	**+0.2**
	baz=6.0								
NMLH	**Miaoli**	**2.51**	**350**	*eP*	**Pn**	**11 30 53.6**	**+1.7**
	baz=351								
NFF	**Wufeng Townshi**	**2.57**	**357**	*eP*	**Pn**	**11 30 54.3**	**+1.5**
	baz=344								
NSTT	**Nanjuang**	**2.58**	**355**	*eP*	**Pn**	**11 30 54.6**	**+1.8**
	baz=342								
LIOB	**Emei**	**2.59**	**355**	*eP*	**Pn**	**11 30 54.9**	**+1.8**
	baz=343								
ENTT	**Nioudou**	**2.59**	**6**	P	**Pn**	**11 30 53.6**	**+0.5**
	baz=6.0								
NDS	**Dongshan**	**2.60**	**9**	*eP*	**Pn**	**11 30 54.1**	**+0.9**
	baz=9.0								
TWC	**Suao**	**2.60**	**12**	*eP*	**Pn**	**11 30 54.6**	**+1.4**
	baz=22								
TWC				*eS*	**Sn**	**11 31 26.8**	**+2.5**
	baz=22								
YHNB	**Yeheng**	**2.61**	**3**	P	**Pn**	**11 30 54.4**	**+1.0**
	baz=10.0								
NSK	**Sanguang**	**2.61**	**2**	*eP*	**Pn**	**11 30 54.5**	**+1.1**
	baz=11								
NSK				*eS*	**Sn**	**11 31 25.4**	**+0.7**
	baz=11								
TWE	**Neicheng**	**2.69**	**8**	*eP*	**Pn**	**11 30 54.7**	**+0.4**
	baz=8.0								
FUSB	**Fushanzhiwuyua**	**2.71**	**7**	*eP*	**Pn**	**11 30 54.9**	**+0.2**
	baz=6.0								
NWLT	**Wulai**	**2.72**	**5**	*eP*	**Pn**	**11 30 55.7**	**+0.8**
	baz=13								
EGS		**2.85**	**13**	*eP*	**Pn**	**11 30 58.2**	**+1.6**
	baz=21								
JYNG	**Yonagunijimaku**	**2.85**	**33**	P	**Pn**	**11 30 57.3**	**+0.7**
JYNG				*eS*	**Sn**	**11 31 29.5**	**-1.0**
YOJ	**Yonaguni jima**	**2.90**	**34**	P	**Pn**	**11 30 57.9**	**+0.7**
YOJ				*eS*	**Sn**	**11 31 30.1**	**-1.3**
YOJ	**Yonaguni jima**	**2.90**	**34**	*eP*	**Pn**	**11 30 57.2**	**0.0**
	baz=32								
NCUH	**Zhongli**	**2.90**	**359**	*eP*	**Pn**	**11 30 59.4**	**+2.1**
	baz=347								
NHDH	**Xindian Distri**	**2.91**	**5**	*eP*	**Pn**	**11 30 58.4**	**+1.0**
	baz=13								
TWA	**Mucha**	**2.93**	**6**	*eP*	**Pn**	**11 30 59.4**	**+1.7**
	baz=14								
TIPB	**Shuangxi**	**2.95**	**10**	*eP*	**Pn**	**11 30 58.4**	**+0.3**
	baz=2.0								
TWB1	**Santiao Chiao**	**3.02**	**13**	*eP*	**Pn**	**11 31 01.2**	**+2.3**
	baz=4.0								
TWS1	**Kuangyinshan**	**3.04**	**3**	*eP*	**Pn**	**11 31 01.1**	**+1.9**
	baz=349								
NWF	**Wu-fen Shan**	**3.04**	**9**	*eP*	**Pn**	**11 31 02.1**	**+2.8**
	baz=9.0								
SXI1	**Grass Mountain**	**3.08**	**11**	*eP*	**Pn**	**11 31 00.9**	**+1.1**
	baz=3.0								
HATJ	**Hateruma jima**	**3.09**	**49**	P	**Pn**	**11 31 00.2**	**+0.4**
HATJ				*eS*	**Sn**	**11 31 33.8**	**-2.4**
NTST	**Danshui**	**3.10**	**3**	*eP*	**Pn**	**11 31 01.3**	**+1.2**
	baz=350								
ANP	**Anpu**	**3.13**	**5**	*eP*	**Pn**	**11 31 01.4**	**+0.9**
	baz=18								
IRIF	**Iriomote-Funau**	**3.22**	**45**	P	**Pn**	**11 31 02.1**	**+0.4**
IRIF				*eS*	**Sn**	**11 31 38.5**	**-1.1**
JKRS	**Kuro-shima**	**3.34**	**49**	P	**Pn**	**11 31 04.0**	**+0.7**
JKRS				S	**Sn**	**11 31 40.7**	**-1.9**
KNM	**Kinmen**	**3.50**	**313**	*eP*	**Pn**	**11 31 06.8**	**+1.4**
	baz=314								
JIJ	**Ishigaki jima**	**3.52**	**49**	P	**Pn**	**11 31 05.9**	**+0.1**
JIJ				S	**Sn**	**11 31 44.2**	**-2.7**
PTMZ	**Houxiangcun**	**3.56**	**327**	*eP*	**Pn**	**11 31 06.3**	**0.0**
	baz=329								
KNMB	**Chin-men Tao**	**3.56**	**313**	*eP*	**Pn**	**11 31 06.0**	**-0.3**
	baz=315								
ZPLA	**Ao Xicun**	**3.73**	**301**	*eP*	**Pn**	**11 31 08.4**	**-0.3**
	baz=303								
JISG	**Ishigakijimahi**	**3.78**	**48**	*eP*	**Pn**	**11 31 09.3**	**-0.1**
JISG				S	**Sn**	**11 31 51.3**	**-2.0**
DSXP	**Dongshan**	**3.89**	**296**	*eP*	**Pn**	**11 31 10.5**	**-0.4**
	baz=298								
JTJ	**Tarama**	**4.09**	**50**	P	**Pn**	**11 31 14.0**	**+0.4**
JTJ				S	**Sn**	**11 31 59.0**	**-2.0**
AXDP	**Jialang**	**4.13**	**314**	*eP*	**Pn**	**11 31 14.5**	**+0.3**
	baz=316								
MATB	**Ma-tsu**	**4.25**	**344**	*eP*	**Pn**	**11 31 15.3**	**-0.5**
	baz=345								
MHZQ	**Yeshan**	**4.51**	**334**	*eP*	**Pn**	**11 31 19.5**	**+0.1**
	baz=336								
JIRB	**Irabujima**	**4.54**	**52**	P	**Pn**	**11 31 20.3**	**+0.4**
JIRB				*eS*	**Sn**	**11 32 10.3**	**-1.8**
JMJ2	**Miyako jima3**	**4.61**	**54**	*eP*	**Pn**	**11 31 21.8**	**+1.1**
JMJ2				S	**Sn**	**11 32 11.9**	**-1.8**
JIKM	**Ikemajima**	**4.65**	**51**	*eP*	**Pn**	**11 31 22.4**	**+1.0**
JIKM				*eS*	**Sn**	**11 32 13.4**	**-1.5**
JOGS	**Gusukube**	**4.67**	**54**	S	**Sn**	**11 32 14.8**	**-0.6**
LYJJ	**Jianjiangzhen**	**4.68**	**343**	*eP*	**Pn**	**11 31 20.9**	**-0.9**
	baz=345								
XPSS	**Dashiqiu**	**4.95**	**349**	*eP*	**Pn**	**11 31 24.9**	**-0.5**
	baz=350								
SXFK	**Yanhouchang**	**5.43**	**323**	*eP*	**Pn**	**11 31 31.9**	**-0.3**
	baz=326								

TAP 27 11:39:49.0, 24°.95N×122°.66E, h24km, ML2.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.58**	**146**	*i* P		Pb	11 40 00.4	-0.2
	baz=146							
YOJ				S		Sb	11 40 08.1	-0.3
	baz=146							
TWB1	**Santiao Chiao**	**0.61**	**276**	*i* P		Pb	11 40 01.3	+0.2
	baz=275							
TWB1				S		Sb	11 40 09.6	+0.4
	baz=275							
EOS2	**EOS2**	**0.65**	**216**	*eP*		Pn	11 40 02.6	-0.1
	baz=222							
EGS		**0.67**	**261**	*eP*		Pb	11 40 02.4	+0.4
	baz=254							
SXI1	**Grass Mountain**	**0.72**	**282**	P		Pb	11 40 03.4	+0.4
	baz=275							
SXI1				*eS*		Sb	11 40 11.7	-0.9
	baz=275							
EOS3	**EOS3**	**0.73**	**205**	P		Pn	11 40 03.5	-0.1
	baz=210							
TIPB	**Shuangxi**	**0.75**	**272**	P		Pb	11 40 03.5	0.0
	baz=272							
NWF	**Wu-fen Shan**	**0.80**	**279**	*eP*		Pn	11 40 04.8	-0.2
	baz=278							
WFSB	**Wu-fen Shan**	**0.80**	**279**	*eP*		Pb	11 40 04.5	+0.2
	baz=278							
TWC	**Suao**	**0.81**	**246**	*eP*		Pb	11 40 03.9	-0.4
	baz=245							
PCYT	**Pengchaiyu**	**0.86**	**322**	*eP*		Pn	11 40 06.1	+0.4
	baz=306							
EOS4	**EOS4**	**0.88**	**201**	*eP*		Pn	11 40 05.7	+0.1
	baz=195							
NDS	**Dongshan**	**0.91**	**250**	*eP*		Pb	11 40 05.0	-1.2
	baz=249							
TWE	**Neicheng**	**0.93**	**256**	*eP*		Pb	11 40 06.1	-0.4
	baz=255							
EWUT	**Wuta**	**0.94**	**238**	*eP*		Pb	11 40 05.9	-0.8
	baz=237							
TWA	**Mucha**	**0.97**	**272**	*eP*		Pb	11 40 06.8	-0.5
	baz=258							
ENA	**Nanau**	**0.98**	**238**	*eP*		Pn	11 40 06.6	-0.7
	baz=237							
YM01	**YM01**	**1.00**	**282**	*eP*		Pn	11 40 04.9	-2.8
	baz=281							
TWY	**Chenhua**	**1.01**	**289**	*eP*		Pn	11 40 07.3	-0.4
	baz=288							
NHDH	**Xindian Distri**	**1.03**	**271**	*eP*		Pn	11 40 07.6	-0.4
	baz=258							

CNRM 27 11:50:45.6, 35°.39N×3°.76W, h0km, ml2.0
SFS 27 11:50:47.0, 35°.45N×3°.70W, h18km, ML2.5/5, MLv2.5/5
MDD 27 11:50:46.2±0.5, 35°.53N×3°.79W, h0km, mb_Lg2.3/4, Error ellipse: s-maj=4.5km s-min=3.1km az=2.0

ISC 27 11:50:44.6±1.1, 35°.43N±0°.03×3°.78W±0°.03, h17km±10km, n18, σ0=94/30, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.50**	**239**	S		**Sn**	**11 51 05.0**	**-0.1**
PVLZ				P		**Pn**	**11 50 56.7**	**-0.2**
EMEL	**Melilla**	**0.69**	**101**	Pg		**Pn**	**11 50 60.0**	**+0.5**
EMEL				Sg		**Sb**	**11 51 07.6**	**+0.3**
EALB	**Alboran**	**0.79**	**50**	P		**Pn**	**11 51 00.8**	**-0.1**
EALB				S		**Sb**	**11 51 10.5**	**+0.3**
EALB	**Alboran**	**0.79**	**50**	Pg		**Pn**	**11 51 01.0**	**0.0**
EALB				Sg		**Sn**	**11 51 11.2**	**-1.1**
EALB				*i* Vmb_Lg			11 51 13.3	
CHAS	**Isla Isabel II**	**1.13**	**102**	S		**Sb**	**11 51 19.1**	**-1.0**
CHAS				P		**Pg**	**11 51 06.2**	**-0.2**
TAF	**Taforalt**	**1.28**	**119**	P		**Pb**	**11 51 08.3**	**0.0**
TAF				S		**Sg**	**11 51 27.4**	**+1.4**
CEU	**Ceuta**	**1.38**	**290**	S		**Sg**	**11 51 29.9**	**+0.8**
ECEU	**Ceuta**	**1.38**	**290**	Sg		**Sb**	**11 51 28.0**	**+0.8**
ECEU				*i* Vmb_Lg			11 51 29.5	
EMIJ	**Mijas**	**1.39**	**325**	S		**Sb**	**11 51 27.6**	**+0.1**
EMIJ				P		**Pg**	**11 51 10.8**	**-0.5**
EMIJ	**Mijas**	**1.39**	**325**	Pg		**Pg**	**11 51 11.6**	**+0.3**
EMIJ				Sg		**Sb**	**11 51 27.9**	**+0.4**
EMIJ				*i* Vmb_Lg			11 51 31.7	
EMAL	**Malaga-Limoner**	**1.43**	**339**	S		**Sn**	**11 51 27.9**	**-0.1**
ELGU	**Los Guajares,**	**1.44**	**5**	P		**Pb**	**11 51 10.6**	**-0.3**
ELGU	**Los Guajares,**	**1.44**	**5**	Pg		**Pb**	**11 51 10.3**	**-0.7**
ELGU				Sg		**Sn**	**11 51 28.1**	**-0.3**
ELGU				*i* Vmb_Lg			11 51 33.1	
JBK	**JBK**	**1.48**	**137**	P		**Pg**	**11 51 12.9**	**-0.3**
JBK				S		**Sg**	**11 51 33.1**	**+0.6**
IFR	**Ifrane**	**2.21**	**211**	S		**Sn**	**11 51 49.3**	**+1.5**
MD31	**MD31**	**2.69**	**198**	P		**Pb**	**11 51 30.8**	**-1.5**
MD31				S		**Sn**	**11 52 01.8**	**+2.6**
MDT	**Midelt**	**2.70**	**195**	P		**Pb**	**11 51 30.5**	**-2.0**
MDT				S		**Sb**	**11 52 05.0**	**-0.5**
EZAR	**Zarzadilla de**	**2.96**	**34**	Sn		**Sn**	**11 52 06.5**	**+0.5**

TAP 27 11:50:59.3, 24°.62N×122°.65E, h113km±1km, ML2.7, C
JMA 27 11:50:59.3±0.2, 25°N×3°×12°3E±°, h108km±2km, MV1.7/10, NW OFF ISHIGAKIJIMA IS

ISC 27 11:50:59.6±1.7, 24°.62N±0°.06×122°.68E±0°.03, h108km±10km, n68, σ0=55/110, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.29**	**124**	P		**Pn**	**11 51 15.3**	**+0.1**
JYNG				*eS*		**Sn**	**11 51 27.2**	**+0.4**
YOJ	**Yonaguni jima**	**0.34**	**117**	*eP*		**Pn**	**11 51 15.4**	**0.0**
YOJ	**Yonaguni jima**	**0.34**	**117**	*eP*		**Pn**	**11 51 15.4**	**0.0**
	baz=115							
EOS2	**EOS2**	**0.45**	**244**	*eP*		**Pn**	**11 51 16.5**	**+0.6**
	baz=242							
EOS3	**EOS3**	**0.47**	**225**	P		**Pn**	**11 51 16.7**	**+0.8**
	baz=222							
EOS4	**EOS4**	**0.59**	**214**	P		**Pn**	**11 51 17.6**	**+1.0**
	baz=211							
TWC	**Suao**	**0.76**	**270**	*i* P		**Pn**	**11 51 18.1**	**-0.2**
	baz=268							
TWC				S		**Sn**	**11 51 31.6**	**-0.8**
	baz=268							
EWUT	**Wuta**	**0.84**	**258**	P		**Pn**	**11 51 19.2**	**+0.1**
	baz=257							
EWUT				*eS*		**Sn**	**11 51 34.0**	**+0.2**
	baz=257							
TIPB	**Shuangxi**	**0.85**	**295**	*eP*		**Pn**	**11 51 19.1**	**-0.1**
	baz=294							
TIPB				*eS*		**Sn**	**11 51 33.3**	**-0.8**
	baz=294							
SXI1	**Grass Mountain**	**0.87**	**303**	P		**Pn**	**11 51 19.3**	**-0.2**
	baz=303							
ENA	**Nanau**	**0.88**	**258**	P		**Pn**	**11 51 19.7**	**+0.2**
	baz=256							
ENA				*eS*		**Sn**	**11 51 34.7**	**+0.3**
	baz=256							
NDS	**Dongshan**	**0.88**	**271**	P		**Pn**	**11 51 19.8**	**+0.4**
	baz=270							
TWE	**Neicheng**	**0.93**	**277**	*i* P		**Pn**	**11 51 20.0**	**+0.1**
	baz=276							
TWE				*eS*		**Sn**	**11 51 35.1**	**-0.1**
	baz=276							
IRIF	**Iriomote-Funau**	**1.00**	**106**	P		**Pn**	**11 51 20.7**	**0.0**
IRIF				*eS*		**Sn**	**11 51 36.6**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.00**	**278**	P		**Pn**	**11 51 20.7**	**-0.1**
	baz=278							
FUSB				*eS*		**Sn**	**11 51 35.8**	**-1.0**
	baz=278							
ENTT	**Nioudou**	**1.01**	**272**	P		**Pn**	**11 51 21.3**	**+0.5**
	baz=270							
ENTT				S		**Sn**	**11 51 37.5**	**+0.6**
	baz=270							
LATG	**Datong**	**1.05**	**266**	P		**Pn**	**11 51 21.6**	**+0.2**
	baz=265							
LATG				S		**Sn**	**11 51 38.5**	**+0.7**
	baz=265							
ETL	**Fush Village**	**1.07**	**245**	*eP*		**Pn**	**11 51 21.0**	**-0.4**
	baz=243							
NWLT	**Wulai**	**1.08**	**279**	P		**Pn**	**11 51 21.4**	**-0.2**
	baz=278							
NWLT				*eS*		**Sn**	**11 51 38.5**	**+0.3**
	baz=278							
NACB	**Ninganchiao**	**1.08**	**246**	P		**Pn**	**11 51 21.2**	**-0.4**
	baz=245							
NACB				S		**Sn**	**11 51 37.5**	**-0.7**
	baz=245							
TWD	**Chiawan**	**1.12**	**242**	*eP*		**Pn**	**11 51 21.9**	**-0.2**
	baz=240							
TWD				*eS*		**Sn**	**11 51 38.2**	**-0.7**
	baz=240							
YM01	**YM01**	**1.14**	**298**	*eP*		**Pn**	**11 51 22.2**	**0.0**
	baz=297							
TATO	**Taipei**	**1.14**	**288**	*eP*		**Pn**	**11 51 21.8**	**-0.4**
	baz=288							
ETLH	**Xiulin Townshi**	**1.17**	**250**	*eP*		**Pn**	**11 51 22.4**	**-0.2**
	baz=248							
ETLH				*eS*		**Sn**	**11 51 39.8**	**-0.2**
	baz=248							
YHNB	**Yeheng**	**1.19**	**273**	P		**Pn**	**11 51 23.1**	**+0.2**
	baz=272							
YHNB				S		**Sn**	**11 51 40.1**	**-0.3**
	baz=272							
NNSB	**Datong**	**1.20**	**261**	P		**Pn**	**11 51 22.9**	**0.0**
	baz=260							
NNSB				*eS*		**Sn**	**11 51 40.7**	**+0.1**
	baz=260							
NNSH	**Datong**	**1.20**	**261**	*eP*		**Pn**	**11 51 22.9**	**0.0**
	baz=260							
NNS	**Nan Shan**	**1.20**	**262**	*eP*		**Pn**	**11 51 23.2**	**+0.2**
	baz=261							
NNS				*eS*		**Sn**	**11 51 40.2**	**-0.5**
	baz=261							
NSK	**Sanguang**	**1.21**	**273**	P		**Pn**	**11 51 23.2**	**+0.2**
	baz=272							
NSK				*eS*		**Sn**	**11 51 40.5**	**-0.1**
	baz=272							
TWS1	**Kuangyinshan**	**1.24**	**293**	P		**Pn**	**11 51 23.2**	**-0.

LIOB	**Emei**	**1.52**	**271**	*eP*	**Pn**	**11 51 26.8**	**+0.2**
	baz=270							
LIOB				*eS*	**Sn**	**11 51 46.9**	**-0.1**
	baz=270							
OWD	**Renai**	**1.52**	**245**	*eP*	**Pn**	**11 51 26.8**	**0.0**
	baz=243							
OWD				*eS*	**Sn**	**11 51 46.2**	**-1.2**
	baz=243							
NSTT	**Nanjuang**	**1.53**	**271**	*eP*	**Pn**	**11 51 26.9**	**+0.2**
	baz=270							
NSTT				*eS*	**Sn**	**11 51 46.9**	**-0.3**
	baz=270							
WUSB	**Renai**	**1.56**	**247**	*eP*	**Pn**	**11 51 27.7**	**+0.5**
	baz=245							
WUSB				*eS*	**Sn**	**11 51 48.1**	**0.0**
	baz=245							
HGSD	**Ruisui**	**1.60**	**226**	P	**Pn**	**11 51 27.8**	**+0.1**
	baz=225							
HGSD				S	**Sn**	**11 51 48.8**	**-0.1**
	baz=225							
WHP	**Taichung City**	**1.62**	**258**	*eP*	**Pn**	**11 51 28.5**	**+0.7**
	baz=257							
WHP				*eS*	**Sn**	**11 51 50.1**	**+0.8**
	baz=257							
VWDT	**VWDT**	**1.65**	**239**	P	**Pn**	**11 51 28.5**	**+0.3**
	baz=237							
VWDT				S	**Sn**	**11 51 49.5**	**-0.3**
	baz=237							
EHY	**Hungye**	**1.66**	**229**	P	**Pn**	**11 51 27.8**	**-0.6**
	baz=227							
EHY				*eS*	**Sn**	**11 51 48.5**	**-1.7**
	baz=227							
WCS	**Beigang Elemen**	**1.71**	**251**	*eP*	**Pn**	**11 51 29.4**	**+0.5**
	baz=250							
NMLH	**Miaoli**	**1.72**	**268**	*eP*	**Pn**	**11 51 29.1**	**0.0**
	baz=267							
YULB	**Yu-li**	**1.76**	**226**	P	**Pn**	**11 51 28.8**	**-0.7**
	baz=225							
YULB				*eS*	**Sn**	**11 51 51.5**	**-0.8**
	baz=225							
EYUL	**Yuli**	**1.77**	**225**	*eP*	**Pn**	**11 51 29.7**	**0.0**
	baz=223							
SSLB	**Suanglung**	**1.78**	**243**	*eP*	**Pn**	**11 51 30.3**	**+0.4**
	baz=241							
SMLT	**Sun Moon Lake**	**1.78**	**246**	*eP*	**Pn**	**11 51 30.4**	**+0.4**
	baz=245							
TWF1	**Yuli**	**1.79**	**225**	*eP*	**Pn**	**11 51 29.8**	**-0.1**
	baz=224							
TWF1				*eS*	**Sn**	**11 51 52.3**	**-0.6**
	baz=224							
TYC	**Yuchr**	**1.81**	**247**	*eP*	**Pn**	**11 51 30.7**	**+0.6**
	baz=246							
TYC				*eS*	**Sn**	**11 51 55.3**	**+1.9**
	baz=246							
JTJ	**Tarama**	**1.84**	**89**	*eP*	**Pn**	**11 51 30.7**	**+0.2**
FULB	**Fuli**	**1.90**	**222**	*eP*	**Pn**	**11 51 31.2**	**-0.1**
	baz=221							
FULB				*eS*	**Sn**	**11 51 55.6**	**+0.1**
	baz=221							
YUS	**Yu-Shan**	**1.94**	**235**	*eP*	**Pn**	**11 51 32.4**	**+0.1**
	baz=233							
WJS	**Zhushan**	**1.95**	**246**	*eP*	**Pn**	**11 51 32.5**	**+0.6**
	baz=245							
EHD	**Haiduan**	**1.99**	**223**	*eP*	**Pn**	**11 51 31.7**	**-0.8**
	baz=222							
ALS	**Alishan**	**2.04**	**238**	*eP*	**Pn**	**11 51 34.0**	**+0.7**
	baz=236							
LDUT	**Ludao**	**2.23**	**210**	*eP*	**Pn**	**11 51 34.8**	**-0.7**
	baz=209							
STYH	**Taoyuan**	**2.26**	**231**	*eP*	**Pn**	**11 51 36.9**	**+1.0**
	baz=230							
STYH				*eS*	**Sn**	**11 52 05.0**	**+1.4**
	baz=230							
CHN4	**Tsaushan**	**2.29**	**237**	*eP*	**Pn**	**11 51 36.7**	**+0.4**
	baz=236							
TPUB	**Ta-pu**	**2.29**	**235**	*eP*	**Pn**	**11 51 37.2**	**+0.9**
	baz=234							

*NEIC **27** 11:57:37.5±1.9, 24.°50N±0.°09×142.°8E±0.°2, h53km±5km, mb4.2/10, Error ellipse: s-maj=23.0km s-min=12.8km az=92.0*

*IDC **27** 11:57:40.8±2.3, 24.°50N×142.°66E, h82km±18km, mb3.5/17, mbtmp3.8/19, MS3.2/6, Error ellipse: s-maj=23.3km s-min=15.3km az=95.0*

ISC 27 11:57:35.1±0.8, 24.°36N±0.°09×142.°8E±0.°1, h35km, n43, σ1℗21/40, mb4.1/23, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.78**	**349**	P		Pn	11 58 21.0	+3.9
	33nn,0.3s,baz=91,slow=20,SNR=11							
JCJ				S		**Sn**	**11 58 53.1**	**+3.6**
	116nn,0.5s,baz=283,slow=23,SNR=6.7							
JCJ	**Chichijima**	**2.78**	**349**	Pn		**Pn**	**11 58 17.8**	**+0.7**
JHJ2	**Mitsune**	**9.10**	**344**	Pn		**Pn**	**11 59 45.9**	**+2.0**
JMZ	**Minamidaito 2**	**10.58**	**280**	Pn		**Pn**	**12 00 05.7**	**+1.5**
GUMO	**Guam**	**10.89**	**169**	LR		LR	12 03 20.3	
	comp=Z,100nm,20.7s,baz=36,slow=31							
JWT	**Wachi**	**12.63**	**331**	Pn		**Pn**	**12 00 31.1**	**-1.1**
JOW	**Kunigami**	**13.32**	**284**	LR		LR	12 05 31.0	
	comp=Z,148nm,19.2s,baz=154,slow=36							
JNU	**Nakatsue**	**13.61**	**313**	LR		LR	12 05 49.6	
	comp=Z,77nm,18.2s,baz=143,slow=36							
KSRS	**Korea Array**	**18.22**	**319**	P		**P**	**12 01 44.9**	**-0.2**
	1.5nn,0.7s,baz=129,slow=10,SNR=5.8							
KSRS				LR		LR	12 08 43.0	
	comp=Z,90nn,18.0s,baz=135,slow=37							
KSAR	**Wonju Array Be**	**18.23**	**319**	P		**P**	**12 01 44.4**	**-0.9**
DAV	**Davao City (W)**	**23.82**	**227**	LR		LR	12 10 39.6	
	comp=Z,47nm,20.1s,baz=308,slow=33							
KLR	**Kul'dur**	**26.30**	**344**	P		**P**	**12 03 06.8**	**-0.4**
	3.9nn,0.7s,baz=166,slow=6.9,SNR=14							
	3.9nn,0.7s							
SONM	**Songino Array**	**37.09**	**318**	P		**P**	**12 04 40.1**	**-2.0**
	0.6nn,0.8s,baz=130,slow=12,SNR=4.1							
SONM				LR		LR	12 20 35.4	
	comp=Z,36nn,18.9s,baz=176,slow=37							
	0.6nn,0.8s							
CMAR	**Chiang Mai Arr**	**41.11**	**271**	P		**P**	**12 05 16.2**	**+0.2**
	0.9nn,0.5s,baz=67,slow=7.7,SNR=6.2							
	0.9nn,0.5s							
KNRA	**Kununurra**	**42.08**	**200**	P		**P**	**12 05 25.1**	**+1.3**
WB0	**Warramunga Arr**	**44.61**	**191**	P		**P**	**12 05 45.7**	**+1.5**
WB0				IAmb		IAmb	12 05 56.1	
	comp=Z,7.8nn,1.3s							
WR0	**Warramunga Arr**	**44.77**	**191**	P		**P**	**12 05 46.8**	**+1.4**
WR0				IAmb		IAmb	12 06 09.6	
	comp=Z,6.3nn,1.0s							
WRAB	**Tennant Creek**	**44.78**	**191**	P		**P**	**12 05 47.4**	**+1.9**
WRAB				IAmb		IAmb	12 06 09.8	
	comp=Z,4.7nn,0.7s							
WB2	**Warramunga Arr**	**44.79**	**191**	P		**P**	**12 05 45.9**	**+0.3**
WB2				IAmb		IAmb	12 06 09.9	
	comp=Z,4.5nn,0.8s							
WRA	**Warramunga Arr**	**44.79**	**191**	P		**P**	**12 05 47.2**	**+1.6**
	comp=Z,0.7nn,0.4s,baz=9.6,slow=7.8,SNR=12							
WRA				pP		pwP	12 06 07.6	+8.4
	comp=Z,1.2nn,0.4s,baz=31,slow=13,SNR=10							
	comp=Z,0.7nn,0.4s							
WRA	**Warramunga Arr**	**44.79**	**191**	P		**P**	**12 05 45.9**	**+0.3**
AS31	**Alice Springs**	**48.51**	**191**	P		**P**	**12 06 15.1**	**+0.4**
AS31				IAmb		IAmb	12 06 29.5	
	comp=Z,1.5nn,1.4s							
ASAR	**Alice Springs**	**48.51**	**191**	P		**P**	**12 06 16.1**	**+1.4**
	comp=Z,0.2nn,0.5s,baz=12,slow=7.9,SNR=6.2							
	comp=Z,0.2nn,0.5s							
ASAR	**Alice Springs**	**48.51**	**191**	P		**P**	**12 06 15.0**	**+0.3**
ZALV	**Zalesovo Beam**	**51.92**	**320**	P		**P**	**12 06 39.2**	**-1.0**
	comp=Z,1.6nn,0.7s,baz=91,slow=8.9,SNR=4.6							
	comp=Z,1.6nn,0.7s							
MK31	**Makanchi Array**	**52.66**	**311**	P		**P**	**12 06 45.8**	**0.0**
MK31				IAmb		IAmb	12 06 46.2	
	comp=Z,1.4nn,1.2s							
MKAR	**Makanchi Array**	**52.66**	**311**	P		**P**	**12 06 45.5**	**-0.4**
	comp=Z,0.2nn,0.4s,baz=90,slow=8.7,SNR=9.2							
MKAR				PcP		**PcP**	**12 07 55.1**	**-0.4**
	comp=Z,0.4nn,0.7s,baz=81,slow=5.9,SNR=3.9							
	comp=Z,0.2nn,0.4s							
MKAR	**Makanchi Array**	**52.66**	**311**	P		**P**	**12 06 45.2**	**-0.7**
ILAR	**Eielson Array**	**59.86**	**28**	P		**P**	**12 07 35.7**	**-1.2**
	comp=Z,0.2nn,0.7s,baz=268,slow=6.0,SNR=2.3							
	comp=Z,0.2nn,0.7s							
SCRK	**Sand Creek**	**61.04**	**29**	P		**P**	**12 07 44.9**	**-0.2**
BMAR	**Burnt Mountain**	**61.09**	**25**	P		**P**	**12 07 43.8**	**-1.5**
KK31	**Karatay Array**	**61.14**	**307**	P		**P**	**12 07 46.3**	**+0.2**
KKAR	**Karatay Array**	**61.14**	**307**	P		**P**	**12 07 46.2**	**+0.2**
INK	**Inuvik**	**65.29**	**24**	P		**P**	**12 08 13.1**	**+0.1**
	comp=Z,1.2nn,1.0s,baz=276,slow=9.2,SNR=1.7							
	comp=Z,1.2nn,1.0s							
ABKAR	**Akbulak array**	**67.40**	**315**	P		**P**	**12 08 26.4**	**-0.5**
YKA	**Yellowknife Ar**	**74.29**	**28**	P		**P**	**12 09 08.4**	**0.0**
	comp=Z,0.2nn,0.4s,baz=293,slow=6.0,SNR=5.6							
YKA				pP		PcP	12 09 32.4	+9.2
	comp=Z,0.5nn,0.8s,baz=290,slow=5.7,SNR=4.3							
	comp=Z,0.2nn,0.4s							
KBZ	**Khabaz**	**80.27**	**314**	P		**P**	**12 09 43.1**	**+0.7**
	comp=Z,3.4nn,0.9s,baz=102,slow=3.2,SNR=5.5							
	comp=Z,3.4nn,0.9s							
FINES	**FINESS Array B**	**80.64**	**334**	P		**P**	**12 09 43.9**	**-0.1**
	comp=Z,2.2nn,0.9s,baz=76,slow=6.6,SNR=9.1							
	comp=Z,2.2nn,0.9s							
NVAR	**Mina Array Bea**	**81.78**	**52**	P		**P**	**12 09 52.5**	**+1.7**
	comp=Z,0.1nn,0.4s,baz=282,slow=4.4,SNR=1.8							
	comp=Z,0.1nn,0.4s							
AKASG	**Malin Array Be**	**85.14**	**324**	P		**P**	**12 10 06.8**	**-0.8**
	comp=Z,0.7nn,0.5s,baz=49,slow=4.8,SNR=4.4							
	comp=Z,0.7nn,0.5s							
HFS	**Hagfors**	**86.14**	**337**	P		**P**	**12 10 11.5**	**-0.9**
	comp=Z,2.3nn,0.8s,baz=54,slow=2.5,SNR=4.2							
	comp=Z,2.3nn,0.8s							
NOA	**NORSAR Array B**	**86.34**	**339**	P		**P**	**12 10 11.5**	**-1.9**
	comp=Z,2.1nn,1.0s,baz=47,slow=4.8,SNR=3.4							
	comp=Z,2.1nn,1.0s							
BRTR	**Keskin Array B**	**88.26**	**313**	P		**P**	**12 10 23.0**	**-0.2**
	comp=Z,0.7nn,0.6s,baz=73,slow=4.9,SNR=3.9							
	comp=Z,0.7nn,0.6s							

WEL 27 12:26:49.7±0.5, 42.°S±2.°×17.°4E±.°, h9km±3km, M3.2/11, ML3.3/12, MLv3.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=104.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.08**	**10**	P		Pg	12 26 51.8	-0.1
KHZ				S		Sg	12 26 53.3	-0.2
GVZ	**Greta Valley S**	**0.59**	**217**	P		Pb	12 27 02.5	+0.3
GVZ				S		Sb	12 27 11.7	+1.1
BSWZ	**Blackbirch Sta**	**0.83**	**19**	P		Pb	12 27 06.4	+0.2
THZ	**Tophouse**	**0.86**	**328**	P		Pb	12 27 06.7	-0.2
THZ				S		Sg	12 27 18.0	+0.4
CMWZ	**Cape Campbell**	**0.91**	**35**	P		Pn	12 27 08.8	+0.2
AMCZ	**Amberley**	**0.93**	**223**	P		Pb	12 27 08.2	+0.2
LTZ	**Lake Taylor**	**0.96**	**252**	P		Pb	12 27 08.7	+0.1
LTZ				S		Sb	12 27 21.7	+0.2
MRNZ	**Matariki Terra**	**1.24**	**332**	P		Pg	12 27 13.7	+0.3
OKCZ	**Okains Bay**	**1.27**	**195**	P		Pn	12 27 12.7	-1.0
NNZ	**Nelson**	**1.28**	**355**	P		Pg	12 27 14.2	-0.1
MQZ	**McQueen's Vall**	**1.36**	**207**	P		Pn	12 27 13.3	-1.6
MQZ				S		Sb	12 27 30.9	-2.0
OXZ	**Oxford**	**1.37**	**232**	P		Pn	12 27 13.8	-1.2
AKCZ	**Akaroa Harbour**	**1.44**	**198**	P		Pn	12 27 14.7	-1.3
AKCZ				S		Sn	12 27 33.4	-1.7
DSZ	**Denniston Nort**	**1.48**	**300**	P		Pb	12 27 17.0	-0.4
TKNZ	**Takaka Hill**	**1.52**	**344**	P		Pb	12 27 18.2	+0.1
INZ	**Inchbonnie**	**1.55**	**261**	P		Pn	12 27 17.3	-0.1
PLWZ	**Palliser**	**1.59**	**55**	P		Pn	12 27 17.0	-1.0
RACZ	**Rakaia**	**1.59**	**219**	P		Pn	12 27 16.7	-1.3
CAW	**Cannon Point**	**1.81**	**40**	P		Pn	12 27 20.3	-0.6
PAWZ	**Paruwai Farm**	**1.81**	**53**	P		Pn	12 27 19.7	-1.4
QRZ	**Quartz Range**	**1.83**	**336**	P		Pb	12 27 22.7	-0.6
WACZ	**Wakanui South**	**1.90**	**220**	P		Pn	12 27 20.9	-1.2
KIW	**Kapiti Island**	**1.94**	**33**	P		Pn	12 27 22.7	-0.1
MTW	**Mount Morrison**	**2.00**	**49**	P		Pn	12 27 22.2	-1.4
OGWZ	**Otaki Gorge**	**2.09**	**37**	P		Pn	12 27 24.2	-0.6
WVZ	**Waitaha Valley**	**2.13**	**253**	P		Pn	12 27 25.7	+0.4
RPZ	**Rata Peaks**	**2.18**	**235**	P		Pn	12 27 25.0	-1.1
HOWZ	**Holdsworth Sta**	**2.19**	**44**	P		Pn	12 27 25.5	-0.7
ARCZ	**Arundel**	**2.24**	**229**	P		Pn	12 27 25.7	-1.3
MRZ	**Mangatainoka R**	**2.40**	**41**	P		Pn	12 27 28.4	-0.7
GCSZ	**Gaunt Creek Bo**	**2.48**	**250**	P		Pn	12 27 30.7	+0.4
TMZ	**Timaru**	**2.63**	**223**	P		Pn	12 27 30.9	-1.3
FOZ	**Fox Glacier**	**2.91**	**248**	P		Pn	12 27 36.6	+0.5
WAZ	**Wanganui**	**2.96**	**22**	P		Pb	12 27 40.4	-2.1
LBZ	**Lake Benmore**	**3.08**	**231**	P		Pn	12 27 37.6	-0.8
ODZ	**Otahua Downs**	**3.29**	**218**	P		Pn	12 27 39.9	-1.4
VRZ	**Vera Road**	**3.50**	**16**	P		Pn	12 27 46.3	+2.1
TWVZ	**Taurewa**	**3.72**	**24**	P		Pb	12 27 51.7	-3.9
EAZ	**Earnscleugh**	**4.09**	**227**	P		Pn	12 27 51.2	-1.2
HIZ	**Hauiti**	**4.11**	**15**	P		Pn	12 27 54.6	+2.0
TUZ	**Tuapeka**	**4.44**	**218**	P		Pn	12 27 56.0	-1.2
TOZ	**Tahuroa Road**	**5.00**	**18**	P		Pn	12 28 05.8	+1.0
WIAZ	**Waiheke Island**	**5.83**	**13**	P		Pn	12 28 17.7	+1.5

*JMA **27** 12:56:34.3±0.2, 43.°7N±0.°8×14.°7E±.°, h29km, MV3.7/30, E OFF HOKKAIDO*

*SKHL **27** 12:56:35.6±0.2, 43.°80N×147.°30E, h43km±5km, mb4.8/3*

ISC 27 12:56:33.9±2.0, 43.°78N±0.°10×147.°4E±0.°1, h63km, n16, σ1℗09/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.13**	**284**	*i* P		**Pn**	**12 56 53.0**	**-0.6**
YUK					AMB	AMB	12 56 53.6	
	410nn,0.3s							
YUK				*i* S		**Sn**	**12 57 06.2**	**-2.2**
YUK				A		A	12 57 10.9	
	2μm,0.3s							
YUK				A		A	12 57 10.9	
	1μm,0.3s							
NEM2	**Nemuro 2**	**1.26**	**252**	*eP*		**Pn**	**12 56 55.0**	**-0.4**
NEM2				*eS*		**Sn**	**12 57 10.0**	**-1.4**
NMR	**Nemuro--Hokkai**	**1.27**	**252**	*eP*		**Pn**	**12 56 54.9**	**-0.6**
NMR				*i* S		**Sn**	**12 57 09.6**	**-2.0**
KUR	**Kuril'sk**	**1.50**	**13**	*eP*		**Pn**	**12 56 59.0**	**+0.4**
KUR					AMB	AMB	12 56 59.8	
	100nn,0.2s							
KUR				*eS*		**Sn**	**12 57 16.5**	**-0.7**
KUR				A		A	12 57 18.1	
	620nn,0.2s							
KUR				A		A	12 57 18.1	
	440nn,0.2s							
JRA	**Rausu**	**1.64**	**276**	*eP*		**Pn**	**12 57 00.8**	**+0.4**
JRA				*eS*		**Sn**	**12 57 20.3**	**-0.3**
JNSB	**Nemuroshibetsu**	**1.72**	**271**	*eP*		**Pn**	**12 57 02.2**	**+0.6**
JNSB				*eS*		**Sn**	**12 57 22.8**	**+0.2**
JKHN	**Kushirohamanak**	**1.76**	**248**	*eP*		**Pn**	**12 57 02.4**	**+0.3**
JNK	**Nakash**	**1.94**	**265**	*eP*		**Pn**	**12 57 04.9**	**+0.4**
JNK				*eS*		**Sn**	**12 57 27.5**	**-0.4**
AKK	**Akkeshi**	**2.00**	**249**	*eP*		**Pn**	**12 57 05.5**	**+0.2**
AKK				*eS*		**Sn**	**12 57 27.8**	**-1.4**
AKK				A		A	12 57 30.7	
	180nn,0.2s							
AKK				A		A	12 57 30.7	
	200nn,0.2s							
JAK	**Akkeshi**	**2.10**	**249**	*eP*		**Pn**	**12 57 07.0**	**+0.2**
JAK				*eS*		**Sn**	**12 57 30.7**	**-1.1**
JTKR	**Abashiri--Toko**	**2.52**	**276**	*eP*		**Pn**	**12 57 13.4**	**+1.1**
JAR	**Ashorobuto**	**2.67**	**261**	*eP*		**Pn**	**12 57 15.8**	**+1.4**
JAR				*eS*		**Sn**	**12 57 46.9**	**+1.3**
JOB	**Onbets**	**2.73**	**253**	*eP*		**Pn**	**12 57 16.4**	**+1.1**
JOB				*eS*		**Sn**	**12 57 47.1**	**0.0**
HRK	**Horoka**	**3.10**	**266**	*eP*		**Pn**	**12 57 22.5**	**+2.1**
JCH	**Churui**	**3.16**	**250**	*eP*		**Pn**	**12 57 21.7**	**+0.6**
MYR	**Moyori**	**3.35**	**245**	*eP*		**Pn**	**12 57 25.2**	**+1.5**
MYR				*eS*		**Sn**	**12 58 02.0**	**-0.2**

*NEIC **27** 13:00:45.9±1.2, 57.°04N±0.°03×157.°79W±0.°08, h10km±2km, Error ellipse: s-maj=7.7km s-min=3.4km az=243.0*

*AEIC **27** 13:00:45.4±1.4, 57.°04N±0.°05×157.°7W±0.°1, h8km±8km, ML3.1, ML3.5/30(NEIC), Error ellipse: s-maj=9.4km s-min=6.0km az=121.0*

ISC 27 13:00:44.7±1.6, 57.°06N±0.°03×157.°76W±0.°05, h3km±15km, n41, σ0℗81/47, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
R16K	**Pilot Point**	**0.52**	**11**	P		**Pg**	**13 00 55.9**	**+1.2**
	baz=190							
R16K				S		**Sb**	**13 01 04.4**	**-0.1**
	baz=190							
CHGN	**Chignik**	**0.84**	**206**			**Pg**	**13 01 01.2**	**+0.5**
CHGN	**Chignik**	**0.84**	**206**	P		**Pg**	**13 01 00.6**	**-0.1**
	baz=26							
R17K	**Ugashik Creek**	**0.95**	**51**	P		**Pg**	**13 01 02.5**	**-0.3**
	baz=231							
R17K				S		**Sb**	**13 01 17.3**	**+0.6**
	baz=231							
Q17K	**Contact Creek**	**1.57**	**39**	P		**Pn**	**13 01 14.2**	**+0.6**
	baz=220							
Q17K				S		**Sn**	**13 01 34.6**	**0.0**
	baz=220							
CHIR	**Chirikof Islan**	**1.71**	**135**			**Pn**	**13 01 16.1**	**+0.7**
CHIR					IAML		13 01 42.0	
	comp=E,584nm,0.7s							
CHIR					IAML		13 01 45.0	
	comp=N,665nm,1.0s							
CHIR	**Chirikof Islan**	**1.71**	**135**	P		**Pn**	**13 01 15.5**	**0.0**
	baz=317							
CHIR				S		**Sb**	**13 01 39.0**	**+0.2**
	baz=317							
Q16K	**King Salmon**	**1.73**	**19**	P		**Pn**	**13 01 15.3**	**-0.3**
	baz=200							
Q16K				S		**Sb**	**13 01 39.5**	**+0.4**
	baz=200							
P16K	**Nushagak River**	**1.98**	**357**	P		**Pn**	**13 01 19.8**	**+0.7**
	baz=176							
SII	**Sitkinak Islan**	**2.03**	**103**			**Pn**	**13 01 20.3**	**+0.5**
SII	**Sitkinak Islan**	**2.03**	**103**		IAML		13 01 57.1	
	comp=E,454nm,1.0s							
SII					IAML		13 01 59.5	
	comp=N,413nm,0.6s							
SII	**Sitkinak Islan**	**2.03**	**103**	P		**Pn**	**13 01 20.5**	**+0.7**
	baz=285							
Q18K	**Katmai Hardscr**	**2.17**	**42**	P		**Pn**	**13 01 23.5**	**+1.7**
	baz=223							
Q18K				S		**Sb**	**13 01 52.3**	**+0.3**
	baz=223							
P17K	**Kvichak River**	**2.26**	**18**	P		**Pn**	**13 01 22.8**	**0.0**
	baz=198							
SDPT	**Sand Point**	**2.29**	**223**	Pn		**Pn**	**13 01 23.8**	**+0.5**
SDPT					IAML		13 02 01.9	
	comp=E,195nm,1.4s							
SDPT	**Sand Point**	**2.29**	**223**	P		**Pn**	**13 01 24.7**	**+1.4**
	baz=41							
OHAK	**Old Harbor**	**2.44**	**84**			**Pn**	**13 01 26.3**	**+0.9**
OHAK	**Old Harbor**	**2.44**	**84**	P		**Pn**	**13 01 25.8**	**+0.4**
	baz=267							
O16K	**Kokwok River B**	**2.55**	**356**	P		**Pn**	**13 01 28.1**	**+1.2**
	baz=176							
P18K	**Big Mountain,**	**2.70**	**29**			**Pb**	**13 01 32.0**	**-1.6**
P18K					IAML		13 02 08.9	
	comp=E,149nm,0.7s							
P18K	**Big Mountain,**	**2.70**	**29**	P		**Pn**	**13 01 29.8**	**+0.8**
	baz=210							
P18K				S		**Sb**	**13 02 06.2**	**-0.9**
	baz=210							
O17K	**Koliganek Bris**	**2.75**	**7**	P		**Pn**	**13 01 29.7**	**0.0**
	baz=187							
S12K	**Black Hills**	**2.75**	**242**	P		**Pn**	**13 01 29.5**	**-0.2**
	baz=59							
Q19K	**Cape Douglas,**	**2.88**	**48**			**Pn**	**13 01 31.7**	**+0.2**
KDAK	**Kodiak Island**	**2.89**	**73**			**Pn**	**13 01 32.3**	**+0.7**
KDAK					IAML		13 02 28.6	
	comp=E,113nm,4.1s							
O18K	**Koktuh Hills**	**3.11**	**24**			**Pn**	**13 01 35.8**	**+1.2**
O18K					IAML		13 02 26.9	
	comp=N,110nm,0.7s							
O18K					IAML		13 02 29.6	
	comp=E,103nm,0.8s							
O18K	**Koktuh Hills**	**3.11**	**24**	P		**Pn**	**13 01 35.1**	**+0.5**
	baz=206							
P19K	**Oil Pt**	**3.53**	**41**	Pn		**Pn**	**13 01 41.1**	**+0.6**
P19K					IAML		13 02 45.5	
	comp=N,124nm,1.1s							
P19K					IAML		13 02 49.5	
	comp=E,108nm,0.6s							
O19K	**Port Alsworth**	**3.62**	**28**			**Pn**	**13 01 42.0**	**+0.4**
N19K	**Bonanza Creek**	**4.13**	**23**			**Pn**	**13 01 49.7**	**+0.9**
N19K					IAML		13 02 55.6	
	comp=E,72nm,1.1s							
N19K					IAML		13 03 07.9	
	comp=N,49nm,0.8s							
SVW2	**Sparrevohn**	**4.21**	**15**	Pn		**Pn**	**13 01 50.0**	**+0.3**
SVW2					IAML		13 03 05.6	
	comp=N,40nm,1.0s							
SVW2					IAML		13 03 08.7	
	comp=E,44nm,0.8s							
SPU	**Mount Spurr**	**5.07**	**33**			**Pn**	**13 02 01.3**	**-0.4**
L19K	**White Mountain**	**5.35**	**15**	Pn		**Pn**	**13 02 06.2**	**+0.8**
M20K	**Styx River**	**5.38**	**24**	Pn		**Pn**	**13 02 07.1**	**+1.2**
M20K					IAML		13 04 18.3	
	comp=N,30nm,4.0s							
SUA	**Susitna One**	**5.70**	**36**	Pn		**Pn**	**13 02 12.6**	**+2.4**
TTA	**Tatalina**	**5.96**	**8**	Pn		**Pn**	**13 02 13.6**	**-0.2**
PPLA	**Purkeypile**	**6.49**	**23**	Pn		**Pn**	**13 02 21.8**	**+0.7**
K20K	**Telida**	**6.58**	**15**	Pn		**Pn**	**13 02 21.9**	**-0.4**
CAST	**Castle Rocks**	**6.98**	**21**	Pn		**Pn**	**13 02 28.1**	**+0.4**
KLU	**Klutina**	**7.51**	**49**	Pn		**Pn**	**13 02 35.1**	**0.0**
BPAW	**Bear Paw Mtn.**	**7.81**	**22**	Pn		**Pn**	**13 02 39.1**	**0.0**

RSNC 27 13:02:57.6±0.9, 5.°86N×73.°64W, h130km±4km, ML3.3, Mw3.7, 5C-9D, Colombia

| Code | Station Name | Δ° | A

comp=Z,52nm,0.3s
LL1C **La Loma 1 Cana** **3.66 1** *e*P Pn 13 03 54.4 +1.5
LL1C *e*S Sn 13 04 38.4 +2.6
MACC Macarena, Meta **3.69 183**⇑*i*P Pn 13 03 51.3 -2.1
MACC *e*S Sn 13 04 33.5 -3.0
MACC *i* 13 04 36.6
comp=Z,40nm,0.2s
ARGC Ariguani, Magd **4.02 351** *e*P Pn 13 03 57.9 +0.2
ARGC *e*S Sn 13 04 49.6 +5.3
ARGC *i* 13 04 59.9
comp=Z,54nm,0.3s
LCBC Los crdobas, **4.02 318** *e*P Pn 13 03 53.9 -3.8
LCBC *e*S Sn 13 04 44.2 -0.1
LCBC *i* 13 04 47.4
comp=Z,36nm,0.6s
GARC Garzon, Huila **4.08 207** *e*P Pn 13 03 57.5 -1.2
GARC *e*S Sn 13 04 45.0 -1.2
GARC *i* 13 04 47.4
comp=Z,62nm,0.2s
SJCC San Jacinto, C **4.29 339** *e*P Pn 13 03 58.9 -2.5
SJCC *e*S Sn 13 04 46.9 -3.9
SJCC *i* 13 04 53.0
comp=Z,50nm,0.5s
FLOC Florencia **4.70 205**⇓*i*P Pn 13 04 06.0 -0.7
FLOC *e*S Sn 13 04 57.8 -2.6
FLOC *i* 13 05 05.3
comp=Z,8.9nm,0.6s
CRJC Cerrejon, Guaj **5.19 8** *e*P Pn 13 04 11.9 -1.4
CRJC *e*S Sn 13 05 13.0 +0.7
SMRC Santa Marta, M **5.30 354** *e*P Pn 13 04 12.0 -2.8
SMRC *e*S Sn 13 05 10.0 -5.0
SMRC *i* 13 05 27.9
comp=Z,31nm,0.4s

MOS ***27*** *13:23:29.9±1.3,22°.48S×68°.53W,h97km,mb4.9/21,Error ellipse: s-maj=12.4km s-min=6.4km az=107.9*
SJA ***27*** *13:23:30.3±0.8,22°.53S×68°.72W,h111km±4km,ML5.0, MW4.7*
IDC ***27*** *13:23:30.6±0.3,22°.48S×68°.57W,h95km±2km,mb4.5/15, mbtmp4.8/22,MS3.5/13,Error ellipse: s-maj=11.8km s-min=9.1km az=161.0*
NEIC ***27*** *13:23:30.9±1.6,22°.48S±0°.06×68°.51W±0°.08,h93km±4km, mb5.1/144,Mww4.9,Mwr4.8(GUC),Error ellipse: s-maj=10.8km s-min=8.1km az=80.0*
VAO ***27*** *13:23:30.5±0.3,22°.36S×68°.47W,h94km±2km,mb5.0*
GUC ***27*** *13:23:31.4±0.7,22°.49S×68°.67W,h110km±4km,ML4.9*
NEIC ***27*** *13:23:32,22°.78S×68°.51W,h80km,Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^16Nm; Mrr~3.27; Mθθ0.15; Mϕϕ3.11; Mrθ~0.18; Mϕθ~0.32; Mϕr~0.44; Fault plane solution: M0 3.24000×10^16 NP1: ϕs=170.00000°,δ41.00000°,λ-95.00000°. NP2: ϕs=358.00000°,δ49.00000°,λ-84.00000°. Principal axes: T 3.1722, Plg4.0000°, Azm84.0000°; N 0.1361, Plg4.0000°, Azm174.0000°; P -3.3083, Plg85.0000°, Azm310.0000°;*
ISC 27 13:23:30.8±0.3,22°.49S±0°.03×68°.49W±0°.03,h98km±2km, h98km:pP-P,n705,σ1s20/804,mb5.1/98,22C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.41**	**253**	P		**Pn**		**13 23 46.6**	**+0.5**
	21μm,0.4s,baz=55,slow=3.6								
LVC				S		**Sn**		**13 23 57.7**	**0.0**
	39μm,0.3s,baz=300,slow=22,SNR=37								
LVC	**Limon Verde**	**0.41**	**253**	⇓*e*P		**Pn**		**13 23 46.8**	**+0.5**
LVC				*i* S		**Sn**		**13 23 57.9**	**+0.1**
LVC	**Limon Verde**	**0.41**	**253**	*e*P		**Pn**		**13 23 46.7**	**+0.5**
LVC				*e*S		**Sn**		**13 23 58.9**	**+1.2**
LVC				IAML				13 24 00.4	
	comp=Z,28μm,0.6s								
LVC	**Limon Verde**	**0.41**	**253**	*e*P		**Pn**		**13 23 46.7**	**+0.5**
LVC				*e*S		**Sn**		**13 23 58.9**	**+1.2**
LVC				IAML				13 24 00.4	
	comp=Z,28μm,0.6s								
LVC	**Limon Verde**	**0.41**	**253**	*e*P		**Pn**		**13 23 47.0**	**+0.7**
LVC				*e*S		**Sn**		**13 23 58.3**	**+0.5**
PB09	**IPOC Station P**	**0.98**	**314**			**Pn**		**13 23 51.2**	**+0.1**
PB09	**IPOC Station P**	**0.98**	**314**	⇑*i*P		**Pn**		**13 23 51.7**	**+0.6**
PB09				*i* S		**Sn**		**13 24 06.5**	**+0.2**
PB09	**IPOC Station P**	**0.98**	**314**	*e*P		**Pn**		**13 23 51.7**	**+0.6**
PB09				*e*S		**Sn**		**13 24 06.7**	**+0.4**
PB09				IAML				13 24 07.6	
	comp=Z,27μm,1.2s								
PB09	**IPOC Station P**	**0.98**	**314**	*e*P		**Pn**		**13 23 51.7**	**+0.6**
PB09				*e*S		**Sn**		**13 24 06.7**	**+0.4**
PB09				IAML				13 24 07.6	
	comp=Z,27μm,1.2s								
PB06	**IPOC Station P**	**1.03**	**258**			**Pn**		**13 23 51.1**	**-0.4**
PB06	**IPOC Station P**	**1.03**	**258**	⇑*i*P		**Pn**		**13 23 51.2**	**-0.3**
PB06				*i* S		**Sn**		**13 24 06.1**	**-1.1**
PB06	**IPOC Station P**	**1.03**	**258**	*e*P		**Pn**		**13 23 51.2**	**-0.3**
PB06				*e*S		**Sn**		**13 24 05.4**	**-1.8**
PB06				IAML				13 24 08.2	
	comp=Z,20μm,1.1s								
PB06	**IPOC Station P**	**1.03**	**258**	*e*P		**Pn**		**13 23 51.2**	**-0.3**
PB06				*e*S		**Sn**		**13 24 05.4**	**-1.8**
PB06				IAML				13 24 08.2	
	comp=Z,20μm,1.1s								
PB03	**IPOC Station P**	**1.25**	**290**	⇑*i*P		**Pn**		**13 23 53.6**	**-0.6**
PB03				*i* S		**Sn**		**13 24 10.1**	**-1.7**
PB03				IAML				13 24 11.2	
	comp=E,32μm,0.6s								
PB03	**IPOC Station P**	**1.25**	**290**	*e*P		**Pn**		**13 23 53.5**	**-0.6**
PB03				*e*S		**Sn**		**13 24 10.3**	**-1.5**
PB03				IAML				13 24 10.8	
	comp=Z,21μm,0.3s								
PB03	**IPOC Station P**	**1.25**	**290**	*e*P		**Pn**		**13 23 53.5**	**-0.6**
PB03				*e*S		**Sn**		**13 24 10.3**	**-1.5**
PB03				IAML				13 24 10.8	
	comp=Z,21μm,0.3s								
PB07	**IPOC Station P**	**1.50**	**300**	⇑*i*P		**Pn**		**13 23 56.7**	**-0.4**
PB07				*i* S		**Sn**		**13 24 15.4**	**-1.7**
PB04	**IPOC Station P**	**1.55**	**275**	⇑*i*P		**Pn**		**13 23 56.8**	**-0.9**
PB04				*i* S		**Sn**		**13 24 16.4**	**-1.7**
PB04	**IPOC Station P**	**1.55**	**275**	*e*P		**Pn**		**13 23 56.8**	**-0.9**
PB04				*e*S		**Sn**		**13 24 15.1**	**-3.1**
PB04				IAML				13 24 17.9	
	comp=Z,13μm,0.5s								
PB04	**IPOC Station P**	**1.55**	**275**	*e*P		**Pn**		**13 23 56.8**	**-0.9**
PB04				*e*S		**Sn**		**13 24 15.1**	**-3.1**
PB04				IAML				13 24 17.9	
	comp=Z,13μm,0.5s								
PB01	**IPOC Station P**	**1.71**	**327**	⇑*i*P		**Pn**		**13 23 59.9**	**+0.1**
PB01				*i* S		**Sn**		**13 24 21.3**	**-0.4**
PB01	**IPOC Station P**	**1.71**	**327**	*e*P		**Pn**		**13 23 59.8**	**+0.1**
PB01				*e*P		**Pn**		**13 23 59.9**	**+0.1**
PB01				*e*S		**Sn**		**13 24 23.0**	**+1.3**
PB01				*e*S		**Sn**		**13 24 23.0**	**+1.3**
PB01				IAML				13 24 28.4	
	comp=Z,8μm,0.6s								
PB01	**IPOC Station P**	**1.71**	**327**	*e*P		**Pn**		**13 23 59.8**	**+0.1**
PB01				*e*P		**Pn**		**13 23 59.9**	**+0.1**
PB01				*e*S		**Sn**		**13 24 23.0**	**+1.3**
PB01				*e*S		**Sn**		**13 24 23.0**	**+1.3**
PB01				IAML				13 24 28.4	
	comp=Z,8μm,0.6s								
PB02	**IPOC Station P**	**1.75**	**311**	⇑*i*P		**Pn**		**13 24 00.0**	**-0.2**
PB02				*i* S		**Sn**		**13 24 20.9**	**-1.7**
PB02	**IPOC Station P**	**1.75**	**311**	*e*P		**Pn**		**13 23 59.9**	**-0.3**
PB02				*e*S		**Sn**		**13 24 22.0**	**-0.6**
PB02				IAML				13 24 30.6	
	comp=Z,22μm,0.3s								
PB02	**IPOC Station P**	**1.75**	**311**	*e*P		**Pn**		**13 23 59.9**	**-0.3**
PB02				*e*S		**Sn**		**13 24 22.0**	**-0.6**
PB02				IAML				13 24 30.6	
	comp=Z,22μm,0.3s								
PB10	**IPOC Station P**	**2.16**	**241**	⇑*i*P		**Pn**		**13 24 03.9**	**-1.5**
PB10				*i* S		**Sn**		**13 24 27.2**	**-4.7**
PB10	**IPOC Station P**	**2.16**	**241**	*e*P		**Pn**		**13 24 03.9**	**-1.5**
PB10				*e*S		**Sn**		**13 24 27.5**	**-4.3**
PB10				IAML				13 24 27.8	
	comp=Z,4μm,0.6s								
PB10	**IPOC Station P**	**2.16**	**241**	*e*P		**Pn**		**13 24 03.9**	**-1.5**
PB10				*e*S		**Sn**		**13 24 27.5**	**-4.3**
PB10				IAML				13 24 27.8	
	comp=Z,4μm,0.6s								
PATCX	**Punta Patache**	**2.27**	**317**	Pn		**Pn**		**13 24 05.9**	**-1.0**
PATCX	**Punta Patache**	**2.27**	**317**	⇑*i*P		**Pn**		**13 24 05.8**	**-1.0**
PATCX				*i* S		**Sn**		**13 24 33.1**	**-1.5**
PATCX	**Punta Patache**	**2.27**	**317**	*e*P		**Pn**		**13 24 05.9**	**-1.0**
PATCX				*e*S		**Sn**		**13 24 31.0**	**-3.5**
PATCX				IAML				13 24 38.7	
	comp=Z,9μm,1.0s								
PATCX	**Punta Patache**	**2.27**	**317**	*e*P		**Pn**		**13 24 05.9**	**-1.0**
PATCX				*e*S		**Sn**		**13 24 31.0**	**-3.5**
PATCX				IAML				13 24 38.7	
	comp=Z,9μm,1.0s								
TA01	**Diego Aracena**	**2.48**	**320**	Pn		**Pn**		**13 24 08.2**	**-1.4**
TA01	**Diego Aracena**	**2.48**	**320**	⇑*i*P		**Pn**		**13 24 08.2**	**-1.4**
TA01				*i* S		**Sn**		**13 24 37.9**	**-1.4**
TA01	**Diego Aracena**	**2.48**	**320**	*e*P		**Pn**		**13 24 08.4**	**-1.2**
TA01				*e*S		**Sn**		**13 24 38.0**	**-1.3**
TA01				IAML				13 24 47.2	
	comp=Z,5μm,0.3s								
TA01	**Diego Aracena**	**2.48**	**320**	*e*P		**Pn**		**13 24 08.4**	**-1.2**
TA01				*e*S		**Sn**		**13 24 38.0**	**-1.3**
TA01				IAML				13 24 47.2	
	comp=Z,5μm,0.3s								
TA02	**Huaiquique**	**2.69**	**325**			**Pn**		**13 24 10.9**	**-1.5**
TA02	**Huaiquique**	**2.69**	**325**	*e*P		**Pn**		**13 24 10.9**	**-1.5**
TA02	**Huaiquique**	**2.69**	**325**	*e*P		**Pn**		**13 24 11.5**	**-0.8**
TA02				*e*S		**Sn**		**13 24 44.0**	**-0.2**
TA02				IAML				13 24 53.8	
	comp=Z,4μm,0.6s								
TA02	**Huaiquique**	**2.69**	**325**	*e*P		**Pn**		**13 24 11.5**	**-0.8**
TA02				*e*S		**Sn**		**13 24 44.0**	**-0.2**
TA02				IAML				13 24 53.8	
	comp=Z,4μm,0.6s								
PB14	**IPOC Station P**	**2.76**	**219**	*e*P		**Pn**		**13 24 12.6**	**-1.0**
PB14	**IPOC Station P**	**2.76**	**219**	*e*P		**Pn**		**13 24 12.5**	**-1.0**
PB14				*e*S		Sn		13 24 33.0	-13
PB14				IAML				13 24 54.5	
	comp=Z,6μm,0.6s								
PB14	**IPOC Station P**	**2.76**	**219**	*e*P		**Pn**		**13 24 12.5**	**-1.0**
PB14				*e*S		Sn		13 24 33.0	-13
PB14				IAML				13 24 54.5	
	comp=Z,6μm,0.6s								
YJA	**Yavi**	**2.77**	**84**	*e*P		Pn		13 24 19.0	+5.2
YJA				*e*S		**Sn**		**13 24 39.9**	**-6.9**
YJA	**Yavi**	**2.77**	**84**	*e*P		Pn		13 24 19.0	+5.2
YJA				*e*S		**Sn**		**13 24 39.9**	**-6.9**
GO01	**Chusmiza**	**2.88**	**347**			**Pn**		**13 24 16.4**	**+0.9**
GO01	**Chusmiza**	**2.88**	**347**	⇑*i*P		**Pn**		**13 24 16.3**	**+0.9**
GO01				*i* S		**Sn**		**13 24 50.8**	**+1.2**
GO01	**Chusmiza**	**2.88**	**347**	*e*P		**Pn**		**13 24 16.3**	**+0.9**
GO01				*e*S		**Sn**		**13 24 45.2**	**-4.4**
GO01	**Chusmiza**	**2.88**	**347**	*e*P		**Pn**		**13 24 16.3**	**+0.9**
GO01				*e*S		**Sn**		**13 24 45.2**	**-4.4**
PB11	**IPOC Station P**	**2.92**	**338**	⇑*i*P		**Pn**		**13 24 14.9**	**-0.7**
PB11				*i* S		**Sn**		**13 24 43.3**	**-6.9**
PB11	**IPOC Station P**	**2.92**	**338**	*e*P		**Pn**		**13 24 14.9**	**-0.7**
PB11				*e*S		Sn		13 24 38.5	-12
PB11				IAML				13 24 43.9	
	comp=Z,7μm,0.8s								
PB11	**IPOC Station P**	**2.92**	**338**	*e*P		**Pn**		**13 24 14.9**	**-0.7**
PB11				*e*S		Sn		13 24 38.5	-12
PB11				IAML				13 24 43.9	
	comp=Z,7μm,0.8s								
PSGC	**Pisagua**	**3.26**	**332**	⇑*i*P		**Pn**		**13 24 17.9**	**-2.1**
PSGC				*i* S		Sn		13 24 48.5	-10
PSGCX	**Pisagua**	**3.26**	**332**	Pn		**Pn**		**13 24 17.9**	**-2.2**
MNMC	**Minye Minye**	**3.50**	**343**			**Pn**		**13 24 22.1**	**-1.3**
MNMC	**Minye Minye**	**3.50**	**343**	*e*P		**Pn**		**13 24 22.9**	**-0.5**
MNMCX	**Minye Minye**	**3.50**	**343**	*e*P		**Pn**		**13 24 23.0**	**-0.5**
MNMCX				*e*S		Sn		13 25 23.0	+19
MNMCX				IAML				13 25 30.9	
	comp=Z,4μm,1.1s								
MNMCX	**Minye Minye**	**3.50**	**343**	*e*P		**Pn**		**13 24 23.0**	**-0.5**
MNMCX				*e*S		Sn		13 25 23.0	+19
MNMCX				IAML				13 25 30.9	
	comp=Z,4μm,1.1s								
SLA	**San Lorenzo**	**3.52**	**130**	*e*P		**Pn**		**13 24 28.0**	**+4.3**
SLA	**San Lorenzo**	**3.52**	**130**	*e*P		**Pn**		**13 24 28.0**	**+4.3**
ASTB	**Santa Barbara**	**3.98**	**112**	*e*P		**Pn**		**13 24 33.6**	**+3.8**
ASTB	**Santa Barbara**	**3.98**	**112**	*e*P		**Pn**		**13 24 33.6**	**+3.8**
AC01	**Pan de Azucar**	**4.12**	**207**	Pn		**Pn**		**13 24 30.4**	**-1.2**
AC01	**Pan de Azucar**	**4.12**	**207**	⇓*i*P		**Pn**		**13 24 29.7**	**-1.9**
PB12	**IPOC Station P**	**4.22**	**336**	⇑*i*P		**Pn**		**13 24 30.5**	**-2.6**
PB12	**IPOC Station P**	**4.22**	**336**	*e*P		**Pn**		**13 24 30.7**	**-2.3**
PB12				IAML				13 25 48.3	
	comp=Z,1μm,0.6s								
PB12	**IPOC Station P**	**4.22**	**336**	*e*P		**Pn**		**13 24 30.7**	**-2.3**
PB12				IAML				13 25 48.3	
	comp=Z,1μm,0.6s								
PB16	**IPOC Station P**	**4.24**	**347**	⇓*i*P		**Pn**		**13 24 34.3**	**+0.5**
PB16	**IPOC Station P**	**4.24**	**347**	*e*P		**Pn**		**13 24 34.0**	**+0.2**
PB16				IAML				13 25 54.7	
	comp=Z,1μm,0.6s								
PB16	**IPOC Station P**	**4.24**	**347**	*e*P		**Pn**		**13 24 34.0**	**+0.2**
PB16				IAML				13 25 54.7	
	comp=Z,1μm,0.6s								
ALOL	**LOMAS DE OLMED**	**4.35**	**109**	*e*P		**Pn**		**13 24 37.8**	**+3.1**
ALOL				*e*P		**Pn**		**13 24 38.0**	**+3.4**
ALOL	**LOMAS DE OLMED**	**4.35**	**109**	*e*P		**Pn**		**13 24 37.8**	**+3.1**
ALOL				*e*P		**Pn**		**13 24 38.0**	**+3.4**
AC02	**Maricunga**	**4.37**	**188**	Pn		**Pn**		**13 24 36.1**	**+0.7**
AC02	**Maricunga**	**4.37**	**188**	⇑*i*P		**Pn**		**13 24 36.0**	**+0.7**
AP01	**Chacalluta**	**4.45**	**337**	*e*P		**Pn**		**13 24 37.2**	**+1.1**
AP01				*i* S		**Sn**		**13 25 25.8**	**-1.0**
AC06	**Mina Casimiro**	**5.14**	**199**			**Pn**		**13 24 43.9**	**-1.4**
AC06	**Mina Casimiro**	**5.14**	**199**	*e*P		**Pn**		**13 24 42.9**	**-2.4**
GO03	**Copiap**	**5.33**	**197**			**Pn**		**13 24 45.9**	**-2.0**
LPAZ	**La Paz**	**6.18**	**3**	P		**Pn**		**13 25 00.3**	**+0.3**
	comp=Z,39nm,0.6s,baz=172,slow=7.0,SNR=50								
LPAZ				S			Sn	13 25 54.2	-15
	comp=Z,154nm,1.0s,baz=227,slow=16,SNR=6.3								
LPAZ	**La Paz**	**6.18**	**3**	Pn		**Pn**		**13 25 02.0**	**+1.9**
LPAZ	**La Paz**	**6.18**	**3**	P		**Pn**		**13 25 02.0**	**+1.9**
LPAZ	**La Paz**	**6.18**	**3**	*e*P		**Pn**		**13 25 00.7**	**+0.6**
LCO	**Las Campanas**	**6.80**	**197**			**Pn**		**13 25 06.1**	**-2.0**
LCO	**Las Campanas**	**6.80**	**197**	P		**Pn**		**13 25 06.1**	**-2.0**
CO01	**Juntas del Tor**	**7.60**	**191**			**Pn**		**13 25 17.2**	**-1.8**
GO04	**Tololo Observa**	**7.93**	**195**			**Pn**		**13 25 21.9**	**-1.6**
TICA	**Tres Isletas**	**8.34**	**119**	*e*P		**Pn**		**13 25 29.6**	**+0.8**
CO03	**El Pedregal**	**8.55**	**193**			**Pn**		**13 25 28.9**	**-2.9**
VACA	**Villa Angela C**	**8.72**	**128**	*e*P		**Pn**		**13 25 36.0**	**+2.0**
CFA	**Coronel Fontan**	**9.08**	**179**	P		**Pn**		**13 25 37.0**	**-2.0**
	comp=Z,14nm,0.3s,baz=12,slow=15,SNR=24								
CFA				LR			LR	13 30 14.7	
	comp=Z,162nm,20.7s,baz=328,slow=44								
BBSD	**Serra de San D**	**9.09**	**56**	*e*P		**Pn**		**13 25 37.7**	**-1.6**
BBRB	**Robore, Bolivi**	**9.15**	**64**	*e*P		**Pn**		**13 25 37.9**	**-2.1**
ESFA	**Espinillo Form**	**9.48**	**107**	*e*P		**Pn**		**13 25 45.2**	**+0.8**
SIV	**San Ignacio**	**9.53**	**49**	P		**Pn**		**13 25 43.9**	**-1.2**
	comp=Z,63nm,0.4s,baz=258,slow=9.3,SNR=247								
SIV				S			**Sn**	**13 27 22.5**	**-7.9**
	comp=Z,30nm,0.5s,baz=154,slow=16,SNR=6.0								
MURT	**Porto Murtinho**	**10.12**	**87**	*e*P		**Pn**		**13 25 52.7**	**-0.4**
ROC1	**El Roble**	**10.69**	**192**			**Pn**		**13 26 00.6**	**-0.4**
CPUP	**Villa Florida**	**10.86**	**113**	P		**Pn**		**13 26 02.9**	**-0.3**
	comp=Z,17nm,0.8s,baz=295,slow=12,SNR=33								
CPUP				LR			LR	13 30 57.5	
	comp=Z,283nm,18.6s,baz=276,slow=41								
MT02	**Curacav**	**10.98**	**192**			**Pn**		**13 26 02.4**	**-2.5**
PTLB	**Pontes e Lacer**	**11.28**	**53**			**Pn**		**13 26 09.0**	**+0.1**
PTLB	**Pontes e Lacer**	**11.28**	**53**	*e*P		**Pn**		**13 26 07.4**	**-1.4**
MT09	**Talagante**	**11.46**	**191**			**Pn**		**13 26 09.9**	**-1.4**
MECA	**Mercedes**	**11.49**	**128**	*e*P		**Pn**		**13 26 12.4**	**+0.8**
MT01	**Popeta**	**11.59**	**192**			**Pn**		**13 26 11.3**	**-1.7**
AQDB	**Aquidauana**	**12.07**	**83**			**Pn**		**13 26 21.0**	**+1.5**
AQDB	**Aquidauana**	**12.07**	**83**	*e*P		**Pn**		**13 26 18.8**	**-0.7**
BO01	**Tunca**	**12.08**	**190**			**Pn**		**13 26 19.7**	**+0.3**
VILB	**Vilhena**	**12.33**	**41**	Pn		**Pn**		**13 26 23.0**	**0.0**
VILB	**Vilhena**	**12.33**	**41**	*e*P		**Pn**		**13 26 22.8**	**-0.2**
BO02	**Sierra Bellavi**	**12.42**	**189**			**Pn**		**13 26 25.7**	**+1.5**
AZCA	**Azaras, Argent**	**12.60**	**119**	*e*P		**Pn**		**13 26 28.3**	**+1.8**
ETMB	**Extrema**	**12.79**	**10**			**Pn**		**13 26 26.6**	**-2.4**
ETMB	**Extrema**	**12.79**	**10**	*e*P		**Pn**		**13 26 26.2**	**-2.8**
ITQB	**Itaqui**	**12.83**	**126**			**Pn**		**13 26 29.8**	**+0.4**
ITQB	**Itaqui**	**12.83**	**126**	*e*P		**Pn**		**13 26 30.6**	**+1.2**
RVDE	**Rio Verde (Bra**	**13.13**	**77**	*e*P		**Pn**		**13 26 31.1**	**-2.4**
NNA	**Nana**	**13.14**	**321**	P		**Pn**		**13 26 32.4**	**-1.2**
	comp=Z,7.2nm,0.3s,baz=221,slow=19,SNR=1.8								
NNA	**Nana**	**13.14**	**321**	*i* P		**Pn**		**13 26 33.1**	**-0.6**
MCR1	**Marechal Candi**	**13.40**	**101**	*e*P		**Pn**		**13 26 37.2**	**+0.1**
PP1B	**Ponte de Pedra**	**13.68**	**72**	*e*P		**Pn**		**13 26 38.2**	**-2.5**
SALV	**Santo Antonio**	**13.74**	**64**	*e*P		**Pn**		**13 26 39.2**	**-2.2**
CRSM	**Crissiumal (Br**	**14.01**	**114**	*e*P		**Pn**		**13 26 46.0**	**+1.1**
RODS	**Rosario do Sul**	**14.24**	**126**	*e*P		**Pn**		**13 26 48.0**	**+0.1**
SAML	**Samuel**	**14.39**	**22**	Pn		**Pn**		**13 26 48.3**	**-1.6**
SAML	**Samuel**	**14.39**	**22**	P		**Pn**		**13 26 48.3**	**-1.6**
FRBT	**Francisco Belt**	**14.49**	**107**	*e*P		**Pn**		**13 26 51.9**	**+0.7**
PTGB	**Pitanga**	**15.22**	**102**	*e*P		**Pn**		**13 27 01.8**	**+1.3**
CZSB	**Cruzeiro do Su**	**15.23**	**344**	P		**P**		**13 27 02.8**	**-0.5**
CZSB	**Cruzeiro do Su**	**15.23**	**344**	*e*P		**Pn**		**13 26 57.9**	**-2.6**
ALGR	**Alto Alegre (B**	**15.28**	**117**	*e*P		**P**		**13 27 02.6**	**-1.3**
ITAB	**Concordia**	**15.57**	**111**	P		**P**		**13 27 08.0**	**+1.0**
ITAB	**Concordia**	**15.57**	**111**	*e*P		**P**		**13 27 06.2**	**-0.8**
PDRB	**Porto dos Gac**	**15.59**	**48**	*e*P		**Pn**		**13 27 02.6**	**-2.4**
CPSB	**Cacapava Do Su**	**15.60**	**124**	*e*P		**Pn**		**13 27 04.7**	**-0.4**
PCMB	**Pacaembu**	**15.99**	**90**	*e*P		**Pn**		**13 27 10.3**	**+0.2**
PLTB	**Pedras Altas**	**16.14**	**128**	P		**P**		**13 27 13.4**	**+0.2**
PLTB	**Pedras Altas**	**16.14**	**128**	*e*P		**P**		**13 27 12.9**	**-0.3**
TRQA	**Tornquist**	**16.49**	**162**	P		**Pn**		**13 27 16.3**	**+0.1**
TRQA	**Tornquist**	**16.49**	**162**	P		**Pn**		**13 27 16.3**	**+0.1**
CLDB	**Colider**	**16.75**	**48**	*e*P		**Pn**		**13 27 17.6**	**-1.9**
ARAG	**Araguaiana, MT**	**17.13**	**70**	*e*P		**Pn**		**13 27 23.6**	**-0.6**
ITRB	**Iturama**	**17.14**	**84**	*e*P		**P**		**13 27 24.5**	**+0.1**
CNLB	**Canela**	**17.25**	**117**	*e*P		**Pn**		**13 27 25.5**	**-0.1**
FRTB	**Fartura**	**17.45**	**96**	*e*P		**Pn**		**13 27 28.9**	**+0.8**
ATAH	**Atahualpa**	**18.00**	**326**	P		**P**		**13 27 34.1**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=160,slow=12,SNR=2.5								
TBTG	**Tabatinga, AM**	**18.25**	**355**	*e*P		**P**		**13 27 36.0**	**-0.5**
PLCA	**Paso Flores**	**18.27**	**185**	P		**P**		**13 27 36.6**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=7.2,slow=11,SNR=14								
PLCA				PcP		**PcP**		**13 32 05.6**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=54,slow=1.5,SNR=6.8								
PLCA				LR			LR	13 35 50.8	
	comp=Z,115nm,18.1s,baz=352,slow=40								
PLCA	**Paso Flores**	**18.27**	**185**	P		**Pn**		**13 27 37.7**	**-0.1**
PLCA	**Paso Flores**	**18.27**	**185**	*e*P		**P**		**13 27 36.9**	**+0.1**
TER01	**Tubaro-SC**	**18.47**	**113**	*e*P		**P**		**13 27 39.0**	**+0.1**
LL04	**Puerto Octay**	**18.66**	**189**	P		**P**		**13 27 41.0**	**0.0**
TEFE	**Tefe**	**19.23**	**12**	*e*P		**P**		**13 27 46.8**	**-0.6**
RCLB	**Rio Claro- Sao**	**19.37**	**94**	*e*P		**P**		**13 27 49.4**	**+0.5**
SPB	**Sao Paulo**	**19.41**	**97**	P		**Pn**		**13 27 50.3**	**-1.0**
SPB	**Sao Paulo**	**19.41**	**97**	*e*P		**P**		**13 27 49.1**	**-0.1**
SNDB	**Serra Nova Dou**	**19.45**	**60**	*e*P		**P**		**13 27 49.2**	**-0.4**
IPMB	**Ipameri, GO**	**19.54**	**80**	*e*P		**P**		**13 27 50.8**	**0.0**
PET01	**Itanhaem-SP**	**19.55**	**99**	*e*P		**P**		**13 27 51.2**	**+0.4**
VAO	**Valinhos**	**19.86**	**96**	*e*P		**P**		**13 27 54.6**	**+0.4**
NPGB	**Novo Progresso**	**19.89**	**41**	*e*P		**P**		**13 27 52.6**	**-1.9**
BDFB	**Brasilia**	**20.50**	**74**	P		**P**		**13 28 00.9**	**-0.3**
	comp=Z,18nm,0.6s,baz=260,slow=12,SNR=28								
	comp=Z,18nm,0.6s								
BDFB	**Brasilia**	**20.50**	**74**	P		**P**		**13 28 01.3**	**+0.1**
BDFB	**Brasilia**	**20.50**	**74**	P		**P**		**13 28 01.3**	**+0.1**
BDFB	**Brasilia**	**20.50**	**74**	*e*P		**P**		**13 28 00.8**	**-0.4**
MACA	**Manacapuru-AM**	**

W57A IAmb IAmb 13 33 16.1
comp=Z,18nm,0.8s
W57A Gilead 58.36 349 P P 13 33 15.8 +0.1
baz=168
W57A P P 13 33 15.8 +0.1
baz=168
PAULI Pauline 58.38 347 P P 13 33 15.9 +0.1
baz=166
HKT Hockley 58.39 332 P P 13 33 16.5 +0.6
HKT IAmb IAmb 13 33 17.4
comp=Z,19nm,1.2s
HKT Hockley 58.39 332 P P 13 33 16.4 +0.4
baz=150
HKT Hockley 58.39 332 P P 13 33 16.5 +0.6
HKT pmax pmax
comp=Z,19nm,1.2s
HKT Hockley 58.39 332 P P 13 33 16.2 +0.3
HKT pP **pP 13 33 42.3 +1.1**
V61A Roper 58.47 352 P P 13 33 17.5 +1.1
baz=171
V61A P P 13 33 17.5 +1.1
baz=171
Y49A Blount Mountai 58.58 343 P P 13 33 16.1 -1.2
baz=161
KMSC Kings Mountain 58.60 348 P P 13 33 17.2 -0.1
baz=166
KMSC Kings Mountain 58.60 348 P P 13 33 17.2 -0.1
baz=166
833A Chaparral WMA, 58.66 328 P P 13 33 18.1 +0.2
833A Chaparral WMA, 58.66 328 P P 13 33 18.2 +0.2
baz=146,SNR=8.6
833A Chaparral WMA, 58.66 328 P P 13 33 17.9 -0.1
baz=146,SNR=8.6
CASEE Lake Jocassee 58.79 346 P P 13 33 18.5 -0.2
baz=164
V58A Windy Hill, Pi 58.83 350 P P 13 33 18.9 0.0
V58A Windy Hill, Pi 58.83 350 P P 13 33 19.0 +0.1
baz=169,SNR=5.4
V58A P P 13 33 19.0 +0.1
baz=169,SNR=5.4
X51A Calhoun 58.84 344 P P 13 33 18.7 -0.3
X51A IAmb IAmb 13 33 19.4
comp=Z,20nm,0.8s
X51A Calhoun 58.84 344 P P 13 33 18.6 -0.4
baz=162
X51A P P 13 33 18.6 -0.4
baz=162
FPAL Fort Paine 59.00 344 P P 13 33 19.5 -0.7
FPAL IAmb IAmb 13 33 20.2
comp=Z,21nm,1.2s
W52A Murphy 59.11 345 P P 13 33 20.7 -0.3
baz=163
U59A Littleton 59.18 351 P P 13 33 21.4 0.0
U59A Littleton 59.18 351 P P 13 33 21.3 0.0
baz=170
U59A P P 13 33 21.3 0.0
baz=170
V55A Taylorsville 59.26 348 P P 13 33 22.6 +0.7
V55A Taylorsville 59.26 348 P P 13 33 22.6 +0.7
baz=166,SNR=7.5
V55A P P 13 33 22.6 +0.7
baz=166,SNR=7.5
X48A Hartselle 59.31 342 P P 13 33 21.6 -0.6
X48A Hartselle 59.31 342 P P 13 33 21.7 -0.6
baz=160,SNR=10
V53A Saluda 59.41 346 P P 13 33 22.8 -0.3
baz=165
V53A P P 13 33 22.8 -0.3
baz=165
NATX Nacogdoches 59.48 334 P P 13 33 23.8 +0.3
NATX Nacogdoches 59.48 334 P P 13 33 24.5 +1.0
baz=152
NATX Nacogdoches 59.48 334 P P 13 33 23.8 +0.3
baz=152
Y45A Yeager Farm, C 59.52 340 P P 13 33 23.6 -0.1
baz=157
W50A Signal Mountai 59.55 344 P P 13 33 23.8 -0.2
W50A Signal Mountai 59.55 344 P P 13 33 23.8 -0.2
baz=162,SNR=5.7
U56A King 59.59 349 P P 13 33 25.1 +0.9
U56A King 59.59 349 P P 13 33 24.8 +0.6
baz=167
U56A P P 13 33 24.8 +0.6
baz=167
VNA2 Neumayer--Watz 59.59 161 P P 13 33 23.8 0.0
baz=278,slow=9.0
CPCT Cooper Cave 59.59 345 P P 13 33 24.0 -0.2
CPCT IAmb IAmb 13 33 24.6
comp=Z,20nm,1.0s
TKL Tuckaleechee C 59.62 346 LR LR 14 01 13.9
comp=Z,40nm,19.8s,baz=94,slow=38
TKL Tuckaleechee C 59.62 346 P P 13 33 24.1 -0.3
TKL IAmb IAmb 13 33 24.6
comp=Z,17nm,0.8s
TKL Tuckaleechee C 59.62 346 P P 13 33 23.9 -0.5
baz=164,SNR=5.2
TKL Tuckaleechee C 59.62 346 P P 13 33 24.1 -0.3
TKL pmax pmax
comp=Z,17nm,0.9s
SWET Sewanee 59.73 343 P P 13 33 24.8 -0.4
SWET IAmb IAmb 13 33 25.3
comp=Z,25nm,0.9s
V52A Sevierville 59.75 346 P P 13 33 24.6 -0.7
V52A Sevierville 59.75 346 P P 13 33 24.7 -0.7
baz=164,SNR=6.3
T59A Double "B" Far 59.76 352 P P 13 33 25.3 +0.1
T59A Double "B" Far 59.76 352 P P 13 33 25.4 +0.1
baz=170,SNR=7.3
T59A P P 13 33 25.4 +0.1
baz=170,SNR=7.3
435B Jarrell 59.88 331 P P 13 33 26.1 -0.2
baz=149
V51A Loudon 59.89 345 P P 13 33 25.7 -0.6
baz=163
U54A Nelsons Funny 60.03 348 P P 13 33 27.4 +0.1
U54A Nelsons Funny 60.03 348 P P 13 33 27.5 +0.3
baz=166,SNR=5.0
U54A P P 13 33 27.5 +0.3
baz=166,SNR=5.0
T57A Hurt 60.03 350 P P 13 33 27.4 +0.2
T57A IAmb IAmb 13 33 28.3
comp=Z,20nm,0.7s
T57A Hurt 60.03 350 P P 13 33 27.3 +0.2
baz=169
T57A P P 13 33 27.3 +0.2
baz=169
OXF Oxford 60.07 340 P P 13 33 26.1 -1.3
OXF Oxford 60.07 340 P P 13 33 26.8 -0.8
baz=158
OXF Oxford 60.07 340 P P 13 33 26.3 -1.2
baz=158
OXF Oxford 60.07 340 P P 13 33 26.2 -1.3
OXF pmax pmax
comp=Z,43nm,0.9s
Z41A Richland Creek 60.09 337 P P 13 33 27.2 -0.4
baz=154
Z41A P P 13 33 27.2 -0.4
baz=154
237A Washetta, Mont 60.16 333 P P 13 33 27.8 -0.4
237A Washetta, Mont 60.16 333 P P 13 33 28.9 +0.7
baz=151
TZTN Tazewell 60.41 346 P P 13 33 30.6 +0.7
baz=164
TZTN Tazewell 60.41 346 P P 13 33 30.1 +0.3
baz=164
BLA Blacksburg 60.44 349 P P 13 33 30.5 +0.5
baz=167
BLA Blacksburg 60.44 349 P P 13 33 30.3 +0.3
baz=167
V48A Smith Brothers 60.46 343 P P 13 33 29.4 -0.7
V48A Smith Brothers 60.46 343 P P 13 33 29.5 -0.7
baz=161,SNR=9.7
WLAR White Oak Lake 60.59 336 P P 13 33 32.0 +1.0
JCT Junction City 60.65 329 P P 13 33 31.7 +0.1
JCT Junction City 60.65 329 P P 13 33 31.8 +0.1
baz=147,SNR=9.5
JCT Junction City 60.65 329 P P 13 33 31.1 -0.5
baz=147,SNR=9.5
JCT Junction City 60.65 329 P P 13 33 31.7 +0.1
JCT pmax pmax
comp=Z,25nm,0.8s
CLTN Cedars of Leba 60.66 343 P P 13 33 31.1 -0.4
CLTN IAmb IAmb 13 33 31.7
comp=Z,23nm,0.8s
S57A Dark Hollow, R 60.73 350 P P 13 33 32.4 +0.4
S57A Dark Hollow, R 60.73 350 P P 13 33 32.3 +0.4
baz=169
S57A P P 13 33 32.3 +0.4
baz=169
R58B Mineral 60.77 351 P P 13 33 32.7 +0.5
R58B IAmb IAmb 13 33 33.4
comp=Z,25nm,0.8s
R58B Mineral 60.77 351 P P 13 33 32.8 +0.6
baz=170,SNR=6.3
R58B P P 13 33 32.8 +0.6
baz=170,SNR=6.3
WHTX Lake Whitney, 60.85 332 P P 13 33 32.9 0.0
WHTX IAmb IAmb 13 33 33.7
comp=Z,24nm,0.8s
WHTX Lake Whitney, 60.85 332 P P 13 33 32.9 0.0
baz=149,SNR=5.9
WHTX Lake Whitney, 60.85 332 P P 13 33 32.3 -0.6
baz=149,SNR=5.9
U49A Red Boiling Sp 60.91 344 P P 13 33 32.2 -1.0
U49A IAmb IAmb 13 33 33.1
comp=Z,52nm,1.7s
Z38A Mt. Pleasant 60.93 335 P P 13 33 34.1 +0.7
baz=152
CBN Corbin Frederi 60.95 352 P P 13 33 32.8 -0.6
baz=171
SLBS Sierra La Lagu 61.09 316 P P 13 33 35.8 +1.0
SLBS IAmb IAmb 13 34 23.8
comp=Z,24nm,1.1s
WVT Waverly 61.10 342 P P 13 33 34.0 -0.5
WVT Waverly 61.10 342 P P 13 33 33.3 -1.2
baz=160,SNR=16
WVT Waverly 61.10 342 P P 13 33 33.0 -1.5
baz=160
WVT Waverly 61.10 342 P P 13 33 34.0 -0.5
WVT pmax pmax
comp=Z,32nm,0.8s
WVT Waverly 61.10 342 P P 13 33 33.1 -1.4
WVT pP **pP 13 33 59.3 -0.6**
WVT sP **sP 13 34 11.2 +0.1**
T50A Nancy 61.17 345 P P 13 33 34.3 -0.6
T50A IAmb IAmb 13 33 34.4
comp=Z,12nm,0.8s
T50A Nancy 61.17 345 P P 13 33 34.3 -0.6
baz=163
T50A P P 13 33 34.3 -0.6
baz=163
S54A Dingess, Beckl 61.17 348 P P 13 33 34.9 -0.1
baz=166
S54A P P 13 33 34.9 -0.1
baz=166
SNAA Sanae 61.22 161 P P 13 33 35.8 +0.8
SNAA Sanae 61.22 161 P P 13 33 35.8 +0.8
comp=Z,8.4nm,0.6s,baz=289,slow=8.8,SNR=16
comp=Z,8.4nm,0.6s
SNAA Sanae 61.22 161 P P 13 33 35.8 +0.8
SNAA IAmb IAmb 13 33 36.7
comp=Z,11nm,0.8s
SNAA Sanae 61.22 161 P P 13 33 35.8 +0.8
SNAA pmax pmax
comp=Z,11nm,0.8s
R55A Marlinton 61.43 350 P P 13 33 37.5 +0.8
baz=168
R55A P P 13 33 37.5 +0.8
baz=168
MIAR Mount Ida 61.53 337 P P 13 33 36.6 -0.8
MIAR IAmb IAmb 13 33 38.0
comp=Z,23nm,0.8s
MIAR Mount Ida 61.53 337 P P 13 33 37.1 -0.3
baz=154,SNR=15
MIAR Mount Ida 61.53 337 P P 13 33 36.7 -0.8
baz=154,SNR=15
MIAR Mount Ida 61.53 337 P P 13 33 36.6 -0.8
MIAR pmax pmax
comp=Z,23nm,0.8s
TX32 Lajitas Array 61.66 325 P P 13 33 39.0 +0.4
TXAR Lajitas Array 61.66 325 P P 13 33 38.4 -0.2
comp=Z,2.1nm,0.6s,baz=152,slow=8.8,SNR=24
comp=Z,2.1nm,0.6s
TXAR Lajitas Array 61.66 325 P P 13 33 38.7 +0.2
TXAR Lajitas Array 61.66 325 P P 13 33 38.7 +0.2
TX31 Lajitas Ar. Si 61.66 325 P P 13 33 38.7 +0.2
TX31 IAmb IAmb 13 33 39.0
comp=Z,12nm,0.8s
TX31 Lajitas Ar. Si 61.66 325 P P 13 33 38.6 +0.1
baz=143,SNR=7.7
T47A Sharon Grove 61.71 343 P P 13 33 39.1 +0.5
T47A IAmb IAmb 13 33 39.2
comp=Z,25nm,0.9s
T47A Sharon Grove 61.71 343 P P 13 33 37.6 -0.9
baz=160,SNR=7.3
Z35A Perchaven, San 61.92 333 P P 13 33 39.5 -0.5
Z35A Perchaven, San 61.92 333 P P 13 33 40.2 +0.1
baz=150
Q56A Snyder Ridge, 62.02 351 P P 13 33 41.1 +0.5
Q56A IAmb IAmb 13 33 42.4
comp=Z,25nm,0.8s
Q56A Snyder Ridge, 62.02 351 P P 13 33 41.5 +0.8
baz=169,SNR=5.6
Q56A P P 13 33 41.5 +0.8
baz=169,SNR=5.6
LCAR Lake Charles 62.06 339 P P 13 33 40.0 -0.9
baz=156,SNR=6.6
FCAR Ozark Folk Cen 62.22 338 P P 13 33 41.0 -1.0
FCAR IAmb IAmb 13 33 42.0
comp=Z,29nm,1.3s
X37A Clayton 62.25 335 P 13 33 42.3 +0.1
X37A Clayton 62.25 335 P P 13 33 42.4 +0.1
baz=152,SNR=12
P57A Homestead Farm 62.29 352 P P 13 33 43.4 +1.0
baz=170
P57A P P 13 33 43.4 +1.0
baz=170
GEDE Greenville 62.33 354 P P 13 33 42.9 +0.2
baz=173
ABTX Abilene, Hawle 62.37 330 P P 13 33 42.8 -0.3
ABTX IAmb IAmb 13 33 43.8
comp=Z,43nm,1.4s
ABTX Abilene, Hawle 62.37 330 P P 13 33 42.9 -0.3
baz=147,SNR=7.7
ABTX Abilene, Hawle 62.37 330 P P 13 33 42.9 -0.3
baz=147,SNR=7.7
PSUB Penn St. - Bra 62.43 354 P P 13 33 43.7 +0.4
baz=173
R49A Shelbyville 62.46 345 P P 13 33 43.1 -0.4
baz=163
R49A P P 13 33 43.1 -0.4
baz=163
LOOK Love County 62.46 333 P P 13 33 43.7 0.0
PBMO Poplar Bluff 62.48 340 P P 13 33 43.3 -0.4
baz=157
WCI Wyandotte Cave 62.67 344 P P 13 33 43.8 -1.2
baz=162
WCI Wyandotte Cave 62.67 344 P P 13 33 43.5 -1.4
baz=162
WCI Wyandotte Cave 62.67 344 P P 13 33 43.7 -1.2
WCI pP **pP 13 34 09.5 -1.0**
CGM3 Cape Girardeau 62.72 341 P P 13 33 44.7 -0.6
CGM3 IAmb IAmb 13 33 45.5
comp=Z,54nm,1.4s
MCWV Mont Chateau 62.73 350 P P 13 33 45.5 +0.1
MCWV IAmb IAmb 13 33 46.5
comp=Z,20nm,0.7s
MCWV Mont Chateau 62.73 350 P P 13 33 45.7 +0.4
baz=168
MCWV Mont Chateau 62.73 350 P P 13 33 44.9 -0.4
baz=168
P53A Whipple 62.82 349 P P 13 33 46.2 +0.2
baz=167
P53A P P 13 33 46.2 +0.2
baz=167
BBTS Babate 62.87 59 LR LR 14 02 15.3
comp=Z,57nm,18.1s,baz=320,slow=37
U40A Yellville 62.90 338 P P 13 33 45.9 -0.6
baz=155,SNR=10
U40A P P 13 33 45.9 -0.6
baz=155,SNR=10
TROLL Troll, Antarti 62.94 161 P P 13 33 47.7 +1.2
SIUC Southern Illin 62.98 342 P P 13 33 47.0 0.0
SIUC IAmb IAmb 13 33 47.8
comp=Z,18nm,0.8s
BRNJ Basking Ridge 63.10 355 P P 13 33 48.3 +0.6
baz=174
HHAR Hobbs 63.21 337 P P 13 33 48.4 -0.3
HHAR IAmb IAmb 13 33 49.1
comp=Z,31nm,1.1s
X34A Smith Ranch, M 63.25 333 P 13 33 49.1 +0.2
X34A IAmb IAmb 13 33 49.7
comp=Z,27nm,0.7s
SSPA Standing Stone 63.41 352 P P 13 33 49.7 -0.1
baz=170
MGMO Mountain Grove 63.42 339 P P 13 33 49.4 -0.6
MGMO IAmb IAmb 13 33 49.8
comp=Z,15nm,0.8s
N58A Sunbury 63.47 353 P P 13 33 50.7 +0.6
baz=172
N58A P P 13 33 50.7 +0.6
baz=172
ODNJ Ogdensburg 63.50 355 P P 13 33 50.5 +0.2
baz=174
RLO Rose Lookout 63.51 336 P 13 33 50.4 -0.1
RLO IAmb IAmb 13 33 51.1
comp=Z,28nm,0.7s
O52A Adamsville 63.51 349 P P 13 33 50.0 -0.5
baz=166
O52A P P 13 33 50.0 -0.5
baz=166
U38A Gravette 63.51 337 P 13 33 50.1 -0.5
U38A Gravette 63.51 337 P P 13 33 50.1 -0.5
baz=153
O53A New Philadelph 63.53 349 P P 13 33 50.4 -0.2
baz=167
UPAO U. Pittsburgh 63.56 350 P P 13 33 51.0 +0.2
baz=168
TUL1 Leonard 63.57 335 P P 13 33 50.9 -0.1
baz=152
TUL1 Leonard 63.57 335 P P 13 33 50.3 -0.6
baz=152
WMOK Wichita Mounta 63.77 332 P 13 33 51.6 -0.8
WMOK Wichita Mounta 63.77 332 P P 13 33 51.3 -1.1
baz=149,SNR=6.7
WMOK Wichita Mounta 63.77 332 P P 13 33 51.3 -1.1
baz=149,SNR=6.7
WMOK Wichita Mounta 63.77 332 P P 13 33 51.6 -0.8
WMOK pmax pmax
comp=Z,6.0nm,0.9s
DEOK Depew 63.79 335 P 13 33 52.4 -0.1
ACSO Alum Creek Sta 63.84 348 P P 13 33 51.8 -0.9
baz=165
CCM Cathedral Cave 63.91 340 P P 13 33 52.3 -0.9
CCM IAmb IAmb 13 33 53.2
comp=Z,25nm,0.8s
CCM Cathedral Cave 63.91 340 P P 13 33 52.4 -0.7
baz=157,SNR=13
CCM Cathedral Cave 63.91 340 P P 13 33 52.0 -1.2
baz=157
CCM Cathedral Cave 63.91 340 P P 13 33 52.3 -0.9
CCM pmax pmax
comp=Z,25nm,0.8s
CCM Cathedral Cave 63.91 340 P P 13 33 52.2 -0.9
CCM pP **pP 13 34 18.5 -0.2**
M57A Sunshine Farm, 64.00 353 P P 13 33 54.4 +0.7
baz=171
M57A P P 13 33 54.4 +0.7
baz=171
PAMR Moraine State 64.02 350 P P 13 33 54.2 +0.3
baz=168
KSPA Keystone Colle 64.08 354 P P 13 33 54.7 +0.6
baz=173
S39A Bolivar 64.26 338 P P 13 33 55.0 -0.4
S39A Bolivar 64.26 338 P P 13 33 55.1 -0.4
baz=155,SNR=24
O48B Farmland 64.33 346 P P 13 33 54.6 -1.2
baz=163
O48B Farmland 64.33 346 P P 13 33 55.0 -0.8
baz=163
MNTX Cornudas Mount 64.43 325 P P 13 33 56.1 -0.6
MNTX Cornudas Mount 64.43 325 P P 13 33 56.1 -0.6
baz=142,SNR=12
MNTX Cornudas Mount 64.43 325 P P 13 33 55.8 -0.9
baz=142,SNR=12
OK046 Pawnee Station 64.43 335 P 13 33 56.0 -0.6
R40A Maddies Statio 64.45 339 P P 13 33 56.2 -0.5
R40A IAmb IAmb 13 33 56.4
comp=Z,17nm,0.7s
R40A Maddies Statio 64.45 339 P P 13 33 56.2 -0.5
baz=156,SNR=10.0
L59A Walton 64.64 355 P P 13 33 58.8 +0.9
baz=173
L59A P P 13 33 58.8 +0.9
baz=173
L61B Northampton 64.73 357 P P 13 33 58.7 +0.3
baz=176
HRV Adam Dziewonsk 64.73 357 P P 13 33 59.1 +0.7
baz=177
HRV Adam Dziewonsk 64.73 357 P P 13 33 58.9 +0.5
baz=177
HRV Adam Dziewonsk 64.73 357 P P 13 33 58.9 +0.5
T35B Sooner Cattle 64.73 335 P P 13 33 58.5 0.0
baz=151
BINY Binghamton 64.73 354 P P 13 33 58.9 +0.5
baz=172
BINY Binghamton 64.73 354 P P 13 33 58.9 +0.5
baz=172
L56A Greenwood 64.84 353 P P 13 33 59.5 +0.3
baz=171
L56A P P 13 33 59.5 +0.3
baz=171
MSTX Muleshoe 64.94 329 P P 13 34 00.5 +0.4
baz=145,SNR=11
MSTX Muleshoe 64.94 329 P P 13 33 59.3 -0.8
baz=145,SNR=11
HCNY Howe Caverns 65.09 355 P P 13 34 01.6 +0.9
baz=174
ERPA Erie 65.16 351 P P 13 34 01.2 0.0
baz=168
AMTX Amarillo 65.18 330 P P 13 34 01.1 -0.5
baz=146,SNR=6.0
AMTX Amarillo 65.18 330 P P 13 34 00.9 -0.7
baz=146
WVNY West Valley, N 65.24 352 P P 13 34 02.0 +0.3
baz=170
K57A Scipio Center 65.31 353 P P 13 34 02.0 -0.2
baz=172
P40A Paris 65.51 340 P P 13 34 02.8 -0.7
baz=156,SNR=5.1
NVL N'lazarevskaya 65.77 159 *eP* **P 13 34 07.1 +2.3**
NVL pmax pmax
comp=Z,14nm,0.9s
J59A Piesco 65.86 355 P P 13 34 06.1 +0.4
J59A Piesco 65.86 355 P P 13 34 06.5 +0.8
baz=174
J59A P P 13 34 06.5 +0.8
baz=174
P38A Dawn 66.07 339 P P 13 34 06.6 -0.5
P38A IAmb IAmb 13 34 07.3
comp=Z,21nm,0.8s
P38A Dawn 66.07 339 P P 13 34 06.7 -0.5
baz=155
MCVT Middlebury Col 66.24 356 P P 13 34 09.4 +1.2
baz=176
319A Douglas 66.31 322 P P 13 34 08.9 -0.1
NCB Newcomb 66.34 355 P P 13 34 09.2 +0.4
baz=174
121A Cookes Peak, D 66.36 324 P P 13 34 10.7 +1.4
baz=140
121A Cookes Peak, D 66.36 324 P P 13 34 09.1 -0.2
baz=140
WCNY West Carthage 66.47 354 P P 13 34 09.9 +0.4
baz=173
KSU1 Kansas State U 66.69 336 P P 13 34 10.5 -0.6
baz=152
KSU1 Kansas State U 66.69 336 P P 13 34 10.2 -0.8
baz=152
EMMW East Machias 66.87 1 P P 13 34 13.1 +1.0
baz=181
R32A Long Quarter, 66.90 335 P P 13 34 12.7 +0.2
baz=150,SNR=5.8
Y22A Socorro 67.01 326 P P 13 34 14.5 +1.1
baz=141
LONY Lake Ozonia 67.01 355 P P 13 34 13.3 +0.3
baz=174
N38A Joes South For 67.03 340 P P 13 34 12.7 -0.5
baz=155
FRNY Flat Rock 67.16 356 P P 13 34 14.4 +0.6
FRNY IAmb IAmb 13 34 15.3
comp=Z,27nm,1.1s
FRNY Flat Rock 67.16 356 P P 13 34 14.5 +0.6
baz=175
GGN Saint George 67.30 1 P P 13 34 15.5 +0.8
G65A Princeton 67.37 1 P P 13 34 15.9 +0.7
baz=181
G65A P P 13 34 15.9 +0.7
baz=181
G62A West of Eustis 67.41 358 P P 13 34 16.5 +1.1
G62A West of Eustis 67.41 358 P P 13 34 16.6 +1.1
baz=178,SNR=7.5

G62A P P 13 34 16.6 +1.1
baz=178,SNR=7.5
PKME Peaks-Kenny Pk 67.43 359 P P 13 34 15.9 +0.3
baz=179
ANMO Albuquerque 67.54 327 P P 13 34 17.4 +0.6
ANMO IAmb IAmb 13 34 18.5
comp=Z,13nm,0.8s
ANMO Albuquerque 67.54 327 P P 13 34 17.5 +0.6
baz=142,SNR=21
ANMO Albuquerque 67.54 327 P P 13 34 17.4 +0.6
baz=142
ANMO Albuquerque 67.54 327 P P 13 34 17.4 +0.6
ANMO pmax pmax
comp=Z,13nm,0.8s
ANMO Albuquerque 67.54 327 P P 13 34 17.4 +0.6
ANMO pP PcP 13 34 44.2 +0.9
ANMO sP sP 13 34 55.0 +1.3
CBKS Cedar Bluff 67.65 334 P P 13 34 17.5 +0.3
CBKS Cedar Bluff 67.65 334 P P 13 34 17.6 +0.4
baz=149,SNR=6.3
CBKS Cedar Bluff 67.65 334 P P 13 34 17.3 +0.1
baz=149,SNR=6.3
CBKS Cedar Bluff 67.65 334 P P 13 34 17.5 +0.3
CBKS pmax pmax
comp=Z,48nm,0.7s
QSPA South Pole Qui 67.71 180 P P 13 34 18.4 +1.0
QSPA IAmb IAmb 13 34 46.0
comp=Z,19nm,0.8s
QSPA South Pole Qui 67.71 180 ⇓P P 13 34 18.6 +1.1
QSPA pP PcP 13 34 45.0 +1.4
QSPA sP sP 13 34 56.5 +2.1
TUC Tucson 67.86 322 P P 13 34 19.5 +0.8
baz=138
TUC Tucson 67.86 322 P P 13 34 19.6 +0.8
N35A Tabor 67.90 338 P P 13 34 18.1 -0.5
N35A IAmb IAmb 13 34 18.8
comp=Z,32nm,0.8s
N35A Tabor 67.90 338 P P 13 34 18.2 -0.5
baz=153
F64A Sherman 68.02 0 P P 13 34 20.1 +0.8
F64A Sherman 68.02 0 P P 13 34 20.2 +0.9
baz=180,SNR=6.5
F64A P P 13 34 20.2 +0.9
baz=180,SNR=6.5
SCIA State Center 68.04 340 P P 13 34 19.1 -0.5
baz=155
F62A Pittston Farm, 68.07 359 P P 13 34 20.5 +0.8
baz=179
F62A P P 13 34 20.5 +0.8
baz=179
JFWS Jewell Farm 68.10 343 P P 13 34 19.4 -0.5
JFWS IAmb IAmb 13 34 19.6
comp=Z,21nm,0.8s
JFWS Jewell Farm 68.10 343 P P 13 34 19.3 -0.6
baz=158
JFWS Jewell Farm 68.10 343 P P 13 34 18.9 -1.0
baz=158
JFWS Jewell Farm 68.10 343 P P 13 34 19.4 -0.5
JFWS pmax pmax
comp=Z,21nm,0.8s
LIC Lamto 68.29 73 ⇑*e*P P 13 34 21.9 +0.2
comp=Z,29nm,0.7s
T25A Trinidad 68.29 330 P P 13 34 22.4 +0.8
baz=144,SNR=7.2
N33B J Bar K, Exete 68.43 337 P P 13 34 22.1 0.0
baz=151
TIC Toumodi 68.49 73 ⇑*e*P P 13 34 23.2 +0.2
comp=Z,18nm,0.8s
E63A Oxbow 68.58 0 P P 13 34 23.6 +0.8
baz=180
E63A P P 13 34 23.6 +0.8
baz=180
KIC Kosan Boka 68.60 73 ⇑*e*P P 13 34 24.0 +0.3
comp=Z,14nm,0.6s
TRQ Mont Tremblant 68.60 355 P P 13 34 23.5 +0.5
TRQ IAmb IAmb 13 34 24.0
comp=Z,40nm,0.8s
DBIC Dimbokro 68.64 73 P P 13 34 24.2 +0.3
comp=Z,15nm,0.7s,baz=244,slow=6.4,SNR=24
DBIC pP PcP 13 34 48.7 +0.4
comp=Z,15nm,0.8s,baz=242,slow=5.6,SNR=7.4
DBIC LR LR 14 04 16.1
comp=Z,28nm,20.7s,baz=350,slow=36
comp=Z,15nm,0.7s
DBIC Dimbokro 68.64 73 P P 13 34 24.5 +0.6
DBIC IAmb IAmb 13 34 52.7
comp=Z,23nm,1.0s
DBIC Dimbokro 68.64 73 P P 13 34 24.1 +0.2
DBIC pP pP 13 34 50.7 +0.5
DBIC sP sP 13 35 01.6 +0.1
214A Organ Pipe Nat 68.77 320 P P 13 34 23.9 -0.5
214A IAmb IAmb 13 34 26.7
comp=Z,28nm,1.4s
214A Organ Pipe Nat 68.77 320 P P 13 34 25.4 +1.0
baz=136
E62A Clayton Lake 68.79 359 P P 13 34 25.0 +0.9
E62A IAmb IAmb 13 34 25.8
comp=Z,35nm,0.8s
E62A Clayton Lake 68.79 359 P P 13 34 25.1 +1.1
baz=179,SNR=5.8
E62A P P 13 34 25.1 +1.1
baz=179,SNR=5.8
KSCO Kaye Shedlock' 69.03 332 P P 13 34 25.6 -0.3
KSCO IAmb IAmb 13 34 27.4
comp=Z,31nm,0.7s
KSCO Kaye Shedlock' 69.03 332 P P 13 34 26.7 +0.8
baz=146,SNR=6.1
KSCO Kaye Shedlock' 69.03 332 P P 13 34 26.3 +0.4
baz=146,SNR=6.1
L34A Svendsen Farm, 69.13 338 P P 13 34 25.8 -0.5
baz=152
D62A Allapoint, All 69.24 360 P P 13 34 27.6 +0.7
D62A IAmb IAmb 13 34 28.4
comp=Z,45nm,0.9s
D62A Allapoint, All 69.24 360 P P 13 34 27.6 +0.7
baz=180
D62A P P 13 34 27.6 +0.7
baz=180
BGNE Belgrade 69.27 337 P P 13 34 27.3 0.0
baz=151,SNR=8.0
BGNE Belgrade 69.27 337 P P 13 34 27.0 -0.3
baz=151,SNR=8.0
SDCO Great Sand Dun 69.29 329 P P 13 34 28.5 +0.7
SDCO IAmb IAmb 13 34 29.6
comp=Z,24nm,1.1s
SDCO Great Sand Dun 69.29 329 P P 13 34 28.6 +0.8
baz=144,SNR=25
SDCO Great Sand Dun 69.29 329 P P 13 34 28.6 +0.8
baz=144,SNR=25
W18A Petrified Fore 69.38 325 P P 13 34 28.8 +0.6
W18A Petrified Fore 69.38 325 P P 13 34 29.0 +0.8
baz=140
ELIB Princess Elisa 69.38 161 *d*P P 13 34 28.8 +1.0
comp=Z,13nm,0.6s
BATG Bathurst New B 69.47 2 P P 13 34 28.8 +0.5
BATG IAmb IAmb 13 34 29.6
comp=Z,28nm,0.8s
S22A 4UR Ranch, Cre 69.93 328 P P 13 34 31.8 +0.1
S22A 4UR Ranch, Cre 69.93 328 P P 13 34 32.5 +0.8
baz=142,SNR=6.9
I37B Waseca 70.01 341 P P 13 34 31.3 -0.4
baz=156
Q24A Divide 70.11 330 P P 13 34 33.5 +0.6
Q24A IAmb IAmb 13 34 34.5
comp=Z,22nm,0.8s
Q24A Divide 70.11 330 P P 13 34 33.6 +0.7
baz=144,SNR=19
MVCO Mesa Verde 70.33 327 P P 13 34 35.1 +1.0
baz=141,SNR=13
OGNE Ogallala 70.39 334 P P 13 34 35.0 +0.8
baz=147
OGNE Ogallala 70.39 334 P P 13 34 34.4 +0.2
baz=147
K31A O'Neill 70.55 337 P P 13 34 35.8 +0.7
baz=150
WUAZ Wupatki 70.56 324 P P 13 34 36.4 +0.9
baz=138,SNR=9.3
GLA Glamis 70.74 320 P P 13 34 36.9 +0.5
baz=135
ECSD EROS Data Cent 70.78 339 P P 13 34 35.9 -0.5
ECSD EROS Data Cent 70.78 339 P P 13 34 35.8 -0.6
baz=153
ECSD EROS Data Cent 70.78 339 P P 13 34 35.6 -0.7
baz=153
SPMN Marine on St. 70.94 342 P P 13 34 36.7 -0.6
baz=156
SPMN Marine on St. 70.94 342 P P 13 34 36.7 -0.6
baz=156
ISCO Idaho Springs 71.00 331 P P 13 34 38.4 +0.2
ISCO Idaho Springs 71.00 331 P P 13 34 39.0 +0.8
baz=144
ISCO Idaho Springs 71.00 331 P P 13 34 39.0 +0.8
baz=144
ISCO Idaho Springs 71.00 331 P P 13 34 38.4 +0.2
ISCO pmax pmax
comp=Z,8.0nm,0.8s
BC3 Big Chuckawall 71.54 320 P P 13 34 42.3 +0.9
baz=135
D41A Chassel 71.56 346 P P 13 34 41.2 +0.2
baz=160
IRM Iron Mountain 71.71 321 P P 13 34 43.2 +0.9
baz=135
F36A Milaca 71.73 342 P P 13 34 41.6 -0.5
baz=156,SNR=6.6
E38A The Farm, Brul 71.87 343 P P 13 34 42.7 -0.2
baz=158
N23A Red Feather La 72.03 331 P P 13 34 44.8 +0.4
N23A Red Feather La 72.03 331 P P 13 34 45.0 +0.7
baz=144,SNR=11
DRLN Deer Lake 72.09 8 P P 13 34 43.8 -0.3
PHWY Pilot Hill 72.14 332 P P 13 34 45.6 +0.6
GMRC Granite Mounta 72.45 321 P P 13 34 48.0 +1.2
baz=135,SNR=5.3
KNB Kanab 72.45 324 P P 13 34 47.9 +1.1
KNB IAmb IAmb 13 34 49.5
comp=Z,27nm,1.1s
KNB Kanab 72.45 324 P P 13 34 47.9 +1.1
KNB pmax pmax
comp=Z,27nm,1.1s
O20A White River Ci 72.49 329 P P 13 34 47.5 +0.6
O20A IAmb IAmb 13 34 48.9
comp=Z,26nm,0.9s
O20A White River Ci 72.49 329 P P 13 34 47.6 +0.6
baz=142,SNR=15
F33A 5 Mile Ranch, 72.55 340 P P 13 34 46.3 -0.6
baz=155
LCMT Little Creek M 72.68 324 P P 13 34 48.6 +0.5
SRU San Rafael Swe 72.81 327 P P 13 34 49.7 +0.8
SRU IAmb IAmb 13 34 50.5
comp=Z,16nm,0.7s
SRU San Rafael Swe 72.81 327 P P 13 34 49.7 +0.8
SRU pmax pmax
comp=Z,16nm,0.7s
HEC Hector,Ludlow 72.88 320 P P 13 34 50.5 +1.2
baz=134
P17A Butcher Ranch, 73.20 327 P P 13 34 51.5 +0.3
P17A IAmb IAmb 13 34 53.0
comp=Z,18nm,1.0s
GSC Goldstone, Bar 73.49 320 P P 13 34 53.9 +1.1
baz=134
K22A Casper 73.70 332 P P 13 34 54.9 +0.9
baz=144,SNR=5.2
K22A Casper 73.70 332 P P 13 34 54.9 +0.9
baz=144,SNR=5.2
RSSD Black Hills 73.85 334 P P 13 34 55.8 +0.8
RSSD Black Hills 73.85 334 P P 13 34 55.5 +0.6
baz=146,SNR=13
RSSD Black Hills 73.85 334 P P 13 34 56.2 +1.2
baz=146
RSSD Black Hills 73.85 334 P P 13 34 55.8 +0.8
RSSD pmax pmax
comp=Z,15nm,0.8s
EDW2 Edwards Air Fo 73.91 319 P P 13 34 56.4 +1.1
baz=133
B35A Bob, Littlefor 74.06 343 P P 13 34 55.4 -0.4
baz=156
TPNV Topaah Spring 74.31 322 P P 13 34 59.4 +1.6
baz=135
FURC Furnace Creek, 74.33 321 P P 13 34 59.2 +1.6
baz=134
MPMC Manual Prospec 74.41 321 P P 13 34 59.2 +0.9
baz=134
AGMN Agassiz Nation 74.61 341 P P 13 34 58.9 -0.1
baz=154
AGMN Agassiz Nation 74.61 341 P P 13 34 58.8 -0.2
baz=154
E28A Huff 74.66 338 P P 13 35 00.3 +1.0
baz=149
ISA Isabella, Lake 74.72 320 P P 13 34 59.9 -0.1
ISA Isabella, Lake 74.72 320 P P 13 35 01.6 +1.6
baz=133,SNR=5.3
ISA Isabella, Lake 74.72 320 P P 13 34 59.9 -0.1
ISA pmax pmax
comp=Z,8.0nm,0.8s
TCUT Toone Canyon 74.78 328 P P 13 35 00.6 +0.1
DUG Dugway, Tooele 74.79 326 P P 13 35 00.7 +0.3
DUG Dugway, Tooele 74.79 326 P P 13 35 01.5 +1.1
baz=136,SNR=9.2
DUG Dugway, Tooele 74.79 326 P P 13 35 00.7 +0.3
DUG pmax pmax
comp=Z,17nm,1.3s
R11A Troy Canyon, C 74.93 323 P P 13 35 02.3 +1.0
R11A Troy Canyon, C 74.93 323 P P 13 35 02.7 +1.4
baz=136,SNR=8.4
GRAC Grapevine Rang 74.98 321 P P 13 35 02.9 +1.4
baz=134
CWC Cottonwood Cre 75.02 321 P P 13 35 02.5 +0.7
baz=133
BW06 Boulder Array 75.16 330 P P 13 35 02.6 +0.1
BW06 Boulder Array 75.16 330 P P 13 35 02.9 +0.4
baz=141
PD31 Pinedale Array 75.16 330 P P 13 35 02.7 +0.1
PDAR Pinedale Array 75.16 330 P P 13 35 02.5 0.0
comp=Z,1.6nm,0.6s,baz=136,slow=7.6,SNR=30
comp=Z,1.6nm,0.6s
VES Vestal, Richgr 75.21 320 P P 13 35 03.1 +0.4
baz=132,SNR=5.1
HWUT Hardware Ranch 75.23 328 P P 13 35 03.4 +0.5
LCH Last Change Ra 75.31 321 P P 13 35 04.7 +1.2
MDND Maddock 75.39 339 P P 13 35 04.2 +0.7
baz=150,SNR=5.3
MDND Maddock 75.39 339 P P 13 35 03.6 +0.2
baz=150,SNR=5.3
PPT Papeete 75.48 257 LR LR 13 58 26.8
comp=Z,30nm,21.4s,baz=209,slow=28
AHID Auburn Hatcher 75.88 329 P P 13 35 07.3 +0.7
AHID IAmb IAmb 13 35 08.1
comp=Z,21nm,0.8s
HVU Hansel Valley 75.95 327 P P 13 35 07.7 +0.7
HVU Hansel Valley 75.95 327 P P 13 35 07.7 +0.7
HVU pmax pmax
comp=Z,8.0nm,0.8s
REDW Red Top Meadow 76.22 330 P P 13 35 09.4 +0.8
ECR Eagle Creek 76.23 329 P P 13 35 09.5 +0.9
MLAC Mammoth, Mammo 76.27 321 P P 13 35 09.5 +0.5
baz=133
LOHW Long Hollow 76.30 330 P P 13 35 09.8 +0.8
ULM Lac du Bonnet 76.37 342 P P 13 35 08.3 -0.7
comp=Z,8.3nm,0.8s,baz=148,slow=6.3,SNR=11
comp=Z,8.3nm,0.8s
ULM Lac du Bonnet 76.37 342 P P 13 35 08.3 -0.7
ELK Elko 76.46 325 P P 13 35 09.9 -0.1
ELK Elko 76.46 325 P P 13 35 09.9 -0.1
ELK pmax pmax
comp=Z,5.0nm,0.8s
MOOW Moose Ponds 76.47 330 P P 13 35 10.6 +0.6
FLWY Flagg Ranch 76.70 330 P P 13 35 12.6 +1.3
FLWY IAmb IAmb 13 35 13.5
comp=Z,23nm,0.8s
LAO LASA Array 76.84 334 P P 13 35 12.1 +0.3
baz=145
LAO LASA Array 76.84 334 P P 13 35 12.4 +0.6
baz=145
RLMT Red Lodge 76.87 332 P P 13 35 13.1 +0.9
baz=142,SNR=14
H17A Grant Village 76.89 330 P P 13 35 14.1 +1.7
baz=141,SNR=5.8
SCHQ Schefferville 77.02 1 P P 13 35 12.3 -0.2
comp=Z,10nm,0.7s,baz=194,slow=5.1,SNR=17
comp=Z,10nm,0.7s
SCHQ Schefferville 77.02 1 P P 13 35 12.5 0.0
SCHQ IAmb IAmb 13 36 19.2
comp=Z,55nm,1.7s
YMR Madison River 77.28 330 P P 13 35 16.0 +1.5
TORD Torodi Ar. Bea 77.32 70 P P 13 35 15.1 0.0
comp=Z,30nm,1.2s,baz=257,slow=5.3,SNR=76
TORD pP pP 13 35 41.9 +0.2
comp=Z,18nm,0.7s,baz=251,slow=5.3,SNR=11
comp=Z,30nm,1.2s
TORD Torodi Ar. Bea 77.32 70 P P 13 35 15.0 -0.1
TORD IAmb IAmb 13 35 44.1
comp=Z,74nm,1.8s
DGMT Dagmar 77.53 337 P P 13 35 16.5 +0.9
baz=146,SNR=7.9
DGMT Dagmar 77.53 337 P P 13 35 16.5 +0.9
baz=146,SNR=7.9
SUR Sutherland 77.74 120 LR LR 14 05 16.0
comp=Z,27nm,20.4s,baz=206,slow=32
HLID Hailey 78.08 328 P P 13 35 19.9 +1.0
HLID IAmb IAmb 13 35 21.3
comp=Z,18nm,0.8s
HLID Hailey 78.08 328 P P 13 35 20.1 +1.2
baz=137,SNR=33
MCMT McKenzie Canyo 78.27 329 P P 13 35 21.4 +1.3
BOZ Bozeman (W) 78.29 331 P P 13 35 20.6 +0.6
BOZ Bozeman (W) 78.29 331 P P 13 35 20.7 +0.7
baz=140,SNR=7.0
BOZ Bozeman (W) 78.29 331 P P 13 35 20.6 +0.6
BOZ pmax pmax
comp=Z,14nm,1.5s
LRM Limekiln Ridge 78.83 330 P P 13 35 23.2 0.0
EGMT Eagleton 79.35 333 P P 13 35 26.1 +0.4
baz=142
TSUM Tsumeb 79.38 106 LR LR 14 06 59.4
comp=Z,32nm,20.4s,baz=333,slow=33
TSUM Tsumeb 79.38 106 P P 13 35 27.0 +0.3
PLID Pearl Lake 79.97 328 P P 13 35 30.0 +0.7
PLID IAmb IAmb 13 35 30.9
comp=Z,16nm,0.8s
J08A Circle Bar Ran 80.01 325 P P 13 35 30.0 +0.6
J08A IAmb IAmb 13 35 31.5
comp=Z,32nm,1.7s
MSO Missoula 80.27 330 P P 13 35 32.0 +1.3
baz=138
BMO Blue Mountains 80.45 327 P P 13 35 32.4 +0.7
BMO Blue Mountains 80.45 327 P P 13 35 32.4 +0.7
BMO pmax pmax
comp=Z,14nm,1.0s
K05A Summer Lake 80.87 324 P P 13 35 35.6 +1.5
K05A IAmb IAmb 13 35 36.3
comp=Z,19nm,0.9s
I07A Izee 81.05 325 P P 13 35 35.9 +0.9
PINE Pine Mountain 81.61 325 P P 13 35 39.1 +1.1
PINE IAmb IAmb 13 35 40.1
comp=Z,19nm,0.8s
BOSA Boshof 82.64 118 P P 13 35 43.6 -0.2
comp=Z,6.7nm,0.8s,baz=284,slow=3.1,SNR=9.0
BOSA pP pP 13 36 10.7 -0.1
comp=Z,5.1nm,0.8s,baz=256,slow=7.7,SNR=3.0
comp=Z,6.7nm,0.8s
C09A Chrisman Ranch 83.01 329 P P 13 35 45.6 +0.6
MAW Mawson 83.28 163 P P 13 35 46.2 +0.1
comp=Z,10nm,0.8s,baz=264,slow=9.2,SNR=2.4
comp=Z,10nm,0.8s
FCC Fort Churchill 83.68 347 P P 13 35 48.2 +0.1
FCC Fort Churchill 83.68 347 P P 13 35 48.2 +0.1
FCC pmax pmax
comp=Z,12nm,0.9s
LBTB Lobatse 84.25 115 P P 13 35 52.7 +0.6
LBTB IAmb IAmb 13 37 41.5
comp=Z,47nm,1.8s
LBTB Lobatse 84.25 115 P P 13 35 52.7 +0.6
LBTB pmax pmax
comp=Z,47nm,1.8s
ESDC Sonseca Array 86.26 44 P P 13 36 02.1 +0.5
comp=Z,3.4nm,1.1s,baz=250,slow=5.5,SNR=5.8
comp=Z,3.4nm,1.1s
YKA Yellowknife Ar 92.25 340 P P 13 36 29.0 -0.1
comp=Z,8.8nm,0.7s,baz=138,slow=4.5,SNR=180
YKA pP pP 13 36 54.1 -1.9
comp=Z,1.7nm,0.6s,baz=138,slow=4.4,SNR=3.9
comp=Z,8.8nm,0.7s
KEST Kesra 93.58 53 P P 13 36 36.9 +0.8
comp=Z,3.7nm,0.9s,baz=201,slow=8.6,SNR=2.4
comp=Z,3.7nm,0.9s
KOTAN Kotaneelee Air 93.87 336 P P 13 36 37.8 +1.2
baz=130
WTLY Watson Lake, Y 95.73 334 P P 13 36 46.0 +0.8
baz=126
Q32M Nakina River 96.52 332 P P 13 36 49.4 +0.3
baz=123
MBAR Mbarara 98.30 94 LR LR 14 17 20.9
comp=Z,33nm,18.5s,baz=204,slow=33
DAVOX Davos/Dischmat 98.52 43 LR LR 14 22 12.7
comp=Z,48nm,18.1s,baz=257,slow=36
L29M L29M 101.09 334 P **Pdif** 13 37 09.1 -0.2
baz=118
A36M Sachs Harbour 101.75 345 P **Pdif** 13 37 12.2 +0.3
baz=128
INK Inuvik 102.00 340 P **Pdif** 13 37 13.3 +0.2
baz=121
KIV Kislovodsk 120.28 51 *e*PKIKP **PKiKP** 13 42 14.5 +3.9
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 120.42 52 PKP **PKiKP** 13 42 11.4 +0.6
comp=Z,4.2nm,0.9s,baz=241,slow=1.3,SNR=7.7
KBZ pPKP **pPKPdf** 13 42 37.9 -0.8
comp=Z,2.7nm,0.8s,baz=271,slow=2.0,SNR=3.3
BELG Belogornoye 123.36 41 *i* PKIKP **PKPdf** 13 42 15.8 -0.2
ARU Arti 128.74 35 **PKiKP** 13 42 27.0 +0.1
ARU Arti 128.74 35 *i* PKIKP **PKPdf** 13 42 24.9 -1.3
ARU 13 44 31.1
ARU 13 49 26.2
AS31 Alice Springs 129.22 207 **PKPdf** 13 42 28.3 0.0
ASAR Alice Springs 129.22 207 PKP **PKPdf** 13 42 28.2 -0.1
comp=Z,5.2nm,0.9s,baz=134,slow=1.9,SNR=47
ASAR pPKP **pPKPdf** 13 42 55.5 -0.9
comp=Z,2.1nm,0.8s,baz=134,slow=2.0,SNR=4.8
ASAR Alice Springs 129.22 207 **PKPdf** 13 42 28.0 -0.3
TIXI Tiksi 129.82 353 *i* PKIKP **PKPdf** 13 42 27.2 -0.6
NRIK Noril'sk 130.96 11 *i* PKIKP **PKiKP** 13 42 30.7 -0.3
SEY Seymchan 131.16 337 PKP **PKiKP** 13 42 31.8 +0.2
comp=Z,4.8nm,0.9s,baz=102,slow=2.3,SNR=19
ABKAR Akbulak array 131.60 43 **PKiKP** 13 42 33.5 +0.7
ABKAR Akbulak array 131.60 43 **PKiKP** 13 42 32.9 0.0
WRA Warramunga Arr 132.30 210 PKP **PKPdf** 13 42 34.6 +0.5
comp=Z,3.7nm,0.6s,baz=155,slow=1.7,SNR=54
WRA pPKP **pPKPdf** 13 43 01.0 -1.2
comp=Z,1.3nm,0.6s,baz=162,slow=1.6,SNR=2.0
PETK Petropavlovsk- 133.59 323 PKP **PKPdf** 13 42 35.6 +0.1
comp=Z,1.6nm,0.7s,baz=72,slow=4.7,SNR=3.0
YAK Yakutsk 138.56 347 *e*PKHKP PKPpre 13 42 22.2
YAK *e* 13 42 43.2
YAK pmax pmax
comp=Z,7.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,176nm,6.7s
YAK pmax pmax
comp=N,63nm,4.5s
YAK pmax pmax
comp=E,63nm,4.4s
KURK Kurchatov 141.93 34 *i* PKIKP **PKPdf** 13 42 50.8 -0.1
ZALV Zalesovo Beam 142.67 26 PKiKP PKPpre 13 42 48.4
comp=E,6.6nm,0.6s,baz=281,slow=1.8,SNR=18
ZALV Zalesovo Beam 142.67 26 **PKPdf** 13 42 53.0 +0.9
ZALV Zalesovo Beam 142.67 26 PKIKP **PKPdf** 13 42 53.0 +0.9
AAK Ala-Archa 143.28 48 **PKPdf** 13 42 54.4 +0.6
AAK Ala-Archa 143.28 48*c* *i*PKIKP **PKPdf** 13 42 55.4 +1.6
AAK pmax pmax
comp=Z,7.0nm,1.3s
NIL Nilore 144.64 63 PKPdf PKPbc 13 42 55.5 +0.2
NIL Nilore 144.64 63 PKIKP PKPbc 13 42 55.5 +0.2
BOD Bodaibo 144.66 358 *e*PKIKP **PKPab** 13 42 53.7 -0.7
BOD pmax pmax
comp=Z,35nm,0.9s
YSS Yuzh-Sakhalins 144.96 322 *e*PKIKP **PKPdf** 13 42 56.4 +0.1
YSS pmax pmax
comp=Z,30nm,0.7s
KSH Kashi 145.40 52 PKPbc **PKPab** 13 42 58.5 +0.6
KSH pPKP pPKPdf 13 43 27.0 +1.2
KSH PP **PP** 13 46 16.8 -1.6
KSH AMB AMB
comp=Z,400nm,5.6s
TARG Taragay, Kyrgy 145.90 48 **PKPab** 13 43 00.4 +0.3
TARG Taragay, Kyrgy 145.90 48 PKP2 **PKPab** 13 43 00.4 +0.3
MAKZ Makanchi 146.01 37 **PKPbc** 13 42 59.1 -0.1
MAKZ Makanchi 146.01 37 PKP2 **PKPbc** 13 42 59.1 -0.1
MK31 Makanchi Array 146.19 37 **PKPbc** 13 42 59.3 -0.4
MK31 Makanchi Array 146.19 37 PKP2 **PKPbc** 13 42 59.3 -0.4
MKAR Makanchi Array 146.19 37 PKPbc **PKPbc** 13 42 59.3 -0.4
comp=Z,18nm,0.8s,baz=319,slow=3.2,SNR=124
MKAR pPKPbc **pPKPdf** 13 43 25.8 -0.7
comp=Z,8.4nm,0.8s,baz=304,slow=3.2,SNR=7.1
ASAJ Asahikawa 146.54 318 PKPbc **PKPbc** 13 43 01.3 +0.5
comp=Z,9.8nm,0.7s,baz=246,slow=33,SNR=4.2
ZEA Zeya 146.59 343 *e*PKP2 **PKPbc** 13 43 00.9 +0.3
ZEA pmax pmax
comp=Z,10.0nm,0.9s

DGZ	**Jazzator, Alta**	**146.88**	**29**	*i* PKIKP	**PKPdf**	**13 43 00.1**	**+0.3**
KLR	**Kul'dur**	**148.88**	**334**	PKPbc	**PKPbc**	**13 43 06.9**	**0.0**
	comp=Z,7.1nm,0.8s,baz=50,slow=2.9,SNR=20						
HEH	**HeiHe**	**149.61**	**340**	*e*P	**PKPbc**	**13 43 07.5**	**-1.1**
HEH				pmax	pmax		
	comp=Z,11nm,0.6s						
MOY	**Mondy**	**149.75**	**13**	*e*PKP2	**PKiKP**	**13 43 10.1**	**0.0**
MOY				pmax	pmax		
	comp=Z,48nm,2.3s						
SIJI	**Sorong**	**149.84**	**222**	PKPbc	**PKPbc**	**13 43 10.8**	**+0.4**
	comp=Z,11nm,0.8s,baz=4.0,slow=9.8,SNR=4.5						
WMQ	**Urumqi**	**151.02**	**37**	*e*P	**PKPdf**	**13 43 06.8**	**+0.3**
ZAK	**Zakamensk**	**151.42**	**11**	*e*PKIKP	**PKPdf**	**13 43 07.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**152.55**	**327**	PKPbc	**PKPbc**	**13 43 15.5**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=33,slow=2.2,SNR=6.7						
MJAR	**Matsushiro Arr**	**152.99**	**307**	PKPbc	**PKPbc**	**13 43 16.7**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=126,slow=1.3,SNR=7.3						
BNX	**BinXian**	**153.44**	**335**	⇑P	**PKPab**	**13 43 30.3**	**+0.2**
BNX				pmax	pmax		
	comp=Z,11nm,0.8s						
BNX				pmax	pmax		
	comp=Z,230nm,4.5s						
SONM	**Songino Array**	**154.38**	**8**	PKP	**PKPdf**	**13 43 12.3**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=275,slow=1.2,SNR=14						
SONM				PKPbc	**PKiKP**	**13 43 20.4**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=285,slow=1.1,SNR=8.3						
SONM				PKPab	**PKPab**	**13 43 35.1**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=321,slow=3.0,SNR=9.1						
ULN	**Ulaanbaatar**	**154.43**	**7**	PKPdf	**PKPdf**	**13 43 12.1**	**+0.6**
ULN					**PKPab**	**13 43 35.8**	**+1.4**
ULN	**Ulaanbaatar**	**154.43**	**7**	PKP2	**PKPab**	**13 43 35.8**	**+1.4**
ULN						14 43 12.1	
XLT	**XiLinHaoTe**	**158.31**	**351**	⇓*i* PKP	**PKPdf**	**13 43 16.5**	**-0.1**
XLT				pPKP	pPKPdf	13 43 40.5	-4.3
XLT				sPKP		13 43 53.5	
XLT				AMB	AMB		
	comp=Z,290nm,5.4s						
KSRS	**Korea Array**	**159.44**	**320**	PKPab	**PKPab**	**13 43 55.6**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=53,slow=3.5,SNR=6.5						
GOMU	**GeErMu**	**160.08**	**43**	PKP	**PKPdf**	**13 43 17.8**	**-1.4**
GOMU				pPKP	pPKPdf	13 43 34.3	-13
GOMU				sPKP		13 43 39.3	
GOMU				AMB	AMB		
	comp=Z,73nm,5.2s						
GTA	**Gaotai**	**160.40**	**28**	⇑PKP	**PKPdf**	**13 43 20.5**	**+1.3**
GTA				PKPab	**PKPab**	**13 44 01.3**	**+0.8**
HHC	**Hu-ho-hao-te**	**161.69**	**360**	*e*P	**PKPdf**	**13 43 19.0**	**-1.5**
LZH	**Lanzhou**	**164.90**	**25**	PKP	**PKPdf**	**13 43 31.0**	**+7.2**
LZH				pPKP	sPKPdf	13 44 01.3	-1.2
LZH				PKP	**PKPab**	**13 44 21.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**167.56**	**107**	PKP	**PKPdf**	**13 43 26.6**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=273,slow=1.8,SNR=8.3						
CMAR				PKPab	**PKPab**	**13 44 32.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=254,slow=5.5,SNR=6.2						
XAN	**Xi'an**	**168.27**	**11**	⇑PKP	**PKPdf**	**13 43 27.3**	**+1.1**
NJ2	**Nanjing**	**168.46**	**327**	*e*P	**PKPdf**	**13 43 25.5**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,1.4s						
CD2	**Chengdu**	**169.12**	**38**	PKP	**PKPdf**	**13 43 25.5**	**-1.4**
PZH	**PanZhiHua**	**170.25**	**64**	PKP	**PKPdf**	**13 43 27.0**	**-0.8**

*TIF **27** 13:24:16.8,41°.59N×42°.47E,h16km±1km*
*ISK **27** 13:24:17.1,41°.61N×42°.49E,h4km,ML3.0/9*
*NORS **27** 13:24:19.9±0.0,41°.68N×42°.53E,h12km,MPVA3.8*
*DDA **27** 13:24:20.0±0.0,41°.48N×42°.22E,h1km±11km,ML2.9*
ISC 27 13:24:17.2±1.1,**41°.55N**±0°.02×**42°.54E**±0°.02,**h8**km±10km,
n41,σ0**87**/73,**Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABS	**Abastumani**	**0.29**	**46**	P	**Pb**	**13 24 24.0**	**-0.7**
ABS				S	**Sb**	**13 24 28.7**	**-1.1**
BATM	**Batumi**	**0.64**	**275**	P	**Pg**	**13 24 28.9**	**-0.6**
BATM				S	**Sg**	**13 24 37.1**	**-0.7**
AKH	**Akhalkalaki**	**0.73**	**101**	P	**Pn**	**13 24 32.8**	**-1.2**
AKH				S	**Sn**	**13 24 43.6**	**-1.9**
AKH	**Akhalkalaki**	**0.73**	**101**	Pg	**Pn**	**13 24 32.8**	**-1.2**
AKH				Sg	**Sn**	**13 24 43.9**	**-1.5**
HOPA	**Hopa-Artvin**	**0.84**	**259**	Pg	**Pg**	**13 24 32.9**	**-0.4**
BGD	**Bogdanovka**	**0.85**	**110**	P	**Pn**	**13 24 35.1**	**-0.6**
BGD				S	**Sn**	**13 24 47.4**	**-1.0**
TKB	**Tkibuli**	**0.87**	**23**	P	**Pg**	**13 24 33.9**	**0.0**
TKB				S	**Sg**	**13 24 45.9**	**+0.8**
BRNG	**Burnasheti**	**0.97**	**85**	P	**Pn**	**13 24 37.0**	**-0.3**
BRNG				S	**Sn**	**13 24 51.5**	**+0.1**
ALIG	**Mtskhetisjvari**	**1.00**	**56**	P	**Pb**	**13 24 36.5**	**-0.3**
ALIG				S	**Sn**	**13 24 50.5**	**-1.4**
SENK	**Senkaya-Erzuru**	**1.00**	**188**	Pg	**Pn**	**13 24 37.8**	**+0.1**
SENK				Sg	**Sn**	**13 24 53.2**	**+1.1**
KARS	**Kars**	**1.01**	**156**	Pn	**Pn**	**13 24 38.7**	**+0.9**
KARS				Sn	**Sn**	**13 24 54.5**	**+2.2**
TRLG	**Trialeti**	**1.18**	**90**	P	**Pg**	**13 24 40.2**	**+0.5**
TRLG				S	**Sn**	**13 24 56.8**	**+0.4**
ONI	**Oni**	**1.24**	**33**	P	**Pg**	**13 24 40.9**	**-0.1**
ONI				S	**Sg**	**13 24 58.2**	**+1.1**
ONI	**Oni**	**1.24**	**33**	Pn	**Pg**	**13 24 40.9**	**-0.1**
ONI				Sn	**Sg**	**13 24 58.4**	**+1.3**
DMNI	**Dmanisi**	**1.26**	**100**	P	**Pg**	**13 24 41.9**	**+0.4**
DMNI				S	**Sn**	**13 24 59.5**	**+1.1**
KZRT	**Kazreti**	**1.41**	**96**	P	**Pg**	**13 24 44.9**	**+0.6**
CHAY	**Cayeli-Rize**	**1.44**	**252**	Pn	**Pg**	**13 24 44.6**	**-0.3**
CHAY				Sn	**Sg**	**13 25 04.7**	**+1.1**
DIGR	**Digorskoe uzhe**	**1.55**	**30**	*e*Pg	**Pb**	**13 24 46.4**	**+0.1**
DIGR				*e*Sg	**Sg**	**13 25 07.5**	**+0.4**
ZEI	**Tsey**	**1.60**	**39**	*e*Pg	**Pg**	**13 24 48.0**	**+0.1**
ZEI				*e*Sg	**Sg**	**13 25 10.3**	**+1.7**
KOPR	**Koprukoy-ERZUR**	**1.65**	**199**	Pn	**Pg**	**13 24 48.3**	**-0.5**
NEY	**Neytrino**	**1.70**	**5**	*e*Pg	**Pb**	**13 24 49.3**	**+0.5**
NEY				*e*Sg	**Sg**	**13 25 11.7**	**-0.2**
GUDG	**Gudauri**	**1.71**	**57**	P	**Pg**	**13 24 49.9**	**-0.1**
GUDG				S	**Sg**	**13 25 12.7**	**+0.5**
SEAG	**Tbilisi Sea**	**1.71**	**82**	P	**Pg**	**13 24 49.7**	**-0.4**
SEAG				S	**Sg**	**13 25 13.4**	**+1.1**
KRIK	**Erzurum-spir**	**1.72**	**226**	P	**Pb**	**13 24 49.0**	**-0.1**
KRIK				S	**Sg**	**13 25 12.9**	**+0.4**
LACR	**Lac**	**1.82**	**45**	*e*Pg	**Pg**	**13 24 52.0**	**-0.3**
LACR				*e*Sg	**Sg**	**13 25 16.6**	**+0.8**
EMRE	**Erzurum,Aziziy**	**1.93**	**218**	P	**Pg**	**13 24 54.7**	**+0.5**
EMRE				*i* AML	AML	13 25 23.0	
	comp=N,79nm,0.7s						
LSNR	**Lesken**	**1.97**	**29**	*e*Pg	**Pg**	**13 24 54.3**	**-0.7**
LSNR				*e*Sg	**Sg**	**13 25 19.9**	**-0.6**
TASB	**TASBURUN-IGDIR**	**2.03**	**140**	Pn	**Pb**	**13 24 54.1**	**-0.3**
ARNR	**Ardon**	**2.08**	**38**	*e*Pg	**Pg**	**13 24 57.2**	**+0.1**
ARNR				*e*Sg	**Sg**	**13 25 24.6**	**+0.7**
STDR	**Stavd-Durt**	**2.14**	**31**	*e*Pg	**Pg**	**13 24 58.4**	**+0.3**
STDR				*e*Sg	**Sg**	**13 25 25.7**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**2.15**	**238**	Pn	**Pb**	**13 24 54.9**	**-1.6**
BAYB	**BAYBURT**	**2.16**	**234**	P	**Pb**	**13 24 56.7**	**+0.1**
BAYB				S	**Sg**	**13 25 24.8**	**-1.8**
BAYB				*i* AML	AML	13 25 27.0	
	comp=N,170nm,0.3s						
KTUT	**Trabzon**	**2.16**	**256**	Pn	**Pn**	**13 24 54.6**	**+1.1**
KOPT	**Kop Dagi**	**2.18**	**226**	P	**Pg**	**13 24 58.4**	**-0.6**
KOPT				S	**Sg**	**13 25 28.1**	**+0.8**
GNI	**Garni**	**2.18**	**129**	Pn	**Pb**	**13 24 56.3**	**-0.7**
SHA1	**Shidzhatmaz**	**2.19**	**2**	*e*Pg	**Pg**	**13 24 58.4**	**-0.7**
SHA1				*e*Sg	**Sb**	**13 25 25.9**	**+1.5**
SHTL	**Shatili**	**2.24**	**60**	P	**Pb**	**13 24 58.2**	**+0.3**
SHTL				S	**Sg**	**13 25 28.9**	**-0.1**
BTKR	**Batakoyurt**	**2.35**	**39**	*e*Pn	**Pg**	**13 25 01.4**	**-0.8**
BTKR				*e*Sn	**Sg**	**13 25 31.0**	**-1.6**
KBTC	**Kuba-Taba**	**2.35**	**16**	*e*Pg	**Pb**	**13 24 59.6**	**-0.2**
KBTC				*e*Sg	**Sb**	**13 25 29.1**	**+0.1**
KIV	**Kislovodsk**	**2.40**	**3**	Pn	**Pn**	**13 24 57.7**	**+0.8**
LGD	**Lagodekhi**	**2.79**	**83**	P	**Pb**	**13 25 07.7**	**+0.4**
LGD				S	**Sg**	**13 25 46.3**	**-0.5**

*NEIC **27** 13:49:18.2±2.3,23°.21S±0°.06×178°.5W±0°.1,h353km±9km,*
mb4.8/49,Error ellipse: s-maj=17.2km s-min=8.6km
az=84.0
*IDC **27** 13:49:22.0±0.7,23°.06S×178°.95W,h388km±7km,mb3.9/11,*
mbtmp4.6/12,Error ellipse: s-maj=13.6km s-min=11.1km
az=161.0
ISC 27 13:49:19.9±0.5,**23°.21S**±0°.05×**178°.76W**±0°.06,
h371km±4km,**h372**km:**pP-P**,**n134**,σ1**59**/159,**mb4.6**/37,**1D**,

South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.06**	**173**	S	**S**	**13 52 06.7**	**-0.3**
	592nm,0.3s,baz=68,slow=22,SNR=5.6						
RAO	**Raoul Island**	**6.06**	**173**	Pn	**Pn**	**13 50 50.7**	**-1.4**
GLKZ	**Green Lake**	**6.07**	**173**	P	**Pn**	**13 50 51.2**	**-0.9**
GLKZ				S	**S**	**13 52 09.8**	**+2.6**
MSVF	**Nonsavu**	**6.22**	**331**	P	**Pn**	**13 50 54.6**	**+0.5**
	132nm,0.8s,baz=134,slow=12,SNR=85						
MSVF				S	**S**	**13 52 10.6**	**-0.1**
	55nm,1.0s,baz=117,slow=23,SNR=9.3						
NIUE	**Niue**	**9.21**	**65**		**Pn**	**13 51 25.6**	**-3.0**
AFI	**Afiamalu**	**11.37**	**37**	P	**P**	13 51 47.5	-6.4
	44nm,0.3s,baz=222,slow=5.1,SNR=27						
AFI				S	S	13 53 44.0	-17
	46nm,0.5s,baz=180,slow=20,SNR=8.1						
AFI	**Afiamalu**	**11.37**	**37**		P	13 51 47.2	-6.7
MARNC	**Mare, Loyalty**	**12.35**	**275**	P	**Pn**	**13 52 07.7**	**+2.2**
PINNC	**Pines Island,**	**12.73**	**270**	P	**Pn**	**13 52 11.8**	**+1.8**
DZM	**Mont Dzumac**	**13.71**	**272**	*e*P	**Pn**	**13 52 25.0**	**+3.4**
DZM	116nm,0.8s						
	66nm,1.6s			*e*S	**S**	**13 54 52.8**	**+4.3**
DZM	**Mont Dzumac**	**13.71**	**272**	P	**Pn**	**13 52 25.1**	**+3.5**
	60nm,0.7s,baz=68,slow=19,SNR=38						
DZM	**Mont Dzumac**	**13.71**	**272**	P	**Pn**	**13 52 24.9**	**+3.4**
MXZ	**Matakaoa Point**	**14.52**	**189**		**Pn**	**13 52 29.5**	**-0.9**
MXZ	**Matakaoa Point**	**14.52**	**189**	P	**Pn**	**13 52 29.6**	**-0.9**
MXZ				S	**S**	**13 55 01.6**	**-2.5**
WIZ	**White Island**	**14.69**	**193**	P	**Pn**	**13 52 32.1**	**-0.3**
WMGZ	**Waiomatatini S**	**14.76**	**189**	P	**P**	**13 52 29.5**	**-1.2**
WMGZ				S	**S**	**13 55 06.1**	**-2.9**
HAZ	**Te Kaha**	**14.80**	**191**	P	**P**	**13 52 30.2**	**-1.0**
HAZ				S	**S**	**13 55 06.5**	**-3.2**
PKGZ	**Pakihiroa**	**14.88**	**190**	P	**P**	**13 52 32.0**	**-0.1**
PKGZ				S	**S**	**13 55 06.9**	**-4.5**
RUGZ	**Raukumara Rang**	**15.02**	**191**	P	**P**	**13 52 33.6**	**-0.1**
RUGZ				S	**S**	**13 55 13.1**	**-1.2**
PUZ	**Puketiti**	**15.03**	**189**	P	**P**	**13 52 33.0**	**-0.7**
PUZ				S	**S**	**13 55 11.2**	**-3.2**
WHRZ	**Whale Island**	**15.05**	**193**	P	**Pn**	**13 52 37.0**	**+0.5**
TGRZ	**Tauranga**	**15.09**	**195**	P	**Pn**	**13 52 37.4**	**+0.4**
OPRZ	**Ohinepanea**	**15.13**	**194**	P	**Pn**	**13 52 36.7**	**-0.8**
TWGZ	**Tauwhareparae**	**15.17**	**190**	P	**P**	**13 52 35.7**	**+0.3**
TWGZ				S	**S**	**13 55 15.4**	**-1.9**
MARZ	**Manawahe**	**15.23**	**194**	P	**Pn**	**13 52 38.9**	**+0.1**
KARZ	**Kaharoa**	**15.37**	**195**	P	**Pn**	**13 52 40.6**	**+0.3**
MWZ	**Matawai**	**15.40**	**191**	P	**P**	**13 52 38.9**	**+1.0**
MWZ				S	**S**	**13 55 22.0**	**+0.2**
URZ	**Urewera**	**15.41**	**192**	P	**P**	**13 52 36.9**	**-1.0**
	221nm,0.5s,baz=131,slow=1.3,SNR=108						
URZ				S	**S**	**13 55 20.1**	**-1.7**
	123nm,0.6s,baz=81,slow=2.3,SNR=4.8						
URZ	**Urewera**	**15.41**	**192**	P	**P**	**13 52 36.7**	**-1.2**
URZ				S	**S**	**13 55 20.6**	**-1.2**
OMRZ	**Omania**	**15.42**	**195**	P	**Pn**	**13 52 41.4**	**+0.5**
CNGZ	**Carnagh Statio**	**15.44**	**189**	P	**P**	**13 52 37.1**	**-1.0**
TKGZ	**Te Karaka**	**15.45**	**190**	P	**P**	**13 52 35.9**	**-2.4**
TKGZ				S	**S**	**13 55 21.4**	**-1.3**
NGRZ	**Ngongotaha**	**15.46**	**195**	P	**Pn**	**13 52 41.9**	**+0.5**
UTU	**Utuhina**	**15.53**	**195**	P	**Pn**	**13 52 42.9**	**+0.8**
RAGZ	**Rawiri**	**15.58**	**191**	P	**P**	**13 52 40.6**	**+0.8**
HSRZ	**Hossack Road**	**15.64**	**195**	P	**Pn**	**13 52 44.3**	**+0.9**
MUGZ	**Murupara**	**15.69**	**193**	P	**P**	**13 52 37.9**	**-3.0**
HRRZ	**Handcock Road**	**15.71**	**195**	P	**Pn**	**13 52 44.3**	**+0.1**
RIGZ	**Rimuhau**	**15.73**	**190**	P	**P**	**13 52 40.5**	**-0.8**
RUATZ	**Ruatahuna**	**15.78**	**192**		**P**	**13 52 41.5**	**-0.5**
RTZ	**Ruatahuna**	**15.78**	**192**	P	**P**	**13 52 41.4**	**-0.5**
PRRZ	**Plateau Road**	**15.79**	**194**	P	**P**	**13 52 42.4**	**+0.4**
ALRZ	**Allen Road**	**15.86**	**194**	P	**Pn**	**13 52 44.6**	**-1.4**
WPRZ	**Whakapapatarin**	**15.86**	**195**	P	**Pn**	**13 52 45.0**	**-1.0**
SNGZ	**Shannon Statio**	**15.87**	**191**	P	**P**	**13 52 41.7**	**-1.2**
RAHZ	**Arahi**	**16.05**	**192**	P	**P**	**13 52 43.7**	**-1.1**
MRHZ	**Matea Rd**	**16.11**	**194**	P	**P**	**13 52 44.8**	**-0.7**
HIZ	**Hauiti**	**16.20**	**198**	P	**Pn**	**13 52 48.5**	**-1.3**
BKZ	**Black Stump Fm**	**16.41**	**193**		**P**	**13 52 47.3**	**-1.4**
BKZ				IAmb	IAmb	13 53 07.3	
	comp=Z,31nm,0.7s						
BFZ	**Birch Farm**	**17.92**	**192**	P	**P**	**13 53 03.8**	**-1.0**
BFZ				IAmb	IAmb	13 53 09.9	
	comp=Z,92nm,0.6s						
MRZ	**Mangatainoka R**	**18.04**	**194**		**P**	**13 53 04.9**	**-1.2**
MRZ				IAmb	IAmb	13 53 05.5	
	comp=Z,37nm,0.8s						
SNZO	**South Karori**	**18.86**	**195**	P	**P**	**13 53 14.2**	**-0.5**
TCW	**Tory Channel**	**18.87**	**196**	P	**P**	**13 53 13.4**	**-1.4**
BHW	**Baring Head**	**18.91**	**195**		**P**	**13 53 15.2**	**-0.1**
PLWZ	**Palliser**	**18.98**	**194**	P	**P**	**13 53 16.6**	**+0.6**
QRZ	**Quartz Range**	**19.03**	**201**	P	**P**	**13 53 17.2**	**+0.7**
TKNZ	**Takaka Hill**	**19.08**	**199**	P	**P**	**13 53 18.4**	**+1.3**
NNZ	**Nelson**	**19.13**	**198**	P	**P**	**13 53 17.0**	**-0.5**
NNZ				IAmb	IAmb	13 53 20.4	
	comp=Z,81nm,0.7s						
MRNZ	**Matariki Terra**	**19.48**	**199**	P	**P**	**13 53 21.4**	**+0.3**
THZ	**Tophouse**	**19.77**	**199**	P	**P**	**13 53 24.2**	**+0.1**
THZ				IAmb	IAmb	13 53 27.9	
	comp=Z,87nm,0.7s						
DSZ	**Denniston Nort**	**20.09**	**201**		**P**	**13 53 27.7**	**+0.5**
KHZ	**Kahutara**	**20.20**	**197**	P	**P**	**13 53 27.7**	**-0.3**
GVZ	**Greta Valley S**	**20.84**	**197**	P	**P**	**13 53 33.3**	**-0.6**
LTZ	**Lake Taylor**	**20.89**	**199**		**P**	**13 53 33.5**	**-0.9**
INZ	**Inchbonnie**	**21.09**	**200**	P	**P**	**13 53 35.6**	**-0.5**
OXZ	**Oxford**	**21.46**	**199**	P	**P**	**13 53 38.4**	**-1.0**
MQZ	**McQueen's Vall**	**21.63**	**197**		**P**	**13 53 40.6**	**-0.4**
MQZ				IAmb	IAmb	13 53 41.0	
	comp=Z,87nm,1.2s						
RPZ	**Rata Peaks**	**22.11**	**200**	P	**P**	**13 53 45.9**	**+0.5**
	comp=Z,98nm,0.7s,baz=8.9,slow=1.0,SNR=36						
	comp=Z,98nm,0.7s						
RPZ	**Rata Peaks**	**22.11**	**200**	P	**P**	**13 53 44.8**	**-0.6**
RPZ				IAmb	IAmb	13 53 49.2	
	comp=Z,104nm,0.8s						
FOZ	**Fox Glacier**	**22.36**	**202**	P	**P**	**13 53 47.0**	**-0.6**
WKZ	**Wanaka**	**23.77**	**202**	P	**P**	**13 54 00.2**	**-0.2**
WKZ				IAmb	IAmb	13 54 12.3	
	comp=Z,53nm,0.8s						
MLZ	**Mavora Lakes**	**24.55**	**203**	P	**P**	**13 54 07.6**	**+0.1**
MLZ				IAmb	IAmb	13 54 09.1	
	comp=Z,41nm,0.7s						
DCZ	**Deep Cove**	**24.99**	**204**	P	**P**	**13 54 12.5**	**+1.2**
DCZ				IAmb	IAmb	13 54 13.7	
	comp=Z,40nm,0.8s						
WHZ	**Wether Hill Ro**	**25.07**	**202**	P	**P**	**13 54 12.2**	**+0.1**
WHZ				IAmb	IAmb	13 54 15.7	
	comp=Z,71nm,1.2s						
ARMA	**Armidale**	**27.33**	**248**	P	**P**	**13 54 34.4**	**+1.9**
ARMA				IAmb	IAmb	13 54 35.0	
	comp=Z,18nm,0.9s						
CAN	**Canberra**	**30.47**	**239**	P	**P**	**13 55 01.0**	**+1.0**
CAN				pP	**pP**	**13 56 07.2**	**-0.3**
CTA	**Charters Tower**	**32.62**	**269**	P	**P**	**13 55 18.9**	**+0.2**
	comp=Z,11nm,0.8s,baz=89,slow=11,SNR=10						
	comp=Z,11nm,0.8s						
CTAO	**Charters Tower**	**32.62**	**269**	P	**P**	**13 55 19.2**	**+0.5**
CTAO				IAmb	IAmb	13 55 20.1	
	comp=Z,21nm,1.0s						
CTAO	**Charters Tower**	**32.62**	**269**	P	**P**	**13 55 18.5**	**-0.2**
CTAO				pP	**pP**	**13 56 25.6**	**-1.3**
TOO	**Toolangi**	**33.78**	**237**	P	**P**	**13 55 29.6**	**+1.2**
TOO				IAmb	IAmb	13 55 30.7	
	comp=Z,20nm,1.1s						
TAU	**Tasmania Unive**	**34.23**	**227**	P	**P**	**13 55 34.0**	**+1.9**
TAU				IAmb	IAmb	13 55 34.3	
	comp=Z,49nm,1.1s						
TAU	**Tasmania Unive**	**34.23**	**227**	P	**P**	**13 55 33.5**	**+1.4**
TAU				pP	**pP**	**13 56 39.8**	**-1.1**
PMG	**Port Moresby**	**35.37**	**287**	P	**P**	**13 55 41.9**	**-0.2**
PMG				IAmb	IAmb	13 55 42.9	
	comp=Z,29nm,1.0s						
PMG	**Port Moresby**	**35.37**	**287**	P	**P**	**13 55 41.5**	**-0.6**
STKA	**Stephens Creek**	**36.04**	**247**	P	**P**	**13 55 48.2**	**+0.7**
	comp=Z,9.4nm,0.8s,baz=87,slow=10,SNR=23						
	comp=Z,9.4nm,0.8s						
STKA	**Stephens Creek**	**36.04**	**247**	P	**P**	**13 55 48.5**	**+1.0**
BBOO	**Buckleboo**	**40.76**	**246**	P	**P**	**13 56 26.7**	**+0.2**
AS31	**Alice Springs**	**43.27**	**260**	P	**P**	**13 56 46.6**	**-0.1**
ASAR	**Alice Springs**	**43.28**	**260**	P	**P**	**13 56 46.4**	**-0.4**
ASAR				pP	**pwP**	**13 58 00.8**	**-3.4**
	comp=Z,12nm,0.9s,baz=90,slow=8.4,SNR=85						
	comp=Z,3.5nm,1.1s,baz=88,slow=7.5,SNR=3.2						
ASAR				ScP	**ScP**	**14 01 41.2**	**-2.2**
	comp=Z,1.0nm,1.0s,baz=101,slow=4.8,SNR=2.4						
ASAR				S	**S**	**14 02 42.9**	**-2.9**
	comp=Z,2.0nm,1.2s,baz=104,slow=18,SNR=8.1						
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**43.28**	**260**	P	**P**	**13 56 46.9**	**+0.2**
WR0	**Warramunga Arr**	**43.41**	**265**	P	**P**	**13 56 47.0**	**-0.7**
WB2	**Warramunga Arr**	**43.59**	**265**	P	**P**	**13 56 48.6**	**-0.5**
WB0	**Warramunga Arr**	**43.59**	**265**	P	**P**	**13 56 48.3**	**-0.9**
WRAB	**Tennant Creek**	**43.59**	**265**	P	**P**	**13 56 48.1**	**-1.1**
WRAB	**Tennant Creek**	**43.59**	**265**	P	**P**	**13 56 48.1**	**-1.1**
WRAB				pP	**pP**	**13 58 00.7**	**-0.6**
WRA	**Warramunga Arr**	**43.60**	**265**	P	**P**	**13 56 48.3**	**-1.0**
	comp=Z,9.7nm,0.8s,baz=96,slow=7.9,SNR=127						
WRA				pP	**pwP**	**13 58 04.0**	**-2.8**
	comp=Z,1.7nm,1.1s,baz=111,slow=7.0,SNR=2.5						
WRA				S	**S**	**14 02 46.8**	**-3.6**
	comp=Z,2.0nm,1.1s,baz=97,slow=14,SNR=5.0						
	comp=Z,9.7nm,0.8s						
WRA	**Warramunga Arr**	**43.60**	**265**	P	**P**	**13 56 48.3**	**-1.0**
FORT	**Forrest**	**47.62**	**249**	P	**P**	**13 57 19.7**	**-0.5**
FORT				IAmb	IAmb	13 57 21.0	
	comp=Z,38nm,0.7s						
KNRA	**Kununurra**	**49.84**	**269**	P	**P**	**13 57 37.0**	**-0.1**
KNRA				IAmb	IAmb	13 58 00.8	
	comp=Z,41nm,1.4s						
DRV	**Dumont d'Urvil**	**50.57**	**200**	P	**P**	**13 57 42.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.02**	**265**	P	**P**	**13 57 53.9**	**+0.7**
SBA	**Scott Base**	**55.13**	**184**	P	**P**	**13 58 18.4**	**+3.8**
VNDA	**Vanda**	**55.16**	**185**	P	**P**	**13 58 17.6**	**+2.9**
	comp=Z,9.4nm,0.7s,baz=353,slow=7.6,SNR=17						
	comp=Z,9.4nm,0.7s						
VNDA	**Vanda**	**55.16**	**185**	P	**P**	**13 58 17.9**	**+3.2**
VNDA	**Vanda**	**55.16**	**185**	P	**P**	**13 58 17.6**	**+2.9**
VNDA				pP	**pP**	**13 59 34.1**	**+2.3**
PSA00	**Pilbara Seismi**	**56.41**	**259**	P	**P**	**13 58 25.7**	**+1.2**
PSA00				IAmb	IAmb	13 58 50.1	
	comp=Z,80nm,1.4s						
MORW	**Morawa**	**58.18**	**249**	P	**P**	**13 58 36.5**	**-0.1**
MORW				IAmb	IAmb	13 58 58.8	
	comp=Z,33nm,1.3s						
MMRI	**Maumere**	**58.20**	**274**	P	**P**	**13 58 34.7**	**-2.2**
	comp=Z,78nm,0.8s						
CCD	**Concordia, Ant**	**59.67**	**195**	P	**P**	**13 58 47.4**	**+1.0**
MPSI	**Mapaga**	**63.97**	**282**	P	**P**	**13 59 12.6**	**-2.7**
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**66.87**	**180**	P	**P**	**13 59 34.5**	**+1.5**
QSPA				IAmb	IAmb	13 59 36.1	
	comp=Z,21nm,0.9s						
QSPA	**South Pole Qui**	**66.87**	**180**	P	**P**	**13 59 34.9**	**+1.9**
MTKI	**Muara Teweh, K**	**67.95**	**279**	P	**P**	**13 59 37.0**	**-3.4**
	comp=Z,108nm,0.5s						
PWJI	**Pagerwojo**	**68.02**	**271**	P	**P**	**13 59 38.1**	**-2.7**
	comp=Z,54nm,2.1s						
MDSI	**Maura Dua**	**76.36**	**271**	P	**P**	**14 00 26.6**	**-3.1**
NJ2	**Nanjing**	**81.08**	**310**	*e*P	**P**	**14 00 57.0**	**+2.3**

	comp=E,5090µm,0.6s								
IDI					AML	AML	13 53 19.7		
	comp=N,4368µm,0.6s								
GVDS	**Gavdos**	**0.91**	**288**		P	**Pg**	**13 53 10.2**	**+0.8**	
GVDS					S	**Sg**	**13 53 22.7**	**+1.3**	
	comp=N,2µm,0.5s								
GVDS	**Gavdos**	**0.91**	**288**		Pg	**Pg**	**13 53 09.9**	**+0.5**	
GVDS					Sg	**Sg**	**13 53 23.2**	**+1.8**	
GVD	**Gavdhos**	**0.91**	**287**		P	**Pg**	**13 53 09.4**	**-0.1**	
GVD					S	**Sg**	**13 53 21.8**	**+0.3**	
	comp=N,4µm,0.5s								
GVD	**Gavdhos**	**0.91**	**287**		Pg	**Pg**	**13 53 09.4**	**-0.1**	
GVD					Sg	**Sg**	**13 53 22.4**	**+0.9**	
GVD	**Gavdhos**	**0.91**	**287**		P	**Pg**	**13 53 09.6**	**+0.1**	
GVD					S	**Sg**	**13 53 21.7**	**+0.3**	
GVD					AML	AML	13 53 28.2		
	comp=E,7404µm,0.5s								
GVD					AML	AML	13 53 28.6		
	comp=N,6950µm,0.5s								
PRNS	**Prines Rethymn**	**0.95**	**326**		P	**Pg**	**13 53 10.0**	**-0.2**	
PRNS					S	**Sg**	**13 53 22.3**	**-0.5**	
	comp=N,765nm,0.5s								
ZKR	**Zakros**	**1.03**	**58**		Pg	**Pg**	**13 53 11.6**	**-0.2**	
ZKR	**Zakros**	**1.03**	**58**		P	**Pn**	**13 53 14.1**	**+2.6**	
ZKR					AML	AML	13 53 35.5		
	comp=N,1760µm,0.9s								
ZKR					AML	AML	13 53 40.1		
	comp=E,2595µm,0.5s								
IMMV	**Iera Moni Meta**	**1.30**	**313**		P	**Pn**	**13 53 15.7**	**+0.5**	
IMMV	**Iera Moni Meta**	**1.30**	**313**		Pn	**Pn**	**13 53 15.7**	**+0.5**	
IMMV					Sn	**Sb**	**13 53 33.5**	**+1.3**	
IMMV	**Iera Moni Meta**	**1.30**	**313**		P	**Pn**	**13 53 15.7**	**+0.5**	
IMMV					AML	AML	13 53 37.3		
	comp=N,2796µm,0.4s								
IMMV					AML	AML	13 53 37.6		
	comp=E,2170µm,0.6s								
CHAN	**Chania**	**1.31**	**317**		P	**Pn**	**13 53 16.3**	**+1.1**	
CHAN					AML	AML	13 53 38.5		
	comp=N,2066µm,0.5s								
CHAN					AML	AML	13 53 39.6		
	comp=E,2433µm,0.5s								
KNDR	**Palaiochora Ch**	**1.37**	**299**		Pn	**Pn**	**13 53 17.3**	**+1.3**	
RODP	**Rodopos**	**1.51**	**311**		Pn	**Pn**	**13 53 18.7**	**+0.8**	
RODP					Sn	**Sn**	**13 53 38.6**	**+1.4**	
KTHR	**Kythira**	**2.43**	**315**		P	**Pn**	**13 53 32.5**	**+1.8**	
APE	**Apeiranthos**	**2.51**	**7**		Pn	**Pn**	**13 53 32.5**	**+0.7**	
KOSK	**Kos Island**	**2.64**	**34**		Pn	**Pn**	**13 53 34.5**	**+1.0**	
ARG	**Arkhangelos**	**2.94**	**55**		Pn	**Pn**	**13 53 38.3**	**+0.7**	
TURN	**Turunc**	**3.35**	**48**		Pn	**Pn**	**13 53 44.5**	**+1.3**	
YER	**Yerkesik**	**3.61**	**44**		Pn	**Pn**	**13 53 48.2**	**+1.3**	
DALY	**Dalyan (Mula)**	**3.63**	**51**		Pn	**Pn**	**13 53 49.1**	**+2.0**	
BRTR	**Keskin Array B**	**8.51**	**50**		Pn	**Pn**	**13 54 52.4**	**-1.8**	
	comp=E,0.2nm,0.3s,baz=239,slow=16,SNR=4.3								
	comp=E,0.4nm,0.3s								
MMAI	**Mount Meron Ar**	**8.68**	**97**		Pn	Pn	13 54 52.8	-3.7	
	comp=E,0.7nm,0.3s,baz=279,slow=13,SNR=1.5								
MMAI					Sn	**Sn**	**13 56 30.6**	**-3.4**	
	comp=E,1.5nm,0.3s,baz=270,slow=27,SNR=1.9								
	comp=E,15nm,1.0s								
EIL	**Elat**	**9.64**	**118**		Pn	Pn	13 55 05.6	-4.1	
	comp=E,0.1nm,0.3s,baz=349,slow=18,SNR=2.1								
EIL					Sn	**Sn**	**13 56 54.3**	**-3.4**	
	comp=E,0.7nm,0.3s,baz=193,slow=21,SNR=2.1								
	comp=E,5.0nm,0.8s								
AKASG	**Malin Array Be**	**16.39**	**9**		Pn	**Pn**	**13 56 39.8**	**-1.0**	
	comp=E,0.9nm,0.3s,baz=195,slow=12,SNR=4.3								
	comp=E,0.1nm,0.3s								
GERES	**GERESS Array B**	**16.60**	**333**		Pn	**Pn**	**13 56 42.5**	**-1.0**	
	comp=E,0.1nm,0.3s,baz=155,slow=12,SNR=2.7								
	comp=E,0.3nm,0.3s								
FINES	**FINESS Array B**	**26.90**	**1**		P	**P**	**13 58 28.6**	**-2.9**	
	comp=E,1.3nm,0.9s,baz=167,slow=8.1,SNR=3.6								
	comp=E,1.3nm,0.9s								
TORD	**Torodi Ar. Bea**	**30.10**	**231**		P	**P**	**13 59 01.0**	**+0.5**	
	comp=E,1.6nm,0.4s,baz=35,slow=9.2,SNR=19								
	comp=E,1.6nm,0.4s								

NNC 27 13:57:21.3±8.2, 36.53N×68.92E, h33km±280km, mb3.9, mpv3.7, 3C-2D, Error ellipse: s-maj=152.8km s-min=37.8km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.68**	**10**	⇑P		Pn	13 58 56.6	-0.5
	1.3nm,0.3s,baz=193,slow=15,SNR=50							
KK31				⇑S		Sn	14 00 12.9	+0.9
	2.0nm,0.6s,baz=194,slow=26,SNR=5.2							
CHMS	**Chumysh**	**7.87**	**33**	⇑P		Pn	13 59 12.5	-0.9
CHMS	4.0nm,0.6s			⇓S		Sn	14 00 39.8	-1.4
	3.6nm,0.5s							
TKM2	**Tokmak 2**	**8.19**	**37**	⇓P		Pn	13 59 17.3	-0.8
	2.6nm,0.6s							
AB31	**Akbulak array**	**14.30**	**336**	P		Pn	14 00 42.4	+1.0
	0.4nm,0.5s,baz=160,slow=13,SNR=12							
AB31				S		Sn	14 03 19.5	+0.8
	1.3nm,0.8s,baz=261,slow=37,SNR=2.8							

*ROM **27** 14:20:15.5±0.1, 42.552N±0.003×13.339E±0.004, h12km, ML3.4/82, Mw3.4, Error ellipse: s-maj=0.3km s-min=0.1km az=214.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-0.95; Mθθ-0.02; Mφφ0.97; Mrθ0.83; Mθφ-0.50; Mφr-1.15; Fault plane solution: M0 1.77764×10^14^ NP1:φs173.00000°, δ20.00000°, λ-65.00000°. NP2:φs326.00000°, δ72.00000°, λ-99.00000°.*

*IDC **27** 14:20:17.9±1.2, 42.81N×13.60E, h0km, mb3.4/5, mbtmp3.4/9, ML3.3/4, MS2.8/2 Error ellipse: s-maj=26.3km s-min=15.0km az=100.0*

*BEO **27** 14:20:18.8±0.9, 42.73N×13.52E, h0km, ML3.6/5*

*PRU **27** 14:20:20.3±0.0, 42.72N×13.64E, h10km*

ISC 27 14:20:16.3±0.7, 42.53N±0.01×13.36E±0.02, h11km±4km, n157, σ1s28/191, mb3.5/4, 49C-27D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.04**	**84**	P		**Pg**	**14 20 18.3**	**-0.2**
CAMP				S		**Sg**	**14 20 19.7**	**-0.4**
CAMP				AML	AML			
	comp=E,68650µm,1.1s							
CAMP				AML	AML			
CAMP				AML	AML			
CAMP				AML	AML			
	comp=E,68650µm,0.9s							
SMA1	**SAN MARTINO**	**0.10**	**349**	⇓P		**Pg**	**14 20 18.6**	**-0.5**
SMA1				S		**Sg**	**14 20 20.5**	**-0.8**
SMA1				AML	AML			
SMA1				AML	AML			
SMA1				AML	AML			
T1247	**Pizzolo (AQ)**	**0.10**	**207**	⇑P		**Pg**	**14 20 19.1**	**0.0**
T1247				S		**Sg**	**14 20 21.4**	**+0.3**
T1247				AML	AML			
T1247				AML	AML			
RM33	**Pellescritta (**	**0.11**	**258**	⇑P		**Pg**	**14 20 18.8**	**-0.4**
RM33				S		**Sg**	**14 20 20.8**	**-0.6**
RM33				AML	AML			
	comp=E,87350µm,0.2s							
RM33				AML	AML			
	comp=N,38650µm,0.3s							
RM33				AML	AML			
	comp=E,87000µm,0.2s							
RM33				AML	AML			
	comp=N,39550µm,0.3s							
RM33				AML	AML			
	comp=N,38650µm,0.2s							
RM33				AML	AML			
	comp=N,38650µm,1.8s							
RM33				AML	AML			
	comp=N,39550µm,1.7s							
GIGS	**Gran Sasso**	**0.17**	**118**	⇑P		**Pg**	**14 20 20.4**	**+0.2**
GIGS				S		**Sg**	**14 20 23.6**	**+0.6**
GIGS				AML	AML			
	comp=E,12650µm,0.6s							
GIGS				AML	AML			
	comp=N,16400µm,0.2s							
GIGS				AML	AML			
	comp=E,12650µm,1.4s							
AQU	**L'Aquila**	**0.18**	**170**	⇑P		**Pg**	**14 20 20.7**	**+0.4**
AQU				S		**Sg**	**14 20 23.8**	**+0.8**
AQU				AML	AML			
	comp=E,17950µm,0.5s							
AQU				AML	AML			
	comp=E,19200µm,0.4s							
AQU				AML	AML			
	comp=N,24150µm,0.4s							
AQU				AML	AML			
	comp=E,17950µm,1.5s							
AQU				AML	AML			
	comp=N,26050µm,0.4s							
TERO	**Teramo**	**0.20**	**63**	P		**Pg**	**14 20 20.6**	**0.0**
TERO				S		**Sg**	**14 20 23.9**	**+0.3**
TERO				AML	AML			
	comp=E,31600µm,0.4s							
TERO				AML	AML			
	comp=E,32550µm,1.3s							
TERO				AML	AML			
	comp=N,41300µm,0.5s							
TERO				AML	AML			
	comp=E,32550µm,0.7s							
TERO				AML	AML			
	comp=N,42100µm,0.5s							
T1218	**Civita (PG)**	**0.23**	**307**	⇑P		**Pg**	**14 20 20.4**	**-0.7**
T1218				S		**Sg**	**14 20 23.6**	**-0.8**
T1218				AML	AML			
	comp=N,40750µm,0.2s							
T1218				AML	AML			
	comp=E,20050µm,0.4s							
T1218				AML	AML			
	comp=E,20450µm,0.4s							
T1218				AML	AML			
	comp=N,40750µm,0.3s							
T1218				AML	AML			
	comp=E,20100µm,0.4s							
T1218				AML	AML			
	comp=N,40400µm,0.2s							
LNSS	**Leonessa**	**0.25**	**287**	⇑P		**Pg**	**14 20 20.9**	**-0.6**
LNSS				S		**Sg**	**14 20 24.5**	**-0.4**
LNSS				AML	AML			
	comp=N,55600µm,0.4s							
LNSS				AML	AML			
	comp=E,42150µm,0.3s							
T1222	**Castel Sant'An**	**0.27**	**242**	⇑P		**Pg**	**14 20 21.5**	**-0.4**
T1222				S		**Sg**	**14 20 25.8**	**+0.2**
T1222				AML	AML			
	comp=N,9665µm,0.3s							
T1222				AML	AML			
	comp=N,9505µm,0.8s							
T1222				AML	AML			
	comp=N,9665µm,0.3s							
T1222				AML	AML			
	comp=N,9485µm,0.8s							
T1222				AML	AML			
	comp=E,14100µm,0.3s							
T1222				AML	AML			
	comp=N,9490µm,0.8s							
T1222				AML	AML			
	comp=N,9490µm,1.2s							
T1222				AML	AML			
	comp=E,14700µm,0.3s							
FAGN	**Fagnano**	**0.31**	**148**	⇑P		**Pb**	**14 20 22.9**	**-1.1**
FAGN				AML	AML			
	comp=N,32800µm,1.3s							
FAGN				AML	AML			
	comp=E,39050µm,0.5s							
FAGN				AML	AML			
	comp=N,32800µm,0.7s							
FAGN				AML	AML			
	comp=E,39050µm,1.5s							
FIAM	**Fiamignano**	**0.32**	**214**	⇑P		**Pb**	**14 20 22.6**	**-1.5**
FIAM				S		**Sb**	**14 20 27.7**	**-1.6**
FIAM				AML	AML			
	comp=E,9655µm,0.9s							
FIAM				AML	AML			
	comp=E,9655µm,1.1s							
FIAM				AML	AML			
	comp=N,12700µm,0.6s							
T1212	**Cascia, Frazio**	**0.32**	**313**	⇑P		**Pg**	**14 20 22.0**	**-0.8**
T1212				S		**Sg**	**14 20 26.4**	**-0.7**
T1212				AML	AML			
	comp=N,10200µm,0.3s							
T1212				AML	AML			
	comp=E,13050µm,0.3s							
T1212				AML	AML			
	comp=N,10550µm,0.3s							
T1212				AML	AML			
	comp=N,10550µm,0.3s							
T1212				AML	AML			
	comp=N,10200µm,0.3s							
T1212				AML	AML			
	comp=E,13200µm,0.3s							
NRCA	**Norcia**	**0.35**	**329**	⇑P		**Pg**	**14 20 22.7**	**-0.7**
NRCA				AML	AML			
	comp=N,15750µm,0.1s							
NRCA				AML	AML			
	comp=E,22950µm,0.1s							
NRCA				AML	AML			
	comp=N,15750µm,1.9s							
T1217	**Poggiodomo (PG**	**0.36**	**300**	⇑P		**Pg**	**14 20 22.7**	**-0.8**
T1217				S		**Sg**	**14 20 27.8**	**-0.7**
T1217				AML	AML			
	comp=E,5745µm,0.7s							
T1217				AML	AML			
	comp=N,6050µm,0.4s							
T1217				AML	AML			
	comp=E,5660µm,0.7s							
T1217				AML	AML			
	comp=E,5745µm,0.7s							
T1217				AML	AML			
	comp=N,6045µm,0.4s							
T1217				AML	AML			
	comp=E,5665µm,0.7s							
T1217				AML	AML			
	comp=N,5845µm,0.3s							
T1211	**Morro Reatino**	**0.37**	**270**	⇑P		**Pg**	**14 20 22.9**	**-0.8**
T1211				S		**Sg**	**14 20 28.8**	**+0.1**
T1211				AML	AML			
	comp=E,8960µm,0.8s							
T1211				AML	AML			
	comp=E,8700µm,0.8s							
T1211				AML	AML			
	comp=N,12100µm,1.5s							
T1211				AML	AML			
	comp=N,11950µm,1.5s							
T1211				AML	AML			
	comp=N,12100µm,0.5s							
T1211				AML	AML			
	comp=E,8960µm,0.8s							
MC2	**Monte Cornacci**	**0.40**	**342**	⇑P		**Pg**	**14 20 23.6**	**-0.7**
T0110	**Collepietro**	**0.43**	**134**	⇑P		**Pb**	**14 20 24.9**	**-1.1**
T0110				S		**Sb**	**14 20 33.0**	**+0.4**
T0110				AML	AML			
	comp=E,19700µm,0.4s							
T0110				AML	AML			
	comp=N,26650µm,0.5s							
T1216	**Preci, Frazion**	**0.44**	**325**	⇑P		**Pg**	**14 20 24.4**	**-0.6**
T1216				AML	AML			
	comp=E,7735µm,0.6s							
T1216				AML	AML			
	comp=N,9645µm,0.8s							
T1216				AML	AML			
	comp=E,7735µm,0.7s							
T1216				AML	AML			
	comp=N,9685µm,0.8s							
T1216				AML	AML			
	comp=N,9685µm,1.2s							
ARRO	**Arrone**	**0.44**	**276**	⇑P		**Pg**	**14 20 24.2**	**-0.8**
ARRO				AML	AML			
	comp=N,4980µm,1.0s							
ARRO				AML	AML			
	comp=E,5480µm,0.8s							
ARRO				AML	AML			
	comp=E,5480µm,1.2s							
T1215	**Vallo di Nera,**	**0.45**	**307**	⇑P		**Pg**	**14 20 24.2**	**-1.0**
T1215				AML	AML			
	comp=N,2815µm,1.0s							
T1215				AML	AML			
	comp=E,3705µm,0.3s							
T1215				AML	AML			
	comp=N,2810µm,0.9s							
T1215				AML	AML			
	comp=E,3700µm,0.3s							
T1215				AML	AML			
	comp=E,3580µm,0.3s							
T1215				AML	AML			
	comp=N,2810µm,1.1s							
T1215				AML	AML			
	comp=N,2815µm,1.0s							
OFFI	**Offida**	**0.47**	**31**	⇑P		**Pb**	**14 20 25.9**	**-0.7**
OFFI				AML	AML			
	comp=E,20700µm,0.6s							
OFFI				AML	AML			
	comp=N,20250µm,0.5s							
FEMA	**Monte Fema**	**0.49**	**332**	S		**Sg**	**14 20 32.7**	**+0.3**
FEMA				AML	AML			
	comp=E,7510µm,0.5s							
FEMA				AML	AML			
	comp=N,6465µm,1.5s							
FEMA				AML	AML			
	comp=E,7510µm,1.5s							
FEMA				AML	AML			
	comp=N,6465µm,0.5s							
TRTR	**Tortoreto Alta**	**0.49**	**56**	⇑P		**Pn**	**14 20 26.9**	**-2.3**
TRTR				AML	AML			
	comp=E,16050µm,0.4s							
TRTR				AML	AML			
	comp=N,18300µm,0.6s							
TRTR				AML	AML			
	comp=E,16050µm,1.6s							
PTQR	**Pietraquaria**	**0.51**	**177**	⇓P		**Pb**	**14 20 26.0**	**-1.3**
PTQR				S		**Sb**	**14 20 34.8**	**0.0**
PTQR				AML	AML			
	comp=N,1905µm,0.6s							
PTQR				AML	AML			
	comp=E,2550µm,1.5s							
GUMA	**Gualdo di Mace**	**0.53**	**358**	⇑P		**Pb**	**14 20 26.2**	**-1.4**
GUMA				AML	AML			
	comp=N,11700µm,0.8s							
GUMA				AML	AML			
	comp=E,10765µm,0.4s							
GUMA				AML	AML			
	comp=E,10295µm,1.0s							
GUMA				AML	AML			
	comp=N,10410µm,0.7s							
GUMA				AML	AML			
	comp=E,10295µm,1.0s							
GUMA				AML	AML			
	comp=N,11700µm,1.2s							
FDMO	**Fiordimonte**	**0.54**	**338**	⇑P		**Pg**	**14 20 25.9**	**-1.0**
FDMO				S		**Sg**	**14 20 34.2**	**+0.2**
FDMO				AML	AML			
	comp=E,2840µm,1.0s							
FDMO				AML	AML			
	comp=N,3790µm,0.2s							
CSP1	**Cessapalombo**	**0.57**	**348**	⇑P		**Pg**	**14 20 26.5**	**-0.9**
CSP1				S		**Sg**	**14 20 35.3**	**+0.2**
CSP1				AML	AML			
	comp=N,5135µm,0.4s							
CSP1				AML	AML			
	comp=E,3680µm,0.9s							
CSP1				AML	AML			
	comp=E,3680µm,1.1s							
CESI	**CESI - Serrava**	**0.58**	**325**	P		**Pg**	**14 20 26.6**	**-1.0**
CESI				AML	AML			
	comp=E,3125µm,0.7s							
CESI				AML	AML			
	comp=N,4300µm,0.3s							
CESI				AML	AML			
	comp=E,3125µm,1.3s							
CESX	**Cesi**	**0.58**	**278**	⇑P		**Pg**	**14 20 26.4**	**-1.3**
CESX				S		**Sg**	**14 20 35.2**	**-0.1**
CESX				AML	AML			
	comp=E,3475µm,0.5s							
CESX				AML	AML			
	comp=N,3675µm,1.2s							
CESX				AML	AML			
	comp=N,3675µm,0.8s							
CESX				AML	AML			
	comp=E,3475µm,1.5s							
T1219	**Muccia, Frazio**	**0.58**	**334**	⇑P		**Pg**	**14 20 26.5**	**-1.1**
T1219				S		**Sg**	**14 20 34.8**	**-0.6**
T1219				AML	AML			
	comp=E,4355µm,0.5s							
T1219				AML	AML			
	comp=N,5950µm,0.6s							
T1219				AML	AML			
	comp=N,5495µm,0.6s							
T1219				AML	AML			
	comp=E,4355µm,0.5s							
T1219				AML	AML			
	comp=N,5500µm,0.6s							
T1219				AML	AML			
	comp=N,5950µm,0.6s							
T1219				AML	AML			
	comp=E,4700µm,0.6s							
MNTP	**Montappone**	**0.61**	**7**	P		**Pb**	**14 20 28.3**	**-0.6**
MNTP				AML	AML			
	comp=E,12650µm,0.3s							
MNTP				AML	AML			
	comp=N,7305µm,1.1s							
T1220	**Camerino, Fraz**	**0.61**	**341**	⇑P		**Pg**	**14 20 27.1**	**-1.0**
T1220				AML	AML			
	comp=E,17300µm,0.3s							
T1220				AML	AML			
	comp=N,14750µm,1.3s							
T1220				AML	AML			
	comp=N,14800µm,1.3s							
MOMA	**Monte Martano**	**0.64**	**295**	⇑P		**Pg**	**14 20 27.6**	**-1.2**
MOMA				S		**Sg**	**14 20 38.0**	**+0.7**
MOMA				AML	AML			
	comp=E,6590µm,0.2s							
MOMA				AML	AML			
	comp=N,5950µm,0.2s							
MOMA				AML	AML			
	comp=E,7005µm,0.2s							
MOMA				AML	AML			
	comp=N,5945µm,0.2s							
MOMA				AML	AML			
	comp=N,6265µm,0.2s							
CERT	**Cerreto**	**0.65**	**206**	⇑P		**Pb**	**14 20 28.1**	**-1.5**
CERT				AML	AML			
	comp=E,4835µm,0.5s							
CERT				AML	AML			
	comp=N,2670µm,0.5s							
CERT				AML	AML			
	comp=E,4835µm,1.5s							
SEF1	**Sefro**	**0.69**	**334**	⇑P		**Pg**	**14 20 28.8**	**-0.8**
SEF1				S		**Sb**	**14 20 39.3**	**-0.5**
SEF1				AML	AML			
	comp=N,5275µm,0.7s							
SEF1				AML	AML			
	comp=N,5270µm,0.7s							
SEF1				AML	AML			
	comp=E,5320µm,0.3s							
MTCE	**Montecelio**	**0.69**	**222**	⇓P		**Pb**	**14 20 29.8**	**-0.5**
MTCE				AML	AML			
	comp=N,2350µm,0.6s							
MTCE				AML	AML			
	comp=E,2520µm,0.6s							
VVLD	**Villa Vallelon**	**0.69**	**164**	⇑P		**Pn**	**14 20 29.8**	**-2.2**
VVLD				AML	AML			
	comp=N,2975µm,0.8s							
VVLD				AML	AML			
	comp=E,2760µm,0.6s							
VVLD				AML	AML			
	comp=E,2760µm,1.4s							
SRES	**S.Oreste - Sor**	**0.70**	**245**	P		**Pg**	**14 20 28.8**	**-0.9**
SRES				S		**Sb**	**14 20 40.2**	**+0.1**
SRES				AML	AML			
	comp=E,1655µm,1.2s							
SRES				AML	AML			
	comp=N,1490µm,1.0s							
SRES				AML	AML			
	comp=E,1655µm,0.8s							
ASSB	**Assisi San Ben**	**0.73**	**315**	⇑P		**Pg**	**14 20 29.1**	**-1.2**
ASSB				AML	AML			
	comp=E,2320µm,0.2s							
ASSB				AML	AML			
	comp=N,2650µm,1.0s							
GUAR	**Guarcino**	**0.74**	**183**	⇑P		**Pn**	**14 20 32.2**	**-0.5**
GUAR				AML	AML			
	comp=E,2240µm,0.9s							
GUAR				AML	AML			
	comp=N,3050µm,0.5s							
GUAR				AML	AML			
	comp=E,2240µm,1.1s							
RCAV	**Rocca di Cave**	**0.75**	**204**	⇓P		**Pb**	**14 20 30.8**	**-0.6**
RCAV				AML	AML			
	comp=N,5520µm,0.4s							
RCAV				AML	AML			
	comp=E,3355µm,1.1s							
RCAV				AML	AML			
	comp=N,5515µm,0.4s							
LPEL	**Lama dei Pelig**	**0.78**	**128**	⇓P		**Pn**	**14 20 30.7**	**-2.5**
LPEL				S		**Sn**	**14 20 43.2**	**-1.7**

LPEL				AML	AML				
	comp=E,6000µm,0.7s								
LPEL				AML	AML				
	comp=N,5485µm,1.5s								
LPEL				AML	AML				
	comp=E,6000µm,1.3s								
LPEL				AML	AML				
	comp=N,5485µm,0.5s								
SNTG	**Esanatoglia**	**0.79**	**337**	P	**Pg**	**14 20 30.1**	**-1.4**		
SNTG				S	**Sb**	**14 20 43.3**	**+0.6**		
SNTG				AML	AML				
	comp=E,1470µm,1.0s								
SNTG				AML	AML				
	comp=E,1275µm,0.6s								
SNTG				AML	AML				
	comp=N,1205µm,0.2s								
SNTG				AML	AML				
	comp=N,1265µm,0.6s								
EL6	**Elcito**	**0.82**	**347**	⇑P	**Pg**	**14 20 30.8**	**-1.3**		
EL6				AML	AML				
	comp=E,3470µm,0.3s								
EL6				AML	AML				
	comp=N,3445µm,0.7s								
EL6				AML	AML				
	comp=N,3445µm,1.3s								
ATCC	**AVT- Casa Cast**	**0.84**	**321**	⇑P	**Pg**	**14 20 31.2**	**-1.3**		
ATCC				S	**Sb**	**14 20 45.0**	**+0.7**		
ATCC				AML	AML				
	comp=N,3000µm,0.7s								
ATCC				AML	AML				
	comp=E,2180µm,1.4s								
ATCC				AML	AML				
	comp=N,3000µm,1.3s								
CING	**Cingoli**	**0.85**	**352**	⇑P	**Pg**	**14 20 31.4**	**-1.3**		
CING				AML	AML				
	comp=E,2310µm,0.9s								
CING				AML	AML				
	comp=N,2070µm,0.3s								
CING				AML	AML				
	comp=N,2070µm,1.7s								
CING				AML	AML				
	comp=E,2310µm,1.1s								
POFI	**Posta Fibreno**	**0.85**	**162**	⇑P	**Pn**	**14 20 32.6**	**-1.7**		
PP3	**Marolino**	**0.86**	**12**	⇓P	**Pg**	**14 20 30.6**	**-2.4**		
PP3				AML	AML				
	comp=E,4165µm,0.6s								
PP3				AML	AML				
	comp=N,3820µm,0.7s								
PP3				AML	AML				
	comp=E,4360µm,0.6s								
PP3				AML	AML				
	comp=N,3615µm,0.7s								
PP3				AML	AML				
	comp=E,4360µm,1.4s								
PP3				AML	AML				
	comp=N,3820µm,1.3s								
PP3				AML	AML				
	comp=N,3615µm,1.3s								
PP3				AML	AML				
	comp=E,4165µm,1.4s								
FOSV	**Fossato di Vic**	**0.88**	**330**	⇓P	**Pg**	**14 20 32.0**	**-1.2**		
FOSV				AML	AML				
	comp=N,1665µm,0.3s								
FOSV				AML	AML				
	comp=E,1425µm,1.4s								
MURB	**Monte Urbino**	**0.95**	**320**	⇑P	**Pg**	**14 20 33.5**	**-1.2**		
MURB				S	**Sn**	**14 20 49.2**	**-0.1**		
MURB				AML	AML				
	comp=N,4180µm,0.3s								
MURB				AML	AML				
	comp=N,4380µm,1.0s								
MURB				AML	AML				
	comp=E,3670µm,0.3s								
MURB				AML	AML				
	comp=N,4380µm,1.0s								
MURB				AML	AML				
	comp=E,4090µm,0.3s								
GIUL	**Giuliano Di Ro**	**0.98**	**185**	⇑P	**Pn**	**14 20 35.5**	**-0.5**		
GIUL				AML	AML				
	comp=N,1835µm,0.9s								
GIUL				AML	AML				
	comp=E,1790µm,1.5s								
GIUL				AML	AML				
	comp=N,1835µm,1.1s								
MGAB	**Montegabbione**	**1.00**	**293**	P	**Pg**	**14 20 34.1**	**-1.3**		
MGAB				AML	AML				
	comp=E,3845µm,1.3s								
MGAB				AML	AML				
	comp=N,2355µm,0.4s								
MGAB				AML	AML				
	comp=N,2355µm,1.6s								
MGAB				AML	AML				
	comp=E,3845µm,0.7s								
SSFR	**Montelago di S**	**1.00**	**335**	⇓P	**Pg**	**14 20 34.2**	**-1.3**		
SSFR				AML	AML				
	comp=E,2280µm,0.2s								
SSFR				AML	AML				
	comp=N,2515µm,0.2s								
SSFR				AML	AML				
	comp=N,2615µm,0.2s								
SSFR				AML	AML				
	comp=E,2735µm,0.9s								
ARVD	**Arcevia**	**1.01**	**342**	⇓P	**Pg**	**14 20 34.4**	**-1.4**		
ARVD				S	**Sn**	**14 20 50.7**	**0.0**		
ARVD				AML	AML				
	comp=E,1290µm,0.8s								
ARVD				AML	AML				
	comp=N,1115µm,1.0s								
RNI2	**Rionero Sannit**	**1.02**	**144**	⇓P	**Pn**	**14 20 36.5**	**-0.1**		
RNI2				AML	AML				
	comp=E,2015µm,0.5s								
RNI2				AML	AML				
	comp=E,2055µm,0.5s								
RNI2				AML	AML				
	comp=N,2055µm,0.6s								
RNI2				AML	AML				
	comp=E,2055µm,1.5s								
RNI2				AML	AML				
	comp=N,2020µm,0.6s								
RNI2				AML	AML				
	comp=E,2015µm,1.5s								
AOI	**Ancona**	**1.03**	**10**	⇓P	**Pb**	**14 20 35.3**	**-0.9**		
AOI				AML	AML				
	comp=E,1630µm,1.0s								
AOI				AML	AML				
	comp=N,1195µm,0.6s								
CERA	**Filignano**	**1.05**	**152**	P	**Pn**	**14 20 35.4**	**-1.7**		
CERA				AML	AML				
	comp=E,2335µm,0.8s								
CERA				AML	AML				
	comp=N,1550µm,0.4s								
CERA				AML	AML				
	comp=E,2345µm,0.8s								
CERA				AML	AML				
	comp=N,1585µm,0.4s								
LATB	**Latina**	**1.08**	**196**	P	**Pg**	**14 20 34.5**	**-2.5**		
FRON	**Frontone**	**1.09**	**335**	⇑P	**Pg**	**14 20 35.9**	**-1.4**		
FRON				AML	AML				
	comp=N,1935µm,0.7s								
FRON				AML	AML				
	comp=E,1770µm,0.6s								
FRON				AML	AML				
	comp=N,1935µm,1.3s								
ATVO	**AVT- Monte Val**	**1.10**	**321**	⇓P	**Pg**	**14 20 36.0**	**-1.4**		
ATVO				AML	AML				
	comp=E,1140µm,0.8s								
ATVO				AML	AML				
	comp=N,876µm,1.2s								
ATVO				AML	AML				
	comp=E,1140µm,1.2s								
MIDA	**Miranda**	**1.11**	**143**	⇑P	**Pn**	**14 20 36.7**	**-1.1**		
MIDA				AML	AML				
	comp=E,1395µm,1.2s								
MIDA				AML	AML				
	comp=N,1052µm,0.5s								
MIDA				AML	AML				
	comp=N,1052µm,1.5s								
MIDA				AML	AML				
	comp=E,1395µm,0.8s								
TOLF	**Tolfa**	**1.11**	**246**	⇓P	**Pg**	**14 20 36.3**	**-1.4**		
TOLF				AML	AML				
	comp=E,1340µm,0.6s								
TOLF				AML	AML				
	comp=N,1345µm,0.7s								
TOLF				AML	AML				
	comp=N,1345µm,1.3s								
SACS	**San Casciano d**	**1.12**	**287**	⇑P	**Pg**	**14 20 36.7**	**-1.0**		
SACS				AML	AML				
	comp=E,1060µm,0.9s								
SACS				AML	AML				
	comp=N,908µm,1.6s								
SACS				AML	AML				
	comp=E,1015µm,0.9s								
SACS				AML	AML				
	comp=N,852µm,1.6s								
SACS				AML	AML				
	comp=E,1015µm,1.1s								
SACS				AML	AML				
	comp=N,908µm,0.4s								
SACS				AML	AML				
	comp=N,852µm,0.4s								
SACS				AML	AML				
	comp=E,1060µm,1.1s								
COR1	**Corinaldo**	**1.13**	**347**	⇓P	**Pn**	**14 20 37.7**	**-0.4**		
COR1				AML	AML				
	comp=E,1710µm,1.0s								
COR1				AML	AML				
	comp=N,3070µm,0.5s								
ATMI	**Monte Miggiano**	**1.14**	**315**	⇑P	**Pn**	**14 20 37.7**	**-0.5**		
ATMI				AML	AML				
	comp=E,2645µm,0.8s								
ATMI				AML	AML				
	comp=E,2645µm,1.2s								
ATMI				AML	AML				
	comp=N,2760µm,0.4s								
LATE	**Laterza**	**1.15**	**275**	⇓P	**Pn**	**14 20 38.1**	**-0.2**		
PIEI	**Pieia**	**1.17**	**329**	⇓P	**Pg**	**14 20 37.2**	**-1.6**		
PIEI				AML	AML				
	comp=E,1108µm,1.6s								
PIEI				AML	AML				
	comp=E,1108µm,0.4s								
PIEI				AML	AML				
	comp=N,761µm,1.1s								
SENI	**Senigallia**	**1.18**	**355**	⇑P	**Pn**	**14 20 38.9**	**+0.2**		
SENI				AML	AML				
	comp=E,3785µm,0.7s								
SENI				AML	AML				
	comp=N,3955µm,1.1s								
SENI				AML	AML				
	comp=E,3785µm,1.3s								
SENI				AML	AML				
	comp=N,3955µm,0.9s								
MPAG	**Monte Paganucc**	**1.18**	**338**	⇓P	**Pg**	**14 20 37.6**	**-1.4**		
MPAG				AML	AML				
	comp=E,1070µm,1.0s								
MPAG				AML	AML				
	comp=N,1175µm,1.0s								
MPAG				AML	AML				
	comp=E,1036µm,0.9s								
MPAG				AML	AML				
	comp=N,1108µm,1.0s								
MPAG				AML	AML				
	comp=E,1036µm,1.1s								
MCIV	**Monte Civitell**	**1.27**	**282**	⇑P	**Pg**	**14 20 40.3**	**-0.4**		
MCIV				AML	AML				
	comp=E,494µm,0.4s								
MCIV				AML	AML				
	comp=N,450µm,0.8s								
BADI	**Badiali**	**1.27**	**320**	⇑P	**Pg**	**14 20 40.2**	**-0.6**		
BADI				AML	AML				
	comp=N,794µm,1.0s								
BADI				AML	AML				
	comp=N,794µm,1.0s								
BADI				AML	AML				
	comp=E,54µm,0.3s								
SF04	**Casetta**	**1.29**	**284**	P	**Pg**	**14 20 40.3**	**-0.8**		
SF04				AML	AML				
	comp=N,427µm,0.3s								
SF04				AML	AML				
	comp=E,630µm,0.4s								
PE3	**Peglio**	**1.32**	**332**	⇓P	**Pg**	**14 20 41.4**	**-0.3**		
PE3				AML	AML				
	comp=E,2770µm,0.5s								
PE3				AML	AML				
	comp=N,7µm,1.0s								
SGG	**Gregorio Mates**	**1.37**	**146**	⇓P	**Pg**	**14 20 44.6**	**+2.0**		
PARC	**Parchiule**	**1.39**	**324**	⇓P	**Pg**	**14 20 42.0**	**-0.9**		
PARC				AML	AML				
	comp=E,768µm,1.2s								
PARC				AML	AML				
	comp=N,794µm,1.0s								
PARC				AML	AML				
	comp=N,794µm,1.0s								
PESA	**Pesaro**	**1.46**	**345**	P	**Pg**	**14 20 43.6**	**-0.7**		
PESA				AML	AML				
	comp=N,1170µm,0.6s								
PESA				AML	AML				
	comp=E,1215µm,0.9s								
PESA				AML	AML				
	comp=N,1170µm,1.4s								
CPGN	**Carpegna, Ital**	**1.48**	**329**	P	**Pg**	**14 20 44.9**	**+0.2**		
CRE	**Caprese Michel**	**1.50**	**317**	⇑P	**Pn**	**14 20 43.0**	**-0.2**		
CRE				AML	AML				
	comp=E,376µm,0.5s								
CRE				AML	AML				
	comp=N,455µm,1.4s								
MAON	**Monte Argentar**	**1.65**	**267**	⇑P	**Pn**	**14 20 45.0**	**-0.2**		
MAON				AML	AML				
	comp=E,272µm,0.9s								
MAON				AML	AML				
	comp=E,272µm,1.1s								
MAON				AML	AML				
	comp=N,173µm,1.2s								
CSNT	**Castellina Chi**	**1.79**	**302**	⇓P	**Pn**	**14 20 47.2**	**+0.2**		
CSNT				AML	AML				
	comp=N,166µm,1.6s								
CSNT				AML	AML				
	comp=E,144µm,1.0s								
CSNT				AML	AML				
	comp=N,166µm,0.4s								
CASP	**Castiglione de**	**1.86**	**279**	⇓P	**Pn**	**14 20 47.9**	**-0.1**		
SGTA	**Sant Agata di**	**2.05**	**132**	P	**Pg**	**14 20 53.4**	**-2.1**		
MCRV	**Calabrutti - M**	**2.21**	**142**	P	**Pn**	**14 20 52.5**	**-0.5**		
MCRV				AML	AML				
	comp=N,144µm,0.8s								
MCRV				AML	AML				
	comp=E,192µm,0.6s								
MCRV				AML	AML				
	comp=N,144µm,1.2s								
HVAR	**Hvar**	**2.36**	**73**	⇑P	**Pb**	**14 20 55.8**	**-3.0**		
MAIM	**Mastiano**	**2.51**	**304**	⇓P	**Pn**	**14 20 57.7**	**+0.7**		
MAIM				AML	AML				
	comp=N,105µm,1.1s								
MAIM				AML	AML				
	comp=N,105µm,0.9s								
MAIM				AML	AML				
	comp=E,99µm,0.9s								
PZUN	**Potenza**	**2.63**	**135**	S	**Sn**	**14 21 29.5**	**-1.0**		
PZUN				AML	AML				
	comp=E,153µm,1.1s								
PZUN				AML	AML				
	comp=N,227µm,0.6s								
PZUN				AML	AML				
	comp=E,153µm,0.9s								
SARO	**Sassorosso**	**2.72**	**308**	P	**Pn**	**14 20 59.7**	**-0.3**		
SARO				AML	AML				
	comp=E,166µm,0.9s								
SARO				AML	AML				
	comp=N,212µm,1.6s								
SARO				AML	AML				
	comp=N,212µm,0.4s								
EQUI	**Equi**	**2.85**	**306**	⇓P	**Pn**	**14 21 02.2**	**+0.4**		
EQUI				AML	AML				
	comp=E,69µm,1.0s								
EQUI				AML	AML				
	comp=N,74µm,1.2s								
EQUI				AML	AML				
	comp=E,69µm,1.0s								
EQUI				AML	AML				
	comp=N,74µm,0.8s								
CAVE	**Cavezzo**	**2.89**	**325**	S	**Sb**	**14 21 43.0**	**-0.2**		
A050A	**Klekovaca**	**3.02**	**49**	*e*Pn	**Pn**	**14 21 05.6**	**+1.5**		
SKDS	**Skadanscina**	**3.05**	**9**	*e*Pn	**Pn**	**14 21 03.4**	**-1.1**		
STON	**Ston**	**3.22**	**82**	*e*Pn	**Pn**	**14 21 07.4**	**+0.7**		
STON				*e*Sn	**Sn**	**14 21 45.4**	**+0.5**		
STON	**Ston**	**3.22**	**82**	*e*Pn	**Pn**	**14 21 07.3**	**+0.6**		
BOJS	**Bojanci**	**3.27**	**24**	*e*Pn	**Pn**	**14 21 07.3**	**-0.1**		
CEY	**Cerknica**	**3.30**	**13**	*e*Pn	**Pn**	**14 21 09.6**	**+1.8**		
MGRS	**Mrkonjic Grad**	**3.30**	**54**	*e*Pn	Pb	14 21 09.9	-4.9		
ROVR	**Rover Verones**	**3.52**	**333**	⇑P	**Pn**	**14 21 11.8**	**+0.7**		
ROVR				S	**Sn**	**14 21 52.5**	**-0.2**		
ROVR				AML	AML				
	comp=E,41µm,0.6s								
ROVR				AML	AML				
	comp=N,67µm,0.3s								
CGRP	**Cima Grappa**	**3.53**	**342**	⇓P	**Pn**	**14 21 12.4**	**+1.2**		
BLY	**Banja Luka**	**3.55**	**50**	*e*Pn	**Pb**	**14 21 16.4**	**-2.7**		
A051A	**Mrakovica**	**3.57**	**45**	*e*Pn	**Pn**	**14 21 12.8**	**+1.2**		
CRES	**Cresnjev**	**3.62**	**24**	*e*Pn	**Pn**	**14 21 12.3**	**0.0**		
TREB	**Trebinje**	**3.69**	**85**	*e*Pn	**Pn**	**14 21 14.3**	**+1.1**		
SALO	**Salr**	**3.70**	**327**	⇓P	**Pn**	**14 21 14.8**	**+1.3**		
CTI	**Castel Tesino**	**3.72**	**341**	⇓P	**Pn**	**14 21 14.6**	**+0.8**		
LEOD	**Capriano del C**	**3.74**	**322**	S	**Sb**	**14 22 06.8**	**-0.9**		
HCY	**Herceg Novi**	**3.80**	**90**	*e*Pn	**Pn**	**14 21 14.8**	**+0.1**		
BRY	**Bratogost**	**3.83**	**83**	*e*Pn	**Pn**	**14 21 16.4**	**+1.1**		
OBKA	**Obir**	**4.07**	**12**	*e*Pn	**Pn**	**14 21 19.2**	**+0.7**		
	comp=N,1.8nm,0.3s								
OBKA	**Obir**	**4.07**	**12**	*e*Pn	**Pn**	**14 21 18.0**	**-0.5**		
MYKA	**Terra Mystica**	**4.10**	**3**	*e*Pn	**Pn**	**14 21 19.6**	**+0.6**		
	comp=N,1.1nm,0.2s								
UPM	**Unac-Piva**	**4.13**	**79**	*e*Pn	**Pn**	**14 21 21.5**	**+2.1**		
ABTA	**Abfaltersbach**	**4.26**	**352**	*e*Pn	**Pn**	**14 21 22.3**	**+1.2**		
	comp=N,6.5nm,0.4s								
ABTA				*i* Sn	**Sn**	**14 22 11.1**	**+0.2**		
	comp=N,4.6nm,0.2s								
SOKA	**Soboth**	**4.31**	**15**	*e*Pn	**Pn**	**14 21 23.4**	**+1.6**		
	comp=N,0.7nm,0.2s								
PDG	**Podgorica**	**4.36**	**89**	*e*Pn	**Pn**	**14 21 24.1**	**+1.7**		
PDG				*e*Sn	**Sn**	**14 22 14.5**	**+1.3**		
HAPS	**Han Pijesak,Bl**	**4.37**	**67**	*e*Pn	**Pn**	**14 21 24.6**	**+2.0**		
KBA	**Koelnbreinsper**	**4.55**	**360**	*i* Pn	**Pn**	**14 21 26.3**	**+1.2**		
	comp=N,1.8nm,0.3s								
BBLS	**Lazići**	**4.62**	**71**	*e*Pn	**Pn**	**14 21 27.7**	**+1.7**		
BBLS				*e*Sn	**Sn**	**14 22 18.6**	**-1.0**		
BBLS	**Lazići**	**4.62**	**71**	*e*Pn	**Pn**	**14 21 27.7**	**+1.7**		
FETA	**Feichten**	**4.86**	**338**	*e*Pn	**Pn**	**14 21 31.9**	**+2.4**		
	comp=N,5.2nm,0.8s								
FETA				*i* Sn	**Sn**	**14 22 26.7**	**+0.9**		
	comp=N,3.6nm,0.4s								
WTTA	**Wattenberg**	**4.89**	**346**	*e*Pn	**Pn**	**14 21 31.8**	**+2.0**		
	comp=N,2.0nm,0.2s								
SJES	**Sjenica**	**4.91**	**79**	*e*Pn	**Pn**	**14 21 31.9**	**+1.8**		
SJES				*e*Sn	**Sn**	**14 22 25.4**	**-1.6**		
SJES	**Sjenica**	**4.91**	**79**	*e*Pn	**Pn**	**14 21 31.6**	**+1.5**		
DAVOX	**Davos/Dischmat**	**4.92**	**331**	Pn	**Pn**	**14 21 31.7**	**+1.4**		
	comp=N,1.0nm,0.3s,baz=179,slow=20,SNR=14								
DAVOX				Sn	**Sn**	**14 22 27.1**	**-0.2**		
	comp=N,0.6nm,0.3s,baz=274,slow=22,SNR=2.3								
	comp=N,7.9nm,0.6s								
SQTA	**Sankt Quirin**	**4.93**	**343**	*e*Pn	**Pn**	**14 21 32.4**	**+2.0**		
	comp=N,2.1nm,0.2s								
SQTA				*e*Sn	**Sn**	**14 22 27.9**	**+0.5**		
	comp=N,4.2nm,0.2s								
ARSA	**Arzberg**	**4.96**	**17**	*i* Pn	**Pn**	**14 21 32.9**	**+2.1**		
	comp=N,1.1nm,0.2s								
WATA	**Walderalm**	**4.97**	**346**	*e*Pn	**Pn**	**14 21 33.0**	**+2.1**		
	comp=N,1.7nm,0.2s								
MOTA	**Moosalm**	**5.07**	**342**	*e*Pn	**Pn**	**14 21 34.6**	**+2.2**		
	comp=N,0.8nm,0.2s								
MOTA				*e*Sn	**Sn**	**14 22 32.3**	**+1.3**		
	comp=N,8.8nm,0.5s								
DIVS	**Divibare**	**5.08**	**70**	*e*Pn	**Pn**	**14 21 32.9**	**+0.4**		
DIVS	**Divibare**	**5.08**	**70**	*e*Pn	**Pn**	**14 21 32.2**	**-0.3**		
BIOA	**Bad Ischl, Aus**	**5.16**	**2**	*e*Pn	**Pn**	**14 21 34.0**	**+0.5**		
	comp=N,1.4nm,0.2s								
RETA	**Reutte**	**5.29**	**340**	*e*Pn	**Pn**	**14 21 36.2**	**+1.0**		
	comp=N,2.4nm,0.3s								
FRGS	**Fruska Gora**	**5.35**	**58**	*e*Pn	**Pn**	**14 21 37.1**	**+1.0**		
MOA	**Molln**	**5.36**	**7**	*i* Pn	**Pn**	**14 21 37.6**	**+1.4**		
	comp=N,4.2nm,0.4s								
DAVA	**Damuels**	**5.36**	**334**	*e*Pn	**Pn**	**14 21 37.4**	**+1.1**		
	comp=N,4.6nm,0.4s								
TRUS	**Trudelj**	**5.41**	**69**	*e*Pn	**Pn**	**14 21 37.3**	**+0.5**		
GRUS	**Gruza**	**5.54**	**73**	*e*Pn	**Pn**	**14 21 39.0**	**+0.3**		
RONA	**Rosalia, Austr**	**5.57**	**21**	*i* Pn	**Pn**	**14 21 39.4**	**+0.3**		
	comp=N,1.1nm,0.2s								
CONA	**Conrad Observa**	**5.68**	**17**	*e*Pn	**Pn**	**14 21 39.7**	**-0.9**		
	comp=N,1.9nm,0.4s								
SELS	**Selova**	**5.74**	**81**	*e*Pn	**Pn**	**14 21 41.8**	**+0.4**		
BARS	**Barje**	**6.24**	**85**	*e*Pn	**Pn**	**14 21 49.6**	**+1.4**		
BARS				*e*Sn	**Sn**	**14 22 57.1**	**-2.4**		
GERES	**GERESS Array B**	**6.32**	**2**	Pn	**Pn**	**14 21 49.5**	**0.0**		
	comp=N,0.2nm,0.3s,baz=172,slow=12,SNR=6.5								
GERES				Sn	**Sn**	**14 22 57.6**	**-4.0**		
	comp=N,1.1nm,0.3s,baz=174,slow=30,SNR=2.0								
	comp=N,1.0nm,0.7s								
CKRC	**Cesky Krumlov**	**6.32**	**6**	*e*SN	**Sn**	**14 22 57.5**	**-4.1**		
PRVS	**Prvonek**	**6.44**	**87**	*e*Pn	**Pn**	**14 21 52.3**	**+1.3**		
KHC	**Kasperske Hory**	**6.60**	**1**	*e*PN	**Pn**	**14 21 53.9**	**+0.7**		
KHC				*e*SN	**Sn**	**14 23 04.8**	**-3.7**		
ZAGS	**Zajecar**	**6.61**	**76**	*e*Pn	**Pn**	**14 21 54.1**	**+0.8**		
ZAPS	**Zavoj**	**6.85**	**81**	*e*Pn	**Pn**	**14 21 59.3**	**+2.6**		
VRAC	**Vranov**	**7.14**	**17**	LR	LR	14 25 17.7			
	comp=N,89nm,19.9s,baz=216,slow=44								
KEST	**Kesra**	**7.47**	**206**	Pn	Pn	14 22 10.8	+5.5		
	comp=N,0.6nm,0.3s,baz=349,slow=5.2,SNR=4.9								
	comp=N,2.9nm,0.5s								
CLL	**Collm**	**8.78**	**359**	*e*(Sb)	Sg	14 24 39.0	-19		
CLL				*e*Sg	Sg	14 25 05.0	+7.1		
MLR	**Muntele Rosu**	**9.54**	**68**	LR	LR	14 27 24.3			
	comp=N,46nm,19.3s,baz=250,slow=46								
AKASG	**Malin Array Be**	**13.60**	**48**	Pn	**Pn**	**14 23 26.8**	**-2.2**		
	comp=N,0.4nm,0.3s,baz=238,slow=14,SNR=1.7								
	comp=N,0.3nm,0.4s								
FINES	**FINESS Array B**	**20.42**	**18**	P	Pn	14 24 53.6	-1.6		
	comp=N,1.5nm,1.0s,baz=201,slow=9.6,SNR=5.7								
	comp=N,1.5nm,1.0s								
TORD	**Torodi Ar. Bea**	**30.98**	**203**	P	P	14 26 40.9	+7.4		
	comp=N,0.2nm,0.3s,baz=1.1,slow=7.4,SNR=1.7								
	comp=N,0.2nm,0.3s								
MKAR	**Makanchi Array**	**47.78**	**60**	P	**P**	**14 28 54.5**	**+1.1**		
	comp=N,0.4nm,0.8s,baz=284,slow=6.5,SNR=4.9								
	comp=N,0.4nm,0.8s								
YKA	**Yellowknife Ar**	**67.33**	**337**	P	**P**	**14 31 12.2**	**+1.5**		
	comp=N,0.3nm,0.9s,baz=33,slow=5.9,SNR=3.7								
	comp=N,0.3nm,0.9s								
TXAR	**Lajitas Array**	**88.00**	**309**	P	**P**	**14 33 09.9**	**+3.2**		
	comp=N,0.5nm,0.8s,baz=46,slow=5.2,SNR=3.7								
	comp=N,0.5nm,0.8s								

CNRM ***27*** *14:28:49.1,35.60N×3.77W,h26km,ml2.9*
MDD ***27*** *14:28:50.5±0.5,35.41N×3.72W,h13km±5km,mb_Lg3.1/9,*
Error ellipse: s-maj=4.7km s-min=2.8km az=156.0
INMG ***27*** *14:28:51.6±1.8,35.46N×3.72W,h19km±9km,MD2.8,*
ML2.5,Error ellipse: s-maj=5.5km s-min=4.0km az=111.0
SFS ***27*** *14:28:51.9,35.42N×3.77W,h34km,ML3.3/14,MLv3.3/14*
ISC 27 14:28:50.9±1.6, 35.46N±0.02×3.75W±0.02, h26km±15km, n59, σ1.967/106, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.54**	**238**	S	**Sb**	**14 29 08.2**	**-0.9**
PVLZ				P	**Pn**	**14 29 00.4**	**-2.5**
EMEL	**Melilla**	**0.66**	**104**	Pg	**Pn**	**14 29 03.5**	**-1.1**
EMEL				Sg	**Sn**	**14 29 12.6**	**-1.6**
EMEL				*i* Vmb_Lg		14 29 15.9	
EALB	**Alboran**	**0.75**	**50**	S	**Sn**	**14 29 15.3**	**-1.1**
EALB				P	**Pn**	**14 29 04.6**	**-1.3**
EALB	**Alboran**	**0.75**	**50**	Pg	**Pn**	**14 29 04.3**	**-1.5**
EALB				Sg	**Sn**	**14 29 15.2**	**-1.1**
EALB				*i* Vmb_Lg		14 29 15.5	
AKLM	**AKL**	**0.95**	**186**	P	**Pn**	**14 29 08.5**	**-0.2**
AKLM				S	**Sb**	**14 29 22.1**	**+1.1**
CHAS	**Isla Isabel II**	**1.11**	**104**	S	**Sb**	**14 29 24.9**	**-0.5**
CHAS				P	**Pn**	**14 29 09.0**	**-1.8**
**TA

EMAL	**Malaga-Limoner**	**1.41 337**	P		**Pn**	**14 29 13.8**	**-1.1**
EMAL			S		**Sn**	**14 29 31.5**	**-1.2**
JBK	**JBK**	**1.48 139**	P		**Pn**	**14 29 14.9**	**-1.1**
JBK			S		**Sb**	**14 29 36.9**	**+0.5**
EBER	**Berja**	**1.59 25**	S		**Sn**	**14 29 37.0**	**-0.5**
EBER			P		**Pn**	**14 29 16.7**	**-0.9**
EBER	**Berja**	**1.59 25**	Pn		**Pn**	**14 29 17.1**	**-0.6**
EBER			Sn		**Sn**	**14 29 37.6**	**+0.2**
EBER			*i* Vmb_Lg			14 29 41.5	
EGOR	**Sierra Gorda,**	**1.68 350**	Pn		**Pn**	**14 29 19.1**	**+0.4**
EGOR			Sn		**Sn**	**14 29 38.1**	**-1.3**
EJIF	**Jimena Fronter**	**1.71 306**	Pn		**Pn**	**14 29 20.2**	**+1.1**
EQUE	**Quentar**	**1.76 8**	Pn		**Pn**	**14 29 19.4**	**-0.4**
EQUE			Sn		**Sn**	**14 29 41.0**	**-0.4**
EQUE			*i* Vmb_Lg			14 29 54.4	
ENIJ	**Nijar**	**1.96 39**	Sn		**Sn**	**14 29 43.8**	**-2.4**
ENIJ			*i* Vmb_Lg			14 29 53.9	
ESPR	**Espera**	**2.21 310**	Sn		**Sn**	**14 29 54.0**	**+1.5**
IFR	**Ifrane**	**2.25 211**	P		**Pn**	**14 29 26.1**	**-0.5**
IFR			S		**Sn**	**14 29 52.1**	**-1.5**
MD31	**MD31**	**2.72 198**	P		**Pn**	**14 29 34.3**	**+1.4**
MD31			S		**Sn**	**14 30 06.8**	**+1.7**
MDT	**Midelt**	**2.73 195**	P		**Pn**	**14 29 32.5**	**-0.7**
MDT			S		**Sn**	**14 30 08.6**	**+3.1**
EADA	**Adamuz**	**2.79 346**	P		**Pn**	**14 29 35.7**	**+1.8**
EADA			S		**Sn**	**14 30 05.9**	**-0.7**
EADA	**Adamuz**	**2.79 346**	Pn		**Pn**	**14 29 35.6**	**+1.7**
EADA			Sn		**Sn**	**14 30 08.7**	**+2.1**
EADA			*i* Vmb_Lg			14 30 21.6	
ECAB	**El Cabril**	**2.94 333**	P		**Pn**	**14 29 37.2**	**+1.2**
ECAB			Sg		**Sn**	**14 30 11.9**	**+1.5**
ECAB	**El Cabril**	**2.94 333**	Pn		**Pn**	**14 29 37.0**	**+1.1**
ECAB			Sn		**Sn**	**14 30 11.9**	**+1.5**
ZHG	**ZHG**	**3.12 231**	P		**Pn**	**14 29 38.2**	**-0.3**
ZHG			S		**Sn**	**14 30 19.4**	**+4.3**
EMIN	**Mina Concepcio**	**3.29 315**	P		**Pn**	**14 29 42.1**	**+1.3**
EMIN			S		**Sn**	**14 30 15.5**	**-3.7**
EMIN	**Mina Concepcio**	**3.29 315**	Pn		**Pn**	**14 29 42.3**	**+1.5**
EMIN			Sn		**Sn**	**14 30 19.2**	**0.0**
ETOB	**Tobarra**	**3.63 28**	P		**Pn**	**14 29 47.3**	**+1.8**
ETOB			Sg		**Sn**	**14 30 28.8**	**+1.2**
ETOB	**Tobarra**	**3.63 28**	Pn		**Pn**	**14 29 46.7**	**+1.2**
ETOB			Sn		**Sn**	**14 30 28.6**	**+1.0**
EGRO	**El Granado**	**3.66 306**	P		**Pn**	**14 29 46.3**	**+0.5**
EGRO			S		**Sn**	**14 30 23.1**	**-4.9**
EGRO	**El Granado**	**3.66 306**	Pn		**Pn**	**14 29 45.7**	**0.0**
EGRO			Sn		**Sn**	**14 30 26.5**	**-1.6**
PVAQ	**Vaqueiros**	**3.75 302**	*e*Pn		**Pn**	**14 29 47.6**	**+0.6**
PVAQ			*e*Sn		**Sn**	**14 30 29.6**	**-0.7**
PVAQ			A		A	14 30 35.9	
	7.8nm,0.6s						
PVAQ	**Vaqueiros**	**3.75 302**	P		**Pn**	**14 29 47.5**	**+0.6**
PVAQ			S		**Sn**	**14 30 28.0**	**-2.3**
PBAR	**Barrancos**	**3.79 317**	*e*Pn		**Pn**	**14 29 49.6**	**+2.0**
PBAR			*e*Sn		**Sn**	**14 30 31.1**	**-0.2**
PBAR			A		A	14 30 37.6	
	5.1nm,0.4s						
PBAR	**Barrancos**	**3.79 317**	P		**Pn**	**14 29 48.2**	**+0.7**
PCVE	**Castro Verde**	**4.08 303**	*e*Pn		**Pn**	**14 29 53.9**	**+2.3**
PCVE			*e*Sn		**Sn**	**14 30 36.5**	**-2.1**
PCVE			A		A	14 30 58.0	
	6.9nm,0.6s						
PCVE	**Castro Verde**	**4.08 303**	P		**Pn**	**14 29 51.3**	**-0.3**
PAB	**San Pablo**	**4.11 353**	Pn		**Pn**	**14 29 52.7**	**+0.6**
EBAD	**Badajoz**	**4.20 323**	Sn		**Sn**	**14 30 40.7**	**-0.9**
MESJ	**Messejana**	**4.31 305**	*e*P		**Pn**	**14 29 56.0**	**+1.3**
MESJ			*e*S		**Sn**	**14 30 42.6**	**-1.7**
MESJ			IAML			14 30 45.0	
	comp=E,3.8nm,0.2s						
MESJ	**Messejana**	**4.31 305**	*e*Pn		**Pn**	**14 29 56.1**	**+1.3**
MESJ			*e*Sn		**Sn**	**14 30 43.8**	**-0.4**
MESJ			A		A	14 30 50.2	
	comp=E,8.3nm,0.7s						
MORF	**Marmelete**	**4.37 296**	*e*Pn		**Pn**	**14 29 56.6**	**+1.0**
MORF			*e*Sn		**Sn**	**14 30 44.5**	**-1.2**
PTEO	**Sao Teotonio**	**4.52 299**	*e*Pn		**Pn**	**14 29 59.0**	**+1.4**
PTEO			*e*Sn		**Sn**	**14 30 49.3**	**0.0**
PESTR	**Estremoz**	**4.58 319**	*e*Pn		**Pn**	**14 30 01.6**	**+3.0**
PESTR			*e*Sn		**Sn**	**14 30 50.6**	**-0.4**
PESTR			A		A	14 31 06.2	
	comp=E,4.8nm,0.6s						
PESTR	**Estremoz**	**4.58 319**	P		**Pn**	**14 29 56.0**	**-2.6**
PESTR			S		**Sn**	**14 30 47.3**	**-3.7**
PNCL	**Nicolau / Gran**	**4.66 306**	*e*Pn		**Pn**	**14 30 00.6**	**+1.0**
PNCL			*e*Sn		**Sn**	**14 30 52.2**	**-0.7**
PNCL			A		A	14 31 04.3	
	comp=E,5.9nm,0.8s						
PNCL	**Nicolau / Gran**	**4.66 306**	P		**Pn**	**14 30 00.3**	**+0.7**
PMRV	**Marv??o**	**4.91 325**	*e*Pn		**Pn**	**14 30 04.9**	**+1.8**
PMTG	**Montargil**	**5.08 317**	*e*Pn		**Pn**	**14 30 07.6**	**+2.3**
PMTG			*e*Sn		**Sn**	**14 30 51.9**	**-1.1**
PMTG			A		A	14 31 15.4	
	comp=E,4.0nm,0.8s						
PSBE	**So Bento**	**5.70 317**	*e*Pn		**Pn**	**14 30 16.6**	**+2.7**
MVO	**Moncorvo**	**6.25 337**	*e*Pn		**Pn**	**14 30 24.1**	**+2.6**
PBRG	**Braganca**	**6.76 341**	*e*Pn		**Pn**	**14 30 31.2**	**+2.8**

*SJA **27** 14:29:22.6±0.6,31°.45S×68°.98W,h108$^{km}_{\pm 2}$,ML4.4, MW4.1*
*IDC **27** 14:29:22.2±1.0,31°.47S×69°.05W,h102$^{km}_{\pm 6}$,mb3.7/8, mbtmp4.0/13,MS3.1/3,Error ellipse: s-maj=21.6km s-min=16.7km az=72.0*
*NEIC **27** 14:29:23.5±2.9,31°.48S±0°.06×69°.0W±0°.1,h114$^{km}_{\pm 10}$, mb4.6/3,Error ellipse: s-maj=14.6km s-min=8.2km az=81.0*

ISC 27 14:29:23.1±0.6,**31°.45S**±0°.03×**68°.96W**±0°.03,**h112**$^{km}_{\pm 5}$, **n98,σ1°16**/137,**mb4.1**/11,**5C-6D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.43**	**75**	*e*P		**Pn**	**14 29 39.7**	**-0.1**
RTLL				*e*S		**Sn**	**14 29 52.6**	**+0.3**
RTLL	**Cerro Villicun**	**0.43**	**75**	*e*P		**Pn**	**14 29 39.7**	**-0.1**
RTLL				*e*S		**Sn**	**14 29 52.6**	**+0.3**
RTLS	**Leoncito**	**0.46**	**219**	*e*P		**Pn**	**14 29 40.3**	**+0.1**
RTLS				*e*S		**Sn**	**14 29 52.8**	**-0.3**
RTLS				IAML			14 29 55.0	
	comp=Z,12μm,0.2s							
RTLS	**Leoncito**	**0.46**	**219**	*e*P		**Pn**	**14 29 40.3**	**+0.1**
RTLS				*e*S		**Sn**	**14 29 52.8**	**-0.3**
RTLS				IAML			14 29 55.0	
	comp=Z,12μm,0.2s							
CFA	**Coronel Fontan**	**0.64**	**105**	LR		LR	14 29 31.1	
	comp=Z,69nm,18.9s,baz=102,slow=12							
CFA				P		**Pn**	**14 29 41.0**	**-0.2**
	comp=Z,2μm,0.3s,baz=249,slow=7.1,SNR=4344							
CFA				S		**Sn**	**14 29 54.3**	**-0.5**
	comp=Z,5μm,0.3s,baz=276,slow=14,SNR=50							
CFA	**Coronel Fontan**	**0.64**	**105**	*e*P		**Pn**	**14 29 41.1**	**0.0**
CFA				*e*S		**Sn**	**14 29 54.5**	**-0.2**
CFA				IAML			14 29 55.6	
	comp=Z,6μm,0.2s							
CFA	**Coronel Fontan**	**0.64**	**105**	*e*P		**Pn**	**14 29 41.1**	**0.0**
CFA				*e*S		**Sn**	**14 29 54.5**	**-0.2**
CFA				IAML			14 29 55.6	
	comp=Z,6μm,0.2s							
ASAL	**Salagasta**	**1.15**	**175**	*e*P		**Pn**	**14 29 46.2**	**+0.1**
ASAL				*e*S		**Sn**	**14 30 03.8**	**+0.4**
ASAL	**Salagasta**	**1.15**	**175**	*e*P		**Pn**	**14 29 46.2**	**+0.1**
ASAL				*e*S		**Sn**	**14 30 03.8**	**+0.4**
ARCO	**CERRO ARCO**	**1.39**	**179**	*e*P		**Pn**	**14 29 49.3**	**+0.3**
ARCO				*e*S		**Sn**	**14 30 08.7**	**+0.2**
ARCO	**CERRO ARCO**	**1.39**	**179**	*e*P		**Pn**	**14 29 49.3**	**+0.3**
ARCO				*e*S		**Sn**	**14 30 08.7**	**+0.2**
CO03	**El Pedregal**	**1.60**	**292**	P		**Pn**	**14 29 52.5**	**+1.2**
CO03	**El Pedregal**	**1.60**	**292**	*i*P		**Pn**	**14 29 52.4**	**+1.2**
CO03				*e*S		**Sn**	**14 30 14.2**	**+1.4**
CO03				IAML			14 30 16.1	
	comp=E,8μm,0.2s							
AAGR	**Agrelo**	**1.64**	**176**	*e*P		**Pn**	**14 29 52.1**	**+0.3**
AAGR				*e*S		**Sn**	**14 30 13.9**	**+0.3**
AAGR	**Agrelo**	**1.64**	**176**	*e*P		**Pn**	**14 29 52.1**	**+0.3**
AAGR				*e*S		**Sn**	**14 30 13.9**	**+0.3**
CO01	**Juntas del Tor**	**1.76**	**326**	*i*P		**Pn**	**14 29 55.6**	**+2.2**
CO01				*e*S		**Sn**	**14 30 19.3**	**+2.9**
CO01				IAML			14 30 21.1	
	comp=E,2μm,0.3s							
CO02	**Combarbal**	**1.76**	**277**			**Pn**	**14 29 54.0**	**+0.6**
CO02	**Combarbal**	**1.76**	**277**	*i*P		**Pn**	**14 29 53.9**	**+0.6**
CO02				*e*S		**Sn**	**14 30 17.2**	**+0.9**
CO02				IAML			14 30 19.8	
	comp=N,7μm,0.2s							
VA03	**San Esteban**	**1.89**	**225**			**Pn**	**14 29 55.4**	**+0.6**
VA03	**San Esteban**	**1.89**	**225**	*i*P		**Pn**	**14 29 55.4**	**+0.6**
VA03				*e*S		**Sn**	**14 30 20.0**	**+1.0**
VA03				IAML			14 30 21.5	
	comp=E,2μm,0.3s							
GO04	**Tololo Observa**	**2.03**	**308**			**Pn**	**14 29 57.4**	**+0.6**
GO04	**Tololo Observa**	**2.03**	**308**	*i*P		**Pn**	**14 29 57.3**	**+0.6**
GO04				*i* S		**Sn**	**14 30 23.5**	**+1.1**
GO04	**Tololo Observa**	**2.03**	**308**	*e*P		**Pn**	**14 29 56.0**	**-0.8**
GO04	**Tololo Observa**	**2.03**	**308**	*e*P		**Pn**	**14 29 56.0**	**-0.8**
FCH	**Farellones**	**2.19**	**211**	*e*P		**Pn**	**14 29 59.7**	**+0.8**
FCH				*e*S		**Sn**	**14 30 27.9**	**+1.6**
FCH				IAML			14 30 31.0	
	comp=N,537nm,0.3s							
PEL	**Peldehue**	**2.24**	**220**			**Pn**	**14 29 58.9**	**-0.3**
PEL	**Peldehue**	**2.24**	**220**	*e*P		**Pn**	**14 29 59.2**	**-0.1**
PEL				*e*S		**Sn**	**14 30 26.6**	**-0.2**
PEL				IAML			14 30 28.5	
	comp=E,588nm,0.3s							
VA06	**Catapilco**	**2.28**	**240**	Pn		**Pn**	**14 29 58.5**	**-1.1**
VA06	**Catapilco**	**2.28**	**240**	*i*P		**Pn**	**14 29 58.6**	**-1.0**
VA06				*e*S		**Sn**	**14 30 26.0**	**-1.7**
VA06				IAML			14 30 31.7	
	comp=E,674nm,0.5s							
ROCH	**El Roble**	**2.31**	**228**	*i*P		**Pn**	**14 29 59.9**	**-0.5**
ROCH				*e*S		**Sn**	**14 30 28.5**	**-0.3**
ROCH				IAML			14 30 30.1	
	comp=N,959nm,0.2s							
ROC1	**El Roble**	**2.32**	**228**			**Pn**	**14 29 59.6**	**-0.8**
ROC1	**El Roble**	**2.32**	**228**	*e*P		**Pn**	**14 29 59.9**	**-0.6**
ROC1				*e*S		**Sn**	**14 30 29.3**	**+0.2**
ROC1	**El Roble**	**2.32**	**228**	*e*P		**Pn**	**14 29 59.9**	**-0.6**
ROC1				*e*S		**Sn**	**14 30 29.3**	**+0.2**
APLL	**PUNTA DE LOS L**	**2.34**	**64**	*e*P		**Pn**	**14 30 01.2**	**+0.7**
APLL	**PUNTA DE LOS L**	**2.34**	**64**	*e*P		**Pn**	**14 30 01.2**	**+0.7**
MT03	**Universidad Ad**	**2.43**	**212**			**Pn**	**14 30 02.6**	**+0.8**
MT03	**Universidad Ad**	**2.43**	**212**	*e*P		**Pn**	**14 30 02.3**	**+0.6**
MT03				*e*S		**Sn**	**14 30 31.3**	**-0.1**
MT03				IAML			14 30 36.5	
	comp=N,1μm,0.3s							
MT05	**Renca**	**2.46**	**217**			**Pn**	**14 30 02.5**	**+0.4**
MT05	**Renca**	**2.46**	**217**	*e*P		**Pn**	**14 30 02.0**	**0.0**
MT05				*e*S		**Sn**	**14 30 31.2**	**-0.7**
MT05				IAML			14 30 35.7	
	comp=E,2μm,0.2s							
CO05	**La Serena**	**2.48**	**307**	*i*P		**Pn**	**14 30 02.2**	**-0.1**
CO05				*e*S		**Sn**	**14 30 31.4**	**-1.1**
CO05				IAML			14 30 32.8	
	comp=E,6μm,0.5s							
MT02	**Curacav**	**2.58**	**225**	*e*P		**Pn**	**14 30 02.7**	**-0.9**
MT02				*e*S		**Sn**	**14 30 31.7**	**-3.1**
MT02				IAML			14 30 37.8	
	comp=N,171nm,0.3s							
LMEL	**Las Melosas**	**2.62**	**203**			**Pn**	**14 30 05.0**	**+0.7**
LMEL	**Las Melosas**	**2.62**	**203**	*e*P		**Pn**	**14 30 04.8**	**+0.5**
LMEL				*e*S		**Sn**	**14 30 36.1**	**+0.2**
LMEL				IAML			14 30 45.9	
	comp=N,488nm,0.2s							
ACLC	**CERRO LA CRUZ**	**2.66**	**41**	*e*P		**Pn**	**14 30 05.3**	**+0.5**
ACLC				*e*S		Sn	14 30 56.4	+20
ACLC	**CERRO LA CRUZ**	**2.66**	**41**	*e*P		**Pn**	**14 30 05.3**	**+0.5**
ACLC				*e*S		Sn	14 30 56.4	+20
VA01	**Torpederas**	**2.77**	**235**			**Pn**	**14 30 04.0**	**-2.0**
AC05	**El Transito**	**2.84**	**336**			**Pn**	**14 30 09.1**	**+1.9**
AC05	**El Transito**	**2.84**	**336**	*i*P		**Pn**	**14 30 09.0**	**+1.9**
AC05				*e*S		**Sn**	**14 30 42.2**	**+1.2**
AC05				IAML			14 30 46.2	
	comp=E,3μm,0.3s							
LCO	**Las Campanas**	**2.86**	**328**			**Pn**	**14 30 08.1**	**+0.6**
LCO	**Las Campanas**	**2.86**	**328**	*e*P		**Pn**	**14 30 08.2**	**+0.6**
LCO				*e*S		**Sn**	**14 30 42.4**	**+0.7**
LCO	**Las Campanas**	**2.86**	**328**	*e*P		**Pn**	**14 30 08.2**	**+0.6**
LCO				*e*S		**Sn**	**14 30 42.4**	**+0.7**
MT09	**Talagante**	**2.89**	**216**	*e*P		**Pn**	**14 30 07.0**	**-0.8**
MT09				*e*S		**Sn**	**14 30 39.6**	**-2.5**
MT09				IAML			14 30 47.0	
	comp=E,566nm,0.3s							
BO04	**La Punta**	**2.89**	**208**			**Pn**	**14 30 07.8**	**0.0**
BO04	**La Punta**	**2.89**	**208**	*i*P		**Pn**	**14 30 08.0**	**+0.2**
BO04				*e*S		**Sn**	**14 30 42.1**	**-0.1**
BO04				IAML			14 30 47.6	
	comp=E,397nm,0.2s							
MT01	**Popeta**	**3.09**	**218**			**Pn**	**14 30 08.8**	**-1.6**
MT01	**Popeta**	**3.09**	**218**	*e*P		**Pn**	**14 30 08.8**	**-1.6**
MT01				*e*S		**Sn**	**14 30 44.1**	**-2.7**
MT01				IAML			14 30 47.2	
	comp=E,312nm,0.2s							
VA05	**Santo Domingo**	**3.15**	**225**			**Pn**	**14 30 10.0**	**-1.0**
BO01	**Tunca**	**3.44**	**211**	Pn		**Pn**	**14 30 13.6**	**-1.4**
BO01	**Tunca**	**3.44**	**211**	*e*P		**Pn**	**14 30 13.5**	**-1.4**
BO01				*e*S		**Sn**	**14 30 52.3**	**-2.7**
BO01				IAML			14 30 55.8	
	comp=N,128nm,0.3s							
TINO	**Tinogasta**	**3.58**	**20**	*e*P		**Pn**	**14 30 17.9**	**+0.8**
TINO				*e*S		**Sn**	**14 30 59.7**	**+1.0**
TINO	**Tinogasta**	**3.58**	**20**	*e*P		**Pn**	**14 30 17.9**	**+0.8**
TINO				*e*S		**Sn**	**14 30 59.7**	**+1.0**
AC04	**Llanos de Chal**	**3.71**	**330**	Pn		**Pn**	**14 30 18.3**	**-0.4**
GO03	**Copiap**	**4.00**	**344**			**Pn**	**14 30 22.9**	**+0.4**
GO03	**Copiap**	**4.00**	**344**	*e*P		**Pn**	**14 30 22.0**	**-0.5**
GO03	**Copiap**	**4.00**	**344**	*e*P		**Pn**	**14 30 22.0**	**-0.5**
CYA	**Choya**	**4.06**	**43**	*e*P		**Pn**	**14 30 22.9**	**-0.5**
CYA				*e*S		**Sn**	**14 31 09.8**	**-0.1**
CYA	**Choya**	**4.06**	**43**	*e*P		**Pn**	**14 30 22.9**	**-0.5**
CYA				*e*S		**Sn**	**14 31 09.8**	**-0.1**
AC06	**Mina Casimiro**	**4.25**	**343**			**Pn**	**14 30 26.1**	**+0.4**
AC01	**Pan de Azucar**	**5.47**	**344**	Pn		**Pn**	**14 30 41.8**	**-0.6**
PB14	**IPOC Station P**	**6.91**	**349**	Pn		**Pn**	**14 30 59.9**	**-2.3**
TRQA	**Tornquist**	**8.74**	**141**	Pn		**Pn**	**14 31 25.4**	**-1.2**
LVC	**Limon Verde**	**8.80**	**0**	P		**Pn**	**14 31 25.7**	**-2.1**
	comp=N,6.9nm,0.3s,baz=186,slow=10,SNR=29							
LVC				S		**Sn**	**14 32 58.8**	**-6.7**
	comp=N,3.9nm,0.3s,baz=196,slow=4.0,SNR=3.1							
PLCA	**Paso Flores**	**9.36**	**187**	P		**Pn**	**14 31 33.6**	**-1.3**
	comp=N,0.9nm,0.4s,baz=7.3,slow=10.0,SNR=8.9							
PB03	**IPOC Station P**	**9.39**	**355**			**Pn**	**14 31 32.8**	**-2.8**
ITQB	**Itaqui**	**10.78**	**84**	Pn		**Pn**	**14 31 54.9**	**+0.7**
CPUP	**Villa Florida**	**11.39**	**66**	P		**Pn**	**14 32 03.1**	**+0.6**
	comp=N,0.6nm,0.3s,baz=234,slow=13,SNR=1.4							
PSGCX	**Pisagua**	**11.85**	**355**	Pn		Pn	14 32 03.6	-5.0
PLTB	**Pedras Altas**	**13.10**	**95**			**Pn**	**14 32 23.9**	**-1.0**
LPAZ	**La Paz**	**15.11**	**3**	P		**Pn**	**14 32 52.7**	**+1.4**
	comp=N,9.0nm,0.7s,baz=187,slow=7.0,SNR=28							
LPAZ				LR		LR	14 40 04.9	
	comp=N,24nm,21.0s,baz=230,slow=42							
SIV	**San Ignacio**	**16.98**	**27**	P		**Pn**	**14 33 14.9**	**+0.9**
	comp=N,4.3nm,0.8s,baz=206,slow=9.6,SNR=13							
NNA	**Nana**	**20.69**	**338**	LR		LR	14 41 31.1	
	comp=N,39nm,18.6s,baz=198,slow=35							
BDFB	**Brasilia**	**24.75**	**55**	LR		LR	14 44 12.8	
	comp=N,136nm,21.6s,baz=134,slow=36							
BAUV	**El Baul**	**40.17**	**1**	P		**P**	**14 36 48.4**	**0.0**
BAUV				IAmb		IAmb	14 36 49.1	
	comp=Z,9.9nm,0.9s							
SNAA	**Sanae**	**52.99**	**159**	P		**P**	**14 38 28.3**	**+0.4**
	comp=Z,4.6nm,1.0s,baz=52,slow=0.8,SNR=7.6							
	comp=Z,4.6nm,1.0s							
SNAA	**Sanae**	**52.99**	**159**	P		**P**	**14 38 28.7**	**+0.8**
SNAA				IAmb		IAmb	14 38 33.4	
	comp=Z,7.7nm,1.1s							
QSPA	**South Pole Qui**	**58.79**	**180**	P		**P**	**14 39 10.2**	**+0.9**
QSPA				IAmb		IAmb	14 39 11.3	
	comp=Z,4.3nm,0.8s							
TXAR	**Lajitas Array**	**68.87**	**328**	P		**P**	**14 40 16.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=160,slow=8.2,SNR=4.6							
	comp=Z,0.5nm,0.6s							
TXAR	**Lajitas Array**	**68.87**	**328**	P		**P**	**14 40 15.7**	**-0.1**
DBIC	**Dimbokro**	**71.89**	**70**	P		**P**	**14 40 35.0**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=226,slow=4.3,SNR=4.0							
	comp=Z,1.8nm,0.5s							
PPT	**Papeete**	**73.22**	**259**	P		**P**	**14 40 41.6**	**-0.7**
	comp=Z,24nm,0.9s,baz=130,slow=18,SNR=1.2							
SUR	**Sutherland**	**73.77**	**118**	P		**P**	**14 40 46.0**	**+0.4**
	comp=Z,7.7nm,1.0s,baz=274,slow=14,SNR=1.6							
	comp=Z,7.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**80.88**	**69**	P		**P**	**14 41 25.5**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=275,slow=5.1,SNR=7.2							
	comp=Z,1.6nm,0.7s							
LBTB	**Lobatse**	**80.98**	**114**	P		**P**	**14 41 26.2**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=180,slow=4.9							
	comp=Z,1.5nm,0.5s							
PDAR	**Pinedale Array**	**82.72**	**331**	P		**P**	**14 41 34.6**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=144,slow=6.7,SNR=2.2							
	comp=Z,0.3nm,0.9s							
NVAR	**Mina Array Bea**	**83.34**	**323**	P		**P**	**14 41 38.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=139,slow=4.3,SNR=1.2							
	comp=Z,0.1nm,0.3s							
WRA	**Warramunga Arr**	**124.23**	**207**	PKP		**PKPdf**	**14 48 08.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=165,slow=1.5,SNR=2.3							
ZALV	**Zalesovo Beam**	**150.69**	**32**	PKPbc		**PKPbc**	**14 49 02.5**	**+0.9**
	comp=Z,1.8nm,0.4s,baz=333,slow=2.4,SNR=8.8							
MKAR	**Makanchi Array**	**153.13**	**47**	PKPbc		**PKPbc**	**14 49 07.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=323,slow=3.5,SNR=6.3							
MKAR				PKPab		**PKPab**	**14 49 20.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=282,slow=5.3,SNR=5.4							

*IDC **27** 14:37:06.2±5.7,7°.84S×124°.24E,h129$^{km}_{\pm 63}$,mb3.1/1, mbtmp3.6/4,Error ellipse: s-maj=78.3km s-min=30.8km az=44.0*
*DJA **27** 14:37:06.9±0.3,8°S±4°×12°4E±°,h176$^{km}_{\pm 5}$,M4.0/9, mb4.1/6,MLv3.9/9*

ISC 27 14:37:07.5±1.2,**8°.02S**±0°.09×**124°.07E**±0°.09,**h150**^{km},**n11, σ1°97**/13,**Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.73**	**174**	P		**Pn**	**14 37 41.9**	**+2.1**
MMRI	**Maumere**	**1.92**	**251**	P		**Pn**	**14 37 42.8**	**+1.1**
BATI	**Baumata**	**2.21**	**191**	P		**Pn**	**14 37 46.8**	**+1.6**
	68nm,0.4s,baz=0.0,slow=11,SNR=19							
BATI				S		**Sn**	**14 38 15.7**	**+1.6**
	62nm,0.3s,baz=138,slow=23,SNR=10							
BATI	**Baumata**	**2.21**	**191**	P		**Pn**	**14 37 46.3**	**+1.1**
BASI	**Baing, Sumba**	**4.08**	**237**	P		**Pn**	**14 38 08.7**	**-0.2**
AAI	**Ambon**	**5.95**	**44**	P		**Pn**	**14 38 33.0**	**-0.6**
	62nm,0.8s,0.2nm							
PLAI	**Plampang**	**6.28**	**262**	P		**Pn**	**14 38 37.4**	**-0.6**
	44nm,1.3s,0.2nm							
TWSI	**Taliwang, Sumb**	**7.15**	**264**	P		**Pn**	**14 38 48.5**	**-1.1**
	26nm,1.1s,0.2nm							
WRA	**Warramunga Arr**	**15.47**	**141**	P		**Pn**	**14 40 37.8**	**-0.1**
	1.0nm,0.5s,baz=315,slow=13,SNR=21							
WRA				S		Sn	14 43 17.9	-12
	0.3nm,0.4s,baz=315,slow=26,SNR=2.5							
ASAR	**Alice Springs**	**18.19**	**150**	P		**Pn**	**14 41 10.3**	**-0.4**
	0.4nm,0.4s,baz=330,slow=12,SNR=21							
ASAR				S		**S**	**14 44 24.6**	**-4.9**
	0.2nm,0.6s,baz=313,slow=22,SNR=1.7							
MKAR	**Makanchi Array**	**66.01**	**330**	P		**P**	**14 47 38.4**	**+0.4**
	0.2nm,0.4s,baz=137,slow=6.6,SNR=12							
	0.2nm,0.4s							

OMAN 27 14:45:49.3±0.5,**21°.76N×61°.77E,h32**$^{km}_{\pm 21}$,**mb4.0**/1, **ml3.1**/8,**Error ellipse: s-maj=27.9km s-min=2.8km az=277.0,Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**2.23**	**280**	P		Pn	14 46 22.0	-1.9
	SNR=16							
JLN				S		Sn	14 46 49.1	-1.3
WBK	**Wadi Bani Khal**	**2.73**	**288**	P		Pn	14 46 29.8	-1.1
	SNR=93							
WBK				S

13nm,0.4s,baz=70,slow=3.9,SNR=4.8
KAPI S **Sn** **15 02 26.7 -2.3**
9.3nm,0.6s,baz=89,slow=22,SNR=1.2
KAPI Kappang **10.32 227** *i* P **Pn** **15 00 34.6 -0.3**
RCP Roxas **10.40 335**⇓ *eP* **Pn** **15 00 38.3 +2.3**
BSSI Bau Bau, Buton **10.64 219** P **Pn** **15 00 40.5 +1.3**
78nm,1.1s
KKM Kota Kinabalu **11.69 290** Pn **Pn** **15 00 56.3 +2.6**
KKM Kota Kinabalu **11.69 290** P **Pn** **15 00 56.3 +2.6**
SMPI Sarmi **12.14 110** P **Pn** **15 01 01.3 +1.5**
32nm,1.1s
SOEI Soe **12.17 194** P **Pn** **15 01 01.5 +1.3**
51nm,0.8s
BATI Baumata **12.76 196** P **Pn** **15 01 08.6 +0.4**
19nm,0.7s,baz=41,slow=18,SNR=1.1
BATI LR LR 15 07 20.1
comp=Z,58nm,18.6s,baz=22,slow=43
BATI Baumata **12.76 196** P **Pn** **15 01 09.0 +0.8**
98nm,1.3s
PLAI Plampang **14.41 221** P **P** **15 01 33.2 -1.7**
PLAI Plampang **14.41 221** P **Pn** **15 01 31.1 +1.0**
125nm,1.0s
TWSI Taliwang, Sumb **14.95 224** P **Pn** **15 01 37.9 +0.9**
72nm,1.2s
SBUM Sibu **15.04 272** **P** **15 01 44.0 +2.1**
MTN Manton Dam **15.35 166** **Pn** **15 01 41.5 -0.6**
MTN Manton Dam **15.35 166** P **Pn** **15 01 41.4 -0.7**
JAGI Jajag, Banyuwa **16.78 231** P **P** **15 02 01.1 -0.1**
JAGI Jajag, Banyuwa **16.78 231** P **P** **15 02 04.2 +3.0**
KNRA Kununurra **17.74 175** P **P** **15 02 12.3 +0.5**
KNRA Kununurra **17.74 175** P **P** **15 02 11.8 0.0**
UGM Wanagama **19.45 239** P **P** **15 02 30.4 -0.2**
249nm,1.9s
FITZ Fitzroy Crossi **20.15 185** P **P** **15 02 37.9 -0.2**
TWGBT Beinan **21.44 344** P **P** **15 02 50.2 -1.7**
TWG Pinlang **21.44 344** P **P** **15 02 50.3 -1.7**
TWG IAmb IAmb 15 02 51.3
comp=Z,32nm,0.7s
YULB Yu-li **21.93 345** P **P** **15 02 55.0 -2.2**
YULB Yu-li **21.93 345** P **P** **15 02 55.3 -1.9**
TPUB Ta-pu **22.02 344** P **P** **15 02 56.8 -1.4**
TPUB IAmb IAmb 15 03 00.8
comp=Z,57nm,0.7s
TPUB Ta-pu **22.02 344** P **P** **15 02 56.4 -1.8**
SSLB Suanglung **22.39 345** P **P** **15 03 01.9 -0.3**
SSLB IAmb IAmb 15 03 10.5
comp=Z,36nm,1.0s
SSLB Suanglung **22.39 345** P **P** **15 03 02.3 +0.1**
YOJ Yonaguni jima **22.59 350** P **P** **15 03 04.1 -0.2**
YOJ IAmb IAmb 15 03 23.2
comp=Z,77nm,1.0s
YOJ Yonaguni jima **22.59 350** P **P** **15 03 04.9 +0.6**
YOJ Yonaguni jima **22.59 350** P **P** **15 03 04.1 -0.2**
YOJ pmax pmax
comp=Z,77nm,1.0s
NACB Ninganchiao **22.60 346** P **P** **15 03 03.5 -0.9**
NACB IAmb IAmb 15 03 23.6
comp=Z,73nm,1.6s
WB0 Warramunga Arr **22.84 162** P **P** **15 03 05.8 -1.3**
PMG Port Moresby **22.89 120** LR LR 15 12 40.1
comp=Z,184nm,18.4s,baz=292,slow=38
WRAB Tennant Creek **22.99 163** P **P** **15 03 07.0 -1.5**
WRAB Tennant Creek **22.99 163** P **P** **15 03 07.0 -1.5**
WRAB Tennant Creek **22.99 163** P **P** **15 03 07.0 -1.5**
WRAB pmax pmax
comp=Z,21nm,0.8s
WRA Warramunga Arr **22.99 163** *i* P **P** **15 03 06.8 -1.6**
comp=Z,14nm,0.7s,baz=342,slow=10,SNR=89
WRA S **S** **15 07 10.6 -2.9**
comp=Z,0.9nm,0.8s,baz=351,slow=21,SNR=3.0
WRA ScP **ScP** **15 10 26.2 -1.7**
comp=Z,1.1nm,0.8s,baz=346,slow=3.3,SNR=6.0
WRA LR LR 15 13 13.9
comp=Z,98nm,19.4s,baz=356,slow=40
comp=Z,14nm,0.7s
WRA Warramunga Arr **22.99 163** *i* P **P** **15 03 06.9 -1.6**
WRA pmax pmax
comp=Z,15nm,0.7s
WB2 Warramunga Arr **23.00 163** P **P** **15 03 07.2 -1.4**
WR0 Warramunga Arr **23.07 162** P **P** **15 03 07.8 -1.5**
YHNB Yeheng **23.13 346** P **P** **15 03 09.8 -0.1**
YHNB IAmb IAmb 15 03 18.8
comp=Z,64nm,1.0s
YHNB Yeheng **23.13 346** P **P** **15 03 09.8 -0.1**
JOW Kunigami **24.59 2** P **P** **15 03 24.7 +1.6**
comp=Z,32nm,0.8s,baz=202,slow=7.1,SNR=7.2
JOW LR LR 15 14 25.4
comp=Z,40nm,20.3s,baz=158,slow=40
comp=Z,32nm,0.8s
JOW Kunigami **24.59 2** P **P** **15 03 24.4 +1.3**
JOW IAmb IAmb 15 03 27.0
comp=Z,35nm,1.0s
JOW Kunigami **24.59 2** P **P** **15 03 22.3 -0.8**
PSA00 Pilbara Seismi **24.64 197** P **P** **15 03 24.1 +0.6**
PSA00 IAmb IAmb 15 03 36.8
comp=Z,87nm,1.4s
PSA00 Pilbara Seismi **24.64 197** P **P** **15 03 23.8 +0.3**
KRVT Keravat (AS076 **25.55 104** LR LR 15 13 46.7
comp=Z,51nm,18.1s,baz=50,slow=37
QIS Mount Isa **25.57 152** P **P** **15 03 31.3 -0.8**
AS31 Alice Springs **26.43 166** P **P** **15 03 38.9 -1.0**
ASAR Alice Springs **26.43 166** P **P** **15 03 39.0 -0.8**
comp=Z,3.9nm,0.7s,baz=345,slow=6.6,SNR=102
ASAR S **S** **15 08 04.9 -3.5**
comp=Z,0.4nm,0.8s,baz=346,slow=15,SNR=2.2
ASAR ScP **ScP** **15 10 35.9 -1.6**
comp=Z,0.8nm,0.7s,baz=339,slow=2.9,SNR=6.0
ASAR LR LR 15 15 31.1
comp=Z,88nm,18.6s,baz=9.5,slow=40
comp=Z,3.9nm,0.7s
ASAR Alice Springs **26.43 166** P **P** **15 03 38.3 -1.5**
ASAR Alice Springs **26.43 166** P **P** **15 03 38.3 -1.5**
AS01 Alice Springs **26.44 166** P **P** **15 03 39.0 -0.9**
PDSI Padang **26.97 264** P **P** **15 03 44.6 -0.2**
comp=Z,4.6nm,0.4s,comp=Z,624nm
WRKA Warakurna **27.01 178** P **P** **15 03 44.2 -0.8**
PSI Prapat **28.33 272** P **P** **15 03 56.6 -0.4**
comp=Z,2.9nm,0.6s,baz=94,slow=9.4,SNR=3.7
comp=Z,9nm,0.6s
JCJ Chichijima **28.66 29** LR LR 15 16 18.7
comp=Z,21nm,18.3s,baz=222,slow=38
CTA Charters Tower **28.88 141** LR LR 15 16 58.4
comp=Z,120nm,20.7s,baz=278,slow=39
KCSI Kotacane, Aceh **29.49 273** P **P** **15 04 07.0 -0.3**
comp=Z,11nm,0.9s
GSI Gunungsitoli **29.69 269** P **P** **15 04 07.8 -1.3**
GSI IAmb IAmb 15 04 21.6
comp=Z,18nm,1.0s
GSI Gunungsitoli **29.69 269** P **P** **15 04 07.5 -1.5**
comp=Z,18nm,1.2s,comp=Z,2μm
MEEK Meekatharra **29.78 196** P **P** **15 04 09.6 -0.1**
WHN Wuhan **30.81 338** ⇓P **P** **15 04 21.5 +2.9**
WHN pmax pmax
comp=Z,34nm,1.0s
OOD Oodnadatta **30.82 165** P **P** **15 04 17.6 -1.2**
JNU Nakatsue **31.03 6** LR LR 15 15 36.9
comp=Z,23nm,21.4s,baz=140,slow=34
PHRA Phrae **31.10 303** P **P** **15 04 22.1 +0.7**
CMAR Chiang Mai Arr **32.16 302** P **P** **15 04 31.3 +0.5**
comp=Z,12nm,0.9s,baz=118,slow=7.0,SNR=69
CMAR ScP **ScP** **15 10 55.5 -0.3**
comp=Z,0.3nm,0.4s,baz=162,slow=2.7,SNR=4.3
CMAR LR LR 15 20 41.1
comp=Z,13nm,18.2s,baz=80,slow=42
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr **32.16 302** P **P** **15 04 30.6 -0.2**
CHTO Chiang Mai **32.33 303** P **P** **15 04 32.0 -0.2**
CHTO IAmb IAmb 15 04 33.2
comp=Z,19nm,0.8s
CHTO Chiang Mai **32.33 303** P **P** **15 04 32.0 -0.2**
CHTO pmax pmax
comp=Z,19nm,0.8s
INKA Innaminka **32.40 157** P **P** **15 04 32.4 -0.2**
ENH Enshi **32.69 331** P **P** **15 04 35.4 +0.1**
ENH IAmb IAmb 15 04 37.3
comp=Z,19nm,0.8s
ENH Enshi **32.69 331** P **P** **15 04 35.7 +0.5**
FORT Forrest **32.72 179** P **P** **15 04 34.8 -0.6**
FORT IAmb IAmb 15 04 39.0
comp=Z,28nm,1.1s
FORT Forrest **32.72 179** P **P** **15 04 34.5 -0.9**
MORW Morawa **32.82 198** P **P** **15 04 36.7 +0.4**
MORW Morawa **32.82 198** P **P** **15 04 38.4 +2.0**
MULG Mulgathing **32.86 169** P **P** **15 04 35.6 -1.1**
KMBL Kambalda **33.69 188** P **P** **15 04 43.5 -0.4**

LCRK Leigh Creek **34.02 163** P **P** **15 04 45.9 -0.9**
BLDU Ballidu **34.07 196** P **P** **15 04 47.8 +0.6**
HNR Honiara **34.52 110** LR LR 15 19 07.0
comp=Z,1μm,19.9s,baz=184,slow=36
LYN LuoYang **35.10 338** ⇓P **P** **15 04 56.5 +0.5**
LYN pmax pmax
comp=Z,6.0nm,0.7s
KSRS Korea Array **35.17 1** P **P** **15 04 56.6 +0.1**
comp=Z,2.6nm,0.7s,baz=180,slow=9.5,SNR=12
KSRS LR LR 15 20 56.5
comp=Z,16nm,19.8s,baz=195,slow=39
comp=Z,2.6nm,0.7s
TIA Tai'an **35.20 346** ⇑P **P** **15 04 57.8 +0.9**
TIA pmax pmax
comp=Z,5.0nm,0.7s
MUN Mundaring **35.50 196** P **P** **15 04 59.4 -0.1**
MAJO Matsushiro **35.72 15** P **P** **15 05 00.9 -0.4**
MAJO pP **pP** **15 05 16.1 -1.8**
MAJO sP **sP** **15 05 25.0 -1.0**
MJAR Matsushiro Arr **35.72 15** P **P** **15 05 00.0 -1.3**
comp=Z,3.0nm,0.6s,baz=187,slow=9.2,SNR=8.5
MJAR LR LR 15 18 42.7
comp=Z,37nm,19.3s,baz=186,slow=34
comp=Z,3.0nm,0.6s
BBOO Buckleboo **35.72 167** P **P** **15 05 00.5 -0.8**
BBOO Buckleboo **35.72 167** P **P** **15 05 00.3 -1.1**
XAN Xi'an **36.09 334** P **P** **15 05 04.3 -0.3**
XAN sP **sP** **15 05 29.1 -0.2**
NWAO Narrogin (SRO) **36.12 194** P **P** **15 05 04.8 0.0**
NWAO Narrogin (SRO) **36.12 194** P **P** **15 05 04.6 -0.2**
NWAO Narrogin (SRO) **36.12 194** P **P** **15 05 04.8 0.0**
NWAO pmax pmax
comp=Z,239nm,1.6s
STKA Stephens Creek **36.44 159** P **P** **15 05 06.7 -0.8**
comp=Z,11nm,0.8s,baz=336,slow=8.4,SNR=43
STKA ScP **ScP** **15 11 09.4 -1.3**
comp=Z,1.4nm,1.0s,baz=352,slow=7.1,SNR=3.1
STKA LR LR 15 23 42.2
comp=Z,53nm,18.0s,baz=18,slow=42
comp=Z,11nm,0.8s
STKA Stephens Creek **36.44 159** P **P** **15 05 07.2 -0.4**
STKA Stephens Creek **36.44 159** P **P** **15 05 07.1 -0.4**
STKA Stephens Creek **36.44 159** P **P** **15 05 07.2 -0.4**
STKA pmax pmax
comp=Z,3.0nm,0.8s
HNS HongShan **36.97 343** ⇓P **P** **15 05 12.8 +0.9**
HNS pmax pmax
comp=Z,30nm,1.1s
HTT Hallett **37.03 164** P **P** **15 05 12.3 -0.3**
JMM Marumori **37.68 18** P **P** **15 05 17.5 -0.4**
CMSA Cobar Meteorol **37.77 154** P **P** **15 05 18.0 -0.8**
TIY Taiyuan **37.96 341** ⇑P **P** **15 05 21.8 +1.4**
TIY pmax pmax
comp=Z,14nm,0.8s
BJT Baijiatuan **39.05 346** P **P** **15 05 30.3 +0.9**
BJT Baijiatuan **39.05 346** P **P** **15 05 29.6 +0.2**
BJT Baijiatuan **39.05 346** P **P** **15 05 30.3 +0.9**
BJT pmax pmax
comp=Z,31nm,0.7s
BJT Baijiatuan **39.05 346** P **P** **15 05 30.1 +0.6**
ARMA Armidale **39.83 146** P **P** **15 05 37.3 +1.1**
ARMA IAmb IAmb 15 06 46.7
comp=Z,30nm,1.6s
LZH Lanzhou **40.16 330** *eP* **P** **15 05 40.0 +1.1**
LZH pP pwP 15 05 58.5 -0.5
LZH sP sP 15 06 09.5 +5.7
LZH pmax pmax
comp=Z,13nm,1.1s
USRK Ussuriysk Ar. **42.11 5** P **P** **15 05 54.9 +0.3**
comp=Z,5.1nm,0.8s,baz=170,slow=8.8,SNR=4.9
comp=Z,5.1nm,0.8s
MDJ Mudanjiang **42.37 2** P **P** **15 05 57.3 +0.6**
BNX BinXian **43.45 0** ⇑P **P** **15 06 06.8 +1.4**
BNX pmax pmax
comp=Z,7.0nm,0.9s
BNX pmax pmax
comp=Z,130nm,5.5s
LSA Lhasa **43.91 312** P **P** **15 06 09.6 -0.4**
LSA IAmb IAmb 15 06 12.2
comp=Z,31nm,1.6s
LSA Lhasa **43.91 312** P **P** **15 06 09.6 -0.4**
LSA pmax pmax
comp=Z,31nm,1.6s
LSA Lhasa **43.91 312** P **P** **15 06 10.7 +0.8**
GTA Gaotai **44.75 330** *eP* **P** **15 06 17.0 +0.9**
GTA pmax pmax
comp=Z,4.0nm,1.1s
DZM Mont Dzumac **45.18 124** LR LR 15 24 12.9
comp=Z,56nm,21.0s,baz=42,slow=35
GOMU GeErMu **45.28 322** P P 15 06 30.5 +10
GOMU pP pP 15 06 35.0 -2.8
GOMU sP pwP 15 06 36.0 -5.1
GOMU pmax pmax
comp=Z,3.0nm,1.4s
GOMU pmax pmax
comp=Z,150nm,6.0s
KLR Kul'dur **47.09 4** LR LR 15 29 12.7
comp=Z,12nm,19.8s,baz=268,slow=39
KLR Kul'dur **47.09 4** *ceP* **P** **15 06 32.1 -2.1**
KLR pmax pmax
comp=Z,8.0nm,1.7s
HEH HeiHe **47.96 0** *eP* **P** **15 06 40.8 -0.1**
HEH pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar **48.81 342** P **P** **15 06 48.9 +1.2**
ULN IAmb IAmb 15 06 49.8
comp=Z,17nm,0.9s
ULN Ulaanbaatar **48.81 342** P **P** **15 06 48.9 +1.2**
ULN pmax pmax
comp=Z,17nm,0.9s
ULN Ulaanbaatar **48.81 342** P **P** **15 06 48.7 +1.0**
ULN sP **sP** **15 07 13.3 +0.4**
SONM Songino Array **48.99 341** P **P** **15 06 50.0 +1.0**
comp=Z,6.1nm,0.7s,baz=156,slow=8.6,SNR=44
SONM LR LR 15 30 34.0
comp=Z,46nm,19.8s,baz=204,slow=40
comp=Z,6.1nm,0.7s
SONM Songino Array **48.99 341** P **P** **15 06 50.1 +1.1**
SONM IAmb IAmb 15 06 51.0
comp=Z,34nm,1.8s
SONM Songino Array **48.99 341** P **P** **15 06 50.1 +1.1**
SONM pmax pmax
comp=Z,34nm,1.8s
HYB Hyderabad **50.18 291** *eP* **P** **15 06 58.4 -0.1**
ZAK Zakamensk **52.22 341** *eP* **P** **15 07 11.9 -1.4**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
MSVF Nonsavu **53.77 114** LR LR 15 30 19.5
comp=Z,64nm,18.2s,baz=85,slow=36
MOY Mondy **54.07 340** *eP* **P** **15 07 28.1 +1.2**
MOY pmax pmax
comp=Z,20nm,2.4s
WMQ Urumqi **54.35 325** P **P** **15 07 30.8 +1.8**
BOD Bodaibo **56.53 352** *eP* **P** **15 07 43.3 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.8s
PEA0B Petropavlovsk- **56.72 21** P **P** **15 07 46.2 +0.5**
PEA0B Petropavlovsk- **56.72 21** P **P** **15 07 46.2 +0.5**
PEA0B pmax pmax
comp=Z,70nm,1.8s
PETK Petropavlovsk- **56.72 21** P **P** **15 07 46.3 +0.5**
comp=Z,4.6nm,0.8s,baz=185,slow=4.5,SNR=18
comp=Z,4.6nm,0.8s
WUS Wushi **58.12 319** P **P** **15 07 57.3 +1.3**
WUS pP **pP** **15 08 13.5 -0.3**
ZSN Zaisan **58.15 327** *eP* **P** **15 07 56.1 +0.2**
comp=Z,6.2nm,0.9s,baz=327
ZSN Zaisan **58.15 327** *eP* **P** **15 07 56.1 +0.2**
ZSN pmax pmax
comp=Z,6.0nm,0.9s
DGZ Jazzator, Alta **58.25 331** *d iP* **P** **15 07 57.7 +0.9**
DGZ pmax pmax
comp=Z,17nm,1.4s
SHLS Shalkode **58.92 321** *i* P **P** **15 07 59.6 -2.0**
comp=Z,8.3nm,0.9s,baz=321
SHLS Shalkode **58.92 321** *i* P **P** **15 07 59.6 -2.0**
SHLS pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array **59.18 326** P **P** **15 08 04.0 +0.8**
MK31 Makanchi Array **59.18 326** P **P** **15 08 04.0 +0.8**
MK31 pmax pmax
comp=Z,25nm,0.8s
MKAR Makanchi Array **59.18 326** P **P** **15 08 04.0 +0.9**
comp=Z,29nm,0.6s,baz=119,slow=8.4,SNR=403
MKAR ScP **ScP** **15 12 45.5 0.0**

comp=Z,0.4nm,0.7s,baz=132,slow=5.7,SNR=2.6
comp=Z,29nm,0.6s
UZB Uzynbulak **59.20 321** *eP* **P** **15 08 03.7 +0.2**
comp=Z,8.9nm,0.8s,baz=320
UZB Uzynbulak **59.20 321** *eP* **P** **15 08 03.6 +0.2**
UZB pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi **59.37 325** P **P** **15 08 05.4 +1.0**
MAKZ Makanchi **59.37 325** P **P** **15 08 05.4 +1.0**
MAKZ pmax pmax
comp=Z,36nm,0.8s
MAKZ Makanchi **59.37 325** P **P** **15 08 05.3 +0.9**
SATY Saty **59.55 320** *eP* **P** **15 08 06.2 +0.3**
comp=Z,15nm,0.8s,baz=320
SATY Saty **59.55 320** *eP* **P** **15 08 06.1 +0.3**
SATY pmax pmax
comp=Z,15nm,0.8s
KSH Kashi **59.56 316** P **P** **15 08 08.8 +2.8**
KSH pmax pmax
comp=Z,8.0nm,0.8s
KPKS Kokpek **59.57 321** *eP* **P** **15 08 05.9 -0.2**
comp=Z,9.0nm,0.5s,baz=321
KPKS Kokpek **59.57 321** *eP* **P** **15 08 05.8 -0.2**
KPKS pmax pmax
comp=Z,9.0nm,0.5s
ZHN Zhinishke **59.58 320** *eP* **P** **15 08 05.6 -0.5**
comp=Z,7.8nm,0.8s,baz=320
ZHN Zhinishke **59.58 320** *eP* **P** **15 08 05.6 -0.5**
ZHN pmax pmax
comp=Z,8.0nm,0.8s
YAK Yakutsk **59.80 1** LR LR 15 35 23.8
comp=Z,19nm,20.7s,baz=346,slow=37
YAK Yakutsk **59.80 1** P **P** **15 08 07.4 +0.4**
YAK Yakutsk **59.80 1** *eP* **P** **15 08 07.1 +0.1**
YAK *e* 15 08 53.2
YAK *eS* **S** **15 16 12.7 +0.1**
YAK pmax pmax
comp=Z,39nm,1.0s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.4s
YAK pmax pmax
comp=Z,171nm,4.9s
YAK pmax pmax
comp=N,156nm,5.5s
YAK pmax pmax
comp=E,33nm,2.2s
YAK smax smax
comp=N,139nm,5.9s
YAK smax smax
comp=E,134nm,4.8s
YAK Yakutsk **59.80 1** P **P** **15 08 07.0 0.0**
MA2 Magadan **60.13 14** LR LR 15 32 28.8
comp=E,15nm,21.8s,baz=236,slow=34
MA2 Magadan **60.13 14** *ceP* **P** **15 08 09.0 -0.4**
MA2 pmax pmax
comp=Z,12nm,2.5s
MA2 Magadan **60.13 14** P **P** **15 08 09.7 +0.3**
MA2 pP **pwP** **15 08 27.5 -3.2**
MA2 sP **sP** **15 08 35.7 +0.8**
MDOK Medeo **60.47 320** *eP* **P** **15 08 12.2 -0.1**
baz=320
MDOK Medeo **60.47 320** *eP* **P** **15 08 12.1 -0.1**
TNSS Tian-Shan **60.48 320** *eP* **P** **15 08 13.1 +0.5**
baz=320
TNSS Tian-Shan **60.48 320** *eP* **P** **15 08 13.0 +0.5**
ULHL Ulahol **60.58 318** P **P** **15 08 14.3 +1.3**
SNR=5.8
AAA Alma-Ata **60.58 320** *eP* **P** **15 08 13.6 +0.8**
comp=Z,20nm,0.9s,baz=320
AAA Alma-Ata **60.58 320** *eP* **P** **15 08 13.6 +0.8**
AAA pmax pmax
comp=Z,20nm,0.9s
CHKK Chushkaly **60.84 320** *eP* **P** **15 08 14.8 +0.3**
baz=320
CHKK Chushkaly **60.84 320** *eP* **P** **15 08 14.8 +0.3**
KUU Kurty **61.27 320** *eP* **P** **15 08 17.7 +0.2**
baz=320
KUU Kurty **61.27 320** *eP* **P** **15 08 17.6 +0.2**
TKM2 Tokmak 2 **61.31 319** P **P** **15 08 19.0 +1.0**
SNR=23
KBK Karagaybulak **61.62 318** P **P** **15 08 21.5 +1.5**
SNR=6.3
UCH Uchtor **61.72 318** P **P** **15 08 23.1 +2.1**
SNR=22
AAK Ala-Archa **61.91 318** P **P** **15 08 23.3 +1.3**
AAK IAmb IAmb 15 08 24.5
comp=Z,26nm,1.6s
AAK Ala-Archa **61.91 318** P **P** **15 08 23.3 +1.3**
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa **61.91 318** P **P** **15 08 23.0 +1.0**
AAK pP **pwP** **15 08 41.1 -2.0**
SGDS Sogindy **62.17 319** *eP* **P** **15 08 23.8 +0.1**
baz=319
SGDS Sogindy **62.17 319** *eP* **P** **15 08 23.7 +0.1**
USP Ospenovka **62.18 319** P **P** **15 08 24.6 +1.0**
SNR=26
AML Almayashu **62.23 317** P **P** **15 08 25.9 +1.5**
SNR=30
ZALV Zalesovo Beam **62.26 333** P **P** **15 08 23.7 -0.2**
comp=Z,3.0nm,0.6s,baz=116,slow=6.8,SNR=18
ZALV LR LR 15 35 54.5
comp=Z,34nm,18.9s,baz=178,slow=36
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam **62.26 333** P **P** **15 08 23.8 -0.1**
ZALV Zalesovo Beam **62.26 333** P **P** **15 08 23.8 -0.1**
EKS2 Erkin-Say **62.40 318** P **P** **15 08 27.1 +1.9**
SNR=8.2
KBL Kabul **62.93 308** P **P** **15 08 29.6 +0.6**
KBL IAmb IAmb 15 08 30.4
comp=Z,13nm,0.8s
KBL Kabul **62.93 308** P **P** **15 08 29.6 +0.6**
KBL pmax pmax
comp=Z,13nm,0.8s
BTLS Baital **63.25 321** *eP* **P** **15 08 30.6 -0.1**
baz=320
BTLS Baital **63.25 321** *eP* **P** **15 08 30.5 -0.1**
KURK Kurchatov **63.38 328** P **P** **15 08 32.0 +0.6**
KURK Kurchatov **63.38 328** P **P** **15 08 32.0 +0.6**
KURK pmax pmax
comp=Z,26nm,0.7s
KURK Kurchatov **63.38 328** P **P** **15 08 31.9 +0.6**
KURK pP **pwP** **15 08 49.8 -2.7**
SEY Seymchan **63.48 13** *ceP* **P** **15 08 30.7 -1.1**
SEY pmax pmax
comp=Z,9.0nm,1.0s
DZA Taraz **64.14 317** *eP* **P** **15 08 36.5 -0.1**
baz=317
DZA Taraz **64.14 317** *eP* **P** **15 08 36.5 -0.1**
IUG Iuzhnay **64.74 316** *eP* **P** **15 08 41.1 +0.5**
baz=316
IUG Iuzhnay **64.74 316** *eP* **P** **15 08 41.1 +0.5**
KK31 Karatay Array **64.77 317** P **P** **15 08 41.6 +1.0**
KK31 IAmb IAmb 15 08 42.4
comp=Z,15nm,0.9s
KK31 Karatay Array **64.77 317** P **P** **15 08 41.7 +1.0**
KK31 pmax pmax
comp=Z,15nm,1.0s
KKAR Karatay Array **64.77 317** P **P** **15 08 41.0 +0.3**
KKAR Karatay Array **64.77 317** P **P** **15 08 41.6 +1.0**
KKAR IAmb IAmb 15 08 42.4
comp=Z,15nm,0.9s
KKAR Karatay Array **64.77 317** P **P** **15 08 41.7 +1.0**
KKAR pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye **69.03 327** P **P** **15 09 07.9 +0.4**
BRVK IAmb IAmb 15 09 09.9
comp=Z,9.3nm,0.9s
BRVK Borovoye **69.03 327** P **P** **15 09 07.9 +0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye **69.03 327** P **P** **15 09 07.7 +0.2**
BRVK pP **pP** **15 09 25.3 -0.5**
BRVK sP **PcP** **15 09 34.0 +2.8**
TIXI Tiksi **69.44 1** LR LR 15 39 55.1
comp=Z,23nm,22.0s,baz=181,slow=36
TIXI Tiksi **69.44 1** P **P** **15 09 09.4 -0.2**
TIXI Tiksi **69.44 1** P **P** **15 09 09.4 -0.2**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi **69.44 1** P **P** **15 09 13.0 +3.4**
BILL Bilibino **70.97 15**⇑ *eP* **P** **15 09 19.2 +0.1**
BILL *e* 15 09 37.6

BILL				*SP	**sP**	15 09 48.0	+3.0
BILL				S	S	15 18 19.0	-10
BILL				SS	**SS**	**15 23 01.0**	**-2.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,3.1s						
BILL				MLR	MLR		
	comp=Z,27nm,15.0s						
BILL	**Bilibino**	**70.97**	**15**	P	**P**	**15 09 19.6**	**+0.5**
NRIK	**Noril'sk**	**72.11**	**346**	P	**P**	**15 09 26.2**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=134,slow=6.2,SNR=9.8						
	comp=Z,4.7nm,0.6s						
NRIK	**Noril'sk**	**72.11**	**346**	P	**P**	**15 09 26.2**	**+0.3**
NRIK	**Noril'sk**	**72.11**	**346**	P	**P**	**15 09 26.3**	**+0.3**
NRIK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GEYT	**Alibeck**	**72.32**	**309**	P	**P**	**15 09 28.9**	**+1.0**
	comp=Z,5.7nm,0.7s,baz=134,slow=4.3,SNR=13						
GEYT				LR	LR	15 45 50.2	
	comp=Z,18nm,18.3s,baz=72,slow=40						
	comp=Z,5.7nm,0.7s						
ABKAR	**Akbulak array**	**73.73**	**321**	P	**P**	**15 09 36.2**	**+0.3**
ABKAR	**Akbulak array**	**73.73**	**321**	P	**P**	**15 09 36.2**	**+0.3**
AKTO	**Aktyubinsk**	**75.25**	**322**	LR	LR	15 45 24.9	
	comp=Z,32nm,21.4s,baz=61,slow=38						
SVE	**Sverdlovsk**	**75.61**	**329**	*e*P	**P**	**15 09 46.2**	**-0.4**
GAMB	**Gambell**	**75.64**	**24**	P	**P**	**15 09 47.8**	**+1.1**
	baz=244						
ARU	**Arti**	**76.58**	**328**	*d i*P	**P**	**15 09 50.5**	**-1.6**
ARU				*PP	**pP**	**15 10 09.7**	**-1.0**
ARU				S	**S**	**15 19 31.3**	**-1.3**
ARU				pmax	pmax		
	comp=Z,42nm,3.7s						
O16K	**Kokwok River B**	**80.43**	**30**	P	**P**	**15 10 14.8**	**+1.5**
	baz=258						
AKT	**Akhty**	**80.76**	**312**	*e*P	**P**	**15 10 13.6**	**-2.0**
AKT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAYN	**Ar Rayn**	**81.61**	**293**	P	**P**	**15 10 20.8**	**+0.4**
RAYN				IAmb	IAmb	15 10 22.9	
	comp=Z,14nm,0.9s						
RAYN	**Ar Rayn**	**81.61**	**293**	P	**P**	**15 10 20.8**	**+0.4**
RAYN				pmax	pmax		
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**81.77**	**173**	P	**P**	**15 10 19.7**	**-0.3**
	comp=Z,3.7nm,1.0s,baz=333,slow=5.8,SNR=5.2						
	comp=Z,3.7nm,1.0s						
VNDA	**Vanda**	**81.77**	**173**	P	**P**	**15 10 20.6**	**+0.6**
VNDA	**Vanda**	**81.77**	**173**	P	**P**	**15 10 20.6**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,79nm,2.0s						
BELG	**Belogornoye**	**82.01**	**323**	*i* P	**P**	**15 10 19.0**	**-2.7**
BELG				pmax	pmax		
	comp=Z,15nm,3.8s						
TTA	**Tatalina**	**82.09**	**27**	P	**P**	**15 10 23.5**	**+1.4**
	baz=259						
L19K	**White Mountain**	**82.48**	**28**	P	**P**	**15 10 26.0**	**+1.9**
	baz=260						
KDAK	**Kodiak Island**	**82.96**	**32**	LR	LR	15 50 06.2	
	comp=Z,31nm,18.2s,baz=95,slow=38						
L20K	**Farewell, AK**	**82.98**	**27**	P	**P**	**15 10 28.3**	**+1.6**
	baz=261						
K20K	**Telida**	**83.03**	**26**	P	**P**	**15 10 28.7**	**+1.8**
	baz=261						
M20K	**Styx River**	**83.24**	**28**	P	**P**	**15 10 29.6**	**+1.5**
M20K				IAmb	IAmb	15 11 44.5	
	comp=Z,34nm,1.6s						
M20K	**Styx River**	**83.24**	**28**	P	**P**	**15 10 29.8**	**+1.7**
	baz=262						
A21K	**Barrow**	**83.57**	**18**	P	**P**	**15 10 31.2**	**+1.7**
	baz=257						
IMAR	**Indian Mountai**	**83.59**	**24**	P	**P**	**15 10 30.5**	**+0.8**
ZEI	**Tsey**	**83.70**	**313**	*e*P	**P**	**15 10 33.5**	**+2.5**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
G21K	**Allakaket**	**83.77**	**23**	P	**P**	**15 10 32.0**	**+1.4**
	baz=261						
PPLA	**Purkeypile**	**83.81**	**27**	P	**P**	**15 10 31.9**	**+0.8**
F21K	**Alatna River**	**83.89**	**23**	P	**P**	**15 10 32.7**	**+1.4**
	baz=261						
H21K	**Melozitna Rive**	**83.92**	**24**	P	**P**	**15 10 32.2**	**+0.8**
H21K	**Melozitna Rive**	**83.92**	**24**	P	**P**	**15 10 32.9**	**+1.4**
	baz=262						
CAST	**Castle Rocks**	**83.92**	**27**	P	**P**	**15 10 32.7**	**+1.2**
	baz=262						
SKT	**Skwentna**	**84.00**	**28**	P	**P**	**15 10 32.2**	**+0.3**
SKT				IAmb	IAmb	15 12 55.9	
	comp=Z,36nm,1.6s						
SKT	**Skwentna**	**84.00**	**28**	P	**P**	**15 10 32.3**	**+0.4**
	baz=263						
SUA	**Susitna One**	**84.31**	**29**	P	**P**	**15 10 34.2**	**+0.5**
SUA				IAmb	IAmb	15 10 34.8	
	comp=Z,13nm,0.9s						
SUA	**Susitna One**	**84.31**	**29**	P	**P**	**15 10 34.0**	**+0.4**
	baz=264						
KIV	**Kislovodsk**	**84.63**	**314**	*e*P	**P**	**15 10 32.3**	**-3.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
E22K	**Anaktuvuk Pass**	**84.66**	**22**	P	**P**	**15 10 37.2**	**+2.0**
	baz=262						
MLY	**Manley**	**84.70**	**25**	P	**P**	**15 10 36.9**	**+1.5**
	baz=264						
RC01	**Rabbit Creek A**	**84.76**	**29**	P	**P**	**15 10 36.3**	**+0.6**
	baz=265						
PMR	**Palmer**	**85.10**	**28**	P	**P**	**15 10 38.1**	**+0.7**
	baz=265						
COLD	**Coldfoot**	**85.16**	**23**	P	**P**	**15 10 39.0**	**+1.3**
	baz=264						
D23K	**Nanushuk River**	**85.17**	**21**	P	**P**	**15 10 39.9**	**+2.2**
	baz=263						
G23K	**Bananza Creek**	**85.18**	**23**	P	**P**	**15 10 39.1**	**+1.3**
	baz=264						
I23K	**Minto, Yukon-K**	**85.30**	**25**	P	**P**	**15 10 39.4**	**+1.1**
	baz=265						
SML	**Sawmill**	**85.49**	**28**	P	**P**	**15 10 40.4**	**+1.0**
	baz=266						
VRH	**Novokhopyorsk**	**85.56**	**321**	*e*P	**P**	**15 10 38.8**	**-1.1**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
C24K	**Franklin Bluff**	**85.95**	**20**	P	**P**	**15 10 42.9**	**+1.4**
	baz=265						
F24K	**Squaw Lake**	**86.08**	**23**	P	**P**	**15 10 43.5**	**+1.3**
	baz=266						
G24K	**Hadweenzic Riv**	**86.19**	**23**	P	**P**	**15 10 44.0**	**+1.2**
	baz=266						
ILAR	**Eielson Array**	**86.32**	**25**	P	**P**	**15 10 42.8**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=225,slow=5.0,SNR=6.5						
ILAR				LR	LR	15 46 53.9	
	comp=Z,37nm,21.5s,baz=147,slow=34						
	comp=Z,1.0nm,1.0s						
E25K	**Arctic Village**	**86.99**	**22**	P	**P**	**15 10 48.0**	**+1.3**
	baz=268						
KLMR	**Klimovskoe**	**87.06**	**331**	*e*P	**P**	**15 10 43.6**	**-3.5**
KLMR				AMP		15 10 50.7	
	comp=Z,51nm,2.5s						
KLMR	**Klimovskoe**	**87.06**	**331**	*e*P	**P**	**15 10 43.5**	**-3.5**
KLMR				pmax	pmax		
	comp=Z,51nm,2.5s						
VORR	**Voronezh**	**87.15**	**321**	P	**P**	**15 10 47.0**	**-0.7**
VORR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
VSR	**Storozhevoye**	**87.17**	**321**	*e*P	**P**	**15 10 47.0**	**-0.8**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPSR	**Galich'ya Gora**	**87.32**	**322**	*e*P	**P**	**15 10 48.1**	**-0.4**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BMAR	**Burnt Mountain**	**87.35**	**23**	P	**P**	**15 10 49.6**	**+1.2**
C27K	**Jago River**	**87.69**	**21**	P	**P**	**15 10 50.4**	**+0.5**
	baz=270						
J26L	**Joseph Creek**	**87.74**	**26**	P	**P**	**15 10 50.7**	**+0.2**
J26L				IAmb	IAmb	15 13 26.6	
	comp=Z,29nm,1.9s						
BCAR	**Beaver Creek A**	**88.56**	**27**	P	**P**	**15 10 55.0**	**+0.7**
OBN	**Obninsk**	**88.68**	**325**	*e*P	**P**	**15 10 54.7**	**-0.2**
OBN				*PP	**pwP**	**15 11 15.0**	**-2.0**
OBN				*e*		15 22 39.8	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DAWY	**Dawson**	**89.58**	**26**	P	**P**	**15 10 59.6**	**+0.5**
	baz=274						
BRTR	**Keskin Array B**	**91.46**	**310**	P	**P**	**15 11 09.5**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=134,slow=8.8,SNR=3.6						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**92.03**	**180**	P	**P**	**15 11 11.3**	**+0.8**
QSPA				IAmb	IAmb	15 12 30.8	
	comp=Z,13nm,1.7s						
FINES	**FINESS Array B**	**93.50**	**332**	P	**P**	**15 11 16.8**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=34,slow=7.1,SNR=4.8						
	comp=Z,1.8nm,0.9s						
YKA	**Yellowknife Ar**	**100.73**	**25**	P	**Pdif**	**15 11 49.9**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=294,slow=4.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**123.92**	**287**	PKP	**PKPdf**	**15 17 00.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=67,slow=1.8,SNR=3.3						

NEIC ***27*** *15:19:18.1±0.4, 19°.8N±0°.1×64°.2W±0°.1, h39km±57km, ML2.9/11, Md3.8/14(RSPR), Error ellipse: s-maj=18.5km s-min=17.3km az=164.0*

RSPR 27 15:19:19.2, h9.2N×64°.2W, h61km±25km, MD3.7/3, 2C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.82**	**215**	*e*P		Pn		15 19 47.1	-1.1
CUPR	**Culebra, Puert**	**1.82**	**215**	*e*S		Sn		15 20 09.1	-1.1
CUPR	**Culebra, Puert**	**1.82**	**215**			Pn		15 19 47.1	-1.1
CUPR						Sn		15 20 09.1	-1.1
CDVI	**St. Croix**	**2.13**	**195**	*e*P		Pn		15 19 50.9	-1.4
CDVI	**St. Croix**	**2.13**	**195**	*e*S		Sn		15 20 17.6	-0.1
CDVI	**St. Croix**	**2.13**	**195**			Pn		15 19 50.9	-1.4
CDVI						Sn		15 20 17.6	-0.1
CDVI	**St. Croix**	**2.13**	**195**	IAML				15 20 17.9	
	comp=E,124nm,0.6s								
MTP	**Monte Pirata**	**2.14**	**217**	*e*P		Pn		15 19 51.8	-0.7
MTP	**Monte Pirata**	**2.14**	**217**	*e*S		Sn		15 20 17.6	-0.5
MTP	**Monte Pirata**	**2.14**	**217**			Pn		15 19 51.8	-0.7
MTP						Sn		15 20 17.6	-0.5
MTP	**Monte Pirata**	**2.14**	**217**	IAML				15 20 22.7	
	comp=E,43nm,0.3s								
MTP				IAML				15 20 24.0	
	comp=N,41nm,0.2s								
CBYP	**Canovanas**	**2.20**	**226**	*e*P		Pn		15 19 52.7	-0.7
CBYP	**Canovanas**	**2.20**	**226**	*e*S		Sn		15 20 19.2	-0.4
CBYP	**Canovanas**	**2.20**	**226**			Pn		15 19 52.7	-0.7
CBYP						Sn		15 20 19.2	-0.4
CBYP	**Canovanas**	**2.20**	**226**	IAML				15 20 21.8	
	comp=E,103nm,0.2s								
HUMP	**Col San Antoni**	**2.29**	**223**	*e*P		Pn		15 19 54.6	0.0
HUMP	**Col San Antoni**	**2.29**	**223**	*e*S		Sn		15 20 20.9	-0.8
HUMP	**Col San Antoni**	**2.29**	**223**			Pn		15 19 54.6	0.0
HUMP						Sn		15 20 20.9	-0.8
HUMP	**Col San Antoni**	**2.29**	**223**	IAML				15 20 24.0	
	comp=N,31nm,0.2s								
IGPR	**InterUniversit**	**2.58**	**225**	*e*P		Pn		15 19 58.4	-0.2
IGPR	**InterUniversit**	**2.58**	**225**	*e*S		Sn		15 20 27.7	-1.2
AOPR	**Arecibo Observ**	**2.83**	**239**	*e*P		Pn		15 20 01.2	-0.7
AOPR	**Arecibo Observ**	**2.83**	**239**	*e*S		Sn		15 20 34.5	-0.4
AOPR	**Arecibo Observ**	**2.83**	**239**			Pn		15 20 01.2	-0.7
AOPR						Sn		15 20 34.5	-0.4
AOPR	**Arecibo Observ**	**2.83**	**239**	IAML				15 20 42.7	
	comp=N,33nm,0.4s								
AOPR				IAML				15 20 47.1	
	comp=E,59nm,0.3s								

ZUR 27 15:59:25.4, 46°.26N×7°.40E, h7km±2km, MLh0.5/3, 3C-2D, Error ellipse: s-maj=3.9km s-min=0.9km az=139.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIOV	**Sion-Valere**	**0.04**	**227**	⇑Pg		Pg	Pg	15 59 27.1	+0.2
STSW2	**Zeuzier, Staus**	**0.09**	**14**	Pg		Pg	Pg	15 59 28.0	+0.3
STSW2	**Zeuzier, Staus**	**0.09**	**14**	Pg		Pg	Pg	15 59 28.0	+0.3
SENIN	**Lac Senin/Sane**	**0.13**	**326**	⇓Pg		Pg	Pg	15 59 28.5	+0.2
SENIN				Sg		Sg	Sg	15 59 30.5	+0.2
SENIN	**Lac Senin/Sane**	**0.13**	**326**	⇓Pg		Pg	Pg	15 59 28.5	+0.2
SENIN				Sg		Sg	Sg	15 59 30.5	+0.2
DIX	**Grande Dixence**	**0.18**	**179**	Pg		Pg	Pg	15 59 29.6	+0.5
DIX				Sg		Sg	Sg	15 59 32.1	+0.4
DIX	**Grande Dixence**	**0.18**	**179**	Pg		Pg	Pg	15 59 29.6	+0.5
DIX				Sg		Sg	Sg	15 59 32.1	+0.4
GRYON	**Gryon**	**0.20**	**268**	⇑Pg		Pg	Pg	15 59 29.7	+0.2
GRYON				Sg		Sg	Sg	15 59 32.6	+0.3
GRYON	**Gryon**	**0.20**	**268**	⇑Pg		Pg	Pg	15 59 29.7	+0.2
GRYON				Sg		Sg	Sg	15 59 32.6	+0.3

IDC 27 16:05:07.3±13.0, 20°.00S×176°.20W, h579km±84km, mb2.5/3, mbtmp3.5/4, Error ellipse: s-maj=301.4km s-min=33.0km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.89**	**292**	P		P	P	16 06 46.5	-0.1
	9.7nm,0.7s,baz=139,slow=11,SNR=8.9								
ASAR	**Alice Springs**	**46.28**	**256**	P		P	P	16 12 42.6	+0.5
	0.9nm,1.1s,baz=89,slow=8.4,SNR=8.2								
	0.9nm,1.1s								
WRA	**Warramunga Arr**	**46.35**	**261**	P		P	P	16 12 41.7	-0.9
	0.2nm,0.4s,baz=98,slow=6.9,SNR=5.9								
	0.2nm,0.4s								
ILAR	**Eielson Array**	**87.46**	**12**	P		P	P	16 16 53.4	-0.1
	0.1nm,0.4s,baz=219,slow=4.7,SNR=5.6								
	0.1nm,0.4s								

IDC ***27*** *16:11:47.2±0.6, 56°.77S×150°.58W, h0km, mb4.5/7, mbtmp4.5/7, MS3.7/4, Error ellipse: s-maj=36.1km s-min=17.3km az=9.0*

NEIC ***27*** *16:11:49.0±1.3, 56°.7S±0°.2×150°.6W±0°.2, h10km±1km, mb4.8/19, Error ellipse: s-maj=32.6km s-min=17.5km az=357.0*

ISC 27 16:11:48.5±0.5, 56°.7S±0°.2×150°.58W±0°.10, h10km, n59, σ0°79/44, mb4.8/15, MS3.6/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**26.50**	**201**	LR		LR	LR	16 24 41.9	
	comp=Z,173nm,21.1s,baz=98,slow=29								
RPZ	**Rata Peaks**	**27.37**	**282**	LR		LR	LR	16 26 42.1	
	comp=Z,110nm,18.4s,baz=98,slow=33								
LBZ	**Lake Benmore**	**27.40**	**280**	P		P	**P**	**16 17 33.4**	**-0.5**
LBZ				IAmb		IAmb	IAmb	16 17 47.0	
	comp=Z,35nm,1.4s								
URZ	**Urewera**	**28.18**	**297**	LR		LR	LR	16 26 52.6	
	comp=Z,151nm,18.4s,baz=208,slow=32								
QSPA	**South Pole Qui**	**33.47**	**180**	P		P	**P**	**16 18 26.8**	**-0.7**
	comp=Z,6.9nm,1.0s,baz=66,slow=5.4,SNR=11								
	comp=Z,6.9nm,1.0s								
QSPA	**South Pole Qui**	**33.47**	**180**	P		P	**P**	**16 18 27.5**	**0.0**
QSPA				IAmb		IAmb	IAmb	16 18 30.8	
	comp=Z,8.5nm,1.0s								
CASY	**Casey**	**43.27**	**216**	P		P	**P**	**16 19 50.2**	**+0.6**
EIDS	**Eidsvold**	**51.87**	**282**	P		P	**P**	**16 20 56.8**	**-0.1**
EIDS				IAmb		IAmb	IAmb	16 21 01.9	
	comp=Z,22nm,1.4s								
STKA	**Stephens Creek**	**52.02**	**268**	P		P	**P**	**16 20 59.5**	**+1.6**
	comp=Z,3.3nm,0.7s,baz=136,slow=7.7,SNR=8.2								
STKA				LR		LR	LR	16 40 49.6	
	comp=Z,58nm,18.7s,baz=204,slow=34								
	comp=Z,3.3nm,0.7s								
STKA	**Stephens Creek**	**52.02**	**268**	P		P	**P**	**16 20 57.7**	**-0.2**
PLCA	**Paso Flores**	**52.07**	**108**	P		P	**P**	**16 20 58.2**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=244,slow=5.7,SNR=8.4								
	comp=Z,6.2nm,0.9s								
PLCA	**Paso Flores**	**52.07**	**108**	P		P	**P**	**16 20 59.0**	**+0.7**
PLCA				IAmb		IAmb	IAmb	16 21 00.8	
	comp=Z,15nm,1.1s								
H03S2	**Juan Fernandez**	**52.64**	**96**	T		T	T	17 17 60.0	
	baz=219,slow=74,SNR=9.9								
H03S1	**Juan Fernandez**	**52.65**	**96**	T		T	T	17 18 01.3	
	baz=219,slow=74,SNR=13								
H03S3	**Juan Fernandez**	**52.66**	**96**	T		T	T	17 18 00.4	
	baz=219,slow=74,SNR=9.7								
H03N3	**Juan Fernandez**	**52.93**	**96**	T		T	T	17 18 17.8	
	baz=222,slow=72,SNR=43								
H03N2	**Juan Fernandez**	**52.94**	**96**	T		T	T	17 18 12.3	
	baz=222,slow=72,SNR=45								
H03N1	**Juan Fernandez**	**52.95**	**96**	T		T	T	17 18 18.6	
	baz=222,slow=72,SNR=49								
MT02	**Curacav**	**57.32**	**102**	P		P	**P**	**16 21 38.4**	**+2.1**
CO02	**Combarbal**	**58.97**	**100**	P		P	**P**	**16 21 45.7**	**-2.4**
CO02				IAmb		IAmb	IAmb	16 21 49.9	
	comp=Z,14nm,0.9s								
CO03	**El Pedregal**	**59.42**	**100**	P		P	**P**	**16 21 51.4**	**+0.2**
AC05	**El Transito**	**61.20**	**99**	P		P	**P**	**16 22 03.4**	**0.0**
AC05				IAmb		IAmb	IAmb	16 22 05.0	
	comp=Z,10nm,0.8s								
AS31	**Alice Springs**	**62.65**	**268**	P		P	**P**	**16 22 12.4**	**-0.7**
ASAR	**Alice Springs**	**62.65**	**268**	P		P	**P**	**16 22 13.1**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=140,slow=6.5,SNR=27								
	comp=Z,3.3nm,0.8s								
ASAR	**Alice Springs**	**62.65**	**268**	P		P	**P**	**16 22 12.0**	**-1.1**
AC02	**Maricunga**	**63.40**	**99**	P		P	**P**	**16 22 18.9**	**+0.3**
AC02				IAmb		IAmb	IAmb	16 22 20.4	
	comp=Z,7.1nm,0.8s								
H01W1	**Cape Leeuwin H**	**64.33**	**245**	T		T	T	17 32 28.0	
	baz=142,slow=75,SNR=6.3								
H01W2	**Cape Leeuwin H**	**64.34**	**245**	T		T	T	17 32 32.6	
	baz=142,slow=75,SNR=7.9								
H01W3	**Cape Leeuwin H**	**64.35**	**245**	T		T	T	17 32 32.7	
	baz=142,slow=75,SNR=6.6								
WRA	**Warramunga Arr**	**65.39**	**271**	P		P	**P**	**16 22 30.6**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=147,slow=5.4,SNR=7.3								
	comp=Z,1.8nm,1.0s								
LVC	**Limon Verde**	**66.88**	**96**	P		P	**P**	**16 22 41.5**	**+0.5**
PB07	**IPOC Station P**	**67.05**	**95**	P		P	**P**	**16 22 42.0**	**0.0**
PB11	**IPOC Station P**	**68.76**	**94**	P		P	**P**	**16 22 51.4**	**-1.3**
GO01	**Chusmiza**	**69.09**	**94**	P		P	**P**	**16 22 53.7**	**-1.5**
GO01				IAmb		IAmb	IAmb	16 23 02.9	
	comp=Z,4.4nm,0.9s								
CPUP	**Villa Florida**	**70.14**	**108**	P		P	**P**	**16 23 01.0**	**+0.1**
	comp=Z,7.3nm,0.9s,baz=237,slow=4.4,SNR=13								
	comp=Z,7.3nm,0.9s								
LPAZ	**La Paz**	**72.42**	**93**	P		P	**P**	**16 23 16.4**	**+0.8**
	comp=Z,6.7nm,0.9s,baz=188,slow=3.9,SNR=16								
	comp=Z,6.7nm,0.9s								
LPAZ	**La Paz**	**72.42**	**93**	P		P	**P**	**16 23 16.0**	**+0.4**
LPAZ				IAmb		IAmb	IAmb	16 23 18.4	
	comp=Z,11nm,1.0s								
MCRA	**Macar, Loja**	**75.77**	**76**	P		P	**P**	**16 23 34.7**	**+0.2**
MCRA				IAmb		IAmb	IAmb	16 23 36.7	
	comp=Z,8.4nm,0.9s								
ETMB	**Extrema**	**78.77**	**91**	P		P	**P**	**16 23 50.4**	**-0.9**
ETMB				IAmb		IAmb	IAmb	16 23 53.1	
	comp=Z,7.9nm,1.1s								
H10N3	**ASCENSION HYDR**	**106.31**	**134**	T		T	T	18 25 28.4	
	baz=203,slow=75								
H10N1	**ASCENSION HYDR**	**106.32**	**134**	T		T	T	18 25 40.5	
	baz=203,slow=75								
H10N2	**ASCENSION HYDR**	**106.33**	**134**	T		T	T	18 25 36.1	
	baz=203,slow=75								
ILAR	**Eielson Array**	**121.15**	**2**	PKP		**PKiKP**		**16 30 40.1**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=238,slow=2.2,SNR=25								
ILAR	**Eielson Array**	**121.15**	**2**			**PKiKP**		**16 30 40.9**	**+0.9**
YKA	**Yellowknife Ar**	**122.08**	**19**	PKP		**PKPdf**		**16 30 41.4**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=197,slow=2.2,SNR=8.6								
TORD	**Torodi Ar. Bea**	**131.64**	**143**	PKP		**PKPdf**		**16 31 00.6**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=196,slow=3.2,SNR=3.6								
RAYN	**Ar Rayn**	**144.86**	**206**			**PKPab**		**16 31 24.5**	**0.0**
KBL	**Kabul**	**145.25**	**247**			**PKPab**		**16 31 25.8**	**0.0**
MK31	**Makanchi Array**	**146.60**	**276**			**PKPbc**		**16 31 29.2**	**0.0**
MKAR	**Makanchi Array**	**146.60**	**276**	PKPbc		**PKPbc**		**16 31 29.4**	**+0.2**
	comp=Z,12nm,0.8s,baz=119,slow=4.3,SNR=86								
MAKZ	**Makanchi**	**146.78**	**276**			**PKPdf**		**16 31 28.8**	**+0.8**
AAK	**Ala-Archa**	**148.26**	**263**			**PKPbc**		**16 31 34.4**	**+0.2**
ZAA0	**Zalesovo Array**	**149.08**	**289**			**PKPbc**		**16 31 35.4**	**-0.2**
ZALV	**Zalesovo Beam**	**149.08**	**289**	PKPbc		**PKPbc**		**16 31 35.2**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=114,slow=3.9,SNR=22								
KKAR	**Karatay Array**	**150.75**	**260**			**PKPbc**		**16 31 40.1**	**+0.1**
KURK	**Kurchatov**	**150.81**	**279**			**PKPbc**		**16 31 39.0**	**-0.9**
NRIK	**Noril'sk**	**152.01**	**320**	PKPbc		**PKiKP**		**16 31 42.6**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=104,slow=3.3,SNR=6.6								
ESDC	**Sonseca Array**	**152.37**	**114**	PKPbc		**PKiKP**		**16 31 44.3**	**+0.1**
	comp=Z,3.1nm,1.2s,baz=250,slow=3.7,SNR=6.8								
GEYT	**Alibeck**	**153.29**	**238**	PKPbc		**PKPbc**		**16 31 46.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=264,slow=3.9,SNR=2.9								

IDC ***27*** *16:12:06.7±14.0, 22°.46S×177°.33W, h329km±98km, mb3.5/4, mbtmp4.2/5, Error ellipse: s-maj=193.8km s-min=23.0km az=140.0*

ISC 27 16:12:03.3±1.5, 22°.7S±0°.2×177°.1W±0°.2, h300km, n8, σ1§85/9, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.71**	**317**	P		P	**Pn**	**16 13 41.9**	**+0.5**
	11nm,0.8s,baz=259,slow=23,SNR=12								
CTA	**Charters Tower**	**34.16**	**267**	P		P	**P**	**16 18 20.6**	**-0.4**
	7.9nm,0.6s,baz=95,slow=10,SNR=15								
	7.9nm,0.6s								
ASAR	**Alice Springs**	**44.86**	**259**	P		P	**P**	**16 19 48.9**	**+0.1**
	3.4nm,0.7s,baz=91,slow=8.1,SNR=50								
ASAR				PcP		**sP**		**16 21 24.5**	**+1.0**
	0.3nm,0.6s,baz=109,slow=4.0,SNR=2.7								
	3.4nm,0.7s								
WRA	**Warramunga Arr**

ANKE eSN4 16 30 23.8
LODK Lodwar 5.36 217 Pn **Pn** **16 30 42.7 +0.2**
LODK Lodwar 5.36 217 eP **Pn** **16 30 46.5 +3.9**
LODK eS **Sn** **16 31 49.3 +4.7**
LODK IAML 16 32 24.8
comp=N,169nm,0.6s
LODK Lodwar 5.36 217 eP **Pn** **16 30 43.7 +1.1**
LODK eSN4 16 31 44.0
LODK Lodwar 5.36 217 P **Pn** **16 30 39.0 -3.5**
SNR=76
ATD Arta Tunnel 5.64 48 Pn **Pn** **16 30 46.1 -0.3**
comp=N,5.9nm,0.3s,baz=226,slow=16,SNR=15
ATD Pg **Pb** **16 31 02.5 +1.6**
comp=N,49nm,0.3s,baz=218,slow=9.5,SNR=25
ATD Lg Lg 16 32 16.7
comp=N,122nm,0.3s,baz=191,slow=22,SNR=12
comp=N,38nm,0.5s
ATD Arta Tunnel 5.64 48 eP **Pn** **16 30 46.4 0.0**
ATD eS **Sn** **16 31 44.6 -7.0**
ATD Arta Tunnel 5.64 48 ePN5 16 30 45.5
ATD eSN5 16 31 46.8
ATD Arta Tunnel 5.64 48 P **Pn** **16 30 50.4 +4.0**
SNR=118
ATD S **Sn** **16 31 58.6 +7.0**
I19DJ I19DJ 5.84 50 I I 17 07 10.0
comp=N,0.1nm,0.6s,baz=231,slow=311,SNR=1.4
KSLA Kassala 7.92 345 *i* P **Pn** **16 31 18.7 +0.9**
KSLA *i* S **Sg** **16 33 30.2 -6.2**
KSLA Kassala 7.92 345 *i* P **Pn** **16 31 18.7 +0.9**
KSLA *i* S **Sg** **16 33 30.2 -6.2**
KMBO Kilima Mbogo 8.89 189 Pn **Pn** **16 31 28.4 -2.8**
baz=0.0,slow=20,SNR=1.9
KMBO Lg Lg 16 33 51.7
comp=N,0.6nm,0.3s,baz=87,slow=24,SNR=14
KMBO Kilima Mbogo 8.89 189 Pn **Pn** **16 31 30.4 -0.9**
KMBO Kilima Mbogo 8.89 189 eP **Pn** **16 31 30.0 -1.3**
KMBO Kilima Mbogo 8.89 189 *i* P **Pn** **16 31 31.4 +0.1**
KMBO Kilima Mbogo 8.89 189 eP Pn 16 31 17.5 -14
KMBO eSN4 16 32 46.3
KMBO Kilima Mbogo 8.89 189 S **Sn** **16 33 17.6 +5.6**
JAWL J.Aulia 9.57 322 *i* P Pn 16 31 51.6 +11
JAWL *i* 16 31 52.7
baz=336,slow=22
JAWL *i* S Sn 16 34 23.6 +55
JAWL AMP 16 34 27.7
comp=Z,6μm,1.0s
JAWL J.Aulia 9.57 322 *i* P Pn 16 31 51.6 +11
JAWL *i* 16 31 52.7
baz=336,slow=22
JAWL *i* S Sn 16 34 23.6 +55
JAWL AMP 16 34 27.7
comp=Z,6μm,1.0s
KIBK Kibwezi 10.01 183 Pn **Pn** **16 31 45.6 -0.9**
KIBK Kibwezi 10.01 183 P **Pn** **16 31 49.2 +2.7**
SNR=8.4
MBAR Mbarara 11.40 224 Pn **Pn** **16 32 05.3 -0.3**
comp=Z,1.3nm,0.3s,baz=32,slow=10,SNR=14
MBAR Sn **Sn** **16 34 12.5 -1.0**
comp=Z,1.2nm,0.3s,baz=141,slow=23,SNR=4.1
MBAR Lg Lg 16 35 14.5
comp=Z,2.9nm,0.3s,baz=300,slow=18,SNR=7.1
MBAR LR LR 16 36 27.8
comp=Z,3μm,21.4s,baz=31,slow=37
comp=Z,5.5nm,0.5s
MBAR Mbarara 11.40 224 Pn **Pn** **16 32 05.5 -0.1**
MBAR Mbarara 11.40 224 *i* P **Pn** **16 32 07.5 +1.9**
MBAR Mbarara 11.40 224 eP **Pn** **16 32 06.6 +1.0**
MBAR eS **Sn** **16 34 06.5 -7.0**
MBAR IAML 16 35 46.4
comp=Z,31nm,0.6s
MBAR Mbarara 11.40 224 eP **Pn** **16 32 03.3 -2.3**
MBAR eSN4 16 34 08.6
RAYN Ar Rayn 17.05 22 **Pn** **16 33 21.2 +0.1**
RAYN Ar Rayn 17.05 22 P **Pn** **16 33 21.2 +0.1**
RAYN pmax pmax
comp=Z,114nm,1.8s
RAYN Ar Rayn 17.05 22 P **P** **16 33 24.8 +1.8**
ABTO Aybut 17.23 55 P **P** **16 33 27.2 +2.2**
SNR=9.1
WHFO Wadi Hawf 17.91 54 P **P** **16 33 34.2 +1.7**
RBK Rabkut 18.05 56 P **P** **16 33 36.3 +2.3**
SNR=5.7
DOK Doka 18.57 53 P **Pn** **16 33 42.2 +2.2**
DOK S **S** **16 37 13.4 +1.2**
DMTO DMTO 18.76 56 P **Pn** **16 33 45.5 +3.2**
DMTO S **S** **16 37 18.6 +2.6**
MSEY Mahe Island 20.86 126 P **P** **16 34 02.6 -2.2**
MSEY IAmb IAmb 16 34 13.8
comp=Z,104nm,1.1s
MSEY Mahe Island 20.86 126 P **P** **16 34 02.6 -2.2**
MSEY pmax pmax
comp=Z,104nm,1.1s
MSEY Mahe Island 20.86 126 P Pn 16 34 06.3 -1.0
MSEY Mahe Island 20.86 126 P **P** **16 34 03.4 -1.5**
MSEY P **P** **16 34 03.4 -1.5**
MSEY S Sn 16 38 04.4 +1.2
MSEY S Sn 16 38 04.4 +1.2
MZR Muzera 20.86 42 *i* P **P** **16 34 05.6 +0.8**
SNR=21
MZR Muzera 20.86 42 P **P** **16 34 05.8 +1.0**
SNR=16
MZR S **S** **16 38 00.5 +2.5**
SHMA Al-Shehemyia 21.54 32 P **P** **16 34 13.2 +1.2**
SHMA S Sn 16 38 18.7 -0.7
MZWR Madinat Zayed 21.65 41 P **P** **16 34 13.8 +0.5**
MZWR S Sn 16 38 18.6 -3.6
UMZA Um Al Zommool 21.81 45 P **P** **16 34 13.4 -1.6**
UMZA S Sn 16 38 22.4 -3.6
DQM DQM 22.00 55 P **P** **16 34 16.9 -0.1**
DQM S Sn 16 38 25.8 -4.7
EIL Elat 22.10 352 P **P** **16 34 17.4 -0.6**
comp=Z,3.7nm,0.9s,baz=113,slow=7.7,SNR=1.4
comp=Z,3.7nm,0.9s
MHTO MHTO 22.89 53 P **P** **16 34 27.2 +0.7**
SNR=8.2
MHTO S **S** **16 38 42.9 +6.0**
AJN Ajban 22.93 41 P **P** **16 34 27.6 +0.7**
SNR=5.1
AJN S **S** **16 38 40.5 +2.9**
ALNE Al Ain 23.10 43 *i* P **P** **16 34 29.4 +0.7**
SNR=9.7
ALNE Al Ain 23.10 43 P **P** **16 34 28.1 -0.7**
SNR=21
ALNE S **S** **16 38 45.8 +5.2**
ARQ Araqi 23.17 46 P **P** **16 34 29.0 -0.5**
SNR=14
ARQ S **S** **16 38 47.1 +5.3**
ASUD Al Ashush, Dub 23.20 42 P **P** **16 34 32.1 +2.4**
BSY Bisya 23.30 48 P **P** **16 34 29.7 -1.1**
SNR=13
BSY S **S** **16 38 48.7 +4.8**
FAQ Al Faqa, Dubai 23.46 42 *i* P **P** **16 34 32.5 +0.2**
SNR=13
FAQ Al Faqa, Dubai 23.46 42 P **P** **16 34 33.8 +1.4**
SNR=8.4
FAQ S **S** **16 38 51.4 +5.0**
NAZ Nazwa, Dubai 23.67 42 P **P** **16 34 34.8 +0.4**
SNR=7.8
NAZ S **S** **16 38 55.1 +5.3**
SOHO SOHO 23.69 44 *i* P **P** **16 34 36.1 +1.6**
SNR=17
SOHO SOHO 23.69 44 P **P** **16 34 33.8 -0.8**
SOHO S **S** **16 38 56.4 +6.2**
ASHO Ashiyiah 23.73 43 *i* P **P** **16 34 36.7 +1.7**
SNR=16
ASHO Ashiyiah 23.73 43 P **P** **16 34 34.7 -0.3**
SNR=13
ASHO S **S** **16 38 56.3 +5.5**
JMDO Jabal Madar 23.76 50 P **P** **16 34 35.6 +0.3**
SNR=9.3
JMDO S **S** **16 38 54.6 +3.3**
SBV Sambava 23.85 152 P **P** **16 34 39.1 +2.9**
SBV Sambava 23.85 152 P **P** **16 34 35.4 -0.8**
SNR=16
HATD Hatta, Dubai 23.87 43 *i* P **P** **16 34 38.2 +1.9**
SNR=12
HATD Hatta, Dubai 23.87 43 P **P** **16 34 36.6 +0.3**
SNR=9.0
HATD S **S** **16 38 59.1 +6.0**
HOQ Hoqain 23.89 47 P **P** **16 34 35.3 -1.3**
SNR=16
HOQ S **S** **16 38 56.3 +2.9**
UOSS Minazif 24.00 42 P **P** **16 34 36.6 -1.0**
UOSS IAmb IAmb 16 34 45.0
comp=Z,99nm,1.2s
UOSS Minazif 24.00 42 *i* P **P** **16 34 39.1 +1.5**
SNR=8.2
UOSS Minazif 24.00 42 P **P** **16 34 37.7 +0.1**
UOSS S **S** **16 39 01.8 +6.7**
SMDO Samad 24.11 49 P **P** **16 34 39.5 +0.7**
SNR=30
SMDO P **P** **16 34 39.5 +0.7**
SNR=30
SMDO S **S** **16 39 03.6 +6.4**
SMDO S **S** **16 39 03.6 +6.4**
MSFE Esma-Masafi 24.25 42 *i* P **P** **16 34 42.7 +2.7**
SNR=9.1
MASF Masafi 24.26 42 P **P** **16 34 40.7 +0.6**
SNR=7.3
MASF S **S** **16 39 05.4 +6.1**
MDH Madha 24.30 42 *i* P **P** **16 34 42.0 +1.6**
SNR=12
MDH Madha 24.30 42 P **P** **16 34 40.5 +0.1**
SNR=6.5
MDH S **S** **16 39 05.5 +5.6**
ASF Jabal al Asfar 24.38 356 P **P** **16 34 41.8 +0.6**
comp=Z,29nm,1.2s,baz=15,slow=11,SNR=3.6
comp=Z,29nm,1.2s
BIDO Bidbid 24.44 48 P **P** **16 34 42.9 +1.2**
SNR=8.6
WBK Wadi Bani Khal 24.55 51 P **P** **16 34 43.8 +1.1**
SNR=8.0
WSAR Wadi Sarin 24.65 49 P **P** **16 34 43.5 -0.2**
comp=Z,10nm,0.9s,baz=248,slow=8.7,SNR=11
WSAR S **S** **16 39 09.2 +3.5**
comp=Z,1.7nm,0.8s,baz=106,slow=16,SNR=0.8
WSAR LR LR 16 44 07.4
comp=Z,2μm,21.0s,baz=246,slow=36
comp=Z,10nm,0.9s
WSAR Wadi Sarin 24.65 49 P **P** **16 34 44.6 +1.0**
SNR=9.7
SHME Shamm 24.71 40 P **P** **16 34 44.4 +0.3**
SNR=8.2
SHME P **P** **16 34 44.4 +0.3**
SNR=8.2
BANOM Banah 24.73 41 P **P** **16 34 49.1 +4.8**
MMAI Mount Meron Ar 25.34 354 LR LR 16 43 35.1
comp=Z,886nm,18.4s,baz=274,slow=34
OPO Ambohidratompo 27.46 162 P **P** **16 35 08.0 -1.1**
comp=Z,15nm,1.0s,baz=336,slow=6.8,SNR=8.7
OPO LR LR 16 45 15.8
comp=Z,794nm,21.6s,baz=164,slow=35
comp=Z,15nm,1.0s
ABPO Ambohimpanom 27.89 162 P **P** **16 35 11.7 -1.4**
ABPO Ambohimpanom 27.89 162 P **P** **16 35 11.7 -1.4**
ABPO pmax pmax
comp=Z,117nm,1.7s
ARG Arkhangelos 29.94 343 P **P** **16 35 29.2 -1.7**
ARG Arkhangelos 29.94 343 P **P** **16 35 29.2 -1.7**
ARG pmax pmax
comp=Z,183nm,1.3s
IDI Anoyia 30.19 337 LR LR 16 48 36.9
comp=Z,1μm,19.3s,baz=144,slow=38
VOI Vohitsoka 30.52 165 P **P** **16 35 34.5 -1.9**
GEVA Gevas 30.72 7 P **P** **16 35 35.6 -2.4**
GURO Guroymak-BITLI 30.85 5 P **P** **16 35 38.0 -1.2**
MUSN Musina, Limpop 31.03 196 eP **P** **16 35 41.9 +1.1**
MUSN IAmb IAmb 16 35 45.8
comp=Z,35nm,1.1s
BNN Bunyan 31.09 356 P **P** **16 35 40.3 -0.9**
MOPA Mopani 31.84 193 eP **P** **16 35 51.8 +4.0**
MOPA IAmb IAmb 16 35 53.1
comp=Z,25nm,1.2s
BRTR Keskin Array B 32.18 353 P **P** **16 35 52.6 +1.8**
comp=Z,6.4nm,1.0s,baz=173,slow=12,SNR=17
BRTR PcP **PcP** **16 38 40.0 +0.3**
comp=Z,4.3nm,1.0s,baz=155,slow=5.2,SNR=7.9
comp=Z,6.4nm,1.0s
BRTR Keskin Array B 32.18 353 P **P** **16 35 50.9 +0.1**
BR131 Keskin Array S 32.18 353 P **P** **16 35 50.9 +0.1**
BR131 IAmb IAmb 16 35 54.8
comp=Z,39nm,1.4s
BR131 Keskin Array S 32.18 353 *i* P **P** **16 35 52.1 +1.3**
BR231 Keskin MP Arra 32.41 352 P **P** **16 35 55.0 +2.2**
BR231 IAmb IAmb 16 36 21.2
comp=Z,28nm,1.2s
ANTO Ankara 32.43 352 P **P** **16 35 52.3 -0.6**
ANTO Ankara 32.43 352 P **P** **16 35 52.3 -0.6**
ANTO pmax pmax
comp=Z,22nm,1.1s
TOKA Tokat 32.52 357 P **P** **16 35 55.9 +2.3**
TOKA IAmb IAmb 16 36 31.3
comp=Z,13nm,0.4s
GNI Garni 32.75 9 P **P** **16 35 57.1 +1.2**
GNI Garni 32.75 9 P **P** **16 35 57.1 +1.2**
GNI pmax pmax
comp=Z,83nm,1.6s
GNI Garni 32.75 9 P **P** **16 35 59.9 +4.0**
BORA Eskisehir 32.84 348 P **P** **16 35 56.3 -0.3**
BORA IAmb IAmb 16 36 01.9
comp=Z,42nm,1.8s
LEPH Lephalale, Lim 33.12 198 eP **P** **16 35 57.5 -1.6**
LEPH IAmb IAmb 16 36 03.2
comp=Z,31nm,1.0s
BALB Balikesir 33.21 345 P **P** **16 35 59.4 -0.2**
MDUB Mudurnu 33.28 350 P **P** **16 35 59.2 -1.1**
AKH Akhalkalaki 33.83 7 P **P** **16 36 03.0 -2.3**
AKH Akhalkalaki 33.83 7 P **P** **16 36 03.0 -2.3**
AKH pmax pmax
comp=Z,143nm,1.7s
TSUM Tsumeb 33.84 218 P **P** **16 36 06.0 +0.5**
comp=Z,7.3nm,1.1s,baz=113,slow=3.1,SNR=3.0
TSUM LR LR 16 48 50.5
comp=Z,588nm,20.6s,baz=50,slow=35
comp=Z,7.3nm,1.1s
TSUM Tsumeb 33.84 218 eP **P** **16 36 09.1 +3.5**
DIKM Dikmen 33.92 355 ⇑P **P** **16 36 08.7 +2.9**
AGG Agios Georgios 34.44 337 P **P** **16 36 10.7 +0.3**
AGG Agios Georgios 34.44 337 P **P** **16 36 10.7 +0.3**
AGG pmax pmax
comp=Z,5.0nm,1.1s
AKT Akhty 34.58 12 eP **P** **16 36 14.9 +3.2**
AKT *e* 16 37 33.4
AKT pmax pmax
comp=Z,72nm,1.2s
GEYT Alibeck 34.88 28 P **P** **16 36 14.6 +0.4**
comp=Z,0.7nm,0.3s,baz=191,slow=6.8,SNR=2.5
GEYT LR LR 16 53 12.6
comp=Z,586nm,21.2s,baz=218,slow=41
comp=Z,0.7nm,0.3s
ALN Alexandroupoli 34.88 343 P **P** **16 36 16.0 +1.8**
ALN IAmb IAmb 16 36 18.3
comp=Z,39nm,1.4s
ALN Alexandroupoli 34.88 343 P **P** **16 36 16.0 +1.8**
ALN pmax pmax
comp=Z,39nm,1.4s
LBTB Lobatse 34.92 201 P **P** **16 36 14.7 -0.1**
comp=Z,19nm,1.3s,baz=360,slow=8.5,SNR=4.8
LBTB LR LR 16 51 33.4
comp=Z,468nm,19.1s,baz=84,slow=38
comp=Z,19nm,1.3s
LBTB Lobatse 34.92 201 P **P** **16 36 15.7 +0.9**
LBTB IAmb IAmb 16 36 21.4
comp=Z,79nm,1.6s
LBTB Lobatse 34.92 201 eP **P** **16 36 14.2 -0.5**
LBTB IAmb IAmb 16 36 14.8
comp=Z,541nm,2.8s
LBTB Lobatse 34.92 201 P **P** **16 36 15.7 +0.9**
LBTB pmax pmax
comp=Z,79nm,1.6s
ONI Oni 34.99 6 P **P** **16 36 16.4 +1.2**
ONI IAmb IAmb 16 36 18.9
comp=Z,46nm,1.5s
ONI Oni 34.99 6 P **P** **16 36 16.4 +1.2**
ONI pmax pmax
comp=Z,46nm,1.5s
ZEI Tsey 35.24 7 eP **P** **16 36 18.7 +1.2**
ZEI pmax pmax
comp=Z,20nm,1.3s
SOC Sochi 35.73 1 eP **P** **16 36 19.3 -2.2**
SOC *e* 16 37 39.5
SOC ePPP PPP 16 38 00.6
SOC eS **S** **16 41 55.0 -3.8**
SOC eSS **SnSn** **16 44 21.6 +1.0**
SOC eSSS SSS 16 44 42.5
SOC MLR MLR
comp=Z,331nm,13.0s
GROC Groznyy 35.90 9 eP **P** **16 36 23.6 +0.7**
GROC *e* 16 37 45.6
GROC pmax pmax
comp=Z,21nm,0.5s
MAK Makhachkala 35.96 11 eP **P** **16 36 22.5 -0.9**
MAK *e* 16 37 43.9
MAK eS **S** **16 42 00.2 -2.1**
MAK pmax pmax
comp=Z,110nm,0.9s
MAK MLR MLR
comp=Z,764nm,17.0s
KBZ Khabaz 36.06 5 P **P** **16 36 24.8 +0.6**
comp=Z,7.6nm,1.1s,baz=229,slow=10,SNR=7.3
KBZ LR LR 16 51 14.0
comp=Z,574nm,18.4s,baz=196,slow=36
comp=Z,7.6nm,1.1s
KBZ Khabaz 36.06 5 *ce*P **P** **16 36 25.4 +1.1**
KBZ pmax pmax
comp=Z,17nm,1.4s
KIV Kislovodsk 36.27 5 ⇓P **P** **16 36 27.7 +1.6**
KIV Kislovodsk 36.27 5 P **P** **16 36 25.6 -0.6**
KIV IAmb IAmb 16 36 29.5
comp=Z,46nm,1.5s
KIV Kislovodsk 36.27 5 eP **P** **16 36 25.6 -0.6**
KIV eS **S** **16 42 05.1 -2.1**
KIV eSS **SnSn** **16 44 35.7 +2.0**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,488nm,16.0s
FNA Florina 36.33 338 P **P** **16 36 28.6 +1.9**
FNA Florina 36.33 338 P **P** **16 36 28.6 +1.9**
PLD Plovdiv 36.39 342 eP **P** **16 36 29.3 +2.2**
TORD Torodi Ar. Bea 36.67 282 P **P** **16 36 31.0 +1.1**
comp=Z,11nm,1.3s,baz=96,slow=7.8,SNR=15
TORD PcP **PcP** **16 38 52.9 -0.1**
comp=Z,3.8nm,1.1s,baz=121,slow=1.8,SNR=3.6
comp=Z,11nm,1.3s
TORD Torodi Ar. Bea 36.67 282 P **P** **16 36 29.8 -0.1**
CEL Celeste 36.68 329 P **P** **16 36 31.4 +1.7**
CEL IAmb IAmb 16 36 34.0
comp=Z,50nm,1.0s
RAFF Raffo Rosso 36.71 327 P **P** **16 36 32.1 +2.2**
RAFF IAmb IAmb 16 36 34.6
comp=Z,36nm,1.0s
VAE Valguarnera 36.87 327 LR LR 16 53 29.2
comp=Z,956nm,18.1s,baz=57,slow=39
PSN Preselentsi 36.97 347 eP P 16 36 23.7 -8.3
TIP Timpagrande 36.97 331 ⇑P **P** **16 36 34.3 +2.1**
TIP Timpagrande 36.97 331 P **P** **16 36 31.6 -0.7**
VTS Vitosha 37.31 341 P **P** **16 36 35.0 -0.1**
VTS IAmb IAmb 16 36 38.4
comp=Z,52nm,1.5s
VTS Vitosha 37.31 341 P **P** **16 36 35.0 -0.1**
VTS pmax pmax
comp=Z,52nm,1.5s
VTS Vitosha 37.31 341 eP **P** **16 36 36.2 +1.1**
HARR Harsova 37.98 348 ⇑P **P** **16 36 42.7 +2.1**
HARR Harsova 37.98 348 ⇑P **P** **16 36 42.7 +2.1**
TPGR Topolog 38.04 348 ⇑P **P** **16 36 43.0 +1.9**
CUC Castrocucco 38.06 331 P **P** **16 36 42.7 +1.3**
MATE Matera 38.16 333 ⇑P **P** **16 36 44.0 +1.8**
BOSA Boshof 38.35 199 P **P** **16 36 43.9 -0.1**
comp=Z,39nm,1.1s,baz=26,slow=9.1,SNR=15
BOSA LR LR 16 53 13.2
comp=Z,622nm,21.0s,baz=32,slow=37
comp=Z,39nm,1.1s
BOSA Boshof 38.35 199 P **P** **16 36 44.3 +0.3**
BOSA IAmb IAmb 16 36 48.8
comp=Z,73nm,1.2s
BOSA Boshof 38.35 199 eP **P** **16 36 44.0 -0.1**
BOSA IAmb IAmb 16 36 48.6
comp=Z,77nm,1.2s
BOSA Boshof 38.35 199 P **P** **16 36 44.3 +0.3**
BOSA pmax pmax
comp=Z,73nm,1.2s
CFR Carcaliu 38.41 348 ⇑P **P** **16 36 46.4 +2.3**
CFR Carcaliu 38.41 348 ⇑P **P** **16 36 46.4 +2.3**
PDG Podgorica 38.56 337 ⇑P **P** **16 36 47.9 +2.4**
KEST Kesra 38.64 320 P **P** **16 36 48.5 +2.0**
comp=Z,33nm,1.0s,baz=110,slow=3.8,SNR=18
KEST LR LR 16 52 29.3
comp=Z,842nm,20.1s,baz=150,slow=36
comp=Z,33nm,1.0s
KEST Kesra 38.64 320 P **P** **16 36 49.5 +3.1**
KEST IAmb IAmb 16 36 51.5
comp=Z,65nm,1.1s
KEST Kesra 38.64 320 P **P** **16 36 44.2 -2.3**
SNR=6.3
KBL Kabul 38.67 42 P **P** **16 36 47.1 +0.2**
KBL Kabul 38.67 42 P **P** **16 36 47.1 +0.2**
KBL pmax pmax
comp=Z,15nm,1.1s
KBL Kabul 38.67 42 P **P** **16 36 48.1 +1.2**
SNR=11
BISRR Bisoca 39.07 347 ⇑P **P** **16 36 53.6 +3.8**
MLR Muntele Rosu 39.19 346 LR LR 16 54 18.1
comp=Z,516nm,20.4s,baz=170,slow=38
MLR Muntele Rosu 39.19 346 ⇑P **P** **16 36 54.1 +3.2**
MLR Muntele Rosu 39.19 346 P **P** **16 36 52.8 +1.9**
MLR Muntele Rosu 39.19 346 ⇑P **P** **16 36 54.1 +3.2**
VRI Vrincioaia 39.36 347 ⇑P **P** **16 36 54.7 +2.5**
VRI Vrincioaia 39.36 347 ⇑P **P** **16 36 54.7 +2.5**
VOIR 39.37 345 ⇑P **P** **16 36 54.3 +2.0**
VOIR 39.37 345 ⇑P **P** **16 36 54.3 +2.0**
PLOR Plostina 39.37 347 ⇑P **P** **16 36 54.5 +2.2**
PLOR Plostina 39.37 347 ⇑P **P** **16 36 54.5 +2.2**
GHRR 39.40 348 ⇓P **P** **16 36 57.0 +4.5**
PAOL Paolisi 39.47 331 P **P** **16 36 52.7 -0.5**
HERR Herculane 39.60 342 ⇑P **P** **16 36 55.8 +1.6**
DIVS Divibare 39.72 339 P **P** **16 36 56.0 +0.7**
MDVR Moldovita 39.73 341 ⇑P **P** **16 36 56.2 +0.8**
DOPR Dopca 39.77 346 ⇑P **P** **16 36 57.1 +1.4**
MILM Milestii Mici 39.95 350 eP **P** **16 36 59.0 +2.0**
comp=Z,50nm,0.9s
MILM Milestii Mici 39.95 350 eP **P** **16 36 59.0 +2.0**
MILM pmax pmax
comp=Z,50nm,0.9s
GZR Gura Zlata 39.96 343 ⇑P **P** **16 36 59.3 +2.1**
GZR Gura Zlata 39.96 343 ⇑P **P** **16 36 59.3 +2.1**
ARMS Ukamas 39.96 206 eP **P** **16 36 59.3 +1.9**
ARMS IAmb IAmb 16 37 03.4
comp=Z,37nm,1.2s
BZS Buzias 40.51 342 ⇑P **P** **16 37 03.0 +1.2**
BZS Buzias 40.51 342 ⇑P **P** **16 37 03.0 +1.2**
MARR Marisel-Cluj 41.03 344 ⇑P **P** **16 37 08.2 +2.0**
AQU L'Aquila 41.04 331 P **P** **16 37 08.4 +2.2**
AQU IAmb IAmb 16 37 10.7
comp=Z,65nm,1.2s
AQU L'Aquila 41.04 331 P **P** **16 37 08.4 +2.2**
AQU pmax pmax
comp=Z,65nm,1.2s
ARCR ARCALIA 41.08 345 ⇑P **P** **16 37 08.3 +1.9**
NIL Nilore 41.09 46 P **P** **16 37 07.5 +0.7**
NIL IAmb IAmb 16 37 09.5
comp=Z,56nm,1.1s
NIL Nilore 41.09 46 P **P** **16 37 07.5 +0.7**
NIL pmax pmax
comp=Z,56nm,1.2s
CAMP Campotosto 41.18 331 P **P** **16 37 08.1 +0.6**
CAMP IAmb IAmb 16 37 11.8
comp=Z,39nm,1.1s
SORM Soroca 41.20 350 ⇑P **P** **16 37 08.2 +0.8**
SORM Soroca 41.20 350 ⇑P **P** **16 37 08.2 +0.8**
BURAR Bucovina Array 41.36 346 ⇑P **P** **16 37 11.7 +2.8**
BURAR Bucovina Array 41.36 346 P **P** **16 37 10.6 +1.8**
BURAR Bucovina Array 41.36 346 ⇑P **P** **16 37 11.7 +2.8**
BUR08 Bucovina Ar. S 41.39 346 P **P** **16 37 10.2 +1.1**
BUR08 IAmb IAmb 16 37 12.7
comp=Z,53nm,1.3s
CESX Cesi 41.63 331 P **P** **16 37 11.4 +0.3**
CESX IAmb IAmb 16 37 14.6
comp=Z,82nm,1.8s
FDMO Fiordimonte 41.71 332 P **P** **16 37 12.1 +0.3**
GRAF Camdeboo Natio 41.99 198 eP **P** **16 37 14.6 +0.4**
GRAF IAmb IAmb 16 37 26.2
comp=Z,453nm,2.0s
LATE Laterza 42.01 330 P **P** **16 37 13.4 -0.7**
MORH Mrgy, Hungar 42.02 339 ⇑P **P** **16 37 16.0 +1.8**
MURB Monte Urbino 42.15 331 P **P** **16 37 15.9 +0.6**
MURB IAmb IAmb 16 37 18.1
comp=Z,54nm,1.4s
TRPA Tarpa 42.52 344 ⇑P **P** **16 37 20.3 +2.2**
FRAZ Fraserburg 42.71 202 eP **P** **16 37 23.8 +3.7**
FRAZ IAmb IAmb 16 37 26.0
comp=Z,67nm,1.0s
GRAN Grantham 42.78 201 eP **P** **16 37 24.9 +4.4**

GRAN IAmb IAmb 16 37 26.6
comp=Z,22nm,0.9s
CRES Cresnjev 42.90 336 *i* P **P 16 37 23.7 +2.4**
CVNA Calvinia 42.95 204 *eP* **P 16 37 21.9 -0.1**
CVNA IAmb IAmb 16 37 27.2
comp=Z,68nm,1.0s
KIC Kosan Boka 43.03 271⇓ *iP* **P 16 37 24.3 +1.4**
comp=Z,1.2nm,0.5s
UZH Uzhgorod 43.04 344*c iP* **P 16 37 23.5 +1.1**
UZH *i* 16 37 27.5
KOGS Kog 43.10 337 *i* P **P 16 37 25.1 +2.2**
PSZ Piszkesteto 43.10 342⇑ P **P 16 37 24.9 +1.9**
PSZ Piszkesteto 43.10 342 P **P 16 37 22.9 -0.1**
PSZ Piszkesteto 43.10 342⇑ P **P 16 37 24.9 +1.9**
DBIC Dimbokro 43.12 272 P **P 16 37 24.1 +0.5**
comp=Z,9.5nm,0.9s,baz=99,slow=9.2,SNR=8.2
DBIC LR LR 16 55 13.1
comp=Z,644nm,21.8s,baz=105,slow=36
comp=Z,9.5nm,0.9s
DBIC Dimbokro 43.12 272 P **P 16 37 21.3 -2.3**
DBIC Dimbokro 43.12 272 *eP* **P 16 37 24.1 +0.5**
DBIC Dimbokro 43.12 272⇑ P **P 16 37 25.1 +1.5**
TIC Toumodi 43.28 272⇓ *iP* **P 16 37 26.6 +1.7**
comp=Z,4.8nm,0.3s
LIC Lamto 43.33 271⇑ *iP* **P 16 37 27.2 +2.0**
comp=Z,42nm,0.9s
SUR Sutherland 43.34 202 P **P 16 37 23.7 -1.5**
comp=Z,17nm,1.1s,baz=302,slow=2.3,SNR=3.1
SUR LR LR 16 56 05.3
comp=Z,701nm,21.7s,baz=30,slow=37
comp=Z,17nm,1.1s
VSR Storozhevoye 43.36 1 P **P 16 37 25.2 +0.3**
VSR pmax pmax
comp=Z,40nm,2.3s
VRH Novokhopyorsk 43.42 3 *eP* **P 16 37 26.3 +0.9**
VRH pmax pmax
comp=Z,50nm,1.6s
LJU Ljubljana 43.45 336 *i* P **P 16 37 28.1 +2.3**
CRVS Cervenica-Dubn 43.52 344 *eP* **P 16 37 28.6 +2.3**
CRVS pmax pmax
comp=Z,152nm,2.0s
CRVS Cervenica-Dubn 43.52 344 *eP* **P 16 37 28.6 +2.3**
AKASG Malin Array Be 43.55 351 P **P 16 37 26.6 +0.2**
comp=Z,9.6nm,0.9s,baz=175,slow=6.9,SNR=28
AKASG PcP **PcP 16 39 13.4 -0.8**
comp=Z,2.5nm,0.7s,baz=172,slow=3.4,SNR=7.0
AKASG LR LR 16 56 06.7
comp=Z,284nm,21.0s,baz=181,slow=37
comp=Z,9.6nm,0.9s
AKASG Malin Array Be 43.55 351 P **P 16 37 25.6 -0.8**
AKBB Malin Array Si 43.55 351 P **P 16 37 26.2 -0.2**
AKBB Malin Array Si 43.55 351 P **P 16 37 26.2 -0.2**
AKBB pmax pmax
comp=Z,23nm,1.1s
SOKA Soboth 43.76 337 *i* P **P 16 37 30.7 +2.3**
comp=Z,42nm,1.4s,SNR=16
SABO M.te Sabotino 43.78 335 P **P 16 37 24.8 -3.7**
SABO IAmb IAmb 16 37 31.9
comp=Z,50nm,1.2s
VORR Voronezh 43.82 1 *eP* **P 16 37 29.8 +1.2**
VORR pmax pmax
comp=Z,52nm,1.8s
OBKA Obir 43.82 336 *i* pP pP 16 37 32.0 +0.9
comp=Z,72nm,1.1s,SNR=17
CADS Cadrg 43.92 335 *i* P **P 16 37 31.2 +1.6**
VYHS Vyhne 43.94 341 *eP* **P 16 37 31.8 +2.1**
VYHS pmax pmax
comp=Z,99nm,1.9s
VYHS Vyhne 43.94 341 *eP* **P 16 37 31.8 +2.1**
CHM Chimkent 43.98 33 *eP* **P 16 37 30.4 +0.3**
baz=33
CHM Chimkent 43.98 33 *eP* **P 16 37 30.4 +0.3**
ARSA Arzberg 44.05 337 *i* P **P 16 37 32.8 +2.2**
comp=Z,23nm,1.3s,SNR=6.5
IUG Iuzhnay 44.10 34 *eP* **P 16 37 31.2 0.0**
baz=34
IUG *i* S **S 16 44 02.2 -2.3**
baz=34
IUG Iuzhnay 44.10 34 *eP* **P 16 37 31.2 0.0**
RONA Rosalia, Austr 44.13 338 *i* P **P 16 37 32.9 +1.6**
comp=Z,33nm,1.4s,SNR=6.7
MYKA Terra Mystica 44.29 335 *eP* **P 16 37 34.9 +2.3**
comp=Z,17nm,1.3s
LANS Liptovska Anna 44.32 342 *eP* **P 16 37 35.3 +2.5**
LANS pmax pmax
comp=Z,9.0nm,1.2s
LANS Liptovska Anna 44.32 342 *eP* **P 16 37 35.3 +2.5**
MODS Modra-Piesok 44.36 340 *eP* **P 16 37 35.1 +2.0**
MODS pmax pmax
comp=Z,102nm,1.4s
MODS Modra-Piesok 44.36 340 *eP* **P 16 37 35.0 +2.0**
STAL STALIGIAL 44.38 334 P **P 16 37 34.0 +0.7**
STAL IAmb IAmb 16 37 36.6
comp=Z,31nm,1.2s
SMOL Smolenice 44.43 340 *eP* **P 16 37 35.7 +2.1**
CLUD Cludinico 44.47 335 P **P 16 37 36.2 +2.3**
CONA Conrad Observa 44.48 338 *iP* **P 16 37 36.1 +2.0**
comp=Z,28nm,1.4s,SNR=12
CIMO Cimolais 44.54 334 P **P 16 37 35.1 +0.5**
CIMO IAmb IAmb 16 37 37.9
comp=Z,31nm,1.2s
JAVC Velka Javorina 44.64 340 *eP* **P 16 37 38.0 +2.6**
LPSR Galich'ya Gora 44.75 0 *eP* **P 16 37 36.8 +0.8**
LPSR pmax pmax
comp=Z,30nm,1.7s
KBA Koelnbreinsper 44.77 336 *iP* **P 16 37 38.9 +2.4**
comp=Z,40nm,1.3s,SNR=12
ABTA Abfaltersbach 44.85 335 *iP* **P 16 37 39.6 +2.5**
comp=Z,39nm,1.4s,SNR=14
SALO Salr 44.87 332 P **P 16 37 35.8 -1.4**
KK31 Karatay Array 45.00 33 P **P 16 37 39.5 +1.2**
KK31 IAmb IAmb 16 37 46.3
comp=Z,45nm,1.4s
KK31 Karatay Array 45.00 33 P **P 16 37 39.5 +1.2**
KK31 pmax pmax
comp=Z,45nm,1.4s
KKAR Karatay Array 45.00 33 P **P 16 37 39.0 +0.7**
KKAR Karatay Array 45.00 33 P **P 16 37 39.3 +1.0**
KKAR IAmb IAmb 16 37 46.3
comp=Z,45nm,1.4s
KKAR Karatay Array 45.00 33 P **P 16 37 39.3 +1.0**
KKAR pmax pmax
comp=Z,45nm,1.4s
MOA Molln 45.02 337 *iP* **P 16 37 40.4 +2.0**
comp=Z,27nm,1.2s
MAUC Maruska 45.03 341 *eP* **P 16 37 40.1 +1.7**
ABKAR Akbulak array 45.12 20 P **P 16 37 39.1 +0.1**
BIOA Bad Ischl, Aus 45.14 336 *iP* **P 16 37 40.1 +0.8**
comp=Z,9.8nm,0.8s
BELG Belogornoye 45.15 8 *iP* **P 16 37 38.7 -0.5**
BELG pmax pmax
comp=Z,9.0nm,1.3s
OJC Ojcow 45.18 343 P **P 16 37 39.4 -0.1**
OJC IAmb IAmb 16 37 42.0
comp=Z,34nm,1.4s
OJC Ojcow 45.18 343 P **P 16 37 39.4 -0.1**
OJC pmax pmax
comp=Z,35nm,1.4s
KRUC Moravsky 45.25 340 *eP* **P 16 37 41.5 +1.4**
DZA Taraz 45.31 34 *eP* **P 16 37 41.4 +0.6**
baz=34
DZA Taraz 45.31 34 *eP* **P 16 37 41.3 +0.6**
OKC Ostrava-Krasne 45.34 341 *eP* **P 16 37 42.7 +1.9**
OKC Ostrava-Krasne 45.34 341 *eP* **P 16 37 42.7 +1.9**
VRAC Vranov 45.39 340 LR LR 16 59 41.2
comp=Z,197nm,18.5s,baz=171,slow=40
VRAC Vranov 45.39 340 *eP* **P 16 37 42.9 +1.6**
MORC Moravsky Berou 45.48 341⇑ P **P 16 37 43.7 +1.7**
MORC Moravsky Berou 45.48 341 *eP* **P 16 37 43.5 +1.5**
MORC Moravsky Berou 45.48 341⇑ P **P 16 37 43.7 +1.7**
RJOB Jochberg 45.52 336 *eP* **P 16 37 43.5 +1.2**
comp=Z,30nm,1.5s,baz=141,slow=7.7
AKTO Aktyubinsk 45.54 17 LR LR 16 59 22.4
comp=Z,514nm,19.2s,baz=218,slow=40
WTTA Wattenberg 45.63 334 *iP* **P 16 37 45.4 +2.0**
comp=Z,34nm,1.1s,SNR=9.0
WATA Walderalm 45.71 334 *iP* **P 16 37 45.6 +1.5**
comp=Z,32nm,1.2s,SNR=7.9
FUORN Ofenpass-Fuorn 45.74 333 P **P 16 37 42.0 -2.4**
FUORN IAmb IAmb 16 37 55.2
comp=Z,34nm,1.4s
SQTA Sankt Quirin 45.78 334 *eP* **P 16 37 46.3 +1.8**
comp=Z,15nm,0.9s
CKRC Cesky Krumlov 45.80 338 *eP* **P 16 37 46.1 +1.6**
FETA Feichten 45.84 334 *eP* **P 16 37 46.2 +1.1**
comp=Z,22nm,1.1s
MOTA Moosalm 45.92 334 *eP* **P 16 37 46.7 +1.0**
comp=Z,16nm,1.0s
KRLC Kraliky 45.98 341 *eP* **P 16 37 47.5 +1.5**
KRLC Kraliky 45.98 341 *eP* **P 16 37 47.5 +1.5**
DAVOX Davos/Dischmat 46.04 333 LR LR 17 01 06.6
comp=Z,280nm,18.4s,baz=120,slow=41
GEC2 GERESS Array S 46.05 337 *eP* **P 16 37 48.2 +1.6**
comp=Z,47nm,1.4s,baz=141,slow=7.7
GERES GERESS Array B 46.05 337 P **P 16 37 47.9 +1.2**
comp=Z,8.5nm,1.0s,baz=126,slow=6.8,SNR=6.2
GERES LR LR 17 00 07.4
comp=Z,297nm,18.4s,baz=158,slow=40
comp=Z,8.5nm,1.0s
GERES GERESS Array B 46.05 337 P **P 16 37 45.1 -1.5**
KSH Kashi 46.06 41 P **P 16 37 44.0 -2.9**
KSH PcP **PcP 16 39 23.5 +0.2**
KSH pmax pmax
comp=Z,11nm,1.3s
KSH LR LR
comp=Z,900nm,15.1s
KSH LR LR
comp=Z,950nm,14.8s
KSH LR LR
comp=Z,1μm,20.3s
AML Almayashu 46.18 36 P **P 16 37 49.5 +1.5**
SNR=38
RETA Reutte 46.18 334 *eP* **P 16 37 49.1 +1.5**
comp=Z,17nm,1.2s
KHC Kasperske Hory 46.33 337 P **P 16 37 47.6 -1.1**
KHC IAmb IAmb 16 37 51.0
comp=Z,22nm,1.1s
KHC Kasperske Hory 46.33 337 *eP* **P 16 37 49.4 +0.7**
KHC *ex* x 16 38 04.1
KHC Kasperske Hory 46.33 337 *eP* **P 16 37 49.4 +0.7**
BNI Bardonecchia 46.34 329 P **P 16 37 49.0 0.0**
BNI IAmb IAmb 16 37 59.2
comp=Z,48nm,1.2s
BNI Bardonecchia 46.34 329 P **P 16 37 49.0 0.0**
BNI pmax pmax
comp=Z,48nm,1.3s
DPC Dobruska-Polom 46.37 340 *eP* **P 16 37 50.4 +1.3**
DPC Dobruska-Polom 46.37 340 *eP* **P 16 37 50.4 +1.3**
DAVA Damuels 46.42 333 *iP* **P 16 37 51.2 +1.6**
comp=Z,67nm,1.0s,SNR=15
FUR Furstenfeldbru 46.48 335 *eP* **P 16 37 50.8 +0.8**
comp=Z,48nm,1.1s,baz=141,slow=7.7
GOPC GO Pecny, Ondr 46.53 339 *eP* **P 16 37 51.4 +1.1**
GOPC GO Pecny, Ondr 46.53 339 *eP* **P 16 37 51.4 +1.1**
EKS2 Erkin-Say 46.55 36 P **P 16 37 52.5 +1.8**
SNR=10
OSTC Ostas 46.59 340 *eP* **P 16 37 51.7 +1.0**
UPC Upice 46.61 340 *eP* **P 16 37 52.2 +1.3**
UPC Upice 46.61 340 *eP* **P 16 37 52.2 +1.3**
UBR Ueberruh 46.61 334 *eP* **P 16 37 52.5 +1.5**
comp=Z,42nm,1.1s,baz=141,slow=7.7
UCH Uchtor 46.72 37 P **P 16 37 53.7 +1.3**
SNR=22
KOLN Koldanda 46.93 59 *eP* **P 16 37 53.0 -1.0**
SENIN Lac Senin/Sane 46.95 330 P **P 16 37 53.7 -0.1**
AAK Ala-Archa 46.95 36 P **P 16 37 55.5 +1.5**
SNR=19
AAK Ala-Archa 46.95 36 LR LR 16 59 52.1
comp=Z,893nm,19.4s,baz=249,slow=39
AAK Ala-Archa 46.95 36 P **P 16 37 55.0 +1.0**
AAK Ala-Archa 46.95 36*ce*P **P 16 37 55.3 +1.4**
AAK pmax pmax
comp=Z,80nm,2.5s
AAK Ala-Archa 46.95 36 *iP* **P 16 37 55.4 +1.5**
SNR=12
MDT Midelt 47.14 308 LR LR 16 58 07.6
comp=Z,1μm,18.9s,baz=108,slow=36
DANN Dangsing 47.23 58 *eP* **P 16 37 55.2 -1.2**
comp=Z,85nm,1.1s
KBK Karagaybulak 47.23 37 P **P 16 37 58.3 +2.2**
SNR=30
OBN Obninsk 47.29 358⇓ *eP* **P 16 37 56.7 +0.7**
OBN *e* 16 38 04.9
OBN *e* 16 39 28.1
OBN *e*SS SS 16 48 05.5 -12
OBN pmax pmax
comp=Z,70nm,2.5s
OBN MLR MLR
comp=Z,451nm,17.0s
CHMS Chumysh 47.32 36 P **P 16 37 58.2 +1.6**
SNR=16
USP Ospenovka 47.34 36 P **P 16 37 57.8 +1.0**
SNR=20
ROTZ Rotzenmuhle 47.37 337 *eP* **P 16 37 57.9 +1.1**
comp=Z,14nm,1.6s,baz=141,slow=7.7
MNK Minsk 47.44 352 *iP* **P 16 37 58.8 +1.5**
comp=E,2.0nm,0.9s
MNK *iP* **P 16 37 58.8 +1.5**
comp=N,41nm,0.9s
MNK *iP* **P 16 37 58.8 +1.5**
comp=Z,19nm,0.9s,baz=165
MNK *i* PcP **PcP 16 39 28.4 +0.7**
MNK *i* PP **PP 16 39 50.3 +1.8**
MNK *i* PPP PPP 16 40 35.6
MNK *i* S **S 16 44 54.9 +2.9**
MNK *i* SS **SS 16 48 24.6 +4.9**
MNK *i* LQ LQ 16 54 35.0
MNK *i* LR LR 16 56 40.3
MNK *i* LRM MLR 16 59 51.9
comp=E,40nm,16.1s
MNK *i* LRM MLR 16 59 53.8
comp=Z,153nm,16.1s
MNK *i* LRM MLR 16 59 56.3
comp=N,591nm,16.1s
MNK Minsk 47.44 352 *iP* **P 16 37 58.7 +1.5**
MNK *i* 16 39 28.3
MNK *i* 16 39 50.3
MNK *i* PPP PPP 16 40 35.6
MNK *i* S **S 16 44 54.9 +2.9**
MNK *i* 16 47 52.6
MNK pmax pmax
comp=N,41nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK MLR MLR
comp=E,40nm,16.0s
MNK MLR MLR
comp=Z,153nm,16.0s
MNK MLR MLR
comp=N,591nm,16.0s
SGDS Sogindy 47.53 35 *eP* **P 16 37 58.5 +0.3**
comp=N,42nm,1.7s,baz=35
SGDS Sogindy 47.53 35 *eP* **P 16 37 58.5 +0.3**
SGDS pmax pmax
comp=Z,43nm,1.7s
MANZ Manzenberg 47.59 337 *eP* **P 16 37 59.3 +0.7**
comp=Z,6.3nm,1.2s,baz=141,slow=7.7
BRG Berggiesshubel 47.63 339⇑ *iP* **P 16 37 59.9 +1.1**
BRG Amp 16 38 00.9
comp=Z,17nm,1.3s
BRG Berggiesshubel 47.63 339⇑ *iP* **P 16 37 59.9 +1.1**
BRG pmax pmax
comp=Z,17nm,1.3s
BRG Berggiesshubel 47.63 339 *eP* **P 16 37 59.6 +0.8**
comp=Z,41nm,1.7s,baz=141,slow=7.7
NKC Novy Kostel 47.66 337 *eP* **P 16 38 00.5 +1.4**
NKC Novy Kostel 47.66 337 *eP* **P 16 38 00.5 +1.4**
GRF Grafenberg Arr 47.70 336 *eP* **P 16 38 00.2 +0.8**
comp=Z,38nm,1.2s,baz=141,slow=7.7
WERN Wernitzgruen 47.73 337 *eP* **P 16 37 59.8 +0.2**
comp=Z,26nm,1.5s,baz=141,slow=7.7
ULHL Ulahol 47.77 38 P **P 16 38 01.7 +1.4**
SNR=8.8
TKM2 Tokmak 2 47.77 37 P **P 16 38 01.8 +1.5**
SNR=12
TANN Tannenbergstha 47.80 338 *eP* **P 16 38 00.5 +0.3**
comp=Z,34nm,1.5s,baz=141,slow=7.7
GUNZ Gunzen 47.81 337 *eP* **P 16 38 00.9 +0.6**
comp=Z,50nm,1.8s,baz=141,slow=7.7
GKN Gorkha 47.88 59 *eP* **P 16 38 00.1 -1.2**
comp=Z,65nm,1.1s
WERD Werda 47.88 338 *eP* **P 16 38 02.0 +1.2**
comp=Z,40nm,1.4s,baz=141,slow=7.7
BFO Black Forest 47.89 333 P **P 16 37 59.8 -1.1**
BFO IAmb IAmb 16 38 03.6
comp=Z,26nm,1.2s
BFO Black Forest 47.89 333 P **P 16 37 59.8 -1.1**
BFO pmax pmax
comp=Z,26nm,1.2s
BFO Black Forest 47.89 333 *eP* **P 16 38 02.1 +1.2**
comp=Z,27nm,1.3s,baz=141,slow=7.7
MOS Moscow 47.90 359 *eP* **P 16 37 58.0 -2.7**
MOS *eS* **S 16 44 54.5 -3.9**
MOS pmax pmax
comp=Z,32nm,0.8s
PLN Plauen 47.97 337 *eP* **P 16 38 02.3 +0.9**
comp=Z,37nm,1.4s,baz=141,slow=7.7
NACGM Naroch 48.00 351 *eP* **P 16 38 02.9 +1.3**
comp=Z,41nm,1.3s,baz=164
DMN Daman 48.17 60 *eP* **P 16 38 02.9 -0.8**
comp=Z,41nm,1.0s
BTLS Baital 48.20 33 *eP* **P 16 38 04.0 +0.7**
comp=Z,41nm,1.6s,baz=33
BTLS Baital 48.20 33 *eP* **P 16 38 04.0 +0.7**
BTLS pmax pmax
comp=Z,41nm,1.6s
MOX Moxa 48.30 337 *eP* **P 16 38 04.8 +0.8**
comp=Z,35nm,1.4s,baz=141,slow=7.7
CLL Collm 48.33 339 P **P 16 38 03.1 -1.1**
CLL Collm 48.33 339 *iP* **P 16 38 04.6 +0.4**
comp=Z,23nm,1.4s
CLL *i* PcP **PcP 16 39 31.4 +0.5**
comp=Z,48nm,2.1s
CLL *e*PPPP 16 40 58.0
CLL *eS* **S 16 45 13.0 +8.4**
CLL *ex* x 16 46 24.0
CLL *eSS* SS 16 48 48.0 +14
CLL *e*(SSS) 16 50 24.0
CLL LmV 17 03 00.0
comp=Z,300nm,18.3s
CLL Collm 48.33 339 *iP* **P 16 38 04.6 +0.4**
CLL *eS* **S 16 45 13.0 +8.4**
CLL pmax pmax
comp=Z,23nm,1.4s
CLL MLR MLR
comp=Z,300nm,18.3s
CLL Collm 48.33 339 *eP* **P 16 38 04.6 +0.4**
comp=Z,12nm,1.2s,baz=141,slow=7.7
ECH Echery 48.34 332 P **P 16 38 05.2 +0.8**
ECH IAmb IAmb 16 38 07.0
comp=Z,47nm,1.4s
ECH Echery 48.34 332 P **P 16 38 05.2 +0.8**
ECH pmax pmax
comp=Z,47nm,1.4s
KKN Kakani 48.37 60 *eP* **P 16 38 04.1 -1.1**
IDID Didziasalis 48.40 351 *eP* **P 16 37 54.7 -10**
PKIN Phulchoki 48.41 60 *eP* **P 16 38 04.0 -1.6**
comp=Z,76nm,1.4s
PKI Pulchoki 48.42 60 *eP* **P 16 38 04.4 -1.3**
comp=Z,107nm,1.7s
TARG Taragay, Kyrgy 48.44 39 P **P 16 38 05.4 -0.4**
TARG Taragay, Kyrgy 48.44 39 P **P 16 38 05.4 -0.4**
TARG pmax pmax
comp=Z,45nm,1.1s
MILB Miltenberg 48.60 335 *eP* **P 16 38 07.7 +1.3**
comp=Z,82nm,1.2s,baz=141,slow=7.7
TNSS Tian-Shan 48.65 37 *eP* **P 16 38 08.3 +0.9**
baz=37
TNSS Tian-Shan 48.65 37 *eP* **P 16 38 08.2 +0.9**
NEUB Neuenburg 48.70 338 *eP* **P 16 38 07.8 +0.7**
comp=Z,24nm,1.3s,baz=141,slow=7.7
AAA Alma-Ata 48.73 37 *eP* **P 16 38 08.3 +0.8**
baz=37
AAA Alma-Ata 48.73 37 *eP* **P 16 38 08.3 +0.8**
MDOK Medeo 48.78 37 *eP* **P 16 38 08.7 +0.6**
baz=37
MDOK Medeo 48.78 37 *eP* **P 16 38 08.6 +0.6**
KUU Kurty 48.79 36 *eP* **P 16 38 08.3 +0.4**
comp=Z,21nm,1.4s,baz=36
KUU Kurty 48.79 36 *eP* **P 16 38 08.3 +0.4**
KUU pmax pmax
comp=Z,21nm,1.4s
GUN Gumba 48.91 60 *eP* **P 16 38 08.1 -1.4**
comp=Z,106nm,1.2s
RUE Ruedersdorf 49.03 340 *eP* **P 16 38 11.1 +1.5**
RUE Ruedersdorf 49.03 340 *eP* **P 16 38 10.4 +0.9**
comp=Z,88nm,1.4s,baz=141,slow=7.7
PABE Paberze 49.06 349 P **P 16 38 07.6 -2.1**
PABE Paberze 49.06 349 *eP* **P 16 38 11.3 +1.6**
UBBA Unterbreizbach 49.07 336 *eP* **P 16 38 10.8 +1.0**
comp=Z,100nm,2.5s,baz=141,slow=7.7
JIRN Jiri 49.11 60 *eP* **P 16 38 09.3 -1.8**
comp=Z,57nm,1.2s
CHKK Chushkaly 49.14 36 *eP* **P 16 38 10.8 +0.2**
baz=36
CHKK Chushkaly 49.14 36 *eP* **P 16 38 10.8 +0.2**
TNS Taunus Mts 49.25 335 *eP* **P 16 38 12.5 +1.1**
comp=Z,77nm,1.6s,baz=141,slow=7.7
SATY Saty 49.54 38 *eP* **P 16 38 14.6 +0.7**
comp=Z,47nm,1.8s,baz=38
SATY Saty 49.54 38 *eP* **P 16 38 14.5 +0.7**
SATY pmax pmax
comp=Z,47nm,1.8s
ESDC Sonseca Array 49.60 317 P **P 16 38 15.8 +1.5**
comp=Z,24nm,1.0s,baz=123,slow=7.3,SNR=60
ESDC LR LR 17 00 30.1
comp=Z,417nm,18.1s,baz=120,slow=38
comp=Z,24nm,1.0s
ESDC Sonseca Array 49.60 317 P **P 16 38 14.0 -0.2**
ESDC IAmb IAmb 16 38 17.5
comp=Z,38nm,1.2s
ZHN Zhinishke 49.62 38 *eP* **P 16 38 14.9 +0.4**
comp=Z,32nm,1.2s,baz=38
ZHN Zhinishke 49.62 38 *eP* **P 16 38 14.8 +0.4**
ZHN pmax pmax
comp=Z,32nm,1.2s
GTTG Gottingen 49.66 337 *eP* **P 16 38 15.1 +0.7**
comp=Z,33nm,1.3s,baz=141,slow=7.7
CLZ Clausthal 49.73 337 *eP* **P 16 38 15.3 +0.3**
comp=Z,31nm,1.6s,baz=141,slow=7.7
FLTG Flechtingen 49.80 338 *eP* **P 16 38 15.5 0.0**
comp=Z,18nm,1.3s,baz=141,slow=7.7
PAB San Pablo 49.80 316⇑ P **P 16 38 18.2 +2.4**
WLF Walferdange 49.85 333 P **P 16 38 15.4 -0.5**
WLF IAmb IAmb 16 38 20.2
comp=Z,43nm,1.4s
WLF Walferdange 49.85 333 P **P 16 38 15.4 -0.5**
WLF pmax pmax
comp=Z,43nm,1.4s
WLF Walferdange 49.85 333 *eP* **P 16 38 17.0 +1.2**
comp=Z,131nm,2.1s,baz=141,slow=7.7
ASSE Asse, Remlinge 49.85 338 *eP* **P 16 38 16.7 +1.0**
comp=Z,30nm,1.3s,baz=141,slow=7.7
KPKS Kokpek 49.94 38 *eP* **P 16 38 16.9 +0.1**
comp=Z,26nm,1.3s,baz=38
KPKS Kokpek 49.94 38 *eP* **P 16 38 16.9 +0.1**
KPKS pmax pmax
comp=Z,26nm,1.3s
ODAN Odare 49.96 61 *eP* **P 16 38 16.2 -1.2**
UZB Uzynbulak 49.97 38 *eP* **P 16 38 17.4 +0.3**
comp=Z,34nm,1.0s,baz=38
UZB Uzynbulak 49.97 38 *eP* **P 16 38 17.4 +0.3**
UZB pmax pmax
comp=Z,34nm,1.0s
KASTN Kahler Asten 50.01 336 *eP* **P 16 38 18.4 +1.3**
comp=Z,48nm,1.2s,baz=141,slow=7.7
AHRW Bad Neuenahr-A 50.08 334 *eP* **P 16 38 19.0 +1.4**
comp=Z,34nm,1.3s,baz=141,slow=7.7
SHLS Shalkode 50.24 39 *eP* **P 16 38 21.1 +1.8**
baz=39
SHLS Shalkode 50.24 39 *eP* **P 16 38 21.0 +1.8**
TAPN Taplejung 50.35 61 *eP* **P 16 38 19.1 -1.3**
comp=Z,88nm,1.4s
NRDL Niedersach Rie 50.35 338 *eP* **P 16 38 20.3 +0.8**
comp=Z,35nm,1.3s,baz=141,slow=7.7
BHOU Houvegnez 50.41 333 *dP* **P 16 38 22.1 +1.9**
CLF Chambon-Foret 50.60 329 P **P 16 38 20.9 -0.6**
RCHB Rochefort 50.62 333 *dP* **P 16 38 22.9 +1.2**
BCLA Clavier 50.77 333 *dP* **P 16 38 24.5 +1.6**
comp=Z,11nm,1.1s
RETH Rethem/Aller, 50.82 337 *eP* **P 16 38 24.7 +1.6**
comp=Z,43nm,1.5s,baz=141,slow=7.7
BGES Gesves 50.84 333 *dP* **P 16 38 24.8 +1.4**
comp=Z,14nm,0.9s
BSD Bornholm Skovb 50.90 343 *eP* **P 16 38 22.8 -1.0**
RGN Rugen 50.91 341 P **P 16 38 22.3 -1.5**
BMRD Maredsous 50.93 333 *dP* **P 16 38 25.0 +0.9**
ARU Arti 51.06 14 LR LR 17 03 01.0
comp=Z,336nm,18.7s,baz=202,slow=40
ARU Arti 51.06 14 P **P 16 38 24.6 -0.3**
ARU IAmb IAmb 16 38 26.9
comp=Z,35nm,1.2s
ARU Arti 51.06 14*c iP* **P 16 38 24.3 -0.6**
ARU 16 40 25.8
ARU S **S 16 45 41.5 -1.2**

ARU SS **SS** **16 49 12.3 -5.6**
ARU pmax pmax
comp=Z,38nm,1.3s
ARU MLR MLR
comp=Z,674nm,16.0s
PBAR Barrancos **51.08 314** *e*P **P**
comp=Z,89nm,1.8s
IBBN Ibbenburen **51.12 336** *e*P **P** **16 38 26.7 +1.3**
comp=Z,43nm,1.3s,baz=141,slow=7.7
PVAQ Vaqueiros **51.26 312** *e*LR LR 16 58 09.8
comp=Z,861nm,18.0s
SLIT Slitere, Latvi **51.38 349** *e*P **P** **16 38 28.1 +0.9**
BSEG Bad Segeberg **51.42 339** *e*P **P** **16 38 29.0 +1.4**
comp=Z,51nm,1.2s,baz=141,slow=7.7
KIRV Kirov **51.42 7***ce*P **P** **16 38 27.7 +0.1**
PESTR Estremoz **51.76 314** *e*P **P** **16 38 32.9 +2.4**
comp=Z,74nm,1.2s
PESTR Estremoz **51.76 314** P **P** **16 38 29.2 -1.4**
PESTR IAmb IAmb 16 38 33.6
comp=Z,27nm,1.0s
PMRV Marv??o **51.86 315** *e*P **P** **16 38 33.2 +2.0**
PMRV Marv??o **51.86 315** *e*LQ LQ 16 57 24.9
PMRV *e*LR LR 16 59 38.5
comp=Z,598nm,16.0s
SVE Sverdlovsk **51.94 15** *e*P **P** **16 38 31.9 +0.4**
SVE pmax pmax
comp=Z,22nm,1.4s
BRVK Borovoye **52.01 24** P **P** **16 38 30.5 -1.7**
BRVK Borovoye **52.01 24***ce*P **P** **16 38 32.0 -0.1**
BRVK pmax pmax
comp=Z,21nm,2.5s
BVAR Borovoye Array **52.03 24** LR LR 17 02 50.7
comp=Z,547nm,18.1s,baz=208,slow=39
PCBR Castelo Branco **52.09 315** *e*P **P** **16 38 35.1 +2.2**
comp=Z,79nm,1.9s
MTSE Matsula **52.13 350** *e*P **P** **16 38 33.1 +0.3**
PNCL Nicolau / Gran **52.13 313** *e*P **P** **16 38 35.7 +2.4**
PMTG Montargil **52.30 314** *e*P **P** **16 38 37.1 +2.6**
comp=Z,69nm,1.7s
MVO Moncorvo **52.36 317** *e*P **P** **16 38 37.3 +2.3**
comp=Z,63nm,1.8s
MVO Moncorvo **52.36 317** *e*LQ LQ 16 57 34.9
MVO *e*LR LR 17 00 21.5
comp=Z,905nm,16.0s
MTE Manteigas **52.38 316** *e*P **P** **16 38 36.9 +1.7**
MTE Manteigas **52.38 316** *e*LQ LQ 16 56 44.9
MTE *e*LR LR 17 00 24.8
comp=Z,556nm,18.0s
PBRG Braganca **52.46 318** *e*P **P** **16 38 38.0 +2.3**
PACT Alcochete **52.61 314** *i* LQ LQ 16 37 26.0
PVIS Viseu **52.75 316** *e*P **P** **16 38 40.1 +2.2**
comp=Z,87nm,1.7s
POLO Lamas de Olo **52.97 317** *e*P **P** **16 38 42.1 +2.5**
comp=Z,56nm,1.7s
BRDH Bariadhala **53.02 67** LR LR 17 00 36.2
comp=Z,724nm,18.4s,baz=256,slow=35
KLMR Klimovskoe **53.02 1** *e*P **P** **16 38 36.9 -2.6**
KLMR AMP 16 38 43.0
comp=Z,95nm,2.0s
KLMR SS SKiKP 16 50 13.5 +14
KLMR SS SKiKP 16 50 13.5 +14
KLMR Klimovskoe **53.02 1** *e*P **P** **16 38 36.8 -2.7**
KLMR pmax pmax
comp=Z,95nm,2.0s
VIKU Vikbolandet **53.39 346** *e*P **P** **16 38 43.6 +1.4**
MEF Metsahovi **53.47 351** *e*P **P** **16 38 42.9 +0.1**
PGAV Gavieira, Arco **53.55 317** *e*P **P** **16 38 46.3 +2.5**
comp=Z,207nm,2.0s
PGAV Gavieira, Arco **53.55 317** *e*LQ LQ 16 57 26.0
PGAV *e*LR LR 17 00 38.2
comp=Z,1μm,16.0s
SHL Shillong **53.66 64** P **P** **16 38 43.9 -1.1**
SHL Shillong **53.66 64** P **P** **16 38 43.9 -1.1**
SHL pmax pmax
comp=Z,98nm,1.9s
SHL Shillong **53.66 64** P **P** **16 38 46.4 +1.4**
SNR=10
MAKZ Makanchi **53.71 36** P **P** **16 38 44.4 -0.4**
MAKZ IAmb IAmb 16 38 46.2
comp=Z,35nm,1.1s
MAKZ Makanchi **53.71 36** ⇑P **P** **16 38 45.2 +0.4**
LSA Lhasa **53.83 59** P **P** **16 38 44.4 -2.1**
LSA Lhasa **53.83 59** P **P** **16 38 44.4 -2.1**
LSA pmax pmax
comp=Z,13nm,1.1s
LSA Lhasa **53.83 59** P **P** **16 38 45.1 -1.4**
MUD Monsted U'grnd **53.83 340** *i* P **P** **16 38 47.3 +1.9**
MUD IAmb IAmb 16 38 50.1
comp=Z,601nm,2.6s
MK31 Makanchi Array **53.88 36** P **P** **16 38 45.9 -0.3**
MK31 IAmb IAmb 16 38 47.4
comp=Z,28nm,1.1s
MK31 Makanchi Array **53.88 36** P **P** **16 38 45.9 -0.3**
MK31 pmax pmax
comp=Z,28nm,1.1s
MKAR Makanchi Array **53.88 36** P **P** **16 38 45.8 -0.3**
comp=Z,21nm,0.9s,baz=228,slow=6.4,SNR=101
MKAR LR LR 17 05 12.1
comp=Z,641nm,18.7s,baz=250,slow=40
comp=Z,21nm,0.9s
MKAR Makanchi Array **53.88 36** P **P** **16 38 45.6 -0.6**
MKAR Makanchi Array **53.88 36** *i* P **P** **16 38 46.4 +0.3**
MKAR pmax pmax
comp=Z,21nm,0.9s
KURBB Kurchatov Arra **54.05 30** LR LR 17 05 02.8
comp=Z,1μm,18.9s,baz=210,slow=40
KURK Kurchatov **54.16 30** P **P** **16 38 47.6 -0.4**
KURK IAmb IAmb 16 38 53.3
comp=Z,50nm,1.4s
KURK Kurchatov **54.16 30***ce*P **P** **16 38 48.0 0.0**
KURK pmax pmax
comp=Z,70nm,2.5s
UPP Uppsala **54.39 347** *e*P **P** **16 38 50.1 +0.7**
FINES FINESS Array B **54.41 353** P **P** **16 38 50.3 +0.7**
comp=Z,6.7nm,0.9s,baz=148,slow=15,SNR=12
comp=Z,6.7nm,0.9s
BBTS Babate **54.42 282** LR LR 17 03 38.6
comp=Z,2μm,18.5s,baz=70,slow=38
RAF Rauma **54.66 350** *e*P **P** **16 38 52.0 +0.6**
SEM Semipalatinsk **54.80 31** *e*P **P** **16 38 53.1 +0.2**
comp=Z,55nm,1.9s,baz=31
SEM Semipalatinsk **54.80 31** *e*P **P** **16 38 53.1 +0.2**
SEM pmax pmax
comp=Z,55nm,1.9s
ZSN Zaisan **55.73 36** *e*P **P** **16 38 60.0 +0.5**
comp=Z,58nm,2.6s,baz=36
ZSN Zaisan **55.73 36** *e*P **P** **16 38 59.9 +0.5**
ZSN pmax pmax
comp=Z,58nm,2.6s
WMQ Urumqi **55.81 41** ⇓P **P** **16 39 00.8 +0.6**
WMQ pP sP 16 39 04.5 +1.1
WMQ sP pP 16 39 10.5 +8.0
WMQ pmax pmax
comp=Z,21nm,1.3s
WMQ pmax pmax
comp=Z,760nm,5.9s
WMQ LR LR
comp=Z,610nm,20.1s
WMQ LR LR
comp=Z,230nm,21.3s
WMQ LR LR
comp=Z,610nm,22.5s
KONO Kongsberg **56.28 343** P **P** **16 39 02.7 -0.5**
KONO Kongsberg **56.28 343** P **P** **16 39 02.7 -0.5**
KONO pmax pmax
comp=Z,88nm,1.5s
NAO01 NORSAR Array S **56.91 344** P **P** **16 39 07.5 -0.1**
NC405 NORSAR Array S **56.92 345** P **P** **16 39 07.4 -0.3**
NB2 NORSAR Subarra **56.99 345** P **P** **16 39 08.9 +0.7**
comp=Z,71nm,1.2s,baz=147,slow=6.9
NB2 NORSAR Subarra **56.99 345** P **P** **16 39 08.9 +0.7**
baz=147,slow=6.9
NOA NORSAR Array B **56.99 345** P **P** **16 39 08.5 +0.3**
comp=Z,17nm,0.9s,baz=142,slow=7.0,SNR=35
comp=Z,17nm,0.9s
NC204 NORSAR Array S **57.30 344** P **P** **16 39 10.6 +0.1**
NC204 IAmb IAmb 16 39 21.9
comp=Z,39nm,1.0s
DGZ Jazzator, Alta **58.32 35** *i* P **P** **16 39 17.0 -1.0**
DGZ pmax pmax
comp=Z,34nm,1.4s
GOMU GeErMu **58.38 52** P **P** **16 39 19.3 +0.4**
GOMU pP sP 16 39 23.0 +0.9
GOMU sP pP 16 39 25.5 +4.3
GOMU pmax pmax
comp=Z,26nm,1.4s
GOMU pmax pmax
comp=Z,170nm,4.3s
GOMU LR LR
comp=Z,300nm,13.1s
GOMU LR LR
comp=Z,120nm,13.2s
GOMU LR LR
comp=Z,220nm,15.3s
GSI Gunungsitoli **59.08 93** P **P** **16 39 23.3 -0.4**
ZAA0 Zalesovo Array **59.13 30** P **P** **16 39 22.3 -1.1**
ZALV Zalesovo Beam **59.13 30** P **P** **16 39 22.8 -0.5**
comp=Z,7.1nm,0.7s,baz=244,slow=7.1,SNR=36
ZALV LR LR 17 08 12.7
comp=Z,1μm,18.2s,baz=227,slow=39
comp=Z,7.1nm,0.7s
ZALV Zalesovo Beam **59.13 30** P **P** **16 39 22.3 -1.0**
CMAR Chiang Mai Arr **59.50 73** P **P** **16 39 25.1 -1.4**
comp=Z,4.9nm,0.9s,baz=270,slow=8.0,SNR=26
CMAR LR LR 17 05 15.6
comp=Z,90nm,19.1s,baz=265,slow=36
comp=Z,4.9nm,0.9s
CMAR Chiang Mai Arr **59.50 73** P **P** **16 39 24.1 -2.4**
TNCH TengChong **59.54 66** P **P** **16 39 26.0 -0.9**
TNCH sP sP 16 39 34.0 +3.8
TNCH S **S** **16 47 37.0 -0.7**
TNCH sS sS 16 47 42.0 +0.4
TNCH pmax pmax
comp=Z,130nm,4.4s
APA Apatity **59.87 358** ⇓*i* P P 16 39 22.0 -6.1
APA pmax pmax
comp=Z,9.0nm,1.4s
APA MLR MLR
comp=Z,4μm,14.0s
PSI Prapat **60.22 91** LR LR 17 02 54.5
comp=Z,331nm,20.2s,baz=258,slow=34
PHRA Phrae **60.72 73** P **P** **16 39 31.7 -3.2**
PZH PanZhiHua **62.58 64** P **P** **16 39 47.0 -0.5**
PZH sP **sP** **16 39 54.3 +3.6**
PZH S **S** **16 48 15.5 -0.8**
PZH SS **SS** **16 52 18.3 -2.2**
PZH pmax pmax
comp=Z,12nm,1.0s
PZH pmax pmax
comp=Z,210nm,3.5s
PZH LR LR
comp=Z,600nm,20.5s
PZH LR LR
comp=Z,520nm,19.0s
PZH LR LR
comp=Z,760nm,20.1s
GTA Gaotai **62.99 50** P **P** **16 39 49.0 -1.0**
GTA pP sP 16 39 53.5 +0.3
GTA sS sS 16 48 29.0 +4.1
GTA pmax pmax
comp=Z,11nm,1.4s
GTA pmax pmax
comp=Z,170nm,5.1s
GTA LR LR
comp=Z,300nm,17.8s
GTA LR LR
comp=Z,390nm,17.4s
GTA LR LR
comp=Z,710nm,18.2s
SDSI Sungai Dareh **63.23 95** P **P** **16 39 52.0 +0.2**
comp=Z,20nm,1.4s,comp=Z,542nm
KMI Kunming **63.36 66** ⇓P **P** **16 39 53.0 +0.1**
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI LR LR
comp=Z,250nm,22.4s
KMI LR LR
comp=Z,430nm,21.6s
KMI LR LR
comp=Z,490nm,21.5s
CD2 Chengdu **64.77 60** P **P** **16 40 00.5 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CMLA Cha da Macela **64.91 308** *i* P **P** **16 40 01.5 -1.0**
LZH Lanzhou **65.51 54** *e*P **P** **16 40 06.8 +0.1**
LZH sP sP 16 40 12.8 +2.9
LZH S **S** **16 48 56.8 +4.3**
LZH pmax pmax
comp=Z,16nm,1.2s
LZH pmax pmax
comp=Z,260nm,4.3s
LZH LR LR
comp=Z,750nm,15.8s
LZH LR LR
comp=Z,550nm,16.7s
LZH LR LR
comp=Z,880nm,17.4s
LWLI Liwa **66.51 99** P **P** **16 40 13.3 -0.1**
comp=Z,89nm,0.8s
MDSI Maura Dua **66.53 98** P **P** **16 40 13.4 0.0**
comp=Z,22nm,1.1s
GYA Guiyang **66.97 65** ⇑*i* P **P** **16 40 14.3 -1.9**
GYA pmax pmax
comp=Z,17nm,2.2s
GYA LR LR
comp=Z,510nm,23.8s
KASI Kota Agung **67.03 99** P **P** **16 40 16.6 +0.1**
comp=Z,51nm,1.4s
ZAK Zakamensk **68.04 39** *e*P **P** **16 40 22.2 -0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
IRK Irkutsk **69.12 37** *e*P **P** **16 40 28.8 -0.2**
IRK pmax pmax
comp=Z,60nm,2.5s
NRIK Noril'sk **69.16 17** P **P** **16 40 28.9 0.0**
comp=Z,13nm,1.0s,baz=200,slow=3.9,SNR=18
NRIK LR LR 17 15 21.7
comp=Z,426nm,19.6s,baz=234,slow=40
comp=Z,13nm,1.0s
NRIK Noril'sk **69.16 17** P **P** **16 40 27.9 -1.0**
NRIK IAmb IAmb 16 40 30.9
comp=Z,28nm,1.1s
XAN Xi'an **69.42 57** ⇑P **P** **16 40 30.5 -0.8**
XAN pP sP 16 40 36.0 +1.5
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN LR LR
comp=Z,330nm,19.0s
XAN LR LR
comp=Z,370nm,16.8s
XAN LR LR
comp=Z,410nm,19.7s
SONM Songino Array **69.45 42** P **P** **16 40 31.6 +0.3**
comp=Z,13nm,0.9s,baz=246,slow=6.3,SNR=45
SONM LR LR 17 15 24.1
comp=Z,444nm,19.2s,baz=245,slow=40
comp=Z,13nm,0.9s
SONM Songino Array **69.45 42** P **P** **16 40 31.3 0.0**
SONM IAmb IAmb 16 40 33.0
comp=Z,23nm,1.1s
ENH Enshi **69.65 61** P **P** **16 40 31.0 -1.8**
ENH IAmb IAmb 16 40 39.0
comp=Z,30nm,1.4s
QIZ Qiongzhong **69.83 73** P **P** **16 40 33.3 -0.7**
QIZ S **S** **16 49 44.0 -0.5**
QIZ LR LR
comp=Z,320nm,11.6s
QIZ LR LR
comp=Z,250nm,16.3s
QIZ LR LR
comp=Z,310nm,17.1s
ULN Ulaanbaatar **69.89 42** P **P** **16 40 32.9 -1.2**
ULN Ulaanbaatar **69.89 42***ce*P **P** **16 40 33.5 -0.6**
ULN pmax pmax
comp=Z,32nm,2.5s
LEM Lembang **70.32 100** LR LR 17 08 18.6
comp=Z,1μm,19.5s,baz=235,slow=33
HHC Hu-ho-hao-te **72.10 50** *e*P **P** **16 40 47.5 -0.1**
HHC pmax pmax
comp=Z,39nm,1.1s
HHC pmax pmax
comp=Z,560nm,4.0s
HHC LR LR
comp=Z,510nm,17.7s
HHC LR LR
comp=Z,770nm,14.7s
HHC LR LR
comp=Z,820nm,15.3s
SCO Scoresbysund **73.18 342** *i* P **P** **16 40 55.0 +1.8**
SCO IAmb IAmb 16 40 56.1
comp=Z,9.5nm,0.9s
HNS HongShan **74.32 53** ⇓P **P** **16 41 00.0 -0.6**
HNS *e*S **S** **16 50 37.5 +2.1**
HNS pmax pmax
comp=Z,11nm,1.5s
HNS pmax pmax
comp=Z,340nm,6.3s
HNS LR LR
comp=Z,190nm,16.7s
HNS LR LR
comp=Z,530nm,19.9s
HNS LR LR
comp=Z,360nm,23.9s
DBG Daneborg **74.45 346** *i* P **P** **16 41 01.9 +1.2**
DBG IAmb IAmb 16 41 03.5
comp=Z,44nm,1.2s
DAG Danmarks Havn **75.33 348** *i* P **P** **16 41 06.2 +0.5**
DAG IAmb IAmb 16 41 07.5
comp=Z,31nm,1.3s
RCBR Riachuelo **75.53 262** LR LR 17 11 18.9
comp=Z,283nm,19.5s,baz=219,slow=33
BJT Baijiatuau **75.56 51** P **P** **16 41 07.1 -0.6**
BJT IAmb IAmb 16 41 12.5
comp=Z,31nm,1.8s
BJT Baijiatuau **75.56 51** P **P** **16 41 07.1 -0.6**
BJT pmax pmax
comp=Z,31nm,1.8s
BJI Beijing **75.56 51** P **P** **16 41 08.0 +0.3**
BJI sP **sP** **16 41 11.5 +0.5**
BJI S **S** **16 50 46.5 -2.7**
BJI pmax pmax
comp=Z,4.0nm,1.2s
BJI LR LR
comp=Z,390nm,20.8s
BJI LR LR
comp=Z,150nm,19.6s
BJI LR LR
comp=Z,260nm,20.7s
XLT XiLinHaoTe **75.66 47** ⇓*i* P **P** **16 41 08.5 +0.1**
XLT pP sP 16 41 12.5 +0.9
XLT sP pP 16 41 15.0 +4.2
XLT PcP **PcP** **16 41 22.3 +1.1**
XLT pmax pmax
comp=Z,15nm,1.0s
XLT pmax pmax
comp=Z,250nm,5.6s
XLT LR LR
comp=Z,68nm,22.1s
XLT LR LR
comp=Z,550nm,18.3s
XLT LR LR
comp=Z,670nm,20.4s
BOD Bodaibo **75.73 32** *e*P **P** **16 41 07.2 -1.1**
BOD pmax pmax
comp=Z,46nm,1.6s
TIA Tai'an **76.23 55** ⇓P **P** **16 41 10.5 -1.1**
TIA pmax pmax
comp=Z,8.0nm,1.6s
TIA LR LR
comp=Z,410nm,17.8s
TIA LR LR
comp=Z,230nm,19.6s
TIA LR LR
comp=Z,520nm,20.6s
MAW Mawson **77.12 171** LR LR 17 10 03.6
comp=Z,430nm,21.1s,baz=341,slow=32
NOR Nord **77.58 353** *i* P **P** **16 41 18.4 0.0**
NOR IAmb IAmb 16 41 20.4
comp=Z,48nm,1.6s
NJ2 Nanjing **77.70 59** *e*P **P** **16 41 19.5 -0.5**
NJ2 pmax pmax
comp=Z,8.0nm,1.2s
HIA Hailar **78.41 41** P **P** **16 41 21.9 -1.8**
HIA IAmb IAmb 16 41 25.1
comp=Z,19nm,1.2s
HIA Hailar **78.41 41** P **P** **16 41 21.9 -1.8**
HIA pmax pmax
comp=Z,19nm,1.2s
ICESG Greenland Ices **78.64 339** *i* P **P** **16 41 26.1 +1.2**
ICESG IAmb IAmb 16 41 27.4
comp=Z,23nm,1.2s
SUMG Summit **78.81 343** *i* P **P** **16 41 28.0 +2.2**
SUMG IAmb IAmb 16 41 28.4
comp=Z,45nm,1.1s
ELIB Princess Elisa **80.14 185** *d*P **P** **16 41 32.4 -0.3**
comp=Z,13nm,1.2s
DY2G Dye2 **80.92 336** *i* P **P** **16 41 37.0 -0.2**
DY2G IAmb IAmb 16 41 41.4
comp=Z,220nm,2.1s
KAPI Kappang **81.93 96** LR LR 17 17 14.0
comp=Z,454nm,18.7s,baz=284,slow=35
RIB01 Linhares ES **82.26 249** *e*P **P** **16 41 48.2 +3.3**
CN2 Changchun **82.44 47** *e*P **P** **16 41 45.5 +0.1**
CN2 *e*S **S** **16 52 00.0 -2.5**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,400nm,6.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,700nm,18.0s
NEEM North Greenlan **82.44 347** *i* P **P** **16 41 46.5 +1.3**
NEEM IAmb IAmb 16 41 50.5
comp=Z,266nm,2.3s
SFJD Kangerlussuaq **82.65 337** *i* P **P** **16 41 46.5 +0.5**
SFJD IAmb IAmb 16 41 51.7
comp=Z,27nm,1.1s
TIXI Tiksi **82.81 19** LR LR 17 24 38.0
comp=Z,356nm,19.0s,baz=182,slow=40
TIXI Tiksi **82.81 19** P **P** **16 41 43.9 -2.8**
TIXI IAmb IAmb 16 41 51.5
comp=Z,26nm,1.3s
TIXI Tiksi **82.81 19***ce*P **P** **16 41 46.9 +0.2**
TIXI pmax pmax
comp=Z,45nm,2.5s
ZEA Zeya **83.03 37** *e*P **P** **16 41 49.1 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.7s
ZEA MLR MLR
comp=E,200nm,18.0s
ZEA MLR MLR
comp=Z,300nm,20.0s
NUUK Nuuk **83.26 334** *i* P **P** **16 41 45.0 -4.1**
NUUK IAmb IAmb 16 41 48.6
comp=Z,32nm,0.9s
HEH HeiHe **83.36 40** *e*P **P** **16 41 48.5 -1.5**
HEH pmax pmax
comp=Z,17nm,1.3s
BNX BinXian **83.69 45** ⇑P **P** **16 41 51.0 -0.8**
BNX pmax pmax
comp=Z,13nm,1.0s
BNX pmax pmax
comp=Z,380nm,5.3s
YAK Yakutsk **83.75 28** LR LR 17 24 25.1
comp=Z,491nm,18.1s,baz=272,slow=39
YAK Yakutsk **83.75 28** P **P** **16 41 50.0 -1.7**
YAK Yakutsk **83.75 28** *e*P **P** **16 41 50.5 -1.2**
YAK *e*S **S** **16 52 08.6 -6.4**
YAK *e*SSS SSS 17 01 02.7
YAK pmax pmax
comp=Z,29nm,1.5s
YAK pmax pmax
comp=E,15nm,1.8s
YAK pmax pmax
comp=Z,259nm,5.8s
YAK pmax pmax
comp=N,93nm,4.7s
YAK pmax pmax
comp=E,136nm,7.5s
YAK smax smax
comp=N,128nm,5.4s
YAK smax smax
comp=E,107nm,5.7s
NWAO Narrogin (SRO) **84.71 124** LR LR 17 17 02.6
comp=E,159nm,18.1s,slow=34
KSAR Wonju Array Be **84.79 53** P **P** **16 41 56.0 -1.6**
KSAR Wonju Array Be **84.79 53** P **P** **16 41 56.0 -1.6**
KSRS Korea Array **84.82 53** P **P** **16 41 56.4 -1.3**
comp=E,3.9nm,1.0s,baz=271,slow=5.7,SNR=7.2
KSRS LR LR 17 22 47.5
comp=E,126nm,19.2s,baz=265,slow=38
comp=E,3.9nm,1.0s
DIAM Diamantina, MG **85.13 251** *e*P **P** **16 42 01.3 +1.4**
SDBA SAO DESIDERIO **85.36 257** *e*P **P** **16 42 02.3 +1.4**
DAV Davao City (W) **86.08 83** LR LR 17 21 39.2

	comp=E,187nm,18.4s,baz=274,slow=36							
KLR	**Kul'dur**	**86.26**	**41**	LR	LR	17 25 21.4		
	comp=E,531nm,18.6s,baz=282,slow=39							
KLR	**Kul'dur**	**86.26**	**41**	*ceP*	**P**	**16 42 03.6**	**-1.1**	
KLR				pmax	pmax			
	comp=Z,19nm,1.0s							
BATI	**Baumata**	**86.53**	**101**	LR	LR	17 17 10.4		
	comp=Z,590nm,22.0s,baz=278,slow=33							
TULEG	**Thule**	**86.55**	**347**	*eP*	**P**	**16 42 03.3**	**-2.3**	
TULEG	**Thule**	**86.55**	**347**	*eP*	**P**	**16 42 05.7**	**+0.1**	
TULEG				IAmb	IAmb	16 42 07.2		
	comp=Z,62nm,1.6s							
USRK	**Ussuriysk Ar.**	**87.09**	**46**	P	**P**	**16 42 07.8**	**-1.1**	
USRK				LR	LR	17 23 48.2		
	comp=Z,1.3nm,0.8s,baz=298,slow=6.1,SNR=3.0							
	comp=Z,521nm,22.0s,baz=285,slow=38							
	comp=Z,1.3nm,0.8s							
SMTB	**Santa Maria do**	**87.45**	**261**	*eP*	**P**	**16 42 13.4**	**+2.2**	
JNU	**Nakatsue**	**87.73**	**57**	LR	LR	17 22 56.0		
	comp=Z,160nm,18.5s,baz=298,slow=37							
BDFB	**Brasilia**	**88.83**	**254**	LR	LR	17 17 53.5		
	comp=Z,375nm,21.2s,baz=75,slow=33							
CASY	**Casey**	**89.87**	**157**	P	**P**	**16 42 20.5**	**-0.9**	
CASY				IAmb	IAmb	16 42 26.1		
	comp=Z,14nm,1.0s							
MDP	**Montagnes des**	**90.56**	**275**	LR	LR	17 21 20.4		
	comp=Z,207nm,20.1s,baz=66,slow=34							
SCHQ	**Schefferville**	**92.51**	**326**	LR	LR	17 24 13.9		
	comp=Z,83nm,19.1s,baz=81,slow=36							
SIJI	**Sorong**	**92.75**	**91**	LR	LR	17 23 02.5		
	comp=Z,92nm,20.7s,baz=156,slow=35							
MJAR	**Matsushiro Arr**	**93.09**	**53**	LR	LR	17 26 16.7		
	comp=Z,173nm,22.0s,baz=296,slow=37							
SEY	**Seymchan**	**93.67**	**25**	LR	LR	17 30 54.3		
	comp=Z,577nm,18.3s,baz=222,slow=39							
SEY	**Seymchan**	**93.67**	**25**	*ceP*	**P**	**16 42 39.6**	**+0.4**	
SEY				pmax	pmax			
	comp=Z,11nm,1.5s							
MA2	**Magadan**	**94.32**	**28**	LR	LR	17 30 37.3		
	comp=Z,287nm,18.9s,baz=291,slow=39							
ASAJ	**Asahikawa**	**94.59**	**45**	LR	LR	17 30 19.0		
	comp=Z,200nm,18.4s,baz=327,slow=39							
JHJ	**Hachijo jima 2**	**95.08**	**56**	LR	LR	17 27 30.4		
	comp=Z,156nm,20.0s,baz=166,slow=37							
BILL	**Bilibino**	**95.98**	**17**	*eP*	**P**	**16 42 50.8**	**+1.1**	
BILL				*e*		16 42 54.1		
BILL				pmax	pmax			
	comp=Z,9.0nm,1.8s							
BILL				MLR	MLR			
	comp=Z,128nm,20.0s							
QSPA	**South Pole Qui**	**97.69**	**180**	LR	LR	17 23 40.2		
	comp=Z,245nm,21.2s,baz=263,slow=33							
ASAR	**Alice Springs**	**97.88**	**113**	P	**P**	**16 42 57.7**	**-1.6**	
ASAR				PP	**PP**	**16 46 55.1**	**-2.8**	
	comp=Z,0.6nm,0.9s,baz=287,slow=4.3,SNR=3.2							
	comp=Z,1.0nm,1.1s,baz=270,slow=8.3,SNR=4.2							
ASAR				LR	LR	17 22 52.0		
	comp=Z,358nm,20.7s,baz=288,slow=33							
	comp=Z,0.6nm,0.9s							
WRA	**Warramunga Arr**	**97.95**	**109**	P	**P**	**16 42 57.2**	**-2.5**	
WRA				LR	LR	17 21 34.3		
	comp=Z,0.8nm,1.0s,baz=300,slow=3.0,SNR=2.6							
	comp=Z,314nm,21.9s,baz=268,slow=32							
	comp=Z,0.8nm,1.0s							
CPUP	**Villa Florida**	**98.68**	**245**	LR	LR	17 26 44.9		
	comp=Z,289nm,18.2s,baz=83,slow=35							
YKA	**Yellowknife Ar**	**107.01**	**347**	PP	**PP**	**16 48 03.8**	**-0.7**	
	comp=Z,2.7nm,1.0s,baz=21,slow=7.0,SNR=15							
ILAR	**Eielson Array**	**107.59**	**2**	PP	**PP**	**16 48 07.3**	**-1.4**	
	comp=Z,0.6nm,1.0s,baz=357,slow=4.7,SNR=4.1							
PDAR	**Pinedale Array**	**121.99**	**333**	PKP	**PKPdf**	**16 48 16.9**	**-1.2**	
	comp=Z,1.6nm,0.9s,baz=82,slow=2.5,SNR=9.9							
DZM	**Mont Dzumac**	**127.86**	**112**	*e*LR	LR	17 28 35.0		
	comp=Z,916nm,22.8s							
TXAR	**Lajitas Array**	**128.27**	**317**	PKP	**PKPdf**	**16 48 28.9**	**-1.4**	
	comp=Z,0.8nm,0.6s,baz=11,slow=2.6,SNR=4.3							
NVAR	**Mina Array Bea**	**129.30**	**337**	PKP	**PKPdf**	**16 48 32.0**	**-0.2**	
	comp=Z,3.4nm,0.9s,baz=48,slow=0.7,SNR=17							
PPT2	**Papeete2**	**167.36**	**142**	*e*LR	LR	17 46 53.9		
	comp=Z,192nm,28.0s							
PPT2				*e*LR	LR	17 46 54.1		
	comp=Z,330nm,26.8s							

IDC 27 16:32:24.6±2.3, 2°.22N×127°.60E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=176.6km s-min=24.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**164**	P	P	16 37 31.1	-0.2
	0.8nm,0.5s,baz=342,slow=10,SNR=11						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**26.46**	**167**	P	P	16 38 03.6	0.0
	0.4nm,0.6s,baz=354,slow=7.7,SNR=24						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**59.28**	**325**	P	P	16 42 28.2	+0.1
	0.4nm,0.4s,baz=113,slow=7.8,SNR=6.8						
	0.4nm,0.4s						

*ISK **27** 16:33:16.9, 39°.55N×26°.15E, h6km, ML2.5/18*
*THE **27** 16:33:17.4, 39°.55N×26°.12E, h3km±2km, ML2.1/4, Error ellipse: s-maj=2.5km s-min=0.7km az=118.0*
*DDA **27** 16:33:17.4±0.0, 39°.55N×26°.16E, h8km, ML2.4*
*ATH **27** 16:33:18.4, 39°.54N×26°.04E, h15km±4km, ML2.1/3, Error ellipse: s-maj=8.5km s-min=1.4km az=260.0*

ISC 27 16:33:17.2±0.8, 39°.54N±0°.01×26°.15E±0°.02, h12km±5km, n54, σ0°53/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.04**	**190**	P	**Pg**	**16 33 19.5**	**+0.1**
KOCA				*i* AML	AML	16 33 20.0	
	comp=E,4μm,0.6s						
KOCA				S	**Sg**	**16 33 20.7**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.09**	**187**	Pg	**Pg**	**16 33 19.9**	**0.0**
GPNR				Sg	**Sg**	**16 33 21.4**	**-0.4**
BOZC	**Bozcaada**	**0.31**	**346**	Pg	**Pg**	**16 33 23.6**	**+0.1**
BOZC				Sg	**Sg**	**16 33 28.1**	**+0.4**
BOZC	**Bozcaada**	**0.31**	**346**	P	**Pg**	**16 33 23.6**	**+0.1**
BOZC				S	**Sg**	**16 33 28.1**	**+0.4**
BOZC				*i* AML	AML	16 33 29.0	
	comp=N,250nm,0.2s						
EZN	**Ezine**	**0.31**	**26**	P	**Pg**	**16 33 23.8**	**+0.2**
EZN				S	**Sg**	**16 33 28.3**	**+0.5**
	692nm,0.1s						
EZN	**Ezine**	**0.31**	**26**	Pg	**Pg**	**16 33 23.6**	**0.0**
EZN				Sg	**Sg**	**16 33 28.3**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.37**	**57**	P	**Pg**	**16 33 24.5**	**0.0**
BAYC				S	**Sg**	**16 33 29.6**	**+0.2**
SIGR	**SIGRI**	**0.40**	**214**	P	**Pg**	**16 33 25.4**	**+0.2**
SIGR				S	**Sg**	**16 33 31.3**	**+0.8**
	275nm,0.3s						
SIGR	**SIGRI**	**0.40**	**214**	Pg	**Pg**	**16 33 25.4**	**+0.2**
SIGR				Sg	**Sg**	**16 33 31.4**	**+0.9**
SIGR	**SIGRI**	**0.40**	**214**	P	**Pg**	**16 33 25.4**	**+0.2**
SIGR				S	**Sg**	**16 33 30.9**	**+0.4**
SIGR				AML	AML	16 33 31.9	
	comp=E,438μm,0.4s						
SIGR				AML	AML	16 33 32.0	
	comp=N,656μm,0.3s						
AYVA	**Ayvalik**	**0.48**	**119**	P	**Pg**	**16 33 26.6**	**-0.1**
AYVA				S	**Sb**	**16 33 34.3**	**-0.4**
ECEA	**Canakkale, Ece**	**0.50**	**2**	P	**Pg**	**16 33 27.1**	**0.0**
ECEA				S	**Sb**	**16 33 34.8**	**-0.5**
GADA	**Gvkgeada**	**0.67**	**344**	Pg	**Pg**	**16 33 30.3**	**0.0**
BUHA	**Balikesir, Bur**	**0.72**	**93**	P	**Pg**	**16 33 31.5**	**+0.4**
BUHA				S	**Sb**	**16 33 41.5**	**-0.1**
DKL	**Dikili**	**0.75**	**129**	Pg	**Pg**	**16 33 31.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.89**	**16**	Pg	**Pg**	**16 33 34.3**	**-0.1**
GELI				Sg	**Sb**	**16 33 47.1**	**+0.6**
ZEDA	**zmir-Bergama**	**0.92**	**128**	P	**Pb**	**16 33 35.3**	**+0.1**
ZEDA				S	**Sn**	**16 33 48.7**	**-0.6**
LPK	**Lapseki**	**0.95**	**29**	Pg	**Pg**	**16 33 35.5**	**-0.1**
LPK				Sg	**Sb**	**16 33 48.8**	**+0.5**
SMTH	**Samothraki Isl**	**1.04**	**333**	P	**Pb**	**16 33 36.9**	**-0.3**
SMTH				S	**Sg**	**16 33 51.0**	**+0.2**
	comp=N,100nm,0.2s						
SMTH	**Samothraki Isl**	**1.04**	**333**	P	**Pb**	**16 33 36.7**	**-0.5**
SMTH				AML	AML	16 33 53.6	
	comp=N,251μm,0.2s						
SMTH				AML	AML	16 33 53.9	
	comp=E,174μm,0.4s						
CAVK	**Edirne/Enez-Ca**	**1.15**	**1**	P	**Pb**	**16 33 38.9**	**-0.1**
CAVK				S	**Sn**	**16 33 54.7**	**-0.1**
CAVK				*i* AML	AML	16 33 56.0	
	comp=E,86nm,0.8s						
CHOS	**Chios island**	**1.16**	**184**	P	**Pb**	**16 33 38.9**	**-0.4**
CHOS				S	**Sn**	**16 33 55.4**	**+0.2**
CHOS	**Chios island**	**1.16**	**184**	Pn	**Pg**	**16 33 39.6**	**+0.1**
CHOS	**Chios island**	**1.16**	**184**	P	**Pb**	**16 33 38.9**	**-0.4**
ERIK	**Erikli-Kesan**	**1.16**	**14**	Pn	**Pb**	**16 33 38.9**	**-0.4**
ENEZ	**Enez**	**1.19**	**0**	Pn	**Pb**	**16 33 39.9**	**+0.1**
KRBG	**Karabiga-Canak**	**1.23**	**46**	Pn	**Pb**	**16 33 40.5**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.23**	**97**	P	**Pg**	**16 33 41.3**	**+0.5**
STEP				S	**Sn**	**16 33 57.7**	**+0.9**
STEP				*i* AML	AML	16 34 01.0	
	comp=E,65nm,0.3s						
URLA	**Izmir**	**1.23**	**163**	Pn	**Pn**	**16 33 40.1**	**-0.3**
URLA	**Izmir**	**1.23**	**163**	P	**Pn**	**16 33 38.7**	**-1.7**
URLA				S	**Sg**	**16 33 57.2**	**+0.3**
URLA				*i* AML	AML	16 34 06.0	
	comp=E,55nm,0.4s						
KNL	**Balıkesir**	**1.28**	**55**	P	**Pn**	**16 33 40.2**	**-0.8**
KNL				S	**Sg**	**16 33 58.9**	**+0.3**
KNL				*i* AML	AML	16 34 01.0	
	comp=E,82nm,0.5s						
GONE	**Gonen-Balikesi**	**1.29**	**67**	Pn	**Pg**	**16 33 41.8**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**1.33**	**168**	P	**Pn**	**16 33 41.6**	**-0.1**
ZEYE				S	**Sn**	**16 33 59.5**	**+0.2**
BALB	**Balikesir**	**1.34**	**85**	Pn	**Pb**	**16 33 42.4**	**+0.1**
KESN	**Edirne-Kesan**	**1.34**	**17**	P	**Pb**	**16 33 42.5**	**-0.1**
KESN				S	**Sn**	**16 34 00.4**	**+0.2**
KESN				*i* AML	AML	16 34 03.0	
	comp=E,157nm,0.2s						
BLCB	**Balcova**	**1.35**	**149**	Pn	**Pb**	**16 33 42.8**	**+0.3**
ALN	**Alexandroupoli**	**1.35**	**357**	P	**Pb**	**16 33 42.5**	**-0.1**
ALN				S	**Sn**	**16 34 00.4**	**+0.5**
	comp=E,115nm,0.4s						
ALN	**Alexandroupoli**	**1.35**	**357**	Pn	**Pb**	**16 33 42.5**	**-0.1**
ALN	**Alexandroupoli**	**1.35**	**357**	P	**Pn**	**16 33 42.3**	**+0.3**
ALN				AML	AML	16 34 01.6	
	comp=E,297μm,0.3s						
ALN				AML	AML	16 34 02.9	
	comp=N,156μm,0.4s						
RKY	**Sarkoy-Tekirda**	**1.39**	**34**	Pn	**Pb**	**16 33 43.3**	**+0.1**
SART	**Tekirdag**	**1.39**	**34**	P	**Pb**	**16 33 43.0**	**-0.2**
SART				S	**Sg**	**16 34 01.9**	**-0.2**
SART				*i* AML	AML	16 34 04.0	
	comp=N,62nm,0.4s						
THAS	**Thassos island**	**1.53**	**315**	P	**Pn**	**16 33 44.0**	**-0.4**
THAS	**Thassos island**	**1.53**	**315**	P	**Pn**	**16 33 43.7**	**-0.6**
EDC	**Edincik**	**1.54**	**58**	Pn	**Pn**	**16 33 45.2**	**+0.6**
DGB	**zmir**	**1.60**	**159**	P	**Pn**	**16 33 45.8**	**+0.4**
DGB				S	**Sn**	**16 34 05.3**	**-0.6**
UKOP	**Uzunkopru-Edir**	**1.63**	**13**	Pn	**Pb**	**16 33 46.7**	**-0.5**
RDO	**Rodhopi**	**1.67**	**344**	P	**Pn**	**16 33 47.1**	**+0.8**
RDO	**Rodhopi**	**1.67**	**344**	Pn	**Pb**	**16 33 47.2**	**-0.7**
CRLT	**Corlu**	**2.00**	**37**	Pn	**Pn**	**16 33 52.1**	**+1.3**
DEMI	**Demirci**	**2.06**	**103**	P	**Pg**	**16 33 56.5**	**-0.1**
DEMI				S	**Sg**	**16 34 23.2**	**-0.1**
DEMI				*i* AML	AML	16 34 29.0	
	comp=N,18nm,0.3s						
KIRK	**Kırklareli**	**2.35**	**18**	P	**Pb**	**16 33 59.3**	**-0.2**
KIRK				S	**Sn**	**16 34 23.7**	**-0.8**
ULDT	**Uludag**	**2.38**	**74**	P	**Pb**	**16 33 58.8**	**-1.3**
ULDT				S	**Sg**	**16 34 32.8**	**-0.9**
USAK	**Uak-Merkez**	**2.38**	**109**	P	**Pn**	**16 33 57.1**	**+1.0**
USAK				S	**Sb**	**16 34 29.9**	**+0.5**
USAK				*i* AML	AML	16 34 44.0	
	comp=N,26nm,0.7s						
VIZE	**Kirklareli, Vi**	**2.41**	**32**	P	**Pn**	**16 33 57.4**	**+0.9**
VIZE				S	**Sn**	**16 34 24.1**	**-1.8**
VIZE				*i* AML	AML	16 34 37.0	
	comp=N,12nm,0.8s						

*NEIC **27** 16:40:50.9±2.4, 14°.2N±0°.1×144°.5E±0°.1, h190km±9km, mb4.3/9, Error ellipse: s-maj=22.0km s-min=18.9km az=137.0*
*IDC **27** 16:40:52.0±0.7, 14°.33N×145°.04E, h161km±4km, mb3.6/9, mbtmp4.0/9, Error ellipse: s-maj=29.2km s-min=14.5km az=89.0*

ISC 27 16:40:50.4±0.7, 14°.4N±0°.1×145°.0E±0°.2, h150km, n26, σ24°/14, mb4.1/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.78**	**192**	P	Pn	16 41 17.5	+4.1
	3μm,0.3s,baz=74,slow=2.4,SNR=525						
GUMO				S	**Sn**	**16 41 35.2**	**+4.2**
	742nm,0.3s,baz=152,slow=23,SNR=18						
PATS	**Pohnpei**	**15.04**	**118**	P	**Pn**	**16 44 17.9**	**+2.6**
H11S3	**WAKE ISLAND Hy**	**21.17**	**76**	T	T	17 07 33.0	
	baz=261,slow=75,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**21.19**	**76**	T	T	17 07 50.4	
	baz=261,slow=75,SNR=2.7						
H11S2	**WAKE ISLAND Hy**	**21.19**	**76**	T	T	17 07 32.1	
	baz=261,slow=75,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**21.56**	**73**	T	T	17 07 37.9	
	baz=260						
H11N2	**WAKE ISLAND Hy**	**21.57**	**73**	T	T	17 07 39.7	
	baz=260						
H11N3	**WAKE ISLAND Hy**	**21.58**	**73**	T	T	17 07 35.2	
	baz=260						
PMG	**Port Moresby**	**23.70**	**175**	P	**P**	**16 45 48.7**	**+0.1**
	5.2nm,0.5s,baz=338,slow=1.6,SNR=5.9						
	5.2nm,0.5s						
PMG	**Port Moresby**	**23.70**	**175**	P	**P**	**16 45 45.6**	**-3.0**
PMG				IAmb	IAmb	16 46 04.6	
	comp=Z,11nm,1.1s						
JTM	**Tenmabayashi**	**26.56**	**353**	P	**P**	**16 46 13.0**	**-1.2**
WB0	**Warramunga Arr**	**35.49**	**197**	P	P	16 47 24.2	-8.6
WB0				IAmb	IAmb	16 47 33.7	
	comp=Z,3.6nm,0.6s						
WR0	**Warramunga Arr**	**35.63**	**197**	P	P	16 47 26.3	-7.7
WR0				IAmb	IAmb	16 47 35.0	
	comp=Z,3.9nm,0.8s						
WRAB	**Tennant Creek**	**35.66**	**197**	P	P	16 47 26.6	-7.7
WRAB				IAmb	IAmb	16 47 35.4	
	comp=Z,8.3nm,0.9s						
WB2	**Warramunga Arr**	**35.67**	**197**	P	P	16 47 27.8	-6.4
WB2				IAmb	IAmb	16 47 35.4	
	comp=Z,7.9nm,0.9s						
WRA	**Warramunga Arr**	**35.67**	**197**	P	**P**	**16 47 34.5**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=28,slow=9.4,SNR=11						
	comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**35.67**	**197**	P	P	16 47 26.5	-7.8
AS31	**Alice Springs**	**39.32**	**196**	P	P	16 47 58.2	-6.8
ASAR	**Alice Springs**	**39.32**	**196**	P	**P**	**16 48 05.6**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=17,slow=12,SNR=59						
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**39.32**	**196**	P	**P**	**16 48 00.8**	**-4.3**
DZM	**Mont Dzumac**	**41.85**	**149**	P	**P**	**16 48 26.2**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=313,slow=19,SNR=5.9						
	comp=Z,4.5nm,0.6s						
STKA	**Stephens Creek**	**46.09**	**184**	P	**P**	**16 48 59.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=350,slow=12,SNR=4.4						
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**61.05**	**316**	P	**P**	**16 50 49.0**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=88,slow=8.8,SNR=11						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**67.81**	**25**	P	**P**	**16 51 31.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=255,slow=5.7,SNR=5.8						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**86.32**	**51**	P	**P**	**16 53 17.0**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=270,slow=5.4,SNR=6.4						
	comp=Z,0.7nm,0.6s						
FINES	**FINESS Array B**	**90.54**	**335**	P	**P**	**16 53 35.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=90,slow=1.4,SNR=5.2						
	comp=Z,0.6nm,0.5s						

*JMA **27** 16:52:09.4±0.4, 29°.N±1°×14°.0E±°, h470km±4km, MV4.0/52, W OFF OGASAWARA*
*NEIC **27** 16:52:09.2±1.1, 28°.40N±0°.08×139°.7E±0°.1, h457km±9km, mb4.1/41, Error ellipse: s-maj=16.8km s-min=10.5km az=64.0*
*IDC **27** 16:52:10.1±0.9, 28°.45N×139°.67E, h469km±10km, mb3.1/15, mbtmp4.0/22, Error ellipse: s-maj=15.6km s-min=9.9km az=85.0*

ISC 27 16:52:08.2±0.5, 28°.42N±0°.05×139°.72E±0°.08, h448km, n104, σ1°$45/113, mb4.0/35, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.55**	**121**	P	**P**	**16 53 13.2**	**+1.3**
CBIJ				*e*S	**S**	**16 54 04.1**	**+0.5**
JCJ	**Chichijima**	**2.55**	**121**	P	P	16 53 17.0	+5.0
	148nm,0.3s,baz=93,slow=4.4,SNR=51						
JCJ				S	**S**	**16 54 07.2**	**+3.6**
	347nm,0.3s,baz=303,slow=22,SNR=15						
JCJ	**Chichijima**	**2.55**	**121**	P	**P**	**16 53 13.2**	**+1.2**
JHH2	**Haha-jima-NKT2**	**2.81**	**129**	P	**P**	**16 53 15.8**	**+1.9**
JHH2				S	**S**	**16 54 08.3**	**+1.4**
JHH2	**Haha-jima-NKT2**	**2.81**	**129**	A	A	16 53 15.8	
	comp=E,8.0nm,0.5s,comp=E,7.0nm,0.3s						
JHJ2	**Mitsune**	**4.68**	**1**	*eP*	**P**	**16 53 31.3**	**+2.0**
JHJ	**Hachijo jima 2**	**4.69**	**1**	P	**P**	**16 53 31.0**	**+1.6**
	103nm,0.8s,baz=351,slow=23,SNR=7.1						
JHJ				S	**S**	**16 54 34.6**	**-1.0**
	248nm,1.0s,baz=73,slow=19,SNR=3.1						
BSO1	**Boso 1**	**6.31**	**9**	P	**P**	**16 53 46.9**	**+2.0**
BSO3	**Boso 3**	**6.40**	**6**	*eS*	**S**	**16 55 05.1**	**-1.4**
JTNC	**Tanabenakahech**	**6.43**	**328**	*eP*	**P**	**16 53 51.2**	**+4.3**
JIE	**Ise**	**6.49**	**337**	P	**P**	**16 53 51.0**	**+3.6**
JKN2	**Miekihoku**	**6.51**	**334**	P	**P**	**16 53 51.4**	**+3.8**
BSO4	**Boso 4**	**6.57**	**4**	*eS*	**S**	**16 55 08.5**	**-1.5**
JOD2	**Odawara 2**	**6.85**	**356**	P	**P**	**16 53 52.5**	**+1.3**
JAO	**Obara**	**7.14**	**344**	P	**P**	**16 53 56.9**	**+2.6**
JEG	**Eigenji**	**7.27**	**338**	P	**P**	**16 54 00.1**	**+4.3**
INU	**Inuyama**	**7.28**	**342**	P	**P**	**16 53 57.3**	**+1.5**
JMN	**Monobe**	**7.29**	**318**	P	**P**	**16 53 57.9**	**+2.0**
JHU	**Hanno**	**7.42**	**357**	P	**P**	**16 53 58.0**	**+0.7**
JTO	**Tosashimizu**	**7.43**	**308**	P	**P**	**16 54 00.6**	**+3.2**
JGF	**Kuroka**	**7.44**	**345**	P	**P**	**16 53 59.0**	**+1.5**
JRY	**Ryogami san**	**7.61**	**355**	P	**P**	**16 54 00.5**	**+1.1**
JYT	**Yasato**	**7.80**	**3**	P	**P**	**16 54 02.0**	**+0.7**
JAG	**Ashikaga**	**7.99**	**358**	P	**P**	**16 54 03.5**	**+0.2**
JHO	**Hitachi**	**8.20**	**5**	*eP*	**P**	**16 54 06.9**	**+1.2**
MJAR	**Matsushiro Arr**	**8.20**	**351**	P	**P**	**16 54 05.9**	**+0.2**
	5.1nm,0.3s,baz=170,slow=11,SNR=25						
MJAR				S	**S**	**16 55 42.6**	**+0.4**
	1.9nm,0.6s,baz=163,slow=18,SNR=2.0						
MAJO	**Matsushiro**	**8.20**	**351**	P	**P**	**16 54 06.6**	**+0.9**
MJB9	**Matsu-Tunnel**	**8.21**	**351**	P	**P**	**16 54 06.5**	**+0.8**
JHS	**Saijyo**	**8.64**	**321**	P	**P**	**16 54 12.6**	**+2.1**
JHS	**Saijyo**	**8.64**	**321**	P	**P**	**16 54 13.7**	**+3.1**
JNU	**Nakatsue**	**8.94**	**304**	P	**P**	**16 54 16.6**	**+2.9**
	4.9nm,0.8s,baz=44,slow=3.7,SNR=5.9						
JFK	**Kawauchi**	**8.98**	**6**	*eP*	**P**	**16 54 15.7**	**+1.6**
JMM	**Marumori**	**9.47**	**5**	P	**P**	**16 54 20.2**	**+0.8**
JSD	**Sado**	**9.67**	**353**	P	**P**	**16 54 21.6**	**0.0**
JOW	**Kunigami**	**10.28**	**264**	P	**P**	**16 54 30.9**	**+2.5**
	21nm,0.5s,baz=104,slow=9.6,SNR=14						
JOW	**Kunigami**	**10.28**	**264**	P	**P**	**16 54 30.7**	**+2.3**
JMK	**Ichinoseki**	**10.58**	**6**	*eP*	**P**	**16 54 33.5**	**+2.0**
JTM	**Tenmabayashi**	**12.39**	**5**	P	**P**	**16 54 52.7**	**+1.5**
KSRS	**Korea Array**	**13.38**	**315**	P	**P**	**16 55 02.9**	**+0.9**
	0.8nm,0.6s,baz=130,slow=10,SNR=5.3						
YHNB	**Yeheng**	**16.84**	**261**	P	**P**	**16 55 37.1**	**-1.9**
USRK	**Ussuriysk Ar.**	**16.93**	**341**	P	**P**	**16 55 40.8**	**+1.2**
	4.3nm,0.5s,baz=147,slow=10,SNR=28						
USRK	**Ussuriysk Ar.**	**16.93**	**341**	P	**P**	**16 55 40.5**	**+1.0**
USA0B	**Ussuriysk Arra**	**16.93**	**341**	P	**P**	**16 55 40.3**	**+0.7**
USA0B				IAmb	IAmb	16 55 42.4	
	comp=Z,5.4nm,0.7s						
YULB	**Yu-li**	**17.31**	**257**	P	**P**	**16 55 42.8**	**-1.2**
SSLB	**Suanglung**	**17.47**	**259**	P	**P**	**16 55 45.4**	**-0.3**
TPUB	**Ta-pu**	**17.92**	**258**	P	**P**	**16 55 48.5**	**-1.9**
KNMB	**Chin-men Tao**	**19.50**	**263**	P	**P**	**16 56 04.9**	**-0.4**
KLR	**Kul'dur**	**21.67**	**346**	P	**P**	**16 56 25.6**	**+1.0**
	comp=Z,3.8nm,0.5s,baz=173,slow=6.8,SNR=22						
	comp=Z,3.8nm,0.5s						
ENH	**Enshi**	**26.39**	**281**	P	**P**	**16 57 06.9**	**-0.2**
ENH				IAmb	IAmb	16 57 07.8	
	comp=Z,6.5nm,0.6s						
SONM	**Songino Array**	**32.25**	**316**	P	**P**	**16 57 58.4**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=121,slow=8.6,SNR=5.6						
	comp=Z,1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.55**	**264**	P	**P**	**16 58 50.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=66,slow=9.0,SNR=4.5						
	comp=Z,0.4nm,0.3s						
MTN	**Manton Dam**	**41.85**	**193**	P	**P**	**16 59 17.6**	**-0.1**
MTN				IAmb	IAmb	16 59 37.0	
	comp=Z,17nm,1.3s						
KULM	**Kulim**	**43.59**	**246**	P	**P**	**16

	comp=Z,6.9nm,1.4s							
J26L	**Joseph Creek**	**59.04**	**29**	P	**P**	**17 01 23.9**	**+0.4**	
J26L				IAmb	IAmb	17 01 25.1		
	comp=Z,3.3nm,0.8s							
FORT	**Forrest**	**59.91**	**192**	P	**P**	**17 01 29.8**	**+0.1**	
BBOO	**Buckleboo**	**60.99**	**184**	P	**P**	**17 01 36.3**	**-0.5**	
BBOO				IAmb	IAmb	17 01 38.3		
	comp=Z,7.4nm,1.2s							
ABKAR	**Akbulak array**	**62.61**	**313**	P	**P**	**17 01 46.7**	**-0.6**	
ABKAR				IAmb	IAmb	17 01 47.7		
	comp=Z,2.9nm,0.6s							
INK	**Inuvik**	**62.74**	**25**	P	**P**	**17 01 48.2**	**+0.4**	
	comp=Z,0.6nm,0.5s,baz=1.2,slow=2.3,SNR=5.1							
	comp=Z,0.6nm,0.5s							
M31M	**Drury Creek, Y**	**63.40**	**32**	P	**P**	**17 01 53.4**	**+1.2**	
M31M				IAmb	IAmb	17 02 07.1		
	comp=Z,16nm,1.4s							
NWAO	**Narrogin (SRO)**	**64.64**	**201**	P	**P**	**17 01 59.3**	**-1.2**	
C36M	**Paulatuk**	**65.87**	**23**	P	**P**	**17 02 08.1**	**+0.4**	
YKA	**Yellowknife Ar**	**72.01**	**28**	P	**P**	**17 02 45.0**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=294,slow=6.1,SNR=5.9							
	comp=Z,0.2nm,0.4s							
KBZ	**Khabaz**	**75.51**	**312**	P	**P**	**17 03 05.8**	**+0.3**	
	comp=Z,1.6nm,0.7s,baz=96,slow=7.8,SNR=5.1							
	comp=Z,1.6nm,0.7s							
FINES	**FINESS Array B**	**75.79**	**333**	P	**P**	**17 03 06.6**	**-0.1**	
	comp=Z,1.1nm,0.3s,baz=73,slow=4.4,SNR=13							
	comp=Z,1.1nm,0.3s							
AKASG	**Malin Array Be**	**80.26**	**323**	P	**P**	**17 03 30.2**	**-0.8**	
	comp=Z,0.4nm,0.3s,baz=51,slow=5.6,SNR=6.1							
	comp=Z,0.4nm,0.3s							
NOA	**NORSAR Array B**	**81.57**	**337**	P	**P**	**17 03 37.1**	**-0.7**	
	comp=Z,0.9nm,0.7s,baz=53,slow=6.7,SNR=2.8							
	comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	**83.50**	**312**	P	**P**	**17 03 47.8**	**-0.4**	
	comp=Z,0.4nm,0.6s,baz=120,slow=3.5,SNR=4.4							
	comp=Z,0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**122.07**	**310**	PKP	**PKPdf**	**17 10 10.8**	**-0.9**	
	comp=Z,0.3nm,0.4s,baz=37,slow=1.6,SNR=2.0							

ROM 27 17:07:29.5±0.1, 42°.981N±0°.003×13°.035E±0°.005, h7km, ML1.4/13, 8C-9D, Error ellipse: s-maj=0.4km s-min=0.2km az=106.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.07**	**35**	⇓P	Pg	17 07 31.5	+0.2
FDMO				S	Sg	17 07 32.8	+0.3
FDMO				AML	AML		
	comp=E,716μm,0.3s						
FDMO				AML	AML		
	comp=N,683μm,0.2s						
FDMO				AML	AML		
	comp=E,716μm,1.7s						
T1219	**Muccia, Frazio**	**0.08**	**345**	P	Pg	17 07 31.6	+0.2
T1219				S	Sg	17 07 33.0	+0.2
T1219				AML	AML		
	comp=E,250μm,0.2s						
T1219				AML	AML		
	comp=N,385μm,0.3s						
T1216	**Preci, Frazion**	**0.09**	**187**	⇑P	Pg	17 07 32.0	+0.4
T1216				S	Sg	17 07 33.9	+0.9
T1216				AML	AML		
	comp=E,160μm,0.3s						
T1216				AML	AML		
	comp=N,220μm,0.9s						
T1216				AML	AML		
	comp=E,160μm,0.3s						
T1216				AML	AML		
	comp=N,219μm,0.9s						
CESI	**CESI - Serrava**	**0.10**	**284**	P	Pg	17 07 32.1	+0.4
CESI				S	Sg	17 07 34.1	+0.8
CESI				AML	AML		
	comp=N,331μm,0.2s						
CESI				AML	AML		
	comp=E,170μm,0.3s						
MC2	**Monte Cornacci**	**0.13**	**121**	P	Pg	17 07 33.7	+1.3
T1220	**Camerino, Fraz**	**0.14**	**17**	P	Pg	17 07 32.8	+0.5
CSP1	**Cessapalombo**	**0.17**	**48**	⇑P	Pg	17 07 33.3	+0.4
CSP1				S	Sg	17 07 36.4	+1.2
CSP1				AML	AML		
	comp=E,151μm,1.3s						
CSP1				AML	AML		
	comp=N,102μm,0.5s						
CSP1				AML	AML		
	comp=E,150μm,1.3s						
CSP1				AML	AML		
	comp=N,101μm,0.5s						
CSP1				AML	AML		
	comp=E,150μm,0.7s						
T1215	**Vallo di Nera,**	**0.22**	**214**	P	Pg	17 07 34.3	+0.5
T1215				S	Sg	17 07 37.9	+1.2
T1212	**Cascia, Frazio**	**0.23**	**178**	P	Pg	17 07 34.7	+0.7
T1212				S	Sg	17 07 38.5	+1.5
T1212				AML	AML		
	comp=E,113μm,0.1s						
T1212				AML	AML		
	comp=N,110μm,0.4s						
T1212				AML	AML		
	comp=N,110μm,0.4s						
T1212				AML	AML		
	comp=E,113μm,0.1s						
T1217	**Poggiodomo (PG**	**0.28**	**196**	P	Pb	17 07 36.1	-0.8
T1217				S	Sg	17 07 40.2	+1.5
T1217				AML	AML		
	comp=N,105μm,0.9s						
T1217				AML	AML		
	comp=E,46μm,0.8s						
ASSB	**Assisi San Ben**	**0.28**	**283**	P	Pg	17 07 35.3	+0.3
ASSB				AML	AML		
	comp=E,37μm,1.3s						
ASSB				AML	AML		
	comp=N,55μm,1.5s						
ASSB				AML	AML		
	comp=E,37μm,0.7s						
SNTG	**Esanatoglia**	**0.28**	**346**	P	Pg	17 07 35.6	+0.5
T1218	**Civita (PG)**	**0.32**	**169**	P	Pg	17 07 33.7	-2.0
EL6	**Elcito**	**0.35**	**8**	⇓P	Pg	17 07 36.4	+0.1
LNSS	**Leonessa**	**0.38**	**179**	⇑P	Pg	17 07 34.2	-2.7
LNSS				AML	AML		
	comp=E,275μm,0.2s						
LNSS				AML	AML		
	comp=N,524μm,0.2s						
MOMA	**Monte Martano**	**0.38**	**243**	⇓P	Pb	17 07 37.9	-0.8
SMA1	**SAN MARTINO**	**0.41**	**148**	⇓P	Pg	17 07 31.8	-5.8
SMA1				AML	AML		
	comp=N,678μm,0.7s						
SMA1				AML	AML		
	comp=E,930μm,0.5s						
SMA1				AML	AML		
	comp=N,678μm,1.3s						
T1211	**Morro Reatino**	**0.47**	**197**	⇓P	Pg	17 07 36.5	-2.0
OFFI	**Offida**	**0.48**	**95**	S	Sg	17 07 39.2	-5.8
RM33	**Pellescritta (**	**0.49**	**164**	⇑P	Pg	17 07 32.0	-6.9
RM33				AML	AML		
	comp=E,1023μm,0.2s						
RM33				AML	AML		
	comp=N,804μm,0.9s						
RM33				AML	AML		
	comp=E,988μm,0.2s						
RM33				AML	AML		
	comp=N,788μm,0.9s						
RM33				AML	AML		
	comp=E,1024μm,0.2s						
RM33				AML	AML		
	comp=N,802μm,0.9s						
RM33				AML	AML		
	comp=E,988μm,0.2s						
RM33				AML	AML		
	comp=E,1022μm,0.2s						
RM33				AML	AML		
	comp=N,804μm,0.9s						
RM33				AML	AML		
	comp=N,787μm,0.9s						
CAMP	**Campotosto**	**0.52**	**148**	P	Pg	17 07 31.2	-8.4
CAMP				AML	AML		
	comp=E,298μm,1.0s						
CAMP				AML	AML		
	comp=N,543μm,0.4s						
CAMP				AML	AML		
	comp=E,298μm,1.0s						
TERO	**Teramo**	**0.55**	**130**	⇑P	Pg	17 07 33.6	-6.5
TERO				AML	AML		
	comp=E,331μm,1.3s						
TERO				AML	AML		
	comp=N,352μm,0.1s						
TERO				AML	AML		
	comp=E,358μm,1.3s						
TERO				AML	AML		
	comp=N,383μm,0.1s						
TERO				AML	AML		
	comp=E,331μm,0.7s						
TERO				AML	AML		
	comp=N,383μm,1.9s						
TERO				AML	AML		
	comp=E,358μm,0.7s						
TERO				AML	AML		
	comp=N,352μm,1.9s						
T1247	**Pizzolo (AQ)**	**0.57**	**160**	⇑P	Pg	17 07 32.1	-8.4
T1247				AML	AML		
	comp=E,1011μm,0.1s						
T1247				AML	AML		
	comp=N,936μm,0.3s						
T1247				AML	AML		
	comp=E,1011μm,1.9s						
T1222	**Castel Sant'An**	**0.58**	**180**	⇓P	Pg	17 07 34.8	-5.9
T1222				AML	AML		
	comp=E,140μm,0.4s						
T1222				AML	AML		
	comp=N,126μm,1.4s						
T1222				AML	AML		
	comp=N,126μm,1.4s						
T1222				AML	AML		
	comp=E,140μm,0.4s						
T1222				AML	AML		
	comp=N,126μm,1.5s						
T1222				AML	AML		
	comp=E,140μm,1.6s						
T1222				AML	AML		
	comp=N,126μm,0.5s						
GIGS	**Gran Sasso**	**0.66**	**143**	⇑P	Pg	17 07 33.3	-8.8
GIGS				AML	AML		
	comp=E,48μm,0.9s						
GIGS				AML	AML		
	comp=N,44μm,0.2s						
GIGS				AML	AML		
	comp=E,48μm,0.9s						
GIGS				AML	AML		
	comp=N,44μm,0.2s						
GIGS				AML	AML		
	comp=E,48μm,1.1s						
FIAM	**Fiamignano**	**0.71**	**175**	⇓P	Pg	17 07 34.5	-8.7
FIAM				AML	AML		
	comp=E,57μm,1.2s						
FIAM				AML	AML		
	comp=N,64μm,0.7s						
FIAM				AML	AML		
	comp=E,57μm,0.8s						
T0110	**Collepietro**	**0.93**	**144**	⇑P	Pg	17 07 38.3	-9.1
SAMA	**S.Maria delle**	**1.24**	**195**	⇓P	Pb	17 07 37.5	-16
SAMA				AML	AML		
	comp=E,612μm,0.1s						
SAMA				AML	AML		
	comp=N,581μm,0.1s						
LRP	**Arpino**	**1.39**	**163**	P	Pn	17 07 38.1	-17
LRP				AML	AML		
	comp=E,31μm,1.5s						
LRP				AML	AML		
	comp=N,45μm,0.4s						
LRP				AML	AML		
	comp=E,29μm,1.5s						
LRP				AML	AML		
	comp=E,29μm,0.5s						
LRP				AML	AML		
	comp=N,45μm,1.6s						
BRSN	**Barisano**	**1.48**	**332**	⇓P	Pn	17 07 43.7	-13
IMOL	**Imola, Italy**	**1.67**	**326**	S	Sn	17 08 20.5	-0.2
ZCCA	**Zocca**	**2.03**	**313**	S	Sn	17 08 29.7	-0.1

*BGR **27** 17:07:48.1±1.5, 39°.87N×20°.22E, h10km, ML4.5, Error ellipse: s-maj=26.7km s-min=14.5km az=174.0*
*PRU **27** 17:07:52.7±0.0, 40°.32N×19°.74E, h0km, MI4.7*
*PDG **27** 17:07:53.3±0.6, 40°.78N×19°.75E, h4km, MD4.6/9, ML4.5/13, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*SKO **27** 17:07:53.3, 40°.49N×19°.77E, h0km, ML4.2*
*MOS **27** 17:07:54.5±1.1, 40°.76N×19°.67E, h9km, mb4.7/28, MS4.0/8, Error ellipse: s-maj=4.6km s-min=2.9km az=80.7*
*BJI **27** 17:07:54.8±0.0, 41°.12N×19°.34E, h14km, mb4.5/27, mB5.0/1, Ms4.9/1, Ms7 4.6/5*
*BEO **27** 17:07:54.0±0.5, 40°.53N×19°.75E, h0km, ML4.3/11*
*IDC **27** 17:07:55.4±0.5, 40°.76N×19°.75E, h0km, mb4.3/26, mbtmp4.3/41, ML3.8/14, MS4.0/52, Error ellipse: s-maj=9.6km s-min=8.9km az=17.0*
*LDG **27** 17:07:56.8±0.1, 40°.76N×19°.68E, h6km, Ml4.0/16, Error ellipse: s-maj=3.7km s-min=2.0km az=28.0*
*TIR **27** 17:07:56.8, 40°.80N×19°.97E, h3km±1km, Md4.8, Ml4.8*
*NEIC **27** 17:07:56.1±1.8, 40°.83N±0°.05×19°.86E±0°.06, h5km±1km, mb4.6/63, Mwr4.5/18, Error ellipse: s-maj=8.1km s-min=7.3km az=154.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=6.80; Mθθ6.07; Mφφ0.74; Mrθ-1.33; Mθφ-1.34; Mφr0.65; Fault plane solution: Mo6.77000×10^15^ NP1:φs105.90000°, δ51.22000°, λ-86.86000°. NP2:φs280.90000°, δ38.89000°, λ-93.90000°. Principal axes: T 6.5396, Plg6.0000°, Azm194.0000°; N 0.4344, Plg2.0000°, Azm284.0000°; P -6.9740, Plg83.0000°, Azm35.0000°;*
*THE **27** 17:07:58.5, 40°.75N×19°.96E, h0km±2km, ML4.3/9 Error ellipse: s-maj=2.6km s-min=0.8km az=325.0*
*MED_RC **27** 17:07:58.0±0.3, 40°.66N×19°.83E, h12km±1km, MW4.6/28, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s28,c39; Duration: 1s1 Moment tensor: Scale 1016Nm; Mrr-0.35±.06; Mθθ0.10±.04; Mφφ0.25±.04; Mrθ0.58±.13; Mθφ0.71±.03; Mφr-0.22±.09; Best double couple: Mo0.99000×1016 NP1:φs260.00000°, δ72.00000°, λ-40.00000°. NP2:φs5.00000°, δ53.00000°, λ-157.00000°. Principal axes: T 0.9400, Plg12.0000°, Azm317.0000°; N 0.1000, Plg47.0000°, Azm59.0000°; P -1.0400, Plg41.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*ROM **27** 17:07:59.0, 40°.80N×19°.75E, h15km, mb4.6/7, Mwp4.7/9 Error ellipse: s-maj=1.2km s-min=0.4km az=42.0*

ISC 27 17:07:57.5±0.9, 40°.78N±0°.01×19°.88E±0°.02, h15km±5km, n637, σ1§73/687, mb4.6/80, MS4.1/45, 101C-29D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.43**	**223**		**Pb**	**17 08 06.6**	**-0.2**
VLO				Sg	**Sg**	**17 08 12.2**	**+0.3**
VLO	**Vlora**	**0.43**	**223**	P	**Pb**	**17 08 07.1**	**+0.3**
VLO				S	**Sb**	**17 08 14.0**	**+0.9**
	406μm,0.5s						
VLO	**Vlora**	**0.43**	**223**	P	**Pb**	**17 08 06.8**	**0.0**
	baz=228						
VLO				S	**Sn**	**17 08 15.1**	**-1.6**
	baz=228						
VLO				AMP			
	comp=E,2μm,0.6s,baz=228						
TIR	**Tirane**	**0.56**	**359**	P	**Pg**	**17 08 08.7**	**-0.1**
TIR	**Tirane**	**0.56**	**359**		**Pg**	**17 08 07.0**	**-1.6**
TIR				Sg	**Sg**	**17 08 13.9**	**-2.3**
TIR	**Tirane**	**0.56**	**359**	P	**Pg**	**17 08 08.5**	**-0.2**
	baz=352						
TIR				S	**Sb**	**17 08 16.9**	**-0.2**
	baz=352						
TIR				AMP			
	comp=E,67nm,1.0s,baz=352						
TIR	**Tirane**	**0.56**	**359**	P	**Pg**	**17 08 07.1**	**-1.6**
TIR						17 08 13.9	
TIR	**Tirane**	**0.56**	**359**	*e*Pg	**Pg**	**17 08 08.6**	**-0.1**
TIR				*e*Sg	**Sn**	**17 08 20.8**	**+0.6**
TIR	**Tirane**	**0.56**	**359**	*i* Pg	**Pg**	**17 08 08.4**	**-0.2**
TIR				*i* Sg	**Sn**	**17 08 20.6**	**+0.4**
KBN	**Korca**	**0.71**	**103**	Pg	**Pg**	**17 08 09.2**	**-2.1**
KBN				Sg	**Sg**	**17 08 20.0**	**-0.7**
KBN	**Korca**	**0.71**	**103**	P	**Pg**	**17 08 09.9**	**-1.4**
KBN				S	**Sg**	**17 08 19.5**	**-1.2**
	comp=E,22μm,0.7s						
KBN	**Korca**	**0.71**	**103**	P	**Pg**	**17 08 09.8**	**-1.6**
	baz=105						
KBN				S	**Sg**	**17 08 20.5**	**-0.2**
	baz=105						
OHR	**Ohrid**	**0.77**	**64**	*e*Pg	**Pg**	**17 08 12.1**	**-0.4**
OHR				*e*Sg	**Sn**	**17 08 25.2**	**-0.1**
OHR	**Ohrid**	**0.77**	**64**	*i* Pg	**Pg**	**17 08 11.4**	**-1.1**
OHR				*i* Sg	**Sn**	**17 08 24.8**	**-0.5**
	comp=E,7μm,0.7s						
LSK	**Leskovik**	**0.84**	**139**	P	**Pg**	**17 08 12.6**	**-1.2**
LSK				S	**Sb**	**17 08 25.0**	**+0.1**
	comp=E,38μm,0.9s						
LSK	**Leskovik**	**0.84**	**139**	P	**Pg**	**17 08 11.6**	**-2.2**
	baz=143						
LSK				S	**Sb**	**17 08 25.8**	**+0.9**
	baz=143						
LSK				AMP			
	comp=N,150nm,0.8s,baz=143						
SRN	**Sarande**	**0.91**	**174**	P	**Pb**	**17 08 14.5**	**-0.4**
SRN				S	**Sn**	**17 08 28.0**	**-0.5**
	comp=N,12μm,0.7s						
SRN	**Sarande**	**0.91**	**174**	P	**Pb**	**17 08 13.4**	**-1.5**
	baz=178						
SRN				S	**Sn**	**17 08 28.8**	**+0.3**
	baz=178						
SRN				AMP			
	comp=N,48nm,0.8s,baz=178						
KEK	**Kerkira**	**1.07**	**183**		**Pg**	**17 08 18.3**	**+0.1**
KEK					**Sn**	**17 08 35.8**	**+3.2**
KEK	**Kerkira**	**1.07**	**183**	P	**Pg**	**17 08 18.6**	**+0.4**
KEK	**Kerkira**	**1.07**	**183**	⇓P	**Pg**	**17 08 18.5**	**+0.4**
PENT	**Pentalofos**	**1.12**	**121**	P	**Pb**	**17 08 18.0**	**-0.7**
PENT				S	**Sn**	**17 08 34.9**	**+0.8**
	comp=N,5μm,0.5s						
FNA	**Florina**	**1.14**	**89**		**Pb**	**17 08 16.9**	**-2.0**
FNA					**Sb**	**17 08 33.6**	**+0.1**
FNA	**Florina**	**1.14**	**89**	P	**Pb**	**17 08 17.7**	**-1.2**
FNA				S	**Sn**	**17 08 34.6**	**+0.3**
	comp=N,17μm,0.9s						
FNA	**Florina**	**1.14**	**89**	P	**Pb**	**17 08 17.3**	**-1.6**
	baz=90						
FNA				S	**Sn**	**17 08 34.7**	**+0.4**
	baz=90						
FNA	**Florina**	**1.14**	**89**	⇓P	**Pg**	**17 08 21.8**	**+2.4**
FNA				⇑P	**Pn**	**17 08 23.5**	**+4.6**
FNA				⇑S	**Sn**	**17 08 38.7**	**+4.4**
FNA	**Florina**	**1.14**	**89**	P	**Pb**	**17 08 16.9**	**-2.0**
FNA						17 08 33.6	
FNA	**Florina**	**1.14**	**89**	*i* Pn	**Pb**	**17 08 17.3**	**-1.6**
ULC	**Ulcinj**	**1.27**	**338**	*i* Pn	**Pn**	**17 08 20.8**	**0.0**
ULC	**Ulcinj**	**1.27**	**338**	⇓*i* Pg	**Pn**	**17 08 20.9**	**0.0**
ULC				*i* Sg	**Sg**	**17 08 41.0**	**+2.3**
SCTE	**Santa Cesarea**	**1.29**	**237**	Pn	**Pn**	**17 08 20.4**	**-0.6**
SCTE					**Sg**	**17 08 39.1**	**-0.1**
IGT	**Igoumenitsa**	**1.29**	**164**	P	**Pb**	**17 08 21.8**	**+0.2**
IGT				S	**Sg**	**17 08 39.0**	**-0.3**
	comp=N,15μm,0.9s						
IGT	**Igoumenitsa**	**1.29**	**164**	P	**Pb**	**17 08 21.7**	**+0.1**
	baz=167						
IGT				S	**Sg**	**17 08 40.3**	**+1.0**
	baz=167						
JAN	**Janina**	**1.35**	**146**	P	**Pb**	**17 08 22.6**	**+0.1**
JAN				S	**Sg**	**17 08 41.2**	**+0.2**
	comp=N,25μm,0.9s						
KPRO	**Kipourio**	**1.40**	**126**	P	**Pb**	**17 08 23.1**	**-0.3**
KPRO				S	**Sg**	**17 08 43.3**	**+0.5**
	comp=N,14μm,0.9s						
DRME	**Dracevica, Mon**	**1.50**	**340**	⇑*i* Pn	**Pb**	**17 08 25.4**	**+0.3**
DRME	**Dracevica, Mon**	**1.50**	**340**	⇑*i* Pg	**Pn**	**17 08 24.3**	**+0.4**
DRME				*i* Sg	**Sg**	**17 08 47.3**	**+1.5**
KZN	**Kozani**	**1.52**	**108**	P	**Pg**	**17 08 26.2**	**-0.5**
BCI	**Bajram Curri**	**1.59**	**5**	P	**Pn**	**17 08 25.7**	**+0.5**
	baz=2.0						
BCI				S	**Sn**	**17 08 45.0**	**-0.5**
	baz=2.0						
SKO	**Skopje**	**1.67**	**44**	*e*Pg	**Pb**	**17 08 28.4**	**+0.4**
SKO				*e*Sg	**Sg**	**17 08 55.7**	**+4.4**
SKO	**Skopje**	**1.67**	**44**	*i* Pn	**Pb**	**17 08 28.4**	**+0.4**
BUM	**Brajici-Budva**	**1.69**	**334**	⇑*i* Pn	**Pn**	**17 08 27.0**	**+0.4**
BUM				*i* Sn	**Sg**	**17 08 51.9**	**0.0**
PDG	**Podgorica**	**1.71**	**344**	⇑P	**Pb**	**17 08 28.4**	**-0.3**
PDG				⇓S	**Sb**	**17 08 49.9**	**-0.2**
PDG	**Podgorica**	**1.71**	**344**		**Pn**	**17 08 27.3**	**+0.5**
PDG	**Podgorica**	**1.71**	**344**	⇑P	**Pb**	**17 08 28.4**	**-0.3**
PDG	**Podgorica**	**1.71**	**344**	*e*Pn	**Pb**	**17 08 28.3**	**-0.4**
PDG				*e*Sn	**Sg**	**17 08 54.0**	**+1.3**
PDG	**Podgorica**	**1.71**	**344**	*i* Pn	**Pb**	**17 08 28.3**	**-0.4**
PDG	**Podgorica**	**1.71**	**344**	⇑*i* Pn	**Pn**	**17 08 27.6**	**+0.8**
PDG				*i* Sn	**Sg**	**17 08 52.7**	**0.0**
PVY	**Plav**	**1.81**	**2**	⇓*i* Pn	**Pb**	**17 08 29.5**	**-1.0**
PVY				*i* Sn	**Sg**	**17 08 56.5**	**+0.6**
CEME	**Cevo**	**1.91**	**338**	⇑*i* Pn	**Pn**	**17 08 29.8**	**+0.2**
CEME				*i* Sn	**Sg**	**17 08 57.3**	**-1.5**
HCY	**Herceg Novi**	**1.96**	**328**	⇑*i* Pn	**Pb**	**17 08 30.7**	**+0.4**
HCY	**Herceg Novi**	**1.96**	**328**	⇓*i* Pn	**Pn**	**17 08 30.4**	**+0.1**
HCY				*i* Sn	**Sb**	**17 08 58.1**	**+0.9**
THL	**Klokotos Trika**	**2.04**	**126**	P	**Pb**	**17 08 32.8**	**-1.4**
TSLK	**Tsoukalades, L**	**2.04**	**163**	P	**Pb**	**17 08 32.8**	**-1.5**
LKD2	**Lefkada island**	**2.08**	**163**	P	**Pb**	**17 08 34.5**	**-0.5**
KOME	**Kolasin**	**2.08**	**353**	⇑*i* Pn	**Pb**	**17 08 33.6**	**-1.5**
KOME				*i* Sn	**Sg**	**17 09 02.7**	**-1.9**
IVA	**Berane**	**2.09**	**0**	⇓*i* Pn	**Pb**	**17 08 34.7**	**-0.5**
IVA				*i* Sn	**Sg**	**17 09 03.3**	**-1.4**
TYRN	**Tyrnavos**	**2.09**	**120**	P	**Pb**	**17 08 34.4**	**-0.8**
NKME	**Niksic**	**2.10**	**341**	⇑*i* Pn	**Pn**	**17 08 32.9**	**+0.7**
NKME				*i* Sn	**Sb**	**17 09 02.4**	**+1.1**
LIT	**Litokhoron**	**2.10**	**108**		**Pn**	**17 08 33.0**	**+0.8**
LIT	**Litokhoron**	**2.10**	**108**	P	**Pb**	**17 08 34.1**	**-1.3**
LIT	**Litokhoron**	**2.10**	**108**	P	**Pn**	**17 08 33.0**	**+0.8**
VAY	**Valandovo**	**2.10**	**74**	*e*Pn	**Pn**	**17 08 33.2**	**+1.0**
NYDR	**Nydri-Lefkada**	**2.16**	**163**	P	**Pn**	**17 08 34.2**	**+1.2**
DRAG	**Dragano-Lefkad**	**2.16**	**165**	P	**Pn**	**17 08 33.8**	**+0.8**
EVGl	**Lefkada island**	**2.24**	**164**	P	**Pn**	**17 08 35.5**	**+1.4**
TREB	**Trebinje**	**2.25**	**330**	⇑*i* Pn	**Pn**	**17 08 34.6**	**+0.4**
KNT	**Kendrícon**	**2.32**	**80**	P	**Pn**	**17 08 36.3**	**+1.2**
BRY	**Bratogost**	**2.34**	**335**	⇑*i* Pn	**Pn**	**17 08 36.2**	**+0.6**
BRY	**Bratogost**	**2.34**	**335**	⇓*i* Pn	**Pn**	**17 08 35.9**	**+0.3**
BRY				*i* Sn	**Sb**	**17 09 07.9**	**-0.4**
FSK	**Fiskardo**	**2.38**	**167**	P	**Pn**	**17 08 36.6**	**+0.6**
PRVS	**Prvonek**	**2.38**	**43**	*e*Pn	**Pn**	**17 08 37.7**	**+1.6**
MATE	**Matera**	**2.42**	**268**	⇑P	**Pn**	**17 08 37.3**	**+0.8**
MATE	**Matera**	**2.42**	**268**	⇓S	**Sn**	**17 09 05.7**	**-0.1**
HORT	**Hortiatis**	**2.45**	**93**	P	**Pn**	**17 08 38.5**	**+1.4**
SJES	**Sjenica**	**2.48**	**2**	*e*Pn	**Pb**	**17 08 40.2**	**-1.6**
SJES				*e*Sn	**Sb**	**17 09 12.0**	**-0.2**
SJES	**Sjenica**	**2.48**	**2**	⇑*i* Pn	**Pb**	**17 08 40.3**	**-1.6**
BARS	**Barje**	**2.50**	**35**	*e*Pn	**Pn**	**17 08 39.2**	**+1.6**
BARS				*e*Sn	**Sb**	**17 09 12.3**	**-0.3**
PVO	**Paravola**	**2.51**	**149**	P	**Pn**	**17 08 39.2**	**+1.4**
UPM	**Unac-Piva**	**2.53**	**344**	⇑*i* Pn	**Pb**	**17 08 41.0**	**-1.7**
UPM	**Unac-Piva**	**2.53**	**344**	⇑*i* Pn	**Pn**	**17 08 39.6**	**+1.4**
UPM				*i* Sn	**Sb**	**17 09 13.1**	**-0.6**
PLE	**Pljevlja**	**2.57**	**352**	⇑*i* Pn	**Pb**	**17 08 41.2**	**-2.2**
PLE				*i* Sn	**Sb**	**17 09 14.7**	**-0.2**
AGG	**Agios Georgios**	**2.58**	**132**	P	**Pb**	**17 08 41.1**	**-2.4**
AGG	**Agios Georgios**	**2.58**	**132**	⇑P	**Pb**	**17 08 41.0**	**-2.4**
SELS	**Selova**	**2.60**	**20**	*e*Pn	**Pn**	**17 08 40.6**	**+1.5**
SOH	**Sokhos**	**2.64**	**88**	P	**Pn**	**17 08 41.7**	**+2.1**
STON	**Ston**	**2.65**	**323**	⇑*i* Pn	**Pn**	**17 08 39.7**	**0.0**
MRVN	**Minervino Murg**	**2.81**	**277**	⇑P	**Pn**	**17 08 42.4**	**+0.5**
SRS	**Serrai**	**2.83**	**82**	P	**Pn**	**17 08 43.5**	**+1.3**
SRS	**Serrai**	**2.83**	**82**	*e*Pn	**Pn**	**17 08 43.5**	**+1.3**
TIP	**Timpagrande**	**2.88**	**237**	⇓P	**Pn**	**17 08 43.6**	**

TEKS Tekeris 3.77 356 ePn Pn 17 08 55.6 +0.4
TEKS Tekeris 3.77 356 iPn Pn 17 08 55.4 +0.2
KUBS Kucevo 3.86 19 ePn Pn 17 08 57.0 +0.6
CEL Celeste 3.98 232 Pn 17 08 57.9 -0.2
CEL Celeste 3.98 232 ⇑P Pn 17 08 58.9 +0.8
PAOL Paolisi 4.03 275 Pn 17 08 59.3 +0.5
PUNG Punghina 4.16 32 ⇑P Pn 17 09 02.3 +1.9
MGRS Mrkonjic Grad 4.18 331 ⇑iPn Pn 17 09 02.3 +1.5
MDVR Moldovita 4.22 18 ⇑P Pn 17 09 02.4 +1.0
RDO Rodhopi 4.30 83 Pn Pn 17 09 03.9 +1.6
RDO Rodhopi 4.30 83 ⇑P Pn 17 09 04.0 +1.6
DJES Djerdap 4.34 26 ⇑P Pn 17 09 05.2 +2.2
DJES Djerdap 4.34 26 Pn Pn 17 09 04.3 +1.3
FRGS Fruska Gora 4.37 359 ⇑S Sn 17 09 56.5 +2.3
FRGS Fruska Gora 4.37 359 ePn Pn 17 09 04.8 +1.4
FRGS Fruska Gora 4.37 359 ⇑iPn Pn 17 09 04.9 +1.5
FRGS Fruska Gora 4.37 359 ⇑P Pn 17 09 05.2 +1.7
PLVB Pleven 4.38 52 ⇓P Pn 17 09 05.9 +2.4
BLY Banja Luka 4.43 334 ⇑P Pn 17 09 05.0 +0.8
BLY Banja Luka 4.43 334 ⇑iPn Pn 17 09 05.1 +0.8
A050A Klekovaca 4.45 327 ⇑iPn Pn 17 09 06.0 +1.5
HERR Herculane 4.50 24 ⇓P Pn 17 09 07.1 +1.9
SRE Strehaia 4.59 31 ⇑P Pn 17 09 07.9 +1.5
SRE Strehaia 4.59 31 P Pn 17 09 07.8 +1.5
VLAD Vladila 4.64 45 ⇑P Pn 17 09 09.1 +2.0
ALN Alexandroupoli 4.68 87 Pn Pn 17 09 09.3 +1.7
ALN Alexandroupoli 4.68 87 ⇑P Pn 17 09 09.7 +2.2
ALN Alexandroupoli 4.68 87 P Pn 17 09 09.3 +1.7
BANR Banloc 4.69 11 ⇑P Pn 17 09 09.4 +1.7
A051A Mrakovica 4.76 334 ⇑iPn Pn 17 09 09.4 +0.6
BZS Buzias 5.00 14 ⇓P Pn 17 09 13.7 +1.8
BZS Buzias 5.00 14 P Pn 17 09 13.7 +1.8
GZR Gura Zlata 5.07 24 ⇑P Pn 17 09 15.1 +1.9
GZR Gura Zlata 5.07 24 P Pn 17 09 15.0 +1.9
AQU L'Aquila 5.11 290 Pn 17 09 14.0 +0.5
AQU L'Aquila 5.11 290 P Pn 17 09 14.0 +0.5
CAMP Campotosto 5.16 292 Pn 17 09 14.8 +0.5
SURR Surduc 5.23 17 ⇑P Pn 17 09 16.7 +1.5
HUMR Humele 5.31 43 ⇑P Pn 17 09 18.3 +2.1
VAE Valguarnera 5.38 234 Pn Pn 17 09 16.5 -0.8
comp=N,4.8nm,0.3s,baz=360,slow=19,SNR=2.6
VAE Sn Sn 17 10 18.4 -0.6
comp=N,7.2nm,0.3s,baz=320,slow=18,SNR=4.1
comp=N,12nm,0.3s
GUMA Gualdo di Mace 5.39 297 Pn 17 09 17.6 +0.2
MORH Mrgy, Hungar 5.50 351 ⇑P Pn 17 09 19.4 +0.5
FDMO Fiordimonte 5.55 296 Pn 17 09 19.8 +0.3
RAFF Raffo Rosso 5.58 232 Pn 17 09 19.0 -0.9
SIRR Siria 5.63 13 ⇑P Pn 17 09 22.4 +1.7
APE Apeiranthos 5.76 128 ⇑P Pn 17 09 24.4 +1.9
APE Apeiranthos 5.76 128 P Pn 17 09 24.3 +1.9
CESX Cesi 5.76 291 Pn 17 09 23.3 +0.8
BOJS Bojanci 5.81 326 iPn Pn 17 09 23.6 +0.5
BOJS Bojanci 5.81 326 ⇑iPn Pn 17 09 23.5 +0.4
CRES Cresnjev 5.99 329 ⇑iPn Pn 17 09 25.7 +0.1
VOIR 6.00 37 ⇑P Pn 17 09 28.3 +2.6
VOIR 6.00 37 P Pn 17 09 28.3 +2.6
MURB Monte Urbino 6.01 297 Pn 17 09 26.7 +0.7
GBRS Gornja Briga 6.02 324 iPn Pn 17 09 27.0 +0.9
SULR 6.10 48 ⇑P Pn 17 09 29.2 +2.1
SECR 6.22 45 ⇑P Pn 17 09 31.7 +2.9
BALB Balikesir 6.23 98 Pn Pn 17 09 27.3 -1.6
LATE Laterza 6.32 289 Pn 17 09 31.0 +0.9
MARR Marisel-Cluj 6.34 21 ⇑P Pn 17 09 32.5 +2.0
DRGR 6.35 18 ⇑P Pn 17 09 32.7 +2.1
DRGR 6.35 18 P Pn 17 09 32.6 +2.1
CEY Cerknica 6.36 323 ⇑iPn Pn 17 09 31.0 +0.4
SKDS Skadanscina 6.41 320 iPn Pn 17 09 31.0 -0.4
SKDS Skadanscina 6.41 320 ⇑iPn Pn 17 09 30.8 -0.6
MLR Muntele Rosu 6.47 41 Pn Pn 17 09 35.0 +2.8
comp=N,2.0nm,0.3s,baz=174,slow=16,SNR=11
MLR Sn Sn 17 10 46.1 +0.2
comp=N,0.6nm,0.3s,baz=282,slow=9.2,SNR=4.0
MLR LR LR 17 12 59.3
comp=N,1µm,21.0s,baz=220,slow=46
comp=N,21nm,0.8s
MLR Muntele Rosu 6.47 41 ⇓P Pn 17 09 35.2 +2.9
MLR Muntele Rosu 6.47 41 Pn Pn 17 09 30.4 -1.9
MLR Muntele Rosu 6.47 41 P Pn 17 09 35.2 +2.9
ISR Istrita 6.53 46 ⇑P Pn 17 09 35.4 +2.3
ISR Istrita 6.53 46 P Pn 17 09 35.4 +2.3
DOPR Dopca 6.55 36 ⇑P Pn 17 09 35.4 +2.1
AMRR Amara 6.69 53 ⇑P Pn 17 09 38.4 +3.2
AMRR Amara 6.69 53 P Pn 17 09 38.4 +3.2
ICOR Ion Corvin 6.74 58 ⇑P Pn 17 09 38.4 +2.6
IDI Anoyia 6.76 143 Pn Pn 17 09 35.3 -1.0
comp=N,1.7nm,0.3s,baz=280,slow=12,SNR=14
IDI Sn Sn 17 10 50.2 -2.8
comp=N,6.2nm,0.3s,baz=90,slow=20,SNR=2.4
IDI LR LR 17 12 58.4
comp=N,2µm,19.0s,baz=4.0,slow=44
comp=N,6.1nm,0.2s
IDI Anoyia 6.76 143 ⇑P Pn 17 09 37.9 +1.6
IDI Anoyia 6.76 143 Pn Pn 17 09 36.1 -0.2
IDI Anoyia 6.76 143 ⇑P Pn 17 09 40.1 +3.8
OZUR 6.83 37 ⇑P Pn 17 09 39.7 +2.5
COVR Voineasa-Covas 6.85 40 ⇓P Pn 17 09 40.4 +3.0
SOKA Soboth 6.86 331 iPn Pn 17 09 37.6 -0.1
comp=N,18nm,0.3s,SNR=11
BISRR Bisoca 6.90 44 ⇑P Pn 17 09 41.3 +3.2
OBKA Obir 6.91 328 iPn Pn 17 09 38.6 +0.4
comp=N,1.5nm,0.2s,SNR=12
OBKA Obir 6.91 328 ⇑iPn Pn 17 09 37.4 -0.9
OBKA Obir 6.91 328 ePn Pn 17 09 38.0 -0.2
SABO M.te Sabotino 6.92 321 Pn Pn 17 09 37.7 -0.8
GRER 6.93 46 ⇑P Pn 17 09 41.6 +3.1
OSSC Osservatorio P 6.98 296 Pn 17 09 38.2 -1.0
CASP Castiglione de 7.03 290 Pn Pn 17 09 39.2 -0.7
PLOR Plostina 7.07 42 ⇑P Pn 17 09 43.0 +2.5
PLOR Plostina 7.07 42 P Pn 17 09 43.0 +2.5
MANT Manisa 7.08 106 Pn 17 09 43.7 +2.9
HARR Harsova 7.10 54 ⇑P Pn 17 09 43.2 +2.4
HARR Harsova 7.10 54 P Pn 17 09 43.1 +2.4
VRI Vrincioaia 7.12 42 ⇑P Pn 17 09 44.0 +2.8
VRI Vrincioaia 7.12 42 P Pn 17 09 44.0 +2.8
PSZ Piszkesteto 7.13 0 ⇓P Pn 17 09 42.6 +1.2
PSZ Piszkesteto 7.13 0 Pn 17 09 41.5 +0.1
PSZ Piszkesteto 7.13 0 P Pn 17 09 42.6 +1.2
PSZ Piszkesteto 7.13 0 ePn Pn 17 09 42.2 +0.8
ARSA Arzberg 7.19 336 ePn Pn 17 09 42.4 +0.4
comp=N,12nm,0.4s,SNR=11
ARSA Arzberg 7.19 336 ⇓P Pn 17 09 42.5 +0.4
ARSA Arzberg 7.19 336 ePn Pn 17 09 42.4 +0.4
TIRR Tirgusor 7.29 57 ⇑P Pn 17 09 45.8 +2.4
TIRR Tirgusor 7.29 57 Pn Pn 17 09 45.3 +1.9
TIRR Tirgusor 7.29 57 P Pn 17 09 45.7 +2.4
PTCC Patocco-Chiusa 7.35 322 ⇑P Pn 17 09 43.7 -0.6
BMR Baia Mare 7.36 19 ⇑P Pn 17 09 46.4 +2.0
BMR Baia Mare 7.36 19 P Pn 17 09 46.4 +2.0
RONA Rosalia, Austr 7.38 341 ePn Pn 17 09 45.7 +1.0
comp=N,5.5nm,0.5s,SNR=11
MYKA Terra Mystica 7.39 324 iPn Pn 17 09 44.6 -0.3
comp=N,9.1nm,0.4s,SNR=9.3
MYKA Sn Sn 17 11 08.3 -0.1
comp=N,14nm,0.5s
ZCCA Zocca 7.48 301 Pn 17 09 46.0 0.0
CFR Carcaliu 7.48 51 ⇑P Pn 17 09 47.9 +1.9
CFR Carcaliu 7.48 51 P Pn 17 09 47.9 +1.9
TPGR Topolog 7.48 54 ⇑P Pn 17 09 47.9 +1.8
TESR Tescani 7.54 38 ⇑P Pn 17 09 49.8 +3.0
TEOL Teolo 7.55 310 Pn 17 09 45.9 -1.2
STAL STALIGIAL 7.56 319 Pn 17 09 46.3 -0.6
TRPA Tarpa 7.59 14 ⇑P Pn 17 09 49.3 +1.8
CLUD Cludinico 7.61 321 Pn Pn 17 09 46.9 -1.0
ZST Bratislava 7.67 346 eSN Sn 17 11 12.8 -2.5
CONA Conrad Observa 7.70 339 ePn Pn 17 09 50.2 +1.0
comp=N,11nm,0.8s,SNR=6.8
KECS Kecovo 7.71 3 eP Pn 17 09 51.5 +2.3
KECS Kecovo 7.71 3 ePN Pn 17 09 51.5 +2.3
CIMO Cimolais 7.73 318 Pn Pn 17 09 48.4 -1.0
VYHS Vyhne 7.75 355 eP Pn 17 09 51.3 +1.6
VYHS Vyhne 7.75 355 ePN Pn 17 09 51.3 +1.6
VYHS Vyhne 7.75 355 ePn Pn 17 09 51.4 +1.6
VLC Villacollemand 7.79 299 Pn Pn 17 09 50.8 +0.5
MODS Modra-Piesok 7.81 347 eP Pn 17 09 52.2 +1.5
MODS Modra-Piesok 7.81 347 ePN Pn 17 09 52.2 +1.5
VLDR Vladesti 7.83 47 ⇑P Pn 17 09 53.3 +2.5
BURAR Bucovina Array 7.83 28 ⇑P Pn 17 09 54.0 +3.1
BURAR Bucovina Array 7.83 28 Pn Pn 17 09 52.3 +1.3
BURAR Bucovina Array 7.83 28 P Pn 17 09 54.0 +3.1
BUR08 Bucovina Ar. S 7.85 27 Pn Pn 17 09 53.2 +1.9

KBA Koelnbreinsper 7.86 325 ePn Pn 17 09 51.8 +0.3
comp=N,9.2nm,0.4s,SNR=16
KBA iSn Sn 17 11 20.3 0.0
comp=N,10nm,0.4s
KBA Koelnbreinsper 7.86 325 ⇑P Pn 17 09 51.4 -0.1
KBA Koelnbreinsper 7.86 325 ePn Pn 17 09 51.3 -0.1
ARG Arkhangelos 7.91 123 Pn Pn 17 09 54.1 +2.1
ARG Arkhangelos 7.91 123 P Pn 17 09 54.1 +2.1
CTI Castel Tesino 7.97 314 Pn 17 09 51.7 -1.2
CTI Castel Tesino 7.97 314 P Pn 17 09 51.7 -1.2
ABTA Abfaltersbach 8.00 321 ePn Pn 17 09 52.7 -0.5
comp=N,31nm,0.6s,SNR=13
ABTA eSn Sn 17 11 23.8 +0.3
comp=N,93nm,0.9s
UZH Uzhgorod 8.03 12 eP Pn 17 09 54.9 +1.3
UZH iS Sn 17 11 25.6 +1.5
UZH MLR MLR
comp=N,470nm,10.0s
UZH MLR MLR
comp=E,300nm,10.0s
UZH MLR MLR
comp=Z,300nm,10.0s
PRMA PARMA 8.08 303 Pn 17 09 53.8 -0.5
BORA Eskisehir 8.13 93 Pn Pn 17 09 55.8 +0.8
MOA Molln 8.13 332 iPn Pn 17 09 56.1 +1.1
comp=Z,8.8nm,0.3s,SNR=11
MOA iSn Sn 17 11 29.2 +2.6
comp=Z,15nm,0.5s
MOA Molln 8.13 332 ePn Pn 17 09 55.7 +0.7
CRVS Cervenica-Dubn 8.20 7 eP Pn 17 09 58.1 +2.2
CRVS Cervenica-Dubn 8.20 7 ePN Pn 17 09 58.1 +2.2
JAVC Velka Javorina 8.23 350 ePN Pn 17 09 58.5 +2.1
JAVC Velka Javorina 8.23 350 ePn Pn 17 09 58.8 +2.5
BIOA Bad Ischl, Aus 8.23 329 ePn Pn 17 09 56.8 +0.4
comp=Z,16nm,0.3s,SNR=33
PGF Pioggiola 8.34 286 eP Pn 17 09 58.9 +1.0
SALO Salr 8.37 308 Pn Pn 17 09 57.7 -0.6
LANS Liptovska Anna 8.37 358 eP Pn 17 10 03.2 +4.9
LANS Liptovska Anna 8.37 358 ePN Pn 17 10 03.2 +4.9
MSSA Maissana 8.43 298 Pn Pn 17 09 57.8 -1.3
RJOB Jochberg 8.61 326 ePn Pn 17 10 01.6 0.0
MDUB Mudurnu 8.61 88 Pn Pn 17 10 00.5 -1.2
KRUC Moravsky 8.64 345 ePN Pn 17 10 02.1 +0.2
KRUC Moravsky 8.64 345 ePn Pn 17 10 02.3 +0.3
STHS Stebnicka Huta 8.69 6 eP Pn 17 10 05.2 +2.6
STHS Stebnicka Huta 8.69 6 ePN Pn 17 10 05.2 +2.6
MAUC Maruska 8.71 351 ePN Pn 17 10 05.0 +2.1
ISP Isparta 8.76 106 Pn Pn 17 10 02.9 -0.8
ISP Isparta 8.76 106 iP Pn 17 10 10.2 +6.4
WTTA Wattenberg 8.79 320 iPn Pn 17 10 04.8 +0.6
comp=Z,59nm,0.4s,SNR=29
WTTA iSn Sn 17 11 44.3 +1.3
comp=Z,74nm,0.8s
WTTA Wattenberg 8.79 320 ePn Pn 17 10 04.5 +0.3
WTTA eSn Sn 17 11 43.6 +0.7
ELL Elmali 8.81 114 Pn Pn 17 10 03.4 -1.0
ELL Elmali 8.81 114 P Pn 17 10 03.4 -1.0
VRAC Vranov 8.84 346 Pn Pn 17 10 05.0 +0.4
comp=Z,0.4nm,0.3s,baz=173,slow=12,SNR=7.7
VRAC Sn Sn 17 11 40.5 -3.4
comp=Z,0.3nm,0.3s,baz=200,slow=15,SNR=1.2
comp=Z,5.6nm,0.7s
VRAC Vranov 8.84 346 ⇑P Pn 17 10 05.7 +1.0
VRAC Vranov 8.84 346 ePN Pn 17 10 05.6 +1.0
VRAC Vranov 8.84 346 P Pn 17 10 05.6 +1.0
VRAC Vranov 8.84 346 ePn Pn 17 10 05.2 +0.6
WATA Walderalm 8.87 320 iPn Pn 17 10 06.0 +0.9
comp=Z,60nm,0.5s,SNR=46
WATA iSn Sn 17 11 44.8 -0.1
comp=Z,27nm,0.6s
AKAS Kas 8.87 118 Pn Pn 17 10 05.3 +0.1
CKRC Cesky Krumlov 8.96 336 ePN Pn 17 10 06.8 +0.5
CKRC Cesky Krumlov 8.96 336 ePn Pn 17 10 06.8 +0.5
SQTA Sankt Quirin 8.97 319 ePn Pn 17 10 07.5 +0.9
comp=Z,40nm,0.4s,SNR=33
SQTA eSn Sn 17 11 46.1 -1.2
comp=Z,23nm,0.6s
FETA Feichten 9.08 316 ePn Pn 17 10 08.7 +0.6
comp=Z,24nm,0.7s,SNR=10
FETA eSn Sn 17 11 50.2 0.0
comp=Z,23nm,0.9s
FUORN Ofenpass-Fuorn 9.08 313 Pn 17 10 07.9 -0.4
MOTA Moosalm 9.10 319 iPn Pn 17 10 08.9 +0.5
comp=Z,99nm,1.0s,SNR=34
MOTA iSn Sn 17 11 50.7 0.0
comp=Z,61nm,1.1s
OKC Ostrava-Krasne 9.14 353 ePN Pn 17 10 10.8 +2.0
OKC Ostrava-Krasne 9.14 353 eP Pn 17 10 10.8 +2.0
OKC Ostrava-Krasne 9.14 353 ePn Pn 17 10 11.2 +2.4
MORC Moravsky Berou 9.14 350 ⇑P Pn 17 10 10.7 +1.8
MORC Moravsky Berou 9.14 350 Pn Pn 17 10 08.0 -0.9
MORC Moravsky Berou 9.14 350 ePN Pn 17 10 10.3 +1.4
MORC Moravsky Berou 9.14 350 P Pn 17 10 10.7 +1.8
MORC Moravsky Berou 9.14 350 ePn Pn 17 10 10.6 +1.7
GEC2 GERESS Array S 9.18 334 Pn Pn 17 10 08.0 -1.4
GEC2 GERESS Array S 9.18 334 ePn Pn 17 10 09.0 -0.4
GERES GERESS Array B 9.18 334 Pn Pn 17 10 08.2 -1.2
comp=Z,0.8nm,0.3s,baz=284,slow=5.4,SNR=38
GERES Sn Sn 17 11 51.6 -0.8
comp=Z,0.9nm,0.3s,baz=148,slow=22,SNR=2.4
GERES LR LR 17 14 42.3
comp=Z,2µm,18.1s,baz=150,slow=44
comp=Z,4.5nm,0.7s
GERES GERESS Array B 9.18 334 Pn 17 10 07.5 -1.9
PART Garmisch-Parte 9.20 320 ePn Pn 17 10 10.3 +0.6
ZUGS Zugspitze, Sch 9.21 319 ePn Pn 17 10 10.9 +0.8
RETA Reutte 9.37 319 iPn Pn 17 10 11.9 -0.1
comp=Z,4.3nm,0.3s
RETA eSn Sn 17 11 55.7 -1.4
comp=Z,21nm,0.5s
DAVOX Davos/Dischmat 9.39 313 Pn Pn 17 10 12.9 +0.5
comp=Z,1.9nm,0.3s,baz=161,slow=12,SNR=18
DAVOX Sn Sn 17 11 57.7 -0.1
comp=Z,1.5nm,0.3s,baz=336,slow=20,SNR=2.8
DAVOX LR LR 17 15 05.1
comp=Z,882nm,20.0s,baz=130,slow=46
comp=Z,14nm,0.7s
OJC Ojcow 9.44 360 Pn Pn 17 10 10.5 -2.4
OJC Ojcow 9.44 360 P Pn 17 10 10.5 -2.4
KHC Kasperske Hory 9.46 334 Pn Pn 17 10 12.7 -0.6
KHC Kasperske Hory 9.46 334 ePN Pn 17 10 13.2 -0.1
KHC eSN Sn 17 12 00.6 +1.2
KHC Kasperske Hory 9.46 334 eP Pn 17 10 13.2 -0.1
KHC e 17 12 00.6
KHC Kasperske Hory 9.46 334 ePn Pn 17 10 13.0 -0.3
LVV L'vov 9.50 17 eP Pn 17 10 15.3 +1.6
LVV eS Sn 17 12 02.4 +2.3
LVV MLR MLR
comp=E,500nm,8.0s
LVV MLR MLR
comp=N,700nm,10.0s
LVV MLR MLR
comp=Z,3µm,9.0s
SORM Soroca 9.52 37 ⇑P Pn 17 10 16.3 +2.3
SORM Soroca 9.52 37 P Pn 17 10 16.2 +2.3
TUE Stuetta 9.52 310 Pn 17 10 13.4 -0.8
KRLC Kraliky 9.54 348 ePN Pn 17 10 16.0 +1.6
KRLC Kraliky 9.54 348 eP Pn 17 10 16.0 +1.6
OBER Oberstdorf 9.56 317 ePn Pn 17 10 15.1 +0.5
KEST Kesra 9.70 242 Pn Pn 17 10 16.5 -0.1
comp=Z,2.6nm,1.0s,baz=350,slow=16,SNR=1.7
KEST LR LR 17 14 18.3
comp=Z,394nm,20.5s,baz=160,slow=40
KEST Kesra 9.70 242 Pn Pn 17 10 16.2 -0.3
DAVA Damuels 9.70 315 iPn Pn 17 10 17.5 +0.9
comp=Z,19nm,0.6s
DAVA eSn Sn 17 12 06.4 +1.2
comp=Z,44nm,0.9s
DAVA Damuels 9.70 315 ⇑P Pn 17 10 17.8 +1.2
DAVA Damuels 9.70 315 ePn Pn 17 10 17.1 +0.5
SBF Sospel 9.72 293 ePn Pn 17 10 12.7 -4.1
SBF Sospel 9.72 293 eP Pn 17 10 18.4 +1.6
SBF eSn Sn 17 11 55.1 -11
comp=Z,11nm,0.5s
UBR Ueberruh 9.83 318 ePn Pn 17 10 17.7 -0.6
DPC Dobruska-Polom 9.89 347 ePN Pn 17 10 19.8 +0.7
DPC Dobruska-Polom 9.89 347 eP Pn 17 10 19.8 +0.7
ANTO Ankara 9.90 91 Pn Pn 17 10 17.5 -1.9
ANTO Ankara 9.90 91 P Pn 17 10 17.5 -1.9
PRU Pruhonice 9.94 340 ePN Pn 17 10 20.4 +0.6
PRU Pruhonice 9.94 340 eP Pn 17 10 20.4 +0.6
PRU Pruhonice 9.94 340 ePn Pn 17 10 20.4 +0.6
LMR La Mourre 10.27 289 ePn Pn 17 10 19.2 -5.0
LMR La Mourre 10.27 289 eP Pn 17 10 25.3 +1.1

LMR eSn Sn 17 12 07.8 -11
comp=Z,1.4nm,0.3s
MBDF Montbardon 10.41 297 ePn Pn 17 10 22.5 -3.9
MBDF Montbardon 10.41 297 eP Pn 17 10 28.3 +1.9
MBDF eSn Sn 17 12 11.4 -11
comp=Z,3.7nm,0.4s
BR131 Keskin Array S 10.57 91 Pn 17 10 26.9 -1.6
BR131 Keskin Array S 10.57 91 iP Pn 17 10 34.1 +5.5
BRTR Keskin Array B 10.57 91 Pn Pn 17 10 31.0 +2.4
comp=Z,0.3nm,0.3s,baz=72,slow=16,SNR=12
BRTR Sn Sn 17 12 31.9 +5.1
comp=Z,0.2nm,0.3s,baz=326,slow=14,SNR=9.5
BRTR LR LR 17 14 27.2
comp=Z,606nm,18.7s,baz=292,slow=37
comp=Z,1.1nm,0.6s
BRTR Keskin Array B 10.57 91 Pn Pn 17 10 26.5 -2.1
BRTR Keskin Array B 10.57 91 iP Pn 17 10 33.0 +4.4
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BNI Bardonecchia 10.58 298 Pn Pn 17 10 27.1 -1.6
BNI Bardonecchia 10.58 298 P Pn 17 10 27.1 -1.6
SENIN Lac Senin/Sane 10.69 306 Pn Pn 17 10 28.6 -1.6
LPL La Plagne 10.71 301 ePn Pn 17 10 26.5 -4.0
LPL La Plagne 10.71 301 eP Pn 17 10 32.3 +1.8
LPL eSn Sn 17 12 19.0 -11
comp=Z,13nm,0.4s
GRFO Grafenberg 10.79 329 Pn Pn 17 10 29.6 -1.8
GRFO Grafenberg 10.79 329 P Pn 17 10 29.6 -1.8
GRA1 Grafenberg Arr 10.79 329 Pn Pn 17 10 29.1 -2.3
GRF Grafenberg Arr 10.79 329 P Pn 17 10 29.1 -2.3
BRG Berggiesshubel 10.90 340 iP Pn 17 10 33.4 +0.5
BRG Amp 17 10 34.3
comp=Z,16nm,1.2s
BRG r 17 13 50.7
BRG Amp 17 13 57.4
comp=Z,24nm,1.4s
BRG Amp 17 15 25.0
comp=N,1.5nm,15.4s
BRG Amp 17 15 30.0
comp=Z,2.9nm,14.1s
BRG Amp 17 15 32.0
comp=E,1.5nm,14.6s
BRG Berggiesshubel 10.90 340 iP Pn 17 10 33.4 +0.5
BRG pmax pmax
comp=Z,16nm,1.3s
BRG MLR MLR
comp=N,2µm,15.4s
BRG MLR MLR
comp=Z,3µm,14.1s
BRG MLR MLR
comp=E,2µm,14.6s
STU Stuttgart 11.01 320 Pn 17 10 32.5 -2.0
STU Stuttgart 11.01 320 P Pn 17 10 32.5 -2.0
SMRF Simiane la Rot 11.05 291 eP Pn 17 10 36.5 +1.4
ORIF Oris-en-Rattie 11.08 297 ePn Pn 17 10 31.3 -4.1
ORIF Oris-en-Rattie 11.08 297 eP Pn 17 10 37.3 +1.9
ORIF eSn Sn 17 12 27.3 -12
comp=E,3.4nm,0.4s
BFO Black Forest 11.16 316 Pn Pn 17 10 34.0 -2.6
BFO Black Forest 11.16 316 ⇓P Pn 17 10 35.2 -1.3
BFO Black Forest 11.16 316 P Pn 17 10 34.0 -2.6
BFO Black Forest 11.16 316 ePn Pn 17 10 34.9 -1.6
CABF La Chapelle 11.55 305 ePn Pn 17 10 37.7 -4.2
CABF La Chapelle 11.55 305 eP Pn 17 10 44.3 +2.4
CABF eSn Sn 17 12 40.0 -11
comp=E,1.9nm,0.2s
CLL Collm 11.55 338 Pn Pn 17 10 39.4 -2.5
CLL Collm 11.55 338 ePn Pn 17 10 42.0 +0.2
CLL ePg 17 11 38.0
CLL ex x 17 12 29.0
CLL eSn Sn 17 12 38.0 -13
CLL eSb 17 13 42.0
CLL eSg 17 14 10.0
CLL Lmax 17 15 00.0
CLL Collm 11.55 338 eP Pn 17 10 42.0 +0.2
HINF Hinteralfeld 11.68 311 ePn Pn 17 10 40.5 -3.1
HINF Hinteralfeld 11.68 311 eP Pn 17 10 45.9 +2.3
HINF eSn Sn 17 12 42.2 -11
comp=E,5.0nm,0.4s
ECH Echery 11.73 314 Pn Pn 17 10 43.1 -1.1
ECH Echery 11.73 314 ⇓P Pn 17 10 44.2 0.0
ECH Echery 11.73 314 P Pn 17 10 43.1 -1.1
CDF Champ du Feu 11.78 315 ePn Pn 17 10 41.0 -4.0
AKASG Malin Array Be 11.86 30 Pn Pn 17 10 47.5 +1.5
comp=E,0.2nm,0.3s,baz=215,slow=12,SNR=14
AKASG LR LR 17 16 48.7
comp=E,433nm,18.4s,baz=214,slow=45
comp=E,2.1nm,0.8s
AKASG Malin Array Be 11.86 30 Pn Pn 17 10 45.2 -0.8
AKASG Malin Array Be 11.86 30 iP Pn 17 10 49.7 +3.7
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 11.86 30 Pn Pn 17 10 45.3 -0.7
AKBB Malin Array Si 11.86 30 ceP Pn 17 10 48.6 +2.6
VIVF Saint-Julien-l 11.88 295 ePn Pn 17 10 41.9 -4.5
HAU Haudompre 12.07 311 ePn Pn 17 10 45.4 -3.5
HAU Haudompre 12.07 311 eP Pn 17 10 51.5 +2.6
HAU eSn Sn 17 12 51.6 -12
comp=Z,8.6nm,0.3s
SSB Saint Sauveur 12.09 297 Pn Pn 17 10 47.7 -1.5
SSB Saint Sauveur 12.09 297 P Pn 17 10 47.7 -1.5
LASF Ste Croix 12.29 291 eP Pn 17 10 55.0 +3.1
LASF eSn Sn 17 12 56.1 -13
comp=Z,0.8nm,0.1s
TNS Taunus Mts 12.37 324 ePn Pn 17 10 52.9 -0.2
BNN Bunyan 12.43 94 Pn Pn 17 10 58.8 +4.8
PAGF Fort de Pagny 12.71 312 eP Pn 17 11 00.1 +2.4
SFTF Sexfontaines 12.92 310 ePn Pn 17 10 56.5 -4.1
SFTF Sexfontaines 12.92 310 eP Pn 17 11 02.4 +1.8
baz=130
SMF Signal de Mont 12.99 302 ePn Pn 17 10 57.4 -4.1
SMF eSn Sn 17 13 13.2 -13
comp=Z,4.2nm,0.4s
WLF Walferdange 13.12 317 Pn Pn 17 11 02.6 -0.6
WLF Walferdange 13.12 317 P Pn 17 11 02.6 -0.6
WLF Walferdange 13.12 317 dP Pn 17 11 04.5 +1.3
LOR Lormes 13.22 305 ePn Pn 17 11 00.5 -4.1
baz=125
LOR Lormes 13.22 305 eP Pn 17 11 06.0 +1.4
LOR eSn Sn 17 13 18.7 -13
comp=Z,5.0nm,0.3s
AVF Avril sur Loir 13.36 302 ePn Pn 17 11 02.3 -4.2
AVF eSn Sn 17 13 22.3 -12
comp=Z,19nm,0.9s
SSF Saint Saulge 13.36 303 ePn Pn 17 11 02.5 -4.0
SSF Saint Saulge 13.36 303 eP Pn 17 11 07.8 +1.3
SSF eSn Sn 17 13 22.0 -13
comp=Z,3.3nm,0.4s
BGF Bois d'Agland 13.61 301 eP Pn 17 11 10.8 +0.9
BGF eSn Sn 17 13 28.1 -13
comp=Z,5.3nm,0.3s
MEM Membach 13.78 320 dP Pn 17 11 12.4 +0.1
MEM dx P 17 11 22.8 +2.0
BCLA Clavier 14.01 318 dx Pn 17 11 18.8 +3.4
DOU Dourbes 14.18 316 dP Pn 17 11 16.1 -1.6
BMRD Maredsous 14.21 317 dP Pn 17 11 17.9 -0.3
MMAI Mount Meron Ar 14.63 117 Pn Pn 17 11 24.3 +0.3
comp=Z,0.5nm,0.3s,baz=299,slow=18,SNR=2.5
MMAI LR LR 17 18 13.5
comp=Z,476nm,18.5s,baz=184,slow=42
comp=Z,3.8nm,0.4s
MNK Minsk 14.73 19 iP P 17 11 31.5 +0.2
comp=E,2.0nm,0.8s
MNK iP P 17 11 31.5 +0.2
comp=N,22nm,0.8s
MNK iP P 17 11 31.5 +0.2
comp=Z,41nm,0.8s,baz=205
MNK iPP PnPn 17 11 39.4 +6.3
MNK iS S 17 14 18.7 -8.0
MNK iSS SnSn 17 14 30.3 +10
MNK iLQ LQ 17 15 43.9
MNK iLR LR 17 16 57.4
MNK iLRM MLR 17 17 20.0
comp=Z,742nm,15.1s
MNK iLRM MLR 17 17 22.5
comp=N,696nm,15.1s
MNK iLRM MLR 17 17 24.9
comp=E,58nm,15.1s
MNK Minsk 14.73 19 iP P 17 11 31.4 +0.2
MNK iS S 17 14 18.7 -8.0
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s

MNK pmax pmax
comp=Z,41nm,0.8s
MNK MLR MLR
comp=Z,742nm,15.0s
MNK MLR MLR
comp=N,696nm,15.0s
MNK MLR MLR
comp=E,58nm,15.0s
NACGM Naroch 14.86 16⇑*i*P P 17 11 33.0 +0.3
comp=Z,82nm,0.9s,baz=200
SOC Sochi 14.97 73 *e*P Pn 17 11 28.8 +0.3
SOC *e* 17 14 15.9
SOC pmax pmax
comp=Z,12nm,0.6s
SOC MLR MLR
comp=Z,127nm,13.0s
PABE Paberze 14.98 9 Pn 17 11 28.1 -0.4
PABE Paberze 14.98 9 *e*P P 17 11 34.8 +0.9
IIGN Ignalina 15.17 14 *e*P Pn 17 11 13.9 -17
IDID Didziasalis 15.23 15 *e*P Pn 17 11 25.1 -6.9
ISAL Salakas 15.36 13 *e*P P 17 11 39.2 +1.0
ISAL IAmb IAmb 17 11 43.3
comp=Z,24nm,1.0s
VSVD Vaisvydziai 15.44 9 *e*P P 17 11 40.3 +1.2
VSVD IAmb IAmb 17 11 43.0
comp=Z,23nm,0.6s
IZAR Zarasai 15.55 14 *e*P P 17 11 41.7 +1.3
KOPT Kop Dagi 15.73 86 Pn Pn 17 11 35.7 -3.1
KOPT IAmb IAmb 17 12 07.3
comp=Z,20nm,1.0s
DEL Delary 16.18 348 *e*P P 17 11 49.4 +2.1
LDF La Druitiere 16.20 305 *e*P Pn 17 11 45.0 +0.6
FLN La Foliniere 16.48 306 *e*P Pn 17 11 49.2 +1.2
EIL Elat 16.54 127 Pn Pn 17 11 46.0 -2.9
comp=Z,0.3nm,0.3s,baz=330,slow=17,SNR=2.7
EIL Sn Sn 17 14 50.2 -2.2
comp=Z,0.3nm,0.3s,baz=308,slow=17,SNR=1.4
GRR Gorron 16.58 304 *e*Pn Pn 17 11 46.4 -3.0
GRR Gorron 16.58 304 *e*P Pn 17 11 50.1 +0.7
VSR Storozhevoye 16.93 46 *e*P P 17 11 55.6 0.0
VSR pmax pmax
comp=Z,30nm,1.2s
SHA1 Shidzhatmaz 17.11 73 *i*P P 17 11 59.7 +1.8
KIV Kislovodsk 17.14 72 P Pn 17 11 57.2 +0.7
KIV Kislovodsk 17.14 72 *e*P P 17 12 00.8 +2.7
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,72nm,14.0s
VORR Voronezh 17.19 44 *e*P P 17 11 59.3 +0.8
VORR pmax pmax
comp=Z,20nm,0.6s
VORR MLR MLR
comp=Z,270nm,12.0s
GURO Guroymak-BITLI 17.20 90 P Pn 17 11 55.9 -1.4
KBZ Khabaz 17.28 73 P P 17 12 01.0 +1.5
comp=Z,0.1nm,0.3s,baz=297,slow=11,SNR=6.0
KBZ LR LR 17 20 18.7
comp=Z,149nm,19.5s,baz=274,slow=43
comp=Z,3.9nm,1.0s
KBZ Khabaz 17.28 73*ce*P P 17 12 03.0 +3.4
KBZ pmax pmax
comp=Z,13nm,1.1s
LPSR Galich'ya Gora 17.56 41 *e*P P 17 12 02.3 -0.2
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=Z,350nm,15.2s
KARS Kars 17.59 83 P P 17 12 03.4 +0.3
KARS IAmb IAmb 17 12 28.6
comp=Z,66nm,1.3s
KARS Kars 17.59 83 P P 17 12 03.4 +0.3
KARS pmax pmax
comp=Z,66nm,1.3s
ONI Oni 17.69 76 P Pn 17 12 02.7 -0.6
ONI Oni 17.69 76 P Pn 17 12 02.7 -0.6
ONI pmax pmax
comp=Z,20nm,1.4s
AKH Akhalkalaki 17.80 80 P Pn 17 12 04.8 0.0
AKH IAmb IAmb 17 12 47.8
comp=Z,43nm,1.2s
AKH Akhalkalaki 17.80 80 P Pn 17 12 04.8 0.0
AKH pmax pmax
comp=Z,43nm,1.2s
VIKU Vikbolandet 17.85 355 *e*P P 17 12 06.3 +0.6
ZEI Tsey 18.02 76 *e*P P 17 12 13.5 +5.6
ZEI pmax pmax
comp=Z,10.0nm,1.3s
OBN Obninsk 18.11 32 P P 17 12 10.4 +1.8
comp=Z,0.6nm,0.3s,baz=221,slow=20,SNR=7.5
OBN LR LR 17 19 37.6
comp=Z,104nm,19.1s,baz=218,slow=39
comp=Z,3.4nm,0.4s
OBN Obninsk 18.11 32 P Pn 17 12 07.7 -0.6
OBN IAmb IAmb 17 12 12.7
comp=Z,63nm,1.2s
OBN Obninsk 18.11 32⇓*e*P P 17 12 08.8 +0.2
OBN pmax pmax
comp=Z,67nm,1.3s
OBN MLR MLR
comp=Z,337nm,13.0s
MTSE Matsula 18.12 7 *e*P P 17 12 09.6 +0.9
VSU Vasula 18.23 12 *i*P Pn 17 12 09.1 -0.6
VSU pmax pmax
comp=Z,83nm,0.9s
VSU Vasula 18.23 12 *e*P P 17 12 10.2 +0.3
ESBB Sonseca Array 18.23 274 P P 17 12 10.6 +0.5
ESDC Sonseca Array 18.23 274 P Pn 17 12 09.1 -0.9
comp=Z,0.1nm,0.3s,baz=76,slow=8.7,SNR=9.2
comp=Z,4.5nm,1.2s
ESDC Sonseca Array 18.23 274 P P 17 12 11.0 +0.8
VRH Novokhopyorsk 18.34 48 *e*P P 17 12 14.0 +2.8
VRH pmax pmax
comp=Z,30nm,1.2s
VRH pmax pmax
comp=Z,1.0nm,13.8s
GNI Garni 18.91 84 P Pn 17 12 20.5 +2.1
comp=Z,0.5nm,0.3s,baz=180,slow=15,SNR=1.3
comp=Z,9.3nm,0.9s
MOS Moscow 18.98 32 *e*P P 17 12 16.7 -1.5
MOS *e*S Sn 17 15 46.5 -4.4
MOS pmax pmax
comp=Z,124nm,1.3s
MOS MLR MLR
comp=Z,900nm,11.0s
UPP Uppsala 19.15 357 *e*P Pn 17 12 20.7 -0.2
GROC Groznyy 19.39 74 *e*P Pn 17 12 23.6 -0.4
GROC pmax pmax
comp=Z,18nm,0.5s
AAL Aland 19.42 0 *e*P P 17 12 23.2 +0.3
MEF Metsahovi 19.66 7 *e*P Pn 17 12 27.4 +0.4
HFS Hagfors 19.75 351 P P 17 12 25.9 -0.7
comp=Z,0.3nm,0.3s,baz=168,slow=15,SNR=14
HFS LR LR 17 19 58.0
comp=Z,376nm,20.9s,baz=170,slow=37
comp=Z,3.7nm,0.6s
KONO Kongsberg 19.96 345 P P 17 12 27.1 -1.7
KONO IAmb IAmb 17 12 28.6
comp=Z,37nm,1.5s
KONO Kongsberg 19.96 345 P P 17 12 27.1 -1.7
KONO pmax pmax
comp=Z,37nm,1.5s
RAF Rauma 20.30 3 *e*P P 17 12 33.5 +0.9
NC602 NORSAR Array S 20.63 348 P P 17 12 35.3 -0.8
NC602 IAmb IAmb 17 12 45.3
comp=Z,21nm,1.2s
MAK Makhachkala 20.65 75 *e*P Pn 17 12 38.2 -0.7
MAK *e*S Sn 17 16 32.4 +0.9
MAK pmax pmax
comp=Z,145nm,1.1s
MAK MLR MLR
comp=Z,250nm,15.0s
NAO01 NORSAR Array S 20.84 348 P P 17 12 37.1 -1.3
NAO01 IAmb IAmb 17 12 55.6
comp=Z,44nm,1.3s
NC405 NORSAR Array S 20.96 349 P P 17 12 38.4 -1.3
NC405 IAmb IAmb 17 12 53.8
comp=Z,28nm,0.8s
NB201 NORSAR Array S 20.97 348 P P 17 12 38.9 -1.0
NB201 IAmb IAmb 17 12 57.7
comp=Z,66nm,1.3s
NB2 NORSAR Subarra 20.97 348 P P 17 12 38.3 -1.6
comp=Z,16nm,1.1s,baz=159,slow=12
NOA NORSAR Array B 20.97 348 P P 17 12 39.4 -0.5
comp=Z,2.7nm,0.7s,baz=160,slow=8.6,SNR=16
NOA LR LR 17 22 05.5
comp=Z,520nm,21.6s,baz=175,slow=40
comp=Z,2.7nm,0.7s
NBO00 NORSAR Array S 21.03 348 P P 17 12 37.8 -2.8
FINES FINESS Array B 21.03 8 P P 17 12 39.7 -0.7
comp=Z,14nm,0.7s,baz=166,slow=8.8,SNR=22
FINES LR LR 17 21 44.9
comp=Z,822nm,19.2s,baz=192,slow=39
comp=Z,14nm,0.7s
FINES FINESS Array B 21.03 8 P P 17 12 37.4 -3.1
FIA1 FINESS Array S 21.03 8 P P 17 12 37.2 -3.3
FIA1 IAmb IAmb 17 12 43.4
comp=Z,45nm,1.1s
EKA Eskdalemuir Ar 21.05 321 P P 17 12 40.2 -0.5
comp=Z,22nm,0.9s,baz=107,slow=9.1,SNR=21
EKA LR LR 17 21 36.2
comp=Z,364nm,18.7s,baz=125,slow=39
comp=Z,22nm,0.9s
ESK Eskdalemuir 21.06 321 P P 17 12 39.1 -1.8
ESK IAmb IAmb 17 12 44.8
comp=Z,51nm,1.0s
ESK Eskdalemuir 21.06 321 P P 17 12 39.1 -1.8
ESK pmax pmax
comp=Z,51nm,1.0s
MDT Midelt 21.11 256 P P 17 12 40.0 -1.7
comp=Z,6.0nm,1.1s,baz=53,slow=15,SNR=1.8
comp=Z,6.0nm,1.1s
NC303 NORSAR Array S 21.12 349 P P 17 12 40.5 -1.0
NC303 IAmb IAmb 17 13 03.6
comp=Z,22nm,1.0s
NC204 NORSAR Array S 21.27 348 P P 17 12 43.1 0.0
BELG Belogornoye 22.18 49 P P 17 12 53.2 +0.4
comp=Z,35nm,0.9s,baz=52,slow=4.4,SNR=9.9
comp=Z,35nm,0.9s
BELG Belogornoye 22.18 49 *i*P P 17 12 54.0 +1.2
BELG pmax pmax
comp=Z,18nm,1.0s
KLMR Klimovskoe 23.44 24 *e*P P 17 13 04.2 -1.7
KLMR AMP 17 13 22.0
comp=Z,124nm,1.9s
KLMR LQ LQ 17 20 51.5
KLMR LQ LQ 17 20 51.5
KLMR LR LR 17 21 36.0
KLMR AMP 17 22 51.1
comp=Z,783nm,11.9s
KLMR Klimovskoe 23.44 24 *e*P P 17 13 04.2 -1.7
KLMR pmax pmax
comp=Z,124nm,1.9s
KLMR MLR MLR
comp=Z,783nm,12.0s
ADZR Andozero 25.57 19 *e*P P 17 13 25.0 -0.5
ADZR pmax pmax
comp=Z,40nm,0.8s
KIRV Kirov 25.80 36 P P 17 13 29.0 +1.3
comp=Z,9.6nm,0.5s,baz=294,slow=4.1,SNR=4.6
KIRV LR LR 17 24 40.2
comp=Z,611nm,19.2s,baz=242,slow=39
comp=Z,9.6nm,0.5s
RAYN Ar Rayn 27.54 121 P P 17 13 43.5 -0.3
RAYN IAmb IAmb 17 13 49.3
comp=Z,22nm,1.3s
RAYN Ar Rayn 27.54 121 P P 17 13 43.5 -0.3
RAYN pmax pmax
comp=Z,22nm,1.3s
APA Apatity 27.85 11⇓*i*P P 17 13 45.7 -0.4
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,3μm,15.0s
AKTO Aktyubinsk 28.09 57 P P 17 13 49.4 +0.9
comp=Z,2.6nm,0.7s,baz=266,slow=8.7,SNR=7.5
AKTO LR LR 17 25 47.3
comp=Z,252nm,19.4s,baz=26,slow=38
comp=Z,2.6nm,0.7s
LVZ Lovozero 28.34 12 P P 17 13 49.8 -0.7
LVZ Lovozero 28.34 12 P P 17 13 49.8 -0.7
LVZ pmax pmax
comp=Z,110nm,1.5s
ARCES ARCESS Array B 28.97 4 P P 17 13 55.5 -0.5
ARCES ARCESS Array B 28.97 4 P P 17 13 55.5 -0.5
ARCES pmax pmax
comp=Z,32nm,1.5s
ABKAR Akbulak array 29.27 60 P P 17 13 57.0 -1.9
ABKAR Akbulak array 29.27 60 P P 17 13 58.6 -0.3
ABKAR Akbulak array 29.27 60 ⇑P P 17 13 59.3 +0.4
ARU Arti 29.50 45 P P 17 14 02.2 +1.3
comp=Z,1.7nm,0.3s,baz=299,slow=10,SNR=2.8
ARU LR LR 17 28 38.5
comp=Z,90nm,21.2s,baz=248,slow=42
comp=Z,1.7nm,0.3s
ARU Arti 29.50 45 P P 17 14 00.6 -0.3
ARU IAmb IAmb 17 14 05.4
comp=Z,15nm,1.4s
ARU Arti 29.50 45*c i*P P 17 14 00.6 -0.3
ARU 17 14 52.5
ARU S S 17 18 56.5 +1.8
ARU SS SnSn 17 20 23.8 +1.7
ARU pmax pmax
comp=Z,21nm,2.1s
GEYT Alibeck 29.55 83 P P 17 14 01.4 -0.2
comp=Z,2.4nm,0.7s,baz=267,slow=5.9,SNR=6.9
GEYT LR LR 17 28 09.5
comp=Z,152nm,18.6s,baz=313,slow=41
comp=Z,2.4nm,0.7s
SVE Sverdlovsk 30.71 45 *e*P P 17 14 12.1 +0.5
TORD Torodi Ar. Bea 31.81 215 P P 17 14 21.4 -0.2
comp=Z,7.3nm,0.9s,baz=26,slow=8.5,SNR=27
comp=Z,7.3nm,0.9s
TORD Torodi Ar. Bea 31.81 215 P P 17 14 21.5 -0.1
TORD IAmb IAmb 17 14 23.9
comp=Z,14nm,1.3s
BORG Borgarnes 33.61 329 LR LR 17 29 57.3
comp=Z,394nm,21.5s,baz=128,slow=39
BRVK Borovoye 35.81 53 P P 17 14 55.4 -0.8
BRVK Borovoye 35.81 53*ce*P P 17 14 57.0 +0.9
BRVK pmax pmax
comp=Z,21nm,1.0s
BVAR Borovoye Array 35.88 53 LR LR 17 32 38.5
comp=Z,76nm,18.4s,baz=266,slow=41
WSAR Wadi Sarin 36.87 106 LR LR 17 34 34.2
comp=Z,124nm,19.2s,baz=323,slow=43
KK31 Karatay Array 37.27 69 P P 17 15 07.8 -0.9
KK31 Karatay Array 37.27 69 P P 17 15 07.8 -0.9
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 37.27 69 P P 17 15 07.7 -1.0
KKAR Karatay Array 37.27 69 P P 17 15 07.7 -1.0
KKAR 17 15 07.7
KKAR pmax pmax
comp=Z,2.0nm,0.8s
SPITS Spitsbergen Ar 37.54 359 P P 17 15 11.5 +1.0
comp=Z,15nm,1.1s,baz=196,slow=9.0,SNR=1.8
SPITS LR LR 17 32 34.7
comp=Z,607nm,18.4s,baz=142,slow=39
comp=Z,15nm,1.1s
DAG Danmarks Havn 39.65 347 *i*P P 17 15 27.0 -1.2
DAG IAmb IAmb 17 15 31.3
comp=Z,3.0nm,0.7s
LODK Lodwar 39.73 155 P P 17 15 29.2 -0.4
AAK Ala-Archa 40.22 69 LR LR 17 36 38.3
comp=Z,48nm,21.8s,baz=290,slow=43
AAK Ala-Archa 40.22 69 P P 17 15 32.9 -0.7
AAK Ala-Archa 40.22 69 *i*P P 17 15 36.5 +2.9
DBIC Dimbokro 40.52 220 P P 17 15 35.7 -0.4
comp=Z,3.1nm,0.7s,baz=41,slow=6.3,SNR=4.5
DBIC LR LR 17 33 33.1
comp=Z,267nm,18.5s,baz=25,slow=38
comp=Z,3.1nm,0.7s
DBIC Dimbokro 40.52 220 P P 17 15 35.3 -0.8
DBIC IAmb IAmb 17 15 44.4
comp=Z,6.0nm,0.8s
TIC Toumodi 40.62 220⇑*i*P P 17 15 37.2 +0.2
comp=Z,2.9nm,0.2s
KIC Kosan Boka 40.73 219⇓*i*P P 17 15 38.4 +0.5
comp=Z,1.9nm,0.4s
BBTS Babate 40.97 241 LR LR 17 36 11.2
comp=Z,208nm,20.5s,baz=54,slow=42
LIC Lamto 40.99 220⇑*e*P P 17 15 40.1 +0.1
comp=Z,34nm,0.7s
KURK Kurchatov 41.17 56*ce*P P 17 15 43.8 +2.7
KURK pmax pmax
comp=Z,5.0nm,1.3s
ICESG Greenland Ices 41.80 332 *i*P P 17 15 47.0 +0.6
ICESG IAmb IAmb 17 15 50.5
comp=Z,8.6nm,0.9s
SUMG Summit 42.22 338 *i*P P 17 15 50.0 +0.1
SUMG IAmb IAmb 17 15 54.0
comp=Z,1.3nm,0.6s
MBAR Mbarara 42.36 164 LR LR 17 35 44.4
comp=Z,176nm,18.4s,baz=330,slow=39
MBAR Mbarara 42.36 164*ce*P P 17 15 52.8 +1.4
MBAR pmax pmax
comp=Z,9.0nm,1.7s
NIL Nilore 42.54 82 P P 17 15 51.3 -1.3
NIL IAmb IAmb 17 16 16.1
comp=Z,22nm,1.4s
NIL Nilore 42.54 82 P P 17 15 51.3 -1.3
NIL pmax pmax
comp=Z,22nm,1.5s
NOR Nord 42.84 353 *i*P P 17 15 53.8 -0.6
NRS Narsarsuaq 43.70 320 P P 17 16 01.5 0.0
NRS Narsarsuaq 43.70 320 P P 17 16 01.5 0.0
NRS pmax pmax
comp=Z,23nm,0.9s
DY2G Dye2 44.01 328 *i*P P 17 16 04.7 +0.4
DY2G IAmb IAmb 17 16 07.4
comp=Z,114nm,2.0s
MAKZ Makanchi 44.19 61 P P 17 16 05.0 -0.8
MAKZ Makanchi 44.19 61 P P 17 16 05.0 -0.8
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
ZAA0 Zalesovo Array 44.36 50 P P 17 16 06.0 -0.9
ZAA0 IAmb IAmb 17 16 10.8
comp=Z,9.3nm,0.9s
ZALV Zalesovo Beam 44.36 50 P P 17 16 07.1 +0.2
comp=Z,5.2nm,0.5s,baz=279,slow=8.6,SNR=22
ZALV LR LR 17 35 46.9
comp=Z,71nm,19.1s,baz=318,slow=38
comp=Z,5.2nm,0.5s
ZALV Zalesovo Beam 44.36 50 P P 17 16 06.3 -0.7
ZALV Zalesovo Beam 44.36 50 *i*P P 17 16 10.1 +3.2
ZALV pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 44.41 60 P P 17 16 05.2 -2.3
MK31 Makanchi Array 44.41 60 *i*P P 17 16 09.2 +1.7
MKAR Makanchi Array 44.41 60 P P 17 16 07.2 -0.2
comp=Z,0.9nm,0.5s,baz=281,slow=7.6,SNR=13
MKAR LR LR 17 35 50.7
comp=Z,121nm,19.7s,baz=289,slow=38
comp=Z,0.9nm,0.5s
MKAR Makanchi Array 44.41 60 P P 17 16 05.1 -2.4
NRIK Noril'sk 44.71 28 P P 17 16 10.1 +0.5
comp=Z,5.5nm,0.8s,baz=273,slow=11,SNR=8.7
NRIK LR LR 17 35 27.9
comp=Z,180nm,20.8s,baz=261,slow=37
comp=Z,5.5nm,0.8s
NRIK Noril'sk 44.71 28 P P 17 16 08.6 -1.0
NRIK IAmb IAmb 17 16 14.2
comp=Z,9.5nm,1.0s
NRIK Noril'sk 44.71 28*ce*P P 17 16 10.8 +1.3
NRIK pmax pmax
comp=Z,13nm,1.2s
SFJD Kangerlussuaq 45.74 329 LR LR 17 36 57.0
comp=Z,348nm,18.4s,baz=82,slow=38
DGZ Jazzator, Alta 46.91 55 *i*P P 17 16 29.1 +1.7
DGZ pmax pmax
comp=Z,2.0nm,0.6s
UPNV Upernavik 47.48 337 *e*P P 17 16 31.7 +0.4
UPNV IAmb IAmb 17 16 34.9
comp=Z,23nm,1.4s
WMQ Urumqi 48.97 63 *e*P P 17 16 44.5 +1.2
WMQ sP sP 17 16 50.8 +0.9
WMQ pmax pmax
comp=Z,12nm,0.7s
TULEG Thule 50.46 342 P P 17 16 53.4 -0.7
EUNU Eureka 52.86 348 P P 17 17 10.7 -1.4
EUNU IAmb IAmb 17 17 28.6
comp=Z,18nm,1.4s
SCHQ Schefferville 56.23 316 P P 17 17 37.2 +0.4
comp=Z,4.7nm,0.8s,baz=74,slow=4.5,SNR=5.9
SCHQ LR LR 17 42 03.5
comp=Z,67nm,18.7s,baz=85,slow=36
comp=Z,4.7nm,0.8s
ZAK Zakamensk 56.24 50 *e*P P 17 17 38.3 +1.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s
RES Resolute Bay 57.13 343 P P 17 17 41.9 -1.0
RES IAmb IAmb 17 17 48.5
comp=Z,8.2nm,1.1s
RES Resolute Bay 57.13 343 P P 17 17 41.9 -1.0
RES pmax pmax
comp=Z,8.0nm,1.2s
GOMU GeErMu 57.16 68 P P 17 17 49.3 +5.1
GOMU pP sP 17 17 54.3 +3.4
GOMU sP pP 17 17 55.8 +6.8
GOMU pmax pmax
comp=Z,2.0nm,1.2s
TIXI Tiksi 57.39 21 LR LR 17 45 33.9
comp=Z,434nm,18.7s,baz=190,slow=39
TIXI Tiksi 57.39 21 P P 17 17 44.8 +0.1
TIXI IAmb IAmb 17 17 50.1
comp=Z,6.1nm,1.2s
TIXI Tiksi 57.39 21 P P 17 17 44.8 +0.1
TIXI pmax pmax
comp=Z,6.0nm,1.2s
LSA Lhasa 57.80 77 P P 17 17 47.8 -1.1
LSA IAmb IAmb 17 18 01.5
comp=Z,4.3nm,1.0s
LSA Lhasa 57.80 77 P P 17 17 47.8 -1.1
LSA pmax pmax
comp=Z,4.0nm,1.0s
HAL Halifax 58.85 304 P P 17 17 55.2 -0.2
HAL Halifax 58.85 304 P P 17 17 55.2 -0.2
HAL pmax pmax
comp=Z,122nm,1.4s
SONM Songino Array 59.21 52 P P 17 17 59.8 +1.8
comp=Z,1.6nm,0.8s,baz=270,slow=8.6,SNR=5.9
comp=Z,1.6nm,0.8s
SONM Songino Array 59.21 52 P P 17 17 58.5 +0.4
SONM IAmb IAmb 17 18 02.5
comp=Z,8.1nm,1.4s
ULN Ulaanbaatar 59.58 51 *i*P P 17 18 02.2 +1.5
ULN pmax pmax
comp=Z,18nm,3.7s
TSUM Tsumeb 59.71 183 LR LR 17 46 41.5
comp=Z,155nm,18.1s,baz=335,slow=39
LATQ La Tuque 63.04 310 P P 17 18 23.4 -0.4
YAK Yakutsk 63.09 30 LR LR 17 48 58.7
comp=Z,272nm,19.2s,baz=274,slow=39
YAK Yakutsk 63.09 30 *i*P P 17 18 23.5 -0.4
YAK pmax pmax
comp=Z,17nm,1.8s
LZH Lanzhou 63.50 64 *e*P P 17 18 23.5 -3.8
LZH pP pP 17 18 26.5 -5.7
LZH sP sP 17 18 29.0 -5.0
LZH pmax pmax
comp=Z,5.0nm,1.0s
A36M Sachs Harbour 64.88 349 P P 17 18 34.3 -1.2
LBTB Lobatse 65.67 174 LR LR 17 49 54.7
comp=Z,329nm,18.3s,baz=343,slow=38
HHC Hu-ho-hao-te 65.98 56 *e*P P 17 18 40.5 -2.8
HHC pmax pmax
comp=Z,7.0nm,0.7s
C36M Paulatuk 67.01 347 P P 17 18 48.6 -0.6
XLT XiLinHaoTe 67.03 51 *e*P P 17 18 53.8 +3.9
XLT sP sP 17 19 00.3 +3.6
XLT pmax pmax
comp=Z,5.0nm,0.8s
PZH PanZhiHua 67.35 74 P P 17 18 54.3 +2.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 68.09 63 P P 17 18 59.0 +2.2
XAN pmax pmax
comp=Z,5.0nm,1.3s
BILL Bilibino 68.59 13 P P 17 18 59.1 -0.2
BILL Bilibino 68.59 13⇓*e*P P 17 18 58.2 -1.1
BILL *e* 17 19 05.3
BILL 17 19 24.0
BILL *e* 17 28 23.2
BILL pmax pmax
comp=Z,12nm,1.6s
KMI Kunming 68.88 75 ⇑P P 17 19 01.0 -1.1
KMI pmax pmax
comp=Z,6.0nm,1.1s
RCBR Riachuelo 68.95 242 LR LR 17 50 51.4
comp=Z,116nm,18.1s,baz=163,slow=37
BOSA Boshof 69.22 175 P P 17 19 04.8 +1.1
comp=Z,1.8nm,0.8s,baz=35,slow=16,SNR=1.3
BOSA LR LR 17 52 02.9
comp=Z,328nm,18.6s,baz=350,slow=38
comp=Z,1.8nm,0.8s
HEH HeiHe 69.39 41 *e*P P 17 19 06.8 +2.3
HEH pmax pmax
comp=Z,7.0nm,0.8s

INK	**Inuvik**	**69.42**	**350**	P	**P**	**17 19 04.3**	**0.0**
INK				IAmb	IAmb	17 19 14.0	
	comp=Z,5.9nm,1.2s						
INK	**Inuvik**	**69.42**	**350**	P	**P**	**17 19 04.3**	**0.0**
INK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CHTO	**Chiang Mai**	**69.81**	**82**	P	**P**	**17 19 06.7**	**-1.0**
CHTO	**Chiang Mai**	**69.81**	**82**	P	**P**	**17 19 06.7**	**-1.0**
SEY	**Seymchan**	**69.89**	**21**	*i* P	**P**	**17 19 07.3**	**0.0**
CMAR	**Chiang Mai Arr**	**70.03**	**83**	P	**P**	**17 19 08.2**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=303,slow=7.5,SNR=15						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**70.03**	**83**	*i* P	**P**	**17 19 11.1**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CRAI	**Chiangrai**	**70.03**	**80**	P	**P**	**17 19 07.8**	**-1.2**
CRAI				IAmb	IAmb	17 19 19.7	
	comp=Z,4.8nm,0.8s						
YKA	**Yellowknife Ar**	**70.78**	**339**	P	**P**	**17 19 13.3**	**+0.5**
	comp=Z,8.7nm,1.1s,baz=33,slow=5.0,SNR=34						
YKA				LR	LR	17 54 00.2	
	comp=Z,102nm,18.9s,baz=322,slow=39						
	comp=Z,8.7nm,1.1s						
MA2	**Magadan**	**72.11**	**24**	LR	LR	17 54 28.5	
	comp=Z,162nm,18.9s,baz=321,slow=39						
MA2	**Magadan**	**72.11**	**24**	*i* P	**P**	**17 19 21.6**	**+0.7**
MA2				pmax	pmax		
	comp=Z,13nm,2.2s						
KLR	**Kul'dur**	**72.19**	**40**	LR	LR	17 54 14.2	
	comp=Z,189nm,18.1s,baz=328,slow=38						
KLR	**Kul'dur**	**72.19**	**40**	*i* P	**P**	**17 19 21.7**	**+0.1**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FYU	**Fort Yukon**	**72.37**	**354**	P	**P**	**17 19 22.5**	**+0.2**
CN2	**Changchun**	**72.47**	**47**	*e*P	**P**	**17 19 25.0**	**+1.7**
CN2				*e*S	**S**	**17 28 46.5**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
SUR	**Sutherland**	**72.80**	**179**	LR	LR	17 54 06.6	
	comp=Z,163nm,19.1s,baz=358,slow=38						
ULM	**Lac du Bonnet**	**73.32**	**323**	P	**P**	**17 19 29.0**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=22,slow=6.4,SNR=5.9						
	comp=Z,4.3nm,0.8s						
MDM	**Murphy Dome**	**74.19**	**355**	P	**P**	**17 19 33.3**	**+0.2**
MDM				IAmb	IAmb	17 19 40.3	
	comp=Z,7.6nm,1.2s						
DAWY	**Dawson**	**74.21**	**351**	P	**P**	**17 19 33.9**	**+0.5**
DAWY				IAmb	IAmb	17 19 40.7	
	comp=Z,9.0nm,1.0s						
COLA	**College**	**74.24**	**355**	*i* P	**P**	**17 19 34.1**	**+0.7**
COLA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ILAR	**Eielson Array**	**74.27**	**354**	P	**P**	**17 19 34.9**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=359,slow=4.3,SNR=10						
ILAR				LR	LR	17 52 42.7	
	comp=Z,86nm,21.2s,baz=318,slow=36						
	comp=Z,1.0nm,0.7s						
HDA	**Harding Lake**	**74.63**	**354**	P	**P**	**17 19 36.0**	**+0.2**
HDA				IAmb	IAmb	17 19 41.3	
	comp=Z,9.6nm,1.1s						
MCK	**McKinley**	**75.45**	**355**	P	**P**	**17 19 40.9**	**+0.4**
MCK				IAmb	IAmb	17 20 07.8	
	comp=Z,4.0nm,1.1s						
MCK	**McKinley**	**75.45**	**355**	P	**P**	**17 19 40.9**	**+0.4**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**75.73**	**43**	LR	LR	17 56 32.7	
	comp=Z,244nm,18.9s,baz=328,slow=38						
NJ2	**Nanjing**	**75.93**	**60**	*e*P	**P**	**17 19 43.3**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,11nm,1.2s						
DHY	**Denali Highway**	**75.99**	**354**	P	**P**	**17 19 44.1**	**+0.4**
TKL	**Tuckaleechee C**	**76.61**	**306**	LR	LR	17 56 05.8	
	comp=Z,162nm,18.3s,baz=46,slow=38						
KSRS	**Korea Array**	**78.06**	**51**	P	**P**	**17 19 56.2**	**+0.6**
	comp=Z,4.6nm,0.7s,baz=314,slow=5.0,SNR=12						
	comp=Z,4.6nm,0.7s						
PSI	**Prapat**	**79.88**	**95**	LR	LR	17 58 36.7	
	comp=Z,65nm,18.9s,baz=270,slow=38						
JNU	**Nakatsue**	**82.79**	**52**	LR	LR	18 02 35.6	
	comp=Z,88nm,19.4s,baz=327,slow=40						
NEW	**Newport**	**83.51**	**333**	LR	LR	17 59 33.8	
	comp=Z,210nm,18.6s,baz=18,slow=37						
C09A	**Chrisman Ranch**	**84.31**	**333**	P	**P**	**17 20 28.4**	**-0.3**
MJAR	**Matsushiro Arr**	**84.52**	**45**	P	**P**	**17 20 32.7**	**+2.7**
	comp=Z,3.0nm,1.0s,baz=317,slow=5.3,SNR=4.3						
MJAR				LR	LR	18 00 51.6	
	comp=Z,79nm,20.2s,baz=348,slow=38						
	comp=Z,3.0nm,1.0s						
PDAR	**Pinedale Array**	**85.12**	**325**	P	**P**	**17 20 34.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=28,slow=3.8,SNR=6.2						
	comp=Z,0.5nm,0.6s						
BMO	**Blue Mountains**	**86.50**	**331**	P	**P**	**17 20 39.1**	**-0.7**
BMO				IAmb	IAmb	17 20 50.5	
	comp=Z,5.9nm,1.4s						
BMO	**Blue Mountains**	**86.50**	**331**	P	**P**	**17 20 39.1**	**-0.7**
BMO				pmax	pmax		
	comp=Z,6.0nm,1.4s						
JHJ	**Hachijo jima 2**	**87.93**	**47**	LR	LR	18 02 43.1	
	comp=Z,85nm,18.2s,baz=116,slow=37						
ELK	**Elko**	**89.19**	**328**	LR	LR	18 02 33.6	
	comp=Z,234nm,19.0s,baz=26,slow=37						
YBH	**Yreka Blue Hor**	**91.14**	**333**	LR	LR	18 05 33.7	
	comp=Z,133nm,19.4s,baz=50,slow=38						
TXAR	**Lajitas Array**	**92.83**	**313**	P	**P**	**17 21 09.8**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=63,slow=3.9,SNR=8.8						
	comp=Z,1.4nm,0.8s						
JCJ	**Chichijima**	**93.84**	**49**	LR	LR	18 05 20.1	
	comp=Z,88nm,20.4s,baz=358,slow=37						
ASAR	**Alice Springs**	**122.90**	**94**	PKP	**PKPdf**	**17 26 53.1**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=302,slow=1.7,SNR=11						

*BEO **27** 17:15:06.4±0.6, 40.°63N×19.°80E, h0km, ML2.7/6*
*TIR **27** 17:15:08.6, 40.°79N×19.°96E, h4km±2km, Md2.9, Ml2.9*

ISC 27 17:15:09.4±1.1, 40.°75N±0.°03×19.°96E±0.°02, h10km±10km, n33, σ1°15/49, 5C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VLO	**Vlora**	**0.45**	**232**	P		**Pb**	**17 15 18.7**	**-0.8**
VLO	baz=228			S		**Sb**	**17 15 25.2**	**-1.0**
	baz=228							
VLO				AMP				
	comp=N,16nm,0.2s,baz=228							
TIR	**Tirane**	**0.60**	**353**	⇓S		Sg	17 15 20.6	-8.4
TIR	**Tirane**	**0.60**	**353**	P		**Pg**	**17 15 19.9**	**-1.2**
	baz=353							
TIR				S		**Sg**	**17 15 28.7**	**-0.3**
	baz=353							
TIR				AMP				
	comp=N,1.3nm,0.5s,baz=353							
TIR	**Tirane**	**0.60**	**353**	*e*Pg		**Pg**	**17 15 20.1**	**-1.0**
TIR				*e*Sg		**Sb**	**17 15 32.5**	**+1.8**
TIR	**Tirane**	**0.60**	**353**	*i* Pg		**Pg**	**17 15 20.0**	**-1.1**
KBN	**Korca**	**0.64**	**101**	P		**Pb**	**17 15 22.1**	**-0.6**
	baz=104							
KBN				S		**Sb**	**17 15 31.9**	**0.0**
	baz=104							
OHR	**Ohrid**	**0.73**	**60**	*e*Pg		**Pg**	**17 15 23.3**	**-0.2**
OHR				*e*Sg		**Sb**	**17 15 35.0**	**+0.6**
OHR	**Ohrid**	**0.73**	**60**	*i* Pg		**Pg**	**17 15 23.4**	**-0.1**
OHR				*i* Sg		**Sn**	**17 15 36.2**	**-1.0**
LSK	**Leskovik**	**0.77**	**141**	P		**Pb**	**17 15 23.8**	**-1.2**
	baz=142							
LSK				S		**Sn**	**17 15 37.5**	**-0.7**
	baz=142							
SRN	**Sarande**	**0.87**	**178**	P		**Pb**	**17 15 25.6**	**-1.0**
	baz=177							
SRN				S		**Sn**	**17 15 40.1**	**-0.3**
	baz=177							
FNA	**Florina**	**1.08**	**88**	P		**Pg**	**17 15 29.1**	**-1.0**
	baz=90							
FNA	**Florina**	**1.08**	**88**	*e*Pg		**Pg**	**17 15 28.8**	**-1.3**
FNA				*e*Sg		**Sn**	**17 15 46.8**	**+1.1**
IGT	**Igoumenitsa**	**1.25**	**167**	P		**Pg**	**17 15 34.0**	**+0.6**
	baz=167							
SKO	**Skopje**	**1.65**	**42**	*e*Sg		**Sg**	**17 16 03.4**	**+0.8**
SKO	**Skopje**	**1.65**	**42**	*i* Pn		**Pb**	**17 15 39.9**	**-0.1**
SKO				*i* Sn		**Sg**	**17 16 03.5**	**+0.9**
PDG	**Podgorica**	**1.76**	**343**	⇑P		**Pn**	**17 15 39.2**	**-0.8**
PDG				⇑S		**Sn**	**17 16 02.8**	**+0.3**
PDG	**Podgorica**	**1.76**	**343**	*e*Pg		**Pn**	**17 15 39.6**	**-0.4**
PDG				*e*Sg		**Sb**	**17 16 04.8**	**+0.8**
STIP	**Stip**	**1.93**	**60**	*i* Pn		**Pg**	**17 15 46.1**	**-0.2**
STIP				*i* Sn		**Sg**	**17 16 15.9**	**+4.5**
VAY	**Valandovo**	**2.06**	**73**	*e*Pg		**Pb**	**17 15 45.7**	**-1.1**
VAY				*e*Sg		**Sg**	**17 16 15.3**	**-0.2**
PRVS	**Prvonek**	**2.37**	**41**	*e*Pn		**Pn**	**17 15 48.9**	**+0.5**
MATE	**Matera**	**2.48**	**269**	⇑P		**Pg**	**17 15 59.1**	**+2.2**
MATE				⇓S		**Sg**	**17 16 29.4**	**+0.4**
BARS	**Barje**	**2.49**	**33**	*e*Pn		**Pn**	**17 15 50.6**	**+0.6**
SJES	**Sjenica**	**2.51**	**0**	*e*Pn		**Pn**	**17 15 50.9**	**+0.5**
SELS	**Selova**	**2.62**	**19**	*e*Pn		**Pn**	**17 15 51.0**	**-0.8**
BBLS	**Lazići**	**3.14**	**353**	*e*Pn		**Pn**	**17 15 57.4**	**-1.7**
BOVS	**Bovan**	**3.16**	**24**	⇓P		**Pn**	**17 15 59.7**	**+0.5**
GRUS	**Gruza**	**3.19**	**10**	*e*Pn		**Pn**	**17 16 00.3**	**+0.7**
ZAPS	**Zavoj**	**3.21**	**37**	*e*Pn		**Pn**	**17 15 59.6**	**-0.4**
ZAPS				*e*Sn		**Sn**	**17 16 38.6**	**+0.2**
DIVS	**Divibare**	**3.35**	**0**	*e*Pn		**Pn**	**17 16 00.8**	**-1.1**
DIVS				*e*Sn		**Sn**	**17 16 40.6**	**-1.2**
TRUS	**Trudelj**	**3.49**	**5**	*e*Pn		**Pn**	**17 16 03.8**	**0.0**
FRGS	**Fruska Gora**	**4.41**	**359**	⇑P		**Pn**	**17 16 15.1**	**-1.3**
BZS	**Buzias**	**5.01**	**13**	⇓P		**Pn**	**17 16 25.0**	**+0.3**
GZR	**Gura Zlata**	**5.08**	**23**	⇑P		**Pn**	**17 16 27.1**	**+1.4**

MAN 27 17:19:57.6, 10.°80N×125.°71E, h54km, mb4.1, ML2.9, MS2.6, Leyte

*NEIC **27** 17:38:52.7±1.5, 47.°60N±0.°02×92.°74W±0.°05, h0km±2km, ML2.8/6, Error ellipse: s-maj=6.8km s-min=3.0km az=297.0*
*IDC **27** 17:38:53.8±1.4, 47.°48N×92.°82W, h0km, mbtmp3.4/3, ML1.8/2, Error ellipse: s-maj=23.1km s-min=11.1km az=45.0*

ISC 27 17:38:52.3±0.8, 47.°57N±0.°05×92.°74W±0.°05, h0km, n38, σ1°01/40, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EYMN	**Ely**	**0.92**	**65**	P		**Pg**	**17 39 09.4**	**-0.5**
EYMN				Sg		**Sg**	**17 39 21.9**	**+0.1**
EYMN				IAML			17 39 26.5	
	314nm,0.7s							
B35A	**Bob, Littlefor**	**1.04**	**321**			**Pb**	**17 39 13.2**	**+0.2**
B35A				IAML			17 39 33.9	
	comp=N,191nm,0.3s							
B35A				IAML			17 39 34.0	
	comp=E,220nm,0.3s							
E38A	**The Farm, Brul**	**1.25**	**139**			**Pg**	**17 39 16.1**	**-0.2**
E38A				Sg		**Sb**	**17 39 33.7**	**+0.2**
E38A				IAML			17 39 39.8	
	comp=E,319nm,0.6s							
F36A	**Milaca**	**1.79**	**198**			**Pn**	**17 39 25.6**	**+1.2**
AGMN	**Agassiz Nation**	**2.23**	**290**			**Pn**	**17 39 30.5**	**+0.1**
SPMN	**Marine on St.**	**2.34**	**181**			**Pn**	**17 39 33.6**	**+1.6**
COWI	**Conover**	**2.87**	**119**	Pn		**Pn**	**17 39 40.3**	**+1.0**
D41A	**Chassel**	**2.88**	**99**	Pn		**Pn**	**17 39 40.2**	**+0.8**
G40A	**Rib Lake**	**2.89**	**142**			**Pn**	**17 39 40.8**	**+1.2**
D32A	**Dogwood Acres,**	**2.94**	**263**	Pn		**Pn**	**17 39 38.8**	**-1.4**
F33A	**5 Mile Ranch,**	**2.99**	**236**			**Pn**	**17 39 41.6**	**+0.7**
ULM	**Lac du Bonnet**	**3.39**	**324**	Pn		**Pn**	**17 39 47.5**	**+1.1**
	comp=E,0.2nm,0.3s,baz=150,slow=8.6,SNR=1.5							
ULM				Pg		**Pb**	**17 39 55.0**	**+1.7**
	comp=E,0.7nm,0.3s,baz=148,slow=16,SNR=8.5							
ULM				Sn		**Sn**	**17 40 26.4**	**-1.0**
	comp=E,0.8nm,0.3s,baz=130,slow=20,SNR=3.1							
ULM				Lg		Lg	17 40 40.6	
	comp=E,8.7nm,0.3s,baz=212,slow=16,SNR=25							
ULM	**Lac du Bonnet**	**3.39**	**324**	Pn		**Pn**	**17 39 47.1**	**+0.7**
I10CA	**LAC DU BONNET**	**3.42**	**322**	I		I	18 01 55.0	
	comp=E,0.2nm,1.2s,baz=140,slow=337,SNR=6.2							
I37A	**Lemond, Waseca**	**3.58**	**188**			**Pn**	**17 39 50.1**	**+1.0**
F42A	**Maple Grove Fa**	**3.65**	**118**	Pn		**Pn**	**17 39 51.2**	**+1.3**
I40A	**Norwalk**	**3.96**	**157**	Pn		**Pn**	**17 39 56.2**	**+1.9**
E43A	**Lone Tree Farm**	**4.11**	**105**	Pn		**Pn**	**17 39 56.5**	**+0.3**
I42A	**Draeger Farm,**	**4.55**	**143**	Pn		**Pn**	**17 40 03.3**	**+1.0**
H43A	**Windswept, Lux**	**4.64**	**130**	Pn		**Pn**	**17 40 03.6**	**0.0**
ESCD	**EROS Data Cent**	**4.70**	**217**			**Pn**	**17 40 06.7**	**+2.3**
JFWS	**Jewell Farm**	**4.97**	**158**			**Pn**	**17 40 08.6**	**+0.5**
SUSD	**Miller**	**5.34**	**236**	Pn		**Pn**	**17 40 14.1**	**+0.9**
E28A	**Huff**	**5.52**	**263**	Pn		**Pn**	**17 40 14.6**	**-1.1**
L40A	**Anamosa**	**5.61**	**168**	Pn		**Pn**	**17 40 17.4**	**+0.6**
K43A	**Burlington**	**5.77**	**146**	Pn		**Pn**	**17 40 18.9**	**-0.2**
E46A	**Sault Ste Mari**	**5.89**	**99**	Pn		**Pn**	**17 40 20.8**	**-0.1**
L42A	**Oliver, Polo**	**5.97**	**157**	Pn		**Pn**	**17 40 22.4**	**+0.5**
J47A	**Sunmer**	**7.05**	**125**	Pn		**Pn**	**17 40 37.2**	**+0.4**
P40A	**Paris**	**8.05**	**176**	Pn		**Pn**	**17 40 51.7**	**+1.3**
SFIN	**Lafayette**	**8.25**	**148**	Pn		**Pn**	**17 40 53.6**	**+0.4**
N47A	**Urbana**	**8.38**	**140**	Pn		**Pn**	**17 40 54.1**	**-0.8**
RSSD	**Black Hills**	**8.61**	**251**	Pn		**Pn**	**17 40 58.2**	**0.0**
R40A	**Maddies Statio**	**9.28**	**178**	Pn		**Pn**	**17 41 06.7**	**-0.5**
SADO	**Sadowa**	**9.84**	**102**	Pn		**Pn**	**17 41 14.3**	**-0.6**
	comp=E,14nm,1.2s,baz=300,slow=14,SNR=1.4							
PDAR	**Pinedale Array**	**12.80**	**254**	Pn		**Pn**	**17 41 53.8**	**-1.8**
	comp=E,0.3nm,0.6s,baz=70,slow=16,SNR=3.1							
I56US	**NEWPORT INFRAS**	**16.35**	**281**	I		I	19 22 00.0	
	baz=85,slow=330,SNR=8.4							
YKA	**Yellowknife Ar**	**19.36**	**329**	P		**P**	**17 43 19.4**	**+0.4**
	baz=127,slow=12,SNR=3.5							
	comp=E,0.2nm,0.6s							

TAP 27 18:03:17.2, 24.°71N×121.°83E, h88km, ML2.0, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWC	**Suao**	**0.10**	**172**	*e*P		Pn	18 03 31.1	+1.3
	baz=167							
TWC				*e*S		Sn	18 03 40.2	+1.2
	baz=167							
NDS	**Dongshan**	**0.13**	**234**	*e*P		Pn	18 03 30.5	+0.7
	baz=234							
NDS				*e*S		Sn	18 03 40.8	+1.6
	baz=234							
TWE	**Neicheng**	**0.15**	**273**	P		Pn	18 03 30.6	+0.8
	baz=272							
TWE				*e*S		Sn	18 03 40.5	+1.3
	baz=272							
FUSB	**Fushanzhiwuyua**	**0.23**	**282**	P		Pn	18 03 30.5	+0.3
	baz=282							
FUSB				*e*S		Sn	18 03 40.2	+0.3
	baz=282							
ENTT	**Nioudou**	**0.25**	**254**	⇑*i*P		Pn	18 03 30.8	+0.6
	baz=253							
ENTT				S		Sn	18 03 40.7	+0.8
	baz=253							
TIPB	**Shuangxi**	**0.26**	**358**	*e*P		Pn	18 03 30.5	+0.2
	baz=358							
TIPB				*e*S		Sn	18 03 40.3	+0.2
	baz=358							
EWUT	**Wuta**	**0.27**	**191**	*e*P		Pn	18 03 30.8	+0.5
	baz=191							
EWUT				*e*S		Sn	18 03 40.8	+0.8
	baz=191							
ENA	**Nanau**	**0.29**	**197**	*e*P		Pn	18 03 31.1	+0.6
	baz=195							
ENA				*e*S		Sn	18 03 41.5	+1.3
	baz=195							
NWLT	**Wulai**	**0.31**	**282**	P		Pn	18 03 30.6	+0.1
	baz=282							
NWLT				*e*S		Sn	18 03 40.2	-0.2
	baz=282							
TWB1	**Santiao Chiao**	**0.33**	**25**	*e*P		Pn	18 03 31.4	+0.8
	baz=27							
LATG	**Datong**	**0.33**	**238**	P		Pn	18 03 31.3	+0.5
	baz=238							
LATG				*e*S		Sn	18 03 42.0	+1.2
	baz=238							
NHDH	**Xindian Distri**	**0.38**	**312**	*e*P		Pn	18 03 31.3	+0.4
	baz=312							
NHDH				*e*S		Sn	18 03 41.3	+0.2
	baz=312							
SXI1	**Grass Mountain**	**0.38**	**6**	*e*P		Pn	18 03 31.4	+0.4
	baz=6.0							
NSK	**Sanguang**	**0.43**	**265**	*i* P		Pn	18 03 31.4	0.0
	baz=265							
NSK				*e*S		Sn	18 03 41.4	-0.5
	baz=265							
EOS2	**EOS2**	**0.47**	**129**	*e*P		Pn	18 03 33.1	+1.8
	baz=129							
EOS2				*e*S		Sn	18 03 43.5	+1.7
	baz=129							
YM01	**YM01**	**0.49**	**331**	*e*P		Pn	18 03 32.2	+0.4
	baz=331							
YM01				*e*S		Sn	18 03 43.0	+0.3
	baz=331							
NNSB	**Datong**	**0.50**	**236**	*e*P		Pn	18 03 32.5	+0.5
	baz=235							
NNSB				*e*S		Sn	18 03 42.0	-0.9
	baz=235							
NNSH	**Datong**	**0.50**	**236**	*e*P		Pn	18 03 32.4	+0.5
	baz=235							
NNSH				*e*S		Sn	18 03 42.1	-0.8
	baz=235							
TWS1	**Kuangyinshan**	**0.54**	**316**	*e*P		Pn	18 03 32.8	+0.7
	baz=316							
TWS1				*e*S		Sn	18 03 44.0	+0.8
	baz=316							
NFF	**Wufeng Townshi**	**0.66**	**263**	*e*P		Pn	18 03 33.3	0.0
	baz=263							
NFF				*e*S		Sn	18 03 45.1	-0.1
	baz=263							

*IDC **27** 18:06:14.2±1.0, 60.°11N×153.°52W, h145km±17km, mb3.6/8, mbtmp4.0/12, Error ellipse: s-maj=24.4km s-min=11.0km az=111.0*
*NEIC **27** 18:06:14.2±1.5, 60.°05N±0.°05×153.°66W±0.°09, h177km±4km, Error ellipse: s-maj=7.1km s-min=6.1km az=158.0*
*AEIC **27** 18:06:16.3±1.6, 60.°07N±0.°04×153.°56W±0.°09, h168km±5km, ML3.6, ML3.8/96(NEIC), Error ellipse: s-maj=6.5km s-min=6.1km az=97.0*

ISC 27 18:06:15.7±0.6, 60.°07N±0.°03×153.°56W±0.°04, h167km±5km, n213, σ1°09/247, mb3.8/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
O19K	**Port Alsworth**	**0.40**	**288**	P		**Pn**	**18 06 38.0**	**-0.6**
O19K				Sn		**Sn**	**18 06 54.8**	**-1.3**
O19K				IAML			18 06 55.5	
	comp=N,855nm,0.5s							
O19K				IAML			18 06 55.5	
	comp=E,1µm,0.4s							
O19K	**Port Alsworth**	**0.40**	**288**	P		**Pn**	**18 06 38.1**	**-0.4**
	baz=108							
O19K				S		**Sn**	**18 06 54.9**	**-1.3**
	baz=108							
OPT	**Oil Point**	**0.45**	**158**	P		**Pn**	**18 06 39.0**	**+0.1**
	baz=339							
P19K	**Oil Pt**	**0.45**	**158**			**Pn**	**18 06 38.9**	**0.0**
P19K						**Sn**	**18 06 56.3**	**-0.3**
P19K	**Oil Pt**	**0.45**	**158**	P		**Pn**	**18 06 39.0**	**+0.1**
	baz=339							
P19K				S		**Sn**	**18 06 56.8**	**+0.3**
	baz=339							
O20K	**Slope Mountain**	**0.47**	**89**	P		**Pn**	**18 06 39.0**	**+0.1**
	baz=269							
O20K				S		**Sn**	**18 06 56.9**	**+0.1**
	baz=269							
RSO	**Redoubt South**	**0.56**	**46**			**Pn**	**18 06 39.4**	**-0.1**
O18K	**Koktuh Hills**	**0.86**	**256**	Pn		**Pn**	**18 06 40.8**	**-0.2**
O18K				Sn		**Sn**	**18 06 59.3**	**-1.3**
O18K	**Koktuh Hills**	**0.86**	**256**	P		**Pn**	**18 06 41.0**	**-0.1**
	baz=75							
O18K				S		**Sn**	**18 06 59.5**	**-1.0**
	baz=75							
N19K	**Bonanza Creek**	**0.87**	**329**			**Pn**	**18 06 41.0**	**-0.3**
N19K				Sn		**Sn**	**18 06 59.3**	**-1.7**
N19K	**Bonanza Creek**	**0.87**	**329**	P		**Pn**	**18 06 41.0**	**-0.3**
	baz=148							
N19K				S		**Sn**	**18 06 59.5**	**-1.5**
	baz=148							
HOM	**Homer**	**1.05**	**112**			**Pn**	**18 06 42.9**	**+0.3**
HOM				Sn		**Sn**	**18 07 03.0**	**-0.2**
HOM				IAML			18 07 06.2	
	comp=E,1µm,0.5s							
HOM	**Homer**	**1.05**	**112**	P		**Pn**	**18 06 43.0**	**+0.5**
	baz=294							
P18K	**Big Mountain,**	**1.08**	**232**	Pn		**Pn**	**18 06 42.3**	**-0.5**
P18K				Sn		**Sn**	**18 07 02.2**	**-1.5**
P18K	**Big Mountain,**	**1.08**	**232**	P		**Pn**	**18 06 42.5**	**-0.4**
	baz=50							
P18K				S		**Sn**	**18 07 02.4**	**-1.3**
	baz=50							
Q19K	**Cape Douglas,**	**1.15**	**182**	Pn		**Pn**	**18 06 43.2**	**-0.2**
Q19K				Sn		**Sn**	**18 07 03.7**	**-0.9**
Q19K				IAML			18 07 12.4	
	comp=E,2µm,1.0s							
Q19K	**Cape Douglas,**	**1.15**	**182**	P		**Pn**	**18 06 43.2**	**-0.2**
	baz=2.1							
Q19K				S		**Sn**	**18 07 04.0**	**-0.7**
	baz=2.1							
CNPM	**China Poot**	**1.30**	**114**	Pn		**Pn**	**18 06 44.6**	**-0.1**
CNPM				Sn		**Sn**	**18 07 05.6**	**-1.4**
CNPM				IAML			18 07 07.0	
	comp=N,1µm,0.5s							
CNPM				IAML			18 07 07.1	
	comp=E,831nm,0.4s							
N20K	**Mount Spurr**	**1.31**	**30**	P		**Pn**	**18 06 45.0**	**+0.1**
	baz=211							
N20K				S		**Sn**	**18 07 06.7**	**-0.7**
	baz=211							
BRLK	**Bradley Lake**	**1.38**	**102**			**Pn**	**18 06 45.6**	**+0.1**
BRLK				IAML			18 07 09.6	
	comp=N,480nm,0.3s							
BRLK				IAML			18 07 09.8	
	comp=E,467nm,0.2s							
CAPN	**Captain Cook N**	**1.38**	**59**			**Pn**	**18 06 46.6**	**+1.2**
CAPN				Sn		**Sn**	**18 07 10.7**	**+2.4**
CAPN				IAML			18 07 21.0	
	comp=E,1µm,0.6s							
CAPN	**Captain Cook N**	**1.38**	**59**	P		**Pn**	**18 06 46.5**	**+1.2**
	baz=241							
SVW2	**Sparrevohn

baz=163
O16K Kokwok River B 2.34 260 P Pn 18 06 55.9 +0.2
baz=76
KDAK Kodiak Island 2.35 167 P Pn 18 06 54.3 -1.6
comp=E,29nm,0.3s,baz=6.7,slow=12,SNR=285
KDAK S Sn 18 07 24.1 -2.9
comp=E,374nm,0.5s,baz=214,slow=20,SNR=24
KDAK Kodiak Island 2.35 167 Pn Pn 18 06 54.1 -1.8
KDAK Sn Sn **18 07 24.1 -2.9**
KDAK IAML 18 07 26.1
comp=E,568nm,0.5s
KDAK IAML 18 07 30.5
comp=E,619nm,0.6s
M22K Willow 2.38 43 P Pn 18 06 56.2 0.0
baz=226
L20K Farewell, AK 2.42 357 P Pn 18 06 56.8 +0.2
baz=176
P16K Nushagak River 2.48 247 P Pn 18 06 57.8 +0.4
baz=63
N16K Nishlik Lake 2.62 281 P Pn 18 06 59.5 +0.4
baz=97
PMR Palmer 2.65 53 Pn 18 06 57.7 -1.7
PMR Sn Sn **18 07 30.8 -2.6**
PMR IAML 18 07 32.3
comp=N,205nm,0.6s
PMR IAML 18 07 33.0
comp=E,227nm,0.4s
PMR Palmer 2.65 53 P Pn 18 06 58.0 -1.4
baz=237
PMR Palmer 2.65 53 P Pn 18 06 58.8 -0.6
PWL Port Wells 2.71 71 Pn Pn 18 06 58.7 -1.4
PWL Sn Sn **18 07 32.5 -2.1**
PWL IAML 18 07 35.6
comp=E,307nm,0.5s
PWL IAML 18 07 36.2
comp=N,259nm,0.5s
PWL Port Wells 2.71 71 P Pn 18 06 58.8 -1.3
baz=255
CUT Chulitna 2.83 33 Pn 18 07 00.8 -0.8
CUT Sn Sn **18 07 36.2 -1.0**
CUT Chulitna 2.83 33 P Pn 18 07 01.5 -0.1
baz=216
KNK Knik Glacier 2.84 60 Pn 18 07 00.3 -1.5
KNK Sn Sn **18 07 35.2 -2.4**
KNK IAML 18 07 37.0
comp=E,354nm,0.5s
KNK IAML 18 07 37.7
comp=N,298nm,0.5s
KNK Knik Glacier 2.84 60 P Pn 18 07 00.5 -1.3
baz=244
R17K Ugashik Creek 2.85 212 P Pn 18 07 01.6 -0.2
baz=30
OHAK Old Harbor 2.86 177 Pn Pn 18 07 00.2 -1.8
OHAK Sn Sn **18 07 34.3 -3.6**
OHAK IAML 18 07 36.1
comp=N,301nm,0.5s
OHAK IAML 18 07 36.4
comp=E,500nm,0.4s
OHAK Old Harbor 2.86 177 P Pn 18 07 00.2 -1.8
baz=357
OHAK Old Harbor 2.86 177 P Pn 18 07 00.4 -1.6
PPLA Purkeypile 2.91 12 Pn Pn 18 07 02.4 -0.2
PPLA Purkeypile 2.91 12 P Pn 18 07 03.6 +1.0
baz=194
SML Sawmill 3.09 53 Pn 18 07 03.4 -1.4
SML IAML 18 07 42.4
comp=E,209nm,0.5s
SML IAML 18 07 50.7
comp=N,185nm,0.9s
SML Sawmill 3.09 53 P Pn 18 07 03.6 -1.2
baz=238
P23K Montague Islan 3.09 89 P Pn 18 07 05.3 +0.5
baz=274
TTA Tatalina 3.10 339 Pn Pn 18 07 04.2 -0.7
TTA Tatalina 3.10 339 P Pn 18 07 04.4 -0.5
baz=157
TTA Tatalina 3.10 339 P Pn 18 07 04.5 -0.5
R16K Pilot Point 3.27 221 P Pn 18 07 07.3 +0.3
baz=38
K20K Telida 3.31 356 P Pn 18 07 07.6 +0.1
baz=176
M23K Glacier View 3.33 56 P Pn 18 07 06.8 -1.0
baz=241
CAST Castle Rocks 3.43 11 Pn Pn 18 07 09.2 +0.2
CAST Castle Rocks 3.43 11 P Pn 18 07 09.2 +0.2
baz=192
SCM Sheep Creek Mo 3.52 57 Pn 18 07 09.3 -0.9
SCM IAML 18 07 53.0
comp=E,264nm,1.1s
SCM Sheep Creek Mo 3.52 57 P Pn 18 07 09.3 -0.9
baz=242
SII Sitkinak Islan 3.54 186 Pn Pn 18 07 08.8 -1.8
SII IAML 18 07 52.6
comp=N,259nm,1.2s
SII Sitkinak Islan 3.54 186 P Pn 18 07 08.7 -1.8
baz=5.1
SII Sitkinak Islan 3.54 186 P Pn 18 07 08.9 -1.6
WAT7 Susitna Watana 3.58 37 Pn 18 07 10.5 -0.5
WAT1 Susitna Watana 3.67 39 Pn 18 07 11.3 -0.7
WAT1 Susitna Watana 3.67 39 P Pn 18 07 11.3 -0.7
baz=223
Q23K Middleton Isla 3.71 97 Pn Pn 18 07 12.9 +0.4
KTH Kantishna Hill 3.71 19 Pn 18 07 12.3 -0.3
MID Middleton Isla 3.71 97 Pn Pn 18 07 12.5 -0.1
TRF Thorofare Moun 3.73 23 Pn Pn 18 07 12.4 -0.5
TRF IAML 18 08 01.2
comp=N,66nm,0.5s
TRF IAML 18 08 01.6
comp=E,85nm,0.7s
TRF Thorofare Moun 3.73 23 P Pn 18 07 12.7 -0.3
baz=206
WAT6 Susitna Watana 3.77 46 Pn 18 07 12.6 -0.9
WAT6 Susitna Watana 3.77 46 P Pn 18 07 12.6 -0.9
baz=231
CHUM Lake Minchumin 3.87 8 Pn 18 07 14.7 +0.1
CHUM Lake Minchumin 3.87 8 P Pn 18 07 14.7 +0.1
baz=189
EYAK Cordova Ski Ar 3.92 80 Pn Pn 18 07 15.1 -0.1
EYAK Cordova Ski Ar 3.92 80 P Pn 18 07 15.2 -0.1
baz=266
EYAK Cordova Ski Ar 3.92 80 P Pn 18 07 15.3 +0.1
DIV Divide 3.98 71 Pn 18 07 15.4 -0.8
KLU Klutina 4.01 66 Pn 18 07 15.5 -0.9
KLU Klutina 4.01 66 P Pn 18 07 15.6 -0.8
baz=252
RND Reindeer 4.03 32 Pn 18 07 15.6 -1.0
M24K Tolsona, Glenn 4.13 57 Pn 18 07 17.6 -0.4
M24K Tolsona, Glenn 4.13 57 P Pn 18 07 17.9 0.0
baz=244
BPAW Bear Paw Mtn. 4.22 16 Pn Pn 18 07 18.3 -0.8
BPAW Bear Paw Mtn. 4.22 16 P Pn 18 07 18.5 -0.6
baz=198
DHY Denali Highway 4.22 42 Pn Pn 18 07 18.7 -0.6
DHY IAML 18 08 10.8
comp=N,154nm,0.5s
DHY Denali Highway 4.22 42 P Pn 18 07 18.7 -0.6
baz=227
MCK McKinley 4.28 29 Pn Pn 18 07 19.4 -0.5
MCK McKinley 4.28 29 P Pn 18 07 19.5 -0.3
baz=213
CHIR Chirikof Islan 4.40 195 Pn Pn 18 07 19.3 -2.2
BMRM Bremner River 4.52 75 Pn 18 07 23.0 0.0
BMRM Bremner River 4.52 75 P Pn 18 07 23.1 0.0
baz=262
BWN Browne 4.54 23 Pn 18 07 23.2 0.0
BWN IAML 18 08 16.6
comp=E,68nm,3.2s
BWN IAML 18 08 48.7
comp=N,63nm,1.1s
CHGN Chignik 4.57 216 Pn 18 07 22.2 -1.5
CHGN IAML 18 08 15.6
comp=N,82nm,0.3s
CHGN IAML 18 08 15.7
comp=E,96nm,0.4s
N25K Chitina, Valde 4.65 67 Pn 18 07 24.2 -0.5
N25K IAML 18 08 19.7
comp=E,138nm,0.6s
N25K Chitina, Valde 4.65 67 P Pn 18 07 24.6 -0.1
baz=255
HARP HAARP 4.68 57 P Pn 18 07 25.1 -0.1
baz=244
PAX Paxson 4.84 50 Pn 18 07 27.0 -0.3
PAX Paxson 4.84 50 P Pn 18 07 27.2 -0.1
baz=237
GLB Gilahina Butte 4.98 70 Pn Pn 18 07 28.7 -0.4
GLB IAML 18 08 27.1
comp=E,69nm,0.7s
GLB IAML 18 08 27.2
comp=N,68nm,0.9s
NEA2 Nenana 5.00 23 Pn 18 07 28.2 -1.0
NEA2 Nenana 5.00 23 P Pn 18 07 28.2 -1.0
baz=207
WRH Wood River Hil 5.10 28 Pn 18 07 29.6 -1.0
WRH IAML 18 08 46.4
comp=N,26nm,4.7s
WRH IAML 18 10 29.9
comp=E,30nm,4.1s
VRDI Verde Repeater 5.11 73 Pn 18 07 30.4 -0.5
VRDI IAML 18 08 31.0
comp=E,64nm,2.0s
VRDI IAML 18 08 31.0
comp=N,90nm,0.7s
MLY Manley 5.14 13 Pn 18 07 30.2 -1.0
MLY Manley 5.14 13 P Pn 18 07 30.4 -0.8
baz=196
I21K Tanana 5.18 7 Pn 18 07 31.2 -0.4
I21K IAML 18 09 35.7
comp=E,24nm,4.6s
I21K IAML 18 10 18.8
comp=N,24nm,4.3s
I21K Tanana 5.18 7 P Pn 18 07 31.6 0.0
baz=189
K24K Donnelly Dome 5.25 41 P Pn 18 07 33.5 +1.0
baz=228
CCB Clear Creek Bu 5.31 28 Pn Pn 18 07 32.2 -1.1
CCB IAML 18 08 29.8
comp=N,21nm,4.6s
CCB IAML 18 09 01.2
comp=E,24nm,5.0s
HDA Harding Lake 5.34 33 Pn 18 07 33.0 -0.7
HDA IAML 18 08 32.9
comp=N,80nm,0.4s
HDA Harding Lake 5.34 33 P Pn 18 07 33.2 -0.4
baz=218
MCARA McCarthy VSAT 5.34 71 Pn Pn 18 07 33.9 +0.2
MCARA IAML 18 08 37.8
comp=E,90nm,0.5s
MCARA McCarthy VSAT 5.34 71 P Pn 18 07 34.0 +0.2
baz=260
I23K Minto, Yukon-K 5.45 19 Pn 18 07 34.1 -1.0
I23K Minto, Yukon-K 5.45 19 P Pn 18 07 34.1 -1.0
baz=203
MDM Murphy Dome 5.49 24 Pn 18 07 34.9 -0.8
TCOL CIGO, UAF Yank 5.49 26 Pn 18 07 35.0 -0.7
TCOL CIGO, UAF Yank 5.49 26 P Pn 18 07 35.0 -0.7
baz=211
COLA College 5.50 26 Pn 18 07 34.7 -1.0
COLA College 5.50 26 P Pn 18 07 35.1 -0.6
MENT Mentasta 5.52 54 Pn 18 07 36.2 +0.1
RIDG Independent Ri 5.52 44 Pn 18 07 36.4 +0.3
RIDG Independent Ri 5.52 44 P Pn 18 07 36.5 +0.3
baz=232
KIAG Kiagna River 5.60 76 Pn 18 07 37.6 +0.3
M26K Nabesna, AK 5.61 61 Pn 18 07 37.4 +0.1
H21K Melozitna Rive 5.62 3 Pn 18 07 37.1 -0.2
BALM Baldy 5.62 75 Pn 18 07 37.9 +0.4
IL31 5.64 30 Pn 18 07 37.1 -0.5
ILAR Eielson Array 5.64 30 P Pn 18 07 36.6 -1.1
comp=E,32nm,0.4s,baz=221,slow=13,SNR=400
ILAR S Sn **18 08 36.6 -5.3**
comp=E,7.8nm,0.6s,baz=216,slow=21,SNR=8.6
ILAR Eielson Array 5.64 30 Pn 18 07 36.7 -0.9
L26K Log Cabin Wild 5.71 54 Pn 18 07 39.0 +0.4
L26K Log Cabin Wild 5.71 54 P Pn 18 07 38.5 -0.1
baz=243
DOT Dot Lake 5.75 47 Pn 18 07 38.9 -0.2
POKR Poker Plat Res 5.80 27 Pn 18 07 39.2 -0.6
POKR Poker Plat Res 5.80 27 P Pn 18 07 39.4 -0.4
baz=212
H22K Ishtalitna Cre 5.93 9 P Pn 18 07 41.1 -0.3
baz=191
IMAR Indian Mountai 5.94 359 Pn Pn 18 07 41.5 0.0
BARN Barnard Glacie 5.95 75 Pn Pn 18 07 42.6 +0.6
SCRK Sand Creek 5.97 45 Pn Pn 18 07 41.4 -0.7
SCRK Sand Creek 5.97 45 P Pn 18 07 41.5 -0.5
baz=233
SDPT Sand Point 6.01 221 Pn Pn 18 07 42.0 -0.5
SDPT Sand Point 6.01 221 P Pn 18 07 41.5 -1.0
baz=35
M27K Edge Creek, AK 6.09 63 Pn 18 07 44.4 +0.7
M27K Sn **18 08 51.2 -1.7**
M27K Edge Creek, AK 6.09 63 P Pn 18 07 43.7 0.0
baz=253
H24K Noodor Dome 6.34 22 Pn 18 07 45.8 -1.1
H24K Noodor Dome 6.34 22 P Pn 18 07 46.3 -0.6
baz=207
L27K Beaver Creek, 6.36 57 Pn 18 07 47.1 0.0
L27K Beaver Creek, 6.36 57 P Pn 18 07 47.3 +0.2
baz=247
BCAR Beaver Creek A 6.37 57 Pn Pn 18 07 47.5 +0.2
J26L Joseph Creek 6.44 42 Pn 18 07 47.8 -0.5
J26L Joseph Creek 6.44 42 P Pn 18 07 47.9 -0.3
baz=218
G21K Allakaket 6.47 0 P Pn 18 07 48.9 +0.3
baz=180
BVCY Beaver Creek 6.56 64 P Pn 18 07 49.2 -0.6
baz=255
PRP Porcupine Dome 6.59 31 Pn Pn 18 07 49.1 -1.2
PRP Porcupine Dome 6.59 31 P Pn 18 07 49.8 -0.4
baz=218
YUK3 Moose Creek 6.61 69 P Pn 18 07 50.8 +0.1
baz=261
O28M Mount Upton 6.66 78 P Pn 18 07 52.3 +0.9
baz=270
BCPM Bancas Point 6.99 85 Pn Pn 18 07 52.6 -2.8
YKU2 Yakutat 7.03 89 Pn Pn 18 07 54.8 -1.2
I26K Coal Creek Min 7.10 38 Pn 18 07 55.8 -1.1
ANM Nome 7.11 314 Pn Pn 18 07 57.4 +0.4
PNL Peninsula 7.14 87 P Pn 18 07 59.2 +1.6
COLD Coldfoot 7.34 10 Pn Pn 18 07 59.0 -1.0
COLD Coldfoot 7.34 10 P Pn 18 07 59.6 -0.3
baz=193
EGAK Eagle 7.44 45 Pn 18 08 00.5 -0.8
FYU Fort Yukon 7.51 26 Pn 18 08 00.8 -1.5
DAWY Dawson 7.76 53 Pn Pn 18 08 05.3 -0.4
DAWY Dawson 7.76 53 P Pn 18 08 05.9 +0.2
baz=245
I27K Kandik River 7.78 39 P Pn 18 08 05.0 -0.9
baz=230
F24K Squaw Lake 7.88 16 P Pn 18 08 06.3 -0.9
baz=201
HYT Haines Junctio 7.98 78 Pn Pn 18 08 05.9 -2.7
BMAR Burnt Mountain 8.38 24 Pn Pn 18 08 11.8 -2.0
TNA Tin City 8.56 316 Pn Pn 18 08 13.5 -2.6
I29M Ogilvie Camp, 8.77 46 Pn 18 08 19.9 +0.8
E25K Arctic Village 8.79 20 P Pn 18 08 18.0 -1.3
baz=207
N31M Braeburn, Yuko 8.81 73 Pn Pn 18 08 21.2 +1.6
SPIA Saint Paul Isl 9.17 259 Pn Pn 18 08 21.0 -3.3
GAMB Gambell 9.31 301 Pn Pn 18 08 23.0 -3.1
P33M Teslin, Yukon 10.34 80 Pn Pn 18 08 42.0 +2.3
INK Inuvik 11.95 38 P Pn 18 09 00.9 +0.5
comp=E,7.1nm,0.7s,baz=231,slow=14,SNR=46
INK Inuvik 11.95 38 Pn Pn 18 09 01.2 +0.8
DLBC Dease Lake 12.14 87 P P 18 09 09.6 +0.8
comp=E,2.6nm,0.3s,baz=280,slow=12,SNR=2.0
C36M Paulatuk 15.47 41 Pn 18 09 43.6 -1.1
YKA Yellowknife Ar 18.68 66 P Pn 18 10 22.0 -1.0
comp=E,0.9nm,0.6s,baz=275,slow=9.9,SNR=4.4
YKA PcP **PcP 18 14 41.0 +0.1**
comp=E,0.2nm,0.5s,baz=272,slow=1.5,SNR=4.6
PETK Petropavlovsk- 27.17 277 P P 18 11 42.7 -0.4
comp=E,2.4nm,1.0s,baz=358,slow=4.5,SNR=1.9
comp=E,2.4nm,1.0s
MA2 Magadan 27.29 294 P P 18 11 45.9 +1.8
comp=E,1.5nm,0.5s,baz=64,slow=11,SNR=4.4
comp=E,1.5nm,0.5s
KLR Kul'dur 42.25 290 P P 18 13 52.8 +0.8
comp=E,1.2nm,0.6s,baz=35,slow=12,SNR=2.8
comp=E,1.2nm,0.6s
NRIK Noril'sk 43.70 333 P P 18 14 04.1 +0.8
comp=E,0.9nm,0.4s,baz=78,slow=9.3,SNR=2.0
comp=E,0.9nm,0.4s
SONM Songino Array 54.52 305 P P 18 15 27.4 +1.6
comp=E,1.2nm,0.5s,baz=28,slow=6.7,SNR=4.4
comp=E,1.2nm,0.5s
ZALV Zalesovo Beam 57.15 323 P P 18 15 45.0 +0.8
comp=E,1.7nm,0.4s,baz=29,slow=7.8,SNR=9.4
comp=E,1.7nm,0.4s
MKAR Makanchi Array 64.20 321 P P 18 16 32.2 +0.1
comp=E,0.4nm,0.5s,baz=41,slow=7.1,SNR=8.5
comp=E,0.4nm,0.5s
CMAR Chiang Mai Arr 82.58 294 P P 18 18 20.0 +0.2
comp=E,0.7nm,0.8s,baz=13,slow=6.0,SNR=6.3
comp=E,0.7nm,0.8s

IDC 27 18:30:28.4±4.8, 4°.16S×153°.49E, h146km±26km, mb3.0/3, mbtmp3.6/4, Error ellipse: s-maj=72.2km s-min=27.5km az=108.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.47**	**264**	P	Pn	18 30 57.0	-0.3
	38nm,0.3s,baz=133,slow=19,SNR=11						
KRVT				S	Sn	18 31 19.6	+0.2
	76nm,0.6s,baz=6.5,slow=23,SNR=1.7						
PMG	**Port Moresby**	**8.17**	**230**	P	Pn	18 32 24.1	0.0
	9.1nm,0.5s,baz=43,slow=13,SNR=12						
PMG				S	Sn	18 33 53.9	-1.2
	3.8nm,0.7s,baz=316,slow=16,SNR=1.9						
WRA	**Warramunga Arr**	**24.38**	**228**	P	P	18 35 34.2	+0.9
	0.9nm,0.6s,baz=55,slow=10,SNR=14						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**27.09**	**222**	P	P	18 35 57.5	-0.3
	0.3nm,0.6s,baz=54,slow=8.8,SNR=10.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**80.30**	**319**	P	P	18 42 22.9	-0.4
	0.2nm,0.7s,baz=99,slow=4.5,SNR=2.3						
	0.2nm,0.7s						

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*IDC **27** 18:40:07.4±8.9, 18°.59S×170°.82E, h222km±49km, mb3.7/4, mbtmp4.2/5, Error ellipse: s-maj=95.3km s-min=73.4km az=103.0*

*NOU **27** 18:40:25.5, 19°.06S×169°.17E, h206km, MLv3.9/13, Vanuatu Islands*

ISC 27 18:40:25.2±2.3, 19°.07S±0°.09×168°.9E±0°.3, h200km, n15, σ2.85/13, mb3.9/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**1.34**	**340**	P	Pn	**18 40 59.6**	**+2.0**
DVP	**Devils Point**	**1.50**	**333**	P	Pn	**18 41 01.5**	**+2.6**
LIFNC	**LIFOU**	**2.31**	**222**	P	Pn	**18 41 08.7**	**+1.7**
MARNC	**Mare, Loyalty**	**2.54**	**199**	P	Pn	**18 41 10.9**	**+1.4**
YATNC	**Mamie plateau,**	**3.52**	**212**	P	Pn	**18 41 23.3**	**+2.2**
DZM	**Mont Dzumac**	**3.77**	**217**	P	Pn	**18 41 27.2**	**+3.0**
	17nm,0.6s,baz=69,slow=9.5,SNR=26						
DZM				S	Sn	18 42 30.8	+20
	5.1nm,0.3s,baz=107,slow=20,SNR=1.0						
DZM	**Mont Dzumac**	**3.77**	**217**	P	Pn	**18 41 27.3**	**+3.0**
PINNC	**Pines Island,**	**3.78**	**201**	P	Pn	**18 41 25.8**	**+1.5**
OUENC	**Ouen Island, N**	**3.85**	**210**	P	Pn	**18 41 27.3**	**+2.2**
NOUC	**Port Laguerre**	**3.88**	**218**	P	Pn	**18 41 28.7**	**+3.2**
ONTNC	**Ouen Toro**	**3.96**	**215**	P	Pn	**18 41 29.3**	**+2.9**
CTA	**Charters Tower**	**21.36**	**263**	P	P	**18 44 54.8**	**-2.4**
	1.9nm,0.6s,baz=104,slow=7.2,SNR=5.7						
	1.9nm,0.6s						
STKA	**Stephens Creek**	**27.67**	**237**	P	P	**18 45 51.3**	**-3.3**
	1.3nm,0.5s,baz=77,slow=10,SNR=7.4						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**32.56**	**263**	P	P	18 46 33.8	-4.0
	1.4nm,0.6s,baz=98,slow=8.0,SNR=36						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**32.86**	**256**	P	P	18 46 36.8	-3.6
	9.2nm,0.4s,baz=81,slow=8.8,SNR=532						
	9.2nm,0.4s						

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*IDC **27** 18:46:30.9±0.4, 28°.07N×104°.72E, h0km, mb4.9/46, mbtmp4.9/47, ML4.8/1, MS4.1/64, Error ellipse: s-maj=11.0km s-min=8.8km az=38.0*

*BJI **27** 18:46:32.9±0.0, 28°.09N×104°.72E, h10km, mb4.8/59, mB5.1/37, ML5.0/22, Ms4.9/75, Ms7 4.6/70*

*GCMT **27** 18:46:33.4±0.3, 28°.15N±0°.03×104°.86E±0°.02, h12km, MW4.9/80, Moment Tensor Solution. s21,c22; s80,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.14±.07; $M_{\theta\theta}$-0.11±.07; $M_{\phi\phi}$-2.03±.06; $M_{r\theta}$-1.86±.33; $M_{r\phi}$-0.44±.06; $M_{\theta\phi}$-0.19±.23; Best double couple: M_o2.71400×10^{16} NP1:ϕ_s223.00000°,δ61.00000°,λ121.00000°. NP2: ϕ_s352.00000°,δ41.00000°,λ47.00000°. Principal axes: T 3.1900, Plg61.0000°, Azm181.0000°; N -0.9500, Plg27.0000°, Azm27.0000°; P -2.2390, Plg11.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **27** 18:46:35.0±0.8, 28°.10N×104°.82E, h39km, mb5.4/75, MS4.3/9 Error ellipse: s-maj=5.4km s-min=3.4km az=121.4*

*NEIC **27** 18:46:36.4±1.2, 28°.18N±0°.06×104°.83E±0°.07, h32km±3km, mb5.3/245, Error ellipse: s-maj=10.6km s-min=6.5km az=126.0*

*BGR **27** 18:46:36.5, 27°.96N×104°.81E, h33km, mb5.3*

ISC 27 18:46:35.2±0.3, 28°.07N±0°.03×104°.86E±0°.02, h27km±1km, h26km:pP-P, n1000, σ1.937/1031, mb5.2/269, MS4.2/79, 54C-30D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**2.27**	**135**	⇑Pn	**Pb**	**18 47 14.0**	**-1.5**
GYA				Sn	**Sb**	**18 47 43.8**	**+0.6**
GYA				smax	smax		
	comp=N,12μm,0.9s						
GYA				smax	smax		
	comp=E,12μm,0.9s						
CD2	**Chengdu**	**2.99**	**342**	Pn	**Pn**	**18 47 21.0**	**+0.1**
CD2				Pg	**Pb**	**18 47 30.0**	**+2.2**
CD2				Sn	**Sn**	**18 47 57.0**	**+1.1**
CD2				Sg	**Sb**	**18 48 10.5**	**+6.6**
CD2				smax	smax		
	comp=N,8μm,1.0s						
CD2				smax	smax		
	comp=E,9μm,0.8s						
PZH	**PanZhiHua**	**3.18**	**241**	Pn	**Pn**	**18 47 25.5**	**+1.9**
PZH				Pg	**Pb**	**18 47 32.0**	**+0.9**
PZH				Sn	**Sn**	**18 48 03.8**	**+3.0**
PZH				Sg	**Sb**	**18 48 12.0**	**+2.5**
PZH				smax	smax		
	comp=N,3μm,1.0s						
PZH				smax	smax		
	comp=E,5μm,1.2s						
PZH				LR	LR		
	comp=N,15μm,6.4s						
PZH				LR	LR		
	comp=Z,13μm,7.8s						
KMI	**Kunming**	**3.49**	**213**	⇑Pn	**Pn**	**18 47 29.8**	**+1.8**
KMI				Sn	**Sn**	**18 48 12.3**	**+3.7**
KMI				smax	smax		
	comp=N,940nm,1.2s						
KMI				smax	smax		
	comp=E,930nm,0.9s						
KMI				LR	LR		
	comp=N,12μm,4.2s						
KMI				LR	LR		
	comp=Z,7μm,5.5s						
ENH	**Enshi**	**4.60**	**60**	Pn	**Pn**	**18 47 45.2**	**+2.1**
ENH	**Enshi**	**4.60**	**60**	P	**Pn**	**18 47 46.2**	**+3.1**
GULI	**GuiLin**	**5.65**	**118**	⇓Pn	Pn	18 48 03.0	+5.6
GULI				Sn	**Sn**	**18 49 01.8**	**+0.3**
GULI				LR	LR		
	comp=N,9μm,5.7s						
GULI				LR	LR		
	comp=E,11μm,7.0s						
GULI				LR	LR		
	comp=Z,13μm,7.2s						
TNCH	**TengChong**	**6.43**	**243**	⇓Pn	**Pn**	**18 48 09.8**	**+1.4**
TNCH				Sn	**Sn**	**18 49 21.3**	**+0.2**
TNCH				Sg	Sb	18 49 54.3	+11
TNCH				smax	smax		
	comp=N,2μm,1.7s						
TNCH				smax	smax		
	comp=E,1μm,1.5s						
XAN	**Xi'an**	**6.90**	**29**	Pn	**Pn**	**18 48 13.8**	**-0.8**
XAN				Sn	**Sn**	**18 49 32.8**	**+0.6**
XAN				Sg	Sb	18 50 12.3	+16
XAN				smax	smax		
	comp=N,2μm,1.1s						
XAN				smax	smax		
	comp=E,2μm,1.2s						
XAN				LR	LR		
	comp=N,7μm,8.9s						
XAN				LR	LR		
	comp=E,10μm,8.6s						

XAN LR LR
comp=Z,4μm,8.6s
CNSH ChangSha 7.13 87 ⇑Pn Pn 18 48 20.0 +2.3
CNSH Sn Sn 18 49 37.5 -0.4
CNSH smax smax
comp=N,1μm,1.0s
CNSH smax smax
comp=E,870nm,1.6s
CNSH LR LR
comp=N,4μm,4.0s
CNSH LR LR
comp=E,6μm,5.2s
LZH Lanzhou 8.04 354 P Pn 18 48 30.5 +0.1
LZH S Sn 18 50 03.5 +2.9
LZH smax smax
comp=N,730nm,1.4s
LZH smax smax
comp=E,690nm,1.9s
LZH LR LR
comp=N,5μm,5.0s
LZH LR LR
comp=E,3μm,4.5s
LZH LR LR
comp=Z,3μm,7.6s
WHN Wuhan 8.64 71 ⇓P Pn 18 48 40.0 +1.5
WHN S Sn 18 50 17.5 +2.3
WHN LR LR
comp=N,8μm,5.1s
WHN LR LR
comp=E,20μm,12.4s
WHN LR LR
comp=Z,16μm,13.3s
CRAI Chiangrai 8.81 209 Pn Pn 18 48 43.4 +2.5
GZH Guangzhou 9.12 121 P Pn 18 48 45.5 +0.4
GZH S Sn 18 50 30.3 +3.3
GZH LR LR
comp=N,5μm,4.5s
GZH LR LR
comp=E,7μm,6.5s
GZH LR LR
comp=Z,11μm,6.7s
LYN LuoYang 9.17 43 ⇑*i*P Pn 18 48 44.5 -1.2
LYN pP 18 48 52.0
LYN sP 18 48 56.3
LYN S Sn 18 50 27.8 -0.2
LYN pmax pmax
comp=Z,70nm,1.0s
LYN LR LR
comp=N,6μm,8.9s
LYN LR LR
comp=Z,6μm,11.5s
MOKO MOKOCHONG 9.37 262 *e*P Pn 18 48 51.4 +2.7
ZIRO ZIRO 9.76 269 *e*P Pn 18 48 54.5 +0.4
ITAN ITANAGAR 9.92 267 *e*P Pn 18 48 58.0 +1.9
MND Mandalay 9.96 235 Pn Pn 18 48 58.7 +2.1
MND Mandalay 9.96 235 P Pn 18 48 57.8 +1.3
QIZ Qiongzhong 10.09 152 P Pn 18 48 58.0 -0.4
QIZ S Sn 18 50 56.8 +6.0
QIZ pmax pmax
comp=Z,11nm,0.8s
QIZ pmax pmax
comp=Z,150nm,2.9s
QIZ LR LR
comp=N,4μm,8.4s
QIZ LR LR
comp=E,5μm,10.1s
QIZ LR LR
comp=Z,3μm,9.0s
QIZ Qiongzhong 10.09 152 P Pn 18 48 58.5 +0.1
HKPS Hong Kong Po S 10.19 122 Pn Pn 18 48 60.0 +0.2
HKPS Hong Kong Po S 10.19 122 P Pn 18 49 04.7 +4.9
PHRA Phrae 10.43 205 Pn Pn 18 49 05.4 +2.4
CHTO Chiang Mai 10.69 212 Pn Pn 18 49 09.0 +2.4
CHTO Chiang Mai 10.69 212 P Pn 18 49 09.0 +2.4
TEZP TEZPUR 10.82 265 *e*P Pn 18 49 09.8 +1.4
CM31 Chiang Mai Arr 11.00 211 Pn Pn 18 49 13.9 +3.0
CM31 Chiang Mai Arr 11.00 211 P Pn 18 49 09.5 -1.4
CMAR Chiang Mai Arr 11.00 211 Pn Pn 18 49 14.0 +3.1
0.3nm,0.3s,baz=19,slow=11,SNR=69
CMAR Lg Lg 18 52 19.5
baz=20,slow=29
CMAR LR LR 18 54 12.4
comp=Z,625nm,19.4s,baz=20,slow=42
CMAR Chiang Mai Arr 11.00 211 Pn 18 49 13.4 +2.5
CMAR Chiang Mai Arr 11.00 211 *i* P Pn 18 49 15.0 +4.1
CMAR pmax pmax
comp=Z,19nm,1.0s
TIY Taiyuan 11.53 32 ⇓P Pn 18 49 16.8 -1.3
TIY PP PnPn 18 49 34.0 +8.0
TIY S Sn 18 51 25.0 -1.0
TIY LR LR
comp=Z,3μm,9.3s
TIY LR LR
comp=Z,5μm,8.8s
TIY LR LR
comp=Z,1μm,9.2s
GOMU GeErMu 11.75 316 P Pn 18 49 21.3 -0.1
GOMU pP 18 49 29.3
GOMU sP 18 49 31.3
GOMU S Sn 18 51 40.8 +9.0
GOMU sS 18 51 46.3
GOMU pmax pmax
comp=Z,6.0nm,1.4s
GOMU pmax pmax
comp=Z,110nm,5.8s
GOMU LR LR
comp=Z,2μm,8.9s
GOMU LR LR
comp=Z,3μm,9.1s
GOMU LR LR
comp=Z,4μm,9.6s
SHL Shillong 11.85 261 Pn 18 49 20.8 -1.9
SHL Shillong 11.85 261 *e*P Pn 18 49 22.7 0.0
SHL Shillong 11.85 261 P Pn 18 49 20.8 -1.9
SHL Shillong 11.85 261 P Pn 18 49 22.7 0.0
GTA Gaotai 12.06 341 ⇓P Pn 18 49 25.5 0.0
GTA pP P 18 49 33.0 -5.1
GTA sP 18 49 36.3
GTA S Sn 18 51 37.0 -2.2
GTA pmax pmax
comp=Z,20nm,1.2s
GTA pmax pmax
comp=Z,88nm,5.5s
GTA LR LR
comp=Z,2μm,13.5s
GTA LR LR
comp=Z,4μm,14.2s
GTA LR LR
comp=Z,1μm,16.4s
LSA Lhasa 12.12 281 Pn Pn 18 49 26.3 -0.3
LSA Lhasa 12.12 281 P Pn 18 49 27.5 +0.9
LSA pP P 18 49 33.3 -5.8
LSA PP PbPb 18 50 06.0 -0.9
LSA S Sn 18 51 46.8 +5.6
LSA SS SbSb 18 52 46.3 +14
LSA LR LR
comp=N,990nm,9.3s
LSA LR LR
comp=E,3μm,8.5s
LSA LR LR
comp=Z,5μm,10.7s
LSA Lhasa 12.12 281 P Pn 18 49 27.3 +0.6
LSA pP P 18 49 37.0 -2.1
LSA S Sn 18 51 45.3 +4.1
LSA pmax pmax
comp=Z,21nm,0.5s
LSA LR LR
comp=Z,990nm,10.7s
LSA LR LR
comp=Z,3μm,10.7s
LSA LR LR
comp=Z,5μm,11.4s
LSA Lhasa 12.12 281 P Pn 18 49 26.3 -0.3
LSA Lhasa 12.12 281 *i* P Pn 18 49 27.3 +0.6
SNR=33
LSA Lhasa 12.12 281 P Pn 18 49 27.8 +1.1
HNS HongShan 12.45 39 ⇓P Pn 18 49 30.8 +0.2
HNS *e*S Sn 18 51 53.5 +5.0
HNS pmax pmax
comp=Z,10.0nm,1.0s
HNS LR LR
comp=Z,2μm,10.0s
HNS LR LR
comp=Z,2μm,8.8s
HNS LR LR
comp=Z,3μm,10.4s
NJ2 Nanjing 12.75 68 ⇓P Pn 18 49 35.5 +0.7
NJ2 pP P 18 49 43.8 -1.8
NJ2 PP PnPn 18 49 47.0 +4.4
NJ2 sP 18 49 48.5
NJ2 S Sn 18 51 53.3 -2.6
NJ2 sS 18 52 05.5
NJ2 pmax pmax
comp=Z,40nm,1.4s
NJ2 pmax pmax
comp=Z,360nm,4.3s
NJ2 LR LR
comp=Z,4μm,6.6s
NJ2 LR LR
comp=Z,8μm,8.1s
NJ2 LR LR
comp=Z,9μm,11.4s
BRDH Bariadhala 13.10 249 Pn P 18 49 46.8 -2.7
comp=Z,27nm,0.3s,baz=90,slow=12,SNR=1.2
BRDH LR LR 18 55 36.5
comp=Z,1μm,18.9s,baz=90,slow=42
TIA Tai'an 13.18 49 ⇑P Pn 18 49 39.3 -1.3
TIA pmax pmax
comp=Z,21nm,1.5s
TIA pmax pmax
comp=Z,190nm,3.7s
TIA LR LR
comp=Z,2μm,11.4s
TIA LR LR
comp=Z,2μm,5.5s
BTO Baotou 13.21 17 *e*P Pn 18 49 40.0 -1.1
BTO S Sn 18 52 09.5 +2.4
BTO LR LR
comp=Z,5μm,7.8s
BTO LR LR
comp=Z,10μm,7.6s
DHUB DHUBRI 13.40 265 *e*P Pn 18 49 42.3 -1.4
HHC Hu-ho-hao-te 13.89 22 *e*P Pn 18 49 49.5 -0.9
HHC S Sn 18 52 29.5 +5.7
HHC sS S 18 52 33.8 -11
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,380nm,4.8s
HHC LR LR
comp=Z,3μm,7.4s
HHC LR LR
comp=Z,2μm,6.3s
HHC LR LR
comp=Z,2μm,11.2s
GTK Tadong 14.42 271 *e*P Pn 18 49 56.0 -1.7
SSE Sheshan 14.52 74 P Pn 18 50 00.8 +1.8
SSE S Sn 18 52 40.3 +1.2
SSE pmax pmax
comp=Z,12nm,1.3s
SSE pmax pmax
comp=Z,200nm,3.5s
SSE LR LR
comp=Z,880nm,13.8s
SSE LR LR
comp=Z,1μm,8.0s
TPUB Ta-pu 14.99 105 P P 18 50 08.2 -2.3
TPUB Ta-pu 14.99 105 P P 18 50 09.8 -0.7
SSLB Suanglung 15.09 103 Pn 18 50 09.1 +2.4
SSLB IAmb IAmb 18 50 16.0
comp=Z,103nm,1.0s
SSLB Suanglung 15.09 103 P Pn 18 50 09.2 +2.4
BJT Baijiatuan 15.15 35 Pn Pn 18 50 06.3 -1.0
BJT Baijiatuan 15.15 35 P Pn 18 50 08.5 +1.2
BJT Baijiatuan 15.15 35 P Pn 18 50 06.3 -1.0
BJT pmax pmax
comp=Z,101nm,1.7s
BJI Beijing 15.17 35 P Pn 18 50 07.3 -0.2
BJI pP P 18 50 14.3 +1.9
BJI sP pP 18 50 19.3 -0.5
BJI pmax pmax
comp=Z,18nm,1.5s
YHNB Yeheng 15.19 99 Pn 18 50 08.6 +0.6
YHNB Yeheng 15.19 99 P P 18 50 12.7 -0.1
TAPN Taplejung 15.21 271 *e*P Pn 18 50 06.4 -2.1
comp=Z,80nm,0.4s
NACB Ninganchiao 15.52 101 P P 18 50 15.9 -0.5
NACB Ninganchiao 15.52 101 P P 18 50 16.5 +0.1
YULB Yu-li 15.53 104 P P 18 50 15.1 -1.4
YULB Yu-li 15.53 104 P P 18 50 16.4 -0.1
TWG Pinlang 15.54 106 P P 18 50 16.4 -0.3
TWGBT Beinan 15.55 106 P P 18 50 17.8 +1.0
ODAN Odare 15.56 270 *e*P Pn 18 50 10.7 -2.3
RAMN Ramite 16.24 270 *e*P Pn 18 50 18.9 -2.9
comp=Z,79nm,0.5s
JIRN Jiri 16.52 273 *e*P Pn 18 50 23.1 -2.3
comp=Z,54nm,0.4s
GUN Gumba 16.77 274 *e*P Pn 18 50 26.6 -2.0
comp=Z,134nm,0.4s
PKI Pulchoki 17.22 273 *e*P Pn 18 50 30.8 -3.4
comp=Z,73nm,0.5s
PKIN Phulchoki 17.23 273 *e*P Pn 18 50 30.9 -3.3
comp=Z,69nm,0.4s
KKN Kakani 17.31 274 *e*P Pn 18 50 31.5 -3.7
DMN Daman 17.48 273 *e*P Pn 18 50 35.0 -2.4
comp=Z,69nm,0.6s
BOK Bokaro 17.59 260 *e*P P 18 50 39.4 +0.1
BOK *i* x x 18 53 59.4
DL2 Dalian 17.65 48 ⇓P P 18 50 40.8 +0.9
DL2 S S 18 54 01.5 -0.4
DL2 pmax pmax
comp=Z,54nm,1.1s
DL2 pmax pmax
comp=Z,450nm,5.0s
DL2 LR LR
comp=Z,1μm,20.9s
DL2 LR LR
comp=Z,1μm,19.5s
DL2 LR LR
comp=Z,1μm,12.4s
GKN Gorkha 17.86 275 *e*P Pn 18 50 38.7 -3.2
comp=Z,89nm,0.5s
XLT XiLinHaoTe 18.19 27 *e*P Pn 18 50 44.8 -1.1
XLT pP pP 18 50 52.5 -0.9
XLT sP sP 18 50 57.0 0.0
XLT S Sn 18 54 03.5 -4.7
XLT sS S 18 54 11.5 -1.4
XLT pmax pmax
comp=Z,32nm,1.1s
XLT pmax pmax
comp=Z,190nm,4.2s
XLT LR LR
comp=Z,2μm,5.2s
XLT LR LR
comp=Z,1μm,8.9s
DGPR DIGLIPUR 18.53 219 *e*P Pn 18 50 50.8 +0.8
DANN Dangsing 18.60 276 *e*P P 18 50 46.9 -3.9
comp=Z,175nm,0.6s
KOLN Koldanda 18.79 274 *e*P P 18 50 49.0 -3.8
SONM Songino Array 19.77 3 P P 18 51 04.0 +0.7
comp=Z,2.9nm,0.3s,baz=184,slow=10,SNR=34
SONM LR LR 19 00 08.6
comp=Z,125nm,18.2s,baz=232,slow=41
comp=Z,18nm,0.6s
SONM Songino Array 19.77 3 P P 18 51 00.6 -2.7
SONM lAmb lAmb 18 51 07.9
comp=Z,161nm,1.6s
SONM Songino Array 19.77 3 P P 18 51 04.0 +0.7
ULN Ulaanbaatar 19.84 4 P 18 51 02.4 -1.6
ULN Ulaanbaatar 19.84 4 *ce*P P 18 51 03.9 -0.2
ULN pmax pmax
comp=Z,84nm,1.7s
ULN Ulaanbaatar 19.84 4 P Pn 18 51 05.0 -0.7
PBA Port Blair 19.88 217 P Pn 18 51 05.2 -1.1
PBA lAmb lAmb 18 51 15.0
comp=Z,131nm,1.0s
SRIT Nakonsritamara 20.00 195 P Pn 18 51 07.0 -0.6
SRIT lAmb lAmb 18 51 11.6
comp=Z,72nm,0.5s
SNY Shenyang 20.53 43 ⇓P P 18 51 12.3 +0.9
SNY S Sn 18 55 02.8 -1.6
SNY pmax pmax
comp=Z,47nm,1.3s
SNY pmax pmax
comp=Z,330nm,3.5s
SNY LR LR
comp=Z,1μm,12.4s
SNY LR LR
comp=Z,2μm,12.7s
SNY LR LR
comp=Z,2μm,16.3s
INCN Inchon 20.54 57 P P 18 51 09.8 -1.8
INCN lAmb lAmb 18 51 18.6
comp=Z,136nm,1.4s
INCN Inchon 20.54 57 P P 18 51 09.8 -1.8
INCN pmax pmax
comp=Z,136nm,1.4s
INCN Inchon 20.54 57 P P 18 51 12.3 +0.7
TJN Taejon 20.73 61 P P 18 51 12.4 -1.2
TJN Taejon 20.73 61 P Pn 18 51 15.1 -1.0
TJN Taejon 20.73 61 *i* P P 18 51 14.8 +1.1
ALBI Allahabad 20.77 268 *e*P P 18 51 12.8 -1.4
JOW Kunigami 20.81 88 P P 18 51 15.4 +0.8
comp=Z,16nm,0.4s,baz=214,slow=6.1,SNR=15
JOW LR LR 19 00 03.3
comp=Z,1μm,19.3s,baz=285,slow=39
comp=Z,16nm,0.4s
JOW Kunigami 20.81 88 P P 18 51 15.0 +0.4
JOW Kunigami 20.81 88 P Pn 18 51 17.6 +0.4
WMQ Urumqi 20.91 323 *e*P P 18 51 15.8 +0.1
WMQ pP sP 18 51 25.5 -1.1
WMQ S S 18 55 07.3 -0.2
WMQ pmax pmax
comp=Z,76nm,1.7s
WMQ LR LR
comp=Z,2μm,12.1s
WMQ LR LR
comp=Z,2μm,12.1s
WMQ LR LR
comp=Z,570nm,18.7s
BLSP Bilaspur 21.40 259 *e*P P 18 51 20.8 -0.2
KSAR Wonju Array Be 21.46 58 P P 18 51 21.2 -0.3
KSAR Wonju Array Be 21.46 58 P P 18 51 21.2 -0.3
KS19 Wonju Array Si 21.46 58 P P 18 51 21.8 +0.2
KS19 lAmb lAmb 18 51 28.9
comp=Z,245nm,1.6s
KSRS Korea Array 21.49 58 P P 18 51 22.0 +0.2
comp=Z,16nm,0.5s,baz=242,slow=11,SNR=118
KSRS LR LR 18 59 25.6
comp=Z,539nm,19.4s,baz=245,slow=36
comp=Z,16nm,0.5s
LGTI Lohaghat 21.61 280 *e*P P 18 51 23.8 +0.5
LGTI lAmb lAmb 18 51 25.2
comp=Z,202nm,1.2s
PTH Pithoragarh 21.64 280 *e*P P 18 51 22.5 -1.2
JTU Tsushima 21.91 67 P P 18 51 26.3 0.0
JTU lAmb lAmb 18 51 39.4
comp=Z,204nm,1.5s
JTU Tsushima 21.91 67 P P 18 51 26.3 0.0
ZAK Zakamensk 22.32 357 *e*P P 18 51 30.4 -0.3
ZAK *e* 18 51 43.6
ZAK pmax pmax
comp=Z,70nm,1.3s
ZAK pmax pmax
comp=Z,38nm,1.2s
JSU Suzuyama 22.46 75 P P 18 51 31.7 -0.7
CN2 Changchun 22.81 41 *e*P P 18 51 36.0 +0.1
CN2 *e*S S 18 55 38.0 -5.4
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,400nm,3.0s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,600nm,13.0s
JNU Nakatsue 22.93 71 P P 18 51 38.1 +0.8
comp=Z,45nm,0.6s,baz=275,slow=3.7,SNR=40
JNU LR LR 19 01 13.1
comp=Z,895nm,19.2s,baz=281,slow=38
comp=Z,45nm,0.6s
JNU Nakatsue 22.93 71 P P 18 51 37.6 +0.3
JNU Nakatsue 22.93 71 P P 18 51 38.2 +0.9
JBP Jabalpur 22.94 263 *e*P P 18 51 36.7 -0.7
KULM Kulim 23.00 191 P P 18 51 37.7 -0.4
DDI Dehra Dun 23.49 282 *e*P P 18 51 41.9 -1.1
DDI lAmb lAmb 18 51 47.3
comp=Z,76nm,0.5s
JMZ Minamidaito 2 23.59 89 P P 18 51 43.9 0.0
IPM Ipoh 23.74 190 P P 18 51 44.5 -0.9
IPM lAmb lAmb 18 51 47.0
comp=Z,242nm,1.7s
IPM Ipoh 23.74 190 P P 18 51 45.1 -0.3
MOY Mondy 23.75 354 *e*P P 18 51 44.4 -0.9
MOY pmax pmax
comp=Z,73nm,1.6s
LHMI Lhok Sumawe 23.93 200 P P 18 51 48.7 +1.6
LHMI lAmb lAmb 18 52 08.3
comp=Z,167nm,1.6s
LHMI Lhok Sumawe 23.93 200 P P 18 51 46.9 -0.2
comp=Z,61nm,1.7s
HIA Hailar 24.06 24 P P 18 51 48.1 -0.1
HIA Hailar 24.06 24 P P 18 51 49.4 +1.2
HIA Hailar 24.06 24 P P 18 51 48.1 -0.1
HIA pmax pmax
comp=Z,39nm,1.2s
IRK Irkutsk 24.15 359 *e*P P 18 51 49.4 +0.4
IRK pmax pmax
comp=Z,151nm,1.9s
SMLA Simla 24.25 284 *e*P P 18 51 49.3 -0.8
NDI New Delhi 24.31 278 *e*P P 18 51 46.7 -3.9
NDI *e*P pP 18 51 51.5 -7.1
KKM Kota Kinabalu 24.41 152 P P 18 51 52.3 +0.6
KKM lAmb lAmb 18 52 01.1
comp=Z,105nm,1.1s
KKM Kota Kinabalu 24.41 152 P P 18 51 52.8 +1.1
CIT Chita 24.80 13 *e*P P 18 51 56.0 +1.1
CIT *e* 18 52 08.7
CIT *e* 18 52 33.5
CIT *e* 18 52 42.2
CIT *e* 18 55 26.8
CIT pmax pmax
comp=Z,74nm,2.7s
ZSN Zaisan 24.86 326 *e*P P 18 51 56.2 +0.7
baz=326
ZSN Zaisan 24.86 326 *e*P P 18 51 56.1 +0.7
BHK Bhakra 24.89 285 *e*P P 18 51 56.9 +1.0
BHK lAmb lAmb 18 51 59.9
comp=Z,56nm,0.8s
JHS Saijyo 25.00 67 P P 18 51 57.7 +0.8
JHS lAmb lAmb 18 51 59.6
comp=Z,292nm,2.0s
JHS Saijyo 25.00 67 P P 18 51 59.4 +2.5
BNX BinXian 25.08 39 ⇑P P 18 51 57.8 +0.3
BNX pmax pmax
comp=Z,37nm,1.2s
BNX pmax pmax
comp=Z,210nm,3.5s
TSI Tuntungan 25.16 195 P P 18 51 58.2 -0.1
comp=Z,275nm,1.1s
BHPL Bhopal 25.17 265 *e*P P 18 51 59.0 +0.5
KCSI Kotacane, Aceh 25.33 197 P P 18 51 59.2 -0.7
comp=Z,22nm,1.0s,comp=Z,607nm
DGZ Jazzator, Alta 25.39 333 ⇓*i*P P 18 52 00.9 +0.5
DGZ pmax pmax
comp=Z,334nm,1.4s
SHLS Shalkode 25.42 313 *e*P P 18 51 59.1 -1.7
comp=Z,30nm,1.2s,baz=313
SHLS Shalkode 25.42 313 *e*P P 18 51 59.0 -1.7
SHLS pmax pmax
comp=Z,30nm,1.2s
JMN Monobe 25.49 70 P P 18 52 01.5 +0.2
JMN lAmb lAmb 18 52 06.6
comp=Z,112nm,1.5s
JMN Monobe 25.49 70 P P 18 52 03.6 +2.3
UZB Uzynbulak 25.70 313 *e*P P 18 52 04.0 +0.6
baz=313
UZB Uzynbulak 25.70 313 *e*P P 18 52 03.9 +0.6
MDJ Mudanjiang 25.73 43 P P 18 52 03.6 +0.3
MDJ Mudanjiang 25.73 43 P P 18 52 04.0 +0.7
MDJ pP pP 18 52 12.5 +1.1
MDJ sP sP 18 52 16.3 +1.5
MDJ pmax pmax
comp=Z,16nm,1.6s
MDJ pmax pmax
comp=Z,400nm,6.5s
MDJ LR LR
comp=Z,780nm,15.7s
MDJ LR LR
comp=Z,1μm,14.7s
MDJ LR LR
comp=Z,2μm,14.7s
MK31 Makanchi Array 25.74 323 P P 18 52 02.6 -0.8

MK31 IAmb IAmb 18 52 07.2
comp=Z,121nm,1.3s
MK31 Makanchi Array 25.74 323 *i* P **P** **18 52 02.9 -0.6**
MK31 pmax pmax
comp=Z,11nm,0.4s
MKAR Makanchi Array 25.74 323 P **P** **18 52 03.1 -0.4**
comp=Z,24nm,0.5s,baz=122,slow=11,SNR=177
MKAR PcP **PcP** **18 55 32.7 -0.3**
comp=Z,4.5nm,0.9s,baz=123,slow=5.3,SNR=4.9
MKAR ScP **ScP** **18 59 11.2 +0.5**
comp=Z,2.2nm,0.8s,baz=101,slow=5.1,SNR=8.5
MKAR LR LR 19 03 12.8
comp=Z,681nm,18.4s,baz=126,slow=39
comp=Z,24nm,0.5s
MKAR Makanchi Array 25.74 323 P **P** **18 52 02.6 -0.8**
PSI Prapat 25.76 194 P **P** **18 52 03.6 -0.3**
comp=Z,27nm,0.9s,baz=348,slow=8.2,SNR=20
comp=Z,27nm,0.9s
PSI Prapat 25.76 194 P **P** **18 52 04.5 +0.6**
PSI pmax pmax
comp=Z,46nm,1.1s
RPSI Rantau Prapat 25.86 194 P **P** **18 52 04.5 -0.2**
MAKZ Makanchi 25.92 322 P **P** **18 52 04.5 -0.6**
MAKZ IAmb IAmb 18 52 09.1
comp=Z,113nm,1.2s
MAKZ Makanchi 25.92 322 P **P** **18 52 04.9 -0.2**
SATY Saty 26.07 312 *eP* **P** **18 52 07.1 +0.5**
comp=Z,37nm,1.4s,baz=312
SATY Saty 26.07 312 *eP* **P** **18 52 07.1 +0.5**
SATY pmax pmax
comp=Z,37nm,1.4s
KPKS Kokpek 26.07 313 *eP* **P** **18 52 07.2 +0.6**
comp=Z,34nm,1.5s,baz=313
KPKS Kokpek 26.07 313 *eP* **P** **18 52 07.1 +0.6**
KPKS pmax pmax
comp=Z,34nm,1.5s
ZHN Zhinishke 26.09 312 *eP* **P** **18 52 07.5 +0.6**
baz=312
ZHN Zhinishke 26.09 312 *eP* **P** **18 52 07.4 +0.6**
MYKOM Kota Tinggi 26.15 182 P **P** **18 52 09.1 +1.7**
MYKOM IAmb IAmb 18 52 29.8
comp=Z,120nm,1.6s
MYLDM Lahad Datu 26.20 148 P **P** **18 52 08.4 +0.6**
JMU Jammu 26.21 288 *eP* **P** **18 52 09.5 +1.7**
AKL Akola 26.36 260 *eP* **P** **18 52 09.7 +0.4**
AKL IAmb IAmb 18 52 12.2
comp=Z,32nm,0.7s
HYB Hyderabad 26.42 252 *eP* **P** **18 52 10.2 +0.3**
HYB IVmB_BB 18 52 21.9
comp=Z,265nm,1.2s
SBUM Sibu 26.43 163 P **P** **18 52 11.3 +1.5**
KSH Kashi 26.47 303 P **P** **18 52 13.5 +3.2**
KSH pP sP 18 52 23.5 +1.9
KSH PcP **PcP** **18 55 37.0 +2.1**
KSH pmax pmax
comp=Z,11nm,1.1s
KSH LR LR
comp=Z,570nm,14.1s
KSH LR LR
comp=Z,920nm,14.6s
KSH LR LR
comp=Z,740nm,15.1s
AJM Ajmer 26.87 274 *eP* **P** **18 52 13.4 -0.5**
AJM IAmb IAmb 18 52 15.9
comp=Z,45nm,0.7s
MDOK Medeo 27.01 311 *eP* **P** **18 52 15.7 +0.6**
baz=311
MDOK Medeo 27.01 311 *eP* **P** **18 52 15.7 +0.6**
USA0B Ussuriysk Arra 27.02 46 P **P** **18 52 14.9 -0.1**
USA0B IAmb IAmb 18 52 16.4
comp=Z,69nm,1.1s
USA0B Ussuriysk Arra 27.02 46 ⇓*i* P **P** **18 52 15.7 +0.7**
USRK Ussuriysk Ar. 27.02 46 P **P** **18 52 15.2 +0.2**
comp=Z,29nm,0.6s,baz=251,slow=6.8,SNR=58
USRK LR LR 19 02 44.9
comp=Z,435nm,18.7s,baz=231,slow=36
comp=Z,29nm,0.6s
USRK Ussuriysk Ar. 27.02 46 P **P** **18 52 14.8 -0.2**
TNSS Tian-Shan 27.02 311 *eP* **P** **18 52 16.3 +0.8**
baz=311
TNSS Tian-Shan 27.02 311 *eP* **P** **18 52 16.3 +0.8**
AAA Alma-Ata 27.11 311 *eP* **P** **18 52 16.5 +0.5**
baz=311
AAA Alma-Ata 27.11 311 *eP* **P** **18 52 16.5 +0.5**
CHKK Chushkaly 27.34 313 *eP* **P** **18 52 18.3 +0.3**
baz=312
CHKK Chushkaly 27.34 313 *eP* **P** **18 52 18.2 +0.3**
GSI Gunungsitoli 27.51 196 P **P** **18 52 18.9 -0.7**
GSI Gunungsitoli 27.51 196 P **P** **18 52 19.2 -0.4**
GSI Gunungsitoli 27.51 196 P **P** **18 52 19.3 -0.4**
comp=Z,27nm,0.9s
NIL Nilore 27.63 290 P **P** **18 52 20.1 -0.6**
NIL Nilore 27.63 290 P **P** **18 52 20.1 -0.6**
NIL pmax pmax
comp=Z,26nm,0.7s
NIL Nilore 27.63 290 P **P** **18 52 24.2 +3.5**
KUU Kurty 27.78 312 *eP* **P** **18 52 22.2 +0.3**
comp=Z,35nm,1.6s,baz=312
KUU Kurty 27.78 312 *eP* **P** **18 52 22.1 +0.3**
KUU pmax pmax
comp=Z,35nm,1.6s
BKNI Bangkinang 27.83 188 P **P** **18 52 23.0 +0.5**
BKNI IAmb IAmb 18 53 21.0
comp=Z,59nm,1.2s
BKNI Bangkinang 27.83 188 P **P** **18 52 22.1 -0.3**
comp=Z,32nm,0.7s
TKM2 Tokmak 2 27.88 310 *i* P **P** **18 52 22.6 -0.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
HEH HeiHe 28.02 32 *eP* **P** **18 52 23.5 -0.4**
HEH pmax pmax
comp=Z,19nm,1.0s
HEH pmax pmax
comp=Z,440nm,5.1s
HEH LR LR
comp=Z,2μm,12.5s
HEH LR LR
comp=Z,1μm,12.7s
HEH LR LR
comp=Z,800nm,13.5s
INU Inuyama 28.22 67 P **P** **18 52 26.2 +0.4**
INU IAmb IAmb 18 52 34.4
comp=Z,70nm,1.5s
INU Inuyama 28.22 67 P **P** **18 52 27.8 +2.0**
KBK Karagaybulak 28.23 309 P **P** **18 52 26.6 +0.5**
SNR=11
UCH Uchtor 28.38 308 P **P** **18 52 29.2 +1.5**
SNR=9.5
JGF Kuroka 28.52 66 P **P** **18 52 29.2 +0.6**
JGF Kuroka 28.52 66 P **P** **18 52 30.4 +1.8**
AAK Ala-Archa 28.53 309 P **P** **18 52 30.1 +1.3**
SNR=5.9
AAK Ala-Archa 28.53 309 P **P** **18 52 28.0 -0.8**
comp=Z,2.2nm,0.6s,baz=100,slow=6.4,SNR=8.8
AAK LR LR 19 05 59.1
comp=Z,500nm,21.1s,baz=88,slow=41
comp=Z,2.2nm,0.6s
AAK Ala-Archa 28.53 309 P **P** **18 52 28.7 -0.1**
AAK Ala-Archa 28.53 309*ce*P **P** **18 52 28.9 +0.1**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 28.53 309 *i* P **P** **18 52 30.0 +1.3**
SNR=9.4
AAK Ala-Archa 28.53 309 P **P** **18 52 30.4 +1.6**
AAK P **P** **18 52 30.4 +1.6**
DAV Davao City (W) 28.65 133 P **P** **18 52 30.6 +0.7**
comp=Z,58nm,0.4s,baz=52,slow=9.2,SNR=1.0
DAV LR LR 19 05 31.1
comp=Z,579nm,19.6s,baz=3.0,slow=40
SGDS Sogindy 28.74 310 *eP* **P** **18 52 29.7 -0.8**
baz=310
SGDS Sogindy 28.74 310 *eP* **P** **18 52 29.7 -0.8**
USP Ospenovka 28.76 310 P **P** **18 52 31.4 +0.8**
SNR=6.4
AML Almayashu 28.92 307 P **P** **18 52 33.7 +1.2**
SNR=9.5
SDSI Sungai Dareh 29.02 187 P **P** **18 52 33.0 -0.1**
comp=Z,12nm,1.4s
EKS2 Erkin-Say 29.04 308 P **P** **18 52 34.5 +1.3**
SNR=11
SEM Semipalatinsk 29.10 327 *eP* **P** **18 52 33.0 -0.7**
baz=327
SEM Semipalatinsk 29.10 327 *eP* **P** **18 52 33.0 -0.7**
MJAR Matsushiro Arr 29.31 65 P **P** **18 52 35.1 -0.5**
comp=Z,3.6nm,1.0s,baz=273,slow=10,SNR=5.2
MJAR PcP **PcP** **18 55 41.6 -0.2**
comp=Z,2.7nm,0.9s,baz=207,slow=1.4,SNR=3.5
MJAR LR LR 19 05 36.2
comp=Z,632nm,19.8s,baz=265,slow=39
comp=Z,3.6nm,1.0s
KLR Kul'dur 29.53 37 P **P** **18 52 37.1 -0.2**
comp=Z,8.7nm,1.0s,baz=242,slow=8.7,SNR=17
KLR LR LR 19 05 56.3
comp=Z,571nm,19.1s,baz=232,slow=39
comp=Z,8.7nm,1.0s
ZAA0 Zalesovo Array 29.74 336 P **P** **18 52 38.5 -0.7**
ZAA0 IAmb IAmb 18 52 41.1
comp=Z,72nm,1.6s
ZALV Zalesovo Beam 29.74 336 P **P** **18 52 38.7 -0.5**
comp=Z,10nm,0.5s,baz=139,slow=9.4,SNR=56
ZALV PcP **PcP** **18 55 41.5 -1.0**
comp=Z,1.5nm,0.6s,baz=132,slow=2.1,SNR=1.8
ZALV ScP **ScP** **18 59 23.6 +0.8**
comp=Z,0.5nm,0.5s,baz=73,slow=4.8,SNR=2.8
ZALV LR LR 19 05 25.0
comp=Z,275nm,20.7s,baz=138,slow=38
comp=Z,10nm,0.5s
ZALV Zalesovo Beam 29.74 336 P **P** **18 52 37.9 -1.3**
BTLS Baital 29.75 313 *eP* **P** **18 52 39.0 -0.4**
baz=313
BTLS Baital 29.75 313 *eP* **P** **18 52 39.0 -0.4**
KURK Kurchatov 30.09 326 P **P** **18 52 41.4 -0.9**
KURK IAmb IAmb 18 52 43.5
comp=Z,87nm,1.4s
KURK Kurchatov 30.09 326*ce*P **P** **18 52 42.1 -0.2**
KURK pmax pmax
comp=Z,71nm,1.3s
KURK Kurchatov 30.09 326 P **P** **18 52 42.7 +0.4**
JHJ Hachijo jima 2 30.39 72 LR LR 19 05 43.3
comp=Z,332nm,18.8s,baz=258,slow=38
BOD Bodaibo 30.42 10 *eP* **P** **18 52 45.5 +0.4**
BOD pmax pmax
comp=Z,28nm,1.3s
ZEA Zeya 30.47 27 *eP* **P** **18 52 46.2 +0.6**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=Z,400nm,13.0s
DZA Taraz 30.82 308 *eP* **P** **18 52 48.9 +0.1**
baz=308
DZA Taraz 30.82 308 *eP* **P** **18 52 48.9 +0.1**
PALK Pallekele 30.82 232 P **P** **18 52 49.0 -0.1**
PALK IAmb IAmb 18 52 51.0
comp=Z,36nm,1.1s
PALK Pallekele 30.82 232 P **P** **18 52 50.5 +1.4**
PALK Pallekele 30.82 232 P **P** **18 52 50.0 +0.8**
PALK Pallekele 30.82 232 P **P** **18 52 50.3 +1.2**
PALK pP **sP** **18 53 01.2 +0.7**
PALK sP pP 18 53 05.4 +8.2
TOLI2 Tolitoli 30.84 148 P **P** **18 52 48.8 -0.3**
TOLI2 Tolitoli 30.84 148 P **P** **18 52 50.5 +1.4**
KBL Kabul 31.16 291 P **P** **18 52 50.2 -2.0**
KBL Kabul 31.16 291 P **P** **18 52 50.2 -2.0**
KBL pmax pmax
comp=Z,17nm,1.2s
BKB Balikpapan 31.37 156 P **P** **18 52 53.9 +0.1**
KK31 Karatay Array 31.45 308 P **P** **18 52 54.2 -0.3**
KK31 Karatay Array 31.45 308 P **P** **18 52 54.2 -0.3**
KK31 pmax pmax
comp=Z,18nm,1.3s
KKAR Karatay Array 31.45 308 P **P** **18 52 54.2 -0.3**
KKAR **PcP** **18 55 46.4 -0.9**
KKAR Karatay Array 31.45 308 P **P** **18 52 53.9 -0.5**
KKAR IAmb IAmb 18 52 56.4
comp=Z,18nm,1.3s
KKAR Karatay Array 31.45 308 P **P** **18 52 53.9 -0.5**
KKAR 18 55 46.4
KKAR pmax pmax
comp=Z,18nm,1.3s
IUG luzhnay 31.53 306 *eP* **P** **18 52 55.1 -0.1**
baz=306
IUG luzhnay 31.53 306 *eP* **P** **18 52 55.9 +0.7**
MRSI Marisa 31.95 146 P **P** **18 52 59.6 +0.7**
comp=Z,23nm,0.8s
OTUK Ortayu 32.20 318 P **P** **18 53 00.7 -0.2**
MNAI Manna 32.29 184 P **P** **18 53 02.5 +0.5**
BBKI Banjar Baru 32.79 161 P **P** **18 53 06.6 +0.3**
comp=Z,39nm,0.9s,comp=Z,4μm
GRNR Gornyy 32.89 38 ⇓*i* P **P** **18 53 07.4 +0.5**
GRNR pmax pmax
comp=Z,7.0nm,0.9s
GRNR MLR MLR
comp=E,370nm,16.0s
GRNR MLR MLR
comp=N,490nm,13.0s
GRNR MLR MLR
comp=Z,440nm,11.0s
JCJ Chichijima 33.02 83 P **P** **18 53 08.9 +0.6**
comp=Z,58nm,0.8s,baz=276,slow=20,SNR=2.8
JCJ LR LR 19 07 14.4
comp=Z,489nm,19.1s,baz=268,slow=38
comp=Z,58nm,0.8s
JCJ Chichijima 33.02 83 P **P** **18 53 07.7 -0.6**
LUWI Luwuk 33.67 146 P **P** **18 53 14.1 +0.1**
LUWI Luwuk 33.67 146 P **P** **18 53 14.3 +0.3**
comp=Z,79nm,1.2s,comp=Z,990nm
ASAJ Asahikawa 34.10 52 P **P** **18 53 18.6 +1.0**
comp=Z,7.6nm,0.5s,baz=238,slow=26,SNR=2.4
ASAJ LR LR 19 07 23.9
comp=Z,197nm,19.5s,baz=141,slow=37
comp=Z,7.6nm,0.5s
SPSI Sidrap Palu 34.94 153 P **P** **18 53 25.7 +0.7**
comp=Z,40nm,1.5s
YSS Yuzh-Sakhalins 35.05 47 *eP* **P** **18 53 26.5 +0.9**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=Z,2μm,19.0s
UGL Uglegorsk 35.37 43 *eP* **P** **18 53 29.4 +1.0**
KPJI Karang Pucung 35.41 173 P **P** **18 53 29.3 +0.3**
comp=Z,110nm,1.5s
BVA0 Borovoye Array 35.60 324 *i* P **P** **18 53 29.5 -0.9**
BVAR Borovoye Array 35.60 324 LR LR 19 08 53.8
comp=Z,399nm,18.9s,baz=117,slow=38
BRVK Borovoye 35.67 324 P **P** **18 53 30.2 -0.8**
BRVK IAmb IAmb 18 53 33.1
comp=Z,54nm,1.4s
BRVK Borovoye 35.67 324*ce*P **P** **18 53 31.3 +0.3**
BRVK pmax pmax
comp=Z,38nm,1.3s
BRVK Borovoye 35.67 324 P **P** **18 53 30.8 -0.2**
BRVK P **P** **18 53 30.8 -0.2**
BRVK Borovoye 35.67 324 P **P** **18 53 30.8 -0.2**
BRVK pP **sP** **18 53 41.4 -1.0**
KAPI Kappang 35.89 154 LR LR 19 10 25.0
comp=Z,102nm,18.4s,baz=350,slow=40
KAPI Kappang 35.89 154 P **P** **18 53 34.1 +1.0**
KAPI IAmb IAmb 18 53 35.2
comp=Z,33nm,0.9s
KAPI Kappang 35.89 154 P **P** **18 53 34.2 +1.0**
KAPI Kappang 35.89 154 *i* P **P** **18 53 34.5 +1.3**
KAPI pmax pmax
comp=Z,38nm,0.9s
KAPI Kappang 35.89 154 P **P** **18 53 34.0 +0.9**
BKSI Bulukumba 36.31 154 P **P** **18 53 36.7 -0.1**
comp=Z,40nm,1.0s
TYV Tymovskoe 36.43 41 *eP* **P** **18 53 38.5 +1.0**
TYV *eS* **S** **18 59 20.4 +3.0**
TYV pmax pmax
comp=Z,50nm,1.2s
TYV pmax pmax
comp=Z,300nm,2.3s
TYV smax smax
comp=N,300nm,5.5s
YAK Yakutsk 37.73 19 P **P** **18 53 48.0 -0.4**
comp=N,16nm,0.5s,baz=61,slow=0.3,SNR=12
YAK LR LR 19 10 24.7
comp=N,370nm,19.6s,baz=248,slow=38
comp=N,16nm,0.5s
YAK Yakutsk 37.73 19 P **P** **18 53 47.4 -0.9**
YAK IAmb IAmb 18 54 03.9
comp=Z,34nm,0.7s
YAK Yakutsk 37.73 19 *eP* **P** **18 53 48.2 -0.1**
YAK *e**PP **sP** **18 53 58.3 -1.5**
YAK *e*PPP PPP 18 55 38.2
YAK *e* 18 56 03.8
YAK *e*S **S** **18 59 36.6 -0.3**
YAK pmax pmax
comp=Z,51nm,1.5s
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,105nm,3.0s
YAK pmax pmax
comp=Z,202nm,5.9s
YAK pmax pmax
comp=N,45nm,2.3s
YAK pmax pmax
comp=E,107nm,3.5s
YAK smax smax
comp=E,156nm,3.3s
YAK smax smax
comp=N,85nm,2.8s
YAK Yakutsk 37.73 19 P **P** **18 53 48.1 -0.2**
YAK pP **sP** **18 53 58.7 -1.1**
YAK sP **pP** **18 54 02.9 +6.4**
SIJI Sorong 38.34 134 LR LR 19 11 02.8
comp=N,160nm,18.3s,baz=14,slow=38
NGCH Negor - Chabah 39.00 276 P **P** **18 54 01.2 +1.7**
GUMO Guam 39.88 103 LR LR 19 11 10.7
comp=N,308nm,19.5s,baz=284,slow=37
GEYT Alibeck 40.06 297 P **P** **18 54 08.7 +0.4**
comp=N,56nm,1.1s,baz=112,slow=6.6,SNR=81
GEYT PcP **PcP** **18 56 12.1 -0.7**
comp=N,5.8nm,1.0s,baz=90,slow=1.4,SNR=2.2
GEYT LR LR 19 13 04.0
comp=N,499nm,18.6s,baz=98,slow=40
comp=N,56nm,1.1s
GYA0 ALIBECK ARRAY 40.06 297 P **P** **18 54 08.6 +0.3**
AB31 Akbulak array 40.22 314 *eP* **P** **18 54 09.5 +0.1**
ABKAR Akbulak array 40.22 314 P **P** **18 54 08.3 -1.0**
ABKAR Akbulak array 40.22 314 P **P** **18 54 08.8 -0.6**
KAAM Kaadhehdhoo 41.02 234 P **P** **18 54 16.5 +0.2**
JLN Jalan Bani Buh 41.39 272 P **P** **18 54 19.9 +0.5**
JLN P **P** **18 54 19.9 +0.5**
WBK Wadi Bani Khal 41.64 273 P **P** **18 54 21.2 -0.3**
WBK P **P** **18 54 21.2 -0.3**
AKTO Aktyubinsk 41.72 315 LR LR 19 13 08.4
comp=N,294nm,20.6s,baz=82,slow=38
AKTO Aktyubinsk 41.72 315 P **P** **18 54 21.5 -0.3**
WSAR Wadi Sarin 41.76 274 LR LR 19 14 11.1
comp=N,82nm,21.0s,baz=80,slow=40
WSAR Wadi Sarin 41.76 274 P **P** **18 54 23.1 +0.7**
SNR=5.5
SOEI Soe 42.03 151 P **P** **18 54 25.4 +0.7**
SOEI IAmb IAmb 18 54 34.4
comp=Z,62nm,1.2s
SOEI Soe 42.03 151 P **P** **18 54 26.0 +1.3**
BIDO Bidbid 42.12 275 P **P** **18 54 26.6 +1.2**
BATI Baumata 42.18 152 LR LR 19 14 04.2
comp=Z,177nm,18.6s,baz=357,slow=39
BATI Baumata 42.18 152 P **P** **18 54 25.9 +0.1**
comp=Z,85nm,1.1s
SMDO Samad 42.32 274 P **P** **18 54 27.4 +0.3**
SNR=9.6
SMDO P **P** **18 54 27.4 +0.3**
SNR=9.6
SVE Sverdlovsk 42.34 325 ⇑*eP* **P** **18 54 27.4 +0.7**
SVE pmax pmax
comp=Z,52nm,1.4s
JMDO Jabal Madar 42.48 273 P **P** **18 54 28.8 +0.5**
NRIK Noril'sk 42.52 351 P **P** **18 54 28.2 +0.2**
comp=Z,36nm,0.6s,baz=142,slow=7.2,SNR=54
comp=Z,36nm,0.6s
NRIK Noril'sk 42.52 351 P **P** **18 54 27.4 -0.6**
HOQ Hoqain 42.82 275 P **P** **18 54 31.1 0.0**
HOQ P **P** **18 54 31.1 0.0**
MHTO MHTO 43.03 271 P **P** **18 54 32.4 -0.3**
MHTO P **P** **18 54 32.4 -0.3**
BSY Bisya 43.16 274 P **P** **18 54 34.1 +0.2**
SNR=15
ARU Arti 43.25 324 P **P** **18 54 33.4 -0.6**
ARU IAmb IAmb 18 54 37.1
comp=Z,82nm,1.4s
ARU Arti 43.25 324*d* *i*P **P** **18 54 34.4 +0.3**
ARU S **S** **19 01 01.6 +2.2**
ARU pmax pmax
comp=Z,75nm,1.4s
ARU Arti 43.25 324 P **P** **18 54 33.9 -0.2**
SOHO SOHO 43.35 276 P **P** **18 54 35.7 +0.4**
SOHO P **P** **18 54 35.7 +0.4**
ARQ Araqi 43.59 275 P **P** **18 54 37.7 +0.4**
ASHO Ashiyiah 43.62 277 P **P** **18 54 38.5 +0.9**
ASHO P **P** **18 54 38.5 +0.9**
SAUI Saumlaki 44.02 141 P **P** **18 54 40.9 +0.2**
ALNE Al Ain 44.06 276 *i* P **P** **18 54 41.3 +0.2**
SNR=8.4
ALNE Al Ain 44.06 276 P **P** **18 54 41.1 0.0**
MA2 Magadan 44.29 32 P **P** **18 54 42.8 +0.4**
comp=Z,7.4nm,0.9s,baz=251,slow=6.3,SNR=11
MA2 PcP **PcP** **18 56 27.0 +0.6**
comp=Z,8.7nm,1.0s,baz=244,slow=2.3,SNR=4.1
MA2 LR LR 19 13 40.3
comp=Z,140nm,19.3s,baz=243,slow=37
comp=Z,7.4nm,0.9s
MA2 Magadan 44.29 32 P **P** **18 54 41.8 -0.6**
MA2 Magadan 44.29 32 P **P** **18 54 42.4 0.0**
MA2 pP **sP** **18 54 52.5 -1.4**
MA2 sP **pP** **18 54 56.4 +5.6**
UMZA Um Al Zommool 44.97 275 P **P** **18 54 47.0 -1.4**
UMZA P **P** **18 54 47.0 -1.4**
TIXI Tiksi 45.60 10 P **P** **18 54 52.1 -0.6**
comp=Z,18nm,0.6s,baz=90,slow=6.6,SNR=10
TIXI LR LR 19 15 32.9
comp=Z,212nm,18.6s,baz=326,slow=38
comp=Z,18nm,0.6s
TIXI Tiksi 45.60 10 P **P** **18 54 51.3 -1.4**
TIXI IAmb IAmb 18 54 53.6
comp=Z,96nm,1.4s
TIXI Tiksi 45.60 10 P **P** **18 54 51.9 -0.7**
GENI Genyem 45.62 126 P **P** **18 54 56.3 +2.8**
PEA0B Petropavlovsk- 45.95 42*ce*P **P** **18 54 57.7 +2.0**
PETK Petropavlovsk- 45.95 42 P **P** **18 54 55.9 +0.2**
comp=Z,5.2nm,1.0s,baz=349,slow=3.0,SNR=4.8
PETK LR LR 19 16 45.7
comp=Z,259nm,19.6s,baz=256,slow=39
comp=Z,5.2nm,1.0s
SEY Seymchan 46.43 28 P **P** **18 54 59.2 -0.1**
comp=Z,3.9nm,0.6s,baz=236,slow=4.2,SNR=19
SEY PcP **PcP** **18 56 34.3 +0.6**
comp=Z,14nm,1.1s,baz=247,slow=4.8,SNR=9.3
SEY ScP **ScP** **19 00 29.1 +3.8**
comp=Z,2.0nm,0.9s,baz=191,slow=23,SNR=4.7
comp=Z,3.9nm,0.6s
PET Petropavlovsk 46.50 42 *eP* **P** **18 54 59.2 -0.8**
PET *eS* **S** **19 01 49.0 +2.4**
PET pmax pmax
comp=Z,34nm,1.3s
PET MLR MLR
comp=Z,400nm,16.0s
DMTO DMTO 46.84 268 P **P** **18 55 01.6 -1.6**
DOK Doka 47.24 270 P **P** **18 55 05.3 -1.0**
RBK Rabkut 47.58 269 P **P** **18 55 08.9 -0.1**
WHFO Wadi Hawf 47.81 269 P **P** **18 55 09.5 -1.2**
SNR=6.2
MTN Manton Dam 47.98 144 P **P** **18 55 11.0 -0.9**
MTN IAmb IAmb 18 55 13.2
comp=Z,38nm,1.4s
MTN Manton Dam 47.98 144 P **P** **18 55 10.9 -1.0**
AKT Akhty 47.99 302 *eP* **P** **18 55 12.0 0.0**
AKT *e* 18 56 39.9
AKT *e* 18 57 05.2
AKT pmax pmax
comp=Z,74nm,1.4s
MAK Makhachkala 48.10 304 *eP* **P** **18 55 12.1 -0.5**
MAK *e* 18 57 06.0
MAK *e*S **S** **19 02 08.9 -0.8**
MAK *e*SSS SSS 19 06 51.8
MAK pmax pmax
comp=Z,136nm,1.5s
MAK MLR MLR
comp=Z,180nm,17.0s
ABTO Aybut 48.44 269 P **P** **18 55 15.5 -0.2**
BELG Belogornoye 48.47 317 ⇓*i*P **P** **18 55 15.0 -0.3**
BELG pmax pmax
comp=Z,23nm,1.2s
KDU Kakadu 48.55 143 P **P** **18 55 15.9 -0.4**
KIRV Kirov 48.60 325 LR LR 19 16 36.5
comp=Z,167nm,18.5s,baz=106,slow=37
KIRV Kirov 48.60 325*ce*P **P** **18 55 16.3 +0.1**
KNRA Kununurra 49.27 149 P **P** **18 55 21.9 +0.1**
KNRA Kununurra 49.27 149 P **P** **18 55 21.3 -0.5**
GROC Groznyy 49.35 304 *eP* **P** **18 55 22.7 +0.5**

GROC *e* 18 56 44.2
GROC *e* 18 57 17.2
GROC *eS* **S** **19 02 31.2 +4.0**
GROC pmax pmax
comp=Z,25nm,0.5s
FITZ Fitzroy Crossi 50.11 154 P **P** **18 55 27.8 -0.4**
GNI Garni 50.35 300 LR LR 19 21 38.9
comp=Z,118nm,19.5s,baz=90,slow=42
GNI Garni 50.35 300 P **P** **18 55 30.3 +0.2**
GNI IAmb IAmb 18 55 46.9
comp=Z,69nm,1.2s
GNI Garni 50.35 300 P **P** **18 55 30.3 +0.2**
GNI pmax pmax
comp=Z,69nm,1.2s
GNI Garni 50.35 300 P **P** **18 55 30.3 +0.2**
GNI Garni 50.35 300 P **P** **18 55 31.0 +0.9**
GNI P **P** **18 55 31.0 +0.9**
GNI Garni 50.35 300 P **P** **18 55 32.5 +2.3**
GNI pP **sP** **18 55 42.4 +0.7**
ZEI Tsey 50.76 304 *eP* **P** **18 55 32.5 -0.7**
ZEI pmax pmax
comp=Z,37nm,1.3s
NCK Nalchik 50.93 305 *i* P **P** **18 55 34.7 +0.4**
NCK pmax pmax
comp=Z,41nm,1.2s
MBWA Marble Bar 51.01 162 P **P** **18 55 35.5 +0.6**
MBWA Marble Bar 51.01 162 P **P** **18 55 35.7 +0.8**
MBWA Marble Bar 51.01 162 P **P** **18 55 35.6 +0.7**
ONI Oni 51.10 304 P **P** **18 55 36.3 +0.7**
ONI Oni 51.10 304 P **P** **18 55 36.3 +0.7**
ONI pmax pmax
comp=Z,90nm,1.3s
AKH Akhalkalaki 51.17 302 P **P** **18 55 36.4 +0.1**
AKH Akhalkalaki 51.17 302 P **P** **18 55 36.4 +0.1**
AKH pmax pmax
comp=Z,137nm,1.1s
KBZ Khabaz 51.42 305 P **P** **18 55 37.7 -0.1**
comp=Z,13nm,1.1s,baz=136,slow=11,SNR=16
KBZ LR LR 19 21 13.4
comp=Z,206nm,19.6s,baz=76,slow=41
comp=Z,13nm,1.1s
KBZ Khabaz 51.42 305 *ceP* **P** **18 55 38.4 +0.5**
PSA00 Pilbara Seismi 51.43 162 P **P** **18 55 39.3 +1.2**
KIV Kislovodsk 51.56 305 ⇑P **P** **18 55 38.8 -0.3**
KIV Kislovodsk 51.56 305 P **P** **18 55 38.0 -1.1**
KIV Kislovodsk 51.56 305 P **P** **18 55 40.1 +1.0**
KIV Kislovodsk 51.56 305 *i* P **P** **18 55 39.4 +0.4**
SNR=12
KIV *i* P **P** **18 55 40.0 +0.9**
SNR=34
KIV Kislovodsk 51.56 305 P **P** **18 55 39.7 +0.6**
KIV Kislovodsk 51.56 305 P **P** **18 55 40.0 +0.9**
KARS Kars 51.56 301 P **P** **18 55 37.9 -1.3**
KARS Kars 51.56 301 P **P** **18 55 37.9 -1.3**
KARS pmax pmax
comp=Z,107nm,1.2s
NEY Neytrino 51.59 304 *i* P **P** **18 55 40.1 +0.7**
NEY pmax pmax
comp=Z,5.0nm,0.6s
SHA1 Shidzhatmaz 51.60 305 ⇑*i* P **P** **18 55 40.5 +1.0**
GEVA Gevas 51.87 298 P **P** **18 55 39.9 -1.6**
GEVA IAmb IAmb 18 55 43.5
comp=Z,34nm,1.2s
VRH Novokhopyorsk 52.05 315 *eP* **P** **18 55 42.0 -0.4**
VRH pmax pmax
comp=Z,80nm,1.3s
GURO Guroymak-BITLI 52.63 299 P **P** **18 55 46.8 -0.4**
GURO IAmb IAmb 18 55 50.3
comp=Z,60nm,1.1s
RAYN Ar Rayn 53.19 279 P **P** **18 55 50.3 -1.0**
RAYN IAmb IAmb 18 55 52.4
comp=Z,30nm,1.2s
RAYN Ar Rayn 53.19 279 P **P** **18 55 50.7 -0.7**
RAYN Ar Rayn 53.19 279 *i* P **P** **18 55 50.9 -0.4**
SNR=8.8
RAYN Ar Rayn 53.19 279 P **P** **18 55 51.6 +0.3**
RAYN Ar Rayn 53.19 279 P **P** **18 55 51.1 -0.3**
RAYN pP **sP** **18 56 01.9 -1.2**
KOPT Kop Dagi 53.60 301 P **P** **18 55 53.1 -1.3**
VORR Voronezh 53.62 315 *eP* **P** **18 55 54.2 +0.2**
VORR S **S** **19 03 27.3 +1.5**
VORR pmax pmax
comp=Z,102nm,1.5s
BILL Bilibino 53.65 24 P **P** **18 55 53.1 -0.9**
BILL IAmb IAmb 18 55 55.4
comp=Z,66nm,1.6s
BILL Bilibino 53.65 24 *d i* P **P** **18 55 53.4 -0.6**
BILL *i* *PP **pP** **18 56 01.4 -1.0**
BILL 18 57 02.0
BILL S S 19 03 40.0 +14
BILL pmax pmax
comp=Z,47nm,1.7s
BILL MLR MLR
comp=Z,299nm,17.0s
BILL Bilibino 53.65 24 P **P** **18 55 53.7 -0.3**
VSR Storozhevoye 53.65 315 *eP* **P** **18 55 53.8 -0.5**
VSR pmax pmax
comp=Z,60nm,1.2s
SOC Sochi 53.74 305 *eP* **P** **18 55 54.8 -0.2**
SOC *e* 18 57 55.4
SOC *eS* **S** **19 03 28.6 +0.9**
SOC *eSS* **SS** **19 07 08.8 +0.4**
SOC *eSSS* SSS 19 08 58.6
SOC pmax pmax
comp=Z,42nm,1.0s
SOC MLR MLR
comp=Z,136nm,14.0s
LPSR Galich'ya Gora 53.79 316 *eP* **P** **18 55 54.8 -0.5**
LPSR pmax pmax
comp=Z,60nm,1.1s
KLMR Klimovskoe 53.94 327 *eP* **P** **18 55 53.9 -2.3**
KLMR AMP 18 55 58.1
comp=Z,141nm,1.3s
KLMR Klimovskoe 53.94 327 *eP* **P** **18 55 53.9 -2.3**
KLMR pmax pmax
comp=Z,141nm,1.3s
MOS Moscow 54.59 320 *eP* **P** **18 55 59.4 -1.6**
MOS *e* 18 56 09.0
MOS *e* 18 58 02.3
MOS pmax pmax
comp=Z,150nm,1.4s
ADZR Andozero 54.89 330 *eP* **P** **18 56 01.8 -1.3**
ADZR pmax pmax
comp=Z,27nm,0.6s
OBN Obninsk 55.19 319 P **P** **18 56 04.7 -0.6**
OBN Obninsk 55.19 319 *deP* **P** **18 56 05.3 0.0**
OBN *PP **sP** **18 56 15.0 -2.0**
OBN *SP **pP** **18 56 19.0 +5.2**
OBN S S 19 04 00.0 +13
OBN pmax pmax
comp=Z,103nm,1.4s
OBN MLR MLR
comp=Z,369nm,21.0s
OBN Obninsk 55.19 319 P **P** **18 56 05.3 0.0**
ANN Anapa 55.24 307 *eP* **P** **18 56 04.6 -1.3**
ANN *eS* **S** **19 03 51.5 +3.7**
ANN pmax pmax
comp=Z,75nm,1.1s
PMG Port Moresby 55.32 126 P **P** **18 56 08.2 +1.3**
comp=Z,44nm,0.8s,baz=7.3,slow=4.9,SNR=29
comp=Z,44nm,0.8s
PMG Port Moresby 55.32 126 P **P** **18 56 07.6 +0.8**
PMG Port Moresby 55.32 126 P **P** **18 56 08.3 +1.4**
PMG Port Moresby 55.32 126 ⇓*i* P **P** **18 56 08.6 +1.8**
PMG pmax pmax
comp=Z,49nm,0.9s
PMG Port Moresby 55.32 126 P **P** **18 56 08.2 +1.3**
PMG pP **sP** **18 56 18.3 -0.3**
WB0 Warramunga Arr 55.48 146 P **P** **18 56 07.9 0.0**
WB0 IAmb IAmb 18 56 09.2
comp=Z,58nm,1.1s
WRAB Tennant Creek 55.59 146 P **P** **18 56 08.8 +0.1**
WRAB Tennant Creek 55.59 146 P **P** **18 56 09.1 +0.4**
WRAB Tennant Creek 55.59 146 *ceP* **P** **18 56 09.4 +0.7**
WRAB pmax pmax
comp=Z,130nm,1.7s
WRAB Tennant Creek 55.59 146 P **P** **18 56 09.1 +0.4**
WRAB pP **sP** **18 56 19.7 -0.7**
WRA Warramunga Arr 55.60 146 P **P** **18 56 09.1 +0.4**
comp=Z,36nm,0.9s,baz=333,slow=7.9,SNR=165
WRA LR LR 19 22 50.9
comp=Z,53nm,18.7s,baz=338,slow=39
comp=Z,36nm,0.9s
WRA Warramunga Arr 55.60 146 P **P** **18 56 08.7 0.0**

WB2 Warramunga Arr 55.60 146 P **P** **18 56 08.8 +0.1**
KRVT Keravat (AS076 55.65 118 P **P** **18 56 11.2 +2.0**
comp=Z,53nm,0.9s,baz=233,slow=11,SNR=6.4
KRVT LR LR 19 17 33.8
comp=Z,170nm,20.4s,baz=80,slow=33
comp=Z,53nm,0.9s
RABL Rabaul 55.69 117 P **P** **18 56 12.3 +2.7**
WR0 Warramunga Arr 55.71 146 P **P** **18 56 09.2 -0.3**
SHEM Shemya Is, Ala 55.80 43 LR LR 19 19 47.1
comp=Z,87nm,21.3s,baz=310,slow=36
COEN Coen 55.88 133 P **P** **18 56 11.3 +0.5**
COEN IAmb IAmb 18 56 12.8
comp=Z,19nm,0.9s
TOKA Tokat 56.59 302 P **P** **18 56 15.8 +0.1**
TOKA IAmb IAmb 18 56 17.4
comp=Z,28nm,1.2s
GAZ Gaziantep 56.63 298 P **P** **18 56 16.5 +0.4**
GAZ IAmb IAmb 18 56 18.7
comp=Z,68nm,1.3s
APA Apatity 57.31 334 ⇓*i* P **P** **18 56 18.2 -2.1**
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,3μm,10.0s
BNN Bunyan 57.35 300 P **P** **18 56 20.6 -0.6**
WRKA Warakurna 57.42 155 P **P** **18 56 22.4 +0.8**
MORW Morawa 57.81 168 P **P** **18 56 24.9 +0.6**
BZK Bozkurt 58.13 304 P **P** **18 56 25.6 -0.9**
PUL Pulkovo 58.47 325 *ceP* **P** **18 56 29.9 +1.3**
PUL pmax pmax
comp=Z,31nm,0.5s
AS31 Alice Springs 58.56 149 P **P** **18 56 30.0 +0.3**
ASAR Alice Springs 58.57 149 P **P** **18 56 30.6 +0.8**
comp=Z,27nm,0.7s,baz=330,slow=6.6,SNR=564
ASAR LR LR 19 23 51.8
comp=Z,40nm,20.3s,baz=341,slow=38
comp=Z,27nm,0.7s
ASAR Alice Springs 58.57 149 P **P** **18 56 30.2 +0.5**
AS01 Alice Springs 58.59 149 P **P** **18 56 30.3 +0.5**
BR131 Keskin Array S 58.84 301 P **P** **18 56 31.0 -0.7**
BR131 IAmb IAmb 18 56 34.3
comp=Z,18nm,0.9s
BR131 Keskin Array S 58.84 301 *i* P **P** **18 56 31.1 -0.6**
BR131 Keskin Array S 58.84 301 P **P** **18 56 32.6 +0.9**
BRTR Keskin Array B 58.84 301 P **P** **18 56 31.3 -0.4**
comp=Z,12nm,1.0s,baz=108,slow=4.4,SNR=28
BRTR LR LR 19 24 09.2
comp=Z,98nm,21.5s,baz=93,slow=38
comp=Z,12nm,1.0s
BRTR Keskin Array B 58.84 301 P **P** **18 56 30.5 -1.2**
QIS Mount Isa 58.87 141 P **P** **18 56 32.8 +1.0**
VADS Vadso 58.97 337 *eP* **P** **18 56 31.8 0.0**
MMAI Mount Meron Ar 59.04 293 LR LR 19 25 06.6
comp=Z,203nm,19.5s,baz=266,slow=39
ANTO Ankara 59.45 302 ⇑P **P** **18 56 35.5 -0.3**
ANTO Ankara 59.45 302 P **P** **18 56 35.2 -0.7**
ANTO Ankara 59.45 302 P **P** **18 56 36.0 +0.2**
ANTO Ankara 59.45 302 P **P** **18 56 36.4 +0.6**
ANTO P **pP** **18 56 36.8 -7.5**
ANTO Ankara 59.45 302 P **P** **18 56 35.7 -0.2**
BR231 Keskin MP Arra 59.47 302 P **P** **18 56 34.5 -1.5**
MTSU Mount Surprise 59.73 136 P **P** **18 56 39.1 +1.2**
KEV Kevo 59.77 337 P **P** **18 56 37.0 -0.4**
KEV Kevo 59.77 337 P **P** **18 56 37.0 -0.4**
KEV pmax pmax
comp=Z,195nm,1.8s
KEV Kevo 59.77 337 P **P** **18 56 37.3 0.0**
AKASG Malin Array Be 59.96 315 P **P** **18 56 38.2 -0.8**
comp=Z,5.9nm,0.5s,baz=75,slow=6.0,SNR=60
AKASG LR LR 19 26 43.0
comp=Z,146nm,19.6s,baz=84,slow=40
comp=Z,5.9nm,0.5s
AKASG Malin Array Be 59.96 315 P **P** **18 56 38.8 -0.2**
AKASG IAmb IAmb 18 56 40.2
comp=Z,29nm,1.3s
AKASG Malin Array Be 59.96 315 P **P** **18 56 38.8 -0.2**
AKASG pmax pmax
comp=Z,29nm,1.3s
AKBB Malin Array Si 59.96 315 P **P** **18 56 38.0 -1.0**
AKBB Malin Array Si 59.96 315 *i* P **P** **18 56 38.5 -0.5**
AKBB pmax pmax
comp=Z,52nm,1.2s
ATD Arta Tunnel 60.04 267 LR LR 19 21 29.2
comp=Z,73nm,21.3s,baz=70,slow=35
ATD Arta Tunnel 60.04 267 P **P** **18 56 39.8 -0.5**
ATD Arta Tunnel 60.04 267 P **P** **18 56 40.5 +0.2**
ATD pP **pP** **18 56 49.7 +1.0**
CSS Mathiatis 60.20 296 P **P** **18 56 40.9 -0.1**
MNK Minsk 60.24 319 *i* P **P** **18 56 39.8 -1.1**
comp=E,4.0nm,0.9s
MNK *i* P **P** **18 56 39.8 -1.1**
comp=N,12nm,0.9s
MNK *i* P **P** **18 56 39.8 -1.1**
comp=Z,29nm,0.9s,baz=83
MNK *i* PcP **PcP** **18 57 24.5 -1.6**
MNK *i* PP **PP** **18 58 53.3 -0.3**
MNK *i* PPP PPP 19 00 16.8
MNK *i* S **S** **19 04 46.6 -6.5**
MNK pmax pmax
comp=Z,29nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=Z,314nm,17.0s
MNK MLR MLR
comp=E,37nm,17.0s
MNK MLR MLR
comp=N,215nm,17.0s
ARA0 ARCESS Array S 60.29 337 *eP* **P** **18 56 41.3 +0.3**
EIL Elat 60.35 290 LR LR 19 25 52.4
comp=N,285nm,21.0s,baz=59,slow=39
VSU Vasula 60.41 324 ⇓*i* P **P** **18 56 41.8 -0.2**
VSU pmax pmax
comp=Z,125nm,1.2s
VSU Vasula 60.41 324 *eP* **P** **18 56 42.0 +0.1**
FIA1 FINESS Array S 60.45 327 P **P** **18 56 42.1 -0.2**
FIA1 IAmb IAmb 18 56 42.9
comp=Z,44nm,1.2s
FINES FINESS Array B 60.46 327 P **P** **18 56 41.6 -0.7**
comp=Z,12nm,0.9s,baz=77,slow=6.4,SNR=33
FINES LR LR 19 25 01.8
comp=Z,242nm,18.4s,baz=94,slow=38
comp=Z,12nm,0.9s
FINES FINESS Array B 60.46 327 P **P** **18 56 41.4 -0.9**
FINES FINESS Array B 60.46 327 *i* P **P** **18 56 42.5 +0.3**
FINES pmax pmax
comp=Z,12nm,0.9s
MDUB Mudumu 60.51 303 P **P** **18 56 42.2 -0.9**
KLBR Kellerberrin 60.59 167 P **P** **18 56 44.2 +0.8**
NACGM Naroch 60.82 320 *eP* **P** **18 56 45.4 +0.6**
comp=Z,94nm,1.3s,baz=82
MILM Milestii Mici 60.87 310 *i* P **P** **18 56 46.0 +0.7**
comp=Z,300nm,1.2s
MILM Milestii Mici 60.87 310 ⇑P **P** **18 56 45.7 +0.5**
MILM Milestii Mici 60.87 310 *ci* P **P** **18 56 45.8 +0.5**
MILM pmax pmax
comp=Z,300nm,1.2s
SORM Soroca 60.95 312 ⇓P **P** **18 56 45.1 -0.7**
SORM Soroca 60.95 312 P **P** **18 56 45.1 -0.7**
ISAL Salakas 61.10 320 *eP* **P** **18 56 47.2 +0.5**
KTK1 Kautokeino 61.12 336 *eP* **P** **18 56 46.7 +0.1**
BORA Eskisehir 61.20 302 P **P** **18 56 46.3 -1.5**
BORA IAmb IAmb 18 56 48.4
comp=Z,32nm,1.2s
TLCR 61.21 308 ⇑P **P** **18 56 47.1 -0.5**
TLCR 61.21 308 P **P** **18 56 47.1 -0.5**
MEF Metsahovi 61.40 326 *eP* **P** **18 56 48.8 +0.1**
TPGR Topolog 61.55 308 ⇑P **P** **18 56 49.6 -0.5**
VLDR Vladesti 61.58 309 ⇑P **P** **18 56 50.2 0.0**

TIRR Tirgusor 61.64 308 ⇑P **P** **18 56 50.0 -0.6**
TIRR Tirgusor 61.64 308 P **P** **18 56 49.7 -0.9**
TIRR Tirgusor 61.64 308 P **P** **18 56 49.9 -0.6**
ISP Isparta 61.66 300 P **P** **18 56 50.0 -1.0**
ISP Isparta 61.66 300 P **P** **18 56 50.0 -1.0**
ISP pmax pmax
comp=Z,61nm,1.0s
CFR Carcaliu 61.68 309 ⇑P **P** **18 56 50.3 -0.5**
CFR Carcaliu 61.68 309 P **P** **18 56 50.3 -0.5**
NWAO Narrogin (SRO) 61.79 168 P **P** **18 56 51.8 +0.3**
NWAO IAmb IAmb 18 56 53.4
comp=Z,24nm,0.9s
NWAO Narrogin (SRO) 61.79 168 P **P** **18 56 51.6 +0.1**
NWAO IAmb IAmb 18 56 53.4
comp=Z,33nm,0.9s
NWAO Narrogin (SRO) 61.79 168 P **P** **18 56 52.0 +0.5**
NWAO Narrogin (SRO) 61.79 168 P **P** **18 56 51.8 +0.3**
NWAO pmax pmax
comp=Z,24nm,0.9s
MTSE Matsula 61.90 324 *eP* **P** **18 56 51.2 -0.8**
HARR Harsova 61.93 308 ⇑P **P** **18 56 52.3 -0.2**
HARR Harsova 61.93 308 P **P** **18 56 54.2 +1.7**
JETT Jettan, Norway 62.08 337 *eP* **P** **18 56 53.3 +0.1**
ICOR Ion Corvin 62.14 307 ⇑P **P** **18 56 54.4 +0.4**
PANC Panciu 62.21 309 ⇑P **P** **18 56 54.8 +0.4**
VSVD Vaisvydziai 62.26 321 *eP* **P** **18 56 53.7 -0.9**
PABE Paberze 62.32 321 P **P** **18 56 53.6 -1.4**
PABE Paberze 62.32 321 *eP* **P** **18 56 55.2 +0.3**
GAMB Gambell 62.34 30 P **P** **18 56 54.2 -0.7**
baz=278
CTA Charters Tower 62.40 135 P **P** **18 56 56.9 +0.9**
comp=Z,20nm,1.1s,baz=330,slow=6.1,SNR=9.1
CTA LR LR 19 27 03.0
comp=Z,87nm,18.1s,baz=312,slow=39
comp=Z,20nm,1.1s
CTAO Charters Tower 62.40 135 P **P** **18 56 56.5 +0.6**
CTAO IAmb IAmb 18 56 58.1
comp=Z,42nm,1.2s
CTAO Charters Tower 62.40 135 P **P** **18 56 57.4 +1.5**
CTAO Charters Tower 62.40 135 P **P** **18 56 56.5 +0.6**
CTAO pmax pmax
comp=Z,42nm,1.3s
CTAO Charters Tower 62.40 135 P **P** **18 56 56.6 +0.7**
CTAO pP **sP** **18 57 07.3 -0.4**
TESR Tescani 62.41 310 ⇑P **P** **18 56 55.4 -0.3**
ELL Elmali 62.41 299 P **P** **18 56 55.2 -0.8**
ELL Elmali 62.41 299 P **P** **18 56 55.3 -0.8**
ELL pmax pmax
comp=Z,400nm,1.4s
SPA0 Spitsbergen Ar 62.43 347 *eP* **P** **18 56 55.6 +0.2**
SPITS Spitsbergen Ar 62.43 347 P **P** **18 56 55.5 +0.2**
comp=Z,4.2nm,0.5s,baz=94,slow=11,SNR=7.7
SPITS LR LR 19 27 33.7
comp=Z,134nm,18.5s,baz=73,slow=40
comp=Z,4.2nm,0.5s
VRI Vrincioaia 62.49 310 ⇓P **P** **18 56 57.1 +0.7**
VRI Vrincioaia 62.49 310 P **P** **18 56 57.0 +0.7**
PLOR Plostina 62.55 310 ⇑P **P** **18 56 57.2 +0.4**
PLOR Plostina 62.55 310 P **P** **18 56 57.4 +0.6**
FORT Forrest 62.57 158 P **P** **18 56 56.9 +0.1**
FORT Forrest 62.57 158 P **P** **18 56 58.3 +1.5**
RAF Rauma 62.58 327 *eP* **P** **18 56 56.8 +0.3**
BISRR Bisoca 62.58 309 ⇑P **P** **18 56 57.2 +0.2**
AKAS Kas 62.79 298 P **P** **18 56 56.8 -1.8**
ISR Istrita 62.79 309 ⇑P **P** **18 56 58.7 +0.3**
ISR Istrita 62.79 309 P **P** **18 56 58.6 +0.3**
COVR Voineasa-Covas 62.86 310 ⇑P **P** **18 56 58.9 +0.1**
OOD Oodnadatta 62.93 149 P **P** **18 57 00.0 +0.8**
MANT Manisa 62.98 301 P **P** **18 56 58.5 -1.4**
OZUR 63.08 310 ⇑P **P** **18 57 00.4 +0.1**
MLR Muntele Rosu 63.11 309 LR LR 19 29 53.0
comp=Z,233nm,18.2s,baz=80,slow=41
MLR Muntele Rosu 63.11 309 ⇑P **P** **18 57 00.9 +0.3**
MLR Muntele Rosu 63.11 309 P **P** **18 57 00.0 -0.6**
MLR IAmb IAmb 18 57 02.7
comp=Z,54nm,1.2s
MLR Muntele Rosu 63.11 309 P **P** **18 57 01.7 +1.1**
BURAR Bucovina Array 63.12 312 ⇑P **P** **18 56 59.9 -0.6**
BURAR Bucovina Array 63.12 312 P **P** **18 56 58.7 -1.8**
BURAR Bucovina Array 63.12 312 P **P** **18 57 01.2 +0.6**
BUR08 Bucovina Ar. S 63.12 312 P **P** **18 57 00.1 -0.5**
BUR08 IAmb IAmb 18 57 02.8
comp=Z,43nm,1.6s
BALB Balikesir 63.18 303 P **P** **18 56 60.0 -1.0**
RAZG Razgrad 63.18 307 ⇑P **P** **18 57 01.3 +0.3**
PBUR Paburge 63.36 321 *eP* **P** **18 57 01.3 -0.6**
DOPR Dopca 63.38 310 ⇑P **P** **18 57 02.3 0.0**
LVV L'vov 63.40 314 *eP* **P** **18 57 02.7 +0.5**
JMB Yambol 63.40 306 *i* P **P** **18 57 02.9 +0.5**
SZH Strazhica 63.66 307 *i* P **P** **18 57 03.8 -0.3**
TNA Tin City 63.67 28 P **P** **18 57 02.8 -0.9**
TNA IAmb IAmb 18 57 05.3
comp=Z,21nm,1.4s
TNA Tin City 63.67 28 P **P** **18 57 03.4 -0.3**
baz=280
VOIR 63.74 309 ⇑P **P** **18 57 05.6 +0.9**
VOIR 63.74 309 P **P** **18 57 05.6 +0.9**
ARCR ARCALIA 63.81 311 ⇑P **P** **18 57 05.0 -0.1**
ARG Arkhangelos 63.94 299 P **P** **18 57 04.8 -1.2**
ARG Arkhangelos 63.94 299 P **P** **18 57 04.8 -1.2**
ARG pmax pmax
comp=Z,208nm,1.4s
SPIA Saint Paul Isl 64.19 37 P **P** **18 57 06.8 -0.5**
baz=282
ALN Alexandroupoli 64.20 304 P **P** **18 57 05.7 -2.0**
ALN IAmb IAmb 18 57 08.9
comp=Z,37nm,1.3s
ALN Alexandroupoli 64.20 304 P **P** **18 57 05.7 -2.0**
ALN pmax pmax
comp=Z,37nm,1.3s
BMR Baia Mare 64.23 312 ⇑P **P** **18 57 07.2 -0.7**
BMR Baia Mare 64.23 312 P **P** **18 57 07.1 -0.7**
FAUS Fauske 64.27 335 *e* **P** **18 57 07.7 0.0**
KDZ Kurdzhali 64.45 305 *i* P **P** **18 57 09.2 -0.2**
RDO Rodhopi 64.50 305 P **P** **18 57 08.7 -1.0**
RDO IAmb IAmb 18 57 11.6
comp=Z,45nm,1.3s
MARR Marisel-Cluj 64.73 311 ⇑P **P** **18 57 11.5 +0.3**
TRPA Tarpa 64.75 313 ⇑P **P** **18 57 11.3 +0.2**
UZH Uzhgorod 64.78 313 *ci* P **P** **18 57 11.4 +0.1**
UZH *e* 18 57 18.0
UPP Uppsala 64.81 326 *eP* **P** **18 57 11.3 +0.1**
ANM Nome 64.93 28 P **P** **18 57 11.9 -0.1**
ANM Nome 64.93 28 P **P** **18 57 12.2 +0.2**
baz=283
ANM Nome 64.93 28 P **P** **18 57 11.9 -0.1**
ANM pmax pmax
comp=Z,26nm,1.7s
RZN Rozhen 64.95 305 *i* P **P** **18 57 12.6 -0.2**
DRGR 64.97 311 ⇑P **P** **18 57 12.8 0.0**
DRGR 64.97 311 P **P** **18 57 13.2 +0.5**
HNR Honiara 64.99 117 LR LR 19 22 55.4
comp=Z,1μm,21.7s,baz=280,slow=34
PGB Panagyurishte 65.10 306 *i* P **P** **18 57 14.0 +0.4**
CRVS Cervenica-Dubn 65.25 314 *eP* **P** **18 57 13.8 -0.6**
CRVS pmax pmax
comp=Z,39nm,1.2s
CRVS Cervenica-Dubn 65.25 314 *eP* **P** **18 57 13.8 -0.6**
STHS Stebnicka Huta 65.25 314 *eP* **P** **18 57 13.6 -0.8**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 65.25 314 *eP* **P** **18 57 13.6 -0.8**
GZR Gura Zlata 65.30 310 ⇓P **P** **18 57 14.5 -0.4**
GZR Gura Zlata 65.30 310 P **P** **18 57 14.4 -0.4**
INKA Innaminka 65.30 145 P **P** **18 57 16.1 +1.3**
SURR Surduc 65.64 310 ⇑P **P** **18 57 17.3 +0.4**
DJES Djerdap 65.67 309 P **P** **18 57 16.7 -0.5**
HERR Herculane 65.68 309 ⇓P **P** **18 57 17.6 +0.3**
VTS Vitosha 65.75 307 P **P** **18 57 17.4 -0.5**
VTS IAmb IAmb 18 57 19.8
comp=Z,51nm,1.2s
VTS Vitosha 65.75 307 P **P** **18 57 17.4 -0.5**
VTS pmax pmax
comp=Z,51nm,1.2s
VTS Vitosha 65.75 307 *i* P **P** **18 57 18.0 +0.1**
SIRR Siria 65.81 311 ⇑P **P** **18 57 18.3 +0.2**
NIE Niedzica 65.85 315 *eP* **P** **18 57 19.2 +0.9**
OJC Ojcow 65.95 316 *eP* **P** **18 57 19.0 +0.1**
OJC Ojcow 65.95 316 P **P** **18 57 17.8 -1.1**
OJC IAmb IAmb 18 57 20.6
comp=Z,64nm,1.4s
OJC Ojcow 65.95 316 P **P** **18 57 17.8 -1.1**
OJC pmax pmax

comp=Z,64nm,1.4s
BZS Buzias 66.02 310 ⇑P P 18 57 18.4 -1.1
BZS Buzias 66.02 310 P P 18 57 18.3 -1.1
MDVR Moldovita 66.19 309 ⇓P P 18 57 20.7 +0.1
LCRK Leigh Creek 66.33 149 P P 18 57 21.7 +0.2
A21K Barrow 66.36 20 P P 18 57 20.6 -0.6
A21K Barrow 66.36 20 P P 18 57 20.9 -0.2
baz=288,SNR=7.9
PSZ Piszkesteto 66.52 313 P P 18 57 21.7 -1.0
PSZ Piszkesteto 66.52 313 P P 18 57 21.7 -1.0
PSZ pmax pmax
comp=Z,17nm,1.2s
BOVS Bovan 66.53 308 ⇓P P 18 57 22.2 -0.5
VAY Valandovo 66.60 306 *i* P P 18 57 22.4 -0.8
HFS Hagfors 66.66 327 P P 18 57 22.3 -0.9
comp=Z,101nm,1.3s,baz=90,slow=5.9,SNR=27
comp=Z,101nm,1.3s
IDI Anoyia 66.73 299 LR LR 19 30 29.7
comp=Z,106nm,21.6s,baz=80,slow=40
NOR Nord 66.73 352 *i* P **P 18 57 23.4 0.0**
NOR lAmb lAmb 18 57 24.3
comp=Z,25nm,1.2s
STIP Stip 66.76 306 *i* P **P 18 57 22.8 -1.5**
VYHS Vyhne 67.03 314 *e*P **P 18 57 25.7 -0.2**
VYHS pmax pmax
comp=Z,20nm,1.1s
VYHS Vyhne 67.03 314 *e*P **P 18 57 25.7 -0.2**
OKC Ostrava-Krasne 67.08 315 *e*P **P 18 57 27.0 +0.9**
OKC Ostrava-Krasne 67.08 315 *e*P **P 18 57 27.0 +0.9**
SKO Skopje 67.21 307 *i* P **P 18 57 26.8 -0.3**
NC405 NORSAR Array S 67.32 328 P **P 18 57 26.0 -1.5**
FRGS Fruska Gora 67.37 310 ⇑P P 18 57 28.1 0.0
BBOO Buckleboo 67.41 152 P **P 18 57 27.9 -0.3**
BBOO lAmb lAmb 18 57 29.6
comp=Z,59nm,1.7s
BBOO Buckleboo 67.41 152 P P 18 57 28.6 +0.3
MAUC Maruska 67.41 315 *e*P **P 18 57 28.7 +0.4**
BSD Bornholm Skovb 67.44 322 *e*P **P 18 57 26.3 -2.0**
BSD lAmb lAmb 18 57 33.9
comp=Z,91nm,1.7s
NC303 NORSAR Array S 67.44 328 P P 18 57 26.8 -1.5
NC303 lAmb lAmb 18 57 29.0
comp=Z,49nm,1.2s
MORC Moravsky Berou 67.47 315 ⇑P P 18 57 28.7 +0.1
MORC Moravsky Berou 67.47 315 lAmb lAmb 18 57 30.3
comp=Z,15nm,1.0s
MORC Moravsky Berou 67.47 315 *e*P **P 18 57 28.6 -0.1**
MORC Moravsky Berou 67.47 315 P P 18 57 28.7 +0.1
NC602 NORSAR Array S 67.51 328 P P 18 57 27.3 -1.3
NC602 NORSAR Array S 67.51 328 *e*P **P 18 57 27.4 -1.2**
DIVS Divibare 67.57 309 lAmb lAmb 18 57 31.4
comp=Z,32nm,1.5s
NB2 NORSAR Subarra 67.57 328 P P 18 57 27.6 -1.5
comp=Z,43nm,1.2s,baz=74,slow=6.9
NB2 NORSAR Subarra 67.57 328 P P 18 57 27.6 -1.5
baz=74,slow=6.9
NOA NORSAR Array B 67.57 328 P P 18 57 27.2 -1.9
comp=Z,15nm,1.1s,baz=78,slow=6.3,SNR=18
NOA PP **PP 18 59 56.6 -1.2**
comp=Z,4.6nm,1.1s,baz=73,slow=9.2,SNR=3.3
NOA LR LR 19 26 38.0
comp=Z,75nm,19.1s,baz=90,slow=36
comp=Z,15nm,1.1s
DEL Delary 67.61 323 *e*P **P 18 57 29.5 +0.1**
JAVC Velka Javorina 67.66 315 *e*P **P 18 57 31.1 +1.2**
MORH Mrgy, Hungar 67.83 312 ⇑P P 18 57 30.7 -0.2
KRLC Kraliky 67.85 316 *e*P **P 18 57 31.3 +0.2**
KRLC Kraliky 67.85 316 *e*P **P 18 57 31.3 +0.2**
SMOL Smolenice 67.92 314 *e*P **P 18 57 31.9 +0.4**
SMOL pmax pmax
comp=Z,10.0nm,1.2s
OHR Ohrid 67.93 306 *i* P **P 18 57 31.9 +0.1**
DPC Dobruska-Polom 68.05 316 *e*P **P 18 57 32.6 +0.3**
DPC *e*pP **sP 18 57 43.5 -0.6**
DPC Dobruska-Polom 68.05 316 *e*P **P 18 57 32.6 +0.3**
DPC *e* 18 57 43.5
OSTC Ostas 68.05 317 *e*P **P 18 57 32.6 +0.3**
MODS Modra-Piesok 68.06 314 *e*P **P 18 57 32.6 +0.2**
MODS pmax pmax
comp=Z,151nm,2.3s
MODS Modra-Piesok 68.06 314 *e*P **P 18 57 32.6 +0.2**
OSL Oslo 68.14 327 *e*P **P 18 57 32.8 +0.2**
VRAC Vranov 68.20 315 P **P 18 57 32.9 -0.3**
comp=Z,19nm,1.1s,baz=71,slow=7.8,SNR=8.8
VRAC LR LR 19 29 05.1
comp=Z,145nm,18.4s,baz=68,slow=38
comp=Z,19nm,1.1s
VRAC Vranov 68.20 315 ⇑P P 18 57 33.7 +0.5
VRAC Vranov 68.20 315 *e*P **P 18 57 33.4 +0.2**
VRAC Vranov 68.20 315 P P 18 57 33.7 +0.5
DOMB Dombas 68.24 330 *e* **P 18 57 33.0 -0.2**
GCSA Galena City Sc 68.39 27 P P 18 57 34.0 0.0
baz=290
KRUC Moravsky 68.40 315 *e*P **P 18 57 34.8 +0.3**
PDG Podgorica 68.61 308 ⇑P P 18 57 35.1 -0.8
PDG Podgorica 68.61 308 P P 18 57 34.8 -1.1
PDG lAmb lAmb 18 57 38.5
comp=Z,23nm,1.0s
KONO Kongsberg 68.77 327 *e* **P 18 57 36.3 -0.2**
F21K Alatna River 68.80 24 P P 18 57 36.6 -0.1
baz=292
RUE Ruedersdorf 68.89 319 *e*P **P 18 57 38.0 +0.6**
RONA Rosalia, Austr 68.89 314 *i* P **P 18 57 37.6 0.0**
comp=Z,16nm,1.1s
N16K Nishlik Lake 69.02 32 P P 18 57 39.0 +0.8
baz=290
SKAR Skarslia 69.03 328 *e*P **P 18 57 39.2 +0.9**
PVCC Panska Ves 69.06 317 *e*P **P 18 57 39.8 +1.3**
PVCC Panska Ves 69.06 317 *e*P **P 18 57 39.8 +1.3**
G21K Allakaket 69.06 25 P P 18 57 38.3 0.0
baz=292,SNR=14
D23K Nanushuk River 69.09 22 P P 18 57 39.1 +0.7
baz=294
CONA Conrad Observa 69.10 314 *i* P **P 18 57 39.4 +0.5**
comp=Z,30nm,1.4s,SNR=8.7
STKA Stephens Creek 69.11 147 P P 18 57 38.5 -0.5
comp=Z,6.9nm,0.8s,baz=325,slow=6.6,SNR=20
STKA LR LR 19 32 40.1
comp=Z,47nm,18.0s,baz=25,slow=40
comp=Z,6.9nm,0.8s
STKA Stephens Creek 69.11 147 P P 18 57 39.1 +0.1
STKA Stephens Creek 69.11 147 *i* P **P 18 57 39.5 +0.5**
HTT Hallett 69.17 150 P P 18 57 40.3 +0.9
PRU Pruhonice 69.25 316 *e*P **P 18 57 39.6 -0.1**
PRU Pruhonice 69.25 316 *e*P **P 18 57 39.6 -0.1**
EIDS Eidsvold 69.29 136 lAmb lAmb 18 57 42.6
comp=Z,43nm,1.6s
BRG Berggiesshubel 69.32 317 *e*P **P 18 57 41.0 +0.8**
BRG Amp 18 57 41.8
comp=Z,15nm,1.0s
BRG Berggiesshubel 69.32 317 *e*P **P 18 57 40.9 +0.8**
BRG pmax pmax
comp=Z,15nm,1.0s
TTA Tatalina 69.39 29 P P 18 57 40.7 +0.2
TTA Tatalina 69.39 29 P P 18 57 40.9 +0.5
baz=291
TTA Tatalina 69.39 29 P P 18 57 41.3 +0.8
TTA Tatalina 69.39 29 P P 18 57 40.7 +0.2
TTA pmax pmax
comp=Z,15nm,1.2s
C24K Franklin Bluff 69.42 21 P P 18 57 40.5 0.0
baz=295,SNR=10
ALE Alert 69.46 358 P P 18 57 40.8 +0.3
ARSA Arzberg 69.54 313 *i* P **P 18 57 41.1 -0.5**
comp=Z,16nm,1.4s,SNR=5.1
TOLK Toolik Lake Re 69.60 22 lAmb lAmb 18 57 43.2
comp=Z,27nm,1.2s
TOLK Toolik Lake Re 69.60 22 P P 18 57 41.4 -0.2
baz=295
O16K Kokwok River B 69.64 33 P P 18 57 42.4 +0.4
baz=291
H21K Melozitna Rive 69.65 26 lAmb lAmb 18 57 44.5
comp=Z,36nm,1.4s
H21K Melozitna Rive 69.65 26 P P 18 57 42.0 0.0
baz=293
CLL Collm 69.73 318 P P 18 57 41.5 -1.2
CLL lAmb lAmb 18 57 43.9
comp=Z,33nm,1.4s
CLL Collm 69.73 318 *i* P **P 18 57 42.5 -0.2**
comp=Z,25nm,1.2s
CLL *i* (pP) **pP 18 57 48.7 -2.6**
CLL *e*PPP PPP 19 02 06.0
CLL *e*PPPP 19 02 48.0
CLL LmV 19 29 00.0
comp=Z,300nm,20.1s
CLL Collm 69.73 318 *i* P P **18 57 42.5 -0.2**
CLL pmax pmax
comp=Z,25nm,1.2s
CLL MLR MLR
comp=Z,300nm,20.1s
CKRC Cesky Krumlov 69.78 315 *e*P **P 18 57 43.4 +0.3**
P16K Nushagak River 69.89 33 P P 18 57 43.2 -0.3
baz=291
DAG Danmarks Havn 69.93 348 *i* P **P 18 57 42.0 -1.5**
DAG lAmb lAmb 18 57 44.1
comp=Z,24nm,1.3s
COLD Coldfoot 69.97 24 lAmb lAmb 18 57 45.6
comp=Z,21nm,1.2s
COLD Coldfoot 69.97 24 P P 18 57 44.0 +0.1
baz=295,SNR=8.0
K20K Telida 70.05 28 lAmb lAmb 18 57 46.8
comp=Z,34nm,1.4s
K20K Telida 70.05 28 P P 18 57 45.7 +1.2
baz=293
SOKA Soboth 70.05 313 *e*P **P 18 57 44.7 -0.1**
comp=Z,19nm,1.3s,SNR=7.7
O17K Koliganek Bris 70.05 32 P P 18 57 45.1 +0.6
baz=292
MUD Monsted U'grnd 70.08 324 *i* P **P 18 57 44.8 +0.1**
MUD lAmb lAmb 18 57 46.0
comp=Z,52nm,1.2s
H22K Ishtalitna Cre 70.10 25 P P 18 57 44.8 +0.1
baz=294
KHC Kasperske Hory 70.13 316 P P 18 57 44.9 -0.3
KHC Kasperske Hory 70.13 316 *e*P **P 18 57 45.3 +0.1**
KHC *e*pP **sP 18 57 58.8 +1.8**
KHC Kasperske Hory 70.13 316 *e*P **P 18 57 45.3 +0.1**
KHC *e* 18 57 58.8
MOA Molln 70.14 314 *i* P **P 18 57 45.2 -0.1**
comp=Z,21nm,1.3s,SNR=7.6
GEC2 GERESS Array S 70.15 315 lAmb lAmb 18 57 47.0
comp=Z,21nm,1.2s
GERES GERESS Array B 70.15 315 P P 18 57 45.1 -0.3
comp=Z,2.3nm,0.4s,baz=85,slow=3.3,SNR=26
GERES LR LR 19 30 35.2
comp=Z,202nm,21.3s,baz=70,slow=38
comp=Z,2.3nm,0.4s
GERES GERESS Array B 70.15 315 P P 18 57 44.3 -1.1
I21K Tanana 70.16 26 lAmb lAmb 18 57 47.2
comp=Z,33nm,1.2s
I21K Tanana 70.16 26 P P 18 57 45.1 0.0
baz=294
L19K White Mountain 70.16 29 P P 18 57 44.9 -0.3
L19K lAmb lAmb 18 57 47.6
comp=Z,34nm,1.2s
L19K White Mountain 70.16 29 P P 18 57 45.4 +0.2
baz=293,SNR=11
E24K Your Creek 70.20 22 P P 18 57 45.4 0.0
baz=296
G23K Bananza Creek 70.25 24 P P 18 57 45.6 -0.1
baz=295
SVW2 Sparrevohn 70.26 31 lAmb lAmb 18 57 48.4
comp=Z,24nm,1.2s
SVW2 Sparvohn 70.26 31 P P 18 57 47.4 +1.7
BOJS Bojanci 70.30 312 *i* P **P 18 57 46.5 +0.2**
LODK Lodwar 70.32 263 P P 18 57 45.7 -1.3
LODK Lodwar 70.32 263 P P 18 57 47.0 0.0
SNART Snartemo 70.39 326 *e*P **P 18 57 46.7 +0.1**
OBKA Obir 70.42 313 *i* P **P 18 57 46.9 -0.2**
comp=Z,10nm,1.3s
L20K Farewell, AK 70.47 29 P P 18 57 47.2 +0.2
baz=293
C26K Camden Bay 70.51 20 P P 18 57 47.7 +0.6
baz=298
CHUM Lake Minchumin 70.56 27 P P 18 57 48.0 +0.5
baz=294
P17K Kvichak River 70.58 33 P P 18 57 48.3 +0.6
baz=292
BIOA Bad Ischl, Aus 70.59 314 *e*P **P 18 57 47.9 -0.2**
comp=Z,30nm,1.5s,SNR=8.0
F24K Squaw Lake 70.66 23 P P 18 57 48.4 +0.3
baz=297
Q16K King Salmon 70.67 33 P P 18 57 48.4 +0.2
baz=292
MLY Manley 70.70 26 lAmb lAmb 18 57 51.0
comp=Z,38nm,1.4s
MLY Manley 70.70 26 P P 18 57 48.7 +0.3
baz=295,SNR=15
KIBK Kibwezi 70.81 257 P P 18 57 50.5 +0.5
CAST Castle Rocks 70.84 28 P P 18 57 48.8 -0.5
CAST lAmb lAmb 18 57 52.1
comp=Z,30nm,1.4s
CAST Castle Rocks 70.84 28 P P 18 57 49.8 +0.5
baz=294,SNR=5.4
N19K Bonanza Creek 70.86 31 lAmb lAmb 18 57 52.0
comp=Z,23nm,1.1s
N19K Bonanza Creek 70.86 31 P P 18 57 50.3 +0.8
baz=293
KMBO Kilima Mbogo 70.89 258 P P 18 57 48.9 -1.7
comp=Z,0.8nm,1.3s,baz=42,slow=24,SNR=8.1
KMBO Kilima Mbogo 70.89 258 P P 18 57 49.8 -0.8
KMBO lAmb lAmb 18 57 52.0
comp=Z,29nm,1.3s
KMBO Kilima Mbogo 70.89 258 P P 18 57 49.8 -0.8
KMBO pmax pmax
comp=Z,29nm,1.3s
KMBO Kilima Mbogo 70.89 258 *i* P **P 18 57 49.8 -0.8**
SNR=17
KMBO Kilima Mbogo 70.89 258 P P 18 57 51.0 +0.4
KMBO Kilima Mbogo 70.89 258 P P 18 57 50.7 +0.1
KMBO sP **sP 18 58 06.3 +3.8**
CMSA Cobar Meteorol 70.90 144 P P 18 57 51.2 +1.3
O18K Koktuh Hills 70.91 32 P P 18 57 50.2 +0.4
baz=293
MYKA Terra Mystica 70.96 313 *e*P **P 18 57 49.6 -0.8**
comp=Z,6.1nm,1.0s
KBA Koelnbreinsper 70.99 314 *i* P **P 18 57 50.1 -0.6**
comp=Z,21nm,1.3s
BPAW Bear Paw Mtn. 71.00 27 lAmb lAmb 18 57 52.5
comp=Z,22nm,1.1s
BPAW Bear Paw Mtn. 71.00 27 P P 18 57 51.2 +1.0
baz=295,SNR=11
C27K Jago River 71.01 20 P P 18 57 50.6 +0.4
baz=300
PPLA Purkeypile 71.01 28 P P 18 57 50.9 +0.4
baz=294,SNR=6.2
M20K Styx River 71.03 29 P P 18 57 51.0 +0.4
M20K lAmb lAmb 18 57 53.5
comp=Z,25nm,1.1s
M20K Styx River 71.03 29 P P 18 57 51.5 +0.9
baz=294
CADS Cadrg 71.04 313 *i* P **P 18 57 50.0 -0.8**
P18K Big Mountain, 71.08 32 lAmb lAmb 18 57 52.9
comp=Z,36nm,1.2s
P18K Big Mountain, 71.08 32 P P 18 57 51.5 +0.7
baz=293,SNR=5.8
E25K Arctic Village 71.16 22 P P 18 57 52.3 +1.1
baz=298
G24K Hadweenzic Riv 71.17 24 P P 18 57 51.5 +0.3
baz=297
I23K Minto, Yukon-K 71.18 25 P P 18 57 51.0 -0.2
I23K lAmb lAmb 18 57 53.2
comp=Z,30nm,1.4s
I23K Minto, Yukon-K 71.18 25 P P 18 57 51.5 +0.3
baz=296,SNR=5.9
R17K Ugashik Creek 71.20 34 P P 18 57 52.1 +0.6
baz=293
Q17K Contact Creek 71.20 33 P P 18 57 51.6 0.0
baz=293
SABO M.te Sabotino 71.22 313 lAmb lAmb 18 57 52.8
comp=Z,20nm,1.1s
KTH Kantishna Hill 71.26 27 lAmb lAmb 18 57 56.1
comp=Z,86nm,2.0s
GRF Grafenberg Arr 71.37 317 *e*P **P 18 57 52.7 0.0**
comp=Z,29nm,1.3s,baz=73,slow=5.7
GRFO Grafenberg 71.37 317 P P 18 57 52.1 -0.6
GRFO lAmb lAmb 18 57 54.8
comp=Z,45nm,1.3s
GRFO Grafenberg 71.37 317 P P 18 57 52.1 -0.6
GRFO pmax pmax
comp=Z,45nm,1.3s
F25K Christian Rive 71.38 22 P P 18 57 53.4 +0.8
baz=299,SNR=10
H24K Noodor Dome 71.42 24 lAmb lAmb 18 57 59.2
comp=Z,26nm,1.3s
H24K Noodor Dome 71.42 24 P P 18 57 53.4 +0.6
baz=297
Q18K Katmai Hardscr 71.48 33 P P 18 57 54.0 +0.7
baz=294
TIP Timpagrande 71.50 305 lAmb lAmb 18 57 55.5
comp=Z,41nm,1.3s
NEA2 Nenana 71.53 26 P P 18 57 52.7 -0.7
NEA2 lAmb lAmb 18 57 55.7
comp=Z,45nm,1.1s
NEA2 Nenana 71.53 26 P P 18 57 53.8 +0.3
baz=297,SNR=7.6
TRF Thorofare Moun 71.56 27 P P 18 57 54.0 +0.2
baz=296
G25K Bearman Lake 71.62 23 P P 18 57 54.6 +0.7
baz=298
ABTA Abfaltersbach 71.64 314 *i* P **P 18 57 53.8 -0.8**
comp=Z,13nm,1.4s
SKT Skwentna 71.68 29 lAmb lAmb 18 57 55.6
comp=Z,35nm,1.2s
SKT Skwentna 71.68 29 P P 18 57 55.4 +1.1
baz=295,SNR=6.2
STAL STALIGIAL 71.69 313 P P 18 57 52.6 -2.1
STAL lAmb lAmb 18 57 55.8
comp=Z,27nm,1.2s
N20K Mount Spurr 71.71 30 P P 18 57 55.0 +0.4
baz=295
DBG Daneborg 71.81 346 *i* P **P 18 57 53.7 -1.2**
DBG lAmb lAmb 18 57 57.2
comp=Z,34nm,1.3s
F26K Sheenjek River 71.83 22 P P 18 57 55.8 +0.6
baz=300
CIMO Cimolais 71.85 313 P P 18 57 54.7 -1.0
CIMO lAmb lAmb 18 57 56.2
comp=Z,23nm,1.3s
TCOL CIGO, UAF Yank 71.87 25 lAmb lAmb 18 57 57.5
comp=Z,30nm,0.9s
TCOL CIGO, UAF Yank 71.87 25 P P 18 57 55.1 -0.3
baz=298
COLA College 71.87 25 P P 18 57 55.1 -0.3
COLA lAmb lAmb 18 57 57.5
comp=Z,28nm,0.9s
COLA College 71.87 25 P P 18 57 55.5 +0.1
baz=298
COLA College 71.87 25 P P 18 57 55.1 -0.3
COLA pmax pmax
comp=Z,28nm,0.9s
COLA College 71.87 25 P P 18 57 56.3 +0.9
CUC Castrocucco 71.88 306 P P 18 57 55.2 -0.8
POKR Poker Plat Res 71.92 25 lAmb lAmb 18 57 57.5
comp=Z,71nm,1.4s
POKR Poker Plat Res 71.92 25 P P 18 57 55.5 -0.3
baz=298,SNR=6.2
EUNU Eureka 71.92 2 lAmb lAmb 18 57 57.4
comp=Z,34nm,1.6s
WRH Wood River Hil 71.97 26 P P 18 57 56.0 0.0
MCK McKinley 71.97 27 P P 18 57 55.7 -0.4
baz=297
O20K Slope Mountain 72.00 31 P P 18 57 57.2 +0.8
baz=295
WTTA Wattenberg 72.01 314 *e*P **P 18 57 56.1 -0.7**
comp=Z,20nm,1.2s
WATA Walderalm 72.02 314 *e*P **P 18 57 56.6 -0.3**
comp=Z,26nm,1.5s
FYU Fort Yukon 72.02 23 lAmb lAmb 18 58 12.3
comp=Z,31nm,1.0s
CUT Chulitna 72.03 28 P P 18 57 55.8 -0.6
CUT lAmb lAmb 18 58 22.9
comp=Z,44nm,1.1s
CUT Chulitna 72.03 28 P P 18 57 56.1 -0.3
baz=296
RND Reindeer 72.16 27 lAmb lAmb 18 57 58.8
comp=Z,24nm,1.2s
SUA Susitna One 72.24 29 P P 18 57 56.7 -1.1
SUA lAmb lAmb 18 57 59.6
comp=Z,30nm,1.0s
SUA Susitna One 72.24 29 P P 18 57 57.2 -0.6
baz=296,SNR=7.9
ILAR Eielson Array 72.29 25 P P 18 57 57.0 -0.9
comp=Z,7.0nm,1.1s,baz=285,slow=4.6,SNR=29
ILAR LR LR 19 30 06.1
comp=Z,131nm,19.6s,baz=255,slow=36
comp=Z,7.0nm,1.1s
SQTA Sankt Quirin 72.29 314 *e*P **P 18 57 57.2 -1.2**
comp=Z,33nm,1.5s,SNR=7.3
MOTA Moosalm 72.31 315 *e*P **P 18 57 57.6 -1.0**
comp=Z,25nm,1.3s,SNR=7.6
M22K Willow 72.38 29 P P 18 57 58.6 +0.2
baz=296
E27K Coleen River 72.41 21 P P 18 57 58.6 -0.1
baz=302
PRP Porcupine Dome 72.43 24 P P 18 57 58.7 -0.3
PRP lAmb lAmb 18 58 00.7
comp=Z,57nm,1.2s
PRP Porcupine Dome 72.43 24 P P 18 57 58.9 -0.1
baz=299,SNR=16
HDA Harding Lake 72.44 26 lAmb lAmb 18 58 57.9
comp=Z,29nm,1.5s
HDA Harding Lake 72.44 26 P P 18 57 57.6 -1.3
baz=298
CEL Celeste 72.47 304 lAmb lAmb 18 58 02.0
comp=Z,53nm,1.1s
RETA Reutte 72.47 315 *e*P **P 18 57 58.9 -0.6**
comp=Z,14nm,1.8s
OPO Ambohidratompo 72.54 237 LR LR 19 28 45.0
comp=Z,91nm,20.1s,baz=183,slow=35
WAT1 Susitna Watana 72.54 27 P P 18 57 59.0 -0.5
baz=298
FDMO Fiordimonte 72.65 310 P P 18 57 59.7 -0.9
FETA Feichten 72.67 314 *e*P **P 18 58 00.5 -0.3**
comp=Z,26nm,1.2s,SNR=6.8
AQU L'Aquila 72.69 309 lAmb lAmb 18 58 02.7
comp=Z,25nm,1.0s
ABPO Ambohimpanom 72.78 237 P P 18 58 00.7 -1.1
ABPO Ambohimpanom 72.78 237 P P 18 58 00.7 -1.1
ABPO pmax pmax
comp=Z,14nm,1.2s
RC01 Rabbit Creek A 72.84 29 P P 18 58 00.8 -0.5
baz=297
PMR Palmer 72.87 29 P P 18 58 01.3 -0.1
PMR lAmb lAmb 18 58 03.0
comp=Z,21nm,0.9s
PMR Palmer 72.87 29 P P 18 58 00.8 -0.7
baz=297,SNR=6.0
PMR Palmer 72.87 29 P P 18 58 01.3 -0.1
PMR pmax pmax
comp=Z,21nm,0.9s
OHAK Old Harbor 72.90 34 P P 18 58 00.9 -0.7
baz=295
DHY Denali Highway 72.90 27 lAmb lAmb 18 58 05.1
comp=Z,40nm,1.8s
DHY Denali Highway 72.90 27 P P 18 58 00.7 -1.1
baz=298
WAT6 Susitna Watana 72.99 28 P P 18 58 01.7 -0.7
baz=298
BRSE Bradley Lake S 73.00 31 P P 18 58 02.2 -0.2
baz=297
KDAK Kodiak Island 73.00 33 P P 18 58 02.4 +0.1
comp=Z,16nm,0.9s,baz=336,slow=3.2,SNR=21
KDAK LR LR 19 34 20.7
comp=Z,165nm,18.9s,baz=272,slow=39
comp=Z,16nm,0.9s
KDAK Kodiak Island 73.00 33 P P 18 58 02.1 -0.2
baz=296
DAVA Damuels 73.10 315 *e*P **P 18 58 02.5 -0.8**
comp=Z,15nm,1.1s
SML Sawmill 73.11 28 lAmb lAmb 18 58 05.0
comp=Z,35nm,1.0s
SML Sawmill 73.11 28 P P 18 58 02.4 -0.6
baz=298,SNR=6.6
G27K Doyon Strip 73.12 22 P P 18 58 02.8 -0.1
baz=302
K24K Donnelly Dome 73.18 26 P P 18 58 02.8 -0.5
baz=300,SNR=7.8
KNK Knik Glacier 73.24 29 P P 18 58 03.8 +0.1
baz=298
ARPS Mount Arapiles 73.27 150 P P 18 58 04.4 +0.4
DAVOX Davos/Dischmat 73.30 314 P P 18 58 04.2 -0.4
comp=Z,8.6nm,0.5s,baz=2.0,slow=7.1,SNR=3.3
DAVOX LR LR 19 32 44.1
comp=Z,280nm,20.5s,baz=72,slow=38
comp=Z,8.6nm,0.5s
M23K Glacier View 73.37 28 P P 18 58 03.9 -0.5
baz=298
I26K Coal Creek Min 73.39 24 P P 18 58 04.3 -0.2
baz=301,SNR=9.3
H27K Steamboat Moun 73.48 23 P P 18 58 04.9 -0.1
baz=302
SCM Sheep Creek Mo 73.52 28 P P 18 58 05.1 -0.3
baz=299
PWL Port Wells 73.55 29 P P 18 58 05.2 -0.4
baz=298
RIDG Independent Ri 73.57 26 P P 18 58 05.1 -0.6
RIDG lAmb lAmb 18 58 06.2
comp=Z,31nm,1.3s
RIDG Independent Ri 73.57 26 P P 18 58 05.2 -0.5

baz=300
BFO Black Forest 73.65 316 P P 18 58 05.3 -1.0
BFO Black Forest 73.65 316 P P 18 58 05.3 -1.0
BFO pmax pmax
comp=Z,21nm,1.2s
J26L Joseph Creek 73.66 25 IAmb IAmb 18 58 07.7
comp=Z,29nm,1.1s
J26L Joseph Creek 73.66 25 P P 18 58 05.7 -0.5
baz=301
LATE Laterza 73.68 310 IAmb IAmb 18 58 08.9
comp=Z,51nm,1.4s
PAX Paxson 73.71 27 P P 18 58 06.2 -0.4
baz=300
NEEM North Greenlan 73.73 355 *i* P **P 18 58 07.1 +0.5**
NEEM IAmb IAmb 18 58 08.9
comp=Z,110nm,1.3s
SCRK Sand Creek 73.78 25 IAmb IAmb 18 58 07.9
comp=Z,37nm,1.4s
SCRK Sand Creek 73.78 25 P P 18 58 06.5 -0.4
baz=301,SNR=8.8
I27K Kandik River 73.78 23 P P 18 58 06.8 0.0
baz=303
M24K Tolsona, Glenn 73.86 28 P P 18 58 07.7 +0.3
baz=300
DOT Dot Lake 73.92 26 P P 18 58 07.6 -0.1
DOT IAmb IAmb 18 58 10.7
comp=Z,30nm,1.6s
RAFF Raffo Rosso 73.99 304 IAmb IAmb 18 58 11.8
comp=Z,53nm,1.2s
KLU Klutina 74.27 28 IAmb IAmb 18 58 12.2
comp=Z,46nm,1.1s
KLU Klutina 74.27 28 P P 18 58 10.1 +0.3
baz=300,SNR=9.8
EGAK Eagle 74.39 24 P P 18 58 10.0 -0.4
baz=303
WLF Walferdange 74.40 318 IAmb IAmb 18 58 12.9
comp=Z,56nm,1.2s
WLF Walferdange 74.40 318 *d*P **P 18 58 12.1 +1.4**
WLF *d*pP **sP 18 58 21.4 -1.1**
comp=Z,20nm,1.3s
A36M Sachs Harbour 74.42 14 IAmb IAmb 18 58 12.4
comp=Z,34nm,1.1s
A36M Sachs Harbour 74.42 14 P P 18 58 10.3 0.0
baz=315,SNR=5.4
BCLA Clavier 74.58 319 *d*P **P 18 58 11.2 -0.4**
comp=Z,8.4nm,1.1s
BCLA *d*pP **sP 18 58 21.8 -1.8**
N25K Chitina, Valde 74.76 28 P P 18 58 12.7 +0.1
baz=301
G30M tAoh Zraii Nji 74.79 21 P P 18 58 12.0 -0.7
baz=307
INK Inuvik 74.80 19 P P 18 58 12.4 -0.2
comp=Z,15nm,1.0s,baz=314,slow=7.2,SNR=26
INK LR LR 19 35 17.8
comp=Z,123nm,18.7s,baz=271,slow=39
comp=Z,15nm,1.0s
INK Inuvik 74.80 19 P P 18 58 12.4 -0.2
INK IAmb IAmb 18 58 14.3
comp=Z,33nm,1.2s
INK Inuvik 74.80 19 P P 18 58 12.4 -0.2
baz=309,SNR=16
INK Inuvik 74.80 19 P P 18 58 12.4 -0.2
INK pmax pmax
comp=Z,33nm,1.3s
EYAK Cordova Ski Ar 74.82 29 P P 18 58 12.5 -0.3
baz=300
EYAK Cordova Ski Ar 74.82 29 P P 18 58 13.1 +0.3
VOI Vohitsoka 74.90 235 P P 18 58 12.7 -1.4
VOI IAmb IAmb 18 58 14.0
comp=Z,43nm,1.4s
VOI Vohitsoka 74.90 235 P P 18 58 13.8 -0.2
VOI Vohitsoka 74.90 235 P P 18 58 13.1 -1.0
M26K Nabesna, AK 74.98 27 IAmb IAmb 18 58 16.0
comp=Z,29nm,1.2s
M26K Nabesna, AK 74.98 27 P P 18 58 14.3 +0.4
baz=302
I29M Ogilvie Camp, 75.07 23 P P 18 58 14.2 -0.1
baz=305
L27K Beaver Creek, 75.08 26 IAmb IAmb 18 58 17.3
comp=Z,42nm,1.4s
L27K Beaver Creek, 75.08 26 P P 18 58 14.4 0.0
baz=303
BMRM Bremner River 75.08 28 P P 18 58 14.7 +0.2
baz=301,SNR=5.5
DOU Dourbes 75.13 319 *d*P **P 18 58 14.4 -0.5**
GLB Gilahina Butte 75.17 28 IAmb IAmb 18 58 16.9
comp=Z,52nm,1.4s
F31M Tsiigehtchic 75.28 20 P P 18 58 14.7 -0.7
baz=309
DAWY Dawson 75.43 24 P P 18 58 16.6 +0.2
baz=305,SNR=5.5
M27K Edge Creek, AK 75.45 26 P P 18 58 16.8 +0.1
M27K IAmb IAmb 18 58 18.9
comp=Z,40nm,1.2s
M27K Edge Creek, AK 75.45 26 P P 18 58 16.6 -0.1
baz=303
MCARA McCarthy VSAT 75.52 27 P P 18 58 16.5 -0.4
baz=302
TULEG Thule 75.57 358 *i* P **P 18 58 16.4 -0.5**
TULEG IAmb IAmb 18 58 18.5
comp=Z,47nm,1.3s
TOO Toolangi 75.60 148 P P 18 58 19.1 +1.5
BVCY Beaver Creek 75.81 26 P P 18 58 18.6 0.0
baz=304,SNR=6.3
K29M Barlow Dome 76.23 24 P P 18 58 21.8 +0.7
baz=306
MBAR Mbarara 76.30 262 P P 18 58 21.5 -0.8
MBAR IAmb IAmb 18 58 24.4
comp=Z,25nm,1.2s
MBAR Mbarara 76.30 262 P P 18 58 21.5 -0.8
MBAR pmax pmax
comp=Z,25nm,1.2s
MBAR Mbarara 76.30 262 P P 18 58 22.1 -0.3
YUK3 Moose Creek 76.33 26 P P 18 58 22.0 +0.2
baz=304
L29M L29M 76.44 25 P P 18 58 22.4 +0.2
baz=306
SUMG Summit 76.54 349 *i* P **P 18 58 23.0 0.0**
SUMG IAmb IAmb 18 58 24.6
comp=Z,64nm,1.3s
C36M Paulatuk 76.61 16 IAmb IAmb 18 58 24.5
comp=Z,38nm,1.1s
C36M Paulatuk 76.61 16 P P 18 58 22.7 -0.2
baz=317,SNR=11
RES Resolute Bay 76.69 5 P P 18 58 23.4 0.0
comp=Z,13nm,1.1s,baz=357,slow=6.1,SNR=19
RES LR LR 19 34 35.2
comp=Z,67nm,19.1s,baz=16,slow=38
comp=Z,13nm,1.1s
RES Resolute Bay 76.69 5 P P 18 58 23.1 -0.2
M29M Somme Creek 76.71 25 P P 18 58 23.6 -0.2
baz=306
EKA Eskdalemuir Ar 76.82 326 P P 18 58 23.4 -1.0
comp=Z,7.1nm,0.9s,baz=57,slow=6.1,SNR=6.3
comp=Z,7.1nm,0.9s
YUK8 Steele Glacier 76.88 27 P P 18 58 24.9 -0.1
baz=305
KULLO Kullorsuaq 76.94 355 *i* P **P 18 58 24.6 -0.1**
KULLO IAmb IAmb 18 58 26.6
comp=Z,73nm,1.3s
M30M Minto, Yukon 77.26 25 IAmb IAmb 18 58 28.5
comp=Z,31nm,1.4s
M30M Minto, Yukon 77.26 25 P P 18 58 26.8 0.0
baz=307
DZM Mont Dzumac 77.57 123 *e*LR LR 19 22 36.1
comp=Z,162nm,22.1s
DZM Mont Dzumac 77.57 123 LR LR 19 30 39.2
comp=Z,83nm,19.9s,baz=5.0,slow=34
HYT Haines Junctio 78.04 26 P P 18 58 31.9 +0.6
baz=307
KEST Kesra 78.28 304 P P 18 58 32.3 -0.8
comp=Z,3.7nm,0.8s,baz=260,slow=7.1,SNR=4.2
comp=Z,3.7nm,0.8s
KEST Kesra 78.28 304 P P 18 58 34.1 +1.0
N31M Braeburn, Yuko 78.30 25 P P 18 58 33.2 +0.5
baz=308
M31M Drury Creek, Y 78.37 24 P P 18 58 32.3 -0.7
baz=309
UPNV Upernavik 78.58 354 *i* P **P 18 58 33.4 -0.6**
UPNV IAmb IAmb 18 58 35.1
comp=Z,49nm,1.3s
O30N Mendenhall 78.63 26 P P 18 58 35.1 +0.7
baz=308
P30M Million Dollar 78.68 27 P P 18 58 35.3 +0.5
baz=308
FARO Faro, Yukon 78.73 24 P P 18 58 34.2 -0.8
baz=310
WHY Whitehorse 79.16 26 P P 18 58 37.2 -0.3
baz=309
MMPY Sheldon Lake, 79.21 23 P P 18 58 37.9 +0.3
baz=312
N32M Quiet Lake 79.52 25 P P 18 58 39.9 +0.5
baz=310
ICESG Greenland Ices 79.71 348 *i* P **P 18 58 39.8 -0.9**
ICESG IAmb IAmb 18 58 42.0
comp=Z,62nm,1.2s
SKAG Skagway 79.74 27 P P 18 58 40.5 0.0
baz=309
P33M Teslin, Yukon 80.23 25 P P 18 58 42.7 -0.6
baz=311
WRGLY Wrigley 81.30 20 P P 18 58 48.9 +0.1
baz=318
ILULI Ilulissat 81.42 352 IAmb IAmb 18 58 50.5
comp=Z,22nm,1.0s
WTLY Watson Lake, Y 81.79 24 P P 18 58 51.8 +0.4
baz=314
DLBC Dease Lake 82.49 26 LR LR 19 38 10.3
comp=Z,272nm,19.6s,baz=186,slow=38
DLBC Dease Lake 82.49 26 P P 18 58 55.4 +0.2
baz=313
WRAK Wrangell Islan 82.92 28 P P 18 58 57.4 0.0
baz=312
DY2G Dye2 83.22 349 *i* P **P 18 58 58.5 -0.6**
DY2G IAmb IAmb 18 59 00.8
comp=Z,144nm,1.6s
LIRD Liard River Hi 83.25 24 P P 18 58 59.0 -0.1
baz=316
SFJD Kangerlussuaq 83.43 351 P P 18 58 59.6 -0.2
comp=Z,23nm,1.0s,baz=32,slow=3.6,SNR=8.0
comp=Z,23nm,1.0s
SFJD Kangerlussuaq 83.43 351 P P 18 58 59.6 -0.2
SFJD IAmb IAmb 18 59 01.5
comp=Z,54nm,1.2s
SFJD Kangerlussuaq 83.43 351 *i* P **P 18 58 59.7 -0.2**
SFJD IAmb IAmb 18 59 00.5
comp=Z,58nm,1.2s
SFJD Kangerlussuaq 83.43 351 P P 18 58 59.6 -0.2
SFJD pmax pmax
comp=Z,54nm,1.2s
MSVF Nonsavu 84.15 113 LR LR 19 31 55.4
comp=Z,176nm,21.8s,baz=317,slow=32
MSVF Nonsavu 84.15 113 P P 18 59 04.1 -0.3
MSVF IAmb IAmb 18 59 08.0
comp=Z,45nm,1.4s
MSVF Nonsavu 84.15 113 P P 18 59 04.1 -0.3
MSVF pmax pmax
comp=Z,45nm,1.4s
YKA Yellowknife Ar 84.39 17 P P 18 59 05.0 +0.2
comp=Z,3.9nm,0.5s,baz=319,slow=4.7,SNR=61
YKA PP **PP 19 02 18.0 -1.2**
comp=Z,1.8nm,1.1s,baz=324,slow=7.7,SNR=4.5
YKA PKKPbc **PKKPbc 19 17 14.3 -3.1**
comp=Z,0.3nm,0.7s,baz=157,slow=2.1,SNR=4.4
comp=Z,3.9nm,0.5s
ESDC Sonseca Array 85.55 313 P P 18 59 10.4 -0.8
comp=Z,4.8nm,1.2s,baz=45,slow=5.4,SNR=6.8
ESDC PP **PP 19 02 28.5 -1.0**
comp=Z,2.6nm,1.1s,baz=60,slow=9.1,SNR=4.1
comp=Z,4.8nm,1.2s
NRS Narsarsuaq 87.86 346 *i* P **P 18 59 25.8 +3.8**
MDT Midelt 89.74 307 LR LR 19 45 20.8
comp=Z,44nm,18.0s,baz=354,slow=39
AFI Afiamalu 90.72 105 LR LR 19 38 41.6
comp=Z,98nm,18.0s,baz=294,slow=34
LLLB Lillooet 91.44 28 IAmb IAmb 18 59 41.6
comp=Z,27nm,1.3s
LBTB Lobatse 92.72 243 LR LR 19 44 04.7
comp=Z,19nm,18.0s,baz=68,slow=37
CASY Casey 94.15 178 P P 18 59 50.0 -0.7
B08A Colville Reser 94.23 28 IAmb IAmb 18 59 54.1
comp=Z,9.4nm,1.2s
FFC Flin Flon 94.37 15 P P 18 59 51.5 -0.9
FFC IAmb IAmb 18 59 53.5
comp=Z,21nm,1.4s
FFC Flin Flon 94.37 15 P P 18 59 51.5 -0.9
FFC pmax pmax
comp=Z,21nm,1.4s
BOSA Boshof 94.75 240 P P 18 59 53.5 -1.1
comp=Z,2.4nm,0.7s,baz=64,slow=5.3,SNR=5.4
BOSA LR LR 19 39 08.0
comp=Z,75nm,19.8s,baz=19,slow=33
comp=Z,2.4nm,0.7s
TORD Torodi Ar. Bea 95.18 288 P P 18 59 56.2 -0.6
comp=Z,2.5nm,0.9s,baz=67,slow=4.9,SNR=8.6
TORD PP **PP 19 03 45.4 -1.3**
comp=Z,3.7nm,1.1s,baz=68,slow=7.7,SNR=8.4
comp=Z,2.5nm,0.9s
MSO Missoula 97.62 26 P Pdif 19 00 08.0 +0.5
baz=326
EGMT Eagleton 98.12 23 P P 19 00 09.0 -0.7
baz=330
DGMT Dagmar 99.48 19 P Pdif 19 00 15.7 0.0
baz=334
SUR Sutherland 99.90 239 LR LR 19 43 03.0
comp=Z,186nm,21.7s,baz=52,slow=34
NVAR Mina Array Bea 102.50 33 PP PP 19 04 42.1 +0.4
comp=Z,0.7nm,0.9s,baz=297,slow=6.5,SNR=5.6
RSSD Black Hills 103.44 21 P Pdif 19 00 32.6 -1.0
baz=334
ECSD EOS Data Cent 105.88 16 P PKiKP 19 04 56.1 -0.6
baz=340
PPT2 Papeete2 111.52 99 *e*LR LR 19 38 17.9
comp=Z,156nm,24.5s
PPT2 *e*LR LR 19 38 18.6
comp=Z,99nm,23.0s
MSTX Muleshoe 112.97 25 P PKiKP 19 05 09.2 -1.1
baz=334
MNTX Cornudas Mount 113.95 28 P PKiKP 19 05 11.2 -0.9
baz=331
TKL Tuckaleechee C 116.09 8 PKP PKPdf 19 05 16.6 +0.5
comp=Z,4.0nm,1.0s,baz=226,slow=23,SNR=2.0
TXAR Lajitas Array 116.73 28 PKP PKPdf 19 05 17.5 -0.2
comp=Z,0.6nm,0.6s,baz=100,slow=0.4,SNR=4.6
JCT Junction City 117.20 24 PKPdf PKPdf 19 05 16.9 -1.6
JCT Junction City 117.20 24 P PKiKP 19 05 18.6 +0.1
baz=336
JCT Junction City 117.20 24 PKIKP PKPdf 19 05 16.9 -1.6
BELA Belgrano 2 126.83 190 PKPdf PKPdf 19 05 33.4 -2.0
BAUV El Baul 142.57 348 PKPdf PKPdf 19 06 01.1 -5.5
SDV Santo Domingo 143.01 353 PKPdf PKPab 19 06 02.7 -0.1
PAMC Pamplona, Colo 144.72 356 *e*P **PKPab 19 06 09.2 -0.4**
DBBC Dabeiba 145.10 2 *e*P **PKPdf 19 06 11.4 +0.3**
BARC Barichara 145.49 357 *e*P **PKPbc 19 06 11.6 -0.4**
PTBC PUERTO BERRIO 145.59 359 *e*P **PKPdf 19 06 11.6 -0.3**
RUSC La Rusia 146.18 356 PKPbc 19 06 14.3 -0.1
RUSC La Rusia 146.18 356 *e*P **PKPbc 19 06 14.3 -0.1**
CBOC Ciudad Bolivar 146.26 2 *e*P **PKPbc 19 06 14.5 +0.3**
NORC Norcasia 146.56 360 *e*P **PKPbc 19 06 15.1 0.0**
BOAV Boa Vista 146.61 333 PKPdf 19 06 14.0 +0.4
BOAV Boa Vista 146.61 333 *e*P **PKPbc 19 06 14.5 -0.6**
PLMC San Jos del P 147.20 2 *e*P **PKPbc 19 06 17.3 +0.5**
ROSC El Rosal 147.27 358 PKPbc **PKPbc 19 06 16.4 -1.1**
comp=Z,49nm,0.8s,baz=112,slow=3.7,SNR=16
ROSC El Rosal 147.27 358 PKPdf **PKPdf 19 06 12.9 -2.3**
CHIC Chinigaza 147.46 357 *e*P **PKPdf 19 06 16.4 +0.8**
SDBA SAO DESIDERIO 147.76 293 *e*P **PKPdf 19 06 15.0 -0.4**
YOTC Yotoco, Valle 148.11 2 *e*P **PKPdf 19 06 16.6 +0.4**
ORTC Ortega, Tolima 148.21 0 *e*P **PKPdf 19 06 14.4 -2.0**
GARC Garzon, Huila 149.92 1 *e*P **PKPbc 19 06 24.3 +0.1**
FLOC Florencia 150.51 1 *e*P **PKPbc 19 06 24.6 -0.7**
OTAV Otavalo 151.68 7 PKPdf 19 06 23.9 +1.7
OTAV Otavalo 151.68 7 PKIKP **PKPdf 19 06 24.0 +1.7**
OTAV Otavalo 151.68 7 *e*P **PKPdf 19 06 23.6 +1.3**
BDFB Brasilia 152.02 291 PKP **PKPdf 19 06 21.5 -0.8**
comp=Z,14nm,1.1s,baz=31,slow=6.3,SNR=3.8
BDFB PKPbc **PKPbc 19 06 28.5 -0.3**
comp=Z,11nm,1.1s,baz=28,slow=5.8,SNR=6.8
IPMB Ipameri, GO 153.31 286 *e*P **PKPdf 19 06 23.7 -0.3**
CPUP Villa Florida 164.06 272 PKP **PKPdf 19 06 33.5 -3.0**
comp=Z,3.5nm,1.0s,baz=228,slow=18,SNR=3.5
LVC Limon Verde 172.17 313 *e*P **PKPdf 19 06 42.5 -0.1**
PB03 IPOC Station P 172.27 320 PKPdf **PKPdf 19 06 42.1 -0.3**
PB03 **PKPab 19 08 05.0 -1.3**

*IDC **27** 18:49:26.0±1.0,59°.30N×30°.35W,h0km,mb3.9/10, mbtmp3.9/12,ML3.8/2,MS3.4/10,Error ellipse: s-maj=26.5km s-min=19.1km az=18.0*
*NEIC **27** 18:49:27.8±2.7,59°.49N±0°.08×30°.14W±0°.2,h10km±2km, mb4.5/5,Error ellipse: s-maj=18.2km s-min=9.3km az=231.0*
ISC 27 18:49:28.1±0.8,**59°.42N**±0°.10×**30°.41W**±0°.08,**h16**km,**n32**,
σ1§**07**/26,**mb3.9**/11,**MS3.3/9**,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.83**	**35**	Pn	**Pn**	**18 51 08.8**	**+1.3**
	2.7nm,0.3s,baz=235,slow=6.9,SNR=12						
BORG				Sn	**Sn**	**18 52 24.3**	**-0.5**
	1.1nm,0.3s,baz=283,slow=18,SNR=7.4						
	7.7nm,0.3s						
BORG	**Borgarnes**	**6.83**	**35**	Pn	**Pn**	**18 51 08.3**	**+0.8**
BORG				Sn	**Sn**	**18 52 23.4**	**-1.4**
ANGG	**Ammassalik, Gr**	**7.06**	**335**	Pn	**Pn**	**18 51 09.6**	**-1.0**
EKA	**Eskdalemuir Ar**	**15.20**	**94**	Pn	**Pn**	**18 53 01.1**	**-0.7**
	baz=290,slow=11						
EKA				LR	LR	18 57 29.8	
	comp=Z,166nm,19.4s,baz=303,slow=32						
	2.0nm,0.9s						
SCHQ	**Schefferville**	**20.12**	**273**	P	**P**	**18 54 01.3**	**+0.3**
	4.8nm,0.9s,baz=204,slow=14,SNR=2.3						
SCHQ				LR	LR	19 00 00.3	
	comp=Z,117nm,18.4s,baz=94,slow=32						
	4.8nm,0.9s						
SCHQ	**Schefferville**	**20.12**	**273**	P	Pn	18 54 02.1	-0.7
SCHQ				IAmb	IAmb	18 54 39.6	
	comp=Z,23nm,1.4s						
NOA	**NORSAR Array B**	**20.48**	**67**	LR	LR	19 00 38.4	
	comp=Z,53nm,19.1s,baz=270,slow=33						
CLL	**Collm**	**25.56**	**89**	*e*P	**P**	**18 54 57.0**	**+1.2**
CLL				*ex*	x	18 55 01.0	
ESDC	**Sonseca Array**	**25.87**	**128**	P	**P**	**18 54 58.5**	**-0.4**
	comp=Z,2.6nm,1.0s,baz=331,slow=8.2,SNR=6.2						
	comp=Z,2.6nm,1.0s						
EUNU	**Eureka**	**26.36**	**341**	P	**P**	**18 55 03.6**	**+0.7**
DAVOX	**Davos/Dischmat**	**26.83**	**100**	LR	LR	19 04 09.6	
	comp=Z,87nm,19.1s,baz=261,slow=33						
FINES	**FINESS Array B**	**27.21**	**61**	P	**P**	**18 55 11.0**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=313,slow=6.7,SNR=3.1						
	comp=Z,3.8nm,1.0s						
FINES	**FINESS Array B**	**27.21**	**61**	P	**P**	**18 55 11.5**	**+0.8**
GERES	**GERESS Array B**	**27.41**	**93**	LR	LR	19 05 31.6	
	comp=Z,73nm,18.8s,baz=297,slow=35						
RES	**Resolute Bay**	**27.50**	**329**	P	**P**	**18 55 15.2**	**+2.1**
	comp=Z,1.7nm,1.0s,baz=58,slow=8.8,SNR=3.8						
	comp=Z,1.7nm,1.0s						
VRAC	**Vranov**	**28.60**	**90**	P	**P**	**18 55 25.1**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=223,slow=14,SNR=1.7						
VRAC				LR	LR	19 05 34.0	
	comp=Z,31nm,21.0s,baz=338,slow=34						
	comp=Z,1.0nm,0.3s						
MDT	**Midelt**	**31.66**	**136**	LR	LR	19 07 23.2	
	comp=Z,79nm,20.3s,baz=347,slow=34						
SADO	**Sadowa**	**32.50**	**265**	LR	LR	19 07 31.3	
	comp=Z,70nm,18.2s,baz=130,slow=33						
AKASG	**Malin Array Be**	**34.15**	**78**	P	**P**	**18 56 10.8**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=295,slow=9.1,SNR=2.5						
	comp=Z,0.7nm,0.7s						
KEST	**Kesra**	**34.97**	**115**	LR	LR	19 09 09.5	
	comp=Z,101nm,20.1s,baz=226,slow=34						
NEW	**Newport**	**48.78**	**298**	LR	LR	19 17 59.3	
	comp=Z,99nm,19.5s,baz=40,slow=35						
PDAR	**Pinedale Array**	**49.28**	**287**	P	**P**	**18 58 16.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=35,slow=8.0,SNR=2.3						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**51.97**	**139**	P	**P**	**18 58 35.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=337,slow=7.9,SNR=5.6						
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**55.64**	**40**	P	**P**	**18 59 03.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=347,slow=12,SNR=2.4						
	comp=Z,0.9nm,0.8s						
KK31	**Karatay Array**	**59.06**	**57**	P	**P**	**18 59 26.1**	**-0.9**
KKAR	**Karatay Array**	**59.06**	**57**		**P**	**18 59 25.6**	**-1.4**
KKAR	**Karatay Array**	**59.06**	**57**	P	**P**	**18 59 25.9**	**-1.1**
KKAR				IAmb	IAmb	18 59 34.3	
	comp=Z,6.7nm,1.2s						
MK31	**Makanchi Array**	**60.73**	**47**	P	**P**	**18 59 39.2**	**+0.7**
MK31				IAmb	IAmb	18 59 39.8	
	comp=Z,2.4nm,0.7s						
MKAR	**Makanchi Array**	**60.73**	**47**	P	**P**	**18 59 39.1**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=342,slow=4.9,SNR=19						
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**60.73**	**47**	P	**P**	**18 59 39.3**	**+0.8**
WRA	**Warramunga Arr**	**139.06**	**22**	PKP	**PKPdf**	**19 08 53.5**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=318,slow=2.6,SNR=1.4						
ASAR	**Alice Springs**	**142.60**	**24**	PKhKP	PKPpre	19 08 54.9	
	comp=Z,0.4nm,0.9s,baz=337,slow=3.1,SNR=2.1						
ASAR				PKP	**PKiKP**	**19 09 01.8**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=3.4,slow=3.2,SNR=7.3						

*CNRM **27** 19:03:47.4,35°.53N×3°.86W,h3km,ml2.9*
*MDD **27** 19:03:50.0±0.6,35°.44N×3°.72W,h9km±5km,mb_Lg3.1/11, Error ellipse: s-maj=4.7km s-min=3.6km az=149.0*
*INMG **27** 19:03:50.7±1.8,35°.47N×3°.76W,h12km±9km,MD2.8, ML2.5,Error ellipse: s-maj=4.8km s-min=3.9km az=111.0*
*SFS **27** 19:03:51.1,35°.44N×3°.74W,h21km,ML3.3/14,MLv3.3/14*
ISC 27 19:03:49.4±1.1,**35°.50N**±0°.02×**3°.74W**±0°.02,**h16**km±9km,
n58,σ1§**56**/101,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.56**	**235**	P	**Pg**	**19 04 00.7**	**+0.2**
PVLZ				S	**Sg**	**19 04 07.9**	**-0.1**
EMEL	**Melilla**	**0.67**	**107**	Pg	**Pn**	**19 04 03.4**	**-0.9**
EMEL				Sg	**Sb**	**19 04 11.9**	**+0.1**
EMEL				*i* Vmb_Lg		19 04 13.7	
EALB	**Alboran**	**0.73**	**52**	P	**Pn**	**19 04 04.2**	**-0.9**
EALB				S	**Sn**	**19 04 14.3**	**-1.5**
EALB	**Alboran**	**0.73**	**52**	Pg	**Pn**	**19 04 03.7**	**-1.4**
EALB				Sg	**Sn**	**19 04 14.7**	**-1.1**
EALB				*i* Vmb_Lg		19 04 15.8	
CHAS	**Isla Isabel II**	**1.12**	**106**	P	**Pn**	**19 04 10.0**	**-0.4**
CHAS				S	**Sn**	**19 04 24.3**	**-1.1**
TAF	**Taforalt**	**1.28**	**122**	P	**Pn**	**19 04 11.6**	**-1.2**
TAF				S	**Sg**	**19 04 32.8**	**+1.8**
SMIR	**Smir Dam**	**1.35**	**278**	P	**Pn**	**19 04 11.8**	**-1.8**
SMIR				S	**Sn**	**19 04 27.4**	**-3.7**
EMIJ	**Mijas**	**1.35**	**322**	S	**Sb**	**19 04 32.0**	**+0.4**
EMIJ				P	**Pn**	**19 04 13.8**	**+0.1**
EMIJ	**Mijas**	**1.35**	**322**	Pn	**Pn**	**19 04 14.0**	**+0.3**
EMIJ				Sn	**Sb**	**19 04 32.0**	**+0.4**
EMIJ				*i* Vmb_Lg		19 04 36.0	
CHEFC	**Chefchaouen**	**1.36**	**254**	P	**Pn**	**19 04 13.6**	**-0.3**
CHEFC				S	**Sn**	**19 04 29.2**	**-2.4**
ELGU	**Los Guajares,**	**1.37**	**4**	P	**Pn**	**19 04 13.5**	**-0.6**
ELGU	**Los Guajares,**	**1.37**	**4**	Pn	**Pn**	**19 04 13.4**	**-0.6**
ELGU				Sn	**Sg**	**19 04 32.6**	**-1.2**
ELGU				*i* Vmb_Lg		19 04 38.4	
EMAL	**Malaga-Limoner**	**1.38**	**336**	S	**Sb**	**19 04 32.1**	**-0.1**
EMAL				P	**Pb**	**19 04 14.7**	**-0.1**
CEU	**Ceuta**	**1.39**	**287**	P	**Pn**	**19 04 12.0**	**-2.1**
ECEU	**Ceuta**	**1.39**	**287**	P	**Pn**	**19 04 13.5**	**-0.7**
JBK	**JBK**	**1.51**	**140**	P	**Pn**	**19 04 14.1**	**-1.9**
JBK				S	**Sg**	**19 04 37.6**	**-0.6**
EBER	**Berja**	**1.56**	**26**	S	**Sb**	**19 04 37.3**	**-0.3**
EBER				P	**Pn**	**19 04 16.5**	**-0.2**
EBER	**Berja**	**1.56**	**26**	Pn	**Pn**	**19 04 16.3**	**-0.4**
EBER				Sn	**Sb**	**19 04 37.4**	**-0.3**
EBER				*i* Vmb_Lg		19 04 41.2	
ENIJ	**Nijar**	**1.93**	**40**	Pn	**Pn**	**19 04 21.0**	**-0.6**
ENIJ				Sn	**Sn**	**19 04 43.6**	**-1.9**
ENIJ				*i* Vmb_Lg		19 04 45.1	
IFR	**Ifrane**	**2.28**	**210**	P	**Pn**	**19 04 26.3**	**-0.3**
IFR				S	**Sn**	**19 04 53.4**	**-1.0**
EADA	**Adamuz**	**2.75**	**346**	Sg	**Sg**	**19 05 16.4**	**-1.4**
EADA				P	**Pn**	**19 04 34.9**	**+2.0**
EADA	**Adamuz**	**2.75**	**346**	Pn	**Pn**	**19 04 35.0**	**+2.1**
EADA				Sn	**Sn**	**19 05 07.0**	**+1.2**
EADA				*i* Vmb_Lg		19 05 25.4	
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**19 04 34.7**	**+1.7**
MD31				S	**Sn**	**19 05 08.5**	**+2.5**
MDT	**Midelt**	**2.77**	**195**	P	**Pn**	**19 04 35.0**	**+1.8**
MDT				S	**Sn**	**19 05 08.1**	**+1.7**
ECAB	**El Cabril**	**2.90**	**333**	Sg	**Sg**	**19 05 20.7**	**-2.0**
ECAB				P	**Pn**	**19 04 37.2**	**+2.2**
ECAB	**El Cabril**	**2.90**	**333**	Pn	**Pn**	**19 04 36.8**	**+1.7**
ECAB				Sn	**Sn**	**19 05 12.1**	**+2.5**
ECAB				*i* Vmb_Lg		19 05 31.8	
EMUR	**La Murta**	**3.09**	**40**	Pn	**Pn**	**19 04 37.4**	**-0.2**
EMUR				Sn	**Sn**	**19 05 12.5**	**-1.7**
ETOB	**Tobarra**	**3.60**	**29**	P	**Pn**	**19 04 47.1**	**+2.4**
ETOB				S	**Sn**	**19 05 27.1**	**+0.3**
ETOB	**Tobarra**	**3.60**	**29**	Pn	**Pn**	**19 04 46.9**	**+2.3**
ETOB				Sn	**Sn**	**19 05 27.7**	**+0.9**
EGRO	**El Granado**	**3.63**	**305**	P	**Pn**	**19 04 45.5**	**+0.5**

EGRO				S	Sn	19 05 26.8	-0.8		
EGRO	**El Granado**	**3.63**	**305**	Pn	Pn	19 04 45.2	+0.2		
EGRO				Sn	Sn	19 05 26.6	-0.9		
EGRO				*i* Vmb_Lg		19 05 27.8			
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*Pn	Pn	19 04 47.2	+0.9		
PVAQ				*e*Sn	Sn	19 05 28.6	-1.2		
PVAQ				A	A	19 05 36.0			
	12nm,0.6s								
PVAQ	**Vaqueiros**	**3.73**	**302**	P	Pn	19 04 47.1	+0.9		
PBAR	**Barrancos**	**3.76**	**316**	*e*Pn	Pn	19 04 47.8	+1.1		
PBAR				*e*Sn	Sn	19 05 30.7	+0.1		
PBAR				A	A	19 05 39.9			
	7.3nm,0.4s								
PBAR	**Barrancos**	**3.76**	**316**	P	Pn	19 04 47.8	+1.1		
PBAR				S	Sn	19 05 29.6	-1.1		
FIGM	**Figuig**	**3.94**	**148**	P	Pn	19 04 51.7	+2.3		
FIGM				S	Sn	19 05 38.6	+3.3		
PCVE	**Castro Verde**	**4.06**	**303**	*e*Pn	Pn	19 04 51.9	+1.0		
PCVE				*e*Sn	Sn	19 05 37.3	-0.8		
PCVE				A	A	19 05 50.0			
	6.8nm,0.4s								
PAB	**San Pablo**	**4.07**	**353**	Pn	Pn	19 04 53.2	+2.1		
PAB				Sn	Sn	19 05 39.8	+1.4		
PBEJ	**Beja**	**4.16**	**309**	*e*Pn	Pn	19 04 56.5	+4.2		
EBAD	**Badajoz**	**4.17**	**322**	P	Pn	19 04 54.3	+1.9		
EBAD				S	Sn	19 05 39.8	-1.0		
EBAD	**Badajoz**	**4.17**	**322**	Pn	Pn	19 04 52.8	+0.4		
EBAD				Sn	Sn	19 05 39.6	-1.3		
EBAD				*i* Vmb_Lg		19 05 57.3			
MESJ	**Messejana**	**4.29**	**304**	*e*P	Pn	19 04 55.3	+1.2		
MESJ	**Messejana**	**4.29**	**304**	*e*Pn	Pn	19 04 55.4	+1.3		
MESJ				*e*Sn	Sn	19 05 43.4	-0.4		
MESJ				A	A	19 05 47.5			
	8.3nm,0.5s								
MORF	**Marmelete**	**4.35**	**296**	*e*S	Sn	19 05 43.4	-1.9		
MORF				IAML		19 05 46.1			
	comp=N,9.2nm,0.4s								
MORF	**Marmelete**	**4.35**	**296**	*e*Pn	Pn	19 04 56.1	+1.2		
MORF				*e*Sn	Sn	19 05 44.3	-1.0		
MORF				A	A	19 05 55.4			
	comp=N,4.4nm,0.7s								
PTEO	**Sao Teotonio**	**4.50**	**298**	*e*Sn	Sn	19 05 48.7	-0.3		
PESTR	**Estremoz**	**4.55**	**319**	*e*Sn	Sn	19 05 49.8	-0.5		
PESTR				A	A	19 06 11.4			
	comp=N,4.9nm,0.5s								
PESTR	**Estremoz**	**4.55**	**319**	P	Pn	19 04 59.1	+1.4		
PESTR				S	Sn	19 05 48.6	-1.7		
PNCL	**Nicolau / Gran**	**4.64**	**306**	*e*Pn	Pn	19 04 59.9	+1.0		
PNCL				*e*Sn	Sn	19 05 51.5	-0.9		
PNCL				A	A	19 05 59.4			
	comp=N,4.6nm,0.3s								
PNCL	**Nicolau / Gran**	**4.64**	**306**	P	Pn	19 04 59.7	+0.9		
PMRV	**Marv??o**	**4.88**	**325**	*e*Pn	Pn	19 05 04.0	+1.8		
PMTG	**Montargil**	**5.05**	**316**	*e*Pn	Pn	19 05 06.0	+1.6		
PMTG				*e*Sn	Sn	19 06 02.0	-0.4		
PMTG				A	A	19 06 07.7			
	comp=N,5.1nm,0.6s								
PCBR	**Castelo Branco**	**5.25**	**327**	*e*Pn	Pn	19 05 10.0	+2.8		
PCBR				*e*Sn	Sn	19 06 08.0	+0.6		
PCBR				A	A	19 06 34.6			
	comp=N,3.4nm,0.6s								
ETOR	**Torete**	**5.48**	**14**	Pn	Pn	19 05 11.1	+0.6		
OUK	**Oukaimeden**	**5.49**	**220**	P	Pn	19 05 11.3	+0.4		
OUK				S	Sn	19 06 12.5	-1.4		
PSBE	**So Bento**	**5.67**	**316**	*e*Pn	Pn	19 05 17.3	+4.2		
MVO	**Moncorvo**	**6.22**	**336**	*e*Pn	Pn	19 05 22.7	+2.1		
PBRG	**Braganca**	**6.72**	**340**	*e*Pn	Pn	19 05 30.9	+3.4		

*WEL **27** 19:04:59.4, 41˚S±3˚×17˚4E±˚, h39km±4km, M3.4/24, ML3.6/24, MLv3.4/24, Error ellipse: s-maj=0.0km s-min=0.0km az=124.5, confirmed*
*NOU **27** 19:04:59.5, 41˚44S×174˚24E, h37km, MLv3.8/12, Cook Strait, New Zealand*
ISC 27 19:04:59.8±1.0, 41˚36S±0˚03×174˚17E±0˚02, h30km±8km, n98, σ1°11/111, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC		
TCW	**Tory Channel**	**0.17**	**28**	P	**Pn**	**19 05 06.9**	**+0.6**		
TCW				S	**Sb**	**19 05 11.7**	**+1.9**		
CMWZ	**Cape Campbell**	**0.39**	**175**	P	**Pn**	**19 05 10.9**	**+1.6**		
SNZO	**South Karori**	**0.41**	**83**	P	**Pn**	**19 05 09.8**	**+0.3**		
BSWZ	**Blackbirch Sta**	**0.42**	**212**	P	**Pn**	**19 05 11.2**	**+0.5**		
BSWZ				S	Sn	19 05 17.9	+1.5		
WEL	**Wellington**	**0.46**	**80**	P	**Pn**	**19 05 10.4**	**+0.2**		
WEL				S	Sn	19 05 18.3	+0.9		
DUWZ	**D'Urville Isla**	**0.59**	**341**	P	**Pb**	**19 05 10.7**	**-1.1**		
DUWZ				S	**Sb**	**19 05 18.9**	**-1.0**		
NNZ	**Nelson**	**0.61**	**283**	P	**Pb**	**19 05 11.4**	**-0.7**		
NNZ				S	**Sb**	**19 05 20.5**	**0.0**		
CAW	**Cannon Point**	**0.72**	**70**	P	**Pn**	**19 05 13.9**	**0.0**		
CAW				S	Sn	19 05 25.0	+1.1		
KIW	**Kapiti Island**	**0.75**	**48**	P	**Pb**	**19 05 13.9**	**-0.5**		
KIW				S	Sn	19 05 24.7	+0.1		
PLWZ	**Palliser**	**0.84**	**105**	P	**Pb**	**19 05 15.3**	**-0.6**		
OGWZ	**Otaki Gorge**	**0.93**	**54**	P	**Pb**	**19 05 16.7**	**-0.7**		
OGWZ				S	Sn	19 05 30.0	+0.9		
PAWZ	**Paruwai Farm**	**0.94**	**92**	P	**Pb**	**19 05 16.5**	**-1.2**		
PAWZ				S	Sn	19 05 31.9	+2.3		
TKNZ	**Takaka Hill**	**0.97**	**289**	P	**Pb**	**19 05 16.5**	**-1.5**		
MTW	**Mount Morrison**	**1.02**	**79**	P	**Pn**	**19 05 17.3**	**-0.7**		
THZ	**Tophouse**	**1.03**	**247**	P	**Pn**	**19 05 17.9**	**-0.3**		
THZ				S	Sn	19 05 32.4	+0.7		
MRNZ	**Matariki Terra**	**1.06**	**268**	P	**Pn**	**19 05 18.6**	**-0.1**		
MRNZ				S	Sn	19 05 33.0	+0.6		
HOWZ	**Holdsworth Sta**	**1.12**	**66**	P	**Pn**	**19 05 18.6**	**-0.7**		
TRWZ	**Traveller**	**1.14**	**92**	P	**Pn**	**19 05 19.6**	**-0.1**		
KHZ	**Kahutara**	**1.15**	**204**	P	**Pn**	**19 05 19.9**	**+0.1**		
KHZ	**Kahutara**	**1.15**	**204**	P	**Pn**	**19 05 20.4**	**+0.5**		
MRZ	**Mangatainoka R**	**1.27**	**57**	P	**Pn**	**19 05 20.8**	**-0.8**		
TMWZ	**Te Maipa**	**1.32**	**79**	P	**Pn**	**19 05 21.2**	**-1.0**		
QRZ	**Quartz Range**	**1.35**	**293**	P	**Pn**	**19 05 22.4**	**-0.2**		
QRZ	**Quartz Range**	**1.35**	**293**	P	**Pn**	**19 05 22.5**	**-0.1**		
QRZ				S	Sn	19 05 39.7	+0.3		
TIWZ	**Tintock**	**1.42**	**66**	P	**Pn**	**19 05 22.4**	**-1.2**		
POWZ	**Post Office Ro**	**1.55**	**52**	P	**Pn**	**19 05 25.3**	**0.0**		
PRWZ	**Pori Road**	**1.58**	**60**	P	**Pn**	**19 05 24.7**	**-1.1**		
BFZ	**Birch Farm**	**1.71**	**67**	P	**Pn**	**19 05 26.5**	**-1.0**		
BFZ	**Birch Farm**	**1.71**	**67**	P	**Pn**	**19 05 25.9**	**-1.6**		
WAZ	**Wanganui**	**1.72**	**21**	P	**Pn**	**19 05 28.4**	**+0.7**		
DSZ	**Denniston Nort**	**1.82**	**257**	P	**Pn**	**19 05 29.3**	**+0.3**		
LREZ	**Lake Rotokare**	**1.91**	**5**	P	**Pn**	**19 05 30.9**	**+0.6**		
KHEZ	**Kahui Hut**	**2.07**	**357**	P	**Pn**	**19 05 33.4**	**+0.9**		
KHEZ	**Kahui Hut**	**2.07**	**357**	P	**Pn**	**19 05 33.0**	**+0.5**		
NEZ	**North Egmont**	**2.09**	**358**	P	**Pn**	**19 05 33.5**	**+0.7**		
NBEZ	**Newall Road No**	**2.10**	**354**	P	**Pn**	**19 05 33.9**	**+1.0**		
NBEZ				S	Sn	**19 06 00.5**	**+2.4**		
AMCZ	**Amberley**	**2.13**	**211**	P	**Pb**	**19 05 38.7**	**+0.9**		
PRHZ	**Porangahau**	**2.17**	**60**	P	**Pn**	**19 05 32.6**	**-1.1**		
DREZ	**Durham Road**	**2.17**	**1**	P	**Pn**	**19 05 34.6**	**+0.8**		
PKE	**Pukeiti**	**2.17**	**356**	P	**Pn**	**19 05 34.2**	**+0.3**		
PKVZ	**Pokaka**	**2.26**	**24**	P	**Pn**	**19 05 35.5**	**+0.4**		
VRZ	**Vera Road**	**2.28**	**12**	P	**Pn**	**19 05 35.9**	**+0.6**		
MOVZ	**Moawhango**	**2.30**	**32**	P	**Pn**	**19 05 36.1**	**+0.5**		
WNVZ	**Wahianoa**	**2.31**	**29**	P	**Pn**	**19 05 36.1**	**+0.2**		
TRVZ	**Turoa**	**2.31**	**27**	P	**Pn**	**19 05 36.0**	**0.0**		
WHVZ	**Whangaehu Hut**	**2.34**	**28**	P	**Pn**	**19 05 38.1**	**+1.7**		
FWVZ	**Far West T-bar**	**2.36**	**27**	P	**Pn**	**19 05 38.4**	**+1.8**		
BHHZ	**Black Hill Sta**	**2.36**	**38**	P	**Pn**	**19 05 35.8**	**-0.7**		
TUVZ	**Tukino**	**2.38**	**29**	P	**Pn**	**19 05 37.2**	**+0.4**		
KRHZ	**Kereru**	**2.40**	**45**	P	**Pn**	**19 05 38.2**	**+1.1**		
PXZ	**Pawanui**	**2.44**	**58**	P	**Pn**	**19 05 44.2**	**+1.2**		
NGZ	**Ngauruhoe**	**2.44**	**27**	P	**Pn**	**19 05 37.8**	**0.0**		
INZ	**Inchbonnie**	**2.44**	**235**	P	**Pn**	**19 05 37.4**	**-0.2**		
SNVZ	**South Ngauruho**	**2.45**	**28**	P	**Pn**	**19 05 37.9**	**+0.1**		
OTVZ	**Oturere**	**2.48**	**28**	P	**Pn**	**19 05 38.1**	**-0.1**		
TWVZ	**Taurewa**	**2.49**	**23**	P	**Pn**	**19 05 40.1**	**+1.8**		
NNVZ	**North Ngauruho**	**2.49**	**27**	P	**Pn**	**19 05 38.5**	**+0.1**		
WTVZ	**West Tongariro**	**2.49**	**26**	P	**Pn**	**19 05 39.6**	**+1.2**		
ETVZ	**East Tongariro**	**2.52**	**28**	P	**Pn**	**19 05 38.7**	**0.0**		
KRVZ	**Karewarewa**	**2.53**	**27**	P	**Pn**	**19 05 40.7**	**+1.9**		
TMVZ	**Te Maari**	**2.53**	**28**	P	**Pn**	**19 05 38.8**	**-0.2**		
NTVZ	**North Tongarir**	**2.54**	**27**	P	**Pn**	**19 05 39.0**	**-0.1**		
KAHZ	**Kahuranaki**	**2.59**	**54**	P	**Pn**	**19 05 40.5**	**+0.8**		
KWHZ	**Kaweka Forest**	**2.59**	**42**	P	**Pb**	**19 05 44.0**	**-1.6**		
KATZ	**Kakaramea**	**2.66**	**27**	P	**Pn**	**19 05 43.7**	**+3.1**		
AKCZ	**Akaroa Harbour**	**2.67**	**200**	P	**Pn**	**19 05 41.0**	**+0.2**		
RITZ	**Rihia Road**	**2.71**	**29**	P	**Pb**	**19 05 46.4**	**-1.3**		
RATZ	**Rangitukua**	**2.78**	**27**	P	**Pb**	**19 05 49.4**	**+0.6**		
RACZ	**Rakaia**	**2.80**	**212**	P	**Pn**	**19 05 41.5**	**-1.0**		
BKZ	**Black Stump Fm**	**2.82**	**40**	P	**Pn**	**19 05 42.5**	**-0.4**		
BKZ	**Black Stump Fm**	**2.82**	**40**	P	**Pb**	**19 05 47.6**	**-2.0**		
HIZ	**Hauiti**	**2.89**	**11**	P	**Pn**	**19 05 44.1**	**+0.3**		
HIZ	**Hauiti**	**2.89**	**11**	P	**Pn**	**19 05 44.1**	**+0.3**		
WVZ	**Waitaha Valley**	**3.07**	**235**	P	**Pn**	**19 05 45.6**	**-0.6**		
WACZ	**Wakanui South**	**3.10**	**213**	P	**Pn**	**19 05 47.1**	**+0.5**		
TLZ	**Tolley Road**	**3.21**	**20**	P	**Pn**	**19 05 49.4**	**+1.2**		
MTHZ	**Maungataniwha**	**3.24**	**40**	P	**Pn**	**19 05 49.6**	**+1.0**		
RPZ	**Rata Peaks**	**3.29**	**223**	P	**Pn**	**19 05 48.6**	**-0.6**		
RPZ	**Rata Peaks**	**3.29**	**223**	P	**Pn**	**19 05 48.8**	**-0.4**		
ARCZ	**Arundel**	**3.40**	**220**	P	**Pn**	**19 05 50.3**	**-0.4**		
GCSZ	**Gaunt Creek Bo**	**3.45**	**234**	P	**Pn**	**19 05 51.5**	**+0.1**		
TMZ	**Timaru**	**3.81**	**217**	P	**Pn**	**19 05 54.5**	**-1.9**		
FOZ	**Fox Glacier**	**3.88**	**235**	P	**Pn**	**19 05 56.2**	**-1.1**		
MWZ	**Matawai**	**3.98**	**42**	P	**Pb**	**19 06 05.2**	**-3.9**		
LBZ	**Lake Benmore**	**4.21**	**223**	P	**Pn**	**19 06 00.2**	**-1.6**		
AWAZ	**Awhitu Peninsu**	**4.31**	**5**	P	**Pn**	**19 06 04.0**	**+0.8**		
MKAZ	**Moumakai**	**4.32**	**11**	P	**Pn**	**19 06 03.4**	**0.0**		
ODZ	**Otahua Downs**	**4.49**	**214**	P	**Pn**	**19 06 04.1**	**-1.6**		
ODZ	**Otahua Downs**	**4.49**	**214**	P	**Pn**	**19 06 03.4**	**-2.3**		
RVAZ	**Riverhead Bore**	**4.60**	**4**	P	**Pn**	**19 06 07.1**	**-0.1**		
MBAZ	**Motutapu North**	**4.62**	**7**	P	**Pn**	**19 06 08.1**	**+0.6**		
WIAZ	**Waiheke Island**	**4.62**	**10**	P	**Pn**	**19 06 08.0**	**+0.4**		
KUZ	**Kuaotunu**	**4.77**	**15**	P	**Pn**	**19 06 10.0**	**+0.5**		
KUZ	**Kuaotunu**	**4.77**	**15**	P	**Pn**	**19 06 09.7**	**+0.2**		
JCZ	**Jackson Bay**	**4.80**	**234**	P	**Pn**	**19 06 09.1**	**-1.0**		
JCZ	**Jackson Bay**	**4.80**	**234**	P	**Pn**	**19 06 08.6**	**-1.5**		
CTZ	**Chatham Island**	**7.20**	**112**	P	**Pn**	**19 06 40.8**	**-2.1**		
CTZ	**Chatham Island**	**7.20**	**112**	P	**Pn**	**19 06 41.3**	**-1.6**		

*IDC **27** 19:05:48.5±2.8, 38˚40N×142˚31E, h56km±28km, mb3.1/3, mbtmp3.6/9, ML3.2/6, Error ellipse: s-maj=30.8km s-min=17.0km az=116.0*
*JMA **27** 19:05:50.8±0.1, 38˚4N±0˚2×141˚8E±0˚5, h58km, MV3.7/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
ISC 27 19:05:49.4±1.2, 38˚35N±0˚05×141˚98E±0˚09, h56km±9km, n29, σ1°59/38, mb3.6/3, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC		
JIKH	**Ishinomakikobu**	**0.40**	**265**	*i* P	**Pn**	**19 06 00.4**	**+0.3**		
JIKH				S	Sn	19 06 07.1	-0.6		
JIO	**Ouri**	**0.51**	**282**	*i* P	**Pn**	**19 06 01.2**	**+0.2**		
JIO				S	Sn	19 06 08.5	-1.0		
JKMT	**Kesennumamotoy**	**0.61**	**320**	*i* P	**Pn**	**19 06 02.9**	**+0.6**		
JKMT				S	Sn	19 06 11.4	-0.2		
OFUJ	**Ofunato**	**0.77**	**342**	*i* P	**Pn**	**19 06 05.3**	**+1.0**		
OFUJ				S	Sn	19 06 15.8	+0.5		
JMK	**Ichinoseki**	**0.84**	**316**	*i* P	**Pn**	**19 06 05.7**	**+0.5**		
JMK				S	Sn	19 06 16.3	-0.6		
JOFO	**Osakifurukawao**	**0.87**	**287**	*i* P	**Pn**	**19 06 05.5**	**-0.2**		
JOFO				S	Sn	19 06 16.7	-0.8		
JOU	**Okura**	**1.03**	**271**	*i* P	**Pn**	**19 06 07.3**	**-0.5**		
JOU				S	Sn	19 06 19.4	-1.9		
JMM	**Marumori**	**1.05**	**243**	⇓*i* P	**Pn**	**19 06 07.4**	**-0.6**		
JMM				⇓S	Sn	19 06 19.4	-2.3		
JOM	**Ohasama**	**1.24**	**335**	⇓*i* P	**Pn**	**19 06 11.3**	**+0.8**		
JOM				⇓S	Sn	19 06 26.6	+0.2		
JFK	**Kawauchi**	**1.31**	**222**	⇓*i* P	**Pn**	**19 06 11.4**	**-0.1**		
JFK				⇓S	Sn	19 06 27.0	-1.1		
JYK	**Kaneyama**	**1.39**	**295**	*i* P	**Pn**	**19 06 12.3**	**-0.2**		
JYK				S	Sn	19 06 28.5	-1.3		
JRG	**Rokugo**	**1.48**	**315**	*i* P	**Pn**	**19 06 14.4**	**+0.7**		
JRG				S	Sn	19 06 32.4	+0.3		
JYS	**Shirataka**	**1.51**	**266**	P	**Pn**	**19 06 14.0**	**-0.1**		
JYS				S	Sn	19 06 31.3	-1.5		
JYA	**Atsumi**	**1.79**	**279**	P	**Pn**	**19 06 18.0**	**0.0**		
JYA				S	Sn	19 06 38.7	-0.9		
MJAR	**Matsushiro Arr**	**3.50**	**240**	P	**Pn**	**19 06 42.9**	**+1.6**		
	0.5nm,0.3s,baz=34,slow=14,SNR=26								
MJAR				S	Sn	**19 07 27.8**	**+6.2**		
	2.1nm,0.4s,baz=58,slow=27,SNR=1.8 3.3nm,0.4s								
JHJ	**Hachijo jima 2**	**5.51**	**200**	P	**Pn**	**19 07 08.2**	**-0.7**		
	6.8nm,0.3s,baz=56,slow=12,SNR=1.6 89nm,0.7s								
ASAJ	**Asahikawa**	**5.78**	**4**	P	**Pn**	**19 07 12.4**	**-0.1**		
	2.7nm,0.3s,baz=192,slow=13,SNR=2.1 5.5nm,0.3s								
USRK	**Ussuriysk Ar.**	**9.52**	**311**	P	**Pn**	**19 08 03.9**	**+0.1**		
	0.1nm,0.3s,baz=121,slow=17,SNR=2.1 2.1nm,0.7s								
KSRS	**Korea Array**	**11.14**	**270**	P	**Pn**	**19 08 29.6**	**+3.6**		
	0.1nm,0.3s,baz=76,slow=14,SNR=1.9 0.8nm,0.8s								
PETK	**Petropavlovsk-**	**18.33**	**31**	P	**P**	**19 09 55.9**	**-3.1**		
	0.1nm,0.3s,baz=188,slow=5.8,SNR=1.7 0.9nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	19 42 09.2			
	baz=316,slow=75,SNR=90								
H11N1	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	19 41 56.5			
	baz=316,slow=75,SNR=63								
H11N3	**WAKE ISLAND Hy**	**28.49**	**124**	T	T	19 41 57.2			
	baz=316,slow=75,SNR=41								
H11S1	**WAKE ISLAND Hy**	**29.23**	**126**	T	T	19 42 52.1			
	baz=318,slow=76,SNR=47								
H11S3	**WAKE ISLAND Hy**	**29.23**	**126**	T	T	19 42 52.3			
	baz=318,slow=76,SNR=64								
H11S2	**WAKE ISLAND Hy**	**29.25**	**126**	T	T	19 42 53.6			
	baz=318,slow=76,SNR=46								
MKAR	**Makanchi Array**	**43.81**	**301**	P	**P**	**19 13 49.5**	**-0.2**		
	0.1nm,0.6s,baz=72,slow=9.3,SNR=2.0 0.1nm,0.6s								
WRA	**Warramunga Arr**	**58.42**	**188**	P	**P**	**19 15 39.1**	**-0.3**		
	0.5nm,0.5s,baz=5.5,slow=7.3,SNR=12 0.5nm,0.5s								
ASAR	**Alice Springs**	**62.15**	**188**	P	**P**	**19 16 04.5**	**-0.3**		
	0.3nm,0.6s,baz=17,slow=12,SNR=7.8 0.3nm,0.6s								

*IDC **27** 19:08:29.5±1.7, 38˚83N×122˚84W, h0km, mb3.4/2, mbtmp3.4/7, ML3.5/4, MS3.3/8, Error ellipse: s-maj=19.4km s-min=10.7km az=53.0*
*NEIC **27** 19:08:29.4±2.2, 38˚80N±0˚01×122˚78W±0˚02, h17km±4km, Error ellipse: s-maj=2.9km s-min=1.9km az=62.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}=0.99; $M_{\theta\theta}$=1.78; $M_{\phi\phi}$=2.77; $M_{r\theta}$=0.94; $M_{\theta\phi}$=0.20; $M_{\phi r}$=0.47; Fault plane solution: M_0=2.65000×10¹⁵ NP1: ϕ_s=222.77000°, δ=61.32000°, λ=-20.88000°. NP2: ϕ_s=323.15000°, δ=71.78000°, λ=-149.65000°. Principal axes: T 2.8255, Plg7.0000°, Azm91.0000°; N -0.3925, Plg55.0000°, Azm351.0000°; P -2.4329, Plg34.0000°, Azm186.0000°;*
*NCEDC **27** 19:08:29.7±2.8, 38˚79N±0˚01×122˚76W±0˚02, h3km±4km, Mwr3.9/5, ML3.5/88(NEIC), Mwr4.2/29(NEIC) Error ellipse: s-maj=2.1km s-min=1.7km az=89.0*
*NEIC **27** 19:08:29.7, 38˚79N×122˚76W, h2km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; M_{rr}=3.12; $M_{\theta\theta}$=5.80; $M_{\phi\phi}$=8.92; $M_{r\theta}$=2.18; $M_{\theta\phi}$=-2.69; $M_{\phi r}$=0.67; Fault plane solution: M_0=8.60000×10¹⁴ NP1:ϕ_s=308.29000°, δ=69.93000°, λ=-160.69000°. NP2:ϕ_s=211.44000°, δ=71.90000°, λ=-21.17000°. Principal axes: T 9.4012, Plg1.0000°, Azm260.0000°; N -1.9433, Plg62.0000°, Azm353.0000°; P -7.4578, Plg28.0000°, Azm169.0000°;*
ISC 27 19:08:29.5±0.8, 38˚80N±0˚02×122˚75W±0˚02, h7km±4km, n196, σ1°26/195, MS3.4/4, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC		
GCRM	**Castle Rock Sp**	**0.04**	**135**		**Pg**	**19 08 30.7**	**-0.3**		
GDXM	**Geysers**	**0.04**	**283**		**Pg**	**19 08 30.5**	**-0.5**		
GDXM				Sg	**Sg**	**19 08 31.2**	**-0.8**		
GBGM	**Boggs Mountain**	**0.06**	**75**		**Pg**	**19 08 31.5**	**+0.2**		
GSGM	**Seigler Mounta**	**0.07**	**24**		**Pg**	**19 08 32.0**	**+0.7**		
GAXM	**Alexander Vall**	**0.09**	**183**		**Pg**	**19 08 33.0**	**+1.4**		
GACM	**Adobe Creek**	**0.12**	**310**		**Pg**	**19 08 32.4**	**+0.3**		
GPMM	**Pine Mountain**	**0.16**	**287**		**Pg**	**19 08 31.5**	**-1.3**		
NHSM	**Mount Saint He**	**0.18**	**144**		**Pg**	**19 08 33.3**	**+0.2**		
GCVM	**Cloverdale**	**0.21**	**262**		**Pg**	**19 08 34.2**	**+0.5**		
GSSM	**Skaggs Springs**	**0.23**	**245**		**Pg**	**19 08 34.5**	**+0.5**		
NMTM	**Middletown**	**0.24**	**88**		**Pg**	**19 08 34.7**	**+0.5**		
MAC	**Mark West Spri**	**0.25**	**175**		**Pb**	**19 08 34.9**	**+0.5**		
MNRC	**McLaughlin Min**	**0.25**	**72**		**Pb**	**19 08 35.6**	**-0.9**		
HOPS	**Hopland Field**	**0.32**	**308**		**Pb**	**19 08 36.3**	**-1.2**		
HOPS				Sg	**Sg**	**19 08 38.0**	**-1.9**		
HOPS					IAML	19 08 42.6			
	comp=N,8μm,1.1s								
HOPS					IAML	19 08 45.7			
	comp=E,8μm,1.5s								
GHLM	**Highland Sprin**	**0.32**	**319**		**Pb**	**19 08 36.3**	**-1.3**		
GWKM	**Walker Ridge**	**0.32**	**38**		**Pb**	**19 08 36.9**	**-0.7**		
GHGM	**Hogback Ridge**	**0.33**	**350**		**Pb**	**19 08 36.6**	**-1.3**		
GHCM	**House Creek**	**0.40**	**241**		**Pb**	**19 08 37.9**	**-1.1**		
NTYM	**Taylor**	**0.41**	**171**		**Pb**	**19 08 38.0**	**-1.2**		
NBPM	**Berryessa Peak**	**0.45**	**107**		**Pb**	**19 08 39.7**	**-0.1**		
CVS	**Carmenet Viney**	**0.51**	**153**		**Pb**	**19 08 39.6**	**-1.1**		
NAPC	**Atlas Peak**	**0.53**	**133**		**Pb**	**19 08 40.1**	**-1.1**		
NBRB	**Beebe Ranch Br**	**0.56**	**164**		**Pb**	**19 08 40.7**	**-0.9**		
GWRM	**Wonder Ranch**	**0.59**	**314**		**Pb**	**19 08 41.6**	**-0.6**		
GFC	**Funks Creek**	**0.64**	**34**		**Pn**	**19 08 44.3**	**-0.7**		
NDHM	**Dunnigan Hills**	**0.66**	**93**		**Pn**	**19 08 44.4**	**-0.8**		
SNT	**Sears Point**	**0.66**	**159**		**Pb**	**19 08 42.2**	**-1.1**		
MCCM	**Marconi Confer**	**0.66**	**189**		**Pb**	**19 08 43.0**	**-0.4**		
MCCM					Sg	**19 08 52.6**	**-0.1**		
MCCM					IAML	19 08 59.2			
	comp=N,4μm,0.9s								
MCCM					IAML	19 09 00.1			
	comp=E,3μm,0.8s								
NGVM		**0.67**	**141**		**Pb**	**19 08 42.7**	**-0.7**		
NADM	**Allendale**	**0.70**	**119**		**Pn**	**19 08 45.0**	**-0.8**		
GHMM	**Hull Mountain**	**0.71**	**349**		**Pn**	**19 08 44.5**	**-1.7**		
NOLM	**Olema**	**0.76**	**183**		**Pb**	**19 08 44.5**	**-0.6**		
GCK	**Clark Valley**	**0.78**	**18**		**Pb**	**19 08 46.9**	**-0.2**		
NLHM	**Lake Herman**	**0.83**	**145**		**Pb**	**19 08 45.7**	**-0.5**		
NPRM	**Point Reyes**	**0.83**	**195**		**Pb**	**19 08 45.8**	**-0.4**		
OSUM	**Sutter Buttes**	**0.84**	**56**		**Pb**	**19 08 46.0**	**-0.4**		
C032	**McCall Drive,**	**0.85**	**147**		**Pb**	**19 08 46.1**	**-0.6**		
SUTB	**Sutter Butte**	**0.86**	**60**		**Pb**	**19 08 45.7**	**-1.1**		
GTC	**Three Chop Rid**	**0.87**	**314**		**Pn**	**19 08 47.0**	**-1.2**		
HERB	**Hercules**	**0.87**	**154**		**Pb**	**19 08 46.6**	**-0.4**		
CPMM	**Point Molate**	**0.89**	**162**		**Pb**	**19 08 46.5**	**-0.8**		
C067	**Fleetwood El S**	**0.90**	**156**		**Pn**	**19 08 47.4**	**-1.1**		
CPIM	**Pinole Ridge**	**0.91**	**152**		**Pn**	**19 08 47.4**	**-1.4**		
C024	**33rd St Richmo**	**0.91**	**159**		**Pn**	**19 08 47.5**	**-1.3**		
RFSB	**Richmond Field

comp=N,119nm,21.6s,baz=248,slow=31
YBH Yreka Blue Hor 2.93 1 Pn 19 09 18.4 +1.7
PMPB Monarch Peak 3.01 148 Pn 19 09 17.2 -0.4
PMPB IAML 19 10 34.5
comp=N,202nm,1.2s
PMPB IAML 19 10 35.1
comp=E,217nm,1.2s
MDYM Dry Creek 3.15 110 Pb 19 09 22.4 -3.7
PLTX Planet X, Gerl 3.17 52 Pn 19 09 19.1 -0.8
RYN Ryan 3.31 92 Pn 19 09 22.4 +0.5
RYN IAML 19 10 18.2
comp=N,131nm,1.7s
RYN IAML 19 10 19.8
comp=E,136nm,1.1s
LHV Little Huntoon 3.37 98 Pn 19 09 23.6 +1.0
NVAR Mina Array Bea 3.50 95 Pn Pn 19 09 25.6 +1.0
comp=E,1.9nm,0.3s,baz=271,slow=15,SNR=30
NVAR Pg **Pb 19 09 32.5 +0.5**
comp=E,6.5nm,0.3s,baz=264,slow=19,SNR=24
NVAR Lg Lg 19 10 16.1
comp=E,4.4nm,0.3s,baz=254,slow=18,SNR=3.6
comp=E,3.5nm,0.4s
NVAR Mina Array Bea 3.50 95 Pn 19 09 25.0 +0.4
NV11 Mina Array Sit 3.62 94 Pn 19 09 26.8 +0.7
NV11 IAML 19 10 28.0
comp=N,126nm,1.6s
NV11 IAML 19 10 41.0
comp=E,91nm,1.4s
MOD Modoc Plateau 3.62 30 Pn 19 09 27.5 +1.4
KVN Kaiserville 3.63 85 Pn 19 09 26.6 +0.2
KVN IAML 19 10 26.7
comp=E,52nm,1.3s
KVN IAML 19 10 38.0
comp=N,52nm,1.9s
BHPR Bishop 3.68 113 Pb 19 09 33.9 -1.1
HUMO Hull Mountain 3.81 358 Pn 19 09 27.6 -1.0
DSP Deep Springs 4.03 109 Pn 19 09 29.7 -1.9
DSP IAML 19 10 38.0
comp=E,70nm,1.3s
DSP IAML 19 10 45.9
comp=N,47nm,1.1s
K05A Summer Lake 4.17 19 Pn 19 09 35.2 +1.4
K05A IAML 19 11 08.4
comp=E,44nm,4.6s
K05A IAML 19 11 18.3
comp=N,46nm,3.7s
LCH Last Change Ra 4.32 110 Pn 19 09 36.7 +0.8
LCH IAML 19 10 59.2
comp=N,46nm,1.8s
LCH IAML 19 10 59.6
comp=E,42nm,1.5s
DBO Dodson Butte 4.33 355 Pn 19 09 37.0 +1.1
DBO IAML 19 11 18.2
comp=E,52nm,4.7s
DBO IAML 19 11 29.8
comp=N,32nm,5.0s
Q09A Carvers 4.35 88 Pn 19 09 35.9 -0.3
MZP Montezuma Peak 4.36 103 Pn 19 09 36.8 +0.3
TPH Tonopah 4.40 98 Pn 19 09 38.2 +1.3
BMN Battle Mountai 4.57 67 Pn 19 09 41.1 +1.9
WOFM Oak Flat 4.58 134 Pn 19 09 38.3 -1.1
WOFM Pb 19 09 43.9 -6.4
GRAC Grapevine Rang 4.62 111 Pn 19 09 40.3 +0.5
ISA Isabella, Lake 4.63 131 Pn 19 09 39.7 -0.3
ISA IAML 19 10 51.5
comp=E,36nm,1.0s
ISA IAML 19 10 57.3
comp=N,31nm,1.2s
BCW Bitter Crk WRg 4.69 144 Pn 19 09 41.6 +0.8
WVOR Wild Horse Val 4.79 39 Pn 19 09 42.9 +0.6
WVOR IAML 19 11 40.9
comp=N,28nm,2.0s
WVOR IAML 19 11 47.2
comp=N,29nm,4.5s
PINE Pine Mountain 5.17 15 Pn 19 09 47.3 -0.2
PINE IAML 19 10 47.6
comp=N,23nm,4.8s
PINE IAML 19 12 18.7
comp=E,26nm,4.6s
WCT Wildcat Mounta 5.25 111 Pn 19 09 47.6 -0.9
WCT IAML 19 11 12.2
comp=N,30nm,1.3s
WCT IAML 19 11 17.8
comp=E,21nm,1.7s
CCAC Calif City Air 5.25 132 Pn 19 09 48.7 +0.2
BUCK Buck Mountain 5.40 358 Pn 19 09 52.4 +1.9
TPNV Topopah Spring 5.46 108 Pn 19 09 49.5 -2.0
GWY Greenwater Val 5.49 116 Pn 19 09 52.0 +0.1
J08A Circle Bar Ran 5.58 34 Pn 19 09 53.2 +0.2
R11A Troy Canyon, C 5.63 92 Pn 19 09 51.9 -2.0
S11A Rachel 5.63 100 Pn 19 09 51.9 -1.9
COR Corvallis 5.80 356 Pn Pn 19 09 56.0 +0.1
I07A Izee 5.81 24 Pn Pn 19 09 56.1 -0.2
H04A Detroit Lake 5.89 4 Pn Pn 19 09 59.2 +1.9
GSC Goldstone, Bar 5.90 124 Pn Pn 19 09 56.2 -1.2
ELK Elko 6.10 69 Pn Pn 19 10 02.2 +1.8
comp=E,0.2nm,0.3s,baz=253,slow=16,SNR=7.3
ELK Sn **Sn 19 11 13.1 +2.5**
comp=E,0.1nm,0.3s,baz=315,slow=19,SNR=1.3
ELK Lg Lg 19 11 42.9
comp=E,0.3nm,0.3s,baz=320,slow=18,SNR=2.1
ELK LR LR 19 12 28.4
comp=E,394nm,19.1s,baz=230,slow=39
comp=E,1.8nm,0.7s
ELK Elko 6.10 69 Pn 19 10 01.6 +1.2
PRN Pahroc Range 6.23 101 Pn Pn 19 10 02.8 +0.8
SHPR Sheep Range 6.44 108 Pn Pn 19 10 03.8 -1.1
SPR3 Spring Creek 3 6.57 86 Pn Pn 19 10 05.5 -1.4
PFO Pinyon Flats O 7.25 134 Pn Pn 19 10 19.1 +3.1
comp=E,0.6nm,0.3s,baz=306,slow=12,SNR=4.0
comp=E,2.3nm,0.5s
DUG Dugway, Tooele 7.81 77 Pn 19 10 25.4 +1.7
PDAR Pinedale Array 10.76 64 Pn Pn 19 11 08.1 +3.9
comp=E,0.1nm,0.3s,baz=252,slow=14,SNR=6.9
PDAR LR LR 19 15 18.7
comp=E,132nm,20.8s,baz=282,slow=38
comp=E,1.3nm,1.0s
TXAR Lajitas Array 18.38 115 P P 19 12 46.8 +1.7
comp=E,1.1nm,0.9s,baz=291,slow=11,SNR=5.2
TXAR LR LR 19 20 23.5
comp=E,74nm,20.5s,baz=285,slow=39
ULM Lac du Bonnet 22.19 50 P P 19 13 26.9 +0.7
comp=E,1.2nm,0.4s,baz=253,slow=10,SNR=3.0
comp=E,1.2nm,0.4s
YKA Yellowknife Ar 24.24 9 P P 19 13 48.5 +1.7
comp=E,0.9nm,1.2s,baz=201,slow=9.8,SNR=4.4
comp=E,0.9nm,1.2s
TKL Tuckaleechee C 31.03 83 LR LR 19 27 45.9
comp=E,128nm,19.0s,baz=306,slow=37
CMIG Matias Romero 32.55 124 LR LR 19 29 49.8
comp=E,52nm,20.9s,baz=212,slow=39
SADO Sadowa 32.75 65 LR LR 19 29 21.6
comp=E,82nm,18.8s,baz=336,slow=38
JTS Las Juntas de 44.08 120 LR LR 19 35 09.3
comp=E,39nm,21.1s,baz=35,slow=36
SUMG Summit 51.80 22 *i* P **P 19 17 39.0 +1.0**
H11S1 WAKE ISLAND Hy 63.65 273 T T 20 28 15.3
baz=56
H11S2 WAKE ISLAND Hy 63.66 273 T T 20 28 16.7
baz=56
H11S3 WAKE ISLAND Hy 63.67 273 T T 20 28 18.2
baz=56

IDC 27 19:42:54.5±73.0, 58°90N×30°52W, h0km, mb3.9/3, mbtmp3.9/3, MS3.4/2, Error ellipse: s-maj=2093.0km s-min=33.1km az=5.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**12.17**	**320**	LR	LR	19 49 40.4	
	comp=Z,166nm,18.6s,baz=146,slow=33						
FRB	**Frobisher Bay**	**18.67**	**301**	LR	LR	19 52 27.6	
	comp=Z,114nm,18.4s,baz=180,slow=31						
FINES	**FINESS Array B**	**27.52**	**60**	P	P	19 48 41.2	-1.1
	1.8nm,0.9s,baz=289,slow=8.7,SNR=2.1						
	1.8nm,0.9s						
YKA	**Yellowknife Ar**	**38.57**	**312**	P	P	19 50 18.2	-0.3
	0.6nm,0.8s,baz=56,slow=9.0,SNR=8.2						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**61.14**	**46**	P	P	19 53 10.8	+0.5
	1.4nm,0.7s,baz=333,slow=6.3,SNR=18						
	1.4nm,0.7s						

*NEIC **27** 19:46:13.1±1.8, 6°68S±0°08×130°3E±0°1, h114km±13km, mb4.3/6, Error ellipse: s-maj=16.5km s-min=10.3km az=110.0*

*IDC **27** 19:46:15.5±2.2, 6°53S×130°32E, h130km±22km, mb3.5/7, mbtmp4.1/11, MS2.9/1, Error ellipse: s-maj=24.0km s-min=16.3km az=67.0*

ISC 27 19:46:15.7±0.6, 6.72S±0°07×130°28E±0°07, h150km, n35, σ1§70/33, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.22**	**350**	P	**Pn**	**19 46 54.7**	**+1.2**
SIJI	**Sorong**	**5.90**	**10**	P	**Pn**	**19 47 37.4**	**-3.7**
	22nm,0.2s,baz=286,slow=23,SNR=32						
SIJI				S	Sn	19 48 34.6	-13
	32nm,0.3s,baz=269,slow=24,SNR=15						
MTN	**Manton Dam**	**6.14**	**172**	P	**Pn**	**19 47 45.7**	**+1.3**
KDU	**Kakadu**	**6.31**	**160**	P	**Pn**	**19 47 46.5**	**-0.1**
SANI	**Sanana**	**6.31**	**317**	P	**Pn**	**19 47 48.0**	**+1.4**
BATI	**Baumata**	**7.40**	**242**	P	**Pn**	**19 48 03.0**	**+1.7**
	44nm,0.4s,baz=103,slow=4.9,SNR=34						
BATI				S	**Sn**	**19 49 20.9**	**-3.2**
	33nm,0.5s,baz=90,slow=20,SNR=2.5						
KNRA	**Kununurra**	**9.02**	**189**		**Pn**	**19 48 22.6**	**-0.2**
KNRA	**Kununurra**	**9.02**	**189**	P	**Pn**	**19 48 22.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**12.18**	**201**	Pn	**Pn**	**19 49 02.1**	**-2.3**
FITZ	**Fitzroy Crossi**	**12.18**	**201**	P	**Pn**	**19 49 04.3**	**-0.1**
TOLI2	**Tolitoli**	**12.26**	**309**	Pn	Pn	19 48 58.1	-7.4
PLAI	**Plampang**	**12.56**	**260**	P	**Pn**	**19 49 09.1**	**-0.3**
WB0	**Warramunga Arr**	**13.57**	**163**		**Pn**	**19 49 19.7**	**-2.5**
WRAB	**Tennant Creek**	**13.71**	**164**	Pn	**Pn**	**19 49 22.7**	**-1.5**
WRA	**Warramunga Arr**	**13.72**	**164**	P	Pn	19 49 21.0	-3.2
	0.9nm,0.4s,baz=350,slow=13,SNR=20						
WRA				S	Sn	19 51 46.0	-10
	3.6nm,0.4s,baz=268,slow=25,SNR=9.4						
WRA	**Warramunga Arr**	**13.72**	**164**	Pn	**Pn**	**19 49 22.7**	**-1.5**
WB2	**Warramunga Arr**	**13.72**	**164**	Pn	**Pn**	**19 49 21.6**	**-2.7**
WR0	**Warramunga Arr**	**13.79**	**163**	P	**Pn**	**19 49 24.1**	**-1.1**
COEN	**Coen**	**14.58**	**121**	Pn	**Pn**	**19 49 33.1**	**-1.9**
COEN	**Coen**	**14.58**	**121**	P	**P**	**19 49 37.2**	**-0.2**
JAGI	**Jajag, Banyuwa**	**16.08**	**263**	Pn	**Pn**	**19 49 51.5**	**-2.1**
JAGI				IAmb	IAmb	19 50 35.2	
	comp=Z,63nm,1.3s						
PMG	**Port Moresby**	**16.93**	**100**	P	**Pn**	**19 50 05.2**	**+1.3**
	comp=Z,2.6nm,0.4s,baz=311,slow=13,SNR=2.5						
PMG				S	S	19 53 00.7	-12
	comp=Z,2.8nm,0.4s,baz=338,slow=20,SNR=2.3						
PMG				LR	LR	19 56 55.2	
	comp=Z,48nm,21.3s,baz=316,slow=38						
PMG	**Port Moresby**	**16.93**	**100**		**Pn**	**19 50 04.2**	**+0.4**
PMG				IAmb	IAmb	19 50 21.9	
	comp=Z,9.3nm,0.9s						
AS31	**Alice Springs**	**17.20**	**169**	P	**P**	**19 50 07.5**	**+1.1**
ASAR	**Alice Springs**	**17.20**	**169**	P	**Pn**	**19 50 09.6**	**+2.4**
	comp=Z,1.9nm,0.6s,baz=349,slow=10,SNR=55						
ASAR				S	S	19 53 07.7	-10
	comp=Z,0.3nm,0.4s,baz=349,slow=23,SNR=2.2						
ASAR	**Alice Springs**	**17.20**	**169**		**P**	**19 50 06.3**	**0.0**
PSA00	**Pilbara Seismi**	**17.88**	**213**		**P**	**19 50 13.9**	**+0.2**
CTA	**Charters Tower**	**20.42**	**132**	P	Pn	19 50 44.4	-0.7
	comp=Z,3.5nm,0.6s,baz=329,slow=9.0,SNR=3.7						
	comp=Z,3.5nm,0.6s						
BBOO	**Buckleboo**	**26.51**	**169**	P	**P**	**19 51 41.2**	**+1.9**
BBOO				IAmb	IAmb	19 52 14.6	
	comp=Z,10.0nm,1.4s						
STKA	**Stephens Creek**	**27.17**	**159**	P	**P**	**19 51 47.2**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=315,slow=7.1,SNR=3.5						
	comp=Z,0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**39.77**	**309**	P	**P**	**19 53 35.7**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=132,slow=6.2,SNR=1.6						
	comp=Z,0.3nm,0.6s						
PETK	**Petropavlovsk-**	**63.98**	**18**	P	**P**	**19 56 33.4**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=197,slow=4.5,SNR=1.5						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**68.15**	**327**	P	**P**	**19 57 01.0**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=116,slow=6.6,SNR=22						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**71.46**	**334**	P	**P**	**19 57 19.3**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=128,slow=9.3,SNR=2.0						
	comp=Z,0.3nm,0.5s						
SEY	**Seymchan**	**71.48**	**10**	P	**P**	**19 57 20.7**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=210,slow=4.1,SNR=13						
	comp=Z,2.7nm,0.8s						

*BGR **27** 19:55:15.2, 59°42N×32°20W, h33km, mb4.4*

*IDC **27** 19:55:17.4±0.7, 59°26N×30°26W, h0km, mb3.9/25, mbtmp4.0/29, ML3.7/4, MS3.5/2, Error ellipse: s-maj=21.2km s-min=11.1km az=17.0*

*NEIC **27** 19:55:19.8±1.4, 59°54N±0°09×30°2W±0°1, h8km±4km, mb4.6/52, Error ellipse: s-maj=12.7km s-min=9.7km az=170.0*

ISC 27 19:55:20.2±0.4, 59°43N±0°07×30°23W±0°05, h14km, n133, σ1§21/132, mb4.4/59, MS3.7/4, 13C-8D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**6.78**	**34**	Pn	**Pn**	**19 57 00.0**	**+1.0**
	4.9nm,0.3s,baz=229,slow=5.2,SNR=17						
BORG				Sn	**Sn**	**19 58 15.3**	**-0.6**
	1.8nm,0.3s,baz=263,slow=23,SNR=7.1						
	16nm,0.4s						
BORG	**Borgarnes**	**6.78**	**34**	Pn	**Pn**	**19 56 57.5**	**-1.5**
BORG				Sn	**Sn**	**19 58 14.9**	**-1.0**
ANGG	**Ammassalik, Gr**	**7.09**	**334**	Pn	**Pn**	**19 56 59.9**	**-3.4**
NRS	**Narsarsuaq**	**7.74**	**289**	Pn	**Pn**	**19 57 09.4**	**-2.9**
IVI	**Ivigtut**	**9.08**	**289**	Pn	**Pn**	**19 57 28.5**	**-2.0**
SFJD	**Kangerlussuaq**	**11.87**	**318**	Pn	**Pn**	**19 58 07.9**	**-0.8**
	0.2nm,0.3s,baz=138,slow=18,SNR=2.1						
	5.9nm,0.8s						
SFJD	**Kangerlussuaq**	**11.87**	**318**	Pn	**Pn**	**19 58 06.7**	**-2.0**
SUMG	**Summit**	**13.60**	**349**	*i* P	**Pn**	**19 58 36.4**	**+3.7**
DSB	**Dublin**	**14.55**	**105**	Pn	**Pn**	**19 58 43.9**	**-1.6**
ESK	**Eskdalemuir**	**15.09**	**94**	Pn	**Pn**	**19 58 52.0**	**-0.7**
ESK				IAmb	IAmb	19 59 00.8	
	comp=Z,38nm,1.1s						
EKA	**Eskdalemuir Ar**	**15.11**	**94**	Pn	**Pn**	**19 58 53.1**	**+0.2**
	baz=308,slow=8.0						
	comp=Z,3.6nm,0.9s						
FRB	**Frobisher Bay**	**18.53**	**300**	P	**P**	**19 59 35.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=66,slow=13,SNR=2.6						
	comp=Z,2.1nm,0.8s						
SCHQ	**Schefferville**	**20.21**	**273**	P	**P**	**19 59 54.6**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=88,slow=5.6,SNR=4.0						
	comp=Z,3.8nm,0.8s						
SCHQ	**Schefferville**	**20.21**	**273**	P	**P**	**19 59 54.3**	**-0.1**
NOA	**NORSAR Array B**	**20.40**	**68**	P	**P**	**19 59 56.8**	**+0.4**
	comp=Z,1.9nm,1.1s,baz=267,slow=14,SNR=3.5						
	comp=Z,1.9nm,1.1s						
TULEG	**Thule**	**21.70**	**337**	P	**P**	**20 00 09.1**	**-1.1**
HFS	**Hagfors**	**21.82**	**69**	P	**P**	**20 00 10.7**	**-0.9**
	comp=Z,4.2nm,1.0s,baz=270,slow=6.5,SNR=3.6						
	comp=Z,4.2nm,1.0s						
BMRD	**Maredsous**	**21.87**	**99**	*dP*	**P**	**20 00 12.1**	**-0.2**
	comp=Z,16nm,1.0s						
DOU	**Dourbes**	**21.91**	**100**	*dP*	**P**	**20 00 13.1**	**+0.4**
	comp=Z,13nm,1.3s						
BGES	**Gesves**	**21.98**	**99**	*dP*	**P**	**20 00 17.6**	**+4.2**
	comp=Z,18nm,1.0s						
BCLA	**Clavier**	**22.07**	**98**	*dP*	**P**	**20 00 13.0**	**-1.4**
	comp=Z,13nm,1.1s						
BSTI	**Sart Tilman**	**22.11**	**98**	*dP*	**P**	**20 00 17.5**	**+2.8**
RCHB	**Rochefort**	**22.20**	**99**	*dP*	**P**	**20 00 16.6**	**+0.9**
	comp=Z,13nm,1.1s						
MEM	**Membach**	**22.31**	**97**	*dP*	**P**	**20 00 17.0**	**+0.1**
	comp=Z,8.8nm,1.0s						
WLF	**Walferdange**	**22.97**	**99**	*dP*	**P**	**20 00 26.2**	**+2.2**
	comp=Z,7.1nm,1.1s						
ECH	**Echery**	**24.41**	**101**	P	**P**	**20 00 38.4**	**+0.5**
ECH				IAmb	IAmb	20 00 49.6	
	comp=Z,17nm,1.2s						
BFO	**Black Forest**	**24.93**	**99**	P	**P**	**20 00 43.2**	**+0.6**
CLL	**Collm**	**25.47**	**89**	P	**P**	**20 00 47.1**	**-0.3**
CLL				IAmb	IAmb	20 01 26.4	
	comp=Z,17nm,1.5s						
CLL	**Collm**	**25.47**	**89**	*eP*	**P**	**20 00 48.0**	**+0.6**
	comp=Z,9.0nm,1.5s						
CLL				*ex*	x	20 00 53.0	
CLL				*ex*	x	20 01 06.0	
CLL				*eP*P	**PnPn**	**20 01 22.0**	**-0.6**
CLL				Lm	MLR	20 10 00.0	
	comp=Z,400nm,19.7s						
GRA1	**Grafenberg Arr**	**25.53**	**94**	P	**P**	**20 00 47.9**	**-0.2**
GRF	**Grafenberg Arr**	**25.53**	**94**	*eP*	**P**	**20 00 49.3**	**+1.3**
	comp=Z,10nm,1.3s,baz=305,slow=8.8						
GRFO	**Grafenberg**	**25.53**	**94**	P	**P**	**20 00 48.7**	**+0.7**
GRFO				IAmb	IAmb	20 00 54.2	
	comp=Z,20nm,1.2s						
PAB	**San Pablo**	**25.76**	**129**	P	**P**	**20 00 50.4**	**+0.1**
PAB				IAmb	IAmb	20 01 14.8	
	comp=Z,14nm,1.3s						
ESDC	**Sonseca Array**	**25.80**	**128**	P	**P**	**20 00 50.0**	**-0.6**
	comp=Z,4.3nm,1.0s,baz=327,slow=9.4,SNR=11						
	comp=Z,4.3nm,1.0s						
BRG	**Berggiesshubel**	**26.20**	**89**	*e*P	**P**	**20 00 55.3**	**+1.2**
BRG				Amp		20 00 56.7	
	comp=Z,4.9nm,1.1s						
EUNU	**Eureka**	**26.38**	**341**	P	**P**	**20 00 54.6**	**-0.9**
EUNU				IAmb	IAmb	20 01 33.6	
	comp=Z,18nm,1.4s						
KHC	**Kasperske Hory**	**27.08**	**93**	P	**P**	**20 01 02.6**	**+0.5**
KHC	**Kasperske Hory**	**27.08**	**93**	*e*P	**P**	**20 01 03.6**	**+1.5**
KHC				AMS	AMS	20 10 40.0	
	comp=Z,800nm,20.7s						
FINES	**FINESS Array B**	**27.13**	**61**	P	**P**	**20 01 01.9**	**-0.4**
	comp=Z,8.4nm,0.9s,baz=17,slow=8.0,SNR=3.2						
	comp=Z,8.4nm,0.9s						
FINES	**FINESS Array B**	**27.13**	**61**	P	**P**	**20 01 02.1**	**-0.2**
FIA1	**FINESS Array S**	**27.13**	**61**	P	**P**	**20 01 02.4**	**+0.1**
GERES	**GERESS Array B**	**27.32**	**93**	P	**P**	**20 01 04.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=309,slow=11,SNR=1.7						
	comp=Z,0.4nm,0.8s						
RES	**Resolute Bay**	**27.54**	**329**	P	**P**	**20 01 06.9**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=106,slow=9.7,SNR=2.4						
	comp=Z,2.1nm,0.9s						
RES	**Resolute Bay**	**27.54**	**329**	P	**P**	**20 01 06.4**	**+0.5**
RES				IAmb	IAmb	20 01 19.7	
	comp=Z,13nm,1.5s						
OSTC	**Ostas**	**27.55**	**88**	*e*P	**P**	**20 01 06.0**	**-0.3**
DPC	**Dobruska-Polom**	**27.73**	**88**	*e*P	**P**	**20 01 08.6**	**+0.7**
CIMO	**Cimolais**	**28.36**	**98**	P	**P**	**20 01 14.2**	**+0.7**
CIMO				IAmb	IAmb	20 01 38.5	
	comp=Z,7.1nm,1.2s						
CLUD	**Cludinico**	**28.48**	**98**	P	**P**	**20 01 14.1**	**-0.5**
CLUD				IAmb	IAmb	20 01 41.4	
	comp=Z,9.0nm,1.0s						
VRAC	**Vranov**	**28.51**	**90**	P	**P**	**20 01 14.4**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=82,slow=19,SNR=1.3						
	comp=Z,1.9nm,0.7s						
MORC	**Moravsky Berou**	**28.70**	**88**	P	**P**	**20 01 16.1**	**-0.5**
MAUC	**Maruska**	**29.11**	**89**	*e*P	**P**	**20 01 21.5**	**+1.4**
MODS	**Modra-Piesok**	**29.45**	**91**	*e*P	P	20 01 29.1	+5.9
VYHS	**Vyhne**	**30.17**	**89**	*e*P	P	20 01 36.4	+6.8
FDMO	**Fiordimonte**	**31.00**	**102**	P	**P**	**20 01 36.9**	**-0.1**
FDMO				IAmb	IAmb	20 01 46.3	
	comp=Z,12nm,1.2s						
PSZ	**Piszkesteto**	**31.08**	**89**	P	**P**	**20 01 37.3**	**-0.4**
MORH	**Mrgy, Hungar**	**31.58**	**93**	⇑P	**P**	**20 01 42.8**	**+0.8**
MDT	**Midelt**	**31.61**	**136**	LR	LR	20 12 43.3	
	comp=Z,106nm,21.2s,baz=346,slow=33						
TRPA	**Tarpa**	**32.30**	**87**	⇑P	**P**	**20 01 49.2**	**+0.9**
SIRR	**Siria**	**33.08**	**90**	⇑P	**P**	**20 01 56.2**	**+1.0**
KLMR	**Klimovskoe**	**33.27**	**57**	*e*P	**P**	**20 01 56.2**	**-0.4**
KLMR				AMP		20 01 58.4	
	comp=Z,35nm,1.3s						
BZS	**Buzias**	**33.50**	**91**	⇑P	**P**	**20 02 00.5**	**+1.7**
SURR	**Surduc**	**33.67**	**90**	⇑P	**P**	**20 02 01.9**	**+1.7**
DIVS	**Divibare**	**33.73**	**94**	P	**P**	**20 02 01.2**	**+0.3**
DIVS				IAmb	IAmb	20 02 18.1	
	comp=Z,8.0nm,1.4s						
BUR08	**Bucovina Ar. S**	**33.97**	**85**	P	**P**	**20 02 02.6**	**-0.4**
BUR08				IAmb	IAmb	20 02 12.3	
	comp=Z,10nm,1.3s						
BURAR	**Bucovina Array**	**34.00**	**85**	⇑P	**P**	**20 02 03.7**	**+0.4**
BURAR	**Bucovina Array**	**34.00**	**85**	P	**P**	**20 02 03.1**	**-0.1**
AKASG	**Malin Array Be**	**34.05**	**78**	P	**P**	**20 02 02.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=304,slow=8.9,SNR=8.7						
	comp=Z,0.2nm,0.3s						
GZR	**Gura Zlata**	**34.25**	**90**	⇑P	**P**	**20 02 07.1**	**+1.7**
HERR	**Herculane**	**34.42**	**91**	⇑P	**P**	**20 02 07.4**	**+0.6**
PDG	**Podgorica**	**34.55**	**97**	⇑P	**P**	**20 02 09.9**	**+1.9**
PDG	**Podgorica**	**34.55**	**97**	P	**P**	**20 02 07.8**	**-0.1**
PDG				IAmb	IAmb	20 02 13.2	
	comp=Z,14nm,1.3s						
DJES	**Djerdap**	**34.62**	**91**	P	**P**	**20 02 08.9**	**+0.4**
KEST	**Kesra**	**34.89**	**115**	P	**P**	**20 02 10.3**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=281,slow=4.7,SNR=2.3						
	comp=Z,3.4nm,0.8s						
OBN	**Obninsk**	**35.00**	**67**	LR	LR	20 15 36.6	
	comp=Z,70nm,20.8s,baz=340,slow=35						
SORM	**Soroca**	**35.25**	**82**	⇑P	**P**	**20 02 13.7**	**-0.2**
VOIR		**35.38**	**88**	⇑P	**P**	**20 02 16.4**	**+1.2**
PLOR	**Plostina**	**35.91**	**86**	⇑P	**P**	**20 02 21.1**	**+1.4**
VRI	**Vrincioaia**	**35.94**	**86**	⇑P	P	20 02 25.6	+5.6
KBN	**Korca**	**36.66**	**98**	P	**P**	**20 02 27.2**	**+1.0**
KBN				IAmb	IAmb	20 02 35.9	
	comp=Z,14nm,1.0s						
FNA	**Florina**	**36.84**	**97**	P	**P**	**20 02 28.4**	**+0.7**
ULM	**Lac du Bonnet**	**37.41**	**286**	P	**P**	**20 02 31.9**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=57,slow=7.7,SNR=4.3						
	comp=Z,3.4nm,0.8s						
ULM	**Lac du Bonnet**	**37.41**	**286**	P	**P**	**20 02 31.9**	**-0.4**
ULM				IAmb	IAmb	20 02 37.2	
	comp=Z,13nm,1.4s						
FFC	**Flin Flon**	**37.54**	**295**	P	**P**	**20 02 33.6**	**+0.2**
LIT	**Litokhoron**	**37.91**	**97**	P	**P**	**20 02 36.2**	**-0.6**
YKA	**Yellowknife Ar**	**38.33**	**312**	P	**P**	**20 02 40.9**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=55,slow=9.1,SNR=13						
YKA				PcP	**PcP**	**20 04 51.3**	**-2.0**
	comp=Z,0.3nm,0.9s,baz=50,slow=2.8,SNR=2.7						
	comp=Z,3.1nm,0.9s						
ALN	**Alexandroupoli**	**39.13**	**93**	P	**P**	**20 02 46.7**	**-0.2**
ALN				IAmb	IAmb	20 02 55.6	
	comp=Z,14nm,1.2s						
V58A	**Windy Hill, Pi**	**39.31**	**255**	P	**P**	**20 02 49.2**	**+0.8**
V58A				IAmb	IAmb	20 02 52.3	
	comp=Z,27nm,1.4s						
BRTR	**Keskin Array B**	**43.88**	**87**	P	**P**	**20 03 25.3**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=338,slow=9.4,SNR=4.4						
	comp=Z,1.9nm,1.0s						
ARU	**Arti**	**43.90**	**53**	P	**P**	**20 03 26.4**	**+0.6**
ARU				IAmb	IAmb	20 03 27.9	
	comp=Z,17nm,1.2s						
KBZ	**Khabaz**	**45.61**	**76**	P	**P**	**20 03 40.7**	**+1.2**
	comp=Z,5.4nm,1.0s,baz=314,slow=5.5,SNR=5.8						
	comp=Z,5.4nm,1.0s						
ILAR	**Eielson Array**	**47.29**	**329**	P	**P**	**20 03 53.9**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=91,slow=7.3,SNR=4.1

MK31					IAmb	IAmb	20 05 32.0		
	comp=Z,7.6nm,1.2s								
MKAR	**Makanchi Array**	**60.66**	**47**	P	**P**		**20 05 30.9**	**+0.5**	
	comp=Z,2.1nm,0.4s,baz=345,slow=4.4,SNR=45								
	comp=Z,2.1nm,0.4s								
MKAR	**Makanchi Array**	**60.66**	**47**	P	**P**		**20 05 30.7**	**+0.3**	
AAK	**Ala-Archa**	**61.04**	**55**	P	**P**		**20 05 33.5**	**+0.3**	
AAK					IAmb	IAmb	20 05 36.3		
	comp=Z,7.9nm,1.2s								
MA2	**Magadan**	**61.34**	**359**	P	**P**		**20 05 34.6**	**-0.1**	
	comp=Z,1.7nm,0.6s,baz=298,slow=21,SNR=2.3								
	comp=Z,1.7nm,0.6s								
KSH	**Kashi**	**64.26**	**56**	P	**P**		**20 05 58.0**	**+3.3**	
KSH				pmax	pmax				
	comp=Z,13nm,1.1s								
WMQ	**Urumqi**	**65.18**	**45**	*e*P	**P**		**20 06 02.3**	**+1.7**	
WMQ				pP	pP		20 06 05.3	+0.6	
WMQ				sP	sP		20 06 09.5	+3.3	
WMQ				pmax	pmax				
	comp=Z,10.0nm,1.3s								
SONM	**Songino Array**	**67.37**	**30**	P	**P**		**20 06 16.0**	**+1.3**	
	comp=Z,0.8nm,0.5s,baz=289,slow=4.4,SNR=1.5								
	comp=Z,0.8nm,0.5s								
ULN	**Ulaanbaatar**	**67.51**	**30**	P	**P**		**20 06 15.5**	**0.0**	
NIL	**Nilore**	**68.00**	**61**	P	**P**		**20 06 18.3**	**-0.3**	
GTA	**Gaotai**	**73.22**	**38**	*e*P	**P**		**20 06 50.5**	**-0.1**	
GTA				pP	pP		20 06 54.5	-0.2	
GTA				pmax	pmax				
	comp=Z,5.0nm,1.5s								
GOMU	**GeErMu**	**74.46**	**43**	P	**P**		**20 06 59.5**	**+1.4**	
GOMU				pP	sP		20 07 04.0	+0.1	
GOMU				sP	pP		20 07 06.0	+3.7	
GOMU				pmax	pmax				
	comp=Z,3.0nm,1.1s								
GOMU				pmax	pmax				
	comp=Z,120nm,5.4s								
ETMB	**Extrema**	**74.81**	**217**	P	**P**		**20 07 00.8**	**+1.0**	
ETMB				IAmb	IAmb		20 07 23.6		
	comp=Z,8.7nm,1.5s								
LODK	**Lodwar**	**74.82**	**110**	P	**P**		**20 07 01.4**	**+1.3**	
HHC	**Hu-ho-hao-te**	**75.21**	**29**	*e*P	**P**		**20 07 03.5**	**+1.4**	
HHC				pmax	pmax				
	comp=Z,8.0nm,0.9s								
HHC				pmax	pmax				
	comp=Z,300nm,4.8s								
MNMC	**Minye Minye**	**84.62**	**217**	P	**P**		**20 07 54.9**	**+1.6**	
GO01	**Chusmiza**	**85.01**	**217**	P	**P**		**20 07 55.5**	**+0.1**	
PB11	**IPOC Station P**	**85.24**	**217**	P	**P**		**20 07 56.2**	**0.0**	
NJ2	**Nanjing**	**85.33**	**26**	*e*P	**P**		**20 07 56.0**	**-0.5**	
NJ2				pmax	pmax				
	comp=Z,5.0nm,1.2s								
CMAR	**Chiang Mai Arr**	**92.07**	**47**	P	**P**		**20 08 27.9**	**-0.9**	
	comp=Z,0.7nm,0.9s,baz=334,slow=6.0,SNR=4.0								
	comp=Z,0.7nm,0.9s								
WRA	**Warramunga Arr**	**139.03**	**22**	PKP	**PKPdf**		**20 14 45.5**	**-0.6**	
	comp=Z,0.3nm,0.8s,baz=351,slow=1.6,SNR=1.9								
ASAR	**Alice Springs**	**142.55**	**24**	PKhKP	PKPpre		20 14 44.2		
	comp=Z,0.1nm,0.3s,baz=40,slow=52,SNR=2.2								
ASAR				PKP	**PKPdf**		**20 14 50.0**	**-2.4**	
	comp=Z,1.0nm,1.0s,baz=350,slow=2.8,SNR=4.8								

*IDC **27** 19:55:38.9±1.6, 59˚39N×30˚29W, h0km, mb3.9/8, mbtmp4.0/10, ML3.9/2, Error ellipse: s-maj=34.4km s-min=26.0km az=49.0*
ISC 27 19:55:41.4±1.2, **59˚4N**±0˚1×**30˚3W**±0˚1, **h16**km, **n10**, σ1**9**08/11, **mb3.9/8**, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**6.79**	**34**	Pn	**Pn**	**19 57 21.2**	**+1.0**
BORG				Sn	**Sn**	**19 58 36.2**	**-0.7**
	3.9nm,0.3s,baz=299,slow=9.4,SNR=6.1						
	0.9nm,0.3s,baz=75,slow=22,SNR=1.1						
	65nm,0.8s						
EKA	**Eskdalemuir Ar**	**15.14**	**94**	Pn	**Pn**	**19 59 15.4**	**+1.1**
	baz=314,slow=9.6						
	5.1nm,1.0s						
HFS	**Hagfors**	**21.85**	**69**	P	**P**	**20 00 31.2**	**-1.7**
	6.8nm,1.0s,baz=278,slow=10.0,SNR=3.5						
	6.8nm,1.0s						
ESDC	**Sonseca Array**	**25.83**	**128**	P	**P**	**20 01 10.3**	**-1.5**
	2.5nm,1.0s,baz=323,slow=8.8,SNR=2.6						
	2.5nm,1.0s						
YKA	**Yellowknife Ar**	**38.30**	**312**	P	**P**	**20 03 00.2**	**-0.3**
	1.5nm,0.9s,baz=57,slow=8.7,SNR=3.2						
	1.5nm,0.9s						
BRTR	**Keskin Array B**	**43.92**	**87**	P	**P**	**20 03 47.2**	**0.0**
	0.7nm,0.9s,baz=16,slow=8.9,SNR=1.6						
	0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**51.94**	**139**	P	**P**	**20 04 50.2**	**+0.9**
	1.3nm,0.8s,baz=327,slow=8.7,SNR=2.9						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**55.59**	**40**	P	**P**	**20 05 16.1**	**+0.4**
	1.1nm,0.8s,baz=350,slow=7.3,SNR=3.7						
	1.1nm,0.8s						
GEYT	**Allbeck**	**57.50**	**70**	P	**P**	**20 05 29.1**	**-0.5**
	1.3nm,0.8s,baz=294,slow=7.2,SNR=2.1						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**60.68**	**47**	P	**P**	**20 05 51.9**	**+0.5**
	6.3nm,0.9s,baz=327,slow=5.6,SNR=9.4						
	6.3nm,0.9s						

*IDC **27** 19:58:28.9±4.2, 15˚70S×175˚63W, h516km±29km, mb3.2/3, mbtmp4.2/6, Error ellipse: s-maj=123.0km s-min=30.8km az=4.0*
ISC 27 19:58:26.1±4.4, **15˚S**±1˚×**175˚6W**±0˚2, **h500**km, **n6**, σ1**9**06/6, **mb3.8**/3, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.62**	**246**	P	**P**	**20 00 09.8**	**+1.3**
	3.9nm,0.3s,baz=105,slow=19,SNR=11						
RAR	**Rarotonga**	**16.20**	**114**	P	**P**	**20 01 49.1**	**+0.2**
	7.1nm,0.3s,baz=296,slow=20,SNR=2.3						
DZM	**Mont Dzumac**	**18.35**	**245**	P	**P**	**20 02 09.0**	**-0.9**
	5.7nm,0.9s,baz=99,slow=9.4,SNR=2.2						
STKA	**Stephens Creek**	**42.34**	**239**	P	**P**	**20 05 34.8**	**-0.9**
	1.7nm,0.5s,baz=87,slow=10,SNR=8.5						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**47.84**	**257**	P	**P**	**20 06 18.1**	**-0.1**
	0.6nm,0.5s,baz=87,slow=6.6,SNR=21						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**48.17**	**252**	P	**P**	**20 06 21.1**	**+0.3**
	3.7nm,0.5s,baz=85,slow=8.1,SNR=93						
	3.7nm,0.5s						

*IDC **27** 20:02:02.7±1.5, 33˚90N×133˚78E, h44km±17km, mb3.4/5, mbtmp3.7/10, ML3.0/5, MS2.7/2, Error ellipse: s-maj=19.3km s-min=13.6km az=143.0*
*JMA **27** 20:02:03.0±0.1, 33˚9N±0˚2×133˚7E±0˚2, h45km, MD3.9/32, MV4.0/32, TOKUSHIMA PREF*
JMA Felt III J1 at TOKUSHIMA PREF .
*NIED **27** 20:02:03.0, 33˚92N×133˚73E, h45km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.85; $M_{\theta\theta}$-6.25; $M_{\phi\phi}$5.40; $M_{r\theta}$-2.84; $M_{\theta\phi}$2.12; $M_{\phi r}$-2.66; Fault plane solution: M_o7.35000×10^{14} NP1: ϕ_s237.00000°, δ84.00000°, λ32.00000°. NP2: ϕ_s143.00000°, δ58.00000°, λ173.00000°.*
ISC 27 20:02:03.2±0.8, **33˚92N**±0˚05×**133˚74E**±0˚03, **h43**km±8km, **n41**, σ1**9**20/35, **mb3.9**/7, **9D**, **Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMN	**Monobe**	**0.22**	**148**	⇓P	**Pn**	**20 02 11.0**	**0.0**
JMN				⇓S	**Sn**	**20 02 16.5**	**0.0**
JMN	**Monobe**	**0.22**	**148**	A	A	20 02 11.0	
	comp=E,17nm,0.2s,comp=E,19nm,0.2s						
JMAF	**Mimaanabuki**	**0.37**	**70**	A	A	20 02 12.3	
	comp=E,9.0nm,0.8s,comp=E,12nm,0.6s						
JKHR	**Kochiharuno**	**0.45**	**206**	A	A	20 02 13.3	
	comp=E,42nm,0.5s,comp=E,10.0nm,0.4s						
JJS	**Sakaide**	**0.48**	**19**	⇓P	**Pn**	**20 02 13.4**	**-0.4**
JJS				⇓S	**Sn**	**20 02 21.0**	**-0.4**
JJS	**Sakaide**	**0.48**	**19**	A	A	20 02 13.4	
	comp=E,17nm,0.8s,comp=E,29nm,0.4s						
JET	**Tanbara**	**0.59**	**257**	P	**Pn**	**20 02 15.0**	**-0.3**
JET				S	**Sn**	**20 02 23.5**	**-0.3**
JET	**Tanbara**	**0.59**	**257**	A	A	20 02 15.0	
	comp=E,10.0nm,0.8s,comp=E,16nm,0.3s						
JAI	**Aioi**	**0.61**	**102**	P	**Pn**	**20 02 15.1**	**-0.3**
JAI				*e*S	**Sn**	**20 02 23.7**	**-0.5**
JAI	**Aioi**	**0.61**	**102**	A	A	20 02 15.1	
	comp=E,10.0nm,0.9s,comp=E,6.0nm,0.3s						
MRT2	**Murotomisaki 2**	**0.63**	**147**	A	A	20 02 15.7	
	comp=E,12nm,0.9s,comp=E,10.0nm,2.8s						
JKU	**Kubokawa**	**0.83**	**223**	⇓P	**Pn**	**20 02 18.3**	**-0.2**
JKU				⇓*e*S	**Sn**	**20 02 29.2**	**-0.4**
JKU	**Kubokawa**	**0.83**	**223**	A	A	20 02 18.3	
	comp=E,6.0nm,1.0s,comp=E,6.0nm,1.0s						
JJG	**Jouge**	**0.87**	**326**	A	A	20 02 18.9	
	comp=E,25nm,0.2s,comp=E,31nm,0.2s						
JHM	**Kurahashi**	**1.03**	**283**	P	**Pn**	**20 02 20.9**	**-0.2**
JHM				*e*S	**Sn**	**20 02 34.1**	**-0.2**
JAD	**Aida**	**1.08**	**19**	⇓P	**Pn**	**20 02 21.2**	**-0.7**
JNA	**Nagahama**	**1.11**	**251**	P	**Pn**	**20 02 22.1**	**-0.2**
JNA				*e*S	**Sn**	**20 02 36.0**	**-0.4**
JAWN	**Awajishima-nag**	**1.12**	**59**	*e*P	**Pn**	**20 02 21.7**	**-0.7**
JAWN				*e*S	**Sn**	**20 02 35.6**	**-1.0**
UWA2	**Uwa jima 2**	**1.17**	**233**	⇓P	**Pn**	**20 02 22.9**	**-0.2**
UWA2				⇓S	**Sn**	**20 02 36.8**	**-1.1**
JHT	**Toyohira**	**1.32**	**305**	A	A	20 02 25.4	
	comp=E,4.0nm,0.6s,comp=E,6.0nm,0.3s						
JWM	**Minabe**	**1.35**	**92**	A	A	20 02 25.9	
	comp=E,3.0nm,0.8s,comp=E,6.0nm,0.3s						
JNU	**Nakatsue**	**2.52**	**252**	P	**Pn**	**20 02 41.2**	**-0.4**
	2.0nm,0.3s,baz=23,slow=8.0,SNR=13						
	5.2nm,0.3s						
MJAR	**Matsushiro Arr**	**4.50**	**53**	P	**Pn**	**20 03 10.2**	**+1.3**
	0.2nm,0.3s,baz=228,slow=17,SNR=31						
MJAR				S	**Sn**	**20 03 59.5**	**-0.5**
	15nm,0.5s,baz=238,slow=24,SNR=13						
	2.1nm,0.4s						
JHJ	**Hachijo jima 2**	**5.11**	**97**	P	**Pn**	**20 03 16.3**	**-0.9**
	9.8nm,0.3s,baz=84,slow=9.5,SNR=2.2						
	152nm,0.8s						
KSRS	**Korea Array**	**5.90**	**308**	P	**Pn**	**20 03 28.3**	**+0.3**
	0.5nm,0.3s,baz=126,slow=14,SNR=10						
KSRS				S	**Sn**	**20 04 32.3**	**-2.1**
	9.5nm,0.5s,baz=128,slow=24,SNR=19						
KSRS				LR	LR	20 05 55.8	
	comp=Z,65nm,21.2s,baz=105,slow=39						
	1.1nm,0.4s						
JOW	**Kunigami**	**8.49**	**215**	P	**Pn**	**20 04 02.7**	**-1.0**
	0.7nm,0.3s,baz=353,slow=8.8,SNR=1.8						
JOW				LR	LR	20 07 46.5	
	comp=Z,58nm,18.6s,baz=94,slow=40						
	6.2nm,0.7s						
KLR	**Kul'dur**	**15.37**	**355**	P	**P**	**20 05 42.7**	**+1.6**
	1.8nm,0.5s,baz=167,slow=9.7,SNR=6.9						
HEH	**HeiHe**	**16.97**	**346**	*e*P	**P**	**20 06 00.5**	**+1.7**
HEH				pmax	pmax		
	comp=Z,13nm,0.8s						
LZH	**Lanzhou**	**24.54**	**284**	*e*P	**P**	**20 07 16.3**	**-2.7**
LZH				pP	pP	20 07 24.3	-6.3
LZH				sP	sP	20 07 28.3	-7.5
LZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH	**PanZhiHua**	**28.54**	**264**	P	**P**	**20 07 59.0**	**+3.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
H11N2	**WAKE ISLAND Hy**	**32.63**	**107**	T	T	20 42 31.8	
	baz=302,slow=74,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**32.63**	**107**	T	T	20 42 32.8	
	baz=302,slow=74,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**32.65**	**107**	T	T	20 42 33.6	
	baz=302,slow=74,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**33.14**	**109**	T	T	20 43 05.9	
	baz=304,slow=75,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**33.14**	**109**	T	T	20 43 09.7	
	baz=304,slow=75,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**33.16**	**109**	T	T	20 43 06.8	
	baz=304,slow=75,SNR=4.8						
MKAR	**Makanchi Array**	**40.57**	**304**	P	**P**	**20 09 38.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=91,slow=9.4,SNR=4.5						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**53.56**	**179**	P	**P**	**20 11 18.8**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=356,slow=8.1,SNR=6.6						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**57.27**	**180**	P	**P**	**20 11 45.6**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=10,slow=13,SNR=4.9						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**68.54**	**331**	P	**P**	**20 12 59.9**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=59,slow=4.9,SNR=8.6						
	comp=Z,0.7nm,0.5s						
HFS	**Hagfors**	**74.19**	**333**	P	**P**	**20 13 35.1**	**0.0**
	comp=Z,1.9nm,0.8s,baz=52,slow=9.3,SNR=5.5						
	comp=Z,1.9nm,0.8s						

*TAP **27** 20:03:01.8, 24˚09N×122˚63E, h46km, ML3.2, B*
*JMA **27** 20:03:02.4±0.1, 24˚N±2˚×122˚6E±0˚5, h45km±3km, MV2.6/15, NW OFF ISHIGAKIJIMA IS*
ISC 27 20:03:02.9±1.6, **24˚09N**±0˚03×**122˚61E**±0˚02, **h40**km±7km, **n148**, σ0**8**89/182, **1C-10D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.27**	**276**	P	**Pn**	**20 03 10.9**	**+0.4**
	baz=275						
EOS3	**EOS3**	**0.33**	**306**	⇓*i*P	**Pn**	**20 03 11.7**	**+0.4**
	baz=304						
JYNG	**Yonagunijimaku**	**0.47**	**41**	P	**Pn**	**20 03 12.6**	**-0.6**
JYNG				*e*S	**Sn**	**20 03 20.1**	**-0.4**
EOS2	**EOS2**	**0.47**	**313**	*e*P	**Pn**	**20 03 13.9**	**+0.8**
	baz=312						
YOJ	**Yonaguni jima**	**0.52**	**45**	P	**Pn**	**20 03 13.4**	**-0.5**
YOJ	**Yonaguni jima**	**0.52**	**45**	P	**Pn**	**20 03 13.3**	**-0.5**
YOJ				*e*S	**Sn**	**20 03 21.4**	**-0.3**
YOJ	**Yonaguni jima**	**0.52**	**45**	*i* P	**Pn**	**20 03 13.4**	**-0.5**
	baz=42						
YOJ				*i* S	**Sn**	**20 03 21.6**	**-0.1**
	baz=42						
EWUT	**Wuta**	**0.83**	**295**	*e*P	**Pn**	**20 03 17.9**	**-0.2**
	baz=294						
EWUT				*e*S	**Sn**	**20 03 29.4**	**+0.1**
	baz=294						
ENA	**Nanau**	**0.86**	**293**	P	**Pn**	**20 03 18.2**	**-0.3**
	baz=292						
ENA				*e*S	**Sn**	**20 03 30.0**	**+0.1**
	baz=292						
TWC	**Suao**	**0.86**	**307**	*e*P	**Pn**	**20 03 18.4**	**-0.2**
	baz=306						
TWC				*e*S	**Sn**	**20 03 29.4**	**-0.6**
	baz=306						
ETL	**Fush Village**	**0.90**	**274**	*e*P	**Pn**	**20 03 18.8**	**-0.4**
	baz=274						
HWA	**Hwalien**	**0.93**	**263**	*e*P	**Pn**	**20 03 19.2**	**-0.2**
	baz=262						
TWD	**Chiawan**	**0.93**	**269**	P	**Pn**	**20 03 18.6**	**-0.9**
	baz=269						
TWD				*e*S	**Sn**	**20 03 30.4**	**-1.1**
	baz=269						
NACB	**Ninganchiao**	**0.93**	**275**	P	**Pn**	**20 03 19.0**	**-0.5**
NACB	**Ninganchiao**	**0.93**	**275**	⇓*i*P	**Pn**	**20 03 19.0**	**-0.5**
	baz=274						
NACB				*e*S	**Sn**	**20 03 31.1**	**-0.5**
	baz=274						
TEYL	**Yanliau Villag**	**0.95**	**257**	*e*P	**Pn**	**20 03 19.5**	**-0.3**
	baz=258						
TEYL				*e*S	**Sn**	**20 03 32.3**	**+0.2**
	baz=258						
EGS		**0.97**	**321**	*e*P	**Pn**	**20 03 19.6**	**-0.4**
	baz=320						
NDS	**Dongshan**	**0.97**	**304**	*e*P	**Pn**	**20 03 20.4**	**+0.3**
	baz=303						
ETM	**Tongmen**	**1.03**	**263**	*e*P	**Pn**	**20 03 20.2**	**-0.6**
	baz=263						
ILA	**Ilan**	**1.03**	**311**	*e*P	**Pn**	**20 03 21.6**	**+0.7**
	baz=310						
ILA				*e*S	**Sn**	**20 03 34.9**	**+0.8**
	baz=310						
ETLH	**Xiulin Townshi**	**1.03**	**276**	P	**Pn**	**20 03 20.7**	**-0.3**
	baz=276						
TEGC	**Jichi Village**	**1.05**	**249**	*e*P	**Pn**	**20 03 21.2**	**+0.1**
	baz=248						
IRIF	**Iriomote-Funau**	**1.05**	**77**	P	**Pn**	**20 03 20.8**	**-0.3**
IRIF				*e*S	**Sn**	**20 03 35.8**	**+1.2**
TWE	**Neicheng**	**1.06**	**306**	*e*P	**Pn**	**20 03 21.7**	**+0.4**
	baz=305						
TWE				*e*S	**Sn**	**20 03 35.0**	**+0.2**
	baz=305						
TWB1	**Santiao Chiao**	**1.07**	**328**	⇓*i*P	**Pn**	**20 03 21.0**	**-0.4**
	baz=327						
TWB1				*e*S	**Sn**	**20 03 34.2**	**-0.9**
	baz=327						
LATG	**Datong**	**1.08**	**294**	P	**Pn**	**20 03 21.6**	**0.0**
	baz=293						
LATG				S	**Sn**	**20 03 35.9**	**+0.4**
	baz=293						
ENTT	**Nioudou**	**1.09**	**300**	*e*P	**Pn**	**20 03 22.1**	**+0.4**
	baz=299						
ENTT				S	**Sn**	**20 03 36.2**	**+0.5**
	baz=299						
HATJ	**Hateruma jima**	**1.09**	**92**	P	**Pn**	**20 03 22.3**	**+0.6**
ESL	**Shilin**	**1.11**	**256**	*i* P	**Pn**	**20 03 21.0**	**-0.9**
	baz=255						
TIPB	**Shuangxi**	**1.13**	**321**	*e*P	**Pn**	**20 03 22.2**	**0.0**
	baz=320						
TIPB				*e*S	**Sn**	**20 03 36.7**	**+0.1**
	baz=320						
FUSB	**Fushanzhiwuyua**	**1.14**	**306**	⇑P	**Pn**	**20 03 23.2**	**+0.8**
	baz=305						
EGFH	**Guangfu**	**1.16**	**249**	*e*P	**Pn**	**20 03 22.2**	**-0.5**
	baz=248						
NNSB	**Datong**	**1.17**	**287**	*e*P	**Pn**	**20 03 22.8**	**0.0**
	baz=286						
NNSB				*e*S	**Sn**	**20 03 37.6**	**0.0**
	baz=286						
NNSH	**Datong**	**1.17**	**287**	*e*P	**Pn**	**20 03 22.8**	**0.0**
	baz=286						
NNS	**Nan Shan**	**1.18**	**287**	*e*P	**Pn**	**20 03 23.2**	**+0.2**
	baz=286						
NNS				*e*S	**Sn**	**20 03 38.0**	**0.0**
	baz=286						
SXI1	**Grass Mountain**	**1.20**	**326**	P	**Pn**	**20 03 23.1**	**-0.1**
	baz=325						
NWLT	**Wulai**	**1.22**	**304**	*e*P	**Pn**	**20 03 23.9**	**+0.4**
	baz=303						
WHF	**Hehuan Shan**	**1.23**	**273**	*e*P	**Pn**	**20 03 23.6**	**-0.4**
	baz=272						
WHF				*e*S	**Sn**	**20 03 38.4**	**-1.2**
	baz=272						
NWF	**Wu-fen Shan**	**1.23**	**322**	*e*P	**Pn**	**20 03 23.6**	**-0.1**
	baz=321						
WFSB	**Wu-fen Shan**	**1.23**	**322**	*e*P	**Pn**	**20 03 23.6**	**0.0**
	baz=321						
HGSD	**Ruisui**	**1.24**	**241**	P	**Pn**	**20 03 23.1**	**-0.7**
	baz=241						
HGSD				*e*S	**Sn**	**20 03 38.8**	**-0.4**
	baz=241						
FUSS	**Fushou**	**1.25**	**277**	*e*P	**Pn**	**20 03 24.1**	**-0.1**
	baz=277						
YHNB	**Yeheng**	**1.26**	**297**	P	**Pn**	**20 03 24.5**	**+0.3**
YHNB	**Yeheng**	**1.26**	**297**	P	**Pn**	**20 03 24.4**	**+0.3**
	baz=296						
NSK	**Sanguang**	**1.28**	**297**	*e*P	**Pn**	**20 03 24.6**	**+0.2**
	baz=296						
NSK				*e*S	**Sn**	**20 03 39.8**	**-0.5**
	baz=296						
TWA	**Mucha**	**1.28**	**314**	*e*P	**Pn**	**20 03 24.4**	**0.0**
	baz=313						
JKRS	**Kuro-shima**	**1.29**	**83**	P	**Pn**	**20 03 24.9**	**+0.5**
JKRS				*e*S	**Sn**	**20 03 42.1**	**+1.7**
CHGB	**Renai**	**1.31**	**269**	P	**Pn**	**20 03 24.9**	**0.0**
	baz=268						
CHGB				S	**Sn**	**20 03 40.7**	**-0.6**
	baz=268						
NHDH	**Xindian Distri**	**1.31**	**311**	*e*P	**Pn**	**20 03 25.2**	**+0.4**
	baz=310						
ECBN	**Changbin**	**1.31**	**234**	*e*P	**Pn**	**20 03 24.4**	**-0.4**
	baz=234						
EHY	**Hungye**	**1.31**	**244**	⇓*i*P	**Pn**	**20 03 24.3**	**-0.5**
	baz=243						
OWD	**Renai**	**1.32**	**264**	*e*P	**Pn**	**20 03 24.6**	**-0.3**
	baz=264						
TATO	**Taipei**	**1.35**	**311**	P	**Pn**	**20 03 26.0**	**+0.8**
TATO	**Taipei**	**1.35**	**311**	*e*P	**Pn**	**20 03 25.7**	**+0.5**
	baz=310						
WUSB	**Renai**	**1.37**	**266**	⇓P	**Pn**	**20 03 25.6**	**0.0**
	baz=265						
VWDT	**VWDT**	**1.38**	**256**	⇓P	**Pn**	**20 03 25.9**	**+0.1**
	baz=256						
YULB	**Yu-li**	**1.39**	**240**	P	**Pn**	**20 03 25.5**	**-0.3**
YULB	**Yu-li**	**1.39**	**240**	P	**Pn**	**20 03 25.5**	**-0.3**
	baz=240						
EYUL	**Yuli**	**1.40**	**238**	*e*P	**Pn**	**20 03 25.9**	**0.0**
	baz=238						
TWF1	**Yuli**	**1.41**	**239**	P	**Pn**	**20 03 25.9**	**-0.2**
	baz=238						
TWF1				*e*S	**Sn**	**20 03 43.1**	**-0.4**
	baz=238						
YM01	**YM01**	**1.41**	**318**	*e*P	**Pn**	**20 03 26.2**	**+0.1**
	baz=317						
JIJ	**Ishigaki jima**	**1.43**	**79**	P	**Pn**	**20 03 25.8**	**-0.5**
JIJ				*e*S	**Sn**	**20 03 43.0**	**-0.8**
NFF	**Wufeng Townshi**	**1.46**	**292**	*e*P	**Pn**	**20 03 27.6**	**+0.8**
	baz=291						
TWS1	**Kuangyinshan**	**1.48**	**313**	*e*P	**Pn**	**20 03 27.5**	**+0.5**
	baz=312						
FULB	**Fuli**	**1.50**	**234**	*e*P	**Pn**	**20 03 26.7**	**-0.7**
	baz=233						
CHKT	**Chengkung**	**1.51**	**229**	*e*P	**Pn**	**20 03 26.2**	**-1.3**
	baz=229						
CHKT				*e*S	**Sn**	**20 03 44.6**	**-1.3**
	baz=229						
WPL	**Puli Township**	**1.51**	**267**	*e*P	**Pn**	**20 03 27.9**	**+0.4**
	baz=267						
WHP	**Taichung City**	**1.53**	**277**	*e*P	**Pn**	**20 03 29.6**	**+1.8**
	baz=276						
DPDB	**Guoxing**	**1.54**	**268**	*e*P	**Pn**	**20 03 28.4**	**+0.5**
	baz=267						
SSLB	**Suanglung**	**1.54**	**259**	P	**Pn**	**20 03 28.3**	**+0.3**
SSLB	**Suanglung**	**1.54**	**259**	⇓*e*P	**Pn**	**20 03 28.3**	**+0.3**
	baz=258						
WCS	**Beigang Elemen**	**1.55**	**269**	*e*P	**Pn**	**20 03 28.6**	**+0.6**
	baz=268						
LIOB	**Emei**	**1.55**	**291**	*e*P	**Pn**	**20 03 29.1**	**+1.0**

TWG	Pinlang	1.90	228	*e*P		Pn	20 03 32.1 -0.6
	baz=228						
STYH	Taoyuan	1.92	242	*e*P		Pn	20 03 33.8 +0.8
	baz=241						
WGK	Gukeng	1.92	258	*e*P		Pn	20 03 34.5 +1.5
	baz=257						
STYT	Tauyuan	1.93	242	*e*P		Pn	20 03 33.9 +0.6
	baz=241						
WDLH	Douliu	1.94	258	*e*P		Pn	20 03 34.9 +1.6
	baz=258						
WCKO	Fanlu	1.95	251	*e*P		Pn	20 03 35.4 +1.9
	baz=250						
TPUB	Ta-pu	1.98	247	P		Pn	20 03 35.6 +1.7
TPUB	Ta-pu	1.98	247	*e*P		Pn	20 03 35.4 +1.5
	baz=246						
TPUB				*e*S		Sn	20 03 59.3 +1.8
	baz=246						
JTJ	Tarama	1.99	74	P		Pn	20 03 34.2 +0.2
JTJ				*e*S		Sn	20 03 57.3 -0.4
CHN4	Tsaushan	1.99	249	*e*P		Pn	20 03 36.0 +2.0
	baz=248						
WTP	Ta-pu	2.01	246	⇓*e*P		Pn	20 03 35.8 +1.4
	baz=245						
WRL	Guolierlin Hig	2.05	265	*e*P		Pn	20 03 35.8 +0.9
	baz=264						
WTK	Tuku	2.07	259	*e*P		Pn	20 03 37.4 +2.2
	baz=258						
CHN1	Nanshi	2.11	245	*e*P		Pn	20 03 37.4 +1.6
	baz=244						
TWK	Hsinying	2.11	247	*e*P		Pn	20 03 37.3 +1.5
	baz=247						
SGST	Jiashian	2.11	242	*e*P		Pn	20 03 36.5 +0.7
	baz=241						
ECL	Taimali	2.13	226	*e*P		Pn	20 03 35.4 -0.6
	baz=225						
WTCT	Ta-ch'eng	2.14	264	*e*P		Pn	20 03 37.0 +0.9
	baz=263						
WSF	Szhu	2.23	259	*e*P		Pn	20 03 38.4 +1.1
	baz=258						
WSL	Shuilin Townsh	2.25	256	*e*P		Pn	20 03 38.6 +0.9
	baz=255						
ICHU	Yijhu	2.26	252	*e*P		Pn	20 03 39.5 +1.8
	baz=251						
SSD	Sandimen	2.26	234	*e*P		Pn	20 03 38.3 +0.6
	baz=233						
LAY	Lan-yu	2.27	206	*e*P		Pn	20 03 38.9 +1.0
	baz=205						
CHN8	Yiju	2.32	252	*e*P		Pn	20 03 39.8 +1.2
	baz=251						
MASBT	Mashibuluo	2.34	231	*e*P		Pn	20 03 39.5 +0.6
	baz=231						
EAST	Anshuo	2.35	224	*e*P		Pn	20 03 38.4 -0.6
	baz=223						
TAWH	Dawu Township	2.36	223	*e*P		Pn	20 03 38.8 -0.3
	baz=222						
TWM1	Shoushan	2.37	238	*e*P		Pn	20 03 42.2 +2.8
	baz=237						
SCLT	Jiali	2.40	248	*e*P		Pn	20 03 41.4 +1.7
	baz=247						
JIRB	Irabujima	2.45	72	P		Pn	20 03 40.5 +0.1
TSCK	Chigu Township	2.50	248	*e*P		Pn	20 03 42.2 +1.2
	baz=247						
SLIU	Shizi	2.50	222	*e*P		Pn	20 03 40.7 -0.4
	baz=221						
SCZT	Fangliau	2.51	227	*e*P		Pn	20 03 42.1 +0.9
	baz=226						
JIKM	Ikemajima	2.54	70	P		Pn	20 03 41.7 +0.1
JIKM				*e*S		Sn	20 04 11.0 -0.3
JMJ	Miyako jima 2	2.55	73	*e*P		Pn	20 03 42.1 +0.3
	baz=73						
JMJ2	Miyako jima3	2.56	75	P		Pn	20 03 43.7 +1.8
SMST	Manzhou Townsh	2.63	219	*e*P		Pn	20 03 42.8 0.0
	baz=218						
JOGS	Gusukube	2.63	75	P		Pn	20 03 44.4 +1.5
HEN	Hengchun	2.70	220	*e*P		Pn	20 03 44.8 +1.0
	baz=219						
TWKBT	Hengchun	2.71	218	*e*P		Pn	20 03 46.2 +2.3
	baz=217						
WDGT	Dungji	2.83	254	*e*P		Pn	20 03 45.7 +0.1
	baz=252						
PHUB	P'eng-hu	2.84	259	*e*P		Pn	20 03 46.2 +0.5
	baz=258						
PHUB				*e*S		Sn	20 04 18.4 -0.3
	baz=258						
PNG	Penghu	2.84	260	*e*P		Pn	20 03 46.7 +0.9
	baz=259						
PTMZ	Houxiangcun	3.31	287	*e*P		Pn	20 03 51.8 -0.4
	baz=286						
LYJJ	Jianjiangzhen	3.55	314	*e*P		Pn	20 03 55.2 -0.3
	baz=313						
XPSS	Dashiqiu	3.57	323	*e*P		Pn	20 03 55.6 -0.2
	baz=322						
MHZQ	Yeshan	3.81	302	*e*P		Pn	20 03 58.4 -0.7
	baz=301						
KNMB	Chin-men Tao	3.87	276	*e*P		Pn	20 03 59.1 -0.8
	baz=275						
AXDP	Jialang	4.30	282	*e*P		Pn	20 04 06.0 +0.2
	baz=280						

GCMT ***27*** *20:11:20.5±0.3,59.˚37N±0.˚03×30.˚36W±0.˚04,h12km, MW4.8/86,Moment Tensor Solution. s11,c11; s86,c122; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.83±.08; Mθθ0.13±.10; Mϕϕ1.70±.05; Mrθ-0.22±.34; Mϕθ1.11±.06; Mrϕ0.21±.28; Best double couple: M₀2.08400×10¹⁶ NP1:ϕs196.00000°,δ47.00000°,λ-106.00000°. NP2: ϕs39.00000°,δ45.00000°,λ-74.00000°. Principal axes: T 2.2760, Plg1.0000°, Azm297.0000°; N -0.3860, Plg11.0000°, Azm207.0000°; P -1.8910, Plg79.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***27*** *20:11:20.3±0.5,59.˚50N×30.˚39W,h0km,mb4.0/30, mbtmp4.1/34,ML3.8/4,MS4.0/59 Error ellipse: s-maj=15.4km s-min=9.7km az=179.0*

NEIC ***27*** *20:11:22.5±1.9,59.˚57N±0.˚08×30.˚4W±0.˚1,h10km±4km, mb4.7/192,Error ellipse: s-maj=11.6km s-min=9.0km az=177.0*

DNK ***27*** *20:11:32.5±5.3,60.˚64N×30.˚31W,h0km±217km,ML3.6*

BGR ***27*** *20:11:33.7,58.˚93N×28.˚66W,h33km,mb4.7*

ISC 27 20:11:22.9±0.3,59.˚63N±0.˚05×30.˚50W±0.˚04,h16km,n368, σ1s67/344,mb4.6/152,MS4.1/62,15C-16D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**6.69**	**36**	Pn	**Pn**	**20 13 01.0**	**+0.7**
	4.6nm,0.3s,baz=257,slow=4.8,SNR=19						
BORG				Sn	**Sn**	**20 14 16.0**	**-0.1**
	2.4nm,0.3s,baz=109,slow=21,SNR=8.1						
	30nm,0.4s						
BORG	**Borgarnes**	**6.69**	**36**	Pn	**Pn**	**20 13 00.9**	**+0.7**
BORG				Sn	**Sn**	**20 14 16.8**	**+0.7**
ANGG	**Ammassalik, Gr**	**6.85**	**334**	Pn	**Pn**	**20 13 03.9**	**+1.5**
ANGG				Sn	**Sn**	**20 14 13.0**	**-6.9**
ANGG	**Ammassalik, Gr**	**6.85**	**334**	*i* P	**Pn**	**20 13 04.3**	**+1.9**
ANGG				*i* S	**Sn**	**20 14 12.7**	**-7.3**
ANGG				IAML		20 14 20.2	
	comp=Z,24nm,0.9s						
ISOG	**Isortoq, Green**	**7.11**	**330**	*i* P	**Pn**	**20 13 08.1**	**+2.1**
ISOG				*i* S	**Sn**	**20 14 19.9**	**-6.4**
ISOG				IAML		20 14 30.3	
	comp=Z,16nm,0.9s						
NRS	**Narsarsuaq**	**7.55**	**288**	Pn	**Pn**	**20 13 11.6**	**-0.4**
NRS	**Narsarsuaq**	**7.55**	**288**	*i* P	Pn	20 13 17.9	+5.8
NRS				*i* S	Sn	20 14 49.6	+12
NRS				IAML		20 14 54.7	
	comp=Z,32nm,0.8s						
IVI	**Ivigtut**	**8.88**	**288**	Pn	**Pn**	**20 13 32.1**	**+1.8**
DY2G	**Dye2**	**9.89**	**321**	*i* P	**Pn**	**20 13 48.4**	**+4.1**
DY2G				*i* S	**Sn**	**20 15 31.4**	**-3.6**
DY2G				IAML		20 15 36.1	
	comp=Z,31nm,0.7s						
ICESG	**Greenland Ices**	**10.28**	**341**	*e*P	**Pn**	**20 13 50.7**	**+1.0**
SCO	**Scoresbysund**	**11.46**	**15**	Pn	**Pn**	**20 14 04.0**	**-1.6**
SFJD	**Kangerlussuaq**	**11.62**	**318**	Pn	**Pn**	**20 14 11.0**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=94,slow=12,SNR=4.1						
SFJD				Sn	**Sn**	**20 16 09.9**	**-7.1**
	comp=Z,0.5nm,0.3s,baz=62,slow=3.6,SNR=3.2						
SFJD				LR	LR	20 17 54.2	
	comp=Z,3μm,20.6s,baz=128,slow=34						
	comp=Z,22nm,1.1s						
SFJD	**Kangerlussuaq**	**11.62**	**318**	Pn	**Pn**	**20 14 09.6**	**+1.7**
SFJD	**Kangerlussuaq**	**11.62**	**318**	*i* P	**Pn**	**20 14 12.0**	**+4.2**
SFJD				IAML		20 16 35.5	
	comp=Z,9.2nm,0.8s						
ILULI	**Ilulissat**	**13.01**	**326**	Pn	**Pn**	**20 14 27.0**	**+0.2**
ILULI	**Ilulissat**	**13.01**	**326**	*i* P	**Pn**	**20 14 25.0**	**-1.8**
SUMG	**Summit**	**13.38**	**350**	*i* P	**Pn**	**20 14 29.9**	**-2.2**
JMIC	**Jan Mayen**	**14.51**	**29**	Pn	**Pn**	**20 14 49.7**	**+2.5**
	comp=Z,211nm,0.3s,baz=142,slow=11,SNR=4.4						
NUUG	**Nuugaatsiaq**	**15.04**	**332**	*e*P	**Pn**	**20 14 54.3**	**0.0**
ESK	**Eskdalemuir**	**15.24**	**94**	Pn	**Pn**	**20 14 56.7**	**-0.5**
EKA	**Eskdalemuir Ar**	**15.26**	**94**	Pn	**Pn**	**20 14 57.6**	**+0.2**
	baz=296,slow=9.7						
EKA				LR	LR	20 19 53.0	
	comp=Z,1μm,18.2s,baz=292,slow=34						
	comp=Z,6.0nm,0.8s						
DAG	**Danmarks Havn**	**17.70**	**9**	*i* P	Pn	20 15 15.4	-13
FRB	**Frobisher Bay**	**18.31**	**299**	P	**P**	**20 15 36.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=67,slow=13,SNR=4.1						
FRB				LR	LR	20 21 51.2	
	comp=Z,2μm,18.8s,baz=89,slow=34						
	comp=Z,3.3nm,0.8s						
DRLN	**Deer Lake**	**18.68**	**248**		**P**	**20 15 38.0**	**-2.1**
DRLN				IAmb	IAmb	20 16 17.6	
	comp=Z,79nm,1.4s						
SCHQ	**Schefferville**	**20.06**	**272**	P	**P**	**20 15 55.4**	**+0.3**
	comp=Z,6.3nm,1.0s,baz=65,slow=15,SNR=4.2						
SCHQ				LR	LR	20 22 28.5	
	comp=Z,584nm,18.5s,baz=84,slow=33						
	comp=Z,6.3nm,1.0s						
SCHQ	**Schefferville**	**20.06**	**272**		**P**	**20 15 52.2**	**-2.9**
NOA	**NORSAR Array B**	**20.45**	**68**	P	**P**	**20 15 58.2**	**-1.1**
	comp=Z,1.7nm,1.1s,baz=283,slow=10,SNR=3.9						
NOA				LR	LR	20 22 45.8	
	comp=Z,414nm,20.8s,baz=280,slow=34						
	comp=Z,1.7nm,1.1s						
TULEG	**Thule**	**21.46**	**337**	P	**P**	**20 16 07.4**	**-2.5**
HFS	**Hagfors**	**21.88**	**69**	P	**P**	**20 16 15.6**	**+1.0**
	comp=Z,13nm,1.1s,baz=298,slow=6.4,SNR=6.1						
HFS				LR	LR	20 23 38.1	
	comp=Z,445nm,19.8s,baz=284,slow=34						
	comp=Z,13nm,1.1s						
BMRD	**Maredsous**	**22.04**	**99**	*d*P	**P**	**20 16 15.5**	**-0.9**
	comp=Z,18nm,1.1s						
DOU	**Dourbes**	**22.08**	**100**	*d*P	**P**	**20 16 16.0**	**-0.9**
	comp=Z,9.7nm,1.4s						
BGES	**Gesves**	**22.15**	**99**	*d*P	**P**	**20 16 19.9**	**+2.3**
	comp=Z,20nm,1.0s						
BGES				*d*PP	**PnPn**	**20 16 38.8**	**-0.8**
BCLA	**Clavier**	**22.24**	**99**	*d*P	**P**	**20 16 18.8**	**+0.2**
	comp=Z,15nm,1.4s						
BSTI	**Sart Tilman**	**22.27**	**98**	*d*P	**P**	**20 16 19.1**	**+0.2**
BSTI				*d*PP	**PnPn**	**20 16 39.9**	**-1.4**
CLF	**Chambon-Foret**	**22.30**	**107**	P	**P**	**20 16 17.6**	**-1.6**
RCHB	**Rochefort**	**22.36**	**99**	*d*P	**P**	**20 16 18.0**	**-1.9**
	comp=Z,18nm,1.1s						
MEM	**Membach**	**22.47**	**97**	*d*P	**P**	**20 16 20.2**	**-0.8**
BTNL	**Ternell**	**22.55**	**97**	*d*P	**P**	**20 16 20.2**	**-1.7**
	comp=Z,12nm,1.3s						
BHOU	**Houvegnez**	**22.63**	**98**	*d*P	**P**	**20 16 22.0**	**-0.8**
	comp=Z,12nm,1.1s						
BHOU				*d*PP	**PnPn**	**20 16 42.9**	**-3.4**
WLF	**Walferdange**	**23.14**	**99**	*d*P	**P**	**20 16 28.2**	**+0.2**
ECH	**Echery**	**24.59**	**101**	P	**P**	**20 16 41.0**	**-0.9**
ECH				IAmb	IAmb	20 16 48.8	
	comp=Z,30nm,1.3s						
ARCES	**ARCESS Array B**	**25.02**	**44**	P	**P**	**20 16 45.0**	**-0.6**
ARCES				IAmb	IAmb	20 17 02.5	
	comp=Z,22nm,1.5s						
BFO	**Black Forest**	**25.09**	**99**	P	**P**	**20 16 45.5**	**-1.0**
BFO				IAmb	IAmb	20 17 09.4	
	comp=Z,26nm,1.5s						
CLL	**Collm**	**25.60**	**90**	P	**P**	**20 16 49.8**	**-1.2**
CLL				IAmb	IAmb	20 16 58.5	
	comp=Z,15nm,1.2s						
CLL	**Collm**	**25.60**	**90**	*e*P	**P**	**20 16 50.0**	**-1.0**
CLL				*ex*	x	20 16 53.0	
CLL				*i* x	x	20 16 57.0	
CLL				*ex*	x	20 17 07.0	
CLL				*e*PP	**PnPn**	**20 17 24.0**	**-2.9**
CLL				*e*S	**S**	**20 21 24.0**	**+5.9**
CLL				*e*(SS)		20 21 54.0	
CLL				*e*SSS	SSS	20 22 24.0	
CLL				LmH		20 26 00.0	
	comp=Z,500nm,19.4s						
GRA1	**Grafenberg Arr**	**25.68**	**94**	P	**P**	**20 16 52.3**	**+0.6**
GRA1				IAmb	IAmb	20 16 59.1	
	comp=Z,33nm,1.2s						
GRF	**Grafenberg Arr**	**25.68**	**94**	*e*P	**P**	**20 16 51.1**	**-0.6**
	comp=Z,17nm,1.2s,baz=304,slow=9.0						
GRFO	**Grafenberg**	**25.68**	**94**	P	**P**	**20 16 51.5**	**-0.2**
GRFO				IAmb	IAmb	20 16 59.0	
	comp=Z,30nm,1.2s						
D62A	**Allapoint, All**	**25.80**	**258**	P	**P**	**20 16 52.9**	**+0.1**
D62A				IAmb	IAmb	20 16 60.0	
	comp=Z,25nm,1.3s						
NKC	**Novy Kostel**	**25.96**	**92**	AMS	AMS	20 27 20.0	
	comp=Z,1μm,15.3s						
PAB	**San Pablo**	**25.99**	**129**	P	**P**	**20 16 52.8**	**-2.0**
PAB				IAmb	IAmb	20 16 56.4	
	comp=Z,24nm,1.3s						
ESBB	**Sonseca Array**	**26.03**	**128**		**P**	**20 16 52.9**	**-2.2**
ESBB				IAmb	IAmb	20 16 56.8	
	comp=Z,34nm,1.4s						
ESDC	**Sonseca Array**	**26.04**	**128**	P	**P**	**20 16 54.5**	**-0.6**
	comp=Z,3.7nm,1.0s,baz=326,slow=10,SNR=8.0						
ESDC				LR	LR	20 24 57.1	
	comp=Z,403nm,21.4s,baz=320,slow=32						
	comp=Z,3.7nm,1.0s						
ESDC	**Sonseca Array**	**26.04**	**128**	P	**P**	**20 16 54.3**	**-0.8**
EUNU	**Eureka**	**26.15**	**341**	P	**P**	**20 16 56.0**	**+0.2**
EUNU				IAmb	IAmb	20 17 00.8	
	comp=Z,19nm,1.4s						
BRG	**Berggiesshubel**	**26.34**	**90**	*e*P	**P**	**20 16 56.4**	**-1.2**
BRG				Amp		20 16 58.7	
	comp=Z,13nm,1.5s						
BRG				Amp		20 29 06.0	
	comp=Z,0.8nm,16.2s						
DAVA	**Damuels**	**26.57**	**100**	*e*pP	pP	20 17 05.7	+1.3
	comp=Z,12nm,1.4s						
RETA	**Reutte**	**26.88**	**98**	*e*pP	pP	20 17 07.3	+0.2
	comp=Z,4.3nm,1.0s						
DAVOX	**Davos/Dischmat**	**26.91**	**100**	LR	LR	20 26 50.8	
	comp=Z,491nm,21.2s,baz=282,slow=35						
FIA0	**FINESS Array S**	**27.15**	**62**	P	**P**	**20 17 05.0**	**+0.1**
FIA1	**FINESS Array S**	**27.15**	**62**	P	**P**	**20 17 05.3**	**+0.5**
FINES	**FINESS Array B**	**27.15**	**62**	P	**P**	**20 17 05.1**	**+0.2**
	comp=Z,16nm,1.0s,baz=293,slow=6.9,SNR=12						
FINES				LR	LR	20 27 03.3	
	comp=Z,234nm,18.8s,baz=282,slow=35						
	comp=Z,16nm,1.0s						
FINES	**FINESS Array B**	**27.15**	**62**	P	**P**	**20 17 04.6**	**-0.3**
FETA	**Feichten**	**27.18**	**99**	*e*P	**P**	**20 17 08.7**	**+3.3**
	comp=Z,9.9nm,1.5s						
PRU	**Pruhonice**	**27.18**	**91**	AMS	AMS	20 28 40.0	
	comp=Z,1μm,17.5s						
KHC	**Kasperske Hory**	**27.23**	**93**	P	**P**	**20 17 05.5**	**-0.2**
KHC	**Kasperske Hory**	**27.23**	**93**	*e*P	**P**	**20 17 05.2**	**-0.6**
KHC				AMS	AMS	20 26 50.0	
	comp=Z,900nm,19.4s						
RES	**Resolute Bay**	**27.30**	**328**	P	**P**	**20 17 07.8**	**+1.7**
	comp=Z,2.3nm,0.8s,baz=93,slow=9.4,SNR=8.0						
RES				LR	LR	20 27 42.7	
	comp=Z,456nm,18.3s,baz=129,slow=36						
	comp=Z,2.3nm,0.8s						
RES	**Resolute Bay**	**27.30**	**328**	P	**P**	**20 17 08.0**	**+1.9**
WTTA	**Wattenberg**	**27.47**	**98**	*e*P	**P**	**20 17 07.3**	**-0.8**
	comp=Z,8.7nm,1.6s						
GEC2	**GERESS Array S**	**27.47**	**93**	P	**P**	**20 17 07.4**	**-0.6**
GERES	**GERESS Array B**	**27.47**	**93**	P	**P**	**20 17 08.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=322,slow=6.2,SNR=4.5						
GERES				LR	LR	20 27 35.9	
	comp=Z,668nm,19.6s,baz=298,slow=36						
	comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**27.47**	**93**	P	**P**	**20 17 06.8**	**-1.2**
OSTC	**Ostas**	**27.68**	**88**	*e*P	**P**	**20 17 09.2**	**-0.6**
OSTC				AMS	AMS	20 28 50.0	
	comp=Z,800nm,16.1s						
CKRC	**Cesky Krumlov**	**27.80**	**93**	AMS	AMS	20 28 00.0	
	comp=Z,900nm,22.0s						
DPC	**Dobruska-Polom**	**27.86**	**88**	*e*P	**P**	**20 17 10.6**	**-0.8**
BIOA	**Bad Ischl, Aus**	**28.19**	**95**	*e*P	**P**	**20 17 14.0**	**-0.3**
	comp=Z,3.0nm,0.9s						
ABTA	**Abfaltersbach**	**28.26**	**98**	*e*P	**P**	**20 17 15.1**	**0.0**
	comp=Z,5.7nm,1.2s						
KBA	**Koelnbreinsper**	**28.45**	**96**	*e*P	**P**	**20 17 16.5**	**-0.4**
	comp=Z,9.0nm,1.6s						
CIMO	**Cimolais**	**28.52**	**99**	P	**P**	**20 17 15.9**	**-1.4**
CIMO				IAmb	IAmb	20 17 24.0	
	comp=Z,8.8nm,1.1s						
PRMA	**PARMA**	**28.55**	**103**	P	**P**	**20 17 16.9**	**-0.6**
CLUD	**Cludinico**	**28.64**	**98**	P	**P**	**20 17 16.8**	**-1.6**
CLUD				IAmb	IAmb	20 17 22.9	
	comp=Z,11nm,0.9s						
VRAC	**Vranov**	**28.65**	**90**	P	**P**	**20 17 16.8**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=328,slow=12,SNR=3.1						
VRAC				LR	LR	20 28 34.3	
	comp=Z,425nm,18.6s,baz=304,slow=36						
	comp=Z,1.2nm,0.5s						
PABE	**Paberze**	**28.80**	**74**	P	**P**	**20 17 18.1**	**-1.5**
PABE				IAmb	IAmb	20 17 45.3	
	comp=Z,32nm,1.5s						
MORC	**Moravsky Berou**	**28.84**	**88**	P	**P**	**20 17 19.1**	**-1.0**
MYKA	**Terra Mystica**	**28.91**	**97**	*e*P	**P**	**20 17 20.7**	**-0.2**
	comp=Z,4.0nm,1.0s						
PRED	**Cave del Predi**	**29.00**	**97**	P	**P**	**20 17 20.2**	**-1.4**
PRED				IAmb	IAmb	20 17 27.6	
	comp=Z,13nm,1.3s						
CONA	**Conrad Observa**	**29.16**	**93**	*e*P	**P**	**20 17 22.5**	**-0.6**
	comp=Z,6.4nm,1.2s						
MAUC	**Maruska**	**29.24**	**89**	*e*P	**P**	**20 17 23.6**	**-0.1**
ARSA	**Arzberg**	**29.44**	**94**	*e*P	**P**	**20 17 25.4**	**0.0**
	comp=Z,7.7nm,1.1s						
OBKA	**Obir**	**29.45**	**96**	*e*P	**P**	**20 17 24.8**	**-0.9**
	comp=Z,10nm,1.1s						
RONA	**Rosalia, Austr**	**29.53**	**93**	*e*P	**P**	**20 17 24.9**	**-1.4**
	comp=Z,6.1nm,1.5s						
SOKA	**Soboth**	**29.58**	**95**	*i* P	**P**	**20 17 25.7**	**-1.0**
	comp=Z,5.3nm,1.2s						
MODS	**Modra-Piesok**	**29.59**	**91**	*e*P	**P**	**20 17 27.3**	**+0.5**
FDMO	**Fiordimonte**	**31.18**	**102**	P	**P**	**20 17 38.9**	**-2.0**
FDMO				IAmb	IAmb	20 17 48.5	
	comp=Z,23nm,1.4s						
PSZ	**Piszkesteto**	**31.22**	**89**	⇑P	**P**	**20 17 41.6**	**+0.3**
PSZ	**Piszkesteto**	**31.22**	**89**	P	**P**	**20 17 40.5**	**-0.7**
PSZ				IAmb	IAmb	20 17 48.2	
	comp=Z,17nm,1.4s						
MNK	**Minsk**	**31.24**	**73**	*i* P	**P**	**20 17 39.4**	**-1.8**
	comp=E,1.0nm,0.8s						
MNK				*i* P	**P**	**20 17 39.4**	**-1.8**
	comp=N,4.0nm,0.8s						
MNK				*i* P	**P**	**20 17 39.4**	**-1.8**
	comp=Z,7.0nm,0.8s,baz=303						
MNK				*i* PP	PnPn	20 18 29.6	-14
MNK				*i* PPP	PPP	20 18 43.8	
MNK				*i* S	**S**	**20 22 43.6**	**-3.1**
MNK				*i* SS	**ScP**	**20 24 08.4**	**-8.7**
MNK				*i* LQ	LQ	20 26 51.5	
MNK				*i* LR	LR	20 27 30.9	
MNK				*i* LRM	MLR	20 29 16.1	
	comp=Z,355nm,17.7s						
MNK				*i* LRM	MLR	20 29 29.7	
	comp=E,40nm,17.7s						
MNK				*i* LRM	MLR	20 30 55.8	
	comp=N,358nm,17.9s						
FCC	**Fort Churchill**	**31.48**	**297**	P	**P**	**20 17 44.4**	**+1.2**
FCC				IAmb	IAmb	20 17 55.9	
	comp=Z,8.6nm,1.1s						
MORH	**Mrgy, Hungar**	**31.72**	**93**	⇑P	**P**	**20 17 44.8**	**-0.8**
MDT	**Midelt**	**31.85**	**136**	LR	LR	20 29 56.7	
	comp=Z,257nm,18.3s,baz=344,slow=35						
SADO	**Sadowa**	**32.47**	**265**	P	**P**	**20 17 51.6**	**-0.6**
	comp=Z,6.7nm,1.0s,baz=19,slow=13,SNR=1.4						
SADO				LR	LR	20 29 38.8	
	comp=Z,892nm,19.3s,baz=80,slow=34						
	comp=Z,6.7nm,1.0s						
SADO	**Sadowa**	**32.47**	**265**	P	**P**	**20 17 52.0**	**-0.1**
SIRR	**Siria**	**33.22**	**90**	⇑P	**P**	**20 17 58.8**	**+0.1**
KLMR	**Klimovskoe**	**33.28**	**57**	*e*P	**P**	**20 17 57.1**	**-1.9**
KLMR				AMP		20 18 01.3	
	comp=Z,68nm,1.4s						
BZS	**Buzias**	**33.64**	**91**	⇑P	**P**	**20 18 02.6**	**+0.2**
MARR	**Marisel-Cluj**	**33.68**	**88**	⇑P	**P**	**20 18 03.3**	**+0.4**
SURR	**Surduc**	**33.81**	**90**	⇑P	**P**	**20 18 04.2**	**+0.4**
DIVS	**Divibare**	**33.88**	**94**	P	**P**	**20 18 02.7**	**-1.9**
DIVS				IAmb	IAmb	20 18 09.4	
	comp=Z,7.7nm,1.1s						
ARCR	**ARCALIA**	**34.03**	**87**	⇑P	**P**	**20 18 05.7**	**-0.1**
BUR08	**Bucovina Ar. S**	**34.09**	**85**	P	**P**	**20 18 05.9**	**-0.5**
BUR08				IAmb	IAmb	20 18 07.8	
	comp=Z,15nm,1.5s						
BURAR	**Bucovina Array**	**34.12**	**85**	⇓P	**P**	**20 18 07.2**	**+0.6**
BURAR	**Bucovina Array**	**34.12**	**85**	P	**P**	**20 18 06.8**	**+0.2**
BURAR				IAmb	IAmb	20 18 14.0	
	comp=Z,10nm,1.2s						
AKASG	**Malin Array Be**	**34.15**	**78**	P	**P**	**20 18 05.1**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=305,slow=9.0,SNR=13						
AKASG				LR	LR	20 32 53.5	
	comp=Z,110nm,18.0s,baz=292,slow=38						
	comp=Z,2.3nm,0.8s						
AKBB	**Malin Array Si**	**34.15**	**78**	P	**P**	**20 18 05.1**	**-1.6**
AKBB				IAmb	IAmb	20 18 25.4	
	comp=Z,20nm,1.5s						
AK05	**Malin Array Si**	**34.19**	**78**	P	**P**	**20 18 05.5**	**-1.6**
AK05				IAmb	IAmb	20 18 07.0	
	comp=Z,17nm,1.3s						
GZR	**Gura Zlata**	**34.39**	**90**	⇑P	**P**	**20 18 08.9**	**0.0**
HERR	**Herculane**	**34.56**	**91**	⇑P	**P**	**20 18 09.7**	**-0.7**
PDG	**Podgorica**	**34.71**	**97**	P	**P**	**20 18 11.8**	**+0.1**
PDG				IAmb	IAmb	20 18 16.4	
	comp=Z,10nm,1.1s						
DJES	**Djerdap**	**34.76**	**91**	P	**P**	**20 18

comp=Z,27nm,1.4s
K38A Parkersburg 40.90 274 P P 20 19 04.3 +0.4
WCI Wyandotte Cave 40.91 264 P P 20 19 05.5 +1.4
BALB Balikesir 41.15 92 P P 20 19 04.6 -1.4
BALB IAmb IAmb 20 19 10.0
comp=Z,9.2nm,0.8s
HILA High Level 41.44 308 P P 20 19 09.5 +1.3
TKL Tuckaleechee C 41.64 259 LR LR 20 35 04.9
comp=Z,485nm,18.6s,baz=41,slow=34
Q44A Meyer Farm, Va 41.78 267 P P 20 19 12.8 +1.7
BELG Belogornoye 41.87 64 LR LR 20 36 28.4
comp=Z,81nm,20.2s,baz=305,slow=36
ECSD EROS Data Cent 42.06 278 P P 20 19 15.7 +2.2
E28A Huff 42.07 284 P P 20 19 14.7 +1.1
E28A IAmb IAmb 20 19 44.8
comp=Z,25nm,1.2s
DGMT Dagmar 42.46 289 P P 20 19 17.6 +0.9
SIUC Southern Illin 42.78 266 P P 20 19 20.2 +0.8
SIUC IAmb IAmb 20 19 27.6
comp=Z,28nm,1.5s
S44A Carbondale 42.82 266 P P 20 19 21.3 +1.6
S44A IAmb IAmb 20 19 24.4
comp=Z,12nm,0.9s
P40A Paris 42.84 270 P P 20 19 20.2 +0.3
IDI Anoyia 42.99 99 LR LR 20 39 12.2
comp=Z,181nm,18.2s,baz=304,slow=39
CGM3 Cape Girardeau 43.33 266 P P 20 19 25.2 +1.4
EDM Edmonton 43.43 300 P P 20 19 26.4 +2.0
CCM Cathedral Cave 43.55 268 P P 20 19 26.0 +0.4
CCM IAmb IAmb 20 19 28.2
comp=Z,23nm,1.4s
ARU Arti 43.88 53 P P 20 19 28.1 0.0
ARU IAmb IAmb 20 19 30.0
comp=Z,29nm,1.4s
R40A Maddies Statio 43.89 269 P P 20 19 27.8 -0.5
R40A IAmb IAmb 20 19 41.3
comp=Z,12nm,1.4s
NRIK Noril'sk 43.91 27 P P 20 19 28.2 +0.1
comp=Z,1.0nm,0.5s,baz=333,slow=11,SNR=5.4
comp=Z,1.0nm,0.5s
NRIK Noril'sk 43.91 27 P P 20 19 29.5 +1.4
BR131 Keskin Array S 44.01 87 P P 20 19 28.7 -0.7
BR131 IAmb IAmb 20 20 11.3
comp=Z,20nm,1.5s
BRTR Keskin Array B 44.01 87 P P 20 19 29.4 -0.1
comp=Z,1.9nm,1.0s,baz=317,slow=5.1,SNR=4.9
BRTR LR LR 20 41 17.0
comp=Z,297nm,18.8s,baz=314,slow=41
comp=Z,1.9nm,1.0s
BRTR Keskin Array B 44.01 87 P P 20 19 29.5 +0.1
I29M Ogilvie Camp, 44.21 325 P P 20 19 31.9 +1.4
I29M IAmb IAmb 20 20 03.2
comp=Z,17nm,1.4s
PLAL Pickwick Lake 44.33 263 P P 20 19 33.0 +1.2
PLAL IAmb IAmb 20 19 34.2
comp=Z,19nm,1.5s
BMAR Burnt Mountain 44.40 330 P P 20 19 32.1 0.0
LAO LASA Array 44.69 288 P P 20 19 37.9 +3.3
LAO IAmb IAmb 20 20 03.2
comp=Z,10nm,0.8s
TOLK Toolik Lake Re 44.69 333 P P 20 19 36.0 +1.6
TOLK IAmb IAmb 20 19 47.9
comp=Z,12nm,1.2s
MGMO Mountain Grove 44.77 268 P P 20 19 36.0 +0.6
MGMO IAmb IAmb 20 19 37.3
comp=Z,15nm,1.4s
S39A Bolivar 44.89 270 P P 20 19 37.2 +0.9
S39A IAmb IAmb 20 19 40.6
comp=Z,9.2nm,1.1s
LCAR Lake Charles 45.04 266 P P 20 19 38.5 +1.0
LCAR IAmb IAmb 20 19 41.8
comp=Z,11nm,1.2s
EGMT Eagleton 45.41 292 P P 20 19 41.7 +1.2
EGMT IAmb IAmb 20 19 51.7
comp=Z,19nm,1.4s
KIV Kislovodsk 45.42 76 P P 20 19 40.9 +0.3
KIV IAmb IAmb 20 19 49.0
comp=Z,7.0nm,1.0s
DAWY Dawson 45.48 324 P P 20 19 41.7 +1.0
DAWY IAmb IAmb 20 19 52.7
comp=Z,16nm,1.4s
KSU1 Kansas State U 45.48 274 P P 20 19 41.9 +0.9
KBZ Khabaz 45.69 76 P P 20 19 43.7 +1.1
comp=Z,4.1nm,1.0s,baz=314,slow=9.4,SNR=4.4
KBZ LR LR 20 39 07.3
comp=Z,171nm,18.8s,baz=316,slow=36
comp=Z,4.1nm,1.0s
BBTS Babate 46.06 161 LR LR 20 35 35.4
comp=Z,223nm,18.0s,baz=17,slow=32
WHAR Wooly Hollow 46.22 267 P P 20 19 48.4 +1.6
HHAR Hobbs 46.29 269 P P 20 19 47.8 +0.4
HHAR IAmb IAmb 20 19 57.9
comp=Z,16nm,1.4s
J26L Joseph Creek 46.35 327 P P 20 19 49.5 +1.9
J26L IAmb IAmb 20 20 05.0
comp=Z,7.3nm,1.2s
U38A Gravette 46.39 270 P P 20 19 48.3 +0.1
U38A IAmb IAmb 20 19 53.1
comp=Z,10nm,1.3s
POKR Poker Plat Res 46.92 329 P P 20 19 55.2 +3.2
POKR IAmb IAmb 20 20 16.2
comp=Z,9.3nm,1.1s
BCAR Beaver Creek A 46.94 324 P P 20 19 54.5 +2.3
L27K Beaver Creek, 46.95 325 P P 20 19 53.1 +0.7
L27K IAmb IAmb 20 19 59.2
comp=Z,7.3nm,1.4s
IL31 47.05 328 P P 20 19 54.2 +1.3
IL31 IAmb IAmb 20 20 04.8
comp=Z,14nm,1.4s
ILAR Eielson Array 47.05 328 P P 20 19 52.9 -0.1
comp=Z,0.9nm,1.1s,baz=26,slow=5.2,SNR=7.1
ILAR PcP PcP 20 21 23.5 -1.2
comp=Z,0.7nm,0.9s,baz=14,slow=4.1,SNR=1.9
ILAR LR LR 20 40 35.5
comp=Z,248nm,18.5s,baz=37,slow=37
comp=Z,0.9nm,1.1s
ILAR Eielson Array 47.05 328 P P 20 19 53.6 +0.6
T35A Sooner Cattle 47.10 272 P P 20 19 54.1 +0.3
X40A Basin Creek Fa 47.13 267 P P 20 19 53.6 -0.4
DOT Dot Lake 47.15 326 P P 20 19 55.6 +1.8
DOT IAmb IAmb 20 20 06.1
comp=Z,4.8nm,1.1s
MDM Murphy Dome 47.26 329 P P 20 19 55.2 +0.6
MDM IAmb IAmb 20 20 06.9
comp=Z,12nm,1.2s
RLMT Red Lodge 47.29 289 P P 20 19 57.4 +2.1
RLMT IAmb IAmb 20 20 22.1
comp=Z,6.4nm,1.4s
RIDG Independent Ri 47.30 327 P P 20 19 57.9 +2.9
RIDG IAmb IAmb 20 20 14.5
comp=Z,14nm,1.3s
CCB Clear Creek Bu 47.39 329 P P 20 19 57.7 +2.0
MIAR Mount Ida 47.46 267 P P 20 19 57.6 +1.0
MIAR IAmb IAmb 20 20 01.1
comp=Z,14nm,1.2s
KAN13 South Haven SW 47.52 273 P P 20 19 58.1 +1.1
BLOK Blackwell 47.58 272 P P 20 19 59.6 +2.1
SKAG Skagway 47.62 318 P P 20 19 59.6 +2.1
OK044 Pawnee Station 47.67 272 P P 20 19 59.5 +1.3
OK044 IAmb IAmb 20 20 09.4
comp=Z,6.3nm,0.6s
AKH Akhalkalaki 47.71 78 P P 20 19 59.0 +0.4
NEA2 Nenana 47.77 329 P P 20 19 59.8 +1.2
NEA2 IAmb IAmb 20 20 10.5
comp=Z,14nm,1.3s
IMAR Indian Mountai 47.79 332 P P 20 19 59.8 +1.0
KAN14 Manchester OK 47.81 273 P P 20 19 59.4 +0.1
H21K Melozitna Rive 47.84 332 P P 20 20 01.7 +2.6
MLY Manley 47.84 330 P P 20 20 02.1 +3.0
AKTO Aktyubinsk 47.89 60 LR LR 20 39 54.0
comp=Z,182nm,19.3s,baz=228,slow=36
YMP Mirror Lake Pl 47.99 289 P P 20 20 03.1 +2.1
I21K Tanana 48.03 331 P P 20 20 01.5 +1.0
I21K IAmb IAmb 20 20 13.3
comp=Z,5.9nm,0.9s
BOZ Bozeman (W) 48.06 291 P P 20 20 03.3 +2.0
BOZ IAmb IAmb 20 20 16.4
comp=Z,5.8nm,1.3s
YUF Upper Falls 48.19 290 P P 20 20 04.6 +2.2
YUF IAmb IAmb 20 20 46.8
comp=Z,5.3nm,0.6s
TIXI Tiksi 48.22 9 LR LR 20 39 04.4
comp=Z,44nm,18.6s,baz=185,slow=34
TIXI Tiksi 48.22 9 P P 20 20 03.2 +1.3
TIXI IAmb IAmb 20 20 05.1
comp=Z,9.9nm,1.1s
LKWY Lake 48.24 289 P P 20 20 05.6 +2.8
PHWY Pilot Hill 48.27 283 P P 20 20 05.2 +2.1
PHWY IAmb IAmb 20 20 17.0
comp=Z,7.3nm,1.2s
YMR Madison River 48.43 290 P P 20 20 05.5 +1.3
YMR IAmb IAmb 20 20 11.2
comp=Z,6.1nm,1.2s
OK029 Liberty Lake 48.45 272 P P 20 20 05.3 +1.1
KSCO Kaye Shedlock' 48.59 279 P P 20 20 07.4 +2.0
W35A Tecumseh 48.66 271 P P 20 20 06.5 +0.7
FLWY Flagg Ranch 48.74 289 P P 20 20 06.6 0.0
FLWY IAmb IAmb 20 20 31.2
comp=Z,7.5nm,1.4s
SJG San Juan 48.79 227 LR LR 20 37 27.4
comp=Z,26nm,20.9s,baz=7.0,slow=32
N23A Red Feather La 48.81 283 P P 20 20 08.0 +0.7
IMW Indian Meadow 49.00 289 P P 20 20 11.1 +2.4
LOHW Long Hollow 49.05 289 P P 20 20 10.6 +1.6
BW06 Boulder Array 49.18 287 P P 20 20 10.7 +0.7
PD31 Pinedale Array 49.18 287 P P 20 20 10.5 +0.5
PDAR Pinedale Array 49.18 287 P P 20 20 10.4 +0.5
comp=Z,0.8nm,0.6s,baz=64,slow=6.3,SNR=8.4
PDAR LR LR 20 40 08.5
comp=Z,580nm,18.4s,baz=26,slow=35
comp=Z,0.8nm,0.6s
MCMT McKenzie Canyo 49.21 291 P P 20 20 11.5 +1.2
FXWY Fox Creek 49.23 289 P P 20 20 11.5 +1.0
GNI Garni 49.28 78 LR LR 20 40 59.8
comp=Z,135nm,19.5s,baz=326,slow=36
TPAW Teton Pass 49.31 289 P P 20 20 12.7 +1.6
TPAW IAmb IAmb 20 20 32.1
comp=Z,8.1nm,1.2s
REDW Red Top Meadow 49.35 289 P P 20 20 13.0 +1.6
ISCO Idaho Springs 49.48 282 P P 20 20 14.3 +1.8
ISCO IAmb IAmb 20 20 18.2
comp=Z,9.6nm,1.4s
CAST Castle Rocks 49.50 330 P P 20 20 14.1 +2.1
C09A Chrisman Ranch 49.50 298 P P 20 20 13.8 +1.6
C09A IAmb IAmb 20 20 19.4
comp=Z,6.2nm,0.9s
B08A Colville Reser 49.56 299 P P 20 20 11.3 -1.3
B08A IAmb IAmb 20 20 12.7
comp=Z,8.9nm,1.4s
X34A Smith Ranch, M 49.58 271 P P 20 20 14.1 +1.2
ABKAR Akbulak array 49.60 59 P P 20 20 12.9 0.0
ABKAR Akbulak array 49.60 59 P P 20 20 12.7 -0.2
CUT Chulitna 49.86 328 P P 20 20 17.8 +3.2
BCYI Bear Canyon 49.86 291 P P 20 20 16.3 +1.1
Q24A Divide 49.89 281 P P 20 20 17.4 +1.8
Q24A IAmb IAmb 20 20 39.1
comp=Z,14nm,1.5s
WMOK Wichita Mounta 49.95 272 P P 20 20 16.6 +0.9
SDDR Presa de Saban 50.02 234 P P 20 20 16.8 +0.4
F10A Beach Ranch, E 50.40 295 P P 20 20 21.1 +2.1
E09A Wood Farm, Sta 50.41 296 P P 20 20 16.6 -2.4
O20A White River Ci 50.53 284 P P 20 20 20.3 0.0
O20A IAmb IAmb 20 20 23.9
comp=Z,20nm,1.4s
SMCO Snowmass 50.63 282 P P 20 20 23.0 +1.7
RDMU Red Mountain 50.85 285 P P 20 20 23.5 +0.8
RDMU IAmb IAmb 20 20 27.9
comp=Z,15nm,1.2s
T25A Trinidad 50.93 278 P P 20 20 25.5 +2.2
T25A IAmb IAmb 20 20 28.6
comp=Z,19nm,1.4s
BRVK Borovoye 51.00 50 P P 20 20 23.3 -0.1
BRVK IAmb IAmb 20 20 25.5
comp=Z,21nm,1.4s
SDCO Great Sand Dun 51.00 280 P P 20 20 24.4 +0.4
BVAR Borovoye Array 51.07 50 LR LR 20 43 09.4
comp=Z,103nm,18.2s,baz=311,slow=37
TNA Tin City 51.13 339 P P 20 20 25.9 +1.7
TNA IAmb IAmb 20 20 27.3
comp=Z,21nm,1.5s
BMO Blue Mountains 51.28 294 P P 20 20 27.2 +1.4
S22A 4UR Ranch, Cre 51.67 281 P P 20 20 30.0 +1.0
S22A IAmb IAmb 20 20 34.7
comp=Z,9.8nm,1.4s
ABTX Abilene, Hawle 52.06 271 P P 20 20 31.3 -0.4
ABTX IAmb IAmb 20 20 35.8
comp=Z,18nm,1.4s
TORD Torodi Ar. Bea 52.15 139 P P 20 20 30.4 -2.0
comp=Z,1.6nm,0.6s,baz=341,slow=7.7,SNR=10
comp=Z,1.6nm,0.6s
TORD Torodi Ar. Bea 52.15 139 P P 20 20 29.4 -3.0
P17A Butcher Ranch, 52.27 285 P P 20 20 34.3 +1.0
SRU San Rafael Swe 52.44 285 P P 20 20 35.4 +0.8
SRU IAmb IAmb 20 20 40.4
comp=Z,10nm,1.3s
NLU North Lily Min 52.55 287 P P 20 20 36.5 +1.2
NLU IAmb IAmb 20 20 40.6
comp=Z,11nm,1.4s
DUG Dugway, Tooele 52.72 287 P P 20 20 37.9 +1.4
ELK Elko 53.46 290 P P 20 20 42.8 +0.7
comp=Z,0.3nm,0.3s,baz=61,slow=6.4,SNR=7.7
ELK LR LR 20 42 50.7
comp=Z,286nm,19.2s,baz=33,slow=35
comp=Z,0.3nm,0.3s
ELK Elko 53.46 290 P P 20 20 43.0 +0.9
ANMO Albuquerque 53.67 278 P P 20 20 44.7 +1.0
comp=Z,0.7nm,0.5s,baz=181,slow=11,SNR=3.9
ANMO LR LR 20 42 21.9
comp=Z,328nm,20.0s,baz=138,slow=35
comp=Z,0.7nm,0.5s
PINE Pine Mountain 53.76 296 P P 20 20 44.2 -0.1
PINE IAmb IAmb 20 20 53.8
comp=Z,11nm,1.4s
JCT Junction City 53.86 270 P P 20 20 45.3 +0.3
MTPU Mount Pierson 54.09 285 P P 20 20 48.5 +1.6
KDAK Kodiak Island 54.36 326 LR LR 20 44 54.5
comp=Z,174nm,19.5s,baz=60,slow=37
SPR3 Spring Creek 3 54.38 288 P P 20 20 49.9 +0.9
MOD Modoc Plateau 54.94 294 P P 20 20 53.8 +0.9
KNB Kanab 55.20 285 P P 20 20 56.4 +1.6
KNB IAmb IAmb 20 21 11.7
comp=Z,7.7nm,1.4s
ZALV Zalesovo Beam 55.51 40 P P 20 20 56.1 -0.4
comp=Z,0.8nm,0.6s,baz=324,slow=7.3,SNR=5.1
ZALV LR LR 20 44 23.5
comp=Z,41nm,20.6s,baz=351,slow=36
comp=Z,0.8nm,0.6s
ZALV Zalesovo Beam 55.51 40 P P 20 20 56.5 -0.1
PRN Pahroc Range 55.98 287 P P 20 21 02.1 +1.7
PRN IAmb IAmb 20 21 06.1
comp=Z,13nm,1.4s
KURK Kurchatov 56.01 46 P P 20 20 59.7 -0.4
KURK IAmb IAmb 20 21 01.1
comp=Z,9.1nm,0.8s
KVN Kaiserville 56.15 290 P P 20 21 03.2 +1.6
YBH Yreka Blue Hor 56.19 296 LR LR 20 44 42.3
comp=Z,914nm,18.6s,baz=28,slow=36
DBIC Dimbokro 56.33 149 LR LR 20 42 41.8
comp=Z,340nm,18.6s,baz=360,slow=34
NVAR Mina Array Bea 56.74 290 P P 20 21 07.6 +1.7
comp=Z,0.5nm,0.6s,baz=54,slow=7.5,SNR=3.7
comp=Z,0.5nm,0.6s
YERR Yerington 56.75 291 P P 20 21 08.2 +2.3
YERR IAmb IAmb 20 21 17.1
comp=Z,7.7nm,1.5s
TXAR Lajitas Array 56.75 272 P P 20 21 07.1 +1.2
comp=Z,0.5nm,0.7s,baz=52,slow=8.1,SNR=3.9
TXAR LR LR 20 44 50.6
comp=Z,190nm,20.0s,baz=52,slow=35
comp=Z,0.5nm,0.7s
MZP Montezuma Peak 56.88 289 P P 20 21 08.1 +1.2
DUN6 Lazy B Ranch 56.90 279 P P 20 21 07.4 +0.5
MDP Montagnes des 56.98 207 LR LR 20 38 51.9
comp=Z,66nm,21.4s,baz=38,slow=29
GEYT Alibeck 57.53 70 P P 20 21 11.7 +0.6
comp=Z,2.3nm,1.0s,baz=309,slow=9.1,SNR=5.7
GEYT LR LR 20 46 33.7
comp=Z,131nm,19.0s,baz=320,slow=37
comp=Z,2.3nm,1.0s
YAK Yakutsk 57.71 11 LR LR 20 44 20.4
comp=Z,46nm,21.7s,baz=267,slow=34
GWY Greenwater Val 57.74 287 P P 20 21 13.3 +0.5
GWY IAmb IAmb 20 21 31.1
comp=Z,5.7nm,1.1s
BAUV El Baul 57.92 225 P P 20 21 14.3 +0.2
SDV Santo Domingo 58.93 228 LR LR 20 44 42.0
comp=Z,25nm,20.9s,baz=13,slow=34
KK31 Karatay Array 58.98 57 P P 20 21 20.8 -0.5
KK31 IAmb IAmb 20 21 25.8
comp=Z,11nm,1.4s
KKAR Karatay Array 58.98 57 P P 20 21 21.2 -0.1
KKAR IAmb IAmb 20 21 25.8
comp=Z,11nm,1.4s
ISA Isabella, Lake 59.03 288 P P 20 21 23.8 +2.0
ISA IAmb IAmb 20 21 26.6
comp=Z,12nm,1.4s
PFO Pinyon Flats O 59.71 285 LR LR 20 47 18.1
comp=Z,366nm,18.0s,baz=46,slow=36
MAKZ Makanchi 60.49 47 P P 20 21 31.6 0.0
MK31 Makanchi Array 60.62 47 P P 20 21 32.1 -0.4
MKAR Makanchi Array 60.62 47 P P 20 21 32.8 +0.3
comp=Z,7.8nm,0.7s,baz=340,slow=5.3,SNR=69
MKAR LR LR 20 47 02.1
comp=Z,56nm,18.3s,baz=306,slow=35
comp=Z,7.8nm,0.7s
MKAR Makanchi Array 60.62 47 P P 20 21 32.3 -0.2
EKS2 Erkin-Say 60.72 55 P P 20 21 35.5 +2.2
SNR=9.7
AAK Ala-Archa 61.04 55 P P 20 21 36.9 +1.4
SNR=6.4
AAK Ala-Archa 61.04 55 P P 20 21 36.5 +1.0
AML Almayashu 61.12 55 P P 20 21 38.1 +1.7
SNR=8.7
TKM2 Tokmak 2 61.26 54 P P 20 21 38.7 +1.6
SNR=6.2
UCH Uchtor 61.38 55 P P 20 21 40.7 +2.4
SNR=7.7
CMIG Matias Romero 62.50 256 LR LR 20 47 53.0
comp=Z,106nm,21.8s,baz=12,slow=35
JTS Las Juntas de 63.67 243 LR LR 20 47 46.4
comp=Z,69nm,19.0s,baz=12,slow=34
ROSC El Rosal 64.05 230 P P 20 21 56.2 0.0
comp=Z,6.8nm,0.3s,baz=72,slow=4.1,SNR=5.8
KSH Kashi 64.25 55 P P 20 21 59.8 +2.8
KSH pmax pmax
comp=Z,21nm,1.2s
LPIG La Paz 64.41 274 LR LR 20 48 34.4
comp=Z,109nm,20.1s,baz=56,slow=35
WMQ Urumqi 65.14 45 *eP* **P 20 22 04.0 +1.4**
WMQ pP sP 20 22 09.0 -0.1
WMQ sP pP 20 22 12.5 +5.2
WMQ pmax pmax
comp=Z,14nm,1.3s
KBL Kabul 65.38 64 P P 20 22 04.9 +0.4
KBL IAmb IAmb 20 22 06.3
comp=Z,9.6nm,1.3s
RCBR Riachuelo 65.39 186 LR LR 20 43 18.3
comp=Z,54nm,18.7s,baz=146,slow=29
SHEM Shemya Is, Ala 66.25 344 LR LR 20 51 34.6
comp=Z,54nm,20.2s,baz=328,slow=36
ITTB Itaituba 66.85 208 *eP* **P 20 22 14.8 +1.1**
SONM Songino Array 67.26 30 P P 20 22 17.2 +0.9
comp=Z,0.6nm,0.4s,baz=310,slow=4.7,SNR=1.7
comp=Z,0.6nm,0.4s
SONM Songino Array 67.26 30 P P 20 22 17.6 +1.3
SONM IAmb IAmb 20 22 25.3
comp=Z,6.2nm,1.4s
ULN Ulaanbaatar 67.40 29 P P 20 22 18.4 +1.2
NIL Nilore 68.02 61 P P 20 22 21.4 +0.3
HEH HeiHe 69.02 15 *eP* **P 20 22 28.3 +1.3**
HEH pmax pmax
comp=Z,13nm,1.2s
NPGB Novo Progresso 69.35 206 *eP* **P 20 22 29.1 -0.4**
OTAV Otavalo 69.89 232 *eP* **P 20 22 35.3 +1.9**
KLR Kul'dur 70.54 12 LR LR 20 53 40.4
comp=Z,35nm,18.6s,baz=2.0,slow=36
GTA Gaotai 73.15 38 ⇓P **P 20 22 52.5 +0.1**
GTA pP pP 20 22 56.8 -0.4
GTA sP sP 20 22 59.8 +0.8
GTA pmax pmax
comp=Z,10.0nm,1.7s
SAML Samuel 73.17 214 P P 20 22 51.2 -1.3
GOMU GeErMu 74.41 43 P P 20 23 01.3 +1.1
GOMU pP sP 20 23 06.0 -0.7
GOMU sP pP 20 23 07.3 +2.4
GOMU pmax pmax
comp=Z,3.0nm,1.2s
GOMU pmax pmax
comp=Z,86nm,5.5s
ETMB Extrema 74.89 217 P P 20 23 02.6 0.0
ETMB IAmb IAmb 20 23 05.1
comp=Z,7.2nm,1.1s
ETMB Extrema 74.89 217 *eP* **P 20 23 02.0 -0.6**
LODK Lodwar 75.02 109 P P 20 23 04.1 +0.6
HHC Hu-ho-hao-te 75.10 29 *eP* **P 20 23 05.0 +1.2**
HHC pmax pmax
comp=Z,12nm,1.2s
HHC pmax pmax
comp=Z,190nm,5.6s
JANB Januaria 75.26 194 *eP* **P 20 23 04.2 -0.5**
BDFB Brasilia 76.34 197 P P 20 23 10.2 -0.8
comp=Z,5.3nm,0.8s,baz=290,slow=1.4,SNR=6.5
comp=Z,5.3nm,0.8s
MBAR Mbarara 76.38 116 LR LR 20 57 54.5
comp=Z,146nm,18.3s,baz=343,slow=37
ARAG Araguaiana, MT 77.04 201 *eP* **P 20 23 15.3 +0.5**
LZH Lanzhou 77.44 36 *eP* **P 20 23 18.3 +1.1**
LZH pP pP 20 23 21.5 -0.5
LZH sP sP 20 23 23.8 0.0
LZH pmax pmax
comp=Z,11nm,1.2s
PTLB Pontes e Lacer 78.34 208 P P 20 23 22.0 0.0
PTLB IAmb IAmb 20 23 50.6
comp=Z,3.2nm,1.1s
PTLB Pontes e Lacer 78.34 208 *eP* **P 20 23 23.8 +1.8**
SIV San Ignacio 79.34 210 LR LR 20 54 10.5
comp=Z,64nm,19.1s,baz=286,slow=32
BBSD Serra de San D 80.37 209 *eP* **P 20 23 32.9 -0.2**
NNA Nana 80.47 226 LR LR 20 59 10.0
comp=Z,16nm,19.6s,baz=14,slow=36
ITRB Iturama 80.70 199 *eP* **P 20 23 36.9 +2.1**
XAN Xi'an 80.83 33 ⇑P **P 20 23 36.0 +0.4**
XAN pP PcP 20 23 45.0 +2.8
XAN pmax pmax
comp=Z,7.0nm,1.3s
LPAZ La Paz 81.58 216 P P 20 23 41.4 +1.0
comp=Z,0.5nm,0.4s,baz=342,slow=13,SNR=2.1
comp=Z,0.5nm,0.4s
MJAR Matsushiro Arr 83.73 9 P P 20 23 51.5 +0.7
comp=Z,2.0nm,0.9s,baz=9.5,slow=5.3,SNR=2.4
comp=Z,2.0nm,0.9s
MNMC Minye Minye 84.70 217 P P 20 23 56.0 0.0
GO01 Chusmiza 85.09 216 P P 20 23 57.5 -0.6
NJ2 Nanjing 85.20 26 *eP* **P 20 23 58.0 -0.2**
NJ2 pmax pmax
comp=Z,7.0nm,1.0s
PB11 IPOC Station P 85.32 217 P P 20 23 57.7 -1.2
PZH PanZhiHua 85.63 42 P P 20 24 00.0 -0.6
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,160nm,4.6s
CMAR Chiang Mai Arr 92.03 47 P P 20 24 30.4 -0.6
comp=Z,0.4nm,0.3s,baz=324,slow=5.6,SNR=5.2
comp=Z,0.4nm,0.3s
LBTB Lobatse 96.03 131 LR LR 21 06 58.0
comp=Z,121nm,20.4s,baz=345,slow=35
BOSA Boshof 99.14 133 LR LR 21 08 59.2
comp=Z,119nm,18.9s,baz=353,slow=35
WRA Warramunga Arr 138.89 22 PKP PKPdf 20 30 47.5 -0.6
comp=Z,0.4nm,0.8s,baz=338,slow=2.8,SNR=2.8
ASAR Alice Springs 142.42 24 PKhKP PKPpre 20 30 48.4
comp=Z,0.4nm,0.8s,baz=336,slow=2.5,SNR=3.0
STKA Stephens Creek 151.74 14 PKP PKPdf 20 31 09.7 0.0
comp=Z,0.3nm,0.3s,baz=106,slow=6.2,SNR=1.8
STKA PKPbc **PKPbc 20 31 15.9 -0.1**
comp=Z,1.5nm,0.7s,baz=36,slow=1.0,SNR=4.2

NEIC ***27*** *20:11:48.2±2.3, 18°.8N±0°.4×68°.57W±0°.06, h109km±11km, ML2.5/12, Md3.2/8(RSPR), Error ellipse: s-maj=60.6km s-min=1.8km az=187.0*
RSPR ***27*** *20:11:48.7, 18°.50N×68°.67W, h109km±1km, MD3.2/3*
ISC 27 20:11:48.2±2.0, 19°.0N±0°.2×68°.53W±0°.07, h100km, n15,
σ1ˢ55/17, 3C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**			**0.49 163**	⇓*eP*	**Pn**	**20 12 03.7**	**-0.3**
PCDR	**Punta Cana, DR**			**0.49 163**	*eS*	**Sn**	**20 12 15.8**	**+0.1**
PCDR	**Punta Cana, DR**			**0.49 163**		**Pn**	**20 12 03.7**	**-0.3**
PCDR						**Sn**	**20 12 15.8**	**+0.1**
PCDR	**Punta Cana, DR**			**0.49 163**	IAML		20 12 18.1	
	comp=N,139nm,2.0s							
AGPR	**Aguadilla, PR**			**1.44 111**	Pn	**Pn**	**20 12 12.3**	**-1.4**

LSP	**Las Mesas**	**1.59 120**	⇑*eP*	**Pn**	**20 12 17.0**	**+1.3**
LSP	**Las Mesas**	**1.59 120**	*eS*	**Sn**	**20 12 36.4**	**-0.1**
LSP	**Las Mesas**	**1.59 120**		**Pn**	**20 12 17.0**	**+1.3**
LSP				**Sn**	**20 12 36.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.67 126**	⇑*eP*	**Pn**	**20 12 18.5**	**+2.0**
CRPR	**Cabo Rojo, PR**	**1.67 126**		**Pn**	**20 12 15.7**	**-0.8**
CRPR			IAML		20 12 40.6	
	comp=N,31nm,2.5s					
AOPR	**Arecibo Observ**	**1.80 111**	⇑*eP*	**Pn**	**20 12 22.0**	**+3.7**
AOPR	**Arecibo Observ**	**1.80 111**	Pn	**Pn**	**20 12 17.6**	**-0.7**
AOPR			IAML		20 12 59.8	
	comp=N,38nm,1.9s					
UUPR	**Utuado, UPR, P**	**1.87 113**	Pn	**Pn**	**20 12 18.0**	**-1.1**
UUPR				**Sn**	**20 12 40.1**	**-2.6**
SDDR	**Presa de Saban**	**2.61 270**	Pn	**Pn**	**20 12 29.1**	**+0.3**
SDDR			IAML		20 13 56.7	
	comp=N,16nm,4.0s					
CBYP	**Canovanas**	**2.64 105**	Pn	**Pn**	**20 12 30.3**	**+1.1**
CBYP			IAML		20 13 10.3	
	comp=E,23nm,0.2s					
CBYP			IAML		20 13 14.7	
	comp=N,22nm,0.2s					

IDC ***27*** *20:19:40.9±1.4,5°.25N×127°.54E,h0km,mb3.9/5, mbtmp4.0/7,ML3.1/2,MS3.0/1,Error ellipse: s-maj=99.3km s-min=15.6km az=61.0*
NEIC ***27*** *20:19:46.5±1.4,5°.36N±0°.08×127°.7E±0°.1,h35km±11km, mb4.3/15,Error ellipse: s-maj=17.6km s-min=9.6km az=61.0*
MAN ***27*** *20:19:47.9,5°.15N×127°.37E,h14km,mb4.9,ML3.9,MS3.9*
DJA ***27*** *20:19:58.0±0.6,4°.N±5°×12°.7E±°,h76km±7km,M4.3/12, mB5.0/4,mb4.3/12,MLv4.3/12,Mw(mB)4.3/4*

ISC 27 20:19:46.9±0.7,5°.24N±0°.05×127°.54E±0°.07,h50km,n45, σ1ᵍ91/52,mb4.2/12,3C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.53**	**232**	P	**Pn**	**20 20 27.0**	**+1.5**
DAV	**Davao City (W)**	**2.66**	**313**	Pn	**Pn**	**20 20 25.6**	**-1.8**
	1.6nm,0.3s,baz=36,slow=14,SNR=1.3						
DAV				Sn	**Sn**	**20 21 01.0**	**+2.5**
	42nm,0.3s,baz=193,slow=9.8,SNR=1.8						
	126nm,0.5s						
DAV	**Davao City (W)**	**2.66**	**313**	Pn	**Pn**	**20 20 27.6**	**+0.2**
GSPH	**General Santos**	**2.71**	**288**	⇑*eP*	**Pn**	**20 20 26.9**	**-1.2**
GSPH				*i* S	**Sn**	**20 20 57.5**	**-2.2**
KCP	**Kidapawan**	**3.00**	**306**	⇑*eP*	**Pn**	**20 20 34.2**	**+2.1**
KCP				*i* S	**Sn**	**20 21 10.8**	**+4.0**
BIPH	**Bislig**	**3.15**	**338**	⇑*iP*	**Pn**	**20 20 34.7**	**+0.7**
BIPH				*i* S	**Sn**	**20 21 07.3**	**-3.1**
CGP	**Cagayan de Oro**	**4.26**	**319**	⇓*eP*	**Pn**	**20 20 45.9**	**-3.4**
TNTI	**Ternate**	**4.44**	**182**		**Pn**	**20 20 53.9**	**+2.1**
TNTI	**Ternate**	**4.44**	**182**	P	**Pn**	**20 20 52.5**	**+0.7**
TNTI				S	**Sn**	**20 21 45.8**	**+3.6**
GTOI	**Gorontalo**	**6.43**	**225**	P	**Pn**	**20 21 19.1**	**+0.1**
	15nm,0.7s,0.1nm						
SIJI	**Sorong**	**7.12**	**148**	Pn	**Pn**	**20 21 27.8**	**-0.8**
	0.8nm,0.3s,baz=284,slow=23,SNR=2.1						
SIJI				Sn	**Sn**	**20 22 43.5**	**-4.7**
	0.7nm,0.3s,baz=242,slow=23,SNR=1.8						
	5.0nm,0.5s						
MRSI	**Marisa**	**7.32**	**230**	P	**Pn**	**20 21 32.1**	**+0.8**
	45nm,0.7s,0.2nm						
MRSI				S	**Sn**	**20 22 49.4**	**-3.7**
	45nm,0.7s,0.2nm						
SANI	**Sanana**	**7.40**	**192**	P	**Pn**	**20 21 31.1**	**-1.3**
	23nm,0.9s,0.2nm						
SANI				S	**Sn**	**20 22 50.3**	**-4.8**
	23nm,0.9s,0.2nm						
LUWI	**Luwuk**	**7.85**	**217**		**Pn**	**20 21 41.4**	**+2.9**
LUWI	**Luwuk**	**7.85**	**217**	P	**Pn**	**20 21 38.4**	**-0.1**
	76nm,0.7s,728nm0.3nm						
TOLI2	**Tolitoli**	**7.89**	**239**	Pn	**Pn**	**20 21 38.8**	**-0.3**
NLAI	**Namlea**	**8.43**	**183**	P	**Pn**	**20 21 46.8**	**+0.3**
	17nm,0.6s,0.1nm						
KAPI	**Kappang**	**12.81**	**217**	LR	LR	20 28 27.1	
	comp=Z,60nm,18.8s,baz=96,slow=41						
SBUM	**Sibu**	**15.53**	**260**	Pn	**P**	**20 23 26.4**	**+0.1**
SBUM				IAmb	IAmb	20 24 08.8	
	comp=Z,23nm,1.5s						
MTN	**Manton Dam**	**18.32**	**169**	P	**P**	**20 23 55.4**	**-1.6**
BWJI	**Bawean**	**18.49**	**234**	P	**Pn**	**20 24 00.1**	**+0.4**
	comp=Z,609nm,1.0s						
TWG	**Pinlang**	**18.56**	**341**		**P**	**20 23 57.4**	**-2.3**
JAGI	**Jajag, Banyuwa**	**19.07**	**224**	P	**Pn**	**20 24 07.2**	**+0.6**
GMJI	**Gumukmas**	**19.43**	**226**	P	**P**	**20 24 09.4**	**0.0**
KNRA	**Kununurra**	**20.82**	**177**	P	**P**	**20 24 24.3**	**-0.1**
KNRA				IAmb	IAmb	20 24 37.6	
	comp=Z,17nm,1.1s						
CGJI	**Cibinong**	**24.78**	**242**	P	**P**	**20 25 07.0**	**+2.7**
WB0	**Warramunga Arr**	**25.75**	**165**	P	**P**	**20 25 12.5**	**-0.5**
WB0				IAmb	IAmb	20 25 18.4	
	comp=Z,5.1nm,0.7s						
WRA	**Warramunga Arr**	**25.90**	**165**	P	**P**	**20 25 14.3**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=345,slow=10,SNR=20						
	comp=Z,1.6nm,0.8s						
WRA	**Warramunga Arr**	**25.90**	**165**	P	**P**	**20 25 15.2**	**+0.8**
WB2	**Warramunga Arr**	**25.91**	**165**	P	**P**	**20 25 15.7**	**+1.2**
WB2				IAmb	IAmb	20 25 56.9	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**25.97**	**165**	P	**P**	**20 25 14.6**	**-0.5**
WR0				IAmb	IAmb	20 25 56.8	
	comp=Z,10nm,1.4s						
ASAR	**Alice Springs**	**29.39**	**168**	P	**P**	**20 25 45.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=353,slow=8.1,SNR=8.5						
	comp=Z,0.4nm,0.5s						
BBOO	**Buckleboo**	**38.70**	**168**	P	**P**	**20 27 07.3**	**+1.3**
STKA	**Stephens Creek**	**39.27**	**161**	P	**P**	**20 27 12.8**	**+2.0**
	comp=Z,2.3nm,0.7s,baz=340,slow=7.6,SNR=8.9						
	comp=Z,2.3nm,0.7s						
MK31	**Makanchi Array**	**56.79**	**324**	P	**P**	**20 29 27.2**	**+1.1**
MK31				IAmb	IAmb	20 29 27.9	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**56.79**	**324**	P	**P**	**20 29 27.4**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=118,slow=8.0,SNR=40						
	comp=Z,1.9nm,0.6s						
MKAR	**Makanchi Array**	**56.79**	**324**	P	**P**	**20 29 27.0**	**+0.9**
MAKZ	**Makanchi**	**56.98**	**324**	P	**P**	**20 29 28.2**	**+0.7**
ZALV	**Zalesovo Beam**	**59.62**	**332**	P	**P**	**20 29 46.0**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=143,slow=8.8,SNR=3.6						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**60.92**	**327**	P	**P**	**20 29 55.6**	**+1.0**
KURK				IAmb	IAmb	20 29 56.1	
	comp=Z,2.5nm,0.7s						
KKAR	**Karatay Array**	**62.69**	**316**	P	**P**	**20 30 07.4**	**+0.7**
BRVK	**Borovoye**	**66.58**	**326**	P	**P**	**20 30 32.1**	**+0.3**
BRVK				IAmb	IAmb	20 30 33.5	
	comp=Z,2.3nm,0.9s						
ABKAR	**Akbulak array**	**71.50**	**320**	P	**P**	**20 31 02.8**	**+0.3**
ABKAR	**Akbulak array**	**71.50**	**320**	P	**P**	**20 31 02.8**	**+0.3**
ABKAR				IAmb	IAmb	20 31 12.0	
	comp=Z,4.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**123.20**	**289**	PKP	**PKPdf**	**20 38 39.3**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=30,slow=1.5,SNR=2.6						

IDC 27 20:25:47.7±1.9,59°.42N×30°.54W,h0km,mb3.6/3, mbtmp3.6/3,MS4.3/1,Error ellipse: s-maj=63.6km s-min=30.6km az=36.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.92**	**128**	P	P	20 31 21.5	+0.2
	1.4nm,0.9s,baz=312,slow=9.8,SNR=4.1						
	1.4nm,0.9s						
YKA	**Yellowknife Ar**	**38.22**	**312**	P	P	20 33 08.7	0.0
	0.5nm,0.9s,baz=51,slow=9.1,SNR=4.9						
	0.5nm,0.9s						
MMAI	**Mount Meron Ar**	**50.12**	**91**	LR	LR	20 56 30.4	
	comp=Z,295nm,20.5s,baz=203,slow=37						
MKAR	**Makanchi Array**	**60.78**	**47**	P	P	20 36 00.8	-0.3
	0.6nm,0.7s,baz=328,slow=5.7,SNR=7.0						
	0.6nm,0.7s						

IDC 27 20:26:31.6±3.5,5°.71S×151°.94E,h0km,mb3.3/2, mbtmp3.4/2,Error ellipse: s-maj=125.5km s-min=18.6km az=108.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.40**	**3**	Pn	Pb	20 26 59.7	+1.1
	78nm,0.3s,baz=267,slow=1.4,SNR=35						
KRVT				Sn	Sb	20 27 17.1	+0.1
	160nm,0.3s,baz=99,slow=20,SNR=9.7						
WRA	**Warramunga Arr**	**22.20**	**229**	P	P	20 31 30.2	+0.3
	0.5nm,0.5s,baz=52,slow=9.8,SNR=8.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**24.91**	**222**	P	P	20 31 57.0	+0.4
	0.7nm,0.7s,baz=58,slow=8.7,SNR=12						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.76**	**286**	PKPbc	PKPbc	20 46 22.9	-1.8
	0.8nm,0.7s,baz=84,slow=3.6,SNR=4.8						

IDC 27 20:26:40.8±1.2,28°.10N×104°.88E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=44.5km s-min=24.4km az=63.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**21.46**	**58**	P	P	20 31 30.6	-0.1
	0.8nm,0.6s,baz=244,slow=11,SNR=5.5						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**25.73**	**323**	P	P	20 32 12.7	-0.3
	0.7nm,0.6s,baz=120,slow=8.5,SNR=8.8						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**55.61**	**146**	P	P	20 36 18.0	-0.6
	0.5nm,0.8s,baz=333,slow=8.6,SNR=5.1						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**58.58**	**149**	P	P	20 36 39.9	+0.3
	0.5nm,0.6s,baz=332,slow=6.8,SNR=11						
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**84.35**	**17**	P	P	20 39 14.8	+0.3
	0.3nm,0.7s,baz=327,slow=5.7,SNR=2.4						
	0.3nm,0.7s						

IDC 27 20:29:50.5±2.5,11°.74S×115°.61E,h0km,mb3.6/4, mbtmp3.5/5,ML3.3/1,Error ellipse: s-maj=137.5km s-min=24.1km az=46.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.77**	**117**	P	P	20 34 22.6	+0.2
	0.1nm,0.3s,baz=291,slow=12,SNR=1.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**21.06**	**127**	P	P	20 34 36.2	-0.1
	0.3nm,0.5s,baz=298,slow=10,SNR=8.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**65.45**	**335**	P	P	20 40 35.6	+0.3
	1.0nm,0.4s,baz=150,slow=7.4,SNR=35						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**70.01**	**336**	P	P	20 41 04.1	+0.2
	0.3nm,0.5s,baz=152,slow=5.6,SNR=4.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**70.47**	**341**	P	P	20 41 05.9	-0.7
	0.6nm,0.6s,baz=162,slow=6.2,SNR=3.8						
	0.6nm,0.6s						

IDC 27 20:40:09.2±50.0,17°.21S×177°.91W,h564km±33km, mb2.8/3,mbtmp3.7/4,Error ellipse: s-maj=896.7km s-min=141.6km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.89**	**262**	P	P	20 41 31.3	0.0
	6.9nm,0.7s,baz=138,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**39.38**	**241**	P	P	20 46 51.3	+0.3
	0.5nm,0.2s,baz=90,slow=10,SNR=3.1						
	0.5nm,0.2s						
WRA	**Warramunga Arr**	**45.23**	**259**	P	P	20 47 36.3	-0.7
	0.2nm,0.4s,baz=98,slow=7.4,SNR=5.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**45.44**	**254**	P	P	20 47 38.5	-0.1
	1.1nm,0.3s,baz=88,slow=8.0,SNR=33						
	1.1nm,0.3s						

IDC ***27*** *20:42:17.2±1.2,37°.27N×78°.92E,h0km,mb3.6/6, mbtmp3.5/12,ML3.0/6,Error ellipse: s-maj=28.3km s-min=18.0km az=51.0*
NNC ***27*** *20:42:25.0±1.5,37°.56N×78°.86E,h22km±9km,mb4.2, mpv3.9,Error ellipse: s-maj=12.3km s-min=9.8km az=91.0*
SOME ***27*** *20:42:25.0,37°.67N×78°.72E,h10km*

ISC 27 20:42:21.5±2.3,37°.5N±0°.1×78°.9E±0°.1,h10km,n52, σ2ᵍ26/50,mb3.5/6,4C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.54**	**356**	Pg	**Pg**	**20 44 07.0**	**-0.6**
	11nm,0.6s						
SATY				Lg	Lg	20 45 22.8	
	33nm,0.5s						
SATY	**Saty**	**5.54**	**356**	*e*Pg	**Pg**	**20 44 06.8**	**-0.8**
	11nm,0.6s						
SATY				*e*Lg	Lg	20 45 20.1	
	33nm,0.5s						
UZB	**Uzynbulak**	**5.61**	**1**	Pg	**Pg**	**20 44 06.6**	**-2.4**
	8.6nm,0.4s						
UZB				Lg	Lg	20 45 21.6	
	25nm,0.7s						
UZB	**Uzynbulak**	**5.61**	**1**	*e*Pg	**Pg**	**20 44 07.7**	**-1.4**
	8.6nm,0.4s						
UZB				*e*Lg	Lg	20 45 21.1	
	25nm,0.7s						
SHLS	**Shalkode**	**5.64**	**4**	Pg	**Pg**	**20 44 06.2**	**-3.3**
	14nm,0.6s						
SHLS				Lg	Lg	20 45 21.0	
	452nm,0.5s						
ZHN	**Zhinishke**	**5.64**	**357**	Pg	**Pg**	**20 44 06.9**	**-2.7**
	5.9nm,0.7s						
ZHN				Lg	Lg	20 45 21.8	
	19nm,0.5s						
TNSS	**Tian-Shan**	**5.70**	**345**	Pg	**Pg**	**20 44 08.8**	**-1.9**
	12nm,0.4s						
TNSS				Lg	Lg	20 45 26.1	
	23nm,0.8s						
TNSS	**Tian-Shan**	**5.70**	**345**	*e*Pg	**Pg**	**20 44 09.1**	**-1.6**
	12nm,0.4s						
TNSS				*e*Lg	Lg	20 45 24.1	
	23nm,0.8s						
MDOK	**Medeo**	**5.80**	**347**	Pg	**Pg**	**20 44 09.0**	**-3.6**
	10.0nm,0.6s						
MDOK				Pg	Pb	20 44 09.7	+6.8
	7.6nm,1.2s						
MDOK				Lg	Lg	20 45 27.0	
	20nm,0.7s						
MDOK				Lg	Lg	20 45 28.1	
	84nm,1.3s						
MDOK	**Medeo**	**5.80**	**347**	*e*Pg	**Pg**	**20 44 12.6**	**-0.1**
	7.6nm,1.2s						
MDOK				*e*Lg	Lg	20 45 29.9	
	20nm,0.7s						
KOTS	**Kotyrbulak**	**5.86**	**347**	Pg	**Pg**	**20 44 10.7**	**-3.1**
	4.5nm,0.7s						
KOTS				Lg	Lg	20 45 29.2	
	35nm,1.0s						
KOTS	**Kotyrbulak**	**5.86**	**347**	*e*Pg	**Pg**	**20 44 11.9**	**-1.9**
	6.7nm,0.6s						
KOTS				*e*Lg	Lg	20 45 29.0	
	35nm,1.0s						
AAA	**Alma-Ata**	**5.87**	**346**	Pg	**Pg**	**20 44 12.9**	**-1.1**
	18nm,0.2s						
AAA				Lg	Lg	20 45 32.6	
	40nm,0.8s						
MTBS	**Maitube**	**5.90**	**342**	Pg	**Pg**	**20 44 13.2**	**-1.4**
	6.0nm,0.5s						
MTBS				Lg	Lg	20 45 32.8	
	16nm,0.5s						
MTBS	**Maitube**	**5.90**	**342**	*e*Pg	**Pg**	**20 44 14.2**	**-0.4**
	5.7nm,0.7s						
MTBS				*e*Lg	Lg	20 45 32.2	
	16nm,0.5s						
KPKS	**Kokpek**	**5.94**	**359**	Pg	**Pg**	**20 44 12.4**	**-2.8**
	5.0nm,0.6s						
KPKS				Lg	Lg	20 45 32.5	
	28nm,0.7s						
KPKS	**Kokpek**	**5.94**	**359**	*e*Pg	**Pg**	**20 44 13.0**	**-2.2**
	8.5nm,0.6s						
KPKS				*e*Lg	Lg	20 45 30.8	
	28nm,0.7s						
KST	**Kastek**	**5.95**	**339**	Pg	**Pg**	**20 44 11.8**	**-3.6**
	4.4nm,0.6s						
KST				Lg	Lg	20 45 31.3	
	21nm,0.8s						
KST	**Kastek**	**5.95**	**339**	*e*Pg	**Pg**	**20 44 14.3**	**-1.1**
	4.4nm,0.6s						
KST				*e*Lg	Lg	20 45 32.8	
	21nm,0.8s						
TKM2	**Tokmak 2**	**5.95**	**336**	⇑Pg	**Pg**	**20 44 13.0**	**-2.4**
	6.2nm,0.7s						
TKM2				⇑Lg	Lg	20 45 32.9	
	20nm,0.9s						
KURS	**Kuram**	**5.98**	**355**	Pg	**Pg**	**20 44 16.3**	**+0.3**
	15nm,1.0s						
KURS				Lg	Lg	20 45 38.6	
	17nm,1.0s						
KURS	**Kuram**	**5.98**	**355**	*e*Pg	**Pg**	**20 44 14.9**	**-1.2**
	15nm,1.0s						
KURS				*e*Lg	Lg	20 45 34.0	
	17nm,1.0s						
KTMS	**Ketmen**	**6.02**	**10**	Pg	Pb	20 44 13.0	+6.4
	9.8nm,0.6s						
KTMS				Lg	Lg	20 45 32.8	
	12nm,0.5s						
AAK	**Ala-Archa**	**6.12**	**328**	Pn	**Pn**	**20 43 56.2**	**+4.1**
	0.2nm,0.3s,baz=172,slow=7.3,SNR=4.8						
AAK				Pg	**Pb**	**20 44 10.8**	**+2.5**
	0.4nm,0.3s,baz=174,slow=8.5,SNR=5.1						
AAK				Lg	Lg	20 45 31.5	
	0.5nm,0.3s,baz=141,slow=4.1,SNR=3.5						
	0.6nm,0.5s						
DGS	**Degeres**	**6.18**	**338**	*e*Pg	**Pg**	**20 44 17.6**	**-2.3**
	5.0nm,0.7s						
DGS				*e*Lg	Lg	20 45 38.5	
	20nm,0.8s						
CHMS	**Chumysh**	**6.32**	**331**	⇑Pg	**Pg**	**20 44 20.0**	**-2.4**
	7.3nm,0.8s						
CHMS				⇑Lg	Lg	20 45 43.5	
	36nm,1.4s						
KTBS	**Karatobe**	**6.40**	**345**	Pg	**Pg**	**20 44 21.1**	**-3.1**
	5.9nm,0.6s						
KTBS				Lg	Lg	20 45 47.0	
	25nm,0.9s						
KTBS	**Karatobe**	**6.40**	**345**	*e*Pg	**Pg**	**20 44 23.2**	**-1.0**
	3.2nm,0.7s						
KTBS				*e*Lg	Lg	20 45 47.8	
	25nm,0.9s						
CHKK	**Chushkaly**	**6.48**	**348**	*e*Pg	**Pg**	**20 44 24.0**	**-1.6**
	4.3nm,0.6s						
CHKK				*e*Lg	Lg	20 45 49.6	
	11nm,0.7s						
BLB	**Baldybastay**	**6.57**	**357**	Pg	**Pg**	**20 44 24.4**	**-2.9**
	10nm,0.6s						
BLB				Lg	Lg	20 45 52.4	
	11nm,0.6s						
KRBS	**Karabastau**	**6.63**	**339**	Pg	**Pg**	**20 44 25.3**	**-3.2**
	3.4nm,0.6s						
KRBS				Lg	Lg	20 45 53.8	
	9.1nm,1.1s						
KRBS	**Karabastau**	**6.63**	**339**	*e*Pg	**Pg**	**20 44 27.3**	**-1.2**
	6.5nm,0.7s						
KRBS				*e*Lg	Lg	20 45 55.4	
	9.1nm,1.1s						
KUU	**Kurty**	**6.65**	**344**	Pg	**Pg**	**20 44 25.1**	**-3.7**
	3.7nm,0.6s						
KUU				Lg	Lg	20 45 53.6	
	18nm,0.8s						
KUU	**Kurty**	**6.65**	**344**	*e*Pg	**Pg**	**20 44 26.0**	**-2.8**
	3.7nm,0.6s						
KUU				*e*Lg	Lg	20 45 53.3	
	18nm,0.8s						
MRKS	**Merke**	**6.78**	**322**	Pg	**Pg**	**20 44 27.0**	**-4.3**
	5.0nm,0.7s						
MRKS				Lg	Lg	20 45 56.5	
	13nm,0.9s						
MRKS	**Merke**	**6.78**	**322**	*e*Pg	**Pg**	**20 44 27.9**	**-3.5**
	5.0nm,0.7s						
MRKS				*e*Lg	Lg	20 45 56.0	
	13nm,0.9s						
DJR	**Jarkent**	**6.83**	**5**	Pg	**Pg**	**20 44 31.0**	**-1.4**
	6.8nm,0.6s						
DJR				Lg	Lg	20 46 04.0	
	10nm,0.9s						
KK31	**Karatay Array**	**8.48**	**314**	⇓Pg	Pg	20 44 58.3	-5.6
	1.5nm,0.8s,baz=132,slow=12,SNR=4.0						
KK31				⇓Lg	Lg	20 46 53.8	
	8.0nm,1.1s						
MAKZ	**Makanchi**	**9.55**	**13**	⇓Pn	**Pn**	**20 44 40.1**	**+1.0**
	15nm,0.7s						
MK31	**Makanchi Array**	**9.60**	**14**	Pn	**Pn**	**20 44 40.9**	**+1.1**
	3.7nm,0.6s,baz=199,slow=13,SNR=42						
MK31				⇓Sn	**Sn**	**20 46 29.5**	**+1.9**
	3.4nm,0.6s,baz=153,slow=40,SNR=3.5						
MKAR	**Makanchi Array**	**9.60**	**14**	Pn	**Pn**	**20 44 40.4**	**+0.7**
	0.5nm,0.3s,baz=185,slow=13,SNR=32						
MKAR				Sn	**Sn**	**20 46 25.8**	**-1.8**
	0.7nm,0.3s,baz=145,slow=28,SNR=5.1						
	1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**13.10**	**359**	Pn	**Pn**	**20 45 26.2**	**-1.3**
	0.1nm,0.3s,baz=184,slow=13,SNR=7.3						
KURBB				Lg	Lg	20 49 18.4	
	0.2nm,0.3s,baz=88,slow=24,SNR=5.7						
	0.3nm,0.2s						
KURK	**Kurchatov**	**13.19**	**359**	⇓Pn	**Pn**	**20 45 31.7**	**+2.9**
	7.0nm,1.3s						
BVAR	**Borovoye Array**	**16.59**	**342**	Pn	**Pn**	**20 46 13.4**	**-0.7**
	baz=148,slow=10,SNR=17						
	1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**16.93**	**12**	P	**Pn**	**20 46 17.2**	**-1.1**
	0.1nm,0.3s,baz=206,slow=13,SNR=3.0						
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**19.72**	**318**	P	**P**	**20 46 51.1**	**+0.1**
	0.1nm,0.3s,baz=49,slow=16,SNR=1.4						
	0.4nm,0.3s						
ARU	**Arti**	**23.29**	**331**	P	**P**	**20 47 28.8**	**-0.5**
	0.5nm,0.4s,baz=140,slow=16,SNR=1.2						
	0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**25.87**	**132**	P	P	20 47 49.2	-4.3
	0.9nm,0.7s,baz=306,slow=11,SNR=14						
	0.9nm,0.7s						
AKASG	**Malin Array Be**	**37.31**	**307**	P	**P**	**20 49 33.6**	**-0.1**
	0.2nm,0.3s,baz=75,slow=7.6,SNR=3.3						
	0.2nm,0.3s						
KLR	**Kul'dur**	**39.40**	**55**	P	P	20 49 49.9	-1.5
	1.1nm,0.6s,baz=262,slow=9.1,SNR=4.2						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**40.28**	**324**	P	**P**	**20 49 57.7**	**-0.8**
	0.7nm,0.6s,baz=116,slow=9.4,SNR=1.1						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.02**	**273**	P	P	20 53 41.8	-4.2
	0.3nm,0.5s,baz=41,slow=6.6,SNR=1.9						
	0.3nm,0.5s						

IDC ***27*** *20:43:44.9±0.6,18°.16S×172°.66W,h0km,mb4.2/13, mbtmp4.2/15,ML3.8/2,MS4.0/28,Error ellipse: s-maj=27.0km s-min=15.1km az=145.0*
NEIC ***27*** *20:43:46.0±2.3,18°.22S±0°.09×172°.49W±0°.10,h10km±1km, mb4.9/32,Error ellipse: s-maj=18.2km s-min=12.8km az=224.

comp=Z,504nm,21.6s,baz=73,slow=33
comp=Z,6.6nm,0.8s
DZM Mont Dzumac 20.23 255 P P 20 48 18.8 -2.1
HAZ Te Kaha 21.31 202 P P **20 48 39.3 +6.9**
HAZ S S 20 52 12.1 -17
PKGZ Pakihiroa 21.33 201 P P **20 48 39.6 +6.9**
PKGZ S S 20 52 15.1 -14
RUGZ Raukumara Rang 21.54 202 P P **20 48 41.2 +6.3**
RUGZ S S 20 52 16.2 -17
WIAZ Waiheke Island 21.55 208 P P 20 48 45.2 +10
TWGZ Tauwhareparae 21.62 201 P P **20 48 42.7 +7.0**
PPT2 Papeete2 21.74 92 *eP* P **20 48 39.3 +2.1**
comp=Z,143nm,27.2s
PPT2 *e*S S **20 52 35.6 -2.2**
comp=Z,450nm,26.8s
PPT2 *e*LR LR 20 53 51.4
comp=Z,535nm,23.8s
PPT2 *e*LR LR 20 53 51.5
comp=Z,646nm,22.8s
PPT2 Papeete2 21.74 92 *e*T T 21 10 51.8
comp=Z,17nm,0.3s
PPT Papeete 21.74 92 LR LR 20 55 41.1
comp=Z,481nm,18.2s,baz=222,slow=33
MKAZ Moumakai 21.79 208 P P 20 48 45.3 +7.8
MWZ Matawai 21.92 202 P P 20 48 46.1 +7.2
MWZ S S 20 52 26.9 -14
TIAR Tiarei 21.96 92 *e*T T 21 11 00.8
comp=Z,2.8nm,0.3s
URZ Urewera 22.00 202 P P **20 48 41.8 +2.0**
comp=Z,5.8nm,0.4s,baz=42,slow=4.7,SNR=12
URZ S S 20 52 30.4 -12
comp=Z,9.4nm,1.0s,baz=202,slow=12,SNR=1.8
comp=Z,5.8nm,0.4s
URZ Urewera 22.00 202 P P **20 48 42.3 +2.5**
URZ S S 20 52 28.9 -14
TVO Taravao 22.03 93 *e*T T 21 10 59.7
comp=Z,8.0nm,0.3s
RTZ Ruatahuna 22.36 202 P P **20 48 44.6 +0.8**
MTHZ Maungataniwha 22.62 202 P P **20 48 52.4 +5.8**
HIZ Hauiti 23.11 206 P P **20 48 56.0 +4.5**
OTVZ Oturere 23.34 204 P P **20 48 57.0 +2.9**
SNVZ South Ngauruho 23.37 204 P P **20 48 57.1 +2.8**
BHHZ Black Hill Sta 23.47 203 P P **20 48 58.5 +3.3**
WNVZ Wahianoa 23.50 204 P P **20 48 58.4 +2.7**
THZ Tophouse 26.65 205 P P **20 49 25.1 +0.7**
THZ IAmb IAmb 20 49 43.2
comp=Z,20nm,0.8s
DSZ Denniston Nort 27.09 207 P P **20 49 28.4 +0.1**
LTZ Lake Taylor 27.76 205 P P **20 49 34.4 0.0**
INZ Inchbonnie 28.05 206 P P **20 49 37.3 +0.4**
HNR Honiara 28.19 284 LR LR 20 59 16.0
comp=Z,4μm,21.6s,baz=103,slow=33
OXZ Oxford 28.31 204 P P **20 49 38.8 -0.4**
RPZ Rata Peaks 29.03 205 P P 20 49 50.4 +4.8
comp=Z,4.6nm,0.5s,baz=326,slow=18,SNR=2.5
TAOE Nuku Hiva Isla 32.66 78 *e*LR LR 20 58 55.2
comp=Z,299nm,22.6s
TAOE Nuku Hiva Isla 32.66 78 *e*T T 21 24 32.6
comp=Z,82nm,0.2s
EIDS Eidsvold 34.57 252 P P **20 50 33.7 -0.8**
EIDS IAmb IAmb 20 51 26.0
comp=Z,37nm,1.9s
ARMA Armidale 34.82 243 P P **20 50 36.5 -0.3**
ARMA IAmb IAmb 20 50 59.9
comp=Z,26nm,1.6s
KRVT Keravat (AS076 37.41 287 LR LR 21 04 37.1
comp=Z,338nm,21.9s,baz=284,slow=34
CTA Charters Tower 39.03 260 P P **20 51 10.6 -2.1**
comp=Z,8.2nm,0.7s,baz=95,slow=9.8,SNR=11
CTA LR LR 21 05 12.1
comp=Z,235nm,22.0s,baz=90,slow=33
comp=Z,8.2nm,0.7s
CTAO Charters Tower 39.03 260 P P **20 51 10.8 -1.8**
TOO Toolangi 41.52 233 P P **20 51 33.7 +0.7**
TOO IAmb IAmb 20 51 57.2
comp=Z,17nm,1.4s
H11S2 WAKE ISLAND Hy 41.83 330 T T 21 36 59.1
baz=147,slow=76,SNR=3.9
H11S3 WAKE ISLAND Hy 41.84 329 T T 21 36 59.7
baz=147,slow=76,SNR=12
H11S1 WAKE ISLAND Hy 41.84 330 T T 21 36 58.5
baz=147,slow=76,SNR=3.2
H11N3 WAKE ISLAND Hy 42.78 331 T T 21 38 10.1
baz=150,slow=76,SNR=14
H11N1 WAKE ISLAND Hy 42.79 331 T T 21 38 06.3
baz=150,slow=76,SNR=13
H11N2 WAKE ISLAND Hy 42.80 331 T T 21 38 11.6
baz=150,slow=76,SNR=17
STKA Stephens Creek 43.54 243 P P **20 51 48.0 -1.6**
comp=Z,1.0nm,0.5s,baz=77,slow=11,SNR=5.3
comp=Z,1.0nm,0.5s
STKA Stephens Creek 43.54 243 P P **20 51 49.9 +0.3**
BBOO Buckleroo 48.30 242 P P **20 52 26.0 -1.1**
BBOO IAmb IAmb 20 52 36.5
comp=Z,9.3nm,1.1s
WR0 Warramunga Arr 50.00 259 P P **20 52 38.5 -1.8**
WR0 IAmb IAmb 20 52 42.9
comp=Z,33nm,1.8s
WB0 Warramunga Arr 50.16 259 P P **20 52 39.6 -1.9**
WB0 IAmb IAmb 20 52 40.8
comp=Z,11nm,0.8s
WB2 Warramunga Arr 50.18 259 P P **20 52 39.8 -1.8**
WB2 IAmb IAmb 20 52 41.0
comp=Z,13nm,0.7s
WB2 PcP PcP **20 54 00.1 -1.0**
WRAB Tennant Creek 50.18 259 P P **20 52 40.0 -1.7**
WRAB IAmb IAmb 20 52 41.0
comp=Z,12nm,0.8s
WRAB PcP PcP **20 53 60.0 -1.0**
WRA Warramunga Arr 50.19 259 P P **20 52 40.2 -1.5**
comp=Z,6.7nm,0.6s,baz=97,slow=6.3,SNR=92
WRA PcP PcP **20 54 00.7 -0.3**
comp=Z,0.8nm,0.8s,baz=97,slow=6.1,SNR=1.2
WRA LR LR 21 12 42.3
comp=Z,179nm,19.7s,baz=108,slow=35
comp=Z,6.7nm,0.6s
WRA Warramunga Arr 50.19 259 P P **20 52 39.0 -2.8**
AS31 Alice Springs 50.21 254 P P **20 52 40.3 -1.6**
ASAR Alice Springs 50.21 254 P P **20 52 41.2 -0.7**
comp=Z,6.6nm,0.5s,baz=89,slow=8.3,SNR=125
ASAR PcP PcP **20 54 00.9 -0.2**
comp=Z,1.5nm,0.7s,baz=87,slow=6.7,SNR=1.1
ASAR LR LR 21 12 48.6
comp=Z,122nm,20.8s,baz=86,slow=35
comp=Z,6.6nm,0.5s
ASAR Alice Springs 50.21 254 P P **20 52 40.5 -1.4**
ASAR PcP PcP **20 54 02.3 +1.2**
GUMO Guam 52.65 304 LR LR 21 12 30.0
comp=Z,72nm,21.9s,baz=117,slow=33
MTN Manton Dam 54.49 267 P P **20 53 11.8 -1.9**
FORT Forrest 55.05 245 P P **20 53 16.5 -1.1**
FORT IAmb IAmb 20 53 37.8
comp=Z,17nm,0.9s
KNRA Kununurra 56.13 263 P P **20 53 24.8 -0.8**
RPN Rapa Nui 58.38 111 LR LR 21 13 31.2
comp=Z,206nm,21.9s,baz=38,slow=30
FITZ Fitzroy Crossi 58.60 260 P P **20 53 42.0 -1.0**
PSA00 Pilbara Seismi 63.35 255 P P **20 54 14.1 -1.2**
NWAO Narrogin (SRO) 64.12 242 LR LR 21 20 05.9
comp=Z,99nm,20.1s,slow=34
DAV Davao City (W) 66.12 287 LR LR 21 21 39.8
comp=Z,51nm,20.4s,baz=120,slow=34
MJAR Matsushiro Arr 71.66 320 LR LR 21 20 59.7
comp=Z,119nm,19.4s,baz=110,slow=31
JOW Kunigami 72.89 306 LR LR 21 21 54.1
comp=Z,140nm,21.8s,baz=112,slow=32
LPIG La Paz 73.70 57 LR LR 21 19 25.1
comp=Z,140nm,20.4s,baz=184,slow=29
JNU Nakatsue 74.38 313 LR LR 21 20 55.2
comp=Z,86nm,21.8s,baz=158,slow=30
YBH Yreka Blue Hor 75.25 36 LR LR 21 20 18.9
comp=Z,147nm,19.1s,baz=228,slow=29
NVAR Mina Array Bea 75.77 41 P P **20 55 34.5 +2.7**
comp=Z,1.4nm,0.7s,baz=226,slow=10,SNR=8.4
comp=Z,1.4nm,0.7s
KDAK Kodiak Island 77.45 11 LR LR 21 22 37.8
comp=Z,137nm,19.5s,baz=199,slow=30
PINE Pine Mountain 77.58 35 P P **20 55 43.4 +1.5**
PINE IAmb IAmb 20 55 45.8
comp=Z,12nm,1.1s
KSRS Korea Array 78.80 316 P P **20 55 50.4 +1.9**
comp=Z,0.8nm,0.9s,baz=142,slow=7.7,SNR=2.9
KSRS LR LR 21 24 53.9
comp=Z,35nm,21.8s,baz=105,slow=31
comp=Z,0.8nm,0.9s
ELK Elko 79.05 41 LR LR 21 27 25.9
comp=Z,94nm,18.3s,baz=334,slow=33
G08A Pilot Rock 79.63 35 P P **20 55 54.2 +1.2**
USRK Ussuriysk Ar. 80.16 323 LR LR 21 23 40.0
comp=Z,114nm,20.3s,baz=127,slow=30
TMUT Trail Mountain 80.81 44 P P **20 56 00.0 +0.2**
TMUT IAmb IAmb 20 56 20.4
comp=Z,7.6nm,1.1s
MNTX Cornudas Mount 81.13 53 P P **20 56 03.4 +2.0**
MNTX IAmb IAmb 20 56 05.2
comp=Z,29nm,2.0s
TX32 Lajitas Array 81.38 55 P P **20 56 03.6 +0.7**
TX32 IAmb IAmb 20 56 07.8
comp=Z,11nm,1.4s
TXAR Lajitas Array 81.38 55 P P **20 56 05.8 +2.9**
comp=Z,1.0nm,0.8s,baz=225,slow=8.5,SNR=6.6
TXAR LR LR 21 27 58.1
comp=Z,89nm,18.5s,baz=250,slow=32
comp=Z,1.0nm,0.8s
ANMO Albuquerque 81.87 49 LR LR 21 24 45.3
comp=Z,80nm,19.1s,baz=32,slow=30
NEW Newport 82.47 34 LR LR 21 29 10.5
comp=Z,168nm,18.5s,baz=218,slow=33
NJ2 Nanjing 82.59 307 *e*P P **20 56 10.5 +1.5**
NJ2 pmax pmax
comp=Z,10.0nm,1.3s
H03S2 Juan Fernandez 82.89 123 T T 22 27 10.6
baz=251,slow=75,SNR=43
H03S1 Juan Fernandez 82.90 123 T T 22 27 11.5
baz=251,slow=75,SNR=27
H03S3 Juan Fernandez 82.90 123 T T 22 27 14.2
baz=251,slow=75,SNR=19
H03N2 Juan Fernandez 83.00 123 T T 22 27 13.7
baz=256,slow=72,SNR=42
H03N3 Juan Fernandez 83.00 123 T T 22 27 15.3
baz=256,slow=72,SNR=38
H03N1 Juan Fernandez 83.01 123 T T 22 27 14.3
baz=256,slow=72,SNR=26
PDAR Pinedale Array 83.70 41 P P **20 56 16.1 +1.3**
comp=Z,1.5nm,0.8s,baz=223,slow=3.0,SNR=12
comp=Z,1.5nm,0.8s
ILAR Eielson Array 84.98 11 P P **20 56 21.7 +1.2**
comp=Z,0.4nm,0.7s,baz=235,slow=4.9,SNR=6.1
comp=Z,0.4nm,0.7s
MAW Mawson 85.47 198 LR LR 21 34 12.7
comp=Z,49nm,20.2s,baz=80,slow=35
PLCA Paso Flores 86.95 132 P P **20 56 33.0 +1.9**
comp=Z,3.0nm,0.9s,baz=276,slow=8.6,SNR=3.7
PLCA LR LR 21 28 24.3
comp=Z,76nm,18.0s,baz=226,slow=31
comp=Z,3.0nm,0.9s
HNS HongShan 87.98 310 *e*P P 20 56 43.0 +7.2
ELIB Princess Elisa 89.46 185 *d*PcP P **20 56 42.4 0.0**
VNA3 Neumayer Olymp 90.02 174 P P **20 56 45.3 +0.4**
SNAA Sanae 90.09 177 P P **20 56 45.2 -0.1**
VNA2 Neumayer--Watz 90.52 175 P P **20 56 48.0 +0.8**
baz=199,slow=3.0
INK Inuvik 90.73 13 LR LR 21 35 05.3
comp=Z,79nm,18.1s,baz=122,slow=34
HHC Hu-ho-hao-te 91.60 313 *e*P P **20 56 54.0 +1.2**
HHC pmax pmax
comp=Z,4.0nm,0.8s
HHC pmax pmax
comp=Z,310nm,5.7s
YKA Yellowknife Ar 92.26 23 P P **20 56 57.0 +1.8**
comp=Z,0.5nm,0.8s,baz=247,slow=4.6,SNR=4.3
comp=Z,0.5nm,0.8s
CD2 Chengdu 94.06 301 P P **20 57 04.0 -0.3**
PZH PanZhiHua 94.36 296 P P **20 57 09.3 +3.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 94.38 288 P P **20 57 07.6 +1.6**
comp=Z,0.3nm,0.3s,baz=72,slow=1.8,SNR=4.2
CMAR LR LR 21 35 40.7
comp=Z,35nm,21.2s,baz=105,slow=33
comp=Z,0.3nm,0.3s
ULM Lac du Bonnet 95.49 39 LR LR 21 32 53.3
comp=Z,116nm,18.9s,baz=8.0,slow=31
CLL Collm 146.67 354 PKPdf **PKPdf 21 03 26.5 +0.9**
CLL Collm 146.67 354 *i* PKPbc **PKPbc 21 03 28.2 +1.0**
comp=Z,29nm,1.6s
CLL *i* x x 21 03 36.0
comp=Z,43nm,1.8s
VYHS Vyhne 148.41 346 *e*PKP **PKiKP 21 03 33.8 0.0**
BRTR Keskin Array B 148.89 319 PKPbc **PKPbc 21 03 34.5 +0.6**
comp=Z,2.2nm,0.8s,baz=129,slow=1.8,SNR=7.5
GERES GERESS Array B 149.01 352 PKPbc **PKPbc 21 03 34.1 +0.3**
comp=Z,0.9nm,0.9s,baz=329,slow=1.1,SNR=7.6
CONA Conrad Observa 149.57 349 *e*pPKP **PKiKP 21 03 37.9 +1.6**
comp=Z,15nm,1.6s
RONA Rosalia, Austr 149.71 348 *e*pPKP **PKiKP 21 03 38.2 +1.7**
comp=Z,6.4nm,0.9s
MBAR Mbarara 150.56 233 PKPbc **PKPbc 21 03 39.3 +0.6**
comp=Z,1.1nm,0.2s,baz=0.8,slow=2.0,SNR=4.2
WATA Walderalm 150.74 354 *e*PKiKP **PKPbc 21 03 38.9 +0.8**
comp=Z,3.0nm,1.3s
MOTA Moosalm 150.77 355 *e*PKP **PKPdf 21 03 32.4 -0.3**
comp=Z,8.6nm,1.6s
MOTA *e*PKiKP **sPKPbc 21 03 40.2 -0.3**
comp=Z,10.0nm,1.3s
WTTA Wattenberg 150.80 354 *e*PKiKP **PKiKP 21 03 39.7 +0.7**
comp=Z,7.5nm,1.0s
SQTA Sankt Quirin 150.88 355 *e*PKP **PKPdf 21 03 32.3 -0.5**
comp=Z,3.3nm,1.2s
SQTA *e*PKP **PKPbc 21 03 38.0 -0.5**
comp=Z,8.7nm,1.4s
SOKA Soboth 150.92 349 *e*PKP **PKPdf 21 03 30.9 -2.0**
comp=Z,3.2nm,1.1s
SOKA *i* PKP **PKPbc 21 03 38.3 -0.2**
comp=Z,5.2nm,1.5s
ABTA Abfaltersbach 151.22 353 *i* PKP **PKPbc 21 03 39.2 0.0**
comp=Z,7.1nm,1.3s
DAVOX Davos/Dischmat 151.41 357 PKPbc **PKPbc 21 03 40.2 +0.5**
comp=Z,1.6nm,0.6s,baz=283,slow=6.0,SNR=2.9
TORD Torodi Ar. Bea 172.43 131 PKP **PKPdf 21 03 55.0 -0.5**
comp=Z,1.5nm,1.0s,baz=169,slow=1.5,SNR=4.3
TORD PKPab **PKPab 21 05 20.9 +0.8**
comp=Z,5.2nm,1.1s,baz=254,slow=4.3,SNR=12
TORD Torodi Ar. Bea 172.43 131 PKPdf **PKPdf 21 03 53.8 -1.8**
TORD **PKPab 21 05 19.9 -0.2**

IDC 27 20:46:57.0±2.5, 6°32S×129°83E, h0km, mb3.3/1, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=164.2km s-min=32.8km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.23**	**162**	Pn	Pn	20 50 21.8	+1.7
	0.1nm,0.3s,baz=346,slow=13,SNR=5.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.69**	**168**	P	Pn	20 51 03.8	-1.2
	0.1nm,0.3s,baz=344,slow=9.8,SNR=1.6						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**67.57**	**327**	P	P	20 57 55.5	0.0
	0.1nm,0.4s,baz=119,slow=8.3,SNR=4.9						
	0.1nm,0.4s						

*ISK **27** 20:50:01.9, 36°02N×27°64E, h5km, ML3.2/7*
*DDA **27** 20:50:03.5±0.0, 36°12N×27°66E, h5km±2km, ML3.4*
*THE **27** 20:50:04.4, 36°14N×27°70E, h0km±1km, ML2.9/2, Error ellipse: s-maj=1.8km s-min=1.2km az=176.0*

ATH 27 20:50:04.8, 36°17N×27°66E, h6km±2km, ML2.9/3, Error ellipse: s-maj=4.3km s-min=1.3km az=10.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.38**	**83**	P	Pg	20 50 11.6	-0.6
ARG				S	Sg	20 50 17.4	+0.3
	4μm,0.2s						
ARG	**Arkhangelos**	**0.38**	**83**	Pg	Pg	20 50 11.6	-0.6
ARG				Sg	Sg	20 50 17.5	+0.4
ARG	**Arkhangelos**	**0.38**	**83**	P	Pg	20 50 11.6	-0.6
ARG				S	Sg	20 50 17.3	+0.1
ARG				AML	AML	20 50 17.7	
	comp=N,8574μm,0.3s						
ARG				AML	AML	20 50 17.8	
	comp=E,9140μm,0.2s						
DAT	**Datca**	**0.56**	**353**	P	Pg	20 50 15.7	0.0
DAT				S	Sb	20 50 26.3	+0.8
DAT	**Datca**	**0.56**	**353**	Pg	Pg	20 50 15.9	+0.2
DAT				Sg	Sb	20 50 26.7	+1.2
DAT	**Datca**	**0.56**	**353**	P	Pg	20 50 15.5	-0.1
DAT				S	Sb	20 50 26.8	+1.3
DAT				*i* AML	AML	20 50 29.0	
	comp=E,745nm,0.2s						
DAT				*i* AML	AML	20 50 30.0	
	comp=E,515nm,0.2s						
TURN	**Turunc**	**0.76**	**38**	Pg	Pg	20 50 19.6	+0.1
TURN				Sg	Sn	20 50 32.8	-1.2
TURN	**Turunc**	**0.76**	**38**	P	Pg	20 50 18.5	-1.1
TURN				S	Sb	20 50 30.4	-0.8
TURN				*i* AML	AML	20 50 33.0	
	comp=E,520nm,0.3s						
KOSK	**Kos Island**	**0.80**	**317**	Pg	Pg	20 50 19.9	-0.3
KOSK	**Kos Island**	**0.80**	**317**	P	Pg	20 50 20.5	+0.3
BDRM	**Kayabasi**	**0.91**	**349**	P	Pg	20 50 21.6	-0.7
BDRM				S	Sb	20 50 35.7	+0.2
BDRM				*i* AML	AML	20 50 37.0	
	comp=E,270nm,0.3s						
DALY	**Dalyan (Mula)**	**1.03**	**51**	Pn	Pg	20 50 24.0	-0.5
YER	**Yerkesik**	**1.08**	**27**	P	Pg	20 50 25.2	-0.4
YER				S	Sn	20 50 41.8	-0.2
YER	**Yerkesik**	**1.08**	**27**	Pn	Pg	20 50 25.8	+0.2
MLSB	**Milas**	**1.12**	**5**	Pn	Pn	20 50 27.0	-0.2
FETY	**Fethiye**	**1.24**	**68**	Pn	Pg	20 50 27.7	-0.9
FETY	**Fethiye**	**1.24**	**68**	P	Pb	20 50 28.7	0.0
FETY				S	Sn	20 50 48.1	+2.3
AYDN	**Tasoluk**	**1.50**	**7**	P	Pn	20 50 31.8	-0.6
AYDN				S	Sg	20 50 55.4	+2.5
KSL	**Kastellorizon**	**1.56**	**90**	P	Pn	20 50 33.2	+0.1
KSL				S	Sn	20 50 52.0	-1.6
GCAM	**G?zelcaml?**	**1.56**	**347**	Pn	Pn	20 50 33.4	+0.2
AKAS	**Kas**	**1.57**	**87**	P	Pn	20 50 33.7	+0.2
AKAS				S	Sg	20 50 55.7	+0.3
AKAS				*i* AML	AML	20 51 05.0	
	comp=E,265nm,0.7s						
ZKR	**Zakros**	**1.58**	**229**	P	Pn	20 50 33.0	-0.5
ZKR				S	Sn	20 50 53.7	-0.5
	comp=E,220nm,0.3s						
ZKR	**Zakros**	**1.58**	**229**	P	Pn	20 50 33.0	-0.4
ZKR				S	Sn	20 50 52.4	-1.8
ZKR				AML	AML	20 50 58.7	
	comp=E,749μm,0.4s						
ZKR				AML	AML	20 51 00.8	
	comp=N,308μm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.64**	**37**	P	Pb	20 50 35.1	-0.4
TAVA				S	Sg	20 50 58.6	+1.2
TAVA				*i* AML	AML	20 51 04.0	
	comp=N,100nm,0.5s						
CAEL	**Denizli, Camel**	**1.64**	**54**	P	Pb	20 50 35.6	+0.1
CAEL				S	Sg	20 51 00.1	+2.6
CAEL				*i* AML	AML	20 51 03.0	
	comp=N,282nm,0.8s						
CAEL				*i* AML	AML	20 51 08.0	
	comp=N,407nm,0.5s						
CAEL				*i* AML	AML	20 51 12.0	
	comp=N,413nm,0.6s						
SMG	**Samos**	**1.67**	**337**	P	Pn	20 50 33.6	-1.1
SMG	**Samos**	**1.67**	**337**	P	Pn	20 50 33.2	-1.5
SMG				AML	AML	20 51 04.5	
	comp=N,398μm,0.5s						
SMG				AML	AML	20 51 06.3	
	comp=E,526μm,0.5s						
GOLH	**Golhisar**	**1.86**	**55**	P	Pb	20 50 39.4	+0.1
GOLH				S	Sg	20 51 05.5	+0.9
GOLH				*i* AML	AML	20 51 55.0	
	comp=E,1μm,1.0s						
APE	**Apeiranthos**	**1.93**	**298**	P	Pn	20 50 37.2	-1.2
AKUM	**Antalya-Kumluc**	**2.17**	**85**	P	Pn	20 50 42.7	+1.2
AKUM				S	Sn	20 51 09.6	+0.8
AKUM				*i* AML	AML	20 51 58.0	
	comp=E,635nm,0.6s						
AKUM				*i* AML	AML	20 51 58.0	
	comp=E,885nm,0.8s						
AKUM				*i* AML	AML	20 51 59.0	
	comp=E,1μm,0.7s						
KORT	**Korkueli**	**2.32**	**68**	P	Pb	20 50 46.1	-1.1
KORT				S	Sb	20 51 16.5	+0.4
KORT				*i* AML	AML	20 52 10.0	
	comp=E,2μm,1.2s						
KORT				*i* AML	AML	20 52 12.0	
	comp=E,3μm,1.0s						
KORT				*i* AML	AML	20 52 14.0	
	comp=E,3μm,0.7s						
IDI	**Anoyia**	**2.42**	**249**	P	Pn	20 50 44.4	-0.7
IMMV	**Iera Moni Meta**	**3.08**	**258**	P	Pn	20 50 54.3	+0.3

*MOS **27** 20:51:24.2±1.5, 35°85N×28°76E, h21km, mb4.8/29, Error ellipse: s-maj=4.7km s-min=2.7km az=90.9*
*CFUSG **27** 20:51:24.9, 35°36N×29°47E, h86km, Mediterranean sea Magtype MSH 3.7 from 4 stations*
*NIC **27** 20:51:25.1±0.0, 35°81N×28°62E, h17km±2km, Ml4.8/7*
*DDA **27** 20:51:25.4±0.0, 35°86N×28°69E, h25km±1km, MW4.6*
*NEIC **27** 20:51:26.7±1.8, 36°01N±0°05×28°75E±0°04, h20km±4km, mb4.8/131, Mwr4.8/11, Error ellipse: s-maj=7.5km s-min=4.3km az=169.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=0.29; $M_{\theta\theta}$=2.01; $M_{\phi\phi}$=2.30; $M_{r\theta}$=0.26; $M_{\theta\phi}$=0.12; $M_{\phi r}$=0.74; Fault plane solution: M_0=2.31000×10^{16} NP1:ϕ_s=315.59000°, δ73.40000°, λ=-4.83000°. NP2:ϕ_s=46.97000°, δ85.37000°, λ=-163.34000°. Principal axes: T 2.0475, Plg8.0000°, Azm180.0000°; N 0.4521, Plg73.0000°, Azm62.0000°; P -2.4997, Plg15.0000°, Azm272.0000°;*
*PDG **27** 20:51:26.5±1.0, 35.89N×28.83E, h20km±2km, ML4.7/13 Error ellipse: s-maj=1.2km s-min=0.9km az=90.0*
*ISK **27** 20:51:26.7, 35.99N×28.70E, h10km, ML4.8/21*
*ATH **27** 20:51:26.2, 35.92N×28.80E, h6km, Mw4.5, Moment Tensor Solution. s7 Moment tensor: M_{rr}=1.11; $M_{\theta\theta}$=1.90; $M_{\phi\phi}$=-3.01; $M_{r\theta}$=-5.50; $M_{\theta\phi}$=-4.42; $M_{\phi r}$=-3.18; Fault plane solution: NP1:ϕ_s=344.00000°, δ37.00000°, λ=8.00000°. NP2:ϕ_s=248.00000°, δ85.00000°, λ=126.00000°.*
*GII **27** 20:51:27.7±0.3, 35.67N×28.82E, h20km, mb4.8/5, MD4.8/5, Mm4.6/4*
*THE **27** 20:51:27.3, 35.96N×28.69E, h0km±1km, ML4.6/3, Error ellipse: s-maj=3.3km s-min=0.8km az=186.0*
*MED_RC **27** 20:51:29.0±0.3, 35.90N×28.82E, h20km, MW4.6/22, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s22,c38; Source: Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.24±.10; $M_{\theta\theta}$=0.43±.07; $M_{\phi\phi}$=-0.67±.06; $M_{r\theta}$=0.04±.09; $M_{\theta\phi}$=-0.96±.04; $M_{\phi r}$=-0.04±.07; Best double couple: M_0=1.11000×10^{16} NP1:ϕ_s=165.00000°, δ87.00000°, λ=4.00000°. NP2:ϕ_s=75.00000°, δ86.00000°, λ=177.00000°. Principal axes: T 0.9900, Plg5.0000°, Azm30.0000°; N 0.2300, Plg85.0000°, Azm202.0000°; P -1.2300, Plg1.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*IDC **27** 20:51:28.7±1.2, 36°10N×28°66E, h46km±11km, mb4.2/40, mbtmp4.4/51, ML4.0/10, MS3.9/24 Error ellipse: s-maj=12.0km s-min=7.0km az=151.0*
*HLW **27** 20:51:33.2, 35°43N×28°93E, h14km±15km, Md4.3, Ml4.7*

ISC 27 20:51:26.4±0.5, 35°87N±0°02×28°72E±0°02, h23km±3km, h23km:pP-P, n959, σ1s77/1038, mb4.8/131, MS3.9/21, 71C-50D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.59**	**306**	Pg	**Pb**	**20 51 36.9**	**-1.2**
ARG				Sg	**Sb**	**20 51 44.9**	**-1.2**
ARG	**Arkhangelos**	**0.59**	**306**	P	**Pb**	**20 51 37.2**	**-0.9**
ARG				S	**Sb**	**20 51 46.5**	**+0.4**
	82μm,0.7s						
ARG	**Arkhangelos**	**0.59**	**306**	Pg	**Pb**	**20 51 37.2**	**-0.9**
ARG				Sg	**Sb**	**20 51 45.2**	**-0.8**
ARG	**Arkhangelos**	**0.59**	**306**	*i*P	**Pb**	**20 51 37.1**	**-0.9**
ARG				S	**Sb**	**20 51 44.8**	**-1.2**
ARG				AML	AML	20 51 51.7	
	170nm,0.7s						
ARG				AML	AML	20 51 51.7	
	170nm,0.7s						
ARG				AML	AML	20 51 52.7	
	178nm,0.4s						
ARG				AML	AML	20 51 52.7	
	178nm,0.4s						
ARG	**Arkhangelos**	**0.59**	**306**	*i*P	**Pb**	**20 51 37.2**	**-0.9**
ARG	**Arkhangelos**	**0.59**	**306**	P	**Pb**	**20 51 37.1**	**-0.9**
ARG				S	**Sb**	**20 51 46.4**	**+0.4**
ARG				AML	AML	20 51 51.9	
ARG				AML	AML	20 51 52.9	
KSL	**Kastellorizon**	**0.75**	**68**	P	**Pn**	**20 51 41.9**	**+0.3**
KSL				S	**Sn**	**20 51 54.9**	**+2.6**
	47μm,0.7s						
KSL	**Kastellorizon**	**0.75**	**68**	P	**Pb**	**20 51 41.0**	**+0.2**

KSL S Sn 20 51 54.4 +2.2
KSL AML AML 20 52 00.2
82nm,1.1s
KSL AML AML 20 52 00.2
82nm,1.1s
KSL AML AML 20 52 00.3
103nm,0.5s
KSL AML AML 20 52 00.3
103nm,0.5s
KSL Kastellorizon 0.75 68 P Pb 20 51 39.6 -1.2
KSL S Sb 20 51 48.8 -1.8
KSL AML AML 20 52 00.6
KSL AML AML 20 52 01.6
comp=N,84907µm,0.9s
AKAS Kas 0.80 63 Pn 20 51 42.1 -0.3
AKAS Sg Sb 20 51 50.3 -2.0
AKAS Kas 0.80 63 Pg Pn 20 51 42.4 0.0
AKAS Sg Sn 20 51 53.4 -0.3
AKAS Kas 0.80 63 P Pn 20 51 42.5 +0.1
AKAS S Sn 20 51 58.5 +4.7
FETY Fethiye 0.81 21 Pg Pb 20 51 41.0 -0.9
FETY Sg Sb 20 51 51.5 -1.0
FETY Fethiye 0.81 21 P Pb 20 51 41.0 -0.9
FETY S Sn 20 51 54.9 +1.0
DALY Dalyan (Mula) 0.94 357 Pg Pb 20 51 43.1 -1.0
DALY Sg Sb 20 51 55.4 -0.7
TURN Turunc 0.98 337 Pg Pb 20 51 43.9 -0.8
TURN Sg Sb 20 51 56.5 -0.6
TURN Turunc 0.98 337 P Pb 20 51 44.1 -0.6
TURN S Sn 20 51 57.5 -0.3
CAME Cameli-Denizli 1.17 24 Pg Pn 20 51 47.5 0.0
CAME Sg Sn 20 52 03.1 +0.4
DAT Datca 1.26 313 P Pb 20 51 49.4 -0.1
DAT S Sb 20 52 07.0 +1.7
DAT Datca 1.26 313 Pn Pb 20 51 49.4 -0.1
DAT Datca 1.26 313 P Pb 20 51 49.0 -0.5
DAT S Sb 20 52 07.4 +2.1
ELL Elmali 1.30 47 Pn Pb 20 51 50.1 -0.1
ELL Elmali 1.30 47 Pn Pb 20 51 50.6 +0.4
ELL Sn Sb 20 52 08.1 +1.6
ELL Elmali 1.30 47 P Pb 20 51 50.0 -0.1
ELL S Sb 20 52 09.1 +2.6
ELL Elmali 1.30 47 P Pb 20 51 50.1 -0.1
YER Yerkesik 1.31 345 P Pb 20 51 49.8 -0.5
YER S Sb 20 52 07.3 +0.6
YER Yerkesik 1.31 345 Pn Pb 20 51 49.9 -0.4
CAEL Denizli, Camel 1.34 21 P Pn 20 51 50.2 +0.4
CAEL S Sb 20 52 10.7 +3.0
AKUM Antalya-Kumluc 1.39 71 P Pb 20 51 51.4 -0.2
AKUM S Sb 20 52 15.9 +7.0
MULA Mugla, Merkez- 1.42 347 P Pb 20 51 51.7 -0.5
MULA S Sb 20 52 10.3 +0.4
NISR Nisiros 1.48 300 P Pb 20 51 53.1 -0.1
NISR S Sb 20 52 12.8 +1.2
comp=N,22µm,0.8s
NISR Nisiros 1.48 300 P Pb 20 51 53.5 +0.2
NISR AML AML 20 52 25.6
comp=N,31336µm,1.2s
NISR AML AML 20 52 26.7
comp=E,73421µm,0.7s
GOLH Golhisar 1.52 26 P Pb 20 51 53.7 -0.3
GOLH S Sb 20 52 15.5 +2.7
BDRM Kayabasi 1.57 320 P Pn 20 51 53.7 +0.8
BDRM S Sb 20 52 16.9 +2.7
TAVA DENIZLI_Tavas 1.60 6 P Pn 20 51 54.1 +0.7
TAVA S Sb 20 52 16.2 +1.1
MLSB Milas 1.61 332 Pn Pb 20 51 54.6 -0.8
KOSK Kos Island 1.66 302 Pn Pb 20 51 55.6 -0.6
KOSK Kos Island 1.66 302 P Pb 20 51 56.0 -0.2
KOSK AML AML 20 52 30.9
comp=N,61299µm,0.5s
KOSK AML AML 20 52 35.9
comp=E,47698µm,0.7s
APMY Acipayam-Deniz 1.66 16 Pn Pb 20 51 55.4 -1.0
KORT Korkueli 1.73 49 Pn Pb 20 51 57.2 -0.4
KORT Korkueli 1.73 49 P Pb 20 51 57.0 -0.6
KORT S Sb 20 52 29.0 +10
AYDN Tasoluk 1.91 340 P Pn 20 51 58.3 +0.8
AYDN S Sb 20 52 25.0 +1.1
DDIM Aydin, Didim 1.98 323 P Pb 20 52 01.0 -0.7
DDIM S Sb 20 52 31.2 +5.3
BUCA Burdur, Bucak- 2.07 45 P Pb 20 52 01.8 -1.6
BUCA S Sb 20 52 42.2 +13
BRDR BURDUR-Merkez 2.11 30 P Pb 20 52 03.2 +1.5
BRDR S Sb 20 52 33.2 +3.3
GCAM G?zelcaml? 2.18 327 Pn Pn 20 52 02.5 +1.3
GCAM G?zelcaml? 2.18 327 P Pb 20 52 03.5 -1.6
GCAM S Sb 20 52 29.8 -1.9
ZKR Zakros 2.18 250 P Pb 20 52 04.3 -0.8
ZKR Zakros 2.18 250 P Pb 20 52 04.5 -0.6
ZKR AML AML 20 52 53.7
comp=N,11164µm,0.7s
ZKR AML AML 20 53 06.7
comp=E,19131µm,0.9s
BCK Bucak 2.18 43 Pn Pn 20 52 03.2 +1.8
BASM Basmaki-Afyon 2.30 27 Pn Pn 20 52 03.5 +0.5
SMG Samos 2.37 321 P Pn 20 52 05.6 +1.7
SMG S Sb 20 52 35.7 -1.6
SMG Samos 2.37 321 P Pn 20 52 04.3 +0.3
SMG AML AML 20 52 52.3
comp=N,11562µm,0.6s
SMG AML AML 20 52 55.3
comp=E,12710µm,0.6s
ISP Isparta 2.42 36 Pn Pn 20 52 05.5 +0.9
ISP Isparta 2.42 36 Pn Pn 20 52 06.1 +1.4
ISP Isparta 2.42 36 P Pn 20 52 05.6 +0.9
ISP Isparta 2.42 36 P Pn 20 52 05.3 +0.6
ISP AML AML 20 53 00.8
comp=E,23056µm,1.4s
ISP AML AML 20 53 08.7
comp=N,30606µm,1.1s
KHL Karahalli 2.53 14 Pn Pn 20 52 07.4 +1.3
KEPZ Antalya-Kepez 2.54 65 P Pn 20 52 08.0 +1.7
KEPZ S Sb 20 52 52.5 +10
PASA Karahalli, USA 2.54 14 P Pn 20 52 06.5 +0.2
PASA S Sb 20 52 43.1 +0.7
FRMA Ierapetra Chan 2.58 251 P Pn 20 52 08.8 +2.0
FRMA AML AML 20 53 05.4
comp=N,14144µm,1.2s
FRMA AML AML 20 53 13.3
comp=E,17996µm,0.9s
MANT Manisa 2.62 357 Pn 20 52 06.4 -1.1
MANT Manisa 2.62 357 P Pb 20 52 10.3 -2.5
MANT S Sb 20 52 43.9 -0.6
DGB zmir 2.62 326 P Pn 20 52 09.2 +1.9
KULA Kula-Manisa 2.64 359 Pn Pn 20 52 09.1 +1.5
KZIL AFYON_Kizioren 2.64 25 P Pn 20 52 07.9 +0.2
KZIL S Sb 20 52 50.2 +5.2
BAGO Egridir - ISPA 2.69 38 P Pn 20 52 08.9 +0.6
BAGO S Sb 20 52 59.6 +13
CMBO Columbo, Santo 2.75 283 P Pn 20 52 11.6 +2.6
CMBO Columbo, Santo 2.75 283 P Pn 20 52 10.5 +1.5
APE Apeiranthos 2.83 296 ⇓P Pn 20 52 12.4 +2.1
APE Apeiranthos 2.83 296 P Pn 20 52 11.7 +1.4
APE Apeiranthos 2.83 296 P Pn 20 52 12.3 +2.1
APE Apeiranthos 2.83 296 P Pn 20 52 11.6 +1.4
BLCB Balcova 2.84 332 P Pn 20 52 11.2 +0.9
USAK Uak-Merkez 2.84 5 P Pn 20 52 10.3 -0.2
SEDI Konya, Seydise 2.90 56 P Pn 20 52 13.9 +2.6
SEDI S Sb 20 52 49.5 -3.2
GAZI Gazipasa 2.94 82 Pn Pn 20 52 11.8 +0.1
GAZI Gazipasa 2.94 82 P Pn 20 52 11.6 -0.1
GAZI S Sn 20 52 45.2 -1.0
SEYD Seydisehir-KON 2.94 58 Pn Pn 20 52 14.1 +2.3
ZEYE Izmir, Urla-Ze 2.95 324 P Pn 20 52 13.8 +1.9
HRKL Herakleio 3.00 260 P Pn 20 52 15.4 +2.9
URLA Izmir 3.01 326 P Pn 20 52 14.5 +1.8
IACM Heraklion 3.03 260 P Pb 20 52 16.8 -2.8
IACM Heraklion 3.03 260 P Pb 20 52 16.6 -2.9
KSTL Kastelli Herak 3.03 260 P Pn 20 52 13.9 +1.0
SHUT Suhut-Afyon 3.05 28 Pn Pn 20 52 13.8 +0.5
AKMS Akamas 3.07 105 ⇓*i*P Pn 20 52 14.2 +0.6
AKMS AML AML 20 52 54.9
comp=E,8.4nm,0.5s
AKMS AML AML 20 53 03.2
comp=E,6.9nm,0.9s
AKMS Akamas 3.07 105 P Pn 20 52 14.0 +0.5
AKHS Akhisar 3.08 347 P Pn 20 52 16.2 +2.5
YVAC Isparta, Yalva 3.13 39 P Pn 20 52 15.5 +1.1
DEMI Demirci 3.16 360 P Pn 20 52 14.8 0.0
AFYO Afyonkarahisar 3.17 23 P Pn 20 52 15.6 +0.7

OSC1 CSNet OBS 1 3.17 138 ⇓*i*P Pn 20 52 15.6 +0.7
OSC1 S Sn 20 52 53.3 +1.4
OSC1 CSNet OBS 1 3.17 138 P Pn 20 52 15.5 +0.7
IDI Anoyia 3.17 261 P Pn 20 52 17.3 +2.3
comp=E,62nm,0.3s,baz=68,slow=12,SNR=72
IDI S Sn 20 52 55.0 +2.8
comp=E,838nm,0.7s,baz=293,slow=19,SNR=2.5
IDI LR LR 20 53 36.6
comp=E,1µm,18.8s,baz=90,slow=40
comp=E,530nm,0.7s
IDI Anoyia 3.17 261 ⇑P Pb 20 52 19.3 -2.9
IDI ⇓S Sn 20 52 53.7 +1.5
IDI Anoyia 3.17 261 P Pn 20 52 18.3 +3.3
IDI Anoyia 3.17 261 P Pn 20 52 17.1 +2.1
IDI AML AML 20 53 06.9
comp=N,4097µm,0.6s
IDI AML AML 20 53 11.8
comp=E,4532µm,0.7s
HDMB Hadim 3.23 69 Pn Pn 20 52 18.5 +2.7
ALFC Alefka 3.25 102 P Pn 20 52 15.8 -0.1
ALFC AML AML 20 52 54.7
comp=E,5.7nm,0.3s
ALFC AML AML 20 52 55.7
comp=E,4.4nm,0.5s
DOGA KONYA_Doganhis 3.25 46 P Pn 20 52 18.2 +2.1
GDZ Gediz 3.27 10 P Pn 20 52 16.2 -0.1
CHOS Chios island 3.29 320 P Pn 20 52 18.6 +2.0
CHOS Chios island 3.29 320 P Pn 20 52 17.5 +0.9
TNSA Tinos 3.31 301 P Pn 20 52 18.8 +2.1
TMBK Timbaki Herakl 3.32 257 P Pn 20 52 20.0 +3.1
NATA Nata 3.33 108 ⇓*i*P Pn 20 52 17.8 +0.6
NATA AML AML 20 53 01.5
comp=E,8.7nm,0.5s
NATA AML AML 20 53 03.0
comp=E,14nm,0.7s
NATA Nata 3.33 108 P Pn 20 52 17.7 +0.6
ZEDA zmir-Bergama 3.35 338 P Pn 20 52 19.8 +2.5
LEF Lefka 3.49 101 P Pn 20 52 20.0 +0.8
KONT Konya--Tatoy 3.58 54 P Pn 20 52 22.8 +2.3
MHLO Agia Marina, M 3.58 284 P Pn 20 52 24.2 +3.7
MHLO Agia Marina, M 3.58 284 P Pn 20 52 22.9 +2.4
SZAC Souni 3.58 107 P Pn 20 52 21.2 +0.6
SZAC S Sn 20 53 03.9 +1.7
SZAC AML AML 20 53 05.3
comp=E,5.4nm,0.6s
SZAC AML AML 20 53 05.3
comp=E,5.4nm,0.6s
SZAC AML AML 20 53 07.8
comp=E,6.9nm,0.4s
SZAC AML AML 20 53 07.8
comp=E,6.9nm,0.4s
STEP BALIKESIR_Sava 3.59 347 P Pn 20 52 22.4 +1.8
KKBE Karaman, Kazim 3.65 67 P Pn 20 52 23.2 +1.6
ANDZ Kutahya, Merke 3.75 14 P Pn 20 52 23.1 +0.2
AYVA Ayvalik 3.79 335 P Pn 20 52 25.8 +2.5
BALB Balikesir 3.82 350 Pn Pn 20 52 23.9 +0.2
CHAN Chania 3.82 266 P Pn 20 52 26.8 +3.0
CHAN AML AML 20 53 18.8
comp=N,8414µm,1.4s
CHAN AML AML 20 53 25.4
comp=E,6146µm,0.7s
BUHA Balikesir, Bur 3.85 341 P Pn 20 52 27.6 +3.5
ASGA Asgata 3.86 105 P Pn 20 52 24.9 +0.6
ASGA AML AML 20 53 12.3
comp=E,3.3nm,0.3s
ASGA AML AML 20 53 12.4
comp=E,3.4nm,0.4s
ASGA Asgata 3.86 105 P Pn 20 52 24.5 +0.1
CSS Mathiatis 3.87 102 Pn Pn 20 52 25.1 +0.5
CSS Mathiatis 3.87 102 ⇑*i*P Pn 20 52 25.1 +0.5
CSS Mathiatis 3.87 102 Pn Pn 20 52 24.8 +0.2
CSS Mathiatis 3.87 102 P Pn 20 52 25.3 +0.7
CSS Mathiatis 3.87 102 P Pn 20 52 24.7 +0.2
IMMV Iera Moni Meta 3.88 265 P Pn 20 52 29.0 +4.4
IMMV Iera Moni Meta 3.88 265 P Pn 20 52 27.8 +3.2
ATHAL Athalassa 3.88 99 P Pn 20 52 24.8 +0.2
GVDS Gavdos 3.92 256 P Pn 20 52 28.6 +3.4
GVD Gavdhos 3.92 256 P Pn 20 52 27.9 +2.7
GVD Gavdhos 3.92 256 P Pn 20 52 28.2 +3.0
BALY Balya 3.96 348 P Pn 20 52 27.6 +1.9
SGAZ Eskisehir, Sey 4.02 24 P Pn 20 52 26.7 +0.1
SIGR SIGRI 4.03 327 P Pn 20 52 28.7 +2.0
SIGR SIGRI 4.03 327 P Pn 20 52 27.3 +0.5
RODP Rodopos 4.05 267 P Pn 20 52 30.8 +3.8
ALIN Konya, Altinte 4.11 53 P Pn 20 52 29.6 +1.7
KNDR Palaiochora Ch 4.15 263 P Pn 20 52 32.1 +3.8
KOCA Canakkale, Ayv 4.16 331 P Pn 20 52 30.4 +2.0
AUBOZ BOZOYUK 4.16 14 P Pn 20 52 29.3 +0.8
BAYC CANAKKALE_Bayr 4.23 337 P Pn 20 52 30.1 +0.8
BORA Eskisehir 4.23 18 Pn 20 52 28.9 -0.6
BORA Eskisehir 4.23 18 P Pn 20 52 29.9 +0.4
ULDT Uludag 4.27 4 P Pn 20 52 30.3 +0.1
BILE Bilecik/Merkez 4.38 12 P Pn 20 52 31.8 +0.3
ANKY Antikythira Is 4.40 271 P Pn 20 52 34.1 +2.3
VLY Voula,Athens 4.42 298 P Pn 20 52 34.5 +2.5
DION Dionisos Attik 4.42 301 P Pn 20 52 35.4 +3.4
KIZK Mersin 4.43 81 P Pn 20 52 33.1 +0.9
PARAL Paralimni 4.43 100 P Pn 20 52 33.8 +1.6
PTL Penteli 4.45 301 P Pn 20 52 36.1 +3.6
ATHU Athens Univers 4.47 299 P Pn 20 52 35.5 +2.7
BOZC Bozcaada 4.49 333 P Pn 20 52 33.4 +0.5
KNL Balıkesir 4.49 348 P Pn 20 52 36.3 +3.3
ATH Athens Observa 4.52 299 P Pn 20 52 36.1 +2.7
KYMI Kymi, Euboea I 4.60 308 P Pn 20 52 37.4 +2.9
KERG Konya-Eregli 4.61 69 P Pn 20 52 36.9 +2.1
ECEA Canakkale, Ece 4.62 335 P Pn 20 52 38.5 +3.7
KTHR Kythira 4.65 276 P Pn 20 52 38.8 +3.6
KTHR Kythira 4.65 276 P Pn 20 52 37.7 +2.5
KRND KRANIDI 4.72 290 P Pn 20 52 39.3 +3.1
VLI Veliai 4.75 282 P Pn 20 52 40.0 +3.5
VLI Veliai 4.75 282 P Pn 20 52 39.1 +2.6
GEYV SAKARYA_Geyve 4.77 15 P Pn 20 52 36.8 0.0
EPID Epidavros 4.82 293 P Pn 20 52 41.1 +3.5
VIL2 Platees 4.95 300 P Pn 20 52 41.4 +2.1
MDUB Mudurnu 4.99 22 Pn Pn 20 52 40.6 +0.6
LOUT Loutraki 5.06 296 P Pn 20 52 44.2 +3.3
BR231 Keskin MP Arra 5.10 38 Pn 20 52 41.4 -0.1
ANTO Ankara 5.13 38 Pn 20 52 40.6 -1.2
ANTO Ankara 5.13 38 P Pn 20 52 40.6 -1.2
SMTH Samothraki Isl 5.23 332 P Pn 20 52 44.6 +1.4
SLUM Salum 5.26 215 P Pn 20 52 47.0 +3.5
baz=220
SLUM S Sn 20 53 42.2 -1.3
baz=220
THAL Thalero 5.31 296 P Pn 20 52 46.5 +2.3
ALN Alexandroupoli 5.44 338 Pn 20 52 45.4 -0.6
ALN Alexandroupoli 5.44 338 ⇓P Pn 20 52 46.9 +1.0
ALN Alexandroupoli 5.44 338 P Pn 20 52 45.4 -0.6
BRTR Keskin Array B 5.47 44 P Pn 20 52 46.7 0.0
comp=E,2.3nm,0.3s,baz=216,slow=17,SNR=49
BRTR S Sn 20 53 48.3 -0.7
comp=E,42nm,0.5s,baz=217,slow=26,SNR=9.2
comp=E,10nm,0.5s
BRTR Keskin Array B 5.47 44 Pn Pn 20 52 46.6 -0.1
BR131 Keskin Array S 5.47 44 Pn 20 52 47.3 +0.7
BR131 Keskin Array S 5.47 44 P Pn 20 52 47.3 +0.7
NEO Neokhori 5.55 310 P Pn 20 52 49.8 +2.2
XOR Xorichti 5.60 310 P Pn 20 52 51.2 +2.9
AXAR Agios Charalam 5.63 303 P Pn 20 52 51.6 +3.0
THAS Thassos island 5.68 328 P Pn 20 52 51.5 +2.2
PAIG Paliouri 5.68 317 P Pn 20 52 52.5 +3.2
KLV Kalavryta, Ach 5.69 294 P Pn 20 52 52.5 +3.0
PYL PYLOS 5.72 282 P Pn 20 52 52.4 +2.5
RDO Rodhopi 5.83 336 Pn Pn 20 52 51.9 +0.6
AGG Agios Georgios 5.97 304 P Pn 20 52 57.0 +3.5
HNTI Hanita 6.01 116 Pn Pn 20 53 53.7 -0.3
HNTI Sn Sn 20 54 00.2 -1.9
BHL Bhannes 6.03 107 *eP* Pn 20 52 52.8 -1.5
ANX Ano Chora 6.07 299 P Pn 20 52 57.4 +2.6
MAKR Makrakomi, Fth 6.11 303 P Pn 20 52 58.9 +3.7
OFRI `Ofer 6.12 120 Pn Pn 20 52 55.3 -0.1
OFRI Sn Sn 20 54 03.6 -1.1
HWQ Hawqa 6.14 103 *eP* Pn 20 52 55.5 -0.3
QRWL Qaraoun 6.19 110 *eP* Pn 20 52 55.7 -0.7
MMA0B Mount Meron ar 6.21 115 Pn Pn 20 52 56.4 -0.4
MMA0B Sn Sn 20 54 05.7 -1.4
MMAI Mount Meron Ar 6.21 115 P Pn 20 52 56.5 -0.3
comp=E,27nm,0.2s,baz=300,slow=12,SNR=144
MMAI S Sn 20 54 04.1 -3.1
comp=E,19nm,0.3s,baz=318,slow=24,SNR=7.2
ZAHL Zahle 6.22 107 *eP* Pn 20 52 55.9 -1.1
BEIL Beino 6.25 100 *eP* Pn 20 52 56.9 -0.4

HMYD Mayadein 6.31 163 P Pn 20 52 59.7 +1.7
baz=163
GEM Giv'at Ha'Em 6.32 113 Pn Pn 20 52 57.9 -0.2
GEM Sn Sn 20 54 07.6 -1.9
RCY Rachaya 6.32 110 *eP* Pn 20 52 58.2 -0.2
BNN Bunyan 6.41 60 Pn Pn 20 52 59.9 +0.4
HNAT Natroun 6.43 165 P Pn 20 53 00.5 +0.9
baz=165
KOT Kottamia 6.48 155 P Pn 20 53 02.0 +1.6
baz=155
LIT Litokhoron 6.48 312 Pn Pn 20 53 01.2 +0.8
LIT Litokhoron 6.48 312 P Pn 20 53 01.2 +0.8
MMLI Mount Malkishu 6.53 120 Pn Pn 20 53 00.2 -0.8
HHAG Hagoal 6.55 153 P Pn 20 53 02.8 +1.4
baz=153
SALP Salfit 6.58 123 Pn Pn 20 53 01.0 -0.8
SALP Sn Sn 20 54 14.4 -1.7
HSAF As Saff 6.68 158 P Pn 20 53 03.8 +0.6
baz=158
HMDT Nahal Hemdat 6.70 121 Pn Pn 20 53 03.1 -0.3
HMDT Sn Sn 20 54 17.8 -1.3
AMAZ Amatzia 6.74 128 Pn Pn 20 53 03.9 0.0
GLL Jalalah 6.76 157 P Pn 20 53 04.4 +0.1
baz=157
UJAP Al Uja 6.84 123 Pn Pn 20 53 04.9 -0.3
UJAP Sn Sn 20 54 20.6 -1.7
KZIT Kziot 6.86 135 Pn Pn 20 53 05.3 -0.3
KZIT Sn Sn 20 54 19.8 -3.2
SUZ Suez 6.94 149 P Pn 20 53 08.1 +1.4
baz=148
GAZ Gaziantep 6.96 77 Pn Pn 20 53 07.0 0.0
GAZ Gaziantep 6.96 77 ⇓P Pn 20 53 07.2 +0.2
YTIR Yattir 6.98 128 Pn Pn 20 53 07.1 -0.2
YTIR Yattir 6.98 128 P Pn 20 53 07.7 +0.4
DSI Dead Sea 7.01 126 Pn Pn 20 53 07.1 -0.6
DSI Sn Sn 20 54 24.4 -2.3
MDBI Mazsada 7.17 128 Pn Pn 20 53 09.4 -0.3
MDBI Sn Sn 20 54 27.7 -2.7
MDBI Mazsada 7.17 128 P Pn 20 53 09.7 0.0
MSBI Mazada 7.17 128 Pn Pn 20 53 09.6 -0.1
MSBI Sn Sn 20 54 27.8 -2.6
HSUJ Al Zarqa 7.26 119 P Pn 20 53 10.9 -0.2
VAY Valandovo 7.26 320 *i* Pn Pn 20 53 15.7 +4.6
WALJ Wala 7.31 124 P Pn 20 53 11.7 0.0
DAMI2 DAM2 7.31 128 Pn Pn 20 53 11.6 -0.1
ZAF Zafarana 7.32 153 P Pn 20 53 12.9 +1.0
baz=152
BZK Bozkurt 7.34 33 Pn Pn 20 53 12.6 +0.5
ZNM Zenema 7.37 150 S Sn 20 54 27.2 -8.2
baz=150
KARJ KARJ 7.48 127 P Pn 20 53 05.5 -8.6
FNA Florina 7.57 313 Pn 20 53 19.1 +3.8
FNA Florina 7.57 313 ⇓P Pn 20 53 20.4 +5.0
FNA Florina 7.57 313 P Pn 20 53 19.1 +3.8
ZFRI Zfri 7.58 133 Pn Pn 20 53 14.6 -0.8
ZFRI Zfri 7.58 133 P Pn 20 53 14.4 -1.0
PRNI Paran 7.62 134 Pn Pn 20 53 15.5 -0.6
PRNI Sn Sn 20 54 39.2 -2.5
KRMI Paran Flat 7.64 137 Pn Pn 20 53 15.2 -1.1
KRMI Sn Sn 20 54 39.0 -3.2
ASF Jabal al Asfar 7.73 116 P Pn 20 53 17.8 +0.2
comp=E,11nm,0.3s,baz=308,slow=5.4,SNR=22
ASF S Sn 20 54 39.5 -4.9
comp=E,12nm,0.4s,baz=330,slow=20,SNR=0.9
STIP Stip 7.73 321 *i* Pn Pn 20 53 20.5 +3.0
KBN Korca 7.84 310 Pn 20 53 19.9 +1.0
KBN Korca 7.84 310 P Pn 20 53 20.0 +1.0
RAZG Razgrad 7.87 348 ⇑P Pn 20 53 23.0 +3.6
HRFI Mount Harif 7.88 136 Pn Pn 20 53 19.1 -0.5
HRFI Sn Sn 20 54 45.3 -2.7
VTS Vitosha 7.96 329 ⇑P Pn 20 53 23.4 +2.6
VTS Vitosha 7.96 329 Pn Pn 20 53 21.5 +0.6
VTS Vitosha 7.96 329 ⇑P Pn 20 53 24.0 +3.2
VTS Vitosha 7.96 329 P Pn 20 53 23.4 +2.6
MBRI Mt Berech 7.99 138 Pn Pn 20 53 20.4 -0.8
MBRI Sn Sn 20 54 48.1 -2.9
MBRI Mt Berech 7.99 138 P Pn 20 53 21.0 -0.2
KEK Kerkira 8.03 301 Pn Pn 20 53 21.8 +0.2
EIL Elat 8.11 138 P Pn 20 53 22.6 -0.2
comp=E,19nm,0.3s,baz=301,slow=3.1,SNR=71
EIL S Sn 20 54 48.0 -5.7
comp=E,38nm,0.7s,baz=208,slow=23,SNR=1.2
EIL Elat 8.11 138 Pn Pn 20 53 22.0 -0.7
EIL Sn Sn 20 54 51.8 -1.9
OHR Ohrid 8.12 312 *i* Pn Pn 20 53 29.3 +6.5
AQBJ Aqaba 8.12 137 P Pn 20 53 23.1 +0.2
PLVB Pleven 8.14 338 ⇑P Pn 20 53 26.4 +3.3
ICOR Ion Corvin 8.26 355 ⇓P Pn 20 53 28.5 +3.7
SKO Skopje 8.32 319 *i* Pn Pn 20 53 30.3 +4.8
RASA Rasa 8.42 352 ⇑P Pn 20 53 30.7 +3.8
TIRR Tirgusor 8.58 359 ⇑P Pn 20 53 32.6 +3.5
TIRR Tirgusor 8.58 359 Pn Pn 20 53 28.6 -0.5
TIRR Tirgusor 8.58 359 P Pn 20 53 32.5 +3.5
VLO Vlora 8.59 305 Pn 20 53 31.7 +2.5
VLO Vlora 8.59 305 P Pn 20 53 31.7 +2.5
COPA Copaceanca 8.68 343 ⇑P Pn 20 53 33.1 +2.7
HFRF Wahat Farafira 8.71 182 P Pn 20 53 32.5 +1.6
baz=184
LEHL Lehliu 8.71 351 ⇑P Pn 20 53 34.8 +3.9
TIR Tirane 8.82 311 Pn 20 53 35.1 +2.6
TIR Tirane 8.82 311 P Pn 20 53 35.1 +2.6
HARR Harsova 8.83 356 ⇑P Pn 20 53 36.9 +4.4
HARR Harsova 8.83 356 P Pn 20 53 36.9 +4.4
TPGR Topolog 8.97 359 ⇑P Pn 20 53 38.3 +3.7
SCTE Santa Cesarea 9.11 300 Pn Pn 20 53 38.9 +2.4
CFR Carcaliu 9.30 357 ⇑P Pn 20 53 42.6 +3.6
CFR Carcaliu 9.30 357 P Pn 20 53 42.6 +3.6
ISR Istrita 9.38 351 ⇑P Pn 20 53 44.4 +4.2
ISR Istrita 9.38 351 P Pn 20 53 44.3 +4.2
BOVS Bovan 9.44 327 ⇓P Pn 20 53 43.1 +2.2
SEV Sevastopol' 9.45 22 Pm 20 53 50.7
comp=Z,38nm,0.6s
SEV *e*S Sn 20 55 29.4 +2.9
SEV Sm 20 55 33.8
comp=N,10.0nm,1.2s
SEV Sm 20 55 33.8
comp=E,18nm,0.9s
SEV Sevastopol' 9.45 22 *e*P Pn 20 53 41.6 +0.6
SEV *e*S Sn 20 55 29.4 +2.9
PUNG Punghina 9.49 334 ⇓P Pn 20 53 44.9 +3.4
PVY Plav 9.55 317 ⇓*i*Pn Pn 20 53 46.0 +3.5
PVY *i* Sn Sn 20 55 28.8 -0.3
YAL Yalta 9.55 24 *e*P Pn 20 53 42.8 +0.4
YAL Pm 20 53 48.4
comp=Z,95nm,1.0s
YAL Yalta 9.55 24 *e*P Pn 20 53 42.8 +0.4
ULC Ulcinj 9.56 312 ⇑*i*Pn Pn 20 53 47.1 +4.5
ULC *i* Sn Sn 20 55 30.1 +0.8
DRME Dracevica, Mon 9.73 313 *e*Pn Pn 20 53 49.1 +4.2
DRME Dracevica, Mon 9.73 313 ⇑*i*Pn Pn 20 53 50.5 +5.6
DRME *i* Sn Sn 20 55 33.8 +0.4
SRE Strehaia 9.73 336 ⇓P Pn 20 53 48.2 +3.3
SRE Strehaia 9.73 336 P Pn 20 53 48.2 +3.3
IVA Berane 9.77 318 ⇑*i*Pn Pn 20 53 48.8 +3.3
IVA *i* Sn Sn 20 55 34.5 0.0
BISRR Bisoca 9.78 352 ⇑P Pn 20 53 49.7 +4.0
ALU Alushta 9.81 25 *e*P Pn 20 53 45.4 -0.5
ALU Pm 20 53 54.3
comp=Z,32nm,0.9s
ALU *e*S Sn 20 55 38.0 +2.7
ALU Sm 20 55 41.4
comp=N,7.0nm,1.0s
ALU Sm 20 55 41.4
comp=E,15nm,1.2s
ALU Alushta 9.81 25 *e*P Pn 20 53 45.4 -0.5
ALU *e*S Sn 20 55 38.0 +2.7
MLR Muntele Rosu 9.83 349 P Pn 20 53 45.9 -0.5
comp=E,0.3nm,0.3s,baz=233,slow=6.7,SNR=2.7
comp=E,4.2nm,0.6s
MLR Muntele Rosu 9.83 349 ⇑P Pn 20 53 50.5 +4.1
MLR Muntele Rosu 9.83 349 Pn Pn 20 53 46.3 -0.2
MLR Muntele Rosu 9.83 349 P Pn 20 53 50.5 +4.1
PDG Podgorica 9.84 315 ⇑P Pn 20 53 49.0 +2.6
PDG Podgorica 9.84 315 Pn Pn 20 53 47.0 +0.6
PDG Podgorica 9.84 315 ⇓P Pn 20 53 50.5 +4.1
PDG Podgorica 9.84 315 ⇓*i*Pn Pn 20 53 52.4 +6.0
PDG *i* Sn Sn 20 55 36.3 +0.3
VOIR 9.95 345 ⇑P Pn 20 53 51.7 +3.6
VOIR 9.95 345 P Pn 20 53 51.6 +3.6
SIM Simferopol' 9.95 23 *e*P Pn 20 53 49.3 +1.4
SIM *i* P 20 53 56.3
SIM Pm 20 53 57.9

comp=Z,136nm,1.0s
SIM eS Sn 20 55 42.8 +4.0
SIM Sm 20 55 44.7
comp=N,23nm,0.9s
SIM Sm 20 55 44.7
comp=E,119nm,1.0s
SIM Simferopol' 9.95 23 eP Pn 20 53 49.5 +1.6
SIM eS Sn 20 55 43.0 +4.2
SIM pmax pmax
comp=Z,106nm,0.9s
SIM smax smax
comp=E,183nm,1.3s
SIM smax smax
comp=N,104nm,1.0s
SIM MLR MLR
comp=Z,290nm,15.0s
KOME Kolasin 9.96 317⇓ *i* Pn Pn 20 53 51.7 +3.5
KOME *i* Sn Sn 20 55 39.3 +0.1
BUM Brajici-Budva 9.97 313⇓ *i* Pn Pn 20 53 53.0 +4.7
BUM *i* Sn Sn 20 55 39.7 +0.3
VLDR Vladesti 9.97 357⇑ P Pn 20 53 52.7 +4.5
DJES Djerdap 9.97 334 Pn Pn 20 53 48.2 0.0
ARR Arges 9.98 343⇓ P Pn 20 53 51.3 +2.9
SJES Sjenica 9.99 320 ePn Pn 20 53 53.8 +5.2
TIP Timpagrande 10.06 293 Pn Pn 20 53 50.2 +0.7
TIP Timpagrande 10.06 293⇓ P Pn 20 53 49.9 +0.4
PLOR Plostina 10.09 352⇑ P Pn 20 53 54.3 +4.4
PLOR Plostina 10.09 352 P Pn 20 53 54.2 +4.4
VRI Vrincioaia 10.09 352⇑ P Pn 20 53 54.1 +4.2
VRI Vrincioaia 10.09 352 P Pn 20 53 54.1 +4.2
CEME Cevo 10.11 314⇑ *i* Pn Pn 20 53 54.7 +4.6
CEME *i* Sn Sn 20 55 43.4 +0.7
COVR Voineasa-Covas 10.14 350⇓ P Pn 20 53 54.8 +4.3
KOPT Kop Dagi 10.18 63 Pn Pn 20 53 52.6 +1.3
SUDU Sudak 10.20 26 eP Pn 20 53 51.3 0.0
SUDU *i* P 20 53 59.1
SUDU Pm 20 54 00.5
comp=Z,48nm,1.0s
SUDU eS Sn 20 55 45.7 +0.9
SUDU Sm 20 55 51.3
comp=N,49nm,0.9s
SUDU Sm 20 55 51.3
comp=E,38nm,1.1s
SUDU Sudak 10.20 26 eP Pn 20 53 51.3 0.0
SUDU eS Sn 20 55 45.7 +0.9
HERR Herculane 10.20 334⇑ P Pn 20 53 54.6 +3.3
NKME Niksic 10.22 315⇓ *i* Pn Pn 20 53 57.1 +5.4
NKME *i* Sn Sn 20 55 46.1 +0.5
GHRR 10.22 355⇓ P Pn 20 53 56.4 +4.8
HCY Herceg Novi 10.30 313 ePn Pn 20 53 56.0 +3.4
HCY Herceg Novi 10.30 313⇓ *i* Pn Pn 20 53 56.1 +3.4
HCY *i* Sn Sn 20 55 47.2 -0.1
PLE Pljevlja 10.35 319⇓ *i* Pn Pn 20 53 57.6 +4.1
PLE *i* Sn Sn 20 55 48.5 -0.3
MDVR Moldovita 10.38 331⇑ P Pn 20 53 57.5 +3.7
DOPR Dopca 10.39 347⇑ P Pn 20 53 58.2 +4.2
CEL Celeste 10.52 287 Pn 20 53 56.4 +0.6
GZR Gura Zlata 10.52 336⇑ P Pn 20 53 59.0 +3.1
GZR Gura Zlata 10.52 336 P Pn 20 53 58.9 +3.1
UPM Unac-Piva 10.53 317 ePn Pn 20 54 01.1 +5.1
UPM Unac-Piva 10.53 317⇑ *i* Pn Pn 20 54 00.1 +4.1
UPM *i* Sn Sn 20 55 52.9 -0.4
TREB Trebinje 10.54 314 ePn Pn 20 53 59.9 +3.9
BRY Bratogost 10.54 315 ePn Pn 20 54 01.1 +4.9
BRY Bratogost 10.54 315⇑ *i* Pn Pn 20 54 00.1 +3.9
BRY *i* Sn Sn 20 55 53.5 -0.1
RUDO Rudo 10.56 320 ePn Pn 20 54 00.7 +4.4
MATE Matera 10.58 300⇑ P Pn 20 53 59.2 +2.7
DIVS Divibare 10.59 324 Pn Pn 20 53 58.7 +1.9
DIVS Divibare 10.59 324⇑ P Pn 20 54 00.9 +4.2
DIVS Divibare 10.59 324 ePn Pn 20 54 00.8 +4.0
BBLS Lazići 10.71 321 ePn Pn 20 54 03.3 +4.9
TESR Tescani 10.74 352⇑ P Pn 20 54 02.2 +3.5
GURO Guroymak-BITLI 10.95 72 Pn Pn 20 54 03.5 +1.7
CUC Castrocucco 10.99 296 Pn 20 54 01.9 -0.3
STON Ston 11.02 313 ePn Pn 20 54 04.0 +1.5
MILM Milestii Mici 11.04 0 eP Pn 20 54 03.7 +1.0
comp=E,40nm,0.6s
MILM eS Sn 20 56 10.0 +4.7
MILM eL L 20 58 17.0
MILM LRM MLR 20 58 53.0
comp=E,1µm,15.0s
MILM Milestii Mici 11.04 0⇑ P Pn 20 54 06.9 +4.2
MILM Milestii Mici 11.04 0 eP Pn 20 54 03.7 +1.0
MILM eS Sn 20 56 10.0 +4.7
MILM pmax pmax
comp=Z,40nm,0.6s
MILM MLR MLR
comp=Z,1µm,15.0s
SURR Surduc 11.06 335⇑ P Pn 20 54 05.7 +2.7
MRVN Minervino Murg 11.10 302⇑ P Pn 20 54 05.4 +1.7
HAPS Han Pijesak,BI 11.10 321 ePn Pn 20 54 07.8 +4.0
ANN Anapa 11.12 34 eP Pn 20 54 06.9 +3.1
ANN eS Sn 20 56 04.2 -3.1
ANN pmax pmax
comp=Z,32nm,1.0s
ANN MLR MLR
comp=Z,353nm,14.0s
KIS Kishinev 11.12 0 eP Pn 20 54 04.0 +0.2
KIS LRM MLR 20 59 03.0
comp=Z,300nm,10.0s
KIS Kishinev 11.12 0 eP Pn 20 54 04.0 +0.2
KIS MLR MLR
comp=Z,300nm,10.0s
SOC Sochi 11.44 44 eP Pn 20 54 08.9 +0.7
SOC *e* 20 56 16.6
SOC MLR MLR
comp=Z,175nm,12.0s
FRGS Fruska Gora 11.48 327⇓ P Pn 20 54 11.7 +2.9
FRGS Fruska Gora 11.48 327 ePn Pn 20 54 12.2 +3.3
MARR Marisel-Cluj 11.58 340⇑ P Pn 20 54 13.1 +2.8
VAE Valguarnera 11.60 282 P Pn 20 54 11.9 +1.3
comp=Z,2.5nm,0.3s,baz=347,slow=11,SNR=8.8
VAE S Sn 20 56 08.0 -11
comp=Z,15nm,0.7s,baz=148,slow=23,SNR=1.2
comp=Z,12nm,0.6s
RAFF Raffo Rosso 11.63 281 Pn 20 54 10.8 -0.2
SIRR Siria 11.66 335⇑ P Pn 20 54 14.2 +2.8
SGRT San Giovanni R 11.70 304 Pn 20 54 11.3 -0.6
DRGR 11.80 339⇓ P Pn 20 54 17.2 +3.9
DRGR 11.80 339 P Pn 20 54 17.1 +3.9
BUR01 Bucovina Ar. S 12.02 349⇓ P Pn 20 54 20.6 +4.3
BURAR Bucovina Array 12.02 349⇑ P Pn 20 54 21.1 +4.8
BURAR Bucovina Array 12.02 349 Pn Pn 20 54 17.6 +1.3
BURAR Bucovina Array 12.02 349 P Pn 20 54 21.0 +4.7
BUR08 Bucovina Ar. S 12.05 349 Pn Pn 20 54 16.9 +0.2
PAOL Paolisi 12.23 299 Pn Pn 20 54 20.1 +1.0
KARS Kars 12.24 63 Pn 20 54 19.3 -0.1
KARS Kars 12.24 63 P Pn 20 54 19.3 -0.1
MGRS Mrkonjic Grad 12.32 317 ePn Pn 20 54 25.4 +5.0
BLY Banja Luka 12.48 319⇑ P Pn 20 54 27.4 +4.9
BLY Banja Luka 12.48 319 ePn Pn 20 54 26.8 +4.3
A050A Klekovaca 12.67 316 ePn Pn 20 54 28.6 +3.4
AKH Akhalkalaki 12.80 60 Pn Pn 20 54 25.9 -1.2
AKH Akhalkalaki 12.80 60 P Pn 20 54 25.9 -1.2
A051A Mrakovica 12.80 319 ePn Pn 20 54 31.1 +4.1
MORH Mrgy, Hungar 12.81 327⇑ P Pn 20 54 29.6 +2.6
ONI Oni 13.24 55 Pn 20 54 33.1 +0.2
ONI Oni 13.24 55 P Pn 20 54 33.1 +0.2
SHA1 Shidzhatmaz 13.27 50 *i* P Pn 20 54 37.5 +3.9
GNI Garni 13.33 67 Pn Pn 20 54 36.8 +2.5
GNI Garni 13.33 67 P Pn 20 54 36.8 +2.5
KIV Kislovodsk 13.41 49 Pn Pn 20 54 36.3 +1.0
KIV Kislovodsk 13.41 49 eP Pn 20 54 36.8 +1.6
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,81nm,13.0s
KVAR Kislovodsk Arr 13.41 49 P Pn 20 54 36.2 +0.8
baz=43,slow=16
comp=Z,3.2nm,1.0s
KBZ Khabaz 13.42 50 P Pn 20 54 35.0 -0.3
comp=Z,1.5nm,0.9s,baz=344,slow=19,SNR=2.2
KBZ Khabaz 13.42 50*ce* Pn 20 54 37.1 +1.8
AQU L'Aquila 13.53 303 Pn Pn 20 54 38.5 +1.6
AQU L'Aquila 13.53 303 P Pn 20 54 38.5 +1.6
CAMP Campotosto 13.60 304 Pn 20 54 38.0 +0.1
UZH Uzhgorod 13.60 342 eP Pn 20 54 40.7 +3.0
UZH *i* S Sn 20 57 09.5 +1.5
UZH MLR MLR
comp=N,400nm,9.0s
UZH MLR MLR
comp=E,500nm,9.0s
UZH MLR MLR
comp=Z,50nm,9.0s
ZEI Tsey 13.62 55 eP P 20 54 43.0 -4.0
ZEI pmax pmax
comp=Z,17nm,1.3s
PSZ Piszkesteto 13.70 334 Pn 20 54 38.2 -1.0
PSZ Piszkesteto 13.70 334 P Pn 20 54 38.2 -1.0
NCK Natchik 13.74 52 *i* P Pn 20 54 42.7 +2.9
GUMA Gualdo di Mace 13.87 306 Pn 20 54 40.4 -1.2
BOJS Bojanci 14.02 317 *i* Pn Pn 20 54 47.0 +3.6
BOJS Bojanci 14.02 317 ePn Pn 20 54 47.1 +3.6
FDMO Fiordimonte 14.03 305 Pn 20 54 44.1 +0.4
CRVS Cervenica-Dubn 14.07 340 eP P 20 54 49.8 -2.0
CRVS Cervenica-Dubn 14.07 340 ePN P 20 54 49.8 -2.0
CRES Cresnjev 14.11 319 ePn Pn 20 54 47.6 +2.8
CESX Cesi 14.19 303 P Pn 20 54 48.7 +2.8
SRO Srobarova 14.21 330 eP P 20 54 55.4 +2.1
SRO Srobarova 14.21 330 *e* P 20 54 55.4 +2.1
LVV L'vov 14.35 348 eP P 20 54 56.2 +1.3
LVV MLR MLR
comp=N,300nm,11.0s
LVV MLR MLR
comp=E,200nm,11.0s
LVV MLR MLR
comp=Z,500nm,13.0s
MURB Monte Urbino 14.49 306 P Pn 20 54 52.2 +2.1
VYHS Vyhne 14.57 333 eP P 20 54 55.4 -1.9
VYHS Vyhne 14.57 333 ePN P 20 54 55.4 -1.9
STHS Stebnicka Huta 14.60 340 eP P 20 54 57.4 -0.2
STHS Stebnicka Huta 14.60 340 ePN P 20 54 57.4 -0.2
MGAB Montegabbione 14.63 304⇑ P P 20 54 58.2 +0.2
LATE Laterza 14.72 302 P Pn 20 54 53.4 +0.3
SKDS Skadanscina 14.73 315 ePn Pn 20 54 54.6 +1.3
PERS Pernice 14.82 321 ePn P 20 54 58.6 -1.5
AKASG Malin Array Be 14.82 1 P Pn 20 54 52.4 -2.0
comp=Z,0.5nm,0.3s,baz=184,slow=13,SNR=12
AKASG LR LR 21 01 31.3
comp=Z,487nm,18.1s,baz=185,slow=41
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 14.82 1 P Pn 20 54 54.4 0.0
AKASG Malin Array Be 14.82 1 P Pn 20 54 54.4 0.0
AKBB Malin Array Si 14.82 1 Pn Pn 20 54 53.1 -1.3
AKBB Malin Array Si 14.82 1 *i* P Pn 20 54 54.4 -0.1
SOKA Soboth 14.89 321 *i* Pn P 20 54 59.0 -1.9
comp=Z,6.5nm,0.6s
RONA Rosalia, Austr 14.99 326 *i* P P 20 55 01.5 -0.6
comp=Z,6.2nm,0.7s
ZST Bratislava 15.01 329 eP P 20 55 00.4 -1.8
ZST Bratislava 15.01 329 ePN P 20 55 00.4 -1.8
OBKA Obir 15.03 319 *i* P P 20 55 01.2 -1.3
comp=Z,12nm,0.7s
OBKA Obir 15.03 319 ePn Pn 20 54 59.1 +1.7
OBKA Obir 15.03 319 ePn P 20 55 00.4 -2.2
ARSA Arzberg 15.03 323 *i* Pn P 20 55 00.6 -1.9
comp=Z,7.4nm,0.6s
ARSA Arzberg 15.03 323⇓ P P 20 55 06.0 +3.4
GROC Groznyy 15.06 56 eP Pn 20 54 58.2 +0.6
GROC eS Sn 20 57 44.6 +1.0
GROC pmax pmax
comp=Z,7.0nm,0.4s
MODS Modra-Piesok 15.08 329 eP P 20 55 03.6 +0.6
MODS Modra-Piesok 15.08 329 ePN P 20 55 03.6 +0.6
SABO M.te Sabotino 15.22 316 Pn Pn 20 54 59.7 -0.1
SABO IAmb IAmb 20 55 06.3
comp=Z,27nm,0.8s
JAVC Velka Javorina 15.31 331 ePN P 20 55 06.2 +0.6
CONA Conrad Observa 15.36 326 *i* Pn P 20 55 04.8 -1.4
comp=Z,3.4nm,0.8s
CASP Castiglione de 15.43 302 Pn Pn 20 55 04.2 +1.6
CASP IAmb IAmb 20 55 07.9
comp=Z,34nm,0.9s
OSSC Osservatorio P 15.45 305 Pn 20 55 02.6 -0.2
PRED Cave del Predi 15.52 318 Pn 20 55 04.0 +0.2
MYKA Terra Mystica 15.59 318 *i* P P 20 55 08.6 -0.2
comp=Z,6.8nm,0.5s
PTCC Patocco-Chiusa 15.61 317⇑ P P 20 55 09.2 +0.3
MAUC Maruska 15.66 333 eP P 20 55 10.0 +0.5
KEST Kesra 15.72 275 P P 20 55 09.0 -1.3
comp=Z,1.3nm,0.3s,baz=172,slow=2.3,SNR=25
comp=Z,25nm,0.7s
KEST Kesra 15.72 275 P Pn 20 55 08.0 +1.6
KEST IAmb IAmb 20 55 15.6
comp=Z,44nm,0.7s
OJC Ojcow 15.73 338 Pn 20 55 05.9 -0.5
OJC Ojcow 15.73 338 P Pn 20 55 05.9 -0.5
OJC pmax pmax
comp=Z,4.0nm,0.9s
AKT Akhty 15.86 64 eP P 20 55 17.7 +5.9
AKT pmax pmax
comp=Z,22nm,1.1s
STAL STALIGIAL 15.89 316 P Pn 20 55 07.5 -1.0
CLUD Cludinico 15.91 316 P Pn 20 55 08.1 -0.6
ZCCA Zocca 15.97 307 P Pn 20 55 10.4 +0.8
KRUC Moravsky 15.98 329 ePN P 20 55 12.6 -0.4
TEOL Teolo 16.02 311 P Pn 20 55 10.4 +0.4
TEOL IAmb IAmb 20 55 15.3
comp=Z,38nm,0.8s
KBA Koelnbreinsper 16.03 319 *i* P P 20 55 13.7 0.0
comp=Z,23nm,0.6s,SNR=12
KBA Koelnbreinsper 16.03 319⇑ P P 20 55 13.8 0.0
KBA Koelnbreinsper 16.03 319 ePn P 20 55 13.5 -0.3
MOA Molln 16.06 323 *i* P P 20 55 14.2 +0.2
comp=Z,5.2nm,0.7s
MOA Molln 16.06 323 ePn P 20 55 14.5 +0.6
CIMO Cimolais 16.07 315 P Pn 20 55 11.1 +0.3
CIMO IAmb IAmb 20 55 15.8
comp=Z,14nm,0.9s
VRAC Vranov 16.09 330 P P 20 55 14.3 0.0
comp=Z,20nm,0.8s,baz=138,slow=9.8,SNR=30
VRAC LR LR 21 01 49.6
comp=Z,350nm,18.1s,baz=147,slow=39
VRAC Vranov 16.09 330⇑ P P 20 55 13.5 -0.8
VRAC Vranov 16.09 330 ePN P 20 55 14.3 0.0
VRAC Vranov 16.09 330 P P 20 55 13.4 -0.8
MORC Moravsky Berou 16.11 333⇑ P P 20 55 13.0 -1.4
MORC Moravsky Berou 16.11 333 P Pn 20 55 11.3 0.0
MORC Moravsky Berou 16.11 333 ePN P 20 55 14.6 +0.2
MORC Moravsky Berou 16.11 333 P P 20 55 13.0 -1.4
MAK Makhachkala 16.13 58*c* *i* P Pn 20 55 10.2 -1.4
MAK eS Sn 20 58 07.7 -2.0
MAK pmax pmax
comp=Z,320nm,1.0s
MAK MLR MLR
comp=Z,173nm,17.0s
BIOA Bad Ischl, Aus 16.27 321 *i* P P 20 55 16.5 +0.2
comp=Z,6.2nm,0.7s
ABTA Abfaltersbach 16.28 317 ePn P 20 55 16.0 -0.5
comp=Z,21nm,0.7s,SNR=12
CTI Castel Tesino 16.39 314 P Pn 20 55 15.1 +0.2
CTI IAmb IAmb 20 55 19.9
comp=Z,37nm,0.7s
CTI Castel Tesino 16.39 314 P Pn 20 55 15.1 +0.2
CTI pmax pmax
comp=Z,37nm,0.7s
PRMA PARMA 16.58 308 P Pn 20 55 18.2 +1.0
PRMA IAmb IAmb 20 55 22.6
comp=Z,56nm,0.9s
KRLC Kraliky 16.63 332 eP P 20 55 21.8 +1.5
KRLC AMS AMS 21 03 00.0
comp=Z,1µm,9.1s
KRLC Kraliky 16.63 332 eP P 20 55 21.8 +1.5
KRLC MLR MLR
comp=Z,1µm,9.1s
CKRC Cesky Krumlov 16.72 325 eP P 20 55 21.6 +0.4
CKRC AMS AMS 21 02 40.0
comp=Z,1µm,12.1s
RJOB Jochberg 16.74 320 ePn P 20 55 24.3 +2.8
SALO Salr 16.84 311 P Pn 20 55 20.4 -0.3
SALO Salr 16.84 311⇓ P P 20 55 24.5 +1.9
MSSA Maissana 16.91 306 P P 20 55 22.5 -0.9
MSSA IAmb IAmb 20 55 24.8
comp=Z,203nm,1.8s
GEC2 GERESS Array S 17.02 324 P P 20 55 24.1 -0.5
GEC2 GERESS Array S 17.02 324 ePn P 20 55 24.5 -0.1
GERES GERESS Array B 17.02 324 P Pn 20 55 23.6 +0.7
comp=Z,0.8nm,0.3s,baz=129,slow=10,SNR=36
comp=Z,4.5nm,0.7s
DPC Dobruska-Polom 17.03 332 eP P 20 55 24.0 -0.6
DPC *ex* x 20 55 39.2
DPC AMS AMS 21 03 20.0
comp=Z,1µm,8.0s
DPC Dobruska-Polom 17.03 332 eP P 20 55 24.0 -0.6
DPC MLR MLR
comp=Z,1µm,8.0s
WTTA Wattenberg 17.07 317 *i* P P 20 55 26.0 +0.8
comp=Z,17nm,0.6s
WTTA Wattenberg 17.07 317 ePn P 20 55 24.6 -0.7
VSR Storozhevoye 17.07 23 P Pn 20 55 22.2 -1.2
VSR pmax pmax
comp=Z,10.0nm,0.8s
WATA Walderalm 17.15 317 eP P 20 55 26.8 +0.7
comp=Z,16nm,0.7s,SNR=5.4
OSTC Ostas 17.24 332 eP P 20 55 27.0 +0.1
UPC Upice 17.27 332 AMS AMS 21 02 30.0
comp=Z,1µm,15.4s
KHC Kasperske Hory 17.28 325 Pn 20 55 26.6 +0.5
KHC Kasperske Hory 17.28 325 eP P 20 55 27.4 0.0
KHC *ex* x 20 55 41.0
KHC AMS AMS 21 03 00.0
comp=Z,1µm,8.0s
KHC Kasperske Hory 17.28 325⇑ P P 20 55 27.8 +0.4
KHC Kasperske Hory 17.28 325 eP P 20 55 27.4 0.0
KHC MLR MLR
comp=Z,1µm,8.0s
SQTA Sankt Quirin 17.29 316 eP P 20 55 28.5 +0.9
comp=Z,19nm,0.7s,SNR=12
GOPC GO Pecny, Ondr 17.31 328 AMS AMS 21 02 10.0
MOTA Moosalm 17.41 317 *i* P P 20 55 29.6 +0.5
comp=Z,18nm,0.6s
FETA Feichten 17.45 315 *i* Pn P 20 55 31.1 +1.7
comp=Z,30nm,0.8s,SNR=14
PRU Pruhonice 17.47 328 eP P 20 55 30.1 +0.7
PRU *ex* x 20 55 44.2
PRU AMS AMS 21 03 10.0
comp=Z,1µm,8.8s
PRU Pruhonice 17.47 328 eP P 20 55 30.1 +0.7
PRU MLR MLR
comp=Z,1µm,8.8s
VORR Voronezh 17.48 22 eP P 20 55 30.9 +1.3
VORR pmax pmax
comp=Z,10.0nm,0.8s
PART Garmisch-Parte 17.50 317 ePn P 20 55 31.1 +1.3
FUORN Ofenpass-Fuorn 17.50 313 P Pn 20 55 28.8 -0.3
RETA Reutte 17.69 317 *i* P P 20 55 33.2 +1.2
comp=Z,13nm,0.5s
DAVOX Davos/Dischmat 17.81 313 P P 20 55 33.2 -0.3
comp=Z,0.5nm,0.3s,baz=129,slow=12,SNR=16
DAVOX LR LR 21 04 04.8
comp=Z,330nm,21.4s,baz=114,slow=43
comp=Z,7.7nm,0.8s
PVCC Panska Ves 17.87 329 eP P 20 55 34.3 +0.5
PVCC Panska Ves 17.87 329 eP P 20 55 34.3 +0.5
OBER Oberstdorf 17.91 316 ePn P 20 55 36.6 +2.2
VRH Novokhopyorsk 17.95 27 eP Pn 20 55 32.3 -1.9
VRH pmax pmax
comp=Z,20nm,1.3s
TUE Stuetta 17.98 312 P P 20 55 36.0 +0.8
DAVA Damuels 18.08 315 *i* Pn P 20 55 36.7 +0.4
comp=Z,17nm,0.6s
DAVA Damuels 18.08 315⇓ P P 20 55 37.3 +0.9
DAVA Damuels 18.08 315 ePn P 20 55 37.1 +0.8
UBR Ueberruh 18.16 316 ePn P 20 55 37.1 -0.1
LPSR Galich'ya Gora 18.22 20 eP Pn 20 55 35.5 -2.1
LPSR pmax pmax
comp=Z,20nm,0.9s
MONC Moncucco Torin 18.25 307⇑ P P 20 55 43.0 +4.8
ROTZ Rotzenmuhle 18.37 324 ePn P 20 55 38.9 -0.4
BRG Berggiesshubel 18.39 329 eP Pn 20 55 40.3 +0.6
BRG Amp 20 55 41.4
comp=Z,8.7nm,0.8s
BRG Berggiesshubel 18.39 329 eP Pn 20 55 40.3 +0.6
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG pmax pmax
comp=Z,17nm,0.9s
BRG MLR MLR
comp=E,649nm,14.3s
BRG MLR MLR
comp=Z,1µm,14.8s
BRG MLR MLR
comp=N,1µm,18.4s
MANZ Manzenberg 18.56 325 ePn P 20 55 41.4 -0.2
NKC Novy Kostel 18.58 326 eP Pn 20 55 42.3 +0.3
NKC Novy Kostel 18.58 326 eP Pn 20 55 42.3 +0.3
MNK Minsk 18.64 358 *i* P P 20 55 41.0 -1.3
MNK *i* P P 20 55 41.0 -1.3
comp=N,10.0nm,0.8s
MNK *i* P P 20 55 41.0 -1.3
comp=Z,14nm,0.8s,baz=178
MNK *i* pP **sP** 20 55 49.9 +0.1
MNK *i* PP **PnPn** 20 55 54.1 -0.6
MNK *i* S **Sn** 20 59 08.8 -1.4
MNK *i* sS **sS** 20 59 20.7 -1.1
MNK *i* SS **SnSn** 20 59 24.3 +0.1
MNK *i* LQ LQ 21 01 17.5
MNK *i* LR LR 21 02 52.5
MNK *i* LRM MLR 21 03 43.2
comp=Z,197nm,14.0s
MNK *i* LRM MLR 21 03 50.5
comp=E,11nm,14.0s
MNK *i* LRM MLR 21 03 53.5
comp=N,150nm,14.0s
MNK Minsk 18.64 358 *i* P P 20 55 40.9 -1.3
MNK *i* S Sn 20 59 08.8 -1.4
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=Z,197nm,14.0s
MNK MLR MLR
comp=E,11nm,14.0s
MNK MLR MLR
comp=N,150nm,14.0s
GRA1 Grafenberg Arr 18.79 323 P P 20 55 42.7 -1.3
GRF Grafenberg Arr 18.79 323 P P 20 55 42.7 -1.3
GRF pmax pmax
comp=Z,51nm,1.6s
GRFO Grafenberg 18.79 323 P P 20 55 42.5 -1.5
GRFO Grafenberg 18.79 323 P P 20 55 42.5 -1.5
GRFO pmax pmax
comp=Z,20nm,1.0s
RAYN Ar Rayn 19.05 126 Pn 20 55 47.5 -0.4
RAYN Ar Rayn 19.05 126⇑ P Pn 20 55 50.0 +2.1
RAYN Ar Rayn 19.05 126 P Pn 20 55 47.5 -0.4
RAYN pmax pmax
comp=Z,30nm,1.6s
BNI Bardonecchia 19.06 305 P 20 55 46.1 -1.1
BNI Bardonecchia 19.06 305 P P 20 55 46.1 -1.1
BNI pmax pmax
comp=Z,17nm,0.8s
NACGM Naroch 19.08 357 eP P 20 55 47.1 0.0
comp=Z,38nm,0.7s,baz=175
CLL Collm 19.11 329 P P 20 55 45.2 -2.2
CLL Collm 19.11 329 *i* P P 20 55 47.3 -0.1
comp=Z,25nm,1.2s
CLL *i* pP **pP** 20 55 52.4 -0.3
comp=Z,26nm,0.9s
CLL *i* PP **pwP** 20 56 00.2 +2.1
CLL *i* pPP 20 56 03.8
CLL ePPP PPP 20 56 12.0
CLL *e*S **S** 20 59 24.0 +1.5
CLL *e*SSS SSS 20 59 54.0
CLL LmH 21 02 00.0
comp=N,700nm,19.3s
CLL LmH 21 02 00.0
comp=E,700nm,18.5s
CLL Collm 19.11 329 *i* P P 20 55 47.3 -0.1
CLL pmax pmax
comp=Z,25nm,1.2s
SENIN Lac Senin/Sane 19.18 310 P P 20 55 48.0 -0.6
MOX Moxa 19.25 325 ePn P 20 55 48.2 -0.8
BFO Black Forest 19.52 316 P P 20 55 52.6 +0.6
BFO IAmb IAmb 20 56 04.8
comp=Z,106nm,2.0s
BFO Black Forest 19.52 316 P P 20 55 52.6 +0.6
BFO pmax pmax
comp=Z,106nm,2.0s
BFO Black Forest 19.52 316 ePn Pn 20 55 52.9 -0.4
KLNR Kaliningrad 19.64 345 *i* P P 20 55 52.6 -0.6
KLNR pmax pmax
comp=Z,49nm,0.9s
RUE Ruedersdorf 19.69 332 eP P 20 55 53.9 +0.1
ISAL Salakas 19.78 356 eP P 20 55 55.4 +0.7
PABE Paberze 19.90 352 P P 20 55 55.1 -1.0
PABE IAmb IAmb 20 55 58.6
comp=Z,61nm,1.1s
PABE Paberze 19.90 352 eP P 20 55 55.6 -0.4

IZAR Zarasai 19.95 356 *e*P P 20 55 56.7 +0.1
OBN Obninsk 19.99 13 P P 20 55 55.1 -1.9
comp=Z,0.9nm,0.3s,baz=58,slow=20,SNR=1.3
comp=Z,4.3nm,0.5s
OBN Obninsk 19.99 13 P P 20 55 55.9 -1.0
OBN IAmb IAmb 20 56 06.3
comp=Z,63nm,1.3s
OBN Obninsk 19.99 13⇓*i*P P 20 55 56.0 -1.0
OBN *e**PP **sP** 20 56 04.0 -0.6
OBN *e* 20 56 11.1
OBN S **S** 20 59 39.0 -1.5
OBN pmax pmax
comp=Z,59nm,1.5s
OBN MLR MLR
comp=Z,249nm,19.0s
ECH Echery 20.13 314 P P 20 55 58.9 +0.2
ECH Echery 20.13 314 P P 20 55 58.9 +0.2
ECH pmax pmax
comp=Z,18nm,0.9s
VSVD Vaisvydziai 20.38 352 *e*P P 20 56 01.2 0.0
PBUR Paburge 20.68 349 *e*P P 20 56 04.2 -0.3
MOS Moscow 20.78 14 *e*P P 20 56 03.8 -1.8
MOS *e* 20 56 15.0
MOS pmax pmax
comp=Z,56nm,0.8s
BELG Belogornoye 21.27 33 P P 20 56 10.0 -0.8
comp=Z,41nm,0.9s,baz=207,slow=3.1,SNR=14
comp=Z,41nm,0.9s
WLF Walferdange 21.44 317 P P 20 56 11.8 -0.9
WLF Walferdange 21.44 317 P P 20 56 11.9 -0.9
WLF pmax pmax
comp=Z,16nm,0.9s
WLF Walferdange 21.44 317 *d*P P 20 56 13.6 +0.8
BSD Bornholm Skovb 21.46 338 *i*P P 20 56 10.2 -2.7
BSD Bornholm Skovb 21.46 338 *e*P P 20 56 12.4 -0.5
BTNL Ternell 21.95 319 *dx* x 20 56 25.6
MEM Membach 22.03 319 *d*P P 20 56 19.3 +0.2
comp=Z,14nm,0.9s
RCHB Rochefort 22.21 317 *d*P P 20 56 21.1 +0.1
comp=Z,7.4nm,0.8s
BLEU Blekinge 22.23 341 *i*P P 20 56 19.4 -1.9
BCLA Clavier 22.30 318 *d*P P 20 56 21.6 -0.4
comp=Z,10nm,0.8s
LUNU Lund 22.36 337 *i*P P 20 56 20.1 -2.4
DOU Dourbes 22.53 317 *d*P P 20 56 22.6 -1.8
comp=Z,9.5nm,1.2s
BMRD Maredsous 22.54 317 *d*P P 20 56 24.5 0.0
comp=Z,8.9nm,1.4s
VSU Vasula 22.64 357 *i*P P 20 56 25.5 0.0
VSU pmax pmax
comp=Z,82nm,0.7s
VSU Vasula 22.64 357 *e*P P 20 56 25.5 0.0
BJUU Bjuv 22.86 337 *i*P P 20 56 25.1 -2.7
DEL Delary 22.93 339 *i*P P 20 56 26.1 -2.4
DEL Delary 22.93 339 *e*P P 20 56 27.9 -0.6
CLF Chambon-Foret 23.00 310 P P 20 56 31.0 +1.6
CLF IAmb IAmb 20 56 36.8
comp=Z,116nm,1.6s
MTSE Matsula 23.08 353 *e*P P 20 56 30.1 +0.1
GEYT Alibeck 23.56 76 P P 20 56 35.6 +0.5
comp=Z,5.3nm,0.6s,baz=283,slow=7.4,SNR=14
GEYT LR LR 21 07 19.2
comp=Z,78nm,19.6s,baz=278,slow=40
comp=Z,5.3nm,0.6s
CART Cartagena 23.84 283 P P 20 56 38.3 +0.5
CART IAmb IAmb 20 56 45.5
comp=Z,41nm,0.9s
VIKU Vikbolandet 23.99 344 *e*P P 20 56 38.0 -1.0
MUD Monsted U'grnd 24.47 333 *i*P P 20 56 43.0 -0.4
MEF Metsahovi 24.52 355 *e*P P 20 56 42.9 -0.9
TJOU Tjoern 24.91 338 *i*P P 20 56 45.9 -1.4
AAL Aland 24.97 350 *e*P P 20 56 46.8 -1.0
RAF Rauma 25.56 352 *e*P P 20 56 53.3 +0.1
FINES FINESS Array B 25.64 357 P P 20 56 53.4 -0.6
comp=Z,21nm,0.7s,baz=159,slow=11,SNR=79
comp=Z,21nm,0.7s
FINES FINESS Array B 25.64 357 P P 20 56 52.7 -1.3
FIA1 FINESS Array S 25.65 357 P P 20 56 53.0 -0.9
FIA1 IAmb IAmb 20 56 56.4
comp=Z,24nm,0.8s
AKTO Aktyubinsk 25.65 46 P P 20 56 53.6 -0.5
comp=Z,12nm,0.6s,baz=247,slow=6.6,SNR=18
comp=Z,12nm,0.6s
STRU Stroemstad 25.87 339 *i*P P 20 56 54.5 -1.6
STRU IAmb IAmb 20 56 55.8
comp=Z,5.1nm,0.9s
KLMR Klimovskoe 25.94 12 *e*P P 20 56 54.9 -1.7
KLMR Klimovskoe 25.94 12 *e*P P 20 56 54.8 -1.8
UOSS Minazif 26.00 107 P P 20 56 58.4 +0.8
UOSS IAmb IAmb 20 57 31.8
comp=Z,46nm,1.5s
ESBB Sonseca Array 26.03 288 P P 20 56 58.1 +0.3
ESBB IAmb IAmb 20 57 09.2
comp=Z,19nm,0.7s
ESDC Sonseca Array 26.03 288 P P 20 56 58.4 +0.5
comp=Z,9.1nm,0.7s,baz=81,slow=9.1,SNR=64
comp=Z,9.1nm,0.7s
ESDC Sonseca Array 26.03 288 P P 20 56 57.4 -0.4
HFS Hagfors 26.14 343 P P 20 56 57.2 -1.4
comp=Z,4.1nm,0.6s,baz=148,slow=12,SNR=22
HFS LR LR 21 09 10.9
comp=Z,347nm,18.3s,baz=135,slow=41
comp=Z,4.1nm,0.6s
PAB San Pablo 26.33 288 P P 20 56 59.7 -0.9
PAB IAmb IAmb 20 57 22.5
comp=Z,16nm,0.9s
PAB San Pablo 26.33 288 ⇓P P 20 57 01.3 +0.7
PAB San Pablo 26.33 288 P P 20 56 59.7 -0.9
PAB pmax pmax
comp=Z,16nm,0.9s
ABKAR Akbulak array 26.39 50 P P 20 56 59.5 -1.4
ABKAR Akbulak array 26.39 50 P P 20 56 59.2 -1.7
ABKAR Akbulak array 26.39 50 ⇓P P 20 57 00.7 -0.2
KIRV Kirov 26.50 25 P P 20 57 00.7 -1.0
comp=Z,23nm,0.7s,baz=218,slow=0.7,SNR=9.3
comp=Z,23nm,0.7s
KIRV Kirov 26.50 25*ce*P P 20 57 00.9 -0.8
KONO Kongsberg 26.84 338 P P 20 57 03.6 -1.2
KONO Kongsberg 26.84 338 P P 20 57 03.6 -1.2
KONO pmax pmax
comp=Z,121nm,1.9s
KONO Kongsberg 26.84 338 *e*P P 20 57 04.3 -0.5
NC602 NORSAR Array S 27.20 341 P P 20 57 07.7 -0.4
NC602 IAmb IAmb 20 57 31.3
comp=Z,57nm,1.8s
NC602 NORSAR Array S 27.20 341 *e*P P 20 57 06.9 -1.2
NAO01 NORSAR Array S 27.47 341 P P 20 57 08.9 -1.6
NAO01 IAmb IAmb 20 57 50.1
comp=Z,34nm,1.2s
NB201 NORSAR Array S 27.54 342 P P 20 57 11.1 0.0
NB201 IAmb IAmb 20 57 45.0
comp=Z,62nm,1.6s
NB2 NORSAR Subarra 27.55 342 P P 20 57 08.8 -2.4
comp=Z,5.6nm,1.1s,baz=153,slow=10
NB2 NORSAR Subarra 27.55 342 P P 20 57 08.8 -2.4
baz=153,slow=10
NOA NORSAR Array B 27.55 342 P P 20 57 08.9 -2.4
comp=Z,1.3nm,0.8s,baz=129,slow=7.1,SNR=6.9
comp=Z,1.3nm,0.8s
MDT Midelt 27.61 273 P P 20 57 11.4 -0.7
comp=Z,2.1nm,0.8s,baz=57,slow=18,SNR=1.9
comp=Z,2.1nm,0.8s
NBO00 NORSAR Array S 27.65 341 P P 20 57 12.1 -0.1
NBO00 IAmb IAmb 20 57 35.5
comp=Z,49nm,1.4s
SKAR Skarslia 28.06 339 *e* P 20 57 15.5 -0.3
SFS San Fernando 28.11 282 P P 20 57 16.6 +0.1
SFS San Fernando 28.11 282 P P 20 57 16.6 +0.1
SFS pmax pmax
comp=Z,861nm,1.2s
ADZR Andozero 28.69 9 *e*P P 20 57 19.1 -2.2
ADZR pmax pmax
comp=Z,17nm,0.8s
ARU Arti 28.78 35 P P 20 57 21.0 -1.2
comp=Z,4.2nm,0.8s,baz=222,slow=7.5,SNR=7.8
ARU LR LR 21 11 00.2
comp=Z,209nm,18.3s,baz=236,slow=41
comp=Z,4.2nm,0.8s
ARU Arti 28.78 35 P P 20 57 20.8 -1.4
ARU IAmb IAmb 20 57 36.4
comp=Z,12nm,1.0s
ARU Arti 28.78 35 ⇓P P 20 57 21.6 -0.6
WSAR Wadi Sarin 28.78 108 P P 20 57 23.5 +0.9
comp=Z,2.6nm,0.8s,baz=280,slow=15,SNR=2.0
comp=Z,2.6nm,0.8s

PVAQ Vaqueiros 29.17 284 P P 20 57 24.2 -1.7
PVAQ IAmb IAmb 20 58 04.2
comp=Z,18nm,1.1s
EKA Eskdalemuir Ar 29.21 322 P P 20 57 23.5 -2.5
comp=Z,4.3nm,0.9s,baz=116,slow=9.4,SNR=2.8
EKA PcP **PcP** 21 00 33.4 +0.7
comp=Z,0.7nm,0.7s,baz=106,slow=2.3,SNR=1.2
EKA LR LR 21 09 32.4
comp=Z,285nm,19.1s,baz=102,slow=37
comp=Z,4.3nm,0.9s
MESJ Messejana 29.50 285 P P 20 57 27.1 -1.7
MESJ Messejana 29.50 285 P P 20 57 27.1 -1.7
MESJ pmax pmax
comp=Z,109nm,1.6s
SVE Sverdlovsk 29.96 36 *e*P P 20 57 32.1 -0.6
SVE pmax pmax
comp=Z,15nm,1.1s
KK31 Karatay Array 32.78 64 P P 20 57 55.7 -2.0
KK31 Karatay Array 32.78 64 P P 20 57 55.7 -2.0
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 32.78 64 P P 20 57 56.4 -1.3
KKAR Karatay Array 32.78 64 P P 20 57 55.7 -2.0
KKAR IAmb IAmb 20 58 11.5
comp=Z,4.3nm,0.7s
KKAR Karatay Array 32.78 64 ⇓P P 20 57 58.1 +0.4
KKAR Karatay Array 32.78 64 P P 20 57 56.4 -1.3
KKAR pmax pmax
comp=Z,4.0nm,0.7s
LODK Lodwar 32.87 168 P P 20 57 59.1 +0.4
LODK IAmb IAmb 20 58 02.7
comp=Z,5.2nm,0.7s
STEI Steigen 33.00 351 *e* P 20 57 58.6 -0.7
TORD Torodi Ar. Bea 33.21 234 P P 20 58 02.7 +1.0
comp=Z,11nm,0.7s,baz=34,slow=9.8,SNR=56
TORD PcP **PcP** 21 00 45.3 +1.3
comp=Z,1.0nm,0.7s,baz=58,slow=1.8,SNR=1.9
comp=Z,11nm,0.7s
TORD Torodi Ar. Bea 33.21 234 P P 20 58 02.3 +0.6
KTK1 Kautokeino 33.33 356 *e*P P 20 58 01.6 -0.6
BRVK Borovoye 33.70 46 P P 20 58 05.0 -0.6
BRVK IAmb IAmb 20 58 06.9
comp=Z,14nm,1.5s
BRVK Borovoye 33.70 46 ⇓P P 20 58 05.9 +0.3
BRVK Borovoye 33.70 46*ce*P P 20 58 06.4 +0.8
BRVK pmax pmax
comp=Z,14nm,2.5s
BVAR Borovoye Array 33.76 46 P P 20 58 04.9 -1.2
comp=Z,2.5nm,0.8s,baz=248,slow=6.2,SNR=14
BVAR LR LR 21 14 16.9
comp=Z,148nm,21.5s,baz=258,slow=41
comp=Z,2.5nm,0.8s
ARA0 ARCESS Array S 33.76 358 *e*P P 20 58 05.2 -0.7
ARCES ARCESS Array B 33.76 358 P P 20 58 05.4 -0.5
ARCES ARCESS Array B 33.76 358 P P 20 58 05.4 -0.5
ARCES pmax pmax
comp=Z,107nm,2.0s
KEV Kevo 33.95 359 P P 20 58 07.9 +0.4
KEV Kevo 33.95 359 P P 20 58 07.9 +0.4
KEV pmax pmax
comp=Z,201nm,2.0s
JETT Jettan, Norway 34.05 355 *e* P 20 58 07.6 -0.8
TRO Tromso 34.24 354 *e*P P 20 58 09.2 -0.8
AAK Ala-Archa 35.73 65 P P 20 58 24.2 +0.7
comp=Z,2.7nm,0.7s,baz=340,slow=2.8,SNR=12
AAK LR LR 21 15 36.3
comp=Z,152nm,18.2s,baz=285,slow=40
comp=Z,2.7nm,0.7s
AAK Ala-Archa 35.73 65 P P 20 58 23.4 -0.1
AAK IAmb IAmb 20 58 38.4
comp=Z,5.2nm,0.7s
AAK Ala-Archa 35.73 65 ⇓P P 20 58 24.7 +1.2
AAK Ala-Archa 35.73 65*ce*P P 20 58 26.4 +2.9
AAK pmax pmax
comp=Z,3.0nm,0.7s
MBAR Mbarara 36.34 177 P P 20 58 31.2 +2.4
comp=Z,1.2nm,0.2s,baz=317,slow=22,SNR=2.1
comp=Z,1.2nm,0.2s
MBAR Mbarara 36.34 177 P P 20 58 29.7 +0.9
MBAR IAmb IAmb 20 58 43.3
comp=Z,9.9nm,1.1s
MBAR Mbarara 36.34 177*ce*P P 20 58 33.1 +4.3
MBAR pmax pmax
comp=Z,7.0nm,1.3s
NIL Nilore 36.42 80 P P 20 58 29.3 0.0
NIL IAmb IAmb 20 58 41.2
comp=Z,21nm,0.8s
NIL Nilore 36.42 80 P P 20 58 29.3 0.0
NIL pmax pmax
comp=Z,21nm,0.8s
KSH Kashi 37.23 70 P P 20 58 36.5 +0.2
KSH pP sP 20 58 44.0 -0.3
KSH pmax pmax
comp=Z,9.0nm,0.8s
KURBB Kurchatov Arra 38.41 52 P P 20 58 46.0 +0.1
comp=Z,15nm,0.8s,baz=275,slow=8.8,SNR=136
KURBB PcP **PcP** 21 01 00.3 +1.4
comp=Z,1.3nm,0.7s,baz=274,slow=3.8,SNR=2.5
comp=Z,15nm,0.8s
KURK Kurchatov 38.47 51 P P 20 58 46.1 -0.4
KURK IAmb IAmb 20 58 47.5
comp=Z,21nm,0.9s
KURK Kurchatov 38.47 51 P P 20 58 46.0 -0.4
KURK 21 01 00.3
KIBK Kibwezi 39.00 165 P P 20 58 53.9 +2.6
MAKZ Makanchi 40.73 58 P P 20 59 04.8 -0.6
MAKZ Makanchi 40.73 58 ⇑P P 20 59 05.6 +0.2
MAKZ Makanchi 40.73 58 P P 20 59 04.8 -0.6
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
HOPEN Hopen 40.77 359 *e*P P 20 59 05.1 -0.1
MK31 Makanchi Array 40.95 58 P P 20 59 06.2 -0.9
MK31 Makanchi Array 40.95 58 *i*P P 20 59 07.6 +0.5
MKAR Makanchi Array 40.95 58 P P 20 59 07.6 +0.4
comp=Z,10nm,0.8s,baz=279,slow=6.4,SNR=116
MKAR PcP **PcP** 21 01 06.4 -0.7
comp=Z,1.5nm,0.7s,baz=295,slow=4.9,SNR=1.7
comp=Z,10nm,0.8s
MKAR Makanchi Array 40.95 58 P P 20 59 06.2 -0.9
BORG Borgarnes 41.34 330 LR LR 21 19 29.2
comp=Z,166nm,19.6s,baz=108,slow=41
DBIC Dimbokro 42.31 235 P P 20 59 19.0 +0.5
comp=Z,4.4nm,0.4s,baz=54,slow=8.6,SNR=14
DBIC LR LR 21 19 55.8
comp=Z,137nm,19.9s,baz=25,slow=40
comp=Z,4.4nm,0.4s
DBIC Dimbokro 42.31 235 P P 20 59 19.4 +0.8
DBIC IAmb IAmb 20 59 43.0
comp=Z,11nm,0.8s
DBIC Dimbokro 42.31 235 ⇓P P 20 59 19.4 +0.8
DBIC Dimbokro 42.31 235 P P 20 59 19.4 +0.8
DBIC pmax pmax
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 42.41 47 P P 20 59 17.8 -1.1
ZALV Zalesovo Beam 42.41 47 P P 20 59 18.6 -0.4
comp=Z,5.6nm,0.7s,baz=268,slow=8.9,SNR=24
ZALV LR LR 21 19 06.4
comp=Z,157nm,19.2s,baz=268,slow=39
comp=Z,5.6nm,0.7s
ZALV Zalesovo Beam 42.41 47 P P 20 59 18.1 -0.8
TIC Toumodi 42.44 235⇑*i*P P 20 59 21.5 +1.9
comp=Z,12nm,0.3s
KIC Kosan Boka 42.47 234⇓*i*P P 20 59 20.8 +1.0
comp=Z,9.9nm,0.4s
SPB2 Spitsbergen Ar 42.73 356 P P 20 59 20.3 -0.9
SPA0 Spitsbergen Ar 42.74 356 *e*P P 20 59 21.1 -0.2
SPITS Spitsbergen Ar 42.74 356 P P 20 59 19.5 -1.8
comp=Z,22nm,0.9s,baz=133,slow=11,SNR=15
comp=Z,22nm,0.9s
LIC Lamto 42.76 234⇑*e*P P 20 59 22.8 +0.6
comp=Z,16nm,0.5s
WMQ Urumqi 45.13 61 *e*P P 20 59 41.5 +0.5
WMQ pP sP 20 59 47.8 -1.3
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=Z,95nm,20.3s
BBTS Babate 45.56 254 P P 20 59 44.8 +0.2
comp=Z,9.2nm,0.5s,baz=314,slow=22,SNR=1.5
comp=Z,9.2nm,0.5s
NRIK Noril'sk 46.00 25 P P 20 59 46.0 -1.5
comp=Z,1.1nm,0.3s,baz=240,slow=8.8,SNR=4.1
comp=Z,1.1nm,0.3s
NRIK Noril'sk 46.00 25 P P 20 59 47.1 -0.4
NRIK IAmb IAmb 20 59 57.9
comp=Z,53nm,2.0s

NRIK Noril'sk 46.00 25*ce*P P 20 59 49.2 +1.7
DAG Danmarks Havn 46.02 346 *i*P P 20 59 47.5 0.0
DAG IAmb IAmb 21 00 01.7
comp=Z,4.0nm,0.8s
DANN Dangsing 46.70 83 *e*P P 20 59 54.7 +0.8
comp=Z,123nm,0.9s
KOLN Koldanda 46.81 84 *e*P P 20 59 54.8 +0.1
comp=Z,13nm,1.6s
GKN Gorkha 47.55 83 *e*P P 21 00 00.6 +0.2
comp=Z,23nm,0.6s
DMN Daman 48.09 83 *e*P P 21 00 05.1 +0.4
comp=Z,40nm,0.6s
PKIN Phulchoki 48.34 83 *e*P P 21 00 07.0 +0.4
comp=Z,37nm,1.0s
PKI Pulchoki 48.35 83 *e*P P 21 00 06.7 -0.1
GUN Gumba 48.59 82 *e*P P 21 00 08.8 +0.1
comp=Z,18nm,0.5s
NOR Nord 48.63 352 *i*P P 21 00 06.5 -1.3
NOR IAmb IAmb 21 00 26.0
comp=Z,373nm,3.5s
NOR Nord 48.63 352 ⇑P P 21 00 07.0 -0.8
ISOG Isortoq, Green 48.79 329 *i*P P 21 00 08.7 -0.5
ISOG IAmb IAmb 21 00 26.9
comp=Z,32nm,1.0s
MNCI Minicoy 48.83 113 P P 21 00 10.0 -0.1
JIRN Jiri 48.95 83 *e*P P 21 00 11.2 -0.2
comp=Z,31nm,0.8s
SUMG Summit 49.37 339 *i*P P 21 00 12.9 -1.1
SUMG IAmb IAmb 21 00 15.5
comp=Z,4.2nm,0.7s
RAMN Ramite 49.58 83 *e*P P 21 00 15.7 -0.4
comp=Z,18nm,0.5s
TAPN Taplejung 50.30 82 *e*P P 21 00 21.1 -0.5
comp=Z,64nm,1.2s
DY2G Dye2 51.77 330 *i*P P 21 00 30.8 -1.2
DY2G IAmb IAmb 21 00 50.7
comp=Z,7.1nm,0.8s
NRS Narsarsuaq 51.84 324 *i*P P 21 00 27.6 -4.7
NRS IAmb IAmb 21 00 30.7
comp=Z,25nm,0.9s
LSA Lhasa 52.07 78 P P 21 00 34.2 -0.9
LSA IAmb IAmb 21 00 47.1
comp=Z,5.6nm,0.8s
LSA Lhasa 52.07 78 P P 21 00 34.2 -0.9
LSA pmax pmax
comp=Z,6.0nm,0.8s
GOMU GeErMu 52.47 69 P P 21 00 39.0 +1.2
GOMU pP pP 21 00 42.0 -1.7
GOMU sP sP 21 00 43.5 -2.5
GOMU pmax pmax
comp=Z,6.0nm,0.9s
SFJD Kangerlussuaq 53.45 331 LR LR 21 26 01.3
comp=Z,129nm,18.8s,baz=104,slow=39
SFJD Kangerlussuaq 53.45 331 P P 21 00 43.7 -0.5
SFJD IAmb IAmb 21 01 24.6
comp=Z,29nm,1.4s
SFJD Kangerlussuaq 53.45 331 P P 21 00 43.7 -0.5
SFJD pmax pmax
comp=Z,29nm,1.5s
SHL Shillong 54.44 82 P P 21 00 50.7 -1.5
SHL IAmb IAmb 21 01 03.2
comp=Z,14nm,1.3s
SHL Shillong 54.44 82 P P 21 00 50.7 -1.5
SHL pmax pmax
comp=Z,14nm,1.3s
UPNV Upernavik 54.65 339 *i*P P 21 00 52.6 -0.2
UPNV IAmb IAmb 21 01 19.2
comp=Z,4.8nm,0.8s
GTA Gaotai 55.06 63 ⇑P P 21 00 56.8 +0.3
GTA pP pP 21 01 03.0 +0.6
GTA sP pwP 21 01 06.8 -1.3
GTA pmax pmax
comp=Z,9.0nm,0.8s
PALK Pallekele 55.28 108 P P 21 00 58.3 +0.1
PALK Pallekele 55.28 108 P P 21 00 58.3 +0.1
PALK pmax pmax
comp=Z,40nm,1.5s
TSUM Tsumeb 55.78 193 LR LR 21 26 37.5
comp=Z,185nm,18.1s,baz=5.0,slow=38
TSUM Tsumeb 55.78 193 P P 21 01 02.5 +0.8
TSUM IAmb IAmb 21 02 15.6
comp=Z,29nm,1.7s
SONM Songino Array 56.77 52 P P 21 01 09.3 +0.6
comp=Z,1.6nm,0.6s,baz=305,slow=10.0,SNR=2.6
comp=Z,1.6nm,0.8s
SONM Songino Array 56.77 52 P 21 01 08.0 -0.7
OPO Ambohidratompo 56.90 159 LR LR 21 28 17.3
comp=Z,52nm,18.7s,baz=134,slow=39
ULN Ulaanbaatar 57.19 52 P P 21 01 11.2 -0.4
ULN IAmb IAmb 21 01 37.1
comp=Z,6.7nm,1.1s
ULN Ulaanbaatar 57.19 52*ce*P P 21 01 12.7 +1.1
ULN pmax pmax
comp=Z,16nm,2.5s
ABPO Ambohimpanom 57.34 159 P P 21 01 14.7 +1.8
ABPO IAmb IAmb 21 01 27.0
comp=Z,6.2nm,0.8s
ABPO Ambohimpanom 57.34 159 P P 21 01 14.7 +1.8
ABPO pmax pmax
comp=Z,6.0nm,0.9s
MUSN Musina, Limpop 57.85 179 *i*P P 21 01 21.2 +4.9
EUNU Eureka 59.03 349 P P 21 01 22.8 -1.2
EUNU IAmb IAmb 21 01 24.4
comp=Z,8.2nm,0.9s
MOPA Mopani 59.12 177 *i*P P 21 01 32.2 +7.1
WIN Windhoek 59.15 193 P P 21 01 26.6 +1.0
WIN Windhoek 59.15 193 P P 21 01 26.6 +1.0
WIN pmax pmax
comp=Z,31nm,1.5s
LZH Lanzhou 59.27 66 *e*P P 21 01 26.8 +0.4
LZH pP pP 21 01 33.0 +0.7
LZH sP pwP 21 01 36.3 -1.7
LZH pmax pmax
comp=Z,17nm,1.1s
TIXI Tiksi 59.47 21 P P 21 01 26.7 -0.2
comp=Z,5.2nm,0.7s,baz=90,slow=24,SNR=19
TIXI LR LR 21 30 49.7
comp=Z,111nm,19.1s,baz=184,slow=40
comp=Z,5.2nm,0.7s
TIXI Tiksi 59.47 21 P P 21 01 26.4 -0.5
TIXI IAmb IAmb 21 01 28.0
comp=Z,6.0nm,0.8s
TIXI Tiksi 59.47 21*ce*P P 21 01 27.2 +0.3
TIXI pmax pmax
comp=Z,7.0nm,0.8s
LBTB Lobatse 60.63 183 ⇓P P 21 01 39.1 +3.6
LBTB Lobatse 60.63 183 *i*P P 21 01 38.9 +3.3
SHEL Horse Pasture 61.01 218 P P 21 01 39.0 +0.8
SHEL Horse Pasture 61.01 218 P P 21 01 39.0 +0.8
SHEL pmax pmax
comp=Z,178nm,1.4s
FRB Frobisher Bay 61.52 330 ⇑P P 21 01 39.5 -1.5
PZH PanZhiHua 61.87 76 P P 21 01 39.8 -4.4
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,4.4s
HHC Hu-ho-hao-te 62.81 58 *e*P P 21 01 51.3 +1.0
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,220nm,5.0s
CHTO Chiang Mai 63.43 85 P P 21 01 54.2 -0.4
CHTO Chiang Mai 63.43 85 P P 21 01 54.2 -0.4
CMAR Chiang Mai Arr 63.61 86 P P 21 01 55.3 -0.5
comp=Z,2.3nm,0.7s,baz=297,slow=8.2,SNR=25
comp=Z,2.3nm,0.7s
CMAR Chiang Mai Arr 63.61 86 P P 21 01 54.4 -1.4
CMAR Chiang Mai Arr 63.61 86 *i*P P 21 01 55.7 -0.1
CMAR pmax pmax
comp=Z,2.0nm,0.7s
RES Resolute Bay 63.71 346 P P 21 01 54.5 -1.0
RES IAmb IAmb 21 01 56.1
comp=Z,4.4nm,0.9s
RES Resolute Bay 63.71 346 ⇓P P 21 01 55.5 0.0
RES Resolute Bay 63.71 346 P P 21 01 54.5 -1.0
RES pmax pmax
comp=Z,4.0nm,1.0s
CRAI Chiangrai 63.86 83 P P 21 01 56.0 -1.3
CRAI IAmb IAmb 21 02 07.7
comp=Z,10.0nm,1.4s
XAN Xi'an 63.91 66 ⇑P P 21 01 57.5 -0.1
XAN pP sP 21 02 06.5 +0.7
XAN sP pwP 21 02 11.8 +2.5
XAN pmax pmax

	comp=Z,4.0nm,0.8s									
BOSA	**Boshof**	**64.23**	**183**		P		**P**		**21 02 01.2**	**+1.6**
	comp=Z,7.2nm,1.0s,baz=9.7,slow=6.9,SNR=6.3									
	comp=Z,7.2nm,1.0s									
BOSA	**Boshof**	**64.23**	**183**		*i* P		**P**		**21 02 01.4**	**+1.8**
SCHQ	**Schefferville**	**64.51**	**320**		P		**P**		**21 01 59.3**	**-1.8**
	comp=Z,6.7nm,0.6s,baz=58,slow=5.8,SNR=18									
	comp=Z,6.7nm,0.6s									
XLT	**XiLinHaoTe**	**64.52**	**53**		*e*P		**P**		**21 02 02.0**	**+0.5**
XLT					pP		sP		21 02 09.3	-0.4
XLT					sP		pwP		21 02 12.3	-0.9
XLT					pmax		pmax			
	comp=Z,3.0nm,0.9s									
XLT					pmax		pmax			
	comp=Z,210nm,5.7s									
ENH	**Enshi**	**66.09**	**69**		P		**P**		**21 02 11.7**	**-0.1**
ENH					IAmb		IAmb		21 02 34.7	
	comp=Z,11nm,0.9s									
BJI	**Beijing**	**66.33**	**57**		P		**P**		**21 02 13.3**	**+0.2**
BJI					sP		**pwP**		**21 02 23.5**	**-1.3**
BJI					pmax		pmax			
	comp=Z,3.0nm,1.0s									
BJT	**Baijiatuau**	**66.33**	**57**		P		**P**		**21 02 12.4**	**-0.7**
BJT					IAmb		IAmb		21 02 30.5	
	comp=Z,5.8nm,0.9s									
BJT	**Baijiatuau**	**66.33**	**57**		P		**P**		**21 02 12.4**	**-0.7**
BJT					pmax		pmax			
	comp=Z,6.0nm,0.9s									
HNS	**HongShan**	**66.54**	**60**	⇑	P		**P**		**21 02 15.0**	**+0.5**
HNS					pmax		pmax			
	comp=Z,3.0nm,1.1s									
HEH	**HeiHe**	**68.37**	**43**		*e*P		**P**		**21 02 24.0**	**-1.9**
HEH					pmax		pmax			
	comp=Z,5.0nm,1.0s									
TIA	**Tai'an**	**68.81**	**60**	⇑	P		**P**		**21 02 29.8**	**+0.9**
TIA					pmax		pmax			
	comp=Z,4.0nm,0.7s									
D62A	**Allapoint, All**	**69.46**	**314**		P		**P**		**21 02 31.9**	**-0.8**
A36M	**Sachs Harbour**	**70.89**	**352**		P		**P**		**21 02 40.9**	**-0.1**
A36M	**Sachs Harbour**	**70.89**	**352**		P		**P**		**21 02 41.0**	**0.0**
	baz=22,SNR=14									
KLR	**Kul'dur**	**71.31**	**42**		P		**P**		**21 02 43.4**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=259,slow=12,SNR=2.2									
	comp=Z,0.9nm,0.7s									
KLR	**Kul'dur**	**71.31**	**42**		*i* P		**P**		**21 02 46.2**	**+2.3**
KLR					pmax		pmax			
	comp=Z,3.0nm,0.9s									
BILL	**Bilibino**	**71.63**	**16**		P		**P**		**21 02 45.2**	**-0.4**
BILL					IAmb		IAmb		21 03 18.8	
	comp=Z,14nm,1.5s									
BILL	**Bilibino**	**71.63**	**16**	⇑	*e*P		**P**		**21 02 44.9**	**-0.7**
BILL					*e*				21 02 52.1	
BILL					*e*				21 03 01.7	
BILL					pmax		pmax			
	comp=Z,6.0nm,1.7s									
SEY	**Seymchan**	**71.77**	**24**		P		**P**		**21 02 45.7**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=296,slow=4.7,SNR=8.0									
	comp=Z,2.3nm,0.7s									
SEY	**Seymchan**	**71.77**	**24**	*ce*	P		**P**		**21 02 48.4**	**+1.9**
SEY					pmax		pmax			
	comp=Z,9.0nm,1.3s									
NJ2	**Nanjing**	**72.15**	**63**		*e*P		**P**		**21 02 49.3**	**0.0**
NJ2					pmax		pmax			
	comp=Z,15nm,1.7s									
LBNH	**Lisbon**	**72.67**	**312**		P		**P**		**21 02 52.8**	**+0.6**
	baz=56									
A21K	**Barrow**	**73.03**	**2**		P		**P**		**21 02 54.3**	**+0.5**
A21K					IAmb		IAmb		21 02 55.7	
	comp=Z,18nm,0.9s									
A21K	**Barrow**	**73.03**	**2**		P		**P**		**21 02 54.4**	**+0.5**
	baz=355									
C36M	**Paulatuk**	**73.19**	**350**		P		**P**		**21 02 54.0**	**-0.8**
C36M	**Paulatuk**	**73.19**	**350**		P		**P**		**21 02 54.2**	**-0.6**
	baz=23,SNR=11									
FRNY	**Flat Rock**	**73.33**	**313**		P		**P**		**21 02 56.3**	**+0.2**
FRNY					IAmb		IAmb		21 02 57.0	
	comp=Z,16nm,0.9s									
MA2	**Magadan**	**73.57**	**27**		P		**P**		**21 02 56.8**	**-0.4**
	comp=Z,8.8nm,0.8s,baz=321,slow=6.8,SNR=15									
	comp=Z,8.8nm,0.8s									
MA2	**Magadan**	**73.57**	**27**		P		**P**		**21 02 57.5**	**+0.3**
MA2					IAmb		IAmb		21 02 59.3	
	comp=Z,13nm,0.9s									
MA2	**Magadan**	**73.57**	**27**	*ce*	P		**P**		**21 02 58.5**	**+1.3**
MA2					pmax		pmax			
	comp=Z,23nm,1.3s									
LONY	**Lake Ozonia**	**74.04**	**314**		P		**P**		**21 03 00.4**	**+0.1**
	baz=55									
USRK	**Ussuriysk Ar.**	**74.26**	**47**		P		**P**		**21 03 01.4**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=41,slow=9.6,SNR=4.7									
	comp=Z,5.6nm,0.8s									
C26K	**Camden Bay**	**74.41**	**358**		P		**P**		**21 03 03.0**	**+1.0**
	baz=5.3									
C27K	**Jago River**	**74.66**	**357**		P		**P**		**21 03 04.3**	**+0.8**
	baz=6.3									
C24K	**Franklin Bluff**	**74.70**	**359**		P		**P**		**21 03 04.4**	**+0.8**
	baz=2.1									
INK	**Inuvik**	**75.28**	**353**		P		**P**		**21 03 06.1**	**-0.9**
	comp=Z,3.9nm,0.9s,baz=18,slow=8.6,SNR=11									
	comp=Z,3.9nm,0.9s									
INK	**Inuvik**	**75.28**	**353**		P		**P**		**21 03 06.3**	**-0.7**
INK					IAmb		IAmb		21 03 07.4	
	comp=Z,7.6nm,1.1s									
INK	**Inuvik**	**75.28**	**353**		P		**P**		**21 03 06.4**	**-0.6**
	baz=15									
INK	**Inuvik**	**75.28**	**353**		P		**P**		**21 03 06.3**	**-0.7**
INK					pmax		pmax			
	comp=Z,8.0nm,1.1s									
D23K	**Nanushuk River**	**75.47**	**360**		P		**P**		**21 03 09.1**	**+0.9**
	baz=0.5									
KSRS	**Korea Array**	**75.53**	**54**		P		**P**		**21 03 09.0**	**0.0**
	comp=Z,2.9nm,0.7s,baz=305,slow=4.9,SNR=14									
KSRS					LR		LR		21 39 59.2	
	comp=Z,76nm,19.1s,baz=240,slow=39									
	comp=Z,2.9nm,0.7s									
TOLK	**Toolik Lake Re**	**75.79**	**359**		P		**P**		**21 03 10.3**	**+0.2**
TOLK					IAmb		IAmb		21 03 41.6	
	comp=Z,29nm,1.8s									
TOLK	**Toolik Lake Re**	**75.79**	**359**		P		**P**		**21 03 10.8**	**+0.8**
	baz=1.4									
E27K	**Coleen River**	**76.00**	**356**		P		**P**		**21 03 11.7**	**+0.5**
	baz=8.1									
F31M	**Tsiigehtchic**	**76.15**	**353**		P		**P**		**21 03 11.6**	**-0.4**
	baz=15,SNR=6.2									
E25K	**Arctic Village**	**76.23**	**358**		P		**P**		**21 03 13.0**	**+0.4**
	baz=4.7,SNR=8.2									
E24K	**Your Creek**	**76.35**	**359**		P		**P**		**21 03 13.3**	**+0.1**
	baz=2.3									
SADO	**Sadowa**	**76.58**	**316**		LR		LR		21 36 07.4	
	comp=Z,78nm,20.2s,baz=124,slow=35									
F26K	**Sheenjek River**	**76.61**	**357**		P		**P**		**21 03 15.6**	**+0.9**
	baz=5.9									
F25K	**Christian Rive**	**76.76**	**358**		P		**P**		**21 03 16.3**	**+0.7**
	baz=4.7,SNR=11									
G30M	**tAoh Zraii Nji**	**76.82**	**354**		P		**P**		**21 03 15.6**	**-0.3**
	baz=12									
BMAR	**Burnt Mountain**	**76.89**	**357**		P		**P**		**21 03 16.0**	**-0.3**
F24K	**Squaw Lake**	**76.89**	**359**		P		**P**		**21 03 17.6**	**+1.3**
	baz=2.8									
F21K	**Alatna River**	**77.21**	**1**		P		**P**		**21 03 18.8**	**+0.7**
	baz=358,SNR=13									
COLD	**Coldfoot**	**77.22**	**360**		P		**P**		**21 03 18.5**	**+0.4**
COLD					IAmb		IAmb		21 03 19.6	
	comp=Z,12nm,1.1s									
COLD	**Coldfoot**	**77.22**	**360**		P		**P**		**21 03 18.7**	**+0.6**
	baz=0.9,SNR=5.4									
G26K	**Porcupine Rive**	**77.34**	**357**		P		**P**		**21 03 19.7**	**+1.0**
	baz=6.2,SNR=9.3									
G27K	**Doyon Strip**	**77.37**	**356**		P		**P**		**21 03 19.3**	**+0.3**
	baz=8.0									
G25K	**Bearman Lake**	**77.61**	**358**		P		**P**		**21 03 21.0**	**+0.7**
	baz=4.3									
YKA	**Yellowknife Ar**	**77.63**	**344**		P		**P**		**21 03 19.5**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=31,slow=4.9,SNR=31									
	comp=Z,3.0nm,0.8s									
G24K	**Hadwenzic Riv**	**77.71**	**358**		P		**P**		**21 03 21.9**	**+1.0**
	baz=3.1									
G23K	**Bananza Creek**	**77.73**	**359**		P		**P**		**21 03 21.7**	**+0.6**
	baz=1.0									
G21K	**Allakaket**	**77.92**	**1**		P		**P**		**21 03 22.4**	**+0.3**
	baz=358									
H27K	**Steamboat Moun**	**77.94**	**356**		P		**P**		**21 03 22.7**	**+0.5**
	baz=8.1									
TNA	**Tin City**	**78.06**	**7**		P		**P**		**21 03 23.3**	**+0.5**
	baz=346									
SSPA	**Standing Stone**	**78.36**	**312**		P		**P**		**21 03 25.6**	**+0.7**
	baz=52									
IMAR	**Indian Mountai**	**78.45**	**1**		P		**P**		**21 03 24.9**	**-0.1**
H22K	**Ishtalitna Cre**	**78.56**	**0**		P		**P**		**21 03 26.6**	**+1.0**
	baz=360,SNR=6.9									
I27K	**Kandik River**	**78.57**	**356**		P		**P**		**21 03 26.2**	**+0.5**
	baz=8.0									
H24K	**Noodor Dome**	**78.58**	**359**		P		**P**		**21 03 26.5**	**+0.7**
	baz=2.8									
I29M	**Ogilvie Camp,**	**78.59**	**354**		P		**P**		**21 03 25.3**	**-0.5**
I29M					IAmb		IAmb		21 03 26.5	
	comp=Z,14nm,0.9s									
I29M	**Ogilvie Camp,**	**78.59**	**354**		P		**P**		**21 03 25.7**	**0.0**
	baz=11,SNR=7.7									
WRGLY	**Wrigley**	**78.76**	**348**		P		**P**		**21 03 27.2**	**+0.5**
	baz=23									
H21K	**Melozitna Rive**	**78.79**	**1**		P		**P**		**21 03 27.1**	**+0.2**
H21K					IAmb		IAmb		21 03 29.0	
	comp=Z,8.9nm,0.9s									
H21K	**Melozitna Rive**	**78.79**	**1**		P		**P**		**21 03 27.7**	**+0.9**
	baz=359									
I26K	**Coal Creek Min**	**78.95**	**357**		P		**P**		**21 03 27.8**	**+0.1**
	baz=6.7									
I21K	**Tanana**	**79.27**	**0**		P		**P**		**21 03 30.2**	**+0.7**
	baz=359									
ANM	**Nome**	**79.28**	**6**		P		**P**		**21 03 29.4**	**-0.1**
ANM					IAmb		IAmb		21 03 30.6	
	comp=Z,10.0nm,0.9s									
ANM	**Nome**	**79.28**	**6**		P		**P**		**21 03 29.6**	**+0.1**
	baz=348,SNR=6.3									
ANM	**Nome**	**79.28**	**6**		P		**P**		**21 03 29.4**	**-0.1**
ANM					pmax		pmax			
	comp=Z,10.0nm,0.9s									
POKR	**Poker Plat Res**	**79.29**	**358**		P		**P**		**21 03 30.1**	**+0.5**
	baz=3.1									
I23K	**Minto, Yukon-K**	**79.30**	**359**		P		**P**		**21 03 29.9**	**+0.3**
I23K					IAmb		IAmb		21 04 08.0	
	comp=Z,28nm,1.8s									
I23K	**Minto, Yukon-K**	**79.30**	**359**		P		**P**		**21 03 30.2**	**+0.6**
	baz=1.6									
GAMB	**Gambell**	**79.37**	**9**		P		**P**		**21 03 31.5**	**+1.6**
	baz=343									
MLY	**Manley**	**79.42**	**360**		P		**P**		**21 03 29.9**	**-0.5**
MLY					IAmb		IAmb		21 04 36.6	
	comp=Z,33nm,1.9s									
MLY	**Manley**	**79.42**	**360**		P		**P**		**21 03 31.0**	**+0.6**
	baz=0.4									
MDM	**Murphy Dome**	**79.47**	**359**		P		**P**		**21 03 30.3**	**-0.3**
MDM					IAmb		IAmb		21 03 32.1	
	comp=Z,11nm,0.9s									
GCSA	**Gana City Sc**	**79.61**	**2**		P		**P**		**21 03 31.8**	**+0.5**
	baz=355									
ILAR	**Eielson Array**	**79.63**	**358**		P		**P**		**21 03 31.2**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=350,slow=4.6,SNR=20									
	comp=Z,1.7nm,0.8s									
J26L	**Joseph Creek**	**79.77**	**357**		P		**P**		**21 03 32.3**	**0.0**
	baz=6.3									
CCB	**Clear Creek Bu**	**79.77**	**358**		P		**P**		**21 03 31.4**	**-0.8**
CCB					IAmb		IAmb		21 03 33.1	
	comp=Z,11nm,1.0s									
DAWY	**Dawson**	**79.95**	**355**		P		**P**		**21 03 32.5**	**-0.8**
DAWY	**Dawson**	**79.95**	**355**		P		**P**		**21 03 33.4**	**+0.2**
	baz=9.7									
WRH	**Wood River Hil**	**79.95**	**359**		P		**P**		**21 03 32.2**	**-1.0**
WRH					IAmb		IAmb		21 03 34.1	
	comp=Z,18nm,1.0s									
HDA	**Harding Lake**	**79.99**	**358**		P		**P**		**21 03 33.1**	**-0.3**
HDA					IAmb		IAmb		21 03 34.2	
	comp=Z,12nm,1.0s									
HDA	**Harding Lake**	**79.99**	**358**		P		**P**		**21 03 33.2**	**-0.2**
	baz=3.5									
K29M	**Barlow Dome**	**80.02**	**354**		P		**P**		**21 03 34.2**	**+0.5**
	baz=11									
MCWV	**Mont Chateau**	**80.14**	**312**		P		**P**		**21 03 35.5**	**+0.8**
	baz=51									
SCRK	**Sand Creek**	**80.31**	**357**		P		**P**		**21 03 35.7**	**+0.4**
	baz=6.0									
ASAJ	**Asahikawa**	**80.33**	**42**		LR		LR		21 43 32.5	
	comp=Z,73nm,18.2s,baz=74,slow=39									
BPAW	**Bear Paw Mtn.**	**80.36**	**360**		P		**P**		**21 03 35.2**	**-0.2**
	baz=0.2									
K24K	**Donnelly Dome**	**80.56**	**358**		P		**P**		**21 03 36.5**	**0.0**
	baz=4.5									
CHUM	**Lake Minchumin**	**80.58**	**0**		P		**P**		**21 03 37.9**	**+1.4**
	baz=359									
O53A	**New Philadelph**	**80.59**	**313**		P		**P**		**21 03 37.8**	**+0.8**
	baz=50									
RIDG	**Independent Ri**	**80.59**	**357**		P		**P**		**21 03 36.7**	**0.0**
	baz=5.3									
MCK	**McKinley**	**80.71**	**359**		P		**P**		**21 03 37.4**	**+0.1**
	baz=1.9									
L29M	**L29M**	**80.79**	**354**		P		**P**		**21 03 37.9**	**+0.1**
	baz=11									
PETK	**Petropavlovsk-**	**80.94**	**28**		LR		LR		21 42 51.0	
	comp=Z,82nm,18.9s,baz=307,slow=38									
TRF	**Thorofare Moun**	**81.01**	**360**		P		**P**		**21 03 39.2**	**+0.1**
	baz=0.8									
CAST	**Castle Rocks**	**81.04**	**0**		P		**P**		**21 03 39.2**	**+0.1**
CAST					IAmb		IAmb		21 03 40.7	
	comp=Z,6.6nm,0.8s									
CAST	**Castle Rocks**	**81.04**	**0**		P		**P**		**21 03 39.3**	**+0.1**
	baz=359,SNR=6.4									
K20K	**Telida**	**81.08**	**1**		P		**P**		**21 03 39.2**	**0.0**
	baz=358									
L27K	**Beaver Creek,**	**81.11**	**356**		P		**P**		**21 03 40.0**	**+0.5**
	baz=7.7									
FARO	**Faro, Yukon**	**81.17**	**352**		P		**P**		**21 03 40.6**	**+0.8**
	baz=15									
L26K	**Log Cabin Wild**	**81.23**	**356**		P		**P**		**21 03 40.7**	**+0.6**
	baz=6.5									
ULM	**Lac du Bonnet**	**81.30**	**328**		P		**P**		**21 03 38.1**	**-2.5**
	comp=Z,1.7nm,0.5s,baz=45,slow=5.2,SNR=4.2									
	comp=Z,1.7nm,0.5s									
M31M	**Drury Creek, Y**	**81.31**	**352**		P		**P**		**21 03 40.6**	**+0.1**
	baz=14									
DHY	**Denali Highway**	**81.34**	**358**		P		**P**		**21 03 40.3**	**-0.5**
DHY					IAmb		IAmb		21 03 41.8	
	comp=Z,15nm,1.1s									
DHY	**Denali Highway**	**81.34**	**358**		P		**P**		**21 03 41.1**	**+0.2**
	baz=3.2									
TTA	**Tatalina**	**81.46**	**2**		P		**P**		**21 03 41.6**	**+0.3**
	baz=356									
M29M	**Somme Creek**	**81.48**	**354**		P		**P**		**21 03 41.8**	**+0.3**
	baz=10									
PPLA	**Purkeypile**	**81.57**	**0**		P		**P**		**21 03 41.7**	**-0.3**
PPLA	**Purkeypile**	**81.57**	**0**		P		**P**		**21 03 42.5**	**+0.5**
	baz=359									
HILA	**High Level**	**81.67**	**343**		P		**P**		**21 03 41.5**	**-0.9**
BVCY	**Beaver Creek**	**81.69**	**355**		P		**P**		**21 03 42.8**	**+0.2**
	baz=8.5									
M27K	**Edge Creek, AK**	**81.81**	**356**		P		**P**		**21 03 44.0**	**+0.7**
	baz=7.7									
WAT6	**Susitna Watana**	**81.84**	**358**		P		**P**		**21 03 43.5**	**0.0**
	baz=2.9									
N32M	**Quiet Lake**	**82.18**	**351**		P		**P**		**21 03 45.2**	**0.0**
	baz=15									
L19K	**White Mountain**	**82.24**	**2**		P		**P**		**21 03 46.1**	**+0.7**
	baz=357									
YUK3	**Moose Creek**	**82.30**	**355**		P		**P**		**21 03 46.9**	**+0.9**
	baz=8.8									
SKT	**Skwentna**	**82.49**	**0**		P		**P**		**21 03 45.6**	**-1.1**
SKT	**Skwentna**	**82.49**	**0**		P		**P**		**21 03 46.4**	**-0.3**
	baz=360									
M20K	**Styx River**	**82.58**	**1**		P		**P**		**21 03 47.2**	**0.0**
	baz=358									
WTLY	**Watson Lake, Y**	**82.58**	**349**		P		**P**		**21 03 47.8**	**+0.5**
	baz=18									
M23K	**Glacier View**	**82.63**	**358**		P		**P**		**21 03 47.9**	**+0.4**
	baz=2.9									
MJAR	**Matsushiro Arr**	**82.67**	**50**		P		**P**		**21 03 47.3**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=4.4,slow=0.8,SNR=2.7									
	comp=Z,1.0nm,0.6s									
N25K	**Chitina, Valde**	**82.71**	**357**		P		**P**		**21 03 47.3**	**-0.7**
	baz=5.4									
M22K	**Willow**	**82.71**	**359**		P		**P**		**21 03 47.9**	**+0.1**
	baz=0.9									
LIRD	**Liard River Hi**	**82.79**	**347**		P		**P**		**21 03 49.1**	**+0.8**
	baz=20									
SUA	**Susitna One**	**83.01**	**360**		P		**P**		**21 03 49.2**	**-0.4**
SUA	**Susitna One**	**83.01**	**360**		P		**P**		**21 03 49.6**	**0.0**
	baz=0.4									
KNK	**Knik Glacier**	**83.03**	**359**		P		**P**		**21 03 50.0**	**+0.4**
	baz=2.3									
RC01	**Rabbit Creek A**	**83.37**	**359**		P		**P**		**21 03 51.7**	**+0.4**
	baz=1.2									
F36A	**Milaca**	**83.42**	**323**		P		**P**		**21 03 50.2**	**-1.6**
O29M	**Mount Kennedy**	**83.60**	**354**		P		**P**		**21 03 53.0**	**+0.4**
	baz=10									
N19K	**Bonanza Creek**	**83.62**	**2**		P		**P**		**21 03 53.5**	**+0.7**
	baz=357									
P32M	**Atlin**	**83.78**	**351**		P		**P**		**21 03 54.3**	**+0.8**
	baz=14									
N16K	**Nishlik Lake**	**83.80**	**4**		P		**P**		**21 03 53.5**	**0.0**
	baz=354									
EYAK	**Cordova Ski Ar**	**83.82**	**357**		P		**P**		**21 03 54.0**	**+0.5**
	baz=4.5									
R49A	**Shelbyville**	**84.19**	**314**		P		**P**		**21 03 55.0**	**-1.0**
Q32M	**Nakina River**	**84.20**	**350**		P		**P**		**21 03 56.1**	**+0.3**
	baz=15									
O16K	**Kokwok River B**	**84.72**	**3**		P		**P**		**21 03 57.1**	**-1.1**
	baz=354									
T50A	**Nancy**	**84.84**	**313**		P		**P**		**21 03 58.7**	**-0.5**
L40A	**Anamosa**	**84.98**	**320**		P		**P**		**21 03 57.9**	**-1.9**
TKL	**Tuckaleechee C**	**85.09**	**311**		P		**P**		**21 04 00.0**	**-0.5**
TKL					IAmb		IAmb		21 06 53.7	
	comp=Z,9.1nm,0.8s									
TKL	**Tuckaleechee C**	**85.09**	**311**		P		**P**		**21 04 00.0**	**-0.5**
TKL					pmax		pmax			
	comp=Z,9.0nm,0.8s									
CPCT	**Cooper Cave**	**85.69**	**311**		P		**P**		**21 04 03.6**	**+0.1**
CPCT					IAmb		IAmb		21 04 37.0	
	comp=Z,14nm,1.0s									
U49A	**Red Boiling Sp**	**85.74**	**313**		P		**P**		**21 04 02.9**	**-0.9**
T47A	**Sharon Grove**	**86.20**	**314**		P		**P**		**21 04 04.5**	**-1.5**
W50A	**Signal Mountai**	**86.33**	**311**		P		**P**		**21 04 05.6**	**-1.2**
SIT	**Sitka**	**86.45**	**351**		P		**P**		**21 04 07.0**	**+0.3**
	baz=13									
Y52A	**Lilburn**	**86.45**	**310**		P		**P**		**21 04 07.1**	**-0.2**
ECSD	**EROS Data Cent**	**86.48**	**324**		P		**P**		**21 04 06.4**	**-0.9**
	baz=41									
X51A	**Calhoun**	**86.48**	**311**		P		**P**		**21 04 07.6**	**+0.2**
SDDR	**Presa de Saban**	**86.84**	**291**		P		**P**		**21 04 09.9**	**+0.4**
SIUC	**Southern Illin**	**86.92**	**315**		P		**P**		**21 04 08.5**	**-1.0**
WVT	**Waverly**	**87.21**	**314**		P		**P**		**21 04 10.1**	**-0.9**
	baz=46									
V35K	**Ketchikan**	**87.61**	**349**		P		**P**		**21 04 11.2**	**-1.3**
	baz=16									
152A	**Waverly Hall**	**87.65**	**309**		P		**P**		**21 04 12.6**	**-0.5**
CCM	**Cathedral Cave**	**87.83**	**317**		P		**P**		**21 04 12.8**	**-1.1**
CCM	**Cathedral Cave**	**87.83**	**317**		P		**P**		**21 04 14.0**	**+0.1**
	baz=44									
CCM	**Cathedral Cave**	**87.83**	**317**		P		**P**		**21 04 12.8**	**-1.1**
CCM					pmax		pmax			
	comp=Z,10.0nm,0.7s									
T42A	**Van Buren**	**88.47**	**316**		P		**P**		**21 04 16.8**	**-0.2**
T42A					IAmb		IAmb		21 04 30.6	
	comp=Z,8.0nm,0.9s									
BDFB	**Brasilia**	**88.67**	**250**		P		**P**		**21 04 20.3**	**+2.1**
	comp=Z,2.5nm,0.6s,baz=80,slow=6.6,SNR=4.1									
	comp=Z,2.5nm,0.6s									
LRAL	**Lakeview Retre**	**88.83**	**311**		P		**P**		**21 04 18.3**	**-0.4**
	baz=47									
BOZ	**Bozeman (W)**	**91.35**	**333**		P		**P**		**21 04 29.8**	**-0.7**
BOZ					IAmb		IAmb		21 07 09.8	
	comp=Z,11nm,1.8s									
BOZ	**Bozeman (W)**	**91.35**	**333**		P		**P**		**21 04 30.4**	**-0.1**
	baz=31									
BOZ	**Bozeman (W)**	**91.35**	**333**		P		**P**		**21 04 29.8**	**-0.7**
BOZ					pmax		pmax			
	comp=Z,11nm,1.8s									
MIAR	**Mount Ida**	**91.65**	**316**		P		**P**		**21 04 31.8**	**-0.1**
	baz=43									
PDAR	**Pinedale Array**	**92.96**	**331**		P		**P**		**21 04 36.2**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=46,slow=4.3,SNR=6.7									
PDAR					LR		LR		21 49 50.1	
	comp=Z,57nm,19.7s,baz=36,slow=38									
	comp=Z,0.5nm,0.7s									
BMO	**Blue Mountains**	**93.95**	**337**		P		**P**		**21 04 40.5**	**-1.9**
BMO					IAmb		IAmb		21 04 42.1	
	comp=Z,2.6nm,0.9s									
BMO	**Blue Mountains**	**93.95**	**337**		P		**P**		**21 04 40.5**	**-1.9**
BMO					pmax		pmax			
	comp=Z,3.0nm,0.9s									
ANMO	**Albuquerque**	**98.08**	**324**		LR		LR		21 49 40.2	
	comp=Z,89nm,19.7s,baz=126,slow=36									
YBH	**Yreka Blue Hor**	**98.45**	**339**		LR		LR		21 52 50.6	
	comp=Z,66nm,18.2s,baz=22,slow=38									
TPFO	**Pinon Flats**	**103.59**	**331

comp=E,128μm,0.7s
GUMA AML AML
comp=N,108μm,0.6s
GUMA AML AML
comp=N,108μm,1.4s
SNTG Esanatoglia 0.28 348 P Pg 20 52 00.1 +0.7
T1218 Civita (PG) 0.32 168 ⇑P Pg 20 52 00.8 +0.5
T1218 AML AML
comp=E,112μm,0.4s
T1218 AML AML
comp=N,171μm,0.2s
EL6 Elcito 0.35 10 P Pg 20 52 01.3 +0.5
EL6 S Sb 20 52 07.1 -0.8
EL6 AML AML
comp=E,140μm,0.3s
EL6 AML AML
comp=N,207μm,0.3s
LNSS Leonessa 0.38 178 P Pg 20 52 01.8 +0.4
LNSS S Sb 20 52 08.0 -0.9
LNSS AML AML
comp=E,86μm,0.2s
LNSS AML AML
comp=N,67μm,0.1s
T1211 Morro Reatino 0.47 195 P Pg 20 52 03.6 +0.6
T1211 S Sb 20 52 10.8 -0.6
RM33 Pellescritta (0.50 163 S Sb 20 52 12.3 +0.2
TERO Teramo 0.56 130 ⇑P Pg 20 52 04.8 0.0
TIR Tirane 5.34 106 ⇓P Pg 20 53 39.5 +3.3
KEK Kerkira 6.06 120 ⇓P Pn 20 53 26.9 +3.4

ROM 27 20:53:35.0±0.2, 43°028N±0.004×13°063E±0.007, h5km, ML1.2/3, 5C-1D, Error ellipse: s-maj=0.5km s-min=0.5km az=322.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.02**	**65**	P	Pg	20 53 36.1	+0.1
FDMO				S	Sg	20 53 36.8	0.0
T1220	**Camerino, Fraz**	**0.08**	**13**	⇑P	Pg	20 53 37.4	+0.5
T1220				AML	AML		
	comp=N,383μm,0.5s						
T1220				AML	AML		
	comp=E,477μm,0.4s						
CESI	**CESI - Serrava**	**0.12**	**259**	⇑P	Pg	20 53 37.8	+0.3
CESI				S	Sg	20 53 39.9	+0.8
CESI				AML	AML		
	comp=E,248μm,0.4s						
CESI				AML	AML		
	comp=N,280μm,0.3s						
T1216	**Preci, Frazion**	**0.14**	**193**	⇑P	Pg	20 53 38.7	+0.9
MC2	**Monte Cornacci**	**0.15**	**141**	P	Pg	20 53 38.7	+0.6
GUMA	**Gualdo di Mace**	**0.20**	**80**	⇓P	Pg	20 53 40.0	+1.0
GUMA				AML	AML		
	comp=E,122μm,1.5s						
GUMA				AML	AML		
	comp=N,128μm,0.5s						
GUMA				AML	AML		
	comp=E,122μm,0.5s						
GUMA				AML	AML		
	comp=N,128μm,1.5s						
SNTG	**Esanatoglia**	**0.24**	**339**	P	Pg	20 53 40.2	+0.4
SNTG				S	Sg	20 53 44.6	+1.6
T1215	**Vallo di Nera,**	**0.27**	**212**	P	Pg	20 53 40.9	+0.7
ASSB	**Assisi San Ben**	**0.30**	**273**	P	Pg	20 53 41.1	+0.3
ASSB				AML	AML		
	comp=E,65μm,0.9s						
ASSB				AML	AML		
	comp=N,48μm,0.8s						
EL6	**Elcito**	**0.30**	**5**	P	Pg	20 53 41.4	+0.5
ATCC	**AVT- Casa Cast**	**0.35**	**297**	⇑P	Pg	20 53 42.2	+0.4
MURB	**Monte Urbino**	**0.46**	**301**	P	Pg	20 53 44.2	+0.3
RM33	**Pellescritta (**	**0.53**	**168**	⇑P	Pb	20 53 48.0	+1.1

IDC 27 21:05:27.8±0.9, 6°96S×150°88E, h0km, mb4.1/9, mbtmp4.1/10, ML3.5/1, Error ellipse: s-maj=31.1km s-min=17.5km az=110.0
NEIC 27 21:05:32.7±1.6, 7°05S±0°2×150°9E±0°2, h25km±9km, mb4.7/44, Error ellipse: s-maj=40.7km s-min=8.4km az=130.0
ISC 27 21:05:33.9±0.7, 7°01S±0°10×150°9E±0°1, h40km, n70, σ1§00/73, mb4.6/29, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.90**	**22**	Pn	**Pn**	**21 06 16.3**	**-1.3**
	7.1nm,0.3s,baz=133,slow=8.9,SNR=3.3						
KRVT				Sn	**Sn**	**21 06 51.4**	**+0.1**
	38nm,0.3s,baz=102,slow=22,SNR=11						
	92nm,0.7s						
RABL	**Rabaul**	**3.06**	**24**		**Pn**	**21 06 19.7**	**-0.2**
RABL				Sn	**Sn**	**21 06 56.5**	**+1.2**
PMG	**Port Moresby**	**4.43**	**237**	Pn	**Pn**	**21 06 38.7**	**+0.1**
	1.2nm,0.3s,baz=46,slow=12,SNR=3.6						
PMG				Sn	**Sn**	**21 07 28.4**	**-0.6**
	18nm,0.3s,baz=346,slow=20,SNR=12						
PMG	**Port Moresby**	**4.43**	**237**		**Pn**	**21 06 38.8**	**+0.1**
PMG				Sn	**Sn**	**21 07 30.0**	**+1.1**
MTN	**Manton Dam**	**20.34**	**252**		**P**	**21 10 06.7**	**-0.3**
WB0	**Warramunga Arr**	**20.46**	**230**	P	**P**	**21 10 07.7**	**-0.6**
WR0	**Warramunga Arr**	**20.46**	**229**	P	**P**	**21 10 07.7**	**-0.6**
WRAB	**Tennant Creek**	**20.59**	**230**	P	**P**	**21 10 09.0**	**-0.7**
WB2	**Warramunga Arr**	**20.59**	**230**	P	**P**	**21 10 09.0**	**-0.8**
WB2				IAmb	IAmb	21 10 14.8	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**20.60**	**230**	P	**P**	**21 10 08.6**	**-1.3**
	comp=Z,3.2nm,0.5s,baz=56,slow=11,SNR=45						
	comp=Z,3.2nm,0.5s						
WRA	**Warramunga Arr**	**20.60**	**230**	P	P	21 10 02.6	-7.3
DZM	**Mont Dzumac**	**21.17**	**137**	P	**P**	**21 10 15.9**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=318,slow=16,SNR=1.4						
	comp=Z,4.2nm,0.9s						
AS31	**Alice Springs**	**23.27**	**223**	P	**P**	**21 10 38.6**	**+0.4**
ASAR	**Alice Springs**	**23.27**	**223**	P	**P**	**21 10 37.5**	**-0.8**
	comp=Z,3.7nm,0.5s,baz=56,slow=8.7,SNR=80						
	comp=Z,3.7nm,0.5s						
ASAR	**Alice Springs**	**23.27**	**223**	P	**P**	**21 10 37.8**	**-0.5**
KNRA	**Kununurra**	**23.36**	**246**	P	**P**	**21 10 38.9**	**-0.1**
KNRA				IAmb	IAmb	21 10 39.8	
	comp=Z,28nm,1.0s						
STKA	**Stephens Creek**	**26.23**	**198**	P	**P**	**21 11 05.0**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=37,slow=12,SNR=6.4						
	comp=Z,1.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**26.99**	**244**	P	**P**	**21 11 11.8**	**-0.5**
FORT	**Forrest**	**31.91**	**219**	P	**P**	**21 11 55.3**	**-0.5**
FORT				IAmb	IAmb	21 11 55.9	
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.17**	**297**	P	**P**	**21 15 16.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=117,slow=7.4,SNR=1.8						
	comp=Z,0.5nm,0.3s						
MK31	**Makanchi Array**	**80.78**	**320**	P	**P**	**21 17 43.2**	**-0.2**
MKAR	**Makanchi Array**	**80.78**	**320**	P	**P**	**21 17 42.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=101,slow=8.3,SNR=9.2						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**80.78**	**320**	P	**P**	**21 17 43.7**	**+0.3**
MAKZ	**Makanchi**	**80.98**	**320**	P	**P**	**21 17 44.3**	**-0.2**
M20K	**Styx River**	**80.99**	**23**	P	**P**	**21 17 46.4**	**+2.1**
M20K				IAmb	IAmb	21 17 56.5	
	comp=Z,4.9nm,1.0s						
ZALV	**Zalesovo Beam**	**81.96**	**327**	P	**P**	**21 17 48.3**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=117,slow=3.8,SNR=6.3						
	comp=Z,1.1nm,0.6s						
CAST	**Castle Rocks**	**82.24**	**22**	P	**P**	**21 17 51.6**	**+0.8**
CAST				IAmb	IAmb	21 17 52.9	
	comp=Z,7.0nm,0.9s						
KNK	**Knik Glacier**	**82.65**	**25**	P	**P**	**21 17 55.0**	**+2.0**
KTH	**Kantishna Hill**	**82.75**	**23**	P	**P**	**21 17 53.1**	**-0.4**
KTH				IAmb	IAmb	21 17 55.1	
	comp=Z,6.7nm,1.0s						
SML	**Sawmill**	**82.89**	**25**	P	**P**	**21 17 55.4**	**+1.2**
TRF	**Thorofare Moun**	**82.94**	**23**	P	**P**	**21 17 54.8**	**+0.2**
TRF				IAmb	IAmb	21 17 56.7	
	comp=Z,8.5nm,1.3s						
BPAW	**Bear Paw Mtn.**	**83.02**	**22**	P	**P**	**21 17 55.3**	**+0.4**
IMAR	**Indian Mountai**	**83.08**	**20**	P	**P**	**21 17 56.5**	**+1.4**
H21K	**Melozitna Rive**	**83.22**	**20**	P	**P**	**21 17 57.1**	**+1.3**
SCM	**Sheep Creek Mo**	**83.32**	**25**	P	**P**	**21 17 58.2**	**+1.7**
MLY	**Manley**	**83.60**	**21**	P	**P**	**21 17 59.1**	**+1.2**
MLY				IAmb	IAmb	21 17 59.6	
	comp=Z,6.1nm,0.9s						
MCK	**McKinley**	**83.61**	**23**	P	**P**	**21 17 58.3**	**+0.5**
NIL	**Nilore**	**83.70**	**305**	P	**P**	**21 17 59.3**	**+0.3**
KLU	**Klutina**	**83.76**	**26**	P	**P**	**21 17 57.2**	**-1.5**
DHY	**Denali Highway**	**83.90**	**24**	P	**P**	**21 17 59.1**	**-0.5**
DHY				IAmb	IAmb	21 18 02.0	
	comp=Z,6.4nm,1.0s						
M24K	**Tolsona, Glenn**	**83.93**	**25**	P	**P**	**21 18 01.1**	**+1.5**
WRH	**Wood River Hil**	**84.30**	**22**	P	**P**	**21 18 01.9**	**+0.6**
WRH				IAmb	IAmb	21 18 03.1	
	comp=Z,7.8nm,1.2s						
KURK	**Kurchatov**	**84.37**	**323**	P	**P**	**21 18 01.9**	**-0.1**
KURK				IAmb	IAmb	21 18 03.3	
	comp=Z,6.1nm,1.1s						
CCB	**Clear Creek Bu**	**84.49**	**22**	P	**P**	**21 18 02.3**	**0.0**
CCB				IAmb	IAmb	21 18 03.9	
	comp=Z,3.4nm,0.8s						
GLB	**Gilahina Butte**	**84.65**	**26**	P	**P**	**21 18 04.3**	**+1.0**
HDA	**Harding Lake**	**84.70**	**23**	P	**P**	**21 18 03.6**	**+0.2**
HDA				IAmb	IAmb	21 18 45.8	
	comp=Z,8.2nm,1.5s						
UCH	**Uchtor**	**84.72**	**314**	P	**P**	**21 18 05.7**	**+1.1**
	SNR=7.8						
AAK	**Ala-Archa**	**84.84**	**314**	P	**P**	**21 18 05.8**	**+1.0**
	SNR=6.2						
AAK	**Ala-Archa**	**84.84**	**314**	P	**P**	**21 18 06.1**	**+1.3**
AAK				IAmb	IAmb	21 18 06.7	
	comp=Z,5.0nm,0.7s						
IL31		**84.90**	**22**	P	**P**	**21 18 03.6**	**-0.7**
IL31				IAmb	IAmb	21 18 05.6	
	comp=Z,3.8nm,0.7s						
ILAR	**Eielson Array**	**84.90**	**22**	P	**P**	**21 18 03.7**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=253,slow=5.1,SNR=29						
	comp=Z,3.2nm,0.8s						
ILAR	**Eielson Array**	**84.90**	**22**	P	**P**	**21 18 04.3**	**-0.1**
USP	**Ospenovka**	**84.99**	**315**	P	**P**	**21 18 06.5**	**+1.1**
	SNR=8.4						
H24K	**Noodor Dome**	**85.05**	**21**		**P**	**21 18 06.1**	**+1.0**
H24K				IAmb	IAmb	21 18 08.4	
	comp=Z,6.9nm,1.2s						
AML	**Almayashu**	**85.29**	**313**	P	**P**	**21 18 09.1**	**+1.7**
	SNR=13						
EKS2	**Erkin-Say**	**85.36**	**314**	P	**P**	**21 18 08.7**	**+1.3**
	SNR=7.2						
M27K	**Edge Creek, AK**	**85.86**	**26**	P	**P**	**21 18 11.3**	**+1.9**
TOLK	**Toolik Lake Re**	**85.89**	**18**	P	**P**	**21 18 10.6**	**+1.3**
TOLK				IAmb	IAmb	21 18 11.6	
	comp=Z,8.0nm,1.1s						
J26L	**Joseph Creek**	**86.05**	**23**	P	**P**	**21 18 11.0**	**+0.7**
J26L				IAmb	IAmb	21 18 14.1	
	comp=Z,3.5nm,1.0s						
L27K	**Beaver Creek,**	**86.16**	**25**	P	**P**	**21 18 12.3**	**+1.6**
L27K				IAmb	IAmb	21 18 39.9	
	comp=Z,4.7nm,1.2s						
BCAR	**Beaver Creek A**	**86.18**	**25**	P	**P**	**21 18 13.1**	**+2.2**
I26K	**Coal Creek Min**	**86.55**	**23**	P	**P**	**21 18 14.1**	**+1.6**
I26K				IAmb	IAmb	21 18 20.8	
	comp=Z,7.5nm,1.4s						
BMAR	**Burnt Mountain**	**86.95**	**20**	P	**P**	**21 18 16.2**	**+1.7**
EGAK	**Eagle**	**87.11**	**23**	P	**P**	**21 18 16.9**	**+1.6**
NRIK	**Noril'sk**	**87.45**	**341**	P	**P**	**21 18 16.5**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=62,slow=5.0,SNR=4.1						
	comp=Z,1.1nm,0.3s						
KK31	**Karatay Array**	**87.80**	**314**	P	**P**	**21 18 19.1**	**0.0**
KK31				IAmb	IAmb	21 18 19.8	
	comp=Z,2.6nm,1.1s						
KKAR	**Karatay Array**	**87.80**	**314**	P	**P**	**21 18 19.1**	**0.0**
KKAR				IAmb	IAmb	21 18 19.8	
	comp=Z,2.6nm,1.1s						
KKAR	**Karatay Array**	**87.80**	**314**	P	**P**	**21 18 19.0**	**-0.2**
MDPB	**Devils Postpil**	**94.22**	**53**	P	**P**	**21 18 49.5**	**0.0**
TORD	**Torodi Ar. Bea**	**149.12**	**284**	PKPbc	**PKPbc**	**21 25 19.1**	**0.0**
	comp=Z,3.5nm,0.6s,baz=61,slow=2.7,SNR=22						

KRSC 27 21:22:11.2±0.9, 49°7N±0°2×154°3E±0°3, h250km, n37, σ1§84/27, mb3.5/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.53**	**50**	*eP*	**Pn**	**21 22 52.6**	**+3.0**
KDTR	**Khodutka, Kamc**	**3.20**	**48**	*eP*	**Pn**	**21 23 06.6**	**+0.9**
KDTR				*eS*	**S**	**21 23 49.2**	**+0.3**
MTVR	**Mutnovka**	**3.71**	**40**	*eP*	**Pn**	**21 23 12.4**	**+0.8**
MTVR				*eS*	**S**	**21 23 58.5**	**-1.1**
GRL	**Gorelyy**	**3.71**	**39**	*eP*	**Pn**	**21 23 13.4**	**+1.7**
RUS	**Russkaya**	**3.81**	**43**	*eP*	**Pn**	**21 23 14.9**	**+2.2**
RUS				*eS*	**S**	**21 24 01.7**	**+0.2**
KRMR	**Karymshinskiy**	**3.95**	**36**	*eP*	**Pn**	**21 23 14.6**	**+0.4**
DALK	**Dalny**	**4.35**	**39**	*eS*	**S**	**21 24 13.9**	**+1.1**
KOK	**Koryaka**	**4.50**	**36**	*eP*	**Pn**	**21 23 24.7**	**+3.8**
UGLR	**Uglovaya**	**4.51**	**37**	*eP*	**Pn**	**21 23 23.2**	**+2.2**
AVH	**Avacha**	**4.52**	**36**	*eP*	**Pn**	**21 23 24.0**	**+2.9**
KRK	**Krik**	**4.56**	**35**	*eP*	**Pn**	**21 23 25.0**	**+3.4**
SDLR	**Sedlovina**	**4.58**	**37**	*eP*	**Pn**	**21 23 23.3**	**+1.4**
GNL	**Ganaly**	**4.59**	**28**	*eP*	**Pn**	**21 23 23.9**	**+1.9**
SPN	**Mys Shipunski**	**4.94**	**45**	*eP*	**Pn**	**21 23 26.9**	**+0.8**
SPN				*eS*	**S**	**21 24 23.5**	**-2.4**
KBTR	**Krutoberegovo**	**8.30**	**35**	*eP*	**Pn**	**21 24 07.4**	**-0.6**
SEY	**Seymchan**	**13.29**	**356**	P	Pn	21 25 05.5	-4.8
	0.3nm,0.2s,baz=180,slow=20,SNR=7.5						
KLR	**Kul'dur**	**14.64**	**277**	P	P	21 25 19.8	-7.1
	1.8nm,0.7s,baz=70,slow=11,SNR=7.3						
USRK	**Ussuriysk Ar.**	**16.16**	**259**	P	P	21 25 39.8	-3.8
	1.0nm,0.6s,baz=67,slow=11,SNR=1.7						
MJAR	**Matsushiro Arr**	**17.58**	**228**	P	**P**	**21 25 58.9**	**-0.3**
	0.9nm,0.5s,baz=31,slow=8.7,SNR=4.3						
YAK	**Yakutsk**	**18.36**	**321**	P	P	21 25 58.2	-9.0
	5.5nm,0.4s,baz=351,slow=1.3,SNR=5.8						
KSRS	**Korea Array**	**22.55**	**247**	P	P	21 26 46.5	-3.6
	1.3nm,0.7s,baz=44,slow=11,SNR=5.4						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**33.77**	**41**	P	**P**	**21 28 29.1**	**0.0**
	0.6nm,0.9s,baz=266,slow=5.4,SNR=8.1						
	0.6nm,0.9s						
INK	**Inuvik**	**38.75**	**34**	P	**P**	**21 29 08.4**	**-2.5**
	0.5nm,0.3s,baz=321,slow=5.3,SNR=4.8						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**41.56**	**303**	P	P	21 29 24.1	-10
	0.7nm,0.3s,baz=74,slow=6.9,SNR=4.2						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**46.32**	**295**	P	P	21 30 03.6	-8.4
	1.6nm,0.7s,baz=64,slow=7.2,SNR=20						
	1.6nm,0.7s						
YKA	**Yellowknife Ar**	**48.10**	**39**	P	**P**	**21 30 24.9**	**-0.5**
	0.3nm,0.5s,baz=298,slow=7.1,SNR=3.5						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**61.69**	**335**	P	P	21 31 55.6	-6.7
	1.2nm,0.6s,baz=29,slow=8.6,SNR=9.3						
	1.2nm,0.6s						
PDAR	**Pinedale Array**	**62.40**	**56**	P	**P**	**21 32 08.8**	**+1.0**
	0.3nm,0.5s,baz=358,slow=0.9,SNR=4.6						
	0.3nm,0.5s						
NB2	**NORSAR Subarra**	**65.67**	**341**	P	P	21 32 22.4	-5.9
	comp=Z,1.1nm,0.6s,baz=23,slow=6.5						
NOA	**NORSAR Array B**	**65.67**	**341**	P	P	21 32 21.9	-6.4
	comp=Z,0.4nm,0.5s,baz=29,slow=6.6,SNR=4.8						
	comp=Z,0.4nm,0.5s						
GEYT	**Alibeck**	**65.76**	**300**	P	P	21 32 21.3	-8.0
	comp=Z,1.0nm,0.5s,baz=33,slow=5.7,SNR=3.6						
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**65.94**	**340**	P	P	21 32 23.1	-7.0
	comp=Z,0.7nm,0.4s,baz=64,slow=3.4,SNR=12						
	comp=Z,0.7nm,0.4s						
WRA	**Warramunga Arr**	**71.57**	**200**	P	**P**	**21 33 04.2**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=16,slow=6.3,SNR=5.8						
	comp=Z,0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**73.63**	**347**	P	P	21 33 11.9	-4.9
	comp=Z,0.5nm,0.5s,baz=16,slow=5.4,SNR=4.7						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**75.27**	**199**	P	**P**	**21 33 26.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=0.3,slow=5.1,SNR=4.2						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**75.39**	**62**	P	**P**	**21 33 27.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=299,slow=4.0,SNR=2.7						
	comp=Z,0.5nm,0.6s						
GERES	**GERESS Array B**	**76.12**	**334**	P	P	21 33 25.9	-5.4
	comp=Z,0.2nm,0.4s,baz=34,slow=8.9,SNR=2.4						
	comp=Z,0.2nm,0.4s						

NEIC 27 21:27:56.5±2.6, 13°92S±0°07×75°99W±0°10, h15km±4km, mb4.4/38, Error ellipse: s-maj=15.8km s-min=5.2km az=57.0
IDC 27 21:27:58.6±1.7, 13°90S×75°99W, h45km±14km, mb4.0/14, mbtmp4.3/19, ML4.2/5, MS3.7/15, Error ellipse: s-maj=22.1km s-min=10.6km az=57.0
VAO 27 21:28:18.1±1.2, 13°09S×74°66W, h131km±9km, mb4.5
ISC 27 21:27:58.7±0.5, 13°93S±0°05×76°05W±0°07, h49km, n153, σ1§69/133, mb4.1/17, MS3.8/12, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.08**	**338**	P	**Pn**	**21 28 30.8**	**-0.4**
	600nm,0.3s,baz=171,slow=13,SNR=127						
NNA				S	**Sn**	**21 28 55.9**	**-0.1**
	1μm,0.3s,baz=188,slow=10,SNR=8.7						
	2μm,0.3s						
NNA	**Nana**	**2.08**	**338**	Pn	**Pn**	**21 28 30.6**	**-0.6**
NNA				Sn	**Sn**	**21 28 57.0**	**+1.0**
CZSB	**Cruzeiro do Su**	**6.98**	**28**	Pn	**Pn**	**21 29 37.4**	**-1.0**
CZSB	**Cruzeiro do Su**	**6.98**	**28**	*eP*	**Pn**	**21 29 40.3**	**+1.9**
AP01	**Chacalluta**	**7.04**	**130**	Pn	**Pn**	**21 29 38.1**	**-1.0**
ATAH	**Atahualpa**	**7.14**	**341**	P	**Pn**	**21 29 41.5**	**+0.6**
	6.0nm,0.3s,baz=160,slow=5.2,SNR=32						
ATAH				S	**Sn**	**21 31 00.6**	**-0.3**
	80nm,0.7s,baz=84,slow=13,SNR=1.2						
ATAH				LR	LR	21 32 22.6	
	comp=Z,239nm,21.1s,baz=167,slow=37						
	20nm,0.4s						
PB12	**IPOC Station P**	**7.20**	**131**	Pn	**Pn**	**21 29 40.6**	**-0.9**
PB12					Sn	21 31 20.8	+19
PB16	**IPOC Station P**	**7.66**	**126**		**Pn**	**21 29 48.5**	**+0.3**
PSGCX	**Pisagua**	**8.00**	**136**	Pn	**Pn**	**21 29 51.3**	**-1.1**
LPAZ	**La Paz**	**8.00**	**108**	P	Pn	21 29 57.8	+5.0
	19nm,0.4s,baz=290,slow=12,SNR=46						
LPAZ				S	**Sn**	**21 31 27.6**	**+5.3**
	26nm,0.7s,baz=213,slow=6.0,SNR=1.8						
LPAZ	**La Paz**	**8.00**	**108**	Pn	**Pn**	**21 29 52.3**	**-0.5**
LPAZ	**La Paz**	**8.00**	**108**	*eP*	Pn	21 29 57.9	+5.0
MNMC	**Minye Minye**	**8.06**	**131**		**Pn**	**21 29 53.1**	**-0.4**
PB11	**IPOC Station P**	**8.43**	**134**	Pn	**Pn**	**21 29 57.1**	**-1.3**
TA02	**Huaiquique**	**8.47**	**139**		**Pn**	**21 29 58.1**	**-0.6**
TA01	**Diego Aracena**	**8.65**	**140**	Pn	**Pn**	**21 30 00.3**	**-1.0**
GO01	**Chusmiza**	**8.69**	**132**		**Pn**	**21 30 01.4**	**-0.9**
PATCX	**Punta Patache**	**8.86**	**141**	Pn	**Pn**	**21 30 03.9**	**-0.4**
PB08	**IPOC Station P**	**9.40**	**142**		**Pn**	**21 30 11.7**	**+0.1**
PB01	**IPOC Station P**	**9.44**	**139**		**Pn**	**21 30 11.3**	**-0.9**
PB07	**IPOC Station P**	**9.72**	**144**		**Pn**	**21 30 15.7**	**-0.4**
PB03	**IPOC Station P**	**10.05**	**144**		**Pn**	**21 30 20.2**	**-0.4**
PB04	**IPOC Station P**	**10.06**	**147**	Pn	**Pn**	**21 30 20.4**	**-0.4**
PB09	**IPOC Station P**	**10.15**	**141**		**Pn**	**21 30 23.3**	**+1.3**
MCRA	**Macar, Loja**	**10.25**	**338**	Pn	**Pn**	**21 30 23.0**	**-0.3**
ETMB	**Extrema**	**10.46**	**68**	Pn	**Pn**	**21 30 25.2**	**-0.8**
PB06	**IPOC Station P**	**10.67**	**146**	Pn	**Pn**	**21 30 27.4**	**-1.7**
PB10	**IPOC Station P**	**10.86**	**152**		**Pn**	**21 30 29.4**	**-2.0**
LVC	**Limon Verde**	**10.97**	**143**	P	**Pn**	**21 30 34.0**	**+0.6**
	4.3nm,0.3s,baz=327,slow=9.8,SNR=20						
LVC				S	**Sn**	**21 32 32.5**	**-2.4**
	8.7nm,0.4s,baz=69,slow=17,SNR=1.6						
LVC				LR	LR	21 34 26.1	
	comp=Z,254nm,21.9s,baz=292,slow=35						
	6.4nm,0.4s						
LVC	**Limon Verde**	**10.97**	**143**	Pn	**Pn**	**21 30 32.0**	**-1.3**
TBTG	**Tabatinga, AM**	**11.42**	**33**	Pn	**Pn**	**21 30 38.7**	**-0.5**
TBTG	**Tabatinga, AM**	**11.42**	**33**	*eP*	**Pn**	**21 30 39.1**	**-0.1**
PB14	**IPOC Station P**	**11.89**	**154**	Pn	**Pn**	**21 30 44.9**	**-1.0**
CHSH	**Refugio Sur-Vo**	**12.67**	**347**	Pn	**Pn**	**21 30 55.9**	**-0.9**
PORT	**Chimborazo Vol**	**12.68**	**347**	Pn	**Pn**	**21 30 56.5**	**-0.4**
PIAT	**Ana Tenorio**	**13.04**	**350**	*eP*	**Pn**	**21 30 59.7**	**-1.9**
PPLP	**Puerto Lpez**	**13.16**	**339**	*eP*	**Pn**	**21 31 07.4**	**+4.3**
AC01	**Pan de Azucar**	**13.18**	**158**	Pn	**Pn**	**21 31 01.3**	**-1.9**
SLOR	**San Lorenzo -**	**13.34**	**349**	Pn	**Pn**	**21 31 05.7**	**-0.2**
FLF1	**Flavio Alfaro-**	**14.00**	**344**	*eP*	**P**	**21 31 18.0**	**-3.1**
PULU	**Pululahua**	**14.07**	**350**	Pn	**Pn**	**21 31 14.7**	**-1.5**
IMBA	**Imbabura, San**	**14.28**	**351**	Pn	**Pn**	**21 31 15.8**	**-2.7**
OTAV	**Otavalo**	**14.28**	**350**	Pn	**Pn**	**21 31 17.6**	**-1.0**
OTAV	**Otavalo**	**14.28**	**350**	*eP*	**P**	**21 31 22.9**	**-1.8**
AC02	**Maricunga**	**14.38**	**154**		**Pn**	**21 31 18.2**	**-1.7**
AC06	**Mina Casimiro**	**14.38**	**159**	Pn	**Pn**	**21 31 18.4**	**-1.0**
SIV	**San Ignacio**	**14.61**	**100**	P	**Pn**	**21 31 21.6**	**-1.0**
	0.1nm,0.3s,baz=271,slow=12,SNR=8.2						
SIV				LR	LR	21 37 43.0	
	comp=Z,722nm,21.7s,baz=286,slow=40						
	1.7nm,0.5s						
GO03	**Copiap**	**14.63**	**159**	Pn	**Pn**	**21 31 21.4**	**-1.5**
TULM	**Tulcn-Chalpat**	**14.65**	**353**		**Pn**	**21 31 22.2**	**-1.4**
TEFE	**Tefe**	**15.30**	**48**	*eP*	**Pn**	**21 31 28.9**	**-2.7**
FLOC	**Florencia**	**15.42**	**1**	*eP*	**P**	**21 31 37.3**	**+0.4**
VILB	**Vilhena**	**15.45**	**88**	Pn	**Pn**	**21 31 31.2**	**-2.2**
VILB				IAmb	IAmb	21 31 40.8	
	comp=Z,28nm,0.8s						
VILB	**Vilhena**	**15.45**	**88**	*eP*	**Pn**	**21 31 32.4**	**-1.1**
AC05	**El Transito**	**15.77**	**161**	P	**Pn**	**21 31 37.0**	**-0.7**
LCO	**Las Campanas**	**15.80**	**163**		**Pn**	**21 31 36.5**	**-1.7**
GARC	**Garzon, Huila**	**16.02**	**2**	*eP*	**Pn**	**21 31

BO02	**Sierra Bellavi**	**21.31**	**168**	P	**P**	**21 32 44.1**	**+2.7**
BO02				IAmb	IAmb	21 32 48.2	
	comp=Z,9.3nm,0.8s						
ZARC	**Zaragoza, Cauc**	**21.32**	**3**	*eP*	**P**	**21 32 42.8**	**+1.2**
PAMC	**Pamplona, Colo**	**21.39**	**9**	*eP*	**P**	**21 32 45.7**	**+2.8**
CPUP	**Villa Florida**	**21.44**	**128**	P	**P**	**21 32 42.8**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=310,slow=11,SNR=8.1						
CPUP				LR	LR	21 43 09.7	
	comp=Z,161nm,18.2s,baz=292,slow=42						
	comp=Z,4.5nm,0.8s						
CPUP	**Villa Florida**	**21.44**	**128**	P	**P**	**21 32 44.0**	**+1.2**
NPGB	**Novo Progresso**	**21.45**	**74**	*eP*	**P**	**21 32 39.8**	**-3.2**
ITTB	**Itaituba**	**22.17**	**67**	*eP*	**P**	**21 32 47.9**	**-2.8**
BOAV	**Boa Vista**	**22.36**	**45**	P	**P**	**21 32 53.0**	**+0.2**
BOAV				IAmb	IAmb	21 33 07.8	
	comp=Z,24nm,0.9s						
MECA	**Mercedes**	**22.53**	**136**	*eP*	P	21 33 06.1	+12
DVLD	**Doverlandia**	**23.19**	**100**	*eP*	**P**	**21 33 02.8**	**+1.4**
MCR1	**Marechal Candi**	**23.24**	**120**	*eP*	**P**	**21 33 07.1**	**+5.3**
SDV	**Santo Domingo**	**23.30**	**14**	P	**P**	**21 33 01.8**	**-0.8**
	comp=Z,6.6nm,0.7s,baz=197,slow=5.1,SNR=10						
SDV				LR	LR	21 43 06.0	
	comp=Z,95nm,18.4s,baz=208,slow=39						
	comp=Z,6.6nm,0.7s						
SDV	**Santo Domingo**	**23.30**	**14**	P	**P**	**21 33 04.8**	**+2.1**
SDV				IAmb	IAmb	21 33 21.6	
	comp=Z,16nm,0.9s						
SDV	**Santo Domingo**	**23.30**	**14**	*eP*	**P**	**21 33 03.0**	**+0.4**
BRU2	**Volcan**	**23.52**	**343**	P	**P**	**21 33 07.3**	**+2.6**
SJCC	**San Jacinto, C**	**23.69**	**2**	*eP*	**P**	**21 33 08.8**	**+2.6**
ITQB	**Itaqui**	**23.83**	**134**	P	**P**	**21 33 11.3**	**+4.0**
BAUV	**El Baul**	**24.07**	**20**	P	**P**	**21 33 11.5**	**+1.9**
SRBA	**San Rafael, Bu**	**24.13**	**342**	P	**P**	**21 33 12.1**	**+1.8**
SRBA				IAmb	IAmb	21 33 13.8	
	comp=Z,7.3nm,0.8s						
CRSM	**Crissiumal (Br**	**24.55**	**127**	*eP*	P	21 33 22.1	+8.1
RIMA	**Rio Macho**	**24.79**	**341**	P	**P**	**21 33 18.8**	**+2.4**
RIMA				IAmb	IAmb	21 33 20.1	
	comp=Z,6.9nm,1.0s						
DUNO	**Dulce Nombre,**	**25.63**	**338**	P	**P**	**21 33 26.7**	**+2.9**
JTS	**Las Juntas de**	**25.64**	**339**	P	**P**	**21 33 24.7**	**+0.8**
	comp=Z,3.9nm,0.7s,baz=340,slow=22,SNR=2.0						
JTS				LR	LR	21 43 13.5	
	comp=Z,118nm,18.5s,baz=137,slow=36						
	comp=Z,3.9nm,0.7s						
JTS	**Las Juntas de**	**25.64**	**339**	P	**P**	**21 33 25.9**	**+2.0**
JTS				IAmb	IAmb	21 33 28.6	
	comp=Z,6.0nm,0.8s						
ORTG	**Ortega, Santa**	**25.88**	**338**	P	**P**	**21 33 28.2**	**+2.1**
PLCA	**Paso Flores**	**27.13**	**171**	P	**P**	**21 33 37.5**	**+0.3**
	comp=Z,2.3nm,1.1s,baz=354,slow=12,SNR=1.9						
	comp=Z,2.3nm,1.1s						
BDFB	**Brasilia**	**27.15**	**97**	P	**P**	**21 33 37.1**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=246,slow=16,SNR=1.7						
BDFB				LR	LR	21 45 01.9	
	comp=Z,265nm,18.7s,baz=251,slow=38						
	comp=Z,1.0nm,0.4s						
BDFB	**Brasilia**	**27.15**	**97**	*eP*	**P**	**21 33 37.5**	**-0.2**
PLTB	**Pedras Altas**	**27.16**	**135**	*eP*	P	21 33 45.5	+8.0
BOAB	**BOACO BROADBAND**	**27.89**	**340**	P	**P**	**21 33 45.3**	**+1.2**
MDP	**Montagnes des**	**29.95**	**52**	LR	LR	21 46 34.3	
	comp=Z,365nm,18.5s,baz=239,slow=37						
SJG	**San Juan**	**33.30**	**17**	LR	LR	21 49 31.8	
	comp=Z,65nm,20.2s,baz=197,slow=39						
CMIG	**Matias Romero**	**36.00**	**328**	LR	LR	21 48 44.2	
	comp=Z,56nm,19.7s,baz=175,slow=35						
RCBR	**Riachuelo**	**40.31**	**83**	LR	LR	21 52 19.8	
	comp=Z,180nm,19.5s,baz=24,slow=36						
TXAR	**Lajitas Array**	**50.61**	**328**	P	**P**	**21 36 53.9**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=148,slow=8.9,SNR=17						
	comp=Z,3.7nm,0.7s						
PDAR	**Pinedale Array**	**64.26**	**333**	P	**P**	**21 38 29.2**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=132,slow=8.8,SNR=6.4						
PDAR				LR	LR	22 06 31.9	
	comp=Z,44nm,18.1s,baz=34,slow=36						
	comp=Z,1.4nm,1.0s						
BBTS	**Babate**	**65.38**	**67**	LR	LR	22 07 53.4	
	comp=Z,95nm,18.2s,baz=268,slow=37						
NVAR	**Mina Array Bea**	**65.40**	**324**	P	**P**	**21 38 37.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=134,slow=6.4,SNR=3.8						
	comp=Z,0.7nm,0.6s						
ULM	**Lac du Bonnet**	**66.24**	**346**	P	**P**	**21 38 40.9**	**-0.5**
	comp=Z,5.7nm,0.5s,baz=155,slow=6.1,SNR=9.1						
	comp=Z,5.7nm,0.5s						
DBIC	**Dimbokro**	**73.54**	**79**	P	**P**	**21 39 27.0**	**0.0**
	comp=Z,5.6nm,0.7s,baz=254,slow=5.5,SNR=9.1						
	comp=Z,5.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**81.56**	**74**	P	**P**	**21 40 12.5**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=262,slow=4.9,SNR=26						
	comp=Z,5.9nm,0.8s						
YKA	**Yellowknife Ar**	**81.92**	**343**	P	**P**	**21 40 12.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=144,slow=6.0,SNR=13						
	comp=Z,1.4nm,0.8s						
SFJD	**Kangerlussuaq**	**82.84**	**10**	*i* P	P	21 40 26.1	+8.8
SFJD	**Kangerlussuaq**	**82.84**	**10**	*i* P	P	21 40 25.0	+7.7
TSUM	**Tsumeb**	**88.85**	**109**	LR	LR	22 19 00.0	
	comp=Z,42nm,19.5s,baz=300,slow=34						
BOSA	**Boshof**	**93.06**	**120**	LR	LR	22 21 34.4	
	comp=Z,32nm,18.1s,baz=200,slow=35						
ILAR	**Eielson Array**	**94.56**	**336**	P	**P**	**21 41 13.4**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=153,slow=4.8,SNR=3.0						
	comp=Z,0.4nm,0.9s						
DAVOX	**Davos/Dischmat**	**97.26**	**44**	P	**P**	**21 41 25.1**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=260,slow=9.1,SNR=3.8						
	comp=Z,2.1nm,0.8s						
H11N3	**WAKE ISLAND Hy**	**119.75**	**285**	T	T	23 57 25.1	
	baz=96,slow=74,SNR=33						
H11N2	**WAKE ISLAND Hy**	**119.76**	**285**	T	T	23 57 23.3	
	baz=96,slow=74,SNR=34						
H11N1	**WAKE ISLAND Hy**	**119.76**	**285**	T	T	23 57 21.7	
	baz=96,slow=74,SNR=20						
H11S2	**WAKE ISLAND Hy**	**119.82**	**283**	T	T	23 57 16.9	
	baz=94,slow=74,SNR=24						
H11S1	**WAKE ISLAND Hy**	**119.83**	**283**	T	T	23 57 21.4	
	baz=94,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**119.84**	**283**	T	T	23 57 15.0	
	baz=94,slow=74,SNR=12						
ASAR	**Alice Springs**	**132.52**	**218**	PKP	**PKPdf**	**21 47 09.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=114,slow=2.3,SNR=2.0						
WRA	**Warramunga Arr**	**134.98**	**222**	PKP	**PKPdf**	**21 47 13.7**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=136,slow=2.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**137.32**	**17**	PKP	**PKPdf**	**21 47 17.8**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=160,slow=30,SNR=3.8						
MKAR	**Makanchi Array**	**142.54**	**25**	PKP	**PKPdf**	**21 47 26.4**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=357,slow=2.9,SNR=3.0						
SONM	**Songino Array**	**146.14**	**357**	PKPbc	**PKPab**	**21 47 34.5**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=320,slow=2.7,SNR=3.7						
KSRS	**Korea Array**	**148.31**	**322**	PKPbc	**PKPbc**	**21 47 39.9**	**0.0**
	comp=Z,1.6nm,0.9s,baz=70,slow=3.4,SNR=6.0						

*IDC **27** 21:32:18.8±0.8, 67.84N×18.47W, h0km, mb3.7/12, mbtmp3.7/15, ML2.8/3, MS3.6/8, Error ellipse: s-maj=25.7km s-min=14.5km az=35.0*

ISC 27 21:32:20.0±0.6, 67.77N±0.07×18.60W±0.08, h10km, n25, σ1§30/18, mb3.6/11, MS3.8/7, Iceland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.98**	**338**	*i* P			Pn	21 33 01.0	-6.2
BORG	**Borgarnes**	**3.23**	**201**	Pn			**Pn**	**21 33 10.6**	**0.0**
	5.5nm,0.3s,baz=356,slow=6.3,SNR=21								
BORG				Sn			**Sn**	**21 33 49.9**	**+0.8**
	5.3nm,0.3s,baz=239,slow=23,SNR=9.7								
	34nm,0.6s								
DBG	**Daneborg**	**6.59**	**356**	*i* P			**Pn**	**21 33 59.3**	**+2.5**
DBG				IAmb			IAmb	21 34 03.8	
	comp=Z,2.6nm,0.9s								
SUMG	**Summit**	**8.26**	**315**	*i* P			**Pn**	**21 34 18.7**	**-1.3**
SUMG				IAmb			IAmb	21 34 35.0	
	comp=Z,2.2nm,1.0s								
NOA	**NORSAR Array B**	**14.41**	**103**	Pn			**Pn**	**21 35 43.5**	**-0.2**
	baz=296,slow=10.0,SNR=1.9								
	comp=Z,1.6nm,1.1s								
HFS	**Hagfors**	**15.93**	**103**	Pn			**P**	**21 36 04.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=324,slow=7.1,SNR=2.0								
HFS				LR			LR	21 40 48.1	
	comp=Z,83nm,22.0s,baz=288,slow=32								
FINES	**FINESS Array B**	**19.77**	**87**	P			**Pn**	**21 36 50.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=316,slow=9.4,SNR=8.1								
	comp=Z,4.8nm,0.9s								
FRB	**Frobisher Bay**	**20.42**	**283**	P			Pn	21 36 58.1	-0.7
	comp=Z,3.1nm,0.9s,baz=48,slow=14,SNR=3.1								
	comp=Z,3.1nm,0.9s								
RES	**Resolute Bay**	**23.73**	**320**	P			**P**	**21 37 31.9**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=66,slow=15,SNR=2.2								
	comp=Z,1.0nm,0.9s								

GERES	**GERESS Array B**	**24.94**	**123**	P	**P**	**21 37 43.0**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=332,slow=7.6,SNR=12						
	comp=Z,2.0nm,0.8s						
VRAC	**Vranov**	**25.48**	**119**	P	**P**	**21 37 48.6**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=340,slow=11,SNR=2.6						
	comp=Z,1.0nm,0.4s						
DAVOX	**Davos/Dischmat**	**25.62**	**131**	P	**P**	**21 37 50.2**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=297,slow=14,SNR=3.1						
	comp=Z,2.6nm,0.9s						
AKASG	**Malin Array Be**	**28.81**	**102**	P	**P**	**21 38 16.3**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=322,slow=9.2,SNR=1.7						
	comp=Z,0.6nm,0.5s						
ESDC	**Sonseca Array**	**29.28**	**157**	P	**P**	**21 38 23.0**	**+0.8**
	comp=Z,1.4nm,1.1s,baz=350,slow=12,SNR=3.2						
	comp=Z,1.4nm,1.1s						
MLR	**Muntele Rosu**	**32.00**	**111**	LR	LR	21 52 53.5	
	comp=Z,52nm,20.2s,baz=286,slow=39						
YKA	**Yellowknife Ar**	**36.82**	**310**	P	**P**	**21 39 27.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=40,slow=8.2,SNR=7.7						
	comp=Z,0.7nm,0.8s						
BRTR	**Keskin Array B**	**39.79**	**108**	P	**P**	**21 39 54.6**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=343,slow=4.5,SNR=3.1						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**42.74**	**330**	P	**P**	**21 40 16.6**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=23,slow=7.2,SNR=5.5						
ILAR				LR	LR	21 59 47.0	
	comp=Z,54nm,18.8s,baz=352,slow=39						
	comp=Z,0.5nm,0.8s						
NEW	**Newport**	**49.44**	**300**	LR	LR	22 03 52.5	
	comp=Z,106nm,20.8s,baz=18,slow=38						
KDAK	**Kodiak Island**	**50.26**	**330**	LR	LR	22 07 38.3	
	comp=Z,70nm,18.1s,baz=47,slow=42						
MKAR	**Makanchi Array**	**51.50**	**60**	P	**P**	**21 41 24.4**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=343,slow=3.8,SNR=4.0						
	comp=Z,0.5nm,0.9s						
TXAR	**Lajitas Array**	**61.36**	**278**	LR	LR	22 11 23.7	
	comp=Z,73nm,19.7s,baz=314,slow=38						
PFO	**Pinyon Flats O**	**62.22**	**291**	LR	LR	22 10 47.3	
	comp=Z,72nm,20.0s,baz=36,slow=37						
CMIG	**Matias Romero**	**69.12**	**264**	LR	LR	22 14 26.6	
	comp=Z,48nm,19.0s,baz=8.0,slow=36						
CMAR	**Chiang Mai Arr**	**82.88**	**58**	P	**P**	**21 44 43.7**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=327,slow=6.5,SNR=4.6						
	comp=Z,0.3nm,0.4s						

*IDC **27** 21:35:02.8±1.4, 5.90N×124.65E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=32.8km s-min=14.9km az=115.0*

*MAN **27** 21:35:09.3, 6.76N×126.73E, h30km, mb4.4, ML3.3, MS3.1*

ISC 27 21:35:08.0±1.8, 6.74N±0.09×126.9E±0.1, h35km, n7, σ1§11/7, mb3.1/3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CDOP	**Cateel, Davao**	**1.13**	**337**	*i* P			**Pn**	**21 35 27.9**	**+0.5**
CDOP				*i* S			**Sn**	**21 35 41.8**	**+0.1**
DAV	**Davao City (W)**	**1.34**	**284**	Pg			**Pn**	**21 35 31.5**	**+1.3**
	27nm,0.3s,baz=297,slow=10,SNR=1.9								
DAV				Lg			Lg	21 35 49.1	
	86nm,0.3s,baz=84,slow=22,SNR=14								
BIPH	**Bislig**	**1.53**	**340**	*i* P			**Pn**	**21 35 33.0**	**+0.2**
BIPH				*i* S			**Sn**	**21 35 51.0**	**-0.5**
KCP	**Kidapawan**	**1.81**	**279**	*e*P			Pn	21 35 28.7	-8.0
KCP				eS			**Sn**	**21 35 56.8**	**-1.6**
WRA	**Warramunga Arr**	**27.50**	**165**	P			**P**	**21 40 51.0**	**-0.4**
	0.4nm,0.9s,baz=341,slow=11,SNR=4.5								
	0.4nm,0.9s								
ASAR	**Alice Springs**	**30.98**	**167**	P			P	21 41 19.2	-3.0
	0.2nm,0.5s,baz=341,slow=8.0,SNR=6.0								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**55.21**	**324**	P			P	21 44 32.8	-4.7
	0.3nm,0.6s,baz=120,slow=6.8,SNR=5.6								
	0.3nm,0.6s								

*JMA **27** 21:38:32.5±0.5, 23.2×121.1E, h15km, MV3.3/10, TAIWAN REGION*

*TAP **27** 21:38:33.4, 22.63N×121.32E, h23km, ML3.1, C*

ISC 27 21:38:32.7±0.9, 22.61N±0.02×121.39E±0.02, h29km±6km, n83, σ0.98/127, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.10**	**47**	*i* P			**Pb**	**21 38 38.4**	**+0.5**
	baz=67								
LDUT				*i* S			**Sb**	**21 38 42.3**	**+0.8**
	baz=67								
TWGBT	**Beinan**	**0.36**	**306**	P			**Pb**	**21 38 40.2**	**-0.7**
TWGBT	**Beinan**	**0.36**	**306**	P			**Pb**	**21 38 40.2**	**-0.7**
	baz=296								
TWGBT				eS			**Sb**	**21 38 45.4**	**-1.0**
	baz=296								
TWG	**Pinlang**	**0.36**	**306**	*i* P			**Pb**	**21 38 40.3**	**-0.7**
	baz=296								
TWG				eS			**Sb**	**21 38 45.2**	**-1.5**
	baz=296								
EDH	**Donghe**	**0.37**	**348**	P			**Pb**	**21 38 40.9**	**-0.2**
	baz=353								
EDH				S			**Sb**	**21 38 46.4**	**-0.5**
	baz=353								
LONT	**Longtian**	**0.38**	**321**	*e*P			**Pb**	**21 38 41.0**	**-0.3**
	baz=312								
LONT				eS			**Sb**	**21 38 46.9**	**-0.3**
	baz=312								
ECL	**Taimali**	**0.40**	**269**	P			**Pb**	**21 38 40.7**	**-0.9**
	baz=274								
ECL				eS			**Sb**	**21 38 45.7**	**-2.0**
	baz=274								
CHKT	**Chengkung**	**0.49**	**357**	P			**Pb**	**21 38 42.5**	**-0.4**
	baz=13								
CHKT				eS			**Sb**	**21 38 49.4**	**-0.5**
	baz=13								
TAW	**Tawu**	**0.52**	**242**	*e*P			**Pb**	**21 38 42.9**	**-0.5**
	baz=245								
TAWH	**Dawu Township**	**0.54**	**240**	*e*P			**Pb**	**21 38 43.2**	**-0.5**
	baz=244								
TAWH				eS			**Sb**	**21 38 50.1**	**-1.1**
	baz=244								
EAST	**Anshuo**	**0.55**	**246**	P			**Pb**	**21 38 43.3**	**-0.6**
	baz=240								
EAST				eS			**Sb**	**21 38 50.2**	**-1.4**
	baz=240								
EHD	**Haiduan**	**0.57**	**342**	P			**Pb**	**21 38 44.0**	**-0.3**
	baz=335								
EHD				eS			**Sn**	**21 38 52.2**	**-1.0**
	baz=335								
LAY	**Lan-yu**	**0.58**	**165**	*i* P			**Pb**	**21 38 45.1**	**+0.6**
	baz=160								
LAY				eS			**Sb**	**21 38 53.2**	**+0.7**
	baz=160								
FULB	**Fuli**	**0.60**	**351**	*i* P			**Pb**	**21 38 44.4**	**-0.4**
	baz=341								
FULB				eS			**Sb**	**21 38 52.5**	**-0.4**
	baz=341								
LYUB	**Lan-yu**	**0.63**	**163**	*e*P			**Pb**	**21 38 44.3**	**-0.9**
	baz=159								
LYUB				eS			**Sb**	**21 38 52.4**	**-1.3**
	baz=159								
SLIU	**Shizi**	**0.67**	**235**	P			**Pb**	**21 38 45.3**	**-0.6**
	baz=230								
SLIU				eS			**Sb**	**21 38 53.0**	**-1.9**
	baz=230								
ELDTW	**Lidau**	**0.68**	**329**	P			**Pb**	**21 38 45.5**	**-0.6**
	baz=333								
ELDTW				eS			**Sb**	**21 38 55.1**	**-0.1**
	baz=333								
TSMG	**Majia**	**0.70**	**278**	*e*P			**Pb**	**21 38 45.3**	**-1.0**
	baz=277								
MASBT	**Mashibuluo**	**0.70**	**271**	*i* P			**Pb**	**21 38 45.4**	**-1.0**
	baz=268								
EYUL	**Yuli**	**0.74**	**355**	P			**Pn**	**21 38 47.0**	**-0.2**
	baz=347								
TWF1	**Yuli**	**0.75**	**353**	P			**Pb**	**21 38 46.7**	**-0.6**
	baz=346								
TWF1				eS			**Sn**	**21 38 57.8**	**0.0**
	baz=346								
SCZT	**Fangliau**	**0.75**	**252**	*e*P			**Pb**	**21 38 46.6**	**-0.7**
	baz=242								
SMST	**Manzhou Townsh**	**0.78**	**221**	*e*P			**Pb**	**21 38 47.0**	**-0.7**
	baz=217								
SMST				eS			**Sb**	**21 38 56.4**	**-1.5**
	baz=217								
YULB	**Yu-li**	**0.79**	**354**	P			**Pb**	**21 38 47.1**	**-0.8**
YULB	**Yu-li**	**0.79**	**354**	*e*P			**Pb**	**21 38 47.0**	**-0.9**
	baz=346								
YULB				eS			**Sb**	**21 38 57.0**	**-1.3**
	baz=346								

STYH	**Taoyuan**	**0.80**	**315**	*e*P		**Pb**	**21 38 47.0**	**-1.1**
	baz=324							
STYT	**Tauyuan**	**0.81**	**314**	*e*P		**Pb**	**21 38 47.0**	**-1.2**
	baz=315							
STYT				S		**Sn**	**21 38 58.8**	**-0.4**
	baz=315							
HEN	**Hengchun**	**0.85**	**225**	*e*P		**Pb**	**21 38 48.6**	**-0.3**
	baz=221							
HEN				eS		**Sb**	**21 39 00.2**	**+0.2**
	baz=221							
TWKBT	**Hengchun**	**0.85**	**219**	*e*P		**Pb**	**21 38 48.3**	**-0.7**
	baz=205							
TWKBT				eS		**Sb**	**21 38 59.7**	**-0.4**
	baz=205							
TWK1	**Hengchun**	**0.85**	**220**	*e*P		**Pb**	**21 38 48.4**	**-0.6**
	baz=205							
TWK1				eS		**Sb**	**21 38 59.7**	**-0.4**
	baz=205							
SCST	**Cishan**	**0.87**	**289**	*e*P		**Pn**	**21 38 49.2**	**+0.1**
	baz=286							
HGSD	**Ruisui**	**0.88**	**2**	*e*P		**Pn**	**21 38 49.3**	**+0.1**
	baz=17							
SGST	**Jiashian**	**0.88**	**303**	*e*P		**Pb**	**21 38 48.3**	**-1.2**
	baz=312							
EHY	**Hungye**	**0.90**	**356**	*e*P		**Pb**	**21 38 48.8**	**-1.0**
	baz=359							
TWM1	**Shoushan**	**0.92**	**284**	*e*P		**Pn**	**21 38 50.7**	**+1.0**
	baz=283							
WTP	**Ta-pu**	**0.96**	**312**	P		**Pn**	**21 38 50.4**	**+0.1**
	baz=319							
WTP				eS		**Sn**	**21 39 02.9**	**-0.1**
	baz=319							
YUS	**Yu-Shan**	**0.97**	**335**	*e*P		**Pb**	**21 38 50.4**	**-0.8**
	baz=331							
CHN1	**Nanshi**	**0.98**	**306**	P		**Pb**	**21 38 51.3**	**+0.1**
	baz=313							
CHN1				eS		**Sn**	**21 39 04.4**	**+0.9**
	baz=313							
TPUB	**Ta-pu**	**0.98**	**315**	P		**Pb**	**21 38 50.8**	**-0.4**
TPUB	**Ta-pu**	**0.98**	**315**	*e*P		**Pb**	**21 38 50.9**	**-0.3**
	baz=315							
TPUB				eS		**Sn**	**21 39 03.8**	**+0.2**
	baz=315							
KAU	**Kaohsiung**	**1.00**	**268**	*e*P		**Pb**	**21 38 53.8**	**+2.4**
	baz=266							
CHN4	**Tsaushan**	**1.04**	**315**	P		**Pb**	**21 38 52.0**	**-0.2**
	baz=322							
CHN4				eS		**Sn**	**21 39 07.4**	**+2.3**
	baz=322							
ALS	**Alishan**	**1.05**	**329**	P		**Pb**	**21 38 52.0**	**-0.5**
	baz=330							
EGFH	**Guangfu**	**1.06**	**2**	*e*P		**Pb**	**21 38 52.3**	**-0.2**
	baz=350							
EGFH				eS		**Sn**	**21 39 07.6**	**+2.2**
	baz=350							
TWK	**Hsinying**	**1.06**	**308**	P		**Pb**	**21 38 52.4**	**-0.1**
	baz=318							
TWK				eS		**Sn**	**21 39 07.0**	**+1.4**
	baz=318							
WCKO	**Fanlu**	**1.10**	**319**	*e*P		**Pb**	**21 38 53.3**	**+0.1**
	baz=319							
WCKO				eS		**Sn**	**21 39 07.6**	**+1.1**
	baz=319							
VWDT	**VWDT**	**1.17**	**349**	*e*P		**Pb**	**21 38 53.5**	**-0.7**
	baz=357							
CHN5	**Tsauling**	**1.19**	**326**	*e*P		**Pb**	**21 38 54.9**	**+0.2**
	baz=326							
CHN5				eS		**Sb**	**21 39 10.9**	**+1.2**
	baz=326							
ESL	**Shilin**	**1.20**	**2**	*e*P		**Pb**	**21 38 54.5**	**-0.4**
	baz=352							
SSLB	**Suanglung**	**1.24**	**341**	P		**Pb**	**21 38 55.0**	**-0.6**
SSLB	**Suanglung**	**1.24**	**341**	*e*P		**Pb**	**21 38 55.1**	**-0.5**
	baz=350							
CHY	**Chiayi**	**1.26**	**315**	*e*P		**Pb**	**21 38 56.0**	**+0.2**
	baz=313							
TSCK	**Chigu Township**	**1.32**	**294**	*e*P		**Pb**	**21 38 56.2**	**-0.6**
	baz=292							
TSCK				eS		**Sb**	**21 39 13.7**	**+0.3**
	baz=292							
WDLH	**Douliu**	**1.33**	**324**	*e*P		**Pb**	**21 38 57.0**	**0.0**
	baz=322							
WDLH				eS		**Sb**	**21 39 14.5**	**+0.7**
	baz=322							
SMLT	**Sun Moon Lake**	**1.35**	**341**	*e*P		**Pb**	**21 38 57.3**	**-0.2**
	baz=350							
SMLT				eS		**Sb**	**21 39 14.9**	**+0.5**
	baz=350							
WJS	**Zhushan**	**1.36**	**333**	*e*P		**Pb**	**21 38 58.2**	**+0.7**
	baz=332							
WJS				eS		**Sb**	**21 39 15.3**	**+0.9**
	baz=332							
OWD	**Renai**	**1.36**	**352**	*e*P		**Pb**	**21 38 56.6**	**-1.0**
	baz=360							
TYC	**Yuchr**	**1.38**	**339**	*e*P		**Pb**	**21 38 57.8**	**-0.1**
	baz=348							
WUSB	**Renai

	0.2nm,0.5s						
GUMO	**Guam**	**20.67**	**352**	LR	LR	22 22 59.9	
	comp=Z,28nm,18.2s,baz=132,slow=37						
ASAR	**Alice Springs**	**21.14**	**217**	P	P	22 14 46.7	+0.3
	0.3nm,0.4s,baz=50,slow=9.2,SNR=7.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**78.67**	**320**	P	P	22 22 00.8	0.0
	0.1nm,0.2s,baz=116,slow=3.4,SNR=1.5						
	0.1nm,0.2s						

DJA ***27*** *22:23:54.5±0.4,3°S±3°×10°3E±°, h241km±6km, M4.2/19, mb4.2/8, mB4.7/2, MLv4.2/19, Mw(mB)4.0/2*

IDC ***27*** *22:23:55.3±2.0,3.04S×102.67E, h228km±17km, mb3.6/11, mbtmp4.2/13, Error ellipse: s-maj=30.4km s-min=9.9km az=52.0*

NEIC ***27*** *22:23:56.1±1.2,2.94S±0.07×102.7E±0.1, h226km±5km, mb4.1/9, Error ellipse: s-maj=17.5km s-min=8.3km az=72.0*

ISC 27 22:23:55.7±0.5,2.88S±0.06×102.83E±0.06, h226km, n55, σ1§21/62, mb3.9/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.65**	**246**	P	**Pn**	**22 24 27.8**	**+1.4**
KSI	**Kapahiang**	**0.81**	**197**	P	**Pn**	**22 24 27.6**	**+0.4**
JMBI	**JAMBI**	**1.48**	**33**	P	**Pn**	**22 24 31.6**	**0.0**
MNAI	**Manna**	**1.48**	**175**		**Pn**	**22 24 31.6**	**-0.1**
MNAI				Sn	**S**	**22 24 59.0**	**-0.7**
MNAI	**Manna**	**1.48**	**175**	P	**Pn**	**22 24 31.3**	**-0.3**
MDSI	**Maura Dua**	**2.09**	**140**	P	**Pn**	**22 24 36.5**	**-0.6**
SDSI	**Sungai Dareh**	**2.39**	**324**	P	**Pn**	**22 24 40.8**	**+0.7**
LWLI	**Liwa**	**2.46**	**150**	P	**Pn**	**22 24 40.1**	**-0.8**
PPSI	**Pulau Pagai**	**2.82**	**272**	P	**Pn**	**22 24 46.0**	**+1.3**
DSRI	**Dabo**	**2.95**	**36**	P	**Pn**	**22 24 46.2**	**0.0**
PDSI	**Padang**	**3.07**	**309**	P	**Pn**	**22 24 48.8**	**+1.2**
KASI	**Kota Agung**	**3.11**	**148**	P	**Pn**	**22 24 46.7**	**-1.3**
PPBI	**Pangkal Pinang**	**3.38**	**78**	P	**Pn**	**22 24 50.2**	**-0.9**
BKNI	**Bangkinang**	**3.65**	**331**	Pn	**Pn**	**22 24 55.7**	**+1.4**
BKNI	**Bangkinang**	**3.65**	**331**	P	**Pn**	**22 24 55.3**	**+1.0**
TPRI	**Tanjung Pinang**	**4.13**	**24**	P	**Pn**	**22 25 00.2**	**+0.1**
MYKOM	**Kota Tinggi**	**4.75**	**12**		**Pn**	**22 25 08.3**	**+0.7**
PBSI	**Pulau Batu**	**5.34**	**302**	P	**Pn**	**22 25 15.8**	**+0.7**
	51nm,1.3s,0.7nm						
GSI	**Gunungsitoli**	**6.70**	**308**		**Pn**	**22 25 31.9**	**-0.4**
GSI					**S**	**22 26 46.8**	**-2.5**
GSI	**Gunungsitoli**	**6.70**	**308**	P	**Pn**	**22 25 32.5**	**+0.2**
	59nm,0.7s,2µm0.3nm						
RPSI	**Rantau Prapat**	**6.77**	**325**		**Pn**	**22 25 33.6**	**+0.4**
RPSI	**Rantau Prapat**	**6.77**	**325**		**Pn**	**22 25 32.8**	**-0.5**
PSI	**Prapat**	**6.86**	**325**	P	**Pn**	**22 25 32.8**	**-1.7**
	9.1nm,0.5s,baz=147,slow=11,SNR=11						
CMJI	**Cimerak**	**7.42**	**131**	P	**Pn**	**22 25 38.6**	**-2.9**
	82nm,1.0s,0.5nm						
KPJI	**Karang Pucung**	**7.52**	**126**	P	**Pn**	**22 25 40.0**	**-2.8**
	17nm,0.5s,0.2nm						
IPM	**Ipoh**	**7.53**	**346**		**Pn**	**22 25 44.8**	**+1.8**
KCSI	**Kotacane, Aceh**	**8.12**	**321**	P	**Pn**	**22 25 50.7**	**+0.1**
	11nm,0.6s						
SNSI	**Sinabang, Aceh**	**8.36**	**309**	P	**Pn**	**22 25 53.4**	**-0.2**
KULM	**Kulim**	**8.40**	**345**		**Pn**	**22 25 54.6**	**+0.5**
UGM	**Wanagama**	**9.15**	**123**	Pn	**Pn**	**22 26 02.8**	**-0.9**
LHMI	**Lhok Sumawe**	**9.97**	**324**	Pn	**Pn**	**22 26 12.6**	**-1.6**
KAPI	**Kappang**	**17.01**	**98**	P	**P**	**22 27 41.8**	**+2.6**
	6.0nm,0.4s,baz=267,slow=12,SNR=4.6						
MYLDM	**Lahad Datu**	**17.58**	**63**		**Pn**	**22 27 49.1**	**+1.5**
TOLI2	**Tolitoli**	**18.38**	**78**	P	**P**	**22 27 55.3**	**+1.2**
TOLI2				IAmb	IAmb	22 27 59.5	
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.54**	**350**	P	**P**	**22 28 28.3**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=181,slow=8.5,SNR=12						
	comp=Z,1.3nm,0.6s						
TNCH	**TengChong**	**28.05**	**352**	P	**P**	**22 29 29.0**	**+2.5**
TNCH				pP	pP	22 30 16.0	+4.3
TNCH				S	**S**	**22 33 52.0**	**-2.4**
TNCH				sS	sS	22 35 13.8	-1.8
TNCH				pmax	pmax		
	comp=Z,9.0nm,4.6s						
TNCH				pmax	pmax		
	comp=Z,180nm,5.2s						
SIJI	**Sorong**	**28.49**	**87**	P	**P**	**22 29 30.6**	**+0.2**
	comp=Z,11nm,0.6s,baz=301,slow=6.4,SNR=5.0						
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**35.12**	**121**	P	**P**	**22 30 26.8**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=309,slow=8.8,SNR=15						
WRA				PcP	**PcP**	**22 32 54.5**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=308,slow=2.3,SNR=4.8						
WRA				ScP	**ScP**	**22 36 16.5**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=289,slow=7.5,SNR=1.9						
	comp=Z,0.7nm,0.3s						
WB2	**Warramunga Arr**	**35.13**	**121**	P	**P**	**22 30 27.7**	**-0.4**
WB2				IAmb	IAmb	22 31 04.5	
	comp=Z,4.1nm,1.1s						
WR0	**Warramunga Arr**	**35.30**	**121**	P	**P**	**22 30 29.7**	**+0.1**
WR0				IAmb	IAmb	22 30 30.7	
	comp=Z,7.1nm,1.3s						
ASAR	**Alice Springs**	**36.46**	**127**	P	**P**	**22 30 38.8**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=301,slow=8.1,SNR=37						
ASAR				PcP	**PcP**	**22 32 58.6**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=308,slow=2.7,SNR=5.4						
ASAR				ScP	**ScP**	**22 36 21.9**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=298,slow=3.9,SNR=2.5						
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**36.46**	**127**	P	**P**	**22 30 39.9**	**+0.5**
AS31	**Alice Springs**	**36.46**	**127**	P	**P**	**22 30 39.7**	**+0.3**
AS31				IAmb	IAmb	22 30 40.8	
	comp=Z,2.5nm,0.3s						
FORT	**Forrest**	**36.59**	**142**	P	**P**	**22 30 42.1**	**+1.8**
BBOO	**Buckleboo**	**43.08**	**137**	P	**P**	**22 31 33.8**	**+0.1**
BBOO				IAmb	IAmb	22 31 40.6	
	comp=Z,9.2nm,1.5s						
STKA	**Stephens Creek**	**46.47**	**133**	P	**P**	**22 32 00.5**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=303,slow=7.4,SNR=10						
	comp=Z,2.2nm,0.5s						
SONM	**Songino Array**	**50.60**	**3**	P	**P**	**22 32 33.3**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=181,slow=10,SNR=7.0						
SONM				PcP	**PcP**	**22 33 45.4**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=220,slow=3.8,SNR=2.0						
	comp=Z,2.9nm,0.6s						
MK31	**Makanchi Array**	**52.67**	**342**	P	**P**	**22 32 46.7**	**-0.2**
MKAR	**Makanchi Array**	**52.67**	**342**	P	**P**	**22 32 46.5**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=156,slow=8.9,SNR=13						
	comp=Z,0.4nm,0.5s						
MAKZ	**Makanchi**	**52.78**	**342**	P	**P**	**22 32 47.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**53.65**	**26**	P	**P**	**22 32 54.6**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=213,slow=5.4,SNR=7.4						
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**58.59**	**348**	P	**P**	**22 33 28.7**	**0.0**
	comp=Z,1.0nm,0.4s,baz=167,slow=5.5,SNR=7.7						
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**76.00**	**312**	P	**P**	**22 35 17.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=136,slow=1.8,SNR=3.9						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**86.20**	**332**	P	**P**	**22 36 11.1**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=97,slow=5.7,SNR=2.0						
	comp=Z,2.3nm,1.0s						
TXAR	**Lajitas Array**	**143.59**	**41**	PKP	PKPab	22 43 02.5	+1.1
	comp=Z,0.3nm,0.4s,baz=2.7,slow=0.4,SNR=4.0						

NEIC ***27*** *22:30:44.4±1.9, 10°9S±0°1×162°2E±0°1, h44km±8km, mb4.3/7, Error ellipse: s-maj=25.6km s-min=12.3km az=49.0*

IDC ***27*** *22:30:45.1±2.8, 11°03S×161°86E, h72km±22km, mb3.4/6, mbtmp3.8/7, MS3.3/13, Error ellipse: s-maj=32.2km s-min=19.5km az=63.0*

ISC 27 22:30:41.8±0.8, 10°88S±0°08×162°3E±0°1, h35km, n32, σ2§02/25, mb4.1/9, MS3.3/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.70**	**302**	P	**Pn**	**22 31 23.1**	**+0.3**
	8µm,0.7s,baz=0.3,slow=2.2,SNR=12						
HNR				S	**Sn**	**22 31 52.7**	**-1.6**
	4µm,0.4s,baz=49,slow=23,SNR=2.2						
HNR	**Honiara**	**2.70**	**302**	Pn	**Pn**	**22 31 23.8**	**+1.0**
HNR				Sn	**Sn**	**22 31 58.0**	**+3.8**
KOUNC	**Koumac, New Ca**	**9.81**	**169**	Pn	**Pn**	**22 33 01.7**	**+1.2**
LIFNC	**LIFOU**	**10.94**	**155**	Pn	**Pn**	**22 33 16.9**	**+1.0**
DZM	**Mont Dzumac**	**11.82**	**161**	P	**Pn**	**22 33 31.3**	**+3.2**
	2.8nm,0.3s,baz=360,slow=8.3,SNR=32						
DZM				S	**Sn**	**22 35 36.0**	**-3.0**
	8.5nm,1.1s,baz=105,slow=19,SNR=1.2						
DZM				LR	LR	22 36 49.7	
	comp=Z,144nm,18.4s,baz=5.5,slow=31						
DZM	**Mont Dzumac**	**11.82**	**161**	Pn	**Pn**	**22 33 30.5**	**+2.3**
MARNC	**Mare, Loyalty**	**11.90**	**153**	Pn	**Pn**	**22 33 30.5**	**+1.4**
ONTNC	**Ouen Toro**	**12.05**	**161**	Pn	**Pn**	**22 33 34.0**	**+2.9**
KRVT	**Keravat (AS076**	**12.07**	**302**	LR	LR	22 38 28.5	
	comp=Z,221nm,19.7s,baz=256,slow=39						
OUENC	**Ouen Island, N**	**12.28**	**160**	Pn	**Pn**	**22 33 37.0**	**+2.8**
PMG	**Port Moresby**	**14.94**	**274**	LR	LR	22 39 35.0	
	comp=Z,170nm,19.4s,baz=102,slow=36						
MSVF	**Nonsavu**	**16.73**	**116**	LR	LR	22 40 52.9	
	comp=Z,116nm,19.4s,baz=32,slow=36						
EIDS	**Eidsvold**	**17.89**	**215**	P	**P**	**22 34 50.0**	**+1.6**
CTA	**Charters Tower**	**17.93**	**237**	P	**P**	**22 34 49.5**	**+0.6**
	9.4nm,1.1s,baz=62,slow=12,SNR=4.3						
CTA				LR	LR	22 40 28.6	
	comp=Z,38nm,20.8s,baz=81,slow=33						
CTAO	**Charters Tower**	**17.93**	**237**	P	**Pn**	**22 34 48.4**	**-0.1**
CTAO				IAmb	IAmb	22 34 53.3	
	comp=Z,20nm,1.2s						
PATS	**Pohnpei**	**18.04**	**347**	P	**P**	**22 34 51.4**	**+1.3**
COEN	**Coen**	**18.89**	**259**	P	**P**	**22 35 00.1**	**+0.6**
COEN				IAmb	IAmb	22 35 03.8	
	comp=Z,18nm,1.4s						
AFI	**Afiamalu**	**25.52**	**99**	LR	LR	22 44 21.6	
	comp=Z,90nm,19.2s,baz=340,slow=32						
WB0	**Warramunga Arr**	**28.26**	**248**	P	**P**	**22 36 30.8**	**-1.2**
WB0				IAmb	IAmb	22 36 47.9	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**28.30**	**219**	LR	LR	22 47 19.3	
	comp=Z,116nm,28.2s,baz=29,slow=36						
WRA	**Warramunga Arr**	**28.35**	**248**	P	**P**	22 36 27.1	-5.8
	comp=Z,0.3nm,0.6s,baz=81,slow=10,SNR=2.4						
WRA				LR	LR	22 47 41.5	
	comp=Z,98nm,18.4s,baz=93,slow=36						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**29.84**	**241**	P	**P**	**22 36 43.6**	**-2.5**
	comp=Z,0.2nm,0.4s,baz=63,slow=10,SNR=1.6						
ASAR				LR	LR	22 47 41.0	
	comp=Z,77nm,19.6s,baz=65,slow=34						
	comp=Z,0.2nm,0.4s						
URZ	**Urewera**	**30.33**	**156**	LR	LR	22 47 35.4	
	comp=Z,74nm,19.4s,baz=110,slow=33						
BBOO	**Buckleboo**	**32.51**	**224**	P	**P**	**22 37 09.1**	**-0.3**
BBOO				IAmb	IAmb	22 37 24.8	
	comp=Z,2.3nm,0.8s						
JHJ	**Hachijo jima 2**	**48.73**	**335**	LR	LR	22 57 26.5	
	comp=Z,21nm,21.5s,baz=102,slow=33						
JNU	**Nakatsue**	**53.01**	**327**	LR	LR	23 00 37.4	
	comp=Z,14nm,19.9s,baz=184,slow=34						
KSRS	**Korea Array**	**57.87**	**328**	LR	LR	23 01 44.0	
	comp=Z,15nm,21.7s,baz=285,slow=32						
USRK	**Ussuriysk Ar.**	**61.33**	**336**	P	**P**	**22 40 54.9**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=124,slow=7.2,SNR=2.1						
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**66.62**	**180**	P	**P**	**22 41 29.8**	**+1.5**
VNDA				IAmb	IAmb	22 41 46.9	
	comp=Z,18nm,1.5s						
CMAR	**Chiang Mai Arr**	**68.93**	**295**	P	**P**	**22 41 41.0**	**-2.8**
	comp=Z,0.6nm,0.2s,baz=123,slow=6.6,SNR=1.4						
	comp=Z,0.6nm,0.2s						
SONM	**Songino Array**	**76.55**	**325**	P	**P**	**22 42 27.1**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=133,slow=4.4,SNR=1.5						
	comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**84.47**	**20**	P	**P**	**22 43 09.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=266,slow=5.3,SNR=4.6						
	comp=Z,0.2nm,0.6s						

IDC ***27*** *22:42:05.8±9.4, 36°46N×71°24E, h176km±65km, mb3.7/1, mbtmp3.8/5, MS2.7/1, Error ellipse: s-maj=123.3km s-min=39.9km az=77.0*

ISC 27 22:42:07.8±4.1, 36°6N±0°1×71°4E±0°6, h200km, n7, σ0§82/6, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.52**	**21**	P	**Pn**	**22 43 41.5**	**-0.4**
	1.8nm,0.4s,baz=216,slow=4.5,SNR=13						
AAK				S	**Sn**	**22 44 57.1**	**+0.6**
	5.1nm,0.5s,baz=339,slow=22,SNR=27						
KK31	**Karatay Array**	**6.56**	**354**	P	Pn	22 43 35.8	-6.5
	0.9nm,0.2s,baz=196,slow=15,SNR=52						
KK31				S	Sn	22 44 45.5	-12
	1.9nm,0.4s,baz=190,slow=25,SNR=11						
MKAR	**Makanchi Array**	**13.06**	**35**	P	**P**	**22 45 08.4**	**-0.6**
	0.4nm,0.5s,baz=212,slow=13,SNR=2.3						
KURBB	**Kurchatov Arra**	**14.96**	**18**	P	**P**	**22 45 29.9**	**-0.2**
	1.5nm,0.2s,baz=211,slow=10,SNR=2.5						
AB31	**Akbulak array**	**15.17**	**330**	P	Pn	22 45 22.2	-10
	0.3nm,0.5s,baz=151,slow=12,SNR=16						
ZALV	**Zalesovo Beam**	**19.73**	**24**	P	**P**	**22 46 23.0**	**+1.0**
	0.5nm,0.3s,baz=214,slow=10,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.23**	**119**	P	**P**	**22 48 00.1**	**+0.3**
	1.3nm,0.4s,baz=312,slow=11,SNR=4.6						
CMAR				LR	LR	23 04 13.8	
	comp=Z,12nm,18.0s,baz=55,slow=44						
	1.3nm,0.4s						

IDC ***27*** *22:47:57.3±2.4, 24°36N×125°24E, h0km, mb3.5/6, mbtmp3.5/6, MS3.3/1, Error ellipse: s-maj=171.8km s-min=21.7km az=65.0*

JMA ***27*** *22:48:01.7±0.2, 24°3N±0°9×125°2E±0°7, h37km, MV3.5/11, NEAR MIYAKOJIMA ISLAND*

ISC 27 22:48:01.5±1.7, 24°22N±0°09×125°20E±0°06, h28km±11km, n21, σ0§89/30, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.53**	**13**	*i* P	**Pb**	**22 48 12.2**	**0.0**
JMJ2				S	**Sb**	**22 48 20.2**	**+0.6**
JOGS	**Gusukube**	**0.57**	**20**	*i* P	**Pb**	**22 48 12.7**	**-0.2**
JOGS				S	**Sb**	**22 48 21.5**	**+0.8**
JIRB	**Irabujima**	**0.60**	**358**	*i* P	**Pb**	**22 48 13.0**	**-0.5**
JIRB				S	**Sb**	**22 48 21.3**	**-0.4**
JTJ	**Tarama**	**0.61**	**313**	*i* P	**Pb**	**22 48 13.5**	**-0.2**
JTJ				S	**Sb**	**22 48 22.2**	**+0.2**
JIKM	**Ikemajima**	**0.70**	**4**	P	**Pb**	**22 48 14.7**	**-0.4**
JIKM				S	**Sb**	**22 48 24.4**	**0.0**
JISG	**Ishigakijimahi**	**0.89**	**294**	*i* P	**Pb**	**22 48 17.5**	**-0.7**
JISG				S	**Sb**	**22 48 29.2**	**-0.5**
JIJ	**Ishigaki jima**	**0.97**	**278**	P	**Pn**	**22 48 19.4**	**+0.1**
JIJ				S	**Sn**	**22 48 32.6**	**+0.5**
JKRS	**Kuro-shima**	**1.08**	**271**	P	**Pb**	**22 48 21.9**	**+0.3**
JKRS				S	**Sb**	**22 48 35.1**	**-0.3**
HATJ	**Hateruma jima**	**1.28**	**263**	P	**Pn**	**22 48 24.0**	**+0.5**
IRIF	**Iriomote-Funau**	**1.34**	**275**	P	**Pn**	**22 48 25.1**	**+0.8**
IRIF				S	**Sb**	**22 48 44.0**	**+1.2**
NACB	**Ninganchiao**	**3.29**	**270**	P	**Pn**	**22 48 51.3**	**+0.2**
YHNB	**Yeheng**	**3.51**	**278**	P	**Pn**	**22 48 56.5**	**+2.2**
YULB	**Yu-li**	**3.67**	**258**	P	**Pn**	**22 48 55.3**	**-1.0**
SSLB	**Suanglung**	**3.90**	**264**	P	**Pn**	**22 48 59.5**	**-0.1**
TWGBT	**Beinan**	**4.03**	**251**	P	**Pn**	**22 49 00.1**	**-1.2**
MKAR	**Makanchi Array**	**40.89**	**314**	P	**P**	**22 55 41.0**	**-0.2**
	0.5nm,0.4s,baz=101,slow=9.7,SNR=24						
MKAR				LR	LR	23 14 48.9	
	comp=Z,37nm,18.3s,baz=341,slow=40						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**42.25**	**325**	P	**P**	**22 55 50.9**	**-1.2**
	0.4nm,0.5s,baz=116,slow=9.8,SNR=2.0						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.79**	**168**	P	**P**	**22 56 12.4**	**-0.6**
	0.4nm,0.9s,baz=348,slow=8.7,SNR=2.2						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**48.35**	**169**	P	**P**	**22 56 43.0**	**+2.1**
	0.1nm,0.4s,baz=356,slow=10,SNR=4.4						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**49.98**	**320**	P	**P**	**22 56 51.8**	**-1.2**
	0.4nm,0.5s,baz=101,slow=8.6,SNR=5.4						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**73.24**	**330**	P	**P**	**22 59 29.8**	**0.0**
	1.7nm,1.0s,baz=47,slow=4.7,SNR=4.2						
	1.7nm,1.0s						

IDC ***27*** *22:51:43.4±1.2, 59°16N×30°37W, h0km, mb3.7/10, mbtmp3.8/12, ML3.2/2, Error ellipse: s-maj=32.9km s-min=18.2km az=15.0*

NEIC ***27*** *22:51:44.0±1.7, 59°24N±0°06×30°4W±0°2, h10km±1km, mb4.7/57, Error ellipse: s-maj=14.0km s-min=10.0km az=252.0*

ISC 27 22:51:43.9±0.4, 59°23N±0°07×30°32W±0°06, h10km, n73, σ1§25/74, mb4.5/39, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.97**	**34**	Pn	**Pn**	**22 53 26.1**	**+0.2**
	1.5nm,0.3s,baz=256,slow=5.5,SNR=6.0						
BORG				Sn	**Sn**	**22 54 42.1**	**-2.9**
	0.5nm,0.3s,baz=46,slow=9.9,SNR=2.1						
	6.4nm,0.3s						
BORG	**Borgarnes**	**6.97**	**34**	Pn	**Pn**	**22 53 25.6**	**-0.3**
ANGG	**Ammassalik, Gr**	**7.25**	**335**		**Pn**	**22 53 29.7**	**0.0**
FRB	**Frobisher Bay**	**18.59**	**300**	P	**Pn**	**22 56 03.2**	**+2.3**
	baz=53,slow=18,SNR=3.0						
	3.4nm,1.0s						
NB201	**NORSAR Array S**	**20.55**	**67**	P	**P**	**22 56 22.9**	**+0.6**
CLL	**Collm**	**25.52**	**89**	P	**P**	**22 57 12.2**	**0.0**
GRA1	**Grafenberg Arr**	**25.56**	**93**	P	**P**	**22 57 13.0**	**+0.4**
GRA1				IAmb	IAmb	22 57 32.3	
	comp=Z,17nm,1.5s						
GRFO	**Grafenberg**	**25.56**	**93**	P	**P**	**22 57 13.3**	**+0.7**
PAB	**San Pablo**	**25.67**	**129**	P	**P**	**22 57 15.1**	**+1.3**
PAB				IAmb	IAmb	22 57 46.8	
	comp=Z,13nm,1.2s						
MESJ	**Messejana**	**25.70**	**137**	P	**P**	**22 57 14.4**	**+0.5**
MESJ				IAmb	IAmb	22 57 54.7	
	comp=Z,75nm,1.5s						
D62A	**Allapoint, All**	**25.80**	**259**	P	**P**	**22 57 14.4**	**-0.4**
D62A				IAmb	IAmb	22 57 55.7	
	comp=Z,20nm,1.2s						
PFVI	**Vila Bisbo**	**26.12**	**138**	P	**P**	**22 57 17.9**	**+0.1**
EUNU	**Eureka**	**26.56**	**341**	P	**P**	**22 57 20.6**	**-0.8**
PKME	**Peaks-Kenny Pk**	**27.18**	**256**	P	**P**	**22 57 26.8**	**-0.4**
PKME				IAmb	IAmb	22 58 11.7	
	comp=Z,62nm,1.4s						
FINES	**FINESS Array B**	**27.27**	**61**	P	**P**	**22 57 28.6**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=278,slow=3.8,SNR=2.6						
	comp=Z,3.6nm,0.9s						
FIA1	**FINESS Array S**	**27.27**	**61**	P	**P**	**22 57 29.4**	**+1.5**
FIA1				IAmb	IAmb	22 57 59.4	
	comp=Z,14nm,1.4s						
RES	**Resolute Bay**	**27.69**	**329**	P	**P**	**22 57 34.3**	**+2.8**
	comp=Z,1.9nm,1.1s,baz=82,slow=8.2,SNR=3.9						
	comp=Z,1.9nm,1.1s						
AKASG	**Malin Array Be**	**34.14**	**78**	P	**P**	**22 58 30.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=312,slow=8.5,SNR=2.4						
	comp=Z,0.1nm,0.3s						
I49A	**Point Hope**	**35.00**	**268**	P	**P**	**22 58 35.7**	**-0.4**
BBSR	**BB Station**	**35.30**	**236**	P	**P**	**22 58 39.7**	**+0.9**
GLMI	**Grayling**	**35.30**	**270**	P	**P**	**22 58 38.3**	**-0.4**
GLMI				IAmb	IAmb	22 59 08.8	
	comp=Z,35nm,1.1s						
E43A	**Lone Tree Farm**	**35.47**	**274**	P	**P**	**22 58 38.9**	**-1.2**
E43A				IAmb	IAmb	22 58 44.4	
	comp=Z,41nm,1.4s						
TIP	**Timpagrande**	**35.73**	**103**	P	**P**	**22 58 41.2**	**-1.3**
TIP				IAmb	IAmb	22 58 49.1	
	comp=Z,8.6nm,1.3s						
P57A	**Homestead Farm**	**35.80**	**258**	P	**P**	**22 58 43.2**	**+0.2**
P57A				IAmb	IAmb	22 58 53.3	
	comp=Z,18nm,1.3s						
SCTE	**Santa Cesarea**	**35.91**	**100**	P	**P**	**22 58 45.5**	**+1.5**
VTS	**Vitosha**	**36.48**	**93**	P	**P**	**22 58 47.9**	**-1.1**
P52A	**Corning**	**37.77**	**262**	P	**P**	**22 58 59.9**	**+0.1**
P52A				IAmb	IAmb	22 59 05.3	
	comp=Z,26nm,1.4s						
YKA	**Yellowknife Ar**	**38.43**	**312**	P	**P**	**22 59 05.4**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=56,slow=8.8,SNR=6.0						
	comp=Z,0.8nm,0.8s						
Y58A	**Scranton**	**40.99**	**254**	P	**P**	**22 59 27.9**	**+1.2**
R40A	**Maddies Statio**	**43.98**	**270**	P	**P**	**22 59 50.8**	**-0.2**
NRIK	**Noril'sk**	**44.23**	**27**	P	**P**	**22 59 53.3**	**+0.6**
NRIK				IAmb	IAmb	22 59 55.4	
	comp=Z,8.6nm,1.5s						
S39A	**Bolivar**	**44.98**	**270**	P	**P**	**22 59 59.6**	**+0.6**
S39A				IAmb	IAmb	23 00 15.5	
	comp=Z,6.9nm,1.4s						
LCAR	**Lake Charles**	**45.11**	**267**	P	**P**	**22 59 57.4**	**-2.6**
OXF	**Oxford**	**45.42**	**264**	P	**P**	**23 00 01.7**	**-0.8**
OXF				IAmb	IAmb	23 00 08.2	
	comp=Z,20nm,1.1s						
KIV	**Kislovodsk**	**45.43**	**76**	P	**P**	**23 00 01.4**	**-1.2**
KIV				IAmb	IAmb	23 00 30.1	
	comp=Z,7.4nm,1.3s						
KBZ	**Khabaz**	**45.70**	**76**	P	**P**	**23 00 08.0**	**+3.4**
	comp=Z,2.4nm,0.9s,baz=334,slow=6.0,SNR=3.1						
	comp=Z,2.4nm,0.9s						
BNN

n11,σ1ˢ86/17,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.87**	**293**	*eP*	**Pg**	**22 55 45.8**	**-0.3**
CRUV				*eS*	**Sg**	**22 55 56.9**	**-0.5**
TRN	**Trinidad (W)**	**1.05**	**72**	*eP*	**Pg**	**22 55 49.1**	**-0.4**
TRN				*eS*	**Sg**	**22 56 03.1**	**-0.1**
GRGR	**Grenville**	**1.95**	**23**	*eP*	**Pn**	**22 56 03.0**	**+1.2**
TOSP	**Speyside**	**2.09**	**62**	*eP*	**Pn**	**22 56 04.0**	**+0.2**
TOSP				*eS*	**Sn**	**22 56 27.1**	**-2.5**
GCMP	**Grenada, Carri**	**2.36**	**24**	*eP*	**Pn**	**22 56 09.8**	**+2.3**
GCMP				*eS*	**Sn**	**22 56 37.3**	**+1.0**
PRGV	**PARIAGUAN**	**2.69**	**235**	*eP*	**Pn**	**22 56 14.4**	**+2.3**
PRGV				*eS*	**Sn**	**22 56 45.9**	**+1.4**
MERV	**Las Mercedes**	**3.96**	**255**	*eP*	**Pn**	**22 56 30.6**	**+1.0**
CACV	**CAICARA DEL OR**	**4.91**	**236**	*eP*	Pn	22 56 37.6	-5.0
CACV				*eS*	Sn	22 57 28.0	-11
BENV	**Beln**	**5.11**	**266**	*eP*	**Pn**	**22 56 47.0**	**+1.5**
BENV				*eS*	**Sn**	**22 57 42.0**	**-2.3**
BAUV	**El Baul**	**5.71**	**257**	*eP*	**Pn**	**22 56 54.2**	**+0.6**
BAUV				*eS*	**Sn**	**22 57 55.4**	**-3.7**
BAUV	**El Baul**	**5.71**	**257**	*eP*	**Pn**	**22 56 54.6**	**+1.0**

*FUNV **27** 23:16:19.8, 10.37N×62.39W, h2ᵏᵐ, MW3.0*
ISC 27 23:16:18.9±0.9, 10.4N±0.1×62.41W±0.04, h10ᵏᵐ, n10, σ1ˢ49/12, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.85**	**286**	*eP*	**Pg**	**23 16 35.8**	**+0.4**
CRUV				*eS*	**Sg**	**23 16 46.8**	**+0.4**
TRN	**Trinidad (W)**	**1.01**	**78**	*eP*	**Pg**	**23 16 38.5**	**+0.2**
TRN				*eS*	**Sg**	**23 16 50.4**	**-1.0**
TPR	**Prospect**	**1.76**	**65**	*eP*	**Pb**	**23 16 52.1**	**+0.7**
BOT	**Bacolet**	**1.81**	**66**	*eP*	**Pb**	**23 16 52.4**	**+0.2**
TOSP	**Speyside**	**2.03**	**65**	*eP*	Pn	23 16 48.0	-5.2
TOSP				*eS*	Sn	23 16 59.9	-19
PRGV	**PARIAGUAN**	**2.77**	**233**	*eP*	**Pn**	**23 17 04.4**	**+1.1**
PRGV				*eS*	**Sn**	**23 17 37.3**	**+0.4**
CACV	**CAICARA DEL OR**	**4.98**	**235**	*eP*	Pn	23 17 27.7	-6.1
CACV				*eS*	Sn	23 18 18.8	-13
BENV	**Beln**	**5.13**	**265**	*eP*	**Pn**	**23 17 36.7**	**+0.7**
BAUV	**El Baul**	**5.75**	**256**	*eP*	**Pn**	**23 17 44.6**	**+0.2**
BAUV				*eS*	**Sn**	**23 18 46.5**	**-4.0**
BAUV	**El Baul**	**5.75**	**256**	*eP*	**Pn**	**23 17 44.4**	**-0.1**

*NNC **27** 23:44:34.2±1.2, 41.51N×83.46E, h0ᵏᵐ, mb4.0, mpv3.6, Error ellipse: s-maj=9.7km s-min=6.3km az=167.0*
*SOME **27** 23:44:35.6, 41.70N×83.53E, h10ᵏᵐ*
ISC 27 23:44:38.3±3.2, 41.8N±0.2×83.4E±0.1, h10ᵏᵐ, n50, σ2ˢ70/50, 12C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 11nm,0.3s	**2.76**	**307**	Pg	**Pb**	**23 45 28.8**	**+0.9**
KTMS				Lg	Lg	23 46 11.8	
	79nm,0.6s						
KTMS	**Ketmen** 37nm,0.4s	**2.76**	**307**	*e*Pg	**Pg**	**23 45 31.8**	**+0.6**
KTMS				*e*Lg	Lg	23 46 12.1	
	49nm,0.4s						
SHLS	**Shalkode** 12nm,0.1s	**3.19**	**296**	Pg	**Pb**	**23 45 31.9**	**-3.2**
SHLS				Lg	Lg	23 46 16.3	
	3μm,0.6s						
SHLS	**Shalkode** 22nm,0.4s	**3.19**	**296**	*e*Pg	**Pb**	**23 45 34.1**	**-1.0**
SHLS				*e*Lg	Lg	23 46 16.4	
	3μm,0.6s						
UZB	**Uzynbulak** 13nm,0.5s	**3.48**	**294**	Pg	**Pb**	**23 45 40.8**	**+0.7**
UZB				Lg	Lg	23 46 31.6	
	54nm,0.4s						
UZB	**Uzynbulak** 13nm,0.5s	**3.48**	**294**	*e*Pg	**Pg**	**23 45 42.8**	**-2.2**
UZB				*e*Lg	Lg	23 46 31.0	
	54nm,0.4s						
DJR	**Jarkent** 3.1nm,0.4s	**3.64**	**315**	Pg	**Pb**	**23 45 43.9**	**+1.2**
DJR				Lg	Lg	23 46 37.4	
	37nm,0.5s						
DJR	**Jarkent** 3.5nm,0.2s	**3.64**	**315**	*e*Pg	**Pg**	**23 45 46.5**	**-1.4**
DJR				*e*Lg	Lg	23 46 37.4	
	37nm,0.5s						
KPKS	**Kokpek** 26nm,0.6s	**3.83**	**297**	Pg	**Pb**	**23 45 45.7**	**-0.4**
KPKS				Lg	Lg	23 46 41.0	
	100nm,0.4s						
KPKS	**Kokpek** 26nm,0.6s	**3.83**	**297**	*e*Pg	**Pb**	**23 45 48.8**	**+2.7**
KPKS				*e*Lg	Lg	23 46 41.4	
	100nm,0.4s						
SATY	**Saty** 18nm,0.7s	**3.88**	**290**	Pg	**Pb**	**23 45 47.6**	**+0.7**
SATY				Lg	Lg	23 46 44.0	
	69nm,0.5s						
SATY	**Saty** 18nm,0.7s	**3.88**	**290**	*e*Pg	**Pg**	**23 45 50.3**	**-2.4**
SATY				*e*Lg	Lg	23 46 43.5	
	69nm,0.5s						
ZHN	**Zhinishke** 6.6nm,0.2s	**3.90**	**292**	Pg	**Pb**	**23 45 48.5**	**+1.3**
ZHN				Lg	Lg	23 46 44.7	
	44nm,0.3s						
ZHN	**Zhinishke** 14nm,0.6s	**3.90**	**292**	*e*Pg	**Pg**	**23 45 50.5**	**-2.4**
ZHN				*e*Lg	Lg	23 46 44.5	
	44nm,0.3s						
KURS	**Kuram** 8.5nm,0.6s	**4.19**	**295**	Pg	**Pb**	**23 45 51.9**	**-0.2**
KURS				Lg	Lg	23 46 51.1	
	16nm,0.4s						
KURS	**Kuram** 8.5nm,0.6s	**4.19**	**295**	*e*Pg	**Pg**	**23 45 56.0**	**-2.5**
KURS				*e*Lg	Lg	23 46 53.6	
	16nm,0.4s						
BLB	**Baldybastay** 15nm,0.6s	**4.26**	**304**	Pg	**Pb**	**23 45 55.8**	**+2.5**
BLB				Lg	Lg	23 46 57.6	
	30nm,0.3s						
ARXS	**Arharly** 5.5nm,0.2s	**4.72**	**302**	Pg	**Pb**	**23 46 03.0**	**+1.8**
ARXS				Lg	Lg	23 47 10.6	
	3.7nm,0.7s						
KOTS	**Kotyrbulak** 13nm,0.6s	**4.84**	**289**	Pg	**Pb**	**23 46 07.1**	**+3.8**
KOTS				Lg	Lg	23 47 17.0	
	73nm,0.5s						
KOTS	**Kotyrbulak** 15nm,0.4s	**4.84**	**289**	*e*Pg	**Pg**	**23 46 09.7**	**-1.3**
KOTS				*e*Lg	Lg	23 47 17.3	
	73nm,0.5s						
MDOK	**Medeo** 2.4nm,0.5s	**4.87**	**288**	⇑Pn	**Pn**	**23 45 52.1**	**+0.4**
MDOK				Pg	**Pb**	**23 46 04.3**	**+0.6**
	6.8nm,0.5s						
MDOK				Pg	**Pg**	**23 46 08.7**	**-2.9**
	8.1nm,0.6s						
MDOK				Lg	Lg	23 47 12.0	
	31nm,0.9s						
MDOK				⇑Lg	Lg	23 47 14.6	
	28nm,0.6s						
MDOK	**Medeo** 6.8nm,0.5s	**4.87**	**288**	*e*Pg	**Pb**	**23 46 06.5**	**+2.8**
MDOK				*e*Lg	Lg	23 47 12.0	
	31nm,0.9s						
TNSS	**Tian-Shan** 5.6nm,0.4s	**4.91**	**287**	Pg	**Pb**	**23 46 06.6**	**+1.9**
TNSS				Lg	Lg	23 47 16.5	
	11nm,0.5s						
TNSS	**Tian-Shan** 6.5nm,0.6s	**4.91**	**287**	*e*Pg	**Pg**	**23 46 09.7**	**-2.7**
TNSS				*e*Lg	Lg	23 47 17.1	
	11nm,0.5s						
KNDC	**Almaty** 46nm,0.8s	**4.94**	**289**	⇑Pg	**Pb**	**23 46 08.7**	**+3.8**
KNDC				⇓Lg	Lg	23 47 16.9	
	82nm,0.9s						
MK31	**Makanchi Array** 0.1nm,0.2s,baz=163,slow=13,SNR=12	**5.04**	**351**	⇑Pn	**Pn**	**23 45 55.7**	**+1.8**
MK31				⇑Pg	**Pg**	**23 46 12.4**	**-2.3**
	3.0nm,0.7s,baz=165,slow=14,SNR=11						
MK31				⇓Lg	Lg	23 47 25.4	
	17nm,0.5s,baz=166,slow=26,SNR=6.5						
MAKZ	**Makanchi** 1.7nm,1.1s	**5.09**	**349**	⇑Pn	**Pn**	**23 45 57.0**	**+2.4**
MAKZ				⇑Pg	**Pg**	**23 46 13.4**	**-2.4**
	3.3nm,0.9s						
MAKZ				⇓Lg	Lg	23 47 26.5	
	20nm,0.8s						
CHKK	**Chushkaly** 1.3nm,0.3s	**5.12**	**296**	Pg	**Pb**	**23 46 10.0**	**+2.1**
CHKK				Lg	Lg	23 47 22.1	
	16nm,0.4s						
CHKK	**Chushkaly** 2.5nm,0.3s	**5.12**	**296**	*e*Pg	**Pb**	**23 46 11.8**	**+3.9**
CHKK				*e*Lg	Lg	23 47 21.1	
	16nm,0.4s						
IZV	**Izvestkoviy** 10.0nm,0.6s	**5.15**	**286**	*e*Pg	**Pb**	**23 46 10.9**	**+2.3**
IZV				*e*Lg	Lg	23 47 19.9	
KTBS	**Karatobe** 4.2nm,0.5s	**5.28**	**293**	Pg	**Pb**	**23 46 13.0**	**+2.4**
KTBS				Lg	Lg	23 47 27.1	
	28nm,0.8s						
KTBS	**Karatobe** 4.2nm,0.5s	**5.28**	**293**	*e*Pg	**Pg**	**23 46 15.1**	**-4.2**
KTBS				*e*Lg	Lg	23 47 26.9	
	28nm,0.8s						
MTBS	**Maitube** 4.9nm,0.5s	**5.30**	**287**	Pg	**Pb**	**23 46 12.0**	**+0.9**
MTBS				Lg	Lg	23 47 25.1	
	15nm,0.4s						
MTBS	**Maitube** 3.8nm,0.4s	**5.30**	**287**	*e*Pg	**Pb**	**23 46 14.8**	**+3.7**
MTBS				*e*Lg	Lg	23 47 26.1	
	15nm,0.4s						
KUU	**Kurty** 3.6nm,0.7s	**5.57**	**294**	Pg	**Pb**	**23 46 18.9**	**+3.3**
KUU				Lg	Lg	23 47 37.1	
	12nm,0.6s						
KUU	**Kurty** 3.6nm,0.7s	**5.57**	**294**	*e*Pg	**Pg**	**23 46 21.0**	**-4.0**
KUU				*e*Lg	Lg	23 47 36.7	
	12nm,0.6s						
KST	**Kastek** 3.7nm,0.4s	**5.62**	**285**	Pg	**Pb**	**23 46 19.9**	**+3.4**
KST				Lg	Lg	23 47 39.0	
	25nm,0.5s						
KST	**Kastek** 4.7nm,0.4s	**5.62**	**285**	*e*Pg	**Pg**	**23 46 22.4**	**-3.5**
KST				*e*Lg	Lg	23 47 39.0	
	25nm,0.5s						
ZSN	**Zaisan** 4.2nm,0.7s	**5.74**	**10**	Pg	Pg	23 46 22.5	-5.6
ZSN				Lg	Lg	23 47 43.0	
	33nm,0.9s						
ZSN	**Zaisan** 4.2nm,0.7s	**5.74**	**10**	*e*Pg	**Pg**	**23 46 24.2**	**-3.9**
ZSN				*e*Lg	Lg	23 47 42.0	
	33nm,0.9s						
DGS	**Degeres** 2.9nm,0.7s	**5.80**	**287**	Pg	**Pg**	**23 46 25.3**	**-4.0**
DGS				Lg	Lg	23 47 48.2	
	26nm,0.6s						
DGS	**Degeres** 5.3nm,0.7s	**5.80**	**287**	*e*Pg	**Pg**	**23 46 27.1**	**-2.2**
DGS				*e*Lg	Lg	23 47 47.4	
	26nm,0.6s						
TKM2	**Tokmak 2** 1.5nm,0.5s	**5.87**	**283**	⇓Pn	**Pn**	**23 46 04.9**	**-0.6**
TKM2				⇑Pg	**Pb**	**23 46 24.9**	**+4.2**
	4.2nm,0.6s						
TKM2				⇑Lg	Lg	23 47 45.9	
	26nm,0.9s						
KRBS	**Karabastau** 1.4nm,0.5s	**5.97**	**291**	Pg	**Pb**	**23 46 24.7**	**+2.2**
KRBS				Lg	Lg	23 47 47.4	
	8.6nm,0.8s						
KRBS	**Karabastau** 3.7nm,0.5s	**5.97**	**291**	*e*Pg	**Pg**	**23 46 28.9**	**-3.7**
KRBS				*e*Lg	Lg	23 47 50.1	
	8.6nm,0.8s						
CHMS	**Chumysh** 4.6nm,0.9s	**6.49**	**283**	⇑Pg	**Pb**	**23 46 35.8**	**+4.5**
CHMS				⇑Lg	Lg	23 48 06.7	
	16nm,1.1s						
KURBB	**Kurchatov Arra** 15nm,0.7s	**9.43**	**341**	⇓Lg	Lg	23 49 43.6	
KURK	**Kurchatov** 13nm,0.9s	**9.49**	**341**	⇓Lg	Lg	23 49 46.1	
KK31	**Karatay Array** 1.1nm,0.8s,baz=88,slow=16,SNR=5.4	**9.60**	**282**	⇑Pg	Pn	23 47 34.2	+38
KK31				⇓Lg	Lg	23 49 44.8	
	1.1nm,0.6s,baz=88,slow=24,SNR=4.7						
OTUK	**Ortayu** 7.6nm,1.2s	**10.11**	**313**	⇓Lg	Lg	23 50 04.8	

IDC 27 23:53:45.7±1.3, 2.89S×127.94E, h0ᵏᵐ, mb3.6/3, mbtmp3.7/5, ML3.9/2, Error ellipse: s-maj=32.6km s-min=23.5km az=72.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 29nm,0.3s,baz=213,slow=23,SNR=57	**3.89**	**59**	Pn	Pn	23 54 47.8	+1.1
SIJI				Sn	Sn	23 55 32.4	-0.8
	5.2nm,0.3s,baz=41,slow=23,SNR=10 52nm,0.3s						
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=339,slow=12,SNR=13 0.5nm,0.4s	**18.06**	**160**	P	Pn	23 57 57.2	-1.1
ASAR	**Alice Springs** 3.0nm,0.8s,baz=345,slow=11,SNR=26 3.0nm,0.8s	**21.45**	**165**	P	P	23 58 35.5	-0.3
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=130,slow=7.1,SNR=5.2 0.4nm,0.7s	**63.69**	**327**	P	P	00 04 19.4	+0.4
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=127,slow=6.3,SNR=5.0 0.2nm,0.3s	**67.96**	**329**	P	P	00 04 46.4	-0.1

ROM 27 23:59:08.1±0.0, 42.982N±0.002×13.031E±0.003, h10ᵏᵐ, ML1.2/7, 1D, Error ellipse: s-maj=0.2km s-min=0.2km az=88.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.07**	**37**	⇓P	Pg	23 59 10.6	+0.2
FDMO				S	Sg	23 59 11.9	-0.1
FDMO				AML	AML		
	comp=N,487μm,0.1s						
FDMO				AML	AML		
	comp=E,511μm,0.1s						
T1219	**Muccia, Frazio**	**0.08**	**347**	P	Pg	23 59 10.7	+0.2
T1219				S	Sg	23 59 12.1	-0.1
T1219				AML	AML		
	comp=E,162μm,0.2s						
T1219				AML	AML		
	comp=N,176μm,0.3s						
T1219				AML	AML		
	comp=E,162μm,0.2s						
T1219				AML	AML		
	comp=N,176μm,0.3s						
T1216	**Preci, Frazion**	**0.09**	**185**	P	Pg	23 59 11.0	+0.4
T1216				S	Sg	23 59 13.0	+0.5
T1216				AML	AML		
	comp=E,132μm,0.5s						
T1216				AML	AML		
	comp=N,154μm,0.9s						
T1216				AML	AML		
	comp=E,132μm,0.5s						
T1216				AML	AML		
	comp=E,132μm,1.5s						
T1216				AML	AML		
	comp=N,155μm,0.9s						
CESI	**CESI - Serrava**	**0.10**	**284**	P	Pg	23 59 11.2	+0.5
CESI				S	Sg	23 59 13.1	+0.5
CESI				AML	AML		
	comp=N,260μm,0.2s						
CESI				AML	AML		
	comp=E,116μm,0.5s						
T1220	**Camerino, Fraz**	**0.14**	**18**	P	Pg	23 59 11.8	+0.5
T1220				S	Sg	23 59 14.4	+0.9
T1220				AML	AML		
	comp=E,331μm,0.3s						
T1220				AML	AML		
	comp=N,288μm,0.4s						
CSP1	**Cessapalombo**	**0.17**	**49**	P	Pg	23 59 12.4	+0.5
CSP1				S	Sg	23 59 15.5	+1.0
T1212	**Cascia, Frazio**	**0.23**	**177**	P	Pg	23 59 13.6	+0.7
T1212				S	Sg	23 59 17.6	+1.5
T1212				AML	AML		
	comp=E,68μm,0.9s						
T1212				AML	AML		
	comp=N,84μm,0.5s						
T1212				AML	AML		
	comp=N,84μm,1.5s						
ASSB	**Assisi San Ben**	**0.28**	**283**	P	Pg	23 59 14.4	+0.6
ASSB				S	Sb	23 59 19.0	-1.0
ASSB				AML	AML		
	comp=E,30μm,1.6s						
ASSB				AML	AML		
	comp=N,25μm,1.6s						
ASSB				AML	AML		
	comp=N,25μm,0.4s						

ROM 28 00:00:05.3±0.1, 42.370N±0.003×13.346E±0.004, h10ᵏᵐ, ML1.6/10, 4C-2D, Error ellipse: s-maj=0.3km s-min=0.2km az=222.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.04**	**111**	P	Pg	00 00 07.9	+0.5
AQU				S	Sg	00 00 09.2	+0.4
AQU				AML	AML		
	comp=N,2540μm,0.4s						
AQU				AML	AML		
	comp=E,2420μm,0.5s						
AQU				AML	AML		
	comp=N,2530μm,0.4s						
AQU				AML	AML		
	comp=E,2360μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.08**	**334**	P	Pg	00 00 08.2	+0.5
T1247				S	Sg	00 00 10.1	+0.6
T1247				AML	AML		
	comp=E,2210μm,1.5s						
T1247				AML	AML		
	comp=N,2285μm,0.9s						
T1247				AML	AML		
	comp=E,2210μm,0.5s						
RM33	**Pellescritta (**	**0.17**	**325**	⇑P	Pg	00 00 09.8	+0.7
RM33				S	Sg	00 00 12.8	+1.1
RM33				AML	AML		
	comp=E,441μm,0.3s						
RM33				AML	AML		
	comp=N,310μm,1.1s						
RM33				AML	AML		
	comp=E,440μm,0.3s						
RM33				AML	AML		
	comp=N,310μm,0.9s						
CAMP	**Campotosto**	**0.17**	**16**	P	Pg	00 00 09.5	+0.4
CAMP				S	Sg	00 00 12.5	+0.7
CAMP				AML	AML		
	comp=N,296μm,0.6s						
CAMP				AML	AML		
	comp=E,210μm,0.3s						
CAMP				AML	AML		
	comp=N,296μm,1.4s						
GIGS	**Gran Sasso**	**0.18**	**64**	⇑P	Pg	00 00 09.8	+0.5
GIGS				S	Sg	00 00 12.8	+0.8
GIGS				AML	AML		
	comp=N,163μm,0.2s						
GIGS				AML	AML		
	comp=E,284μm,0.4s						
GIGS				AML	AML		
	comp=E,284μm,1.6s						
FIAM	**Fiamignano**	**0.20**	**239**	P	Pg	00 00 10.2	+0.7
FIAM				S	Sg	00 00 13.5	+1.1
FAGN	**Fagnano**	**0.20**	**120**	⇑P	Pg	00 00 10.4	+0.8
FAGN				S	Sg	00 00 14.0	+1.5
FAGN				AML	AML		
	comp=N,682μm,0.4s						
FAGN				AML	AML		
	comp=E,635μm,0.3s						
T1222	**Castel Sant'An**	**0.23**	**278**	⇑P	Pg	00 00 10.8	+0.7
T1222				S	Sg	00 00 14.7	+1.4
T1222				AML	AML		
	comp=E,298μm,0.3s						
T1222				AML	AML		
	comp=N,178μm,0.7s						
T1222				AML	AML		
	comp=E,298μm,1.7s						
TERO	**Teramo**	**0.32**	**37**	P	Pg	00 00 12.3	+0.6
TERO				S	Sg	00 00 16.6	+0.6
TERO				AML	AML		
	comp=E,254μm,1.0s						
TERO				AML	AML		
	comp=N,206μm,0.4s						
TERO				AML	AML		
	comp=E,254μm,1.0s						
TERO				AML	AML		
	comp=N,206μm,1.6s						
LNSS	**Leonessa**	**0.32**	**316**	P	Pg	00 00 12.3	+0.4
LNSS				S	Sb	00 00 17.7	-0.9
LNSS				AML	AML		
	comp=E,152μm,0.5s						
LNSS				AML	AML		
	comp=N,108μm,1.2s						
LNSS				AML	AML		
	comp=N,108μm,0.8s						
T1218	**Civita (PG)**	**0.34**	**330**	⇓P	Pg	00 00 12.7	+0.5
T1218				S	Sb	00 00 18.2	-1.0
PTQR	**Pietraquaria**	**0.35**	**173**	P	Pg	00 00 12.7	+0.4
PTQR				S	Sb	00 00 18.4	-1.0
T0110	**Collepietro**	**0.35**	**114**	P	Pg	00 00 12.9	+0.6
T0110				S	Sb	00 00 19.4	0.0
T0110				AML	AML		
	comp=E,192μm,0.5s						
T0110				AML	AML		
	comp=N,120μm,0.8s						
T1211	**Morro Reatino**	**0.40**	**294**	P	Pg	00 00 13.7	+0.4
T1211				S	Sb	00 00 19.7	-1.1
T1211				AML	AML		
	comp=E,62μm,0.7s						
T1211				AML	AML		
	comp=N,100μm,0.9s						
T1211				AML	AML		
	comp=E,62μm,1.3s						
T1211				AML	AML		
	comp=N,100μm,1.1s						
T1212	**Cascia, Frazio**	**0.44**	**330**	⇓P	Pg	00 00 14.5	+0.5
T1212				S	Sb	00 00 21.2	-0.8
CERT	**Cerreto**	**0.50**	**213**	P	Pg	00 00 15.2	+0.1
MC2	**Monte Cornacci**	**0.55**	**348**	P	Pg	00 00 16.6	+0.4
MC2				S	Sb	00 00 24.9	-0.5
T1215	**Vallo di Nera,**	**0.56**	**321**	P	Pg	00 00 16.3	+0.1
T1216	**Preci, Frazion**	**0.57**	**335**	P	Pg	00 00 16.6	+0.1
T1216				S	Sb	00 00 25.2	-0.5
CSP1	**Cessapalombo**	**0.73**	**352**	P	Pg	00 00 19.2	-0.2
CSP1				S	Sb	00 00 30.0	-0.3
T1219	**Muccia, Frazio**	**0.73**	**340**	P	Pg	00 00 19.7	+0.2
T1219				S	Sb	00 00 29.8	-0.5
T1220	**Camerino, Fraz**	**0.76**	**346**	P	Pg	00 00 20.0	-0.1

*NNC **28** 00:12:44.3±4.8, 36.75N×70.16E, h0ᵏᵐ, mb4.1, mpv4.0, Error ellipse: s-maj=46.3km s-min=22.7km az=166.0*
*IDC **28** 00:13:06.4±1.1, 38.27N×69.73E, h0ᵏᵐ, mb3.5/8, mbtmp3.6/14, ML3.2/6, Error ellipse: s-maj=20.6km s-min=12.0km az=153.0*
ISC 28 00:13:07.9±1.0, 38.29N±0.10×69.66E±0.08, h10ᵏᵐ, n19, σ2ˢ02/21, mb3.5/7, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 4.9nm,0.5s,baz=183,slow=11,SNR=82	**4.85**	**7**	⇑P	**Pn**	**00 14 21.3**	**+0.4**
KK31				⇓S	**Sb**	**00 15 32.7**	**+1.4**
	20nm,0.7s,baz=182,slow=31,SNR=5.4						
AAK	**Ala-Archa** 1.1nm,0.3s,baz=213,slow=9.5,SNR=18	**5.69**	**39**	Pn	**Pn**	**00 14 33.5**	**+0.8**
AAK				Sn	**Sn**	**00 15 39.0**	**+0.8**
	0.8nm,0.3s,baz=86,slow=4.5,SNR=1.1 1.9nm,0.3s						
TKM2	**Tokmak 2** 12nm,0.9s	**6.46**	**42**	⇑P	Pn	00 14 33.6	-10
TKM2				⇑S	**Sn**	**00 16 00.9**	**+3.7**
	15nm,0.6s						
GEYT	**Alibeck** 0.8nm,0.3s,baz=102,slow=10,SNR=10	**9.11**	**271**	Pn	**Pn**	**00 15 19.7**	**+0.3**
GEYT				Sn	**Sn**	**00 17 02.9**	**+1.0**

0.7nm,0.3s,baz=55,slow=26,SNR=1.8
1.3nm,0.3s
MKAR Makanchi Array 12.59 44 Pn **Pn 00 16 07.5 +0.5**
baz=229,slow=15,SNR=4.2
0.3nm,0.6s
AB31 Akbulak array 13.00 331 ⇓P **Pn 00 16 09.6 -2.9**
0.9nm,0.3s,baz=149,slow=13,SNR=7.2
AKTO Aktyubinsk 14.70 329 Pn **Pn 00 16 34.1 -1.6**
0.4nm,0.3s,baz=140,slow=15,SNR=6.8
2.2nm,0.5s
AKTO Aktyubinsk 14.70 329 ⇑P **Pn 00 16 37.5 +1.8**
2.3nm,0.6s
BVA0 Borovoye Array 14.74 2 ⇑P **Pn 00 16 32.1 -4.2**
0.8nm,0.5s,baz=174,slow=12,SNR=5.7
BVAR Borovoye Array 14.74 2 Pn **Pn 00 16 32.4 -3.9**
baz=176,slow=13,SNR=7.3
0.7nm,0.6s
ZALV Zalesovo Beam 18.79 29 P **P 00 17 25.6 -1.6**
0.2nm,0.3s,baz=221,slow=10,SNR=3.4
0.6nm,0.4s
KBZ Khabaz 20.86 294 P Pn 00 17 51.2 -1.1
1.0nm,0.7s,baz=344,slow=11,SNR=1.9
1.0nm,0.7s
KVAR Kislovodsk Arr 21.04 294 P **P 00 17 51.8 -0.1**
2.9nm,1.0s,baz=200,slow=22,SNR=2.3
2.9nm,1.0s
BRTR Keskin Array B 27.91 284 P **P 00 18 59.8 +1.5**
0.8nm,0.8s,baz=93,slow=9.8,SNR=1.6
0.8nm,0.8s
FINES FINESS Array B 35.40 325 P **P 00 20 03.8 +0.3**
0.6nm,0.4s,baz=103,slow=8.4,SNR=5.7
0.6nm,0.4s
NOA NORSAR Array B 42.31 322 P **P 00 21 01.1 -0.4**
0.2nm,0.3s,baz=97,slow=7.9,SNR=3.8
0.2nm,0.3s
TORD Torodi Ar. Bea 64.72 267 P **P 00 23 45.7 -0.8**
1.1nm,1.1s,baz=48,slow=4.3,SNR=2.3
1.1nm,1.1s
WRA Warramunga Arr 83.84 121 P **P 00 25 39.1 +1.3**
0.2nm,0.7s,baz=328,slow=4.4,SNR=1.3
0.2nm,0.7s
ASAR Alice Springs 86.15 124 P **P 00 25 48.8 -0.6**
0.2nm,0.5s,baz=328,slow=3.4,SNR=1.6
0.2nm,0.5s

NEIC ***28*** *00:18:26.4±1.3,29.25N±0.07×56.27E±0.09,h10km±1km, mb4.1/20,Error ellipse: s-maj=15.7km s-min=7.3km az=53.0*
TEH ***28*** *00:18:29.4,29.17N×56.60E,h17km±27km,ML4.2*
OMAN ***28*** *00:18:31.7±0.1,29.17N×56.56E,h10km±1km,mb4.7/13, ml4.5/11,Error ellipse: s-maj=2.4km s-min=1.8km az=43.0*
SGS ***28*** *00:18:31.4,29.36N×56.47E,h7km,Ml3.7*
IDC ***28*** *00:18:33.2±2.1,29.03N×56.57E,h70km±21km,mb3.7/17, mbtmp4.0/20,MS3.3/14,Error ellipse: s-maj=15.4km s-min=11.6km az=98.0*

ISC 28 00:18:27.3±0.4,29.19N±0.03×56.55E±0.05,h10km,n184, σ2s61/193,mb4.0/23,MS3.3/10,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NGRK	**Negar Kerman**	**0.48**	**19**	Pg		**Pb**	**00 18 40.4**	**+2.4**
NGRK				Sg		**Sb**	**00 18 46.8**	**+1.5**
KRBR	**Kerman**	**0.81**	**13**	Pg		**Pg**	**00 18 44.0**	**+1.0**
TVBK	**TV Kerman**	**0.81**	**13**	Pg		**Pb**	**00 18 45.9**	**+2.2**
TVBK				Sg		**Sb**	**00 18 57.2**	**+2.3**
CHMN	**Cheshme madani**	**1.09**	**52**	Pg		**Pn**	**00 18 49.7**	**+0.8**
KHGB	**Koh Gabri**	**1.18**	**357**	Pg		**Pb**	**00 18 51.7**	**+1.7**
KHNJ	**Kahnooj**	**1.60**	**140**	Pg		**Pn**	**00 18 57.3**	**+1.7**
IBND	**Bandar-abas**	**1.73**	**180**	Pg		**Pb**	**00 19 01.3**	**+2.1**
ZRDN	**Zarand Kerman**	**1.77**	**359**	Pg		**Pn**	**00 19 01.1**	**+2.9**
GENO	**Geno**	**1.81**	**191**	Pn		**Pb**	**00 19 03.1**	**+2.4**
LAR1	**LAR**	**2.44**	**232**	Pn		**Pn**	**00 19 10.8**	**+3.5**
IBAF	**Bafgh**	**2.54**	**341**	Pn		**Pn**	**00 19 11.6**	**+2.9**
JHRM	**Jahrom**	**2.70**	**256**	Pn		**Pn**	**00 19 15.1**	**+4.3**
IMEH	**Mehriz**	**2.76**	**323**	Pn		**Pn**	**00 19 15.2**	**+3.4**
SHME	**Shamm**	**3.15**	**187**	P		**Pn**	**00 19 20.5**	**+3.6**
	SNR=33							
SHME	**Shamm**	**3.15**	**187**	Pn		**Pn**	**00 19 20.1**	**+3.1**
QIR1	**Qir**	**3.16**	**258**	Pn		**Pn**	**00 19 21.3**	**+4.2**
GHIR	**Ghir-Karzin**	**3.26**	**255**	Pn		**Pn**	**00 19 22.4**	**+3.8**
BANOM	**Banah**	**3.26**	**184**	*i* Pn		**Pn**	**00 19 22.0**	**+3.5**
	SNR=51							
BANOM	**Banah**	**3.26**	**184**	P		**Pn**	**00 19 22.0**	**+3.5**
	SNR=51							
BANOM				S		**Sn**	**00 19 59.6**	**+2.2**
	SNR=69							
BANOM	**Banah**	**3.26**	**184**	Pn		**Pn**	**00 19 22.1**	**+3.6**
JASK	**Jask - Hormozg**	**3.51**	**160**	P		**Pn**	**00 19 24.6**	**+2.7**
	SNR=36							
JASK	**Jask - Hormozg**	**3.51**	**160**	Pn		**Pn**	**00 19 24.6**	**+2.7**
LMD1	**Lamerd**	**3.51**	**239**	Pn		**Pn**	**00 19 25.0**	**+3.0**
BSRN	**Basiran**	**3.54**	**38**	Pn		**Pn**	**00 19 24.5**	**+2.0**
SHI	**Shiraz**	**3.55**	**278**	Pn		**Pn**	**00 19 26.1**	**+3.4**
ICHK	**Chekchek**	**3.56**	**329**	Pn		**Pn**	**00 19 26.1**	**+3.3**
YZKH	**Yazd**	**3.61**	**333**	Pn		**Pn**	**00 19 26.9**	**+3.5**
ZHSF	**Zahedan**	**3.71**	**82**	Pn		**Pn**	**00 19 27.2**	**+2.5**
ZHDN	**Zahedan**	**3.72**	**86**	Pn		**Pn**	**00 19 27.7**	**+2.7**
NHDN	**Nehbandan**	**3.74**	**53**	Pn		**Pn**	**00 19 27.7**	**+2.6**
UMQ	**Umm Al-Quwin**	**3.74**	**192**	*i* Pn		**Pn**	**00 19 28.9**	**+4.0**
	SNR=7.2							
UMQ	**Umm Al-Quwin**	**3.74**	**192**	Pn		**Pn**	**00 19 29.5**	**+4.5**
MASF	**Masafi**	**3.82**	**185**	P		**Pn**	**00 19 28.9**	**+2.7**
	SNR=42							
MASF				S		**Sn**	**00 20 12.8**	**+1.5**
	SNR=82							
MSFE	**Esma-Masafi**	**3.83**	**185**	*i* Pn		**Pn**	**00 19 29.9**	**+3.5**
	SNR=42							
MSFE	**Esma-Masafi**	**3.83**	**185**	Pn		**Pn**	**00 19 29.9**	**+3.5**
IKOO	**Kooshah**	**3.85**	**33**	Pn		**Pn**	**00 19 29.0**	**+2.1**
MDH	**Madha**	**3.88**	**183**	*i* Pn		**Pn**	**00 19 28.1**	**+1.1**
	SNR=10							
MDH	**Madha**	**3.88**	**183**	P		**Pn**	**00 19 29.5**	**+2.5**
	SNR=10							
MDH				S		**Sn**	**00 20 13.8**	**+1.1**
MDH	**Madha**	**3.88**	**183**	Pn		**Pn**	**00 19 28.7**	**+1.7**
UOSS	**Minazif**	**4.24**	**184**	Pn		**Pn**	**00 19 32.7**	**+0.7**
UOSS				Sn		**Sn**	**00 20 21.5**	**0.0**
UOSS	**Minazif**	**4.24**	**184**	*i* Pn		**Pn**	**00 19 34.6**	**+2.6**
	SNR=13							
UOSS	**Minazif**	**4.24**	**184**	P		**Pn**	**00 19 34.6**	**+2.6**
UOSS				S		**Sn**	**00 20 23.8**	**+2.2**
UOSS	**Minazif**	**4.24**	**184**	Pn		**Pn**	**00 19 34.2**	**+2.3**
NAZ	**Nazwa, Dubai**	**4.26**	**191**	*i* Pn		**Pn**	**00 19 36.1**	**+3.9**
	SNR=27							
NAZ	**Nazwa, Dubai**	**4.26**	**191**	P		**Pn**	**00 19 36.2**	**+4.1**
	SNR=27							
NAZ				S		**Sn**	**00 20 24.6**	**+2.6**
NAZ	**Nazwa, Dubai**	**4.26**	**191**	Pn		**Pn**	**00 19 36.3**	**+4.1**
HATD	**Hatta, Dubai**	**4.36**	**185**	*i* Pn		**Pn**	**00 19 37.0**	**+3.3**
	SNR=15							
HATD	**Hatta, Dubai**	**4.36**	**185**	P		**Pn**	**00 19 37.0**	**+3.3**
	SNR=16							
HATD				S		**Sn**	**00 20 26.6**	**+2.0**
HATD	**Hatta, Dubai**	**4.36**	**185**	Pn		**Pn**	**00 19 36.6**	**+3.0**
TKDS	**Koohdasht(Taba**	**4.44**	**6**	Pn		**Pn**	**00 19 37.1**	**+2.3**
IRAM	**Ramesheh**	**4.45**	**307**	Pn		**Pn**	**00 19 38.9**	**+3.9**
ESRB	**Sir Abu**	**4.46**	**208**	Pn		**Pn**	**00 19 38.1**	**+3.1**
TABS	**Tabas**	**4.47**	**6**	Pn		**Pn**	**00 19 37.8**	**+2.6**
ASHO	**Ashiyiah**	**4.51**	**186**	*i* Pn		**Pn**	**00 19 38.9**	**+3.2**
	SNR=33							
ASHO	**Ashiyiah**	**4.51**	**186**	P		**Pn**	**00 19 39.1**	**+3.4**
	SNR=33							
ASHO				S		**Sn**	**00 20 30.1**	**+1.8**
ASHO	**Ashiyiah**	**4.51**	**186**	Pn		**Pn**	**00 19 39.0**	**+3.3**
FAQ	**Al Faqa, Dubai**	**4.51**	**191**	*i* Pn		**Pn**	**00 19 39.1**	**+3.5**
	SNR=34							
FAQ	**Al Faqa, Dubai**	**4.51**	**191**	P		**Pn**	**00 19 39.2**	**+3.5**
	SNR=34							
FAQ	**Al Faqa, Dubai**	**4.51**	**191**	Pn		**Pn**	**00 19 39.2**	**+3.5**
AHBU	**AHRAM**	**4.62**	**267**	Pn		**Pn**	**00 19 40.9**	**+3.8**
ANAR	**Anarak**	**4.66**	**329**	Pn		**Pn**	**00 19 41.1**	**+3.2**
ASUD	**Al Ashush, Dub**	**4.68**	**194**	*i* Pn		**Pn**	**00 19 41.9**	**+4.0**
	SNR=128							
ASUD	**Al Ashush, Dub**	**4.68**	**194**	P		**Pn**	**00 19 42.1**	**+4.1**
	SNR=128							
ASUD				S		**Sn**	**00 20 34.6**	**+2.3**
ASUD	**Al Ashush, Dub**	**4.68**	**194**	Pn		**Pn**	**00 19 41.9**	**+4.0**
AFRZ	**Afriz**	**4.72**	**26**	Pn		**Pn**	**00 19 40.7**	**+2.1**
DSBU	**Dashti - Bushe**	**4.72**	**261**	Pn		**Pn**	**00 19 41.4**	**+2.8**
TNSJ	**Nastanj**	**4.76**	**1**	Pn		**Pn**	**00 19 42.1**	**+3.0**
IMON	**Monand**	**4.80**	**33**	Pn		**Pn**	**00 19 44.0**	**+4.1**
AJN	**Ajban**	**4.82**	**197**	*i* Pn		**Pn**	**00 19 43.6**	**+3.8**
	SNR=16							
AJN	**Ajban**	**4.82**	**197**	P		**Pn**	**00 19 43.9**	**+4.0**
	SNR=16							
AJN	**Ajban**	**4.82**	**197**	Pn		**Pn**	**00 19 43.8**	**+3.9**
NASN	**Na'in**	**4.83**	**319**	Pn		**Pn**	**00 19 43.9**	**+3.6**
CHBR	**Chabahar**	**5.00**	**135**	Pn		**Pn**	**00 19 44.5**	**+2.1**
SOHO	**SOHO**	**5.04**	**180**	Pn		**Pn**	**00 19 45.3**	**+2.4**
ALNE	**Al Ain**	**5.16**	**188**	*i* Pn		**Pn**	**00 19 47.4**	**+2.8**
	SNR=47							
ALNE	**Al Ain**	**5.16**	**188**	P		**Pn**	**00 19 47.9**	**+3.2**
	SNR=47							
ALNE				S		**Sn**	**00 20 46.9**	**+2.6**
ALNE	**Al Ain**	**5.16**	**188**	Pn		**Pn**	**00 19 47.7**	**+3.0**
IZEF	**Zefreh**	**5.17**	**317**	Pn		**Pn**	**00 19 48.8**	**+3.7**
IBRJ	**Brojen**	**5.31**	**302**	Pn		**Pn**	**00 19 51.0**	**+4.1**
SRVN	**Saravan**	**5.45**	**108**	Pn		**Pn**	**00 19 52.6**	**+3.9**
SHRT	**Shahrakht**	**5.47**	**35**	Pn		**Pn**	**00 19 51.9**	**+3.0**
NGCH	**Negor - Chabah**	**5.58**	**132**	Pn		**Pn**	**00 19 52.7**	**+2.3**
HOQ	**Hoqain**	**5.63**	**173**	P		**Pn**	**00 19 52.0**	**+1.0**
	SNR=42							
SHK1	**Shahrekord**	**5.79**	**304**	Pn		**Pn**	**00 19 57.4**	**+3.8**
BIDO	**Bidbid**	**5.82**	**166**	P		**Pn**	**00 19 54.6**	**+0.9**
	SNR=5.0							
BIDO	**Bidbid**	**5.82**	**166**	Pn		**Pn**	**00 19 55.2**	**+1.5**
ARQ	**Araqi**	**5.83**	**180**	P		**Pn**	**00 19 56.0**	**+2.2**
	SNR=48							
ARQ				S		**Sn**	**00 21 02.1**	**+1.4**
MZWR	**Madinat Zayed**	**5.91**	**205**	Pn		**Pn**	**00 19 57.8**	**+2.9**
KRSH	**Karshahi**	**6.08**	**323**	Pn		**Pn**	**00 20 00.8**	**+3.5**
GHWR	**Ruwais**	**6.16**	**213**	Pn		**Pn**	**00 20 00.2**	**+1.9**
WSAR	**Wadi Sarin**	**6.21**	**162**	P		**Pn**	**00 20 01.4**	**+2.3**
	8.2nm,0.3s,baz=348,slow=4.5,SNR=127							
WSAR				S		**Sn**	**00 21 08.0**	**-2.2**
	15nm,0.5s,baz=235,slow=22,SNR=7.5							
WSAR				LR		LR	00 23 19.7	
	comp=Z,92nm,21.5s,baz=356,slow=47							
WSAR	**Wadi Sarin**	**6.21**	**162**	P		**Pn**	**00 20 01.1**	**+2.0**
	SNR=159							
WSAR				S		**Sn**	**00 21 09.5**	**-0.7**
SAKB	**Bahrain**	**6.22**	**240**	Pn		**Pn**	**00 20 01.8**	**+2.6**
SMDO	**Samad**	**6.25**	**167**	P		**Pn**	**00 20 02.0**	**+2.3**
	SNR=22							
SMDO				S		**Sn**	**00 21 12.5**	**+1.2**
ISFB	**Sefidab**	**6.32**	**326**	Pn		**Pn**	**00 20 03.8**	**+3.1**
BSY	**Bisya**	**6.45**	**175**	P		**Pn**	**00 20 05.1**	**+2.8**
	SNR=25							
BSY				S		**Sn**	**00 21 18.1**	**+2.2**
UMZA	**Um Al Zommool**	**6.57**	**191**	Pn		**Pn**	**00 20 05.9**	**+1.9**
IANJ	**Anjilo**	**6.64**	**341**	Pn		**Pn**	**00 20 08.5**	**+3.3**
SLWR	**Sila**	**6.70**	**222**	P		**Pn**	**00 20 07.9**	**+2.1**
SLWR				S		**Sn**	**00 21 21.9**	**-0.3**
SLWR	**Sila**	**6.70**	**222**	Pn		**Pn**	**00 20 08.0**	**+2.1**
AMIS	**Naft Sefid**	**6.74**	**293**	Pn		**Pn**	**00 20 09.9**	**+3.5**
MZR	**Muzera**	**6.75**	**205**	Pn		**Pn**	**00 20 08.7**	**+2.2**
SMRA	**Abu-Samra**	**6.76**	**230**	P		**Pn**	**00 20 09.1**	**+2.5**
WBK	**Wadi Bani Khal**	**6.90**	**161**	P		**Pn**	**00 20 10.3**	**+1.7**
	SNR=34							
WBK				S		**Sn**	**00 21 25.0**	**-2.3**
JMDO	**Jabal Madar**	**6.93**	**168**	P		**Pn**	**00 20 10.5**	**+1.5**
JMDO				S		**Sn**	**00 21 29.0**	**+1.0**
IFIR	**Firoozkooh**	**7.19**	**334**	Pn		**Pn**	**00 20 16.1**	**+3.4**
KFJS2	**Khafji**	**7.21**	**265**	P		**Pn**	**00 20 14.0**	**+2.2**
KHMZ	**Khomeyn**	**7.23**	**311**	Pn		**Pn**	**00 20 16.8**	**+3.6**
JLN	**Jalan Bani Buh**	**7.47**	**159**	P		**Pn**	**00 20 17.8**	**+1.5**
	SNR=9.0							
NHRD	**Haradh**	**8.06**	**238**	S		**Sn**	**00 21 53.3**	**-2.5**
NHRD				P		**Pn**	**00 20 26.6**	**+2.1**
CHTH	**Charan**	**8.11**	**327**	Pn		**Pn**	**00 20 29.1**	**+3.8**
MHTO	**MHTO**	**8.27**	**171**	P		**Pn**	**00 20 29.8**	**+2.5**
	SNR=51							
MHTO				S		**Sn**	**00 21 59.1**	**-1.7**
MRVT	**Maraveh tapeh**	**8.46**	**357**	Pn		**Pn**	**00 20 34.3**	**+4.4**
GEYT	**Alibeck**	**8.81**	**8**	P		**Pn**	**00 20 38.5**	**+3.7**
	2.3nm,0.8s,baz=185,slow=15,SNR=2.0							
GEYT				LR		LR	00 24 34.4	
	comp=Z,290nm,18.2s,baz=198,slow=40							
DQM	**DQM**	**9.26**	**174**	P		**Pn**	**00 20 41.9**	**+1.0**
RMAH	**Rumah**	**9.42**	**248**	P		**Pn**	**00 20 43.9**	**+0.8**
RQBS	**RQBS**	**9.52**	**261**	P		**Pn**	**00 20 45.1**	**+0.6**
SNGE	**Sanandaj**	**9.77**	**309**	Pn		**Pn**	**00 20 51.7**	**+3.6**
ZNJK	**Zanjan**	**9.96**	**320**	Pn		**Pn**	**00 20 54.8**	**+4.0**
DOK	**Doka**	**10.76**	**192**	P		**Pn**	**00 21 02.4**	**+1.0**
RAYN	**Ar Rayn**	**11.40**	**243**	Pn		Pn	00 21 07.5	-2.8
RAYN	**Ar Rayn**	**11.40**	**243**	*i* Pn		Pn	00 21 09.3	-1.0
	SNR=17							
RAYN	**Ar Rayn**	**11.40**	**243**	P		**Pn**	**00 21 10.4**	**+0.1**
WHFO	**Wadi Hawf**	**11.51**	**193**	P		**Pn**	**00 21 12.2**	**+0.5**
	SNR=15							
DMTO	**DMTO**	**11.52**	**188**	P		**Pn**	**00 21 12.4**	**+0.6**
RBK	**Rabkut**	**11.83**	**191**	P		**Pn**	**00 21 16.7**	**+0.5**
KBL	**Kabul**	**11.88**	**60**	P		**Pn**	**00 21 16.7**	**-0.2**
ABTO	**Aybut**	**12.15**	**195**	P		**Pn**	**00 21 20.7**	**+0.1**
GEVA	**Gevas**	**14.44**	**313**	Pn		Pn	00 21 46.1	-5.8
GNI	**Garni**	**14.61**	**322**	LR		LR	00 27 59.7	
	comp=Z,91nm,18.6s,baz=124,slow=38							
GNI	**Garni**	**14.61**	**322**	P		**Pn**	**00 21 55.9**	**+1.7**
NIL	**Nilore**	**14.93**	**68**			**Pn**	**00 22 00.2**	**+1.8**
NIL				IAmb		IAmb	00 22 08.0	
	comp=Z,16nm,1.1s							
GURO	**Guroymak-BITLI**	**15.24**	**312**			**Pn**	**00 21 59.1**	**-3.5**
GURO				IAmb		IAmb	00 22 28.3	
	comp=Z,5.8nm,1.1s							
AKH	**Akhalkalaki**	**16.17**	**322**	Pn		**Pn**	**00 22 11.5**	**-3.3**
AKH				IAmb		IAmb	00 22 22.8	
	comp=Z,24nm,1.1s							
ONI	**Oni**	**17.04**	**325**	Pn		Pn	00 22 21.3	-4.5
KK31	**Karatay Array**	**17.85**	**35**	P		**Pn**	**00 22 36.2**	**+0.5**
KKAR	**Karatay Array**	**17.85**	**35**	P		**Pn**	**00 22 36.0**	**+0.2**
KKAR	**Karatay Array**	**17.85**	**35**			**Pn**	**00 22 35.9**	**+0.2**
KKAR				IAmb		IAmb	00 22 40.3	
	comp=Z,3.7nm,1.0s							
KIV	**Kislovodsk**	**18.43**	**327**	P		**P**	**00 22 39.3**	**-3.6**
KSH	**Kashi**	**19.02**	**52**	P		**P**	**00 22 47.0**	**-2.4**
KSH				pP		Pn	00 22 49.5	-0.6
KSH				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AAK	**Ala-Archa**	**19.73**	**42**	P		**P**	**00 22 59.0**	**+1.9**
	comp=Z,2.6nm,0.8s,baz=234,slow=9.6,SNR=6.8							
AAK				LR		LR	00 32 14.1	
	comp=Z,65nm,19.8s,baz=254,slow=41							
AAK	**Ala-Archa**	**19.73**	**42**	P		**P**	**00 22 56.9**	**-0.2**
AAK				IAmb		IAmb	00 23 01.4	
	comp=Z,9.3nm,1.2s							
ABKAR	**Akbulak array**	**20.21**	**6**	P		**P**	**00 23 02.2**	**+0.1**
ABKAR	**Akbulak array**	**20.21**	**6**	P		**P**	**00 23 01.1**	**-1.0**
ABKAR				IAmb		IAmb	00 23 05.4	
	comp=Z,6.8nm,0.8s							
CSS	**Mathiatis**	**20.48**	**292**	P		**P**	**00 23 02.0**	**-3.3**
AKTO	**Aktyubinsk**	**21.25**	**3**	P		**P**	**00 23 15.1**	**+1.6**
	comp=Z,13nm,0.8s,baz=188,slow=9.5,SNR=25							
AKTO				LR		LR	00 33 04.6	
	comp=Z,108nm,19.1s,baz=108,slow=41							
	comp=Z,13nm,0.8s							
TARG	**Taragay, Kyrgy**	**21.29**	**48**	P		**P**	**00 23 14.6**	**+0.1**
TARG				IAmb		IAmb	00 23 17.2	
	comp=Z,6.4nm,1.1s							
BR131	**Keskin Array S**	**21.56**	**305**	P		P	00 23 12.8	-4.3
BR131				IAmb		IAmb	00 23 20.0	
	comp=Z,15nm,1.2s							
BRTR	**Keskin Array B**	**21.56**	**305**	P		**P**	**00 23 18.4**	**+1.3**
	comp=Z,3.7nm,0.9s,baz=122,slow=12,SNR=15							
	comp=Z,3.7nm,0.9s							
BRTR	**Keskin Array B**	**21.56**	**305**	P		**P**	**00 23 13.4**	**-3.7**
ATD	**Arta Tunnel**	**21.73**	**219**	LR		LR	00 34 00.8	
	comp=Z,60nm,20.0s,baz=24,slow=43							
BELG	**Belogornoye**	**24.11**	**347**	P		**P**	**00 23 43.6**	**+0.6**
	comp=Z,13nm,0.9s,baz=166,slow=3.4,SNR=7.6							
BELG				LR		LR	00 34 48.0	
	comp=Z,62nm,20.4s,baz=180,slow=40							
	comp=Z,13nm,0.9s							
BRVK	**Borovoye**	**25.90**	**19**	P		**P**	**00 23 58.6**	**-0.7**
BRVK				IAmb		IAmb	00 24 01.0	
	comp=Z,5.9nm,0.8s							
BVAR	**Borovoye Array**	**25.90**	**19**	P		**P**	**00 24 00.3**	**+1.0**
	comp=Z,7.8nm,0.7s,baz=202,slow=7.6,SNR=42							
BVAR				PcP		**PcP**	**00 27 26.0**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=222,slow=1.9,SNR=2.4							
BVAR				LR		LR	00 35 46.1	
	comp=Z,71nm,20.3s,baz=228,slow=40							
	comp=Z,7.8nm,0.7s							
MAKZ	**Makanchi**	**26.48**	**41**	P		**P**	**00 24 03.9**	**-0.8**
MAKZ				IAmb		IAmb	00 24 10.1	
	comp=Z,5.6nm,0.9s							
MK31	**Makanchi Array**	**26.66**	**42**	P		**P**	**00 24 05.6**	**-0.6**
MKAR	**Makanchi Array**	**26.66**	**42**	P		**P**	**00 24 07.3**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=231,slow=8.9,SNR=16							
	comp=Z,1.8nm,0.7s							
MKAR	**Makanchi Array**	**26.66**	**42**	P		**P**	**00 24 05.3**	**-0.9**
KURBB	**Kurchatov Arra**	**27.06**	**32**	P		**P**	**00 24 11.1**	**+1.3**
	comp=Z,0.3nm,0.2s,baz=231,slow=8.7,SNR=8.0							
	comp=Z,0.3nm,0.2s							
ALN	**Alexandroupoli**	**27.44**	**303**	P		**P**	**00 24 10.6**	**-2.7**
RDO	**Rodhopi**	**27.87**	**304**	P		**P**	**00 24 13.9**	**-3.3**
WMQ	**Urumqi**	**28.78**	**51**	*e*P		**P**	**00 24 28.3**	**+3.0**
KIRV	**Kirov**	**29.80**	**352**	LR		LR	00 39 20.9	
	comp=Z,82nm,18.9s,baz=209,slow=42							
KBN	**Korca**	**31.27**	**301**	P		P	00 24 42.3	-5.1
ZAA0	**Zalesovo Array**	**32.16**	**32**	P		**P**	**00 24 54.2**	**-0.7**
ZAA0				IAmb		IAmb	00 24 56.6	
	comp=Z,2.8nm,0.8s							
ZALV	**Zalesovo Beam**	**32.16**	**32**	P		**P**	**00 24 55.0**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=234,slow=9.0,SNR=9.6							
ZALV				LR		LR	00 39 46.4	
	comp=Z,54nm,19.6s,baz=268,slow=39							
	comp=Z,1.2nm,0.5s							
ZALV	**Zalesovo Beam**	**32.16**	**32**	P		**P**	**00 24 54.3**	**-0.6**
LODK	**Lodwar**	**32.59**	**222**	P		P	00 24 53.1	-6.0
FINES	**FINESS Array B**	**38.04**	**337**	P		**P**	**00 25 45.1**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=123,slow=7.0,SNR=7.1							
	comp=Z,2.5nm,0.9s							
MBAR	**Mbarara**	**38.55**	**224**	LR		LR	00 42 58.0	
	comp=Z,64nm,20.0s,baz=3.5,slow=38							
PZH	**PanZhiHua**	**39.86**	**83**	P		**P**	**00 26 03.0**	**+1.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
SONM	**Songino Array**	**42.40**	**50**	P		**P**	**00 26 21.4**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=246,slow=6.1,SNR=4.8							
	comp=Z,1.5nm,0.9s							
NOA	**NORSAR Array B**	**43.70**	**330**	P		**P**	**00 26 31.7**	**-0.5**
	comp=Z,1.0nm,1.1s,baz=146,slow=6.5,SNR=2.1							
	comp=Z,1.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**45.85**	**60**	*e*P		**P**	**00 26 50.5**	**+0.7**
HHC				pmax		pmax		
	comp=Z,350nm,5.8s							
XLT	**XiLinHaoTe**	**49.02**	**56**	*e*P		**P**	**00 27 12.5**	**-1.9**
XLT				pP		pP	00 27 16.5	-1.7
XLT				pmax		pmax		
	comp=Z,2.0nm,1.3s							
XLT				pmax		pmax		
	comp=Z,110nm,4.7s							
TORD	**Torodi Ar. Bea**	**53.13**	**265**	P		**P**	**00 27 44.3**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=59,slow=7.5,SNR=16							
	comp=Z,1.6nm,0.6s							
YAK	**Yakutsk**	**56.80**	**33**	LR		LR	00 55 05.9	
	comp=Z,40nm,19.7s,baz=82,slow=38							
KSRS	**Korea Array**	**58.93**	**62**	P		**P**	**00 28 24.6**	**-2.2**
	comp=Z,0.8nm,0.8s,baz=292,slow=5.2,SNR=2.1							
	comp=Z,0.8nm,0.8s							
KLR	**Kul'dur**	**59.14**	**48**	LR		LR	00 54 20.8	
	comp=Z,35nm,18.1s,baz=306,slow=36							
DBIC	**Dimbokro**	**61.86**	**262**	P		**P**	**00 28 45.6**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=61,slow=10,SNR=1.5							
	comp=Z,1.1nm,0.5s							
BOSA	**Boshof**	**64.80**	**210**	P		**P**	**00 29 04.5**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=27,slow=10,SNR=7.3							
BOSA				LR		LR	01 00 47.6	
	comp=Z,53nm,18.5s,baz=18,slow=39							
	comp=Z,1.0nm,0.4s							
ILAR	**Eielson Array**	**84.57**	**10**	P	

KNRA	**Kununurra**	**51.38**	**275**	P	**P**	**00 39 59.0**	**+1.2**
PETK	**Petropavlovsk-**	**87.30**	**345**	LR	LR	01 20 19.6	
	comp=Z,16nm,18.8s,baz=168,slow=34						
MKAR	**Makanchi Array**	**119.09**	**309**	PKP	**PKiKP**	**00 49 41.5**	**0.0**
	comp=Z,0.2nm,0.4s,baz=186,slow=0.7,SNR=4.6						
FINES	**FINESS Array B**	**146.64**	**340**	PKPbc	**PKPab**	**00 50 34.1**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=56,slow=3.5,SNR=15						
AKASG	**Malin Array Be**	**152.74**	**322**	PKPbc	**PKiKP**	**00 50 50.4**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=53,slow=2.6,SNR=1.6						
AKASG				PKPab	**sPKPab**	**00 50 59.6**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=50,slow=4.5,SNR=4.9						
BRTR	**Keskin Array B**	**153.74**	**296**	PKPab	**PKPab**	**00 51 05.2**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=101,slow=5.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**161.42**	**177**	PKPab	**PKPab**	**00 51 39.1**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=176,slow=3.3,SNR=2.1						

*DNK **28** 00:32:39.3±0.5, 67.85N×20.20E, h0km, ML2.8(UPP), Explosion*
*UPP **28** 00:32:39.0±0.0, 67.86N×20.19E, h0km, ML2.8, Suspected explosion*
*HEL **28** 00:32:39.5±0.5, 67.86N×20.15E, h0km, ML1.2, Suspected explosion*

ISC 28 00:32:38.6±0.8, 67.85N±0.03×20.22E±0.02, h0km, n28, σ1§05/38, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.24**	**265**	P	**Pg**	**00 32 43.5**	**+0.3**
RATU				S	**Sg**	**00 32 46.8**	**+0.5**
RATU	**Laukkuluspa**	**0.24**	**265**	P	**Pg**	**00 32 43.5**	**+0.3**
RATU				S	**Sg**	**00 32 46.8**	**+0.5**
KOVU	**Salmi**	**0.38**	**357**	P	**Pg**	**00 32 46.2**	**+0.3**
KOVU				S	**Sg**	**00 32 51.1**	**+0.4**
KOVU	**Salmi**	**0.38**	**357**	P	**Pg**	**00 32 46.2**	**+0.3**
KOVU				S	**Sg**	**00 32 51.1**	**+0.4**
NIKU	**Nikkaluokta**	**0.45**	**273**	P	**Pg**	**00 32 47.4**	**+0.2**
NIKU	**Nikkaluokta**	**0.45**	**273**	P	**Pg**	**00 32 47.4**	**+0.2**
LANU	**Lannavaara**	**0.70**	**72**	P	**Pg**	**00 32 52.2**	**+0.2**
LANU	**Lannavaara**	**0.70**	**72**	P	**Pg**	**00 32 52.2**	**+0.2**
LANU	**Lannavaara** baz=259	**0.70**	**72**	PG	**Pg**	**00 32 52.3**	**+0.3**
LANU				SG	**Sg**	**00 33 01.5**	**+0.5**
DUNU	**Dundret**	**0.74**	**169**	P	**Pg**	**00 32 53.3**	**+0.5**
DUNU	**Dundret**	**0.74**	**169**	P	**Pg**	**00 32 53.3**	**+0.5**
MASU	**Masugnsbyn**	**0.79**	**119**	P	**Pg**	**00 32 54.0**	**+0.4**
MASU	**Masugnsbyn**	**0.79**	**119**	P	**Pg**	**00 32 54.0**	**+0.4**
SALU	**Saltoluokta**	**0.81**	**235**	P	**Pg**	**00 32 54.0**	**0.0**
SALU	**Saltoluokta**	**0.81**	**235**	P	**Pg**	**00 32 54.0**	**0.0**
KIF	**Kilpisjarvi**	**1.18**	**10**	*eP*	**Pg**	**00 33 01.8**	**+0.6**
KIF	**Kilpisjarvi**	**1.18**	**10**	PN	**Pn**	**00 33 02.8**	**+0.5**
KIF	comp=Z,2.2nm,0.2s			MSG		00 33 16.3	
KIF				SG	**Sg**	**00 33 17.4**	**+0.8**
PAJU	**Pajala**	**1.39**	**125**	P	**Pg**	**00 33 04.3**	**-0.9**
PAJU	**Pajala**	**1.39**	**125**	P	**Pg**	**00 33 04.3**	**-0.9**
PAJU	**Pajala** baz=309	**1.39**	**125**	PG	**Pg**	**00 33 04.3**	**-0.9**
PAJU				SB	**Sb**	**00 33 23.5**	**-0.1**
HEF	**Hetta**	**1.41**	**65**	*eP*	**Pn**	**00 33 03.1**	**-2.4**
HEF	**Hetta** comp=Z,1.5nm,0.2s	**1.41**	**65**	MSG		00 33 22.5	
HEF				SN	**Sn**	**00 33 27.6**	**+2.8**
ERTU	**Ertsjaerv**	**1.51**	**148**	PG	**Pg**	**00 33 07.6**	**+0.2**
ERTU				SN	**Sn**	**00 33 27.7**	**+0.5**
KLF	**Kolari** baz=295	**1.56**	**111**	PG	**Pn**	**00 33 07.9**	**+0.3**
KLF	comp=Z,1.0nm,0.2s			MSG		00 33 27.2	
KLF				SN	**Sg**	**00 33 31.4**	**+2.6**
KTK1	**Kautokeino**	**1.62**	**42**	SN	**Sg**	**00 33 32.1**	**+1.6**
TOF	**Tornio** comp=Z,1.8nm,0.2s	**2.40**	**136**	MSG		00 33 51.3	
TOF				SG	**Sb**	**00 33 53.7**	**+1.0**
ARA0	**ARCESS Array S**	**2.57**	**46**	SN	**Sn**	**00 33 50.9**	**-2.5**
RNF	**Rovaniemi**	**2.58**	**116**	PB	**Pb**	**00 33 24.2**	**-1.4**
RNF				SG	**Sb**	**00 33 57.8**	**+0.1**

*NEIC **28** 00:41:10.9±1.7, 10.3S±0.1×161.4E±0.1, h48km±8km, mb4.6/58, Error ellipse: s-maj=19.6km s-min=10.9km az=45.0*
*IDC **28** 00:41:10.1±2.7, 10.42S×161.34E, h62km±21km, mb3.6/10, mbtmp4.0/11, MS3.4/10, Error ellipse: s-maj=23.8km s-min=16.1km az=79.0*

ISC 28 00:41:09.8±0.6, 10.40S±0.07×161.39E±0.09, h50km, n95, σ1§30/91, mb4.6/41, MS3.3/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 10μm,0.3s,baz=165,slow=5.1,SNR=31	**1.72**	**304**	P	**Pn**	**00 41 37.0**	**-0.2**
HNR	43μm,0.4s,baz=156,slow=17,SNR=9.5			S	**Sn**	**00 41 58.1**	**+0.1**
HNR	comp=Z,9μm,19.1s,baz=118,slow=46			LR	LR	00 42 28.3	
HNR	**Honiara**	**1.72**	**304**		**Pn**	**00 41 36.9**	**-0.3**
HNR				Sn	**Sn**	**00 41 59.7**	**+1.7**
DVP	**Devils Point**	**9.82**	**139**	P	**Pn**	**00 43 30.1**	**+1.7**
KOUNC	**Koumac, New Ca**	**10.47**	**165**	Pn	**Pn**	**00 43 39.2**	**+1.9**
KOUNC	**Koumac, New Ca**	**10.47**	**165**	P	**Pn**	**00 43 39.5**	**+2.2**
LIFNC	**LIFOU**	**11.75**	**152**		**Pn**	**00 43 54.5**	**-0.3**
NOUC	**Port Laguerre**	**12.55**	**159**	P	**Pn**	**00 44 07.7**	**+2.0**
DZM	**Mont Dzumac** 4.2nm,0.3s,baz=161,slow=18,SNR=18	**12.58**	**158**	P	**Pn**	**00 44 07.2**	**+1.0**
DZM	4.6nm,0.7s,baz=296,slow=20,SNR=2.6			S	**Sn**	**00 46 21.4**	**-3.4**
DZM	comp=Z,90nm,18.1s,baz=243,slow=34			LR	LR	00 48 24.2	
DZM	**Mont Dzumac**	**12.58**	**158**	Pn	**Pn**	**00 44 07.7**	**+1.5**
MARNC	**Mare, Loyalty**	**12.73**	**151**	Pn	**Pn**	**00 44 08.3**	**+0.1**
YATNC	**Mamie plateau,**	**12.74**	**156**	P	**Pn**	**00 44 10.0**	**+1.7**
ONTNC	**Ouen Toro**	**12.80**	**158**	Pn	**Pn**	**00 44 10.7**	**+1.6**
ONTNC	**Ouen Toro**	**12.80**	**158**	P	**Pn**	**00 44 10.9**	**+1.9**
OUENC	**Ouen Island, N**	**13.04**	**157**	Pn	**Pn**	**00 44 13.6**	**+1.2**
OUENC	**Ouen Island, N**	**13.04**	**157**	P	**Pn**	**00 44 14.2**	**+1.8**
PMG	**Port Moresby** comp=Z,204nm,20.1s,baz=103,slow=35	**14.05**	**273**	LR	LR	00 49 14.4	
EIDS	**Eidsvold**	**17.81**	**212**		**P**	**00 45 15.7**	**+1.4**
AFI	**Afiamalu** comp=Z,92nm,19.6s,baz=327,slow=31	**26.45**	**100**	LR	LR	00 54 55.9	
WB0	**Warramunga Arr**	**27.64**	**247**	P	**P**	**00 46 52.7**	**-0.4**
WB2	**Warramunga Arr**	**27.73**	**247**	P	**P**	**00 46 52.6**	**-1.2**
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=76,slow=9.1,SNR=9.8 0.7nm,0.5s	**27.74**	**247**	P	**P**	**00 46 53.0**	**-0.9**
STKA	**Stephens Creek** 0.3nm,0.3s,baz=42,slow=15,SNR=1.1	**28.14**	**218**	P	**P**	**00 46 55.7**	**-1.6**
STKA	comp=Z,82nm,19.7s,baz=24,slow=35 0.3nm,0.3s			LR	LR	00 57 31.7	
STKA	**Stephens Creek**	**28.14**	**218**	P	P	00 47 05.0	+7.7
GUMO	**Guam** comp=Z,45nm,19.2s,baz=132,slow=35	**28.93**	**325**	LR	LR	00 58 09.0	
ASAR	**Alice Springs** 0.3nm,0.5s,baz=63,slow=9.5,SNR=7.9	**29.33**	**240**	P	**P**	**00 47 06.7**	**-1.3**
ASAR	comp=Z,106nm,18.2s,baz=91,slow=35 0.3nm,0.5s			LR	LR	00 58 22.0	
TOO	**Toolangi**	**30.61**	**205**	P	**P**	**00 47 21.2**	**+2.1**
TOO	comp=Z,9.6nm,1.1s			IAmb	IAmb	00 47 42.1	
BKZ	**Black Stump Fm**	**31.66**	**157**	P	**P**	**00 47 29.3**	**+0.9**
BKZ	comp=Z,16nm,1.3s			IAmb	IAmb	00 48 11.1	
KNRA	**Kununurra**	**32.19**	**257**	P	**P**	**00 47 32.9**	**-0.4**
KNRA	comp=Z,28nm,1.2s			IAmb	IAmb	00 48 01.0	
BBOO	**Buckleboo**	**32.27**	**222**	P	**P**	**00 47 33.6**	**-0.2**
BBOO	comp=Z,15nm,1.5s			IAmb	IAmb	00 47 37.4	
JCJ	**Chichijima** comp=Z,45nm,0.7s,baz=280,slow=15,SNR=1.8	**41.67**	**334**	P	**P**	**00 48 53.9**	**+0.3**
JMN	**Monobe**	**51.09**	**330**	P	**P**	**00 50 07.8**	**+0.3**
JNU	**Nakatsue** comp=Z,16nm,20.7s,baz=150,slow=34	**52.14**	**327**	LR	LR	01 10 42.0	
ASAJ	**Asahikawa** comp=Z,31nm,19.4s,baz=138,slow=35	**56.88**	**344**	LR	LR	01 14 35.7	
KSRS	**Korea Array** comp=Z,0.8nm,0.7s,baz=138,slow=8.8,SNR=2.7	**57.01**	**328**	P	**P**	**00 50 50.7**	**+0.2**
KSRS	comp=Z,16nm,20.4s,baz=130,slow=34			LR	LR	01 13 38.7	
	comp=Z,0.8nm,0.7s						
USRK	**Ussuriysk Ar.** comp=Z,2.1nm,0.8s,baz=124,slow=9.4,SNR=2.7	**60.54**	**336**	P	**P**	**00 51 13.9**	**-1.0**
	comp=Z,2.1nm,0.8s						
PETK	**Petropavlovsk-** comp=Z,6.3nm,1.1s,baz=182,slow=11,SNR=1.4 comp=Z,6.3nm,1.1s	**63.33**	**358**	P	**P**	**00 51 32.4**	**-1.1**
ULN	**Ulaanbaatar**	**75.31**	**326**	P	**P**	**00 52 47.5**	**-0.4**
SONM	**Songino Array** comp=Z,2.4nm,0.8s,baz=144,slow=5.7,SNR=7.7 comp=Z,2.4nm,0.8s	**75.66**	**325**	P	**P**	**00 52 48.9**	**-0.9**
SONM	**Songino Array**	**75.66**	**325**	P	**P**	**00 52 49.9**	**0.0**
KDAK	**Kodiak Island**	**77.61**	**23**	P	**P**	**00 53 01.3**	**+0.9**
P18K	**Big Mountain,**	**77.77**	**21**	P	**P**	**00 53 01.6**	**+0.2**
Q19K	**Cape Douglas,**	**78.01**	**22**	P	**P**	**00 53 03.7**	**+0.9**
P19K	**Oil Pt**	**78.67**	**22**	P	**P**	**00 53 06.8**	**+0.5**
SVW2	**Sparrevohn**	**78.89**	**20**	P	**P**	**00 53 09.4**	**+1.9**
SVW2	comp=Z,9.7nm,0.8s			IAmb	IAmb	00 53 10.1	
N19K	**Bonanza Creek**	**79.06**	**20**	P	**P**	**00 53 09.3**	**+0.8**
N19K	comp=Z,12nm,1.4s			IAmb	IAmb	00 53 13.6	
TNA	**Tin City**	**79.11**	**12**	P	**P**	**00 53 08.9**	**+0.4**
TNA	comp=Z,6.1nm,1.3s			IAmb	IAmb	00 53 45.0	
CNPM	**China Poot**	**79.32**	**22**	P	**P**	**00 53 11.3**	**+1.4**
L19K	**White Mountain**	**79.92**	**19**	P	**P**	**00 53 14.7**	**+1.6**
L19K	comp=Z,8.0nm,0.9s			IAmb	IAmb	00 53 15.6	
TTA	**Tatalina**	**80.10**	**18**	P	**P**	**00 53 15.4**	**+1.3**
TTA	comp=Z,13nm,1.4s			IAmb	IAmb	00 53 15.7	
M20K	**Styx River**	**80.28**	**20**	P	**P**	**00 53 16.2**	**+1.1**
M20K	comp=Z,8.7nm,1.3s			IAmb	IAmb	00 53 37.9	
SUA	**Susitna One**	**80.81**	**21**	P	**P**	**00 53 18.2**	**+0.2**
K20K	**Telida**	**81.02**	**19**	P	**P**	**00 53 20.3**	**+1.3**
K20K	comp=Z,11nm,1.5s			IAmb	IAmb	00 53 52.6	
GHO	**Glory Hole Cre**	**81.67**	**21**	P	**P**	**00 53 23.6**	**+1.1**
CAST	**Castle Rocks**	**81.70**	**19**	P	**P**	**00 53 22.9**	**+0.3**
CAST	comp=Z,6.3nm,0.8s			IAmb	IAmb	00 53 23.6	
SML	**Sawmill**	**81.91**	**22**	P	**P**	**00 53 24.7**	**+0.9**
KTH	**Kantishna Hill**	**82.17**	**20**	P	**P**	**00 53 25.1**	**0.0**
KTH	comp=Z,8.2nm,1.4s			IAmb	IAmb	00 54 03.1	
SCM	**Sheep Creek Mo**	**82.29**	**22**	P	**P**	**00 53 27.0**	**+1.2**
TRF	**Thorofare Moun**	**82.31**	**20**	P	**P**	**00 53 26.1**	**+0.1**
TRF	comp=Z,6.9nm,1.3s			IAmb	IAmb	00 53 36.1	
M24K	**Tolsona, Glenn**	**82.89**	**22**	P	**P**	**00 53 30.4**	**+1.6**
MCK	**McKinley**	**82.95**	**20**	P	**P**	**00 53 30.0**	**+0.9**
MCK	comp=Z,10nm,1.0s			IAmb	IAmb	00 53 30.4	
I21K	**Tanana**	**82.96**	**18**	P	**P**	**00 53 30.4**	**+1.3**
I21K	comp=Z,5.8nm,1.1s			IAmb	IAmb	00 53 31.5	
IMAR	**Indian Mountai**	**83.00**	**17**	P	**P**	**00 53 30.3**	**+1.0**
DHY	**Denali Highway**	**83.06**	**21**	P	**P**	**00 53 30.7**	**+0.8**
DHY	comp=Z,7.5nm,1.3s			IAmb	IAmb	00 53 33.9	
N25K	**Chitina, Valde**	**83.18**	**23**	P	**P**	**00 53 31.8**	**+1.5**
GLB	**Gilahina Butte**	**83.38**	**23**	P	**P**	**00 53 32.3**	**+0.9**
WRH	**Wood River Hil**	**83.72**	**20**	P	**P**	**00 53 33.4**	**+0.4**
I23K	**Minto, Yukon-K**	**83.75**	**19**	P	**P**	**00 53 34.0**	**+0.9**
CCB	**Clear Creek Bu**	**83.92**	**20**	P	**P**	**00 53 34.1**	**+0.1**
MDM	**Murphy Dome**	**83.99**	**19**	P	**P**	**00 53 34.8**	**+0.4**
MDM	comp=Z,9.9nm,1.5s			IAmb	IAmb	00 54 18.8	
BARN	**Barnard Glacie**	**84.01**	**24**	P	**P**	**00 53 36.1**	**+1.2**
HDA	**Harding Lake**	**84.06**	**20**	P	**P**	**00 53 35.8**	**+1.0**
HDA	comp=Z,8.7nm,1.4s			IAmb	IAmb	00 54 09.4	
M26K	**Nabesna, AK**	**84.26**	**23**	P	**P**	**00 53 36.0**	**+0.2**
IL31		**84.31**	**20**	P	**P**	**00 53 36.2**	**+0.3**
IL31	comp=Z,5.7nm,1.4s			IAmb	IAmb	00 53 45.4	
ILAR	**Eielson Array** comp=Z,0.9nm,0.7s,baz=245,slow=5.0,SNR=19 comp=Z,0.9nm,0.7s	**84.31**	**20**	P	**P**	**00 53 35.5**	**-0.5**
ILAR	**Eielson Array**	**84.31**	**20**	P	**P**	**00 53 36.6**	**+0.6**
L26K	**Log Cabin Wild**	**84.49**	**22**	P	**P**	**00 53 38.0**	**+1.0**
DOT	**Dot Lake**	**84.60**	**21**	P	**P**	**00 53 38.6**	**+1.1**
DOT	comp=Z,3.4nm,0.9s			IAmb	IAmb	00 53 39.6	
M27K	**Edge Creek, AK**	**84.66**	**23**	P	**P**	**00 53 39.8**	**+1.8**
SCRK	**Sand Creek**	**84.82**	**21**	P	**P**	**00 53 40.0**	**+1.2**
L27K	**Beaver Creek,**	**85.08**	**22**	P	**P**	**00 53 41.8**	**+1.8**
L27K	comp=Z,13nm,1.4s			IAmb	IAmb	00 54 07.4	
BCAR	**Beaver Creek A**	**85.09**	**22**	P	**P**	**00 53 42.0**	**+1.9**
J26L	**Joseph Creek**	**85.28**	**21**	P	**P**	**00 53 42.5**	**+1.5**
I26K	**Coal Creek Min**	**85.89**	**20**	P	**P**	**00 53 44.9**	**+0.9**
I26K	comp=Z,5.6nm,1.3s			IAmb	IAmb	00 54 20.8	
TOLK	**Toolik Lake Re**	**86.02**	**16**	P	**P**	**00 53 45.6**	**+1.0**
TOLK	comp=Z,4.5nm,1.4s			IAmb	IAmb	00 54 03.8	
EGAK	**Eagle**	**86.29**	**21**	P	**P**	**00 53 47.6**	**+1.7**
EGAK	comp=Z,11nm,1.4s			IAmb	IAmb	00 54 21.4	
BMAR	**Burnt Mountain**	**86.70**	**18**	P	**P**	**00 53 50.1**	**+2.2**
M30M	**Minto, Yukon**	**86.78**	**24**	P	**P**	**00 53 49.7**	**+1.3**
M30M	comp=Z,11nm,1.4s			IAmb	IAmb	00 54 20.4	
MOD	**Modoc Plateau**	**88.31**	**47**	P	**P**	**00 53 58.7**	**+2.3**
MOD	comp=Z,2.2nm,0.6s			IAmb	IAmb	00 54 02.3	
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.6s,baz=229,slow=5.5,SNR=2.6 comp=Z,0.3nm,0.6s	**88.91**	**51**	P	**P**	**00 53 57.0**	**-2.4**
I07A	**Izee**	**89.45**	**45**	P	**P**	**00 54 01.8**	**+0.2**
I07A	comp=Z,4.4nm,1.4s			IAmb	IAmb	00 54 36.6	
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,baz=104,slow=6.1,SNR=5.0 comp=Z,0.3nm,0.6s	**90.14**	**318**	P	**P**	**00 54 01.9**	**-2.8**
MKAR	**Makanchi Array**	**90.14**	**318**	P	**P**	**00 54 03.9**	**-0.8**
INK	**Inuvik**	**90.71**	**20**	P	**P**	**00 54 08.4**	**+1.7**
INK	comp=Z,3.4nm,1.4s			IAmb	IAmb	00 54 09.7	
ELK	**Elko** comp=Z,127nm,18.8s,baz=144,slow=32	**91.74**	**49**	LR	LR	01 30 36.8	
PLID	**Pearl Lake**	**92.12**	**45**	P	**P**	**00 54 14.9**	**+0.7**
PLID	comp=Z,1.9nm,1.2s			IAmb	IAmb	00 54 26.1	

*UCR **28** 00:44:16.0±1.6, 8.37N×82.82W, h40km±6km, MW3.7*
*UPA **28** 00:44:18.3±1.7, 8.43N×82.79W, h25km±9km, MW3.5*

ISC 28 00:44:17.2±1.1, 8.42N±0.04×82.83W±0.03, h34km±2km, n30, σ1§11/43, 3C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	**0.12**	**356**	*eP*	**Pn**	**00 44 22.9**	**+3.1**
LPPC				*eS*	**Sb**	**00 44 28.2**	**+0.8**
CCOL	**Caracol de Cor**	**0.14**	**267**	*eP*	**Pb**	**00 44 23.0**	**-0.4**
CCOL				*eS*	**Sb**	**00 44 29.0**	**+1.3**
CDITO	**Canoas**	**0.16**	**345**	*iP*	**Pb**	**00 44 23.3**	**-0.4**
CDITO				*i S*	**Sb**	**00 44 28.3**	**+0.3**
DVD	**David**	**0.38**	**87**	*eP*	**Pb**	**00 44 25.4**	**-0.7**
DVD				*eS*	**Sn**	**00 44 32.4**	**+0.2**
FITO	**Golfito**	**0.38**	**303**	*eP*	**Pb**	**00 44 24.7**	**-1.5**
BRU2	**Volcan**	**0.40**	**20**	*iP*	**Pb**	**00 44 26.2**	**-0.5**
BRU2				*eS*	**Sn**	**00 44 34.1**	**+1.0**
BRU2	**Volcan**	**0.40**	**20**	*eP*	**Pb**	**00 44 26.1**	**-0.5**
BRU2				*eS*	**Sn**	**00 44 34.0**	**+1.0**
EDAD	**Golfito**	**0.41**	**306**	*eP*	**Pb**	**00 44 25.1**	**-1.4**
EDAD				*eS*	**Sb**	**00 44 32.0**	**-1.0**
LOCO3	**Loma Colorada,**	**0.41**	**91**	*i P*	**Pb**	**00 44 25.9**	**-0.6**
LOCO3				*eS*	**Sn**	**00 44 33.0**	**-0.1**
BCO2	**Palmira**	**0.42**	**45**	*iP*	**Pb**	**00 44 26.5**	**-0.4**
BCO2				*eS*	**Sb**	**00 44 33.3**	**-0.4**
VITO	**San Vito**	**0.42**	**341**	*eP*	**Pb**	**00 44 26.6**	**-0.3**
EDSV	**San Vito**	**0.43**	**341**	*eP*	**Pb**	**00 44 26.5**	**-0.4**
PTAR3	**Potrerillos Ar**	**0.43**	**50**	*i P*	**Pb**	**00 44 26.5**	**-0.5**
PTAR3				*eS*	**Sn**	**00 44 34.8**	**+0.9**
JIME	**Puerto Jimenez**	**0.50**	**284**	*eP*	**Pb**	**00 44 26.9**	**-1.0**
JIME				*eS*	**Sb**	**00 44 36.0**	**+0.7**
EDP2	**Potrero Grande**	**0.69**	**330**	*eP*	**Pn**	**00 44 29.9**	**-0.7**
POTG	**Potrero Grande**	**0.69**	**336**	*eP*	**Pn**	**00 44 29.9**	**-0.8**
EDPN	**Palmar Norte**	**0.82**	**311**	*eP*	**Pn**	**00 44 31.5**	**-1.0**
SRBA	**San Rafael, Bu**	**0.97**	**327**	*eP*	**Pn**	**00 44 33.3**	**-1.2**
SRBA				*eS*	**Sn**	**00 44 46.6**	**-0.5**
BRIBI	**Bribri**	**1.20**	**359**	*eP*	**Pn**	**00 44 36.0**	**-1.7**
EDDO	**Dominical**	**1.32**	**309**	*eP*	**Pn**	**00 44 39.3**	**+0.1**
BUS1	**Rivas**	**1.45**	**321**	*eP*	**Pn**	**00 44 40.8**	**-0.7**
BUS1				*eS*	**Sn**	**00 44 59.8**	**+0.3**
CDM	**Cerro de Muert**	**1.46**	**321**	*eP*	**Pn**	**00 44 40.8**	**-0.8**
GMAL	**Guarumal, Vera**	**1.71**	**112**	*eP*	**Pn**	**00 44 44.4**	**-0.2**
ABE2	**San Pablo**	**1.76**	**317**	*eP*	**Pn**	**00 44 46.2**	**+0.7**
CVTV	**Tajo**	**1.82**	**330**	*eP*	**Pn**	**00 44 47.1**	**+0.6**
CVTQ	**Turrialba Volc**	**1.83**	**330**	*eP*	**Pn**	**00 44 47.2**	**+0.6**
VTR0	**Volcan Turrial**	**1.84**	**330**	*eP*	**Pn**	**00 44 47.3**	**+0.6**
HDC	**Heredia**	**2.02**	**321**	*eP*	**Pn**	**00 44 51.2**	**+2.2**
TRT1	**Tortuguero**	**2.33**	**339**	*eP*	**Pn**	**00 44 53.8**	**+0.6**
JTS	**Las Juntas de**	**2.80**	**312**	*eP*	**Pn**	**00 45 02.8**	**+3.1**

IDC 28 01:02:51.0±2.2, 2.56N×127.60E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=163.9km s-min=26.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=343,slow=11,SNR=8.4 1.0nm,0.7s	**23.32**	**164**	P	P	01 08 00.4	-0.6
ASAR	**Alice Springs** 0.2nm,0.8s,baz=342,slow=8.9,SNR=1.4 0.2nm,0.8s	**26.78**	**167**	P	P	01 08 33.2	+0.3
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=117,slow=7.5,SNR=5.8 0.2nm,0.5s	**59.01**	**325**	P	P	01 12 52.8	+0.1

*GCG **28** 01:08:15.3±0.8, 12.52N×93.12W, h28km±999km, MD4.7*
*NEIC **28** 01:08:35.5±2.5, 13.70N±0.06×91.87W±0.07, h10km±1km, mb4.7/224, Error ellipse: s-maj=13.0km s-min=8.7km az=225.0*
*SNET **28** 01:08:37.4±1.0, 13.61N×91.66W, h6km±519km, ML4.0*
*IDC **28** 01:08:41.4±3.0, 13.88N×91.39W, h70km±27km, mb4.0/15, mbtmp4.3/18, MS4.1/27, Error ellipse: s-maj=28.6km s-min=10.6km az=54.0*

ISC 28 01:08:37.3±0.4, 13.69N±0.06×91.81W±0.05, h35km, n383, σ1§19/294, mb4.6/106, MS4.1/26, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.65**	**22**	*eP*	**Pn**	**01 08 53.5**	**+3.4**
RTAL	**Retalhuleu**	**0.83**	**8**		**Pn**	**01 08 53.9**	**+1.3**
STG3	**Santiaguito 3,**	**1.04**	**13**	*eP*	**Pn**	**01 08 56.9**	**+1.3**
FUG	**Fuego 3**	**1.20**	**51**	*eP*	**Pn**	**01 09 00.5**	**+2.7**
PCG	**Pacaya**	**1.36**	**59**	*eP*	**Pn**	**01 09 02.7**	**+2.6**
PCG				*eS*	Sn	01 09 37.5	+20
HUEH	**Huehuetenango**	**1.64**	**10**		**Pn**	**01 09 05.2**	**+1.3**
NBG	**Las Nubes**	**1.68**	**58**	*eP*	**Pn**	**01 09 08.1**	**+3.7**
NBG				*eS*	Sn	01 09 48.0	+23
NUBE	**Las Nubes**	**1.98**	**84**	*eP*	**Pn**	**01 09 08.9**	**+0.4**
SLOZ	**Alcaldia de Sa**	**2.00**	**80**	*eP*	**Pn**	**01 09 09.8**	**+1.2**
SLOZ	comp=Z,570nm,0.6s			IAML		01 09 50.2	
CEVE	**Cerro Verde**	**2.13**	**86**	*eP*	**Pn**	**01 09 11.4**	**+0.8**
CEVE	comp=Z,2μm,0.6s			IAML		01 09 51.6	
JAYA	**Jayaque - finc**	**2.30**	**91**	*eP*	**Pn**	**01 09 13.2**	**+0.3**
JAYA				*eS*	**Sn**	**01 09 41.1**	**+1.1**
CEDA	**San Andres**	**2.35**	**87**	*eP*	**Pn**	**01 09 14.8**	**+1.3**
CEDA	comp=Z,1μm,0.6s			IAML		01 09 56.0	
MTO3	**Montecristo**	**2.48**	**73**		**Pn**	**01 09 16.9**	**+1.5**
UEES	**Universidad Ev**	**2.50**	**89**	*eP*	**Pn**	**01 09 17.3**	**+1.7**
SNET	**Serv Nac Est T**	**2.51**	**90**		**Pn**	**01 09 16.9**	**+1.2**
ESQI	**Esquipulas**	**2.55**	**70**		**Pn**	**01 09 17.7**	**+1.4**
CCIG	**Comitan**	**2.59**	**353**		**Pn**	**01 09 19.6**	**+2.6**
SJTE	**Alcalda de S**	**2.73**	**91**	*eP*	**Pn**	**01 09 20.2**	**+1.5**
SJTE				*eS*	**Sn**	**01 09 52.7**	**+2.2**
COEG	**Centro de Oper**	**2.85**	**91**	*eP*	**Pn**	**01 09 21.6**	**+1.2**
COEG	comp=Z,516nm,0.4s			IAML		01 10 07.0	
SCLA	**Alcaldia de Sa**	**3.00**	**89**	*eP*	**Pn**	**01 09 23.7**	**+1.3**
COEB	**Comit de Eme**	**3.20**	**93**	*eP*	**Pn**	**01 09 25.9**	**+0.7**
FAGO	**Alcalda de S**	**3.60**	**90**	*eP*	**Pn**	**01 09 31.2**	**+0.5**
PETF	**Flores**	**3.71**	**30**		**Pn**	**01 09 34.6**	**+2.4**
LCND	**La Caada**	**3.83**	**95**	*eP*	**Pn**	**01 09 35.1**	**+1.2**
LCND				*eS*	**Sn**	**01 10 19.2**	**+1.5**
TGUH	**Tegucigalpa,Un**	**4.42**	**85**	Pn	**Pn**	**01 09 43.7**	**+1.6**
CMIG	**Matias Romero** comp=Z,16nm,0.6s,baz=138,slow=9.6,SNR=23	**4.49**	**319**	P	**Pn**	**01 09 41.5**	**-1.5**
CMIG	comp=Z,151nm,1.0s,baz=124,slow=14,SNR=4.0			S	**Sn**	**01 10 35.4**	**+1.4**
CMIG				LR	LR	01 11 20.7	
CRIN	**San Cristobal**	**4.74**	**101**		**Pn**	**01 09 47.8**	**+1.4**
CNGN	**Cerro Negro

152A IAmb IAmb 01 13 13.4
comp=Z,24nm,0.8s

RUSC La Rusia 20.00 111 P P 01 13 08.4 +0.8
RUSC IAmb IAmb 01 13 15.5
comp=Z,36nm,1.1s

FW03 Perrin-Whitt E 20.09 345 IAmb IAmb 01 13 13.0
comp=Z,24nm,0.7s

ABTX Abilene, Hawle 20.16 341 IAmb IAmb 01 13 11.4
comp=Z,31nm,0.9s

ABTX Abilene, Hawle 20.16 341 P P 01 13 10.0 +1.3
baz=158,SNR=8.8

Z35A Perchaven, San 20.17 347 IAmb IAmb 01 13 26.2
comp=Z,38nm,1.0s

Y45A Yeager Farm, C 20.19 5 P P 01 13 09.6 +0.6
Y45A IAmb IAmb 01 13 14.5
comp=Z,42nm,0.8s

Y49A Blount Mountai 20.67 13 IAmb IAmb 01 13 18.3
comp=Z,48nm,1.6s

MIAR Mount Ida 20.82 356 P P 01 13 16.1 +0.3
baz=175

OXF Oxford 20.84 6 P P 01 13 16.6 +0.6
OXF IAmb IAmb 01 13 35.1
comp=Z,33nm,0.8s

OXF Oxford 20.84 6 P P 01 13 15.5 -0.5
baz=187,SNR=5.5

SC01 Santiago de lo 20.99 71 P P 01 13 17.0 -0.8
UALR University of 21.00 359 P P 01 13 19.0 +1.3
UALR IAmb IAmb 01 13 21.6
comp=Z,30nm,0.8s

X37A Clayton 21.05 352 P P 01 13 18.9 +0.6
X37A IAmb IAmb 01 13 33.5
comp=Z,46nm,1.4s

X48A Hartselle 21.11 11 IAmb IAmb 01 13 28.1
comp=Z,26nm,0.9s

Y52A Lilburn 21.28 18 IAmb IAmb 01 13 22.6
comp=Z,23nm,0.9s

SDV Santo Domingo 21.31 101 P P 01 13 20.3 -1.2
comp=Z,6.4nm,0.7s,baz=272,slow=6.4,SNR=10
SDV LR LR 01 22 54.4
comp=Z,128nm,20.0s,baz=55,slow=41
comp=Z,6.4nm,0.7s

SDV Santo Domingo 21.31 101 P P 01 13 20.6 -0.8
MCRA Macar, Loja 21.46 146 P P 01 13 24.1 +1.1
PLAL Pickwick Lake 21.46 8 P P 01 13 23.1 +0.4
FPAL Fort Paine 21.50 14 P P 01 13 23.8 +0.6
FPAL IAmb IAmb 01 13 26.1
comp=Z,27nm,0.8s

WHAR Wooly Hollow 21.51 359 IAmb IAmb 01 13 44.2
comp=Z,46nm,1.8s

MNTX Cornudas Mount 21.82 327 IAmb IAmb 01 13 32.2
comp=Z,17nm,0.8s

MNTX Cornudas Mount 21.82 327 P P 01 13 27.1 +0.5
baz=142,SNR=30

W35A Tecumseh 21.85 349 IAmb IAmb 01 13 29.2
comp=Z,19nm,0.9s

WMOK Wichita Mounta 21.88 344 P P 01 13 27.0 -0.3
baz=162,SNR=13

NHSC New Hope 22.05 27 P P 01 13 29.6 +0.6
baz=212

FNO Franklin 22.05 348 IAmb IAmb 01 13 31.1
comp=Z,28nm,0.7s

SWET Sewanee 22.08 13 P P 01 13 28.4 -0.9
SWET IAmb IAmb 01 13 45.9
comp=Z,18nm,0.9s

HODGE Hodges 22.21 21 IAmb IAmb 01 13 48.6
comp=Z,26nm,1.2s

TUL1 Leonard 22.41 352 P P 01 13 34.3 +1.4
baz=170

MSTX Muleshoe 22.51 336 P P 01 13 33.4 -0.6
MSTX IAmb IAmb 01 13 35.9
comp=Z,26nm,0.8s

MSTX Muleshoe 22.51 336 P P 01 13 33.5 -0.6
baz=151,SNR=17

RLO Rose Lookout 22.56 353 IAmb IAmb 01 13 34.8
comp=Z,20nm,1.1s

WVT Waverly 22.63 8 P P 01 13 35.1 -0.1
WVT IAmb IAmb 01 13 35.7
comp=Z,20nm,0.8s

WVT Waverly 22.63 8 P P 01 13 34.6 -0.6
baz=190

OK052 Battle Ridge R 22.65 349 P 01 13 34.9 -0.6
OK052 IAmb IAmb 01 13 35.8
comp=Z,19nm,0.9s

BG3 Lake Jocassee 22.67 19 IAmb IAmb 01 13 37.2
comp=Z,22nm,1.0s

Y57A Sumter 22.73 25 IAmb IAmb 01 13 37.6
comp=Z,29nm,1.0s

QUOK Quay 22.81 350 IAmb IAmb 01 13 37.3
comp=Z,16nm,0.9s

CLTN Cedars of Leba 22.84 11 P P 01 13 36.1 -1.3
CLTN IAmb IAmb 01 13 38.2
comp=Z,27nm,1.0s

AMTX Amarillo 22.91 339 P P 01 13 37.8 -0.4
baz=155

PBMO Poplar Bluff 23.02 3 IAmb IAmb 01 13 45.5
comp=Z,33nm,0.9s

OK044 Pawnee Station 23.02 350 IAmb IAmb 01 13 39.4
comp=Z,28nm,0.9s

TKL Tuckaleechee C 23.04 17 P P 01 13 39.5 0.0
comp=Z,28nm,0.9s,baz=194,slow=8.9,SNR=17
TKL LR LR 01 23 40.4
comp=Z,650nm,20.3s,baz=205,slow=40
comp=Z,28nm,0.9s

OK045 Pawnee Station 23.12 349 IAmb IAmb 01 13 40.8
comp=Z,16nm,0.7s

T42A Van Buren 23.25 1 IAmb IAmb 01 13 41.9
comp=Z,17nm,0.9s

V52A Sevierville 23.26 17 IAmb IAmb 01 13 42.9
comp=Z,25nm,0.9s

ELIS Ellis County 23.30 344 P P 01 13 42.0 -0.2
ELIS IAmb IAmb 01 13 45.7
comp=Z,22nm,0.8s

V53A Saluda 23.33 19 IAmb IAmb 01 13 43.8
comp=Z,19nm,1.0s

KMSC Kings Mountain 23.36 22 IAmb IAmb 01 13 46.0
comp=Z,18nm,1.0s

KMSC Kings Mountain 23.36 22 P P 01 13 42.8 +0.1
baz=206

U49A Red Boiling Sp 23.36 12 IAmb IAmb 01 13 44.0
comp=Z,18nm,0.8s

MGMO Mountain Grove 23.37 359 IAmb IAmb 01 13 44.1
comp=Z,28nm,1.0s

HSIG 23.40 314 P P 01 13 43.2 0.0
HSIG IAmb IAmb 01 13 47.7
comp=Z,65nm,1.8s

CGM3 Cape Girardeau 23.59 4 IAmb IAmb 01 13 44.6
comp=Z,25nm,1.0s

121A Cookes Peak, D 23.76 325 IAmb IAmb 01 13 50.3
comp=Z,26nm,1.1s

121A Cookes Peak, D 23.76 325 P P 01 13 48.7 +1.9
baz=139,SNR=9.9

BAUV El Baul 23.77 99 P P 01 13 47.1 +0.2
BAUV IAmb IAmb 01 13 47.8
comp=Z,25nm,0.9s

TZTN Tazewell 23.93 17 IAmb IAmb 01 14 01.7
comp=Z,13nm,0.9s

TZTN Tazewell 23.93 17 P P 01 13 47.5 -0.7
baz=200

S39A Bolivar 23.94 357 IAmb IAmb 01 13 50.0
comp=Z,12nm,0.8s

V55A Taylorsville 24.04 22 IAmb IAmb 01 14 06.8
comp=Z,18nm,0.9s

CCM Cathedral Cave 24.27 1 P P 01 13 49.7 -1.5
CCM IAmb IAmb 01 13 50.9
comp=Z,23nm,0.8s

CCM Cathedral Cave 24.27 1 P P 01 13 50.0 -1.2
baz=182

U54A Nelsons Funny 24.43 20 IAmb IAmb 01 13 54.0
comp=Z,29nm,0.9s

R40A Maddies Statio 24.50 359 IAmb IAmb 01 13 53.1
comp=Z,15nm,0.9s

DUN6 Lazy B Ranch 24.53 323 P P 01 13 54.9 +1.1
ATAH Atahualpa 24.61 146 P P 01 13 55.9 +0.9
comp=Z,1.5nm,0.5s,baz=329,slow=13,SNR=1.9
ATAH LR LR 01 21 16.3
comp=Z,166nm,19.9s,baz=339,slow=31
comp=Z,1.5nm,0.5s

V58A Windy Hill, Pi 24.80 25 IAmb IAmb 01 13 56.3
comp=Z,15nm,0.8s

CNNC Cliffs of the 24.86 28 P P 01 13 55.6 -1.0
baz=214

WCI Wyandotte Cave 24.92 10 P P 01 13 56.0 -1.2
WCI Wyandotte Cave 24.92 10 P P 01 13 56.0 -1.2
baz=193

ANMO Albuquerque 24.96 331 P P 01 13 59.0 +1.2
comp=Z,7.8nm,0.8s,baz=246,slow=12,SNR=29
comp=Z,7.8nm,0.8s

ANMO Albuquerque 24.96 331 P P 01 13 58.4 +0.6
ANMO Albuquerque 24.96 331 P P 01 13 58.9 +1.1
baz=145

SJG San Juan 25.06 77 LR LR 01 24 51.6
comp=Z,669nm,19.2s,baz=258,slow=39

R50A Paris 25.38 14 IAmb IAmb 01 14 01.2
comp=Z,11nm,0.9s

R32A Long Quarter, 25.38 347 IAmb IAmb 01 14 02.9
comp=Z,18nm,1.0s

TUC Tucson 25.39 320 P P 01 14 02.3 +0.8
TUC Tucson 25.39 320 P P 01 14 03.0 +1.5
baz=133

BLA Blacksburg 25.54 21 P P 01 14 02.3 -0.5
baz=206

KSU1 Kansas State U 25.66 351 P P 01 14 03.5 -0.4
baz=169

P40A Paris 25.74 360 IAmb IAmb 01 14 05.5
comp=Z,14nm,0.8s

T25A Trinidad 25.92 336 P P 01 14 07.8 +1.3
T25A IAmb IAmb 01 14 10.7
comp=Z,12nm,0.8s

T25A Trinidad 25.92 336 P P 01 14 07.8 +1.3
baz=151,SNR=7.7

T59A Double "B" Far 26.45 26 IAmb IAmb 01 14 14.4
comp=Z,15nm,0.9s

HDIL Hopedale 26.85 4 P P 01 14 14.1 -0.5
HDIL Hopedale 26.85 4 P P 01 14 12.8 -1.8
baz=186

SDCO Great Sand Dun 26.88 335 P P 01 14 16.0 +0.8
baz=150,SNR=6.5

SFIN Lafayette 26.90 8 P P 01 14 13.4 -1.7
baz=190

O48B Farmland 27.10 11 P P 01 14 15.8 -1.0
baz=194

P52A Corning 27.21 16 P P 01 14 16.8 -1.1
baz=201

S22A 4UR Ranch, Cre 27.43 334 IAmb IAmb 01 14 31.0
comp=Z,16nm,1.2s

S22A 4UR Ranch, Cre 27.43 334 P P 01 14 21.6 +1.4
baz=147,SNR=9.4

ACSO Alum Creek Sta 27.55 15 P P 01 14 19.7 -1.2
baz=199

MVCO Mesa Verde 27.76 331 P P 01 14 24.3 +1.2
baz=143,SNR=15

WUAZ Wupatki 27.97 324 IAmb IAmb 01 14 36.6
comp=Z,12nm,1.0s

WUAZ Wupatki 27.97 324 P P 01 14 25.1 +0.1
baz=136

O53A New Philadelph 28.04 17 P P 01 14 24.4 -0.8
baz=202

O54A Avella 28.23 19 IAmb IAmb 01 14 27.3
comp=Z,14nm,0.7s

SMCO Snowmass 28.70 335 P P 01 14 32.6 +1.0
U15A North Rim 29.14 325 IAmb IAmb 01 14 46.8
comp=Z,11nm,1.0s

BC3 Big Chuckawall 29.26 317 P P 01 14 37.2 +0.8
baz=127

M53A WI Miller and 29.30 17 P P 01 14 35.2 -1.3
baz=203

SSPA Standing Stone 29.48 22 P P 01 14 37.5 -0.5
baz=208

KNB Kanab 29.86 325 IAmb IAmb 01 15 01.4
comp=Z,21nm,1.4s

PFO Pinyon Flats O 29.91 316 LR LR 01 29 12.4
comp=Z,241nm,18.2s,baz=128,slow=41

O20A White River Ci 30.03 334 IAmb IAmb 01 14 45.9
comp=Z,16nm,1.4s

O20A White River Ci 30.03 334 P P 01 14 43.7 +0.5
baz=147

V12A Nelson 30.17 321 IAmb IAmb 01 14 56.2
comp=Z,29nm,1.6s

Q16A Castle Valley 30.40 329 IAmb IAmb 01 14 59.0
comp=Z,18nm,1.2s

SZCU Shurtz Canyon 30.42 325 P P 01 14 48.3 +1.6
SZCU IAmb IAmb 01 14 57.7
comp=Z,13nm,1.1s

P18A Preston Nutter 30.51 331 IAmb IAmb 01 14 50.5
comp=Z,17nm,1.6s

CCUT Cedar City 30.54 325 IAmb IAmb 01 15 00.1
comp=Z,16nm,1.0s

P17A Butcher Ranch, 30.62 330 IAmb IAmb 01 14 59.3
comp=Z,20nm,1.3s

TMUT Trail Mountain 30.71 330 IAmb IAmb 01 15 00.4
comp=Z,13nm,1.2s

RDMU Red Mountain 30.96 333 IAmb IAmb 01 14 54.5
comp=Z,15nm,1.4s

BINY Binghamton 31.54 23 P P 01 14 55.7 -0.6
BINY Binghamton 31.54 23 P P 01 14 55.6 -0.7
baz=210

JLU Jordanelle 31.84 331 IAmb IAmb 01 15 02.3
comp=Z,12nm,1.4s

MPMC Manual Prospec 32.04 319 P P 01 15 00.1 -0.9
baz=128

CTU Camp Tracy 32.06 331 P P 01 15 02.9 +1.9
CTU IAmb IAmb 01 15 04.0
comp=Z,28nm,1.8s

RSSD Black Hills 32.08 343 P P 01 15 00.9 -0.3
baz=157

SPR3 Spring Creek 3 32.11 326 IAmb IAmb 01 15 14.6
comp=Z,11nm,1.1s

DUG Dugway, Tooele 32.19 329 IAmb IAmb 01 15 13.5
comp=Z,8.7nm,1.3s

R11A Troy Canyon, C 32.36 324 P P 01 15 05.2 +1.5
baz=133

CWC Cottonwood Cre 32.66 319 P P 01 15 06.9 +0.6
baz=127

HWUT Hardware Ranch 32.69 332 IAmb IAmb 01 15 09.3
comp=Z,15nm,1.1s

BW06 Boulder Array 32.77 336 P P 01 15 08.4 +1.1
baz=147

PD31 Pinedale Array 32.77 336 P P 01 15 08.0 +0.7
PDAR Pinedale Array 32.77 336 P P 01 15 07.8 +0.4
comp=Z,1.7nm,0.9s,baz=128,slow=9.6,SNR=9.3
PDAR PcP **PcP 01 17 51.5 -0.6**
comp=Z,0.6nm,0.8s,baz=123,slow=6.6,SNR=2.4
PDAR LR LR 01 31 26.1
comp=Z,140nm,18.2s,baz=160,slow=42
comp=Z,1.7nm,0.9s

SADO Sadowa 32.80 17 LR LR 01 29 32.7
comp=Z,403nm,18.7s,baz=166,slow=38

LCH Last Change Ra 32.87 320 IAmb IAmb 01 15 20.2
comp=Z,10nm,1.5s

SPUT South Promonto 32.87 331 IAmb IAmb 01 15 19.2
comp=Z,11nm,1.1s

BOAV Boa Vista 32.90 107 P P 01 15 08.9 +0.4
BOAV IAmb IAmb 01 15 09.5
comp=Z,6.9nm,0.8s

HVU Hansel Valley 33.39 331 IAmb IAmb 01 15 15.6
comp=Z,14nm,1.1s

HRV Adam Dziewonsk 33.63 28 P P 01 15 14.7 +0.2
baz=217

LOHW Long Hollow 33.90 335 IAmb IAmb 01 15 19.4
comp=Z,26nm,1.6s

NV11 Mina Array Sit 33.93 321 IAmb IAmb 01 15 31.9
comp=Z,8.2nm,0.9s

MDPB Devils Postpil 34.01 319 P P 01 15 19.4 +1.1
NVAR Mina Array Bea 34.02 321 P P 01 15 20.6 +2.3
comp=Z,6.7nm,0.8s,baz=135,slow=8.2,SNR=23
comp=Z,6.7nm,0.8s

NVAR Mina Array Bea 34.02 321 P P 01 15 20.0 +1.7
LHV Little Huntoon 34.03 321 IAmb IAmb 01 15 30.2
comp=Z,12nm,1.2s

FXWY Fox Creek 34.10 335 IAmb IAmb 01 15 32.0
comp=Z,17nm,1.7s

LONY Lake Ozonia 34.15 22 P P 01 15 18.1 -0.9
baz=211

EYMN Ely 34.15 0 P P 01 15 18.2 -0.8
baz=181

KVN Kaiserville 34.30 322 IAmb IAmb 01 15 31.9
comp=Z,9.4nm,1.1s

ETMB Extrema 34.51 131 P P 01 15 22.7 +0.2
ETMB IAmb IAmb 01 15 31.3
comp=Z,18nm,1.3s

RLMT Red Lodge 34.66 338 P P 01 15 23.1 -0.6
baz=149

AGMN Agassiz Nation 34.66 355 P P 01 15 22.3 -1.1
baz=173

MDND Maddock 34.66 351 P P 01 15 21.8 -1.6
baz=167

BMN Battle Mountai 34.70 325 IAmb IAmb 01 15 35.3
comp=Z,12nm,1.2s

YMR Madison River 34.92 336 IAmb IAmb 01 15 28.8
comp=Z,14nm,1.2s

YERR Yerington 34.94 321 P P 01 15 28.2 +2.0
YERR IAmb IAmb 01 15 37.7
comp=Z,13nm,1.4s

HLID Hailey 35.53 331 IAmb IAmb 01 15 38.6
comp=Z,11nm,1.1s

HLID Hailey 35.53 331 P P 01 15 32.2 +1.0
baz=140,SNR=13

BOZ Bozeman (W) 35.95 336 P P 01 15 35.9 +1.2
baz=146

MFID Camas Ranch 36.10 330 IAmb IAmb 01 15 48.8
comp=Z,16nm,1.4s

DGMT Dagmar 36.16 346 P P 01 15 36.3 0.0
baz=160

G62A West of Eustis 36.24 26 P P 01 15 36.8 -0.2
ULM Lac du Bonnet 36.61 356 P P 01 15 38.6 -1.5
comp=Z,3.3nm,0.7s,baz=175,slow=12,SNR=4.8
ULM LR LR 01 32 52.0
comp=Z,166nm,18.1s,baz=208,slow=40
comp=Z,3.3nm,0.7s

PKME Peaks-Kenny Pk 36.81 27 P P 01 15 40.8 -1.1
baz=218

EGMT Eagleton 37.34 340 P P 01 15 46.2 -0.2
baz=151

PLID Pearl Lake 37.43 331 P P 01 15 47.7 +0.3
PLID IAmb IAmb 01 15 57.7
comp=Z,14nm,1.1s

LPAZ La Paz 37.88 141 P P 01 15 51.1 -0.9
comp=Z,0.5nm,0.4s,baz=308,slow=12,SNR=1.9
comp=Z,0.5nm,0.4s

MSO Missoula 37.89 335 IAmb IAmb 01 16 03.3
comp=Z,11nm,1.1s

MSO Missoula 37.89 335 P P 01 15 52.1 +0.9
baz=144

LMQ La Malbaie 38.21 24 IAmb IAmb 01 15 53.5
comp=Z,18nm,0.8s

F10A Beach Ranch, E 38.66 331 IAmb IAmb 01 16 02.3
comp=Z,17nm,0.9s

YBH Yreka Blue Hor 38.72 322 LR LR 01 33 19.8
comp=Z,161nm,19.7s,baz=151,slow=38

H04A Detroit Lake 40.27 326 P P 01 16 11.7 +0.8
H04A IAmb IAmb 01 16 14.2
comp=Z,12nm,0.8s

NEW Newport 40.35 334 LR LR 01 36 11.2
comp=Z,153nm,18.1s,baz=136,slow=41

NEW Newport 40.35 334 P P 01 16 12.8 +1.2
NEW IAmb IAmb 01 16 20.6
comp=Z,30nm,1.8s

NEW Newport 40.35 334 P P 01 16 11.9 +0.3
baz=140

C09A Chrisman Ranch 40.51 332 IAmb IAmb 01 16 15.2
comp=Z,14nm,0.9s

B08A Colville Reser 41.40 332 P P 01 16 21.9 +1.7
LON Longmire 41.45 329 IAmb IAmb 01 16 29.9
comp=Z,14nm,1.1s

SIV San Ignacio 42.35 133 P P 01 16 27.7 -0.7
comp=Z,4.2nm,0.7s,baz=309,slow=7.9,SNR=28
comp=Z,4.2nm,0.7s

B06A Marblemount 42.51 331 IAmb IAmb 01 16 31.4
comp=Z,18nm,0.8s

EDM Edmonton 42.98 341 IAmb IAmb 01 16 34.3
comp=Z,17nm,0.8s

FCC Fort Churchill 45.02 358 P P 01 16 48.5 -0.8
FCC IAmb IAmb 01 16 49.1
comp=Z,9.7nm,0.8s

SCHQ Schefferville 45.45 20 P P 01 16 51.0 -1.8
comp=Z,21nm,0.8s,baz=218,slow=6.8,SNR=21
SCHQ LR LR 01 36 56.2
comp=Z,807nm,19.7s,baz=244,slow=38
comp=Z,21nm,0.8s

YKA Yellowknife Ar 51.36 347 P P 01 17 37.5 -0.6
comp=Z,7.6nm,0.7s,baz=149,slow=7.6,SNR=15
comp=Z,7.6nm,0.7s

CPUP Villa Florida 52.03 140 P P 01 17 43.8 +0.1
comp=Z,1.6nm,0.8s,baz=302,slow=6.9,SNR=3.5
comp=Z,1.6nm,0.8s

KOTAN Kotaneelee Air 52.04 340 P P 01 17 43.9 +0.7
baz=139

FRB Frobisher Bay 52.57 13 LR LR 01 41 41.1
comp=Z,279nm,18.1s,baz=204,slow=38

DLBC Dease Lake 53.01 336 P P 01 17 52.3 +1.7
baz=131

WTLY Watson Lake, Y 53.67 338 P P 01 17 55.9 +0.6
baz=134

WRGLY Wrigley 54.24 343 P P 01 17 59.8 +0.4
baz=141

Q32M Nakina River 54.24 336 P P 01 17 59.5 -0.3
baz=129

P32M Atlin 55.21 336 P P 01 18 05.3 -1.3
baz=128

P33M Teslin, Yukon 55.25 336 P P 01 18 04.5 -2.4
baz=129

FARO Faro, Yukon 56.73 338 P P 01 18 18.4 +1.0
baz=130

M29M Somme Creek 58.77 337 P P 01 18 33.2 +1.4
baz=124

L29M L29M 59.02 337 P P 01 18 34.6 +1.2
baz=125

K29M Barlow Dome 59.22 338 P P 01 18 35.8 +0.9
baz=126

BVCY Beaver Creek 59.69 336 P P 01 18 38.2 +0.1
baz=122

SFJD Kangerlussuaq 59.75 17 LR LR 01 45 25.9
comp=Z,462nm,19.5s,baz=206,slow=37

M27K Edge Creek, AK 60.06 336 P P 01 18 42.0 +1.2
baz=121

F31M Tsiigehtchic 60.26 343 P P 01 18 42.1 +0.2
baz=132,SNR=5.8

BCAR Beaver Creek A 60.39 336 P P 01 18 45.1 +2.2
L27K Beaver Creek, 60.41 336 P P 01 18 43.1 +0.1
baz=121

G30M tAoh Zraii Nji 60.70 342 P P 01 18 45.4 +0.4
baz=129

INK Inuvik 60.78 344 LR LR 01 48 56.4
comp=Z,139nm,18.3s,baz=120,slow=40

INK Inuvik 60.78 344 P P 01 18 46.1 +0.7
INK Inuvik 60.78 344 P P 01 18 45.6 +0.2
baz=132,SNR=12

L26K Log Cabin Wild 60.98 336 P P 01 18 47.0 +0.1
baz=120

RES Resolute Bay 61.01 359 LR LR 01 48 14.6
comp=Z,248nm,18.2s,baz=198,slow=39

EGAK Eagle 61.06 338 P P 01 18 46.4 -0.9
baz=123

A36M Sachs Harbour 61.58 349 P P 01 18 50.2 -0.5
baz=143

I27K Kandik River 61.67 339 P P 01 18 51.8 +0.2
baz=123

SCRK Sand Creek 61.70 337 P P 01 18 52.6 +0.7
baz=119

M24K Tolsona, Glenn 61.71 334 P P 01 18 53.5 +1.6
baz=116

J26L Joseph Creek 61.80 337 P P 01 18 54.2 +1.6
baz=120

PAX Paxson 61.81 335 P P 01 18 53.1 +0.5
baz=117

RIDG Independent Ri 61.92 336 P P 01 18 53.0 -0.3
baz=118

H27K Steamboat Moun 61.98 339 P P 01 18 55.0 +1.4
baz=123

I26K Coal Creek Min 62.06 338 P P 01 18 54.9 +0.8
baz=121

K24K Donnelly Dome 62.32 336 P P 01 18 56.0 +0.1
baz=118

G27K Doyon Strip 62.34 340 P P 01 18 56.5 +0.5
baz=123

SML Sawmill 62.51 333 P P 01 18 57.5 +0.3
baz=114

PMR Palmer 62.77 333 P P 01 18 59.8 +0.9
baz=113

BRSE Bradley Lake S 62.81 331 P P 01 18 59.9 +0.6
baz=111

RC01 Rabbit Creek A 62.84 332 P P 01 18 60.0 +0.5
baz=112

WAT1 Susitna Watana 63.02 334 P P 01 19 00.8 +0.2
baz=114

PRP Porcupine Dome 63.03 338 P P 01 19 01.5 +0.8
baz=118

HDA Harding Lake 63.05 336 P P 01 19 01.9 +1.2
baz=117

KDAK Kodiak Island 63.07 328 LR LR 01 47 45.0
comp=Z,72nm,18.4s,baz=123,slow=37

E27K Coleen River 63.08 341 P P 01 19 01.9 +1.0
baz=124

G26K Porcupine Rive 63.13 340 P P 01 19 02.1 +0.9
baz=121

ILAR Eielson Array 63.19 337 P P 01 19 01.7 0.0
comp=Z,2.4nm,0.9s,baz=111,slow=5.1,SNR=17
ILAR LR LR 01 48 24.4
comp=Z,89nm,19.1s,baz=112,slow=38
comp=Z,2.4nm,0.9s

RND Reindeer 63.38 335 P P 01 19 04.8 +1.7
SUA Susitna One 63.44 333 P P 01 19 03.8 +0.3
baz=112

CUT	**Chulitna**	**63.58**	**334**	P		**P**		**01 19 06.2**	**+1.9**
	baz=112									
F26K	**Sheenjek River**	**63.63**	**340**	P		**P**		**01 19 05.4**	**+0.8**
	baz=121									
O20K	**Slope Mountain**	**63.82**	**331**	P		**P**		**01 19 06.7**	**+0.7**
	baz=109									
G25K	**Bearman Lake**	**63.83**	**339**	P		**P**		**01 19 06.4**	**+0.6**
	baz=118									
SKT	**Skwentna**	**63.97**	**333**	P		**P**		**01 19 07.2**	**+0.3**
	baz=111									
TRF	**Thorofare Moun**	**63.99**	**335**	P		**P**		**01 19 08.0**	**+0.8**
	baz=113									
N20K	**Mount Spurr**	**64.00**	**332**	P		**P**		**01 19 06.7**	**-0.5**
	baz=110									
SPCR	**Spurr Chakacha**	**64.00**	**332**	P		**P**		**01 19 06.8**	**-0.4**
	baz=110									
H24K	**Nooder Dome**	**64.04**	**338**	P		**P**		**01 19 08.4**	**+1.1**
	baz=116									
F25K	**Christian Rive**	**64.08**	**340**	P		**P**		**01 19 09.3**	**+1.8**
	baz=119,SNR=9.0									
CHIR	**Chirikof Islan**	**64.13**	**326**	P		**P**		**01 19 08.4**	**+0.4**
	baz=104									
G24K	**Hadweenzic Riv**	**64.28**	**339**	P		**P**		**01 19 09.2**	**+0.4**
	baz=117									
I23K	**Minto, Yukon-K**	**64.30**	**337**	P		**P**		**01 19 09.8**	**+0.9**
	baz=114,SNR=8.5									
E25K	**Arctic Village**	**64.31**	**340**	P		**P**		**01 19 10.3**	**+1.3**
	baz=120,SNR=10									
C27K	**Jago River**	**64.51**	**342**	P		**P**		**01 19 11.4**	**+1.1**
	baz=122,SNR=14									
BPAW	**Bear Paw Mtn.**	**64.53**	**335**	P		**P**		**01 19 10.9**	**+0.4**
	baz=112									
Q18K	**Katmai Hardscr**	**64.55**	**329**	P		**P**		**01 19 11.4**	**+0.5**
	baz=106									
PPLA	**Purkeypile**	**64.59**	**334**	P		**P**		**01 19 11.6**	**+0.6**
	baz=111									
M20K	**Styx River**	**64.65**	**333**	P		**P**		**01 19 11.6**	**+0.2**
	baz=109									
CAST	**Castle Rocks**	**64.73**	**334**	P		**P**		**01 19 11.3**	**-0.5**
	baz=111									
MLY	**Manley**	**64.79**	**336**	P		**P**		**01 19 13.1**	**+0.8**
	baz=113,SNR=12									
F24K	**Squaw Lake**	**64.80**	**339**	P		**P**		**01 19 13.0**	**+0.7**
	baz=117									
P18K	**Big Mountain,**	**64.87**	**330**	P		**P**		**01 19 13.0**	**+0.2**
	baz=106									
N19K	**Bonanza Creek**	**64.93**	**331**	P		**P**		**01 19 13.9**	**+0.6**
	baz=108									
CHUM	**Lake Minchumin**	**64.99**	**335**	P		**P**		**01 19 13.9**	**+0.5**
	baz=111									
R17K	**Ugashik Creek**	**64.99**	**328**	P		**P**		**01 19 14.6**	**+1.0**
	baz=104									
C26K	**Camden Bay**	**65.02**	**342**	P		**P**		**01 19 14.7**	**+1.2**
	baz=121									
L20K	**Farewell, AK**	**65.18**	**333**	P		**P**		**01 19 15.1**	**+0.4**
	baz=109									
G23K	**Bananza Creek**	**65.20**	**338**	P		**P**		**01 19 15.4**	**+0.6**
	baz=115									
E24K	**Your Creek**	**65.26**	**340**	P		**P**		**01 19 16.7**	**+1.5**
	baz=117									
I21K	**Tanana**	**65.33**	**336**	P		**P**		**01 19 16.4**	**+0.7**
	baz=112									
H22K	**Ishtalitna Cre**	**65.37**	**337**	P		**P**		**01 19 16.4**	**+0.5**
	baz=113									
Q16K	**King Salmon**	**65.39**	**329**	P		**P**		**01 19 16.6**	**+0.5**
	baz=105									
COLD	**Coldfoot**	**65.48**	**339**	P		**P**		**01 19 18.0**	**+1.4**
COLD	**Coldfoot**	**65.48**	**339**	P		**P**		**01 19 18.4**	**+1.8**
	baz=115,SNR=6.0									
L19K	**White Mountain**	**65.52**	**333**	P		**P**		**01 19 17.9**	**+0.9**
	baz=108									
K20K	**Telida**	**65.55**	**334**	P		**P**		**01 19 17.3**	**+0.2**
	baz=109									
R16K	**Pilot Point**	**65.60**	**327**	P		**P**		**01 19 18.8**	**+1.4**
	baz=103									
H21K	**Melozitna Rive**	**65.83**	**337**	P		**P**		**01 19 19.7**	**+0.8**
	baz=111									
TOLK	**Toolik Lake Re**	**65.87**	**340**	P		**P**		**01 19 20.1**	**+0.9**
	baz=116,SNR=5.6									
O17K	**Koliganek Bris**	**65.89**	**330**	P		**P**		**01 19 21.3**	**+2.0**
	baz=105									
C24K	**Franklin Bluff**	**66.07**	**341**	P		**P**		**01 19 21.8**	**+1.5**
	baz=117									
TTA	**Tatalina**	**66.25**	**333**	P		**P**		**01 19 22.1**	**+0.4**
TTA				IAmb		IAmb		01 19 22.8		
	comp=Z,7.8nm,1.2s									
TTA	**Tatalina**	**66.25**	**333**	P		**P**		**01 19 21.9**	**+0.2**
	baz=107									
D23K	**Nanushuk River**	**66.37**	**340**	P		**P**		**01 19 24.2**	**+1.9**
	baz=115									
G21K	**Allakaket**	**66.41**	**337**	P		**P**		**01 19 23.7**	**+1.1**
	baz=111									
EUNU	**Eureka**	**66.43**	**1**	P		**P**		**01 19 21.7**	**-0.9**
F21K	**Alatna River**	**66.66**	**338**	P		**P**		**01 19 26.0**	**+1.8**
	baz=111,SNR=14									
BORG	**Borgarnes**	**69.41**	**26**	LR		LR		01 49 54.7		
	comp=Z,132nm,18.4s,baz=240,slow=36									
UNV	**Unalaska Valle**	**70.03**	**323**	P		**P**		**01 19 47.3**	**+1.8**
	baz=94									
ANM	**Nome**	**70.67**	**334**	P		**P**		**01 19 50.7**	**+1.5**
	baz=99									
NIKH	**Nikolski High**	**71.39**	**322**	P		**P**		**01 19 55.1**	**+1.3**
	baz=92									
TNA	**Tin City**	**71.88**	**335**	P		**P**		**01 19 58.3**	**+1.8**
	baz=97									
DAG	**Danmarks Havn**	**72.92**	**13**	*i* P		**P**		**01 20 00.0**	**-2.5**
JMIC	**Jan Mayen**	**74.97**	**20**	LR		LR		01 53 02.4		
	comp=Z,189nm,21.5s,baz=257,slow=36									
EKA	**Eskdalemuir Ar**	**78.11**	**36**	LR		LR		01 53 59.6		
	comp=Z,142nm,20.3s,baz=250,slow=35									
ESDC	**Sonseca Array**	**79.75**	**52**	P		**P**		**01 20 38.9**	**-3.2**
	comp=Z,1.8nm,0.9s,baz=309,slow=7.5,SNR=6.4									
	comp=Z,1.8nm,0.9s									
SPITS	**Spitsbergen Ar**	**80.35**	**11**	LR		LR		01 57 40.6		
	comp=Z,264nm,20.5s,baz=243,slow=37									
BILL	**Bilibino**	**81.81**	**338**	P		**P**		**01 20 53.7**	**+1.2**
BILL				IAmb		IAmb		01 21 03.9		
	comp=Z,11nm,1.2s									
HFS	**Hagfors**	**85.78**	**29**	LR		LR		01 59 58.4		
	comp=Z,66nm,18.0s,baz=260,slow=36									
TORD	**Torodi Ar. Bea**	**90.27**	**76**	P		**P**		**01 21 32.1**	**-3.1**
	comp=Z,0.3nm,0.8s,baz=274,slow=4.2,SNR=2.0									
	comp=Z,0.3nm,0.8s									
TIXI	**Tiksi**	**90.59**	**348**	LR		LR		02 05 60.0		
	comp=Z,60nm,21.8s,baz=3.5,slow=38									
TIXI	**Tiksi**	**90.59**	**348**	P		**P**		**01 21 35.7**	**+0.1**
FINES	**FINESS Array B**	**90.70**	**25**	LR		LR		02 02 27.1		
	comp=Z,102nm,19.5s,baz=256,slow=36									
NRIK	**Noril'sk**	**97.18**	**0**	LR		LR		02 10 14.4		
	comp=Z,231nm,18.4s,baz=356,slow=38									
YAK	**Yakutsk**	**97.80**	**342**	LR		LR		02 12 32.8		
	comp=Z,42nm,19.4s,baz=62,slow=39									
MKAR	**Makanchi Array**	**119.56**	**5**	PKP		**PKPdf**		**01 27 22.7**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=357,slow=2.4,SNR=5.9									
GEYT	**Alibeck**	**121.41**	**28**	PKP		**PKPdf**		**01 27 27.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=287,slow=10,SNR=2.1									
WHN	**Wuhan**	**129.32**	**331**	⇓PKP		PKPdf		01 27 32.5	-10	
WRA	**Warramunga Arr**	**135.50**	**255**	PKP		**PKPdf**		**01 27 54.1**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=79,slow=2.2,SNR=3.2									
ASAR	**Alice Springs**	**135.73**	**250**	PKP		**PKPdf**		**01 27 54.5**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=124,slow=1.7,SNR=4.5									
PZH	**PanZhiHua**	**137.93**	**342**	PKP		**PKiKP**		**01 28 00.8**	**-0.4**
PHRA	**Phrae**	**145.88**	**339**			**PKPdf**		**01 28 13.8**	**+0.5**
CHTO	**Chiang Mai**	**146.00**	**342**	PKPbc		**PKPdf**		**01 28 13.8**	**+0.2**
CM31	**Chiang Mai Arr**	**146.34**	**341**	PKPbc		**PKPbc**		**01 28 15.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**146.34**	**341**	PKPbc		**PKPbc**		**01 28 15.5**	**+0.2**
	comp=Z,6.0nm,0.8s,baz=339,slow=3.6,SNR=23									
CMAR	**Chiang Mai Arr**	**146.34**	**341**	PKPbc		**PKPbc**		**01 28 15.7**	**+0.3**

*SJA **28** 01:27:27.6±1.9, 19°.94S×70°.07W, h52km±8km, ML5.0, MW4.7*

*MOS **28** 01:27:27.7±1.5, 19°.92S×69°.93W, h55km, mb5.0/14, Error ellipse: s-maj=14.9km s-min=7.8km az=111.0*

*VAO **28** 01:27:28.8±0.9, 19°.85S×69°.95W, h62km±7km, mb5.0*

*NEIC **28** 01:27:28.7±1.7, 19°.96S±0°.02×70°.04W±0°.05, h52km±4km, mb5.0/187, Mwr5.0/44, Mww4.9/14, Mwr4.8(GUC), Error ellipse: s-maj=6.3km s-min=2.1km az=84.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.89; Mθθ-0.05; Mϕϕ-2.84; Mrθ0.34; Mθϕ0.78; Mϕr-1.86; Fault plane solution: M₀3.52000×10¹⁶ NP1: ϕs167.77000°, δ61.29000°, λ92.37000°. NP2: ϕb342.84000°, δ28.80000°, λ85.68000°. Principal axes: T 3.4412, Plg74.0000°, Azm84.0000°; N 0.1513, Plg2.0000°, Azm347.0000°; P -3.5925, Plg16.0000°, Azm256.0000°;*

*IDC **28** 01:27:29.1±0.5, 19°.76S×69°.80W, h54km±4km, mb4.3/15, mbtmp4.6/19, MS4.0/41 Error ellipse: s-maj=16.2km s-min=7.8km az=71.0*

*GUC **28** 01:27:29.2±0.6, 19°.95S×70°.01W, h54km±2km, ML5.0*

*GCMT **28** 01:27:33.7±0.3, 19°.87S±0°.02×70°.55W±0°.03, h68km±2km, MW5.0/89, Moment Tensor Solution. s41,c46; s89,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.44±.17; Mθθ0.49±.13; Mϕϕ-3.93±.12; Mrθ0.88±.09; Mθϕ1.27±.10; Mϕr-1.37±.12; Best double couple: M₀4.19500×10¹⁶ NP1:ϕs156.00000°, δ57.00000°, λ79.00000°. NP2: ϕs355.00000°, δ35.00000°, λ106.00000°. Principal axes: T 3.8190, Plg76.0000°, Azm34.0000°; N 0.7490, Plg9.0000°, Azm162.0000°; P -4.5710, Plg11.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 01:27:36.6, 19°.97S×70°.15W, h50km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10¹⁶Nm; Mrr2.32; Mθθ-0.07; Mϕϕ-2.25; Mrθ1.04; Mθϕ-0.35; Mϕr-1.89; Fault plane solution: M₀3.14000×10¹⁶ NP1: ϕs166.05000°, δ66.83000°, λ72.08000°. NP2:ϕb25.46000°, δ28.99000°, λ125.71000°. Principal axes: T 3.3506, Plg64.0000°, Azm47.0000°; N -0.4163, Plg16.0000°, Azm173.0000°; P -2.9343, Plg20.0000°, Azm269.0000°;*

ISC 28 01:27:28.0±0.3,**19.94S**±0.02×**70.06W**±0.03,**h48**km±2km, **h49**km:**pP-P,n542,**σ1§61/551,**mb5.0**/103,**MS4.1**/40, **20C-6D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.34**	**192**	⇑*i*	P	**Pn**	**01 27 38.4**	**+1.0**
TA02				*e*	S	**Sn**	**01 27 45.5**	**+1.5**
TA02	**Huaiquique**	**0.34**	**192**	*e*	P	**Pn**	**01 27 37.0**	**-0.4**
TA02					IAML		01 27 46.5	
	comp=Z,255μm,0.8s							
TA02	**Huaiquique**	**0.34**	**192**	*e*	P	**Pn**	**01 27 37.0**	**-0.4**
TA02					IAML		01 27 46.5	
	comp=Z,255μm,0.8s							
PSGC	**Pisagua**	**0.35**	**349**	⇑*i*	P	**Pn**	**01 27 38.7**	**+1.1**
PSGC				*e*	S	**Sn**	**01 27 45.8**	**+1.5**
PSGCX	**Pisagua**	**0.35**	**349**		P	**Pn**	**01 27 38.6**	**+1.0**
PSGCX	**Pisagua**	**0.35**	**349**	*e*	P	**Pn**	**01 27 38.7**	**+1.1**
PSGCX				*e*	S	**Sn**	**01 27 45.8**	**+1.5**
PSGCX	**Pisagua**	**0.35**	**349**	*e*	P	**Pn**	**01 27 38.7**	**+1.1**
PSGCX				*e*	S	**Sn**	**01 27 45.8**	**+1.5**
HMBC	**Humberstone**	**0.37**	**155**	⇑*i*	P	**Pn**	**01 27 38.7**	**+0.9**
HMBC				*e*	S	**Sn**	**01 27 45.8**	**+1.0**
HMBC					IAML		01 27 48.0	
	comp=E,172μm,0.4s							
PB11	**IPOC Station P**	**0.41**	**65**			**Pn**	**01 27 39.2**	**+0.9**
PB11						**Sn**	**01 27 46.8**	**+1.2**
PB11	**IPOC Station P**	**0.41**	**65**	⇓*i*	P	**Pn**	**01 27 39.2**	**+0.9**
PB11				*e*	S	**Sn**	**01 27 46.9**	**+1.2**
PB11					IAML		01 27 48.6	
	comp=E,153μm,0.3s							
PB11	**IPOC Station P**	**0.41**	**65**	*e*	P	**Pn**	**01 27 39.2**	**+0.9**
PB11					IAML		01 27 48.5	
	comp=Z,98μm,0.7s							
PB11	**IPOC Station P**	**0.41**	**65**	*e*	P	**Pn**	**01 27 39.2**	**+0.9**
PB11					IAML		01 27 48.5	
	comp=Z,98μm,0.7s							
TA01	**Diego Aracena**	**0.64**	**191**			**Pn**	**01 27 41.4**	**+0.6**
TA01					Sn	**Sn**	**01 27 50.5**	**+0.4**
TA01	**Diego Aracena**	**0.64**	**191**	⇑*i*	P	**Pn**	**01 27 41.4**	**+0.6**
TA01				*e*	S	**Sn**	**01 27 50.8**	**+0.7**
TA01	**Diego Aracena**	**0.64**	**191**	*e*	P	**Pn**	**01 27 41.5**	**+0.6**
TA01				*e*	S	**Sn**	**01 27 51.4**	**+1.3**
TA01	**Diego Aracena**	**0.64**	**191**	*e*	P	**Pn**	**01 27 41.5**	**+0.6**
TA01				*e*	S	**Sn**	**01 27 51.4**	**+1.3**
GO01	**Chusmiza**	**0.85**	**72**			**Pn**	**01 27 45.0**	**+0.8**
GO01					Sn	**Sn**	**01 27 57.3**	**+1.4**
GO01	**Chusmiza**	**0.85**	**72**	⇓*i*	P	**Pn**	**01 27 45.0**	**+0.8**
GO01				*e*	S	**Sn**	**01 27 57.3**	**+1.4**
GO01					IAML		01 27 58.5	
	comp=N,154μm,0.1s							
GO01	**Chusmiza**	**0.85**	**72**	*e*	P	**Pn**	**01 27 45.1**	**+0.9**
GO01				*e*	S	**Sn**	**01 27 58.1**	**+2.2**
GO01	**Chusmiza**	**0.85**	**72**	*e*	P	**Pn**	**01 27 45.1**	**+0.9**
GO01				*e*	S	**Sn**	**01 27 58.1**	**+2.2**
PATCX	**Punta Patache**	**0.88**	**186**			**Pn**	**01 27 44.5**	**+0.4**
PATCX					Sn	**Sn**	**01 27 56.7**	**+0.6**
PATCX	**Punta Patache**	**0.88**	**186**	⇑*i*	P	**Pn**	**01 27 44.6**	**+0.4**
PATCX				*e*	S	**Sn**	**01 27 56.6**	**+0.6**
PATCX					IAML		01 28 02.6	
	comp=N,27μm,0.2s							
PATCX	**Punta Patache**	**0.88**	**186**	*e*	P	**Pn**	**01 27 44.6**	**+0.4**
PATCX				*e*	S	**Sn**	**01 27 57.8**	**+1.8**
PATCX	**Punta Patache**	**0.88**	**186**	*e*	P	**Pn**	**01 27 44.6**	**+0.4**
PATCX				*e*	S	**Sn**	**01 27 57.8**	**+1.8**
MNMC	**Minye Minye**	**0.91**	**28**			**Pn**	**01 27 45.7**	**+0.9**
MNMC	**Minye Minye**	**0.91**	**28**	⇓*i*	P	**Pn**	**01 27 45.7**	**+0.9**
MNMC				*e*	S	**Sn**	**01 27 58.9**	**+1.9**
MNMCX	**Minye Minye**	**0.91**	**28**	*e*	P	**Pn**	**01 27 45.7**	**+0.9**
MNMCX				*e*	S	**Sn**	**01 27 59.1**	**+2.0**
MNMCX	**Minye Minye**	**0.91**	**28**	*e*	P	**Pn**	**01 27 45.7**	**+0.9**
MNMCX				*e*	S	**Sn**	**01 27 59.1**	**+2.0**
PB01	**IPOC Station P**	**1.22**	**154**			**Pn**	**01 27 49.5**	**+0.7**
PB01	**IPOC Station P**	**1.22**	**154**	⇑*i*	P	**Pn**	**01 27 49.4**	**+0.6**
PB01				*e*	S	**Sn**	**01 28 05.2**	**+1.0**
PB01					IAML		01 28 09.0	
	comp=E,24μm,0.4s							
PB01	**IPOC Station P**	**1.22**	**154**	*e*	P	**Pn**	**01 27 49.5**	**+0.7**
PB01				*e*	S	**Sn**	**01 28 04.8**	**+0.5**
PB01					IAML		01 28 07.2	
	comp=Z,13μm,0.2s							
PB01	**IPOC Station P**	**1.22**	**154**	*e*	P	**Pn**	**01 27 49.5**	**+0.7**
PB01				*e*	S	**Sn**	**01 28 04.8**	**+0.5**
PB01					IAML		01 28 07.2	
	comp=Z,13μm,0.2s							
PB12	**IPOC Station P**	**1.34**	**349**			**Pn**	**01 27 52.0**	**+1.6**
PB12					Sn	**Sn**	**01 28 08.4**	**+1.2**
PB12	**IPOC Station P**	**1.34**	**349**	*e*	P	**Pn**	**01 27 51.3**	**+0.9**
PB12				*e*	S	**Sn**	**01 28 08.5**	**+1.2**
PB12					IAML		01 28 11.3	
	comp=E,76μm,0.3s							
PB12	**IPOC Station P**	**1.34**	**349**	*e*	P	**Pn**	**01 27 51.8**	**+1.3**
PB12				*e*	S	**Sn**	**01 28 08.9**	**+1.7**
PB12					IAML		01 28 11.4	
	comp=Z,52μm,0.6s							
PB12	**IPOC Station P**	**1.34**	**349**	*e*	P	**Pn**	**01 27 51.8**	**+1.3**
PB12				*e*	S	**Sn**	**01 28 08.9**	**+1.7**
PB12					IAML		01 28 11.4	
	comp=Z,52μm,0.6s							
PB02	**IPOC Station P**	**1.38**	**174**			**Pn**	**01 27 51.7**	**+0.7**
PB02	**IPOC Station P**	**1.38**	**174**	⇑*i*	P	**Pn**	**01 27 51.9**	**+0.9**
PB02				*e*	S	**Sn**	**01 28 09.9**	**+1.7**
PB02					IAML		01 28 16.3	
	comp=E,30μm,0.3s							
PB02	**IPOC Station P**	**1.38**	**174**	*e*	P	**Pn**	**01 27 52.0**	**+0.9**
PB02				*e*	S	**Sn**	**01 28 10.8**	**+2.6**
PB02					IAML		01 28 12.9	
	comp=Z,23μm,0.3s							
PB02	**IPOC Station P**	**1.38**	**174**	*e*	P	**Pn**	**01 27 52.0**	**+0.9**
PB02				*e*	S	**Sn**	**01 28 10.8**	**+2.6**
PB02					IAML		01 28 12.9	
	comp=Z,23μm,0.3s							
AP01	**Chacalluta**	**1.58**	**350**			**Pn**	**01 27 55.2**	**+1.6**
AP01	**Chacalluta**	**1.58**	**350**	*e*	P	**Pn**	**01 27 55.2**	**+1.6**
AP01				*e*	S	**Sn**	**01 28 15.2**	**+2.2**
AP01					IAML		01 28 21.8	
	comp=N,61μm,0.3s							
AP01	**Chacalluta**	**1.58**	**350**	*e*	P	**Pn**	**01 27 55.2**	**+1.6**
AP01				*e*	S	**Sn**	**01 28 15.5**	**+2.6**
AP01					IAML		01 28 18.5	
	comp=Z,41μm,0.2s							
AP01	**Chacalluta**	**1.58**	**350**	*e*	P	**Pn**	**01 27 55.2**	**+1.6**
AP01				*e*	S	**Sn**	**01 28 15.5**	**+2.6**
AP01					IAML		01 28 18.5	
	comp=Z,41μm,0.2s							
PB16	**IPOC Station P**	**1.68**	**18**			**Pn**	**01 27 56.6**	**+1.1**
PB16	**IPOC Station P**	**1.68**	**18**	⇓*i*	P	**Pn**	**01 27 56.8**	**+1.4**
PB16				*e*	S	**Sn**	**01 28 18.6**	**+2.5**
PB16	**IPOC Station P**	**1.68**	**18**	*e*	P	**Pn**	**01 27 56.9**	**+1.4**
PB16				*e*	S	**Sn**	**01 28 18.8**	**+2.8**
PB16					IAML		01 28 21.4	
	comp=Z,19μm,0.3s							
PB16	**IPOC Station P**	**1.68**	**18**	*e*	P	**Pn**	**01 27 56.9**	**+1.4**
PB16				*e*	S	**Sn**	**01 28 18.8**	**+2.8**
PB16					IAML		01 28 21.4	
	comp=Z,19μm,0.3s							

PB07	**IPOC Station P**	**1.79**	**175**				**Pn**	**01 27 58.1**	**+1.5**
PB07	**IPOC Station P**	**1.79**	**175**	*i*	P		**Pn**	**01 27 58.1**	**+1.5**
PB07					*e*S		**Sn**	**01 28 20.3**	**+2.1**
PB07					IAML			01 28 25.6	
	comp=E,17μm,0.4s								
PB07	**IPOC Station P**	**1.79**	**175**	*e*	P		**Pn**	**01 27 58.2**	**+1.6**
PB07					IAML			01 28 26.0	
	comp=Z,9μm,0.8s								
PB07	**IPOC Station P**	**1.79**	**175**	*e*	P		**Pn**	**01 27 58.2**	**+1.6**
PB07					IAML			01 28 26.0	
	comp=Z,9μm,0.8s								
PB09	**IPOC Station P**	**2.00**	**158**				**Pn**	**01 28 01.8**	**+2.3**
PB09	**IPOC Station P**	**2.00**	**158**	⇑*i*	P		**Pn**	**01 28 01.7**	**+2.2**
PB09					*e*S		**Sn**	**01 28 26.5**	**+3.1**
PB09					IAML			01 28 33.5	
	comp=E,17μm,0.5s								
PB09	**IPOC Station P**	**2.00**	**158**	*e*	P		**Pn**	**01 28 01.8**	**+2.3**
PB09					*e*S		**Sn**	**01 28 27.4**	**+4.0**
PB09					IAML			01 28 37.2	
	comp=Z,11μm,0.7s								
PB09	**IPOC Station P**	**2.00**	**158**	*e*	P		**Pn**	**01 28 01.8**	**+2.3**
PB09					*e*S		**Sn**	**01 28 27.4**	**+4.0**
PB09					IAML			01 28 37.2	
	comp=Z,11μm,0.7s								
PB03	**IPOC Station P**	**2.12**	**172**				**Pn**	**01 28 02.6**	**+1.6**
PB03	**IPOC Station P**	**2.12**	**172**	⇓*i*	P		**Pn**	**01 28 02.6**	**+1.6**
PB03					*e*S		**Sn**	**01 28 29.4**	**+3.0**
PB03	**IPOC Station P**	**2.12**	**172**	*e*	P		**Pn**	**01 28 02.7**	**+1.6**
PB03					*e*S		**Sn**	**01 28 29.5**	**+3.2**
PB03	**IPOC Station P**	**2.12**	**172**	*e*	P		**Pn**	**01 28 02.7**	**+1.6**
PB03					*e*S		**Sn**	**01 28 29.5**	**+3.2**
PB04	**IPOC Station P**	**2.38**	**182**	*e*	P		**Pn**	**01 28 05.3**	**+0.5**
PB04	**IPOC Station P**	**2.38**	**182**	*e*	P		**Pn**	**01 28 05.5**	**+0.7**
PB04					IAML			01 28 48.5	
	comp=E,6μm,0.4s								
PB04	**IPOC Station P**	**2.38**	**182**	*e*	P		**Pn**	**01 28 05.5**	**+0.7**
PB04					IAML			01 28 48.5	
	comp=Z,6μm,0.4s								
PB06	**IPOC Station P**	**2.79**	**171**				**Pn**	**01 28 11.3**	**+1.0**
PB06	**IPOC Station P**	**2.79**	**171**	*e*	P		**Pn**	**01 28 11.2**	**+0.8**
PB06	**IPOC Station P**	**2.79**	**171**	*e*	P		**Pn**	**01 28 11.0**	**+0.7**
PB06					IAML			01 29 05.8	
	comp=Z,4μm,0.9s								
PB06	**IPOC Station P**	**2.79**	**171**	*e*	P		**Pn**	**01 28 11.0**	**+0.7**
PB06					IAML			01 29 05.8	
	comp=Z,4μm,0.9s								
LVC	**Limon Verde**	**2.86**	**158**		P		**Pn**	**01 28 13.7**	**+2.2**
	comp=Z,821nm,0.4s,baz=5.3,slow=9.4,SNR=534								
LVC					S		**Sn**	**01 28 49.9**	**+5.0**
	comp=Z,1μm,0.2s,baz=178,slow=21,SNR=21								
LVC					LR	LR		01 29 33.3	
	comp=Z,3μm,21.8s,baz=18,slow=42								
LVC	**Limon Verde**	**2.86**	**158**	*e*	P		**Pn**	**01 28 14.0**	**+2.5**
LVC	**Limon Verde**	**2.86**	**158**	*e*	P		**Pn**	**01 28 14.0**	**+2.5**
PB10	**IPOC Station P**	**3.59**	**187**	Pn			**Pn**	**01 28 21.1**	**0.0**
PB10	**IPOC Station P**	**3.59**	**187**	*e*	P		**Pn**	**01 28 20.4**	**-0.7**
PB10	**IPOC Station P**	**3.59**	**187**	*e*	P		**Pn**	**01 28 20.5**	**-0.7**
PB10	**IPOC Station P**	**3.59**	**187**	*e*	P		**Pn**	**01 28 20.5**	**-0.7**
LPAZ	**La Paz**	**4.07**	**27**	P			**Pn**	**01 28 32.6**	**+4.4**
	comp=Z,103nm,0.3s,baz=218,slow=4.7,SNR=277								
LPAZ					LR	LR		01 30 25.8	
	comp=Z,3μm,19.5s,baz=215,slow=47								
PB14	**IPOC Station P**	**4.68**	**184**	Pn			**Pn**	**01 28 36.0**	**-0.3**
PB14	**IPOC Station P**	**4.68**	**184**	*e*	P		**Pn**	**01 28 36.1**	**-0.3**
PB14					IAML			01 30 04.4	
	comp=Z,770nm,0.6s								
PB14	**IPOC Station P**	**4.68**	**184**	*e*	P		**Pn**	**01 28 36.1**	**-0.3**
PB14					IAML			01 30 04.4	
	comp=Z,770nm,0.6s								
AC02	**Maricunga**	**6.92**	**173**				**Pn**	**01 29 07.2**	**-0.1**
GO03	**Copiap**	**7.62**	**181**				**Pn**	**01 29 15.

LL03 Petrohue 21.23 185 P **P** **01 32 11.1 +1.4**
LL03 lAmb lAmb 01 32 28.9
comp=Z,89nm,0.8s
BDFB Brasilia 21.41 82 P **P** **01 32 09.7 -2.4**
BDFB LR LR 01 41 52.6
comp=Z,721nm,18.2s,baz=286,slow=41
comp=Z,5.2nm,0.4s
BDFB Brasilia 21.41 82 P **P** **01 32 11.3 -0.8**
BDFB Brasilia 21.41 82 P **P** **01 32 11.3 -0.8**
BDFB pmax pmax
comp=Z,37nm,0.9s
OTAV Otavalo 21.67 337 P **P** **01 32 15.4 +0.2**
OTAV Otavalo 21.67 337 P **P** **01 32 15.4 +0.2**
OTAV pmax pmax
comp=Z,16nm,0.8s
VAO Valinhos 21.70 102 *e*P **P** **01 32 12.6 -2.5**
PARB Paraibuna 22.95 103 *e*P **P** **01 32 29.7 +1.2**
MALB Monte Alegre 23.69 43 *e*P **P** **01 32 33.6 -1.9**
PRPB Parauapebas 23.96 58 *e*P **P** **01 32 35.2 -2.8**
BOAV Boa Vista 24.09 24 P **P** **01 32 38.9 -0.3**
BOAV lAmb lAmb 01 32 40.2
comp=Z,47nm,0.8s
BOAV Boa Vista 24.09 24 *e*P **P** **01 32 38.6 -0.5**
SMTB Santa Maria do 24.35 66 *e*P **P** **01 32 39.9 -1.7**
ROSC El Rosal 24.98 350 P **P** **01 32 47.7 0.0**
comp=Z,11nm,0.4s,baz=318,slow=23,SNR=1.8
comp=Z,11nm,0.4s
JANB Januaria 25.01 83 *e*P **P** **01 32 45.5 -2.2**
SDBA SAO DESIDERIO 25.27 77 *e*P **P** **01 32 48.4 -1.6**
RUSC La Rusia 25.84 353 P **P** **01 32 55.8 +0.1**
RUSC lAmb lAmb 01 33 13.3
comp=Z,42nm,0.6s
MCPB Macapa, AP 26.25 44 *e*P **P** **01 32 57.6 -1.3**
SDV Santo Domingo 28.65 359 P **P** **01 33 19.1 -1.4**
comp=Z,9.8nm,0.8s,baz=159,slow=6.9,SNR=9.5
SDV LR LR 01 45 60.0
comp=Z,306nm,18.3s,baz=206,slow=39
comp=Z,9.8nm,0.8s
SDV Santo Domingo 28.65 359 P **P** **01 33 19.4 -1.1**
BAUV El Baul 28.77 4 P **P** **01 33 20.6 -0.8**
MDP Montagnes des 30.21 36 P **P** **01 33 32.7 -1.4**
comp=Z,11nm,0.8s,baz=201,slow=13,SNR=9.0
MDP LR LR 01 46 39.6
comp=Z,553nm,18.6s,baz=214,slow=38
comp=Z,11nm,0.8s
EFI East Falkland 33.04 166 P **P** **01 33 59.4 +0.8**
EFI pP **pP** **01 34 11.8 +0.1**
JTS Las Juntas de 33.43 333 LR LR 01 47 30.0
comp=Z,299nm,19.7s,baz=151,slow=36
RCBR Riachuelo 36.02 72 LR LR 01 50 22.2
comp=Z,509nm,19.4s,baz=43,slow=38
RCBR Riachuelo 36.02 72 P **P** **01 34 23.4 -1.6**
RCBR lAmb lAmb 01 34 25.5
comp=Z,26nm,0.9s
RCBR Riachuelo 36.02 72 P **P** **01 34 23.4 -1.6**
RCBR pmax pmax
comp=Z,26nm,1.0s
RCBR Riachuelo 36.02 72 P **P** **01 34 24.6 -0.3**
RCBR sP **sP** **01 34 42.5 -1.4**
RPN Rapa Nui 36.60 251 LR LR 01 45 29.8
comp=Z,600nm,22.0s,baz=87,slow=29
SJG San Juan 38.01 6 LR LR 01 51 46.0
comp=Z,134nm,18.8s,baz=200,slow=38
SJG San Juan 38.01 6 P **P** **01 34 39.9 -1.6**
SJG San Juan 38.01 6 P **P** **01 34 39.9 -1.6**
SJG pmax pmax
comp=Z,45nm,0.8s
SJG San Juan 38.01 6 P **P** **01 34 39.5 -2.0**
SJG sP **sP** **01 34 58.8 -1.8**
HUMP Col San Antoni 38.07 6 lAmb lAmb 01 34 42.9
comp=Z,22nm,0.9s
UUPR Utuado, UPR, P 38.09 5 lAmb lAmb 01 34 41.6
comp=Z,28nm,0.8s
CBYP Canovanas 38.20 6 P **P** **01 34 41.1 -2.1**
GCPR Guaynabo City 38.21 6 P **P** **01 34 41.1 -2.2**
CUPR Culebra, Puert 38.30 7 lAmb lAmb 01 34 42.6
comp=Z,23nm,0.8s
MTO3 Montecristo 39.05 329 P **P** **01 34 49.3 -1.4**
TEIG Tepich 43.73 335 P **P** **01 35 29.5 +0.8**
TEIG pP **pP** **01 35 42.4 +0.3**
CMIG Matias Romero 44.15 325 LR LR 01 53 14.3
comp=Z,42nm,19.0s,baz=154,slow=35
PMSA Palmer Station 44.99 176 LR LR 01 54 46.1
comp=Z,160nm,20.3s,baz=332,slow=36
352A Blakely 53.08 344 P **P** **01 36 41.0 +0.5**
baz=162
NHSC New Hope 53.63 349 P **P** **01 36 46.0 +1.5**
baz=168
154A Montrose 53.73 346 P **P** **01 36 46.0 +0.7**
baz=165
250A Grady 53.91 343 P **P** **01 36 46.9 +0.3**
baz=161
HAW Hawthorne Fire 54.14 348 P **P** **01 36 48.8 +0.6**
baz=167
152A Waverly Hall 54.16 345 P **P** **01 36 48.2 -0.1**
baz=163
Y58A Scranton 54.32 350 P **P** **01 36 50.1 +0.6**
baz=169
Y58A P **P** **01 36 50.1 +0.6**
baz=169
Y57A Sumter 54.55 349 P **P** **01 36 52.0 +0.8**
baz=168
Y57A P **P** **01 36 52.0 +0.8**
baz=168
X58A Rowland 54.91 351 P **P** **01 36 54.2 +0.4**
baz=169,SNR=5.2
X58A P **P** **01 36 54.2 +0.4**
baz=169,SNR=5.2
JSC Jenkinsville 54.97 349 P **P** **01 36 54.3 +0.1**
baz=167
Y52A Lilburn 55.14 346 P **P** **01 36 55.4 -0.1**
baz=164
Y52A P **P** **01 36 55.4 -0.1**
baz=164
BIRD Birdtown, Kers 55.18 350 lAmb lAmb 01 36 57.4
comp=Z,23nm,0.9s
BIRD Birdtown, Kers 55.18 350 P **P** **01 36 56.1 +0.4**
baz=168
342A Flagon Creek P 55.32 337 P **P** **01 36 57.1 +0.3**
342B Flagon Creek P 55.32 337 P **P** **01 36 57.6 +0.8**
baz=154
HKT Hockley 55.47 333 P **P** **01 36 58.8 +1.0**
HKT lAmb lAmb 01 37 13.8
comp=Z,16nm,1.2s
HKT Hockley 55.47 333 P **P** **01 36 59.0 +1.1**
baz=150
HKT Hockley 55.47 333 P **P** **01 36 58.8 +1.0**
HKT pmax pmax
comp=Z,16nm,1.2s
PAULI Pauline 55.59 348 P **P** **01 36 58.6 -0.2**
baz=167
W57A Gilead 55.59 350 lAmb lAmb 01 37 00.2
comp=Z,20nm,0.8s
W57A Gilead 55.59 350 P **P** **01 36 59.3 +0.6**
baz=169
W57A P **P** **01 36 59.3 +0.6**
baz=169
833A Chaparral WMA, 55.73 328 lAmb lAmb 01 37 16.0
comp=Z,12nm,0.8s
833A Chaparral WMA, 55.73 328 P **P** **01 37 00.6 +0.7**
baz=146
X51A Calhoun 56.00 345 P **P** **01 37 01.6 0.0**
baz=163
X51A P **P** **01 37 01.6 0.0**
baz=163
V58A Windy Hill, Pi 56.09 351 P **P** **01 37 02.6 +0.4**
baz=170
V58A P **P** **01 37 02.6 +0.4**
baz=170
W52A Murphy 56.29 346 lAmb lAmb 01 37 19.3
comp=Z,16nm,1.1s
W52A Murphy 56.29 346 P **P** **01 37 04.3 +0.5**
baz=164
X48A Hartselle 56.45 343 P **P** **01 37 04.6 -0.3**
baz=161
U59A Littleton 56.46 353 P **P** **01 37 05.4 +0.5**
baz=171
U59A P **P** **01 37 05.4 +0.5**
baz=171
V55A Taylorsville 56.48 349 P **P** **01 37 05.9 +0.8**
baz=167
V55A P **P** **01 37 05.9 +0.8**
baz=167
NATX Nacogdoches 56.56 335 P **P** **01 37 06.2 +0.5**
NATX Nacogdoches 56.56 335 P **P** **01 37 07.1 +1.4**
baz=152
V53A Saluda 56.61 348 P **P** **01 37 06.4 +0.3**
baz=166
V53A P **P** **01 37 06.4 +0.3**
baz=166
W50A Signal Mountai 56.72 345 P **P** **01 37 07.0 +0.2**
baz=163
CPCT Cooper Cave 56.77 346 lAmb lAmb 01 37 08.0
comp=Z,12nm,0.9s
TKL Tuckaleechee C 56.80 347 LR LR 02 03 30.8
comp=Z,106nm,18.2s,baz=168,slow=38
TKL Tuckaleechee C 56.80 347 lAmb lAmb 01 37 08.1
comp=Z,13nm,0.8s
TKL Tuckaleechee C 56.80 347 P **P** **01 37 07.3 0.0**
baz=165
U56A King 56.83 350 P **P** **01 37 08.5 +1.0**
baz=168
U56A P **P** **01 37 08.5 +1.0**
baz=168
SWET Sewanee 56.88 344 lAmb lAmb 01 37 08.5
comp=Z,12nm,0.7s
V52A Sevierville 56.94 347 lAmb lAmb 01 37 09.2
comp=Z,22nm,0.9s
V52A Sevierville 56.94 347 P **P** **01 37 08.7 +0.3**
baz=165,SNR=5.7
T59A Double "B" Far 57.04 353 P **P** **01 37 09.1 +0.1**
T59A Double "B" Far 57.04 353 P **P** **01 37 09.1 +0.1**
baz=172
T59A P **P** **01 37 09.1 +0.1**
baz=172
V51A Loudon 57.07 346 lAmb lAmb 01 37 10.0
comp=Z,15nm,0.9s
V51A Loudon 57.07 346 P **P** **01 37 09.1 -0.1**
baz=164
OXF Oxford 57.20 341 P **P** **01 37 09.7 -0.5**
baz=158
237A Washetta, Mont 57.24 334 P **P** **01 37 12.2 +1.7**
baz=151
U54A Nelsons Funny 57.24 349 lAmb lAmb 01 37 12.2
comp=Z,17nm,0.8s
U54A Nelsons Funny 57.24 349 P **P** **01 37 11.2 +0.7**
baz=167
U54A P **P** **01 37 11.2 +0.7**
baz=167
T57A Hurt 57.29 351 lAmb lAmb 01 37 12.5
comp=Z,16nm,0.9s
T57A Hurt 57.29 351 P **P** **01 37 11.7 +0.9**
baz=170
T57A P **P** **01 37 11.7 +0.9**
baz=170
BLA Blacksburg 57.68 350 P **P** **01 37 14.6 +1.0**
baz=168
W45A Hickory Valley 57.73 341 P **P** **01 37 14.9 +1.0**
baz=159
CLTN Cedars of Leba 57.82 344 lAmb lAmb 01 37 29.6
comp=Z,12nm,0.9s
S57A Dark Hollow, R 58.00 352 P **P** **01 37 16.7 +0.9**
baz=170
S57A P **P** **01 37 16.7 +0.9**
baz=170
Z38A Mt. Pleasant 58.01 335 P **P** **01 37 16.8 +0.9**
baz=152
R58B Mineral 58.06 353 P **P** **01 37 16.9 +0.8**
baz=171
R58B P **P** **01 37 16.9 +0.8**
baz=171
U49A Red Boiling Sp 58.08 345 P **P** **01 37 16.3 0.0**
baz=163
R61A Willards 58.17 355 P **P** **01 37 17.8 +0.9**
baz=174
R61A P **P** **01 37 17.8 +0.9**
baz=174
WVT Waverly 58.25 343 P **P** **01 37 16.6 -0.9**
WVT lAmb lAmb 01 37 17.5
comp=Z,12nm,0.8s
WVT Waverly 58.25 343 P **P** **01 37 16.6 -0.9**
baz=160,SNR=7.6
WVT Waverly 58.25 343 P **P** **01 37 16.6 -0.9**
WVT pmax pmax
comp=Z,12nm,0.8s
WVT Waverly 58.25 343 P **P** **01 37 16.4 -1.1**
WVT pP **pP** **01 37 30.4 -0.8**
WVT sP **sP** **01 37 36.2 -0.6**
T50A Nancy 58.34 346 lAmb lAmb 01 37 18.7
comp=Z,6.8nm,0.8s
T50A Nancy 58.34 346 P **P** **01 37 17.6 -0.6**
baz=164
T50A P **P** **01 37 17.6 -0.6**
baz=164
S54A Dingess, Beckl 58.40 350 P **P** **01 37 18.6 0.0**
baz=168
S54A P **P** **01 37 18.6 0.0**
baz=168
MIAR Mount Ida 58.62 337 lAmb lAmb 01 37 35.9
comp=Z,20nm,1.0s
MIAR Mount Ida 58.62 337 P **P** **01 37 19.8 -0.3**
baz=154,SNR=8.3
R55A Marlinton 58.68 351 P **P** **01 37 21.9 +1.3**
baz=169
R55A P **P** **01 37 21.9 +1.3**
baz=169
TXAR Lajitas Array 58.74 326 P **P** **01 37 21.4 +0.2**
comp=Z,1.1nm,0.6s,baz=151,slow=8.9,SNR=4.7
TXAR pP **pP** **01 37 36.1 +1.5**
comp=Z,3.0nm,0.9s,baz=150,slow=9.3,SNR=6.0
comp=Z,1.1nm,0.6s
TXAR Lajitas Array 58.74 326 P **P** **01 37 20.5 -0.7**
TXAR Lajitas Array 58.74 326 P **P** **01 37 20.5 -0.7**
TX31 Lajitas Ar. Si 58.74 326 P **P** **01 37 21.4 +0.2**
baz=143
T47A Sharon Grove 58.86 344 P **P** **01 37 21.3 -0.5**
baz=161,SNR=6.0
Z35A Perchaven, San 58.99 333 P **P** **01 37 23.6 +0.8**
baz=150
R53A Hurricane 59.03 349 P **P** **01 37 23.2 +0.3**
baz=167
R53A P **P** **01 37 23.2 +0.3**
baz=167
Q56A Snyder Ridge, 59.29 352 P **P** **01 37 25.7 +1.0**
baz=170
Q56A P **P** **01 37 25.7 +1.0**
baz=170
X37A Clayton 59.33 336 P **P** **01 37 25.8 +0.7**
baz=152,SNR=5.3
SDMD Soldier's Deli 59.38 354 P **P** **01 37 26.2 +1.0**
baz=173
ABTX Abilene, Hawle 59.44 331 P **P** **01 37 26.5 +0.6**
baz=148,SNR=6.5
R50A Paris 59.44 347 P **P** **01 37 26.1 +0.3**
baz=164
R50A P **P** **01 37 26.1 +0.3**
baz=164
Q54A Coxs Mills 59.48 350 P **P** **01 37 26.2 +0.3**
baz=168
Q54A P **P** **01 37 26.2 +0.3**
baz=168
P57A Homestead Farm 59.58 353 P **P** **01 37 28.3 +1.6**
baz=171
P57A P **P** **01 37 28.3 +1.6**
baz=171
GEDE Greenville 59.67 355 P **P** **01 37 27.3 +0.1**
baz=174
Q52A Bidwell 59.70 349 P **P** **01 37 27.8 +0.3**
baz=167
Q52A P **P** **01 37 27.8 +0.3**
baz=167
PSUB Penn St. - Bra 59.77 355 P **P** **01 37 28.2 +0.3**
baz=174
WCI Wyandotte Cave 59.84 345 P **P** **01 37 28.3 -0.2**
baz=162
WCI Wyandotte Cave 59.84 345 P **P** **01 37 27.8 -0.7**
WCI pP **pP** **01 37 42.2 0.0**
WCI sP **sP** **01 37 48.7 +0.9**
Q51A Peebles 59.96 348 P **P** **01 37 28.8 -0.5**
baz=166
Q51A P **P** **01 37 28.8 -0.5**
baz=166
MCWV Mont Chateau 59.99 351 P **P** **01 37 30.3 +0.8**
baz=169,SNR=5.2
P53A Whipple 60.06 350 lAmb lAmb 01 37 31.4
comp=Z,16nm,0.8s
P53A Whipple 60.06 350 P **P** **01 37 30.4 +0.5**
baz=168
P53A P **P** **01 37 30.4 +0.5**
baz=168
S44A Carbondale 60.11 342 P **P** **01 37 30.3 0.0**
baz=159
SIUC Southern Illin 60.12 343 P **P** **01 37 30.0 -0.4**
P51A Williamsport 60.35 348 P **P** **01 37 31.7 -0.2**
baz=166
P51A P **P** **01 37 31.7 -0.2**
baz=166
O54A Avella 60.58 351 lAmb lAmb 01 37 35.5
comp=Z,11nm,0.8s
O54A Avella 60.58 351 P **P** **01 37 34.2 +0.6**
baz=169
O54A P **P** **01 37 34.2 +0.6**
baz=169
FOR Fordham 60.59 357 P **P** **01 37 34.2 +0.6**
baz=176
RLO Rose Lookout 60.60 337 lAmb lAmb 01 37 49.6
comp=Z,17nm,0.9s
U38A Gravette 60.61 338 P **P** **01 37 33.8 0.0**
baz=154
TUL1 Leonard 60.66 336 lAmb lAmb 01 37 50.0
comp=Z,23nm,1.2s
TUL1 Leonard 60.66 336 P **P** **01 37 34.3 +0.2**
baz=152
SSPA Standing Stone 60.70 353 P **P** **01 37 34.8 +0.5**
baz=172
P49A Miami Univ. Ec 60.73 347 P **P** **01 37 34.0 -0.5**
baz=164
O52A Adamsville 60.74 350 P **P** **01 37 34.7 +0.1**
baz=167
O52A P **P** **01 37 34.7 +0.1**
baz=167
N58A Sunbury 60.78 354 P **P** **01 37 35.4 +0.5**
baz=173
N58A P **P** **01 37 35.4 +0.5**
baz=173
UPAO U. Pittsburgh 60.82 351 P **P** **01 37 35.9 +0.7**
baz=169
WMOK Wichita Mounta 60.85 333 P **P** **01 37 35.2 -0.3**
baz=149
CCM Cathedral Cave 61.03 341 P **P** **01 37 37.5 +0.9**
baz=157
CCM Cathedral Cave 61.03 341 P **P** **01 37 37.1 +0.5**
CCM pP **pP** **01 37 50.6 +0.1**
ACSO Alum Creek Sta 61.06 349 P **P** **01 37 37.1 +0.4**
baz=166
BRNY Black Rk. Fore 61.15 357 P **P** **01 37 39.8 +2.5**
baz=176
Q44A Meyer Farm, Va 61.17 343 P **P** **01 37 37.5 -0.1**
baz=160
HTMS Hat Mesa 61.22 328 P **P** **01 37 38.9 +0.6**
N53A Lisbon 61.26 351 P **P** **01 37 38.3 +0.2**
baz=168
N53A P **P** **01 37 38.3 +0.2**
baz=168
PAMR Moraine State 61.28 351 P **P** **01 37 39.4 +1.1**
baz=169
PSDB Penn State Uni 61.29 353 P **P** **01 37 39.3 +0.9**
baz=171
M57A Sunshine Farm, 61.31 354 P **P** **01 37 39.7 +1.2**
baz=172
M57A P **P** **01 37 39.7 +1.2**
baz=172
S39A Bolivar 61.37 339 lAmb lAmb 01 37 39.3
comp=Z,13nm,0.7s
S39A Bolivar 61.37 339 P **P** **01 37 38.6 -0.3**
baz=155,SNR=9.2
GDL2 Guadalupe Moun 61.38 327 P **P** **01 37 39.4 +0.1**
KSPA Keystone Colle 61.41 355 P **P** **01 37 39.4 +0.2**
baz=174
NPNY Mohonk Preserv 61.50 357 P **P** **01 37 41.4 +1.7**
baz=176
MNTX Cornudas Mount 61.51 326 P **P** **01 37 39.8 -0.3**
MNTX lAmb lAmb 01 37 55.4
comp=Z,15nm,1.1s
MNTX Cornudas Mount 61.51 326 P **P** **01 37 39.9 -0.1**
baz=142,SNR=8.0
O48B Farmland 61.52 347 P **P** **01 37 39.7 -0.1**
baz=164
R40A Maddies Statio 61.56 340 lAmb lAmb 01 37 55.4
comp=Z,27nm,1.4s
R40A Maddies Statio 61.56 340 P **P** **01 37 40.0 -0.3**
baz=156,SNR=6.1
T35B Sooner Cattle 61.82 336 P **P** **01 37 42.6 +0.6**
baz=152
VNA3 Neumayer Olymp 61.89 161 P **P** **01 37 43.1 +1.0**
VNA3 Neumayer Olymp 61.89 161 pP pP 01 37 56.9 +0.9
N49A Columbus Grove 61.96 348 P **P** **01 37 42.2 -0.6**
baz=165,SNR=5.9
N49A P **P** **01 37 42.2 -0.6**
baz=165,SNR=5.9
ALLY Alegheny Colle 61.98 351 P **P** **01 37 43.5 +0.5**
baz=169
L59A Walton 61.99 356 P **P** **01 37 44.1 +1.0**
baz=175
L59A P **P** **01 37 44.1 +1.0**
baz=175
MSTX Muleshoe 62.01 329 P **P** **01 37 43.8 +0.2**
baz=145,SNR=6.6
BINY Binghamton 62.07 355 P **P** **01 37 44.7 +1.1**
baz=174
L56A Greenwood 62.15 354 P **P** **01 37 44.7 +0.5**
baz=172
L56A P **P** **01 37 44.7 +0.5**
baz=172
HCNY Howe Caverns 62.45 356 P **P** **01 37 47.4 +1.4**
baz=175
VNA2 Neumayer--Watz 62.47 161 P **P** **01 37 47.0 +1.1**
baz=315,slow=7.0
VNA2 Neumayer--Watz 62.47 161 pP pP 01 38 00.7 +0.8
baz=319,slow=7.0
WVNY West Valley, N 62.53 353 P **P** **01 37 47.8 +1.1**
baz=171
P40A Paris 62.63 341 lAmb lAmb 01 38 02.5
comp=Z,22nm,1.4s
P40A Paris 62.63 341 P **P** **01 37 47.0 -0.3**
baz=157
K57A Scipio Center 62.64 355 P **P** **01 37 48.1 +0.7**
baz=173
HDIL Hopedale 62.79 344 P **P** **01 37 47.1 -1.3**
baz=160
BBTS Babate 62.87 61 LR LR 02 03 01.9
comp=Z,262nm,21.9s,baz=244,slow=34
L48A N Adams 62.99 348 P **P** **01 37 49.0 -0.8**
baz=165
L48A P **P** **01 37 49.0 -0.8**
baz=165
J58A Remsen 63.17 356 P **P** **01 37 51.6 +0.8**
baz=174
J58A P **P** **01 37 51.6 +0.8**
baz=174
P38A Dawn 63.19 340 lAmb lAmb 01 37 52.4
comp=Z,12nm,0.7s
P38A Dawn 63.19 340 P **P** **01 37 50.7 -0.4**
baz=155
J59A Piesco 63.22 356 P **P** **01 37 52.0 +0.8**
baz=175
J59A P **P** **01 37 52.0 +0.8**
baz=175
J55A Hilton 63.29 354 P **P** **01 37 52.5 +0.8**
baz=172
J55A P **P** **01 37 52.5 +0.8**
baz=172
N41A Harden Midland 63.36 342 P **P** **01 37 51.7 -0.5**
baz=158
121A Cookes Peak, D 63.44 325 P **P** **01 37 54.6 +1.5**
baz=140
MCVT Middlebury Col 63.63 358 P **P** **01 37 55.7 +1.7**
baz=177
LBNH Lisbon 63.89 359 P **P** **01 37 57.3 +1.7**
baz=178
R32A Long Quarter, 63.98 335 P **P** **01 37 57.5 +1.1**
baz=150
SNAA Sanae 64.10 161 P **P** **01 37 57.3 +0.5**
SNAA Sanae 64.10 161 pP pP 01 38 12.2 +1.3
SNAA Sanae 64.10 161 LR LR 02 04 59.9
comp=Z,66nm,19.1s,baz=295,slow=35
SNAA Sanae 64.10 161 P **P** **01 37 57.5 +0.8**
SNAA lAmb lAmb 01 37 59.1
comp=Z,13nm,0.9s
SNAA Sanae 64.10 161 P **P** **01 37 57.6 +0.8**
SNAA pmax pmax
comp=Z,13nm,0.9s
FRNY Flat Rock 64.54 357 P **P** **01 38 00.3 +0.4**
baz=176
ANMO Albuquerque 64.61 327 LR LR 02 05 00.5
comp=Z,52nm,21.3s,baz=220,slow=35
ANMO Albuquerque 64.61 327 P **P** **01 38 00.6 -0.2**
ANMO Albuquerque 64.61 327 P **P** **01 38 01.7 +0.9**
baz=142,SNR=6.2
ANMO Albuquerque 64.61 327 *ce*P **P** **01 38 01.3 +0.5**
ANMO pmax pmax
comp=Z,14nm,2.5s

ANMO	**Albuquerque**	**64.61**	**327**	P	**P**	**01 38 01.5**	**+0.7**		
ANMO				pP	**pP**	**01 38 15.8**	**+0.9**		
CBKS	**Cedar Bluff**	**64.73**	**335**	P	**P**	**01 38 02.3**	**+1.0**		
	baz=149								
G62A	**West of Eustis**	**64.84**	**360**	P	**P**	**01 38 03.1**	**+1.2**		
	baz=180								
G62A				P	**P**	**01 38 03.1**	**+1.2**		
	baz=180								
G65A	**Princeton**	**64.86**	**2**	P	**P**	**01 38 02.5**	**+0.6**		
	baz=183								
G65A				P	**P**	**01 38 02.5**	**+0.6**		
	baz=183								
PKME	**Peaks-Kenny Pk**	**64.89**	**1**	P	**P**	**01 38 02.9**	**+0.8**		
	baz=181								
SADO	**Sadowa**	**64.93**	**353**	LR	LR	02 09 39.2			
	comp=Z,68nm,19.2s,baz=154,slow=39								
JFWS	**Jewell Farm**	**65.25**	**344**	P	**P**	**01 38 06.0**	**+1.5**		
	baz=159								
F64A	**Sherman**	**65.50**	**1**	P	**P**	**01 38 06.7**	**+0.6**		
	baz=182								
F64A				P	**P**	**01 38 06.7**	**+0.6**		
	baz=182								
TROLL	**Troll, Antarti**	**65.81**	**161**	P	**P**	**01 38 08.7**	**+0.7**		
KSCO	**Kaye Shedlock'**	**66.10**	**333**	P	**P**	**01 38 10.7**	**+0.4**		
E62A	**Clayton Lake**	**66.25**	**0**	P	**P**	**01 38 11.7**	**+0.9**		
	baz=180								
E62A				P	**P**	**01 38 11.7**	**+0.9**		
	baz=180								
SDCO	**Great Sand Dun**	**66.36**	**330**	IAmb	IAmb	01 38 29.0			
	comp=Z,21nm,0.9s								
SDCO	**Great Sand Dun**	**66.36**	**330**	P	**P**	**01 38 13.3**	**+1.1**		
	baz=144,SNR=14								
D62A	**Allapoint, All**	**66.71**	**1**	P	**P**	**01 38 14.3**	**+0.5**		
	baz=181								
D62A				P	**P**	**01 38 14.3**	**+0.5**		
	baz=181								
S22A	**4UR Ranch, Cre**	**67.00**	**329**	IAmb	IAmb	01 38 32.4			
	comp=Z,15nm,1.3s								
I37A	**Lemond, Waseca**	**67.14**	**342**	IAmb	IAmb	01 38 31.4			
	comp=Z,35nm,1.3s								
I37B	**Waseca**	**67.14**	**342**	P	**P**	**01 38 16.4**	**-0.2**		
	baz=156								
MVCO	**Mesa Verde**	**67.41**	**327**	IAmb	IAmb	01 38 35.1			
	comp=Z,40nm,1.6s								
WUAZ	**Wupatki**	**67.64**	**324**	IAmb	IAmb	01 38 37.7			
	comp=Z,19nm,1.0s								
ISCO	**Idaho Springs**	**68.07**	**331**	IAmb	IAmb	01 38 39.7			
	comp=Z,12nm,0.9s								
ISCO	**Idaho Springs**	**68.07**	**331**	P	**P**	**01 38 23.7**	**+0.7**		
	baz=144								
SMCO	**Snowmass**	**68.20**	**330**	IAmb	IAmb	01 38 41.0			
	comp=Z,10nm,0.9s								
TAOE	**Nuku Hiva Isla**	**68.38**	**268**	*e*LR	LR	01 59 09.9			
	comp=Z,160nm,38.5s								
TAOE	**Nuku Hiva Isla**	**68.38**	**268**	*e*T	T	02 52 49.6			
	comp=Z,46nm,0.2s								
U15A	**North Rim**	**68.82**	**324**	IAmb	IAmb	01 38 45.0			
	comp=Z,23nm,1.2s								
N23A	**Red Feather La**	**69.10**	**332**	IAmb	IAmb	01 38 46.2			
	comp=Z,17nm,1.1s								
PFO	**Pinyon Flats O**	**69.23**	**320**	*i* P	**P**	**01 38 32.7**	**+2.6**		
PFO				pmax	pmax				
	comp=Z,20nm,1.9s								
PFO	**Pinyon Flats O**	**69.23**	**320**	P	**P**	**01 38 32.1**	**+2.0**		
PFO				pP	**pP**	**01 38 46.3**	**+2.4**		
DBIC	**Dimbokro**	**69.34**	**75**	P	**P**	**01 38 29.1**	**-1.9**		
	comp=Z,9.8nm,0.8s,baz=242,slow=6.0,SNR=14								
DBIC				LR	LR	02 07 49.0			
	comp=Z,162nm,19.4s,baz=264,slow=35 comp=Z,9.8nm,0.8s								
DBIC	**Dimbokro**	**69.34**	**75**	P	**P**	**01 38 29.5**	**-1.5**		
DBIC				IAmb	IAmb	01 38 31.0			
	comp=Z,14nm,0.8s								
DBIC	**Dimbokro**	**69.34**	**75**	P	**P**	**01 38 29.5**	**-1.5**		
DBIC				pmax	pmax				
	comp=Z,14nm,0.9s								
DBIC	**Dimbokro**	**69.34**	**75**	P	**P**	**01 38 29.1**	**-1.9**		
KNB	**Kanab**	**69.54**	**325**	IAmb	IAmb	01 38 50.2			
	comp=Z,39nm,1.1s								
LCMT	**Little Creek M**	**69.77**	**324**	IAmb	IAmb	01 38 50.5			
	comp=Z,16nm,1.2s								
SRU	**San Rafael Swe**	**69.89**	**327**	IAmb	IAmb	01 38 51.1			
	comp=Z,18nm,0.9s								
Q16A	**Castle Valley**	**70.07**	**327**	IAmb	IAmb	01 38 52.9			
	comp=Z,17nm,1.2s								
SZCU	**Shurtz Canyon**	**70.11**	**325**	IAmb	IAmb	01 38 52.8			
	comp=Z,17nm,1.2s								
P18A	**Preston Nutter**	**70.14**	**328**	IAmb	IAmb	01 38 53.2			
	comp=Z,20nm,0.9s								
CCUT	**Cedar City**	**70.22**	**325**	IAmb	IAmb	01 38 54.5			
	comp=Z,25nm,1.1s								
QSPA	**South Pole Qui**	**70.24**	**180**	LR	LR	02 11 03.0			
	comp=Z,101nm,19.1s,baz=154,slow=37								
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**01 38 36.6**	**+0.7**		
QSPA				IAmb	IAmb	01 38 38.9			
	comp=Z,22nm,1.1s								
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**01 38 37.6**	**+1.7**		
QSPA				pP	**pP**	**01 38 51.9**	**+1.9**		
P17A	**Butcher Ranch,**	**70.27**	**328**	IAmb	IAmb	01 38 53.6			
	comp=Z,32nm,1.0s								
RDMU	**Red Mountain**	**70.53**	**329**	IAmb	IAmb	01 38 54.8			
	comp=Z,13nm,0.8s								
K22A	**Casper**	**70.77**	**332**	P	**P**	**01 38 40.4**	**+0.9**		
	baz=144								
RSSD	**Black Hills**	**70.93**	**335**	P	**P**	**01 38 40.9**	**+0.4**		
RSSD	**Black Hills**	**70.93**	**335**	P	**P**	**01 38 41.4**	**+0.9**		
	baz=146								
RSSD	**Black Hills**	**70.93**	**335**	P	**P**	**01 38 40.9**	**+0.4**		
RSSD				pmax	pmax				
	comp=Z,7.0nm,0.8s								
RSSD	**Black Hills**	**70.93**	**335**	P	**P**	**01 38 41.1**	**+0.7**		
RSSD				pP	**pP**	**01 38 55.6**	**+1.1**		
NLU	**North Lily Min**	**71.31**	**327**	IAmb	IAmb	01 38 59.8			
	comp=Z,16nm,1.2s								
TPNV	**Topopah Spring**	**71.41**	**322**	IAmb	IAmb	01 39 00.9			
	comp=Z,19nm,1.2s								
JLU	**Jordanelle**	**71.48**	**328**	IAmb	IAmb	01 39 01.2			
	comp=Z,18nm,0.9s								
AGMN	**Agassiz Nation**	**71.75**	**342**	P	**P**	**01 38 44.9**	**-0.1**		
	baz=154								
E28A	**Huff**	**71.76**	**338**	P	**P**	**01 38 45.8**	**+0.6**		
	baz=150								
DUG	**Dugway, Tooele**	**71.87**	**327**	P	**P**	**01 38 47.0**	**+0.9**		
DUG				IAmb	IAmb	01 39 03.7			
	comp=Z,19nm,1.1s								
DUG	**Dugway, Tooele**	**71.87**	**327**	P	**P**	**01 38 47.0**	**+0.9**		
DUG				pmax	pmax				
	comp=Z,19nm,1.1s								
BW06	**Boulder Array**	**72.23**	**331**	IAmb	IAmb	01 39 05.7			
	comp=Z,23nm,1.8s								
PDAR	**Pinedale Array**	**72.23**	**331**	P	**P**	**01 38 48.8**	**+0.5**		
	comp=Z,1.6nm,0.7s,baz=144,slow=7.0,SNR=17								
PDAR				pP	**pP**	**01 39 03.7**	**+1.2**		
	comp=Z,1.4nm,0.6s,baz=130,slow=8.4,SNR=6.8								
PDAR				LR	LR	02 12 45.8			
	comp=Z,95nm,19.4s,baz=137,slow=38 comp=Z,1.6nm,0.7s								
ELIB	**Princess Elisa**	**72.26**	**161**	*d*P	**P**	**01 38 48.9**	**+0.9**		
	comp=Z,14nm,0.9s								
HWUT	**Hardware Ranch**	**72.30**	**329**	IAmb	IAmb	01 39 06.8			
	comp=Z,13nm,0.9s								
MDND	**Maddock**	**72.50**	**340**	P	**P**	**01 38 50.3**	**+0.8**		
	baz=151								
SPUT	**South Promonto**	**72.51**	**328**	IAmb	IAmb	01 39 07.0			
	comp=Z,21nm,1.0s								
BGU	**Big Grassy Mou**	**72.52**	**327**	IAmb	IAmb	01 39 06.5			
	comp=Z,15nm,1.1s								
TPH	**Tonopah**	**72.75**	**323**	P	**P**	**01 38 52.5**	**+1.1**		
TPH	**Tonopah**	**72.75**	**323**	P	**P**	**01 38 52.5**	**+1.1**		
TPH				pmax	pmax				
	comp=Z,58nm,1.2s								
AHID	**Auburn Hatcher**	**72.95**	**330**	IAmb	IAmb	01 39 09.3			
	comp=Z,17nm,0.9s								
HVU	**Hansel Valley**	**73.03**	**328**	IAmb	IAmb	01 39 09.9			
	comp=Z,14nm,1.0s								
TPAW	**Teton Pass**	**73.44**	**330**	IAmb	IAmb	01 39 12.4			
	comp=Z,41nm,1.8s								
ULM	**Lac du Bonnet**	**73.52**	**343**	P	**P**	**01 38 54.9**	**-0.5**		
	comp=Z,5.8nm,0.6s,baz=157,slow=4.8,SNR=9.7 comp=Z,5.8nm,0.6s								
MDPB	**Devils Postpil**	**73.52**	**321**	IAmb	IAmb	01 38 59.9			
	comp=Z,10nm,0.7s								
ELK	**Elko**	**73.54**	**326**	LR	LR	02 10 31.6			
	comp=Z,94nm,18.7s,baz=134,slow=35								
LHV	**Little Huntoon**	**73.60**	**322**	IAmb	IAmb	01 39 13.7			
	comp=Z,15nm,1.0s								
NVAR	**Mina Array Bea**	**73.61**	**322**	P	**P**	**01 38 57.7**	**+1.2**		
	comp=Z,2.2nm,0.7s,baz=157,slow=6.5,SNR=7.1								
NVAR				pP	**PcP**	**01 39 12.2**	**0.0**		
	comp=Z,6.2nm,1.0s,baz=145,slow=6.3,SNR=6.0 comp=Z,2.2nm,0.7s								
NVAR	**Mina Array Bea**	**73.61**	**322**	P	**P**	**01 38 57.6**	**+1.1**		
IMW	**Indian Meadow**	**73.74**	**330**	IAmb	IAmb	01 39 13.9			
	comp=Z,16nm,1.1s								
FLWY	**Flagg Ranch**	**73.78**	**331**	IAmb	IAmb	01 39 15.0			
	comp=Z,26nm,0.9s								
LKWY	**Lake**	**74.01**	**331**	IAmb	IAmb	01 39 02.4			
	comp=Z,10nm,0.8s								
YMR	**Madison River**	**74.35**	**331**	IAmb	IAmb	01 39 18.7			
	comp=Z,37nm,1.2s								
SCHQ	**Schefferville**	**74.52**	**2**	P	**P**	**01 39 01.4**	**+0.2**		
	comp=Z,11nm,1.0s,baz=125,slow=2.5,SNR=4.7								
SCHQ				pP	**PcP**	**01 39 15.5**	**0.0**		
	comp=Z,16nm,1.0s,baz=159,slow=7.9,SNR=6.3								
SCHQ				LR	LR	02 14 39.9			
	comp=Z,63nm,19.1s,baz=104,slow=38 comp=Z,11nm,1.0s								
DGMT	**Dagmar**	**74.62**	**337**	IAmb	IAmb	01 39 04.3			
	comp=Z,20nm,0.8s								
DGMT	**Dagmar**	**74.62**	**337**	P	**P**	**01 39 03.5**	**+1.5**		
	baz=147								
PPT2	**Papeete2**	**74.63**	**257**	*e*LR	LR	02 02 02.6			
	comp=Z,362nm,25.2s								
PPT2				*e*LR	LR	02 02 02.7			
	comp=Z,322nm,27.2s								
HLID	**Hailey**	**75.16**	**328**	IAmb	IAmb	01 39 23.3			
	comp=Z,18nm,1.1s								
BCYI	**Bear Canyon**	**75.22**	**329**	P	**P**	**01 39 06.4**	**+0.6**		
MFID	**Camas Ranch**	**75.76**	**327**	IAmb	IAmb	01 39 26.6			
	comp=Z,25nm,1.2s								
EGMT	**Eagleton**	**76.43**	**334**	IAmb	IAmb	01 39 14.3			
	comp=Z,13nm,0.9s								
PLID	**Pearl Lake**	**77.05**	**329**	IAmb	IAmb	01 39 33.4			
	comp=Z,17nm,1.1s								
BMO	**Blue Mountains**	**77.53**	**328**	IAmb	IAmb	01 39 35.3			
	comp=Z,20nm,1.5s								
TORD	**Torodi Ar. Bea**	**77.86**	**71**	P	**P**	**01 39 19.3**	**-1.7**		
	comp=Z,18nm,0.8s,baz=253,slow=5.0,SNR=78 comp=Z,18nm,0.8s								
TORD	**Torodi Ar. Bea**	**77.86**	**71**	IAmb	IAmb	01 39 21.0			
	comp=Z,17nm,0.9s								
VNDA	**Vanda**	**78.19**	**190**	P	**P**	**01 39 22.4**	**+0.6**		
	comp=Z,5.2nm,1.0s,baz=83,slow=5.7,SNR=3.6 comp=Z,5.2nm,1.0s								
VNDA	**Vanda**	**78.19**	**190**	P	**P**	**01 39 21.3**	**-0.6**		
VNDA				IAmb	IAmb	01 39 25.4			
	comp=Z,24nm,1.5s								
VNDA	**Vanda**	**78.19**	**190**	P	**P**	**01 39 21.3**	**-0.6**		
VNDA				pmax	pmax				
	comp=Z,24nm,1.5s								
YBH	**Yreka Blue Hor**	**78.33**	**323**	LR	LR	02 12 59.0			
	comp=Z,70nm,18.2s,baz=113,slow=35								
PINE	**Pine Mountain**	**78.69**	**325**	IAmb	IAmb	01 39 42.4			
	comp=Z,24nm,1.4s								
WALA	**Waterton Lakes**	**79.00**	**332**	IAmb	IAmb	01 39 28.5			
	comp=Z,9.8nm,0.8s								
HAWA	**Hanford**	**79.72**	**328**	IAmb	IAmb	01 39 47.7			
	comp=Z,36nm,1.6s								
NEW	**Newport**	**79.87**	**330**	LR	LR	02 17 24.9			
	comp=Z,36nm,19.4s,baz=108,slow=38								
C09A	**Chrisman Ranch**	**80.08**	**329**	IAmb	IAmb	01 39 49.6			
	comp=Z,28nm,1.4s								
SUR	**Sutherland**	**80.29**	**121**	LR	LR	02 11 29.1			
	comp=Z,69nm,18.6s,baz=245,slow=33								
LTY	**Liberty**	**80.89**	**328**	IAmb	IAmb	01 39 53.7			
	comp=Z,19nm,1.4s								
D05A	**Enumclaw**	**81.50**	**327**	IAmb	IAmb	01 39 42.8			
	comp=Z,19nm,1.0s								
TSUM	**Tsumeb**	**81.52**	**107**	LR	LR	02 12 25.7			
	comp=Z,80nm,21.5s,baz=279,slow=33								
TSUM	**Tsumeb**	**81.52**	**107**	P	**P**	**01 39 39.6**	**-1.5**		
TSUM				IAmb	IAmb	01 39 42.8			
	comp=Z,17nm,0.9s								
MDT	**Midelt**	**81.58**	**51**	LR	LR	02 15 21.2			
	comp=Z,113nm,19.3s,baz=282,slow=35								
RAR	**Rarotonga**	**82.75**	**250**	LR	LR	02 09 12.7			
	comp=Z,88nm,20.1s,baz=118,slow=30								
BOSA	**Boshof**	**85.13**	**119**	P	**P**	**01 39 58.2**	**-1.3**		
	comp=Z,5.0nm,1.0s,baz=260,slow=11,SNR=2.7								
BOSA				LR	LR	02 15 10.5			
	comp=Z,116nm,18.7s,baz=222,slow=34 comp=Z,5.0nm,1.0s								
BOSA	**Boshof**	**85.13**	**119**	P	**P**	**01 39 58.7**	**-0.8**		
BOSA				IAmb	IAmb	01 40 16.2			
	comp=Z,22nm,1.2s								
PAB	**San Pablo**	**85.17**	**45**	P	**P**	**01 39 59.1**	**-0.2**		
PAB				IAmb	IAmb	01 40 00.4			
	comp=Z,9.4nm,1.1s								
PAB	**San Pablo**	**85.17**	**45**	P	**P**	**01 39 59.1**	**-0.2**		
PAB				pmax	pmax				
	comp=Z,9.0nm,1.1s								
ESDC	**Sonseca Array**	**85.49**	**45**	P	**P**	**01 40 00.5**	**-0.4**		
	comp=Z,3.6nm,1.0s,baz=254,slow=5.3,SNR=9.0								
ESDC				LR	LR	02 12 53.7			
	comp=Z,135nm,19.9s,baz=244,slow=32 comp=Z,3.6nm,1.0s								
ESDC	**Sonseca Array**	**85.49**	**45**	P	**P**	**01 40 00.6**	**-0.2**		
MAW	**Mawson**	**86.12**	**164**	LR	LR	02 17 38.9			
	comp=Z,95nm,21.9s,baz=200,slow=35								
LBTB	**Lobatse**	**86.65**	**115**	LR	LR	02 14 55.7			
	comp=Z,125nm,21.3s,baz=256,slow=33								
DY2G	**Dye2**	**87.99**	**9**	*i* P	P	01 40 27.5	+15		
YKA	**Yellowknife Ar**	**89.37**	**341**	P	**P**	**01 40 18.5**	**-0.3**		
	comp=Z,22nm,0.7s,baz=137,slow=4.8,SNR=272								
ICESG	**Greenland Ices**	**91.44**	**10**	*i* P	**P**	**01 40 28.1**	**-0.7**		
KEST	**Kesra**	**93.23**	**53**	LR	LR	02 22 46.3			
	comp=Z,102nm,19.7s,baz=252,slow=36								
URZ	**Urewera**	**94.49**	**227**	LR	LR	02 13 51.2			
	comp=Z,137nm,20.4s,baz=206,slow=29								
RPZ	**Rata Peaks**	**95.52**	**220**	LR	LR	02 15 46.7			
	comp=Z,50nm,18.3s,baz=98,slow=30								
RES	**Resolute Bay**	**95.73**	**354**	LR	LR	02 27 26.6			
	comp=Z,48nm,18.0s,baz=19,slow=38								
VAE	**Valguarnera**	**97.66**	**53**	LR	LR	02 24 39.8			
	comp=Z,55nm,20.3s,baz=317,slow=35								
MBAR	**Mbarara**	**99.94**	**94**	LR	LR	02 25 18.8			
	comp=Z,44nm,18.6s,baz=248,slow=35								
MNK	**Minsk**	**110.56**	**38**	*i* P	**Pdif**	**01 42 06.3**	**+12**		
MNK	comp=E,3.0nm,1.0s			*i* P	**Pdif**	**01 42 06.3**	**+12**		
	comp=N,20nm,1.0s								
MNK				*i* P	**Pdif**	**01 42 06.3**	**+12**		
	comp=Z,4.0nm,0.9s,baz=84								
MNK				*i* PKP	**PKiKP**	**01 45 56.4**	**+1.6**		
MNK				*i* PP	**PP**	**01 46 33.6**	**+1.9**		
MNK				*i* PPP	PPP	01 48 53.8			
MNK				*i* SKP		01 49 26.8			
MNK				*i* PKS	**PKSdf**	**01 49 32.5**	**+1.3**		
MNK				*i* SKS	**SKSdf**	**01 53 03.5**	**+0.8**		
MNK				*i* PS	**PS**	**01 56 05.0**	**+2.7**		
MNK				*i* SS	**SS**	**02 02 01.6**	**+4.7**		
MNK				*i* SSS	SSS	02 06 10.0			
MNK				*i* LRM	MLR	02 32 55.2			
	comp=Z,76nm,12.1s								
MNK				*i* LRM	MLR	02 33 04.2			
	comp=N,308nm,15.3s								
MNK				*i* LRM	MLR	02 33 07.4			
	comp=E,16nm,12.8s								
MNK	**Minsk**	**110.56**	**38**	*i* P	**Pdif**	**01 42 06.2**	**+12**		
MNK				*i*		01 45 56.4			
MNK				*i*		01 46 33.5			
MNK				*i* PPP	PPP	01 48 53.8			
MNK				*i*		01 53 03.5			
MNK				*i* PS	**PS**	**01 56 05.0**	**+2.7**		
MNK				*i* SS	SS	02 02 01.6	+4.7		
MNK				*i* SSS	SSS	02 06 09.9			
MNK				pmax	pmax				
	comp=E,3.0nm,1.0s								
MNK				pmax	pmax				
	comp=N,20nm,1.0s								
MNK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
MNK				MLR	MLR				
	comp=Z,76nm,12.0s								
MNK				MLR	MLR				
	comp=N,308nm,15.0s								
MNK				MLR	MLR				
	comp=E,16nm,13.0s								
DZM	**Mont Dzumac**	**110.80**	**236**	*e*LR	LR	02 18 47.5			
	comp=E,149nm,24.0s								
BRTR	**Keskin Array B**	**112.80**	**54**	*c i* PKIKP	**PKiKP**	**01 45 59.0**	**-0.8**		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
OBN	**Obninsk**	**115.60**	**38**	*e* PKIKP	**PKPdf**	**01 46 05.1**	**+0.7**		
OBN				pmax	pmax				
	comp=Z,5.0nm,1.3s								
KIV	**Kislovodsk**	**119.81**	**50**	*e* PKIKP	**PKiKP**	**01 46 15.8**	**+2.7**		
KIV				pmax	pmax				
	comp=Z,6.0nm,1.1s								
KBZ	**Khabaz**	**119.97**	**50**	PKP	**PKiKP**	**01 46 13.2**	**0.0**		
	comp=Z,4.7nm,0.9s,baz=283,slow=1.1,SNR=11								
KBZ	**Khabaz**	**119.97**	**50**	*c i* PKIKP	**PKiKP**	**01 46 14.5**	**+1.2**		
BILL	**Bilibino**	**120.69**	**339**	*e* PKIKP	**PKiKP**	**01 46 16.8**	**+2.8**		
BILL				*e*		01 47 39.2			
BILL				pmax	pmax				
	comp=Z,1.0nm,1.0s								
H11S2	**WAKE ISLAND Hyl**	**126.60**	**279**	T	T	04 05 48.8			
	baz=101,slow=74,SNR=2521								
H11S1	**WAKE ISLAND Hyl**	**126.61**	**279**	T	T	04 05 50.7			
	baz=101,slow=74,SNR=1404								
H11S3	**WAKE ISLAND Hyl**	**126.62**	**279**	T	T	04 05 52.0			
	baz=101,slow=74,SNR=1408								
H11N3	**WAKE ISLAND Hyl**	**126.65**	**280**	T	T	04 05 50.8			
	baz=100,slow=74,SNR=257								
H11N2	**WAKE ISLAND Hyl**	**126.66**	**280**	T	T	04 05 48.7			
	baz=100,slow=74,SNR=225								
H11N1	**WAKE ISLAND Hyl**	**126.66**	**280**	T	T	04 05 51.8			
	baz=100,slow=74,SNR=253								
TIXI	**Tiksi**	**127.12**	**353**	PKPdf	**PKPdf**	**01 46 25.1**	**-1.0**		
TIXI	**Tiksi**	**127.12**	**353**	*c i* PKIKP	**PKiKP**	**01 46 26.6**	**0.0**		
TIXI				pmax	pmax				
	comp=Z,10.0nm,2.5s								
ARU	**Arti**	**127.45**	**33**	*i* PKIKP	**PKPdf**	**01 46 27.3**	**+0.1**		
ARU						01 48 26.2			
ARU						01 53 33.9			
ARU				SS	SS	02 05 30.4	-4.1		
SEY	**Seymchan**	**128.25**	**337**	*c i* PKIKP	**PKiKP**	**01 46 30.4**	**+1.3**		
SEY				pmax	pmax				
	comp=Z,21nm,2.5s								
NRIK	**Noril'sk**	**128.73**	**10**	PKP	**PKiKP**	**01 46 30.3**	**+0.3**		
	comp=Z,1.1nm,0.4s,baz=357,slow=2.5,SNR=3.5								
PETK	**Petropavlovsk-**	**130.68**	**324**	PKP	**PKiKP**	**01 46 34.0**	**-0.3**		
	comp=Z,3.7nm,1.0s,baz=35,slow=7.9,SNR=1.7								
ASAR	**Alice Springs**	**130.76**	**209**	PKP	**PKPdf**	**01 46 34.2**	**-0.4**		
	comp=Z,1.5nm,0.8s,baz=156,slow=2.4,SNR=14								
GEYT	**Alibeck**	**131.86**	**57**	PKP	**PKPdf**	**01 46 34.9**	**-1.3**		
	comp=Z,0.9nm,0.5s,baz=251,slow=7.7,SNR=3.6								
WRA	**Warramunga Arr**	**133.72**	**213**	PKP	**PKPdf**	**01 46 40.1**	**-0.1**		
	comp=Z,1.3nm,0.6s,baz=153,slow=1.7,SNR=21								
WRA				pPKP	**pPKPdf**	**01 46 56.6**	**+1.2**		
	comp=Z,1.0nm,0.6s,baz=143,slow=1.8,SNR=4.1								
WRAB	**Tennant Creek**	**133.72**	**213**	*c i* PKIKP	**PKiKP**	**01 46 41.5**	**-0.1**		
WRAB				pmax	pmax				
	comp=Z,8.0nm,1.7s								
KURK	**Kurchatov**	**140.59**	**31**	*c i* PKIKP	**PKPdf**	**01 46 51.8**	**-0.1**		
KURK				pmax	pmax				
	comp=Z,6.0nm,1.7s								
ZALV	**Zalesovo Beam**	**140.98**	**23**	PKhKP	PKPpre	01 46 45.5			
	comp=Z,2.3nm,0.7s,baz=309,slow=4.0,SNR=7.6								
ZALV				PKP	**PKPdf**	**01 46 52.7**	**+0.2**		
	comp=Z,8.7nm,0.7s,baz=300,slow=2.2,SNR=27								
AAK	**Ala-Archa**	**142.59**	**45**	*c i* PKIKP	**PKPdf**	**01 46 55.7**	**-0.3**		
AAK				pmax	pmax				
	comp=Z,6.0nm,1.7s								
NIL	**Nilore**	**144.71**	**60**	PKPdf	**PKPab**	**01 46 58.5**	**-0.2**		
NIL	**Nilore**	**144.71**	**60**	PKIKP	**PKPab**	**01 46 58.5**	**-0.2**		
MAKZ	**Makanchi**	**144.80**	**34**	PKPdf	**PKPab**	**01 46 58.1**	**-0.5**		
MAKZ	**Makanchi**	**144.80**	**34**	PKIKP	**PKPab**	**01 46 58.1**	**-0.5**		
KSH	**Kashi**	**144.92**	**49**	PKP	**PKPdf**	**01 47 00.3**	**+0.1**		
KSH				sPKP		01 47 15.3			
MK31	**Makanchi Array**	**144.97**	**34**	*i* PKIKP	**PKPab**	**01 46 59.3**	**+0.1**		
MKAR	**Makanchi Array**	**144.97**	**34**	PKP	PKPbc	01 46 59.1	-0.1		
	comp=Z,23nm,0.8s,baz=319,slow=3.2,SNR=195								
MKAR	**Makanchi Array**	**144.97**	**34**		PKPbc	01 46 58.8	-0.4		
TARG	**Taragay, Kyrgy**	**145.19**	**44**	PKPbc	**PKPbc**	**01 46 59.6**	**-1.0**		
TARG	**Taragay, Kyrgy**	**145.19**	**44**	PKIKP	**PKPbc**	**01 46 59.6**	**-1.0**		
DGZ	**Jazzator, Alta**	**145.30**	**26**	*i* PKIKP	**PKPdf**	**01 47 00.7**	**+0.2**		
KLR	**Kul'dur**	**145.96**	**334**	*i* PKP2	**PKPdf**	**01 47 01.7**	**+0.3**		
HEH	**HeiHe**	**146.72**	**339**	*e*P	**PKPdf**	**01 47 03.3**	**+0.6**		
HEH				pmax	pmax	

σ1°54/96, mb4.5/50, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.18**	**303**	Pn	**Pn**	**01 44 17.9**	**+1.5**
KRVT	**Keravat (AS076**	**3.24**	**300**	P	**Pn**	**01 44 18.7**	**+1.7**
	64nm,0.5s,baz=116,slow=2.0,SNR=13						
KRVT				S	**Sn**	**01 44 57.4**	**+1.3**
	269nm,0.4s,baz=321,slow=15,SNR=4.6						
PMG	**Port Moresby**	**8.36**	**245**	P	**Pn**	**01 45 27.4**	**+2.6**
	34nm,0.7s,baz=34,slow=5.5,SNR=13						
PMG				S	**Sn**	**01 47 04.3**	**+6.5**
	24nm,0.8s,baz=31,slow=19,SNR=2.2						
PMG	**Port Moresby**	**8.36**	**245**	Pn	**Pn**	**01 45 26.0**	**+1.1**
COEN	**Coen**	**13.98**	**234**	Pn	**Pn**	**01 46 38.3**	**-0.1**
CTA	**Charters Tower**	**16.35**	**210**	P	**P**	**01 47 09.5**	**+1.6**
	14nm,0.8s,baz=26,slow=13,SNR=13						
CTAO	**Charters Tower**	**16.35**	**210**		**Pn**	**01 47 09.0**	**+1.2**
CTAO				IAmb	IAmb	01 47 11.8	
	comp=Z,22nm,1.1s						
SMPI	**Sarmi**	**16.56**	**283**	P	**P**	**01 47 10.8**	**+0.6**
	comp=Z,38nm,1.2s						
DZM	**Mont Dzumac**	**19.57**	**146**	P	**P**	**01 47 44.7**	**+1.5**
	comp=Z,23nm,0.5s,baz=269,slow=8.7,SNR=61						
DZM	**Mont Dzumac**	**19.57**	**146**	P	**P**	**01 47 44.1**	**+0.9**
EIDS	**Eidsvold**	**19.65**	**190**	P	**P**	**01 47 45.2**	**+1.3**
EIDS				IAmb	IAmb	01 47 50.8	
	comp=Z,26nm,1.4s						
ONTNC	**Ouen Toro**	**19.77**	**147**	P	**P**	**01 47 45.5**	**+0.4**
ONTNC				IAmb	IAmb	01 47 58.4	
	comp=Z,35nm,1.1s						
FAKI	**Fak Fak**	**22.72**	**277**	P	**P**	**01 48 14.4**	**-1.6**
SIJI	**Sorong**	**24.06**	**281**	P	**P**	**01 48 28.6**	**+0.3**
	comp=Z,23nm,0.6s,baz=108,slow=10,SNR=8.6						
	comp=Z,23nm,0.6s						
WR0	**Warramunga Arr**	**24.16**	**233**	P	**P**	**01 48 28.8**	**-0.3**
WR0				IAmb	IAmb	01 48 30.1	
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**24.29**	**233**	P	**P**	**01 48 29.8**	**-0.6**
WRAB				IAmb	IAmb	01 48 31.1	
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**24.30**	**233**	P	**P**	**01 48 29.6**	**-0.8**
WRA	**Warramunga Arr**	**24.31**	**233**	P	**P**	**01 48 30.6**	**+0.1**
	comp=Z,8.5nm,0.5s,baz=57,slow=9.7,SNR=211						
WRA				PcP	**PcP**	**01 52 05.2**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=61,slow=2.8,SNR=5.4						
WRA				S	**S**	**01 52 33.7**	**-5.1**
	comp=Z,1.5nm,0.9s,baz=55,slow=14,SNR=5.2						
	comp=Z,8.5nm,0.5s						
WRA	**Warramunga Arr**	**24.31**	**233**	P	**P**	**01 48 28.9**	**-1.6**
MTN	**Manton Dam**	**24.36**	**252**	P	**P**	**01 48 29.8**	**-1.2**
ARMA	**Armidale**	**24.54**	**187**	P	**P**	**01 48 32.1**	**-0.5**
AS31	**Alice Springs**	**26.77**	**227**	P	**P**	**01 48 52.0**	**-0.7**
ASAR	**Alice Springs**	**26.77**	**227**	P	**P**	**01 48 52.0**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=57,slow=9.1,SNR=58						
ASAR				PcP	**PcP**	**01 52 11.5**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=65,slow=2.7,SNR=10						
ASAR				S	**S**	**01 53 12.8**	**-5.0**
	comp=Z,0.3nm,0.5s,baz=58,slow=16,SNR=3.0						
	comp=Z,2.4nm,0.3s						
ASAR	**Alice Springs**	**26.77**	**227**	P	**P**	**01 48 51.2**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**26.94**	**25**	T	T	02 17 28.9	
	baz=202,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**26.95**	**26**	T	T	02 17 47.4	
	baz=202,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**26.96**	**25**	T	T	02 17 49.9	
	baz=202,slow=76,SNR=8.2						
KNRA	**Kununurra**	**27.35**	**247**	P	**P**	**01 48 58.4**	**+0.5**
KNRA				IAmb	IAmb	01 49 08.1	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**28.63**	**204**	P	**P**	**01 49 08.7**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=28,slow=7.5,SNR=7.5						
	comp=Z,1.9nm,0.6s						
STKA	**Stephens Creek**	**28.63**	**204**	P	**P**	**01 49 08.5**	**-0.6**
BBOO	**Buckleboo**	**31.95**	**211**	P	**P**	**01 49 37.8**	**-0.6**
BBOO				IAmb	IAmb	01 49 43.0	
	comp=Z,6.6nm,0.6s						
GTOI	**Gorontalo**	**32.44**	**281**	P	**P**	**01 49 43.6**	**+0.7**
	comp=Z,36nm,0.7s						
TOLI2	**Tolitoli**	**34.72**	**281**	P	**P**	**01 50 01.2**	**-1.5**
FORT	**Forrest**	**35.26**	**222**	P	**P**	**01 50 05.8**	**-1.2**
MPSI	**Mapaga**	**35.44**	**279**	P	**P**	**01 50 07.7**	**-1.1**
	comp=Z,57nm,0.7s,comp=Z,813nm						
MBWA	**Marble Bar**	**37.21**	**243**	P	**P**	**01 50 22.4**	**-1.3**
TAU	**Tasmania Unive**	**37.42**	**189**	P	**P**	**01 50 25.6**	**+0.5**
URZ	**Urewera**	**38.00**	**151**	P	**P**	**01 50 30.5**	**+0.4**
	comp=Z,12nm,0.9s,baz=318,slow=9.6,SNR=3.5						
	comp=Z,12nm,0.9s						
BKZ	**Black Stump Fm**	**38.43**	**153**	P	**P**	**01 50 34.0**	**+0.2**
BKZ				IAmb	IAmb	01 50 37.2	
	comp=Z,6.2nm,0.5s						
RPZ	**Rata Peaks**	**40.24**	**162**	P	**P**	**01 50 49.3**	**+0.6**
	comp=Z,22nm,0.6s,baz=15,slow=1.2,SNR=18						
	comp=Z,22nm,0.6s						
MORW	**Morawa**	**43.26**	**233**	P	**P**	**01 51 12.2**	**-1.2**
YULB	**Yu-li**	**43.85**	**313**	P	**P**	**01 51 17.9**	**-0.4**
YULB				IAmb	IAmb	01 51 26.6	
	comp=Z,10nm,0.8s						
NACB	**Ninganchiao**	**44.12**	**314**	P	**P**	**01 51 20.1**	**-0.2**
CNJI	**Cibinong**	**47.40**	**266**	P	**P**	**01 51 44.7**	**-1.6**
	comp=Z,58nm,0.8s,comp=Z,2μm						
CGJI	**Cibinong**	**48.84**	**266**	P	**P**	**01 51 55.1**	**-2.3**
	comp=Z,91nm,0.6s						
KSRS	**Korea Array**	**49.94**	**332**	P	**P**	**01 52 05.2**	**0.0**
	comp=Z,1.9nm,1.0s,baz=155,slow=8.8,SNR=6.7						
	comp=Z,1.9nm,1.0s						
NJ2	**Nanjing**	**51.01**	**320**	*eP*	**P**	**01 52 15.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SDSI	**Sungai Dareh**	**53.52**	**273**	P	**P**	**01 52 30.8**	**-1.5**
	comp=Z,17nm,1.2s						
CN2	**Changchun**	**56.18**	**335**	P	P	01 52 45.8	-5.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNX	**BinXian**	**56.98**	**337**	||P	**P**	**01 52 56.5**	**0.0**
BNX				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BNX				pmax	pmax		
	comp=Z,130nm,4.9s						
XAN	**Xi'an**	**58.84**	**316**	P	**P**	**01 53 09.3**	**-0.5**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**58.87**	**2**	P	**P**	**01 53 10.0**	**+0.5**
PETK	**Petropavlovsk-**	**58.87**	**2**	P	**P**	**01 53 10.2**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=167,slow=7.0,SNR=6.4						
	comp=Z,3.5nm,0.6s						
CM31	**Chiang Mai Arr**	**60.20**	**295**	P	**P**	**01 53 19.1**	**-0.2**
CM31				IAmb	IAmb	01 53 20.7	
	comp=Z,9.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.20**	**295**	P	**P**	**01 53 19.8**	**+0.5**
	comp=Z,2.5nm,0.4s,baz=113,slow=4.9,SNR=14						
	comp=Z,2.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**60.20**	**295**	P	**P**	**01 53 18.8**	**-0.5**
XLT	**XiLinHaoTe**	**60.68**	**329**	*eP*	**P**	**01 53 22.3**	**+0.1**
XLT				pP	pP	01 53 55.0	-2.2
XLT				PcP	**PcP**	**01 54 07.5**	**+2.7**
XLT				sP	sP	01 54 18.8	+5.4
XLT				PcS	PcS	01 58 00.5	-7.0
XLT				pmax	pmax		
	comp=Z,13nm,0.7s						
XLT				pmax	pmax		
	comp=Z,180nm,4.9s						
HHC	**Hu-ho-hao-te**	**61.16**	**324**	*eP*	**P**	**01 53 28.0**	**+2.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,180nm,5.2s						
HIA	**Hailar**	**62.91**	**335**	P	**P**	**01 53 36.6**	**-0.3**
HIA				IAmb	IAmb	01 53 37.9	
	comp=Z,7.0nm,1.0s						
LZH	**Lanzhou**	**63.46**	**315**	*eP*	**P**	**01 53 40.0**	**-1.0**
LZH				sP	sP	01 54 47.5	+15
LZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MA2	**Magadan**	**65.39**	**358**	P	**P**	**01 53 52.8**	**0.0**
MA2				IAmb	IAmb	01 53 53.6	
	comp=Z,7.0nm,0.7s						
GTA	**Gaotai**	**67.87**	**317**	*eP*	**P**	**01 54 09.3**	**+0.2**
GTA				sP	sP	01 55 08.0	+7.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ULN	**Ulaanbaatar**	**68.03**	**327**	P	**P**	**01 54 10.3**	**+0.2**
SONM	**Songino Array**	**68.37**	**327**	P	**P**	**01 54 12.5**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=144,slow=6.1,SNR=12						
	comp=Z,4.4nm,0.7s						
SONM	**Songino Array**	**68.37**	**327**	P	**P**	**01 54 12.1**	**0.0**
VNDA	**Vanda**	**71.63**	**178**	P	**P**	**01 54 31.6**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=0.0,slow=7.1,SNR=1.9						
	comp=Z,2.7nm,0.9s						
BILL	**Bilibino**	**74.25**	**4**	P	**P**	**01 54 46.9**	**+0.1**
BILL				IAmb	IAmb	01 54 48.4	
	comp=Z,8.3nm,0.9s						
ANM	**Nome**	**76.27**	**17**	P	**P**	**01 54 59.3**	**+0.9**
ANM				IAmb	IAmb	01 55 00.5	
	comp=Z,7.3nm,0.9s						
WMQ	**Urumqi**	**77.95**	**317**	*eP*	**P**	**01 55 10.0**	**+1.6**
WMQ				LR	LR		
	comp=Z,69nm,23.7s						
IMAR	**Indian Mountai**	**80.78**	**19**	P	**P**	**01 55 23.4**	**+0.3**
ILAR	**Eielson Array**	**82.45**	**22**	P	**P**	**01 55 31.5**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=240,slow=5.3,SNR=24						
	comp=Z,0.7nm,0.4s						
MK31	**Makanchi Array**	**82.52**	**319**	P	**P**	**01 55 32.2**	**-0.5**
MK31				IAmb	IAmb	01 55 33.5	
	comp=Z,7.6nm,0.8s						
MKAR	**Makanchi Array**	**82.52**	**319**	P	**P**	**01 55 32.5**	**-0.2**
	comp=Z,8.1nm,0.6s,baz=100,slow=5.6,SNR=78						
	comp=Z,8.1nm,0.6s						
MKAR	**Makanchi Array**	**82.52**	**319**	P	**P**	**01 55 31.9**	**-0.8**
MAKZ	**Makanchi**	**82.72**	**319**	P	**P**	**01 55 33.4**	**-0.4**
MAKZ				IAmb	IAmb	01 55 34.5	
	comp=Z,12nm,0.8s						
ZAA0	**Zalesovo Array**	**83.22**	**326**	P	**P**	**01 55 34.9**	**-1.2**
ZAA0				IAmb	IAmb	01 55 35.5	
	comp=Z,6.0nm,0.8s						
ZALV	**Zalesovo Beam**	**83.22**	**326**	P	**P**	**01 55 34.9**	**-1.2**
	comp=Z,5.5nm,0.7s,baz=113,slow=5.7,SNR=28						
	comp=Z,5.5nm,0.7s						
QSPA	**South Pole Qui**	**84.03**	**180**	P	**P**	**01 55 40.2**	**0.0**
TARG	**Taragay, Kyrgy**	**84.33**	**313**	P	**P**	**01 55 40.6**	**-2.0**
KSH	**Kashi**	**85.21**	**310**	P	**P**	**01 55 48.8**	**+2.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAW	**Mawson**	**85.31**	**203**	P	**P**	**01 55 46.2**	**-0.2**
	comp=Z,22nm,0.9s,baz=122,slow=2.9,SNR=1.8						
	comp=Z,22nm,0.9s						
NRIK	**Noril'sk**	**87.69**	**341**	P	**P**	**01 55 57.4**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=100,slow=4.5,SNR=4.8						
	comp=Z,1.9nm,0.6s						
RYN	**Ryan**	**91.04**	**51**	P	**P**	**01 56 15.4**	**+0.9**
RYN				IAmb	IAmb	01 56 16.6	
	comp=Z,3.8nm,1.0s						
NVAR	**Mina Array Bea**	**91.19**	**52**	P	**P**	**01 56 16.2**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=251,slow=5.8,SNR=6.7						
	comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**91.19**	**52**	P	**P**	**01 56 15.1**	**-0.2**
NV11	**Mina Array Sit**	**91.31**	**52**	P	**P**	**01 56 16.4**	**+0.7**
NV11				IAmb	IAmb	01 56 17.9	
	comp=Z,5.3nm,1.1s						
SPR3	**Spring Creek 3**	**94.34**	**51**	P	**P**	**01 56 30.4**	**+0.5**
SPR3				IAmb	IAmb	01 56 32.7	
	comp=Z,5.1nm,1.3s						
YKA	**Yellowknife Ar**	**95.48**	**28**	P	**P**	**01 56 34.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=262,slow=4.8						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**98.11**	**48**	P	**P**	**01 56 45.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=251,slow=2.8,SNR=5.5						
	comp=Z,0.4nm,0.6s						
BOSA	**Boshof**	**120.55**	**232**	PKP	**PKPdf**	**02 01 59.9**	**-1.6**
	comp=Z,3.5nm,1.0s,baz=96,slow=9.2,SNR=1.9						
GERES	**GERESS Array B**	**126.07**	**329**	PKP	**PKPdf**	**02 02 10.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=107,slow=1.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**152.59**	**287**	PKPbc	**PKPdf**	**02 03 04.6**	**+5.2**
	comp=Z,1.9nm,0.6s,baz=67,slow=1.9,SNR=20						
TORD				PKPab	**PKPab**	**02 03 16.6**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=85,slow=3.7,SNR=5.7						

INET ***28*** *01:54:09.7±0.7, 12.°10N×87.°83W, h15km±8km, MW3.1*
SNET ***28*** *01:54:11.3±1.3, 12.°27N×87.°80W, h25km±6km, ML2.7*

ISC 28 01:54:11.1±3.0, 12.°2N±0.°1×87.°80W±0.°07, h29km±24km, n11, σ0°81/19, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.89**	**56**	*eP*	**Pn**	**01 54 27.7**	**0.0**
CRIN				*eS*	**Sn**	**01 54 41.3**	**+1.7**
CNCH	**Conchagua**	**1.07**	**358**	*eP*	**Pn**	**01 54 30.0**	**-0.3**
CNCH				*eS*	**Sn**	**01 54 44.1**	**-0.2**
LCND	**La Caada**	**1.11**	**355**	*eP*	**Pn**	**01 54 30.0**	**-0.7**
LCND				*eS*	**Sn**	**01 54 44.2**	**-0.9**
LCND				IAML		01 54 47.3	
	comp=Z,197nm,0.4s						
CNGN	**Cerro Negro**	**1.12**	**74**	*eP*	**Pn**	**01 54 30.9**	**0.0**
CNGN				*eS*	**Sb**	**01 54 46.3**	**+0.3**
COPN	**Copaltepe**	**1.18**	**91**	*eP*	**Pn**	**01 54 30.5**	**-1.3**
MOMN	**Momotombo**	**1.25**	**80**	*eP*	**Pn**	**01 54 32.0**	**-0.7**
RANC	**El Ranchito**	**1.32**	**339**	*eP*	**Pn**	**01 54 33.8**	**0.0**
RANC				*eS*	**Sn**	**01 54 50.6**	**+0.2**
PACA	**Pacayal**	**1.36**	**338**	*eP*	**Pn**	**01 54 33.5**	**-0.9**
PACA				*eS*	**Sn**	**01 54 52.3**	**+0.7**
PACA				IAML		01 54 54.5	
	comp=Z,790nm,0.4s						
FAGO	**Alcalda de S**	**1.52**	**349**	*eP*	**Pn**	**01 54 35.3**	**-1.1**
FAGO				*eS*	**Sn**	**01 54 55.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.75**	**329**	*eP*	**Pn**	**01 54 39.1**	**-0.4**
SCLA				*eS*	**Sn**	**01 55 01.3**	**+0.4**
SCLA				IAML		01 55 09.2	
	comp=Z,16nm,0.4s						
NUBE	**Las Nubes**	**2.57**	**311**	*eP*	**Pn**	**01 54 51.6**	**+0.7**

NOU 28 01:55:08.8, 21.°30S×169.°92E, h26km, mb4.0/7, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.77**	**264**	P	Pn	01 55 37.7	0.0
LIFNC	**LIFOU**	**2.56**	**281**	P	Pn	01 55 47.4	-1.2
YATNC	**Mamie plateau,**	**2.92**	**254**	P	Pn	01 55 52.0	-1.6
DZM	**Mont Dzumac**	**3.32**	**256**	P	Pn	01 56 00.4	+1.2
RTV	**Rentapao**	**3.76**	**338**	P	Pn	01 56 05.7	+0.5
KOUNC	**Koumac, New Ca**	**5.32**	**277**	P	Pn	01 56 27.5	+0.9

IDC ***28*** *02:01:12.0±2.4, 6.°01S×130.°91E, h99km±22km, mb3.9/9, mbtmp4.3/13, Error ellipse: s-maj=25.1km s-min=15.5km az=86.0*
DJA ***28*** *02:01:13.1±0.2, 6.°5S×2.°×13.°1E±.°, h165km±7km, M4.6/16, mb4.5/12, mB5.3/7, MLv4.6/16, Mw(mB)4.7/7*
NEIC ***28*** *02:01:14.7±1.1, 5.°87S±0.°06×130.°7E±0.°1, h116km±5km, mb4.3/17, Error ellipse: s-maj=15.1km s-min=8.4km az=101.0*

ISC 28 02:01:12.2±0.5, 5.°97S±0.°04×130.°89E±0.°07, h100km, n78, σ2°93/77, mb4.3/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.74**	**326**	P	Pn	02 01 46.0	+4.5
BNDI	**Bandanaira**	**1.74**	**326**	P	Pn	02 01 45.5	+4.0
SAUI	**Saumlaki**	**2.04**	**168**	Pn	**Pn**	**02 01 50.0**	**+4.7**
SAUI	**Saumlaki**	**2.04**	**168**	P	Pn	02 01 56.3	+11
SAUI	**Saumlaki**	**2.04**	**168**	P	Pn	02 01 50.5	+5.2
MSAI	**Masohi**	**3.26**	**323**	P	**Pn**	**02 02 04.1**	**+2.7**
FAKI	**Fak Fak**	**3.32**	**24**	Pn	**Pn**	**02 02 04.8**	**+2.5**
FAKI	**Fak Fak**	**3.32**	**24**	P	**Pn**	**02 02 05.0**	**+2.7**
FAKI	**Fak Fak**	**3.32**	**24**	P	**Pn**	**02 02 04.5**	**+2.2**
AAI	**Ambon**	**3.51**	**310**	P	**Pn**	**02 02 07.3**	**+2.4**
NLAI	**Namlea**	**4.65**	**306**	P	**Pn**	**02 02 22.2**	**+2.0**
SIJI	**Sorong**	**5.08**	**4**	P	**Pn**	**02 02 27.1**	**+1.0**
	88nm,0.3s,baz=206,slow=9.7,SNR=51						
SIJI				S	**Sn**	**02 03 20.4**	**-3.2**
	136nm,0.4s,baz=70,slow=21,SNR=25						
SWI	**Sorong**	**5.09**	**4**	P	**Pn**	**02 02 27.1**	**+1.0**
RKPI	**Ransiki, Papua**	**5.51**	**37**	P	**Pn**	**02 02 33.0**	**+1.1**
	400nm,0.6s,4μm1.8nm						
SANI	**Sanana**	**6.25**	**308**	P	**Pn**	**02 02 40.7**	**-1.2**
SANI	**Sanana**	**6.25**	**308**	P	**Pn**	**02 02 43.4**	**+1.5**
	28nm,0.5s,1μm0.2nm						
MTN	**Manton Dam**	**6.83**	**178**	Pn	**Pn**	**02 02 52.9**	**+3.1**
SOEI	**Soe**	**7.56**	**240**	Pn	**Pn**	**02 03 00.9**	**+1.1**
SOEI	**Soe**	**7.56**	**240**	P	**Pn**	**02 03 02.6**	**+2.8**
SOEI	**Soe**	**7.56**	**240**	P	**Pn**	**02 03 01.2**	**+1.4**
	72nm,0.9s,0.2nm						
BATI	**Baumata**	**8.30**	**239**	P	**Pn**	**02 03 10.6**	**+0.8**
	42nm,0.4s,baz=325,slow=1.3,SNR=7.8						
BATI				S	**Sn**	**02 04 42.0**	**+0.1**
	40nm,0.4s,baz=205,slow=22,SNR=3.5						
BATI	**Baumata**	**8.30**	**239**	P	**Pn**	**02 03 11.2**	**+1.4**
	81nm,0.6s						
KNRA	**Kununurra**	**9.87**	**192**	Pn	**Pn**	**02 03 31.8**	**+0.7**
GTOI	**Gorontalo**	**10.24**	**310**	P	**Pn**	**02 03 38.7**	**+2.4**
	6.4nm,0.6s						
MRSI	**Marisa**	**10.99**	**305**	P	**Pn**	**02 03 46.0**	**-0.4**
TOLI2	**Tolitoli**	**12.30**	**305**	Pn	**Pn**	**02 04 00.8**	**-3.2**
FITZ	**Fitzroy Crossi**	**13.10**	**203**	Pn	**Pn**	**02 04 13.0**	**-1.4**
WRAB	**Tennant Creek**	**14.28**	**167**	Pn	**Pn**	**02 04 31.1**	**+1.3**
WRA	**Warramunga Arr**	**14.29**	**167**	P	**Pn**	**02 04 28.2**	**-1.7**
	1.3nm,0.4s,baz=348,slow=13,SNR=36						
WRA				S	**Sn**	**02 07 00.4**	**-7.0**
	12nm,0.8s,baz=344,slow=23,SNR=11						
WB2	**Warramunga Arr**	**14.29**	**167**	Pn	**Pn**	**02 04 30.7**	**+0.8**
COEN	**Coen**	**14.46**	**124**	Pn	**P**	**02 04 36.6**	**+0.5**
QIS	**Mount Isa**	**16.79**	**151**	P	**P**	**02 05 04.8**	**+3.0**
AS31	**Alice Springs**	**17.83**	**171**	P	**Pn**	**02 05 15.9**	**+1.9**
ASAR	**Alice Springs**	**17.83**	**171**	P	**P**	**02 05 12.9**	**-0.4**
	2.6nm,0.8s,baz=346,slow=9.1,SNR=31						
ASAR				S	**Sn**	**02 08 25.4**	**-7.5**
	4.4nm,0.6s,baz=357,slow=29,SNR=11						
ASAR	**Alice Springs**	**17.83**	**171**	P	**Pn**	**02 05 16.2**	**+2.3**
AS01	**Alice Springs**	**17.84**	**171**	P	**Pn**	**02 05 16.9**	**+2.8**
MBWA	**Marble Bar**	**18.57**	**215**	P	**Pn**	**02 05 22.3**	**-0.5**
PSA00	**Pilbara Seismi**	**18.84**	**214**	P	**Pn**	**02 05 25.3**	**-0.6**
PSA00	**Pilbara Seismi**	**18.84**	**214**	P	**Pn**	**02 05 26.1**	**+0.1**
KKM	**Kota Kinabalu**	**18.89**	**309**	P	**P**	**02 05 23.8**	**-1.4**
KKM				IAmb	IAmb	02 05 28.2	
	comp=Z,13nm,0.7s						
SBUM	**Sibu**	**20.43**	**294**	P	**P**	**02 05 40.8**	**-0.9**
OOD	**Oodnadatta**	**22.18**	**169**	P	**P**	**02 06 01.8**	**+1.6**
INKA	**Innaminka**	**23.59**	**158**	P	**P**	**02 06 17.3**	**+3.3**
MEEK	**Meekatharra**	**23.65**	**208**	P	**P**	**02 06 14.6**	**0.0**
MULG	**Mulgathing**	**24.37**	**173**	P	**P**	**02 06 23.8**	**+2.8**
FORT	**Forrest**	**24.82**	**186**	P	**P**	**02 06 27.3**	**+2.2**
STKA	**Stephens Creek**	**27.65**	**160**	P	**P**	**02 06 49.2**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=343,slow=7.8,SNR=3.1						
	comp=Z,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**39.77**	**308**	P	**P**	**02 08 35.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=168,slow=2.8,SNR=4.1						
	comp=Z,0.9nm,0.3s						
PZH	**PanZhiHua**	**42.90**	**320**	P	**P**	**02 09 04.0**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
KSRS	**Korea Array**	**43.29**	**357**	P	**P**	**02 09 03.8**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=172,slow=9.5,SNR=5.6						
	comp=Z,0.6nm,0.5s						
HHC	**Hu-ho-hao-te**	**49.86**	**341**	*eP*	P	02 10 00.0	+4.6
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,340nm,6.0s						
USRK	**Ussuriysk Ar.**	**49.95**	**1**	P	**P**	**02 09 55.9**	**0.0**
	comp=Z,2.5nm,0.8s,baz=145,slow=39,SNR=2.8						
	comp=Z,2.5nm,0.8s						
XLT	**XiLinHaoTe**	**51.41**	**346**	*eP*	**P**	**02 10 07.5**	**+0.5**
XLT				pP	pwP	02 10 33.8	-4.2
XLT				sP	sP	02 10 48.0	+8.8
XLT				pmax	pmax		
	comp=Z,3.0nm,1.2s						
XLT				pmax	pmax		
	comp=Z,300nm,5.3s						
GTA	**Gaotai**	**53.51**	**330**	*eP*	**P**	**02 10 23.3**	**+0.6**
GTA				pP	sP	02 10 56.0	-0.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**57.57**	**341**	P	**P**	**02 10 51.0**	**-0.6**
ULN				IAmb	IAmb	02 10 53.3	
	comp=Z,3.6nm,0.7s						
SONM	**Songino Array**	**57.76**	**341**	P	**P**	**02 10 53.7**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=165,slow=6.1,SNR=4.2						
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**57.76**	**341**	P	**P**	**02 10 52.3**	**-0.6**
SONM				IAmb	IAmb	02 10 55.4	
	comp=Z,1.8nm,0.7s						
WMQ	**Urumqi**	**63.03**	**326**	*eP*	**P**	**02 11 29.5**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK31	**Makanchi Array**	**67.86**	**326**	P	**P**	**02 11 59.9**	**+0.1**
MK31				IAmb	IAmb	02 12 00.9	
	com

TORD	**Torodi Ar. Bea**	**52.00**	**139**	P	**P**	**02 22 40.4**	**-0.5**
	0.5nm,0.8s,baz=328,slow=8.2,SNR=1.5						
	0.5nm,0.8s						
ANMO	**Albuquerque**	**53.69**	**279**	LR	LR	02 44 30.7	
	comp=Z,86nm,18.1s,baz=152,slow=35						
ZALV	**Zalesovo Beam**	**55.69**	**40**	P	**P**	**02 23 06.8**	**-0.5**
	0.3nm,0.4s,baz=316,slow=6.0,SNR=1.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**56.21**	**46**	LR	LR	02 45 28.4	
	comp=Z,70nm,18.3s,baz=166,slow=34						
YBH	**Yreka Blue Hor**	**56.27**	**296**	LR	LR	02 46 41.0	
	comp=Z,130nm,18.4s,baz=60,slow=35						
MKAR	**Makanchi Array**	**60.78**	**47**	P	**P**	**02 23 42.9**	**-0.2**
	1.5nm,0.7s,baz=331,slow=5.6,SNR=16						
MKAR				LR	LR	02 50 10.9	
	comp=Z,78nm,19.0s,baz=322,slow=36						
	1.5nm,0.7s						
SONM	**Songino Array**	**67.46**	**30**	LR	LR	02 56 11.9	
	comp=Z,55nm,19.3s,baz=334,slow=38						

*DDA **28** 02:21:36.6±0.0,38°.58N×25°.32E,h26^{km}±2^{km}, ML2.7*
*THE **28** 02:21:37.6,38°.59N×25°.34E,h4^{km}±1^{km}, ML2.8/4, Error ellipse: s-maj=1.5km s-min=0.6km az=18.0*
*ATH **28** 02:21:38.0,38°.59N×25°.33E,h10^{km}±2^{km}, ML2.6/10, Error ellipse: s-maj=2.7km s-min=0.8km az=53.0*
*ISK **28** 02:21:37.1,38°.56N×25°.36E,h11^{km}, ML2.6/8*

ISC 28 02:21:38.0±0.9,**38°.57N**±0.02×**25°.37E**±0.02,**h17**^{km}±7^{km}, **n78**,σ0°**77**/117, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSRA	**Psara**	**0.15**	**100**	P	**Pb**	**02 21 42.6**	**+0.1**
PSRA				S	**Sg**	**02 21 45.1**	**+0.1**
PSRA				AML	AML	02 21 45.4	
	comp=N,11461μm,0.2s						
PSRA				AML	AML	02 21 45.9	
	comp=E,9624μm,0.1s						
CHOS	**Chios island**	**0.57**	**108**	P	**Pg**	**02 21 49.4**	**+0.1**
CHOS				S	**Sb**	**02 21 57.8**	**+0.4**
	comp=E,1μm,0.2s						
CHOS	**Chios island**	**0.57**	**108**	Pg	**Pg**	**02 21 49.1**	**-0.2**
CHOS				Sg	**Sg**	**02 21 57.0**	**+0.1**
CHOS	**Chios island**	**0.57**	**108**	Pg	**Pg**	**02 21 49.4**	**+0.1**
CHOS				Sg	**Sg**	**02 21 57.1**	**+0.1**
CHOS	**Chios island**	**0.57**	**108**	P	**Pg**	**02 21 49.4**	**+0.1**
CHOS				S	**Sb**	**02 21 57.4**	**0.0**
CHOS				AML	AML	02 22 00.4	
	comp=N,2791μm,0.3s						
CHOS				AML	AML	02 22 01.5	
	comp=E,3579μm,0.2s						
SIGR	**SIGRI**	**0.75**	**30**	P	**Pg**	**02 21 52.1**	**-0.5**
SIGR	**SIGRI**	**0.75**	**30**	Pg	**Pg**	**02 21 52.1**	**-0.5**
SIGR				Sg	**Sb**	**02 22 03.1**	**+0.7**
SIGR	**SIGRI**	**0.75**	**30**	Pg	**Pg**	**02 21 51.9**	**-0.7**
SIGR				Sg	**Sg**	**02 22 01.4**	**-1.1**
SIGR	**SIGRI**	**0.75**	**30**	P	**Pg**	**02 21 52.0**	**-0.5**
SIGR				S	**Sg**	**02 22 02.3**	**-0.1**
SIGR				AML	AML	02 22 05.9	
	comp=N,983μm,0.4s						
SIGR				AML	AML	02 22 08.4	
	comp=E,723μm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**0.95**	**110**	P	**Pb**	**02 21 55.9**	**-0.1**
ZEYE				S	**Sb**	**02 22 08.5**	**+0.2**
ZEYE				*i* AML	AML	02 22 11.0	
	comp=E,237nm,0.4s						
URLA	**Izmir**	**0.98**	**102**	P	**Pn**	**02 21 57.3**	**+0.2**
URLA				S	**Sg**	**02 22 10.2**	**+0.2**
URLA				*i* AML	AML	02 22 13.0	
	comp=E,562nm,0.4s						
KYMI	**Kymi, Euboea I**	**1.00**	**274**	P	**Pb**	**02 21 56.6**	**-0.2**
KYMI				AML	AML	02 22 13.7	
	comp=N,406μm,0.7s						
KYMI				AML	AML	02 22 16.8	
	comp=E,324μm,0.8s						
TNSA	**Tinos**	**1.04**	**189**	P	**Pn**	**02 21 57.7**	**-0.1**
TNSA				S	**Sg**	**02 22 11.4**	**-0.4**
TNSA				AML	AML	02 22 11.7	
	comp=N,1023μm,0.4s						
TNSA				AML	AML	02 22 12.1	
	comp=E,910μm,0.4s						
GPNR	**Gulpinar-Canak**	**1.07**	**34**	Pg	**Pb**	**02 21 58.1**	**+0.1**
GPNR				Sg	**Sn**	**02 22 13.6**	**+1.0**
KOCA	**Canakkale, Ayv**	**1.11**	**32**	P	**Pb**	**02 21 58.7**	**0.0**
KOCA				S	**Sn**	**02 22 14.4**	**+0.8**
KOCA				*i* AML	AML	02 22 16.0	
	comp=E,155nm,0.5s						
DION	**Dionisos Attik**	**1.23**	**247**	P	**Pn**	**02 22 00.5**	**0.0**
DION				S	**Sg**	**02 22 18.1**	**+0.2**
	comp=E,312nm,0.4s						
DION	**Dionisos Attik**	**1.23**	**247**	P	**Pn**	**02 22 00.2**	**-0.2**
DION				S	**Sn**	**02 22 16.7**	**-0.1**
DION				AML	AML	02 22 24.7	
	comp=E,430μm,0.3s						
DION				AML	AML	02 22 25.8	
	comp=N,386μm,0.5s						
AYVA	**Ayvalik**	**1.27**	**54**	P	**Pn**	**02 22 00.0**	**-0.9**
AYVA				S	**Sb**	**02 22 16.4**	**-1.1**
AYVA				*i* AML	AML	02 22 21.0	
	comp=N,97nm,0.6s						
PTL	**Penteli**	**1.29**	**247**	P	**Pn**	**02 22 01.4**	**+0.1**
PTL				S	**Sg**	**02 22 20.4**	**+0.6**
PTL	**Penteli**	**1.29**	**247**	P	**Pn**	**02 22 01.0**	**-0.3**
PTL				S	**Sn**	**02 22 18.2**	**-0.1**
PTL				AML	AML	02 22 23.5	
	comp=E,196μm,0.6s						
PTL				AML	AML	02 22 26.0	
	comp=N,291μm,0.4s						
DGB	**zmir**	**1.30**	**113**	P	**Pg**	**02 22 02.8**	**-0.2**
DGB				S	**Sg**	**02 22 19.9**	**-0.1**
BLCB	**Balcova**	**1.33**	**97**	P	**Pn**	**02 22 01.9**	**+0.2**
BOZC	**Bozcaada**	**1.38**	**22**	Pn	**Pn**	**02 22 02.8**	**+0.3**
BOZC				Sn	**Sg**	**02 22 21.9**	**-0.6**
BOZC	**Bozcaada**	**1.38**	**22**	P	**Pn**	**02 22 02.7**	**+0.2**
BOZC				S	**Sb**	**02 22 21.0**	**+0.3**
ATHU	**Athens Univers**	**1.39**	**245**	P	**Pn**	**02 22 02.3**	**-0.2**
ATHU				S	**Sn**	**02 22 19.1**	**-1.3**
ZEDA	**zmir-Bergama**	**1.39**	**73**	P	**Pn**	**02 22 02.1**	**-0.6**
ZEDA				S	**Sn**	**02 22 17.4**	**-3.3**
ATH	**Athens Observa**	**1.43**	**246**	P	**Pn**	**02 22 02.9**	**-0.3**
ATH	**Athens Observa**	**1.43**	**246**	P	**Pn**	**02 22 03.0**	**-0.2**
ATH				S	**Sn**	**02 22 20.9**	**-0.7**
ATH				AML	AML	02 22 25.9	
	comp=E,222μm,0.3s						
ATH				AML	AML	02 22 26.7	
	comp=N,230μm,0.4s						
VLY	**Voula,Athens**	**1.43**	**241**	P	**Pn**	**02 22 02.4**	**-0.8**
VLY	**Voula,Athens**	**1.43**	**241**	P	**Pn**	**02 22 02.2**	**-1.0**
VLY				S	**Sn**	**02 22 21.6**	**0.0**
VLY				AML	AML	02 22 27.0	
	comp=N,254μm,0.4s						
VLY				AML	AML	02 22 30.1	
	comp=E,265μm,0.6s						
SMG	**Samos**	**1.44**	**126**	P	**Pn**	**02 22 03.6**	**+0.3**
SMG				S	**Sg**	**02 22 24.5**	**0.0**
	comp=E,325nm,0.5s						
SMG	**Samos**	**1.44**	**126**	P	**Pb**	**02 22 04.0**	**-0.4**
SMG				S	**Sb**	**02 22 23.7**	**+1.2**
SMG				AML	AML	02 22 25.8	
	comp=E,534μm,0.6s						
SMG				AML	AML	02 22 26.3	
	comp=N,755μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.49**	**38**	P	**Pn**	**02 22 03.6**	**-0.4**
BAYC				S	**Sn**	**02 22 23.0**	**0.0**
APE	**Apeiranthos**	**1.50**	**175**	P	**Pn**	**02 22 03.5**	**-0.8**
APE				S	**Sg**	**02 22 25.9**	**-0.6**
	comp=N,155nm,0.4s						
APE	**Apeiranthos**	**1.50**	**175**	Pn	**Pn**	**02 22 02.9**	**-1.3**
APE	**Apeiranthos**	**1.50**	**175**	P	**Pn**	**02 22 03.4**	**-0.8**
APE				S	**Sn**	**02 22 24.0**	**+0.6**
ECEA	**Canakkale, Ece**	**1.60**	**23**	P	Pn	02 21 59.9	-5.6
ECEA				S	**Sb**	**02 22 27.9**	**+0.9**
BUHA	**Balikesir, Bur**	**1.62**	**54**	P	**Pb**	**02 22 08.1**	**+0.6**
BUHA				S	**Sg**	**02 22 30.7**	**+0.4**
BUHA				*i* AML	AML	02 22 35.0	
	comp=N,99nm,0.5s						
VILL	**Villia**	**1.67**	**257**	P	**Pn**	**02 22 05.5**	**-1.0**
GADA	**Gvkgeada**	**1.67**	**14**	Pn	**Pn**	**02 22 07.1**	**+0.6**
GADA	**Gvkgeada**	**1.67**	**14**	Pn	**Pn**	**02 22 06.1**	**-0.4**
GADA				Sn	**Sn**	**02 22 25.9**	**-1.6**
VIL2	**Platees**	**1.69**	**258**	P	**Pn**	**02 22 05.4**	**-1.4**
GCAM	**G?zelcaml?**	**1.71**	**120**	P	**Pn**	**02 22 04.9**	**-2.0**
GCAM				S	**Sb**	**02 22 31.2**	**+1.1**
NEO	**Neokhori**	**1.83**	**294**	P	**Pn**	**02 22 08.2**	**-0.5**
SMTH	**Samothraki Isl**	**1.90**	**4**	P	**Pn**	**02 22 09.3**	**-0.4**
SMTH	**Samothraki Isl**	**1.90**	**4**	P	**Pn**	**02 22 08.9**	**-0.8**
LOUT	**Loutraki**	**1.97**	**254**	P	**Pn**	**02 22 11.0**	**+0.4**
STEP	**BALIKESIR_Sava**	**2.00**	**65**	P	**Pn**	**02 22 10.8**	**-0.3**
STEP				S	**Sb**	**02 22 39.8**	**+1.2**
EPID	**Epidavros**	**2.02**	**242**	P	**Pn**	**02 22 12.0**	**+0.8**
OUR	**Ouranopolis**	**2.06**	**329**	P	**Pn**	**02 22 11.9**	**0.0**
OUR	**Ouranopolis**	**2.06**	**329**	Pn	**Pn**	**02 22 12.8**	**+0.9**
THAS	**Thassos island**	**2.10**	**346**	P	**Pn**	**02 22 11.5**	**-0.8**
BALY	**Balya**	**2.10**	**56**	P	**Pb**	**02 22 16.8**	**+1.0**
BALY				S	**Sg**	**02 22 45.6**	**-0.1**
KRND	**KRANIDI**	**2.12**	**237**	P	**Pn**	**02 22 11.8**	**-0.8**
THT2	**Imerovigli**	**2.13**	**179**	P	**Pn**	**02 22 13.2**	**+0.4**
AXAR	**Agios Charalam**	**2.13**	**276**	P	**Pn**	**02 22 13.3**	**+0.5**
AYDN	**Tasoluk**	**2.18**	**114**	P	**Pb**	**02 22 17.8**	**+0.9**
AYDN				S	**Sb**	**02 22 44.1**	**+0.4**
THAL	**Thalero**	**2.19**	**257**	P	**Pn**	**02 22 13.5**	**-0.2**
ENEZ	**Enez**	**2.25**	**15**	Pn	**Pn**	**02 22 15.3**	**+0.9**
ALN	**Alexandroupoli**	**2.38**	**12**	Pn	**Pn**	**02 22 17.8**	**+1.5**
ALN	**Alexandroupoli**	**2.38**	**12**	Pn	**Pn**	**02 22 15.6**	**-0.7**
KESN	**Edirne-Kesan**	**2.47**	**24**	P	**Pn**	**02 22 17.7**	**-0.1**
KESN				S	**Sn**	**02 22 47.6**	**-0.2**
MANT	**Manisa**	**2.50**	**91**	P	**Pg**	**02 22 25.4**	**-0.6**
MANT				S	**Sb**	**02 22 54.2**	**+1.0**
SART	**Tekirdag**	**2.54**	**33**	P	**Pb**	**02 22 22.1**	**-1.1**
SART				S	**Sb**	**02 22 56.4**	**+2.3**
MAKR	**Makrakomi, Fth**	**2.57**	**281**	P	**Pn**	**02 22 19.5**	**+0.6**
RDO	**Rodhopi**	**2.58**	**3**	P	**Pn**	**02 22 18.6**	**-0.3**
KLV	**Kalavryta, Ach**	**2.59**	**259**	P	**Pn**	**02 22 18.8**	**-0.3**
KLV	**Kalavryta, Ach**	**2.59**	**259**	P	**Pn**	**02 22 18.7**	**-0.5**
DEMI	**Demirci**	**2.66**	**79**	P	**Pn**	**02 22 21.5**	**+1.3**
TYRN	**Tyrnavos**	**2.69**	**296**	P	**Pn**	**02 22 20.9**	**+0.4**
ANX	**Ano Chora**	**2.70**	**272**	P	**Pn**	**02 22 21.1**	**+0.3**
ANX	**Ano Chora**	**2.70**	**272**	P	**Pn**	**02 22 20.9**	**+0.1**
EVR	**Evrytania**	**2.81**	**278**	P	**Pn**	**02 22 21.6**	**-0.6**
DRO	**Drossia**	**2.94**	**259**	P	**Pn**	**02 22 24.5**	**+0.5**
KTHR	**Kythira**	**2.98**	**220**	P	**Pn**	**02 22 24.9**	**+0.5**
KNT	**Kendrikon**	**3.21**	**324**	P	**Pn**	**02 22 28.7**	**+1.0**
KNT	**Kendrikon**	**3.21**	**324**	Pn	**Pn**	**02 22 29.1**	**+1.4**
IMMV	**Iera Moni Meta**	**3.29**	**200**	P	**Pn**	**02 22 29.2**	**+0.4**

IDC 28 02:24:40.6±1.9,**0°.45N**×**123°.17E**,**h0**^{km},**mb3.2**/3, **mbtmp3.2**/3,**Error ellipse: s-maj=201.1km s-min=28.2km az=62.0**,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.04**	**152**	P	P	02 29 47.5	-0.1
	0.5nm,0.5s,baz=331,slow=10,SNR=9.5						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.14**	**157**	P	P	02 30 16.7	-0.1
	0.4nm,0.9s,baz=328,slow=9.8,SNR=2.4						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**58.32**	**328**	P	P	02 34 37.6	+0.1
	0.1nm,0.3s,baz=121,slow=7.4,SNR=2.0						
	0.1nm,0.3s						

*IDC **28** 02:32:44.9±1.3,59°.28N×30°.43W,h0^{km},mb3.6/6, mbtmp3.6/6,MS3.4/1,Error ellipse: s-maj=41.3km s-min=27.2km az=178.0*

ISC 28 02:32:47.4±1.2,**59°.3N**±0°.3×**30°.5W**±0°.2,**h16**^{km},**n7**,σ0°**44**/6, **mb3.7**/6,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**15.21**	**93**	LR	LR	02 40 49.8	
	comp=Z,134nm,18.1s,baz=172,slow=32						
PDAR	**Pinedale Array**	**49.31**	**288**	P	**P**	**02 41 35.1**	**-0.4**
	0.8nm,1.0s,baz=56,slow=6.7,SNR=2.8						
	0.8nm,1.0s						
BVAR	**Borovoye Array**	**51.29**	**49**	P	**P**	**02 41 50.2**	**+0.2**
	0.8nm,0.7s,baz=322,slow=6.4,SNR=3.3						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.86**	**139**	P	**P**	**02 41 54.7**	**0.0**
	0.9nm,1.0s,baz=334,slow=7.5,SNR=3.6						
	0.9nm,1.0s						
KURBB	**Kurchatov Arra**	**56.29**	**46**	P	**P**	**02 42 26.2**	**-0.4**
	0.6nm,0.5s,baz=321,slow=7.2,SNR=1.9						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**56.89**	**290**	P	**P**	**02 42 31.9**	**+0.5**
	0.1nm,0.3s,baz=40,slow=7.1,SNR=1.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**60.86**	**47**	P	**P**	**02 42 58.4**	**-0.2**
	0.8nm,0.6s,baz=336,slow=5.7,SNR=7.7						
	0.8nm,0.6s						

*SNET **28** 02:33:16.3±1.1, 13°.65N×91°.80W,h13^{km}±64^{km}, ML3.5*
*GCG **28** 02:33:26.0±0.6, 14°.27N×91°.60W,h49^{km}±12^{km}, MD4.0*

ISC 28 02:33:15.3±3.1,**13°.6N**±0°.1×**91°.8W**±0°.2,**h10**^{km},**n19**, σ1°**07**/25,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.74**	**19**	*e*P	**Pn**	**02 33 33.6**	**+1.7**
RTAL	**Retalhuleu**	**0.93**	**8**	*e*P	**Pg**	**02 33 33.0**	**-0.2**
RTAL				*e*S	**Sg**	**02 33 44.0**	**-1.3**
STG3	**Santiaguito 3,**	**1.13**	**12**	*e*P	**Pn**	**02 33 37.1**	**-0.3**
FUG	**Fuego 3**	**1.27**	**48**	*e*P	**Pn**	**02 33 40.6**	**+1.3**
FUG				*e*S	**Sn**	**02 33 57.0**	**+0.5**
NBG	**Las Nubes**	**1.73**	**55**	*e*P	**Pn**	**02 33 48.4**	**+2.6**
NBG				*e*S	**Sn**	**02 34 05.4**	**-2.7**
NUBE	**Las Nubes**	**2.01**	**81**	*e*P	**Pn**	**02 33 48.9**	**-0.5**
NUBE				*e*S	**Sn**	**02 34 14.7**	**+0.1**
SLOZ	**Alcaldia de Sa**	**2.02**	**78**	*e*P	**Pn**	**02 33 49.9**	**+0.3**
SLOZ				*e*S	**Sn**	**02 34 15.6**	**+0.7**
RTR	**El Retiro**	**2.13**	**82**	*e*P	**Pn**	**02 33 51.8**	**+0.6**
CEVE	**Cerro Verde**	**2.15**	**84**	*e*P	**Pn**	**02 33 51.3**	**-0.1**
CEVE				IAML		02 34 20.9	
	comp=Z,323nm,0.4s						
JAYA	**Jayaque - finc**	**2.31**	**88**	*e*P	**Pn**	**02 33 54.0**	**+0.5**
JAYA				IAML		02 34 31.3	
	comp=Z,271nm,0.3s						
PMON	**Piamonte**	**2.44**	**87**	*e*P	**Pn**	**02 33 55.5**	**+0.2**
LFRS	**El Faro**	**2.68**	**89**	*e*P	**Pn**	**02 33 59.3**	**+0.7**
LFRS				*e*S	**Sn**	**02 34 32.6**	**+1.3**
PAVA	**Las Pavas**	**2.81**	**87**	*e*P	**Pn**	**02 34 00.5**	**+0.2**
COEG	**Centro de Oper**	**2.86**	**89**	*e*P	**Pn**	**02 34 00.7**	**-0.3**
P5NO	**Presa 5 de nov**	**3.00**	**82**	*e*P	**Pn**	**02 34 02.9**	**-0.1**
SCLA	**Alcaldia de Sa**	**3.01**	**88**	*e*P	**Pn**	**02 34 03.7**	**+0.7**
PACA	**Pacayal**	**3.40**	**92**	*e*P	**Pn**	**02 34 08.5**	**-0.1**
PACA				IAML		02 35 06.8	
	comp=Z,653nm,0.4s						
LCND	**La Caada**	**3.83**	**94**	*e*P	**Pn**	**02 34 14.3**	**-0.2**
LCND				IAML		02 35 07.1	
	comp=Z,101nm,0.3s						
CNCH	**Conchagua**	**3.89**	**94**	*e*P	**Pn**	**02 34 15.8**	**+0.5**

*SOME **28** 02:36:39.5,37°.77N×71°.75E,h5^{km}*
*NNC **28** 02:36:44.3±7.8,36°.97N×70°.27E,h197^{km}±97^{km}, mb2.5, mpv3.4,Error ellipse: s-maj=78.1km s-min=36.9km az=2.0*

ISC 28 02:36:44.8±3.6,**37°.0N**±0°.2×**70°.3E**±0°.1,**h200**^{km},**n9**, σ1°**72**/10,**4C-2D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**5.19**	**358**	*e*Pg	**Pn**	**02 38 02.9**	**+1.2**
	18nm,0.3s						
IUG				*e*Lg	Lg	02 39 04.9	
	73nm,0.7s						
KK31	**Karatay Array**	**6.14**	**2**	⇓P	**Pn**	**02 38 14.2**	**+0.4**
	0.6nm,0.3s,baz=182,slow=14,SNR=20						
KK31				⇑S	**Sn**	**02 39 24.6**	**+0.2**
	1.8nm,0.5s,baz=184,slow=23,SNR=6.4						
MRKS	**Merke**	**6.21**	**21**	*e*Pg	**Pn**	**02 38 14.6**	**-0.3**
	3.1nm,0.3s						
MRKS				*e*Lg	Lg	02 39 26.6	
	15nm,0.5s						
TKM2	**Tokmak 2**	**7.23**	**33**	⇑P	**Pn**	**02 38 26.5**	**-1.6**
	2.5nm,0.6s						
TKM2				⇓S	**Sn**	**02 39 49.2**	**-1.0**
	2.1nm,0.6s						
KST	**Kastek**	**7.49**	**34**	*e*Pg	**Pn**	**02 38 32.1**	**+0.8**
	0.6nm,0.7s						
KST				*e*Lg	Lg	02 39 56.6	
	5.5nm,0.8s						
KRBS	**Karabastau**	**7.90**	**30**	*e*Pg	**Pn**	**02 38 40.4**	**+3.7**
	0.9nm,0.3s						
KRBS				*e*Lg	Lg	02 40 10.6	
	0.9nm,0.5s						
CHKK	**Chushkaly**	**8.59**	**35**	*e*Pg	Pn	02 38 54.7	+9.1
	1.2nm,0.1s						
CHKK				*e*Lg	Lg	02 40 35.8	
	2.8nm,0.2s						
AB31	**Akbulak array**	**14.40**	**332**	⇑P	**Pn**	**02 39 58.5**	**-1.0**
	0.6nm,0.7s,baz=145,slow=12,SNR=9.5						
AKTO	**Aktyubinsk**	**16.09**	**331**	⇑P	**Pn**	**02 40 19.8**	**-0.3**
	2.6nm,1.2s						

*IDC **28** 02:42:07.9±1.1,59°.45N×30°.47W,h0^{km},mb3.6/9, mbtmp3.6/10,ML3.9/1,MS3.7/48,Error ellipse: s-maj=27.3km s-min=19.3km az=21.0*

ISC 28 02:42:10.3±0.9,**59°.4N**±0°.1×**30°.5W**±0°.1,**h16**^{km},**n52**, σ0°**99**/11,**mb3.6**/9,**MS3.6**/44,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**6.85**	**35**	Pn	**Pn**	**02 43 50.3**	**+0.5**
	2.4nm,0.3s,baz=228,slow=10,SNR=8.8						
BORG				Sn	**Sn**	**02 45 07.0**	**-0.3**
	0.6nm,0.3s,baz=46,slow=1.0,SNR=1.6						
BORG				LR	LR	02 45 47.5	
	comp=Z,632nm,18.3s,baz=241,slow=32						
	6.0nm,0.3s						
SFJD	**Kangerlussuaq**	**11.78**	**318**	LR	LR	02 48 51.0	
	comp=Z,530nm,18.1s,baz=168,slow=34						
EKA	**Eskdalemuir Ar**	**15.23**	**94**	LR	LR	02 50 43.0	
	comp=Z,389nm,18.2s,baz=284,slow=34						
FRB	**Frobisher Bay**	**18.42**	**300**	LR	LR	02 52 38.3	
	comp=Z,373nm,18.8s,baz=58,slow=34						
SCHQ	**Schefferville**	**20.08**	**273**	LR	LR	02 53 14.4	
	comp=Z,197nm,18.4s,baz=82,slow=33						
NOA	**NORSAR Array B**	**20.51**	**67**	LR	LR	02 53 34.9	
	comp=Z,163nm,20.5s,baz=285,slow=34						
HFS	**Hagfors**	**21.94**	**69**	LR	LR	02 54 38.2	
	comp=Z,197nm,19.4s,baz=278,slow=34						
ESDC	**Sonseca Array**	**25.90**	**128**	P	**P**	**02 47 42.7**	**+1.4**
	1.4nm,0.9s,baz=320,slow=9.2,SNR=4.6						
ESDC				LR	LR	02 56 06.9	
	comp=Z,97nm,19.5s,baz=304,slow=32						
	1.4nm,0.9s						
DAVOX	**Davos/Dischmat**	**26.87**	**100**	LR	LR	02 58 00.6	
	comp=Z,95nm,19.3s,baz=272,slow=36						
FINES	**FINESS Array B**	**27.24**	**61**	P	**P**	**02 47 53.4**	**+0.3**
	2.1nm,0.8s,baz=304,slow=9.9,SNR=2.2						
	2.1nm,0.8s						
GERES	**GERESS Array B**	**27.45**	**93**	LR	LR	02 58 26.3	
	comp=Z,173nm,19.7s,baz=294,slow=36						
RES	**Resolute Bay**	**27.47**	**329**	LR	LR	02 57 30.5	
	comp=Z,98nm,19.1s,baz=23,slow=34						
VRAC	**Vranov**	**28.64**	**90**	LR	LR	02 59 34.6	
	comp=Z,115nm,18.6s,baz=316,slow=37						
SADO	**Sadowa**	**32.47**	**265**	LR	LR	03 00 25.7	
	comp=Z,293nm,19.5s,baz=84,slow=34						
AKASG	**Malin Array Be**	**34.18**	**78**	P	**P**	**02 48 55.1**	**+0.7**
	0.1nm,0.3s,baz=317,slow=9.1,SNR=1.6						
AKASG				LR	LR	03 03 11.5	
	comp=Z,37nm,19.2s,baz=326,slow=37						
	0.1nm,0.3s						
KEST	**Kesra**	**35.00**	**115**	LR	LR	03 02 04.3	
	comp=Z,152nm,19.3s,baz=257,slow=34						
OBN	**Obninsk**	**35.12**	**67**	LR	LR	03 02 39.9	
	comp=Z,48nm,18.3s,baz=341,slow=35						
MLR	**Muntele Rosu**	**35.93**	**87**	LR	LR	03 04 22.9	
	comp=Z,105nm,18.6s,baz=308,slow=37						
ULM	**Lac du Bonnet**	**37.29**	**286**	LR	LR	03 03 22.2	
	comp=Z,156nm,21.8s,baz=48,slow=34						
YKA	**Yellowknife Ar**	**38.23**	**312**	P	**P**	**02 49 29.0**	**+0.2**
	0.9nm,0.9s,baz=56,slow=8.4,SNR=9.6						
	0.9nm,0.9s						
KIRV	**Kirov**	**38.82**	**55**	LR	LR	03 04 35.4	
	comp=Z,50nm,19.3s,baz=290,slow=35						
TKL	**Tuckaleechee C**	**41.62**	**259**	LR	LR	03 05 52.1	
	comp=Z,167nm,19.2s,baz=19,slow=34						
BELG	**Belogornoye**	**41.95**	**64**	LR	LR	03 05 49.2	
	comp=Z,83nm,19.2s,baz=318,slow=34						
ARU	**Arti**	**43.99**	**53**	LR	LR	03 07 12.7	
	comp=Z,92nm,19.9s,baz=320,slow=34						
BRTR	**Keskin Array B**	**44.01**	**87**	LR	LR	03 09 13.9	
	comp=Z,97nm,22.0s,baz=311,slow=37						
KBZ	**Khabaz**	**45.73**	**76**	LR	LR	03 11 26.9	
	comp=Z,52nm,18.4s,baz=336,slow=38						
DLBC	**Dease Lake**	**46.66**	**315**	LR	LR	03 10 12.6	
	comp=Z,131nm,19.9s,baz=357,slow=36						
ILAR	**Eielson Array**	**47.23**	**328**	P	**P**	**02 50 40.8**	**-1.0**
	0.5nm,0.9s,baz=38,slow=4.7,SNR=4.0						
ILAR				LR	LR	03 11 19.8	
	comp=Z,53nm,19.0s,baz=44,slow=37						
	0.5nm,0.9s						
AKTO	**Aktyubinsk**	**47.98**	**59**	P	**P**	**02 50 46.6**	**-1.2**
	1.1nm,0.6s,baz=331,slow=6.6,

TABP				*i* S		**Sn**	02 44 14.7	-0.5
CGP	**Cagayan de Oro**	**1.68**	**219**	⇑*i*P		**Pn**	**02 43 57.8**	**0.0**
CGP				*i* S		**Sn**	**02 44 19.5**	**-0.8**
BIPH	**Bislig**	**1.69**	**159**	⇑*i*P		**Pn**	**02 43 57.0**	**-0.9**
BIPH				*i* S		**Sn**	**02 44 21.2**	**+0.6**
LLP	**Lapu-Lapu**	**1.84**	**287**	⇑*e*P		**Pn**	**02 44 00.5**	**+0.8**
LLP				*e*S		**Sn**	**02 44 24.5**	**+0.7**
TBP	**Tagbilaran**	**1.87**	**268**	⇑*i*P		**Pn**	**02 44 00.6**	**+0.6**
TBP				*i* S		**Sn**	**02 44 24.1**	**-0.2**
BUKP	**Musuan**	**2.00**	**200**	⇑*i*P		**Pn**	**02 44 02.9**	**+1.1**
CDOP	**Cateel, Davao**	**2.09**	**161**	⇑*i*P		**Pn**	**02 44 02.3**	**-0.5**
CDOP				*i* S		**Sn**	**02 44 29.6**	**+0.3**
LSIP	**Lazi, Siquijor**	**2.19**	**253**	⇑*i*P		**Pn**	**02 44 04.0**	**0.0**
LSIP				*e*S		**Sn**	**02 44 30.1**	**-1.4**
DCPH	**Dipolog City**	**2.65**	**244**	⇓*i*P		**Pn**	**02 44 10.0**	**+0.1**
KCP	**Kidapawan**	**2.83**	**193**	⇑*e*P		**Pn**	**02 44 12.8**	**+0.5**
CTBH	**Cotabato--PC H**	**2.94**	**211**	⇑*i*P		**Pn**	**02 44 14.4**	**+0.7**
CTBH				*i* S		Sn	02 44 33.4	-16
RCP	**Roxas**	**3.45**	**301**	⇑*e*P		**Pn**	**02 44 22.7**	**+2.3**
WRA	**Warramunga Arr**	**30.72**	**164**	P		**P**	**02 49 30.6**	**-1.2**
	0.5nm,0.8s,baz=348,slow=9.4,SNR=7.4							
WRA				PcP		**PcP**	**02 52 26.6**	**-0.4**
	0.3nm,0.5s,baz=346,slow=2.6,SNR=4.8 0.5nm,0.8s							
ASAR	**Alice Springs**	**34.18**	**167**	P		**P**	**02 50 01.1**	**-1.0**
	0.5nm,0.3s,baz=345,slow=7.0,SNR=24							
ASAR				PcP		**PcP**	**02 52 36.9**	**+0.4**
	0.3nm,0.3s,baz=342,slow=2.8,SNR=6.6 0.5nm,0.3s							
BRDH	**Bariadhala**	**35.08**	**296**	LR		LR	03 05 05.3	
	comp=Z,79nm,20.5s,baz=270,slow=37							
SONM	**Songino Array**	**41.31**	**340**	P		P	02 50 58.6	-3.2
	0.6nm,0.4s,baz=116,slow=6.6,SNR=2.0 0.6nm,0.4s							
MKAR	**Makanchi Array**	**52.11**	**323**	P		**P**	**02 52 26.6**	**+0.7**
	0.9nm,0.7s,baz=127,slow=6.7,SNR=8.5							
MKAR				LR		LR	03 15 53.4	
	comp=Z,36nm,19.2s,baz=328,slow=38 0.9nm,0.7s							
AAK	**Ala-Archa**	**55.32**	**316**	LR		LR	03 18 10.2	
	comp=Z,28nm,22.0s,baz=318,slow=38							
FINES	**FINESS Array B**	**86.08**	**332**	P		**P**	**02 55 54.5**	**-0.6**
	0.8nm,0.6s,baz=72,slow=6.2,SNR=5.6 0.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**119.97**	**291**	PKP		**PKPdf**	**03 02 05.0**	**-0.5**
	0.5nm,0.6s,baz=73,slow=1.5,SNR=3.1							
PLCA	**Paso Flores**	**145.95**	**158**	PKPbc		**PKPbc**	**03 02 55.0**	**+0.9**
	2.1nm,0.7s,baz=243,slow=4.9,SNR=11							

*KRNET **28** 02:46:06.7±0.1, 42°.05N×78°.54E, h13km, mb2.6*
*SOME **28** 02:46:08.3, 42°.08N×78°.38E, h15km*
*NNC **28** 02:46:11.4±0.9, 42°.25N×78°.36E, h0km, mb3.2, mpv3.2,*
Error ellipse: s-maj=6.5km s-min=3.1km az=167.0

ISC 28 02:46:09.7±1.1, 42°.13N±0°.03×78°.30E±0°.02, h8km±10km, n52, σ1$40/88, 17C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.36**	**12**	⇑*i*P	**Pg**	**02 46 16.0**	**-0.9**
	baz=47						
PRZ				⇑*i*S	**Sg**	**02 46 22.2**	**+0.5**
	baz=47						
TARG	**Taragay, Kyrgy**	**0.55**	**223**	⇑*i*P	**Pg**	**02 46 19.0**	**-1.4**
	baz=40						
TARG				⇑*i*S	**Sg**	**02 46 27.7**	**+0.1**
	baz=40						
ANVS	**Anan'yevo**	**0.80**	**325**	⇑*i*P	**Pg**	**02 46 25.4**	**+0.2**
	baz=19						
ANVS				⇑*i*S	**Sn**	**02 46 39.0**	**-0.7**
	baz=19						
KDJ	**Kajisay**	**0.83**	**270**	⇓*i*P	**Pg**	**02 46 25.5**	**-0.3**
	baz=75						
KDJ				⇓*i*S	**Sn**	**02 46 39.7**	**-0.8**
	baz=75						
SATY	**Saty**	**0.93**	**5**	P	**Pg**	**02 46 26.7**	**-0.9**
	5.3nm,0.2s						
SATY				S	**Sg**	**02 46 38.1**	**-1.6**
	16nm,0.2s						
SATY	**Saty**	**0.93**	**5**	*e*P	**Pg**	**02 46 26.7**	**-0.9**
	5.3nm,0.2s						
SATY				*e*S	**Sb**	**02 46 40.3**	**-0.5**
	20nm,0.1s						
UZB	**Uzynbulak**	**1.15**	**28**	P	**Pb**	**02 46 30.5**	**-1.4**
	3.8nm,0.3s						
UZB				S	**Sg**	**02 46 44.7**	**-2.0**
	8.8nm,0.2s						
UZB	**Uzynbulak**	**1.15**	**28**	*e*P	**Pb**	**02 46 30.2**	**-1.7**
	3.8nm,0.3s						
UZB				*e*S	**Sg**	**02 46 45.1**	**-1.6**
	8.8nm,0.2s						
SHLS	**Shalkode**	**1.34**	**40**	P	**Pg**	**02 46 37.6**	**+2.2**
	5.0nm,0.2s						
SHLS				S	**Sg**	**02 46 56.9**	**+4.2**
	108nm,0.4s						
SHLS	**Shalkode**	**1.34**	**40**	*e*P	**Pg**	**02 46 37.6**	**+2.2**
	5.0nm,0.2s						
SHLS				*e*S	**Sg**	**02 46 58.2**	**+5.5**
	9.2nm,0.2s						
TNSS	**Tian-Shan**	**1.35**	**313**	P	**Pg**	**02 46 35.5**	**-0.1**
	3.4nm,0.1s						
TNSS				S	**Sn**	**02 46 53.4**	**-0.1**
	11nm,0.4s						
TNSS	**Tian-Shan**	**1.35**	**313**	*e*P	**Pg**	**02 46 35.5**	**-0.1**
	3.4nm,0.1s						
TNSS				*e*S	**Sg**	**02 46 53.7**	**+0.6**
	11nm,0.4s						
KPKS	**Kokpek**	**1.36**	**12**	P	**Pb**	**02 46 34.7**	**-0.8**
	9.4nm,0.1s						
KPKS				S	**Sb**	**02 46 51.9**	**-1.3**
	11nm,0.2s						
KPKS	**Kokpek**	**1.36**	**12**	*e*P	**Pn**	**02 46 33.1**	**-2.0**
	9.4nm,0.1s						
KPKS				*e*S	**Sb**	**02 46 51.7**	**-1.5**
	11nm,0.2s						
MDOK	**Medeo**	**1.38**	**319**	P	**Pn**	**02 46 35.3**	**-0.2**
	0.7nm,0.2s						
MDOK				Pg	**Pg**	**02 46 36.2**	**-0.1**
	1.9nm,0.1s						
MDOK				Lg	Lg	02 46 54.3	
	20nm,0.3s						
MDOK				S	**Sg**	**02 46 54.6**	**+0.3**
	1.8nm,0.2s						
MDOK	**Medeo**	**1.38**	**319**	*e*P	**Pb**	**02 46 35.4**	**-0.5**
	1.9nm,0.1s						
MDOK				*e*S	**Sg**	**02 46 54.3**	**+0.1**
	20nm,0.3s						
KOTS	**Kotyrbulak**	**1.41**	**322**	P	**Pb**	**02 46 36.3**	**-0.1**
	5.9nm,0.2s						
KOTS				S	**Sb**	**02 46 54.5**	**0.0**
	24nm,0.2s						
KOTS	**Kotyrbulak**	**1.41**	**322**	*e*P	**Pb**	**02 46 36.3**	**-0.1**
	5.9nm,0.2s						
KOTS				*e*S	**Sg**	**02 46 55.8**	**+0.8**
	24nm,0.2s						
ULHL	**Ulahol**	**1.53**	**275**	⇑*i*P	**Pg**	**02 46 38.9**	**-0.2**
	baz=77						
ULHL				⇑*i*S	**Sg**	**02 47 01.8**	**+2.8**
	baz=77						
IZV	**Izvestkoviy**	**1.54**	**307**	P	**Pg**	**02 46 38.9**	**-0.4**
	3.4nm,0.1s						
IZV				S	**Sb**	**02 46 59.0**	**+0.7**
	54nm,0.1s						
IZV	**Izvestkoviy**	**1.54**	**307**	*e*P	**Pg**	**02 46 38.9**	**-0.4**
	3.4nm,0.1s						
IZV				*e*S	**Sg**	**02 47 00.0**	**+0.8**
	54nm,0.1s						
MTBS	**Maitube**	**1.70**	**307**	P	**Pb**	**02 46 41.6**	**+0.3**
	7.5nm,0.2s						
MTBS				S	**Sb**	**02 47 03.6**	**+0.7**
	26nm,0.2s						
MTBS	**Maitube**	**1.70**	**307**	*e*P	**Pb**	**02 46 41.6**	**+0.3**
	7.5nm,0.2s						
MTBS				*e*S	**Sg**	**02 47 04.5**	**+0.1**
	26nm,0.2s						
NRN	**Naryn**	**1.85**	**249**	⇑*i*P	**Pb**	**02 46 43.5**	**-0.6**
	baz=53						
NRN				⇑*i*S	**Sg**	**02 47 10.8**	**+1.4**
	baz=53						
KST	**Kastek**	**1.95**	**299**	Pg	**Pg**	**02 46 46.6**	**-0.5**
	4.1nm,0.2s						
KST				Lg	Lg	02 47 12.2	
	29nm,0.3s						
KST	**Kastek**	**1.95**	**299**	*e*Pg	**Pb**	**02 46 45.9**	**+0.3**
	4.1nm,0.2s						
KST				*e*Lg	Lg	02 47 12.2	
	29nm,0.3s						
BLB	**Baldybastay**	**1.97**	**4**	P	**Pb**	**02 46 46.2**	**+0.3**
	28nm,0.2s						
BLB				S	**Sb**	**02 47 11.4**	**+0.7**
	17nm,0.2s						
CHKK	**Chushkaly**	**1.97**	**331**	Pg	**Pb**	**02 46 46.4**	**+0.5**
	7.4nm,0.3s						
CHKK				Lg	Lg	02 47 12.2	
	20nm,0.2s						
CHKK	**Chushkaly**	**1.97**	**331**	*e*Pg	**Pb**	**02 46 45.9**	**0.0**
	7.4nm,0.3s						
CHKK				*e*Lg	Lg	02 47 12.2	
	20nm,0.2s						
KTBS	**Karatobe**	**1.98**	**324**	Pg	**Pg**	**02 46 47.1**	**-0.5**
	4.4nm,0.2s						
KTBS				Lg	Lg	02 47 13.1	
	64nm,0.5s						
KTBS	**Karatobe**	**1.98**	**324**	*e*Pg	**Pb**	**02 46 46.3**	**+0.4**
	4.4nm,0.2s						
KTBS				*e*Lg	Lg	02 47 13.1	
	64nm,0.5s						
KTMS	**Ketmen**	**2.00**	**48**	P	**Pb**	**02 46 45.8**	**-0.6**
	2.6nm,0.1s						
KTMS				S	**Sb**	**02 47 10.9**	**-0.7**
	4.1nm,0.2s						
KTMS	**Ketmen**	**2.00**	**48**	*e*Pg	**Pb**	**02 46 45.1**	**-1.4**
	2.6nm,0.1s						
KTMS				*e*Lg	Lg	02 47 13.3	
	5.9nm,0.2s						
ARXS	**Arharly**	**2.11**	**351**	Pg	**Pb**	**02 46 48.4**	**+0.1**
	11nm,0.3s						
ARXS				Lg	Lg	02 47 15.9	
	5.6nm,0.2s						
TKM2	**Tokmak 2**	**2.15**	**292**	⇓P	**Pb**	**02 46 49.4**	**+0.5**
	2.3nm,0.3s						
TKM2				⇓*i*S	**Sg**	**02 47 18.4**	**-0.3**
	16nm,0.4s						
TKM2	**Tokmak 2**	**2.15**	**292**	⇓*i*P	**Pb**	**02 46 48.4**	**-0.6**
	baz=93						
TKM2				⇓*i*S	**Sg**	**02 47 18.5**	**-0.3**
	baz=93						
DGS	**Degeres**	**2.17**	**302**	Pg	**Pg**	**02 46 50.2**	**-1.0**
	4.9nm,0.3s						
DGS				Lg	Lg	02 47 18.3	
	19nm,0.5s						
DGS	**Degeres**	**2.17**	**302**	*e*Pg	**Pb**	**02 46 49.6**	**+0.3**
	4.9nm,0.3s						
DGS				*e*Lg	Lg	02 47 18.8	
	19nm,0.5s						
KUU	**Kurty**	**2.27**	**321**	Pg	**Pb**	**02 46 51.7**	**+0.6**
	1.8nm,0.2s						
KUU				Lg	Lg	02 47 20.9	
	16nm,0.3s						
KUU	**Kurty**	**2.27**	**321**	*e*Pg	**Pb**	**02 46 51.2**	**+0.2**
	1.8nm,0.2s						
KUU				*e*Lg	Lg	02 47 21.8	
	16nm,0.3s						
DJR	**Jarkent**	**2.46**	**26**	Pg	**Pb**	**02 46 53.8**	**-0.3**
	3.2nm,0.1s						
DJR				Lg	Lg	02 47 24.6	
	29nm,0.3s						
DJR	**Jarkent**	**2.46**	**26**	*e*Pg	**Pb**	**02 46 52.6**	**-1.5**
	3.2nm,0.1s						
DJR				*e*Lg	Lg	02 47 25.3	
	29nm,0.3s						
KRBS	**Karabastau**	**2.48**	**310**	Pg	**Pg**	**02 46 56.0**	**-1.3**
	3.1nm,0.2s						
KRBS				Lg	Lg	02 47 28.3	
	16nm,0.2s						
KRBS	**Karabastau**	**2.48**	**310**	*e*Pg	**Pb**	**02 46 54.7**	**+0.1**
	3.1nm,0.2s						
KRBS				*e*Lg	Lg	02 47 28.3	
	16nm,0.2s						
KBK	**Karagaybulak**	**2.54**	**283**	⇑*i*P	**Pb**	**02 46 53.6**	**-2.0**
	baz=84						
KBK				⇑*i*S	**Sb**	**02 47 28.1**	**+1.1**
	baz=84						
CHMS	**Chumysh**	**2.76**	**289**	⇑P	**Pb**	**02 46 57.8**	**-1.5**
	1.3nm,0.5s						
CHMS				⇓S	**Sb**	**02 47 35.7**	**+2.4**
	5.6nm,0.5s						
UCH	**Uchtor**	**2.81**	**273**	⇓*i*P	**Pn**	**02 46 57.4**	**+2.0**
	baz=75						
UCH				⇓*i*S	**Sb**	**02 47 34.5**	**-0.8**
	baz=75						
AAK	**Ala-Archa**	**2.86**	**281**	⇓*i*P	**Pn**	**02 46 57.7**	**+1.9**
	baz=83						
AAK				⇓*i*S	**Sb**	**02 47 35.3**	**-1.1**
	baz=83						
ARLS	**Aral**	**2.98**	**266**	⇑*i*P	**Pn**	**02 46 59.0**	**+1.6**
	baz=68						
ARLS				⇑*i*S	**Sb**	**02 47 37.6**	**-2.0**
	baz=68						
SGDS	**Sogindy**	**3.00**	**297**	Pg	**Pb**	**02 47 03.7**	**+0.2**
	2.2nm,0.3s						
SGDS				Lg	Lg	02 47 41.7	
	12nm,0.4s						
USP	**Ospenovka**	**3.02**	**293**	⇓*i*P	**Pn**	**02 47 00.3**	**+2.4**
	baz=94						
USP				⇓*i*S	**Sb**	**02 47 39.1**	**-1.7**
	baz=94						
AML	**Almayashu**	**3.42**	**272**	⇑*i*P	**Pn**	**02 47 05.9**	**+2.1**
	baz=73						
AML				⇑*i*S	**Sb**	**02 47 49.2**	**-3.6**
	baz=73						

*IDC **28** 02:46:57.7±0.7, 33°.12N×139°.75E, h0km, mb3.6/13,*
mbtmp3.6/15, ML3.5/2, MS3.1/3, Error ellipse:
s-maj=18.5km s-min=5.4km az=11.0
*JMA **28** 02:47:00.2±0.1, 33°.3N±0°.3×14°.0E±°, h19km±3km,*
MV3.4/26, NEAR HACHIJOJIMA ISLAND

ISC 28 02:46:59.7±1.2, 33°.33N±0°.03×139°.51E±0°.05, h8km±8km, n34, σ1$30/34, mb3.5/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.31**	**133**	LR	LR	02 46 57.8	
	comp=Z,210nm,19.6s,baz=108,slow=3.3						
JHJ				Pn	**Pg**	**02 47 05.9**	**+0.1**
	964nm,0.3s,baz=197,slow=5.1,SNR=39						
JHJ				Sn	**Sb**	**02 47 11.3**	**-1.3**
	2μm,0.3s,baz=71,slow=24,SNR=19						
JHJ2	**Mitsune**	**0.33**	**130**	P	**Pg**	**02 47 06.7**	**+0.5**
JHJ2				*e*S	**Sg**	**02 47 11.2**	**+0.5**
JHCJ	**Hachijojimakas**	**0.35**	**137**	P	**Pg**	**02 47 06.9**	**+0.3**
JHCJ				S	**Sg**	**02 47 11.6**	**+0.4**
JMKN	**Mikurajimanish**	**0.56**	**7**	P	**Pb**	**02 47 11.4**	**-0.4**
JMKN				*e*S	**Sb**	**02 47 19.4**	**-0.6**
JMYK	**Miyake Tsubota**	**0.73**	**2**	P	**Pb**	**02 47 14.4**	**-0.2**
JMYK				*e*S	**Sb**	**02 47 24.3**	**-0.5**
JAOM	**Aogashimamukai**	**0.89**	**166**	*e*P	**Pb**	**02 47 16.1**	**-1.2**
JKO	**Kozu shima**	**0.91**	**340**	*e*S	**Sg**	**02 47 31.0**	**+1.9**
JTHY	**Toshimahigashi**	**1.21**	**351**	P	**Pn**	**02 47 22.1**	**-0.7**
JTHY				*e*S	**Sn**	**02 47 39.1**	**-0.3**
JIM2	**Oshima 3**	**1.39**	**357**	*e*P	**Pn**	**02 47 24.6**	**-0.7**
JIZS	**Izushimoda**	**1.48**	**339**	*e*P	**Pn**	**02 47 26.2**	**-0.5**
TK02	**Tokai 2**	**1.59**	**293**	*e*P	**Pn**	**02 47 27.4**	**-0.5**
TK02				*e*S	**Sb**	**02 47 48.7**	**-0.6**
MJAR	**Matsushiro Arr**	**3.38**	**342**	Pn	**Pb**	**02 47 56.3**	**-3.5**
	0.6nm,0.3s,baz=155,slow=12,SNR=17						
MJAR				Sn	**Sb**	**02 48 38.4**	**-2.7**
	baz=175,slow=16 7.6nm,0.6s						
JNU	**Nakatsue**	**7.24**	**271**	Pn	**Pn**	**02 48 46.5**	**+0.7**
	1.5nm,0.3s,baz=215,slow=3.7,SNR=5.6						
JNU				LR	LR	02 51 28.0	
	comp=Z,111nm,20.7s,baz=108,slow=36 4.2nm,0.5s						
KSRS	**Korea Array**	**10.32**	**297**	LR	LR	02 52 46.0	
	comp=Z,37nm,21.8s,baz=15,slow=33						
PETK	**Petropavlovsk-**	**23.67**	**28**	P	**P**	**02 52 12.9**	**+1.4**
	1.7nm,0.6s,baz=218,slow=7.8,SNR=6.4 1.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.89**	**112**	T	T	03 21 53.3	
	baz=305,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**27.90**	**112**	T	T	03 21 53.7	
	baz=305,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.91**	**112**	T	T	03 21 54.5	
	baz=305,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**28.45**	**115**	T	T	03 22 36.9	
	baz=307,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.45**	**114**	T	T	03 22 33.5	
	baz=307,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.46**	**115**	T	T	03 22 39.6	
	baz=307,slow=75,SNR=7.6						
MKAR	**Makanchi Array**	**44.87**	**305**	P	**P**	**02 55 14.7**	**+0.3**
	0.4nm,0.7s,baz=91,slow=7.0,SNR=2.2						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**47.14**	**311**	LR	LR	03 15 18.0	
	comp=Z,76nm,20.5s,baz=169,slow=36						
WRA	**Warramunga Arr**	**53.20**	**186**	P	**P**	**02 56 16.1**	**-2.3**
	0.5nm,0.7s,baz=1.7,slow=7.7,SNR=5.0 0.5nm,0.7s						
ILAR	**Eielson Array**	**53.46**	**31**	P	**P**	**02 56 20.3**	**+0.4**
	0.4nm,0.9s,baz=278,slow=6.3,SNR=1.4 0.4nm,0.9s						
ASAR	**Alice Springs**	**56.93**	**186**	P	**P**	**02 56 44.8**	**-0.6**
	0.4nm,0.7s,baz=357,slow=6.4,SNR=1.8 0.4nm,0.7s						
RES	**Resolute Bay**	**66.56**	**14**	P	**P**	**02 57 49.8**	**+0.1**
	0.8nm,0.8s,baz=286,slow=6.7,SNR=4.8 0.8nm,0.8s						
YKA	**Yellowknife Ar**	**67.79**	**29**	P	**P**	**02 57 58.1**	**+0.4**
	0.1nm,0.4s,baz=298,slow=6.3,SNR=4.8 0.1nm,0.4s						
FINES	**FINESS Array B**	**71.36**	**332**	P	**P**	**02 58 19.8**	**+0.1**
	1.7nm,0.8s,baz=10,slow=12,SNR=3.8 1.7nm,0.8s						
KVAR	**Kislovodsk Arr**	**72.15**	**311**	P	**P**	**02 58 25.8**	**+0.9**
	1.7nm,0.4s,baz=63,slow=9.0,SNR=2.6 1.7nm,0.4s						
NOA	**NORSAR Array B**	**76.98**	**337**	P	**P**	**02 58 51.7**	**-1.0**
	1.2nm,1.0s,baz=29,slow=9.1,SNR=1.7 1.2nm,1.0s						
NVAR	**Mina Array Bea**	**78.48**	**52**	P	**P**	**02 59 00.1**	**-1.5**
	0.1nm,0.2s,baz=282,slow=6.4,SNR=2.0 0.1nm,0.2s						
PDAR	**Pinedale Array**	**81.39**	**44**	P	**P**	**02 59 18.3**	**+1.0**
	0.2nm,0.6s,baz=286,slow=3.4,SNR=1.9 0.2nm,0.6s						
GERES	**GERESS Array B**	**85.01**	**327**	P	**P**	**02 59 38.4**	**+2.7**
	0.5nm,0.7s,baz=46,slow=4.1,SNR=3.8 0.5nm,0.7s						

IDC 28 02:49:24.6±2.6, 3°.82N×123°.93E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=337.1km s-min=28.6km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.73**	**157**	P	P	02 54 57.5	+0.5
	0.4nm,0.4s,baz=337,slow=9.6,SNR=11 0.4nm,0.4s						
ASAR	**Alice Springs**	**29.00**	**161**	P	P	02 55 25.7	-0.6
	0.2nm,0.3s,baz=336,slow=8.3,SNR=6.7 0.2nm,0.3s						
MKAR	**Makanchi Array**	**55.92**	**327**	P	P	02 59 04.4	-0.1
	0.1nm,0.4s,baz=114,slow=8.4,SNR=2.0 0.1nm,0.4s						

*SOME **28** 03:20:01.6, 42°.18N×79°.42E, h15km*
*KRNET **28** 03:20:01.9±0.1, 42°.23N×79°.46E, h19km, mb3.0*
*NNC **28** 03:20:01.8±0.7, 42°.25N×79°.43E, h0km, mb3.5, mpv3.4,*
Error ellipse: s-maj=4.7km s-min=2.7km az=160.0

ISC 28 03:20:01.0±1.5, 42°.20N±0°.05×79°.44E±0°.04, h7km±10km, n60, σ0$71/93, 10C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.82**	**290**	⇓*i*P	**Pb**	**03 20 17.5**	**-0.2**
	baz=89						
PRZ				⇓*i*S	**Sb**	**03 20 29.5**	**+0.4**
	baz=89						
SHLS	**Shalkode**	**0.95**	**1**	P	**Pn**	**03 20 20.5**	**-0.5**
	13nm,0.1s						
SHLS				S	**Sn**	**03 20 34.0**	**-0.8**
	16nm,0.2s						
SHLS	**Shalkode**	**0.95**	**1**	*e*P	**Pn**	**03 20 20.5**	**-0.5**
	baz=19						
SHLS				*e*S	**Sn**	**03 20 34.1**	**-0.8**
	baz=19						
SHLS	**Shalkode**	**0.95**	**1**	*e*P	**Pn**	**03 20 20.5**	**-0.5**
	13nm,0.1s						
SHLS				*e*S	**Sn**	**03 20 34.0**	**-0.8**
	466nm,0.4s						
UZB	**Uzynbulak**	**0.99**	**342**	P	**Pg**	**03 20 20.2**	**+0.1**
	3.6nm,0.2s						
UZB				S	**Sg**	**03 20 33.5**	**+0.6**
	11nm,0.1s						
UZB	**Uzynbulak**	**0.99**	**342**	*e*P	**Pb**	**03 20 20.4**	**-0.2**
	baz=41						
UZB				*e*S	**Sb**	**03 20 33.8**	**-0.2**
	baz=41						
UZB	**Uzynbulak**	**0.99**	**342**	*e*P	**Pb**	**03 20 20.4**	**-0.2**
	3.6nm,0.2s						
UZB				*e*S	**Sb**	**03 20 33.8**	**-0.2**
	11nm,0.1s						
SATY	**Saty**	**1.15**	**319**	P	**Pb**	**03 20 23.0**	**-0.2**
	8.0nm,0.1s						
SATY				S	**Sb**	**03 20 38.4**	**0.0**
	45nm,0.1s						
SATY	**Saty**	**1.15**	**319**	*e*P	**Pb**	**03 20 23.0**	**-0.2**
	baz=17						
SATY				*e*S	**Sb**	**03 20 38.4**	**0.0**
	baz=17						
SATY	**Saty**	**1.15**	**319**	*e*P	**Pb**	**03 20 23.0**	**-0.2**
	8.0nm,0.1s						
SATY				*e*S	**Sb**	**03 20 38.5**	**0.0**
	45nm,0.1s						
ZHN	**Zhinishke**	**1.22**	**323**	P	**Pg**	**03 20 24.4**	**+0.1**
	27nm,0.1s						
ZHN				S	**Sn**	**03 20 41.1**	**-0.3**
	46nm,0.2s						
ZHN	**Zhinishke**	**1.22**	**323**	*e*P	**Pg**	**03 20 24.4**	**+0.1**
	baz=21						
ZHN				*e*S	**Sn**	**03 20 41.1**	**-0.3**
	baz=21						
ZHN	**Zhinishke**	**1.22**	**323**	*e*P	**Pg**	**03 20 24.4**	**+0.1**
ZHN				*e*S	**Sn**	**03 20 41.1**	**-0.3**
TARG	**Taragay, Kyrgy**	**1.31**	**249**	⇓*i*P	**Pg**	**03 20 26.6**	**+0.5**
	baz=48						
TARG				⇓*i*S	**Sn**	**03 20 44.9**	**+0.9**
	baz=48						
KPKS	**Kokpek**	**1.38**	**336**	P	**Pb**	**03 20 27.2**	**0.0**
	4.6nm,0.1s						
KPKS				S	**Sg**	**03 20 45.6**	**+0.2**
	35nm,0.3s						
KPKS	**Kokpek**	**1.38**	**336**	*e*P	**Pb**	**03 20 27.2**	**0.0**
	baz=35						
KPKS				*e*S	**Sg**	**03 20 45.5**	**+0.2**
	baz=35						
KPKS	**Kokpek**	**1.38**	**336**	*e*P	**Pb**	**03 20 27.2**	**0.0**
	4.6nm,0.1s						
KPKS				*e*S	**Sg**	**03 20 45.6**	**+0.2**
	35nm,0.3s						
KTMS	**Ketmen**	**1.41**	**28**	P	**Pb**	**03 20 27.3**	**-0.4**
	6.6nm,0.1s						
KTMS				S	**Sb**	**03 20 45.7**	**-0.3**
	3.2nm,0.1s						
KTMS	**Ketmen**	**

	baz=1.0								
KOTS	**Kotyrbulak**	**2.00**	**302**	*e*Pg		**Pb**	**03 20 38.4**	**+0.6**
	6.3nm,0.2s								
KOTS				*e*Lg		Lg	03 21 04.7		
	16nm,0.2s								
MDOK	**Medeo**	**2.01**	**299**	Pg		**Pb**	**03 20 38.3**	**+0.4**
	9.9nm,0.1s								
MDOK				⇓Pn		**Pg**	**03 20 38.6**	**-0.9**
	1.5nm,0.2s								
MDOK				Lg		Lg	03 21 04.5		
	10nm,0.5s								
MDOK				Lg		Lg	03 21 04.8		
	1.7nm,0.3s								
MDOK	**Medeo**	**2.01**	**299**	*e*P		**Pb**	**03 20 38.3**	**+0.4**
	baz=98								
MDOK				*e*S		**Sb**	**03 21 04.5**	**+1.3**
	baz=98								
MDOK	**Medeo**	**2.01**	**299**	*e*Pg		**Pb**	**03 20 38.3**	**+0.4**
	9.9nm,0.1s								
MDOK				*e*Lg		Lg	03 21 04.5		
	10nm,0.5s								
BLB	**Baldybastay**	**2.02**	**340**	Pg		**Pg**	**03 20 38.9**	**-0.8**
	7.9nm,0.2s								
BLB				Lg		Lg	03 21 05.5		
	109nm,0.3s								
TNSS	**Tian-Shan**	**2.02**	**295**	Pg		**Pb**	**03 20 38.7**	**+0.4**
	31nm,0.3s								
TNSS				Lg		Lg	03 21 05.3		
	10nm,0.2s								
TNSS	**Tian-Shan**	**2.02**	**295**	*e*P		**Pb**	**03 20 38.7**	**+0.4**
	baz=94								
TNSS				*e*S		**Sg**	**03 21 05.3**	**-0.6**
	baz=94								
TNSS	**Tian-Shan**	**2.02**	**295**	*e*Pg		**Pb**	**03 20 38.7**	**+0.4**
	31nm,0.3s								
TNSS				*e*Lg		Lg	03 21 05.3		
	10nm,0.2s								
DJR	**Jarkent**	**2.14**	**7**	Pg		**Pb**	**03 20 40.2**	**0.0**
	5.4nm,0.2s								
DJR				Lg		Lg	03 21 08.1		
	12nm,0.3s								
DJR	**Jarkent**	**2.14**	**7**	*e*Pg		**Pb**	**03 20 40.1**	**0.0**
	5.4nm,0.2s								
DJR				*e*Lg		Lg	03 21 08.1		
	12nm,0.3s								
IZV	**Izvestkoviy**	**2.25**	**293**	Pg		**Pb**	**03 20 42.3**	**+0.2**
	6.8nm,0.2s								
IZV				Lg		Lg	03 21 11.3		
	15nm,0.4s								
IZV	**Izvestkoviy**	**2.25**	**293**	*e*Pg		**Pb**	**03 20 42.3**	**+0.2**
	6.8nm,0.2s								
IZV				*e*Lg		Lg	03 21 11.3		
	15nm,0.4s								
ARXS	**Arharly**	**2.33**	**330**	Pg		**Pb**	**03 20 43.8**	**+0.4**
	14nm,0.3s								
ARXS				Lg		Lg	03 21 14.7		
ARXS	**Arharly**	**2.33**	**330**	*e*Pg		**Pb**	**03 20 43.8**	**+0.4**
	14nm,0.3s								
ARXS				*e*Lg		Lg	03 21 14.7		
ULHL	**Ulahol**	**2.38**	**272**	⇑*i*P		**Pb**	**03 20 43.5**	**-0.7**
	baz=71								
ULHL				⇑*i*S		**Sb**	**03 21 13.7**	**-0.2**
	baz=71								
MTBS	**Maitube**	**2.41**	**294**	Pg		**Pb**	**03 20 45.1**	**+0.5**
	2.9nm,0.2s								
MTBS				Lg		Lg	03 21 16.3		
	7.9nm,0.2s								
MTBS	**Maitube**	**2.41**	**294**	*e*Pg		**Pb**	**03 20 45.1**	**+0.5**
	2.9nm,0.2s								
MTBS				*e*Lg		Lg	03 21 16.3		
	7.9nm,0.2s								
CHKK	**Chushkaly**	**2.44**	**313**	Pg		**Pb**	**03 20 46.1**	**+0.9**
	8.6nm,0.3s								
CHKK				Lg		Lg	03 21 18.0		
	34nm,0.2s								
CHKK	**Chushkaly**	**2.44**	**313**	*e*Pg		**Pb**	**03 20 46.1**	**+0.9**
	8.6nm,0.3s								
CHKK				*e*Lg		Lg	03 21 18.0		
	34nm,0.2s								
KTBS	**Karatobe**	**2.53**	**308**	Pg		**Pb**	**03 20 47.3**	**+0.7**
	6.3nm,0.3s								
KTBS				Lg		Lg	03 21 20.0		
	38nm,0.3s								
KTBS	**Karatobe**	**2.53**	**308**	*e*Pg		**Pb**	**03 20 47.3**	**+0.7**
	6.3nm,0.3s								
KTBS				*e*Lg		Lg	03 21 20.0		
	38nm,0.3s								
BOOM	**Boomskoye usch**	**2.61**	**277**	⇓*i*P		**Pb**	**03 20 46.8**	**-1.4**
	baz=77								
BOOM				⇓*i*S		**Sb**	**03 21 19.2**	**-1.4**
	baz=77								
KST	**Kastek**	**2.70**	**289**	Pg		**Pb**	**03 20 49.7**	**0.0**
	4.5nm,0.3s								
KST				Lg		Lg	03 21 24.0		
	8.3nm,0.2s								
KST	**Kastek**	**2.70**	**289**	*e*Pg		**Pb**	**03 20 49.7**	**0.0**
	4.5nm,0.3s								
KST				*e*Lg		Lg	03 21 24.0		
	8.3nm,0.2s								
KUU	**Kurty**	**2.83**	**308**	Pg		**Pb**	**03 20 52.0**	**+0.1**
	2.2nm,0.3s								
KUU				Lg		Lg	03 21 28.1		
	11nm,0.4s								
KUU	**Kurty**	**2.83**	**308**	*e*Pg		**Pb**	**03 20 52.0**	**+0.1**
	2.2nm,0.3s								
KUU				*e*Lg		Lg	03 21 28.1		
	11nm,0.4s								
DGS	**Degeres**	**2.90**	**292**	Pg		**Pb**	**03 20 53.9**	**+0.9**
	3.6nm,0.3s								
DGS				Lg		Lg	03 21 31.3		
	7.1nm,0.5s								
DGS	**Degeres**	**2.90**	**292**	*e*Pg		**Pb**	**03 20 53.9**	**+0.9**
	3.6nm,0.3s								
DGS				*e*Lg		Lg	03 21 31.3		
	7.1nm,0.5s								
TKM2	**Tokmak 2**	**2.93**	**285**	⇑Pg		**Pb**	**03 20 54.0**	**+0.3**
	0.9nm,0.3s								
TKM2				⇑Lg		Lg	03 21 33.8		
	4.1nm,0.6s								
TKM2	**Tokmak 2**	**2.93**	**285**	⇑*i*P		**Pb**	**03 20 51.4**	**-2.3**
	baz=85								
TKM2				⇑*i*S		**Sb**	**03 21 26.8**	**-3.0**
	baz=85								
KRBS	**Karabastau**	**3.14**	**300**	Pg		**Pb**	**03 20 57.6**	**+0.4**
	2.8nm,0.3s								
KRBS				Lg		Lg	03 21 37.6		
	5.0nm,0.3s								
KRBS	**Karabastau**	**3.14**	**300**	*e*Pg		**Pb**	**03 20 57.6**	**+0.4**
	2.8nm,0.3s								
KRBS				*e*Lg		Lg	03 21 37.6		
	5.0nm,0.3s								
MK31	**Makanchi Array**	**5.02**	**23**	Pn		**Pn**	**03 21 18.8**	**+2.1**
	0.2nm,0.3s,baz=203,slow=13,SNR=18								
MK31				⇑Sn		**Sn**	**03 22 16.9**	**+1.8**
	0.2nm,0.3s,baz=204,slow=25								
MK31				⇑Lg		Lg	03 22 34.8		
	0.1nm,0.2s,baz=206,slow=30,SNR=3.7								

*IDC **28** 03:21:21.3±0.8,56˚.91S×140˚.05W,h0km,mb4.2/6, mbtmp4.2/6,MS3.9/24,Error ellipse: s-maj=41.5km s-min=21.6km az=173.0*

*NEIC **28** 03:21:23.1±2.6,56˚.9S±0˚.2×139˚.8W±0˚.1,h10km±1km, mb4.9/15,Error ellipse: s-maj=27.3km s-min=11.5km az=14.0*

ISC 28 03:21:22.8±0.7,**56˚.9S**±0˚.2×**139˚.8W**±0˚.1,**h10**km,**n64,** σ0**89**/31,**mb4.8**/13,**MS3.9**/26,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.60**	**202**	P		**P**	**03 27 10.7**	**+1.1**
VNDA	**Vanda**	**28.53**	**203**	LR		LR	03 36 08.3	
	comp=Z,61nm,18.3s,baz=78,slow=31							
QSPA	**South Pole Qui**	**33.27**	**180**	P		**P**	**03 28 00.5**	**+0.5**
	5.4nm,0.8s,baz=81,slow=4.1,SNR=8.3							
QSPA				LR		LR	03 39 56.8	
	comp=Z,175nm,18.0s,baz=81,slow=34							
	5.4nm,0.8s							
QSPA	**South Pole Qui**	**33.27**	**180**	P		**P**	**03 27 59.2**	**-0.8**
QSPA				IAmb		IAmb	03 28 01.8	
	comp=Z,11nm,1.1s							
RPZ	**Rata Peaks**	**33.27**	**272**	LR		LR	03 38 28.1	
	comp=Z,229nm,19.5s,baz=119,slow=31							
URZ	**Urewera**	**33.79**	**285**	LR		LR	03 38 52.5	
	comp=Z,359nm,19.0s,baz=266,slow=31							
PMSA	**Palmer Station**	**35.60**	**134**	LR		LR	03 39 13.2	
	comp=Z,346nm,18.8s,baz=312,slow=30							
RPN	**Rapa Nui**	**36.81**	**49**	LR		LR	03 39 45.8	
	comp=Z,97nm,21.3s,baz=216,slow=30							
BELA	**Belgrano 2**	**38.13**	**161**	P		**P**	**03 28 40.5**	**-0.9**
BELA				IAmb		IAmb	03 28 42.4	
	comp=Z,18nm,1.2s							
RAO	**Raoul Island**	**38.39**	**300**	LR		LR	03 42 01.2	
	comp=Z,182nm,18.6s,baz=122,slow=32							
PPT2	**Papeete2**	**39.91**	**345**	*e*LR		LR	03 39 23.5	
	comp=Z,225nm,27.0s							
PPT2				*e*LR		LR	03 39 23.9	
	comp=Z,281nm,24.8s							
PPT	**Papeete**	**39.94**	**345**	LR		LR	03 41 00.0	
	comp=Z,160nm,18.5s,baz=228,slow=30							
VAH	**Vaihoa**	**42.00**	**349**	*e*T		T	04 13 51.9	
	comp=Z,6.3nm,0.2s							
COYC	**Coyhaique**	**42.18**	**105**	P		**P**	**03 29 16.4**	**+1.1**
COYC				IAmb		IAmb	03 29 31.3	
	comp=Z,46nm,1.8s							
PLCA	**Paso Flores**	**46.29**	**101**	LR		LR	03 44 38.3	
	comp=Z,194nm,18.3s,baz=248,slow=30							
CASY	**Casey**	**46.38**	**212**	P		**P**	**03 29 48.9**	**+0.2**
GO06	**Curarrehue**	**46.60**	**99**	P		**P**	**03 29 51.2**	**+0.3**
GO06				IAmb		IAmb	03 29 56.8	
	comp=Z,9.8nm,1.1s							
H03N3	**Juan Fernandez**	**47.01**	**87**	T		T	04 20 30.2	
	baz=222,slow=72,SNR=43							
H03N2	**Juan Fernandez**	**47.02**	**87**	T		T	04 20 26.2	
	baz=222,slow=72,SNR=84							
H03N1	**Juan Fernandez**	**47.03**	**87**	T		T	04 20 28.2	
	baz=222,slow=72,SNR=43							
TAOE	**Nuku Hiva Isla**	**47.92**	**360**	*e*LR		LR	03 42 54.5	
	comp=Z,136nm,26.9s							
AFI	**Afiamalu**	**49.32**	**317**	LR		LR	03 44 60.0	
	comp=Z,134nm,21.6s,baz=138,slow=29							
MSVF	**Nonsavu**	**50.14**	**304**	LR		LR	03 46 09.6	
	comp=Z,146nm,21.9s,baz=140,slow=30							
BO01	**Tunca**	**50.61**	**94**	P		**P**	**03 30 21.8**	**+0.2**
DZM	**Mont Dzumac**	**52.16**	**289**	*e*LR		LR	03 45 49.8	
	comp=Z,422nm,24.2s							
DZM	**Mont Dzumac**	**52.16**	**289**	LR		LR	03 47 42.0	
	comp=Z,185nm,21.1s,baz=206,slow=30							
STKA	**Stephens Creek**	**57.88**	**260**	LR		LR	03 52 26.8	
	comp=Z,89nm,18.6s,baz=173,slow=32							
STKA	**Stephens Creek**	**57.88**	**260**	P		**P**	**03 31 15.2**	**+0.6**
LVC	**Limon Verde**	**60.96**	**87**	LR		LR	03 51 32.2	
	comp=Z,47nm,21.5s,baz=218,slow=30							
LVC	**Limon Verde**	**60.96**	**87**	P		**P**	**03 31 36.0**	**-0.5**
LVC				IAmb		IAmb	03 31 38.6	
	comp=Z,15nm,1.1s							
MNMC	**Minye Minye**	**63.39**	**84**	P		**P**	**03 31 53.1**	**+0.4**
MNMC				IAmb		IAmb	03 31 54.8	
	comp=Z,11nm,0.9s							
PB16	**IPOC Station P**	**64.08**	**84**	P		**P**	**03 31 57.6**	**0.0**
CPUP	**Villa Florida**	**64.33**	**99**	P		**P**	**03 31 58.7**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=211,slow=12,SNR=3.3							
CPUP				LR		LR	03 55 48.8	
	comp=Z,141nm,19.4s,baz=221,slow=32							
	comp=Z,1.4nm,0.7s							
NNA	**Nana**	**65.39**	**73**	LR		LR	03 53 52.8	
	comp=Z,74nm,19.1s,baz=208,slow=30							
LPAZ	**La Paz**	**66.51**	**84**	P		**P**	**03 32 15.1**	**+1.7**
	comp=Z,5.6nm,1.0s,baz=232,slow=3.8,SNR=12							
LPAZ				LR		LR	03 54 34.1	
	comp=Z,78nm,19.4s,baz=186,slow=30							
	comp=Z,5.6nm,1.0s							
LPAZ	**La Paz**	**66.51**	**84**	P		**P**	**03 32 13.9**	**+0.5**
LPAZ				IAmb		IAmb	03 32 16.4	
	comp=Z,19nm,1.4s							
ASAR	**Alice Springs**	**68.51**	**260**	P		**P**	**03 32 23.6**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=134,slow=6.4,SNR=9.0							
	comp=Z,1.5nm,0.9s							
ASAR	**Alice Springs**	**68.51**	**260**	P		**P**	**03 32 24.4**	**-0.9**
AS31	**Alice Springs**	**68.51**	**260**	P		**P**	**03 32 25.2**	**-0.1**
ATAH	**Atahualpa**	**68.67**	**69**	LR		LR	03 54 24.2	
	comp=Z,38nm,21.9s,baz=235,slow=29							
H01W1	**Cape Leeuwin H**	**69.42**	**238**	T		T	04 48 44.5	
	baz=145,slow=76,SNR=9.9							
H01W2	**Cape Leeuwin H**	**69.43**	**238**	T		T	04 48 45.3	
	baz=145,slow=76,SNR=13							
H01W3	**Cape Leeuwin H**	**69.44**	**238**	T		T	04 48 46.0	
	baz=145,slow=76,SNR=11							
SIV	**San Ignacio**	**70.62**	**90**	P		**P**	**03 32 38.2**	**-0.1**
	comp=Z,5.1nm,1.0s,baz=215,slow=6.7,SNR=7.6							
SIV				LR		LR	03 57 46.3	
	comp=Z,108nm,21.3s,baz=260,slow=31							
	comp=Z,5.1nm,1.0s							
CZSB	**Cruzeiro do Su**	**71.14**	**75**	P		**P**	**03 32 40.3**	**-1.2**
CZSB				IAmb		IAmb	03 32 43.3	
	comp=Z,19nm,1.4s							
WRA	**Warramunga Arr**	**71.29**	**262**	P		**P**	**03 32 41.3**	**-1.0**
	comp=Z,1.4nm,1.1s,baz=147,slow=5.0,SNR=5.3							
	comp=Z,1.4nm,1.1s							
VILB	**Vilhena**	**73.58**	**89**	P		**P**	**03 32 54.7**	**-1.5**
VILB				IAmb		IAmb	03 32 57.5	
	comp=Z,14nm,1.0s							
BDFB	**Brasilia**	**78.03**	**100**	LR		LR	04 04 25.1	
	comp=Z,267nm,20.7s,baz=170,slow=33							
JTS	**Las Juntas de**	**80.65**	**55**	LR		LR	04 01 02.8	
	comp=Z,66nm,19.7s,baz=3.5,slow=30							
TXAR	**Lajitas Array**	**91.17**	**31**	LR		LR	04 08 59.0	
	comp=Z,83nm,18.3s,baz=44,slow=31							
RCBR	**Riachuelo**	**92.69**	**105**	LR		LR	04 13 13.5	
	comp=Z,118nm,20.2s,baz=318,slow=34							
YBH	**Yreka Blue Hor**	**99.31**	**13**	LR		LR	04 07 59.2	
	comp=Z,89nm,20.0s,baz=27,slow=28							
H10N3	**ASCENSION HYDR**	**101.60**	**124**	T		T	05 29 24.4	
	baz=206,slow=75,SNR=7.9							
H10N1	**ASCENSION HYDR**	**101.60**	**124**	T		T	05 29 10.6	
	baz=206,slow=75,SNR=9.0							
H10N2	**ASCENSION HYDR**	**101.62**	**124**	T		T	05 29 11.5	
	baz=206,slow=75,SNR=9.5							
IL31		**121.46**	**356**	PKPdf		**PKPdf**	**03 40 14.6**	**-0.1**
ILAR	**Eielson Array**	**121.46**	**356**	PKP		**PKiKP**	**03 40 15.4**	**+0.6**
	comp=Z,1.5nm,1.1s,baz=249,slow=1.3,SNR=8.0							
ILAR	**Eielson Array**	**121.46**	**356**	PKPdf		**PKPdf**	**03 40 14.6**	**-0.2**
COLA	**College**	**121.59**	**356**	PKPdf		**PKiKP**	**03 40 15.1**	**0.0**
TCOL	**CIGO, UAF Yank**	**121.59**	**356**	PKPdf		**PKPdf**	**03 40 14.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**127.40**	**130**	PKP		**PKPdf**	**03 40 26.6**	**-1.1**
	comp=Z,1.3nm,1.1s,baz=218,slow=1.8,SNR=4.0							
RAYN	**Ar Rayn**	**146.44**	**189**	PKPbc		**PKPbc**	**03 41 03.3**	**-0.5**
ESDC	**Sonseca Array**	**146.67**	**102**	PKPbc		**PKPbc**	**03 41 04.5**	**+0.5**
MKAR	**Makanchi Array**	**152.52**	**267**	PKPbc		**PKiKP**	**03 41 20.6**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=124,slow=2.1,SNR=5.2							

*MAN **28** 03:23:01.3,6˚.67N×126˚.05E,h152km,mb4.7,ML3.6, MS3.5*

*NEIC **28** 03:23:02.3±1.4,6˚.62N±0˚.10×125˚.8E±0˚.2,h153km±6km, mb4.4/19,Error ellipse: s-maj=26.5km s-min=11.6km az=69.0*

*IDC **28** 03:23:02.4±0.5,6˚.55N×125˚.61E,h159km±3km,mb3.8/13, mbtmp4.3/14,Error ellipse: s-maj=33.7km s-min=9.7km az=68.0*

ISC 28 03:23:01.9±0.6,**6˚.66N**±0˚.05×**125˚.99E**±0˚.06,**h154**km±6km, **n64,** σ0**99**/74,**mb4.2**/23,**4C-5D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.57**	**315**	P		**Pn**	**03 23 24.9**	**+0.8**
	4μm,0.6s,baz=89,slow=0.5,SNR=81							
DAV				S		**Sn**	**03 23 43.3**	**+2.3**
	3μm,0.4s,baz=297,slow=23,SNR=65							
DAV	**Davao City (W)**	**0.57**	**315**			**Pn**	**03 23 24.8**	**+0.7**
DAV					Sn	**Sn**	**03 23 40.1**	**-0.9**
KCP	**Kidapawan**	**0.96**	**291**	⇓*i*P		**Pn**	**03 23 26.6**	**-0.1**
KCP				*i*S		**Sn**	**03 23 46.2**	**+0.5**
GSPH	**General Santos**	**1.18**	**241**	⇑*i*P		**Pn**	**03 23 28.3**	**-0.5**
GSPH				*i*S		Sn	03 23 28.5	-21
CDOP	**Cateel, Davao**	**1.20**	**22**	⇑*i*P		**Pn**	**03 23 28.8**	**0.0**
CDOP				*i*S		**Sn**	**03 23 48.4**	**-1.1**
BUKP	**Musuan**	**1.52**	**323**	⇓*e*P		**Pn**	**03 23 32.6**	**+0.6**
BUKP				*e*S		**Sn**	**03 23 55.6**	**+0.4**
BIPH	**Bislig**	**1.56**	**14**	⇓*e*P		**Pn**	**03 23 31.8**	**-0.5**
BIPH				*i*S		**Sn**	**03 23 53.9**	**-1.9**
CTBH	**Cotabato--PC H**	**1.82**	**288**	⇓*i*P		**Pn**	**03 23 35.1**	**0.0**
CTBH				*i*S		**Sn**	**03 24 00.0**	**-0.7**
CGP	**Cagayan de Oro**	**2.20**	**324**	⇓*e*P		**Pn**	**03 23 40.1**	**+0.6**
CGP				*e*S		**Sn**	**03 24 09.1**	**+0.5**
SCPH	**Surigao**	**3.14**	**351**	⇑*e*P		**Pn**	**03 23 51.0**	**-0.1**
SCPH				*e*S		**Sn**	**03 24 28.1**	**-1.4**
DCPH	**Dipolog City**	**3.24**	**306**	⇑*e*P		**Pn**	**03 23 53.0**	**+0.6**
TNTI	**Ternate**	**6.01**	**167**	Pn		**Pn**	**03 24 27.5**	**-1.3**
SIJI	**Sorong**	**9.15**	**145**	P		**Pn**	**03 25 11.7**	**+1.0**
	5.5nm,0.4s,baz=193,slow=23,SNR=2.4							
SIJI				S		**Sn**	**03 26 50.1**	**-2.2**
	5.6nm,0.5s,baz=284,slow=22,SNR=1.7							
SBUM	**Sibu**	**14.35**	**254**	P		**P**	**03 26 19.3**	**-1.4**
MTN	**Manton Dam**	**20.04**	**165**	P		**P**	**03 27 22.9**	**-0.2**
JOW	**Kunigami**	**20.18**	**6**	P		**P**	**03 27 25.3**	**+0.8**
KNRA	**Kununurra**	**22.36**	**173**	P		**P**	**03 27 47.0**	**-0.4**
KNRA				IAmb		IAmb	03 27 49.9	
	comp=Z,12nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.60**	**181**	P		**P**	**03 28 06.2**	**-1.7**
COEN	**Coen**	**26.66**	**140**	P		**P**	**03 28 25.9**	**-0.7**
COEN				IAmb		IAmb	03 28 32.2	
	comp=Z,12nm,0.6s							
COEN	**Coen**	**26.66**	**140**	P		**P**	**03 28 26.6**	**0.0**
WB0	**Warramunga Arr**	**27.53**	**163**	P		**P**	**03 28 33.7**	**-0.6**
WB0				IAmb		IAmb	03 28 34.5	
	comp=Z,5.4nm,0.6s							
WRAB	**Tennant Creek**	**27.68**	**163**	P		**P**	**03 28 35.6**	**0.0**
WRA	**Warramunga Arr**	**27.68**	**163**	P		**P**	**03 28 35.5**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=345,slow=9.2,SNR=32							
	comp=Z,2.6nm,0.6s							
WRA	**Warramunga Arr**	**27.68**	**163**	P		**P**	**03 28 35.6**	**-0.1**
WB2	**Warramunga Arr**	**27.69**	**163**	P		**P**	**03 28 35.1**	**-0.6**
WB2				IAmb		IAmb	03 28 36.5	
	comp=Z,4.8nm,0.8s							
PSA00	**Pilbara Seismi**	**28.70**	**192**	P		**P**	**03 28 43.9**	**-0.7**
QIS	**Mount Isa**	**30.18**	**154**	P		**P**	**03 28 58.4**	**+0.6**
KSRS	**Korea Array**	**30.70**	**3**	P		**P**	**03 29 03.1**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=185,slow=9.5,SNR=9.4							
	comp=Z,1.2nm,0.5s							
AS31	**Alice Springs**	**31.12**	**166**	P		**P**	**03 29 06.4**	**+0.4**
AS31				IAmb		IAmb	03 29 08.4	
	comp=Z,2.3nm,0.5s							
ASAR	**Alice Springs**	**31.12**	**166**	P		**P**	**03 29 06.3**	**+0.3**
	comp=Z,3.5nm,0.5s,baz=342,slow=7.1,SNR=81							
	comp=Z,3.5nm,0.5s							
ASAR	**Alice Springs**	**31.12**	**166**	P		**P**	**03 29 05.8**	**-0.2**
AS01	**Alice Springs**	**31.13**	**166**	P		**P**	**03 29 06.6**	**+0.5**
WRKA	**Warakurna**	**31.59**	**176**	P		**P**	**03 29 10.7**	**+0.6**
CTAO	**Charters Tower**	**33.23**	**144**	P		**P**	**03 29 24.6**	**+0.2**
CTAO				IAmb		IAmb	03 29 27.5	
	comp=Z,8.7nm,1.1s							
OOD	**Oodnadatta**	**35.51**	**165**	P		**P**	**03 29 44.8**	**+0.8**
FORT	**Forrest**	**37.28**	**177**	P		**P**	**03 29 58.8**	**-0.2**
FORT				IAmb		IAmb	03 30 00.4	
	comp=Z,13nm,0.8s							
FORT	**Forrest**	**37.28**	**177**	P		**P**	**03 29 59.8**	**+0.8**
MULG	**Mulgathing**	**37.54**	**169**	P		**P**	**03 30 02.4**	**+1.2**
USRK	**Ussuriysk Ar.**	**37.76**	**7**	P		**P**	**03 30 04.7**	**+1.8**
	comp=Z,2.2nm,0.6s,baz=163,slow=8.2,SNR=5.5							
	comp=Z,2.2nm,0.6s							
LCRK	**Leigh Creek**	**38.72**	**163**	P		**P**	**03 30 12.2**	**+1.2**
KLBR	**Kellerberrin**	**38.84**	**191**	P		**P**	**03 30 12.3**	**+0.2**
BBOO	**Buckleboo**	**40.41**	**167**	P		**P**	**03 30 26.1**	**+1.1**
BBOO	**Buckleboo**	**40.41**	**167**	P		**P**	**03 30 26.1**	**+1.1**
STKA	**Stephens Creek**	**41.12**	**160**	P		**P**	**03 30 31.9**	**+1.1**
	comp=Z,4.1nm,0.4s,baz=333,slow=8.6,SNR=20							
	comp=Z,4.1nm,0.4s							
STKA	**Stephens Creek**	**41.12**	**160**	P		**P**	**03 30 31.9**	**+1.1**
STKA	**Stephens Creek**	**41.12**	**160**	P		**P**	**03 30 31.9**	**+1.1**
HTT	**Hallett**	**41.72**	**164**	P		**P**	**03 30 37.1**	**+1.3**
ARPS	**Mount Arapiles**	**45.68**	**162**	P		**P**	**03 31 09.1**	**+1.8**
TOO	**Toolangi**	**47.62**	**159**	P		**P**	**03 31 23.6**	**+1.2**
TOO				IAmb		IAmb	03 31 30.2	
	comp=Z,11nm,1.2s							
DZM	**Mont Dzumac**	**48.85**	**127**	P		**P**	**03 31 33.7**	**+1.5**
	comp=Z,4.7nm,0.9s,baz=244,slow=12,SNR=6.1							
	comp=Z,4.7nm,0.9s							
MK31	**Makanchi Array**	**54.75**	**324**	P		**P**	**03 32 14.2**	**-1.3**
MKAR	**Makanchi Array**	**54.75**	**324**	P		**P**	**03 32 14.8**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=117,slow=7.7,SNR=47							
	comp=Z,2.1nm,0.4s							
MAKZ	**Makanchi**	**54.94**	**324**	P		**P**	**03 32 16.1**	**-0.8**
MAKZ				IAmb		IAmb	03 32 16.8	
	comp=Z,2.7nm,1.1s							
ZALV	**Zalesovo Beam**	**57.66**	**333**	P		**P**	**03 32 35.5**	**-0.4**
	comp=Z,4.1nm,0.4s,baz=134,slow=6.2,SNR=2.6							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**58.89**	**327**	P		**P**	**03 32 43.7**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=124,slow=6.5,SNR=21							
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**58.89**	**327**	P		**P**	**03 32 43.7**	**-0.8**
KURK				IAmb		IAmb	03 32 44.4	
	comp=Z,3.7nm,0.6s							
KKAR	**Karatay Array**	**60.61**	**316**	P		**P**	**03 32 56.2**	**-0.3**
BVAR	**Borovoye Array**	**64

comp=Z,3µm,0.1s
TA02 Huaiquique 1.18 270 *e*P **Pn 03 26 01.4 +0.6**
TA02 *e*S **Sn 03 26 19.2 +0.5**
TA02 IAML 03 26 25.9
comp=Z,3µm,0.1s
TA01 Diego Aracena 1.26 257 Pn **Pn 03 26 02.1 +0.4**
TA01 Diego Aracena 1.26 257⇑ *i*P **Pn 03 26 02.0 +0.4**
TA01 *e*S **Sn 03 26 20.4 +0.2**
TA01 Diego Aracena 1.26 257 *e*P **Pn 03 26 02.0 +0.4**
TA01 *e*S **Sn 03 26 25.6 +5.4**
TA01 Diego Aracena 1.26 257 *e*P **Pn 03 26 02.0 +0.4**
TA01 *e*S **Sn 03 26 25.6 +5.4**
PATCX Punta Patache 1.31 246 Pn **Pn 03 26 02.9 +0.6**
PATCX Punta Patache 1.31 246⇑ *i*P **Pn 03 26 03.0 +0.6**
PATCX *e*S **Sn 03 26 21.8 +0.2**
PATCX IAML 03 26 25.2
comp=N,3µm,0.3s
PATCX Punta Patache 1.31 246 *e*P **Pn 03 26 03.1 +0.6**
PATCX *e*P 03 26 03.2
PATCX *e*S **Sn 03 26 22.6 +1.1**
PATCX IAML 03 26 23.7
comp=Z,1µm,0.5s
PATCX Punta Patache 1.31 246 *e*P **Pn 03 26 03.1 +0.6**
PATCX *e*P 03 26 03.2
PATCX *e*S **Sn 03 26 22.6 +1.1**
PATCX IAML 03 26 23.7
comp=Z,1µm,0.5s
MNMC Minye Minye 1.33 329 **Pn 03 26 04.0 +1.1**
MNMC Minye Minye 1.33 329⇓ *i*P **Pn 03 26 04.0 +1.1**
MNMC *e*S **Sn 03 26 23.2 +1.0**
MNMCX Minye Minye 1.33 329 *e*P **Pn 03 26 03.0 +0.2**
MNMCX *e*S **Sn 03 26 23.3 +1.1**
MNMCX IAML 03 26 24.7
comp=Z,8µm,0.4s
MNMCX Minye Minye 1.33 329 *e*P **Pn 03 26 03.0 +0.2**
MNMCX *e*S **Sn 03 26 23.3 +1.1**
MNMCX IAML 03 26 24.7
comp=Z,8µm,0.4s
PSGC Pisagua 1.36 300⇑ *i*P **Pn 03 26 03.2 +0.2**
PSGC *e*S **Sn 03 26 22.0 -0.4**
PSGCX Pisagua 1.36 300 Pn **Pn 03 26 03.3 +0.3**
PSGCX Pisagua 1.36 300 *e*P **Pn 03 26 03.2 +0.3**
PSGCX *e*S **Sn 03 26 22.6 +0.2**
PSGCX *e*S 03 26 22.7
PSGCX IAML 03 26 23.2
comp=Z,3µm,0.3s
PSGCX Pisagua 1.36 300 *e*P **Pn 03 26 03.2 +0.3**
PSGCX *e*S **Sn 03 26 22.6 +0.2**
PSGCX *e*S 03 26 22.7
PSGCX IAML 03 26 23.2
comp=Z,3µm,0.3s
PB02 IPOC Station P 1.41 223 **Pn 03 26 04.6 +1.1**
PB02 IPOC Station P 1.41 223⇑ *i*P **Pn 03 26 04.5 +1.0**
PB02 *e*S **Sn 03 26 24.3 +0.8**
PB02 IAML 03 26 27.4
comp=E,5µm,0.1s
PB02 IPOC Station P 1.41 223 *e*P **Pn 03 26 03.0 -0.5**
PB02 *e*P 03 26 04.5
PB02 *e*S **Sn 03 26 24.9 +1.4**
PB02 IAML 03 26 25.6
comp=Z,4µm,0.3s
PB02 IPOC Station P 1.41 223 *e*P **Pn 03 26 03.0 -0.5**
PB02 *e*P 03 26 04.5
PB02 *e*S **Sn 03 26 24.9 +1.4**
PB02 IAML 03 26 25.6
comp=Z,4µm,0.3s
PB09 IPOC Station P 1.55 193 **Pn 03 26 06.8 +1.6**
PB09 IPOC Station P 1.55 193 *e*P **Pn 03 26 06.8 +1.6**
PB09 *e*S **Sn 03 26 27.9 +1.5**
PB09 IPOC Station P 1.55 193 *e*P **Pn 03 26 01.4 -3.8**
PB09 *e*P 03 26 06.0
PB09 *e*S **Sn 03 26 29.2 +2.8**
PB09 IAML 03 26 30.8
comp=Z,948nm,0.6s
PB09 IPOC Station P 1.55 193 *e*P **Pn 03 26 01.4 -3.8**
PB09 *e*P 03 26 06.0
PB09 *e*S **Sn 03 26 29.2 +2.8**
PB09 IAML 03 26 30.8
comp=Z,948nm,0.6s
PB07 IPOC Station P 1.72 213 **Pn 03 26 08.2 +1.0**
PB07 IPOC Station P 1.72 213 *e*P **Pn 03 26 08.1 +0.8**
PB07 *e*S **Sn 03 26 30.5 +0.3**
PB07 IAML 03 26 32.8
comp=N,2µm,0.5s
PB07 IPOC Station P 1.72 213 *e*P **Pn 03 26 08.1 +0.8**
PB07 *e*S **Sn 03 26 31.2 +1.0**
PB07 IAML 03 26 35.2
comp=Z,2µm,0.3s
PB07 IPOC Station P 1.72 213 *e*P **Pn 03 26 08.1 +0.8**
PB07 *e*S **Sn 03 26 31.2 +1.0**
PB07 IAML 03 26 35.2
comp=Z,2µm,0.3s
PB03 IPOC Station P 1.94 205 **Pn 03 26 11.2 +1.3**
PB03 IPOC Station P 1.94 205 *e*P **Pn 03 26 11.0 +1.0**
PB03 *e*S **Sn 03 26 35.4 +0.4**
PB03 IAML 03 26 42.9
comp=E,1µm,0.2s
PB03 IPOC Station P 1.94 205 *e*P **Pn 03 26 11.0 +1.0**
PB03 *e*S **Sn 03 26 35.6 +0.7**
PB03 IAML 03 26 40.1
comp=Z,902nm,0.3s
PB03 IPOC Station P 1.94 205 *e*P **Pn 03 26 11.0 +1.0**
PB03 *e*S **Sn 03 26 35.6 +0.7**
PB03 IAML 03 26 40.1
comp=Z,902nm,0.3s
PB16 IPOC Station P 2.03 343 **Pn 03 26 13.2 +1.7**
PB16 IPOC Station P 2.03 343⇓ *i*P **Pn 03 26 13.1 +1.7**
PB16 *e*S **Sn 03 26 38.7 +1.2**
PB16 IPOC Station P 2.03 343 *e*P **Pn 03 26 12.0 +0.6**
PB16 *e*S **Sn 03 26 40.2 +2.7**
PB16 IPOC Station P 2.03 343 *e*P **Pn 03 26 12.0 +0.6**
PB16 *e*S **Sn 03 26 40.2 +2.7**
PB12 IPOC Station P 2.15 320 Pn **Pn 03 26 13.0 +0.4**
PB12 IPOC Station P 2.15 320 *e*P **Pn 03 26 12.8 +0.3**
PB12 *e*S **Sn 03 26 39.2 -0.4**
PB12 IAML 03 26 46.1
comp=N,2µm,0.3s
PB12 IPOC Station P 2.15 320 *e*P **Pn 03 26 12.0 -0.6**
PB12 *e*P 03 26 12.8
PB12 *e*S **Sn 03 26 40.5 +0.9**
PB12 IAML 03 26 43.1
comp=Z,889nm,0.3s
PB12 IPOC Station P 2.15 320 *e*P **Pn 03 26 12.0 -0.6**
PB12 *e*P 03 26 12.8
PB12 *e*S **Sn 03 26 40.5 +0.9**
PB12 IAML 03 26 43.1
comp=Z,889nm,0.3s
LVC Limon Verde 2.32 181 P **Pn 03 26 16.9 +2.0**
comp=Z,65nm,0.4s,baz=2.0,slow=9.1,SNR=106
LVC S **Sn 03 26 48.7 +4.9**
comp=Z,214nm,0.5s,baz=237,slow=21,SNR=7.3
LVC Limon Verde 2.32 181 Pn **Pn 03 26 16.8 +1.9**
LVC Limon Verde 2.32 181 *e*P **Pn 03 26 16.8 +1.9**
LVC *e*S **Sn 03 26 46.2 +2.4**
LVC Limon Verde 2.32 181 *e*P **Pn 03 26 16.0 +1.1**
LVC *e*S **Sn 03 26 42.9 -0.9**
LVC Limon Verde 2.32 181 *e*P **Pn 03 26 16.0 +1.1**
LVC *e*S **Sn 03 26 42.9 -0.9**
AP01 Chacalluta 2.35 324 **Pn 03 26 15.6 +0.6**
AP01 Chacalluta 2.35 324 *e*P **Pn 03 26 15.6 +0.6**
AP01 *e*S **Sn 03 26 44.7 +0.8**
AP01 Chacalluta 2.35 324 *e*P **Pn 03 26 15.0 0.0**
AP01 *e*S **Sn 03 26 45.2 +1.2**
AP01 IAML 03 26 51.9
comp=Z,2µm,0.1s
AP01 Chacalluta 2.35 324 *e*P **Pn 03 26 15.0 0.0**
AP01 *e*S **Sn 03 26 45.2 +1.2**
AP01 IAML 03 26 51.9
comp=Z,2µm,0.1s
PB04 IPOC Station P 2.36 210 Pn **Pn 03 26 16.9 +1.5**
PB04 IPOC Station P 2.36 210 *e*P **Pn 03 26 17.0 +1.7**
PB04 IAML 03 26 58.6
comp=N,1µm,0.4s
PB04 IPOC Station P 2.36 210 *e*P **Pn 03 26 16.0 +0.7**
PB04 *e*S **Sn 03 26 44.9 +0.4**
PB04 IAML 03 26 54.9
comp=Z,1µm,0.3s
PB04 IPOC Station P 2.36 210 *e*P **Pn 03 26 16.0 +0.7**
PB04 *e*S **Sn 03 26 44.9 +0.4**
PB04 IAML 03 26 54.9
comp=Z,1µm,0.3s
PB06 IPOC Station P 2.50 195 **Pn 03 26 18.7 +1.6**
PB06 IPOC Station P 2.50 195 *e*P **Pn 03 26 18.3 +1.3**
PB06 *e*S **Sn 03 26 46.4 -1.2**
PB06 IAML 03 26 58.4
comp=E,829nm,0.3s
PB06 IPOC Station P 2.50 195 *e*P **Pn 03 26 18.0 +1.0**
PB06 *e*S Sn 03 26 38.4 -9.2
PB06 IAML 03 26 52.1
comp=Z,586nm,0.3s
PB06 IPOC Station P 2.50 195 *e*P **Pn 03 26 18.0 +1.0**
PB06 *e*S Sn 03 26 38.4 -9.2
PB06 IAML 03 26 52.1
comp=Z,586nm,0.3s
PB10 IPOC Station P 3.58 206 Pn **Pn 03 26 31.4 +0.4**
PB10 IPOC Station P 3.58 206 *e*P **Pn 03 26 30.8 -0.2**
PB10 IPOC Station P 3.58 206 *e*P **Pn 03 26 30.0 -1.0**
PB10 IAML 03 27 26.6
comp=Z,177nm,0.6s
PB10 IPOC Station P 3.58 206 *e*P **Pn 03 26 30.0 -1.0**
PB10 IAML 03 27 26.6
comp=Z,177nm,0.6s
LPAZ La Paz 4.03 10 P **Pn 03 26 40.9 +3.2**
comp=Z,18nm,0.4s,baz=192,slow=7.6,SNR=76
LPAZ S **Sn 03 27 27.4 +2.8**
comp=Z,12nm,0.7s,baz=18,slow=24,SNR=1.7
LPAZ La Paz 4.03 10 Pn **Pn 03 26 40.6 +2.8**
AC01 Pan de Azucar 6.05 195 Pn **Pn 03 27 02.7 -1.6**
BBSD Serra de San D 8.41 70 *e*P **Pn 03 27 34.0 -2.3**
SIV San Ignacio 8.56 61 P **Pn 03 27 36.4 -1.9**
comp=Z,12nm,0.5s,baz=251,slow=9.5,SNR=118
BBLB La Banda, Boli 9.64 82 *e*P **Pn 03 27 50.9 -2.0**
TICA Tres Isletas 9.89 130 *e*P **Pn 03 27 57.4 +1.2**
VBST Vila Bela da S 10.21 57 *e*P **Pn 03 27 58.8 -1.8**
PTLB Pontes e Lacer 10.44 64 Pn **Pn 03 28 02.4 -1.3**
PTLB Pontes e Lacer 10.44 64 *e*P **Pn 03 28 02.4 -1.3**
ESFA Espinillo Form 10.66 118 *e*P **Pn 03 28 08.2 +1.6**
ETMB Extrema 10.71 14 *e*P **Pn 03 28 06.0 -1.5**
CCRS Caceres, MT, 10.81 76 *e*P **Pn 03 28 09.0 +0.3**
VILB Vilhena 11.05 50 Pn **Pn 03 28 11.6 -0.4**
VILB Vilhena 11.05 50 *e*P **Pn 03 28 11.6 -0.4**
BDQN Bodoquena, MS 11.38 93 *e*P **Pn 03 28 14.0 -2.2**
CPUP Villa Florida 12.20 122 P **Pn 03 28 26.6 -0.5**
comp=Z,3.7nm,0.7s,baz=301,slow=12,SNR=11
MT02 Curacav 13.08 188 **Pn 03 28 37.4 -1.1**
SALV Santo Antonio 13.27 73 *e*P **Pn 03 28 38.8 -2.2**
PP1B Ponte de Pedra 13.51 81 *e*P **Pn 03 28 44.4 +0.2**
BO04 La Punta 13.74 186 Pn **Pn 03 28 46.4 -0.8**
BO01 Tunca 14.19 187 Pn **Pn 03 28 52.7 -0.2**
ALGR Alto Alegre (B 16.71 124 *e*P **P 03 29 26.5 +1.7**
ITAB Concordia 16.81 118 *e*P **P 03 29 27.1 +1.4**
ARAG Araguaiana, MT 16.85 77 *e*P **P 03 29 26.9 +0.6**
FRTB Fartura 18.19 103 *e*P **Pn 03 29 41.9 -0.4**
NPGB Novo Progresso 18.57 47 *e*P **P 03 29 43.8 -1.4**
TRQA Tornquist 18.70 163 P **Pn 03 29 46.9 -1.3**
TRQA IAmb IAmb 03 29 57.0
comp=Z,3.0nm,0.8s
SNDB Serra Nova Dou 18.79 67 *e*P **Pn 03 29 47.9 -1.5**
MACA Manacapuru-AM 18.80 26 P **P 03 29 47.6 0.0**
MACA IAmb IAmb 03 29 49.9
comp=Z,10nm,1.0s
BB19B Bebedouro 19.06 96 *e*P **Pn 03 29 51.0 -1.5**
IPMB Ipameri, GO 19.66 87 *e*P **P 03 29 57.0 -0.1**
RCLB Rio Claro- Sao 19.99 100 *e*P **Pn 03 30 00.9 -2.5**
SGCB SÃo Gabriel d 20.12 5 *e*P **P 03 30 01.8 -0.2**
ITTB Itaituba 20.34 41 *e*P **P 03 30 03.3 -1.1**
BDFB Brasilia 20.37 80 P **P 03 30 04.7 -0.1**
comp=Z,2.5nm,0.5s,baz=262,slow=11,SNR=7.4
comp=Z,2.5nm,0.5s
BDFB Brasilia 20.37 80 *e*P **P 03 30 04.8 -0.1**
PLCA Paso Flores 20.44 184 P Pn 03 30 07.5 -1.0
comp=Z,6.3nm,0.9s,baz=359,slow=9.7,SNR=10.0
comp=Z,6.3nm,0.9s
VAO Valinhos 20.54 102 *e*P **P 03 30 06.5 0.0**
LL03 Petrohue 21.01 187 P **P 03 30 12.1 +0.8**
LL03 IAmb IAmb 03 30 13.1
comp=Z,25nm,0.8s
BSCB Bom Sucesso 22.56 96 *e*P **P 03 30 28.7 +0.8**
SMTB Santa Maria do 23.49 64 *e*P **P 03 30 36.6 0.0**
DIAM Diamantina, MG 23.86 90 *e*P **P 03 30 41.3 +1.1**
MC01 Montes Claros 23.90 86 *e*P **P 03 30 40.1 -0.3**
JANB Januaria 23.96 81 *e*P **P 03 30 40.5 -0.4**
BOAV Boa Vista 23.98 21 *e*P **P 03 30 41.1 +0.2**
SDBA SAO DESIDERIO 24.28 75 *e*P **P 03 30 43.0 -0.8**
DBIC Dimbokro 68.36 74 P **P 03 36 26.9 +0.3**
comp=Z,4.1nm,0.7s,baz=245,slow=7.1,SNR=5.5
comp=Z,4.1nm,0.7s
TORD Torodi Ar. Bea 76.92 71 P **P 03 37 17.3 +0.2**
comp=Z,1.8nm,0.5s,baz=252,slow=5.8,SNR=15
comp=Z,1.8nm,0.5s

*IDC **28** 03:39:38.0±1.4,24.˝10S×67.˚05W,h176km±12km,mb3.2/3, mbtmp3.8/9,Error ellipse: s-maj=20.8km s-min=16.5km az=9.0*
*GUC **28** 03:39:38.9±0.7,24.˝24S×67.˚49W,h204km±13km,ML4.0*
*VAO **28** 03:39:43.3±0.6,23.˚93S×66.˚91W,h223km±6km,mb3.9*
ISC 28 03:39:37.3±0.5,**24.˚20S**±0.˝05×**67.˚20W**±0.˝06,**h181**km,**n74,** σ1$**38**/**87**,**mb3.2**/**3**,**5C-1D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.23**	**315**	P		**Pn**		**03 40 18.9**	**+1.4**
	64nm,0.5s,baz=141,slow=7.3,SNR=234								
LVC				S		**Sn**		**03 40 49.0**	**+0.5**
	138nm,0.4s,baz=113,slow=10,SNR=6.9								
LVC	**Limon Verde**	**2.23**	**315**	*e*P		**Pn**		**03 40 18.8**	**+1.4**
LVC				*e*S		**Sn**		**03 40 49.0**	**+0.5**
PB06	**IPOC Station P**	**2.64**	**304**	⇑*i*P		**Pn**		**03 40 23.1**	**+1.2**
PB06				*e*S		**Sn**		**03 40 56.2**	**-0.3**
PB06				IAML				03 40 58.3	
	comp=N,585nm,0.3s								
PB14	**IPOC Station P**	**2.95**	**261**	*e*P		**Pn**		**03 40 25.9**	**+0.2**
PB14				*e*S		**Sn**		**03 41 01.8**	**-1.5**
PB09	**IPOC Station P**	**3.05**	**321**	⇓*i*P		**Pn**		**03 40 28.6**	**+1.8**
PB09				*e*S		**Sn**		**03 41 05.6**	**+0.4**
PB09				IAML				03 41 07.1	
	comp=N,316nm,0.5s								
AC02	**Maricunga**	**3.15**	**213**	⇑*i*P		**Pn**		**03 40 28.8**	**+0.5**
AC02				IAML				03 41 16.9	
	comp=E,70nm,0.3s								
PB10	**IPOC Station P**	**3.15**	**282**	⇑*i*P		**Pn**		**03 40 28.5**	**+0.7**
PB10				*e*S		**Sn**		**03 41 05.6**	**-1.6**
PB10				IAML				03 41 10.0	
	comp=E,201nm,0.4s								
PB03	**IPOC Station P**	**3.18**	**312**	*i*P		**Pn**		**03 40 29.2**	**+0.8**
PB03				*e*S		**Sn**		**03 41 06.8**	**-1.4**
PB03				IAML				03 41 10.2	
	comp=E,334nm,0.2s								
PB04	**IPOC Station P**	**3.29**	**304**	*e*P		**Pn**		**03 40 30.6**	**+0.8**
PB04				*e*S		**Sn**		**03 41 09.1**	**-1.5**
PB07	**IPOC Station P**	**3.49**	**314**	⇑*i*P		**Pn**		**03 40 32.9**	**+0.6**
PB07				*e*S		**Sn**		**03 41 13.3**	**-1.9**
AC01	**Pan de Azucar**	**3.64**	**237**	⇑*i*P		**Pn**		**03 40 33.0**	**-0.8**
AC01				*e*S		**Sn**		**03 41 15.4**	**-2.7**
PB01	**IPOC Station P**	**3.79**	**326**	*e*P		**Pn**		**03 40 36.1**	**+0.2**
PB01				*e*S		**Sn**		**03 41 20.4**	**-1.3**
PB02	**IPOC Station P**	**3.80**	**319**	*e*P		**Pn**		**03 40 36.2**	**+0.1**
PB02				*e*S		**Sn**		**03 41 19.6**	**-2.4**
AC06	**Mina Casimiro**	**4.24**	**221**	*e*P		**Pn**		**03 40 40.2**	**-1.2**
PATCX	**Punta Patache**	**4.33**	**320**	*e*P		**Pn**		**03 40 42.9**	**+0.1**
GO03	**Copiap**	**4.34**	**218**	*e*P		**Pn**		**03 40 41.5**	**-1.3**
TA01	**Diego Aracena**	**4.55**	**322**	*e*P		**Pn**		**03 40 45.2**	**-0.3**
HMBC	**Humberstone**	**4.63**	**327**	*e*P		**Pn**		**03 40 45.6**	**-1.1**
GO01	**Chusmiza**	**4.88**	**337**	*e*P		**Pn**		**03 40 51.7**	**+1.5**
PB11	**IPOC Station P**	**4.97**	**332**	*e*P		**Pn**		**03 40 50.2**	**-0.9**
AC04	**Llanos de Chal**	**5.29**	**220**	*e*P		**Pn**		**03 40 52.7**	**-2.3**
PSGC	**Pisagua**	**5.33**	**329**	*e*P		**Pn**		**03 40 53.9**	**-1.8**
AC05	**El Transito**	**5.37**	**210**	*e*P		**Pn**		**03 40 54.8**	**-1.4**
LCO	**Las Campanas**	**5.72**	**212**	*e*P		**Pn**		**03 40 58.6**	**-2.3**
LPAZ	**La Paz**	**7.92**	**354**	P		**Pn**		**03 41 30.6**	**+0.3**
	comp=E,5.6nm,0.3s,baz=161,slow=6.8,SNR=37								
LPAZ				S		**Sn**		**03 42 58.2**	**-1.3**
	comp=E,1.4nm,0.6s,baz=105,slow=21,SNR=2.5								
LPAZ	**La Paz**	**7.92**	**354**	*e*P		**Pn**		**03 41 31.1**	**+0.8**
CPUP	**Villa Florida**	**9.18**	**105**	P		**Pn**		**03 41 46.0**	**-0.1**
	comp=E,0.7nm,0.5s,baz=284,slow=14,SNR=1.9								
CPUP	**Villa Florida**	**9.18**	**105**	*e*P		**Pn**		**03 41 48.3**	**+2.2**
SIV	**San Ignacio**	**9.99**	**36**	P		**Pn**		**03 41 54.8**	**-2.0**
	comp=E,3.4nm,0.4s,baz=208,slow=11,SNR=27								
SIV				S		Sn		03 43 36.2	-12
	comp=E,1.4nm,0.9s,baz=214,slow=17,SNR=2.1								
VBST	**Vila Bela da S**	**11.77**	**36**	*e*P		**Pn**		**03 42 18.7**	**-1.1**
RODS	**Rosario do Sul**	**12.30**	**122**	*e*P		**P**		**03 42 31.2**	**-0.2**
FRBT	**Francisco Belt**	**12.93**	**101**	*e*P		**P**		**03 42 38.6**	**0.0**
VILB	**Vilhena**	**13.01**	**32**	*e*P		**Pn**		**03 42 36.7**	**+1.1**
ALGR	**Alto Alegre (B**	**13.49**	**113**	*e*P		**P**		**03 42 44.6**	**-0.1**
SALV	**Santo Antonio**	**13.60**	**55**	*e*P		**P**		**03 42 44.4**	**-1.5**
CPSB	**Cacapava Do Su**	**13.70**	**120**	*e*P		**P**		**03 42 46.4**	**-0.6**
PTGB	**Pitanga**	**13.79**	**95**	*e*P		**Pn**		**03 42 46.1**	**+0.6**
ITAB	**Concordia**	**13.91**	**106**	*e*P		**P**		**03 42 48.9**	**-0.5**
ETMB	**Extrema**	**14.34**	**4**	*e*P		**P**		**03 42 53.9**	**-0.3**
PCMB	**Pacaembu**	**14.91**	**83**	*e*P		**P**		**03 43 01.1**	**+0.6**
PDRB	**Porto dos Gac**	**15.99**	**40**	*e*P		**P**		**03 43 11.4**	**-1.0**
FRTB	**Fartura**	**16.17**	**91**	*e*P		**Pn**		**03 43 14.7**	**0.0**
ITRB	**Iturama**	**16.25**	**77**	*e*P		**Pn**		**03 43 15.7**	**+0.1**
PLCA	**Paso Flores**	**16.72**	**189**	P		**Pn**		**03 43 22.9**	**+1.7**
	comp=E,0.9nm,0.8s,baz=14,slow=15,SNR=11								
PLCA	**Paso Flores**	**16.72**	**189**	*e*P		**Pn**		**03 43 27.8**	**+6.6**
ARAG	**Araguaiana, MT**	**16.74**	**63**	*e*P		**Pn**		**03 43 21.7**	**+0.2**
CLDB	**Colider**	**17.13**	**41**	*e*P		**P**		**03 43 24.2**	**-0.8**
VAO	**Valinhos**	**18.58**	**90**	*e*P		**P**		**03 43 40.1**	**-0.8**
IPMB	**Ipameri, GO**	**18.76**	**74**	*e*P		**P**		**03 43 42.5**	**-0.3**
SNDB	**Serra Nova Dou**	**19.38**	**54**	*e*P		**P**		**03 43 48.9**	**-0.6**
PARB	**Paraibuna**	**19.77**	**92**	*e*P		**P**		**03 43 54.4**	**+0.7**
BDFB	**Brasilia**	**19.93**	**68**	P		**P**		**03 43 54.9**	**-0.6**
	comp=E,8.5nm,0.6s,baz=238,slow=12,SNR=16								
BDFB	**Brasilia**	**19.93**	**68**	*e*P		**P**		**03 43 54.9**	**-0.6**
PMNB	**Patos De Minas**	**20.13**	**78**	*e*P		**P**		**03 43 57.0**	**-0.6**
NPGB	**Novo Progresso**	**20.50**	**36**	*e*P		**P**		**03 43 59.3**	**-2.1**
MACA	**Manacapuru-AM**	**21.85**	**18**	*e*P		**P**		**03 44 15.4**	**-0.2**
ITTB	**Itaituba**	**22.61**	**31**	*e*P		**P**		**03 44 21.4**	**-1.5**
DIAM	**Diamantina, MG**	**22.69**	**80**	*e*P		**P**		**03 44 23.7**	**-0.1**
MC01	**Montes Claros**	**23.01**	**75**	*e*P		**P**		**03 44 25.0**	**-1.6**
JANB	**Januaria**	**23.37**	**71**	*e*P		**P**		**03 44 28.1**	**-1.8**
SDBA	**SAO DESIDERIO**	**24.16**	**65**	*e*P		**P**		**03 44 35.9**	**-1.2**
SMTB	**Santa Maria do**	**24.16**	**54**	*e*P		**P**		**03 44 36.4**	**-0.6**
PRPB	**Parauapebas**	**24.50**	**46**	*e*P		**P**		**03 44 39.7**	**-0.4**
NAN01	**Guarapari, ES**	**26.03**	**81**	*e*P		**P**		**03 44 51.9**	**-2.0**
OTAV	**Otavalo**	**26.64**	**334**	*e*P		**P**		**03 45 00.8**	**+1.1**
BOAV	**Boa Vista**	**27.23**	**15**	*e*P		**P**		**03 45 03.7**	**-0.8**
GDU01	**Guandu, BA**	**28.08**	**73**	*e*P		**P**		**03 45 10.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P		**P**		**03 51 09.3**	**-0.1**
	comp=E,0.2nm,0.4s,baz=251,slow=6.8,SNR=5.6								
	comp=E,0.2nm,0.4s								
PDAR	**Pinedale Array**	**77.23**	**329**	P		**P**		**03 51 13.7**	**+2.2**
	comp=E,0.2nm,0.7s,baz=138,slow=9.6,SNR=2.3								
	comp=E,0.2nm,0.7s								
YKA	**Yellowknife Ar**	**94.25**	**340**	P		**P**		**03 52 36.0**	**+0.7**
	comp=E,0.3nm,0.6s,baz=131,slow=4.5,SNR=8.1								
	comp=E,0.3nm,0.6s								
ASAR	**Alice Springs**	**128.19**	**205**	PKP		**PKiKP**		**03 58 23.6**	**+0.2**
	comp=E,0.4nm,0.5s,baz=130,slow=1.2,SNR=8.6								
WRA	**Warramunga Arr**	**131.36**	**207**	PKP		**PKiKP**		**03 58 29.8**	**0.0**
	comp=E,0.4nm,0.5s,baz=157,slow=1.7,SNR=11								
ZALV	**Zalesovo Beam**	**143.66**	**28**	PKP		**PKPdf**		**03 58 49.8**	**-0.4**
	comp=E,0.7nm,0.5s,baz=308,slow=8.4,SNR=3.5								
MKAR	**Makanchi Array**	**146.80**	**40**	PKPbc		**PKPbc**		**03 58 57.9**	**-0.1**
	comp=E,0.8nm,0.6s,baz=301,slow=3.4,SNR=11								

*MAN **28** 03:43:40.4,5.˝17N×126.˚46E,h73km,mb4.7,ML3.6,MS3.5*
*IDC **28** 03:43:46.7±1.5,5.˚58N×126.˚39E,h132km±15km,mb3.2/5, mbtmp3.5/5,MS3.3/2,Error ellipse: s-maj=65.5km s-min=16.0km az=71.0*
ISC 28 03:43:45.2±1.3,**5.˚4N**±0.˝1×**126.˚0E**±0.˝1,**h119**km±14km,**n13,** σ1$**52**/**15**,**mb3.4**/**5**,**4D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.25**	**302**	⇓*i*P		**Pn**		**03 44 08.2**	**-1.6**
GSPH				*i* S		**Sn**		**03 44 28.1**	**-0.4**
DAV	**Davao City (W)**	**1.70**	**345**	P		**Pn**		**03 44 17.0**	**+2.1**
	138nm,0.3s,baz=46,slow=7.5,SNR=1.9								
DAV				S		**Sn**		**03 44 40.4**	**+2.8**
	240nm,0.3s,baz=14,slow=23,SNR=4.9								
KCP	**Kidapawan**	**1.83**	**330**	⇓*i*P		**Pn**		**03 44 16.3**	**-0.3**
KCP				*i* S		**Sn**		**03 44 40.1**	**-0.4**
CTBH	**Cotabato--PC H**	**2.51**	**316**	*e*P		**Pn**		**03 44 25.4**	**+0.4**
CTBH				*i* S		**Sn**		**03 44 55.4**	**-0.3**
BIPH	**Bislig**	**2.77**	**7**	⇓*e*P		**Pn**		**03 44 27.4**	**-1.1**
BIPH				*i* S		**Sn**		**03 44 59.9**	**-1.9**
CGP	**Cagayan de Oro**	**3.29**	**337**	⇓*e*P		Pn		03 44 47.7	+12
CGP				eS		Sn		03 45 22.9	+8.9
GUMO	**Guam**	**20.28**	**65**	LR		LR		03 57 07.2	
	comp=Z,29nm,18.1s,baz=128,slow=40								
PMG	**Port Moresby**	**25.71**	**125**	LR		LR		04 00 54.3	
	comp=Z,147nm,18.4s,baz=120,slow=40								
WRA	**Warramunga Arr**	**26.50**	**162**	P		**P**		**03 49 12.8**	**+1.2**
	0.8nm,0.7s,baz=342,slow=10,SNR=15								
	0.8nm,0.7s								
ASAR	**Alice Springs**	**29.91**	**165**	P		**P**		**03 49 42.9**	**+0.9**
	0.1nm,0.3s,baz=347,slow=6.7,SNR=5.8								
	0.1nm,0.3s								
STKA	**Stephens Creek**	**39.95**	**159**	P		**P**		**03 51 07.7**	**-0.2**
	1.1nm,0.6s,baz=336,slow=8.5,SNR=3.8								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**55.77**	**325**	P		**P**		**03 53 10.5**	**+0.7**
	0.2nm,0.4s,baz=118,slow=7.7,SNR=9.8								
	0.2nm,0.4s								
ILAR	**Eielson Array**	**83.90**	**25**	P		**P**		**03 56 00.1**	**-1.4**
	0.2nm,0.5s,baz=248,slow=5.4,SNR=5.5								
	0.2nm,0.5s								

IDC 28 04:12:31.9±1.9,**1.˚92N**×**125.˚03E**,**h0**km,**mb3.5**/3, **mbtmp3.5**/3,**Error ellipse: s-maj=179.8km s-min=24.9km az=64.0**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**158**	P		P		04 17 44.8	+0.5
	0.5nm,0.3s,baz=335,slow=11,SNR=24								
	0.5nm,0.3s								
ASAR	**Alice Springs**	**26.86**	**162**	P		P		04 18 14.2	-0.3
	0.5nm,0.5s,baz=345,slow=7.7,SNR=14								
	0.5nm,0.5s								
MKAR	**Makanchi Array**	**58.10**	**327**	P		P		04 22 27.1	-0.2
	0.1nm,0.3s,baz=131,slow=5.8,SNR=5.9								
	0.1nm,0.3s								

*BJI **28** 04:14:35.1±0.0,5.˚50S×152.˚03E,h32km,mb5.0/70, mB5.3/40,Ms5.0/64,Ms7 4.8/60*
*NEI

PMG Port Moresby 5.97 231 P Pn 04 16 07.2 +2.0
PMG Port Moresby 5.97 231 P Pn 04 16 07.3 +2.0
HNR Honiara 8.90 116 P Pn 04 16 44.6 -0.7
4µm,0.8s,baz=228,slow=5.4,SNR=5.3
HNR LR LR 04 20 40.2
comp=Z,39µm,18.7s,baz=283,slow=40
COEN Coen 11.89 225 P Pn 04 17 28.6 +2.2
baz=12,SNR=4.0
COEN Coen 11.89 225 Pn Pn 04 17 24.2 -2.2
COEN Coen 11.89 225 P Pn 04 17 29.0 +2.6
GENI Genyem 12.01 284 P Pn 04 17 30.6 +2.6
GENI Genyem 12.01 284 P Pn 04 17 29.3 +1.3
171nm,2.2s,4µm4µm
SMPI Sarmi 13.57 285 P Pn 04 17 50.0 +0.6
134nm,0.8s,7µm
PATS Pohnpei 13.96 28 Pn Pn 04 17 55.8 +1.2
TV1H Townsville Har 14.43 199 P Pn 04 18 02.6 +1.7
MTSU Mount Surprise 14.45 210 P Pn 04 18 02.5 +1.3
baz=15,SNR=9.6
MTSU Mount Surprise 14.45 210 P Pn 04 18 01.8 +0.6
CTA Charters Tower 15.38 200 P Pn 04 18 13.1 -0.3
0.1nm,0.3s,baz=336,slow=5.6,SNR=4.6
CTA LR LR 04 23 50.5
comp=Z,4µm,18.9s,baz=26,slow=36
6.8nm,1.1s
CTAO Charters Tower 15.38 200 Pn Pn 04 18 11.5 -1.9
CTAO Charters Tower 15.38 200 P Pn 04 18 13.7 +0.3
CTAO Charters Tower 15.38 200 P Pn 04 18 11.5 -1.9
CTAO pmax pmax
comp=Z,40nm,1.0s
RK1H Rockhampton Ha 17.72 184 P P 04 18 43.2 -0.1
QIS Mount Isa 19.02 218 P Pn 04 18 58.9 +0.3
baz=19,SNR=61
QIS Mount Isa 19.02 218 P Pn 04 18 59.0 +0.3
EIDS Eidsvold 19.66 182 P Pn 04 19 05.9 -0.3
baz=20,SNR=36
EIDS Eidsvold 19.66 182 P P 04 19 03.8 -0.7
EIDS Eidsvold 19.66 182 P Pn 04 19 06.2 -0.1
DVP Devils Point 20.01 128 P Pn 04 19 10.3 -0.2
GUMO Guam 20.29 340 P P 04 19 11.4 0.0
comp=Z,177nm,0.8s,baz=155,slow=15,SNR=5.1
GUMO LR LR 04 25 38.6
comp=Z,768nm,21.7s,baz=162,slow=33
comp=Z,177nm,0.8s
GUMO Guam 20.29 340 P P 04 19 12.5 +1.0
GUMO Guam 20.29 340 P Pn 04 19 13.2 -0.6
GUMO Guam 20.29 340 P P 04 19 12.5 +1.0
GUMO pmax pmax
comp=Z,741nm,1.3s
KDU Kakadu 20.35 248 P P 04 19 12.0 -0.1
baz=20,SNR=59
KDU Kakadu 20.35 248 P P 04 19 12.1 -0.1
SAUI Saumlaki 20.52 262 P P 04 19 13.9 -0.2
SAUI Saumlaki 20.52 262 P P 04 19 15.1 +1.0
SAUI Saumlaki 20.52 262 P P 04 19 13.9 -0.2
comp=Z,440nm,0.8s,comp=Z,7µm
RMQ Roma 20.96 188 P Pn 04 19 20.6 -1.1
baz=21,SNR=46
RMQ Roma 20.96 188 P Pn 04 19 20.6 -1.2
SIJI Sorong 21.06 282 P P 04 19 20.4 +0.5
comp=Z,53nm,0.8s,baz=76,slow=8.4,SNR=15
comp=Z,53nm,0.8s
SWI Sorong 21.07 282 P P 04 19 21.2 +1.2
comp=Z,74nm,1.3s,comp=Z,5µm
AUBSH Beerwah State 21.16 177 P P 04 19 22.5 +1.7
DZM Mont Dzumac 21.62 141 eP P 04 19 25.5 -0.4
comp=Z,111nm,1.2s
DZM eSn S 04 23 20.2 -3.0
DZM eLR LR 04 24 39.7
comp=Z,7µm,23.9s
DZM Mont Dzumac 21.62 141 P P 04 19 26.5 +0.6
comp=Z,26nm,0.6s,baz=339,slow=18,SNR=28
comp=Z,26nm,0.6s
DZM Mont Dzumac 21.62 141 P P 04 19 26.0 0.0
DZM Mont Dzumac 21.62 141 P P 04 19 26.8 +0.9
MTN Manton Dam 21.64 249 P P 04 19 26.0 -0.1
baz=22,SNR=48
MTN Manton Dam 21.64 249 P P 04 19 24.6 -1.5
MTN IAmb IAmb 04 19 31.3
comp=Z,96nm,1.0s
MTN Manton Dam 21.64 249 P P 04 19 25.8 -0.3
AUWSH Wavell State H 21.70 177 P P 04 19 27.4 +0.8
YATNC Mamie plateau, 21.90 140 P P 04 19 30.0 +1.2
WB0 Warramunga Arr 22.04 229 P P 04 19 29.6 -0.7
WB0 IAmb IAmb 04 19 43.6
comp=Z,104nm,1.1s
WR0 Warramunga Arr 22.05 228 P P 04 19 30.0 -0.5
WR0 IAmb IAmb 04 19 59.3
comp=Z,155nm,1.4s
QLP Quilpie 22.08 198 P P 04 19 31.6 +0.9
baz=22,SNR=40
QLP Quilpie 22.08 198 P P 04 19 31.6 +0.9
OUENC Quen Island, N 22.13 140 P P 04 19 30.3 -0.9
WRAB Tennant Creek 22.17 228 P P 04 19 30.9 -0.9
WRAB IAmb IAmb 04 19 40.0
comp=Z,98nm,0.9s
WRAB Tennant Creek 22.17 228 P P 04 19 32.1 +0.3
WRAB Tennant Creek 22.17 228 ceP P 04 19 32.4 +0.6
WRAB pmax pmax
comp=Z,150nm,1.7s
WRA Warramunga Arr 22.19 228 P P 04 19 31.9 -0.1
comp=Z,27nm,0.5s,baz=53,slow=9.6,SNR=92
WRA S S 04 23 32.4 -1.4
comp=Z,46nm,1.2s,baz=53,slow=18,SNR=11
WRA ScP ScP 04 27 02.7 +1.0
comp=Z,3.0nm,0.7s,baz=49,slow=2.9,SNR=8.1
WRA LR LR 04 28 53.8
comp=Z,2µm,19.0s,baz=51,slow=38
comp=Z,27nm,0.5s
WRA Warramunga Arr 22.19 228 P P 04 19 30.7 -1.3
GC1S Gold Coast 1 S 22.48 176 P P 04 19 36.3 +1.3
comp=Z,98nm,0.9s
AULRC Lightning Ridg 23.97 188 P P 04 19 49.7 0.0
INKA Innaminka 24.40 204 P P 04 19 54.1 +0.5
ARMA Armidale 24.68 180 P P 04 19 57.6 +1.4
baz=25,SNR=6.5
ARMA Armidale 24.68 180 P P 04 19 55.9 -0.4
ARMA IAmb IAmb 04 20 14.4
comp=Z,76nm,1.3s
ARMA Armidale 24.68 180 P P 04 19 57.8 +1.5
KNRA Kununurra 24.75 244 P P 04 19 57.1 +0.2
baz=25,SNR=94
KNRA Kununurra 24.75 244 P P 04 19 56.8 -0.2
KNRA Kununurra 24.75 244 P P 04 19 57.3 +0.4
AS01 Alice Springs 24.87 222 P P 04 19 58.7 +0.7
AS31 Alice Springs 24.90 222 P P 04 19 57.8 -0.5
ASAR Alice Springs 24.90 222 P P 04 19 58.8 +0.4
comp=Z,53nm,0.7s,baz=59,slow=8.7,SNR=230
ASAR S S 04 24 25.3 +6.6
comp=Z,14nm,1.1s,baz=43,slow=18,SNR=9.8
ASAR ScP ScP 04 27 09.6 +0.7
comp=Z,1.2nm,0.6s,baz=55,slow=2.6,SNR=4.7
ASAR LR LR 04 29 34.4
comp=Z,1µm,20.9s,baz=60,slow=36
comp=Z,53nm,0.7s
AUPHS Peel High Scho 25.37 182 P P 04 20 03.2 +0.8
SANI Sanana 26.02 277 P P 04 20 08.7 +0.2
CMSA Cobar Meteorol 26.43 192 P P 04 20 12.3 +0.3
baz=27,SNR=23
CMSA Cobar Meteorol 26.43 192 P P 04 20 12.0 0.0
AUDCS Dubbo College 26.65 186 P P 04 20 16.1 +2.1
OOD Oodnadatta 26.87 213 P P 04 20 16.3 +0.3
MGCD Mangrove Creek 27.47 181 P P 04 20 21.7 +0.4
baz=28,SNR=5.2
MGCD Mangrove Creek 27.47 181 P P 04 20 22.2 +0.9
SOEI Soe 27.62 260 P P 04 20 22.4 -0.7
SOEI Soe 27.62 260 P P 04 20 23.7 +0.7
SOEI Soe 27.62 260 P P 04 20 23.6 +0.6
comp=Z,147nm,0.9s,comp=Z,2µm
LCRK Leigh Creek 27.83 206 P P 04 20 24.8 +0.2
STKA Stephens Creek 27.83 199 P P 04 20 24.6 +0.1
comp=Z,7.3nm,0.5s,baz=29,slow=12,SNR=24
STKA LR LR 04 31 53.0
comp=Z,2µm,18.5s,baz=13,slow=37
comp=Z,7.3nm,0.5s
STKA Stephens Creek 27.83 199 P P 04 20 24.7 +0.1
baz=28,SNR=16
STKA Stephens Creek 27.83 199 P P 04 20 23.9 -0.7
STKA Stephens Creek 27.83 199 P P 04 20 24.5 -0.1
STKA Stephens Creek 27.83 199 i P P 04 20 25.4 +0.8
NFK Norfolk Island 27.85 149 P P 04 20 20.6 -4.2
baz=28,SNR=5.5
BATI Baumata 28.26 259 P P 04 20 28.0 -0.7
comp=Z,156nm,0.8s,baz=174,slow=2.4,SNR=8.2
BATI LR LR 04 34 06.9
comp=Z,4µm,21.2s,baz=105,slow=41
MSVF Nonsavu 28.31 117 P P 04 20 30.4 +1.2
comp=Z,17nm,0.8s,baz=268,slow=8.4,SNR=11
MSVF LR LR 04 31 43.9
comp=Z,1µm,19.3s,baz=287,slow=36
comp=Z,17nm,0.8s
MSVF Nonsavu 28.31 117 P P 04 20 30.0 +0.8
MSVF Nonsavu 28.31 117 P P 04 20 31.0 +1.8
FITZ Fitzroy Crossi 28.42 242 P P 04 20 29.8 -0.3
FITZ Fitzroy Crossi 28.42 242 P P 04 20 29.8 -0.3
DAV Davao City (W) 29.07 295 LR LR 04 31 53.7
comp=Z,2µm,18.4s,baz=107,slow=36
DGTI Dogotuki 29.34 113 P P 04 20 39.5 +1.3
GTOI Gorontalo 29.44 281 P P 04 20 38.6 -0.5
comp=Z,14nm,0.7s
WRKA Warakurna 29.70 227 P P 04 20 41.1 -0.3
baz=30,SNR=116
WRKA Warakurna 29.70 227 P P 04 20 41.3 -0.1
MULG Mulgathing 29.70 212 P P 04 20 41.2 -0.1
TAVE Taveuni 29.79 114 P P 04 20 43.7 +1.5
HTT Hallett 30.17 202 P P 04 20 45.5 +0.1
baz=30,SNR=6.3
HTT Hallett 30.17 202 P P 04 20 45.8 +0.4
WHYH Whyalla 30.34 204 P P 04 20 48.6 +1.7
BBOO Buckleboo 30.80 207 P P 04 20 50.7 -0.2
baz=31,SNR=11
BBOO Buckleboo 30.80 207 P P 04 20 50.7 -0.2
BBOO IAmb IAmb 04 21 11.3
comp=Z,79nm,1.8s
BBOO Buckleboo 30.80 207 P P 04 20 51.1 +0.2
BKSI Bulukumba 31.56 269 P P 04 20 58.4 +0.5
comp=Z,16nm,1.6s
TOLI2 Tolitoli 31.72 281 P P 04 20 58.8 -0.4
TOLI2 Tolitoli 31.72 281 P P 04 20 59.8 +0.5
KAPI Kappang 31.94 270 LR LR 04 37 15.3
comp=Z,482nm,18.5s,baz=89,slow=42
ARPS Mount Arapiles 32.33 195 P P 04 21 05.1 +0.8
baz=32,SNR=7.3
ARPS Mount Arapiles 32.33 195 P P 04 21 05.2 +0.8
MPSI Mapaga 32.43 279 P P 04 21 05.4 -0.1
BRAT Ballarat 32.60 192 P P 04 21 08.3 +1.7
FORT Forrest 33.55 219 P P 04 21 14.7 -0.3
baz=34,SNR=46
FORT Forrest 33.55 219 P P 04 21 14.8 -0.3
FORT IAmb IAmb 04 21 40.4
comp=Z,41nm,0.8s
FORT Forrest 33.55 219 P P 04 21 14.9 -0.2
JCJ Chichijima 33.83 344 LR LR 04 33 48.8
comp=Z,1µm,21.9s,baz=152,slow=34
PLAI Plampang 33.92 263 P P 04 21 17.0 -1.6
PLAI Plampang 33.92 263 P P 04 21 16.1 -2.5
comp=Z,62nm,0.8s
MBWA Marble Bar 34.73 241 P P 04 21 25.4 -0.1
MBWA Marble Bar 34.73 241 P P 04 21 27.3 +1.8
PSA00 Pilbara Seismi 34.79 240 P P 04 21 25.6 -0.3
PSA00 IAmb IAmb 04 21 30.4
comp=Z,70nm,1.1s
PSA00 Pilbara Seismi 34.79 240 P P 04 21 27.9 +1.9
AFI Afiamalu 36.76 106 LR LR 04 35 37.9
comp=Z,897nm,19.2s,baz=281,slow=34
RAO Raoul Island 37.01 133 LR LR 04 35 03.3
comp=Z,2µm,19.8s,baz=106,slow=33
TAU Tasmania Unive 37.36 185 P P 04 21 48.6 +1.1
TAU IAmb IAmb 04 22 13.5
comp=Z,47nm,1.1s
TAU Tasmania Unive 37.36 185 P P 04 21 48.7 +1.1
TAU pmax pmax
comp=Z,47nm,1.1s
JAGI Jajag, Banyuwa 37.49 263 P P 04 21 47.3 -1.9
JAGI IAmb IAmb 04 21 47.7
comp=Z,66nm,1.0s
MEEK Meekatharra 37.95 233 P P 04 21 52.7 -0.1
baz=38,SNR=16
MEEK Meekatharra 37.95 233 P P 04 21 52.8 -0.1
KMBL Kambalda 38.00 224 P P 04 21 53.8 +0.5
JOW Kunigami 39.50 326 P P 04 22 05.3 -0.5
comp=Z,44nm,0.9s,baz=161,slow=9.3,SNR=9.2
JOW LR LR 04 35 19.7
comp=Z,2µm,21.8s,baz=163,slow=32
comp=Z,44nm,0.9s
JOW Kunigami 39.50 326 P P 04 22 05.9 +0.1
JOW IAmb IAmb 04 22 07.5
comp=Z,82nm,1.0s
JOW Kunigami 39.50 326 P P 04 22 06.5 +0.7
URZ Urewera 39.79 148 P P 04 22 08.5 +0.4
comp=Z,10nm,0.7s,baz=13,slow=3.4,SNR=5.6
URZ LR LR 04 36 57.0
comp=Z,2µm,19.2s,baz=68,slow=34
comp=Z,10nm,0.7s
RTZ Ruatahuna 39.99 149 P P 04 22 10.3 +0.4
TKNZ Takaka Hill 40.02 155 P P 04 22 10.3 +0.3
JHJ Hachijo jima 2 40.18 344 LR LR 04 35 45.1
comp=Z,807nm,21.9s,baz=181,slow=32
BSWZ Blackbirch Sta 40.97 155 P P 04 22 17.6 -0.2
YOJ Yonaguni jima 41.01 318 P P 04 22 18.8 +0.5
YOJ Yonaguni jima 41.01 318 P P 04 22 18.8 +0.5
YOJ pmax pmax
comp=Z,322nm,1.4s
KLBR Kellerberrin 41.05 227 P P 04 22 17.8 -0.8
baz=41,SNR=10
KLBR Kellerberrin 41.05 227 P P 04 22 18.3 -0.4
MORW Morawa 41.09 231 P P 04 22 19.0 0.0
baz=41,SNR=5.1
MORW Morawa 41.09 231 P P 04 22 18.8 -0.2
MORW Morawa 41.09 231 P P 04 22 19.4 +0.4
BLDU Ballidu 41.32 229 P P 04 22 20.2 -0.7
baz=41,SNR=6.6
BLDU Ballidu 41.32 229 P P 04 22 20.6 -0.3
YULB Yu-li 41.47 315 P P 04 22 22.0 -0.2
YULB IAmb IAmb 04 22 24.0
comp=Z,43nm,0.8s
YULB Yu-li 41.47 315 P P 04 22 21.8 -0.4
RPZ Rata Peaks 41.55 159 P P 04 22 22.7 +0.1
comp=Z,13nm,0.7s,baz=37,slow=3.5,SNR=6.7
RPZ LR LR 04 39 11.0
comp=Z,2µm,18.7s,baz=320,slow=35
comp=Z,13nm,0.7s
NACB Ninganchiao 41.77 316 P P 04 22 24.6 0.0
NACB Ninganchiao 41.77 316 P P 04 22 25.0 +0.4
SSLB Suanglung 41.97 315 P P 04 22 27.1 +0.8
SSLB IAmb IAmb 04 22 34.3
comp=Z,56nm,1.1s
SSLB Suanglung 41.97 315 P P 04 22 27.4 +1.1
NWAO Narrogin (SRO) 42.13 225 LR LR 04 40 55.5
comp=Z,2µm,19.9s,slow=37
YHNB Yeheng 42.25 317 P P 04 22 29.5 +0.9
MUN Mundaring 42.38 227 P P 04 22 29.6 +0.1
baz=42,SNR=4.1
MUN Mundaring 42.38 227 P P 04 22 29.3 -0.2
JMN Jamnobe 42.66 338 P P 04 22 31.0 -0.8
CMJI Cimerak 43.13 265 P P 04 22 34.7 -1.1
comp=Z,115nm,0.8s
JGF Kuroka 43.19 343 P P 04 22 36.7 +0.6
JNU Nakatsue 43.35 334 P P 04 22 36.4 -1.0
comp=Z,11nm,0.7s,baz=124,slow=5.2,SNR=9.4
JNU LR LR 04 39 17.5
comp=Z,638nm,20.3s,baz=187,slow=34
comp=Z,11nm,0.7s
JNU Nakatsue 43.35 334 P P 04 22 36.4 -1.0
JNU Nakatsue 43.35 334 P P 04 22 37.0 -0.4
MJAR Matsushiro Arr 43.83 344 P P 04 22 38.0 -3.2
comp=Z,1.1nm,0.5s,baz=140,slow=6.6,SNR=3.2
MJAR PcP PcP 04 24 27.1 +0.1
comp=Z,2.4nm,0.7s,baz=150,slow=3.4,SNR=5.8
MJAR LR LR 04 39 40.9
comp=Z,995nm,20.6s,baz=177,slow=34
comp=Z,1.1nm,0.5s
BBJI Bungbulang 43.92 265 P P 04 22 41.2 -1.1
LEM Lembang 43.96 266 P P 04 22 42.9 +0.2
comp=Z,39nm,0.7s,baz=120,slow=22,SNR=4.7
LEM LR LR 04 45 02.7
comp=Z,272nm,21.3s,baz=33,slow=42
comp=Z,39nm,0.7s
JHS Saijyo 44.08 338 IAmb IAmb 04 23 10.1
comp=Z,135nm,1.8s
JHS Saijyo 44.08 338 P P 04 22 45.0 +1.9
CGJI Cibinong 45.87 266 P P 04 22 56.4 -1.4
comp=Z,47nm,0.7s
MDSI Maura Dua 47.47 269 P P 04 23 10.3 0.0
TJN Taejon 47.65 333 i P P 04 23 10.1 -1.1
QIZ Qiongzhong 48.06 302 P P 04 23 16.5 +1.8
QIZ S S 04 30 13.0 +2.7
QIZ sS sS 04 30 30.5 +0.3
QIZ LR LR
comp=Z,500nm,17.8s
QIZ LR LR
comp=Z,590nm,18.0s
QIZ LR LR
comp=Z,1µm,20.2s
KSRS Korea Array 48.30 334 P P 04 23 15.0 -1.2
comp=Z,2.1nm,0.7s,baz=145,slow=8.4,SNR=11
KSRS PcP PcP 04 24 43.1 +0.6
comp=Z,2.3nm,0.6s,baz=152,slow=4.8,SNR=6.1
KSRS LR LR 04 45 01.3
comp=Z,464nm,18.0s,baz=145,slow=38
comp=Z,2.1nm,0.7s
KSAR Wonju Array Be 48.30 334 P P 04 23 16.0 -0.3
KSAR Wonju Array Be 48.30 334 P P 04 23 16.0 -0.3
NJ2 Nanjing 48.88 322 ⇓P P 04 23 21.5 +0.7
NJ2 S S 04 30 27.3 +5.9
NJ2 sS sS 04 30 42.3 +1.0
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,1µm,18.5s
NJ2 LR LR
comp=Z,900nm,18.9s
NJ2 LR LR
comp=Z,2µm,18.9s
INCN Inchon 48.89 333 P P 04 23 20.5 -0.3
INCN IAmb IAmb 04 23 21.2
comp=Z,38nm,1.1s
INCN Inchon 48.89 333 P P 04 23 20.5 -0.3
INCN Inchon 48.89 333 P P 04 23 20.5 -0.3
INCN pmax pmax
comp=Z,38nm,1.1s
RAR Rarotonga 49.34 113 LR LR 04 42 20.4
comp=Z,277nm,20.0s,baz=276,slow=34
ASAJ Asahikawa 50.20 351 LR LR 04 42 41.8
comp=Z,469nm,22.0s,baz=149,slow=34
SDSI Sungai Dareh 50.52 273 P P 04 23 32.0 -1.6
WHN Wuhan 50.78 317 ⇑P P 04 23 35.3 0.0
WHN pmax pmax
comp=Z,82nm,1.1s
WHN LR LR
comp=Z,810nm,6.2s
WHN LR LR
comp=Z,2µm,15.2s
WHN LR LR
comp=Z,4µm,22.7s
USRK Ussuriysk Ar. 52.71 342 P P 04 23 48.5 -1.0
comp=Z,3.6nm,0.8s,baz=130,slow=4.5,SNR=4.0
USRK LR LR 04 45 52.0
comp=Z,386nm,18.4s,baz=151,slow=36
comp=Z,3.6nm,0.8s
USRK Ussuriysk Ar. 52.71 342 P P 04 23 48.8 -0.6
USRK Ussuriysk Ar. 52.71 342 P P 04 23 48.8 -0.6
TIA Tai'an 52.80 325 ⇑P P 04 23 49.0 -1.3
TIA pmax pmax
comp=Z,15nm,1.1s
TIA pmax pmax
comp=Z,190nm,4.9s
TIA LR LR
comp=Z,600nm,16.2s
TIA LR LR
comp=Z,630nm,17.7s
TIA LR LR
comp=Z,750nm,17.6s
NONG Nongkai 53.48 297 P P 04 23 56.0 +0.4
PSI Prapat 53.50 278 LR LR 04 49 24.6
comp=Z,427nm,19.6s,baz=122,slow=39
MDJ Mudanjiang 53.85 340 P P 04 24 00.5 +2.7
MDJ pP pP 04 24 11.5 +1.0
MDJ sP sP 04 24 14.8 -0.9
MDJ PcS PcS 04 29 03.8 +1.6
MDJ S S 04 31 35.0 +5.4
MDJ ScS ScS 04 33 45.0 +1.5
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ pmax pmax
comp=Z,250nm,6.4s
MDJ LR LR
comp=Z,350nm,5.6s
MDJ LR LR
comp=Z,240nm,5.3s
MDJ LR LR
comp=Z,550nm,18.2s
ENH Enshi 54.01 314 P P 04 23 58.4 -0.9
ENH IAmb IAmb 04 24 00.3
comp=Z,56nm,1.2s
ENH Enshi 54.01 314 P P 04 23 59.5 +0.2
GYA Guiyang 54.13 308 ⇓i P P 04 24 01.0 +0.6
GYA S S 04 31 43.0 +8.7
GYA pmax pmax
comp=Z,17nm,1.6s
GYA LR LR
comp=Z,690nm,19.4s
GYA LR LR
comp=Z,590nm,20.1s
GYA LR LR
comp=Z,1µm,19.0s
LYN LuoYang 54.53 320 ⇓P P 04 24 02.8 -0.2
LYN sP pP 04 24 16.8 +1.1
LYN pmax pmax
comp=Z,150nm,4.8s
LYN LR LR
comp=Z,850nm,18.1s
LYN LR LR
comp=Z,880nm,20.0s
LYN LR LR
comp=Z,1µm,19.6s
CN2 Changchun 54.65 337 P P 04 24 02.8 -0.9
CN2 S S 04 31 35.5 -5.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,500nm,19.0s
HNS HongShan 55.02 324 ⇑P P 04 24 06.3 -0.2
HNS eS S 04 31 39.0 -6.7
HNS pmax pmax
comp=Z,25nm,1.5s
HNS LR LR
comp=Z,760nm,18.3s
HNS LR LR
comp=Z,720nm,20.7s
HNS LR LR
comp=Z,1µm,22.6s
BNX BinXian 55.58 339 ⇑P P 04 24 08.5 -1.8
BNX pmax pmax
comp=Z,14nm,1.3s
BNX pmax pmax
comp=Z,260nm,6.4s
BJT Baijiatuau 56.03 327 P P 04 24 13.4 -0.3
BJT Baijiatuau 56.03 327 P P 04 24 14.1 +0.4
BJT Baijiatuau 56.03 327 P P 04 24 13.4 -0.3
BJT pmax pmax
comp=Z,28nm,1.7s
BJI Beijing 56.04 327 P P 04 24 13.3 -0.4
BJI S S 04 32 06.5 +7.3
BJI pmax pmax
comp=Z,5.0nm,1.4s
BJI LR LR
comp=Z,360nm,21.2s
BJI LR LR
comp=Z,260nm,19.2s
BJI LR LR
comp=Z,550nm,22.0s
XAN Xi'an 56.55 317 ⇑P P 04 24 16.8 -0.8
XAN pP pP 04 24 25.3 -5.1
XAN sS sS 04 32 22.0 -5.6
XAN pmax pmax
comp=Z,23nm,1.4s
XAN LR LR
comp=Z,560nm,19.4s
XAN LR LR
comp=Z,580nm,19.4s
XAN LR LR
comp=Z,1µm,20.9s
TIY Taiyuan 56.58 323 ⇓P P 04 24 17.8 0.0
TIY S S 04 32 07.5 +0.9
TIY LR LR
comp=Z,770nm,17.7s
TIY LR LR
comp=Z,350nm,18.6s
TIY LR LR
comp=Z,1µm,22.0s
KMI Kunming 56.65 305 ⇑P P 04 24 19.3 +0.7

KMI pP pP 04 24 28.5 -2.7
KMI sP sP 04 24 34.3 -2.0
KMI PcP **PcP** **04 25 15.0 +0.4**
KMI PP **PP** **04 26 21.8 -3.3**
KMI S **S** **04 32 10.5 +2.3**
KMI LR LR
comp=Z,380nm,19.1s
KMI LR LR
comp=Z,500nm,22.5s
KMI LR LR
comp=Z,670nm,22.9s
CRAI Chiangrai 56.70 299 P **P** **04 24 19.0 +0.2**
CRAI IAmb IAmb 04 24 20.5
comp=Z,27nm,1.0s
CM31 Chiang Mai Arr 57.35 296 P **P** **04 24 23.7 +0.2**
CM31 IAmb IAmb 04 24 26.1
comp=Z,24nm,1.1s
CMAR Chiang Mai Arr 57.35 296 P **P** **04 24 22.4 -1.2**
comp=Z,4.1nm,0.5s,baz=123,slow=5.4,SNR=14
CMAR LR LR 04 48 59.1
comp=Z,354nm,19.3s,baz=110,slow=36
comp=Z,4.1nm,0.5s
CMAR Chiang Mai Arr 57.35 296 P **P** **04 24 22.9 -0.6**
CMAR Chiang Mai Arr 57.35 296 *i* P **P** **04 24 24.3 +0.8**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
KLR Kul'dur 57.36 344 P **P** **04 24 22.0 -0.9**
comp=Z,2.7nm,0.6s,baz=128,slow=3.3,SNR=7.8
KLR LR LR 04 46 05.6
comp=Z,736nm,21.9s,baz=176,slow=33
comp=Z,2.7nm,0.6s
CHTO Chiang Mai 57.47 296 P **P** **04 24 24.3 0.0**
CHTO IAmb IAmb 04 24 25.7
comp=Z,77nm,1.8s
CHTO Chiang Mai 57.47 296 P **P** **04 24 24.3 0.0**
CHTO pmax pmax
comp=Z,77nm,1.8s
PZH PanZhiHua 58.05 306 P **P** **04 24 27.8 -0.6**
PZH sP **sP** **04 24 47.8 +1.7**
PZH S **S** **04 32 28.5 +2.0**
PZH sS **sS** **04 32 46.8 -1.4**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,120nm,4.5s
PZH LR LR
comp=Z,1μm,21.0s
PZH LR LR
comp=Z,1μm,20.0s
PZH LR LR
comp=Z,2μm,20.0s
PPT Papeete 58.41 107 LR LR 04 45 00.1
comp=Z,194nm,21.8s,baz=258,slow=31
PPT2 Papeete2 58.41 107 *eP* **P** **04 24 33.5 +2.5**
comp=Z,112nm,25.2s
PPT2 *eS* **S** **04 32 32.4 +1.1**
comp=Z,153nm,23.5s
PPT2 *eSS* **SS** **04 36 26.5 +2.3**
comp=Z,262nm,26.8s
PPT2 *eLQ* LQ 04 39 15.7
comp=Z,959nm,28.0s
PPT2 *eLR* LR 04 41 42.8
comp=Z,387nm,22.8s
PPT2 *eLR* LR 04 41 43.1
comp=Z,317nm,23.5s
CD2 Chengdu 58.54 311 P **P** **04 24 31.3 -0.3**
CD2 S **S** **04 32 34.0 +1.5**
CD2 sS pS 04 32 50.5 +2.8
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,810nm,20.8s
CD2 LR LR
comp=Z,1μm,20.8s
PET Petropavlovsk 58.70 5 *eP* **P** **04 24 36.7 +4.5**
PET *eS* **S** **04 32 41.4 +7.8**
PET pmax pmax
comp=Z,200nm,13.7s
PET MLR MLR
comp=Z,500nm,15.0s
PET MLR MLR
comp=Z,1μm,17.0s
PETK Petropavlovsk- 58.71 4 P **P** **04 24 31.9 -0.4**
comp=Z,4.7nm,0.9s,baz=170,slow=7.6,SNR=7.9
PETK LR LR 04 46 08.6
comp=Z,648nm,20.5s,baz=188,slow=32
comp=Z,4.7nm,0.9s
PETK Petropavlovsk- 58.71 4 *i*P **P** **04 24 32.0 -0.4**
XLT XiLinHaoTe 58.88 330 ⇑*i*P **P** **04 24 33.3 -0.5**
XLT pP pP 04 24 42.5 -4.1
XLT sP sP 04 24 47.3 -4.5
XLT PcP **PcP** **04 25 22.5 -0.3**
XLT ScP **ScP** **04 29 14.5 -5.5**
XLT PcS **PcS** **04 29 26.0 +1.4**
XLT S **S** **04 32 34.0 -2.6**
XLT sS pS 04 32 53.0 +1.0
XLT ScS **ScS** **04 34 20.5 +0.3**
XLT pmax pmax
comp=Z,36nm,0.9s
XLT pmax pmax
comp=Z,220nm,5.0s
XLT LR LR
comp=Z,700nm,21.3s
XLT LR LR
comp=Z,1μm,23.0s
HHC Hu-ho-hao-te 59.15 325 *eP* P 04 24 40.8 +5.0
HHC S **S** **04 32 45.5 +5.3**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,320nm,7.2s
HHC LR LR
comp=Z,2μm,18.5s
HHC LR LR
comp=Z,1μm,19.0s
HHC LR LR
comp=Z,3μm,17.9s
HEH HeiHe 59.52 342 *eP* **P** **04 24 35.8 -2.2**
HEH pmax pmax
comp=Z,7.0nm,0.8s
BTO Baotou 59.88 324 *eP* **P** **04 24 40.8 0.0**
BTO S **S** **04 32 57.8 +8.2**
BTO SS **SS** **04 36 48.5 +1.8**
BTO LR LR
comp=Z,2μm,20.0s
BTO LR LR
comp=Z,2μm,20.8s
TNCH TengChong 60.09 303 P **P** **04 24 42.8 +0.1**
TNCH pP pP 04 24 53.0 -2.3
TNCH sP sP 04 24 56.3 -4.1
TNCH PP **PP** **04 26 56.5 +0.8**
TNCH S **S** **04 32 59.8 +6.7**
TNCH sS sS 04 33 11.8 -3.0
TNCH pmax pmax
comp=Z,25nm,0.9s
TNCH pmax pmax
comp=Z,240nm,6.2s
TNCH LR LR
comp=Z,630nm,29.2s
TNCH LR LR
comp=Z,640nm,29.2s
TNCH LR LR
comp=Z,430nm,20.4s
MND Mandalay 61.05 299 P **P** **04 24 50.2 +1.2**
comp=Z,6.9nm,0.8s
SHEM Shemya Is, Ala 61.12 15 LR LR 04 46 48.8
comp=Z,970nm,21.4s,baz=189,slow=32
LZH Lanzhou 61.14 317 *eP* **P** **04 24 50.0 +0.4**
LZH pP pP 04 24 58.5 -4.0
LZH sP sP 04 25 02.8 -4.9
LZH SS SS 04 37 05.8 -1.1
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.8s
LZH LR LR
comp=Z,440nm,14.4s
LZH LR LR
comp=Z,570nm,14.9s
LZH LR LR
comp=Z,680nm,17.2s
HIA Hailar 61.38 337 P **P** **04 24 49.3 -1.5**
HIA Hailar 61.38 337 P **P** **04 24 50.3 -0.5**
HIA Hailar 61.38 337 P **P** **04 24 49.3 -1.5**
HIA pmax pmax
comp=Z,12nm,0.9s

ZEA Zeya 62.64 344 *eP* **P** **04 24 58.5 -0.6**
ZEA *e* 04 34 00.7
ZEA pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 64.99 359 P **P** **04 25 12.9 -1.5**
comp=Z,5.4nm,0.6s,baz=158,slow=7.2,SNR=11
MA2 LR LR 04 52 58.9
comp=Z,363nm,19.6s,baz=182,slow=35
comp=Z,5.4nm,0.6s
MA2 Magadan 64.99 359 P **P** **04 25 14.2 -0.2**
MA2 Magadan 64.99 359 P **P** **04 25 15.0 +0.6**
MA2 Magadan 64.99 359 P **P** **04 25 14.2 -0.2**
MA2 pmax pmax
comp=Z,8.0nm,0.7s
BRDH Bariadhala 65.18 298 LR LR 04 52 00.3
comp=Z,268nm,21.6s,baz=108,slow=34
GTA Gaotai 65.60 318 ⇑P **P** **04 25 19.0 0.0**
GTA pP pP 04 25 30.8 -1.2
GTA sP sP 04 25 34.5 -2.6
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=Z,180nm,18.9s
GTA LR LR
comp=Z,500nm,20.0s
GTA LR LR
comp=Z,660nm,21.1s
SHL Shillong 65.89 301 P **P** **04 25 20.6 -0.6**
SHL Shillong 65.89 301 P **P** **04 25 20.6 -0.6**
SHL pmax pmax
comp=Z,75nm,1.4s
ULN Ulaanbaatar 66.18 329 P **P** **04 25 22.5 -0.1**
ULN IAmb IAmb 04 25 23.9
comp=Z,28nm,1.2s
ULN Ulaanbaatar 66.18 329 *ce*P **P** **04 25 22.9 +0.3**
ULN pmax pmax
comp=Z,55nm,2.5s
SONM Songino Array 66.50 328 P **P** **04 25 24.5 -0.1**
comp=Z,11nm,0.6s,baz=141,slow=5.1,SNR=19
SONM LR LR 04 54 49.1
comp=Z,741nm,19.5s,baz=154,slow=36
comp=Z,11nm,0.6s
SONM Songino Array 66.50 328 P **P** **04 25 24.4 -0.1**
SONM IAmb IAmb 04 25 25.9
comp=Z,46nm,1.4s
CASY Casey 66.96 197 P **P** **04 25 29.2 +2.2**
CASY IAmb IAmb 04 25 34.0
comp=Z,33nm,0.9s
TAOE Nuku Hiva Isla 67.48 97 *e*LR LR 04 45 55.5
comp=Z,248nm,22.9s
GOMU GeErMu 67.59 313 P **P** **04 25 31.5 -0.6**
GOMU S **S** **04 34 20.0 -6.3**
GOMU pmax pmax
comp=Z,6.0nm,1.0s
GOMU pmax pmax
comp=Z,79nm,3.7s
GOMU LR LR
comp=Z,330nm,20.7s
GOMU LR LR
comp=Z,560nm,21.6s
GOMU LR LR
comp=Z,860nm,21.6s
LSA Lhasa 67.90 305 P **P** **04 25 34.5 +0.2**
LSA Lhasa 67.90 305 P **P** **04 25 34.5 +0.2**
LSA pmax pmax
comp=Z,11nm,0.8s
SEY Seymchan 68.35 0 P **P** **04 25 35.0 -0.7**
comp=Z,1.6nm,0.5s,baz=190,slow=19,SNR=9.1
SEY LR LR 04 51 08.5
comp=Z,516nm,21.5s,baz=181,slow=32
comp=Z,1.6nm,0.5s
SEY Seymchan 68.35 0 *ce*P **P** **04 25 37.4 +1.6**
SEY pmax pmax
comp=Z,8.0nm,1.7s
YAK Yakutsk 69.58 349 P **P** **04 25 42.1 -1.3**
comp=Z,10nm,0.5s,baz=85,slow=1.4,SNR=1.1
YAK LR LR 04 55 06.7
comp=Z,303nm,20.5s,baz=146,slow=35
comp=Z,10nm,0.5s
YAK Yakutsk 69.58 349 *i*P **P** **04 25 42.2 -1.2**
YAK pmax pmax
comp=Z,18nm,0.6s
ZAK Zakamensk 69.69 329 *eP* **P** **04 25 43.5 -1.0**
ZAK pmax pmax
comp=Z,39nm,1.1s
TAPN Taplejung 70.00 302 *eP* **P** **04 25 46.3 -0.9**
BOD Bodaibo 70.20 340 *eP* **P** **04 25 46.0 -1.4**
BOD pmax pmax
comp=Z,11nm,1.8s
RAMN Ramite 70.83 301 *eP* **P** **04 25 51.0 -1.1**
JIRN Jiri 71.38 301 *eP* **P** **04 25 55.0 -0.6**
MOY Mondy 71.61 329 *eP* **P** **04 25 55.4 -0.8**
MOY pmax pmax
comp=Z,57nm,1.5s
GUN Gumba 71.72 302 *eP* **P** **04 25 56.8 -0.8**
PKI Pulchoki 72.02 301 *eP* **P** **04 25 58.3 -1.1**
PKIN Phulchoki 72.03 301 *eP* **P** **04 25 58.2 -1.2**
comp=Z,3.5nm,0.2s
VNDA Vanda 72.06 178 P **P** **04 25 59.0 +0.7**
comp=Z,3.9nm,1.0s,baz=297,slow=11,SNR=2.6
VNDA LR LR 04 55 59.3
comp=Z,435nm,18.8s,baz=350,slow=34
comp=Z,3.9nm,1.0s
VNDA Vanda 72.06 178 P **P** **04 25 59.0 +0.7**
DMN Daman 72.29 301 *eP* **P** **04 26 00.3 -0.7**
GKN Gorkha 72.80 301 *eP* **P** **04 26 02.9 -1.0**
DANN Dangsing 73.64 302 *eP* **P** **04 26 07.6 -1.4**
BILL Bilibino 74.19 6 P **P** **04 26 11.6 +0.7**
BILL Bilibino 74.19 6 *eP* **P** **04 26 09.6 -1.4**
BILL *e* 04 26 24.2
BILL *e* 04 28 51.8
BILL pmax pmax
comp=Z,16nm,1.3s
R17K Ugashik Creek 75.57 26 P **P** **04 26 19.5 +0.4**
baz=234
WMQ Urumqi 75.69 318 *eP* **P** **04 26 20.3 +0.1**
WMQ pP pP 04 26 33.3 +0.1
WMQ sP sP 04 26 36.5 -1.7
WMQ pmax pmax
comp=Z,26nm,1.5s
WMQ LR LR
comp=Z,320nm,20.3s
WMQ LR LR
comp=Z,240nm,17.3s
WMQ LR LR
comp=Z,260nm,23.1s
HYB Hyderabad 75.85 289 IVmB_BB 04 26 20.7
comp=Z,142nm,1.3s
HYB *eP* **P** **04 26 21.6 0.0**
O16K Kokwok River B 76.04 24 P **P** **04 26 22.0 +0.2**
baz=232
Q17K Contact Creek 76.15 26 P **P** **04 26 23.1 +0.5**
baz=234
O17K Koliganek Bris 76.55 24 P **P** **04 26 25.2 +0.6**
baz=233
OHAK Old Harbor 76.71 27 P **P** **04 26 25.5 -0.1**
baz=237
Q18K Katmai Hardscr 76.75 25 P **P** **04 26 26.6 +0.6**
baz=235
ANM Nome 76.83 18 P **P** **04 26 26.8 +0.6**
ANM Nome 76.83 18 P **P** **04 26 27.2 +1.0**
baz=224
ANM Nome 76.83 18 P **P** **04 26 26.8 +0.6**
ANM pmax pmax
comp=Z,15nm,1.3s
PCHI Peechi 76.84 282 ⇑*e*P **P** **04 26 27.0 -0.3**
P18K Big Mountain, 77.09 25 P **P** **04 26 28.5 +0.7**
baz=235
KDAK Kodiak Island 77.33 27 P **P** **04 26 28.7 -0.4**
comp=Z,18nm,1.0s,baz=333,slow=5.7,SNR=3.4
KDAK LR LR 04 53 50.3
comp=Z,500nm,20.9s,baz=251,slow=30
comp=Z,18nm,1.0s
KDAK Kodiak Island 77.33 27 P **P** **04 26 29.4 +0.4**
KDAK Kodiak Island 77.33 27 P **P** **04 26 29.5 +0.4**
KDAK pmax pmax
comp=Z,207nm,1.8s
P19K Oil Pt 78.08 25 P **P** **04 26 33.8 +0.5**
baz=236
DGZ Jazzator, Alta 78.15 323 ⇑*i*P **P** **04 26 33.2 -0.9**
DGZ pmax pmax
comp=Z,27nm,1.0s
N19K Bonanza Creek 78.22 24 P **P** **04 26 34.5 +0.4**
baz=235

O20K Slope Mountain 78.57 25 P **P** **04 26 36.0 -0.1**
baz=237
TIXI Tiksi 78.57 353 P **P** **04 26 33.6 -2.1**
comp=Z,1.2nm,0.4s,baz=270,slow=9.2,SNR=3.4
TIXI LR LR 05 04 09.1
comp=Z,226nm,18.3s,baz=178,slow=38
comp=Z,1.2nm,0.4s
TIXI Tiksi 78.57 353 P **P** **04 26 35.3 -0.4**
TIXI Tiksi 78.57 353 *ce*P **P** **04 26 36.0 +0.3**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
RSO Redoubt South 78.72 25 P **P** **04 26 36.8 -0.3**
CNPM China Poot 78.86 26 P **P** **04 26 37.8 +0.2**
L19K White Mountain 78.86 23 P **P** **04 26 38.8 +1.3**
baz=234
TTA Tatalina 78.87 22 P **P** **04 26 38.2 +0.6**
TTA Tatalina 78.87 22 P **P** **04 26 38.9 +1.2**
baz=233
TTA Tatalina 78.87 22 P **P** **04 26 38.8 +1.1**
TTA Tatalina 78.87 22 P **P** **04 26 38.3 +0.6**
TTA pmax pmax
comp=Z,28nm,1.4s
BRSE Bradley Lake S 79.19 26 P **P** **04 26 40.5 +1.1**
baz=239
M20K Styx River 79.36 23 IAmb IAmb 04 26 42.0
comp=Z,69nm,1.9s
M20K Styx River 79.36 23 P **P** **04 26 41.4 +1.0**
baz=236
L20K Farewell, AK 79.41 23 P **P** **04 26 41.6 +1.0**
baz=235
CAPN Captain Cook N 79.55 25 P **P** **04 26 42.2 +0.9**
baz=238
K20K Telida 79.84 22 P **P** **04 26 44.2 +1.4**
baz=235
SEW Seward 79.93 26 P **P** **04 26 43.6 +0.2**
baz=240
SKT Skwentna 80.05 24 P **P** **04 26 45.3 +1.3**
baz=238
SUA Susitna One 80.09 24 IAmb IAmb 04 27 06.0
comp=Z,43nm,1.6s
SUA Susitna One 80.09 24 P **P** **04 26 44.6 +0.3**
baz=238
MK31 Makanchi Array 80.30 319 P **P** **04 26 45.1 -0.6**
MK31 Makanchi Array 80.30 319 P **P** **04 26 45.2 -0.6**
MK31 pmax pmax
comp=Z,18nm,1.2s
MKAR Makanchi Array 80.30 319 P **P** **04 26 44.8 -0.9**
comp=Z,9.5nm,0.9s,baz=104,slow=6.1,SNR=63
MKAR LR LR 05 02 29.2
comp=Z,503nm,19.8s,baz=113,slow=36
comp=Z,9.5nm,0.9s
RC01 Rabbit Creek A 80.31 25 IAmb IAmb 04 27 04.7
comp=Z,50nm,1.3s
RC01 Rabbit Creek A 80.31 25 P **P** **04 26 45.9 +0.5**
baz=239
MAKZ Makanchi 80.51 319 P **P** **04 26 46.2 -0.6**
MAKZ IAmb IAmb 04 26 47.5
comp=Z,24nm,1.1s
MAKZ Makanchi 80.51 319 P **P** **04 26 46.2 -0.6**
MAKZ pmax pmax
comp=Z,24nm,1.1s
CHUM Lake Minchumin 80.78 22 P **P** **04 26 49.2 +1.3**
baz=237
PWL Port Wells 80.79 25 P **P** **04 26 48.9 +0.9**
baz=241
PMR Palmer 80.82 25 P **P** **04 26 48.3 +0.2**
baz=240
PMR Palmer 80.82 25 P **P** **04 26 48.5 +0.4**
KNK Knik Glacier 81.01 25 P **P** **04 26 49.8 +0.6**
baz=240
SHLS Shalkode 81.12 315 *eP* **P** **04 26 48.2 -2.1**
baz=315
SHLS Shalkode 81.12 315 *eP* **P** **04 26 48.2 -2.1**
SML Sawmill 81.26 25 IAmb IAmb 04 27 09.5
comp=Z,30nm,1.0s
SML Sawmill 81.26 25 P **P** **04 26 51.3 +0.8**
baz=241
ZAA0 Zalesovo Array 81.29 327 P **P** **04 26 49.2 -1.6**
ZALV Zalesovo Beam 81.29 327 P **P** **04 26 49.1 -1.7**
comp=Z,7.6nm,0.5s,baz=107,slow=5.7,SNR=37
ZALV LR LR 05 02 36.0
comp=Z,555nm,20.1s,baz=114,slow=35
comp=Z,7.6nm,0.5s
TRF Thorofare Moun 81.31 23 P **P** **04 26 50.7 -0.3**
baz=238
BPAW Bear Paw Mtn. 81.39 22 P **P** **04 26 51.5 +0.3**
baz=238
UZB Uzynbulak 81.42 315 *eP* **P** **04 26 51.1 -0.9**
comp=Z,12nm,1.1s,baz=315
UZB Uzynbulak 81.42 315 *eP* **P** **04 26 51.0 -0.9**
UZB pmax pmax
comp=Z,12nm,1.1s
IMAR Indian Mountai 81.47 20 P **P** **04 26 52.5 +1.0**
M23K Glacier View 81.50 25 P **P** **04 26 52.1 +0.3**
baz=241
H21K Melozitna Rive 81.60 20 P **P** **04 26 52.9 +0.7**
baz=236
I21K Tanana 81.62 21 P **P** **04 26 53.4 +1.0**
baz=237
WAT1 Susitna Watana 81.68 24 P **P** **04 26 53.0 +0.3**
baz=240
SCM Sheep Creek Mo 81.69 25 P **P** **04 26 53.7 +0.8**
baz=242
KPKS Kokpek 81.75 315 *eP* **P** **04 26 53.1 -0.5**
baz=315
KPKS Kokpek 81.75 315 *eP* **P** **04 26 53.1 -0.5**
SATY Saty 81.83 315 *eP* **P** **04 26 53.8 -0.3**
baz=315
SATY Saty 81.83 315 *eP* **P** **04 26 53.8 -0.3**
G21K Allakaket 81.86 19 P **P** **04 26 54.7 +1.1**
baz=235
WAT6 Susitna Watana 81.88 24 P **P** **04 26 54.1 +0.2**
baz=241
TARG Taragay, Kyrgy 81.92 313 P **P** **04 26 54.8 -0.2**
TARG Taragay, Kyrgy 81.92 313 P **P** **04 26 54.8 -0.2**
TARG pmax pmax
comp=Z,11nm,1.1s
MCK McKinley 81.98 23 IAmb IAmb 04 27 08.1
comp=Z,33nm,1.2s
MCK McKinley 81.98 23 P **P** **04 26 54.2 -0.1**
baz=240
MLY Manley 81.98 21 IAmb IAmb 04 27 00.1
comp=Z,11nm,0.6s
MLY Manley 81.98 21 P **P** **04 26 54.3 0.0**
baz=238,SNR=14
KLU Klutina 82.12 25 P **P** **04 26 55.5 +0.3**
baz=243
H22K Ishtalitna Cre 82.22 20 P **P** **04 26 55.9 +0.4**
baz=237
DHY Denali Highway 82.27 24 P **P** **04 26 55.9 -0.1**
baz=241
F21K Alatna River 82.27 19 P **P** **04 26 55.9 +0.2**
baz=235
M24K Tolsona, Glenn 82.30 25 P **P** **04 26 56.3 +0.2**
baz=242
NEA2 Nenana 82.37 22 P **P** **04 26 56.8 +0.5**
baz=240
I23K Minto, Yukon-K 82.54 21 IAmb IAmb 04 27 18.5
comp=Z,27nm,1.6s
I23K Minto, Yukon-K 82.54 21 P **P** **04 26 57.5 +0.3**
baz=239
KSH Kashi 82.73 311 P **P** **04 27 00.3 +1.4**
KSH sP sP 04 27 15.0 -2.0
KSH pmax pmax
comp=Z,9.0nm,1.2s
N25K Chitina, Valde 82.74 26 P **P** **04 26 58.4 +0.1**
baz=244
MDOK Medeo 82.82 315 *eP* **P** **04 26 58.9 -0.4**
baz=315
MDOK Medeo 82.82 315 P **P** **04 26 59.0 -0.4**
HARP HAARP 82.85 25 P **P** **04 26 59.3 +0.4**
baz=243
MDM Murphy Dome 82.86 22 IAmb IAmb 04 27 00.5
comp=Z,35nm,1.9s
TNSS Tian-Shan 82.86 314 *eP* **P** **04 26 58.7 -1.1**
baz=314
TNSS Tian-Shan 82.86 314 *eP* **P** **04 26 58.6 -1.2**
CCB Clear Creek Bu 82.86 22 IAmb IAmb 04 27 15.7
comp=Z,58nm,2.0s
TCOL CIGO, UAF Yank 82.95 22 IAmb IAmb 04 27 15.7
comp=Z,16nm,0.8s
TCOL CIGO, UAF Yank 82.95 22 P **P** **04 26 59.2 0.0**
baz=241
COLA College 82.96 22 P **P** **04 26 59.1 -0.2**
COLA IAmb IAmb 04 27 15.7
comp=Z,16nm,0.8s
COLA College 82.96 22 P **P** **04 26 59.0 -0.2**

baz=241
COLA College 82.96 22 P P 04 26 59.4 +0.1
COLA College 82.96 22 P P 04 26 59.1 -0.2
COLA pmax pmax
comp=Z,16nm,0.9s
PAX Paxson 82.98 24 P P 04 26 59.8 +0.2
baz=243
HDA Harding Lake 83.07 23 IAmb IAmb 04 27 17.4
comp=Z,38nm,1.6s
HDA Harding Lake 83.07 23 P P 04 27 00.4 +0.5
baz=242
G23K Bananza Creek 83.12 20 P P 04 27 01.0 +0.8
baz=238
POKR Poker Plat Res 83.23 22 P P 04 27 00.8 0.0
baz=241
ILAR Eielson Array 83.27 22 P P 04 26 59.4 -1.6
comp=Z,5.1nm,0.7s,baz=247,slow=5.0,SNR=51
ILAR LR LR 05 02 19.2
comp=Z,635nm,19.2s,baz=253,slow=34
comp=Z,5.1nm,0.7s
MCARA McCarthy VSAT 83.33 26 P P 04 27 02.0 +0.7
baz=245
COLD Coldfoot 83.34 19 P P 04 27 03.2 +1.9
baz=238,SNR=6.0
H24K Noodor Dome 83.42 21 P P 04 27 02.6 +0.8
baz=240
KUU Kurty 83.50 315 eP P 04 27 02.0 -0.6
comp=Z,27nm,0.9s,baz=315
KUU Kurty 83.50 315 eP P 04 27 02.0 -0.6
KUU pmax pmax
comp=Z,27nm,0.9s
RIDG Independent Ri 83.58 24 P P 04 27 03.3 +0.7
baz=244
NIL Nilore 83.64 305 P P 04 27 02.8 -0.8
NIL IAmb IAmb 04 27 04.0
comp=Z,26nm,0.9s
NIL Nilore 83.64 305 P P 04 27 02.8 -0.8
NIL pmax pmax
comp=Z,26nm,1.0s
MENT Mentasta 83.69 25 P P 04 27 04.0 +0.8
M26K Nabesna, AK 83.76 25 P P 04 27 04.4 +0.8
baz=245
TKM2 Tokmak 2 83.80 314 P P 04 27 04.2 -0.3
SNR=15
TKM2 Tokmak 2 83.80 314 iP P 04 27 03.4 -1.0
TKM2 pmax pmax
comp=Z,20nm,1.1s
KURK Kurchatov 83.81 322 P P 04 27 02.9 -1.1
KURK Kurchatov 83.81 322 P P 04 27 02.9 -1.1
KURK pmax pmax
comp=Z,41nm,1.2s
KURBB Kurchatov Arra 83.84 322 P P 04 27 02.5 -1.7
comp=Z,19nm,1.1s,baz=113,slow=4.0,SNR=58
KURBB LR LR 05 05 02.5
comp=Z,503nm,19.2s,baz=171,slow=36
comp=Z,19nm,1.1s
DOT Dot Lake 83.86 24 IAmb IAmb 04 27 23.5
comp=Z,22nm,1.1s
L26K Log Cabin Wild 83.88 25 P P 04 27 04.6 +0.5
baz=245
E23K Chandalar 83.97 19 P P 04 27 04.5 0.0
baz=239,SNR=7.6
G24K Hadweenzic Riv 83.99 20 P P 04 27 05.3 +0.7
baz=241,SNR=6.0
SCRK Sand Creek 84.03 24 P P 04 27 04.8 -0.2
baz=244
D23K Nanushuk River 84.11 18 P P 04 27 06.3 +1.1
baz=238
PRP Porcupine Dome 84.13 22 P P 04 27 06.5 +0.9
baz=243
M27K Edge Creek, AK 84.22 25 IAmb IAmb 04 27 25.7
comp=Z,26nm,1.1s
M27K Edge Creek, AK 84.22 25 P P 04 27 07.2 +1.2
baz=246
F24K Squaw Lake 84.26 20 P P 04 27 07.1 +1.1
baz=240
TOLK Toolik Lake Re 84.28 18 IAmb IAmb 04 27 28.5
comp=Z,28nm,1.6s
TOLK Toolik Lake Re 84.28 18 P P 04 27 06.6 +0.4
baz=239
E24K Your Creek 84.34 19 P P 04 27 07.1 +0.6
baz=240
O28M Mount Upton 84.35 27 P P 04 27 07.7 +0.8
baz=248
QSPA South Pole Qui 84.35 180 P P 04 27 07.4 +0.8
comp=Z,7.3nm,0.7s,baz=327,slow=2.8,SNR=10
comp=Z,7.3nm,0.7s
QSPA South Pole Qui 84.35 180 P P 04 27 07.5 +0.8
QSPA IAmb IAmb 04 27 17.0
comp=Z,16nm,1.0s
CHMS Chumysh 84.42 314 P P 04 27 06.6 -0.8
SNR=12
CHMS Chumysh 84.42 314 iP P 04 27 06.3 -1.1
CHMS pmax pmax
comp=Z,37nm,1.1s
UCH Uchtor 84.42 313 P P 04 27 08.3 +0.4
SNR=22
J26L Joseph Creek 84.42 23 IAmb IAmb 04 27 17.3
comp=Z,28nm,1.7s
J26L Joseph Creek 84.42 23 P P 04 27 08.0 +1.1
baz=245
MAW Mawson 84.45 203 LR LR 05 01 38.7
comp=Z,482nm,21.8s,baz=86,slow=33
G25K Bearman Lake 84.50 21 P P 04 27 08.0 +0.8
baz=242
AAK Ala-Archa 84.52 314 P P 04 27 08.1 0.0
SNR=13
AAK Ala-Archa 84.52 314 LR LR 05 05 04.7
comp=Z,350nm,20.2s,baz=100,slow=36
AAK Ala-Archa 84.52 314 P P 04 27 08.0 0.0
AAK IAmb IAmb 04 27 09.3
comp=Z,17nm,0.9s
AAK Ala-Archa 84.52 314 ceP P 04 27 08.2 +0.1
AAK pmax pmax
comp=Z,35nm,1.7s
L27K Beaver Creek, 84.53 25 P P 04 27 08.1 +0.6
baz=246
BCAR Beaver Creek A 84.54 25 P P 04 27 08.4 +0.8
SGDS Sogindy 84.61 314 eP P 04 27 07.6 -0.8
baz=314
SGDS Sogindy 84.61 314 eP P 04 27 07.5 -0.8
YUK3 Moose Creek 84.61 26 P P 04 27 08.4 +0.3
baz=248
USP Ospenovka 84.66 314 P P 04 27 08.4 -0.1
SNR=27
FYU Fort Yukon 84.72 21 IAmb IAmb 04 27 25.3
comp=Z,60nm,2.0s
YUK8 Steele Glacier 84.73 27 P P 04 27 09.1 +0.3
baz=248
O29M Mount Kennedy 84.92 28 P P 04 27 10.0 +0.4
baz=250
I26K Coal Creek Min 84.93 22 P P 04 27 10.1 +0.8
baz=245
AML Almayashu 84.99 313 P P 04 27 10.9 +0.2
SNR=60
EKS2 Erkin-Say 85.04 314 P P 04 27 10.8 +0.2
SNR=24
F25K Christian Rive 85.05 20 P P 04 27 10.5 +0.5
baz=242
C24K Franklin Bluff 85.11 18 P P 04 27 10.8 +0.6
baz=239
YUK6 Outpost Mounta 85.24 27 P P 04 27 13.0 +1.7
baz=250
YUK4 Talbot Arm 85.26 27 P P 04 27 12.9 +1.5
baz=249
S31K Pelican 85.28 31 P P 04 27 12.5 +1.3
baz=252
E25K Arctic Village 85.32 20 P P 04 27 12.8 +1.5
baz=242,SNR=6.0
BTLS Baital 85.37 316 eP P 04 27 11.6 -0.5
comp=Z,20nm,0.9s,baz=316
BTLS Baital 85.37 316 eP P 04 27 11.5 -0.5
BTLS pmax pmax
comp=Z,20nm,0.9s
G26K Porcupine Rive 85.40 21 P P 04 27 13.6 +1.9
baz=244
SIT Sitka 85.47 32 P P 04 27 13.5 +1.4
baz=253
EGAK Eagle 85.48 23 IAmb IAmb 04 27 30.9
comp=Z,64nm,1.9s
EGAK Eagle 85.48 23 P P 04 27 13.9 +1.7
baz=247
HYT Haines Junctio 85.60 28 IAmb IAmb 04 27 15.7
comp=Z,18nm,0.8s
HYT Haines Junctio 85.60 28 P P 04 27 14.5 +1.6
baz=250
F26K Sheenjek River 85.61 20 P P 04 27 14.7 +2.0
baz=244
P30M Million Dollar 85.62 28 P P 04 27 14.6 +1.6
baz=251
I27K Kandik River 85.64 22 P P 04 27 15.0 +2.0
baz=246
M29M Somme Creek 85.73 26 P P 04 27 14.9 +1.4
baz=249
DAWY Dawson 85.92 24 P P 04 27 15.8 +1.4
baz=248
H27K Steamboat Moun 85.92 22 P P 04 27 15.7 +1.3
baz=246,SNR=11
L29M L29M 86.10 25 P P 04 27 16.3 +1.0
baz=250
G27K Doyon Strip 86.11 21 P P 04 27 16.6 +1.4
baz=246
O30N Mendenhall 86.23 28 P P 04 27 17.3 +1.3
baz=252
C26K Camden Bay 86.36 18 P P 04 27 17.6 +1.3
baz=243
NRIK Noril'sk 86.42 341 P P 04 27 14.8 -1.9
comp=Z,4.2nm,0.6s,baz=98,slow=5.8,SNR=7.6
NRIK LR LR 05 07 48.3
comp=Z,347nm,18.3s,baz=119,slow=37
comp=Z,4.2nm,0.6s
NRIK Noril'sk 86.42 341 IAmb IAmb 04 27 35.5
comp=Z,45nm,1.9s
NRIK Noril'sk 86.42 341 ceP P 04 27 15.4 -1.3
NRIK pmax pmax
comp=Z,22nm,1.6s
M30M Minto, Yukon 86.50 26 IAmb IAmb 04 27 19.7
comp=Z,40nm,1.6s
M30M Minto, Yukon 86.50 26 P P 04 27 18.3 +1.0
baz=251
J29M Klondike Camp 86.54 24 P P 04 27 18.6 +1.1
baz=250
C27K Jago River 86.60 18 P P 04 27 18.8 +1.2
baz=244
N31M Braeburn, Yuko 86.60 27 P P 04 27 18.8 +1.0
baz=252
K29M Barlow Dome 86.61 25 P P 04 27 19.2 +1.3
baz=250
T33K Petersburg 86.65 32 P P 04 27 19.5 +1.5
baz=255
E27K Coleen River 86.69 20 P P 04 27 19.4 +1.4
baz=246
WHY Whitehorse 86.77 28 P P 04 27 19.7 +1.0
baz=253
I29M Ogilvie Camp, 86.82 23 IAmb IAmb 04 27 38.4
comp=Z,15nm,0.8s
I29M Ogilvie Camp, 86.82 23 P P 04 27 20.0 +1.2
baz=249
DZA Taraz 86.86 313 eP P 04 27 18.8 -0.7
comp=Z,16nm,0.7s,baz=313
DZA Taraz 86.86 313 eP P 04 27 18.7 -0.7
DZA pmax pmax
comp=Z,16nm,0.7s
WRAK Wrangell Islan 86.86 33 P P 04 27 19.9 +0.8
baz=255
V35K Ketchikan 86.99 34 P P 04 27 20.7 +1.0
baz=256
P32M Atlin 87.02 29 P P 04 27 20.5 +0.7
baz=254
OTUK Ortayu 87.19 319 P P 04 27 19.3 -1.6
KBL Kabul 87.23 305 P P 04 27 20.7 -1.0
KBL Kabul 87.23 305 P P 04 27 20.7 -1.0
KBL pmax pmax
comp=Z,3.0nm,0.8s
M31M Drury Creek, Y 87.45 27 P P 04 27 22.7 +0.8
baz=253
KK31 Karatay Array 87.48 314 IAmb IAmb 04 27 23.2
comp=Z,30nm,1.4s
KK31 Karatay Array 87.48 314 iP P 04 27 21.3 -1.2
KKAR Karatay Array 87.48 314 IAmb IAmb 04 27 23.2
comp=Z,30nm,1.4s
Q32M Nakina River 87.56 30 P P 04 27 23.2 +0.5
baz=255
P33M Teslin, Yukon 87.62 29 P P 04 27 23.6 +0.8
baz=255
IUG luzhnay 87.67 313 eP P 04 27 22.8 -0.8
baz=312
IUG luzhnay 87.67 313 eP P 04 27 22.7 -0.8
N32M Quiet Lake 87.75 28 P P 04 27 24.3 +0.9
baz=254
S34M Telegraph Cree 87.88 31 P P 04 27 24.6 +0.6
baz=256
FARO Faro, Yukon 87.92 27 P P 04 27 24.9 +0.7
baz=254
T35M Bob Quinn 88.12 32 P P 04 27 25.7 +0.4
baz=257
G30M tAoh Zraii Nji 88.17 22 P P 04 27 25.9 +0.7
baz=251
BBB Bella Bella 88.32 37 LR LR 05 01 53.0
comp=Z,387nm,19.8s,baz=286,slow=32
DLBC Dease Lake 88.57 31 LR LR 05 00 48.0
comp=Z,1µm,20.7s,baz=274,slow=31
DLBC Dease Lake 88.57 31 P P 04 27 28.1 +0.7
baz=257
F31M Tsiigehtchic 89.23 22 P P 04 27 30.2 +0.1
baz=254,SNR=7.2
BVA0 Borovoye Array 89.31 323 iP P 04 27 28.8 -2.1
BVAR Borovoye Array 89.31 323 P P 04 27 29.4 -1.5
comp=Z,16nm,0.8s,baz=103,slow=5.3,SNR=56
BVAR LR LR 05 10 11.8
comp=Z,328nm,18.1s,baz=83,slow=37
comp=Z,16nm,0.8s
BRVK Borovoye 89.38 323 P P 04 27 30.0 -1.2
BRVK IAmb IAmb 04 27 31.3
comp=Z,19nm,1.0s
BRVK Borovoye 89.38 323 P P 04 27 30.0 -1.2
BRVK pmax pmax
comp=Z,19nm,1.0s
KHMM Horse Mountain 89.44 49 IAmb IAmb 04 27 36.5
comp=Z,14nm,1.0s
WTLY Watson Lake, Y 89.55 29 IAmb IAmb 04 27 33.7
comp=Z,32nm,1.3s
WTLY Watson Lake, Y 89.55 29 P P 04 27 32.5 +0.6
baz=258
INK Inuvik 89.55 21 P P 04 27 31.1 -0.5
comp=Z,6.5nm,1.0s,baz=310,slow=4.2,SNR=14
INK LR LR 05 07 57.1
comp=Z,264nm,18.1s,baz=274,slow=36
comp=Z,6.5nm,1.0s
INK Inuk 89.55 21 IAmb IAmb 04 27 32.8
comp=Z,22nm,1.4s
INK Inuvik 89.55 21 P P 04 27 32.5 +0.8
baz=254,SNR=6.7
DBO Dodson Butte 90.10 47 IAmb IAmb 04 27 37.3
comp=Z,22nm,1.1s
NLWA Neilton Lookou 90.24 43 IAmb IAmb 04 27 37.8
comp=Z,18nm,1.1s
YBH Yreka Blue Hor 90.31 48 LR LR 05 00 52.0
comp=Z,554nm,21.5s,baz=286,slow=31
BUCK Buck Mountain 90.42 46 P P 04 27 37.4 +1.0
LIRD Liard River Hi 90.76 30 P P 04 27 37.8 +0.3
baz=260
ORV Oroville 90.97 51 P P 04 27 39.4 +0.5
ORV IAmb IAmb 04 27 41.2
comp=Z,16nm,1.2s
ORV Oroville 90.97 51 P P 04 27 39.4 +0.5
ORV pmax pmax
comp=Z,16nm,1.3s
H04A Detroit Lake 91.05 45 P P 04 27 39.6 +0.3
D05A Enumclaw 91.48 43 P P 04 27 41.3 +0.2
D05A IAmb IAmb 04 27 42.9
comp=Z,21nm,1.0s
CMB Columbia Colle 91.67 52 IAmb IAmb 04 27 44.7
comp=Z,22nm,1.4s
KOTAN Kotaneelee Air 91.89 30 P P 04 27 43.4 +0.7
baz=262
LLLB Lillooet 91.94 40 IAmb IAmb 04 27 45.1
comp=Z,9.3nm,0.9s
MOD Modoc Plateau 92.12 48 P P 04 27 44.5 +0.1
G06A Carlson Farm, 92.21 45 IAmb IAmb 04 27 46.5
comp=Z,33nm,1.7s
LTY Liberty 92.38 43 IAmb IAmb 04 27 46.4
comp=Z,9.0nm,1.0s
VES Vestal, Richgr 92.51 54 P P 04 27 45.9 -0.2
baz=265
ARVC Arvin 92.65 55 P P 04 27 48.5 +1.7
baz=265
MDPB Devils Postpil 92.67 53 IAmb IAmb 04 27 50.5
comp=Z,18nm,1.2s
CIS Catalina Islan 92.85 57 P P 04 27 48.3 +0.5
baz=265
ISA Isabella, Lake 92.99 55 IAmb IAmb 04 27 50.9
comp=Z,20nm,1.5s
ISA Isabella, Lake 92.99 55 P P 04 27 48.8 +0.3
baz=265
HAWA Hanford 93.08 44 IAmb IAmb 04 27 50.7
comp=Z,20nm,1.1s
A36M Sachs Harbour 93.11 18 IAmb IAmb 04 27 48.9
comp=Z,12nm,0.7s
A36M Sachs Harbour 93.11 18 P P 04 27 48.7 +0.7
baz=262
C36M Paulatuk 93.13 21 P P 04 27 48.9 +0.8
C36M IAmb IAmb 04 27 49.5
comp=Z,9.6nm,0.9s
C36M Paulatuk 93.13 21 P P 04 27 48.6 +0.4
baz=263
RYN Ryan 93.19 52 IAmb IAmb 04 27 52.0
comp=Z,23nm,1.3s
EDW2 Edwards Air Fo 93.31 55 P P 04 27 50.8 +0.9
baz=266
NVAR Mina Array Bea 93.34 52 P P 04 27 50.6 +0.4
comp=Z,7.9nm,0.9s,baz=257,slow=6.5,SNR=46
comp=Z,7.9nm,0.9s
CWC Cottonwood Cre 93.37 54 P P 04 27 51.1 +0.8
baz=266
B08A Colville Reser 93.38 42 IAmb IAmb 04 27 51.4
comp=Z,24nm,1.4s
NV11 Mina Array Sit 93.46 52 P P 04 27 51.2 +0.5
DSP Deep Springs 93.53 53 IAmb IAmb 04 27 53.8
comp=Z,28nm,1.3s
BFSC Mount Baldy Ra 93.54 56 P P 04 27 51.9 +0.7
baz=266
KVN Kaiserville 93.55 51 IAmb IAmb 04 27 53.6
comp=Z,25nm,1.3s
D08A Wollman Farm, 93.55 43 IAmb IAmb 04 27 52.8
comp=Z,27nm,1.3s
J08A Circle Bar Ran 93.59 47 IAmb IAmb 04 27 53.3
comp=Z,20nm,1.0s
LRMC Laurel Mtn Rad 93.61 55 P P 04 27 52.8 +1.3
baz=266,SNR=6.3
LCH Last Change Ra 93.77 53 IAmb IAmb 04 27 54.6
comp=Z,20nm,1.7s
MPMC Manual Prospec 93.81 54 P P 04 27 53.6 +1.2
baz=266,SNR=8.6
MURC Murrieta 93.88 57 P P 04 27 53.6 +1.1
baz=266
109C Camp Elliot, M 93.90 57 P P 04 27 54.6 +2.0
baz=266
MZP Montezuma Peak 94.01 53 IAmb IAmb 04 27 55.9
comp=Z,22nm,1.4s
C09A Chrisman Ranch 94.04 43 IAmb IAmb 04 27 54.6
comp=Z,18nm,1.2s
E09A Wood Farm, Sta 94.05 44 P P 04 27 53.4 +0.5
GSC Goldstone, Bar 94.32 55 IAmb IAmb 04 27 57.5
comp=Z,26nm,1.6s
GSC Goldstone, Bar 94.32 55 P P 04 27 55.9 +1.3
baz=266,SNR=5.1
FURC Furnace Creek, 94.35 54 P P 04 27 56.1 +1.6
baz=266,SNR=5.5
MONP2 Monument Peak 94.48 58 P P 04 27 58.3 +2.7
baz=266
GWY Greenwater Val 94.48 54 IAmb IAmb 04 27 59.7
comp=Z,13nm,1.3s
PFO Pinyon Flats O 94.49 57 LR LR 05 02 17.5
comp=Z,418nm,21.9s,baz=264,slow=30
PFO Pinyon Flats O 94.49 57 P P 04 27 57.2 +1.7
baz=266
TPFO Pinon Flats 94.50 57 P P 04 27 57.0 +1.5
baz=266
F10A Beach Ranch, E 94.65 44 IAmb IAmb 04 27 57.5
comp=Z,17nm,1.0s
HEC Hector,Ludlow 94.67 56 P P 04 27 58.1 +1.9
baz=266
IKP In-Ko-Pah, Jac 94.72 58 P P 04 27 56.7 +0.2
baz=266
SHOC Shoshone, Teco 94.79 55 P P 04 27 58.3 +1.7
baz=267
NEW Newport 94.84 42 LR LR 05 07 08.1
comp=Z,64nm,18.6s,baz=272,slow=33
NEW Newport 94.84 42 IAmb IAmb 04 27 58.3
comp=Z,25nm,1.2s
NEW Newport 94.84 42 P P 04 27 57.7 +1.1
baz=267
TPNV Topopah Spring 94.87 53 IAmb IAmb 04 27 59.9
comp=Z,24nm,1.3s
TPNV Topopah Spring 94.87 53 P P 04 27 58.6 +1.4
baz=267,SNR=11
SWSC Sam W. Stewart 95.00 57 P P 04 27 59.2 +1.5
baz=267
TUQ Turquoise Moun 95.04 55 P P 04 27 59.8 +1.9
baz=267
WSAR Wadi Sarin 95.12 293 LR LR 05 11 53.3
comp=Z,59nm,21.4s,baz=112,slow=36
GMRC Granite Mounta 95.22 56 P P 04 28 00.5 +1.7
baz=267
RPN Rapa Nui 95.29 118 LR LR 05 03 04.0
comp=Z,17nm,21.9s,baz=254,slow=30
AB31 Akbulak array 95.44 319 iP P 04 27 57.1 -2.2
ABKAR Akbulak array 95.44 319 P P 04 27 57.2 -2.1
PLID Pearl Lake 95.47 45 IAmb IAmb 04 28 01.0
comp=Z,11nm,1.1s
R11A Troy Canyon, C 95.47 52 IAmb IAmb 04 28 02.5
comp=Z,16nm,1.4s
R11A Troy Canyon, C 95.47 52 P P 04 28 01.6 +1.6
baz=267,SNR=11
IRM Iron Mountain 95.61 56 P P 04 28 02.6 +2.2
baz=267
SHPR Sheep Range 95.72 54 IAmb IAmb 04 28 04.3
comp=Z,18nm,1.5s
ELIB Princess Elisa 95.78 194 dP P 04 28 00.5 -0.1
ELK Elko 95.84 50 LR LR 05 05 33.1
comp=Z,628nm,20.2s,baz=284,slow=32
ELK Elko 95.84 50 IAmb IAmb 04 28 05.3
comp=Z,17nm,1.5s
GEYT Alibeck 96.34 307 LR LR 05 14 09.4
comp=Z,364nm,20.1s,baz=95,slow=37
ARU Arti 96.45 326 LR LR 05 11 05.7
comp=Z,1µm,21.6s,baz=92,slow=35
ARU Arti 96.45 326c iP P 04 28 01.5 -2.2
ARU 04 31 54.8
ARU S SKSac 04 38 35.2 -1.5
ARU SS SS 04 45 46.3 -8.3
ARU pmax pmax
comp=Z,12nm,1.1s
HLID Hailey 96.55 47 P P 04 28 04.6 -0.1
HLID IAmb IAmb 04 28 07.9
comp=Z,25nm,1.8s
HLID Hailey 96.55 47 P P 04 28 05.9 +1.1
baz=268
YKA Yellowknife Ar 96.59 28 P P 04 28 04.0 -0.1
comp=Z,1.5nm,0.7s,baz=265,slow=4.7,SNR=21
YKA PKKPbc PKKPbc 04 44 47.8 -2.7
comp=Z,0.2nm,0.7s,baz=82,slow=3.0,SNR=5.3
comp=Z,1.5nm,0.7s
W13A Hualapai Mount 96.69 55 IAmb IAmb 04 28 08.8
comp=Z,14nm,1.3s
AKTO Aktyubinsk 96.72 320 LR LR 05 12 50.3
comp=Z,563nm,19.0s,baz=36,slow=36
MSO Missoula 96.95 44 P P 04 28 07.7 +1.3
baz=269
CCUT Cedar City 97.19 53 IAmb IAmb 04 28 11.0
comp=Z,6.7nm,1.1s
LCMT Little Creek M 97.28 54 IAmb IAmb 04 28 11.2
comp=Z,15nm,1.4s
EDM Edmonton 97.35 37 P P 04 28 07.9 0.0
EDM Edmonton 97.35 37 P P 04 28 07.9 0.0
EDM pmax pmax
comp=Z,34nm,0.9s
214A Organ Pipe Nat 97.48 59 P Pdif 04 28 10.8 +1.7
baz=268
DUG Dugway, Tooele 97.68 50 P Pdif 04 28 10.2 +0.3
baz=269
HVU Hansel Valley 97.73 49 IAmb IAmb 04 28 13.2
comp=Z,9.0nm,1.0s
MTPU Mount Pierson 98.14 52 IAmb IAmb 04 28 15.8
comp=Z,7.6nm,1.1s
BOZ Bozeman (W) 98.56 45 P Pdif 04 28 14.1 +0.4
baz=271,SNR=6.8
WUAZ Wupatki 98.76 55 P Pdif 04 28 15.5 +0.7
TMUT Trail Mountain 98.91 51 IAmb IAmb 04 28 18.0
comp=Z,7.9nm,1.0s
AHID Auburn Hatcher 98.97 48 IAmb IAmb 04 28 17.4
comp=Z,9.1nm,1.1s
FXWY Fox Creek 99.01 47 IAmb IAmb 04 28 17.9
comp=Z,5.8nm,1.1s
YMR Madison River 99.04 46 IAmb IAmb 04 28 18.6
comp=Z,9.4nm,1.1s
TPAW Teton Pass 99.07 47 IAmb IAmb 04 28 17.2
comp=Z,6.1nm,1.1s
IMW Indian Meadow 99.07 47 IAmb IAmb 04 28 18.3
comp=Z,11nm,1.4s
REDW Red Top Meadow 99.14 47 IAmb IAmb 04 28 18.4
comp=Z,18nm,1.6s
H17A Grant Village 99.32 46 P Pdif 04 28 18.1 +0.8

H17A					IAmb	IAmb	04 28 22.5		
	comp=Z,8.8nm,1.2s								
H17A	**Grant Village**	**99.32**	**46**	P		**Pdif**	**04 28 18.9**	**+1.6**	
	baz=271								
LPIG	**La Paz**	**99.43**	**67**	LR		LR	05 06 31.6		
	comp=Z,404nm,19.9s,baz=242,slow=31								
EGMT	**Eagleton**	**99.78**	**42**	P		**Pdif**	**04 28 19.7**	**+0.8**	
	baz=272								
BW06	**Boulder Array**	**100.11**	**48**	P		**Pdif**	**04 28 21.3**	**+0.6**	
	baz=272,SNR=6.7								
PDAR	**Pinedale Array**	**100.11**	**48**	P		**Pdif**	**04 28 20.7**	**-0.1**	
	comp=Z,5.5nm,1.0s,baz=236,slow=2.8,SNR=25								
RLMT	**Red Lodge**	**100.23**	**45**	P		**Pdif**	**04 28 22.2**	**+1.0**	
	baz=272								
O20A	**White River Ci**	**101.18**	**50**	P		**Pdif**	**04 28 26.2**	**+0.6**	
	baz=272								
RES	**Resolute Bay**	**101.43**	**14**	P		**Pdif**	**04 28 26.1**	**+0.5**	
	comp=Z,2.4nm,1.0s,baz=307,slow=6.3,SNR=5.6								
121A	**Cookes Peak, D**	**101.74**	**58**	P		**Pdif**	**04 28 28.8**	**+0.6**	
	baz=271								
LAO	**LASA Array**	**102.26**	**44**	P		**Pdif**	**04 28 31.0**	**+1.0**	
	baz=275								
K22A	**Casper**	**102.34**	**48**	P		**Pdif**	**04 28 31.3**	**+0.7**	
	baz=274								
S22A	**4UR Ranch, Cre**	**102.38**	**53**	P		**Pdif**	**04 28 32.6**	**+1.5**	
	baz=272								
ANMO	**Albuquerque**	**102.79**	**56**	P		**Pdif**	**04 28 34.1**	**+1.3**	
	baz=272								
N23A	**Red Feather La**	**102.89**	**49**	P		**Pdif**	**04 28 34.0**	**+0.7**	
	baz=274								
ISCO	**Idaho Springs**	**103.22**	**51**	P		**Pdif**	**04 28 35.2**	**+0.4**	
	baz=274								
DGMT	**Dagmar**	**103.44**	**42**	P		**Pdif**	**04 28 36.2**	**+1.0**	
	baz=277								
RSSD	**Black Hills**	**104.03**	**46**	P		**Pdif**	**04 28 38.4**	**+0.3**	
	baz=276								
FINES	**FINESS Array B**	**111.38**	**335**	Pdiff		**Pdif**	**04 29 08.7**	**-1.4**	
	comp=Z,2.4nm,1.0s,baz=26,slow=4.9,SNR=4.2								
FINES				PKiKP		**PKiKP**	**04 33 07.5**	**-0.7**	
	comp=Z,2.4nm,0.8s,baz=152,slow=8.4,SNR=5.2								
MNK	**Minsk**	**113.77**	**328**	*i* P		**Pdif**	**04 29 20.0**	**-1.0**	
	comp=E,5.0nm,1.3s								
MNK				*i* P		**Pdif**	**04 29 20.0**	**-1.0**	
	comp=N,47nm,0.8s								
MNK				*i* P		**Pdif**	**04 29 20.0**	**-1.0**	
	comp=Z,7.0nm,1.1s,baz=244								
MNK				*i* PP		**PP**	**04 34 02.1**	**-4.0**	
MNK				*i* PPP		PPP	04 36 26.1		
MNK				*i* SKS		**SKSdf**	**04 40 19.2**	**-2.3**	
MNK				*i* SS		**SS**	**04 49 48.9**	**-2.2**	
MNK				*i* SSS		SSS	04 54 02.6		
MNK				*i* LR		LR	05 18 23.2		
MNK				*i* LRM		MLR	05 21 12.7		
	comp=N,307nm,18.7s								
MNK				*i* LRM		MLR	05 21 26.4		
	comp=E,65nm,20.6s								
MNK				*i* LRM		MLR	05 21 26.4		
	comp=Z,537nm,20.6s								
MNK	**Minsk**	**113.77**	**328**	*i* P		**Pdif**	**04 29 19.9**	**-1.0**	
MNK				*i*			04 34 02.0		
MNK				*i* PPP		PPP	04 36 26.0		
MNK				*i*			04 40 19.1		
MNK				*i* SS		SS	04 49 48.8	-2.2	
MNK				*i* SSS		SSS	04 54 02.6		
MNK					pmax	pmax			
	comp=N,47nm,0.8s								
MNK					pmax	pmax			
	comp=Z,7.0nm,1.1s								
MNK					pmax	pmax			
	comp=E,5.0nm,1.3s								
MNK					MLR	MLR			
	comp=N,307nm,19.0s								
MNK					MLR	MLR			
	comp=E,65nm,21.0s								
MNK					MLR	MLR			
	comp=Z,537nm,21.0s								
CCM	**Cathedral Cave**	**114.55**	**51**	P		**PKiKP**	**04 33 15.4**	**+0.3**	
	baz=283								
AKASG	**Malin Array Be**	**114.58**	**324**	PKP		**PKiKP**	**04 33 14.2**	**-0.5**	
	comp=Z,2.9nm,0.6s,baz=60,slow=2.3,SNR=16								
BRTR	**Keskin Array B**	**115.12**	**311**	PKP		**PKiKP**	**04 33 15.6**	**-0.7**	
	comp=Z,2.0nm,0.9s,baz=119,slow=1.8,SNR=8.7								
ANTO	**Ankara**	**115.71**	**312**	⇑P		**PKiKP**	**04 33 16.6**	**-0.7**	
ANTO	**Ankara**	**115.71**	**312**	⇑PKiKP		**PKiKP**	**04 33 16.6**	**-0.7**	
PURM	**Purcari**	**115.72**	**319**	⇑P		**PKiKP**	**04 33 16.5**	**-0.5**	
SORM	**Soroca**	**116.10**	**322**	⇑P		**PKPdf**	**04 33 17.1**	**-0.6**	
SORM	**Soroca**	**116.10**	**322**	⇑PKiKP		**PKPdf**	**04 33 17.1**	**-0.6**	
MILM	**Milestii Mici**	**116.26**	**320**	⇑P		**PKPdf**	**04 33 17.6**	**-0.4**	
MILM	**Milestii Mici**	**116.26**	**320**	⇑PKiKP		**PKPdf**	**04 33 17.6**	**-0.4**	
TLCR		**116.88**	**318**	⇑P		**PKPdf**	**04 33 19.0**	**-0.2**	
TLCR		**116.88**	**318**	⇑PKiKP		**PKPdf**	**04 33 19.0**	**-0.2**	
TATR	**Tataca**	**117.24**	**319**	⇑P		**PKiKP**	**04 33 21.0**	**+1.0**	
SCTR	**Scanteiesti**	**117.25**	**319**	⇑P		**PKPdf**	**04 33 18.7**	**-1.2**	
CFR	**Carcaliu**	**117.33**	**319**	⇑P		**PKiKP**	**04 33 20.2**	**0.0**	
NB2	**NORSAR Subarra**	**117.34**	**340**	PKPdf		**PKPdf**	**04 33 17.3**	**-2.5**	
	comp=Z,2.5nm,1.1s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.34**	**340**	PKP		**PKPdf**	**04 33 17.4**	**-2.3**	
	comp=Z,1.4nm,0.7s,baz=49,slow=2.0,SNR=5.7								
GHRR		**117.48**	**320**	⇓P		**PKiKP**	**04 33 21.2**	**+0.8**	
TLBR	**Topalu**	**117.62**	**318**	⇑P		**PKiKP**	**04 33 20.9**	**+0.1**	
TESR	**Tescani**	**117.79**	**320**	⇑P		**PKPdf**	**04 33 20.2**	**-0.9**	
VRI	**Vrincioaia**	**118.00**	**320**	⇑P		**PKiKP**	**04 33 21.5**	**0.0**	
VRI	**Vrincioaia**	**118.00**	**320**	⇑PKiKP		**PKiKP**	**04 33 21.5**	**0.0**	
BUR08	**Bucovina Ar. S**	**118.24**	**322**	PKPdf		**PKPdf**	**04 33 21.6**	**-0.4**	
BURAR	**Bucovina Array**	**118.24**	**322**	⇑P		**PKiKP**	**04 33 22.9**	**+0.9**	
BURAR	**Bucovina Array**	**118.24**	**322**	⇑PKiKP		**PKiKP**	**04 33 22.9**	**+0.9**	
MLR	**Muntele Rosu**	**118.65**	**320**	⇑P		**PKPdf**	**04 33 22.2**	**-0.7**	
MLR	**Muntele Rosu**	**118.65**	**320**	PKPdf		**PKPdf**	**04 33 22.7**	**-0.2**	
MLR	**Muntele Rosu**	**118.65**	**320**	PKiKP		**PKPdf**	**04 33 22.7**	**-0.2**	
DOPR	**Dopca**	**118.81**	**320**	⇑P		**PKPdf**	**04 33 23.0**	**0.0**	
AAM	**Ann Arbor**	**118.91**	**44**	P		**PKPdf**	**04 33 23.0**	**-0.3**	
	baz=291								
LRAL	**Lakeview Retre**	**119.04**	**55**	P		**PKPdf**	**04 33 23.1**	**-0.8**	
	baz=283								
VOIR		**119.25**	**320**	⇑P		**PKPdf**	**04 33 23.5**	**-0.5**	
VOIR		**119.25**	**320**	⇑PKiKP		**PKPdf**	**04 33 23.5**	**-0.5**	
ARR	**Arges**	**119.54**	**320**	⇑P		**PKiKP**	**04 33 25.3**	**+0.7**	
CJR	**Cluj-Napoca**	**119.62**	**322**	⇓P		**PKPdf**	**04 33 24.1**	**-0.5**	
CJR	**Cluj-Napoca**	**119.62**	**322**	⇓PKiKP		**PKPdf**	**04 33 24.1**	**-0.5**	
TRPA	**Tarpa**	**119.63**	**323**	⇑P		**PKPdf**	**04 33 23.6**	**-0.9**	
HUMR	**Humele**	**119.66**	**319**	⇑P		**PKPdf**	**04 33 24.4**	**-0.2**	
COPA	**Copaceanca**	**119.66**	**318**	⇑P		**PKPdf**	**04 33 22.8**	**-1.8**	
PLCA	**Paso Flores**	**119.70**	**144**	PKP		**PKPdf**	**04 33 24.1**	**-1.0**	
	comp=Z,0.9nm,0.6s,baz=218,slow=4.7,SNR=7.5								
STHS	**Stebnicka Huta**	**119.77**	**325**	*e*PKiKP		**PKPdf**	**04 33 24.7**	**-0.1**	
STHS	**Stebnicka Huta**	**119.77**	**325**	*e*PKP		**PKPdf**	**04 33 24.7**	**-0.1**	
CRVS	**Cervenica-Dubn**	**119.89**	**325**	*e*PKiKP		**PKiKP**	**04 33 25.7**	**+0.6**	
CRVS	**Cervenica-Dubn**	**119.89**	**325**	*e*PKP		**PKiKP**	**04 33 25.6**	**+0.5**	
MARR	**Marisel-Cluj**	**119.94**	**322**	⇑P		**PKPdf**	**04 33 24.0**	**-1.3**	
ACSO	**Alum Creek Sta**	**120.11**	**46**	P		**PKPdf**	**04 33 25.3**	**-0.4**	
	baz=290								
DRGR		**120.14**	**322**	⇑P		**PKPdf**	**04 33 24.9**	**-0.7**	
DRGR		**120.14**	**322**	⇑PKiKP		**PKPdf**	**04 33 24.9**	**-0.7**	
PLVB	**Pleven**	**120.35**	**318**	⇑P		**PKPdf**	**04 33 25.9**	**-0.1**	
RDO	**Rodhopi**	**120.57**	**315**	PKPdf		**PKPdf**	**04 33 25.6**	**-0.9**	
GZR	**Gura Zlata**	**120.72**	**320**	⇑P		**PKPdf**	**04 33 26.1**	**-0.7**	
GZR	**Gura Zlata**	**120.72**	**320**	⇑PKiKP		**PKPdf**	**04 33 26.1**	**-0.7**	
TZTN	**Tazewell**	**120.86**	**51**	P		**PKiKP**	**04 33 27.5**	**+0.2**	
	baz=288								
LANS	**Liptovska Anna**	**120.90**	**326**	*e*PKiKP		**PKiKP**	**04 33 28.3**	**+1.2**	
LANS	**Liptovska Anna**	**120.90**	**326**	*e*PKP		**PKiKP**	**04 33 28.3**	**+1.2**	
SURR	**Surduc**	**120.97**	**321**	⇑P		**PKPdf**	**04 33 26.6**	**-0.6**	
SIRR	**Siria**	**121.02**	**322**	⇑P		**PKPdf**	**04 33 27.1**	**-0.2**	
HERR	**Herculane**	**121.17**	**320**	⇑P		**PKPdf**	**04 33 26.9**	**-0.7**	
BZS	**Buzias**	**121.34**	**321**	⇑P		**PKPdf**	**04 33 27.6**	**-0.3**	
BZS	**Buzias**	**121.34**	**321**	⇑PKiKP		**PKPdf**	**04 33 27.6**	**-0.3**	
VTS	**Vitosha**	**121.59**	**317**	PKPdf		**PKPdf**	**04 33 28.3**	**-0.3**	
VTS	**Vitosha**	**121.59**	**317**	PKiKP		**PKPdf**	**04 33 28.3**	**-0.3**	
VYHS	**Vyhne**	**121.60**	**325**	*e*PKiKP		**PKiKP**	**04 33 28.4**	**-0.1**	
VYHS	**Vyhne**	**121.60**	**325**	*e*PKP		**PKiKP**	**04 33 28.4**	**-0.1**	
MORC	**Moravsky Berou**	**121.64**	**327**	⇑P		**PKiKP**	**04 33 28.7**	**+0.2**	
MORC	**Moravsky Berou**	**121.64**	**327**	⇑PKiKP		**PKiKP**	**04 33 28.7**	**+0.2**	
MDVR	**Moldovita**	**121.66**	**320**	⇑P		**PKPdf**	**04 33 28.3**	**-0.3**	
MAUC	**Maruska**	**121.70**	**326**	*e*PKPDF		**PKiKP**	**04 33 29.2**	**+0.5**	
BANR	**Banloc**	**121.75**	**321**	⇑P		**PKiKP**	**04 33 29.0**	**+0.2**	
KRLC	**Kraliky**	**121.88**	**328**	*e*PKPDF		**PKiKP**	**04 33 29.2**	**+0.2**	
KRLC	**Kraliky**	**121.88**	**328**	*e*PKiKP		**PKiKP**	**04 33 29.2**	**+0.2**	
OSTC	**Ostas**	**121.91**	**328**	*e*PKPDF		**PKiKP**	**04 33 29.3**	**+0.3**	
DPC	**Dobruska-Polom**	**121.97**	**328**	*e*PKPDF		**PKiKP**	**04 33 29.5**	**+0.3**	
DPC	**Dobruska-Polom**	**121.97**	**328**	*e*PKiKP		**PKiKP**	**04 33 29.5**	**+0.3**	
BOVS	**Bovan**	**122.17**	**319**	⇑P		**PKPdf**	**04 33 28.8**	**-0.8**	
SRO	**Srobarova**	**122.25**	**325**	*e*PKiKP		**PKiKP**	**04 33 30.4**	**+0.7**	
SRO	**Srobarova**	**122.25**	**325**	*e*PKP		**PKiKP**	**04 33 30.4**	**+0.7**	
VRAC	**Vranov**	**122.41**	**327**	⇑P		**PKiKP**	**04 33 30.3**	**+0.3**	
VRAC	**Vranov**	**122.41**	**327**	⇑PKiKP		**PKiKP**	**04 33 30.3**	**+0.3**	
MODS	**Modra-Piesok**	**122.55**	**326**	*e*PKiKP		**PKiKP**	**04 33 30.4**	**+0.1**	
MODS	**Modra-Piesok**	**122.55**	**326**	*e*PKP		**PKiKP**	**04 33 30.4**	**+0.1**	
FRGS	**Fruska Gora**	**122.69**	**321**	⇑P		**PKiKP**	**04 33 31.3**	**+0.6**	
MORH	**Mrgy, Hungar**	**122.88**	**323**	⇑P		**PKPdf**	**04 33 30.7**	**-0.1**	
BRG	**Berggiesshubel**	**122.88**	**330**	Amp			04 33 31.9		
	comp=Z,10nm,0.9s								
BRG	**Berggiesshubel**	**122.88**	**330**	Amp			04 33 38.3		
	comp=Z,2.3nm,0.7s								
BRG	**Berggiesshubel**	**122.88**	**330**	Amp			04 34 10.3		
	comp=Z,8.8nm,1.3s								
BRG	**Berggiesshubel**	**122.88**	**330**	*i* PKiKP		**PKiKP**	**04 33 31.1**	**+0.3**	
BRG							04 33 36.2		
BRG					pmax	pmax			
	comp=Z,10.0nm,0.9s								
BRG					pmax	pmax			
	comp=Z,2.0nm,0.7s								
BRG					pmax	pmax			
	comp=Z,6.0nm,1.3s								
BRG					MLR	MLR			
	comp=Z,767nm,22.3s								
BRG	**Berggiesshubel**	**122.88**	**330**	*i* PKP		**PKiKP**	**04 33 31.2**	**+0.3**	
BRG	**Berggiesshubel**	**122.88**	**330**	P		**PKiKP**	**04 33 36.2**	**+5.4**	
BRG	**Berggiesshubel**	**122.88**	**330**	P		PKiKP	04 34 04.2	+33	
KMSC	**Kings Mountain**	**123.00**	**51**	P		**PKiKP**	**04 33 31.6**	**0.0**	
	baz=288								
TREC	**Trest**	**123.01**	**327**	*e*PKPDF		**PKiKP**	**04 33 31.5**	**+0.3**	
TREC	**Trest**	**123.01**	**327**	*e*PKiKP		**PKiKP**	**04 33 31.5**	**+0.3**	
BLA	**Blacksburg**	**123.02**	**49**	P		**PKPdf**	**04 33 31.2**	**-0.2**	
	baz=290								
GOPC	**GO Pecny, Ondr**	**123.03**	**328**	*e*PKPDF		**PKiKP**	**04 33 31.2**	**0.0**	
GOPC	**GO Pecny, Ondr**	**123.03**	**328**	*e*PKiKP		**PKiKP**	**04 33 31.2**	**0.0**	
IDI	**Anoyia**	**123.04**	**309**	⇑P		**PKiKP**	**04 33 31.8**	**0.0**	
CLL	**Collm**	**123.08**	**330**	PKPdf		**PKPdf**	**04 33 30.9**	**-0.2**	
CLL	**Collm**	**123.08**	**330**	Lm		MLR	05 29 00.0		
	comp=N,300nm,19.5s								
CLL	**Collm**	**123.08**	**330**	*i* PKiKP		**PKPdf**	**04 33 30.8**	**-0.2**	
CLL				*i*			04 33 40.0		
CLL					pmax	pmax			
	comp=Z,11nm,1.0s								
CLL					MLR	MLR			
	comp=Z,400nm,19.2s								
CLL	**Collm**	**123.08**	**330**	*i* PKPdf		**PKPdf**	**04 33 30.8**	**-0.2**	
	comp=Z,11nm,1.0s								
CLL	**Collm**	**123.08**	**330**	*i* x		x	04 33 40.0		
CLL	**Collm**	**123.08**	**330**	*e*(PP)			04 35 28.0		
CLL	**Collm**	**123.08**	**330**	*e*SKKSac		SKKSac	04 42 00.0	-6.1	
CLL	**Collm**	**123.08**	**330**	*e*Sdif		Sdif	04 43 05.0	+1.4	
CLL	**Collm**	**123.08**	**330**	*e*PS		PS	04 45 06.0	-1.4	
CLL	**Collm**	**123.08**	**330**	*e*PPS		PPS	04 46 36.0		
CLL	**Collm**	**123.08**	**330**	*ex*		x	04 47 54.0		
CLL	**Collm**	**123.08**	**330**	*e*SS		SS	04 51 48.0	-3.4	
CLL	**Collm**	**123.08**	**330**	*e*SSS		SSS	04 56 30.0		
CLL	**Collm**	**123.08**	**330**	*e*SSSS			05 00 12.0		
CLL	**Collm**	**123.08**	**330**	Lm		MLR	05 29 00.0		
	comp=Z,400nm,19.2s								
CLL	**Collm**	**123.08**	**330**	Lm		MLR	05 29 00.0		
	comp=E,200nm,18.7s								
PRU	**Pruhonice**	**123.11**	**328**	*e*PKPDF		**PKPdf**	**04 33 31.2**	**+0.1**	
PRU					AMS	AMS	05 27 00.0		
	comp=E,600nm,16.2s								
PRU	**Pruhonice**	**123.11**	**328**	*e*PKiKP		**PKPdf**	**04 33 31.2**	**+0.1**	
PRU					MLR	MLR			
	comp=Z,600nm,16.2s								
RONA	**Rosalia, Austr**	**123.47**	**325**	*i* PKP		**PKiKP**	**04 33 32.2**	**0.0**	
	comp=Z,7.1nm,0.9s								
SSPA	**Standing Stone**	**123.56**	**44**	P		**PKiKP**	**04 33 32.4**	**-0.1**	
	baz=294								
CONA	**Conrad Observa**	**123.58**	**326**	*i* PKP		**PKiKP**	**04 33 32.4**	**0.0**	
	comp=Z,7.2nm,0.8s								
OHR	**Ohrid**	**123.87**	**317**	*i* P		**PKPdf**	**04 33 33.0**	**+0.1**	
LONY	**Lake Ozonia**	**123.92**	**39**	P		**PKPdf**	**04 33 32.6**	**-0.2**	
	baz=300								
CKRC	**Cesky Krumlov**	**123.92**	**327**	*e*PKPDF		**PKiKP**	**04 33 33.1**	**+0.1**	
CKRC					AMS	AMS	05 27 10.0		
	comp=Z,900nm,20.6s								
NKC	**Novy Kostel**	**124.03**	**330**	*e*PKPDF		**PKiKP**	**04 33 33.3**	**+0.1**	
NKC	**Novy Kostel**	**124.03**	**330**	*e*PKiKP		**PKiKP**	**04 33 33.3**	**+0.1**	
KHC	**Kasperske Hory**	**124.12**	**328**	*e*PKPDF		**PKiKP**	**04 33 33.4**	**-0.1**	
KHC				*ex*		x	04 33 42.6		
KHC					AMS	AMS	05 27 10.0		
	comp=Z,800nm,20.1s								
KHC	**Kasperske Hory**	**124.12**	**328**	*e*PKiKP		**PKiKP**	**04 33 33.4**	**-0.1**	
KHC				*e*			04 33 42.6		
KHC					MLR	MLR			
	comp=Z,800nm,20.1s								
BINY	**Binghamton**	**124.17**	**42**	P		**PKPdf**	**04 33 33.3**	**-0.1**	
	baz=297								
GERES	**GERESS Array B**	**124.23**	**328**	PKP		**PKPdf**	**04 33 32.9**	**-0.5**	
	comp=Z,5.2nm,0.6s,baz=64,slow=3.1,SNR=61								
GERES	**GERESS Array B**	**124.23**	**328**	PKPdf		**PKPdf**	**04 33 32.6**	**-0.9**	
PDG	**Podgorica**	**124.32**	**319**	⇑P		**PKPdf**	**04 33 32.9**	**-0.7**	
MOA	**Molln**	**124.51**	**327**	*i* PKP		**PKPdf**	**04 33 33.7**	**-0.2**	
	comp=Z,3.6nm,0.8s								
SOKA	**Soboth**	**124.75**	**325**	*e*PKP		**PKPdf**	**04 33 34.4**	**-0.1**	
	comp=Z,8.6nm,1.1s								
GCIS	**Gornji Cirnik**	**124.85**	**324**	*i* PKPdf		**PKPdf**	**04 33 34.5**	**-0.1**	
BIOA	**Bad Ischl, Aus**	**124.95**	**327**	*i* PKP		**PKPdf**	**04 33 34.4**	**-0.4**	
	comp=Z,5.3nm,1.0s								
GRF	**Grafenberg Arr**	**124.99**	**330**	*e*PKP		**PKPdf**	**04 33 34.7**	**-0.1**	
	baz=50,slow=1.1								
GRF				*e*L		L	05 28 40.8		
	comp=Z,428nm,21.6s								
OBKA	**Obir**	**125.12**	**325**	*e*PKP		**PKPdf**	**04 33 34.7**	**-0.6**	
	comp=Z,4.7nm,0.8s								
VISS	**Visnje**	**125.35**	**324**	*e*PKPdf		**PKPdf**	**04 33 35.3**	**-0.3**	
KBA	**Koelnbreinsper**	**125.47**	**326**	*e*PKP		**PKPdf**	**04 33 35.0**	**-0.9**	
	comp=Z,6.8nm,1.4s								
MYKA	**Terra Mystica**	**125.56**	**326**	*e*PKP		**PKPdf**	**04 33 35.5**	**-0.6**	
	comp=Z,2.8nm,0.6s								
LBNH	**Lisbon**	**125.75**	**38**	P		**PKPdf**	**04 33 36.3**	**-0.1**	
	baz=302								
VOJS	**Vojsko**	**125.77**	**325**	*e*PKPdf		**PKPdf**	**04 33 36.0**	**-0.5**	
VOJS				*ep*PKPdf		**pPKPdf**	**04 33 44.7**	**-5.7**	
CLUD	**Cludinico**	**126.09**	**326**	PKPdf		**PKPdf**	**04 33 36.6**	**-0.4**	
PAL	**Palisades**	**126.10**	**42**	P		**PKPdf**	**04 33 37.2**	**+0.1**	
	baz=298								
ABTA	**Abfaltersbach**	**126.12**	**326**	*e*PKP		**PKPdf**	**04 33 36.7**	**-0.5**	
	comp=Z,10nm,0.8s								
L61B	**Northampton**	**126.20**	**40**	P		**PKiKP**	**04 33 37.9**	**+0.2**	
	baz=300								
WATA	**Walderalm**	**126.28**	**327**	*i* PKP		**PKPdf**	**04 33 37.3**	**-0.2**	
	comp=Z,6.1nm,0.7s								
WTTA	**Wattenberg**	**126.29**	**327**	*e*PKP		**PKPdf**	**04 33 37.7**	**+0.1**	
	comp=Z,16nm,0.8s,SNR=8.7								
EKA	**Eskdalemuir Ar**	**126.52**	**343**	PKP		**PKPdf**	**04 33 37.4**	**-0.1**	
	comp=Z,1.0nm,0.4s,baz=14,slow=2.5,SNR=3.9								
MOTA	**Moosalm**	**126.53**	**328**	*i* PKP		**PKPdf**	**04 33 37.8**	**-0.1**	
	comp=Z,12nm,0.7s,SNR=12								
SQTA	**Sankt Quirin**	**126.55**	**327**	*e*PKP		**PKPdf**	**04 33 38.1**	**+0.2**	
	comp=Z,9.5nm,0.8s,SNR=7.5								
RETA	**Reutte**	**126.62**	**328**	*i* PKP		**PKPdf**	**04 33 38.1**	**0.0**	
	comp=Z,3.5nm,0.8s								
PKME	**Peaks-Kenny Pk**	**126.75**	**35**	P		**PKiKP**	**04 33 38.5**	**-0.1**	
	baz=305								
BTNL	**Ternell**	**126.80**	**333**	*d*PKP		**PKPdf**	**04 33 38.3**	**+0.1**	
MEM	**Membach**	**126.83**	**333**	*d*PKP		**PKPdf**	**04 33 37.9**	**-0.3**	
MATE	**Matera**	**126.85**	**318**	⇑P		**PKPdf**	**04 33 38.7**	**+0.2**	
FETA	**Feichten**	**126.93**	**327**	*e*PKP		**PKiKP**	**04 33 39.2**	**-0.1**	
	comp=Z,9.9nm,0.8s,SNR=11								
BHOU	**Houvegnez**	**127.02**	**333**	*d*PKP		**PKiKP**	**04 33 39.9**	**+0.7**	
DAVA	**Damuels**	**127.21**	**328**	*e*PKP		**PKPdf**	**04 33 39.3**	**0.0**	
	comp=Z,14nm,1.0s,SNR=6.7								
BCLA	**Clavier**	**127.28**	**334**	*d*PKP		**PKPdf**	**04 33 39.3**	**+0.2**	
MCRA	**Macar, Loja**	**127.34**	**100**	PKPdf		**PKPdf**	**04 33 40.3**	**0.0**	
BGES	**Gesves**	**127.40**	**334**	*d*pPKP		pPKPdf	04 33 51.5	-1.8	
FUORN	**Ofenpass-Fuorn**	**127.43**	**327**	PKPdf		**PKPdf**	**04 33 39.0**	**-0.9**	
WLF	**Walferdange**	**127.44**	**333**	*d*PKP		**PKiKP**	**04 33 40.6**	**+0.6**	
TIP	**Timpagrande**	**127.50**	**316**	⇑P		**PKPdf**	**04 33 39.8**	**-0.2**	
TIP	**Timpagrande**	**127.50**	**316**			**PKPdf**	**04 33 39.6**	**-0.3**	
BMRD	**Maredsous**	**127.60**	**334**	*d*PKP		**PKiKP**	**04 33 40.0**	**-0.2**	
DOU	**Dourbes**	**127.83**	**334**	*d*PKP		**PKiKP**	**04 33 41.1**	**+0.3**	
PB16	**IPOC Station P**	**132.80**	**121**	PKPdf		**PKiKP**	**04 33 52.5**	**+0.1**	
KEST	**Kesra**	**134.33**	**316**	PKP		**PKPdf**	**04 33 52.7**	**-0.4**	
	comp=Z,9.1nm,0.9s,baz=148,slow=1.8,SNR=7.2								
LPAZ	**La Paz**	**134.87**	**119**	PKP		**PKPdf**	**04 33 56.0**	**+0.7**	
	comp=Z,2.1nm,0.6s,baz=184,slow=1.0,SNR=7.9								
LPAZ	**La Paz**	**134.87**	**119**	PKiKP		**PKPdf**	**04 33 56.0**	**+0.7**	
RUSC	**La Rusia**	**135.32**	**87**			**PKPdf**	**04 33 52.8**	**-3.2**	
CPUP	**Villa Florida**	**137.49**	**140**	PKP		**PKPdf**	**04 33 59.4**	**+0.3**	
	comp=Z,1.7nm,0.7s,baz=295,slow=0.4,SNR=5.5								
ETMB	**Extrema**	**139.12**	**112**	PKPdf		**PKPdf**	**04 34 01.1**	**-1.3**	
ESDC	**Sonseca Array**	**139.67**	**331**	PKP		**PKPdf**	**04 34 00.0**	**-2.8**	
	comp=Z,0.9nm,0.7s,baz=12,slow=3.0,SNR=5.3								
ESDC					PP	**PP**	**04 36 55.5**	**-1.9**	
	comp=Z,1.2nm,0.8s,baz=39,slow=5.8,SNR=5.5								
HUMP	**Col San Antoni**	**141.18**	**68**	PKPdf		**PKPdf**	**04 34 05.4**	**-0.6**	
PTLB	**Pontes e Lacer**	**142.87**	**125**			**PKPdf**	**04 34 07.4**	**-1.7**	
VILB	**Vilhena**	**143.22**	**120**			PKPbc	04 34 07.7	+0.9	
SMRT	**St. Maarten**	**143.75**	**67**	*e*		**PKiKP**	**04 34 17.1**	**+3.0**	
ANWB	**Willy Bob**	**145.04**	**67**	*e*		**PKiKP**	**04 34 19.9**	**+3.2**	
ABD	**La Joyeuse, An**	**145.62**	**69**	*e*		**PKPdf**	**04 34 10.6**	**-3.3**	
MAGL	**Barre de l'ile**	**145.94**	**70**	*e*		**PKiKP**	**04 34 18.9**	**+0.3**	
FDF	**Fort de France**	**146.34**	**72**	*e*		**PKiKP**	**04 34 19.7**	**+0.3**	
AVE	**Averroes**	**146.36**	**328**			**PKPdf**	**04 34 14.9**	**+0.2**	
MACA	**Manacapuru-AM**	**146.38**	**104**	PKPbc		**PKPdf**	**04 34 14.8**	**-0.4**	
BIM

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.12**	**207**	P	Pg	04 32 22.1	+0.4
T1247				S	Sg	04 32 24.1	+0.8
T1247				AML	AML		
	comp=E,270μm,0.4s						
T1247				AML	AML		
	comp=N,218μm,0.3s						
RM33	**Pellescritta (**	**0.12**	**251**	P	Pg	04 32 22.1	+0.4
RM33				S	Sg	04 32 24.1	+0.7
RM33				AML	AML		
	comp=E,43μm,1.4s						
RM33				AML	AML		
	comp=N,40μm,0.9s						
RM33				AML	AML		
	comp=E,43μm,0.6s						
GIGS	**Gran Sasso**	**0.18**	**124**	P	Pg	04 32 23.2	+0.4
TERO	**Teramo**	**0.19**	**67**	⇓P	Pg	04 32 23.6	+0.6

DJA ***28*** *04:40:32.3±0.5,3˚S±2˚×12˚9E±˚, h11km±4km, M5.0/17, mb5.2/17, mB5.4/12, MLv5.0/17, Mw(mB)4.9/12*
NEIC ***28*** *04:40:34.0±1.6, 2.82S±0.06×128.94E±0.06, h36km±7km, mb4.6/37, Error ellipse: s-maj=9.6km s-min=8.4km az=224.0*
IDC ***28*** *04:40:35.0±1.8, 2.80S×129.11E, h62km±17km, mb3.8/18, mbtmp4.1/21, MS3.9/17, Error ellipse: s-maj=15.3km s-min=8.2km az=84.0*
ISC 28 04:40:33.4±0.3, 2.74S±0.04×129.00E±0.05, h35km, n122, σ1°79/114, mb4.5/43, MS3.9/15, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.61**	**187**	P	**Pn**	**04 40 46.2**	**+0.7**
MSAI				S	**Sn**	**04 40 59.8**	**+5.7**
AAI	**Ambon**	**1.24**	**221**	P	**Pn**	**04 40 55.8**	**+1.6**
NLAI	**Namlea**	**1.96**	**255**	P	**Pn**	**04 41 04.7**	**+0.6**
NLAI				S	**Sn**	**04 41 29.3**	**+1.7**
BNDI	**Bandanaira**	**1.99**	**153**	P	Pn	04 41 09.9	+5.4
SWI	**Sorong**	**2.93**	**50**	P	**Pn**	**04 41 17.6**	**+0.2**
SWI				S	**Sn**	**04 41 52.9**	**+1.5**
SIJI	**Sorong**	**2.93**	**51**	P	**Pn**	**04 41 17.8**	**+0.3**
	68nm,0.3s,baz=170,slow=17,SNR=86						
SIJI				S	**Sn**	**04 41 52.6**	**+1.1**
	548nm,0.5s,baz=233,slow=20,SNR=12						
SIJI				LR	LR	04 42 57.6	
	comp=Z,3μm,20.6s,baz=269,slow=50						
SANI	**Sanana**	**3.09**	**283**	P	**Pn**	**04 41 18.1**	**-1.5**
FAKI	**Fak Fak**	**3.25**	**93**		**Pn**	**04 41 23.4**	**+1.5**
FAKI	**Fak Fak**	**3.25**	**93**	P	**Pn**	**04 41 24.5**	**+2.6**
TNTI	**Ternate**	**3.85**	**335**		**Pn**	**04 41 30.0**	**-0.2**
TNTI	**Ternate**	**3.85**	**335**	P	**Pn**	**04 41 30.4**	**+0.2**
RKPI	**Ransiki, Papua**	**5.32**	**77**	P	**Pn**	**04 41 53.3**	**+3.0**
	365nm,0.6s,8μm4.5nm						
SAUI	**Saumlaki**	**5.69**	**156**	Pn	**Pn**	**04 41 54.0**	**-1.5**
SAUI	**Saumlaki**	**5.69**	**156**	P	**Pn**	**04 41 58.8**	**+3.4**
	429nm,0.9s,7μm1.7nm						
LUWI	**Luwuk**	**6.45**	**285**	Pn	**Pn**	**04 42 04.8**	**-1.1**
LUWI	**Luwuk**	**6.45**	**285**	P	**Pn**	**04 42 06.4**	**+0.5**
	277nm,0.7s,7μm1.4nm						
MRSI	**Marisa**	**7.75**	**294**	P	**Pn**	**04 42 23.7**	**0.0**
	165nm,0.5s,3μm0.8nm						
SOEI	**Soe**	**8.41**	**214**	Pn	**Pn**	**04 42 30.3**	**-2.6**
SOEI	**Soe**	**8.41**	**214**	P	**Pn**	**04 42 36.0**	**+3.1**
	58nm,0.9s,2μm						
TOLI2	**Tolitoli**	**9.06**	**295**	Pn	**Pn**	**04 42 41.2**	**-0.6**
BSSI	**Bau Bau, Buton**	**9.13**	**248**	P	**Pn**	**04 42 43.9**	**+1.1**
	138nm,1.0s,2μm						
BKSI	**Bulukumba**	**9.22**	**254**	P	**Pn**	**04 42 45.4**	**+1.5**
	112nm,1.4s,1μm						
SPSI	**Sidrap Palu**	**9.30**	**262**	P	**Pn**	**04 42 46.5**	**+1.5**
	88nm,1.0s,1μm						
KAPI	**Kappang**	**9.50**	**256**	P	**Pn**	**04 42 50.9**	**+3.1**
	11nm,0.7s,baz=72,slow=7.8,SNR=5.1						
KAPI	**Kappang**	**9.50**	**256**		**Pn**	**04 42 47.7**	**-0.1**
MPSI	**Mapaga**	**9.60**	**288**	P	**Pn**	**04 42 50.4**	**+1.3**
	172nm,0.7s,2μm						
MTN	**Manton Dam**	**10.26**	**168**	Pn	**Pn**	**04 42 58.2**	**+0.1**
DAV	**Davao City (W)**	**10.33**	**341**	LR	LR	04 46 58.0	
	comp=Z,324nm,19.8s,baz=26,slow=37						
KNRA	**Kununurra**	**12.86**	**181**	Pn	**Pn**	**04 43 34.2**	**+0.5**
MYLDM	**Lahad Datu**	**13.11**	**307**		**Pn**	**04 43 37.5**	**+0.3**
TWSI	**Taliwang, Sumb**	**13.45**	**243**	P	**Pn**	**04 43 44.2**	**+2.4**
	55nm,1.4s						
GMJI	**Gumukmas**	**16.43**	**250**	P	**P**	**04 44 23.9**	**+0.1**
WB0	**Warramunga Arr**	**17.73**	**163**		**Pn**	**04 44 36.1**	**-1.5**
WB0				IAmb	IAmb	04 44 50.5	
	comp=Z,48nm,0.9s						
WRA	**Warramunga Arr**	**17.88**	**163**	P	**Pn**	**04 44 37.6**	**-1.8**
	comp=Z,13nm,0.9s,baz=340,slow=13,SNR=28						
WRA				S	**Sn**	**04 47 55.4**	**-2.4**
	comp=Z,1.6nm,0.6s,baz=5.3,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**17.88**	**163**	P	**Pn**	**04 44 37.8**	**-1.6**
COEN	**Coen**	**17.90**	**129**	Pn	**Pn**	**04 44 38.0**	**-1.7**
WR0	**Warramunga Arr**	**17.95**	**163**		**Pn**	**04 44 39.3**	**-1.0**
PMG	**Port Moresby**	**19.22**	**111**	P	**Pn**	**04 45 01.9**	**+6.1**
	comp=Z,7.3nm,0.6s,baz=249,slow=7.8,SNR=4.2						
PMG				LR	LR	04 54 51.8	
	comp=Z,305nm,19.7s,baz=272,slow=45						
PMG	**Port Moresby**	**19.22**	**111**	P	**P**	**04 44 54.3**	**-0.4**
MBWA	**Marble Bar**	**20.41**	**206**	P	**P**	**04 45 06.5**	**-1.1**
PSA00	**Pilbara Seismi**	**20.73**	**205**		**P**	**04 45 09.9**	**-1.1**
AS31	**Alice Springs**	**21.34**	**168**	P	**P**	**04 45 17.7**	**+0.1**
AS31				IAmb	IAmb	04 45 25.1	
	comp=Z,21nm,0.7s						
ASAR	**Alice Springs**	**21.34**	**168**	P	**P**	**04 45 17.3**	**-0.3**
	comp=Z,26nm,0.5s,baz=347,slow=12,SNR=337						
ASAR				S	**S**	**04 49 09.0**	**-3.8**
	comp=Z,12nm,0.8s,baz=348,slow=23,SNR=9.3						
	comp=Z,26nm,0.5s						
LEM	**Lembang**	**21.69**	**258**	LR	LR	04 56 08.9	
	comp=Z,331nm,18.3s,baz=122,slow=43						
GUMO	**Guam**	**22.61**	**44**	LR	LR	04 54 20.1	
	comp=Z,169nm,18.8s,baz=210,slow=37						
KRVT	**Keravat (AS076**	**23.03**	**95**	LR	LR	04 56 08.5	
	comp=Z,426nm,18.1s,baz=62,slow=41						
CTA	**Charters Tower**	**24.10**	**137**	P	**P**	**04 45 45.4**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=323,slow=10.0,SNR=6.6						
	comp=Z,3.9nm,0.6s						
CTAO	**Charters Tower**	**24.10**	**137**	P	**P**	**04 45 45.2**	**-0.8**
CTAO				IAmb	IAmb	04 46 04.1	
	comp=Z,20nm,1.1s						
MYKOM	**Kota Tinggi**	**25.54**	**280**	P	**P**	**04 45 56.2**	**-2.9**
FORT	**Forrest**	**27.90**	**182**	P	**P**	**04 46 19.9**	**-0.3**
FORT				IAmb	IAmb	04 46 38.8	
	comp=Z,12nm,0.8s						
MORW	**Morawa**	**28.94**	**204**	P	**P**	**04 46 29.2**	**-0.3**
MORW				IAmb	IAmb	04 46 42.0	
	comp=Z,17nm,1.2s						
JOW	**Kunigami**	**29.41**	**359**	LR	LR	04 58 57.2	
	comp=Z,240nm,19.9s,baz=194,slow=37						
RPSI	**Rantau Prapat**	**30.55**	**280**	P	**P**	**04 46 43.0**	**-0.9**
RPSI				IAmb	IAmb	04 47 01.4	
	comp=Z,13nm,0.8s						
PSI	**Prapat**	**30.57**	**280**	P	**P**	**04 46 45.2**	**+1.0**
	comp=Z,3.5nm,0.4s,baz=147,slow=22,SNR=3.8						
	comp=Z,3.5nm,0.4s						
BBOO	**Buckleboo**	**30.64**	**168**	P	**P**	**04 46 42.6**	**-1.8**
STKA	**Stephens Creek**	**31.32**	**159**	P	**P**	**04 46 50.5**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=306,slow=8.8,SNR=7.2						
	comp=Z,1.8nm,0.5s						
STKA	**Stephens Creek**	**31.32**	**159**	P	**P**	**04 46 52.2**	**+1.8**
NWAO	**Narrogin (SRO)**	**31.99**	**199**	LR	LR	05 00 34.2	
	comp=Z,280nm,18.7s,slow=38						
JCJ	**Chichijima**	**32.27**	**22**	LR	LR	04 58 41.5	
	comp=Z,135nm,20.5s,baz=80,slow=34						
ARMA	**Armidale**	**34.88**	**144**	P	**P**	**04 47 20.6**	**-1.1**
ARMA				IAmb	IAmb	04 47 37.7	
	comp=Z,9.7nm,1.1s						
JNU	**Nakatsue**	**35.71**	**3**	LR	LR	05 00 30.2	
	comp=Z,151nm,21.2s,baz=130,slow=33						
NJ2	**Nanjing**	**35.92**	**345**	*eP*	**P**	**04 47 33.0**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**36.32**	**307**	P	**P**	**04 47 34.8**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=126,slow=5.7,SNR=0.9						
	comp=Z,0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**36.32**	**307**	P	**P**	**04 47 33.8**	**-0.3**
CHTO	**Chiang Mai**	**36.51**	**307**	P	**P**	**04 47 35.3**	**-0.5**
CHTO				IAmb	IAmb	04 47 51.3	
	comp=Z,6.3nm,0.8s						
TOO	**Toolangi**	**37.83**	**158**	P	**P**	**04 47 46.5**	**-0.3**
TOO				IAmb	IAmb	04 48 04.0	
	comp=Z,8.6nm,0.9s						
PZH	**PanZhiHua**	**39.23**	**320**	P	**P**	**04 48 03.0**	**+4.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**40.00**	**359**	P	**P**	**04 48 03.8**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=175,slow=10,SNR=4.6						
KSRS				LR	LR	05 05 46.5	
	comp=Z,88nm,19.0s,baz=195,slow=38						
	comp=Z,1.0nm,0.8s						
MJAR	**Matsushiro Arr**	**40.01**	**12**	P	**P**	**04 48 03.4**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=218,slow=7.2,SNR=5.6						
	comp=Z,0.9nm,0.4s						
TNCH	**TengChong**	**40.45**	**315**	P	P	04 48 16.0	+7.0
TNCH				pmax	pmax		
	comp=Z,130nm,3.8s						
XAN	**Xi'an**	**41.19**	**334**	P	P	04 48 22.0	+7.3
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HNS	**HongShan**	**42.09**	**343**	*eP*	P	04 48 27.5	+5.5
BJT	**Baijiatuan**	**44.15**	**346**	P	**P**	**04 48 39.6**	**+0.9**
LZH	**Lanzhou**	**45.21**	**331**	*eP*	P	04 48 55.3	+7.9
LZH				pP	sP	04 49 02.0	+0.3
SHL	**Shillong**	**45.65**	**310**	P	**P**	**04 48 50.2**	**-0.8**
HHC	**Hu-ho-hao-te**	**46.21**	**342**	*eP*	**P**	**04 48 58.0**	**+2.8**
HHC				pmax	pmax		
	comp=Z,1μm,6.6s						
USRK	**Ussuriysk Ar.**	**46.81**	**3**	P	**P**	**04 48 56.8**	**-2.8**
	comp=Z,1.1nm,0.5s,baz=197,slow=7.5,SNR=2.2						
USRK				LR	LR	05 09 01.0	
	comp=Z,117nm,19.5s,baz=167,slow=36						
	comp=Z,1.1nm,0.5s						
XLT	**XiLinHaoTe**	**47.86**	**347**	*eP*	**P**	**04 49 08.5**	**+0.6**
XLT				pP	pP	04 49 18.0	-0.2
XLT				sP	sP	04 49 22.5	+0.2
XLT				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,220nm,6.1s						
LSA	**Lhasa**	**48.48**	**315**	P	**P**	**04 49 12.8**	**-0.7**
GTA	**Gaotai**	**49.79**	**330**	*eP*	P	04 49 28.8	+5.9
GTA				pP	sP	04 49 37.0	-0.2
GTA				sP	pP	04 49 40.3	+7.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MSVF	**Nonsavu**	**50.33**	**111**	LR	LR	05 11 06.7	
	comp=Z,230nm,18.4s,baz=309,slow=36						
KLR	**Kul'dur**	**51.82**	**2**	P	**P**	**04 49 36.3**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=190,slow=7.0,SNR=1.6						
	comp=Z,0.4nm,0.4s						
HEH	**HeiHe**	**52.80**	**359**	*eP*	**P**	**04 49 46.3**	**+1.2**
HEH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
RPZ	**Rata Peaks**	**55.22**	**144**	LR	LR	05 16 05.8	
	comp=Z,114nm,18.4s,baz=303,slow=39						
TCW	**Tory Channel**	**55.84**	**140**	P	**P**	**04 50 06.9**	**-0.5**
URZ	**Urewera**	**56.34**	**135**	LR	LR	05 18 02.4	
	comp=Z,120nm,18.1s,baz=50,slow=40						
WMQ	**Urumqi**	**59.31**	**326**	*eP*	**P**	**04 50 31.5**	**-0.4**
WMQ				pP	pP	04 50 42.0	-0.3
WMQ				sP	sP	04 50 47.3	+1.1
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AFI	**Afiamalu**	**59.49**	**104**	LR	LR	05 16 41.7	
	comp=Z,115nm,18.4s,baz=296,slow=36						
NIL	**Nilore**	**63.72**	**310**	P	**P**	**04 51 03.0**	**+1.1**
NIL				IAmb	IAmb	04 51 21.0	
	comp=Z,4.8nm,0.8s						
MK31	**Makanchi Array**	**64.15**	**326**	P	**P**	**04 51 04.0**	**-0.3**
MKAR	**Makanchi Array**	**64.15**	**326**	P	**P**	**04 51 03.7**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=116,slow=8.8,SNR=9.5						
	comp=Z,0.7nm,0.6s						
KSH	**Kashi**	**64.24**	**317**	P	P	04 51 14.3	+9.1
KSH				sP	sP	04 51 21.0	+1.3
KSH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAKZ	**Makanchi**	**64.33**	**326**	P	**P**	**04 51 05.7**	**+0.2**
MAKZ				IAmb	IAmb	04 51 25.0	
	comp=Z,6.3nm,1.1s						
YAK	**Yakutsk**	**64.59**	**0**	LR	LR	05 20 50.9	
	comp=Z,71nm,19.2s,baz=249,slow=37						
CASY	**Casey**	**64.74**	**188**	P	**P**	**04 51 07.0**	**-0.8**
CASY				IAmb	IAmb	04 51 20.2	
	comp=Z,8.8nm,1.1s						
AAK	**Ala-Archa**	**66.68**	**319**	P	**P**	**04 51 21.3**	**+0.3**
AAK				IAmb	IAmb	04 51 36.6	
	comp=Z,5.3nm,0.9s						
KBL	**Kabul**	**67.29**	**309**	P	**P**	**04 51 25.6**	**+0.5**
KBL				IAmb	IAmb	04 51 41.8	
	comp=Z,7.0nm,1.3s						
ZALV	**Zalesovo Beam**	**67.35**	**333**	P	**P**	**04 51 22.4**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=1.7						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**67.35**	**333**	P	**P**	**04 51 26.0**	**+1.2**
SEY	**Seymchan**	**67.84**	**11**	P	**P**	**04 51 28.3**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=207,slow=6.2,SNR=8.0						
	comp=Z,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**68.39**	**328**	P	**P**	**04 51 30.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=128,slow=5.7,SNR=9.5						
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**68.39**	**328**	P	**P**	**04 51 32.2**	**+0.8**
KK31	**Karatay Array**	**69.51**	**318**	P	**P**	**04 51 39.0**	**+0.5**
KKAR	**Karatay Array**	**69.51**	**318**	P	**P**	**04 51 39.4**	**+0.8**
BVAR	**Borovoye Array**	**73.95**	**328**	P	**P**	**04 52 03.3**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=121,slow=5.7,SNR=3.7						
	comp=Z,0.9nm,0.7s						
BRVK	**Borovoye**	**74.03**	**328**	P	**P**	**04 52 05.7**	**+0.2**
BRVK				IAmb	IAmb	04 52 16.7	
	comp=Z,5.9nm,0.8s						
TIXI	**Tiksi**	**74.25**	**360**	P	**P**	**04 52 05.9**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=270,slow=2.8,SNR=2.7						
	comp=Z,0.9nm,0.3s						
TIXI	**Tiksi**	**74.25**	**360**	P	**P**	**04 52 07.1**	**+0.7**
TIXI				IAmb	IAmb	04 52 23.1	
	comp=Z,3.8nm,0.7s						
GEYT	**Alibeck**	**76.73**	**310**	P	**P**	**04 52 19.7**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=40,slow=2.5,SNR=1.5						
	comp=Z,0.9nm,0.4s						
VNDA	**Vanda**	**76.77**	**173**	P	**P**	**04 52 20.6**	**-0.2**
NRIK	**Noril'sk**	**77.21**	**346**	P	**P**	**04 52 23.3**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=161,slow=6.6,SNR=1.3						
	comp=Z,1.2nm,0.3s						
NRIK	**Noril'sk**	**77.21**	**346**	P	**P**	**04 52 24.4**	**+1.0**
NRIK				IAmb	IAmb	04 52 39.8	
	comp=Z,6.9nm,0.8s						
ABKAR	**Akbulak array**	**78.58**	**321**	P	**P**	**04 52 30.9**	**-0.5**
ARU	**Arti**	**81.59**	**328**	P	**P**	**04 52 48.6**	**+1.1**
ARU				IAmb	IAmb	04 53 03.0	
	comp=Z,13nm,1.4s						
RAYN	**Ar Rayn**	**85.12**	**294**	P	**P**	**04 53 06.2**	**-0.3**
ILAR	**Eielson Array**	**89.94**	**25**	P	**P**	**04 53 28.1**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=246,slow=5.1,SNR=2.0						
	comp=Z,0.4nm,0.8s						
INK	**Inuvik**	**95.30**	**22**	P	**P**	**04 53 56.6**	**+3.3**
	comp=Z,2.8nm,1.3s,baz=257,slow=8.7,SNR=1.9						
BRTR	**Keskin Array B**	**95.87**	**309**	P	**P**	**04 54 01.6**	**+4.8**
	comp=Z,0.2nm,0.4s,baz=100,slow=6.0,SNR=2.3						
MNK	**Minsk**	**98.68**	**325**	*i* P	**P**	**04 54 06.8**	**-2.2**
MNK	comp=E,1.0nm,0.7s			*i* P	**P**	**04 54 06.8**	**-2.2**
MNK	comp=N,47nm,0.8s			*i* P	**P**	**04 54 06.8**	**-2.2**
	comp=Z,5.0nm,0.8s,baz=263						
MNK				*i* PP	**PP**	**04 58 08.0**	**-2.1**
MNK				*i* PPP	PPP	05 00 13.9	
MNK				*i* S	**SKSac**	**05 04 42.1**	**-2.3**
MNK				*i* PS	**PS**	**05 07 04.2**	**-1.3**
MNK				*i* SS	**SS**	**05 12 21.5**	**-0.2**
MNK				*i* SSS	SSS	05 16 09.8	
MNK				*i* LR	LR	05 35 37.4	
MNK				*i* LRM	MLR	05 39 04.3	
	comp=E,13nm,12.9s						
MNK				*i* LRM	MLR	05 39 32.6	
	comp=Z,100nm,14.8s						
MNK				*i* LRM	MLR	05 39 44.2	
	comp=N,99nm,12.9s						
TORD	**Torodi Ar. Bea**	**126.90**	**284**	PKP	**PKPdf**	**04 59 33.5**	**-1.1**
	comp=N,0.1nm,0.4s,baz=70,slow=1.2,SNR=2.2						
CPUP	**Villa Florida**	**150.46**	**168**	PKPbc	**PKPbc**	**05 00 20.2**	**-1.9**
	comp=N,0.6nm,0.5s,baz=219,slow=4.8,SNR=1.8						
LPAZ	**La Paz**	**154.62**	**139**	PKPbc	**PKPbc**	**05 00 29.4**	**-3.1**
	comp=N,0.5nm,0.7s,baz=315,slow=10.0,SNR=1.3						

ISK ***28*** *04:47:33.9, 37.71N×37.31E, h5km, ML2.7/6*
DDA ***28*** *04:47:34.7±0.0, 37.69N×37.32E, h7km±2km, ML2.8*
ISC 28 04:47:34.5±1.3, 37.70N±0.03×37.31E±0.04, h5km±11km, n13, σ0°72/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHM	**Kahramanmaras,**	**0.32**	**235**	P	**Pb**	**04 47 41.7**	**-1.0**
KAHM				S	**Sg**	**04 47 45.7**	**+0.8**
GZT	**Gaziantep**	**0.40**	**150**	P	**Pb**	**04 47 42.9**	**-1.2**
GZT				S	**Sg**	**04 47 48.3**	**+0.9**
GZT				*i* AML	AML	04 47 49.0	
	comp=Z,399nm,0.2s						
GZT				*i* AML	AML	04 47 51.0	
	comp=N,674nm,0.7s						
GZT				*i* AML	AML	04 47 51.0	
	comp=E,717nm,0.4s						
GAZ	**Gaziantep**	**0.53**	**189**	Pg	**Pb**	**04 47 45.6**	**-0.7**
GAZ				Sg	**Sb**	**04 47 54.3**	**0.0**
ELBS	**KAHRAMANMARAS**	**0.64**	**347**	P	**Pb**	**04 47 47.5**	**-0.7**
ELBS				S	**Sb**	**04 47 57.0**	**-0.5**
KAMA	**Osmaniye**	**0.73**	**225**	P	**Pb**	**04 47 49.3**	**-0.3**
KAMA				S	**Sb**	**04 47 59.3**	**-0.6**
DARE	**Darende-Malaty**	**0.88**	**9**	Pg	**Pg**	**04 47 51.2**	**-0.2**
DARE				Sg	**Sb**	**04 48 04.9**	**+0.5**
SARI	**SarD1z-Kayseri**	**1.00**	**315**	Pg	**Pb**	**04 47 54.1**	**-0.2**
SAIM	**ADANA**	**1.01**	**286**	P	**Pb**	**04 47 54.3**	**-0.2**
SAIM				S	**Sb**	**04 48 08.3**	**+0.1**
SAIM				*i* AML	AML	04 48 14.0	
	comp=E,300nm,0.3s						
SAIM				*i* AML	AML	04 48 16.0	
	comp=N,296nm,0.2s						
CUGUR	**Gurin_SVAS**	**1.02**	**358**	P	**Pg**	**04 47 53.8**	**-0.3**
CUGUR				S	**Sn**	**04 48 09.6**	**-0.8**
CUGUR				*i* AML	AML	04 48 13.0	
	comp=N,180nm,0.4s						
KOZT	**Kozan**	**1.20**	**260**	Pn	**Pn**	**04 47 57.7**	**-0.2**
KOZT				Sn	**Sn**	**04 48 15.8**	**+1.2**
URFA	**Urfa**	**1.23**	**102**	Pn	**Pn**	**04 47 58.7**	**+0.4**
URFA				Sn	**Sn**	**04 48 16.5**	**+1.2**
BNN	**Bunyan**	**1.63**	**315**	Pn	**Pb**	**04 48 04.9**	**-0.2**
NIDE	**Nigde/Merkez-G**	**2.03**	**279**	P	**Pb**	**04 48 11.3**	**-0.6**

JMA ***28*** *04:52:27.6±0.2, 24˚N±1˚×125.3E±0.7, h42km±4km, MV3.2/11, NEAR MIYAKOJIMA ISLAND*
ISC 28 04:52:26.5±2.6, 24.2N±0.1×125.3E±0.1, h40km±59km, n15, σ0°83/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.51**	**0**	*i* P	**Pn**	**04 52 37.6**	**+0.2**
JMJ2				S	**Sn**	**04 52 45.0**	**-0.1**
JOGS	**Gusukube**	**0.53**	**8**	*i* P	**Pn**	**04 52 38.2**	**+0.5**
JOGS				S	**Sn**	**04 52 46.5**	**+0.8**
JIRB	**Irabujima**	**0.61**	**347**	*i* P	**Pn**	**04 52 38.6**	**-0.2**
JIRB				S	**Sn**	**04 52 46.9**	**-0.7**
JIKM	**Ikemajima**	**0.70**	**354**	*i* P	**Pn**	**04 52 40.1**	**+0.2**
JIKM				*e*S	**Sn**	**04 52 48.7**	**-0.8**
JTJ	**Tarama**	**0.70**	**306**	P	**Pn**	**04 52 39.6**	**-0.4**
JTJ				S	**Sn**	**04 52 48.7**	**-1.0**
JISG	**Ishigakijimahi**	**0.99**	**291**	P	**Pn**	**04 52 44.3**	**+0.3**
JISG				S	**Sn**	**04 52 56.4**	**-0.4**
JIJ	**Ishigaki jima**	**1.09**	**277**	P	**Pn**	**04 52 45.9**	**+0.6**
JIJ				S	**Sn**	**04 52 59.5**	**+0.3**
JKRS	**Kuro-shima**	**1.20**	**271**	P	**Pn**	**04 52 48.0**	**+1.1**
HATJ	**Hateruma jima**	**1.40**	**263**	P	**Pn**	**04 52 50.5**	**+0.9**
HATJ				*e*S	**Sn**	**04 53 06.2**	**-0.6**
IRIF	**Iriomote-Funau**	**1.46**	**274**	P	**Pn**	**04 52 51.1**	**+0.7**
NACB	**Ninganchiao**	**3.41**	**270**	P	**Pn**	**04 53 17.2**	**0.0**
YHNB	**Yeheng**	**3.63**	**278**	P	**Pn**	**04 53 22.2**	**+1.9**
YULB	**Yu-li**	**3.78**	**258**	P	**Pn**	**04 53 21.5**	**-0.9**
SSLB	**Suanglung**	**4.02**	**265**	P	**Pn**	**04 53 26.2**	**+0.5**
TWGBT	**Beinan**	**4.14**	**251**	P	**Pn**	**04 53 26.1**	**-1.2**

IDC ***28*** *04:52:58.3±1.4, 59.55N×30.40W, h0km, mb3.6/8, mbtmp3.6/8, MS3.5/7, Error ellipse: s-maj=42.0km s-min=21.5km az=19.0*
ISC 28 04:53:00.6±1.3, 59.5N±0.3×30.4W±0.2, h16km, n15, σ0°66/8, mb3.5/8, MS3.5/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**11.74**	**318**	LR	LR	04 58 52.8	
	comp=Z,31nm,18.9s,baz=136,slow=30						
EKA	**Eskdalemuir Ar**	**15.21**	**94**	LR	LR	05 01 02.2	
	comp=Z,262nm,20.4s,baz=270,slow=32						
SCHQ	**Schefferville**	**20.10**	**273**	LR	LR	05 03 45.6	
	comp=Z,106nm,21.4s,baz=99,slow=32						
NOA	**NORSAR Array B**	**20.46**	**68**	LR	LR	05 04 01.9	
	comp=Z,86nm,21.4s,baz=35,slow=32						
ESDC	**Sonseca Array**	**25.93**	**128**	P	**P**	**04 58 32.6**	**+0.7**
	1.0nm,0.9s,baz=324

ZEDA	**zmir-Bergama**	**0.93**	**126**	P	**Pb**	**04 56 05.6**	**+0.3**
ZEDA				S	**Sn**	**04 56 19.4**	**-0.1**
LPK	**Lapseki**	**0.98**	**30**	Pg	**Pb**	**04 56 05.7**	**-0.3**
LPK				Sg	**Sb**	**04 56 19.0**	**0.0**
SMTH	**Samothraki Isl**	**1.04**	**335**	P	**Pg**	**04 56 06.7**	**-0.3**
SMTH	**Samothraki Isl**	**1.04**	**335**	P	**Pg**	**04 56 06.3**	**-0.7**
SMTH				S	**Sb**	**04 56 20.7**	**-0.2**
SMTH				AML	AML	04 56 23.4	
	comp=E,884µm,0.3s						
SMTH				AML	AML	04 56 24.3	
	comp=N,1234µm,0.3s						
PSRA	**Psara**	**1.07**	**204**	P	**Pn**	**04 56 08.4**	**+0.4**
PSRA				S	**Sn**	**04 56 24.0**	**+1.1**
PSRA				AML	AML	04 56 27.4	
	comp=N,3518µm,0.2s						
PSRA				AML	AML	04 56 27.9	
	comp=E,3312µm,0.2s						
CHOS	**Chios island**	**1.14**	**182**	P	**Pg**	**04 56 08.7**	**-0.2**
CHOS				S	**Sn**	**04 56 24.4**	**-0.3**
	comp=E,1µm,0.3s						
CHOS	**Chios island**	**1.14**	**182**	Pn	**Pg**	**04 56 08.7**	**-0.2**
CHOS				Sn	**Sn**	**04 56 25.3**	**+0.6**
CHOS	**Chios island**	**1.14**	**182**	P	**Pg**	**04 56 08.6**	**-0.2**
CHOS				S	**Sn**	**04 56 25.1**	**+0.3**
CHOS				AML	AML	04 56 27.1	
	comp=N,1347µm,0.4s						
CHOS				AML	AML	04 56 29.0	
	comp=E,3074µm,0.2s						
CAVK	**Edirne/Enez-Ca**	**1.16**	**2**	P	**Pb**	**04 56 08.9**	**-0.2**
CAVK				S	**Sb**	**04 56 24.5**	**+0.2**
BALY	**Balya**	**1.18**	**79**	P	**Pb**	**04 56 09.2**	**-0.3**
BALY				S	**Sg**	**04 56 24.0**	**-1.0**
ERIK	**Erikli-Kesan**	**1.18**	**15**	Pn	**Pb**	**04 56 08.8**	**-0.7**
ENEZ	**Enez**	**1.21**	**1**	Pn	**Pg**	**04 56 09.8**	**-0.4**
ENEZ				Sn	**Sn**	**04 56 26.8**	**+0.5**
URLA	**Izmir**	**1.22**	**162**	Pn	**Pn**	**04 56 09.9**	**-0.2**
URLA				Sn	**Sn**	**04 56 27.3**	**+0.5**
URLA	**Izmir**	**1.22**	**162**	P	**Pn**	**04 56 09.9**	**-0.2**
URLA				S	**Sb**	**04 56 25.8**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.25**	**96**	P	**Pb**	**04 56 10.7**	**+0.1**
STEP				S	**Sn**	**04 56 28.9**	**+1.4**
KRBG	**Karabiga-Canak**	**1.26**	**46**	Pn	**Pb**	**04 56 10.6**	**-0.1**
KNL	**Balıkesir**	**1.32**	**55**	P	**Pb**	**04 56 11.7**	**0.0**
KNL				S	**Sb**	**04 56 28.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.32**	**66**	Pn	**Pn**	**04 56 11.4**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**1.32**	**167**	P	**Pn**	**04 56 11.0**	**-0.4**
ZEYE				S	**Sb**	**04 56 28.4**	**-0.4**
BLCB	**Balcova**	**1.35**	**147**	P	**Pb**	**04 56 12.2**	**-0.1**
BLCB				S	**Sg**	**04 56 31.0**	**+0.6**
BLCB	**Balcova**	**1.35**	**147**	Pn	**Pg**	**04 56 13.2**	**+0.3**
KESN	**Edirne-Kesan**	**1.37**	**18**	P	**Pn**	**04 56 12.0**	**-0.4**
KESN				S	**Sb**	**04 56 29.8**	**-0.8**
ALN	**Alexandroupoli**	**1.37**	**358**	P	**Pn**	**04 56 12.1**	**0.0**
ALN	**Alexandroupoli**	**1.37**	**358**	Pn	**Pn**	**04 56 12.1**	**0.0**
ALN	**Alexandroupoli**	**1.37**	**358**	P	**Pn**	**04 56 11.6**	**-0.5**
ALN				AML	AML	04 56 31.4	
	comp=E,2188µm,0.5s						
ALN				AML	AML	04 56 31.8	
	comp=N,1792µm,0.4s						
RKY	**Sarkoy-Tekirda**	**1.42**	**35**	Pn	**Pb**	**04 56 13.1**	**-0.4**
SART	**Tekirdag**	**1.42**	**35**	P	**Pn**	**04 56 13.1**	**+0.2**
SART				S	**Sb**	**04 56 31.6**	**-0.2**
AKHS	**Akhisar**	**1.47**	**116**	P	**Pn**	**04 56 13.7**	**+0.2**
AKHS				S	**Sb**	**04 56 33.3**	**+0.1**
THAS	**Thassos island**	**1.52**	**316**	P	**Pn**	**04 56 13.7**	**-0.5**
THAS				S	**Sg**	**04 56 35.2**	**-0.6**
THAS	**Thassos island**	**1.52**	**316**	P	**Pn**	**04 56 13.4**	**-0.8**
THAS				AML	AML	04 56 36.8	
	comp=N,618µm,0.6s						
THAS				AML	AML	04 56 41.6	
	comp=E,415µm,0.4s						
DGB	**zmir**	**1.59**	**158**	P	**Pn**	**04 56 14.9**	**-0.2**
DGB				S	**Sn**	**04 56 35.6**	**-0.1**
UKOP	**Uzunkopru-Edir**	**1.65**	**14**	Pn	**Pb**	**04 56 17.5**	**+0.1**
RDO	**Rodhopi**	**1.68**	**345**	P	**Pn**	**04 56 16.6**	**+0.2**
RDO				S	**Sg**	**04 56 39.7**	**-1.2**
	comp=E,212nm,0.4s						
RDO	**Rodhopi**	**1.68**	**345**	Pn	**Pn**	**04 56 16.5**	**+0.2**
RDO	**Rodhopi**	**1.68**	**345**	P	**Pn**	**04 56 16.0**	**-0.4**
RDO				AML	AML	04 56 40.6	
	comp=N,490µm,0.5s						
RDO				AML	AML	04 56 41.9	
	comp=E,359µm,0.3s						
OUR	**Ouranopolis**	**1.83**	**297**	P	**Pn**	**04 56 18.7**	**+0.3**
OUR	**Ouranopolis**	**1.83**	**297**	Pn	**Pn**	**04 56 18.7**	**+0.3**
OUR	**Ouranopolis**	**1.83**	**297**	P	**Pn**	**04 56 17.9**	**-0.5**
OUR				AML	AML	04 56 49.0	
	comp=N,407µm,0.4s						
OUR				AML	AML	04 56 49.3	
	comp=E,426µm,0.4s						
SMG	**Samos**	**1.90**	**162**	P	**Pn**	**04 56 19.0**	**-0.4**
SMG				S	**Sn**	**04 56 43.7**	**+0.2**
	comp=E,375nm,0.5s						
SMG	**Samos**	**1.90**	**162**	P	**Pn**	**04 56 18.8**	**-0.6**
KAVA	**Kavala**	**1.91**	**321**	P	**Pn**	**04 56 18.8**	**-0.8**
PAIG	**Paliouri**	**1.92**	**283**	P	**Pn**	**04 56 19.7**	**0.0**
PAIG	**Paliouri**	**1.92**	**283**	P	**Pn**	**04 56 19.2**	**-0.5**
PAIG				AML	AML	04 56 51.8	
	comp=E,141µm,0.6s						
PAIG				AML	AML	04 56 58.4	
	comp=N,211µm,0.6s						
CRLT	**Corlu**	**2.02**	**37**	Pn	**Pn**	**04 56 21.8**	**+0.7**
DEMI	**Demirci**	**2.08**	**103**	P	**Pn**	**04 56 22.7**	**+0.8**
DEMI				S	**Sb**	**04 56 52.0**	**+1.3**
MANT	**Manisa**	**2.17**	**118**	P	**Pb**	**04 56 25.0**	**-1.4**
MANT				S	**Sn**	**04 56 48.4**	**-1.9**
KDZ	**Kurdzhali**	**2.19**	**346**	Pn	**Pn**	**04 56 23.6**	**+0.2**
KDZ	**Kurdzhali**	**2.19**	**346**	*i* P	**Pn**	**04 56 23.5**	**+0.2**
KULA	**Kula-Manisa**	**2.23**	**116**	P	**Pn**	**04 56 24.7**	**+0.7**
NEO	**Neokhori**	**2.25**	**265**	P	**Pn**	**04 56 23.2**	**-1.1**
AYDN	**Tasoluk**	**2.32**	**143**	P	**Pn**	**04 56 24.9**	**-0.3**
AYDN				S	**Sb**	**04 56 59.0**	**+1.4**
PHSR	**Pinarhisar**	**2.36**	**27**	Pn	**Pn**	**04 56 26.5**	**+0.7**
EDRB	**Edirne**	**2.37**	**11**	P	**Pn**	**04 56 25.6**	**-0.2**
EDRB	**Edirne**	**2.37**	**11**	Pn	**Pn**	**04 56 26.4**	**+0.6**
RZN	**Rozhen**	**2.41**	**334**	*i* P	**Pn**	**04 56 26.7**	**+0.1**
ULDT	**Uludag**	**2.41**	**74**	P	**Pn**	**04 56 27.5**	**+0.9**
ULDT				S	**Sg**	**04 57 03.0**	**-1.3**
VIZE	**Kirklareli, Vi**	**2.44**	**32**	P	**Pn**	**04 56 26.7**	**-0.1**
VIZE				S	**Sb**	**04 57 00.8**	**-0.1**
VLY	**Voula,Athens**	**2.47**	**228**	P	**Pn**	**04 56 26.6**	**-0.6**
SOH	**Sokhos**	**2.48**	**302**	P	**Pn**	**04 56 27.6**	**+0.2**
SOH				AML	AML	04 57 08.7	
	comp=E,288µm,0.6s						
SOH				AML	AML	04 57 10.6	
	comp=N,183µm,0.5s						
APE	**Apeiranthos**	**2.50**	**191**	P	**Pn**	**04 56 27.1**	**-0.6**
SRS	**Serrai**	**2.50**	**310**	P	**Pn**	**04 56 27.6**	**-0.1**
SRS	**Serrai**	**2.50**	**310**	P	**Pn**	**04 56 27.5**	**-0.2**
SRS				AML	AML	04 57 07.1	
	comp=E,165µm,0.7s						
SRS				AML	AML	04 57 12.8	
	comp=N,106µm,0.5s						
NVR	**Nevrokopi**	**2.50**	**317**	P	**Pn**	**04 56 28.6**	**+0.8**
NVR				S	**Sn**	**04 57 00.0**	**+1.6**
HORT	**Hortiatis**	**2.55**	**296**	Pn	**Pn**	**04 56 28.9**	**+0.5**
DIM	**Dimitrovgrad**	**2.56**	**350**	*i* P	**Pb**	**04 56 33.7**	**+0.8**
VILL	**Villia**	**2.58**	**239**	P	**Pn**	**04 56 28.1**	**-0.7**
KURT	**Yalova, Merkez**	**2.60**	**65**	P	**Pb**	**04 56 33.2**	**-0.5**
GDZ	**Gediz**	**2.65**	**98**	P	**Pb**	**04 56 33.2**	**-1.4**
GDZ				S	**Sb**	**04 57 08.6**	**+1.5**
ISK	**Istanbul-Kandi**	**2.73**	**55**	P	**Pn**	**04 56 31.2**	**+0.4**
MMB	**Musomiste**	**2.75**	**319**	*i* P	**Pn**	**04 56 30.7**	**-0.4**
PLD	**Plovdiv**	**2.79**	**338**	Pn	**Pn**	**04 56 32.7**	**+1.1**
PLD	**Plovdiv**	**2.79**	**338**	*i* P	**Pb**	**04 56 37.9**	**+1.0**
ANDZ	**Kutahya, Merke**	**2.93**	**89**	P	**Pn**	**04 56 31.9**	**-1.8**
ANDZ				S	**Sg**	**04 57 21.1**	**+0.1**
KNT	**Kendrikon**	**2.95**	**305**	P	**Pn**	**04 56 34.4**	**+0.5**
KNT	**Kendrikon**	**2.95**	**305**	Pn	**Pn**	**04 56 34.7**	**+0.8**
KNT	**Kendrikon**	**2.95**	**305**	P	**Pn**	**04 56 33.8**	**-0.1**
BILE	**Bilecik/Merkez**	**2.96**	**76**	P	**Pb**	**04 56 37.8**	**-2.1**
BILE				S	**Sg**	**04 57 19.4**	**-2.7**
AGG	**Agios Georgios**	**2.98**	**261**	Pn	**Pn**	**04 56 35.2**	**+0.9**
DAT	**Datca**	**3.02**	**157**	P	**Pn**	**04 56 35.0**	**0.0**
MAKR	**Makrakomi, Fth**	**3.13**	**262**	P	**Pn**	**04 56 36.2**	**-0.2**
KRND	**KRANIDI**	**3.16**	**228**	P	**Pn**	**04 56 35.8**	**-0.9**
GRG	**Griva**	**3.18**	**298**	Pn	**Pn**	**04 56 37.9**	**+0.8**
VAY	**Valandovo**	**3.25**	**305**	*i* Pn	**Pg**	**04 56 49.2**	**0.0**
BORA	**Eskisehir**	**3.37**	**83**	P	**Pn**	**04 56 40.2**	**+0.5**
STIP	**Stip**	**3.69**	**307**	*i* Pn	**Pn**	**04 56 43.2**	**-0.9**
PLVB	**Pleven**	**4.02**	**344**	⇓P	**Pn**	**04 56 49.5**	**+1.0**
PLVB				⇑S	**Sg**	**04 57 55.0**	**-0.9**
RAZG	**Razgrad**	**4.05**	**4**	⇑P	**Pn**	**04 56 52.1**	**+3.2**
KTHR	**Kythira**	**4.08**	**218**	P	**Pn**	**04 56 49.1**	**-0.4**
OHR	**Ohrid**	**4.36**	**293**	*i* Pn	Pb	04 56 58.5	-5.2
ICOR	**Ion Corvin**	**4.76**	**15**	⇓P	**Pn**	**04 56 59.7**	**+1.0**
TLBR	**Topalu**	**5.22**	**15**	⇑P	**Pn**	**04 57 05.3**	**+0.3**
BOVS	**Bovan**	**5.27**	**323**	⇑P	**Pn**	**04 57 06.0**	**+0.3**
TPGR	**Topolog**	**5.59**	**17**	⇑P	**Pn**	**04 57 10.4**	**+0.2**
CFR	**Carcaliu**	**5.84**	**14**	⇑P	**Pn**	**04 57 13.6**	**+0.1**
ARR	**Arges**	**5.94**	**350**	⇑P	**Pn**	**04 57 16.7**	**+1.7**
VOIR		**5.96**	**353**	⇓P	**Pn**	**04 57 16.9**	**+1.6**
MLR	**Muntele Rosu**	**5.96**	**359**	⇑P	**Pn**	**04 57 17.8**	**+2.5**
HERR	**Herculane**	**6.01**	**334**	⇑P	**Pn**	**04 57 18.7**	**+2.8**
MDVR	**Moldovita**	**6.18**	**330**	⇓P	**Pn**	**04 57 19.5**	**+1.2**
PLOR	**Plostina**	**6.33**	**3**	⇑P	**Pn**	**04 57 21.3**	**+0.9**
VRI	**Vrincioaia**	**6.35**	**4**	⇑P	**Pn**	**04 57 23.0**	**+2.4**
GZR	**Gura Zlata**	**6.36**	**338**	⇑P	**Pn**	**04 57 22.3**	**+1.5**
VLDR	**Vladesti**	**6.48**	**12**	⇑P	**Pn**	**04 57 23.9**	**+1.6**
SURR	**Surduc**	**6.88**	**336**	⇑P	**Pn**	**04 57 28.2**	**+0.3**
BZS	**Buzias**	**6.93**	**333**	⇑P	**Pn**	**04 57 28.7**	**+0.2**
TESR	**Tescani**	**6.99**	**3**	⇑P	**Pn**	**04 57 31.2**	**+1.8**
SIRR	**Siria**	**7.49**	**336**	⇑P	**Pn**	**04 57 36.8**	**+0.6**

IDC 28 04:59:36.4±1.7, 59°37N×30°48W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=48.0km s-min=33.0km az=35.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**38.27**	**312**	P	P	05 06 57.6	-0.1
	0.4nm,0.8s,baz=55,slow=9.3,SNR=5.5						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**51.95**	**139**	P	P	05 08 46.8	-0.1
	0.1nm,0.4s,baz=334,slow=7.0,SNR=1.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**56.23**	**46**	P	P	05 09 17.6	-0.1
	0.5nm,0.6s,baz=323,slow=7.4,SNR=5.7						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**60.79**	**47**	P	P	05 09 49.7	0.0
	0.6nm,0.7s,baz=330,slow=5.1,SNR=6.1						
	0.6nm,0.7s						

*IDC **28** 05:30:23.4±1.5, 38°34N×21°51E, h0km, mb3.5/8, mbtmp3.5/11, ML3.3/3, MS3.7/3, Error ellipse: s-maj=33.6km s-min=18.3km az=34.0*
*BEO **28** 05:30:26.7±1.0, 38°26N×22°31E, h0km, ML2.9/4*
*ATH **28** 05:30:27.9, 38°38N×21°89E, h8km±1km, ML3.1/21, Error ellipse: s-maj=1.5km s-min=0.8km az=354.0*
*THE **28** 05:30:28.4, 38°37N×21°91E, h5km, ML3.2/9, Error ellipse: s-maj=0.8km s-min=0.4km az=322.0*

ISC 28 05:30:27.9±0.7, 38°37N±0°02×21°91E±0°02, h13km±4km, n130, σ1§58/168, mb3.6/9, 7C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.05**	**354**	P	**Pg**	**05 30 29.4**	**-0.9**
EFP	**Efpalio**	**0.05**	**354**	P	**Pg**	**05 30 29.4**	**-0.9**
EFP				S	**Sg**	**05 30 30.5**	**-1.6**
EFP				AML	AML	05 30 30.8	
EFP				AML	AML	05 30 31.4	
SERG	**Sergoula**	**0.12**	**70**	P	**Pg**	**05 30 31.3**	**+0.2**
SERG				S	**Sg**	**05 30 33.2**	**-0.2**
	11µm,0.2s						
SERG	**Sergoula**	**0.12**	**70**	P	**Pg**	**05 30 31.7**	**+0.6**
SERG				S	**Sg**	**05 30 33.8**	**+0.4**
SERG				AML	AML	05 30 34.4	
	comp=E,29875µm,0.2s						
SERG				AML	AML	05 30 38.9	
	comp=N,28947µm,0.5s						
UPR	**University Cam**	**0.13**	**228**	P	**Pg**	**05 30 31.4**	**+0.2**
LAKA	**Lakka**	**0.14**	**159**	P	**Pg**	**05 30 31.3**	**-0.1**
LAKA	**Lakka**	**0.14**	**159**	P	**Pg**	**05 30 31.2**	**-0.2**
LAKA				AML	AML	05 30 33.7	
	comp=E,12154µm,0.6s						
LAKA				S	**Sg**	**05 30 33.8**	**-0.1**
LAKA				AML	AML	05 30 34.2	
	comp=N,15940µm,0.4s						
ALIK	**Aliki, Aigiali**	**0.19**	**126**	P	**Pg**	**05 30 32.6**	**+0.5**
ALIK				S	**Sg**	**05 30 34.9**	**-0.2**
ANX	**Ano Chora**	**0.22**	**2**	P	**Pg**	**05 30 32.2**	**-0.5**
ANX				S	**Sg**	**05 30 35.6**	**-0.4**
	comp=N,21µm,0.5s						
ANX	**Ano Chora**	**0.22**	**2**	P	**Pg**	**05 30 32.2**	**-0.5**
ANX				S	**Sg**	**05 30 35.8**	**-0.3**
ANX				AML	AML	05 30 36.1	
	comp=N,58827µm,0.6s						
ANX				AML	AML	05 30 39.0	
	comp=E,26787µm,0.5s						
KLV	**Kalavryta, Ach**	**0.38**	**150**	P	**Pg**	**05 30 35.5**	**0.0**
KLV	**Kalavryta, Ach**	**0.38**	**150**	P	**Pg**	**05 30 35.4**	**-0.1**
KLV				S	**Sg**	**05 30 41.0**	**+0.5**
KLV				AML	AML	05 30 44.2	
	comp=E,2808µm,0.2s						
KLV				AML	AML	05 30 45.1	
	comp=N,2994µm,0.3s						
PVO	**Paravola**	**0.39**	**309**	P	**Pg**	**05 30 34.8**	**-0.9**
PVO				S	**Sg**	**05 30 41.6**	**+0.7**
PVO	**Paravola**	**0.39**	**309**	P	**Pg**	**05 30 34.2**	**-1.4**
PVO				S	**Sg**	**05 30 40.3**	**-0.6**
DRO	**Drossia**	**0.45**	**201**	P	**Pg**	**05 30 37.1**	**+0.4**
DRO				S	**Sg**	**05 30 43.1**	**+0.4**
	comp=N,8µm,0.3s						
DRO	**Drossia**	**0.45**	**201**	P	**Pg**	**05 30 36.8**	**0.0**
DRO				S	**Sg**	**05 30 42.8**	**0.0**
DRO				AML	AML	05 30 44.6	
	comp=N,14288µm,0.3s						
DRO				AML	AML	05 30 44.9	
	comp=E,15076µm,0.5s						
DLFA	**Delphi**	**0.47**	**77**	P	**Pg**	**05 30 36.4**	**-0.8**
DLFA				S	**Sg**	**05 30 44.2**	**+0.8**
DLFA				AML	AML	05 30 46.6	
	comp=E,3260µm,0.5s						
DLFA				AML	AML	05 30 47.1	
	comp=N,3018µm,0.5s						
RLS	**Riolos of Patr**	**0.47**	**228**	P	**Pg**	**05 30 37.5**	**+0.4**
RLS	**Riolos of Patr**	**0.47**	**228**	P	**Pg**	**05 30 37.2**	**+0.1**
RLS				S	**Sg**	**05 30 43.8**	**+0.4**
RLS				AML	AML	05 30 47.1	
	comp=N,5714µm,0.2s						
RLS				AML	AML	05 30 47.3	
	comp=E,6538µm,0.3s						
EVR	**Evrytania**	**0.55**	**351**	P	**Pg**	**05 30 39.1**	**+0.4**
EVR				S	**Sb**	**05 30 47.9**	**+0.6**
	comp=E,2µm,0.5s						
EVR	**Evrytania**	**0.55**	**351**	P	**Pg**	**05 30 39.0**	**+0.3**
EVR				S	**Sg**	**05 30 45.6**	**-0.4**
EVR				AML	AML	05 30 53.0	
	comp=E,6128µm,0.5s						
EVR				AML	AML	05 30 54.4	
	comp=N,4558µm,0.5s						
MAKR	**Makrakomi, Fth**	**0.66**	**15**	P	**Pg**	**05 30 40.6**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.66**	**15**	P	**Pg**	**05 30 40.3**	**-0.4**
MAKR				AML	AML	05 30 52.6	
	comp=E,6987µm,0.6s						
MAKR				AML	AML	05 30 52.8	
	comp=N,9124µm,0.5s						
THAL	**Thalero**	**0.68**	**119**	P	**Pg**	**05 30 41.5**	**+0.4**
THAL	**Thalero**	**0.68**	**119**	P	**Pg**	**05 30 41.2**	**+0.1**
THAL				AML	AML	05 30 58.6	
	comp=E,6113µm,0.6s						
THAL				AML	AML	05 31 02.2	
	comp=N,4787µm,0.4s						
AXAR	**Agios Charalam**	**0.70**	**56**	P	**Pg**	**05 30 40.8**	**-0.8**
AXAR				S	**Sb**	**05 30 52.7**	**+1.0**
	comp=N,4µm,0.5s						
AXAR	**Agios Charalam**	**0.70**	**56**	P	**Pg**	**05 30 40.6**	**-1.0**
AXAR				S	**Sg**	**05 30 51.5**	**+0.6**
AGG	**Agios Georgios**	**0.73**	**27**	P	**Pg**	**05 30 41.9**	**-0.1**
AGG	**Agios Georgios**	**0.73**	**27**	P	**Pg**	**05 30 40.6**	**-1.4**
AGG				S	**Sg**	**05 30 51.2**	**-0.3**
AGG				AML	AML	05 30 56.9	
	comp=N,2923µm,0.7s						
AGG				AML	AML	05 30 57.5	
	comp=E,2434µm,0.6s						
LOUT	**Loutraki**	**0.92**	**114**	P	**Pg**	**05 30 45.3**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.01**	**290**	P	**Pb**	**05 30 47.7**	**+0.5**
EVGI	**Lefkada island**	**1.02**	**284**	P	**Pg**	**05 30 47.2**	**-0.3**
EVGI				S	**Sn**	**05 31 02.7**	**+0.7**
EVGI	**Lefkada island**	**1.02**	**284**	P	**Pg**	**05 30 46.3**	**-1.2**
VLS	**Valsamata**	**1.06**	**260**	P	**Pg**	**05 30 47.5**	**-0.8**
VLS	**Valsamata**	**1.06**	**260**	P	**Pg**	**05 30 47.1**	**-1.2**
VLS				AML	AML	05 31 05.1	
	comp=E,1899µm,0.2s						
VLS				AML	AML	05 31 05.9	
	comp=N,1880µm,0.2s						
FSK	**Fiskardo**	**1.06**	**275**	P	**Pg**	**05 30 47.8**	**-0.6**
FSK				S	**Sb**	**05 31 03.5**	**+1.5**
	comp=N,908nm,0.4s						
FSK	**Fiskardo**	**1.06**	**275**	P	**Pg**	**05 30 47.3**	**-1.1**
FSK				AML	AML	05 31 08.2	
	comp=N,1464µm,0.6s						
FSK				AML	AML	05 31 10.0	
	comp=E,2180µm,0.4s						
LKD2	**Lefkada island**	**1.07**	**293**	P	**Pn**	**05 30 49.4**	**+0.8**
LKD2	**Lefkada island**	**1.07**	**293**	P	**Pg**	**05 30 48.5**	**+0.1**
LTHK	**Lithakia**	**1.08**	**232**	P	**Pg**	**05 30 48.3**	**-0.3**
LTHK				S	**Sn**	**05 31 04.0**	**+0.5**
	comp=E,2µm,0.4s						
LTHK	**Lithakia**	**1.08**	**232**	P	**Pg**	**05 30 47.7**	**-0.9**
LTHK				AML	AML	05 31 11.9	
	comp=N,2655µm,0.3s						
LTHK				AML	AML	05 31 12.0	
	comp=E,5234µm,0.6s						
PSDA	**Pessada-Kefalo**	**1.08**	**257**	P	**Pg**	**05 30 47.8**	**-0.8**
PSDA				S	**Sn**	**05 31 04.9**	**+1.4**
	comp=E,2µm,0.5s						
PSDA	**Pessada-Kefalo**	**1.08**	**257**	P	**Pg**	**05 30 47.3**	**-1.3**
VIL2	**Platees**	**1.08**	**98**	P	**Pb**	**05 30 49.4**	**+1.0**
VIL2				AML	AML	05 31 09.9	
	comp=E,2703µm,0.7s						
VIL2				AML	AML	05 31 12.0	
	comp=N,1461µm,0.7s						
TSLK	**Tsoukalades, L**	**1.08**	**295**	P	**Pg**	**05 30 48.4**	**-0.3**
TSLK	**Tsoukalades, L**	**1.08**	**295**	P	**Pg**	**05 30 47.6**	**-1.1**
DRAG	**Dragano-Lefkad**	**1.09**	**287**	P	**Pg**	**05 30 48.5**	**-0.4**
DRAG				S	**Sn**	**05 31 05.1**	**+1.1**
VILL	**Villia**	**1.12**	**100**	P	**Pg**	**05 30 49.5**	**+0.1**
VILL				S	**Sn**	**05 31 06.3**	**+1.6**
KEF4	**Livadi, Kephal**	**1.18**	**265**	P	**Pg**	**05 30 49.9**	**-0.6**
KEF4				S	**Sn**	**05 31 07.7**	**+1.8**
KEF4	**Livadi, Kephal**	**1.18**	**265**	P	**Pg**	**05 30 48.4**	**-2.1**
THL	**Klokotos Trika**	**1.19**	**4**	P	**Pg**	**05 30 50.4**	**-0.4**
THL				S	**Sn**	**05 31 08.4**	**+2.0**
THL	**Klokotos Trika**	**1.19**	**4**	P	**Pg**	**05 30 49.0**	**-1.8**
THL				AML	AML	05 31 09.6	
	comp=E,2262µm,0.8s						
THL				AML	AML	05 31 09.8	
	comp=N,1098µm,0.7s						
EPID	**Epidavros**	**1.22**	**128**	P	**Pg**	**05 30 50.0**	**-1.3**
EPID	**Epidavros**	**1.22**	**128**	P	**Pg**	**05 30 49.1**	**-2.2**
DMLN	**Damoulianata-K**	**1.22**	**264**	P	**Pg**	**05 30 50.9**	**-0.4**
DMLN				S	**Sn**	**05 31 08.7**	**+1.7**
KEF3	**Kipouria, Keph**	**1.24**	**263**	P	**Pg**	**05 30 51.0**	**-0.8**
KEF3				S	**Sn**	**05 31 08.9**	**+1.3**
KEF3	**Kipouria, Keph**	**1.24**	**263**	P	**Pg**	**05 30 49.9**	**-1.8**
TYRN	**Tyrnavos**	**1.36**	**10**	P	**Pn**	**05 30 53.6**	**+1.0**
TYRN				S	**Sn**	**05 31 12.1**	**+1.6**
TYRN	**Tyrnavos**	**1.36**	**10**	P	**Pn**	**05 30 52.6**	**0.0**
NEO	**Neokhori**	**1.38**	**47**	P	**Pn**	**05 30 53.3**	**+0.3**
NEO	**Neokhori**	**1.38**	**47**	P	**Pn**	**05 30 53.2**	**+0.3**
NEO				AML	AML	05 31 22.4	
	comp=N,658µm,0.5s						
NEO				AML	AML	05 31 23.7	
	comp=E,614µm,0.5s						
KRND	**KRANIDI**	**1.39**	**135**	P	**Pn**	**05 30 54.0**	**+1.0**
KRND				S	**Sn**	**05 31 13.2**	**+2.0**
	comp=E,670nm,0.5s						
XOR	**Xorichti**	**1.41**	**45**	P	**Pn**	**05 30 53.6**	**+0.3**
XOR	**Xorichti**	**1.41**	**45**	P	**Pn**	**05 30 53.5**	**+0.3**
PYL	**PYLOS**	**1.48**	**185**	P	**Pn**	**05 30 55.0**	**+0.8**
PYL	**PYLOS**	**1.48**	**185**	P	**Pn**	**05 30 54.6**	**+0.4**
PYL				AML	AML	05 31 28.8	
	comp=N,582µm,0.6s						
PYL				AML	AML	05 31 30.6	
	comp=E,742µm,0.7s						
JAN	**Janina**	**1.53**	**327**	P	**Pn**	**05 30 56.0**	**+1.1**
ATHU	**Athens Univers**	**1.53**	**105**	P	**Pn**	**05 30 56.0**	**+1.1**
PTL	**Penteli**	**1.57**	**101**	P	**Pn**	**05 30 56.3**	**+0.8**
DION	**Dionisos Attik**	**1.62**	**100**	P	**Pn**	**05 30 57.1**	**+1.0**
DION				S	**Sb**	**05 31 19.3**	**+1.3**
DION	**Dionisos Attik**	**1.62**	**100**	P	**Pn**	**05 30 55.3**	**-0.8**
DION				A

	comp=Z,0.4nm,0.6s							
EKA	**Eskdalemuir Ar**	**23.91**	**323**	P		**P**	**05 35 37.3**	**-3.9**
	comp=Z,2.0nm,0.9s,baz=122,slow=9.3,SNR=1.9							
	comp=Z,2.0nm,0.9s							
MBAR	**Mbarara**	**39.63**	**166**	LR		LR	05 56 43.3	
	comp=Z,74nm,18.8s,baz=256,slow=40							
KURBB	**Kurchatov Arra**	**41.23**	**54**	P		**P**	**05 38 12.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=281,slow=8.6,SNR=1.2							
	comp=Z,0.2nm,0.3s							
MKAR	**Makanchi Array**	**44.26**	**59**	P		**P**	**05 38 37.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=277,slow=7.0,SNR=15							
	comp=Z,0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**44.74**	**48**	P		**P**	**05 38 38.2**	**-2.5**
	comp=Z,0.4nm,0.5s,baz=282,slow=9.1,SNR=1.6							
	comp=Z,0.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**68.78**	**83**	P		**P**	**05 41 33.0**	**+1.1**
	comp=Z,1.7nm,0.3s,baz=289,slow=8.9,SNR=4.7							
YKA	**Yellowknife Ar**	**73.58**	**341**	P		**P**	**05 41 56.9**	**-3.3**
	comp=Z,0.2nm,0.7s,baz=36,slow=5.5,SNR=1.9							
	comp=Z,0.2nm,0.7s							
TKL	**Tuckaleechee C**	**79.30**	**307**	LR		LR	06 17 49.1	
	comp=Z,112nm,18.9s,baz=107,slow=36							

KRSC 28 05:34:26.0±0.7, 55°52N×162°93E, h69$_{km}$±22$_{km}$, MI3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZGR	**Bezymyannyi-Gr**	**1.33**	**290**	*eP*	Pn	05 34 50.2	+1.4
SMKR	**Semkarok**	**1.35**	**323**	*eP*	Pn	05 34 50.1	+1.2
SMKR				*eS*	Sn	05 35 07.7	+1.5
CIRR	**Tsirk**	**1.37**	**297**	*eS*	Sn	05 35 08.0	+1.2
BZP	**Bezymyannyi-Pe**	**1.41**	**287**	*eP*	Pn	05 34 51.2	+1.3
BZMR	**Bezymyannaya**	**1.44**	**288**	*eP*	Pn	05 34 51.9	+1.6
BZWR	**Bezymyannyi-We**	**1.45**	**289**	*eP*	Pn	05 34 52.2	+1.8
TUMD	**Tumrok D**	**1.48**	**259**	*eP*	Pn	05 34 52.1	+1.4
TUMD				*eS*	Sn	05 35 11.8	+2.6
KLY	**Klyuchi**	**1.51**	**303**	*eP*	Pn	05 34 51.1	+0.1
KLY				*eS*	Sn	05 35 09.0	-0.9
KIRR	**Kirishev**	**1.53**	**288**	*eP*	Pn	05 34 53.7	+2.3
KIRR				*eS*	Sn	05 35 12.4	+1.9
KMNR	**Kamenistaya**	**1.54**	**280**	*eP*	Pn	05 34 53.6	+2.0
KMNR				*eS*	Sn	05 35 13.0	+2.1
KPT	**Kopyto**	**1.60**	**288**	*eP*	Pn	05 34 54.4	+2.1
KPT				*eS*	Sn	05 35 14.4	+2.3
TUMR	**Tumrok**	**1.60**	**263**	*eP*	Pn	05 34 54.5	+2.1
TUMR				*eS*	Sn	05 35 14.7	+2.4
BKI	**Bering**	**1.77**	**99**	*eP*	Pn	05 34 57.5	+3.1
BKI				*eS*	Sn	05 35 18.9	+3.0
KOZ	**Kozyrevsk**	**1.81**	**289**	*eP*	Pn	05 34 58.1	+3.1
KOZ				*eS*	Sn	05 35 20.8	+3.7
SRDR	**Sredinnyy**	**1.98**	**295**	*eP*	Pn	05 34 59.8	+2.4
SRDR				*eS*	Sn	05 35 24.0	+2.8
ESO	**Esso**	**2.43**	**281**	*eP*	Pn	05 35 06.6	+3.2
SPN	**Mys Shipunski**	**2.96**	**216**	*eP*	Pn	05 35 11.5	+0.9
SPN				*eS*	Sn	05 35 44.6	-0.4
NLC	**Nalytchevo**	**3.15**	**223**	*eS*	Sn	05 35 50.9	+1.3
SDLR	**Sedlovina**	**3.26**	**228**	*eP*	Pn	05 35 17.4	+2.6
KRER	**Koryakskii**	**3.30**	**230**	*eP*	Pn	05 35 18.8	+3.4
KRX	**Arik**	**3.30**	**231**	*eP*	Pn	05 35 18.3	+2.9
AVH	**Avacha**	**3.33**	**229**	*eP*	Pn	05 35 18.7	+3.0
UGLR	**Uglovaya**	**3.33**	**228**	*eP*	Pn	05 35 18.5	+2.7
KOK	**Koryaka**	**3.35**	**230**	*eP*	Pn	05 35 18.6	+2.5
GNL	**Ganaly**	**3.43**	**240**	*eP*	Pn	05 35 20.0	+2.9
DALK	**Dalny**	**3.49**	**226**	*eP*	Pn	05 35 20.7	+2.9
OSSR	**Ossora**	**3.75**	**1**	*eP*	Pn	05 35 23.6	+2.3
KRMR	**Karymshinskiy**	**3.90**	**228**	*eP*	Pn	05 35 27.6	+4.3
RUS	**Russkaya**	**4.04**	**222**	*eP*	Pn	05 35 28.3	+3.0
GRL	**Gorelyy**	**4.12**	**226**	*eP*	Pn	05 35 29.8	+3.2
MTVR	**Mutnovka**	**4.13**	**225**	*eP*	Pn	05 35 30.5	+3.8
TILK	**Tilichiki**	**5.23**	**18**	*eP*	Pn	05 35 44.3	+2.7

*IDC **28** 05:43:06.9±1.7, 2°.70S×129°.04E, h0$_{km}$, mb3.4/2, mbtmp3.5/4, ML3.4/2, MS2.6/1, Error ellipse: s-maj=37.7km s-min=24.9km az=97.0*
*DJA **28** 05:43:08.5±0.7, 2°.5S±3°×12°.9E±°, h12$_{km}$±6$_{km}$, M3.9/13, mb4.4/4, mB5.9/2, MLv3.6/13, Mw(mB)5.5/2*
ISC 28 05:43:08.4±0.9, **2°.52S**±0°.06×**128°.91E**±0°.05, **h10**$_{km}$, **n15,**
σ1§**75**/**17**, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.82**	**179**	P	**Pg**	**05 43 25.2**	**+1.0**
MSAI				S	**Sb**	**05 43 37.6**	**+1.7**
AAI	**Ambon**	**1.36**	**212**	P	**Pn**	**05 43 34.1**	**+0.6**
NLAI	**Namlea**	**1.95**	**249**	P	**Pn**	**05 43 40.1**	**-1.4**
NLAI				S	**Sn**	**05 44 06.6**	**+0.5**
SWI	**Sorong**	**2.87**	**55**	P	**Pn**	**05 43 53.8**	**-0.4**
SWI				S	**Sn**	**05 44 29.9**	**+1.1**
SIJI	**Sorong**	**2.87**	**55**	Pn	**Pn**	**05 43 53.9**	**-0.4**
	3.2nm,0.3s,baz=276,slow=23,SNR=2.9						
SIJI				Sn	**Sn**	**05 44 29.0**	**+0.1**
	9.2nm,0.3s,baz=212,slow=23,SNR=10						
	6.2nm,0.3s						
SANI	**Sanana**	**2.96**	**279**	P	Pn	05 43 52.3	-3.2
FAKI	**Fak Fak**	**3.35**	**97**	P	**Pn**	**05 44 00.8**	**-0.2**
TNTI	**Ternate**	**3.62**	**335**	P	**Pn**	**05 44 03.1**	**-1.5**
RKPI	**Ransiki, Papua**	**5.36**	**79**	P	**Pn**	**05 44 29.6**	**+1.1**
	98nm,0.9s,15µm0.8nm						
LUWI	**Luwuk**	**6.31**	**283**	P	**Pn**	**05 44 40.8**	**-0.8**
	81nm,0.8s,6µm0.5nm						
GTOI	**Gorontalo**	**6.68**	**298**	P	**Pn**	**05 44 49.1**	**+2.4**
	7.4nm,1.1s,0.0nm						
WRA	**Warramunga Arr**	**18.11**	**163**	P	**Pn**	**05 47 16.5**	**-3.7**
	0.2nm,0.3s,baz=340,slow=12,SNR=11						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**21.57**	**167**	P	**P**	**05 47 55.9**	**-2.5**
	1.7nm,0.5s,baz=348,slow=11,SNR=32						
	1.7nm,0.5s						
KSRS	**Korea Array**	**39.78**	**359**	LR	LR	06 08 40.5	
	comp=Z,7.5nm,18.5s,baz=95,slow=38						
MKAR	**Makanchi Array**	**63.92**	**326**	P	**P**	**05 53 43.8**	**+2.2**
	0.2nm,0.6s,baz=112,slow=6.4,SNR=2.0						
	0.2nm,0.6s						

*IDC **28** 05:54:44.4±1.8, 24°.91S×177°.74E, h323$_{km}$±27$_{km}$, mb3.4/5, mbtmp4.2/8, Error ellipse: s-maj=29.7km s-min=23.9km az=99.0*
ISC 28 05:54:43.6±0.9, **24°.9S**±0°.1×**177°.6E**±0°.1, **h300**$_{km}$, **n8,**
σ1§**82**/**8**, **mb3.6**/**5**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.85**	**138**	P	**Pn**	**05 56 12.4**	**+1.4**
	112nm,0.3s,baz=66,slow=20,SNR=1.8						
MSVF	**Nonsavu**	**7.18**	**3**	P	**Pn**	**05 56 27.7**	**+0.3**
	4.1nm,0.4s,baz=232,slow=20,SNR=10						
URZ	**Urewera**	**13.28**	**182**	P	**Pn**	**05 57 39.9**	**-1.5**
	4.1nm,0.5s,baz=37,slow=13,SNR=6.3						
CTA	**Charters Tower**	**29.34**	**273**	P	**P**	**06 00 21.2**	**+1.7**
	4.6nm,0.5s,baz=102,slow=7.5,SNR=12						
	4.6nm,0.5s						
STKA	**Stephens Creek**	**32.33**	**249**	P	**P**	**06 00 46.9**	**+1.5**
	0.5nm,0.4s,baz=97,slow=11,SNR=4.0						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**39.74**	**262**	P	**P**	**06 01 47.0**	**-1.1**
	0.5nm,0.5s,baz=94,slow=7.1,SNR=16						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**40.20**	**268**	P	**P**	**06 01 49.8**	**-1.9**
	1.8nm,0.5s,baz=100,slow=8.0,SNR=32						
	1.8nm,0.5s						
ILAR	**Eielson Array**	**93.56**	**14**	P	**P**	**06 07 23.8**	**-1.4**
	1.0nm,1.1s,baz=221,slow=6.8,SNR=4.2						
	1.0nm,1.1s						

*DJA **28** 05:57:32.5±1.2, 5°.5S±8°×15°.6E±1°.4, h10$_{km}$, M5.1/10, mB5.5/3, mb5.0/10, MLv5.2/1, Mw(mB)5.0/3*
*NEIC **28** 05:57:59.9±1.3, 5°.99S±0°.09×154°.82E±0°.10, h170$_{km}$±7$_{km}$, mb4.6/52, Error ellipse: s-maj=14.4km s-min=12.1km az=66.0*
*IDC **28** 05:57:59.9±1.2, 6°.07S×154°.70E, h179$_{km}$±10$_{km}$, mb4.0/21, mbtmp4.5/23, Error ellipse: s-maj=11.5km s-min=9.0km az=90.0*
ISC 28 05:58:02.2±0.4, **5°.93S**±0°.05×**154°.75E**±0°.06, **h200**$_{km}$, **n129,**
σ1§**34**/**126**, **mb4.4**/**55**, **1C-1D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.10**	**304**	Pn	**Pn**	**05 58 51.6**	**-1.4**
KRVT	**Keravat (AS076**	**3.15**	**301**	P	**Pn**	**05 58 49.8**	**-3.9**
	139nm,0.4s,baz=306,slow=22,SNR=2.5						
KRVT				S	**Sn**	**05 59 29.6**	**-4.4**
	267nm,0.5s,baz=118,slow=4.2,SNR=4.3						
PMG	**Port Moresby**	**8.28**	**245**	P	**Pn**	**05 59 59.2**	**+0.1**
	49nm,0.7s,baz=23,slow=5.2,SNR=18						
PMG				S	**Sn**	**06 01 37.4**	**+5.0**
	6.5nm,0.4s,baz=84,slow=21,SNR=1.3						
PMG	**Port Moresby**	**8.28**	**245**	Pn	**Pn**	**05 59 58.7**	**-0.5**
PMG	**Port Moresby**	**8.28**	**245**	P	**Pn**	**05 59 59.0**	**-0.2**
PATS	**Pohnpei**	**13.17**	**16**	Pn	**P**	**06 01 01.8**	**-3.1**
COEN	**Coen**	**13.91**	**234**		**P**	**06 01 12.3**	**-0.8**
COEN	**Coen**	**13.91**	**234**	P	**P**	**06 01 12.1**	**-1.1**
GENI	**Genyem**	**14.91**	**282**	P	**Pn**	**06 01 20.0**	**-3.5**
TV1H	**Townsville Har**	**15.35**	**210**	P	**P**	**06 01 30.5**	**+1.4**
MTSU	**Mount Surprise**	**15.84**	**219**	P	**Pn**	**06 01 36.3**	**+1.5**
CTA	**Charters Tower**	**16.32**	**210**	P	**Pn**	**06 01 41.0**	**+0.5**
	24nm,0.8s,baz=27,slow=12,SNR=28						
CTA	**Charters Tower**	**16.32**	**210**	P	**Pn**	**06 01 41.5**	**+1.0**
CTAO	**Charters Tower**	**16.32**	**210**		**Pn**	**06 01 40.3**	**-0.2**
CTAO				IAmb	IAmb	06 01 42.6	
	comp=Z,29nm,0.8s						
CTAO	**Charters Tower**	**16.32**	**210**	P	**Pn**	**06 01 41.6**	**+1.0**
RK1H	**Rockhampton Ha**	**17.84**	**193**	P	**Pn**	**06 01 59.5**	**+1.1**
NOUC	**Port Laguerre**	**19.58**	**146**	P	**P**	**06 02 13.2**	**-2.0**
DZM	**Mont Dzumac**	**19.64**	**146**	P	**P**	**06 02 14.1**	**-1.8**
	comp=Z,36nm,0.5s,baz=294,slow=7.4,SNR=77						
DZM	**Mont Dzumac**	**19.64**	**146**	P	**P**	**06 02 13.8**	**-2.1**
DZM	**Mont Dzumac**	**19.64**	**146**	P	**P**	**06 02 14.2**	**-1.7**
EIDS	**Eidsvold**	**19.65**	**190**	P	**P**	**06 02 14.8**	**-1.1**
EIDS	**Eidsvold**	**19.65**	**190**	P	**Pn**	**06 02 19.1**	**-0.7**
ONTNC	**Ouen Toro**	**19.83**	**146**	P	**P**	**06 02 15.9**	**-2.0**
OUENC	**Ouen Island, N**	**20.13**	**146**	P	**P**	**06 02 18.8**	**-2.3**
PINNC	**Pines Island,**	**20.63**	**145**	P	**P**	**06 02 25.1**	**-1.3**
QIS	**Mount Isa**	**20.68**	**224**	P	**P**	**06 02 27.0**	**0.0**
RMQ	**Roma**	**21.23**	**195**	P	**P**	**06 02 32.9**	**+0.2**
QLP	**Quilpie**	**22.86**	**205**	P	**P**	**06 02 48.9**	**+0.5**
WR0	**Warramunga Arr**	**24.09**	**233**	P	**P**	**06 02 59.9**	**+0.2**
WR0				IAmb	IAmb	06 03 03.1	
	comp=Z,9.9nm,0.7s						
WB0	**Warramunga Arr**	**24.10**	**233**	P	**P**	**06 02 59.9**	**+0.1**
WB0				IAmb	IAmb	06 03 13.3	
	comp=Z,20nm,1.4s						
WRAB	**Tennant Creek**	**24.23**	**233**	P	**P**	**06 03 01.4**	**+0.5**
AULRC	**Lightning Ridg**	**24.24**	**195**	P	**P**	**06 03 01.9**	**+1.0**
WRA	**Warramunga Arr**	**24.24**	**233**	P	**P**	**06 03 00.9**	**-0.2**
	comp=Z,4.9nm,0.5s,baz=58,slow=9.8,SNR=46						
WRA				PcP	**PcP**	**06 06 36.3**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=58,slow=2.8,SNR=7.0						
WRA				S	**S**	**06 07 02.8**	**-2.2**
	comp=Z,0.8nm,0.5s,baz=55,slow=15,SNR=3.6						
	comp=Z,4.9nm,0.5s						
WRA	**Warramunga Arr**	**24.24**	**233**	P	**P**	**06 03 00.8**	**-0.2**
MTN	**Manton Dam**	**24.28**	**252**	P	**P**	**06 03 02.6**	**+1.2**
MTN				IAmb	IAmb	06 03 40.4	
	comp=Z,17nm,1.4s						
ARMA	**Armidale**	**24.54**	**186**	P	**P**	**06 03 03.4**	**-0.3**
ARMA				IAmb	IAmb	06 03 04.4	
	comp=Z,8.3nm,0.7s						
INKA	**Innaminka**	**25.45**	**210**	P	**P**	**06 03 11.5**	**-0.4**
AS31	**Alice Springs**	**26.71**	**227**	P	**P**	**06 03 22.5**	**-0.8**
ASAR	**Alice Springs**	**26.71**	**227**	P	**P**	**06 03 22.7**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=59,slow=8.7,SNR=31						
ASAR				PcP	**PcP**	**06 06 42.0**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=59,slow=2.4,SNR=12						
ASAR				S	**S**	**06 07 41.9**	**-2.2**
	comp=Z,1.2nm,0.8s,baz=58,slow=14,SNR=6.0						
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**26.71**	**227**	P	**P**	**06 03 22.9**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**26.97**	**26**	T	T	06 32 25.7	
	baz=203,slow=75,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**26.98**	**26**	T	T	06 32 02.7	
	baz=203,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**26.99**	**26**	T	T	06 32 18.3	
	baz=203,slow=75,SNR=8.1						
OOD	**Oodnadatta**	**28.30**	**218**	P	**P**	**06 03 39.3**	**+2.0**
STKA	**Stephens Creek**	**28.60**	**204**	P	**P**	**06 03 38.7**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=352,slow=8.8,SNR=4.1						
	comp=Z,1.4nm,0.7s						
STKA	**Stephens Creek**	**28.60**	**204**	P	**P**	**06 03 38.6**	**-1.4**
LCRK	**Leigh Creek**	**28.93**	**211**	P	**P**	06 03 45.7	+2.9
FITZ	**Fitzroy Crossi**	**30.87**	**244**	P	**P**	**06 03 59.7**	**-0.4**
WHYH	**Whyalla**	**31.35**	**208**	P	**P**	06 04 06.7	+2.6
BBOO	**Buckleboo**	**31.92**	**211**	P	**P**	**06 04 08.2**	**-0.9**
BBOO				IAmb	IAmb	06 04 13.6	
	comp=Z,11nm,1.1s						
GTOI	**Gorontalo**	**32.35**	**281**	P	**P**	**06 04 14.2**	**+1.1**
	comp=Z,35nm,0.7s,comp=Z,325nm						
TOLI2	**Tolitoli**	**34.63**	**281**	P	**P**	**06 04 32.1**	**-0.7**
TOLI2				IAmb	IAmb	06 04 35.2	
	comp=Z,13nm,0.6s						
MPSI	**Mapaga**	**35.34**	**279**	P	**P**	**06 04 38.5**	**-0.4**
	comp=Z,48nm,0.7s						
MBWA	**Marble Bar**	**37.14**	**243**	P	**P**	**06 04 53.5**	**-0.5**
TAU	**Tasmania Unive**	**37.41**	**189**	P	**P**	**06 04 56.3**	**+0.3**
URZ	**Urewera**	**38.05**	**151**	P	**P**	**06 04 59.0**	**-2.5**
	comp=Z,8.5nm,0.7s,baz=320,slow=2.1,SNR=9.4						
	comp=Z,8.5nm,0.7s						
QRZ	**Quartz Range**	**38.23**	**158**	P	**P**	**06 05 02.8**	**0.0**
BKZ	**Black Stump Fm**	**38.48**	**152**	P	**P**	**06 05 04.3**	**-0.8**
BKZ				IAmb	IAmb	06 05 07.0	
	comp=Z,22nm,1.1s						
MRNZ	**Matariki Terra**	**38.81**	**158**	P	**P**	**06 05 07.0**	**-0.7**
THZ	**Tophouse**	**39.18**	**158**	P	**P**	**06 05 09.8**	**-1.1**
TCW	**Tory Channel**	**39.23**	**156**	P	**P**	**06 05 10.4**	**-0.7**
LTZ	**Lake Taylor**	**39.85**	**160**	P	**P**	**06 05 15.8**	**-0.5**
RPZ	**Rata Peaks**	**40.28**	**162**	P	**P**	**06 05 18.6**	**-1.2**
	comp=Z,28nm,0.6s,baz=304,slow=2.5,SNR=26						
	comp=Z,28nm,0.6s						
YULB	**Yu-li**	**43.77**	**313**	P	**P**	**06 05 48.9**	**+0.5**
YULB				IAmb	IAmb	06 06 25.5	
	comp=Z,35nm,1.4s						
NWAO	**Narrogin (SRO)**	**44.02**	**227**	P	P	06 05 53.2	+3.0
NWAO				IAmb	IAmb	06 06 35.5	
	comp=Z,17nm,1.2s						
NACB	**Ninganchiao**	**44.04**	**314**	P	**P**	**06 05 51.1**	**+0.7**
NACB				IAmb	IAmb	06 05 53.1	
	comp=Z,31nm,1.1s						
SSLB	**Suanglung**	**44.26**	**313**	P	**P**	**06 05 53.1**	**+0.8**
SSLB				IAmb	IAmb	06 05 54.1	
	comp=Z,19nm,1.1s						
KSRS	**Korea Array**	**49.88**	**332**	P	**P**	**06 06 36.1**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=150,slow=7.4,SNR=7.9						
	comp=Z,1.4nm,0.6s						
NJ2	**Nanjing**	**50.94**	**320**	*e*P	P	06 06 47.3	+3.9
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KULM	**Kulim**	**55.15**	**281**	P	**P**	**06 07 14.6**	**+0.1**
BNX	**BinXian**	**56.93**	**337**	⇓P	**P**	**06 07 27.8**	**+1.3**
BNX				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BNX				pmax	pmax		
	comp=Z,250nm,4.2s						
KLR	**Kul'dur**	**58.48**	**343**	P	**P**	**06 07 38.5**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=179,slow=6.0,SNR=5.2						
	comp=Z,1.2nm,0.5s						
XAN	**Xi'an**	**58.77**	**316**	⇑P	**P**	**06 07 40.3**	**+0.7**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PETK	**Petropavlovsk-**	**58.86**	**2**	P	**P**	**06 07 41.2**	**+1.4**
	comp=Z,8.2nm,0.8s,baz=179,slow=7.4,SNR=5.3						
	comp=Z,8.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.11**	**295**	P	**P**	**06 07 50.4**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=124,slow=5.4,SNR=12						
	comp=Z,2.4nm,0.6s						
PZH	**PanZhiHua**	**60.60**	**305**	P	P	06 07 56.0	+3.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.9s						
XLT	**XiLinHaoTe**	**60.62**	**329**	*e*P	**P**	**06 07 53.0**	**+0.9**
XLT				PcP	**PcP**	**06 08 33.0**	**-1.4**
XLT				pP	pwP	06 08 40.3	-0.5
XLT				sP	sP	06 08 59.3	+0.8
XLT				S	**S**	**06 15 54.0**	**+1.5**
XLT				sS	sS	06 16 36.8	-33
XLT				pmax	pmax		
	comp=Z,11nm,0.7s						
XLT				pmax	pmax		
	comp=Z,110nm,7.7s						
HHC	**Hu-ho-hao-te**	**61.09**	**324**	*e*P	P	06 07 59.5	+4.1
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,6.6s						
ADK	**Adak**	**62.55**	**20**	P	**P**	**06 08 05.8**	**+1.2**
LZH	**Lanzhou**	**63.39**	**315**	*e*P	**P**	**06 08 13.0**	**+2.2**
LZH				pP	pP	06 08 51.8	-4.4
LZH				sP	sP	06 09 12.5	-5.1
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MA2	**Magadan**	**65.37**	**358**	P	**P**	**06 08 23.5**	**+0.6**
	comp=Z,6.4nm,0.6s,baz=177,slow=8.3,SNR=7.4						
	comp=Z,6.4nm,0.6s						
MA2	**Magadan**	**65.37**	**358**	P	**P**	**06 08 23.9**	**+1.0**
MA2				IAmb	IAmb	06 08 24.6	
	comp=Z,7.8nm,0.7s						
CASY	**Casey**	**67.53**	**198**	P	**P**	**06 08 36.3**	**-0.3**
CASY				IAmb	IAmb	06 08 36.6	
	comp=Z,5.1nm,0.8s						
GTA	**Gaotai**	**67.80**	**317**	*e*P	**P**	**06 08 40.5**	**+1.6**
GTA				pP	pP	06 09 20.3	-4.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SONM	**Songino Array**	**68.31**	**327**	P	**P**	**06 08 43.2**	**+1.3**
	comp=Z,3.5nm,0.5s,baz=136,slow=6.4,SNR=9.0						
	comp=Z,3.5nm,0.5s						
SONM	**Songino Array**	**68.31**	**327**	P	**P**	**06 08 43.7**	**+1.8**
SONM				IAmb	IAmb	06 08 44.4	
	comp=Z,7.6nm,1.1s						
VNDA	**Vanda**	**71.65**	**178**	P	**P**	**06 09 01.4**	**-0.2**
VNDA				IAmb	IAmb	06 09 23.2	
	comp=Z,11nm,1.3s						
BILL	**Bilibino**	**74.24**	**4**	P	**P**	**06 09 18.6**	**+1.8**
BILL				IAmb	IAmb	06 09 19.2	
	comp=Z,12nm,0.9s						
ANM	**Nome**	**76.28**	**17**	P	**P**	**06 09 30.1**	**+1.5**
TNA	**Tin City**	**76.36**	**15**	P	**P**	**06 09 30.1**	**+1.1**
SVW2	**Sparrevohn**	**77.11**	**22**	P	**P**	**06 09 34.7**	**+1.5**
SVW2				IAmb	IAmb	06 09 49.9	
	comp=Z,8.7nm,1.2s						
WMQ	**Urumqi**	**77.88**	**317**	*e*P	**P**	**06 09 39.3**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,11nm,1.3s						
CNPM	**China Poot**	**77.90**	**25**	P	**P**	**06 09 38.4**	**+0.7**
L19K	**White Mountain**	**78.06**	**22**	P	**P**	**06 09 39.7**	**+1.2**
L19K				IAmb	IAmb	06 09 40.6	
	comp=Z,8.8nm,1.1s						
M20K	**Styx River**	**78.52**	**22**	P	**P**	**06 09 42.8**	**+1.6**
K20K	**Telida**	**79.07**	**21**	P	**P**	**06 09 45.4**	**+1.4**
SUA	**Susitna One**	**79.20**	**23**	P	**P**	**06 09 45.1**	**+0.2**
TIXI	**Tiksi**	**79.27**	**352**	P	**P**	**06 09 44.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=270,slow=24,SNR=3.9						
	comp=Z,0.8nm,0.3s						
RC01	**Rabbit Creek A**	**79.39**	**24**	P	**P**	**06 09 46.3**	**+0.5**
RC01				IAmb	IAmb	06 10 30.4	
	comp=Z,17nm,1.4s						
CAST	**Castle Rocks**	**79.82**	**21**	P	**P**	**06 09 47.9**	**-0.2**
PWL	**Port Wells**	**79.84**	**25**	P	**P**	**06 09 49.0**	**+0.7**
KTH	**Kantishna Hill**	**80.33**	**22**	P	**P**	**06 09 50.9**	**0.0**
KTH				IAmb	IAmb	06 10 16.8	
	comp=Z,13nm,1.4s						
IMAR	**Indian Mountai**	**80.80**	**19**	P	**P**	**06 09 54.4**	**+1.2**
MCK	**McKinley**	**81.16**	**22**	P	**P**	**06 09 55.3**	**+0.1**
MK31	**Makanchi Array**	**82.44**	**319**	P	**P**	**06 10 03.0**	**+0.8**
MK31				IAmb	IAmb	06 10 04.4	
	comp=Z,8.3nm,0.8s						
MKAR	**Makanchi Array**	**82.44**	**319**	P	**P**	**06 10 03.3**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=102,slow=5.5,SNR=108						
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**82.44**	**319**	P	**P**	**06 10 02.9**	**+0.6**
IL31		**82.48**	**22**	P	**P**	**06 10 01.7**	**-0.3**
ILAR	**Eielson Array**	**82.48**	**22**	P	**P**	**06 10 01.6**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=241,slow=4.7,SNR=26						
	comp=Z,0.8nm,0.5s						
ILAR	**Eielson Array**	**82.48**	**22**	P	**P**	**06 10 02.0**	**0.0**
MAKZ	**Makanchi**	**82.65**	**319**	P	**P**	**06 10 04.3**	**+0.9**
MAKZ				IAmb	IAmb	06 10 05.4	
	comp=Z,12nm,0.8s			

IDC 28 06:23:13.1±2.3, 7°33S×127°23E, h0km, mb3.2/1, mbtmp3.3/3, ML3.3/2, MS3.1/3, Error ellipse: s-maj=216.0km s-min=33.3km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
WRA	**Warramunga Arr**	**14.31**	**152**	Pn	Pn		06 26 36.9	-0.2
	0.1nm,0.3s,baz=323,slow=13,SNR=2.7							
WRA				Sn	Sn		06 29 00.2	-17
	0.5nm,0.3s,baz=334,slow=22,SNR=10.0							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**17.46**	**159**	P	Pn		06 27 18.5	+0.3
	0.2nm,0.3s,baz=348,slow=13,SNR=18							
ASAR				S	Sn		06 30 20.2	-13
	0.1nm,0.4s,baz=322,slow=17,SNR=2.6							
	0.5nm,0.5s							
JCJ	**Chichijima**	**37.16**	**22**	LR	LR		06 42 40.6	
	comp=Z,92nm,21.6s,baz=132,slow=31							
JNU	**Nakatsue**	**40.38**	**5**	LR	LR		06 48 27.2	
	comp=Z,10nm,19.5s,baz=111,slow=38							
KSRS	**Korea Array**	**44.55**	**1**	LR	LR		06 53 42.8	
	comp=Z,16nm,19.1s,baz=145,slow=41							
MKAR	**Makanchi Array**	**67.02**	**328**	P	P		06 34 08.0	0.0
	0.2nm,0.6s,baz=123,slow=5.3,SNR=1.5							
	0.2nm,0.6s							

*IDC **28** 06:25:23.2±0.8, 3°35S×151°04E, h0km, mb4.0/9, mbtmp4.0/10, ML1.6/1, MS3.5/13, Error ellipse: s-maj=24.0km s-min=17.3km az=64.0*

ISC 28 06:25:25.5±0.7, 3°23S±0°10×151°02E±0°08, h10km, n36, σ1s83/17, mb4.0/9, MS3.5/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KRVT	**Keravat (AS076**	**1.47**	**137**	Pn	**Pn**		**06 25 50.0**	**-2.0**
	5.2nm,0.3s,baz=278,slow=7.4,SNR=8.1							
KRVT				Sn	**Sn**		**06 26 09.0**	**-2.3**
	21nm,0.3s,baz=260,slow=6.0,SNR=8.2							
RABL	**Rabaul**	**1.49**	**130**	P	**Pg**		**06 25 56.9**	**+2.8**
MANU	**Manus Island**	**3.83**	**288**	P	**Pb**		**06 26 33.3**	**0.0**
PMG	**Port Moresby**	**7.23**	**212**	Pn	**Pn**		**06 27 11.1**	**-0.3**
	0.7nm,0.3s,baz=355,slow=15,SNR=2.9							
	8.8nm,0.6s							
PMG	**Port Moresby**	**7.23**	**212**	P	Pn		06 27 18.0	+6.6
HNR	**Honiara**	**10.80**	**125**	LR	LR		06 32 29.2	
	comp=Z,4μm,18.2s,baz=304,slow=40							
CTA	**Charters Tower**	**17.39**	**195**	LR	LR		06 36 00.3	
	comp=Z,74nm,18.0s,baz=310,slow=37							
GUMO	**Guam**	**17.79**	**340**	LR	LR		06 35 53.6	
	comp=Z,50nm,19.9s,baz=202,slow=35							
QIS	**Mount Isa**	**20.50**	**212**	P	Pn		06 30 07.5	+1.4
RMQ	**Roma**	**23.22**	**185**	P	**P**		**06 30 35.3**	**+2.4**
WRA	**Warramunga Arr**	**23.25**	**223**	P	**P**		**06 30 30.4**	**-2.9**
	2.0nm,0.8s,baz=49,slow=10.0,SNR=9.6							
WRA				LR	LR		06 38 41.1	
	comp=Z,118nm,21.3s,baz=50,slow=34							
	2.0nm,0.8s							
DZM	**Mont Dzumac**	**23.98**	**143**	LR	LR		06 39 15.4	
	comp=Z,101nm,20.1s,baz=230,slow=35							
QLP	**Quilpie**	**24.11**	**195**	P	**P**		**06 30 43.6**	**+2.0**
ASAR	**Alice Springs**	**26.20**	**218**	P	**P**		**06 30 58.5**	**-2.2**
	1.7nm,0.8s,baz=57,slow=7.8,SNR=4.0							
ASAR				LR	LR		06 42 13.2	
	comp=Z,157nm,20.1s,baz=53,slow=39							
	1.7nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**26.54**	**35**	T	T		06 58 33.3	
	baz=217,slow=74,SNR=17							
H11S2	**WAKE ISLAND Hy**	**26.55**	**35**	T	T		06 58 29.3	
	baz=217,slow=74,SNR=6.1							
H11S1	**WAKE ISLAND Hy**	**26.56**	**35**	T	T		06 58 39.5	
	baz=217,slow=74,SNR=6.2							
DAV	**Davao City (W)**	**27.38**	**292**	LR	LR		06 41 42.0	
	comp=Z,45nm,19.2s,baz=41,slow=36							
H11N1	**WAKE ISLAND Hy**	**27.63**	**34**	T	T		06 59 58.3	
	baz=218							
H11N3	**WAKE ISLAND Hy**	**27.64**	**34**	T	T		06 59 59.4	
	baz=218							
H11N2	**WAKE ISLAND Hy**	**27.65**	**34**	T	T		06 59 57.3	
	baz=218							
BATI	**Baumata**	**28.02**	**254**	LR	LR		06 44 43.2	
	comp=Z,196nm,18.6s,baz=60,slow=41							
STKA	**Stephens Creek**	**29.84**	**196**	LR	LR		06 44 37.8	
	comp=Z,65nm,18.5s,baz=12,slow=39							
KAPI	**Kappang**	**31.23**	**266**	LR	LR		06 46 14.4	
	comp=Z,34nm,18.8s,baz=100,slow=40							
URZ	**Urewera**	**42.23**	**149**	LR	LR		06 50 51.5	
	comp=Z,73nm,18.0s,baz=24,slow=36							
NWAO	**Narrogin (SRO)**	**43.26**	**223**	LR	LR		06 53 45.9	
	comp=Z,82nm,18.4s,slow=39							
RPZ	**Rata Peaks**	**44.05**	**159**	LR	LR		06 49 37.1	
	comp=Z,107nm,18.4s,baz=316,slow=33							
KLR	**Kul'dur**	**54.86**	**345**	LR	LR		06 55 44.6	
	comp=Z,46nm,20.9s,baz=328,slow=33							
CMAR	**Chiang Mai Arr**	**55.61**	**295**	P	**P**		**06 35 03.4**	**+1.3**
	1.3nm,0.3s,baz=119,slow=5.4,SNR=5.9							
	1.3nm,0.3s							
TIXI	**Tiksi**	**76.13**	**353**	P	**P**		**06 37 13.5**	**+0.3**
	0.6nm,0.5s,baz=90,slow=20,SNR=1.3							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**77.99**	**319**	P	**P**		**06 37 24.0**	**-0.2**
	1.5nm,1.0s,baz=101,slow=6.3,SNR=9.5							
	1.5nm,1.0s							
ZALV	**Zalesovo Beam**	**78.87**	**327**	P	**P**		**06 37 28.9**	**0.0**
	0.9nm,0.6s,baz=94,slow=4.5,SNR=4.2							
	0.9nm,0.6s							
ILAR	**Eielson Array**	**81.39**	**23**	P	**P**		**06 37 42.1**	**-0.2**
	1.0nm,1.0s,baz=247,slow=5.7,SNR=6.7							
	1.0nm,1.0s							
KURBB	**Kurchatov Arra**	**81.48**	**322**	P	**P**		**06 37 41.1**	**-1.9**
	0.7nm,0.8s,baz=112,slow=4.1,SNR=6.1							
	0.7nm,0.8s							
BVAR	**Borovoye Array**	**86.93**	**323**	P	**P**		**06 38 10.1**	**-0.7**
	1.1nm,0.7s,baz=116,slow=9.8,SNR=2.5							
	1.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**148.12**	**290**	PKPbc	**PKPbc**		**06 45 13.1**	**+0.4**
	2.9nm,1.0s,baz=55,slow=2.5,SNR=10							

IDC 28 06:32:00.9±46.0, 17°86S×179°30W, h589km±133km, mb2.8/3, mbtmp3.7/4, Error ellipse: s-maj=934.5km s-min=119.6km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MSVF	**Nonsavu**	**2.53**	**273**	P	P		06 33 16.7	0.0
	12nm,0.8s,baz=106,slow=15,SNR=9.0							
STKA	**Stephens Creek**	**37.91**	**241**	P	P		06 38 29.4	+0.2
	1.0nm,0.7s,baz=90,slow=4.0,SNR=3.3							
	1.0nm,0.7s							
WRA	**Warramunga Arr**	**43.80**	**260**	P	P		06 39 15.8	-0.3
	0.4nm,0.4s,baz=95,slow=7.0,SNR=14							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**43.98**	**254**	P	P		06 39 17.4	-0.1
	1.6nm,0.6s,baz=94,slow=7.9,SNR=37							
	1.6nm,0.6s							

*BGR **28** 06:42:28.8, 10°82S×76°99W, h33km, mb5.4*
*VAO **28** 06:42:28.6±3.0, 9°30S×78°89W, h22km±16km, mb5.5*
*NEIC **28** 06:42:31.9±2.1, 9°35S±0°05×79°00W±0°08, h50km±4km, mb5.6/142, Mww5.3/20, Error ellipse: s-maj=11.9km s-min=6.7km az=82.0*
*MOS **28** 06:42:31.3±1.0, 9°28S×78°99W, h61km, mb5.8/25, Error ellipse: s-maj=11.5km s-min=6.2km az=105.9*
*IDC **28** 06:42:34.2±1.2, 9°30S×78°88W, h78km±10km, mb5.0/19, mbtmp5.2/26, MS4.5/57, Error ellipse: s-maj=14.8km s-min=6.0km az=69.0*
*GCMT **28** 06:42:34.9±0.1, 9°20S±0°01×79°37W±0°01, h61km, MW5.3/131, Moment Tensor Solution. s131,c182; s116,c190; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr~1.13±.02; Mθθ~0.07±.02; Mϕϕ1.20±.02; Mrθ~0.00±.01; Mθϕ~0.31±.01; Mϕr0.19±.02; Best double couple: M₀1.21600×10¹⁷ NP1:ϕs169.00000°, δ49.00000°, λ-87.00000°. NP2:ϕs345.00000°, δ41.00000°, λ-94.00000°. Principal axes: T 1.2850, Plg4.0000°, Azm257.0000°; N -0.1410, Plg2.0000°, Azm347.0000°; P -1.1460, Plg85.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 06:42:37.6, 9°25S×79°30W, h60km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10¹⁷Nm; Mrr~1.05; Mθθ0.06; Mϕϕ0.99; Mrθ-0.02; Mθϕ-0.49; Mϕr0.16;*

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Fault plane solution: M₀1.14000×10¹⁷ NP1: ϕs159.51000°, δ49.01000°, λ-86.15000°. NP2: ϕs333.64000°, δ41.14000°, λ-94.42000°. Principal axes: T 1.2135, Plg4.0000°, Azm247.0000°; N -0.1511, Plg3.0000°, Azm337.0000°; P -1.0625, Plg85.0000°, Azm103.0000°;

ISC 28 06:42:31.3±0.3, 9°32S±0°03×78°93W±0°04, h53km±2km, h53km:pP-P, n1275, σ1s10/1320, mb5.5/143, MS4.5/59, 7C-43D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
ATAH	**Atahualpa**	**2.24**	**14**	P	**Pn**		**06 43 09.3**	**+3.0**
	3μm,0.5s,baz=186,slow=5.6,SNR=2699							
ATAH				S	**Sn**		**06 43 36.9**	**+3.9**
	6μm,0.5s,baz=207,slow=2.3,SNR=16							
NNA	**Nana**	**3.35**	**142**	P	**Pn**		**06 43 23.1**	**+1.9**
	2μm,0.6s,baz=312,slow=12,SNR=414							
NNA				S	**Sn**		**06 44 03.0**	**+3.2**
	7μm,0.7s,baz=325,slow=20,SNR=11							
NNA				LR	LR		06 44 50.5	
	comp=Z,7μm,21.6s,baz=328,slow=41							
NNA	**Nana**	**3.35**	**142**		**Pn**		**06 43 22.6**	**+1.4**
NNA				Sn	**Sn**		**06 44 00.9**	**+1.2**
NNA	**Nana**	**3.35**	**142**	*eP*	**Pn**		**06 43 23.7**	**+2.5**
MCRA	**Macar, Loja**	**5.03**	**348**		**Pn**		**06 43 44.0**	**-0.2**
MCRA	**Macar, Loja**	**5.03**	**348**	*eP*	**Pn**		**06 43 46.5**	**+2.2**
CZSB	**Cruzeiro do Su**	**6.36**	**76**		**Pn**		**06 44 04.8**	**+2.4**
CHSH	**Refugio Sur-Vo**	**7.78**	**0**		**Pn**		**06 44 24.9**	**+2.4**
PORT	**Chimborazo Vol**	**7.81**	**1**		**Pn**		**06 44 25.1**	**+2.2**
PPLP	**Puerto Lpez**	**7.94**	**347**	*eP*	**Pn**		**06 44 24.6**	**+0.4**
PIAT	**Ana Tenorio**	**8.30**	**5**	*eP*	**Pn**		**06 44 31.7**	**+2.3**
SLOR	**San Lorenzo -**	**8.55**	**3**		**Pn**		**06 44 34.7**	**+1.8**
FLF1	**Flavio Alfaro-**	**8.95**	**354**	*eP*	**Pn**		**06 44 38.8**	**+0.7**
PULU	**Pululahua**	**9.29**	**3**		**Pn**		**06 44 45.3**	**+2.2**
OTAV	**Otavalo**	**9.51**	**3**		**Pn**		**06 44 47.9**	**+1.8**
OTAV	**Otavalo**	**9.51**	**3**	P	**Pn**		**06 44 47.9**	**+1.8**
PAC1	**Pacto, Paraso**	**9.53**	**1**	*eP*	**Pn**		**06 44 48.5**	**+2.5**
IMBA	**Imbabura, San**	**9.56**	**4**		**Pn**		**06 44 48.8**	**+2.0**
CUSE	**Cuicocha Este**	**9.58**	**3**	*eP*	**Pn**		**06 44 50.0**	**+3.0**
BONI	**La Bonita**	**9.81**	**8**	*eP*	**Pn**		**06 44 51.4**	**+1.4**
TULM	**Tulcn-Chalpat**	**10.04**	**7**		**Pn**		**06 44 55.7**	**+2.4**
TULM	**Tulcn-Chalpat**	**10.04**	**7**	*eP*	**Pn**		**06 44 55.2**	**+1.9**
CMBC	**Cumbal**	**10.26**	**6**	*eP*	**Pn**		**06 45 00.4**	**+4.1**
TBTG	**Tabatinga, AM**	**10.31**	**61**		**Pn**		**06 44 57.0**	**+0.5**
TBTG	**Tabatinga, AM**	**10.31**	**61**	*eP*	**Pn**		**06 44 58.1**	**+1.6**
TBTG	**Tabatinga, AM**	**10.31**	**61**	*eP*	**Pn**		**06 44 57.4**	**+0.8**
GCUF	**Volcan Galeras**	**10.60**	**9**	*eP*	**Pn**		**06 45 03.2**	**+2.2**
CRUC	**La Cruz**	**11.00**	**10**	*eP*	**Pn**		**06 45 08.4**	**+2.0**
TUMC	**Tumaco**	**11.08**	**1**	Pn	**Pn**		**06 45 08.1**	**+1.0**
TUMC	**Tumaco**	**11.08**	**1**	*eP*	**Pn**		**06 45 09.7**	**+2.6**
FLOC	**Florencia**	**11.31**	**17**	*eP*	**Pn**		**06 45 10.2**	**-0.1**
GARC	**Garzon, Huila**	**11.94**	**17**	*eP*	**Pn**		**06 45 18.7**	**-0.4**
GR1C	**Gorgona, Isla**	**12.27**	**4**	*eP*	**Pn**		**06 45 24.4**	**+1.0**
BETC	**Betania**	**12.42**	**16**	*eP*	**Pn**		**06 45 30.0**	**+4.5**
PB12	**IPOC Station P**	**12.44**	**139**	Pn	**Pn**		**06 45 25.5**	**-0.3**
MACC	**Macarena, Meta**	**12.47**	**24**	*eP*	**Pn**		**06 45 26.0**	**-0.1**
ETMB	**Extrema**	**12.55**	**93**	Pn	**Pn**		**06 45 25.5**	**-1.9**
ETMB	**Extrema**	**12.55**	**93**	*eP*	**Pn**		**06 45 24.9**	**-2.3**
LPAZ	**La Paz**	**12.60**	**124**	P	**Pn**		**06 45 29.5**	**+1.1**
	27nm,0.6s,baz=309,slow=11,SNR=49							
LPAZ				LR	LR		06 50 17.1	
	comp=Z,1μm,21.2s,baz=310,slow=37							
LPAZ				SKKS			07 21 15.5	
	0.7nm,0.4s,baz=208,slow=8.6,SNR=2.5							
LPAZ	**La Paz**	**12.60**	**124**	Pn	**Pn**		**06 45 30.2**	**+1.8**
LPAZ	**La Paz**	**12.60**	**124**	P	**Pn**		**06 45 30.2**	**+1.8**
LPAZ	**La Paz**	**12.60**	**124**	*eP*	P		06 45 33.6	-4.8
PB16	**IPOC Station P**	**12.80**	**135**		**Pn**		**06 45 30.6**	**-0.5**
MNMC	**Minye Minye**	**13.29**	**138**	Pn	**Pn**		**06 45 38.6**	**-0.8**
PSGCX	**Pisagua**	**13.30**	**141**	Pn	**Pn**		**06 45 36.2**	**-1.3**
YOTC	**Yotoco, Valle**	**13.47**	**11**	*eP*	**Pn**		**06 45 38.6**	**-1.3**
MAPC	**Malpelo**	**13.51**	**348**	*eP*	**Pn**		**06 45 39.6**	**-0.7**
ORTC	**Ortega, Tolima**	**13.65**	**16**	*eP*	**Pn**		**06 45 44.5**	**+2.2**
PB11	**IPOC Station P**	**13.71**	**140**	Pn	**Pn**		**06 45 41.7**	**-1.5**
GO01	**Chusmiza**	**13.94**	**139**		**Pn**		**06 45 46.5**	**-0.1**
TA01	**Diego Aracena**	**14.01**	**144**	Pn	**Pn**		**06 45 47.0**	**0.0**
PAYG	**Puerto Ayora**	**14.20**	**307**	Pn	**Pn**		**06 45 49.0**	**-0.7**
PATCX	**Punta Patache**	**14.22**	**144**	Pn	**Pn**		**06 45 49.1**	**-0.9**
PLMC	**San Jos del P**	**14.38**	**11**	*eP*	**P**		**06 45 59.7**	**+1.9**
PB02	**IPOC Station P**	**14.76**	**145**		**Pn**		**06 45 56.8**	**-0.3**
PB01	**IPOC Station P**	**14.78**	**143**		**Pn**		**06 45 58.0**	**+0.6**
ROSC	**El Rosal**	**14.80**	**18**	P	**Pn**		**06 45 58.8**	**+0.9**
	11nm,0.6s,baz=142,slow=22,SNR=3.8							
ROSC				LR	LR		06 52 58.2	
	comp=Z,6μm,18.4s,baz=212,slow=42							
ROSC	**El Rosal**	**14.80**	**18**	*eP*	**P**		**06 46 05.2**	**+2.5**
SGCB	**SÃo Gabriel d**	**14.96**	**53**	*eP*	**Pn**		**06 45 56.7**	**-3.0**
PTGC	**Puerto Gaitan,**	**15.04**	**27**	*eP*	**Pn**		**06 46 00.3**	**-0.4**
PB07	**IPOC Station P**	**15.09**	**146**		**Pn**		**06 46 02.3**	**+0.9**
TEFE	**Tefe**	**15.33**	**69**	*eP*	**Pn**		**06 46 02.0**	**-2.4**
CBOC	**Ciudad Bolivar**	**15.37**	**11**	*eP*	**P**		**06 46 10.9**	**+2.1**
PB03	**IPOC Station P**	**15.42**	**146**		**Pn**		**06 46 04.7**	**-1.0**
MEDEC	**Medeln, Ant**	**15.85**	**12**	*eP*	**P**		**06 46 14.9**	**+0.7**
RUSC	**La Rusia**	**16.20**	**21**		**Pn**		**06 46 16.6**	**+0.7**
RUSC				lAmb	lAmb		06 46 25.5	
	comp=Z,761nm,1.5s							
RUSC	**La Rusia**	**16.20**	**21**	*eP*	**P**		**06 46 18.0**	**-0.3**
LVC	**Limon Verde**	**16.34**	**145**	P	**P**		**06 46 19.2**	**-0.5**
	comp=Z,69nm,0.9s,baz=321,slow=7.5,SNR=49							
LVC				S	**Sn**		**06 49 11.6**	**-6.5**
	comp=Z,5.4nm,0.6s,baz=283,slow=19,SNR=1.4							
LVC				LR	LR		06 52 24.8	
	comp=Z,1μm,21.8s,baz=288,slow=36							
PTBC	**PUERTO BERRIO,**	**16.38**	**16**	*eP*	**Pn**		**06 46 17.1**	**-0.7**
DBBC	**Dabeiba**	**16.46**	**10**	*eP*	**P**		**06 46 23.1**	**+2.3**
CACAO	**El Cacao, Vera**	**16.67**	**353**	*eP*	**P**		**06 46 25.5**	**+2.4**
BARC	**Barichara**	**16.82**	**20**	*eP*	**P**		**06 46 27.8**	**+2.9**
AZU	**Azuero**	**17.06**	**355**	*eP*	**P**		**06 46 29.7**	**+2.3**
GMAL	**Guarumal, Vera**	**17.13**	**352**	*eP*	**P**		**06 46 29.6**	**+1.4**
BRRC	**Barranca, Sant**	**17.13**	**18**	*eP*	**P**		**06 46 27.8**	**-0.4**
ZARC	**Zaragoza, Cauc**	**17.19**	**14**	*eP*	**P**		**06 46 30.9**	**+2.0**
TAMC	**Tame, Arauca**	**17.20**	**25**	*eP*	**P**		**06 46 29.9**	**+0.9**
PB14	**IPOC Station P**	**17.25**	**153**		**Pn**		**06 46 29.3**	**+0.4**
APAC	**Apartado, Choc**	**17.27**	**8**	*eP*	**P**		**06 46 32.0**	**+2.3**
UREC	**San Jos de Ur**	**17.30**	**11**	*eP*	**P**		**06 46 29.9**	**-0.2**
PAMC	**Pamplona, Colo**	**17.68**	**21**	*eP*	**P**		**06 46 36.1**	**+1.3**
CDITO	**Canoas**	**18.21**	**347**	P	**Pn**		**06 46 41.3**	**+1.0**
BRU2	**Volcan**	**18.39**	**348**	P	**Pn**		**06 46 44.2**	**+1.6**
BRU2				lAmb	lAmb		06 46 45.4	
	comp=Z,293nm,0.9s							
BRU2	**Volcan**	**18.39**	**348**	*eP*	**Pn**		**06 46 44.7**	**+2.0**
BCIP	**Isla Barro Col**	**18.39**	**357**	P	**Pn**		**06 46 42.9**	**+0.3**
BCIP	**Isla Barro Col**	**18.39**	**357**	P	**Pn**		**06 46 42.9**	**+0.3**
BCIP				pmax	pmax			
	comp=Z,232nm,1.7s							
BCIP	**Isla Barro Col**	**18.39**	**357**	*eP*	**Pn**		**06 46 42.9**	**+0.3**
AC01	**Pan de Azucar**	**18.50**	**156**		**Pn**		**06 46 44.4**	**+0.5**
SIV	**San Ignacio**	**18.63**	**113**	P	**Pn**		**06 46 45.5**	**-0.1**
	comp=Z,52nm,0.8s,baz=292,slow=9.4,SNR=100							
SIV				S	**Sn**		**06 50 10.6**	**-2.7**
	comp=Z,31nm,0.7s,baz=270,slow=7.1,SNR=2.7							
SIV				LR	LR		06 54 25.6	
	comp=Z,3μm,19.9s,baz=304,slow=38							
VILB	**Vilhena**	**18.72**	**103**	P	**P**		**06 46 45.6**	**-0.2**
VILB				lAmb	lAmb		06 46 49.5	
	comp=Z,2μm,2.2s							
VILB	**Vilhena**	**18.72**	**103**	*eP*	**Pn**		**06 46 46.4**	**-0.3**
SRBA	**San Rafael, Bu**	**18.95**	**346**	P	**Pn**		**06 46 49.8**	**+0.3**
MACA	**Manacapuru-AM**	**19.13**	**72**	P	**P**		**06 46 50.5**	**+0.3**
MACA				lAmb	lAmb		06 46 54.5	
	comp=Z,1μm,1.6s							
MACA	**Manacapuru-AM**	**19.13**	**72**	*eP*	**P**		**06 46 50.3**	**0.0**
PEZE	**Perez Zeledon,**	**19.18**	**346**	P	**Pn**		**06 46 52.5**	**+0.4**
SJCC	**San Jacinto, C**	**19.45**	**11**	*eP*	**Pn**		**06 46 55.5**	**+0.1**
LL1C	**La Loma 1 Cana**	**19.49**	**16**	*eP*	**Pn**		**06 46 56.7**	**+1.0**
ARGC	**Ariguani, Magd**	**19.62**	**14**	*eP*	**Pn**		**06 46 58.4**	**+1.1**
JACO	**JACO, Garabito**	**19.71**	**343**	P	**P**		**06 46 56.8**	**+0.3**
VTCV	**VTCV, Calle Va**	**19.77**	**346**	*eP*	**Pn**		**06 46 59.6**	**+0.3**
ICR3	**Volcano Irazu**	**19.79**	**346**	*eP*	**Pn**		**06 47 01.1**	**+1.4**
HAYA	**Volcan Irazu**	**19.79**	**346**	*eP*	**Pn**		**06 47 01.8**	**+2.1**
CVTV	**Tajo**	**19.79**	**346**	*eP*	**Pn**		**06 47 00.2**	**+0.6**
CVTR	**Volcan Turrial**	**19.81**	**346**	P	**Pn**		**06 47 00.0**	**+0.1**
CORON	**Coronado**	**19.82**	**345**	*eP*	**Pn**		**06 47 00.9**	**+1.0**
CVIMO	**Finca Echandi**	**19.86**	**345**	*eP*	**Pn**		**06 47 01.0**	**+0.6**
HDC	**Heredia**	**19.88**	**345**	P	**Pn**		**06 47 00.5**	**0.0**
HDC				lAmb	lAmb		06 47 02.4	
	comp=Z,261nm,1.0s							
HDC	**Heredia**	**19.88**	**345**	*eP*	**Pn**		**06 47 00.9**	**+0.4**
HDC3	**Heredia 3**	**19.88**	**345**	*eP*	**Pn**		**06 47 01.1**	**+0.6**
SDV	**Santo Domingo**	**19.89**	**25**	P	**P**		**06 46 59.2**	**+0.6**
	comp=Z,48nm,0.9s,baz=259,slow=4.8,SNR=36							
SDV				LR	LR		06 56 20.6	
	comp=Z,4μm,18.7s,baz=200,slow=42							
SDV	**Santo Domingo**	**19.89**	**25**	P	**P**		**06 46 59.3**	**+0.6**
GO03	**Copiap**	**19.94**	**157**	P	**P**		**06 47 00.0**	**+1.0**
SRA1	**San Ramn**	**20.06**	**344**	*eP*	Pn		06 47 03.3	+0.7
VPTE	**Poasito**	**20.07**	**345**	*eP*	Pn		06 47 03.5	+0.6
VPS6	**Volcano Poas**	**20.09**	**345**	*eP*	Pn		06 47 05.1	+1.9
CRPO	**Crater poas**	**20.09**	**345**	*eP*	Pn		06 47 03.9	+0.7
POA5	**Crater Von Fra**	**20.11**	**345**	*eP*	Pn		06 47 03.5	+0.1
RIFO	**Rio Frio, Sara**	**20.14**	**346**	*eP*	Pn		06 47 03.1	-0.3
AC04	**Llanos de Chal**	**20.19**	**160**	P	Pn		06 47 02.9	-1.0
NYURE	**Nandayure**	**20.20**	**342**	*eP*	Pn		06 47 04.2	0.0
CPMI	**Catarata Coope**	**20.22**	**344**	*eP*	Pn		06 47 05.1	+0.5
PTLB	**Pontes e Lacer**	**20.26**	**109**	P	**P**		**06 47 03.4**	**+0.9**
PTLB				lAmb	lAmb		06 47 05.2	
	comp=Z,167nm,0.9s							
PTLB	**Pontes e Lacer**	**20.26**	**109**	*eP*	Pn		06 47 03.7	-1.2
POPE	**POPE, Guanacas**	**20.27**	**342**	*eP*	Pn		06 47 03.9	-1.0
ITAL	**Pital**	**20.35**	**345**	*eP*	Pn		06 47 06.4	+0.5
DUNO	**Dulce Nombre,**	**20.35**	**341**	P	**P**		**06 47 04.5**	**+1.0**
DUNO				lAmb	lAmb		06 47 06.5	
	comp=Z,232nm,1.2s							
JUNT	**Juntas**	**20.38**	**343**	*eP*	Pn		06 47 06.4	+0.1
JTS	**Las Juntas de**	**20.39**	**343**	P	Pn		06 47 05.4	-1.0
	comp=Z,53nm,0.9s,baz=164,slow=4.0,SNR=37							
JTS				LR	LR		06 54 04.7	
	comp=Z,842nm,20.2s,baz=154,slow=34							
	comp=Z,53nm,0.9s							
JTS	**Las Juntas de**	**20.39**	**343**	P	**P**		**06 47 04.4**	**+0.5**
JTS	**Las Juntas de**	**20.39**	**343**	*d iP*	Pn		06 47 05.9	-0.5
JTS				pmax	pmax			
	comp=Z,115nm,1.1s							
JTS	**Las Juntas de**	**20.39**	**343**	*eP*	Pn		06 47 06.5	+0.1
NICO	**Nicoya**	**20.39**	**341**	*eP*	Pn		06 47 06.0	-0.4
SAAN	**San Antonio**	**20.45**	**341**	*ip iP*	Pn		06 47 06.5	-0.6
CASO	**Castillo**	**20.46**	**343**	*eP*	Pn		06 47 06.8	-0.5
FORO	**Fortuna**	**20.47**	**344**	*eP*	Pn		06 47 07.9	+0.5
VACR	**Volcan Arenal**	**20.48**	**344**	*eP*	Pn		06 47 07.5	-0.1
CEDE	**Laguna Cedeo**	**20.50**	**344**	*eP*	Pn		06 47 06.8	-1.0
CNAS	**Canas**	**20.56**	**342**	*eP*	Pn		06 47 07.7	-0.8
ORTG	**Ortega, Santa**	**20.61**	**341**	P	**P**		**06 47 06.9**	**+0.5**
ORTG				lAmb	lAmb		06 47 09.5	
	comp=Z,196nm,0.9s							
HATIL	**Hatillo**	**20.63**	**341**	*eP*	**P**		**06 47 07.1**	**+0.6**
COVE	**Coope Vega, Sa**	**20.64**	**345**	P	**P**		**06 47 07.7**	**+1.1**
COVE				lAmb	lAmb		06 47 09.8	
	comp=Z,359nm,0.9s							
COVE	**Coope Vega, Sa**	**20.64**	**345**	*eP*	Pn		06 47 08.3	-1.1
BAGA	**Bagaces**	**20.70**	**342**	*eP*	Pn		06 47 11.1	+1.0

comp=Z,1µm,21.7s,baz=188,slow=39
SJG San Juan 30.04 25 *e*P **P 06 48 35.8 +0.3**
SJG San Juan 30.04 25 P **P 06 48 35.5 0.0**
SJG pP **pP 06 48 47.5 -1.3**
SJG sP **sP 06 48 54.0 -1.1**
HUMP Col San Antoni 30.19 25 P **P 06 48 36.7 -0.1**
GCPR Guaynabo City 30.24 25 P **P 06 48 37.4 +0.1**
MTP Monte Pirata 30.28 26 P **P 06 48 37.9 +0.3**
CDVI St. Croix 30.32 28 P **P 06 48 37.3 -0.7**
CDVI IAmb IAmb 06 48 56.3
comp=Z,74nm,0.8s
CDVI St. Croix 30.32 28 *e*P **P 06 48 37.1 -0.9**
CMIG Matias Romero 30.62 329 LR LR 06 58 58.1
comp=Z,412nm,20.4s,baz=158,slow=32
TEIG Tepich 30.77 343 *e*P **P 06 48 41.1 -0.8**
TEIG Tepich 30.77 343 P **P 06 48 42.3 +0.4**
TEIG pP **pP 06 48 54.7 -0.7**
BDFB Brasilia 30.80 105 P **P 06 48 43.0 +0.5**
comp=Z,36nm,0.9s,baz=272,slow=10,SNR=43
BDFB PcP **PcP 06 51 39.0 +0.1**
comp=Z,10nm,0.7s,baz=238,slow=3.1,SNR=3.7
BDFB LR LR 07 01 45.1
comp=Z,4µm,21.5s,baz=282,slow=37
comp=Z,36nm,0.9s
GO06 Curarrehue 30.86 169 P **P 06 48 43.2 +0.5**
ITAB Concordia 30.94 129 *e*P **P 06 48 44.4 +0.9**
SMTB Santa Maria do 30.94 92 *e*P **P 06 48 45.0 +1.3**
IPMB Ipameri, GO 31.02 109 *e*P **P 06 48 44.3 -0.1**
FRTB Fartura 31.35 120 *e*P **P 06 48 47.0 -0.2**
TMAB Tom-Au,PA,Br 31.42 79 *e*P **P 06 48 49.3 +1.5**
CPSB Cacapava Do Su 31.71 135 *e*P **P 06 48 50.7 +0.5**
LL04 Puerto Octay 31.98 171 P **P 06 48 52.4 0.0**
LL04 IAmb IAmb 06 48 54.5
comp=Z,332nm,2.5s
PLCA Paso Flores 32.15 168 P **P 06 48 54.9 +0.9**
comp=Z,28nm,0.9s,baz=341,slow=10.0,SNR=56
PLCA PcP **PcP 06 51 43.1 +1.1**
comp=Z,22nm,0.7s,baz=337,slow=3.8,SNR=17
PLCA LR LR 06 59 22.2
comp=Z,464nm,20.6s,baz=6.5,slow=31
comp=Z,28nm,0.9s
PLCA Paso Flores 32.15 168 P **P 06 48 55.3 +1.3**
PLCA pP **pP 06 49 08.8 +1.4**
PLCA PcP **PcP 06 51 43.0 +0.9**
PLTB Pedras Altas 32.41 137 P **P 06 48 56.6 +0.3**
PLTB IAmb IAmb 06 48 58.2
comp=Z,91nm,0.7s
PLTB Pedras Altas 32.41 137 *e*P **P 06 48 57.4 +1.0**
RCLB Rio Claro- Sao 32.80 117 *e*P **P 06 49 00.1 +0.2**
CNLB Canela 32.97 131 *e*P **P 06 49 02.1 +0.7**
TLIG Tlapa 33.02 324 P **P 06 49 02.2 +0.3**
SPB Sao Paulo 33.27 119 P **P 06 49 04.1 +0.2**
SDBA SAO DESIDERIO 33.54 98 *e*P **P 06 49 07.1 +0.7**
RPN Rapa Nui 33.73 234 LR LR 06 59 08.3
comp=Z,1µm,22.0s,baz=65,slow=29
JANB Januaria 34.28 103 *e*P **P 06 49 12.9 +0.1**
LL02 Futaleuf 34.30 171 P **P 06 49 13.1 +0.5**
ROSB Rosrio 35.17 82 *e*P **P 06 49 20.9 +0.4**
DIAM Diamantina, MG 35.32 108 *e*P **P 06 49 22.1 +0.2**
060A Indiantown 36.17 358 P **P 06 49 29.4 +0.6**
baz=178
COYC Coyhaique 36.59 172 P **P 06 49 33.6 +1.3**
COYC pP **pP 06 49 46.3 +0.5**
COYC PcP **PcP 06 51 55.5 +0.9**
DWPF Disney Wildern 37.29 356 P **P 06 49 38.6 +0.2**
baz=176
DWPF Disney Wildern 37.29 356 P **P 06 49 38.1 -0.2**
baz=176
SJMB Sao Joao De Ma 37.72 108 *e*P **P 06 49 41.9 -0.2**
656A Willston 38.62 355 P **P 06 49 49.6 0.0**
baz=174
ZAIG Zacatecas 39.41 324 P **P 06 49 57.5 +0.8**
ZAIG IAmb IAmb 06 49 59.2
comp=Z,118nm,1.9s
553A Crawfordville 39.64 353 P **P 06 49 58.0 0.0**
553A Crawfordville 39.64 353 P **P 06 49 58.6 +0.5**
baz=172
456A Hilliard 39.93 356 P **P 06 50 00.4 -0.1**
baz=175
451A Vernon 40.25 351 P **P 06 50 03.7 +0.6**
baz=170
TIGA Tifton 40.78 354 P **P 06 50 07.4 0.0**
baz=173,SNR=6.2
TIGA Tifton 40.78 354 P **P 06 50 06.8 -0.6**
baz=173,SNR=6.2
352A Blakely 40.98 352 P **P 06 50 09.3 +0.2**
baz=171,SNR=13
KVTX Kingsville 41.00 334 P **P 06 50 11.6 +2.3**
baz=151,SNR=5.7
BRAL Brewton 41.01 349 P **P 06 50 09.1 -0.3**
BRAL IAmb IAmb 06 50 10.6
comp=Z,199nm,0.9s
BRAL Brewton 41.01 349 P **P 06 50 09.9 +0.5**
baz=168,SNR=7.9
BRAL Brewton 41.01 349 P **P 06 50 09.4 +0.1**
baz=168,SNR=7.9
257A Skidaway Islan 41.11 357 P **P 06 50 09.7 -0.5**
baz=177
255A Hazlehurst 41.16 355 P **P 06 50 11.0 +0.4**
255A IAmb IAmb 06 50 11.5
comp=Z,370nm,1.6s
255A Hazlehurst 41.16 355 P **P 06 50 10.2 -0.3**
baz=175,SNR=7.3
250A Grady 41.66 351 P **P 06 50 14.4 -0.3**
baz=169,SNR=18
346A Big Creek Wild 41.72 346 P **P 06 50 15.9 +0.7**
346A IAmb IAmb 06 50 17.1
comp=Z,190nm,0.8s
346A Big Creek Wild 41.72 346 P **P 06 50 16.2 +1.1**
baz=164,SNR=21
154A Montrose 41.89 355 P **P 06 50 16.3 -0.3**
154A Montrose 41.89 355 P **P 06 50 16.5 -0.1**
baz=174,SNR=28
344A Westbrook Farm 42.09 345 P **P 06 50 18.8 +0.6**
344A Westbrook Farm 42.09 345 P **P 06 50 19.5 +1.3**
baz=163,SNR=56
735A Kenedy 42.11 335 P **P 06 50 19.1 +0.8**
735A IAmb IAmb 06 50 20.4
comp=Z,135nm,0.9s
735A Kenedy 42.11 335 P **P 06 50 19.6 +1.3**
baz=152,SNR=10
152A Waverly Hall 42.12 353 P **P 06 50 18.0 -0.4**
152A IAmb IAmb 06 50 18.8
comp=Z,101nm,0.9s
152A Waverly Hall 42.12 353 P **P 06 50 18.1 -0.4**
baz=172,SNR=30
441A DeRidder 42.13 342 P **P 06 50 19.4 +0.9**
441A DeRidder 42.13 342 P **P 06 50 18.9 +0.4**
baz=159
HKT Hockley 42.30 338 P **P 06 50 20.7 +0.8**
HKT IAmb IAmb 06 50 22.1
comp=Z,128nm,1.3s
HKT Hockley 42.30 338 P **P 06 50 21.1 +1.2**
baz=155
HKT Hockley 42.30 338 P **P 06 50 20.7 +0.8**
HKT pmax pmax
comp=Z,128nm,1.3s
HKT Hockley 42.30 338 P **P 06 50 20.7 +0.8**
HKT pP **pP 06 50 34.1 +0.4**
HKT sP **sP 06 50 40.4 +0.6**
HKT PcP **PcP 06 52 13.4 +0.5**
833A Chaparral WMA, 42.34 333 P **P 06 50 20.8 +0.6**
baz=149,SNR=11
833A Chaparral WMA, 42.34 333 P **P 06 50 20.7 +0.4**
baz=149,SNR=11
342A Flagon Creek P 42.45 343 P **P 06 50 21.8 +0.6**
342A IAmb IAmb 06 50 23.2
comp=Z,90nm,0.9s
342B Flagon Creek P 42.45 343 P **P 06 50 22.3 +1.1**
baz=160,SNR=11
HAW Hawthorne Fire 42.52 357 P **P 06 50 21.8 +0.1**
baz=176,SNR=35
VBMS Vicksburg 42.77 345 P **P 06 50 23.6 0.0**
baz=163
VBMS Vicksburg 42.77 345 P **P 06 50 24.2 +0.5**
baz=163,SNR=8.5
RCBR Riachuelo 42.77 89 LR LR 07 09 10.6
comp=Z,2µm,18.6s,baz=46,slow=37
RCBR Riachuelo 42.77 89 P **P 06 50 24.8 +0.6**
RCBR pP **pP 06 50 38.1 +0.1**
LRAL Lakeview Retre 42.82 350 P **P 06 50 23.9 -0.2**
baz=168,SNR=32
LRAL Lakeview Retre 42.82 350 P **P 06 50 23.9 -0.2**
baz=168,SNR=32
Z51A Franklin 42.82 352 P **P 06 50 23.8 -0.3**
baz=171,SNR=22
146A Union 42.83 347 P **P 06 50 24.4 +0.2**
146A IAmb IAmb 06 50 25.5
comp=Z,118nm,1.0s
146A Union 42.83 347 P **P 06 50 24.6 +0.4**
baz=165,SNR=9.9
Y58A Scranton 43.00 359 P **P 06 50 25.8 +0.3**
baz=179
Y58A P **P 06 50 25.8 +0.3**
baz=179
Y60A Bolivia 43.09 1 P **P 06 50 26.3 +0.1**
baz=181
Y60A P **P 06 50 26.3 +0.1**
baz=181
Y57A Sumter 43.12 358 P **P 06 50 26.4 -0.1**
baz=178
Y57A P **P 06 50 26.4 -0.1**
baz=178
Z47A Carrollton 43.17 349 P **P 06 50 26.8 -0.1**
baz=167,SNR=41
Y52A Lilburn 43.23 354 P **P 06 50 26.9 -0.5**
baz=173,SNR=8.3
Y52A P **P 06 50 26.9 -0.5**
baz=173,SNR=8.3
JSC Jenkinsville 43.42 357 P **P 06 50 28.7 -0.2**
baz=177,SNR=14
HODGE Hodges 43.43 356 P **P 06 50 28.7 -0.3**
baz=175,SNR=19
143A Socs Landing, 43.45 345 P **P 06 50 29.6 +0.4**
baz=162,SNR=12
Y49A Blount Mountai 43.53 351 P **P 06 50 28.6 -1.3**
baz=169,SNR=13
NATX Nacogdoches 43.54 340 P **P 06 50 31.2 +1.3**
baz=157,SNR=26
NATX Nacogdoches 43.54 340 P **P 06 50 31.2 +1.3**
baz=157,SNR=26
BBSR BB Station 43.63 18 P **P 06 50 31.2 +0.6**
baz=201
X58A Rowland 43.64 360 P **P 06 50 30.7 0.0**
baz=180
X58A P **P 06 50 30.7 0.0**
baz=180
435B Jarrell 43.71 337 P **P 06 50 32.3 +0.9**
baz=153,SNR=9.7
435B Jarrell 43.71 337 P **P 06 50 31.9 +0.6**
baz=153
BIRD Birdtown, Kers 43.75 358 P **P 06 50 30.9 -0.6**
baz=178
PAULI Pauline 43.99 357 P **P 06 50 33.4 -0.1**
baz=176,SNR=22
X51A Calhoun 44.01 353 P **P 06 50 33.1 -0.6**
baz=172,SNR=12
X51A P **P 06 50 33.1 -0.6**
baz=172,SNR=12
Y45A Yeager Farm, C 44.12 347 P **P 06 50 34.9 +0.4**
baz=165,SNR=24
237A Washetta, Mont 44.15 339 P **P 06 50 36.0 +1.2**
baz=156,SNR=9.3
X48A Hartselle 44.21 350 P **P 06 50 34.6 -0.7**
baz=169,SNR=21
CASEE Lake Jocassee 44.24 355 P **P 06 50 35.4 -0.2**
baz=174,SNR=19
W57A Gilead 44.25 359 P **P 06 50 35.1 -0.4**
baz=179,SNR=12
W57A P **P 06 50 35.1 -0.4**
baz=179,SNR=12
KMSC Kings Mountain 44.28 357 P **P 06 50 35.2 -0.7**
baz=177,SNR=31
KMSC Kings Mountain 44.28 357 P **P 06 50 35.6 -0.3**
baz=177,SNR=31
CNNC Cliffs of the 44.33 1 P **P 06 50 36.0 -0.3**
baz=182
CNNC Cliffs of the 44.33 1 P **P 06 50 35.8 -0.5**
baz=182
Z41A Richland Creek 44.36 343 P **P 06 50 36.5 0.0**
baz=160,SNR=26
Z41A P **P 06 50 36.5 0.0**
baz=160,SNR=26
JCT Junction City 44.37 334 P **P 06 50 36.4 -0.3**
JCT IAmb IAmb 06 50 39.4
comp=Z,60nm,0.9s
JCT Junction City 44.37 334 P **P 06 50 37.1 +0.4**
baz=150,SNR=33
JCT Junction City 44.37 334 P **P 06 50 36.9 +0.2**
baz=150,SNR=33
JCT Junction City 44.37 334 P **P 06 50 36.4 -0.3**
JCT pmax pmax
comp=Z,60nm,1.0s
HPIG 44.41 325 P **P 06 50 37.6 +0.4**
W52A Murphy 44.43 354 P **P 06 50 36.6 -0.4**
W52A IAmb IAmb 06 50 37.5
comp=Z,74nm,0.8s
W52A Murphy 44.43 354 P **P 06 50 36.8 -0.3**
baz=173,SNR=21
SLBS Sierra La Lagu 44.67 318 P **P 06 50 40.3 +1.0**
SLBS pP **pP 06 50 54.8 +1.6**
W50A Signal Mountai 44.69 353 P **P 06 50 38.6 -0.6**
baz=171,SNR=24
OXF Oxford 44.71 348 P **P 06 50 38.1 -1.2**
baz=165,SNR=15
OXF Oxford 44.71 348 P **P 06 50 38.1 -1.2**
baz=165,SNR=15
WHTX Lake Whitney, 44.74 337 P **P 06 50 39.6 +0.1**
WHTX IAmb IAmb 06 50 41.0
comp=Z,107nm,1.2s
WHTX Lake Whitney, 44.74 337 P **P 06 50 39.8 +0.3**
baz=154,SNR=17
WHTX Lake Whitney, 44.74 337 P **P 06 50 39.8 +0.3**
baz=154,SNR=17
WLAR White Oak Lake 44.85 343 P **P 06 50 41.2 +0.8**
V58A Windy Hill, Pi 44.88 360 P **P 06 50 39.8 -0.7**
baz=180,SNR=11
V58A P **P 06 50 39.8 -0.7**
baz=180,SNR=11
V53A Saluda 44.90 356 P **P 06 50 40.3 -0.5**
baz=175,SNR=12
V53A P **P 06 50 40.3 -0.5**
baz=175,SNR=12
TKL Tuckaleechee C 44.97 354 LR LR 07 08 42.7
comp=Z,247nm,20.7s,baz=161,slow=35
TKL Tuckaleechee C 44.97 354 P **P 06 50 40.5 -0.9**
TKL IAmb IAmb 06 50 41.6
comp=Z,117nm,1.1s
TKL Tuckaleechee C 44.97 354 P **P 06 50 40.6 -0.7**
baz=173,SNR=30
TKL Tuckaleechee C 44.97 354 P **P 06 50 40.5 -0.9**
TKL pmax pmax
comp=Z,117nm,1.1s
V55A Taylorsville 44.98 357 P **P 06 50 40.6 -0.8**
V55A IAmb IAmb 06 50 41.5
comp=Z,35nm,0.6s
V55A Taylorsville 44.98 357 P **P 06 50 41.0 -0.4**
baz=177,SNR=11
V55A P **P 06 50 41.0 -0.4**
baz=177,SNR=11
Z38A Mt. Pleasant 45.02 341 P **P 06 50 42.1 +0.3**
Z38A IAmb IAmb 06 50 43.7
comp=Z,74nm,0.9s
Z38A Mt. Pleasant 45.02 341 P **P 06 50 42.9 +1.1**
baz=158,SNR=12
V52A Sevierville 45.14 355 P **P 06 50 41.7 -0.9**
V52A IAmb IAmb 06 50 42.9
comp=Z,164nm,1.0s
V52A Sevierville 45.14 355 P **P 06 50 42.0 -0.6**
baz=174,SNR=37
V51A Loudon 45.17 354 P **P 06 50 42.4 -0.6**
baz=173,SNR=29
TXAR Lajitas Array 45.23 329 P **P 06 50 43.9 +0.2**
comp=Z,24nm,0.8s,baz=149,slow=10.0,SNR=94
TXAR PcP **PcP 06 52 23.1 0.0**
comp=Z,4.5nm,0.5s,baz=161,slow=7.0,SNR=16
TXAR LR LR 07 08 28.9
comp=Z,322nm,18.1s,baz=114,slow=34
comp=Z,24nm,0.8s
TX31 Lajitas Ar. Si 45.23 329 P **P 06 50 43.9 +0.2**
baz=145,SNR=58
W45A Hickory Valley 45.29 348 P **P 06 50 43.2 -0.6**
baz=166,SNR=30
V48A Smith Brothers 45.44 351 P **P 06 50 44.5 -0.5**
baz=169,SNR=39
U59A Littleton 45.44 1 P **P 06 50 45.1 0.0**
baz=182,SNR=9.7
U59A P **P 06 50 45.1 0.0**
baz=182,SNR=9.7
U56A King 45.45 358 P **P 06 50 45.1 0.0**
baz=178,SNR=17
U56A P **P 06 50 45.1 0.0**
baz=178,SNR=17
X40A Basin Creek Fa 45.52 344 P **P 06 50 45.2 -0.5**
baz=161,SNR=21
X40A P **P 06 50 45.2 -0.5**
baz=161,SNR=21
EFI East Falkland 45.56 162*d i* P **P 06 50 47.1 +1.3**
EFI pmax pmax
comp=Z,164nm,1.7s
EFI East Falkland 45.56 162 P **P 06 50 47.1 +1.3**
EFI pP **pP 06 50 59.4 -0.2**
EFI PcP **PcP 06 52 23.7 +0.1**
U54A Nelsons Funny 45.68 357 P **P 06 50 46.6 -0.4**
baz=176,SNR=20
U54A P **P 06 50 46.6 -0.4**
baz=176,SNR=20
MIAR Mount Ida 45.78 343 P **P 06 50 48.3 +0.5**
baz=160,SNR=54
MIAR Mount Ida 45.78 343 P **P 06 50 48.0 +0.2**
baz=160,SNR=54
TZTN Tazewell 45.83 355 P **P 06 50 47.4 -0.7**
baz=174,SNR=14
TZTN Tazewell 45.83 355 P **P 06 50 47.1 -1.1**
baz=174,SNR=14
Z35A Perchaven, San 45.87 338 P **P 06 50 48.7 +0.3**
Z35A Perchaven, San 45.87 338 P **P 06 50 49.1 +0.7**
baz=155,SNR=12
WVT Waverly 45.98 350 P **P 06 50 47.9 -1.4**
baz=168,SNR=41
WVT Waverly 45.98 350 P **P 06 50 47.7 -1.6**
baz=168
WVT Waverly 45.98 350 P **P 06 50 47.5 -1.8**
WVT pP **pP 06 51 01.6 -1.7**
WVT sP **sP 06 51 07.3 -2.0**
WVT PcP **PcP 06 52 24.1 -1.3**
HBAR Harrisburg 45.99 347 P **P 06 50 49.4 +0.1**
U49A Red Boiling Sp 46.05 352 P **P 06 50 48.7 -1.1**
baz=171,SNR=20
T59A Double "B" Far 46.07 2 P **P 06 50 50.0 0.0**
baz=182,SNR=13
T59A P **P 06 50 50.0 0.0**
baz=182,SNR=13
T57A Hurt 46.08 360 P **P 06 50 49.6 -0.4**
T57A Hurt 46.08 360 P **P 06 50 49.6 -0.4**
baz=180,SNR=29
T57A P **P 06 50 49.6 -0.4**
baz=180,SNR=29
USHA Ushuaia 46.15 172 P **P 06 50 51.8 +1.4**
comp=Z,47nm,0.9s,baz=344,slow=7.6,SNR=4.6
comp=Z,47nm,0.9s
ABTX Abilene, Hawle 46.16 336 P **P 06 50 51.0 +0.2**
baz=151,SNR=50
ABTX Abilene, Hawle 46.16 336 P **P 06 50 51.1 +0.3**
baz=151,SNR=50
GNAR Gosnell 46.24 348 P **P 06 50 51.0 -0.4**
BLA Blacksburg 46.31 358 P **P 06 50 51.9 -0.1**
baz=178,SNR=10
BLA Blacksburg 46.31 358 P **P 06 50 51.5 -0.4**
baz=178,SNR=10
X37A Clayton 46.37 341 P **P 06 50 53.1 +0.7**
baz=158,SNR=87
T50A Nancy 46.43 353 P **P 06 50 51.8 -1.0**
baz=172
T50A P **P 06 50 51.8 -1.0**
baz=172
LOOK Love County 46.44 339 **P 06 50 53.1 +0.1**
LCAR Lake Charles 46.60 346 P **P 06 50 53.5 -0.6**
LCAR Lake Charles 46.60 346 P **P 06 50 53.6 -0.6**
baz=164,SNR=24
T47A Sharon Grove 46.70 351 P **P 06 50 52.9 -2.1**
T47A IAmb IAmb 06 52 27.8
comp=Z,119nm,0.8s
T47A Sharon Grove 46.70 351 P **P 06 50 53.8 -1.2**
baz=169,SNR=24
S57A Dark Hollow, R 46.84 360 P **P 06 50 55.8 -0.3**
baz=180,SNR=12
S57A P **P 06 50 55.8 -0.3**
baz=180,SNR=12
S54A Dingess, Beckl 46.93 357 P **P 06 50 56.2 -0.6**
baz=177,SNR=17
S54A P **P 06 50 56.2 -0.6**
baz=177,SNR=17
T45B Paducah 46.99 349 P **P 06 50 56.3 -0.9**
baz=167,SNR=14
R58B Mineral 47.05 1 P **P 06 50 58.0 +0.3**
baz=182,SNR=27
R58B P **P 06 50 58.0 +0.3**
baz=182,SNR=27
PBMO Poplar Bluff 47.11 347 P **P 06 50 57.1 -1.1**
baz=165,SNR=13
U40A Yellville 47.29 345 P **P 06 50 59.9 +0.3**
baz=161,SNR=163
U40A P **P 06 50 59.9 +0.3**
baz=161,SNR=163
CBN Corbin Frederi 47.30 2 P **P 06 50 59.9 +0.3**
baz=182,SNR=9.7
CBN Corbin Frederi 47.30 2 P **P 06 50 59.6 0.0**
baz=182,SNR=9.7
R55A Marlinton 47.37 359 P **P 06 51 00.2 -0.1**
baz=178,SNR=14
R55A P **P 06 51 00.2 -0.1**
baz=178,SNR=14
R53A Hurricane 47.49 357 P **P 06 51 00.3 -0.7**
baz=176,SNR=11
R53A P **P 06 51 00.3 -0.7**
baz=176,SNR=11
T42A Van Buren 47.50 347 P **P 06 51 00.5 -0.7**
baz=164
HHAR Hobbs 47.51 344 P **P 06 51 01.1 -0.2**
baz=160
R50A Paris 47.62 354 P **P 06 51 01.2 -0.9**
baz=173,SNR=19
R50A P **P 06 51 01.2 -0.9**
baz=173,SNR=19
WMOK Wichita Mounta 47.69 338 P **P 06 51 02.5 -0.3**
baz=153,SNR=33
WMOK Wichita Mounta 47.69 338 P **P 06 51 02.2 -0.5**
baz=153,SNR=33
TUL1 Leonard 47.72 341 P **P 06 51 02.7 -0.2**
baz=157,SNR=88
TUL1 Leonard 47.72 341 P **P 06 51 02.9 0.0**
baz=157,SNR=88
R49A Shelbyville 47.73 353 P **P 06 51 02.0 -0.9**
baz=172,SNR=16
R49A P **P 06 51 02.0 -0.9**
baz=172,SNR=16
S44A Carbondale 47.76 349 P **P 06 51 02.5 -0.6**
baz=166,SNR=28
U38A Gravette 47.79 343 P **P 06 51 03.6 +0.2**
baz=159,SNR=66
WCI Wyandotte Cave 47.80 352 P **P 06 51 02.3 -1.2**
baz=170,SNR=16
WCI Wyandotte Cave 47.80 352 P **P 06 51 02.1 -1.4**
baz=170
WCI Wyandotte Cave 47.80 352 P **P 06 51 02.1 -1.4**
WCI pP **pP 06 51 15.7 -1.8**
WCI PcP **PcP 06 52 30.9 -0.9**
MNTX Cornudas Mount 48.01 329 P **P 06 51 04.9 -0.3**
baz=144,SNR=72
MNTX Cornudas Mount 48.01 329 P **P 06 51 04.9 -0.3**
baz=144,SNR=72
Q54A Coxs Mills 48.09 358 P **P 06 51 05.0 -0.7**
baz=178,SNR=21
Q54A P **P 06 51 05.0 -0.7**
baz=178,SNR=21
Q56A Snyder Ridge, 48.12 360 P **P 06 51 06.3 +0.4**
baz=180,SNR=14
Q56A P **P 06 51 06.3 +0.4**
baz=180,SNR=14
Q52A Bidwell 48.14 357 P **P 06 51 05.6 -0.5**
baz=176,SNR=12
Q52A P **P 06 51 05.6 -0.5**
baz=176,SNR=12
Q51A Peebles 48.28 355 P **P 06 51 06.2 -0.9**
baz=174,SNR=30
Q51A P **P 06 51 06.2 -0.9**
baz=174,SNR=30
CCM Cathedral Cave 48.52 347 P **P 06 51 08.3 -0.7**
baz=164,SNR=54
CCM Cathedral Cave 48.52 347 P **P 06 51 08.1 -0.9**
baz=164
CCM Cathedral Cave 48.52 347 P **P 06 51 08.3 -0.7**
CCM pP **pP 06 51 22.8 -0.3**
CCM PcP **PcP 06 52 33.5 -0.9**
SDMD Soldier's Deli 48.52 2 P **P 06 51 08.8 -0.3**
SDMD Soldier's Deli 48.52 2 P **P 06 51 09.1 +0.1**
baz=183,SNR=8.3
P57A Homestead Farm 48.56 1 P **P 06 51 09.7 +0.4**
baz=181,SNR=5.7

P57A				P	P	06 51 09.7	+0.4
	baz=181,SNR=5.7						
OLIL	Olney	48.57	350	P	P	06 51 08.2	-1.2
	baz=168,SNR=18						
P53A	Whipple	48.62	357	P	P	06 51 09.5	-0.2
	baz=177,SNR=15						
P53A				P	P	06 51 09.5	-0.2
	baz=177,SNR=15						
MSTX	Muleshoe	48.65	333	P	P	06 51 10.5	+0.3
	baz=148,SNR=46						
MSTX	Muleshoe	48.65	333	P	P	06 51 10.0	-0.3
	baz=148,SNR=46						
S39A	Bolivar	48.67	345	P	P	06 51 09.9	-0.4
	baz=161,SNR=135						
P51A	Williamsport	48.71	356	P	P	06 51 09.5	-0.9
	baz=175,SNR=25						
P51A				P	P	06 51 09.5	-0.9
	baz=175,SNR=25						
MCWV	Mont Chateau	48.74	359	P	P	06 51 10.2	-0.5
	baz=179,SNR=5.6						
MCWV	Mont Chateau	48.74	359	P	P	06 51 10.2	-0.5
	baz=179,SNR=5.6						
P52A	Corning	48.80	357	P	P	06 51 10.0	-1.1
	baz=176,SNR=30						
SLM	Saint Louis	48.86	348	P	P	06 51 11.3	-0.4
	baz=165,SNR=6.3						
T35B	Sooner Cattle	48.87	341	P	P	06 51 12.0	+0.2
	baz=157,SNR=50						
Q44A	Meyer Farm, Va	48.89	350	P	P	06 51 10.8	-1.1
	baz=167,SNR=21						
P61A	Hammonton	48.90	4	P	P	06 51 12.4	+0.5
	baz=186						
P61A				P	P	06 51 12.4	+0.5
	baz=186						
P49A	Miami Univ. Ec	48.91	354	P	P	06 51 10.6	-1.4
	baz=172,SNR=21						
P49A	Miami Univ. Ec	48.91	354	P	P	06 51 10.4	-1.6
	baz=172,SNR=21						
P48A	Milroy	48.91	353	P	P	06 51 10.4	-1.6
	baz=172,SNR=21						
P48A				P	P	06 51 10.4	-1.6
	baz=172,SNR=21						
AMTX	Amarillo	48.96	335	P	P	06 51 12.4	-0.2
	baz=150,SNR=17						
AMTX	Amarillo	48.96	335	P	P	06 51 12.3	-0.3
	baz=150						
R40A	Maddies Statio	48.98	346	P	P	06 51 12.1	-0.4
	baz=163,SNR=95						
GEDE	Greenville	48.98	3	P	P	06 51 12.3	-0.2
	baz=184						
PSUB	Penn St. - Bra	49.11	4	P	P	06 51 14.0	+0.5
	baz=185						
U32A	Winter Ranch,	49.23	339	P	P	06 51 14.6	0.0
	baz=154,SNR=19						
O52A	Adamsville	49.26	357	P	P	06 51 13.9	-0.8
	baz=176,SNR=26						
O52A				P	P	06 51 13.9	-0.8
	baz=176,SNR=26						
O54A	Avella	49.27	359	P	P	06 51 14.1	-0.8
	baz=178,SNR=6.0						
O54A				P	P	06 51 14.1	-0.8
	baz=178,SNR=6.0						
PABK	Blue Knob Stat	49.34	0	P	P	06 51 15.2	-0.2
	baz=180						
TUPA	Temple Univers	49.36	4	P	P	06 51 16.1	+0.6
	baz=185,SNR=6.9						
O53A	New Philadelph	49.37	358	P	P	06 51 14.5	-1.0
	baz=177,SNR=12						
ACSO	Alum Creek Sta	49.45	356	P	P	06 51 15.3	-0.8
	baz=175,SNR=58						
ACSO	Alum Creek Sta	49.45	356	P	P	06 51 15.1	-1.0
	baz=175,SNR=58						
O49A	Covington	49.52	355	P	P	06 51 15.6	-1.0
	baz=173,SNR=37						
O49A				P	P	06 51 15.6	-1.0
	baz=173,SNR=37						
O48B	Farmland	49.67	354	P	P	06 51 16.8	-1.0
	baz=172,SNR=82						
O48B	Farmland	49.67	354	P	P	06 51 16.4	-1.4
	baz=172,SNR=82						
P43A	Skaggs, Pawnee	49.70	349	P	P	06 51 17.3	-0.7
	baz=166,SNR=23						
SSPA	Standing Stone	49.72	1	P	P	06 51 18.1	-0.1
	baz=181,SNR=12						
SSPA	Standing Stone	49.72	1	P	P	06 51 17.8	-0.4
	baz=181						
SSPA	Standing Stone	49.72	1	P	P	06 51 17.8	-0.4
SSPA				pP	pP	06 51 29.6	-2.6
SSPA				sP	sP	06 51 36.1	-2.1
SSPA				PcP	PcP	06 52 38.0	-0.7
121A	Cookes Peak, D	49.91	328	P	P	06 51 21.1	+1.1
	baz=142,SNR=32						
121A	Cookes Peak, D	49.91	328	P	P	06 51 20.9	+0.9
	baz=142,SNR=32						
N53A	Lisbon	49.91	358	P	P	06 51 18.9	-0.8
	baz=178,SNR=7.9						
N53A				P	P	06 51 18.9	-0.8
	baz=178,SNR=7.9						
N58A	Sunbury	49.95	2	P	P	06 51 20.1	+0.2
	baz=183,SNR=10						
N58A				P	P	06 51 20.1	+0.2
	baz=183,SNR=10						
SFIN	Lafayette	50.03	352	P	P	06 51 19.1	-1.4
	baz=170,SNR=34						
SFIN	Lafayette	50.03	352	P	P	06 51 18.8	-1.7
	baz=170,SNR=34						
N51A	Ashland	50.09	357	P	P	06 51 20.0	-1.0
	baz=176,SNR=17						
N51A				P	P	06 51 20.0	-1.0
	baz=176,SNR=17						
P40A	Paris	50.11	347	P	P	06 51 20.6	-0.6
	baz=163,SNR=22						
FOR	Fordham	50.15	5	P	P	06 51 21.4	0.0
	baz=187						
PSDB	Penn State Uni	50.20	0	P	P	06 51 21.5	-0.4
	baz=180						
PAL	Palisades	50.29	5	P	P	06 51 21.9	-0.6
	baz=186						
PAL	Palisades	50.29	5	P	P	06 51 21.8	-0.6
	baz=186						
ODNJ	Ogdensburg	50.31	4	P	P	06 51 22.5	-0.2
	baz=186						
N47A	Urbana	50.34	353	P	P	06 51 21.5	-1.4
	baz=171,SNR=52						
N47A				P	P	06 51 21.5	-1.4
	baz=171,SNR=52						
M57A	Sunshine Farm,	50.44	2	P	P	06 51 23.8	+0.2
	baz=182,SNR=15						
M57A				P	P	06 51 23.8	+0.2
	baz=182,SNR=15						
M53A	WI Miller and	50.54	358	P	P	06 51 22.9	-1.5
	baz=178						
HDIL	Hopedale	50.55	350	P	P	06 51 23.4	-1.0
	baz=167,SNR=31						
HDIL	Hopedale	50.55	350	P	P	06 51 23.2	-1.2
	baz=167,SNR=31						
P38A	Dawn	50.55	345	P	P	06 51 24.1	-0.4
	baz=161,SNR=48						
Y22A	Socorro	50.59	330	P	P	06 51 25.9	+0.7
	baz=143,SNR=31						
M50A	Fremont	50.62	356	P	P	06 51 24.2	-0.7
	baz=175,SNR=31						
M50A				P	P	06 51 24.2	-0.7
	baz=175,SNR=31						
M52A	Chesterland	50.66	358	P	P	06 51 24.1	-1.2
	baz=177						
M52A				P	P	06 51 24.1	-1.2
	baz=177						
Y22D	IRIS PASSCAL I	50.68	330	P	P	06 51 26.6	+0.8
	baz=143						
Y22F	Passcal Instru	50.68	330	P	P	06 51 26.6	+0.8
	baz=143						
BRNY	Black Rk. Fore	50.69	5	P	P	06 51 25.7	+0.2
	baz=186						
ALLY	Alegheny Colle	50.73	359	P	P	06 51 24.9	-0.9
	baz=179						
M63A	Gales Ferry	50.87	7	P	P	06 51 27.8	+0.9
	baz=189						
M63A				P	P	06 51 27.8	+0.9
	baz=189						
KSU1	Kansas State U	50.91	342	P	P	06 51 26.9	-0.4
	baz=158,SNR=15						
KSU1	Kansas State U	50.91	342	P	P	06 51 26.6	-0.6
	baz=158,SNR=15						
R32A	Long Quarter,	50.96	340	P	P	06 51 27.9	+0.2
	baz=155,SNR=19						
N41A	Harden Midland	50.98	348	P	P	06 51 27.2	-0.5
	baz=165,SNR=7.6						
NPNY	Mohonk Preserv	51.02	5	P	P	06 51 28.7	+0.7
	baz=186,SNR=5.0						
M44A	Midewin, Midew	51.15	351	P	P	06 51 27.3	-1.7
	baz=169						
ANMO	Albuquerque	51.16	331	LR	LR	07 11 37.3	
	comp=Z,284nm,20.9s,baz=226,slow=34						
ANMO	Albuquerque	51.16	331	P	P	06 51 29.6	+0.3
	baz=144,SNR=101						
ANMO	Albuquerque	51.16	331	P	P	06 51 30.1	+0.7
	baz=144						
ANMO	Albuquerque	51.16	331	d iP	P	06 51 29.7	+0.3
ANMO				pmax	pmax		
	comp=Z,116nm,1.7s						
ANMO	Albuquerque	51.16	331	P	P	06 51 29.7	+0.3
ANMO				pP	pP	06 51 43.4	-0.1
ERPA	Erie	51.20	359	P	P	06 51 28.8	-0.5
	baz=179						
ERPA	Erie	51.20	359	P	P	06 51 28.2	-1.2
	baz=179						
L56A	Greenwood	51.22	1	P	P	06 51 29.2	-0.4
	baz=182,SNR=14						
L56A				P	P	06 51 29.2	-0.4
	baz=182,SNR=14						
L48A	N Adams	51.27	355	P	P	06 51 28.7	-1.2
	baz=173,SNR=13						
L48A				P	P	06 51 28.7	-1.2
	baz=173,SNR=13						
BINY	Binghamton	51.34	3	P	P	06 51 30.7	+0.3
	baz=184,SNR=22						
BINY	Binghamton	51.34	3	P	P	06 51 30.4	0.0
	baz=184,SNR=22						
TUC	Tucson	51.37	325	P	P	06 51 31.1	+0.2
	baz=138						
TUC	Tucson	51.37	325	P	P	06 51 31.2	+0.2
TUC				PcP	PcP	06 52 44.1	-1.0
L59A	Walton	51.38	4	P	P	06 51 31.3	+0.5
	baz=185,SNR=14						
L59A				P	P	06 51 31.3	+0.5
	baz=185,SNR=14						
WVNY	West Valley, N	51.48	0	P	P	06 51 31.4	-0.1
	baz=180,SNR=8.6						
L46A	Eue Claire	51.53	353	P	P	06 51 30.1	-1.7
	baz=171,SNR=7.7						
L46A				P	P	06 51 30.1	-1.7
	baz=171,SNR=7.7						
AAM	Ann Arbor	51.55	356	P	P	06 51 31.0	-0.9
	baz=174,SNR=8.1						
AAM	Ann Arbor	51.55	356	P	P	06 51 30.8	-1.2
	baz=174,SNR=8.1						
N38A	Joes South For	51.59	346	P	P	06 51 31.7	-0.6
	baz=162,SNR=34						
CBKS	Cedar Bluff	51.66	339	P	P	06 51 33.0	+0.1
	baz=154,SNR=12						
CBKS	Cedar Bluff	51.66	339	P	P	06 51 33.0	+0.1
	baz=154,SNR=12						
L61B	Northampton	51.84	6	P	P	06 51 33.9	-0.2
	baz=188						
L61B	Northampton	51.84	6	P	P	06 51 33.9	-0.2
	baz=188						
K57A	Scipio Center	51.85	2	P	P	06 51 34.0	-0.2
	baz=183,SNR=12						
HCNY	Howe Caverns	51.93	4	P	P	06 51 35.5	+0.7
	baz=186,SNR=20						
K50A	Casco	51.96	357	P	P	06 51 33.7	-1.3
	baz=176,SNR=16						
K50A				P	P	06 51 33.7	-1.3
	baz=176,SNR=16						
HRV	Adam Dziewonsk	52.02	7	P	P	06 51 36.0	+0.5
	baz=189						
HRV	Adam Dziewonsk	52.02	7	P	P	06 51 35.9	+0.5
	baz=189						
HRV	Adam Dziewonsk	52.02	7	P	P	06 51 35.6	+0.2
L42A	Oliver, Polo	52.02	350	P	P	06 51 34.3	-1.2
	baz=167						
T25A	Trinidad	52.03	334	P	P	06 51 36.4	+0.5
	baz=148,SNR=42						
K62A	Royalston	52.10	6	P	P	06 51 36.8	+0.8
	baz=188						
K62A				P	P	06 51 36.8	+0.8
	baz=188						
N35A	Tabor	52.26	344	P	P	06 51 36.6	-0.7
	baz=159,SNR=24						
214A	Organ Pipe Nat	52.29	323	P	P	06 51 38.2	+0.5
	baz=136,SNR=19						
J55A	Hilton	52.35	1	P	P	06 51 37.1	-0.8
	baz=182						
J55A				P	P	06 51 37.1	-0.8
	baz=182						
L40A	Anamosa	52.36	348	P	P	06 51 37.2	-0.8
	baz=165,SNR=28						
J56A	Wolcott	52.38	2	P	P	06 51 37.4	-0.6
	baz=183						
J56A				P	P	06 51 37.4	-0.6
	baz=183						
K43A	Burlington	52.48	351	P	P	06 51 37.7	-1.2
	baz=168,SNR=6.7						
J58A	Remsen	52.54	3	P	P	06 51 39.1	-0.2
	baz=185,SNR=7.2						
J58A				P	P	06 51 39.1	-0.2
	baz=185,SNR=7.2						
J57A	Williamstown	52.55	3	P	P	06 51 38.8	-0.5
	baz=184						
J57A				P	P	06 51 38.8	-0.5
	baz=184						
J47A	Sunmer	52.58	355	P	P	06 51 38.3	-1.3
	baz=173,SNR=38						
J47A				P	P	06 51 38.3	-1.3
	baz=173,SNR=38						
SCIA	State Center	52.64	347	P	P	06 51 39.9	-0.2
	baz=162						
SCIA	State Center	52.64	347	P	P	06 51 39.4	-0.7
	baz=162						
N33B	J Bar K, Exete	52.66	342	P	P	06 51 40.0	-0.3
	baz=157,SNR=7.0						
ACCN	Adirondack Com	52.67	5	P	P	06 51 40.9	+0.6
	baz=187,SNR=14						
J59A	Piesco	52.69	4	P	P	06 51 40.4	0.0
	baz=186,SNR=10						
J59A				P	P	06 51 40.4	0.0
	baz=186,SNR=10						
J61A	Chester	52.74	6	P	P	06 51 41.6	+0.9
	baz=188						
J61A				P	P	06 51 41.6	+0.9
	baz=188						
KSCO	Kaye Shedlock'	52.90	337	P	P	06 51 42.3	+0.1
	baz=150,SNR=11						
KSCO	Kaye Shedlock'	52.90	337	P	P	06 51 42.0	-0.2
	baz=150,SNR=11						
W18A	Petrified Fore	52.93	328	P	P	06 51 43.2	+0.6
	baz=141,SNR=11						
JFWS	Jewell Farm	53.00	350	P	P	06 51 41.5	-1.2
	baz=166,SNR=11						
JFWS	Jewell Farm	53.00	350	P	P	06 51 41.2	-1.5
	baz=166,SNR=11						
SDCO	Great Sand Dun	53.01	334	P	P	06 51 43.4	+0.1
	baz=147,SNR=81						
SDCO	Great Sand Dun	53.01	334	P	P	06 51 43.4	+0.1
	baz=147,SNR=81						
I49A	Point Hope	53.13	356	P	P	06 51 42.2	-1.4
	baz=175						
I49A				P	P	06 51 42.2	-1.4
	baz=175						
WCNY	West Carthage	53.13	3	P	P	06 51 43.6	-0.1
	baz=184,SNR=6.5						
NCB	Newcomb	53.21	4	P	P	06 51 44.2	0.0
	baz=186,SNR=5.6						
K38A	Parkersburg	53.25	347	P	P	06 51 43.5	-1.0
	baz=163,SNR=8.4						
MCVT	Middlebury Col	53.30	5	P	P	06 51 45.5	+0.6
	baz=187,SNR=16						
I62A	Tamworth	53.39	7	P	P	06 51 46.7	+1.1
	baz=189						
I62A				P	P	06 51 46.7	+1.1
	baz=189						
BGNE	Belgrade	53.49	342	P	P	06 51 46.0	-0.4
	baz=156,SNR=8.9						
BGNE	Belgrade	53.49	342	P	P	06 51 45.7	-0.6
	baz=156,SNR=8.9						
L34A	Svendsen Farm,	53.49	344	P	P	06 51 45.4	-1.0
	baz=159,SNR=9.6						
S22A	4UR Ranch, Cre	53.61	333	P	P	06 51 47.9	+0.3
	baz=145,SNR=22						
I63A	Otisfield	53.66	7	P	P	06 51 48.1	+0.6
	baz=190						
I63A				P	P	06 51 48.1	+0.6
	baz=190						
LBNH	Lisbon	53.69	6	P	P	06 51 48.4	+0.6
	baz=189						
LBNH	Lisbon	53.69	6	P	P	06 51 48.3	+0.6
	baz=189						
VT1	Waterbury	53.70	5	P	P	06 51 48.0	+0.2
	baz=188						
I42A	Draeger Farm,	53.73	351	P	P	06 51 47.2	-0.8
	baz=168,SNR=11						
LONY	Lake Ozonia	53.83	4	P	P	06 51 48.6	-0.2
	baz=185,SNR=6.9						
SADO	Sadowa	53.84	360	LR	LR	07 17 15.6	
	comp=Z,110nm,18.9s,baz=150,slow=39						
Q24A	Divide	53.88	335	P	P	06 51 49.5	-0.2
	baz=148,SNR=27						
MVCO	Mesa Verde	53.96	331	P	P	06 51 50.1	0.0
	baz=143,SNR=16						
I40A	Norwalk	54.02	350	P	P	06 51 49.5	-0.6
	baz=166,SNR=11						
WUAZ	Wupatki	54.10	327	P	P	06 51 51.9	+0.7
	baz=139,SNR=60						
H62A	Milan	54.10	7	P	P	06 51 51.9	+1.1
	baz=190,SNR=6.3						
H62A				P	P	06 51 51.9	+1.1
	baz=190,SNR=6.3						
FRNY	Flat Rock	54.12	5	P	P	06 51 51.1	+0.3
	baz=187,SNR=20						
H43A	Windswept, Lux	54.14	352	P	P	06 51 50.2	-0.8
	baz=169,SNR=16						
GLMI	Grayling	54.14	355	P	P	06 51 49.5	-1.5
	baz=173,SNR=5.4						
GLMI	Grayling	54.14	355	P	P	06 51 49.3	-1.8
	baz=173,SNR=5.4						
GLA	Glamis	54.26	323	P	P	06 51 52.3	+0.1
	baz=135						
OGNE	Ogallala	54.37	339	P	P	06 51 53.1	+0.2
	baz=152,SNR=5.6						
OGNE	Ogallala	54.37	339	P	P	06 51 52.4	-0.4
	baz=152,SNR=5.6						
G45A	Suttons Bay	54.45	354	P	P	06 51 51.9	-1.4
	baz=172						
G45A				P	P	06 51 51.9	-1.4
	baz=172						
I37B	Waseca	54.69	347	P	P	06 51 54.0	-1.1
	baz=163,SNR=11						
PDMCI	Parker Dam,Lak	54.74	324	P	P	06 51 55.9	+0.3
	baz=136,SNR=5.1						
IKP	In-Ko-Pah, Jac	54.76	321	P	P	06 51 56.6	+0.7
	baz=133,SNR=7.7						
EMMW	East Machias	54.77	10	P	P	06 51 56.4	+0.8
	baz=194						
SWSC	Sam W. Stewart	54.78	322	P	P	06 51 56.2	+0.4
	baz=134						
ISCO	Idaho Springs	54.78	335	P	P	06 51 56.1	-0.1
	baz=147,SNR=32						
ISCO	Idaho Springs	54.78	335	P	P	06 51 56.1	-0.1
	baz=147,SNR=32						
K31A	O'Neill	54.78	342	P	P	06 51 56.0	+0.2
	baz=156,SNR=17						
G62A	West of Eustis	54.81	7	P	P	06 51 57.0	+1.1
	baz=190,SNR=10						
G62A				P	P	06 51 57.0	+1.1
	baz=190,SNR=10						
PKME	Peaks-Kenny Pk	55.02	8	P	P	06 51 58.3	+0.9
	baz=192,SNR=5.2						
PKME	Peaks-Kenny Pk	55.02	8	P	P	06 51 58.0	+0.6
	baz=192,SNR=5.2						
BC3	Big Chuckawall	55.06	323	P	P	06 51 58.4	+0.3
	baz=134,SNR=8.0						
MONP2	Monument Peak	55.12	321	P	P	06 51 58.8	+0.2
	baz=133,SNR=5.3						
ECSD	EROS Data Cent	55.20	344	P	P	06 51 57.4	-1.3
	baz=159,SNR=61						
ECSD	EROS Data Cent	55.20	344	P	P	06 51 57.7	-1.1
	baz=159,SNR=61						
IRM	Iron Mountain	55.23	323	P	P	06 51 59.7	+0.5
	baz=135,SNR=23						
G65A	Princeton	55.23	10	P	P	06 52 00.1	+1.2
	baz=194,SNR=6.2						
G65A				P	P	06 52 00.1	+1.2
	baz=194,SNR=6.2						
G40A	Rib Lake	55.28	350	P	P	06 51 58.7	-0.6
	baz=167,SNR=5.5						
NEE2	Needles Airpor	55.35	324	P	P	06 52 00.4	+0.4
	baz=136						
F42A	Maple Grove Fa	55.45	352	P	P	06 51 59.6	-0.8
	baz=169,SNR=15						
F63A	Nahmakanta, Br	55.48	8	P	P	06 52 00.9	+0.2
	baz=192						
F63A				P	P	06 52 00.9	+0.2
	baz=192						
109C	Camp Elliot, M	55.54	321	P	P	06 52 01.7	+0.3
	baz=132,SNR=7.8						
F62A	Pittston Farm,	55.55	8	P	P	06 52 01.7	+0.5
	baz=191						
F62A				P	P	06 52 01.7	+0.5
	baz=191						
TPFO	Pinon Flats	55.63	322	P	P	06 52 02.7	+0.5
	baz=134,SNR=13						
PFO	Pinyon Flats O	55.63	322	P	P	06 52 02.8	+0.6
	baz=134,SNR=5.1						
PFO	Pinyon Flats O	55.63	322	d iP	P	06 52 02.6	+0.4
PFO				pmax	pmax		
	comp=Z,47nm,1.1s						
PFO	Pinyon Flats O	55.63	322	P	P	06 52 02.5	+0.4
PFO				PcP	PcP	06 53 01.0	-0.3
E46A	Sault Ste Mari	55.65	355	P	P	06 52 00.2	-1.6
	baz=174,SNR=9.2						
SPMN	Marine on St.	55.72	348	P	P	06 52 01.4	-1.0
	baz=164,SNR=20						
SPMN	Marine on St.	55.72	348	P	P	06 52 01.3	-1.1
	baz=164,SNR=20						
F64A	Sherman	55.75	9	P	P	06 52 03.6	+1.0
	baz=193						
F64A				P	P	06 52 03.6	+1.0
	baz=193						
N23A	Red Feather La	55.83	335	P	P	06 52 03.6	-0.1
	baz=147,SNR=14						
E43A	Lone Tree Farm	55.91	353	P	P	06 52 02.7	-1.1
	baz=170,SNR=13						
COWI	Conover	55.93	351	P	P	06 52 03.3	-0.6
	baz=168						
GMRC	Granite Mounta	55.97	324	P	P	06 52 05.2	+0.6
	baz=135,SNR=6.0						
MURC	Murrieta	56.08	321	P	P	06 52 05.4	+0.2
	baz=133,SNR=8.6						
O20A	White River Ci	56.19	333	P	P	06 52 06.4	+0.2
	baz=145,SNR=47						
E63A	Oxbow	56.28	9	P	P	06 52 07.2	+0.8
	baz=192						
E63A				P	P	06 52 07.2	+0.8
	baz=192						
E62A	Clayton Lake	56.32	8	P	P	06 52 07.8	+1.1
	baz=191,SNR=6.4						
E62A				P	P	06 52 07.8	+1.1
	baz=191,SNR=6.4						
PMSA	Palmer Station	56.34	172	LR	LR	07 13 59.2	
	comp=Z,379nm,18.0s,baz=326,slow=33						
PMSA	Palmer Station	56.34	172	P	P	06 52 09.1	+2.5
BBRC	Big Bear Solar	56.36	322	P	P	06 52 08.1	+0.6
	baz=133						
HEC	Hector,Ludlow	56.40	323	P	P	06 52 08.5	+0.9
	baz=134,SNR=34						
F36A	Milaca	56.48	348	P	P	06 52 06.8	-1.0
	baz=163,SNR=34						
SUSD	Miller	56.50	343	P	P	06 52 07.5	-0.6
	baz=156,SNR=8.5						
SUSD	Miller	56.50	343	P	P	06 52 07.0	-1.1
	baz=156,SNR=8.5						
TUQ	Turquoise Moun	56.58	324	P	P	06 52 09.3	+0.4
	baz=135,SNR=12						
D41A	Chassel	56.79	352	P	P	06 52 09.9	-0.1
	baz=169,SNR=12						
BFSC	Mount Baldy Ra	56.79	322	P	P	06 52 10.7	+0.2
	baz=133,SNR=5.8						
E38A	The Farm, Brul	56.81	350	P	P	06 52 09.7	-0.5
	baz=165,SNR=5.6						
D62A	Allapoint, All	56.84	8	P	P	06 52 11.4	+1.0
	baz=192,SNR=6.1						
D62A				P	P	06 52 11.4	+1.0
	baz=192,SNR=6.1						
GSC	Goldstone, Bar	57.00	323	P	P	06 52 12.5	+0.6
	baz=134,SNR=31						
F33A	5 Mile Ranch,	57.08	346	P	P	06 52 10.8	-1.3
	baz=160,SNR=36						
SHOC	Shoshone, Teco	57.11	324	P	P	06 52 12.9	+0.4
	baz=135						
RDMU	Red Mountain	57.14	332	P	P	06 52 12.9	0.0
DECC	Green Verdugo	57.22	321	P	P	06 52 14.1	+0.7
	baz=132						
EDW2	Edwards Air Fo	57.43	322	P	P	06 52 15.2	+0.4

baz=133,SNR=35
PRN Pahroc Range 57.49 326 P **P** **06 52 15.7 +0.4**
PRN IAmb IAmb 06 53 10.0
comp=Z,44nm,1.1s
K22A Casper 57.54 336 P **P** **06 52 15.8 +0.1**
baz=147,SNR=28
K22A Casper 57.54 336 P **P** **06 52 15.4 -0.2**
baz=147,SNR=28
LRMC Laurel Mtn Rad 57.65 323 P **P** **06 52 16.8 +0.4**
baz=133,SNR=14
TPNV Topopah Spring 57.83 325 P **P** **06 52 18.6 +0.8**
baz=135,SNR=28
FURC Furnace Creek, 57.84 324 P **P** **06 52 18.2 +0.5**
baz=134,SNR=22
RSSD Black Hills 57.86 339 P **P** **06 52 18.1 +0.2**
baz=150,SNR=40
RSSD Black Hills 57.86 339 P **P** **06 52 17.9 0.0**
baz=150
RSSD Black Hills 57.86 339 P **P** **06 52 17.9 0.0**
RSSD pP **pP** **06 52 32.4 +0.1**
RSSD sP **sP** **06 52 37.6 -0.7**
RSSD PcP **PcP** **06 53 08.8 -1.1**
MPMC Manual Prospec 57.93 323 P **P** **06 52 18.8 +0.3**
baz=134,SNR=22
EYMN Ely 58.10 350 P **P** **06 52 18.4 -0.9**
baz=166,SNR=7.4
EYMN Ely 58.10 350 P **P** **06 52 18.2 -1.1**
baz=166,SNR=7.4
ARVC Arvin 58.10 322 P **P** **06 52 20.2 +0.7**
baz=132,SNR=16
ISA Isabella, Lake 58.24 322 P **P** **06 52 21.4 +0.8**
baz=133,SNR=20
DUG Dugway, Tooele 58.39 330 P **P** **06 52 22.4 +0.8**
baz=140,SNR=68
R11A Troy Canyon, C 58.46 327 P **P** **06 52 23.0 +0.8**
baz=136,SNR=48
D32B Dogwood Acres, 58.47 346 P **P** **06 52 21.3 -0.5**
baz=159,SNR=7.7
CWC Cottonwood Cre 58.53 323 P **P** **06 52 23.0 +0.3**
baz=133
PKM Mcpherson Peak 58.55 321 P **P** **06 52 23.4 +0.5**
baz=131
VES Vestal, Richgr 58.73 322 P **P** **06 52 24.4 +0.6**
baz=132,SNR=20
BW06 Boulder Array 58.90 334 P **P** **06 52 24.6 -0.7**
baz=144,SNR=31
PDAR Pinedale Array 58.90 334 P **P** **06 52 24.5 -0.7**
comp=Z,20nm,0.8s,baz=127,slow=8.0,SNR=159
PDAR PcP **PcP** **06 53 12.9 -1.1**
comp=Z,14nm,0.8s,baz=132,slow=6.6,SNR=7.5
PDAR PKPPKP **P'P'df** **07 21 57.1 -0.9**
comp=Z,1.4nm,0.9s,baz=309,slow=0.9,SNR=4.3
PDAR P4KPbc 07 29 30.2
comp=Z,1.0nm,0.9s,baz=160,slow=4.7,SNR=8.2
comp=Z,20nm,0.8s
B35A Bob, Littlefor 58.90 349 P **P** **06 52 24.1 -0.8**
baz=163,SNR=18
SMMC Simmler 58.94 321 P **P** **06 52 26.2 +0.8**
baz=131,SNR=16
E28A Huff 58.95 343 P **P** **06 52 25.0 -0.2**
baz=155,SNR=33
TIN Tinemaha, Big 59.04 324 P **P** **06 52 26.9 +0.7**
baz=133
BGU Big Grassy Mou 59.05 330 P **P** **06 52 26.4 +0.1**
BGU IAmb IAmb 06 52 27.5
comp=Z,48nm,1.0s
SPUT South Promonto 59.07 331 P **P** **06 52 26.2 -0.1**
SPUT IAmb IAmb 06 52 27.5
comp=Z,66nm,0.9s
DSP Deep Springs 59.11 324 P **P** **06 52 26.5 +0.1**
TPH Tonopah 59.17 325 P **P** **06 52 27.5 +0.3**
TPH Tonopah 59.17 325 P **P** **06 52 27.5 +0.3**
TPH pmax pmax
comp=Z,237nm,1.2s
AGMN Agassiz Nation 59.29 347 P **P** **06 52 27.1 -0.4**
baz=161,SNR=40
AGMN Agassiz Nation 59.29 347 P **P** **06 52 27.0 -0.6**
baz=161,SNR=40
MLAC Mammoth, Mammo 59.79 324 P **P** **06 52 32.1 +0.6**
baz=133,SNR=8.0
MDND Maddock 59.80 344 P **P** **06 52 31.2 +0.1**
baz=156,SNR=14
MDND Maddock 59.80 344 P **P** **06 52 30.9 -0.1**
baz=156,SNR=14
ELK Elko 60.03 329 LR LR 07 16 37.8
comp=Z,523nm,21.2s,baz=140,slow=34
NVAR Mina Array Bea 60.03 325 P **P** **06 52 33.5 +0.5**
comp=Z,25nm,0.8s,baz=141,slow=7.0,SNR=134
NVAR PcP **PcP** **06 53 18.3 -0.4**
comp=Z,14nm,0.8s,baz=145,slow=5.5,SNR=8.1
NVAR PKP2bc 07 22 06.5
comp=Z,2.8nm,0.8s,baz=280,slow=2.3,SNR=13
NVAR P4KPbc 07 29 38.6
comp=Z,0.2nm,0.6s,baz=122,slow=5.4,SNR=4.4
comp=Z,25nm,0.8s
TAOE Nuku Hiva Isla 60.38 265 *e*S **S** **07 00 49.2 +1.8**
comp=Z,223nm,30.4s
TAOE *e*LR LR 07 10 32.0
comp=Z,1μm,24.5s
H17A Grant Village 60.65 334 P **P** **06 52 37.7 +0.4**
baz=144,SNR=20
RLMT Red Lodge 60.70 336 P **P** **06 52 37.2 -0.3**
baz=145,SNR=36
LAO LASA Array 60.85 339 P **P** **06 52 37.9 -0.5**
baz=149,SNR=9.6
LAO LASA Array 60.85 339 P **P** **06 52 37.9 -0.5**
baz=149,SNR=9.6
ULM Lac du Bonnet 61.14 348 P **P** **06 52 38.9 -1.2**
comp=Z,77nm,1.0s,baz=163,slow=6.9,SNR=69
ULM PcP **PcP** **06 53 21.6 -0.9**
comp=Z,22nm,0.8s,baz=166,slow=6.2,SNR=4.4
comp=Z,77nm,1.0s
DRLN Deer Lake 61.29 16 P **P** **06 52 41.8 +0.7**
QLMT Earthquake Lak 61.37 334 P **P** **06 52 42.5 +0.5**
DGMT Dagmar 61.72 341 P **P** **06 52 44.4 +0.3**
baz=152,SNR=19
DGMT Dagmar 61.72 341 P **P** **06 52 44.1 0.0**
baz=152,SNR=19
HLID Hailey 61.73 331 P **P** **06 52 44.9 +0.4**
baz=140,SNR=70
MCMT McKenzie Canyo 61.98 333 P **P** **06 52 46.7 +0.4**
BOZ Bozeman (W) 62.06 335 P **P** **06 52 46.7 0.0**
baz=143,SNR=52
EGMT Eagleton 63.28 337 P **P** **06 52 54.5 -0.1**
baz=146,SNR=37
MSO Missoula 64.02 334 P **P** **06 52 59.9 +0.3**
baz=141,SNR=73
I07A Izee 64.62 329 P **P** **06 53 03.4 -0.1**
I07A IAmb IAmb 06 53 05.3
comp=Z,91nm,1.0s
KMPM Mount Pierce 64.72 323 P **P** **06 53 04.7 +0.5**
KMPM IAmb IAmb 06 53 06.4
comp=Z,128nm,1.2s
SCHQ Schefferville 64.72 8 P **P** **06 53 03.3 -0.5**
comp=Z,50nm,0.8s,baz=208,slow=5.3,SNR=43
SCHQ PcP **PcP** **06 53 37.1 0.0**
comp=Z,29nm,0.6s,baz=208,slow=4.1,SNR=10.0
comp=Z,50nm,0.8s
YBH Yreka Blue Hor 64.75 325 LR LR 07 20 19.2
comp=Z,227nm,19.0s,baz=140,slow=35
YBH Yreka Blue Hor 64.75 325 P **P** **06 53 03.4 -1.0**
YBH IAmb IAmb 06 53 04.6
comp=Z,58nm,1.2s
YBH Yreka Blue Hor 64.75 325 P **P** **06 53 03.4 -1.0**
YBH pmax pmax
comp=Z,58nm,1.2s
JCC Jacoby Creek, 64.92 324 P **P** **06 53 05.6 +0.3**
JCC IAmb IAmb 06 53 07.5
comp=Z,122nm,1.2s
G08A Pilot Rock 65.20 330 P **P** **06 53 07.0 -0.3**
G08A IAmb IAmb 06 53 08.8
comp=Z,64nm,1.3s
WALA Waterton Lakes 65.75 336 P **P** **06 53 10.3 -0.5**
WALA IAmb IAmb 06 53 12.1
comp=Z,71nm,0.9s
MBO M'Bour 65.82 70 P **P** **06 53 13.0 +1.3**
MBO M'Bour 65.82 70 P **P** **06 53 13.9 +2.3**
BBTS Babate 66.29 70 LR LR 07 20 57.1
comp=Z,756nm,19.8s,baz=244,slow=35
NEW Newport 66.51 333 LR LR 07 23 50.7
comp=Z,116nm,18.7s,baz=144,slow=37
NEW Newport 66.51 333 P **P** **06 53 15.2 -0.4**
NEW IAmb IAmb 06 53 16.7
comp=Z,82nm,1.2s
NEW Newport 66.51 333 P **P** **06 53 15.5 -0.1**
baz=138,SNR=38
NEW Newport 66.51 333 P **P** **06 53 15.2 -0.4**
NEW pmax pmax
comp=Z,82nm,1.2s
FFC Flin Flon 66.69 346 P **P** **06 53 15.6 -0.9**
FFC IAmb IAmb 06 53 17.1
comp=Z,51nm,1.0s
FFC Flin Flon 66.69 346 P **P** **06 53 15.6 -0.9**
FFC pmax pmax
comp=Z,51nm,1.0s
FFC Flin Flon 66.69 346 ⇓P **P** **06 53 15.9 -0.6**
COR Corvallis 66.95 327 P **P** **06 53 18.9 +0.5**
COR Corvallis 66.95 327 P **P** **06 53 18.9 +0.5**
COR pmax pmax
comp=Z,217nm,1.2s
COR Corvallis 66.95 327 P **P** **06 53 19.1 +0.8**
COR pP **pP** **06 53 34.7 +1.7**
COR sP **sP** **06 53 40.4 +1.5**
HEBO Mount Hebo 67.61 327 P **P** **06 53 23.6 +1.0**
D05A Enumclaw 68.03 330 P **P** **06 53 25.4 +0.3**
D05A IAmb IAmb 06 53 26.4
comp=Z,82nm,0.8s
B06A Marblemount 68.71 331 P **P** **06 53 29.1 -0.2**
B06A IAmb IAmb 06 53 30.3
comp=Z,56nm,0.9s
EDM Edmonton 68.84 339 P **P** **06 53 29.5 -0.7**
EDM Edmonton 68.84 339 P **P** **06 53 29.5 -0.7**
EDM pmax pmax
comp=Z,268nm,1.0s
PPT2 Papeete2 68.88 255 *e*P **P** **06 53 34.1 +2.9**
comp=Z,150nm,41.8s
PPT2 *e*S **S** **07 02 33.3 +1.3**
comp=Z,259nm,25.5s
PPT2 Papeete2 68.88 255 *e*LR LR 07 14 27.6
comp=Z,2μm,26.0s
PPT2 *e*LR LR 07 14 27.8
comp=Z,1μm,28.0s
PPT Papeete 68.88 255 LR LR 07 16 25.7
comp=Z,565nm,19.1s,baz=74,slow=30
NLWA Neilton Lookou 69.11 329 P **P** **06 53 32.4 +0.5**
NLWA IAmb IAmb 06 53 34.1
comp=Z,142nm,1.2s
BELA Belgrano 2 72.14 171 P **P** **06 53 50.5 +0.6**
BELA IAmb IAmb 06 53 52.6
comp=Z,88nm,1.2s
WAPA Wapiti River 72.56 337 P **P** **06 53 52.2 -0.5**
WAPA IAmb IAmb 06 53 53.1
comp=Z,83nm,0.9s
FRB Frobisher Bay 73.29 5 LR LR 07 28 27.2
comp=Z,189nm,19.1s,baz=188,slow=38
BBB Bella Bella 74.31 331 LR LR 07 25 52.9
comp=Z,75nm,21.7s,baz=264,slow=35
VNA3 Neumayer Olymp 74.61 162 P **P** **06 54 05.4 +0.9**
VNA3 Neumayer Olymp 74.61 162 pP pP 06 54 19.9 +0.5
VNA1 Neumayer--Stat 74.89 161 P **P** **06 54 06.4 +0.3**
VNA1 Neumayer--Stat 74.89 161 pP pP 06 54 21.7 +0.8
NRS Narsarsuaq 75.03 16 P **P** **06 54 07.0 +0.1**
NRS IAmb IAmb 06 54 07.9
comp=Z,86nm,1.0s
NRS Narsarsuaq 75.03 16 *i*P **P** **06 54 06.6 -0.4**
NRS IAmb IAmb 06 54 07.6
comp=Z,84nm,1.0s
NRS Narsarsuaq 75.03 16 P **P** **06 54 07.0 +0.1**
NRS pmax pmax
comp=Z,86nm,1.0s
VNA2 Neumayer--Watz 75.24 161 P **P** **06 54 08.9 +0.7**
baz=284,slow=6.0
VNA2 Neumayer--Watz 75.24 161 pP pP 06 54 23.5 +0.5
LIC Lamto 75.24 81 ⇓*i*P **P** **06 54 10.2 +1.0**
comp=Z,59nm,0.7s
TIC Toumodi 75.33 81 ⇓*i*P **P** **06 54 10.8 +1.0**
comp=Z,48nm,0.7s
DBIC Dimbokro 75.49 81 P **P** **06 54 11.1 +0.4**
comp=Z,36nm,0.6s,baz=268,slow=5.1,SNR=80
DBIC LR LR 07 27 35.8
comp=Z,394nm,18.4s,baz=268,slow=36
comp=Z,36nm,0.6s
DBIC Dimbokro 75.49 81 P **P** **06 54 11.1 +0.4**
DBIC IAmb IAmb 06 54 12.4
comp=Z,49nm,0.7s
DBIC Dimbokro 75.49 81 P **P** **06 54 11.1 +0.4**
DBIC pmax pmax
comp=Z,49nm,0.7s
KIC Kosan Boka 75.55 81 ⇓*i*P **P** **06 54 12.1 +1.1**
comp=Z,47nm,0.5s
YKA Yellowknife Ar 76.72 344 P **P** **06 54 15.8 -0.8**
SNAA Sanae 76.83 162 P **P** **06 54 18.0 +0.7**
SNAA Sanae 76.83 162 pP pP 06 54 32.7 +0.5
SNAA Sanae 76.83 162 P **P** **06 54 18.1 +0.8**
SNAA IAmb IAmb 06 54 18.9
comp=Z,48nm,0.8s
SNAA Sanae 76.83 162 P **P** **06 54 18.1 +0.8**
SNAA pmax pmax
comp=Z,49nm,0.8s
V35K Ketchikan 77.89 332 P **P** **06 54 24.2 +1.0**
baz=127
KOTAN Kotaneelee Air 77.92 339 P **P** **06 54 23.5 +0.1**
baz=134,SNR=11
LIRD Liard River Hi 78.18 337 P **P** **06 54 24.4 -0.4**
baz=132,SNR=25
RAR Rarotonga 78.20 250 LR LR 07 20 28.7
comp=Z,386nm,18.9s,baz=98,slow=29
T35M Bob Quinn 78.29 334 P **P** **06 54 26.5 +1.0**
baz=128,SNR=13
TROLL Troll, Antarti 78.55 162 P **P** **06 54 27.9 +0.9**
TROLL Troll, Antarti 78.55 162 pP pP 06 54 43.2 +1.3
CRAG Craig 78.67 332 P **P** **06 54 28.1 +0.6**
baz=125
SFJD Kangerlussuaq 78.84 11 LR LR 07 31 12.5
comp=Z,119nm,20.0s,baz=196,slow=37
SFJD Kangerlussuaq 78.84 11 *i*P **P** **06 54 27.2 -1.0**
SFJD IAmb IAmb 06 54 28.2
comp=Z,35nm,1.3s
WRAK Wrangell Islan 78.87 333 P **P** **06 54 29.2 +0.6**
baz=126
OUK Oukaimeden 78.96 56 P **P** **06 54 33.0 +2.8**
U33K Whale Pass 79.04 332 P **P** **06 54 30.0 +0.4**
baz=126
DLBC Dease Lake 79.10 335 LR LR 07 32 20.6
comp=Z,151nm,18.1s,baz=106,slow=38
DLBC Dease Lake 79.10 335 P **P** **06 54 30.6 +0.6**
baz=129,SNR=22
S34M Telegraph Cree 79.24 335 P **P** **06 54 31.2 +0.6**
baz=128,SNR=10
DY2G Dye2 79.27 13 *i*P **P** **06 54 30.4 -0.6**
DY2G IAmb IAmb 06 54 31.4
comp=Z,154nm,1.1s
T33K Persburg 79.37 333 P **P** **06 54 32.0 +0.6**
baz=126
WTLY Watson Lake, Y 79.67 337 P **P** **06 54 33.2 +0.1**
WTLY Watson Lake, Y 79.67 337 P **P** **06 54 33.2 +0.1**
baz=130,SNR=15
OUZM OUZ 79.78 56 P **P** **06 54 37.0 +2.6**
WRGLY Wrigley 79.92 341 P **P** **06 54 34.4 +0.2**
baz=135,SNR=13
AVE Averroes 79.97 54 P **P** **06 54 37.5 +2.3**
AVE Averroes 79.97 54 P **P** **06 54 37.9 +2.7**
PFVI Vila Bisbo 80.11 50 *e*P **P** **06 54 38.4 +2.5**
comp=Z,342nm,1.5s
PFVI Vila Bisbo 80.11 50 P **P** **06 54 37.1 +1.2**
ISOG Isortoq, Green 80.30 16 *i*P **P** **06 54 35.3 -0.9**
ISOG IAmb IAmb 06 54 36.5
comp=Z,105nm,0.7s
MORF Marmelete 80.30 50 *e*P **P** **06 54 38.5 +1.5**
MORF IAmb IAmb 06 54 40.3
comp=Z,124nm,0.9s
MORF Marmelete 80.30 50 *e*P **P** **06 54 39.0 +2.0**
comp=Z,142nm,1.3s
MORF Marmelete 80.30 50 *e*P **P** **06 54 38.4 +1.5**
PTEO Sao Teotonio 80.33 49 *e*P **P** **06 54 37.5 +0.5**
comp=Z,176nm,1.4s
Q32M Nakina River 80.35 335 P **P** **06 54 37.7 +0.8**
baz=127
PMAFR Mafra 80.39 48 *e*P **P** **06 54 39.1 +1.7**
ZGR Zagora 80.49 57 P **P** **06 54 40.3 +2.0**
SIT Sitka 80.58 333 P **P** **06 54 39.7 +1.8**
baz=124
PNCL Nicolau / Gran 80.66 49 *e*P **P** **06 54 40.5 +1.7**
comp=Z,69nm,1.1s
ANGG Ammassalik, Gr 80.71 16 *i*P **P** **06 54 37.2 -1.2**
ANGG IAmb IAmb 06 54 38.1
comp=Z,41nm,0.7s
ILULI Ilulissat 80.72 10 P **P** **06 54 37.7 -0.7**
ILULI IAmb IAmb 06 54 39.2
comp=Z,128nm,1.5s
ILULI Ilulissat 80.72 10 *i*P **P** **06 54 37.7 -0.7**
ILULI IAmb IAmb 06 54 38.2
comp=Z,38nm,0.8s
ILULI Ilulissat 80.72 10 P **P** **06 54 37.7 -0.7**
ILULI pmax pmax
comp=Z,128nm,1.5s
TZRR Tazzarine 80.72 57 P **P** **06 54 42.0 +2.5**
QSPA South Pole Qui 80.79 180 LR LR 07 25 15.7
comp=Z,148nm,19.7s,baz=150,slow=32
MESJ Messejana 80.80 49 *e*P **P** **06 54 41.2 +1.5**
MESJ IAmb IAmb 06 54 42.0
comp=Z,35nm,0.9s
MESJ Messejana 80.80 49 *e*P **P** **06 54 41.4 +1.8**
comp=Z,59nm,1.7s
MESJ Messejana 80.80 49 *e*P **P** **06 54 41.1 +1.5**
JIS Juneau Island 80.85 334 P **P** **06 54 40.7 +1.4**
comp=Z,68nm,1.2s
PCVE Castro Verde 80.87 49 *e*P **P** **06 54 41.9 +2.0**
comp=Z,108nm,1.1s
R32K Eaglecrest 80.91 334 P **P** **06 54 40.4 +0.7**
baz=125
PSBE So Bento 80.94 47 *e*P **P** **06 54 41.8 +1.5**
comp=Z,157nm,1.3s
PVAQ Vaqueiros 81.04 50 *e*P **P** **06 54 42.8 +2.0**
PBEJ Beja 81.13 49 *e*P **P** **06 54 43.3 +2.0**
comp=Z,43nm,0.8s
PMTG Montargil 81.21 48 *e*P **P** **06 54 42.9 +1.2**
comp=Z,70nm,1.2s
P33M Teslin, Yukon 81.32 336 P **P** **06 54 42.4 +0.5**
baz=126,SNR=15
P32M Atlin 81.32 335 P **P** **06 54 42.3 +0.4**
baz=126,SNR=11
PCAS Casmilo, Conde 81.34 47 *e*P **P** **06 54 44.0 +1.6**
comp=Z,101nm,2.2s
COI Coimbra 81.45 47 *e*P **P** **06 54 44.5 +1.5**
comp=Z,158nm,1.1s
S31K Pelican 81.49 333 P **P** **06 54 43.4 +0.7**
baz=123
NVL N'lazarevskaya 81.52 160 *e*P **P** **06 54 43.3 +0.5**
NVL *e*S **S** **07 04 52.1 +1.9**
NVL pmax pmax
comp=Z,31nm,1.0s
PESTR Estremoz 81.61 48 *e*P **P** **06 54 45.2 +1.3**
comp=Z,80nm,1.8s
PESTR Estremoz 81.61 48 P **P** **06 54 44.6 +0.7**
PESTR IAmb IAmb 06 54 46.5
comp=Z,65nm,1.6s
PTO Porto 81.64 46 *e*P **P** **06 54 44.9 +1.0**
PBAR Barrancos 81.79 49 *e*P **P** **06 54 46.4 +1.6**
comp=Z,66nm,1.5s
SKAG Skagway 81.92 335 P **P** **06 54 45.5 +0.5**
baz=124,SNR=5.5
SKAG Skagway 81.92 335 P **P** **06 54 46.0 +1.0**
comp=Z,42nm,1.1s
PMRV Marv??o 81.94 48 *e*P **P** **06 54 46.1 +0.5**
N32M Quiet Lake 81.98 337 P **P** **06 54 45.8 +0.4**
baz=126
PVIS Viseu 82.00 47 *e*P **P** **06 54 46.7 +0.8**
comp=Z,91nm,1.0s
PCBR Castelo Branco 82.01 47 *e*P **P** **06 54 46.9 +1.0**
comp=Z,39nm,2.3s
ARF Arif 82.01 56 P **P** **06 54 49.0 +2.7**
MDT Midelt 82.08 55 LR LR 07 28 39.0
comp=Z,211nm,21.6s,baz=344,slow=34
MDT Midelt 82.08 55 P **P** **06 54 48.7 +2.1**
MTE Manteigas 82.14 47 *e*P **P** **06 54 47.4 +0.7**
PGAV Gavieira, Arco 82.15 45 *e*P **P** **06 54 47.6 +0.8**
CHEFC Chefchaouen 82.16 53 P **P** **06 54 50.0 +3.1**
PCAB Cabril 82.24 46 *e*P **P** **06 54 47.9 +0.8**
POLO Lamas de Olo 82.29 46 *e*P **P** **06 54 48.5 +1.0**
PVRL Vila Real 82.31 46 *e*P **P** **06 54 48.5 +1.0**
PLBC Pleasant Camp 82.36 334 P **P** **06 54 48.0 +0.7**
baz=123,SNR=7.9
WHY Whitehorse 82.41 336 P **P** **06 54 47.4 -0.3**
baz=124,SNR=7.7
FARO Faro, Yukon 82.72 337 P **P** **06 54 49.5 +0.3**
baz=126,SNR=18
MVO Moncorvo 82.76 46 *e*P **P** **06 54 51.0 +1.1**
comp=Z,63nm,1.3s
ICESG Greenland Ices 82.88 13 *i*P **P** **06 54 49.6 -0.6**
ICESG IAmb IAmb 06 54 50.2
comp=Z,68nm,0.8s
O30N Mendenhall 82.97 335 P **P** **06 54 51.0 +0.5**
baz=124,SNR=14
P30M Million Dollar 82.98 335 P **P** **06 54 51.3 +0.7**
baz=123
TORD Torodi Ar. Bea 83.09 75 P **P** **06 54 52.2 +0.1**
comp=Z,72nm,0.9s,baz=268,slow=4.6,SNR=193
TORD PKKPbc **PKKPbc** **07 13 13.2 -0.2**
comp=Z,0.9nm,0.7s,baz=46,slow=2.8,SNR=6.1
comp=Z,72nm,0.9s
TORD Torodi Ar. Bea 83.09 75 P **P** **06 54 52.2 +0.1**
TORD IAmb IAmb 06 54 54.6
comp=Z,56nm,0.8s
M31M Drury Creek, Y 83.10 337 P **P** **06 54 51.4 +0.3**
baz=125,SNR=20
PBRG Braganca 83.17 46 *e*P **P** **06 54 53.0 +1.0**
comp=Z,126nm,1.5s
N31M Braeburn, Yuko 83.24 336 P **P** **06 54 52.1 +0.3**
baz=124,SNR=14
UPNV Upernavik 83.26 7 *i*P **P** **06 54 51.2 -0.5**
UPNV IAmb IAmb 06 54 51.7
comp=Z,26nm,1.2s
HYT Haines Junctio 83.58 335 P **P** **06 54 54.2 +0.4**
baz=122,SNR=7.6
O29M Mount Kennedy 83.76 334 P **P** **06 54 54.9 +0.2**
baz=121
PNL Peninsula 83.79 334 P **P** **06 54 55.9 +1.1**
baz=120
YUK6 Outpost Mounta 84.00 335 P **P** **06 54 56.6 +0.5**
baz=121,SNR=10
PAB San Pablo 84.21 49 P **P** **06 54 58.0 +0.6**
PAB IAmb IAmb 06 54 59.8
comp=Z,110nm,1.1s
PAB San Pablo 84.21 49 P **P** **06 54 59.4 +1.9**
PAB San Pablo 84.21 49 P **P** **06 54 58.0 +0.6**
PAB pmax pmax
comp=Z,110nm,1.2s
M30M Minto, Yukon 84.24 337 P **P** **06 54 56.9 0.0**
baz=123,SNR=22
YUK4 Talbot Arm 84.33 335 P **P** **06 54 58.3 +0.6**
baz=121,SNR=23
PINM Pinnacle 84.38 334 P **P** **06 54 58.1 +0.4**
baz=126
RES Resolute Bay 84.43 356 LR LR 07 35 53.6
comp=Z,143nm,18.8s,baz=184,slow=38
MAYO Mayo, Yukon 84.46 338 P **P** **06 54 58.4 +0.4**
baz=124,SNR=13
C36M Paulatuk 84.46 345 P **P** **06 54 56.3 -1.6**
baz=135,SNR=12
ESDC Sonseca Array 84.53 48 P **P** **06 54 59.6 +0.5**
comp=Z,62nm,1.1s,baz=260,slow=5.1,SNR=127
ESDC LR LR 07 31 25.3
comp=Z,282nm,18.8s,baz=256,slow=35
comp=Z,62nm,1.1s
ESDC Sonseca Array 84.53 48 P **P** **06 54 59.8 +0.8**
ESDC IAmb IAmb 06 55 01.5
comp=Z,75nm,1.2s
ESBB Sonseca Array 84.54 48 P **P** **06 54 59.5 +0.5**
ESBB IAmb IAmb 06 55 01.4
comp=Z,80nm,1.1s
FIGM Figuig 84.62 56 P **P** **06 55 01.4 +1.6**
O28M Mount Upton 84.68 334 P **P** **06 54 59.9 +0.4**
baz=120
YUK8 Steele Glacier 84.76 335 P **P** **06 55 00.1 +0.2**
baz=120,SNR=7.0
KULLO Kullorsuaq 84.82 6 *i*P **P** **06 54 59.5 -0.1**
KULLO IAmb IAmb 06 55 00.4
comp=Z,240nm,1.8s
M29M Somme Creek 84.82 336 P **P** **06 55 00.1 +0.1**
baz=122
ELIB Princess Elisa 84.98 162 *d*P **P** **06 55 01.5 +0.7**
comp=Z,56nm,0.8s
ELIB *dp*P **pP** **06 55 16.1 +0.2**
L29M L29M 85.04 337 P **P** **06 55 01.2 +0.2**
baz=122
K29M Barlow Dome 85.20 338 P **P** **06 55 01.9 0.0**
baz=122
YUK3 Moose Creek 85.29 335 P **P** **06 55 02.4 -0.1**
baz=120,SNR=24
BORG Borgarnes 85.33 21 LR LR 07 31 03.1
comp=Z,96nm,21.9s,baz=234,slow=34
BVCY Beaver Creek 85.77 336 P **P** **06 55 05.0 +0.3**
baz=119,SNR=20
J29M Klondike Camp 85.78 338 P **P** **06 55 04.9 +0.1**
J29M Klondike Camp 85.78 338 P **P** **06 55 04.8 +0.1**
baz=122,SNR=12
SUMG Summit 85.83 11 *i*P **P** **06 55 05.6 +0.4**
SUMG IAmb IAmb 06 55 06.5
comp=Z,215nm,1.4s

TULEG	**Thule**		**85.92**	**2**	P		**P**		**06 55 05.2**	**+0.1**
TULEG	**Thule**		**85.92**	**2**	*i* P		**P**		**06 55 05.3**	**+0.3**
TULEG					IAmb		IAmb		06 55 06.3	
	comp=Z,299nm,1.5s									
F31M	**Tsiigehtchic**		**85.93**	**342**	P		**P**		**06 55 05.0**	**-0.3**
	baz=126,SNR=43									
DAWY	**Dawson**		**86.02**	**337**	P		**P**		**06 55 05.7**	**-0.2**
	baz=121,SNR=33									
M27K	**Edge Creek, AK**		**86.16**	**335**	P		**P**		**06 55 06.9**	**+0.1**
	baz=118									
MCARA	**McCarthy VSAT**		**86.19**	**334**	P		**P**		**06 55 06.9**	**+0.2**
	baz=117,SNR=17									
I29M	**Ogilvie Camp,**		**86.30**	**339**	P		**P**		**06 55 06.8**	**-0.3**
	baz=122,SNR=41									
INK	**Inuvik**		**86.38**	**342**	LR		LR		07 35 46.5	
	comp=Z,163nm,21.8s,baz=144,slow=37									
INK	**Inuvik**		**86.38**	**342**	P		**P**		**06 55 07.4**	**0.0**
INK	**Inuvik**		**86.38**	**342**	P		**P**		**06 55 07.1**	**-0.4**
	baz=126,SNR=95									
INK	**Inuvik**		**86.38**	**342**	P		**P**		**06 55 07.4**	**0.0**
INK					pmax		pmax			
	comp=Z,164nm,1.2s									
BCAR	**Beaver Creek A**		**86.46**	**336**	P		**P**		**06 55 07.9**	**-0.1**
G30M	**tAoh Zraii Nji**		**86.46**	**341**	P		**P**		**06 55 07.6**	**-0.3**
	baz=124									
L27K	**Beaver Creek,**		**86.47**	**336**	P		**P**		**06 55 08.3**	**+0.2**
	baz=118									
A36M	**Sachs Harbour**		**86.61**	**347**	P		**P**		**06 55 07.5**	**-1.0**
	baz=134,SNR=42									
M26K	**Nabesna, AK**		**86.64**	**335**	P		**P**		**06 55 08.6**	**-0.4**
	baz=117									
BMRM	**Bremner River**		**86.69**	**334**	P		**P**		**06 55 08.8**	**-0.4**
	baz=116,SNR=9.5									
N25K	**Chitina, Valde**		**86.96**	**334**	P		**P**		**06 55 10.2**	**-0.4**
	baz=116,SNR=7.3									
VNDA	**Vanda**		**87.00**	**191**	P		**P**		**06 55 10.6**	**0.0**
	comp=Z,14nm,1.1s,baz=128,slow=3.8,SNR=7.5									
VNDA					PP		**PP**		**06 58 33.5**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=67,slow=7.3,SNR=3.3									
VNDA					LR		LR		07 25 10.1	
	comp=Z,434nm,20.3s,baz=122,slow=29									
	comp=Z,14nm,1.1s									
VNDA	**Vanda**		**87.00**	**191**	P		**P**		**06 55 10.4**	**0.0**
EYAK	**Cordova Ski Ar**		**87.02**	**333**	P		**P**		**06 55 10.4**	**-0.3**
	baz=115									
EGAK	**Eagle**		**87.04**	**338**	P		**P**		**06 55 10.6**	**-0.2**
	baz=119,SNR=137									
L26K	**Log Cabin Wild**		**87.07**	**336**	P		**P**		**06 55 10.8**	**-0.2**
	baz=117,SNR=15									
MENT	**Mentasta**		**87.18**	**336**	P		**P**		**06 55 11.0**	**-0.6**
	comp=Z,36nm,1.5s									
KLU	**Klutina**		**87.49**	**334**	P		**P**		**06 55 12.8**	**-0.3**
	baz=115,SNR=34									
HARP	**HAARP**		**87.54**	**335**	P		**P**		**06 55 12.7**	**-0.6**
	baz=115,SNR=5.2									
P23K	**Montague Islan**		**87.55**	**332**	P		**P**		**06 55 13.4**	**+0.1**
	baz=113									
I27K	**Kandik River**		**87.61**	**338**	P		**P**		**06 55 13.5**	**-0.1**
	baz=119									
SCRK	**Sand Creek**		**87.76**	**336**	P		**P**		**06 55 13.8**	**-0.6**
SCRK	**Sand Creek**		**87.76**	**336**	P		**P**		**06 55 14.0**	**-0.4**
	baz=116,SNR=65									
J26L	**Joseph Creek**		**87.83**	**337**	P		**P**		**06 55 14.7**	**0.0**
	baz=117									
M24K	**Tolsona, Glenn**		**87.85**	**334**	P		**P**		**06 55 14.5**	**-0.3**
M24K	**Tolsona, Glenn**		**87.85**	**334**	P		**P**		**06 55 14.8**	**0.0**
	baz=114,SNR=23									
H27K	**Steamboat Moun**		**87.88**	**339**	P		**P**		**06 55 14.5**	**-0.3**
	baz=119									
PAX	**Paxson**		**87.92**	**335**	P		**P**		**06 55 14.5**	**-0.6**
	baz=115,SNR=52									
RIDG	**Independent Ri**		**88.00**	**336**	P		**P**		**06 55 15.2**	**-0.2**
	baz=116,SNR=75									
I26K	**Coal Creek Min**		**88.04**	**338**	P		**P**		**06 55 14.8**	**-0.7**
	baz=117,SNR=29									
NEEM	**North Greenlan**		**88.06**	**6**	*i* P		**P**		**06 55 16.4**	**+0.6**
NEEM					IAmb		IAmb		06 55 17.4	
	comp=Z,1μm,2.0s									
G27K	**Doyon Strip**		**88.21**	**339**	P		**P**		**06 55 15.7**	**-0.6**
	baz=119									
SCM	**Sheep Creek Mo**		**88.24**	**334**	P		**P**		**06 55 16.4**	**-0.3**
	baz=114,SNR=10.0									
PWL	**Port Wells**		**88.31**	**333**	P		**P**		**06 55 16.0**	**-0.9**
	baz=112									
SCO	**Scoresbysund**		**88.33**	**16**	*i* P		**P**		**06 55 17.3**	**+0.5**
SCO					IAmb		IAmb		06 55 17.7	
	comp=Z,44nm,0.7s									
K24K	**Donnelly Dome**		**88.40**	**336**	P		**P**		**06 55 17.3**	**0.0**
	baz=115									
M23K	**Glacier View**		**88.40**	**334**	P		**P**		**06 55 16.9**	**-0.5**
	baz=113,SNR=16									
SEW	**Seward**		**88.54**	**332**	P		**P**		**06 55 17.2**	**-0.8**
	baz=112									
KNK	**Knik Glacier**		**88.57**	**333**	P		**P**		**06 55 17.7**	**-0.5**
	baz=112									
SML	**Sawmill**		**88.67**	**334**	P		**P**		**06 55 18.1**	**-0.6**
	baz=113,SNR=22									
WAT6	**Susitna Watana**		**88.71**	**334**	P		**P**		**06 55 18.5**	**-0.5**
	baz=113,SNR=53									
DHY	**Denali Highway**		**88.75**	**335**	P		**P**		**06 55 18.4**	**-0.8**
	baz=114,SNR=24									
E27K	**Coleen River**		**88.85**	**341**	P		**P**		**06 55 19.1**	**-0.3**
	baz=119									
PMR	**Palmer**		**88.94**	**333**	P		**P**		**06 55 19.4**	**-0.4**
	baz=112,SNR=5.9									
PMR	**Palmer**		**88.94**	**333**	P		**P**		**06 55 19.4**	**-0.4**
	comp=Z,29nm,1.4s									
BRSE	**Bradley Lake S**		**89.01**	**331**	P		**P**		**06 55 19.7**	**-0.6**
	baz=110,SNR=10									
G26K	**Porcupine Rive**		**89.02**	**339**	P		**P**		**06 55 19.7**	**-0.4**
	baz=117									
PRP	**Porcupine Dome**		**89.02**	**338**	P		**P**		**06 55 19.6**	**-0.7**
PRP	**Porcupine Dome**		**89.02**	**338**	P		**P**		**06 55 20.2**	**-0.1**
	baz=115,SNR=42									
RC01	**Rabbit Creek A**		**89.03**	**333**	P		**P**		**06 55 19.7**	**-0.6**
	baz=111,SNR=13									
HDA	**Harding Lake**		**89.11**	**336**	P		**P**		**06 55 19.9**	**-0.8**
	baz=114,SNR=39									
WAT1	**Susitna Watana**		**89.15**	**335**	P		**P**		**06 55 20.3**	**-0.7**
	baz=112									
IL31			**89.24**	**337**	P		**P**		**06 55 20.1**	**-1.1**
ILAR	**Eielson Array**		**89.24**	**337**	P		**P**		**06 55 20.0**	**-1.2**
	comp=Z,39nm,0.9s,baz=148,slow=3.3,SNR=262									
ILAR					PP		**PP**		**06 58 52.6**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=118,slow=6.5,SNR=7.5									
ILAR					PKKP		**PKKPdf**		**07 12 54.6**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=284,slow=2.8,SNR=5.6									
ILAR					LR		LR		07 37 12.0	
	comp=Z,126nm,19.9s,baz=96,slow=37									
	comp=Z,39nm,0.9s									
ILAR	**Eielson Array**		**89.24**	**337**	P		**P**		**06 55 20.5**	**-0.7**
ILAR	**Eielson Array**		**89.24**	**337**	P		**P**		**06 55 20.5**	**-0.7**
KDAK	**Kodiak Island**		**89.26**	**329**	LR		LR		07 33 40.3	
	comp=Z,98nm,19.9s,baz=109,slow=34									
KDAK	**Kodiak Island**		**89.26**	**329**	P		**P**		**06 55 20.2**	**-1.2**
	baz=109									
Q20K	**Shuyak Island**		**89.44**	**330**	P		**P**		**06 55 21.2**	**-1.1**
	baz=109									
M22K	**Willow**		**89.44**	**333**	P		**P**		**06 55 21.6**	**-0.5**
	baz=111									
OHAK	**Old Harbor**		**89.45**	**328**	P		**P**		**06 55 22.4**	**0.0**
	baz=108,SNR=5.4									
OHAK	**Old Harbor**		**89.45**	**328**	P		**P**		**06 55 22.8**	**+0.5**
	comp=Z,50nm,0.9s									
F26K	**Sheenjek River**		**89.48**	**340**	P		**P**		**06 55 22.6**	**+0.2**
	baz=116									
CAPN	**Captain Cook N**		**89.56**	**332**	P		**P**		**06 55 23.5**	**+0.8**
	baz=110									
POKR	**Poker Plat Res**		**89.59**	**337**	P		**P**		**06 55 22.9**	**0.0**
	baz=113,SNR=24									
SUA	**Susitna One**		**89.62**	**333**	P		**P**		**06 55 23.0**	**-0.2**
	baz=110,SNR=15									
EKA	**Eskdalemuir Ar**		**89.62**	**34**	LR		LR		07 33 51.3	
	comp=Z,212nm,19.0s,baz=254,slow=34									
MCK	**McKinley**		**89.66**	**335**	P		**P**		**06 55 22.7**	**-0.5**
	baz=112,SNR=22									
COLA	**College**		**89.66**	**337**	P		**P**		**06 55 22.6**	**-0.5**
	baz=113									
COLA	**College**		**89.66**	**337**	P		**P**		**06 55 22.7**	**-0.5**
	comp=Z,190nm,0.9s									
COLA	**College**		**89.66**	**337**	*d* P		**P**		**06 55 22.2**	**-0.9**
COLA					pmax		pmax			
	comp=Z,160nm,1.0s									
TCOL	**CIGO, UAF Yank**		**89.66**	**337**	P		**P**		**06 55 22.9**	**-0.3**
	baz=113,SNR=36									
SII	**Sitkinak Islan**		**89.71**	**328**	P		**P**		**06 55 23.5**	**-0.1**
	baz=108									
CUT	**Chulitna**		**89.74**	**334**	P		**P**		**06 55 23.0**	**-0.6**
	baz=111,SNR=10									
G25K	**Bearman Lake**		**89.76**	**339**	P		**P**		**06 55 24.3**	**+0.7**
	baz=115									
F25K	**Christian Rive**		**89.95**	**339**	P		**P**		**06 55 25.1**	**+0.6**
	baz=115									
O20K	**Slope Mountain**		**90.02**	**331**	P		**P**		**06 55 24.9**	**-0.2**
	baz=109,SNR=15									
NEA2	**Nenana**		**90.03**	**336**	P		**P**		**06 55 24.5**	**-0.5**
	baz=112,SNR=120									
BWN	**Browne**		**90.04**	**336**	P		**P**		**06 55 24.6**	**-0.3**
H24K	**Noodor Dome**		**90.04**	**337**	P		**P**		**06 55 24.7**	**-0.4**
	baz=113									
TRF	**Thorofare Moun**		**90.12**	**335**	P		**P**		**06 55 24.7**	**-0.8**
	baz=111,SNR=18									
SKT	**Skwentna**		**90.14**	**333**	P		**P**		**06 55 25.1**	**-0.5**
	baz=110,SNR=46									
E25K	**Arctic Village**		**90.15**	**340**	P		**P**		**06 55 25.8**	**+0.4**
	baz=115,SNR=91									
P19K	**Oil Pt**		**90.18**	**331**	P		**P**		**06 55 25.1**	**-0.7**
	baz=108									
N20K	**Mount Spurr**		**90.19**	**332**	P		**P**		**06 55 25.0**	**-0.8**
	baz=109,SNR=22									
SPCR	**Spurr Chakacha**		**90.19**	**332**	P		**P**		**06 55 25.2**	**-0.7**
	baz=109									
C27K	**Jago River**		**90.20**	**342**	P		**P**		**06 55 25.9**	**+0.3**
	baz=117									
G24K	**Hadweenzic Riv**		**90.23**	**338**	P		**P**		**06 55 26.2**	**+0.3**
	baz=113									
I23K	**Minto, Yukon-K**		**90.35**	**337**	P		**P**		**06 55 26.1**	**-0.3**
	baz=112,SNR=50									
AFI	**Afiamalu**		**90.53**	**256**	LR		LR		07 25 58.0	
	comp=Z,315nm,21.7s,baz=106,slow=29									
AFI	**Afiamalu**		**90.53**	**256**	P		**P**		**06 55 29.4**	**+1.0**
AFI	**Afiamalu**		**90.53**	**256**	P		**P**		**06 55 29.4**	**+1.0**
AFI					pmax		pmax			
	comp=Z,108nm,1.2s									
BPAW	**Bear Paw Mtn.**		**90.64**	**335**	P		**P**		**06 55 27.2**	**-0.6**
	baz=110,SNR=51									
C26K	**Camden Bay**		**90.70**	**342**	P		**P**		**06 55 28.6**	**+0.7**
	baz=116									
F24K	**Squaw Lake**		**90.70**	**339**	P		**P**		**06 55 28.5**	**+0.5**
	baz=113									
PPLA	**Purkeypile**		**90.74**	**334**	P		**P**		**06 55 27.8**	**-0.6**
	baz=109,SNR=23									
Q18K	**Katmai Hardscr**		**90.75**	**330**	P		**P**		**06 55 28.0**	**-0.6**
	baz=107,SNR=6.7									
M20K	**Styx River**		**90.83**	**333**	P		**P**		**06 55 28.0**	**-0.9**
	baz=108									
MLY	**Manley**		**90.86**	**336**	P		**P**		**06 55 27.9**	**-0.9**
MLY	**Manley**		**90.86**	**336**	P		**P**		**06 55 28.2**	**-0.6**
	baz=110,SNR=78									
CAST	**Castle Rocks**		**90.86**	**334**	P		**P**		**06 55 27.6**	**-1.2**
	baz=109,SNR=78									
DBG	**Daneborg**		**90.88**	**13**	*i* P		**P**		**06 55 28.8**	**+0.1**
DBG					IAmb		IAmb		06 55 31.4	
	comp=Z,69nm,1.6s									
P18K	**Big Mountain,**		**91.07**	**330**	P		**P**		**06 55 28.7**	**-1.2**
	baz=107									
Q17K	**Contact Creek**		**91.08**	**329**	P		**P**		**06 55 29.7**	**-0.4**
	baz=106,SNR=13									
CHUM	**Lake Minchumin**		**91.11**	**335**	P		**P**		**06 55 29.1**	**-0.9**
	baz=109,SNR=25									
N19K	**Bonanza Creek**		**91.12**	**332**	P		**P**		**06 55 29.2**	**-1.1**
	baz=107									
E24K	**Your Creek**		**91.13**	**339**	P		**P**		**06 55 30.4**	**+0.3**
	baz=112									
R17K	**Ugashik Creek**		**91.17**	**328**	P		**P**		**06 55 30.2**	**-0.2**
	baz=106									
G23K	**Bananza Creek**		**91.18**	**338**	P		**P**		**06 55 30.5**	**+0.2**
	baz=111									
L20K	**Farewell, AK**		**91.35**	**333**	P		**P**		**06 55 30.1**	**-1.1**
	baz=108									
I21K	**Tanana**		**91.40**	**336**	P		**P**		**06 55 30.5**	**-0.8**
	baz=109									
H22K	**Ishtalitna Cre**		**91.41**	**337**	P		**P**		**06 55 30.4**	**-0.9**
	baz=110									
COLD	**Coldfoot**		**91.43**	**338**	P		**P**		**06 55 31.8**	**+0.4**
	baz=111,SNR=42									
E23K	**Chandalar**		**91.52**	**339**	P		**P**		**06 55 31.9**	**0.0**
	baz=111									
Q16K	**King Salmon**		**91.58**	**329**	P		**P**		**06 55 31.7**	**-0.5**
	baz=105,SNR=7.8									
P17K	**Kvichak River**		**91.61**	**330**	P		**P**		**06 55 31.9**	**-0.5**
	baz=106									
L19K	**White Mountain**		**91.69**	**333**	P		**P**		**06 55 31.6**	**-1.1**
	baz=107									
K20K	**Telida**		**91.69**	**334**	P		**P**		**06 55 31.6**	**-1.1**
	baz=108									
SVW2	**Sparrevohn**		**91.72**	**332**	P		**P**		**06 55 32.2**	**-0.7**
	comp=Z,36nm,1.2s									
C24K	**Franklin Bluff**		**91.83**	**341**	P		**P**		**06 55 33.4**	**+0.3**
	baz=112									
H21K	**Melozitna Rive**		**91.88**	**337**	P		**P**		**06 55 32.7**	**-0.9**
	baz=108									
CHGN	**Chignik**		**91.91**	**327**	P		**P**		**06 55 33.3**	**-0.4**
	baz=104,SNR=9.4									
O17K	**Koliganek Bris**		**92.09**	**330**	P		**P**		**06 55 34.0**	**-0.6**
	baz=105									
D23K	**Nanushuk River**		**92.21**	**340**	P		**P**		**06 55 35.2**	**+0.2**
	baz=110									
P16K	**Nushagak River**		**92.35**	**329**	P		**P**		**06 55 35.3**	**-0.5**
	baz=104									
IMAR	**Indian Mountai**		**92.36**	**337**	P		**P**		**06 55 35.0**	**-0.7**
TTA	**Tatalina**		**92.42**	**333**	P		**P**		**06 55 35.3**	**-0.9**
	baz=106,SNR=6.8									
TTA	**Tatalina**		**92.42**	**333**	P		**P**		**06 55 35.3**	**-0.9**
G21K	**Allakaket**		**92.42**	**337**	P		**P**		**06 55 35.9**	**-0.1**
	baz=108									
JMIC	**Jan Mayen**		**92.50**	**18**	LR		LR		07 32 07.0	
	comp=Z,108nm,21.9s,baz=252,slow=32									
DAG	**Danmarks Havn**		**92.52**	**12**	*i* P		**P**		**06 55 35.7**	**-0.5**
DAG					IAmb		IAmb		06 55 36.7	
	comp=Z,71nm,0.9s									
F21K	**Alatna River**		**92.63**	**338**	P		**P**		**06 55 36.9**	**-0.1**
	baz=108									
SDPT	**Sand Point**		**92.82**	**326**	P		**P**		**06 55 37.5**	**-0.6**
	baz=102,SNR=9.0									
SDPT	**Sand Point**		**92.82**	**326**	P		**P**		**06 55 38.3**	**+0.3**
	comp=Z,328nm,0.9s									
SNF	**Seneffe**		**92.83**	**39**	*dP*		**P**		**06 55 39.4**	**+1.2**
DOU	**Dourbes**		**92.95**	**40**	*dP*		**P**		**06 55 38.0**	**-0.7**
	comp=Z,14nm,1.1s									
TSUM	**Tsumeb**		**93.05**	**110**	LR		LR		07 35 37.8	
	comp=Z,502nm,19.3s,baz=288,slow=34									
TSUM	**Tsumeb**		**93.05**	**110**	P		**P**		**06 55 40.7**	**+0.6**
N16K	**Nishlik Lake**		**93.07**	**331**	P		**P**		**06 55 38.5**	**-0.6**
	baz=104									
BMRD	**Maredsous**		**93.10**	**40**	*dP*		**P**		**06 55 39.6**	**+0.2**
	comp=Z,9.5nm,1.2s									
SUR	**Sutherland**		**93.18**	**123**	LR		LR		07 34 33.9	
	comp=Z,352nm,20.4s,baz=252,slow=34									
SUR	**Sutherland**		**93.18**	**123**	P		**P**		**06 55 42.5**	**+1.8**
GCSA	**Galena City Sc**		**93.27**	**335**	P		**P**		**06 55 40.0**	**+0.1**
	baz=105									
BGES	**Gesves**		**93.31**	**40**	*dP*		**P**		**06 55 40.9**	**+0.4**
	comp=Z,12nm,1.0s									
RCHB	**Rochefort**		**93.36**	**40**	*dP*		**P**		**06 55 39.8**	**-0.9**
	comp=Z,9.7nm,1.2s									
BCLA	**Clavier**		**93.45**	**40**	*dP*		**P**		**06 55 41.2**	**+0.1**
	comp=Z,5.9nm,1.2s									
BSTI	**Sart Tilman**		**93.65**	**39**	*dP*		**P**		**06 55 42.9**	**+0.9**
WLF	**Walferdange**		**93.86**	**40**	*dP*		**P**		**06 55 43.6**	**+0.6**
	comp=Z,12nm,1.1s									
BHOU	**Houvegnez**		**93.89**	**40**	*dP*		**P**		**06 55 43.7**	**+0.6**
	comp=Z,13nm,1.2s									
MEM	**Membach**		**93.93**	**40**	*dP*		**P**		**06 55 42.9**	**-0.4**
KEST	**Kesra**		**93.98**	**55**	P		**P**		**06 55 43.8**	**-0.2**
	comp=Z,8.3nm,0.8s,baz=298,slow=4.8,SNR=6.8									
KEST					LR		LR		07 40 28.6	
	comp=Z,142nm,18.1s,baz=288,slow=37									
	comp=Z,8.3nm,0.8s									
KEST	**Kesra**		**93.98**	**55**	P		**P**		**06 55 44.5**	**+0.5**
KEST					IAmb		IAmb		06 55 50.5	
	comp=Z,14nm,0.9s									
KEST	**Kesra**		**93.98**	**55**	P		**P**		**06 55 43.5**	**-0.5**
BTNL	**Ternell**		**94.00**	**40**	*dP*		**P**		**06 55 44.0**	**+0.4**
	comp=Z,7.6nm,1.2s									
ECH	**Echery**		**94.28**	**42**	P		**P**		**06 55 45.0**	**0.0**
ECH					IAmb		IAmb		06 55 46.1	
	comp=Z,32nm,1.3s									
ECH	**Echery**		**94.28**	**42**	P		**P**		**06 55 45.0**	**0.0**
ECH					pmax		pmax			
	comp=Z,32nm,1.3s									
A21K	**Barrow**		**94.85**	**342**	P		**P**		**06 55 46.5**	**-0.6**
	baz=105,SNR=11									
URZ	**Urewera**		**95.06**	**230**	LR		LR		07 28 56.2	
	comp=Z,489nm,21.2s,baz=200,slow=29									
NOR	**Nord**		**95.26**	**8**	*i* P		**P**		**06 55 48.2**	**-0.5**
NOR					IAmb		IAmb		06 55 49.6	
	comp=Z,31nm,1.1s									
DAVOX	**Davos/Dischmat**		**95.90**	**44**	LR		LR		07 37 46.8	
	comp=Z,262nm,18.6s,baz=253,slow=35									
DAVA	**Damuels**		**95.97**	**43**	*i* P		**P**		**06 55 53.2**	**+0.3**
	comp=Z,16nm,1.2s									
FETA	**Feichten**		**96.51**	**44**	*i* P		**P**		**06 55 55.9**	**+0.5**
	comp=Z,14nm,1.1s									
RETA	**Reutte**		**96.58**	**43**	*i* P		**P**		**06 55 56.0**	**+0.3**
	comp=Z,8.9nm,1.2s									
MUD	**Monsted U'grnd**		**96.64**	**34**	*i* P		**P**		**06 55 56.2**	**+0.7**
MUD					IAmb		IAmb		06 55 57.5	
	comp=Z,43nm,1.2s									
MOTA	**Moosalm**		**96.80**	**43**	*eP*		**P**		**06 55 57.0**	**+0.3**
	comp=Z,22nm,1.3s,SNR=5.5									
ANM	**Nome**		**96.82**	**334**	P		**P**		**06 55 55.8**	**-0.3**
	baz=97,SNR=12									
SQTA	**Sankt Quirin**		**96.86**	**43**	*i* P		**P**		**06 55 57.5**	**+0.6**
	comp=Z,26nm,1.3s,SNR=7.0									
TEOL	**Teolo**		**96.97**	**45**	P		**P**		**06 55 57.0**	**-0.4**
CTI	**Castel Tesino**		**97.03**	**45**	P		**P**		**06 55 57.2**	**-0.5**
CTI					IAmb		IAmb		06 55 58.8	
	comp=Z,17nm,1.0s									
CTI	**Castel Tesino**		**97.03**	**45**	P		**P**		**06 55 57.2**	**-0.5**
CTI					pmax		pmax			
	comp=Z,17nm,1.0s									
WATA	**Walderalm**		**97.12**	**43**	*i* P		Pdif		06 55 58.4	+0.2
	comp=Z,17nm,1.2s									
GRF	**Grafenberg Arr**		**97.13**	**41**	*eP*		**P**		**06 55 57.8**	**-0.2**
	comp=Z,14nm,1.2s,baz=255,slow=5.4									
WTTA	**Wattenberg**		**97.15**	**43**	*eP*		Pdif		06 55 59.0	+0.6
	comp=Z,22nm,1.2s,SNR=6.0									
CIMO	**Cimolais**		**97.61**	**44**	P		**P**		**06 55 60.0**	**-0.2**
CIMO					IAmb		IAmb		06 56 01.3	
	comp=Z,12nm,1.0s									
ABTA	**Abfaltersbach**		**97.70**	**44**	*i* P		Pdif		06 56 01.3	+0.6
	comp=Z,12nm,0.9s									
RPZ	**Rata Peaks**		**97.71**	**223**	LR		LR		07 31 17.8	
	comp=Z,142nm,20.2s,baz=90,slow=30									
BOSA	**Boshof**		**97.81**	**121**	P		**P**		**06 56 01.1**	**-0.6**
	comp=Z,7.0nm,1.0s,baz=248,slow=3.4,SNR=5.6									
BOSA					PKKP		**PKKPbc**		**07 12 35.4**	**-1.4**
	comp=Z,3.9nm,1.1s,baz=321,slow=1.7,SNR=4.7									
BOSA					LR		LR		07 36 36.4	
	comp=Z,358nm,22.0s,baz=255,slow=33									
	comp=Z,7.0nm,1.0s									
CLUD	**Cludinico**		**97.92**	**44**	P		**P**		**06 56 01.4**	**-0.2**
CLUD					IAmb		IAmb		06 56 02.7	
	comp=Z,26nm,0.9s									
TNA	**Tin City**		**98.00**	**335**	P		**P**		**06 56 01.2**	**-0.2**
	baz=95,SNR=9.4									
NB2	**NORSAR Subarra**		**98.15**	**29**	P		**P**		**06 56 02.0**	**-0.3**
	comp=Z,9.9nm,1.1s,baz=267,slow=4.8									
NOA	**NORSAR Array B**		**98.15**	**29**	P		**P**		**06 56 01.7**	**-0.6**
	comp=Z,4.0nm,1.0s,baz=268,slow=4.7,SNR=6.0									
NOA					LR		LR		07 42 08.0	
	comp=Z,60nm,18.1s,baz=265,slow=36									
	comp=Z,4.0nm,1.0s									
VAE	**Valguarnera**		**98.24**	**53**	LR		LR		07 39 14.0	
	comp=Z,243nm,20.7s,baz=290,slow=35									
KBA	**Koelnbreinsper**		**98.29**	**44**	*i* Pdiff		Pdif		06 56 03.8	+0.3
	comp=Z,8.4nm,0.8s									
SABO	**M.te Sabotino**		**98.38**	**45**	P		Pdif		06 56 04.0	+0.3
SABO					IAmb		IAmb		06 56 05.3	
	comp=Z,18nm,0.9s									
PRED	**Cave del Predi**		**98.39**	**44**	P		**P**		**06 56 03.6**	**-0.2**
PRED					IAmb		IAmb		06 56 05.2	
	comp=Z,18nm,

comp=N,44nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK MLR MLR
comp=N,305nm,20.0s
MNK MLR MLR
comp=Z,135nm,21.0s
MNK MLR MLR
comp=E,16nm,17.0s
DZM Mont Dzumac 108.75 243 *e*S SKKSac 07 08 39.2 +17
comp=E,198nm,27.9s
DZM *e*SS **SS 07 16 39.0 +2.5**
comp=E,236nm,29.9s
DZM Mont Dzumac 108.75 243 *e*LR LR 07 32 56.6
comp=E,522nm,27.3s
MBAR Mbarara 109.30 94 P **PKiKP 07 00 57.3 +0.4**
OBN Obninsk 112.08 34 *i* PKiKP **PKiKP 07 01 01.3 +0.7**
OBN *e* 07 01 16.8
OBN *e* 07 01 42.7
OBN *e*PPP PPP 07 04 05.4
OBN pmax pmax
comp=Z,7.0nm,0.9s
BR131 Keskin Array S 113.24 51 *i* PKiKP **PKiKP 07 01 03.7 +0.1**
BR131 Keskin Array S 113.24 51 P **PKiKP 07 01 03.4 -0.1**
BRTR Keskin Array B 113.24 51 PKiKP **PKiKP 07 01 03.3 -0.3**
comp=Z,2.8nm,0.9s,baz=191,slow=1.3,SNR=7.9
BRTR Keskin Array B 113.24 51*c* *i* PKiKP **PKiKP 07 01 03.7 +0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
LODK Lodwar 114.51 90 P **PKiKP 07 01 07.6 +0.9**
SEY Seymchan 115.17 337 ⇓ *i* PKiKP **PKiKP 07 01 05.1 -1.3**
SEY pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 115.61 96 P **PKiKP 07 01 10.6 +1.6**
H11N3 WAKE ISLAND Hyl 115.76 287 T T 09 06 46.3
baz=92,slow=74,SNR=40
H11N2 WAKE ISLAND Hyl 115.77 287 T T 09 06 39.1
baz=92,slow=74,SNR=41
H11N1 WAKE ISLAND Hyl 115.78 287 T T 09 06 59.1
baz=92,slow=74,SNR=25
H11S2 WAKE ISLAND Hyl 115.92 286 T T 09 07 10.1
baz=93,slow=75,SNR=30
H11S1 WAKE ISLAND Hyl 115.93 286 T T 09 07 12.7
baz=93,slow=75,SNR=13
H11S3 WAKE ISLAND Hyl 115.94 286 T T 09 07 07.1
baz=93,slow=75,SNR=19
PEA0B Petropavlovsk- 117.11 326 ⇓ *i* PKiKP **PKiKP 07 01 13.3 +2.9**
KIRV Kirov 117.25 28 *i* PKiKP **PKPdf 07 01 09.5 -1.0**
MA2 Magadan 117.61 334 ⇑ *i* PKiKP **PKPdf 07 01 09.8 -1.4**
VOI Vohitsoka 118.39 121 PKP **PKiKP 07 01 15.0 +1.0**
VOI Vohitsoka 118.39 121 P **PKiKP 07 01 14.6 +0.6**
KIV Kislovodsk 119.01 45 *i* PKiKP **PKiKP 07 01 14.6 +0.1**
KIV pmax pmax
comp=Z,10.0nm,1.1s
BELG Belogornoye 119.17 34 ⇓ *i* PKiKP **PKiKP 07 01 14.5 +0.1**
KBZ Khabaz 119.22 45 PKP **PKiKP 07 01 14.9 +0.1**
comp=Z,15nm,0.8s,baz=215,slow=1.6,SNR=32
KBZ Khabaz 119.22 45*c* *i* PKiKP **PKiKP 07 01 15.1 +0.3**
NRIK Noril'sk 119.41 5 PKP **PKPdf 07 01 14.0 -0.4**
comp=Z,1.9nm,0.4s,baz=62,slow=1.6,SNR=6.2
NRIK PKKPbc **PKKPab 07 11 26.3 -2.1**
comp=Z,6.0nm,0.7s,baz=122,slow=3.8,SNR=8.3
NCK Nalchik 119.77 45 ⇓ *i* PKiKP **PKiKP 07 01 16.7 +0.7**
ZEI Tsey 120.19 46 *i* PKiKP **PKPdf 07 01 16.6 -0.3**
ZEI pmax pmax
comp=Z,4.0nm,0.8s
CMSA Cobar Meteorol 121.07 224 P **PKiKP 07 01 19.0 +0.1**
RMQ Roma 121.61 231 P **PKiKP 07 01 20.6 +0.5**
ARU Arti 122.55 26 ⇓ *i* PKiKP **PKPdf 07 01 20.4 -0.4**
MAK Makhachkala 122.66 45 *eP* **Pdif 06 57 46.5 -5.1**
MAK *e* 07 01 19.8
MAK *e* 07 01 35.2
MAK *e* 07 02 55.4
MAK *e* 07 08 18.6
MAK *e*SS SS 07 19 32.8 -4.6
MAK *e*SSS SSS 07 24 07.1
MAK pmax pmax
comp=Z,85nm,0.9s
ATD Arta Tunnel 122.77 82 P **PKiKP 07 01 24.8 +2.1**
YAK Yakutsk 123.40 344 *e*PKiKP **PKPdf 07 01 20.4 -1.8**
YAK pmax pmax
comp=Z,34nm,0.9s
STKA Stephens Creek 123.62 222 PKP **PKPdf 07 01 23.6 -0.1**
comp=Z,12nm,0.6s,baz=102,slow=2.8,SNR=38
STKA PKKPbc **PKKPbc 07 11 10.4 -1.9**
comp=Z,0.7nm,0.6s,baz=320,slow=8.0,SNR=5.4
STKA Stephens Creek 123.62 222 P **PKPdf 07 01 23.4 -0.3**
HTT Hallett 124.29 218 P **PKPdf 07 01 25.0 0.0**
QLP Quilpie 124.96 228 P **PKiKP 07 01 26.8 +0.1**
RAYN Ar Rayn 125.18 68 P **PKiKP 07 01 27.4 +0.2**
WHYH Whyalla 125.39 218 P **PKPdf 07 01 26.7 -0.3**
BBOO Buckleboo 126.45 217 P **PKPdf 07 01 28.8 -0.3**
LCRK Leigh Creek 126.74 221 P **PKPdf 07 01 29.7 0.0**
INKA Innaminka 126.78 225 P **PKiKP 07 01 30.1 -0.2**
CTA Charters Tower 126.79 236 P **PKPdf 07 01 30.1 +0.1**
CTAO Charters Tower 126.79 236 P **PKPdf 07 01 30.2 +0.2**
YSS Yuzh-Sakhalins 128.48 324 ⇓ *i* PKiKP **PKiKP 07 01 33.7 +0.7**
MTSU Mount Surprise 129.34 237 P **PKiKP 07 01 35.4 -0.3**
MULG Mulgathing 129.45 218 P **PKPdf 07 01 34.4 -0.4**
BRVK Borovoye 129.80 24*de* PKiKP **PKPdf 07 01 34.7 0.0**
BRVK Borovoye 129.80 24 P **PKiKP 07 01 35.2 -0.3**
SHMA Al-Shehemyia 129.80 64 P **PKiKP 07 01 36.6 +0.2**
ASAJ Asahikawa 130.08 321 PKP **PKPdf 07 01 34.5 -1.1**
comp=Z,21nm,0.9s,baz=319,slow=26,SNR=4.7
OOD Oodnadatta 130.16 221 P **PKPdf 07 01 35.8 -0.4**
PMG Port Moresby 130.49 249*c* *i* PKiKP **PKiKP 07 01 38.0 0.0**
BOD Bodaibo 130.60 351 *e*PKiKP **PKPdf 07 01 34.9 -1.2**
BOD pmax pmax
comp=Z,19nm,1.7s
SLWR Sila 130.74 66 P **PKPdf 07 01 35.9 -1.4**
ZEA Zeya 130.97 340 *e*PKiKP **PKPdf 07 01 36.5 -0.4**
ZEA pmax pmax
comp=Z,20nm,1.4s
JRN Qarnain Island 131.64 65 P **PKPdf 07 01 39.0 -0.1**
GHWR Ruwais 131.82 66 P **PKiKP 07 01 40.3 -0.1**
QIS Mount Isa 131.86 232 P **PKPdf 07 01 39.5 -0.2**
GEYT Alibeck 132.05 47 PKP **PKPdf 07 01 39.7 +0.2**
comp=Z,7.2nm,0.7s,baz=264,slow=3.0,SNR=16
COEN Coen 132.25 242 P **PKiKP 07 01 41.2 -0.4**
FORT Forrest 132.45 212 P **PKPdf 07 01 40.9 +0.4**
MZR Muzera 132.52 67 P **PKiKP 07 01 42.2 +0.2**
KLR Kul'dur 132.69 333 PKP **PKPdf 07 01 38.9 -1.4**
comp=Z,9.0nm,1.0s,baz=33,slow=2.9,SNR=14
KLR Kul'dur 132.69 333*de* PKiKP **PKPdf 07 01 39.2 -1.1**
ABTO Aybut 132.94 75 P **PKiKP 07 01 43.2 +0.2**
WHFO Wadi Hawf 133.35 74 P **PKiKP 07 01 43.4 -0.3**
ZALV Zalesovo Beam 133.62 13 PKP **PKPdf 07 01 41.7 -0.3**
comp=Z,16nm,0.6s,baz=242,slow=3.2,SNR=56
DOK Doka 133.64 73 P **PKPdf 07 01 43.6 +0.6**
HEH HeiHe 133.72 337 *e*PKP **PKPdf 07 01 40.3 -1.9**
RBK Rabkut 133.79 75 P **PKiKP 07 01 44.1 -0.6**
ASUD Al Ashush, Dub 133.91 65 P **PKiKP 07 01 44.1 -0.5**
ASAR Alice Springs 134.12 224 PKhKP PKPpre 07 01 38.2
comp=Z,1.3nm,0.5s,baz=125,slow=3.5,SNR=18
ASAR PKP **PKPdf 07 01 43.5 -0.3**
comp=Z,16nm,0.7s,baz=123,slow=1.9,SNR=93
ASAR PP **PP 07 04 11.9 -2.3**
comp=Z,1.5nm,0.9s,baz=134,slow=5.5,SNR=4.3
ASAR PKKP **PKKPdf 07 11 29.2 -1.6**
comp=Z,0.2nm,0.4s,baz=306,slow=1.4,SNR=5.0
FAQ Al Faqa, Dubai 134.12 65 P **PKPdf 07 01 43.9 +0.2**
SHME Shamm 134.34 63 P **PKPdf 07 01 43.8 -0.3**
DMTO DMTO 134.48 74 P **PKPdf 07 01 44.4 -0.2**
ASHO Ashiyiah 134.55 65 P **PKPdf 07 01 44.2 -0.4**
HATD Hatta, Dubai 134.59 64 P **PKPdf 07 01 44.8 +0.1**
UOSS Minazif 134.63 64 P **PKPdf 07 01 43.6 -1.1**
KURK Kurchatov 134.76 20*d* *i* PKiKP **PKPdf 07 01 44.2 0.0**
KURK Kurchatov 134.76 20 P **PKPdf 07 01 44.4 +0.2**
SOHO SOHO 135.09 65 P **PKPdf 07 01 43.9 -1.7**
ARQ Araqi 135.23 66 P **PKPdf 07 01 45.3 -0.6**
SEM Semipalatinsk 135.56 19 *e*PKP **PKPdf 07 01 44.7 -1.4**
baz=19
SEM Semipalatinsk 135.56 19 *e*PKiKP **PKPdf 07 01 44.6 -1.4**
HOQ Hoqain 135.89 66 P **PKPdf 07 01 46.4 -0.7**
BSY Bisya 135.95 67 P **PKPdf 07 01 46.9 -0.3**
SNR=6.2
USRK Ussuriysk Ar. 136.12 328 PKP **PKPdf 07 01 45.4 -1.5**
comp=Z,8.4nm,0.9s,baz=18,slow=1.8,SNR=4.5
WRAB Tennant Creek 136.20 228*d* *i* PKiKP **PKPdf 07 01 47.4 -0.4**
WRA Warramunga Arr 136.20 228 PKhKP PKPpre 07 01 38.8
comp=Z,0.9nm,0.8s,baz=137,slow=1.4,SNR=7.2
WRA PKP **PKPdf 07 01 47.4 -0.4**
comp=Z,29nm,0.6s,baz=122,slow=2.0,SNR=131
WRA PKKP **PKKPdf 07 11 25.1 -1.7**
comp=Z,0.2nm,0.8s,baz=356,slow=1.5,SNR=4.5
KLBR Kellerberrin 136.29 201 P **PKPdf 07 01 47.8 +0.1**
BIDO Bidbid 136.64 66 P **PKPdf 07 01 49.0 +0.5**
SMDO Samad 136.66 66 P **PKPdf 07 01 48.6 -0.1**
SNR=9.4
DQM DQM 136.70 71 P **PKPdf 07 01 48.5 -0.2**
WRKA Warakurna 136.75 217 P **PKPdf 07 01 48.6 -0.2**
MJAR Matsushiro Arr 136.81 315 PKhKP PKPpre 07 01 34.9
comp=Z,2.1nm,0.5s,baz=78,slow=2.0,SNR=4.9
MJAR PKP **PKPdf 07 01 47.8 -0.7**
comp=Z,5.5nm,0.6s,baz=97,slow=1.2,SNR=11
MJAR PP **PP 07 04 33.1 +1.8**
comp=Z,0.7nm,0.3s,baz=59,slow=2.8,SNR=2.3
MHTO MHTO 136.94 69 P **PKPdf 07 01 49.0 -0.1**
SNR=6.5
WSAR Wadi Sarin 137.15 66 P **PKPdf 07 01 49.6 +0.1**
BNX BinXian 137.25 333 PKP **PKPdf 07 01 47.8 -1.2**
BNX AMB AMB
comp=Z,190nm,5.0s
IUG Iuzhnay 137.43 35 *e*PKP **PKPdf 07 01 48.0 -1.6**
baz=34
IUG Iuzhnay 137.43 35 *e*PKiKP **PKPdf 07 01 48.0 -1.6**
BTLS Baital 137.46 28 *e*PKP **PKPdf 07 01 48.5 -1.0**
baz=28
BTLS Baital 137.46 28 *e*PKiKP **PKPdf 07 01 48.4 -1.0**
WBK Wadi Bani Khal 137.58 67 P **PKPdf 07 01 50.4 +0.1**
DZA Taraz 137.64 33 *e*PKP **PKPdf 07 01 48.8 -1.1**
baz=33
DZA Taraz 137.64 33 *e*PKiKP **PKPdf 07 01 48.7 -1.1**
MOY Mondy 137.78 0 *e*PKiKP **PKPdf 07 01 49.4 -0.5**
MOY pmax pmax
comp=Z,64nm,3.1s
JLN Jalan Bani Buh 138.07 67 P **PKPdf 07 01 51.3 +0.1**
DGZ Jazzator, Alta 138.18 13*d* *i* PKiKP **PKPdf 07 01 50.8 0.0**
SGDS Sogindy 138.93 30 *e*PKP **PKPdf 07 01 51.1 -1.2**
baz=30
SGDS Sogindy 138.93 30 *e*PKiKP **PKPdf 07 01 51.0 -1.2**
ZAK Zakamensk 139.03 358 *e*PKHKP PKPpre 07 01 41.5
ZAK pmax pmax
comp=Z,10.0nm,1.1s
MK31 Makanchi Array 139.37 20*d* *i* PKiKP **PKPdf 07 01 52.4 -0.5**
MKAR Makanchi Array 139.37 20 PKhKP PKPpre 07 01 41.4
comp=Z,1.2nm,0.5s,baz=296,slow=5.3,SNR=24
MKAR PKP **PKPdf 07 01 52.3 -0.6**
comp=Z,5.9nm,0.5s,baz=317,slow=1.6,SNR=18
MKAR PP **PP 07 04 43.1 -3.2**
comp=Z,1.1nm,0.8s,baz=336,slow=4.5,SNR=2.6
KUU Kurty 139.40 28 *e*PKP **PKPdf 07 01 50.2 -2.9**
baz=28
KUU *e*PKiKP **PKiKP 07 01 52.9 -2.4**
baz=28
KUU Kurty 139.40 28 *e*PKiKP **PKPdf 07 01 50.1 -2.9**
AAK Ala-Archa 139.46 31 PKhKP PKPpre 07 01 45.1
comp=Z,2.1nm,0.6s,baz=261,slow=5.0,SNR=7.1
AAK Ala-Archa 139.46 31*d* *i* PKiKP **PKPdf 07 01 53.9 +0.5**
CN2 Changchun 139.63 333 PKP **PKPdf 07 01 52.0 -1.4**
CHKK Chushkaly 139.73 27 *e*PKP **PKPdf 07 01 51.7 -1.9**
baz=27
CHKK *e*PKiKP **PKiKP 07 01 53.8 -2.2**
baz=27
CHKK Chushkaly 139.73 27 *e*PKiKP **PKPdf 07 01 51.7 -1.9**
AAA Alma-Ata 140.20 28 *e*PKP **PKPdf 07 01 53.1 -1.5**
baz=28
AAA Alma-Ata 140.20 28 *e*PKiKP **PKPdf 07 01 53.0 -1.5**
MDOK Medeo 140.29 28 *e*PKP **PKPdf 07 01 52.5 -2.3**
baz=28
MDOK Medeo 140.29 28 *e*PKiKP **PKPdf 07 01 52.5 -2.3**
TNSS Tian-Shan 140.34 28 *e*PKiKP **PKPdf 07 01 56.0 +0.7**
baz=28
TNSS Tian-Shan 140.34 28 *i* PKiKP **PKPdf 07 01 55.9 +0.7**
KPKS Kokpek 140.78 26 *e*PKP **PKPdf 07 01 53.6 -2.1**
baz=26
KPKS *e*PKiKP **PKiKP 07 01 56.1 -2.2**
baz=26
KPKS Kokpek 140.78 26 *e*PKiKP **PKPdf 07 01 53.5 -2.1**
ZHN Zhinishke 140.91 27 *e*PKiKP **PKPdf 07 01 56.0 0.0**
baz=26
ZHN Zhinishke 140.91 27 *i* PKiKP **PKPdf 07 01 55.9 0.0**
SATY Saty 140.99 27 *e*PKP **PKPdf 07 01 53.0 -3.1**
baz=27
SATY Saty 140.99 27 *e*PKiKP **PKPdf 07 01 53.0 -3.1**
UZB Uzynbulak 141.19 26 *e*PKiKP **PKPdf 07 01 56.9 +0.4**
baz=26
UZB Uzynbulak 141.19 26 *i* PKiKP **PKPdf 07 01 56.8 +0.4**
SONM Songino Array 141.36 354 PKhKP PKPpre 07 01 50.0
comp=Z,15nm,0.9s,baz=343,slow=2.9,SNR=21
SONM PP **PP 07 04 54.3 -4.1**
comp=Z,5.1nm,0.9s,baz=345,slow=5.2,SNR=6.1
SHLS Shalkode 141.37 26 *e*PKP **PKPdf 07 01 53.8 -3.0**
baz=25
SHLS *i* PKiKP **PKiKP 07 01 57.6 -2.0**
baz=25
SHLS Shalkode 141.37 26 *e*PKiKP **PKPdf 07 01 53.7 -3.0**
KDU Kakadu 141.91 236 P **PKPdf 07 01 57.6 -0.7**
KSH Kashi 142.50 33 PKP **PKPdf 07 01 55.8 -3.1**
KSRS Korea Array 142.96 323 PKhKP PKPpre 07 01 55.4
comp=Z,21nm,0.6s,baz=57,slow=2.7,SNR=106
XLT XiLinHaoTe 143.16 342 *e*PKP PKPab 07 01 54.8 -0.7
XLT SKS **SKSdf 07 09 03.0 -2.4**
XLT SS **SS 07 23 40.5 -4.0**
XLT AMB AMB
comp=Z,170nm,6.0s
XLT LR LR
comp=Z,510nm,19.1s
WMQ Urumqi 143.71 16 PKP PKPbc 07 01 58.0 -0.4
WMQ sPKP 07 02 20.5
WMQ PP **PP 07 05 12.5 -0.2**
WMQ AMB AMB
comp=Z,280nm,3.7s
WMQ LR LR
comp=Z,140nm,22.7s
JNU Nakatsue 143.73 315 PKhKP PKPpre 07 01 56.9
comp=Z,30nm,0.7s,baz=308,slow=0.7,SNR=23
DL2 Dalian 145.26 331 PKPbc **PKPbc 07 02 02.0 -1.3**
BJI Beijing 146.58 339 PKPbc **PKPdf 07 02 05.0 -0.7**
HHC Hu-ho-hao-te 147.25 345 *e*PKPbc **PKPbc 07 02 08.5 -0.8**
BTO Baotou 147.85 347 *e*PKPbc **PKPdf 07 02 07.5 -0.5**
BTO LR LR
comp=Z,400nm,10.2s
BTO LR LR
comp=Z,820nm,10.0s
SIJI Sorong 148.27 253 PKPbc **PKPdf 07 02 10.4 +1.0**
comp=Z,14nm,0.6s,baz=82,slow=3.0,SNR=15
JOW Kunigami 148.94 308 PKPbc **PKPbc 07 02 13.7 -0.4**
comp=Z,64nm,0.9s,baz=209,slow=0.4,SNR=9.9
HNS HongShan 149.45 338 ⇓ PKPbc **PKPdf 07 02 10.5 0.0**
HNS PP **PP 07 05 46.5 0.0**
HNS LR LR
comp=Z,440nm,22.1s
TIA Tai'an 149.51 334 PKPbc **PKPdf 07 02 10.0 -0.7**
TIY Taiyuan 149.93 342 PKPbc **PKPdf 07 02 11.5 +0.1**
GTA Gaotai 150.02 2 ⇓ P **PKPbc 07 02 16.5 -0.1**
GTA pP PKPab 07 02 21.5 -0.8
GTA pmax pmax
comp=Z,180nm,1.1s
GTA Gaotai 150.02 2 ⇓ PKPbc **PKPdf 07 02 11.3 -0.3**
GTA PKPab **PKPab 07 02 22.3 0.0**
GTA sPKP 07 02 34.0
BATI Baumata 150.30 230 PKPbc **PKiKP 07 02 18.3 -0.3**
comp=Z,139nm,1.0s,baz=208,slow=2.9,SNR=5.5
NDI New Delhi 150.45 46 *eP* **PKiKP 07 02 20.0 +1.5**
NJ2 Nanjing 152.01 326 ⇓ *i* P **PKPbc 07 02 20.0 -1.2**
NJ2 pmax pmax
comp=Z,62nm,0.8s
GOMU GeErMu 152.65 11 PKPbc **PKPdf 07 02 15.0 -1.0**
GOMU pPKP pPKPdf 07 02 29.3 -2.5
GOMU sPKP 07 02 34.0
GOMU AMB AMB
comp=Z,180nm,4.1s
LYN LuoYang 152.80 339 ⇑ PKPbc **PKPdf 07 02 16.0 +0.2**
LYN PKPab **PKPab 07 02 32.8 -1.0**
LYN PP **PP 07 06 05.3 -0.4**
LZH Lanzhou 153.24 355 P **PKiKP 07 02 24.5 +0.3**
LZH pP PKPab 07 02 35.8 0.0
LZH pmax pmax
comp=Z,110nm,1.3s
LZH Lanzhou 153.24 355 PKPbc **PKPdf 07 02 17.3 +0.7**
XAN Xi'an 154.37 345 ⇓ PKPbc **PKPdf 07 02 17.5 -0.6**
XAN PKPab **sPKPdf 07 02 39.3 -0.3**
WHN Wuhan 155.52 331 PKP **PKPdf 07 02 19.5 -0.2**
PCHI Peechi 155.62 85 ⇑ *eP* **PKPab 07 02 47.6 +1.1**
PCHI *ex* x 07 14 01.3
KAPI Kappang 156.56 233 PKPbc PKPdf 07 02 31.1 +10
comp=Z,18nm,0.9s,baz=174,slow=2.2,SNR=4.4
HYB Hyderabad 156.68 67 *e*PKPdf **PKPdf 07 02 20.9 -0.7**
LSA Lhasa 157.70 23 PKP **PKPdf 07 02 24.0 +0.8**
CD2 Chengdu 158.38 354 PKP **PKPdf 07 02 23.3 -0.1**
GYA Guiyang 162.15 343 *i* PKP **PKPdf 07 02 28.0 +0.2**
PZH PanZhiHua 162.90 358 PKP **PKPdf 07 02 27.8 -0.8**
TNCH TengChong 164.19 9 PKP **PKPdf 07 02 27.5 -2.4**
TNCH pPKP pPKPdf 07 02 40.8 -4.9
TNCH PKPab **PKPab 07 03 23.5 0.0**
TNCH AMB AMB
comp=Z,110nm,4.2s
KMI Kunming 164.21 354 ⇓ PKP **PKPdf 07 02 29.8 -0.2**
KMI pPKP pPKPdf 07 02 44.3 -1.5
KMI sPKP 07 02 47.5
CMAR Chiang Mai Arr 170.69 13 PKP **PKPdf 07 02 34.2 -0.3**
comp=Z,6.0nm,0.8s,baz=296,slow=1.8,SNR=38
CMAR PKPab **PKPab 07 03 51.5 -0.6**
comp=Z,22nm,0.7s,baz=325,slow=5.6,SNR=38
CMAR PP **PP 07 07 37.6 -3.3**
comp=Z,1.6nm,0.3s,baz=339,slow=5.7,SNR=6.7
PSI Prapat 173.18 162 PKP **PKPdf 07 02 33.6 -2.3**
comp=Z,10nm,0.9s,baz=190,slow=6.3,SNR=7.2
PSI PKPab **PKPab 07 04 02.9 -0.5**
comp=Z,13nm,0.9s,baz=200,slow=5.9,SNR=8.5

TRN **28** *07:00:50.8, 10°.38N ± 62°.16W, h8km, MD3.5*
FUNV **28** *07:00:52.2, 10°.42N ± 62°.15W, h10km, MW3.2*
ISC 28 07:00:50.7±1.4, **10°.37N**±0°.07 **62°.20W**±0°.04, **h10**km±11km,
n11, σ1s**47**/18, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.83**	**70**	*eP*		**Pg 07 01 06.0**	**-0.7**
TRN				*eS*		**Sg 07 01 17.0**	**-0.5**
CRUV	**Carupano**	**1.07**	**287**	*eP*		**Pg 07 01 11.4**	**+0.2**
CRUV				*eS*		**Sg 07 01 25.0**	**0.0**
GRFF	**Grenada Fort F**	**1.73**	**15**	*eP*		**Pn 07 01 21.8**	**+1.0**
GRGR	**Grenville**	**1.83**	**17**	*eP*		**Pn 07 01 22.8**	**+0.6**
GRGR				*eS*		**Sn 07 01 45.4**	**-0.1**
TOSP	**Speyside**	**1.88**	**60**	*eP*		**Pn 07 01 23.7**	**+0.9**
TOSP				*eS*		**Sn 07 01 46.4**	**-0.1**
GCMP	**Grenada, Carri**	**2.24**	**20**	*eP*		**Pn 07 01 28.4**	**+0.6**
GCMP				*eS*		**Sn 07 01 55.6**	**+0.1**
PRGV	**PARIAGUAN**	**2.90**	**237**	*eP*		**Pn 07 01 37.9**	**+1.1**
PRGV				*eS*		**Sn 07 02 12.8**	**+1.1**
CACV	**CAICARA DEL OR**	**5.11**	**237**	*eP*		Pn 07 02 02.7	-4.6
CACV				*eS*		Sn 07 02 54.4	-12
BENV	**Beln**	**5.33**	**266**	*eP*		**Pn 07 02 11.7**	**+1.3**
BENV				*eS*		**Sn 07 03 08.7**	**-3.3**
BAUV	**El Baul**	**5.93**	**257**	*eP*		**Pn 07 02 19.5**	**+0.9**
BAUV				*eS*		**Sn 07 03 23.7**	**-3.0**
BAUV	**El Baul**	**5.93**	**257**	*eP*		**Pn 07 02 20.1**	**+1.5**

NEIC **28** *07:05:01.5±1.4, 19°.232N ± 0°.010 × 68°.10W ± 0°.05, h7km ± 9km, ML3.0/28, Mdn3.8/20(RSPR), Error ellipse: s-maj=6.8km s-min=1.4km az=94.0*
OSPL **28** *07:05:02.9±4.3, 19°.22N × 68°.00W, h0km ± 30km, ML2.8*
RSPR **28** *07:05:03.0, 19°.04N × 68°.15W, h132km ± 4km, MD3.8/10*
ISC 28 07:05:01.1±1.5, **19°.26N**±0°.07 × **68°.09W**±0°.02, **h7**km±11km,
n47, σ0**992**/54, **11C**, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.79**	**200**			**Pg 07 05 16.2**	**-0.1**
PCDR						**Sg 07 05 26.5**	**-0.1**
PCDR				IAML		07 05 34.8	
	comp=N,667nm,0.7s						
PCDR	**Punta Cana, DR**	**0.79**	**200**	*i* P		**Pg 07 05 16.1**	**-0.1**
PCDR				*eS*		**Sg 07 05 26.6**	**+0.1**
PCDR				IAML		07 05 31.8	
	comp=Z,432nm,0.3s						
AGPR	**Aguadilla, PR**	**1.22**	**130**			**Pg 07 05 23.9**	**-0.6**
AGPR				Sn		**Sn 07 05 41.7**	**+0.3**
AGPR				IAML		07 05 43.9	
	comp=E,326nm,0.4s						
AGPR				IAML		07 05 46.7	
	comp=N,317nm,0.3s						
AGPR	**Aguadilla, PR**	**1.22**	**130**	*i* P		**Pg 07 05 24.2**	**-0.3**
AGPR				IAML		07 05 49.6	
	comp=Z,166nm,0.2s						
PRSN	**Puerto Rico Se**	**1.37**	**139**			**Pn 07 05 24.9**	**-1.8**
LSP	**Las Mesas**	**1.44**	**138** ⇑ *eP*			**Pg 07 05 28.8**	**+0.1**
LSP	**Las Mesas**	**1.44**	**138** *eS*			**Sg 07 05 49.1**	**+1.6**
LSP	**Las Mesas**	**1.44**	**138**			**Sg 07 05 28.8**	**+0.1**
LSP						**Sg 07 05 49.1**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.56**	**143** ⇑ *eP*			**Pn 07 05 29.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.56**	**143**			**Pn 07 05 28.2**	**-1.0**
CRPR				IAML		07 05 54.3	
	comp=E,97nm,0.6s						
CRPR				IAML		07 05 54.9	
	comp=N,150nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.56**	**143** *i* P			**Pb 07 05 30.1**	**-0.2**
CRPR				IAML		07 05 53.7	
	comp=Z,134nm,0.3s						
AOPR	**Arecibo Observ**	**1.56**	**125** ⇑ *eP*			**Pb 07 05 29.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.56**	**125** *eS*			**Sg 07 05 52.6**	**+1.3**
AOPR	**Arecibo Observ**	**1.56**	**125**			**Pn 07 05 28.6**	**-0.7**
AOPR						**Sn 07 05 48.7**	**-1.2**
AOPR				IAML		07 06 05.6	
	comp=N,193nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.64**	**127** ⇑ *eP*			**Pg 07 05 32.3**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.64**	**127**			**Pn 07 05 30.5**	**0.0**
EMPR	**Esperanza - Ma**	**1.67**	**117** ⇑ *eP*			**Pb 07 05 32.0**	**-0.3**
EMPR	**Esperanza - Ma**	**1.67**	**117** *eS*			**Sg 07 05 55.9**	**+1.0**
EMPR	**Esperanza - Ma**	**1.67**	**117** Pn			**Pn 07 05 31.0**	**+0.1**
EMPR				IAML		07 05 57.2	
	comp=N,196nm,0.5s						
OBIP	**Obispado Ponce**	**1.86**	**130** ⇑ *eP*			**Pb 07 05 34.5**	**-1.0**
OBIP	**Obispado Ponce**	**1.86**	**130** *eS*			**Sb 07 05 58.6**	**-0.3**
OBIP	**Obispado Ponce**	**1.86**	**130**			**Pb 07 05 34.6**	**-0.8**
OBIP				IAML		07 06 02.0	
	comp=N,122nm,0.4s						
OBIP	**Obispado Ponce**	**1.86**	**130**			**Sb 07 05 58.6**	**-0.3**
SDD	**Santo Domingo**	**1.90**	**245**	Pn		**Pn 07 05 34.3**	**+0.4**
SDD				IAML		07 06 01.1	
	comp=E,106nm,0.6s						
SDD				IAML		07 06 04.6	
	comp=N,178nm,0.5s						
SDD	**Santo Domingo**	**1.90**	**245** *i* P			**Pb 07 05 35.0**	**-1.1**
SDD				*eS*		**Sb 07 06 00.4**	**+0.3**
GCPR	**Guaynabo City**	**2.13**	**116** ⇑ *eP*			**Pb 07 05 38.5**	**-1.5**
GCPR	**Guaynabo City**	**2.13**	**116** *eS*			**Sn 07 06 05.0**	**+1.1**
GCPR	**Guaynabo City**	**2.13**	**116** Pn			**Pn 07 05 37.5**	**+0.4**
IGPR	**InterUniversit**	**2.28**	**124** ⇑ *eP*			**Pn 07 05 39.8**	**+0.6**
IGPR	**InterUniversit**	**2.28**	**124** *eS*			**Sn 07 06 08.3**	**+0.7**
IGPR	**InterUniversit**	**2.28**	**124**			**Sn 07 06 08.3**	**+0.7**
CBYP	**Canovanas**	**2.34**	**114** ⇑ *eP*			**Pn 07 05 40.8**	**+0.7**
CBYP	**Canovanas**	**2.34**	**114** *eS*			**Sn 07 06 09.8**	**+0.7**
CBYP	**Canovanas**	**2.34**	**114**			**Pn 07 05 39.8**	**+0.3**
HUMP	**Col San Antoni**	**2.40**	**117** ⇑ *eP*			**Pn 07 05 41.0**	**+0.1**
HUMP	**Col San Antoni**	**2.40**	**117** *eS*			**Sn 07 06 11.6**	**+1.1**
HUMP	**Col San Antoni**	**2.40**	**117**			**Pn 07 05 40.9**	**0.0**
HUMP				IAML		07 06 22.8	
	comp=N,49nm,0.2s						
SC01	**Santiago de lo**	**2.49**	**274**	Pn		**Pn 07 05 42.3**	**+0.1**
SC01				IAML		07 06 33.5	
	comp=N,107nm,0.3s						
SC01				IAML		07 06 34.5	
	comp=E,100nm,0.7s						
SC01	**Santiago de lo**	**2.49**	**274** *i* P			**Pg 07 05 48.1**	**-0.8**
SC01				IAML		07 06 38.9	
	comp=Z,48nm,0.3s						
MTP	**Monte Pirata**	**2.67**	**115** ⇑ *eP*			**Pn 07 05 44.9**	**+0.3**
MTP	**Monte Pirata**	**2.67**	**115** *eS*			**Sn 07 06 17.2**	**-0.1**
MTP	**Monte Pirata**	**2.67**	**115** Pn			**Pn 07 05 42.4**

ISC 28 07:51:41.5±0.8, 3.6S±0.1×151.1E±0.1, h35km, n29, σ1ŝ12/11, mb3.7/8, MS3.7/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.11**	**126**	Pn	**Pn**		**Pn**	**07 51 59.2**	**-1.3**
	23nm,0.3s,baz=316,slow=5.9,SNR=8.9								
PMG	**Port Moresby**	**6.95**	**214**	Pn	Pn		Pn	07 53 25.0	+4.1
	0.9nm,0.3s,baz=70,slow=15,SNR=2.3								
HNR	**Honiara**	**10.48**	**124**	LR	LR		LR	07 58 18.5	
	comp=Z,5μm,20.7s,baz=328,slow=38								
GUMO	**Guam**	**18.21**	**340**	LR	LR		LR	08 01 16.3	
	comp=Z,146nm,19.5s,baz=138,slow=32								
SIJI	**Sorong**	**20.04**	**277**	P	**P**		**P**	**07 56 11.2**	**-0.4**
	0.9nm,0.3s,baz=193,slow=22,SNR=2.0								
	7.1nm,0.7s								
WRA	**Warramunga Arr**	**23.04**	**224**	P	**P**		**P**	**07 56 43.0**	**-0.8**
	0.9nm,0.6s,baz=47,slow=10,SNR=10								
	0.9nm,0.6s								
DZM	**Mont Dzumac**	**23.59**	**142**	P	**P**		**P**	**07 56 51.8**	**+2.5**
	6.1nm,0.6s,baz=333,slow=18,SNR=7.0								
DZM				LR	LR		LR	08 05 03.6	
	comp=Z,79nm,21.8s,baz=26,slow=34								
	6.1nm,0.6s								
ASAR	**Alice Springs**	**25.95**	**218**	P	**P**		**P**	**07 57 11.0**	**+0.2**
	1.2nm,0.6s,baz=54,slow=8.7,SNR=22								
	1.2nm,0.6s								
H11S3	**WAKE ISLAND Hy**	**26.81**	**34**	T	T		T	08 24 51.8	
	baz=217,slow=74,SNR=45								
H11S2	**WAKE ISLAND Hy**	**26.82**	**34**	T	T		T	08 24 42.9	
	baz=217,slow=74,SNR=24								
H11S1	**WAKE ISLAND Hy**	**26.83**	**34**	T	T		T	08 24 44.5	
	baz=217,slow=74,SNR=21								
H11N1	**WAKE ISLAND Hy**	**27.91**	**33**	T	T		T	08 26 07.0	
	baz=218,slow=76,SNR=22								
H11N3	**WAKE ISLAND Hy**	**27.92**	**33**	T	T		T	08 26 10.3	
	baz=218,slow=76,SNR=26								
H11N2	**WAKE ISLAND Hy**	**27.93**	**33**	T	T		T	08 26 02.5	
	baz=218,slow=76,SNR=67								
STKA	**Stephens Creek**	**29.48**	**197**	P	**P**		**P**	**07 57 42.3**	**0.0**
	1.1nm,0.7s,baz=9.5,slow=12,SNR=4.7								
	1.1nm,0.7s								
MSVF	**Nonsavu**	**29.86**	**120**	LR	LR		LR	08 08 47.5	
	comp=Z,143nm,18.6s,baz=357,slow=34								
JHJ	**Hachijo jima 2**	**38.11**	**344**	LR	LR		LR	08 12 12.2	
	comp=Z,74nm,20.3s,baz=182,slow=32								
RAO	**Raoul Island**	**38.87**	**134**	LR	LR		LR	08 12 07.4	
	comp=Z,252nm,21.0s,baz=123,slow=32								
MJAR	**Matsushiro Arr**	**41.76**	**344**	LR	LR		LR	08 15 50.1	
	comp=Z,46nm,19.2s,baz=304,slow=35								
RPZ	**Rata Peaks**	**43.63**	**159**	LR	LR		LR	08 16 41.6	
	comp=Z,140nm,18.4s,baz=332,slow=34								
CMAR	**Chiang Mai Arr**	**55.88**	**295**	P	**P**		**P**	**08 01 16.9**	**+0.7**
	1.5nm,0.3s,baz=61,slow=4.2,SNR=2.0								
	1.5nm,0.3s								
PETK	**Petropavlovsk-**	**56.81**	**5**	P	**P**		**P**	**08 01 22.4**	**+0.2**
	8.7nm,1.1s,baz=173,slow=7.6,SNR=2.6								
PETK				LR	LR		LR	08 21 46.1	
	comp=Z,34nm,19.4s,baz=204,slow=32								
	8.7nm,1.1s								
MKAR	**Makanchi Array**	**78.36**	**319**	P	**P**		**P**	**08 03 37.7**	**-0.7**
	0.1nm,0.4s,baz=80,slow=5.9,SNR=2.5								
	0.1nm,0.4s								
ILAR	**Eielson Array**	**81.73**	**22**	P	**P**		**P**	**08 03 56.1**	**0.0**
	0.3nm,0.6s,baz=242,slow=6.2,SNR=5.7								
	0.3nm,0.6s								
ARU	**Arti**	**94.43**	**326**	LR	LR		LR	08 47 00.5	
	comp=Z,53nm,21.6s,baz=118,slow=35								
RPN	**Rapa Nui**	**96.82**	**118**	LR	LR		LR	08 46 14.0	
	comp=Z,24nm,18.8s,baz=0.5,slow=34								
KIRV	**Kirov**	**99.20**	**329**	LR	LR		LR	08 52 37.7	
	comp=Z,44nm,19.2s,baz=70,slow=37								
PDAR	**Pinedale Array**	**100.30**	**47**	LR	LR		LR	08 44 45.6	
	comp=Z,34nm,19.0s,baz=66,slow=32								
TORD	**Torodi Ar. Bea**	**148.36**	**289**	PKPbc	**PKPbc**		**PKPbc**	**08 11 25.2**	**-0.1**
	0.7nm,0.7s,baz=72,slow=2.0,SNR=5.0								

*IDC **28** 08:02:06.8±2.5, 30.34S×177.14W, h0km, mb3.7/3, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=49.9km s-min=24.1km az=87.0*

ISC 28 08:02:09.6±2.5, 30.42S±0.08×177.1W±0.3, h24km, n6, σ1ŝ36/8, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.36**	**329**	Pn	**Pn**		**Pn**	**08 02 31.5**	**-1.6**
	140nm,0.3s,baz=115,slow=17,SNR=7.4								
RAO				Sn	Sn		**Sn**	**08 02 50.6**	**+0.3**
	518nm,0.3s,baz=91,slow=21,SNR=9.2								
URZ	**Urewera**	**9.16**	**210**	Pn	**Pn**		**Pn**	**08 04 19.7**	**-0.5**
	0.4nm,0.3s,baz=346,slow=7.4,SNR=7.8								
URZ				Sn	Sn		**Sn**	**08 06 01.3**	**-1.2**
	0.9nm,0.3s,baz=323,slow=4.1,SNR=11								
	9.1nm,1.1s								
STKA	**Stephens Creek**	**35.22**	**257**	P	**P**		**P**	**08 09 04.3**	**+2.2**
	0.6nm,0.5s,baz=98,slow=10,SNR=3.3								
	0.6nm,0.5s								
ASAR	**Alice Springs**	**43.87**	**267**	P	**P**		**P**	**08 10 14.6**	**+0.2**
	0.7nm,0.8s,baz=106,slow=7.4,SNR=11								
	0.7nm,0.8s								
WRA	**Warramunga Arr**	**44.86**	**272**	P	**P**		**P**	**08 10 22.6**	**+0.3**
	1.2nm,0.7s,baz=111,slow=8.0,SNR=9.2								
	1.2nm,0.7s								
FINES	**FINESS Array B**	**145.43**	**341**	PKPbc	**PKPbc**		**PKPbc**	**08 21 45.0**	**+0.2**
	2.2nm,0.6s,baz=52,slow=2.6,SNR=18								

IDC 28 08:04:58.9±3.2, 5.82S×152.10E, h0km, mb3.7/2, mbtmp3.8/2, Error ellipse: s-maj=93.6km s-min=13.5km az=100.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.51**	**357**	Pg	Pn		Pn	08 05 27.3	0.0
	89nm,0.3s,baz=346,slow=4.2,SNR=20								
KRVT				Lg	Lg		Lg	08 05 46.8	
	140nm,0.3s,baz=230,slow=24,SNR=19								
WRA	**Warramunga Arr**	**22.25**	**229**	P	P		P	08 09 57.7	0.0
	1.3nm,0.6s,baz=53,slow=10.0,SNR=20								
	1.3nm,0.6s								
ASAR	**Alice Springs**	**24.93**	**223**	P	P		P	08 10 24.6	+0.5
	2.1nm,0.8s,baz=60,slow=8.7,SNR=25								
	2.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**149.94**	**286**	PKPbc	PKPbc		PKPbc	08 24 50.8	-1.6
	0.8nm,0.6s,baz=77,slow=2.1,SNR=5.5								

IDC 28 08:57:12.1±2.2, 7.93S×128.83E, h0km, mb3.3/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=127.8km s-min=29.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.08**	**156**	Pn	Pn		Pn	09 00 20.3	+0.9
	0.1nm,0.3s,baz=336,slow=11,SNR=7.8								
WRA				Sn	Sn		Sn	09 02 43.2	-2.5
	0.5nm,0.3s,baz=338,slow=22,SNR=7.1								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**16.39**	**163**	Pn	Pn		Pn	09 01 03.9	+0.2
	0.1nm,0.3s,baz=341,slow=10,SNR=10								
ASAR				Sn	Sn		Sn	09 04 04.8	-1.6
	0.1nm,0.3s,baz=319,slow=20,SNR=2.6								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**68.37**	**328**	P	P		P	09 08 15.4	-0.1
	0.1nm,0.4s,baz=128,slow=6.7,SNR=1.7								
	0.1nm,0.4s								

*IDC **28** 09:04:16.1±1.2, 32.37S×178.88W, h0km, mb4.3/3, mbtmp4.3/4, ML3.9/1, Error ellipse: s-maj=37.0km s-min=30.5km az=65.0*

*NEIC **28** 09:04:20.1±0.9, 32.63S±0.07×178.9W±0.2, h21km±9km, mb4.5/16, Error ellipse: s-maj=29.9km s-min=4.3km az=107.0*

*WEL **28** 09:04:22.1±0.7, 33˚S±10˚×177˚9W±2˚4, h33km, M4.2/19, mb4.8/13, ML4.9/25, MLv4.5/19, Mw(mB)4.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=110.9, confirmed*

ISC 28 09:04:21.4±0.8, 32.68S±0.06×178.9W±0.1, h35km, n72, σ1ŝ18/83, mb4.5/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.50**	**13**	P	**Pn**		**Pn**	**09 05 15.4**	**+2.1**
GLKZ				S	**Sn**		**Sn**	**09 05 55.3**	**+1.7**
RAO	**Raoul Island**	**3.51**	**13**	Pn	**Pn**		**Pn**	**09 05 12.5**	**-1.0**
WMGZ	**Waiomatatini S**	**5.59**	**203**	P	**Pn**		**Pn**	**09 05 42.7**	**+0.6**
WMGZ				S	**Sn**		**Sn**	**09 06 47.2**	**+2.1**
HAZ	**Te Kaha**	**5.77**	**208**	P	**Pn**		**Pn**	**09 05 45.7**	**+1.2**
HAZ				S	**Sn**		**Sn**	**09 06 50.2**	**+0.9**
PKGZ	**Pakihiroa**	**5.77**	**205**	P	**Pn**		**Pn**	**09 05 46.1**	**+1.4**
PKGZ				S	**Sn**		**Sn**	**09 06 51.0**	**+1.4**
PUZ	**Puketiti**	**5.88**	**203**	P	**Pn**		**Pn**	**09 05 45.0**	**-1.0**
PUZ				S	**Sn**		**Sn**	**09 06 52.9**	**+0.8**
RUGZ	**Raukumara Rang**	**5.99**	**207**	P	**Pn**		**Pn**	**09 05 49.3**	**+1.7**
RUGZ				S	**Sn**		**Sn**	**09 06 56.1**	**+1.0**
TWGZ	**Tauwhareparae**	**6.06**	**204**	P	**Pn**		**Pn**	**09 05 49.1**	**+0.5**
TWGZ				S	**Sn**		**Sn**	**09 06 56.8**	**0.0**
CNGZ	**Carnagh Statio**	**6.27**	**202**	P	**Pn**		**Pn**	**09 05 51.7**	**+0.3**
TKGZ	**Te Karaka**	**6.34**	**204**	P	**Pn**		**Pn**	**09 05 53.6**	**+1.2**
TKGZ				S	**Sn**		**Sn**	**09 07 03.1**	**-0.5**
MWZ	**Matawai**	**6.37**	**207**	P	**Pn**		**Pn**	**09 05 52.5**	**-0.2**
MWZ				S	**Sn**		**Sn**	**09 07 04.2**	**0.0**
OPRZ	**Ohinepanea**	**6.38**	**215**	P	**Pn**		**Pn**	**09 05 55.7**	**+2.8**
URZ	**Urewera**	**6.47**	**210**	Pn	**Pn**		**Pn**	**09 05 56.1**	**+2.0**
	2.1nm,0.3s,baz=347,slow=5.6,SNR=25								
URZ				Sn	**Sn**		**Sn**	**09 07 06.0**	**-0.7**
	5.8nm,0.3s,baz=37,slow=23,SNR=6.8								
	7.8nm,0.3s								
URZ	**Urewera**	**6.47**	**210**	P	**Pn**		**Pn**	**09 05 54.1**	**0.0**
URZ				S	**Sn**		**Sn**	**09 07 05.7**	**-1.0**
RAGZ	**Rawiri**	**6.55**	**207**	P	**Pn**		**Pn**	**09 05 56.7**	**+1.3**
RAGZ				S	**Sn**		**Sn**	**09 07 07.9**	**-0.9**
MUGZ	**Murupara**	**6.80**	**210**	P	**Pn**		**Pn**	**09 06 00.8**	**+2.2**
RTZ	**Ruatahuna**	**6.83**	**209**		**Pn**		**Pn**	**09 05 59.6**	**+0.5**
RTZ	**Ruatahuna**	**6.83**	**209**	P	**Pn**		**Pn**	**09 06 00.6**	**+1.4**
SNGZ	**Shannon Statio**	**6.83**	**206**	P	**Pn**		**Pn**	**09 05 59.7**	**+0.5**
SNGZ				S	**Sn**		**Sn**	**09 07 15.5**	**-0.2**
KNZ	**Kokohu**	**6.93**	**203**	P	**Pn**		**Pn**	**09 05 59.9**	**-0.5**
MHGZ	**Mahia Peninsul**	**6.97**	**201**	P	**Pn**		**Pn**	**09 06 00.9**	**-0.2**
RAHZ	**Arahi**	**7.04**	**207**	P	**Pn**		**Pn**	**09 06 03.5**	**+1.4**
RAHZ				S	**Sn**		**Sn**	**09 07 21.4**	**+0.5**
MTHZ	**Maungataniwha**	**7.08**	**208**	P	**Pn**		**Pn**	**09 06 03.4**	**+0.8**
MTHZ				S	**Sn**		**Sn**	**09 07 21.6**	**-0.3**
MRHZ	**Matea Rd**	**7.25**	**211**	P	**Pn**		**Pn**	**09 06 05.4**	**+0.6**
NMHZ	**Naumai**	**7.31**	**208**	P	**Pn**		**Pn**	**09 06 06.0**	**+0.2**
NMHZ				S	**Sn**		**Sn**	**09 07 27.4**	**0.0**
ARHZ	**Aropaoanui**	**7.38**	**206**	P	**Pn**		**Pn**	**09 06 06.5**	**-0.1**
ARHZ				S	**Sn**		**Sn**	**09 07 30.0**	**+0.9**
BKZ	**Black Stump Fm**	**7.49**	**209**	Pn	**Pn**		**Pn**	**09 06 08.3**	**+0.1**
BKZ	**Black Stump Fm**	**7.49**	**209**	P	**Pn**		**Pn**	**09 06 06.6**	**-1.6**
MCHZ	**McNeill Hill**	**7.65**	**207**	P	**Pn**		**Pn**	**09 06 10.5**	**+0.1**
KWHZ	**Kaweka Forest**	**7.74**	**208**	P	**Pn**		**Pn**	**09 06 11.0**	**-0.7**
HIZ	**Hauiti**	**7.75**	**220**	P	**Pn**		**Pn**	**09 06 15.9**	**+4.1**
NTVZ	**North Tongarir**	**7.79**	**213**	P	**Pn**		**Pn**	**09 06 13.8**	**+1.4**
TMVZ	**Te Maari**	**7.79**	**213**	P	**Pn**		**Pn**	**09 06 13.2**	**+0.7**
ETVZ	**East Tongariro**	**7.81**	**213**	P	**Pn**		**Pn**	**09 06 13.0**	**+0.4**
OTVZ	**Oturere**	**7.85**	**213**	P	**Pn**		**Pn**	**09 06 14.1**	**+0.8**
SNVZ	**South Ngauruho**	**7.88**	**213**	P	**Pn**		**Pn**	**09 06 14.4**	**+0.8**
KAHZ	**Kahuranaki**	**7.89**	**205**	P	**Pn**		**Pn**	**09 06 12.8**	**-0.9**
KRHZ	**Kereru**	**7.95**	**208**	P	**Pn**		**Pn**	**09 06 13.3**	**-1.1**
WNVZ	**Wahianoa**	**8.01**	**213**	P	**Pn**		**Pn**	**09 06 16.8**	**+1.3**
PRHZ	**Porangahau**	**8.40**	**204**	P	**Pn**		**Pn**	**09 06 18.0**	**-2.6**
BFZ	**Birch Farm**	**8.90**	**205**	Pn	**Pn**		**Pn**	**09 06 26.4**	**-1.1**
CTAO	**Charters Tower**	**33.53**	**283**	P	P		**P**	**09 10 57.2**	**-0.8**
CTAO				lAmb	lAmb		lAmb	09 11 24.6	
	comp=Z,12nm,1.2s								
BBOO	**Buckleboo**	**37.71**	**257**	P	P		**P**	**09 11 32.6**	**-1.1**
BBOO				lAmb	lAmb		lAmb	09 11 35.0	
	comp=Z,8.4nm,1.2s								
PMG	**Port Moresby**	**39.00**	**299**	P	P		**P**	**09 11 43.1**	**-1.6**
PMG				lAmb	lAmb		lAmb	09 12 08.7	
	comp=Z,10.0nm,1.1s								
RABL	**Rabaul**	**39.22**	**310**	P	P		**P**	**09 11 45.9**	**-0.7**
COEN	**Coen**	**39.27**	**289**	P	P		**P**	**09 11 45.3**	**-1.7**
AS31	**Alice Springs**	**42.32**	**270**	P	P		**P**	**09 12 11.8**	**-0.3**
ASAR	**Alice Springs**	**42.32**	**270**	P	P		**P**	**09 12 11.6**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=113,slow=7.9,SNR=27								
	comp=Z,1.6nm,0.5s								
ASAR	**Alice Springs**	**42.32**	**270**	P	**P**		**P**	**09 12 11.7**	**-0.4**
KWAJ	**Kwajalein Atol**	**43.23**	**340**	P	P		**P**	**09 12 18.6**	**-0.7**
WR0	**Warramunga Arr**	**43.34**	**275**	P	P		**P**	**09 12 20.2**	**-0.2**
WB2	**Warramunga Arr**	**43.51**	**275**	P	P		**P**	**09 12 21.3**	**-0.4**
WB2				lAmb	lAmb		lAmb	09 12 21.8	
	comp=Z,6.8nm,0.8s								
WRAB	**Tennant Creek**	**43.51**	**275**	P	P		**P**	**09 12 21.1**	**-0.6**
WRAB				lAmb	lAmb		lAmb	09 12 22.1	
	comp=Z,6.5nm,0.7s								
WRA	**Warramunga Arr**	**43.52**	**275**	P	P		**P**	**09 12 21.2**	**-0.6**
	comp=Z,5.9nm,0.6s,baz=115,slow=7.6,SNR=67								
	comp=Z,5.9nm,0.6s								
WRA	**Warramunga Arr**	**43.52**	**275**	P	P		**P**	**09 12 21.6**	**-0.2**
WB0	**Warramunga Arr**	**43.55**	**275**	P	P		**P**	**09 12 21.4**	**-0.7**
WB0				lAmb	lAmb		lAmb	09 12 23.0	
	comp=Z,12nm,1.1s								
MTN	**Manton Dam**	**49.67**	**281**	P	P		**P**	**09 13 09.0**	**-1.1**
KNRA	**Kununurra**	**50.20**	**277**	P	P		**P**	**09 13 13.5**	**-0.6**
CASY	**Casey**	**52.79**	**209**	P	P		**P**	**09 13 32.8**	**0.0**
CASY				lAmb	lAmb		lAmb	09 13 49.1	
	comp=Z,4.7nm,0.8s								
QSPA	**South Pole Qui**	**57.43**	**180**	P	P		**P**	**09 14 08.9**	**+2.4**
	comp=Z,2.9nm,0.8s,baz=314,slow=3.2,SNR=6.4								
	comp=Z,2.9nm,0.8s								
QSPA	**South Pole Qui**	**57.43**	**180**	P	P		**P**	**09 14 07.5**	**+1.0**
QSPA				lAmb	lAmb		lAmb	09 14 13.8	
	comp=Z,3.6nm,0.8s								
H03S2	**Juan Fernandez**	**79.81**	**124**	T	T		T	10 44 54.5	
	baz=236,slow=74,SNR=21								
H03S1	**Juan Fernandez**	**79.82**	**124**	T	T		T	10 44 56.3	
	baz=236,slow=74,SNR=23								
H03S3	**Juan Fernandez**	**79.83**	**124**	T	T		T	10 44 55.2	
	baz=236,slow=74,SNR=21								
H03N3	**Juan Fernandez**	**80.01**	**123**	T	T		T	10 45 03.0	
	baz=240,slow=72,SNR=36								
H03N2	**Juan Fernandez**	**80.02**	**123**	T	T		T	10 45 01.8	
	baz=240,slow=72,SNR=32								
H03N1	**Juan Fernandez**	**80.03**	**123**	T	T		T	10 45 04.7	
	baz=240,slow=72,SNR=60								
FINES	**FINESS Array B**	**147.01**	**338**	PKPbc	**PKPdf**		**PKPdf**	**09 23 58.4**	**+0.9**
	comp=Z,3.7nm,0.5s,baz=47,slow=4.0,SNR=30								
NB2	**NORSAR Subarra**	**150.88**	**350**	PKP	**PKPbc**		**PKPbc**	**09 24 09.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**150.88**	**350**	PKPbc	**PKPbc**		**PKPbc**	**09 24 09.2**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=17,slow=4.2,SNR=4.5								
BRTR	**Keskin Array B**	**152.96**	**294**	PKPbc	**PKPbc**		**PKPbc**	**09 24 14.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=114,slow=4.0,SNR=2.5								
TORD	**Torodi Ar. Bea**	**160.55**	**182**	PKPab	**PKPab**		**PKPab**	**09 25 00.2**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=187,slow=4.9,SNR=5.2								

*NEIC **28** 09:24:55.2±2.5, 5.60S±0.06×151.84E±0.08, h27km±3km, mb5.3/247, Mww5.2/18, Error ellipse: s-maj=12.3km s-min=7.4km az=114.0*

*BJI **28** 09:24:56.8±0.0, 5.44S×152.18E, h76km, mb5.1/73, mB5.2/47, Ms5.0/60, Ms7 4.7/61*

*MOS **28** 09:24:57.8±0.9, 5.28S×151.56E, h55km, mb5.4/29, MS5.0/6, Error ellipse: s-maj=10.3km s-min=6.4km az=107.6*

*DJA **28** 09:24:58.5±0.5, 6˚S±3˚×15˚2E±˚, h64km±4km, M5.3/32, mb5.2/32, mB5.5/16, MLv5.9/2, Mw(mB)5.0/16, MwMwp5.1/3, Mwp5.3/3*

*IDC **28** 09:24:58.5±1.3, 5.46S×151.72E, h58km±11km, mb4.5/22, mbtmp4.8/24, MS4.5/41, Error ellipse: s-maj=12.8km s-min=8.1km az=116.0*

*GCMT **28** 09:24:59.2±0.1, 5.74S±0.01×151.77E±0.01, h30km, MW5.3/107, Moment Tensor Solution. s105,c174; s107,c178; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr0.73±.02; Mθθ-0.82±.01; Mϕϕ0.08±.01; Mrθ0.59±.02; Mθϕ-0.29±.01; Mϕr-0.02±.03; Best double couple: Mo1.01300×10^17 NP1:ϕs86.00000°, δ64.00000°, λ103.00000°. NP2:ϕs239.00000°, δ29.00000°, λ66.00000°. Principal axes: T 0.9470, Plg69.0000°, Azm22.0000°; N 0.1320, Plg12.0000°, Azm260.0000°; P -1.0790, Plg18.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 09:25:01.5, 5.67S×151.75E, h30km, Moment Tensor Solution. Duration: 2ŝ1 Moment tensor: Scale 10^16 Nm; Mrr6.83; Mθθ-7.68; Mϕϕ0.85; Mrθ3.69; Mθϕ-2.25; Mϕr-0.44; Fault plane solution: Mo8.43000×10^16 NP1:ϕs86.73000°, δ58.35000°, λ102.53000°. NP2:ϕs243.78000°, δ33.80000°, λ70.61000°. Principal axes: T 7.8503, Plg73.0000°, Azm29.0000°; N 1.1634, Plg11.0000°, Azm260.0000°; P -9.0137, Plg13.0000°, Azm168.0000°;*

ISC 28 09:24:58.4±0.4, 5.58S±0.03×151.87E±0.04, h61km±3km, h61km:pP-P, n814, σ1ŝ21/736, mb5.2/185, 45C-35D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.27**	**7**	P	**Pn**		**Pn**	**09 25 18.7**	**-1.4**
	47μm,0.6s,baz=186,slow=0.2,SNR=2536								
RABL	**Rabaul**	**1.41**	**12**	Pn	**Pn**		**Pn**	**09 25 21.4**	**-0.5**
RABL				Sn	**Sn**		**Sn**	**09 25 41.5**	**+2.0**
RABL	**Rabaul**	**1.41**	**12**	P	**Pn**		**Pn**	**09 25 22.0**	**+0.1**
MANU	**Manus Island**	**5.70**	**308**		**Pn**		**Pn**	**09 26 22.8**	**+2.2**
MANU	**Manus Island**	**5.70**	**308**	P	**Pn**		**Pn**	**09 26 23.2**	**+2.6**
PMG	**Port Moresby**	**6.03**	**231**	P	**Pn**		**Pn**	**09 26 25.8**	**+0.9**
	205nm,0.8s,baz=42,slow=11,SNR=63								
PMG				S	**Sn**		**Sn**	**09 27 33.0**	**+0.4**
	229nm,0.6s,baz=356,slow=13,SNR=8.5								
PMG	**Port Moresby**	**6.03**	**231**	Pn	**Pn**		**Pn**	**09 26 24.1**	**-0.9**
PMG	**Port Moresby**	**6.03**	**231**	P	**Pn**		**Pn**	**09 26 26.3**	**+1.3**
HNR	**Honiara**	**8.88**	**116**	LR	LR		LR	09 30 03.1	
	comp=Z,39μm,21.4s,baz=282,slow=34								
COEN	**Coen**	**11.95**	**225**	Pn	**Pn**		**Pn**	**09 27 42.9**	**-3.1**
COEN	**Coen**	**11.95**	**225**	P	**Pn**		**Pn**	**09 27 47.3**	**+1.3**
GENI	**Genyem**	**12.04**	**284**	P	**Pn**		**Pn**	**09 27 49.8**	**+2.5**
	222nm,1.7s								
SMPI	**Sarmi**	**13.60**	**285**	P	**Pn**		**Pn**	**09 28 11.3**	**+2.7**
	106nm,1.3s								
PATS	**Pohnpei**	**13.90**	**28**	Pn	**Pn**		**Pn**	**09 28 09.1**	**-3.5**
MTSU	**Mount Surprise**	**14.50**	**210**	P	**Pn**		**Pn**	**09 28 20.6**	**+0.2**
	baz=15,SNR=4.6								
MTSU	**Mount Surprise**	**14.50**	**210**	P	**Pn**		**Pn**	**09 28 20.8**	**+0.3**
CTA	**Charters Tower**	**15.43**	**200**	P	**P**		**P**	**09 28 35.1**	**-0.7**
	12nm,0.7s,baz=322,slow=2.3,SNR=3.3								
CTA				LR	LR		LR	09 34 09.2	
	comp=Z,3μm,19.3s,baz=30,slow=36								
CTAO	**Charters Tower**	**15.43**	**200**				**Pn**	**09 28 29.3**	**-3.1**
CTAO	**Charters Tower**	**15.43**	**200**	P	**P**		**P**	**09 28 34.4**	**-1.4**
CTAO	**Charters Tower**	**15.43**	**200**	P	**Pn**		**Pn**	**09 28 29.3**	**-3.1**
CTAO				pmax	pmax				
	comp=Z,14nm,1.1s								
RK1H	**Rockhampton Ha**	**17.76**	**184**	P	**P**		**P**	**09 29 02.3**	**+0.8**
QIS	**Mount Isa**	**19.07**	**218**	P	**Pn**		**Pn**	**09 29 16.7**	**-0.7**
	baz=19,SNR=25								
QIS	**Mount Isa**	**19.07**	**218**	P	**Pn**		**Pn**	**09 29 17.0**	**-0.4**
EIDS	**Eidsvold**	**19.70**	**182**	P	**Pn**		**Pn**	**09 29 23.8**	**-1.0**
	baz=20,SNR=18								
EIDS	**Eidsvold**	**19.70**	**182**	P	**P**		**P**	**09 29 21.6**	**-1.2**
EIDS	**Eidsvold**	**19.70**	**182**	P	**Pn**		**Pn**	**09 29 24.0**	**-0.7**
FAKI	**Fak Fak**	**19.74**	**277**	P	**P**		**P**	**09 29 21.6**	**-1.9**
FAKI	**Fak Fak**	**19.74**	**277**	P	**P**		**P**	**09 29 23.6**	**+0.2**
	comp=Z,56nm,1.0s								
GUMO	**Guam**	**20.27**	**340**	P	**P**		**P**	**09 29 28.4**	**-0.7**
	comp=Z,239nm,0.9s,baz=175,slow=10,SNR=5.4								
	comp=Z,239nm,0.9s								
GUMO	**Guam**	**20.27**	**340**	P	**P**		**P**	**09 29 26.7**	**-2.3**
GUMO	**Guam**	**20.27**	**340**	P	**P**		**P**	**09 29 29.2**	**+0.1**
KDU	**Kakadu**	**20.40**	**248**	P	**P**		**

comp=Z,115nm,0.8s,baz=214,slow=0.5,SNR=9.7
BATI LR LR 09 44 23.8
comp=Z,2μm,21.1s,baz=102,slow=41
BATI Baumata 28.31 259 P **P 09 30 46.8 +0.2**
comp=Z,169nm,0.9s
GTOI Gorontalo 29.47 281 P P 09 31 04.6 +7.7
WRKA Warakurna 29.76 227 P **P 09 30 58.8 -0.6**
baz=30,SNR=76
WRKA Warakurna 29.76 227 P **P 09 30 59.0 -0.3**
MULG Mulgathing 29.76 212 P **P 09 30 58.9 -0.3**
HTT Hallett 30.22 202 P **P 09 31 03.9 +0.5**
baz=30,SNR=9.2
HTT Hallett 30.22 202 P **P 09 31 04.6 +1.3**
BBOO Buckleboo 30.85 207 P **P 09 31 10.8 +1.9**
BASI Baing, Sumba 31.32 260 P **P 09 31 12.0 -1.3**
comp=Z,267nm,1.0s
TOLI2 Tolitoli 31.75 281 P **P 09 31 15.3 -1.7**
TOLI2 Tolitoli 31.75 281 P **P 09 31 14.6 -2.4**
KAPI Kappang 31.98 269 LR LR 09 46 30.5
comp=Z,361nm,21.0s,baz=94,slow=41
ARPS Mount Arapiles 32.38 195 P **P 09 31 22.9 +0.7**
baz=32,SNR=5.5
ARPS Mount Arapiles 32.38 195 P **P 09 31 22.9 +0.7**
FORT Forrest 33.61 219 P **P 09 31 32.9 -0.2**
baz=34,SNR=11
FORT Forrest 33.61 219 P **P 09 31 33.0 0.0**
FORT IAmb IAmb 09 31 58.7
comp=Z,42nm,0.8s
FORT Forrest 33.61 219 P **P 09 31 33.1 0.0**
JCJ Chichijima 33.80 344 LR LR 09 44 04.8
comp=Z,814nm,21.7s,baz=144,slow=34
MBWA Marble Bar 34.78 241 P **P 09 31 41.2 -2.2**
PSA00 Pilbara Seismi 34.84 240 P **P 09 31 42.9 -1.0**
PSA00 Pilbara Seismi 34.84 240 P **P 09 31 42.9 -1.0**
AFI Afiamalu 36.73 106 LR LR 09 45 14.8
comp=Z,424nm,19.0s,baz=282,slow=33
RAO Raoul Island 37.01 133 LR LR 09 44 41.1
comp=Z,1μm,19.3s,baz=202,slow=32
MEEK Meekatharra 38.00 233 P **P 09 32 10.7 -0.1**
baz=38,SNR=96
MEEK Meekatharra 38.00 233 P **P 09 32 10.9 +0.1**
KMBL Kambalda 38.06 224 P **P 09 32 11.1 0.0**
baz=38,SNR=4.5
KMBL Kambalda 38.06 224 P **P 09 32 10.7 -0.5**
JOW Kunigami 39.49 326 P **P 09 32 22.3 -0.9**
JOW IAmb IAmb 09 32 24.7
comp=Z,89nm,1.0s
JOW Kunigami 39.49 326 P **P 09 32 24.0 +0.8**
URZ Urewera 39.80 148 P **P 09 32 26.9 +1.3**
comp=Z,5.3nm,0.8s,baz=77,slow=20,SNR=2.7
URZ LR LR 09 47 15.5
comp=Z,1μm,18.9s,baz=61,slow=33
comp=Z,5.3nm,0.8s
RTZ Ruatahuna 40.00 149 P **P 09 32 29.0 +1.6**
TKNZ Takaka Hill 40.04 155 P **P 09 32 29.6 +2.0**
TCW Tory Channel 40.75 154 P **P 09 32 33.6 +0.2**
KLBR Kellerberrin 41.10 227 P **P 09 32 37.4 +0.9**
baz=41,SNR=6.8
KLBR Kellerberrin 41.10 227 P **P 09 32 37.0 +0.5**
MORW Morawa 41.14 231 P **P 09 32 37.6 +0.8**
baz=41,SNR=9.2
MORW Morawa 41.14 231 P **P 09 32 36.2 -0.7**
MORW IAmb IAmb 09 32 57.2
comp=Z,128nm,1.9s
MORW Morawa 41.14 231 P **P 09 32 36.9 0.0**
BLDU Ballidu 41.37 229 P **P 09 32 39.7 +0.9**
baz=42,SNR=9.9
BLDU Ballidu 41.37 229 P **P 09 32 38.3 -0.4**
YULB Yu-li 41.47 315 P **P 09 32 39.0 -0.6**
YULB IAmb IAmb 09 32 41.3
comp=Z,33nm,0.7s
YULB Yu-li 41.47 315 P **P 09 32 39.9 +0.3**
RPZ Rata Peaks 41.57 159 P **P 09 32 41.2 +1.0**
comp=Z,8.5nm,0.8s,baz=275,slow=1.7,SNR=2.9
RPZ LR LR 09 47 41.0
comp=Z,2μm,21.8s,baz=326,slow=33
comp=Z,8.5nm,0.8s
NACB Ninganchiao 41.77 316 IAmb IAmb 09 32 44.6
comp=Z,53nm,0.9s
NACB Ninganchiao 41.77 316 P **P 09 32 42.3 +0.3**
TPUB Ta-pu 41.89 314 IAmb IAmb 09 33 02.9
comp=Z,60nm,1.1s
SSLB Suanglung 41.97 315 P **P 09 32 42.9 -0.8**
SSLB Suanglung 41.97 315 P **P 09 32 43.5 -0.2**
NWAO Narrogin (SRO) 42.19 225 LR LR 09 51 13.5
comp=Z,1μm,19.9s,slow=37
YHNB Yeheng 42.25 317 IAmb IAmb 09 32 47.5
comp=Z,86nm,0.9s
YHNB Yeheng 42.25 317 P **P 09 32 46.9 +0.9**
MUN Mundaring 42.43 227 P **P 09 32 48.4 +1.1**
baz=43,SNR=7.6
MUN Mundaring 42.43 227 P **P 09 32 47.6 +0.3**
JMN Monobe 42.64 338 P **P 09 32 48.8 -0.2**
JNU Nakatsue 43.34 334 P **P 09 32 54.1 -0.5**
MJAR Matsushiro Arr 43.81 344 P **P 09 32 55.6 -2.7**
comp=Z,7.6nm,1.0s,baz=161,slow=8.3,SNR=8.6
MJAR PcP **PcP 09 34 43.9 -0.1**
comp=Z,5.9nm,1.0s,baz=158,slow=4.0,SNR=5.2
comp=Z,7.6nm,1.0s
MAJO Matsushiro 43.81 344 P **P 09 32 57.7 -0.6**
MAJO Matsushiro 43.81 344 P **P 09 32 59.3 +1.0**
comp=Z,19nm,0.9s
MAJO Matsushiro 43.81 344 P **P 09 32 57.7 -0.6**
MAJO pmax pmax
comp=Z,16nm,0.9s
LEM Lembang 44.00 266 LR LR 09 55 19.4
comp=Z,243nm,20.7s,baz=28,slow=42
JHS Saijyo 44.06 338 P **P 09 33 00.0 -0.4**
JHS Saijyo 44.06 338 P **P 09 32 59.1 -1.3**
KNMB Chin-men Tao 44.21 314 P **P 09 33 02.0 +0.3**
KNMB IAmb IAmb 09 33 03.2
comp=Z,49nm,0.8s
DLV T Lat 46.52 292 P **P 09 33 21.2 +0.8**
TJN Taejon 47.63 333 P **P 09 33 28.3 -0.1**
TJN Taejon 47.63 333 ⇓*i*P **P 09 33 27.6 -0.8**
QIZ Qiongzhong 48.07 302 P **P 09 33 33.8 +1.6**
QIZ pP **pP 09 33 48.5 +0.3**
QIZ S **S 09 40 30.5 +3.9**
QIZ sS **sS 09 40 54.0 +0.5**
QIZ LR LR
comp=Z,360nm,17.3s
QIZ LR LR
comp=Z,490nm,21.8s
QIZ LR LR
comp=Z,780nm,20.6s
KSRS Korea Array 48.28 334 P **P 09 33 32.9 -0.6**
comp=Z,5.8nm,1.0s,baz=146,slow=9.0,SNR=19
KSRS PcP **PcP 09 34 59.8 +0.2**
comp=Z,2.6nm,1.0s,baz=159,slow=3.8,SNR=5.7
comp=Z,5.8nm,1.0s
KSAR Wonju Array Be 48.29 334 P **P 09 33 32.5 -1.0**
KSAR PcP **PcP 09 34 58.9 -0.7**
KSAR Wonju Array Be 48.29 334 P **P 09 33 32.5 -1.0**
KSAR 09 34 58.9
NJ2 Nanjing 48.87 322 ⇓*i*P **P 09 33 39.0 +0.9**
NJ2 S **S 09 40 43.3 +5.9**
NJ2 sS **sS 09 41 04.5 +0.2**
NJ2 pmax pmax
comp=Z,13nm,0.8s
NJ2 pmax pmax
comp=Z,370nm,4.3s
NJ2 LR LR
comp=Z,900nm,16.1s
NJ2 LR LR
comp=Z,820nm,19.9s
NJ2 LR LR
comp=Z,2μm,21.0s
INCN Inchon 48.87 333 P **P 09 33 37.7 -0.4**
INCN IAmb IAmb 09 33 38.9
comp=Z,49nm,1.1s
INCN Inchon 48.87 333 P **P 09 33 38.2 +0.1**
INCN Inchon 48.87 333 P **P 09 33 37.7 -0.4**
INCN pmax pmax
comp=Z,49nm,1.1s
RAR Rarotonga 49.32 113 LR LR 09 52 18.7
comp=Z,129nm,20.5s,baz=272,slow=33
ASAJ Asahikawa 50.16 351 LR LR 09 52 57.3
comp=Z,340nm,21.9s,baz=185,slow=34
CNSH ChangSha 50.35 314 ⇑P **P 09 33 50.3 +0.9**
CNSH pmax pmax
comp=Z,40nm,1.1s
CNSH LR LR
comp=Z,400nm,20.5s
CNSH LR LR
comp=Z,410nm,12.9s
CNSH LR LR
comp=Z,610nm,18.5s
WHN Wuhan 50.78 317 ⇑P **P 09 33 53.3 +0.7**
WHN S **S 09 41 09.3 +5.2**
WHN pmax pmax
comp=Z,120nm,1.2s
WHN LR LR
comp=Z,3μm,19.9s
USRK Ussuriysk Ar. 52.69 342 P **P 09 34 05.6 -1.0**
comp=Z,3.3nm,0.7s,baz=187,slow=7.2,SNR=4.7
comp=Z,3.3nm,0.7s
TIA Tai'an 52.80 325 ⇓P **P 09 34 07.3 -0.3**
TIA pmax pmax
comp=Z,16nm,1.0s
TIA pmax pmax
comp=Z,120nm,4.9s
TIA LR LR
comp=Z,480nm,15.9s
TIA LR LR
comp=Z,520nm,18.6s
TIA LR LR
comp=Z,520nm,19.1s
YSS Yuzh-Sakhalins 52.92 352 *e*P **P 09 34 09.4 +1.2**
NONG Nongkai 53.49 297 P **P 09 34 13.2 +0.2**
RPSI Rantau Prapat 53.52 277 P **P 09 34 12.8 -0.5**
PSI Prapat 53.53 278 P **P 09 34 12.8 -0.8**
comp=Z,2.5nm,0.2s,baz=189,slow=4.3,SNR=4.2
PSI LR LR 09 59 42.9
comp=Z,321nm,20.6s,baz=124,slow=39
comp=Z,2.5nm,0.2s
PSI Prapat 53.53 278 P **P 09 34 14.5 +0.9**
ENH Enshi 54.01 314 P **P 09 34 16.1 -0.5**
ENH Enshi 54.01 314 P **P 09 34 16.3 -0.3**
GYA Guiyang 54.13 308 ⇑*i*P **P 09 34 18.0 +0.3**
GYA pP sP 09 34 39.5 -1.7
GYA S **S 09 41 57.0 +6.7**
GYA pmax pmax
comp=Z,17nm,1.2s
GYA pmax pmax
comp=Z,220nm,4.4s
GYA LR LR
comp=Z,430nm,17.5s
GYA LR LR
comp=Z,380nm,19.3s
GYA LR LR
comp=Z,820nm,17.8s
LYN LuoYang 54.53 320 ⇑P **P 09 34 19.3 -1.0**
LYN pP pP 09 34 39.0 +2.4
LYN sP sP 09 34 46.8 +3.2
LYN S S 09 41 45.3 -10
LYN sS sS 09 42 25.0 +3.8
LYN SS **SKiKP 09 45 29.5 +5.1**
LYN pmax pmax
comp=Z,18nm,1.4s
LYN pmax pmax
comp=Z,240nm,4.9s
LYN LR LR
comp=Z,580nm,22.0s
LYN LR LR
comp=Z,650nm,17.5s
LYN LR LR
comp=Z,960nm,20.1s
CN2 Changchun 54.63 337 P **P 09 34 19.8 -1.0**
CN2 pP pP 09 34 39.0 +1.7
CN2 PcP **PcP 09 35 22.5 -0.6**
CN2 S **S 09 41 52.3 -3.9**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,19.0s
HNS HongShan 55.02 324 ⇑P **P 09 34 23.0 -0.7**
HNS *e*S **S 09 42 01.3 -0.2**
HNS pmax pmax
comp=Z,31nm,1.4s
HNS LR LR
comp=Z,250nm,16.3s
HNS LR LR
comp=Z,1μm,21.1s
HNS LR LR
comp=Z,930nm,24.3s
BNX BinXian 55.56 339 ⇑P **P 09 34 25.8 -1.7**
BNX pmax pmax
comp=Z,15nm,1.1s
KIP Kipapa 55.97 60 P **P 09 34 32.9 +2.0**
KIP Kipapa 55.97 60 ⇓*e*P **P 09 34 31.9 +1.0**
KIP pmax pmax
comp=Z,346nm,3.4s
BJT Baijiatuau 56.02 327 P **P 09 34 30.5 -0.4**
BJT Baijiatuau 56.02 327 P **P 09 34 31.0 +0.1**
BJT Baijiatuau 56.02 327 P **P 09 34 30.5 -0.4**
BJT pmax pmax
comp=Z,11nm,1.0s
BJI Beijing 56.03 327 P **P 09 34 30.5 -0.5**
BJI pP **pP 09 34 47.3 0.0**
BJI PcP **PcP 09 35 29.0 +0.4**
BJI pmax pmax
comp=Z,4.0nm,1.4s
BJI LR LR
comp=Z,260nm,19.2s
BJI LR LR
comp=Z,210nm,18.8s
BJI LR LR
comp=Z,390nm,20.2s
XAN Xi'an 56.55 317 ⇑P **P 09 34 34.0 -0.9**
XAN pmax pmax
comp=Z,19nm,1.0s
XAN LR LR
comp=Z,490nm,20.0s
XAN LR LR
comp=Z,490nm,18.4s
XAN LR LR
comp=Z,750nm,19.4s
TIY Taiyuan 56.57 323 ⇑P **P 09 34 34.5 -0.5**
TIY pP **pP 09 34 52.3 +0.9**
TIY S **S 09 42 28.5 +6.1**
TIY LR LR
comp=Z,540nm,19.2s
TIY LR LR
comp=Z,370nm,17.7s
TIY LR LR
comp=Z,800nm,21.3s
KMI Kunming 56.66 305 ⇑P **P 09 34 36.5 +0.5**
KMI pP pP 09 34 53.8 +1.3
KMI PP **PP 09 36 43.0 +0.3**
KMI pmax pmax
comp=Z,25nm,1.6s
KMI pmax pmax
comp=Z,190nm,4.7s
KMI LR LR
comp=Z,270nm,22.7s
KMI LR LR
comp=Z,280nm,17.8s
KMI LR LR
comp=Z,420nm,20.6s
KLR Kul'dur 57.33 344 ⇓*i*P **P 09 34 39.0 -1.0**
KLR pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 57.37 296 P **P 09 34 40.9 0.0**
comp=Z,6.2nm,0.7s,baz=122,slow=5.3,SNR=34
comp=Z,6.2nm,0.7s
CMAR Chiang Mai Arr 57.37 296 P **P 09 34 40.8 -0.1**
CMAR Chiang Mai Arr 57.37 296 *i*P **P 09 34 41.7 +0.8**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 57.49 296 P **P 09 34 41.8 +0.1**
CHTO IAmb IAmb 09 34 43.0
comp=Z,63nm,1.6s
CHTO Chiang Mai 57.49 296 P **P 09 34 41.8 +0.1**
CHTO pmax pmax
comp=Z,63nm,1.6s
PZH PanZhiHua 58.06 306 P **P 09 34 45.3 -0.5**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,130nm,5.3s
PZH LR LR
comp=Z,750nm,20.6s
PZH LR LR
comp=Z,850nm,20.0s
PZH LR LR
comp=Z,430nm,16.6s
PPT Papeete 58.38 107 LR LR 09 55 06.3
comp=Z,153nm,21.8s,baz=264,slow=31
PPT2 Papeete2 58.38 107 *e*P **P 09 34 49.4 +1.3**
comp=Z,112nm,25.0s
PPT2 *e*S **S 09 42 45.3 -1.5**
comp=Z,115nm,23.2s
PPT2 *e*SS **SS 09 46 39.4 -0.5**
comp=Z,130nm,26.0s
PPT2 *e*LQ LQ 09 49 31.6
comp=Z,522nm,27.0s
PPT2 *e*LR LR 09 51 59.0
comp=Z,280nm,28.2s
PPT2 *e*LR LR 09 51 59.0
comp=Z,274nm,22.2s
CD2 Chengdu 58.54 311 P **P 09 34 48.8 -0.2**
CD2 S **S 09 42 49.5 +1.0**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,610nm,20.6s
CD2 LR LR
comp=Z,730nm,21.6s
CD2 LR LR
comp=Z,870nm,20.1s
PET Petropavlovsk 58.66 5 *e*P P 09 34 55.6 +6.4
PET *e*S **S 09 42 53.7 +4.7**
PET pmax pmax
comp=Z,100nm,12.9s
PET MLR MLR
comp=Z,400nm,18.0s
PET MLR MLR
comp=Z,600nm,17.0s
PETK Petropavlovsk- 58.67 4 P **P 09 34 49.5 +0.2**
comp=Z,4.6nm,0.8s,baz=158,slow=7.5,SNR=12
PETK LR LR 09 56 04.0
comp=Z,492nm,20.4s,baz=190,slow=32
comp=Z,4.6nm,0.8s
XLT XiLinHaoTe 58.87 330 ⇑*i*P **P 09 34 50.5 -0.5**
XLT pP pP 09 35 09.3 +1.8
XLT sP sP 09 35 15.5 +1.1
XLT PcP **PcP 09 35 38.5 -1.4**
XLT S **S 09 42 56.5 +4.1**
XLT pmax pmax
comp=Z,50nm,1.0s
XLT pmax pmax
comp=Z,170nm,4.5s
XLT LR LR
comp=Z,440nm,19.6s
XLT LR LR
comp=Z,700nm,23.4s
HHC Hu-ho-hao-te 59.14 325 *e*P **P 09 34 56.5 +3.5**
HHC S **S 09 43 00.0 +4.0**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,240nm,7.0s
HHC LR LR
comp=Z,1μm,16.5s
HHC LR LR
comp=Z,1μm,15.7s
HHC LR LR
comp=Z,2μm,17.7s
HEH HeiHe 59.49 342 *e*P **P 09 34 53.0 -2.1**
HEH pmax pmax
comp=Z,13nm,0.9s
BTO Baotou 59.87 324 *e*P **P 09 34 58.8 +0.8**
BTO LR LR
comp=Z,2μm,16.9s
BTO LR LR
comp=Z,2μm,20.8s
TNCH TengChong 60.11 303 P **P 09 35 00.0 0.0**
TNCH pP pP 09 35 17.3 +0.8
TNCH sP sP 09 35 24.5 +1.0
TNCH S **S 09 43 05.5 -3.6**
TNCH pmax pmax
comp=Z,26nm,1.1s
TNCH pmax pmax
comp=Z,130nm,3.8s
TNCH LR LR
comp=Z,750nm,19.8s
TNCH LR LR
comp=Z,720nm,26.1s
TNCH LR LR
comp=Z,410nm,23.0s
MND Mandalay 61.07 299 P **P 09 35 06.3 -0.1**
SHEM Shemya Is, Ala 61.07 15 LR LR 09 57 05.1
comp=Z,796nm,21.6s,baz=258,slow=32
LZH Lanzhou 61.14 317 ⇓P **P 09 35 07.5 +0.6**
LZH pP pP 09 35 24.8 +1.4
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,300nm,4.1s
LZH LR LR
comp=Z,260nm,13.4s
LZH LR LR
comp=Z,470nm,15.6s
LZH LR LR
comp=Z,540nm,16.3s
HIA Hailar 61.37 337 P **P 09 35 07.3 -0.6**
HIA Hailar 61.37 337 P **P 09 35 07.5 -0.4**
HIA Hailar 61.37 337 P **P 09 35 07.3 -0.6**
HIA pmax pmax
comp=Z,15nm,1.0s
ZEA Zeya 62.62 344 *e*P **P 09 35 15.6 -0.6**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 64.95 359 LR LR 10 03 24.8
comp=Z,292nm,19.4s,baz=179,slow=36
MA2 Magadan 64.95 359 P **P 09 35 31.0 -0.4**
MA2 Magadan 64.95 359 P **P 09 35 31.8 +0.4**
MA2 Magadan 64.95 359 P **P 09 35 31.0 -0.4**
MA2 pmax pmax
comp=Z,11nm,0.7s
BRDH Bariadhala 65.20 298 P **P 09 35 33.2 -0.5**
comp=Z,62nm,0.3s,baz=90,slow=15,SNR=4.9
BRDH LR LR 10 02 06.0
comp=Z,243nm,22.0s,baz=104,slow=34
GTA Gaotai 65.60 318 ⇑P **P 09 35 36.3 +0.1**
GTA pmax pmax
comp=Z,14nm,1.2s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=Z,200nm,17.8s
GTA LR LR
comp=Z,280nm,20.7s
GTA LR LR
comp=Z,430nm,19.6s
SHL Shillong 65.91 301 P **P 09 35 38.0 -0.5**
SHL Shillong 65.91 301 P **P 09 35 38.0 -0.5**
ULN Ulaanbaatar 66.17 329 P **P 09 35 39.8 +0.1**
ULN IAmb IAmb 09 35 41.1
comp=Z,33nm,1.1s
ULN Ulaanbaatar 66.17 329 *c i*P **P 09 35 39.9 +0.1**
ULN pmax pmax
comp=Z,35nm,1.1s
SONM Songino Array 66.49 328 P **P 09 35 41.8 +0.1**
comp=Z,22nm,0.8s,baz=138,slow=5.3,SNR=40
comp=Z,22nm,0.8s
SONM Songino Array 66.49 328 P **P 09 35 41.8 +0.1**
SONM IAmb IAmb 09 35 42.9
comp=Z,64nm,1.4s
SONM Songino Array 66.49 328 P **P 09 35 41.8 +0.1**
SONM pmax pmax
comp=Z,64nm,1.4s
CASY Casey 67.01 197 P **P 09 35 44.2 -0.4**
GOMU GeErMu 67.60 313 P **P 09 35 49.0 -0.3**
GOMU SS SS 09 49 03.8 -0.3
GOMU pmax pmax
comp=Z,10.0nm,0.9s
GOMU pmax pmax
comp=Z,37nm,4.9s
GOMU LR LR
comp=Z,200nm,20.8s
GOMU LR LR
comp=Z,410nm,22.0s
GOMU LR LR
comp=Z,610nm,21.7s
LSA Lhasa 67.92 305 P **P 09 35 51.0 -0.6**
LSA IAmb IAmb 09 36 43.2
comp=Z,17nm,0.9s
LSA Lhasa 67.92 305 P **P 09 35 51.0 -0.6**
LSA pmax pmax
comp=Z,17nm,0.9s

SEY **Seymchan** 68.31 0 LR LR 10 05 05.8
comp=Z,175nm,19.5s,baz=180,slow=35
SEY **Seymchan** 68.31 0 ⇓*i*P **P** **09 35 54.2 +1.4**
SEY pmax pmax
comp=Z,11nm,2.2s
YAK **Yakutsk** 69.55 349 P **P** **09 35 58.9 -1.6**
YAK **Yakutsk** 69.55 349 *e*P **P** **09 35 59.7 -0.7**
YAK *e**PP **pP** **09 36 16.8 -0.5**
YAK *e* 09 36 23.1
YAK *e*S **S** **09 45 01.4 -2.0**
YAK *e**SS **sS** **09 45 33.3 +1.6**
YAK *e* 09 45 54.1
YAK *e*SS **SS** **09 49 31.6 -0.8**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=E,25nm,2.3s
YAK smax smax
comp=N,85nm,3.0s
ZAK **Zakamensk** 69.67 329 *e*P **P** **09 36 01.0 -0.6**
ZAK pmax pmax
comp=Z,55nm,1.0s
BOD **Bodaibo** 70.19 340 *e*P **P** **09 36 02.8 -1.6**
BOD pmax pmax
comp=Z,11nm,1.1s
MOY **Mondy** 71.60 329 *e*P **P** **09 36 13.6 +0.3**
MOY pmax pmax
comp=Z,44nm,1.3s
VNDA **Vanda** 72.10 178 P **P** **09 36 18.6 +2.9**
comp=Z,7.5nm,1.1s,baz=349,slow=5.2,SNR=4.3
VNDA LR LR 10 06 18.1
comp=Z,299nm,18.9s,baz=348,slow=34
comp=Z,7.5nm,1.1s
PALK **Pallekele** 72.15 279 P **P** **09 36 16.3 -1.0**
PALK **Pallekele** 72.15 279 P **P** **09 36 16.3 -1.0**
PALK pmax pmax
comp=Z,15nm,1.0s
SDPT **Sand Point** 72.32 26 P **P** **09 36 17.1 -0.2**
SDPT **Sand Point** 72.32 26 P **P** **09 36 17.6 +0.3**
baz=230
CHGN **Chignik** 73.82 26 P **P** **09 36 26.0 -0.2**
CHGN IAmb IAmb 09 37 26.0
comp=Z,69nm,1.3s
CHGN **Chignik** 73.82 26 P **P** **09 36 26.4 +0.2**
baz=232
BILL **Bilibino** 74.14 6 P **P** **09 36 27.7 -0.2**
BILL **Bilibino** 74.14 6*c* *i*P **P** **09 36 27.7 -0.2**
BILL *e* 09 36 41.8
BILL *e**PP **pP** **09 36 44.5 -0.5**
BILL *e**SP **sP** **09 36 53.2 +1.3**
BILL *e* 09 39 11.5
BILL pmax pmax
comp=Z,21nm,1.0s
R17K **Ugashik Creek** 75.52 26 P **P** **09 36 36.1 +0.1**
baz=234
P16K **Nushagak River** 75.68 24 P **P** **09 36 37.4 +0.5**
baz=232
WMQ **Urumqi** 75.69 318 ⇑P **P** **09 36 37.3 -0.1**
WMQ PcP **PcP** **09 36 48.0 -1.9**
WMQ pP pP 09 36 53.0 -1.5
WMQ pmax pmax
comp=Z,32nm,1.1s
WMQ LR LR
comp=Z,280nm,14.5s
WMQ LR LR
comp=Z,190nm,18.7s
HYB **Hyderabad** 75.87 289 IVmB_BB 09 36 37.9
comp=Z,199nm,1.6s
HYB *e*P **P** **09 36 38.6 -0.4**
SII **Sitkinak Islan** 75.88 27 P **P** **09 36 38.5 +0.3**
baz=236
O16K **Kokwok River B** 75.99 24 P **P** **09 36 38.7 +0.1**
baz=232
Q17K **Contact Creek** 76.10 25 P **P** **09 36 39.8 +0.3**
baz=234
N16K **Nishlik Lake** 76.28 23 P **P** **09 36 41.8 +1.5**
baz=231
P17K **Kvichak River** 76.42 25 P **P** **09 36 41.5 +0.4**
baz=233
O17K **Koliganek Bris** 76.50 24 P **P** **09 36 41.6 +0.1**
baz=233
OHAK **Old Harbor** 76.66 27 P **P** **09 36 42.5 +0.1**
baz=237
Q18K **Katmai Hardscr** 76.70 25 P **P** **09 36 42.8 -0.1**
baz=235
ANM **Nome** 76.79 18 IAmb IAmb 09 36 52.2
comp=Z,53nm,2.0s
ANM **Nome** 76.79 18 P **P** **09 36 43.1 0.0**
baz=224
TNA **Tin City** 76.79 16 P **P** **09 36 43.6 +0.5**
baz=221
P18K **Big Mountain,** 77.04 25 P **P** **09 36 44.6 -0.1**
baz=234
KDAK **Kodiak Island** 77.28 27 LR LR 10 05 13.7
comp=Z,244nm,21.9s,baz=256,slow=31
KDAK **Kodiak Island** 77.28 27 P **P** **09 36 46.2 +0.2**
baz=237
O19K **Port Alsworth** 77.88 24 P **P** **09 36 49.0 -0.2**
baz=235
SVW2 **Sparrevohn** 77.90 23 P **P** **09 36 50.9 +1.5**
P19K **Oil Pt** 78.02 25 P **P** **09 36 50.8 +0.7**
P19K IAmb IAmb 09 36 51.1
comp=Z,40nm,0.8s
P19K **Oil Pt** 78.02 25 P **P** **09 36 50.2 0.0**
baz=236
DGZ **Jazzator, Alta** 78.14 323*c* *i*P **P** **09 36 50.7 -0.5**
DGZ pmax pmax
comp=Z,32nm,0.9s
N19K **Bonanza Creek** 78.17 24 P **P** **09 36 50.5 -0.5**
baz=235
O20K **Slope Mountain** 78.52 25 P **P** **09 36 52.7 -0.3**
baz=237
TIXI **Tiksi** 78.54 353 LR LR 10 14 06.8
comp=Z,181nm,18.5s,baz=10.0,slow=38
TIXI **Tiksi** 78.54 353 P **P** **09 36 52.3 -0.4**
TIXI **Tiksi** 78.54 353 ⇓*i*P **P** **09 36 52.9 +0.2**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
L19K **White Mountain** 78.81 23 IAmb IAmb 09 37 07.5
comp=Z,22nm,0.9s
L19K **White Mountain** 78.81 23 P **P** **09 36 55.2 +0.8**
baz=234
TTA **Tatalina** 78.83 22 P **P** **09 36 55.1 +0.5**
baz=233
TTA **Tatalina** 78.83 22 P **P** **09 36 55.8 +1.2**
BRSE **Bradley Lake S** 79.14 26 P **P** **09 36 56.9 +0.7**
baz=239
SPCR **Spurr Chakacha** 79.30 24 P **P** **09 36 56.1 -1.1**
baz=237
M20K **Styx River** 79.31 23 P **P** **09 36 57.9 +0.6**
baz=236
L20K **Farewell, AK** 79.36 23 P **P** **09 36 58.1 +0.6**
baz=235
GCSA **Galena City Sc** 79.62 20 P **P** **09 36 59.5 +0.8**
baz=232
K20K **Telida** 79.79 22 P **P** **09 37 00.3 +0.5**
baz=235
SKT **Skwentna** 80.00 24 P **P** **09 37 00.1 -0.8**
baz=238
SUA **Susitna One** 80.04 24 IAmb IAmb 09 37 22.4
comp=Z,95nm,1.9s
SUA **Susitna One** 80.04 24 P **P** **09 37 01.0 -0.2**
baz=238
RC01 **Rabbit Creek A** 80.26 25 IAmb IAmb 09 37 51.6
comp=Z,36nm,1.2s
RC01 **Rabbit Creek A** 80.26 25 P **P** **09 37 01.9 -0.5**
baz=239
MK31 **Makanchi Array** 80.30 319 P **P** **09 37 02.4 -0.5**
MK31 **Makanchi Array** 80.30 319 P **P** **09 37 02.4 -0.5**
MK31 pmax pmax
comp=Z,22nm,1.1s
MKAR **Makanchi Array** 80.30 319 P **P** **09 37 02.5 -0.4**
comp=Z,19nm,0.9s,baz=100,slow=6.4,SNR=90
comp=Z,19nm,0.9s
MKAR **Makanchi Array** 80.30 319 P **P** **09 37 02.4 -0.5**
M22K **Willow** 80.44 24 IAmb IAmb 09 37 15.9
comp=Z,28nm,1.0s
M22K **Willow** 80.44 24 P **P** **09 37 03.1 -0.2**
baz=239
MAKZ **Makanchi** 80.51 319 P **P** **09 37 03.4 -0.6**
MAKZ IAmb IAmb 09 37 04.8
comp=Z,36nm,1.1s
MAKZ **Makanchi** 80.51 319 P **P** **09 37 03.4 -0.6**
MAKZ pmax pmax
comp=Z,36nm,1.1s
CAST **Castle Rocks** 80.57 22 P **P** **09 37 03.9 -0.1**
baz=237,SNR=8.7
CHUM **Lake Minchumin** 80.73 22 P **P** **09 37 05.5 +0.7**
baz=236,SNR=9.0
PWL **Port Wells** 80.74 25 IAmb IAmb 09 37 28.8
comp=Z,44nm,1.0s
PWL **Port Wells** 80.74 25 P **P** **09 37 05.4 +0.5**
baz=241
PMR **Palmer** 80.77 25 P **P** **09 37 04.7 -0.3**
baz=240
KNK **Knik Glacier** 80.96 25 P **P** **09 37 06.5 +0.4**
baz=240
SML **Sawmill** 81.21 25 IAmb IAmb 09 37 39.3
comp=Z,21nm,0.8s
SML **Sawmill** 81.21 25 P **P** **09 37 08.4 +0.9**
baz=240
TRF **Thorofare Moun** 81.26 23 P **P** **09 37 08.1 +0.3**
baz=238
ZAA0 **Zalesovo Array** 81.28 327 P **P** **09 37 06.3 -1.6**
ZALV **Zalesovo Beam** 81.28 327 P **P** **09 37 06.7 -1.2**
comp=Z,9.0nm,0.5s,baz=110,slow=5.5,SNR=51
comp=Z,9.0nm,0.5s
ZALV **Zalesovo Beam** 81.28 327 P **P** **09 37 06.3 -1.6**
BPAW **Bear Paw Mtn.** 81.34 22 P **P** **09 37 08.1 0.0**
baz=238
M23K **Glacier View** 81.45 25 P **P** **09 37 09.2 +0.5**
baz=241
H21K **Melozitna Rive** 81.55 20 IAmb IAmb 09 37 14.9
comp=Z,43nm,1.9s
H21K **Melozitna Rive** 81.55 20 P **P** **09 37 10.0 +0.9**
baz=236
I21K **Tanana** 81.57 21 P **P** **09 37 10.1 +0.9**
baz=237
WAT1 **Susitna Watana** 81.63 24 P **P** **09 37 09.9 +0.3**
baz=240
SCM **Sheep Creek Mo** 81.64 25 P **P** **09 37 10.4 +0.7**
baz=241
G21K **Allakaket** 81.81 19 P **P** **09 37 11.8 +1.4**
baz=235
WAT6 **Susitna Watana** 81.83 24 P **P** **09 37 10.7 -0.1**
baz=241
MCK **McKinley** 81.93 23 IAmb IAmb 09 37 23.2
comp=Z,20nm,1.0s
MCK **McKinley** 81.93 23 P **P** **09 37 10.9 -0.3**
baz=240,SNR=11
MLY **Manley** 81.93 21 P **P** **09 37 11.0 -0.2**
baz=238,SNR=16
KLU **Klutina** 82.07 25 P **P** **09 37 12.4 +0.4**
baz=243
H22K **Ishtalitna Cre** 82.17 20 P **P** **09 37 12.8 +0.4**
baz=237
DHY **Denali Highway** 82.22 24 IAmb IAmb 09 38 03.6
comp=Z,52nm,1.7s
DHY **Denali Highway** 82.22 24 P **P** **09 37 13.0 +0.1**
baz=241
F21K **Alatna River** 82.22 19 P **P** **09 37 13.4 +0.8**
baz=235
M24K **Tolsona, Glenn** 82.25 25 IAmb IAmb 09 37 25.8
comp=Z,57nm,1.2s
M24K **Tolsona, Glenn** 82.25 25 P **P** **09 37 13.1 +0.2**
baz=242
NEA2 **Nenana** 82.32 22 P **P** **09 37 12.8 -0.3**
baz=240,SNR=7.2
BMRM **Bremner River** 82.40 26 P **P** **09 37 13.9 +0.2**
baz=244
I23K **Minto, Yukon-K** 82.49 21 IAmb IAmb 09 37 20.8
comp=Z,32nm,1.8s
I23K **Minto, Yukon-K** 82.49 21 P **P** **09 37 14.1 +0.1**
baz=239
N25K **Chitina, Valde** 82.69 26 P **P** **09 37 15.8 +0.6**
baz=244
MDM **Murphy Dome** 82.81 22 IAmb IAmb 09 39 08.6
comp=Z,28nm,1.7s
TCOL **CIGO, UAF Yank** 82.91 22 IAmb IAmb 09 37 17.6
comp=Z,20nm,0.7s
TCOL **CIGO, UAF Yank** 82.91 22 P **P** **09 37 16.3 +0.2**
baz=241
COLA **College** 82.91 22 P **P** **09 37 15.8 -0.3**
COLA IAmb IAmb 09 37 17.5
comp=Z,21nm,0.8s
COLA **College** 82.91 22 P **P** **09 37 16.3 +0.1**
baz=241
COLA **College** 82.91 22 P **P** **09 37 15.6 -0.6**
COLA **College** 82.91 22*d* *i*P **P** **09 37 16.3 +0.1**
COLA pmax pmax
comp=Z,19nm,0.8s
PAX **Paxson** 82.93 24 P **P** **09 37 16.1 -0.4**
baz=243
GLB **Gilahina Butte** 82.95 26 IAmb IAmb 09 37 48.9
comp=Z,20nm,1.0s
HDA **Harding Lake** 83.02 23 IAmb IAmb 09 39 16.4
comp=Z,41nm,1.8s
HDA **Harding Lake** 83.02 23 P **P** **09 37 16.5 -0.4**
baz=242
G23K **Bananza Creek** 83.08 20 P **P** **09 37 17.6 +0.5**
baz=238
ULHL **Ulahol** 83.18 314 P **P** **09 37 18.5 +0.1**
SNR=9.3
POKR **Poker Plat Res** 83.18 22 P **P** **09 37 16.9 -0.7**
baz=241
ILAR **Eielson Array** 83.22 22 P **P** **09 37 16.9 -1.0**
comp=Z,8.7nm,0.8s,baz=247,slow=5.3,SNR=66
ILAR LR LR 10 12 16.2
comp=Z,497nm,18.8s,baz=249,slow=34
comp=Z,8.7nm,0.8s
MCARA **McCarthy VSAT** 83.27 26 P **P** **09 37 18.6 +0.4**
baz=245
COLD **Coldfoot** 83.29 19 P **P** **09 37 19.0 +0.9**
baz=238
H24K **Noodor Dome** 83.38 21 P **P** **09 37 18.8 +0.2**
baz=240
RIDG **Independent Ri** 83.53 24 P **P** **09 37 19.7 +0.2**
baz=244
MENT **Mentasta** 83.64 25 P **P** **09 37 21.2 +1.1**
NIL **Nilore** 83.65 305 P **P** **09 37 20.3 -0.5**
NIL **Nilore** 83.65 305 P **P** **09 37 20.3 -0.5**
NIL pmax pmax
comp=Z,44nm,1.0s
M26K **Nabesna, AK** 83.71 25 P **P** **09 37 21.5 +1.1**
baz=245
BARN **Barnard Glacie** 83.74 27 IAmb IAmb 09 37 44.8
comp=Z,20nm,0.9s
A21K **Barrow** 83.79 15 P **P** **09 37 21.1 +0.6**
baz=232
TKM2 **Tokmak 2** 83.80 314 P **P** **09 37 21.4 -0.2**
SNR=22
KURK **Kurchatov** 83.81 322 P **P** **09 37 20.8 -0.3**
KURK IAmb IAmb 09 37 21.6
comp=Z,39nm,1.1s
KURK **Kurchatov** 83.81 322 P **P** **09 37 20.8 -0.3**
KURK pmax pmax
comp=Z,39nm,1.1s
L26K **Log Cabin Wild** 83.83 25 IAmb IAmb 09 38 03.0
comp=Z,46nm,1.9s
L26K **Log Cabin Wild** 83.83 25 P **P** **09 37 21.1 +0.1**
baz=245,SNR=6.3
E23K **Chandalar** 83.92 19 P **P** **09 37 22.2 +0.7**
baz=239
G24K **Hadweenzic Riv** 83.94 20 P **P** **09 37 22.0 +0.4**
baz=241
SCRK **Sand Creek** 83.98 24 IAmb IAmb 09 38 27.7
comp=Z,44nm,2.0s
SCRK **Sand Creek** 83.98 24 P **P** **09 37 22.1 +0.2**
baz=244
D23K **Nanushuk River** 84.07 18 P **P** **09 37 23.1 +1.0**
baz=238
M27K **Edge Creek, AK** 84.17 25 IAmb IAmb 09 37 55.5
comp=Z,16nm,0.8s
M27K **Edge Creek, AK** 84.17 25 P **P** **09 37 23.7 +0.8**
baz=246
KBK **Karagaybulak** 84.20 314 P **P** **09 37 23.8 +0.2**
SNR=15
F24K **Squaw Lake** 84.21 20 P **P** **09 37 23.8 +0.9**
baz=240
E24K **Your Creek** 84.29 19 P **P** **09 37 23.7 +0.4**
baz=240
O28M **Mount Upton** 84.30 27 P **P** **09 37 23.5 -0.2**
baz=248
J26L **Joseph Creek** 84.37 23 IAmb IAmb 09 37 45.1
comp=Z,35nm,1.9s
J26L **Joseph Creek** 84.37 23 P **P** **09 37 24.1 +0.2**
baz=245
QSPA **South Pole Qui** 84.39 180 P **P** **09 37 24.7 +0.7**
comp=Z,5.9nm,1.0s,baz=328,slow=2.6,SNR=11
QSPA LR LR 10 15 19.6
comp=Z,114nm,18.0s,baz=18,slow=36
comp=Z,5.9nm,1.0s
QSPA **South Pole Qui** 84.39 180 P **P** **09 37 24.9 +0.9**
QSPA IAmb IAmb 09 37 38.8
comp=Z,14nm,1.0s
CHMS **Chumysh** 84.42 314 P **P** **09 37 24.4 -0.1**
SNR=20
UCH **Uchtor** 84.42 313 P **P** **09 37 25.7 +0.6**
SNR=39
G25K **Bearman Lake** 84.45 21 P **P** **09 37 24.8 +0.7**
baz=242
L27K **Beaver Creek,** 84.47 25 IAmb IAmb 09 37 27.4
comp=Z,36nm,1.9s
L27K **Beaver Creek,** 84.47 25 P **P** **09 37 24.7 +0.4**
baz=246
AAK **Ala-Archa** 84.53 314 P **P** **09 37 25.8 +0.6**
SNR=19
AAK **Ala-Archa** 84.53 314 LR LR 10 15 11.4
comp=Z,278nm,20.4s,baz=99,slow=36
AAK **Ala-Archa** 84.53 314 P **P** **09 37 25.1 -0.1**
AAK IAmb IAmb 09 37 26.6
comp=Z,27nm,0.9s
AAK **Ala-Archa** 84.53 314 P **P** **09 37 25.1 -0.1**
AAK pmax pmax
comp=Z,27nm,1.0s
YUK3 **Moose Creek** 84.56 26 P **P** **09 37 24.9 -0.1**
baz=248
BVCY **Beaver Creek** 84.63 26 P **P** **09 37 25.2 +0.1**
baz=247
USP **Ospenovka** 84.66 314 P **P** **09 37 25.8 +0.1**
SNR=41
YUK8 **Steele Glacier** 84.68 27 P **P** **09 37 26.0 +0.4**
baz=248
K27K **Chicken** 84.77 24 P **P** **09 37 26.0 +0.3**
baz=246
O29M **Mount Kennedy** 84.87 28 P **P** **09 37 26.9 +0.4**
baz=249
I26K **Coal Creek Min** 84.88 22 P **P** **09 37 26.6 +0.4**
baz=245
AML **Almayashu** 85.00 313 P **P** **09 37 28.3 +0.5**
SNR=99
F25K **Christian Rive** 85.00 20 P **P** **09 37 27.8 +0.9**
baz=242
EKS2 **Erkin-Say** 85.05 314 P **P** **09 37 28.1 +0.3**
SNR=38
C24K **Franklin Bluff** 85.06 18 P **P** **09 37 28.3 +1.2**
baz=239
YUK6 **Outpost Mounta** 85.19 27 P **P** **09 37 28.8 +0.6**
baz=250
YUK4 **Talbot Arm** 85.20 27 P **P** **09 37 29.1 +0.9**
baz=249
E25K **Arctic Village** 85.27 19 P **P** **09 37 29.3 +1.1**
baz=242
G26K **Porcupine Rive** 85.36 21 P **P** **09 37 29.7 +1.1**
baz=244
SIT **Sitka** 85.41 32 P **P** **09 37 29.3 +0.3**
baz=252
EGAK **Eagle** 85.43 23 IAmb IAmb 09 37 35.7
comp=Z,15nm,1.0s
EGAK **Eagle** 85.43 23 P **P** **09 37 29.8 +0.8**
baz=247
HYT **Haines Junctio** 85.55 28 IAmb IAmb 09 38 03.6
comp=Z,18nm,0.9s
HYT **Haines Junctio** 85.55 28 P **P** **09 37 30.3 +0.5**
baz=250
F26K **Sheenjek River** 85.56 20 P **P** **09 37 30.8 +1.2**
baz=244
P30M **Million Dollar** 85.57 28 P **P** **09 37 29.3 -0.6**
baz=251
I27K **Kandik River** 85.58 22 P **P** **09 37 30.4 +0.5**
baz=246
PLBC **Pleasant Camp** 85.64 29 P **P** **09 37 30.1 -0.1**
baz=251
M29M **Somme Creek** 85.67 26 P **P** **09 37 30.6 +0.2**
baz=249
DAWY **Dawson** 85.87 24 P **P** **09 37 31.6 +0.3**
baz=248,SNR=5.3
H27K **Steamboat Moun** 85.87 22 P **P** **09 37 31.9 +0.6**
baz=246
L29M **L29M** 86.05 25 P **P** **09 37 33.0 +0.8**
baz=250,SNR=6.2
G27K **Doyon Strip** 86.06 21 P **P** **09 37 32.9 +0.8**
baz=246
SKAG **Skagway** 86.14 29 P **P** **09 37 33.5 +0.9**
baz=252
CRAG **Craig** 86.14 33 P **P** **09 37 33.3 +0.6**
baz=254
O30N **Mendenhall** 86.18 28 P **P** **09 37 33.7 +0.8**
baz=252
C26K **Camden Bay** 86.31 18 P **P** **09 37 34.5 +1.3**
baz=243
NRIK **Noril'sk** 86.39 341 P **P** **09 37 32.8 -0.9**
comp=Z,6.8nm,0.8s,baz=108,slow=5.3,SNR=8.0
comp=Z,6.8nm,0.8s
NRIK **Noril'sk** 86.39 341 IAmb IAmb 09 37 34.2
comp=Z,28nm,1.5s
M30M **Minto, Yukon** 86.45 26 IAmb IAmb 09 37 40.8
comp=Z,16nm,1.2s
M30M **Minto, Yukon** 86.45 26 P **P** **09 37 34.5 +0.4**
baz=251
J29M **Klondike Camp** 86.49 24 P **P** **09 37 35.2 +0.9**
baz=250
N31M **Braeburn, Yuko** 86.55 27 P **P** **09 37 35.6 +0.9**
baz=252
C27K **Jago River** 86.55 18 P **P** **09 37 35.6 +1.1**
baz=244
K29M **Barlow Dome** 86.56 25 P **P** **09 37 35.8 +1.0**
baz=250,SNR=9.6
E27K **Coleen River** 86.64 20 P **P** **09 37 35.9 +0.9**
baz=246
WHY **Whitehorse** 86.72 28 IAmb IAmb 09 40 23.6
comp=Z,49nm,1.8s
WHY **Whitehorse** 86.72 28 P **P** **09 37 36.2 +0.6**
baz=253,SNR=5.3
I29M **Ogilvie Camp,** 86.77 23 IAmb IAmb 09 37 37.4
comp=Z,49nm,1.9s
I29M **Ogilvie Camp,** 86.77 23 P **P** **09 37 35.9 +0.3**
baz=249
V35K **Ketchikan** 86.94 34 P **P** **09 37 37.1 +0.5**
baz=256
P32M **Atlin** 86.96 29 P **P** **09 37 36.8 0.0**
baz=254
MAYO **Mayo, Yukon** 87.17 25 P **P** **09 37 38.8 +1.2**
baz=252,SNR=7.7
OTUK **Ortayu** 87.19 319 P **P** **09 37 36.8 -1.2**
KBL **Kabul** 87.24 305 P **P** **09 37 37.4 -1.5**
KBL **Kabul** 87.24 305 P **P** **09 37 37.4 -1.5**
KBL pmax pmax
comp=Z,17nm,1.5s
M31M **Drury Creek, Y** 87.40 27 IAmb IAmb 09 37 54.8
comp=Z,12nm,1.0s
M31M **Drury Creek, Y** 87.40 27 P **P** **09 37 38.8 0.0**
baz=253
KK31 **Karatay Array** 87.49 314 P **P** **09 37 39.3 -0.3**
KK31 IAmb IAmb 09 37 41.2
comp=Z,36nm,1.4s
KK31 **Karatay Array** 87.49 314 P **P** **09 37 39.3 -0.3**
KK31 pmax pmax
comp=Z,36nm,1.4s
KKAR **Karatay Array** 87.49 314 P **P** **09 37 39.2 -0.4**
KKAR **Karatay Array** 87.49 314 IAmb IAmb 09 37 41.2
comp=Z,36nm,1.4s
KKAR **Karatay Array** 87.49 314 P **P** **09 37 39.2 -0.4**
P33M **Teslin, Yukon** 87.57 29 P **P** **09 37 40.5 +0.8**
baz=254
N32M **Quiet Lake** 87.70 28 P **P** **09 37 40.9 +0.6**
baz=254
CHGR **Chuyangaron** 87.78 309 IAmb IAmb 09 37 44.3
comp=Z,27nm,0.9s
S34M **Telegraph Cree** 87.83 31 P **P** **09 37 42.1 +1.3**
baz=256
FARO **Faro, Yukon** 87.87 27 IAmb IAmb 09 37 43.0
comp=Z,14nm,1.0s
FARO **Faro, Yukon** 87.87 27 P **P** **09 37 41.5 +0.4**
baz=254,SNR=6.1
T35M **Bob Quinn** 88.07 32 P **P** **09 37 43.3 +1.2**
baz=257
G30M **tAoh Zraii Nji** 88.12 22 P **P** **09 37 42.5 +0.4**
baz=251
BBB **Bella Bella** 88.27 37 LR LR 10 11 30.0
comp=Z,257nm,19.3s,baz=292,slow=32
DLBC **Dease Lake** 88.52 31 LR LR 10 11 14.8
comp=Z,783nm,20.7s,baz=279,slow=31
DLBC **Dease Lake** 88.52 31 P **P** **09 37 44.9 +0.7**
baz=257,SNR=6.1
KMPM **Mount Pierce** 89.03 49 IAmb IAmb 09 37 51.0
comp=Z,25nm,1.1s
F31M **Tsiigehtchic** 89.18 22 P **P** **09 37 47.7 +0.7**

baz=254
BVA0 **Borovoye Array** 89.30 323 P **P** 09 37 46.2 -1.7
KMRM **Mail Ridge** 89.31 50 lAmb lAmb 09 37 54.0
comp=Z,21nm,1.0s
KCPM **Cahto Peak** 89.33 50 lAmb lAmb 09 37 52.4
comp=Z,20nm,1.1s
BRVK **Borovoye** 89.37 323 P **P** 09 37 46.9 -1.3
BRVK lAmb lAmb 09 37 49.1
comp=Z,24nm,1.0s
BRVK **Borovoye** 89.37 323 P **P** 09 37 46.9 -1.3
BRVK pmax pmax
comp=Z,24nm,1.0s
KHMM **Horse Mountain** 89.38 49 lAmb lAmb 09 37 57.3
comp=Z,27nm,1.1s
WTLY **Watson Lake, Y** 89.50 29 lAmb lAmb 09 37 51.5
comp=Z,26nm,1.1s
WTLY **Watson Lake, Y** 89.50 29 P **P** 09 37 50.0 +1.2
baz=258,SNR=7.0
INK **Inuvik** 89.50 21 LR LR 10 18 22.5
comp=Z,184nm,18.3s,baz=270,slow=36
INK **Inuvik** 89.50 21 lAmb lAmb 09 37 50.6
comp=Z,23nm,1.3s
INK **Inuvik** 89.50 21 P **P** 09 37 48.9 +0.4
baz=254
DBO **Dodson Butte** 90.04 47 lAmb lAmb 09 37 54.5
comp=Z,31nm,1.1s
YBH **Yreka Blue Hor** 90.26 48 LR LR 10 10 46.5
comp=Z,410nm,21.8s,baz=283,slow=30
YBH **Yreka Blue Hor** 90.26 48 P **P** 09 37 54.4 +1.6
YBH **Yreka Blue Hor** 90.26 48 P **P** 09 37 54.4 +1.6
YBH pmax pmax
comp=Z,38nm,1.1s
LIRD **Liard River Hi** 90.71 30 P **P** 09 37 54.9 +0.5
baz=260,SNR=5.7
H04A **Detroit Lake** 91.00 45 P **P** 09 37 55.9 -0.2
AFDM **Forest Hills D** 91.26 51 lAmb lAmb 09 38 00.9
comp=Z,24nm,1.1s
D05A **Enumclaw** 91.43 43 P **P** 09 37 59.0 +1.1
CMB **Columbia Colle** 91.62 52 lAmb lAmb 09 38 01.9
comp=Z,18nm,1.2s
SMMC **Simmler** 91.66 55 P **P** 09 37 60.0 +0.6
baz=264
PKM **Mcpherson Peak** 91.77 55 P **P** 09 38 01.4 +1.3
baz=264
LLLB **Lillooet** 91.88 40 lAmb lAmb 09 38 02.3
comp=Z,22nm,1.0s
LTY **Liberty** 92.33 43 lAmb lAmb 09 38 04.0
comp=Z,15nm,0.9s
VES **Vestal, Richgr** 92.45 54 P **P** 09 38 02.5 -0.5
baz=265
WRGLY **Wrigley** 92.53 27 P **P** 09 38 02.9 +0.3
baz=263
YERR **Yerington** 92.60 51 lAmb lAmb 09 38 06.6
comp=Z,24nm,1.1s
MDPB **Devils Postpil** 92.61 53 lAmb lAmb 09 38 06.9
comp=Z,28nm,1.2s
ISA **Isabella, Lake** 92.93 55 lAmb lAmb 09 38 08.0
comp=Z,13nm,1.2s
ISA **Isabella, Lake** 92.93 55 P **P** 09 38 05.9 +0.6
baz=265
PASC **Pasadena Art C** 93.05 56 lAmb lAmb 09 38 08.2
comp=Z,24nm,1.1s
A36M **Sachs Harbour** 93.06 18 lAmb lAmb 09 38 06.2
comp=Z,15nm,0.8s
A36M **Sachs Harbour** 93.06 18 P **P** 09 38 05.3 +0.4
baz=262
C36M **Paulatuk** 93.08 21 lAmb lAmb 09 38 07.1
comp=Z,20nm,1.1s
C36M **Paulatuk** 93.08 21 P **P** 09 38 05.3 +0.3
baz=262
RYN **Ryan** 93.13 52 lAmb lAmb 09 38 09.1
comp=Z,20nm,1.0s
EDW2 **Edwards Air Fo** 93.26 55 P **P** 09 38 07.9 +1.1
baz=266,SNR=6.0
NVAR **Mina Array Sea** 93.29 52 P **P** 09 38 08.8 +1.7
comp=Z,14nm,0.9s,baz=255,slow=6.6,SNR=76
comp=Z,14nm,0.9s
CWC **Cottonwood Cre** 93.31 54 P **P** 09 38 08.8 +1.7
baz=266
B08A **Colville Reser** 93.32 42 lAmb lAmb 09 38 08.6
comp=Z,19nm,1.1s
BFSC **Mount Baldy Ra** 93.49 56 P **P** 09 38 09.4 +1.4
baz=266
KVN **Kaiserville** 93.49 51 lAmb lAmb 09 38 10.7
comp=Z,25nm,1.1s
D08A **Wollman Farm,** 93.50 43 lAmb lAmb 09 38 09.3
comp=Z,26nm,1.2s
LRMC **Laurel Mtn Rad** 93.56 55 P **P** 09 38 10.1 +1.8
baz=266,SNR=12
MPMC **Manual Prospec** 93.76 54 P **P** 09 38 11.3 +2.0
baz=266,SNR=15
MURC **Murrieta** 93.82 57 P **P** 09 38 09.9 +0.5
baz=266
109C **Camp Elliot, M** 93.85 57 P **P** 09 38 11.8 +2.3
baz=266
MZP **Montezuma Peak** 93.96 53 lAmb lAmb 09 38 13.0
comp=Z,19nm,1.1s
C09A **Chrisman Ranch** 93.99 43 lAmb lAmb 09 38 11.7
comp=Z,18nm,1.1s
QSM **Queen of Sheba** 94.25 54 lAmb lAmb 09 38 14.2
comp=Z,24nm,1.1s
GSC **Goldstone, Bar** 94.26 55 lAmb lAmb 09 38 14.6
comp=Z,18nm,1.1s
GSC **Goldstone, Bar** 94.26 55 P **P** 09 38 13.3 +1.8
baz=266,SNR=6.8
BMN **Battle Mountai** 94.27 50 lAmb lAmb 09 38 14.2
comp=Z,12nm,1.1s
FURC **Furnace Creek,** 94.29 54 P **P** 09 38 13.4 +2.1
baz=266,SNR=14
MONP2 **Monument Peak** 94.42 58 P **P** 09 38 14.0 +1.6
baz=266,SNR=7.6
GWY **Greenwater Val** 94.43 54 lAmb lAmb 09 38 16.8
comp=Z,17nm,1.2s
PFO **Pinyon Flats O** 94.44 57 LR LR 10 12 45.7
comp=Z,410nm,21.5s,baz=264,slow=30
PMD **Palm Desert** 94.51 57 lAmb lAmb 09 38 16.7
comp=Z,24nm,1.4s
HEC **Hector,Ludlow** 94.62 56 P **P** 09 38 14.6 +1.6
baz=266,SNR=5.6
IKP **In-Ko-Pah, Jac** 94.67 58 P **P** 09 38 15.3 +2.0
baz=266
SHOC **Shoshone, Teco** 94.73 55 P **P** 09 38 14.6 +1.1
baz=267,SNR=5.8
NEW **Newport** 94.79 42 LR LR 10 17 05.8
comp=Z,553nm,18.6s,baz=268,slow=33
NEW **Newport** 94.79 42 P **P** 09 38 14.4 +0.9
baz=267,SNR=17
TPNV **Topopah Spring** 94.81 53 lAmb lAmb 09 38 16.9
comp=Z,23nm,1.1s
TPNV **Topopah Spring** 94.81 53 P **P** 09 38 15.8 +1.7
baz=267,SNR=13
YUH **Yuha Desert** 94.83 58 lAmb lAmb 09 38 19.3
comp=Z,14nm,1.1s
SWSC **Sam W. Stewart** 94.95 57 P **P** 09 38 15.9 +1.4
baz=267
TUQ **Turquoise Moun** 94.99 55 P **P** 09 38 15.8 +0.9
baz=267,SNR=5.9
WSAR **Wadi Sarin** 95.14 293 LR LR 10 25 35.8
comp=Z,27nm,18.2s,baz=107,slow=38
GMRC **Granite Mounta** 95.17 56 P **P** 09 38 17.0 +1.4
baz=267,SNR=6.1
RPN **Rapa Nui** 95.27 118 LR LR 10 13 00.2
comp=Z,171nm,21.8s,baz=263,slow=30
SVE **Sverdlovsk** 95.30 326 *eP* **P** 09 38 13.5 -2.1
SVE pmax pmax
comp=Z,17nm,1.5s
SVE MLR MLR
comp=Z,779nm,18.0s
PLID **Pearl Lake** 95.41 45 lAmb lAmb 09 38 18.1
comp=Z,15nm,1.1s
R11A **Troy Canyon, C** 95.42 52 lAmb lAmb 09 38 19.7
comp=Z,17nm,1.2s
R11A **Troy Canyon, C** 95.42 52 P **P** 09 38 18.2 +1.4
baz=267,SNR=18
AB31 **Akbulak array** 95.44 319 P **P** 09 38 13.7 -2.7
ABKAR **Akbulak array** 95.44 319 P **P** 09 38 14.1 -2.3
MFID **Camas Ranch** 95.46 47 lAmb lAmb 09 38 19.3
comp=Z,27nm,1.5s
IRM **Iron Mountain** 95.56 56 P **P** 09 38 19.5 +2.1
baz=267,SNR=7.6
SHPR **Sheep Range** 95.66 54 lAmb lAmb 09 38 21.3
comp=Z,16nm,1.4s
ELK **Elko** 95.79 50 LR LR 10 15 50.0
comp=Z,481nm,20.1s,baz=270,slow=32
ELK **Elko** 95.79 50 lAmb lAmb 09 38 22.4
comp=Z,15nm,1.3s
PRN **Pahroc Range** 95.79 53 lAmb lAmb 09 38 21.7
comp=Z,22nm,1.1s

V12A **Nelson** 95.88 55 lAmb lAmb 09 38 22.2
comp=Z,23nm,1.3s
GEYT **Alibeck** 96.35 307 LR LR 10 24 26.2
comp=Z,288nm,20.1s,baz=95,slow=37
PDMCI **Parker Dam,Lak** 96.40 56 P **P** 09 38 23.1 +2.1
baz=268
ARU **Arti** 96.44 326 P **P** 09 38 18.4 -2.3
ARU lAmb lAmb 09 38 21.1
comp=Z,20nm,1.3s
ARU **Arti** 96.44 326 *c iP* **P** 09 38 19.6 -1.1
ARU *PP **pP** 09 38 37.2 -1.1
ARU 09 42 14.4
ARU S **SKSac** 09 48 50.7 -1.4
ARU SS **SS** 09 56 10.0 -0.5
ARU pmax pmax
comp=Z,16nm,1.2s
HLID **Hailey** 96.50 47 lAmb lAmb 09 38 24.5
comp=Z,7.1nm,0.8s
HLID **Hailey** 96.50 47 P **P** 09 38 23.0 +1.4
baz=268,SNR=13
YKA **Yellowknife Ar** 96.54 28 P **P** 09 38 21.7 +0.7
comp=Z,2.7nm,0.8s,baz=269,slow=4.8,SNR=38
YKA PKiKP **PKiKP** 09 42 58.5 +0.4
comp=Z,0.4nm,0.7s,baz=277,slow=1.5,SNR=5.0
YKA PKKPbc **PKKPbc** 09 55 02.4 -5.3
comp=Z,0.4nm,1.0s,baz=77,slow=2.5,SNR=4.4
comp=Z,2.7nm,0.8s
W13A **Hualapai Mount** 96.64 55 lAmb lAmb 09 38 25.9
comp=Z,14nm,1.2s
AKTO **Aktyubinsk** 96.72 320 LR LR 10 22 57.6
comp=Z,416nm,19.1s,baz=50,slow=36
MSO **Missoula** 96.90 44 lAmb lAmb 09 39 40.1
comp=Z,27nm,2.0s
MSO **Missoula** 96.90 44 P **P** 09 38 24.4 +1.2
baz=269
CCUT **Cedar City** 97.14 53 lAmb lAmb 09 38 28.1
comp=Z,10.0nm,1.0s
LCMT **Little Creek M** 97.22 54 lAmb lAmb 09 38 28.2
comp=Z,12nm,1.1s
SZCU **Shurtz Canyon** 97.36 53 lAmb lAmb 09 38 28.9
comp=Z,12nm,1.1s
DUG **Dugway, Tooele** 97.62 50 P Pdif 09 38 27.3 +0.5
baz=269
SPUT **South Promonto** 97.91 49 lAmb lAmb 09 38 30.2
comp=Z,10nm,1.1s
U15A **North Rim** 97.97 54 lAmb lAmb 09 38 32.1
comp=Z,9.3nm,1.2s
MTPU **Mount Pierson** 98.08 52 lAmb lAmb 09 38 32.9
comp=Z,15nm,1.2s
NLU **North Lily Min** 98.19 51 lAmb lAmb 09 38 31.7
comp=Z,8.2nm,1.1s
BOZ **Bozeman (W)** 98.50 45 lAmb lAmb 09 38 32.7
comp=Z,8.1nm,1.0s
BOZ **Bozeman (W)** 98.50 45 P Pdif 09 38 31.6 +1.0
baz=271,SNR=8.8
JLU **Joansile** 98.67 50 lAmb lAmb 09 38 33.7
comp=Z,8.7nm,1.1s
WUAZ **Wupatki** 98.70 55 lAmb lAmb 09 38 35.4
comp=Z,11nm,1.2s
WUAZ **Wupatki** 98.70 55 P Pdif 09 38 34.0 +2.3
baz=269
TMUT **Trail Mountain** 98.86 51 lAmb lAmb 09 38 35.7
comp=Z,11nm,0.9s
Q16A **Castle Valley** 98.88 52 lAmb lAmb 09 38 34.9
comp=Z,8.5nm,1.2s
AHID **Auburn Hatcher** 98.92 48 lAmb lAmb 09 38 35.5
comp=Z,12nm,1.1s
FXWY **Fox Creek** 98.96 47 lAmb lAmb 09 38 35.0
comp=Z,6.3nm,0.9s
YMR **Madison River** 98.98 46 lAmb lAmb 09 38 35.7
comp=Z,12nm,1.0s
REDW **Red Top Meadow** 99.09 47 lAmb lAmb 09 38 35.5
comp=Z,12nm,1.3s
FLWY **Flagg Ranch** 99.19 46 lAmb lAmb 09 38 38.2
comp=Z,20nm,1.3s
YNR **Norris Junctio** 99.19 46 lAmb lAmb 09 38 37.8
comp=Z,11nm,1.1s
P17A **Butcher Ranch,** 99.22 51 lAmb lAmb 09 38 36.9
comp=Z,6.7nm,1.0s
H17A **Grant Village** 99.27 46 lAmb lAmb 09 38 39.1
comp=Z,12nm,1.0s
H17A **Grant Village** 99.27 46 P **Pdif** 09 38 36.2 +2.1
baz=271,SNR=11
LPIG **La Paz** 99.38 67 LR LR 10 16 29.3
comp=Z,303nm,20.2s,baz=218,slow=31
LKWY **Lake** 99.39 46 lAmb lAmb 09 38 38.3
comp=Z,10nm,1.1s
EGMT **Eagleton** 99.72 42 P **Pdif** 09 38 36.6 +0.8
baz=272
BW06 **Boulder Array** 100.05 48 P **Pdif** 09 38 38.2 +0.5
baz=272
PDAR **Pinedale Array** 100.05 48 P **Pdif** 09 38 38.0 +0.3
comp=Z,8.1nm,0.9s,baz=244,slow=2.4,SNR=50
PDAR PP **PP** 09 42 40.3 -3.3
comp=Z,0.7nm,0.9s,baz=279,slow=6.3,SNR=3.9
RLMT **Red Lodge** 100.18 45 P **Pdif** 09 38 39.2 +1.1
baz=272
MVCO **Mesa Verde** 101.01 53 P **Pdif** 09 38 43.0 +1.0
baz=271
O20A **White River Ci** 101.13 50 P **Pdif** 09 38 42.5 0.0
baz=272
121A **Cookes Peak, D** 101.69 58 P **Pdif** 09 38 44.7 -0.4
baz=271
LAO **LASA Array** 102.20 44 P **Pdif** 09 38 47.5 +0.7
baz=275
LAO **LASA Array** 102.20 44 P **Pdif** 09 38 46.6 -0.3
baz=275
K22A **Casper** 102.29 48 P **Pdif** 09 38 48.0 +0.5
baz=274
K22A **Casper** 102.29 48 P **Pdif** 09 38 47.1 -0.4
baz=274
S22A **4UR Ranch, Cre** 102.32 53 P **Pdif** 09 38 49.5 +1.5
baz=272
N23A **Red Feather La** 102.84 49 P **Pdif** 09 38 51.5 +1.4
baz=274
ISCO **Idaho Springs** 103.16 51 P **Pdif** 09 38 52.3 +0.7
baz=274
ISCO **Idaho Springs** 103.16 51 P **Pdif** 09 38 51.2 -0.4
baz=274
SDCO **Great Sand Dun** 103.38 53 P **Pdif** 09 38 53.0 +0.4
baz=273
SDCO **Great Sand Dun** 103.38 53 P **Pdif** 09 38 52.6 +0.1
baz=273
DGMT **Dagmar** 103.39 42 P **Pdif** 09 38 53.6 +1.5
baz=277
DGMT **Dagmar** 103.39 42 P **Pdif** 09 38 52.5 +0.4
baz=277
Q24A **Divide** 103.58 51 P **Pdif** 09 38 53.6 +0.2
baz=274
RSSD **Black Hills** 103.97 46 P **Pdif** 09 38 55.4 +0.4
baz=276
RSSD **Black Hills** 103.97 46 P **Pdif** 09 38 55.5 +0.5
baz=276
TXAR **Lajitas Array** 105.31 61 PKiKP **PKiKP** 09 43 16.1 +1.0
comp=Z,0.3nm,0.9s,baz=272,slow=2.6,SNR=2.2
OGNE **Ogallala** 105.79 49 P **PKiKP** 09 43 15.5 0.0
baz=276
ULM **Lac du Bonnet** 108.42 39 Pdiff **Pdif** 09 39 14.1 -0.2
comp=Z,1.4nm,0.5s,baz=248,slow=4.0,SNR=5.1
ULM PKiKP **PKiKP** 09 43 20.2 +0.2
comp=Z,1.7nm,0.5s,baz=304,slow=3.6,SNR=3.4
R32A **Long Quarter,** 108.64 51 P **PKiKP** 09 43 20.6 -0.2
baz=278
WMOK **Wichita Mounta** 109.05 55 P **PKiKP** 09 43 21.1 -0.6
baz=277
ECSD **EROS Data Cent** 109.33 46 P **PKiKP** 09 43 22.3 +0.3
baz=281
ECSD **EROS Data Cent** 109.33 46 P **PKiKP** 09 43 22.0 0.0
baz=281
FINES **FINESS Array B** 111.37 335 PKiKP **PKiKP** 09 43 25.0 -0.2
comp=Z,2.0nm,0.8s,baz=50,slow=2.8,SNR=7.5
FINES **FINESS Array B** 111.37 335 *i* PKiKP **PKiKP** 09 43 25.0 -0.2
EYMN **Ely** 111.80 40 P **PKiKP** 09 43 26.1 -0.4
baz=287
X37A **Clayton** 111.85 55 P **PKiKP** 09 43 27.7 +0.8
baz=279
U38A **Gravette** 112.35 53 P **PKiKP** 09 43 27.9 0.0
baz=280
P38A **Dawn** 112.41 49 P **PKiKP** 09 43 28.3 +0.4
baz=282
S39A **Bolivar** 112.96 51 P **PKiKP** 09 43 29.3 +0.3
baz=281
MNK **Minsk** 113.76 328 *i* P **Pdif** 09 39 40.2 +2.2
comp=E,2.0nm,0.9s
MNK *i* P **Pdif** 09 39 40.2 +2.2
comp=N,28nm,0.8s
MNK *i* P **Pdif** 09 39 40.2 +2.2
comp=Z,9.0nm,0.8s,baz=244

MNK *i* PP **PP** 09 44 20.2 -3.0
MNK *i* PPP PPP 09 46 44.4
MNK *i* SKS **SKSdf** 09 50 33.3 -3.5
MNK *i* PS **PS** 09 53 57.8 -3.1
MNK *i* SS **SS** 10 00 05.7 -1.1
MNK *i* SSS SSS 10 04 19.7
MNK *i* LR LR 10 27 29.2
MNK *i* LRM MLR 10 31 50.8
comp=E,58nm,21.1s
MNK *i* LRM MLR 10 32 04.0
comp=N,407nm,21.1s
MNK *i* LRM MLR 10 32 12.3
comp=Z,399nm,20.4s
MNK **Minsk** 113.76 328 *i* P **Pdif** 09 39 40.2 +2.2
MNK *i* 09 44 20.1
MNK *i* PPP PPP 09 46 44.3
MNK *i* 09 50 33.3
MNK *i* PS **PS** 09 53 57.8 -3.1
MNK *i* SS SS 10 00 05.6 -1.2
MNK *i* SSS SSS 10 04 19.7
MNK pmax pmax
comp=N,28nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,58nm,21.0s
MNK MLR MLR
comp=N,407nm,21.0s
MNK MLR MLR
comp=Z,399nm,20.0s
NACGM **Naroch** 114.16 329 *e*PKP PKPdf 09 43 27.4 -3.4
comp=Z,12nm,1.2s,baz=62
CCM **Cathedral Cave** 114.49 51 P PKPdf 09 43 31.2 -0.7
baz=283
AKASG **Malin Array Be** 114.58 324 PKP **PKiKP** 09 43 30.9 -0.7
comp=Z,2.5nm,0.6s,baz=60,slow=2.3,SNR=13
AKASG PP **PP** 09 44 28.7 -0.4
comp=Z,0.2nm,0.3s,baz=59,slow=6.2,SNR=4.2
AKBB **Malin Array Si** 114.58 324 *i* PKiKP **PKiKP** 09 43 31.5 -0.2
BR131 **Keskin Array S** 115.12 311 *i* PKiKP **PKiKP** 09 43 33.0 -0.3
BRTR **Keskin Array B** 115.12 311 PKP **PKiKP** 09 43 33.1 -0.1
comp=Z,2.8nm,0.8s,baz=74,slow=1.3,SNR=10.0
ANTO **Ankara** 115.72 312 ⇑P **PKPdf** 09 43 34.3 0.0
ANTO **Ankara** 115.72 312 ⇑PKiKP **PKPdf** 09 43 34.3 0.0
SORM **Soroca** 116.09 322 ⇓P **PKPdf** 09 43 33.8 -0.9
SORM **Soroca** 116.09 322 ⇓PKiKP **PKPdf** 09 43 33.8 -0.9
MILM **Milestii Mici** 116.26 320 ⇑P **PKPdf** 09 43 33.6 -1.4
MILM **Milestii Mici** 116.26 320 ⇑PKiKP **PKPdf** 09 43 33.6 -1.4
OXF **Oxford** 116.70 54 P **PKPdf** 09 43 35.6 -0.7
baz=282
SFIN **Lafayette** 117.02 47 P **PKPdf** 09 43 36.4 -0.3
baz=287
TATR **Tatarca** 117.24 319 ⇑P PKiKP 09 43 48.5 +12
SCTR **Scanteiesti** 117.25 319 ⇓P **PKiKP** 09 43 37.9 +0.9
GLMI **Grayling** 117.31 42 P **PKPdf** 09 43 37.0 -0.1
baz=291
NOA **NORSAR Array B** 117.32 340 PKP **PKPdf** 09 43 36.1 -0.6
comp=Z,1.8nm,0.8s,baz=45,slow=1.8,SNR=6.2
HARR **Harsova** 117.65 318 ⇓P **PKPdf** 09 43 36.0 -1.8
HARR **Harsova** 117.65 318 ⇓PKiKP **PKPdf** 09 43 36.0 -1.8
BIZ **Bicaz** 117.96 321 ⇑P **PKiKP** 09 43 42.0 +3.6
VRI **Vrincioaia** 117.99 320 ⇑P **PKPdf** 09 43 38.1 -0.4
VRI **Vrincioaia** 117.99 320 ⇑PKiKP **PKPdf** 09 43 38.1 -0.4
GRER 118.02 319 ⇓P PKiKP 09 43 46.8 +8.3
WCI **Wyandotte Cave** 118.23 49 P **PKPdf** 09 43 38.9 -0.2
baz=286
BURAR **Bucovina Array** 118.23 322 ⇓P **PKiKP** 09 43 40.3 +1.3
BURAR **Bucovina Array** 118.23 322 ⇓PKiKP **PKiKP** 09 43 40.3 +1.3
BOSA **Boshof** 118.42 233 PKP **PKPdf** 09 43 39.8 -0.2
comp=Z,1.7nm,0.6s,baz=169,slow=5.2,SNR=1.5
NEHR **Nehoiu** 118.44 319 ⇑P **PKPdf** 09 43 39.2 -0.2
O48B **Farmland** 118.47 47 P **PKPdf** 09 43 39.5 0.0
baz=288
MLR **Muntele Rosu** 118.64 320 ⇑P **PKPdf** 09 43 39.4 -0.5
MLR **Muntele Rosu** 118.64 320 ⇑PKiKP **PKPdf** 09 43 39.4 -0.5
DOPR **Dopca** 118.81 320 ⇓P **PKPdf** 09 43 39.2 -0.8
LRAL **Lakeview Retre** 118.99 55 P **PKPdf** 09 43 40.6 -0.1
baz=283
VOIR 119.24 320 ⇓P **PKPdf** 09 43 39.9 -1.1
VOIR 119.24 320 ⇓PKiKP **PKPdf** 09 43 39.9 -1.1
BRAL **Brewton** 119.35 57 P **PKPdf** 09 43 41.2 -0.3
baz=282
SZH **Strazhica** 119.51 317 *e*P **PKiKP** 09 43 41.6 +0.1
ARR **Arges** 119.54 320 ⇑P **PKiKP** 09 43 42.6 +1.0
TRPA **Tarpa** 119.62 323 ⇓P **PKiKP** 09 43 41.9 +0.4
HUMR **Humele** 119.66 319 ⇑ **PKPdf** 09 43 41.6 -0.1
PLCA **Paso Flores** 119.71 144 PKP **PKiKP** 09 43 42.6 +0.5
comp=Z,1.8nm,0.8s,baz=196,slow=2.0,SNR=5.9
PLCA PKKPbc **PKKPbc** 09 53 52.2 -1.5
comp=Z,1.4nm,0.8s,baz=84,slow=6.3,SNR=3.6
STHS **Stebnicka Huta** 119.76 325 *e*PKiKP **PKiKP** 09 43 43.0 +1.2
STHS **Stebnicka Huta** 119.76 325 *e*PKP **PKiKP** 09 43 43.0 +1.2
CRVS **Cervenica-Dubn** 119.89 325 *e*PKiKP **PKiKP** 09 43 42.2 +0.1
CRVS **Cervenica-Dubn** 119.89 325 *e*PKP **PKiKP** 09 43 42.2 +0.1
MARR **Marisel-Cluj** 119.93 322 ⇓P **PKiKP** 09 43 42.4 +0.1
ACSO **Alum Creek Sta** 120.05 46 P **PKPdf** 09 43 41.7 -0.9
baz=290
PLVB **Pleven** 120.35 318 ⇑P **PKiKP** 09 43 43.6 +0.5
DEV **Deva** 120.42 321 ⇑P **PKiKP** 09 43 43.4 +0.2
DEV **Deva** 120.42 321 ⇑PKiKP **PKiKP** 09 43 43.4 +0.2
KDZ **Kurdzhali** 120.47 316 *e*P **PKPdf** 09 43 43.0 -0.4
RDO **Rodhopi** 120.57 315 PKPdf **PKPdf** 09 43 43.3 -0.2
GZR **Gura Zlata** 120.71 320 ⇑P **PKPdf** 09 43 42.7 -1.1
GZR **Gura Zlata** 120.71 320 ⇑PKiKP **PKPdf** 09 43 42.7 -1.1
TZTN **Tazewell** 120.81 51 P **PKPdf** 09 43 44.0 -0.2
baz=288
P52A **Corning** 120.87 47 P **PKPdf** 09 43 43.9 -0.2
baz=290
LANS **Liptovska Anna** 120.90 326 *e*PKiKP **PKiKP** 09 43 45.6 +1.5
LANS **Liptovska Anna** 120.90 326 *e*PKP **PKiKP** 09 43 45.6 +1.5
SURR **Surduc** 120.96 321 ⇓P **PKPdf** 09 43 44.1 0.0
SIRR **Siria** 121.02 322 ⇓P **PKPdf** 09 43 44.3 0.0
HERR **Herculane** 121.17 320 ⇓P **PKPdf** 09 43 44.2 -0.4
M53A **WI Miller and** 121.25 44 P **PKPdf** 09 43 44.4 -0.4
baz=292
O53A **New Philadelph** 121.31 46 P **PKPdf** 09 43 44.3 -0.7
baz=291
BZS **Buzias** 121.34 321 ⇑P **PKPdf** 09 43 44.6 -0.3
BZS **Buzias** 121.34 321 ⇑PKiKP **PKPdf** 09 43 44.6 -0.3
ERPA **Erie** 121.45 43 P **PKPdf** 09 43 44.3 -1.0
baz=294
VTS **Vitosha** 121.59 317 PKPdf **PKiKP** 09 43 46.2 +0.4
VTS **Vitosha** 121.59 317 PKiKP **PKiKP** 09 43 46.2 +0.4
VTS **Vitosha** 121.59 317 *e*P PKiKP 09 43 54.7 +8.9
VYHS **Vyhne** 121.59 325 *e*PKiKP **PKPdf** 09 43 45.1 -0.2
VYHS **Vyhne** 121.59 325 *e*PKP **PKPdf** 09 43 45.1 -0.2
MORC **Moravsky Berou** 121.62 327 ⇑P **PKiKP** 09 43 46.1 +0.6
MORC **Moravsky Berou** 121.62 327 *e*PKP **PKiKP** 09 43 45.8 +0.3
MORC **Moravsky Berou** 121.62 327 ⇑PKiKP **PKiKP** 09 43 46.1 +0.6
MDVR **Moldovita** 121.66 320 ⇑P **PKPdf** 09 43 45.3 -0.3
MMB **Musomiste** 121.67 316 *e*P **PKPdf** 09 43 45.2 -0.5
MAUC **Maruska** 121.69 326 *e*PKPDF **PKiKP** 09 43 46.6 +0.9
KRLC **Kraliky** 121.87 328 *e*PKPDF **PKiKP** 09 43 46.8 +0.8
KRLC **Kraliky** 121.87 328 *e*PKiKP **PKiKP** 09 43 46.8 +0.8
OSTC **Ostas** 121.89 328 *e*PKPDF **PKiKP** 09 43 46.9 +0.9
DPC **Dobruska-Polom** 121.96 328 *e*PKPDF **PKiKP** 09 43 46.9 +0.8
DPC **Dobruska-Polom** 121.96 328 *e*PKiKP **PKiKP** 09 43 46.9 +0.8
JAVC **Velka Javorina** 122.06 326 *e*PKP **PKiKP** 09 43 47.5 +1.1
TIGA **Tifton** 122.17 56 P **PKPdf** 09 43 46.1 -0.8
baz=284
BOVS **Bovan** 122.17 319 ⇑P **PKPdf** 09 43 46.1 -0.5
SRO **Srobarova** 122.25 325 *e*PKiKP **PKiKP** 09 43 47.1 +0.4
SRO **Srobarova** 122.25 325 *e*PKP **PKiKP** 09 43 47.1 +0.4
VRAC **Vranov** 122.40 327 ⇓P **PKiKP** 09 43 47.7 +0.7
VRAC **Vranov** 122.40 327 *e*PKP **PKiKP** 09 43 47.0 0.0
VRAC **Vranov** 122.40 327 ⇓PKiKP **PKiKP** 09 43 47.7 +0.7
MCWV **Mont Chateau** 122.51 46 P **PKPdf** 09 43 47.2 -0.1
baz=292
MODS **Modra-Piesok** 122.54 326 *e*PKiKP **PKiKP** 09 43 47.9 +0.6
MODS **Modra-Piesok** 122.54 326 *e*PKP **PKiKP** 09 43 47.9 +0.6
KRUC **Moravsky** 122.65 327 *e*PKP **PKiKP** 09 43 47.6 +0.1
FRGS **Fruska Gora** 122.68 321 ⇑P **PKiKP** 09 43 47.8 +0.1
BRG **Berggiesshubel** 122.87 330 *i* PKP **PKiKP** 09 43 48.5 +0.6
BRG Amp 09 43 49.2
comp=Z,15nm,1.0s
BRG **Berggiesshubel** 122.87 330 *i* PKiKP **PKiKP** 09 43 48.4 +0.6
BRG pmax pmax
comp=Z,15nm,1.0s
BRG MLR MLR
comp=Z,462nm,24.8s
MORH **Mrgy, Hungar** 122.87 323 ⇑P **PKPdf** 09 43 47.8 0.0

KMSC	**Kings Mountain** baz=288	122.95	51	P		PKPdf	09 43 47.8	-0.5
BLA	**Blacksburg** baz=290	122.97	49	P		PKPdf	09 43 47.7	-0.6
GOPC	**GO Pecny, Ondr**	123.01	328	*e*PKPDF		PKiKP	09 43 48.9	+0.7
GOPC	**GO Pecny, Ondr**	123.01	328	*e*PKIKP		PKiKP	09 43 48.9	+0.7
IDI	**Anoyia**	123.05	309	⇓P		PKPdf	09 43 47.5	-1.0
CLL	**Collm**	123.07	330	PKPdf		PKiKP	09 43 48.3	0.0
CLL	**Collm** comp=Z,11nm,0.8s	123.07	330	*i* PKPdf		PKPdf	09 43 47.6	-0.4
CLL					*e*PP	PP	09 45 36.0	+8.5
CLL					*e*(SKPdf)		09 47 17.0	
CLL					*e*pSKPdf		09 47 31.0	
CLL					*e*PPP	PPP	09 48 18.0	
CLL					*e*SKKSac	SKKSac	09 52 18.0	-3.5
CLL					*e*PS	**PS**	**09 55 24.0**	**-0.8**
CLL					*e*PPS	PPS	09 56 48.0	
CLL					*ex*	x	09 57 54.0	
CLL					*e*SS	SS	10 02 36.0	+29
CLL					*e*SSS	SSS	10 06 30.0	
CLL					*e*SSSS		10 10 12.0	
CLL	comp=N,300nm,20.2s				Lm	MLR	10 39 00.0	
CLL	comp=E,200nm,21.0s				Lm	MLR	10 39 00.0	
CLL	comp=Z,300nm,20.1s				Lm	MLR	10 39 00.0	
CLL	**Collm**	**123.07**	**330**	*i* PKIKP		**PKPdf**	**09 43 47.6**	**-0.4**
CLL	comp=Z,11nm,0.8s				pmax	pmax		
CLL	comp=Z,300nm,20.1s				MLR	MLR		
PRU	**Pruhonice**	123.10	329	*e*PKPDF		PKiKP	09 43 48.4	+0.1
PRU	**Pruhonice**	123.10	329	*e*PKIKP		PKiKP	09 43 48.4	+0.1
BO02	**Sierra Bellavi**	123.21	139			PKiKP	09 43 49.5	+0.3
MT01	**Popeta**	123.44	137			PKiKP	09 43 50.6	+1.0
RONA	**Rosalia, Austr** comp=Z,11nm,1.0s	123.46	325	*i* PKiKP		PKPdf	09 43 49.0	0.0
SSPA	**Standing Stone** baz=294	123.50	44	P		PKPdf	09 43 48.8	-0.3
CONA	**Conrad Observa** comp=Z,6.7nm,0.7s	123.57	326	*i* PKiKP		PKiKP	09 43 49.4	0.0
LONY	**Lake Ozonia** baz=300	123.87	39	P		PKPdf	09 43 49.0	-0.8
CKRC	**Cesky Krumlov** comp=Z,600nm,19.0s	123.91	327	*e*PKPDF		PKiKP	09 43 50.4	+0.4
CKRC					AMS	AMS	10 37 30.0	
NKC	**Novy Kostel**	124.02	330	*e*PKPDF		PKiKP	09 43 50.6	+0.4
NKC	**Novy Kostel**	124.02	330	*e*PKIKP		PKiKP	09 43 50.6	+0.4
BINY	**Binghamton** baz=297	124.11	42	P		PKPdf	09 43 49.8	-0.6
KHC	**Kasperske Hory**	124.11	328		PKPdf	PKiKP	09 43 50.5	+0.1
KHC	**Kasperske Hory** comp=Z,600nm,18.0s	124.11	328	*e*PKPDF		PKiKP	09 43 50.7	+0.3
KHC					AMS	AMS	10 38 00.0	
KHC	**Kasperske Hory** comp=Z,600nm,18.0s	124.11	328	*e*PKIKP		PKiKP	09 43 50.7	+0.3
KHC					MLR	MLR		
ARSA	**Arzberg** comp=Z,5.7nm,1.1s	124.14	325	*i* PKiKP		PKPdf	09 43 49.9	-0.4
GERES	**GERESS Array B** comp=Z,6.6nm,0.7s,baz=76,slow=1.9,SNR=56	124.22	328	PKP		PKiKP	09 43 50.8	+0.1
NHSC	**New Hope** baz=288	124.49	53	P		PKPdf	09 43 49.6	-1.7
MOA	**Molln** comp=Z,4.8nm,0.9s	124.50	327	*i* PKiKP		PKiKP	09 43 51.4	+0.2
SOKA	**Soboth** comp=Z,11nm,1.0s	124.74	325	*i* PKiKP		PKPdf	09 43 51.3	-0.2
DWPF	**Disney Wildern** baz=284	124.80	60	P		PKPdf	09 43 50.3	-1.7
BIOA	**Bad Ischl, Aus** comp=Z,9.4nm,1.2s	124.94	327	*i* PKP		PKPdf	09 43 50.9	-0.8
GRF	**Grafenberg Arr** comp=Z,15nm,0.9s,baz=50,slow=1.0	124.97	330	*e*PKP		PKiKP	09 43 52.1	0.0
OBKA	**Obir** comp=Z,6.4nm,1.1s	125.11	325	*i* PKP		PKPdf	09 43 51.2	-1.0
BOJS	**Bojanci**	125.26	324	*i* PKPdf		PKiKP	09 43 53.0	+0.3
VISS	**Visnje**	125.34	324	*i* PKPdf		PKiKP	09 43 53.0	+0.1
KBA	**Koelnbreinsper** comp=Z,13nm,1.1s	125.46	326	*e*PKiKP		PKPdf	09 43 52.9	0.0
GBAS	**Gorenja Brezov**	125.50	325	*i* PKPdf		PKiKP	09 43 53.1	-0.1
MYKA	**Terra Mystica** comp=Z,3.5nm,0.6s	125.56	326	*i* PKP		PKPdf	09 43 52.5	-0.6
LBNH	**Lisbon** baz=302	125.69	38	P		PKPdf	09 43 51.7	-1.6
PAL	**Palisades** baz=298	126.05	42	P		PKPdf	09 43 53.1	-0.9
ABTA	**Abfaltersbach** comp=Z,23nm,1.2s	126.12	326	*i* PKP		PKPdf	09 43 53.5	-0.6
WATA	**Walderalm** comp=Z,14nm,1.0s	126.27	327	*i* PKiKP		PKPdf	09 43 54.4	0.0
WTTA	**Wattenberg** comp=Z,28nm,1.1s,SNR=7.2	126.28	327	*i* PKiKP		PKPdf	09 43 54.7	+0.1
MOTA	**Moosalm** comp=Z,22nm,1.0s,SNR=5.8	126.52	328	*i* PKiKP		PKPdf	09 43 54.6	-0.4
SQTA	**Sankt Quirin** comp=Z,18nm,1.0s,SNR=5.1	126.54	327	*e*PKiKP		PKPdf	09 43 55.0	+0.1
LCO	**Las Campanas**	126.55	132			PKiKP	09 43 57.2	+1.0
LCO	**Las Campanas**	126.55	132	PKiKP		PKiKP	09 43 57.2	+1.0
RETA	**Reutte** comp=Z,5.8nm,0.9s	126.61	328	*i* PKiKP		PKPdf	09 43 54.8	-0.3
PKME	**Peaks-Kenny Pk** baz=305	126.69	35	P		PKPdf	09 43 54.3	-0.8
BTNL	**Ternell**	126.78	333	*d*PKP		PKiKP	09 43 56.0	+0.3
MEM	**Membach**	126.82	333	*d*PKP		PKiKP	09 43 56.1	+0.4
HRV	**Adam Dziewonsk** baz=301	126.83	39	P		PKiKP	09 43 56.1	+0.1
FETA	**Feichten** comp=Z,20nm,1.1s	126.92	328	*i* PKiKP		PKiKP	09 43 56.0	-0.2
BSTI	**Sart Tilman**	127.03	334	*d*PKP		PKiKP	09 43 55.9	-0.2
DAVA	**Damuels** comp=Z,15nm,0.9s	127.20	328	*i* PKiKP		PKPdf	09 43 56.0	-0.2
MCRA	**Macar, Loja**	127.31	100			PKiKP	09 43 58.0	+0.1
FUORN	**Ofenpass-Fuorn**	127.42	327		PKPdf	PKiKP	09 43 58.1	+0.7
TIP	**Timpagrande**	127.50	316		PKPdf	PKiKP	09 43 58.0	+0.4
BMRD	**Maredsous**	127.59	334	*d*PKP		PKiKP	09 43 57.4	+0.2
DOU	**Dourbes**	127.81	334	*d*PKP		PKPdf	09 43 56.8	-0.3
MNMC	**Minye Minye**	132.35	122			PKPdf	09 44 07.0	0.0
ROSC	**El Rosal** comp=Z,10nm,0.6s,baz=179,slow=18,SNR=4.4	134.00	89	PKP		PKiKP	09 44 11.8	+0.1
KEST	**Kesra** comp=Z,14nm,0.9s,baz=274,slow=5.6,SNR=7.5	134.33	316	PKP		PKPdf	09 44 10.4	+0.4
LPAZ	**La Paz** comp=Z,3.7nm,0.8s,baz=15,slow=2.1,SNR=12	134.86	119	PKP		PKiKP	09 44 13.0	-0.7
RUSC	**La Rusia**	135.28	87	PKPdf		PKPdf	09 44 13.2	+0.3
CPUP	**Villa Florida** comp=Z,3.4nm,0.7s,baz=214,slow=4.7,SNR=7.9	137.49	140	PKP		PKPdf	09 44 16.8	+0.7
SDV	**Santo Domingo**	137.72	83	PKPdf		PKPdf	09 44 16.3	-0.8
ESDC	**Sonseca Array** comp=Z,1.6nm,0.9s,baz=0.8,slow=2.2,SNR=3.5	139.66	331	PKP		PKPdf	09 44 20.5	+0.8
ESDC					PP	PP	09 47 12.6	-2.0
PGAV	**Gavieira, Arco**	139.68	337	*e*PKP		PKPdf	09 44 17.7	-2.1
MVO	**Moncorvo**	139.85	335	*e*PKP		PKiKP	09 44 21.7	-0.8
BAUV	**El Baul**	140.28	83	PKPdf		PKPdf	09 44 21.9	+0.4
MTE	**Manteigas**	140.70	335	*e*PKP		PKiKP	09 44 23.1	-1.2
PCBR	**Castelo Branco**	141.14	334	*e*PKP		PKPdf	09 44 20.8	-1.5
PESTR	**Estremoz**	141.99	334	*e*PKP		PKPdf	09 44 22.4	-1.5
PBAR	**Barrancos**	142.31	332	*e*PKP		PKiKP	09 44 27.4	-0.1
PBEJ	**Beja**	142.81	333	*e*PKP		PKPdf	09 44 26.6	+1.2
PTLB	**Pontes e Lacer**	142.86	125	PKPdf		PKPdf	09 44 23.8	-2.2
PCVE	**Castro Verde**	143.21	333	*e*PKP		PKPdf	09 44 26.9	+0.8
PVAQ	**Vaqueiros**	143.25	332	*e*PKP		PKPbc	09 44 24.7	+1.4
SMRT	**St. Maarten**	143.70	67	*e*		PKPab	09 44 16.7	-7.6
MORF	**Marmelete**	143.75	333	*e*PKP		PKPdf	09 44 27.2	+0.1
ANBD	**Bethesda, Anti**	145.17	68	*e*		PKiKP	09 44 34.7	+0.8
CBE	**Ff, Capester**	145.56	70	*e*		PKiKP	09 44 37.7	+2.9
ABD	**La Joyeuse, An**	145.57	69	*e*		PKiKP	09 44 34.7	-0.1
MAGL	**Barre de l'ile**	145.89	70	*e*		PKiKP	09 44 37.7	+2.2
BIM	**Bigot**	146.41	72	*e*		PKPdf	09 44 32.3	+0.1
GCMP	**Grenada, Carri**	146.43	76	*e*		PKPab	09 44 34.7	0.0
MPOM	**Morne Pois Mar**	146.63	72	*e*		PKPbc	09 44 34.7	+0.5
TRN	**Trinidad (W)**	146.69	79	*e*		PKPab	09 44 36.2	+0.6
BOAV	**Boa Vista**	147.54	94	PKPdf		PKPdf	09 44 34.1	-0.1
BOAV						PKPbc	09 44 37.9	+1.0
TORD	**Torodi Ar. Bea** comp=Z,86nm,0.8s,baz=76,slow=3.0,SNR=163	149.65	286	PKPbc		PKPbc	09 44 42.3	0.0
TORD	**Torodi Ar. Bea**	149.65	286	PKPdf		PKPdf	09 44 37.4	-0.2
TORD				PKPbc		PKPbc	09 44 42.7	+0.5
BDFB	**Brasilia** comp=Z,16nm,0.8s,baz=223,slow=1.7,SNR=21	151.15	137	PKPbc		PKiKP	09 44 46.6	+0.2
KIC	**Kosan Boka** comp=Z,1.7nm,0.4s	156.73	273	⇑*i* PKP1		PKPdf	09 44 59.0	+11
DBIC	**Dimbokro** comp=Z,5.6nm,1.0s,baz=236,slow=6.8,SNR=3.3	156.83	274	PKP		PKPdf	09 44 47.8	-0.1
DBIC	comp=Z,14nm,0.9s,baz=95,slow=6.0,SNR=7.1			PKPab		PKPab	09 45 17.9	0.0
TIC	**Toumodi** comp=Z,5.7nm,0.3s	157.00	274	⇑*i* PKP1		PKPdf	09 44 57.7	+9.5
LIC	**Lamto** comp=Z,14nm,0.6s	157.01	273	⇑*i* PKP1		PKPdf	09 44 58.5	+10

NEIC ***28*** *09:28:32.9±0.8, 9.°8S±0.°1×112.°97E±0.°06, h38km±9km, mb4.7/20, Error ellipse: s-maj=16.2km s-min=7.0km az=198.0*

DJA ***28*** *09:28:35.7±0.4, 10.°S±4.°×11.°3E±.°, h41km±32km, M4.8/26, mB6.0/3, mb4.7/12, MLv4.8/26, Mw(mB)5.6/3*

IDC ***28*** *09:28:41.6±2.1, 9.°33S×113.°09E, h94km±19km, mb4.1/13, mbtmp4.4/16, MS4.2/4, Error ellipse: s-maj=20.3km s-min=12.3km az=22.0*

ISC 28 09:28:35.3±0.9, 9.°65S±0.°07×112.°96E±0.°05, h54km±6km, n101, σ1s99/112, mb4.7/32, MS4.5/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.45**	**19**	P	P	**Pn**	**09 28 59.5**	**+0.2**
GMJI				S	S	**Sn**	**09 29 18.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**1.66**	**45**	Pn	P	**Pn**	**09 29 01.3**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.66**	**45**	P	P	**Pn**	**09 29 02.9**	**+0.8**
JAGI	**Jajag, Banyuwa**	**1.66**	**45**	P	P	**Pn**	**09 29 03.2**	**+1.1**
JAGI				S	S	**Sn**	**09 29 21.5**	**-0.9**
PWJI	**Pagerwojo**	**1.98**	**325**	P	P	**Pn**	**09 29 05.7**	**-0.8**
PWJI				S	S	**Sn**	**09 29 30.0**	**-0.2**
BLJI	**Banyuglugur**	**2.00**	**18**	P	P	**Pn**	**09 29 07.6**	**+0.9**
BLJI				S	S	**Sn**	**09 29 33.2**	**+2.7**
ABJI	**Asem Bagus**	**2.23**	**34**	P	P	**Pn**	**09 29 11.2**	**+1.3**
ABJI				S	S	**Sn**	**09 29 39.1**	**+2.8**
DNP	**Denpasar**	**2.42**	**67**	P	P	**Pn**	**09 29 14.1**	**+1.6**
NGJI	**Ngawi**	**2.71**	**327**	P	P	**Pn**	**09 29 16.5**	**0.0**
SRBI	**Singaraja**	**2.71**	**55**	P	P	**Pn**	**09 29 17.9**	**+1.4**
GRJI	**Gresik**	**2.76**	**350**	P	P	**Pn**	**09 29 17.5**	**+0.3**
UGM	**Wanagama**	**2.96**	**305**	Pn	P	**Pn**	**09 29 18.7**	**-1.2**
UGM	**Wanagama**	**2.96**	**305**	P	P	**Pn**	**09 29 20.3**	**+0.3**
UGM	**Wanagama**	**2.96**	**305**	P	P	**Pn**	**09 29 19.6**	**-0.4**
TBJI	**Tambak Boyo**	**3.02**	**339**	P	P	**Pn**	**09 29 20.9**	**+0.1**
YOGI	**Yogyakarta**	**3.20**	**304**	P	P	**Pn**	**09 29 22.9**	**-0.3**
SMRI	**Semarang**	**3.59**	**316**	Pn	P	**Pn**	**09 29 26.4**	**-2.2**
SMRI	**Semarang**	**3.59**	**316**	P	P	**Pn**	**09 29 29.6**	**+1.0**
SMRI	**Semarang**	**3.59**	**316**	P	P	**Pn**	**09 29 28.4**	**-0.2**
UWJI	**Ujung Watu**	**3.78**	**328**	P	P	**Pn**	**09 29 30.9**	**-0.2**
BWJI	**Bawean**	**3.79**	**355**	P	P	**Pn**	**09 29 31.6**	**+0.4**
TWSI	**Taliwang, Sumb**	**3.98**	**77**	P	P	**Pn**	**09 29 35.4**	**+1.6**
KPJI	**Karang Pucung**	**4.60**	**300**	P	P	**Pn**	**09 29 42.0**	**-0.4**
PLAI	**Plampang**	**4.82**	**81**	P	P	**Pn**	**09 29 48.2**	**+2.7**
PLAI	**Plampang**	**4.82**	**81**	P	P	**Pn**	**09 29 47.1**	**+1.6**
CMJI	**Cimerak**	**4.83**	**292**	P	P	**Pn**	**09 29 45.0**	**-0.5**
JCJI	**Jatiwangi** 158nm,0.4s,9µm1.2nm	**5.61**	**304**	P	P	**Pn**	**09 29 54.0**	**-2.2**
BBJI	**Bungbulang**	**5.68**	**292**	P	P	**Pn**	**09 29 57.6**	**+0.3**
LEM	**Lembang** 26nm,0.6s,baz=357,slow=22,SNR=1.9	**5.99**	**298**	P	P	Pn	09 30 07.0	+5.4
LEM	20nm,0.4s,baz=319,slow=23,SNR=1.3			S	S	**Sn**	**09 31 15.8**	**+6.9**
LEM	comp=Z,216nm,19.7s,baz=125,slow=38			LR	LR		09 32 25.6	
CNJI	**Cibinong** 22nm,1.1s,0.4nm	**6.22**	**292**	P	P	**Pn**	**09 30 04.1**	**-0.5**
BBKI	**Banjar Baru**	**6.42**	**17**	P	P	**Pn**	**09 30 08.1**	**+0.7**
PBKI	**Pangkalan Bun** 155nm,1.0s,6µm0.6nm	**7.02**	**349**	P	P	**Pn**	**09 30 15.8**	**+0.2**
XMI	**Christmas Isla**	**7.21**	**263**	P	P	**Pn**	**09 30 16.9**	**-1.2**
BASI	**Baing, Sumba** 134nm,1.8s,1.0nm	**7.53**	**95**	P	P	**Pn**	**09 30 24.1**	**+1.6**
CGJI	**Cibinong** 57nm,0.5s,0.3nm	**7.80**	**292**	P	P	**Pn**	**09 30 25.8**	**-0.5**
KAPI	**Kapang** 6.3nm,0.3s,baz=229,slow=2.5,SNR=5.5	**8.16**	**56**	P	P	**Pn**	**09 30 33.3**	**+2.1**
KAPI	7.7nm,0.4s,baz=228,slow=20,SNR=1.6			S	S	**Sn**	**09 32 01.5**	**-0.6**
KAPI	**Kappang**	**8.16**	**56**	Pn	P	**Pn**	**09 30 29.4**	**-1.8**
KAPI	**Kappang**	**8.16**	**56**	P	P	**Pn**	**09 30 32.8**	**+1.6**
BSSI	**Bau Bau, Buton** 46nm,0.5s	**8.23**	**66**	P	P	**Pn**	**09 30 33.6**	**+1.4**
BKSI	**Bulukumba** 30nm,0.7s	**8.30**	**59**	P	P	**Pn**	**09 30 34.5**	**+1.4**
SPSI	**Sidrap Palu** 23nm,0.8s	**8.81**	**51**	P	P	**Pn**	**09 30 41.4**	**+1.3**
MTKI	**Muara Teweh, K**	**8.86**	**13**	P	P	**Pn**	**09 30 41.5**	**+0.6**
KASI	**Kota Agung** 52nm,0.8s	**9.34**	**295**	P	P	**Pn**	**09 30 46.8**	**-0.5**
MDSI	**Maura Dua** 13nm,1.0s	**10.11**	**300**	P	P	**Pn**	**09 30 57.4**	**-0.5**
MNAI	**Manna**	**11.23**	**297**	Pn	P	**Pn**	**09 31 11.5**	**-1.8**
MNAI	**Manna**	**11.23**	**297**	P	P	**Pn**	**09 31 13.0**	**-0.3**
SBUM	**Sibu**	**12.04**	**356**	Pn	P	**Pn**	**09 31 23.3**	**-1.1**
TNTI	**Ternate**	**17.69**	**55**	P	P	**Pn**	**09 32 35.7**	**-2.4**
TNTI	comp=Z,56nm,1.1s			IAmb	IAmb		09 32 36.2	
MTN	**Manton Dam**	**18.10**	**102**	P	P		**09 32 40.7**	**-2.2**
IPM	**Ipoh**	**18.40**	**319**	P	P		**09 32 45.3**	**-0.8**
RPSI	**Rantau Prapat**	**18.60**	**311**	P	P		**09 32 46.2**	**-2.2**
PSI	**Prapat** comp=Z,148nm,21.5s,baz=133,slow=38	**18.67**	**311**	LR	LR		09 40 16.3	
SIJI	**Sorong** comp=Z,13nm,0.8s,baz=261,slow=6.5,SNR=3.5	**20.19**	**65**	P	Pn		09 33 06.8	-1.3
FAKI	**Fak Fak**	**20.30**	**72**	P	P		**09 33 05.4**	**-1.5**
WB0	**Warramunga Arr**	**23.01**	**118**	P	P		**09 33 33.2**	**-2.8**
WB0	comp=Z,50nm,1.4s			IAmb	IAmb		09 33 49.0	
WRA	**Warramunga Arr** comp=Z,1.9nm,0.8s,baz=288,slow=11,SNR=2.2	**23.03**	**119**	P	P		**09 33 39.8**	**+3.6**
	comp=Z,1.9nm,0.8s							
WRA	**Warramunga Arr**	**23.03**	**119**	P	P		**09 33 32.7**	**-3.4**
WB2	**Warramunga Arr**	**23.05**	**119**	P	P		**09 33 33.6**	**-2.6**
WB2	comp=Z,30nm,1.1s			IAmb	IAmb		09 33 51.5	
ASAR	**Alice Springs** comp=Z,4.8nm,0.6s,baz=305,slow=9.1,SNR=7.7	**24.38**	**127**	P	P		**09 33 51.9**	**+3.2**
	comp=Z,4.8nm,0.6s							
STKA	**Stephens Creek** comp=Z,2.6nm,0.6s,baz=319,slow=7.8,SNR=4.0	**34.53**	**134**	P	P		**09 35 22.4**	**+3.7**
	comp=Z,2.6nm,0.6s							
TNCH	**TengChong**	**37.23**	**338**	P	P		**09 35 39.3**	**-2.7**
TNCH				pP	pP		09 35 53.5	-1.6
TNCH				S	S		**09 41 28.0**	**+2.4**
TNCH				sS	ScP		09 41 44.5	+0.8
TNCH	comp=Z,12nm,0.3s			pmax	pmax			
TNCH	comp=Z,130nm,4.7s			pmax	pmax			
TNCH	comp=N,930nm,22.6s			LR	LR			
TNCH	comp=E,870nm,22.6s			LR	LR			
TNCH	comp=Z,340nm,21.0s			LR	LR			
H08S2	**Diego Garcia H** baz=96	**40.04**	**270**	T	T		10 19 18.7	
H08S3	**Diego Garcia H** baz=96	**40.05**	**270**	T	T		10 19 23.4	
H08S1	**Diego Carcia H** baz=96	**40.06**	**270**	T	T		10 19 28.2	
NJ2	**Nanjing**	**41.85**	**8**	*e*P	P		**09 36 22.3**	**+2.2**
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax			
XAN	**Xi'an**	**43.62**	**355**	P	P		**09 36 34.5**	**0.0**
XAN				pP	pP		09 36 38.8	-9.0
XAN	comp=Z,7.0nm,1.3s			pmax	pmax			
LSA	**Lhasa**	**44.41**	**332**	P	P		**09 36 40.6**	**-0.8**
LZH	**Lanzhou**	**46.30**	**350**	*e*P	P		**09 36 56.8**	**+0.9**
LZH				pP	pP		09 37 08.5	-0.8
LZH				sP	pwP		09 37 13.5	+0.3
LZH	comp=Z,19nm,1.1s			pmax	pmax			
KSRS	**Korea Array** comp=Z,1.6nm,0.7s,baz=213,slow=8.9,SNR=8.1	**48.91**	**16**	P	P		**09 37 16.1**	**+0.1**
	comp=Z,1.6nm,0.7s							
BJI	**Beijing**	**49.53**	**3**	P	P		**09 37 20.5**	**-0.1**
BJI	comp=Z,3.0nm,1.1s			pmax	pmax			
HHC	**Hu-ho-hao-te**	**50.26**	**359**	*e*P	P		**09 37 29.8**	**+3.5**
HHC	comp=Z,11nm,0.7s			pmax	pmax			
JGF	**Kuroka**	**50.56**	**26**	P	P		**09 37 27.6**	**-0.9**
MAJO	**Matsushiro**	**51.72**	**26**	P	P		**09 37 36.3**	**-0.9**
MAJO	comp=Z,8.4nm,0.8s			IAmb	IAmb		09 37 36.8	
MJAR	**Matsushiro Arr** comp=Z,8.9nm,0.8s,baz=199,slow=7.5,SNR=18	**51.72**	**26**	P	P		**09 37 36.1**	**-1.2**
	comp=Z,8.9nm,0.8s							
XLT	**XiLinHaoTe**	**53.37**	**3**	*e*P	P		**09 37 49.0**	**-0.4**
XLT				pP	pP		09 37 56.0	-7.1
XLT				sP	pwP		09 38 02.0	-4.9
XLT				PcP	**PcP**		**09 38 52.5**	**-3.7**
XLT				ScP	**ScP**		**09 42 42.3**	**-7.2**
XLT				PcS	**PcS**		**09 43 00.5**	**+5.4**
XLT				S	**S**		**09 45 18.8**	**+1.3**
XLT				sS	pS		09 45 36.5	+1.6
XLT	comp=Z,8.0nm,1.1s			pmax	pmax			
XLT	comp=Z,160nm,5.3s			pmax	pmax			
XLT	comp=N,36nm,20.0s			LR	LR			
XLT	comp=E,440nm,18.7s			LR	LR			
XLT	comp=Z,700nm,23.8s			LR	LR			
MDJ	**Mudanjiang**	**56.07**	**14**	P	P		**09 38 08.5**	**-0.3**
MDJ				pP	pP		09 38 19.3	-3.3
MDJ				S	**S**		**09 45 58.0**	**+4.4**
MDJ				sS	sS		09 46 16.5	-1.4
MDJ	comp=Z,8.0nm,0.9s			pmax	pmax			
MDJ	comp=Z,420nm,5.1s			pmax	pmax			
MDJ	comp=N,330nm,4.5s			LR	LR			
MDJ	comp=E,260nm,4.6s			LR	LR			
MDJ	comp=Z,590nm,11.8s			LR	LR			
USRK	**Ussuriysk Ar.** comp=Z,4.1nm,0.8s,baz=224,slow=4.0,SNR=4.5	**56.31**	**16**	P	P		**09 38 10.2**	**-0.3**
	comp=Z,4.1nm,0.8s							
ULN	**Ulaanbaatar**	**57.50**	**355**	P	P		**09 38 19.2**	**+0.1**
ULN	comp=Z,7.9nm,0.9s			IAmb	IAmb		09 38 20.8	
SONM	**Songino Array** comp=Z,8.5nm,1.0s,baz=173,slow=9.3,SNR=7.6	**57.53**	**355**	P	P		**09 38 19.8**	**+0.5**
	comp=Z,8.5nm,1.0s							
SONM	**Songino Array**	**57.53**	**355**	P	P		**09 38 19.1**	**-0.2**
SONM	comp=Z,6.9nm,0.9s			IAmb	IAmb		09 38 20.5	
WMQ	**Urumqi**	**57.96**	**339**	*e*P	P		**09 38 23.0**	**+0.7**
WMQ				pP	pP		09 38 34.3	-1.8
WMQ				sP	pwP		09 38 37.8	-2.2
WMQ	comp=Z,14nm,0.9s			pmax	pmax			
WMQ	comp=N,240nm,16.7s			LR	LR			
WMQ	comp=Z,280nm,25.3s			LR	LR			
KSH	**Kashi**	**59.76**	**327**	P	P		**09 38 34.5**	**-0.4**
KSH				pP	pP		09 38 42.5	-6.3
KSH	comp=Z,7.0nm,0.8s			pmax	pmax			
MKAR	**Makanchi Array** comp=Z,5.5nm,0.5s,baz=149,slow=7.6,SNR=16	**62.50**	**337**	P	P		**09 38 53.5**	**+0.2**
	comp=Z,5.5nm,0.5s							
ZAA0	**Zalesovo Array**	**67.69**	**342**	P	P		**09 39 26.2**	**-0.5**
ZAA0	comp=Z,6.4nm,0.8s			IAmb	IAmb		09 39 27.1	
ZALV	**Zalesovo Beam** comp=Z,6.8nm,0.7s,baz=152,slow=4.1,SNR=11	**67.69**	**342**	P	P		**09 39 26.4**	**-0.3**
	comp=Z,6.8nm,0.7s							
ZALV	**Zalesovo Beam**	**67.69**	**342**	P	P		**09 39 26.2**	**-0.5**
GEYT	**Ailbeck** comp=Z,8.5nm,0.9s,baz=168,slow=8.3,SNR=12	**69.69**	**316**	P	P		**09 39 40.8**	**+1.1**
	comp=Z,8.5nm,0.9s							
BRVK	**Borovoye**	**72.26**	**335**	P	P		**09 39 55.0**	**+0.2**
BRVK	comp=Z,9.1nm,1.4s			IAmb	IAmb		09 39 56.4	
YAK	**Yakutsk**	**72.64**	**8**	P	P		**09 39 56.8**	**0.0**
ABKAR	**Akbulak array**	**74.76**	**327**	P	P		**09 40 10.2**	**+0.6**
ARU	**Arti**	**79.61**	**333**	P	P		**09 40 36.2**	**-0.4**
ARU	comp=Z,8.9nm,0.9s			IAmb	IAmb		09 40 38.4	
NRIK	**Noril'sk** comp=Z,5.0nm,1.0s,baz=124,slow=2.4,SNR=3.5	**80.77**	**351**	P	P		**09 40 42.7**	**+0.2**
	comp=Z,5.0nm,1.0s							
NRIK	**Noril'sk**	**80.77**	**351**	P	P		**09 40 42.6**	**0.0**
TIXI	**Tiksi**	**81.81**	**5**	P	P		**09 40 47.6**	**-0.4**
TIXI	comp=Z,6.4nm,0.8s			IAmb	IAmb		09 40 48.6	
KBZ	**Khabaz** comp=Z,2.2nm,0.9s,baz=201,slow=4.1,SNR=4.2	**82.59**	**317**	P	P		**09 40 53.5**	**+0.8**
	comp=Z,2.2nm,0.9s							
KIRV	**Kirov** comp=Z,300nm,18.5s,baz=81,slow=40	**84.94**	**332**	LR	LR		10 24 47.9	
BRTR	**Keskin Array B** comp=Z,2.4nm,0.8s,baz=131,slow=6.8,SNR=10	**88.00**	**311**	P	P		**09 41 21.3**	**+1.3**
	comp=Z,2.4nm,0.8s							
OBN	**Obninsk** comp=Z,79nm,19.5s,baz=43,slow=40	**90.17**	**326**	LR	LR		10 29 28.7	
MNK	**Minsk** comp=E,3.0nm,0.8s	**94.93**	**324**	*i*

FDMO AML AML
comp=E,14050μm,0.3s
FDMO AML AML
comp=N,16950μm,0.2s
FDMO AML AML
comp=N,7545μm,0.2s
FDMO AML AML
comp=E,7940μm,0.1s
T1219 Muccia, Frazio 0.07 352 P Pg 09 38 51.1 +0.3
T1219 S Sg 09 38 52.6 +0.2
T1219 AML AML
comp=E,8260μm,0.2s
T1219 AML AML
comp=N,10530μm,0.1s
T1219 AML AML
comp=E,8345μm,0.2s
T1219 AML AML
comp=N,10215μm,0.6s
T1219 AML AML
comp=N,3275μm,0.3s
T1219 AML AML
comp=N,3090μm,0.3s
T1219 AML AML
comp=E,2855μm,0.2s
T1219 AML AML
comp=N,3270μm,0.3s
T1219 AML AML
comp=E,3020μm,0.2s
T1219 AML AML
comp=N,3085μm,0.3s
T1219 AML AML
comp=N,3270μm,1.7s
T1219 AML AML
comp=N,3085μm,1.7s
T1219 AML AML
comp=E,2855μm,1.8s
T1219 AML AML
comp=E,3020μm,1.8s
CESI CESI - Serrava 0.09 284 P Pg 09 38 51.6 +0.6
CESI S Sg 09 38 53.6 +0.9
CESI AML AML
comp=E,9400μm,0.5s
CESI AML AML
comp=N,18150μm,0.2s
CESI AML AML
comp=E,2200μm,0.5s
CESI AML AML
comp=N,4755μm,0.2s
T1216 Preci, Frazion 0.09 181 P Pg 09 38 51.5 +0.4
T1216 S Sg 09 38 53.3 +0.6
T1216 AML AML
comp=E,2200μm,0.3s
T1216 AML AML
comp=N,2620μm,0.3s
T1216 AML AML
comp=N,2615μm,0.3s
T1216 AML AML
comp=N,2615μm,1.7s
T1220 Camerino, Fraz 0.14 21 ⇑P Pg 09 38 52.2 +0.5
T1220 AML AML
comp=E,5830μm,0.3s
T1220 AML AML
comp=N,4980μm,0.4s
T1220 AML AML
comp=E,5770μm,0.3s
T1220 AML AML
comp=N,5045μm,0.4s
MC2 Monte Cornacci 0.14 120 P Pg 09 38 52.3 +0.4
MC2 S Sg 09 38 55.3 +1.1
NRCA Norcia 0.17 156 P Pg 09 38 52.7 +0.6
NRCA AML AML
comp=E,1995μm,0.2s
NRCA AML AML
comp=N,1815μm,0.1s
NRCA AML AML
comp=E,1990μm,0.2s
NRCA AML AML
comp=N,1810μm,0.1s
NRCA AML AML
comp=N,1815μm,0.1s
CSP1 Cessapalombo 0.17 51 ⇑P Pg 09 38 52.8 +0.5
CSP1 S Sg 09 38 56.0 +1.1
CSP1 AML AML
comp=E,1280μm,0.7s
CSP1 AML AML
comp=E,1285μm,0.7s
CSP1 AML AML
comp=N,814μm,1.5s
CSP1 AML AML
comp=N,814μm,1.5s
CSP1 AML AML
comp=N,814μm,0.5s
T1245 Castelsantange 0.18 136 P Pg 09 38 52.9 +0.5
T1245 S Sg 09 38 56.1 +1.1
T1245 AML AML
comp=E,808μm,1.4s
T1245 AML AML
comp=N,1410μm,0.7s
T1245 AML AML
comp=E,808μm,0.6s
T1215 Vallo di Nera, 0.21 212 ⇑P Pg 09 38 53.8 +0.8
T1215 S Sg 09 38 57.5 +1.5
T1215 AML AML
comp=E,397μm,0.5s
T1215 AML AML
comp=N,608μm,1.3s
T1215 AML AML
comp=E,376μm,0.1s
T1215 AML AML
comp=N,608μm,1.3s
T1215 AML AML
comp=E,376μm,0.7s
T1215 AML AML
comp=N,631μm,1.3s
T1215 AML AML
comp=N,608μm,0.7s
T1215 AML AML
comp=E,398μm,0.5s
T1215 AML AML
comp=N,631μm,0.7s
T1212 Cascia, Frazio 0.23 176 P Pg 09 38 54.0 +0.7
T1212 S Sg 09 38 58.0 +1.5
T1212 AML AML
comp=E,968μm,0.4s
T1212 AML AML
comp=N,1155μm,0.6s
T1212 AML AML
comp=N,1140μm,0.5s
T1212 AML AML
comp=E,848μm,0.4s
T1212 AML AML
comp=E,969μm,0.4s
T1212 AML AML
comp=N,1150μm,0.6s
GUMA Gualdo di Mace 0.24 71 P Pg 09 38 54.4 +0.8
GUMA S Sg 09 38 58.8 +1.9
GUMA AML AML
comp=E,1172μm,0.4s
GUMA AML AML
comp=N,793μm,0.3s
GUMA AML AML
comp=E,1267μm,0.2s
GUMA AML AML
comp=N,932μm,0.7s
GUMA AML AML
comp=E,1172μm,1.6s
GUMA AML AML
comp=N,793μm,1.7s
ASSB Assisi San Ben 0.27 283 ⇑P Pg 09 38 54.8 +0.7
ASSB AML AML
comp=N,338μm,1.5s
ASSB AML AML
comp=E,340μm,0.4s
ASSB AML AML
comp=N,338μm,0.5s
SNTG Esanatoglia 0.28 348 ⇑P Pg 09 38 54.8 +0.6
SNTG AML AML
comp=E,1255μm,1.2s
SNTG AML AML
comp=N,1270μm,0.1s
SNTG AML AML
comp=N,292μm,0.5s
SNTG AML AML
comp=E,324μm,0.1s
T1217 Poggiodomo (PG 0.28 194 P Pg 09 38 55.0 +0.7
T1217 S Sb 09 38 59.7 -1.0
T1218 Civita (PG) 0.32 168 AML AML
comp=N,743μm,0.8s
T1218 AML AML
comp=E,392μm,0.7s
T1218 AML AML
comp=E,356μm,0.8s
T1218 AML AML
comp=N,732μm,0.2s
T1218 AML AML
comp=E,392μm,0.6s
T1218 AML AML
comp=N,732μm,0.2s
T1218 AML AML
comp=E,392μm,1.4s
ATCC AVT- Casa Cast 0.34 306 ⇓P Pb 09 38 56.3 -0.6
ATCC AML AML
comp=E,250μm,0.1s
ATCC AML AML
comp=N,209μm,0.4s
ATCC AML AML
comp=N,209μm,1.6s
EL6 Elcito 0.35 10 ⇑P Pg 09 38 56.1 +0.5
EL6 AML AML
comp=N,1795μm,0.3s
EL6 AML AML
comp=N,1795μm,1.7s
EL6 AML AML
comp=E,1310μm,0.3s
FOSV Fossato di Vic 0.36 329 P Pg 09 38 56.5 +0.7
FOSV AML AML
comp=N,244μm,0.3s
FOSV AML AML
comp=E,234μm,0.1s
MOMA Monte Martano 0.38 242 ⇑P Pg 09 38 56.7 +0.6
MOMA AML AML
comp=N,220μm,1.4s
MOMA AML AML
comp=E,250μm,0.1s
MOMA AML AML
comp=N,220μm,0.6s
LNSS Leonessa 0.38 178 P Pg 09 38 56.6 +0.4
LNSS S Sb 09 39 02.8 -0.8
LNSS AML AML
comp=N,539μm,0.4s
LNSS AML AML
comp=E,744μm,0.2s
CING Cingoli 0.41 18 ⇑P Pg 09 38 57.2 +0.5
CING AML AML
comp=E,213μm,1.5s
CING AML AML
comp=E,213μm,0.5s
CING AML AML
comp=N,279μm,0.1s
SMA1 SAN MARTINO 0.42 147 P Pg 09 38 57.3 +0.4
SMA1 S Sb 09 39 04.1 -0.7
MURB Monte Urbino 0.46 308 P Pg 09 38 58.2 +0.6
MURB AML AML
comp=E,232μm,0.7s
MURB AML AML
comp=N,223μm,1.2s
MURB AML AML
comp=N,223μm,0.8s
MURB AML AML
comp=E,232μm,1.3s
T1211 Morro Reatino 0.47 195 ⇓P Pg 09 38 58.3 +0.6
T1211 S Sb 09 39 05.4 -0.7
SSFR Montelago di S 0.48 339 ⇓P Pb 09 38 58.9 -0.5
SSFR AML AML
comp=N,380μm,1.1s
SSFR AML AML
comp=E,410μm,0.2s
SSFR AML AML
comp=N,394μm,0.3s
SSFR AML AML
comp=N,380μm,0.9s
SSFR AML AML
comp=E,434μm,0.2s
CESX Cesi 0.49 221 S Sb 09 39 06.5 -0.3
CESX AML AML
comp=E,200μm,0.4s
CESX AML AML
comp=N,190μm,0.2s
CESX AML AML
comp=N,190μm,1.8s
CESX AML AML
comp=E,200μm,1.6s
RM33 Pellescritta (0.49 163 P Pg 09 38 58.4 +0.2
RM33 S Sb 09 39 06.3 -0.6
RM33 AML AML
comp=E,111μm,1.5s
RM33 AML AML
comp=N,136μm,1.0s
RM33 AML AML
comp=E,111μm,0.5s
RM33 AML AML
comp=N,136μm,1.0s
ATFO Monte Foce - G 0.51 319 ⇑P Pg 09 38 59.1 +0.6
ATFO AML AML
comp=E,73μm,1.3s
ATFO AML AML
comp=N,61μm,1.4s
ATFO AML AML
comp=E,73μm,0.7s
ARVD Arcevia 0.52 354 ⇓P Pb 09 38 59.4 -0.5
ARVD AML AML
comp=N,123μm,0.9s
ARVD AML AML
comp=E,200μm,0.4s
CAMP Campotosto 0.53 147 S Sg 09 38 59.0 -6.9
CAMP AML AML
comp=N,49μm,0.6s
CAMP AML AML
comp=E,52μm,0.2s
TERO Teramo 0.56 130 S Sg 09 38 59.3 -7.5
TERO AML AML
comp=E,88μm,1.1s
TERO AML AML
comp=E,88μm,0.9s
TERO AML AML
comp=N,131μm,0.5s
PP3 Marolino 0.58 47 AML AML
comp=N,409μm,1.6s
PP3 AML AML
comp=E,186μm,1.5s
ATVO AVT- Monte Val 0.60 312 ⇓P Pg 09 39 00.8 +0.5
ATVO S Sb 09 39 10.5 +0.6
ATVO AML AML
comp=E,55μm,1.6s
ATVO AML AML
comp=N,54μm,0.9s
ATVO AML AML
comp=E,100μm,0.5s
ATVO AML AML
comp=N,108μm,0.3s
ATVO AML AML
comp=N,108μm,1.7s
PIEI Pieia 0.66 327 ⇑P Pb 09 39 02.1 -0.2
PIEI S Sb 09 39 12.2 +0.7
PIEI AML AML
comp=N,174μm,1.2s
PIEI AML AML
comp=N,174μm,0.8s
PIEI AML AML
comp=E,198μm,0.7s
GIGS Gran Sasso 0.67 143 S Sg 09 39 01.5 -8.8
MPAG Monte Paganucc 0.67 344 S Sb 09 39 13.0 +0.9
MPAG AML AML
comp=E,231μm,0.3s
MPAG AML AML
comp=N,174μm,0.3s
FIAM Fiamignano 0.72 174 S Sg 09 39 10.3 -1.5
BRJN Brijuni 1.99 15 S Sn 09 39 43.6 -3.9

ROM 28 09:39:13.0± 0.0, 42°.982N ± 0°.002 × 13°.023E ± 0°.003, h9km, ML2.5/34, 14C-16D, Error ellipse: s-maj=0.2km s-min=0.2km az=278.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.03**	**135**	P	Pg	09 39 14.9	+0.1
FEMA				S	Sg	09 39 15.8	-0.2
FEMA				AML	AML		
	comp=E,16400μm,0.2s						
FEMA				AML	AML		
	comp=N,20900μm,1.3s						
FEMA				AML	AML		
	comp=N,18894μm,0.3s						
FEMA AML AML
comp=E,16406μm,0.2s
FDMO Fiordimonte 0.07 41 P Pg 09 39 15.3 +0.2
FDMO S Sg 09 39 16.7 +0.1
FDMO AML AML
comp=E,14050μm,0.3s
FDMO AML AML
comp=N,16950μm,0.2s
FDMO AML AML
comp=E,12217μm,0.2s
FDMO AML AML
comp=N,16951μm,0.2s
T1219 Muccia, Frazio 0.07 351 P Pg 09 39 15.4 +0.3
T1219 S Sg 09 39 16.9 +0.2
T1219 AML AML
comp=E,8260μm,0.2s
T1219 AML AML
comp=N,10530μm,0.1s
T1219 AML AML
comp=E,8345μm,0.2s
T1219 AML AML
comp=N,10215μm,0.6s
T1219 AML AML
comp=E,8255μm,0.2s
T1219 AML AML
comp=N,10530μm,0.1s
T1219 AML AML
comp=E,8345μm,0.2s
T1219 AML AML
comp=N,10210μm,0.6s
T1219 AML AML
comp=N,10511μm,0.1s
T1219 AML AML
comp=N,10004μm,0.1s
T1219 AML AML
comp=E,7817μm,0.1s
T1219 AML AML
comp=E,7876μm,0.1s
CESI CESI - Serrava 0.09 285 P Pg 09 39 15.9 +0.6
CESI S Sg 09 39 17.8 +0.8
CESI AML AML
comp=E,9400μm,0.5s
CESI AML AML
comp=N,18150μm,0.2s
CESI AML AML
comp=E,8189μm,0.2s
CESI AML AML
comp=N,18168μm,0.2s
T1220 Camerino, Fraz 0.14 21 P Pg 09 39 16.6 +0.5
T1220 S Sg 09 39 19.1 +1.0
T1220 AML AML
comp=E,21950μm,0.3s
T1220 AML AML
comp=N,19650μm,0.5s
T1220 AML AML
comp=E,21850μm,0.3s
T1220 AML AML
comp=N,19600μm,0.5s
T1220 AML AML
comp=E,21980μm,0.3s
T1220 AML AML
comp=N,19642μm,0.5s
T1220 AML AML
comp=E,21824μm,0.3s
T1220 AML AML
comp=N,19595μm,0.5s
MC2 Monte Cornacci 0.14 119 P Pg 09 39 16.7 +0.5
MC2 S Sg 09 39 19.6 +1.2
NRCA Norcia 0.16 156 P Pg 09 39 17.2 +0.7
NRCA S Sg 09 39 20.0 +1.1
NRCA AML AML
comp=E,2965μm,1.1s
NRCA AML AML
comp=N,3280μm,0.3s
NRCA AML AML
comp=E,2965μm,1.1s
NRCA AML AML
comp=N,3275μm,0.2s
NRCA AML AML
comp=E,2960μm,1.1s
NRCA AML AML
comp=N,3275μm,0.3s
NRCA AML AML
comp=N,3278μm,0.2s
NRCA AML AML
comp=E,2805μm,0.2s
CSP1 Cessapalombo 0.17 50 ⇑P Pg 09 39 17.2 +0.5
CSP1 S Sg 09 39 20.2 +1.0
CSP1 AML AML
comp=E,4595μm,1.4s
CSP1 AML AML
comp=N,2830μm,0.3s
CSP1 AML AML
comp=E,4590μm,1.4s
CSP1 AML AML
comp=N,2829μm,0.3s
CSP1 AML AML
comp=E,4380μm,0.3s
SEF1 Sefro 0.17 342 P Pg 09 39 17.2 +0.6
SEF1 S Sg 09 39 20.2 +1.1
SEF1 AML AML
comp=N,6345μm,0.1s
SEF1 AML AML
comp=E,6560μm,0.5s
SEF1 AML AML
comp=E,6565μm,0.5s
SEF1 AML AML
comp=N,6343μm,0.1s
SEF1 AML AML
comp=E,6048μm,0.2s
T1245 Castelsantange 0.17 136 ⇓P Pg 09 39 17.2 +0.5
T1245 S Sg 09 39 20.3 +1.0
T1245 AML AML
comp=N,3765μm,0.6s
T1245 AML AML
comp=E,2110μm,1.3s
T1245 AML AML
comp=N,3784μm,0.6s
T1245 AML AML
comp=E,1860μm,0.2s
T1245 AML AML
comp=N,3761μm,0.6s
T1245 AML AML
comp=E,1886μm,0.3s
T1215 Vallo di Nera, 0.21 212 ⇑P Pg 09 39 18.1 +0.8
T1215 S Sg 09 39 21.7 +1.5
T1215 AML AML
comp=E,1075μm,0.6s
T1215 AML AML
comp=N,1300μm,0.5s
T1215 AML AML
comp=E,1076μm,0.6s
T1215 AML AML
comp=N,1345μm,0.5s
T1215 AML AML
comp=E,1076μm,0.6s
T1215 AML AML
comp=N,1300μm,0.5s
T1215 AML AML
comp=N,1162μm,0.2s
T1215 AML AML
comp=E,940μm,0.2s
T1215 AML AML
comp=N,1168μm,0.3s
T1215 AML AML
comp=E,997μm,0.2s
T1212 Cascia, Frazio 0.23 176 ⇓P Pg 09 39 18.4 +0.7
T1212 S Sg 09 39 22.4 +1.6
T1212 AML AML
comp=E,2780μm,0.2s
T1212 AML AML
comp=N,3450μm,0.4s
T1212 AML AML
comp=N,3330μm,0.4s
T1212 AML AML
comp=E,2730μm,0.3s
T1212 AML AML
comp=N,3325μm,0.4s
T1212 AML AML
comp=N,3326μm,0.4s
T1212 AML AML
comp=E,2779μm,0.2s
T1212 AML AML
comp=N,3448μm,0.4s
T1212 AML AML
comp=E,2726μm,0.3s
GUMA Gualdo di Mace 0.24 70 P Pg 09 39 18.7 +0.8

GUMA				S	Sg	09 39 23.1	+1.9	
GUMA				AML	AML			
	comp=E,4050μm,0.4s							
GUMA				AML	AML			
	comp=N,2905μm,0.3s							
GUMA				AML	AML			
	comp=E,4490μm,0.7s							
GUMA				AML	AML			
	comp=N,3180μm,0.4s							
GUMA				AML	AML			
	comp=E,4052μm,0.4s							
GUMA				AML	AML			
	comp=N,2908μm,0.3s							
GUMA				AML	AML			
	comp=E,4488μm,0.7s							
GUMA				AML	AML			
	comp=N,3182μm,0.4s							
GAG1	**Gagliole**	**0.26**	**7**	⇓P	Pb	09 39 19.2	-0.7	
GAG1				AML	AML			
	comp=E,11000μm,1.4s							
GAG1				AML	AML			
	comp=N,8785μm,1.2s							
GAG1				AML	AML			
	comp=E,8309μm,0.3s							
GAG1				AML	AML			
	comp=N,8161μm,0.4s							
ASSB	**Assisi San Ben**	**0.27**	**283**	⇑P	Pg	09 39 19.1	+0.7	
ASSB				S	Sb	09 39 23.7	-1.2	
ASSB				AML	AML			
	comp=E,1410μm,1.4s							
ASSB				AML	AML			
	comp=N,1075μm,0.9s							
ASSB				AML	AML			
	comp=N,1037μm,0.1s							
ASSB				AML	AML			
	comp=E,1085μm,0.3s							
T1217	**Poggiodomo (PG**	**0.28**	**194**	⇓P	Pg	09 39 19.4	+0.8	
T1217				S	Sb	09 39 23.9	-1.1	
T1217				AML	AML			
	comp=N,2700μm,0.9s							
T1217				AML	AML			
	comp=E,1720μm,0.4s							
T1217				AML	AML			
	comp=N,2700μm,0.8s							
T1217				AML	AML			
	comp=E,1505μm,0.2s							
T1217				AML	AML			
	comp=N,2640μm,0.8s							
T1217				AML	AML			
	comp=N,2266μm,0.4s							
T1217				AML	AML			
	comp=E,1657μm,0.2s							
T1217				AML	AML			
	comp=N,2331μm,0.4s							
T1217				AML	AML			
	comp=E,1506μm,0.2s							
SNTG	**Esanatoglia**	**0.28**	**348**	⇑P	Pg	09 39 19.1	+0.5	
SNTG				AML	AML			
	comp=E,1254μm,0.8s							
SNTG				AML	AML			
	comp=N,1270μm,0.1s							
SNTG				AML	AML			
	comp=N,1405μm,0.5s							
SNTG				AML	AML			
	comp=E,1255μm,1.2s							
SNTG				AML	AML			
	comp=N,1170μm,0.1s							
SNTG				AML	AML			
	comp=N,1273μm,0.1s							
SNTG				AML	AML			
	comp=E,1165μm,0.1s							
SNTG				AML	AML			
	comp=E,1149μm,0.1s							
T1218	**Civita (PG)**	**0.32**	**168**	⇓P	Pg	09 39 19.9	+0.5	
T1218				S	Sb	09 39 25.1	-1.2	
T1218				AML	AML			
	comp=E,1115μm,0.7s							
T1218				AML	AML			
	comp=N,1555μm,0.8s							
T1218				AML	AML			
	comp=N,1560μm,0.8s							
T1218				AML	AML			
	comp=E,990μm,0.7s							
T1218				AML	AML			
	comp=N,1498μm,0.3s							
T1218				AML	AML			
	comp=N,1518μm,0.3s							
T1218				AML	AML			
	comp=E,916μm,0.2s							
T1218				AML	AML			
	comp=E,833μm,0.4s							
ATCC	**AVT- Casa Cast**	**0.35**	**306**	P	Pg	09 39 20.6	+0.7	
ATCC				S	Sb	09 39 26.6	-0.4	
ATCC				AML	AML			
	comp=N,670μm,1.2s							
ATCC				AML	AML			
	comp=E,830μm,1.0s							
ATCC				AML	AML			
	comp=N,620μm,0.3s							
ATCC				AML	AML			
	comp=E,744μm,0.1s							
EL6	**Elcito**	**0.35**	**9**	⇑P	Pg	09 39 20.4	+0.5	
EL6				AML	AML			
	comp=E,5295μm,0.3s							
EL6				AML	AML			
	comp=N,8045μm,0.3s							
EL6				AML	AML			
	comp=E,5292μm,0.3s							
EL6				AML	AML			
	comp=N,8050μm,0.3s							
FOSV	**Fossato di Vic**	**0.37**	**329**	⇓P	Pg	09 39 20.7	+0.5	
FOSV				AML	AML			
	comp=E,974μm,0.4s							
FOSV				AML	AML			
	comp=N,1220μm,0.3s							
FOSV				AML	AML			
	comp=E,914μm,0.1s							
FOSV				AML	AML			
	comp=N,1218μm,0.3s							
MOMA	**Monte Martano**	**0.38**	**242**	⇑P	Pg	09 39 21.0	+0.6	
MOMA				AML	AML			
	comp=E,811μm,1.1s							
MOMA				AML	AML			
	comp=E,863μm,0.2s							
MOMA				AML	AML			
	comp=N,819μm,1.4s							
MOMA				AML	AML			
	comp=E,811μm,1.1s							
MOMA				AML	AML			
	comp=N,861μm,1.4s							
MOMA				AML	AML			
	comp=E,775μm,0.2s							
MOMA				AML	AML			
	comp=E,864μm,0.2s							
MOMA				AML	AML			
	comp=N,814μm,0.2s							
MOMA				AML	AML			
	comp=N,802μm,0.2s							
LNSS	**Leonessa**	**0.38**	**178**	⇓P	Pg	09 39 20.9	+0.5	
LNSS				S	Sb	09 39 27.1	-0.9	
LNSS				AML	AML			
	comp=E,1660μm,0.2s							
LNSS				AML	AML			
	comp=N,1385μm,1.3s							
LNSS				AML	AML			
	comp=N,1309μm,0.2s							
LNSS				AML	AML			
	comp=E,1660μm,0.2s							
CING	**Cingoli**	**0.41**	**18**	⇑P	Pg	09 39 21.5	+0.4	
CING				AML	AML			
	comp=E,875μm,0.1s							
CING				AML	AML			
	comp=N,1052μm,0.9s							
CING				AML	AML			
	comp=N,956μm,0.1s							
CING				AML	AML			
	comp=E,875μm,0.1s							
SMA1	**SAN MARTINO**	**0.42**	**147**	P	Pg	09 39 21.6	+0.4	
SMA1				S	Sb	09 39 29.1	-0.1	
SMA1				AML	AML			
	comp=N,438μm,0.5s							
SMA1				AML	AML			
	comp=E,822μm,0.4s							
SMA1				AML	AML			
	comp=E,821μm,0.4s							
SMA1				AML	AML			
	comp=N,437μm,0.5s							
ARRO	**Arrone**	**0.45**	**205**	P	Pb	09 39 22.6	-0.4	
ARRO				S	Sb	09 39 29.2	-0.6	
ARRO				AML	AML			
	comp=E,994μm,0.8s							
ARRO				AML	AML			
	comp=N,820μm,0.2s							
ARRO				AML	AML			
	comp=E,962μm,0.2s							
ARRO				AML	AML			
	comp=N,819μm,0.2s							
MURB	**Monte Urbino**	**0.46**	**308**	⇑P	Pg	09 39 22.6	+0.6	
MURB				AML	AML			
	comp=E,674μm,0.9s							
MURB				AML	AML			
	comp=N,776μm,0.9s							
MURB				AML	AML			
	comp=E,674μm,0.9s							
MURB				AML	AML			
	comp=N,776μm,0.9s							
MURB				AML	AML			
	comp=E,744μm,0.3s							
MURB				AML	AML			
	comp=N,916μm,0.9s							
MURB				AML	AML			
	comp=E,744μm,0.3s							
MURB				AML	AML			
	comp=N,713μm,0.2s							
MURB				AML	AML			
	comp=E,647μm,0.2s							
MURB				AML	AML			
	comp=N,654μm,0.2s							
T1211	**Morro Reatino**	**0.47**	**195**	⇓P	Pb	09 39 23.0	-0.4	
T1211				S	Sb	09 39 29.9	-0.6	
T1211				AML	AML			
	comp=E,747μm,1.0s							
T1211				AML	AML			
	comp=N,1360μm,0.3s							
T1211				AML	AML			
	comp=E,722μm,0.3s							
T1211				AML	AML			
	comp=N,1360μm,0.3s							
T1211				AML	AML			
	comp=E,722μm,1.0s							
T1211				AML	AML			
	comp=N,1350μm,1.4s							
T1211				AML	AML			
	comp=N,1334μm,0.3s							
T1211				AML	AML			
	comp=E,726μm,0.3s							
T1211				AML	AML			
	comp=N,1358μm,0.3s							
T1211				AML	AML			
	comp=E,722μm,0.3s							
SSFR	**Montelago di S**	**0.49**	**339**	⇑P	Pg	09 39 23.1	+0.6	
SSFR				S	Sb	09 39 31.0	-0.1	
SSFR				AML	AML			
	comp=E,2025μm,0.2s							
SSFR				AML	AML			
	comp=N,1530μm,0.2s							
SSFR				AML	AML			
	comp=E,1730μm,0.2s							
SSFR				AML	AML			
	comp=N,1485μm,0.3s							
SSFR				AML	AML			
	comp=N,1487μm,0.3s							
SSFR				AML	AML			
	comp=E,1731μm,0.2s							
SSFR				AML	AML			
	comp=E,1895μm,0.2s							
SSFR				AML	AML			
	comp=N,1530μm,0.2s							
OFFI	**Offida**	**0.49**	**95**	⇓P	Pb	09 39 24.4	+0.6	
RM33	**Pellescritta (**	**0.49**	**163**	⇓P	Pg	09 39 22.8	+0.2	
RM33				S	Sb	09 39 30.6	-0.6	
RM33				AML	AML			
	comp=E,326μm,0.7s							
RM33				AML	AML			
	comp=N,459μm,0.2s							
RM33				AML	AML			
	comp=N,482μm,0.2s							
RM33				AML	AML			
	comp=E,280μm,0.5s							
RM33				AML	AML			
	comp=E,280μm,0.5s							
RM33				AML	AML			
	comp=E,266μm,0.2s							
RM33				AML	AML			
	comp=N,459μm,0.2s							
RM33				AML	AML			
	comp=N,482μm,0.2s							
CESX	**Cesi**	**0.49**	**221**	S	Sb	09 39 30.7	-0.5	
CESX				AML	AML			
	comp=E,718μm,0.4s							
CESX				AML	AML			
	comp=N,711μm,0.2s							
ATFO	**Monte Foce - G**	**0.51**	**320**	⇑P	Pg	09 39 23.4	+0.6	
ATFO				AML	AML			
	comp=E,223μm,0.5s							
ATFO				AML	AML			
	comp=N,192μm,1.2s							
ARVD	**Arcevia**	**0.52**	**353**	⇓P	Pb	09 39 23.8	-0.5	
ARVD				S	Sb	09 39 31.8	-0.2	
ARVD				AML	AML			
	comp=N,412μm,0.1s							
ARVD				AML	AML			
	comp=E,630μm,0.1s							
ARVD				AML	AML			
	comp=E,630μm,0.1s							
ARVD				AML	AML			
	comp=N,412μm,0.1s							
CAMP	**Campotosto**	**0.53**	**147**	⇓P	Pg	09 39 23.3	+0.1	
CAMP				S	Sb	09 39 31.4	-0.9	
CAMP				AML	AML			
	comp=E,137μm,0.6s							
CAMP				AML	AML			
	comp=N,146μm,0.5s							
TERO	**Teramo**	**0.56**	**130**	⇓P	Pg	09 39 23.8	0.0	
TERO				S	Sb	09 39 32.6	-0.5	
TERO				AML	AML			
	comp=N,368μm,0.5s							
TERO				AML	AML			
	comp=E,190μm,0.6s							
TERO				AML	AML			
	comp=E,184μm,0.3s							
TERO				AML	AML			
	comp=N,360μm,0.5s							
TERO				AML	AML			
	comp=N,292μm,0.3s							
TERO				AML	AML			
	comp=E,165μm,0.4s							
FRON	**Frontone**	**0.58**	**338**	⇑P	Pg	09 39 24.5	+0.3	
FRON				AML	AML			
	comp=E,500μm,0.1s							
FRON				AML	AML			
	comp=N,599μm,0.2s							
FRON				AML	AML			
	comp=N,599μm,0.2s							
FRON				AML	AML			
	comp=E,501μm,0.1s							
T1222	**Castel Sant'An**	**0.58**	**179**	P	Pb	09 39 24.8	-0.5	
T1222				S	Sb	09 39 33.5	-0.3	
T1222				AML	AML			
	comp=E,364μm,1.3s							
T1222				AML	AML			
	comp=N,232μm,0.3s							
T1222				AML	AML			
	comp=E,316μm,0.4s							
T1222				AML	AML			
	comp=E,324μm,0.4s							
ATVO	**AVT- Monte Val**	**0.60**	**312**	⇑P	Pg	09 39 25.0	+0.3	
ATVO				AML	AML			
	comp=E,149μm,0.7s							
ATVO				AML	AML			
	comp=N,134μm,1.3s							
ATVO				AML	AML			
	comp=E,134μm,0.3s							
ATVO				AML	AML			
	comp=N,128μm,0.3s							
ATPI	**Pietralunga -**	**0.65**	**316**	⇑P	Pb	09 39 26.9	+0.3	
ATPI				S	Sb	09 39 36.5	+0.7	
ATPI				AML	AML			
	comp=N,108μm,0.5s							
ATPI				AML	AML			
	comp=E,109μm,0.5s							
PIEI	**Pieia**	**0.66**	**327**	⇓P	Pg	09 39 26.1	+0.4	
PIEI				S	Sb	09 39 36.7	+0.6	
PIEI				AML	AML			
	comp=E,277μm,0.3s							
PIEI				AML	AML			
	comp=N,174μm,1.2s							
PIEI				AML	AML			
	comp=N,168μm,0.1s							
PIEI				AML	AML			
	comp=E,277μm,0.3s							
GIGS	**Gran Sasso**	**0.67**	**143**	⇓P	Pg	09 39 25.8	0.0	
GIGS				S	Sb	09 39 36.1	-0.2	
GIGS				AML	AML			
	comp=N,37μm,0.3s							
GIGS				AML	AML			
	comp=E,38μm,0.4s							
MPAG	**Monte Paganucc**	**0.68**	**344**	⇑P	Pb	09 39 26.5	-0.5	
MPAG				S	Sb	09 39 37.3	+0.7	
MPAG				AML	AML			
	comp=E,325μm,0.9s							
MPAG				AML	AML			
	comp=N,314μm,0.2s							
MPAG				AML	AML			
	comp=N,314μm,0.2s							
MPAG				AML	AML			
	comp=E,256μm,0.2s							
BADI	**Badiali**	**0.78**	**313**	S	Sn	09 39 40.9	-1.1	
CAFI	**Castiglion Fio**	**0.85**	**295**	S	Sb	09 39 41.7	+0.3	
CAFI				AML	AML			
	comp=E,92μm,0.7s							
CAFI				AML	AML			
	comp=N,56μm,1.1s							
T0110	**Collepietro**	**0.94**	**143**	⇓P	Pg	09 39 30.8	-0.2	
T0110				AML	AML			
	comp=E,129μm,1.0s							
T0110				AML	AML			
	comp=N,152μm,0.4s							

ATH 28 09:41:12.0, 39.09N×22.88E, h29km±3km, ML1.7/2, Error ellipse: s-maj=6.9km s-min=1.4km az=150.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.36**	**41**	P	Pb	09 41 20.6	+0.3
XOR				S	Sb	09 41 25.7	-0.3
XOR				AML	AML	09 41 27.0	
	comp=E,186μm,0.4s						
XOR				AML	AML	09 41 29.1	
	comp=N,253μm,0.4s						
AGG	**Agios Georgios**	**0.43**	**261**	P	Pb	09 41 20.9	-0.5
AGG				S	Sb	09 41 27.8	0.0
MAKR	**Makrakomi, Fth**	**0.59**	**262**	P	Pb	09 41 23.8	-0.1
MAKR				S	Sb	09 41 31.9	-0.1
MAKR				AML	AML	09 41 35.1	
	comp=E,192μm,0.3s						
MAKR				AML	AML	09 41 36.9	
	comp=N,203μm,0.4s						
TYRN	**Tyrnavos**	**0.80**	**321**	P	Pn	09 41 26.4	-0.9
TYRN				S	Sb	09 41 37.3	-0.5
THL	**Klokotos Trika**	**0.82**	**305**	P	Pn	09 41 26.5	-1.1

ROM 28 09:42:01.3±0.2, 43.025N±0.006×13.029E±0.006, h8km±1km, ML1.3/5, 7C-3D, Error ellipse: s-maj=0.6km s-min=0.2km az=160.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1219	**Muccia, Frazio**	**0.03**	**333**	P	Pg	09 42 02.9	0.0
T1219				S	Sg	09 42 03.9	-0.1
T1219				AML	AML		
	comp=N,356μm,0.5s						
T1219				AML	AML		
	comp=E,492μm,0.3s						
T1219				AML	AML		
	comp=N,334μm,0.5s						
T1219				AML	AML		
	comp=N,514μm,0.4s						
T1219				AML	AML		
	comp=N,524μm,0.3s						
T1219				AML	AML		
	comp=E,470μm,0.2s						
FDMO	**Fiordimonte**	**0.04**	**75**	P	Pg	09 42 02.7	-0.2
FDMO				S	Sg	09 42 03.6	-0.5
CESI	**CESI - Serrava**	**0.09**	**257**	⇑P	Pg	09 42 04.1	+0.5
CESI				S	Sg	09 42 06.3	+1.1
CESI				AML	AML		
	comp=N,158μm,0.2s						
CESI				AML	AML		
	comp=E,145μm,0.6s						
T1220	**Camerino, Fraz**	**0.10**	**27**	⇑P	Pg	09 42 04.1	+0.5
T1220				S	Sg	09 42 06.3	+1.1
T1220				AML	AML		
	comp=E,570μm,0.3s						
T1220				AML	AML		
	comp=N,531μm,0.5s						
T1220				AML	AML		
	comp=N,544μm,0.5s						
T1220				AML	AML		
	comp=E,570μm,0.4s						
T1220				AML	AML		
	comp=N,531μm,0.5s						
T1220				AML	AML		
	comp=E,542μm,0.4s						
T1220				AML	AML		
	comp=N,544μm,0.5s						
T1220				AML	AML		
	comp=N,544μm,0.5s						
T1220				AML	AML		
	comp=E,570μm,0.3s						
T1220				AML	AML		
	comp=N,531μm,1.5s						
T1220				AML	AML		
	comp=N,544μm,1.5s						
T1216	**Preci, Frazion**	**0.14**	**183**	⇓P	Pg	09 42 04.7	+0.5
T1216				AML	AML		
	comp=E,150μm,1.2s						
T1216				AML	AML		
	comp=E,151μm,1.2s						
T1216				AML	AML		
	comp=N,172μm,0.8s						
T1216				AML	AML		
	comp=N,172μm,0.8s						
T1216				AML	AML		
	comp=N,172μm,1.2s						
T1216				AML	AML		
	comp=E,151μm,0.8s						
CSP1	**Cessapalombo**	**0.14**	**63**	⇑P	Pg	09 42 04.8	+0.4
CSP1				S	Sg	09 42 07.6	+1.0
CSP1				AML	AML		
	comp=E,166μm,0.3s						
CSP1				AML	AML		
	comp=N,154μm,0.9s						
CSP1				AML	AML		
	comp=E,166μm,0.3s						
CSP1				AML	AML		
	comp=N,154μm,0.9s						
MC2	**Monte Cornacci**	**0.16**	**133**	⇑P	Pg	09 42 05.1	+0.4
MC2				S	Sg	09 42 08.5	+1.4
T1245	**Castelsantange**	**0.20**	**145**	⇑P	Pg	09 42 05.7	+0.3
T1245				AML	AML		
	comp=E,142μm,0.3s						
T1245				AML	AML		
	comp=N,179μm,0.7s						
T1245				AML	AML		
	comp=E,142μm,1.7s						
SNTG	**Esanatoglia**	**0.24**	**344**	⇓P	Pg	09 42 07.1	+1.0
SNTG				AML	AML		
	comp=E,862μm,1.6s						
SNTG				AML	AML		
	comp=N,821μm,0.7s						
SNTG				AML	AML		
	comp=E,856μm,0.8s						
SNTG				AML	AML		
	comp=N,772μm,1.0s						
SNTG				AML	AML		
	comp=E,856μm,1.2s						
T1215	**Vallo di Nera,**	**0.25**	**208**	⇑P	Pg	09 42 06.8	+0.4
ASSB	**Assisi San Ben**	**0.27**	**274**	⇑P	Pg	09 42 07.3	+0.6
T1212	**Cascia, Frazio**	**0.27**	**178**	P	Pg	09 42 07.4	+0.6
EL6	**Elcito**	**0.31**	**10**	⇓P	Pg	09 42 08.1	+0.7

*IDC **28** 09:51:51.2±4.1, 5.68S×152.29E, h55km±29km, mb3.4/4, mbtmp3.7/5, ML1.8/1, Error ellipse: s-maj=60.7km s-min=14.2km az=106.0*
ISC 28 09:51:50.9±1.6, 5.7S±0.1×152.1E±0.2, h50km, n7, σ1§63/9,

mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.37**	**356**	P	**Pn**	**09 52 13.7**	**-0.1**
	1μm,0.4s,baz=79,slow=3.0,SNR=33						
KRVT				S	**Sn**	**09 52 31.8**	**+1.0**
	3μm,0.4s,baz=4.0,slow=21,SNR=24						
KRVT				LR	LR	09 52 47.6	
	comp=Z,382nm,18.6s,baz=45,slow=40						
PMG	**Port Moresby**	**6.16**	**233**	P	**Pn**	**09 53 21.2**	**+1.8**
	1.5nm,0.3s,baz=57,slow=17,SNR=3.2						
PMG				S	**Sn**	**09 54 25.8**	**-2.8**
	15nm,0.5s,baz=143,slow=22,SNR=2.2						
	6.8nm,0.4s						
WRA	**Warramunga Arr**	**22.36**	**229**	P	**P**	**09 56 46.2**	**+1.2**
	2.2nm,0.8s,baz=52,slow=10.0,SNR=13						
	2.2nm,0.8s						
ASAR	**Alice Springs**	**25.05**	**223**	P	**P**	**09 57 11.9**	**+1.1**
	1.6nm,0.7s,baz=61,slow=8.5,SNR=23						
	1.6nm,0.7s						
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**10 03 57.6**	**-0.4**
	0.5nm,0.8s,baz=104,slow=5.8,SNR=3.7						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**10 04 11.0**	**-0.7**
	0.3nm,0.8s,baz=251,slow=4.7,SNR=4.3						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.93**	**286**	PKPbc	**PKiKP**	**10 11 36.9**	**-0.8**
	2.9nm,0.7s,baz=73,slow=3.1,SNR=18						

IDC 28 09:53:55.4±2.8, 5°78S×152°44E, h0km, mb3.5/2, mbtmp3.6/3, ML1.1/1, Error ellipse: s-maj=62.5km s-min=14.3km az=91.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.52**	**344**	Pg	Pb	09 54 24.5	0.0
	173nm,0.3s,baz=237,slow=2.9,SNR=12						
KRVT				Lg	Lg	09 54 43.2	
	504nm,0.3s,baz=141,slow=20,SNR=8.5						
PMG	**Port Moresby**	**6.35**	**235**	Pn	Pn	09 55 31.5	+1.2
	0.3nm,0.3s,baz=36,slow=19,SNR=0.7						
PMG				Sn	Sn	09 56 37.4	-6.3
	3.8nm,0.3s,baz=148,slow=17,SNR=3.0						
	2.9nm,0.3s						
WRA	**Warramunga Arr**	**22.53**	**230**	P	P	09 58 57.1	0.0
	1.0nm,0.6s,baz=52,slow=10,SNR=4.8						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**25.19**	**223**	P	P	09 59 22.9	0.0
	0.8nm,0.7s,baz=61,slow=8.4,SNR=5.6						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.25**	**286**	PKPbc	PKPbc	10 13 48.4	-1.3
	1.3nm,0.7s,baz=63,slow=3.2,SNR=6.6						

*NNC **28** 10:07:19.1±1.4, 51°.72N×75°.46E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=20.5km s-min=8.4km az=19.0, Suspected Mining explosion.*
*IDC **28** 10:07:21.7±1.2, 51°.72N×75°.67E, h0km, mbtmp2.6/3, ML1.9/3, Error ellipse: s-maj=23.8km s-min=9.8km az=31.0*
ISC 28 10:07:18.4±1.0, 51°.70N±0°.09×75°.26E±0°.06, h0km, n9, σ1°33/10, 4C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.32**	**116**	⇓Pg	**Pb**	**10 08 01.0**	**-0.2**
	2.1nm,0.4s						
KURBB				⇓Lg	Lg	10 08 30.4	
	35nm,0.6s						
KURK	**Kurchatov**	**2.33**	**114**	⇑Pg	**Pn**	**10 07 59.3**	**+1.3**
	1.7nm,0.5s						
KURK				⇑Lg	Lg	10 08 28.1	
	6.6nm,0.5s						
BVA0	**Borovoye Array**	**3.27**	**296**	Pg	**Pg**	**10 08 20.5**	**-0.5**
	0.8nm,0.6s,baz=111,slow=16,SNR=6.7						
BVA0				Lg	Lg	10 09 04.8	
	5.9nm,0.5s,baz=110,slow=26,SNR=7.9						
BVAR	**Borovoye Array**	**3.27**	**296**	Pn	**Pb**	**10 08 16.3**	**-1.0**
	baz=106,slow=14,SNR=5.3						
BVAR				Sn	**Sb**	**10 08 59.5**	**+1.9**
	0.1nm,0.3s,baz=106,slow=24,SNR=5.3						
	0.6nm,0.4s						
OTUK	**Ortayu**	**3.94**	**210**	⇑Lg	Lg	10 09 26.9	
	1.1nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.21**	**65**	I	I	10 43 59.2	
	baz=250,slow=326,SNR=4.3						
ZALV	**Zalesovo Beam**	**6.21**	**65**	Pn	**Pn**	**10 08 52.0**	**+0.7**
	0.3nm,0.3s,baz=255,slow=14,SNR=3.7						
ZALV				Sn	**Sn**	**10 10 01.8**	**-1.1**
	0.2nm,0.3s,baz=250,slow=21,SNR=2.2						
ZALV				Lg	Lg	10 10 31.3	
	0.1nm,0.3s,baz=252,slow=27,SNR=1.3						
	0.8nm,0.4s						
MK31	**Makanchi Array**	**6.73**	**134**	⇓Sn	**Sn**	**10 10 15.6**	**-0.2**
	0.2nm,0.4s,baz=333,slow=24,SNR=4.6						
MK31				⇑Lg	Lg	10 10 47.8	
	1.4nm,0.6s,baz=326,slow=26,SNR=9.3						
MKAR	**Makanchi Array**	**6.73**	**134**	Pn	**Pn**	**10 08 59.0**	**+0.6**
	baz=319,slow=13,SNR=2.2						
MKAR				Sn	**Sn**	**10 10 13.8**	**-2.0**
	0.2nm,0.3s,baz=317,slow=22,SNR=6.2						
MKAR				Lg	Lg	10 10 50.1	
	0.3nm,0.3s,baz=318,slow=29,SNR=10						
	0.1nm,0.4s						

*IDC **28** 10:13:12.5±2.9, 30°.87S×67°.47W, h40km±24km, mb3.6/2, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=26.7km s-min=23.2km az=90.0*
ISC 28 10:13:11.5±0.9, 30°.89S±0°.09×67°.5W±0°.1, h31km, n8, σ0°82/10, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**8.35**	**351**	P	**Pn**	**10 15 11.4**	**+0.7**
	0.3nm,0.3s,baz=171,slow=13,SNR=2.6						
LVC				S	**Sn**	**10 16 44.4**	**+0.3**
	2.7nm,0.8s,baz=262,slow=18,SNR=1.5						
	1.4nm,0.3s						
CPUP	**Villa Florida**	**9.99**	**65**	P	**Pn**	**10 15 33.4**	**+0.5**
	0.3nm,0.3s,baz=244,slow=11,SNR=2.2						
CPUP				S	**Sn**	**10 17 23.4**	**-0.4**
	4.4nm,0.6s,baz=242,slow=13,SNR=4.5						
	1.5nm,0.5s						
PLCA	**Paso Flores**	**10.14**	**193**	P	**Pn**	**10 15 35.8**	**+0.8**
	0.1nm,0.3s,baz=14,slow=10,SNR=6.8						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**69.10**	**326**	P	**P**	**10 24 14.0**	**-0.7**
	0.3nm,0.6s,baz=160,slow=8.0,SNR=3.8						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**79.48**	**68**	P	**P**	**10 25 15.7**	**+0.3**
	1.7nm,0.6s,baz=269,slow=5.3,SNR=10						
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**125.30**	**205**	PKP	**PKPdf**	**10 32 08.6**	**-1.2**
	0.2nm,0.3s,baz=152,slow=1.7,SNR=1.9						
ZALV	**Zalesovo Beam**	**149.52**	**33**	PKPbc	**PKPbc**	**10 32 56.3**	**-0.9**
	0.3nm,0.3s,baz=280,slow=0.9,SNR=4.1						
MKAR	**Makanchi Array**	**151.81**	**47**	PKPbc	**PKPbc**	**10 33 02.6**	**-0.3**
	0.7nm,0.6s,baz=290,slow=2.6,SNR=7.1						

*KRSC **28** 10:28:15.4±0.9, 54°.85N×162°.37E, h62km±24km, Ml4.6*
*MOS **28** 10:28:17.5±0.8, 54°.89N×162°.26E, h50km, mb4.5/13, Error ellipse: s-maj=7.6km s-min=4.2km az=79.4*
*IDC **28** 10:28:19.8±2.3, 55°.01N×161°.93E, h50km±22km, mb3.7/20, mbtmp4.0/23, ML3.4/3, MS3.1/7, Error ellipse: s-maj=17.7km s-min=11.6km az=143.0*
*NEIC **28** 10:28:19.2±1.1, 55°.0N±0°.1×162°.0E±0°.2, h41km±8km, mb4.4/24, Error ellipse: s-maj=21.3km s-min=12.3km az=139.0*
ISC 28 10:28:18.7±0.8, 54°.86N±0°.03×162°.29E±0°.03, h46km±8km, n169, σ1°13/186, mb4.2/37, 3C-6D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.14**	**288**	*i* P	**Pn**	**10 28 36.6**	**-1.7**
TUMR	**Tumrok**	**1.30**	**290**	PN	**Pn**	**10 28 39.4**	**-1.2**
TUMR	**Tumrok**	**1.30**	**290**	*i* P	**Pn**	**10 28 39.4**	**-1.2**
KBTR	**Krutoberegovo**	**1.38**	**12**	PN	**Pn**	**10 28 40.1**	**-1.4**
KBTR				S	**Sn**	**10 28 59.4**	**+0.8**
KBTR	**Krutoberegovo**	**1.38**	**12**	*e*P	**Pn**	**10 28 40.1**	**-1.4**
KBTR				*e*S	**Sn**	**10 28 59.4**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.41**	**321**	PN	**Pn**	**10 28 41.3**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.41**	**321**	*e*P	**Pn**	**10 28 41.3**	**-0.8**
BZP	**Bezymyannyi-Pe**	**1.45**	**317**	*e*P	**Pn**	**10 28 41.2**	**-1.4**
KMNR	**Kamenistaya**	**1.48**	**308**	PN	**Pn**	**10 28 42.0**	**-0.9**
KMNR	**Kamenistaya**	**1.48**	**308**	*e*P	**Pn**	**10 28 42.0**	**-0.9**
BZMR	**Bezymyannaya**	**1.49**	**317**	*e*P	**Pn**	**10 28 42.4**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.51**	**318**	PN	**Pn**	**10 28 43.1**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.51**	**318**	*e*P	**Pn**	**10 28 43.1**	**-0.3**
LGNR	**Loginova**	**1.53**	**324**	PN	**Pn**	**10 28 43.4**	**-0.4**
LGNR	**Loginova**	**1.53**	**324**	*e*P	**Pn**	**10 28 43.4**	**-0.4**
CIRR	**Tsirk**	**1.53**	**326**	PN	**Pn**	**10 28 43.4**	**-0.4**
CIRR	**Tsirk**	**1.53**	**326**	*e*P	**Pn**	**10 28 43.4**	**-0.4**
KIRR	**Kirishev**	**1.56**	**315**	PN	**Pn**	**10 28 43.5**	**-0.6**
KIRR	**Kirishev**	**1.56**	**315**	*e*P	**Pn**	**10 28 43.5**	**-0.6**
KPT	**Kopyto**	**1.62**	**314**	PN	**Pn**	**10 28 44.4**	**-0.4**
KPT	**Kopyto**	**1.62**	**314**	*e*P	**Pn**	**10 28 44.4**	**-0.4**
KLY	**Klyuchi**	**1.73**	**328**	PN	**Pn**	**10 28 44.6**	**-1.6**
KLY				S	**Sn**	**10 29 05.8**	**-1.3**
KLY	**Klyuchi**	**1.73**	**328**	*e*P	**Pn**	**10 28 44.6**	**-1.6**
KLY				*e*S	**Sn**	**10 29 05.8**	**-1.3**
SMKR	**Semkarok**	**1.79**	**345**	PN	**Pn**	**10 28 46.6**	**-0.6**
SMKR	**Semkarok**	**1.79**	**345**	*e*P	**Pn**	**10 28 46.6**	**-0.6**
KOZ	**Kozyrevsk**	**1.83**	**312**	PN	**Pn**	**10 28 47.2**	**-0.4**
KOZ	**Kozyrevsk**	**1.83**	**312**	*e*P	**Pn**	**10 28 47.2**	**-0.4**
SRDR	**Sredinnyy**	**2.07**	**316**	PN	**Pn**	**10 28 50.2**	**-0.8**
SRDR	**Sredinnyy**	**2.07**	**316**	*e*P	**Pn**	**10 28 50.2**	**-0.8**
BKI	**Bering**	**2.15**	**79**	PN	**Pn**	**10 28 51.0**	**-0.9**
BKI				S	**Sn**	**10 29 15.0**	**-2.3**
BKI	**Bering**	**2.15**	**79**	*i* P	**Pn**	**10 28 51.0**	**-0.9**
BKI				*e*S	**Sn**	**10 29 15.0**	**-2.3**
SPN	**Mys Shipunski**	**2.22**	**218**	PN	**Pn**	**10 28 51.9**	**-1.1**
SPN				S	**Sn**	**10 29 15.2**	**-3.9**
SPN	**Mys Shipunski**	**2.22**	**218**	*e*P	**Pn**	**10 28 51.9**	**-1.1**
SPN				*e*S	**Sn**	**10 29 15.2**	**-3.9**
ESO	**Esso**	**2.31**	**299**	PN	**Pn**	**10 28 54.7**	**+0.5**
ESO	**Esso**	**2.31**	**299**	*e*P	**Pn**	**10 28 54.7**	**+0.5**
NLC	**Nalytchevo**	**2.43**	**227**	PN	**Pn**	**10 28 57.0**	**+1.2**
NLC				S	**Sn**	**10 29 24.6**	**+0.4**
NLC	**Nalytchevo**	**2.43**	**227**	*e*P	**Pn**	**10 28 57.0**	**+1.2**
NLC				*e*S	**Sn**	**10 29 24.6**	**+0.4**
SDLR	**Sedlovina**	**2.56**	**233**	PN	**Pn**	**10 28 57.7**	**-0.1**
SDLR	**Sedlovina**	**2.56**	**233**	*e*P	**Pn**	**10 28 57.7**	**-0.1**
KRER	**Koryakskii**	**2.61**	**235**	PN	**Pn**	**10 28 58.5**	**0.0**
KRER	**Koryakskii**	**2.61**	**235**	*e*P	**Pn**	**10 28 58.5**	**0.0**
SMAR	**Somma**	**2.61**	**234**	PN	**Pn**	**10 28 58.4**	**-0.1**
SMAR	**Somma**	**2.61**	**234**	*e*P	**Pn**	**10 28 58.4**	**-0.1**
KRX	**Arik**	**2.62**	**236**	PN	**Pn**	**10 28 58.9**	**+0.3**
KRX	**Arik**	**2.62**	**236**	*e*P	**Pn**	**10 28 58.9**	**+0.3**
UGLR	**Uglovaya**	**2.63**	**232**	PN	**Pn**	**10 28 58.7**	**-0.1**
UGLR	**Uglovaya**	**2.63**	**232**	*e*P	**Pn**	**10 28 58.7**	**-0.1**
AVH	**Avacha**	**2.64**	**234**	PN	**Pn**	**10 28 59.0**	**+0.2**
AVH				S	**Sn**	**10 29 30.6**	**+1.1**
AVH	**Avacha**	**2.64**	**234**	*e*P	**Pn**	**10 28 59.0**	**+0.2**
AVH				*e*S	**Sn**	**10 29 30.6**	**+1.1**
KOK	**Koryaka**	**2.67**	**235**	PN	**Pn**	**10 28 59.3**	**+0.1**
KOK	**Koryaka**	**2.67**	**235**	*e*P	**Pn**	**10 28 59.3**	**+0.1**
DALK	**Dalny**	**2.78**	**230**	PN	**Pn**	**10 29 00.3**	**-0.4**
DALK				S	**Sn**	**10 29 32.2**	**-0.8**
DALK	**Dalny**	**2.78**	**230**	*e*P	**Pn**	**10 29 00.3**	**-0.4**
DALK				*e*S	**Sn**	**10 29 32.2**	**-0.8**
GNL	**Ganaly**	**2.81**	**247**	PN	**Pn**	**10 29 01.1**	**0.0**
GNL	**Ganaly**	**2.81**	**247**	*e*P	**Pn**	**10 29 01.1**	**0.0**
INSR	**Institute**	**2.83**	**232**	*e*P	**Pn**	**10 29 02.1**	**+0.8**
INSR				*e*S	**Sn**	**10 29 36.3**	**+2.2**
PET	**Petropavlovsk**	**2.83**	**231**		**Pn**	**10 29 01.5**	**+0.2**
PET				Sn	**Sn**	**10 29 33.9**	**-0.3**
PET	**Petropavlovsk**	**2.83**	**231**	*ce*PN	**Pn**	**10 29 01.2**	**-0.2**
PET	**Petropavlovsk**	**2.83**	**231**	*e*P	**Pn**	**10 29 01.1**	**-0.2**
PET				*e*S	**Sn**	**10 29 33.9**	**-0.9**
KRMR	**Karymshinskiy**	**3.20**	**232**	PN	**Pn**	**10 29 06.8**	**+0.4**
KRMR				S	**Sn**	**10 29 44.3**	**+1.1**
KRMR	**Karymshinskiy**	**3.20**	**232**	*e*P	**Pn**	**10 29 06.8**	**+0.4**
KRMR				*e*S	**Sn**	**10 29 44.3**	**+1.1**
PEA0B	**Petropavlovsk-**	**3.23**	**239**		**Pn**	**10 29 07.3**	**+0.4**
PEA0B	**Petropavlovsk-**	**3.23**	**239**	PN	**Pn**	**10 29 07.3**	**+0.4**
PETK	**Petropavlovsk-**	**3.23**	**239**	P	**Pn**	**10 29 06.0**	**-0.8**
	4.2nm,0.3s,baz=70,slow=16,SNR=76						
PETK				S	**Sn**	**10 29 43.7**	**-0.4**
	41nm,0.8s,baz=88,slow=17,SNR=6.4						
PETK				LR	LR	10 30 33.3	
	comp=Z,233nm,20.1s,baz=61,slow=42						
	8.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.23**	**239**	Pn	**Pn**	**10 29 07.1**	**+0.2**
RUS	**Russkaya**	**3.31**	**224**	PN	**Pn**	**10 29 08.0**	**0.0**
RUS				S	**Sn**	**10 29 45.5**	**-0.5**
RUS	**Russkaya**	**3.31**	**224**	*e*P	**Pn**	**10 29 08.0**	**0.0**
RUS				*e*S	**Sn**	**10 29 45.5**	**-0.5**
GRL	**Gorelyy**	**3.41**	**229**	PN	**Pn**	**10 29 09.3**	**-0.1**
GRL	**Gorelyy**	**3.41**	**229**	*e*P	**Pn**	**10 29 09.3**	**-0.1**
MTVR	**Mutnovka**	**3.41**	**227**	PN	**Pn**	**10 29 10.0**	**+0.5**
MTVR	**Mutnovka**	**3.41**	**227**	*e*P	**Pn**	**10 29 10.0**	**+0.5**
TIGL	**Tigil**	**3.54**	**327**	*e*P	**Pn**	**10 29 10.5**	**-0.6**
APC	**Apacha**	**3.60**	**240**	PN	**Pn**	**10 29 13.1**	**+1.1**
APC	**Apacha**	**3.60**	**240**	*e*P	**Pn**	**10 29 13.1**	**+1.1**
OSSR	**Ossora**	**4.42**	**5**	PN	**Pn**	**10 29 22.6**	**-0.5**
OSSR	**Ossora**	**4.42**	**5**	*e*P	**Pn**	**10 29 22.6**	**-0.5**
PALN	**Palana**	**4.43**	**344**	PN	**Pn**	**10 29 25.4**	**+2.2**
PALN	**Palana**	**4.43**	**344**	*e*P	**Pn**	**10 29 25.4**	**+2.2**
TILK	**Tilichiki**	**5.97**	**19**	PN	**Pn**	**10 29 45.3**	**+1.0**
TILK	**Tilichiki**	**5.97**	**19**	*e*P	**Pn**	**10 29 45.3**	**+1.0**
SHEM	**Shemya Is, Ala**	**7.31**	**102**	LR	LR	10 32 58.8	
	comp=Z,130nm,18.9s,baz=16,slow=37						
MA2	**Magadan**	**7.83**	**312**	LR	LR	10 33 33.9	
	comp=Z,126nm,19.2s,baz=132,slow=41						
KMSK	**Kamenskaya**	**7.89**	**13**	PN	**Pn**	**10 30 10.1**	**-0.6**
KMSK	**Kamenskaya**	**7.89**	**13**	*e*P	**Pn**	**10 30 10.1**	**-0.6**
BILL	**Bilibino**	**13.36**	**6**	*e*PN	**Pn**	**10 31 27.6**	**+2.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ASAJ	**Asahikawa**	**16.65**	**238**	P	**Pn**	**10 32 08.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=195,slow=28,SNR=1.9						
ASAJ				LR	LR	10 38 01.9	
	comp=Z,86nm,20.0s,baz=232,slow=35						
	comp=Z,111nm,0.9s						
ERM	**Erimo**	**17.99**	**232**	⇓*e*P	**P**	**10 32 24.7**	**-0.5**
TNA	**Tin City**	**18.06**	**42**		**P**	**10 32 25.9**	**+0.1**
YAK	**Yakutsk**	**18.35**	**306**	LR	LR	10 39 29.4	
	comp=Z,63nm,21.8s,baz=352,slow=37						
KLR	**Kul'dur**	**19.51**	**266**	P	**P**	**10 32 41.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=53,slow=5.7,SNR=6.6						
KLR				LR	LR	10 40 22.5	
	comp=Z,76nm,18.1s,baz=60,slow=37						
	comp=Z,0.8nm,0.4s						
JTM	**Tenmabayashi**	**19.92**	**234**	P	**P**	**10 32 46.3**	**0.0**
TIXI	**Tiksi**	**22.07**	**332**	P	**P**	**10 33 08.0**	**-1.1**
	comp=Z,3.6nm,0.5s,baz=90,slow=20,SNR=10.0						
	comp=Z,3.6nm,0.5s						
TIXI	**Tiksi**	**22.07**	**332**	P	**P**	**10 33 07.2**	**-2.0**
TIXI	**Tiksi**	**22.07**	**332**	⇓*i* P	**P**	**10 33 08.1**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JMM	**Marumori**	**22.41**	**230**	P	**P**	**10 33 14.1**	**+0.9**
JMM				IAmb	IAmb	10 33 32.4	
	comp=Z,47nm,1.4s						
IMAR	**Indian Mountai**	**23.82**	**45**	P	**P**	**10 33 27.2**	**+0.1**
H21K	**Melozitna Rive**	**24.18**	**46**	P	**P**	**10 33 31.7**	**+1.4**
CAST	**Castle Rocks**	**24.41**	**51**	P	**P**	**10 33 33.5**	**+1.0**
MJA0	**Matsu Arr-Jizo**	**24.64**	**232**	*e*P	**P**	**10 33 34.9**	**0.0**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR	**Matsushiro Arr**	**24.66**	**232**	P	**P**	**10 33 35.0**	**0.0**
	comp=Z,4.4nm,0.8s,baz=32,slow=8.7,SNR=12						
	comp=Z,4.4nm,0.8s						
MJAR	**Matsushiro Arr**	**24.66**	**232**	P	**P**	**10 33 35.0**	**0.0**
MAJO	**Matsushiro**	**24.66**	**232**	P	**P**	**10 33 35.3**	**+0.3**
MAJO				IAmb	IAmb	10 33 35.9	
	comp=Z,7.6nm,0.7s						
MAJO	**Matsushiro**	**24.66**	**232**	P	**P**	**10 33 35.3**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KTH	**Kantishna Hill**	**24.93**	**51**	P	**P**	**10 33 38.2**	**+1.0**
KTH				IAmb	IAmb	10 33 47.0	
	comp=Z,7.5nm,1.3s						
COLD	**Coldfoot**	**25.36**	**42**	P	**P**	**10 33 41.6**	**+0.6**
HIA	**Hailar**	**26.43**	**276**	⇓*e*P	**P**	**10 33 50.3**	**-0.6**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**26.65**	**48**	P	**P**	**10 33 53.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=256,slow=8.6,SNR=7.1						
	comp=Z,0.5nm,0.8s						
BMAR	**Burnt Mountain**	**27.55**	**42**	P	**P**	**10 34 01.6**	**+0.8**
KSRS	**Korea Array**	**29.09**	**248**	P	**P**	**10 34 14.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=46,slow=11,SNR=1.8						
	comp=Z,0.3nm,0.5s						
INK	**Inuvik**	**31.67**	**40**	P	**P**	**10 34 37.7**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=282,slow=5.2,SNR=7.4						
	comp=Z,1.1nm,0.7s						
C36M	**Paulatuk**	**34.85**	**37**	P	**P**	**10 35 05.5**	**+0.7**
C36M				IAmb	IAmb	10 35 06.1	
	comp=Z,5.2nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.25**	**172**	T	T	11 12 27.7	
	baz=355,slow=76,SNR=91						
H11N3	**WAKE ISLAND Hy**	**35.26**	**172**	T	T	11 12 27.2	
	baz=355,slow=76,SNR=75						
H11N1	**WAKE ISLAND Hy**	**35.26**	**172**	T	T	11 12 30.7	
	baz=355,slow=76,SNR=105						
EUNU	**Eureka**	**39.91**	**15**	P	**P**	**10 35 48.5**	**+0.8**
EUNU				IAmb	IAmb	10 35 48.7	
	comp=Z,6.7nm,0.7s						
YKA	**Yellowknife Ar**	**40.98**	**45**	P	**P**	**10 35 57.6**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=298,slow=7.9						
	comp=Z,1.5nm,0.6s						
RES	**Resolute Bay**	**41.19**	**23**	P	**P**	**10 35 58.7**	**+0.6**
RES	**Resolute Bay**	**41.19**	**23**	P	**P**	**10 35 58.7**	**+0.6**
RES				pmax	pmax		
	comp=Z,6.0nm,1.5s						
DGZ	**Jazzator, Alta**	**44.06**	**296**	⇑*e*P	**P**	**10 36 19.6**	**-2.3**
SPITS	**Spitsbergen Ar**	**45.60**	**351**	P	**P**	**10 36 32.9**	**-0.7**
SPITS				pmax	pmax		
	comp=Z,36nm,1.3s						
MK31	**Makanchi Array**	**48.56**	**296**	⇓*e*P	**P**	**10 36 54.3**	**-2.8**
MKAR	**Makanchi Array**	**48.56**	**296**	P	**P**	**10 36 55.2**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=52,slow=7.2,SNR=6.6						
	comp=Z,0.4nm,0.5s						
BRVK	**Borovoye**	**50.33**	**308**	*e*P	**P**	**10 37 10.0**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,2.2s						
FCC	**Fort Churchill**	**51.29**	**40**	P	**P**	**10 37 18.0**	**+0.5**
FCC	**Fort Churchill**	**51.29**	**40**	P	**P**	**10 37 18.0**	**+0.5**
ARU	**Arti**	**52.97**	**317**	⇓*e*P	**P**	**10 37 28.1**	**-2.0**
ARU				pmax	pmax		
	comp=Z,22nm,3.1s						
NVAR	**Mina Array Bea**	**53.95**	**73**	P	**P**	**10 37 39.9**	**+2.1**
	comp=Z,2.0nm,0.5s,baz=304,slow=8.7,SNR=2.2						
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**55.45**	**296**	⇓*e*P	**P**	**10 37 46.9**	**-1.7**
AAK				pmax	pmax		
	comp=Z,11nm,3.8s						
PDAR	**Pinedale Array**	**55.54**	**63**	P	**P**	**10 37 51.2**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=320,slow=1.4,SNR=8.4						
	comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**55.54**	**63**	P	**P**	**10 37 51.5**	**+2.2**
KK31	**Karatay Array**	**57.15**	**299**	P	**P**	**10 38 02.7**	**+2.2**
KK31	**Karatay Array**	**57.15**	**299**	P	**P**	**10 38 02.7**	**+2.2**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KKAR	**Karatay Array**	**57.15**	**299**	P	**P**	**10 38 02.7**	**+2.3**
KKAR	**Karatay Array**	**57.15**	**299**	P	**P**	**10 38 02.8**	**+2.3**
KKAR	**Karatay Array**	**57.15**	**299**	P	**P**	**10 38 02.8**	**+2.3**
ABKAR	**Akbulak array**	**57.63**	**311**	P	**P**	**10 38 02.9**	**-0.8**
ABKAR				IAmb	IAmb	10 38 03.8	
	comp=Z,2.8nm,1.2s						
FIA1	**FINESS Array S**	**59.00**	**337**	P	**P**	**10 38 12.0**	**-1.1**
FINES	**FINESS Array B**	**59.00**	**337**	P	**P**	**10 38 11.9**	**-1.2**
	comp=Z,3.6nm,0.5s,baz=35,slow=8.6,SNR=41						
	comp=Z,3.6nm,0.5s						
FINES	**FINESS Array B**	**59.00**	**337**	P	**P**	**10 38 11.7**	**-1.4**
FINES	**FINESS Array B**	**59.00**	**337**	*i* P	**P**	**10 38 12.0**	**-1.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**59.81**	**259**	P	**P**	**10 38 19.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=29,slow=6.7,SNR=7.8						
CMAR				LR	LR	11 05 31.1	
	comp=Z,20nm

GPNR	**Gulpinar-Canak**	**0.08**	**171**	Pg	**Pg**	**10 33 54.9**	**-0.3**
BOZC	**Bozcaada**	**0.31**	**351**	Pg	**Pg**	**10 33 59.1**	**+0.1**
BOZC				Sg	**Sg**	**10 34 03.6**	**+0.4**
BOZC	**Bozcaada**	**0.31**	**351**	P	**Pg**	**10 33 59.2**	**+0.1**
BOZC				*i* AML	AML	10 34 03.0	
	comp=E,1μm,0.2s						
BOZC				S	**Sg**	**10 34 03.4**	**+0.1**
BOZC				*i* AML	AML	10 34 04.0	
	comp=N,941nm,0.3s						
EZN	**Ezine**	**0.33**	**29**	P	**Pg**	**10 33 59.9**	**+0.4**
EZN	**Ezine**	**0.33**	**29**	Pg	**Pg**	**10 33 59.3**	**-0.2**
EZN				Sg	**Sg**	**10 34 04.1**	**+0.2**
SIGR	**SIGRI**	**0.38**	**212**	P	**Pg**	**10 34 00.8**	**+0.4**
SIGR				S	**Sg**	**10 34 05.2**	**-0.2**
	800nm,0.4s						
SIGR	**SIGRI**	**0.38**	**212**	Pg	**Pg**	**10 34 00.4**	**0.0**
SIGR				Sg	**Sg**	**10 34 06.2**	**+0.7**
SIGR	**SIGRI**	**0.38**	**212**	P	**Pg**	**10 34 00.7**	**+0.3**
SIGR				S	**Sg**	**10 34 06.1**	**+0.7**
SIGR				AML	AML	10 34 06.8	
	comp=N,1947μm,0.3s						
SIGR				AML	AML	10 34 07.2	
	comp=E,1243μm,0.6s						
BAYC	**CANAKKALE_Bayr**	**0.39**	**58**	P	**Pg**	**10 34 00.5**	**-0.1**
BAYC				S	**Sg**	**10 34 05.8**	**+0.1**
BAYC				*i* AML	AML	10 34 06.0	
	comp=E,677nm,0.5s						
BAYC				*i* AML	AML	10 34 07.0	
	comp=E,285nm,0.1s						
AYVA	**Ayvalik**	**0.50**	**117**	P	**Pb**	**10 34 03.5**	**-0.2**
AYVA				S	**Sg**	**10 34 09.5**	**+0.4**
AYVA				*i* AML	AML	10 34 15.0	
	comp=E,184nm,0.3s						
AYVA				*i* AML	AML	10 34 17.0	
	comp=E,195nm,0.3s						
ECEA	**Canakkale, Ece**	**0.51**	**5**	P	**Pg**	**10 34 03.1**	**+0.3**
ECEA				*i* AML	AML	10 34 10.0	
	comp=E,323nm,0.3s						
ECEA				*i* AML	AML	10 34 10.0	
	comp=E,549nm,0.3s						
ECEA				S	**Sg**	**10 34 10.4**	**+0.8**
GADA	**Gvkgeada**	**0.68**	**346**	Pg	**Pg**	**10 34 05.9**	**0.0**
BUHA	**Balikesir, Bur**	**0.74**	**92**	P	**Pg**	**10 34 07.2**	**0.0**
BUHA				S	**Sb**	**10 34 17.6**	**-0.5**
BUHA				*i* AML	AML	10 34 18.0	
	comp=E,180nm,0.4s						
BUHA				*i* AML	AML	10 34 19.0	
	comp=E,207nm,0.3s						
DKL	**Dikili**	**0.77**	**127**	Pg	**Pg**	**10 34 07.2**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.90**	**18**	Pg	**Pg**	**10 34 09.9**	**-0.4**
ZEDA	**zmir-Bergama**	**0.94**	**127**	P	**Pb**	**10 34 11.6**	**+0.4**
ZEDA				S	**Sn**	**10 34 26.0**	**+0.4**
ZEDA				*i* AML	AML	10 34 26.0	
	comp=E,105nm,0.3s						
ZEDA				*i* AML	AML	10 34 26.0	
	comp=E,86nm,0.3s						
LPK	**Lapseki**	**0.97**	**30**	Pg	**Pg**	**10 34 11.2**	**-0.4**
SMTH	**Samothraki Isl**	**1.04**	**334**	P	**Pg**	**10 34 12.5**	**-0.3**
SMTH				S	**Sb**	**10 34 27.8**	**+1.2**
SMTH	**Samothraki Isl**	**1.04**	**334**	P	**Pg**	**10 34 12.3**	**-0.5**
SMTH				S	**Sg**	**10 34 26.7**	**+0.4**
SMTH				AML	AML	10 34 29.4	
	comp=N,284μm,0.3s						
SMTH				AML	AML	10 34 31.1	
	comp=E,189μm,0.4s						
PSRA	**Psara**	**1.08**	**204**	P	**Pg**	**10 34 13.5**	**-0.2**
PSRA				S	**Sb**	**10 34 28.7**	**+0.9**
CHOS	**Chios island**	**1.15**	**182**	P	**Pg**	**10 34 14.6**	**-0.4**
CHOS				S	**Sb**	**10 34 31.2**	**+1.3**
	comp=E,222nm,0.2s						
CHOS	**Chios island**	**1.15**	**182**	Pn	**Pg**	**10 34 14.5**	**-0.4**
CHOS	**Chios island**	**1.15**	**182**	P	**Pg**	**10 34 14.5**	**-0.4**
CHOS				S	**Sb**	**10 34 31.0**	**+1.1**
CHOS				AML	AML	10 34 34.9	
	comp=E,676μm,0.2s						
CHOS				AML	AML	10 34 34.9	
	comp=N,295μm,0.2s						
CAVK	**Edirne/Enez-Ca**	**1.16**	**2**	P	**Pg**	**10 34 15.3**	**+0.2**
CAVK				S	**Sb**	**10 34 30.6**	**+0.6**
CAVK				*i* AML	AML	10 34 33.0	
	comp=N,90nm,0.6s						
CAVK				*i* AML	AML	10 34 37.0	
	comp=N,106nm,0.4s						
ERIK	**Erikli-Kesan**	**1.17**	**15**	Pn	**Pg**	**10 34 15.1**	**-0.3**
BALY	**Balya**	**1.18**	**80**	P	**Pg**	**10 34 15.2**	**-0.3**
BALY				S	**Sb**	**10 34 30.8**	**+0.1**
BALY				*i* AML	AML	10 34 32.0	
	comp=N,152nm,0.3s						
BALY				*i* AML	AML	10 34 33.0	
	comp=N,104nm,0.4s						
ENEZ	**Enez**	**1.20**	**1**	Pn	**Pg**	**10 34 15.5**	**-0.4**
URLA	**Izmir**	**1.23**	**162**	Pn	**Pb**	**10 34 15.7**	**-0.6**
KRBG	**Karabiga-Canak**	**1.25**	**46**	Pn	**Pb**	**10 34 16.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.31**	**67**	Pn	**Pn**	**10 34 17.4**	**+0.1**
BLCB	**Balcova**	**1.36**	**148**	Pn	**Pn**	**10 34 17.9**	**0.0**
ALN	**Alexandroupoli**	**1.36**	**358**	P	**Pn**	**10 34 18.2**	**+0.3**
ALN				S	**Sb**	**10 34 35.4**	**-0.5**
	comp=N,172nm,0.5s						
ALN	**Alexandroupoli**	**1.36**	**358**	Pn	**Pn**	**10 34 18.1**	**+0.1**
ALN	**Alexandroupoli**	**1.36**	**358**	P	**Pn**	**10 34 18.0**	**+0.1**
ALN				S	**Sb**	**10 34 35.5**	**-0.4**
ALN				AML	AML	10 34 37.5	
	comp=E,407μm,0.4s						
ALN				AML	AML	10 34 37.6	
	comp=N,320μm,0.4s						
BALB	**Balikesir**	**1.37**	**85**	Pn	**Pn**	**10 34 17.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.41**	**35**	Pn	**Pn**	**10 34 18.8**	**+0.1**
THAS	**Thassos island**	**1.51**	**315**	P	**Pn**	**10 34 20.1**	**+0.1**
THAS				S	**Sn**	**10 34 39.6**	**-0.2**
	comp=N,52nm,0.4s						
EDC	**Edincik**	**1.57**	**58**	Pn	**Pn**	**10 34 21.0**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.64**	**14**	Pn	**Pn**	**10 34 22.2**	**+0.4**
RDO	**Rodhopi**	**1.67**	**345**	P	**Pn**	**10 34 22.2**	**0.0**
RDO				S	**Sn**	**10 34 43.5**	**-0.1**
	comp=N,40nm,0.3s						
RDO	**Rodhopi**	**1.67**	**345**	Pn	**Pn**	**10 34 22.8**	**+0.6**
RDO	**Rodhopi**	**1.67**	**345**	P	**Pn**	**10 34 22.0**	**-0.2**
RDO				S	**Sn**	**10 34 43.2**	**-0.5**
RDO				AML	AML	10 34 46.7	
	comp=N,103μm,0.3s						
RDO				AML	AML	10 34 47.9	
	comp=E,65μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.81**	**241**	P	**Pn**	**10 34 23.3**	**-0.8**
KYMI	**Kymi, Euboea I**	**1.81**	**241**	P	**Pn**	**10 34 23.3**	**-0.8**
OUR	**Ouranopolis**	**1.82**	**297**	P	**Pn**	**10 34 24.2**	**-0.1**
KAVA	**Kavala**	**1.91**	**320**	P	**Pn**	**10 34 24.4**	**-1.0**
KAVA	**Kavala**	**1.91**	**320**	P	**Pn**	**10 34 24.8**	**-0.6**
SMG	**Samos**	**1.91**	**163**	P	**Pn**	**10 34 25.2**	**-0.3**
SMG	**Samos**	**1.91**	**163**	P	**Pn**	**10 34 25.1**	**-0.3**
PAIG	**Paliouri**	**1.92**	**283**	P	**Pn**	**10 34 25.7**	**0.0**
KNT	**Kendrikon**	**2.95**	**304**	P	**Pn**	**10 34 38.6**	**-1.2**

HEL ***28*** *10:59:32.8±0.3, 67°.82N×20°.14E, h0km, ML1.0, Explosion*
UPP ***28*** *10:59:32.6±0.0, 67°.82N×20°.21E, h0km, ML2.8, Confirmed Induced event*
DNK ***28*** *10:59:33.0±0.4, 67°.82N×20°.22E, h0km, ML2.8(UPP), Suspected explosion*

ISC 28 10:59:32.3±0.8, 67°.81N±0°.02×20°.24E±0°.02, h0km, n31, σ0s81/42, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.25**	**274**	P	**Pg**	**10 59 37.3**	**+0.3**
RATU				S	**Sg**	**10 59 40.6**	**+0.4**
RATU	**Laukkuluspa**	**0.25**	**274**	P	**Pg**	**10 59 37.3**	**+0.3**
RATU				S	**Sg**	**10 59 40.6**	**+0.4**
KOVU	**Salmi**	**0.42**	**356**	P	**Pg**	**10 59 40.3**	**0.0**
KOVU				S	**Sg**	**10 59 45.7**	**0.0**
KOVU	**Salmi**	**0.42**	**356**	P	**Pg**	**10 59 40.3**	**0.0**
KOVU				S	**Sg**	**10 59 45.7**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**278**	P	**Pg**	**10 59 41.2**	**+0.1**
NIKU	**Nikkaluokta**	**0.46**	**278**	P	**Pg**	**10 59 41.2**	**+0.1**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**10 59 45.9**	**+0.2**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**10 59 45.9**	**+0.2**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**10 59 46.0**	**+0.3**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**10 59 46.0**	**+0.3**
LANU	**Lannavaara**	**0.70**	**69**	PG	**Pg**	**10 59 45.9**	**+0.1**
LANU				SG	**Sg**	**10 59 55.4**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**10 59 47.4**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**10 59 47.4**	**+0.5**
SALU	**Saltoluokta**	**0.79**	**238**	P	**Pg**	**10 59 47.8**	**+0.4**
SALU	**Saltoluokta**	**0.79**	**238**	P	**Pg**	**10 59 47.8**	**+0.4**
KIF	**Kilpisjarvi**	**1.22**	**10**	PN	**Pn**	**10 59 57.0**	**+0.4**
KIF				MSG		11 00 10.7	
	comp=Z,1.2nm,0.2s						
KIF				SB	**Sb**	**11 00 12.4**	**0.0**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**10 59 57.8**	**-0.5**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**10 59 57.8**	**-0.5**
PAJU	**Pajala**	**1.36**	**124**	PG	**Pg**	**10 59 57.7**	**-0.6**
PAJU				SG	**Sg**	**11 00 16.3**	**+0.3**
HEF	**Hetta**	**1.42**	**63**	PG	**Pn**	**10 59 58.9**	**-0.4**
HEF				MSG		11 00 16.4	
	comp=Z,1.1nm,0.2s						
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**11 00 00.1**	**+0.1**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**11 00 00.1**	**+0.1**
ERTU	**Ertsjaerv**	**1.47**	**148**	PG	**Pn**	**11 00 00.3**	**+0.2**
ERTU				SN	**Sb**	**11 00 20.4**	**+0.7**
KLF	**Kolari**	**1.54**	**110**	PG	**Pn**	**11 00 01.4**	**+0.3**
KLF				MSG		11 00 20.2	
	comp=Z,1.0nm,0.2s						
KLF				SN	**Sg**	**11 00 23.8**	**+1.9**
KTK1	**Kautokeino**	**1.64**	**41**	PG	**Pg**	**11 00 03.9**	**+0.2**
KTK1				SN	**Sg**	**11 00 26.4**	**+1.5**
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**11 00 03.4**	**+0.5**
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**11 00 03.4**	**+0.5**
TOF	**Tornio**	**2.37**	**135**	MSG		11 00 44.1	
	comp=Z,0.4nm,0.2s						
TOF				SG	**Sb**	**11 00 46.6**	**+1.2**
SGF	**Sodankyl**	**2.43**	**96**	PG	**Pb**	**11 00 16.2**	**-0.7**
RNF	**Rovaniemi**	**2.55**	**115**	PB	**Pb**	**11 00 17.4**	**-1.5**
RNF				SG	**Sb**	**11 00 51.7**	**+1.0**
OBF4	**Vikkela, Lumij**	**3.59**	**145**	SB	**Sb**	**11 01 17.5**	**-3.1**

IDC 28 11:08:15.3±2.7, 30°.31S×177°.19W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=57.1km s-min=30.9km az=79.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.23**	**329**	Pn	Pn	11 08 39.7	0.0
	78nm,0.3s,baz=163,slow=20,SNR=2.6						
RAO				Sn	Sn	11 08 58.1	+1.0
	271nm,0.3s,baz=100,slow=20,SNR=6.4						
ASAR	**Alice Springs**	**43.81**	**266**	P	P	11 16 22.6	-0.6
	0.3nm,0.7s,baz=113,slow=8.1,SNR=5.1						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**44.79**	**272**	P	P	11 16 31.4	+0.3
	0.5nm,0.7s,baz=112,slow=7.5,SNR=5.5						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**145.30**	**341**	PKPbc	PKPbc	11 27 53.2	-0.8
	3.8nm,1.1s,baz=36,slow=3.0,SNR=8.4						

NOU ***28*** *11:20:30.5, 36°.75S×178°.12E, h230km, MLv3.9/13, Off E. Coast of N. Island, N.Z.*
IDC ***28*** *11:20:40.7±1.4, 37°.53S×177°.73E, h184km±12km, mb3.3/3, mbtmp3.8/4, Error ellipse: s-maj=54.4km s-min=30.8km az=166.0*
WEL ***28*** *11:20:40.6±0.7, 37°.5S±5°×17°.8E±°, h150km±6km, M3.3/39, ML3.5/29, MLv3.3/39, Error ellipse: s-maj=0.0km s-min=0.0km az=35.9, confirmed*

ISC 28 11:20:38.0±1.2, 37°.09S±0°.07×177°.64E±0°.06, h186km±6km, n153, σ1s49/171, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.56**	**220**	P	**Pn**	**11 21 02.9**	**-0.7**
HAZ	**Te Kaha**	**0.67**	**170**	P	**Pn**	**11 21 03.6**	**-0.6**
HAZ				S	**Sn**	**11 21 21.0**	**-3.6**
MXZ	**Matakaoa Point**	**0.71**	**132**	P	**Pn**	**11 21 03.2**	**-1.2**
MXZ	**Matakaoa Point**	**0.71**	**132**	P	**Pn**	**11 21 03.9**	**-0.5**
PKGZ	**Pakihiroa**	**0.87**	**157**	P	**Pn**	**11 21 05.6**	**+0.2**
PKGZ				S	**Sn**	**11 21 25.4**	**-1.3**
RUGZ	**Raukumara Rang**	**0.87**	**178**	P	**Pn**	**11 21 04.8**	**-0.8**
WHRZ	**Whale Island**	**0.93**	**215**	P	**Pn**	**11 21 06.6**	**+0.8**
WHRZ				S	**Sn**	**11 21 26.9**	**-0.5**
WMGZ	**Waiomatatini S**	**0.95**	**140**	P	**Pn**	**11 21 06.2**	**+0.3**
WMGZ				S	**Sn**	**11 21 26.2**	**-1.4**
PUZ	**Puketiti**	**1.09**	**154**	P	**Pn**	**11 21 07.4**	**+0.4**
PUZ				S	**Sn**	**11 21 27.7**	**-1.9**
TWGZ	**Tauwhareparae**	**1.12**	**166**	P	**Pn**	**11 21 08.3**	**+1.2**
TWGZ				S	**Sn**	**11 21 29.1**	**-0.9**
OPRZ	**Ohinepanea**	**1.15**	**229**	P	**Pn**	**11 21 07.2**	**-0.2**
OPRZ				S	**Sn**	**11 21 28.3**	**-1.8**
MARZ	**Manawahe**	**1.18**	**220**	P	**Pn**	**11 21 07.8**	**+0.2**
URZ	**Urewera**	**1.24**	**200**	P	**Pn**	**11 21 08.3**	**+0.3**
	79nm,0.3s,baz=53,slow=2.2,SNR=1487						
URZ				S	**Sn**	**11 21 29.5**	**-2.0**
	252nm,0.3s,baz=75,slow=2.4,SNR=55						
URZ	**Urewera**	**1.24**	**200**	P	**Pn**	**11 21 08.2**	**+0.1**
URZ	**Urewera**	**1.24**	**200**	P	**Pn**	**11 21 08.3**	**+0.3**
URZ				S	**Sn**	**11 21 29.5**	**-2.0**
EDRZ	**Edgecumbe**	**1.24**	**215**	P	**Pn**	**11 21 08.9**	**+0.7**
MWZ	**Matawai**	**1.25**	**184**	P	**Pn**	**11 21 08.7**	**+0.6**
MWZ				S	**Sn**	**11 21 30.2**	**-1.6**
TGRZ	**Tauranga**	**1.27**	**240**	P	**Pn**	**11 21 08.3**	**-0.1**
LIRZ	**Lichensteins R**	**1.35**	**227**	P	**Pn**	**11 21 09.9**	**+0.8**
TKGZ	**Te Karaka**	**1.36**	**173**	P	**Pn**	**11 21 10.1**	**+1.0**
TKGZ				S	**Sn**	**11 21 32.3**	**-1.0**
RAGZ	**Rawiri**	**1.41**	**187**	P	**Pn**	**11 21 10.8**	**+1.1**
RAGZ				S	**Sn**	**11 21 34.1**	**-0.3**
KARZ	**Kaharoa**	**1.45**	**230**	P	**Pn**	**11 21 10.5**	**+0.6**
TARZ	**Mount Tarawera**	**1.46**	**218**	P	**Pn**	**11 21 11.4**	**+1.3**
CNGZ	**Carnagh Statio**	**1.46**	**162**	P	**Pn**	**11 21 11.8**	**+1.8**
RRRZ	**Republican Roa**	**1.53**	**215**	P	**Pn**	**11 21 11.6**	**+0.9**
MUGZ	**Murupara**	**1.55**	**206**	P	**Pn**	**11 21 11.5**	**+0.6**
MUGZ				S	**Sn**	**11 21 34.9**	**-1.6**
KMRZ	**Kaimai**	**1.55**	**240**	P	**Pn**	**11 21 11.4**	**+0.5**
KUZ	**Kuaotunu**	**1.58**	**282**	P	**Pn**	**11 21 10.0**	**-1.1**
KUZ	**Kuaotunu**	**1.58**	**282**	P	**Pn**	**11 21 10.0**	**-1.1**
KUZ				S	**Sn**	**11 21 32.9**	**-3.9**
RTZ	**Ruatahuna**	**1.61**	**199**	P	**Pn**	**11 21 11.8**	**+0.3**
RTZ				S	**Sn**	**11 21 36.7**	**-1.0**
RIGZ	**Rimuhau**	**1.61**	**177**	P	**Pn**	**11 21 12.7**	**+1.1**
HSRZ	**Hossack Road**	**1.65**	**222**	P	**Pn**	**11 21 13.5**	**+1.7**
HRRZ	**Handcock Road**	**1.69**	**219**	P	**Pn**	**11 21 13.6**	**+1.3**
SNGZ	**Shannon Statio**	**1.71**	**188**	P	**Pn**	**11 21 13.4**	**+1.0**
PRRZ	**Plateau Road**	**1.72**	**215**	P	**Pn**	**11 21 13.4**	**+0.9**
ALRZ	**Allen Road**	**1.79**	**215**	P	**Pn**	**11 21 14.3**	**+1.0**
TOZ	**Tahuroa Road**	**1.82**	**249**	P	**Pn**	**11 21 14.3**	**+0.8**
TOZ				S	**Sn**	**11 21 40.5**	**-0.6**
WPRZ	**Whakapapatarin**	**1.85**	**219**	P	**Pn**	**11 21 15.1**	**+1.3**
MTHZ	**Maungataniwha**	**1.87**	**200**	P	**Pn**	**11 21 14.6**	**+0.6**
RAHZ	**Arahi**	**1.88**	**193**	P	**Pn**	**11 21 15.3**	**+1.2**
RAHZ				S	**Sn**	**11 21 42.6**	**+0.3**
KNZ	**Kokohu**	**1.93**	**179**	P	**Pn**	**11 21 15.8**	**+1.2**
GRZ	**Great Barrier**	**1.95**	**295**	P	**Pn**	**11 21 13.8**	**-1.0**
MKAZ	**Moumakai**	**1.98**	**269**	P	**Pn**	**11 21 15.5**	**+0.3**
MRHZ	**Matea Rd**	**1.99**	**209**	P	**Pn**	**11 21 16.0**	**+0.7**
MRHZ				S	**Sn**	**11 21 44.2**	**-0.4**
KUTZ	**Kaahu Road**	**2.01**	**225**	P	**Pn**	**11 21 17.1**	**+1.6**
WHHZ	**Waihua**	**2.01**	**189**	P	**Pn**	**11 21 16.8**	**+1.3**
WHHZ				S	**Sn**	**11 21 45.2**	**+0.4**
WIAZ	**Waiheke Island**	**2.03**	**278**	P	**Pn**	**11 21 15.6**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.07**	**174**	P	**Pn**	**11 21 17.8**	**+1.6**
TLZ	**Tolley Road**	**2.08**	**233**	P	**Pn**	**11 21 17.7**	**+1.4**
NMHZ	**Naumai**	**2.11**	**198**	P	**Pn**	**11 21 18.0**	**+1.3**
ETAZ	**East Tamaki Re**	**2.18**	**273**	P	**Pn**	**11 21 17.9**	**+0.5**
WATZ	**Wairara**	**2.21**	**223**	P	**Pn**	**11 21 19.3**	**+1.6**
MBAZ	**Motutapu North**	**2.22**	**277**	P	**Pn**	**11 21 18.1**	**+0.3**
ARHZ	**Aropaoanui**	**2.23**	**193**	P	**Pn**	**11 21 19.1**	**+1.3**
BKZ	**Black Stump Fm**	**2.26**	**203**	P	**Pn**	**11 21 19.2**	**+0.9**
BKZ	**Black Stump Fm**	**2.26**	**203**	P	**Pn**	**11 21 18.8**	**+0.5**
RATZ	**Rangitukua**	**2.31**	**219**	P	**Pn**	**11 21 20.3**	**+1.4**
RITZ	**Rihia Road**	**2.35**	**216**	P	**Pn**	**11 21 21.0**	**+1.7**
AWAZ	**Awhitu Peninsu**	**2.40**	**270**	P	**Pn**	**11 21 20.6**	**+0.8**
KATZ	**Kakaramea**	**2.43**	**219**	P	**Pn**	**11 21 21.6**	**+1.3**
MCHZ	**McNeill Hill**	**2.46**	**197**	P	**Pn**	**11 21 22.0**	**+1.5**
RVAZ	**Riverhead Bore**	**2.48**	**277**	P	**Pn**	**11 21 21.2**	**+0.5**
KWHZ	**Kaweka Forest**	**2.52**	**202**	P	**Pn**	**11 21 21.9**	**+0.7**
NTVZ	**North Tongarir**	**2.54**	**217**	P	**Pn**	**11 21 22.9**	**+1.5**
TMVZ	**Te Maari**	**2.54**	**217**	P	**Pn**	**11 21 22.7**	**+1.2**
ETVZ	**East Tongariro**	**2.55**	**216**	P	**Pn**	**11 21 22.8**	**+1.2**
KRVZ	**Karewarewa**	**2.55**	**218**	P	**Pn**	**11 21 23.0**	**+1.4**
NNVZ	**North Ngauruho**	**2.59**	**217**	P	**Pn**	**11 21 23.4**	**+1.2**
WTVZ	**West Tongariro**	**2.59**	**218**	P	**Pn**	**11 21 23.3**	**+1.1**
OTVZ	**Oturere**	**2.59**	**216**	P	**Pn**	**11 21 23.4**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.60**	**190**	P	**Pn**	**11 21 23.1**	**+1.0**
SNVZ	**South Ngauruho**	**2.62**	**216**	P	**Pn**	**11 21 23.7**	**+1.2**
HIZ	**Hauiti**	**2.62**	**236**	P	**Pn**	**11 21 24.6**	**+2.2**
HIZ	**Hauiti**	**2.62**	**236**	P	**Pn**	**11 21 24.5**	**+2.1**
NGZ	**Ngauruhoe**	**2.63**	**217**	P	**Pn**	**11 21 24.1**	**+1.4**
TWVZ	**Taurewa**	**2.63**	**221**	P	**Pn**	**11 21 23.9**	**+1.3**
TUVZ	**Tukino**	**2.68**	**215**	P	**Pn**	**11 21 24.3**	**+1.1**
BHHZ	**Black Hill Sta**	**2.70**	**207**	P	**Pn**	**11 21 23.8**	**+0.5**
FWVZ	**Far West T-bar**	**2.72**	**217**	P	**Pn**	**11 21 24.7**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.72**	**216**	P	**Pn**	**11 21 25.0**	**+1.2**
KRHZ	**Kereru**	**2.74**	**201**	P	**Pn**	**11 21 24.1**	**+0.4**
MOVZ	**Moawhango**	**2.75**	**212**	P	**Pn**	**11 21 24.3**	**+0.4**
WNVZ	**Wahianoa**	**2.75**	**215**	P	**Pn**	**11 21 24.9**	**+0.8**
TRVZ	**Turoa**	**2.75**	**216**	P	**Pn**	**11 21 25.1**	**+0.9**
KAHZ	**Kahuranaki**	**2.77**	**192**	P	**Pn**	**11 21 25.0**	**+0.9**
PKVZ	**Pokaka**	**2.84**	**219**	P	**Pn**	**11 21 26.1**	**+1.0**
MTVZ	**Mangateitei**	**2.86**	**216**	P	**Pn**	**11 21 26.3**	**+1.0**
PXZ	**Pawanui**	**3.00**	**192**	P	**Pn**	**11 21 27.3**	**+0.5**
VRZ	**Vera Road**	**3.05**	**227**	P	**Pn**	**11 21 29.3**	**+1.8**
WPHZ	**Waipukurau**	**3.12**	**197**	P	**Pn**	**11 21 28.5**	**+0.3**
PRHZ	**Porangahau**	**3.27**	**194**	P	**Pn**	**11 21 30.3**	**+0.3**
WAZ	**Wanganui**	**3.38**	**217**	P	**Pn**	**11 21 32.2**	**+0.7**
DREZ	**Durham Road**	**3.43**	**231**	P	**Pn**	**11 21 34.8**	**+2.8**
NEZ	**North Egmont**	**3.54**	**231**	P	**Pn**	**11 21 36.2**	**+2.7**
PKE	**Pukeiti**	**3.57**	**233**	P	**Pn**	**11 21 36.2**	**+2.4**
KHEZ	**Kahui Hut**	**3.61**	**231**	P	**Pn**	**11 21 35.4**	**+1.0**
KHEZ	**Kahui Hut**	**3.61**	**231**	P	**Pn**	**11 21 37.2**	**+2.9**
POWZ	**Post Office Ro**	**3.61**	**203**	P	**Pn**	**11 21 34.1**	**-0.1**
NBEZ	**Newall Road No**	**3.68**	**233**	P	**Pn**	**11 21 38.3**	**+3.0**
PRWZ	**Pori Road**	**3.70**	**200**	P	**Pn**	**11 21 35.5**	**+0.1**
BFZ	**Birch Farm**	**3.75**	**196**	P	**Pn**	**11 21 36.3**	**+0.3**
BFZ	**Birch Farm**	**3.75**	**196**	P	**Pn**	**11 21 35.9**	**-0.2**
MRZ	**Mangatainoka R**	**3.91**	**204**	P	**Pn**	**11 21 37.3**	**-0.8**
TIWZ	**Tintock**	**3.93**	**200**	P	**Pn**	**11 21 38.2**	**-0.2**
CPWZ	**Castlepoint**	**3.98**	**196**	P	**Pn**	**11 21 39.4**	**+0.5**
HOWZ	**Holdsworth Sta**	**4.15**	**203**	P	**Pn**	**11 21 40.2**	**-0.9**
OGWZ	**Otaki Gorge**	**4.19**	**207**	P	**Pn**	**11 21 41.0**	**-0.6**
TMWZ	**Te Maipa**	**4.24**	**198**	P	**Pn**	**11 21 41.7**	**-0.5**
KIW	**Kapiti Island**	**4.33**	**209**	P	**Pn**	**11 21 42.4**	**-0.9**
MTW	**Mount Morrison**	**4.39**	**202**	P	**Pn**	**11 21 43.0**	**-1.1**
CAW	**Cannon Point**	**4.48**	**206**	P	**Pn**	**11 21 44.2**	**-1.1**
TRWZ	**Traveller**	**4.56**	**199**	P	**Pn**	**11 21 45.5**	**-0.9**
PAWZ	**Paruwai Farm**	**4.62**	**201**	P	**Pn**	**11 21 45.8**	**-1.3**
DUWZ	**D'Urville Isla**	**4.71**	**217**	P	**Pn**	**11 21 47.1**	**-1.1**
WEL	**Wellington**	**4.75**	**207**	P	**Pn**	**11 21 47.5**	**-1.2**
SNZO	**South Karori**	**4.79**	**208**	P	**Pn**	**11 21 48.0**	**-1.3**
PLWZ	**Palliser**	**4.84**	**202**	P	**Pn**	**11 21 48.5**	**-1.4**
TCW	**Tory Channel**	**4.88**	**211**	P	**Pn**	**11 21 48.9**	**-1.5**
NNZ	**Nelson**	**5.29**	**217**	P	**Pn**	**11 21 54.2**	**-1.4**
TKNZ	**Takaka Hill**	**5.36**	**221**	P	**Pn**	**11 21 55.3**	**-1.4**
QRZ	**Quartz Range**	**5.46**	**225**	P	**Pn**	**11 21 56.8**	**-1.1**
QRZ	**Quartz Range**	**5.46**	**225**	P	**Pn**	**11 21 56.4**	**-1.5**
BSWZ	**Blackbirch Sta**	**5.46**	**

IDC 28 11:34:48.4±3.0, 5°78'S×152°48'E, h0km, mb3.4/2, mbtmp3.5/3, **ML1.8/1, Error ellipse: s-maj=63.4km s-min=13.8km az=90.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.53**	**343**	Pg	Pb	11 35 17.7	0.0
	282nm,0.3s,baz=256,slow=1.3,SNR=251						
KRVT				Lg	Lg	11 35 36.4	
	585nm,0.3s,baz=89,slow=22,SNR=12						
PMG	**Port Moresby**	**6.38**	**235**	Pn	Pn	11 36 25.6	+1.9
	1.3nm,0.3s,baz=351,slow=4.5,SNR=3.4 7.8nm,0.8s						
WRA	**Warramunga Arr**	**22.56**	**230**	P	P	11 39 49.7	-0.8
	0.6nm,0.7s,baz=52,slow=10.0,SNR=10 0.6nm,0.7s						
ASAR	**Alice Springs**	**25.21**	**223**	P	P	11 40 16.1	+0.1
	0.8nm,0.7s,baz=58,slow=8.8,SNR=23 0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.29**	**286**	PKPbc	PKPbc	11 54 41.5	-1.2
	1.0nm,0.7s,baz=74,slow=2.7,SNR=3.4						

*IDC **28** 11:39:38.0±0.8, 14°37'S×76°24'W, h0km, mb4.2/10, mbtmp4.2/13, ML3.9/3, MS4.0/26, Error ellipse: s-maj=27.2km s-min=12.3km az=61.0*
*NEIC **28** 11:39:42.0±2.7, 14°55'S±0°08×76°4'W±0°1, h29km±5km, mb4.6/12, Error ellipse: s-maj=17.6km s-min=6.5km az=51.0*
*VAO **28** 11:39:42.7±1.0, 14°44'S×76°36'W, h34km±7km, mb4.7*

ISC 28 11:39:41.1±0.6, 14°53'S±0°06×76°37'W±0°08, h23km, n181, σ1§32/150, mb4.4/14, MS4.1/24, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.57**	**350**	Pn	**Pn**	**11 40 18.8**	**-2.6**
	52nm,0.3s,baz=173,slow=13,SNR=31						
NNA				Sn	**Sn**	**11 40 51.6**	**-0.5**
	162nm,0.3s,baz=205,slow=17,SNR=6.7						
NNA				Lg	Lg	11 40 54.6	
	195nm,0.3s,baz=163,slow=17,SNR=7.1 52nm,0.5s						
NNA	**Nana**	**2.57**	**350**	Pn	**Pn**	**11 40 20.2**	**-1.3**
PB12	**IPOC Station P**	**7.07**	**126**	Pn	**Pn**	**11 41 21.5**	**-1.8**
PB16	**IPOC Station P**	**7.59**	**121**		**Pn**	**11 41 31.7**	**+0.8**
ATAH	**Atahualpa**	**7.62**	**345**	Pn	**Pn**	**11 41 31.8**	**+0.6**
	2.5nm,0.3s,baz=170,slow=3.5,SNR=15						
ATAH				Lg	Lg	11 43 18.8	
	8.8nm,0.3s,baz=84,slow=22,SNR=6.6						
CZSB	**Cruzeiro do Su**	**7.66**	**28**		**Pn**	**11 41 30.9**	**-0.4**
CZSB	**Cruzeiro do Su**	**7.66**	**28**	*eP*	**Pn**	**11 41 30.8**	**-0.5**
PSGCX	**Pisagua**	**7.81**	**131**	Pn	**Pn**	**11 41 32.7**	**-0.8**
MNMC	**Minye Minye**	**7.93**	**126**		**Pn**	**11 41 34.7**	**-0.7**
LPAZ	**La Paz**	**8.13**	**103**	Pn	**Pn**	**11 41 41.8**	**+3.4**
	2.6nm,0.3s,baz=290,slow=8.1,SNR=16						
LPAZ				LR	LR	11 44 25.3	
	comp=Z,91nm,20.6s,baz=288,slow=36						
LPAZ	**La Paz**	**8.13**	**103**	Pn	**Pn**	**11 41 40.8**	**+2.4**
PB11	**IPOC Station P**	**8.26**	**130**	Pn	**Pn**	**11 41 38.5**	**-1.2**
TA01	**Diego Aracena**	**8.41**	**136**	Pn	**Pn**	**11 41 40.8**	**-0.9**
GO01	**Chusmiza**	**8.55**	**128**	Pn	**Pn**	**11 41 43.2**	**-0.9**
PATCX	**Punta Patache**	**8.61**	**137**	Pn	**Pn**	**11 41 43.8**	**-0.7**
PB10	**IPOC Station P**	**10.48**	**149**	Pn	**Pn**	**11 42 09.6**	**-0.5**
LVC	**Limon Verde**	**10.70**	**140**	Pn	**Pn**	**11 42 13.8**	**+0.4**
	0.6nm,0.3s,baz=310,slow=9.0,SNR=9.6						
LVC				Sn	**Sn**	**11 44 11.7**	**-1.0**
	1.0nm,0.3s,baz=102,slow=20,SNR=2.3						
LVC				Lg	Lg	11 45 12.5	
	1.6nm,0.3s,baz=130,slow=19,SNR=6.2						
LVC				LR	LR	11 45 46.0	
	comp=Z,411nm,20.6s,baz=314,slow=34 14nm,0.6s						
LVC	**Limon Verde**	**10.70**	**140**	Pn	**Pn**	**11 42 14.1**	**+0.7**
LVC	**Limon Verde**	**10.70**	**140**	*eP*	**Pn**	**11 42 13.6**	**+0.2**
MCRA	**Macar, Loja**	**10.70**	**340**		**Pn**	**11 42 12.9**	**-0.2**
ETMB	**Extrema**	**10.97**	**66**		**Pn**	**11 42 17.1**	**+0.2**
ETMB	**Extrema**	**10.97**	**66**	*eP*	**Pn**	**11 42 16.8**	**-0.1**
TBTG	**Tabatinga, AM**	**12.09**	**32**	*eP*	**Pn**	**11 42 30.9**	**-1.3**
TBTG	**Tabatinga, AM**	**12.09**	**32**	*eP*	**Pn**	**11 42 30.7**	**-1.4**
PORT	**Chimborazo Vol**	**13.20**	**349**		P	11 42 52.4	-5.3
AC02	**Maricunga**	**13.98**	**152**	Pn	**Pn**	**11 43 00.3**	**+1.9**
OTAV	**Otavalo**	**14.82**	**352**	*eP*	**P**	**11 43 15.3**	**-0.3**
OTAV	**Otavalo**	**14.82**	**352**	*eP*	**Pn**	**11 43 09.0**	**-0.9**
SIV	**San Ignacio**	**14.83**	**98**	Pn	**Pn**	**11 43 07.9**	**-1.7**
	0.1nm,0.3s,baz=273,slow=16,SNR=4.0 3.5nm,0.6s						
LCO	**Las Campanas**	**15.33**	**161**		**Pn**	**11 43 15.6**	**-0.9**
GCUF	**Volcan Galeras**	**15.69**	**356**	*eP*	**P**	**11 43 26.6**	**+1.3**
VILB	**Vilhena**	**15.78**	**86**	*eP*	**Pn**	**11 43 23.3**	**+1.2**
VBST	**Vila Bela da S**	**15.83**	**92**	*eP*	**Pn**	**11 43 24.0**	**+1.3**
TEFE	**Tefe**	**15.93**	**48**	*eP*	**Pn**	**11 43 24.5**	**+0.5**
CRUC	**La Cruz**	**16.01**	**358**	*eP*	**P**	**11 43 32.8**	**+4.1**
FLOC	**Florencia**	**16.03**	**3**	*eP*	**P**	**11 43 27.8**	**-0.8**
BBRB	**Robore, Bolivi**	**16.31**	**105**	*eP*	**Pn**	**11 43 30.6**	**+1.6**
GARC	**Garzon, Huila**	**16.63**	**3**	*eP*	**P**	**11 43 35.7**	**+0.2**
PTLB	**Pontes e Lacer**	**16.67**	**95**	*eP*	**Pn**	**11 43 34.7**	**+1.3**
MACC	**Macarena, Meta**	**16.76**	**9**	*eP*	**P**	**11 43 35.5**	**-1.2**
SGCB	**S£o Gabriel d**	**17.04**	**34**	*eP*	**P**	**11 43 38.4**	**-1.3**
BBLB	**La Banda, Boli**	**17.33**	**106**	*eP*	**Pn**	**11 43 41.3**	**-0.4**
CCRS	**Cacerres, MT,**	**17.97**	**101**	*eP*	**P**	**11 43 51.1**	**+1.1**
ORTC	**Ortega, Tolima**	**18.36**	**4**	*eP*	**P**	**11 44 00.4**	**+6.1**
YOTC	**Yotoco, Valle**	**18.40**	**0**	*eP*	**P**	**11 43 56.1**	**+1.3**
H03N1	**Juan Fernandez**	**18.97**	**187**	T	T	12 03 36.8	
	baz=7.8,slow=74,SNR=807						
H03N2	**Juan Fernandez**	**18.97**	**187**	T	T	12 03 36.0	
	baz=7.8,slow=74,SNR=908						
H03N3	**Juan Fernandez**	**18.98**	**187**	T	T	12 03 35.4	
	baz=7.8,slow=74,SNR=770						
POCN	**Pocone**	**19.02**	**99**	*eP*	**P**	**11 44 00.6**	**-1.1**
TICA	**Tres Isletas**	**19.04**	**131**	*eP*	**Pn**	**11 44 03.3**	**+0.8**
MACA	**Manacapuru-AM**	**19.16**	**55**	P	**Pn**	**11 44 05.3**	**+1.3**
MACA				IAmb	IAmb	11 44 13.5	
	comp=Z,50nm,0.6s						
MACA	**Manacapuru-AM**	**19.16**	**55**	*eP*	**P**	**11 44 02.4**	**-0.7**
CHIC	**Chingaza**	**19.22**	**8**	*eP*	**Pn**	**11 44 05.9**	**+0.7**
ROSC	**El Rosal**	**19.35**	**6**	P	**Pn**	**11 44 10.3**	**+3.5**
	comp=Z,6.2nm,0.4s,baz=206,slow=13,SNR=3.8						
ROSC				LR	LR	11 51 24.3	
	comp=Z,226nm,20.5s,baz=210,slow=37						
SALV	**Santo Antonio**	**19.99**	**97**	*eP*	**Pn**	**11 44 13.9**	**-0.2**
CBOC	**Ciudad Bolivar**	**20.27**	**1**	*eP*	Pn	11 44 15.7	-1.8
CLDB	**Colider**	**20.39**	**82**	*eP*	**P**	**11 44 14.5**	**-2.2**
RUSC	**La Rusia**	**20.55**	**9**	P	**P**	**11 44 18.4**	**-0.5**
RUSC				IAmb	IAmb	11 44 46.9	
	comp=Z,27nm,0.9s						
RUSC	**La Rusia**	**20.55**	**9**	*eP*	Pn	11 44 19.6	-1.5
AQDB	**Aquidauana**	**20.57**	**110**	P	**P**	**11 44 19.2**	**+0.7**
AQDB	**Aquidauana**	**20.57**	**110**	*eP*	**P**	**11 44 18.4**	**0.0**
ANTJ	**Antonio Joao (**	**20.70**	**114**	*eP*	**P**	**11 44 20.6**	**+0.7**
PP1B	**Ponte de Pedra**	**20.87**	**101**	*eP*	**P**	**11 44 21.5**	**-0.3**
SCCA	**San Cayetano,**	**20.99**	**131**	*eP*	**P**	**11 44 24.6**	**+1.6**
RVDE	**Rio Verde (Bra**	**20.99**	**105**	*eP*	**P**	**11 44 22.9**	**-0.2**
PTBC	**PUERTO BERRIO,**	**21.02**	**5**	*eP*	**P**	**11 44 22.1**	**-1.3**
BARC	**Barichara**	**21.22**	**9**	*eP*	**P**	**11 44 27.9**	**+2.1**
CPUP	**Villa Florida**	**21.32**	**126**	P	**P**	**11 44 27.1**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=308,slow=11,SNR=14						
CPUP				LR	LR	11 54 28.4	
	comp=Z,218nm,18.2s,baz=295,slow=42 comp=Z,5.1nm,0.6s						
CPUP	**Villa Florida**	**21.32**	**126**	*eP*	**P**	**11 44 27.2**	**+0.6**
TAMC	**Tame, Arauca**	**21.32**	**13**	*eP*	**P**	**11 44 30.7**	**+4.1**
DBBC	**Dabeiba**	**21.41**	**0**	*eP*	**P**	**11 44 28.2**	**+0.5**
AMBA	**Amambai (Brazi**	**21.88**	**116**	*eP*	**P**	**11 44 33.0**	**+0.4**
ZARC	**Zaragoza, Cauc**	**21.93**	**4**	*eP*	**P**	**11 44 32.7**	**-0.5**
MECA	**Mercedes**	**22.33**	**134**	*eP*	**P**	**11 44 38.2**	**+0.8**
RPRD	**Ribas do Rio P**	**22.40**	**109**	*eP*	**P**	**11 44 38.9**	**+0.6**
ITTB	**Itaituba**	**22.70**	**66**	*eP*	**P**	**11 44 39.3**	**-2.1**
C2SB	**Chapadao do Su**	**22.92**	**104**	*eP*	**P**	**11 44 44.5**	**+0.8**
BOAV	**Boa Vista**	**23.00**	**44**	P	**P**	**11 44 43.1**	**-1.5**
BOAV				IAmb	IAmb	11 44 57.5	
	comp=Z,15nm,0.8s						
BOAV	**Boa Vista**	**23.00**	**44**	*eP*	**P**	**11 44 42.8**	**-1.8**
BOAV	**Boa Vista**	**23.00**	**44**	*eP*	**P**	**11 44 42.6**	**-2.0**
AZCA	**Azaras, Argent**	**23.24**	**129**	*eP*	**P**	**11 44 47.2**	**+0.3**
ITQB	**Itaqui**	**23.64**	**133**	*eP*	**P**	**11 44 51.8**	**+1.0**
ARAG	**Araguaiana, MT**	**23.73**	**96**	*eP*	**P**	**11 44 49.9**	**-1.9**
TRCB	**Terra Rica**	**23.91**	**114**	*eP*	**P**	**11 44 52.6**	**-1.0**
SDV	**Santo Domingo**	**23.95**	**14**	P	**P**	**11 44 53.1**	**-1.0**
	comp=Z,8.0nm,0.8s,baz=198,slow=9.3,SNR=8.1 comp=Z,8.0nm,0.8s						
SDV	**Santo Domingo**	**23.95**	**14**	P	**P**	**11 44 53.5**	**-0.6**
SDV				IAmb	IAmb	11 45 13.1	
	comp=Z,17nm,0.7s						
SDV	**Santo Domingo**	**23.95**	**14**	*eP*	**P**	**11 44 53.3**	**-0.7**
UNIS	**Unistalda (Bra**	**24.44**	**130**	*eP*	**P**	**11 44 58.4**	**+0.1**
CRSM	**Crissiumal (Br**	**24.45**	**125**	*eP*	**P**	**11 44 58.0**	**-0.5**
SNDB	**Serra Nova Dou**	**24.53**	**87**	*eP*	**P**	**11 44 58.1**	**-1.2**
FRBT	**Francisco Belt**	**24.60**	**121**	*eP*	**P**	**11 44 59.8**	**-0.1**
BAUV	**El Baul**	**24.74**	**20**	P	**P**	**11 45 00.3**	**-0.8**
PCMB	**Pacaembu**	**24.86**	**110**	*eP*	**P**	**11 45 02.5**	**+0.3**
PTGB	**Pitanga**	**24.99**	**118**	*eP*	**P**	**11 45 04.4**	**+0.9**
RODS	**Rosario do Sul**	**25.04**	**132**	*eP*	**P**	**11 45 04.8**	**+1.1**
MALB	**Monte Alegre**	**25.20**	**62**	*eP*	**P**	**11 45 04.1**	**-1.2**
ITRB	**Iturama**	**25.37**	**105**	*eP*	**P**	**11 45 06.9**	**0.0**
ALGR	**Alto Alegre (B**	**25.85**	**127**	*eP*	**P**	**11 45 12.5**	**+1.3**
ITAB	**Concordia**	**25.87**	**123**	*eP*	**P**	**11 45 12.5**	**+1.2**
JTS	**Las Juntas de**	**26.09**	**340**	LR	LR	11 55 12.2	
	comp=Z,394nm,18.4s,baz=176,slow=36						
CPSB	**Cacapava Do Su**	**26.34**	**131**	*eP*	**P**	**11 45 15.2**	**-0.3**
PLCA	**Paso Flores**	**26.59**	**170**	P	**P**	**11 45 18.5**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=350,slow=9.7,SNR=4.9						
PLCA				LR	LR	11 53 47.4	
	comp=Z,109nm,18.2s,baz=334,slow=32 comp=Z,0.9nm,0.7s						
PLCA	**Paso Flores**	**26.59**	**170**	P	**P**	**11 45 17.9**	**+0.2**
PLCA				IAmb	IAmb	11 45 29.2	
	comp=Z,17nm,1.4s						
PLCA	**Paso Flores**	**26.59**	**170**	*eP*	**P**	**11 45 17.8**	**0.0**
TRQA	**Tornquist**	**26.67**	**154**	*eP*	**P**	**11 45 18.9**	**+0.4**
FRTB	**Fartura**	**26.79**	**113**	*eP*	**P**	**11 45 21.0**	**+1.3**
PLTB	**Pedras Altas**	**26.96**	**133**	*eP*	**P**	**11 45 21.9**	**+0.7**
IPMB	**Ipameri, GO**	**27.23**	**101**	*eP*	**P**	**11 45 22.6**	**-1.2**
BB19B	**Bebedouro**	**27.26**	**108**	*eP*	**P**	**11 45 24.5**	**+0.5**
PRPB	**Parauapebas**	**27.38**	**75**	*eP*	**P**	**11 45 26.4**	**+1.3**
BDFB	**Brasilia**	**27.39**	**96**	P	**P**	**11 45 24.3**	**-0.9**
	comp=Z,6.9nm,1.0s,baz=240,slow=7.2,SNR=5.8						
BDFB				LR	LR	11 55 48.6	
	comp=Z,212nm,20.6s,baz=288,slow=36 comp=Z,6.9nm,1.0s						
BDFB	**Brasilia**	**27.39**	**96**	*eP*	**P**	**11 45 24.5**	**-0.7**
CNLB	**Canela**	**27.78**	**126**	*eP*	**P**	**11 45 29.6**	**+1.1**
TIJ01	**Guaruva-PR**	**27.82**	**117**	*eP*	**P**	**11 45 30.0**	**+1.0**
MCPB	**Macapa, AP**	**27.86**	**62**	*eP*	**P**	**11 45 30.0**	**+0.6**
RCLB	**Rio Claro- Sao**	**28.41**	**110**	*eP*	**P**	**11 45 35.1**	**+0.9**
SMTB	**Santa Maria do**	**28.72**	**82**	*eP*	**P**	**11 45 38.4**	**+1.4**
SPB	**Sao Paulo**	**28.75**	**113**	*eP*	**P**	**11 45 38.5**	**+1.4**
TER01	**Tubaro-SC**	**28.82**	**123**	*eP*	**P**	**11 45 38.5**	**+0.7**
PMNB	**Patos De Minas**	**28.95**	**102**	*eP*	**P**	**11 45 38.8**	**-0.3**
VAO	**Valinhos**	**29.04**	**111**	*eP*	**P**	**11 45 41.1**	**+1.2**
PET01	**Itanhaem-SP**	**29.05**	**114**	*eP*	**P**	**11 45 41.7**	**+1.9**
PARB	**Paraibuna**	**30.32**	**111**	*eP*	**P**	**11 45 52.1**	**+0.9**
TMAB	**Tom-Au,PA,Br**	**30.41**	**69**	*eP*	**P**	**11 45 52.9**	**+0.9**
MDP	**Montagnes des**	**30.56**	**52**	LR	LR	11 58 49.2	
	comp=Z,700nm,21.7s,baz=264,slow=38						
BSCB	**Bom Sucesso**	**30.73**	**107**	*eP*	**P**	**11 45 56.1**	**+1.2**
JANB	**Januaria**	**30.98**	**95**	*eP*	**P**	**11 45 55.6**	**-1.6**
MC01	**Montes Claros**	**31.28**	**98**	*eP*	**P**	**11 45 59.9**	**+0.1**
DIAM	**Diamantina, MG**	**31.56**	**101**	*eP*	**P**	**11 46 02.1**	**-0.2**
RPN	**Rapa Nui**	**33.16**	**242**	LR	LR	11 55 54.1	
	comp=Z,394nm,20.4s,baz=66,slow=29						
ROSB	**Rosrio**	**33.84**	**73**	*eP*	**P**	**11 46 23.5**	**+1.4**
BSFB	**Barra de Sao F**	**34.25**	**102**	*eP*	**P**	**11 46 24.2**	**-1.5**
ALF01	**Guarapari-ES**	**34.46**	**105**	*eP*	**P**	**11 46 27.8**	**+0.4**
NAN01	**Guarapari, ES**	**34.92**	**100**	*eP*	**P**	**11 46 30.9**	**-0.6**
GUA01	**Guaratinga, BA**	**35.25**	**98**	*eP*	**P**	**11 46 35.2**	**+0.9**
CMC01	**Camacan, BA**	**35.58**	**96**	*eP*	**P**	**11 46 35.4**	**-1.8**
GDU01	**Guandu, BA**	**35.66**	**93**	*eP*	**P**	**11 46 38.5**	**+0.6**
CMIG	**Matias Romero**	**36.35**	**329**	LR	LR	11 59 37.6	
	comp=Z,131nm,18.3s,baz=140,slow=33						
RCBR	**Riachuelo**	**40.70**	**82**	LR	LR	12 05 05.8	
	comp=Z,530nm,18.1s,baz=38,slow=38						
TX32	**Lajitas Array**	**50.96**	**329**	P	**P**	**11 48 41.5**	**+0.3**
TXAR	**Lajitas Array**	**50.96**	**329**	P	**P**	**11 48 40.9**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=153,slow=9.0,SNR=5.6 comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	**50.96**	**329**	P	**P**	**11 48 40.4**	**-0.8**
R40A	**Maddies Statio**	**54.62**	**345**	P	**P**	**11 49 06.9**	**-1.1**
R40A				IAmb	IAmb	11 49 13.8	
	comp=Z,6.1nm,0.7s						
DUG	**Dugway, Tooele**	**64.13**	**330**	P	**P**	**11 50 14.4**	**+0.6**
DUG				IAmb	IAmb	11 50 32.8	
	comp=Z,5.5nm,0.8s						
PDAR	**Pinedale Array**	**64.66**	**334**	P	**P**	**11 50 17.3**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=116,slow=6.3,SNR=3.1 comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**65.71**	**325**	P	**P**	**11 50 25.3**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=134,slow=7.8,SNR=22 comp=Z,1.3nm,0.4s						
NVAR	**Mina Array Bea**	**65.71**	**325**	P	**P**	**11 50 24.4**	**+0.1**
ELK	**Elko**	**65.75**	**328**	LR	LR	12 18 06.5	
	comp=Z,117nm,18.2s,baz=122,slow=35						
BBTS	**Babate**	**65.90**	**66**	LR	LR	12 19 05.4	
	comp=Z,157nm,18.2s,baz=284,slow=36						
ULM	**Lac du Bonnet**	**66.75**	**347**	P	**P**	**11 50 33.2**	**+2.8**
	comp=Z,2.0nm,0.6s,baz=142,slow=8.8,SNR=3.0						
SCHQ	**Schefferville**	**69.56**	**6**	LR	LR	12 19 57.9	
	comp=Z,97nm,21.5s,baz=88,slow=35						
DBIC	**Dimbokro**	**73.96**	**79**	P	**P**	**11 51 14.8**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=265,slow=7.6,SNR=5.2						
DBIC				LR	LR	12 21 55.2	
	comp=Z,160nm,21.0s,baz=260,slow=34 comp=Z,2.8nm,0.6s						
FRB	**Frobisher Bay**	**78.27**	**4**	LR	LR	12 28 41.5	
	comp=Z,72nm,18.6s,baz=177,slow=38						
TORD	**Torodi Ar. Bea**	**82.02**	**74**	P	**P**	**11 51 59.9**	**-0.2**
	comp=Z,15nm,0.9s,baz=258,slow=4.8,SNR=59 comp=Z,15nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.02**	**74**	P	**P**	**11 51 57.5**	**-2.6**
YKA	**Yellowknife Ar**	**82.40**	**343**	P	**P**	**11 52 00.0**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=142,slow=5.6,SNR=13 comp=Z,1.8nm,1.0s						
MDT	**Midelt**	**83.06**	**54**	LR	LR	12 26 05.1	
	comp=Z,87nm,19.7s,baz=342,slow=34						
SFJD	**Kangerlussuaq**	**83.48**	**10**	LR	LR	12 30 16.0	
	comp=Z,79nm,18.7s,baz=182,slow=36						
ESDC	**Sonseca Array**	**86.14**	**48**	LR	LR	12 26 29.3	
	comp=Z,126nm,21.1s,baz=238,slow=33						
SUR	**Sutherland**	**88.25**	**123**	LR	LR	12 30 30.2	
	comp=Z,97nm,18.7s,baz=260,slow=35						
TSUM	**Tsumeb**	**88.94**	**109**	LR	LR	12 29 57.3	
	comp=Z,66nm,19.8s,baz=304,slow=34						
SUMG	**Summit**	**90.44**	**11**	*i* P	**P**	**11 52 40.0**	**-0.8**
EKA	**Eskdalemuir Ar**	**92.57**	**33**	LR	LR	12 32 53.9	
	comp=Z,55nm,18.1s,baz=238,slow=35						
MAW	**Mawson**	**92.91**	**165**	LR	LR	12 31 48.1	
	comp=Z,39nm,21.9s,baz=204,slow=34						
BOSA	**Boshof**	**93.02**	**120**	LR	LR	12 30 44.8	
	comp=Z,70nm,20.9s,baz=187,slow=33						
LBTB	**Lobatse**	**94.43**	**117**	LR	LR	12 32 48.1	
	comp=Z,75nm,19.5s,baz=195,slow=34						
RPZ	**Rata Peaks**	**95.62**	**222**	LR	LR	12 28 11.9	
	comp=Z,87nm,18.6s,baz=256,slow=30						
DAVOX	**Davos/Dischmat**	**97.91**	**44**	LR	LR	12 35 45.7	
	comp=Z,128nm,18.6s,baz=260,slow=34						
H11N3	**WAKE ISLAND Hyl**	**19.60**	**285**	T	T	14 09 15.9	
	baz=96,slow=74,SNR=29						
H11N2	**WAKE ISLAND Hyl**	**19.61**	**285**	T	T	14 09 31.8	
	baz=96,slow=74,SNR=27						
H11N1	**WAKE ISLAND Hyl**	**19.61**	**285**	T	T	14 09 14.2	
	baz=96,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hyl**	**19.66**	**283**	T	T	14 09 12.8	
	baz=97,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hyl**	**19.67**	**283**	T	T	14 09 18.5	
	baz=97,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hyl**	**19.68**	**283**	T	T	14 09 14.3	
	baz=97,slow=75,SNR=18						
ASAR	**Alice Springs**	**131.86**	**218**	PKP	**PKiKP**	**11 58 54.6**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=116,slow=1.4,SNR=5.7						
WRA	**Warramunga Arr**	**134.33**	**222**	PKP	**PKPdf**	**11 58 58.7**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=155,slow=1.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**137.99**	**17**	PKP	**PKPdf**	**11 59 03.4**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=299,slow=3.1,SNR=4.2						
MKAR	**Makanchi Array**	**143.22**	**25**	PKP	PKPbc	11 59 11.0	+0.4
	comp=Z,0.3nm,0.7s,baz=46,slow=3.5,SNR=4.0						
SONM	**Songino Array**	**146.72**	**357**	PKPbc	**PKPbc**	**11 59 21.4**	**0.0**
	comp=Z,2.5nm,0.7s,baz=322,slow=2.3,SNR=8.8						
KSRS	**Korea Array**	**148.59**	**321**	PKPbc	**PKPbc**	**11 59 26.7**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=21,slow=2.1,SNR=2.8						
PZH	**PanZhiHua**	**167.96**	**8**	PKP	**PKPdf**	**11 59 45.0**	**-1.6**

*NNC **28** 11:57:23.7±9.2, 38°16N×70°68E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=87.8km s-min=48.6km az=164.0*

ISC 28 11:57:30.1±2.5, 38°7N±0°2×70°3E±0°1, h10km, n10, σ0§73/12, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.32**	**36**	P	**Pn**	**11 58 35.7**	**-0.5**
	SNR=24						
KK31	**Karatay Array**	**4.40**	**2**	P	**Pn**	**11 58 37.6**	**+0.6**
	1.9nm,0.4s,baz=183,slow=12,SNR=6.7						
KK31				⇑S	**Sb**	**11 59 40.4**	**-0.3**
	7.2nm,0.5s,baz=186,slow=29,SNR=7.2						
UCH	**Uchtor**	**4.79**	**41**	P	**Pn**	**11 58 42.2**	**-0.6**
	SNR=14						
AAK	**Ala-Archa**	**5.08**	**38**	P	**Pn**	**11 58 46.0**	**-0.6**
	SNR=6.9						
KBK	**Karagaybulak**	**5.32**	**41**	P	**Pn**	**11 58 50.2**	**+0.3**
	SNR=9.2						
CHMS	**Chumysh**	**5.48**	**37**	P	**Pn**	**11 58 52.2**	**+0.3**
	SNR=6.3						
TKM2	**Tokmak 2**	**5.85**	**42**	P	**Pn**	**11 58 58.5**	**+1.4**
	SNR=10						
TKM2	**Tokmak 2**	**5.85**	**42**	⇓P	**Pn**	**11 58 56.7**	**-0.4**
	2.7nm,0.4s						
TKM2				S	**Sn**	**12 00 04.7**	**+0.4**
	10nm,0.7s						
AB31	**Akbulak array**	**12.89**	**328**	P	**Pn**	**12 00 32.5**	**-0.8**
	0.8nm,0.5s,baz=144,slow=8.4,SNR=25						
AKTO	**Aktyubinsk**	**14.59**	**327**	⇑P	**P**	**12 01 03.6**	**+0.5**
	0.9nm,0.6s						

IDC 28 12:21:04.0±2.8, 7°17'S×128°56'E, h0km, **mb3.3/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=304.6km s-min=33.0km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**157**	Pn	Pn	12 24 21.7	-0.5
	0.1nm,0.3s,baz=334,slow=13,SNR=4.7						
WRA				Sn	Sn	12 26 43.6	-14
	0.3nm,0.3s,baz=328,slow=23,SNR=3.5 0.2nm,0.3s						
ASAR	**Alice Springs**	**17.19**	**163**	P	Pn	12 25 06.2	+0.5
	0.1nm,0.3s,baz=343,slow=9.1,SNR=4.7 0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.59**	**328**	P	P	12 32 02.5	0.0
	0.1nm,0.4s,baz=121,slow=6.5,SNR=4.5 0.1nm,0.4s						

*IDC **28** 12:21:10.2±1.6, 5°48'S×149°32'E, h0km, mb3.5/3, mbtmp3.8/5, ML2.2/1, MS2.9/3, Error ellipse: s-maj=54.8km s-min=21.3km az=141.0*
*NEIC **28** 12:21:17.0±0.8, 5°9'S±0°1×149°7'E±0°2, h56km±12km, mb4.0/8, Error ellipse: s-maj=28.0km s-min=11.0km az=131.0*

ISC 28 12:21:15.7±1.0, 5°9'S±0°2×149°7'E±0°2, h35km, n20, σ1§50/20, mb3.5/3, New Britain region

| Code | Station Name

BBLB	**La Banda, Boli**	**15.58**	**119**	*e*P	**Pn**	**12 25 52.0**	**+2.3**
CCRS	**Cacerres, MT,**	**15.86**	**113**	*e*P	**P**	**12 25 55.4**	**-1.2**
PTET	**Porto Estrela**	**16.02**	**106**	*e*P	**Pn**	**12 25 54.7**	**-0.7**
PDRB	**Porto dos Gac**	**16.09**	**92**	*e*P	**Pn**	**12 25 57.9**	**+1.7**
ROSC	**El Rosal**	**16.25**	**356**	Lg	Lg	12 30 41.0	
	2.0nm,0.3s,baz=107,slow=19,SNR=1.5						
ROSC				LR	LR	12 32 41.1	
	comp=Z,146nm,20.4s,baz=103,slow=39						
POCN	**Pocone**	**16.72**	**110**	*e*P	**P**	**12 26 06.6**	**+0.4**
CLDB	**Colider**	**17.03**	**90**	*e*P	**P**	**12 26 10.3**	**+0.6**
NBRS	**Nobres**	**17.17**	**101**	*e*P	**P**	**12 26 11.9**	**+0.7**
SALV	**Santo Antonio**	**17.52**	**106**	*e*P	**P**	**12 26 16.2**	**+1.2**
MURT	**Porto Murtinho**	**17.99**	**126**	*e*P	**Pn**	**12 26 19.3**	**-0.7**
NPGB	**Novo Progresso**	**18.10**	**77**	*e*P	**P**	**12 26 23.4**	**+2.0**
ITTB	**Itaituba**	**18.63**	**69**	*e*P	**P**	**12 26 27.6**	**+0.3**
BOAV	**Boa Vista**	**18.64**	**43**	P	**Pn**	**12 26 29.2**	**+1.3**
BOAV				IAmb	IAmb	12 26 39.9	
	comp=Z,24nm,1.4s						
BOAV	**Boa Vista**	**18.64**	**43**	*e*P	**Pn**	**12 26 28.3**	**+0.4**
ANTJ	**Antonio Joao (**	**19.45**	**125**	*e*P	**Pn**	**12 26 38.3**	**+0.7**
SDV	**Santo Domingo**	**20.38**	**7**	P	**P**	**12 26 46.1**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=213,slow=17,SNR=1.8						
SDV				Lg	Lg	12 32 50.9	
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=1.3						
SDV				LR	LR	12 36 22.6	
	comp=Z,33nm,19.5s,baz=54,slow=42						
	comp=Z,2.3nm,0.8s						
BAUV	**El Baul**	**20.91**	**14**	P	**P**	**12 26 52.3**	**+0.2**
BAUV				IAmb	IAmb	12 27 04.8	
	comp=Z,13nm,0.9s						
CPUP	**Villa Florida**	**20.99**	**137**	P	**P**	**12 26 51.3**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=323,slow=11,SNR=4.4						
	comp=Z,1.2nm,0.5s						
ITQB	**Itaqui**	**23.76**	**142**	P	**P**	**12 27 21.9**	**+0.2**
ITQB				IAmb	IAmb	12 27 22.8	
	comp=Z,30nm,1.2s						
BDFB	**Brasilia**	**24.77**	**102**	LR	LR	12 38 22.3	
	comp=Z,105nm,19.9s,baz=327,slow=40						
MDP	**Montagnes des**	**26.22**	**52**	LR	LR	12 38 32.5	
	comp=Z,214nm,18.9s,baz=246,slow=38						
BIM	**Bigot**	**28.46**	**25**	P	**P**	**12 28 07.5**	**+3.1**
PLCA	**Paso Flores**	**29.23**	**176**	P	**P**	**12 28 11.1**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=349,slow=9.0,SNR=8.9						
	comp=Z,1.5nm,0.6s						
PLCA	**Paso Flores**	**29.23**	**176**	P	**P**	**12 28 11.3**	**+0.1**
RCBR	**Riachuelo**	**37.22**	**85**	LR	LR	12 45 27.8	
	comp=Z,162nm,18.6s,baz=45,slow=38						
TX31	**Lajitas Ar. Si**	**50.13**	**325**	P	**P**	**12 31 03.6**	**-1.1**
TX32	**Lajitas Array**	**50.13**	**325**	P	**P**	**12 31 03.6**	**-1.1**
TX32				IAmb	IAmb	12 31 21.8	
	comp=Z,6.3nm,1.5s						
TXAR	**Lajitas Array**	**50.13**	**325**	P	**P**	**12 31 03.8**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=150,slow=8.9,SNR=16						
	comp=Z,1.1nm,0.6s						
TXAR	**Lajitas Array**	**50.13**	**325**	P	**P**	**12 31 04.1**	**-0.6**
PDAR	**Pinedale Array**	**63.44**	**331**	P	**P**	**12 32 38.0**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=120,slow=8.7,SNR=3.9						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**65.13**	**322**	P	**P**	**12 32 50.0**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=142,slow=6.7,SNR=4.6						
	comp=Z,0.2nm,0.5s						
DBIC	**Dimbokro**	**70.28**	**79**	P	**P**	**12 33 21.6**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=218,slow=3.1,SNR=3.7						
	comp=Z,2.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**78.17**	**74**	P	**P**	**12 34 07.4**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=256,slow=3.4,SNR=8.4						
	comp=Z,1.8nm,0.9s						
YKA	**Yellowknife Ar**	**80.44**	**342**	P	**P**	**12 34 19.2**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=139,slow=6.2						
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**90.19**	**341**	P	**P**	**12 35 08.1**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=88,slow=3.6,SNR=9.9						
	comp=Z,2.8nm,0.9s						
ILAR	**Eielson Array**	**93.50**	**336**	P	**P**	**12 35 22.8**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=134,slow=5.2,SNR=2.2						
	comp=Z,0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**134.15**	**18**	PKP	**PKPdf**	**12 41 25.3**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=247,slow=2.5,SNR=5.6						
ASAR	**Alice Springs**	**136.18**	**217**	PKP	**PKPdf**	**12 41 30.0**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=101,slow=1.9,SNR=1.6						
WRA	**Warramunga Arr**	**138.68**	**221**	PKP	**PKPdf**	**12 41 35.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=136,slow=1.9,SNR=4.6						
KSRS	**Korea Array**	**147.96**	**327**	PKPbc	**PKPbc**	**12 41 54.2**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=8.0,slow=0.9,SNR=8.8						

ROM 28 12:46:53.1±0.1, 42°586N±0'004×13°242E±0'004, h8km, ML1.6/14, 3C, Error ellipse: s-maj=0.4km s-min=0.3km az=195.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.08**	**195**	P	Pg	12 46 55.9	+0.6
RM33				S	Sg	12 46 57.5	+0.7
RM33				AML	AML		
	comp=E,643μm,0.6s						
RM33				AML	AML		
	comp=E,666μm,0.6s						
RM33				AML	AML		
	comp=N,728μm,0.2s						
RM33				AML	AML		
	comp=N,747μm,0.2s						
SMA1	**SAN MARTINO**	**0.08**	**57**	P	Pg	12 46 55.8	+0.5
T1218	**Civita (PG)**	**0.13**	**312**	P	Pg	12 46 56.5	+0.5
T1218				S	Sg	12 46 58.7	+0.7
T1218				AML	AML		
	comp=E,665μm,0.1s						
T1218				AML	AML		
	comp=N,1130μm,0.3s						
T1218				AML	AML		
	comp=E,664μm,0.1s						
T1218				AML	AML		
	comp=N,1064μm,0.3s						
T1218				AML	AML		
	comp=E,665μm,0.1s						
T1218				AML	AML		
	comp=E,664μm,0.1s						
T1218				AML	AML		
	comp=E,664μm,0.1s						
T1218				AML	AML		
	comp=N,1060μm,0.3s						
T1218				AML	AML		
	comp=N,1131μm,0.3s						
CAMP	**Campotosto**	**0.13**	**112**	P	Pg	12 46 56.5	+0.4
CAMP				S	Sg	12 46 59.0	+0.8
CAMP				AML	AML		
	comp=N,250μm,1.2s						
CAMP				AML	AML		
	comp=N,250μm,0.8s						
CAMP				AML	AML		
	comp=E,260μm,0.6s						
LNSS	**Leonessa**	**0.15**	**277**	P	Pg	12 46 57.1	+0.7
LNSS				S	Sg	12 46 59.9	+1.2
LNSS				AML	AML		
	comp=E,447μm,0.5s						
LNSS				AML	AML		
	comp=N,674μm,1.5s						
LNSS				AML	AML		
	comp=E,447μm,1.5s						
T1247	**Pizzolo (AQ)**	**0.15**	**164**	P	Pg	12 46 57.1	+0.8
T1247				S	Sg	12 46 59.8	+1.3
T1247				AML	AML		
	comp=N,299μm,0.9s						
T1247				AML	AML		
	comp=E,289μm,0.3s						
T1247				AML	AML		
	comp=N,299μm,1.1s						
T1212	**Cascia, Frazio**	**0.22**	**319**	P	Pg	12 46 58.2	+0.6
T1212				S	Sg	12 47 01.7	+1.0
T1212				AML	AML		
	comp=E,255μm,0.2s						
T1212				AML	AML		
	comp=N,238μm,1.2s						
T1212				AML	AML		
	comp=N,239μm,1.2s						
T1212				AML	AML		
	comp=E,255μm,0.2s						
T1212				AML	AML		
	comp=N,239μm,0.8s						
T1222	**Castel Sant'An**	**0.24**	**220**	P	Pg	12 46 58.6	+0.7
T1222				S	Sg	12 47 02.7	+1.5
T1217	**Poggiodomo (PG**	**0.26**	**299**	P	Pg	12 46 58.8	+0.5
T1217				S	Sb	12 47 03.5	-1.3
T1217				AML	AML		
	comp=E,104μm,1.2s						
T1217				AML	AML		
	comp=N,100μm,0.2s						
T1217				AML	AML		
	comp=N,99μm,0.2s						
T1217				AML	AML		
	comp=E,104μm,0.8s						
TERO	**Teramo**	**0.27**	**82**	P	Pg	12 46 58.7	+0.2
TERO				S	Sg	12 47 03.4	+1.3
TERO				AML	AML		
	comp=E,102μm,0.6s						
TERO				AML	AML		
	comp=N,89μm,1.2s						
TERO				AML	AML		
	comp=E,102μm,1.4s						
GIGS	**Gran Sasso**	**0.28**	**119**	P	Pg	12 46 59.0	+0.3
GIGS				S	Sb	12 47 04.2	-1.1
GIGS				AML	AML		
	comp=N,28μm,1.6s						
GIGS				AML	AML		
	comp=N,28μm,1.6s						
GIGS				AML	AML		
	comp=N,28μm,0.4s						
GIGS				AML	AML		
	comp=E,30μm,0.2s						
T1211	**Morro Reatino**	**0.29**	**260**	P	Pg	12 46 59.3	+0.4
T1211				S	Sg	12 47 04.2	+1.4
T1211				AML	AML		
	comp=E,119μm,1.4s						
T1211				AML	AML		
	comp=N,158μm,1.6s						
T1211				AML	AML		
	comp=N,158μm,1.6s						
T1211				AML	AML		
	comp=E,119μm,1.4s						
T1211				AML	AML		
	comp=N,158μm,1.6s						
T1211				AML	AML		
	comp=E,119μm,0.6s						
MC2	**Monte Cornacci**	**0.33**	**353**	P	Pg	12 47 00.2	+0.5
MC2				S	Sb	12 47 06.5	-0.4
T1215	**Vallo di Nera,**	**0.35**	**308**	P	Pg	12 47 00.2	+0.3
T1215				S	Sb	12 47 06.0	-1.3
FDMO	**Fiordimonte**	**0.47**	**346**	⇑P	Pg	12 47 02.5	+0.3
FDMO				AML	AML		
	comp=E,37750μm,0.3s						
FDMO				AML	AML		
	comp=N,38550μm,0.4s						
OFFI	**Offida**	**0.48**	**43**	P	Pb	12 47 03.4	-0.4
OFFI				AML	AML		
	comp=N,142μm,0.6s						
OFFI				AML	AML		
	comp=E,119μm,0.8s						
OFFI				AML	AML		
	comp=N,142μm,1.4s						
OFFI				AML	AML		
	comp=E,119μm,1.2s						
GUMA	**Gualdo di Mace**	**0.48**	**8**	P	Pb	12 47 03.2	-0.6
GUMA				S	Sb	12 47 10.7	-0.4
GUMA				AML	AML		
	comp=N,5200μm,0.2s						
GUMA				AML	AML		
	comp=E,6370μm,0.3s						
GUMA				AML	AML		
	comp=N,7420μm,0.2s						
GUMA				AML	AML		
	comp=E,11300μm,0.2s						
GUMA				AML	AML		
	comp=N,6915μm,0.2s						
CESX	**Cesi**	**0.49**	**273**	S	Sb	12 47 11.0	-0.2
CESX				AML	AML		
	comp=E,122μm,1.2s						
CESX				AML	AML		
	comp=N,206μm,0.2s						
T1219	**Muccia, Frazio**	**0.50**	**340**	⇑P	Pg	12 47 03.1	+0.3
T1219				S	Sb	12 47 11.3	-0.4
T1219				AML	AML		
	comp=E,26800μm,0.1s						
T1219				AML	AML		
	comp=E,23950μm,0.1s						
T1219				AML	AML		
	comp=E,26800μm,0.1s						
T1219				AML	AML		
	comp=N,28800μm,0.3s						
T1219				AML	AML		
	comp=E,23950μm,0.1s						
T1219				AML	AML		
	comp=N,29550μm,0.3s						
CSP1	**Cessapalombo**	**0.51**	**357**	P	Pg	12 47 03.2	+0.3
CSP1				S	Sb	12 47 11.8	-0.1
CSP1				AML	AML		
	comp=E,5860μm,1.4s						
CSP1				AML	AML		
	comp=E,5855μm,1.4s						
CSP1				AML	AML		
	comp=N,6275μm,0.4s						
T0110	**Collepietro**	**0.54**	**132**	P	Pg	12 47 03.5	0.0
T0110				S	Sb	12 47 12.4	-0.2
T0110				AML	AML		
	comp=E,44μm,1.1s						
T0110				AML	AML		
	comp=N,53μm,1.2s						
T0110				AML	AML		
	comp=E,44μm,0.9s						
T1220	**Camerino, Fraz**	**0.54**	**348**	P	Pg	12 47 02.8	-0.7
T1220				AML	AML		
	comp=E,33050μm,0.3s						
T1220				AML	AML		
	comp=N,33600μm,0.2s						
MOMA	**Monte Martano**	**0.54**	**294**	P	Pg	12 47 04.0	+0.4
MOMA				S	Sb	12 47 12.8	0.0
MOMA				AML	AML		
	comp=E,864μm,0.5s						
MOMA				AML	AML		
	comp=N,1296μm,0.1s						
MOMA				AML	AML		
	comp=E,896μm,0.5s						
MOMA				AML	AML		
	comp=N,1380μm,0.1s						
MOMA				AML	AML		
	comp=E,1255μm,0.2s						
MOMA				AML	AML		
	comp=N,1296μm,0.2s						
MOMA				AML	AML		
	comp=E,1300μm,0.2s						
ASSB	**Assisi San Ben**	**0.63**	**317**	P	Pg	12 47 05.6	+0.4
ASSB				S	Sb	12 47 14.9	-0.4
ASSB				AML	AML		
	comp=N,1740μm,1.2s						
ASSB				AML	AML		
	comp=E,2115μm,0.5s						
CING	**Cingoli**	**0.79**	**358**	S	Sn	12 47 21.8	-0.8
CING				AML	AML		
	comp=E,1500μm,0.2s						
CING				AML	AML		
	comp=N,2440μm,0.1s						
LIK	**San Giovanni I**	**1.11**	**168**	⇑P	Pn	12 47 16.1	+1.2
PESA	**Pesaro**	**1.39**	**348**	AML	AML		
	comp=N,309μm,0.3s						
PESA				AML	AML		
	comp=E,432μm,0.3s						
CPGN	**Carpegna, Ital**	**1.39**	**331**	AML	AML		
	comp=N,231μm,0.5s						
CPGN				AML	AML		
	comp=E,154μm,0.3s						
CRE	**Caprese Michel**	**1.40**	**318**	S	Sg	12 47 39.2	+1.1
CRE				AML	AML		
	comp=E,85μm,0.8s						
CRE				AML	AML		
	comp=N,85μm,1.2s						
CRE				AML	AML		
	comp=E,85μm,1.2s						

ROM 28 12:47:16.8±0.0, 42°988N±0'002×13°015E±0'003, h9km, ML2.6/45, 20C-8D, Error ellipse: s-maj=0.2km s-min=0.1km az=85.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.04**	**136**	P	Pg	12 47 18.9	+0.2
FEMA				S	Sg	12 47 19.9	-0.2
FEMA				AML	AML		
	comp=E,64200μm,0.2s						
FEMA				AML	AML		
	comp=N,52900μm,1.2s						
T1219	**Muccia, Frazio**	**0.07**	**355**	P	Pg	12 47 19.3	+0.3
T1219				S	Sg	12 47 20.6	+0.1
T1219				AML	AML		
	comp=N,28750μm,0.3s						
T1219				AML	AML		
	comp=E,23900μm,0.1s						
T1219				AML	AML		
	comp=N,28750μm,0.3s						
T1219				AML	AML		
	comp=N,29550μm,0.3s						
T1219				AML	AML		
	comp=E,26800μm,0.1s						
T1219				AML	AML		
	comp=N,29550μm,0.3s						
T1219				AML	AML		
	comp=E,23950μm,0.1s						
T1219				AML	AML		
	comp=N,28800μm,0.3s						
FDMO	**Fiordimonte**	**0.07**	**48**	P	Pg	12 47 19.3	+0.3
FDMO				S	Sg	12 47 20.6	+0.1
FDMO				AML	AML		
	comp=E,37750μm,0.3s						
FDMO				AML	AML		
	comp=N,38550μm,0.4s						
FDMO				AML	AML		
	comp=N,38550μm,1.6s						
CESI	**CESI - Serrava**	**0.08**	**282**	P	Pg	12 47 19.8	+0.6
CESI				S	Sg	12 47 21.7	+0.9
CESI				AML	AML		
	comp=E,9640μm,0.5s						
CESI				AML	AML		
	comp=N,22700μm,0.2s						
CESI				AML	AML		
	comp=E,9640μm,1.5s						
T1216	**Preci, Frazion**	**0.10**	**178**	P	Pg	12 47 19.8	+0.5
T1216				S	Sg	12 47 21.6	+0.6
T1216				AML	AML		
	comp=N,10640μm,1.6s						
T1216				AML	AML		
	comp=N,10630μm,1.6s						
T1216				AML	AML		
	comp=E,8730μm,0.8s						
T1216				AML	AML		
	comp=N,10635μm,1.6s						
T1216				AML	AML		
	comp=N,10635μm,0.4s						
T1220	**Camerino, Fraz**	**0.13**	**24**	P	Pg	12 47 20.5	+0.6
T1220				S	Sg	12 47 23.0	+1.1
T1220				AML	AML		
	comp=N,33600μm,0.2s						
T1220				AML	AML		
	comp=E,33050μm,0.3s						
MC2	**Monte Cornacci**	**0.15**	**120**	P	Pg	12 47 20.7	+0.5
MC2				S	Sg	12 47 23.4	+0.9
SEF1	**Sefro**	**0.17**	**343**	P	Pg	12 47 21.0	+0.6
SEF1				S	Sg	12 47 23.9	+1.1
SEF1				AML	AML		
	comp=N,8900μm,0.4s						
SEF1				AML	AML		
	comp=E,10820μm,0.5s						
SEF1				AML	AML		
	comp=N,8905μm,0.4s						
NRCA	**Norcia**	**0.17**	**155**	⇑P	Pg	12 47 21.1	+0.6
NRCA				AML	AML		
	comp=E,10635μm,0.4s						
NRCA				AML	AML		
	comp=E,10635μm,0.4s						
NRCA				AML	AML		
	comp=N,10950μm,0.1s						
CSP1	**Cessapalombo**	**0.17**	**53**	P	Pg	12 47 21.1	+0.6
CSP1				S	Sg	12 47 24.1	+1.0
CSP1				AML	AML		
	comp=N,6275μm,0.4s						
CSP1				AML	AML		
	comp=E,5860μm,1.4s						
CSP1				AML	AML		
	comp=E,5855μm,1.4s						
CSP1				AML	AML		
	comp=E,5855μm,0.6s						
T1215	**Vallo di Nera,**	**0.21**	**210**	P	Pg	12 47 22.0	+0.8
T1215				S	Sg	12 47 25.6	+1.4
T1215				AML	AML		
	comp=E,1310μm,0.3s						
T1215				AML	AML		
	comp=N,1700μm,1.6s						
T1215				AML	AML		
	comp=N,1730μm,1.6s						
T1215				AML	AML		
	comp=E,1310μm,0.3s						
T1215				AML	AML		
	comp=N,1730μm,0.4s						
T1215				AML	AML		
	comp=N,1700μm,0.4s						
MDAR	**Monte D'Aria**	**0.23**	**25**	P	Pg	12 47 22.0	+0.6
MDAR				S	Sg	12 47 25.9	+1.3
MDAR				AML	AML		
	comp=E,1805μm,0.3s						
MDAR				AML	AML		
	comp=N,2665μm,1.6s						
MDAR				AML	AML		
	comp=E,1805μm,0.3s						
MDAR				AML	AML		
	comp=N,2665μm,1.6s						
MDAR				AML	AML		
	comp=N,2665μm,0.4s						
T1212	**Cascia, Frazio**	**0.24**	**175**	P	Pg	12 47 22.4	+0.7
T1212				S	Sg	12 47 26.4	+1.5
GUMA	**Gualdo di Mace**	**0.25**	**72**	⇑P	Pg	12 47 22.7	+0.9
GUMA				S	Sg	12 47 27.0	+1.8
GUMA				AML	AML		
	comp=E,11300μm,0.2s						
GUMA				AML	AML		
	comp=N,6965μm,0.7s						
GUMA				AML	AML		
	comp=E,6370μm,0.3s						
GUMA				AML	AML		
	comp=N,7420μm,0.2s						
GAG1	**Gagliole**	**0.25**	**9**	P	Pb	12 47 22.8	-0.8
GAG1				S	Sb	12 47 27.2	-0.9
GAG1				AML	AML		
	comp=E,8715μm,0.2s						
GAG1				AML	AML		
	comp=N,6710μm,1.1s						
ASSB	**Assisi San Ben**	**0.27**	**282**	P	Pg	12 47 22.9	+0.7
ASSB				S	Sb	12 47 27.4	-1.1
ASSB				AML	AML		
	comp=N,1740μm,1.2s						
ASSB				AML	AML		
	comp=E,2115μm,0.5s						
SNTG	**Esanatoglia**	**0.27**	**348**	P	Pg	12 47 22.8	+0.5
SNTG				S	Sb	12 47 27.5	-1.2
SNTG				AML	AML		
	comp=E,1720μm,1.4s						
SNTG				AML	AML		
	comp=E,1675μm,1.4s						
SNTG				AML	AML		
	comp=N,1540μm,0.1s						
SNTG				AML	AML		
	comp=E,1675μm,0.6s						
SNTG				AML	AML		
	comp=E,1720μm,0.6s						
SNTG				AML	AML		
	comp=N,1375μm,0.2s						
T1217	**Poggiodomo (PG**	**0.28**	**193**	P	Pg	12 47 23.2	+0.7
T1217				S	Sb	12 47 28.0	-1.1
T1217				AML	AML		
	comp=E,2185μm,0.8s						
T1217				AML	AML		
	comp=N,3445μm,0.2s						
T1217				AML	AML		
	comp=N,3445μm,0.2s						
T1217				AML	AML		
	comp=N,3705μm,0.2s						
T1217				AML	AML		
	comp=E,1870μm,1.6s						
T1217				AML	AML		
	comp=E,2185μm,0.9s						
T1218	**Civita (PG)**	**0.33**	**167**	P	Pg	12 47 23.9	+0.5
T1218				S	Sb	12 47 29.1	-1.2
T1218				AML	AML		
	comp=E,2855μm,0.4s						
T1218				AML	AML		
	comp=N,4285μm,0.4s						
T1218				AML	AML		
	comp=E,2545μm,0.4s						
T1218				AML	AML		
	comp=N,4425μm,0.4s						
T1218				AML	AML		
	comp=E,2855μm,0.4s						

T1218					AML	AML			
	comp=E,2545μm,0.4s								
ATCC	**AVT- Casa Cast**	**0.34**	**306**	⇑P		Pb	12 47 24.3	-0.7	
ATCC					AML	AML			
	comp=E,874μm,0.8s								
ATCC					AML	AML			
	comp=N,984μm,1.2s								
ATCC					AML	AML			
	comp=N,984μm,0.8s								
ATCC					AML	AML			
	comp=E,874μm,1.2s								
EL6	**Elcito**	**0.35**	**10**	P		Pg	12 47 24.3	+0.6	
EL6				S		Sb	12 47 30.0	-0.9	
FOSV	**Fossato di Vic**	**0.36**	**329**	P		Pg	12 47 24.5	+0.6	
FOSV				S		Sb	12 47 30.6	-0.6	
FOSV				AML		AML			
	comp=E,690μm,1.0s								
FOSV				AML		AML			
	comp=N,1875μm,0.3s								
FOSV				AML		AML			
	comp=E,690μm,1.0s								
MNTP	**Montappone**	**0.36**	**66**	⇓P		Pb	12 47 25.2	-0.3	
MNTP				AML		AML			
	comp=E,1980μm,0.9s								
MNTP				AML		AML			
	comp=N,1475μm,1.2s								
MNTP				AML		AML			
	comp=E,1980μm,0.9s								
MOMA	**Monte Martano**	**0.38**	**241**	⇑P		Pg	12 47 24.9	+0.6	
MOMA				AML		AML			
	comp=N,1296μm,0.1s								
MOMA				AML		AML			
	comp=E,1255μm,0.2s								
MOMA				AML		AML			
	comp=E,1300μm,0.2s								
MOMA				AML		AML			
	comp=N,1380μm,0.1s								
MOMA				AML		AML			
	comp=N,1296μm,0.2s								
SMA1	**SAN MARTINO**	**0.43**	**147**	P		Pg	12 47 25.8	+0.6	
SMA1				S		Sb	12 47 32.5	-0.7	
SMA1				AML		AML			
	comp=E,1245μm,1.4s								
SMA1				AML		AML			
	comp=N,1080μm,0.3s								
SMA1				AML		AML			
	comp=E,1245μm,0.6s								
ARRO	**Arrone**	**0.45**	**204**	P		Pg	12 47 26.1	+0.6	
ARRO				S		Sb	12 47 33.2	-0.5	
ARRO				AML		AML			
	comp=N,1042μm,0.2s								
ARRO				AML		AML			
	comp=E,1640μm,0.2s								
MURB	**Monte Urbino**	**0.45**	**308**	⇑P		Pb	12 47 26.4	-0.7	
MURB				AML		AML			
	comp=N,1030μm,0.9s								
MURB				AML		AML			
	comp=E,1175μm,0.3s								
MURB				AML		AML			
	comp=N,989μm,0.7s								
MURB				AML		AML			
	comp=E,1018μm,0.2s								
MURB				AML		AML			
	comp=N,1030μm,0.9s								
T1211	**Morro Reatino**	**0.47**	**195**	⇑P		Pg	12 47 26.5	+0.5	
T1211				AML		AML			
	comp=N,1865μm,0.6s								
T1211				AML		AML			
	comp=E,1355μm,0.3s								
T1211				AML		AML			
	comp=N,1880μm,0.6s								
T1211				AML		AML			
	comp=E,1360μm,0.3s								
T1211				AML		AML			
	comp=N,1865μm,0.6s								
T1211				AML		AML			
	comp=N,1880μm,0.6s								
T1211				AML		AML			
	comp=E,1360μm,1.7s								
T1211				AML		AML			
	comp=E,1355μm,1.7s								
SSFR	**Montelago di S**	**0.48**	**339**	⇑P		Pg	12 47 26.6	+0.5	
SSFR				S		Sb	12 47 35.2	+0.5	
SSFR				AML		AML			
	comp=N,1460μm,0.3s								
SSFR				AML		AML			
	comp=E,1935μm,0.2s								
SSFR				AML		AML			
	comp=N,1440μm,0.2s								
SSFR				AML		AML			
	comp=E,2305μm,0.2s								
CESX	**Cesi**	**0.49**	**220**	⇑P		Pg	12 47 26.8	+0.4	
CESX				S		Sb	12 47 34.9	-0.1	
CESX				AML		AML			
	comp=E,1230μm,0.3s								
CESX				AML		AML			
	comp=N,1230μm,0.7s								
OFFI	**Offida**	**0.49**	**96**	⇑P		Pb	12 47 28.5	+0.8	
ATFO	**Monte Foce - G**	**0.50**	**320**	⇑P		Pg	12 47 27.2	+0.6	
ATFO				AML		AML			
	comp=N,309μm,1.0s								
ATFO				AML		AML			
	comp=E,400μm,0.6s								
ATFO				AML		AML			
	comp=N,309μm,1.0s								
RM33	**Pellescritta (**	**0.50**	**163**	S		Sb	12 47 34.8	-0.5	
RM33				AML		AML			
	comp=N,874μm,0.4s								
RM33				AML		AML			
	comp=E,861μm,0.2s								
RM33				AML		AML			
	comp=E,818μm,0.2s								
RM33				AML		AML			
	comp=N,890μm,0.4s								
ARVD	**Arcevia**	**0.51**	**354**	⇑P		Pg	12 47 27.2	+0.4	
ARVD				S		Sb	12 47 35.7	+0.1	
ARVD				AML		AML			
	comp=E,626μm,1.3s								
ARVD				AML		AML			
	comp=N,334μm,1.0s								
ARVD				AML		AML			
	comp=E,626μm,0.7s								
CAMP	**Campotosto**	**0.54**	**147**	P		Pg	12 47 27.4	+0.2	
CAMP				AML		AML			
	comp=E,332μm,0.2s								
CAMP				AML		AML			
	comp=N,305μm,1.1s								
CAMP				AML		AML			
	comp=N,305μm,0.9s								
TERO	**Teramo**	**0.57**	**130**	⇑P		Pg	12 47 27.9	+0.1	
TERO				S		Sb	12 47 37.0	-0.2	
TERO				AML		AML			
	comp=N,584μm,1.4s								
TERO				AML		AML			
	comp=N,632μm,1.4s								
TERO				AML		AML			
	comp=E,483μm,0.2s								
TERO				AML		AML			
	comp=N,584μm,0.6s								
TERO				AML		AML			
	comp=N,632μm,0.6s								
TERO				AML		AML			
	comp=E,522μm,0.2s								
FRON	**Frontone**	**0.57**	**338**	⇓P		Pg	12 47 28.2	+0.3	
FRON				AML		AML			
	comp=N,650μm,0.3s								
FRON				AML		AML			
	comp=N,650μm,1.7s								
FRON				AML		AML			
	comp=E,380μm,0.3s								
T1222	**Castel Sant'An**	**0.59**	**178**	⇑P		Pg	12 47 28.1	0.0	
T1222				S		Sb	12 47 38.2	+0.5	
T1222				AML		AML			
	comp=E,788μm,1.4s								
T1222				AML		AML			
	comp=N,586μm,1.5s								
T1222				AML		AML			
	comp=N,434μm,0.4s								
T1222				AML		AML			
	comp=E,789μm,1.4s								
T1222				AML		AML			
	comp=N,586μm,1.5s								
T1222				AML		AML			
	comp=E,660μm,1.4s								
T1222				AML		AML			
	comp=N,433μm,0.4s								
T1222				AML		AML			
	comp=E,660μm,0.6s								
T1222				AML		AML			
	comp=E,789μm,0.6s								
ATVO	**AVT- Monte Val**	**0.59**	**312**	⇓P		Pg	12 47 28.8	+0.4	
ATVO				AML		AML			
	comp=E,204μm,0.4s								
ATVO				AML		AML			
	comp=N,172μm,1.6s								
ATVO				AML		AML			
	comp=N,172μm,0.4s								
COR1	**Corinaldo**	**0.64**	**359**	⇓P		Pb	12 47 30.5	+0.2	
COR1				AML		AML			
	comp=E,424μm,1.5s								
COR1				AML		AML			
	comp=N,678μm,0.7s								
COR1				AML		AML			
	comp=E,424μm,0.5s								
ATPI	**Pietralunga -**	**0.64**	**316**	⇓P		Pb	12 47 30.0	-0.3	
ATPI				AML		AML			
	comp=N,166μm,0.4s								
ATPI				AML		AML			
	comp=E,159μm,0.4s								
PIEI	**Pieia**	**0.65**	**328**	⇓P		Pg	12 47 29.6	+0.2	
PIEI				S		Sb	12 47 40.5	+0.9	
PIEI				AML		AML			
	comp=E,292μm,0.4s								
PIEI				AML		AML			
	comp=N,232μm,0.2s								
MPAG	**Monte Paganucc**	**0.67**	**344**	⇑P		Pg	12 47 30.0	+0.3	
MPAG				S		Sb	12 47 41.3	+1.2	
MPAG				AML		AML			
	comp=E,582μm,0.2s								
MPAG				AML		AML			
	comp=N,293μm,0.4s								
MPAG				AML		AML			
	comp=E,582μm,1.8s								
GIGS	**Gran Sasso**	**0.68**	**143**	P		Pg	12 47 29.8	0.0	
GIGS				S		Sb	12 47 40.5	+0.2	
GIGS				AML		AML			
	comp=E,122μm,0.9s								
GIGS				AML		AML			
	comp=N,105μm,0.8s								
FIAM	**Fiamignano**	**0.72**	**174**	S		Sb	12 47 42.1	+0.4	
FIAM				AML		AML			
	comp=N,312μm,0.7s								
FIAM				AML		AML			
	comp=E,410μm,0.3s								
BADI	**Badiali**	**0.77**	**313**	⇑P		Pb	12 47 32.1	-0.3	
SACS	**San Casciano d**	**0.82**	**261**	⇑P		Pb	12 47 33.9	+0.5	
SACS				AML		AML			
	comp=N,179μm,0.5s								
SACS				AML		AML			
	comp=E,158μm,0.9s								
FAGN	**Fagnano**	**0.83**	**150**	⇓P		Pb	12 47 33.6	+0.1	
FAGN				AML		AML			
	comp=E,496μm,0.4s								
FAGN				AML		AML			
	comp=N,392μm,0.4s								
SSP9	**Sansepolcro**	**0.87**	**313**	⇑P		Pg	12 47 33.9	+0.3	
T0110	**Collepietro**	**0.95**	**143**	⇑P		Pg	12 47 34.9	-0.1	
T0110				AML		AML			
	comp=E,264μm,1.0s								
T0110				AML		AML			
	comp=N,306μm,1.2s								
T0110				AML		AML			
	comp=N,306μm,0.8s								
T0110				AML		AML			
	comp=E,264μm,1.0s								
PESA	**Pesaro**	**0.96**	**352**	AML		AML			
	comp=E,432μm,0.3s								
PESA				AML		AML			
	comp=N,309μm,0.3s								
SF04	**Casetta**	**1.01**	**262**	⇓P		Pn	12 47 37.2	0.0	
CERT	**Cerreto**	**1.04**	**181**	⇑P		Pb	12 47 36.9	-0.1	
LIK	**San Giovanni I**	**1.54**	**165**	⇑P		Pn	12 47 44.4	0.0	
LIK				AML		AML			
	comp=E,362μm,0.1s								
LIK				AML		AML			
	comp=N,392μm,0.1s								
SEI	**Scarperia**	**1.61**	**312**	S		Sg	12 48 10.3	+1.8	

*IDC **28** 13:02:52.6±0.6,38.91N×74.59E,h0km,mb4.2/22, mbtmp4.2/29,ML3.5/7,MS3.4/23,Error ellipse: s-maj=13.6km s-min=11.4km az=175.0*
*SOME **28** 13:02:53.0,39.13N×74.58E,h5km*
*NNC **28** 13:02:56.5±1.1,39.19N×74.60E,h0km,mb4.6,mpv4.3, Error ellipse: s-maj=9.2km s-min=6.3km az=150.0*
*MOS **28** 13:02:58.2±1.2,39.09N×74.52E,h33km,mb4.6/23,Error ellipse: s-maj=5.7km s-min=3.3km az=89.2*
*NEIC **28** 13:03:00.4±1.5,39.11N±0.07×74.54E±0.09,h47km±8km, mb4.4/27,Error ellipse: s-maj=10.6km s-min=9.0km az=127.0*

ISC 28 13:02:55.4±0.3,38.96N±0.03×74.53E±0.03,h10km,n300, σ1892/325,mb4.4/63,MS3.5/20,17C-19D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
KSH	**Kashi**	**1.25**	**63**	Pg		Pn	13	03	08.5 -11
KSH				Sg		Sb	13	03	19.3 -16
KSH				pmax		pmax			
	comp=Z,2μm,0.9s								
KSH				smax		smax			
	comp=N,2μm,0.5s								
KSH				smax		smax			
	comp=E,4μm,0.8s								
OHH	**Osh**	**2.06**	**320**	*i* PN		**Pn**	**13**	**03**	**28.9 -1.2**
OHH				*i* S		**Sn**	**13**	**03**	**55.6 -0.4**
NRN	**Naryn**	**2.72**	**24**	*i* PN		**Pn**	**13**	**03**	**39.5 +0.1**
NRN				*i* S		**Sn**	**13**	**04**	**13.8 +1.3**
ARLS	**Aral**	**2.90**	**357**	*i* PN		**Pn**	**13**	**03**	**41.5 -0.3**
ARLS				*i* S		**Sn**	**13**	**04**	**17.3 +0.4**
BTK	**Batken**	**3.07**	**292**	*i* PN		**Pn**	**13**	**03**	**42.6 -1.4**
AML	**Almayashu** SNR=35	**3.23**	**349**	P		**Pn**	**13**	**03**	**47.5 +1.0**
AML	**Almayashu**	**3.23**	**349**	*i* PN		**Pn**	**13**	**03**	**46.2 -0.3**
AML				*i* S		**Sn**	**13**	**04**	**25.3 0.0**
UCH	**Uchtor** SNR=62	**3.27**	**360**	P		**Pn**	**13**	**03**	**48.4 +1.4**
UCH	**Uchtor**	**3.27**	**360**	*i* PN		**Pn**	**13**	**03**	**46.8 -0.2**
UCH				*i* S		**Sn**	**13**	**04**	**26.6 +0.4**
ARK	**Arkit**	**3.45**	**326**	*i* PN		**Pn**	**13**	**03**	**48.4 -0.8**
ARK				*i* S		**Sn**	**13**	**04**	**29.3 -0.9**
ULHL	**Ulahol** SNR=22	**3.53**	**21**	P		**Pn**	**13**	**03**	**51.4 +0.9**
ULHL	**Ulahol**	**3.53**	**21**	*i* PN		**Pn**	**13**	**03**	**50.9 +0.4**
ULHL				*i* S		**Sn**	**13**	**04**	**33.7 +1.2**
TRKS	**Terek-Say**	**3.65**	**316**	*i* PN		**Pn**	**13**	**03**	**50.1 -1.9**
AAK	**Ala-Archa** SNR=84	**3.68**	**360**	P		**Pn**	**13**	**03**	**54.2 +1.8**
AAK	**Ala-Archa**	**3.68**	**360**	Pn		**Pn**	**13**	**03**	**53.7 +1.3**
	comp=E,12nm,0.3s,baz=176,slow=11,SNR=159								
AAK				Lg		Lg	13	04	46.7
	comp=E,9.5nm,0.3s,baz=71,slow=18,SNR=5.5								
AAK				LR		LR	13	05	08.7
	comp=E,112nm,19.9s,baz=193,slow=36								
	comp=E,48nm,0.5s								
AAK	**Ala-Archa**	**3.68**	**360**	Pn		**Pn**	**13**	**03**	**53.0 +0.6**
KBK	**Karagaybulak** SNR=121	**3.71**	**5**	P		**Pn**	**13**	**03**	**56.3 +3.5**
KBK	**Karagaybulak**	**3.71**	**5**	*i* PN		**Pn**	**13**	**03**	**51.3 -1.6**
KBK				*i* S		**Sn**	**13**	**04**	**37.1 +0.4**
TARG	**Taragay, Kyrgy**	**3.73**	**41**	Pn		**Pn**	**13**	**03**	**54.5 +1.2**
TARG	**Taragay, Kyrgy**	**3.73**	**41**	PN		**Pn**	**13**	**03**	**54.6 +1.2**
EKS2	**Erkin-Say** SNR=27	**3.74**	**351**	P		**Pn**	**13**	**03**	**56.9 +3.6**
EKS2	**Erkin-Say**	**3.74**	**351**	*i* PN		**Pn**	**13**	**03**	**53.1 -0.2**
EKS2				*i* S		**Sn**	**13**	**04**	**37.5 0.0**
KDJ	**Kajisay**	**3.76**	**32**	*i* PN		**Pn**	**13**	**03**	**54.3 +0.7**
KDJ				*i* S		**Sn**	**13**	**04**	**39.5 +1.6**
FRU1	**Bishkek**	**3.85**	**1**	*e*PN		**Pn**	**13**	**03**	**55.0 +0.3**
FRU1				*i* S		**Sg**	**13**	**05**	**00.8 +1.9**
MRKS	**Merke**	**3.91**	**346**	Pg		**Pb**	**13**	**04**	**03.2 -1.3**
	comp=E,25nm,0.5s								
MRKS				Lg		Lg	13	04	54.2
	comp=E,86nm,0.8s								
MRKS	**Merke**	**3.91**	**346**	*e*Pg		**Pb**	**13**	**04**	**02.4 -2.1**
	comp=E,106nm,0.4s								
MRKS				*e*Lg		Lg	13	04	52.4
	comp=E,86nm,0.8s								
CHMS	**Chumysh** SNR=38	**4.04**	**2**	P		**Pn**	**13**	**03**	**58.9 +1.6**
CHMS	**Chumysh**	**4.04**	**2**	⇑Pn		**Pn**	**13**	**03**	**58.4 +1.1**
	comp=E,42nm,0.7s								
CHMS				⇓Pg		**Pb**	**13**	**04**	**07.8 +1.2**
	comp=E,166nm,0.8s								
CHMS				⇑Lg		Lg	13	04	57.6
	comp=E,334nm,1.1s								
CHMS	**Chumysh**	**4.04**	**2**	PN		**Pb**	**13**	**04**	**07.8 +1.2**
CHMS							13	04	57.5
TKM2	**Tokmak 2** SNR=84	**4.04**	**11**	P		**Pn**	**13**	**03**	**58.8 +1.3**
TKM2	**Tokmak 2**	**4.04**	**11**	*i* PN		**Pn**	**13**	**03**	**58.4 +0.9**
TKM2				pmax		pmax			
	comp=Z,148nm,0.7s								
CHGR	**Chuyangaron**	**4.21**	**268**	Pn		**Pn**	**13**	**04**	**00.9 +1.4**
CHGR	**Chuyangaron**	**4.21**	**268**	PN		**Pn**	**13**	**04**	**01.0 +1.4**
KST	**Kastek**	**4.22**	**14**	Pg		**Pb**	**13**	**04**	**08.7 -1.1**
	comp=Z,48nm,0.6s								
KST				Lg		Lg	13	05	04.4
	comp=Z,272nm,0.8s								
KST	**Kastek**	**4.22**	**14**	*e*Pg		**Pb**	**13**	**04**	**08.7 -1.1**
	comp=Z,48nm,0.5s								
KST				*e*Lg		Lg	13	05	03.3
	comp=Z,168nm,0.7s								
USP	**Ospenovka** SNR=13	**4.30**	**360**	P		**Pn**	**13**	**04**	**04.2 +3.2**
USP	**Ospenovka**	**4.30**	**360**	*i* PN		**Pn**	**13**	**04**	**01.0 +0.1**
IZV	**Izvestkoviy**	**4.37**	**21**	*e*Pg		**Pb**	**13**	**04**	**11.9 -0.4**
	comp=Z,31nm,0.7s								
IZV				*e*Lg		Lg	13	05	08.5
	comp=Z,271nm,0.8s								
DGS	**Degeres**	**4.38**	**12**	Pg		**Pb**	**13**	**04**	**12.9 +0.4**
	comp=Z,134nm,0.8s								
DGS				Lg		Lg	13	05	10.4
	comp=Z,166nm,0.8s								
DGS	**Degeres**	**4.38**	**12**	*e*Pg		**Pb**	**13**	**04**	**11.2 -1.3**
	comp=Z,134nm,1.5s								
DGS				*e*Lg		Lg	13	05	07.9
	comp=Z,160nm,1.7s								
MTBS	**Maitube**	**4.41**	**18**	Pg		**Pb**	**13**	**04**	**12.1 -0.8**
	comp=Z,26nm,0.6s								
MTBS				Lg		Lg	13	05	09.9
	comp=Z,139nm,1.1s								
MTBS	**Maitube**	**4.41**	**18**	*e*Pg		**Pb**	**13**	**04**	**12.4 -0.5**
	comp=Z,34nm,0.8s								
MTBS				*e*Lg		Lg	13	05	09.5
	comp=Z,139nm,1.1s								
TNSS	**Tian-Shan**	**4.47**	**23**	Pg		**Pb**	**13**	**04**	**13.4 -0.7**
	comp=Z,41nm,0.4s								
TNSS				Lg		Lg	13	05	12.3
	comp=Z,47nm,0.7s								
TNSS	**Tian-Shan** baz=25	**4.47**	**23**	*i* P		**Pn**	**13**	**04**	**03.9 +0.4**
TNSS	**Tian-Shan**	**4.47**	**23**	*e*Pg		**Pb**	**13**	**04**	**13.6 -0.6**
	comp=Z,90nm,0.6s								
TNSS				*e*Lg		Lg	13	05	11.4
	comp=Z,47nm,0.7s								
TNSS	**Tian-Shan**	**4.47**	**23**	*i* PN		**Pn**	**13**	**04**	**03.9 +0.4**
SGDS	**Sogindy**	**4.49**	**1**	Pg		**Pb**	**13**	**04**	**13.3 -1.0**
	comp=Z,19nm,0.9s								
SGDS				Lg		Lg	13	05	11.5
	comp=Z,68nm,0.6s								
SGDS	**Sogindy** baz=0.1	**4.49**	**1**	*e*P		**Pn**	**13**	**04**	**03.7 +0.2**
SGDS	**Sogindy**	**4.49**	**1**	*e*PN		**Pn**	**13**	**04**	**03.7 +0.2**
ANVS	**Anan'yevo**	**4.50**	**31**	*i* PN		**Pn**	**13**	**04**	**04.5 +0.7**
MDOK	**Medeo**	**4.61**	**24**	⇑Pn		**Pn**	**13**	**04**	**07.4 +2.1**
	comp=Z,11nm,0.8s								
MDOK				Pg		**Pb**	**13**	**04**	**15.5 -0.9**
	comp=Z,33nm,0.4s								
MDOK				⇑Pg		Pg	13	04	15.6 -8.2
	comp=Z,79nm,0.7s								
MDOK				⇓Lg		Lg	13	05	15.2
	comp=Z,292nm,0.9s								
MDOK				Lg		Lg	13	05	15.8
	comp=Z,131nm,0.8s								
MDOK	**Medeo** baz=25	**4.61**	**24**	*e*P		**Pn**	**13**	**04**	**05.7 +0.4**
MDOK	**Medeo**	**4.61**	**24**	PN		**Pn**	**13**	**04**	**07.3 +2.1**
AAA	**Alma-Ata**	**4.61**	**22**	Pg		**Pb**	**13**	**04**	**16.6 +0.2**
	comp=Z,12nm,0.1s								
AAA				Lg		Lg	13	05	17.0
	comp=Z,166nm,0.2s								
AAA	**Alma-Ata** baz=23	**4.61**	**22**	*e*P		**Pn**	**13**	**04**	**06.2 +0.9**
AAA	**Alma-Ata**	**4.61**	**22**	*e*Pg		**Pb**	**13**	**04**	**16.7 +0.2**
	comp=Z,70nm,0.4s								
AAA				*e*Lg		Lg	13	05	17.4
	comp=Z,166nm,0.2s								
AAA	**Alma-Ata**	**4.61**	**22**	*e*PN		**Pn**	**13**	**04**	**06.1 +0.9**
DZA	**Taraz** baz=326	**4.62**	**329**	*e*P		**Pn**	**13**	**04**	**07.0 +1.8**
DZA	**Taraz**	**4.62**	**329**	*e*Pg		**Pb**	**13**	**04**	**15.7 -0.7**
	comp=Z,27nm,0.1s								
DZA				*e*Lg		Lg	13	05	15.0
	comp=Z,96nm,0.3s								
DZA	**Taraz**	**4.62**	**329**	*e*PN		**Pn**	**13**	**04**	**07.0 +1.8**
KNDC	**Almaty**	**4.64**	**23**	⇑Pg		**Pb**	**13**	**04**	**16.1 -0.7**
	comp=Z,273nm,1.2s								
KNDC				⇑Lg		Lg	13	05	17.5
	comp=Z,936nm,0.9s								
KNDC	**Almaty**	**4.64**	**23**	PN		**Pb**	**13**	**04**	**16.1 -0.7**
KNDC							13	05	17.5
TAS	**Tashkent**	**4.66**	**302**			**Pn**	**13**	**04**	**07.4 +1.7**
TAS	**Tashkent**	**4.66**	**302**	PN		**Pn**	**13**	**04**	**07.4 +1.7**
IUG	**Iuzhnay** baz=310	**4.68**	**314**	*e*P		**Pn**	**13**	**04**	**07.5 +1.4**
IUG	**Iuzhnay**	**4.68**	**314**	*e*Pg		**Pb**	**13**	**04**	**18.8 +1.3**
	comp=Z,382nm,1.0s								
IUG				*e*Lg		Lg	13	05	20.8
	comp=Z,590nm,0.9s								
IUG	**Iuzhnay**	**4.68**	**314**	*e*PN		**Pn**	**13**	**04**	**07.5 +1.4**
KOTS	**Kotyrbulak**	**4.70**	**24**	Pg		**Pb**	**13**	**04**	**17.7 -0.2**
	comp=Z,26nm,0.4s								
KOTS				Lg		Lg	13	05	19.1
	comp=Z,275nm,0.9s								
KOTS	**Kotyrbulak**	**4.70**	**24**	*e*Pg		**Pb**	**13**	**04**	**18.1 +0.2**
	comp=Z,26nm,0.4s								
KOTS				*e*Lg		Lg	13	05	19.3
	comp=Z,275nm,0.9s								
KRBS	**Karabastau**	**4.81**	**10**	Pg		**Pb**	**13**	**04**	**19.0 -0.8**
	comp=Z,25nm,0.7s								
KRBS				Lg		Lg	13	05	20.8
	comp=Z,125nm,0.8s								
KRBS	**Karabastau**	**4.81**	**10**	*e*Pg		**Pb**	**13**	**04**	**18.8 -0.9**
	comp=Z,96nm,0.6s								
KRBS				*e*Lg		Lg	13	05	21.1
	comp=Z,125nm,0.8s								
KTBS	**Karatobe**	**5.02**	**18**	Pg		**Pb**	**13**	**04**	**22.9 -0.4**
	comp=Z,24nm,0.6s								
KTBS				Lg		Lg	13	05	28.2
	comp=Z,140nm,0.8s								
KTBS	**Karatobe**	**5.02**	**18**	*e*Pg		**Pb**	**13**	**04**	**23.4 +0.1**
	comp=Z,24nm,0.6s								
KTBS				*e*Lg		Lg	13	05	28.4
	comp=Z,140nm,0.8s								
CHM	**Chimkent**	**5.03**	**313**	*e*Pg		**Pb**	**13**	**04**	**27.8 +4.3**
	comp=Z,100nm,0.1s								
CHM				*e*Lg		Lg	13	05	36.1
	comp=Z,406nm,0.2s								
SATY	**Saty**	**5.04**	**34**	Pg		**Pb**	**13**	**04**	**22.8 -0.9**
	comp=Z,10nm,0.4s								
SATY				Lg		Lg	13	05	28.4
	comp=Z,178nm,1.4s								
SATY	**Saty** baz=36	**5.04**	**34**	*e*P		**Pn**	**13**	**04**	**12.2 +1.1**
SATY	**Saty**	**5.04**	**34**	*e*Pg		**Pb**	**13**	**04**	**23.4 -0.3**
	comp=Z,69nm,0.9s								
SATY				*e*Lg		Lg	13	05	28.9
	comp=Z,178nm,1.4s								
SATY	**Saty**	**5.04**	**34**	*e*PN		**Pn**	**13**	**04**	**12.2 +1.1**
KUU	**Kurty**	**5.12**	**15**	Pg		**Pb**	**13**	**04**	**25.0 +0.1**
	comp=Z,16nm,0.6s								
KUU				Lg		Lg	13	05	31.7
	comp=Z,200nm,0.9s								
KUU	**Kurty** baz=15	**5.12**	**15**	*e*P		**Pn**	**13**	**04**	**12.6 +0.6**
KUU	**Kurty**	**5.12**	**15**	*e*Pg		**Pb**	**13**	**04**	**25.2 +0.3**
	comp=Z,53nm,0.9s								
KUU				*e*Lg		Lg	13	05	31.6
	comp=Z,200nm,

KK31 Karatay Array 5.13 325 *e*PN **Pb 13 04 27.5 +2.2**
KK31 13 05 30.1
comp=Z,8.5nm,0.1s
KKAR Karatay Array 5.13 325 Pn **Pn 13 04 12.8 +0.4**
KKAR Karatay Array 5.13 325 **Pn 13 04 12.8 +0.4**
KKAR Karatay Array 5.13 325 PN **Pn 13 04 12.8 +0.4**
ZHN Zhinishke 5.14 34 Pg **Pb 13 04 25.5 +0.1**
ZHN Lg Lg 13 05 32.0
comp=Z,8.5nm,0.1s
comp=Z,70nm,0.8s
ZHN Zhinishke 5.14 34 *e*Pg **Pb 13 04 25.5 +0.1**
ZHN *e*Lg Lg 13 05 31.8
comp=Z,60nm,0.8s
comp=Z,70nm,0.8s
CHKK Chushkaly 5.23 20 Pg **Pb 13 04 26.9 0.0**
CHKK Lg Lg 13 05 34.5
comp=Z,19nm,0.8s
comp=Z,91nm,0.7s
CHKK Chushkaly 5.23 20 *e*P **Pn 13 04 14.5 +0.9**
baz=21
CHKK Chushkaly 5.23 20 *e*Pg **Pb 13 04 27.1 +0.2**
CHKK *e*Lg Lg 13 05 34.6
comp=Z,66nm,0.9s
comp=Z,91nm,0.7s
CHKK Chushkaly 5.23 20 *e*PN **Pn 13 04 14.5 +0.9**
KURS Kuram 5.29 30 Pg **Pb 13 04 28.1 +0.1**
KURS Lg Lg 13 05 36.3
comp=Z,26nm,0.6s
comp=Z,76nm,1.0s
KURS Kuram 5.29 30 *e*Pg **Pb 13 04 26.6 -1.3**
KURS *e*Lg Lg 13 05 34.1
comp=Z,26nm,0.6s
comp=Z,76nm,1.0s
CHCP Chirah Chowk 5.39 191 P **Pn 13 04 20.1 +4.3**
UZB Uzynbulak 5.39 38 Pg **Pb 13 04 29.9 +0.2**
UZB Lg Lg 13 05 40.4
comp=Z,33nm,0.7s
comp=Z,82nm,1.1s
UZB Uzynbulak 5.39 38 *e*P **Pn 13 04 17.3 +1.3**
baz=40
UZB Uzynbulak 5.39 38 *e*Pg **Pb 13 04 30.1 +0.5**
UZB *e*Lg Lg 13 05 40.4
comp=Z,33nm,0.7s
comp=Z,82nm,1.1s
UZB Uzynbulak 5.39 38 *e*PN **Pn 13 04 17.2 +1.3**
NIL Nilore 5.40 191 Pn **Pn 13 04 20.4 +4.5**
NIL Nilore 5.40 191 PN **Pn 13 04 20.4 +4.5**
KPKS Kokpek 5.49 34 Pg **Pb 13 04 32.1 +0.8**
KPKS Lg Lg 13 05 43.3
comp=Z,21nm,0.4s
comp=Z,141nm,0.6s
KPKS Kokpek 5.49 34 *e*P **Pn 13 04 17.9 +0.6**
baz=35
KPKS Kokpek 5.49 34 *e*Pg **Pb 13 04 31.3 0.0**
KPKS *e*Lg Lg 13 05 42.0
comp=Z,81nm,1.1s
comp=Z,141nm,0.6s
KPKS Kokpek 5.49 34 *e*PN **Pn 13 04 17.8 +0.6**
CEP Cherat 5.54 203 P Pn 13 04 23.2 +5.2
SHLS Shalkode 5.61 40 Pg **Pb 13 04 37.9 +4.4**
SHLS Lg Lg 13 05 53.7
comp=Z,21nm,0.4s
comp=Z,529nm,0.9s
SHLS Shalkode 5.61 40 *e*P **Pn 13 04 22.9 +3.9**
baz=44
SHLS Shalkode 5.61 40 *e*Pg **Pb 13 04 37.7 +4.2**
SHLS *e*Lg Lg 13 05 53.1
comp=Z,21nm,0.4s
comp=Z,529nm,0.9s
SHLS Shalkode 5.61 40 *e*PN **Pn 13 04 22.9 +3.9**
ARXS Arharly 5.80 24 Pg **Pb 13 04 38.1 +1.4**
ARXS Lg Lg 13 05 54.1
comp=Z,30nm,0.7s
comp=Z,30nm,0.1s
ARXS Arharly 5.80 24 *e*Pg **Pb 13 04 38.4 +1.7**
ARXS *e*Lg Lg 13 05 54.3
comp=Z,83nm,1.4s
comp=Z,100nm,1.1s
BLB Baldybastay 5.93 29 Pg **Pb 13 04 39.4 +0.5**
BLB Lg Lg 13 05 57.0
comp=Z,27nm,0.5s
comp=Z,93nm,0.9s
BTLS Baital 6.09 357 Pg **Pb 13 04 43.7 +2.2**
BTLS Lg Lg 13 06 03.4
comp=Z,2.5nm,0.4s
comp=Z,21nm,0.9s
BTLS Baital 6.09 357 *e*P **Pn 13 04 26.7 +1.2**
baz=356
BTLS Baital 6.09 357 *e*Pg **Pb 13 04 42.3 +0.8**
BTLS *e*Lg Lg 13 06 01.3
comp=Z,12nm,1.1s
comp=Z,28nm,1.2s
BTLS Baital 6.09 357 *e*PN **Pn 13 04 26.6 +1.2**
KBL Kabul 6.23 227 Pn **Pn 13 04 31.2 +3.6**
KBL Kabul 6.23 227 PN **Pn 13 04 31.2 +3.6**
THW Thamme Wali 6.55 201 P **Pn 13 04 34.4 +2.6**
THN Thein Dam 6.58 171 *e*P **Pn 13 04 35.4 +3.2**
THN *e*S **Sn 13 05 44.1 -3.1**
THN IAML 13 06 38.2
comp=E,79nm,1.7s
THN IAML 13 06 48.1
comp=N,60nm,1.7s
DJR Jarkent 6.66 35 Pg **Pb 13 04 53.6 +2.3**
DJR Lg Lg 13 06 20.1
comp=N,4.9nm,0.5s
comp=N,54nm,1.2s
DJR Jarkent 6.66 35 *e*Pg **Pb 13 04 54.1 +2.8**
DJR *e*Lg Lg 13 06 20.8
comp=N,13nm,1.1s
comp=N,54nm,1.2s
DHRM DHARAMSHALA 6.85 167 *e*P Pn 13 04 31.1 -5.0
DHRM *i* x x 13 04 42.3
DHRM IAML 13 06 11.6
comp=E,231nm,0.5s
DHRM IAML 13 06 20.6
comp=N,186nm,1.1s
BHK Bhakra 7.68 168 *e*P **Pn 13 04 48.9 +1.6**
BHK *ex* x 13 05 00.9
BHK *e*S **Sn 13 06 08.6 -5.8**
SMLA Simla 8.11 164 *e*P **Pn 13 04 54.2 +1.2**
SMLA *e*S **Sn 13 06 20.0 -4.7**
SMLA IAML 13 06 33.1
comp=N,109nm,1.2s
SMLA IAML 13 06 39.8
comp=E,112nm,0.5s
DDI Dehra Dun 9.09 160 *e*P **Pn 13 05 08.4 +1.7**
MAKZ Makanchi 9.56 32 **Pn 13 05 13.6 +0.6**
MAKZ Makanchi 9.56 32 P **Pn 13 05 13.6 +0.6**
MKAR Makanchi Array 9.68 34 Pn **Pn 13 05 15.0 +0.3**
comp=E,0.2nm,0.3s,baz=209,slow=12,SNR=34
MKAR Lg Lg 13 07 53.7
comp=E,0.2nm,0.3s,baz=225,slow=28,SNR=3.0
MKAR LR LR 13 09 22.9
comp=E,223nm,21.2s,baz=230,slow=40
comp=E,6.1nm,0.9s
MKAR Makanchi Array 9.68 34 **Pn 13 05 15.3 +0.6**
MKAR Makanchi Array 9.68 34 *e*P **Pn 13 05 15.4 +0.7**
MK31 Makanchi Array 9.68 34 **Pn 13 05 15.4 +0.8**
MK31 Makanchi Array 9.68 34 ⇓Pn **Pn 13 05 14.4 -0.3**
comp=E,0.3nm,1.1s,baz=175,slow=20,SNR=48
MK31 ⇑Lg Lg 13 07 59.7
comp=E,0.3nm,0.4s,baz=224,slow=15,SNR=5.0
MK31 Makanchi Array 9.68 34 P **Pn 13 05 14.3 -0.3**
NDI New Delhi 10.49 167 *e*P **Pn 13 05 27.0 +1.2**
NDI *e*S **Sn 13 07 23.5 +0.2**
NDI IAML 13 07 37.1
comp=N,21nm,1.8s
NDI IAML 13 07 39.5
comp=E,30nm,0.0s
LGTI Lohaghat 10.60 152 *ex* x 13 05 30.4
KUDL Kundal 10.91 171 *e*P **Pn 13 05 32.7 +1.2**
WMQ Urumqi 11.02 60 *e*P **Pn 13 05 32.3 -0.7**
WMQ pP 13 05 35.8
WMQ sP 13 05 38.8
WMQ S **Sn 13 07 33.3 -3.0**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ smax smax
comp=N,21nm,1.3s
WMQ smax smax
comp=E,25nm,1.7s
WMQ LR LR
comp=Z,160nm,19.1s
KURBB Kurchatov Arra 12.00 12 Pn **Pn 13 05 44.8 -1.6**
comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=11
KURBB Lg Lg 13 09 06.6
comp=Z,0.1nm,0.3s,baz=200,slow=29,SNR=10
comp=Z,1.1nm,0.3s
KURK Kurchatov 12.11 12 **Pn 13 05 45.8 -2.0**
KURK Kurchatov 12.11 12 *i*P **Pn 13 05 49.3 +1.5**
KURK pmax pmax
comp=Z,4.0nm,0.8s
GEYT Alibeck 12.91 271 Pn **Pn 13 05 57.9 -1.0**
comp=Z,0.7nm,0.3s,baz=113,slow=10.0,SNR=5.1
GEYT Sn **Sn 13 08 21.2 -1.5**
comp=Z,0.6nm,0.3s,baz=85,slow=16,SNR=3.2
GEYT LR LR 13 11 50.9
comp=Z,199nm,19.1s,baz=94,slow=42
comp=Z,1.2nm,0.3s
DANN Dangsing 13.07 141 *e*P **Pn 13 06 01.5 +0.1**
comp=Z,20nm,0.3s
KOLN Koldanda 13.48 143 *e*P **Pn 13 06 06.7 -0.2**
GKN Gorkha 13.79 139 *e*P **Pn 13 06 10.6 -0.5**
comp=Z,16nm,0.3s
DGZ Jazzator, Alta 14.14 36⇓*e*P **Pn 13 06 15.0 -0.8**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
DMN Daman 14.35 139 *e*P **Pn 13 06 18.4 -0.5**
comp=Z,8.0nm,0.3s
BVA0 Borovoye Array 14.36 350 P **Pn 13 06 17.4 -1.1**
BVAR Borovoye Array 14.36 350 Pn **Pn 13 06 15.8 -2.8**
comp=Z,0.1nm,0.3s,baz=170,slow=12,SNR=22
BVAR Lg Lg 13 10 19.1
baz=155,slow=28,SNR=1.6
BVAR LR LR 13 11 55.0
comp=Z,161nm,18.3s,baz=186,slow=38
comp=Z,5.0nm,0.7s
BRVK Borovoye 14.40 350 **Pn 13 06 18.1 -1.1**
BRVK Borovoye 14.40 350*d i*P **Pn 13 06 18.7 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
GUN Gumba 14.52 136 *e*P **Pn 13 06 20.8 -0.4**
comp=Z,7.3nm,0.3s
PKIN Phulchoki 14.53 138 *e*P **Pn 13 06 20.7 -0.6**
comp=Z,4.1nm,0.3s
PKI Pulchoki 14.54 138 *e*P **Pn 13 06 20.9 -0.6**
comp=Z,5.5nm,0.2s
AB31 Akbulak array 14.66 319 ⇓P **Pn 13 06 19.5 -3.3**
comp=Z,10nm,0.7s,baz=135,slow=7.9,SNR=88
AB31 Akbulak array 14.66 319 *i* P **Pn 13 06 19.4 -3.3**
ABKAR Akbulak array 14.66 319 Pn **Pn 13 06 19.6 -3.1**
JIRN Jiri 14.88 136 *e*P **Pn 13 06 25.0 -1.2**
comp=Z,17nm,0.3s
RAMN Ramite 15.67 136 *e*P **Pn 13 06 34.0 -2.5**
TAPN Taplejung 15.97 133 *e*P **Pn 13 06 38.7 -1.8**
comp=Z,4.9nm,0.4s
GOMU GeErMu 16.32 93 P **Pn 13 06 42.3 -2.6**
GOMU pP P 13 06 45.5 -2.4
GOMU sP pP 13 06 47.0 -4.8
GOMU S Sn 13 09 25.0 -21
GOMU sS S 13 09 32.0 -27
GOMU SS SgSg 13 11 19.0 -20
GOMU pmax pmax
comp=Z,7.0nm,0.9s
GOMU pmax pmax
comp=Z,100nm,4.4s
GOMU LR LR
comp=N,100nm,7.2s
GOMU LR LR
comp=E,81nm,6.7s
GOMU LR LR
comp=Z,97nm,9.7s
AKTO Aktyubinsk 16.37 320 Pn **Pn 13 06 43.9 -1.2**
comp=Z,0.4nm,0.3s,baz=121,slow=12,SNR=14
AKTO LR LR 13 12 34.9
comp=Z,68nm,18.8s,baz=137,slow=35
comp=Z,4.7nm,0.5s
AKTO Aktyubinsk 16.37 320 ⇓P **Pn 13 06 43.6 -1.5**
comp=Z,8.9nm,0.8s
JBP Jabalpur 16.41 162 *e*P **Pn 13 06 46.3 +0.5**
JBP *e*S **Sn 13 09 39.3 -8.7**
ZAA0 Zalesovo Array 16.56 22 Pn **Pn 13 06 44.6 -2.9**
ZALV Zalesovo Beam 16.56 22 Pn **Pn 13 06 44.7 -2.7**
comp=Z,0.4nm,0.3s,baz=202,slow=11,SNR=10
ZALV LR LR 13 13 18.3
comp=Z,125nm,19.1s,baz=205,slow=38
comp=Z,1.6nm,0.5s
GTA Gaotai 19.59 81 ⇑P **P 13 07 24.5 +0.8**
GTA sP sP 13 07 42.8 +13
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,140nm,4.8s
GTA LR LR
comp=N,190nm,13.4s
GTA LR LR
comp=E,150nm,12.7s
GTA LR LR
comp=Z,160nm,14.9s
SVE Sverdlovsk 20.09 337 *e*P **P 13 07 30.2 +1.4**
SVE pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 20.43 334 P **P 13 07 32.6 0.0**
comp=Z,26nm,0.7s,baz=153,slow=6.7,SNR=46
ARU LR LR 13 15 45.5
comp=Z,119nm,18.4s,baz=117,slow=38
comp=Z,26nm,0.7s
ARU Arti 20.43 334 **P 13 07 30.7 -1.8**
ARU IAmb IAmb 13 07 36.3
comp=Z,27nm,0.7s
ARU Arti 20.43 334*de*P **P 13 07 33.4 +0.9**
ARU pmax pmax
comp=Z,26nm,0.7s
WSAR Wadi Sarin 20.71 225 P **P 13 07 36.2 +0.4**
comp=Z,7.9nm,0.9s,baz=64,slow=12,SNR=3.3
WSAR LR LR 13 16 28.4
comp=Z,68nm,19.0s,baz=102,slow=39
comp=Z,7.9nm,0.9s
MAK Makhachkala 20.76 290 *e*P **P 13 07 35.5 -0.7**
MAK *e*S **S 13 11 25.6 -2.2**
MAK pmax pmax
comp=Z,112nm,1.4s
GROC Groznyy 22.02 290 *e*P **P 13 07 51.1 +1.3**
GROC *e* 13 08 13.8
GROC pmax pmax
comp=Z,29nm,0.4s
BELG Belogornoye 22.94 315 P **P 13 07 59.0 -0.4**
comp=Z,21nm,0.9s,baz=122,slow=2.0,SNR=6.2
BELG LR LR 13 17 56.3
comp=Z,89nm,19.2s,baz=211,slow=39
comp=Z,21nm,0.9s
BELG Belogornoye 22.94 315⇓*e*P **P 13 08 00.8 +1.3**
BELG pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 22.95 282 LR LR 13 17 56.5
comp=Z,60nm,20.6s,baz=105,slow=39
ZAK Zakamensk 23.27 51 *e*P **P 13 08 02.5 -0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
LZH Lanzhou 23.38 88 *e*P **P 13 08 05.0 +0.6**
LZH pP sP 13 08 17.5 +7.3
LZH sP pP 13 08 25.8 +17
LZH pmax pmax
comp=Z,12nm,1.0s
LZH LR LR
comp=N,300nm,11.0s
LZH LR LR
comp=E,200nm,11.9s
LZH LR LR
comp=Z,250nm,14.9s
ZEI Tsey 23.41 289 *e*P **P 13 08 06.7 +2.1**
ZEI pmax pmax
comp=Z,9.0nm,1.1s
NCK Nalchik 23.63 291⇑*e*P **P 13 08 10.3 +3.7**
NCK pmax pmax
comp=Z,11nm,0.3s
ONI Oni 23.74 289 P **P 13 08 07.7 -0.1**
ONI Oni 23.74 289 P **P 13 08 07.7 -0.1**
ONI pmax pmax
comp=Z,26nm,1.0s
AKH Akhalkalaki 23.77 286 P **P 13 08 09.1 +0.9**
AKH Akhalkalaki 23.77 286 P **P 13 08 09.1 +0.9**
AKH pmax pmax
comp=Z,33nm,0.9s
KBZ Khabaz 24.14 292 P **P 13 08 12.7 +1.3**
comp=Z,2.2nm,0.8s,baz=141,slow=8.3,SNR=5.5
KBZ LR LR 13 19 32.0
comp=Z,69nm,19.0s,baz=80,slow=41
comp=Z,2.2nm,0.8s
NEY Neytrino 24.26 290⇓*i*P **P 13 08 16.4 +3.6**
NEY pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 24.29 292 P **P 13 08 11.6 -1.3**
KIV IAmb IAmb 13 08 31.0
comp=Z,9.9nm,0.7s
KIV Kislovodsk 24.29 292 *e*P **P 13 08 15.4 +2.5**
KIV pmax pmax
comp=Z,8.0nm,1.1s
TNCH TengChong 24.54 117 P **P 13 08 19.3 +3.9**
TNCH sP sP 13 08 26.3 +5.0
TNCH PP **PnPn 13 08 54.5 +8.2**
TNCH S **S 13 12 35.0 -1.2**
TNCH sS sS 13 12 43.3 0.0
TNCH SS SnSn 13 13 40.0 +19
TNCH pmax pmax
comp=Z,15nm,3.5s
TNCH pmax pmax
comp=Z,97nm,4.4s
TNCH LR LR
comp=N,150nm,5.0s
TNCH LR LR
comp=E,180nm,4.8s
TNCH LR LR
comp=Z,97nm,8.4s
SONM Songino Array 24.65 59 P **P 13 08 15.9 -0.3**
comp=Z,1.9nm,0.7s,baz=258,slow=10,SNR=8.4
SONM LR LR 13 18 21.8
comp=Z,124nm,21.3s,baz=260,slow=38
comp=Z,1.9nm,0.7s
SONM Songino Array 24.65 59 P **P 13 08 15.1 -1.1**
ULN Ulaanbaatar 25.09 59 P **P 13 08 18.5 -1.8**
ULN IAmb IAmb 13 08 20.9
comp=Z,5.8nm,0.8s
ULN Ulaanbaatar 25.09 59*d i*P **P 13 08 20.2 0.0**
ULN pmax pmax
comp=Z,6.0nm,0.7s
KIRV Kirov 25.42 329 LR LR 13 18 56.5
comp=Z,166nm,19.6s,baz=200,slow=38
KIRV Kirov 25.42 329⇓*e*P **P 13 08 24.0 +1.2**
KOPT Kop Dagi 26.20 283 P **P 13 08 29.3 -1.1**
KOPT IAmb IAmb 13 08 40.5
comp=Z,8.2nm,0.9s
SOC Sochi 26.45 291 *e*P **P 13 08 32.8 +0.5**
SOC *e* 13 09 15.0
SOC *e*S **S 13 13 03.7 -2.2**
SOC *e*SS **SnSn 13 14 08.6 +1.9**
SOC MLR MLR
comp=Z,72nm,15.0s
ANN Anapa 28.06 294 *e*P **P 13 08 46.5 -0.2**
ANN *e**PP **sP 13 08 58.7 +6.0**
ANN *e*S **S 13 13 27.1 -4.1**
ANN pmax pmax
comp=Z,60nm,1.4s
HHC Hu-ho-hao-te 28.34 74 *e*P **P 13 08 50.5 +1.0**
HHC pmax pmax
comp=Z,13nm,0.5s
RAYN Ar Rayn 29.04 247 P **P 13 08 56.2 +0.4**
RAYN Ar Rayn 29.04 247 P **P 13 08 56.2 +0.4**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 29.43 127 P **P 13 08 59.8 +0.6**
comp=Z,0.5nm,0.6s,baz=302,slow=7.3,SNR=2.0
CMAR Chiang Mai Arr 29.43 127 *e*P P 13 09 04.2 +5.0
CMAR pmax pmax
comp=Z,1.0nm,0.6s
NRIK Noril'sk 31.24 9 P **P 13 09 15.4 +0.7**
comp=Z,1.2nm,0.4s,baz=185,slow=9.2,SNR=4.3
comp=Z,1.2nm,0.4s
NRIK Noril'sk 31.24 9⇓*i*P **P 13 09 15.8 +1.1**
NRIK pmax pmax
comp=Z,15nm,2.7s
XLT XiLinHaoTe 31.30 67 *e*P **P 13 09 18.0 +2.4**
XLT pP sP 13 09 28.5 +6.9
XLT sP pP 13 09 36.0 +16
XLT pmax pmax
comp=Z,3.0nm,1.3s
XLT pmax pmax
comp=Z,170nm,4.8s
BR131 Keskin Array S 31.44 285 P **P 13 09 17.2 +0.3**
BR131 IAmb IAmb 13 09 22.1
comp=Z,6.7nm,0.9s
BR131 Keskin Array S 31.44 285⇓*i*P **P 13 09 20.7 +3.7**
BRTR Keskin Array B 31.44 285 P **P 13 09 17.5 +0.5**
comp=Z,3.4nm,0.8s,baz=81,slow=7.6,SNR=13
comp=Z,3.4nm,0.8s
BRTR Keskin Array B 31.44 285 *e*P **P 13 09 20.2 +3.2**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
MMAI Mount Meron Ar 32.03 272 LR LR 13 26 05.5
comp=Z,45nm,19.5s,baz=124,slow=43
AKASG Malin Array Be 33.70 305 P **P 13 09 36.7 +0.3**
comp=Z,0.6nm,0.5s,baz=77,slow=7.1,SNR=6.9
AKASG LR LR 13 23 49.8
comp=Z,100nm,19.0s,baz=38,slow=37
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 33.70 305*ce*P **P 13 09 38.0 +1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 33.70 305⇓*e*P **P 13 09 37.6 +1.2**
AKBB pmax pmax
comp=Z,13nm,1.4s
MNK Minsk 34.83 312 *i* P **P 13 09 46.4 +0.2**
comp=E,3.0nm,0.8s
MNK *i* P **P 13 09 46.4 +0.2**
comp=N,44nm,0.8s
MNK *i* P **P 13 09 46.4 +0.2**
comp=Z,10.0nm,0.8s,baz=276
MNK *i* pP **sP 13 09 59.4 +7.2**
MNK *i* PP **PP 13 11 03.4 -1.7**
MNK *i* S **S 13 15 13.1 -3.7**
MNK *i* sS sS 13 15 35.7 +12
MNK *i* SS **SnSn 13 17 30.3 -0.1**
MNK *i* LQ LQ 13 21 22.7
MNK *i* LR LR 13 22 32.1
MNK *i* LRM MLR 13 25 04.2
comp=N,171nm,16.8s
MNK *i* LRM MLR 13 25 04.9
comp=E,9.0nm,18.7s
MNK *i* LRM MLR 13 25 18.4
comp=Z,84nm,18.0s
MNK Minsk 34.83 312 *i* P **P 13 09 46.3 +0.2**
MNK *i* *PP **sP 13 09 59.4 +7.2**
MNK *i* 13 11 03.3
MNK *i* 13 12 19.4
MNK *i* S **S 13 15 13.1 -3.7**
MNK *i* SS **SnSn 13 17 30.3 -0.1**
MNK *i* 13 20 03.6
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=N,44nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=N,171nm,17.0s
MNK MLR MLR
comp=E,9.0nm,19.0s
MNK MLR MLR
comp=Z,84nm,18.0s
NACGM Naroch 35.51 313 *e*P **P 13 09 53.3 +1.2**
comp=Z,13nm,1.1s,baz=96
MLR Muntele Rosu 36.11 296 LR LR 13 26 00.8
comp=Z,62nm,18.4s,baz=16,slow=38
BURAR Bucovina Array 36.39 300 P **P 13 09 58.9 -1.0**
FIA1 FINESS Array S 37.09 323 P **P 13 10 04.5 -1.0**
FIA0 FINESS Array S 37.09 323 P **P 13 10 04.6 -1.0**
FIA0 FINESS Array S 37.09 323 P **P 13 10 04.6 -1.0**
FINES FINESS Array B 37.09 323 P **P 13 10 04.3 -1.2**
comp=Z,2.9nm,0.5s,baz=109,slow=11,SNR=24
FINES LR LR 13 25 01.6
comp=Z,74nm,19.5s,baz=322,slow=36
comp=Z,2.9nm,0.5s
FINES FINESS Array B 37.09 323 P **P 13 10 04.4 -1.0**
FINES FINESS Array B 37.09 323 *e*P **P 13 10 04.5 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.5s
PABE Paberze 37.18 313 P **P 13 10 05.8 -0.5**
HEH HeiHe 38.54 55 *e*P **P 13 10 17.3 -0.6**
HEH pmax pmax
comp=Z,10.0nm,1.0s
BNX BinXian 39.06 62 ⇑P **P 13 10 24.8 +2.5**
BNX pmax pmax
comp=Z,5.0nm,1.0s
BNX pmax pmax
comp=Z,120nm,4.3s
ARCES ARCESS Array B 40.00 336 P **P 13 10 29.3 -0.6**
ARCES ARCESS Array B 40.00 336 P **P 13 10 29.3 -0.6**
YAK Yakutsk 40.34 37 LR LR 13 28 07.8
comp=Z,90nm,18.9s,baz=263,slow=38

YAK	**Yakutsk**	**40.34**	**37**⇑	*eP*		**P**		**13 10 33.7**	**+1.0**
YAK				pmax		pmax			
	comp=Z,6.0nm,0.7s								
VYHS	**Vyhne**	**40.55**	**302**	*eP*		**P**		**13 10 37.4**	**+2.7**
VYHS	**Vyhne**	**40.55**	**302**	*eP*		**P**		**13 10 37.4**	**+2.7**
KLR	**Kul'dur**	**41.45**	**56**	P		**P**		**13 10 41.1**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=279,slow=7.0,SNR=4.5								
KLR				LR		LR		13 29 28.3	
	comp=Z,50nm,21.4s,baz=266,slow=38								
	comp=Z,2.4nm,0.9s								
KLR	**Kul'dur**	**41.45**	**56**	*ceP*		**P**		**13 10 42.1**	**+0.1**
KLR				pmax		pmax			
	comp=Z,22nm,3.5s								
KSRS	**Korea Array**	**41.48**	**75**	P		**P**		**13 10 41.0**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=280,slow=7.3,SNR=4.6								
KSRS				LR		LR		13 30 20.2	
	comp=Z,89nm,19.1s,baz=290,slow=40								
	comp=Z,0.9nm,0.9s								
KSRS	**Korea Array**	**41.48**	**75**	*eP*		**P**		**13 10 45.0**	**+2.6**
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.9s								
DPC	**Dobruska-Polom**	**41.93**	**305**	*eP*		**P**		**13 10 48.2**	**+2.2**
DPC	**Dobruska-Polom**	**41.93**	**305**	*eP*		**P**		**13 10 48.2**	**+2.2**
RONA	**Rosalia, Austr**	**42.35**	**302**	*eP*		**P**		**13 10 52.1**	**+2.6**
	comp=Z,4.3nm,1.1s								
TIXI	**Tiksi**	**42.45**	**22**	LR		LR		13 29 29.7	
	comp=Z,83nm,21.8s,baz=353,slow=38								
TIXI	**Tiksi**	**42.45**	**22**	P		**P**		**13 10 49.5**	**-0.4**
TIXI	**Tiksi**	**42.45**	**22**⇓	*eP*		**P**		**13 10 50.4**	**+0.5**
TIXI				pmax		pmax			
	comp=Z,3.0nm,0.8s								
CONA	**Conrad Observa**	**42.60**	**302**	*eP*		**P**		**13 10 54.3**	**+2.7**
	comp=Z,6.8nm,1.2s								
ARSA	**Arzberg**	**42.95**	**301**	*i P*		**P**		**13 10 56.3**	**+1.9**
	comp=Z,6.7nm,1.6s								
PRU	**Pruhonice**	**43.11**	**305**	*eP*		**P**		**13 10 57.6**	**+2.0**
PRU	**Pruhonice**	**43.11**	**305**	*eP*		**P**		**13 10 57.6**	**+2.0**
BRG	**Berggiesshubel**	**43.36**	**306**	*eP*		**P**		**13 10 59.4**	**+1.8**
BRG				Amp				13 11 00.4	
	comp=Z,3.8nm,0.8s								
BRG	**Berggiesshubel**	**43.36**	**306**	*eP*		**P**		**13 10 59.4**	**+1.8**
BRG				pmax		pmax			
	comp=Z,4.0nm,0.8s								
SOKA	**Soboth**	**43.40**	**300**	*eP*		**P**		**13 11 00.7**	**+2.7**
	comp=Z,4.7nm,1.0s								
CKRC	**Cesky Krumlov**	**43.46**	**303**	*eP*		**P**		**13 11 00.7**	**+2.3**
OBKA	**Obir**	**43.76**	**300**	*i P*		**P**		**13 11 02.8**	**+1.9**
	comp=Z,6.4nm,1.2s								
GERES	**GERESS Array B**	**43.85**	**304**	P		**P**		**13 11 00.9**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=71,slow=7.6,SNR=18								
	comp=Z,3.1nm,0.9s								
GERES	**GERESS Array B**	**43.85**	**304**	P		**P**		**13 11 00.8**	**-0.9**
GERES	**GERESS Array B**	**43.85**	**304**	P		**P**		**13 11 01.0**	**-0.7**
KHC	**Kasperske Hory**	**43.88**	**304**	P		**P**		**13 11 01.5**	**-0.3**
KHC				IAmb		IAmb		13 11 05.4	
	comp=Z,6.6nm,1.1s								
KHC	**Kasperske Hory**	**43.88**	**304**	*eP*		**P**		**13 11 03.8**	**+2.0**
KHC	**Kasperske Hory**	**43.88**	**304**⇑	*eP*		**P**		**13 11 03.9**	**+2.1**
KHC				pmax		pmax			
	comp=Z,12nm,0.9s								
CLL	**Collm**	**43.88**	**307**	*eP*		**P**		**13 11 03.0**	**+1.2**
	comp=Z,6.0nm,0.9s								
CLL				*e*SS		SS		13 20 42.0	-6.7
CLL				LmV				13 30 00.0	
	comp=Z,100nm,19.9s								
CLL	**Collm**	**43.88**	**307**	*eP*		**P**		**13 11 03.0**	**+1.2**
CLL				pmax		pmax			
	comp=Z,6.0nm,0.9s								
NC405	**NORSAR Array S**	**43.91**	**321**	P		**P**		**13 11 01.4**	**-0.6**
NC405				IAmb		IAmb		13 11 12.0	
	comp=Z,7.2nm,0.9s								
NC303	**NORSAR Array S**	**44.08**	**322**	P		**P**		**13 11 02.6**	**-0.7**
NC303				IAmb		IAmb		13 11 06.6	
	comp=Z,10nm,0.9s								
NB2	**NORSAR Subarra**	**44.16**	**321**	P		**P**		**13 11 02.4**	**-1.5**
	comp=Z,3.2nm,0.6s,baz=92,slow=8.6								
NOA	**NORSAR Array B**	**44.16**	**321**	P		**P**		**13 11 02.0**	**-1.9**
	comp=Z,2.5nm,0.6s,baz=91,slow=7.8,SNR=14								
NOA				LR		LR		13 30 09.2	
	comp=Z,74nm,19.3s,baz=110,slow=37								
	comp=Z,2.5nm,0.6s								
NOA	**NORSAR Array B**	**44.16**	**321**	*eP*		**P**		**13 11 04.6**	**+0.7**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
GRF	**Grafenberg Arr**	**45.28**	**305**	*eP*		**P**		**13 11 15.5**	**+2.5**
	comp=Z,8.2nm,1.1s,baz=78,slow=7.0								
JNU	**Nakatsue**	**45.32**	**79**	P		**P**		**13 11 12.8**	**-0.8**
	comp=Z,5.5nm,1.1s,baz=330,slow=8.1,SNR=3.0								
	comp=Z,5.5nm,1.1s								
WTTA	**Wattenberg**	**45.53**	**302**	*eP*		**P**		**13 11 17.0**	**+1.7**
	comp=Z,6.2nm,1.1s								
RETA	**Reutte**	**46.06**	**302**	*eP*		**P**		**13 11 21.4**	**+2.1**
	comp=Z,5.5nm,1.3s								
DAVA	**Damuels**	**46.69**	**302**	*eP*		**P**		**13 11 26.3**	**+1.9**
	comp=Z,10nm,0.8s								
MJAR	**Matsushiro Arr**	**49.49**	**72**	P		**P**		**13 11 44.8**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=297,slow=6.9,SNR=4.0								
	comp=Z,1.7nm,0.9s								
SEY	**Seymchan**	**50.81**	**35**	LR		LR		13 34 46.8	
	comp=Z,102nm,18.1s,baz=212,slow=38								
SEY	**Seymchan**	**50.81**	**35**⇓	*eP*		**P**		**13 11 55.9**	**+0.4**
ESDC	**Sonseca Array**	**58.78**	**298**	P		**P**		**13 12 52.4**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=58,slow=6.8,SNR=11								
	comp=Z,1.4nm,0.6s								
A36M	**Sachs Harbour**	**68.48**	**6**	P		**P**		**13 13 56.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**68.55**	**270**	P		**P**		**13 13 56.9**	**-1.6**
	comp=Z,3.6nm,0.5s,baz=46,slow=4.7,SNR=28								
	comp=Z,3.6nm,0.5s								
COLD	**Coldfoot**	**68.83**	**17**	P		**P**		**13 13 58.7**	**-0.7**
COLD				IAmb		IAmb		13 14 02.3	
	comp=Z,6.0nm,0.9s								
IMAR	**Indian Mountai**	**68.96**	**19**	P		**P**		**13 13 59.0**	**-1.2**
INK	**Inuvik**	**71.00**	**11**	P		**P**		**13 14 11.7**	**-1.0**
INK				IAmb		IAmb		13 14 14.8	
	comp=Z,5.4nm,0.9s								
INK	**Inuvik**	**71.00**	**11**	P		**P**		**13 14 11.7**	**-1.0**
INK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
C36M	**Paulatuk**	**71.14**	**7**	P		**P**		**13 14 11.9**	**-1.6**
COLA	**College**	**71.32**	**18**⇑	*iP*		**P**		**13 14 16.4**	**+1.7**
COLA				pmax		pmax			
	comp=Z,32nm,2.9s								
IL31		**71.63**	**17**	P		**P**		**13 14 15.6**	**-0.9**
IL31				IAmb		IAmb		13 14 18.8	
	comp=Z,5.0nm,1.2s								
ILAR	**Eielson Array**	**71.63**	**17**	P		**P**		**13 14 14.4**	**-2.2**
	comp=Z,2.0nm,0.9s,baz=318,slow=4.9,SNR=16								
	comp=Z,2.0nm,0.9s								
ILAR	**Eielson Array**	**71.63**	**17**	P		**P**		**13 14 14.8**	**-1.9**
ILAR	**Eielson Array**	**71.63**	**17**	*eP*		**P**		**13 14 17.0**	**+0.4**
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
RIDG	**Independent Ri**	**72.98**	**17**	P		**P**		**13 14 24.9**	**+0.2**
RIDG				IAmb		IAmb		13 14 34.7	
	comp=Z,2.8nm,1.0s								
KNRA	**Kununurra**	**74.29**	**126**	P		**P**		**13 14 33.4**	**+0.5**
KNRA				IAmb		IAmb		13 14 47.7	
	comp=Z,7.9nm,1.1s								
DBIC	**Dimbokro**	**77.59**	**269**	P		**P**		**13 14 49.7**	**-2.3**
	comp=Z,2.0nm,0.7s,baz=76,slow=4.2,SNR=2.3								
	comp=Z,2.0nm,0.7s								
YKA	**Yellowknife Ar**	**78.63**	**4**	P		**P**		**13 14 55.2**	**-1.7**
	comp=Z,3.2nm,0.7s,baz=346,slow=5.5,SNR=49								
	comp=Z,3.2nm,0.7s								
YKA	**Yellowknife Ar**	**78.63**	**4**	*eP*		**P**		**13 14 57.3**	**+0.3**
YKA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
WRA	**Warramunga Arr**	**81.00**	**125**	P		**P**		**13 15 08.9**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=326,slow=5.2,SNR=9.3								
	comp=Z,0.9nm,0.8s								
WRA	**Warramunga Arr**	**81.00**	**125**	P		**P**		**13 15 09.2**	**-1.2**
WRA	**Warramunga Arr**	**81.00**	**125**	P		**P**		**13 15 09.2**	**-1.2**
ASAR	**Alice Springs**	**83.44**	**127**	P		**P**		**13 15 21.6**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=317,slow=5.3,SNR=8.1								
	comp=Z,0.7nm,0.7s								

*IDC **28** 13:03:37.7±1.4,39.°53N×144.°87E,h0km,mb3.3/5, mbtmp3.3/7,ML2.6/2,Error ellipse: s-maj=36.8km s-min=21.8km az=125.0*
*JMA **28** 13:03:42.6±0.3,40.°N±1.°×14.°5E±.°,h45km,MV3.4/24,FAR E OFF NORTH HONSHU*
ISC 28 13:03:42.8±1.0,39.°74N±0.°06×144.°69E±0.°07,h35km,n26, σ1ᵎ77/29,mb3.5/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**2.18**	**276**	P		**Pn**	**13 04 15.1**	**-1.5**
MIYJ	**Miyakonagasawa**	**2.22**	**267**	P		**Pn**	**13 04 16.3**	**-0.9**
MIYJ				S		**Sn**	**13 04 40.9**	**-2.4**
JANG	**Nango**	**2.52**	**286**	P		**Pn**	**13 04 20.1**	**-1.2**
JOM	**Ohasama**	**2.64**	**265**	P		**Pn**	**13 04 22.3**	**-0.5**
JMK	**Ichinoseki**	**2.80**	**255**	P		**Pn**	**13 04 24.1**	**-1.0**
JMK				*e*S		**Sn**	**13 04 54.1**	**-3.5**
JNBK	**Urakawa-nobuka**	**2.93**	**331**	*e*S		**Sn**	**13 05 01.1**	**+0.1**
JCH	**Churui**	**3.05**	**341**	*e*P		**Pn**	**13 04 28.3**	**-0.2**
JCH				S		**Sn**	**13 05 02.0**	**-1.7**
JOT	**Ohata**	**3.22**	**302**	*e*P		**Pn**	**13 04 30.5**	**-0.4**
JOT				*e*S		**Sn**	**13 05 06.3**	**-1.7**
JYK	**Kaneyama**	**3.46**	**258**	*e*P		**Pn**	**13 04 33.9**	**-0.2**
JYK				*e*S		**Sn**	**13 05 12.5**	**-1.3**
JAR	**Ashorobuto**	**3.62**	**349**	P		**Pn**	**13 04 35.2**	**-1.2**
JAR				*e*S		**Sn**	**13 05 15.5**	**-2.5**
NEM2	**Nemuro 2**	**3.71**	**12**	P		**Pn**	**13 04 35.5**	**-2.1**
NEM2				*e*S		**Sn**	**13 05 16.9**	**-3.3**
JEW	**Eniwo**	**3.95**	**323**	S		**Sn**	**13 05 26.4**	**+0.5**
JTKR	**Abashiri--Toko**	**4.27**	**352**	S		**Sn**	**13 05 32.5**	**-1.4**
ASAJ	**Asahikawa**	**4.65**	**341**	Pn		**Pn**	**13 04 52.6**	**+2.1**
	0.4nm,0.3s,baz=177,slow=16,SNR=8.7							
ASAJ						**Sn**	**13 05 44.7**	**+1.5**
	0.4nm,0.3s,baz=229,slow=25,SNR=2.4							
	11nm,1.0s							
MJAR	**Matsushiro Arr**	**6.02**	**240**	Pn		**Pn**	**13 05 08.7**	**-0.7**
	0.1nm,0.3s,baz=58,slow=11,SNR=7.3							
MJAR						**Sn**	**13 06 20.4**	**+3.3**
	baz=41,slow=22,SNR=1.5							
	0.8nm,0.5s							
SEY	**Seymchan**	**23.69**	**9**	P		**P**	**13 08 52.4**	**+1.4**
	1.1nm,0.5s,baz=191,slow=16,SNR=4.0							
	1.1nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**27.60**	**130**	T		T	13 38 06.7	
	baz=322,slow=76,SNR=9.5							
H11N1	**WAKE ISLAND Hy**	**27.61**	**130**	T		T	13 38 09.9	
	baz=322,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**27.62**	**130**	T		T	13 38 08.3	
	baz=322,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hy**	**28.45**	**132**	T		T	13 39 11.3	
	baz=323,slow=76,SNR=7.7							
H11S3	**WAKE ISLAND Hy**	**28.45**	**132**	T		T	13 39 11.9	
	baz=323,slow=76,SNR=8.3							
H11S2	**WAKE ISLAND Hy**	**28.46**	**132**	T		T	13 39 13.0	
	baz=323,slow=76,SNR=8.2							
ILAR	**Eielson Array**	**45.83**	**34**	P		**P**	**13 12 01.8**	**+0.8**
	0.2nm,0.6s,baz=266,slow=6.2,SNR=5.7							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**46.42**	**306**	P		**P**	**13 12 07.0**	**+1.2**
	0.2nm,0.3s,baz=79,slow=9.1,SNR=1.4							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**60.15**	**191**	P		**P**	**13 13 45.5**	**-1.4**
	0.3nm,0.8s,baz=10,slow=6.8,SNR=2.4							
	0.3nm,0.8s							
YKA	**Yellowknife Ar**	**60.17**	**32**	P		**P**	**13 13 47.7**	**+1.0**
	0.1nm,0.6s,baz=302,slow=7.0,SNR=1.9							
	0.1nm,0.6s							

FUNV 28 13:05:59.6,10.°71N×65.°76W,h5km,MW3.5,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUNV	**FUNVISIS**	**1.06**	**257**	*e*P		Pg	13 06 18.3	-1.7
FUNV				*e*S		Sg	13 06 33.3	-0.4
CARV	**Caracas**	**1.17**	**260**	*e*P		Pg	13 06 20.4	-1.7
CARV				*e*S		Sg	13 06 36.1	-1.1
TACV	**Tcata**	**1.37**	**246**	*e*P		Pn	13 06 24.8	-0.7
TACV				*e*S		Sb	13 06 43.1	-0.5
MERV	**Las Mercedes**	**1.54**	**200**	*e*P		Pn	13 06 27.1	-0.7
MERV				*e*S		Sb	13 06 48.5	-0.1
BENV	**Beln**	**1.96**	**248**	*e*P		Pn	13 06 34.2	+0.7
BENV				*e*S		Sn	13 06 58.6	+0.1
TURV	**Turiamo**	**2.06**	**263**	*e*P		Pn	13 06 34.4	-0.5
TURV				*e*S		Sn	13 06 59.9	-1.1
PRGV	**PARIAGUAN**	**2.23**	**150**	*e*P		Pn	13 06 36.2	-1.1
PRGV				*e*S		Sn	13 07 04.0	-1.1
CRUV	**Carupano**	**2.48**	**91**	*e*P		Pn	13 06 40.8	+0.1
MAPV	**Macapo**	**2.79**	**252**	*e*P		Pn	13 06 44.0	-1.1
MAPV				*e*S		Sn	13 07 18.8	-0.3
BAUV	**El Baul**	**2.85**	**232**	*e*P		Pn	13 06 44.7	-1.1
BAUV				*e*S		Sn	13 07 18.6	-2.0
JACV	**Jacura**	**3.04**	**277**	*e*P		Pn	13 06 47.0	-1.4
JACV				*e*S		Sn	13 07 23.6	-1.6
CACV	**CAICARA DEL OR**	**3.22**	**194**	*e*P		Pn	13 06 48.8	-2.1
CACV				*e*S		Sn	13 07 26.5	-3.1
SIQV	**Siquisique**	**3.98**	**269**	*e*P		Pn	13 06 59.6	-1.7
SIQV				*e*S		Sn	13 07 45.7	-2.7
CURV	**Curarigua**	**4.19**	**261**	*e*P		Pn	13 07 03.4	-0.9
CURV				*e*S		Sn	13 07 49.5	-4.2
SOCV	**Socops**	**5.57**	**245**	*e*P		Pn	13 07 22.1	-1.2
SOCV				*e*S		Sn	13 08 21.8	-6.0

*VAO **28** 13:38:55.3±0.9,26.°75S×70.°93W,h10km,mb4.7*
*SJA **28** 13:38:59.9±0.8,26.°57S×70.°89W,h70km±4km,ML4.7, MW4.4*
*NEIC **28** 13:39:01.2±2.6,26.°56S±0.°04×71.°03W±0.°08,h45km±7km, mb4.8/51,ML4.7(GUC),Error ellipse: s-maj=10.1km s-min=6.1km az=90.0*
*IDC **28** 13:39:03.5±0.6,26.°63S×70.°62W,h62km±4km,mb4.1/11, mbtmp4.3/14,MS3.4/11,Error ellipse: s-maj=18.5km s-min=11.5km az=90.0*
*GUC **28** 13:39:04.1±0.7,26.°67S×70.°99W,h55km±11km,ML4.8*
ISC 28 13:39:02.0±0.4,26.°59S±0.°02×70.°86W±0.°04,h55km±3km, h55km:pP-P,n244,σ1ᵎ41/265,mb4.7/38,MS3.7/6,5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.50**	**28**	Pn		**Pn**	**13 39 15.5**	**+1.9**
AC01	**Pan de Azucar**	**0.50**	**28**	*e*P		**Pn**	**13 39 15.9**	**+2.3**
AC01				*i* S		**Sn**	**13 39 24.3**	**+2.3**
AC01				IAML			13 39 25.3	
	comp=N,56μm,0.3s							
AC01	**Pan de Azucar**	**0.50**	**28**	*e*P		**Pn**	**13 39 14.0**	**+0.4**
AC01				IAML			13 39 25.9	
	comp=Z,18μm,0.2s							
AC01	**Pan de Azucar**	**0.50**	**28**	*e*P		**Pn**	**13 39 14.0**	**+0.4**
AC01				IAML			13 39 25.9	
	comp=Z,18μm,0.2s							
AC06	**Mina Casimiro**	**0.89**	**149**	Pn		**Pn**	**13 39 19.8**	**+1.3**
AC06				Sn		**Sn**	**13 39 31.3**	**+0.7**
AC06	**Mina Casimiro**	**0.89**	**149**	*e*P		**Pn**	**13 39 19.6**	**+1.2**
AC06				*e*S		**Sn**	**13 39 31.2**	**+0.7**
AC06				IAML			13 39 32.2	
	comp=N,42μm,0.3s							
GO03	**Copiap**	**1.15**	**151**	Pn		**Pn**	**13 39 22.8**	**+0.9**
GO03	**Copiap**	**1.15**	**151**	⇓*iP*		**Pn**	**13 39 23.1**	**+1.2**
GO03				*e*S		**Sn**	**13 39 37.0**	**+0.4**
GO03				IAML			13 39 39.0	
	comp=N,33μm,0.3s							
GO03	**Copiap**	**1.15**	**151**	*e*P		**Pn**	**13 39 22.0**	**+0.1**
GO03				*e*S		**Sn**	**13 39 37.6**	**+1.0**
GO03	**Copiap**	**1.15**	**151**	*e*P		**Pn**	**13 39 22.0**	**+0.1**
GO03				*e*S		**Sn**	**13 39 37.6**	**+1.0**
AC02	**Maricunga**	**1.57**	**99**	Pn		**Pn**	**13 39 29.3**	**+1.3**
AC02				Sn		**Sn**	**13 39 48.2**	**+0.7**
AC02	**Maricunga**	**1.57**	**99**	*i P*		**Pn**	**13 39 29.3**	**+1.3**
AC02				*i* S		**Sn**	**13 39 48.2**	**+0.7**
AC02				IAML			13 39 49.1	
	comp=E,23μm,0.3s							
AC02	**Maricunga**	**1.57**	**99**	*e*P		**Pn**	**13 39 28.5**	**+0.5**
AC02				*e*S		**Sn**	**13 39 48.9**	**+1.4**
AC02				IAML			13 39 49.1	
	comp=Z,8μm,0.2s							
AC02	**Maricunga**	**1.57**	**99**	*e*P		**Pn**	**13 39 28.5**	**+0.5**
AC02				*e*S		**Sn**	**13 39 48.9**	**+1.4**
AC02				IAML			13 39 49.1	
	comp=Z,8μm,0.2s							
AC04	**Llanos de Chal**	**1.62**	**187**			**Pn**	**13 39 28.2**	**0.0**
AC04	**Llanos de Chal**	**1.62**	**187**	⇓*eP*		**Pn**	**13 39 28.5**	**+0.2**
AC04				*e*S		**Sn**	**13 39 46.6**	**-1.4**
AC04	**Llanos de Chal**	**1.62**	**187**	*e*P		**Pn**	**13 39 28.4**	**+0.2**
AC04				*e*P			13 39 28.5	
AC04				*e*S		**Sn**	**13 39 48.2**	**+0.2**
AC04	**Llanos de Chal**	**1.62**	**187**	*e*P		**Pn**	**13 39 28.4**	**+0.2**
AC04				*e*P			13 39 28.5	
AC04				*e*S		**Sn**	**13 39 48.2**	**+0.2**

PB14	**IPOC Station P**	**2.00**	**12**			**Pn**		**13 39 33.8**	**+0.1**
PB14	**IPOC Station P**	**2.00**	**12**	⇓*iP*		**Pn**		**13 39 34.4**	**+0.7**
PB14				*i* S		**Sn**		**13 39 57.6**	**-0.1**
PB14	**IPOC Station P**	**2.00**	**12**	*eP*		**Pn**		**13 39 33.0**	**-0.7**
PB14				*e*S		Sn		13 39 52.1	-5.6
PB14				IAML				13 39 59.5	
	comp=Z,6μm,0.4s								
PB14	**IPOC Station P**	**2.00**	**12**	*eP*		**Pn**		**13 39 33.0**	**-0.7**
PB14				*e*S		Sn		13 39 52.1	-5.6
PB14				IAML				13 39 59.5	
	comp=Z,6μm,0.4s								
AC05	**El Transito**	**2.30**	**167**					**13 39 38.8**	**+1.2**
AC05	**El Transito**	**2.30**	**167**	⇓*eP*		**Pn**		**13 39 38.9**	**+1.2**
AC05				*i* S		**Sn**		**13 40 05.3**	**+0.5**
AC05				IAML				13 40 10.5	
	comp=E,6μm,0.5s								
LCO	**Las Campanas**	**2.42**	**177**	Pn		**Pn**		**13 39 39.6**	**+0.3**
LCO	**Las Campanas**	**2.42**	**177**	*eP*		**Pn**		**13 39 39.7**	**+0.3**
LCO				*e*S		**Sn**		**13 40 07.7**	**-0.2**
PB10	**IPOC Station P**	**3.08**	**5**			**Pn**		**13 39 47.7**	**-0.4**
PB10	**IPOC Station P**	**3.08**	**5**	*eP*		**Pn**		**13 39 48.0**	**-0.1**
PB10	**IPOC Station P**	**3.08**	**5**	*eP*		**Pn**		**13 39 48.0**	**-0.1**
PB10				*e*S		**Sn**		**13 40 23.6**	**-0.1**
PB10	**IPOC Station P**	**3.08**	**5**	*eP*		**Pn**		**13 39 48.0**	**-0.1**
PB10				*e*S		**Sn**		**13 40 23.6**	**-0.1**
CO05	**La Serena**	**3.33**	**186**	Pn		**Pn**		**13 39 50.9**	**-0.7**
CO05	**La Serena**	**3.33**	**186**	*eP*		**Pn**		**13 39 51.9**	**+0.3**
CO05				*e*S		**Sn**		**13 40 28.4**	**-1.6**
CO05				IAML				13 40 56.0	
	comp=E,4μm,0.7s								
CO01	**Juntas del Tor**	**3.44**	**169**			**Pn**		**13 39 54.5**	**+1.1**
CO01	**Juntas del Tor**	**3.44**	**169**	*eP*		**Pn**		**13 39 54.7**	**+1.4**
CO01				*e*S		**Sn**		**13 40 32.8**	**-0.3**
CO01				IAML				13 40 55.2	
	comp=E,868nm,0.1s								
CO01	**Juntas del Tor**	**3.44**	**169**	*eP*		**Pn**		**13 39 54.0**	**+0.6**
CO01				*e*S		**Sn**		**13 40 34.5**	**+1.5**
CO01	**Juntas del Tor**	**3.44**	**169**	*eP*		**Pn**		**13 39 54.0**	**+0.6**
CO01				*e*S		**Sn**		**13 40 34.5**	**+1.5**
GO04	**Tololo Observa**	**3.57**	**179**			**Pn**		**13 39 55.4**	**+0.3**
GO04	**Tololo Observa**	**3.57**	**179**	⇓*eP*		**Pn**		**13 39 55.6**	**+0.5**
GO04				*e*S		**Sn**		**13 40 35.5**	**-0.6**
GO04	**Tololo Observa**	**3.57**	**179**	*eP*		**Pn**		**13 39 55.0**	**-0.1**
GO04				*e*S		**Sn**		**13 40 37.4**	**+1.2**
GO04	**Tololo Observa**	**3.57**	**179**	*eP*		**Pn**		**13 39 55.0**	**-0.1**
GO04				*e*S		**Sn**		**13 40 37.4**	**+1.2**
PB06	**IPOC Station P**	**4.04**	**17**	Pn		**Pn**		**13 40 01.4**	**-0.1**
PB06	**IPOC Station P**	**4.04**	**17**	*eP*		**Pn**		**13 40 01.4**	**-0.1**
PB06	**IPOC Station P**	**4.04**	**17**	*eP*		**Pn**		**13 40 01.5**	**0.0**
PB06				*e*S		**Sn**		**13 40 48.3**	**+0.6**
PB06				IAML				13 41 20.1	
	comp=Z,911nm,0.3s								
PB06	**IPOC Station P**	**4.04**	**17**	*eP*		**Pn**		**13 40 01.5**	**0.0**
PB06				*e*S		**Sn**		**13 40 48.3**	**+0.6**
PB06				IAML				13 41 20.1	
	comp=Z,911nm,0.3s								
CO03	**El Pedregal**	**4.24**	**178**			**Pn**		**13 40 04.2**	**+0.1**
CO03	**El Pedregal**	**4.24**	**178**	*eP*		**Pn**		**13 40 04.9**	**+0.8**
CO03				*e*S		**Sn**		**13 40 51.5**	**-0.9**
CO03	**El Pedregal**	**4.24**	**178**	*eP*		**Pn**		**13 40 04.6**	**+0.5**
CO03				*e*S		**Sn**		**13 40 52.0**	**-0.3**
CO03				IAML				13 41 25.0	
	comp=Z,663nm,0.8s								
CO03	**El Pedregal**	**4.24**	**178**	*eP*		**Pn**		**13 40 04.6**	**+0.5**
CO03				*e*S		**Sn**		**13 40 52.0**	**-0.3**
CO03				IAML				13 41 25.0

MT03	Universidad Ad	6.89	178	Pn		Pn	13 40 40.1	-0.3	
PB11	IPOC Station P	6.89	10	Pn		Pn	13 40 38.1	-2.4	
PSGCX	Pisagua	6.99	6	Pn		Pn	13 40 39.4	-2.6	
GO01	Chusmiza	7.06	13	Pn		Pn	13 40 41.6	-1.6	
VA05	Santo Domingo	7.07	185	Pn		Pn	13 40 40.6	-2.3	
MT09	Talagante	7.16	181	Pn		Pn	13 40 42.6	-1.7	
LMEL	Las Melosas	7.26	176	Pn		Pn	13 40 46.0	+0.4	
MT01	Popeta	7.26	183	Pn		Pn	13 40 43.3	-2.1	
BO04	La Punta	7.38	178	Pn		Pn	13 40 45.3	-1.8	
MNMC	Minye Minye	7.52	9	Pn		Pn	13 40 47.0	-2.3	
BO01	Tunca	7.78	181	Pn		Pn	13 40 50.3	-2.3	
PB12	IPOC Station P	7.95	4	Pn		Pn	13 40 53.0	-2.1	
BO02	Sierra Bellavi	8.18	180	Pn		Pn	13 40 55.9	-2.2	
PB16	IPOC Station P	8.31	9	Pn		Pn	13 40 58.8	-1.6	
GO05	Hualа	8.44	186	Pn		Pn	13 40 58.3	-3.4	
H03N1	Juan Fernandez baz=50,slow=71,SNR=7998	9.76	224	T		T	13 51 21.9		
H03N2	Juan Fernandez baz=50,slow=71,SNR=5573	9.77	224	T		T	13 51 15.6		
H03N3	Juan Fernandez baz=50,slow=71,SNR=6979	9.78	224	T		T	13 51 16.5		
VA04	Juan Fernndez	9.84	223	Pn		Pn	13 41 19.5	-1.3	
LPAZ	La Paz comp=Z,37nm,0.4s,baz=207,slow=7.7,SNR=189	10.56	14	P		Pn	13 41 31.2	-0.1	
LPAZ	La Paz	10.56	14	Pn		Pn	13 41 31.0	-0.3	
MECA	Mercedes	11.54	106	eP		Pn	13 41 41.9	-2.1	
CPUP	Villa Florida comp=Z,2.7nm,0.9s,baz=269,slow=15,SNR=5.3	12.13	92	P		Pn	13 41 48.6	-3.5	
CPUP	comp=Z,118nm,20.5s,baz=242,slow=40			LR		LR	13 46 55.6		
ITQB	Itaqui	12.94	107	eP		Pn	13 41 58.8	-4.3	
TRQA	Tornquist	13.67	149	Pn		Pn	13 42 10.6	-2.5	
SIV	San Ignacio comp=Z,12nm,0.4s,baz=232,slow=10.0,SNR=44	13.94	43	P		Pn	13 42 11.2	-5.6	
SIV	comp=Z,0.9nm,0.4s,baz=147,slow=22,SNR=1.3			S		Sn	13 44 41.1	-9.0	
SIV	comp=Z,36nm,19.0s,baz=294,slow=39			LR		LR	13 48 03.3		
PLCA	Paso Flores comp=Z,1.6nm,0.8s,baz=15,slow=11,SNR=4.2	14.11	179	P		Pn	13 42 19.3	+0.3	
PLCA	comp=Z,169nm,19.4s,baz=9.5,slow=38			LR		LR	13 48 04.7		
PLCA	Paso Flores	14.11	179	Pn		Pn	13 42 16.3	-2.7	
AMBA	Amambai (Brazi	14.87	79	eP		Pn	13 42 27.6	-1.5	
NNA	Nana comp=Z,85nm,19.8s,baz=360,slow=31	15.58	338	LR		LR	13 47 35.2		
CPSB	Cacapava Do Su	15.78	108	eP		Pn	13 42 37.0	-3.8	
PLTB	Pedras Altas	15.93	113	Pn		Pn	13 42 38.9	-3.7	
PLTB	Pedras Altas	15.93	113	eP		Pn	13 42 38.6	-3.9	
ALGR	Alto Alegre (B	15.95	102	eP		Pn	13 42 40.4	-2.6	
FRBT	Francisco Belt	15.98	92	eP		Pn	13 42 41.7	-1.6	
ITAB	Concordia	16.72	96	Pn		Pn	13 42 50.5	-2.1	
ITAB	Concordia	16.72	96	eP		Pn	13 42 50.3	-2.3	
VILB	Vilhena	16.86	38	Pn		Pn	13 42 53.3	-1.1	
VILB	comp=Z,26nm,0.6s			IAmb		IAmb	13 42 56.2		
VILB	Vilhena	16.86	38	eP		Pn	13 42 53.7	-0.7	
PTGB	Pitanga	17.05	88	eP		Pn	13 42 55.2	-1.6	
ETMB	Extrema	17.25	16			Pn	13 42 55.6	-3.6	
ETMB	comp=Z,28nm,1.0s			IAmb		IAmb	13 43 04.1		
SALV	Santo Antonio	17.68	56	eP		Pn	13 43 04.0	-0.4	
CNLB	Canela	17.89	103	eP		P	13 43 04.1	-3.0	
SAML	Samuel	19.00	24	P		P	13 43 18.0	-1.3	
TER01	Tubaro-SC	19.37	101	eP		P	13 43 22.4	-0.9	
FRTB	Fartura	19.58	85	eP		P	13 43 25.0	-0.6	
PDRB	Porto dos Gac	19.98	44	eP		P	13 43 28.9	-1.1	
ATAH	Atahualpa comp=Z,3.3nm,0.6s,baz=162,slow=14,SNR=3.9 comp=Z,3.3nm,0.6s	20.63	338	P		P	13 43 40.8	+3.3	
CLDB	Colider	21.13	45	eP		P	13 43 41.2	-1.2	
RCLB	Rio Claro- Sao	21.63	84	eP		P	13 43 45.8	-2.0	
VALO	Valinhos	21.98	86	eP		P	13 43 49.9	-1.7	
TBTG	Tabatinga, AM	22.30	3	eP		P	13 43 55.3	+0.4	
BDFB	Brasilia comp=Z,4.4nm,0.8s,baz=235,slow=14,SNR=4.0 comp=Z,4.4nm,0.8s	23.90	67	P		P	13 44 11.3	+0.4	
NPGB	Novo Progresso	24.40	40	eP		P	13 44 14.1	-1.4	
ITTB	Itaituba	26.42	36	eP		P	13 44 33.0	-0.7	
BOAV	Boa Vista	30.50	21	P		P	13 45 08.0	-2.1	
BOAV	comp=Z,8.5nm,0.8s			IAmb		IAmb	13 45 11.0		
BOAV	Boa Vista	30.50	21	eP		P	13 45 10.1	+0.1	
ORTC	Ortega, Tolima	30.61	351	eP		P	13 45 13.2	+2.1	
CHIC	Chingaza	31.16	354	eP		P	13 45 16.2	-0.1	
ROSC	El Rosal comp=Z,7.9nm,0.3s,baz=220,slow=17,SNR=3.6	31.42	353	P		P	13 45 20.3	+1.7	
ROSC	comp=Z,161nm,20.6s,baz=192,slow=36 comp=Z,7.9nm,0.3s			LR		LR	13 57 44.4		
RUSC	La Rusia	32.36	356	P		P	13 45 27.9	+1.0	
RUSC	La Rusia	32.36	356	eP		P	13 45 27.9	+1.0	
CBOC	Ciudad Bolivar	32.65	350	eP		P	13 45 31.4	+2.3	
BARC	Barichara	33.06	356	eP		P	13 45 32.7	-0.1	
PTBC	PUERTO BERRIO,	33.12	353	eP		P	13 45 32.4	-0.6	
DBBC	Dabeiba	33.81	350	eP		P	13 45 41.5	+2.4	
ZARC	Zaragoza, Cauc	34.10	353	eP		P	13 45 41.8	+0.3	
UREC	San Jose de Ur	34.44	352	eP		P	13 45 44.4	-0.1	
SDV	Santo Domingo comp=Z,62nm,18.9s,baz=287,slow=38	35.27	0	LR		LR	14 01 08.7		
BAUV	El Baul	35.43	5	P		P	13 45 52.2	-0.8	
MDP	Montagnes des comp=Z,64nm,18.1s,baz=242,slow=40	36.11	32	LR		LR	14 03 09.3		
MPGF	Montagnes des	36.12	32	P		P	13 46 01.8	+2.9	
MPGF				pP		pP	13 46 12.9	-0.1	
SJCC	San Jacinto, C	36.51	353	eP		P	13 46 02.5	+0.2	
TOSP	Speyside	38.98	16	P		P	13 46 22.5	-0.5	
MPOM	Morne Pois Mar	41.93	15	P		P	13 46 45.2	-2.2	
CRPR	Cabo Rojo, PR	44.48	5	P		P	13 47 06.4	-1.6	
CRPR	comp=Z,22nm,1.0s			IAmb		IAmb	13 47 13.2		
SJG	San Juan comp=Z,82nm,18.5s,baz=92,slow=38	44.67	6	LR		LR	14 07 42.8		
VNA3	Neumayer Olymp	55.89	160	P		P	13 48 33.7	0.0	
VNA3	Neumayer Olymp	55.89	160	pP		pP	13 48 50.1	+1.6	
VNA2	Neumayer--Watz baz=287,slow=7.0	56.50	159	P		P	13 48 38.0	-0.1	
VNA2	Neumayer--Watz baz=283,slow=9.0	56.50	159	pP		pP	13 48 54.6	+1.7	
SNAA	Sanae	58.11	160	P		P	13 48 49.2	-0.2	
SNAA	Sanae	58.11	160	pP		pP	13 49 05.6	+1.3	
SNAA	Sanae comp=Z,7.3nm,0.6s,baz=289,slow=8.2,SNR=20	58.11	160	P		P	13 48 49.3	-0.2	
SNAA	comp=Z,4.3nm,0.5s,baz=281,slow=9.7,SNR=3.6 comp=Z,7.3nm,0.6s			pP		pP	13 49 05.9	+1.5	
SNAA	Sanae	58.11	160	P		P	13 48 49.3	-0.2	
TROLL	Troll, Antarti	59.82	160	P		P	13 49 01.6	+0.1	
TROLL	Troll, Antarti	59.82	160	pP		pP	13 49 18.4	+2.0	
W50A	Signal Mountai	62.96	347	P		P	13 49 21.6	-1.3	
CPCT	Cooper Cave	63.04	348	P		P	13 49 23.5	+0.1	
CPCT	comp=Z,10nm,1.0s			IAmb		IAmb	13 49 24.3		
SWET	Sewanee	63.10	346	P		P	13 49 22.6	-1.3	
TKL	Tuckaleechee C	63.10	348	P		P	13 49 21.7	-2.1	
JCT	Junction City	63.14	332	P		P	13 49 25.0	+0.8	
JCT	comp=Z,8.1nm,0.8s			IAmb		IAmb	13 49 26.6		
QSPA	South Pole Qui	63.62	180	P		P	13 49 27.7	+0.6	
QSPA	comp=Z,6.9nm,0.8s			IAmb		IAmb	13 49 28.8		
QSPA	South Pole Qui	63.62	180	P		P	13 49 27.7	+0.6	
QSPA				sP		pP	13 49 44.3	+2.2	
TXAR	Lajitas Array comp=Z,2.2nm,0.9s,baz=150,slow=9.1,SNR=14	63.88	328	P		P	13 49 30.9	+1.7	
TXAR				pP		pP	13 49 47.0	+2.9	
TXAR	comp=Z,1.2nm,0.8s,baz=150,slow=7.2,SNR=6.7 comp=Z,2.2nm,0.9s	63.88	328	P		P	13 49 29.6	+0.4	
WVT	Waverly	64.41	345	P		P	13 49 31.8	-0.5	
WVT	comp=Z,5.3nm,0.8s			IAmb		IAmb	13 49 32.8		
WVT	Waverly	64.41	345	P		P	13 49 32.1	-0.2	
WVT				pP		pP	13 49 42.8	-4.3	
WVT				sP		sP	13 49 48.2	-4.9	
S57A	Dark Hollow, R	64.46	353	P		P	13 49 32.1	-0.5	
S57A	comp=Z,7.9nm,1.0s			IAmb		IAmb	13 49 56.9		
R55A	Marlinton	65.11	352	P		P	13 49 35.9	-1.1	
R55A	comp=Z,8.1nm,1.0s			IAmb		IAmb	13 49 39.5		
LCAR	Lake Charles	65.20	342	P		P	13 49 37.5	0.0	
LCAR	comp=Z,16nm,1.4s			IAmb		IAmb	13 49 38.5		
WCI	Wyandotte Cave	66.08	347	P		P	13 49 42.6	-0.5	
WCI				pP		pP	13 49 54.6	-3.2	
WCI				sP		pwP	13 49 59.4	+1.5	
MNTX	Cornudas Mount	66.67	328	P		P	13 49 47.7	+0.7	
MNTX	comp=Z,5.0nm,0.8s			IAmb		IAmb	13 49 48.8		
P52A	Corning	66.72	351	P		P	13 49 46.3	-0.9	
P52A	comp=Z,15nm,1.1s			IAmb		IAmb	13 50 14.7		
CCM	Cathedral Cave	67.09	343	P		P	13 49 48.8	-0.7	
CCM	comp=Z,6.0nm,0.7s			IAmb		IAmb	13 49 50.4		
CCM	Cathedral Cave	67.09	343	P		P	13 49 50.0	+0.4	
CCM				pP		pP	13 50 00.7	-3.7	
CCM				sP		sP	13 50 06.6	-3.8	
S39A	Bolivar	67.33	341	P		P	13 49 51.4	+0.2	
S39A	comp=Z,7.1nm,1.0s			IAmb		IAmb	13 49 52.7		
R40A	Maddies Statio	67.59	342	P		P	13 49 53.1	+0.4	
L59A	Walton	68.54	357	P		P	13 49 58.4	-0.3	
L59A	comp=Z,16nm,0.9s			IAmb		IAmb	13 50 00.9		
P40A	Paris	68.69	343	P		P	13 49 59.0	-0.6	
L61B	Northampton	68.72	359	P		P	13 49 59.2	-0.4	
ANMO	Albuquerque	69.86	329	P		P	13 50 08.0	+0.8	
ANMO	Albuquerque	69.86	329	P		P	13 50 09.1	+1.9	
ANMO				sP		pwP	13 50 26.1	+3.9	
SDCO	Great Sand Dun	71.78	332	P		P	13 50 20.1	+1.2	
DBIC	Dimbokro	71.92	73	pP		pP	13 50 36.1	+0.7	
E62A	Clayton Lake	72.87	1	P		P	13 50 22.4	-2.4	
D62A	Allapoint, All	73.34	1	P		P	13 50 25.9	-1.8	
D62A	comp=Z,26nm,1.4s			IAmb		IAmb	13 50 35.6		
ECSD	EROS Data Cent	73.86	341	P		P	13 50 29.3	-1.5	
ECSD	comp=Z,6.7nm,0.8s			IAmb		IAmb	13 50 32.5		
MTPU	Mount Pierson	75.06	327	P		P	13 50 40.0	+1.6	
SRU	San Rafael Swe	75.13	329	P		P	13 50 39.3	+0.8	
SRU	comp=Z,7.7nm,0.8s			IAmb		IAmb	13 50 41.3		
P18A	Preston Nutter	75.42	330	P		P	13 50 40.5	+0.2	
P18A	comp=Z,6.7nm,0.8s			IAmb		IAmb	13 50 43.6		
MSU	Marysvale	75.43	328	P		P	13 50 41.0	+0.7	
MVU	Marysvale	75.44	328	P		P	13 50 40.9	+0.5	
MVU	comp=Z,16nm,0.8s			IAmb		IAmb	13 50 43.8		
JLU	Jordanelle	76.75	329	P		P	13 50 51.1	+2.4	
JLU	comp=Z,4.7nm,0.7s			IAmb		IAmb	13 50 50.7		
DUG	Dugway, Tooele	77.06	328	P		P	13 50 50.3	+0.9	
DUG	comp=Z,5.6nm,1.0s			IAmb		IAmb	13 50 52.7		
SUR	Sutherland comp=Z,36nm,18.4s,baz=188,slow=34	77.58	120	LR		LR	14 22 17.0		
HWUT	Hardware Ranch	77.61	330	P		P	13 50 52.0	-0.5	
HWUT	comp=Z,7.4nm,0.8s			IAmb		IAmb	13 50 55.1		
PDAR	Pinedale Array comp=Z,0.7nm,0.7s,baz=121,slow=8.5,SNR=7.9 comp=Z,0.7nm,0.7s	77.67	332	P		P	13 50 54.0	+1.2	
PDAR	Pinedale Array	77.67	332	P		P	13 50 52.4	-0.4	
SPUT	South Promonto	77.77	329	P		P	13 50 54.6	+1.3	
SPUT	comp=Z,6.8nm,0.8s			IAmb		IAmb	13 50 56.2		
HVU	Hansel Valley	78.30	329	P		P	13 50 57.1	+0.9	
HVU	comp=Z,5.3nm,0.9s			IAmb		IAmb	13 50 59.1		
NVAR	Mina Array Bea comp=Z,0.9nm,0.7s,baz=158,slow=5.6,SNR=6.7 comp=Z,0.9nm,0.7s	78.46	324	P		P	13 50 59.2	+1.9	
REDW	Red Top Meadow	78.71	331	P		P	13 50 58.4	-0.1	
LOHW	Long Hollow	78.81	332	P		P	13 51 00.2	+1.1	
RLMT	Red Lodge	79.49	333	P		P	13 51 04.2	+1.4	
RLMT	comp=Z,5.9nm,0.8s			IAmb		IAmb	13 51 05.0		
ULM	Lac du Bonnet comp=Z,2.8nm,0.7s,baz=131,slow=3.7,SNR=3.1 comp=Z,2.8nm,0.7s	79.65	344	P		P	13 51 03.3	+0.1	
MAW	Mawson comp=Z,8.1nm,0.8s,baz=139,slow=9.3,SNR=3.3 comp=Z,8.1nm,0.8s	79.98	164	P		P	13 51 05.4	+0.5	
TSUM	Tsumeb comp=Z,37nm,18.4s,baz=334,slow=34	80.30	107	LR		LR	14 24 10.5		
HLID	Hailey	80.44	329	P		P	13 51 09.5	+1.6	
DGMT	Dagmar	80.47	338	P		P	13 51 09.7	+2.0	
DGMT	comp=Z,13nm,0.7s			IAmb		IAmb	13 51 10.3		
MCMT	McKenzie Canyo	80.75	331	P		P	13 51 11.0	+1.4	
TORD	Torodi Ar. Bea comp=Z,1.3nm,0.5s,baz=267,slow=5.2,SNR=9.1	80.75	70	P		P	13 51 09.4	-0.6	
TORD				pP		pP	13 51 27.1	+1.7	
TORD	comp=Z,2.9nm,0.5s,baz=264,slow=5.5,SNR=11			sP		sP	13 51 34.0	+2.5	
SCHQ	Schefferville comp=Z,9.3nm,1.2s,baz=208,slow=15,SNR=2.3 comp=Z,9.3nm,1.2s	81.16	2	P		P	13 51 14.1	+2.8	
PLID	Pearl Lake	82.34	330	P		P	13 51 19.3	+1.3	
PLID	comp=Z,5.7nm,0.8s			IAmb		IAmb	13 51 20.4		
CASY	Casey	87.42	181	P		P	13 51 44.2	+1.2	
CASY	comp=Z,2.9nm,0.8s			IAmb		IAmb	13 51 44.9		
H11S2	WAKE ISLAND Hyl baz=108,slow=74	26.59	274	T		T	16 17 50.3		
H11S1	WAKE ISLAND Hyl baz=108,slow=74	26.60	274	T		T	16 17 47.1		
H11S3	WAKE ISLAND Hyl baz=108,slow=74	26.61	274	T		T	16 17 49.9		
WRA	Warramunga Arr comp=Z,0.6nm,0.6s,baz=157,slow=1.7,SNR=3.9	127.68	210	pPKP		pPKPdf	13 58 20.4	+2.3	
ZALV	Zalesovo Beam comp=Z,5.8nm,0.7s,baz=301,slow=2.5,SNR=24	147.29	27	PKPbc		PKPdf	13 58 37.3	+0.7	
MKAR	Makanchi Array comp=Z,3.2nm,0.7s,baz=318,slow=2.4,SNR=30	150.74	39	PKPbc		PKPbc	13 58 48.0	0.0	
MKAR	comp=Z,0.8nm,0.6s,baz=307,slow=2.8,SNR=8.1			PKPab		PKPab	13 58 55.5	+0.4	
MKAR	comp=Z,2.2nm,0.7s,baz=296,slow=2.2,SNR=7.2			pPKPbc		sPKPdf	13 59 06.6	+1.9	
MJAR	Matsushiro Arr comp=Z,0.7nm,0.9s,baz=53,slow=4.7,SNR=4.1	153.40	299	PKPab		PKPab	13 59 07.9	+1.2	
LZH	Lanzhou	169.51	24	PKP		PKPdf	13 59 06.0	+2.3	
LZH				pPKP		sPKPdf	13 59 33.0	+7.3	
LZH				sPKP			13 59 41.5		
PZH	PanZhiHua	173.38	89	PKP		PKPdf	13 59 00.0	-5.8	

*BGR **28** 13:40:23.7,39.49N×142.71E,h150km±2km,mb5.1*
*BJI **28** 13:40:26.7±0.0,39.74N×140.68E,h150km,mb4.9/76, mB4.8/39*
*MOS **28** 13:40:27.9±0.9,39.81N×140.73E,h151km,mb4.9/85, Error ellipse: s-maj=5.5km s-min=3.6km az=106.4*
*JMA **28** 13:40:29.6±0.1,39.8N±0.5×140.8E±0.7,h151km±1km, MD5.0/38,MW4.9/38,NORTHERN AKITA PREF*
JMA Felt III J1 at NORTHERN AKITA PREF .
*NIED **28** 13:40:29.6,39.76N×140.77E,h151km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr=2.03; Mθθ=0.37; Mϕϕ2.39; Mrθ0.72; Mθϕ-0.38; Mϕr-0.07; Fault plane solution: M₀2.38000×10¹⁶ NP1: ϕs333.00000°,δ51.00000°,λ-117.00000°. NP2: ϕs192.00000°,δ46.00000°,λ-61.00000°.*
*NEIC **28** 13:40:29.1±1.9,39.78N±0.04×140.71E±0.09, h147km±4km,mb4.9/272,Mww4.9/16 Error ellipse: s-maj=11.1km s-min=3.3km az=117.0*
*IDC **28** 13:40:29.3±0.4,39.80N×140.65E,h149km±3km,mb4.6/32, mbtmp5.0/41,MS3.6/11,Error ellipse: s-maj=8.5km s-min=6.3km az=87.0*
*GCMT **28** 13:40:31.1±0.4,39.82N±0.03×140.65E±0.03, h156km±3km,MW4.9/102,Moment Tensor Solution. s21,c23; s102,c136; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.87±.11; Mθθ0.09±.14; Mϕϕ2.78±.12; Mrθ1.25±.10; Mθϕ-0.30±.16; Mϕr0.07±.12; Best double couple: M₀3.07300×10¹⁶ NP1:ϕs335.00000°,δ49.00000°, λ-117.00000°. NP2:ϕs193.00000°,δ48.00000°, λ-62.00000°. Principal axes: T 2.8130, Plg1.0000°, Azm83.0000°; N 0.5160, Plg20.0000°, Azm353.0000°; P -3.3320, Plg70.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 13:40:31.2,39.77N×140.98E,h150km,Moment Tensor Solution. Duration: 1±3 Moment tensor: Scale 10¹⁶Nm; Mrr-2.07; Mθθ-0.47; Mϕϕ2.54; Mrθ0.60; Mθϕ-0.33; Mϕr0.17; Fault plane solution: M₀2.43000×10¹⁶ NP1: ϕs191.93000°,δ49.34000°,λ-64.40000°. NP2: ϕs335.60000°,δ46.83000°,λ-116.70000°. Principal axes: T 2.5762, Plg1.0000°, Azm264.0000°; N -0.2892, Plg19.0000°, Azm355.0000°; P -2.2870, Plg71.0000°, Azm170.0000°;*

ISC 28 13:40:29.3±0.2,39.80N±0.03×140.67E±0.03,h154km±1km, h154km:pP-P,n1261,σ1.31/1360,mb4.9/324,47C-84D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZI	Iwateshizukuis	0.23	106	⇓P	Pn	13 40 50.2	+0.1
JSZI				⇓eS	Sn	13 41 06.2	+0.3
JSZI	Iwateshizukuis comp=E,78nm,2.8s,comp=E,110nm,1.6s	0.23	106	A	A	13 40 50.2	
JAH	Hinai	0.39	356	⇓P	Pn	13 40 51.1	+0.5
JAH	Hinai comp=E,24nm,0.6s,comp=E,37nm,0.9s	0.39	356	A	A	13 40 51.1	
JRG	Rokugo	0.41	184	⇓P	Pn	13 40 50.8	+0.1
JRG				⇓S	Sn	13 41 06.8	-0.2
JRG	Rokugo comp=E,161nm,0.4s,comp=E,313nm,0.8s	0.41	184	A	A	13 40 50.8	
JYW	Yuwa comp=E,240nm,0.9s,comp=E,317nm,1.1s	0.44	234	A	A	13 40 51.1	
JKZ	Kuzumaki	0.54	70	A	A	13 40 51.1	
JOM	Ohasama	0.58	124	⇓P	Pn	13 40 51.1	-0.4
JOM				⇓S	Sn	13 41 07.1	-1.3
JOM	Ohasama comp=E,166nm,0.3s,comp=E,80nm,0.3s	0.58	124	A	A	13 40 51.1	
JNTW	Noshirotokiwa comp=E,93nm,1.9s,comp=E,58nm,1.1s	0.61	320	A	A	13 40 52.3	
JANG	Nango	0.86	48	⇓P	Pn	13 40 53.1	-0.2
JANG				⇓S	Sn	13 41 10.3	-1.5
JANG	Nango comp=E,123nm,0.6s,comp=E,122nm,0.5s	0.86	48	A	A	13 40 53.1	
JHHS	Hirosakihyakuz comp=E,60nm,1.0s,comp=E,59nm,3.0s	0.88	344	A	A	13 40 54.1	
JKEN	Kujiedanarisaw comp=E,378nm,0.6s,comp=E,318nm,0.3s	0.89	63	A	A	13 40 53.4	
MIYJ	Miyakonagasawa comp=E,100nm,0.7s,comp=E,105nm,0.5s	0.91	104	A	A	13 40 53.3	
JYK	Kaneyama	0.92	195	P	Pn	13 40 53.9	+0.1
JYK				S	Sn	13 41 11.8	-0.6
JYK	Kaneyama comp=E,66nm,2.4s,comp=E,60nm,1.7s	0.92	195	A	A	13 40 53.9	
JTH	Tanohata comp=E,88nm,0.3s,comp=E,68nm,0.3s	0.93	81	A	A	13 40 53.5	
JIW	Iwasaki comp=E,42nm,1.0s,comp=E,49nm,0.7s	0.94	327	A	A	13 40 54.8	
JMK	Ichinoseki	0.95	153	⇓P	Pn	13 40 53.3	-0.7
JMK				⇓S	Sn	13 41 10.9	-1.9
JMK	Ichinoseki comp=E,55nm,1.0s,comp=E,24nm,0.3s	0.95	153	A	A	13 40 53.3	
JYYZ	Yamagatayuza comp=E,89nm,3.6s,comp=E,110nm,1.4s	0.97	216	A	A	13 40 54.5	
JTM	Tenmabayashi	1.03	17		Pn	13 40 54.9	+0.3
JTM	Tenmabayashi comp=E,51nm,2.8s,comp=E,31nm,1.6s	1.03	17	A	A	13 40 55.1	
JTB	Tobi-shima comp=E,67nm,1.0s,comp=E,60nm,1.6s	1.05	235	A	A	13 40 55.4	
OFUJ	Ofunato comp=E,79nm,0.7s,comp=E,159nm,0.3s	1.06	133	A	A	13 40 54.4	
JKMT	Kesennumamotoy comp=E,58nm,0.6s,comp=E,53nm,0.3s	1.17	148	A	A	13 40 55.5	
JOFO	Osakifurukawao comp=E,94nm,0.8s,comp=E,82nm,0.6s	1.21	171	A	A	13 40 56.1	
JOG3	Oga3 comp=E,89nm,3.1s,comp=E,64nm,1.4s	1.23	276	A	A	13 40 52.7	
JSI2	Shiura 2 comp=E,27nm,1.5s,comp=E,35nm,1.6s	1.27	351	A	A	13 40 57.6	
JARK	Aomorirokkasho comp=E,97nm,1.2s,comp=E,219nm,0.7s	1.31	24	A	A	13 40 57.6	
JYA	Atsumi comp=E,62nm,0.6s,comp=E,107nm,2.3s	1.42	212	A	A	13 40 58.6	
JOU	Okura comp=E,27nm,2.2s,comp=E,25nm,3.7s	1.44	180	A	A	13 40 58.3	
JIO	Ouri comp=E,27nm,0.3s,comp=E,27nm,0.3s	1.45	159	A	A	13 40 58.2	
JAHD	Aomorihigashid comp=E,93nm,2.1s,comp=E,68nm,1.2s	1.55	19	A	A	13 41 00.1	
JOT	Ohata	1.60	10	⇓P	Pn	13 41 00.4	+0.3
JOT				⇓eS	Sn	13 41 23.7	-0.3
JOT	Ohata comp=E,22nm,2.9s,comp=E,18nm,1.6s	1.60	10	A	A	13 41 00.4	
JIKH	Ishinomakikobu comp=E,51nm,0.3s,comp=E,21nm,0.8s	1.61	157	A	A	13 40 59.9	
JYS	Shirataka comp=E,34nm,1.2s,comp=E,51nm,1.0s	1.65	197	A	A	13 41 00.8	
JSR	Shiriuchi comp=E,9.0nm,1.0s,comp=E,18nm,4.5s	1.73	354	A	A	13 41 02.6	
JAW	Awa shima	1.74	220	P	Pn	13 41 02.2	+0.5
JAW				S	Sn	13 41 27.1	+0.5
JAW	Awa shima comp=E,15nm,4.1s,comp=E,24nm,1.0s	1.74	220	A	A	13 41 02.2	
JOMM	Oshimamatsumae	1.79	344	⇓P	Pn	13 41 03.1	+0.9
JOMM				⇓eS	Sn	13 41 28.2	+0.6
JOMM	Oshimamatsumae comp=E,8.0nm,1.9s,comp=E,22nm,1.5s	1.79	344	A	A	13 41 03.1	
JYAR	Yonezawaarcadi comp=E,23nm,1.2s,comp=E,44nm,1.3s	1.93	192	A	A	13 41 04.0	
JMM	Marumori	1.94	177		Pn	13 41 03.0	-0.9
JMM	Marumori comp=E,10.0nm,2.7s,comp=E,9.0nm,1.2s	1.94	177	A	A	13 41 03.8	
JMST	Minamisoumatoc comp=E,7.0nm,0.7s,comp=E,13nm,0.5s	2.08	175	A	A	13 41 05.5	
JKB	Kayabe comp=E,27nm,1.9s,comp=E,36nm,1.6s	2.10	7	A	A	13 41 06.7	
JNS	Sasagawa	2.25	209	P	Pn	13 41 07.7	+0.2
JNS				eS	Sn	13 41 37.1	+0.1
JNS	Sasagawa comp=E,10.0nm,3.1s,comp=E,12nm,1.1s	2.25	209	A	A	13 41 07.7	
JYM2	Yakumo 2 comp=E

comp=E,6.0nm,2.6s,comp=E,6.0nm,1.4s
JAG Ashikaga 3.51 196 A A 13 41 23.7
comp=E,4.0nm,2.3s,comp=E,5.0nm,0.5s
JYT Yasato 3.59 186 A A 13 41 24.6
comp=E,15nm,0.4s,comp=E,8.0nm,0.4s
JGK Kuni 3.61 207 A A 13 41 25.3
comp=E,4.0nm,2.5s,comp=E,5.0nm,2.6s
JFR Furan 3.66 23 A A 13 41 26.1
comp=E,13nm,1.5s,comp=E,10.0nm,1.6s
MAJO Matsushiro 3.79 212 Pn **Pn 13 41 27.5 +0.6**
MAJO Matsushiro 3.79 212 P **Pn 13 41 27.5 +0.6**
MJAR Matsushiro Arr 3.79 212 P **Pn 13 41 27.6 +0.6**
136nm,0.3s,baz=21,slow=16,SNR=1630
MJAR S **Sn 13 42 11.7 -0.1**
74nm,0.6s,baz=17,slow=23,SNR=2.0
JAB Ashibetsu 3.88 17 A A 13 41 29.1
comp=E,11nm,0.6s,comp=E,25nm,1.5s
JOB Onbets 3.91 37 A A 13 41 29.1
comp=E,31nm,0.7s,comp=E,35nm,0.6s
JHR Hokuryu 4.01 11 A A 13 41 31.1
comp=E,13nm,2.5s,comp=E,8.0nm,1.2s
JTT Ttatey 4.14 221 A A 13 41 32.5
comp=E,5.0nm,2.1s,comp=E,5.0nm,2.6s
JAR Ashorobuto 4.19 33 A A 13 41 33.0
comp=E,19nm,1.1s,comp=E,31nm,1.5s
JAK Akkeshi 4.40 42 A A 13 41 35.5
comp=E,37nm,1.2s,comp=E,39nm,0.7s
ASAJ Asahikawa 4.54 18 P **Pn 13 41 36.0 -0.6**
141nm,0.5s,baz=230,slow=10,SNR=156
ASAJ S **Sn 13 42 24.8 -4.4**
985nm,0.8s,baz=337,slow=32,SNR=10
ASAJ Asahikawa 4.54 18 P **Pn 13 41 36.4 -0.2**
JKA Kamikawa-asahi 4.54 18 Pn **Pn 13 41 36.4 -0.3**
JYO Yokosk 4.64 190 A A 13 41 38.6
comp=E,11nm,0.7s,comp=E,9.0nm,0.5s
JMP Maruseppu 4.66 25 A A 13 41 39.3
comp=E,5.0nm,1.2s,comp=E,6.0nm,0.8s
JKHN Kushirohamanak 4.70 44 A A 13 41 39.5
comp=E,17nm,0.9s,comp=E,25nm,0.9s
JOD2 Odawara 2 4.70 196 A A 13 41 39.5
comp=E,5.0nm,3.4s,comp=E,3.0nm,2.3s
JTKR Abashiri--Toko 4.81 29 A A 13 41 41.3
comp=E,4.0nm,1.0s,comp=E,4.0nm,1.5s
JNK Nakash 4.84 37 A A 13 41 41.5
comp=E,23nm,0.8s,comp=E,24nm,0.7s
JGF Kuroka 4.95 213 Pn **Pn 13 41 42.8 +0.7**
JNSB Nemuroshibetsu 5.12 38 A A 13 41 45.2
comp=E,31nm,0.9s,comp=E,33nm,0.8s
JIM2 Oshima 3 5.17 191 A A 13 41 45.7
comp=E,9.0nm,0.8s,comp=E,10.0nm,0.8s
NMR Nemuro--Hokkai 5.20 45⇑*i*P **Pn 13 41 42.4 -2.9**
NMR *i* S **Sn 13 42 37.8 -7.0**
NEM2 Nemuro 2 5.21 45 A A 13 41 46.2
comp=E,10.0nm,0.7s,comp=E,11nm,1.0s
JRA Rausu 5.30 37 A A 13 41 47.6
comp=E,16nm,3.2s,comp=E,20nm,2.1s
INU Inuyama 5.31 214 Pn **Pn 13 41 47.1 +0.2**
RUSJ Misakicho 5.49 37 P **Pn 13 41 48.3 -0.8**
RUSJ *e*S **Sn 13 42 48.4 -3.1**
JSG Sagara 5.49 202 **Pn 13 41 48.5 -0.7**
YUK Yuzh-Kuril'sk 5.73 41*c i*P **Pn 13 41 50.4 -1.9**
YUK *i* S **Sn 13 42 51.7 -5.6**
YUK pmax pmax
comp=N,1μm,0.3s
YUK pmax pmax
comp=Z,2μm,0.3s
YUK pmax pmax
comp=E,600nm,0.2s
YUK pmax pmax
comp=Z,3μm,1.0s
YUK smax smax
comp=E,7μm,0.3s
YUK smax smax
comp=N,22μm,0.4s
TEY Ternei 6.03 331⇑*e*P **Pn 13 41 57.6 +1.3**
TEY pmax pmax
comp=N,60nm,0.7s
TEY pmax pmax
comp=E,40nm,0.7s
TEY pmax pmax
comp=Z,70nm,0.7s
JHJ Hachijo jima 2 6.71 186 P **Pn 13 42 02.3 -3.2**
comp=Z,324nm,0.3s,baz=312,slow=20,SNR=92
JHJ S **Sn 13 43 12.7 -8.2**
comp=Z,955nm,0.3s,baz=251,slow=23,SNR=16
JHJ2 Mitsune 6.71 186 **Pn 13 42 02.6 -3.0**
YSS Yuzh-Sakhalins 7.31 11 Pn **Pn 13 42 13.2 -0.1**
YSS Yuzh-Sakhalins 7.31 11 *e*P **Pn 13 42 13.6 +0.3**
YSS *e*S **Sn 13 43 32.1 -2.9**
YSS pmax pmax
comp=Z,170nm,0.5s
YSS smax smax
comp=N,130nm,0.8s
YSS smax smax
comp=E,110nm,0.9s
KUR Kuril'sk 7.59 42 *e*P **Pn 13 42 12.3 -4.8**
KUR *e*S **Sn 13 43 36.8 -5.1**
KUR pmax pmax
comp=Z,596nm,0.8s
KUR pmax pmax
comp=E,401nm,0.6s
KUR pmax pmax
comp=N,270nm,0.4s
KUR smax smax
comp=N,950nm,0.6s
KUR smax smax
comp=E,297nm,0.3s
JHS Saijyo 7.69 234 Pn **Pn 13 42 19.4 +0.8**
USA0B Ussuriysk Arra 7.82 307 **Pn 13 42 21.3 +1.2**
USA0B Ussuriysk Arra 7.82 307 P **Pn 13 42 21.3 +1.2**
USRK Ussuriysk Ar. 7.82 307 P **Pn 13 42 21.2 +1.2**
comp=E,140nm,0.7s,baz=122,slow=14,SNR=126
USRK Ussuriysk Ar. 7.82 307 Pn **Pn 13 42 21.0 +0.9**
JMN Monobe 8.15 224 Pn **Pn 13 42 24.2 -0.6**
MDJ Mudanjiang 9.52 304 Pn **Pn 13 42 43.2 +0.4**
MDJ Mudanjiang 9.52 304 P **Pn 13 42 44.0 +1.2**
MDJ sP 13 43 19.5
MDJ S **Sn 13 44 28.5 +0.2**
MDJ ScP **ScP 13 52 02.0 -0.3**
MDJ PcS **PcS 13 52 17.0 -0.9**
MDJ ScS **ScS 13 55 36.8 +0.2**
MDJ pmax pmax
comp=E,290nm,0.9s
MDJ pmax pmax
comp=E,640nm,3.5s
KSRS Korea Array 10.25 261 P **Pn 13 42 53.4 +1.0**
comp=E,36nm,0.9s,baz=80,slow=13,SNR=60
KSRS PcP **PcP 13 48 46.6 +1.2**
comp=E,3.3nm,0.7s,baz=59,slow=0.5,SNR=8.9
KS19 Wonju Array Si 10.28 261 **Pn 13 42 54.1 +1.3**
KSAR Wonju Array Be 10.28 261 Pn **Pn 13 42 52.9 +0.1**
KSAR Wonju Array Be 10.28 261 P **Pn 13 42 52.9 +0.1**
JNU Nakatsue 10.32 233 P **Pn 13 42 53.4 -0.1**
comp=E,38nm,0.7s,baz=52,slow=7.2,SNR=34
JNU Nakatsue 10.32 233 Pn **Pn 13 42 53.7 +0.2**
TJN Taejon 11.03 256 Pn **Pn 13 43 04.2 +1.5**
TJN Taejon 11.03 256 P **Pn 13 43 04.2 +1.5**
TYV Tymovskoe 11.15 7 *e*P **Pn 13 43 04.3 +0.2**
TYV *e*S **Sn 13 45 09.1 +1.8**
TYV pmax pmax
comp=Z,400nm,3.2s
TYV pmax pmax
comp=Z,49nm,0.8s
TYV smax smax
comp=N,32nm,1.4s
TYV smax smax
comp=N,600nm,4.5s
TYV smax smax
comp=E,400nm,4.5s
INCN Inchon 11.22 263 P **Pn 13 43 05.7 +0.5**
GRNR Gornyy 11.36 346⇑*i*P **Pn 13 43 06.9 -0.1**
GRNR *e*S **Sn 13 45 13.2 +0.6**
GRNR pmax pmax
comp=E,4.0nm,0.6s
GRNR pmax pmax
comp=N,4.0nm,0.7s
GRNR pmax pmax
comp=Z,5.0nm,0.6s
GRNR smax smax
comp=N,2.0nm,0.7s
GRNR MLR MLR
comp=N,140nm,15.0s
GRNR MLR MLR
comp=E,280nm,15.0s
GRNR MLR MLR
comp=Z,220nm,17.0s

KLR Kul'dur 11.37 329 P **Pn 13 43 06.2 -0.8**
comp=Z,5.7nm,0.7s,baz=127,slow=14,SNR=19
BNX BinXian 11.41 306⇑P **Pn 13 43 06.8 -0.8**
BNX S **Sn 13 45 13.5 -0.2**
BNX pmax pmax
comp=Z,33nm,0.9s
BNX pmax pmax
comp=Z,280nm,4.8s
JSU Suzuyama 11.72 228 Pn **Pn 13 43 11.9 0.0**
CN2 Changchun 12.04 294 P **Pn 13 43 15.3 -0.6**
CN2 S **Sn 13 45 24.5 -4.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
JCJ Chichijima 12.74 174 P **Pn 13 43 25.1 +0.2**
comp=Z,58nm,0.3s,baz=79,slow=20,SNR=26
JCJ S Sn 13 45 34.8 -11
comp=Z,108nm,0.3s,baz=297,slow=22,SNR=8.0
JCJ Chichijima 12.74 174 **Pn 13 43 21.0 -4.0**
SNY Shenyang 13.11 284⇓P **Pn 13 43 30.0 +0.4**
SNY pmax pmax
comp=Z,44nm,1.1s
HEH HeiHe 14.02 323 *e*P **Pn 13 43 38.0 -3.0**
HEH pmax pmax
comp=Z,21nm,0.8s
HEH LR LR
comp=Z,200nm,8.2s
HEH LR LR
comp=Z,210nm,9.4s
HEH LR LR
comp=Z,370nm,9.8s
DL2 Dalian 14.77 273 P **Pn 13 43 50.8 +0.3**
DL2 pmax pmax
comp=Z,69nm,0.9s
SKR Severo-Kuril's 15.35 40 *e*P **Pn 13 43 56.8 -0.8**
SKR *e*S **Sn 13 46 42.5 -5.7**
SKR pmax pmax
comp=Z,115nm,1.4s
SKR pmax pmax
comp=Z,400nm,4.3s
SKR MLR MLR
comp=Z,400nm,16.0s
JOW Kunigami 16.55 222 P **P 13 44 11.2 -1.1**
comp=Z,32nm,0.8s,baz=71,slow=17,SNR=8.1
JOW Kunigami 16.55 222 P **P 13 44 08.4 -4.0**
JOW IAmb IAmb 13 44 14.3
comp=Z,46nm,0.8s
ZEA Zeya 16.66 331 *e*P **P 13 44 12.5 -0.7**
ZEA *e* 13 47 20.1
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.8s
HIA Hailar 17.62 309 P **P 13 44 21.2 -2.7**
HIA Hailar 17.62 309 P **P 13 44 21.2 -2.7**
HIA pmax pmax
comp=Z,33nm,1.0s
PETK Petropavlovsk- 17.68 36 P **P 13 44 23.2 -1.3**
comp=Z,12nm,0.8s,baz=220,slow=7.6,SNR=16
XLT XiLinHaoTe 18.75 291⇑*i*P **P 13 44 35.5 -0.9**
XLT sP sP 13 45 22.5 +1.2
XLT S **S 13 47 56.0 -5.6**
XLT ScP **ScP 13 52 17.5 -0.7**
XLT pmax pmax
comp=Z,84nm,0.8s
XLT pmax pmax
comp=Z,200nm,3.8s
BJI Beijing 18.78 279 P **P 13 44 35.3 -1.3**
BJI sP **sP 13 45 21.3 -0.3**
BJI S **S 13 47 58.0 -4.1**
BJI pmax pmax
comp=Z,22nm,0.9s
BJT Baijiatuau 18.79 279 P **P 13 44 34.1 -2.7**
BJT IAmb IAmb 13 44 36.5
comp=Z,38nm,0.9s
BJT Baijiatuau 18.79 279 P **P 13 44 34.1 -2.7**
BJT pmax pmax
comp=Z,38nm,0.9s
TIA Tai'an 18.89 267⇑P **P 13 44 37.8 0.0**
TIA pmax pmax
comp=Z,48nm,0.6s
NJ2 Nanjing 19.26 253 *e*P **Pn 13 44 43.3 -1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
HNS HongShan 20.41 272⇑P **P 13 44 53.3 -0.9**
HNS PP **pP 13 45 19.5 -1.0**
HNS sP **sP 13 45 44.0 +4.5**
HNS *e*S **S 13 48 29.8 -4.6**
HNS pmax pmax
comp=Z,12nm,0.7s
HNS LR LR
comp=Z,320nm,18.3s
HNS LR LR
comp=Z,160nm,15.1s
MA2 Magadan 20.80 15 P **P 13 44 58.2 +0.1**
comp=Z,30nm,0.6s,baz=199,slow=9.5,SNR=51
MA2 PcP **PcP 13 49 01.1 +0.8**
comp=Z,4.1nm,0.7s,baz=143,slow=4.8,SNR=3.2
comp=Z,30nm,0.6s
MA2 Magadan 20.80 15 P **P 13 44 57.3 -0.8**
MA2 IAmb IAmb 13 45 00.1
comp=Z,31nm,0.6s
YOJ Yonaguni jima 21.33 229 P **P 13 45 04.7 +0.5**
YOJ IAmb IAmb 13 45 10.1
comp=Z,42nm,0.7s
YOJ Yonaguni jima 21.33 229 P **P 13 45 04.7 +0.5**
YOJ pmax pmax
comp=Z,42nm,0.7s
TATO Taipei 21.86 233 P **P 13 45 09.3 -0.5**
TATO Taipei 21.86 233 P **P 13 45 09.7 -0.1**
TIY Taiyuan 22.09 274⇓P **P 13 45 13.3 +1.3**
TIY pmax pmax
comp=Z,16nm,0.5s
YHNB Yeheng 22.16 233 P **P 13 45 10.4 -2.4**
YHNB IAmb IAmb 13 45 16.4
comp=Z,51nm,0.7s
HHC Hu-ho-hao-te 22.18 282 *e*P **P 13 45 12.8 -0.1**
HHC PP **PnPn 13 45 48.0 +3.1**
HHC S **S 13 49 02.3 -3.8**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.5s
HHC LR LR
comp=Z,300nm,13.8s
HHC LR LR
comp=Z,310nm,16.2s
HHC LR LR
comp=Z,340nm,18.8s
NACB Ninganchiao 22.39 232 P **P 13 45 09.6 -5.4**
NACB IAmb IAmb 13 45 28.2
comp=Z,31nm,1.0s
LYN LuoYang 23.03 266⇑P **P 13 45 20.3 -0.5**
LYN pP pwP 13 45 50.5 -1.0
LYN S **S 13 49 17.3 -2.4**
LYN sS sS 13 50 15.3 +3.1
LYN pmax pmax
comp=Z,17nm,0.5s
LYN pmax pmax
comp=Z,190nm,5.3s
SSLB Suanglung 23.07 232 P **P 13 45 18.9 -2.4**
SSLB IAmb IAmb 13 45 29.9
comp=Z,32nm,1.0s
YULB Yu-li 23.16 231 P **P 13 45 17.9 -4.2**
YULB IAmb IAmb 13 45 31.1
comp=Z,33nm,0.9s
YAK Yakutsk 23.25 347 P **P 13 45 22.7 +0.2**
comp=Z,20nm,0.7s,baz=187,slow=0.6,SNR=20
comp=Z,20nm,0.7s
YAK Yakutsk 23.25 347 P **P 13 45 20.6 -1.9**
YAK IAmb IAmb 13 45 24.1
comp=Z,42nm,0.8s
YAK Yakutsk 23.25 347*de*P **P 13 45 22.2 -0.3**
YAK pmax pmax
comp=Z,40nm,0.7s
WHN Wuhan 23.35 255⇑P **P 13 45 23.5 -0.3**
WHN pmax pmax
comp=Z,38nm,0.6s
BTO Baotou 23.37 282 *e*P **P 13 45 23.0 -1.1**
BTO S **S 13 49 16.0 -9.4**
BTO LR LR
comp=Z,540nm,11.2s
BTO LR LR
comp=Z,630nm,8.9s

TPUB Ta-pu 23.63 232 P **P 13 45 24.1 -2.4**
TWG Pinlang 23.73 230 P **P 13 45 26.0 -1.3**
KNMB Chin-men Tao 24.20 237 P **P 13 45 30.6 -0.9**
KNMB IAmb IAmb 13 45 41.9
comp=Z,28nm,0.7s
SEY Seymchan 24.21 13 P **P 13 45 32.4 +1.2**
comp=Z,7.4nm,0.5s,baz=197,slow=10,SNR=34
comp=Z,7.4nm,0.5s
SEY Seymchan 24.21 13⇓*e*P **P 13 45 32.8 +1.5**
SEY pmax pmax
comp=Z,10.0nm,0.8s
BOD Bodaibo 24.90 325 *e*P **P 13 45 37.9 +0.3**
BOD pmax pmax
comp=Z,24nm,1.3s
ULN Ulaanbaatar 25.40 300 P **P 13 45 45.4 +3.0**
ULN Ulaanbaatar 25.40 300 P **P 13 45 43.0 +0.5**
SONM Songino Array 25.84 299 P **P 13 45 46.3 0.0**
comp=Z,6.6nm,0.5s,baz=101,slow=9.2,SNR=25
SONM PcP **PcP 13 49 11.9 +0.5**
comp=Z,3.7nm,0.5s,baz=134,slow=2.3,SNR=7.1
SONM ScP **ScP 13 52 36.4 -0.1**
comp=Z,4.5nm,1.0s,baz=109,slow=2.9,SNR=9.7
comp=Z,6.6nm,0.5s
SONM Songino Array 25.84 299 P **P 13 45 46.8 +0.5**
SONM PcP **PcP 13 49 12.1 +0.7**
SONM ScP **ScP 13 52 36.9 +0.5**
XAN Xi'an 25.94 267⇑P **P 13 45 45.8 -1.6**
XAN pP pP 13 46 22.8 +3.8
XAN PcP **PcP 13 49 12.5 +0.7**
XAN pmax pmax
comp=Z,5.0nm,0.8s
SHEM Shemya Is, Ala 26.21 49 LR LR 13 56 03.1
comp=Z,80nm,21.9s,baz=263,slow=36
ENH Enshi 27.13 259 P **P 13 45 56.4 -1.6**
ENH PcP **PcP 13 49 15.4 +0.7**
ZAK Zakamensk 28.16 305 *e*P **P 13 46 06.9 -0.1**
ZAK pmax pmax
comp=Z,13nm,1.2s
LZH Lanzhou 29.15 275 *e*P **P 13 46 15.8 -0.2**
LZH pP pP 13 46 51.5 +3.6
LZH sP sP 13 47 05.5 0.0
LZH PcP **PcP 13 49 21.3 +1.6**
LZH pmax pmax
comp=Z,30nm,1.0s
MOY Mondy 29.76 307 *e*P **P 13 46 21.9 +0.7**
MOY pmax pmax
comp=Z,15nm,2.6s
CD2 Chengdu 31.21 265 P **P 13 46 32.8 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
GYA Guiyang 31.24 255⇓*i*P **P 13 46 34.5 0.0**
GYA sP sP 13 47 28.5 +4.3
GYA pmax pmax
comp=Z,37nm,0.6s
GYA pmax pmax
comp=Z,150nm,4.0s
GTA Gaotai 31.29 283⇑P **P 13 46 34.5 -0.3**
GTA PcP **PcP 13 49 26.3 +1.1**
GTA S **S 13 51 30.3 +0.1**
GTA ScP **ScP 13 52 54.0 +0.3**
GTA PcS **PcS 13 53 10.5 +0.8**
GTA ScS **ScS 13 56 51.3 -0.2**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,87nm,4.7s
GTA LR LR
comp=Z,240nm,19.6s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,110nm,20.7s
BILL Bilibino 31.56 18 P **P 13 46 36.9 +0.3**
BILL PcP **PcP 13 49 27.2 +2.0**
BILL Bilibino 31.56 18*de*P **P 13 46 37.0 +0.3**
BILL *e**PP **pP 13 47 08.5 -0.7**
BILL *e**SP **sP 13 47 26.3 -0.6**
BILL *e* 13 47 45.6
BILL *e* 13 49 26.1
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL Bilibino 31.56 18⇑P **P 13 46 36.8 +0.3**
BILL sP **sP 13 47 27.3 +0.4**
BILL PcP **PcP 13 49 26.6 +1.4**
TIXI Tiksi 32.48 353⇓*i*P **P 13 46 44.4 -0.2**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 32.48 353 P **P 13 46 44.3 -0.3**
TIXI PcP **PcP 13 49 28.2 +0.6**
KMI Kunming 34.91 257⇓P **P 13 47 07.0 +0.5**
KMI pP pP 13 47 35.5 -3.6
KMI S **S 13 52 28.5 +1.8**
KMI pmax pmax
comp=Z,17nm,0.9s
KMI LR LR
comp=Z,190nm,9.1s
KMI LR LR
comp=Z,73nm,13.3s
KMI LR LR
comp=Z,130nm,14.5s
KMI Kunming 34.91 257 P **P 13 47 06.5 0.0**
KMI pP **pP 13 47 38.9 -0.2**
PZH PanZhiHua 34.91 260 P **P 13 47 05.8 -0.6**
PZH S **S 13 52 27.5 +1.0**
PZH pmax pmax
comp=Z,40nm,0.6s
PZH pmax pmax
comp=Z,80nm,4.5s
GOMU GeErMu 36.01 279 P **P 13 47 16.5 +0.5**
GOMU pmax pmax
comp=Z,28nm,0.5s
GOMU pmax pmax
comp=Z,68nm,4.0s
PATS Pohnpei 36.45 150 P **P 13 47 18.2 -1.1**
NIKH Nikolski High 36.46 52 P **P 13 47 20.7 +1.6**
baz=269
TNCH TengChong 38.15 260⇑P **P 13 47 35.3 +1.4**
TNCH S **S 13 53 14.0 -1.8**
TNCH sS sS 13 54 13.5 -0.9
TNCH pmax pmax
comp=Z,69nm,1.1s
TNCH pmax pmax
comp=Z,150nm,3.8s
DGZ Jazzator, Alta 38.35 303*c i*P **P 13 47 37.0 +1.8**
DGZ pmax pmax
comp=Z,40nm,0.8s
TNA Tin City 38.76 31 P **P 13 47 39.1 +0.9**
TNA Tin City 38.76 31 P **P 13 47 39.7 +1.5**
baz=254,SNR=5.8
WMQ Urumqi 39.13 294 *e*P **P 13 47 43.3 +1.6**
WMQ pmax pmax
comp=Z,40nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.9s
WMQ Urumqi 39.13 294 P **P 13 47 43.3 +1.6**
CRAI Chiangrai 39.56 252 P **P 13 47 46.7 +1.2**
CRAI IAmb IAmb 13 47 51.6
comp=Z,26nm,0.7s
CRAI PcP **PcP 13 49 50.6 +0.8**
ANM Nome 39.57 33 P **P 13 47 47.0 +2.0**
ANM IAmb IAmb 13 47 48.0
comp=Z,19nm,0.6s
ANM Nome 39.57 33 P **P 13 47 46.7 +1.7**
baz=258,SNR=18
ANM Nome 39.57 33 P **P 13 47 47.0 +2.0**
ANM pmax pmax
comp=Z,19nm,0.6s
ZAA0 Zalesovo Array 39.66 310 P **P 13 47 46.9 +1.1**
ZAA0 IAmb IAmb 13 47 48.9
comp=Z,24nm,1.0s
ZAA0 PcP **PcP 13 49 49.8 +0.4**
ZAA0 ScP **ScP 13 53 23.9 +0.3**
ZALV Zalesovo Beam 39.66 310 P **P 13 47 46.8 +1.0**
comp=Z,16nm,0.5s,baz=86,slow=8.0,SNR=70
ZALV pP **pP 13 48 19.4 +0.3**
comp=Z,6.9nm,0.5s,baz=82,slow=8.6,SNR=2.3
ZALV PcP **PcP 13 49 49.9 +0.4**
comp=Z,17nm,0.5s,baz=87,slow=3.2,SNR=13
ZALV ScP **ScP 13 53 23.3 -0.3**
comp=Z,6.8nm,0.7s,baz=92,slow=3.1,SNR=13
comp=Z,16nm,0.5s
KKM Kota Kinabalu 40.17 220 P **P 13 47 50.4 -0.3**
KKM IAmb IAmb 13 48 03.6
comp=Z,27nm,0.9s
NRIK Noril'sk 40.52 334 P **P 13 47 53.1 +0.4**

comp=Z,2.3nm,0.5s,baz=124,slow=11,SNR=6.0
NRIK PcP **PcP** **13 49 53.0 +1.0**
comp=Z,9.4nm,0.9s,baz=139,slow=5.5,SNR=4.5
comp=Z,2.3nm,0.5s
TNTI Ternate 40.70 201 P **P** **13 47 54.4 -0.4**
comp=Z,77nm,0.9s
PHRA Phrae 40.76 251 P **P** **13 47 56.8 +1.5**
SDPT Sand Point 41.33 48 P **P** **13 47 58.6 -0.9**
SDPT IAmb IAmb 13 48 05.4
comp=Z,33nm,0.9s
LSA Lhasa 41.46 272 P **P** **13 48 02.5 +1.0**
LSA IAmb IAmb 13 48 06.8
comp=Z,16nm,0.7s
LSA Lhasa 41.46 272 P **P** **13 48 03.8 +2.3**
LSA pmax pmax
comp=Z,25nm,1.3s
LSA Lhasa 41.46 272 P **P** **13 48 02.5 +1.0**
LSA pmax pmax
comp=Z,16nm,0.7s
LSA Lhasa 41.46 272 P **P** **13 48 03.1 +1.6**
CHTO Chiang Mai 41.50 252 P **P** **13 47 59.8 -1.6**
CHTO Chiang Mai 41.50 252 P **P** **13 47 59.8 -1.6**
CHTO pmax pmax
comp=Z,1.0nm,1.2s
RKPI Ransiki, Papua 41.54 190 P **P** **13 48 02.0 +0.3**
comp=Z,86nm,0.7s,comp=Z,2µm
SMPI Sarmi 41.63 183 P **P** **13 48 03.7 +1.3**
comp=Z,104nm,1.2s,comp=Z,1µm
CM31 Chiang Mai Arr 41.72 252 P **P** **13 48 05.5 +2.3**
CMAR Chiang Mai Arr 41.72 252 P **P** **13 48 04.0 +0.8**
comp=Z,4.5nm,0.6s,baz=44,slow=7.2,SNR=26
CMAR PcP **PcP** **13 49 57.7 +0.9**
comp=Z,2.9nm,0.5s,baz=18,slow=2.9,SNR=8.6
CMAR ScP **ScP** **13 53 33.5 +1.1**
comp=Z,0.9nm,0.3s,baz=31,slow=2.8,SNR=4.3
comp=Z,4.5nm,0.6s
N16K Nishlik Lake 42.15 40 P **P** **13 48 07.6 +1.5**
baz=269
GTOI Gorontalo 42.18 207 P **P** **13 48 06.4 -0.4**
comp=Z,41nm,1.0s,comp=Z,383nm
GENI Genyem 42.19 181 P **P** **13 48 07.7 +0.8**
comp=Z,181nm,0.9s
MK31 Makanchi Array 42.20 299 P **P** **13 48 07.7 +0.9**
MK31 IAmb IAmb 13 48 08.9
comp=Z,16nm,0.7s
MK31 Makanchi Array 42.20 299 P **P** **13 48 07.7 +0.9**
MK31 pmax pmax
comp=Z,16nm,0.7s
MKAR Makanchi Array 42.20 299 P **P** **13 48 07.7 +0.9**
comp=Z,14nm,0.6s,baz=84,slow=10,SNR=178
MKAR ScP **ScP** **13 53 33.9 -0.1**
comp=Z,2.5nm,0.8s,baz=72,slow=5.0,SNR=5.9
MKAR PKiKP **PKiKP** **13 57 01.1 -1.8**
comp=Z,0.2nm,0.4s,baz=63,slow=0.2,SNR=5.6
comp=Z,14nm,0.6s
MAKZ Makanchi 42.41 300 P **P** **13 48 09.4 +1.0**
MAKZ IAmb IAmb 13 48 10.7
comp=Z,24nm,0.7s
MAKZ Makanchi 42.41 300 P **P** **13 48 09.5 +1.0**
MAKZ Makanchi 42.41 300 ⇑P **P** **13 48 09.5 +1.0**
MAKZ ScP **ScP** **13 53 34.3 -0.5**
O16K Kokwok River B 42.48 41 P **P** **13 48 10.2 +1.4**
baz=270
P16K Nushagak River 42.54 42 P **P** **13 48 10.7 +1.4**
baz=271
TOLI2 Tolitoli 42.56 210 P **P** **13 48 10.0 0.0**
TOLI2 IAmb IAmb 13 48 11.0
comp=Z,30nm,0.8s
MRSI Marisa 42.71 208 P **P** **13 48 11.4 +0.3**
comp=Z,205nm,0.9s,comp=Z,2µm
O17K Koliganek Bris 42.98 41 P **P** **13 48 14.3 +1.5**
baz=271
FAKI Fak Fak 43.21 192 P **P** **13 48 15.6 +0.4**
FAKI Fak Fak 43.21 192 P **P** **13 48 15.5 +0.4**
comp=Z,137nm,0.8s,comp=Z,1µm
GCSA Galena City Sc 43.21 34 P **P** **13 48 15.9 +1.3**
baz=266,SNR=6.3
Q16K King Salmon 43.24 43 P **P** **13 48 16.4 +1.5**
baz=273
P17K Kvichak River 43.33 42 P **P** **13 48 17.3 +1.6**
baz=272
R17K Ugashik Creek 43.45 44 P **P** **13 48 17.1 +0.5**
baz=274
TTA Tatalina 43.51 36 P **P** **13 48 17.6 +0.5**
TTA Tatalina 43.51 36 P **P** **13 48 18.2 +1.1**
baz=269
TTA Tatalina 43.51 36 P **P** **13 48 17.6 +0.5**
TTA pmax pmax
comp=Z,6.0nm,1.0s
MPSI Mapaga 43.62 211 P **P** **13 48 19.2 +0.8**
comp=Z,27nm,0.8s
Q17K Contact Creek 43.67 43 P **P** **13 48 19.6 +1.1**
baz=274
SVW2 Sparrevohn 43.71 39 P **P** **13 48 19.1 +0.4**
SANI Sanana 43.77 201 P **P** **13 48 19.0 -0.6**
comp=Z,155nm,0.6s,comp=Z,2µm
KURK Kurchatov 43.80 306 P **P** **13 48 20.2 +0.6**
KURK Kurchatov 43.80 306 P **P** **13 48 20.2 +0.6**
KURK pmax pmax
comp=Z,39nm,0.7s
KURK Kurchatov 43.80 306 P **P** **13 48 20.4 +0.8**
KURK Kurchatov 43.80 306 P **P** **13 48 20.1 +0.6**
KURK pP **pP** **13 48 53.9 +0.5**
KURK ScP **ScP** **13 53 39.8 -0.5**
LUWI Luwuk 43.83 206 P **P** **13 48 18.1 -2.0**
LUWI Luwuk 43.83 206 P **P** **13 48 18.3 -1.8**
comp=Z,104nm,0.9s,comp=Z,2µm
P18K Big Mountain, 43.95 42 P **P** **13 48 21.8 +1.2**
P18K IAmb IAmb 13 48 23.3
comp=Z,12nm,0.6s
P18K Big Mountain, 43.95 42 P **P** **13 48 22.2 +1.6**
baz=273
L19K White Mountain 44.04 38 P **P** **13 48 22.8 +1.4**
L19K White Mountain 44.04 38 P **P** **13 48 22.9 +1.6**
baz=270
A21K Barrow 44.16 24 P **P** **13 48 22.6 +0.5**
A21K IAmb IAmb 13 48 23.7
comp=Z,21nm,0.7s
A21K Barrow 44.16 24 P **P** **13 48 23.2 +1.1**
baz=259,SNR=13
N19K Bonanza Creek 44.25 39 P **P** **13 48 24.5 +1.4**
N19K Bonanza Creek 44.25 39 P **P** **13 48 25.0 +1.9**
baz=272
O19K Port Alsworth 44.36 40 P **P** **13 48 24.9 +1.1**
O19K Port Alsworth 44.36 40 P **P** **13 48 25.7 +1.9**
baz=273
K20K Telida 44.40 36 P **P** **13 48 25.2 +1.1**
K20K Telida 44.40 36 P **P** **13 48 25.9 +1.8**
baz=270,SNR=7.0
L20K Farewell, AK 44.49 37 P **P** **13 48 26.5 +1.6**
baz=271
IMAR Indian Mountai 44.59 32 P **P** **13 48 26.5 +0.9**
G21K Allakaket 44.72 31 P **P** **13 48 28.3 +1.7**
baz=267
F21K Alatna River 44.76 30 P **P** **13 48 28.7 +1.7**
baz=266
AAI Ambon 44.77 198 P **P** **13 48 28.5 +0.9**
comp=Z,88nm,0.8s,comp=Z,1µm
M20K Styx River 44.86 38 P **P** **13 48 28.1 +0.2**
M20K Styx River 44.86 38 P **P** **13 48 29.7 +1.8**
baz=272
P19K Oil Pt 44.94 41 P **P** **13 48 30.5 +2.0**
P19K IAmb IAmb 13 48 48.9
comp=Z,41nm,1.1s
P19K Oil Pt 44.94 41 P **P** **13 48 29.8 +1.3**
baz=274
H21K Melozitna Rive 44.97 33 P **P** **13 48 28.4 -0.2**
H21K Melozitna Rive 44.97 33 P **P** **13 48 30.1 +1.5**
baz=269,SNR=9.4
RABL Rabaul 45.04 164 P **P** **13 48 30.4 +0.7**
SHLS Shalkode 45.09 295 *i* P **P** **13 48 28.6 -1.4**
baz=295
SHLS Shalkode 45.09 295 *i* P **P** **13 48 28.6 -1.4**
KRVT Keravat (AS076 45.12 164 P **P** **13 48 30.8 +0.4**
comp=Z,55nm,0.6s,baz=54,slow=19,SNR=6.1
comp=Z,55nm,0.6s
RSO Redoubt South 45.12 40 P **P** **13 48 29.8 -0.4**
OHAK Old Harbor 45.15 45 P **P** **13 48 30.1 0.0**
OHAK Old Harbor 45.15 45 P **P** **13 48 31.1 +1.0**
baz=277
CHUM Lake Minchumin 45.18 35 P **P** **13 48 32.2 +2.0**
baz=271,SNR=6.3
O20K Slope Mountain 45.22 40 P **P** **13 48 32.2 +1.5**
baz=274
TAPN Taplejung 45.24 271 *eP* **P** **13 48 32.7 +1.1**
comp=Z,22nm,0.5s
PPLA Purkeypile 45.26 36 P **P** **13 48 32.2 +1.1**
PPLA Purkeypile 45.26 36 P **P** **13 48 33.0 +1.9**
baz=272,SNR=5.8
SBUM Sibu 45.27 222 P **P** **13 48 31.0 -0.5**
SBUM IAmb IAmb 13 48 32.7
comp=Z,14nm,0.6s
CAST Castle Rocks 45.29 36 P **P** **13 48 32.5 +1.3**
CAST IAmb IAmb 13 48 33.7
comp=Z,11nm,0.6s
CAST Castle Rocks 45.29 36 P **P** **13 48 33.4 +2.2**
baz=272,SNR=11
I21K Tanana 45.31 33 P **P** **13 48 32.1 +0.9**
I21K Tanana 45.31 33 P **P** **13 48 33.1 +1.9**
baz=270
N20K Mount Spurr 45.34 39 P **P** **13 48 33.5 +1.9**
baz=274,SNR=5.8
UZB Uzunbulak 45.40 295 *eP* **P** **13 48 33.9 +1.4**
baz=295
UZB Uzunbulak 45.40 295 *eP* **P** **13 48 33.9 +1.4**
SPU Mount Spurr 45.41 39 P **P** **13 48 33.8 +1.6**
E22K Anaktuvuk Pass 45.45 29 P **P** **13 48 34.4 +2.0**
baz=267
KDAK Kodiak Island 45.47 44 P **P** **13 48 33.2 +0.6**
KDAK IAmb IAmb 13 48 34.1
comp=Z,40nm,1.0s
KDAK Kodiak Island 45.47 44 P **P** **13 48 33.2 +0.6**
baz=277
KDAK Kodiak Island 45.47 44 P **P** **13 48 33.2 +0.6**
KDAK pmax pmax
comp=Z,40nm,1.0s
KDAK Kodiak Island 45.47 44 P **P** **13 48 33.2 +0.6**
KDAK pP **pP** **13 49 06.9 -0.1**
KDAK sP **sP** **13 49 23.2 -1.1**
Q20K Shuyak Island 45.47 42 P **P** **13 48 33.4 +0.8**
baz=276
G22K Bettles 45.52 31 P **P** **13 48 34.5 +1.6**
baz=269
KPKS Kokpek 45.53 296 *eP* **P** **13 48 34.6 +1.1**
baz=296
KPKS Kokpek 45.53 296 *eP* **P** **13 48 34.5 +1.1**
H22K Ishtalitna Cre 45.56 32 P **P** **13 48 35.5 +2.2**
baz=270
SKT Skwentna 45.61 38 P **P** **13 48 34.4 +0.7**
SKT Skwentna 45.61 38 P **P** **13 48 35.1 +1.3**
baz=274
BPAW Bear Paw Mtn. 45.76 35 P **P** **13 48 35.6 +0.8**
BPAW Bear Paw Mtn. 45.76 35 P **P** **13 48 36.3 +1.5**
baz=272
ZHN Zhinishke 45.80 295 *eP* **P** **13 48 36.1 +0.5**
baz=296
ZHN Zhinishke 45.80 295 *eP* **P** **13 48 36.1 +0.5**
KTH Kantishna Hill 45.81 35 P **P** **13 48 35.4 0.0**
KTH IAmb IAmb 13 48 38.1
comp=Z,24nm,0.9s
MLY Manley 45.84 33 P **P** **13 48 36.2 +0.7**
MLY PcP **PcP** **13 50 11.6 +1.5**
MLY Manley 45.84 33 P **P** **13 48 37.5 +2.0**
baz=271,SNR=11
SATY Saty 45.85 295 *i* P **P** **13 48 37.2 +1.2**
baz=295
SATY Saty 45.85 295 *i* P **P** **13 48 37.2 +1.2**
WUS Wushi 45.88 293 P **P** **13 48 38.1 +1.8**
WUS pP **pP** **13 49 12.3 +2.0**
D23K Nanushuk River 45.90 28 P **P** **13 48 38.0 +2.1**
baz=267
CNPM China Poot 45.97 41 P **P** **13 48 36.6 +0.1**
CNPM IAmb IAmb 13 48 39.1
comp=Z,30nm,0.8s
SUA Susitna One 46.02 38 P **P** **13 48 37.0 0.0**
SUA IAmb IAmb 13 48 40.3
comp=Z,27nm,0.9s
SUA Susitna One 46.02 38 P **P** **13 48 38.4 +1.4**
baz=275,SNR=12
COLD Coldfoot 46.04 30 P **P** **13 48 38.2 +1.2**
COLD IAmb IAmb 13 48 40.1
comp=Z,17nm,0.5s
COLD Coldfoot 46.04 30 P **P** **13 48 38.6 +1.7**
baz=270,SNR=31
TRF Thorofare Moun 46.10 36 P **P** **13 48 37.0 -0.7**
TRF Thorofare Moun 46.10 36 P **P** **13 48 39.1 +1.4**
baz=273
G23K Bananza Creek 46.11 31 P **P** **13 48 39.2 +1.6**
baz=270
BRLK Bradley Lake 46.12 41 P **P** **13 48 37.0 -0.8**
BRLK IAmb IAmb 13 48 40.9
comp=Z,20nm,0.8s
BRLK PcP **PcP** **13 50 11.7 +0.6**
CUT Chulitna 46.17 37 P **P** **13 48 39.1 +1.1**
CUT IAmb IAmb 13 48 39.6
comp=Z,25nm,1.0s
CUT PcP **PcP** **13 50 11.8 +0.6**
CUT Chulitna 46.17 37 P **P** **13 48 39.0 +1.0**
baz=274
BRSE Bradley Lake S 46.19 41 P **P** **13 48 40.0 +1.7**
baz=276
JIRN Jiri 46.26 272 *eP* **P** **13 48 40.7 +1.0**
comp=Z,22nm,0.4s
E23K Chandalar 46.27 29 P **P** **13 48 40.8 +1.9**
baz=269
M22K Willow 46.30 38 P **P** **13 48 38.6 -0.4**
M22K IAmb IAmb 13 48 45.0
comp=Z,20nm,1.1s
M22K Willow 46.30 38 P **P** **13 48 39.9 +0.9**
baz=275
RAMN Ramite 46.30 271 *eP* **P** **13 48 40.8 +1.0**
comp=Z,64nm,0.5s
FIS Fire Island 46.30 39 P **P** **13 48 40.5 +1.4**
GUN Gumba 46.37 273 *eP* **P** **13 48 41.4 +0.8**
comp=Z,150nm,0.7s
I23K Minto, Yukon-K 46.42 33 P **P** **13 48 41.5 +1.6**
I23K PcP **PcP** **13 50 13.6 +1.6**
I23K Minto, Yukon-K 46.42 33 P **P** **13 48 41.6 +1.6**
baz=272,SNR=5.3
BWN Browne 46.42 35 P **P** **13 48 42.4 +2.4**
RC01 Rabbit Creek A 46.54 39 P **P** **13 48 40.7 -0.2**
RC01 IAmb IAmb 13 48 42.5
comp=Z,22nm,1.0s
RC01 Rabbit Creek A 46.54 39 P **P** **13 48 41.6 +0.6**
baz=276
NEA2 Nenana 46.57 34 P **P** **13 48 42.4 +1.2**
NEA2 IAmb IAmb 13 48 43.6
comp=Z,16nm,0.5s
NEA2 PcP **PcP** **13 50 13.7 +1.1**
NEA2 Nenana 46.57 34 P **P** **13 48 42.8 +1.6**
baz=273,SNR=17
CHKK Chushkaly 46.59 297 *eP* **P** **13 48 42.6 +0.9**
baz=297
CHKK Chushkaly 46.59 297 *eP* **P** **13 48 42.5 +0.9**
C24K Franklin Bluff 46.63 27 P **P** **13 48 43.0 +1.5**
baz=269,SNR=36
MCK McKinley 46.68 35 P **P** **13 48 42.8 +0.7**
MCK McKinley 46.68 35 P **P** **13 48 43.3 +1.2**
baz=274,SNR=7.3
MCK McKinley 46.68 35 P **P** **13 48 42.8 +0.7**
MCK pmax pmax
comp=Z,13nm,0.8s
E24K Your Creek 46.70 29 P **P** **13 48 44.2 +2.1**
baz=270
TARG Taragay, Kyrgy 46.70 294 P **P** **13 48 42.3 -0.7**
TARG IAmb IAmb 13 48 46.2
comp=Z,25nm,0.7s
TARG Taragay, Kyrgy 46.70 294 P **P** **13 48 42.3 -0.7**
TARG pmax pmax
comp=Z,25nm,0.7s
MDOK Medeo 46.76 296 *eP* **P** **13 48 44.4 +1.3**
baz=296
MDOK Medeo 46.76 296 P **P** **13 48 44.2 +1.0**
PMR Palmer 46.78 38 P **P** **13 48 43.6 +0.8**
PMR IAmb IAmb 13 48 44.3
comp=Z,13nm,0.6s
PMR PcP **PcP** **13 50 13.8 +0.4**
PMR Palmer 46.78 38 P **P** **13 48 43.6 +0.8**
baz=276,SNR=6.6
PMR Palmer 46.78 38 P **P** **13 48 43.6 +0.8**
PMR 13 50 13.8
PMR pmax pmax
comp=Z,13nm,0.6s
SEW Seward 46.80 40 P **P** **13 48 43.0 +0.1**
SEW IAmb IAmb 13 48 44.4
comp=Z,18nm,0.6s
SEW Seward 46.80 40 P **P** **13 48 43.5 +0.6**
baz=277
AAA Alma-Ata 46.84 296 *eP* **P** **13 48 45.5 +1.8**
comp=Z,9.7nm,0.5s,baz=296
AAA Alma-Ata 46.84 296 *eP* **P** **13 48 45.4 +1.8**
AAA pmax pmax
comp=Z,10.0nm,0.5s
GHO Glory Hole Cre 46.86 38 P **P** **13 48 44.5 +0.9**
TNSS Tian-Shan 46.87 296 *eP* **P** **13 48 45.7 +1.3**
baz=296
TNSS Tian-Shan 46.87 296 *eP* **P** **13 48 45.6 +1.3**
PKI Pulchoki 46.90 273 *eP* **P** **13 48 45.2 +0.5**
comp=Z,32nm,0.7s
MDM Murphy Dome 46.91 33 P **P** **13 48 45.2 +1.4**
MDM IAmb IAmb 13 48 46.0
comp=Z,16nm,0.6s
PKIN Phulchoki 46.91 273 *eP* **P** **13 48 45.6 +1.0**
comp=Z,32nm,0.7s
WAT1 Susitna Watana 46.93 36 P **P** **13 48 44.7 +0.7**
baz=275
F24K Squaw Lake 46.93 30 P **P** **13 48 45.6 +1.6**
baz=271,SNR=21
WRH Wood River Hil 47.00 34 P **P** **13 48 45.5 +1.1**
WRH PcP **PcP** **13 50 15.1 +1.0**
H24K Noodor Dome 47.00 32 P **P** **13 48 46.0 +1.5**
H24K Noodor Dome 47.00 32 P **P** **13 48 46.9 +2.3**
baz=273,SNR=12
KUU Kurty 47.02 297 *jiP* **P** **13 48 45.4 +0.4**
comp=Z,16nm,0.7s,baz=297
KUU Kurty 47.02 297 *diP* **P** **13 48 45.3 +0.4**
KUU pmax pmax
comp=Z,16nm,0.7s
TCOL CIGO, UAF Yank 47.07 34 P **P** **13 48 46.6 +1.6**
TCOL CIGO, UAF Yank 47.07 34 P **P** **13 48 46.6 +1.6**
baz=274,SNR=7.3
COLA College 47.07 34 P **P** **13 48 46.6 +1.6**
COLA College 47.07 34 P **P** **13 48 46.6 +1.6**
baz=274
COLA College 47.07 34 P **P** **13 48 47.2 +2.2**
COLA College 47.07 34 P **P** **13 48 46.6 +1.6**
COLA pP **pP** **13 49 20.7 +1.2**
COLA sP **sP** **13 49 37.7 +0.9**
CCB Clear Creek Bu 47.11 34 P **P** **13 48 45.7 +0.4**
DMN Daman 47.12 273 *eP* **P** **13 48 47.7 +1.5**
comp=Z,51nm,0.8s
G24K Hadweenzic Riv 47.12 31 P **P** **13 48 47.7 +2.3**
baz=273
KNK Knik Glacier 47.12 38 P **P** **13 48 45.1 -0.4**
KNK IAmb IAmb 13 48 47.0
comp=Z,11nm,0.6s
KNK Knik Glacier 47.12 38 P **P** **13 48 46.6 +1.1**
baz=277
SML Sawmill 47.14 38 P **P** **13 48 46.1 +0.4**
SML IAmb IAmb 13 48 48.3
comp=Z,23nm,0.7s
SML Sawmill 47.14 38 P **P** **13 48 46.7 +1.0**
baz=276,SNR=7.8
POKR Poker Plat Res 47.23 33 P **P** **13 48 47.4 +1.1**
POKR Poker Plat Res 47.23 33 P **P** **13 48 48.1 +1.8**
baz=274,SNR=19
PWL Port Wells 47.25 39 P **P** **13 48 46.7 +0.2**
PWL Port Wells 47.25 39 P **P** **13 48 47.8 +1.3**
baz=277
GKN Gorkha 47.28 273 *eP* **P** **13 48 48.2 +0.8**
comp=Z,34nm,0.4s
WAT6 Susitna Watana 47.33 37 P **P** **13 48 47.9 +0.7**
baz=276,SNR=5.2
M23K Glacier View 47.42 38 P **P** **13 48 48.9 +1.1**
baz=277
DHY Denali Highway 47.44 36 P **P** **13 48 48.7 +0.6**
DHY IAmb IAmb 13 48 49.9
comp=Z,13nm,0.6s
DHY PcP **PcP** **13 50 17.7 +1.7**
DHY Denali Highway 47.44 36 P **P** **13 48 49.1 +1.0**
baz=276,SNR=7.6
IL31 47.49 34 P **P** **13 48 49.0 +0.8**
IL31 IAmb IAmb 13 48 50.0
comp=Z,20nm,0.6s
ILAR Eielson Array 47.49 34 P **P** **13 48 49.0 +0.7**
comp=Z,13nm,0.6s,baz=269,slow=5.6,SNR=232
ILAR pP **pP** **13 49 22.4 -0.5**
comp=Z,7.7nm,0.8s,baz=282,slow=6.2,SNR=4.5
ILAR PcP **PcP** **13 50 15.3 -0.5**
comp=Z,3.1nm,0.6s,baz=278,slow=4.2,SNR=4.1
comp=Z,13nm,0.6s
ILAR Eielson Array 47.49 34 P **P** **13 48 49.0 +0.7**
HDA Harding Lake 47.50 34 P **P** **13 48 48.4 0.0**
HDA IAmb IAmb 13 48 49.9
comp=Z,16nm,0.7s
HDA Harding Lake 47.50 34 P **P** **13 48 49.1 +0.8**
baz=275,SNR=13
SCM Sheep Creek Mo 47.61 38 P **P** **13 48 49.6 +0.3**
SCM IAmb IAmb 13 48 51.4
comp=Z,26nm,0.7s
SCM Sheep Creek Mo 47.61 38 P **P** **13 48 50.5 +1.2**
baz=277,SNR=5.7
SCM Sheep Creek Mo 47.61 38 P **P** **13 48 49.6 +0.3**
SCM pmax pmax
comp=Z,26nm,0.7s
SPSI Sidrap Palu 47.61 209 P **P** **13 48 49.9 +0.2**
comp=Z,27nm,1.2s
G25K Bearman Lake 47.66 31 P **P** **13 48 51.8 +2.3**
baz=274
DANN Dangsing 47.79 274 *eP* **P** **13 48 52.7 +1.3**
comp=Z,354nm,0.7s
E25K Arctic Village 47.79 29 P **P** **13 48 52.7 +2.2**
baz=273,SNR=11
F25K Christian Rive 47.79 30 P **P** **13 48 53.2 +2.6**
baz=273
P23K Montague Islan 47.83 40 P **P** **13 48 52.7 +1.7**
baz=279
TKM2 Tokmak 2 47.85 296 P **P** **13 48 53.2 +1.6**
SNR=68
TKM2 Tokmak 2 47.85 296 *i* P **P** **13 48 52.6 +1.0**
TKM2 pmax pmax
comp=Z,34nm,0.8s
C26K Camden Bay 47.94 27 P **P** **13 48 53.7 +2.1**
baz=272
PRP Porcupine Dome 48.00 33 P **P** **13 48 53.2 +0.9**
PRP IAmb IAmb 13 48 54.9
comp=Z,20nm,0.7s
PRP Porcupine Dome 48.00 33 P **P** **13 48 54.0 +1.6**
baz=275,SNR=13
FYU Fort Yukon 48.02 31 P **P** **13 48 53.9 +1.6**
FYU IAmb IAmb 13 48 55.8
comp=Z,28nm,0.8s
K24K Donnelly Dome 48.07 35 P **P** **13 48 53.6 +0.8**
baz=277,SNR=10.0
M24K Tolsona, Glenn 48.11 37 P **P** **13 48 54.7 +1.5**
M24K IAmb IAmb 13 49 11.2
comp=Z,17nm,0.8s
M24K Tolsona, Glenn 48.11 37 P **P** **13 48 54.7 +1.5**
baz=278
BMAR Burnt Mountain 48.21 30 P **P** **13 48 56.3 +2.5**
BTLS Baital 48.21 299 *eP* **P** **13 48 54.9 +0.7**
baz=299
BTLS Baital 48.21 299 *eP* **P** **13 48 54.8 +0.7**
BVA0 Borovoye Array 48.31 310 *iP* **P** **13 48 55.0 +0.3**
PAX Paxson 48.32 36 P **P** **13 48 55.2 +0.5**
PAX PcP **PcP** **13 50 19.2 +0.2**
PAX Paxson 48.32 36 P **P** **13 48 56.2 +1.4**
baz=278
KLU Klutina 48.32 38 P **P** **13 48 55.9 +1.1**
KLU IAmb IAmb 13 48 56.6
comp=Z,17nm,0.5s
KLU Klutina 48.32 38 P **P** **13 48 56.2 +1.4**
baz=279,SNR=6.6
SGDS Sogindy 48.34 297 *eP* **P** **13 48 56.6 +1.4**
baz=297
SGDS Sogindy 48.34 297 *eP* **P** **13 48 56.6 +1.4**
F26K Sheenjek River 48.35 30 P **P** **13 48 57.5 +2.6**
baz=275
BRVK Borovoye 48.36 310 P **P** **13 48 55.4 +0.3**
BRVK PcP **PcP** **13 50 20.2 +1.0**
BRVK Borovoye 48.36 310 *diP* **P** **13 48 55.8 +0.7**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 48.36 310 P **P** **13 48 56.1 +1.0**
BRVK Borovoye 48.36 310 P **P** **13 48 56.0 +0.8**
BRVK pP **pP** **13 49 30.4 +0.6**
BRVK sP **sP** **13 49 47.9 +1.0**
BRVK ScP **ScP** **13 53 58.9 -0.4**
OTUK Ortayu 48.37 304 P **P** **13 48 55.5 +0.2**
C27K Jago River 48.38 27 P **P** **13 48 57.0 +2.0**
baz=273
KBK Karagaybulak 48.39 296 P **P** **13 48 57.2 +1.5**
SNR=57
CHMS Chumysh 48.41 296 P **P** **13 48 58.3 +2.6**
SNR=6.0
DIV Divide 48.45 38 P **P** **13 48 57.2 +1.4**
DIV IAmb IAmb 13 48 58.0
comp=Z,16nm,0.8s

USP Ospenovka 48.49 297 P P 13 48 57.3 +1.0
SNR=15

RIDG Independent Ri 48.49 35 P P 13 48 55.8 -0.3
RIDG IAmb IAmb 13 48 58.1
comp=Z,13nm,0.8s

RIDG Independent Ri 48.49 35 P P 13 48 56.5 +0.4
baz=278,SNR=9.1

HARP HAARP 48.54 37 P P 13 48 58.1 +1.7
baz=278,SNR=6.5

EYAK Cordova Ski Ar 48.55 39 P P 13 48 57.5 +1.1
EYAK IAmb IAmb 13 49 03.7
comp=Z,24nm,1.1s

EYAK Cordova Ski Ar 48.55 39 P P 13 48 57.8 +1.3
baz=280

G26K Porcupine Rive 48.56 31 P P 13 48 58.8 +2.4
baz=276

KAPI Kappang 48.59 208 P P 13 48 58.0 +0.8

KAPI Kappang 48.59 208 P P 13 48 58.0 +0.8
KAPI pmax pmax
comp=Z,43nm,0.8s

KAPI Kappang 48.59 208 P P 13 48 58.0 +0.8

KAPI Kappang 48.59 208 P P 13 48 57.7 +0.5

AAK Ala-Archa 48.71 296 P P 13 48 59.2 +1.1
SNR=16

AAK Ala-Archa 48.71 296 P P 13 48 58.9 +0.7
AAK IAmb IAmb 13 49 01.2
comp=Z,12nm,0.8s

AAK Ala-Archa 48.71 296 *de*P P 13 48 59.0 +0.9
AAK pmax pmax
comp=Z,13nm,0.8s

AAK Ala-Archa 48.71 296 P P 13 48 58.8 +0.7

AAK Ala-Archa 48.71 296 P P 13 48 59.0 +0.9
AAK pP **pP** 13 49 34.4 +1.6
AAK ScP **ScP** 13 54 00.8 -0.4

BKSI Bulukumba 48.74 208 P P 13 48 57.9 -0.5
comp=Z,26nm,0.8s

KSH Kashi 48.80 292 P P 13 49 04.3 +5.5
KSH pmax pmax
comp=Z,10.0nm,0.7s

SCRK Sand Creek 48.84 35 P P 13 48 59.6 +0.9

SCRK Sand Creek 48.84 35 P P 13 48 59.5 +0.7
baz=278,SNR=28

UCH Uchtor 48.84 296 P P 13 49 01.2 +1.7
SNR=9.7

DOT Dot Lake 48.85 35 P P 13 48 59.1 +0.3

N25K Chitina, Valde 48.93 38 P P 13 49 00.7 +1.3

N25K Chitina, Valde 48.93 38 P P 13 49 00.5 +1.1
baz=280

J26L Joseph Creek 48.95 34 P P 13 48 59.8 +0.3

J26L Joseph Creek 48.95 34 P P 13 49 00.1 +0.6
baz=278,SNR=5.4

I26K Coal Creek Min 49.01 33 P P 13 48 59.5 -0.3

I26K Coal Creek Min 49.01 33 P P 13 49 00.1 +0.2
baz=278

BMRM Bremner River 49.03 39 P P 13 49 01.3 +1.1
BMRM IAmb IAmb 13 49 05.0
comp=Z,17nm,0.7s

BMRM Bremner River 49.03 39 P P 13 49 01.7 +1.4
baz=280

MENT Mentasta 49.11 36 P P 13 49 02.3 +1.6
MENT IAmb IAmb 13 49 03.5
comp=Z,18nm,0.6s

EKS2 Erkin-Say 49.19 296 P P 13 49 02.8 +1.0
SNR=20

E27K Coleen River 49.26 29 P P 13 49 03.8 +2.0
baz=276

L26K Log Cabin Wild 49.27 36 P P 13 49 02.8 +0.8
L26K IAmb IAmb 13 49 04.7
comp=Z,18nm,0.7s

L26K Log Cabin Wild 49.27 36 P P 13 49 03.6 +1.7
baz=279,SNR=16

GLB Gilahina Butte 49.33 38 P P 13 49 02.6 +0.1

PMG Port Moresby 49.33 172 P P 13 49 02.7 -0.2
comp=Z,23nm,0.6s,baz=59,slow=4.7,SNR=21
comp=Z,23nm,0.6s

PMG Port Moresby 49.33 172 P P 13 49 01.9 -0.9
PMG IAmb IAmb 13 49 03.9
comp=Z,24nm,0.8s

PMG Port Moresby 49.33 172 *d i*P P 13 49 02.9 +0.1
PMG pmax pmax
comp=Z,22nm,0.7s

PMG Port Moresby 49.33 172 ⇓P P 13 49 02.9 +0.1

G27K Doyon Strip 49.41 31 P P 13 49 04.7 +1.7
baz=278

AML Almayashu 49.44 296 P P 13 49 05.6 +1.6
SNR=26

M26K Nabesna, AK 49.53 37 P P 13 49 05.1 +1.1
M26K IAmb IAmb 13 49 06.4
comp=Z,11nm,0.6s

M26K Nabesna, AK 49.53 37 P P 13 49 05.9 +1.9
baz=280

VRDI Verde Repeater 49.54 38 P P 13 49 05.4 +1.2

H27K Steamboat Moun 49.54 31 P P 13 49 05.8 +1.8
baz=278

I27K Kandik River 49.60 32 P P 13 49 06.0 +1.5
baz=279

MCARA McCarthy VSAT 49.71 38 P P 13 49 07.0 +1.7
MCARA IAmb IAmb 13 49 08.0
comp=Z,20nm,0.7s

MCARA McCarthy VSAT 49.71 38 P P 13 49 06.8 +1.5
baz=281

KULM Kulim 49.77 237 P P 13 49 07.0 +0.7
KULM IAmb IAmb 13 49 08.4
comp=Z,27nm,0.9s

EGAK Eagle 49.92 33 P P 13 49 07.4 +0.6

EGAK Eagle 49.92 33 P P 13 49 08.0 +1.2
baz=280,SNR=7.9

L27K Beaver Creek, 49.94 36 P P 13 49 08.2 +1.2
L27K IAmb IAmb 13 49 09.9
comp=Z,17nm,0.7s

L27K Beaver Creek, 49.94 36 P P 13 49 08.9 +1.8
baz=281

BCAR Beaver Creek A 49.96 36 P P 13 49 08.1 +0.9

M27K Edge Creek, AK 50.05 36 P P 13 49 09.3 +1.3
M27K IAmb IAmb 13 49 10.7
comp=Z,20nm,0.7s

M27K Edge Creek, AK 50.05 36 P P 13 49 09.5 +1.5
baz=281,SNR=11

IPM Ipoh 50.15 236 P P 13 49 09.7 +0.6
IPM IAmb IAmb 13 49 10.0
comp=Z,23nm,0.6s

IPM PcP **PcP** 13 50 26.6 +0.3

BARN Barnard Glacie 50.42 38 P P 13 49 12.1 +1.3
BARN IAmb IAmb 13 49 13.6
comp=Z,16nm,0.7s

MYKOM Kota Tinggi 50.49 231 P P 13 49 12.0 +0.3
MYKOM IAmb IAmb 13 49 13.5
comp=Z,15nm,0.5s

BVCY Beaver Creek 50.51 36 P P 13 49 13.0 +1.7
baz=282

DZA Taraz 50.79 297 *e*P P 13 49 14.6 +0.9
comp=Z,7.7nm,0.7s,baz=298

DZA Taraz 50.79 297 *e*P P 13 49 14.6 +0.9
DZA pmax pmax
comp=Z,8.0nm,0.7s

DAWY Dawson 50.81 34 P P 13 49 14.5 +0.9

DAWY Dawson 50.81 34 P P 13 49 15.3 +1.7
baz=282

YUK3 Moose Creek 50.83 37 P P 13 49 15.3 +1.3
baz=283,SNR=5.8

I29M Ogilvie Camp, 51.00 32 P P 13 49 15.8 +0.9
I29M IAmb IAmb 13 49 17.6
comp=Z,21nm,0.9s

I29M Ogilvie Camp, 51.00 32 P P 13 49 16.8 +1.9
baz=282,SNR=9.0

O28M Mount Upton 51.19 38 P P 13 49 17.8 +1.1
baz=284

J29M Klondike Camp 51.23 33 P P 13 49 18.5 +1.8
baz=282

YUK8 Steele Glacier 51.27 38 P P 13 49 18.7 +1.4
baz=284

KK31 Karatay Array 51.27 298 *i* P P 13 49 17.7 +0.4

KKAR Karatay Array 51.27 298 P P 13 49 17.4 +0.1

KKAR Karatay Array 51.27 298 P P 13 49 17.4 +0.1

G30M tAoh Zrail Nji 51.49 30 P P 13 49 20.2 +1.6
baz=282,SNR=16

L29M L29M 51.58 35 P P 13 49 21.6 +2.3
baz=284,SNR=12

M29M Somme Creek 51.59 36 P P 13 49 21.2 +1.8
baz=284

SOEI Soe 51.60 201 P P 13 49 18.6 -1.5

SOEI Soe 51.60 201 P P 13 49 19.4 -0.7
comp=Z,128nm,0.8s

K29M Barlow Dome 51.67 34 P P 13 49 21.8 +1.8
baz=284,SNR=13

YUK4 Talbot Arm 51.77 37 P P 13 49 22.7 +1.7
baz=285

PNL Peninsula 51.85 39 P P 13 49 22.9 +1.6
baz=285

IUG Iuzhnay 51.96 297 *e*P P 13 49 23.6 +1.1
baz=297

IUG Iuzhnay 51.96 297 *e*P P 13 49 23.6 +1.1

YUK6 Outpost Mounta 52.01 38 P P 13 49 24.8 +2.1
baz=285

O29M Mount Kennedy 52.08 39 P P 13 49 25.8 +2.7
baz=285,SNR=5.9

CHM Chimkent 52.19 297 *e*P P 13 49 25.3 +1.1
baz=297

CHM Chimkent 52.19 297 *e*P P 13 49 25.2 +1.1

INK Inuvik 52.20 28 P P 13 49 25.0 +1.3
INK IAmb IAmb 13 49 26.0
comp=Z,21nm,0.8s

INK Inuvik 52.20 28 P P 13 49 25.1 +1.4
baz=284,SNR=20

INK Inuvik 52.20 28 P P 13 49 25.0 +1.3
INK pmax pmax
comp=Z,21nm,0.8s

M30M Minto, Yukon 52.30 35 P P 13 49 26.5 +1.9
M30M IAmb IAmb 13 49 27.8
comp=Z,12nm,0.7s

M30M Minto, Yukon 52.30 35 P P 13 49 26.7 +2.1
baz=285,SNR=6.1

F31M Tsiigehtchic 52.33 29 P P 13 49 26.0 +1.4
baz=284,SNR=14

PPBI Pangkal Pinang 52.39 226 P P 13 49 27.1 +1.3

MAYO Mayo, Yukon 52.43 34 P P 13 49 27.4 +1.9

MAYO Mayo, Yukon 52.43 34 P P 13 49 27.5 +1.9
baz=285,SNR=8.2

HYT Haines Junctio 52.45 38 P P 13 49 28.3 +2.5
HYT IAmb IAmb 13 49 29.2
comp=Z,25nm,0.9s

HYT Haines Junctio 52.45 38 P P 13 49 28.4 +2.5
baz=286,SNR=7.9

SVE Sverdlovsk 52.71 317 *ce*P P 13 49 28.8 +1.2
SVE pmax pmax
comp=Z,43nm,0.9s

RPSI Rantau Prapat 52.85 237 P P 13 49 29.2 0.0
RPSI IAmb IAmb 13 49 30.1
comp=Z,22nm,0.7s

RPSI PcP **PcP** 13 50 36.9 +0.5

P30M Million Dollar 52.90 38 P P 13 49 31.5 +2.4
baz=287

N31M Braeburn, Yuko 53.06 37 P P 13 49 32.2 +1.9
N31M IAmb IAmb 13 49 33.4
comp=Z,25nm,0.9s

N31M Braeburn, Yuko 53.06 37 P P 13 49 32.5 +2.3
baz=287

TWSI Taliwang, Sumb 53.09 210 P P 13 49 29.2 -1.7
comp=Z,55nm,1.0s

MTN Manton Dam 53.12 192 P P 13 49 31.0 -0.1

O30N Mendenhall 53.13 38 P P 13 49 32.3 +1.6
baz=287

NIL Nilore 53.24 286 P P 13 49 31.8 -0.2

NIL Nilore 53.24 286 P P 13 49 31.8 -0.2
NIL pmax pmax
comp=Z,31nm,0.9s

NIL Nilore 53.24 286 P P 13 49 32.7 +0.7

NIL Nilore 53.24 286 P P 13 49 33.6 +1.6
NIL pP **pP** 13 50 07.8 +0.6
NIL sP **sP** 13 50 24.9 +0.8

MLSI Meulaboh, Aceh 53.33 240 P P 13 49 32.1 -0.6
comp=Z,49nm,0.7s

BKNI Bangkinang 53.35 233 P P 13 49 33.7 +0.8
comp=Z,151nm,0.7s

PLBC Pleasant Camp 53.39 39 P P 13 49 34.7 +2.1
baz=288

M31M Drury Creek, Y 53.48 36 P P 13 49 34.5 +1.2

M31M Drury Creek, Y 53.48 36 P P 13 49 35.1 +1.8
baz=287,SNR=6.0

COEN Coen 53.53 177 P P 13 49 34.5 +0.5

WHY Whitehorse 53.73 37 P P 13 49 35.2 0.0
WHY IAmb IAmb 13 49 37.7
comp=Z,9.0nm,0.7s

WHY Whitehorse 53.73 37 P P 13 49 37.0 +1.8
baz=288

SKAG Skagway 53.89 39 P P 13 49 36.7 +0.5

A36M Sachs Harbour 53.92 23 P P 13 49 37.0 +0.7

A36M Sachs Harbour 53.92 23 P P 13 49 38.1 +1.8
baz=288,SNR=31

ARU Arti 53.92 317 LR LR 14 14 31.5
comp=Z,39nm,19.8s,baz=68,slow=38

ARU Arti 53.92 317 P P 13 49 35.5 -1.0
ARU PcP **PcP** 13 50 40.0 +0.1

ARU Arti 53.92 317 P P 13 49 37.2 +0.7

ARU Arti 53.92 317 P P 13 49 37.0 +0.6
ARU pP **pP** 13 50 12.4 +0.4

FARO Faro, Yukon 53.94 35 P P 13 49 38.3 +1.7
baz=288,SNR=6.0

CHGR Chuyangaron 53.99 293 P P 13 49 38.2 +0.8

CHGR Chuyangaron 53.99 293 P P 13 49 38.2 +0.8
CHGR pmax pmax
comp=Z,86nm,1.0s

SDSI Sungai Dareh 54.11 231 P P 13 49 39.3 +0.9
comp=Z,98nm,0.8s,comp=Z,848nm

N32M Quiet Lake 54.40 37 P P 13 49 41.7 +1.7
baz=289

PWJI Pagerwojo 54.57 216 P P 13 49 40.5 -1.1
comp=Z,102nm,0.9s

JIS Juneau Island 54.75 40 P P 13 49 43.0 +0.7
JIS IAmb IAmb 13 49 52.2
comp=Z,15nm,1.2s

SNSI Sinabang, Aceh 54.76 239 P P 13 49 44.2 +1.1
comp=Z,55nm,0.8s

GSI Gunungsitoli 54.77 237 P P 13 49 41.4 -1.8

GSI Gunungsitoli 54.77 237 P P 13 49 43.6 +0.4
comp=Z,66nm,1.0s

P33M Teslin, Yukon 54.84 38 P P 13 49 43.7 +0.5

P33M Teslin, Yukon 54.84 38 P P 13 49 44.8 +1.6
baz=290

UGM Wanagama 55.06 217 P P 13 49 43.6 -1.6

C36M Paulatuk 55.17 25 P P 13 49 46.2 +0.9

C36M Paulatuk 55.17 25 P P 13 49 46.4 +1.1
baz=291,SNR=23

KPJI Karang Pucung 55.32 219 P P 13 49 46.3 -0.7
comp=Z,119nm,0.8s

KLI Kotabumi 55.34 225 P P 13 49 47.0 -0.2
comp=Z,212nm,0.9s,comp=Z,3µm

MDSI Maura Dua 55.40 226 P P 13 49 47.7 +0.1
comp=Z,48nm,1.1s

AB31 Akbulak array 55.74 309 *i* P P 13 49 50.1 +0.4

ABKAR Akbulak array 55.74 309 P P 13 49 50.0 +0.3

ABKAR Akbulak array 55.74 309 P P 13 49 49.8 +0.2
ABKAR IAmb IAmb 13 49 51.0
comp=Z,18nm,0.7s

KBL Kabul 55.92 289 P P 13 49 51.3 -0.2

KBL Kabul 55.92 289 P P 13 49 51.3 -0.2
KBL pmax pmax
comp=Z,24nm,0.8s

KNRA Kununurra 56.30 194 P P 13 49 54.1 +0.2

AKTO Aktyubinsk 56.42 310 P P 13 49 54.7 +0.2

WTLY Watson Lake, Y 56.75 37 P P 13 49 58.1 +1.3
WTLY IAmb IAmb 13 49 59.4
comp=Z,9.9nm,0.8s

WTLY Watson Lake, Y 56.75 37 P P 13 49 58.5 +1.8
baz=293

DLBC Dease Lake 56.82 39 P P 13 49 57.8 +0.4

ALE Alert 57.39 3 ⇓P P 13 50 01.9 +1.1
ALE pP **pP** 13 50 37.8 +1.1
ALE sP **PcP** 13 50 53.1 +0.2

EUNU Eureka 57.54 9 P P 13 50 01.7 -0.4

SPA0 Spitsbergen Ar 57.70 348 *e*P P 13 50 04.0 +0.9
SPA0 IAmb IAmb 13 50 16.1
comp=Z,135nm,1.8s

SPITS Spitsbergen Ar 57.70 348 P P 13 50 02.5 -0.6
SPITS pmax pmax
comp=Z,14nm,1.2s

KIRV Kirov 57.70 322 *d i*P P 13 50 03.8 +0.5

WRGLY Wrigley 57.80 32 P P 13 50 05.8 +1.9
baz=295,SNR=6.6

NOR Nord 58.26 356 *i* P P 13 50 07.9 +1.0
NOR IAmb IAmb 13 50 08.3
comp=Z,15nm,0.8s

LIRD Liard River Hi 58.28 37 P P 13 50 09.4 +2.0
baz=295,SNR=5.5

FITZ Fitzroy Crossi 59.28 197 P P 13 50 13.9 -0.8

LVZ Lovozero 59.35 335 P P 13 50 14.9 +0.2
LVZ IAmb IAmb 13 50 20.5
comp=Z,25nm,1.1s

LVZ Lovozero 59.35 335 P P 13 50 14.9 +0.2
LVZ pmax pmax
comp=Z,25nm,1.1s

WB0 Warramunga Arr 59.55 187 P P 13 50 15.8 -0.8

WRAB Tennant Creek 59.72 187 P P 13 50 17.0 -0.7

WRAB Tennant Creek 59.72 187 *d i*P P 13 50 17.1 -0.5
WRAB pmax pmax
comp=Z,140nm,1.3s

WRAB Tennant Creek 59.72 187 ⇓P P 13 50 17.2 -0.5

WB2 Warramunga Arr 59.73 187 P P 13 50 17.2 -0.5

WR0 Warramunga Arr 59.73 187 P P 13 50 17.0 -0.7

WRA Warramunga Arr 59.73 187 P P 13 50 16.9 -0.9
comp=Z,66nm,0.5s,baz=4.0,slow=7.1,SNR=291

WRA PcP **PcP** 13 51 03.4 +0.4
comp=Z,7.9nm,0.6s,baz=360,slow=4.3,SNR=5.8

WRA PKP2bc 14 19 52.2
comp=Z,2.4nm,1.1s,baz=175,slow=2.3,SNR=6.5

WRA Warramunga Arr 59.73 187 P P 13 50 16.5 -1.3
WRA IAmb IAmb 13 50 18.0
comp=Z,11nm,0.8s

VADS Vadso 59.78 338 *e*P P 13 50 18.3 +0.9
VADS IAmb IAmb 13 50 23.4
comp=Z,181nm,1.6s

CTAO Charters Tower 59.81 174 P P 13 50 18.0 -0.3
CTAO IAmb IAmb 13 50 19.3
comp=Z,26nm,1.1s

CTAO Charters Tower 59.81 174 P P 13 50 18.0 -0.3
CTAO pmax pmax
comp=Z,26nm,1.1s

CTAO Charters Tower 59.81 174 P P 13 50 17.9 -0.3

ADZR Andozero 60.07 330 *e*P P 13 50 18.9 -0.6
ADZR pmax pmax
comp=Z,26nm,0.8s

RES Resolute Bay 60.07 15 P P 13 50 19.7 +0.3

RES Resolute Bay 60.07 15 P P 13 50 19.7 +0.3
RES pmax pmax
comp=Z,26nm,0.9s

KEV Kevo 60.65 339 P P 13 50 22.7 -0.7
KEV IAmb IAmb 13 50 26.9
comp=Z,9.3nm,0.8s

KEV Kevo 60.65 339 P P 13 50 22.7 -0.7
KEV pmax pmax
comp=Z,9.0nm,0.8s

KLMR Klimovskoe 61.12 327 *e*P P 13 50 24.6 -2.1
KLMR AMP 13 50 27.6
comp=Z,19nm,0.7s

KLMR *e*pP **pP** 13 51 01.4 -1.7

KLMR Klimovskoe 61.12 327 *e*P P 13 50 24.6 -2.1
KLMR *e**PP **pP** 13 51 01.3 -1.8
KLMR pmax pmax
comp=Z,19nm,0.7s

ARA0 ARCESS Array S 61.21 339 *e*P P 13 50 28.0 +0.8

ARCES ARCESS Array B 61.21 339 P P 13 50 27.6 +0.4
comp=Z,3.6nm,0.5s,baz=56,slow=8.1,SNR=2.6
comp=Z,3.6nm,0.5s

ARCES ARCESS Array B 61.21 339 P P 13 50 27.0 -0.2

BELG Belogornoye 61.40 316 *d i*P P 13 50 29.3 +0.6
BELG pmax pmax
comp=Z,7.0nm,0.9s

GEYT Alibeck 62.02 297 P P 13 50 33.4 +0.2
comp=Z,5.3nm,0.7s,baz=16,slow=2.2,SNR=11

GEYT pP **pP** 13 51 09.5 0.0
comp=Z,8.1nm,0.9s,baz=28,slow=3.8,SNR=4.3

GEYT LR LR 14 17 29.6
comp=Z,60nm,20.2s,baz=2.5,slow=36
comp=Z,5.3nm,0.7s

KTK1 Kautokeino 62.17 339 *e*P P 13 50 34.5 +0.9
KTK1 IAmb IAmb 13 50 45.2
comp=Z,1µm,3.0s

TULEG Thule 62.43 7 P P 13 50 35.3 0.0

TULEG Thule 62.43 7 *i* P P 13 50 35.2 0.0
TULEG IAmb IAmb 13 50 35.7
comp=Z,31nm,0.6s

PALK Pallekele 62.44 256 P P 13 50 37.1 +0.8

NEEM North Greenlan 62.80 3 *i* P P 13 50 38.6 +0.6
NEEM IAmb IAmb 13 50 39.3
comp=Z,44nm,0.7s

TRO Tromso 62.91 340 *e* P 13 50 39.5 +0.9

DAG Danmarks Havn 62.97 355 *i* P P 13 50 39.0 +0.2
DAG IAmb IAmb 13 50 39.8
comp=Z,24nm,0.7s

AS31 Alice Springs 63.45 187 P P 13 50 42.6 -0.1

ASAR Alice Springs 63.45 187 P P 13 50 42.6 0.0
comp=Z,50nm,0.4s,baz=1.9,slow=6.2,SNR=830

ASAR pP **PcP** 13 51 18.6 +0.5
comp=Z,7.2nm,0.7s,baz=356,slow=4.9,SNR=2.2

ASAR PKP2bc 14 19 44.4
comp=Z,1.5nm,0.9s,baz=174,slow=2.2,SNR=10
comp=Z,50nm,0.4s

ASAR Alice Springs 63.45 187 P P 13 50 42.1 -0.6

WAPA Wapiti River 63.58 39 P P 13 50 42.7 -0.5

PCHI Peechi 63.64 262 ‖*e*P P 13 50 44.7 +0.6

MBWA Marble Bar 63.72 202 P P 13 50 43.9 -0.5

MBWA Marble Bar 63.72 202 P P 13 50 44.5 +0.1

MBWA Marble Bar 63.72 202 ⇓P P 13 50 44.1 -0.3
MBWA pP **PcP** 13 51 19.3 +0.1

KOUNC Koumac, New Ca 63.96 155 P P 13 50 45.4 -0.6

PSA00 Pilbara Seismi 64.08 202 P P 13 50 45.9 -0.9

LLLB Lillooet 64.67 44 P P 13 50 50.7 +0.3
LLLB IAmb IAmb 13 50 52.5
comp=Z,19nm,1.0s

MOS Moscow 64.69 322 *e*P P 13 50 49.8 -0.6
MOS *e**PP **pP** 13 51 26.2 -0.9
MOS *e*S **S** 13 59 14.8 -3.2
MOS pmax pmax
comp=Z,32nm,0.9s

PGC Sidney 64.85 47 P P 13 50 52.0 +0.4
PGC IAmb IAmb 13 50 53.5
comp=Z,18nm,0.8s

STEI Steigen 65.07 340 *e*P P 13 50 53.2 +0.6

VRH Novokhopyorsk 65.15 317 *e*P P 13 50 53.7 +0.3
VRH *e* 13 51 30.0
VRH pmax pmax
comp=Z,10.0nm,0.7s

KULLO Kullorsuaq 65.28 5 *i* P P 13 50 53.9 0.0
KULLO IAmb IAmb 13 50 54.7
comp=Z,25nm,1.0s

NLWA Neilton Lookou 65.29 48 P P 13 50 55.2 +0.7

FAUS Fauske 65.45 340 *e*P P 13 50 56.0 +0.9
FAUS IAmb IAmb 13 50 56.3
comp=Z,44nm,0.8s

DBG Daneborg 65.45 354 *e*P P 13 50 54.7 -0.3

WISH Wishkah 65.49 48 P P 13 50 56.5 +0.8
WISH IAmb IAmb 13 51 06.3
comp=Z,17nm,1.0s

OBN Obninsk 65.54 322 *ce*P P 13 50 56.3 +0.4
OBN *e* 13 51 25.6
OBN *e**PP **pP** 13 51 31.5 -1.2
OBN *e**SP **sP** 13 51 48.6 -0.8
OBN *e* 13 53 22.8
OBN pmax pmax
comp=Z,12nm,0.6s

EIDS Eidsvold 65.56 170 P P 13 50 56.8 +0.6

LPSR Galich'ya Gora 65.82 319 *e*P P 13 50 58.0 +0.3
LPSR *e* 13 51 33.8
LPSR pmax pmax
comp=Z,20nm,0.8s

B06A Marblemount 66.02 46 P P 13 50 58.7 -0.4

NOUC Port Laguerre 66.07 154 P P 13 51 00.9 +1.3

DZM Mont Dzumac 66.09 154 P P 13 51 01.1 +1.3
comp=Z,25nm,0.8s,baz=323,slow=2.7,SNR=18
comp=Z,25nm,0.8s

DZM Mont Dzumac 66.09 154 P P 13 50 59.3 -0.5

DZM Mont Dzumac 66.09 154 P P 13 51 01.3 +1.4
DZM pP **pP** 13 51 38.3 +1.6
DZM sP **sP** 13 51 53.9 +0.7

FIA1 FINESS Array S 66.10 331 P P 13 50 59.6 +0.2

FINES FINESS Array B 66.10 331 P P 13 50 59.7 +0.3
comp=Z,24nm,0.6s,baz=38,slow=9.3,SNR=139
FINES pP **pP** 13 51 35.1 -1.2
comp=Z,12nm,0.7s,baz=52,slow=7.5,SNR=4.6
comp=Z,24nm,0.6s

VORR Voronezh 66.20 318 *e*P P 13 50 59.0 -1.2
VORR *e* 13 51 37.5
VORR pmax pmax
comp=Z,10.0nm,0.6s

VSR Storozhevoye 66.48 318 *e*P P 13 51 02.2 +0.2
VSR *e* 13 51 38.7
VSR pmax pmax
comp=Z,10.0nm,0.8s

NGCH Negor - Chabah 66.54 284 P P 13 51 03.3 +0.6

OUENC Ouen Island, N 66.55 154 P P 13 51 02.6 0.0

MOR8 Moi Rana 66.57 339 *e*P P 13 51 01.5 -0.8

LON Longmire 66.82 48 P P 13 51 05.2 +0.9

LON Longmire 66.82 48 P P 13 51 05.2 +0.9
LON pmax pmax
comp=Z,8.0nm,1.1s

GIRL	**Giralia**	**66.85**	**207**		P		**P**	**13 51 04.7**	**+0.1**
AKT	**Akhty**	**66.98**	**305**		*e*P		**P**	**13 51 05.9**	**+0.4**
AKT					*e*			13 51 33.2	
AKT					*e**PP		**pP**	**13 51 41.9**	**-0.4**
AKT					pmax	pmax			
	comp=Z,17nm,0.7s								
MSVF	**Nonsavu**	**67.02**	**141**		P		**P**	**13 51 07.9**	**+2.1**
	comp=Z,12nm,0.5s,baz=306,slow=3.8,SNR=16								
	comp=Z,12nm,0.5s								
MSVF	**Nonsavu**	**67.02**	**141**		P		**P**	**13 51 07.5**	**+1.7**
MSVF					IAmb	IAmb		13 51 08.6	
	comp=Z,16nm,0.7s								
MSVF	**Nonsavu**	**67.02**	**141**		P		**P**	**13 51 07.3**	**+1.5**
MSVF					pP		**pP**	**13 51 43.3**	**+0.6**
MSVF					sP		**sP**	**13 52 00.5**	**+1.2**
UPNV	**Upernavik**	**67.10**	**5**	*i*	P		**P**	**13 51 05.5**	**-0.1**
UPNV					IAmb	IAmb		13 51 06.3	
	comp=Z,50nm,1.5s								
COR	**Corvallis**	**67.15**	**50**		P		**P**	**13 51 07.1**	**+0.8**
COR					IAmb	IAmb		13 51 09.5	
	comp=Z,30nm,0.9s								
COR	**Corvallis**	**67.15**	**50**		P		**P**	**13 51 07.1**	**+0.8**
COR					pmax	pmax			
	comp=Z,30nm,1.0s								
COR	**Corvallis**	**67.15**	**50**		P		**P**	**13 51 08.6**	**+2.3**
LTY	**Liberty**	**67.18**	**47**		P		**P**	**13 51 07.2**	**+0.6**
LTY					IAmb	IAmb		13 51 08.0	
	comp=Z,9.5nm,0.7s								
B08A	**Colville Reser**	**67.30**	**45**		P		**P**	**13 51 07.5**	**+0.3**
EDM	**Edmonton**	**67.55**	**39**		P		**P**	**13 51 08.4**	**-0.3**
EDM					IAmb	IAmb		13 51 10.2	
	comp=Z,17nm,0.8s								
EDM	**Edmonton**	**67.55**	**39**		P		**P**	**13 51 08.4**	**-0.3**
BUCK	**Buck Mountain**	**67.56**	**51**		P		**P**	**13 51 08.8**	**-0.3**
BUCK					IAmb	IAmb		13 51 15.3	
	comp=Z,18nm,1.1s								
H04A	**Detroit Lake**	**67.76**	**50**		P		**P**	**13 51 11.4**	**+1.2**
H04A					IAmb	IAmb		13 51 12.5	
	comp=Z,14nm,0.9s								
VSU	**Vasula**	**67.78**	**329**	*d*	*i*P		**P**	**13 51 10.4**	**+0.4**
VSU					pmax	pmax			
	comp=Z,197nm,2.0s								
VSU	**Vasula**	**67.78**	**329**		*e*P		**P**	**13 51 11.0**	**+1.0**
SUMG	**Summit**	**67.92**	**360**	*i*	P		**P**	**13 51 12.0**	**+0.8**
SUMG					IAmb	IAmb		13 51 13.0	
	comp=Z,22nm,0.8s								
RAF	**Rauma**	**67.94**	**333**		*e*P		**P**	**13 51 11.5**	**+0.5**
DBO	**Dodson Butte**	**68.01**	**52**		P		**P**	**13 51 13.2**	**+1.3**
D08A	**Wollman Farm,**	**68.28**	**46**		P		**P**	**13 51 13.0**	**-0.4**
D08A					IAmb	IAmb		13 51 14.9	
	comp=Z,12nm,0.6s								
NCK	**Nalchik**	**68.39**	**309**	⇓	*e*P		**P**	**13 51 15.6**	**+1.4**
NCK					pmax	pmax			
	comp=Z,10.0nm,0.4s								
HUMO	**Hull Mountain**	**68.47**	**52**		P		**P**	**13 51 15.5**	**+0.8**
NEW	**Newport**	**68.56**	**45**		P		**P**	**13 51 16.1**	**+0.9**
NEW					IAmb	IAmb		13 51 17.2	
	comp=Z,17nm,1.0s								
NEW	**Newport**	**68.56**	**45**		P		**P**	**13 51 16.1**	**+0.9**
	baz=306,SNR=12								
NEW	**Newport**	**68.56**	**45**		P		**P**	**13 51 16.1**	**+0.9**
NEW					pmax	pmax			
	comp=Z,17nm,1.0s								
ZEI	**Tsey**	**68.61**	**308**		*e*P		**P**	**13 51 12.7**	**-3.1**
ZEI					pmax	pmax			
	comp=Z,13nm,1.1s								
KIV	**Kislovodsk**	**68.67**	**310**	⇓	P		**P**	**13 51 16.2**	**+0.2**
KIV	**Kislovodsk**	**68.67**	**310**		*e*P		**P**	**13 51 16.9**	**+0.9**
KIV					*e**PP		**pP**	**13 51 52.8**	**-0.2**
KIV					*e*S		**S**	**14 00 08.6**	**+2.1**
KIV					pmax	pmax			
	comp=Z,59nm,1.0s								
KIV	**Kislovodsk**	**68.67**	**310**		P		**P**	**13 51 17.3**	**+1.3**
KIV	**Kislovodsk**	**68.67**	**310**		P		**P**	**13 51 17.8**	**+1.8**
KIV					pP		**pP**	**13 51 53.8**	**+0.8**
KBZ	**Khabaz**	**68.68**	**310**		P		**P**	**13 51 16.9**	**+1.0**
	comp=Z,21nm,0.9s,baz=64,slow=3.8,SNR=39								
KBZ					pP		**pP**	**13 51 52.2**	**-0.6**
	comp=Z,8.2nm,0.7s,baz=359,slow=4.4,SNR=3.9								
	comp=Z,21nm,0.9s								
MTSE	**Matsula**	**68.76**	**330**		*e*P		**P**	**13 51 17.4**	**+1.3**
JCC	**Jacoby Creek,**	**68.83**	**54**		P		**P**	**13 51 16.0**	**-0.8**
JCC					IAmb	IAmb		13 51 35.1	
	comp=Z,24nm,1.0s								
KHMM	**Horse Mountain**	**68.98**	**54**		P		**P**	**13 51 18.4**	**+0.3**
ONI	**Oni**	**69.00**	**308**		P		**P**	**13 51 18.5**	**+0.5**
ONI					IAmb	IAmb		13 51 20.4	
	comp=Z,14nm,1.0s								
ONI	**Oni**	**69.00**	**308**		P		**P**	**13 51 18.5**	**+0.5**
ONI					pmax	pmax			
	comp=Z,14nm,1.0s								
PINE	**Pine Mountain**	**69.00**	**50**		P		**P**	**13 51 19.9**	**+1.8**
E09A	**Wood Farm, Sta**	**69.03**	**47**		P		**P**	**13 51 19.1**	**+1.1**
E09A					IAmb	IAmb		13 51 20.3	
	comp=Z,20nm,1.0s								
NEY	**Neytrino**	**69.06**	**309**	⇑	*e*P		**P**	**13 51 19.8**	**+1.3**
NEY					pmax	pmax			
	comp=Z,4.0nm,0.8s								
YBH	**Yreka Blue Hor**	**69.12**	**53**		P		**P**	**13 51 18.9**	**+0.1**
YBH	**Yreka Blue Hor**	**69.12**	**53**		P		**P**	**13 51 18.9**	**+0.1**
YBH					pmax	pmax			
	comp=Z,6.0nm,0.7s								
AAL	**Aland**	**69.16**	**333**		*e*P		**P**	**13 51 19.0**	**+0.5**
G08A	**Pilot Rock**	**69.28**	**48**		P		**P**	**13 51 19.5**	**-0.2**
SCO	**Scoresbysund**	**69.30**	**354**		P		**P**	**13 51 20.6**	**+1.4**
SCO	**Scoresbysund**	**69.30**	**354**		P		**P**	**13 51 20.6**	**+1.4**
SCO					pmax	pmax			
	comp=Z,11nm,0.9s								
AFI	**Afiamalu**	**69.35**	**130**		P		**P**	**13 51 20.1**	**-0.3**
	comp=Z,18nm,0.8s,baz=192,slow=8.6,SNR=3.8								
	comp=Z,18nm,0.8s								
WSAR	**Wadi Sarin**	**69.62**	**284**		P		**P**	**13 51 23.2**	**+1.2**
K05A	**Summer Lake**	**69.65**	**51**		P		**P**	**13 51 22.8**	**+0.7**
JLN	**Jalan Bani Buh**	**69.66**	**282**		P		**P**	**13 51 23.3**	**+1.0**
I07A	**Izee**	**69.68**	**49**		P		**P**	**13 51 22.6**	**+0.4**
WBK	**Wadi Bani Khal**	**69.73**	**283**		P		**P**	**13 51 24.1**	**+1.4**
	SNR=6.5								
WALA	**Waterton Lakes**	**69.78**	**43**		P		**P**	**13 51 22.5**	**-0.3**
WALA					IAmb	IAmb		13 51 24.7	
	comp=Z,13nm,0.7s								
BIDO	**Bidbid**	**69.83**	**284**		P		**P**	**13 51 24.9**	**+1.6**
MNK	**Minsk**	**69.89**	**325**	*i*	P		**P**	**13 51 22.1**	**-1.1**
	comp=E,3.0nm,1.0s								
MNK				*i*	P		**P**	**13 51 22.1**	**-1.1**
	comp=N,35nm,0.9s								
MNK				*i*	P		**P**	**13 51 22.1**	**-1.1**
	comp=Z,44nm,1.0s,baz=229								
MNK				*i*	pP		**pP**	**13 51 58.4**	**-2.1**
MNK				*i*	PP		**PP**	**13 53 58.5**	**-0.6**
MNK				*i*	PPP	PPP		13 55 41.7	
MNK				*i*	S		**S**	**14 00 20.5**	**+0.3**
MNK				*i*	sS		**sS**	**14 01 23.9**	**+0.6**
MNK				*i*	SS		**SS**	**14 04 53.5**	**+2.4**
MNK				*i*	SSS	SSS		14 08 12.3	
MNK				*i*	LRM	MLR		14 24 34.9	
	comp=E,12nm,19.8s								
MNK				*i*	LRM	MLR		14 24 55.0	
	comp=N,307nm,24.9s								
MNK				*i*	LRM	MLR		14 24 55.0	
	comp=Z,65nm,17.2s								
MNK	**Minsk**	**69.89**	**325**	*i*	P		**P**	**13 51 22.0**	**-1.1**
MNK				*i*	*PP		**pP**	**13 51 58.3**	**-2.1**
MNK				*i*				13 53 58.4	
MNK				*i*	PPP	PPP		13 55 41.7	
MNK				*i*	S		**S**	**14 00 20.4**	**+0.3**
MNK				*i*	SS		**SS**	**14 04 53.4**	**+2.4**
MNK					pmax	pmax			
	comp=N,35nm,0.9s								
MNK					pmax	pmax			
	comp=Z,44nm,1.0s								
MNK					pmax	pmax			
	comp=E,3.0nm,1.0s								
MNK					MLR	MLR			
	comp=E,12nm,20.0s								
MNK					MLR	MLR			
	comp=Z,65nm,17.0s								
MNK					MLR	MLR			
	comp=N,307nm,25.0s								
ISAL	**Salakas**	**69.94**	**327**		*e*P		**P**	**13 51 26.2**	**+2.8**
SLIT	**Slitere, Latvi**	**70.09**	**330**		*e*P		**P**	**13 51 24.2**	**0.0**
NACGM	**Naroch**	**70.10**	**326**		*e*P		**P**	**13 51 24.9**	**+0.5**
	comp=Z,60nm,0.9s,baz=48								
SMDO	**Samad**	**70.16**	**284**		P		**P**	**13 51 26.6**	**+1.2**
UOSS	**Minazif**	**70.44**	**286**		P		**P**	**13 51 26.0**	**-1.0**
UOSS					IAmb	IAmb		13 51 41.4	
	comp=Z,14nm,1.1s								
HOPS	**Hopland Field**	**70.48**	**55**		P		**P**	**13 51 27.0**	**0.0**
BMO	**Blue Mountains**	**70.48**	**48**		P		**P**	**13 51 27.5**	**+0.4**
BMO					IAmb	IAmb		13 51 29.1	
	comp=Z,9.6nm,0.7s								
BMO	**Blue Mountains**	**70.48**	**48**		P		**P**	**13 51 27.5**	**+0.4**
BMO					pmax	pmax			
	comp=Z,10.0nm,0.7s								
MOD	**Modoc Plateau**	**70.49**	**51**		P		**P**	**13 51 25.9**	**-1.3**
MOD					IAmb	IAmb		13 51 29.3	
	comp=Z,11nm,0.6s								
JMDO	**Jabal Madar**	**70.52**	**283**		P		**P**	**13 51 28.4**	**+0.9**
	SNR=10.0								
VSVD	**Vaisvydziai**	**70.58**	**328**		*e*P		**P**	**13 51 28.1**	**+0.8**
ARMA	**Armidale**	**70.60**	**170**		P		**P**	**13 51 26.6**	**-1.1**
ARMA					IAmb	IAmb		13 51 29.6	
	comp=Z,25nm,1.1s								
SOC	**Sochi**	**70.63**	**311**		*e*P		**P**	**13 51 27.3**	**-0.5**
SOC					*e*			13 54 05.8	
SOC					*e*PPP	PPP		13 55 49.1	
SOC					*e*S		**S**	**14 00 30.2**	**+1.0**
SOC					pmax	pmax			
	comp=Z,19nm,0.6s								
J08A	**Circle Bar Ran**	**70.71**	**49**		P		**P**	**13 51 27.2**	**-1.2**
J08A					IAmb	IAmb		13 51 31.0	
	comp=Z,13nm,0.8s								
PABE	**Paberze**	**70.89**	**327**		P		**P**	**13 51 28.8**	**-0.4**
PABE	**Paberze**	**70.89**	**327**		*e*P		**P**	**13 51 30.4**	**+1.3**
ILULI	**Ilulissat**	**70.95**	**4**		P		**P**	**13 51 29.8**	**+0.5**
ILULI					IAmb	IAmb		13 51 30.7	
	comp=Z,19nm,0.7s								
ILULI	**Ilulissat**	**70.95**	**4**	*i*	P		**P**	**13 51 28.9**	**-0.3**
ILULI					IAmb	IAmb		13 51 30.4	
	comp=Z,19nm,0.9s								
ILULI	**Ilulissat**	**70.95**	**4**		P		**P**	**13 51 29.8**	**+0.5**
ILULI					pmax	pmax			
	comp=Z,19nm,0.7s								
BSY	**Bisya**	**70.98**	**284**		P		**P**	**13 51 31.1**	**+0.8**
PLID	**Pearl Lake**	**71.08**	**47**		P		**P**	**13 51 30.9**	**0.0**
MSO	**Missoula**	**71.14**	**44**		P		**P**	**13 51 31.8**	**+0.7**
	baz=308,SNR=7.0								
WVOR	**Wild Horse Val**	**71.17**	**50**		P		**P**	**13 51 30.6**	**-0.7**
WVOR					IAmb	IAmb		13 51 33.1	
	comp=Z,8.3nm,0.6s								
WVOR	**Wild Horse Val**	**71.17**	**50**		P		**P**	**13 51 30.6**	**-0.7**
WVOR					pmax	pmax			
	comp=Z,8.0nm,0.6s								
FORT	**Forrest**	**71.19**	**191**		P		**P**	**13 51 31.1**	**0.0**
NC405	**NORSAR Array S**	**71.20**	**336**		P		**P**	**13 51 30.6**	**-0.4**
ANN	**Anapa**	**71.21**	**313**		*e*P		**P**	**13 51 30.0**	**-1.3**
ANN					*e*			13 51 46.3	
ANN					*e**PP		**pP**	**13 52 05.9**	**-2.6**
ANN					*e*S		**S**	**14 00 35.7**	**0.0**
ANN					pmax	pmax			
	comp=Z,56nm,1.3s								
NC303	**NORSAR Array S**	**71.22**	**337**		P		**P**	**13 51 31.1**	**0.0**
NC303					IAmb	IAmb		13 51 33.2	
	comp=Z,36nm,1.1s								
DOMB	**Dombas**	**71.26**	**338**		*e*P		**P**	**13 51 31.9**	**+0.6**
DOMB					IAmb	IAmb		13 51 32.5	
	comp=Z,27nm,0.7s								
STKA	**Stephens Creek**	**71.32**	**179**		P		**P**	**13 51 32.2**	**+0.3**
	comp=Z,33nm,0.7s,baz=345,slow=7.0,SNR=83								
	comp=Z,33nm,0.7s								
STKA	**Stephens Creek**	**71.32**	**179**		P		**P**	**13 51 32.4**	**+0.4**
STKA	**Stephens Creek**	**71.32**	**179**		P		**P**	**13 51 32.4**	**+0.4**
STKA					pmax	pmax			
	comp=Z,8.0nm,0.9s								
HFS	**Hagfors**	**71.33**	**335**		LR	LR		14 28 17.3	
	comp=Z,49nm,19.0s,baz=266,slow=40								
NC204	**NORSAR Array S**	**71.37**	**337**		P		**P**	**13 51 32.6**	**+0.5**
NB201	**NORSAR Array S**	**71.38**	**337**		P		**P**	**13 51 32.6**	**+0.5**
NB2	**NORSAR Subarra**	**71.41**	**337**		P		**P**	**13 51 32.1**	**-0.2**
	comp=Z,15nm,0.6s,baz=40,slow=6.5								
NB2	**NORSAR Subarra**	**71.41**	**337**		P		**P**	**13 51 32.1**	**-0.2**
	baz=40,slow=6.5								
NOA	**NORSAR Array B**	**71.41**	**337**		P		**P**	**13 51 32.1**	**-0.2**
	comp=Z,20nm,0.8s,baz=39,slow=6.1,SNR=58								
NOA					pP		**pP**	**13 52 08.8**	**-0.9**
	comp=Z,5.5nm,0.7s,baz=39,slow=6.1,SNR=3.8								
NOA					LR	LR		14 27 36.7	
	comp=Z,42nm,18.2s,baz=345,slow=40								
	comp=Z,20nm,0.8s								
ICESG	**Greenland Ices**	**71.42**	**0**	*i*	P		**P**	**13 51 33.3**	**+0.7**
ICESG					IAmb	IAmb		13 51 34.1	
	comp=Z,31nm,0.7s								
MHTO	**MHTO**	**71.43**	**282**		P		**P**	**13 51 34.0**	**+1.0**
	SNR=31								
VIKU	**Vikbolandet**	**71.54**	**333**		*e*P		**P**	**13 51 33.3**	**+0.3**
NC602	**NORSAR Array S**	**71.55**	**336**		P		**P**	**13 51 32.3**	**-0.7**
NC602	**NORSAR Array S**	**71.55**	**336**		*e*P		**P**	**13 51 33.2**	**+0.1**
NBO00	**NORSAR Array S**	**71.55**	**337**		P		**P**	**13 51 32.3**	**-0.8**
NAO01	**NORSAR Array S**	**71.67**	**337**		P		**P**	**13 51 33.8**	**0.0**
FFC	**Flin Flon**	**71.70**	**33**		P		**P**	**13 51 34.7**	**+0.7**
FFC					IAmb	IAmb		13 51 35.4	
	comp=Z,23nm,0.8s								
FFC	**Flin Flon**	**71.70**	**33**		P		**P**	**13 51 34.7**	**+0.7**
FFC					pmax	pmax			
	comp=Z,23nm,0.8s								
FFC	**Flin Flon**	**71.70**	**33**		P		**P**	**13 51 34.5**	**+0.5**
FFC					pP		**pP**	**13 52 10.7**	**-0.7**
FFC					sP		**sP**	**13 52 28.1**	**+0.1**
AKN	**Aaknes**	**71.73**	**339**		*e*P		**P**	**13 51 34.9**	**+0.8**
AKN					IAmb	IAmb		13 51 35.6	
	comp=Z,13nm,0.8s								
AKASG	**Malin Array Be**	**71.76**	**321**		P		**P**	**13 51 34.6**	**+0.1**
	comp=Z,17nm,0.5s,baz=45,slow=6.6,SNR=120								
AKASG					pP		**pP**	**13 52 10.8**	**-1.0**
	comp=Z,11nm,0.9s,baz=44,slow=6.6,SNR=2.8								
	comp=Z,17nm,0.5s								
AKASG	**Malin Array Be**	**71.76**	**321**		P		**P**	**13 51 34.8**	**+0.3**
AKASG					IAmb	IAmb		13 51 35.5	
	comp=Z,29nm,0.9s								
AKBB	**Malin Array Si**	**71.76**	**321**		P		**P**	**13 51 34.6**	**+0.1**
AKBB					IAmb	IAmb		13 51 35.6	
	comp=Z,28nm,0.8s								
AKBB	**Malin Array Si**	**71.76**	**321**		P		**P**	**13 51 34.6**	**+0.1**
AKBB					pmax	pmax			
	comp=Z,28nm,0.9s								
FCC	**Fort Churchill**	**71.79**	**27**		P		**P**	**13 51 34.5**	**0.0**
FCC					IAmb	IAmb		13 51 35.4	
	comp=Z,13nm,0.8s								
FCC	**Fort Churchill**	**71.79**	**27**		P		**P**	**13 51 34.5**	**0.0**
FCC					pmax	pmax			
	comp=Z,13nm,0.8s								
MFID	**Camas Ranch**	**72.20**	**48**		P		**P**	**13 51 37.7**	**+0.2**
MPK	**Martis Peak**	**72.20**	**54**		P		**P**	**13 51 37.8**	**+0.1**
MPK					IAmb	IAmb		13 51 40.1	
	comp=Z,18nm,0.9s								
MORW	**Morawa**	**72.25**	**203**		P		**P**	**13 51 37.4**	**-0.2**
HRY	**Holter Researc**	**72.34**	**44**		P		**P**	**13 51 38.9**	**+0.6**
BBOO	**Buckleboo**	**72.38**	**184**		P		**P**	**13 51 38.1**	**-0.1**
BBOO					IAmb	IAmb		13 51 39.3	
	comp=Z,34nm,0.8s								
DQM	**DQM**	**72.38**	**281**		P		**P**	**13 51 39.2**	**+0.5**
UMZA	**Um Al Zommool**	**72.51**	**285**		P		**P**	**13 51 39.9**	**+0.5**
SKAR	**Skarslia**	**72.57**	**338**	*e*			**P**	**13 51 39.9**	**+0.7**
LRM	**Limekiln Ridge**	**72.58**	**45**		P		**P**	**13 51 40.6**	**+0.8**
EGMT	**Eagleton**	**72.58**	**42**		P		**P**	**13 51 40.0**	**+0.4**
EGMT					IAmb	IAmb		13 51 41.4	
	comp=Z,24nm,0.7s								
EGMT	**Eagleton**	**72.58**	**42**		P		**P**	**13 51 40.6**	**+1.0**
	baz=310,SNR=14								
CMB	**Columbia Colle**	**72.74**	**55**		P		**P**	**13 51 41.2**	**+0.6**
CMB					IAmb	IAmb		13 51 42.7	
	comp=Z,13nm,0.8s								
CMB	**Columbia Colle**	**72.74**	**55**		P		**P**	**13 51 41.2**	**+0.6**
CMB					pmax	pmax			
	comp=Z,13nm,0.8s								
HYA	**Hoyanger**	**72.78**	**339**		*e*P		**P**	**13 51 41.2**	**+0.9**
HYA					IAmb	IAmb		13 51 41.7	
	comp=Z,47nm,1.1s								
DLMT	**Dillon**	**72.79**	**45**				**P**	**13 51 40.8**	**-0.1**
MZWR	**Madinat Zayed**	**72.84**	**287**		P		**P**	**13 51 41.3**	**-0.1**
YERR	**Yerington**	**72.88**	**53**		P		**P**	**13 51 41.5**	**-0.1**
YERR					IAmb	IAmb		13 51 44.0	
	comp=Z,21nm,0.8s								
JRN	**Qarnain Island**	**72.91**	**288**		P		**P**	**13 51 41.4**	**-0.3**
HLID	**Hailey**	**72.92**	**47**		P		**P**	**13 51 43.0**	**+1.2**
HLID	**Hailey**	**72.92**	**47**		P		**P**	**13 51 42.9**	**+1.2**
	baz=309,SNR=6.3								
SIM	**Simferopol'**	**72.96**	**315**		*e*P		**P**	**13 51 40.8**	**-0.9**
SIM					S		**SKSac**	**14 01 23.1**	**-10**
SIM					pmax	pmax			
	comp=Z,35nm,0.9s								
KONO	**Kongsberg**	**73.01**	**336**		P		**P**	**13 51 41.6**	**-0.1**
KONO					IAmb	IAmb		13 51 43.1	
	comp=Z,13nm,0.7s								
KONO	**Kongsberg**	**73.01**	**336**		P		**P**	**13 51 41.6**	**-0.1**
KONO					pmax	pmax			
	comp=Z,13nm,0.7s								
KONO	**Kongsberg**	**73.01**	**336**	*e*	P		**P**	**13 51 42.5**	**+0.8**
BCYI	**Bear Canyon**	**73.01**	**46**		P		**P**	**13 51 42.8**	**+0.4**
KLNR	**Kaliningrad**	**73.06**	**328**	*e*	P		**P**	**13 51 42.8**	**+0.7**
KLNR					pmax	pmax			
	comp=Z,54nm,1.3s								
BOZ	**Bozeman (W)**	**73.17**	**44**		P		**P**	**13 51 42.4**	**-0.7**
BOZ					IAmb	IAmb		13 51 45.2	
	comp=Z,20nm,0.7s								
BOZ	**Bozeman (W)**	**73.17**	**44**		P		**P**	**13 51 44.4**	**+1.2**
	baz=310,SNR=26								
BOZ	**Bozeman (W)**	**73.17**	**44**		P		**P**	**13 51 42.4**	**-0.7**
BOZ					pmax	pmax			
	comp=Z,20nm,0.7s								
SFJD	**Kangerlussuaq**	**73.18**	**5**		LR	LR		14 26 36.8	
	comp=Z,46nm,18.6s,baz=192,slow=38								
SFJD	**Kangerlussuaq**	**73.18**	**5**		P		**P**	**13 51 41.9**	**-0.7**
SFJD					IAmb	IAmb		13 51 44.0	
	comp=Z,21nm,0.9s								
SFJD	**Kangerlussuaq**	**73.18**	**5**	*i*	P		**P**	**13 51 42.6**	**+0.1**
SFJD					IAmb	IAmb		13 51 43.7	
	comp=Z,19nm,0.8s								
SFJD	**Kangerlussuaq**	**73.18**	**5**		P		**P**	**13 51 41.9**	**-0.7**
SFJD					pmax	pmax			
	comp=Z,21nm,0.9s								
BBGB	**Big Mountain B**	**73.21**	**56**		P		**P**	**13 51 42.0**	**-1.5**
BBGB					IAmb	IAmb		13 51 48.0	
	comp=Z,30nm,0.9s								
SUE	**Sulen**	**73.27**	**339**	*e*	P		**P**	**13 51 44.2**	**+1.0**
GHWR	**Ruwais**	**73.46**	**288**		P		**P**	**13 51 45.4**	**+0.4**
KVN	**Kaiserville**	**73.54**	**53**		P		**P**	**13 51 43.3**	**-2.2**
KVN					IAmb	IAmb		13 51 47.9	
	comp=Z,22nm,0.8s								
KVN	**Kaiserville**	**73.54**	**53**		P		**P**	**13 51 43.3**	**-2.2**
KVN					pmax	pmax			
	comp=Z,22nm,0.8s								
ASK	**Askoy**	**73.62**	**339**		*e*P		**P**	**13 51 46.1**	**+0.8**
ASK					IAmb	IAmb		13 51 47.2	
	comp=Z,60nm,1.0s								
BER	**Bergen**	**73.67**	**339**		*e*P		**P**	**13 51 46.5**	**+1.0**
ODD1	**Odda**	**73.69**	**338**		*e*P		**P**	**13 51 46.5**	**+0.7**
SHMA	**Al-Shehemyia**	**73.73**	**290**		P		**P**	**13 51 46.7**	**+0.2**
NVAR	**Mina Array Bea**	**73.80**	**53**		P		**P**	**13 51 48.5**	**+1.5**
	comp=Z,12nm,0.7s,baz=290,slow=5.4,SNR=89								
	comp=Z,12nm,0.7s								
NVAR	**Mina Array Bea**	**73.80**	**53**		P		**P**	**13 51 46.1**	**-0.9**
NV11	**Mina Array Sit**	**73.89**	**53**		P		**P**	**13 51 46.2**	**-1.3**
SORM	**Soroca**	**73.89**	**320**	⇑	P		**P**	**13 51 47.2**	**+0.1**
SORM	**Soroca**	**73.89**	**320**		P		**P**	**13 51 47.9**	**+0.8**
DY2G	**Dye2**	**73.92**	**3**	*i*	P		**P**	**13 51 47.9**	**+0.7**
DY2G					IAmb	IAmb		13 51 48.6	
	comp=Z,140nm,1.6s								
SAKB	**Bahrain**	**73.97**	**291**		P		**P**	**13 51 46.9**	**-1.1**
DEL	**Delary**	**74.08**	**332**		*e*P		**P**	**13 51 48.6**	**+0.6**
BLS5	**Blasjo**	**74.14**	**338**		*e*		**P**	**13 51 49.0**	**+0.6**
ELK	**Elko**	**74.21**	**50**		P		**P**	**13 51 49.8**	**+0.4**
ELK	**Elko**	**74.21**	**50**		P		**P**	**13 51 49.8**	**+0.4**
ELK					pmax	pmax			
	comp=Z,5.0nm,0.6s								
SLWR	**Sila**	**74.27**	**288**		P		**P**	**13 51 50.2**	**+0.5**
MILM	**Milestii Mici**	**74.48**	**319**		*e*P		**P**	**13 51 51.0**	**+0.5**
	comp=Z,20nm,0.5s								
MILM	**Milestii Mici**	**74.48**	**319**		*e*P		**P**	**13 51 51.0**	**+0.5**
MILM					pmax	pmax			
	comp=Z,20nm,0.5s								
SMRA	**Abu-Samra**	**74.50**	**289**		P		**P**	**13 51 50.9**	**-0.1**
H17A	**Grant Village**	**74.51**	**45**		P		**P**	**13 51 54.1**	**+2.9**
	baz=311,SNR=21								
SMMC	**Simmler**	**74.65**	**57**		P		**P**	**13 51 53.6**	**+1.8**
	baz=308								
DSP	**Deep Springs**	**74.66**	**54**		P		**P**	**13 51 51.2**	**-0.6**
DSP					IAmb	IAmb		13 51 54.5

TIRR Tirgusor 76.34 317 P P 13 52 01.7 +0.5
STHS Stebnicka Huta 76.37 324 eP P 13 52 02.2 +0.9
STHS pmax pmax
comp=Z,12nm,0.6s
STHS Stebnicka Huta 76.37 324 eP P 13 52 02.2 +0.9
DECC Green Verdugo 76.38 57 P P 13 52 02.5 +0.9
baz=309
OJC Ojcow 76.42 325 eP P 13 52 02.6 +1.0
OJC epP pP 13 52 39.9 +0.5
OJC Ojcow 76.42 325 P P 13 52 01.4 -0.2
OJC Ojcow 76.42 325 P P 13 52 01.4 -0.2
OJC pmax pmax
comp=Z,45nm,1.0s
WHFO Wadi Hawf 76.43 282 P P 13 52 01.6 -0.5
SNR=6.1
HARR Harsova 76.44 317 ⇓P P 13 52 02.5 +0.7
HARR Harsova 76.44 317 P P 13 52 02.4 +0.7
UZH Uzhgorod 76.46 323 eP P 13 52 02.2 +0.5
UZH i 13 52 17.5
TLBR Topalu 76.48 317 ⇑P P 13 52 02.8 +0.8
BISRR Bisoca 76.48 319 ⇑P P 13 52 03.9 +1.8
COVR Voineasa-Covas 76.53 319 ⇑P P 13 52 03.6 +1.3
OZUR 76.57 320 ⇓P P 13 52 04.0 +1.5
NLU North Lily Min 76.57 49 P P 13 52 02.5 -0.4
ARCR ARCALIA 76.58 321 ⇑P P 13 52 04.6 +2.1
BR131 Keskin Array S 76.59 311 d/P P 13 52 03.5 +0.6
BR131 Keskin Array S 76.59 311 P P 13 52 03.7 +0.8
SNR=6.7
BRTR Keskin Array B 76.59 311 P P 13 52 03.5 +0.6
comp=Z,4.3nm,0.6s,baz=99,slow=3.5,SNR=19
BRTR pP pP 13 52 39.5 -1.2
comp=Z,2.7nm,0.8s,baz=72,slow=4.0,SNR=3.0
BRTR LR LR 14 29 27.6
comp=Z,37nm,18.7s,baz=344,slow=38
comp=Z,4.3nm,0.6s
BRTR Keskin Array B 76.59 311 P P 13 52 02.4 -0.5
CRVS Cervenica-Dubn 76.64 324 eP P 13 52 04.0 +1.2
CRVS e 13 52 41.2
CRVS Cervenica-Dubn 76.64 324 eP P 13 52 04.0 +1.2
CRVS epP pP 13 52 41.2 +0.6
SHOC Shoshone, Teco 76.65 54 P P 13 52 04.4 +1.3
baz=310
GSC Goldstone, Bar 76.69 55 P P 13 52 04.5 +1.1
baz=310,SNR=8.1
TRPA Tarpa 76.70 323 ⇑P P 13 52 04.8 +1.7
FMP Fort Macarthur 76.74 57 P P 13 52 04.6 +1.0
baz=309
NIE Niedzica 76.79 325 eP P 13 52 05.4 +1.7
BFSC Mount Baldy Ra 76.82 56 P P 13 52 05.0 +0.7
baz=309
DOPR Dopca 76.85 320 ⇓P P 13 52 06.5 +2.4
CIS Catalina Islan 76.86 58 P P 13 52 05.5 +1.2
baz=309
ISR Istrita 76.86 318 ⇑P P 13 52 06.0 +1.8
ISR Istrita 76.86 318 P P 13 52 05.9 +1.8
ICOR Ion Corvin 76.90 317 ⇑P P 13 52 06.0 +1.7
MLR Muntele Rosu 76.91 319 LR LR 14 28 54.0
comp=Z,76nm,18.2s,baz=50,slow=38
MLR Muntele Rosu 76.91 319 ⇑P P 13 52 05.6 +1.1
MLR Muntele Rosu 76.91 319 P P 13 52 03.9 -0.7
MLR Muntele Rosu 76.91 319 P P 13 52 05.6 +1.1
ABTO Aybut 77.13 282 P P 13 52 06.0 -0.1
SNR=8.2
TUQ Turquoise Moun 77.16 55 P P 13 52 07.3 +1.2
baz=310
RUE Ruedersdorf 77.20 330 eP P 13 52 06.9 +1.1
comp=Z,23nm,0.6s,baz=36,slow=5.3
CJR Cluj-Napoca 77.21 321 ⇑P P 13 52 07.6 +1.4
CJR Cluj-Napoca 77.21 321 P P 13 52 07.5 +1.4
HEC Hector,Ludlow 77.29 55 P P 13 52 07.9 +1.1
baz=310
BSEG Bad Segeberg 77.33 332 eP P 13 52 07.6 +1.1
comp=Z,32nm,1.0s,baz=36,slow=5.3
BSEG epP pP 13 52 45.0 +0.5
LANS Liptovska Anna 77.36 325 eP P 13 52 08.6 +1.7
LANS e 13 52 45.9
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 77.36 325 eP P 13 52 08.6 +1.7
LANS epP pP 13 52 45.9 +1.2
VOIR 77.39 319 ⇑P P 13 52 08.5 +1.2
VOIR 77.39 319 P P 13 52 08.4 +1.2
OKC Ostrava-Krasne 77.42 326 eP P 13 52 07.9 +0.7
OKC Ostrava-Krasne 77.42 326 eP P 13 52 07.9 +0.7
MARR Marisel-Cluj 77.47 321 ⇑P P 13 52 08.8 +1.2
ULM Lac du Bonnet 77.51 33 P P 13 52 07.5 -0.2
comp=Z,18nm,0.8s,baz=312,slow=6.7,SNR=20
comp=Z,18nm,0.8s
ULM Lac du Bonnet 77.51 33 P P 13 52 06.9 -0.7
ULM IAmb IAmb 13 52 08.5
comp=Z,18nm,0.8s
MURC Murrieta 77.52 57 P P 13 52 09.0 +0.9
baz=310
MDND Maddock 77.64 37 P P 13 52 09.2 +0.8
baz=317
ARR Arges 77.65 320 ⇑P P 13 52 10.5 +1.9
OSTC Ostas 77.70 327 eP P 13 52 10.0 +1.3
MORC Moravsky Berou 77.73 326 ⇓P P 13 52 10.3 +1.4
MORC Moravsky Berou 77.73 326 P P 13 52 09.7 +0.7
MORC IAmb IAmb 13 52 11.0
comp=Z,23nm,1.0s
MORC Moravsky Berou 77.73 326 eP P 13 52 09.8 +0.9
MORC epP pP 13 52 47.1 +0.3
MORC Moravsky Berou 77.73 326 P P 13 52 10.3 +1.4
GMRC Granite Mounta 77.74 55 P P 13 52 10.6 +1.2
baz=310,SNR=8.2
DPC Dobruska-Polom 77.81 327 eP P 13 52 10.7 +1.3
DPC ex x 13 52 48.1
DPC Dobruska-Polom 77.81 327 eP P 13 52 10.7 +1.3
DPC e 13 52 48.1
UPC Upice 77.82 328 eP P 13 52 10.6 +1.2
UPC Upice 77.82 328 eP P 13 52 10.6 +1.2
KRLC Kraliky 77.83 327 eP P 13 52 10.4 +0.9
KRLC Kraliky 77.83 327 eP P 13 52 10.4 +0.9
K22A Casper 77.87 44 P P 13 52 10.6 +0.6
baz=314
PFO Pinyon Flats O 77.99 56 P P 13 52 10.6 -0.1
PFO Pinyon Flats O 77.99 56 P P 13 52 11.6 +0.9
baz=310,SNR=6.2
PFO Pinyon Flats O 77.99 56 P P 13 52 10.6 -0.1
PFO pmax pmax
comp=Z,8.0nm,0.8s
TPFO Pinon Flats 77.99 56 P P 13 52 11.6 +0.8
baz=310,SNR=6.6
109C Camp Elliot, M 78.03 57 P P 13 52 11.6 +0.8
baz=310
PSZ Piszkesteto 78.08 324 ⇑P P 13 52 11.9 +1.0
PSZ Piszkesteto 78.08 324 P P 13 52 11.9 +1.0
VYHS Vyhne 78.12 325 eP P 13 52 12.2 +1.1
VYHS pmax pmax
comp=Z,17nm,1.3s
VYHS Vyhne 78.12 325 eP P 13 52 12.2 +1.1
RSSD Black Hills 78.15 42 P P 13 52 11.7 +0.1
RSSD Black Hills 78.15 42 P P 13 52 12.0 +0.4
baz=315
RSSD Black Hills 78.15 42 P P 13 52 11.7 +0.1
RSSD pmax pmax
comp=Z,11nm,0.9s
FLTG Flechtingen 78.28 331 eP P 13 52 12.2 +0.4
comp=Z,31nm,1.0s,baz=36,slow=5.3
FLTG epP pP 13 52 49.3 -0.4
JAVC Velka Javorina 78.36 326 eP P 13 52 14.2 +1.7
JAVC epP pP 13 52 51.5 +1.1
BRG Berggiesshubel 78.38 329 Amp 13 52 14.3
comp=Z,11nm,1.0s
BRG Berggiesshubel 78.38 329 Amp 13 52 53.7
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 78.38 329 i P P 13 52 13.2 +0.8
BRG 13 52 27.2
BRG 13 52 50.8
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 78.38 329 eP P 13 52 13.3 +0.9
comp=Z,11nm,1.0s,baz=36,slow=5.3
BRG epP pP 13 52 50.3 -0.1
BRG Berggiesshubel 78.38 329 i P P 13 52 13.3 +0.9
BRG Berggiesshubel 78.38 329 P P 13 52 27.2 +15
BRG Berggiesshubel 78.38 329 Amp 13 52 27.8
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 78.38 329 pP pP 13 52 50.8 +0.5

CLL Collm 78.41 330 ⇓i P P 13 52 12.9 +0.3
comp=Z,23nm,1.0s
CLL eP cP PcP 13 52 21.0 -0.2
CLL i pP pP 13 52 50.0 -0.5
CLL es P sP 13 53 07.0 +0.1
CLL Collm 78.41 330 ⇓i P P 13 52 12.9 +0.3
CLL i *PP pP 13 52 50.0 -0.5
CLL pmax pmax
comp=Z,23nm,1.0s
CLL Collm 78.41 330 eP P 13 52 13.2 +0.6
comp=Z,23nm,1.0s,baz=36,slow=5.3
CLL epP pP 13 52 50.0 -0.5
SIRR Siria 78.46 322 ⇑P P 13 52 13.7 +0.7
MONP2 Monument Peak 78.47 57 P P 13 52 14.5 +0.9
baz=310
IRM Iron Mountain 78.47 55 P P 13 52 14.4 +1.1
baz=310,SNR=13
VRAC Vranov 78.49 326 eP P 13 52 14.2 +1.1
VRAC epP pP 13 52 51.3 +0.3
GZR Gura Zlata 78.55 321 ⇑P P 13 52 14.3 +0.7
GZR Gura Zlata 78.55 321 P P 13 52 14.2 +0.7
NRDL Niedersach Rie 78.56 332 eP P 13 52 14.2 +0.9
comp=Z,6.4nm,0.7s,baz=36,slow=5.3
FBE Freiberg 78.58 329 eP P 13 52 14.7 +1.2
comp=Z,23nm,1.0s,baz=36,slow=5.3
BC3 Big Chuckawall 78.60 56 P P 13 52 15.1 +1.0
baz=310
SURR Surduc 78.61 321 ⇑P P 13 52 15.0 +1.3
RETH Rethem/Aller, 78.64 332 eP P 13 52 14.3 +0.6
comp=Z,21nm,0.8s,baz=36,slow=5.3
O20A White River Ci 78.64 47 P P 13 52 15.0 +0.6
baz=313
ASSE Asse, Remlinge 78.65 331 eP P 13 52 14.4 +0.6
comp=Z,7.5nm,1.1s,baz=36,slow=5.3
SMOL Smolenice 78.73 325 eP P 13 52 16.2 +1.8
SMOL pmax pmax
comp=Z,7.0nm,0.8s
KRUC Moravsky 78.76 326 eP P 13 52 15.4 +0.9
KRUC epP pP 13 52 52.7 +0.2
GOPC GO Pecny, Ondr 78.78 328 eP P 13 52 15.9 +1.2
GOPC GO Pecny, Ondr 78.78 328 eP P 13 52 15.9 +1.2
PRU Pruhonice 78.83 328 eP P 13 52 15.8 +0.9
PRU Pruhonice 78.83 328 eP P 13 52 15.8 +0.9
IKP In-Ko-Pah, Jac 78.83 57 P P 13 52 16.2 +0.9
baz=310
SWSC Sam W. Stewart 78.84 56 P P 13 52 15.8 +0.5
baz=310
SRO Srobarova 78.87 325 eP P 13 52 16.7 +1.6
SRO e 13 52 53.9
SRO pmax pmax
comp=Z,24nm,1.1s
SRO Srobarova 78.87 325 eP P 13 52 16.7 +1.6
SRO epP pP 13 52 53.9 +0.8
MODS Modra-Piesok 78.90 325 eP P 13 52 17.1 +1.7
MODS e 13 52 53.9
MODS pmax pmax
comp=Z,34nm,1.2s
MODS Modra-Piesok 78.90 325 eP P 13 52 17.1 +1.7
MODS epP pP 13 52 53.9 +0.5
BZS Buzias 78.95 321 ⇓P P 13 52 16.4 +0.8
BZS Buzias 78.95 321 P P 13 52 16.4 +0.8
NEUB Neuenburg 78.97 330 eP P 13 52 16.4 +0.8
comp=Z,33nm,0.9s,baz=36,slow=5.3
AGMN Agassiz Nation 78.99 35 P P 13 52 15.6 -0.3
baz=319
CLZ Clausthal 78.99 331 eP P 13 52 16.9 +1.1
comp=Z,28nm,1.2s,baz=36,slow=5.3
CLZ epP pP 13 52 53.9 +0.1
PDMCI Parker Dam,Lak 79.01 54 P P 13 52 17.2 +1.1
baz=311,SNR=7.7
PLVB Pleven 79.06 318 ⇑P P 13 52 16.6 +0.3
IVI Ivigtut 79.08 4 eP P 13 52 15.6 -0.5
IVI IAmb IAmb 13 52 29.7
comp=Z,330nm,1.8s
RAYN Ar Rayn 79.09 291 P P 13 52 16.8 -0.1
RAYN IAmb IAmb 13 52 18.1
comp=Z,14nm,0.8s
RAYN Ar Rayn 79.09 291 P P 13 52 17.5 +0.7
RAYN Ar Rayn 79.09 291 P P 13 52 17.3 +0.5
BLYC Blythe 79.13 55 P P 13 52 16.9 +0.1
BLYC IAmb IAmb 13 52 19.0
comp=Z,19nm,0.7s
TANN Tannenbergstha 79.33 329 eP P 13 52 18.4 +0.7
comp=Z,5.4nm,1.0s,baz=36,slow=5.3
WERD Werda 79.36 329 eP P 13 52 18.7 +0.9
comp=Z,12nm,1.2s,baz=36,slow=5.3
GTTG Gottingen 79.38 331 eP P 13 52 18.9 +1.0
comp=Z,38nm,1.4s,baz=36,slow=5.3
GLA Glamis 79.39 56 P P 13 52 19.6 +1.2
baz=311
PLN Plauen 79.39 329 eP P 13 52 18.9 +0.9
comp=Z,21nm,1.4s,baz=36,slow=5.3
N23A Red Feather La 79.39 45 P P 13 52 19.9 +1.4
baz=314,SNR=7.0
GUNZ Gunzen 79.42 329 eP P 13 52 19.1 +1.0
comp=Z,13nm,1.1s,baz=36,slow=5.3
WERN Wernitzgruen 79.46 329 eP P 13 52 19.4 +1.0
comp=Z,17nm,1.1s,baz=36,slow=5.3
WERN epP pP 13 52 56.6 +0.2
MOX Moxa 79.48 330 eP P 13 52 19.2 +0.8
comp=Z,17nm,1.3s,baz=36,slow=5.3
NKC Novy Kostel 79.48 329 eP P 13 52 19.6 +1.2
NKC Novy Kostel 79.48 329 eP P 13 52 19.6 +1.2
MDVR Moldovita 79.52 321 ⇓P P 13 52 19.4 +0.6
IBBN Ibbenburen 79.56 333 eP P 13 52 19.5 +0.7
comp=Z,35nm,0.9s,baz=36,slow=5.3
IBBN epP pP 13 52 56.8 0.0
MANZ Manzenberg 79.81 329 eP P 13 52 21.2 +1.0
comp=Z,3.6nm,1.1s,baz=36,slow=5.3
MANZ epP pP 13 52 58.7 +0.4
CKRC Cesky Krumlov 79.83 327 eP P 13 52 21.1 +0.7
CKRC ex x 13 52 58.3
RONA Rosalia, Austr 79.84 326 i P P 13 52 22.1 +1.6
comp=Z,16nm,0.7s,SNR=8.9
RONA i pP pP 13 52 59.0 +0.4
comp=Z,0.2nm,0.3s
CONA Conrad Observa 79.86 326 i P P 13 52 22.1 +1.4
comp=Z,13nm,1.0s,SNR=7.7
CONA i pP pP 13 52 58.7 0.0
comp=Z,7.2nm,0.9s
KHC Kasperske Hory 79.89 328 P P 13 52 21.2 +0.5
KHC IAmb IAmb 13 52 22.7
comp=Z,16nm,0.8s
KHC Kasperske Hory 79.89 328 eP P 13 52 21.6 +0.9
KHC epP pP 13 52 58.7 -0.1
KHC Kasperske Hory 79.89 328 d/P P 13 52 21.6 +0.9
KHC pmax pmax
comp=Z,38nm,0.8s
MMAI Mount Meron Ar 79.90 305 LR LR 14 31 16.1
comp=Z,34nm,19.9s,baz=128,slow=38
MORH Mrgy, Hungar 79.91 323 ⇓P P 13 52 21.3 +0.5
WUAZ Wupatki 79.92 52 P P 13 52 22.7 +1.4
baz=312,SNR=12
ROTZ Rotzenmuhle 79.94 329 eP P 13 52 22.2 +1.3
comp=Z,4.0nm,1.1s,baz=36,slow=5.3
GEC2 GERESS Array S 80.06 328 eP P 13 52 22.4 +0.7
comp=Z,8.0nm,0.9s,baz=36,slow=5.3
GEC2 epP pP 13 53 00.2 +0.4
GERES GERESS Array B 80.06 328 P P 13 52 22.2 +0.5
comp=Z,4.5nm,0.7s,baz=35,slow=5.1,SNR=38
GERES pP pP 13 52 59.0 -0.8
comp=Z,2.1nm,0.8s,baz=57,slow=4.9,SNR=2.9
GERES PKKPbc PKKPbc 14 11 03.7 -0.2
comp=Z,0.5nm,0.5s,baz=204,slow=2.2,SNR=5.4
comp=Z,4.5nm,0.7s
FRGS Fruska Gora 80.16 322 ⇓P P 13 52 23.9 +1.8
FRGS Fruska Gora 80.16 322 ⇓i P P 13 52 23.5 +1.3
KASTN Kahler Asten 80.23 332 eP P 13 52 23.0 +0.5
comp=Z,9.8nm,0.9s,baz=36,slow=5.3
VTS Vitosha 80.32 318 ⇓P P 13 52 24.8 +1.5
VTS Vitosha 80.32 318 P P 13 52 24.8 +1.5
ISCO Idaho Springs 80.34 46 P P 13 52 25.0 +1.4
baz=314,SNR=5.9
BOVS Bovan 80.35 320 ⇑P P 13 52 23.1 -0.1
GRF Grafenberg Arr 80.39 329 eP P 13 52 24.7 +1.3
comp=Z,33nm,0.9s,baz=36,slow=5.3
GRF epP pP 13 53 01.8 +0.4
BUG Bochum--Univer 80.45 333 eP P 13 52 24.1 +0.5
comp=Z,17nm,1.0s,baz=36,slow=5.3
BUG epP pP 13 53 01.7 0.0
SUSD Miller 80.45 39 P P 13 52 24.2 +0.4
baz=318
MVCO Mesa Verde 80.49 49 P P 13 52 24.8 +0.4
MVCO Mesa Verde 80.49 49 P P 13 52 25.4 +0.9
baz=313,SNR=9.3

ARSA Arzberg 80.52 326 i P P 13 52 25.2 +1.1
comp=Z,5.1nm,0.7s
ARSA i pP pP 13 53 03.0 +0.7
comp=Z,9.1nm,1.3s
MOA Molln 80.60 327 i P P 13 52 25.4 +0.9
comp=Z,6.7nm,0.9s
DIVS Divibare 80.85 321 P P 13 52 26.3 +0.3
DIVS Divibare 80.85 321 ⇓i P P 13 52 26.1 +0.1
BIOA Bad Ischl, Aus 80.99 327 i P P 13 52 27.7 +1.1
comp=Z,14nm,0.6s,SNR=8.6
BIOA i pP pP 13 53 04.6 -0.1
comp=Z,8.3nm,1.1s
TNS Taunus Mts 81.02 331 eP P 13 52 27.4 +0.7
comp=Z,20nm,1.1s,baz=36,slow=5.3
TNS epP pP 13 53 05.2 +0.3
MILB Miltenberg 81.02 331 eP P 13 52 27.2 +0.5
comp=Z,12nm,1.0s,baz=36,slow=5.3
S22A 4UR Ranch, Cre 81.08 48 P P 13 52 27.7 +0.1
S22A 4UR Ranch, Cre 81.08 48 P P 13 52 29.2 +1.5
baz=314,SNR=8.7
EYMN Ely 81.12 33 P P 13 52 27.5 +0.2
baz=322
GROS Grobnik 81.14 325 i P P 13 52 27.9 +0.4
W18A Petrified Fore 81.18 51 P P 13 52 29.1 +1.0
baz=313
Q24A Divide 81.18 46 P P 13 52 29.0 +0.9
baz=315,SNR=5.3
SOKA Soboth 81.18 326 i P P 13 52 28.5 +0.8
comp=Z,20nm,0.8s,SNR=14
SOKA i pP pP 13 53 05.5 -0.4
comp=Z,15nm,1.2s
AHRW Bad Neuenahr-A 81.26 332 eP P 13 52 28.7 +0.8
comp=Z,28nm,1.1s,baz=36,slow=5.3
AHRW epP pP 13 53 05.8 -0.3
RJOB Jochberg 81.31 327 eP P 13 52 29.6 +1.3
comp=Z,21nm,0.9s,baz=36,slow=5.3
BBLS Lazići 81.31 321 ⇓i P P 13 52 29.1 +0.7
HAPS Han Pijesak,Bl 81.36 322 eP P 13 52 29.4 +0.7
214A Organ Pipe Nat 81.39 56 P P 13 52 29.9 +0.9
baz=312
OGNE Ogallala 81.45 43 P P 13 52 29.9 +0.6
baz=316
SJES Sjenica 81.48 321 ⇓i P P 13 52 30.1 +0.7
RUDO Rudo 81.51 321 eP P 13 52 29.4 0.0
OBKA Obir 81.52 326 i P P 13 52 30.1 +0.6
comp=Z,10nm,0.7s
OBKA Obir 81.52 326 eP P 13 52 29.7 +0.2
STIP Stip 81.53 318 i P P 13 52 29.4 -0.1
GCIS Gornji Cirnik 81.54 325 i P P 13 52 29.8 +0.3
BTNL Ternell 81.56 333 dP P 13 52 30.0 +0.5
comp=Z,12nm,1.0s
MEM Membach 81.58 333 dP P 13 52 30.0 +0.4
comp=Z,15nm,0.9s
MEM dpP pP 13 53 07.8 0.0
FUR Furstenfeldbru 81.59 328 eP P 13 52 30.8 +1.0
comp=Z,29nm,0.7s,baz=36,slow=5.3
KBA Koelnbreinsper 81.59 327 eP P 13 52 30.7 +0.7
comp=Z,18nm,0.9s,SNR=10
KBA i pP pP 13 53 08.8 +0.6
comp=Z,10nm,0.8s
VAY Valandovo 81.60 318 i P P 13 52 30.7 +0.8
A051A Mrakovica 81.62 323 eP P 13 52 30.0 0.0
CRES Cresnjev 81.65 325 ⇓i P P 13 52 29.9 -0.2
PDKS Podkum 81.67 325 eP P 13 52 30.4 +0.1
BLY Banja Luka 81.69 323 eP P 13 52 30.7 +0.4
BSTI Sart Tilman 81.76 333 dP P 13 52 31.4 +0.8
comp=Z,4.0nm,0.6s
BHOU Houvegnez 81.80 333 dP P 13 52 31.3 +0.6
MYKA Terra Mystica 81.82 326 eP P 13 52 31.2 +0.2
comp=Z,7.4nm,0.5s,SNR=6.3
SDCO Great Sand Dun 81.84 47 P P 13 52 32.8 +1.2
baz=315,SNR=7.3
STU Stuttgart 81.92 330 eP P 13 52 32.2 +0.8
comp=Z,68nm,0.9s,baz=36,slow=5.3
BCLA Clavier 81.99 333 dP P 13 52 31.9 +0.2
comp=Z,14nm,0.8s
BCLA dpP pP 13 53 08.5 -1.5
BOJS Bojanci 81.99 325 ⇓i P P 13 52 32.0 +0.1
MGRS Mrkonjic Grad 81.99 323 eP P 13 52 32.9 +1.0
UPM Unac-Piva 82.05 321 eP P 13 52 32.4 0.0
ECSD EROS Data Cent 82.10 38 P P 13 52 30.9 -1.6
ECSD IAmb IAmb 13 52 33.5
comp=Z,15nm,0.8s
ECSD EROS Data Cent 82.10 38 P P 13 52 32.7 +0.2
baz=319,SNR=9.0
WATA Walderalm 82.13 328 eP P 13 52 33.3 +0.6
comp=Z,12nm,0.7s,SNR=5.5
WTTA Wattenberg 82.16 328 i P P 13 52 33.6 +0.7
comp=Z,16nm,0.9s,SNR=5.4
CEY Cerknica 82.17 325 ⇓i P P 13 52 32.6 -0.3
A050A Klekovaca 82.20 323 eP P 13 52 33.4 +0.3
ABTA Abfaltersbach 82.20 327 eP P 13 52 32.7 -0.4
comp=Z,14nm,1.2s
SRKY Kupres RS 82.22 323 eP P 13 52 33.9 +0.7
RCHB Rochefort 82.23 333 dP P 13 52 33.2 +0.2
comp=Z,12nm,1.0s
SNF Seneffe 82.27 334 dP P 13 52 33.4 +0.2
SNF dpP pP 13 53 10.6 -0.8
BMRD Maredsous 82.27 333 dP P 13 52 33.6 +0.4
comp=Z,18nm,1.0s
BMRD dpP pP 13 53 11.4 -0.1
CLUD Cludinico 82.28 327 P P 13 52 32.6 -0.8
CLUD IAmb IAmb 13 52 34.1
comp=Z,27nm,0.8s
MOTA Moosalm 82.31 328 i P P 13 52 34.3 +0.6
comp=Z,28nm,1.0s,SNR=6.9
MOTA i pP pP 13 53 12.4 +0.4
comp=Z,12nm,0.9s
WLF Walferdange 82.32 332 dP P 13 52 33.4 -0.1
WLF Walferdange 82.32 332 eP P 13 52 33.4 -0.1
baz=36,slow=5.3
RETA Reutte 82.34 328 i P P 13 52 34.6 +0.9
comp=Z,27nm,0.8s,SNR=9.1
RETA i pP pP 13 53 12.6 +0.6
comp=Z,12nm,0.9s
SQTA Sankt Quirin 82.37 328 i P P 13 52 34.7 +0.7
comp=Z,11nm,0.6s
TUC Tucson 82.43 54 P P 13 52 35.3 +0.8
baz=313
UBR Ueberruh 82.44 329 eP P 13 52 34.3 0.0
comp=Z,21nm,1.5s,baz=36,slow=5.3
BRY Bratogost 82.45 321 eP P 13 52 34.4 -0.1
PDG Podgorica 82.45 320 ⇑P P 13 52 35.9 +1.6
PDG Podgorica 82.45 320 P P 13 52 33.3 -1.0
SKDS Skadanscina 82.51 325 ⇓i P P 13 52 34.0 -0.6
DOU Dourbes 82.51 333 dP P 13 52 34.9 +0.5
LIT Litokhoron 82.53 317 P P 13 52 33.7 -1.1
LIT IAmb IAmb 13 52 37.2
comp=Z,22nm,1.1s
LIT Litokhoron 82.53 317 P P 13 52 33.7 -1.1
LIT pmax pmax
comp=Z,22nm,1.1s
BFO Black Forest 82.61 330 P P 13 52 35.2 +0.2
BFO IAmb IAmb 13 52 37.5
comp=Z,19nm,0.9s
BFO Black Forest 82.61 330 P P 13 52 35.3 +0.2
BFO pmax pmax
comp=Z,19nm,0.9s
BFO Black Forest 82.61 330 eP P 13 52 35.6 +0.6
comp=Z,25nm,0.9s,baz=36,slow=5.3
OHR Ohrid 82.66 319 i P P 13 52 36.2 +0.7
DRME Dracevica, Mon 82.67 320 ⇓i P P 13 52 35.5 0.0
SPMN Marine on St. 82.70 35 P P 13 52 35.7 +0.2
baz=321
KUZ Kuaotunu 82.72 152 P P 13 52 37.0 +1.5
FETA Feichten 82.72 328 i P P 13 52 36.6 +0.7
comp=Z,17nm,0.7s,SNR=7.4
FETA epP pP 13 53 14.5 +0.3
comp=Z,8.0nm,0.9s
HCY Herceg Novi 82.81 321 eP P 13 52 35.4 -0.8
SCHQ Schefferville 82.83 16 P P 13 52 36.2 +0.1
comp=Z,13nm,0.7s,baz=8.3,slow=5.9,SNR=16
SCHQ pP pP 13 53 14.0 -0.5
comp=Z,12nm,0.9s,baz=322,slow=6.5,SNR=4.9
comp=Z,13nm,0.7s
MKAZ Moumakai 82.84 153 P P 13 52 37.5 +1.4
DAVA Damuels 82.85 329 i P P 13 52 37.2 +0.7
comp=Z,32nm,1.1s,SNR=5.7
DAVA i pP pP 13 53 15.2 +0.4
comp=Z,10.0nm,0.9s
STON Ston 82.88 322 eP P 13 52 35.6 -0.9
T25A Trinidad 82.88 47 P P 13 52 37.5 +0.7
T25A IAmb IAmb 13 52 38.7
comp=Z,10nm,0.7s
T25A Trinidad 82.88 47 P P 13 52 37.6 +0.7
baz=315,SNR=9.5

BGNE	**Belgrade**	**83.10**	**40**	P		**P**		**13 52 37.9**	**+0.2**
	baz=318								
FUORN	**Ofenpass-Fuorn**	**83.24**	**328**	P		**P**		**13 52 39.3**	**+0.7**
ANMO	**Albuquerque**	**83.25**	**50**	P		**P**		**13 52 40.2**	**+1.4**
	baz=314								
ANMO	**Albuquerque**	**83.25**	**50**	*d* *i*P		**P**		**13 52 39.9**	**+1.1**
ANMO				pmax		pmax			
	comp=Z,11nm,0.8s								
TOZ	**Tahuroa Road**	**83.52**	**153**	P		**P**		**13 52 41.5**	**+1.9**
Y22F	**Passcal Instru**	**83.58**	**51**	P		**P**		**13 52 42.2**	**+1.8**
	baz=314								
Y22D	**IRIS PASSCAL I**	**83.58**	**51**	P		**P**		**13 52 42.1**	**+1.6**
	baz=314								
HIZ	**Hauiti**	**84.00**	**154**	P		**P**		**13 52 44.2**	**+2.2**
121A	**Cookes Peak, D**	**84.13**	**52**	P		**P**		**13 52 44.5**	**+1.2**
	baz=314,SNR=12								
KEK	**Kerkira**	**84.21**	**318**	P		**P**		**13 52 44.2**	**+0.8**
KEK				IAmb		IAmb		13 52 45.4	
	comp=Z,25nm,0.8s								
CBKS	**Cedar Bluff**	**84.21**	**43**	P		**P**		**13 52 43.2**	**-0.2**
	baz=318								
HAZ	**Te Kaha**	**84.37**	**151**	P		**P**		**13 52 43.8**	**0.0**
RUGZ	**Raukumara Rang**	**84.51**	**151**	P		**P**		**13 52 43.9**	**-0.9**
URZ	**Urewera**	**84.57**	**152**	P		**P**		**13 52 43.9**	**-0.9**
	comp=Z,14nm,0.8s,baz=222,slow=1.5,SNR=11								
	comp=Z,14nm,0.8s								
URZ	**Urewera**	**84.57**	**152**	P		**P**		**13 52 44.2**	**-0.6**
SENIN	**Lac Senin/Sane**	**84.63**	**330**	P		**P**		**13 52 45.0**	**-0.7**
TWGZ	**Tauwhareparae**	**84.81**	**151**	P		**P**		**13 52 46.6**	**+0.4**
PUZ	**Puketiti**	**84.82**	**151**	P		**P**		**13 52 45.5**	**-0.6**
RTZ	**Ruatahuna**	**84.83**	**152**	P		**P**		**13 52 45.3**	**-1.0**
RTZ				IAmb		IAmb		13 52 46.8	
	comp=Z,25nm,0.9s								
MATE	**Matera**	**85.05**	**321**	⇓P		**P**		**13 52 47.7**	**+0.1**
SCIA	**State Center**	**85.10**	**37**	P		**P**		**13 52 48.2**	**+0.4**
	baz=321								
WAZ	**Wanganui**	**85.16**	**154**	P		**P**		**13 52 49.1**	**+1.3**
KSU1	**Kansas State U**	**85.61**	**41**	P		**P**		**13 52 50.3**	**0.0**
	baz=320								
JFWS	**Jewell Farm**	**85.65**	**35**	P		**P**		**13 52 50.2**	**-0.3**
	baz=323								
AMTX	**Amarillo**	**86.04**	**47**	P		**P**		**13 52 53.3**	**+0.6**
	baz=317								
MSTX	**Muleshoe**	**86.08**	**48**	P		**P**		**13 52 53.2**	**+0.3**
	baz=316								
MNTX	**Cornudas Mount**	**86.17**	**51**	P		**P**		**13 52 53.9**	**+0.6**
	baz=315,SNR=13								
MRZ	**Mangatainoka R**	**86.17**	**154**	P		**P**		**13 52 52.2**	**-0.5**
MRZ				IAmb		IAmb		13 52 57.0	
	comp=Z,18nm,0.9s								
GDL2	**Guadalupe Moun**	**86.42**	**50**	P		**P**		**13 52 54.6**	**0.0**
RPZ	**Rata Peaks**	**87.55**	**158**	P		**P**		**13 53 01.2**	**+1.9**
	comp=Z,6.4nm,0.5s,baz=225,slow=1.8,SNR=5.6								
	comp=Z,6.4nm,0.5s								
WMOK	**Wichita Mounta**	**87.75**	**45**	P		**P**		**13 53 01.2**	**+0.4**
	baz=318								
HDIL	**Hopedale**	**87.97**	**36**	P		**P**		**13 53 02.0**	**+0.3**
	baz=324								
S39A	**Bolivar**	**88.34**	**40**	P		**P**		**13 53 03.3**	**-0.3**
TUL1	**Leonard**	**88.46**	**43**	P		**P**		**13 53 04.4**	**+0.3**
	baz=320								
ABTX	**Abilene, Hawle**	**88.84**	**47**	P		**P**		**13 53 06.4**	**+0.4**
	baz=318								
TXAR	**Lajitas Array**	**88.88**	**52**	P		**P**		**13 53 07.1**	**+0.7**
	comp=Z,6.8nm,0.6s,baz=293,slow=2.7,SNR=95								
TXAR				pP		**pP**		**13 53 45.0**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=297,slow=3.6,SNR=3.0								
TXAR				PKKPbc		**PKKPbc**		**14 10 45.1**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=153,slow=6.1,SNR=4.1								
	comp=Z,6.8nm,0.6s								
AAM	**Ann Arbor**	**88.93**	**31**	P		**P**		**13 53 06.0**	**-0.2**
	baz=328								
CCM	**Cathedral Cave**	**89.07**	**38**	P		**P**		**13 53 07.0**	**+0.1**
CCM	**Cathedral Cave**	**89.07**	**38**	P		**P**		**13 53 07.3**	**+0.3**
	baz=323								
CCM	**Cathedral Cave**	**89.07**	**38**	P		**P**		**13 53 07.0**	**+0.1**
CCM				pmax		pmax			
	comp=Z,24nm,0.8s								
SFIN	**Lafayette**	**89.09**	**34**	P		**P**		**13 53 07.2**	**+0.2**
	baz=325								
O48B	**Farmland**	**90.02**	**33**	P		**P**		**13 53 11.5**	**+0.1**
	baz=326								
LONY	**Lake Ozonia**	**90.17**	**24**	P		**P**		**13 53 11.9**	**-0.1**
	baz=334								
JCT	**Junction City**	**90.34**	**49**	P		**P**		**13 53 13.5**	**+0.4**
	baz=318,SNR=8.9								
ERPA	**Erie**	**90.50**	**29**	P		**P**		**13 53 14.1**	**+0.5**
	baz=330								
WHTX	**Lake Whitney,**	**90.54**	**46**	P		**P**		**13 53 14.6**	**+0.6**
	baz=319								
MIAR	**Mount Ida**	**90.67**	**42**	P		**P**		**13 53 15.0**	**+0.5**
	baz=321,SNR=9.6								
WHAR	**Wooly Hollow**	**90.74**	**41**	P		**P**		**13 53 14.6**	**-0.2**
M53A	**WI Miller and**	**90.83**	**30**	P		**P**		**13 53 16.0**	**+0.9**
	baz=329								
ACSO	**Alum Creek Sta**	**90.94**	**32**	P		**P**		**13 53 15.8**	**+0.1**
	baz=328								
WCI	**Wyandotte Cave**	**91.21**	**35**	P		**P**		**13 53 17.5**	**+0.6**
	baz=326								
O53A	**New Philadelph**	**91.64**	**31**	P		**P**		**13 53 19.7**	**+0.8**
	baz=329								
WVT	**Waverly**	**92.23**	**37**	P		**P**		**13 53 22.1**	**+0.5**
	baz=325								
SSPA	**Standing Stone**	**92.57**	**28**	P		**P**		**13 53 23.4**	**+0.3**
	baz=331								
MCWV	**Mont Chateau**	**92.68**	**30**	P		**P**		**13 53 24.2**	**+0.5**
	baz=330								
OXF	**Oxford**	**92.79**	**39**	P		**P**		**13 53 24.2**	**-0.1**
	baz=324								
HRV	**Adam Dziewonsk**	**93.02**	**23**	P		**P**		**13 53 25.4**	**+0.2**
	baz=336								
ESDC	**Sonseca Array**	**94.55**	**333**	P		**P**		**13 53 32.3**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=12,slow=4.7,SNR=10.0								
ESDC				pP		**pP**		**13 54 10.8**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=17,slow=3.2,SNR=2.9								
	comp=Z,2.0nm,0.8s								
LRAL	**Lakeview Retre**	**95.15**	**39**	P		**P**		**13 53 34.7**	**-0.4**
	baz=325								
TORD	**Torodi Ar. Bea**	**114.96**	**315**	PKP		**PKiKP**		**13 58 51.3**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=42,slow=2.1,SNR=16								
TORD				PP		**PP**		**13 59 51.5**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=29,slow=6.7,SNR=4.8								
TORD				PKKPbc		**PKKPbc**		**14 09 27.6**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=220,slow=2.0,SNR=13								
VNDA	**Vanda**	**117.78**	**175**	PKP		**PKPdf**		**13 58 55.6**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=341,slow=7.1,SNR=5.5								
MAW	**Mawson**	**121.77**	**206**	PKP		**PKPdf**		**13 59 03.7**	**0.0**
	comp=Z,12nm,0.9s,baz=49,slow=9.3,SNR=3.2								
SDV	**Santo Domingo**	**123.54**	**38**	PKPdf		**PKiKP**		**13 59 09.5**	**+0.2**
DBIC	**Dimbokro**	**123.87**	**317**	PKP		**PKPdf**		**13 59 09.0**	**-0.5**
	comp=Z,9.6nm,0.7s,baz=52,slow=3.3,SNR=18								
DBIC				PKKPbc		**PKKPbc**		**14 08 52.7**	**-2.2**
	comp=Z,3.5nm,0.9s,baz=209,slow=5.6,SNR=3.1								
DBIC	**Dimbokro**	**123.87**	**317**	PKPdf		**PKPdf**		**13 59 09.4**	**-0.1**
DBIC	**Dimbokro**	**123.87**	**317**	PKiKP		**PKPdf**		**13 59 09.4**	**-0.1**
TIC	**Toumodi**	**123.97**	**318**	⇑*i*PKiKP		**PKPdf**		**13 59 09.4**	**-0.3**
	comp=Z,3.3nm,0.3s								
KIC	**Kosan Boka**	**124.07**	**317**	⇑*i*PKiKP		**PKPdf**		**13 59 09.5**	**-0.4**
	comp=Z,6.3nm,0.5s								
LIC	**Lamto**	**124.33**	**317**	⇑*i*PKiKP		**PKPdf**		**13 59 10.0**	**-0.4**
	comp=Z,22nm,0.7s								
BOSA	**Boshof**	**126.47**	**261**	PKP		**PKPdf**		**13 59 13.9**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=74,slow=2.0,SNR=7.2								
ELIB	**Princess Elisa**	**135.73**	**203**	*d*PKPdf		**PKPdf**		**13 59 30.7**	**+0.4**
TROLL	**Troll, Antarti**	**141.66**	**200**	PKPdf		**PKPdf**		**13 59 36.1**	**-5.0**
ETMB	**Extrema**	**141.74**	**46**	PKPdf		**PKPdf**		**13 59 38.0**	**-4.9**
SAML	**Samuel**	**142.62**	**41**	PKPdf		**PKPdf**		**13 59 40.5**	**-4.0**
SAML	**Samuel**	**142.62**	**41**	PKiKP		**PKPdf**		**13 59 40.5**	**-4.0**
SNAA	**Sanae**	**143.21**	**198**	PKPdf		PKPab		13 59 40.6	+0.6
SNAA	**Sanae**	**143.21**	**198**	P		**Pdif**		**13 57 17.5**	**+9.5**
SNAA	**Sanae**	**143.21**	**198**	PKPdf		PKPbc		13 59 40.8	-0.5
SNAA	**Sanae**	**143.21**	**198**	PKiKP		PKPbc		13 59 40.8	-0.5
VNA2	**Neumayer--Watz**	**144.80**	**198**	PKPdf		**PKPab**		**13 59 46.3**	**+0.3**
	baz=114,slow=3.0								
VNA2	**Neumayer--Watz**	**144.80**	**198**	pPKPdf		pPKPdf		14 00 24.9	-2.5
VNA3	**Neumayer Olymp**	**145.07**	**196**	PKPdf		**PKPbc**		**13 59 46.8**	**-0.1**
VNA3	**Neumayer Olymp**	**145.07**	**196**	pPKPdf		pPKPdf		14 00 25.6	-2.3
VNA1	**Neumayer--Stat**	**145.19**	**198**	PKPdf		**PKPab**		**13 59 47.5**	**+0.1**
VNA1	**Neumayer--Stat**	**145.19**	**198**	pPKPdf		pPKPdf		14 00 26.7	-1.3
LPAZ	**La Paz**	**145.69**	**55**	PKPbc		**PKPbc**		**13 59 51.3**	**+0.2**
	comp=Z,25nm,0.7s,baz=351,slow=3.5,SNR=66								
LPAZ	**La Paz**	**145.69**	**55**			**PKPab**		**13 59 51.4**	**-0.2**
LPAZ	**La Paz**	**145.69**	**55**	PKP2		**PKPab**		**13 59 51.4**	**-0.2**
PB12	**IPOC Station P**	**145.94**	**61**			**PKPab**		**13 59 51.8**	**-0.1**
RCBR	**Riachuelo**	**146.03**	**354**			**PKPab**		**13 59 52.4**	**+0.1**
RCBR	**Riachuelo**	**146.03**	**354**	PKP2		**PKPab**		**13 59 52.4**	**+0.1**
PB11	**IPOC Station P**	**147.20**	**61**			**PKPbc**		**13 59 55.7**	**+0.9**
PB10	**IPOC Station P**	**149.05**	**68**			**PKiKP**		**14 00 00.6**	**0.0**
PB14	**IPOC Station P**	**149.85**	**69**			**PKiKP**		**14 00 02.6**	**0.0**
AC01	**Pan de Azucar**	**150.61**	**72**			**PKiKP**		**14 00 03.8**	**+0.1**
AC02	**Maricunga**	**152.08**	**72**			**PKiKP**		**14 00 08.3**	**+1.0**
CO02	**Combarbal**	**152.94**	**81**			**PKiKP**		**14 00 08.8**	**+0.2**
BDFB	**Brasilia**	**154.76**	**20**	PKPbc		**PKiKP**		**14 00 13.3**	**+0.6**
	comp=Z,4.0nm,0.5s,baz=274,slow=3.3,SNR=6.6								
BDFB				PKPab		**PKPab**		**14 00 29.0**	**+0.9**
	comp=Z,5.9nm,0.7s,baz=330,slow=8.7,SNR=4.9								
PLCA	**Paso Flores**	**156.22**	**102**	PKP		**PKPdf**		**14 00 05.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=235,slow=5.4,SNR=1.5								
PLCA				PKPab		**PKPab**		**14 00 34.8**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=256,slow=5.6,SNR=8.9								
CPUP	**Villa Florida**	**159.85**	**54**	PKP		**PKPdf**		**14 00 10.2**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=52,slow=1.7,SNR=4.3								
CPUP				PKPab		**PKPab**		**14 00 50.2**	**+0.3**
	comp=Z,6.6nm,1.0s,baz=335,slow=4.6,SNR=8.4								

ROM 28 13:49:52.7±0.2, 42°.802N±0°.004×13°.185E±0°.006, h8km±1km, ML1.5/10, 1D, Error ellipse: s-maj=0.5km s-min=0.2km az=104.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.06**	**2**	P	Pg	13 49 54.6	-0.1
T1245				S	Sg	13 49 55.9	-0.2
T1245				AML	AML		
	comp=E,746μm,0.2s						
T1245				AML	AML		
	comp=N,1167μm,1.2s						
T1245				AML	AML		
	comp=E,753μm,0.9s						
T1245				AML	AML		
	comp=E,746μm,0.2s						
T1245				AML	AML		
	comp=N,1170μm,1.2s						
T1245				AML	AML		
	comp=N,1110μm,1.1s						
T1245				AML	AML		
	comp=N,1170μm,0.8s						
MC2	**Montecornacci**	**0.11**	**2**	P	Pg	13 49 55.6	+0.2
MC2				S	Sg	13 49 58.4	+1.0
T1212	**Cascia, Frazio**	**0.12**	**244**	P	Pg	13 49 55.8	+0.4
T1212				S	Sg	13 49 58.0	+0.8
T1212				AML	AML		
	comp=E,113μm,0.9s						
T1212				AML	AML		
	comp=N,103μm,0.9s						
T1212				AML	AML		
	comp=E,113μm,0.9s						
T1212				AML	AML		
	comp=N,103μm,0.9s						
T1212				AML	AML		
	comp=E,113μm,1.1s						
T1218	**Civita (PG)**	**0.14**	**201**	P	Pg	13 49 56.3	+0.5
T1218				S	Sg	13 49 58.9	+0.9
T1218				AML	AML		
	comp=E,121μm,1.5s						
T1218				AML	AML		
	comp=N,170μm,0.6s						
T1218				AML	AML		
	comp=E,121μm,1.5s						
T1218				AML	AML		
	comp=N,169μm,0.6s						
T1218				AML	AML		
	comp=E,121μm,1.4s						
T1218				AML	AML		
	comp=N,169μm,1.4s						
T1216	**Preci, Frazion**	**0.15**	**306**	AML	AML		
	comp=E,109μm,0.5s						
T1216				AML	AML		
	comp=E,109μm,0.5s						
T1216				AML	AML		
	comp=N,109μm,0.3s						
T1216				AML	AML		
	comp=N,109μm,0.3s						
T1217	**Poggiodomo (PG**	**0.21**	**244**	P	Pg	13 49 57.4	+0.5
T1217				S	Sg	13 50 01.2	+1.4
LNSS	**Leonessa**	**0.23**	**208**	P	Pg	13 49 58.0	+0.7
LNSS				S	Sg	13 50 01.8	+1.5
LNSS				AML	AML		
	comp=E,77μm,0.9s						
LNSS				AML	AML		
	comp=N,94μm,0.6s						
LNSS				AML	AML		
	comp=E,77μm,0.9s						
LNSS				AML	AML		
	comp=N,94μm,0.6s						
LNSS				AML	AML		
	comp=N,94μm,1.4s						
T1215	**Vallo di Nera,**	**0.23**	**270**	S	Sg	13 49 58.0	-2.6
T1215				AML	AML		
	comp=E,52μm,1.0s						
T1215				AML	AML		
	comp=N,39μm,1.1s						
FDMO	**Fiordimonte**	**0.24**	**343**	S	Sg	13 49 58.3	-2.7
FDMO				AML	AML		
	comp=E,211μm,0.1s						
FDMO				AML	AML		
	comp=N,180μm,0.4s						
CESI	**CESI - Serrava**	**0.29**	**315**	S	Sg	13 49 59.1	-3.2
CESI				AML	AML		
	comp=E,90μm,0.2s						
CESI				AML	AML		
	comp=N,80μm,0.2s						
CESI				AML	AML		
	comp=E,90μm,0.2s						
CSP1	**Cessapalombo**	**0.29**	**3**	S	Sg	13 49 58.9	-3.5
CSP1				AML	AML		
	comp=E,56μm,1.5s						
CSP1				AML	AML		
	comp=N,71μm,1.6s						
CSP1				AML	AML		
	comp=E,56μm,1.5s						
CSP1				AML	AML		
	comp=N,71μm,1.6s						
CSP1				AML	AML		
	comp=E,56μm,0.5s						
CSP1				AML	AML		
	comp=N,71μm,0.4s						
RM33	**Pellescritta (**	**0.29**	**176**	S	Sg	13 49 58.8	-3.7
T1220	**Camerino, Fraz**	**0.32**	**347**	S	Sg	13 49 58.8	-4.4
T1220				AML	AML		
	comp=E,146μm,0.5s						
T1220				AML	AML		
	comp=N,198μm,1.6s						
T1220				AML	AML		
	comp=N,200μm,1.6s						
T1220				AML	AML		
	comp=E,146μm,0.4s						
TERO	**Teramo**	**0.36**	**120**	S	Sg	13 49 59.6	-4.9
T1222	**Castel Sant'An**	**0.41**	**195**	⇓P	Pg	13 49 53.8	-7.0

*IDC **28** 13:52:55.6±2.1, 57°.08S×24°.50W, h0km, mb4.1/1, mbtmp4.1/1, Error ellipse: s-maj=118.1km s-min=74.4km az=134.0*

ISC 28 13:52:59.1±1.4, 56°.3S±0°.2×26°.2W±0°.6, h10km, n7, σ0$46/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.39**	**159**	P	**P**	**13 56 51.5**	**-0.2**
VNA3	**Neumayer Olymp**	**16.61**	**161**	P	**P**	**13 56 54.1**	**-0.1**
VNA2	**Neumayer--Watz**	**16.79**	**158**	P	**P**	**13 56 56.1**	**0.0**
	baz=328,slow=13						
TORD	**Torodi Ar. Bea**	**72.97**	**28**	P	**P**	**14 04 28.5**	**-0.1**
	1.7nm,0.8s,baz=196,slow=6.2,SNR=6.8						
	1.7nm,0.8s						
YKA	**Yellowknife Ar**	**136.71**	**317**	PKP	**PKPdf**	**14 12 19.5**	**-0.6**
	0.1nm,0.6s,baz=134,slow=2.5,SNR=1.5						
SONM	**Songino Array**	**150.18**	**86**	PKPbc	**PKPdf**	**14 12 44.9**	**+0.6**
	0.4nm,0.6s,baz=217,slow=4.5,SNR=1.8						
ILAR	**Eielson Array**	**150.68**	**311**	PKPbc	**PKiKP**	**14 12 50.8**	**+0.3**
	0.5nm,0.9s,baz=123,slow=3.3,SNR=4.8						

ROM 28 13:56:45.9±0.1, 43°.627N±0°.004×12°.080E±0°.005, h9km, ML1.1/8, 6C-3D, Error ellipse: s-maj=0.5km s-min=0.1km az=357.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSP9	**Sansepolcro**	**0.07**	**144**	P	Pg	13 56 48.2	+0.3
SSP9				S	Sg	13 56 50.0	+0.6
SSP9				AML	AML		
	comp=N,85μm,0.2s						
SSP9				AML	AML		
	comp=E,78μm,0.1s						
CRE	**Caprese Michel**	**0.09**	**266**	⇑P	Pg	13 56 48.7	+0.3
CRE				S	Sg	13 56 50.6	+0.4
CRE				AML	AML		
	comp=E,128μm,1.6s						
CRE				AML	AML		
	comp=N,292μm,0.2s						
CRE				AML	AML		
	comp=E,128μm,0.4s						
PARC	**Parchiule**	**0.12**	**79**	⇑P	Pg	13 56 49.0	+0.3
PARC				S	Sg	13 56 51.1	+0.5
PARC				AML	AML		
	comp=N,278μm,0.2s						
PARC				AML	AML		
	comp=E,154μm,0.4s						
BADI	**Badiali**	**0.17**	**134**	P	Pg	13 56 49.9	+0.5
BADI				S	Sg	13 56 53.2	+1.3
ATMC	**Monte Cedrone**	**0.20**	**155**	P	Pg	13 56 50.5	+0.5
ATMC				S	Sg	13 56 53.9	+1.1
CPGN	**Carpegna, Ital**	**0.25**	**45**	P	Pg	13 56 52.2	+1.3
CPGN				S	Sg	13 56 55.5	+1.2
APEC	**Apecchio**	**0.26**	**105**	P	Pb	13 56 52.0	-0.6
APEC				S	Sb	13 56 56.6	-0.6
ASQU	**Asqua**	**0.27**	**309**	P	Pg	13 56 51.9	+0.6
CAFI	**Castiglion Fio**	**0.31**	**196**	P	Pb	13 56 52.8	-0.7
CAFI				S	Sb	13 56 57.9	-0.8
PIEI	**Pieia**	**0.34**	**105**	⇑P	Pg	13 56 53.1	+0.4
PIEI				S	Sb	13 56 58.8	-0.9
PIEI				AML	AML		
	comp=N,32μm,0.1s						
PIEI				AML	AML		
	comp=E,78μm,0.1s						
PIEI				AML	AML		
	comp=N,32μm,0.1s						
ATTE	**AVT- Monte Tez**	**0.47**	**155**	P	Pg	13 56 53.7	-1.3
IMOL	**Imola, Italy**	**0.77**	**342**	S	Sg	13 57 08.2	-2.6
SF01	**Poggio Pratacc**	**0.90**	**205**	⇓P	Pn	13 57 04.9	+0.3
GSCL	**Gusciola**	**1.30**	**304**	S	Sb	13 57 24.0	-3.2
RM33	**Pellescritta (**	**1.39**	**143**	⇑P	Pn	13 57 08.6	-2.9
RM33				AML	AML		
	comp=E,177μm,0.3s						
TERO	**Teramo**	**1.50**	**131**	⇓P	Pn	13 57 10.3	-2.6
TERO				AML	AML		
	comp=E,64μm,1.0s						
TERO				AML	AML		
	comp=N,55μm,0.5s						
SBPO	**S.Benedetto Po**	**1.65**	**330**	⇓P	Pn	13 57 12.0	-2.9
PLMA	**Palmaria, Port**	**1.67**	**285**	S	Sg	13 57 39.0	-0.4
RNCA	**Ronca, Sant'Ol**	**2.41**	**292**	⇑P	Pn	13 57 20.8	-4.6
CAPR	**Capriolo**	**2.53**	**323**	P	Pn	13 57 27.1	+0.1
EUCT	**Pavia**	**2.63**	**308**	P	Pg	13 57 35.0	-1.3
EUCT				S	Sg	13 58 09.4	-1.0
BSSO	**Busso**	**2.79**	**137**	S	Sn	13 58 02.0	-2.5
BSSO				AML	AML		
	comp=E,42μm,0.3s						
BSSO				AML	AML		
	comp=N,29μm,0.2s						
BSSO				AML	AML		
	comp=N,29μm,1.8s						
BSSO				AML	AML		
	comp=E,42μm,1.7s						
MCRV	**Calabrutti - M**	**3.65**	**140**	P	Pg	13 57 54.9	-0.9
LTRZ	**Laterza**	**4.64**	**129**	P	Pg	13 58 12.6	-2.2
TDS	**Terranova Siba**	**5.09**	**140**	P	Pb	13 58 09.3	-5.7
ISTR	**Stromboli Gino**	**5.38**	**153**	⇑P	Pb	13 58 15.6	-4.2
MSFR	**San Fratello**	**5.90**	**160**	P	Pn	13 58 09.2	-4.3
MNO	**Monte Soro**	**6.02**	**160**	P	Pn	13 58 15.3	0.0

ROM 28 13:57:29.9±0.1, 42°.525N±0°.004×13°.359E±0°.005, h11km, ML1.2/9, Error ellipse: s-maj=0.5km s-min=0.3km az=15.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.04**	**73**	P	Pg	13 57 32.4	+0.2
CAMP				S	Sg	13 57 33.8	0.0
T1247	**Pizzolo (AQ)**	**0.10**	**209**	P	Pg	13 57 33.2	+0.6
SMA1	**SAN MARTINO**	**0.11**	**350**	P	Pg	13 57 33.4	+0.5
SMA1				S	Sg	13 57 35.8	+0.8
RM33	**Pellescritta (**	**0.11**	**262**	P	Pg	13 57 33.2	+0.4
RM33				S	Sg	13 57 35.4	+0.3
RM33				AML	AML		
	comp=E,195μm,0.7s						
RM33				AML	AML		
	comp=E,169μm,0.2s						
RM33				AML	AML		
	comp=N,148μm,0.4s						
RM33				AML	AML		
	comp=N,136μm,0.2s						
GIGS	**Gran Sasso**	**0.17**	**116**	P	Pb	13 57 34.5	-0.7
GIGS				S	Sg	13 57 37.2	+0.7
TERO	**Teramo**	**0.21**	**61**	P	Pg	13 57 34.9	+0.5
TERO				S	Sg	13 57 38.3	+0.9
TERO				AML	AML		
	comp=N,49μm,0.1s						
TERO				AML	AML		
	comp=E,56μm,0.1s						
TERO				AML	AML		
	comp=N,44μm,0.2s						
TERO				AML	AML		
	comp=E,85μm,0.5s						
T1218	**Civita (PG)**	**0.23**	**309**	P	Pg	13 57 35.5	+0.6
T1218				S	Sg	13 57 38.9	+0.7
T1218				AML	AML		
	comp=N,75μm,0.2s						
T1218				AML	AML		
	comp=E,60μm,0.2s						
T1218				AML	AML		
	comp=N,144μm,1.3s						
T1218				AML	AML		
	comp=E,160μm,0.9s						
LNSS	**Leonessa**	**0.25**	**288**	P	Pg	13 57 35.6	+0.5
LNSS				S	Sg	13 57 39.7	+1.1
LNSS				AML	AML		
	comp=E,47μm,0.2s						
LNSS				AML	AML		
	comp=N,66μm,0.1s						
T1211	**Morro Reatino**	**0.37**	**271**	AML	AML		
	comp=E,28μm,0.1s						
T1211				AML	AML		
	comp=E,96

baz=80
NRN **Naryn** **2.51** **29**⇓*i*P **Pb** **14 04 18.7 -3.1**
baz=26
NRN ⇓*i*S **Sb** **14 04 50.9 -2.0**
baz=26
ARLS **Aral** **2.62** **359**⇑*i*P **Pb** **14 04 21.0 -2.7**
baz=57
ARLS ⇑*i*S **Sb** **14 04 55.1 -0.9**
baz=57
BTK **Batken** **2.89** **288**⇑*i*P **Pb** **14 04 25.1 -3.1**
baz=89
BTK ⇑*i*S **Sb** **14 05 02.2 -1.4**
baz=89
AML **Almayashu** **2.94** **350**⇓*i*P **Pb** **14 04 26.0 -3.3**
baz=48
AML ⇓*i*S **Sb** **14 05 03.6 -1.8**
baz=48
UCH **Uchtor** **2.99** **2**⇓*i*P **Pb** **14 04 26.1 -4.0**
baz=0.0
UCH ⇓*i*S **Sb** **14 05 04.4 -2.4**
baz=0.0
ARK **Arkit** **3.17** **325**⇑*i*P **Pb** **14 04 29.3 -3.6**
baz=25
ARK ⇑*i*S **Sb** **14 05 09.6 -2.0**
baz=25
TRKS **Terek-Say** **3.39** **314**⇓*i*P **Pn** **14 04 31.0 +1.4**
baz=13
TRKS ⇓*i*S **Sn** **14 05 13.1 +3.2**
baz=13
KBK **Karagaybulak** **3.44** **7**⇓*i*P **Pn** **14 04 32.4 +2.1**
baz=5.0
KBK ⇓*i*S **Sb** **14 05 15.1 -4.5**
baz=5.0
KDJ **Kajisay** **3.58** **35**⇑*i*P **Pn** **14 04 33.6 +1.4**
baz=34
KDJ ⇑*i*S **Sn** **14 05 17.2 +2.6**
baz=34
TARG **Taragay, Kyrgy** **3.59** **45**⇑*e*P **Pn** **14 04 33.5 +0.9**
baz=43
TARG ⇑*i*S **Sn** **14 05 16.8 +1.5**
baz=43
MRKS **Merke** **3.62** **346** Pg **Pb** **14 04 40.1 -0.5**
0.8nm,0.2s
MRKS Lg Lg 14 05 31.5
4.4nm,0.4s
MRKS **Merke** **3.62** **346** *e*Pg **Pg** **14 04 42.7 -3.1**
4.0nm,0.6s
MRKS *e*Lg Lg 14 05 32.5
4.2nm,0.4s
TKM2 **Tokmak 2** **3.79** **13** ⇓Pg Pb 14 04 38.6 -5.0
2.0nm,0.5s
TKM2 ⇑Lg Lg 14 05 25.1
5.3nm,0.6s
KST **Kastek** **3.98** **17** Pg **Pb** **14 04 47.0 +0.2**
1.5nm,0.5s
KST Lg Lg 14 05 43.3
10nm,0.9s
KST **Kastek** **3.98** **17** *e*Pg **Pb** **14 04 47.2 +0.4**
1.5nm,0.5s
KST *e*Lg Lg 14 05 40.7
10nm,0.9s
DGS **Degeres** **4.13** **14** Pg **Pb** **14 04 50.6 +1.2**
5.6nm,0.4s
DGS Lg Lg 14 05 48.7
10.0nm,0.8s
DGS **Degeres** **4.13** **14** *e*Pg **Pb** **14 04 51.1 +1.7**
12nm,0.6s
DGS *e*Lg Lg 14 05 47.2
10.0nm,0.8s
IZV **Izvestkoviy** **4.15** **23** Pg **Pb** **14 04 50.2 +0.6**
1.1nm,0.2s
IZV Lg Lg 14 05 47.9
18nm,0.6s
IZV **Izvestkoviy** **4.15** **23** *e*Pg **Pb** **14 04 50.3 +0.6**
2.3nm,0.7s
IZV *e*Lg Lg 14 05 46.1
18nm,0.6s
MTBS **Maitube** **4.18** **21** Pg **Pb** **14 04 50.0 -0.2**
1.2nm,0.2s
MTBS Lg Lg 14 05 47.3
1.4nm,0.1s
MTBS **Maitube** **4.18** **21** *e*Pg **Pb** **14 04 51.1 +1.0**
3.0nm,0.8s
MTBS *e*Lg Lg 14 05 47.3
1.4nm,0.1s
SGDS **Sogindy** **4.22** **2** Pg **Pb** **14 04 52.7 +1.9**
1.0nm,0.3s
SGDS Lg Lg 14 05 51.9
2.7nm,0.5s
TNSS **Tian-Shan** **4.25** **26** Pg **Pb** **14 04 50.8 -0.8**
1.5nm,0.3s
TNSS Lg Lg 14 05 49.6
5.5nm,0.6s
TNSS **Tian-Shan** **4.25** **26** *e*Pg **Pb** **14 04 52.1 +0.5**
2.6nm,0.6s
TNSS *e*Lg Lg 14 05 49.2
5.5nm,0.6s
MDOK **Medeo** **4.40** **26** Pg **Pb** **14 04 53.6 -0.3**
1.4nm,0.2s
MDOK Pg Pg 14 04 55.3 -5.5
3.6nm,0.6s
MDOK Lg Lg 14 05 53.4
21nm,1.2s
MDOK Lg Lg 14 05 53.6
4.9nm,0.2s
MDOK **Medeo** **4.40** **26** *e*Pg **Pb** **14 04 55.2 +1.2**
3.2nm,0.6s
MDOK *e*Lg Lg 14 05 54.1
4.9nm,0.2s
IUG **Iuzhnay** **4.42** **313** *e*Pg **Pb** **14 04 55.8 +1.6**
8.2nm,1.2s
IUG *e*Lg Lg 14 05 55.3
19nm,1.7s
KOTS **Kotyrbulak** **4.49** **26** *e*Pg **Pb** **14 04 56.3 +0.9**
2.6nm,0.8s
KOTS *e*Lg Lg 14 05 56.2
21nm,0.8s
KRBS **Karabastau** **4.56** **12** Pg **Pb** **14 04 57.5 +1.0**
1.0nm,0.5s
KRBS Lg Lg 14 06 00.3
3.6nm,0.6s
KRBS **Karabastau** **4.56** **12** *e*Pg **Pb** **14 04 58.0 +1.4**
1.0nm,0.5s
KRBS *e*Lg Lg 14 05 59.3
3.6nm,0.6s
KTBS **Karatobe** **4.79** **20** *e*Pg **Pb** **14 05 01.7 +1.2**
2.2nm,0.8s
KTBS *e*Lg Lg 14 06 05.8
9.4nm,0.8s
KK31 **Karatay Array** **4.85** **324** ⇑Pg **Pb** **14 05 04.6 +3.0**
0.5nm,0.4s,baz=137,slow=14,SNR=4.0
KK31 ⇑Sn **Sn** **14 05 50.5 +4.7**
0.9nm,0.5s
KK31 ⇓Lg Lg 14 06 09.5
1.8nm,0.6s
SATY **Saty** **4.87** **37** Pg **Pb** **14 05 02.2 +0.3**
1.5nm,0.1s
SATY Lg Lg 14 06 08.3
8.2nm,1.0s
SATY **Saty** **4.87** **37** *e*Pg **Pb** **14 05 01.6 -0.3**
3.8nm,0.9s
SATY *e*Lg Lg 14 06 05.6
8.2nm,1.0s
KUU **Kurty** **4.87** **17** Pg **Pb** **14 05 02.3 +0.4**
1.3nm,0.1s
KUU Lg Lg 14 06 08.5
11nm,1.1s
KUU **Kurty** **4.87** **17** *e*Pg **Pb** **14 05 03.5 +1.6**
2.0nm,0.1s
KUU *e*Lg Lg 14 06 08.8
11nm,1.1s
CHKK **Chushkaly** **5.00** **22** Pg **Pb** **14 05 05.8 +1.6**
0.5nm,0.1s
CHKK Lg Lg 14 06 15.0
10nm,0.8s
CHKK **Chushkaly** **5.00** **22** *e*Pg **Pb** **14 05 05.9 +1.8**
3.0nm,0.5s
CHKK *e*Lg Lg 14 06 12.8
10nm,0.8s
KURS **Kuram** **5.11** **32** Pg **Pb** **14 05 06.0 +0.1**
3.1nm,0.8s
KURS Lg Lg 14 06 15.2
3.8nm,0.8s
KURS **Kuram** **5.11** **32** *e*Pg **Pb** **14 05 07.2 +1.3**
3.3nm,0.7s
KURS *e*Lg Lg 14 06 14.6
3.8nm,0.8s
UZB **Uzynbulak** **5.23** **40** Pg **Pb** **14 05 06.9 -1.2**
2.1nm,0.1s
UZB Lg Lg 14 06 16.9
4.0nm,0.8s
UZB **Uzynbulak** **5.23** **40** *e*Pg **Pb** **14 05 07.6 -0.6**
2.7nm,0.4s
UZB *e*Lg Lg 14 06 15.7
4.0nm,0.8s
KPKS **Kokpek** **5.31** **36** Pg **Pb** **14 05 08.3 -1.2**
1.0nm,0.4s
KPKS Lg Lg 14 06 19.2
6.1nm,0.6s
KPKS **Kokpek** **5.31** **36** *e*Pg **Pb** **14 05 10.8 +1.4**
4.4nm,0.7s
KPKS *e*Lg Lg 14 06 21.4
6.1nm,0.6s
ARXS **Arharly** **5.59** **26** Pg **Pb** **14 05 15.4 +1.2**
1.3nm,0.6s
ARXS Lg Lg 14 06 32.0
42nm,0.1s

INMG ***28*** *14:04:25.7±1.1, 32°.42N×7°.81W, h18km±7km, ML2.1, Error ellipse: s-maj=7.3km s-min=4.5km az=34.0*
SFS ***28*** *14:04:28.8, 32°.53N×7°.72W, h32km, ML3.8/9, MLv4.0/9*
ISC 28 14:04:27.8±3.5, 32°.7N±0°.2×7°.6W±0°.1, h10km, n27,
σ0s78/34, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AVE	**Averroes**	**0.64**	**16**	S	**Sn**	**14 04 53.7**	**+0.5**
AVE				P	**Pn**	**14 04 42.9**	**-0.1**
IFR	**Ifrane**	**2.25**	**68**	P	**Pn**	**14 05 05.2**	**-0.1**
PFVI	**Vila Bisbo**	**4.55**	**348**	*e*Pn	**Pn**	**14 05 37.5**	**+0.8**
PFVI	**Vila Bisbo**	**4.55**	**348**	P	**Pn**	**14 05 37.2**	**+0.5**
MORF	**Marmelete**	**4.69**	**350**	*e*P	**Pn**	**14 05 38.0**	**-0.7**
MORF	**Marmelete**	**4.69**	**350**	*e*Pn	**Pn**	**14 05 38.0**	**-0.7**
PVAQ	**Vaqueiros**	**4.71**	**359**	*e*Pn	**Pn**	**14 05 38.9**	**0.0**
PVAQ				*e*Sn	**Sn**	**14 06 34.1**	**+0.5**
PVAQ				A	A	14 06 56.3	
	2.8nm,0.8s						
PVAQ	**Vaqueiros**	**4.71**	**359**	S	**Sn**	**14 06 30.5**	**-3.1**
PVAQ				P	**Pn**	**14 05 38.5**	**-0.4**
EGRO	**El Granado**	**4.84**	**1**	P	**Pn**	**14 05 40.8**	**+0.1**
PTEO	**Sao Teotonio**	**4.93**	**350**	*e*Pn	**Pn**	**14 05 41.9**	**-0.1**
PCVE	**Castro Verde**	**4.95**	**356**	*e*Pn	**Pn**	**14 05 42.5**	**+0.2**
PCVE				*e*Sn	**Sn**	**14 06 41.0**	**+1.5**
PCVE	**Castro Verde**	**4.95**	**356**	P	**Pn**	**14 05 42.4**	**+0.2**
EMIN	**Mina Concepcio**	**5.13**	**8**	P	**Pn**	**14 05 44.4**	**-0.4**
MESJ	**Messejana**	**5.17**	**355**	*e*P	**Pn**	**14 05 44.8**	**-0.4**
MESJ	**Messejana**	**5.17**	**355**	*e*Pn	**Pn**	**14 05 45.5**	**+0.3**
MESJ				*e*Sn	**Sn**	**14 06 45.9**	**+1.0**
PNCL	**Nicolau / Gran**	**5.47**	**352**	*e*Pn	**Pn**	**14 05 49.3**	**0.0**
PNCL				*e*Sn	**Sn**	**14 06 51.1**	**-1.2**
PBAR	**Barrancos**	**5.50**	**5**	*e*Pn	**Pn**	**14 05 50.0**	**+0.2**
PBAR				*e*Sn	**Sn**	**14 06 53.6**	**+0.5**
PBAR				A	A	14 07 02.0	
	1.0nm,0.8s						
PBAR	**Barrancos**	**5.50**	**5**	P	**Pn**	**14 05 49.8**	**0.0**
ECAB	**El Cabril**	**5.67**	**18**	P	**Pn**	**14 05 52.1**	**-0.1**
EADA	**Adamuz**	**6.01**	**24**	P	**Pn**	**14 05 57.3**	**+0.5**
EBAD	**Badajoz**	**6.08**	**4**	P	**Pn**	**14 05 57.8**	**+0.1**
PESTR	**Estremoz**	**6.17**	**0**	*e*Pn	**Pn**	**14 05 59.6**	**+0.5**
PMTG	**Montargil**	**6.39**	**356**	*e*Pn	**Pn**	**14 06 01.7**	**-0.3**
PMAFR	**Mafra**	**6.40**	**348**	*e*Pn	**Pn**	**14 06 02.9**	**+0.7**
PMRV	**Marv??o**	**6.73**	**2**	*e*Pn	**Pn**	**14 06 06.8**	**0.0**
PSBE	**So Bento**	**6.88**	**352**	*e*Pn	**Pn**	**14 06 08.6**	**-0.2**
PCBR	**Castelo Branco**	**7.14**	**1**	*e*Pn	**Pn**	**14 06 11.8**	**-0.6**

JMA ***28*** *14:17:03.7±0.1, 33°.3N±0°.5×138°.2E±0°.3, h54km±2km, MV3.5/34, FAR S OFF TOKAI DISTRICT*
IDC ***28*** *14:17:07.2±2.0, 33°.66N×138°.76E, h0km, mb3.3/2, mbtmp3.2/3, ML2.2/1, Error ellipse: s-maj=132.1km s-min=24.4km az=86.0*
ISC 28 14:17:02.5±1.4, 33°.21N±0°.06×138°.19E±0°.03, h27km±13km, n24, σ0s83/39, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.75**	**318**	*e*X		14 17 47.2	
TK02	**Tokai 2**	**0.82**	**334**	*i* P	**Pb**	**14 17 18.4**	**+0.3**
TK02				*e*X		14 17 29.2	
TTO3	**TONANKAI O.B.S**	**0.93**	**315**	P	**Pn**	**14 17 20.2**	**+0.5**
TTO3				X		14 17 32.6	
TTO4	**TONANKAI O.B.S**	**0.96**	**326**	*i* P	**Pn**	**14 17 20.2**	**+0.1**
TTO4				*e*S	**Sb**	**14 17 32.2**	**-0.6**
TK03	**Tokai 3**	**0.97**	**349**	*i* P	**Pn**	**14 17 20.4**	**+0.1**
TK03				*e*S	**Sb**	**14 17 32.4**	**-0.6**
TTO2	**TONANKAI O.B.S**	**1.10**	**299**	*i* P	**Pb**	**14 17 22.8**	**-0.1**
TTO2				*e*S	**Sb**	**14 17 37.3**	**+0.5**
TTO5	**TONANKAI O.B.S**	**1.11**	**339**	*i* P	**Pn**	**14 17 22.2**	**0.0**
TTO5				*e*S	**Sn**	**14 17 36.1**	**-0.5**
TK04	**Tokai 4**	**1.20**	**347**	*i* P	**Pn**	**14 17 23.8**	**+0.3**
TK04				S	**Sn**	**14 17 38.4**	**-0.5**
TTO1	**TONANKAI O.B.S**	**1.25**	**290**	S	**Sn**	**14 17 40.4**	**+0.7**
JKO	**Kozu shima**	**1.25**	**39**	*e*P	**Pn**	**14 17 24.5**	**+0.2**
JKO				*e*S	**Sn**	**14 17 40.1**	**-0.2**
JMKN	**Mikurajimanish**	**1.35**	**59**	P	**Pn**	**14 17 25.8**	**+0.1**
JMKN				*e*S	**Sn**	**14 17 41.8**	**-0.9**
JHJ2	**Mitsune**	**1.37**	**94**	P	**Pb**	**14 17 27.1**	**-0.4**
JHJ2				S	**Sb**	**14 17 44.0**	**-0.4**
JMYK	**Miyake Tsubota**	**1.41**	**53**	*e*P	**Pn**	**14 17 26.9**	**+0.4**
JMYK				S	**Sn**	**14 17 44.0**	**-0.2**
JIZS	**Izushimoda**	**1.61**	**21**	*i* P	**Pn**	**14 17 29.3**	**+0.1**
JIZS				S	**Sn**	**14 17 47.5**	**-1.5**
JIE	**Ise**	**1.71**	**314**	*i* P	**Pn**	**14 17 31.1**	**+0.5**
JIE				S	**Sn**	**14 17 50.2**	**-1.3**
JIM2	**Oshima 3**	**1.82**	**34**	P	**Pn**	**14 17 33.9**	**+1.7**
JIM2				*e*S	**Sn**	**14 17 55.6**	**+1.2**
SHZ3	**Shizuoka 3**	**1.85**	**0**	*i* P	**Pn**	**14 17 32.5**	**-0.1**
SHZ3				S	**Sn**	**14 17 53.7**	**-1.5**
JKN2	**Miekihoku**	**1.90**	**303**	*i* P	**Pn**	**14 17 33.9**	**+0.7**
JKN2				S	**Sn**	**14 17 54.9**	**-1.4**
TSUJ	**Tsu 2**	**2.10**	**316**	*i* P	**Pn**	**14 17 36.7**	**+0.7**
TSUJ				S	**Sn**	**14 17 50.8**	**-0.3**
JOD2	**Odawara 2**	**2.18**	**20**	P	**Pn**	**14 17 38.3**	**+1.3**
JOD2				S	**Sn**	**14 18 03.5**	**+0.3**
JTNC	**Tanabenakahech**	**2.24**	**286**	P	**Pn**	**14 17 38.7**	**+0.8**
JTNC				S	**Sn**	**14 18 03.6**	**-1.1**
MJAR	**Matsushiro Arr**	**3.32**	**0**	Pn	**Pn**	**14 17 54.4**	**+1.6**
	0.4nm,0.3s,baz=171,slow=13,SNR=36						
MJAR				Sn	**Sn**	**14 18 31.7**	**+0.3**
	0.7nm,0.3s,baz=138,slow=23,SNR=9.5						
	3.6nm,0.4s						
WRA	**Warramunga Arr**	**52.98**	**185**	P	P	14 26 29.1	+12
	0.5nm,0.9s,baz=2.7,slow=7.6,SNR=2.5						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**56.71**	**185**	P	P	14 26 56.2	+12
	0.2nm,0.7s,baz=6.2,slow=10,SNR=2.5						
	0.2nm,0.7s						

IDC ***28*** *14:21:37.1±0.9, 14°.70N×93°.13E, h0km, mb3.8/7, mbtmp3.7/8, ML3.7/1, MS3.6/2, Error ellipse: s-maj=39.5km s-min=19.6km az=52.0*
ISC 28 14:21:42.6±1.0, 14°.8N±0°.1×93°.23E±0°.10, h35km, n22,
σ0s61/19, mb3.8/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.57**	**56**	Pn	**Pn**	**14 23 17.4**	**+0.7**
	0.4nm,0.3s,baz=242,slow=15,SNR=4.3						
CMAR				Sn	**Sn**	**14 24 30.1**	**-0.4**
	0.6nm,0.3s,baz=247,slow=27,SNR=4.7						
	0.5nm,0.3s						
TAPN	**Taplejung**	**13.49**	**339**	*e*P	**Pn**	**14 24 50.9**	**-0.9**
	1.3nm,0.2s						
RAMN	**Ramite**	**13.56**	**334**	*e*P	**Pn**	**14 24 53.1**	**+0.3**
	3.1nm,0.3s						
JIRN	**Jiri**	**14.36**	**334**	*e*P	**Pn**	**14 25 02.7**	**-1.1**
	2.5nm,0.3s						
PKI	**Pulchoki**	**14.63**	**331**	*e*P	**Pn**	**14 25 07.2**	**-0.2**
	3.4nm,0.2s						
PKIN	**Phulchoki**	**14.64**	**331**	*e*P	**Pn**	**14 25 07.2**	**-0.3**
	4.4nm,0.2s						
GUN	**Gumba**	**14.71**	**334**	*e*P	**Pn**	**14 25 08.1**	**-0.4**
DMN	**Daman**	**14.80**	**331**	*e*P	**Pn**	**14 25 09.2**	**-0.5**
	1.4nm,0.2s						
GKN	**Gorkha**	**15.36**	**330**	*e*P	**Pn**	**14 25 17.3**	**+0.4**
	4.5nm,0.3s						
DANN	**Dangsing**	**16.08**	**328**	*e*P	**Pn**	**14 25 26.8**	**+0.5**
	2.9nm,0.3s						
H08S3	**Diego Garcia H**	**30.33**	**224**	T	T	14 59 35.4	
	baz=42,slow=76,SNR=7.1						
H08S2	**Diego Garcia H**	**30.34**	**224**	T	T	14 59 34.0	
	baz=42,slow=76,SNR=8.3						
H08S1	**Diego Garcia B**	**30.35**	**224**	T	T	14 59 34.9	
	baz=42,slow=76,SNR=6.5						
MKAR	**Makanchi Array**	**33.17**	**346**	P	**P**	**14 28 16.5**	**+0.7**
	0.6nm,0.5s,baz=171,slow=8.9,SNR=16						
MKAR				PcP	**PcP**	**14 30 58.5**	**+0.4**
	0.3nm,0.7s,baz=153,slow=1.6,SNR=3.1						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**39.60**	**352**	P	**P**	**14 29 10.8**	**+0.4**
	0.7nm,0.4s,baz=171,slow=9.0,SNR=4.6						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**53.17**	**129**	P	**P**	**14 30 57.0**	**-0.6**
	0.4nm,0.7s,baz=314,slow=8.1,SNR=6.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**55.17**	**133**	P	**P**	**14 31 11.8**	**-0.3**
	0.3nm,0.5s,baz=310,slow=7.0,SNR=14						
	0.3nm,0.5s						
MMAI	**Mount Meron Ar**	**55.21**	**300**	LR	LR	14 59 24.6	
	comp=Z,20nm,18.0s,baz=130,slow=41						
FINES	**FINESS Array B**	**66.22**	**331**	P	**P**	**14 32 25.7**	**-1.0**
	1.7nm,0.9s,baz=105,slow=8.8,SNR=3.8						
	1.7nm,0.9s						
GERES	**GERESS Array B**	**72.13**	**317**	P	**P**	**14 33 03.9**	**+0.1**
	0.9nm,0.7s,baz=81,slow=6.1,SNR=8.1						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**88.15**	**283**	P	**P**	**14 34 31.0**	**+0.4**
	1.1nm,0.8s,baz=77,slow=5.9,SNR=5.5						
	1.1nm,0.8s						
RPZ	**Rata Peaks**	**91.55**	**135**	LR	LR	15 17 46.7	
	comp=Z,57nm,18.6s,baz=272,slow=37						

KRSC 28 14:30:30.6±1.3, 50°.59N×157°.61E, h42km±19km, MI3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.95**	**276**	*i* P	Pn	14 30 48.3	+0.8
SKR				*e*S	Sn	14 31 00.3	+0.5
KDTR	**Khodutka, Kamc**	**1.26**	**13**	*e*P	Pn	14 30 52.1	+1.1
KDTR				*e*S	Sn	14 31 08.7	+1.3
MTVR	**Mutnovka**	**1.93**	**10**	*e*P	Pn	14 31 03.5	+2.4
MTVR				*e*S	Sn	14 31 27.4	+3.1
RUS	**Russkaya**	**1.94**	**17**	*e*P	Pn	14 31 02.6	+1.6
RUS				*e*S	Sn	14 31 25.6	+1.6
GRL	**Gorelyy**	**1.99**	**8**	*e*P	Pn	14 31 04.7	+2.9
GRL				*e*S	Sn	14 31 29.1	+3.6
KRMR	**Karymshinskiy**	**2.27**	**8**	*e*P	Pn	14 31 08.0	+2.5
KRMR				*e*S	Sn	14 31 37.2	+5.0
PET	**Petropavlovsk**	**2.53**	**14**	*e*P	Pn	14 31 12.6	+3.6
PET				*e*S	Sn	14 31 41.1	+2.6
DALK	**Dalny**	**2.55**	**16**	*e*P	Pn	14 31 11.8	+2.5
DALK				*e*S	Sn	14 31 41.9	+2.8
UGLR	**Uglovaya**	**2.73**	**16**	*e*P	Pn	14 31 15.9	+3.9
AVH	**Avacha**	**2.77**	**14**	*e*P	Pn	14 31 16.6	+4.1
SMAR	**Somma**	**2.78**	**15**	*e*P	Pn	14 31 16.7	+4.0
KOK	**Koryaka**	**2.79**	**13**	*e*P	Pn	14 31 16.8	+4.1
SDLR	**Sedlovina**	**2.81**	**16**	*e*P	Pn	14 31 15.7	+2.6
KRX	**Arik**	**2.85**	**13**	*e*P	Pn	14 31 17.8	+4.2
SPN	**Mys Shipunski**	**2.93**	**30**	*e*P	Pn	14 31 17.3	+2.8
SPN				*e*S	Sn	14 31 51.4	+3.0
GNL	**Ganaly**	**3.12**	**4**	*e*P	Pn	14 31 21.0	+3.6
KBTR	**Krutoberegovo**	**6.44**	**27**	*e*P	Pn	14 32 06.7	+4.0

IDC ***28*** *14:34:47.4±1.5, 6°.08N×123°.75E, h550km±17km, mb3.1/7, mbtmp4.2/9, Error ellipse: s-maj=69.5km s-min=10.4km az=66.0*
ISC 28 14:34:47.0±0.7, 6°.1N±0°.2×123°.7E±0°.3, h550km, n9,
σ0s94/15, mb3.8/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**10.20**	**132**	P	**P**	**14 37 07.2**	**0.0**
	2.8nm,0.4s,baz=3.5,slow=19,SNR=4.4						
BATI	**Baumata**	**16.18**	**180**	P	**P**	**14 38 08.8**	**+0.4**
	27nm,0.8s,baz=333,slow=6.8,SNR=2.2						
WRA	**Warramunga Arr**	**27.88**	**158**	P	**P**	**14 39 52.9**	**-0.4**
	1.7nm,0.3s,baz=338,slow=9.6,SNR=74						
WRA				S	**S**	**14 43 55.9**	**-2.6**
	0.3nm,0.8s,baz=334,slow=15,SNR=2.1						
WRA				ScP	**ScP**	**14 45 40.5**	**+0.4**
	0.2nm,0.5s,baz=342,slow=3.3,SNR=5.2						
	1.7nm,0.3s						
ASAR	**Alice Springs**	**31.18**	**162**	P	**P**	**14 40 22.4**	**+0.6**
	1.9nm,0.5s,baz=340,slow=6.9,SNR=111						
ASAR				S	**S**	**14 44 49.4**	**-0.1**
	0.2nm,0.5s,baz=349,slow=23,SNR=7.7						
ASAR				ScP	**ScP**	**14 45 51.4**	**+0.5**
	0.2nm,0.4s,baz=347,slow=3.7,SNR=6.2						
	1.9nm,0.5s						
STKA	**Stephens Creek**	**41.41**	**157**	P	**P**	**14 41 46.8**	**+0.9**
	1.4nm,0.5s,baz=332,slow=9.0,SNR=6.3						
	1.4nm,0.5s						
SONM	**Songino Array**	**44.17**	**343**	P	**P**	**14 42 07.6**	**+0.2**
	0.5nm,0.7s,baz=152,slow=6.5,SNR=2.8						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**53.95**	**326**	P	**P**	**14 43 20.2**	**+0.7**
	2.3nm,0.4s,baz=120,slow=7.6,SNR=85						
MKAR				PcP	**PcP**	**14 44 15.8**	**-0.3**
	0.5nm,0.5s,baz=125,slow=4.5,SNR=6.3						
MKAR				ScP	**ScP**	**14 47 21.6**	**-0.1**
	0.2nm,0.6s,baz=109,slow=4.2,SNR=2.6						
	2.3nm,0.4s						
BRTR	**Keskin Array B**	**86.24**	**309**	P	**P**	**14 46 30.3**	**-0.7**
	0.3nm,0.4s,baz=120,slow=2.8,SNR=2.2						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**88.37**	**332**	P	**P**	**14 46 39.5**	**-0.8**
	1.0nm,0.6s,baz=69,slow=4.6,SNR=6.4						
	1.0nm,0.6s						

GII ***28*** *14:55:46.2±0.2, 33°.24N×35°.42E, h5km, MD1.2/3, Mm1.7/3*
GRAL ***28*** *14:55:47.2±0.3, 33°.26N×35°.42E, h2km±2km, MD2.9*
ISC 28 14:55:45.9±1.1, 33°.25N±0°.03×35°.41E±0°.04, h18km±3km,
n15, σ0s33/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEM	**Giv'at Ha'Em**	**0.21**	**101**	Pg	**Pg**	**14 55 51.1**	**0.0**
GEM				Sg	**Sg**	**14 55 54.5**	**-0.1**
MMA0B	**Mount Meron ar**	**0.24**	**182**	Pg	**Pg**	**14 55 51.4**	**-0.1**
MMA0B				Sg	**Sb**	**14 55 55.1**	**-0.2**
HNTI	**Hanita**	**0.26**	**230**	Pg	**Pg**	**14 55 51.9**	**+0.1**
HNTI				Sg	**Sb**	**14 55 56.3**	**+0.2**
NATI	**Neve Ativ**	**0.27**	**88**	Pg	**Pb**	**14 55 52.1**	**-0.1**
NATI				Sg	**Sb**	**14 55 56.6**	**+0.2**
QRWL	**Qaraoun**	**0.37**	**37**	*e*P	**Pg**	**14 55 53.6**	**-0.1**
QRWL				*e*S	**Sg**	**14 55 58.7**	**-0.3**
RCY	**Rachaya**	**0.43**	**55**	*e*P	**Pg**	**14 55 55.0**	**+0.2**
RCY				*e*S	**Sg**	**14 56 00.5**	**-0.3**
BLGI	**Bet Lehem HaGe**	**0.55**	**200**	Pg	**Pg**	**14 55 56.9**	**0.0**
BHL	**Bhannes**	**0.68**	**17**	*e*P	**Pg**	**14 55 59.5**	**+0.1**
ZAHL	**Zahle**	**0.72**	**33**	*e*P	**Pb**	**14 55 59.9**	**-0.1**
ZAHL				*e*S	**Sb**	**14 56 09.5**	**-0.2**
OFRI	**`Ofer**	**0.72**	**210**	Pg	**Pg**	**14 56 00.1**	**-0.1**
OFRI				Sg	**Sn**	**14 56 11.1**	**-0.9**
MMLI	**Mount Malkishu**	**0.81**	**179**	Pg	**Pb**	**14 56 01.6**	**+0.1**
MMLI				Sg	**Sg**	**14 56 13.1**	**+0.5**
HMDT	**Nahal Hemdat**	**1.00**	**175**	Pg	**Pb**	**14 56 04.8**	**+0.1**
HMDT				Sg	**Sn**	**14 56 19.5**	**+0.8**
HWQ	**Hawqa**	**1.12**	**23**	*e*P	**Pb**	**14 56 07.2**	**+0.4**
HWQ				*e*S	**Sn**	**14 56 21.9**	**+0.1**
BEIL	**Beino**	**1.44**	**26**	*e*P	**Pb**	**14 56 12.3**	**+0.1**
DSI	**Dead Sea**	**1.68**	**181**	Pn	**Pb**	**14 56 16.0**	**-0.3**

TAP ***28*** *15:01:02.5, 24°.46N×121°.91E, h22km, ML2.5, C*
ISC 28 15:01:02.9±1.0, 24°.46N±0°.02×121°.92E±0°.03, h17km±6km,
n41, σ0s55/61, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.13**	**265**	P	**Pg**	**15 01 06.9**	**+0.1**
	baz=265						
EWUT				*e*S	**Sg**	**15 01 09.7**	**+0.3**
	baz=265						
ENA

NDS	**Dongshan**	**0.25**	**314**	P	**Pb**	**15 01 08.8 -0.3**
	baz=316					
NDS				*eS*	**Sb**	**15 01 13.1 -0.2**
	baz=316					
ILA	**Ilan**	**0.34**	**334**	*eP*	**Pg**	**15 01 10.6 +0.4**
	baz=332					
ILA				S	**Sg**	**15 01 16.0 +0.9**
	baz=332					
TWE	**Neicheng**	**0.35**	**319**	P	**Pg**	**15 01 10.3 0.0**
	baz=322					
TWE				*eS*	**Sg**	**15 01 15.2 0.0**
	baz=322					
LATG	**Datong**	**0.36**	**282**	P	**Pg**	**15 01 10.6 0.0**
	baz=284					
LATG				S	**Sg**	**15 01 16.0 +0.2**
	baz=284					
ENTT	**Nioudou**	**0.37**	**300**	P	**Pg**	**15 01 10.6 0.0**
	baz=300					
ETL	**Fush Village**	**0.40**	**222**	*eP*	**Pg**	**15 01 10.7 -0.5**
	baz=217					
NACB	**Ninganchiao**	**0.41**	**226**	P	**Pg**	**15 01 10.7 -0.6**
NACB	**Ninganchiao**	**0.41**	**226**	P	**Pg**	**15 01 10.5 -0.8**
	baz=222					
FUSB	**Fushanzhiwuyua**	**0.42**	**315**	P	**Pg**	**15 01 11.7 0.0**
	baz=316					
FUSB				*eS*	**Sg**	**15 01 17.4 -0.1**
	baz=316					
ETLH	**Xiulin Townshi**	**0.47**	**238**	P	**Pg**	**15 01 11.7 -0.7**
	baz=237					
TWD	**Chiawan**	**0.47**	**218**	*eP*	**Pg**	**15 01 12.1 -0.4**
	baz=218					
TWD				*eS*	**Sb**	**15 01 20.2 +0.7**
	baz=218					
NNSB	**Datong**	**0.49**	**267**	P	**Pg**	**15 01 12.6 -0.2**
	baz=268					
NNSB				*eS*	**Sg**	**15 01 19.6 +0.2**
	baz=268					
NNSH	**Datong**	**0.49**	**267**	P	**Pg**	**15 01 12.7 -0.1**
	baz=268					
NNSH				*eS*	**Sg**	**15 01 19.2 -0.2**
	baz=268					
NWLT	**Wulai**	**0.49**	**310**	*eP*	**Pb**	**15 01 12.9 -0.3**
	baz=311					
NWLT				*eS*	**Sg**	**15 01 19.5 -0.1**
	baz=311					
NNS	**Nan Shan**	**0.49**	**268**	P	**Pg**	**15 01 12.9 -0.1**
	baz=269					
NNS				*eS*	**Sg**	**15 01 19.6 -0.1**
	baz=269					
TIPB	**Shuangxi**	**0.52**	**351**	*eP*	**Pb**	**15 01 13.6 0.0**
	baz=356					
TIPB				*eS*	**Sb**	**15 01 20.1 -0.8**
	baz=356					
YHNB	**Yeheng**	**0.54**	**293**	P	**Pb**	**15 01 13.6 -0.4**
YHNB	**Yeheng**	**0.54**	**293**	P	**Pb**	**15 01 13.6 -0.4**
	baz=295					
YHNB				*eS*	**Sb**	**15 01 20.6 -0.8**
	baz=295					
NSK	**Sanguang**	**0.55**	**293**	P	**Pb**	**15 01 13.7 -0.5**
	baz=295					
NSK				*eS*	**Sb**	**15 01 20.8 -1.1**
	baz=295					
TWB1	**Santiao Chiao**	**0.55**	**7**	*eP*	**Pb**	**15 01 13.7 -0.5**
	baz=3.0					
TWB1				S	**Sb**	**15 01 21.1 -0.7**
	baz=3.0					
SXI1	**Grass Mountain**	**0.64**	**357**	*eP*	**Pb**	**15 01 15.5 -0.1**
	baz=359					
SXI1				*eS*	**Sb**	**15 01 23.9 -0.4**
	baz=359					
TATO	**Taipei**	**0.65**	**323**	P	**Pb**	**15 01 15.2 -0.6**
WHF	**Hehuan Shan**	**0.67**	**243**	*eP*	**Pb**	**15 01 15.7 -0.8**
	baz=248					
ESL	**Shilin**	**0.78**	**215**	*eP*	**Pb**	**15 01 17.9 -0.1**
	baz=221					
CHGB	**Renai**	**0.78**	**240**	*eP*	**Pb**	**15 01 17.9 -0.4**
	baz=239					
TWS1	**Kuangyinshan**	**0.79**	**325**	*eP*	**Pg**	**15 01 19.1 +0.8**
	baz=320					
TWS1				*eS*	**Sg**	**15 01 29.9 +1.2**
	baz=320					
LIOB	**Emei**	**0.84**	**283**	*eP*	**Pn**	**15 01 20.2 +0.1**
	baz=283					
NSTT	**Nanjuang**	**0.85**	**282**	*eP*	**Pn**	**15 01 20.3 +0.1**
	baz=282					
WUSB	**Renai**	**0.86**	**238**	*eP*	**Pb**	**15 01 19.5 0.0**
	baz=232					
VWDT	**VWDT**	**1.00**	**225**	*eP*	**Pb**	**15 01 21.8 0.0**
	baz=226					
VWDT				*eS*	**Sg**	**15 01 37.3 +1.9**
	baz=226					
YOJ	**Yonaguni jima**	**1.00**	**89**	P	**Pg**	**15 01 22.3 0.0**
WCS	**Beigang Elemen**	**1.00**	**247**	*eP*	**Pg**	**15 01 22.8 +0.4**
	baz=253					
TWQ1	**Liyutan**	**1.05**	**264**	*eP*	**Pg**	**15 01 24.6 +1.4**
	baz=277					
SSLB	**Suanglung**	**1.10**	**233**	P	**Pb**	**15 01 23.6 0.0**
SSLB	**Suanglung**	**1.10**	**233**	*eP*	**Pb**	**15 01 23.6 0.0**
	baz=233					
FULB	**Fuli**	**1.38**	**205**	*eP*	**Pb**	**15 01 27.9 -0.3**
	baz=218					
TPUB	**Ta-pu**	**1.65**	**226**	P	**Pb**	**15 01 33.2 +0.3**
TPUB	**Ta-pu**	**1.65**	**226**	*eP*	**Pb**	**15 01 32.9 +0.1**
	baz=211					

*IDC **28** 15:07:51.2±3.1,6°.85S×107°.21E,h0km,mb3.5/4, mbtmp3.5/4,MS3.0/2,Error ellipse: s-maj=171.8km s-min=29.8km az=52.0*
*DJA **28** 15:07:56.6±1.2,8°.5±8°×10°.7E±°,h21km±7km,M4.0/14, mb4.2/2,MLv3.9/14*
ISC 28 15:07:55.9±0.9,7.76S±0.06×106°.55E±0°.06,h35km,n28, σ1§68/25,mb3.4/4,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.73**	**52**	P	**Pn**	**15 08 09.4**	**-0.3**
CNJI				S	**Sn**	**15 08 18.0**	**-1.6**
SKJI	**Sukabumi**	**0.75**	**0**	P	**Pn**	**15 08 09.7**	**-0.3**
SKJI				S	**Sn**	**15 08 18.8**	**-1.3**
BBJI	**Bungbulang**	**1.13**	**75**	P	**Pn**	**15 08 15.1**	**-0.2**
LEM	**Lembang**	**1.41**	**49**	P	**Pn**	**15 08 19.3**	**+0.1**
CGJI	**Cibinong**	**1.42**	**323**	P	**Pn**	**15 08 19.2**	**0.0**
SBJI	**Serang**	**1.68**	**346**	P	**Pn**	**15 08 23.6**	**+0.8**
CMJI	**Cimerak**	**1.88**	**91**	P	**Pn**	**15 08 25.5**	**0.0**
KPJI	**Karang Pucung**	**2.40**	**80**	P	**Pn**	**15 08 33.9**	**+1.3**
XMI	**Christmas Isla**	**2.80**	**198**	P	**Pn**	**15 08 37.3**	**-1.0**
KASI	**Kota Agung**	**3.02**	**317**	P	**Pn**	**15 08 42.8**	**+1.6**
KLI	**Kotabumi**	**3.33**	**330**	P	**Pn**	**15 08 46.5**	**+1.0**
LWLI	**Liwa**	**3.68**	**318**	P	**Pn**	**15 08 51.8**	**+1.4**
UGM	**Wanagama**	**3.94**	**92**	P	**Pn**	**15 08 54.7**	**+0.8**
MDSI	**Maura Dua**	**4.02**	**324**	P	**Pn**	**15 08 55.8**	**+0.9**
MNAI	**Manna**	**4.92**	**313**	P	**Pn**	**15 09 10.9**	**+3.6**
PWJI	**Pagerwojo**	**5.21**	**93**	P	**Pn**	**15 09 13.1**	**+1.8**
JAGI	**Jajag, Banyuwa**	**7.56**	**96**	P	**Pn**	**15 09 44.9**	**+1.3**
BKNI	**Bangkinang**	**9.73**	**325**	P	**Pn**	**15 10 16.9**	**+3.4**
	113nm,0.5s						
PLAI	**Plampang**	**11.16**	**96**	P	**Pn**	**15 10 34.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**27.11**	**344**	LR	LR	15 23 42.0	
	comp=Z,19nm,21.8s,baz=85,slow=36						
WRA	**Warramunga Arr**	**29.51**	**117**	P	**P**	**15 13 56.9**	**-0.4**
	0.4nm,0.8s,baz=293,slow=10,SNR=3.1 0.4nm,0.8s						
ASAR	**Alice Springs**	**30.62**	**124**	P	**P**	**15 14 07.9**	**+0.9**
	0.4nm,0.8s,baz=300,slow=8.2,SNR=3.0 0.4nm,0.8s						
H08S2	**Diego Garcia H**	**33.74**	**268**	T	T	15 50 07.5	
	baz=92,slow=76,SNR=50						
H08S3	**Diego Garcia H**	**33.76**	**268**	T	T	15 50 08.2	
	baz=92,slow=76,SNR=63						
H08S1	**Diego Garcia H**	**33.76**	**268**	T	T	15 50 08.9	
	baz=92,slow=76,SNR=53						
CTA	**Charters Tower**	**40.33**	**112**	LR	LR	15 33 55.0	
	comp=Z,34nm,18.0s,baz=84,slow=39						
STKA	**Stephens Creek**	**40.47**	**131**	P	**P**	**15 15 31.7**	**+0.3**
	1.5nm,0.7s,baz=308,slow=8.3,SNR=4.6 1.5nm,0.7s						
MKAR	**Makanchi Array**	**58.45**	**341**	P	**P**	**15 17 44.5**	**-3.8**
	0.2nm,0.6s,baz=159,slow=7.6,SNR=2.4 0.2nm,0.6s						

*IDC **28** 15:17:09.6±0.8,5°.90N×125°.92E,h170km±5km,mb3.4/12, mbtmp3.8/13,Error ellipse: s-maj=32.6km s-min=12.1km az=67.0*

*MAN **28** 15:17:11.2,5°.84N×125°.86E,h146km,mb4.3,ML3.2, MS2.9*
ISC 28 15:17:07.2±0.7,5°.74N±0°.08×126°.1E±0°.1,h150km,n18, σ1§87/22,mb3.6/11,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.17**	**287**	*eP*	**Pn**	**15 17 35.3**	**+1.8**
GSPH				*i* S	Sn	15 18 16.9	+23
DAV	**Davao City (W)**	**1.41**	**340**	P	**Pn**	**15 17 38.5**	**+2.7**
	63nm,0.3s,baz=214,slow=3.6,SNR=1.5						
DAV				S	**Sn**	**15 18 00.1**	**+2.3**
	291nm,0.4s,baz=248,slow=19,SNR=16						
KCP	**Kidapawan**	**1.59**	**322**	*iP*	**Pn**	**15 17 39.8**	**+2.0**
KCP				*i* S	**Sn**	**15 18 04.2**	**+3.0**
BIPH	**Bislig**	**2.44**	**7**	*iP*	**Pn**	**15 17 49.3**	**+1.7**
BIPH				*i* S	**Sn**	**15 18 19.9**	**+1.1**
CGP	**Cagayan de Oro**	**3.02**	**333**	*eP*	**Pn**	**15 17 58.0**	**+3.2**
CGP				*eS*	**Sn**	**15 18 31.7**	**-0.1**
SIJI	**Sorong**	**8.37**	**142**	P	Pn	15 19 10.4	+4.9
	2.4nm,0.5s,baz=352,slow=15,SNR=2.2						
SIJI				S	**Sn**	**15 20 40.1**	**+1.4**
	1.8nm,0.4s,baz=185,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**26.79**	**163**	P	**P**	**15 22 35.2**	**+1.9**
	0.2nm,0.4s,baz=344,slow=10,SNR=4.9 0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.32**	**298**	P	**P**	**15 22 55.9**	**0.0**
	0.4nm,0.3s,baz=108,slow=6.8,SNR=2.8 0.4nm,0.3s						
ASAR	**Alice Springs**	**30.21**	**166**	P	P	15 23 06.2	+2.5
	0.4nm,0.4s,baz=338,slow=7.4,SNR=22						
ASAR				PcP	**PcP**	**15 26 01.8**	**+0.6**
	0.3nm,0.7s,baz=350,slow=2.4,SNR=2.4 0.4nm,0.4s						
MJAR	**Matsushiro Arr**	**32.61**	**18**	P	**P**	**15 23 24.3**	**-0.3**
	1.0nm,0.8s,baz=202,slow=8.9,SNR=3.0 1.0nm,0.8s						
SONM	**Songino Array**	**45.20**	**341**	P	**P**	**15 25 09.1**	**-0.1**
	0.3nm,0.3s,baz=161,slow=8.0,SNR=2.0 0.3nm,0.3s						
MKAR	**Makanchi Array**	**55.54**	**325**	P	**P**	**15 26 25.7**	**-1.2**
	1.0nm,0.5s,baz=121,slow=7.6,SNR=40						
MKAR				PcP	**PcP**	**15 27 23.2**	**-1.7**
	0.3nm,0.7s,baz=127,slow=3.0,SNR=3.5 1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**58.51**	**333**	P	**P**	**15 26 45.5**	**-2.1**
	0.7nm,0.4s,baz=137,slow=7.0,SNR=4.7 0.7nm,0.4s						
AKTO	**Aktyubinsk**	**71.69**	**321**	P	**P**	**15 28 10.9**	**-1.8**
	0.8nm,0.6s,baz=125,slow=7.0,SNR=3.9 0.8nm,0.6s						
ARU	**Arti**	**72.90**	**328**	P	**P**	**15 28 17.7**	**-2.1**
	0.9nm,0.3s,baz=194,slow=11,SNR=3.4 0.9nm,0.3s						
ILAR	**Eielson Array**	**83.58**	**26**	P	**P**	**15 29 18.1**	**-0.2**
	0.2nm,0.6s,baz=254,slow=5.5,SNR=4.8 0.2nm,0.6s						
FINES	**FINESS Array B**	**89.76**	**332**	P	**P**	**15 29 47.2**	**-1.2**
	1.3nm,0.9s,baz=72,slow=4.5,SNR=5.1 1.3nm,0.9s						
YKA	**Yellowknife Ar**	**97.95**	**24**	P	Pdif	15 30 26.3	+0.4
	0.2nm,0.8s,baz=307,slow=5.3,SNR=2.4 0.2nm,0.8s						

IDC 28 15:17:21.7±330.0,5°.58S×147°.72E,h0km,Error ellipse: s-maj=129.9km s-min=9.0km az=74.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.50**	**315**	I	I	17 18 00.0	
	baz=134,slow=311,SNR=1.6						
I07AU	**WARRAMUNGA INF**	**29.32**	**221**	I	I	17 18 30.0	
	baz=42,slow=306,SNR=2.1						

IDC 28 15:23:28.3±1.7,3°.17N×122°.35E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=215.4km s-min=26.3km az=62.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.81**	**153**	P	P	15 29 01.0	-0.5
	0.3nm,0.5s,baz=329,slow=11,SNR=8.1 0.3nm,0.5s						
ASAR	**Alice Springs**	**28.95**	**158**	P	P	15 29 30.1	+0.5
	0.1nm,0.3s,baz=336,slow=7.3,SNR=11 0.1nm,0.3s						
MKAR	**Makanchi Array**	**55.60**	**328**	P	P	15 33 05.8	-0.1
	0.1nm,0.3s,baz=122,slow=7.7,SNR=5.2 0.1nm,0.3s						

*NEIC **28** 15:49:35.2±2.5,6°.62N±0°.07×77°.00W±0°.03,h10km±1km, mb4.4/17,Error ellipse: s-maj=13.9km s-min=3.0km az=203.0*
*IDC **28** 15:49:37.8±0.7,6°.54N×77°.01W,h30km±3km,mb3.8/12, mbtmp4.1/13,ML3.9/1,MS3.6/8,Error ellipse: s-maj=22.5km s-min=18.3km az=22.0*
*RSNC **28** 15:49:38.5±1.1,6°.54N×76°.93W,h3km±4km,ML3.7,Mw4.2*
ISC 28 15:49:36.5±0.4,6°.61N±0°.02×76°.96W±0°.03,h20km±3km, n92,σ1§96/118,mb4.2/18,MS3.6/4,7C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.59**	**230**	*eP*	**Pb**	**15 49 48.3**	**+0.1**
SOLC				*eS*	**Sb**	**15 49 56.9**	**+0.7**
DBBC	**Dabeiba**	**0.84**	**61**	*iP*	**Pn**	**15 49 53.9**	**+0.5**
DBBC				*eS*	**Sn**	**15 50 06.1**	**+0.9**
DBBC				*i*		15 50 09.2	
	comp=Z,6μm,0.4s						
CBOC	**Ciudad Bolivar**	**1.20**	**128**	*eP*	**Pn**	**15 49 58.2**	**0.0**
CBOC				*eS*	**Sb**	**15 50 13.1**	**-0.6**
CBOC				*i*		15 50 17.2	
	comp=Z,1μm,0.5s						
APAC	**Apartado, Choc**	**1.33**	**16**	*iP*	**Pb**	**15 50 01.1**	**+0.2**
APAC				*eS*	**Sb**	**15 50 21.7**	**+4.2**
APAC				*i*		15 50 30.1	
	comp=Z,1μm,0.5s						
MEDEC	**Medelln, Ant**	**1.40**	**104**	*eP*	**Pb**	**15 50 02.5**	**+0.4**
PIZC	**Pizarro, Choco**	**1.68**	**194**	*eP*	**Pb**	**15 50 06.9**	**+0.1**
PIZC				*eS*	**Sb**	**15 50 30.4**	**+2.8**
PIZC				*i*		15 51 09.1	
	comp=Z,429nm,0.6s						
UREC	**San Jos de Ur**	**1.81**	**51**	*eP*	**Pb**	**15 50 08.7**	**-0.3**
UREC				*i*		15 50 43.7	
	comp=Z,937nm,0.3s						
PLMC	**San Jos del P**	**1.82**	**158**	*iP*	**Pn**	**15 50 06.1**	**-0.7**
PLMC				*eS*	**Sn**	**15 50 27.4**	**-1.9**
PLMC				*i*		15 50 33.6	
	comp=Z,869nm,0.7s						
ZARC	**Zaragoza, Cauc**	**2.26**	**67**	*iP*	**Pb**	**15 50 16.0**	**-0.7**
ZARC				*eS*	**Sb**	**15 50 43.9**	**-0.3**
ZARC				*i*		15 50 55.1	
	comp=Z,599nm,0.6s						
LCBC	**Los crdobas,**	**2.31**	**15**	*eP*	**Pb**	**15 50 16.2**	**-1.3**
LCBC				*eS*	**Sb**	**15 50 46.7**	**+1.1**
LCBC				*i*		15 50 56.6	
	comp=Z,289nm,0.4s						
PTBC	**PUERTO BERRIO,**	**2.48**	**91**	*eP*	**Pb**	**15 50 19.1**	**-1.4**
PTBC				*eS*	**Sb**	**15 50 50.3**	**-0.4**
PTBC				*i*		15 50 57.8	
	comp=Z,642nm,0.7s						
YOTC	**Yotoco, Valle**	**2.68**	**167**	*eP*	**Pn**	**15 50 18.1**	**-0.5**
YOTC				*eS*	**Sn**	**15 50 48.4**	**-2.1**
YOTC				*i*		15 50 51.9	
	comp=Z,138nm,0.4s						
ROSC	**El Rosal**	**3.16**	**124**	Pn	**Pb**	**15 50 29.7**	**-2.5**
	comp=Z,7.3nm,0.3s,baz=101,slow=9.8,SNR=5.1						
ROSC				Sn	**Sb**	**15 51 07.8**	**-2.6**
	comp=Z,33nm,0.3s,baz=301,slow=19,SNR=4.2						
ROSC	**El Rosal**	**3.16**	**124**	Pn	**Pn**	**15 50 25.9**	**+0.5**
ROSC	**El Rosal**	**3.16**	**124**	*eP*	**Pb**	**15 50 31.5**	**-0.7**
ROSC				*eS*	**Sb**	**15 51 07.5**	**-2.9**
ROSC				*i*		15 51 14.9	
	comp=Z,221nm,0.6s						
ORTC	**Ortega, Tolima**	**3.18**	**148**	*eP*	**Pn**	**15 50 28.6**	**+3.2**
ORTC				*eS*	**Sn**	**15 51 05.2**	**+2.5**
ORTC				*i*		15 51 09.4	
	comp=Z,280nm,0.6s						
BRRC	**Barranca, Sant**	**3.26**	**81**	*eP*	**Pb**	**15 50 31.3**	**-2.4**
BRRC				*eS*	**Sb**	**15 51 12.0**	**-0.9**
BRRC				*i*		15 51 25.1	
	comp=Z,181nm,0.6s						

AZU	**Azuero**	**3.50**	**290**	*eP*	**Pn**	**15 50 29.4 -0.3**
AZU				*eS*	**Sn**	**15 51 08.5 -2.0**
AZU				*i*		15 51 11.3
	comp=Z,196nm,0.5s					
SJCC	**San Jacinto, C**	**3.71**	**28**	*eP*	**Pn**	**15 50 33.9 +1.1**
SJCC				*eS*	**Sn**	**15 51 15.4 -0.5**
SJCC				*i*		15 51 18.8
	comp=Z,52nm,0.4s					
CHIC	**Chingaza**	**3.76**	**121**	*eP*	**Pb**	**15 50 39.4 -3.1**
CHIC				*eS*	**Sn**	**15 51 22.2 +4.5**
CHIC				*i*		15 51 30.8
	comp=Z,91nm,0.6s					
BCIP	**Isla Barro Col**	**3.82**	**312**		**Pn**	**15 50 34.0 -0.2**
BCIP	**Isla Barro Col**	**3.82**	**312**	*eP*	**Pn**	**15 50 34.7 +0.4**
BCIP				*eS*	**Sn**	**15 51 15.6 -3.0**
BCIP				*i*		15 51 44.6
	comp=Z,74nm,0.6s					
RUSC	**La Rusia**	**3.92**	**100**	Pn	**Pn**	**15 50 37.8 +1.8**
RUSC	**La Rusia**	**3.92**	**100**	*eP*	**Pn**	**15 50 40.0 +4.0**
RUSC				*eS*	**Sn**	**15 51 24.7 +3.1**
RUSC				*i*		15 51 42.9
	comp=Z,177nm,0.7s					
PAMC	**Pamplona, Colo**	**4.29**	**80**	*eP*	**Pn**	**15 50 45.4 +4.4**
PAMC				*eS*	**Sn**	**15 51 31.4 +0.7**
PAMC				*i*		15 51 54.1
	comp=Z,226nm,0.7s					
GMAL	**Guarumal, Vera**	**4.40**	**285**	*eP*	**Pn**	**15 50 42.6 +0.5**
GMAL				*eS*	**Sn**	**15 51 30.7 -2.1**
GMAL				*i*		15 51 54.3
	comp=Z,176nm,0.2s					
GARC	**Garzon, Huila**	**4.63**	**162**	*eP*	**Pn**	**15 50 48.5 +2.9**
GARC				*eS*	**Sn**	**15 51 32.0 -6.8**
GARC				*i*		15 51 44.2
	comp=Z,57nm,0.3s					
TAMC	**Tame, Arauca**	**5.13**	**92**	*iP*	**Pn**	**15 50 56.4 +4.1**
TAMC				*eS*	**Sn**	**15 51 54.4 +3.3**
TAMC				*i*		15 52 16.1
	comp=Z,89nm,0.5s					
FLOC	**Florencia**	**5.16**	**165**	*eP*	**Pn**	**15 50 55.5 +2.8**
FLOC				*eS*	**Sn**	**15 51 54.6 +3.0**
MACC	**Macarena, Meta**	**5.41**	**145**	*eP*	**Pn**	**15 50 59.9 +3.7**
MACC				*i*		15 52 45.3
	comp=Z,50nm,0.6s					
CRJC	**Cerrejon, Guaj**	**5.95**	**42**	*eP*	**Pn**	**15 51 05.2 +1.6**
CRJC				*eS*	**Sn**	**15 52 07.7 -3.6**
CRJC				*i*		15 52 44.5
	comp=Z,35nm,0.6s					
OTAV	**Otavalo**	**6.50**	**193**		**Pn**	**15 51 10.9 -0.6**
SDV	**Santo Domingo**	**6.66**	**70**	Pn	**Pn**	**15 51 16.6 +3.1**
	comp=Z,26nm,0.3s,baz=237,slow=4.7,SNR=111					
SDV				Sn	**Sn**	**15 52 29.7 +0.8**
	comp=Z,12nm,0.3s,baz=3.5,slow=14,SNR=2.3					
SDV				LR	LR	15 54 15.7
	comp=Z,662nm,18.2s,baz=228,slow=41 comp=Z,91nm,0.5s					
SDV	**Santo Domingo**	**6.66**	**70**	Pn	**Pn**	**15 51 14.1 +0.6**
SRBA	**San Rafael, Bo**	**6.86**	**293**		**Pn**	**15 51 17.4 +1.3**
URIC	**Uribia, Colomb**	**7.04**	**44**		**Pn**	**15 51 17.4 -1.1**
RIMA	**Rio Macho**	**7.52**	**295**		**Pn**	**15 51 25.4 +0.1**
CVTR	**Volcan Turrial**	**7.54**	**297**	Pn	**Pn**	**15 51 26.2 +0.5**
PRVC	**Isla de Provid**	**8.00**	**328**	Pn	**Pn**	**15 51 31.8 +0.1**
JTS	**Las Juntas de**	**8.71**	**295**	Pn	**Pn**	**15 51 43.8 +2.2**
	comp=Z,0.7nm,0.3s,baz=110,slow=10,SNR=4.4					
JTS				LR	LR	15 55 11.5
	comp=Z,294nm,21.8s,baz=130,slow=38					
BAUV	**El Baul**	**9.13**	**75**	Pn	**Pn**	**15 51 47.2 0.0**
HATO	**Hato, Curacao**	**9.64**	**54**	Pn	**Pn**	**15 51 54.8 +0.6**
ACON	**Acoyapa**	**9.70**	**304**	Pn	**Pn**	**15 51 54.2 -0.8**
MTDJ	**Mount Denham**	**11.56**	**357**	Pn	**Pn**	**15 52 21.1 +0.5**
SDDR	**Presa de Saban**	**13.48**	**24**		**Pn**	**15 52 48.2 +1.4**
ATAH	**Atahualpa**	**13.73**	**186**	LR	LR	15 59 12.8
	comp=Z,134nm,19.1s,baz=12,slow=42					
CRPR	**Cabo Rojo, PR**	**14.85**	**39**	Pn	**Pn**	**15 53 01.0 -4.5**
AOPR	**Arecibo Observ**	**15.33**	**40**	Pn	**Pn**	**15 53 08.9 -2.9**
GCPR	**Guaynabo City**	**15.73**	**41**	Pn	**Pn**	**15 53 15.0 -2.1**
GCPR				IAmb	IAmb	15 53 27.6
	comp=Z,16nm,0.7s					
HUMP	**Col San Antoni**	**15.77**	**42**	Pn	**Pn**	**15 53 14.9 -2.6**
HUMP				IAmb	IAmb	15 53 27.7
	comp=Z,26nm,0.8s					
CBYP	**Canovanas**	**15.86**	**42**	Pn	**Pn**	**15 53 16.6 -2.1**
CBYP				IAmb	IAmb	15 53 31.2
	comp=Z,22nm,0.9s					
MTP	**Monte Pirata**	**15.94**	**43**	Pn	**Pn**	**15 53 15.1 -4.7**
CUPR	**Culebra, Puert**	**16.27**	**43**	Pn	**Pn**	**15 53 20.1 -3.8**
CUPR				IAmb	IAmb	15 53 22.7
	comp=Z,18nm,0.7s					
BOAV	**Boa Vista**	**16.91**	**104**		**Pn**	**15 53 31.1 -1.0**
BOAV				IAmb	IAmb	15 53 44.2
	comp=Z,7.9nm,0.7s					
NNA	**Nana**	**18.48**	**180**	LR	LR	16 02 00.8
	comp=Z,129nm,20.4s,baz=356,slow=40					
ETMB	**Extrema**	**19.51**	**147**	P	**P**	**15 54 03.3 +0.6**
ETMB				IAmb	IAmb	15 54 13.5
	comp=Z,14nm,0.7s					
CMIG	**Matias Romero**	**20.38**	**302**	P	**P**	**15 54 12.9 +0.7**
	comp=Z,1.3nm,0.3s,baz=73,slow=11,SNR=2.4					
CMIG				LR	LR	16 03 27.4
	comp=Z,123nm,19.5s,baz=114,slow=41 comp=Z,1.3nm,0.3s					
MDP	**Montagnes des**	**24.23**	**92**	LR	LR	16 04 37.6
	comp=Z,142nm,19.3s,baz=285,slow=37					
LPAZ	**La Paz**	**24.37**	**159**	pP	pP	15 55 03.3 +2.9
	comp=Z,2.3nm,0.5s,baz=1.0,slow=8.4,SNR=5.6					
SIV	**San Ignacio**	**27.41**	**145**	pP	pP	15 55 31.2 +3.9
	comp=Z,1.3nm,0.5s,baz=311,slow=11,SNR=5.2					
TXAR	**Lajitas Array**	**33.84**	**315**	P	**P**	**15 56 18.0 +0.2**
	comp=Z,0.9nm,0.8s,baz=140,slow=9.9,SNR=8.2					
TXAR				pP	**sP**	**15 56 27.1 +0.4**
	comp=Z,0.4nm,0.7s,baz=124,slow=8.1,SNR=3.8					
TXAR				PcP	**PcP**	**15 58 56.8 +0.1**
	comp=Z,1.0nm,1.0s,baz=104,slow=3.8,SNR=4.8 comp=Z,0.9nm,0.8s					
TXAR	**Lajitas Array**	**33.84**	**315**	P	**P**	**15 56 16.9 -0.9**
CFA	**Coronel Fontan**	**38.90**	**168**	pP	pP	15 57 10.3 +3.1
	baz=270,slow=6.1					
RCBR	**Riachuelo**	**42.80**	**106**	LR	LR	16 17 54.0
	comp=Z,83nm,18.7s,baz=112,slow=40					
V12A	**Nelson**	**45.22**	**315**	P	**P**	**15 57 53.6 +0.9**
V12A				IAmb	IAmb	15 57 55.2
	comp=Z,5.4nm,0.9s					
PDAR	**Pinedale Array**	**46.08**	**327**	P	**P**	**15 57 59.8 +0.3**
	comp=Z,1.7nm,1.0s,baz=132,slow=8

BPAW	**Bear Paw Mtn.**	**77.13**	**334**	P	**P**		**16 01 28.1**	**-0.3**
PPLA	**Purkeypile**	**77.43**	**333**	P	**P**		**16 01 30.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**77.51**	**78**	P	**P**		**16 01 31.7**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=285,slow=6.1,SNR=3.1							
	comp=Z,0.7nm,0.9s							
IMAR	**Indian Mountai**	**78.63**	**336**	P	**P**		**16 01 36.0**	**-0.7**
NOA	**NORSAR Array B**	**83.38**	**29**	P	**P**		**16 02 03.1**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=275,slow=7.8,SNR=3.4							
	comp=Z,1.4nm,0.8s							
GERES	**GERESS Array B**	**85.51**	**41**	P	**P**		**16 02 14.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=298,slow=2.9,SNR=6.7							
	comp=Z,0.7nm,0.8s							
TSUM	**Tsumeb**	**96.41**	**109**	LR	LR		16 46 26.9	
	comp=Z,40nm,18.2s,baz=330,slow=35							
MKAR	**Makanchi Array**	**123.72**	**17**	PKP	**PKPdf**		**16 08 32.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=315,slow=2.4,SNR=5.5							
KSRS	**Korea Array**	**130.39**	**334**	PKP	**PKPdf**		**16 08 45.4**	**-0.7**
	comp=Z,1.6nm,1.1s,baz=61,slow=3.0,SNR=4.1							
ASAR	**Alice Springs**	**145.85**	**237**	PKPbc	**PKPdf**		**16 09 14.3**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=118,slow=3.1,SNR=30							
ASAR				pPKPbc	**sPKPdf**		**16 09 24.2**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=120,slow=3.3,SNR=5.9							
WRA	**Warramunga Arr**	**146.87**	**243**	PKPbc	**PKPdf**		**16 09 16.4**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=100,slow=1.1,SNR=9.3							
WRA				pPKPbc	pPKPab		16 09 26.9	+0.3
	comp=Z,1.9nm,0.9s,baz=116,slow=1.9,SNR=8.1							
PZH	**PanZhiHua**	**147.06**	**2**	PKPbc	**PKPdf**		**16 09 16.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**154.77**	**9**	PKP	**PKPdf**		**16 09 28.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=326,slow=2.7,SNR=2.2							
CMAR				PKPbc	**pPKPdf**		**16 09 36.6**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=312,slow=3.1,SNR=5.9							

IDC 28 15:51:50.3±4.0, 5.78S×151.52E, h67km±29km, mb2.6/2, mbtmp3.0/3, ML1.5/1, Error ellipse: s-maj=139.6km s-min=17.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.55**	**19**	P	Pn	15 52 14.4	-1.4
	169nm,0.4s,baz=269,slow=3.9,SNR=49						
KRVT				S	Sn	15 52 35.3	+0.2
	184nm,0.3s,baz=90,slow=20,SNR=14						
PMG	**Port Moresby**	**5.63**	**230**	P	Pn	15 53 11.5	0.0
	0.9nm,0.3s,baz=41,slow=11,SNR=2.1						
PMG				S	Sn	15 54 11.8	-3.0
	3.0nm,0.5s,baz=195,slow=20,SNR=1.6						
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**21.84**	**228**	P	P	15 56 37.7	+0.2
	0.2nm,0.6s,baz=53,slow=10.0,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**24.57**	**222**	P	P	15 57 05.0	+0.8
	0.3nm,0.9s,baz=54,slow=8.8,SNR=2.1						
	0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.38**	**286**	PKPbc	PKPbc	16 11 31.8	-1.0
	0.3nm,0.6s,baz=89,slow=1.7,SNR=1.8						

IDC 28 15:56:38.2±2.2, 1.79N×127.06E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=181.0km s-min=26.0km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**162**	P	P	16 01 42.4	+0.2
	0.8nm,0.5s,baz=341,slow=11,SNR=9.7						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**26.16**	**166**	P	P	16 02 14.2	-0.3
	0.2nm,0.3s,baz=344,slow=11,SNR=24						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.33**	**326**	P	P	16 06 42.1	+0.1
	0.2nm,0.5s,baz=117,slow=7.1,SNR=4.7						
	0.2nm,0.5s						

*IDC **28** 16:01:12.4±1.3, 37.66N×23.61E, h0km, mb3.3/4, mbtmp3.4/7, ML3.2/3, Error ellipse: s-maj=28.9km s-min=21.2km az=126.0*
*ATH **28** 16:01:14.0, 37.58N×23.56E, h11km±1km, ML3.1/31, Error ellipse: s-maj=1.0km s-min=0.6km az=63.0*
*THE **28** 16:01:14.5, 37.58N×23.56E, h5km±1km, ML3.0/6, Error ellipse: s-maj=1.0km s-min=0.4km az=15.0*

ISC 28 16:01:13.7±0.9, 37.57N±0.02×23.54E±0.02, h13km±6km, n95, σ0.93/143, mb3.4/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YDRA	**Hydra**	**0.23**	**194**	P	**Pg**	**16 01 18.8**	**+0.2**
YDRA				S	**Sg**	**16 01 22.5**	**+0.6**
YDRA				AML	AML	16 01 24.0	
	comp=N,23398μm,0.4s						
YDRA				AML	AML	16 01 24.0	
	comp=E,43822μm,0.4s						
EPID	**Epidavros**	**0.33**	**278**	P	**Pb**	**16 01 21.0**	**-0.5**
EPID				S	**Sb**	**16 01 27.2**	**+0.4**
EPID	**Epidavros**	**0.33**	**278**	P	**Pb**	**16 01 20.9**	**-0.6**
EPID				S	**Sb**	**16 01 26.3**	**-0.4**
VLY	**Voula,Athens**	**0.35**	**36**	P	**Pg**	**16 01 20.8**	**0.0**
VLY				S	**Sg**	**16 01 26.5**	**+1.0**
	comp=E,5μm,0.3s						
VLY	**Voula,Athens**	**0.35**	**36**	P	**Pg**	**16 01 20.4**	**-0.4**
VLY				S	**Sg**	**16 01 24.7**	**-0.9**
VLY				AML	AML	16 01 26.9	
	comp=E,11778μm,0.3s						
VLY				AML	AML	16 01 27.4	
	comp=N,6173μm,0.3s						
KRND	**KRANIDI**	**0.36**	**239**	P	**Pb**	**16 01 21.1**	**-0.8**
KRND				S	**Sb**	**16 01 27.2**	**-0.2**
	comp=N,4μm,0.4s						
KRND	**KRANIDI**	**0.36**	**239**	P	**Pb**	**16 01 21.0**	**-0.9**
KRND				S	**Sb**	**16 01 26.4**	**-1.1**
KRND				AML	AML	16 01 27.9	
	comp=N,10603μm,0.4s						
KRND				AML	AML	16 01 34.1	
	comp=E,11986μm,0.6s						
ATH	**Athens Observa**	**0.43**	**20**	P	**Pg**	**16 01 22.1**	**-0.1**
ATH				S	**Sg**	**16 01 28.6**	**+0.7**
	comp=E,3μm,0.3s						
ATH	**Athens Observa**	**0.43**	**20**	P	**Pg**	**16 01 21.8**	**-0.4**
ATH				S	**Sg**	**16 01 27.7**	**-0.2**
ATH				AML	AML	16 01 30.8	
	comp=E,5202μm,0.5s						
ATH				AML	AML	16 01 33.1	
	comp=N,6185μm,0.6s						
ATHU	**Athens Univers**	**0.44**	**26**	P	**Pg**	**16 01 22.1**	**-0.4**
ATHU				S	**Sg**	**16 01 28.7**	**+0.3**
ATHU	**Athens Univers**	**0.44**	**26**	P	**Pg**	**16 01 21.9**	**-0.5**
ATHU				S	**Sg**	**16 01 28.6**	**+0.3**
ATHU				AML	AML	16 01 29.4	
	comp=N,1760μm,0.2s						
ATHU				AML	AML	16 01 30.2	
	comp=E,1180μm,0.2s						
PTL	**Penteli**	**0.54**	**29**	P	**Pg**	**16 01 25.0**	**+0.6**
PTL				S	**Sg**	**16 01 32.7**	**+1.1**
	comp=E,1μm,0.2s						
PTL	**Penteli**	**0.54**	**29**	P	**Pg**	**16 01 24.9**	**+0.5**
PTL				S	**Sg**	**16 01 30.8**	**-0.9**
PTL				AML	AML	16 01 36.2	
	comp=N,2637μm,0.2s						
PTL				AML	AML	16 01 36.4	
	comp=E,2392μm,0.4s						
DION	**Dionisos Attik**	**0.60**	**32**	P	**Pg**	**16 01 26.1**	**+0.7**
DION				S	**Sg**	**16 01 33.6**	**+0.3**
DION	**Dionisos Attik**	**0.60**	**32**	P	**Pg**	**16 01 25.7**	**+0.3**
DION				S	**Sg**	**16 01 34.1**	**+0.9**
DION				AML	AML	16 01 37.5	
	comp=E,4376μm,0.3s						
DION				AML	AML	16 01 37.5	
	comp=N,4230μm,0.6s						
LOUT	**Loutraki**	**0.61**	**313**	P	**Pb**	**16 01 26.4**	**+0.2**
LOUT	**Loutraki**	**0.61**	**313**	P	**Pb**	**16 01 25.6**	**-0.6**
LOUT				S	**Sb**	**16 01 34.3**	**-0.4**
LOUT				AML	AML	16 01 36.7	
	comp=N,778μm,0.4s						
LOUT				AML	AML	16 01 39.5	
	comp=E,834μm,0.3s						
VILL	**Villia**	**0.62**	**343**	P	**Pg**	**16 01 25.6**	**-0.2**
VILL				S	**Sb**	**16 01 35.2**	**+0.2**
	comp=E,1μm,0.3s						
VIL2	**Platees**	**0.67**	**342**	P	**Pg**	**16 01 25.6**	**-1.3**
VIL2				S	**Sg**	**16 01 33.7**	**-2.0**
VIL2				AML	AML	16 01 37.4	
	comp=E,5010μm,0.3s						
VIL2				AML	AML	16 01 38.8	
	comp=N,3533μm,0.4s						
THAL	**Thalero**	**0.83**	**304**	P	**Pn**	**16 01 30.6**	**-0.5**
THAL	**Thalero**	**0.83**	**304**	P	**Pb**	**16 01 30.1**	**+0.1**
THAL				S	**Sb**	**16 01 41.8**	**+0.7**
THAL				AML	AML	16 01 49.6	
	comp=N,3842μm,0.6s						
THAL				AML	AML	16 01 52.6	
	comp=E,3700μm,0.5s						
MNVA	**Monemvasia**	**0.97**	**204**	P	**Pn**	**16 01 32.9**	**0.0**
MNVA				S	**Sn**	**16 01 45.5**	**-0.9**
MNVA				AML	AML	16 01 50.6	
	comp=E,3688μm,0.8s						
MNVA				AML	AML	16 01 50.7	
	comp=N,2896μm,0.5s						
VLI	**Velíai**	**0.98**	**210**	P	**Pn**	**16 01 32.9**	**-0.2**
VLI				S	**Sn**	**16 01 47.8**	**+1.1**
VLI	**Velíai**	**0.98**	**210**	P	**Pb**	**16 01 31.8**	**-0.6**
VLI				S	**Sb**	**16 01 44.8**	**-0.4**
VLI				AML	AML	16 01 49.5	
	comp=N,4457μm,0.9s						
VLI				AML	AML	16 01 49.7	
	comp=E,4064μm,0.8s						
MHLO	**Agia Marina, M**	**1.12**	**142**	P	**Pn**	**16 01 35.3**	**+0.3**
MHLO				S	**Sn**	**16 01 52.4**	**+2.2**
MHLO	**Agia Marina, M**	**1.12**	**142**	P	**Pb**	**16 01 35.1**	**+0.2**
MHLO				S	**Sb**	**16 01 49.9**	**+0.6**
MHLO				AML	AML	16 01 55.3	
	comp=E,8860μm,0.3s						
MHLO				AML	AML	16 01 56.5	
	comp=N,6019μm,0.7s						
KYMI	**Kymi, Euboea I**	**1.15**	**23**	P	**Pb**	**16 01 35.0**	**-0.4**
KYMI				S	**Sg**	**16 01 52.0**	**+1.2**
	comp=N,882nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.15**	**23**	P	**Pb**	**16 01 34.4**	**-1.0**
KYMI				S	**Sg**	**16 01 50.1**	**-0.7**
KYMI				AML	AML	16 01 53.3	
	comp=N,2026μm,0.6s						
KYMI				AML	AML	16 01 57.5	
	comp=E,1668μm,0.4s						
LKR	**Lokris**	**1.16**	**339**	P	**Pg**	**16 01 34.9**	**-1.1**
LKR				S	**Sg**	**16 01 50.1**	**-1.0**
LKR				AML	AML	16 01 56.0	
	comp=N,1872μm,0.5s						
LKR				AML	AML	16 01 56.7	
	comp=E,2699μm,0.4s						
KLV	**Kalavryta, Ach**	**1.20**	**294**	P	**Pn**	**16 01 36.3**	**+0.2**
KLV				S	**Sn**	**16 01 54.8**	**+2.6**
KLV	**Kalavryta, Ach**	**1.20**	**294**	P	**Pn**	**16 01 36.1**	**0.0**
KLV				S	**Sb**	**16 01 51.1**	**-0.5**
KLV				AML	AML	16 01 56.8	
	comp=N,827μm,0.6s						
KLV				AML	AML	16 02 01.6	
	comp=E,572μm,0.5s						
TNSA	**Tinos**	**1.29**	**91**	P	**Pn**	**16 01 37.8**	**+0.4**
TNSA				S	**Sb**	**16 01 52.9**	**-1.4**
TNSA				AML	AML	16 01 56.0	
	comp=E,2840μm,0.7s						
TNSA				AML	AML	16 01 57.9	
	comp=N,1892μm,0.3s						
ALIK	**Aliki, Aigiali**	**1.32**	**302**	P	**Pg**	**16 01 38.9**	**-0.2**
KTHR	**Kythira**	**1.38**	**198**	P	**Pg**	**16 01 39.4**	**-0.7**
KTHR				S	**Sn**	**16 02 00.2**	**+3.6**
KTHR	**Kythira**	**1.38**	**198**	P	**Pg**	**16 01 38.9**	**-1.2**
KTHR				S	**Sn**	**16 01 57.0**	**+0.4**
KTHR				AML	AML	16 02 02.4	
	comp=N,5908μm,0.4s						
KTHR				AML	AML	16 02 02.8	
	comp=E,7125μm,0.4s						
AXAR	**Agios Charalam**	**1.38**	**330**	P	**Pg**	**16 01 39.8**	**-0.4**
AXAR	**Agios Charalam**	**1.38**	**330**	P	**Pn**	**16 01 38.4**	**-0.2**
AXAR				S	**Sb**	**16 01 55.8**	**-1.1**
AXAR				AML	AML	16 02 03.3	
	comp=E,3314μm,0.5s						
AXAR				AML	AML	16 02 05.5	
	comp=N,2770μm,0.6s						
LAKA	**Lakka**	**1.40**	**299**	P	**Pg**	**16 01 40.0**	**-0.6**
SERG	**Sergoula**	**1.44**	**306**	P	**Pg**	**16 01 41.0**	**-0.4**
SERG	**Sergoula**	**1.44**	**306**	P	**Pn**	**16 01 38.9**	**-0.6**
SERG				S	**Sb**	**16 01 58.0**	**-0.6**
SERG				AML	AML	16 02 11.7	
	comp=E,437μm,0.6s						
SERG				AML	AML	16 02 14.3	
	comp=N,702μm,0.5s						
DRO	**Drossia**	**1.50**	**285**	P	**Pg**	**16 01 41.9**	**-0.5**
DRO	**Drossia**	**1.50**	**285**	P	**Pn**	**16 01 40.2**	**0.0**
DRO				S	**Sn**	**16 01 59.3**	**-0.3**
DRO				AML	AML	16 02 12.1	
	comp=N,1404μm,0.6s						
DRO				AML	AML	16 02 12.9	
	comp=E,1282μm,0.6s						
EFP	**Efpalio**	**1.55**	**304**	P	**Pn**	**16 01 41.3**	**+0.4**
EFP				S	**Sb**	**16 02 01.7**	**+0.1**
EFP				AML	AML	16 02 16.0	
	comp=E,314μm,0.8s						
EFP				AML	AML	16 02 17.3	
	comp=N,472μm,1.3s						
PYL	**PYLOS**	**1.58**	**245**	P	**Pg**	**16 01 42.5**	**-1.6**
PYL				S	**Sg**	**16 02 04.1**	**-0.5**
PYL	**PYLOS**	**1.58**	**245**	P	**Pg**	**16 01 42.5**	**-1.6**
PYL				S	**Sb**	**16 02 01.3**	**-1.4**
PYL				AML	AML	16 02 12.4	
	comp=N,566μm,0.9s						
PYL				AML	AML	16 02 12.9	
	comp=E,911μm,0.8s						
ANX	**Ano Chora**	**1.63**	**309**	P	**Pb**	**16 01 43.0**	**-0.7**
ANX	**Ano Chora**	**1.63**	**309**	P	**Pb**	**16 01 43.2**	**-0.5**
ANX				S	**Sn**	**16 02 02.9**	**-0.2**
ANX				AML	AML	16 02 12.5	
	comp=E,684μm,0.6s						
ANX				AML	AML	16 02 19.0	
	comp=N,784μm,0.5s						
APE	**Apeiranthos**	**1.67**	**107**	P	**Pn**	**16 01 42.4**	**-0.2**
APE	**Apeiranthos**	**1.67**	**107**	P	**Pn**	**16 01 41.5**	**-1.1**
APE				S	**Sn**	**16 02 00.7**	**-3.1**
APE				AML	AML	16 02 13.6	
	comp=E,668μm,0.5s						
APE				AML	AML	16 02 13.7	
	comp=N,746μm,0.5s						
RLS	**Riolos of Patr**	**1.71**	**287**	P	**Pn**	**16 01 43.5**	**+0.4**
RLS				S	**Sn**	**16 02 04.8**	**0.0**
RLS				AML	AML	16 02 20.8	
	comp=N,377μm,1.1s						
RLS				AML	AML	16 02 21.7	
	comp=E,363μm,0.8s						
ANKY	**Antikythira Is**	**1.71**	**186**	P	**Pb**	**16 01 43.8**	**-1.2**
ANKY	**Antikythira Is**	**1.71**	**186**	P	**Pn**	**16 01 42.9**	**-0.3**
AGG	**Agios Georgios**	**1.73**	**327**	P	**Pn**	**16 01 44.3**	**+0.8**
AGG	**Agios Georgios**	**1.73**	**327**	P	**Pn**	**16 01 43.8**	**+0.3**
AGG				S	**Sn**	**16 02 04.8**	**-0.7**
NEO	**Neokhori**	**1.75**	**352**	P	**Pn**	**16 01 43.1**	**-0.7**
NEO				S	**Sn**	**16 02 04.8**	**-1.2**
NEO				AML	AML	16 02 15.3	
	comp=E,887μm,0.4s						
NEO				AML	AML	16 02 17.7	
	comp=N,1118μm,0.6s						
XOR	**Xorichti**	**1.81**	**352**	P	**Pn**	**16 01 44.8**	**+0.2**
XOR	**Xorichti**	**1.81**	**352**	P	**Pn**	**16 01 44.3**	**-0.3**
XOR				S	**Sg**	**16 02 11.7**	**-0.3**
XOR				AML	AML	16 02 22.4	
	comp=E,354μm,0.6s						
XOR				AML	AML	16 02 24.2	
	comp=N,549μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.81**	**323**	P	**Pb**	**16 01 45.9**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.81**	**323**	P	**Pn**	**16 01 45.2**	**+0.5**
MAKR				S	**Sn**	**16 02 07.7**	**+0.2**
MAKR				AML	AML	16 02 19.6	
	comp=E,851μm,0.9s						
MAKR				AML	AML	16 02 21.2	
	comp=N,1148μm,0.7s						
PVO	**Paravola**	**1.90**	**304**	P	**Pb**	**16 01 47.6**	**-0.6**
PVO	**Paravola**	**1.90**	**304**	P	**Pn**	**16 01 46.4**	**+0.7**
EVR	**Evrytania**	**1.91**	**315**	P	**Pb**	**16 01 47.6**	**-0.9**
EVR	**Evrytania**	**1.91**	**315**	P	**Pn**	**16 01 46.9**	**+0.9**
EVR				S	**Sn**	**16 02 08.4**	**-1.6**
EVR				AML	AML	16 02 20.1	
	comp=N,383μm,1.0s						
EVR				AML	AML	16 02 24.9	
	comp=E,360μm,0.7s						
RODP	**Rodopos**	**2.01**	**175**	P	**Pb**	**16 01 48.8**	**-1.3**
IMMV	**Iera Moni Meta**	**2.14**	**170**	P	**Pn**	**16 01 49.7**	**+0.7**
IMMV	**Iera Moni Meta**	**2.14**	**170**	P	**Pn**	**16 01 49.0**	**0.0**
CHOS	**Chios island**	**2.15**	**67**	P	**Pn**	**16 01 49.3**	**0.0**
CHOS	**Chios island**	**2.15**	**67**	P	**Pn**	**16 01 48.5**	**-0.8**
CHOS				S	**Sn**	**16 02 14.7**	**-1.2**
CHOS				AML	AML	16 02 23.8	
	comp=N,533μm,0.6s						
CHOS				AML	AML	16 02 24.2	
	comp=E,758μm,0.5s						
THL	**Klokotos Trika**	**2.32**	**330**	P	**Pn**	**16 01 53.0**	**+1.5**
THL	**Klokotos Trika**	**2.32**	**330**	P	**Pn**	**16 01 52.5**	**+1.0**
KNDR	**Palaiochora Ch**	**2.33**	**177**	P	**Pn**	**16 01 51.8**	**+0.1**
PAIG	**Paliouri**	**2.36**	**3**	P	**Pn**	**16 01 52.3**	**+0.3**
PAIG	**Paliouri**	**2.36**	**3**	P	**Pn**	**16 01 51.2**	**-0.8**
TYRN	**Tyrnavos**	**2.37**	**335**	P	**Pn**	**16 01 52.8**	**+0.6**
SIGR	**SIGRI**	**2.45**	**47**	P	**Pn**	**16 01 53.8**	**+0.5**
SIGR	**SIGRI**	**2.45**	**47**	P	**Pn**	**16 01 52.7**	**-0.6**
NYDR	**Nydri-Lefkada**	**2.51**	**298**	P	**Pn**	**16 01 55.4**	**+1.3**
IDI	**Anoyia**	**2.53**	**154**	Pn	**Pn**	**16 01 54.9**	**+0.5**
	comp=E,3.1nm,0.3s,baz=332,slow=13,SNR=11						
IDI				Sn	**Sn**	**16 02 23.7**	**-1.4**
	comp=E,7.3nm,0.3s,baz=246,slow=22,SNR=5.6						
	comp=E,8.5nm,0.3s						
IDI	**Anoyia**	**2.53**	**154**	P	**Pn**	**16 01 55.2**	**+0.8**
IDI	**Anoyia**	**2.53**	**154**	P	**Pn**	**16 01 55.2**	**+0.8**
LKD2	**Lefkada island**	**2.57**	**299**	P	**Pn**	**16 01 56.9**	**+1.8**
SMG	**Samos**	**2.62**	**86**	P	**Pn**	**16 01 56.0**	**+0.3**
SMG	**Samos**	**2.62**	**86**	P	**Pn**	**16 01 54.6**	**-1.1**
LIT	**Litokhoron**	**2.66**	**342**	P	**Pn**	**16 01 56.1**	**0.0**
GVD	**Gavdhos**	**2.76**	**171**	P	**Pn**	**16 01 58.5**	**+0.9**
HORT	**Hortiatis**	**3.04**	**354**	P	**Pn**	**16 02 02.2**	**+0.6**
IGT	**Igoumenitsa**	**3.19**	**309**	P	**Pn**	**16 02 05.2**	**+1.8**
KAVA	**Kavala**	**3.50**	**12**	P	**Pn**	**16 02 09.5**	**+1.7**
KNT	**Kendrikon**	**3.62**	**352**	P	**Pn**	**16 02 10.2**	**+0.8**
MLR	**Muntele Rosu**	**8.12**	**12**	Pn	**Pn**	**16 03 11.6**	**+0.3**
	comp=E,0.1nm,0.3s,baz=191,slow=11,SNR=3.3						
	comp=E,2.0nm,0.7s						
KBZ	**Khabaz**	**15.92**	**61**	Pn	**P**	**16 05 01.1**	**+0.3**
	comp=E,0.1nm,0.3s,baz=250,slow=15,SNR=2.4						
	comp=E,1.3nm,0.9s						
ESDC	**Sonseca Array**	**21.56**	**284**	P	**P**	**16 06 03.3**	**+0.5**
	comp=E,0.4nm,0.6s,baz=84,slow=12,SNR=2.0						
	comp=E,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**31.16**	**224**	P	**P**	**16 07 34.8**	**+2.4**
	comp=E,0.3nm,0.5s,baz=27,slow=11,SNR=1.8						
	comp=E,0.3nm,0.5s						
MKAR	**Makanchi Array**	**43.59**	**58**	P	**P**	**16 09 16.8**	**-0.6**
	comp=E,0.4nm,0.7s,baz=267,slow=8.2,SNR=4.7						
	comp=E,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**44.32**	**48**	P	**P**	**16 09 22.7**	**-0.4**
	comp=E,0.5nm,0.6s,baz=272,slow=8.5,SNR=2.4						
	comp=E,0.5nm,0.6s						

*IDC **28** 16:03:06.8±3.5, 26.10S×28.97E, h0km, mbtmp3.4/4, ML3.2/4, Error ellipse: s-maj=33.6km s-min=25.9km az=70.0*
*BUL **28** 16:03:08.7±1.7, 26.26S×29.25E, h2km±18km, MD3.5*

ISC 28 16:03:04.4±1.1, 25.95S±0.07×29.19E±0.07, h3km, n11, σ1.59/16, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.15**	**40**	*i* P	**Pb**	**16 04 00.7**	**-0.3**
MOPA				*i* S	**Sb**	**16 04 37.8**	**-2.0**
LBTB	**Lobatse**	**3.38**	**285**	Pn	**Pn**	**16 04 00.2**	**+2.1**
	4.8nm,0.3s,baz=105,slow=5.1,SNR=29						
LBTB				Pg	**Pb**	**16 04 06.0**	**+0.9**
	4.8nm,0.3s,baz=117,slow=12,SNR=15						
LBTB				Lg	Lg	16 04 48.9	
	6.3nm,0.3s,baz=180,slow=20,SNR=14						
	0.9nm,0.2s						
LBTB	**Lobatse**	**3.38**	**285**	*i* P	**Pb**	**16 04 04.8**	**-0.3**
LBTB				*i* S	**Sb**	**16 04 44.7**	**-1.9**
MUSN	**Musina, Limpop**	**3.70**	**10**	*i* P	**Pb**	**16 04 10.6**	**+0.2**
MUSN				*i* S	**Sb**	**16 04 54.8**	**-0.9**
BOSA	**Boshof**	**4.39**	**232**	Pn	**Pn**	**16 04 10.4**	**-1.7**
	0.3nm,0.3s,baz=54,slow=12,SNR=11						
BOSA				Pg	**Pb**	**16 04 22.7**	**+0.4**
	1.7nm,0.3s,baz=56,slow=16,SNR=18						
BOSA				Lg	Lg	16 05 13.1	
	1.3nm,0.3s,baz=340,slow=22,SNR=3.7						
	0.8nm,0.3s						
BOSA	**Boshof**	**4.39**	**232**	*i* P	**Pn**	**16 04 12.2**	**0.0**
BOSA				*i* S	**Sn**	**16 05 02.4**	**-1.4**
I47ZA	**BOSHOF INFRASO**	**4.41**	**232**	I	I	16 28 50.0	
	baz=53,slow=334,SNR=1.5						
KRI	**Karoi**	**9.09**	**3**	*i* P	**Pn**	**16 05 15.9**	**-0.7**
KRI				*i* S	Sn	16 06 48.0	-12
SUR	**Sutherland**	**9.73**	**227**	Pn	**Pn**	**16 05 25.2**	**-0.2**
	0.3nm,0.3s,baz=47,slow=11,SNR=7.6						
SUR				Sn	Sn	16 07 06.3	-9.0
	0.3nm,0.3s,baz=120,slow=20,SNR=1.4						
	8.6nm,1.2s						
LSZ	**Lusaka**	**10.66**	**355**	Pn	**Pn**	**16 05 41.9**	**+3.6**
	0.2nm,0.3s,baz=198,slow=19,SNR=1.4						
LSZ				Sn	**Sn**	**16 07 38.1**	**-0.3**
	0.2nm,0.3s,baz=78,slow=19,SNR=1.8						
LSZ				Lg	Lg	16 08 36.8	
	0.2nm,0.3s,baz=209,slow=19,SNR=1.7						
	0.6nm,0.3s						
I35NA	**TSUMEB INFRASO**	**12.66**	**300**	I	I	17 21 20.0	
	baz=126,slow=307,SNR=1.2						

*IDC **28** 16:06:51.9±1.9, 43.78N±0.05×105.70W, h0km, mb3.5/1, mbtmp3.4/4, ML2.5/2, Error ellipse: s-maj=60.3km s-min=9.5km az=148.0*
*NEIC **28** 16:06:51.7±1.0, 43.78N±0.05×105.31W±0.04, h0km±1km, ML3.1/52, Error ellipse: s-maj=9.3km s-min=4.7km az=157.0*

ISC 28 16:06:51.0±1.0, 43.78N±0.06×105.31W±0.07, h0km, n46, σ0.86/46, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**69**	Pg	**Pb**	**16 07 10.4**	**-0.6**
K22A	**Casper**	**1.44**	**219**	Pn	**Pn**	**16 07 16.6**	**-2.0**
K22A				IAML		16 07 41.2	
	comp=E,469nm,0.3s						
PHWY	**Pilot Hill**	**2.48**	**183**	Pn	**Pn**	**16 07 33.2**	**+0.2**
PHWY				IAML		16 08 08.6

comp=N,18nm,0.7s
IMW IAML 16 09 07.5
comp=N,19nm,0.7s
FXWY Fox Creek 4.15 270 Pn Pn 16 07 55.7 -0.2
O20A White River Ci 4.25 212 Pn 16 07 57.5 +0.3
YHL Hebgen Lake 4.35 286 Pn Pn 16 07 58.9 +0.2
RDMU Red Mountain 4.51 226 Pn Pn 16 08 02.5 +1.7
RDMU IAML 16 09 22.5
comp=N,27nm,0.9s
DGMT Dagmar 4.75 9 Pn 16 08 05.3 +1.4
Q24A Divide 4.82 179 Pn Pn 16 08 05.4 +0.3
Q24A IAML 16 09 48.7
comp=N,13nm,3.4s
BOZ Bozeman (W) 4.86 294 Pn Pn 16 08 05.2 -0.4
BOZ IAML 16 09 20.5
comp=N,12nm,4.9s
BOZ IAML 16 09 38.2
comp=N,19nm,3.5s
EGMT Eagleton 5.25 325 Pn 16 08 11.5 +0.6
HRY Holter Researc 5.46 305 Pn 16 08 14.3 +0.5
LRM Limekiln Ridge 5.48 294 Pn Pn 16 08 15.3 +1.1
P18A Preston Nutter 5.56 223 Pn 16 08 15.4 +0.1
SPUT South Promonto 5.83 247 Pn 16 08 19.2 +0.4
HVU Hansel Valley 5.85 253 Pn 16 08 20.0 +0.8
P17A Butcher Ranch, 5.93 225 Pn Pn 16 08 19.8 -0.4
SDCO Great Sand Dun 6.03 181 Pn Pn 16 08 21.8 0.0
SRU San Rafael Swe 6.10 222 Pn 16 08 22.4 -0.2
ECSD EROS Data Cent 6.29 87 Pn Pn 16 08 25.9 +0.8
TMUT Trail Mountain 6.30 227 Pn Pn 16 08 25.8 +0.3
NLU North Lily Min 6.34 235 Pn Pn 16 08 25.0 -0.9
BGU Big Grassy Mou 6.39 246 Pn Pn 16 08 26.1 -0.5
Q16A Castle Valley 6.56 224 Pn Pn 16 08 28.2 -0.8
DUG Dugway, Tooele 6.64 240 Pn Pn 16 08 30.4 +0.4
MTPU Mount Pierson 7.75 225 Pn Pn 16 08 46.2 +0.8
ELK Elko 7.97 251 Pn Pn 16 08 50.3 +2.0
comp=N,0.3nm,0.3s,baz=60,slow=14,SNR=3.8
ELK Lg Lg 16 10 55.3
comp=N,0.1nm,0.3s,baz=225,slow=19,SNR=1.5
comp=N,0.5nm,0.3s
ULM Lac du Bonnet 9.12 42 Pn Pn 16 09 02.9 -1.0
comp=N,0.4nm,0.3s,baz=222,slow=13,SNR=1.8
ULM Lg Lg 16 11 37.9
comp=N,0.3nm,0.3s,baz=135,slow=20,SNR=2.4
comp=N,1.0nm,0.3s
MKAR Makanchi Array 89.56 355 P P 16 19 50.2 -0.1
comp=N,0.2nm,0.7s,baz=14,slow=3.0,SNR=1.8
comp=N,0.2nm,0.7s

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*THE **28** 16:09:52.8, 37.˚57N×23.˚57E, h0km±3km, ML1.9/1, Error ellipse: s-maj=3.1km s-min=0.8km az=131.0*
ATH 28 16:09:52.6, 37.˚57N×23.˚55E, h13km±1km, ML1.9/6, Error ellipse: s-maj=2.4km s-min=0.9km az=124.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YDRA	**Hydra**	**0.23**	**196**	P	Pg	16 09 57.4	-0.1
YDRA				S	Sg	16 10 01.3	+0.5
YDRA				AML	AML	16 10 02.4	
	comp=N,1900μm,0.3s						
YDRA				AML	AML	16 10 03.0	
	comp=E,2049μm,0.2s						
EPID	**Epidavros**	**0.34**	**278**	P	Pg	16 09 59.5	0.0
EPID	**Epidavros**	**0.34**	**278**	P	Pg	16 09 59.4	-0.1
VLY	**Voula,Athens**	**0.34**	**35**	P	Pg	16 09 59.1	-0.5
VLY	**Voula,Athens**	**0.34**	**35**	P	Pg	16 09 59.1	-0.5
VLY				S	Sg	16 10 04.4	+0.1
VLY				AML	AML	16 10 05.2	
	comp=N,282μm,0.3s						
VLY				AML	AML	16 10 08.1	
	comp=E,332μm,0.3s						
KRND	**KRANIDI**	**0.36**	**239**	P	Pg	16 09 59.9	0.0
KRND				S	Sg	16 10 05.7	+0.8
	comp=E,248nm,0.3s						
KRND	**KRANIDI**	**0.36**	**239**	P	Pg	16 09 59.5	-0.4
KRND				S	Sg	16 10 05.1	+0.3
KRND				AML	AML	16 10 07.4	
	comp=E,452μm,0.2s						
KRND				AML	AML	16 10 07.5	
	comp=N,525μm,0.4s						
ATH	**Athens Observa**	**0.42**	**19**	P	Pg	16 10 00.7	-0.3
ATH				S	Sg	16 10 07.1	+0.4
ATH				AML	AML	16 10 07.6	
	comp=N,373μm,0.3s						
ATH				AML	AML	16 10 08.7	
	comp=E,411μm,0.3s						
ATHU	**Athens Univers**	**0.44**	**25**	P	Pg	16 10 00.8	-0.5
ATHU				S	Sg	16 10 07.5	+0.3
ATHU	**Athens Univers**	**0.44**	**25**	P	Pg	16 10 00.7	-0.6
ATHU				S	Sg	16 10 07.2	0.0
PTL	**Penteli**	**0.54**	**28**	P	Pg	16 10 03.4	+0.2
DION	**Dionisos Attik**	**0.59**	**31**	P	Pg	16 10 04.3	+0.1
LOUT	**Loutraki**	**0.62**	**313**	P	Pg	16 10 04.5	-0.1
LOUT				S	Sb	16 10 14.5	+0.7
VILL	**Villia**	**0.62**	**343**	P	Pg	16 10 04.4	-0.3
VILL				S	Sb	16 10 13.8	-0.2
VIL2	**Platees**	**0.68**	**341**	P	Pg	16 10 04.3	-1.5
VIL2				AML	AML	16 10 16.0	
	comp=E,334μm,0.3s						
VIL2				AML	AML	16 10 16.1	
	comp=N,188μm,0.2s						
VLI	**Velíai**	**0.98**	**210**	P	Pb	16 10 10.6	-0.8
KYMI	**Kymi, Euboea I**	**1.15**	**22**	P	Pb	16 10 13.4	-0.9
LKR	**Lokris**	**1.16**	**338**	P	Pb	16 10 14.0	-0.6
LKR				AML	AML	16 10 33.5	
	comp=E,130μm,0.2s						
LKR				AML	AML	16 10 34.6	
	comp=N,99μm,0.2s						
KLV	**Kalavryta, Ach**	**1.20**	**294**	P	Pg	16 10 16.3	+0.6
KTHR	**Kythira**	**1.38**	**199**	P	Pg	16 10 18.8	-0.2
DRO	**Drossia**	**1.50**	**285**	P	Pg	16 10 21.3	-0.2
PRNS	**Prines Rethymn**	**2.33**	**160**	P	Pb	16 10 32.9	-1.6

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*IDC **28** 16:10:16.6±1.8, 34.˚76N×23.˚93E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=53.6km s-min=30.3km az=126.0*
*ATH **28** 16:10:24.4, 34.˚64N×24.˚10E, h22km±2km, ML2.7/6, Error ellipse: s-maj=9.8km s-min=2.4km az=20.0*
ISC 28 16:10:20.9±1.3, 34.˚5N±0.˚1×24.˚07E±0.˚08, h29km, n11, σ1s66/12, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.32**	**3**	P	**Pn**	**16 10 29.6**	**0.0**
GVD				S	**Sb**	**16 10 33.4**	**-0.3**
GVD				AML	AML	16 10 39.6	
	comp=N,3737μm,0.3s						
GVD				AML	AML	16 10 42.5	
	comp=E,4739μm,0.4s						
KNDR	**Palaiochora Ch**	**0.78**	**336**	P	**Pb**	**16 10 37.9**	**+2.1**
KNDR				AML	AML	16 10 55.1	
	comp=N,1534μm,0.4s						
KNDR				AML	AML	16 10 57.1	
	comp=E,2102μm,0.5s						
TMBK	**Timbaki Herakl**	**0.79**	**46**	P	**Pb**	**16 10 38.1**	**+1.9**
TMBK	**Timbaki Herakl**	**0.79**	**46**	P	**Pb**	**16 10 37.8**	**+1.7**
TMBK				AML	AML	16 10 57.1	
	comp=N,2012μm,0.4s						
TMBK				AML	AML	16 11 00.4	
	comp=E,1597μm,0.4s						
IMMV	**Iera Moni Meta**	**0.94**	**356**	P	**Pb**	**16 10 39.6**	**+1.0**
IMMV				AML	AML	16 10 56.9	
	comp=E,2370μm,0.4s						
IMMV				AML	AML	16 10 57.1	
	comp=N,1761μm,0.4s						
CHAN	**Chania**	**0.99**	**359**	P	**Pb**	**16 10 40.9**	**+1.4**
CHAN				AML	AML	16 10 59.6	
	comp=N,1243μm,0.6s						
CHAN				AML	AML	16 11 01.2	
	comp=E,1083μm,0.4s						
IDI	**Anoyia**	**1.02**	**41**	P	**Pb**	**16 10 41.0**	**+1.0**
IDI				AML	AML	16 11 02.5	
	comp=N,383μm,0.5s						
IDI				AML	AML	16 11 04.9	
	comp=E,358μm,0.4s						
HFS	**Hagfors**	**26.50**	**348**	P	**P**	**16 15 53.1**	**-2.5**
	comp=E,2.1nm,0.8s,baz=161,slow=9.2,SNR=1.3						
	comp=E,2.1nm,0.8s						
FINES	**FINESS Array B**	**26.97**	**2**	P	**P**	**16 15 57.8**	**-1.9**
	comp=E,1.8nm,1.0s,baz=169,slow=9.8,SNR=1.6						
	comp=E,1.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**29.39**	**229**	P	**P**	**16 16 22.3**	**+0.5**
	comp=E,0.4nm,0.8s,baz=31,slow=8.1,SNR=1.6						
	comp=E,0.4nm,0.8s						
MKAR	**Makanchi Array**	**44.87**	**56**	P	**P**	**16 18 32.2**	**-0.4**
	comp=E,0.2nm,0.4s,baz=276,slow=6.4,SNR=5.4						
	comp=E,0.2nm,0.4s						

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*IDC **28** 16:14:41.0±1.2, 42.˚74N×13.˚51E, h0km, mb3.3/5, mbtmp3.4/9, ML3.3/4, MS3.2/1, Error ellipse: s-maj=31.6km s-min=14.7km az=96.0*
*PDG **28** 16:14:40.8±0.5, 42.˚62N×13.˚30E, h11km, ML3.6/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*ROM **28** 16:14:40.0±0.1, 42.˚624N±0.˚004×13.˚311E±0.˚005, h9km, ML3.5/91, Mw3.4, Error ellipse: s-maj=0.4km s-min=0.1km az=232.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.44; $M_{\theta\theta}$0.19; $M_{\phi\phi}$1.26; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.97; $M_{\phi r}$-0.28; Fault plane solution: M_o1.72588×10^{14} NP1:ϕ_s130.00000°, δ48.00000°, λ-119.00000°. NP2:ϕ_s349.00000°, δ49.00000°, λ-62.00000°.*
*LDG **28** 16:14:40.6±0.2, 42.˚53N×13.˚26E, h9km, Ml2.9/19 Error ellipse: s-maj=5.2km s-min=3.6km az=36.0*
*PRU **28** 16:14:42.1±0.0, 42.˚60N×13.˚43E, h10km*
*BEO **28** 16:14:43.7±0.8, 42.˚90N×13.˚50E, h0km, ML3.4/7*
ISC 28 16:14:41.0±0.7, 42.˚62N±0.˚01×13.˚29E±0.˚02, h12km±4km, n238, σ1s91/316, mb3.4/4, 52C-47D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.12**	**206**	P	**Pg**	**16 14 43.9**	**-0.3**
RM33				S	**Sg**	**16 14 46.5**	**0.0**
RM33				AML	AML		
RM33				AML	AML		
	comp=E,83150μm,0.3s						
RM33				AML	AML		
	comp=E,84550μm,0.9s						
RM33				AML	AML		
	comp=E,84550μm,1.1s						
RM33				AML	AML		
RM33				AML	AML		
CAMP	**Campotosto**	**0.12**	**131**	P	**Pg**	**16 14 43.4**	**-0.9**
CAMP				S	**Sg**	**16 14 45.6**	**-1.0**
CAMP				AML	AML		
	comp=E,49150μm,0.5s						
CAMP				AML	AML		
	comp=E,49150μm,1.5s						
CAMP				AML	AML		
	comp=N,37550μm,0.5s						
T1218	**Civita (PG)**	**0.14**	**293**	P	**Pg**	**16 14 44.0**	**-0.4**
T1218				S	**Sg**	**16 14 46.6**	**-0.2**
T1218				AML	AML		
	comp=N,54500μm,0.9s						
T1218				AML	AML		
	comp=N,51150μm,0.9s						
T1218				AML	AML		
	comp=E,38500μm,0.6s						
T1218				AML	AML		
	comp=E,35750μm,0.6s						
T1218				AML	AML		
	comp=N,51100μm,0.8s						
T1218				AML	AML		
	comp=N,54500μm,0.8s						
T1218				AML	AML		
	comp=E,35700μm,0.6s						
T1218				AML	AML		
	comp=N,51150μm,0.8s						
T1218				AML	AML		
	comp=E,35700μm,1.4s						
T1218				AML	AML		
	comp=E,38500μm,1.4s						
T1247	**Pizzolo (AQ)**	**0.17**	**177**	P	**Pg**	**16 14 44.6**	**-0.3**
T1247				S	**Sg**	**16 14 48.0**	**+0.3**
T1247				AML	AML		
	comp=N,77950μm,0.5s						
T1247				AML	AML		
	comp=E,63800μm,0.7s						
LNSS	**Leonessa**	**0.18**	**266**	P	**Pg**	**16 14 44.9**	**-0.2**
LNSS				S	**Sg**	**16 14 48.4**	**+0.5**
LNSS				AML	AML		
	comp=N,33300μm,0.4s						
LNSS				AML	AML		
	comp=E,43200μm,0.5s						
LNSS				AML	AML		
	comp=N,33300μm,1.6s						
T1212	**Cascia, Frazio**	**0.22**	**307**	P	**Pg**	**16 14 45.5**	**-0.3**
T1212				S	**Sg**	**16 14 49.5**	**+0.5**
T1212				AML	AML		
	comp=E,26900μm,0.5s						
T1212				AML	AML		
	comp=E,25800μm,0.5s						
T1212				AML	AML		
	comp=N,16950μm,0.5s						
T1212				AML	AML		
	comp=N,16900μm,0.5s						
TERO	**Teramo**	**0.23**	**88**	P	**Pg**	**16 14 45.0**	**-1.0**
TERO				S	**Sg**	**16 14 48.6**	**-0.7**
TERO				AML	AML		
	comp=E,59100μm,0.3s						
TERO				AML	AML		
	comp=E,63150μm,0.3s						
TERO				AML	AML		
	comp=N,75200μm,0.2s						
TERO				AML	AML		
	comp=N,71250μm,0.2s						
NRCA	**Norcia**	**0.25**	**330**	P	**Pg**	**16 14 45.8**	**-0.5**
NRCA				S	**Sg**	**16 14 50.1**	**+0.2**
NRCA				AML	AML		
	comp=E,30600μm,0.1s						
NRCA				AML	AML		
	comp=N,31700μm,0.2s						
NRCA				AML	AML		
	comp=E,30600μm,0.2s						
NRCA				AML	AML		
	comp=N,31700μm,0.2s						
NRCA				AML	AML		
	comp=E,30600μm,1.8s						
T1245	**Castelsantange**	**0.25**	**343**	P	**Pg**	**16 14 45.7**	**-0.6**
T1245				S	**Sg**	**16 14 50.3**	**+0.4**
T1245				AML	AML		
	comp=E,24450μm,0.5s						
T1245				AML	AML		
	comp=E,23650μm,0.5s						
T1245				AML	AML		
	comp=N,37200μm,0.6s						
T1245				AML	AML		
	comp=N,36250μm,0.6s						
GIGS	**Gran Sasso**	**0.27**	**128**	P	**Pg**	**16 14 45.8**	**-0.8**
GIGS				S	**Sg**	**16 14 49.9**	**-0.4**
GIGS				AML	AML		
	comp=E,5970μm,0.9s						
GIGS				AML	AML		
	comp=N,5045μm,1.5s						
GIGS				AML	AML		
	comp=N,5045μm,0.5s						
AQU	**L'Aquila**	**0.28**	**162**	P	**Pg**	**16 14 46.4**	**-0.3**
AQU				AML	AML		
	comp=N,18650μm,0.7s						
AQU				AML	AML		
	comp=E,17450μm,0.4s						
AQU				AML	AML		
	comp=E,17900μm,0.4s						
AQU				AML	AML		
	comp=N,19750μm,0.6s						
AQU				AML	AML		
	comp=E,17450μm,1.6s						
AQU				AML	AML		
	comp=N,19750μm,1.4s						
AQU				AML	AML		
	comp=N,18650μm,1.3s						
AQU				AML	AML		
	comp=E,17900μm,1.6s						
T1217	**Poggiodomo (PG**	**0.28**	**290**	⇑P	**Pg**	**16 14 46.5**	**-0.3**
T1217				AML	AML		
	comp=E,11295μm,0.5s						
T1217				AML	AML		
	comp=E,12150μm,0.5s						
T1217				AML	AML		
	comp=E,11285μm,0.5s						
T1217				AML	AML		
	comp=N,12900μm,0.5s						
T1217				AML	AML		
	comp=E,12150μm,1.5s						
T1217				AML	AML		
	comp=E,11285μm,1.5s						
T1217				AML	AML		
	comp=N,12700μm,0.5s						
T1222	**Castel Sant'An**	**0.28**	**221**	P	**Pg**	**16 14 46.6**	**-0.2**
T1222				S	**Sg**	**16 14 51.4**	**+0.7**
T1222				AML	AML		
	comp=E,18200μm,1.4s						
T1222				AML	AML		
	comp=N,18300μm,0.4s						
T1222				AML	AML		
	comp=E,18700μm,0.6s						
T1222				AML	AML		
	comp=N,16850μm,0.4s						
T1222				AML	AML		
	comp=E,18250μm,1.4s						
T1222				AML	AML		
	comp=E,18700μm,0.5s						
T1222				AML	AML		
	comp=E,18200μm,0.6s						
T1222				AML	AML		
	comp=E,18700μm,1.5s						
T1222				AML	AML		
	comp=N,16850μm,0.4s						
T1222				AML	AML		
	comp=N,18300μm,0.4s						
MC2	**Monte Cornacci**	**0.30**	**347**	P	**Pg**	**16 14 46.7**	**-0.6**
MC2				S	**Sb**	**16 14 52.6**	**-1.0**
T1211	**Morro Reatino**	**0.33**	**255**	⇑P	**Pg**	**16 14 47.4**	**-0.3**
T1211				AML	AML		
	comp=E,15750μm,0.4s						
T1211				AML	AML		
	comp=N,19450μm,0.3s						
T1211				AML	AML		
	comp=E,16250μm,0.4s						
T1211				AML	AML		
	comp=N,19650μm,0.3s						
T1216	**Preci, Frazion**	**0.34**	**325**	P	**Pg**	**16 14 47.3**	**-0.5**
T1216				S	**Sg**	**16 14 53.2**	**+0.9**
T1216				AML	AML		
	comp=N,18700μm,0.7s						
T1216				AML	AML		
	comp=E,11950μm,0.3s						
T1216				AML	AML		
	comp=E,11950μm,1.7s						
T1215	**Vallo di Nera,**	**0.36**	**301**	⇑P	**Pg**	**16 14 47.6**	**-0.5**
T1215				AML	AML		
	comp=E,3540μm,1.4s						
T1215				AML	AML		
	comp=E,3555μm,1.4s						
T1215				AML	AML		
	comp=N,3845μm,0.8s						
T1215				AML	AML		
	comp=E,3535μm,1.4s						
T1215				AML	AML		
	comp=N,3845μm,0.7s						
T1215				AML	AML		
	comp=E,3560μm,1.4s						
T1215				AML	AML		
	comp=N,3860μm,0.8s						
FIAM	**Fiamignano**	**0.37**	**200**	P	**Pg**	**16 14 48.0**	**-0.4**
FIAM				S	**Sg**	**16 14 54.1**	**+0.8**
FIAM				AML	AML		
	comp=E,8740μm,0.7s						
FIAM				AML	AML		
	comp=N,8110μm,0.6s						
ARRO	**Arrone**	**0.39**	**265**	⇑P	**Pg**	**16 14 48.4**	**-0.3**
ARRO				AML	AML		
	comp=N,6360μm,1.1s						
ARRO				AML	AML		
	comp=E,5390μm,0.6s						
ARRO				AML	AML		
	comp=N,6360μm,0.9s						
FEMA	**Monte Fema**	**0.39**	**333**	S	**Sb**	**16 14 55.0**	**-0.9**
FEMA				AML	AML		
	comp=E,12150μm,0.5s						
FEMA				AML	AML		
	comp=E,12150μm,0.4s						
FEMA				AML	AML		
	comp=N,8790μm,1.0s						
OFFI	**Offida**	**0.43**	**43**	P	**Pg**	**16 14 49.5**	**0.0**
OFFI				AML	AML		
	comp=N,20200μm,0.9s						
OFFI				AML	AML		
	comp=E,14900μm,0.6s						
FDMO	**Fiordimonte**	**0.45**	**341**	⇓P	**Pg**	**16 14 49.0**	**-0.7**
FDMO				AML	AML		
	comp=E,4390μm,0.8s						
FDMO				AML	AML		
	comp=N,4140μm,1.4s						
FDMO				AML	AML		
	comp=N,4140μm,0.6s						
GUMA	**Gualdo di Mace**	**0.45**	**5**	⇓P	**Pg**	**16 14 49.4**	**-0.5**
GUMA				AML	AML		
	comp=E,14400μm,0.4s						
GUMA				AML	AML		
	comp=E,16300μm,0.4s						
GUMA				AML	AML		
	comp=N,17900μm,0.8s						
GUMA				AML	AML		
	comp=N,17900μm,1.2s						
GUMA				AML	AML		
	comp=N,17500μm,0.6s						
CESI	**CESI - Serrava**	**0.48**	**324**	⇓P	**Pg**	**16 14 49.9**	**-0.5**
CESI				AML	AML		
	comp=E,4730μm,0.5s						
CESI				AML	AML		
	comp=N,7425μm,0.7s						
CESI				AML	AML		
	comp=E,4730μm,1.5s						
CSP1	**Cessapalombo**	**0.48**	**353**	⇓P	**Pg**	**16 14 49.6**	**-0.8**
CSP1				S	**Sb**	**16 14 57.7**	**-0.8**
CSP1				AML	AML		
	comp=E,5895μm,1.0s						
CSP1				AML	AML		
	comp=N,9070μm,1.0s						
CSP1				AML	AML		
	comp=N,9065μm,1.0s						
CSP1				AML	AML		
	comp=E,5890μm,1.0s						
T1219	**Muccia, Frazio**	**0.48**	**335**	⇓P	**Pg**	**16 14 49.8**	**-0.7**
T1219				S	**Sg**	**16 14 57.8**	**+0.8**
T1219				AML	AML		
	comp=N,6590μm,0.3s						
T1219				AML	AML		
	comp=E,5260μm,0.4s						
T1219				AML	AML		
	comp=N,6470μm,0.3s						
T1219				AML	AML		
	comp=N,6590μm,0.3s						
T1219				AML	AML		
	comp=N,6470μm,0.3s						
T1219				AML	AML		
	comp=E,5045μm,0.4s						
T1219				AML	AML		
	comp=N,6590μm,1.7s						
T1219				AML	AML		
	comp=N,6470μm,1.7s						
TRTR	**Tortoreto Alta**	**0.50**	**67**	⇑P	**Pg**	**16 14 51.1**	**+0.3**
TRTR				AML	AML		
	comp=N,13950μm,0.7s						
TRTR				AML	AML		
	comp=E,13435μm,0.3s						
TRTR				AML	AML		
	comp=N,13950μm,1.3s						
T1220	**Camerino, Fraz**	**0.51**	**344**	⇓P	**Pg**	**16 14 50.3**	**-0.8**
T1220				S	**Sg**	**16 14 58.7**	**+0.8**
T1220				AML	AML		
	comp=E,17250μm,0.4s						
T1220				AML	AML		
	comp=N,12650μm,0.5s						
T1220				AML	AML		
	comp=E,16850μm,0.4s						
T1220				AML	AML		
	comp=N,12800μm,0.5s						
T1220				AML	AML		
	comp=N,12800μm,1.5s						
T1220				AML	AML		
	comp=N,12650μm,1.5s						
T1220				AML	AML		
	comp=E,17250μm,1.6s						
T1220				AML	AML		
	comp=E,16850μm,1.6s						
CESX	**Cesi**	**0.52**	**270**	⇑P	**Pg**	**16 14 50.5**	**-0.6**
CESX				S	**Sg**	**16 14 58.8**	**+0.7**
CESX				AML	AML		
	comp=N,5790μm,0.5s						
CESX				AML	AML		
	comp=N,5790μm,1.5s						

CESX AML AML
comp=E,4875μm,0.6s
T0110 Collepietro 0.53 137 P Pg 16 14 50.7 -0.7
T0110 S Sb 16 14 59.3 -0.7
T0110 AML AML
comp=N,11985μm,0.4s
T0110 AML AML
comp=E,10700μm,0.4s
T0110 AML AML
comp=N,11985μm,1.6s
MNTP Montappone 0.54 15 ⇑P Pg 16 14 51.4 -0.2
MNTP AML AML
comp=N,15500μm,0.3s
MNTP AML AML
comp=E,30350μm,0.3s
MOMA Monte Martano 0.56 290 ⇑P Pg 16 14 51.4 -0.6
MOMA AML AML
comp=E,5020μm,1.1s
MOMA AML AML
comp=E,5160μm,1.1s
MOMA AML AML
comp=N,4845μm,0.6s
MOMA AML AML
comp=N,4580μm,0.6s
MOMA AML AML
comp=E,5020μm,0.9s
MOMA AML AML
comp=E,5160μm,0.9s
SEF1 Sefro 0.58 335 ⇓P Pg 16 14 51.9 -0.5
SEF1 S Sb 16 15 01.6 +0.1
SEF1 AML AML
comp=E,5065μm,1.4s
SEF1 AML AML
comp=N,6180μm,0.3s
SEF1 AML AML
comp=N,6180μm,0.3s
SEF1 AML AML
comp=E,5065μm,0.6s
SEF1 AML AML
comp=N,6180μm,1.7s
PTQR Pietraquaria 0.60 172 ⇓P Pg 16 14 51.7 -1.0
PTQR AML AML
comp=E,1820μm,0.7s
PTQR AML AML
comp=N,1680μm,0.3s
ASSB Assisi San Ben 0.63 313 ⇓P Pg 16 14 52.4 -0.8
ASSB S Sb 16 15 02.7 0.0
ASSB AML AML
comp=E,2235μm,0.3s
ASSB AML AML
comp=N,3890μm,0.9s
ASSB AML AML
comp=E,2235μm,1.7s
GAG1 Gagliole 0.64 346 ⇑P Pg 16 14 53.1 -0.4
GAG1 S Sb 16 15 03.3 +0.2
GAG1 AML AML
comp=E,8375μm,0.5s
GAG1 AML AML
comp=N,5615μm,0.6s
GAG1 AML AML
comp=N,5610μm,0.6s
SNTG Esanatoglia 0.69 338 ⇓P Pg 16 14 53.3 -1.0
SNTG S Sb 16 15 04.3 -0.1
SNTG AML AML
comp=E,1490μm,1.5s
SNTG AML AML
comp=N,2020μm,0.5s
SNTG AML AML
comp=E,1355μm,0.4s
SNTG AML AML
comp=E,1490μm,0.5s
SNTG AML AML
comp=N,1930μm,0.8s
SRES S.Oreste - Sor 0.69 237 ⇓P Pg 16 14 53.3 -1.0
SRES AML AML
comp=E,2770μm,0.4s
SRES AML AML
comp=N,2405μm,0.7s
CERT Cerreto 0.70 199 ⇓P Pb 16 14 55.4 +0.2
MTCE Montecelio 0.72 214 ⇓P Pg 16 14 54.0 -0.8
MTCE AML AML
comp=N,3735μm,0.5s
MTCE AML AML
comp=E,5130μm,0.4s
EL6 Elcito 0.72 349 P Pg 16 14 53.9 -1.1
EL6 S Sb 16 15 05.5 -0.1
EL6 AML AML
comp=E,3865μm,0.4s
EL6 AML AML
comp=N,4935μm,0.7s
EL6 AML AML
comp=N,4930μm,0.7s
ATCC AVT- Casa Cast 0.74 320 ⇓P Pg 16 14 54.5 -0.8
ATCC AML AML
comp=E,4460μm,0.7s
ATCC AML AML
comp=E,4460μm,1.3s
ATCC AML AML
comp=N,3315μm,0.8s
CIMA Civitanova Mar 0.74 22 ⇑P Pb 16 14 56.0 +0.1
CIMA AML AML
comp=E,9905μm,0.8s
CIMA AML AML
comp=N,8480μm,0.6s
CING Cingoli 0.76 355 ⇑P Pg 16 14 54.8 -1.0
CING AML AML
comp=N,2480μm,0.6s
CING AML AML
comp=E,3510μm,1.0s
CING AML AML
comp=N,2480μm,1.4s
FOSV Fossato di Vic 0.78 331 ⇑P Pg 16 14 55.2 -0.9
FOSV AML AML
comp=E,2200μm,0.7s
FOSV AML AML
comp=N,2480μm,0.4s
VVLD Villa Vallelon 0.79 161 P Pg 16 14 52.5 -3.7
PP3 Marolino 0.80 17 ⇓P Pg 16 14 56.5 +0.1
PP3 AML AML
comp=E,8870μm,0.8s
PP3 AML AML
comp=N,5290μm,0.5s
PP3 AML AML
comp=N,5070μm,0.5s
PP3 AML AML
comp=E,8785μm,0.7s
PP3 AML AML
comp=N,5290μm,1.5s
PP3 AML AML
comp=N,5070μm,1.5s
MURB Monte Urbino 0.85 319 P Pg 16 14 56.6 -0.9
MURB AML AML
comp=E,6435μm,1.4s
MURB AML AML
comp=E,6885μm,1.4s
MURB AML AML
comp=E,6435μm,0.6s
MURB AML AML
comp=E,6885μm,0.6s
MURB AML AML
comp=N,6950μm,0.9s
MURB AML AML
comp=N,6855μm,0.9s
LPEL Lama dei Pelig 0.88 130 P Pg 16 14 56.3 -1.6
LPEL AML AML
comp=E,3120μm,0.3s
LPEL AML AML
comp=N,2125μm,0.7s
SSFR Montelago di S 0.90 336 ⇑P Pg 16 14 57.6 -0.7
SSFR AML AML
comp=E,2605μm,0.7s
SSFR AML AML
comp=E,2855μm,0.8s
SSFR AML AML
comp=N,2820μm,0.7s
SSFR AML AML
comp=N,2695μm,0.7s
SSFR AML AML
comp=E,2855μm,1.2s
SSFR AML AML
comp=N,2820μm,1.3s
SSFR AML AML
comp=E,2605μm,1.3s
MGAB Montegabbione 0.91 289 ⇓P Pg 16 14 58.3 -0.3
MGAB AML AML
comp=N,4555μm,0.5s
MGAB AML AML
comp=E,7010μm,0.5s
MGAB AML AML
comp=N,4950μm,0.5s
MGAB AML AML
comp=E,6555μm,0.5s
RMP Rome, Mte Porz 0.91 208 ⇓P Pn 16 15 00.1 +0.4
RMP AML AML
comp=E,4200μm,0.8s
RMP AML AML
comp=N,4135μm,0.8s
RMP AML AML
comp=N,4135μm,1.2s
ATFO Monte Foce - G 0.92 325 ⇓P Pg 16 14 57.5 -1.1
ATFO AML AML
comp=E,2365μm,1.1s
ATFO AML AML
comp=N,1880μm,0.7s
ATFO AML AML
comp=N,1880μm,1.3s
ARVD Arcevia 0.92 344 ⇑P Pg 16 14 57.5 -1.2
ARVD S Sn 16 15 12.3 -0.6
ARVD AML AML
comp=E,1645μm,0.9s
ARVD AML AML
comp=E,1645μm,1.1s
ARVD AML AML
comp=N,1085μm,0.9s
POFI Posta Fibreno 0.95 160 ⇓P Pg 16 14 58.3 -1.0
AOI Ancona 0.96 14 ⇓P Pg 16 14 58.7 -0.8
AOI AML AML
comp=E,1625μm,0.9s
AOI AML AML
comp=E,1625μm,1.1s
AOI AML AML
comp=N,1700μm,0.5s
FRON Frontone 0.99 336 ⇑P Pg 16 14 59.0 -1.1
FRON AML AML
comp=E,1925μm,1.1s
FRON AML AML
comp=N,2325μm,0.5s
ATVO AVT- Monte Val 1.00 320 P Pg 16 14 59.2 -1.1
ATVO AML AML
comp=E,1215μm,0.7s
ATVO AML AML
comp=N,1610μm,0.8s
ATVO AML AML
comp=E,1215μm,1.3s
PCRO Pietralacroce 1.01 10 P Pg 16 14 57.4 -3.0
PCRO AML AML
comp=N,6680μm,0.8s
PCRO AML AML
comp=E,7415μm,0.7s
PCRO AML AML
comp=N,6680μm,1.2s
ATMI Monte Miggiano 1.03 314 ⇑P Pg 16 15 01.2 +0.3
ATMI AML AML
comp=N,3790μm,0.6s
ATMI AML AML
comp=N,3790μm,1.4s
ATMI AML AML
comp=E,3020μm,0.9s
COR1 Corinaldo 1.04 348 P Pb 16 15 00.6 -0.3
COR1 AML AML
comp=E,2680μm,0.8s
COR1 AML AML
comp=N,3365μm,1.6s
COR1 AML AML
comp=E,2680μm,1.2s
COR1 AML AML
comp=N,3365μm,0.4s
SACS San Casciano d 1.04 283 ⇓P Pb 16 15 00.7 -0.2
SACS AML AML
comp=E,1500μm,0.7s
SACS AML AML
comp=E,1426μm,0.7s
SACS AML AML
comp=N,1730μm,0.9s
SACS AML AML
comp=E,1500μm,1.3s
SACS AML AML
comp=E,1426μm,1.3s
SACS AML AML
comp=N,1680μm,0.9s
ATPI Pietralunga - 1.06 322 ⇑P Pb 16 15 00.3 -1.0
ATPI AML AML
comp=N,2090μm,0.8s
ATPI AML AML
comp=N,2090μm,1.2s
ATPI AML AML
comp=E,1755μm,0.7s
GIUL Giuliano Di Ro 1.06 181 ⇑P Pb 16 15 01.1 -0.1
GIUL AML AML
comp=E,1256μm,0.6s
GIUL AML AML
comp=N,1030μm,1.0s
GIUL AML AML
comp=N,1030μm,1.0s
GIUL AML AML
comp=E,1256μm,1.4s
PIEI Pieia 1.07 329 ⇓P Pb 16 15 00.2 -1.3
PIEI AML AML
comp=N,1110μm,0.6s
PIEI AML AML
comp=E,1081μm,0.7s
MPAG Monte Paganucc 1.08 339 ⇑P Pb 16 15 00.8 -0.9
MPAG AML AML
comp=E,2120μm,1.2s
MPAG AML AML
comp=N,1660μm,0.6s
MPAG AML AML
comp=N,1600μm,0.7s
MPAG AML AML
comp=E,1830μm,1.2s
SENI Senigallia 1.09 358 ⇑P Pn 16 15 02.3 +0.2
SENI AML AML
comp=E,6405μm,0.9s
SENI AML AML
comp=N,5810μm,0.6s
SENI AML AML
comp=E,6405μm,1.1s
LATE Laterza 1.09 270 ⇓P Pb 16 15 01.9 0.0
TOLF Tolfa 1.10 240 ⇓P Pb 16 15 01.2 -0.8
TOLF AML AML
comp=E,1530μm,0.9s
TOLF AML AML
comp=N,2305μm,0.6s
TOLF AML AML
comp=E,1530μm,1.1s
LATB Latina 1.15 192 P Pb 16 15 01.9 -0.8
LATB AML AML
comp=E,512μm,1.2s
LATB AML AML
comp=N,334μm,0.7s
LATB AML AML
comp=E,512μm,0.8s
CERA Filignano 1.16 152 ⇓P Pb 16 15 01.2 -1.7
CERA AML AML
comp=E,1985μm,0.6s
CERA AML AML
comp=N,1555μm,0.8s
CERA AML AML
comp=E,2015μm,0.6s
CERA AML AML
comp=N,1575μm,0.8s
CERA AML AML
comp=N,1575μm,1.2s
CERA AML AML
comp=N,1555μm,1.2s
CERA AML AML
comp=E,2015μm,1.4s
CERA AML AML
comp=E,1985μm,1.4s
CAFI Castiglion Fio 1.20 307 ⇑P Pn 16 15 03.6 0.0
CAFI AML AML
comp=N,1185μm,0.7s
CAFI AML AML
comp=E,1026μm,0.8s
CAFI AML AML
comp=N,1175μm,0.8s
CAFI AML AML
comp=N,1185μm,1.3s
CAFI AML AML
comp=E,1021μm,0.8s
CAFI AML AML
comp=N,1175μm,1.2s
MIDA Miranda 1.21 143 ⇓P Pn 16 15 02.0 -1.8
MIDA AML AML
comp=E,1125μm,0.8s
MIDA AML AML
comp=N,1000μm,0.8s
MIDA AML AML
comp=N,995μm,0.8s
MIDA AML AML
comp=E,1115μm,0.5s
SF04 Casetta 1.22 281 ⇓P Pg 16 15 04.2 -0.1
SF04 AML AML
comp=N,676μm,1.6s
SF04 AML AML
comp=N,676μm,0.4s
SF04 AML AML
comp=E,836μm,1.4s
PE3 Peglio 1.22 332 ⇓P Pn 16 15 03.8 -0.1
PE3 AML AML
comp=E,3955μm,0.5s
PE3 AML AML
comp=N,59μm,1.6s
TRIV Trivento 1.27 132 P Pn 16 15 04.5 -0.1
TRIV AML AML
comp=E,1142μm,1.3s
TRIV AML AML
comp=N,908μm,1.1s
TRIV AML AML
comp=E,1142μm,0.7s
PARC Parchiule 1.28 324 ⇑P Pn 16 15 04.8 0.0
PARC AML AML
comp=E,1430μm,0.6s
PARC AML AML
comp=N,1206μm,1.1s
PARC AML AML
comp=E,1430μm,1.4s
ARCI Arcidosso 1.35 281 ⇑P Pg 16 15 07.0 0.0
ARCI AML AML
comp=E,286μm,1.2s
ARCI AML AML
comp=N,323μm,0.8s
ARCI AML AML
comp=N,323μm,1.2s
ARCI AML AML
comp=E,286μm,0.8s
PESA Pesaro 1.36 346 ⇓P Pb 16 15 06.6 +0.1
PESA AML AML
comp=E,1880μm,0.6s
PESA AML AML
comp=N,1880μm,0.8s
CPGN Carpegna, Ital 1.38 330 ⇓P Pb 16 15 07.0 +0.2
CPGN AML AML
comp=E,2060μm,0.8s
CPGN AML AML
comp=N,2440μm,0.9s
CPGN AML AML
comp=E,2350μm,1.0s
CPGN AML AML
comp=N,2130μm,1.0s
CRE Caprese Michel 1.40 316 P Pn 16 15 06.7 +0.2
CRE AML AML
comp=E,662μm,0.7s
CRE AML AML
comp=N,590μm,1.0s
ASQU Asqua 1.61 318 P Pb 16 15 10.2 -0.4
ASQU AML AML
comp=E,468μm,1.4s
ASQU AML AML
comp=N,628μm,0.7s
ASQU AML AML
comp=E,468μm,0.6s
MELA Melanico ??? S 1.64 123 ⇑P Pb 16 15 10.7 -0.5
MELA AML AML
comp=E,1250μm,0.9s
MELA AML AML
comp=E,1220μm,0.5s
MELA AML AML
comp=N,1385μm,0.6s
MELA AML AML
comp=N,1369μm,0.6s
RUFI Rufina 1.78 314 P Pn 16 15 11.9 +0.3
RUFI AML AML
comp=N,564μm,0.7s
RUFI AML AML
comp=E,428μm,1.0s
RUFI AML AML
comp=N,564μm,1.3s
RUFI Rufina 1.78 314 P Pn 16 15 12.2 +0.5
RUFI S Pb 16 15 13.0 -0.6
CASP Castiglione de 1.79 276 ⇓P Pn 16 15 12.0 +0.3
TRIF Trifonti 1.82 287 ⇑P Pn 16 15 12.8 +0.6
TRIF AML AML
comp=E,220μm,0.6s
TRIF AML AML
comp=N,295μm,0.5s
TRIF AML AML
comp=E,220μm,1.4s
APRC Apricena 1.89 116 ⇓P Pb 16 15 14.9 -0.5
CRMI Carmignano 2.06 306 P Pn 16 15 16.3 +0.8
MSAG Monte S. Angel 2.15 114 ⇓P Pb 16 15 18.5 -1.4
MTCR Monte La Croce 2.19 311 ⇓P Pn 16 15 17.6 +0.4
MTCR AML AML
comp=E,273μm,0.6s
MTCR AML AML
comp=N,301μm,1.5s
MTCR Monte La Croce 2.19 311 P Pn 16 15 17.4 +0.1
BRJN Brijuni 2.31 8 ⇑P Pn 16 15 19.5 +0.6
HVAR Hvar 2.39 75 P Pn 16 15 20.3 +0.3
PALZ Palazzo San Ge 2.61 129 ⇓P Pn 16 15 24.6 +1.7
PALZ AML AML
comp=E,386μm,0.7s
PALZ AML AML
comp=N,310μm,1.1s
PALZ AML AML
comp=E,386μm,1.3s
NDIM Novi di Modena 2.85 324 ⇑P Pn 16 15 25.5 -0.8
NDIM AML AML
comp=N,2310μm,1.5s
NDIM AML AML
comp=E,1224μm,0.1s
NDIM AML AML
comp=N,572μm,0.3s
NDIM AML AML
comp=E,1279μm,0.1s
SKDS Skadanscina 2.98 10 ePn Pn 16 15 27.8 -0.2
A050A Klekovaca 3.01 51 ePn Pn 16 15 29.9 +1.4
AMUR Altamura 3.01 123 P Pn 16 15 29.5 +1.0
AMUR AML AML
comp=E,157μm,0.5s
AMUR AML AML
comp=N,145μm,0.9s
AMUR AML AML
comp=N,145μm,1.1s
PGF Pioggiola 3.17 270 eP Pn 16 15 32.1 +1.4
PGF eSn Sn 16 16 05.5 -3.0
comp=N,4.1nm,0.4s
SRKY Kupres RS 3.18 62 ePn Pn 16 15 32.6 +1.7
BOJS Bojanci 3.22 25 ⇓P Pn 16 15 31.5 +0.2
BOJS AML AML
comp=E,371μm,0.9s
BOJS AML AML
comp=N,212μm,0.9s
BOJS AML AML
comp=N,212μm,1.1s
BOJS Bojanci 3.22 25 ePn Pn 16 15 31.8 +0.5
CEY Cerknica 3.23 14 ePn Pn 16 15 31.2 -0.3
MATE Matera 3.23 126 ⇑P Pn 16 15 33.2 +1.8
STON Ston 3.26 84 P Pn 16 15 32.3 +0.4
STON AML AML
comp=E,89μm,1.2s
STON AML AML
comp=N,113μm,0.5s
STON AML AML
comp=E,89μm,0.8s
STON Ston 3.26 84 ePn Pn 16 15 32.3 +0.4
STON eSn Sn 16 16 10.7 +0.1
STON Ston 3.26 84 ePn Pn 16 15 32.4 +0.4
MGRS Mrkonjic Grad 3.30 56 ePn Pn 16 15 34.7 +2.2
LTRZ Laterza 3.33 126 ⇓P Pn 16 15 34.5 +1.6
NOCI Noci 3.37 122 ⇑P Pn 16 15 35.7 +2.3
SABO M.te Sabotino 3.37 4 ⇑P Pn 16 15 34.1 +0.6
SABO AML AML
comp=E,906μm,0.6s
SABO AML AML
comp=N,279μm,0.7s
SABO AML AML
comp=N,1040μm,0.9s
SABO AML AML
comp=E,218μm,0.6s

ROVR	Rover Verones	3.42	333	⇑P		Pn	16 15 35.9	+1.6
CGRP	Cima Grappa	3.43	342	⇑P		Pn	16 15 35.5	+1.0
CGRP					AML	AML		
	comp=E,285μm,1.1s							
CGRP					AML	AML		
	comp=N,241μm,0.8s							
CGRP					AML	AML		
	comp=N,241μm,1.2s							
CGRP					AML	AML		
	comp=E,246μm,0.5s							
CGRP					AML	AML		
	comp=N,221μm,0.7s							
ORI	Oriolo Calabro	3.49	136	⇓P		Pn	16 15 37.1	+2.0
BLY	Banja Luka	3.54	52	*e*Pn		Pn	16 15 35.6	-0.2
A051A	Mrakovica	3.55	46	*e*Pn		Pn	16 15 36.9	+0.9
CRES	Cresnjev	3.57	25	*e*Pn		Pn	16 15 36.8	+0.6
DOSS	Dosso del Somm	3.59	336	⇓P		Pn	16 15 38.2	+1.5
SALO	Salr	3.60	327	⇓P		Pn	16 15 38.8	+2.2
CTI	Castel Tesino	3.63	342	⇑P		Pn	16 15 38.0	+0.9
CTI				S		Sn	16 16 19.4	-0.5
CTI				AML	AML			
	comp=E,125μm,0.7s							
CTI				AML	AML			
	comp=E,125μm,1.3s							
CTI				AML	AML			
	comp=N,115μm,0.8s							
STAL	STALIGIAL	3.67	354	⇑P		Pn	16 15 38.8	+1.3
LUSI	Trento, Gardas	3.74	334	⇑P		Pn	16 15 39.2	+0.6
LUSI				AML	AML			
	comp=E,129μm,1.5s							
LUSI				AML	AML			
	comp=N,164μm,0.6s							
LUSI				AML	AML			
	comp=E,129μm,0.5s							
CIMO	Cimolais	3.74	351	⇓P		Pn	16 15 39.2	+0.6
CIMO				AML	AML			
	comp=E,39μm,1.5s							
CIMO				AML	AML			
	comp=E,35μm,1.5s							
CIMO				AML	AML			
	comp=N,56μm,0.7s							
CIMO				AML	AML			
	comp=N,56μm,1.3s							
CIMO				AML	AML			
	comp=E,39μm,0.5s							
CIMO				AML	AML			
	comp=N,57μm,1.1s							
CIMO				AML	AML			
	comp=E,35μm,0.5s							
GAGG	Gaggia	3.85	335	⇑P		Pn	16 15 42.4	+2.2
HCY	Herceg Novi	3.85	91	*e*Pn		Pn	16 15 41.0	+0.3
HCY	Herceg Novi	3.85	91	⇑*i*Pn		Pn	16 15 41.0	+0.9
HCY				*i* Sn		Sn	16 16 27.3	+2.0
BRY	Bratogost	3.88	84	*e*Pn		Pn	16 15 41.6	+1.0
BRY	Bratogost	3.88	84	⇓*i*Pn		Pn	16 15 41.4	+0.8
BRY				*i* Sn		Sn	16 16 27.9	+1.8
ACOM	Acomizza, Ital	3.94	2	⇑P		Pn	16 15 43.1	+1.8
EUCT	Pavia	3.96	312	P		Pb	16 15 47.4	-3.2
MABI	Malga Bissina	3.97	331	⇓P		Pn	16 15 43.2	+1.3
FVI	Forni Avoltri	4.00	355	⇓P		Pn	16 15 43.7	+1.6
OBKA	Obir	4.00	13	*i* Pn		Pn	16 15 43.0	+0.9
	comp=E,3.4nm,0.4s,SNR=5.8							
OBKA	Obir	4.00	13	*e*Pn		Pn	16 15 42.5	+0.4
MYKA	Terra Mystica	4.02	4	*i* Pn		Pn	16 15 43.6	+1.1
	comp=E,4.2nm,0.3s							
MYKA				*i* Sn		Sn	16 16 29.8	+0.3
	comp=E,5.5nm,0.4s							
BOSI	Bolzano	4.12	341	P		Pn	16 15 47.6	+3.8
APPI	Appiano	4.13	340	⇑P		Pn	16 15 45.4	+1.4
CEME	Cevo	4.16	89	⇑*i*Pn		Pn	16 15 45.3	+1.0
CEME				*i* Sn		Sn	16 16 34.9	+2.0
BUM	Brajici-Budva	4.16	92	⇑*i*Pn		Pn	16 15 45.6	+1.2
BUM				*i* Sn		Sn	16 16 34.7	+1.7
ABTA	Abfaltersbach	4.17	353	*i* Pn		Pn	16 15 45.4	+1.0
	comp=E,8.8nm,0.3s,SNR=16							
ABTA				*e*Sn		Sn	16 16 34.1	+1.0
	comp=E,22nm,0.5s							
UPM	Unac-Piva	4.17	80	*e*Pn		Pn	16 15 46.5	+1.9
UPM	Unac-Piva	4.17	80	⇓*i*Pn		Pn	16 15 45.8	+1.2
UPM				*i* Sn		Sn	16 16 35.3	+1.9
NKME	Niksic	4.18	86	⇑*i*Pn		Pn	16 15 45.6	+1.0
NKME				*i* Sn		Sn	16 16 35.2	+1.8
BRES	Bressanone	4.23	345	P		Pn	16 15 47.0	+1.5
SOKA	Soboth	4.25	16	*i* Pn		Pn	16 15 47.3	+1.8
	comp=E,1.5nm,0.3s							
SOKA				*i* Sn		Sn	16 16 34.7	-0.5
	comp=E,5.3nm,0.5s							
KOGS	Kog	4.38	28	P		Pn	16 15 47.1	-0.2
DRME	Dracevica, Mon	4.39	94	*e*Pn		Pn	16 15 48.6	+1.2
DRME	Dracevica, Mon	4.39	94	⇑*i*Pn		Pn	16 15 48.7	+1.3
DRME				*i* Sn		Sn	16 16 40.3	+1.8
RISI	Rein	4.42	349	⇑P		Pn	16 15 49.9	+1.9
PDG	Podgorica	4.42	90	⇑P		Pn	16 15 49.5	+1.8
PDG	Podgorica	4.42	90	*e*Pn		Pn	16 15 49.4	+1.6
PDG				*e*Sn		Sn	16 16 40.3	+1.2
PDG	Podgorica	4.42	90	⇑*i*Pn		Pn	16 15 49.3	+1.5
PDG				*i* Sn		Sn	16 16 41.1	+2.0
SBF	Sospel	4.45	288	*e*P		Pn	16 15 50.0	+1.6
SBF				*e*Sn		Sn	16 16 36.3	-3.8
	comp=E,3.7nm,0.3s							
KBA	Koelnbreinsper	4.46	1	*i* Pn		Pn	16 15 50.0	+1.4
	comp=E,1.5nm,0.2s,SNR=7.0							
KBA				*i* Sn		Sn	16 16 39.1	-1.4
	comp=E,6.1nm,0.4s							
ULC	Ulcinj	4.47	96	⇑*i*Pn		Pn	16 15 49.8	+1.2
ULC				*i* Sn		Sn	16 16 41.8	+1.3
MUGIO	Muggio	4.50	319	P		Pn	16 15 50.4	+1.5
ROSI	Rosskopf	4.51	343	P		Pn	16 15 50.9	+1.6
PLE	Pljevlja	4.54	79	⇑*i*Pn		Pn	16 15 51.4	+1.8
PLE				*i* Sn		Sn	16 16 43.9	+1.6
RUDO	Rudo	4.57	75	*e*Pn		Pn	16 15 50.6	+0.7
KOME	Kolasin	4.59	85	⇓*i*Pn		Pn	16 15 51.6	+1.2
KOME				*i* Sn		Sn	16 16 45.6	+1.9
BBLS	Lazići	4.64	72	*e*Pn		Pn	16 15 52.1	+1.1
BBLS				*e*Sn		Sn	16 16 41.9	-2.9
BBLS	Lazići	4.64	72	*e*Pn		Pn	16 15 52.2	+1.2
FETA	Feichten	4.76	338	*i* Pn		Pn	16 15 54.8	+2.1
	comp=E,2.2nm,0.3s,SNR=9.1							
FETA				*e*Sn		Sn	16 16 50.6	+2.7
	comp=E,14nm,0.7s							
WTTA	Wattenberg	4.79	346	*i* Pn		Pn	16 15 55.4	+2.3
	comp=E,2.2nm,0.3s,SNR=6.7							
WTTA				*i* Sn		Sn	16 16 49.5	+0.8
	comp=E,17nm,0.4s							
DAVOX	Davos/Dischmat	4.82	331	Pn		Pn	16 15 56.6	+3.1
	comp=E,2.4nm,0.3s,baz=163,slow=20,SNR=17							
DAVOX				Sn		Sn	16 16 51.1	+1.8
	comp=E,0.8nm,0.3s,baz=116,slow=23,SNR=1.6							
	comp=E,5.1nm,0.3s							
SQTA	Sankt Quirin	4.83	343	*i* Pn		Pn	16 15 55.6	+2.0
	comp=E,6.9nm,0.3s,SNR=13							
SQTA				*e*Sn		Sn	16 16 51.4	+1.7
	comp=E,10nm,0.4s							
WATA	Walderalm	4.87	346	*i* Pn		Pn	16 15 56.9	+2.7
	comp=E,3.5nm,0.2s,SNR=16							
WATA				*e*Sn		Sn	16 16 50.4	-0.2
	comp=E,12nm,0.6s							
IVA	Berane	4.87	85	⇑*i*Pn		Pn	16 15 55.9	+1.7
IVA				*i* Sn		Sn	16 16 52.1	+1.5
ARSA	Arzberg	4.90	18	*i* Pn		Pn	16 15 56.8	+2.3
	comp=E,2.3nm,0.3s							
ARSA				*e*Sn		Sn	16 16 49.8	-1.3
	comp=E,5.2nm,0.5s							
PVY	Plav	4.93	88	⇑*i*Pn		Pn	16 15 56.2	+1.3
PVY				*i* Sn		Sn	16 16 53.4	+1.5
SJES	Sjenica	4.95	80	*e*Pn		Pn	16 15 57.1	+1.8
SJES				*e*Sn		Sn	16 16 51.0	-1.5
SJES	Sjenica	4.95	80	*e*Pn		Pn	16 15 57.0	+1.8
MOTA	Moosalm	4.97	343	*e*Pn		Pn	16 15 57.7	+2.0
	comp=E,4.1nm,0.4s,SNR=6.8							
MOTA				*e*Sn		Sn	16 16 53.4	+0.3
	comp=E,7.9nm,0.5s							
LMR	La Mourre	5.02	281	*e*Pn		Pn	16 15 54.6	-1.5
LMR	La Mourre	5.02	281	*e*P		Pn	16 15 58.7	+2.6
LMR				*e*Sn		Sn	16 16 50.0	-4.1
	comp=E,1.5nm,0.4s							
TIR	Tirane	5.07	102	P		Pn	16 15 58.1	+1.4
BIOA	Bad Ischl, Aus	5.08	3	*i* Pn		Pn	16 15 58.3	+1.3
	comp=E,2.7nm,0.3s							
BIOA				*e*Sn		Sn	16 16 56.8	+1.2
	comp=E,13nm,0.5s							
DIVS	Divibare	5.11	71	*e*Pn		Pn	16 15 58.4	+1.0
DIVS				*e*Sn		Sn	16 16 52.8	-3.6
DIVS	Divibare	5.11	71	*e*Pn		Pn	16 15 56.8	-0.6
MBDF	Montbardon	5.17	296	*e*Pn		Pn	16 15 56.5	-1.9
MBDF	Montbardon	5.17	296	*e*P		Pn	16 15 59.9	+1.5
MBDF				*e*Sn		Sn	16 16 53.7	-4.4
	comp=E,1.6nm,0.4s							
RETA	Reutte	5.19	341	*i* Pn		Pn	16 16 00.9	+2.4
	comp=E,4.0nm,0.5s,SNR=7.7							
RETA				*i* Sn		Sn	16 17 01.1	+2.8
	comp=E,7.4nm,0.5s							
DAVA	Damuels	5.26	334	*i* Pn		Pn	16 16 02.3	+2.8
	comp=E,2.5nm,0.3s,SNR=6.7							
DAVA				*i* Sn		Sn	16 17 02.1	+2.0
	comp=E,12nm,0.5s							
MOA	Molln	5.28	7	*i* Pn		Pn	16 16 01.6	+1.9
	comp=E,1.9nm,0.2s,SNR=14							
MOA				*e*Sn		Sn	16 17 00.2	-0.2
	comp=E,14nm,0.6s							
FRGS	Fruska Gora	5.36	59	P		Pn	16 16 01.7	+1.0
FRGS	Fruska Gora	5.36	59	*e*Pn		Pb	16 16 08.5	-6.0
TRUS	Trudelj	5.43	70	*e*Pn		Pn	16 16 02.3	+0.6
RONA	Rosalia, Austr	5.51	22	*i* Pn		Pn	16 16 03.8	+0.9
	comp=E,3.0nm,0.2s							
LPL	La Plagne	5.54	304	*e*P		Pn	16 16 06.4	+3.0
LPL				*e*Sn		Sn	16 17 02.3	-4.9
	comp=E,1.9nm,0.3s							
GRUS	Gruza	5.57	74	*e*Pn		Pn	16 16 04.9	+1.2
CONA	Conrad Observa	5.61	18	*i* Pn		Pn	16 16 05.3	+1.0
	comp=E,2.9nm,0.3s,SNR=9.2							
CONA				*i* Sn		Sn	16 17 08.4	-0.4
	comp=E,2.8nm,0.3s							
SELS	Selova	5.78	81	*e*Pn		Pn	16 16 07.4	+0.8
SMRF	Simiane la Rot	5.79	286	*e*P		Pn	16 16 09.3	+2.6
SMRF				*e*Sn		Sn	16 17 08.1	-4.9
	comp=E,1.3nm,0.3s							
OHR	Ohrid	5.81	102	*i* Pn		Pn	16 16 09.2	+2.2
ORIF	Oris-en-Rattie	5.83	296	*e*P		Pn	16 16 10.5	+3.1
ORIF				*e*Sn		Sn	16 17 09.3	-4.9
	comp=E,1.9nm,0.4s							
GERES	GERESS Array B	6.24	3	Pn		Pn	16 16 12.9	0.0
	comp=E,0.3nm,0.3s,baz=174,slow=13,SNR=15							
GERES				Sn		Sn	16 17 22.6	-1.5
	comp=E,0.9nm,0.3s,baz=172,slow=23,SNR=2.3							
	comp=E,0.6nm,0.3s							
CKRC	Cesky Krumlov	6.25	6	*e*PN		Pn	16 16 13.6	+0.7
CKRC				*e*SN		Sn	16 17 22.3	-1.9
BARS	Barje	6.29	85	*e*Pn		Pn	16 16 13.4	-0.1
BARS				*e*Sn		Sn	16 17 22.6	-2.7
MODS	Modra-Piesok	6.40	25	*e*PN		Pn	16 16 18.3	+3.2
MDVR	Moldovita	6.48	68	P		Pn	16 16 17.9	+1.7
PRVS	Prvonek	6.49	88	*e*Pn		Pn	16 16 16.8	+0.4
PRVS				*e*Sn		Sn	16 17 28.1	-2.3
CABF	La Chapelle	6.51	310	*e*P		Pn	16 16 19.7	+3.1
CABF				*e*Sn		Sn	16 17 25.2	-5.5
	comp=E,0.9nm,0.3s							
KHC	Kasperske Hory	6.52	2	*e*PN		Pn	16 16 17.7	+1.0
KHC				*e*SN		Sn	16 17 29.2	-1.8
VIVF	Saint-Julien-l	6.63	293	*e*PN		Pn	16 16 21.3	+3.1
ZAGS	Zajecar	6.65	77	*e*Pn		Pn	16 16 18.3	-0.1
STIP	Stip	6.68	95	*i* Pn		Pn	16 16 22.1	+3.2
BZS	Buzias	6.70	61	⇑P		Pn	16 16 19.7	+0.4
ZAPS	Zavoj	6.89	81	*e*Pn		Pn	16 16 23.0	+1.1
HINF	Hinteralfeld	6.90	321	*e*P		Pn	16 16 23.3	+1.3
HINF				*e*Sn		Sn	16 17 34.8	-5.6
	comp=E,3.7nm,0.3s							
LASF	Ste Croix	7.03	285	*e*Pn		Pn	16 16 21.9	-1.8
LASF	Ste Croix	7.03	285	*e*P		Pn	16 16 26.4	+2.7
LASF				*e*Sn		Sn	16 17 37.7	-5.8
	comp=E,0.8nm,0.1s							
VYHS	Vyhne	7.05	32	*e*PN		Pn	16 16 24.8	+0.8
VRAC	Vranov	7.08	18	Pn		Pn	16 16 25.1	+0.8
	comp=E,0.2nm,0.3s,baz=220,slow=13,SNR=2.6							
	comp=E,1.5nm,0.5s							
CDF	Champ du Feu	7.17	326	*e*P		Pn	16 16 28.3	+2.6
CDF				*e*Sn		Sn	16 17 41.1	-5.9
	comp=E,4.1nm,0.4s							
HAU	Haudompre	7.28	320	*e*Pn		Pn	16 16 25.1	-2.0
HAU	Haudompre	7.28	320	*e*P		Pn	16 16 30.2	+3.1
HAU				*e*Sn		Sn	16 17 43.5	-6.1
	comp=E,5.4nm,0.3s							
VTS	Vitosha	7.34	87	P		Pn	16 16 29.1	+1.0
GZR	Gura Zlata	7.38	65	P		Pn	16 16 30.2	+1.6
KEST	Kesra	7.52	205	Pn		Pn	16 16 36.0	+5.5
	comp=E,0.2nm,0.3s,baz=337,slow=7.7,SNR=1.6							
	comp=E,2.2nm,0.7s							
NKC	Novy Kostel	7.64	356	*e*SN		Sn	16 17 55.4	-3.2
SMF	Signal de Mont	7.85	304	*e*P		Pn	16 16 37.6	+2.7
SMF				*e*Sn		Sn	16 17 57.1	-6.5
	comp=E,1.4nm,0.4s							
MARR	Marisel-Cluj	8.10	57	P		Pn	16 16 40.6	+2.1
LOR	Lormes	8.14	308	*e*P		Pn	16 16 42.4	+3.4
	baz=128							
LOR				*e*Sn		Sn	16 18 03.8	-7.1
	comp=E,1.5nm,0.3s							
AVF	Avril sur Loir	8.21	304	*e*P		Pn	16 16 43.4	+3.5
SSF	Saint Saulge	8.25	306	*e*P		Pn	16 16 42.9	+2.5
SSF				*e*Sn		Sn	16 18 06.7	-6.7
	comp=E,0.8nm,0.3s							
BRG	Berggiesshubel	8.27	3	*e*P		Pn	16 16 48.9	+8.2
BRG				Amp			16 16 50.7	
	comp=Z,2.3nm,0.9s							
BRG				r			16 18 15.0	
BRG				Amp			16 18 21.8	
	comp=Z,1.7nm,0.7s							
BRG				r			16 19 23.5	
BRG				Amp			16 19 45.9	
	comp=Z,8.9nm,1.4s							
BGF	Bois d'Agland	8.43	301	*e*P		Pn	16 16 44.7	+1.8
BGF				*e*Sn		Sn	16 18 11.1	-6.8
	comp=Z,2.1nm,0.3s							
CAF	Calviac	8.44	290	*e*P		Pn	16 16 45.8	+2.7
CAF	Calviac	8.44	290	*e*Pg		Pg	16 17 15.5	-7.0
ARR	Arges	8.63	68	⇑P		Pn	16 16 48.3	+2.6
CLL	Collm	8.70	359	*e*Pn		Pn	16 16 41.0	-5.5
CLL				*ex*		x	16 16 45.0	
CLL				*e*Sn		Sn	16 18 06.0	-18
CLL				*ex*		x	16 18 54.0	
CLL				*e*Sg		Sg	16 19 16.0	-3.9
	comp=Z,19nm,1.5s							
MLR	Muntele Rosu	9.56	68	⇓P		Pn	16 17 00.8	+2.3
FINES	FINESS Array B	20.36	18	P		P	16 19 17.5	+0.4
	comp=Z,1.5nm,0.9s,baz=210,slow=10,SNR=1.7							
FINES				LR		LR	16 27 52.7	
	comp=Z,69nm,21.4s,baz=264,slow=39							
	comp=Z,1.5nm,0.9s							
TORD	Torodi Ar. Bea	31.03	202	P		P	16 21 01.7	+3.0
	comp=Z,0.3nm,0.6s,baz=22,slow=7.9,SNR=2.7							
	comp=Z,0.3nm,0.6s							
MKAR	Makanchi Array	47.79	60	P		P	16 23 16.7	-1.3
	comp=Z,0.2nm,0.7s,baz=288,slow=7.5,SNR=1.7							
	comp=Z,0.2nm,0.7s							
SONM	Songino Array	61.87	50	P		P	16 25 02.1	+2.0
	comp=Z,0.3nm,0.5s,baz=284,slow=7.3,SNR=2.1							
	comp=Z,0.3nm,0.5s							
YKA	Yellowknife Ar	67.23	337	P		P	16 25 35.0	+0.4
	comp=Z,0.2nm,0.7s,baz=39,slow=5.3,SNR=4.3							
	comp=Z,0.2nm,0.7s							

THE ***28*** *16:16:55.5,34.35N×24.15E,h8km±1km,ML2.9/4,Error ellipse: s-maj=1.8km s-min=1.4km az=54.0*
ATH ***28*** *16:16:57.9,34.50N×24.08E,h22km±2km,ML3.3/7,Error ellipse: s-maj=3.4km s-min=1.9km az=21.0*
IDC ***28*** *16:16:59.4±1.8,34.66N×23.99E,h59km±12km,mb3.5/11, mbtmp3.8/12,Error ellipse: s-maj=27.4km s-min=17.3km az=155.0*
GII ***28*** *16:17:02.5±0.0,34.14N×24.88E,h10km,MD3.2/3*
DDA ***28*** *16:17:17.9±0.0,35.99N×25.53E,h4km±2km,ML2.0*

ISC 28 16:16:55.3±1.4,34.35N±0.07×24.18E±0.04,h32km±9km, n62,σ1.980/81,mb3.8/11,Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.49	351	P	Pb	Pb	16 17 05.2	-0.5
GVD	Gavdhos	0.49	351	P	Pb	Pb	16 17 04.9	-0.8
GVD				S	Sb	Sb	16 17 09.7	-3.2
GVD				AML	AML		16 17 15.1	
	comp=N,14969μm,0.3s							
GVD				AML	AML		16 17 15.7	
	comp=E,16707μm,0.3s							
GVDS	Gavdos	0.50	351	P	Pb	Pb	16 17 05.2	-0.6
GVDS				S	Sb	Sb	16 17 12.7	-0.3
TMBK	Timbaki Herakl	0.86	34	P	Pb	Pb	16 17 13.3	+1.4
TMBK				S	Sn	Sn	16 17 24.3	+1.5
TMBK				AML	AML		16 17 30.0	
	comp=N,6108μm,0.4s							
TMBK				AML	AML		16 17 30.1	
	comp=E,5306μm,0.5s							
KNDR	Palaiochora Ch	0.97	335	P	Pb	Pb	16 17 14.1	+0.5
KNDR				S	Sb	Sb	16 17 28.3	+2.2
	comp=E,1μm,0.4s							
KNDR	Palaiochora Ch	0.97	335	P	Pn	Pn	16 17 13.8	+1.1
KNDR				S	Sn	Sn	16 17 24.1	-1.3
KNDR				AML	AML		16 17 30.7	
	comp=N,5432μm,0.4s							
KNDR				AML	AML		16 17 32.6	
	comp=E,7177μm,0.5s							
PRNS	Prines Rethymn	1.04	14	P	Pn	Pn	16 17 13.9	+0.2
PRNS				S	Sb	Sb	16 17 29.4	+1.2
	comp=E,475nm,0.5s							
IDI	Anoyia	1.10	32	P	Pn	Pn	16 17 15.9	+1.3
	comp=E,43nm,0.3s,baz=214,slow=13,SNR=86							
IDI				S	Sb	Sb	16 17 30.9	+0.9
	comp=E,183nm,0.4s,baz=140,slow=22,SNR=15							
IDI				LR		LR	16 17 59.7	
	comp=E,77nm,21.2s,baz=288,slow=62							
IDI	Anoyia	1.10	32	P	Pb	Pb	16 17 16.4	+0.5
IDI				S	Sb	Sb	16 17 32.0	+2.1
	comp=E,608nm,0.4s							
IDI	Anoyia	1.10	32	P	Pn	Pn	16 17 16.0	+1.4
IDI				S	Sn	Sn	16 17 30.4	+1.7
IDI				AML	AML		16 17 36.4	
	comp=E,1014μm,0.7s							
IDI				AML	AML		16 17 38.0	
	comp=N,1130μm,0.5s							
IMMV	Iera Moni Meta	1.12	352	P	Pn	Pn	16 17 15.1	+0.3
IMMV	Iera Moni Meta	1.12	352	P	Pn	Pn	16 17 14.9	+0.2
IMMV				S	Sn	Sn	16 17 27.7	-1.4
IMMV				AML	AML		16 17 32.5	
	comp=E,8506μm,0.4s							
IMMV				AML	AML		16 17 32.6	
	comp=N,6455μm,0.4s							
CHAN	Chania	1.17	354	P	Pn	Pn	16 17 16.6	+1.1
CHAN				S	Sn	Sn	16 17 30.1	-0.2
CHAN				AML	AML		16 17 35.1	
	comp=N,4466μm,0.6s							
CHAN				AML	AML		16 17 36.7	
	comp=E,3729μm,0.4s							
RODP	Rodopos	1.26	344	P	Pn	Pn	16 17 18.3	+1.6
RODP				S	Sb	Sb	16 17 35.1	+0.8
	comp=E,295nm,0.6s							
FRMA	Ierapetra Chan	1.44	62	P	Pb	Pb	16 17 23.6	+2.1
ANKY	Antikythira Is	1.68	335	P	Pn	Pn	16 17 23.9	+1.5
ANKY	Antikythira Is	1.68	335	P	Pn	Pn	16 17 23.6	+1.2
ANKY				S	Sn	Sn	16 17 40.5	-2.4
ANKY				AML	AML		16 17 51.6	
	comp=N,499μm,0.5s							
ANKY				AML	AML		16 17 57.9	
	comp=E,818μm,0.6s							
ZKR	Zakros	1.84	65	P	Pb	Pb	16 17 27.8	-0.5
KTHR	Kythira	2.13	333	P	Pn	Pn	16 17 30.5	+1.7
KTHR	Kythira	2.13	333	P	Pn	Pn	16 17 29.6	+0.8
MHLO	Agia Marina, M	2.34	4	P	Pn	Pn	16 17 32.0	+0.4
VLI	Veliai	2.57	337	P	Pn	Pn	16 17 36.4	+1.7
VLI	Veliai	2.57	337	P	Pn	Pn	16 17 35.8	+1.1
KRND	KRANIDI	3.14	345	P	Pn	Pn	16 17 43.9	+1.4
DAT	Datca	3.65	48	P	Pn	Pn	16 17 49.3	-0.3
BDRM	Kayabasi	3.79	43	P	Pn	Pn	16 17 50.4	-1.2
VILL	Villia	3.87	350	P	Pn	Pn	16 17 54.0	+1.4
TURN	Turunc	4.10	53	P	Pn	Pn	16 17 57.4	+1.7
TURN				S	Sn	Sn	16 18 34.6	-7.9
TURN				*i* AML		AML	16 18 43.0	
	comp=E,16nm,1.0s							
TURN				*i* AML		AML	16 18 51.0	
	comp=E,9.8nm,0.5s							
AXAR	Agios Charalam	4.57	345	P	Pn	Pn	16 18 03.6	+1.3
ANX	Ano Chora	4.61	337	P	Pn	Pn	16 18 04.0	+1.2
PVO	Paravola	4.76	334	P	Pn	Pn	16 18 07.4	+2.5
AKAS	Kas	4.82	66	P	Pn	Pn	16 18 06.7	+1.0
AKAS				S	Sn	Sn	16 18 49.3	-11
TAVA	DENIZLI_Tavas	4.94	50	P	Pn	Pn	16 18 02.7	-4.7
TAVA				S	Sn	Sn	16 18 44.8	-19
CAEL	Denizli, Camel	5.01	55	P	Pn	Pn	16 18 05.9	-2.5
GOLH	Golhisar	5.23	55	P	Pn	Pn	16 18 12.2	+0.8
GOLH				S	Sn	Sn	16 18 49.0	-22
MMAI	Mount Meron Ar	9.45	95	P	Pn	Pn	16 19 10.3	+1.0
	comp=E,0.7nm,0.3s,baz=286,slow=10,SNR=1.3							
MMAI				S		Sn	16 20 50.6	-3.7
	comp=E,1.1nm,0.3s,baz=298,slow=28,SNR=6.0							
AMAZ	Amatzia	9.45	104	Pn		Pn	16 19 11.0	+1.8
AMAZ				Sn		Sn	16 20 51.1	-3.2
MMLI	Mount Malkishu	9.59	98	Pn		Pn	16 19 12.5	+1.4
YTIR	Yattir	9.67	105	Pn		Pn	16 19 13.6	+1.3
YTIR				Sn		Sn	16 20 55.7	-4.1
HMDT	Nahal Hemdat	9.72

RM33	**Pellescritta (**	**0.13**	**208**	⇑P	Pg	16 21 11.7 +0.6
RM33				S	Sg	16 21 14.1 +0.9
RM33				AML	AML	
	comp=E,1280µm,0.2s					
RM33				AML	AML	
	comp=E,1275µm,0.2s					
RM33				AML	AML	
	comp=E,1275µm,0.2s					
RM33				AML	AML	
	comp=N,1110µm,1.3s					
RM33				AML	AML	
	comp=N,1080µm,1.3s					
RM33				AML	AML	
	comp=E,1275µm,0.2s					
RM33				AML	AML	
	comp=N,1085µm,1.3s					
T1218	**Civita (PG)**	**0.14**	**290**	⇑P	Pg	16 21 11.9 +0.6
T1218				S	Sg	16 21 14.5 +0.9
T1218				AML	AML	
	comp=E,1275µm,0.2s					
T1218				AML	AML	
	comp=N,1780µm,0.9s					
T1218				AML	AML	
	comp=N,1715µm,0.9s					
T1218				AML	AML	
	comp=N,1785µm,0.9s					
T1218				AML	AML	
	comp=E,1235µm,0.2s					
T1218				AML	AML	
	comp=N,1715µm,1.1s					
T1218				AML	AML	
	comp=N,1785µm,1.1s					
T1247	**Pizzolo (AQ)**	**0.18**	**179**	P	Pg	16 21 12.6 +0.7
T1247				S	Sg	16 21 15.7 +1.2
T1247				AML	AML	
	comp=E,860µm,1.5s					
T1247				AML	AML	
	comp=E,859µm,1.5s					
T1247				AML	AML	
	comp=N,1126µm,0.4s					
LNSS	**Leonessa**	**0.19**	**264**	⇑P	Pg	16 21 12.8 +0.7
LNSS				S	Sg	16 21 16.2 +1.3
LNSS				AML	AML	
	comp=N,656µm,0.6s					
LNSS				AML	AML	
	comp=E,486µm,1.2s					
LNSS				AML	AML	
	comp=E,486µm,0.8s					
T1212	**Cascia, Frazio**	**0.23**	**305**	P	Pg	16 21 13.3 +0.6
T1212				S	Sg	16 21 16.8 +0.9
T1212				AML	AML	
	comp=E,406µm,0.2s					
T1212				AML	AML	
	comp=E,380µm,0.2s					
T1212				AML	AML	
	comp=N,322µm,0.7s					
T1212				AML	AML	
	comp=E,406µm,0.2s					
T1212				AML	AML	
	comp=N,344µm,0.7s					
T1212				AML	AML	
	comp=E,380µm,0.2s					
T1212				AML	AML	
	comp=N,322µm,0.8s					
T1212				AML	AML	
	comp=N,344µm,1.3s					
T1212				AML	AML	
	comp=N,322µm,1.2s					
T1245	**Castelsantange**	**0.25**	**341**	P	Pg	16 21 13.5 +0.4
T1245				S	Sg	16 21 18.3 +1.7
T1245				AML	AML	
	comp=E,450µm,0.2s					
T1245				AML	AML	
	comp=N,635µm,1.5s					
T1245				AML	AML	
	comp=E,450µm,0.2s					
T1245				AML	AML	
	comp=N,634µm,1.5s					
T1245				AML	AML	
	comp=N,443µm,0.6s					
T1245				AML	AML	
	comp=N,635µm,1.5s					
T1245				AML	AML	
	comp=E,422µm,0.2s					
T1245				AML	AML	
	comp=N,443µm,1.4s					
T1245				AML	AML	
	comp=N,635µm,0.5s					
GIGS	**Gran Sasso**	**0.27**	**130**	P	Pg	16 21 13.6 +0.1
GIGS				AML	AML	
	comp=N,102µm,0.3s					
GIGS				AML	AML	
	comp=N,101µm,0.3s					
GIGS				AML	AML	
	comp=E,128µm,0.2s					
GIGS				AML	AML	
	comp=N,102µm,0.3s					
T1217	**Poggiodomo (PG**	**0.28**	**289**	P	Pg	16 21 14.3 +0.5
T1217				S	Sb	16 21 19.1 -1.1
T1217				AML	AML	
	comp=E,190µm,1.6s					
T1217				AML	AML	
	comp=N,280µm,0.1s					
T1217				AML	AML	
	comp=N,280µm,0.1s					
T1217				AML	AML	
	comp=E,190µm,0.4s					
T1222	**Castel Sant'An**	**0.29**	**221**	P	Pg	16 21 14.4 +0.5
T1222				S	Sb	16 21 19.5 -0.8
MC2	**Monte Cornacci**	**0.30**	**345**	P	Pg	16 21 14.5 +0.4
T1211	**Morro Reatino**	**0.34**	**255**	P	Pg	16 21 15.2 +0.5
T1211				S	Sb	16 21 20.8 -1.0
T1211				AML	AML	
	comp=E,282µm,0.8s					
T1211				AML	AML	
	comp=N,270µm,0.1s					
T1216	**Preci, Frazion**	**0.34**	**323**	P	Pg	16 21 15.3 +0.5
T1216				AML	AML	
	comp=N,268µm,0.4s					
T1216				AML	AML	
	comp=E,260µm,1.3s					
T1216				AML	AML	
	comp=N,268µm,0.4s					
T1216				AML	AML	
	comp=E,260µm,0.7s					
T1216				AML	AML	
	comp=N,268µm,1.6s					
T1215	**Vallo di Nera,**	**0.36**	**300**	P	Pg	16 21 15.6 +0.4
T1215				S	Sb	16 21 21.3 -1.1
T1215				AML	AML	
	comp=E,105µm,0.7s					
T1215				AML	AML	
	comp=E,105µm,0.7s					
T1215				AML	AML	
	comp=N,126µm,0.1s					
FIAM	**Fiamignano**	**0.38**	**201**	P	Pb	16 21 16.3 -0.7
FIAM				AML	AML	
	comp=E,67µm,1.5s					
FIAM				AML	AML	
	comp=N,72µm,1.0s					
ARRO	**Arrone**	**0.39**	**264**	P	Pb	16 21 16.5 -0.6
ARRO				AML	AML	
	comp=E,91µm,0.8s					
ARRO				AML	AML	
	comp=N,96µm,0.6s					
ARRO				AML	AML	
	comp=E,91µm,0.8s					
FAGN	**Fagnano**	**0.41**	**149**	P	Pb	16 21 17.0 -0.5
FAGN				AML	AML	
	comp=E,460µm,0.4s					
FAGN				AML	AML	
	comp=N,260µm,0.6s					
OFFI	**Offida**	**0.42**	**42**	P	Pb	16 21 17.4 -0.3
OFFI				AML	AML	
	comp=N,544µm,1.0s					
OFFI				AML	AML	
	comp=E,272µm,0.6s					
GUMA	**Gualdo di Mace**	**0.44**	**4**	P	Pg	16 21 17.2 +0.5
GUMA				S	Sb	16 21 24.8 +0.1
GUMA				AML	AML	
	comp=E,380µm,0.3s					
GUMA				AML	AML	
	comp=N,326µm,0.6s					
GUMA				AML	AML	
	comp=E,380µm,1.7s					
FDMO	**Fiordimonte**	**0.44**	**340**	P	Pg	16 21 16.9 +0.2
FDMO				S	Sb	16 21 24.2 -0.5
FDMO				AML	AML	
	comp=N,111µm,0.1s					
FDMO				AML	AML	
	comp=E,88µm,0.2s					
CSP1	**Cessapalombo**	**0.47**	**352**	P	Pg	16 21 17.5 +0.2
CSP1				S	Sb	16 21 25.0 -0.7
CSP1				AML	AML	
	comp=E,135µm,1.4s					
CSP1				AML	AML	
	comp=N,123µm,0.3s					
CSP1				AML	AML	
	comp=E,135µm,1.4s					
CSP1				AML	AML	
	comp=N,123µm,0.3s					
CSP1				AML	AML	
	comp=E,135µm,0.6s					
CESI	**CESI - Serrava**	**0.48**	**323**	P	Pg	16 21 17.7 +0.3
CESI				AML	AML	
	comp=E,100µm,0.4s					
CESI				AML	AML	
	comp=N,133µm,1.3s					
CESI				AML	AML	
	comp=E,100µm,1.6s					
T1219	**Muccia, Frazio**	**0.48**	**334**	⇓P	Pg	16 21 17.7 +0.2
T1219				S	Sb	16 21 25.5 -0.5
T1219				AML	AML	
	comp=E,127µm,1.2s					
T1219				AML	AML	
	comp=E,126µm,1.2s					
T1219				AML	AML	
	comp=N,156µm,0.3s					
T1219				AML	AML	
	comp=N,156µm,1.7s					
T1219				AML	AML	
	comp=E,126µm,0.8s					
T1220	**Camerino, Fraz**	**0.51**	**343**	P	Pg	16 21 18.1 +0.1
T1220				AML	AML	
	comp=E,400µm,1.1s					
T1220				AML	AML	
	comp=N,292µm,1.5s					
T1220				AML	AML	
	comp=E,400µm,0.9s					
CESX	**Cesi**	**0.53**	**269**	P	Pb	16 21 19.3 -0.1
T0110	**Collepietro**	**0.53**	**138**	P	Pg	16 21 18.5 +0.1
T0110				AML	AML	
	comp=E,199µm,1.1s					
T0110				AML	AML	
	comp=N,286µm,0.4s					
T0110				AML	AML	
	comp=E,199µm,0.9s					
MOMA	**Monte Martano**	**0.56**	**289**	P	Pg	16 21 19.4 +0.4
MOMA				AML	AML	
	comp=N,108µm,1.3s					
MOMA				AML	AML	
	comp=E,134µm,1.1s					
ASSB	**Assisi San Ben**	**0.63**	**312**	P	Pg	16 21 20.3 +0.1
ASSB				AML	AML	
	comp=N,109µm,0.2s					
ASSB				AML	AML	
	comp=E,79µm,0.3s					
ASSB				AML	AML	
	comp=N,109µm,1.8s					
SNTG	**Esanatoglia**	**0.68**	**338**	P	Pg	16 21 21.2 -0.1
EL6	**Elcito**	**0.72**	**349**	P	Pg	16 21 21.7 -0.2
EL6				AML	AML	
	comp=E,98µm,1.1s					
EL6				AML	AML	
	comp=N,78µm,1.5s					
ATCC	**AVT- Casa Cast**	**0.74**	**320**	P	Pg	16 21 22.5 +0.1
CING	**Cingoli**	**0.76**	**354**	P	Pg	16 21 22.9 +0.2
CING				AML	AML	
	comp=E,116µm,0.3s					
CING				AML	AML	
	comp=N,70µm,1.2s					
ARVD	**Arcevia**	**0.91**	**344**	⇑P	Pg	16 21 23.0 -2.6
PIEI	**Pieia**	**1.07**	**329**	⇑P	Pg	16 21 28.4 -0.2
LIK	**San Giovanni I**	**1.13**	**170**	P	Pb	16 21 27.2 -2.5
APEC	**Apecchio**	**1.14**	**326**	⇓P	Pn	16 21 30.1 0.0
PTRJ	**Pietraroja**	**1.56**	**143**	S	Sb	16 21 56.6 -0.2
IMOL	**Imola, Italy**	**2.07**	**327**	⇑P	Pn	16 21 42.9 0.0
IMOL				S	Sn	16 22 09.4 +0.6
IMOL				AML	AML	
	comp=E,690µm,0.1s					
IMOL				AML	AML	
	comp=N,556µm,1.5s					
GSCL	**Gusciola**	**2.62**	**312**	S	Sn	16 22 23.1 +0.7

*MDD **28** 16:24:18.5±0.9,36°.24N×10°.53W,h0km,mb_Lg2.9/6,*
Error ellipse: s-maj=7.2km s-min=6.3km az=62.0
*INMG **28** 16:24:20.3±1.4,36°.08N×10°.65W,h31km±15km,ML2.3,*
Error ellipse: s-maj=11.5km s-min=4.2km az=66.0
*CNRM **28** 16:24:21.1,35°.97N×10°.13W,h66km,ml2.3*

ISC 28 16:24:16.5±1.8,36°.04N±0°.04×10°.68W±0°.09,h35km,n56,
σ1ŝ93/108,7C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.85**	**53**	⇑*e*Pn	**Pn**	**16 24 47.5**	**+1.8**
PFVI				*e*Sn	**Sn**	**16 25 07.9**	**0.0**
PFVI				A	A	16 25 08.7	
	11nm,0.4s						
PFVI	**Vila Bisbo**	**1.85**	**53**	P	**Pn**	**16 24 47.7**	**+2.0**
PFVI				S	**Sn**	**16 25 06.5**	**-1.4**
PFVI	**Vila Bisbo**	**1.85**	**53**	S	**Sn**	**16 25 07.4**	**-0.5**
PFVI				P	**Pn**	**16 24 47.5**	**+1.8**
MORF	**Marmelete**	**2.06**	**52**	*e*P	**Pn**	**16 24 50.6**	**+1.9**
MORF				*e*S	**Sn**	**16 25 12.9**	**-0.3**
MORF				IAML		16 25 13.6	
	comp=N,17nm,0.1s						
MORF	**Marmelete**	**2.06**	**52**	⇑*i*Pn	**Pn**	**16 24 50.6**	**+1.9**
MORF				*e*Sn	**Sn**	**16 25 13.0**	**-0.2**
MORF				A	A	16 25 14.6	
	comp=N,29nm,0.2s						
PTEO	**Sao Teotonio**	**2.17**	**46**	⇑*e*Pn	**Pn**	**16 24 52.0**	**+1.8**
PTEO				*e*Sn	**Sn**	**16 25 16.2**	**+0.3**
PTEO				A	A	16 25 17.3	
	comp=N,17nm,0.4s						
PCVE	**Castro Verde**	**2.65**	**52**	⇑*e*Pn	**Pn**	**16 24 58.9**	**+2.2**
PCVE				*e*Sn	**Sn**	**16 25 27.9**	**+0.3**
PCVE				A	A	16 25 30.1	
	comp=N,12nm,0.4s						
PCVE	**Castro Verde**	**2.65**	**52**	S	**Sn**	**16 25 28.5**	**+0.8**
PCVE				P	**Pn**	**16 24 58.9**	**+2.2**
MESJ	**Messejana**	**2.67**	**47**	*e*P	**Pn**	**16 24 58.7**	**+1.7**
MESJ				*e*S	**Sn**	**16 25 27.4**	**-0.7**
MESJ				IAML		16 25 29.0	
	comp=N,7.2nm,0.2s						
MESJ	**Messejana**	**2.67**	**47**	⇑*e*Pn	**Pn**	**16 24 58.7**	**+1.7**
MESJ				*e*Sn	**Sn**	**16 25 27.7**	**-0.4**
MESJ				A	A	16 25 31.7	
	comp=N,8.0nm,0.4s						
PNCL	**Nicolau / Gran**	**2.69**	**39**	⇑*e*Pn	**Pn**	**16 24 59.0**	**+1.7**
PNCL				*e*Sn	**Sn**	**16 25 27.8**	**-0.8**
PNCL				A	A	16 25 31.0	
	comp=N,8.3nm,0.4s						
PNCL	**Nicolau / Gran**	**2.69**	**39**	S	**Sn**	**16 25 27.3**	**-1.3**
PNCL				P	**Pn**	**16 24 58.9**	**+1.7**
PVAQ	**Vaqueiros**	**2.74**	**59**	⇑*e*Pn	**Pn**	**16 25 00.2**	**+2.2**
PVAQ				*e*Sn	**Sn**	**16 25 30.0**	**+0.1**
PVAQ				A	A	16 25 40.3	
	comp=N,6.2nm,0.3s						
PVAQ	**Vaqueiros**	**2.74**	**59**	P	**Pn**	**16 24 59.3**	**+1.3**
PVAQ				S	**Sn**	**16 25 27.0**	**-2.9**
PVAQ	**Vaqueiros**	**2.74**	**59**	S	**Sn**	**16 25 29.7**	**-0.2**
PVAQ				P	**Pn**	**16 25 00.1**	**+2.2**
EGRO	**El Granado**	**2.97**	**59**	S	**Sn**	**16 25 35.6**	**+0.1**
EGRO				P	**Pn**	**16 25 03.4**	**+2.3**
EGRO	**El Granado**	**2.97**	**59**	Pn	**Pn**	**16 25 03.0**	**+1.9**
EGRO				Sn	**Sn**	**16 25 35.0**	**-0.5**
EGRO				*i* Vmb_Lg		16 25 38.8	
PBEJ	**Beja**	**3.00**	**48**	*e*Pn	**Pn**	**16 25 03.1**	**+1.5**
PBEJ				*e*Sn	**Sn**	**16 25 35.8**	**-0.5**
PBEJ				A	A	16 25 39.0	
	comp=N,4.4nm,0.1s						
PMAFR	**Mafra**	**3.12**	**21**	*e*Pn	**Pn**	**16 25 04.5**	**+1.4**
PMAFR				*e*Sn	**Sn**	**16 25 38.3**	**-0.8**
PMAFR				A	A	16 25 40.1	
	comp=N,23nm,0.5s						
PMTG	**Montargil**	**3.60**	**32**	*e*Pn	**Pn**	**16 25 11.1**	**+1.3**
PMTG				*e*Sn	**Sn**	**16 25 49.0**	**-2.0**
PMTG				A	A	16 25 51.5	
	comp=N,5.9nm,0.4s						
PBAR	**Barrancos**	**3.61**	**53**	*e*Pn	**Pn**	**16 25 11.9**	**+2.0**
PBAR				*e*Sn	**Sn**	**16 25 50.7**	**-0.6**
PBAR				A	A	16 25 52.1	
	comp=N,4.6nm,0.5s						
PBAR	**Barrancos**	**3.61**	**53**	S	**Sn**	**16 25 51.0**	**-0.3**
PBAR				P	**Pn**	**16 25 11.9**	**+2.0**
EMIN	**Mina Concepcio**	**3.65**	**61**	P	**Pn**	**16 25 12.4**	**+2.0**
EMIN				S	**Sn**	**16 25 51.7**	**-0.5**
EMIN	**Mina Concepcio**	**3.65**	**61**	Pn	**Pn**	**16 25 12.5**	**+2.1**
EMIN				Sn	**Sn**	**16 25 52.4**	**+0.2**
EMIN				*i* Vmb_Lg		16 26 02.7	
PESTR	**Estremoz**	**3.74**	**40**	*e*Pn	**Pn**	**16 25 13.7**	**+1.9**
PESTR				*e*Sn	**Sn**	**16 25 53.5**	**-1.1**
PESTR				A	A	16 26 07.8	
	comp=N,1.8nm,0.6s						
PESTR	**Estremoz**	**3.74**	**40**	P	**Pn**	**16 25 12.6**	**+0.9**
PESTR				S	**Sn**	**16 25 53.3**	**-1.3**
PESTR	**Estremoz**	**3.74**	**40**	P	**Pn**	**16 25 13.6**	**+1.8**
PESTR				S	**Sn**	**16 25 52.9**	**-1.8**
PSBE	**So Bento**	**3.78**	**23**	*e*Pn	**Pn**	**16 25 14.0**	**+1.8**
PSBE				*e*Sn	**Sn**	**16 25 54.4**	**-1.0**
PSBE				A	A	16 25 58.0	
	comp=N,11nm,0.8s						
ESPR	**Espera**	**3.98**	**77**	Pn	**Pn**	**16 25 17.0**	**+2.0**
ESPR				Sn	**Sn**	**16 25 58.6**	**-1.8**
ESPR				*i* Vmb_Lg		16 26 03.5	
EBAD	**Badajoz**	**3.98**	**46**	P	**Pn**	**16 25 16.2**	**+1.1**
EBAD				S	**Sn**	**16 25 59.0**	**-1.6**
EBAD	**Badajoz**	**3.98**	**46**	Pn	**Pn**	**16 25 16.4**	**+1.3**
EBAD				Sn	**Sn**	**16 25 58.6**	**-2.0**
EBAD				*i* Vmb_Lg		16 26 01.9	
ZHG	**ZHG**	**4.22**	**127**	P	**Pn**	**16 25 19.1**	**+0.8**
ZHG				S	**Sn**	**16 26 03.6**	**-2.8**
SRHM	**Skhour des Reh**	**4.24**	**146**	P	**Pn**	**16 25 20.8**	**+2.1**
SRHM				S	**Sn**	**16 26 08.0**	**+1.0**
PMRV	**Marv??o**	**4.27**	**37**	⇓*e*Pn	**Pn**	**16 25 20.6**	**+1.6**
PMRV				*e*Sn	**Sn**	**16 26 05.6**	**-2.0**
PMRV				A	A	16 26 10.2	
	comp=N,3.6nm,0.3s						
PCAS	**Casmilo, Conde**	**4.36**	**23**	*e*Pn	**Pn**	**16 25 22.4**	**+2.2**
PCAS				*e*Sn	**Sn**	**16 26 08.9**	**-0.9**
PCAS				A	A	16 26 10.3	
	comp=N,4.2nm,0.5s						
PCBR	**Castelo Branco**	**4.56**	**33**	*e*Pn	**Pn**	**16 25 24.6**	**+1.6**
PCBR				*e*Sn	**Sn**	**16 26 12.8**	**-1.9**
PCBR				A	A	16 26 14.0	
	comp=N,1.7nm,0.6s						
ECAB	**El Cabril**	**4.67**	**63**	P	**Pn**	**16 25 26.6**	**+2.0**
ECAB				S	**Sn**	**16 26 16.5**	**-1.1**
ECAB	**El Cabril**	**4.67**	**63**	Pn	**Pn**	**16 25 26.3**	**+1.7**
ECAB				Sn	**Sn**	**16 26 16.5**	**-1.1**
ECAB				*i* Vmb_Lg		16 26 19.8	
EMIJ	**Mijas**	**4.80**	**82**	Sn	**Sn**	**16 26 21.2**	**+0.4**
PVIS	**Viseu**	**5.16**	**24**	*e*Pn	**Pn**	**16 25 32.9**	**+1.7**
PVIS				*e*Sn	**Sn**	**16 26 27.1**	**-2.4**
PVIS				A	A	16 26 31.0	
	comp=N,4.3nm,0.5s						
EADA	**Adamuz**	**5.32**	**65**	P	**Pn**	**16 25 35.9**	**+2.4**
EADA				S	**Sn**	**16 26 32.3**	**-1.2**
EADA	**Adamuz**	**5.32**	**65**	Pn	**Pn**	**16 25 35.8**	**+2.3**
EADA				Sn	**Sn**	**16 26 32.4**	**-1.1**
EADA				*i* Vmb_Lg		16 26 36.8	
OUK	**Oukaimeden**	**5.36**	**153**	P	**Pn**	**16 25 36.2**	**+1.9**
OUK				S	**Sn**	**16 26 32.3**	**-2.8**
PVRL	**Vila Real**	**5.72**	**23**	*e*Sn	**Sn**	**16 26 39.8**	**-3.5**
PVRL				A	A	16 26 43.2	
	comp=N,4.0nm,0.3s						
POLO	**Lamas de Olo**	**5.78**	**22**	*e*Pn	**Pn**	**16 25 41.2**	**+1.3**
POLO				*e*Sn	**Sn**	**16 26 41.7**	**-3.3**
POLO				A	A	16 26 45.8	
	comp=N,1.0nm,0.4s						
MD31	**MD31**	**5.83**	**121**	P	**Pn**	**16 25 40.3**	**-0.2**
MD31				S	**Sn**	**16 26 41.5**	**-4.6**
MVO	**Moncorvo**	**5.86**	**28**	*e*Pn	**Pn**	**16 25 42.3**	**+1.4**
MVO				*e*Sn	**Sn**	**16 26 44.1**	**-2.8**
MVO				A	A	16 26 46.6	
	comp=N,5.7nm,0.5s						
MDT	**Midelt**	**5.96**	**121**	P	**Pn**	**16 25 42.4**	**0.0**
MDT				S	**Sn**	**16 26 43.6**	**-5.9**
OUZM	**OUZ**	**6.08**	**146**	P	**Pn**	**16 25 46.1**	**+2.2**
OUZM				S	**Sn**	**16 26 50.1**	**-2.3**
PAB	**San Pablo**	**6.12**	**53**	Pn	**Pn**	**16 25 45.7**	**+1.3**
PAB				Sn	**Sn**	**16 26 50.4**	**-2.8**
ELOB	**Lobios**	**6.17**	**19**	Pn	**Pn**	**16 25 46.1**	**+1.0**
ELOB				Sn	**Sn**	**16 26 50.3**	**-4.1**
PGAV	**Gavieira, Arco**	**6.21**	**17**	*e*Pn	**Pn**	**16 25 47.2**	**+1.5**
PGAV				*e*Sn	**Sn**	**16 26 52.3**	**-3.1**
PGAV				A	A	16 26 54.4	
	comp=N,2.4nm,0.2s						
ESDC	**Sonseca Array**	**6.43**	**54**	Pn	**Pn**	**16 25 50.1**	**+1.3**
PBRG	**Braganca**	**6.52**	**27**	*e*Pn	**Pn**	**16 25 51.1**	**+1.1**
PBRG				*e*Sn	**Sn**	**16 27 00.1**	**-3.1**
ECAL	**Calabor**	**6.64**	**26**	Pn	**Pn**	**16 25 52.9**	**+1.2**
ECAL				Sn	**Sn**	**16 27 02.6**	**-3.5**
ETOR	**Torete**	**8.28**	**52**	Pn	**Pn**	**16 26 17.0**	**+2.9**

*IDC **28** 16:25:44.1±3.5,16°.51S×173°.66W,h55km±38km,mb3.8/4,*
mbtmp4.1/5,ML4.1/1,MS3.1/1,Error ellipse: s-maj=50.4km
s-min=24.3km az=131.0
*NEIC **28** 16:25:46.7±2.2,16°.6S±0°.1×172°.89W±0°.08,h130km±18km,*
mb4.1/5,Error ellipse: s-maj=17.1km s-min=10.2km
az=192.0

ISC 28 16:25:46.1±1.0,16°.57S±0°.08×173°.0W±0°.1,h100km,n14,
σ1ŝ88/10,mb4.2/7,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.89**	**24**	P	**Pn**	**16 26 31.4**	**+0.9**
	22nm,0.3s,baz=244,slow=12,SNR=40						
AFI				S	**Sn**	**16 27 04.3**	**-0.3**
	373nm,0.3s,baz=72,slow=22,SNR=25						
	53nm,0.3s						
NIUE	**Niue**	**3.83**	**131**		**Pn**	**16 26 43.2**	**+0.3**
MSVF	**Nonsavu**	**8.65**	**261**	LR	LR	16 30 04.6	
	comp=Z,142nm,19.5s,baz=64,slow=32						
MSVF	**Nonsavu**	**8.65**	**261**	Pn	**Pn**	**16 27 50.0**	**+1.5**
URZ	**Urewera**	**23.29**	**200**	P	**P**	**16 30 45.8**	**+0.7**
	4.6nm,0.4s,baz=0.1,slow=5.0,SNR=12						
URZ				S	**S**	**16 34 51.2**	**+1.5**
	3.5nm,0.8s,baz=288,slow=16,SNR=1.0						
	4.6nm,0.4s						
ARMA	**Armidale**	**35.10**	**240**	P	P	16 32 26.4	-3.7
BBOO	**Buckleboo**	**48.58**	**241**	P	P	16 34 15.7	-4.0
BBOO				IAmb	IAmb	16 34 34.3	
	comp=Z,5.8nm,1.1s						
WR0	**Warramunga Arr**	**49.78**	**258**	P	P	16 34 25.3	-3.7
WRAB	**Tennant Creek**	**49.97**	**258**	P	P	16 34 26.6	-3.8
WRAB				IAmb	IAmb	16 34 42.1	
	comp=Z,2.1nm,1.0s						
WRA	**Warramunga Arr**	**49.98**	**258**	P	**P**	**16 34 28.3**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=98,slow=6.8,SNR=8.4						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**50.14**	**253**	P	**P**	**16 34 29.7**	**-2.0**
AS31				IAmb	IAmb	16 34 30.5	
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**50.14**	**253**	P	**P**	**16 34 29.6**	**-2.0**
	comp=Z,5.0nm,0.5s,baz=88,slow=8.8,SNR=214						
	comp=Z,5.0nm,0.5s						
ASAR	**Alice Springs**	**50.14**	**253**	P	**P**	**16 34 29.2**	**-2.5**
PDAR	**Pinedale Array**	**82.87**	**42**	P	P	16 38 05.1	+5.2
	comp=Z,0.6nm,0.8s,baz=182,slow=2.3,SNR=4.6						
	comp=Z,0.6nm,0.8s						

IDC 28 16:51:51.9±3.1,10°.63S×161°.62E,h0km,mb3.4/3,
mbtmp3.6/4,ML4.7/1,Error ellipse: s-maj=56.7km
s-min=35.7km az=74.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.03**	**306**	Pn	Pn	16 52 28.3	+0.9
	247nm,0.3s,baz=166,slow=6.8,SNR=27						
HNR				Sn	Sn	16 52 52.5	-0.9
	2µm,0.3s,baz=158,slow=19,SNR=13						
	677nm,0.2s						
WRA	**Warramunga Arr**	**27.86**	**247**	P	P	16 57 43.7	+0.2
	0.4nm,0.8s,baz=80,slow=10,SNR=2.9						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**29.41**	**240**	P	P	16 57 57.1	-0.2
	0.3nm,0.9s,baz=65,slow=10,SNR=2.2						
	0.3nm,0.9s						
SONM	**Songino Array**	**75.97**	**325**	P	P	17 03 40.7	-0.2

0.4nm,1.0s,baz=130,slow=5.8,SNR=1.8
0.4nm,1.0s

IDC 28 16:53:30.6±2.3, 10.70S×161.71E, h0km, mb3.4/3, mbtmp3.6/4, Error ellipse: s-maj=54.3km s-min=36.8km az=133.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.14**	**306**	Pn		Pn	16 54 07.7	+0.1
	470nm,0.2s,baz=210,slow=8.5,SNR=0.8							
HNR				Sn		Sn	16 54 29.5	-5.4
	775nm,0.3s,baz=4.5,slow=23,SNR=6.3							
WRA	**Warramunga Arr**	**27.91**	**248**	P		P	16 59 23.0	+0.2
	0.2nm,0.4s,baz=77,slow=9.0,SNR=2.4							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**29.45**	**240**	P		P	16 59 36.2	-0.3
	0.2nm,0.6s,baz=64,slow=10,SNR=4.6							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**84.49**	**20**	P		P	17 06 05.1	0.0
	0.6nm,1.1s,baz=239,slow=5.5,SNR=2.1							
	0.6nm,1.1s							

*NEIC **28** 17:00:15.7±1.2, 21.7S±0.1×179.0W±0.1, h585km±13km, mb4.5/37, Error ellipse: s-maj=19.4km s-min=16.0km az=79.0*

*IDC **28** 17:00:15.0±1.9, 21.56S×178.88W, h603km±35km, mb3.3/3, mbtmp4.4/7, Error ellipse: s-maj=43.3km s-min=37.6km az=167.0*

ISC 28 17:00:15.2±0.7, 21.51S±0.09×178.97W±0.08, h602km, n56, σ1§31/59, mb4.5/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**323**	P		**P**	**17 01 47.4**	**+1.4**
	31nm,0.8s,baz=205,slow=14,SNR=27							
MSVF	**Nonsavu**	**4.69**	**323**	P		**P**	**17 01 47.6**	**+1.7**
RAO	**Raoul Island**	**7.77**	**173**	P		**P**	**17 02 10.9**	**-1.3**
NIUE	**Niue**	**8.83**	**76**	P		**P**	**17 02 24.7**	**+2.2**
AFI	**Afiamalu**	**10.20**	**43**	P		**P**	**17 02 35.7**	**-0.4**
	11nm,0.8s,baz=236,slow=11,SNR=2.2							
AFI				S		**S**	**17 04 27.5**	**-4.3**
	13nm,0.7s,baz=146,slow=19,SNR=2.6							
AFI	**Afiamalu**	**10.20**	**43**	P		**P**	**17 02 36.2**	**+0.1**
MARNC	**Mare, Loyalty**	**12.10**	**268**	P		**P**	**17 02 54.6**	**-0.3**
PINNC	**Pines Island,**	**12.64**	**262**	P		**P**	**17 02 59.6**	**-0.8**
ONTNC	**Ouen Toro**	**13.55**	**264**	P		**P**	**17 03 08.7**	**-0.8**
DZM	**Mont Dzumac**	**13.56**	**265**	P		**P**	**17 03 08.8**	**-1.0**
	4.6nm,0.6s,baz=317,slow=24,SNR=2.6							
DZM	**Mont Dzumac**	**13.56**	**265**	P		**P**	**17 03 09.0**	**-0.8**
KOUNC	**Koumac, New Ca**	**15.66**	**270**	P		**P**	**17 03 30.7**	**+1.3**
KOUNC				IAmb		IAmb	17 03 50.6	
	comp=Z,28nm,1.3s							
MXZ	**Matakaoa Point**	**16.17**	**188**	P		**P**	**17 03 32.6**	**-1.2**
MXZ				IAmb		IAmb	17 03 57.3	
	comp=Z,16nm,0.9s							
URZ	**Urewera**	**17.03**	**191**	P		**P**	**17 03 40.4**	**-1.2**
	comp=Z,6.4nm,0.3s,baz=32,slow=12,SNR=26							
URZ				S		**S**	**17 06 26.6**	**-3.1**
	comp=Z,4.1nm,0.7s,baz=307,slow=20,SNR=8.5							
RTZ	**Ruatahuna**	**17.40**	**191**	P		**P**	**17 03 43.4**	**-1.7**
HIZ	**Hauiti**	**17.76**	**196**	P		**P**	**17 03 50.3**	**+2.0**
BKZ	**Black Stump Fm**	**18.02**	**191**	P		**P**	**17 03 48.7**	**-2.0**
BKZ				IAmb		IAmb	17 04 01.0	
	comp=Z,19nm,1.4s							
BFZ	**Birch Farm**	**19.54**	**191**	P		**P**	**17 04 03.3**	**-1.2**
MRZ	**Mangatainoka R**	**19.65**	**192**	P		**P**	**17 04 03.6**	**-1.8**
TCW	**Tory Channel**	**20.46**	**195**	P		**P**	**17 04 11.9**	**-0.8**
QRZ	**Quartz Range**	**20.56**	**199**	P		**P**	**17 04 13.9**	**+0.2**
TKNZ	**Takaka Hill**	**20.63**	**198**	P		**P**	**17 04 13.2**	**-1.1**
NNZ	**Nelson**	**20.69**	**197**	P		**P**	**17 04 14.1**	**-0.7**
NNZ				IAmb		IAmb	17 04 58.0	
	comp=Z,27nm,1.1s							
MRNZ	**Matariki Terra**	**21.03**	**198**	P		**P**	**17 04 17.0**	**-0.8**
THZ	**Tophouse**	**21.32**	**197**	P		**P**	**17 04 19.8**	**-0.7**
THZ				IAmb		IAmb	17 04 40.6	
	comp=Z,31nm,1.5s							
DSZ	**Denniston Nort**	**21.62**	**199**	P		**P**	**17 04 23.4**	**+0.2**
KHZ	**Kahutara**	**21.77**	**195**	P		**P**	**17 04 23.3**	**-1.1**
KHZ				IAmb		IAmb	17 04 26.3	
	comp=Z,21nm,1.0s							
GVZ	**Greta Valley S**	**22.42**	**196**	P		**P**	**17 04 29.1**	**-1.1**
LTZ	**Lake Taylor**	**22.44**	**197**	P		**P**	**17 04 28.7**	**-1.8**
LTZ				IAmb		IAmb	17 05 11.0	
	comp=Z,10nm,1.0s							
INZ	**Inchbonnie**	**22.63**	**199**	P		**P**	**17 04 31.2**	**-0.8**
INZ				IAmb		IAmb	17 04 41.7	
	comp=Z,30nm,1.3s							
MQZ	**McQueen's Vall**	**23.21**	**196**	P		**P**	**17 04 36.6**	**-0.5**
FOZ	**Fox Glacier**	**23.86**	**200**	P		**P**	**17 04 42.6**	**-0.4**
MLZ	**Mavora Lakes**	**26.05**	**201**	P		**P**	**17 05 03.3**	**+0.9**
WHZ	**Wether Hill Ro**	**26.57**	**201**	P		**P**	**17 05 06.7**	**-0.1**
EIDS	**Eidsvold**	**27.71**	**256**	P		**P**	**17 05 17.3**	**+0.2**
EIDS				IAmb		IAmb	17 05 36.2	
	comp=Z,15nm,1.3s							
ARMA	**Armidale**	**27.82**	**245**	P		**P**	**17 05 19.0**	**+0.9**
ARMA				IAmb		IAmb	17 05 41.6	
	comp=Z,8.6nm,1.4s							
CAN	**Canberra**	**31.20**	**237**	P		**P**	**17 05 47.1**	**+0.1**
CAN				IAmb		IAmb	17 06 25.5	
	comp=Z,25nm,1.5s							
CTAO	**Charters Tower**	**32.50**	**266**	P		**P**	**17 05 58.5**	**+0.3**
CTAO				IAmb		IAmb	17 06 32.0	
	comp=Z,20nm,1.5s							
STKA	**Stephens Creek**	**36.54**	**245**	P		**P**	**17 06 32.4**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=102,slow=9.3,SNR=10							
	comp=Z,2.2nm,0.5s							
STKA	**Stephens Creek**	**36.54**	**245**	P		**P**	**17 06 32.5**	**+0.8**
BBOO	**Buckleboo**	**41.29**	**244**	P		**P**	**17 07 09.9**	**+0.1**
BBOO				IAmb		IAmb	17 07 30.0	
	comp=Z,7.3nm,1.1s							
WR0	**Warramunga Arr**	**43.38**	**263**	P		**P**	**17 07 25.6**	**-0.6**
AS31	**Alice Springs**	**43.41**	**258**	P		**P**	**17 07 26.9**	**+0.5**
ASAR	**Alice Springs**	**43.41**	**258**	P		**P**	**17 07 26.9**	**+0.4**
	comp=Z,4.6nm,0.5s,baz=90,slow=8.1,SNR=188							
ASAR				S		**S**	**17 13 09.7**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=91,slow=15,SNR=6.4							
	comp=Z,4.6nm,0.5s							
ASAR	**Alice Springs**	**43.41**	**258**	P		**P**	**17 07 26.1**	**-0.3**
WB0	**Warramunga Arr**	**43.55**	**264**	P		**P**	**17 07 27.6**	**+0.1**
WB0				IAmb		IAmb	17 07 28.2	
	comp=Z,6.0nm,0.7s							
WB2	**Warramunga Arr**	**43.56**	**263**	P		**P**	**17 07 27.1**	**-0.5**
WB2				IAmb		IAmb	17 07 28.3	
	comp=Z,5.1nm,0.8s							
WRAB	**Tennant Creek**	**43.56**	**263**	P		**P**	**17 07 27.6**	**0.0**
WRA	**Warramunga Arr**	**43.57**	**263**	P		**P**	**17 07 27.6**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=96,slow=7.7,SNR=80							
	comp=Z,1.5nm,0.3s							
WRA	**Warramunga Arr**	**43.57**	**263**	P		**P**	**17 07 26.5**	**-1.2**
FORT	**Forrest**	**48.06**	**247**	P		**P**	**17 08 01.7**	**+0.2**
FORT				IAmb		IAmb	17 08 37.7	
	comp=Z,14nm,0.8s							
MTN	**Manton Dam**	**48.27**	**272**	P		**P**	**17 08 03.4**	**+0.1**
MTN				IAmb		IAmb	17 08 45.5	
	comp=Z,28nm,1.4s							
KNRA	**Kununurra**	**49.70**	**267**	P		**P**	**17 08 14.3**	**+0.5**
KNRA				IAmb		IAmb	17 08 40.8	
	comp=Z,29nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.00**	**263**	P		**P**	**17 08 30.8**	**+0.4**
QSPA	**South Pole Qui**	**68.56**	**180**	P		**P**	**17 10 21.2**	**+2.5**
BELA	**Belgrano 2**	**78.68**	**173**	P		**P**	**17 11 17.2**	**+1.6**

*ATH **28** 17:23:09.7, 37.56N×23.57E, h8km±1km, ML2.4/15, Error ellipse: s-maj=1.2km s-min=0.7km az=316.0*

*THE **28** 17:23:09.7, 37.56N×23.57E, h0km±1km, ML2.3/6, Error ellipse: s-maj=1.6km s-min=0.4km az=289.0*

ISC 28 17:23:09.6±0.9, 37.57N±0.02×23.57E±0.02, h12km±7km, n53, σ0§83/86, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
YDRA	**Hydra**	**0.24**	**201**	P		**Pg**	**17 23 14.4**	**-0.2**
YDRA				S		**Sg**	**17 23 17.9**	**0.0**
YDRA					AML	AML	17 23 19.0	
	comp=E,8141μm,0.2s							
YDRA					AML	AML	17 23 19.4	
	comp=N,8679μm,0.2s							
VLY	**Voula,Athens**	**0.33**	**32**	P		**Pg**	**17 23 16.2**	**-0.1**
VLY				S		**Sg**	**17 23 21.5**	**+0.7**
	comp=N,475nm,0.3s							
VLY	**Voula,Athens**	**0.33**	**32**	P		**Pg**	**17 23 16.0**	**-0.3**
VLY				S		**Sg**	**17 23 20.9**	**+0.1**
VLY					AML	AML	17 23 22.3	
	comp=N,808μm,0.2s							
VLY					AML	AML	17 23 25.2	
	comp=E,1103μm,0.4s							
EPID	**Epidavros**	**0.36**	**277**	P		**Pg**	**17 23 16.6**	**-0.3**
EPID				S		**Sg**	**17 23 23.0**	**+1.3**
EPID	**Epidavros**	**0.36**	**277**	P		**Pg**	**17 23 16.4**	**-0.5**
EPID				S		**Sg**	**17 23 21.5**	**-0.2**
KRND	**KRANIDI**	**0.39**	**241**	P		**Pg**	**17 23 16.8**	**-0.5**
KRND				S		**Sg**	**17 23 22.8**	**+0.4**
	comp=E,938nm,0.1s							
KRND	**KRANIDI**	**0.39**	**241**	P		**Pg**	**17 23 16.6**	**-0.7**
KRND				S		**Sg**	**17 23 21.9**	**-0.5**
KRND					AML	AML	17 23 24.5	
	comp=E,1805μm,0.1s							
KRND					AML	AML	17 23 24.8	
	comp=N,2064μm,0.2s							
ATH	**Athens Observa**	**0.42**	**16**	P		**Pg**	**17 23 17.9**	**0.0**
ATH				S		**Sg**	**17 23 24.1**	**+0.7**
	comp=N,715nm,0.3s							
ATH	**Athens Observa**	**0.42**	**16**	P		**Pg**	**17 23 17.6**	**-0.3**
ATH				S		**Sg**	**17 23 23.4**	**0.0**
ATH					AML	AML	17 23 24.6	
	comp=N,1297μm,0.3s							
ATH					AML	AML	17 23 24.8	
	comp=E,1555μm,0.3s							
ATHU	**Athens Univers**	**0.43**	**23**	P		**Pg**	**17 23 17.9**	**-0.2**
ATHU				S		**Sg**	**17 23 24.9**	**+1.1**
ATHU	**Athens Univers**	**0.43**	**23**	P		**Pg**	**17 23 17.6**	**-0.5**
ATHU				S		**Sg**	**17 23 23.3**	**-0.5**
ATHU					AML	AML	17 23 25.5	
	comp=N,427μm,0.3s							
ATHU					AML	AML	17 23 26.2	
	comp=E,246μm,0.3s							
PTL	**Penteli**	**0.53**	**26**	P		**Pg**	**17 23 20.7**	**+0.7**
PTL				S		**Sb**	**17 23 28.6**	**0.0**
	comp=E,270nm,0.2s							
PTL	**Penteli**	**0.53**	**26**	P		**Pg**	**17 23 20.4**	**+0.4**
PTL				S		**Sg**	**17 23 26.3**	**-0.7**
PTL					AML	AML	17 23 28.7	
	comp=E,544μm,0.2s							
PTL					AML	AML	17 23 29.2	
	comp=N,522μm,0.3s							
DION	**Dionisos Attik**	**0.58**	**29**	P		**Pb**	**17 23 21.8**	**0.0**
DION				S		**Sb**	**17 23 30.5**	**+0.4**
DION	**Dionisos Attik**	**0.58**	**29**	P		**Pg**	**17 23 21.4**	**+0.5**
DION				S		**Sg**	**17 23 29.4**	**+0.8**
DION					AML	AML	17 23 33.5	
	comp=N,825μm,0.3s							
DION					AML	AML	17 23 37.4	
	comp=E,974μm,0.5s							
VILL	**Villia**	**0.63**	**341**	P		**Pg**	**17 23 21.4**	**-0.4**
VILL				S		**Sb**	**17 23 31.6**	**+0.2**
	comp=E,295nm,0.3s							
LOUT	**Loutraki**	**0.63**	**311**	P		**Pg**	**17 23 21.6**	**-0.3**
LOUT	**Loutraki**	**0.63**	**311**	P		**Pg**	**17 23 21.5**	**-0.3**
LOUT				S		**Sg**	**17 23 30.9**	**+0.7**
VIL2	**Platees**	**0.68**	**339**	P		**Pg**	**17 23 21.2**	**-1.7**
VIL2				S		**Sg**	**17 23 30.2**	**-1.7**
VIL2					AML	AML	17 23 33.1	
	comp=E,1290μm,0.5s							
VIL2					AML	AML	17 23 33.2	
	comp=N,620μm,0.2s							
THAL	**Thalero**	**0.86**	**303**	P		**Pg**	**17 23 26.1**	**-0.1**
THAL	**Thalero**	**0.86**	**303**	P		**Pb**	**17 23 26.8**	**+0.4**
THAL				S		**Sg**	**17 23 37.9**	**+0.6**
THAL					AML	AML	17 23 48.3	
	comp=N,499μm,0.3s							
THAL					AML	AML	17 23 52.6	
	comp=E,509μm,0.4s							
VLI	**Veliai**	**0.99**	**211**	P		**Pg**	**17 23 27.8**	**-0.9**
VLI				S		**Sb**	**17 23 43.0**	**+1.2**
VLI	**Veliai**	**0.99**	**211**	P		**Pg**	**17 23 27.4**	**-1.3**
VLI				S		**Sg**	**17 23 41.0**	**-0.7**
VLI					AML	AML	17 23 45.5	
	comp=E,460μm,0.3s							
VLI					AML	AML	17 23 45.7	
	comp=N,458μm,0.3s							
MHLO	**Agia Marina, M**	**1.10**	**143**	P		**Pg**	**17 23 30.6**	**-0.3**
MHLO				S		**Sb**	**17 23 45.7**	**+0.7**
MHLO					AML	AML	17 23 50.6	
	comp=N,605μm,0.2s							
MHLO					AML	AML	17 23 51.4	
	comp=E,958μm,0.7s							
KYMI	**Kymi, Euboea I**	**1.14**	**21**	P		**Pg**	**17 23 30.5**	**-1.0**
KYMI				S		**Sb**	**17 23 47.9**	**+1.8**
KYMI	**Kymi, Euboea I**	**1.14**	**21**	P		**Pg**	**17 23 30.6**	**-0.9**
KYMI				S		**Sg**	**17 23 46.3**	**0.0**
KYMI					AML	AML	17 23 49.7	
	comp=E,454μm,0.5s							
KYMI					AML	AML	17 23 49.7	
	comp=N,454μm,0.5s							
LKR	**Lokris**	**1.17**	**337**	P		**Pg**	**17 23 31.0**	**-1.1**
LKR				S		**Sg**	**17 23 47.2**	**-0.1**
LKR					AML	AML	17 23 49.5	
	comp=N,286μm,0.5s							
LKR					AML	AML	17 23 50.6	
	comp=E,352μm,0.2s							
KLV	**Kalavryta, Ach**	**1.22**	**293**	P		**Pg**	**17 23 31.9**	**-1.2**
KLV	**Kalavryta, Ach**	**1.22**	**293**	P		**Pg**	**17 23 31.8**	**-1.3**
KLV				S		**Sg**	**17 23 47.7**	**-1.3**
KLV					AML	AML	17 23 50.8	
	comp=E,74μm,0.5s							
KLV					AML	AML	17 23 52.6	
	comp=N,81μm,0.6s							
TNSA	**Tinos**	**1.27**	**91**	P		**Pg**	**17 23 33.9**	**-0.1**
TNSA				S		**Sg**	**17 23 48.8**	**-1.5**
ALIK	**Aliki, Aigiali**	**1.34**	**301**	P		**Pg**	**17 23 35.5**	**+0.1**
KTHR	**Kythira**	**1.39**	**199**	P		**Pn**	**17 23 35.1**	**+0.3**
KTHR				S		**Sn**	**17 23 56.1**	**+3.0**
	comp=N,222nm,0.3s							
KTHR	**Kythira**	**1.39**	**199**	P		**Pn**	**17 23 34.5**	**-0.3**
KTHR				S		**Sb**	**17 23 52.8**	**-0.3**
KTHR					AML	AML	17 23 57.5	
	comp=E,978μm,0.3s							
KTHR					AML	AML	17 23 58.6	
	comp=N,1645μm,0.3s							
AXAR	**Agios Charalam**	**1.39**	**329**	P		**Pn**	**17 23 35.2**	**+0.2**
LAKA	**Lakka**	**1.43**	**298**	P		**Pn**	**17 23 34.9**	**-0.5**
LAKA				S		**Sb**	**17 23 52.4**	**-1.9**
SERG	**Sergoula**	**1.46**	**306**	P		**Pn**	**17 23 35.4**	**-0.5**
DRO	**Drossia**	**1.52**	**285**	P		**Pn**	**17 23 36.7**	**0.0**
DRO	**Drossia**	**1.52**	**285**	P		**Pn**	**17 23 36.7**	**0.0**
DRO				S		**Sn**	**17 23 56.2**	**-0.3**
EFP	**Efpalio**	**1.57**	**303**	P		**Pn**	**17 23 37.6**	**+0.2**
EFP	**Efpalio**	**1.57**	**303**	P		**Pn**	**17 23 37.6**	**+0.2**
PYL	**PYLOS**	**1.61**	**246**	P		**Pn**	**17 23 39.2**	**+1.3**
APE	**Apeiranthos**	**1.64**	**107**	P		**Pn**	**17 23 37.7**	**-0.8**
APE				S		**Sn**	**17 23 58.7**	**-0.8**
ANX	**Ano Chora**	**1.65**	**309**	P		**Pn**	**17 23 39.0**	**+0.4**
ANX	**Ano Chora**	**1.65**	**309**	P		**Pn**	**17 23 38.9**	**+0.2**
ANKY	**Antikythira Is**	**1.71**	**187**	P		**Pn**	**17 23 39.2**	**-0.2**
ANKY	**Antikythira Is**	**1.71**	**187**	P		**Pn**	**17 23 38.5**	**-0.9**
AGG	**Agios Georgios**	**1.75**	**326**	P		**Pn**	**17 23 40.4**	**+0.5**
AGG	**Agios Georgios**	**1.75**	**326**	P		**Pn**	**17 23 40.1**	**+0.3**
AGG				S		**Sn**	**17 24 02.5**	**+0.4**
XOR	**Xorichti**	**1.82**	**351**	P		**Pn**	**17 23 40.7**	**-0.1**
RODP	**Rodopos**	**2.01**	**176**	P		**Pn**	**17 23 44.2**	**+0.7**
CHOS	**Chios island**	**2.12**	**67**	P		**Pn**	**17 23 43.2**	**-1.9**
IMMV	**Iera Moni Meta**	**2.13**	**171**	P		**Pn**	**17 23 45.5**	**+0.4**
TYRN	**Tyrnavos**	**2.38**	**334**	P		**Pn**	**17 23 49.1**	**+0.6**

ROM 28 17:23:39.4±0.2, 42.623N±0.004×13.323E±0.005, h8km±1km, ML1.4/9, 7C-3D, Error ellipse: s-maj=0.5km s-min=0.1km az=212.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.01**	**49**	P		Pg	17 23 41.0	0.0
SMA1				S		Sg	17 23 41.9	-0.2
SMA1					AML	AML		
	comp=E,9865μm,0.5s							
SMA1					AML	AML		
	comp=N,7345μm,0.2s							
CAMP	**Campotosto**	**0.11**	**144**	P		Pg	17 23 42.4	+0.4
CAMP				S		Sg	17 23 44.5	+0.8
CAMP					AML	AML		
	comp=E,134μm,0.8s							
CAMP					AML	AML		
	comp=N,95μm,0.5s							
RM33	**Pellescritta (**	**0.14**	**215**	⇑P		Pg	17 23 42.9	+0.4
RM33				S		Sg	17 23 45.5	+1.0
RM33				AML		AML		
	comp=E,186μm,1.6s							
RM33				AML		AML		
	comp=E,186μm,0.4s							
RM33				AML		AML		
	comp=N,194μm,0.7s							
T1218	**Civita (PG)**	**0.16**	**287**	⇑P		Pg	17 23 43.1	+0.3
T1218				S		Sg	17 23 46.0	+0.9
T1218				AML		AML		
	comp=E,95μm,1.6s							
T1218				AML		AML		
	comp=N,193μm,0.2s							
T1218				AML		AML		
	comp=E,95μm,0.4s							
T1218				AML		AML		
	comp=N,193μm,1.8s							
T1247	**Pizzolo (AQ)**	**0.18**	**186**	⇓P		Pg	17 23 43.7	+0.6
T1247				S		Sg	17 23 47.4	+1.7
T1247				AML		AML		
	comp=E,290μm,0.3s							
T1247				AML		AML		
	comp=N,347μm,0.2s							
TERO	**Teramo**	**0.21**	**90**	P		Pg	17 23 44.0	+0.5
TERO				S		Sg	17 23 47.8	+1.3
TERO				AML		AML		
	comp=E,457μm,0.1s							
TERO				AML		AML		
	comp=N,352μm,0.1s							
LNSS	**Leonessa**	**0.21**	**265**	⇑P		Pg	17 23 44.0	+0.4
LNSS				S		Sg	17 23 48.0	+1.4
LNSS				AML		AML		
	comp=E,155μm,0.7s							
LNSS				AML		AML		
	comp=N,114μm,0.8s							
LNSS				AML		AML		
	comp=N,114μm,1.2s							
T1212	**Cascia, Frazio**	**0.24**	**302**	⇑P		Pg	17 23 44.6	+0.3
T1212				S		Sg	17 23 49.0	+1.4
GIGS	**Gran Sasso**	**0.25**	**133**	P		Pg	17 23 44.8	+0.4
GIGS				S		Sb	17 23 49.3	-1.4
T1245	**Castelsantange**	**0.25**	**337**	⇓P		Pg	17 23 45.3	+0.8
T1245				S		Sb	17 23 50.6	-0.3
T1245				AML		AML		
	comp=N,116μm,0.3s							
T1245				AML		AML		
	comp=E,86μm,0.4s							
T1217	**Poggiodomo (PG**	**0.30**	**287**	P		Pb	17 23 46.3	-0.8
MC2	**Monte Cornacci**	**0.31**	**341**	S		Sb	17 23 51.8	-0.7
T1211	**Morro Reatino**	**0.36**	**256**	⇓P		Pg	17 23 46.6	+0.2
T1211				AML		AML		
	comp=E,68μm,1.2s							
T1211				AML		AML		
	comp=N,69μm,1.5s							
T1211				AML		AML		
	comp=N,69μm,0.5s							
T1215	**Vallo di Nera,**	**0.38**	**298**	⇑P		Pg	17 23 47.0	+0.2
FIAM	**Fiamignano**	**0.39**	**203**	S		Sb	17 23 54.4	-0.3
FAGN	**Fagnano**	**0.41**	**151**	P		Pg	17 23 45.7	-1.6
FAGN				AML		AML		
	comp=E,158μm,0.1s							
FAGN				AML		AML		
	comp=N,96μm,0.4s							
FDMO	**Fiordimonte**	**0.45**	**337**	S		Sb	17 23 55.4	-1.1
CSP1	**Cesspalombo**	**0.48**	**350**	⇑P		Pg	17 23 49.0	+0.4
T1219	**Muccia, Frazio**	**0.49**	**332**	S		Sb	17 23 56.7	-1.0
T0110	**Collepietro**	**0.52**	**139**	⇑P		Pg	17 23 49.8	+0.4

*IDC **28** 17:32:34.8±0.4, 68.19N×18.04W, h0km, mb4.1/30, mbtmp4.1/37, ML3.1/6, MS4.0/65, Error ellipse: s-maj=13.1km s-min=9.3km az=22.0*

*GCMT **28** 17:32:34.9±0.3, 68.42N±0.05×18.20W±0.06, h12km, MW4.7/96, Moment Tensor Solution. s7,c7; s96,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.65±.06; $M_{\theta\theta}$0.11±.07; $M_{\phi\phi}$1.53±.05; $M_{r\theta}$0.08±.39; $M_{\theta\phi}$0.11±.06; $M_{\phi r}$-0.30±.26; Best double couple: M_o1.62500×10^{16} NP1:φs1.00000°,δ50.00000°,λ-94.00000°. NP2: φs188.00000°,δ40.00000°,λ-85.00000°. Principal axes: T 1.5660, Plg5.0000°, Azm94.0000°; N 0.1110, Plg3.0000°, Azm4.0000°; P -1.6830, Plg84.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **28** 17:32:35.1±0.9, 68.22N×18.03W, h10km, mb4.7/53, MS4.0/5 Error ellipse: s-maj=11.7km s-min=6.0km az=100.6*

*REY **28** 17:32:36.6, 68.10N×17.65W, h10km*

*NEIC **28** 17:32:36.9±1.6, 68.24N±0.06×17.9W±0.2, h11km±4km, mb4.6/101, Error ellipse: s-maj=10.2km s-min=8.4km az=80.0*

*BGR **28** 17:32:39.1, 67.76N×19.35W, h33km, mb4.7*

*DNK **28** 17:32:46.6±3.4, 68.94N×19.52W, h0km±632km, ML3.1*

ISC 28 17:32:36.4±0.7, 68.15N±0.04×18.03W±0.04, h10km±4km, n369, σ1§48/365, mb4.5/140, MS4.0/67, 12C-21D, Iceland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**1.61**	**180**	P		**Pn**	**17 33 02.7**	**-2.1**
	baz=185							
IGRI				S		**Sn**	**17 33 21.5**	**-4.1**
	baz=185							
ILEI	**Leirhofn**	**1.85**	**160**	P		**Pn**	**17 33 06.0**	**-2.1**
	baz=165							
IBRE	**Brettingsstaoi**	**2.03**	**179**	P		**Pn**	**17 33 09.2**	**-1.5**
	baz=183							
ISIG	**Siglufjorour**	**2.05**	**190**	P		**Pn**	**17 33 09.3**	**-1.6**
	baz=195							
IHED	**Heoinsstofoi**	**2.09**	**172**	P		**Pn**	**17 33 09.3**	**-2.2**
	baz=176							
IGIL	**Gilhagi**	**2.18**	**162**	P		**Pn**	**17 33 10.6**	**-2.1**
	baz=165							
IGIL				S		**Sn**	**17 33 37.4**	**-2.2**
	baz=165							
IDIM	**Dimmadalss**	**2.24**	**168**	P		**Pn**	**17 33 11.3**	**-2.2**
	baz=172							
ISKI	**Skildingahlsh**	**2.32**	**170**	P		**Pn**	**17 33 12.5**	**-2.1**
	baz=173							
ISKI				S		**Sn**	**17 33 42.1**	**-1.1**
	baz=173							
IGHA	**Grjothals**	**2.38**	**166**	P		**Pn**	**17 33 13.4**	**-2.0**
	baz=170							
IKVO	**Krokottuvotn**	**

BORG Sn **Sn** **17 34 17.3 +1.2**
baz=24,slow=20
BORG LR LR 17 34 52.6
comp=Z,1µm,18.3s,baz=16,slow=37
comp=Z,37nm,0.4s
BORG Borgarnes 3.66 203 Pn **Pn** **17 33 32.4 -0.6**
BORG Sn **Sn** **17 34 17.7 +1.6**
DBG Daneborg 6.23 355 *i* P **Pn** **17 34 06.1 -2.1**
ICESG Greenland Ices 7.94 287 *i* P **Pn** **17 34 31.0 -1.0**
ICESG *i* 17 34 35.3
SUMG Summit 8.15 312 *i* P **Pn** **17 34 33.2 -1.7**
DAG Danmarks Havn 8.67 359 *i* P **Pn** **17 34 40.0 -1.7**
DY2G Dye2 10.98 275 *i* P **Pn** **17 35 13.6 +0.1**
SFJD Kangerlussuaq 12.41 280 Pn **Pn** **17 35 31.1 -1.7**
comp=Z,0.2nm,0.3s,baz=80,slow=11,SNR=2.9
SFJD LR LR 17 39 42.6
comp=Z,1µm,19.8s,baz=72,slow=34
comp=Z,14nm,1.1s
NEEM North Greenlan 13.23 329 *i* P Pn 17 35 38.6 -5.5
KBS Kingsbay 13.47 24 Pn **Pn** **17 35 46.1 -1.1**
KBS Kingsbay 13.47 24 P **Pn** **17 35 46.1 -1.1**
NOR Nord 13.54 1 *i* P **Pn** **17 35 45.5 -2.5**
KULLO Kullorsuaq 13.81 315 *i* P Pn 17 35 46.4 -5.4
SPITS Spitsbergen Ar 13.82 29 Pn **Pn** **17 35 53.0 +1.0**
comp=Z,24nm,1.0s,baz=225,slow=14,SNR=24
SPITS Spitsbergen Ar 13.82 29 P **Pn** **17 35 51.5 -0.5**
SPB2 Spitsbergen Ar 13.82 29 Pn **Pn** **17 35 52.3 +0.2**
NC204 NORSAR Array S 13.98 106 Pn **Pn** **17 35 52.8 -1.4**
NBO00 NORSAR Array S 14.15 106 Pn **Pn** **17 35 55.8 -0.8**
NC303 NORSAR Array S 14.23 105 Pn **Pn** **17 35 56.2 -1.5**
NOA NORSAR Array B 14.30 106 Pn **Pn** **17 35 58.1 -0.5**
baz=298,slow=13,SNR=1.4
NOA LR LR 17 41 02.4
comp=Z,294nm,18.6s,baz=310,slow=36
comp=Z,0.3nm,0.6s
EKA Eskdalemuir Ar 14.59 144 Pn **Pn** **17 36 03.7 +1.1**
baz=338,slow=21
EKA LR LR 17 41 08.7
comp=Z,525nm,19.2s,baz=334,slow=35
comp=Z,2.4nm,1.0s
HFS Hagfors 15.81 105 Pn **Pn** **17 36 18.2 -0.6**
comp=Z,0.1nm,0.3s,baz=306,slow=12,SNR=2.3
HFS LR LR 17 41 40.7
comp=Z,308nm,21.9s,baz=286,slow=34
comp=Z,2.3nm,1.0s
KEV Kevo 15.98 63 Pn **Pn** **17 36 18.1 -2.7**
KEV IAmb IAmb 17 36 18.4
comp=Z,43nm,1.3s
KEV Kevo 15.98 63 P **Pn** **17 36 18.1 -2.7**
KEV pmax pmax
comp=Z,43nm,1.3s
TULEG Thule 16.88 321 Pn **Pn** **17 36 26.6 -5.7**
APA Apatity 18.94 68⇓ *i*P **P** **17 36 54.3 -2.8**
APA *i* 17 40 16.3
APA pmax pmax
comp=Z,23nm,1.1s
LVZ Lovozero 19.23 66 P **P** **17 36 57.8 -2.5**
LVZ IAmb IAmb 17 37 01.1
comp=Z,27nm,1.1s
LVZ Lovozero 19.23 66 P **P** **17 36 57.8 -2.5**
LVZ pmax pmax
comp=Z,27nm,1.1s
FIA0 FINESS Array S 19.55 89 P **P** **17 37 01.6 -2.1**
FIA0 **P** **17 37 03.2 -0.4**
FIA0 FINESS Array S 19.55 89 P **P** **17 37 03.3 -0.4**
FINES FINESS Array B 19.55 89 P **P** **17 37 03.4 -0.4**
comp=Z,0.1nm,0.3s,baz=302,slow=8.7,SNR=9.0
FINES LR LR 17 43 45.3
comp=Z,906nm,20.5s,baz=280,slow=34
comp=Z,14nm,1.1s
FINES FINESS Array B 19.55 89 P **P** **17 37 02.9 -0.8**
FIA1 FINESS Array S 19.55 89 P **P** **17 37 03.1 -0.6**
FIA1 IAmb IAmb 17 37 07.3
comp=Z,26nm,1.2s
EUNU Eureka 20.43 332 P **P** **17 37 11.5 -1.7**
EUNU IAmb IAmb 17 37 16.8
comp=Z,27nm,1.1s
FRB Frobisher Bay 20.54 282 P **P** **17 37 14.3 -0.3**
comp=Z,11nm,1.1s,baz=65,slow=11,SNR=4.0
FRB LR LR 17 44 16.2
comp=Z,404nm,19.6s,baz=22,slow=34
comp=Z,11nm,1.1s
BSTI Sart Tilman 21.07 135 *d*P **P** **17 37 22.5 +2.1**
comp=Z,2.5nm,1.4s
BMRD Maredsous 21.12 136 *d*P **P** **17 37 23.0 +2.2**
comp=Z,7.2nm,0.0s
BCLA Clavier 21.15 135 *d*P **P** **17 37 22.6 +1.4**
comp=Z,6.1nm,1.3s
MEM Membach 21.17 134 *d*P **P** **17 37 23.0 +1.6**
comp=Z,12nm,1.2s
BTNL Ternell 21.22 134 *d*P **P** **17 37 23.6 +1.6**
comp=Z,12nm,1.3s
BHOU Houvegnez 21.40 134 *d*P **P** **17 37 23.9 -0.1**
comp=Z,11nm,1.5s
VSU Vasula 21.79 94 *de*P **P** **17 37 28.5 +0.5**
VSU pmax pmax
comp=Z,201nm,1.2s
VSU Vasula 21.79 94 *e*P **P** **17 37 29.2 +1.2**
RUE Ruedersdorf 21.84 120 *e*P **P** **17 37 30.4 +1.7**
WLF Walferdange 22.07 135 P **P** **17 37 31.9 +0.9**
WLF IAmb IAmb 17 37 33.7
comp=Z,27nm,1.3s
WLF Walferdange 22.07 135 P **P** **17 37 31.9 +0.9**
WLF pmax pmax
comp=Z,27nm,1.3s
WLF Walferdange 22.07 135 *d*PP **PnPn** **17 37 50.9 -1.9**
PUL Pulkovo 22.23 88⇓ *e*P **P** **17 37 34.6 +1.9**
PUL pmax pmax
comp=Z,37nm,0.9s
KLNR Kaliningrad 22.29 108⇓ *e*P **P** **17 37 34.7 +1.3**
KLNR pmax pmax
comp=Z,170nm,1.6s
ADZR Andozero 22.54 74 *e*P **P** **17 37 35.8 -0.2**
ADZR pmax pmax
comp=Z,34nm,1.0s
VSVD Vaisvydziai 22.57 102 *e*P **P** **17 37 38.4 +2.0**
CLL Collm 22.60 123 P **P** **17 37 35.9 -0.8**
CLL IAmb IAmb 17 37 39.7
comp=Z,30nm,1.2s
CLL Collm 22.60 123⇑ *i*P **P** **17 37 38.4 +1.6**
comp=Z,33nm,1.3s
CLL *es*P **sP** **17 37 44.0 +3.5**
CLL *ex* x 17 37 57.0
CLL *eS* Sn 17 42 00.0 +2.5
CLL Lm MLR 17 47 00.0
comp=N,100nm,19.7s
CLL Lm MLR 17 47 00.0
comp=E,200nm,18.7s
CLL Collm 22.60 123⇑ *i*P **P** **17 37 38.4 +1.6**
CLL *e* 17 37 44.0
CLL pmax pmax
comp=Z,33nm,1.3s
CLF Chambon-Foret 22.63 143 P **P** **17 37 36.3 -0.8**
PABE Paberze 22.95 102 P **P** **17 37 39.1 -1.3**
PABE IAmb IAmb 17 37 45.0
comp=Z,26nm,1.0s
PABE Paberze 22.95 102 *e*P **P** **17 37 40.7 +0.4**
BRG Berggiesshubel 23.27 122 *e*P **P** **17 37 45.4 +1.6**
BRG Amp 17 37 49.6
comp=Z,7.1nm,1.2s
BRG Berggiesshubel 23.27 122 *e*P **P** **17 37 45.3 +1.6**
BRG pmax pmax
comp=Z,7.0nm,1.2s
GRA1 Grafenberg Arr 23.47 127 P **P** **17 37 45.9 +0.1**
GRA1 IAmb IAmb 17 38 02.1
comp=Z,29nm,1.4s
GRF Grafenberg Arr 23.47 127 P **P** **17 37 45.9 +0.1**
GRF pmax pmax
comp=Z,29nm,1.4s
GRF Grafenberg Arr 23.47 127 *e*P **P** **17 37 47.1 +1.3**
comp=Z,38nm,1.7s,baz=330,slow=9.3
GRFO Grafenberg 23.47 127 P **P** **17 37 45.4 -0.4**
GRFO IAmb IAmb 17 38 02.0
comp=Z,29nm,1.4s
GRFO Grafenberg 23.47 127 P **P** **17 37 45.4 -0.4**
GRFO pmax pmax
comp=Z,29nm,1.4s
RES Resolute Bay 23.58 320 P **P** **17 37 44.4 -2.2**
comp=Z,2.1nm,1.0s,baz=70,slow=10,SNR=3.2
RES LR LR 17 46 55.0
comp=Z,501nm,20.8s,baz=80,slow=36
comp=Z,2.1nm,1.0s
RES Resolute Bay 23.58 320 P **P** **17 37 45.0 -1.6**
RES Resolute Bay 23.58 320 P **P** **17 37 45.0 -1.6**
RES pmax pmax
comp=Z,13nm,1.5s

ECH Echery 23.66 135 P **P** **17 37 47.6 -0.1**
ECH Echery 23.66 135 P **P** **17 37 47.6 -0.1**
ECH pmax pmax
comp=Z,9.0nm,1.1s
BFO Black Forest 23.87 133 P **P** **17 37 49.8 +0.1**
BFO IAmb IAmb 17 37 54.9
comp=Z,12nm,1.1s
BFO Black Forest 23.87 133 P **P** **17 37 49.8 +0.1**
BFO pmax pmax
comp=Z,12nm,1.1s
PRU Pruhonice 24.23 122 *e*P **P** **17 37 54.7 +1.7**
PRU Pruhonice 24.23 122 *e*P **P** **17 37 54.7 +1.7**
NACGM Naroch 24.44 100 *e*P **P** **17 37 51.2 -3.7**
comp=Z,33nm,1.4s,baz=321
DPC Dobruska-Polom 24.49 119 *e*P **P** **17 37 56.9 +1.5**
DPC Dobruska-Polom 24.49 119 *e*P **P** **17 37 56.9 +1.5**
KHC Kasperske Hory 24.68 124 P **P** **17 37 58.1 +0.9**
KHC Kasperske Hory 24.68 124 *e*P **P** **17 37 59.0 +1.8**
KHC Kasperske Hory 24.68 124 *e*P **P** **17 37 59.0 +1.8**
KLMR Klimovskoe 24.92 79 *e*P **P** **17 37 58.3 -0.9**
KLMR AMP 17 38 04.8
comp=Z,38nm,1.8s
KLMR LR LR 17 45 51.5
KLMR Klimovskoe 24.92 79 *e*P **P** **17 37 58.2 -0.9**
KLMR pmax pmax
comp=Z,38nm,1.8s
GEC2 GERESS Array S 24.98 125 P **P** **17 38 00.0 +0.1**
GEC2 IAmb IAmb 17 38 04.7
comp=Z,21nm,1.3s
GERES GERESS Array B 24.98 125 P **P** **17 37 59.3 -0.6**
comp=Z,6.7nm,1.1s,baz=318,slow=7.8,SNR=21
GERES LR LR 17 47 32.0
comp=Z,243nm,18.5s,baz=317,slow=36
comp=Z,6.7nm,1.1s
GERES GERESS Array B 24.98 125 P **P** **17 38 00.2 +0.4**
GERES GERESS Array S 24.98 125 P **P** **17 38 00.2 +0.4**
MNK Minsk 25.16 100 *i* P **P** **17 38 00.7 -0.7**
comp=E,6.0nm,1.1s
MNK *i* P **P** **17 38 00.7 -0.7**
comp=N,78nm,0.9s
MNK *i* P **P** **17 38 00.7 -0.7**
comp=Z,45nm,0.9s,baz=141
MNK *i* PP **PnPn** **17 38 34.8 -0.1**
MNK *i* PPP PPP 17 38 42.9
MNK *i* S **S** **17 42 27.1 +1.2**
MNK *i* SS **SnSn** **17 43 18.9 +3.5**
MNK *i* SSS SSS 17 43 32.7
MNK *i* LRM MLR 17 48 42.7
comp=E,17nm,14.4s
MNK *i* LRM MLR 17 48 42.7
comp=N,319nm,15.2s
MNK *i* LRM MLR 17 49 03.7
comp=Z,149nm,12.7s
MNK Minsk 25.16 100 *i* P **P** **17 38 00.6 -0.7**
MNK *i* PPP PPP 17 38 42.8
MNK *i* S **S** **17 42 27.1 +1.2**
MNK *i* SS **SnSn** **17 43 18.9 +3.5**
MNK pmax pmax
comp=Z,45nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK pmax pmax
comp=N,78nm,0.9s
MNK MLR MLR
comp=E,17nm,14.0s
MNK MLR MLR
comp=N,319nm,15.0s
MNK MLR MLR
comp=Z,149nm,13.0s
CKRC Cesky Krumlov 25.19 124 *e*P **P** **17 38 03.6 +1.9**
DAVA Damuels 25.25 132 *i* P **P** **17 38 04.3 +1.8**
comp=Z,24nm,1.6s
RETA Reutte 25.32 130 *e*P **P** **17 38 04.8 +1.9**
comp=Z,10nm,1.4s
MORC Moravsky Berou 25.39 118 P **P** **17 38 04.5 +1.0**
MORC Moravsky Berou 25.39 118 *e*P **P** **17 38 05.0 +1.5**
MORC Moravsky Berou 25.39 118 P **P** **17 38 04.5 +1.0**
MORC pmax pmax
comp=Z,33nm,1.3s
VRAC Vranov 25.48 120 P **P** **17 38 04.2 -0.1**
comp=Z,2.8nm,0.8s,baz=326,slow=9.7,SNR=8.2
VRAC LR LR 17 47 25.4
comp=Z,220nm,20.8s,baz=333,slow=35
comp=Z,2.8nm,0.8s
VRAC Vranov 25.48 120 *e*P **P** **17 38 05.8 +1.4**
MOTA Moosalm 25.55 130 *e*P **P** **17 38 06.6 +1.5**
comp=Z,31nm,1.6s
KRUC Moravsky 25.63 121 *e*P **P** **17 38 07.0 +1.3**
SQTA Sankt Quirin 25.69 130 *e*P **P** **17 38 08.5 +2.1**
comp=Z,20nm,1.1s
WATA Walderalm 25.69 129 *e*P **P** **17 38 08.2 +1.8**
comp=Z,15nm,1.6s
DAVOX Davos/Dischmat 25.71 132 P **P** **17 38 07.1 +0.4**
comp=Z,10nm,1.2s,baz=349,slow=8.4,SNR=4.0
DAVOX LR LR 17 48 40.5
comp=Z,368nm,19.8s,baz=306,slow=38
comp=Z,10nm,1.2s
FETA Feichten 25.73 131 *e*P **P** **17 38 08.9 +2.1**
comp=Z,8.7nm,1.4s
WTTA Wattenberg 25.77 129 *e*P **P** **17 38 09.3 +2.1**
comp=Z,18nm,1.6s
MAUC Maruska 25.84 119 *e*P **P** **17 38 09.9 +2.3**
TUE Stuetta 25.85 133 P **P** **17 38 08.9 +1.0**
TUE IAmb IAmb 17 38 39.2
comp=Z,14nm,0.9s
FUORN Ofenpass-Fuorn 25.97 132 P **P** **17 38 08.1 -1.0**
SCHQ Schefferville 25.97 264 P **P** **17 38 09.1 +0.3**
comp=Z,4.8nm,0.8s,baz=53,slow=19,SNR=1.6
SCHQ LR LR 17 46 54.3
comp=Z,609nm,20.3s,baz=75,slow=33
comp=Z,4.8nm,0.8s
SCHQ Schefferville 25.97 264 P **P** **17 38 09.1 +0.3**
SCHQ IAmb IAmb 17 38 46.2
comp=Z,24nm,1.4s
BIOA Bad Ischl, Aus 25.98 126 *i* P **P** **17 38 10.2 +1.3**
comp=Z,10nm,1.9s
MOA Molln 26.03 125 *i* P **P** **17 38 11.1 +1.7**
comp=Z,5.5nm,1.2s
KBA Koelnbreinsper 26.45 127 *e*P **P** **17 38 13.4 +0.2**
comp=Z,11nm,1.4s
CONA Conrad Observa 26.46 123 *i* P **P** **17 38 14.5 +1.2**
comp=Z,12nm,1.2s
BNI Bardonecchia 26.47 138 P **P** **17 38 13.2 -0.3**
BNI IAmb IAmb 17 38 17.0
comp=Z,21nm,1.4s
BNI Bardonecchia 26.47 138 P **P** **17 38 13.2 -0.3**
BNI pmax pmax
comp=Z,21nm,1.4s
ABTA Abfaltersbach 26.50 128 *e*P **P** **17 38 14.0 +0.4**
comp=Z,9.2nm,1.2s
MODS Modra-Piesok 26.52 120 *e*P **P** **17 38 16.6 +2.8**
MODS pmax pmax
comp=Z,135nm,2.1s
MODS Modra-Piesok 26.52 120 *e*P **P** **17 38 16.6 +2.8**
LANS Liptovska Anna 26.57 117 *e*P **P** **17 38 16.1 +1.9**
LANS Liptovska Anna 26.57 117 *e*P **P** **17 38 16.1 +1.9**
RONA Rosalia, Austr 26.80 122 *i* P **P** **17 38 16.5 +0.2**
comp=Z,14nm,1.4s
CLUD Cludinico 26.87 128 P **P** **17 38 17.3 +0.4**
CIMO Cimolais 26.87 129 P **P** **17 38 17.9 +1.0**
CIMO IAmb IAmb 17 38 23.0
comp=Z,15nm,1.4s
CTI Castel Tesino 26.88 130 P **P** **17 38 18.4 +1.3**
CTI Castel Tesino 26.88 130 P **P** **17 38 18.4 +1.3**
CTI pmax pmax
comp=Z,28nm,1.3s
VYHS Vyhne 26.92 118 *e*P **P** **17 38 18.9 +1.5**
VYHS Vyhne 26.92 118 *e*P **P** **17 38 18.9 +1.5**
MYKA Terra Mystica 26.94 127 *e*P **P** **17 38 17.7 +0.1**
comp=Z,9.7nm,1.0s
STAL STALIGIAL 27.00 129 P **P** **17 38 19.2 +1.1**
STAL IAmb IAmb 17 38 26.9
comp=Z,24nm,1.5s
PRED Cave del Predi 27.08 127 P **P** **17 38 18.6 -0.3**
PRED IAmb IAmb 17 38 29.4
comp=Z,16nm,1.5s
SOKA Soboth 27.32 125 *e*P **P** **17 38 22.2 +1.2**
comp=Z,3.6nm,1.2s
SABO M.te Sabotino 27.51 128 P **P** **17 38 23.4 +0.7**
SABO IAmb IAmb 17 39 01.9
comp=Z,10nm,1.3s
PSZ Piszkesteto 27.77 117 P **P** **17 38 25.0 -0.1**
PSZ IAmb IAmb 17 38 34.8
comp=Z,21nm,1.5s
PSZ Piszkesteto 27.77 117 P **P** **17 38 25.0 -0.1**
PSZ pmax pmax
comp=Z,21nm,1.5s
OBN Obninsk 27.93 90 LR LR 17 49 06.6
comp=Z,179nm,18.6s,baz=332,slow=36
OBN Obninsk 27.93 90 *e*P **P** **17 38 27.4 +1.2**
OBN *e* 17 39 14.1
OBN *e*PPP PPP 17 39 22.8
OBN pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 28.69 103 P **P** **17 38 32.5 -0.6**
comp=Z,4.5nm,0.9s,baz=326,slow=9.5,SNR=13
AKASG LR LR 17 49 43.0
comp=Z,227nm,18.7s,baz=347,slow=36
comp=Z,4.5nm,0.9s
AKASG Malin Array Be 28.69 103 *i* P **P** **17 38 33.7 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 28.69 103 P **P** **17 38 33.3 +0.2**
AKBB IAmb IAmb 17 38 34.6
comp=Z,13nm,1.1s
AKBB Malin Array Si 28.69 103⇑ *i*P **P** **17 38 33.7 +0.6**
AKBB pmax pmax
comp=Z,14nm,1.1s
AK05 Malin Array Si 28.75 104 P **P** **17 38 33.2 -0.5**
ESBB Sonseca Array 29.55 158 P **P** **17 38 41.9 +1.0**
ESBB IAmb IAmb 17 38 44.1
comp=Z,13nm,1.2s
ESDC Sonseca Array 29.55 158 P **P** **17 38 41.0 +0.1**
comp=Z,6.1nm,1.2s,baz=349,slow=10,SNR=11
ESDC LR LR 17 49 57.1
comp=Z,246nm,18.9s,baz=314,slow=35
comp=Z,6.1nm,1.2s
ESDC Sonseca Array 29.55 158 P **P** **17 38 42.7 +1.8**
PAB San Pablo 29.62 158 P **P** **17 38 42.9 +1.3**
PAB San Pablo 29.62 158 P **P** **17 38 42.9 +1.3**
PAB pmax pmax
comp=Z,27nm,1.5s
MURB Monte Urbino 29.69 131 P **P** **17 38 42.4 +0.3**
MURB IAmb IAmb 17 38 44.5
comp=Z,16nm,1.1s
BUR08 Bucovina Ar. S 29.82 111 P **P** **17 38 43.2 -0.1**
BUR08 IAmb IAmb 17 38 58.3
comp=Z,9.0nm,1.4s
BURAR Bucovina Array 29.85 111 P **P** **17 38 43.3 -0.2**
KIRV Kirov 30.11 75 LR LR 17 49 47.1
comp=Z,363nm,18.5s,baz=319,slow=34
KIRV Kirov 30.11 75⇑ *e*P **P** **17 38 45.6 +0.1**
CAMP Campotosto 30.61 131 P **P** **17 38 51.2 +0.8**
CAMP IAmb IAmb 17 39 27.6
comp=Z,12nm,1.1s
LPSR Galich'ya Gora 30.76 91 *e*P **P** **17 38 52.2 +0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
DIVS Divibare 31.18 121 P **P** **17 38 56.6 +1.3**
DIVS IAmb IAmb 17 39 02.2
comp=Z,7.7nm,1.3s
VORR Voronezh 31.60 92 *e*P **P** **17 38 59.3 +0.5**
VORR pmax pmax
comp=Z,9.0nm,1.2s
MLR Muntele Rosu 31.94 113 LR LR 17 52 56.6
comp=Z,352nm,18.5s,baz=317,slow=38
MLR Muntele Rosu 31.94 113 P **P** **17 39 02.7 +0.7**
MLR IAmb IAmb 17 39 30.0
comp=Z,10nm,1.3s
MLR Muntele Rosu 31.94 113 P **P** **17 39 02.7 +0.7**
MLR pmax pmax
comp=Z,11nm,1.3s
VSR Storozhevoye 31.95 93 *e*P **P** **17 39 02.3 +0.4**
VSR pmax pmax
comp=Z,10.0nm,1.3s
A36M Sachs Harbour 32.14 326 P **P** **17 39 02.5 -0.9**
VRH Novokhopyorsk 32.92 90 *e*P **P** **17 39 11.0 +0.6**
VRH pmax pmax
comp=Z,10.0nm,1.1s
VTS Vitosha 33.56 118 P **P** **17 39 17.1 +0.8**
VTS Vitosha 33.56 118 P **P** **17 39 17.1 +0.8**
VTS pmax pmax
comp=Z,3.0nm,1.0s
NRIK Noril'sk 33.78 38 LR LR 17 54 12.4
comp=Z,149nm,20.1s,baz=318,slow=38
NRIK Noril'sk 33.78 38 P **P** **17 39 17.8 +0.1**
NRIK Noril'sk 33.78 38⇓ *e*P **P** **17 39 19.0 +1.3**
NRIK pmax pmax
comp=Z,11nm,1.6s
C36M Paulatuk 33.88 322 P **P** **17 39 18.3 -0.2**
BELG Belogornoye 34.17 84 LR LR 17 52 24.2
comp=Z,263nm,18.3s,baz=258,slow=35
FNA Florina 34.61 122 P **P** **17 39 25.2 -0.1**
FNA Florina 34.61 122 P **P** **17 39 25.2 -0.1**
FNA pmax pmax
comp=Z,5.0nm,1.3s
ARU Arti 34.99 70 P **P** **17 39 27.5 -0.8**
comp=Z,2.7nm,0.7s,baz=338,slow=7.6,SNR=6.6
ARU LR LR 17 52 50.9
comp=Z,459nm,18.6s,baz=304,slow=35
comp=Z,2.7nm,0.7s
ARU Arti 34.99 70 P **P** **17 39 28.5 +0.2**
ARU IAmb IAmb 17 39 30.0
comp=Z,11nm,1.2s
ARU Arti 34.99 70 *d* *i*P **P** **17 39 29.1 +0.8**
ARU **P** 17 40 46.8
ARU PPP PPP 17 41 00.2
ARU S **S** **17 45 04.0 +4.3**
ARU SS **SnSn** **17 47 20.9 +6.4**
ARU pmax pmax
comp=Z,17nm,1.6s
ARU MLR MLR
comp=Z,439nm,19.0s
VAE Valguarnera 35.59 133 LR LR 17 54 14.6
comp=Z,119nm,20.4s,baz=330,slow=36
RDO Rodhopi 35.64 117 P **P** **17 39 34.3 +0.3**
RDO IAmb IAmb 17 39 36.2
comp=Z,12nm,1.1s
KEST Kesra 35.94 140 LR LR 17 53 34.3
comp=Z,241nm,19.3s,baz=228,slow=35
MDT Midelt 36.22 161 LR LR 17 54 02.5
comp=Z,124nm,19.4s,baz=351,slow=36
ANN Anapa 36.65 101 *e*P **P** **17 39 38.4 -4.2**
ANN *e**PP **pP** **17 39 41.5 -3.9**
ANN *e*S **S** **17 45 19.9 -5.4**
ANN *e*SS **SnSn** **17 47 52.3 -2.6**
ANN pmax pmax
comp=Z,54nm,1.3s
YKA Yellowknife Ar 36.74 310 P **P** **17 39 42.4 -0.8**
comp=Z,9.3nm,1.0s,baz=37,slow=9.2,SNR=36
YKA PcP **PcP** **17 42 04.8 -0.4**
comp=Z,0.6nm,0.8s,baz=14,slow=2.6,SNR=5.0
comp=Z,9.3nm,1.0s
YKA Yellowknife Ar 36.74 310 P **P** **17 39 41.4 -1.9**
INK Inuvik 36.78 326 P **P** **17 39 43.2 -0.4**
comp=Z,2.3nm,1.0s,baz=50,slow=12,SNR=4.7
INK LR LR 17 54 09.1
comp=Z,154nm,19.9s,baz=19,slow=35
comp=Z,2.3nm,1.0s
A21K Barrow 38.06 340 P **P** **17 39 53.9 -0.4**
SOC Sochi 38.54 99 *e*P **P** **17 39 58.0 -0.6**
SOC *e*S **S** **17 45 54.8 +0.8**
SOC *e*SSS SSS 17 49 06.8
SOC MLR MLR
comp=Z,222nm,18.0s
TIXI Tiksi 38.72 16 P **P** **17 39 59.9 0.0**
comp=Z,2.2nm,1.0s,baz=270,slow=23,SNR=4.9
comp=Z,2.2nm,1.0s
TIXI Tiksi 38.72 16 P **P** **17 39 59.2 -0.6**
TIXI Tiksi 38.72 16⇑ *i*P **P** **17 40 01.1 +1.2**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
SADO Sadowa 38.77 265 LR LR 17 54 09.5
comp=Z,309nm,19.3s,baz=358,slow=33
FFC Flin Flon 38.90 293 P **P** **17 40 02.5 +1.0**
FFC Flin Flon 38.90 293 P **P** **17 40 02.6 +1.0**
FFC pmax pmax
comp=Z,6.0nm,1.1s
M63A Gales Ferry 39.06 255 P **P** **17 40 02.0 -1.0**
KIV Kislovodsk 39.32 96 P **P** **17 40 05.5 +0.1**
KIV IAmb IAmb 17 40 07.9
comp=Z,11nm,1.1s
KIV Kislovodsk 39.32 96 *e*P **P** **17 40 06.8 +1.5**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,187nm,16.0s
AKTO Aktyubinsk 39.59 77 LR LR 17 55 39.4
comp=Z,235nm,18.2s,baz=68,slow=35
KBZ Khabaz 39.59 96 P **P** **17 40 07.7 +0.2**
comp=Z,5.0nm,1.0s,baz=327,slow=6.9,SNR=6.9
KBZ LR LR 17 56 40.9

comp=Z,326nm,19.5s,baz=323,slow=36
comp=Z,5.0nm,1.0s
KBZ Khabaz 39.59 96⇑ eP P 17 40 09.8 +2.4
KBZ pmax pmax
comp=Z,10.0nm,1.1s
BR131 Keskin Array S 39.71 109 P P 17 40 09.0 +0.4
BR131 Keskin Array S 39.71 109⇑ eP P 17 40 09.8 +1.2
BRTR Keskin Array B 39.71 109 P P 17 40 09.0 +0.4
comp=Z,1.6nm,1.0s,baz=305,slow=5.1,SNR=7.2
BRTR LR LR 17 57 48.1
comp=Z,246nm,19.9s,baz=316,slow=38
comp=Z,1.6nm,1.0s
BRTR Keskin Array B 39.71 109 P P 17 40 09.4 +0.7
BRTR Keskin Array B 39.71 109 i P P 17 40 11.6 +3.0
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BMAR Burnt Mountain 39.71 331 P P 17 40 08.2 0.0
NCK Nalchik 40.05 96⇓ eP P 17 40 14.5 +3.2
NCK pmax pmax
comp=Z,24nm,1.0s
I29M Ogilvie Camp, 40.30 326 P P 17 40 12.7 -0.4
I29M IAmb IAmb 17 40 15.0
comp=Z,26nm,1.5s
ULM Lac du Bonnet 40.40 284 P P 17 40 14.2 +0.1
comp=Z,2.8nm,0.9s,baz=20,slow=9.7,SNR=3.8
ULM LR LR 17 56 18.9
comp=Z,371nm,19.8s,baz=32,slow=35
comp=Z,2.8nm,0.9s
IDI Anoyia 40.75 121 LR LR 17 58 51.1
comp=Z,57nm,21.1s,baz=334,slow=39
M57A Sunshine Farm, 40.98 260 P P 17 40 19.2 +0.3
M57A IAmb IAmb 17 40 43.5
comp=Z,24nm,1.4s
ABKAR Akbulak array 41.27 76 P P 17 40 21.5 +0.2
ABKAR IAmb IAmb 17 40 23.1
comp=Z,10.0nm,1.2s
ABKAR Akbulak array 41.27 76 P P 17 40 21.4 +0.1
I26K Coal Creek Min 41.32 329 P P 17 40 21.0 -0.5
I26K IAmb IAmb 17 40 24.9
comp=Z,15nm,1.2s
PRP Porcupine Dome 41.59 330 P P 17 40 23.9 0.0
PRP IAmb IAmb 17 40 28.0
comp=Z,13nm,1.4s
BRVK Borovoye 41.76 65 P P 17 40 25.6 +0.3
BRVK Borovoye 41.76 65⇓ eP P 17 40 25.9 +0.7
BRVK pmax pmax
comp=Z,9.0nm,2.1s
K50A Casco 41.78 267 P P 17 40 25.8 +0.3
AKH Akhalkalaki 41.82 97 P P 17 40 26.9 +0.9
AKH Akhalkalaki 41.82 97 P P 17 40 27.0 +0.9
AKH pmax pmax
comp=Z,45nm,1.3s
BVAR Borovoye Array 41.82 65 LR LR 17 55 56.3
comp=Z,66nm,20.8s,baz=321,slow=34
KOPT Kop Dagi 41.93 101 P P 17 40 28.5 +1.4
KOPT IAmb IAmb 17 40 39.2
comp=Z,13nm,1.1s
MAK Makhachkala 41.97 92 eP P 17 40 23.3 -3.8
MAK eP PPP PPP 17 42 32.8
MAK eS S **17 46 40.7 -4.6**
MAK eSS SS **17 49 48.6 -3.0**
MAK eSSS SSS 17 50 22.2
MAK pmax pmax
comp=Z,56nm,1.0s
MAK MLR MLR
comp=Z,403nm,17.0s
J26L Joseph Creek 42.12 328 P P 17 40 28.7 +0.5
M53A WI Miller and 42.21 264 P P 17 40 29.9 +0.9
IL31 42.51 330 P P 17 40 31.9 +0.7
ILAR Eielson Array 42.51 330 P P 17 40 31.7 +0.4
comp=Z,3.9nm,1.1s,baz=9.2,slow=7.3,SNR=14
ILAR PcP PcP **17 42 23.1 -0.5**
comp=Z,1.5nm,1.0s,baz=347,slow=3.1,SNR=7.8
ILAR LR LR 17 59 48.0
comp=Z,164nm,19.9s,baz=56,slow=38
comp=Z,3.9nm,1.1s
IMAR Indian Mountai 42.58 335 P P 17 40 31.7 0.0
IMAR PcP PcP **17 42 24.0 +0.2**
COLA College 42.60 331 P P 17 40 32.6 +0.7
COLA IAmb IAmb 17 40 34.4
comp=Z,6.3nm,0.8s
COLA College 42.60 331 P P 17 40 32.6 +0.7
COLA pmax pmax
comp=Z,6.0nm,0.9s
TCOL CIGO, UAF Yank 42.60 331 P P 17 40 32.0 +0.1
TCOL IAmb IAmb 17 40 34.4
comp=Z,7.4nm,0.9s
H21K Melozitna Rive 42.73 334 P P 17 40 33.6 +0.5
H21K IAmb IAmb 17 40 36.1
comp=Z,7.9nm,1.1s
MLY Manley 42.96 333 P P 17 40 35.0 +0.1
BCAR Beaver Creek A 43.05 326 P P 17 40 36.0 +0.4
L27K Beaver Creek, 43.06 326 P P 17 40 37.0 +1.2
N51A Ashland 43.29 265 P P 17 40 38.6 +0.8
GNI Garni 43.38 97 LR LR 17 59 27.0
comp=Z,347nm,18.2s,baz=334,slow=37
MCK McKinley 43.84 331 P P 17 40 42.8 +0.8
MCK McKinley 43.84 331 P P 17 40 42.8 +0.8
MCK pmax pmax
comp=Z,34nm,1.5s
BPAW Bear Paw Mtn. 43.86 332 P P 17 40 42.9 +0.7
BPAW IAmb IAmb 17 40 45.8
comp=Z,12nm,1.3s
EDM Edmonton 43.94 300 P P 17 40 43.4 +0.4
EDM IAmb IAmb 17 40 45.9
comp=Z,16nm,1.4s
EDM Edmonton 43.94 300 P P 17 40 43.4 +0.4
EDM pmax pmax
comp=Z,16nm,1.4s
BILL Bilibino 44.05 358 P P 17 40 43.7 +0.1
BILL IAmb IAmb 17 40 45.7
comp=Z,12nm,1.5s
BILL Bilibino 44.05 358 eP P 17 40 43.8 +0.2
BILL pmax pmax
comp=Z,9.0nm,1.4s
DLBC Dease Lake 44.37 316 LR LR 17 59 10.2
comp=Z,356nm,18.8s,baz=70,slow=36
ZAA0 Zalesovo Array 45.68 54 P P 17 40 56.5 -0.3
ZAA0 PcP PcP **17 42 34.3 -0.2**
ZALV Zalesovo Beam 45.68 54 P P 17 40 56.1 -0.6
comp=Z,1.0nm,0.7s,baz=328,slow=7.7,SNR=8.6
ZALV PcP PcP **17 42 34.8 +0.3**
comp=Z,0.9nm,0.8s,baz=316,slow=4.1,SNR=5.2
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 45.68 54 P P 17 40 56.3 -0.4
ZALV PcP **17 42 34.4 -0.1**
MMAI Mount Meron Ar 46.35 111 LR LR 18 02 33.7
comp=Z,96nm,19.5s,baz=274,slow=39
KURK Kurchatov 46.51 60 P P 17 41 03.0 -0.3
KURK IAmb IAmb 17 41 04.9
comp=Z,9.1nm,1.1s
KURK Kurchatov 46.51 60 deP P 17 41 03.5 +0.2
KURK pmax pmax
comp=Z,15nm,1.7s
KURBB Kurchatov Arra 46.56 61 LR LR 18 01 14.8
comp=Z,154nm,19.1s,baz=183,slow=37
YAK Yakutsk 48.05 20 P P 17 41 15.2 0.0
comp=Z,1.3nm,0.3s,baz=333,slow=2.3,SNR=4.7
comp=Z,1.3nm,0.3s
YAK Yakutsk 48.05 20 eP P 17 41 15.1 0.0
YAK pmax pmax
comp=Z,11nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.3s
TKL Tuckaleechee C 48.44 263 LR LR 18 00 59.2
comp=N,604nm,18.3s,baz=30,slow=35
EIL Elat 49.24 113 LR LR 18 06 56.9
comp=N,44nm,18.3s,baz=266,slow=42
BBB Bella Bella 49.34 310 LR LR 18 01 26.4
comp=N,178nm,19.1s,baz=354,slow=35
NEW Newport 49.43 300 LR LR 18 02 43.7
comp=N,258nm,21.4s,baz=49,slow=37
MSO Missoula 49.63 296 P P 17 41 27.6 -0.1
KDAK Kodiak Island 50.04 330 LR LR 18 04 54.3
comp=N,249nm,18.1s,baz=62,slow=39
DGZ Jazzator, Alta 50.18 55⇓ eP P 17 41 32.9 +1.1
DGZ pmax pmax
comp=Z,9.0nm,1.7s
GEYT Alibeck 50.32 86 P P 17 41 33.5 +0.6
comp=Z,1.6nm,0.9s,baz=285,slow=6.7,SNR=6.1
GEYT LR LR 18 04 11.7
comp=Z,341nm,19.2s,baz=352,slow=38
comp=Z,1.6nm,0.9s
KKAR Karatay Array 50.33 72 P P 17 41 32.7 -0.2
KKAR Karatay Array 50.33 72 P P 17 41 32.7 -0.2
MAKZ Makanchi 51.01 60 P P 17 41 37.5 -0.5
MAKZ PcP **PcP 17 42 53.5 -0.4**
MAKZ Makanchi 51.01 60 P P 17 41 37.5 -0.5
MAKZ 17 42 53.5
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 51.12 60 P P 17 41 38.0 -0.8
MK31 IAmb IAmb 17 41 40.5
comp=Z,5.8nm,1.2s
MK31 PP PP **17 43 37.0 +1.9**
MK31 Makanchi Array 51.12 60 P P 17 41 38.0 -0.8
MK31 17 43 37.0
MK31 pmax pmax
comp=Z,6.0nm,1.2s
MKAR Makanchi Array 51.12 60 P P 17 41 38.0 -0.8
comp=Z,3.9nm,1.0s,baz=335,slow=5.4,SNR=22
MKAR PP PP **17 43 37.8 +2.7**
comp=Z,1.3nm,1.1s,baz=335,slow=5.4,SNR=4.8
MKAR LR LR 18 06 23.1
comp=Z,114nm,18.1s,baz=333,slow=40
comp=Z,3.9nm,1.0s
MKAR Makanchi Array 51.12 60 P P 17 41 37.7 -1.1
MKAR PP PP **17 43 37.3 +2.2**
MKAR Makanchi Array 51.12 60 i P P 17 41 39.5 +0.7
MKAR pmax pmax
comp=Z,4.0nm,1.0s
PD31 Pinedale Array 51.68 290 P P 17 41 43.5 +0.2
PDAR Pinedale Array 51.68 290 P P 17 41 41.5 -1.9
comp=Z,1.2nm,1.0s,baz=64,slow=6.8,SNR=5.9
PDAR LR LR 18 03 44.8
comp=Z,437nm,18.1s,baz=40,slow=36
comp=Z,1.2nm,1.0s
T35A Sooner Cattle 52.09 275 P P 17 41 45.8 -0.3
AAK Ala-Archa 52.15 69 P P 17 41 46.3 -0.4
comp=Z,2.3nm,1.1s,baz=334,slow=7.0,SNR=6.6
AAK LR LR 18 03 14.8
comp=Z,176nm,20.1s,baz=328,slow=35
comp=Z,2.3nm,1.1s
AAK Ala-Archa 52.15 69 P P 17 41 46.6 -0.1
AAK IAmb IAmb 17 41 49.5
comp=Z,7.1nm,1.3s
AAK Ala-Archa 52.15 69⇑ iP P 17 41 48.6 +1.9
AAK pmax pmax
comp=Z,5.0nm,1.3s
MA2 Magadan 52.32 7 P P 17 41 47.2 -0.3
comp=Z,1.3nm,0.5s,baz=204,slow=15,SNR=2.2
comp=Z,1.3nm,0.5s
MA2 Magadan 52.32 7⇓ eP P 17 41 48.0 +0.5
MA2 pmax pmax
comp=Z,13nm,1.6s
BMO Blue Mountains 52.49 298 P P 17 41 48.5 -0.7
BMO IAmb IAmb 17 41 56.5
comp=Z,9.9nm,1.4s
BMO Blue Mountains 52.49 298 P P 17 41 48.5 -0.7
BMO pmax pmax
comp=Z,10.0nm,1.5s
CHGR Chuyangaron 53.76 76 P P 17 41 58.7 +0.2
CHGR PcP PcP **17 43 04.2 -0.2**
CHGR Chuyangaron 53.76 76 P P 17 41 58.7 +0.2
CHGR pmax pmax
comp=Z,23nm,1.4s
KSH Kashi 55.43 70 P P 17 42 14.5 +3.8
KSH pmax pmax
comp=Z,5.0nm,1.2s
ELK Elko 55.45 294 LR LR 18 06 02.4
comp=Z,339nm,19.4s,baz=36,slow=36
WMQ Urumqi 55.50 58 eP P 17 42 11.8 +0.7
WMQ sP sP 17 42 22.0 +6.8
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ LR LR
comp=Z,130nm,19.1s
ZEA Zeya 55.73 24 eP P 17 42 14.4 +1.9
TORD Torodi Ar. Bea 56.44 157 P P 17 42 17.9 -0.1
comp=Z,2.1nm,1.2s,baz=347,slow=6.3,SNR=5.3
comp=Z,2.1nm,1.2s
TORD Torodi Ar. Bea 56.44 157 P P 17 42 19.2 +1.3
SPR3 Spring Creek 3 56.69 292 P P 17 42 21.8 +1.8
SPR3 IAmb IAmb 17 42 25.0
comp=Z,10nm,1.5s
YBH Yreka Blue Hor 57.05 300 LR LR 18 09 08.1
comp=Z,131nm,18.8s,baz=8.5,slow=38
SONM Songino Array 57.14 41 P P 17 42 22.1 -0.7
comp=Z,0.7nm,0.8s,baz=335,slow=6.4,SNR=3.7
SONM LR LR 18 09 56.8
comp=Z,70nm,18.4s,baz=358,slow=39
comp=Z,0.7nm,0.8s
ULN Ulaanbaatar 57.27 41⇑ eP P 17 42 24.8 +1.0
ULN pmax pmax
comp=Z,6.0nm,1.7s
ANMO Albuquerque 57.51 283 LR LR 18 07 24.3
comp=Z,207nm,18.6s,baz=137,slow=36
ANMO Albuquerque 57.51 283⇓ eP P 17 42 26.5 +0.9
CCUT Cedar City 57.65 290 P P 17 42 27.3 +0.6
CCUT IAmb IAmb 17 42 57.9
comp=Z,6.4nm,1.5s
R11A Troy Canyon, C 57.71 293 P P 17 42 27.8 +0.8
R11A IAmb IAmb 17 42 30.6
comp=Z,6.8nm,1.3s
KVN Kaiserville 57.94 295 P P 17 42 29.4 +0.8
KVN IAmb IAmb 17 42 30.5
comp=Z,6.7nm,1.2s
KVN Kaiserville 57.94 295 P P 17 42 29.4 +0.8
KVN pmax pmax
comp=Z,7.0nm,1.2s
YERR Yerington 58.38 296 P P 17 42 32.1 +0.4
YERR IAmb IAmb 17 42 35.3
comp=Z,10nm,1.2s
SJG San Juan 58.38 236 LR LR 18 05 27.1
comp=Z,57nm,19.8s,baz=100,slow=34
NVAR Mina Array Bea 58.56 295 P P 17 42 32.7 -0.3
comp=Z,0.9nm,0.9s,baz=62,slow=6.2,SNR=4.4
NVAR PcP PcP **17 43 25.5 +2.2**
comp=Z,0.2nm,0.5s,baz=32,slow=4.3,SNR=3.5
comp=Z,0.9nm,0.9s
RAYN Ar Rayn 58.59 106 P P 17 42 34.2 +1.0
RAYN IAmb IAmb 17 42 35.6
comp=Z,8.6nm,1.2s
RAYN Ar Rayn 58.59 106 P P 17 42 34.2 +1.0
RAYN pmax pmax
comp=Z,9.0nm,1.2s
SHPR Sheep Range 59.22 291 P P 17 42 38.8 +1.3
GWY Greenwater Val 60.03 293 P P 17 42 43.5 +0.4
TXAR Lajitas Array 61.52 278 P P 17 42 53.8 +0.5
comp=Z,1.8nm,1.0s,baz=57,slow=4.6,SNR=8.2
TXAR LR LR 18 08 08.2
comp=Z,223nm,20.8s,baz=24,slow=35
comp=Z,1.8nm,1.0s
DBIC Dimbokro 62.02 165 LR LR 18 12 13.4
comp=Z,82nm,18.1s,baz=354,slow=38
PFO Pinyon Flats O 62.28 291 LR LR 18 09 38.1
comp=Z,221nm,18.2s,baz=6.5,slow=36
XLT XiLinHaoTe 63.11 36 eP P 17 43 05.0 +1.3
XLT pP sP 17 43 09.5 +1.7
XLT pmax pmax
comp=Z,4.0nm,1.1s
XLT pmax pmax
comp=Z,140nm,5.4s
GTA Gaotai 63.20 50 ⇓P P 17 43 05.0 +0.6
GTA sP sP 17 43 12.3 +3.8
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,250nm,4.6s
GTA LR LR
comp=N,88nm,17.1s
GTA LR LR
comp=E,140nm,17.8s
GTA LR LR
comp=Z,160nm,17.1s
WSAR Wadi Sarin 63.69 93 LR LR 18 13 58.2
comp=Z,73nm,21.5s,baz=358,slow=39
GOMU GeErMu 64.68 56 P P 17 43 16.3 +1.8
GOMU pP sP 17 43 20.5 +1.9
GOMU sP pP 17 43 22.0 +4.5
GOMU pmax pmax
comp=Z,4.0nm,1.5s
GOMU pmax pmax
comp=Z,82nm,6.6s
HHC Hu-ho-hao-te 64.97 40 eP P 17 43 16.0 0.0
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.6s
CN2 Changchun 65.06 28 P P 17 43 17.0 +0.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BJI Beijing 66.81 37 P P 17 43 29.3 +1.6
BJI pmax pmax
comp=Z,3.0nm,1.7s
LZH Lanzhou 67.44 48 eP P 17 43 33.5 +1.5
LZH sP sP 17 43 38.8 +2.7
LZH pmax pmax
comp=Z,14nm,1.0s
LZH LR LR
comp=N,240nm,11.3s
LZH LR LR
comp=E,180nm,14.8s
LZH LR LR
comp=Z,210nm,15.5s
SDV Santo Domingo 68.47 238 LR LR 18 09 01.0
comp=Z,57nm,21.9s,baz=28,slow=32
LPIG La Paz 68.72 281 LR LR 18 16 26.4
comp=Z,134nm,21.8s,baz=28,slow=38
ATD Arta Tunnel 68.73 113 LR LR 18 13 42.5
comp=Z,28nm,21.8s,baz=27,slow=36
HNS HongShan 69.00 39 ⇑P P 17 43 42.0 +0.5
HNS pmax pmax
comp=Z,8.0nm,1.4s
CMIG Matias Romero 69.37 264 LR LR 18 15 37.0
comp=Z,97nm,19.4s,baz=22,slow=37
LSA Lhasa 69.51 61 P P 17 43 45.6 +0.2
LSA Lhasa 69.51 61 P P 17 43 45.6 +0.2
LSA pmax pmax
comp=Z,13nm,1.3s
XAN Xi'an 70.75 45 ⇑P P 17 43 53.0 +0.6
XAN pmax pmax
comp=Z,6.0nm,1.3s
KSRS Korea Array 71.66 28 P P 17 43 57.0 -0.8
comp=Z,3.7nm,1.3s,baz=4.1,slow=5.3,SNR=5.6
comp=Z,3.7nm,1.3s
KSAR Wonju Array Be 71.67 28 P P 17 43 56.5 -1.3
KSAR Wonju Array Be 71.67 28 P P 17 43 56.5 -1.3
TJN Taejon 72.61 29⇓ eP P 17 44 03.3 -0.2
ROSC El Rosal 73.45 240 LR LR 18 11 58.1
comp=Z,46nm,21.7s,baz=66,slow=32
ENH Enshi 74.46 45 P P 17 44 13.6 -1.0
RCBR Riachuelo 74.87 198 LR LR 18 11 54.2
comp=Z,47nm,18.4s,baz=136,slow=32
NJ2 Nanjing 75.07 37 eP P 17 44 18.3 +0.3
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
PZH PanZhiHua 75.82 53 P P 17 44 22.5 0.0
PZH pmax pmax
comp=Z,10.0nm,1.5s
PZH pmax pmax
comp=Z,120nm,3.5s
MBAR Mbarara 76.29 129 LR LR 18 21 54.2
comp=Z,36nm,18.9s,baz=286,slow=39
KMI Kunming 77.42 53 ⇑P P 17 44 34.0 +2.3
KMI pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 78.75 123 i P P 17 44 40.5 +1.3
CHTO Chiang Mai 82.16 58 P P 17 44 56.5 -0.7
CHTO Chiang Mai 82.16 58 P P 17 44 56.5 -0.7
CHTO pmax pmax
comp=Z,1.0nm,1.5s
CMAR Chiang Mai Arr 82.50 59 P P 17 44 58.3 -0.7
comp=Z,0.8nm,0.4s,baz=329,slow=6.8,SNR=14
CMAR LR LR 18 25 43.4
comp=Z,18nm,20.3s,baz=335,slow=39
comp=Z,0.8nm,0.4s
CMAR Chiang Mai Arr 82.50 59 P P 17 44 57.8 -1.2
CMAR Chiang Mai Arr 82.50 59 i P P 17 44 59.5 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.5s
BDFB Brasilia 86.33 209 P P 17 45 18.7 +0.4
comp=Z,5.6nm,0.9s,baz=15,slow=2.9,SNR=5.8
comp=Z,5.6nm,0.9s
BDFB Brasilia 86.33 209 P P 17 45 19.4 +1.1
BDFB Brasilia 86.33 209 P P 17 45 19.4 +1.1
BDFB pmax pmax
comp=Z,10.0nm,1.1s
PTLB Pontes e Lacer 88.48 219 P P 17 45 29.4 +0.9
PTLB IAmb IAmb 17 45 32.8
comp=Z,13nm,1.4s
LSZ Lusaka 89.59 136 LR LR 18 29 10.1
comp=Z,84nm,18.4s,baz=337,slow=38
TSUM Tsumeb 90.89 147 LR LR 18 26 55.9
comp=Z,67nm,18.8s,baz=333,slow=36
AQDB Aquidauana 92.56 215 P P 17 45 47.4 -0.1
PSI Prapat 97.15 64 LR LR 18 35 37.1
comp=Z,79nm,18.6s,baz=274,slow=39
ASAR Alice Springs 132.30 36 PKP PKPdf 17 51 49.6 -0.5
comp=Z,0.3nm,0.7s,baz=349,slow=1.3,SNR=8.9

IDC ***28*** *17:43:15.0±2.3, 36.73N×140.68E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=48.5km s-min=27.3km az=38.0*
JMA ***28*** *17:43:17.8±0.0, 36.8N±0.1×140.6E±0.2, h9km, MV3.4/20, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .

ISC 28 17:43:17.2±0.9, 36.76N±0.03×140.61E±0.05, h15km±7km, n18, σ0965/18, mb3.4/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.16**	**192**	P		**Pg**	**17 43 21.3**	**+0.2**
JHO				S		**Sg**	**17 43 23.6**	**-0.2**
JFFD	**Fukushimafurud**	**0.33**	**353** ⇓	*i* P		**Pg**	**17 43 24.1**	**+0.1**
JFFD				⇓ *e* S		**Sg**	**17 43 28.6**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.37**	**24**	P		**Pb**	**17 43 25.1**	**-0.4**
ONAJ				S		**Sb**	**17 43 30.5**	**-0.7**
JSB	**Shiboa**	**0.59**	**290**	P		**Pg**	**17 43 29.1**	**+0.3**
JSB				*e* S		**Sg**	**17 43 36.9**	**+0.3**
JYT	**Yasato**	**0.63**	**212** ⇓	P		**Pg**	**17 43 29.7**	**+0.1**
JYT				⇓ S		**Sg**	**17 43 37.9**	**+0.1**
JFK	**Kawauchi**	**0.64**	**19**	P		**Pb**	**17 43 29.8**	**-0.3**
JFY	**Yanaizu**	**0.97**	**312**	P		**Pb**	**17 43 35.2**	**-0.5**
JAG	**Ashikaga**	**0.99**	**250**	P		**Pb**	**17 43 35.3**	**-0.8**
MJAR	**Matsushiro Arr** 2.6nm,0.3s,baz=86,slow=16,SNR=163	**1.94**	**264**	Pn		**Pn**	**17 43 50.6**	**+1.0**
MJAR				Sn		**Sb**	**17 44 15.4**	**-0.9**
H11N2	**WAKE ISLAND Hy** 5.1nm,0.3s,baz=214,slow=20,SNR=6.4 baz=312,slow=75,SNR=141	**28.57**	**119**	T		T	18 18 58.1	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=149	**28.58**	**119**	T		T	18 19 00.3	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=98	**28.59**	**119**	T		T	18 19 01.1	
H11S1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=292	**29.26**	**121**	T		T	18 19 51.1	
H11S3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=184	**29.28**	**121**	T		T	18 19 51.7	
H11S2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=344	**29.28**	**121**	T		T	18 19 52.8	
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=90,slow=8.6,SNR=2.0 0.3nm,0.7s	**43.72**	**302**	P		**P**	**17 51 21.7**	**0.0**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=2.0,slow=7.4,SNR=6.9 0.5nm,0.7s	**56.71**	**187**	P		**P**	**17 52 59.3**	**-1.0**
ASAR	**Alice Springs** 0.3nm,0.9s,baz=8.9,slow=6.6,SNR=2.6 0.3nm,0.9s	**60.44**	**187**	P		**P**	**17 53 27.4**	**+1.2**

JMA 28 18:14:05.4±0.4, 36°N±1'×14°1E±', h34km±2km, MV1.2/19, NEAR CHOSHI CITY, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.35**	**261**	*e* P		Pn	18 14 14.3	+0.1
JIHU	**Itakohorinouch**	**0.39**	**314**	P		Pn	18 14 14.6	-0.1
JIHU				*e* S		Sn	18 14 21.7	+1.0
JYT	**Yasato**	**0.76**	**314**	*e* P		Pn	18 14 19.3	-0.5

ROM 28 18:27:08.0±0.4, 42.90N±0.01×13.16E±0.01, h10km±1km, ML1.7/11, 3C-5D, Error ellipse: s-maj=1.0km s-min=1.0km az=323.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.03**	**70**	P		Pg	18 27 10.1	0.0
MC2				S		Sg	18 27 11.5	0.0
T1245	**Castelsantange**	**0.05**	**153**	P		Pg	18 27 10.3	+0.1
T1245				AML		AML		
	comp=N,409μm,1.3s							

T1245 AML AML
comp=E,358μm,1.2s
T1245 AML AML
comp=N,355μm,1.3s
T1245 AML AML
comp=N,409μm,1.3s
T1245 AML AML
comp=E,402μm,1.2s
T1216 Preci, Frazion 0.10 263 P Pg 18 27 11.0 +0.4
T1216 S Sg 18 27 13.1 +0.6
T1216 AML AML
comp=E,214μm,0.4s
T1216 AML AML
comp=N,185μm,0.2s
T1216 AML AML
comp=N,184μm,0.2s
FDMO Fiordimonte 0.14 339 P Pg 18 27 10.8 -0.4
FDMO S Sg 18 27 14.4 +0.9
T1212 Cascia, Frazio 0.17 208 ⇑P Pg 18 27 12.3 +0.6
T1219 Muccia, Frazio 0.19 324 P Pg 18 27 13.1 +1.1
T1219 S Sg 18 27 15.8 +1.1
CSP1 Cessapalombo 0.19 11 P Pg 18 27 12.8 +0.7
CSP1 S Sg 18 27 16.3 +1.4
CESI CESI - Serrava 0.21 299 P Pg 18 27 13.0 +0.6
CESI S Sg 18 27 16.9 +1.5
CESI AML AML
comp=N,90μm,0.3s
CESI AML AML
comp=E,48μm,1.4s
CESI AML AML
comp=E,48μm,0.6s
T1220 Camerino, Fraz 0.21 347 ⇓P Pg 18 27 11.1 -1.4
T1215 Vallo di Nera, 0.23 245 ⇑P Pg 18 27 13.4 +0.6
T1218 Civita (PG) 0.23 187 ⇓P Pg 18 27 13.3 +0.5
T1218 AML AML
comp=E,162μm,0.1s
T1218 AML AML
comp=N,162μm,0.3s
T1218 AML AML
comp=N,161μm,0.3s
T1218 AML AML
comp=E,162μm,0.1s
T1217 Poggiodomo (PG 0.25 221 ⇑P Pg 18 27 13.7 +0.5
LNSS Leonessa 0.31 196 ⇓P Pg 18 27 14.8 +0.5
LNSS AML AML
comp=E,61μm,1.1s
LNSS AML AML
comp=E,61μm,0.9s
LNSS AML AML
comp=N,85μm,0.1s
RM33 Pellescritta (0.40 174 ⇓P Pb 18 27 17.2 -0.1
RM33 AML AML
comp=E,416μm,0.3s
RM33 AML AML
comp=N,496μm,0.1s
RM33 AML AML
comp=N,474μm,0.1s
RM33 AML AML
comp=E,400μm,0.3s
RM33 AML AML
comp=N,496μm,1.9s
RM33 AML AML
comp=N,474μm,1.9s
T1211 Morro Reatino 0.43 211 S Sb 18 27 23.9 -0.6
TERO Teramo 0.43 130 ⇓P Pg 18 27 16.7 +0.2
TERO AML AML
comp=E,182μm,1.4s
TERO AML AML
comp=N,160μm,0.1s
TERO AML AML
comp=E,182μm,0.6s
TERO AML AML
comp=E,210μm,0.4s
TERO AML AML
comp=N,148μm,0.1s
FAGN Fagnano 0.71 153 P Pg 18 27 21.9 +0.1
FAGN AML AML
comp=E,568μm,0.4s
FAGN AML AML
comp=N,582μm,0.4s
FAGN AML AML
comp=E,568μm,1.6s
LPEL Lama dei Pelig 1.15 138 S Sn 18 27 50.5 +4.4
LPEL AML AML
comp=E,48μm,1.5s
LPEL AML AML
comp=N,38μm,0.1s

ROM 28 18:27:25.8±0.1, 42°.380N±0°.003×13°.343E±0°.004, h10km, ML1.6/7, 3C, Error ellipse: s-maj=0.3km s-min=0.2km az=174.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.05**	**121**	P	Pg	18 27 28.3	+0.5
AQU				S	Sg	18 27 29.8	+0.4
T1247	**Pizzolo (AQ)**	**0.07**	**332**	P	Pg	18 27 28.6	+0.5
T1247				S	Sg	18 27 30.5	+0.7
RM33	**Pellescritta (**	**0.16**	**324**	P	Pg	18 27 30.1	+0.7
RM33				S	Sg	18 27 32.9	+0.9
RM33				AML	AML		
	comp=E,400μm,0.3s						
RM33				AML	AML		
	comp=N,474μm,0.1s						
RM33				AML	AML		
	comp=N,474μm,1.9s						
CAMP	**Campotosto**	**0.16**	**17**	P	Pg	18 27 30.0	+0.5
CAMP				S	Sg	18 27 32.8	+0.7
CAMP				AML	AML		
	comp=E,242μm,0.3s						
CAMP				AML	AML		
	comp=N,314μm,0.3s						
GIGS	**Gran Sasso**	**0.18**	**67**	P	Pg	18 27 30.2	+0.5
GIGS				S	Sg	18 27 33.2	+0.8
FIAM	**Fiamignano**	**0.20**	**236**	P	Pg	18 27 30.7	+0.6
FIAM				S	Sg	18 27 34.0	+1.1
FAGN	**Fagnano**	**0.21**	**122**	P	Pg	18 27 31.0	+0.8
FAGN				S	Sg	18 27 34.8	+1.6
T1222	**Castel Sant'An**	**0.23**	**276**	P	Pg	18 27 31.1	+0.6
T1222				S	Sg	18 27 35.0	+1.3
T1222				AML	AML		
	comp=E,218μm,1.6s						
T1222				AML	AML		
	comp=N,172μm,0.3s						
T1222				AML	AML		
	comp=E,218μm,0.4s						
SMA1	**SAN MARTINO**	**0.25**	**359**	P	Pg	18 27 31.6	+0.7
SMA1				S	Sb	18 27 35.9	-1.1
TERO	**Teramo**	**0.31**	**38**	⇑P	Pg	18 27 32.2	+0.2
TERO				AML	AML		
	comp=E,210μm,0.4s						
TERO				AML	AML		
	comp=N,160μm,0.1s						
LNSS	**Leonessa**	**0.32**	**315**	P	Pg	18 27 32.7	+0.5
LNSS				S	Sb	18 27 37.8	-1.1
LNSS				AML	AML		
	comp=E,139μm,0.4s						
LNSS				AML	AML		
	comp=N,140μm,1.0s						
LNSS				AML	AML		
	comp=N,140μm,1.0s						
T1218	**Civita (PG)**	**0.34**	**330**	P	Pg	18 27 33.0	+0.5
T1218				S	Sb	18 27 38.5	-0.9
T0110	**Collepietro**	**0.36**	**115**	P	Pb	18 27 33.6	-0.7
T0110				AML	AML		
	comp=E,124μm,0.3s						
T0110				AML	AML		
	comp=N,109μm,1.5s						
T0110				AML	AML		
	comp=N,109μm,0.5s						
PTQR	**Pietraquaria**	**0.36**	**173**	⇑P	Pg	18 27 33.3	+0.3
CERT	**Cerreto**	**0.51**	**212**	⇑P	Pg	18 27 35.8	+0.1

*BJI **28** 18:27:56.7±0.0, 40°.12N×142°.54E, h45km, mb4.4/39, mB4.8/18, Ms3.8/3, Ms7.3.7/3*
*NIED **28** 18:27:59.7, 40°.23N×142°.35E, h36km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.12; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-1.06; $M_{r\theta}$1.38; $M_{\theta\phi}$-0.36; $M_{r\phi}$1.37; Fault plane solution: M_o2.25000×10^{15} NP1:ϕ_s41.00000°, δ76.00000°, λ102.00000°. NP2:ϕ_s180.00000°, δ19.00000°, λ51.00000°.*
*JMA **28** 18:27:59.7±0.1, 40°.2N±0°.2×142°.4E±0°.6, h36km, MD4.2/40, MJ4.7/40, NE OFF IWATE PREF*
JMA Felt II J1 at NE OFF IWATE PREF .
*MOS **28** 18:27:59.5±0.9, 40°.33N×142°.28E, h53km, mb4.6/24, Error ellipse: s-maj=8.4km s-min=5.3km az=98.6*
*NEIC **28** 18:28:00.8±1.4, 40°.23N±0°.03×142°.23E±0°.07, h51km±7km, mb4.6/91, Error ellipse: s-maj=8.9km s-min=2.8km az=63.0*
*IDC **28** 18:28:01.6±1.7, 40°.24N×142°.28E, h63km±14km, mb3.8/25, mbtmp4.1/32, MS3.3/14, Error ellipse: s-maj=15.5km s-min=10.2km az=112.0*

ISC 28 18:27:60.0±0.4, 40°.23N±0°.03×142°.33E±0°.04, h49km±3km, h49km:pP-P, n296, σ1§40/302, mb4.4/93, MS3.6/8, 11C-23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.46**	**231**	⇓*i*P	**Pn**	**18 28 09.9**	**-0.8**
JTH				⇓S	**Sn**	**18 28 17.0**	**-1.3**
JTH	**Tanohata**	**0.46**	**231**	A	A	18 28 09.9	
	comp=E,32nm,0.2s,comp=E,20nm,0.6s						
JKEN	**Kujiedanarisaw**	**0.47**	**267**	⇓*i*P	**Pn**	**18 28 09.8**	**-0.9**
JKEN				⇓S	**Sn**	**18 28 17.0**	**-1.5**
JKEN	**Kujiedanarisaw**	**0.47**	**267**	A	A	18 28 09.8	
	comp=E,16nm,1.2s,comp=E,22nm,1.6s						
JANG	**Nango**	**0.64**	**283**	⇓*i*P	**Pn**	**18 28 12.3**	**-0.5**
JANG				⇓S	**Sn**	**18 28 21.3**	**-0.8**
JANG	**Nango**	**0.64**	**283**	A	A	18 28 12.3	
	comp=E,10.0nm,0.4s,comp=E,14nm,1.3s						
MIYJ	**Miyakonagasawa**	**0.76**	**211**	*i* P	**Pn**	**18 28 13.8**	**-0.7**
MIYJ				S	**Sn**	**18 28 24.2**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.76**	**211**	A	A	18 28 13.8	
	comp=E,15nm,1.2s,comp=E,12nm,0.7s						
JKZ	**Kuzumaki**	**0.80**	**252**	⇓*i*P	**Pn**	**18 28 15.0**	**-0.1**
JKZ				⇓S	**Sn**	**18 28 25.9**	**-0.1**
JKZ	**Kuzumaki**	**0.80**	**252**	A	A	18 28 15.0	
	comp=E,14nm,0.3s,comp=E,19nm,0.2s						
JARK	**Aomorirokkasho**	**1.06**	**317**	⇓*i*P	**Pn**	**18 28 18.5**	**0.0**
JARK				⇓S	**Sn**	**18 28 32.4**	**+0.2**
JARK	**Aomorirokkasho**	**1.06**	**317**	A	A	18 28 18.5	
	comp=E,15nm,0.9s,comp=E,19nm,0.9s						
JOM	**Ohasama**	**1.10**	**227**	⇓*i*P	**Pn**	**18 28 19.2**	**+0.3**
JOM				⇓S	**Sn**	**18 28 33.6**	**+0.6**
JOM	**Ohasama**	**1.10**	**227**	A	A	18 28 19.2	
	comp=E,16nm,0.3s,comp=E,14nm,0.3s						
JTM	**Tenmabayashi**	**1.11**	**300**		**Pn**	**18 28 19.2**	**+0.2**
JTM				Sn	**Sn**	**18 28 33.1**	**-0.1**
JTM	**Tenmabayashi**	**1.11**	**300**	P	**Pn**	**18 28 19.3**	**+0.2**
JTM	**Tenmabayashi**	**1.11**	**300**	⇓*i*P	**Pn**	**18 28 19.2**	**+0.2**
JTM				⇓S	**Sn**	**18 28 33.6**	**+0.4**
JTM	**Tenmabayashi**	**1.11**	**300**	A	A	18 28 19.2	
	comp=E,5.0nm,1.5s,comp=E,10.0nm,3.2s						
JSZI	**Iwateshizukuis**	**1.16**	**246**	A	A	18 28 20.7	
	comp=E,25nm,0.3s,comp=E,21nm,0.9s						
OFUJ	**Ofunato**	**1.26**	**204**	A	A	18 28 21.4	
	comp=E,7.0nm,2.0s,comp=E,5.0nm,1.0s						
JAHD	**Aomorihigashid**	**1.28**	**324**	A	A	18 28 21.9	
	comp=E,18nm,1.4s,comp=E,16nm,1.3s						
JAH	**Hinai**	**1.29**	**269**	⇓*i*P	**Pn**	**18 28 22.2**	**+0.5**
JAH				⇓*e*S	**Sn**	**18 28 39.1**	**+1.3**
JAH	**Hinai**	**1.29**	**269**	A	A	18 28 22.2	
	comp=E,10.0nm,0.4s,comp=E,7.0nm,1.7s						
JOT	**Ohata**	**1.50**	**320**	P	**Pn**	**18 28 24.4**	**0.0**
JOT				*e*S	**Sn**	**18 28 43.6**	**+0.7**
JOT	**Ohata**	**1.50**	**320**	A	A	18 28 24.4	
	comp=E,3.0nm,3.0s,comp=E,4.0nm,1.6s						
JMK	**Ichinoseki**	**1.54**	**214**	P	**Pn**	**18 28 25.4**	**+0.4**
JMK	**Ichinoseki**	**1.54**	**214**	A	A	18 28 25.4	
	comp=E,7.0nm,0.3s,comp=E,6.0nm,0.2s						
JRG	**Rokugo**	**1.55**	**238**	*i* P	**Pn**	**18 28 26.1**	**+1.0**
JRG				*e*S	**Sn**	**18 28 46.5**	**+2.5**
JRG	**Rokugo**	**1.55**	**238**	A	A	18 28 26.1	
	comp=E,7.0nm,0.3s,comp=E,4.0nm,0.5s						
JHHS	**Hirosakihyakuz**	**1.56**	**286**	A	A	18 28 26.1	
	comp=E,8.0nm,2.5s,comp=E,9.0nm,4.2s						
JSI2	**Shiura 2**	**1.67**	**300**	A	A	18 28 27.8	
	comp=E,6.0nm,2.7s,comp=E,5.0nm,2.0s						
JYW	**Yuwa**	**1.77**	**248**	A	A	18 28 29.1	
	comp=E,8.0nm,3.6s,comp=E,12nm,1.3s						
ERM	**Erimo**	**1.89**	**19**	Pn	**Pn**	**18 28 30.3**	**+0.6**
ERM	**Erimo**	**1.89**	**19**	P	**Pn**	**18 28 30.9**	**+1.2**
ERM	**Erimo**	**1.89**	**19**	P	**Pn**	**18 28 30.3**	**+0.6**
JEM	**Erimo**	**1.89**	**19**	P	**Pn**	**18 28 31.0**	**+1.3**
JYK	**Kaneyama**	**2.01**	**230**	A	A	18 28 32.5	
	comp=E,3.0nm,1.4s,comp=E,3.0nm,5.0s						
JNBK	**Urakawa-nobuka**	**2.07**	**9**	A	A	18 28 33.4	
	comp=E,3.0nm,0.5s,comp=E,5.0nm,0.5s						
JOU	**Okura**	**2.27**	**215**	A	A	18 28 36.1	
	comp=E,4.0nm,3.4s,comp=E,4.0nm,2.3s						
JYA	**Atsumi**	**2.60**	**232**	A	A	18 28 41.0	
	comp=E,7.0nm,1.6s,comp=E,4.0nm,1.5s						
JMM	**Marumori**	**2.65**	**207**		**Pn**	**18 28 40.6**	**+0.4**
JMM				Sn	**Sn**	**18 29 11.9**	**+0.9**
JMM	**Marumori**	**2.65**	**207**	P	**Pn**	**18 28 42.0**	**+1.9**
JYS	**Shirataka**	**2.67**	**222**	A	A	18 28 41.9	
	comp=E,7.0nm,2.9s,comp=E,6.0nm,2.9s						
JYAR	**Yonezawaarcadi**	**2.87**	**217**	A	A	18 28 44.8	
	comp=E,6.0nm,1.0s,comp=E,6.0nm,1.1s						
JSD	**Sado**	**3.85**	**237**	Pn	**Pn**	**18 28 56.8**	**+0.2**
JSD	**Sado**	**3.85**	**237**	P	**Pn**	**18 28 58.1**	**+1.5**
JKA	**Kamikawa-asahi**	**3.89**	**3**	Pn	**Pn**	**18 28 57.5**	**+0.4**
ASAJ	**Asahikawa**	**3.89**	**3**	P	**Pn**	**18 28 58.0**	**+0.9**
	26nm,0.3s,baz=207,slow=16,SNR=28						
ASAJ				S	**Sn**	**18 29 43.4**	**+1.9**
	39nm,0.4s,baz=357,slow=34,SNR=1.5						
ASAJ				LR	LR	18 30 13.0	
	comp=Z,97nm,20.5s,baz=172,slow=34						
NMR	**Nemuro--Hokkai**	**4.04**	**38**	*e*P	**Pn**	**18 28 57.4**	**-1.8**
NMR				*e*S	**Sn**	**18 29 39.7**	**-5.4**
YUK	**Yuzh-Kuril'sk**	**4.62**	**34**	*e*P	**Pn**	**18 29 06.3**	**-0.9**
YUK				*e*S	**Sn**	**18 29 55.6**	**-3.9**
YUK				pmax	pmax		
	comp=E,56nm,0.2s						
YUK				pmax	pmax		
	comp=Z,172nm,0.2s						
YUK				pmax	pmax		
	comp=N,63nm,0.4s						
YUK				smax	smax		
	comp=N,717nm,0.4s						
YUK				smax	smax		
	comp=E,179nm,0.3s						
MAJO	**Matsushiro**	**4.90**	**223**	Pn	**Pn**	**18 29 13.6**	**+2.5**
MAJO	**Matsushiro**	**4.90**	**223**	P	**Pn**	**18 29 14.2**	**+3.1**
MAJO	**Matsushiro**	**4.90**	**223**	*d*P	**Pn**	**18 29 14.1**	**+3.0**
MJAR	**Matsushiro Arr**	**4.90**	**223**	P	**Pn**	**18 29 13.9**	**+2.7**
	comp=E,10nm,0.5s,baz=34,slow=14,SNR=75						
MJAR				S	Sn	18 30 17.1	+11
	comp=E,2.3nm,0.3s,baz=253,slow=19,SNR=4.1						
MJAR				LR	LR	18 31 21.0	
	comp=E,156nm,20.2s,baz=62,slow=41						
JGF	**Kuroka**	**6.07**	**222**	Pn	**Pn**	**18 29 29.2**	**+2.1**
JGF	**Kuroka**	**6.07**	**222**	P	**Pn**	**18 29 31.3**	**+4.2**
INU	**Inuyama**	**6.44**	**222**	Pn	**Pn**	**18 29 33.1**	**+1.0**
INU	**Inuyama**	**6.44**	**222**	P	**Pn**	**18 29 36.1**	**+4.0**
KUR	**Kuril'sk**	**6.45**	**37**	*e*P	**Pn**	**18 29 28.1**	**-4.2**
KUR				*e*S	**Sn**	**18 30 41.6**	**-2.9**
KUR				smax	smax		
	comp=N,118nm,0.5s						
KUR				smax	smax		
	comp=E,257nm,0.5s						
JSG	**Sagara**	**6.45**	**212**	Pn	**Pn**	**18 29 34.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**6.73**	**3**	Pn	**Pn**	**18 29 35.4**	**-0.7**
YSS	**Yuzh-Sakhalins**	**6.73**	**3**	*e*P	**Pn**	**18 29 36.6**	**+0.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
JHJ	**Hachijo jima 2**	**7.39**	**197**	P	**Pn**	**18 29 42.6**	**-2.6**
	comp=Z,40nm,0.4s,baz=9.0,slow=19,SNR=16						
JHJ				S	**Sn**	**18 31 02.9**	**-4.8**
	comp=Z,85nm,0.7s,baz=72,slow=21,SNR=1.8						
JHJ2	**Mitsune**	**7.39**	**197**	Pn	**Pn**	**18 29 42.7**	**-2.5**
JHJ2	**Mitsune**	**7.39**	**197**	P	**Pn**	**18 29 45.4**	**+0.2**
USA0B	**Ussuriysk Arra**	**8.63**	**301**		**Pn**	**18 30 02.4**	**+0.3**
USA0B	**Ussuriysk Arra**	**8.63**	**301**	⇑*e*P	**Pn**	**18 30 04.2**	**+2.0**
USRK	**Ussuriysk Ar.**	**8.63**	**301**	P	**Pn**	**18 30 04.5**	**+2.3**
	comp=Z,12nm,0.7s,baz=105,slow=14,SNR=14						
USRK				LR	LR	18 33 09.9	
	comp=Z,171nm,20.9s,baz=102,slow=36						
USRK	**Ussuriysk Ar.**	**8.63**	**301**		**Pn**	**18 30 02.4**	**+0.3**
JHS	**Saijyo**	**8.98**	**237**	Pn	**Pn**	**18 30 08.1**	**+1.1**
JMN	**Monobe**	**9.37**	**229**	Pn	**Pn**	**18 30 12.0**	**-0.3**
MDJ	**Mudanjiang**	**10.38**	**299**		**Pn**	**18 30 25.8**	**-0.3**
MDJ	**Mudanjiang**	**10.38**	**299**	P	**Pn**	**18 30 27.8**	**+1.7**
MDJ				sP		18 30 43.5	
MDJ				S	**Sn**	**18 32 20.0**	**-0.9**
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,180nm,4.2s						
MDJ				LR	LR		
	comp=Z,340nm,4.1s						
MDJ				LR	LR		
	comp=Z,160nm,5.0s						
MDJ				LR	LR		
	comp=Z,360nm,6.7s						
KSRS	**Korea Array**	**11.57**	**261**	P	**Pn**	**18 30 45.3**	**+2.9**
	comp=Z,0.8nm,0.6s,baz=69,slow=14,SNR=4.7						
KSRS				LR	LR	18 34 47.5	
	comp=Z,97nm,20.2s,baz=70,slow=35						
KS19	**Wonju Array Si**	**11.60**	**261**	Pn	**Pn**	**18 30 42.5**	**-0.3**
KSAR	**Wonju Array Be**	**11.60**	**261**	Pn	**Pn**	**18 30 41.4**	**-1.4**
KSAR	**Wonju Array Be**	**11.60**	**261**	P	**Pn**	**18 30 41.4**	**-1.4**
JNU	**Nakatsue**	**11.61**	**236**	P	**Pn**	**18 30 44.4**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=230,slow=20,SNR=2.2						
JNU	**Nakatsue**	**11.61**	**236**	Pn	**Pn**	**18 30 41.5**	**-1.5**
KLR	**Kul'dur**	**11.71**	**324**	P	**Pn**	**18 30 44.7**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=135,slow=13,SNR=3.7						
KLR				LR	LR	18 35 20.4	
	comp=Z,147nm,19.0s,baz=132,slow=38						
KLR	**Kul'dur**	**11.71**	**324**	⇑*e*P	**Pn**	**18 30 45.6**	**+1.3**
KLR				pmax	pmax		
	comp=Z,19nm,3.5s						
JSU	**Suzuyama**	**12.97**	**232**	P	**Pn**	**18 31 03.0**	**+1.4**
CN2	**Changchun**	**13.05**	**291**	P	**P**	**18 31 11.8**	**+0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JCJ	**Chichijima**	**13.10**	**181**	P	**Pn**	**18 31 03.4**	**0.0**
	comp=Z,50nm,0.7s,baz=170,slow=18,SNR=2.0						
JCJ				S	Sn	18 33 17.3	-10
	comp=Z,30nm,0.7s,baz=315,slow=21,SNR=1.1						
JCJ				LR	LR	18 36 55.6	
	comp=Z,22nm,19.8s,baz=94,slow=41						
PETK	**Petropavlovsk-**	**16.60**	**34**	LR	LR	18 37 56.7	
	comp=Z,86nm,20.1s,baz=165,slow=36						
ZEA	**Zeya**	**16.93**	**328**	*e*P	**Pn**	**18 31 52.0**	**-1.2**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JOW	**Kunigami**	**17.74**	**225**		**Pn**	**18 32 03.2**	**-0.2**
JOW				IAmb	IAmb	18 32 04.0	
	comp=Z,60nm,1.5s						
XLT	**XiLinHaoTe**	**19.80**	**289**	⇓*i*P	**P**	**18 32 24.8**	**-1.4**
XLT				pP	pP	18 32 33.8	-3.7
XLT				sP	sP	18 32 40.0	-3.7
XLT				pmax	pmax		
	comp=Z,7.0nm,1.2s						
XLT				pmax	pmax		
	comp=Z,120nm,5.6s						
BJI	**Beijing**	**19.98**	**278**	P	**P**	**18 32 26.8**	**-1.3**
BJI				pP	**pP**	**18 32 38.8**	**-0.6**
BJI				sP	**sP**	**18 32 41.8**	**-3.8**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BJT	**Baijiatuau**	**19.98**	**278**	P	**P**	**18 32 26.6**	**-1.6**
BJT	**Baijiatuau**	**19.98**	**278**	P	**P**	**18 32 26.6**	**-1.6**
BJT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MA2	**Magadan**	**20.08**	**13**	P	**P**	**18 32 27.8**	**-1.3**
	comp=Z,2.9nm,0.5s,baz=195,slow=10,SNR=8.2						
	comp=Z,2.9nm,0.5s						
MA2	**Magadan**	**20.08**	**13**	P	**P**	**18 32 29.1**	**0.0**
MA2	**Magadan**	**20.08**	**13**	⇓*e*P	**P**	**18 32 30.0**	**+0.9**
MA2				pmax	pmax		
	comp=Z,13nm,1.7s						
NJ2	**Nanjing**	**20.60**	**254**	*e*P	**P**	**18 32 35.8**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
HNS	**HongShan**	**21.67**	**271**	*e*P	**P**	**18 32 43.5**	**-2.9**
YAK	**Yakutsk**	**23.14**	**345**	P	**P**	**18 32 58.4**	**-3.2**
	comp=Z,12nm,0.6s,baz=7.4,slow=0.6,SNR=16						
YAK				S	**S**	**18 37 02.0**	**-7.1**
	comp=Z,0.9nm,0.4s,baz=348,slow=1.9,SNR=1.2						
YAK	**Yakutsk**	**23.14**	**345**	P	**P**	**18 32 58.5**	**-3.2**
YAK				IAmb	IAmb	18 33 01.4	
	comp=Z,23nm,0.7s						
YAK	**Yakutsk**	**23.14**	**345**	*e*P	**P**	**18 32 59.2**	**-2.4**
YAK				*e**PP	**pP**	**18 33 10.5**	**-2.6**
YAK				*e*S	**S**	**18 37 05.6**	**-3.6**
YAK				*e**SS	Sn	18 37 22.4	-6.9
YAK				pmax	pmax		
	comp=Z,20nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,111nm,3.1s						
YAK				pmax	pmax		
	comp=N,64nm,2.8s						
YAK				pmax	pmax		
	comp=E,64nm,3.3s						
YAK				smax	smax		
	comp=N,103nm,3.3s						
HHC	**Hu-ho-hao-te**	**23.33**	**282**	*e*P	**P**	**18 33 03.5**	**-0.4**
HHC				pmax	pmax		
	comp=N,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=N,260nm,5.6s						
YHNB	**Yeheng**	**23.44**	**235**	P	**P**	**18 33 02.9**	**-2.1**
YHNB				IAmb	IAmb	18 33 21.7	
	comp=Z,38nm,1.2s						
SEY	**Seymchan**	**23.52**	**12**	P	**P**	**18 33 03.1**	**-2.2**
	comp=Z,1.3nm,0.5s,baz=187,slow=8.2,SNR=11						
SEY	**Seymchan**	**23.52**	**12**	⇑*i*P	**P**	**18 33 06.1**	**+0.8**
SEY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SSLB	**Suanglung**	**24.34**	**234**	P	**P**	**18 33 11.7**	**-1.6**
SSLB				IAmb	IAmb	18 33 27.2	
	comp=Z,34nm,1.5s						
YULB	**Yu-li**	**24.42**	**233**	P	**P**	**18 33 11.8**	**-2.2**
YULB				IAmb	IAmb	18 33 24.1	
	comp=Z,30nm,1.4s						
TPUB	**Ta-pu**	**24.90**	**234**	P	**P**	**18 33 17.3**	**-1.0**
TWG	**Pinlang**	**24.99**	**232**	P	**P**	**18 33 17.6**	**-1.5**
BOD	**Bodaibo**	**25.29**	**324**	*e*P	**P**	**18 33 21.5**	**-0.1**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**26.30**	**299**	P	**P**	**18 33 29.7**	**-1.3**
ULN	**Ulaanbaatar**	**26.30**	**299**	⇓*e*P	**P**	**18 33 30.7**	**-0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.0s						
SONM	**Songino Array**	**26.74**	**299**	P	**P**	**18 33 34.6**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=102,slow=7.8,SNR=24						
SONM				LR	LR	18 44 34.5	
	comp=Z,98nm,19.1s,baz=354,slow=37						
	comp=Z,2.4nm,0.6s						
SONM	**Songino Array**	**26.74**	**299**	P	**P**	**18 33 35.5**	**+0.6**
SONM	**Songino Array**	**26.74**	**299**	P	**P**	**18 33 35.5**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ENH	**Enshi**	**28.46**	**260**	P	**P**	**18 33 49.5**	**-0.9**
ZAK	**Zakamensk**	**28.97**	**304**	*e*P	**P**	**18 33 54.1**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**29.34**	**127**	T	T	19 04 47.2	
	baz=318,slow=75,SNR=414						
H11N1	**WAKE ISLAND Hy**	**29.34**	**127**	T	T	19 04 42.7	
	baz=318,slow=75,SNR=453						
H11N3	**WAKE ISLAND Hy**	**29.35**	**127**	T	T	19 04 43.3	
	baz=318,slow=75,SNR=536						
H11S1	**WAKE ISLAND Hy**	**30.15**	**129**	T	T	19 05 57.6	
	baz=321,slow=76,SNR=136						
H11S3	**WAKE ISLAND Hy**	**30.15**	**129**	T	T	19 05 57.6	
	baz=321,slow=76,SNR=80						
H11S2	**WAKE ISLAND Hy**	**30.17**	**129**	T	T	19 06 00.1	
	baz=321,slow=76,SNR=64						
LZH	**Lanzhou**	**30.38**	**275**	*e*P	**P**	**18 34 10.5**	**+3.0**
LZH				pP	pP	18 34 18.0	-2.1
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
BILL	**Bilibino**	**

GTA	**Gaotai**	**32.44**	**283**	*e*P		**P**	**18 34 26.5**	**+1.0**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
GYA	**Guiyang**	**32.57**	**256**	P		**P**	**18 34 26.3**	**-0.5**
GYA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
PZH	**PanZhiHua**	**36.24**	**260**	P		**P**	**18 34 58.3**	**-0.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,90nm,5.1s							
GOMU	**GeErMu**	**37.20**	**279**	P		**P**	**18 35 07.5**	**+0.6**
GOMU				pmax		pmax		
	comp=Z,4.0nm,0.9s							
GOMU				pmax		pmax		
	comp=Z,74nm,5.7s							
TNA	**Tin City**	**37.74**	**31**	P		**P**	**18 35 10.9**	**+0.4**
TNA				IAmb		IAmb	18 35 17.8	
	comp=Z,4.8nm,0.9s							
ANM	**Nome**	**38.52**	**33**	P		**P**	**18 35 18.8**	**+1.6**
ANM				IAmb		IAmb	18 35 34.6	
	comp=Z,5.1nm,0.8s							
ANM	**Nome**	**38.52**	**33**	P		**P**	**18 35 18.8**	**+1.6**
ANM				pmax		pmax		
	comp=Z,5.0nm,0.8s							
DGZ	**Jazzator, Alta**	**39.18**	**303**	*ce*P		**P**	**18 35 24.4**	**+1.3**
DGZ				pmax		pmax		
	comp=Z,19nm,0.7s							
SDPT	**Sand Point**	**40.09**	**48**	P		**P**	**18 35 32.6**	**+2.2**
WMQ	**Urumqi**	**40.12**	**294**	*e*P		**P**	**18 35 32.0**	**+1.1**
WMQ				pP		pP	18 35 44.3	+0.5
WMQ				pmax		pmax		
	comp=Z,8.0nm,1.1s							
RDOG	**Red Dog Mine**	**40.34**	**28**	P		**P**	**18 35 32.2**	**-0.1**
ZAA0	**Zalesovo Array**	**40.36**	**310**	P		**P**	**18 35 32.3**	**-0.4**
ZALV	**Zalesovo Beam**	**40.36**	**310**	P		**P**	**18 35 32.5**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=86,slow=7.8,SNR=16							
ZALV				PcP		**PcP**	**18 37 35.5**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=106,slow=2.4,SNR=4.3							
	comp=Z,1.6nm,0.3s							
ZALV	**Zalesovo Beam**	**40.36**	**310**	P		**P**	**18 35 32.0**	**-0.6**
NRIK	**Noril'sk**	**40.69**	**334**	P		**P**	**18 35 35.0**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=140,slow=7.9,SNR=2.3							
	comp=Z,1.1nm,0.3s							
NRIK	**Noril'sk**	**40.69**	**334**	P		**P**	**18 35 35.0**	**-0.2**
NRIK				IAmb		IAmb	18 36 16.4	
	comp=Z,9.2nm,1.4s							
NRIK	**Noril'sk**	**40.69**	**334**	P		**P**	**18 35 35.0**	**-0.2**
NRIK				pmax		pmax		
	comp=Z,9.0nm,1.4s							
PHRA	**Phrae**	**42.10**	**252**	P		**P**	**18 35 46.6**	**-0.7**
SVW2	**Sparrevohn**	**42.57**	**39**	P		**P**	**18 35 52.1**	**+1.4**
SVW2				IAmb		IAmb	18 36 00.0	
	comp=Z,14nm,1.5s							
CMAR	**Chiang Mai Arr**	**43.06**	**253**	P		**P**	**18 35 54.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=38,slow=7.9,SNR=5.4							
	comp=Z,0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**43.06**	**253**	*i* P		**P**	**18 35 57.0**	**+1.8**
MK31	**Makanchi Array**	**43.10**	**299**	P		**P**	**18 35 54.6**	**-0.6**
MK31	**Makanchi Array**	**43.10**	**299**	*c i* P		**P**	**18 35 55.2**	**0.0**
MKAR	**Makanchi Array**	**43.10**	**299**	P		**P**	**18 35 55.3**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=85,slow=9.9,SNR=48							
MKAR				LR		LR	18 54 31.2	
	comp=Z,76nm,19.1s,baz=335,slow=37							
	comp=Z,2.1nm,0.4s							
MKAR	**Makanchi Array**	**43.10**	**299**	P		**P**	**18 35 54.8**	**-0.4**
MAKZ	**Makanchi**	**43.30**	**300**	P		**P**	**18 35 56.5**	**-0.4**
MAKZ	**Makanchi**	**43.30**	**300**	P		**P**	**18 35 56.5**	**-0.4**
MAKZ				pmax		pmax		
	comp=Z,5.0nm,1.1s							
K20K	**Telida**	**43.31**	**36**	P		**P**	**18 35 58.0**	**+1.4**
IMAR	**Indian Mountai**	**43.55**	**32**	P		**P**	**18 36 00.1**	**+1.6**
TOLI2	**Tolitoli**	**43.59**	**212**	P		**P**	**18 35 59.1**	**-0.2**
TOLI2				IAmb		IAmb	18 36 38.7	
	comp=Z,6.7nm,0.7s							
PPLA	**Purkeypile**	**44.16**	**37**	P		**P**	**18 36 05.3**	**+1.7**
PPLA				IAmb		IAmb	18 36 24.3	
	comp=Z,14nm,1.4s							
CAST	**Castle Rocks**	**44.20**	**36**	P		**P**	**18 36 05.3**	**+1.5**
SPU	**Mount Spurr**	**44.28**	**39**	P		**P**	**18 36 03.8**	**-0.7**
KURK	**Kurchatov**	**44.58**	**306**	P		**P**	**18 36 06.6**	**-0.4**
KURK				IAmb		IAmb	18 36 10.8	
	comp=Z,7.8nm,0.8s							
KURK	**Kurchatov**	**44.58**	**306**	P		**P**	**18 36 06.6**	**-0.4**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KTH	**Kantishna Hill**	**44.72**	**36**	P		**P**	**18 36 09.1**	**+1.0**
KTH				IAmb		IAmb	18 36 25.4	
	comp=Z,11nm,1.1s							
CAPN	**Captain Cook N**	**44.75**	**40**	P		**P**	**18 36 11.5**	**+3.4**
CNPM	**China Poot**	**44.81**	**42**	P		**P**	**18 36 10.3**	**+1.7**
SUA	**Susitna One**	**44.90**	**39**	P		**P**	**18 36 10.3**	**+0.8**
SUA				IAmb		IAmb	18 36 28.1	
	comp=Z,6.9nm,1.0s							
BRLK	**Bradley Lake**	**44.96**	**41**	P		**P**	**18 36 11.7**	**+1.8**
TRF	**Thorofare Moun**	**45.01**	**36**	P		**P**	**18 36 11.2**	**+0.8**
COLD	**Coldfoot**	**45.03**	**31**	P		**P**	**18 36 11.3**	**+1.0**
COLD				IAmb		IAmb	18 36 27.7	
	comp=Z,5.8nm,1.1s							
CUT	**Chulitna**	**45.06**	**37**	P		**P**	**18 36 10.8**	**+0.1**
CUT				IAmb		IAmb	18 36 12.4	
	comp=Z,12nm,1.0s							
NEA2	**Nenana**	**45.50**	**34**	P		**P**	**18 36 14.7**	**+0.6**
NEA2				IAmb		IAmb	18 36 24.1	
	comp=Z,4.7nm,0.7s							
MCK	**McKinley**	**45.60**	**35**	P		**P**	**18 36 15.6**	**+0.7**
MCK	**McKinley**	**45.60**	**35**	P		**P**	**18 36 15.6**	**+0.7**
MCK				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SEW	**Seward**	**45.65**	**41**	P		**P**	**18 36 17.6**	**+2.3**
MDM	**Murphy Dome**	**45.85**	**34**	P		**P**	**18 36 17.8**	**+0.9**
KNK	**Knik Glacier**	**45.99**	**39**	P		**P**	**18 36 18.6**	**+0.5**
KNK				IAmb		IAmb	18 36 51.8	
	comp=Z,21nm,1.4s							
SML	**Sawmill**	**46.02**	**38**	P		**P**	**18 36 18.2**	**-0.1**
SML				IAmb		IAmb	18 36 34.7	
	comp=Z,20nm,1.4s							
PWL	**Port Wells**	**46.11**	**39**	P		**P**	**18 36 18.6**	**-0.4**
DHY	**Denali Highway**	**46.34**	**36**	P		**P**	**18 36 20.2**	**-0.7**
DHY				IAmb		IAmb	18 37 00.3	
	comp=Z,7.5nm,1.5s							
HDA	**Harding Lake**	**46.43**	**34**	P		**P**	**18 36 21.7**	**+0.3**
HDA				IAmb		IAmb	18 36 43.7	
	comp=Z,4.6nm,1.0s							
IL31		**46.43**	**34**	P		**P**	**18 36 20.4**	**-1.0**
IL31				IAmb		IAmb	18 36 46.2	
	comp=Z,8.1nm,1.4s							
ILAR	**Eielson Array**	**46.43**	**34**	P		**P**	**18 36 21.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=264,slow=6.2,SNR=15							
	comp=Z,0.6nm,0.6s							
ILAR	**Eielson Array**	**46.43**	**34**	P		**P**	**18 36 22.0**	**+0.6**
ILAR	**Eielson Array**	**46.43**	**34**	P		**P**	**18 36 22.0**	**+0.6**
SCM	**Sheep Creek Mo**	**46.49**	**38**	P		**P**	**18 36 22.8**	**+0.8**
SCM	**Sheep Creek Mo**	**46.49**	**38**	P		**P**	**18 36 22.8**	**+0.8**
SCM				pmax		pmax		
	comp=Z,21nm,1.3s							
TAPN	**Taplejung**	**46.50**	**271**	*e*P		**P**	**18 36 22.8**	**0.0**
	comp=Z,3.0nm,0.4s							
PRP	**Porcupine Dome**	**46.95**	**33**	P		**P**	**18 36 26.3**	**+0.7**
PRP				IAmb		IAmb	18 36 36.3	
	comp=Z,7.4nm,1.0s							
FYU	**Fort Yukon**	**47.00**	**31**	P		**P**	**18 36 27.0**	**+1.2**
FYU				IAmb		IAmb	18 36 46.5	
	comp=Z,18nm,1.4s							
M24K	**Tolsona, Glenn**	**47.00**	**38**	P		**P**	**18 36 27.8**	**+1.8**
M24K				IAmb		IAmb	18 36 38.5	
	comp=Z,15nm,1.1s							
KLU	**Klutina**	**47.20**	**38**	P		**P**	**18 36 28.4**	**+0.8**
KLU				IAmb		IAmb	18 36 44.6	
	comp=Z,12nm,1.1s							
BMAR	**Burnt Mountain**	**47.20**	**30**	P		**P**	**18 36 29.0**	**+1.6**
RIDG	**Independent Ri**	**47.41**	**35**	P		**P**	**18 36 30.1**	**+0.9**
RIDG				IAmb		IAmb	18 37 08.6	
	comp=Z,13nm,1.4s							
EYAK	**Cordova Ski Ar**	**47.41**	**40**	P		**P**	**18 36 30.1**	**+1.0**
JIRN	**Jiri**	**47.51**	**273**	*e*P		**P**	**18 36 31.1**	**+0.3**
	comp=Z,4.5nm,0.2s							
RAMN	**Ramite**	**47.56**	**272**	*e*P		**P**	**18 36 29.8**	**-1.2**
	comp=Z,2.3nm,0.2s							
GUN	**Gumba**	**47.62**	**273**	*e*P		**P**	**18 36 32.2**	**+0.6**
	comp=Z,18nm,0.5s							
SCRK	**Sand Creek**	**47.76**	**35**	P		**P**	**18 36 32.2**	**+0.2**
SCRK				IAmb		IAmb	18 36 48.5	
	comp=Z,4.6nm,1.0s							
DOT	**Dot Lake**	**47.77**	**35**	P		**P**	**18 36 31.5**	**-0.4**

PKI	**Pulchoki**	**48.15**	**273**	*e*P		**P**	**18 36 34.9**	**-0.8**
PKIN	**Phulchoki**	**48.16**	**273**	*e*P		**P**	**18 36 35.4**	**-0.3**
DMN	**Daman**	**48.36**	**273**	*e*P		**P**	**18 36 36.2**	**-1.0**
	comp=Z,2.9nm,0.3s							
VRDI	**Verde Repeater**	**48.41**	**38**	P		**P**	**18 36 37.7**	**+0.6**
GKN	**Gorkha**	**48.52**	**274**	*e*P		**P**	**18 36 38.4**	**0.0**
	comp=Z,5.9nm,0.3s							
L27K	**Beaver Creek,**	**48.85**	**36**	P		**P**	**18 36 41.9**	**+1.6**
L27K				IAmb		IAmb	18 36 49.2	
	comp=Z,4.3nm,1.1s							
EGAK	**Eagle**	**48.87**	**34**	P		**P**	**18 36 41.4**	**+1.1**
EGAK				IAmb		IAmb	18 36 50.5	
	comp=Z,5.0nm,0.9s							
BCAR	**Beaver Creek A**	**48.87**	**36**	P		**P**	**18 36 41.9**	**+1.5**
DANN	**Dangsing**	**49.02**	**275**	*e*P		**P**	**18 36 43.0**	**+0.7**
	comp=Z,13nm,0.3s							
BRVK	**Borovoye**	**49.05**	**311**	P		**P**	**18 36 41.9**	**+0.1**
BRVK				IAmb		IAmb	18 36 43.2	
	comp=Z,4.6nm,1.0s							
BRVK	**Borovoye**	**49.05**	**311**	*ce*P		**P**	**18 36 42.1**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
AAK	**Ala-Archa**	**49.66**	**296**	P		**P**	**18 36 46.6**	**-0.2**
AAK	**Ala-Archa**	**49.66**	**296**	*e*P		**P**	**18 36 46.8**	**-0.1**
AAK				pmax		pmax		
	comp=Z,10.0nm,3.8s							
KULM	**Kulim**	**51.07**	**238**	P		**P**	**18 36 58.0**	**+0.4**
INK	**Inuvik**	**51.23**	**28**	P		**P**	**18 36 59.3**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=286,slow=4.4,SNR=12							
	comp=Z,1.2nm,0.4s							
INK	**Inuvik**	**51.23**	**28**	P		**P**	**18 36 59.2**	**+1.2**
INK				IAmb		IAmb	18 37 15.2	
	comp=Z,2.7nm,0.7s							
MMRI	**Maumere**	**52.05**	**206**	P		**P**	**18 37 04.7**	**-0.2**
KK31	**Karatay Array**	**52.19**	**298**	P		**P**	**18 37 05.1**	**-0.6**
KK31	**Karatay Array**	**52.19**	**298**	P		**P**	**18 37 05.1**	**-0.6**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KKAR	**Karatay Array**	**52.19**	**298**	P		**P**	**18 37 05.5**	**-0.2**
KKAR	**Karatay Array**	**52.19**	**298**	P		**P**	**18 37 05.0**	**-0.7**
KKAR				IAmb		IAmb	18 37 06.4	
	comp=Z,1.9nm,0.8s							
KKAR	**Karatay Array**	**52.19**	**298**	P		**P**	**18 37 05.5**	**-0.2**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
M31M	**Drury Creek, Y**	**52.39**	**36**	P		**P**	**18 37 08.7**	**+1.8**
SOEI	**Soe**	**52.47**	**203**	P		**P**	**18 37 08.7**	**+0.6**
SVE	**Sverdlovsk**	**53.26**	**317**	*e*P		**P**	**18 37 14.3**	**+1.0**
SVE				pmax		pmax		
	comp=Z,16nm,0.9s							
C36M	**Paulatuk**	**54.24**	**26**	P		**P**	**18 37 20.7**	**+0.4**
C36M				IAmb		IAmb	18 37 36.7	
	comp=Z,3.3nm,0.8s							
NIL	**Nilore**	**54.34**	**286**	P		**P**	**18 37 21.2**	**-0.4**
NIL				IAmb		IAmb	18 37 27.0	
	comp=Z,6.9nm,0.8s							
NIL	**Nilore**	**54.34**	**286**	P		**P**	**18 37 21.3**	**-0.4**
NIL				pmax		pmax		
	comp=Z,7.0nm,0.8s							
ARU	**Arti**	**54.47**	**317**	P		**P**	**18 37 22.0**	**-0.2**
ARU	**Arti**	**54.47**	**317**	*i* P		**P**	**18 37 22.9**	**+0.7**
ARU				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CHGR	**Chuyangaron**	**54.98**	**294**	P		**P**	**18 37 26.3**	**0.0**
CHGR	**Chuyangaron**	**54.98**	**294**	P		**P**	**18 37 26.3**	**0.0**
CHGR				pmax		pmax		
	comp=Z,8.0nm,0.6s							
GSI	**Gunungsitoli**	**56.08**	**238**	P		**P**	**18 37 34.9**	**+0.7**
ABKAR	**Akbulak array**	**56.46**	**309**	P		**P**	**18 37 36.3**	**-0.3**
ABKAR	**Akbulak array**	**56.46**	**309**	P		**P**	**18 37 36.0**	**-0.5**
ABKAR				IAmb		IAmb	18 37 37.5	
	comp=Z,4.5nm,0.8s							
EUNU	**Eureka**	**56.92**	**9**	P		**P**	**18 37 39.4**	**-0.1**
KNRA	**Kununurra**	**57.04**	**196**	P		**P**	**18 37 40.4**	**-0.5**
KNRA				IAmb		IAmb	18 38 05.7	
	comp=Z,7.9nm,1.0s							
KIRV	**Kirov**	**58.15**	**322**	P		**P**	**18 37 47.8**	**-0.5**
	comp=Z,14nm,0.7s,baz=39,slow=2.0,SNR=3.6							
	comp=Z,14nm,0.7s							
KIRV	**Kirov**	**58.15**	**322**	*c i* P		**P**	**18 37 48.5**	**+0.2**
RES	**Resolute Bay**	**59.33**	**15**	P		**P**	**18 37 56.1**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=315,slow=7.1,SNR=5.4							
	comp=Z,1.4nm,0.7s							
RES	**Resolute Bay**	**59.33**	**15**	P		**P**	**18 37 56.6**	**+0.3**
RES				IAmb		IAmb	18 38 21.0	
	comp=Z,2.8nm,0.8s							
RES	**Resolute Bay**	**59.33**	**15**	P		**P**	**18 37 56.6**	**+0.3**
RES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
LVZ	**Lovozero**	**59.50**	**335**	*e*P		**P**	**18 37 58.7**	**+1.1**
LVZ				pmax		pmax		
	comp=Z,121nm,1.5s							
WR0	**Warramunga Arr**	**60.32**	**188**	P		**P**	**18 38 03.3**	**-0.4**
WR0				IAmb		IAmb	18 38 22.8	
	comp=Z,2.3nm,0.8s							
WB2	**Warramunga Arr**	**60.32**	**189**	P		**P**	**18 38 04.0**	**+0.3**
WB2				IAmb		IAmb	18 38 18.8	
	comp=Z,3.6nm,0.9s							
WRA	**Warramunga Arr**	**60.32**	**189**	P		**P**	**18 38 03.3**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=3.3,slow=6.8,SNR=10.0							
	comp=Z,0.4nm,0.4s							
WRA	**Warramunga Arr**	**60.32**	**189**	*i* P		**P**	**18 38 04.3**	**+0.5**
YKA	**Yellowknife Ar**	**60.70**	**31**	P		**P**	**18 38 06.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=297,slow=6.7							
	comp=Z,0.5nm,0.7s							
KEV	**Kevo**	**60.71**	**339**	P		**P**	**18 38 06.4**	**+0.6**
KEV	**Kevo**	**60.71**	**339**	P		**P**	**18 38 06.4**	**+0.6**
KEV				pmax		pmax		
	comp=Z,41nm,1.3s							
BELG	**Belogornoye**	**61.97**	**316**	*ce*P		**P**	**18 38 14.9**	**+0.3**
BELG				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GEYT	**Alibeck**	**62.94**	**298**	P		**P**	**18 38 20.3**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=42,slow=2.4,SNR=7.8							
	comp=Z,3.5nm,0.7s							
ASAR	**Alice Springs**	**64.05**	**189**	P		**P**	**18 38 28.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=0.1,slow=6.8,SNR=14							
	comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**64.05**	**189**	P		**P**	**18 38 29.3**	**+0.6**
ASAR	**Alice Springs**	**64.05**	**189**	P		**P**	**18 38 29.3**	**+0.6**
OBN	**Obninsk**	**65.97**	**323**	*e*P		**P**	**18 38 40.5**	**-0.3**
OBN				*e*			18 39 11.8	
OBN				*e*			18 41 07.9	
OBN				pmax		pmax		
	comp=Z,2.0nm,0.9s							
FIA1	**FINESS Array S**	**66.33**	**332**	P		**P**	**18 38 43.0**	**0.0**
FIA1				IAmb		IAmb	18 38 58.5	
	comp=Z,10.0nm,1.1s							
FINES	**FINESS Array B**	**66.33**	**332**	P		**P**	**18 38 42.7**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=41,slow=7.6,SNR=14							
	comp=Z,3.1nm,0.7s							
FINES	**FINESS Array B**	**66.33**	**332**	P		**P**	**18 38 43.0**	**0.0**
FINES	**FINESS Array B**	**66.33**	**332**	P		**P**	**18 38 43.0**	**0.0**
MSVF	**Nonsavu**	**66.57**	**143**	LR		LR	19 00 60.0	
	comp=Z,82nm,21.8s,baz=101,slow=30							
KIV	**Kislovodsk**	**69.36**	**310**	P		**P**	**18 39 03.1**	**+0.6**
KIV				IAmb		IAmb	18 39 05.1	
	comp=Z,7.6nm,0.8s							
KIV	**Kislovodsk**	**69.36**	**310**	*e*P		**P**	**18 39 04.1**	**+1.5**
KIV				pmax		pmax		
	comp=Z,11nm,1.0s							
KBZ	**Khabaz**	**69.38**	**310**	P		**P**	**18 39 03.1**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=31,slow=2.8,SNR=11							
	comp=Z,4.0nm,0.7s							
KBZ	**Khabaz**	**69.38**	**310**	*ce*P		**P**	**18 39 03.4**	**+1.0**
KBZ				pmax		pmax		
	comp=Z,10.0nm,2.0s							
MNK	**Minsk**	**70.25**	**326**	*i* P		**P**	**18 39 07.9**	**+0.2**
	comp=E,1.0nm,0.7s							
MNK				*i* P		**P**	**18 39 07.9**	**+0.2**
	comp=N,26nm,0.8s							
MNK				*i* P		**P**	**18 39 07.9**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=228							
MNK				*i* pP		**pP**	**18 39 22.1**	**+0.6**
MNK				*i* PP		**PP**	**18 41 43.3**	**+0.2**
MNK				*i* PPP		PPP	18 43 25.7	
MNK				*i* S		**S**	**18 48 15.8**	**+0.2**
MNK				*i* sS		**sS**	**18 48 40.2**	**+1.4**
MNK				*i* SS		**SS**	**18 52 47.3**	**+1.7**
MNK				*i* SSS		SSS	18 56 05.6	
MNK				*i* LQ		LQ	19 06 26.8	
MNK				*i* LR		LR	19 10 29.3	
MNK				*i* LRM		MLR	19 12 16.9	
	comp=E,12nm,13.4s							
MNK				*i* LRM		MLR	19 12 19.5	
	comp=Z,38nm,11.5s							
MNK				*i* LRM		MLR	19 12 22.0	
	comp=N,206nm,14.7s							
MNK	**Minsk**	**70.25**	**326**	*i* P		**P**	**18 39 07.8**	**+0.2**
MNK				*i* *PP		**pP**	**18 39 22.0**	**+0.6**
MNK				*i*			18 39 29.3	
MNK				*i*			18 41 43.2	
MNK				*i* PPP		PPP	18 43 25.6	
MNK				*i* S		**S**	**18 48 15.8**	**+0.2**
MNK				*i* *SS		**sS**	**18 48 40.2**	**+1.4**
MNK				*i*			18 49 05.8	
MNK				*i* SS		**SS**	**18 52 47.3**	**+1.7**
MNK				pmax		pmax		
	comp=E,1.0nm,0.7s							
MNK				pmax		pmax		
	comp=N,26nm,0.8s							
MNK				pmax		pmax		
	comp=Z,7.0nm,0.7s							
MNK				MLR		MLR		
	comp=E,12nm,13.0s							
MNK				MLR		MLR		
	comp=Z,38nm,12.0s							
MNK				MLR		MLR		
	comp=N,206nm,15.0s							
NACGM	**Naroch**	**70.45**	**326**	*e*P		**P**	**18 39 09.7**	**+0.9**
	comp=Z,12nm,0.9s,baz=47							
NC405	**NORSAR Array S**	**71.31**	**337**	P		**P**	**18 39 13.2**	**-0.8**
NC204	**NORSAR Array S**	**71.46**	**338**	P		**P**	**18 39 15.5**	**+0.5**
NC204				IAmb		IAmb	18 39 35.1	
	comp=Z,14nm,1.2s							
HFS	**Hagfors**	**71.47**	**336**	P		**P**	**18 39 14.9**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=47,slow=6.5,SNR=15							
HFS				LR		LR	19 14 38.6	
	comp=Z,60nm,18.1s,baz=272,slow=39							
	comp=Z,2.5nm,0.7s							
NB201	**NORSAR Array S**	**71.48**	**337**	P		**P**	**18 39 15.0**	**-0.1**
NB2	**NORSAR Subarra**	**71.52**	**337**	P		**P**	**18 39 15.4**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**71.52**	**337**	P		**P**	**18 39 14.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=38,slow=6.0,SNR=8.2							
NOA				LR		LR	19 17 26.0	
	comp=Z,25nm,18.6s,baz=310,slow=42							
	comp=Z,1.8nm,0.7s							
BOZ	**Bozeman (W)**	**71.97**	**45**	P		**P**	**18 39 20.0**	**+1.5**
BOZ				IAmb		IAmb	18 39 35.8	
	comp=Z,3.6nm,0.8s							
BOZ	**Bozeman (W)**	**71.97**	**45**	P		**P**	**18 39 20.0**	**+1.5**
BOZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							
AKASG	**Malin Array Be**	**72.21**	**322**	P		**P**	**18 39 19.1**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=44,slow=6.0,SNR=21							
	comp=Z,2.4nm,0.5s							
AKASG	**Malin Array Be**	**72.21**	**322**	*i* P		**P**	**18 39 19.6**	**0.0**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKBB	**Malin Array Si**	**72.21**	**322**	P		**P**	**18 39 19.5**	**-0.1**
AKBB				IAmb		IAmb	18 39 20.5	
	comp=Z,5.9nm,0.8s							
AKBB	**Malin Array Si**	**72.21**	**322**	*e*P		**P**	**18 39 19.7**	**+0.1**
AKBB				pmax		pmax		
	comp=Z,6.0nm,0.8s							
FRB	**Frobisher Bay**	**73.50**	**14**	P		**P**	**18 39 26.8**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=4.0,slow=7.5,SNR=4.5							
	comp=Z,3.6nm,0.7s							
PDAR	**Pinedale Array**	**74.93**	**46**	P		**P**	**18 39 36.5**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=355,slow=3.6,SNR=3.9							
	comp=Z,0.4nm,0.8s							
BUR08	**Bucovina Ar. S**	**76.23**	**322**	P		**P**	**18 39 43.1**	**-0.2**
BUR08				IAmb		IAmb	18 39 44.7	
	comp=Z,4.3nm,0.9s							
BURAR	**Bucovina Array**	**76.25**	**322**	P		**P**	**18 39 43.9**	**+0.6**
BR131	**Keskin Array S**	**77.27**	**311**	*e*P		**P**	**18 39 51.8**	**+2.6**
BRTR	**Keskin Array B**	**77.27**	**311**	P		**P**	**18 39 49.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=62,slow=2.5,SNR=4.8							
	comp=Z,0.7nm,0.6s							
BRTR	**Keskin Array B**	**77.27**	**311**	P		**P**	**18 39 48.2**	**-1.1**
BRTR	**Keskin Array B**	**77.27**	**311**	*i* P		**P**	**18 39 52.5**	**+3.2**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
CLL	**Collm**	**78.68**	**330**	*e*P		**P**	**18 39 57.0**	**+0.4**
CLL				*e*pP		**pP**	**18 40 12.0**	**+1.4**
CLL				*i* sP		**sP**	**18 40 17.3**	**+1.3**
	comp=Z,33nm,1.7s							
CLL	**Collm**	**78.68**	**330**	*e*P		**P**	**18 39 57.0**	**+0.4**
CLL				*e*			18 40 12.0	
CLL				*i*			18 40 17.3	
KHC	**Kasperske Hory**	**80.19**	**329**	*e*P		**P**	**18 40

ASAR	**Alice Springs**	**35.92**	**249**	P		**P**		**18 34 10.3**	**-0.8**
BBOO	**Buckleboo**	**36.64**	**233**	P		**P**		**18 34 17.4**	**+0.6**
BBOO				IAmb		IAmb		18 34 23.9	
	comp=Z,15nm,1.3s								
MTN	**Manton Dam**	**38.26**	**267**	P		**P**		**18 34 29.3**	**-0.9**
MTN				IAmb		IAmb		18 35 05.3	
	comp=Z,24nm,1.4s								
FAKI	**Fak Fak**	**39.24**	**282**	P		**P**		**18 34 38.6**	**+0.5**
KNRA	**Kununurra**	**40.34**	**262**	P		**P**		**18 34 46.4**	**-0.4**
KNRA				IAmb		IAmb		18 35 00.9	
	comp=Z,23nm,1.4s								
FORT	**Forrest**	**42.46**	**239**	P		**P**		**18 35 03.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**43.25**	**258**	P		**P**		**18 35 09.5**	**+0.1**
TNTI	**Ternate**	**45.06**	**285**	P		**P**		**18 35 19.8**	**-3.6**
CMAR	**Chiang Mai Arr**	**77.41**	**293**	P		**P**		**18 38 54.8**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=104,slow=3.8,SNR=3.3								
	comp=Z,0.6nm,0.9s								
CAST	**Castle Rocks**	**82.17**	**16**	P		**P**		**18 39 17.3**	**0.0**
ILAR	**Eielson Array**	**84.66**	**17**	P		**P**		**18 39 30.0**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=224,slow=5.4,SNR=4.4								
	comp=Z,0.3nm,0.7s								

GCG ***28*** *18:29:54.2±0.6, 13°.94N×91°.29W, h76km±29km, MD3.4*
SNET ***28*** *18:29:54.9±0.8, 13°.64N×91°.00W, h14km±6km, ML3.5*

ISC 28 18:29:52.4±3.1**, 13°.7N**±0°.1×**91°.1W**±0°.1**, h15**km±12km**, n10,**
σ1ᵍ48/16, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.83**	**20**	*e*P	**Pg**	**18 30 10.0**	**+1.3**
FUG				*e*S	**Sn**	**18 30 23.3**	**+1.4**
PCG	**Pacaya**	**0.89**	**36**	*e*P	**Pg**	**18 30 10.7**	**+0.9**
STG3	**Santiaguito 3,**	**1.12**	**338**	*e*P	Pn	18 30 11.5	-2.2
STG3				*e*S	**Sb**	**18 30 24.8**	**-3.3**
NBG	**Las Nubes**	**1.20**	**40**	*e*P	**Pb**	**18 30 15.4**	**+0.4**
NBG				*e*S	**Sn**	**18 30 32.2**	**+1.1**
NUBE	**Las Nubes**	**1.35**	**80**	*e*P	**Pn**	**18 30 16.3**	**-0.4**
NUBE				IAML		18 30 36.4	
	comp=Z,438nm,0.2s						
SLOZ	**Alcaldia de Sa**	**1.37**	**74**	*e*P	**Pn**	**18 30 17.2**	**+0.2**
SLOZ				*e*S	**Sb**	**18 30 33.9**	**-1.2**
CEVE	**Cerro Verde**	**1.48**	**83**	*e*P	**Pn**	**18 30 18.9**	**+0.2**
CEVE				*e*S	**Sg**	**18 30 38.2**	**-2.2**
CEVE				IAML		18 30 40.7	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.65**	**90**	*e*P	**Pn**	**18 30 20.9**	**0.0**
JAYA				*e*S	**Sb**	**18 30 41.8**	**-1.3**
JAYA				IAML		18 30 43.8	
	comp=Z,664nm,0.2s						
SJTE	**Alcalda de S**	**2.08**	**91**	*e*P	**Pn**	**18 30 27.6**	**+0.8**
SJTE				*e*S	**Sn**	**18 30 52.7**	**+0.3**
COEG	**Centro de Oper**	**2.20**	**91**	*e*P	**Pn**	**18 30 29.2**	**+0.8**

IDC ***28*** *18:30:11.9±0.9, 68°.17N×18°.30W, h0km, mb3.7/11, mbtmp3.8/14, ML3.3/3, Error ellipse: s-maj=23.0km s-min=17.7km az=32.0*
NEIC ***28*** *18:30:12.7±3.0, 68°.24N±0°.09×18°.7W±0°.2, h10km±1km, mb4.0/6, Error ellipse: s-maj=17.0km s-min=9.3km az=214.0*
REY ***28*** *18:30:15.0, 68°.08N×17°.69W, h10km*

ISC 28 18:30:12.8±0.6**, 68°.15N**±0°.05×**18°.39W**±0°.07**, h10**km**, n48,**
σ1ᵍ19/55, mb3.8/12, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGRI	**Grimsey**	**1.62**	**175**	P	**Pn**	**18 30 40.9**	**-0.4**
	baz=185						
IGRI				S	**Sn**	**18 30 59.9**	**-2.4**
	baz=185						
ILEI	**Leirhofn**	**1.90**	**156**	P	**Pn**	**18 30 43.9**	**-1.3**
	baz=164						
ILEI				S	**Sn**	**18 31 06.4**	**-2.6**
	baz=164						
ISIG	**Siglufjorour**	**2.04**	**186**	P	**Pn**	**18 30 47.4**	**+0.4**
	baz=194						
IHED	**Heoinshofoi**	**2.12**	**168**	P	**Pn**	**18 30 47.5**	**-0.7**
	baz=176						
IHED				S	**Sn**	**18 31 12.4**	**-2.1**
	baz=176						
IGIL	**Gilhagi**	**2.23**	**158**	P	**Pn**	**18 30 48.7**	**-1.0**
	baz=165						
IGIL				S	**Sn**	**18 31 15.5**	**-1.7**
	baz=165						
IDIM	**Dimmadalss**	**2.27**	**165**	P	**Pn**	**18 30 49.4**	**-0.8**
	baz=172						
ISKI	**Skildingahlsh**	**2.35**	**166**	P	**Pn**	**18 30 50.8**	**-0.6**
	baz=173						
ISKI				S	**Sn**	**18 31 18.2**	**-2.1**
	baz=173						
IGHA	**Grjothals**	**2.41**	**163**	P	**Pn**	**18 30 51.5**	**-0.7**
	baz=169						
IKVO	**Krokottuvotn**	**2.52**	**166**	P	**Pn**	**18 30 53.6**	**-0.1**
	baz=172						
IREN	**Reynihlio**	**2.58**	**166**	P	**Pn**	**18 30 54.2**	**-0.3**
	baz=172						
IREN				S	**Sn**	**18 31 25.5**	**-0.4**
	baz=172						
SCO	**Scoresbysund**	**2.67**	**333**		**Pn**	**18 30 52.5**	**-3.1**
SCO	**Scoresbysund**	**2.67**	**333**	*i* P	**Pn**	**18 30 56.3**	**+0.6**
IGRS	**Grimsstaoir**	**2.68**	**159**	P	**Pn**	**18 30 55.4**	**-0.5**
	baz=165						
IMEL	**Melhnausar**	**2.68**	**164**	P	**Pn**	**18 30 55.5**	**-0.4**
	baz=170						
ISVA	**Svartarkot**	**2.86**	**170**	P	**Pn**	**18 30 58.7**	**+0.3**
	baz=176						
ISVA				S	**Sn**	**18 31 32.0**	**-0.8**
	baz=176						
IMKO	**Mokollar**	**3.29**	**165**	P	**Pn**	**18 31 04.5**	**+0.1**
	baz=170						
THOR	**Thorvaldshraun**	**3.30**	**167**	P	**Pn**	**18 31 05.1**	**+0.6**
	baz=172						
IADA	**Aoalbol**	**3.34**	**159**	P	**Pn**	**18 31 04.8**	**-0.1**
	baz=164						
IDYN	**Dyngjuhals**	**3.40**	**173**	P	**Pn**	**18 31 07.0**	**+1.1**
	baz=178						
IKRE	**Kreppuhraun**	**3.48**	**166**	P	**Pn**	**18 31 07.6**	**+0.7**
	baz=170						
IVSH	**V-Sauoahnukur**	**3.52**	**161**	P	**Pn**	**18 31 07.3**	**-0.2**
	baz=166						
BORG	**Borgarnes**	**3.62**	**200**	Pn	**Pn**	**18 31 10.2**	**+1.5**
	2.0nm,0.3s,baz=0.3,slow=6.4,SNR=9.9						
	20nm,0.6s						
BORG	**Borgarnes**	**3.62**	**200**	Pn	**Pn**	**18 31 09.9**	**+1.2**
ANGG	**Ammassalik, Gr**	**7.98**	**261**	Pn	**Pn**	**18 32 06.2**	**-2.3**
ILULI	**Ilulissat**	**11.87**	**290**	Pn	**Pn**	**18 33 00.6**	**-1.2**
SPITS	**Spitsbergen Ar**	**13.88**	**29**	Pn	**Pn**	**18 33 30.8**	**+1.5**
	baz=225,slow=13						
	12nm,1.0s						
SPB2	**Spitsbergen Ar**	**13.89**	**29**	Pn	**Pn**	**18 33 31.1**	**+1.9**
DSB	**Dublin**	**16.01**	**153**		**P**	**18 33 59.8**	**-1.5**
KEV	**Kevo**	**16.09**	**63**		**Pn**	**18 33 58.3**	**-0.4**
KEV				IAmb	IAmb	18 34 40.4	
	comp=Z,24nm,1.3s						
FIA1	**FINESS Array S**	**19.68**	**88**	P	**P**	**18 34 40.7**	**-0.8**
FIA1				IAmb	IAmb	18 34 44.6	
	comp=Z,8.9nm,1.2s						
FINES	**FINESS Array B**	**19.68**	**88**	P	**Pn**	**18 34 42.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=297,slow=13,SNR=8.3						
	comp=Z,2.5nm,0.8s						
FINES	**FINESS Array B**	**19.68**	**88**	P	**P**	**18 34 41.1**	**-0.4**
EUNU	**Eureka**	**20.36**	**332**	P	**P**	**18 34 48.5**	**-0.5**
FRB	**Frobisher Bay**	**20.41**	**282**	P	**P**	**18 34 48.5**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=58,slow=13,SNR=2.9						
	comp=Z,3.2nm,0.8s						
CLL	**Collm**	**22.71**	**122**	*e*P	**P**	**18 35 16.0**	**+1.7**
GERES	**GERESS Array B**	**25.09**	**124**	P	**P**	**18 35 38.8**	**+1.6**
	comp=Z,0.7nm,1.0s,baz=319,slow=10,SNR=4.7						
	comp=Z,0.7nm,1.0s						
MORC	**Moravsky Berou**	**25.51**	**118**	P	**P**	**18 35 40.4**	**-0.5**
MORC				IAmb	IAmb	18 35 45.0	
	comp=Z,5.4nm,1.1s						
VRAC	**Vranov**	**25.60**	**120**	P	**P**	**18 35 41.5**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=315,slow=10.0,SNR=2.0						
	comp=Z,0.8nm,0.3s						
AKASG	**Malin Array Be**	**28.82**	**103**	P	**P**	**18 36 10.3**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=328,slow=9.2,SNR=6.5						
	comp=Z,1.0nm,0.6s						
ESDC	**Sonseca Array**	**29.61**	**157**	P	**P**	**18 36 18.7**	**+1.0**
	comp=Z,1.0nm,1.1s,baz=354,slow=10,SNR=2.8						
	comp=Z,1.0nm,1.1s						
YKA	**Yellowknife Ar**	**36.63**	**309**	P	**P**	**18 37 20.1**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=41,slow=8.2,SNR=13						
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**39.83**	**108**	P	**P**	**18 37 46.4**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=328,slow=10,SNR=2.3						
	comp=Z,0.9nm,1.0s						
ZALV	**Zalesovo Beam**	**45.78**	**53**	P	**P**	**18 38 34.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=316,slow=10,SNR=1.8						
	comp=Z,0.3nm,0.3s						
MK31	**Makanchi Array**	**51.24**	**60**	P	**P**	**18 39 15.9**	**-0.1**
MK31				IAmb	IAmb	18 39 17.4	
	comp=Z,2.0nm,1.2s						
MKAR	**Makanchi Array**	**51.24**	**60**	P	**P**	**18 39 16.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=323,slow=7.9,SNR=4.5						
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**51.24**	**60**	P	**P**	**18 39 16.6**	**+0.6**
MJAR	**Matsushiro Arr**	**74.15**	**19**	P	**P**	**18 41 49.8**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=345,slow=5.7,SNR=4.7						
	comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**82.61**	**58**	P	**P**	**18 42 36.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=331,slow=7.2,SNR=2.3						
	comp=Z,0.3nm,0.3s						

IDC ***28*** *18:35:13.1±0.9, 68°.17N×18°.16W, h0km, mb3.7/8, mbtmp3.7/13, ML3.1/5, MS3.6/2, Error ellipse: s-maj=26.7km s-min=16.6km az=25.0*

ISC 28 18:35:14.5±0.7**, 68°.1N**±0°.1×**18°.01W**±0°.10**, h10**km**, n16,**
σ1ᵍ01/14, mb3.6/8, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**3.63**	**203**	Pn	**Pn**	**18 36 10.8**	**+0.2**
	6.6nm,0.3s,baz=18,slow=6.1,SNR=11						
	26nm,0.7s						
SPITS	**Spitsbergen Ar**	**13.85**	**29**	Pn	**Pn**	**18 38 31.0**	**+0.5**
	baz=230,slow=11						
	5.3nm,0.8s						
NOA	**NORSAR Array B**	**14.28**	**106**	Pn	**Pn**	**18 38 33.8**	**-2.7**
	baz=309,slow=13,SNR=1.7						
	0.4nm,0.8s						
HFS	**Hagfors**	**15.79**	**105**	Pn	**Pn**	**18 38 56.4**	**-0.2**
	0.2nm,0.3s,baz=260,slow=16,SNR=2.4						
	4.1nm,1.0s						
FINES	**FINESS Array B**	**19.54**	**88**	P	**Pn**	**18 39 43.2**	**+0.2**
	0.2nm,0.3s,baz=316,slow=9.7,SNR=6.0						
	1.5nm,0.5s						
GERES	**GERESS Array B**	**24.95**	**125**	P	**P**	**18 40 38.9**	**+1.2**
	0.5nm,0.7s,baz=353,slow=8.1,SNR=4.2						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**28.67**	**103**	P	**P**	**18 41 11.9**	**+0.9**
	1.3nm,0.6s,baz=330,slow=9.1,SNR=7.0						
	1.3nm,0.6s						
ESDC	**Sonseca Array**	**29.51**	**158**	LR	LR	18 53 23.4	
	comp=Z,148nm,18.1s,baz=288,slow=37						
YKA	**Yellowknife Ar**	**36.77**	**310**	P	**P**	**18 42 20.7**	**-0.9**
	3.9nm,1.1s,baz=38,slow=8.8						
	3.9nm,1.1s						
BRTR	**Keskin Array B**	**39.69**	**109**	P	**P**	**18 42 47.0**	**+0.5**
	1.3nm,1.1s,baz=329,slow=7.4,SNR=2.3						
	1.3nm,1.1s						
BVAR	**Borovoye Array**	**41.83**	**65**	LR	LR	18 58 42.4	
	comp=Z,59nm,18.7s,baz=3.7,slow=34						
ILAR	**Eielson Array**	**42.55**	**330**	P	**P**	**18 43 09.4**	**-0.2**
	0.7nm,1.0s,baz=18,slow=7.0,SNR=6.0						
	0.7nm,1.0s						
MKAR	**Makanchi Array**	**51.13**	**60**	P	**P**	**18 44 16.7**	**-0.3**
	0.7nm,0.8s,baz=331,slow=7.2,SNR=6.7						
	0.7nm,0.8s						
TXAR	**Lajitas Array**	**61.53**	**278**	P	**P**	**18 45 31.6**	**+0.1**
	0.5nm,1.0s,baz=38,slow=4.6,SNR=2.5						
	0.5nm,1.0s						
MJAR	**Matsushiro Arr**	**74.15**	**20**	P	**P**	**18 46 50.9**	**+0.2**
	0.8nm,0.8s,baz=10,slow=4.5,SNR=2.8						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**132.33**	**36**	PKP	**PKPdf**	**18 54 27.9**	**-0.4**
	0.2nm,0.4s,baz=347,slow=1.2,SNR=2.6						

IDC 28 18:37:27.2±9.4**, 23°.93S×176°.62W, h0**km**, mb3.3/2,**
mbtmp3.3/2, Error ellipse: s-maj=437.4km
s-min=62.6km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.08**	**260**	P	P	18 45 46.8	+1.4
	0.3nm,0.7s,baz=100,slow=8.4,SNR=5.3						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**45.49**	**265**	P	P	18 45 46.6	-2.0
	0.2nm,0.6s,baz=109,slow=7.5,SNR=2.2						
	0.2nm,0.6s						
H03S2	**Juan Fernandez**	**83.02**	**124**	T	T	20 21 25.4	
	baz=244						
H03S1	**Juan Fernandez**	**83.03**	**124**	T	T	20 21 24.0	
	baz=244						
H03S3	**Juan Fernandez**	**83.03**	**124**	T	T	20 21 23.6	
	baz=244						
H03N2	**Juan Fernandez**	**83.17**	**123**	T	T	20 21 16.5	
	baz=250,slow=72,SNR=5.7						
H03N3	**Juan Fernandez**	**83.17**	**123**	T	T	20 21 29.4	
	baz=250,slow=72,SNR=9.4						
H03N1	**Juan Fernandez**	**83.19**	**123**	T	T	20 21 26.7	
	baz=250,slow=72,SNR=4.6						
AKASG	**Malin Array Be**	**146.61**	**330**	PKPbc	PKPdf	18 57 09.7	+0.7
	0.4nm,0.4s,baz=44,slow=3.7,SNR=5.0						

IDC ***28*** *18:38:30.8±1.7, 19°.15S×64°.97E, h0km, mb3.9/6, mbtmp3.9/7, ML3.3/1, Error ellipse: s-maj=48.6km s-min=29.7km az=47.0*
NEIC ***28*** *18:38:34.1±1.5, 19°.2S±0°.1×65°.0E±0°.1, h15km±1km, mb4.5/7, Error ellipse: s-maj=22.4km s-min=15.4km az=151.0*

ISC 28 18:38:32.6±0.7**, 19°.1S**±0°.1×**65°.1E**±0°.1**, h10**km**, n18,**
σ0ᵍ96/15, mb4.2/10, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCAM	**Rodrigues Isla**	**1.72**	**247**	Pn	**Pg**	**18 39 06.8**	**+1.2**
H08S1	**Diego Carcia H**	**13.47**	**33**	T	T	18 55 00.4	
	baz=210,slow=76						
H08S2	**Diego Garcia H**	**13.48**	**33**	T	T	18 55 06.8	
	baz=210,slow=76						
H08S3	**Diego Garcia H**	**13.49**	**33**	T	T	18 55 12.5	
	baz=210,slow=76						
OPO	**Ambohidratompo**	**16.93**	**269**	Pn	**Pn**	**18 42 28.5**	**-1.4**
	baz=56,slow=7.3,SNR=2.4						
	2.5nm,0.9s						
MAW	**Mawson**	**48.51**	**181**	P	**P**	**18 47 15.2**	**-0.1**
MAW				IAmb	IAmb	18 47 54.0	
	comp=Z,4.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**50.00**	**44**	P	**P**	**18 47 28.0**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=223,slow=10,SNR=2.6						
	comp=Z,0.3nm,0.2s						
CMAR	**Chiang Mai Arr**	**50.00**	**44**	P	**P**	**18 47 28.4**	**+0.9**
ASAR	**Alice Springs**	**63.72**	**108**	P	**P**	**18 49 05.0**	**0.0**
	comp=Z,1.6nm,0.9s,baz=260,slow=5.9,SNR=9.8						
	comp=Z,1.6nm,0.9s						
WRA	**Warramunga Arr**	**64.85**	**104**	P	**P**	**18 49 12.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=264,slow=7.2,SNR=12						
	comp=Z,1.9nm,0.9s						
WRAB	**Tennant Creek**	**64.86**	**104**	P	**P**	**18 49 11.9**	**-0.5**
WRAB				IAmb	IAmb	18 49 14.4	
	comp=Z,4.1nm,1.0s						
WB0	**Warramunga Arr**	**64.94**	**103**	P	**P**	**18 49 12.7**	**-0.3**
WB0				IAmb	IAmb	18 49 29.9	
	comp=Z,1.9nm,0.9s						
WR0	**Warramunga Arr**	**65.03**	**104**	P	**P**	**18 49 13.3**	**-0.3**
WR0				IAmb	IAmb	18 49 44.9	
	comp=Z,8.2nm,1.4s						
MKAR	**Makanchi Array**	**67.41**	**13**	P	**P**	**18 49 26.7**	**-1.4**
	comp=Z,1.2nm,1.2s,baz=208,slow=4.3,SNR=4.6						
	comp=Z,1.2nm,1.2s						
AGG	**Agios Georgios**	**70.30**	**326**	P	**P**	**18 49 45.4**	**-1.0**
QSPA	**South Pole Qui**	**71.01**	**180**	P	**P**	**18 49 49.8**	**-0.7**
ZALV	**Zalesovo Beam**	**74.71**	**12**	P	**P**	**18 50 13.2**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=195,slow=4.5,SNR=4.0						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**76.23**	**27**	P	**P**	**18 50 22.5**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=224,slow=4.0,SNR=5.8						
	comp=Z,0.9nm,0.9s						

IDC ***28*** *18:40:31.3±4.5, 19°.08S×65°.07E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=131.9km s-min=32.5km az=61.0*

ISC 28 18:40:33.5±4.4**, 19°.0S**±0°.5×**65°.2E**±0°.8**, h10**km**, n9,** σ**0ᵍ74/6,**
mb3.6/6, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**13.35**	**33**	T	T	18 57 03.5	
	baz=207						
H08S2	**Diego Garcia H**	**13.36**	**33**	T	T	18 57 01.9	
	baz=207						
H08S3	**Diego Garcia H**	**13.37**	**33**	T	T	18 57 04.3	
	baz=207						
CMAR	**Chiang Mai Arr**	**49.86**	**44**	P	**P**	**18 49 27.4**	**0.0**
	0.4nm,0.7s,baz=234,slow=9.9,SNR=5.2						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**63.63**	**108**	P	**P**	**18 51 05.3**	**0.0**
	0.9nm,0.7s,baz=271,slow=6.0,SNR=9.9						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**64.75**	**104**	P	**P**	**18 51 12.4**	**-0.2**
	1.4nm,0.8s,baz=262,slow=6.3,SNR=7.6						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**67.31**	**13**	P	**P**	**18 51 27.4**	**-1.0**
	0.3nm,0.9s,baz=187,slow=10,SNR=2.3						
	0.3nm,0.9s						
ZALV	**Zalesovo Beam**	**74.61**	**12**	P	**P**	**18 52 12.8**	**+0.2**
	0.3nm,0.6s,baz=224,slow=4.6,SNR=1.8						
	0.3nm,0.6s						
SONM	**Songino Array**	**76.11**	**27**	P	**P**	**18 52 22.3**	**+0.7**
	0.7nm,0.9s,baz=217,slow=4.6,SNR=4.8						
	0.7nm,0.9s						

IDC ***28*** *18:40:56.4±0.9, 68°.23N×18°.13W, h0km, mb3.6/8, mbtmp3.7/12, ML3.1/4, MS3.6/24, Error ellipse: s-maj=23.9km s-min=16.6km az=16.0*
REY ***28*** *18:40:57.1, 68°.18N×17°.69W, h10km*
DNK ***28*** *18:41:32.5±2.6, 70°.84N×22°.13W, h0km±100km, ML1.5*

ISC 28 18:40:57.1±4.3**, 68°.16N**±0°.06×**17°.97W**±0°.07**, h7**km±29km**,**
n54, σ1ᵍ18/45, mb3.6/7, MS3.7/17, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGRI	**Grimsey**	**1.62**	**181**	P	**Pn**	**18 41 24.5**	**-1.5**
	baz=184						
IGRI				S	**Sn**	**18 41 44.0**	**-3.2**
	baz=184						
ILEI	**Leirhofn**	**1.85**	**161**	P	**Pn**	**18 41 27.5**	**-1.6**
	baz=165						
ILEI				S	**Sn**	**18 41 50.9**	**-1.8**
	baz=165						
ISIG	**Siglufjorour**	**2.07**	**191**	P	**Pn**	**18 41 31.0**	**-1.2**
	baz=194						
IGIL	**Gilhagi**	**2.18**	**162**	P	**Pn**	**18 41 32.4**	**-1.4**
	baz=166						
IGIL				S	**Sn**	**18 41 59.4**	**-1.6**
	baz=166						
IDIM	**Dimmadalss**	**2.24**	**169**	P	**Pn**	**18 41 33.2**	**-1.3**
	baz=172						
IDIM				S	**Sn**	**18 42 01.8**	**-0.7**
	baz=172						
ISKI	**Skildingahlsh**	**2.33**	**170**	P	**Pn**	**18 41 34.4**	**-1.4**
	baz=173						
ISKI				S	**Sn**	**18 42 03.4**	**-1.1**
	baz=173						
IGHA	**Grjothals**	**2.38**	**167**	P	**Pn**	**18 41 35.2**	**-1.3**
	baz=170						
IKVO	**Krokottuvotn**	**2.49**	**170**	P	**Pn**	**18 41 37.0**	**-1.0**
	baz=172						
IREN	**Reynihlio**	**2.56**	**170**	S	**Sn**	**18 42 10.6**	**+0.4**
	baz=173						
IREN				P	**Pn**	**18 41 37.9**	**-1.0**
	baz=173						
IGRS	**Grimsstaoir**	**2.63**	**163**	P	**Pn**	**18 41 39.1**	**-0.9**
	baz=166						
IGRS				S	**Sn**	**18 42 11.9**	**-0.2**
	baz=166						
IMEL	**Melhnausar**	**2.65**	**168**	P	**Pn**	**18 41 39.4**	**-0.8**
	baz=171						
SCO	**Scoresbysund**	**2.73**	**331**	*i* P	Pn	18 41 37.1	-4.1
SCO				*i* S	Sn	18 41 45.0	-30
ISVA	**Svartarkot**	**2.85**	**174**	P	**Pn**	**18 41 42.5**	**-0.4**
	baz=176						
ISVA				S	**Sn**	**18 42 17.3**	**-0.1**
	baz=176						
IMKO	**Mokollar**	**3.26**	**168**	P	**Pn**	**18 41 47.8**	**-0.8**
	baz=170						
THOR	**Thorvaldshraun**	**3.28**	**170**	P	**Pn**	**18 41 48.7**	**-0.2**
	baz=172						
IADA	**Aoalbol**	**3.29**	**162**	P	**Pn**	**18 41 48.4**	**-0.7**
	baz=164						
ISTE	**Stelbrattur**	**3.38**	**192**	P	**Pn**	**18 41 51.8**	**+1.5**
	baz=194						
IDYN	**Dyngjuhals**	**3.39**	**176**	P	**Pn**	**18 41 50.6**	**+0.1**
	baz=178						
IKRE	**Kreppuhraun**	**3.45**	**169**	P	**Pn**	**18 41 51.0**	**-0.2**
	baz=171						
IVSH	**V-Sauoahnukur**	**3.48**	**164**	P	**Pn**	**18 41 51.1**	**-0.6**
	baz=166						
ISKR	**Skrokkalda**	**3.62**	**183**	P	**Pn**	**18 41 54.7**	**+1.2**
	baz=185						
IASB	**'sbjarnarst**	**3.68**	**203**	P	**Pn**	**18 41 54.8**	**+0.5**
	baz=205						
BORG	**Borgarnes**	**3.68**	**203**	Pn	**Pn**	**18 41 54.6**	**+0.3**
	4.9nm,0.3s,baz=360,slow=6.4,SNR=18						
BORG					Sn	**18 42 39.5**	**+1.6**
	baz=28,slow=16						
BORG				LR	LR	18 43 19.7	
	comp=Z,480nm,19.1s,baz=1.6,slow=38						
	46nm,0.7s						
JMIC	**Jan Mayen**	**4.37**	**45**	LR	LR	18 43 15.8	
	comp=Z,262nm,20.6s,baz=352,slow=32						
DBG	**Daneborg**	**6.22**	**354**	*i* P	**Pn**	**18 42 28.4**	**-0.8**
SUMG	**Summit**	**8.16**	**312**	*i* P	**Pn**	**18 42 54.0**	**-2.2**
SFJD	**Kangerlussuaq**	**12.43**	**280**	LR	LR	18 48 13.4	
	comp=Z,336nm,19.4s,baz=12,slow=35						
SPITS	**Spitsbergen Ar**	**13.80**	**29**	Pn	**Pn**	**18 44 13.8**	**+1.0**
	baz=227,slow=14						
	8.2nm,0.9s						
NOA	**NORSAR Array B**	**14.28**	**106**	Pn	**Pn**	**18 44 20.2**	**+0.8**

MKAR	**Makanchi Array**	**51.10**	**60**	P		**P**		**18 49 59.6**	**-0.3**
	0.4nm,0.8s,baz=327,slow=6.4,SNR=4.4								
	0.4nm,0.8s								
PDAR	**Pinedale Array**	**51.70**	**290**	P		**P**		**18 50 05.0**	**+0.4**
	0.8nm,1.0s,baz=55,slow=3.4,SNR=3.1								
	0.8nm,1.0s								
ELK	**Elko**	**55.46**	**294**	LR		LR		19 15 23.3	
	comp=Z,172nm,19.9s,baz=42,slow=37								
SDV	**Santo Domingo**	**68.50**	**238**	LR		LR		19 19 49.8	
	comp=Z,46nm,19.7s,baz=34,slow=34								
CMIG	**Matias Romero**	**69.40**	**264**	LR		LR		19 25 20.3	
	comp=Z,50nm,18.2s,baz=24,slow=38								
MJAR	**Matsushiro Arr**	**74.09**	**20**	P		**P**		**18 52 33.4**	**-0.1**
	0.7nm,0.7s,baz=359,slow=5.1,SNR=3.1								
	0.7nm,0.7s								
ASAR	**Alice Springs**	**132.28**	**36**	PKP		**PKPdf**		**19 00 11.4**	**0.0**
	0.3nm,0.9s,baz=10,slow=2.1,SNR=2.5								

*IDC **28** 18:53:50.5±1.3, 18°.77S×65°.56E, h0km, mb4.1/12, mbtmp4.1/13, ML4.5/1, MS3.9/29, Error ellipse: s-maj=38.6km s-min=22.1km az=40.0*
*NEIC **28** 18:53:52.0±2.1, 19°.05S±0°.1×65°.35E±0°.10, h15km±4km, mb4.5/29, Error ellipse: s-maj=17.7km s-min=11.0km az=144.0*
*GCMT **28** 18:53:56.0±0.3, 18°.75S±0°.05×65°.33E±0°.04, h17km±1km, MW4.8/73, Moment Tensor Solution. s15,c15; s73,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=-2.35±.19; $M_{\theta\theta}$=0.91±.12; $M_{\phi\phi}$=1.44±.12; $M_{r\theta}$=0.25±.47; $M_{r\phi}$=-0.38±.08; $M_{\theta\phi}$=1.27±.36; Best double couple: M_o=2.34000×10^{16} NP1:ϕ_s=171.00000°, δ=61.00000°, λ=-79.00000°. NP2: ϕ_s=329.00000°, δ=31.00000°, λ=-109.00000°. Principal axes: T 1.9110, Plg15.0000°, Azm253.0000°; N 0.8580, Plg10.0000°, Azm346.0000°; P -2.7700, Plg72.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 18:53:50.9±0.5, 18°.94S±0°.09×65°.44E±0°.09, h10km, n77, σ=0.92/58, mb4.3/23, MS3.9/30, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.12**	**247**			**Pn**		**18 54 24.0**	**-2.4**
RER	**Riviere de l'E**	**9.38**	**255**			**Pn**		**18 56 07.2**	**+0.9**
H08S1	**Diego Garcia H**	**13.15**	**32**	T		T		19 10 28.4	
	baz=210,slow=76,SNR=94								
H08S2	**Diego Garcia H**	**13.15**	**32**	T		T		19 10 27.1	
	baz=210,slow=76,SNR=45								
H08S3	**Diego Garcia H**	**13.17**	**32**	T		T		19 10 29.9	
	baz=210,slow=76,SNR=99								
DGAR	**Diego Garcia**	**13.34**	**32**	Pn		**Pn**		**18 56 58.8**	**-1.7**
OPO	**Ambohidratompo**	**17.29**	**268**	P		**P**		**18 57 57.2**	**+2.9**
	0.2nm,0.3s,baz=88,slow=13,SNR=8.6								
	1.9nm,0.4s								
CRZF	**Crozet Islands**	**29.61**	**199**	P		**P**		**18 59 55.1**	**-1.2**
LODK	**Lodwar**	**37.02**	**304**	P		**P**		**19 01 02.4**	**+1.1**
LBTB	**Lobatse**	**37.34**	**253**	LR		LR		19 14 23.2	
	comp=Z,406nm,18.8s,baz=12,slow=33								
BOSA	**Boshof**	**37.86**	**248**	LR		LR		19 14 16.7	
	comp=Z,111nm,18.4s,baz=49,slow=32								
MBAR	**Mbarara**	**38.61**	**294**	LR		LR		19 14 57.8	
	comp=Z,91nm,19.6s,baz=78,slow=33								
PSI	**Prapat**	**39.39**	**60**	LR		LR		19 14 43.1	
	comp=Z,328nm,19.9s,baz=220,slow=32								
SUR	**Sutherland**	**42.10**	**242**	LR		LR		19 16 59.2	
	comp=Z,298nm,18.1s,baz=89,slow=33								
LEM	**Lembang**	**42.72**	**79**	LR		LR		19 15 43.3	
	comp=Z,184nm,21.7s,baz=218,slow=31								
TSUM	**Tsumeb**	**45.12**	**261**	LR		LR		19 20 04.0	
	comp=Z,168nm,18.1s,baz=112,slow=35								
NWAO	**Narrogin (SRO)**	**48.17**	**118**	LR		LR		19 17 45.9	
	comp=Z,92nm,20.9s,slow=30								
BRDH	**Bariadhala**	**48.65**	**33**	LR		LR		19 23 31.8	
	comp=Z,159nm,18.2s,baz=261,slow=37								
MAW	**Mawson**	**48.67**	**181**	LR		LR		19 17 55.7	
	comp=Z,120nm,21.3s,baz=319,slow=30								
CMAR	**Chiang Mai Arr**	**49.64**	**43**	P		**P**		**19 02 43.9**	**+0.8**
	0.9nm,0.7s,baz=234,slow=8.9,SNR=9.6								
CMAR				LR		LR		19 20 16.5	
	comp=Z,131nm,21.6s,baz=230,slow=32								
	0.9nm,0.7s								
CRAI	**Chiangrai**	**51.84**	**43**	P		**P**		**19 03 01.3**	**+1.6**
NIL	**Nilore**	**52.83**	**8**	P		**P**		**19 03 07.0**	**+0.3**
NIL					IAmb	IAmb		19 03 07.7	
	comp=Z,3.0nm,0.7s								
KBL	**Kabul**	**53.30**	**4**	P		**P**		**19 03 11.6**	**+1.2**
KBL					IAmb	IAmb		19 03 24.8	
	comp=Z,6.5nm,1.2s								
KAPI	**Kappang**	**54.68**	**83**	LR		LR		19 24 48.2	
	comp=Z,54nm,19.0s,baz=262,slow=34								
EIL	**Elat**	**56.57**	**328**	LR		LR		19 25 04.9	
	comp=Z,46nm,19.9s,baz=315,slow=33								
BATI	**Baumata**	**56.80**	**90**	LR		LR		19 23 20.1	
	comp=Z,53nm,21.7s,baz=271,slow=31								
AAK	**Ala-Archa**	**61.84**	**8**	LR		LR		19 29 41.3	
	comp=Z,106nm,18.9s,baz=203,slow=35								
GNI	**Garni**	**61.87**	**342**	LR		LR		19 28 56.3	
	comp=Z,21nm,21.3s,baz=128,slow=34								
KK31	**Karatay Array**	**61.91**	**4**	P		**P**		**19 04 10.4**	**-0.3**
KKAR	**Karatay Array**	**61.91**	**4**	P		**P**		**19 04 11.0**	**+0.3**
KKAR	**Karatay Array**	**61.91**	**4**	P		**P**		**19 04 11.1**	**+0.4**
KKAR					IAmb	IAmb		19 04 22.6	
	comp=Z,1.8nm,1.1s								
AKH	**Akhalkalaki**	**63.40**	**342**	P		**P**		**19 04 21.7**	**+0.8**
ASAR	**Alice Springs**	**63.42**	**108**	P		**P**		**19 04 21.9**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=273,slow=5.6,SNR=44								
	comp=Z,3.7nm,0.9s								
ASAR	**Alice Springs**	**63.42**	**108**	P		**P**		**19 04 22.0**	**+0.7**
AS31	**Alice Springs**	**63.42**	**108**	P		**P**		**19 04 20.9**	**-0.4**
WRA	**Warramunga Arr**	**64.53**	**104**	P		**P**		**19 04 29.5**	**+0.9**
	comp=Z,5.2nm,1.0s,baz=261,slow=5.3,SNR=28								
	comp=Z,5.2nm,1.0s								
WRA	**Warramunga Arr**	**64.53**	**104**	P		**P**		**19 04 29.2**	**+0.6**
WB2	**Warramunga Arr**	**64.54**	**104**	P		**P**		**19 04 28.4**	**-0.4**
WRAB	**Tennant Creek**	**64.54**	**104**	P		**P**		**19 04 28.4**	**-0.3**
WB0	**Warramunga Arr**	**64.62**	**103**	P		**P**		**19 04 29.3**	**+0.1**
DAV	**Davao City (W)**	**64.64**	**72**	LR		LR		19 30 32.7	
	comp=Z,80nm,20.1s,baz=236,slow=34								
WR0	**Warramunga Arr**	**64.71**	**104**	P		**P**		**19 04 29.9**	**+0.1**
WR0					IAmb	IAmb		19 04 37.1	
	comp=Z,3.3nm,0.9s								
ENH	**Enshi**	**64.74**	**42**	P		**P**		**19 04 30.2**	**+0.5**
ENH					IAmb	IAmb		19 04 31.1	
	comp=Z,3.5nm,0.9s								
SIJI	**Sorong**	**66.89**	**83**	LR		LR		19 33 07.1	
	comp=Z,30nm,20.4s,baz=106,slow=35								
MK31	**Makanchi Array**	**67.17**	**12**	P		**P**		**19 04 45.2**	**+0.2**
MK31					IAmb	IAmb		19 04 55.0	
	comp=Z,3.5nm,1.4s								
MKAR	**Makanchi Array**	**67.17**	**12**	P		**P**		**19 04 45.0**	**0.0**
	comp=Z,0.8nm,0.8s,baz=204,slow=6.3,SNR=4.7								
	comp=Z,0.8nm,0.8s								
MKAR	**Makanchi Array**	**67.17**	**12**	P		**P**		**19 04 44.5**	**-0.5**
ABKAR	**Akbulak array**	**68.07**	**356**	P		**P**		**19 04 50.8**	**+0.3**
ABKAR					IAmb	IAmb		19 04 51.7	
	comp=Z,2.2nm,1.1s								
KURBB	**Kurchatov Arra**	**70.22**	**9**	P		**P**		**19 05 03.9**	**0.0**
	comp=Z,1.3nm,0.9s,baz=199,slow=6.7,SNR=5.4								
	comp=Z,1.3nm,0.9s								
QSPA	**South Pole Qui**	**71.16**	**180**	P		**P**		**19 05 11.0**	**+1.2**
BVAR	**Borovoye Array**	**71.79**	**3**	P		**P**		**19 05 13.8**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=172,slow=5.7,SNR=9.6								
BVAR					LR	LR		19 35 28.4	
	comp=Z,56nm,18.6s,baz=238,slow=35								
	comp=Z,2.1nm,0.8s								
BELA	**Belgrano 2**	**73.72**	**193**	P		**P**		**19 05 23.5**	**-1.1**
DBIC	**Dimbokro**	**73.76**	**283**	LR		LR		19 35 48.7	
	comp=Z,103nm,20.0s,baz=131,slow=34								
DJES	**Djerdap**	**74.42**	**330**	P		**P**		**19 05 29.1**	**-0.1**
PDG	**Podgorica**	**74.44**	**326**	P		**P**		**19 05 28.5**	**-0.8**
PDG					IAmb	IAmb		19 05 47.3	
	comp=Z,9.0nm,1.4s								
ZAA0	**Zalesovo Array**	**74.48**	**12**	P		**P**		**19 05 28.8**	**-0.5**
ZAA0					IAmb	IAmb		19 05 40.2	
	comp=Z,7.3nm,1.4s								
ZALV	**Zalesovo Beam**	**74.48**	**12**	P		**P**		**19 05 29.1**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=191,slow=4.5,SNR=8.3								
ZALV					LR	LR		19 35 42.9	
	comp=Z,105nm,20.2s,baz=237,slow=34								
	comp=Z,1.8nm,0.8s								
ZALV	**Zalesovo Beam**	**74.48**	**12**	P		**P**		**19 05 28.8**	**-0.5**
DIVS	**Divibare**	**75.25**	**328**	P		**P**		**19 05 34.5**	**+0.4**
DIVS					IAmb	IAmb		19 05 36.8	
	comp=Z,3.6nm,1.1s								
ARU	**Arti**	**75.30**	**356**	P		**P**		**19 05 33.8**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=225,slow=10.0,SNR=2.0								
	comp=Z,2.0nm,0.8s								
ARU	**Arti**	**75.30**	**356**	P		**P**		**19 05 33.7**	**-0.2**
ARU					IAmb	IAmb		19 05 35.2	
	comp=Z,5.4nm,1.1s								
SGRT	**San Giovanni R**	**75.88**	**324**	P		**P**		**19 05 37.2**	**-0.5**
SONM	**Songino Array**	**75.93**	**27**	P		**P**		**19 05 38.3**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=220,slow=5.9,SNR=14								
SONM					LR	LR		19 37 38.3	
	comp=Z,127nm,21.3s,baz=189,slow=35								
	comp=Z,1.7nm,0.8s								
SONM	**Songino Array**	**75.93**	**27**	P		**P**		**19 05 38.7**	**+0.7**
KEST	**Kesra**	**76.00**	**316**	LR		LR		19 39 41.1	
	comp=Z,65nm,18.1s,baz=344,slow=36								
JOW	**Kunigami**	**76.04**	**55**	LR		LR		19 35 29.2	
	comp=Z,71nm,21.4s,baz=316,slow=33								
ULN	**Ulaanbaatar**	**76.23**	**27**	P		**P**		**19 05 40.0**	**+0.2**
ULN					IAmb	IAmb		19 06 08.8	
	comp=Z,4.7nm,1.5s								
AKASG	**Malin Array Be**	**76.32**	**337**	P		**P**		**19 05 40.2**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=138,slow=5.3,SNR=5.1								
	comp=Z,1.3nm,0.8s								
MNK	**Minsk**	**79.89**	**339**	*i* P		**P**		**19 05 58.5**	**-1.2**
	comp=E,1.0nm,0.8s								
MNK				*i* P		**P**		**19 05 58.5**	**-1.2**
	comp=N,22nm,0.8s								
MNK				*i* P		**P**		**19 05 58.5**	**-1.2**
	comp=Z,6.0nm,0.8s,baz=324								
MNK				*i* PcP		**pwP**		**19 06 05.8**	**+0.5**
MNK				*i* PP		**PP**		**19 08 59.5**	**-2.0**
MNK				*i* PPP		PPP		19 10 48.4	
MNK				*i* S		**S**		**19 16 02.3**	**-0.7**
MNK				*i* ScS		**ScS**		**19 16 22.7**	**-1.3**
MNK				*i* SS		**SS**		**19 21 12.2**	**-0.7**
MNK				*i* SSS		SSS		19 24 38.1	
MNK				*i* LQ		LQ		19 37 14.5	
MNK				*i* LR		LR		19 41 28.8	
MNK				*i* LRM		MLR		19 42 42.9	
	comp=Z,57nm,16.8s								
MNK				*i* LRM		MLR		19 42 57.1	
	comp=E,6.0nm,16.8s								
MNK				*i* LRM		MLR		19 42 57.7	
	comp=N,166nm,16.8s								
JNU	**Nakatsue**	**81.10**	**51**	LR		LR		19 42 29.6	
	comp=N,48nm,19.6s,baz=294,slow=36								
KSAR	**Wonju Array Be**	**81.19**	**46**	P		**P**		**19 06 07.7**	**+0.6**
KSRS	**Korea Array**	**81.22**	**46**	P		**P**		**19 06 06.8**	**-0.4**
	comp=N,2.1nm,1.1s,baz=242,slow=4.5,SNR=4.8								
KSRS					LR	LR		19 42 57.8	
	comp=N,28nm,18.1s,baz=230,slow=36								
	comp=N,2.1nm,1.1s								
BBTS	**Babate**	**87.32**	**286**	LR		LR		19 44 34.6	
	comp=N,188nm,19.7s,baz=81,slow=35								
MJAR	**Matsushiro Arr**	**88.02**	**50**	P		**P**		**19 06 42.1**	**+0.4**
	comp=N,1.9nm,1.0s,baz=236,slow=6.0,SNR=5.4								
MJAR					LR	LR		19 43 03.6	
	comp=N,38nm,22.0s,baz=154,slow=34								
	comp=N,1.9nm,1.0s								
YAK	**Yakutsk**	**95.20**	**25**	LR		LR		19 49 48.5	
	comp=N,76nm,18.9s,baz=260,slow=35								
ULM	**Lac du Bonnet**	**145.39**	**339**	PKPbc		**PKPbc**		**19 13 28.9**	**-0.1**
	comp=N,1.4nm,0.4s,baz=56,slow=7.3,SNR=4.3								
NVAR	**Mina Array Bea**	**160.31**	**9**	PKPab		**PKPab**		**19 14 31.2**	**-0.5**
	comp=N,0.5nm,0.7s,baz=10,slow=5.5,SNR=4.5								

MAN 28 18:54:33.6, 6°.13N×125°.06E, h1km, mb3.8, ML2.6, MS2.1, Mindanao

*TAP **28** 19:16:53.8, 24°.66N×122°.91E, h111km, ML2.8, C*
*JMA **28** 19:16:54.0±0.2, 25°.N±2°×122°.9E±0°.5, h113km±1km, MV2.0/11, NW OFF ISHIGAKIJIMA IS*

ISC 28 19:16:55.4±1.5, 24°.57N±0°.05×122°.89E±0°.03, h101km±9km, n73, σ=0.72/124, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.13**	**156**	P		**Pn**		**19 17 09.8**	**+0.2**
JYNG					S	**Sn**		**19 17 21.3**	**+1.2**
YOJ	**Yonaguni jima**	**0.16**	**134**	P		**Pn**		**19 17 09.8**	**+0.2**
YOJ					*e*S	**Sn**		**19 17 21.3**	**+1.0**
YOJ	**Yonaguni jima**	**0.16**	**134**	*i* P		**Pn**		**19 17 09.7**	**+0.2**
	baz=166								
YOJ				*i* S		**Sn**		**19 17 21.2**	**+1.0**
	baz=166								
IRIF	**Iriomote-Funau**	**0.81**	**107**	P		**Pn**		**19 17 13.6**	**-0.3**
IRIF					*e*S	**Sn**		**19 17 28.3**	**+0.5**
TWC	**Suao**	**0.94**	**272**	P		**Pn**		**19 17 14.9**	**-0.4**
	baz=262								
TWC					S	**Sn**		**19 17 29.4**	**-0.8**
	baz=262								
HATJ	**Hateruma jima**	**0.98**	**121**	S		**Sn**		**19 17 32.0**	**+1.0**
EWUT	**Wuta**	**1.02**	**263**	P		**Pn**		**19 17 15.7**	**-0.3**
	baz=252								
EWUT					*e*S	**Sn**		**19 17 32.1**	**+0.5**
	baz=252								
TIPB	**Shuangxi**	**1.04**	**293**	P		**Pn**		**19 17 16.0**	**-0.4**
	baz=281								
TIPB					*e*S	**Sn**		**19 17 31.4**	**-0.8**
	baz=281								
ENA	**Nanau**	**1.05**	**262**	P		**Pn**		**19 17 16.5**	**+0.1**
	baz=252								
ENA					*e*S	**Sn**		**19 17 32.2**	**-0.2**
	baz=252								
SXI1	**Grass Mountain**	**1.05**	**300**	P		**Pn**		**19 17 16.1**	**-0.5**
	baz=294								
NDS	**Dongshan**	**1.06**	**273**	*e*P		**Pn**		**19 17 16.3**	**-0.3**
	baz=263								
JKRS	**Kuro-shima**	**1.08**	**108**	P		**Pn**		**19 17 16.8**	**0.0**
JKRS					S	**Sn**		**19 17 33.5**	**+0.6**
TWE	**Neicheng**	**1.12**	**278**	P		**Pn**		**19 17 16.9**	**-0.2**
	baz=268								
TWE					*e*S	**Sn**		**19 17 33.3**	**-0.4**
	baz=268								
WFSB	**Wu-fen Shan**	**1.12**	**297**	*e*P		**Pn**		**19 17 17.2**	**0.0**
	baz=290								
JIJ	**Ishigaki jima**	**1.17**	**100**	P		**Pn**		**19 17 17.2**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.20**	**279**	P		**Pn**		**19 17 17.9**	**-0.2**
	baz=273								
FUSB					*e*S	**Sn**		**19 17 34.6**	**-0.7**
	baz=273								
ENTT	**Nioudou**	**1.20**	**273**	P		**Pn**		**19 17 18.3**	**+0.1**
	baz=263								
ENTT					*e*S	**Sn**		**19 17 35.3**	**-0.1**
	baz=263								
ETL	**Fush Village**	**1.22**	**251**	*e*P		**Pn**		**19 17 17.6**	**-0.8**
	baz=239								
ETL					*e*S	**Sn**		**19 17 35.2**	**-0.7**
	baz=239								
LATG	**Datong**	**1.24**	**269**	*e*P		**Pn**		**19 17 18.5**	**-0.2**
	baz=258								
LATG					S	**Sn**		**19 17 36.3**	**0.0**
	baz=258								
NACB	**Ninganchiao**	**1.24**	**252**	P		**Pn**		**19 17 17.9**	**-0.8**
	baz=241								
NACB					S	**Sn**		**19 17 35.3**	**-0.9**
	baz=241								
TWA	**Mucha**	**1.25**	**289**	P		**Pn**		**19 17 18.5**	**-0.2**
	baz=275								
TWA					S	**Sn**		**19 17 35.7**	**-0.7**
	baz=275								
NWLT	**Wulai**	**1.27**	**279**	P		**Pn**		**19 17 18.8**	**-0.2**
	baz=274								
NWLT					*e*S	**Sn**		**19 17 36.2**	**-0.7**
	baz=274								
TWD	**Chiawan**	**1.27**	**248**	P		**Pn**		**19 17 18.3**	**-0.7**
	baz=238								
TWD					S	**Sn**		**19 17 35.9**	**-0.9**
	baz=238								
JISG	**Ishigakijimahi**	**1.30**	**89**	P		**Pn**		**19 17 18.4**	**-0.8**
JISG					S	**Sn**		**19 17 37.0**	**-0.4**
YM01	**YM01**	**1.32**	**296**	P		**Pn**		**19 17 19.4**	**-0.2**
	baz=285								
YM01					S	**Sn**		**19 17 37.9**	**-0.1**
	baz=285								
ETLH	**Xiulin Townshi**	**1.33**	**254**	*e*P		**Pn**		**19 17 19.2**	**-0.5**
	baz=250								
ETLH					*e*S	**Sn**		**19 17 37.8**	**-0.4**
	baz=250								
TATO	**Taipei**	**1.33**	**288**	*e*P		**Pn**		**19 17 19.5**	**-0.1**
	baz=274								
TEYL	**Yanliau Villag**	**1.37**	**239**	*e*P		**Pn**		**19 17 19.3**	**-0.8**
	baz=234								
NNSB	**Datong**	**1.38**	**264**	P		**Pn**		**19 17 19.9**	**-0.4**
	baz=253								
NNSB					S	**Sn**		**19 17 38.7**	**-0.5**
	baz=253								
NNSH	**Datong**	**1.38**	**264**	*e*P		**Pn**		**19 17 19.6**	**-0.7**
	baz=255								
YHNB	**Yeheng**	**1.38**	**274**	P		**Pn**		**19 17 20.4**	**+0.1**
	baz=263								
YHNB					S	**Sn**		**19 17 39.0**	**-0.2**
	baz=263								
NNS	**Nan Shan**	**1.38**	**265**	*e*P		**Pn**		**19 17 20.2**	**-0.2**
	baz=253								
NNS					*e*S	**Sn**		**19 17 39.1**	**-0.2**
	baz=253								
NSK	**Sanguang**	**1.39**	**275**	*e*P		**Pn**		**19 17 20.4**	**0.0**
	baz=263								
NSK					*e*S	**Sn**		**19 17 38.9**	**-0.5**
	baz=263								
ETM	**Tongmen**	**1.41**	**245**	P		**Pn**		**19 17 19.9**	**-0.7**
	baz=238								
ETM					S	**Sn**		**19 17 38.8**	**-0.9**
	baz=238								
ESL	**Shilin**	**1.53**	**241**	P		**Pn**		**19 17 21.3**	**-0.7**
	baz=242								
ESL					S	**Sn**		**19 17 41.4**	**-0.8**
	baz=242								
FUSS	**Fushou**	**1.53**	**258**	P		**Pn**		**19 17 22.0**	**-0.3**
	baz=250								
FUSS					*e*S	**Sn**		**19 17 43.0**	**+0.2**
	baz=250								
WHF	**Hehuan Shan**	**1.54**	**254**	*e*P		**Pn**		**19 17 22.2**	**-0.4**
	baz=246								
TWT	**Tachien**	**1.59**	**259**	*e*P		**Pn**		**19 17 23.6**	**+0.6**
	baz=252								
TWT					*e*S	**Sn**		**19 17 44.7**	**+0.7**
	baz=252								
EGFH	**Guangfu**	**1.61**	**236**	P		**Pn**		**19 17 22.4**	**-0.7**
	baz=237								
EGFH					*e*S	**Sn**		**19 17 43.2**	**-0.8**
	baz=237								
NFF	**Wufeng Townshi**	**1.61**	**272**	*e*P		**Pn**		**19 17 23.0**	**-0.1**
	baz=268								
NFF					*e*S	**Sn**		**19 17 44.3**	**+0.1**
	baz=268								
CHGB	**Renai**	**1.64**	**252**	P		**Pn**		**19 17 23.6**	**-0.1**
	baz=242								
CHGB					*e*S	**Sn**		**19 17 45.1**	**-0.1**
	baz=242								
JTJ	**Tarama**	**1.66**	**87**	*e*P		**Pn**		**19 17 23.1**	**-0.6**
JTJ					S	**Sn**		**19 17 44.6**	**-0.5**
LIOB	**Emei**	**1.70**	**273**	*e*P		**Pn**		**19 17 24.5**	**+0.3**
	baz=268								
LIOB					*e*S	**Sn**		**19 17 46.2**	**0.0**
	baz=268								
WUSB	**Renai**	**1.71**	**251**	*e*P		**Pn**		**19 17 24.5**	**0.0**
	baz=244								
HGSD	**Ruisui**	**1.71**	**231**	P		**Pn**		**19 17 23.9**	**-0.4**
	baz=228								
HGSD					*e*S	**Sn**		**19 17 46.1**	**-0.3**
	baz=228								
NSTT	**Nanjuang**	**1.71**	**272**	*e*P		**Pn**		**19 17 24.2**	**-0.2**
	baz=268								
NSTT					*e*S	**Sn**		**19 17 46.1**	**-0.4**
	baz=268								
EHY	**Hungye**	**1.78**	**234**	*e*P		**Pn**		**19 17 24.4**	**-0.8**
	baz=239								
VWDT	**VWDT**	**1.79**	**243**	P		**Pn**		**19 17 25.5**	**+0.2**
	baz=236								
VWDT					*e*S	**Sn**		**19 17 47.6**	**-0.5**
	baz=236								
WHP	**Taichung City**	**1.79**	**261**	*e*P		**Pn**		**19 17 26.3**	**+0.8**
	baz=255								
DPDB	**Guoxing**	**1.87**	**254**	*e*P		**Pn**		**19 17 27.0**	**+0.7**
	baz=248								
YULB	**Yu-li**	**1.87**	**231**	*e*P		**Pn**		**19 17 25.4**	**-1.0**
	baz=237								
YULB					*e*S	**Sn**		**19 17 48.8**	**-1.1**
	baz=237								
WCS	**Beigang Elemen**	**1.87**	**254**	*e*P		**Pn**		**19 17 26.4**	**+0.1**
	baz=248								
EYUL	**Yuli**	**1.88**	**230**	*e*P		**Pn**		**19 17 26.2**	**-0.3**
	baz=223								
EYUL					*e*S	**Sn**		**19 17 50.0**	**-0.2**
	baz=223								
TWF1	**Yuli**	**1.89**	**230**	*e*P		**Pn**		**19 17 26.1**	**-0.6**
	baz=237								
SSLB	**Suanglung**	**1.93**	**246**	*e*P		**Pn**		**19 17 27.4**	**+0.2**
	baz=240								
SSLB					*e*S	**Sn**		**19 17 51.8**	**+0.4**
	baz=240								
SMLT	**Sun Moon Lake**	**1.94**	**250**	*e*P		**Pn**		**19 17 27.8**	**+0.4**
	baz=243								
SMLT					*e*S	**Sn**		**19 17 54.0**	**+2.3**
	baz=243								
TYC	**Yuchr**	**1.97**	**251**	P		**Pn**		**19 17 28.5**	**+1.0**
	baz=242								
TYC					*e*S	**Sn**		**19 17 53.3**	**+1.2**
	baz=242								
YUS	**Yu-Shan**	**2.07**	**239**	*e*P		**Pn**		**19 17 29.6**	**+0.2**
	baz=232								
EHD	**Haiduan**	**2.09**	**228**	*e*P		**Pn**		**19 17 28.7**	**-0.5**
	baz=235								
EHD					*e*S	**Sn**		**19 17 54.0**	**-1.1**
	baz=235								
WNT	**Mingjian**	**2.12**	**251**	*e*P		**Pn**		**19 17 31.0**	**+1.4**
	baz=257								
EDH	**Donghe**	**2.15**	**223**	*e*P		**Pn**		**19 17 29.6**	**-0.4**
	baz=219								
EDH					*e*S	**Sn**		**19 17 55.3**	**-1.1**
	baz=219								
ALS	**Alishan**

*IDC **28** 19:31:41.7±0.8, 61°.95S×154°.57E, h0km, mb4.4/6, mbtmp4.5/6, MS4.4/40, Error ellipse: s-maj=33.5km s-min=19.7km az=89.0*
*NEIC **28** 19:31:42.4±1.4, 62°.10S±0°.04×155°.2E±0°.3, h10km±1km, mb4.7/30, Error ellipse: s-maj=24.1km s-min=4.8km az=105.0*
*GCMT **28** 19:31:46.4±0.1, 61°.99S±0°.01×154°.86E±0°.02, h13km±1km, MW5.3/125, Moment Tensor Solution. s89,c131; s125,c200; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.15±.02; Mθθ1.00±.02; Mφφ-0.85±.02; Mrθ-0.29±.04; Mθφ-0.78±.02; Mφr0.06±.04; Best double couple: M0 1.24100×10^17 NP1:φs245.00000°, δ84.00000°, λ170.00000°. NP2:φs336.00000°, δ80.00000°, λ6.00000°. Principal axes: T 1.3440, Plg11.0000°, Azm200.0000°; N -0.2080, Plg78.0000°, Azm33.0000°; P -1.1380, Plg3.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 19:31:42.6±0.4**, 62°.13S**±0°.06×**155°.2E**±0°.1**, h10**km**, n151, σ1s41**/105**, mb4.7**/16**, MS4.4**/41**, 10C-18D, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.90**	**16**		**Pn**	**19 33 34.2**	**-3.1**
VNDA	**Vanda**	**15.61**	**175**	Pn	**Pn**	**19 35 18.1**	**-4.1**
	0.5nm,0.3s,baz=344,slow=12,SNR=20						
VNDA				LR	LR	19 40 48.5	
	comp=Z,4μm,20.1s,baz=359,slow=35						
VNDA	**Vanda**	**15.61**	**175**	Pn	**Pn**	**19 35 18.8**	**-3.4**
SBA	**Scott Base**	**16.21**	**171**	Pn	**Pn**	**19 35 29.0**	**-1.0**
SBA				IAmb	IAmb	19 35 43.9	
	comp=Z,58nm,1.4s						
WHZ	**Wether Hill Ro**	**17.84**	**30**		**Pn**	**19 35 50.5**	**-0.2**
WHZ				IAmb	IAmb	19 36 04.3	
	comp=Z,59nm,1.3s						
DCZ	**Deep Cove**	**18.07**	**28**		**Pn**	**19 35 53.1**	**-0.3**
DCZ				IAmb	IAmb	19 36 08.4	
	comp=Z,70nm,1.0s						
MLZ	**Mavora Lakes**	**18.38**	**30**	P	**P**	**19 35 57.7**	**+0.4**
MLZ				IAmb	IAmb	19 36 05.0	
	comp=Z,66nm,1.1s						
CASY	**Casey**	**19.55**	**238**	P	**P**	**19 36 09.7**	**-0.2**
CASY				IAmb	IAmb	19 36 32.3	
	comp=Z,44nm,1.4s						
TAU	**Tasmania Unive**	**19.82**	**343**	P	**P**	**19 36 11.7**	**-1.3**
TAU	**Tasmania Unive**	**19.82**	**343**	P	**P**	**19 36 13.0**	**0.0**
MOO	**Moorlands**	**20.30**	**343**	P	**P**	**19 36 18.5**	**+0.2**
RPZ	**Rata Peaks**	**20.66**	**34**	P	**P**	**19 36 22.4**	**+0.3**
	comp=Z,9.5nm,0.9s,baz=151,slow=19,SNR=2.9						
RPZ				LR	LR	19 43 03.8	
	comp=Z,3μm,18.4s,baz=184,slow=33						
	comp=Z,9.5nm,0.9s						
CORO	**Coronation Par**	**21.28**	**343**	P	**P**	**19 36 29.0**	**+0.2**
AULHS	**Lilydale High**	**21.46**	**343**	P	**P**	**19 36 31.3**	**+0.5**
GEXS	**Deakin Univers**	**24.89**	**339**	P	**P**	**19 37 07.0**	**+1.7**
TOO	**Toolangi**	**25.32**	**342**	P	**P**	**19 37 09.4**	**+0.2**
TOO	**Toolangi**	**25.32**	**342**	P	**P**	**19 37 10.3**	**+1.1**
MILA	**Mila**	**25.39**	**349**	P	**P**	**19 37 10.9**	**+1.1**
BRAT	**Ballarat**	**25.59**	**339**	P	**P**	**19 37 13.9**	**+2.4**
AUSMG	**Snowy Mountain**	**26.07**	**348**	P	**P**	**19 37 14.2**	**-1.9**
ARPS	**Mount Arapiles**	**26.73**	**336**	P	**P**	**19 37 22.4**	**+0.5**
CNB	**Canberra Magne**	**27.10**	**349**	P	**P**	**19 37 28.4**	**+3.1**
CAN	**Canberra**	**27.12**	**349**	P	**P**	**19 37 24.5**	**-1.0**
CAN				IAmb	IAmb	19 37 31.0	
	comp=Z,17nm,1.0s						
URZ	**Urewera**	**27.42**	**40**	P	**P**	**19 37 30.1**	**+2.0**
	comp=Z,7.9nm,0.8s,baz=308,slow=8.9,SNR=6.9						
URZ				LR	LR	19 48 34.7	
	comp=Z,1μm,18.2s,baz=290,slow=37						
	comp=Z,7.9nm,0.8s						
QSPA	**South Pole Qui**	**27.95**	**180**	P	**P**	**19 37 34.5**	**+1.6**
	comp=Z,5.6nm,0.9s,baz=9.4,slow=3.4,SNR=15						
QSPA				LR	LR	19 48 51.8	
	comp=Z,964nm,19.8s,baz=16,slow=37						
	comp=Z,5.6nm,0.9s						
QSPA	**South Pole Qui**	**27.95**	**180**	P	**P**	**19 37 32.9**	**+0.1**
QSPA				IAmb	IAmb	19 38 02.0	
	comp=Z,12nm,0.9s						
HTT	**Hallett**	**30.56**	**332**	P	**P**	**19 37 56.3**	**+0.2**
CMSA	**Cobar Meteorol**	**31.23**	**344**	P	**P**	**19 38 02.8**	**+0.9**
STKA	**Stephens Creek**	**31.53**	**337**	P	**P**	**19 38 02.6**	**-2.0**
	comp=Z,6.0nm,1.0s,baz=152,slow=8.7,SNR=9.7						
STKA				LR	LR	19 47 38.0	
	comp=Z,732nm,20.2s,baz=158,slow=31						
	comp=Z,6.0nm,1.0s						
STKA	**Stephens Creek**	**31.53**	**337**	P	**P**	**19 38 03.4**	**-1.2**
STKA	**Stephens Creek**	**31.53**	**337**	P	**P**	**19 38 04.5**	**-0.1**
ARMA	**Armidale**	**31.81**	**354**	P	**P**	**19 38 07.2**	**0.0**
ARMA				IAmb	IAmb	19 38 23.5	
	comp=Z,16nm,1.2s						
BBOO	**Buckleboo**	**31.82**	**328**	P	**P**	**19 38 05.9**	**-1.2**
INKA	**Innaminka**	**35.72**	**338**	P	**P**	**19 38 41.7**	**+0.7**
RMQ	**Roma**	**35.91**	**350**	P	**P**	**19 38 42.4**	**-0.3**
FORT	**Forrest**	**35.98**	**318**	P	**P**	**19 38 42.9**	**-0.4**
MAW	**Mawson**	**36.11**	**221**	LR	LR	19 53 39.3	
	comp=Z,2μm,18.8s,baz=118,slow=37						
QLP	**Quilpie**	**36.30**	**343**	P	**P**	**19 38 47.0**	**+0.9**
EIDS	**Eidsvold**	**36.86**	**354**	P	**P**	**19 38 50.1**	**-0.7**
EIDS				IAmb	IAmb	19 38 57.6	
	comp=Z,26nm,1.5s						
RAO	**Raoul Island**	**37.30**	**41**	LR	LR	19 52 25.4	
	comp=Z,1μm,20.0s,baz=168,slow=33						
H01W1	**Cape Leeuwin H**	**37.46**	**297**	T	T	20 18 30.0	
	baz=148,slow=75						
H01W2	**Cape Leeuwin H**	**37.46**	**297**	T	T	20 18 28.1	
	baz=148,slow=75						
H01W3	**Cape Leeuwin H**	**37.48**	**297**	T	T	20 18 31.9	
	baz=148,slow=75						
NWAO	**Narrogin (SRO)**	**37.92**	**303**	LR	LR	19 50 33.9	
	comp=Z,956nm,19.4s,slow=30						
BELA	**Belgrano 2**	**40.10**	**177**	P	**P**	**19 39 18.2**	**+0.7**
DZM	**Mont Dzumac**	**40.77**	**16**	*e*S	S	19 45 01.5	-33
	comp=Z,284nm,30.3s						
DZM				*e*LR	LR	19 49 57.0	
	comp=Z,2μm,25.7s						
DZM	**Mont Dzumac**	**40.77**	**16**	LR	LR	19 52 53.6	
	comp=Z,1μm,18.9s,baz=202,slow=31						
AS01	**Alice Springs**	**41.09**	**330**	P	**P**	**19 39 25.5**	**-0.8**
ASAR	**Alice Springs**	**41.09**	**329**	P	**P**	**19 39 23.7**	**-2.6**
	comp=Z,5.5nm,0.8s,baz=163,slow=8.3,SNR=31						
ASAR				PcP	**PcP**	**19 41 26.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=172,slow=2.8,SNR=2.3						
ASAR				LR	LR	19 54 07.1	
	comp=Z,691nm,19.6s,baz=160,slow=33						
	comp=Z,5.5nm,0.8s						
ASAR	**Alice Springs**	**41.09**	**329**	P	**P**	**19 39 25.3**	**-1.0**
AS31	**Alice Springs**	**41.10**	**329**	P	**P**	**19 39 25.3**	**-1.1**
WRKA	**Warakurna**	**41.28**	**321**	P	**P**	**19 39 27.1**	**-0.8**
MORW	**Morawa**	**41.80**	**304**	P	**P**	**19 39 31.3**	**-0.8**
KOUNC	**Koumac, New Ca**	**42.02**	**13**	P	**P**	**19 39 34.7**	**+0.8**
CTA	**Charters Tower**	**42.47**	**347**	LR	LR	19 54 40.0	
	comp=Z,641nm,18.7s,baz=177,slow=33						
CTAO	**Charters Tower**	**42.47**	**347**	P	**P**	**19 39 37.1**	**-0.5**
CTAO				IAmb	IAmb	19 40 04.7	
	comp=Z,24nm,1.4s						
QIS	**Mount Isa**	**42.93**	**338**	P	**P**	**19 39 40.4**	**-0.9**
WR0	**Warramunga Arr**	**44.52**	**332**	P	**P**	**19 39 52.5**	**-1.6**
WR0				IAmb	IAmb	19 39 58.0	
	comp=Z,7.2nm,0.9s						
WB2	**Warramunga Arr**	**44.58**	**331**	P	**P**	**19 39 52.7**	**-1.9**
WRA	**Warramunga Arr**	**44.58**	**331**	P	**P**	**19 39 52.6**	**-2.0**
	comp=Z,3.6nm,0.8s,baz=161,slow=7.0,SNR=33						
WRA				LR	LR	19 56 00.5	
	comp=Z,532nm,20.6s,baz=160,slow=33						
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**44.58**	**331**	P	**P**	**19 39 53.2**	**-1.5**
WRAB	**Tennant Creek**	**44.59**	**331**	P	**P**	**19 39 53.0**	**-1.7**
MTSU	**Mount Surprise**	**44.62**	**345**	P	**P**	**19 39 55.0**	**+0.1**
SNAA	**Sanae**	**45.62**	**190**	LR	LR	19 59 49.1	
	comp=Z,3μm,18.4s,baz=172,slow=37						
SNAA	**Sanae**	**45.62**	**190**	P	**P**	**19 40 02.9**	**+0.6**
SNAA				IAmb	IAmb	19 40 16.8	
	comp=Z,17nm,1.3s						
MSVF	**Nonsavu**	**47.15**	**30**	LR	LR	19 57 22.3	
	comp=Z,783nm,18.1s,baz=202,slow=33						
FITZ	**Fitzroy Crossi**	**48.61**	**321**	P	**P**	**19 40 25.9**	**-0.3**
KNRA	**Kununurra**	**50.05**	**326**	P	**P**	**19 40 36.5**	**-0.6**
KNRA				IAmb	IAmb	19 41 02.1	
	comp=Z,13nm,1.1s						
PMSA	**Palmer Station**	**50.08**	**159**	LR	LR	20 00 22.7	
	comp=Z,356nm,19.3s,baz=127,slow=34						
KDU	**Kakadu**	**52.02**	**331**	P	**P**	**19 40 53.8**	**+1.8**
MTN	**Manton Dam**	**52.17**	**330**	P	**P**	**19 40 53.0**	**-0.2**
PMG	**Port Moresby**	**52.96**	**350**	LR	LR	20 00 27.9	
	comp=Z,718nm,19.0s,baz=164,slow=33						
PMG	**Port Moresby**	**52.96**	**350**	P	**P**	**19 40 59.5**	**+0.6**
PMG				IAmb	IAmb	19 41 02.5	
	comp=Z,9.0nm,0.9s						
AFI	**Afiamalu**	**53.59**	**41**	LR	LR	20 03 13.3	
	comp=Z,174nm,19.9s,baz=210,slow=35						
BATI	**Baumata**	**56.67**	**322**	LR	LR	20 03 35.8	
	comp=Z,512nm,21.4s,baz=199,slow=34						
KRVT	**Keravat (AS076**	**57.75**	**356**	LR	LR	20 03 37.2	
	comp=Z,144nm,19.2s,baz=307,slow=33						
TVO	**Taravao**	**58.57**	**67**	*e*T	T	20 45 03.0	
	comp=Z,5.8nm,0.3s						
PPT2	**Papeete2**	**58.60**	**67**	*e*LQ	LQ	19 56 00.8	
	comp=Z,785nm,23.8s						
PPT2				*e*LR	LR	19 58 29.4	
	comp=Z,500nm,27.2s						
PPT2				*e*LR	LR	19 58 29.6	
	comp=Z,716nm,27.0s						
PPT	**Papeete**	**58.62**	**67**	LR	LR	20 00 08.7	
	comp=Z,211nm,19.4s,baz=214,slow=29						
PLAI	**Plampang**	**59.79**	**316**	P	**P**	**19 41 48.1**	**+0.4**
	comp=Z,32nm,1.2s						
VAH	**Vaihoa**	**61.53**	**67**	*e*T	T	20 48 40.7	
	comp=Z,157nm,0.3s						
RKPI	**Ransiki, Papua**	**62.52**	**336**	P	**P**	**19 42 08.0**	**+1.8**
KAPI	**Kappang**	**62.76**	**319**	LR	LR	20 06 41.9	
	comp=Z,425nm,20.7s,baz=165,slow=34						
LEM	**Lembang**	**65.25**	**306**	LR	LR	20 05 57.8	
	comp=Z,285nm,21.6s,baz=173,slow=32						
TAOE	**Nuku Hiva Isla**	**70.48**	**71**	*e*LR	LR	20 04 01.0	
	comp=Z,276nm,25.1s						
PLCA	**Paso Flores**	**71.04**	**145**	LR	LR	20 07 57.9	
	comp=Z,234nm,20.7s,baz=204,slow=30						
PLCA	**Paso Flores**	**71.04**	**145**	P	**P**	**19 43 01.5**	**+1.1**
PLCA				IAmb	IAmb	19 43 19.1	
	comp=Z,4.5nm,1.1s						
H03S2	**Juan Fernandez**	**74.91**	**136**	T	T	21 06 46.0	
	baz=201,slow=74						
H03S1	**Juan Fernandez**	**74.91**	**136**	T	T	21 06 45.9	
	baz=201,slow=74						
H03S3	**Juan Fernandez**	**74.93**	**136**	T	T	21 06 44.2	
	baz=201,slow=74						
GUMO	**Guam**	**75.92**	**350**	LR	LR	20 16 24.2	
	comp=Z,107nm,18.1s,baz=173,slow=35						
PSI	**Prapat**	**77.44**	**302**	LR	LR	20 11 57.6	
	comp=Z,154nm,21.8s,baz=128,slow=31						
MT02	**Curacav**	**77.86**	**142**	P	**P**	**19 43 39.0**	**-1.1**
SUR	**Sutherland**	**78.92**	**218**	LR	LR	20 15 54.1	
	comp=Z,377nm,21.3s,baz=162,slow=34						
KULM	**Kulim**	**79.03**	**304**	P	**P**	**19 43 46.0**	**-0.6**
H08S2	**Diego Garcia H**	**79.90**	**273**	T	T	21 11 39.3	
	baz=151,slow=76						
H08S1	**Diego Carcia H**	**79.91**	**273**	T	T	21 11 39.3	
	baz=151,slow=76						
H08S3	**Diego Garcia H**	**79.92**	**273**	T	T	21 11 39.3	
	baz=151,slow=76						
CFA	**Coronel Fontan**	**80.24**	**143**	LR	LR	20 12 56.0	
	comp=Z,73nm,21.9s,baz=228,slow=31						
BOSA	**Boshof**	**81.08**	**223**	LR	LR	20 19 02.0	
	comp=Z,238nm,18.1s,baz=176,slow=35						
BOSA	**Boshof**	**81.08**	**223**	P	**P**	**19 43 56.5**	**-1.3**
BOSA				IAmb	IAmb	19 44 03.0	
	comp=Z,14nm,1.3s						
LBTB	**Lobatse**	**84.31**	**225**	LR	LR	20 18 41.0	
	comp=Z,214nm,19.7s,baz=174,slow=34						
LVC	**Limon Verde**	**88.51**	**140**	LR	LR	20 16 39.0	
	comp=Z,102nm,21.4s,baz=203,slow=30						
JCJ	**Chichijima**	**89.53**	**348**	LR	LR	20 19 18.7	
	comp=Z,142nm,20.3s,baz=124,slow=32						
JOW	**Kunigami**	**91.27**	**336**	LR	LR	20 23 38.0	
	comp=Z,155nm,21.1s,baz=135,slow=34						
CMAR	**Chiang Mai Arr**	**91.74**	**308**	LR	LR	20 25 27.7	
	comp=Z,69nm,18.0s,baz=165,slow=35						
TSUM	**Tsumeb**	**92.27**	**220**	LR	LR	20 24 34.0	
	comp=Z,397nm,20.0s,baz=161,slow=34						
LPAZ	**La Paz**	**94.70**	**139**	LR	LR	20 21 36.1	
	comp=Z,73nm,18.5s,baz=148,slow=32						
JHJ	**Hachijo jima 2**	**95.74**	**347**	LR	LR	20 24 15.2	
	comp=Z,136nm,21.9s,baz=191,slow=33						
NNA	**Nana**	**95.76**	**129**	LR	LR	20 19 12.5	
	comp=Z,225nm,21.0s,baz=206,slow=30						
JNU	**Nakatsue**	**96.94**	**340**	LR	LR	20 29 08.4	
	comp=Z,110nm,18.6s,baz=118,slow=36						
BRDH	**Bariadhala**	**98.36**	**303**	LR	LR	20 29 06.6	
	comp=Z,79nm,18.9s,baz=349,slow=35						
MJAR	**Matsushiro Arr**	**99.30**	**346**	LR	LR	20 25 16.4	
	comp=Z,87nm,21.6s,baz=162,slow=32						
NVAR	**Mina Array Bea**	**121.57**	**67**	PKP	**PKPdf**	**19 50 36.3**	**+0.6**
	comp=Z,0.2nm,0.2s,baz=193,slow=3.6,SNR=1.9						
MKAR	**Makanchi Array**	**123.14**	**308**	PKP	**PKPdf**	**19 50 37.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=129,slow=2.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**127.54**	**213**	PKP	**PKPdf**	**19 50 47.7**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=71,slow=0.8,SNR=3.5						
KURBB	**Kurchatov Arra**	**127.71**	**308**	PKP	**PKPdf**	**19 50 45.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=146,slow=1.6,SNR=1.4						
BVAR	**Borovoye Array**	**132.69**	**305**	PKP	**PKiKP**	**19 50 57.2**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=97,slow=6.1,SNR=3.3						
ILAR	**Eielson Array**	**133.67**	**30**	PKP	**PKPdf**	**19 50 58.5**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=290,slow=3.7,SNR=2.6						
YKA	**Yellowknife Ar**	**141.48**	**48**	PKP	**PKPdf**	**19 51 10.1**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=225,slow=3.3,SNR=4.0						
TIRR	**Tirgusor**	**144.87**	**265**	⇓P	**PKPab**	**19 51 17.7**	**-0.1**
JURR	**Jurilovca**	**144.88**	**266**	⇓P	**PKPdf**	**19 51 19.1**	**+0.5**
TPGR	**Topolog**	**145.17**	**265**	⇓P	**PKPab**	**19 51 19.1**	**+0.2**
HARR	**Harsova**	**145.27**	**265**	⇓P	**PKPdf**	**19 51 20.5**	**+1.2**
AMRR	**Amara**	**145.49**	**264**	⇑P	**PKiKP**	**19 51 30.9**	**+7.3**
CFR	**Carcaliu**	**145.54**	**265**	⇓P	**PKPab**	**19 51 20.5**	**+0.3**
SCTR	**Scanteiesti**	**145.98**	**266**	⇓P	**PKiKP**	**19 51 25.0**	**+0.4**
SLCR	**Slobozia Conac**	**146.02**	**266**	⇓P	**PKiKP**	**19 51 25.2**	**+0.5**
KEST	**Kesra**	**146.08**	**235**	PKPbc	**PKPab**	**19 51 23.1**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=251,slow=2.0,SNR=4.7						
VARL	**Varlezi**	**146.21**	**266**	⇑P	**PKiKP**	**19 51 25.2**	**+0.1**
VLAD	**Vladila**	**146.39**	**260**	⇑P	**PKPab**	**19 51 24.2**	**+0.7**
BISRR	**Bisoca**	**146.49**	**265**	⇑P	**PKPab**	**19 51 24.5**	**+0.6**
MILM	**Milestii Mici**	**146.51**	**268**	⇑P	**PKiKP**	**19 51 26.3**	**+0.7**
GHRR		**146.54**	**266**	⇓P	**PKiKP**	**19 51 25.9**	**+0.1**
NEHR	**Nehoiu**	**146.59**	**264**	⇓P	**PKiKP**	**19 51 28.4**	**+2.4**
VRI	**Vrincioaia**	**146.71**	**265**	⇓P	**PKPab**	**19 51 24.4**	**-0.3**
PLOR	**Plostina**	**146.74**	**265**	⇑P	**PKPbc**	**19 51 24.2**	**+0.6**
MLR	**Muntele Rosu**	**146.80**	**264**	⇓P	**PKPbc**	**19 51 24.0**	**+0.1**
COVR	**Voineasa-Covas**	**146.94**	**264**	⇑P	**PKPbc**	**19 51 23.5**	**-0.7**
MTUR	**Matau**	**147.01**	**263**	⇓P	**PKPab**	**19 51 26.3**	**+0.3**
VOIR		**147.18**	**263**	⇓P	**PKiKP**	**19 51 29.3**	**+2.1**
MATE	**Matera**	**147.22**	**248**	⇑P	**PKPab**	**19 51 26.3**	**-0.4**
TESR	**Tescani**	**147.23**	**266**	⇑P	**PKPbc**	**19 51 25.2**	**+0.3**
ARR	**Arges**	**147.32**	**262**	⇓P	**PKPbc**	**19 51 25.8**	**+0.6**
DOPR	**Dopca**	**147.42**	**264**	⇓P	**PKPbc**	**19 51 25.7**	**+0.2**
SORM	**Soroca**	**147.60**	**269**	⇓P	**PKPbc**	**19 51 24.9**	**-1.0**
BURAR	**Bucovina Array**	**148.70**	**266**	⇓P	**PKPab**	**19 51 32.9**	**+0.2**
ARCR	**ARCALIA**	**148.72**	**264**	⇓P	**PKPab**	**19 51 33.0**	**+0.3**
AKASG	**Malin Array Be**	**148.98**	**274**	PKPbc	**PKPbc**	**19 51 29.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=106,slow=2.6,SNR=5.6						
MORH	**Mrgy, Hungar**	**150.73**	**257**	⇑P	**PKiKP**	**19 51 35.0**	**+0.5**
ESDC	**Sonseca Array**	**154.20**	**219**	PKPbc	**PKiKP**	**19 51 43.0**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=143,slow=1.1,SNR=5.6						

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*IDC **28** 19:34:08.6±2.0, 22°.57N×141°.77E, h293km±20km, mb3.1/7, mbtmp4.0/10, Error ellipse: s-maj=35.5km s-min=13.9km az=96.0*
*JMA **28** 19:34:10.8±0.2, 23°N±1°×14°3E±°, h304km, IOTO ISLANDS REGION*
ISC 28 19:34:10.9±1.2**, 23°.0N**±0°.1×**142°.1E**±0°.2**, h300**km**, n18, σ1s61**/20**, mb3.4**/7**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.66**	**2**	P	**Pn**	**19 35 12.6**	**-0.8**
JHH2				*e*S	**S**	**19 36 00.8**	**-2.5**
JCJ	**Chichijima**	**4.12**	**2**	P	**Pn**	**19 35 21.4**	**+3.1**
	126nm,0.3s,baz=272,slow=23,SNR=105						
JCJ				S	**S**	**19 36 14.5**	**+2.0**
	57nm,0.3s,baz=240,slow=22,SNR=6.5						
CBIJ	**Chichi jima**	**4.12**	**2**	P	**Pn**	19 35 17.5	-0.9
CBIJ				*e*S	**S**	19 36 09.9	-2.5
JHJ	**Hachijo jima 2**	**10.32**	**349**	P	**Pn**	**19 36 33.2**	**+0.3**
	27nm,0.3s,baz=198,slow=19,SNR=1.8						
BSO3	**Boso 3**	**11.88**	**354**	*e*P	**P**	**19 36 52.1**	**-0.9**
JIE	**Ise**	**12.31**	**339**	*e*P	**P**	**19 36 59.7**	**+1.5**
JKN2	**Miekihoku**	**12.33**	**337**	*e*P	**P**	**19 37 00.4**	**+2.1**
JOD2	**Odawara 2**	**12.53**	**349**	*e*P	**P**	**19 37 00.7**	**0.0**
JHU	**Hanno**	**13.07**	**350**	*e*P	**P**	**19 37 06.2**	**-0.4**
JAG	**Ashikaga**	**13.61**	**351**	*e*P	**P**	**19 37 12.0**	**-0.5**
MJAR	**Matsushiro Arr**	**13.94**	**347**	P	**P**	**19 37 16.0**	**-0.2**
	0.4nm,0.4s,baz=213,slow=7.4,SNR=6.7						
WRA	**Warramunga Arr**	**43.30**	**191**	P	P	19 41 38.5	-5.4
	2.3nm,0.5s,baz=8.6,slow=7.9,SNR=19						
WRA				PcP	**PcP**	**19 43 24.9**	**-2.1**
	0.2nm,0.5s,baz=10.0,slow=3.5,SNR=1.3						
	2.3nm,0.5s						
ASAR	**Alice Springs**	**47.02**	**190**	P	P	19 42 07.7	-5.2
	0.6nm,0.7s,baz=17,slow=11,SNR=8.9						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**53.08**	**312**	P	**P**	**19 42 56.6**	**-1.3**
	0.2nm,0.7s,baz=98,slow=8.9,SNR=2.6						
	0.2nm,0.7s						
INK	**Inuvik**	**66.84**	**24**	P	**P**	**19 44 31.5**	**+1.0**
	0.6nm,0.5s,baz=264,slow=2.6,SNR=3.6						
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**75.83**	**28**	P	**P**	**19 45 24.9**	**+0.8**
	0.5nm,0.6s,baz=289,slow=5.8,SNR=7.0						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**81.59**	**334**	P	**P**	**19 45 55.4**	**+0.1**
	0.9nm,0.5s,baz=77,slow=6.3,SNR=14						
	0.9nm,0.5s						
NVAR	**Mina Array Bea**	**83.18**	**51**	P	**P**	**19 46 05.0**	**+0.7**
	0.3nm,0.6s,baz=274,slow=5.3,SNR=3.6						
	0.3nm,0.6s						

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*INET **28** 19:39:47.5±0.5, 12°.22N×86°.90W, h101km±2km, MW3.7*
*SNET **28** 19:39:48.1±1.0, 12°.37N×87°.02W, h117km±11km, ML3.5*
ISC 28 19:39:47.0±2.0**, 12°.2N**±0°.1×**86°.90W**±0°.06**, h105**km±11km**, n20, σ0s49**/31**, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.31**	**99**	*e*P	**Pn**	**19 40 02.1**	**-0.1**
CNGN	**Cerro Negro**	**0.34**	**36**	*e*P	**Pn**	**19 40 02.1**	**-0.3**
CNGN				*e*S	**Sn**	**19 40 14.4**	**+0.4**
MOMN	**Momotombo**	**0.40**	**63**	*e*P	**Pn**	**19 40 02.4**	**-0.3**
MOMN				*e*S	**Sn**	**19 40 14.6**	**+0.1**
CRIN	**San Cristobal**	**0.49**	**343**	*e*P	**Pn**	**19 40 03.5**	**+0.1**
CRIN				*e*S	**Sn**	**19 40 16.0**	**+0.4**
MGAN	**Managua**	**0.65**	**97**	*e*P	**Pn**	**19 40 04.2**	**-0.2**
HUEN		**0.72**	**81**	*e*P	**Pn**	**19 40 05.2**	**+0.1**
BRAN	**Las Pilas**	**0.73**	**48**	*e*P	**Pn**	**19 40 03.7**	**-1.4**
MATN	**Matagalpa**	**1.18**	**54**	*e*P	**Pn**	**19 40 10.2**	**+0.3**
MATN				*e*S	**Sn**	**19 40 27.8**	**+0.6**
BOAB	**BOACO BROADBAN**	**1.23**	**80**	*e*P	**Pn**	**19 40 10.5**	**+0.2**
CNCH	**Conchagua**	**1.38**	**319**	*e*P	**Pn**	**19 40 12.7**	**+0.5**
CNCH				*e*S	**Sn**	**19 40 31.7**	**+0.4**
CNCH				IAML		19 40 37.9	
	comp=Z,1μm,0.2s						
LCND	**La Caada**	**1.44**	**318**	*e*P	**Pn**	**19 40 12.6**	**-0.2**
LCND				*e*S	**Sn**	**19 40 32.1**	**-0.4**
ACON	**Acoyapa**	**1.71**	**99**	*e*P	**Pn**	**19 40 15.8**	**-0.3**
RANC	**El Ranchito**	**1.81**	**312**	*e*P	**Pn**	**19 40 17.5**	**0.0**
RANC				*e*S	**Sn**	**19 40 40.8**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.85**	**349**	*e*P	**Pn**	**19 40 18.2**	**+0.1**
TGUH				*e*S	**Sn**	**19 40 41.4**	**-0.3**
PACA	**Pacayal**	**1.85**	**312**	*e*P	**Pn**	**19 40 18.2**	**+0.1**
PACA				*e*S	**Sn**	**19 40 42.4**	**+0.7**
PACA				IAML		19 40 45.9	
	comp=Z,2μm,0.3s						
SCLA	**Alcaldia de Sa**	**2.31**	**310**	*e*P	**Pn**	**19 40 23.2**	**-0.6**
SCLA				*e*S	**Sn**	**19 40 52.0**	**+0.1**
SCLA				IAML		19 40 56.4	
	comp=Z,25nm,0.2s						
P5NO	**Presa 5 de nov**	**2.51**	**314**	*e*P	**Pn**	**19 40 26.2**	**-0.2**
LFRS	**El Faro**	**2.52**	**304**	*e*P	**Pn**	**19 40 26.7**	**+0.1**
LFRS				*e*S	**Sn**	**19 40 55.8**	**-1.2**
PMON	**Piamonte**	**2.77**	**302**	*e*P	**Pn**	**19 40 30.4**	**+0.4**
NUBE	**Las Nubes**	**3.26**	**301**	*e*P	**Pn**	**19 40 36.6**	**+0.2**

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*JMA **28** 19:42:23.9±0.2, 24°.6N±0°.8×122°.2E±0°.4, h75km±2km, MV3.2/15, TAIWAN REGION*
*TAP **28** 19:42:24.2, 24°.58N×122°.17E, h73km, ML3.8, B*
ISC 28 19:42:24.4±1.2**, 24°.58N**±0°.03×**122°.19E**±0°.02**, h72**km±6km**, n185, σ0s67**/261**, 34C-13D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.31**	**276**	*i* P	**Pn**	**19 42 35.8**	**0.0**
	baz=276						
TWC				*i* S	**Sn**	**19 42 43.8**	**-0.4**
	baz=276						
EGS		**0.35**	**319**	*i* P	**Pn**	**19 42 36.2**	**0.0**
	baz=322						
EGS				S	**Sn**	**19 42 44.9**	**+0.1**
	baz=322						
EWUT	**Wuta**	**0.40**	**251**	P	**Pn**	**19 42 36.9**	**+0.5**
	baz=250						
EWUT				*e*S	**Sn**	**19 42 46.0**	**+0.7**
	baz=250						
NTC	**Toucheng**	**0.43**	**310**	P	**Pn**	**19 42 36.7**	**0.0**
	baz=311						
NTC				*e*S	**Sn**	**19 42 45.8**	**-0.1**
	baz=311						
ENA	**Nanau**	**0.43**	**250**	⇑*i*P	**Pn**	**19 42 37.1**	**+0.3**
	baz=245						
ENA				*i* S	**Sn**	**19 42 46.2**	**+0.3**
	baz=245						
NDS	**Dongshan**	**0.43**	**278**	⇓*i*P	**Pn**	**19 42 37.2**	**+0.4**
	baz=277						
NDS				S	**Sn**	**19 42 46.3**	**+0.3**
	baz=277						
ILA	**Ilan**	**0.44**	**295**	*i* P	**Pn**	**19 42 37.2**	**+0.4**
	baz=295						
ILA				*e*S	**Sn**	**19 42 46.1**	**+0.1**
	baz=295						
TWB1	**Santiao Chiao**	**0.47**	**337**	⇓*i*P	**Pn**	**19 42 36.9**	**-0.2**
	baz=336						
TWB1				*i* S	**Sn**	**19 42 45.9**	**-0.6**
	baz=336						
EHP	**Heping Village**	**0.49**	**237**	*i* P	**Pn**	**19 42 37.5**	**+0.2**
	baz=235						
EHP				*i* S	**Sn**	**19 42 47.6**	**+0.8**
	baz=235						
TWE	**Neicheng**	**0.49**	**287**	⇓*i*P	**Pn**	**19 42 37.7**	**+0.4**
	baz=287						
TWE				S	**Sn**	**19 42 47.0**	**+0.1**
	baz=287						
TIPB	**Shuangxi**	**0.51**	**320**	⇓*i*P	**Pn**	**19 42 37.4**	**-0.1**
	baz=326						
TIPB				S	**Sn**	**19 42 46.7**	**-0.6**
	baz=326						
ENTT	**Nioudou**	**0.57**	**277**	⇑P	**Pn**	**19 42 38.7**	**+0.6**
	baz=276						
FUSB	**Fushanzhiwuyua**	**0.58**	**289**	⇓*i*P	**Pn**	**19 42 38.5**	**+0.3**
	baz=295						
FUSB				*e*S	**Sn**	**19 42 48.2**	**-0.2**
	baz=295						
SXI1	**Grass Mountain**	**0.59**	**331**	⇓*i*P	**Pn**	**19 42 38.2**	**-0.1**
	baz=332						
SXI1				*i* S	**Sn**	**19 42 48.4**	**-0.3**
	baz=332						
LATG	**Datong**	**0.60**	**266**	⇑*i*P	**Pn**	**19 42 38.8**	**+0.3**
	baz=261						
LATG				S	**Sn**	**19 42 49.4**	**+0.4**
	baz=261						
NWF	**Wu-fen Shan**	**0.62**	**323**	⇓P	**Pn**	**19 42 38.6**	**0.0**
	baz=316						
NWF				*i* S	**Sn**	**19 42 48.8**	**-0.4**
	baz=316						
WFSB	**Wu-fen Shan**	**0.62**	**323**	⇓P	**Pn**	**19 42 38.6**	**0.0**
	baz=316						
WFSB				*i* S	**Sn**	**19 42 48.6**	**-0.4**
	baz=316						
NWLT	**Wulai**	**0.66**	**288**	*e*P	**Pn**	**19 42 39.4**	**+0.4**
	baz=298						
NWLT				*i* S	**Sn**	**19 42 50.0**	**+0.2**
	baz=298						
ETL	**Fush Village**	**0.66**	**231**	P	**Pn**	**19 42 38.9**	**-0.2**
	baz=230						
ETL				*e*S	**Sn**	**19 42 50.0**	**+0.1**
	baz=230						
NACB	**Ninganchiao**	**0.67**	**234**	P	**Pn**	**19 42 39.0**	**-0.2**
NACB	**Ninganchiao**	**0.67**	**234**	P	**Pn**	**19 42 39.0**	**-0.2**
NACB	**Ninganchiao**	**0.67**	**234**	P	**Pn**	**19 42 38.7**	**-0.4**
	baz=226						
NACB				S	**Sn**	**19 42 49.6**	**-0.4**
	baz=226						
TWA	**Mucha**	**0.68**	**306**	*i* P	**Pn**	**19 42 39.1**	**-0.1**
	baz=315						
TWA				*i* S	**Sn**	**19 42 49.7**	**-0.6**
	baz=315						

TNOU	**National Taiwa**		**0.69**	**327**	⇓*i*P	**Pn**	**19 42 39.0 -0.2**
	baz=321						
TNOU					*i* S	**Sn**	**19 42 49.5 -0.7**
	baz=321						
JYNG	**Yonagunijimaku**		**0.70**	**100**	P	**Pn**	**19 42 39.7 +0.3**
JYNG					*e*S	**Sn**	**19 42 50.8 +0.2**
NHDH	**Xindian Distri**		**0.71**	**303**	⇓P	**Pn**	**19 42 39.6 0.0**
	baz=310						
NHDH					*i* S	**Sn**	**19 42 50.4 -0.5**
	baz=310						
NHY	**Taipei**		**0.73**	**310**	P	**Pn**	**19 42 39.8 +0.1**
	baz=317						
NHY					S	**Sn**	**19 42 50.9 -0.2**
	baz=317						
TWD	**Chiawan**		**0.73**	**228**	P	**Pn**	**19 42 39.5 -0.2**
	baz=226						
TWD					S	**Sn**	**19 42 51.1 -0.1**
	baz=226						
ETLH	**Xiulin Townshi**		**0.74**	**240**	⇑*i*P	**Pn**	**19 42 39.9 -0.1**
	baz=232						
ETLH					*e*S	**Sn**	**19 42 51.5 -0.1**
	baz=232						
YHNB	**Yeheng**		**0.74**	**277**	P	**Pn**	**19 42 40.4 +0.4**
YHNB	**Yeheng**		**0.74**	**277**	P	**Pn**	**19 42 40.3 +0.3**
YHNB	**Yeheng**		**0.74**	**277**	⇑*i*P	**Pn**	**19 42 40.5 +0.4**
	baz=277						
YHNB					*i* S	**Sn**	**19 42 51.8 +0.2**
	baz=277						
NNSB	**Datong**		**0.75**	**259**	⇑*i*P	**Pn**	**19 42 40.3 +0.2**
	baz=252						
NNSB					S	**Sn**	**19 42 51.5 -0.3**
	baz=252						
NNSH	**Datong**		**0.75**	**259**	P	**Pn**	**19 42 40.3 +0.2**
	baz=253						
NNSH					*i* S	**Sn**	**19 42 51.9 +0.2**
	baz=253						
TATO	**Taipei**		**0.75**	**302**	P	**Pn**	**19 42 39.9 -0.1**
TATO	**Taipei**		**0.75**	**302**	P	**Pn**	**19 42 40.0 -0.1**
TATO	**Taipei**		**0.75**	**302**	⇓*i*P	**Pn**	**19 42 39.8 -0.1**
	baz=310						
TATO					*i* S	**Sn**	**19 42 50.6 -0.9**
	baz=310						
NNS	**Nan Shan**		**0.75**	**260**	P	**Pn**	**19 42 40.4 +0.2**
	baz=253						
NNS					*e*S	**Sn**	**19 42 52.0 +0.1**
	baz=253						
YOJ	**Yonaguni jima**		**0.76**	**98**	P	**Pn**	**19 42 40.4 +0.3**
YOJ	**Yonaguni jima**		**0.76**	**98**	P	Pn	19 42 51.8 +12
YOJ	**Yonaguni jima**		**0.76**	**98**	P	**Pn**	**19 42 40.3 +0.3**
YOJ					S	**Sn**	**19 42 51.7 0.0**
YOJ	**Yonaguni jima**		**0.76**	**98**	*i* P	**Pn**	**19 42 40.2 +0.2**
	baz=93						
YOJ					*i* S	**Sn**	**19 42 51.7 0.0**
	baz=93						
TAP1	**Taipei**		**0.76**	**307**	*e*P	**Pn**	**19 42 40.5 +0.4**
	baz=307						
TAP1					*e*S	**Sn**	**19 42 52.1 +0.4**
	baz=307						
NSK	**Sanguang**		**0.76**	**278**	⇑*i*P	**Pn**	**19 42 40.6 +0.4**
	baz=277						
NSK					*i* S	**Sn**	**19 42 52.2 +0.3**
	baz=277						
TAP	**Taipei**		**0.77**	**307**	*i* P	**Pn**	**19 42 40.1 -0.1**
	baz=307						
TAP					*i* S	**Sn**	**19 42 51.5 -0.5**
	baz=307						
NWRT	**Kuosheng**		**0.79**	**323**	*e*P	**Pn**	**19 42 40.5 +0.1**
	baz=315						
NWRT					*e*S	**Sn**	**19 42 52.0 -0.3**
	baz=315						
BACT	**New Taipei Cit**		**0.80**	**302**	*e*P	**Pn**	**19 42 40.6 0.0**
	baz=309						
YM01	**YM01**		**0.80**	**315**	⇓*e*P	**Pn**	**19 42 40.3 -0.3**
	baz=316						
YM01					*e*S	**Sn**	**19 42 51.8 -0.9**
	baz=316						
HWA	**Hwalien**		**0.80**	**222**	*e*P	**Pn**	**19 42 40.8 +0.2**
	baz=220						
HWA					*e*S	**Sn**	**19 42 53.3 +0.8**
	baz=220						
YM08	**YM08**		**0.82**	**318**	*e*P	**Pn**	**19 42 40.6 -0.2**
	baz=313						
ANP	**Anpu**		**0.86**	**315**	*e*P	**Pn**	**19 42 41.1 -0.3**
	baz=315						
TWS1	**Kuangyinshan**		**0.87**	**307**	⇓*i*P	**Pn**	**19 42 41.5 +0.1**
	baz=312						
TWS1					S	**Sn**	**19 42 54.1 0.0**
	baz=312						
ETM	**Tongmen**		**0.88**	**226**	⇑*i*P	**Pn**	**19 42 41.3 -0.2**
	baz=225						
ETM					S	**Sn**	**19 42 53.9 -0.3**
	baz=225						
TWY	**Chenhua**		**0.88**	**323**	*e*P	**Pn**	**19 42 41.5 0.0**
	baz=316						
TWY					*e*S	**Sn**	**19 42 54.1 -0.1**
	baz=316						
TEYL	**Yanliau Villag**		**0.89**	**218**	P	**Pn**	**19 42 41.4 -0.3**
	baz=217						
TEYL					S	**Sn**	**19 42 54.2 -0.1**
	baz=217						
NTST	**Danshui**		**0.89**	**311**	P	**Pn**	**19 42 41.7 0.0**
	baz=317						
NTST					S	**Sn**	**19 42 54.4 -0.1**
	baz=317						
NTY	**Taoyuan**		**0.91**	**298**	*e*P	**Pn**	**19 42 42.3 +0.4**
	baz=301						
FUSS	**Fushou**		**0.92**	**249**	*e*P	**Pn**	**19 42 42.6 +0.3**
	baz=243						
FUSS					*e*S	**Sn**	**19 42 55.8 +0.2**
	baz=243						
WHF	**Hehuan Shan**		**0.94**	**243**	⇑*i*P	**Pn**	**19 42 42.8 +0.1**
	baz=236						
WHF					S	**Sn**	**19 42 56.1 -0.2**
	baz=236						
NFF	**Wufeng Townshi**		**0.98**	**273**	⇑P	**Pn**	**19 42 43.0 +0.3**
	baz=280						
NFF					S	**Sn**	**19 42 56.7 +0.2**
	baz=280						
TWT	**Tachien**		**0.98**	**251**	*e*P	**Pn**	**19 42 43.5 +0.7**
	baz=242						
TWT					S	**Sn**	**19 42 57.4 +0.8**
	baz=242						
NCU	**National Centr**		**0.99**	**294**	⇑*i*P	**Pn**	**19 42 43.4 +0.5**
	baz=293						
NCU					S	**Sn**	**19 42 57.4 +0.8**
	baz=293						
NCUH	**Zhongli**		**0.99**	**293**	⇑*i*P	**Pn**	**19 42 43.4 +0.5**
	baz=293						
NCUH					*e*S	**Sn**	**19 42 57.5 +0.8**
	baz=293						
TDCB	**Techi**		**0.99**	**251**	⇑*i*P	**Pn**	**19 42 43.7 +0.6**
	baz=242						
TDCB					S	**Sn**	**19 42 57.1 +0.1**
	baz=242						
NJD	**Zhudong**		**1.01**	**279**	*e*P	**Pn**	**19 42 43.8 +0.6**
	baz=278						
NJD					*e*S	**Sn**	**19 42 58.1 +1.0**
	baz=278						
ESL	**Shilin**		**1.02**	**222**	⇑*i*P	**Pn**	**19 42 42.6 -0.7**
	baz=229						
TEGC	**Jichi Village**		**1.05**	**215**	P	**Pn**	**19 42 43.6 +0.1**
	baz=206						
PCYT	**Pengchaiyu**		**1.05**	**354**	P	**Pn**	**19 42 43.8 +0.1**
	baz=348						
CHGB	**Renai**		**1.06**	**241**	⇑*i*P	**Pn**	**19 42 44.4 +0.5**
	baz=232						
CHGB					*i* S	**Sn**	**19 42 58.8 +0.3**
	baz=232						
LIOB	**Emei**		**1.07**	**274**	⇑*i*P	**Pn**	**19 42 44.3 +0.4**
	baz=273						
LIOB					*e*S	**Sn**	**19 42 59.2 +0.8**
	baz=273						
NSTT	**Nanjuang**		**1.08**	**273**	⇑*i*P	**Pn**	**19 42 44.3 +0.3**
	baz=272						
NSTT					*i* S	**Sn**	**19 42 59.0 +0.3**
	baz=272						
HSN1	**Hsinchu**		**1.08**	**281**	*e*P	**Pn**	**19 42 44.6 +0.6**
	baz=280						
HSN1					*e*S	**Sn**	**19 42 59.5 +0.8**
	baz=280						
OWD	**Renai**		**1.11**	**236**	*e*P	**Pn**	**19 42 44.6 0.0**
	baz=229						
OWD					*e*S	**Sn**	**19 42 59.4 -0.2**
	baz=229						
SBCB	**Hsinchu**		**1.11**	**281**	P	**Pn**	**19 42 44.8 +0.4**
	baz=281						
SBCB					S	**Sn**	**19 42 59.9 +0.5**
	baz=281						
NHW	**Xinwu Township**		**1.12**	**293**	P	**Pn**	**19 42 44.8 +0.3**
	baz=292						
NHW					*e*S	**Sn**	**19 43 00.3 +0.7**
	baz=292						
HSN	**Hsinchu**		**1.13**	**282**	*e*P	**Pn**	**19 42 44.6 0.0**
	baz=283						
HSN					*e*S	**Sn**	**19 42 59.7 0.0**
	baz=283						
WUSB	**Renai**		**1.14**	**239**	⇑P	**Pn**	**19 42 45.3 +0.4**
	baz=232						
WUSB					S	**Sn**	**19 43 00.3 +0.2**
	baz=232						
EGFH	**Guangfu**		**1.14**	**218**	*e*P	**Pn**	**19 42 44.0 -0.7**
	baz=226						
WPL	**Puli Township**		**1.25**	**244**	⇑*i*P	**Pn**	**19 42 47.0 +0.8**
	baz=240						
VWDT	**VWDT**		**1.26**	**230**	⇑*i*P	**Pn**	**19 42 46.6 +0.3**
	baz=222						
VWDT					*e*S	**Sn**	**19 43 03.1 +0.5**
	baz=222						
DPDB	**Guoxing**		**1.27**	**245**	⇑*i*P	**Pn**	**19 42 47.4 +0.9**
	baz=241						
NMLH	**Miaoli**		**1.27**	**269**	⇑P	**Pn**	**19 42 46.9 +0.5**
	baz=268						
WCS	**Beigang Elemen**		**1.27**	**246**	*e*P	**Pn**	**19 42 47.5 +1.0**
	baz=246						
HGSD	**Ruisui**		**1.28**	**213**	⇑*e*P	**Pn**	**19 42 46.2 -0.4**
	baz=223						
HGSD					*e*S	**Sn**	**19 43 03.5 +0.2**
	baz=223						
NSY	**Sanyi**		**1.31**	**263**	⇑P	**Pn**	**19 42 47.7 +0.7**
	baz=262						
NSY					S	**Sn**	**19 43 04.4 +0.5**
	baz=262						
TWQ1	**Liyutan**		**1.31**	**260**	⇑P	**Pn**	**19 42 47.5 +0.5**
	baz=260						
EHY	**Hungye**		**1.33**	**217**	*e*P	**Pn**	**19 42 46.0 -1.2**
	baz=224						
SMLT	**Sun Moon Lake**		**1.36**	**240**	⇑P	**Pn**	**19 42 48.4 +0.7**
	baz=232						
SSLB	**Suanglung**		**1.37**	**235**	P	**Pn**	**19 42 48.0 +0.2**
SSLB	**Suanglung**		**1.37**	**235**	P	**Pn**	**19 42 48.1 +0.2**
SSLB	**Suanglung**		**1.37**	**235**	⇑*i*P	**Pn**	**19 42 48.0 +0.2**
	baz=235						
TYC	**Yuchr**		**1.39**	**241**	⇑P	**Pn**	**19 42 48.7 +0.8**
	baz=235						
ECBN	**Changbin**		**1.42**	**208**	*e*P	**Pn**	**19 42 48.0 -0.4**
	baz=199						
IRIF	**Iriomote-Funau**		**1.43**	**99**	P	**Pn**	**19 42 48.3 -0.1**
IRIF					S	**Sn**	**19 43 06.5 0.0**
WDJ	**Dajia District**		**1.43**	**261**	*e*P	**Pn**	**19 42 49.0 +0.6**
	baz=261						
YULB	**Yu-li**		**1.43**	**215**	P	**Pn**	**19 42 47.5 -1.0**
YULB	**Yu-li**		**1.43**	**215**	P	**Pn**	**19 42 47.6 -1.0**
TCU	**Taichung**		**1.44**	**253**	*e*P	**Pn**	**19 42 49.2 +0.5**
	baz=253						
EYUL	**Yuli**		**1.46**	**213**	*e*P	**Pn**	**19 42 48.8 -0.1**
	baz=222						
WWF	**Wufeng**		**1.46**	**249**	*e*P	**Pn**	**19 42 49.6 +0.8**
	baz=259						
TWF1	**Yuli**		**1.47**	**214**	⇑*e*P	**Pn**	**19 42 48.0 -1.0**
	baz=222						
WNT1	**Nantou City**		**1.53**	**244**	*e*P	**Pn**	**19 42 50.7 +0.9**
	baz=256						
WJS	**Zhushan**		**1.53**	**241**	*e*P	**Pn**	**19 42 50.9 +1.0**
	baz=252						
WNT	**Mingjian**		**1.54**	**243**	*e*P	**Pn**	**19 42 50.8 +0.8**
	baz=255						
HATJ	**Hateruma jima**		**1.56**	**109**	P	**Pn**	**19 42 51.0 +0.7**
HATJ					*e*S	**Sn**	**19 43 10.7 +1.0**
YUS	**Yu-Shan**		**1.56**	**226**	*e*P	**Pn**	**19 42 50.9 +0.2**
	baz=218						
WCHH	**Zhanghua**		**1.57**	**252**	*e*P	**Pn**	**19 42 50.8 +0.5**
	baz=251						
WYL	**Yuanlin Townsh**		**1.59**	**248**	P	**Pn**	**19 42 51.2 +0.6**
	baz=257						
FULB	**Fuli**		**1.60**	**211**	*e*P	**Pn**	**19 42 50.3 -0.4**
	baz=220						
ALS	**Alishan**		**1.65**	**230**	*e*P	**Pn**	**19 42 52.5 +0.8**
	baz=223						
CHKT	**Chengkung**		**1.65**	**207**	*e*P	**Pn**	**19 42 50.4 -1.0**
	baz=198						
CHKT					*e*S	**Sn**	**19 43 09.4 -2.5**
	baz=198						
EHD	**Haiduan**		**1.68**	**213**	*e*P	**Pn**	**19 42 50.8 -1.1**
	baz=220						
CHN5	**Tsauling**		**1.69**	**235**	*e*P	**Pn**	**19 42 53.0 +1.0**
	baz=246						
JKRS	**Kuro-shima**		**1.69**	**101**	P	**Pn**	**19 42 52.3 +0.3**
JKRS					S	**Sn**	**19 43 13.2 +0.4**
ECS	**Chishang**		**1.72**	**211**	*e*P	**Pn**	**19 42 52.1 -0.2**
	baz=211						
WGK	**Gukeng**		**1.73**	**240**	*e*P	**Pn**	**19 42 53.0 +0.5**
	baz=249						
WDLH	**Douliu**		**1.75**	**240**	*e*P	**Pn**	**19 42 53.7 +1.0**
	baz=250						
ELDTW	**Lidau**		**1.75**	**218**	*e*P	**Pn**	**19 42 52.5 -0.3**
	baz=213						
WRL	**Guolierlin Hig**		**1.78**	**248**	*e*P	**Pn**	**19 42 53.6 +0.4**
	baz=256						
EDH	**Donghe**		**1.79**	**207**	*e*P	**Pn**	**19 42 52.5 -0.8**
	baz=216						
EDH					*e*S	**Sn**	**19 43 13.6 -1.6**
	baz=216						
JIJ	**Ishigaki jima**		**1.79**	**96**	P	**Pn**	**19 42 53.2 -0.1**
JIJ					S	**Sn**	**19 43 15.1 -0.2**
WCKO	**Fanlu**		**1.84**	**232**	*e*P	**Pn**	**19 42 55.4 +1.5**
	baz=241						
WTK	**Tuku**		**1.87**	**242**	*e*P	**Pn**	**19 42 55.0 +0.7**
	baz=242						
CHN2	**Minshiung**		**1.88**	**237**	*e*P	**Pn**	**19 42 55.5 +1.0**
	baz=248						
WTCT	**Ta-ch'eng**		**1.88**	**248**	*e*P	**Pn**	**19 42 54.5 +0.1**
	baz=257						
CHN4	**Tsaushan**		**1.90**	**230**	*e*P	**Pn**	**19 42 55.8 +1.1**
	baz=242						
STYH	**Taoyuan**		**1.91**	**223**	*e*P	**Pn**	**19 42 55.7 +0.9**
	baz=222						
STYH					*e*S	**Sn**	**19 43 18.8 +0.9**
	baz=222						
TPUB	**Ta-pu**		**1.91**	**229**	P	**Pn**	**19 42 55.3 +0.4**
TPUB	**Ta-pu**		**1.91**	**229**	*e*P	**Pn**	**19 42 55.9 +1.0**
	baz=229						
STYT	**Tauyuan**		**1.92**	**223**	*e*P	**Pn**	**19 42 56.2 +1.1**
	baz=223						
LONT	**Longtian**		**1.92**	**210**	*e*P	**Pn**	**19 42 54.4 -0.7**
	baz=211						
JISG	**Ishigakijimahi**		**1.93**	**89**	P	**Pn**	**19 42 55.0 -0.2**
JISG					*e*S	**Sn**	**19 43 18.7 +0.1**
CHY	**Chiayi**		**1.94**	**237**	*e*P	**Pn**	**19 42 56.1 +0.9**
	baz=246						
CHY					*e*S	**Sn**	**19 43 19.6 +0.9**
	baz=246						
WTP	**Ta-pu**		**1.96**	**228**	*e*P	**Pn**	**19 42 56.4 +0.8**
	baz=228						
LDUT	**Ludao**		**2.00**	**199**	*e*P	**Pn**	**19 42 55.0 -1.2**
	baz=198						
LDUT					*e*S	**Sn**	**19 43 18.6 -1.7**
	baz=198						
TWG	**Pinlang**		**2.02**	**211**	*e*P	**Pn**	**19 42 55.5 -0.9**
	baz=210						
TWGBT	**Beinan**		**2.02**	**210**	P	**Pn**	**19 42 55.4 -1.0**
TWGBT	**Beinan**		**2.02**	**210**	*e*P	**Pn**	**19 42 55.4 -1.0**
	baz=211						
TWK	**Hsinying**		**2.03**	**230**	*e*P	**Pn**	**19 42 57.3 +0.8**
	baz=242						
SNST	**Tainan City**		**2.05**	**229**	*e*P	**Pn**	**19 42 58.9 +2.1**
	baz=229						
CHN1	**Nanshi**		**2.06**	**228**	*e*P	**Pn**	**19 42 57.7 +0.8**
	baz=228						
WSL	**Shuilin Townsh**		**2.08**	**240**	*e*P	**Pn**	**19 42 57.7 +0.6**
	baz=250						
SGST	**Jiashian**		**2.09**	**225**	*e*P	**Pn**	**19 42 57.7 +0.4**
	baz=225						
SLGT	**Liugui**		**2.12**	**222**	*e*P	**Pn**	**19 42 59.9 +2.2**
	baz=222						
ICHU	**Yijhu**		**2.12**	**236**	*e*P	**Pn**	**19 42 58.6 +0.8**
	baz=245						
CHN8	**Yiju**		**2.18**	**236**	*e*P	**Pn**	**19 42 59.2 +0.7**
	baz=247						
ECL	**Taimali**		**2.27**	**210**	*e*P	**Pn**	**19 42 58.7 -1.0**
	baz=210						
JTJ	**Tarama**		**2.29**	**88**	P	**Pn**	**19 43 00.5 +0.5**
JTJ					S	**Sn**	**19 43 27.8 +0.6**
SCST	**Cishan**		**2.29**	**223**	*e*P	**Pn**	**19 43 01.5 +1.5**
	baz=223						
SCLT	**Jiali**		**2.30**	**233**	*e*P	**Pn**	**19 43 00.7 +0.7**
	baz=243						
SSD	**Sandimen**		**2.31**	**218**	*e*P	**Pn**	**19 43 01.7 +1.4**
	baz=218						
TSMG	**Majia**		**2.34**	**218**	*e*P	**Pn**	**19 43 02.6 +1.9**
	baz=218						
TWM1	**Shoushan**		**2.38**	**223**	*e*P	**Pn**	**19 43 03.1 +1.9**
	baz=223						
TSCK	**Chigu Township**		**2.39**	**234**	*e*P	**Pn**	**19 43 01.7 +0.4**
	baz=232						
TSCK					*e*S	**Sn**	**19 43 30.0 +0.3**
	baz=232						
MASBT	**Mashibuluo**		**2.42**	**216**	*e*P	**Pn**	**19 43 02.6 +0.8**
	baz=217						
EAST	**Anshuo**		**2.51**	**210**	*e*P	**Pn**	**19 43 02.5 -0.4**
	baz=204						
TAWH	**Dawu Township**		**2.53**	**208**	*e*P	**Pn**	**19 43 03.3 +0.1**
	baz=203						
MATB	**Ma-tsu**		**2.56**	**308**	⇑*e*P	**Pn**	**19 43 03.2 -0.5**
	baz=306						
MSUT	**Lienchiang**		**2.59**	**308**	*e*P	**Pn**	**19 43 03.6 -0.5**
	baz=306						
LAY	**Lan-yu**		**2.59**	**193**	*e*P	**Pn**	**19 43 03.2 -0.9**
	baz=192						
PNG	**Penghu**		**2.61**	**248**	*e*P	**Pn**	**19 43 03.3 -1.0**
	baz=247						
PHUB	**P'eng-hu**		**2.62**	**247**	*e*P	**Pn**	**19 43 03.4 -1.0**
	baz=246						
LYUB	**Lan-yu**		**2.62**	**192**	*e*P	**Pn**	**19 43 03.6 -0.9**
	baz=191						
SCZT	**Fangliau**		**2.62**	**214**	*e*P	**Pn**	**19 43 05.5 +1.0**
	baz=214						
WDGT	**Dungji**		**2.66**	**241**	*e*P	**Pn**	**19 43 04.7 -0.3**
	baz=240						
SLIU	**Shizi**		**2.67**	**209**	*e*P	**Pn**	**19 43 05.7 +0.5**
	baz=209						
JIRB	**Irabujima**		**2.73**	**84**	*e*P	**Pn**	**19 43 06.2 +0.4**
JIKM	**Ikemajima**		**2.80**	**82**	*e*P	**Pn**	**19 43 07.6 +0.7**
PTMZ	**Houxiangcun**		**2.83**	**280**	⇑*e*P	**Pn**	**19 43 06.6 -0.6**
	baz=279						
SMST	**Manzhou Townsh**		**2.83**	**206**	*e*P	**Pn**	**19 43 07.5 +0.1**
	baz=201						
JMJ	**Miyako jima 2**		**2.83**	**85**	P	**Pn**	**19 43 07.1 -0.2**
JMJ	**Miyako jima 2**		**2.83**	**85**	*e*P	**Pn**	**19 43 08.7 +1.3**
	baz=87						
JMJ2	**Miyako jima3**		**2.86**	**86**	*e*P	**Pn**	**19 43 08.8 +1.0**
HEN	**Hengchun**		**2.88**	**208**	*e*P	**Pn**	**19 43 09.4 +1.3**
	baz=219						
HEN					*e*S	**Sn**	**19 43 41.8 +0.2**
	baz=219						
TWKBT	**Hengchun**		**2.91**	**206**	*e*P	**Pn**	**19 43 08.7 +0.3**
	baz=201						
JOGS	**Gusukube**		**2.93**	**86**	P	**Pn**	**19 43 09.7 +1.0**
LYJJ	**Jianjiangzhen**		**2.94**	**312**	⇑*e*P	**Pn**	**19 43 08.4 -0.4**
	baz=310						
XPSS	**Dashiqiu**		**2.96**	**323**	*e*P	**Pn**	**19 43 08.3 -0.6**
	baz=321						
MHZQ	**Yeshan**		**3.23**	**299**	*e*P	**Pn**	**19 43 12.0 -0.8**
	baz=296						
KNM	**Kinmen**		**3.42**	**268**	*e*P	**Pn**	**19 43 16.3 +0.9**
	baz=267						
KNMB	**Chin-men Tao**		**3.46**	**269**	⇑*e*P	**Pn**	**19 43 14.9 -1.0**
	baz=268						
AXDP	**Jialang**		**3.85**	**276**	⇑*e*P	**Pn**	**19 43 20.7 -0.5**
	baz=274						
ZPLA	**Ao Xicun**		**4.10**	**262**	*e*P	**Pn**	**19 43 24.1 -0.5**
	baz=260						
DSXP	**Dongshan**		**4.43**	**260**	*e*P	**Pn**	**19 43 28.4 -0.8**
	baz=258						
JOW	**Kunigami**		**5.93**	**66**	P	**Pn**	**19 43 48.8 -0.8**

SCB 28 19:47:32.7±1.3, 18°03'S×66°28'W, h30km±15km, ML2.4/2, MW3.9, Error ellipse: s-maj=5.8km s-min=5.3km az=0.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOE	**La Paz, Chanca**	**2.02**	**306**	Pn	Pb	19 48 10.7	+1.5
SOEJ	**Jacaque**	**2.10**	**300**	Pn	Pb	19 48 11.6	+1.1
SOEJ				Sn	Sb	19 48 40.1	+3.7
SOEJ				IAML		19 48 45.0	
	11nm,0.6s						
LPAZ	**La Paz**	**2.47**	**314**	Pn	Pb	19 48 17.4	+0.5
BBOD	**La Paz, Gloria**	**2.61**	**302**	Pn	Pb	19 48 18.7	-0.4
MOCB	**Mochara**	**3.26**	**169**	Pn	Pb	19 48 26.5	-3.7
MOCB				Sn	Sb	19 49 09.1	-0.6
MOCB				IAML		19 49 15.9	
	18nm,2.4s						
SIV	**San Ignacio**	**5.38**	**69**	Pn	Pn	19 48 56.3	+5.3
BBSD	**Serra de San D**	**5.47**	**82**	Pn	Pn	19 48 57.1	+4.8

*SOME **28** 19:51:00.7, 45°.73N×82°.08E, h15km*
*NNC **28** 19:51:00.2±0.8, 45°.71N×82°.07E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=10.2km s-min=2.5km az=113.0*
ISC 28 19:50:59.3±1.5, 45.70N±0.05×82.17E±0.10, h10km, n50, g25:50/50, 3C-8D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.10**	**4**	⇓P	**Pg**	**19 51 20.2**	**-0.2**
	13nm,0.3s,baz=34,slow=15,SNR=932						
MK31				⇓S	**Sb**	**19 51 35.7**	**+0.9**
	24nm,0.2s,baz=179,slow=28,SNR=20						
MAKZ	**Makanchi**	**1.12**	**353**	⇑P	**Pb**	**19 51 21.0**	**+0.2**
	19nm,0.3s						
MAKZ				⇓S	**Sn**	**19 51 37.2**	**+0.7**
	49nm,0.4s						
DJR	**Jarkent**	**2.17**	**232**	Pg	**Pg**	**19 51 40.7**	**-0.3**
	14nm,0.2s						
DJR				Lg	Lg	19 52 08.0	
	144nm,0.4s						
DJR	**Jarkent**	**2.17**	**232**	*e*Pg	**Pg**	**19 51 40.7**	**-0.3**
	16nm,0.2s						
DJR				*e*Lg	Lg	19 52 09.4	
	144nm,0.4s						
KTMS	**Ketmen**	**2.60**	**211**	Pg	**Pb**	**19 51 46.9**	**+0.8**
	6.0nm,0.3s						
KTMS				Lg	Lg	19 52 19.1	
	72nm,0.3s						
KTMS	**Ketmen**	**2.60**	**211**	*e*Pg	**Pb**	**19 51 48.0**	**+1.8**
	5.7nm,0.1s						
KTMS				*e*Lg	Lg	19 52 20.4	
	72nm,0.3s						
BLB	**Baldybastay**	**3.08**	**240**	Pg	**Pb**	**19 51 56.1**	**+1.9**
	14nm,0.1s						
BLB				Lg	Lg	19 52 35.9	
	67nm,0.3s						
SHLS	**Shalkode**	**3.20**	**218**	Pg	**Pb**	**19 51 54.0**	**-2.3**
	9.4nm,0.2s						
SHLS				Lg	Lg	19 52 31.4	
	46nm,0.2s						
SHLS	**Shalkode**	**3.20**	**218**	*e*Pg	**Pb**	**19 51 55.6**	**-0.7**
	6.4nm,0.2s						
SHLS				*e*Lg	Lg	19 52 33.5	
	46nm,0.2s						
KPKS	**Kokpek**	**3.35**	**229**	Pg	**Pg**	**19 52 01.5**	**-1.9**
	6.5nm,0.2s						
KPKS				Lg	Lg	19 52 44.2	
	74nm,0.3s						
KPKS	**Kokpek**	**3.35**	**229**	*e*Pg	**Pg**	**19 52 01.5**	**-1.9**
	6.5nm,0.2s						
KPKS				*e*Lg	Lg	19

	17nm,0.6s						
ZHN	**Zhinishke**	**3.68**	**228**	Pg	**Pb**	**19 52 06.7**	**+2.1**
	4.5nm,0.3s						
ZHN				Lg	Lg	19 52 52.7	
	75nm,0.2s						
ZHN	**Zhinishke**	**3.68**	**228**	*e*Pg	**Pb**	**19 52 06.7**	**+2.1**
	4.5nm,0.3s						
ZHN				*e*Lg	Lg	19 52 52.7	
	75nm,0.2s						
SATY	**Saty**	**3.78**	**227**	Pg	**Pg**	**19 52 09.2**	**-2.4**
	5.4nm,0.2s						
SATY				Lg	Lg	19 52 56.8	
	94nm,0.2s						
SATY	**Saty**	**3.78**	**227**	*e*Pg	**Pg**	**19 52 09.2**	**-2.4**
	5.4nm,0.2s						
SATY				*e*Lg	Lg	19 52 56.8	
	94nm,0.2s						
CHKK	**Chushkaly**	**4.13**	**245**	Pg	**Pg**	**19 52 15.9**	**-2.5**
	2.3nm,0.4s						
CHKK				Lg	Lg	19 53 08.5	
	22nm,0.2s						
CHKK	**Chushkaly**	**4.13**	**245**	*e*Pg	**Pg**	**19 52 15.9**	**-2.5**
	2.3nm,0.4s						
CHKK				*e*Lg	Lg	19 53 08.5	
	22nm,0.2s						
KOTS	**Kotyrbulak**	**4.38**	**238**	Pg	**Pg**	**19 52 20.8**	**-2.4**
	4.1nm,0.4s						
KOTS				Lg	Lg	19 53 16.4	
	38nm,0.5s						
KOTS	**Kotyrbulak**	**4.38**	**238**	*e*Pg	**Pg**	**19 52 20.8**	**-2.4**
	4.1nm,0.4s						
KOTS				*e*Lg	Lg	19 53 16.4	
	38nm,0.5s						
KTBS	**Karatobe**	**4.39**	**245**	Pg	**Pg**	**19 52 21.2**	**-2.2**
	2.3nm,0.4s						
KTBS				Lg	Lg	19 53 17.7	
	35nm,0.5s						
KTBS	**Karatobe**	**4.39**	**245**	*e*Pg	**Pg**	**19 52 21.2**	**-2.2**
	2.3nm,0.4s						
KTBS				*e*Lg	Lg	19 53 17.7	
	35nm,0.5s						
MDOK	**Medeo**	**4.46**	**237**	Pg	**Pg**	**19 52 22.0**	**-2.8**
	3.9nm,0.4s						
MDOK				Lg	Lg	19 53 18.4	
	16nm,0.6s						
MDOK	**Medeo**	**4.46**	**237**	*e*Pg	**Pg**	**19 52 21.9**	**-2.8**
	3.9nm,0.4s						
MDOK				*e*Lg	Lg	19 53 18.4	
	16nm,0.6s						
KUU	**Kurty**	**4.53**	**249**	Pg	**Pg**	**19 52 22.4**	**-3.7**
	2.9nm,0.3s						
KUU				Lg	Lg	19 53 20.4	
	19nm,0.2s						
KUU	**Kurty**	**4.53**	**249**	*e*Pg	**Pg**	**19 52 22.4**	**-3.7**
	2.9nm,0.3s						
KUU				*e*Lg	Lg	19 53 20.4	
	19nm,0.2s						
TNSS	**Tian-Shan**	**4.60**	**236**	Pg	**Pg**	**19 52 24.6**	**-2.7**
	1.2nm,0.3s						
TNSS				Lg	Lg	19 53 23.5	
	6.3nm,0.5s						
TNSS	**Tian-Shan**	**4.60**	**236**	*e*Pg	**Pg**	**19 52 24.6**	**-2.7**
	1.2nm,0.3s						
TNSS				*e*Lg	Lg	19 53 23.5	
	6.3nm,0.5s						
IZV	**Izvestkoviy**	**4.79**	**238**	Pg	**Pb**	**19 52 27.1**	**+3.6**
	1.3nm,0.2s						
IZV				Lg	Lg	19 53 28.1	
	7.6nm,0.4s						
IZV	**Izvestkoviy**	**4.79**	**238**	*e*Pg	**Pb**	**19 52 27.1**	**+3.6**
	1.3nm,0.2s						
IZV				*e*Lg	Lg	19 53 28.1	
	7.6nm,0.4s						
MTBS	**Maitube**	**4.85**	**240**	Pg	**Pb**	**19 52 27.8**	**+3.4**
	2.9nm,0.3s						
MTBS				Lg	Lg	19 53 28.8	
	18nm,0.6s						
MTBS	**Maitube**	**4.85**	**240**	*e*Pg	**Pb**	**19 52 27.8**	**+3.4**
	2.9nm,0.3s						
MTBS				*e*Lg	Lg	19 53 28.8	
	18nm,0.6s						
SEM	**Semipalatinsk**	**4.88**	**345**	Pg	**Pg**	**19 52 30.1**	**-2.7**
	2.9nm,0.1s						
SEM				Lg	Lg	19 53 33.0	
	31nm,0.3s						
SEM	**Semipalatinsk**	**4.88**	**345**	*e*Pg	**Pg**	**19 52 30.1**	**-2.7**
	2.9nm,0.1s						
SEM				*e*Lg	Lg	19 53 33.1	
	11nm,0.1s						
KRBS	**Karabastau**	**5.05**	**249**	Pg	**Pg**	**19 52 32.5**	**-3.5**
	1.1nm,0.3s						
KRBS				Lg	Lg	19 53 36.8	
	3.4nm,0.5s						
KRBS	**Karabastau**	**5.05**	**249**	*e*Pg	**Pg**	**19 52 32.5**	**-3.5**
	1.1nm,0.3s						
KRBS				*e*Lg	Lg	19 53 36.8	
	3.4nm,0.5s						
KST	**Kastek**	**5.18**	**241**	Pg	**Pg**	**19 52 35.9**	**-2.7**
	3.4nm,0.6s						
KST				Lg	Lg	19 53 42.3	
	14nm,0.6s						
KST	**Kastek**	**5.18**	**241**	*e*Pg	**Pg**	**19 52 35.9**	**-2.7**
	3.4nm,0.6s						
KST				*e*Lg	Lg	19 53 42.3	
	14nm,0.6s						
DGS	**Degeres**	**5.20**	**244**	Pg	**Pb**	**19 52 33.1**	**+2.7**
	2.8nm,0.6s						
DGS				Lg	Lg	19 53 38.0	
	21nm,0.4s						
DGS	**Degeres**	**5.20**	**244**	*e*Pg	**Pg**	**19 52 37.4**	**-1.5**
	2.8nm,0.6s						
DGS				*e*Lg	Lg	19 53 45.0	
	21nm,0.4s						
KURBB	**Kurchatov Arra**	**5.50**	**335**	⇑Sn	**Sn**	**19 53 27.6**	**+3.3**
	4.3nm,0.3s						
KURBB				⇓Lg	Lg	19 53 57.9	
	60nm,0.8s						
KURK	**Kurchatov**	**5.55**	**336**	⇑Sn	**Sn**	**19 53 28.1**	**+2.3**
	3.1nm,0.5s						
KURK				⇓Lg	Lg	19 53 56.0	
	20nm,0.6s						
OTUK	**Ortayu**	**7.20**	**294**	⇓Lg	Lg	19 54 50.0	
	10nm,0.8s						
KK31	**Karatay Array**	**8.74**	**257**	Lg	Lg	19 55 38.4	
	1.3nm,0.5s,baz=65,slow=26,SNR=5.0						
BVA0	**Borovoye Array**	**10.61**	**318**	⇓Sn	**Sn**	**19 55 27.1**	**-3.0**
	0.9nm,0.8s,baz=124,slow=24,SNR=4.5						
BVA0				⇓Lg	Lg	19 56 30.4	
	7.9nm,1.0s						

IDC 28 19:57:46.2±62.0, 15.14S×173.16W, h0km, mb3.7/3, mbtmp3.7/3, MS4.3/5, Error ellipse: s-maj=1196.0km s-min=212.2km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.36**	**240**	P	P	20 05 58.9	+0.4
	0.3nm,0.3s,baz=97,slow=17,SNR=3.1						
STKA				LR	LR	20 23 54.1	
	comp=Z,70nm,18.8s,baz=17,slow=35						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**50.12**	**257**	P	P	20 06 43.8	+0.1
	0.2nm,0.6s,baz=93,slow=7.0,SNR=1.8						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**50.41**	**252**	P	P	20 06 45.2	-0.6
	1.3nm,0.4s,baz=89,slow=8.0,SNR=34						
	1.3nm,0.4s						
KDAK	**Kodiak Island**	**74.63**	**11**	LR	LR	20 33 43.0	
	comp=Z,267nm,21.4s,baz=206,slow=29						
BBB	**Bella Bella**	**77.56**	**27**	LR	LR	20 35 49.4	
	comp=Z,343nm,19.4s,baz=248,slow=29						
DLBC	**Dease Lake**	**81.38**	**21**	LR	LR	20 41 02.2	
	comp=Z,245nm,18.3s,baz=252,slow=32						
INK	**Inuvik**	**87.97**	**14**	LR	LR	20 44 33.8	
	comp=Z,116nm,18.8s,baz=186,slow=32						

*SOME **28** 20:11:10.2, 39.00N×74.95E, h15km*
*NNC **28** 20:11:13.1±1.5, 39.25N×74.62E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=10.9km s-min=7.3km az=168.0*

ISC 28 20:11:31.5±7.3, 39.7N±0.5×74.1E±0.2, h10km, n36, σ1.891/27, 8C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.08**	**348**	Pg	**Pn**	**20 12 21.0**	**+0.7**
	9.0nm,0.6s						
MRKS				Lg	Lg	20 13 11.0	
	16nm,0.8s						
MRKS	**Merke**	**3.08**	**348**	*e*Pg	**Pn**	**20 12 21.0**	**+0.7**
	9.0nm,0.6s						
MRKS				*e*Lg	Lg	20 13 11.0	
	16nm,0.8s						
TKM2	**Tokmak 2**	**3.38**	**19**	⇑Pn	Pn	20 12 13.2	-11
	2.4nm,0.4s						
TKM2				⇑Pg	Pb	20 12 23.9	-7.7
	7.7nm,0.7s						
TKM2				⇓Lg	Lg	20 13 12.7	
	22nm,0.9s						
KST	**Kastek**	**3.59**	**22**	Pg	**Pn**	**20 12 26.2**	**-1.1**
	6.7nm,0.6s						
KST				Lg	Lg	20 13 19.9	
	21nm,0.5s						
KST	**Kastek**	**3.59**	**22**	*e*Pg	**Pn**	**20 12 26.2**	**-1.1**
	6.7nm,0.6s						
KST				*e*Lg	Lg	20 13 19.9	
	21nm,0.5s						
DGS	**Degeres**	**3.73**	**19**	Pg	**Pn**	**20 12 28.9**	**-0.2**
	8.1nm,0.6s						
DGS				Lg	Lg	20 13 25.7	
	16nm,0.9s						
DGS	**Degeres**	**3.73**	**19**	*e*Pg	**Pn**	**20 12 28.9**	**-0.2**
	8.1nm,0.6s						
DGS				*e*Lg	Lg	20 13 25.2	
	16nm,0.9s						
SGDS	**Sogindy**	**3.74**	**6**	Pg	**Pn**	**20 12 29.7**	**+0.4**
	2.0nm,0.4s						
SGDS				Lg	Lg	20 13 26.1	
	13nm,1.2s						
MTBS	**Maitube**	**3.82**	**27**	Pg	**Pn**	**20 12 28.0**	**-2.4**
	4.3nm,0.5s						
MTBS				Lg	Lg	20 13 23.9	
	10nm,0.5s						
MTBS	**Maitube**	**3.82**	**27**	*e*Pg	**Pn**	**20 12 28.0**	**-2.4**
	4.3nm,0.5s						
MTBS				*e*Lg	Lg	20 13 23.2	
	10nm,0.5s						
TNSS	**Tian-Shan**	**3.94**	**32**	Pg	Pn	20 12 29.1	-3.2
	7.6nm,0.6s						
TNSS				Lg	Lg	20 13 25.5	
	9.8nm,1.1s						
TNSS	**Tian-Shan**	**3.94**	**32**	*e*Pg	Pn	20 12 29.1	-3.2
	7.6nm,0.6s						
TNSS				*e*Lg	Lg	20 13 25.5	
	9.8nm,1.1s						
MDOK	**Medeo**	**4.08**	**32**	Pg	Pn	20 12 31.1	-3.0
	6.2nm,0.5s						
MDOK				⇑Pg	Pb	20 12 31.7	-12
	7.4nm,0.8s						
MDOK				Lg	Lg	20 13 28.6	
	19nm,0.8s						
MDOK				Lg	Lg	20 13 28.8	
	40nm,1.1s						
MDOK	**Medeo**	**4.08**	**32**	*e*Pg	Pn	20 12 31.1	-3.0
	6.2nm,0.5s						
MDOK				*e*Lg	Lg	20 13 28.6	
	19nm,0.8s						
KRBS	**Karabastau**	**4.13**	**16**	Pg	**Pn**	**20 12 34.8**	**+0.1**
	3.5nm,0.5s						
KRBS				Lg	Lg	20 13 34.7	
	7.3nm,0.7s						
KRBS	**Karabastau**	**4.13**	**16**	*e*Pg	**Pn**	**20 12 34.8**	**+0.1**
	3.5nm,0.5s						
KRBS				*e*Lg	Lg	20 13 34.7	
	7.3nm,0.7s						
KK31	**Karatay Array**	**4.32**	**322**	⇑Pn	Pn	20 12 27.4	-10
	0.7nm,0.5s,baz=130,slow=12,SNR=15						
KK31				⇑Pg	Pb	20 12 42.2	-5.2
	0.6nm,0.4s,baz=146,slow=15,SNR=2.8						
KK31				⇑Sn	**Sn**	**20 13 25.9**	**-1.7**
	1.9nm,0.6s						
KK31				⇑Lg	Lg	20 13 48.5	
	5.1nm,0.8s						
KTBS	**Karatobe**	**4.42**	**25**	Pg	**Pn**	**20 12 39.5**	**+0.8**
	6.0nm,0.5s						
KTBS				Lg	Lg	20 13 43.7	
	17nm,0.8s						
KTBS	**Karatobe**	**4.42**	**25**	*e*Pg	**Pn**	**20 12 38.7**	**0.0**
	6.0nm,0.5s						
KTBS				*e*Lg	Lg	20 13 41.7	
	17nm,0.8s						
KUU	**Kurty**	**4.48**	**21**	Pg	**Pn**	**20 12 40.7**	**+1.2**
	4.1nm,0.6s						
KUU				Lg	Lg	20 13 44.8	
	26nm,1.3s						
KUU	**Kurty**	**4.48**	**21**	*e*Pg	**Pn**	**20 12 40.7**	**+1.2**
	4.1nm,0.6s						
KUU				*e*Lg	Lg	20 13 44.8	
	26nm,1.3s						
SATY	**Saty**	**4.64**	**43**	Pg	Pn	20 12 38.5	-3.2
	11nm,0.5s						
SATY				Lg	Lg	20 13 42.4	
	31nm,1.4s						
SATY	**Saty**	**4.64**	**43**	*e*Pg	**Pn**	**20 12 39.3**	**-2.4**
	11nm,0.5s						
SATY				*e*Lg	Lg	20 13 42.4	
	31nm,1.4s						
CHKK	**Chushkaly**	**4.65**	**27**	Pg	**Pn**	**20 12 43.8**	**+2.1**
	5.2nm,0.5s						
CHKK				Lg	Lg	20 13 49.8	
	10nm,0.9s						
CHKK	**Chushkaly**	**4.65**	**27**	*e*Pg	**Pn**	**20 12 43.8**	**+2.1**
	5.2nm,0.5s						
CHKK				*e*Lg	Lg	20 13 49.8	
	10nm,0.9s						
UZB	**Uzynbulak**	**5.03**	**46**	Pg	**Pn**	**20 12 45.5**	**-1.6**
	5.1nm,0.2s						
UZB				Lg	Lg	20 13 52.9	
	8.3nm,1.3s						
UZB	**Uzynbulak**	**5.03**	**46**	*e*Pg	**Pn**	**20 12 45.5**	**-1.6**
	5.1nm,0.2s						
UZB				*e*Lg	Lg	20 13 52.9	
	8.3nm,1.3s						
KPKS	**Kokpek**	**5.07**	**41**	Pg	**Pn**	**20 12 48.0**	**+0.4**
	6.9nm,0.5s						
KPKS				Lg	Lg	20 13 57.2	
	31nm,0.6s						
KPKS	**Kokpek**	**5.07**	**41**	*e*Pg	**Pn**	**20 12 48.0**	**+0.4**
	6.9nm,0.5s						
KPKS				*e*Lg	Lg	20 13 57.2	
	31nm,0.6s						
ARXS	**Arharly**	**5.27**	**31**	Pg	**Pn**	**20 12 54.6**	**+4.2**
	6.4nm,0.7s						
ARXS				Lg	Lg	20 14 08.9	
	11nm,1.3s						
ARXS	**Arharly**	**5.27**	**31**	*e*Pg	**Pn**	**20 12 54.6**	**+4.2**
	6.4nm,0.7s						
ARXS				*e*Lg	Lg	20 14 08.9	
	11nm,1.3s						
SHLS	**Shalkode**	**5.29**	**48**	Pg	**Pn**	**20 12 52.8**	**+2.2**
	5.8nm,0.8s						
SHLS				Lg	Lg	20 14 06.0	
	217nm,1.0s						
SHLS	**Shalkode**	**5.29**	**48**	*e*Pg	**Pn**	**20 12 52.8**	**+2.2**
	5.8nm,0.8s						
SHLS				*e*Lg	Lg	20 14 06.0	
	217nm,1.0s						
MK31	**Makanchi Array**	**9.24**	**38**	⇓Lg	Lg	20 16 05.7	
	2.1nm,1.0s						
KURBB	**Kurchatov Arra**	**11.33**	**15**	⇓Lg	Lg	20 17 25.1	
	9.4nm,1.2s						
KURK	**Kurchatov**	**11.43**	**15**	⇑Lg	Lg	20 17 24.3	
	9.6nm,1.3s						

JMA 28 20:24:28.4±0.1, 25.7N×122.9E±0.5, h82km±1km, MV1.3/7, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.20**	**177**	*e*P	Pn	20 24 40.3	0.0
JYNG				*e*S	Sn	20 24 49.3	+0.2
YOJ	**Yonaguni jima**	**0.20**	**159**	*e*P	Pn	20 24 40.4	0.0
IRIF	**Iriomote-Funau**	**0.79**	**113**	P	Pn	20 24 45.1	+0.1
IRIF				*e*S	Sn	20 24 57.7	+0.2
JKRS	**Kuro-shima**	**1.06**	**112**	*e*P	Pn	20 24 48.4	+0.1
JIJ	**Ishigaki jima**	**1.14**	**104**	P	Pn	20 24 49.5	+0.4
JIJ				*e*S	Sn	20 25 05.0	+0.2
JISG	**Ishigakijimahi**	**1.26**	**92**	P	Pn	20 24 50.9	+0.3
JISG				*e*S	Sn	20 25 06.9	-0.5

TAP 28 20:25:02.1, 24.71N×121.64E, h64km, ML2.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.03**	**68**	*e*P	Pn	20 25 12.0	+0.5
	baz=84						
TWE				*i* S	Sn	20 25 18.8	+0.6
	baz=84						
FUSB	**Fushanzhiwuyua**	**0.07**	**316**	*i* P	Pn	20 25 11.8	+0.2
	baz=315						
FUSB				*i* S	Sn	20 25 18.1	-0.4
	baz=315						
ENTT	**Nioudou**	**0.10**	**223**	*i* P	Pn	20 25 12.1	+0.5
	baz=219						
ENTT				*i* S	Sn	20 25 18.9	+0.4
	baz=219						
NDS	**Dongshan**	**0.10**	**138**	*i* P	Pn	20 25 12.2	+0.6
	baz=148						
NDS				S	Sn	20 25 19.2	+0.7
	baz=148						
NWLT	**Wulai**	**0.14**	**298**	*e*P	Pn	20 25 11.8	+0.1
	baz=306						
NWLT				*i* S	Sn	20 25 18.2	-0.6
	baz=306						
LATG	**Datong**	**0.20**	**210**	P	Pn	20 25 12.7	+0.5
	baz=210						
LATG				*e*S	Sn	20 25 20.1	+0.7
	baz=210						
TWC	**Suao**	**0.22**	**118**	*e*P	Pn	20 25 12.5	+0.5
	baz=123						
YHNB	**Yeheng**	**0.24**	**260**	P	Pn	20 25 12.5	+0.2
NSK	**Sanguang**	**0.26**	**262**	P	Pn	20 25 12.4	0.0
	baz=261						
NSK				*e*S	Sn	20 25 19.5	-0.4
	baz=261						
NHDH	**Xindian Distri**	**0.27**	**338**	P	Pn	20 25 12.6	+0.2
	baz=332						
NHDH				S	Sn	20 25 19.7	-0.1
	baz=332						
TWA	**Mucha**	**0.27**	**349**	P	Pn	20 25 12.7	+0.2
	baz=346						
TWA				*e*S	Sn	20 25 19.8	-0.2
	baz=346						
EWUT	**Wuta**	**0.29**	**154**	*e*P	Pn	20 25 12.7	+0.1
	baz=159						
EWUT				*e*S	Sn	20 25 21.4	+1.3
	baz=159						
ENA	**Nanau**	**0.30**	**162**	*e*P	Pn	20 25 12.8	+0.2
	baz=168						
TATO	**Taipei**	**0.30**	**333**	P	Pn	20 25 12.1	-0.5
TIPB	**Shuangxi**	**0.31**	**33**	*e*P	Pn	20 25 13.0	+0.2
	baz=29						
TIPB				*e*S	Sn	20 25 20.5	+0.1
	baz=29						
NNS	**Nan Shan**	**0.36**	**222**	*e*P	Pn	20 25 13.8	+0.5
	baz=220						
NNS				*e*S	Sn	20 25 21.8	+0.5
	baz=220						
NNSB	**Datong**	**0.36**	**220**	*e*P	Pn	20 25 13.8	+0.6
	baz=219						
NNSB				*e*S	Sn	20 25 21.8	+0.4
	baz=219						
TWB1	**Santiao Chiao**	**0.43**	**47**	*e*P	Pn	20 25 14.3	+0.6
	baz=45						
TWB1				*e*S	Sn	20 25 22.2	0.0
	baz=45						
TWS1	**Kuangyinshan**	**0.44**	**333**	*i* P	Pn	20 25 14.1	+0.4
	baz=323						
TWS1				S	Sn	20 25 22.9	+0.7
	baz=323						
NFF	**Wufeng Townshi**	**0.48**	**261**	*i* P	Pn	20 25 14.4	+0.2
	baz=268						
NFF				*e*S	Sn	20 25 23.2	+0.1
	baz=268						
NTST	**Danshui**	**0.48**	**339**	*e*P	Pn	20 25 14.5	+0.3
	baz=344						
NTST				*e*S	Sn	20 25 23.6	+0.6
	baz=344						
NCU	**National Centr**	**0.48**	**302**	*e*P	Pn	20 25 14.5	+0.3
	baz=302						
ANP	**Anpu**	**0.49**	**347**	*e*P	Pn	20 25 14.2	-0.2
	baz=348						
ANP				*e*S	Sn	20 25 22.5	-0.8
	baz=348						
ETLH	**Xiulin Townshi**	**0.52**	**196**	*e*P	Pn	20 25 14.8	+0.1
	baz=188						
ETLH				*e*S	Sn	20 25 24.7	+0.9
	baz=188						
NACB	**Ninganchiao**	**0.54**	**184**	P	Pn	20 25 14.7	-0.1
NACB	**Ninganchiao**	**0.54**	**184**	*e*P	Pn	20 25 14.3	-0.4
	baz=177						
TWY	**Chenhua**	**0.56**	**356**	*e*P	Pn	20 25 15.3	+0.3
	baz=350						
TWY				*e*S	Sn	20 25 24.9	+0.4
	baz=350						
LIOB	**Emei**	**0.57**	**264**	*e*P	Pn	20 25 15.4	+0.3
	baz=263						
LIOB				*e*S	Sn	20 25 25.1	+0.5
	baz=263						
FUSS	**Fushou**	**0.58**	**218**	*e*P	Pn	20 25 16.6	+1.1
	baz=218						
FUSS				S	Sn	20 25 26.3	+1.0
	baz=218						
NSTT	**Nanjuang**	**0.59**	**262**	*e*P	Pn	20 25 15.5	+0.3
	baz=262						
NSTT				*e*S	Sn	20 25 25.1	+0.2
	baz=262						
SBCB	**Hsinchu**	**0.60**	**278**	*e*P	Pn	20 25 15.8	+0.4
	baz=277						
HSN	**Hsinchu**	**0.61**	**279**	*e*P	Pn	20 25 15.6	0.0
	baz=281						
TWT	**Tachien**	**0.62**	**223**	*e*P	Pn	20 25 17.1	+1.3
	baz=218						
TWT				S	Sn	20 25 27.4	+1.5
	baz=218						
TWD	**Chiawan**	**0.63**	**184**	*e*P	Pn	20 25 15.2	-0.6
	baz=183						
TWD				*i* S	Sn	20 25 27.5	+1.8
	baz=183						
TDCB	**Techi**	**0.63**	**224**	*e*P	Pn	20 25 17.1	+1.1
	baz=229						
TDCB				S	Sn	20 25 27.0	+0.9
	baz=229						
CHGB	**Renai**	**0.77**	**213**	*e*P	Pn	20 25 18.8	+1.1
	baz=206						
CHGB				*e*S	Sn	20 25 30.2	+1.1
	baz=206						
NMLH	**Miaoli**	**0.79**	**258**	*e*P	Pn	20 25 18.1	+0.4
	baz=257						
NMLH				*e*S	Sn	20 25 29.6	+0.5
	baz=257						
NSY	**Sanyi**	**0.85**	**250**	P	Pn	20 25 19.2	+0.8
	baz=258						
NSY				S	Sn	20 25 31.5	+1.0
	baz=258						
TWQ1	**Liyutan**	**0.87**	**246**	S	Sn	20 25 31.5	+0.7
	baz=253						
VWDT	**VWDT**	**1.06**	**206**	*e*P	Pn	20 25 20.5	-0.5
	baz=212						
VWDT				*e*S	Sn	20 25 36.6	+1.6
	baz=212						
SMLT	**Sun Moon Lake**	**1.06**	**219**	*e*P	Pn	20 25 23.3	+2.1
	baz=227						
TYC	**Yuchr**	**1.07**	**222**	*e*P	Pn	20 25 22.4	+1.2
	baz=227						
TYC				*e*S	Sn	20 25 37.2	+1.8
	baz=227						
SSLB	**Suanglung**	**1.11**	**214**	P	Pn	20 25 22.8	+1.0
SSLB	**Suanglung**	**1.11**	**214**	P	Pn	20 25 22.8	+1.0
	baz=213						
SSLB				S	Sn	20 25 37.8	+1.4
	baz=213						
YULB	**Yu-li**	**1.35**	**193**	P	Pn	20 25 22.1	-2.8
ALS	**Alishan**	**1.42**	**213**	*e*P	Pn	20 25 27.8	+1.7
	baz=210						
ALS				*e*S	Sn	20 25 46.2	+2.2
	baz=210						
WCKO	**Fanlu**	**1.58**	**217**	*e*P	Pn	20 25 29.0	+1.1
	baz=215						
WCKO				*e*S	Sn	20 25 49.2	+1.7
	baz=215						
ELDTW	**Lidau**	**1.62**	**201**	*e*P	Pn	20 25 28.3	-0.3
	baz=190						
TPUB	**Ta-pu**	**1.68**	**214**	P	Pn	20 25 30.3	+1.0
TPUB	**Ta-pu**	**1.68**	**214**	*e*P	Pn	20 25 30.3	+1.0
	baz=211						

*NEIC **28** 20:25:31.9±2.3, 38.27N±0.05×141.8E±0.1, h41km±9km,*

mb4.1/9, Error ellipse: s-maj=13.4km s-min=6.7km az=108.0
*JMA **28** 20:25:32.9±0.1, 38°.3N±0°.2×141°.6E±0°.4, h54km, MV3.9/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
*IDC **28** 20:25:32.1±2.2, 38°.37N×142°.03E, h62km±19km, mb3.5/5, mbtmp3.8/11, Error ellipse: s-maj=23.7km s-min=12.0km az=106.0*

ISC 28 20:25:31.7±1.0, 38°.27N±0°.04×141°.80E±0°.07, h48km±8km, n66, σ1§47/77, mb3.9/10, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.27**	**278**	*i* P		**Pn**	**20 25 41.3**	**+1.0**
JIKH				S		**Sn**	**20 25 47.2**	**+0.8**
JIO	**Ouri**	**0.40**	**297**	P		**Pn**	**20 25 42.1**	**+0.5**
JIO				S		**Sn**	**20 25 48.4**	**-0.3**
JKMT	**Kesennumamotoy**	**0.59**	**334**	*i* P		**Pn**	**20 25 44.5**	**+0.4**
JKMT				S		**Sn**	**20 25 52.4**	**-0.4**
JOFO	**Osakifurukawao**	**0.77**	**295**	⇓*i* P		**Pn**	**20 25 46.0**	**-0.2**
JOFO				⇓*e* S		**Sn**	**20 25 56.0**	**-0.9**
OFUJ	**Ofunato**	**0.81**	**353**	*i* P		**Pn**	**20 25 47.4**	**+0.5**
OFUJ				S		**Sn**	**20 25 57.7**	**-0.2**
JMK	**Ichinoseki**	**0.81**	**326**	P		**Pn**	**20 25 47.1**	**+0.2**
JMK				S		**Sn**	**20 25 57.0**	**-1.0**
JMM	**Marumori**	**0.89**	**243**			**Pn**	**20 25 47.8**	**-0.2**
JMM				Sn		**Sn**	**20 25 58.6**	**-1.2**
JMM	**Marumori**	**0.89**	**243**	P		**Pn**	**20 25 47.8**	**-0.2**
JMM	**Marumori**	**0.89**	**243**	⇓*i* P		**Pn**	**20 25 47.7**	**-0.2**
JMM				⇓S		**Sn**	**20 25 58.7**	**-1.2**
JOU	**Okura**	**0.90**	**276**	P		**Pn**	**20 25 47.6**	**-0.4**
JOU				S		**Sn**	**20 25 58.4**	**-1.6**
JFK	**Kawauchi**	**1.17**	**219**	⇓*i* P		**Pn**	**20 25 52.2**	**+0.5**
JFK				⇓S		**Sn**	**20 26 06.5**	**0.0**
JOM	**Ohasama**	**1.26**	**342**	⇓*i* P		**Pn**	**20 25 53.2**	**+0.3**
JOM				⇓*e* S		**Sn**	**20 26 08.2**	**-0.5**
JYK	**Kaneyama**	**1.30**	**300**	⇓*i* P		**Pn**	**20 25 53.0**	**-0.5**
JYK				⇓*e* S		**Sn**	**20 26 08.2**	**-1.4**
JYS	**Shirataka**	**1.37**	**268**	⇓*i* P		**Pn**	**20 25 54.2**	**-0.2**
JYS				⇓S		**Sn**	**20 26 10.1**	**-1.3**
JRG	**Rokugo**	**1.44**	**321**	⇓*i* P		**Pn**	**20 25 55.6**	**+0.2**
JRG				⇓S		**Sn**	**20 26 13.2**	**0.0**
JYA	**Atsumi**	**1.67**	**282**	⇓*i* P		**Pn**	**20 25 58.1**	**-0.4**
JTM	**Tenmabayashi**	**2.57**	**348**	Pn		**Pn**	**20 26 11.6**	**+0.7**
JTM	**Tenmabayashi**	**2.57**	**348**	P		**Pn**	**20 26 12.7**	**+1.8**
JSD	**Sado**	**2.80**	**266**			**Pn**	**20 26 13.1**	**-0.9**
JSD	**Sado**	**2.80**	**266**	P		**Pn**	**20 26 15.0**	**+1.0**
MJAR	**Matsushiro Arr**	**3.34**	**240**	P		**Pn**	**20 26 23.2**	**+1.7**
	5.0nm,0.3s,baz=38,slow=12,SNR=58							
MJAR				S		**Sn**	**20 27 06.4**	**+6.5**
	5.7nm,0.6s,baz=201,slow=16,SNR=4.9							
MAJO	**Matsushiro**	**3.34**	**240**			**Pn**	**20 26 23.1**	**+1.6**
MAJO	**Matsushiro**	**3.34**	**240**	P		**Pn**	**20 26 23.0**	**+1.6**
ERM	**Erimo**	**3.88**	**15**	Pn		**Pn**	**20 26 28.8**	**+0.1**
ERM	**Erimo**	**3.88**	**15**	P		**Pn**	**20 26 29.7**	**+0.9**
JEM	**Erimo**	**3.88**	**15**	P		**Pn**	**20 26 29.9**	**+1.1**
JGF	**Kuroka**	**4.45**	**234**			**Pn**	**20 26 39.1**	**+2.4**
JGF	**Kuroka**	**4.45**	**234**	P		**Pn**	**20 26 38.9**	**+2.2**
JSG	**Sagara**	**4.62**	**220**	Pn		**Pn**	**20 26 40.8**	**+1.7**
INU	**Inuyama**	**4.82**	**234**			**Pn**	**20 26 43.5**	**+1.8**
INU	**Inuyama**	**4.82**	**234**	P		**Pn**	**20 26 44.6**	**+2.8**
JHJ2	**Mitsune**	**5.40**	**198**	Pn		**Pn**	**20 26 50.3**	**+0.6**
JHJ2	**Mitsune**	**5.40**	**198**	P		**Pn**	**20 26 50.9**	**+1.2**
JHJ	**Hachijo jima 2**	**5.40**	**198**	P		**Pn**	**20 26 50.5**	**+0.8**
	35nm,0.3s,baz=86,slow=22,SNR=11							
JHJ				S		**Sn**	**20 27 48.0**	**-2.6**
	62nm,0.3s,baz=54,slow=22,SNR=6.8							
ASAJ	**Asahikawa**	**5.87**	**6**	P		**Pn**	**20 26 56.9**	**+0.8**
	5.0nm,0.4s,baz=225,slow=19,SNR=2.4							
ASAJ				S		**Sn**	**20 28 00.5**	**-1.5**
	7.5nm,0.5s,baz=153,slow=18,SNR=1.7							
JMN	**Monobe**	**7.86**	**237**	Pn		**Pn**	**20 27 23.2**	**-0.3**
USA0B	**Ussuriysk Arra**	**9.46**	**312**	Pn		**Pn**	**20 27 45.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.46**	**312**	P		**Pn**	**20 27 45.5**	**+0.1**
	2.6nm,0.6s,baz=120,slow=14,SNR=7.4							
USRK	**Ussuriysk Ar.**	**9.46**	**312**	Pn		**Pn**	**20 27 45.9**	**+0.6**
JNU	**Nakatsue**	**10.26**	**243**	P		**Pn**	**20 27 59.0**	**+2.7**
	4.3nm,0.8s,baz=182,slow=11,SNR=4.0							
KSRS	**Korea Array**	**11.00**	**270**	P		**Pn**	**20 28 09.5**	**+3.0**
	0.4nm,0.3s,baz=78,slow=14,SNR=2.3							
JCJ	**Chichijima**	**11.15**	**178**	S		**Sn**	**20 30 07.3**	**-4.5**
	34nm,0.7s,baz=300,slow=20,SNR=1.0							
YHNB	**Yeheng**	**22.01**	**238**			**P**	**20 30 24.3**	**+2.2**
SONM	**Songino Array**	**27.37**	**302**	P		**P**	**20 31 13.2**	**+0.7**
	0.4nm,0.8s,baz=84,slow=7.6,SNR=3.8							
	0.4nm,0.8s							
SONM	**Songino Array**	**27.37**	**302**	P		**P**	**20 31 13.6**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**28.54**	**123**	T		T	21 01 37.2	
	baz=316,slow=76,SNR=72							
H11N1	**WAKE ISLAND Hy**	**28.55**	**123**	T		T	21 01 37.9	
	baz=316,slow=76,SNR=94							
H11N3	**WAKE ISLAND Hy**	**28.56**	**123**	T		T	21 01 38.6	
	baz=316,slow=76,SNR=65							
H11S1	**WAKE ISLAND Hy**	**29.30**	**125**	T		T	21 02 35.3	
	baz=318,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy**	**29.30**	**125**	T		T	21 02 34.4	
	baz=318,slow=76,SNR=58							
H11S2	**WAKE ISLAND Hy**	**29.32**	**125**	T		T	21 02 36.6	
	baz=318,slow=76,SNR=32							
ZALV	**Zalesovo Beam**	**41.32**	**311**	P		**P**	**20 33 11.4**	**-1.0**
	0.9nm,0.6s,baz=81,slow=9.1,SNR=4.4							
	0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**41.32**	**311**	P		**P**	**20 33 12.1**	**-0.4**
LUWI	**Luwuk**	**42.88**	**209**	P		**P**	**20 33 25.7**	**+0.2**
MK31	**Makanchi Array**	**43.73**	**301**	P		**P**	**20 33 31.5**	**-0.7**
MKAR	**Makanchi Array**	**43.73**	**301**	P		**P**	**20 33 31.1**	**-1.1**
	0.6nm,0.7s,baz=87,slow=9.1,SNR=8.2							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**43.73**	**301**	P		**P**	**20 33 31.6**	**-0.6**
ABKAR	**Akbulak array**	**57.38**	**310**	P		**P**	**20 35 14.2**	**-0.8**
ABKAR	**Akbulak array**	**57.38**	**310**	P		**P**	**20 35 13.9**	**-1.2**
ABKAR				IAmb		IAmb	20 35 34.3	
	comp=Z,1.8nm,0.6s							
WB0	**Warramunga Arr**	**58.15**	**188**	P		**P**	**20 35 20.4**	**-0.3**
WB0				IAmb		IAmb	20 35 21.0	
	comp=Z,2.7nm,0.7s							
WR0	**Warramunga Arr**	**58.32**	**188**	P		**P**	**20 35 21.5**	**-0.4**
WR0				IAmb		IAmb	20 35 22.3	
	comp=Z,1.9nm,0.7s							
WRA	**Warramunga Arr**	**58.33**	**188**	P		**P**	**20 35 21.6**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=4.9,slow=7.2,SNR=32							
	comp=Z,1.3nm,0.5s							
AS31	**Alice Springs**	**62.06**	**188**	P		**P**	**20 35 47.5**	**+0.2**
AS31				IAmb		IAmb	20 35 50.8	
	comp=Z,0.7nm,1.2s							
ASAR	**Alice Springs**	**62.06**	**188**	P		**P**	**20 35 47.2**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=8.7,slow=5.2,SNR=15							
	comp=Z,0.9nm,0.8s							
ASAR	**Alice Springs**	**62.06**	**188**	P		**P**	**20 35 47.1**	**-0.3**
BURAR	**Bucovina Array**	**77.53**	**322**			**P**	**20 37 23.0**	**+0.6**
BURAR				IAmb		IAmb	20 37 25.3	
	comp=Z,1.6nm,1.3s							

*IDC **28** 20:34:53.9±1.3, 27°.91S×66°.90W, h161km±14km, mb3.5/1, mbtmp3.8/4, Error ellipse: s-maj=28.6km s-min=11.8km az=91.0*

ISC 28 20:34:54.1±0.9, 27°.87S±0°.06×66°.76W±0°.06, h150km, n12, σ1§85/18, 1C, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CYA	**Choya**	**1.02**	**124**	⇑*i* P		**Pn**	**20 35 21.3**	**+2.1**
CYA				*e* S		**Sn**	**20 35 39.8**	**+1.5**
CYA				IAML			20 35 41.0	
	comp=N,310nm,0.5s							
GO03	**Copiap**	**3.09**	**274**	*e* P		**Pn**	**20 35 44.1**	**+1.4**
GO03				*e* S		**Sn**	**20 36 20.9**	**+0.6**
GO03				IAML			20 36 22.3	
	comp=E,887nm,0.2s							
AC06	**Mina Casimiro**	**3.23**	**278**	*e* P		**Pn**	**20 35 45.6**	**+1.2**
AC06				*e* S		**Sn**	**20 36 23.1**	**-0.2**
AC06				IAML			20 36 27.7	
	comp=N,279nm,0.1s							
CO01	**Juntas del Tor**	**3.60**	**233**	*e* P		**Pn**	**20 35 51.2**	**+1.8**
CO01				*e* S		**Sn**	**20 36 35.1**	**+2.9**
CFA	**Coronel Fontan**	**3.94**	**199**	P		**Pn**	**20 35 53.8**	**+0.1**
	comp=N,16nm,0.3s,baz=30,slow=15,SNR=378							
CFA				S		**Sn**	**20 36 37.7**	**-2.2**
	comp=N,41nm,0.3s,baz=11,slow=16,SNR=5.9							
LVC	**Limon Verde**	**5.58**	**339**	P		**Pn**	**20 36 17.0**	**+1.3**
	comp=N,4.4nm,0.2s,baz=204,slow=8.9,SNR=19							
LVC				S		**Sn**	**20 37 18.4**	**-0.8**
	comp=N,8.9nm,0.3s,baz=315,slow=16,SNR=14							
CPUP	**Villa Florida**	**8.54**	**82**	P		**Pn**	**20 36 57.6**	**+2.8**
	comp=N,0.8nm,0.3s,baz=245,slow=11,SNR=1.9							
TORD	**Torodi Ar. Bea**	**77.78**	**68**	P		**P**	**20 46 32.7**	**-2.4**
	comp=N,1.1nm,0.8s,baz=257,slow=4.4,SNR=6.0							
	comp=N,1.1nm,0.8s							
ASAR	**Alice Springs**	**125.03**	**203**	PKP		**PKPdf**	**20 53 35.5**	**-1.7**
	comp=N,0.2nm,0.8s,baz=112,slow=4.4,SNR=1.8							
WRA	**Warramunga Arr**	**128.27**	**206**	PKP		**PKPdf**	**20 53 41.8**	**-1.7**
	comp=N,0.1nm,0.3s,baz=157,slow=1.8,SNR=2.2							
ZALV	**Zalesovo Beam**	**146.65**	**31**	PKPbc		**PKPdf**	**20 54 16.6**	**+0.7**
	comp=N,0.6nm,0.3s,baz=300,slow=3.3,SNR=4.3							
MKAR	**Makanchi Array**	**149.26**	**44**	PKPbc		**PKPbc**	**20 54 23.8**	**-1.2**
	comp=N,0.7nm,0.7s,baz=286,slow=3.2,SNR=7.5							

SSNC 28 20:53:12.9±1.0, 20°.05N×75°.86W, h5km, MD2.1, ML1.8, 2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.17**	**110**	*i* P		Pg	20 53 15.7	-0.5
RCC				*e* S		Sg	20 53 18.9	+0.6
RCC				IAML			20 53 19.6	
	comp=N,102nm,0.1s							
RCC				IAML			20 53 19.8	
	comp=E,106nm,0.1s							
RCC	**Rio Carpintero**	**0.17**	**110**	⇓*i* P		Pg	20 53 16.1	-0.1
RCC				*e* S		Sg	20 53 18.9	+0.5
RCC				*i* S		Sg	20 53 18.9	+0.5
RCC				IAML			20 53 19.2	
	comp=N,105nm,0.2s							
RCC				IAML			20 53 19.6	
	comp=E,97nm,0.1s							
GTBY	**Guantanamo Bay**	**0.72**	**100**	*e* P		Pg	20 53 25.6	-1.1
GTBY				*e* S		Sg	20 53 35.5	-0.5
GTBY	**Guantanamo Bay**	**0.72**	**100**	⇓*i* P		Pg	20 53 25.6	-1.0
GTBY				*e* S		Sg	20 53 35.7	-0.3
HLGC	**Holguin**	**0.86**	**347**	*e* P		Pn	20 53 31.3	-0.3
HLGC				*e* S		Sn	20 53 46.1	+1.5
HLGC				IAML			20 53 50.6	
	comp=N,38nm,0.4s							
HLGC				IAML			20 53 50.8	
	comp=E,22nm,0.1s							
MOAC	**Moa**	**1.04**	**54**	*e* P		Pg	20 53 31.7	-1.1
MOAC				*e* S		Sg	20 53 45.9	-0.5
MOAC				IAML			20 53 50.8	
	comp=E,26nm,0.2s							
MOAC				IAML			20 53 51.5	
	comp=N,48nm,0.2s							
LMGC	**Las Mercedes**	**1.08**	**271**	*e* P		Pg	20 53 31.1	-2.5
LMGC				*e* S		Sg	20 53 44.7	-2.8
LMGC				IAML			20 53 46.2	
	comp=E,209nm,0.0s							
LMGC				IAML			20 53 46.8	
	comp=N,324nm,0.0s							
MASC	**Masc**	**1.54**	**85**	*e* P		Pn	20 53 38.5	-2.5
MASC				*e* S		Sn	20 53 58.5	-2.9
MASC				IAML			20 54 03.0	
	comp=N,6.2nm,0.2s							
MASC				IAML			20 54 05.9	
	comp=E,12nm,0.2s							
CCCC	**Cccc**	**2.12**	**303**	*e* P		Pn	20 53 44.9	-4.1

JMA 28 21:00:10.3±0.1, 37°.2N±0°.3×141°.3E±0°.7, h15km±1km, MV0.7/8, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.39**	**300**	*e* P		Pg	21 00 18.1	-0.1
JFK				*e* S		Sg	21 00 23.5	0.0
ONAJ	**Iwakimizuishiy**	**0.40**	**260**	P		Pg	21 00 18.2	-0.2
JMST	**Minamisoumatoc**	**0.64**	**330**	S		Sg	21 00 31.4	+0.1

*ISK **28** 21:02:07.7, 39°.55N×26°.10E, h5km, ML3.2/10*
*DDA **28** 21:02:08.1±0.0, 39°.55N×26°.16E, h5km±1km, ML3.1*
*ATH **28** 21:02:08.6, 39°.52N×26°.12E, h13km±1km, ML2.9/3, Error ellipse: s-maj=2.5km s-min=0.8km az=260.0*
*THE **28** 21:02:09.3, 39°.52N×25°.95E, h5km±1km, ML3.0/2, Error ellipse: s-maj=1.4km s-min=0.5km az=92.0*

ISC 28 21:02:07.9±0.8, 39°.52N±0°.02×26°.12E±0°.02, h11km±5km, n97, σ0§81/123, 5C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.02**	**125**	P		**Pg**	**21 02 09.9**	**0.0**
KOCA				S		**Sg**	**21 02 10.9**	**-0.4**
KOCA				*i* AML		AML	21 02 11.0	
	comp=N,1μm,0.4s							
GPNR	**Gulpinar-Canak**	**0.06**	**166**	Pg		**Pg**	**21 02 10.3**	**+0.1**
GPNR				Sg		**Sg**	**21 02 12.2**	**+0.4**
BOZC	**Bozcaada**	**0.33**	**352**	Pg		**Pg**	**21 02 14.1**	**-0.5**
BOZC				Sg		**Sg**	**21 02 18.7**	**-0.3**
BOZC	**Bozcaada**	**0.33**	**352**	P		**Pg**	**21 02 14.2**	**-0.3**
BOZC				P		**Pg**	**21 02 14.3**	**-0.3**
BOZC				S		**Sg**	**21 02 18.2**	**-0.8**
BOZC				*i* AML		AML	21 02 19.0	
	comp=E,3μm,0.3s							
BOZC				*i* AML		AML	21 02 19.0	
	comp=N,3μm,0.3s							
BOZC				*i* AML		AML	21 02 19.0	
	comp=N,2μm,0.3s							
BOZC				*i* AML		AML	21 02 19.0	
	comp=E,3μm,0.3s							
EZN	**Ezine**	**0.35**	**28**	P		**Pb**	**21 02 17.3**	**+1.1**
EZN	**Ezine**	**0.35**	**28**	Pg		**Pg**	**21 02 14.7**	**-0.3**
EZN				Sg		**Sg**	**21 02 19.9**	**+0.3**
SIGR	**SIGRI**	**0.36**	**214**	P		**Pb**	**21 02 15.1**	**-0.3**
SIGR	**SIGRI**	**0.36**	**214**	Pg		**Pb**	**21 02 15.8**	**-0.6**
SIGR				Sg		**Sb**	**21 02 21.8**	**-0.3**
SIGR	**SIGRI**	**0.36**	**214**	P		**Pb**	**21 02 15.9**	**-0.6**
SIGR				S		**Sb**	**21 02 21.4**	**-0.7**
SIGR				AML		AML	21 02 22.4	
	comp=E,5599μm,0.3s							
SIGR				AML		AML	21 02 23.0	
	comp=N,6111μm,0.3s							
BAYC	**CANAKKALE_Bayr**	**0.40**	**56**	P		**Pg**	**21 02 15.6**	**-0.3**
BAYC				S		**Sg**	**21 02 20.3**	**-1.0**
BAYC				*i* AML		AML	21 02 21.0	
	comp=N,2μm,0.5s							
AYVA	**Ayvalik**	**0.49**	**115**	P		**Pb**	**21 02 18.0**	**-0.6**
ECEA	**Canakkale, Ece**	**0.53**	**5**	P		**Pg**	**21 02 18.1**	**-0.2**
ECEA				S		**Sg**	**21 02 24.9**	**-0.4**
ECEA				*i* AML		AML	21 02 26.0	
	comp=N,1μm,0.3s							
ECEA				*i* AML		AML	21 02 27.0	
	comp=N,1μm,0.6s							
BUHA	**Balikesir, Bur**	**0.74**	**91**	P		**Pg**	**21 02 22.0**	**-0.3**
BUHA				S		**Sg**	**21 02 31.9**	**-0.2**
BUHA				*i* AML		AML	21 02 34.0	
	comp=N,720nm,0.3s							
DKL	**Dikili**	**0.76**	**126**	Pg		**Pb**	**21 02 23.4**	**+0.3**
ZEDA	**zmir-Bergama**	**0.93**	**126**	P		**Pb**	**21 02 26.2**	**+0.1**
ZEDA				S		**Sb**	**21 02 38.9**	**+0.6**
SMTH	**Samothraki Isl**	**1.05**	**335**	P		**Pg**	**21 02 28.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.05**	**335**	P		**Pg**	**21 02 27.9**	**-0.4**
SMTH				S		**Sg**	**21 02 42.0**	**0.0**
SMTH				AML		AML	21 02 43.9	
	comp=N,763μm,0.2s							
SMTH				AML		AML	21 02 44.7	
	comp=E,693μm,0.2s							
PSRA	**Psara**	**1.06**	**204**	P		**Pn**	**21 02 28.8**	**+0.1**
CHOS	**Chios island**	**1.13**	**182**	P		**Pn**	**21 02 29.8**	**+0.1**
CHOS				S		**Sn**	**21 02 46.5**	**+1.3**
	comp=E,718nm,0.2s							
CHOS	**Chios island**	**1.13**	**182**	Pn		**Pn**	**21 02 30.4**	**+0.7**
CHOS	**Chios island**	**1.13**	**182**	P		**Pn**	**21 02 29.6**	**-0.1**
CHOS				AML		AML	21 02 49.0	
	comp=N,1182μm,0.3s							
CHOS				AML		AML	21 02 52.8	
	comp=E,1915μm,0.3s							
CAVK	**Edirne/Enez-Ca**	**1.18**	**2**	P		**Pb**	**21 02 29.2**	**-1.1**
CAVK				S		**Sb**	**21 02 44.8**	**-0.7**
CAVK				*i* AML		AML	21 02 48.0	
	comp=N,389nm,0.3s							
BALY	**Balya**	**1.18**	**79**	P		**Pg**	**21 02 30.3**	**-0.4**
BALY				S		**Sg**	**21 02 44.6**	**-1.5**
BALY				*i* AML		AML	21 02 47.0	
	comp=E,515nm,0.5s							
BALY				*i* AML		AML	21 02 49.0	
	comp=E,406nm,0.4s							
URLA	**Izmir**	**1.21**	**162**	Pn		**Pn**	**21 02 30.8**	**0.0**
URLA	**Izmir**	**1.21**	**162**	P		**Pn**	**21 02 30.8**	**0.0**
URLA				S		**Sn**	**21 02 47.4**	**+0.2**
URLA				*i* AML		AML	21 02 50.0	
	comp=E,296nm,0.9s							
URLA				*i* AML		AML	21 02 51.0	
	comp=E,464nm,0.7s							
STEP	**BALIKESIR_Sava**	**1.25**	**96**	P		**Pb**	**21 02 31.5**	**-0.1**
STEP				S		**Sn**	**21 02 48.7**	**+0.5**
STEP				*i* AML		AML	21 02 52.0	
	comp=E,314nm,0.3s							
ZEYE	**Izmir, Urla-Ze**	**1.31**	**166**	P		**Pn**	**21 02 32.0**	**-0.2**
ZEYE				S		**Sn**	**21 02 50.0**	**+0.4**
ZEYE				*i* AML		AML	21 02 55.0	
	comp=E,281nm,0.6s							
ZEYE				*i* AML		AML	21 02 56.0	
	comp=E,341nm,0.8s							
KNL	**Balıkesir**	**1.32**	**55**	P		**Pn**	**21 02 32.1**	**-0.2**
KNL				S		**Sb**	**21 02 49.9**	**+0.2**
KNL				*i* AML		AML	21 02 51.0	
	comp=E,553nm,0.8s							
KNL				*i* AML		AML	21 02 53.0	
	comp=E,545nm,0.4s							
BLCB	**Balcova**	**1.34**	**147**	Pn		**Pg**	**21 02 34.2**	**+0.5**
KESN	**Edirne-Kesan**	**1.38**	**18**	P		**Pn**	**21 02 33.0**	**-0.5**
KESN				S		**Sb**	**21 02 50.6**	**-1.2**
KESN				*i* AML		AML	21 02 52.0	
	comp=E,527nm,0.5s							
KESN				*i* AML		AML	21 02 56.0	
	comp=E,497nm,0.4s							
ALN	**Alexandroupoli**	**1.38**	**358**	P		**Pn**	**21 02 34.3**	**+1.1**
ALN	**Alexandroupoli**	**1.38**	**358**	P		**Pn**	**21 02 33.0**	**-0.2**
SART	**Tekirdag**	**1.43**	**35**	P		**Pn**	**21 02 33.8**	**-0.1**
SART				S		**Sn**	**21 02 52.8**	**+0.1**
SART				*i* AML		AML	21 02 55.0	
	comp=E,423nm,0.3s							
SART				*i* AML		AML	21 02 56.0	
	comp=E,495nm,0.3s							
AKHS	**Akhisar**	**1.47**	**115**	P		**Pn**	**21 02 34.3**	**0.0**
AKHS				S		**Sn**	**21 02 53.3**	**-0.2**
AKS	**Akhisar**	**1.47**	**115**	Pn		**Pg**	**21 02 35.6**	**-0.5**
THAS	**Thassos island**	**1.53**	**316**	P		**Pn**	**21 02 34.7**	**-0.5**
THAS	**Thassos island**	**1.53**	**316**	P		**Pn**	**21 02 34.6**	**-0.5**
DGB	**zmir**	**1.58**	**157**	P		**Pn**	**21 02 36.1**	**+0.3**
GOMA	**Golmarmara-Man**	**1.62**	**119**	Pn		**Pb**	**21 02 37.7**	**-0.1**
RDO	**Rodhopi**	**1.69**	**345**	P		**Pn**	**21 02 37.9**	**+0.5**
RDO				S		**Sn**	**21 03 00.3**	**+1.3**
RDO	**Rodhopi**	**1.69**	**345**	P		**Pn**	**21 02 37.2**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.80**	**241**	P		**Pn**	**21 02 38.2**	**-0.7**
OUR	**Ouranopolis**	**1.83**	**297**	P		**Pn**	**21 02 38.9**	**-0.4**
OUR	**Ouranopolis**	**1.83**	**297**	P		**Pn**	**21 02 39.9**	**+0.5**
SMG	**Samos**	**1.89**	**162**	P		**Pb**	**21 02 42.0**	**-0.5**
SMG				S		**Sg**	**21 03 08.1**	**-0.6**
	comp=E,318nm,0.6s							
SMG	**Samos**	**1.89**	**162**	P		**Pn**	**21 02 40.2**	**0.0**
KAVA	**Kavala**	**1.92**	**321**	P		**Pn**	**21 02 40.5**	**-0.1**
KAVA	**Kavala**	**1.92**	**321**	P		**Pn**	**21 02 40.4**	**-0.2**
PAIG	**Paliouri**	**1.92**	**283**	P		**Pn**	**21 02 40.4**	**-0.2**
KVLA	**Kavala**	**1.94**	**318**	P		**Pn**	**21 02 40.8**	**-0.1**
GCAM	**G?zelcaml?**	**2.01**	**154**	Pn		**Pb**	**21 02 43.3**	**-1.2**
GCAM	**G?zelcaml?**	**2.01**	**154**	P		**Pb**	**21 02 44.9**	**+0.4**
DEMI	**Demirci**	**2.07**	**102**	P		**Pn**	**21 02 41.8**	**-0.9**
TNSA	**Tinos**	**2.11**	**201**	P		**Pn**	**21 02 42.5**	**-0.7**
MANT	**Manisa**	**2.16**	**117**	P		**Pn**	**21 02 44.2**	**+0.1**
KDZ	**Kurdzhali**	**2.20**	**346**	P		**Pn**	**21 02 44.1**	**-0.3**
DION	**Dionisos Attik**	**2.23**	**231**	P		**Pn**	**21 02 44.5**	**-0.3**
DION	**Dionisos Attik**	**2.23**	**231**	P		**Pn**	**21 02 45.3**	**+0.5**
NEO	**Neokhori**	**2.25**	**266**	P		**Pn**	**21 02 44.2**	**-0.9**
NEO	**Neokhori**	**2.25**	**266**	P		**Pn**	**21 02 45.0**	**-0.1**
PTL	**Penteli**	**2.29**	**231**	P		**Pn**	**21 02 46.0**	**+0.4**
RZN	**Rozhen**	**2.42**	**334**	P		**Pn**	**21 02 47.7**	**+0.1**
VLY	**Voula,Athens**	**2.46**	**228**	P		**Pn**	**21 02 48.0**	**0.0**
APE	**Apeiranthos**	**2.48**	**191**	P		**Pn**	**21 02 48.9**	**+0.5**
APE	**Apeiranthos**	**2.48**	**191**	P		**Pn**	**21 02 48.0**	**-0.4**
NVR	**Nevrokopi**	**2.51**	**318**	P		**Pn**	**21 02 49.4**	**+0.6**
NVR				S		**Sn**	**21 03 19.3**	**-0.1**
NVR	**Nevrokopi**	**2.51**	**318**	P		**Pn**	**21 02 49.

LKD2					AML	AML	21 45 54.4		
LKD2					AML	AML	21 45 54.6		
NYDR	**Nydri-Lefkada**	**0.12**	**96**	P		**Pg**	**21 45 51.2**	**+0.3**
NYDR				S		**Sg**	**21 45 52.9**	**0.0**
	86µm,0.3s								
TSLK	**Tsoukalades, L**	**0.13**	**39**	P		**Pg**	**21 45 51.7**	**+0.6**
TSLK				S		**Sg**	**21 45 54.0**	**+0.7**
TSLK	**Tsoukalades, L**	**0.13**	**39**	P		**Pg**	**21 45 51.7**	**+0.6**
TSLK				S		**Sg**	**21 45 53.7**	**+0.4**
TSLK				AML	AML	21 45 54.1			
TSLK				AML	AML	21 45 55.3			
EVGI	**Lefkada island**	**0.13**	**142**	P		**Pg**	**21 45 52.0**	**+0.9**
EVGI				S		**Sg**	**21 45 54.8**	**+1.5**
EVGI	**Lefkada island**	**0.13**	**142**	P		**Pg**	**21 45 51.8**	**+0.7**
EVGI				S		**Sg**	**21 45 53.2**	**-0.1**
FSK	**Fiskardo**	**0.27**	**178**	P		**Pg**	**21 45 54.5**	**+1.1**
FSK				S		**Sg**	**21 45 58.8**	**+1.8**
	8µm,0.7s								
FSK	**Fiskardo**	**0.27**	**178**	P		**Pg**	**21 45 54.3**	**+0.9**
FSK				S		**Sg**	**21 45 57.8**	**+0.7**
FSK				AML	AML	21 46 01.9			
	comp=N,17502µm,0.6s								
FSK				AML	AML	21 46 04.4			
	comp=E,14363µm,0.6s								
KEF4	**Livadi, Kephal**	**0.48**	**192**	P		**Pb**	**21 45 58.4**	**0.0**
KEF4				S		**Sb**	**21 46 05.8**	**+0.4**
KEF4	**Livadi, Kephal**	**0.48**	**192**	P		**Pg**	**21 45 58.1**	**+0.8**
KEF4				S		**Sg**	**21 46 04.3**	**+0.7**
DMLN	**Damoulianata-K**	**0.51**	**196**	P		**Pb**	**21 45 58.9**	**0.0**
DMLN				S		**Sb**	**21 46 07.1**	**+0.8**
KEF3	**Kipouria, Keph**	**0.55**	**197**	P		**Pg**	**21 45 59.5**	**+0.9**
KEF3				S		**Sb**	**21 46 08.2**	**+0.8**
KEF3	**Kipouria, Keph**	**0.55**	**197**	P		**Pg**	**21 45 58.8**	**+0.2**
VLS	**Valsamata**	**0.55**	**177**	P		**Pg**	**21 45 59.3**	**+0.6**
VLS	**Valsamata**	**0.55**	**177**	P		**Pg**	**21 45 59.2**	**+0.5**
VLS				S		**Sg**	**21 46 06.8**	**+0.9**
VLS				AML	AML	21 46 08.4			
	comp=N,4011µm,0.5s								
VLS				AML	AML	21 46 09.5			
	comp=E,4027µm,0.2s								
PSDA	**Pessada-Kefalo**	**0.61**	**178**	P		**Pg**	**21 46 00.7**	**+0.9**
PSDA				S		**Sn**	**21 46 11.1**	**-1.4**
PSDA	**Pessada-Kefalo**	**0.61**	**178**	P		**Pg**	**21 46 00.2**	**+0.4**
PSDA				S		**Sg**	**21 46 08.9**	**+1.1**
PVO	**Paravola**	**0.77**	**98**	P		**Pb**	**21 46 02.8**	**-0.6**
PVO				S		**Sg**	**21 46 14.6**	**+1.7**
	comp=E,5µm,0.3s								
PVO	**Paravola**	**0.77**	**98**	P		**Pb**	**21 46 02.1**	**-1.3**
IGT	**Igoumenitsa**	**0.82**	**348**	P		**Pg**	**21 46 04.7**	**+0.8**
IGT	**Igoumenitsa**	**0.82**	**348**	P		**Pb**	**21 46 04.0**	**-0.4**
	baz=351								
IGT				S		**Sn**	**21 46 17.3**	**-0.5**
	baz=351								
IGT	**Igoumenitsa**	**0.82**	**348**	P		**Pb**	**21 46 04.2**	**-0.1**
IGT				S		**Sn**	**21 46 16.6**	**-1.2**
IGT				AML	AML	21 46 21.0			
	comp=E,9187µm,0.5s								
IGT				AML	AML	21 46 22.3			
	comp=N,6779µm,0.3s								
JAN	**Janina**	**0.96**	**14**	P		**Pg**	**21 46 07.2**	**+0.7**
JAN				S		**Sn**	**21 46 21.5**	**+0.3**
	comp=N,3µm,0.3s								
JAN	**Janina**	**0.96**	**14**	P		**Pb**	**21 46 06.9**	**+0.2**
JAN				AML	AML	21 46 24.5			
	comp=N,4061µm,0.3s								
JAN				AML	AML	21 46 25.0			
	comp=E,7786µm,0.3s								
RLS	**Riolos of Patr**	**0.98**	**133**	P		**Pb**	**21 46 06.8**	**-0.2**
RLS				S		**Sn**	**21 46 21.7**	**+0.1**
RLS	**Riolos of Patr**	**0.98**	**133**	P		**Pb**	**21 46 06.5**	**-0.5**
RLS				S		**Sb**	**21 46 19.9**	**-0.1**
RLS				AML	AML	21 46 28.1			
	comp=E,3159µm,0.4s								
RLS				AML	AML	21 46 28.2			
	comp=N,3020µm,0.6s								
EVR	**Evrytania**	**1.00**	**79**	P		**Pn**	**21 46 08.1**	**0.0**
EVR				S		**Sn**	**21 46 22.4**	**+0.1**
EVR	**Evrytania**	**1.00**	**79**	P		**Pb**	**21 46 07.7**	**+0.3**
EVR				S		**Sb**	**21 46 20.9**	**+0.2**
EVR				AML	AML	21 46 31.1			
	comp=E,2573µm,0.5s								
EVR				AML	AML	21 46 31.8			
	comp=N,2272µm,0.8s								
LTHK	**Lithakia**	**1.04**	**167**	P		**Pg**	**21 46 09.6**	**+1.6**
LTHK	**Lithakia**	**1.04**	**167**	P		**Pb**	**21 46 07.5**	**-0.5**
LTHK				S		**Sn**	**21 46 22.6**	**-0.4**
LTHK				AML	AML	21 46 31.0			
	comp=N,2647µm,0.6s								
LTHK				AML	AML	21 46 33.0			
	comp=E,3955µm,0.6s								
ANX	**Ano Chora**	**1.08**	**97**	P		**Pn**	**21 46 09.4**	**+0.2**
ANX				S		**Sn**	**21 46 25.9**	**+1.6**
ANX	**Ano Chora**	**1.08**	**97**	P		**Pb**	**21 46 08.2**	**-0.6**
ANX				S		**Sg**	**21 46 23.9**	**+1.0**
EFP	**Efpalio**	**1.10**	**105**	P		**Pn**	**21 46 09.7**	**+0.3**
EFP				S		**Sg**	**21 46 26.7**	**+3.2**
EFP	**Efpalio**	**1.10**	**105**	P		**Pb**	**21 46 08.3**	**-0.8**
KASA	**Kassiopi**	**1.13**	**335**	P		**Pg**	**21 46 10.1**	**+0.4**
KASA				S		**Sg**	**21 46 26.8**	**+2.5**
KASA				AML	AML	21 46 28.9			
	comp=E,5101µm,0.5s								
KASA				AML	AML	21 46 31.0			
	comp=N,3063µm,0.7s								
KEK	**Kerkira**	**1.15**	**330**			**Pg**	**21 46 11.8**	**+1.7**
KEK					Sn	**Sg**	**21 46 28.6**	**+3.6**
KEK	**Kerkira**	**1.15**	**330**	P		**Pg**	**21 46 11.8**	**+1.7**
KEK				S		**Sg**	**21 46 29.1**	**+4.1**
KEK	**Kerkira**	**1.15**	**330**	P		**Pg**	**21 46 11.8**	**+1.7**
KEK				S		**Sg**	**21 46 26.8**	**+1.9**
KEK				AML	AML	21 46 33.1			
	comp=N,1881µm,0.5s								
KEK				AML	AML	21 46 34.2			
	comp=E,2236µm,0.3s								
DRO	**Drossia**	**1.19**	**130**	P		**Pb**	**21 46 11.2**	**+0.5**
DRO				S		**Sg**	**21 46 29.6**	**+3.1**
DRO	**Drossia**	**1.19**	**130**	P		**Pn**	**21 46 10.0**	**-0.7**
DRO				AML	AML	21 46 35.5			
	comp=N,2902µm,0.5s								
DRO				AML	AML	21 46 36.8			
	comp=E,3554µm,0.5s								
LAKA	**Lakka**	**1.22**	**113**	P		**Pg**	**21 46 12.1**	**+0.7**
LAKA	**Lakka**	**1.22**	**113**	P		**Pn**	**21 46 10.3**	**-0.8**
LAKA				S		**Sg**	**21 46 28.1**	**+0.8**
LAKA				AML	AML	21 46 34.3			
	comp=E,1445µm,0.7s								
LAKA				AML	AML	21 46 38.3			
	comp=N,1566µm,0.5s								
SERG	**Sergoula**	**1.22**	**104**	P		**Pb**	**21 46 11.8**	**+0.7**
SERG				S		**Sg**	**21 46 30.4**	**+3.1**
	comp=N,900nm,0.3s								
SERG	**Sergoula**	**1.22**	**104**	P		**Pb**	**21 46 11.4**	**+0.3**
SRN	**Sarande**	**1.23**	**340**	P		**Pg**	**21 46 12.6**	**+1.0**
SRN				S		**Sg**	**21 46 31.3**	**+3.7**
SRN	**Sarande**	**1.23**	**340**	P		**Pb**	**21 46 11.6**	**+0.3**
	baz=342								
SRN				S		**Sg**	**21 46 29.7**	**+2.1**
	baz=342								
SRN				AMP					
	comp=N,2.5nm,0.3s,baz=342								
MAKR	**Makrakomi, Fth**	**1.27**	**76**	P		**Pg**	**21 46 12.8**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.27**	**76**	P		**Pn**	**21 46 11.6**	**-0.1**
MAKR				S		**Sg**	**21 46 30.4**	**+1.6**
ALIK	**Aliki, Aigiali**	**1.31**	**110**	P		**Pb**	**21 46 13.4**	**+0.8**
ALIK				S		**Sg**	**21 46 33.6**	**+3.5**
KPRO	**Kipourio**	**1.38**	**27**	P		**Pg**	**21 46 15.6**	**+1.1**
KPRO	**Kipourio**	**1.38**	**27**	P		**Pb**	**21 46 13.9**	**0.0**
THL	**Klokotos Trika**	**1.41**	**53**	P		**Pb**	**21 46 15.2**	**+0.8**
THL				S		**Sg**	**21 46 35.4**	**+1.9**
THL	**Klokotos Trika**	**1.41**	**53**	P		**Pn**	**21 46 13.9**	**+0.2**
AGG	**Agios Georgios**	**1.42**	**77**	Pn		**Pb**	**21 46 14.5**	**0.0**
AGG				Sn		**Sg**	**21 46 35.1**	**+1.4**
AGG	**Agios Georgios**	**1.42**	**77**	P		**Pb**	**21 46 15.1**	**+0.6**
AGG	**Agios Georgios**	**1.42**	**77**	P		**Pn**	**21 46 14.2**	**+0.3**
LSK	**Leskovik**	**1.42**	**2**	P		**Pg**	**21 46 16.7**	**+1.4**
LSK				S		**Sg**	**21 46 37.4**	**+3.5**
LSK	**Leskovik**	**1.42**	**2**	P		**Pg**	**21 46 16.2**	**+0.9**
	baz=3.0								
LSK				S		**Sg**	**21 46 37.3**	**+3.5**
	baz=3.0								
LSK				AMP					
	comp=N,4.5nm,0.4s,baz=3.0								
KLV	**Kalavryta, Ach**	**1.43**	**118**	P		**Pb**	**21 46 15.4**	**+0.7**
PENT	**Pentalofos**	**1.54**	**17**	P		**Pg**	**21 46 18.2**	**+0.7**

PENT	**Pentalofos**	**1.54**	**17**	P		**Pb**	**21 46 16.8**	**+0.2**
DLFA	**Delphi**	**1.54**	**99**	P		**Pb**	**21 46 16.4**	**-0.2**
TYRN	**Tyrnavos**	**1.64**	**52**	P		**Pb**	**21 46 18.1**	**-0.1**
TYRN				S		**Sg**	**21 46 41.8**	**+1.2**
TYRN	**Tyrnavos**	**1.64**	**52**	P		**Pb**	**21 46 17.7**	**-0.5**
AXAR	**Agios Charalam**	**1.65**	**88**	P		**Pb**	**21 46 19.0**	**+0.6**
AXAR	**Agios Charalam**	**1.65**	**88**	P		**Pb**	**21 46 19.0**	**+0.6**
LRSO	**Larissa Observ**	**1.71**	**56**	P		**Pb**	**21 46 20.4**	**+0.9**
LRSO	**Larissa Observ**	**1.71**	**56**	P		**Pb**	**21 46 20.2**	**+0.7**
THAL	**Thalero**	**1.80**	**112**	P		**Pb**	**21 46 20.6**	**-0.3**
THAL	**Thalero**	**1.80**	**112**	P		**Pb**	**21 46 21.1**	**+0.1**
KZN	**Kozani**	**1.84**	**30**	P		**Pb**	**21 46 22.3**	**+0.6**
KZN	**Kozani**	**1.84**	**30**	P		**Pb**	**21 46 22.1**	**+0.3**
KBN	**Korca**	**1.91**	**5**			**Pb**	**21 46 22.6**	**-0.3**
KBN	**Korca**	**1.91**	**5**	P		**Pb**	**21 46 23.1**	**+0.3**
KBN	**Korca**	**1.91**	**5**	P		**Pb**	**21 46 23.8**	**+1.0**
	baz=6.0								
KBN				S		**Sg**	**21 46 48.5**	**-0.7**
	baz=6.0								
KBN				AMP					
	comp=N,1.5nm,0.7s,baz=6.0								
VLO	**Vlora**	**1.92**	**335**			**Pb**	**21 46 22.1**	**-1.0**
VLO	**Vlora**	**1.92**	**335**	P		**Pb**	**21 46 23.5**	**+0.4**
	baz=337								
VLO				S		**Sg**	**21 46 48.9**	**-0.9**
	baz=337								
VLO				AMP					
	comp=E,4.1nm,0.5s,baz=337								
LIT	**Litokhoron**	**2.04**	**47**	Pn		**Pb**	**21 46 24.5**	**-0.5**
LIT	**Litokhoron**	**2.04**	**47**	P		**Pb**	**21 46 25.0**	**0.0**
LIT	**Litokhoron**	**2.04**	**47**	P		**Pb**	**21 46 24.7**	**-0.4**
LOUT	**Loutraki**	**2.04**	**110**	P		**Pb**	**21 46 24.0**	**-1.1**
LOUT	**Loutraki**	**2.04**	**110**	P		**Pb**	**21 46 24.1**	**-1.0**
PYL	**PYLOS**	**2.06**	**152**	P		**Pb**	**21 46 25.0**	**-0.4**
PYL	**PYLOS**	**2.06**	**152**	P		**Pb**	**21 46 24.9**	**-0.5**
KTI	**Kastanea**	**2.06**	**36**	P		**Pb**	**21 46 24.9**	**-0.6**
SCTE	**Santa Cesarea**	**2.10**	**310**	Pn		**Pn**	**21 46 24.1**	**+1.0**
SCTE	**Santa Cesarea**	**2.10**	**310**	P		**Pn**	**21 46 24.4**	**+1.2**
	baz=311								
SCTE				S		**Sb**	**21 46 51.9**	**-0.3**
	baz=311								
SCTE				AMP					
	comp=N,0.7nm,0.5s,baz=311								
FNA	**Florina**	**2.15**	**17**			**Pb**	**21 46 26.3**	**-0.8**
FNA	**Florina**	**2.15**	**17**	P		**Pb**	**21 46 26.4**	**-0.6**
FNA	**Florina**	**2.15**	**17**	P		**Pb**	**21 46 26.4**	**-0.6**
	baz=18								
FNA				S		**Sb**	**21 46 53.0**	**-0.8**
	baz=18								
FNA	**Florina**	**2.15**	**17**	*e*Pn		**Pb**	**21 46 26.2**	**-0.8**
FNA				*e*Sn		**Sb**	**21 46 52.4**	**-1.4**
FNA	**Florina**	**2.15**	**17**	P		**Pb**	**21 46 26.4**	**-0.6**
XOR	**Xorichti**	**2.15**	**72**	P		**Pb**	**21 46 26.9**	**-0.1**
XOR	**Xorichti**	**2.15**	**72**	P		**Pb**	**21 46 25.8**	**-1.3**
NEO	**Neokhori**	**2.16**	**74**	P		**Pb**	**21 46 26.1**	**-1.1**
VIL2	**Platees**	**2.19**	**103**	P		**Pb**	**21 46 26.8**	**-1.0**
VILL	**Villia**	**2.24**	**104**	P		**Pb**	**21 46 27.5**	**-1.0**
EPID	**Epidavros**	**2.31**	**118**	P		**Pb**	**21 46 28.5**	**-1.2**
EPID	**Epidavros**	**2.31**	**118**	P		**Pb**	**21 46 28.1**	**-1.6**
OHR	**Ohrid**	**2.39**	**4**	*e*Pn		**Pb**	**21 46 30.4**	**-0.7**
OHR	**Ohrid**	**2.39**	**4**	*i* Pn		**Pb**	**21 46 30.5**	**-0.6**
GRG	**Griva**	**2.65**	**32**	P		**Pn**	**21 46 32.3**	**+1.6**
GRG	**Griva**	**2.65**	**32**	P		**Pn**	**21 46 31.9**	**+1.3**
ATHU	**Athens Univers**	**2.65**	**106**	P		**Pn**	**21 46 32.7**	**+2.0**
TIR	**Tirane**	**2.67**	**349**			**Pn**	**21 46 32.7**	**+1.6**
TIR	**Tirane**	**2.67**	**349**	P		**Pn**	**21 46 33.3**	**+2.3**
TIR	**Tirane**	**2.67**	**349**	P		**Pn**	**21 46 33.0**	**+2.0**
	baz=350								
TIR				S		**Sb**	**21 47 05.8**	**-2.9**
	baz=350								
TIR				AMP					
	comp=E,0.3nm,0.8s,baz=350								
TIR	**Tirane**	**2.67**	**349**	*e*Pn		**Pn**	**21 46 32.8**	**+1.8**
VLY	**Voula,Athens**	**2.70**	**108**	P		**Pn**	**21 46 33.7**	**+2.3**
VLY	**Voula,Athens**	**2.70**	**108**	P		**Pn**	**21 46 33.6**	**+2.3**
HORT	**Hortiatis**	**2.71**	**46**	P		**Pn**	**21 46 32.2**	**+0.5**
TIP	**Timpagrande**	**2.99**	**280**	⇓P		**Pn**	**21 46 37.6**	**+2.1**
TIP	**Timpagrande**	**2.99**	**280**	Pn		**Pn**	**21 46 36.8**	**+1.3**
VAY	**Valandovo**	**3.02**	**30**	*e*Pn		**Pn**	**21 46 38.3**	**+2.5**
VAY	**Valandovo**	**3.02**	**30**	*i* Pn		**Pn**	**21 46 37.6**	**+1.8**
KNT	**Kendrikon**	**3.03**	**36**	P		**Pn**	**21 46 37.9**	**+2.0**
KTHR	**Kythira**	**3.14**	**141**	P		**Pn**	**21 46 39.4**	**+2.0**
STIP	**Stip**	**3.22**	**22**	*i* Pn		**Pn**	**21 46 41.9**	**+3.4**
SKO	**Skopje**	**3.31**	**12**	*e*Pn		**Pn**	**21 46 41.8**	**+2.0**
SKO	**Skopje**	**3.31**	**12**	*i* Pn		**Pn**	**21 46 42.2**	**+2.3**
SRS	**Serrai**	**3.34**	**43**	P		**Pn**	**21 46 42.4**	**+2.2**
SRS	**Serrai**	**3.34**	**43**	*e*Pn		**Pn**	**21 46 42.4**	**+2.2**
SRS				*e*Sn		**Sn**	**21 47 23.4**	**+3.4**
ULC	**Ulcinj**	**3.38**	**343**	⇓*i*Pn		**Pn**	**21 46 41.5**	**+0.7**
ULC				*i* Sn		**Sn**	**21 47 20.4**	**-0.6**
MATE	**Matera**	**3.54**	**304**	⇑P		**Pn**	**21 46 44.0**	**+1.1**
DRME	**Dracevica, Mon**	**3.61**	**344**	*e*Pn		**Pn**	**21 46 44.9**	**+1.0**
DRME	**Dracevica, Mon**	**3.61**	**344**	⇑*i*Pn		**Pn**	**21 46 44.8**	**+0.9**
DRME				*i* Sn		**Sn**	**21 47 27.6**	**+1.0**
NVR	**Nevrokopi**	**3.65**	**43**	P		**Pn**	**21 46 47.2**	**+2.2**
BCI	**Bajram Curri**	**3.66**	**354**	P		**Pn**	**21 46 47.0**	**+2.4**
	baz=356								
BCI				AMP					
	comp=E,0.7nm,0.3s,baz=356								
CEL	**Celeste**	**3.68**	**264**	Pn		**Pn**	**21 46 45.4**	**+0.4**
THAS	**Thassos island**	**3.73**	**58**	P		**Pn**	**21 46 47.7**	**+2.2**
MMB	**Musomiste**	**3.76**	**39**	P		**Pn**	**21 46 48.2**	**+2.3**
BUM	**Brajici-Budva**	**3.79**	**341**	⇓*i*Pn		**Pn**	**21 46 47.0**	**+0.6**
BUM				*i* Sn		**Sn**	**21 47 31.1**	**+0.1**
PDG	**Podgorica**	**3.83**	**345**	⇑P		**Pn**	**21 46 47.6**	**+0.7**
PDG	**Podgorica**	**3.83**	**345**	Pn		**Pn**	**21 46 47.7**	**+0.7**
PDG	**Podgorica**	**3.83**	**345**	⇑*i*Pn		**Pn**	**21 46 48.0**	**+1.1**
PDG				*i* Sn		**Sn**	**21 47 32.2**	**+0.3**
CUC	**Castrocucco**	**3.88**	**291**			**Pn**	**21 46 50.1**	**+2.4**
PVY	**Plav**	**3.89**	**354**	⇓*i*Pn		**Pn**	**21 46 50.0**	**+2.1**
PVY				*i* Sn		**Sn**	**21 47 35.1**	**+1.4**
PRVS	**Prvonek**	**3.95**	**17**	*e*Pn		**Pn**	**21 46 50.2**	**+1.5**
CEME	**Cevo**	**4.01**	**342**	⇑*i*Pn		**Pn**	**21 46 49.7**	**+0.2**
CEME				*i* Sn		**Sn**	**21 47 36.4**	**-0.2**
HCY	**Herceg Novi**	**4.04**	**338**	*e*Pn		**Pn**	**21 46 49.8**	**+0.1**
HCY	**Herceg Novi**	**4.04**	**338**	⇑*i*Pn		**Pn**	**21 46 49.8**	**+0.1**
HCY				*i* Sn		**Sn**	**21 47 35.9**	**-1.1**
IVA	**Berane**	**4.17**	**353**	⇑*i*Pn		**Pn**	**21 46 53.4**	**+1.7**
IVA				*i* Sn		**Sn**	**21 47 41.8**	**+1.3**
KOME	**Kolasin**	**4.20**	**350**	⇓*i*Pn		**Pn**	**21 46 53.5**	**+1.5**
KOME				*i* Sn		**Sn**	**21 47 42.1**	**+1.0**
BARS	**Barje**	**4.20**	**13**	*e*Pn		**Pn**	**21 46 53.5**	**+1.5**
NKME	**Niksic**	**4.22**	**344**	⇑*i*Pn		**Pn**	**21 46 52.8**	**+0.5**
NKME				*i* Sn		**Sn**	**21 47 41.7**	**+0.1**
SMTH	**Samothraki Isl**	**4.22**	**64**	P		**Pn**	**21 46 55.0**	**+2.7**
PLNA	**Plana**	**4.34**	**29**	P		**Pn**	**21 46 56.1**	**+2.1**
RZN	**Rozhen**	**4.35**	**46**	P		**Pn**	**21 46 58.6**	**+4.4**
VTS	**Vitosha**	**4.39**	**27**	⇓P		**Pn**	**21 46 56.7**	**+1.9**
VTS				⇑S		**Sn**	**21 47 46.8**	**+0.8**
VTS	**Vitosha**	**4.39**	**27**	Pn		**Pn**	**21 46 56.5**	**+1.8**
BRY	**Bratogost**	**4.44**	**341**	*e*Pn		**Pn**	**21 46 55.3**	**-0.2**
BRY	**Bratogost**	**4.44**	**341**	⇑*i*Pn		**Pn**	**21 46 55.7**	**+0.2**
BRY				*i* Sn		**Sn**	**21 47 48.0**	**+0.7**
SELS	**Selova**	**4.51**	**5**	*e*Pn		**Pn**	**21 46 57.0**	**+0.7**
SELS				*e*Sn		**Sn**	**21 47 47.9**	**-0.9**
RDO	**Rodhopi**	**4.53**	**56**	Pn		**Pn**	**21 46 57.9**	**+1.3**
RDO	**Rodhopi**	**4.53**	**56**	P		**Pn**	**21 46 59.2**	**+2.7**
SJES	**Sjenica**	**4.55**	**355**	*e*Pn		**Pn**	**21 46 58.0**	**+1.0**
SJES				*e*Sn		**Sn**	**21 47 48.0**	**-1.9**
SJES	**Sjenica**	**4.55**	**355**	*e*Pn		**Pn**	**21 46 58.3**	**+1.3**
UPM	**Unac-Piva**	**4.64**	**345**	*e*Pn		**Pn**	**21 46 59.3**	**+1.0**
UPM	**Unac-Piva**	**4.64**	**345**	⇓*i*Pn		**Pn**	**21 46 59.2**	**+1.0**
UPM				*i* Sn		**Sn**	**21 47 53.0**	**+0.7**
STON	**Ston**	**4.67**	**333**	*e*Pn		**Pn**	**21 46 58.1**	**+1.4**
PLE	**Pljevlja**	**4.68**	**350**	⇑*i*Pn		**Pn**	**21 46 59.7**	**+0.9**
PLE				*i* Sn		**Sn**	**21 47 53.9**	**+0.7**
ALN	**Alexandroupoli**	**4.75**	**61**	Pn		**Pn**	**21 47 01.5**	**+1.9**
SGRT	**San Giovanni R**	**4.76**	**311**			**Pn**	**21 47 00.8**	**+1.0**
ZAPS	**Zavoj**	**4.81**	**18**	*e*Pn		**Pn**	**21 47 02.4**	**+2.0**
IDI	**Anoyia**	**4.88**	**133**	Pn		**Pn**	**21 47 02.3**	**+0.8**
	comp=E,0.3nm,0.3s,baz=315,slow=16,SNR=1.9								
IDI				Sn		**Sn**	**21 47 55.7**	**-2.3**
	comp=E,0.9nm,0.3s,baz=285,slow=20,SNR=1.4								
	comp=E,5.8nm,0.8s								
BOVS	**Bovan**	**4.98**	**10**	⇑P		**Pn**	**21 47 03.0**	**+0.2**
BOVS	**Bovan**	**4.98**	**10**	*e*Pn		**Pn**	**21 47 03.0**	**+0.2**
VAE	**Valguarnera**	**5.00**	**257**	Pn		**Pn**	**21 47 05.2**	**+2.2**
	comp=E,0.5nm,0.3s,baz=100,slow=19,SNR=1.2								
VAE				Sn		**Sn**	**21 48 03.0**	**+2.0**
	comp=E,0.6nm,0.3s,baz=9.5,slow=12,SNR=1.6								
	comp=E,4.0nm,0.6s								
RAFF	**Raffo Rosso**	**5.12**	**255**	Pn		**Pn**	**21 47 05.0**	**+0.4**

PAOL	**Paolisi**	**5.15**	**298**	Pn		**Pn**	**21 47 06.4**	**+1.3**
GRUS	**Gruza**	**5.16**	**1**	*e*Pn		**Pn**	**21 47 05.9**	**+0.7**
GRUS				*e*Sn		**Sn**	**21 48 03.0**	**-1.7**
BBLS	**Lazići**	**5.21**	**351**	*e*Pn		**Pn**	**21 47 06.1**	**+0.1**
BBLS				*e*Sn		**Sn**	**21 48 04.3**	**-1.7**
BBLS	**Lazići**	**5.21**	**351**	*e*Pn		**Pn**	**21 47 06.0**	**+0.1**
ZAGS	**Zajecar**	**5.24**	**13**	*e*Pn		**Pn**	**21 47 06.4**	**+0.1**
DIVS	**Divibare**	**5.38**	**356**	Pn		**Pn**	**21 47 08.5**	**+0.2**
DIVS	**Divibare**	**5.38**	**356**	*e*Pn		**Pn**	**21 47 08.6**	**+0.2**
DIVS				*e*Sn		**Sn**	**21 48 07.9**	**-2.5**
DIVS	**Divibare**	**5.38**	**356**	*e*Pn		**Pn**	**21 47 08.3**	**-0.1**
TRUS	**Trudelj**	**5.50**	**359**	*e*Pn		**Pn**	**21 47 10.0**	**+0.2**
TRUS				*e*Sn		**Sn**	**21 48 11.2**	**-1.8**
TEKS	**Tekeris**	**5.87**	**353**	*e*Pn		**Pn**	**21 47 14.2**	**-0.8**
TEKS				*e*Sn		**Sn**	**21 48 18.3**	**-4.0**
TEKS	**Tekeris**	**5.87**	**353**	*e*Pn		**Pn**	**21 47 13.3**	**-1.7**
SRKY	**Kupres RS**	**5.91**	**336**	*e*Pn		**Pn**	**21 47 16.4**	**+0.8**
MGRS	**Mrkonjic Grad**	**6.25**	**337**	*e*Pn		**Pn**	**21 47 20.1**	**-0.1**
FRGS	**Fruska Gora**	**6.45**	**355**	⇓P		**Pn**	**21 47 23.7**	**+0.8**
FRGS	**Fruska Gora**	**6.45**	**355**	*e*Pn		**Pn**	**21 47 23.3**	**+0.3**
FRGS	**Fruska Gora**	**6.45**	**355**	*e*Pn		**Pn**	**21 47 23.1**	**+0.1**
A050A	**Klekovaca**	**6.49**	**334**	*e*Pn		**Pn**	**21 47 24.4**	**+0.8**
BLY	**Banja Luka**	**6.52**	**338**	*e*Pn		**Pn**	**21 47 24.0**	**+0.1**
CAMP	**Campotosto**	**6.63**	**307**			**Pn**	**21 47 27.7**	**+2.2**
A051A	**Mrakovica**	**6.84**	**338**	*e*Pn		**Pn**	**21 47 28.1**	**-0.3**
GZR	**Gura Zlata**	**6.87**	**13**	⇑P		**Pn**	**21 47 29.8**	**+1.2**
BZS	**Buzias**	**6.93**	**6**	⇑P		**Pn**	**21 47 29.4**	**-0.1**
GUMA	**Gualdo di Mace**	**6.97**	**311**			**Pn**	**21 47 31.6**	**+1.4**
FDMO	**Fiordimonte**	**7.11**	**310**			**Pn**	**21 47 34.2**	**+2.2**
VOIR		**7.49**	**25**	⇑P		**Pn**	**21 47 40.1**	**+2.8**
MURB	**Monte Urbino**	**7.58**	**309**			**Pn**	**21 47 40.5**	**+2.1**
SIRR	**Siria**	**7.58**	**6**	⇑P		**Pn**	**21 47 39.8**	**+1.3**
MORH	**Mrgy, Hungar**	**7.62**	**350**	⇑P		**Pn**	**21 47 37.9**	**-1.0**
BORA	**Eskisehir**	**7.76**	**78**	Pn		**Pn**	**21 47 42.5**	**+1.4**
BOJS	**Bojanci**	**7.83**	**332**	*e*Pn		**Pn**	**21 47 42.0**	**+0.1**
MLR

VLY	Voula,Athens	0.31	39	P	Pb	21 53 57.8	-0.4
VLY				S	Sb	21 54 03.2	+0.1
	comp=N,5µm,0.2s						
VLY	Voula,Athens	0.31	39	P	Pb	21 53 57.7	-0.5
VLY				S	Sb	21 54 03.1	+0.1
VLY				AML	AML	21 54 03.8	
	comp=E,11430µm,0.2s						
VLY				AML	AML	21 54 03.9	
	comp=N,8742µm,0.3s						
EPID	Epidavros	0.34	271	P	Pb	21 53 58.1	-0.6
EPID				S	Sb	21 54 04.2	+0.3
EPID	Epidavros	0.34	271	P	Pg	21 53 57.8	-0.1
EPID				S	Sb	21 54 03.4	-0.5
ATH	Athens Observa	0.39	20	P	Pb	21 53 59.5	+0.1
ATH				S	Sb	21 54 06.3	+1.1
	comp=N,8µm,0.5s						
ATH	Athens Observa	0.39	20	P	Pb	21 53 59.3	-0.1
ATH				S	Sb	21 54 05.4	+0.2
ATH				AML	AML	21 54 06.7	
	comp=E,7974µm,0.3s						
ATH				AML	AML	21 54 06.8	
	comp=N,23212µm,0.6s						
KRND	KRANIDI	0.39	235	P	Pg	21 53 58.2	-0.5
KRND				S	Sg	21 54 04.1	+0.1
	comp=N,7µm,0.3s						
KRND	KRANIDI	0.39	235	P	Pg	21 53 58.0	-0.7
KRND				S	Sg	21 54 04.1	+0.1
KRND				AML	AML	21 54 05.6	
	comp=N,13907µm,0.3s						
KRND				AML	AML	21 54 05.9	
	comp=E,14573µm,0.3s						
ATHU	Athens Univers	0.40	28	P	Pb	21 53 59.5	-0.2
ATHU				S	Sb	21 54 06.0	+0.3
ATHU	Athens Univers	0.40	28	P	Pb	21 53 59.3	-0.4
ATHU				S	Sb	21 54 05.8	+0.1
ATHU				AML	AML	21 54 06.4	
	comp=E,1964µm,0.3s						
ATHU				AML	AML	21 54 07.8	
	comp=N,3510µm,0.4s						
PTL	Penteli	0.51	30	P	Pn	21 54 02.4	-1.2
PTL				S	Sn	21 54 10.3	-1.8
	comp=N,2µm,0.2s						
PTL	Penteli	0.51	30	P	Pb	21 54 02.0	+0.5
PTL				S	Sb	21 54 08.9	+0.2
PTL				AML	AML	21 54 10.7	
	comp=E,4803µm,0.3s						
PTL				AML	AML	21 54 11.2	
	comp=N,4078µm,0.2s						
DION	Dionisos Attik	0.56	33	P	Pn	21 54 03.3	-1.0
DION				S	Sn	21 54 11.8	-1.6
DION	Dionisos Attik	0.56	33	P	Pb	21 54 02.8	+0.5
DION				S	Sb	21 54 11.1	+0.8
DION				AML	AML	21 54 11.9	
	comp=E,6396µm,0.4s						
DION				AML	AML	21 54 15.3	
	comp=N,6355µm,0.3s						
VILL	Villia	0.58	341	P	Pb	21 54 03.0	+0.1
VILL				S	Sn	21 54 12.2	-1.9
LOUT	Loutraki	0.59	310	P	Pb	21 54 02.9	-0.1
LOUT				S	Sn	21 54 12.9	-1.3
	comp=N,2µm,0.3s						
LOUT	Loutraki	0.59	310	P	Pb	21 54 02.8	-0.1
LOUT				S	Sb	21 54 12.1	+0.9
LOUT				AML	AML	21 54 15.9	
	comp=E,840µm,0.3s						
LOUT				AML	AML	21 54 16.0	
	comp=N,579µm,0.3s						
VIL2	Platees	0.64	340	P	Pg	21 54 02.6	-0.8
VIL2				S	Sb	21 54 12.1	-0.5
VIL2				AML	AML	21 54 16.0	
	comp=N,6094µm,0.3s						
VIL2				AML	AML	21 54 16.1	
	comp=E,8635µm,0.6s						
THAL	Thalero	0.82	302	P	Pn	21 54 07.3	-0.6
THAL	Thalero	0.82	302	P	Pn	21 54 07.1	-0.8
THAL				S	Sn	21 54 19.7	-0.1
THAL				AML	AML	21 54 24.9	
	comp=E,4131µm,0.6s						
THAL				AML	AML	21 54 25.3	
	comp=N,4182µm,0.3s						
MNVA	Monemvasia	1.01	204	P	Pb	21 54 09.9	0.0
MNVA				S	Sb	21 54 22.4	-0.6
MNVA				AML	AML	21 54 27.7	
	comp=E,4488µm,0.5s						
MNVA				AML	AML	21 54 27.8	
	comp=N,4688µm,0.6s						
VLI	Veliai	1.01	209	P	Pb	21 54 09.8	-0.3
VLI				S	Sn	21 54 24.9	+0.3
VLI	Veliai	1.01	209	P	Pb	21 54 08.9	-1.2
VLI				S	Sb	21 54 22.4	-0.8
KYMI	Kymi, Euboea I	1.11	23	P	Pg	21 54 12.3	0.0
KYMI				S	Sn	21 54 29.2	+2.2
	comp=N,1µm,0.4s						
KYMI	Kymi, Euboea I	1.11	23	P	Pg	21 54 12.0	-0.2
KYMI				S	Sn	21 54 28.3	+1.3
KYMI				AML	AML	21 54 30.6	
	comp=N,2903µm,0.5s						
KYMI				AML	AML	21 54 34.0	
	comp=E,2381µm,0.4s						
MHLO	Agia Marina, M	1.14	143	P	Pb	21 54 12.2	-0.1
MHLO				S	Sn	21 54 28.6	+0.9
MHLO	Agia Marina, M	1.14	143	P	Pb	21 54 11.8	-0.5
MHLO				S	Sb	21 54 26.9	0.0
MHLO				AML	AML	21 54 32.5	
	comp=E,8546µm,0.3s						
MHLO				AML	AML	21 54 33.8	
	comp=N,5701µm,0.3s						
KLV	Kalavryta, Ach	1.19	292	P	Pg	21 54 13.5	-0.3
KLV				S	Sn	21 54 31.6	+2.6
KLV	Kalavryta, Ach	1.19	292	P	Pg	21 54 13.1	-0.6
DLFA	Delphi	1.20	317	P	Pg	21 54 13.7	-0.3
TNSA	Tinos	1.28	93	P	Pg	21 54 15.3	-0.3
TNSA				S	Sb	21 54 31.4	+0.4
TNSA				AML	AML	21 54 33.0	
	comp=E,3689µm,0.5s						
TNSA				AML	AML	21 54 35.1	
	comp=N,4303µm,0.2s						
KLMT	Kalamata	1.31	246	P	Pg	21 54 15.4	-0.6
ALIK	Aliki, Aigiali	1.31	300	P	Pg	21 54 17.0	+1.0
AXAR	Agios Charalam	1.35	329	P	Pg	21 54 16.9	+0.1
AXAR				S	Sg	21 54 37.5	+3.0
LAKA	Lakka	1.39	297	P	Pg	21 54 17.0	-0.6
LAKA				S	Sg	21 54 37.3	+1.5
LAKA	Lakka	1.39	297	P	Pb	21 54 16.2	-0.4
KTHR	Kythira	1.41	198	P	Pb	21 54 17.3	+0.4
KTHR				S	Sg	21 54 37.8	+1.4
	comp=N,1µm,0.3s						
KTHR	Kythira	1.41	198	P	Pn	21 54 16.1	+0.1
KTHR				S	Sn	21 54 34.6	+0.1
KTHR				AML	AML	21 54 40.1	
	comp=N,8289µm,0.4s						
KTHR				AML	AML	21 54 43.5	
	comp=E,7236µm,0.3s						
SERG	Sergoula	1.43	305	P	Pg	21 54 18.8	+0.5
SERG	Sergoula	1.43	305	P	Pg	21 54 18.0	-0.3
DRO	Drossia	1.50	284	P	Pg	21 54 18.7	-0.9
DRO				S	Sg	21 54 39.9	+0.8
DRO	Drossia	1.50	284	P	Pb	21 54 18.1	-0.2
EFP	Efpalio	1.53	303	P	Pg	21 54 20.1	-0.2
EFP	Efpalio	1.53	303	P	Pg	21 54 19.3	-1.0
UPR	University Cam	1.55	296	P	Pb	21 54 19.0	-0.2
ALNA	Alonissos	1.56	9	P	Pn	21 54 18.3	+0.3
PYL	PYLOS	1.61	244	P	Pn	21 54 20.6	+0.4
PYL	PYLOS	1.61	244	P	Pb	21 54 19.9	-0.3
ANX	Ano Chora	1.62	308	P	Pg	21 54 20.7	-1.2
ANX	Ano Chora	1.62	308	P	Pb	21 54 20.0	-0.4
APE	Apeiranthos	1.67	108	P	Pb	21 54 21.8	+0.5
APE	Apeiranthos	1.67	108	Pn	Pn	21 54 20.1	+0.5
APE				Sn	Sb	21 54 43.4	+1.2
APE	Apeiranthos	1.67	108	P	Pn	21 54 18.6	-1.0
APE				S	Sn	21 54 38.5	-2.3
APE	Apeiranthos	1.67	108	P	Pn	21 54 19.2	-0.4
AGG	Agios Georgios	1.71	326	P	Pb	21 54 21.4	-0.5
AGG	Agios Georgios	1.71	326	Pn	Pn	21 54 19.5	-0.6
AGG				Sn	Sb	21 54 42.2	-1.0
AGG	Agios Georgios	1.71	326	P	Pb	21 54 21.1	-0.8
AGG				S	Sb	21 54 42.3	-1.0
RLS	Riolos of Patr	1.71	286	P	Pb	21 54 22.3	+0.4
RLS	Riolos of Patr	1.71	286	P	Pb	21 54 22.0	+0.1
NEO	Neokhori	1.71	352	P	Pb	21 54 20.8	-1.3
ANKY	Antikythira Is	1.75	187	P	Pn	21 54 21.7	+1.0
ANKY	Antikythira Is	1.75	187	P	Pn	21 54 20.3	-0.4
ANKY				S	Sn	21 54 41.5	-1.2
ANKY				AML	AML	21 54 49.2	
	comp=E,1558µm,0.9s						
ANKY				AML	AML	21 54 54.1	
	comp=N,1816µm,0.8s						
XOR	Xorichti	1.78	351	P	Pn	21 54 21.4	+0.3
MAKR	Makrakomi, Fth	1.79	322	P	Pb	21 54 22.9	-0.5
PSRA	Psara	1.84	59	P	Pb	21 54 23.3	-0.9
CMBO	Columbo, Santo	1.87	127	P	Pn	21 54 22.3	0.0
PVO	Paravola	1.89	303	P	Pb	21 54 24.1	-0.9
EVR	Evrytania	1.89	314	P	Pb	21 54 25.2	0.0
EVR				S	Sg	21 54 50.3	-1.4
EVR	Evrytania	1.89	314	P	Pb	21 54 24.7	-0.5
RODP	Rodopos	2.05	175	P	Pn	21 54 26.0	+1.2
RODP	Rodopos	2.05	175	Pn	Pn	21 54 25.8	+1.0
CHAN	Chania	2.12	169	P	Pn	21 54 25.4	-0.4
CHOS	Chios island	2.13	68	P	Pn	21 54 27.5	+1.6
CHOS	Chios island	2.13	68	Pn	Pn	21 54 26.5	+0.6
CHOS				Sn	Sb	21 54 54.9	-0.5
CHOS	Chios island	2.13	68	P	Pn	21 54 26.3	+0.3
LTHK	Lithakia	2.15	274	P	Pb	21 54 28.4	-1.1
LTHK	Lithakia	2.15	274	P	Pb	21 54 27.9	-1.6
IMMV	Iera Moni Meta	2.17	171	P	Pn	21 54 27.6	+1.1
IMMV				S	Sb	21 54 55.9	-0.7
IMMV	Iera Moni Meta	2.17	171	Pn	Pn	21 54 27.0	+0.5
IMMV				Sn	Sb	21 54 56.1	-0.5
IMMV	Iera Moni Meta	2.17	171	P	Pn	21 54 25.9	-0.6
THL	Klokotos Trika	2.29	329	P	Pb	21 54 30.0	-1.9
THL	Klokotos Trika	2.29	329	P	Pn	21 54 28.9	+0.8
PAIG	Paliouri	2.32	2	P	Pn	21 54 28.5	+0.1
TYRN	Tyrnavos	2.34	334	P	Pn	21 54 29.8	+1.0
KNDR	Palaiochora Ch	2.37	177	P	Pn	21 54 30.7	+1.5
KNDR	Palaiochora Ch	2.37	177	Pn	Pn	21 54 29.4	+0.2
KNDR	Palaiochora Ch	2.37	177	P	Pn	21 54 29.3	+0.2
SIGR	SIGRI	2.42	48	Pn	Pn	21 54 29.9	+0.1
SIGR	SIGRI	2.42	48	P	Pn	21 54 29.8	-0.1
ZEYE	Izmir, Urla-Ze	2.42	74	P	Pb	21 54 32.0	-2.1
ZEYE				S	Sn	21 54 59.3	0.0
EVGI	Lefkada island	2.50	295	P	Pn	21 54 32.7	+1.8
NYDR	Nydri-Lefkada	2.50	297	P	Pn	21 54 32.8	+1.8
URLA	Izmir	2.52	72	Pn	Pn	21 54 32.6	+1.3
URLA	Izmir	2.52	72	P	Pg	21 54 37.9	-1.3
URLA				S	Sb	21 55 07.7	+1.0
IDI	Anoyia	2.56	155	P	Pn	21 54 33.0	+1.2
IDI	Anoyia	2.56	155	Pn	Pn	21 54 31.5	-0.4
IDI	Anoyia	2.56	155	P	Pn	21 54 31.4	-0.4
LKD2	Lefkada island	2.56	298	P	Pb	21 54 34.0	-2.6
DMLN	Damoulianata-K	2.59	285	P	Pb	21 54 34.8	-2.2
KEF3	Kipouria, Keph	2.60	284	P	Pn	21 54 33.8	+1.4
SMG	Samos	2.61	87	P	Pn	21 54 34.4	+1.9
SMG	Samos	2.61	87	P	Pn	21 54 32.9	+0.4
HRKL	Herakleio	2.61	151	Pn	Pn	21 54 33.6	+1.1
LIT	Litokhoron	2.62	342	P	Pn	21 54 33.1	+0.4
LIT	Litokhoron	2.62	342	P	Pn	21 54 33.1	+0.4
DGB	zmir	2.68	79	P	Pn	21 54 31.4	-2.0
DGB				S	Sn	21 54 59.2	-6.3
OUR	Ouranopolis	2.74	7	Pn	Pn	21 54 34.9	+0.6
KOCA	Canakkale, Ayv	2.77	46	P	Pn	21 54 36.4	+1.6
GVD	Gavdhos	2.80	171	P	Pn	21 54 37.4	+2.3
GVD	Gavdhos	2.80	171	Pn	Pn	21 54 36.6	+1.5
BLCB	Balcova	2.87	73	Pn	Pn	21 54 37.7	+1.7
KOSK	Kos Island	2.87	106	Pn	Pn	21 54 37.7	+1.6
GCAM	G?zelcaml?	2.93	87	Pn	Pn	21 54 38.4	+1.6
BOZC	Bozcaada	2.97	41	P	Pn	21 54 36.4	-1.0
AYVA	Ayvalik	2.99	55	P	Pn	21 54 45.8	+2.0
HORT	Hortiatis	3.00	353	Pn	Pn	21 54 38.5	+0.4
HORT	Hortiatis	3.00	353	P	Pn	21 54 38.4	+0.4
DKL	Dikili	3.02	60	Pn	Pn	21 54 39.1	+1.0
DKL	Dikili	3.02	60	P	Pb	21 54 46.1	+1.9
ZEDA	zmir-Bergama	3.09	63	P	Pb	21 54 46.7	+1.2
EZN	Ezine	3.10	44	Pn	Pn	21 54 28.8	-10
BDRM	Kayabasi	3.15	99	P	Pn	21 54 40.6	+0.6
GADA	Gvkgeada	3.16	35	Pn	Pn	21 54 41.7	+1.6
BAYC	CANAKKALE_Bayr	3.17	47	P	Pn	21 54 40.3	+0.1
IGT	Igoumenitsa	3.17	308	P	Pn	21 54 42.2	+2.0
ZKR	Zakros	3.29	138	Pn	Pn	21 54 43.7	+1.8
DAT	Datca	3.34	104	Pn	Pn	21 54 44.1	+1.5
MLSB	Milas	3.38	94	Pn	Pn	21 54 45.1	+2.0
LSK	Leskovik	3.43	319	P	Pn	21 54 45.9	+2.1
AYDN	Tasoluk	3.44	88	P	Pn	21 54 45.6	+1.6
GRG	Griva	3.46	345	Pn	Pn	21 54 44.6	+0.4
KNT	Kendrikon	3.58	352	Pn	Pn	21 54 46.3	+0.4
FNA	Florina	3.59	333	Pn	Pn	21 54 47.0	+0.9
FNA	Florina	3.59	333	P	Pn	21 54 47.3	+1.2
GELI	Tayfur-Gelibol	3.60	38	Pn	Pn	21 54 46.2	+0.1
KEK	Kerkira	3.61	307	P	Pn	21 54 49.6	+3.3
ALN	Alexandroupoli	3.81	30	Pn	Pn	21 54 49.2	+0.2
ALN	Alexandroupoli	3.81	30	P	Pn	21 54 47.6	-1.4
ERIK	Erikli-Kesan	3.83	36	Pn	Pn	21 54 50.4	+1.2
ERIK	Erikli-Kesan	3.83	36	P	Pn	21 54 46.7	-2.5
TURN	Turunc	3.84	101	Pn	Pn	21 54 50.5	+1.1
RDO	Rodhopi	3.85	23	Pn	Pn	21 54 49.9	+0.3
KRBG	Karabiga-Canak	4.03	45	Pn	Pn	21 54 53.5	+1.5
UKOP	Uzunkopru-Edir	4.25	33	Pn	Pn	21 54 55.3	+0.3
KDZ	Kurdzhali	4.29	19	Pn	Pn	21 54 55.3	-0.3

*IDC **28** 21:55:27.0±0.7,9°.61N×125°.69E,h0km,mb3.7/12, mbtmp3.7/13,ML4.0/1,MS3.0/9,Error ellipse: s-maj=35.1km s-min=14.5km az=76.0*
*MAN **28** 21:55:34.4,9°.86N×126°.23E,h18km,mb4.6,ML3.5,MS3.3*
ISC 28 21:55:34.1±1.7,9.79N±0.07×126.37E±0.10,h52km±17km, n33,σ2ᵗ78/39,mb3.6/12,MS3.0/7,9C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.87	269	⇓eP		Pn		21 55 48.0	-2.2
SCPH				eS		Sn		21 55 59.6	-2.4
TASP	Talacogon, Agu	1.44	203	⇑iP		Pn		21 56 00.1	+2.1
TASP				i S		Sn		21 56 21.4	+5.7
MSLP	Maasin	1.53	283	⇑eP		Pn		21 55 57.7	-1.4
MSLP				eS		Sn		21 56 21.2	+3.3
BIPH	Bislig	1.60	180	⇑eP		Pn		21 55 59.6	-0.4
BIPH				i S		Sn		21 56 22.0	+2.5
GHHP	Garcia Hernand	2.03	266	⇓eP		Pn		21 56 06.3	+0.4
GHBP				i S		Sn		21 56 34.4	+0.3
TABP	Talibon, Bohol	2.03	279	⇓iP		Pn		21 56 06.0	0.0
TABP				i S		Sn		21 56 30.0	-0.2
CGP	Cagayan de Oro	2.12	231	⇑iP		Pn		21 56 07.4	+0.2
CGP				i S		Sn		21 56 32.6	+0.2
LLP	Lapu-Lapu	2.42	283	⇑eP		Pn		21 56 12.7	+1.3
LLP				eS		Sn		21 56 41.4	+1.5
TBP	Tagbilaran	2.48	268	⇓eP		Pn		21 56 13.0	+1.0
TBP				i S		Sn		21 56 42.5	+1.4
LSIP	Lazi, Siquijor	2.78	257	⇑eP		Pn		21 56 17.5	+1.2
LSIP				i S		Sn		21 56 50.0	+1.4
DAV	Davao City (W)	2.81	196	Pn		Pn		21 56 07.8	-8.9
	32nm,0.3s,baz=270,slow=17,SNR=1.3								
DAV				Sn		Sn		21 56 40.8	-8.6
	47nm,0.3s,baz=59,slow=5.9,SNR=1.5								
DAV				LR		LR		21 56 49.0	
	comp=Z,58nm,18.5s,baz=38,slow=32 119nm,0.5s								
KCP	Kidapawan	3.04	205	⇑eP		Pn		21 56 19.0	-0.9
KCP				i S		Sn		21 56 48.1	-7.0
SNPH	Sibulan	3.12	262	⇓eP		Pn		21 56 23.0	+2.1
SNPH				eS		Sn		21 57 05.8	+8.7
DCPH	Dipolog City	3.21	248	⇑eP		Pn		21 56 22.6	+0.5
CTBH	Cotabato--PC H	3.31	220	eP		Pn		21 56 25.4	+2.0
CTBH				i S		Sn		21 56 59.7	-1.8
KAPI	Kappang	16.12	204	LR		LR		22 05 47.5	
	comp=Z,55nm,21.9s,baz=47,slow=40								
JHJ	Hachijo jima 2	26.30	26	LR		LR		22 11 08.2	
	comp=Z,33nm,21.4s,baz=66,slow=35								
KSRS	Korea Array	27.58	3	LR		LR		22 14 19.7	
	comp=Z,16nm,18.6s,baz=160,slow=41								
CMAR	Chiang Mai Arr	27.93	291	P		P		22 01 13.9	-5.8
	0.2nm,0.3s,baz=116,slow=6.1,SNR=1.2								
CMAR				LR		LR		22 13 10.6	
	comp=Z,22nm,18.4s,baz=355,slow=39 0.2nm,0.3s								
MJAR	Matsushiro Arr	28.71	20	LR		LR		22 12 52.8	
	comp=Z,41nm,18.9s,baz=192,slow=36								
KRVT	Keravat (AS076	29.15	118	LR		LR		22 13 31.9	
	comp=Z,36nm,19.8s,baz=228,slow=37								
WRA	Warramunga Arr	30.57	165	P		P		22 01 42.3	-0.8
	0.3nm,0.5s,baz=349,slow=9.0,SNR=2.5 0.3nm,0.5s								
ASAR	Alice Springs	34.06	168	P		P		22 02 14.0	+0.3
	0.3nm,0.4s,baz=351,slow=7.1,SNR=9.1								
ASAR				LR		LR		22 16 12.0	
	comp=Z,44nm,19.7s,baz=90,slow=37 0.3nm,0.4s								
ASAJ	Asahikawa	36.98	20	LR		LR		22 18 10.7	
	comp=Z,37nm,20.1s,baz=148,slow=36								
KLR	Kul'dur	39.57	6	P		P		22 03 01.2	+1.0
	0.5nm,0.6s,baz=177,slow=9.7,SNR=4.2 0.5nm,0.6s								
SONM	Songino Array	41.50	340	P		P		22 03 15.5	-0.8
	0.2nm,0.4s,baz=141,slow=7.8,SNR=2.4 0.2nm,0.4s								
STKA	Stephens Creek	43.92	161	P		P		22 03 36.1	+0.2
	1.1nm,0.5s,baz=321,slow=17,SNR=1.3 1.1nm,0.5s								
MKAR	Makanchi Array	52.47	323	P		P		22 04 39.2	-2.6
	0.7nm,0.7s,baz=115,slow=8.3,SNR=9.3 0.7nm,0.7s								
ZALV	Zalesovo Beam	55.09	331	P		P		22 04 59.8	-1.0
	0.3nm,0.4s,baz=128,slow=5.6,SNR=2.1 0.3nm,0.4s								
KURBB	Kurchatov Arra	56.52	326	P		P		22 05 10.6	-0.5
	0.5nm,0.6s,baz=125,slow=6.8,SNR=8.9 0.5nm,0.6s								
ILAR	Eielson Array	79.83	26	P		P		22 07 40.1	+3.3
	0.3nm,0.4s,baz=231,slow=6.4,SNR=12 0.3nm,0.4s								
FINES	FINESS Array B	86.36	332	P		P		22 08 09.8	-0.7
	1.5nm,0.9s,baz=87,slow=3.4,SNR=12 1.5nm,0.9s								
YKA	Yellowknife Ar	94.15	24	P		P		22 08 48.3	+1.3
	0.5nm,0.7s,baz=298,slow=4.6,SNR=6.9 0.5nm,0.7s								

IDC 28 21:57:45.9±3.3,32°.00S×177°.20W,h0km,mb3.5/2, mbtmp3.6/4,ML3.8/2,Error ellipse: s-maj=74.6km s-min=34.0km az=112.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.81	347	Pn		Pn		21 58 32.7	+0.7
	73nm,0.3s,baz=120,slow=20,SNR=1.8								
RAO				Sn		Sn		21 59 01.0	-5.5
	273nm,0.3s,baz=89,slow=23,SNR=6.0 177nm,0.3s								
URZ	Urewera	7.79	215	Pn		Pn		21 59 40.2	-0.3
	0.2nm,0.3s,baz=354,slow=6.5,SNR=1.5								
URZ				Sn		Sn		22 01 07.0	-2.5
	1.5nm,0.3s,baz=289,slow=19,SNR=8.7 2.1nm,0.7s								
ASAR	Alice Springs	43.73	268	P		P		22 05 52.6	-0.5
	0.4nm,0.7s,baz=105,slow=7.7,SNR=6.4 0.4nm,0.7s								
WRA	Warramunga Arr	44.86	273	P		P		22 06 02.4	+0.2
	0.5nm,0.7s,baz=112,slow=7.9,SNR=7.7 0.5nm,0.7s								
FINES	FINESS Array B	146.88	340	PKPbc		PKPdf		22 17 28.3	+0.8
	1.2nm,0.8s,baz=46,slow=4.0,SNR=4.8								

*IDC **28** 22:03:56.4±4.7,36°.06N×70°.68E,h137km±33km,mb3.5/5, mbtmp4.0/11,Error ellipse: s-maj=57.1km s-min=24.1km az=150.0*
*NNC **28** 22:03:57.1±10.0,36°.71N×70°.10E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=103.3km s-min=76.2km az=148.0*
*NEIC **28** 22:03:59.7±0.7,36°.41N±0°.06×70°.5E±0°.1,h143km±4km, mb4.1/7,Error ellipse: s-maj=12.0km s-min=9.3km az=78.0*
ISC 28 22:04:01.3±0.8,36°.33N±0°.07×70°.85E±0°.09,h188km,n60, σ1ᵗ92/58,mb3.7/6,1C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.31	220	Pn		Pn		22 04 37.4	-5.2
CHGR	Chuyangaron	2.68	330	Pn		Pn		22 04 40.5	-6.2
NIL	Nilore	3.32	143	Pn		Pn		22 04 53.8	-0.5
JMU	Jammu	4.92	136	eP		Pn		22 05 14.1	-0.3
JMU				eS		Sn		22 06 09.9	-1.9
AML	Almayashu	6.20	20	P		Pn		22 05 29.0	-2.3
	SNR=72								
UCH	Uchtor	6.54	25	P		Pn		22 05 34.0	-1.9
	SNR=23								
EKS2	Erkin-Say	6.72	19	P		Pn		22 05 36.1	-1.7
	SNR=14								
BHK	Bhakra	6.74	135	eS		Sn		22 06 52.3	-2.4
KK31	Karatay Array	6.77	358	Pn		Pn		22 05 34.6	-3.8
KK31	Karatay Array	6.77	358	⇑P		Pn		22 05 35.0	-3.4
	2.9nm,0.3s,baz=181,slow=13,SNR=226								
KK31				⇓S		Sn		22 06 46.9	-8.4
	11nm,0.5s,baz=182,slow=23,SNR=9.5								
KKAR	Karatay Array	6.77	358			Pn		22 05 34.9	-3.5
KKAR	Karatay Array	6.77	358	Pn		Pn		22 05 34.9	-3.5
AAK	Ala-Archa	6.90	23	P		Pn		22 05 39.0	-1.3
	SNR=15								
AAK	Ala-Archa	6.90	23	P		Pn		22 05 38.9	-1.4
	5.8nm,0.3s,baz=188,slow=5.7,SNR=40								
AAK				S		Sn		22 06 55.2	-3.4
	11nm,0.5s,baz=330,slow=23,SNR=14								
AAK	Ala-Archa	6.90	23	Pn		Pn		22 05 38.5	-1.8
CHMS	Chumysh	7.31	23	P		Pn		22 05 43.9	-1.6
	SNR=11								
SMLA	Simla	7.39	133	eP		Pn		22 05 43.5	-3.1
SMLA				eS		Sn		22 07 06.7	-3.3
SMLA				IAML				22 07 09.2	
	comp=N,64nm,0.4s								
SMLA				IAML				22 07 14.6	
	comp=E,71nm,0.3s								
USP	Ospenovka	7.48	21	P		Pn		22 05 46.3	-1.4

ZALV	**Zalesovo Beam**	20.12	25	P		P	22 08 22.4	+1.9
	comp=Z,21nm,0.5s,baz=221,slow=11,SNR=87							
	comp=Z,21nm,0.5s							
ARU	**Arti**	21.75	341	P		P	22 08 38.9	+1.2
	comp=Z,1.9nm,0.6s,baz=176,slow=5.2,SNR=5.3							
	comp=Z,1.9nm,0.6s							
ARU	**Arti**	21.75	341	P		P	22 08 38.3	+0.5
ARU				IAmb		IAmb	22 08 40.7	
	comp=Z,3.2nm,0.9s							
FIA1	**FINESS Array S**	37.56	326	P		P	22 10 58.5	+1.4
FIA1				IAmb		IAmb	22 11 14.0	
	comp=Z,9.7nm,1.1s							
FINES	**FINESS Array B**	37.56	326	P		P	22 10 58.4	+1.3
	comp=Z,0.8nm,0.6s,baz=123,slow=7.0,SNR=6.0							
	comp=Z,0.8nm,0.6s							
FINES	**FINESS Array B**	37.56	326	P		P	22 10 57.9	+0.8
NC303	**NORSAR Array S**	44.39	323	P		P	22 11 53.6	+0.8
NC303				IAmb		IAmb	22 12 04.0	
	comp=Z,19nm,1.4s							
NB2	**NORSAR Subarra**	44.44	323	P		P	22 11 54.4	+1.1
	comp=Z,0.7nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	44.44	323	P		P	22 11 54.2	+0.9
	comp=Z,0.5nm,0.5s,baz=96,slow=7.9,SNR=3.5							
	comp=Z,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	65.59	269	P		P	22 14 24.9	-0.4
	comp=Z,0.2nm,0.3s,baz=47,slow=6.0,SNR=1.4							
	comp=Z,0.2nm,0.3s							
BMAR	**Burnt Mountain**	73.14	14	P		P	22 15 15.3	+4.5

*IDC **28** 22:26:08.6±1.1,8°.21N×93°.00E,h0km,mb3.7/14, mbtmp3.7/15,Error ellipse: s-maj=30.8km s-min=19.1km az=43.0.*

ISC 28 22:26:15.4±1.1,8°.3N±0°.2×93°.0E±0°.1,h50km,n18, σ0s63/15,mb3.6/14,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	11.66	29	Pn	**Pn**	**22 28 59.3**	**0.0**
	0.6nm,0.4s,baz=210,slow=14,SNR=6.4						
H08S3	**Diego Garcia H**	25.85	233	T	T	22 58 45.0	
	baz=52,slow=75,SNR=269						
H08S2	**Diego Garcia H**	25.85	233	T	T	22 58 45.2	
	baz=52,slow=75,SNR=220						
H08S1	**Diego Carcia H**	25.87	233	T	T	22 58 46.4	
	baz=52,slow=75,SNR=113						
WSAR	**Wadi Sarin**	36.19	298	P	**P**	**22 33 12.8**	**-0.7**
	1.8nm,0.8s,baz=135,slow=5.7,SNR=1.1						
	1.8nm,0.8s						
MKAR	**Makanchi Array**	39.50	348	P	**P**	**22 33 40.5**	**-0.6**
	0.4nm,0.4s,baz=169,slow=8.0,SNR=20						
	0.4nm,0.4s						
SONM	**Songino Array**	41.05	14	P	**P**	**22 33 54.1**	**-0.1**
	0.4nm,0.5s,baz=191,slow=9.1,SNR=4.8						
	0.4nm,0.5s						
KSRS	**Korea Array**	42.91	42	P	**P**	**22 34 08.2**	**-1.1**
	0.5nm,0.6s,baz=247,slow=9.5,SNR=1.9						
	0.5nm,0.6s						
GEYT	**Alibeck**	43.19	319	P	**P**	**22 34 12.0**	**+0.3**
	0.9nm,0.5s,baz=134,slow=6.2,SNR=2.7						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	43.93	347	P	**P**	**22 34 17.3**	**+0.1**
	0.3nm,0.4s,baz=174,slow=7.7,SNR=4.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	46.05	353	P	**P**	**22 34 34.3**	**+0.2**
	0.8nm,0.3s,baz=172,slow=7.4,SNR=9.8						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	48.29	342	P	**P**	**22 34 51.6**	**0.0**
	0.3nm,0.4s,baz=137,slow=7.7,SNR=5.0						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	49.37	125	P	**P**	**22 35 00.8**	**+0.4**
	0.2nm,0.6s,baz=305,slow=8.5,SNR=7.6						
	0.2nm,0.6s						
MJAR	**Matsushiro Arr**	49.73	48	P	**P**	**22 35 03.1**	**+0.2**
	0.4nm,0.4s,baz=233,slow=6.3,SNR=3.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	51.00	129	P	**P**	**22 35 12.1**	**-0.6**
	0.3nm,0.8s,baz=316,slow=7.8,SNR=2.7						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	61.36	311	P	**P**	**22 36 26.5**	**0.0**
	0.4nm,0.8s,baz=107,slow=4.8,SNR=2.4						
	0.4nm,0.8s						
FINES	**FINESS Array B**	71.87	332	P	**P**	**22 37 33.2**	**+0.2**
	1.1nm,0.8s,baz=111,slow=7.6,SNR=3.7						
	1.1nm,0.8s						
SPITS	**Spitsbergen Ar**	79.25	348	P	**P**	**22 38 16.4**	**+1.4**
	2.4nm,0.5s,baz=96,slow=8.6,SNR=8.4						
	2.4nm,0.5s						

*IDC **28** 22:28:38.8±1.9,35°.96N×53°.60E,h0km,mb3.6/4, mbtmp3.7/9,ML3.3/5,Error ellipse: s-maj=30.6km s-min=17.6km az=9.0*
*TEH **28** 22:28:39.3,36°.08N×53°.74E,h8km±21km,ML3.7*
*AZER **28** 22:28:42.8±0.0,36°.36N×53°.39E,h18km±8km,Error ellipse: s-maj=16.3km s-min=0.7km az=311.0*

ISC 28 22:28:41.1±0.7,36°.08N±0°.04×53.74E±0°.04,h10km,n90, σ1s61/117,mb3.5/3,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	0.43	10	Pg	Pg	22 28 47.4	-2.3
IGLO				Sg	**Sg**	**22 28 55.0**	**-0.5**
ISHM	**Shahmirzad**	0.45	233	Pg	**Pg**	**22 28 48.8**	**-1.2**
ISHM				Sg	**Sg**	**22 28 56.0**	**+0.1**
IANJ	**Anjilo**	0.62	166	Pg	**Pg**	**22 28 51.8**	**-1.4**
IFIR	**Firoozkooh**	0.91	242	Pg	Pg	22 28 56.9	-1.8
IFIR				Sg	**Sg**	**22 29 10.9**	**+0.4**
ILAS	**Lasjerd**	0.94	223	Pg	**Pg**	**22 28 57.6**	**-1.6**
IPRN	**Peran**	1.14	279	Pg	Pb	22 29 01.1	-2.0
IDMV	**Damavand**	1.47	251	Pg	**Pn**	**22 29 06.9**	**-1.1**
DAMV	**Damavand**	1.50	253	Pg	**Pn**	**22 29 07.9**	**-0.5**
IMND	**Minoodasht**	1.79	48	Pg	**Pn**	**22 29 11.8**	**-0.3**
SHRO	**Shahrood**	1.85	92	Pn	**Pn**	**22 29 12.6**	**-0.4**
IVRN	**Varamin**	1.96	237	Pn	**Pn**	**22 29 15.4**	**+0.9**
IHSB	**Hasanabad**	2.10	253	Pn	**Pn**	**22 29 18.2**	**+1.8**
ISFB	**Sefidab**	2.11	216	Pn	**Pn**	**22 29 16.9**	**+0.4**
CHTH	**Charan**	2.12	266	Pn	**Pn**	**22 29 18.6**	**+1.7**
THKV	**Tehran--Karaj**	2.32	267	Pn	**Pn**	**22 29 22.4**	**+2.8**
MRVT	**Maraveh tapeh**	2.46	49	Pn	**Pn**	**22 29 21.6**	**+0.1**
KRSH	**Karshahi**	2.48	212	Pn	**Pn**	**22 29 22.2**	**+0.5**
IQOM	**Qom**	2.50	241	Pn	**Pn**	**22 29 22.5**	**+0.4**
IMHD	**Mahdasht**	2.52	262	Pn	**Pn**	**22 29 22.7**	**+0.5**
GHVR	**GHOM**	2.55	232	Pn	**Pn**	**22 29 23.8**	**+1.2**
IGZV	**Ghazvin**	2.86	277	Pn	**Pn**	**22 29 29.2**	**+2.2**
QAMS	**Qamsar**	3.02	220	Pn	**Pn**	**22 29 29.6**	**+0.3**
LHJ2	**Lahijan - Gila**	3.15	291	Pn	**Pn**	**22 29 30.8**	**+0.1**
TNSJ	**Nastanj**	3.16	131	Pn	**Pn**	**22 29 30.8**	**-0.2**
IRAZ	**Razeghan**	3.17	259	Pn	**Pn**	**22 29 32.8**	**+1.5**
GIDE	**GILAN DEYLAMAN**	3.20	286	Pn	**Pn**	**22 29 33.0**	**+1.4**
JIR1	**Jirandeh**	3.23	282	Pn	**Pn**	**22 29 33.1**	**+1.0**
IKLH	**Kolahrood**	3.27	213	Pn	**Pn**	**22 29 33.1**	**+0.3**
NASN	**Na'in**	3.36	193	Pn	**Pn**	**22 29 34.4**	**+0.5**
IZEF	**Zefreh**	3.38	201	Pn	**Pn**	**22 29 34.3**	**+0.2**
ASAO	**Ashtian**	3.39	244	Pn	**Pn**	**22 29 35.0**	**+0.6**
TABS	**Tabas**	3.69	130	Pn	**Pn**	**22 29 38.4**	**+0.1**
TKDS	**Koohdasht(Taba**	3.71	130	Pn	**Pn**	**22 29 38.6**	**-0.1**
YZKH	**Yazd**	3.74	169	Pn	**Pn**	**22 29 39.8**	**+0.7**
HAGD	**Aghdareh**	3.95	253	Pn	**Pn**	**22 29 43.9**	**+1.8**
GEYT	**Alibeck**	3.97	61	Pn	**Pn**	**22 29 43.4**	**+1.4**
	5.0nm,0.3s,baz=248,slow=15,SNR=60						
GEYT				Sn	**Sn**	**22 30 33.4**	**+4.7**
	1.4nm,0.3s,baz=259,slow=16,SNR=1.8						
GEYT				Lg	Lg	22 30 49.6	
	1.5nm,0.3s,baz=254,slow=31,SNR=5.5						
	19nm,0.5s						
ZNJK	**Zanjan**	4.12	280	Pn	**Pn**	**22 29 46.2**	**+1.9**
IPIR	**Pirpir**	4.12	216	Pn	**Pn**	**22 29 45.6**	**+1.2**
IRAM	**Ramesheh**	4.40	195	Pn	**Pn**	**22 29 49.0**	**+0.8**
ASTR	**Astara**	4.66	304	P	**Pn**	**22 29 51.0**	**-0.5**
	SNR=15						
ASTR				S	**Sn**	**22 30 44.2**	**-1.4**
IKRD	**Kardeh**	4.71	80	Pn	**Pn**	**22 29 53.3**	**+0.8**
LKRN	**Lenkeran, Azer**	4.74	305	P	**Pn**	**22 29 52.2**	**-0.4**
	SNR=5.6						
LKRN				S	**Sn**	**22 30 46.0**	**-1.7**
LRK	**Lerik**	5.00	302	P	**Pn**	**22 29 55.9**	**-0.5**
	SNR=26						
LRK				S	**Sn**	**22 30 52.5**	**-1.9**
IMYA	**Miami**	5.16	85	Pn	**Pn**	**22 29 58.9**	**+0.3**
ISRB	**Sarab**	5.16	292	Pn	**Pn**	**22 29 59.8**	**+1.1**
YRD	**Yardimli**	5.21	305	P	**Pn**	**22 29 58.4**	**-0.9**
	SNR=25						
YRD				S	**Sn**	**22 30 57.5**	**-2.0**
GLBA	**Clilabad**	5.29	308	P	**Pn**	**22 29 60.0**	**-0.2**
	SNR=29						
SNGE	**Sanandaj**	5.30	261	Pn	**Pn**	**22 30 02.1**	**+1.6**
JRKH	**Jarkhoshk**	5.37	90	Pn	**Pn**	**22 30 01.6**	**+0.2**
GRMI	**Germi**	5.39	302	Pn	**Pn**	**22 30 02.6**	**+0.9**
SAAT	**Saatly**	5.65	314	P	**Pn**	**22 30 06.6**	**+1.6**
SAAT				S	**Sn**	**22 31 08.9**	**-1.1**
IHRS	**Heris**	5.79	295	Pn	**Pn**	**22 30 08.1**	**+0.8**
GBS	**Qobustan**	5.83	321	P	**Pn**	**22 30 08.1**	**+0.3**
GBS				S	**Sn**	**22 31 18.5**	**+3.8**
SHRT	**Shahrakht**	5.91	112	Pn	**Pn**	**22 30 09.8**	**+1.0**
ATGJ	**Altiaghaj**	6.08	323	P	**Pn**	**22 30 11.8**	**+0.7**
ATGJ				S	**Sn**	**22 31 19.5**	**-1.4**
BLQ	**Beylaqan**	6.09	309	P	**Pn**	**22 30 11.5**	**+0.3**
BLQ				S	**Sn**	**22 31 18.1**	**-2.9**
QRD	**Qoradiz**	6.10	306	P	**Pn**	**22 30 12.1**	**+0.7**
QRD				S	**Sn**	**22 31 21.2**	**-0.1**
KDMR	**Kurdemir**	6.13	316	P	**Pn**	**22 30 11.9**	**+0.3**
KDMR				S	**Sn**	**22 31 20.9**	**-0.8**
KHGB	**Koh Gabri**	6.13	157	Pn	**Pn**	**22 30 13.2**	**+1.2**
PQL	**Pirkuli**	6.20	321	P	**Pn**	**22 30 13.0**	**+0.2**
	SNR=12						
PQL				S	**Sn**	**22 31 23.1**	**-0.7**
SIZA	**Siyzn**	6.27	324	P	**Pn**	**22 30 14.8**	**+1.1**
SIZA				S	**Sn**	**22 31 24.8**	**-0.6**
ZRD	**Zardab**	6.35	313	S	**Sn**	**22 31 27.1**	**-0.2**
IML	**Ismayilli**	6.42	319	P	**Pn**	**22 30 15.4**	**-0.4**
IML				S	**Sn**	**22 31 27.0**	**-2.1**
AGDM	**Agdam**	6.60	310	P	**Pn**	**22 30 18.2**	**0.0**
AGDM				S	**Sn**	**22 31 32.9**	**-0.5**
BRDA	**Brd**	6.64	311	P	**Pn**	**22 30 19.7**	**+0.9**
BRDA				S	**Sn**	**22 31 34.7**	**+0.2**
QUBA	**Quba, Azerbaij**	6.68	324	P	**Pn**	**22 30 20.0**	**+0.7**
QUBA				S	**Sn**	**22 31 33.0**	**-2.5**
QBL	**Gabala**	6.71	318	P	**Pn**	**22 30 18.9**	**-0.9**
	SNR=4.8						
QBL				S	**Sn**	**22 31 32.7**	**-3.5**
XNQ	**Khinaliq**	6.71	321	P	**Pn**	**22 30 20.0**	**0.0**
	SNR=22						
XNQ				S	**Sn**	**22 31 34.7**	**-1.9**
ORD	**Ordubad**	6.78	297	P	**Pn**	**22 30 22.4**	**+1.6**
	SNR=9.4						
ORD				S	**Sn**	**22 31 40.3**	**+2.3**
ISHB	**Shabestar**	6.84	291	Pn	**Pn**	**22 30 23.1**	**+1.3**
QSAR	**Qusar**	6.91	323	P	**Pn**	**22 30 21.9**	**-0.6**
	SNR=16						
QSAR				S	**Sn**	**22 31 40.2**	**-1.0**
IMRD	**Marand**	6.92	295	Pn	**Pn**	**22 30 23.8**	**+1.1**
NAX	**Nakhchivan**	7.23	298	P	**Pn**	**22 30 29.2**	**+2.2**
NAX				S	**Sn**	**22 31 47.0**	**-2.2**
SEKA	**Sheki**	7.24	317	P	**Pn**	**22 30 27.2**	**+0.1**
SEKA				S	**Sn**	**22 31 46.5**	**-2.9**
SBZ	**Shahbuz**	7.28	300	P	**Pn**	**22 30 29.4**	**+1.8**
SBZ				S	**Sn**	**22 31 51.6**	**+1.1**
GANJ	**Ganja**	7.40	310	P	**Pn**	**22 30 28.1**	**-1.1**
	SNR=4.1						
GANJ				S	**Sn**	**22 31 49.9**	**-3.3**
GHIR	**Ghir-Karzin**	7.79	185	Pn	**Pn**	**22 30 33.6**	**-1.1**
GDB	**GEDABAY**	7.79	309	P	**Pn**	**22 30 34.6**	**-0.1**
	SNR=8.7						
GDB				S	**Sn**	**22 32 00.6**	**-2.6**
ZKTA	**Zakatala**	7.85	317	S	**Sn**	**22 32 03.0**	**-1.3**
GNI	**Garni**	8.17	303	Pn	**Pn**	**22 30 42.3**	**+2.3**
	0.3nm,0.3s,baz=297,slow=23,SNR=1.6						
	4.0nm,0.8s						
QZX	**Qazax, Azerbai**	8.22	310	P	**Pn**	**22 30 41.7**	**+1.1**
QZX				S	**Sn**	**22 32 13.1**	**-0.4**
KBZ	**Khabaz**	11.29	316	Pn	**Pn**	**22 31 22.0**	**-0.5**
	0.1nm,0.3s,baz=165,slow=17,SNR=2.3						
KBZ				Sn	**Sn**	**22 33 24.1**	**-4.6**
	0.1nm,0.3s,baz=141,slow=22,SNR=1.2						
	0.7nm,0.6s						
KVAR	**Kislovodsk Ar**	11.55	316	Sn	**Sn**	**22 33 31.9**	**-3.3**
	baz=217,slow=9.4						
AKTO	**Aktyubinsk**	14.69	11	Pn	Pn	22 32 06.5	-2.4
	0.2nm,0.3s,baz=181,slow=12,SNR=3.4						
	1.5nm,0.5s						
AAK	**Ala-Archa**	17.32	61	P	**Pn**	**22 32 42.1**	**-1.0**
	0.1nm,0.3s,baz=291,slow=9.9,SNR=5.6						
	1.0nm,0.7s						
BVAR	**Borovoye Array**	20.60	29	P	**P**	**22 33 21.0**	**+0.8**
	2.2nm,0.6s,baz=212,slow=9.1,SNR=12						
	2.2nm,0.6s						
ARU	**Arti**	20.62	8	P	**P**	**22 33 21.8**	**+1.4**
	1.1nm,0.4s,baz=306,slow=23,SNR=2.2						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	23.02	43	P	**P**	**22 33 52.6**	**+6.5**
	0.5nm,0.3s,baz=243,slow=12,SNR=6.6						
MKAR	**Makanchi Array**	23.81	54	P	**P**	**22 33 55.2**	**+1.1**
	0.5nm,0.7s,baz=247,slow=9.2,SNR=6.8						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	43.43	102	P	**P**	**22 36 43.7**	**-0.7**
	0.6nm,0.4s,baz=300,slow=8.9,SNR=6.7						
	0.6nm,0.4s						

*IDC **28** 22:32:49.7±0.3,15°.42S×173°.11W,h0km,mb5.1/45, mbtmp5.1/46,ML5.5/2,MS4.8/62,Error ellipse: s-maj=12.7km s-min=9.1km az=145.0*
*BJI **28** 22:32:50.7±0.0,15°.17S×172°.98W,h10km,mb5.1/54, mB5.6/43,Ms5.1/45,Ms7 4.9/49*
*NOU **28** 22:32:53.8,15°.44S×172°.98W,h29km,mb5.5/89,Samoa Islands Region*
*MOS **28** 22:32:54.1±1.1,15°.41S×173°.12W,h37km,mb5.7/46, MS5.1/24,Error ellipse: s-maj=8.3km s-min=6.6km az=63.1*
*NEIC **28** 22:32:56.3±1.3,15°.23S±0°.07×173°.08W±0°.07,h37km±3km, mb5.6/236,Ms_20 5.2/130,Mwb5.4/45,Mww5.4/10,Error ellipse: s-maj=10.5km s-min=9.3km az=120.0,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.63; Mθθ=0.20; Mφφ=0.43; Mrθ=-1.21; Mθφ 1.00; Mφr=0.34; Fault plane solution: M0 1.70000×10^17^ NP1: φs188.47000°,δ42.99000°,λ-156.70000°. NP2: φs80.98000°,δ74.35000°,λ-49.43000°. Principal axes: T 1.5175, Plg19.0000°, Azm142.0000°; N 0.3242, Plg39.0000°, Azm248.0000°; P -1.8417, Plg45.0000°, Azm32.0000°;*
*NEIC **28** 22:32:56.4,15°.22S×173°.08W,h60km*
*NEIC **28** 22:32:56.4,14°.82S×172°.45W,h60km,Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17^Nm; Mrr=0.57; Mθθ-0.73; Mφφ 0.16; Mrθ=-1.37; Mθφ 0.93; Mφr0.21; Fault plane solution: M0 1.75000×10^17^ NP1: φs274.81000°,δ77.44000°,λ62.74000°. NP2: φs161.92000°,δ29.81000°,λ154.05000°. Principal axes: T 1.5318, Plg50.0000°, Azm154.0000°; N 0.4457, Plg27.0000°, Azm281.0000°; P -1.9775, Plg27.0000°, Azm26.0000°;*
*GCMT **28** 22:33:01.3±0.1,15°.29S±0°.01×172°.90W±0°.01,h59km±1km, MW5.5/156,Moment Tensor Solution. s110,c171; s156,c266; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; Mrr-0.08±.03; Mθθ 0.22±.03; Mφφ-0.14±.03; Mrθ-1.81±.03; Mθφ 1.32±.03; Mφr 0.22±.02; Best double couple: M0 2.25800×10^17^ NP1:φs94.00000°,δ89.00000°, λ-54.00000°. NP2:φs186.00000°,δ36.00000°, λ-178.00000°. Principal axes: T 2.2130, Plg34.0000°, Azm154.0000°; N 0.0890, Plg36.0000°, Azm273.0000°; P -2.3020, Plg36.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 22:32:54.4±0.3,15°.37S±0°.03×173°.02W±0°.04,h31km±1km, h34km:pP-P,n1336,σ1s29/1327,mb5.5/264,MS5.0/160, 40C-51D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	1.89	40	Pn	**Pn**	**22 33 22.6**	**-2.0**
	3μm,0.3s,baz=196,slow=1.0,SNR=4143						
AFI				Sn	**Sn**	**22 33 41.3**	**-6.1**
	10μm,0.3s,baz=54,slow=22,SNR=59						
AFI				LR	LR	22 34 04.1	
	comp=Z,27μm,21.5s,baz=170,slow=38						
AFI	**Afiamalu**	1.89	40	Pn	**Pn**	**22 33 22.4**	**-2.2**
AFI				Sn	**Sn**	**22 33 41.1**	**-6.3**
AFI	**Afiamalu**	1.89	40	P	**Pn**	**22 33 22.4**	**-2.2**
AFI						22 33 41.1	
NIUE	**Niue**	4.72	142	P	**Pn**	**22 34 01.7**	**-1.8**
	baz=4.7,SNR=938						
NIUE	**Niue**	4.72	142	Pn	**Pn**	**22 34 03.0**	**-0.4**
NIUE	**Niue**	4.72	142	P	**Pn**	**22 34 03.1**	**-0.4**
MSVF	**Nonsavu**	8.88	253	Pn	Pn	22 35 08.9	+8.3
	1.7nm,0.3s,baz=99,slow=13,SNR=29						
MSVF				LR	LR	22 38 06.3	
	comp=Z,11μm,20.6s,baz=78,slow=36						
FUNA	**Funafuti**	10.21	311	Pn	**Pn**	**22 35 17.4**	**-1.5**
FUNA	**Funafuti**	10.21	311	P	**Pn**	**22 35 19.9**	**+1.0**
	248nm,1.0s						
RAR	**Rarotonga**	13.85	117	Pn	**Pn**	**22 36 06.7**	**-1.9**
	44nm,0.3s,baz=263,slow=7.4,SNR=54						
RAR				Sn	Sn	22 38 30.3	-11
	14nm,0.3s,baz=325,slow=21,SNR=3.7						
RAR				LR	LR	22 40 13.5	
	comp=Z,2μm,18.8s,baz=295,slow=32						
	179nm,0.4s						
RAR	**Rarotonga**	13.85	117	Pn	**Pn**	**22 36 06.9**	**-1.8**
RAR	**Rarotonga**	13.85	117	P	**Pn**	**22 36 07.0**	**-1.7**
	494nm,0.8s						
RAR	**Rarotonga**	13.85	117	P	**Pn**	**22 36 06.9**	**-1.8**
RAO	**Raoul Island**	14.53	197	Pn	**Pn**	**22 36 16.1**	**-1.8**
	95nm,0.3s,baz=271,slow=22,SNR=2.5						
RAO				Sn	Sn	22 38 45.5	-12
	40nm,0.3s,baz=81,slow=22,SNR=1.4						
GLKZ	**Green Lake**	14.54	197	P	**Pn**	**22 36 14.1**	**-3.9**
MARNC	**Mare, Loyalty**	18.97	249	P	**Pn**	**22 37 13.9**	**-0.2**
MARNC	**Mare, Loyalty**	18.97	249	P	**Pn**	**22 37 14.2**	**+0.1**
	19nm,0.8s						
PINNC	**Pines Island,**	19.81	246	P	**P**	**22 37 22.7**	**+0.2**
PINNC				IAmb	IAmb	22 37 33.6	
	comp=Z,178nm,0.7s						
PINNC	**Pines Island,**	19.81	246	P	**Pn**	**22 37 23.8**	**-0.4**
	comp=Z,332nm,1.2s						
YATNC	**Mamie plateau,**	20.14	248	P	Pn	22 37 27.7	-0.4
	comp=Z,140nm,1.1s						
OUENC	**Ouen Island, N**	20.29	247	P	**P**	**22 37 27.3**	**-0.3**
OUENC				IAmb	IAmb	22 37 34.2	
	comp=Z,377nm,0.8s						
OUENC	**Ouen Island, N**	20.29	247	P	Pn	22 37 29.1	-0.7
	comp=Z,507nm,0.9s						
DZM	**Mont Dzumac**	20.55	248	eP	Pn	22 37 32.2	-0.7
	comp=Z,543nm,1.1s						
DZM				eS	**S**	**22 41 18.6**	**-0.4**
	comp=Z,1μm,25.9s						
DZM				eLR	LR	22 42 24.4	
	comp=Z,10μm,26.4s						
DZM	**Mont Dzumac**	20.55	248	P	**P**	**22 37 29.6**	**-1.0**
	comp=Z,25nm,0.8s,baz=77,slow=18,SNR=12						
DZM				LR	LR	22 44 20.5	
	comp=Z,4μm,20.5s,baz=84,slow=34						
	comp=Z,25nm,0.8s						
DZM	**Mont Dzumac**	20.55	248	P	**P**	**22 37 30.6**	**0.0**
DZM				IAmb	IAmb	22 37 37.5	
	comp=Z,208nm,0.9s						
DZM	**Mont Dzumac**	20.55	248	P	**P**	**22 37 30.0**	**-0.6**
	comp=Z,280nm,1.0s						
ONTNC	**Ouen Toro**	20.60	247	P	**P**	**22 37 31.4**	**+0.3**
ONTNC				IAmb	IAmb	22 37 38.1	
	comp=Z,373nm,0.8s						
ONTNC	**Ouen Toro**	20.60	247	P	**P**	**22 37 31.2**	**+0.1**
	comp=Z,570nm,0.8s						
NOUC	**Port Laguerre**	20.68	248	P	Pn	22 37 33.4	-1.0
	comp=Z,261nm,1.0s						
TARA	**Tarawa**	21.67	319	P	**P**	**22 37 41.3**	**-1.3**
TARA				IAmb	IAmb	22 37 47.2	
	comp=Z,325nm,1.1s						
KOUNC	**Koumac, New Ca**	22.18	253	P	**P**	**22 37 47.8**	**-0.3**
KOUNC	**Koumac, New Ca**	22.18	253	P	**P**	**22 37 49.2**	**+1.1**
	comp=Z,86nm,1.0s						
NFK	**Norfolk Island**	22.22	229	P	**P**	**22 37 44.7**	**-3.7**
	baz=22,SNR=4.2						
PPT	**Papeete**	22.59	99	P	**P**	**22 37 53.5**	**+1.0**
	comp=Z,62nm,0.8s,baz=306,slow=3.3,SNR=6.3						
PPT				LR	LR	22 45 41.6	
	comp=Z,584nm,18.1s,baz=264,slow=34						
	comp=Z,62nm,0.8s						
PPT2	**Papeete2**	22.59	99	eP	**P**	**22 37 52.5**	**-0.1**
	comp=Z,97nm,1.3s						
PPT2				eLR	LR	22 43 06.9	
	comp=Z,558nm,27.8s						
PPT2				eLR	LR	22 43 18.2	
	comp=Z,647nm,25.2s						
PPTF	**Pamatai, Papee**	22.60	99	P	**P**	**22 37 51.2**	**-1.5**
	comp=Z,104nm,2.4s						
TIAR	**Tiarei**	22.80	99	eP	**P**	**22 37 55.6**	**+0.8**
	comp=Z,7.9nm,0.8s						
TVO	**Taravao**	22.90	99	eP	**P**	**22 37 57.6**	**+1.7**
	comp=Z,60nm,1.2s						
OUZ	**Omahuta**	23.12	209	IAMs_20	IAMs_20	22 46 10.9	
	comp=Z,5μm,18.0s						
XMAS	**Kiritimati**	23.17	43	P	**P**	**22 37 58.3**	**-0.3**
XMAS				IAmb	IAmb	22 38 01.9	
	comp=Z,324nm,0.9s						
MXZ	**Matakaoa Point**	23.40	198	P	**P**	**22 38 00.3**	**-0.3**
	comp=Z,174nm,0.7s						
KUZ	**Kuaotunu**	23.53	203	P	**P**	**22 38 02.4**	**+0.6**
	comp=Z,879nm,1.3s						
WIZ	**White Island**	23.71	200	P	**P**	**22 38 05.6**	**+2.0**
MYRZ	**Mayor Island**	23.81	202	P	**P**

SNVZ South Ngauruho 25.73 201 P P 22 38 22.1 -0.1
NGZ Ngauruhoe 25.73 201 P P 22 38 23.5 +1.3
FWVZ Far West T-bar 25.82 201 P P 22 38 23.5 +0.4
TRVZ Turoa 25.86 201 P P 22 38 23.1 -0.4
BHHZ Black Hill Sta 25.86 200 P P 22 38 23.2 -0.1
WNVZ Wahianoa 25.87 201 P P 22 38 23.0 -0.5
KAHZ Kahuranaki 25.89 198 P P 22 38 25.2 +1.7
MOVZ Moawhango 25.89 200 P P 22 38 23.4 -0.2
KRHZ Kereru 25.90 199 P P 22 38 24.9 +1.3
VRZ Vera Road 25.98 202 P P 22 38 29.1 +4.8
PXZ Pawanui 26.11 198 P P 22 38 27.9 +2.5
PRHZ Porangahau 26.39 198 P P 22 38 29.6 +1.6
KHEZ Kahui Hut 26.41 203 P P 22 38 27.4 -0.8
comp=Z,379nm,0.9s
KHEZ Kahui Hut 26.41 203 P P 22 38 30.6 +2.4
WAZ Wanganui 26.46 201 P P 22 38 31.3 +2.7
NMEZ Namu Road 26.56 203 P P 22 38 34.2 +4.7
POWZ Post Office Ro 26.77 199 P P 22 38 34.5 +3.1
PRWZ Pori Road 26.86 199 P P 22 38 34.4 +2.2
BFZ Birch Farm 26.89 198 IAMs_20 IAMs_20 22 48 01.8
comp=Z,5µm,22.0s
BFZ Birch Farm 26.89 198 P P 22 38 33.5 +1.0
comp=Z,259nm,0.7s
BFZ Birch Farm 26.89 198 P P 22 38 33.6 +1.1
HNR Honiara 27.04 279 LR LR 22 48 11.2
comp=Z,8µm,19.0s,baz=127,slow=34
CPWZ Castlepoint 27.11 198 P P 22 38 37.7 +3.2
OGWZ Otaki Gorge 27.35 200 P P 22 38 36.6 0.0
TMWZ Te Maipa 27.39 198 P P 22 38 38.2 +1.2
TRWZ Traveller 27.71 198 P P 22 38 42.5 +2.5
DUWZ D'Urville Isla 27.76 202 P P 22 38 42.9 +2.5
SNZO South Karori 27.95 200 IAMs_20 IAMs_20 22 50 01.8
comp=Z,4µm,21.0s
CTZ Chatham Island 28.43 185 P P 22 38 46.1 -0.1
comp=Z,108nm,1.4s
THZ Tophouse 28.97 202 IAMs_20 IAMs_20 22 49 03.9
comp=Z,5µm,22.0s
DSZ Denniston Nort 29.37 204 IAMs_20 IAMs_20 22 50 29.4
comp=Z,3µm,18.0s
GVZ Greta Valley S 29.99 201 IAMs_20 IAMs_20 22 51 22.8
comp=Z,3µm,20.0s
LTZ Lake Taylor 30.09 202 IAMs_20 IAMs_20 22 49 27.5
comp=Z,4µm,22.0s
LHI Lord Howe Isla 30.11 233 P P 22 39 00.4 -0.9
INZ Inchbonnie 30.34 203 IAMs_20 IAMs_20 22 51 18.2
comp=Z,5µm,18.0s
RPZ Rata Peaks 31.34 202 P P 22 39 11.4 -0.7
comp=Z,24nm,0.8s,baz=332,slow=4.2,SNR=11
RPZ LR LR 22 52 21.1
comp=Z,3µm,18.4s,baz=34,slow=38
comp=Z,24nm,0.8s
RPZ Rata Peaks 31.34 202 P P 22 39 11.8 -0.3
RPZ IAMs_20 IAMs_20 22 52 10.6
comp=Z,4µm,18.0s
FOZ Fox Glacier 31.66 204 IAMs_20 IAMs_20 22 52 20.0
comp=Z,3µm,18.0s
LBZ Lake Benmore 32.24 203 IAMs_20 IAMs_20 22 52 36.4
comp=Z,4µm,19.0s
JCZ Jackson Bay 32.52 205 P P 22 39 22.5 0.0
comp=Z,111nm,1.3s
ODZ Otahua Downs 32.64 202 IAMs_20 IAMs_20 22 52 45.9
comp=Z,3µm,19.0s
TAOE Nuku Hiva Isla 32.76 82 eLR LR 22 48 00.0
comp=Z,2µm,25.7s
WKZ Wanaka 33.06 204 IAMs_20 IAMs_20 22 52 36.0
comp=Z,3µm,20.0s
MLZ Mavora Lakes 33.86 204 IAMs_20 IAMs_20 22 53 11.2
comp=Z,3µm,21.0s
DCZ Deep Cove 34.33 205 IAMs_20 IAMs_20 22 53 59.6
comp=Z,2µm,19.0s
WHZ Wether Hill Ro 34.36 204 IAMs_20 IAMs_20 22 53 35.5
comp=Z,3µm,20.0s
EIDS Eidsvold 34.99 248 P P 22 39 41.8 -2.3
baz=35,SNR=3.7
EIDS Eidsvold 34.99 248 P P 22 39 41.8 -2.3
ARMA Armidale 35.67 239 P P 22 39 48.2 -1.8
baz=36,SNR=7.9
ARMA Armidale 35.67 239 P P 22 39 48.3 -1.8
ARMA Armidale 35.67 239 P P 22 39 48.9 -1.1
comp=Z,32nm,0.7s
KRVT Keravat (AS076 36.09 284 P P 22 39 51.5 -2.2
comp=Z,28nm,0.8s,baz=149,slow=11,SNR=1.9
KRVT LR LR 22 51 51.5
comp=Z,497nm,21.8s,baz=258,slow=32
comp=Z,28nm,0.8s
AUPHS Peel High Scho 36.48 238 P P 22 39 55.6 -1.2
comp=Z,42nm,1.0s
MGCD Mangrove Creek 36.97 235 P P 22 40 00.3 -0.7
baz=37,SNR=5.2
RMQ Roma 37.24 246 P P 22 40 01.6 -1.8
baz=37,SNR=16
RMQ Roma 37.24 246 P P 22 40 02.0 -1.4
comp=Z,30nm,0.6s
KHU Kahuku 38.43 27 P P 22 40 11.3 -2.4
KHU Kahuku 38.43 27 P P 22 40 11.3 -2.4
KHU pmax pmax
comp=Z,711nm,1.9s
AULRC Lightning Ridg 38.48 242 P P 22 40 13.8 0.0
comp=Z,30nm,1.5s
KHLU Kahalu`u 38.62 26 P P 22 40 12.6 -2.5
AUDCS Dubbo College 38.65 237 P P 22 40 14.8 -0.4
comp=Z,25nm,1.4s
POHA Pohakuloa 38.92 27 P P 22 40 16.6 -1.1
POHA Pohakuloa 38.92 27 P P 22 40 18.7 +0.9
comp=Z,303nm,1.0s
POHA Pohakuloa 38.92 27 P P 22 40 18.6 +0.9
POHA pP sP 22 40 28.5 -0.9
POHA sP pwP 22 40 33.7 +1.9
CTA Charters Tower 39.00 257 P P 22 40 16.1 -2.3
comp=Z,6.1nm,0.6s,baz=88,slow=9.9,SNR=9.2
CTA PcP PcP 22 42 28.9 +0.5
comp=Z,19nm,0.9s,baz=97,slow=3.0,SNR=4.7
CTA LR LR 22 56 06.2
comp=Z,644nm,18.2s,baz=84,slow=36
comp=Z,6.1nm,0.6s
CTAO Charters Tower 39.00 257 P P 22 40 16.1 -2.3
CTAO Charters Tower 39.00 257 P P 22 40 16.1 -2.3
CTAO pmax pmax
comp=Z,19nm,1.1s
CTAO MLR MLR
comp=Z,1µm,22.0s
CTAO Charters Tower 39.00 257 P P 22 40 16.0 -2.3
CTAO pP pP 22 40 26.5 -0.5
CTAO sP sP 22 40 31.9 +1.3
CTAO PcP PcP 22 42 29.3 +1.0
CNB Canberra Magne 39.05 232 P P 22 40 17.5 -1.1
comp=Z,38nm,1.0s
H11S2 WAKE ISLAND Hy 39.13 329 T T 23 20 57.9
baz=146,slow=76,SNR=132
H11S3 WAKE ISLAND Hy 39.14 329 T T 23 20 58.4
baz=146,slow=76,SNR=84
H11S1 WAKE ISLAND Hy 39.15 329 T T 23 21 04.7
baz=146,slow=76,SNR=7.6
PMG Port Moresby 39.30 274 P P 22 40 18.8 -2.0
comp=Z,14nm,0.8s,baz=72,slow=6.8,SNR=6.8
PMG LR LR 22 52 46.9
comp=Z,977nm,21.1s,baz=72,slow=30
comp=Z,14nm,0.8s
PMG Port Moresby 39.30 274 P P 22 40 19.2 -1.6
PMG Port Moresby 39.30 274 P P 22 40 21.0 +0.2
comp=Z,43nm,1.1s
PMG Port Moresby 39.30 274 ceP P 22 40 20.6 -0.2
PMG pmax pmax
comp=Z,23nm,0.9s
PMG MLR MLR
comp=Z,544nm,18.0s
PMG Port Moresby 39.30 274 P P 22 40 20.3 -0.5
PMG pP pP 22 40 30.0 +0.5
PMG sP sP 22 40 34.6 +1.4
CAN Canberra 39.34 233 P P 22 40 19.3 -1.7
CAN Canberra 39.34 233 P P 22 40 19.3 -1.7
CAN pmax pmax
comp=Z,31nm,1.0s
CAN MLR MLR
comp=Z,1µm,22.0s
CAN Canberra 39.34 233 P P 22 40 19.3 -1.7
CAN pP pP 22 40 29.1 -0.6
KIP Kipapa 39.42 22 P P 22 40 21.4 -0.2
KIP Kipapa 39.42 22 P P 22 40 23.0 +1.4
comp=Z,274nm,1.1s
KIP Kipapa 39.42 22⇑ eP P 22 40 22.6 +1.0
KIP pmax pmax
comp=Z,269nm,1.0s
KIP Kipapa 39.42 22 P P 22 40 22.7 +1.0
H11N3 WAKE ISLAND Hy 40.07 330 T T 23 23 04.1
baz=149,slow=76,SNR=43
H11N1 WAKE ISLAND Hy 40.08 330 T T 23 23 10.1
baz=149,slow=76,SNR=5.9
H11N2 WAKE ISLAND Hy 40.09 330 T T 23 23 12.3
baz=149,slow=76,SNR=7.3
MTSU Mount Surprise 40.88 260 P P 22 40 32.4 -1.5
baz=41,SNR=27
MTSU Mount Surprise 40.88 260 P P 22 40 32.9 -1.1
comp=Z,35nm,0.7s
CMSA Cobar Meteorol 40.88 239 P P 22 40 32.0 -1.8
baz=41,SNR=29
CMSA Cobar Meteorol 40.88 239 P P 22 40 31.9 -1.8
comp=Z,69nm,0.9s
QLP Quilpie 41.27 247 P P 22 40 34.7 -2.3
baz=41,SNR=8.9
QLP Quilpie 41.27 247 P P 22 40 35.1 -1.9
comp=Z,36nm,0.6s
COEN Coen 42.35 266 P P 22 40 45.3 -0.7
baz=42,SNR=8.6
COEN Coen 42.35 266 P P 22 40 45.3 -0.7
COEN Coen 42.35 266 P P 22 40 45.9 -0.1
comp=Z,73nm,0.8s
TOO Toolangi 42.76 231 P P 22 40 47.9 -1.3
baz=43,SNR=38
TOO Toolangi 42.76 231 P P 22 40 47.8 -1.3
TOO Toolangi 42.76 231 P P 22 40 47.9 -1.3
comp=Z,62nm,1.1s
TOO Toolangi 42.76 231 P P 22 40 47.8 -1.3
TOO pmax pmax
comp=Z,49nm,0.9s
CORO Coronation Par 43.06 225 P P 22 40 51.2 -0.2
comp=Z,79nm,0.9s
MOO Moorlands 43.46 224 P P 22 40 54.4 -0.2
baz=44,SNR=3.5
TAU Tasmania Unive 43.58 223 P P 22 40 54.2 -1.3
TAU Tasmania Unive 43.58 223 P P 22 40 54.3 -1.3
TAU pmax pmax
comp=Z,35nm,1.0s
GEXS Deakin Univers 43.87 230 P P 22 40 57.3 -0.7
comp=Z,79nm,0.9s
BRAT Ballarat 43.93 231 P P 22 40 57.9 -0.6
comp=Z,47nm,0.9s
STKA Stephens Creek 44.37 240 P P 22 41 00.9 -1.1
comp=Z,15nm,0.6s,baz=84,slow=8.6,SNR=53
STKA LR LR 22 56 56.3
comp=Z,1µm,21.9s,baz=75,slow=33
comp=Z,15nm,0.6s
STKA Stephens Creek 44.37 240 P P 22 41 00.9 -1.1
baz=44,SNR=32
STKA Stephens Creek 44.37 240 P P 22 41 00.8 -1.3
STKA Stephens Creek 44.37 240 P P 22 41 00.7 -1.3
comp=Z,12nm,0.9s
INKA Innaminka 44.48 246 P P 22 41 01.8 -1.3
comp=Z,75nm,0.9s
QIS Mount Isa 45.24 256 P P 22 41 06.6 -2.6
baz=45,SNR=4.9
QIS Mount Isa 45.24 256 P P 22 41 07.2 -2.0
comp=Z,11nm,0.7s
ARPS Mount Arapiles 45.30 233 P P 22 41 07.9 -1.5
baz=45,SNR=11
ARPS Mount Arapiles 45.30 233 P P 22 41 08.1 -1.3
comp=Z,44nm,0.9s
HTT Hallett 46.87 238 P P 22 41 20.5 -1.4
baz=47,SNR=20
HTT Hallett 46.87 238 P P 22 41 20.5 -1.4
comp=Z,34nm,0.9s
LCRK Leigh Creek 47.00 243 P P 22 41 21.6 -1.3
comp=Z,43nm,0.7s
WHYH Whyalla 47.91 239 P P 22 41 28.9 -1.1
comp=Z,34nm,0.8s
OOD Oodnadatta 48.95 246 P P 22 41 37.3 -0.8
comp=Z,59nm,0.8s
BBOO Buckleboo 49.14 240 P P 22 41 38.0 -1.5
BBOO Buckleboo 49.14 240 P P 22 41 37.6 -1.9
comp=Z,40nm,0.8s
WRAB Tennant Creek 50.20 257 P P 22 41 45.8 -1.9
WRAB lAmb lAmb 22 42 08.2
comp=Z,65nm,1.2s
WRAB Tennant Creek 50.20 257 P P 22 41 45.8 -1.9
comp=Z,35nm,0.8s
WRAB Tennant Creek 50.20 257 P P 22 41 45.8 -1.9
WRAB pmax pmax
comp=Z,65nm,1.3s
WRAB MLR MLR
comp=Z,800nm,19.0s
WRAB Tennant Creek 50.20 257 P P 22 41 45.5 -2.1
WRAB sP sP 22 42 00.3 +0.2
WRA Warramunga Arr 50.20 257 P P 22 41 45.8 -1.9
comp=Z,17nm,0.8s,baz=91,slow=7.1,SNR=248
WRA PcP PcP 22 43 07.0 +0.2
comp=Z,8.8nm,0.7s,baz=92,slow=3.6,SNR=4.9
WRA S S 22 48 52.7 -5.5
comp=Z,0.4nm,0.7s,baz=88,slow=14,SNR=2.4
WRA LR LR 23 01 59.8
comp=Z,718nm,19.1s,baz=90,slow=35
comp=Z,17nm,0.8s
AS01 Alice Springs 50.42 252 P P 22 41 47.8 -1.6
comp=Z,180nm,0.9s
AS31 Alice Springs 50.46 252 P P 22 41 48.1 -1.7
ASAR Alice Springs 50.47 252 P P 22 41 48.3 -1.4
comp=Z,53nm,0.6s,baz=90,slow=7.7,SNR=384
ASAR ScP ScP 22 47 03.0 +1.4
comp=Z,0.9nm,0.8s,baz=96,slow=5.7,SNR=2.3
ASAR S S 22 48 56.9 -4.9
comp=Z,1.9nm,0.9s,baz=87,slow=16,SNR=6.1
ASAR LR LR 23 01 47.0
comp=Z,2µm,21.4s,baz=95,slow=34
comp=Z,53nm,0.6s
ASAR Alice Springs 50.47 252 P P 22 41 48.1 -1.6
MULG Mulgathing 50.56 243 P P 22 41 48.3 -2.0
comp=Z,50nm,0.8s
GUMO Guam 50.63 302 LR LR 23 01 06.1
comp=Z,211nm,18.8s,baz=113,slow=34
KDU Kakadu 52.84 266 P P 22 42 05.9 -1.6
baz=53,SNR=12
KDU Kakadu 52.84 266 P P 22 42 06.0 -1.5
comp=Z,32nm,0.6s
MTN Manton Dam 54.10 265 P P 22 42 15.1 -1.6
baz=54,SNR=4.8
MTN Manton Dam 54.10 265 P P 22 42 14.5 -2.3
MTN Manton Dam 54.10 265 P P 22 42 14.9 -1.8
comp=Z,38nm,0.9s
FAKI Fak Fak 55.27 277 P P 22 42 24.0 -1.3
FAKI lAmb lAmb 22 42 50.9
comp=Z,39nm,0.9s
WRKA Warakurna 55.55 250 P P 22 42 25.6 -1.5
baz=56,SNR=151
WRKA Warakurna 55.55 250 P P 22 42 25.7 -1.5
comp=Z,84nm,1.1s
FORT Forrest 55.75 243 P P 22 42 26.6 -2.0
baz=56,SNR=53
FORT Forrest 55.75 243 P P 22 42 26.5 -2.0
FORT lAmb lAmb 22 42 27.4
comp=Z,51nm,0.6s
FORT Forrest 55.75 243 P P 22 42 26.7 -1.8
comp=Z,86nm,1.0s
KNRA Kununurra 55.93 261 P P 22 42 27.6 -2.3
baz=56,SNR=3.8
KNRA Kununurra 55.93 261 P P 22 42 28.2 -1.8
KNRA Kununurra 55.93 261 P P 22 42 30.9 +0.9
comp=Z,32nm,1.2s
SIJI Sorong 56.81 279 P P 22 42 35.8 -0.5
comp=Z,21nm,0.6s,baz=107,slow=6.7,SNR=15
SIJI LR LR 23 05 10.7
comp=Z,514nm,21.9s,baz=120,slow=34
comp=Z,21nm,0.6s
SWI Sorong 56.82 279 P P 22 42 34.2 -2.2
comp=Z,258nm,0.9s,comp=Z,2µm
FITZ Fitzroy Crossi 58.57 258 P P 22 42 47.8 -0.9
AAI Ambon 58.95 275 P P 22 42 51.6 +0.3
comp=Z,141nm,1.2s,comp=Z,1µm
DRV Dumont d'Urvil 59.74 200 ⇑P P 22 42 56.7 +0.8
DRV sP sP 22 43 12.1 +3.5
JCJ Chichijima 60.60 314 LR LR 23 04 11.0
comp=Z,761nm,21.6s,baz=120,slow=31
KMBL Kambalda 61.06 242 P P 22 43 03.9 -1.7
comp=Z,58nm,1.8s
SOEI Soe 61.29 267 P P 22 43 06.7 -0.9
SOEI Soe 61.29 267 P P 22 43 07.9 +0.4
comp=Z,114nm,0.8s
SOEI Soe 61.29 267 P P 22 43 05.2 -2.3
comp=Z,102nm,1.2s
SANI Sanana 61.52 276 P P 22 43 10.5 +1.6
comp=Z,116nm,1.0s,comp=Z,1µm
BATI Baumata 61.78 267 P P 22 43 10.8 +0.1
comp=Z,9.7nm,0.5s,baz=76,slow=6.2,SNR=2.2
comp=Z,9.7nm,0.5s
BATI Baumata 61.78 267 P P 22 43 11.0 +0.3
comp=Z,36nm,0.7s
SBA Scott Base 63.30 185 P P 22 43 21.6 +1.8
SBA Scott Base 63.30 185 P P 22 43 21.6 +1.8
SBA pmax pmax
comp=Z,108nm,0.9s
SBA Scott Base 63.30 185 P P 22 43 22.9 +3.1
VNDA Vanda 63.44 186 P P 22 43 22.3 +1.6
comp=Z,55nm,0.8s,baz=8.1,slow=6.8,SNR=109
VNDA LR LR 23 05 40.9
comp=Z,403nm,22.0s,baz=22,slow=31
comp=Z,55nm,0.8s
VNDA Vanda 63.44 186 P P 22 43 22.9 +2.3
VNDA lAmb lAmb 22 43 24.2
comp=Z,68nm,0.9s
VNDA Vanda 63.44 186 P P 22 43 23.0 +2.3
VNDA pmax pmax
comp=Z,68nm,0.9s
VNDA Vanda 63.44 186 P P 22 43 23.1 +2.4
MMRI Maumere 63.49 268 P P 22 43 21.5 -0.6
MMRI lAmb lAmb 22 43 50.0
comp=Z,91nm,1.2s
PSA00 Pilbara Seismi 63.56 253 P P 22 43 20.7 -1.8
PSA00 lAmb lAmb 22 43 37.0
comp=Z,42nm,0.9s
PSA00 Pilbara Seismi 63.56 253 P P 22 43 21.5 -1.0
comp=Z,61nm,0.9s
MBWA Marble Bar 63.72 254 P P 22 43 22.2 -1.3
MBWA lAmb lAmb 22 43 49.1
comp=Z,67nm,1.2s
MBWA Marble Bar 63.72 254 P P 22 43 21.9 -1.6
MBWA pP pP 22 43 32.5 -0.1
MBWA sP sP 22 43 36.9 +0.8
MEEK Meekatharra 64.16 248 P P 22 43 25.0 -1.4
baz=64,SNR=12
MEEK Meekatharra 64.16 248 P P 22 43 25.1 -1.3
comp=Z,58nm,0.9s
KLBR Kellerberrin 64.57 242 P P 22 43 27.8 -1.2
baz=64,SNR=40
KLBR Kellerberrin 64.57 242 P P 22 43 27.9 -1.1
comp=Z,148nm,0.7s
DAV Davao City (W) 64.78 286 LR LR 23 10 10.2
comp=Z,267nm,18.5s,baz=100,slow=35
NWAO Narrogin (SRO) 64.95 241 P P 22 43 30.8 -0.7
comp=Z,15nm,0.7s
NWAO LR LR 23 09 37.2
comp=Z,904nm,21.8s,slow=34
comp=Z,15nm,0.7s
NWAO Narrogin (SRO) 64.95 241 P P 22 43 30.7 -0.7
baz=65,SNR=9.2
NWAO P P 22 43 30.7 -0.7
baz=65,SNR=9.2
NWAO Narrogin (SRO) 64.95 241 P P 22 43 30.6 -0.8
BLDU Ballidu 65.53 243 P P 22 43 33.6 -1.6
baz=66,SNR=13
BLDU Ballidu 65.53 243 P P 22 43 34.3 -0.9
comp=Z,29nm,0.8s
MUN Mundaring 65.87 242 P P 22 43 37.1 -0.3
baz=66,SNR=14
MUN Mundaring 65.87 242 P P 22 43 37.5 +0.1
comp=Z,46nm,0.8s
JHJ Hachijo jima 2 66.00 318 LR LR 23 07 35.2
comp=Z,251nm,21.8s,baz=128,slow=32
MORW Morawa 66.22 245 P P 22 43 38.4 -1.3
baz=66,SNR=4.4
MORW Morawa 66.22 245 P P 22 43 37.8 -1.9
KIWB Kanaga Island 67.04 357 P P 22 43 43.5 -0.7
ADK Adak 67.05 358 P P 22 43 43.4 -0.9
ADK Adak 67.05 358 P P 22 43 44.4 +0.1
comp=Z,153nm,1.3s
ADK Adak 67.05 358 P P 22 43 43.4 -0.9
ADK pmax pmax
comp=Z,166nm,1.1s
ADK Adak 67.05 358 P P 22 43 44.4 +0.1
ADK pP sP 22 43 55.6 -0.9
ADK sP pwP 22 44 00.2 +3.6
TOLI2 Tolitoli 67.41 278 P P 22 43 45.8 -1.6
TOLI2 lAmb lAmb 22 44 13.2
comp=Z,38nm,0.9s
MPSI Mapaga 68.03 277 P P 22 43 50.7 -0.7
comp=Z,94nm,0.9s,comp=Z,819nm
NIKH Nikolski High 68.16 3 P P 22 43 50.6 -0.6
baz=184
JMM Marumori 68.44 322 P P 22 43 53.1 -0.2
JMM lAmb lAmb 22 44 08.0
comp=Z,66nm,1.3s
JMM Marumori 68.44 322 P P 22 43 54.1 +0.7
comp=Z,42nm,1.2s
GIRL Giralia 68.58 251 P P 22 43 54.1 -0.6
CCD Concordia, Ant 68.58 194 P P 22 43 55.5 +1.2
CCD sP sP 22 44 10.7 +3.7
TWSI Taliwang, Sumb 68.63 266 P P 22 43 54.3 -0.8
comp=Z,99nm,1.0s
SHEM Shemya Is, Ala 68.73 352 P P 22 43 55.8 +1.0
comp=Z,139nm,1.0s,baz=69,slow=1.9,SNR=3.6
SHEM LR LR 23 07 13.3
comp=Z,2µm,22.0s,baz=128,slow=30
comp=Z,139nm,1.0s
JGF Kuroka 69.11 318 P P 22 43 57.6 -0.1
JGF lAmb lAmb 22 44 21.1
comp=Z,54nm,1.4s
MJAR Matsushiro Arr 69.16 320 P P 22 43 58.2 +0.3
comp=Z,5.3nm,1.1s,baz=308,slow=24,SNR=4.1
MJAR LR LR 23 08 49.1
comp=Z,1µm,21.8s,baz=120,slow=31
comp=Z,5.3nm,1.1s
MAJO Matsushiro 69.16 320 IAMs_20 IAMs_20 23 08 15.1
comp=Z,1µm,21.0s
MAJO Matsushiro 69.16 320 P P 22 43 58.3 +0.3
comp=Z,38nm,1.5s
MAJO Matsushiro 69.16 320⇓ eP P 22 43 58.6 +0.7
MAJO pmax pmax
comp=Z,39nm,1.2s
MAJO Matsushiro 69.16 320 P P 22 43 58.2 +0.3
MAJO pP pwP 22 44 09.8 -0.2
UNV Unalaska Valle 69.16 4 P P 22 43 56.6 -0.9
UNV Unalaska Valle 69.16 4 P P 22 43 56.7 -0.9
baz=187,SNR=5.4
H06S1 SOCORRO T 69.87 63 T T 00 00 47.1
SNR=12
JSD Sado 70.07 321 P P 22 44 04.3 +0.8
comp=Z,55nm,1.1s
SNCC San Nicolas Is 70.30 46 P P 22 44 05.2 +0.1
baz=236
JMN Monobe 70.30 315 P P 22 44 04.3 -0.8
JMN lAmb lAmb 22 44 29.6
comp=Z,124nm,1.6s
CASY Casey 70.58 205 P P 22 44 06.2 0.0
CASY lAmb lAmb 22 44 07.3
comp=Z,36nm,0.8s
CASY Casey 70.58 205 P P 22 44 06.7 +0.5
SCZ2 Santa Cruz Isl 70.65 45 P P 22 44 08.0 +0.8
baz=235
JOW Kunigami 70.76 306 LR LR 23 09 25.2
comp=Z,608nm,22.0s,baz=128,slow=31
MYLDM Lahad Datu 70.80 281 P P 22 44 08.1 -0.4
MYLDM lAmb lAmb 22 44 37.7
comp=Z,119nm,1.2s
PKM Mcpherson Peak 71.04 44 P P 22 44 10.7 +1.0
baz=235
SAO San Andreas Ge 71.07 42 P P 22 44 09.8 +0.2
SAO San Andreas Ge 71.07 42 P P 22 44 09.8 +0.2
SAO pmax pmax
comp=Z,21nm,1.0s
SKR Severo-Kuril's 71.12 340 eP P 22 43 56.3 -13
SKR pmax pmax
comp=Z,600nm,4.2s
SKR MLR MLR
comp=Z,400nm,18.0s
CIS Catalina Islan 71.15 46 P P 22 44 10.7 +0.4
baz=236
PMPB Monarch Peak 71.16 42 P P 22 44 09.4 -0.9
PMPB lAmb lAmb 22 44 40.5
comp=Z,87nm,1.4s
SMMC Simmler 71.16 44 P P 22 44 11.5 +1.2
baz=234
SDPT Sand Point 71.24 8 P P 22 44 09.4 -0.9
SDPT Sand Point 71.24 8 P P 22 44 10.0 -0.2
baz=193
SDPT Sand Point 71.24 8 P P 22 44 10.3 +0.1
comp=Z,320nm,0.9s
BCW Bitter Crk WRg 71.34 44 P P 22 44 11.8 +0.3
BCW lAmb lAmb 22 44 14.2
comp=Z,129nm,1.7s
HOPS Hopland Field 71.42 39 P P 22 44 11.8 +0.1
HOPS lAmb lAmb 22 44 14.4

comp=Z,208nm,1.9s
JHS **Saijyo** 71.54 316 P **P** 22 44 12.9 +0.3
JHS IAmb IAmb 22 44 40.0
comp=Z,40nm,0.9s
JHS **Saijyo** 71.54 316 P **P** 22 44 14.0 +1.4
comp=Z,50nm,1.1s
CCX **Cicese** 71.56 48 P **P** 22 44 12.5 -0.2
OSI **Osito Audit: C** 71.62 45 P **P** 22 44 13.6 +0.5
baz=236
DECC **Green Verdugo** 71.68 45 P **P** 22 44 13.6 +0.1
baz=236
KMPM **Mount Pierce** 71.70 37 P **P** 22 44 14.0 +0.5
KMPM IAmb IAmb 22 44 36.9
comp=Z,69nm,1.1s
ASAJ **Asahikawa** 71.71 328 P **P** 22 44 14.7 +1.3
comp=Z,13nm,0.7s,baz=243,slow=6.9,SNR=3.7
comp=Z,13nm,0.7s
PASC **Pasadena Art C** 71.74 46 P **P** 22 44 13.2 -0.5
PASC **Pasadena Art C** 71.74 46 IAMs_20 IAMs_20 23 07 41.3
comp=Z,2µm,21.0s
109C **Camp Elliot, M** 71.79 47 P **P** 22 44 14.5 +0.4
109C IAmb IAmb 22 44 16.2
comp=Z,113nm,1.8s
109C **Camp Elliot, M** 71.79 47 P **P** 22 44 13.7 -0.4
baz=237
ARVC **Arvin** 71.84 44 P **P** 22 44 14.4 +0.1
baz=235
JNU **Nakatsue** 72.05 313 P **P** 22 44 16.0 +0.3
comp=Z,15nm,0.8s,baz=102,slow=1.7,SNR=11
JNU LR LR 23 10 38.3
comp=Z,326nm,21.6s,baz=114,slow=32
comp=Z,15nm,0.8s
JNU **Nakatsue** 72.05 313 P **P** 22 44 15.9 +0.3
JNU **Nakatsue** 72.05 313 P **P** 22 44 16.5 +0.8
comp=Z,34nm,0.9s
VES **Vestal, Richgr** 72.07 44 P **P** 22 44 16.6 +0.9
baz=235
MURC **Murrieta** 72.11 47 P **P** 22 44 16.7 +0.7
baz=237,SNR=7.9
BFSC **Mount Baldy Ra** 72.14 46 P **P** 22 44 16.4 +0.1
baz=236,SNR=8.1
VOG **Valley Oaks Go** 72.15 43 P **P** 22 44 16.5 +0.4
baz=235
EDW2 **Edwards Air Fo** 72.27 45 P **P** 22 44 17.2 +0.2
baz=236,SNR=26
MONP2 **Monument Peak** 72.28 48 P **P** 22 44 18.0 +0.7
baz=238,SNR=17
SPIA **Saint Paul Isl** 72.31 2 P **P** 22 44 16.7 +0.1
baz=183
IKP **In-Ko-Pah, Jac** 72.37 48 P **P** 22 44 18.3 +0.6
baz=238,SNR=13
ISA **Isabella, Lake** 72.38 44 P **P** 22 44 18.3 +0.6
ISA IAmb IAmb 22 44 20.0
comp=Z,81nm,1.5s
ISA **Isabella, Lake** 72.38 44 P **P** 22 44 17.9 +0.2
baz=236,SNR=19
ISA **Isabella, Lake** 72.38 44 P **P** 22 44 18.3 +0.6
ISA pmax pmax
comp=Z,81nm,1.5s
CHIR **Chirikof Islan** 72.42 10 P **P** 22 44 17.6 +0.4
CHIR **Chirikof Islan** 72.42 10 P **P** 22 44 17.7 +0.4
baz=198
CHGN **Chignik** 72.45 8 P **P** 22 44 17.1 -0.3
baz=195,SNR=23
CMB **Columbia Colle** 72.50 41 IAMs_20 IAMs_20 23 07 56.2
comp=Z,1µm,22.0s
PFO **Pinyon Flats O** 72.64 47 P **P** 22 44 19.9 +0.6
comp=Z,17nm,1.1s,baz=224,slow=3.8,SNR=13
PFO LR LR 23 08 17.6
comp=Z,1µm,21.6s,baz=244,slow=29
comp=Z,17nm,1.1s
PFO **Pinyon Flats O** 72.64 47 P **P** 22 44 19.3 0.0
PFO IAMs_20 IAMs_20 23 07 44.2
comp=Z,1µm,21.0s
PFO **Pinyon Flats O** 72.64 47 P **P** 22 44 19.7 +0.4
baz=238,SNR=12
TPFO **Pinon Flats** 72.64 47 P **P** 22 44 19.9 +0.6
baz=238,SNR=12
AFDM **Forest Hills D** 72.68 40 P **P** 22 44 19.2 -0.1
PMD **Palm Desert** 72.71 47 P **P** 22 44 19.9 +0.3
LPIG **La Paz** 72.71 58 LR LR 23 07 55.5
comp=Z,673nm,21.2s,baz=222,slow=29
PEA0B **Petropavlovsk-** 72.72 342 P **P** 22 44 19.4 +0.3
PEA0B IAmb IAmb 22 44 33.0
comp=Z,91nm,1.1s
PEA0B **Petropavlovsk-** 72.72 342⇑ *e*P **P** 22 44 20.2 +1.0
PETK **Petropavlovsk-** 72.72 342 P **P** 22 44 19.9 +0.7
comp=Z,29nm,0.9s,baz=147,slow=8.8,SNR=18
PETK LR LR 23 11 35.7
comp=Z,362nm,21.2s,baz=155,slow=32
comp=Z,29nm,0.9s
SWSC **Sam W. Stewart** 72.75 48 P **P** 22 44 20.5 +0.7
baz=238,SNR=6.3
LRMC **Laurel Mtn Rad** 72.81 45 P **P** 22 44 21.0 +0.7
baz=236,SNR=18
RRX **Edison Barstow** 72.95 45 P **P** 22 44 21.1 +0.1
baz=237
CWC **Cottonwood Cre** 73.08 44 P **P** 22 44 22.7 +0.8
baz=236
KKM **Kota Kinabalu** 73.23 281 P **P** 22 44 23.0 -0.2
KKM IAmb IAmb 22 44 49.9
comp=Z,58nm,1.1s
MLAC **Mammoth, Mammo** 73.26 42 P **P** 22 44 23.6 +0.5
baz=235
MPMC **Manual Prospec** 73.26 44 P **P** 22 44 23.8 +0.7
baz=236,SNR=48
GSC **Goldstone, Bar** 73.31 45 P **P** 22 44 23.9 +0.7
baz=237,SNR=28
YBH **Yreka Blue Hor** 73.36 37 P **P** 22 44 24.7 +1.3
comp=Z,29nm,1.0s,baz=206,slow=3.5,SNR=45
YBH LR LR 23 09 16.8
comp=Z,1µm,21.0s,baz=254,slow=30
comp=Z,29nm,1.0s
YBH **Yreka Blue Hor** 73.36 37 P **P** 22 44 23.9 +0.6
YBH IAmb IAmb 22 44 47.1
comp=Z,42nm,0.9s
YBH IAMs_20 IAMs_20 23 08 20.6
comp=Z,2µm,21.0s
BC3 **Big Chuckawall** 73.37 47 P **P** 22 44 24.5 +0.8
baz=238,SNR=7.3
SII **Sitkinak Islan** 73.38 11 P **P** 22 44 23.2 +0.2
baz=199
SII **Sitkinak Islan** 73.38 11 P **P** 22 44 23.2 +0.2
comp=Z,186nm,1.1s
HEC **Hector,Ludlow** 73.38 46 P **P** 22 44 24.2 +0.6
baz=237,SNR=16
GLA **Glamis** 73.50 48 P **P** 22 44 25.1 +0.8
baz=239
QSM **Queen of Sheba** 73.63 45 P **P** 22 44 25.3 +0.3
QSM IAmb IAmb 22 44 27.0
comp=Z,88nm,1.4s
YSS **Yuzh-Sakhalins** 73.64 330 P **P** 22 44 25.1 +0.4
YSS IAmb IAmb 22 44 39.1
comp=Z,104nm,1.3s
YSS **Yuzh-Sakhalins** 73.64 330 P **P** 22 44 26.1 +1.4
comp=Z,76nm,1.1s
YSS **Yuzh-Sakhalins** 73.64 330 *e*P **P** 22 44 25.4 +0.7
YSS pmax pmax
comp=Z,60nm,0.8s
R16K **Pilot Point** 73.79 9 P **P** 22 44 26.4 +1.0
baz=196
GMRC **Granite Mounta** 73.82 46 P **P** 22 44 27.0 +0.8
baz=238,SNR=14
LHV **Little Huntoon** 73.83 42 P **P** 22 44 26.3 +0.2
LHV IAmb IAmb 22 44 28.8
comp=Z,150nm,2.0s
IRM **Iron Mountain** 73.85 47 P **P** 22 44 26.8 +0.5
baz=238,SNR=20
GRAC **Grapevine Rang** 73.87 43 P **P** 22 44 26.9 +0.5
GRAC IAmb IAmb 22 44 29.1
comp=Z,68nm,1.2s
GRAC **Grapevine Rang** 73.87 43 P **P** 22 44 27.6 +1.2
baz=236,SNR=9.9
FURC **Furnace Creek,** 73.91 44 P **P** 22 44 27.2 +0.7
baz=236,SNR=10
DBO **Dodson Butte** 73.94 36 P **P** 22 44 26.9 +0.2
DBO IAmb IAmb 22 44 29.4
comp=Z,69nm,1.2s
TUQ **Turquoise Moun** 73.99 46 P **P** 22 44 28.1 +0.8
baz=237,SNR=17
SHOC **Shoshone, Teco** 74.00 45 P **P** 22 44 27.4 +0.3
baz=237
R17K **Ugashik Creek** 74.04 9 P **P** 22 44 26.8 -0.1
baz=197
NVAR **Mina Array Bea** 74.07 42 P **P** 22 44 28.6 +0.8
comp=Z,8.7nm,0.7s,baz=228,slow=9.7,SNR=82
NVAR LR LR 23 10 04.4
comp=Z,1µm,20.9s,baz=228,slow=30
comp=Z,8.7nm,0.7s
113A **Mohawk Valley,** 74.12 49 P **P** 22 44 27.9 0.0
OHAK **Old Harbor** 74.17 11 P **P** 22 44 28.3 +0.7
baz=200
OHAK **Old Harbor** 74.17 11 P **P** 22 44 28.1 +0.5
comp=Z,67nm,0.9s
214A **Organ Pipe Nat** 74.42 50 P **P** 22 44 30.0 +0.3
214A IAmb IAmb 22 44 31.9
comp=Z,111nm,1.6s
214A **Organ Pipe Nat** 74.42 50 P **P** 22 44 30.4 +0.7
baz=240,SNR=6.8
HSIG 74.42 53 P **P** 22 44 29.0 -0.7
NEE2 **Needles Airpor** 74.54 47 P **P** 22 44 30.9 +0.6
baz=238
TPH **Tonopah** 74.56 43 P **P** 22 44 30.8 +0.2
TPH **Tonopah** 74.56 43 P **P** 22 44 30.8 +0.2
TPH pmax pmax
comp=Z,477nm,1.4s
TPNV **Topopah Spring** 74.59 44 P **P** 22 44 31.1 +0.4
TPNV IAmb IAmb 22 44 33.1
comp=Z,63nm,1.4s
TPNV IAMs_20 IAMs_20 23 09 23.5
comp=Z,2µm,21.0s
TPNV **Topopah Spring** 74.59 44 P **P** 22 44 31.5 +0.8
baz=237,SNR=21
TPNV **Topopah Spring** 74.59 44 P **P** 22 44 31.2 +0.4
TPNV pmax pmax
comp=Z,63nm,1.4s
TPNV MLR MLR
comp=Z,2µm,21.0s
PDMCI **Parker Dam,Lak** 74.64 47 P **P** 22 44 31.6 +0.8
baz=239,SNR=11
QSPA **South Pole Qui** 74.67 180 LR LR 23 13 34.9
comp=Z,244nm,20.6s,baz=38,slow=33
QSPA **South Pole Qui** 74.67 180 P **P** 22 44 32.1 +1.3
QSPA **South Pole Qui** 74.67 180 IAMs_20 IAMs_20 23 19 11.2
comp=Z,985nm,19.0s
Q17K **Contact Creek** 74.72 9 P **P** 22 44 30.5 -0.4
baz=197,SNR=22
BUCK **Buck Mountain** 74.77 35 P **P** 22 44 31.7 +0.2
BUCK IAmb IAmb 22 44 34.1
comp=Z,73nm,1.1s
KDAK **Kodiak Island** 74.83 11 LR LR 23 10 30.1
comp=Z,2µm,21.6s,baz=230,slow=30
KDAK **Kodiak Island** 74.83 11 P **P** 22 44 31.7 +0.3
KDAK **Kodiak Island** 74.83 11 P **P** 22 44 32.0 +0.6
baz=200
KDAK **Kodiak Island** 74.83 11 P **P** 22 44 31.7 +0.3
KDAK pmax pmax
comp=Z,132nm,0.9s
KDAK MLR MLR
comp=Z,2µm,20.0s
UGM **Wanagama** 74.94 266 P **P** 22 44 32.5 -0.6
Q16K **King Salmon** 75.00 9 P **P** 22 44 32.4 +0.1
baz=196,SNR=14
K05A **Summer Lake** 75.03 37 P **P** 22 44 33.7 +0.5
P16K **Nushagak River** 75.15 8 P **P** 22 44 33.2 0.0
baz=195,SNR=40
Q18K **Katmai Hardscr** 75.22 10 P **P** 22 44 33.8 0.0
baz=198,SNR=18
W13A **Hualapai Mount** 75.23 47 P **P** 22 44 34.8 +0.3
Y14A **Wickenburg** 75.26 48 P **P** 22 44 34.7 +0.2
SSLB **Suanglung** 75.32 300 P **P** 22 44 35.1 0.0
SSLB IAmb IAmb 22 44 59.1
comp=Z,121nm,1.7s
TPUB **Ta-pu** 75.39 300 P **P** 22 44 34.6 -0.9
TPUB IAmb IAmb 22 44 59.7
comp=Z,88nm,0.9s
P17K **Kvichak River** 75.53 9 P **P** 22 44 35.2 -0.1
baz=197,SNR=25
Q20K **Shuyak Island** 75.64 11 P **P** 22 44 36.4 +0.4
baz=201,SNR=6.9
O16K **Kokwok River B** 75.68 8 P **P** 22 44 35.8 -0.5
baz=195
Q19K **Cape Douglas,** 75.72 10 P **P** 22 44 36.4 -0.1
Q19K **Cape Douglas,** 75.72 10 P **P** 22 44 36.2 -0.4
baz=199,SNR=6.7
R11A **Troy Canyon, C** 75.79 43 P **P** 22 44 38.4 +0.7
baz=237,SNR=32
P18K **Big Mountain,** 75.90 9 P **P** 22 44 37.3 -0.3
P18K IAMs_20 IAMs_20 23 09 49.4
comp=Z,2µm,21.0s
P18K **Big Mountain,** 75.90 9 P **P** 22 44 37.6 0.0
baz=198,SNR=61
SBUM **Sibu** 75.98 277 P **P** 22 44 38.7 -0.4
O17K **Koliganek Bris** 75.99 8 P **P** 22 44 37.7 -0.4
baz=196,SNR=34
TUC **Tucson** 76.09 51 P **P** 22 44 40.0 +0.6
TUC IAmb IAmb 22 44 41.9
comp=Z,52nm,1.1s
TUC **Tucson** 76.09 51 P **P** 22 44 40.4 +1.0
baz=242
TUC **Tucson** 76.09 51 P **P** 22 44 40.0 +0.6
TUC pmax pmax
comp=Z,52nm,1.1s
WVOR **Wild Horse Val** 76.19 38 P **P** 22 44 40.0 +0.2
WVOR IAmb IAmb 22 44 42.1
comp=Z,80nm,1.1s
WVOR **Wild Horse Val** 76.19 38 P **P** 22 44 40.0 +0.2
WVOR pmax pmax
comp=Z,80nm,1.2s
NLWA **Neilton Lookou** 76.39 32 P **P** 22 44 41.4 +0.8
NLWA IAmb IAmb 22 44 43.2
comp=Z,78nm,1.1s
KSRS **Korea Array** 76.40 315 P **P** 22 44 42.6 +1.7
comp=Z,5.4nm,0.9s,baz=127,slow=6.2,SNR=26
KSRS LR LR 23 12 33.5
comp=Z,416nm,22.0s,baz=115,slow=31
comp=Z,5.4nm,0.9s
N16K **Nishlik Lake** 76.45 7 P **P** 22 44 41.2 +0.5
baz=194,SNR=6.6
KS19 **Wonju Array Si** 76.46 315 P **P** 22 44 40.9 -0.4
P19K **Oil Pt** 76.47 10 P **P** 22 44 40.7 -0.1
P19K **Oil Pt** 76.47 10 P **P** 22 44 40.8 -0.1
baz=200
TYV **Tymovskoe** 76.49 333 *e*P **P** 22 44 42.2 +1.1
TYV *e*S **S** 22 54 29.2 +4.6
TYV pmax pmax
comp=Z,39nm,1.3s
TYV pmax pmax
comp=Z,700nm,4.0s
TYV smax smax
comp=N,1µm,6.3s
TYV smax smax
comp=E,500nm,6.3s
LCMT **Little Creek M** 76.66 45 P **P** 22 44 42.7 +0.1
DIB **Dawson Inlet,** 76.67 24 P **P** 22 44 42.0 0.0
CNPM **China Poot** 76.71 11 P **P** 22 44 41.2 -1.0
CNPM IAmb IAmb 22 44 43.8
comp=Z,101nm,1.0s
319A **Douglas** 76.79 52 P **P** 22 44 43.2 -0.2
319A IAmb IAmb 22 44 45.9
comp=Z,52nm,1.0s
O19K **Port Alsworth** 76.81 9 IAMs_20 IAMs_20 23 11 47.4
comp=Z,2µm,21.0s
O19K **Port Alsworth** 76.81 9 P **P** 22 44 42.8 +0.2
baz=199,SNR=35
CCUT **Cedar City** 76.86 45 P **P** 22 44 44.0 +0.2
O20K **Slope Mountain** 76.98 10 P **P** 22 44 43.8 0.0
baz=200
BRLK **Bradley Lake** 77.00 11 P **P** 22 44 43.6 -0.2
BRSE **Bradley Lake S** 77.00 11 P **P** 22 44 44.4 +0.6
baz=202,SNR=17
CLRS **Cowichan Lake** 77.20 31 P **P** 22 44 46.0 +0.8
CLRS IAmb IAmb 22 44 46.8
comp=Z,60nm,1.0s
WUAZ **Wupatki** 77.21 47 P **P** 22 44 46.7 +1.0
WUAZ IAmb IAmb 22 44 48.4
comp=Z,55nm,1.1s
WUAZ **Wupatki** 77.21 47 P **P** 22 44 46.5 +0.8
baz=241,SNR=33
INCN **Inchon** 77.29 315 P **P** 22 44 47.2 +1.3
INCN IAmb IAmb 22 45 13.5
comp=Z,49nm,1.0s
INCN **Inchon** 77.29 315 P **P** 22 44 47.6 +1.6
comp=Z,49nm,1.2s
INCN **Inchon** 77.29 315 P **P** 22 44 47.2 +1.3
INCN pmax pmax
comp=Z,49nm,1.0s
INCN MLR MLR
comp=Z,400nm,22.0s
RSO **Redoubt South** 77.32 10 P **P** 22 44 45.7 -0.1
ELK **Elko** 77.32 41 LR LR 23 11 22.4
comp=Z,1µm,21.9s,baz=226,slow=30
ELK **Elko** 77.32 41 P **P** 22 44 46.7 +0.3
ELK IAMs_20 IAMs_20 23 11 19.8
comp=Z,2µm,20.0s
ELK **Elko** 77.32 41 P **P** 22 44 46.7 +0.3
ELK pmax pmax
comp=Z,42nm,1.1s
ELK MLR MLR
comp=Z,2µm,20.0s
N19K **Bonanza Creek** 77.37 9 IAMs_20 IAMs_20 23 11 53.3
comp=Z,1µm,20.0s
N19K **Bonanza Creek** 77.37 9 P **P** 22 44 45.9 -0.1
baz=198
SVW2 **Sparrevohn** 77.48 9 P **P** 22 44 46.5 0.0
comp=Z,66nm,1.7s
F07A **Phinny Hill Vi** 77.53 35 P **P** 22 44 47.7 +0.6
F07A IAmb IAmb 22 44 49.1
comp=Z,75nm,1.1s
USA0B **Ussuriysk Arra** 77.58 323⇓ *e*P **P** 22 44 49.0 +1.6
USRK **Ussuriysk Ar.** 77.58 323 P **P** 22 44 49.0 +1.6
comp=Z,4.2nm,1.0s,baz=90,slow=7.2,SNR=6.2
USRK LR LR 23 12 27.0
comp=Z,978nm,21.9s,baz=115,slow=31
comp=Z,4.2nm,1.0s
USRK **Ussuriysk Ar.** 77.58 323 P **P** 22 44 49.0 +1.6
SEW **Seward** 77.59 12 P **P** 22 44 47.3 +0.3
SEW IAmb IAmb 22 44 48.3
comp=Z,92nm,1.0s
SEW **Seward** 77.59 12 P **P** 22 44 46.9 -0.1
baz=203,SNR=6.8
Q23K **Middleton Isla** 77.63 14 P **P** 22 44 46.6 -0.7
baz=206
BBB **Bella Bella** 77.70 26 P **P** 22 44 49.0 +1.2
comp=Z,51nm,0.9s,baz=294,slow=2.7,SNR=5.1
BBB LR LR 23 10 41.9
comp=Z,899nm,19.7s,baz=248,slow=29
comp=Z,51nm,0.9s
BBB **Bella Bella** 77.70 26 P **P** 22 44 48.4 +0.6
HPIG 77.71 57 P **P** 22 44 49.2 +0.4
HPIG IAmb IAmb 22 44 50.8
comp=Z,55nm,1.4s
X18A **Snowflake** 77.76 49 P **P** 22 44 49.8 +0.9
X18A IAmb IAmb 22 44 51.4
comp=Z,54nm,1.2s
CAPN **Captain Cook N** 77.89 11 P **P** 22 44 49.6 +0.9
baz=202
P23K **Montague Islan** 77.92 13 P **P** 22 44 49.6 +0.8
baz=205
LEM **Lembang** 78.00 266 P **P** 22 44 51.3 +0.7
comp=Z,19nm,0.5s,baz=163,slow=22,SNR=4.3
comp=Z,19nm,0.5s
LEM **Lembang** 78.00 266 P P 22 45 00.4 +10
HAWA **Hanford** 78.05 35 P **P** 22 44 50.7 +0.7
HAWA IAmb IAmb 22 44 52.1
comp=Z,111nm,1.1s
N20K **Mount Spurr** 78.10 10 P **P** 22 44 49.1 -0.9
baz=201,SNR=23
SPCR **Spurr Chakacha** 78.11 10 P **P** 22 44 49.3 -0.7
baz=201,SNR=10
MVU **Marysvale** 78.12 44 P **P** 22 44 51.6 +0.8
CRAG **Craig** 78.18 22 P **P** 22 44 51.6 +1.1
baz=219
W18A **Petrified Fore** 78.19 48 P **P** 22 44 52.5 +1.3
baz=242,SNR=5.4
BMO **Blue Mountains** 78.39 37 P **P** 22 44 52.1 +0.1
BMO IAmb IAmb 22 44 53.8
comp=Z,63nm,1.0s
BMO **Blue Mountains** 78.39 37 P **P** 22 44 52.1 +0.1
BMO pmax pmax
comp=Z,63nm,1.0s
M19K **Big River Lodg** 78.42 9 IAMs_20 IAMs_20 23 12 02.1
comp=Z,1µm,20.0s
M19K **Big River Lodg** 78.42 9 P **P** 22 44 51.6 -0.1
baz=198
121A **Cookes Peak, D** 78.44 52 P **P** 22 44 53.8 +1.1
121A IAmb IAmb 22 44 55.4
comp=Z,59nm,1.1s
121A **Cookes Peak, D** 78.44 52 P **P** 22 44 54.1 +1.4
baz=243
121A **Cookes Peak, D** 78.44 52 P **P** 22 44 53.9 +1.1
baz=243
RC01 **Rabbit Creek A** 78.44 11 P **P** 22 44 51.9 +0.1
RC01 **Rabbit Creek A** 78.44 11 P **P** 22 44 51.4 -0.4
baz=203,SNR=19
PWL **Port Wells** 78.51 12 P **P** 22 44 52.1 -0.1
baz=204,SNR=5.4
DUG **Dugway, Tooele** 78.59 43 P **P** 22 44 53.7 +0.4
DUG IAmb IAmb 22 44 55.4
comp=Z,79nm,1.4s
DUG IAMs_20 IAMs_20 23 11 32.5
comp=Z,2µm,20.0s
DUG **Dugway, Tooele** 78.59 43 P **P** 22 44 54.1 +0.8
baz=239,SNR=46
DUG **Dugway, Tooele** 78.59 43 P **P** 22 44 53.7 +0.4
DUG pmax pmax
comp=Z,79nm,1.4s
DUG MLR MLR
comp=Z,2µm,20.0s
M20K **Styx River** 78.60 9 IAMs_20 IAMs_20 23 11 35.7
comp=Z,2µm,21.0s
M20K **Styx River** 78.60 9 P **P** 22 44 52.5 -0.2
baz=200,SNR=16
SUA **Susitna One** 78.61 11 P **P** 22 44 52.6 -0.2
SUA IAmb IAmb 22 44 53.9
comp=Z,88nm,0.9s
SUA **Susitna One** 78.61 11 P **P** 22 44 52.8 -0.1
baz=202,SNR=28
L19K **White Mountain** 78.62 9 P **P** 22 44 53.0 +0.2
baz=198,SNR=7.9
V35K **Ketchikan** 78.62 23 P **P** 22 44 53.8 +0.9
baz=221
ZAIG **Zacatecas** 78.67 63 P **P** 22 44 54.7 +0.4
U33K **Whale Pass** 78.68 21 P **P** 22 44 54.7 +1.5
baz=219
EYAK **Cordova Ski Ar** 78.77 13 P **P** 22 44 53.8 +0.3
baz=207,SNR=5.8
EYAK **Cordova Ski Ar** 78.77 13 P **P** 22 44 53.7 +0.1
comp=Z,72nm,1.5s
GAMB **Gambell** 78.91 1 P **P** 22 44 55.0 +0.8
GAMB IAmb IAmb 22 44 56.8
comp=Z,93nm,1.3s
GAMB **Gambell** 78.91 1 P **P** 22 44 54.8 +0.6
baz=181
SKT **Skwentna** 78.95 10 P **P** 22 44 53.8 -0.8
SKT IAmb IAmb 22 44 55.0
comp=Z,59nm,1.0s
SKT **Skwentna** 78.95 10 P **P** 22 44 53.9 -0.8
baz=201,SNR=14
M22K **Willow** 78.99 11 P **P** 22 44 54.2 -0.6
baz=202
KNK **Knik Glacier** 78.99 12 P **P** 22 44 54.8 -0.1
KNK IAmb IAmb 22 44 56.2
comp=Z,70nm,0.9s
KNK **Knik Glacier** 78.99 12 P **P** 22 44 54.7 -0.1
baz=204,SNR=13
PMR **Palmer** 79.02 11 P **P** 22 44 54.7 -0.2
baz=204,SNR=23
PMR **Palmer** 79.02 11 P **P** 22 44 55.1 +0.2
comp=Z,99nm,1.3s
L20K **Farewell, AK** 79.05 9 P **P** 22 44 55.2 +0.1
baz=199
S31K **Pelican** 79.11 19 P **P** 22 44 55.2 -0.3
baz=216
TTA **Tatalina** 79.18 8 P **P** 22 44 56.5 +0.6
TTA IAmb IAmb 22 44 58.2
comp=Z,110nm,1.1s
TTA **Tatalina** 79.18 8 P **P** 22 44 57.1 +1.2
baz=197,SNR=61
TTA **Tatalina** 79.18 8 P **P** 22 44 56.9 +1.0
comp=Z,108nm,1.1s
TTA **Tatalina** 79.18 8 P **P** 22 44 56.5 +0.6
TTA pmax pmax
comp=Z,110nm,1.1s
WRAK **Wrangell Islan** 79.19 22 P **P** 22 44 57.1 +1.1
baz=220
MDJ **Mudanjiang** 79.23 322 IAMs_20 IAMs_20 23 13 16.4
comp=Z,1µm,21.0s
MDJ **Mudanjiang** 79.23 322 P **P** 22 44 57.5 +1.0
MDJ pP PcP 22 45 01.0 -3.7
MDJ S **S** 22 54 59.0 +4.6
MDJ sS pS 22 55 04.8 -1.0
MDJ ScS **ScS** 22 55 21.0 +4.0
MDJ pmax pmax
comp=Z,250nm,4.3s
MDJ LR LR
comp=Z,470nm,16.6s
MDJ LR LR
comp=Z,860nm,19.5s
MDJ LR LR
comp=Z,1µm,24.1s

MDJ	**Mudanjiang**	**79.23**	**322**	P	**P**	**22 44 57.2**	**+0.7**		
	comp=Z,25nm,2.1s								
GHO	**Glory Hole Cre**	**79.23**	**11**	P	**P**	**22 44 56.1**	**-0.1**		
PLID	**Pearl Lake**	**79.28**	**37**	P	**P**	**22 44 57.0**	**-0.1**		
PLID				IAmb	IAmb	22 44 58.7			
	comp=Z,43nm,0.9s								
T33K	**Petersburg**	**79.28**	**21**	P	**P**	**22 44 56.5**	**0.0**		
	baz=219								
DIV	**Divide**	**79.29**	**13**	P	**P**	**22 44 56.7**	**+0.2**		
GRNR	**Gornyy**	**79.30**	**330**	⇓*i*P	**P**	**22 44 57.4**	**+0.6**		
GRNR				pmax	pmax				
	comp=Z,9.0nm,1.2s								
GRNR				MLR	MLR				
	comp=E,3µm,16.0s								
SML	**Sawmill**	**79.38**	**12**	P	**P**	**22 44 57.2**	**+0.2**		
	baz=204,SNR=8.6								
HLID	**Hailey**	**79.38**	**39**	P	**P**	**22 44 58.2**	**+0.6**		
HLID				IAmb	IAmb	22 45 00.1			
	comp=Z,92nm,1.1s								
HLID	**Hailey**	**79.38**	**39**	P	**P**	**22 44 58.7**	**+1.2**		
	baz=237,SNR=99								
BMRM	**Bremner River**	**79.41**	**14**	P	**P**	**22 44 57.4**	**+0.3**		
	baz=208,SNR=29								
LLLB	**Lillooet**	**79.48**	**30**	P	**P**	**22 44 58.0**	**+0.2**		
LLLB				IAmb	IAmb	22 44 59.5			
	comp=Z,66nm,0.9s								
M23K	**Glacier View**	**79.48**	**12**	P	**P**	**22 44 57.4**	**-0.1**		
	baz=205,SNR=8.1								
CUT	**Chulitna**	**79.57**	**11**	P	**P**	**22 44 57.8**	**-0.1**		
CUT	**Chulitna**	**79.57**	**11**	P	**P**	**22 44 57.8**	**-0.1**		
	baz=202,SNR=11								
KLU	**Klutina**	**79.58**	**13**	P	**P**	**22 44 58.3**	**+0.1**		
	baz=207,SNR=18								
PNL	**Peninsula**	**79.59**	**17**	P	**P**	**22 44 58.6**	**+0.5**		
	baz=213								
PNL	**Peninsula**	**79.59**	**17**	P	**P**	**22 44 58.8**	**+0.6**		
	comp=Z,194nm,0.9s								
SCM	**Sheep Creek Mo**	**79.60**	**12**	P	**P**	**22 44 58.7**	**+0.5**		
	baz=205,SNR=16								
Y22A	**Socorro**	**79.68**	**51**	P	**P**	**22 45 00.9**	**+1.4**		
	baz=244								
PPLA	**Purkeypile**	**79.70**	**10**	P	**P**	**22 44 58.4**	**-0.4**		
PPLA	**Purkeypile**	**79.70**	**10**	P	**P**	**22 44 58.4**	**-0.4**		
	baz=200								
PINM	**Pinnacle**	**79.72**	**16**	P	**P**	**22 44 59.0**	**+0.1**		
	baz=212								
Y22D	**IRIS PASSCAL I**	**79.78**	**50**	P	**P**	**22 45 01.3**	**+1.3**		
	baz=244								
Y22D	**IRIS PASSCAL I**	**79.78**	**50**	P	**P**	**22 45 01.2**	**+1.3**		
	baz=244								
Y22F	**Passcal Instru**	**79.78**	**50**	P	**P**	**22 45 01.5**	**+1.6**		
	baz=244								
LENM	**Lemitar**	**79.78**	**50**	P	**P**	**22 45 00.4**	**+0.4**		
K20K	**Telida**	**79.85**	**9**	IAMs_20	IAMs_20	23 13 42.9			
	comp=Z,1µm,21.0s								
K20K	**Telida**	**79.85**	**9**	P	**P**	**22 44 59.8**	**+0.3**		
	baz=199								
VRDI	**Verde Repeater**	**79.90**	**14**	P	**P**	**22 45 00.2**	**+0.1**		
ANM	**Nome**	**79.91**	**3**	IAMs_20	IAMs_20	23 16 05.2			
	comp=Z,938nm,20.0s								
ANM	**Nome**	**79.91**	**3**	P	**P**	**22 45 01.0**	**+1.3**		
	baz=188								
R32K	**Eaglecrest**	**79.91**	**20**	P	**P**	**22 45 00.8**	**+0.9**		
	baz=218								
MNTX	**Cornudas Mount**	**79.92**	**53**	P	**P**	**22 45 01.2**	**+0.6**		
MNTX				IAmb	IAmb	22 45 03.0			
	comp=Z,65nm,1.3s								
MNTX	**Cornudas Mount**	**79.92**	**53**	P	**P**	**22 45 01.7**	**+1.1**		
	baz=245								
MNTX	**Cornudas Mount**	**79.92**	**53**	P	**P**	**22 45 01.8**	**+1.2**		
	baz=245								
N25K	**Chitina, Valde**	**79.97**	**13**	P	**P**	**22 45 00.4**	**+0.1**		
	baz=208,SNR=21								
MVCO	**Mesa Verde**	**80.06**	**47**	P	**P**	**22 45 01.8**	**+0.3**		
MVCO	**Mesa Verde**	**80.06**	**47**	P	**P**	**22 45 02.5**	**+1.0**		
	baz=242,SNR=11								
M24K	**Tolsona, Glenn**	**80.08**	**12**	P	**P**	**22 45 01.9**	**+1.0**		
	baz=206,SNR=24								
HWUT	**Hardware Ranch**	**80.13**	**42**	P	**P**	**22 45 01.9**	**+0.2**		
HWUT				IAmb	IAmb	22 45 03.6			
	comp=Z,101nm,1.6s								
MCARA	**McCarthy VSAT**	**80.14**	**14**	P	**P**	**22 45 01.4**	**+0.3**		
MCARA				IAmb	IAmb	22 45 02.7			
	comp=Z,87nm,1.1s								
MCARA	**McCarthy VSAT**	**80.14**	**14**	P	**P**	**22 45 01.6**	**+0.6**		
	baz=209,SNR=9.1								
WAT6	**Susitna Watana**	**80.20**	**12**	P	**P**	**22 45 01.8**	**+0.3**		
	baz=205,SNR=40								
CAST	**Castle Rocks**	**80.21**	**9**	P	**P**	**22 45 00.3**	**-1.2**		
CAST				IAMs_20	IAMs_20	23 13 32.4			
	comp=Z,1µm,20.0s								
CAST	**Castle Rocks**	**80.21**	**9**	P	**P**	**22 45 00.3**	**-1.2**		
	baz=200,SNR=25								
MA2	**Magadan**	**80.25**	**342**	P	**P**	**22 45 02.1**	**+0.4**		
	comp=Z,15nm,0.8s,baz=152,slow=4.6,SNR=13								
MA2				LR	LR	23 15 51.6			
	comp=Z,392nm,20.9s,baz=136,slow=32								
	comp=Z,15nm,0.8s								
MA2	**Magadan**	**80.25**	**342**	P	**P**	**22 45 01.5**	**-0.2**		
MA2				IAmb	IAmb	22 45 15.1			
	comp=Z,45nm,1.0s								
MA2	**Magadan**	**80.25**	**342**	P	**P**	**22 45 02.1**	**+0.4**		
	comp=Z,53nm,1.6s								
WAT1	**Susitna Watana**	**80.27**	**11**	P	**P**	**22 45 02.0**	**+0.2**		
	baz=204								
PLBC	**Pleasant Camp**	**80.29**	**18**	P	**P**	**22 45 02.8**	**+0.9**		
	baz=216,SNR=8.5								
TX31	**Lajitas Ar. Si**	**80.29**	**56**	P	**P**	**22 45 04.3**	**+1.6**		
	baz=246								
TXAR	**Lajitas Array**	**80.30**	**56**	P	**P**	**22 45 04.0**	**+1.3**		
	comp=Z,27nm,1.1s,baz=224,slow=5.2,SNR=99								
TXAR				PKKPbc	**PKKPbc**	**23 03 46.6**	**+0.4**		
	comp=Z,0.3nm,0.8s,baz=61,slow=4.4,SNR=3.1								
TXAR				LR	LR	23 12 24.2			
	comp=Z,664nm,22.0s,baz=248,slow=30								
	comp=Z,27nm,1.1s								
O28M	**Mount Upton**	**80.31**	**16**	P	**P**	**22 45 02.9**	**+0.5**		
	baz=212								
O29M	**Mount Kennedy**	**80.35**	**17**	P	**P**	**22 45 03.3**	**+0.9**		
	baz=214,SNR=10								
TLIG	**Tlapa**	**80.35**	**69**	P	**P**	**22 45 04.5**	**+1.2**		
T35M	**Bob Quinn**	**80.37**	**22**	P	**P**	**22 45 03.5**	**+1.1**		
	baz=222								
BCYI	**Bear Canyon**	**80.39**	**39**	P	**P**	**22 45 03.7**	**+0.6**		
NJ2	**Nanjing**	**80.44**	**307**	*e*P	**P**	**22 45 04.5**	**+1.2**		
NJ2				pmax	pmax				
	comp=Z,5.0nm,0.5s								
NEW	**Newport**	**80.48**	**34**	LR	LR	23 12 41.4			
	comp=Z,978nm,21.8s,baz=226,slow=30								
NEW	**Newport**	**80.48**	**34**	P	**P**	**22 45 03.3**	**0.0**		
NEW	**Newport**	**80.48**	**34**	P	**P**	**22 45 03.4**	**+0.1**		
	baz=234,SNR=24								
NEW	**Newport**	**80.48**	**34**	P	**P**	**22 45 03.3**	**+0.1**		
NEW				pmax	pmax				
	comp=Z,31nm,0.9s								
ANMO	**Albuquerque**	**80.51**	**50**	P	**P**	**22 45 05.1**	**+1.2**		
	comp=Z,35nm,1.1s,baz=321,slow=5.7,SNR=62								
ANMO				LR	LR	23 12 46.1			
	comp=Z,759nm,21.8s,baz=326,slow=30								
	comp=Z,35nm,1.1s								
ANMO	**Albuquerque**	**80.51**	**50**	P	**P**	**22 45 04.5**	**+0.6**		
ANMO	**Albuquerque**	**80.51**	**50**	IAMs_20	IAMs_20	23 13 19.7			
	comp=Z,786nm,18.0s								
ANMO	**Albuquerque**	**80.51**	**50**	P	**P**	**22 45 04.9**	**+1.0**		
	baz=244								
ANMO	**Albuquerque**	**80.51**	**50**	P	**P**	**22 45 05.1**	**+1.2**		
	baz=244								
TRF	**Thorofare Moun**	**80.53**	**10**	P	**P**	**22 45 03.1**	**-0.2**		
	baz=202,SNR=35								
HARP	**HAARP**	**80.56**	**13**	P	**P**	**22 45 03.9**	**+0.6**		
	baz=207,SNR=11								
SKAG	**Skagway**	**80.60**	**18**	P	**P**	**22 45 04.7**	**+1.2**		
	baz=217								
SKAG	**Skagway**	**80.60**	**18**	P	**P**	**22 45 03.4**	**-0.1**		
	comp=Z,82nm,1.1s								
CHUM	**Lake Minchumin**	**80.61**	**9**	P	**P**	**22 45 03.2**	**-0.3**		
	baz=200,SNR=39								
P30M	**Million Dollar**	**80.66**	**17**	P	**P**	**22 45 05.1**	**+1.2**		
	baz=215								
KLR	**Kul'dur**	**80.70**	**327**	P	**P**	**22 45 05.4**	**+1.1**		
	comp=Z,2.3nm,0.8s,baz=103,slow=10,SNR=6.9								
KLR				LR	LR	23 15 15.2			
	comp=Z,572nm,21.8s,baz=131,slow=32								
	comp=Z,2.3nm,0.8s								
KLR	**Kul'dur**	**80.70**	**327**⇑	*e*P	**P**	**22 45 05.6**	**+1.3**		
KLR				pmax	pmax				
	comp=Z,23nm,1.5s								

DHY	**Denali Highway**	**80.72**	**12**	P	**P**	**22 45 04.2**	**-0.1**		
	baz=205,SNR=15								
RND	**Reindeer**	**80.75**	**11**	IAMs_20	IAMs_20	23 14 00.5			
	comp=Z,2µm,20.0s								
S34M	**Telegraph Cree**	**80.76**	**21**	P	**P**	**22 45 05.4**	**+0.9**		
	baz=221								
TNA	**Tin City**	**80.78**	**2**	P	**P**	**22 45 05.6**	**+1.2**		
	baz=185								
GCSA	**Galena City Sc**	**80.82**	**7**	P	**P**	**22 45 06.0**	**+1.4**		
	baz=196								
YUK8	**Steele Glacier**	**80.86**	**16**	P	**P**	**22 45 06.0**	**+0.8**		
	baz=212,SNR=10								
YUK6	**Outpost Mounta**	**80.94**	**16**	P	**P**	**22 45 06.4**	**+0.7**		
	baz=214,SNR=5.4								
PAX	**Paxson**	**81.00**	**12**	P	**P**	**22 45 05.5**	**-0.3**		
PAX				IAmb	IAmb	22 45 07.7			
	comp=Z,150nm,1.7s								
PAX	**Paxson**	**81.00**	**12**	P	**P**	**22 45 05.7**	**0.0**		
	baz=207,SNR=16								
PAX	**Paxson**	**81.00**	**12**	P	**P**	**22 45 05.5**	**-0.3**		
PAX				pmax	pmax				
	comp=Z,151nm,1.7s								
MCMT	**McKenzie Canyo**	**81.01**	**39**	P	**P**	**22 45 07.3**	**+0.9**		
AHID	**Auburn Hatcher**	**81.02**	**41**	P	**P**	**22 45 06.7**	**+0.2**		
AHID				IAmb	IAmb	22 45 08.5			
	comp=Z,76nm,1.2s								
BPAW	**Bear Paw Mtn.**	**81.02**	**10**	P	**P**	**22 45 04.8**	**-0.9**		
	baz=202,SNR=16								
MCK	**McKinley**	**81.03**	**11**	P	**P**	**22 45 06.0**	**+0.2**		
	baz=204,SNR=72								
M26K	**Nabesna, AK**	**81.03**	**14**	IAMs_20	IAMs_20	23 13 02.3			
	comp=Z,2µm,21.0s								
M26K	**Nabesna, AK**	**81.03**	**14**	P	**P**	**22 45 06.6**	**+0.7**		
	baz=209								
HYT	**Haines Junctio**	**81.08**	**17**	P	**P**	**22 45 07.1**	**+0.9**		
HYT				IAmb	IAmb	22 45 08.4			
	comp=Z,98nm,1.0s								
HYT	**Haines Junctio**	**81.08**	**17**	P	**P**	**22 45 07.2**	**+0.9**		
	baz=215,SNR=17								
YUK3	**Moose Creek**	**81.10**	**15**	P	**P**	**22 45 06.9**	**+0.5**		
	baz=212,SNR=20								
BNX	**BinXian**	**81.14**	**322**	⇑P	**P**	**22 45 07.5**	**+0.7**		
BNX				pP	**PcP**	**22 45 10.0**	**-3.0**		
BNX				sP	**pP**	**22 45 12.3**	**-3.4**		
BNX				PP	**PP**	**22 48 13.5**	**+1.1**		
BNX				S	**S**	**22 55 18.5**	**+4.0**		
BNX				sS	**SKKSac**	**22 55 27.0**	**+0.9**		
BNX				pmax	pmax				
	comp=Z,19nm,0.9s								
BNX				pmax	pmax				
	comp=Z,320nm,5.1s								
BNX				LR	LR				
	comp=Z,370nm,20.1s								
BNX				LR	LR				
	comp=Z,690nm,21.7s								
BNX				LR	LR				
	comp=Z,960nm,22.2s								
Q32M	**Nakina River**	**81.18**	**20**	P	**P**	**22 45 07.8**	**+0.8**		
	baz=220								
YUK4	**Talbot Arm**	**81.20**	**16**	P	**P**	**22 45 08.3**	**+1.3**		
	baz=214,SNR=9.9								
P32M	**Atlin**	**81.21**	**19**	P	**P**	**22 45 07.6**	**+0.7**		
	baz=218								
M27K	**Edge Creek, AK**	**81.26**	**14**	P	**P**	**22 45 08.0**	**+0.8**		
	baz=210								
CN2	**Changchun**	**81.30**	**320**	P	**P**	**22 45 09.0**	**+1.3**		
CN2				sP	pwP	22 45 21.5	+0.7		
CN2				S	**S**	**22 55 18.0**	**+1.8**		
CN2				pmax	pmax				
	comp=Z,20nm,0.9s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=Z,400nm,25.0s								
CN2				LR	LR				
	comp=Z,600nm,25.0s								
CN2				LR	LR				
	comp=Z,700nm,25.0s								
BWN	**Browne**	**81.34**	**10**	P	**P**	**22 45 07.6**	**+0.1**		
MENT	**Mentasta**	**81.35**	**13**	P	**P**	**22 45 08.2**	**+0.7**		
	comp=Z,73nm,1.2s								
DL2	**Dalian**	**81.42**	**314**	P	**P**	**22 45 08.5**	**+0.1**		
DL2				S	**S**	**22 55 21.8**	**+4.1**		
DL2				pmax	pmax				
	comp=Z,37nm,1.9s								
DL2				pmax	pmax				
	comp=Z,270nm,4.3s								
DL2				LR	LR				
	comp=Z,390nm,24.9s								
DL2				LR	LR				
	comp=Z,400nm,24.5s								
DL2				LR	LR				
	comp=Z,550nm,27.1s								
O30N	**Mendenhall**	**81.44**	**17**	P	**P**	**22 45 09.2**	**+1.1**		
	baz=216,SNR=16								
DLMT	**Dillon**	**81.44**	**38**	IAMs_20	IAMs_20	23 12 37.6			
	comp=Z,2µm,20.0s								
MSO	**Missoula**	**81.44**	**37**	P	**P**	**22 45 08.4**	**-0.1**		
MSO				IAmb	IAmb	22 45 09.9			
	comp=Z,121nm,1.1s								
MSO	**Missoula**	**81.44**	**37**	P	**P**	**22 45 08.4**	**-0.1**		
	baz=237,SNR=64								
TPAW	**Teton Pass**	**81.48**	**41**	P	**P**	**22 45 08.8**	**-0.1**		
TPAW				IAmb	IAmb	22 45 10.3			
	comp=Z,137nm,1.3s								
S22A	**4UR Ranch, Cre**	**81.48**	**47**	P	**P**	**22 45 10.0**	**+0.8**		
S22A				IAmb	IAmb	22 45 12.0			
	comp=Z,99nm,1.1s								
S22A	**4UR Ranch, Cre**	**81.48**	**47**	P	**P**	**22 45 10.7**	**+1.5**		
	baz=243,SNR=76								
SNY	**Shenyang**	**81.50**	**317**	⇓P	**P**	**22 45 11.8**	**+3.0**		
SNY				S	**S**	**22 55 24.3**	**+5.9**		
SNY				pmax	pmax				
	comp=Z,24nm,1.5s								
SNY				pmax	pmax				
	comp=Z,370nm,5.3s								
SNY				LR	LR				
	comp=Z,250nm,17.2s								
SNY				LR	LR				
	comp=Z,470nm,24.2s								
SNY				LR	LR				
	comp=Z,660nm,24.3s								
L26K	**Log Cabin Wild**	**81.50**	**13**	P	**P**	**22 45 09.2**	**+0.8**		
	baz=209,SNR=25								
FXWY	**Fox Creek**	**81.51**	**40**	IAMs_20	IAMs_20	23 12 16.4			
	comp=Z,1µm,21.0s								
DLBC	**Dease Lake**	**81.54**	**21**	P	**P**	**22 45 09.2**	**+0.5**		
	comp=Z,24nm,0.9s,baz=210,slow=6.3,SNR=13								
DLBC				LR	LR	23 15 13.6			
	comp=Z,803nm,19.1s,baz=252,slow=31								
	comp=Z,24nm,0.9s								
DLBC	**Dease Lake**	**81.54**	**21**	P	**P**	**22 45 09.5**	**+0.8**		
DLBC	**Dease Lake**	**81.54**	**21**	P	**P**	**22 45 09.6**	**+0.8**		
	baz=222,SNR=6.6								
BVCY	**Beaver Creek**	**81.55**	**15**	P	**P**	**22 45 09.3**	**+0.7**		
	baz=211,SNR=14								
O20A	**White River Ci**	**81.61**	**45**	P	**P**	**22 45 10.6**	**+0.9**		
	baz=242,SNR=25								
SMAI	**San Martin Ant**	**81.65**	**159**	P	**P**	**22 45 10.7**	**+1.5**		
K24K	**Donnelly Dome**	**81.69**	**12**	P	**P**	**22 45 09.9**	**+0.6**		
	baz=207,SNR=28								
IMW	**Indian Meadow**	**81.69**	**40**	IAMs_20	IAMs_20	23 13 12.2			
	comp=Z,1µm,22.0s								
WHY	**Whitehorse**	**81.70**	**18**	P	**P**	**22 45 10.1**	**+0.6**		
WHY				IAmb	IAmb	22 45 11.5			
	comp=Z,46nm,1.1s								
WHY	**Whitehorse**	**81.70**	**18**	P	**P**	**22 45 10.5**	**+0.9**		
	baz=217,SNR=6.5								
NEA2	**Nenana**	**81.80**	**10**	P	**P**	**22 45 09.4**	**-0.4**		
	baz=203,SNR=20								
RIDG	**Independent Ri**	**81.82**	**12**	P	**P**	**22 45 10.1**	**+0.1**		
RIDG				IAmb	IAmb	22 45 11.5			
	comp=Z,89nm,1.1s								
RIDG	**Independent Ri**	**81.82**	**12**	P	**P**	**22 45 10.4**	**+0.3**		
	baz=207,SNR=22								
L27K	**Beaver Creek,**	**81.88**	**14**	P	**P**	**22 45 11.1**	**+0.7**		
	baz=210,SNR=11								
I21K	**Tanana**	**81.88**	**9**	IAMs_20	IAMs_20	23 15 26.6			
	comp=Z,918nm,20.0s								
I21K	**Tanana**	**81.88**	**9**	P	**P**	**22 45 10.5**	**+0.2**		
	baz=200								
BCAR	**Beaver Creek A**	**81.89**	**14**	P	**P**	**22 45 11.0**	**+0.5**		
MDSI	**Maura Dua**	**81.89**	**268**	P	**P**	**22 45 09.0**	**-2.5**		
	comp=Z,18nm,1.0s								
MLY	**Manley**	**81.93**	**9**	P	**P**	**22 45 10.4**	**-0.2**		
	baz=202,SNR=52								
P33M	**Teslin, Yukon**	**81.97**	**19**	P	**P**	**22 45 11.4**	**+0.4**		

	baz=219								
BW06	**Boulder Array**	**82.00**	**42**	P	**P**	**22 45 12.0**	**+0.3**		
BW06				IAmb	IAmb	22 45 13.5			
	comp=Z,84nm,1.4s								
BW06	**Boulder Array**	**82.00**	**42**	P	**P**	**22 45 12.0**	**+0.3**		
	baz=241,SNR=45								
PDAR	**Pinedale Array**	**82.00**	**42**	P	**P**	**22 45 11.9**	**+0.2**		
	comp=Z,22nm,1.0s,baz=222,slow=2.0,SNR=93								
PDAR				PKKPbc	**PKKPbc**	**23 03 42.5**	**-0.8**		
	comp=Z,0.5nm,0.8s,baz=103,slow=2.9,SNR=4.4								
PDAR				LR	LR	23 15 15.4			
	comp=Z,914nm,20.4s,baz=240,slow=31								
	comp=Z,22nm,1.0s								
HDA	**Harding Lake**	**82.01**	**11**	P	**P**	**22 45 11.0**	**0.0**		
HDA				IAmb	IAmb	22 45 12.2			
	comp=Z,82nm,0.9s								
HDA	**Harding Lake**	**82.01**	**11**	P	**P**	**22 45 11.2**	**+0.2**		
	baz=205,SNR=53								
N31M	**Braeburn, Yuko**	**82.11**	**17**	P	**P**	**22 45 12.3**	**+0.8**		
	baz=216,SNR=11								
BOZ	**Bozeman (W)**	**82.14**	**38**	P	**P**	**22 45 12.5**	**+0.2**		
BOZ				IAmb	IAmb	22 45 14.6			
	comp=Z,96nm,1.1s								
BOZ	**Bozeman (W)**	**82.14**	**38**	P	**P**	**22 45 13.2**	**+0.9**		
	baz=239,SNR=72								
BOZ	**Bozeman (W)**	**82.14**	**38**	P	**P**	**22 45 12.5**	**+0.2**		
M29M	**Somme Creek**	**82.17**	**15**	P	**P**	**22 45 12.5**	**+0.6**		
	baz=214								
H17A	**Grant Village**	**82.17**	**40**	P	**P**	**22 45 14.7**	**+2.1**		
	baz=240,SNR=35								
SCRK	**Sand Creek**	**82.21**	**12**	P	**P**	**22 45 12.5**	**+0.4**		
	baz=208,SNR=52								
H21K	**Melozitna Rive**	**82.22**	**8**	IAMs_20	IAMs_20	23 14 56.4			
	comp=Z,1µm,22.0s								
H21K	**Melozitna Rive**	**82.22**	**8**	P	**P**	**22 45 13.0**	**+0.9**		
	baz=200								
I23K	**Minto, Yukon-K**	**82.26**	**10**	P	**P**	**22 45 12.2**	**0.0**		
	baz=203,SNR=23								
TCOL	**CIGO, UAF Yank**	**82.27**	**11**	P	**P**	**22 45 12.2**	**-0.1**		
	baz=204,SNR=24								
COLA	**College**	**82.27**	**11**	P	**P**	**22 45 12.2**	**0.0**		
COLA	**College**	**82.27**	**11**	P	**P**	**22 45 12.4**	**+0.2**		
	baz=204								
COLA	**College**	**82.27**	**11**	P	**P**	**22 45 12.3**	**0.0**		
	comp=Z,188nm,1.3s								
COLA	**College**	**82.27**	**11**	P	**P**	**22 45 12.2**	**0.0**		
COLA				pmax	pmax				
	comp=Z,150nm,0.9s								
COLA				MLR	MLR				
	comp=Z,2µm,21.0s								
MDM	**Murphy Dome**	**82.28**	**10**	P	**P**	**22 45 12.1**	**-0.3**		
IL31		**82.35**	**11**	P	**P**	**22 45 12.6**	**-0.1**		
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**22 45 12.6**	**-0.1**		
	comp=Z,18nm,0.8s,baz=207,slow=5.7,SNR=112								
ILAR				LR	LR	23 15 11.0			
	comp=Z,662nm,21.1s,baz=201,slow=31								
	comp=Z,18nm,0.8s								
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**22 45 12.5**	**-0.3**		
SDCO	**Great Sand Dun**	**82.43**	**48**	P	**P**	**22 45 14.2**	**+0.1**		
SDCO				IAmb	IAmb	22 45 16.4			
	comp=Z,78nm,1.4s								
SDCO	**Great Sand Dun**	**82.43**	**48**	P	**P**	**22 45 15.1**	**+0.9**		
	baz=244								
SDCO	**Great Sand Dun**	**82.43**	**48**	P	**P**	**22 45 15.0**	**+0.9**		
	baz=244,SNR=56								
POKR	**Poker Flat Res**	**82.57**	**11**	P	**P**	**22 45 14.1**	**+0.2**		
	baz=205,SNR=42								
SEY	**Seymchan**	**82.59**	**345**	P	**P**	**22 45 14.3**	**+0.3**		
	comp=Z,18nm,0.9s,baz=141,slow=6.1,SNR=49								
SEY				LR	LR	23 16 51.3			
	comp=Z,829nm,21.3s,baz=153,slow=32								
	comp=Z,18nm,0.9s								
HRY	**Holter Researc**	**82.61**	**37**	P	**P**	**22 45 15.4**	**+0.7**		
N32M	**Quiet Lake**	**82.63**	**18**	P	**P**	**22 45 14.9**	**+0.6**		
	baz=219								
H22K	**Ishtalitna Cre**	**82.64**	**9**	P	**P**	**22 45 14.8**	**+0.6**		
	baz=201								
M30M	**Minto, Yukon**	**82.72**	**16**	P	**P**	**22 45 15.1**	**+0.3**		
	baz=215,SNR=15								
J26L	**Joseph Creek**	**82.76**	**12**	P	**P**	**22 45 16.0**	**+1.0**		
	baz=209								
L29M	**L29M**	**82.81**	**15**	P	**P**	**22 45 16.2**	**+1.0**		
	baz=214								
MSTX	**Muleshoe**	**82.86**	**52**	P	**P**	**22 45 16.4**	**+0.2**		
MSTX	**Muleshoe**	**82.86**	**52**	P	**P**	**22 45 17.0**	**+0.8**		
	baz=246								
MSTX	**Muleshoe**	**82.86**	**52**	P	**P**	**22 45 17.0**	**+0.8**		
	baz=246,SNR=23								
G21K	**Allakaket**	**82.94**	**8**	P	**P**	**22 45 16.9**	**+1.1**		
	baz=199								
T25A	**Trinidad**	**82.95**	**49**	P	**P**	**22 45 16.9**	**+0.1**		
T25A				IAmb	IAmb	22 45 18.8			
	comp=Z,64nm,0.9s								
T25A	**Trinidad**	**82.95**	**49**	P	**P**	**22 45 17.6**	**+0.8**		
	baz=245,SNR=52								
M31M	**Drury Creek, Y**	**83.08**	**17**	P	**P**	**22 45 16.9**	**+0.3**		
	baz=217,SNR=7.3								
H24K	**Noodor Dome**	**83.15**	**10**	P	**P**	**22 45 16.3**	**-0.6**		
	baz=204								
Q24A	**Divide**	**83.21**	**47**	P	**P**	**22 45 19.3**	**+1.1**		
	baz=244,SNR=44								
WTLY	**Watson Lake, Y**	**83.22**	**21**	P	**P**	**22 45 18.0**	**+0.6**		
	baz=223,SNR=5.6								
QIZ	**Qiongzhong**	**83.23**	**292**	P	**P**	**22 45 18.5**	**+0.2**		
QIZ				S	**S**	**22 55 39.8**	**+2.7**		
QIZ				LR	LR				
	comp=Z,140nm,17.8s					

HEH	**HeiHe**	**83.59**	**326**	*e*P		**P**		**22 45 20.0**	**+0.6**
HEH				S		**S**		**22 55 44.3**	**+4.9**
HEH				pmax	pmax				
	comp=Z,21nm,1.4s								
HEH				pmax	pmax				
	comp=Z,420nm,4.2s								
G23K	**Bananza Creek**	**83.61**	**9**	P		**P**		**22 45 20.0**	**+0.7**
	baz=202								
F21K	**Alatna River**	**83.61**	**8**	P		**P**		**22 45 20.0**	**+0.8**
	baz=199								
LIRD	**Liard River Hi**	**83.65**	**22**	P		**P**		**22 45 20.1**	**+0.6**
	baz=225,SNR=17								
MAYO	**Mayo, Yukon**	**83.79**	**16**	P		**P**		**22 45 21.0**	**+0.8**
	baz=216,SNR=5.6								
JCT	**Junction City**	**83.83**	**56**	P		**P**		**22 45 21.0**	**-0.3**
JCT	**Junction City**	**83.83**	**56**	P		**P**		**22 45 21.6**	**+0.4**
	baz=248								
JCT	**Junction City**	**83.83**	**56**	P		**P**		**22 45 21.3**	**+0.1**
	baz=248								
JCT	**Junction City**	**83.83**	**56**	P		**P**		**22 45 21.0**	**-0.3**
JCT				pmax	pmax				
	comp=Z,21nm,1.0s								
K22A	**Casper**	**83.92**	**43**	P		**P**		**22 45 22.0**	**+0.4**
K22A	**Casper**	**83.92**	**43**	P		**P**		**22 45 22.2**	**+0.6**
	baz=243								
K22A	**Casper**	**83.92**	**43**	P		**P**		**22 45 22.0**	**+0.4**
	baz=243,SNR=17								
BELA	**Belgrano 2**	**83.97**	**172**	P		**P**		**22 45 21.5**	**+0.4**
BELA				IAmb	IAmb			22 45 22.8	
	comp=Z,71nm,1.0s								
G24K	**Hadweenzic Riv**	**84.00**	**10**	P		**P**		**22 45 21.9**	**+0.6**
	baz=205								
AMTX	**Amarillo**	**84.05**	**52**	IAMs_20	IAMs_20			23 21 26.5	
	comp=Z,1μm,19.0s								
AMTX	**Amarillo**	**84.05**	**52**	P		**P**		**22 45 23.2**	**+0.9**
	baz=247								
AMTX	**Amarillo**	**84.05**	**52**	P		**P**		**22 45 23.0**	**+0.7**
	baz=247								
PMSA	**Palmer Station**	**84.05**	**156**	LR	LR			23 13 58.9	
	comp=Z,627nm,22.0s,baz=310,slow=29								
COLD	**Coldfoot**	**84.06**	**9**	P		**P**		**22 45 22.7**	**+1.2**
	baz=202,SNR=21								
FYU	**Fort Yukon**	**84.27**	**11**	P		**P**		**22 45 22.4**	**-0.2**
FYU				IAmb	IAmb			22 45 42.2	
	comp=Z,140nm,2.0s								
FYU				IAMs_20	IAMs_20			23 16 29.7	
	comp=Z,1μm,21.0s								
G25K	**Bearman Lake**	**84.30**	**10**	P		**P**		**22 45 22.8**	**+0.1**
	baz=206								
MMPY	**Sheldon Lake,**	**84.31**	**18**	P		**P**		**22 45 23.8**	**+0.9**
	baz=220,SNR=21								
BRIGG	**Briggsdale**	**84.48**	**45**	P		**P**		**22 45 25.5**	**+1.0**
BRIGG				IAmb	IAmb			22 45 26.4	
	comp=Z,58nm,0.9s								
EGMT	**Eagleton**	**84.49**	**37**	P		**P**		**22 45 24.6**	**+0.4**
EGMT	**Eagleton**	**84.49**	**37**	P		**P**		**22 45 24.9**	**+0.6**
	baz=240,SNR=40								
BILL	**Bilibino**	**84.53**	**352**	P		**P**		**22 45 23.9**	**+0.1**
BILL				IAMs_20	IAMs_20			23 16 00.5	
	comp=Z,1μm,22.0s								
BILL	**Bilibino**	**84.53**	**352**	*c i*P		**P**		**22 45 24.0**	**+0.1**
BILL				*e*				22 48 43.6	
BILL				*e*PPP	PPP			22 50 32.5	
BILL				*e*S		**S**		**22 55 48.1**	**0.0**
BILL				*e*SS		**SS**		**23 01 15.7**	**-4.1**
BILL				pmax	pmax				
	comp=Z,37nm,1.7s								
BILL				MLR	MLR				
	comp=Z,622nm,19.0s								
I29M	**Ogilvie Camp,**	**84.65**	**14**	P		**P**		**22 45 25.0**	**+0.4**
	baz=214,SNR=24								
F24K	**Squaw Lake**	**84.68**	**9**	P		**P**		**22 45 25.9**	**+1.2**
	baz=204								
H27K	**Steamboat Moun**	**84.69**	**12**	P		**P**		**22 45 25.7**	**+0.9**
	baz=210								
ABTX	**Abilene, Hawle**	**84.75**	**54**	P		**P**		**22 45 26.1**	**+0.3**
ABTX	**Abilene, Hawle**	**84.75**	**54**	P		**P**		**22 45 26.7**	**+0.9**
	baz=248								
ABTX	**Abilene, Hawle**	**84.75**	**54**	P		**P**		**22 45 26.5**	**+0.7**
	baz=248								
G26K	**Porcupine Rive**	**84.88**	**11**	P		**P**		**22 45 26.9**	**+1.3**
	baz=208								
KOTAN	**Kotaneelee Air**	**84.90**	**22**	P		**P**		**22 45 26.5**	**+0.6**
	baz=227,SNR=15								
KSCO	**Kaye Shedlock'**	**85.01**	**47**	P		**P**		**22 45 28.4**	**+1.2**
	baz=246								
KSCO	**Kaye Shedlock'**	**85.01**	**47**	P		**P**		**22 45 27.9**	**+0.7**
	baz=246								
E24K	**Your Creek**	**85.10**	**9**	P		**P**		**22 45 28.1**	**+1.3**
	baz=204								
F25K	**Christian Rive**	**85.12**	**10**	P		**P**		**22 45 28.4**	**+1.4**
	baz=206								
G27K	**Doyon Strip**	**85.17**	**12**	P		**P**		**22 45 28.4**	**+1.2**
	baz=210								
EDM	**Edmonton**	**85.27**	**31**	P		**P**		**22 45 28.0**	**0.0**
EDM	**Edmonton**	**85.27**	**31**	P		**P**		**22 45 28.0**	**0.0**
EDM				pmax	pmax				
	comp=Z,147nm,1.0s								
SDSI	**Sungai Dareh**	**85.46**	**270**	P		**P**		**22 45 28.1**	**-1.7**
	comp=Z,10nm,1.6s								
TOLK	**Toolik Lake Re**	**85.47**	**8**	P		**P**		**22 45 29.4**	**+0.8**
	baz=203,SNR=28								
F26K	**Sheenjek River**	**85.47**	**11**	P		**P**		**22 45 30.1**	**+1.5**
	baz=208								
ZEA	**Zeya**	**85.59**	**329**	*e*P		**P**		**22 45 30.5**	**+1.0**
ZEA				*e*				22 55 56.4	
ZEA				pmax	pmax				
	comp=N,10.0nm,1.1s								
ZEA				pmax	pmax				
	comp=Z,20nm,1.1s								
E25K	**Arctic Village**	**85.61**	**10**	P		**P**		**22 45 30.6**	**+1.3**
	baz=206,SNR=30								
D23K	**Nanushuk River**	**85.62**	**8**	P		**P**		**22 45 30.6**	**+1.3**
	baz=202								
BJT	**Baijiatuau**	**85.71**	**313**	P		**P**		**22 45 30.9**	**+0.5**
BJT				IAmb	IAmb			22 45 58.7	
	comp=Z,31nm,1.1s								
BJT	**Baijiatuau**	**85.71**	**313**	P		**P**		**22 45 30.9**	**+0.5**
BJT				pmax	pmax				
	comp=Z,31nm,1.1s								
BJT				MLR	MLR				
	comp=Z,300nm,19.0s								
BJI	**Beijing**	**85.72**	**313**	P		**P**		**22 45 32.0**	**+1.6**
BJI				S		**S**		**22 56 05.3**	**+4.3**
BJI				pmax	pmax				
	comp=Z,8.0nm,1.7s								
BJI				pmax	pmax				
	comp=Z,200nm,5.8s								
435B	**Jarrell**	**85.72**	**57**	P		**P**		**22 45 32.3**	**+1.6**
	baz=249,SNR=5.2								
435B	**Jarrell**	**85.72**	**57**	P		**P**		**22 45 31.3**	**+0.6**
	baz=250								
HNS	**HongShan**	**85.72**	**310**	⇓P		**P**		**22 45 32.5**	**+2.0**
HNS				SKS		**S**		**22 55 56.8**	**-4.3**
HNS				S		**SKKSac**		**22 56 02.5**	**+1.5**
HNS				SS		**SS**		**23 01 43.0**	**+4.4**
HNS				pmax	pmax				
	comp=Z,25nm,1.4s								
HNS				LR	LR				
	comp=Z,400nm,22.1s								
HNS				LR	LR				
	comp=Z,490nm,20.6s								
HNS				LR	LR				
	comp=Z,580nm,23.1s								
CCIG	**Comitan**	**85.79**	**72**	P		**P**		**22 45 32.3**	**+0.8**
LAO	**LASA Array**	**85.96**	**39**	P		**P**		**22 45 32.5**	**+0.9**
LAO	**LASA Array**	**85.96**	**39**	P		**P**		**22 45 33.2**	**+1.6**
	baz=243								
LAO	**LASA Array**	**85.96**	**39**	P		**P**		**22 45 33.0**	**+1.4**
	baz=243,SNR=11								
RSSD	**Black Hills**	**86.19**	**42**	P		**P**		**22 45 32.8**	**-0.2**
RSSD				IAmb	IAmb			22 45 34.3	
	comp=Z,35nm,0.9s								
RSSD	**Black Hills**	**86.19**	**42**	P		**P**		**22 45 33.2**	**+0.2**
	baz=244								
RSSD	**Black Hills**	**86.19**	**42**	P		**P**		**22 45 33.0**	**0.0**
	baz=245								
RSSD	**Black Hills**	**86.19**	**42**	P		**P**		**22 45 32.8**	**-0.2**
RSSD				pmax	pmax				
	comp=Z,35nm,0.9s								
WMOK	**Wichita Mounta**	**86.20**	**53**	P		**P**		**22 45 32.9**	**-0.1**
WMOK				IAmb	IAmb			22 45 34.2	
	comp=Z,33nm,1.2s								
WMOK	**Wichita Mounta**	**86.20**	**53**	P		**P**		**22 45 33.4**	**+0.4**
	baz=248								
WMOK	**Wichita Mounta**	**86.20**	**53**	P		**P**		**22 45 33.1**	**+0.1**
	baz=249								
WMOK	**Wichita Mounta**	**86.20**	**53**	P		**P**		**22 45 32.9**	**-0.1**
WMOK				pmax	pmax				
	comp=Z,33nm,1.3s								
WHTX	**Lake Whitney,**	**86.25**	**56**	P		**P**		**22 45 33.8**	**+0.5**
WHTX	**Lake Whitney,**	**86.25**	**56**	P		**P**		**22 45 34.5**	**+1.2**
	baz=249,SNR=8.0								
WHTX	**Lake Whitney,**	**86.25**	**56**	P		**P**		**22 45 33.8**	**+0.5**
	baz=250								
LYN	**LuoYang**	**86.34**	**307**	⇓P		**P**		**22 45 35.5**	**+1.9**
LYN				sP		pP		22 45 40.0	-2.9
LYN				S		**S**		**22 56 08.0**	**+0.7**
LYN				pmax	pmax				
	comp=Z,22nm,0.7s								
LYN				pmax	pmax				
	comp=Z,260nm,9.2s								
LYN				LR	LR				
	comp=Z,170nm,26.9s								
LYN				LR	LR				
	comp=Z,270nm,22.4s								
LYN				LR	LR				
	comp=Z,510nm,32.9s								
E27K	**Coleen River**	**86.37**	**11**	P		**P**		**22 45 34.2**	**+1.1**
	baz=210								
PDSI	**Padang**	**86.40**	**270**	P		**P**		**22 45 32.3**	**-2.2**
	comp=Z,14nm,0.9s								
G30M	**tAoh Zraii Nji**	**86.47**	**14**	P		**P**		**22 45 34.1**	**+0.4**
	baz=215								
C24K	**Franklin Bluff**	**86.59**	**8**	P		**P**		**22 45 34.9**	**+0.9**
	baz=204								
CSTR	**Hydro, Custer**	**86.60**	**52**	P		**P**		**22 45 35.2**	**+0.3**
AY01	**Puyuhuapi**	**86.60**	**135**	P		**P**		**22 45 35.8**	**+0.9**
AY01				IAmb	IAmb			22 45 37.6	
	comp=Z,38nm,1.2s								
COYC	**Coyhaique**	**86.62**	**136**	P		**P**		**22 45 35.8**	**+0.8**
COYC				IAmb	IAmb			22 45 39.2	
	comp=Z,60nm,1.4s								
U32A	**Winter Ranch,**	**86.63**	**51**	P		**P**		**22 45 35.7**	**+0.6**
	baz=248								
HKT	**Hockley**	**86.86**	**58**	P		**P**		**22 45 36.8**	**+0.6**
HKT				IAmb	IAmb			22 45 38.9	
	comp=Z,73nm,1.7s								
HKT	**Hockley**	**86.86**	**58**	P		**P**		**22 45 37.8**	**+1.6**
	baz=250								
HKT	**Hockley**	**86.86**	**58**	P		**P**		**22 45 36.8**	**+0.6**
HKT				pmax	pmax				
	comp=Z,73nm,1.7s								
OK038	**West end E0370**	**86.86**	**51**			**P**		**22 45 36.5**	**+0.3**
OK038				IAmb	IAmb			22 45 38.7	
	comp=Z,38nm,1.0s								
OK038				IAMs_20	IAMs_20			23 16 26.1	
	comp=Z,954nm,18.0s								
Z35A	**Perchaven, San**	**86.88**	**54**	P		**P**		**22 45 37.5**	**+1.2**
	baz=249,SNR=12								
OK035	**E0210 Rd and N**	**86.97**	**51**	IAMs_20	IAMs_20			23 15 59.9	
	comp=Z,1μm,20.0s								
CBKS	**Cedar Bluff**	**87.00**	**49**	P		**P**		**22 45 37.6**	**+0.7**
	baz=248								
CBKS	**Cedar Bluff**	**87.00**	**49**	P		**P**		**22 45 37.6**	**+0.7**
	baz=248								
A21K	**Barrow**	**87.21**	**5**	IAMs_20	IAMs_20			23 17 49.2	
	comp=Z,1μm,22.0s								
A21K	**Barrow**	**87.21**	**5**	P		**P**		**22 45 37.4**	**+0.4**
	baz=196								
ENH	**Enshi**	**87.22**	**302**	P		**P**		**22 45 38.2**	**+0.2**
ENH				IAmb	IAmb			22 46 06.1	
	comp=Z,37nm,1.1s								
WRGLY	**Wrigley**	**87.22**	**20**	P		**P**		**22 45 37.9**	**+0.6**
	baz=227,SNR=11								
C27K	**Jago River**	**87.26**	**10**	P		**P**		**22 45 38.2**	**+0.9**
	baz=208								
IPM	**Ipoh**	**87.28**	**275**	P		**P**		**22 45 38.8**	**+0.1**
C26K	**Camden Bay**	**87.33**	**9**	P		**P**		**22 45 38.6**	**+1.0**
	baz=207								
XLT	**XiLinHaoTe**	**87.36**	**317**	*e*P		**P**		**22 45 40.0**	**+1.5**
XLT				pP		pP		22 45 44.8	-2.7
XLT				sP		sP		22 45 47.3	-3.5
XLT				S		**S**		**22 56 21.8**	**+4.8**
XLT				sS		sS		22 56 32.0	-0.4
XLT				pmax	pmax				
	comp=Z,11nm,1.2s								
XLT				pmax	pmax				
	comp=Z,230nm,5.0s								
XLT				LR	LR				
	comp=Z,510nm,23.8s								
XLT				LR	LR				
	comp=Z,610nm,24.7s								
HIA	**Hailar**	**87.40**	**323**	P		**P**		**22 45 38.8**	**+0.3**
HIA				IAmb	IAmb			22 46 03.0	
	comp=Z,68nm,1.8s								
HIA	**Hailar**	**87.40**	**323**	IAMs_20	IAMs_20			23 18 55.5	
	comp=Z,795nm,21.0s								
HIA	**Hailar**	**87.40**	**323**	P		**P**		**22 45 38.8**	**+0.3**
HIA				pmax	pmax				
	comp=Z,68nm,1.8s								
HIA				MLR	MLR				
	comp=Z,800nm,21.0s								
F31M	**Tsiigehtchic**	**87.42**	**14**	P		**P**		**22 45 38.6**	**+0.5**
	baz=218,SNR=67								
TIY	**Taiyuan**	**87.51**	**310**	*e*P		**P**		**22 45 41.0**	**+1.6**
TIY				pP		**pP**		**22 45 45.5**	**-3.2**
TIY				sP		**pwP**		**22 45 55.0**	**+3.1**
TIY				SS		SS		23 02 03.3	-1.7
TIY				pmax	pmax				
	comp=Z,18nm,0.7s								
TIY				LR	LR				
	comp=Z,160nm,13.2s								
TIY				LR	LR				
	comp=Z,200nm,14.7s								
TIY				LR	LR				
	comp=Z,360nm,20.6s								
LL02	**Futaleuf**	**87.54**	**134**	P		**P**		**22 45 40.7**	**+1.2**
LL02				IAmb	IAmb			22 45 42.5	
	comp=Z,62nm,1.5s								
237A	**Washetta, Mont**	**87.57**	**56**	P		**P**		**22 45 41.4**	**+1.7**
	baz=250,SNR=6.4								
R32A	**Long Quarter,**	**87.60**	**49**	P		**P**		**22 45 40.3**	**+0.5**
	baz=248								
MTO3	**Montecristo**	**87.82**	**75**	P		**P**		**22 45 41.3**	**-0.2**
LL04	**Puerto Octay**	**87.87**	**132**	P		**P**		**22 45 42.0**	**+0.9**
LL04				IAmb	IAmb			22 45 43.8	
	comp=Z,83nm,1.6s								
MAW	**Mawson**	**87.93**	**199**	P		**P**		**22 45 41.6**	**+0.8**
	comp=Z,66nm,0.6s,baz=140,slow=5.6,SNR=18								
MAW				LR	LR			23 21 20.2	
	comp=Z,1μm,21.9s,baz=118,slow=33								
	comp=Z,66nm,0.6s								
MAW	**Mawson**	**87.93**	**199**	P		**P**		**22 45 39.0**	**-1.7**
	baz=88,SNR=4.8								
MAW	**Mawson**	**87.93**	**199**	P		**P**		**22 45 41.8**	**+1.0**
MAW				IAmb	IAmb			22 45 43.1	
	comp=Z,23nm,0.9s								
MAW	**Mawson**	**87.93**	**199**	P		**P**		**22 45 41.8**	**+1.0**
MAW				pmax	pmax				
	comp=Z,23nm,1.0s								
DGMT	**Dagmar**	**87.98**	**38**	P		**P**		**22 45 41.9**	**+0.6**
DGMT	**Dagmar**	**87.98**	**38**	P		**P**		**22 45 42.5**	**+1.2**
	baz=244								
DGMT	**Dagmar**	**87.98**	**38**	P		**P**		**22 45 42.2**	**+0.8**
	baz=244,SNR=13								
INK	**Inuvik**	**88.16**	**14**	P		**P**		**22 45 41.7**	**0.0**
	comp=Z,16nm,1.0s,baz=218,slow=5.1,SNR=40								
INK				LR	LR			23 18 09.5	
	comp=Z,985nm,21.8s,baz=194,slow=31								
	comp=Z,16nm,1.0s								
INK	**Inuvik**	**88.16**	**14**	P		**P**		**22 45 41.4**	**-0.2**
INK				IAmb	IAmb			22 45 43.0	
	comp=Z,39nm,1.1s								
INK	**Inuvik**	**88.16**	**14**	P		**P**		**22 45 41.9**	**+0.3**
	baz=218,SNR=20								
LR03	**Panguipulli**	**88.32**	**131**	P		**P**		**22 45 44.4**	**+1.1**
GYA	**Guiyang**	**88.35**	**298**	P		**P**		**22 45 43.3**	**-0.4**
GYA				SKS		**SKSac**		**22 56 14.3**	**+3.4**
GYA				S		**SKKSac**		**22 56 23.0**	**+1.5**
GYA				pmax	pmax				
	comp=Z,280nm,4.1s								
GYA				LR	LR				
	comp=Z,240nm,24.8s								
NATX	**Nacogdoches**	**88.41**	**57**	P		**P**		**22 45 44.6**	**+0.9**
NATX	**Nacogdoches**	**88.41**	**57**	P		**P**		**22 45 45.3**	**+1.6**
	baz=251,SNR=5.1								
NATX	**Nacogdoches**	**88.41**	**57**	P		**P**		**22 45 44.8**	**+1.1**
	baz=251								
T35B	**Sooner Cattle**	**88.69**	**51**	P		**P**		**22 45 45.3**	**+0.3**
	baz=250,SNR=7.7								
X37A	**Clayton**	**88.78**	**54**	P		**P**		**22 45 45.8**	**+0.4**
	baz=250								
RPSI	**Rantau Prapat**	**88.83**	**273**	P		**P**		**22 45 45.5**	**-0.6**
RPSI				IAmb	IAmb			22 46 18.7	
	comp=Z,41nm,1.6s								
PSI	**Prapat**	**88.86**	**273**	P		**P**		**22 45 44.8**	**-1.6**
	comp=Z,9.0nm,1.0s,baz=168,slow=10,SNR=5.4								
	comp=Z,9.0nm,1.0s								
PSI	**Prapat**	**88.86**	**273**	P		**P**		**22 45 45.5**	**-0.9**
PSI				pmax	pmax				
	comp=Z,41nm,1.6s								
TUL1	**Leonard**	**88.90**	**52**			**P**		**22 45 45.9**	**-0.1**
TUL1	**Leonard**	**88.90**	**52**	P		**P**		**22 45 46.4**	**+0.5**
	baz=250								
TUL1	**Leonard**	**88.90**	**52**	P		**P**		**22 45 46.1**	**+0.2**
	baz=250								
XAN	**Xi'an**	**88.91**	**306**	⇑P		**P**		**22 45 47.0**	**+0.9**
XAN				SKS		**SKSac**		**22 56 12.8**	**-0.9**
XAN				S		**ScS**		**22 56 38.0**	**+0.7**
XAN				pmax	pmax				
	comp=Z,16nm,1.4s								
XAN				LR	LR				
	comp=Z,190nm,18.4s								
XAN				LR	LR				
	comp=Z,200nm,17.8s								
XAN				LR	LR				
	comp=Z,350nm,18.4s								
GO06	**Curarrehue**	**88.97**	**131**	P		**P**		**22 45 47.4**	**+0.9**
GO06				IAmb	IAmb			22 45 49.5	
	comp=Z,98nm,1.8s								
BGNE	**Belgrade**	**89.10**	**47**	P		**P**		**22 45 47.0**	**+0.2**
	baz=249								
K31A	**O'Neill**	**89.12**	**45**	P		**P**		**22 45 47.5**	**+0.6**
	baz=248								
YAK	**Yakutsk**	**89.23**	**337**	P		**P**		**22 45 45.8**	**-1.1**
YAK				IAmb	IAmb			22 46 00.2	
	comp=Z,53nm,1.0s								
YAK	**Yakutsk**	**89.23**	**337**	*e*P		**P**		**22 45 46.1**	**-0.7**
YAK				*e**PP		**sP**		**22 45 57.8**	**-1.4**
YAK				*e*S		**SKSac**		**22 56 15.2**	**+1.0**
YAK				*e*				22 56 41.0	
YAK				*e*SS		**SS**		**23 02 23.8**	**-5.0**
YAK				*e*SSS		SSS		23 05 58.5	
YAK				pmax	pmax				
	comp=Z,19nm,0.9s								
YAK				pmax	pmax				
	comp=N,2.0nm,0.9s								
YAK				pmax	pmax				
	comp=E,3.0nm,0.9s								
YAK				pmax	pmax				
	comp=Z,133nm,3.6s								
YAK				pmax	pmax				
	comp=N,80nm,3.0s								
YAK				pmax	pmax				
	comp=E,73nm,3.4s								
YAK				smax	smax				
	comp=E,72nm,2.6s								
PLCA	**Paso Flores**	**89.26**	**132**	P		**P**		**22 45 48.6**	**+0.8**
	comp=E,5.4nm,1.1s,baz=215,slow=4.6,SNR=7.1								
PLCA				LR	LR			23 17 02.5	
	comp=E,499nm,21.5s,baz=236,slow=30								
	comp=E,5.4nm,1.1s								
PLCA	**Paso Flores**	**89.26**	**132**	P		**P**		**22 45 48.4**	**+0.6**
PLCA				IAmb	IAmb			22 45 51.9	
	comp=Z,90nm,1.9s								
HHC	**Hu-ho-hao-te**	**89.28**	**313**	*e*P		**P**		**22 45 48.5**	**+0.8**
HHC				PP		**PP**		**22 49 20.0**	**+1.1**
HHC				S		**S**		**22 56 36.5**	**+1.1**
HHC				pmax	pmax				
	comp=Z,3.0nm,0.6s								
HHC				pmax	pmax				
	comp=Z,280nm,6.9s								
HHC				LR	LR				
	comp=Z,250nm,17.3s								
HHC				LR	LR				
	comp=Z,270nm,19.1s								
HHC				LR	LR				
	comp=Z,350nm,18.8s								
E28A	**Huff**	**89.35**	**41**	P		**P**		**22 45 47.6**	**-0.3**
	baz=247								
KSU1	**Kansas State U**	**89.38**	**49**	P		**P**		**22 45 48.5**	**+0.3**
	baz=250								
KSU1	**Kansas State U**	**89.38**	**49**	P		**P**		**22 45 48.4**	**+0.3**
	baz=250								
GSI	**Gunungsitoli**	**89.77**	**271**	P		**P**		**22 45 51.0**	**+0.5**
GSI	**Gunungsitoli**	**89.77**	**271**	P		**P**		**22 45 50.5**	**0.0**
	comp=Z,45nm,1.2s								
YKA	**Yellowknife Ar**	**89.93**	**23**	P		**P**		**22 45 50.3**	**+0.2**
	comp=Z,19nm,0.9s,baz=236,slow=4.7,SNR=182								
YKA				PKKPbc		**PKKPdf**		**23 03 21.1**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=47,slow=2.0,SNR=4.4								
	comp=Z,19nm,0.9s								
GO05	**Huala**	**90.11**	**126**	P		**P**		**22 45 52.6**	**+0.8**
GO05				IAmb	IAmb			22 45 54.3	
	comp=Z,71nm,1.5s								
U38A	**Gravette**	**90.14**	**52**	P		**P**		**22 45 51.9**	**+0.1**
	baz=251,SNR=6.7								
KCSI	**Kotacane, Aceh**	**90.16**	**274**	P		**P**		**22 45 51.2**	**-1.2**
	comp=Z,21nm,0.8s								
MIAR	**Mount Ida**	**90.16**	**54**	P		**P**		**22 45 52.1**	**+0.3**
	baz=251								
MIAR	**Mount Ida**	**90.16**	**54**	P		**P**		**22 45 52.2**	**+0.3**
	baz=252								
WLAR	**White Oak Lake**	**90.26**	**55**	P		**P**		**22 45 52.8**	**+0.5**
BTO	**Baotou**	**90.29**	**312**	*e*P		**P**		**22 45 54.3**	**+1.8**
BTO				S		**S**		**22 56 43.3**	**-1.5**
BTO				LR	LR				
	comp=Z,690nm,5.5s								
BTO				LR	LR				
	comp=Z,750nm,18.0s								
Z41A	**Richland Creek**	**90.37**	**56**	P		**P**		**22 45 53.5**	**+0.6**
	baz=252,SNR=5.8								
Z41A				P		**P**		**22 45 53.5**	**+0.6**
	baz=252,SNR=5.8								
MDND	**Maddock**	**90.53**	**40**	P		**P**		**22 45 53.6**	**+0.3**
	baz=248,SNR=5.5								
MDND	**Maddock**	**90.53**	**40**	P		**P**		**22 45 53.1**	**-0.2**
	baz=248,SNR=5.5								
N35A	**Tabor**	**90.68**	**48**	P		**P**		**22 45 54.6**	**+0.5**
	baz=250								
JTS	**Las Juntas de**	**90.85**	**80**	LR	LR			23 16 32.8	
	comp=Z,357nm,21.3s,baz=332,slow=29								
JTS	**Las Juntas de**	**90.85**	**80**	P		**P**		**22 45 56.4**	**+0.9**
JTS				IAmb	IAmb			22 46 27.3	
	comp=Z,56nm,1.2s								
JTS	**Las Juntas de**	**90.85**	**80**	P		**P**		**22 45 56.4**	**+0.9**
JTS				pmax	pmax				
	comp=Z,56nm,1.3s								
**

PEL	**Peldehue**	**91.69**	**125**		P	**P**	**22 46 00.0**	**+0.8**		
PEL					pmax	pmax				
	comp=Z,39nm,1.0s									
P38A	**Dawn**	**91.80**	**49**		P	**P**	**22 45 59.4**	**0.0**		
	baz=252,SNR=9.7									
MCRA	**Macar, Loja**	**91.81**	**95**		P	**P**	**22 46 00.1**	**0.0**		
FFC	**Flin Flon**	**91.88**	**33**		P	**P**	**22 45 58.8**	**-0.6**		
FFC					IAmb	IAmb	22 46 00.4			
	comp=Z,27nm,1.3s									
FFC	**Flin Flon**	**91.88**	**33**		P	**P**	**22 45 58.8**	**-0.6**		
FFC					pmax	pmax				
	comp=Z,27nm,1.3s									
F33A	**5 Mile Ranch,**	**91.92**	**43**		P	**P**	**22 45 59.7**	**-0.1**		
	baz=250,SNR=6.4									
VA03	**San Esteban**	**91.93**	**125**		P	**P**	**22 46 01.4**	**+1.0**		
CD2	**Chengdu**	**92.11**	**301**		P	**P**	**22 46 01.0**	**-0.1**		
CD2					S	**S**	**22 57 04.0**	**+2.3**		
CD2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
CD2					LR	LR				
	comp=Z,240nm,17.6s									
ELIB	**Princess Elisa**	**92.19**	**185**	*d*	P	**P**	**22 46 01.3**	**+0.4**		
	comp=Z,130nm,1.0s									
R40A	**Maddies Statio**	**92.33**	**51**		P	**P**	**22 46 01.9**	**+0.1**		
	baz=252,SNR=14									
ATAH	**Atahualpa**	**92.56**	**98**		LR	LR	23 20 26.7			
	comp=Z,376nm,18.1s,baz=263,slow=31									
GO04	**Tololo Observa**	**92.58**	**122**		P	**P**	**22 46 04.4**	**+0.7**		
GO04					IAmb	IAmb	22 46 06.0			
	comp=Z,43nm,1.1s									
PZH	**PanZhiHua**	**92.59**	**297**		P	**P**	**22 46 03.8**	**+0.3**		
PZH					sP	**pP**	**22 46 09.5**	**-3.6**		
PZH					SKS	**SKSac**	**22 56 34.0**	**-1.3**		
PZH					S	**ScS**	**22 57 08.3**	**0.0**		
PZH					SS	**SS**	**23 03 21.3**	**+2.2**		
PZH					pmax	pmax				
	comp=Z,10.0nm,0.6s									
PZH					pmax	pmax				
	comp=Z,100nm,5.3s									
PZH					LR	LR				
	comp=Z,490nm,24.7s									
PZH					LR	LR				
	comp=Z,770nm,23.0s									
PZH					LR	LR				
	comp=Z,990nm,22.4s									
NNA	**Nana**	**92.71**	**103**		LR	LR	23 17 49.3			
	comp=Z,93nm,20.6s,baz=254,slow=29									
SCIA	**State Center**	**92.74**	**47**		P	**P**	**22 46 04.0**	**+0.3**		
SCIA					IAmb	IAmb	22 46 06.0			
	comp=Z,30nm,1.1s									
SCIA	**State Center**	**92.74**	**47**		P	**P**	**22 46 03.5**	**-0.2**		
	baz=252									
HBAR	**Harrisburg**	**92.75**	**54**		P	**P**	**22 46 03.9**	**+0.1**		
TROLL	**Troll, Antarti**	**92.78**	**179**		P	**P**	**22 46 04.3**	**+0.7**		
A36M	**Sachs Harbour**	**92.79**	**13**		P	**P**	**22 46 03.5**	**+0.4**		
A36M	**Sachs Harbour**	**92.79**	**13**		P	**P**	**22 46 03.6**	**+0.4**		
	baz=226									
VNA3	**Neumayer Olymp**	**92.85**	**175**		P	**P**	**22 46 04.4**	**+0.7**		
P40A	**Paris**	**92.86**	**50**		P	**P**	**22 46 04.5**	**+0.2**		
	baz=252,SNR=9.3									
SNAA	**Sanae**	**92.91**	**177**		P	**P**	**22 46 04.4**	**+0.3**		
SNAA	**Sanae**	**92.91**	**177**		LR	LR	23 22 39.7			
	comp=Z,389nm,21.3s,baz=192,slow=32									
SNAA	**Sanae**	**92.91**	**177**		P	**P**	**22 46 04.8**	**+0.7**		
SNAA	**Sanae**	**92.91**	**177**		P	**P**	**22 46 04.8**	**+0.7**		
SNAA					pmax	pmax				
	comp=Z,68nm,1.3s									
CMAR	**Chiang Mai Arr**	**92.95**	**288**		P	**P**	**22 46 05.9**	**+0.7**		
	comp=Z,1.1nm,0.6s,baz=81,slow=2.4,SNR=7.8									
CMAR					LR	LR	23 23 09.6			
	comp=Z,150nm,21.6s,baz=100,slow=32									
	comp=Z,1.1nm,0.6s									
CMAR	**Chiang Mai Arr**	**92.95**	**288**		P	**P**	**22 46 05.1**	**0.0**		
CCM	**Cathedral Cave**	**93.03**	**51**		P	**P**	**22 46 04.3**	**-0.8**		
CCM					IAmb	IAmb	22 46 06.2			
	comp=Z,26nm,1.1s									
CCM	**Cathedral Cave**	**93.03**	**51**		P	**P**	**22 46 04.9**	**-0.1**		
	baz=253,SNR=7.7									
CCM	**Cathedral Cave**	**93.03**	**51**		P	**P**	**22 46 04.6**	**-0.5**		
	baz=253									
CCM	**Cathedral Cave**	**93.03**	**51**		P	**P**	**22 46 04.3**	**-0.8**		
CCM					pmax	pmax				
	comp=Z,26nm,1.2s									
AGMN	**Agassiz Nation**	**93.04**	**41**		P	**P**	**22 46 04.2**	**-0.7**		
AGMN					IAmb	IAmb	22 46 05.3			
	comp=Z,49nm,1.5s									
AGMN	**Agassiz Nation**	**93.04**	**41**		P	**P**	**22 46 04.4**	**-0.4**		
	baz=250,SNR=7.5									
AGMN	**Agassiz Nation**	**93.04**	**41**		P	**P**	**22 46 04.2**	**-0.7**		
	baz=250									
CHTO	**Chiang Mai**	**93.05**	**289**		P	**P**	**22 46 05.3**	**-0.2**		
CHTO	**Chiang Mai**	**93.05**	**289**		P	**P**	**22 46 05.4**	**-0.2**		
CHTO					pmax	pmax				
	comp=Z,23nm,1.5s									
CHTO					MLR	MLR				
	comp=Z,200nm,18.0s									
LCO	**Las Campanas**	**93.05**	**121**		P	**P**	**22 46 06.7**	**+0.9**		
LCO					IAmb	IAmb	22 46 08.6			
	comp=Z,42nm,1.1s									
LCO	**Las Campanas**	**93.05**	**121**		P	**P**	**22 46 06.7**	**+0.9**		
LCO					pmax	pmax				
	comp=Z,42nm,1.1s									
CO01	**Juntas del Tor**	**93.23**	**122**		P	**P**	**22 46 06.7**	**0.0**		
I37B	**Waseca**	**93.27**	**45**		P	**P**	**22 46 06.1**	**+0.1**		
	baz=252,SNR=6.6									
K38A	**Parkersburg**	**93.29**	**47**		P	**P**	**22 46 06.2**	**0.0**		
	baz=252									
VNA2	**Neumayer--Watz**	**93.35**	**175**		P	**P**	**22 46 07.0**	**+1.0**		
	baz=191,slow=4.0									
AC05	**El Transito**	**93.46**	**121**		P	**P**	**22 46 08.7**	**+1.1**		
AC05					IAmb	IAmb	22 46 10.6			
	comp=Z,27nm,1.1s									
LZH	**Lanzhou**	**93.50**	**306**	*e*	P	**P**	**22 46 09.0**	**+1.5**		
LZH					pP	pP	22 46 14.5	-2.3		
LZH					S	**S**	**22 57 10.5**	**-3.6**		
LZH					sS	pS	22 57 22.0	-4.0		
LZH					pmax	pmax				
	comp=Z,14nm,1.1s									
LZH					LR	LR				
	comp=Z,240nm,13.2s									
LZH					LR	LR				
	comp=Z,210nm,16.1s									
LZH					LR	LR				
	comp=Z,630nm,18.7s									
VNA1	**Neumayer--Stat**	**93.55**	**175**		P	**P**	**22 46 08.0**	**+1.1**		
ULM	**Lac du Bonnet**	**93.68**	**39**		P	**P**	**22 46 07.4**	**-0.4**		
	comp=Z,17nm,1.0s,baz=273,slow=4.4,SNR=16									
ULM					LR	LR	23 21 21.3			
	comp=Z,1µm,21.7s,baz=251,slow=31									
	comp=Z,17nm,1.0s									
F36A	**Milaca**	**93.76**	**44**		P	**P**	**22 46 08.5**	**+0.3**		
	baz=252,SNR=10									
W45A	**Hickory Valley**	**93.79**	**55**		P	**P**	**22 46 09.7**	**+1.0**		
	baz=254,SNR=6.0									
NVL	**N'lazarevskaya**	**94.01**	**182**	*e*	P	**P**	**22 46 08.6**	**-0.4**		
NVL				*e*	S	**SKSac**	**22 56 40.0**	**-1.4**		
NVL					pmax	pmax				
	comp=Z,14nm,0.9s									
SPMN	**Marine on St.**	**94.05**	**44**		P	**P**	**22 46 10.6**	**+1.0**		
	baz=252,SNR=6.4									
SPMN	**Marine on St.**	**94.05**	**44**		P	**P**	**22 46 09.4**	**-0.2**		
	baz=252									
N41A	**Harden Midland**	**94.08**	**49**		P	**P**	**22 46 10.3**	**+0.5**		
	baz=253,SNR=5.5									
BOD	**Bodaibo**	**94.09**	**329**	*e*	P	P	22 46 22.6	+13		
BOD					pmax	pmax				
	comp=Z,15nm,2.0s									
CFA	**Coronel Fontan**	**94.17**	**124**		LR	LR	23 18 55.9			
	comp=Z,370nm,21.5s,baz=272,slow=29									
L40A	**Anamosa**	**94.21**	**48**		P	**P**	**22 46 10.8**	**+0.4**		
	baz=253,SNR=7.9									
UTMT	**University of**	**94.37**	**54**		P	**P**	**22 46 11.8**	**+0.5**		
B35A	**Bob, Littlefor**	**94.41**	**41**		P	**P**	**22 46 10.8**	**-0.3**		
	baz=252,SNR=5.1									
PLAL	**Pickwick Lake**	**94.62**	**55**		P	**P**	**22 46 12.6**	**+0.1**		
ULN	**Ulaanbaatar**	**94.66**	**318**		P	**P**	**22 46 13.1**	**+0.6**		
ULN	**Ulaanbaatar**	**94.66**	**318**		IAMs_20	IAMs_20	23 22 20.8			
	comp=Z,606nm,22.0s									
ULN	**Ulaanbaatar**	**94.66**	**318**	⇑*e*	P	**P**	**22 46 14.8**	**+2.3**		
ULN					pmax	pmax				
	comp=Z,18nm,1.1s									
P43A	**Skaggs, Pawnee**	**94.77**	**50**		P	**P**	**22 46 13.4**	**+0.4**		
	baz=254,SNR=6.4									
Q44A	**Meyer Farm, Va**	**94.94**	**51**		P	**P**	**22 46 13.9**	**0.0**		
	baz=254									
LRAL	**Lakeview Retre**	**94.98**	**57**		P	**P**	**22 46 14.1**	**0.0**		
	baz=255									
LRAL	**Lakeview Retre**	**94.98**	**57**		P	**P**	**22 46 14.1**	**0.0**		
	baz=255									
TNCH	**TengChong**	**95.01**	**294**		P	**P**	**22 46 14.5**	**-0.2**		
TNCH					pP	PcP	22 46 18.0	+3.0		
TNCH					sP	pP	22 46 21.0	-3.3		
TNCH					SKS	**SKSac**	**22 56 48.3**	**-0.4**		
TNCH					S	**S**	**22 57 21.8**	**-5.9**		
TNCH					sS	pS	22 57 37.0	-2.6		
TNCH					SS	**SS**	**23 03 55.8**	**+1.9**		
TNCH					pmax	pmax				
	comp=Z,7.0nm,0.6s									
TNCH					pmax	pmax				
	comp=Z,100nm,5.5s									
TNCH					LR	LR				
	comp=Z,120nm,4.2s									
TNCH					LR	LR				
	comp=Z,160nm,4.5s									
TNCH					LR	LR				
	comp=Z,300nm,20.2s									
SONM	**Songino Array**	**95.07**	**318**		P	**P**	**22 46 14.6**	**+0.2**		
	comp=Z,0.6nm,0.4s,baz=12,slow=41,SNR=6.0									
SONM					PP	**PP**	**22 50 04.6**	**+0.3**		
	comp=Z,0.5nm,0.8s,baz=131,slow=5.9,SNR=2.2									
SONM					LR	LR	23 24 39.0			
	comp=Z,163nm,21.5s,baz=129,slow=33									
	comp=Z,0.6nm,0.4s									
TIXI	**Tiksi**	**95.08**	**344**		LR	LR	23 25 20.5			
	comp=Z,540nm,20.9s,baz=178,slow=33									
TIXI	**Tiksi**	**95.08**	**344**		P	**P**	**22 46 13.5**	**-0.2**		
TIXI					IAMs_20	IAMs_20	23 26 11.1			
	comp=Z,554nm,20.0s									
TIXI	**Tiksi**	**95.08**	**344**		P	**P**	**22 46 13.5**	**-0.2**		
TIXI					pmax	pmax				
	comp=Z,14nm,1.1s									
TIXI					MLR	MLR				
	comp=Z,600nm,20.0s									
WVT	**Waverly**	**95.12**	**54**		P	**P**	**22 46 14.1**	**-0.6**		
WVT					IAmb	IAmb	22 46 16.0			
	comp=Z,62nm,1.8s									
WVT	**Waverly**	**95.12**	**54**		P	**P**	**22 46 15.0**	**+0.2**		
	baz=255									
WVT	**Waverly**	**95.12**	**54**		P	**P**	**22 46 14.6**	**-0.2**		
	baz=255									
WVT	**Waverly**	**95.12**	**54**		P	**P**	**22 46 14.1**	**-0.6**		
WVT					pmax	pmax				
	comp=Z,62nm,1.8s									
JFWS	**Jewell Farm**	**95.14**	**47**		P	**P**	**22 46 14.2**	**-0.5**		
JFWS	**Jewell Farm**	**95.14**	**47**		P	**P**	**22 46 14.5**	**-0.1**		
	baz=254,SNR=10									
JFWS	**Jewell Farm**	**95.14**	**47**		P	**P**	**22 46 14.5**	**-0.1**		
	baz=254									
JFWS	**Jewell Farm**	**95.14**	**47**		P	**P**	**22 46 14.2**	**-0.5**		
JFWS					pmax	pmax				
	comp=Z,54nm,0.9s									
I40A	**Norwalk**	**95.15**	**46**		P	**P**	**22 46 14.6**	**-0.2**		
	baz=254,SNR=8.0									
HDIL	**Hopedale**	**95.18**	**50**		P	**P**	**22 46 14.5**	**-0.4**		
HDIL	**Hopedale**	**95.18**	**50**		P	**P**	**22 46 15.0**	**0.0**		
	baz=254,SNR=5.5									
HDIL	**Hopedale**	**95.18**	**50**		P	**P**	**22 46 14.7**	**-0.2**		
	baz=254									
250A	**Grady**	**95.30**	**58**		P	**P**	**22 46 16.4**	**+0.7**		
	baz=255									
X48A	**Hartselle**	**95.30**	**56**		P	**P**	**22 46 15.0**	**-0.6**		
	baz=255									
L42A	**Oliver, Polo**	**95.30**	**48**		P	**P**	**22 46 15.5**	**0.0**		
	baz=254,SNR=5.7									
Y49A	**Blunt Mountai**	**95.66**	**57**		P	**P**	**22 46 17.6**	**+0.3**		
	baz=255									
EYMN	**Ely**	**95.71**	**42**		P	**P**	**22 46 18.6**	**+1.4**		
	baz=254									
EYMN	**Ely**	**95.71**	**42**		P	**P**	**22 46 17.6**	**+0.4**		
	baz=254									
G40A	**Rib Lake**	**95.82**	**45**		P	**P**	**22 46 18.1**	**+0.4**		
	baz=254									
T47A	**Sharon Grove**	**95.90**	**53**		P	**P**	**22 46 19.0**	**+0.7**		
	baz=255									
M44A	**Midewin, Midew**	**96.31**	**49**		P	**P**	**22 46 20.5**	**+0.4**		
	baz=255									
I42A	**Draeger Farm,**	**96.34**	**46**		P	**P**	**22 46 20.1**	**0.0**		
	baz=255									
K43A	**Burlington**	**96.44**	**48**		P	**P**	**22 46 21.0**	**+0.4**		
	baz=255									
L44A	**Lake County Fo**	**96.61**	**48**		P	**P**	**22 46 21.1**	**-0.3**		
	baz=255									
L44A	**Lake County Fo**	**96.61**	**48**		P	**P**	**22 46 21.3**	**-0.1**		
	baz=256									
LVC	**Limon Verde**	**96.70**	**116**		LR	LR	23 19 53.1			
	comp=Z,227nm,20.5s,baz=248,slow=29									
LVC	**Limon Verde**	**96.70**	**116**		IAMs_20	IAMs_20	23 18 02.5			
	comp=Z,626nm,22.0s									
SFIN	**Lafayette**	**96.76**	**50**		P	**P**	**22 46 22.4**	**+0.3**		
	baz=256									
SFIN	**Lafayette**	**96.76**	**50**		P	**P**	**22 46 22.0**	**0.0**		
	baz=256									
COWI	**Conover**	**96.76**	**44**		P	**P**	**22 46 21.8**	**-0.2**		
COWI	**Conover**	**96.76**	**44**		P	**P**	**22 46 22.3**	**+0.3**		
	baz=255									
U49A	**Red Boiling Sp**	**96.82**	**54**		P	**P**	**22 46 22.6**	**+0.2**		
	baz=256									
F42A	**Maple Grove Fa**	**97.35**	**45**		P	**P**	**22 46 24.6**	**0.0**		
	baz=256									
D41A	**Chassel**	**97.39**	**43**		P	Pdif	22 46 25.3	+0.4		
	baz=256									
GTA	**Gaotai**	**97.45**	**309**	⇓	P	Pdif	22 46 26.5	+1.0		
GTA					pmax	pmax				
	comp=Z,4.0nm,1.7s									
GTA					pmax	pmax				
	comp=Z,73nm,6.4s									
GTA					LR	LR				
	comp=Z,150nm,18.5s									
GTA					LR	LR				
	comp=Z,330nm,20.0s									
GTA					LR	LR				
	comp=Z,500nm,21.4s									
Y52A	**Lilburn**	**97.56**	**57**		P	**P**	**22 46 25.8**	**-0.1**		
	baz=257									
Y52A					P	**P**	**22 46 25.8**	**-0.1**		
	baz=257									
ZAK	**Zakamensk**	**97.74**	**320**	*e*	P	Pdif	22 46 27.3	+0.8		
ZAK					pmax	pmax				
	comp=Z,5.0nm,1.3s									
ZAK					pmax	pmax				
	comp=Z,4.0nm,1.6s									
L46A	**Eue Claire**	**97.74**	**49**		P	**P**	**22 46 25.3**	**-1.2**		
	baz=256									
L46A					P	**P**	**22 46 25.3**	**-1.2**		
	baz=256									
V51A	**Loudon**	**97.77**	**55**		P	**P**	**22 46 26.6**	**-0.2**		
	baz=257									
P48A	**Milroy**	**97.78**	**51**		P	**P**	**22 46 26.1**	**-0.7**		
	baz=257									
P48A					P	**P**	**22 46 26.1**	**-0.7**		
	baz=257									
N47A	**Urbana**	**97.91**	**50**		P	Pdif	22 46 28.1	+0.8		
	baz=257									
N47A					P	Pdif	22 46 28.1	+0.8		
	baz=257									
O48B	**Farmland**	**98.17**	**51**		P	**P**	**22 46 28.4**	**-0.1**		
	baz=257									
O48B	**Farmland**	**98.17**	**51**		P	**P**	**22 46 28.1**	**-0.4**		
	baz=257									
TKL	**Tuckaleechee C**	**98.20**	**55**		P	Pdif	22 46 29.9	+1.2		
	comp=Z,7.4nm,0.9s,baz=171,slow=3.3,SNR=5.5									
TKL					LR	LR	23 23 48.6			
	comp=Z,563nm,22.0s,baz=272,slow=31									
	comp=Z,7.4nm,0.9s									
E43A	**Lone Tree Farm**	**98.27**	**44**		P	Pdif	22 46 29.0	+0.2		
	baz=256									
P49A	**Miami Univ. Ec**	**98.34**	**51**		P	**P**	**22 46 28.9**	**-0.4**		
	baz=257									
P49A	**Miami Univ. Ec**	**98.34**	**51**		P	**P**	**22 46 29.2**	**0.0**		
	baz=257									
TZTN	**Tazewell**	**98.57**	**55**		P	**P**	**22 46 30.4**	**0.0**		
	baz=257									
LPAZ	**La Paz**	**99.48**	**110**		P	**Pdif**	**22 46 36.5**	**+0.8**		
	comp=Z,1.3nm,0.9s,baz=314,slow=2.5,SNR=4.3									
LPAZ					LR	LR	23 25 08.2			
	comp=Z,105nm,18.1s,baz=258,slow=32									
	comp=Z,1.3nm,0.9s									
GLMI	**Grayling**	**99.55**	**46**		P	**Pdif**	**22 46 34.9**	**+0.3**		
	baz=258									
ROSC	**El Rosal**	**99.64**	**88**		LR	LR	23 25 20.4			
	comp=Z,128nm,18.4s,baz=256,slow=32									
AAM	**Ann Arbor**	**99.71**	**49**		P	**Pdif**	**22 46 35.4**	**+0.1**		
	baz=258									
P52A	**Corning**	**100.31**	**52**		P	**Pdif**	**22 46 37.8**	**-0.3**		
	baz=259									
NHSC	**New Hope**	**100.57**	**59**		P	**Pdif**	**22 46 39.3**	**0.0**		
	baz=259									
GOMU	**GeErMu**	**100.62**	**305**		P	**Pdif**	**22 46 42.0**	**+2.0**		
GOMU					LR	LR				
	comp=Z,100nm,17.2s									
GOMU					LR	LR				
	comp=Z,89nm,19.0s									
GOMU					LR	LR				
	comp=Z,140nm,18.2s									
CBN	**Corbin Frederi**	**103.71**	**54**		IAMs_20	IAMs_20	23 27 10.4			
	comp=Z,1µm,20.0s									
PAL	**Palisades**	**106.73**	**51**		P	**PKiKP**	**22 51 16.1**	**-0.7**		
	baz=264									
LBNH	**Lisbon**	**108.46**	**48**		P	**PKiKP**	**22 51 19.5**	**-0.4**		
	baz=266									
HRV	**Adam Dziewonsk**	**108.61**	**50**		P	**PKiKP**	**22 51 19.9**	**-0.4**		
	baz=266									
ZALV	**Zalesovo Beam**	**109.43**	**322**		Pdiff	**Pdif**	**22 47 19.8**	**+1.5**		
	comp=Z,0.3nm,0.3s,baz=28,slow=29,SNR=2.2									
ZALV					PKiKP	**PKiKP**	**22 51 21.0**	**-0.4**		
	comp=Z,1.2nm,0.6s,baz=126,slow=1.3,SNR=9.3									
MK31	**Makanchi Array**	**111.07**	**315**	*c*	iPKiKP	**PKiKP**	**22 51 23.9**	**-0.9**		
MKAR	**Makanchi Array**	**111.07**	**315**		PKiKP	**PKiKP**	**22 51 24.4**	**-0.5**		
	comp=Z,1.7nm,0.6s,baz=161,slow=0.4,SNR=29									
MKAR					PKKP	**PKKPab**	**23 02 32.2**	**+1.4**		
	comp=Z,0.7nm,0.7s,baz=278,slow=4.1,SNR=5.1									
SEM	**Semipalatinsk**	**112.34**	**319**	*e*	PKiKP	**PKiKP**	**22 51 26.0**	**-1.4**		
	baz=318									
SEM	**Semipalatinsk**	**112.34**	**319**	*i*	PKiKP	**PKiKP**	**22 51 26.0**	**-1.4**		
SMRT	**St. Maarten**	**113.22**	**77**		IAMs_20	IAMs_20	23 43 59.4			
	comp=Z,461nm,19.0s									
KURK	**Kurchatov**	**113.36**	**319**	*d i*	PKiKP	**PKiKP**	**22 51 28.2**	**-0.8**		
SATY	**Saty**	**113.86**	**311**	*e*	PKiKP	**PKiKP**	**22 51 29.5**	**-0.9**		
	baz=311									
SATY	**Saty**	**113.86**	**311**	*i*	PKiKP	**PKiKP**	**22 51 29.5**	**-0.9**		
MDOK	**Medeo**	**114.85**	**311**	*e*	PKP	PKPdf	22 51 30.7	-1.6		
	baz=311									
MDOK	**Medeo**	**114.85**	**311**	*e*	PKiKP	PKPdf	22 51 30.7	-1.6		
CHKK	**Chushkaly**	**114.86**	**311**	*e*	PKP	PKPdf	22 51 31.1	-1.1		
	baz=312									
CHKK	**Chushkaly**	**114.86**	**311**	*e*	PKiKP	PKPdf	22 51 31.0	-1.2		
KSH	**Kashi**	**115.75**	**307**		PKP	**PKiKP**	**22 51 36.0**	**+1.8**		
SGDS	**Sogindy**	**116.59**	**311**	*e*	PKP	**PKiKP**	**22 51 38.8**	**+3.2**		
	baz=311									
SGDS	**Sogindy**	**116.59**	**311**	*e*	PKiKP	**PKiKP**	**22 51 38.8**	**+3.2**		
AAK	**Ala-Archa**	**116.75**	**310**		IAMs_20	IAMs_20	23 37 36.2			
	comp=Z,324nm,20.0s									
AAK	**Ala-Archa**	**116.75**	**310**	⇓	iPKiKP	**PKiKP**	**22 51 37.1**	**+1.1**		
BTLS	**Baital**	**116.89**	**313**	*e*	PKP	**PKPdf**	**22 51 35.2**	**-0.9**		
	baz=313									
BTLS	**Baital**	**116.89**	**313**	*e*	PKiKP	**PKPdf**	**22 51 35.1**	**-0.9**		
BRVK	**Borovoye**	**118.14**	**322**		PKPdf	**PKPdf**	**22 51 37.9**	**-0.2**		
BRVK	**Borovoye**	**118.14**	**322**		IAMs_20	IAMs_20	23 38 39.6			
	comp=Z,662nm,22.0s									
BRVK	**Borovoye**	**118.14**	**322**		PKIKP	**PKPdf**	**22 51 37.9**	**-0.2**		
BRVK					MLR	MLR				
	comp=Z,700nm,22.0s									
DZA	**Taraz**	**119.05**	**311**	*e*	PKP	**PKPdf**	**22 51 39.0**	**-1.3**		
	baz=311									
DZA	**Taraz**	**119.05**	**311**	*e*	PKiKP	**PKPdf**	**22 51 39.0**	**-1.3**		
KKAR	**Karatay Array**	**119.62**	**311**			**PKPdf**	**22 51 40.8**	**-0.6**		
KKAR	**Karatay Array**	**119.62**	**311**		PKiKP	**PKPdf**	**22 51 40.8**	**-0.6**		
IUG	**Iuzhnay**	**120.08**	**310**	*e*	PKP	**PKPdf**	**22 51 41.0**	**-1.4**		
	baz=310									
IUG	**Iuzhnay**	**120.08**	**310**	*e*	PKiKP	**PKPdf**	**22 51 41.0**	**-1.4**		
CHM	**Chimkent**	**120.38**	**310**	*e*	PKiKP	**PKPdf**	**22 51 41.3**	**-1.5**		
	baz=310									
CHM	**Chimkent**	**120.38**	**310**	*e*	PKiKP	**PKPdf**	**22 51 41.3**	**-1.5**		
CHGR	**Chuyangaron**	**121.09**	**306**		PKPdf	**PKPdf**	**22 51 44.1**	**-0.3**		
CHGR	**Chuyangaron**	**121.09**	**306**		PKiKP	**PKPdf**	**22 51 44.1**	**-0.3**		
SVE	**Sverdlovsk**	**122.30**	**328**	*e*	PKiKP	**PKiKP**	**22 51 46.7**	**+0.5**		
ARU	**Arti**	**123.51**	**329**		PKPdf	**PKPdf**	**22 51 48.4**	**+0.1**		
ARU	**Arti**	**123.51**	**329**	*i*	PKIKP	**PKPdf**	**22 51 48.3**	**0.0**		
ARU							22 53 29.4			
ARU							22 58 59.9			
ARU					SS	SS	23 10 30.6	+16		
ABKAR	**Akbulak array**	**125.43**	**320**		PKPdf	**PKPdf**	**22 51 52.2**	**0.0**		
ABKAR	**Akbulak array**	**125.43**	**320**			**PKPdf**	**22 51 51.7**	**-0.6**		
KIRV	**Kirov**	**126.68**	**334**	⇑	iPKiKP	**PKiKP**	**22 51 55.7**	**+0.9**		
ADZR	**Andozero**	**126.91**	**343**	*e*	PKiKP	**PKiKP**

MNK				pmax	pmax			
	comp=N,45nm,0.8s							
MNK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
MNK				MLR	MLR			
	comp=N,508nm,20.0s							
MNK				MLR	MLR			
	comp=Z,410nm,20.0s							
MNK				MLR	MLR			
	comp=E,24nm,18.0s							
NCK	**Nalchik**	**138.09 319**	⇑	*i* PKIKP	**PKiKP**	22 52 21.0	+2.6	
KBZ	**Khabaz**	**138.40 320**		PKhKP	PKPpre	22 52 11.0		
	comp=E,2.3nm,1.0s,baz=99,slow=9.4,SNR=3.9							
KBZ	**Khabaz**	**138.40 320**	⇓	*e*PKIKP	**PKPdf**	22 52 12.8	-4.1	
KIV	**Kislovodsk**	**138.41 321**		IAMs_20	IAMs_20	23 50 52.1		
	comp=Z,403nm,20.0s							
KIV	**Kislovodsk**	**138.41 321**		*i* PKIKP	**PKiKP**	22 52 19.6	+0.5	
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,353nm,24.0s							
GNI	**Garni**	**138.92 314**		IAMs_20	IAMs_20	23 56 45.4		
	comp=Z,393nm,20.0s							
SOC	**Sochi**	**140.41 322**		*i* PKIKP	**PKiKP**	22 52 22.1	-1.0	
SOC				*e*		22 55 17.8		
SOC				*e*PPP	PPP	22 58 33.0		
SOC				*e*SSS	SSS	23 18 54.9		
SOC				MLR	MLR			
	comp=Z,400nm,19.0s							
AKASG	**Malin Array Be**	**140.46 338**		PKhKP	PKhPpre	22 52 15.7		
	comp=Z,0.9nm,0.5s,baz=37,slow=4.2,SNR=8.0							
AKBB	**Malin Array Si**	**140.46 338**	⇑	*e*PKIKP	**PKPdf**	22 52 19.2	-1.2	
GURO	**Guroymak-BITLI**	**141.51 314**			**PKPdf**	22 52 22.0	-0.9	
RAYN	**Ar Rayn**	**142.87 289**		PKPdf	**PKPdf**	22 52 23.1	-2.5	
RAYN	**Ar Rayn**	**142.87 289**		PKIKP	**PKPdf**	22 52 23.1	-2.5	
LVV	**L'vov**	**142.95 342**		*e*PKIKP	**PKPdf**	22 52 20.9	-4.0	
LVV				*e*		22 52 38.6		
LVV				*e*		23 14 56.3		
MILM	**Milestii Mici**	**143.67 335**		*e*PKP	**PKPdf**	22 52 27.0	+0.7	
OJC	**Ojcow**	**143.72 346**		*e*PKP	PKPbc	22 52 24.3	+0.5	
CLL	**Collm**	**143.83 354**			**PKPdf**	22 52 25.4	-1.0	
CLL	**Collm**	**143.83 354**		*e*PKPpre	PKPpre	22 52 25.0		
	comp=Z,4.0nm,0.6s							
CLL				*e*PKPdf	**PKPdf**	22 52 27.0	+0.6	
	comp=Z,7.0nm,0.7s							
CLL				*e*PKIKP	**PKiKP**	22 52 31.0	+1.1	
	comp=Z,9.0nm,0.8s							
CLL				*i* pPKiKP	pPKiKP	22 52 41.4	+1.7	
	comp=Z,14nm,0.8s							
CLL				*e*PP	**PP**	22 55 42.0	+3.2	
CLL				*e*PKSdf	**PKSdf**	22 56 04.0	+2.1	
CLL				*e*SKKSac	SKKSac	23 02 36.0	+6.1	
CLL				*e*PSKS		23 05 54.0		
CLL				*e*PPS	PPS	23 08 18.0		
CLL				*e*(SS)		23 15 00.0		
CLL				*e*(SSS)		23 20 18.0		
CLL				*ex*	x	23 27 30.0		
CLL				LmH		23 53 00.0		
	comp=N,300nm,21.6s							
CLL				LmH		23 53 00.0		
	comp=E,300nm,21.7s							
CLL	**Collm**	**143.83 354**		*e*PKIKP	PKPbc	22 52 25.0	+0.9	
CLL				*i*		22 52 41.4		
CLL				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CLL				pmax	pmax			
	comp=Z,7.0nm,0.7s							
TSUM	**Tsumeb**	**144.09 197**		PKPdf	PKPbc	22 52 26.7	+0.7	
STHS	**Stebnicka Huta**	**144.10 344**		*e*PKIKP	PKPbc	22 52 25.7	+0.7	
STHS	**Stebnicka Huta**	**144.10 344**		*e*PKP	PKPbc	22 52 25.7	+0.7	
OSTC	**Ostas**	**144.12 350**		*e*PKP	PKPbc	22 52 26.0	+1.0	
BRG	**Berggiesshubel**	**144.15 352**		*i* PKP	**PKiKP**	**22 52 29.1**	**-1.4**	
BRG				Amp		22 52 30.1		
	comp=Z,4.5nm,0.8s							
BRG	**Berggiesshubel**	**144.15 352**		P	**PKiKP**	**22 52 36.7**	**+6.1**	
BRG				Amp		22 52 38.5		
	comp=Z,7.2nm,1.0s							
BRG	**Berggiesshubel**	**144.15 352**		*i* PKIKP	**PKiKP**	**22 52 29.1**	**-1.4**	
BRG						22 52 36.6		
BRG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BRG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,13nm,1.1s							
UPC	**Upice**	**144.20 350**		AMS	AMS	23 51 20.0		
	comp=Z,800nm,22.6s							
DPC	**Dobruska-Polom**	**144.30 350**		*e*PKP	PKPbc	22 52 26.5	+0.9	
DPC				AMS	AMS	23 52 10.0		
	comp=Z,600nm,15.9s							
DPC	**Dobruska-Polom**	**144.30 350**		*e*PKIKP	PKPbc	22 52 26.5	+0.9	
DPC				MLR	MLR			
	comp=Z,600nm,15.9s							
NIE	**Niedzica**	**144.35 345**		*e*PKP	**PKPdf**	22 52 27.0	-0.4	
PVCC	**Panska Ves**	**144.40 352**		*e*PKP	**PKPdf**	22 52 27.0	-0.4	
PVCC	**Panska Ves**	**144.40 352**		*e*PKIKP	**PKPdf**	22 52 27.0	-0.4	
OKC	**Ostrava-Krasne**	**144.45 348**		AMS	AMS	23 51 10.0		
	comp=Z,700nm,25.5s							
BURAR	**Bucovina Array**	**144.48 339**	⇓	P	**PKPdf**	22 52 27.7	-0.1	
BURAR	**Bucovina Array**	**144.48 339**		PKPdf	PKPbc	22 52 26.8	+0.4	
BURAR	**Bucovina Array**	**144.48 339**	⇓	PKIKP	**PKPdf**	22 52 27.7	-0.1	
KRLC	**Kraliky**	**144.49 349**		*e*PKP	**PKPdf**	22 52 27.1	-0.6	
KRLC				AMS	AMS	23 52 30.0		
	comp=Z,600nm,19.4s							
KRLC	**Kraliky**	**144.49 349**		*e*PKIKP	**PKPdf**	22 52 27.1	-0.6	
KRLC				MLR	MLR			
	comp=Z,600nm,19.4s							
CRVS	**Cervenica-Dubn**	**144.52 343**		*e*PKIKP	**PKPdf**	22 52 28.6	+0.9	
CRVS	**Cervenica-Dubn**	**144.52 343**		*e*PKP	**PKPdf**	22 52 28.6	+0.9	
UZH	**Uzhgorod**	**144.53 342**		*e*PKIKP	**PKPab**	22 52 26.0	-0.1	
UZH				*e*		22 52 34.1		
UZH				*e*		22 52 40.0		
KIBK	**Kibwezi**	**144.58 243**		PKPdf	**PKPdf**	22 52 28.4	-0.6	
MORC	**Moravsky Berou**	**144.63 348**	⇓	P	**PKPdf**	22 52 28.1	+0.2	
MORC	**Moravsky Berou**	**144.63 348**		PKPdf	PKPbc	22 52 27.0	+0.4	
MORC	**Moravsky Berou**	**144.63 348**		*e*PKP	PKPbc	22 52 27.2	+0.5	
MORC				*e*		22 52 40.3		
MORC	**Moravsky Berou**	**144.63 348**	⇓	PKIKP	**PKPdf**	22 52 28.1	+0.2	
LANS	**Liptovska Anna**	**144.80 346**		*e*PKIKP	**PKPdf**	22 52 28.8	+0.6	
LANS	**Liptovska Anna**	**144.80 346**		*e*PKP	**PKPdf**	22 52 28.8	+0.6	
VLDR	**Vladesti**	**144.84 334**		*i* P	**PKPdf**	22 52 29.0	+0.7	
MEM	**Membach**	**144.85 1**		*d*PKPdf	**PKPab**	22 52 27.2	0.0	
BTNL	**Ternell**	**144.87 1**		*d*PKPdf	**PKPab**	22 52 27.1	-0.3	
TESR	**Tescani**	**144.88 336**	⇓	P	**PKPdf**	22 52 28.3	-0.1	
SNF	**Seneffe**	**144.89 3**		*d*PKP	PKPbc	22 52 27.6	+0.3	
VARL	**Varlezi**	**144.89 334**	⇑	P	**PKPdf**	22 52 29.9	+1.4	
PRU	**Pruhonice**	**144.93 351**		*e*PKP	PKPbc	22 52 28.0	+0.4	
PRU				AMS	AMS	23 55 30.0		
	comp=Z,600nm,18.2s							
PRU	**Pruhonice**	**144.93 351**		*e*PKIKP	PKPbc	22 52 28.0	+0.4	
PRU				MLR	MLR			
	comp=Z,600nm,18.2s							
GHRR		**144.94 335**	⇑	P	**PKPdf**	22 52 30.2	+1.7	
NKC	**Novy Kostel**	**144.95 354**		*e*PKP	**PKPdf**	22 52 28.5	+0.1	
NKC	**Novy Kostel**	**144.95 354**		*e*PKIKP	**PKPdf**	22 52 28.5	+0.1	
MAUC	**Maruska**	**144.96 348**		*e*PKP	**PKPdf**	22 52 28.6	+0.1	
GOPC	**GO Pecny, Ondr**	**144.97 351**		*e*PKP	**PKPdf**	22 52 28.3	-0.2	
GOPC				AMS	AMS	23 55 10.0		
	comp=Z,600nm,16.0s							
GOPC	**GO Pecny, Ondr**	**144.97 351**		*e*PKIKP	**PKPdf**	22 52 28.3	-0.2	
GOPC				MLR	MLR			
	comp=Z,600nm,16.0s							
BMR	**Baia Mare**	**145.01 340**	⇓	P	**PKPdf**	22 52 28.7	+0.1	
BMR	**Baia Mare**	**145.01 340**	⇓	PKIKP	**PKPdf**	22 52 28.7	+0.1	
SCTR	**Scanteiesti**	**145.01 334**	⇓	P	**PKPdf**	22 52 29.2	+0.5	
BCLA	**Clavier**	**145.02 2**		*d*PKPdf	**PKPbc**	22 52 27.4	-0.4	
TLCR		**145.04 333**	⇑	P	**PKPdf**	22 52 29.7	+1.0	
TLCR		**145.04 333**	⇑	PKIKP	**PKPdf**	22 52 29.7	+1.0	
BGES	**Gesves**	**145.05 2**		*d*PKPdf	**PKPab**	22 52 28.2	+0.3	
BHOU	**Houvegnez**	**145.10 1**		*d*PKPdf	**PKPdf**	22 52 28.6	-0.1	
BMRD	**Maredsous**	**145.12 2**		*d*PKP	**PKPdf**	22 52 28.6	-0.1	
PANC	**Panciu**	**145.20 335**	⇑	P	**PKPdf**	22 52 30.7	+1.8	
IZVR	**Izvoarele**	**145.21 334**	⇓	P	**PKiKP**	22 52 31.4	-1.5	
ARCR	**ARCALIA**	**145.23 339**	⇓	P	**PKPdf**	22 52 29.5	+0.5	
VRAC	**Vranov**	**145.26 349**		*e*PKP	**PKPdf**	22 52 29.4	+0.4	
VRAC				*e*		22 52 42.7		
RCHB	**Rochefort**	**145.28 2**		*d*PKP	**PKPdf**	22 52 30.2	+1.2	
DOU	**Dourbes**	**145.32 3**		*d*PKP	**PKPdf**	22 52 29.2	+0.1	
JURR	**Jurilovca**	**145.34 332**	⇓	P	**PKPdf**	22 52 30.5	+1.3	
CFR	**Carcaliu**	**145.34 333**	⇓	P	**PKPdf**	22 52 30.4	+1.2	
VRI	**Vrincioaia**	**145.38 335**	⇓	P	**PKPab**	22 52 30.4	+1.0	
VRI	**Vrincioaia**	**145.38 335**	⇓	PKIKP	**PKPab**	22 52 30.4	+1.0	
PLOR	**Plostina**	**145.42 336**	⇑	P	**PKPab**	22 52 30.2	+0.6	
PLOR	**Plostina**	**145.42 336**	⇑	PKIKP	**PKPab**	22 52 30.2	+0.6	
TREC	**Trest**	**145.46 350**		AMS	AMS	23 54 50.0		
	comp=Z,800nm,18.1s							
TPGR	**Topolog**	**145.47 333**	⇓	P	**PKPab**	22 52 30.7	+1.0	
JAVC	**Velka Javorina**	**145.47 348**		*e*PKP	**PKPab**	22 52 31.1	+1.4	
JAVC				*e*		22 52 44.5		
KRUC	**Moravsky**	**145.53 349**		*e*PKP	**PKPab**	22 52 30.0	+0.2	
KRUC				*e*		22 52 43.4		
OZUR		**145.55 337**	⇓	P	**PKPab**	22 52 31.1	+1.0	
VYHS	**Vyhne**	**145.56 346**		*e*PKP2	**PKPab**	22 52 30.7	+0.8	
VYHS	**Vyhne**	**145.56 346**		*e*PKP	**PKPab**	22 52 30.7	+0.8	
COVR	**Voineasa-Covas**	**145.60 336**	⇑	P	**PKPdf**	22 52 29.7	0.0	
GRF	**Grafenberg Arr**	**145.60 355**		*e*PKP	**PKPab**	22 52 30.3	+0.2	
GRF				*e*PP	**PP**	22 55 53.1	+3.8	
	baz=1.3,slow=5.2							
GRF				*e*L	L	23 53 11.3		
	comp=Z,400nm,21.9s							
MESR	**Meseneni**	**145.65 341**	⇑	P	**PKiKP**	22 52 32.1	-1.7	
GRER		**145.67 335**	⇑	P	**PKiKP**	22 52 32.9	-0.9	
TIRR	**Tirgusor**	**145.78 332**	⇑	P	**PKPab**	22 52 31.0	+0.1	
TIRR	**Tirgusor**	**145.78 332**	⇑	PKP2	**PKPab**	22 52 31.0	+0.1	
WLF	**Walferdange**	**145.79 1**		*d*PKP	**PKPab**	22 52 31.0	+0.3	
DOPR	**Dopca**	**145.81 337**	⇑	P	**PKPab**	22 52 32.4	+1.4	
KMBO	**Kilima Mbogo**	**145.87 244**		PKPbc	**PKPdf**	22 52 31.3	-0.1	
	comp=Z,0.4nm,0.8s,baz=62,slow=23,SNR=17							
KMBO	**Kilima Mbogo**	**145.87 244**		PKPbc	**PKPdf**	22 52 31.5	+0.1	
KMBO	**Kilima Mbogo**	**145.87 244**		PKP2	**PKPdf**	22 52 31.5	+0.1	
TLBR	**Topalu**	**145.88 333**	⇓	P	**PKPab**	22 52 31.9	+0.7	
KHC	**Kasperske Hory**	**145.90 352**			**PKPbc**	22 52 30.6	-0.2	
KHC	**Kasperske Hory**	**145.90 352**		*e*PKP	**PKPab**	22 52 31.5	+0.3	
KHC				*ex*	x	22 52 37.7		
KHC				AMS	AMS	23 52 10.0		
	comp=Z,600nm,17.0s							
KHC	**Kasperske Hory**	**145.90 352**		*e*PKP2	**PKPab**	22 52 31.5	+0.3	
KHC				MLR	MLR			
	comp=Z,600nm,17.0s							
MLR	**Muntele Rosu**	**146.00 336**	⇑	P	**PKPab**	22 52 32.1	+0.2	
MFTR	**Murfatlar**	**146.00 332**	⇓	P	**PKPab**	22 52 33.1	+1.4	
MARR	**Marisel-Cluj**	**146.01 340**	⇓	P	**PKPab**	22 52 31.7	-0.1	
MODS	**Modra-Piesok**	**146.02 348**		*e*PKP2	**PKPab**	22 52 32.5	+0.8	
MODS	**Modra-Piesok**	**146.02 348**		*e*PKP	**PKPab**	22 52 32.5	+0.8	
DRGR		**146.04 341**	⇓	P	**PKPdf**	22 52 30.9	+0.4	
DRGR		**146.04 341**	⇓	PKP2	**PKPdf**	22 52 30.9	+0.4	
CKRC	**Cesky Krumlov**	**146.11 351**		*e*PKP	**PKPab**	22 52 32.0	0.0	
CKRC				AMS	AMS	23 55 30.0		
	comp=Z,900nm,22.6s							
GERES	**GERESS Array B**	**146.17 352**		PKPbc	**PKPbc**	22 52 31.8	+0.1	
	comp=Z,7.5nm,0.8s,baz=29,slow=3.0,SNR=44							
GERES	**GERESS Array B**	**146.17 352**		PKPbc	**PKPbc**	22 52 31.6	-0.1	
ZST	**Bratislava**	**146.22 348**		*e*PKP2	**PKiKP**	22 52 33.9	-1.0	
ZST	**Bratislava**	**146.22 348**		*e*PKP	**PKiKP**	22 52 33.9	-1.0	
SRO	**Srobarova**	**146.32 346**		*e*PKP2	**PKiKP**	22 52 34.0	-1.1	
SRO	**Srobarova**	**146.32 346**		*e*PKP	**PKiKP**	22 52 34.0	-1.1	
BR131	**Keskin Array S**	**146.37 321**		*e*PKP2	**PKPab**	22 52 33.1	+0.4	
BRTR	**Keskin Array B**	**146.37 321**		PKPbc	**PKPab**	22 52 33.4	-0.1	
	comp=Z,25nm,0.7s,baz=176,slow=1.1,SNR=106							
BRTR	**Keskin Array B**	**146.37 321**			**PKPdf**	22 52 32.0	+0.6	
VOIR		**146.39 337**	⇑	P	**PKPab**	22 52 33.4	+0.2	
VOIR		**146.39 337**	⇑	PKP2	**PKPab**	22 52 33.4	+0.2	
SULR		**146.54 335**	⇓	P	**PKPab**	22 52 34.0	+0.2	
STU	**Stuttgart**	**146.65 357**			**PKPbc**	22 52 32.2	-0.7	
STU	**Stuttgart**	**146.65 357**		PKP2	**PKPbc**	22 52 32.2	-0.7	
CONA	**Conrad Observa**	**146.72 349**		*e*pPKP	**PKPab**	22 52 34.4	-0.1	
	comp=Z,9.5nm,0.6s,SNR=12							
DEV	**Deva**	**146.78 340**	⇑	P	**PKPab**	22 52 34.6	0.0	
DEV	**Deva**	**146.78 340**	⇑	PKP2	**PKPab**	22 52 34.6	0.0	
ANTO	**Ankara**	**146.78 322**	⇓	P	**PKPab**	22 52 35.5	+0.5	
ANTO	**Ankara**	**146.78 322**	⇓	PKP2	**PKPab**	22 52 35.5	+0.5	
SIRR	**Siria**	**146.84 341**	⇑	P	**PKPab**	22 52 34.5	-0.4	
RONA	**Rosalia, Austr**	**146.86 348**		*e*pPKP	**PKPab**	22 52 34.9	0.0	
	comp=Z,11nm,0.8s,SNR=11							
MOA	**Molln**	**147.06 351**		*i* PKP	**PKPbc**	22 52 34.7	+0.5	
	comp=Z,8.2nm,0.7s,SNR=9.1							
CLF	**Chambon-Foret**	**147.21 6**			**PKPbc**	22 52 33.9	-0.7	
PRD	**Provadia**	**147.22 332**		P	**PKPab**	22 52 36.4	0.0	
BIOA	**Bad Ischl, Aus**	**147.31 352**		*i* PKP	**PKPab**	22 52 36.0	-0.6	
	comp=Z,22nm,1.0s,SNR=9.9							
COPA	**Copaceanca**	**147.41 335**	⇓	P	**PKPbc**	22 52 36.1	+0.9	
ARSA	**Arzberg**	**147.43 349**		*e*PKP	**PKPab**	22 52 36.8	-0.4	
	comp=Z,6.5nm,0.8s,SNR=9.7							
MORH	**Mrgy, Hungar**	**147.74 345**	⇑	P	**PKPbc**	22 52 34.8	-1.2	
SZH	**Strazhica**	**147.82 334**		P	**PKPbc**	22 52 37.1	+0.7	
RETA	**Reutte**	**147.83 355**		*e*PKP	**PKiKP**	22 52 37.9	-0.4	
	comp=Z,25nm,1.0s,SNR=7.3							
VLAD	**Vladila**	**147.85 336**	⇑	P	**PKPbc**	22 52 36.9	+0.4	
WATA	**Walderalm**	**147.90 354**		*i* PKP	**PKiKP**	22 52 38.1	-0.5	
	comp=Z,4.3nm,0.6s							
MOTA	**Moosalm**	**147.94 355**		*e*PKP	**PKiKP**	22 52 38.2	-0.5	
	comp=Z,12nm,1.1s,SNR=8.5							
KBA	**Koelnbreinsger**	**147.95 352**		*i* pPKP	**PKPbc**	22 52 37.4	+0.5	
	comp=Z,4.6nm,0.5s							
WTTA	**Wattenberg**	**147.97 354**		*i* pPKP	**PKPbc**	22 52 37.5	+0.6	
	comp=Z,7.6nm,0.5s,SNR=7.1							
SQTA	**Sankt Quirin**	**148.05 355**		*e*PKiKP	**PKiKP**	22 52 38.7	-0.2	
	comp=Z,5.7nm,0.9s,SNR=5.1							
SOKA	**Soboth**	**148.07 349**		*i* pPKP	**PKPbc**	22 52 37.3	+0.2	
	comp=Z,12nm,0.8s,SNR=15							
DAVA	**Damuels**	**148.09 356**		*e*PKiKP	**PKiKP**	22 52 38.3	-0.7	
	comp=Z,51nm,1.1s							
BORA	**Eskisehir**	**148.12 325**			**PKPbc**	22 52 37.3	-0.1	
MDVR	**Moldovita**	**148.14 340**	⇑	P	**PKPdf**	22 52 32.7	-1.3	
FETA	**Feichten**	**148.29 355**		*i* PKiKP	**PKiKP**	22 52 39.2	-0.3	
	comp=Z,4.1nm,0.7s							
OBKA	**Obir**	**148.32 350**		*i* pPKP	**PKPbc**	22 52 37.5	-0.2	
	comp=Z,7.9nm,0.7s							
OBKA	**Obir**	**148.32 350**		*e*P	**PKPbc**	22 52 37.3	-0.4	
MYKA	**Terra Mystica**	**148.34 351**		*i* pPKP	**PKPbc**	22 52 37.7	-0.1	
	comp=Z,12nm,0.6s,SNR=5.4							
ABTA	**Abfaltersbach**	**148.38 353**		*e*pPKP	**PKPbc**	22 52 37.5	-0.4	
	comp=Z,20nm,0.7s,SNR=11							
FRGS	**Fruska Gora**	**148.40 343**	⇓	P	**PKPbc**	22 52 38.2	+0.3	
FRGS	**Fruska Gora**	**148.40 343**		*e*P	**PKiKP**	22 52 40.1	+0.6	
PRED	**Cave del Predi**	**148.54 351**			**PKPbc**	22 52 37.2	-1.1	
FUORN	**Ofenpass-Fuorn**	**148.73 356**			**PKiKP**	22 52 39.9	-0.6	
CRES	**Cresnjev**	**148.82 349**		*e*P	**PKiKP**	22 52 40.1	-0.2	
CIMO	**Cimolais**	**148.82 353**			**PKPbc**	22 52 38.0	-0.9	
STAL	**STALIGIAL**	**148.84 352**			**PKPbc**	22 52 38.5	-0.5	
SABO	**M.te Sabotino**	**148.99 351**			**PKPdf**	22 52 35.7	+0.3	
CEY	**Cerknica**	**149.09 350**		*e*P	**PKiKP**	22 52 40.4	-0.5	
SENIN	**Lac Senin/Sane**	**149.10 360**		PKPbc	**PKPbc**	22 52 39.5	-0.4	
BOVS	**Bovan**	**149.16 339**	⇑	P	**PKPbc**	22 52 39.3	-0.6	
BOJS	**Bojanci**	**149.17 349**		*e*P	**PKiKP**	22 52 40.8	-0.2	
CTI	**Castel Tesino**	**149.17 354**			**PKPbc**	22 52 40.5	+0.6	
CTI	**Castel Tesino**	**149.17 354**		PKP2	**PKPbc**	22 52 40.5	+0.6	
A051A	**Mrakovica**	**149.29 346**		*e*P	**PKiKP**	22 52 41.4	0.0	
DIVS	**Divibare**	**149.30 341**		PKPdf	**PKPdf**	22 52 35.2	-0.8	
DIVS	**Divibare**	**149.30 341**		*e*P	**PKPab**	22 52 44.6	-0.3	
SKDS	**Skadanscina**	**149.34 350**		*e*P	**PKPbc**	22 52 40.6	+0.3	
CSS	**Mathiatis**	**149.35 314**			**PKPbc**	22 52 40.8	+0.2	
ISP	**Isparta**	**149.45 322**		PKPbc	**PKPbc**	22 52 40.7	-0.2	
ISP				IAMs_20	IAMs_20	00 14 15.9		
	comp=Z,332nm,21.0s							
ISP	**Isparta**	**149.45 322**		PKP2	**PKPbc**	22 52 40.7	-0.2	
VTS	**Vitosha**	**149.47 336**		PKPbc	**PKPbc**	22 52 40.6	-0.2	
VTS	**Vitosha**	**149.47 336**		PKP2	**PKPbc**	22 52 40.6	-0.2	
VTS	**Vitosha**	**149.47 336**		P	**PKiKP**	22 52 42.1	+0.1	
BLY	**Banja Luka**	**149.47 346**		*e*P	**PKiKP**	22 52 41.9	+0.2	
BALB	**Balikesir**	**149.69 327**		PKPbc	**PKiKP**	22 52 42.4	+0.1	
BBLS	**Lazići**	**149.69 342**		*e*P	**PKiKP**	22 52 42.3	0.0	
RDO	**Rodhopi**	**149.69 332**		PKPbc	**PKiKP**	22 52 42.0	-0.3	
SALO	**Salr**	**149.70 355**			**PKiKP**	22 52 41.8	-0.4	
MGRS	**Mrkonjic Grad**	**149.81 346**		*e*P	**PKPab**	22 52 48.1	+1.3	
A050A	**Klekovaca**	**149.88 346**		*e*P	**PKPab**	22 52 47.8	+0.6	
SJES	**Sjenica**	**150.06 341**		*e*P	**PKiKP**	22 52 44.2	+1.1	
SRKY	**Kupres RS**	**150.12 345**		*e*P	**PKiKP**	22 52 45.3	+2.1	
KKB	**Krupnik**	**150.16 335**		P	**PKiKP**	22 52 43.9	+0.7	
PGAV	**Gavieira, Arco**	**150.41 23**		*e*PKPbc	**PKPbc**	22 52 43.5	+0.4	
UPM	**Unac-Piva**	**150.44 342**		*e*P	**PKPbc**	22 52 42.1	-1.2	
STIP	**Stip**	**150.66 336**		*i* P	**PKPbc**	22 52 43.9	+0.3	
SKO	**Skopje**	**150.71 338**		*i* P	**PKiKP**	22 52 46.5	+2.1	
PCAB	**Cabril**	**150.73 23**		*e*PKPbc	**PKPbc**	22 52 41.9	-1.9	
BRY	**Bratogost**	**150.83 342**		*e*P	**PKPbc**	22 52 44.2	+0.1	
VAY	**Valandovo**	**150.83 335**		*i* P	**PKiKP**	22 52 44.6	0.0	
PDG	**Podgorica**	**151.04 341**		PKPdf	**PKPdf**	22 52 38.1	-0.5	
PDG				IAMs_20	IAMs_20	23 58 00.9		
	comp=Z,409nm,22.0s							
STON	**Ston**	**151.09 344**		*e*P	**PKiKP**	22 52 47.3	+2.2	
POLO	**Lamas de Olo**	**151.10 23**		*e*PKPbc	**PKiKP**	22 52 45.6	+0.3	
PBRG	**Braganca**	**151.12 22**		*e*PKPdf	**PKPdf**	22 52 41.1	+2.2	
PBRG	**Braganca**	**151.12 22**		*e*PKPbc	**PKPbc**	22 52 45.0	+0.3	
PVRL	**Vila Real**	**151.22 23**		*e*PKPbc	**PKiKP**	22 52 45.7	+0.2	
DRME	**Dracevica, Mon**	**151.28 341**		*e*P	**PKiKP**	22 52 47.6	+2.1	
MVO	**Moncorvo**	**151.57 23**		*e*PKPdf	**PKPdf**	22 52 38.2	-1.4	
MVO	**Moncorvo**	**151.57 23**		*e*PKPbc	**PKiKP**	22 52 46.3	0.0	
PVIS	**Viseu**	**151.63 24**		*e*PKPbc	**PKiKP**	22 52 46.2	-0.2	
PVIS	**Viseu**	**151.63 24**		*e*PKPab	**PKPab**	22 52 54.7	+0.2	
MBAR	**Mbarara**	**151.66 238**			**PKPbc**	22 52 46.4	-0.6	
MBAR	**Mbarara**	**151.66 238**		IAMs_20	IAMs_20	23 52 19.2		
	comp=Z,609nm,22.0s							
MBAR	**Mbarara**	**151.66 238**		PKIKP	**PKPbc**	22 52 46.4	-0.6	
MBAR				MLR	MLR			
	comp=Z,600nm,22.0s							
OHR	**Ohrid**	**151.69 338**		*i* P	**PKiKP**	22 52 49.2	+2.7	
OSSC	**Osservatorio P**	**151.71 353**			**PKPbc**	22 52 45.3	-0.7	
LIT	**Litokhoron**	**151.89 334**			**PKPbc**	22 52 45.5	-1.0	
LIT	**Litokhoron**	**151.89 334**		PKIKP	**PKPbc**	22 52 45.5	-1.0	
PCAS	**Casmilo, Conde**	**151.94 26**		*e*PKPdf	**PKPdf**	22 52 41.5	+1.4	
PCAS	**Casmilo, Conde**	**151.94 26**		*e*PKPbc	**PKiKP**	22 52

baz=13,SNR=4.3
PATS Pohnpei 12.55 25 Pn **Pn** **23 14 57.6 -1.8**
PATS Pohnpei 12.55 25 P **Pn** **23 14 58.7 -0.8**
GENI Genyem 13.03 279 P **P** **23 15 10.5 -3.9**
102nm,1.0s,3µm
COEN Coen 13.44 226 P **Pn** **23 15 11.4 -0.2**
baz=14,SNR=5.6
COEN Coen 13.44 226 Pn **Pn** **23 15 11.2 -0.4**
COEN Coen 13.44 226 P **Pn** **23 15 11.7 +0.1**
SMPI Sarmi 14.57 280 P **P** **23 15 29.6 -1.9**
94nm,1.3s
MTSU Mount Surprise 15.90 212 P **Pn** **23 15 44.5 +0.8**
baz=16,SNR=10
CTA Charters Tower 16.72 203 P **Pn** **23 15 54.7 +0.7**
9.4nm,0.8s,baz=22,slow=8.4,SNR=6.3
CTA LR LR 23 21 25.1
comp=Z,404nm,21.2s,baz=20,slow=34
CTAO Charters Tower 16.72 203 P **Pn** **23 15 54.6 +0.7**
CTAO Charters Tower 16.72 203 P **Pn** **23 15 54.6 +0.6**
CTAO pmax pmax
comp=Z,27nm,1.2s
SRPI Serui, Papua 17.02 279 P **P** **23 16 00.5 +1.7**
comp=Z,44nm,0.4s
RK1H Rockhampton Ha 18.80 187 P **Pn** **23 16 19.6 +0.3**
KOUNC Koumac, New Ca 19.21 146 P **P** **23 16 22.6 -0.2**
KOUNC IAmb IAmb 23 16 30.5
comp=Z,122nm,1.5s
KOUNC Koumac, New Ca 19.21 146 P **P** **23 16 23.3 +0.5**
GUMO Guam 19.86 336 P **Pn** **23 16 31.2 -0.7**
comp=Z,113nm,0.8s,baz=187,slow=13,SNR=3.1
GUMO LR LR 23 25 21.2
comp=Z,110nm,18.2s,baz=110,slow=40
GUMO Guam 19.86 336 P **P** **23 16 29.9 +0.1**
GUMO Guam 19.86 336 P **P** **23 16 29.9 +0.1**
GUMO pmax pmax
comp=Z,537nm,1.4s
QIS Mount Isa 20.53 218 P **P** **23 16 38.5 +1.3**
baz=21,SNR=35
QIS Mount Isa 20.53 218 P Pn 23 16 38.7 -1.2
EIDS Eidsvold 20.70 185 **P** **23 16 37.1 -1.8**
FAKI Fak Fak 20.84 274 P **P** **23 16 39.8 -0.8**
FAKI Fak Fak 20.84 274 P **P** **23 16 40.9 +0.3**
FAKI Fak Fak 20.84 274 P Pn 23 16 42.1 -1.5
comp=Z,51nm,1.0s
LIFNC LIFOU 21.14 141 P **P** **23 16 41.8 -1.9**
LIFNC LIFOU 21.14 141 P **P** **23 16 41.9 -1.8**
comp=Z,185nm,0.8s
NOUC Port Laguerre 21.58 145 P **P** **23 16 47.1 -1.3**
DZM Mont Dzumac 21.64 144 P **P** **23 16 48.3 -0.8**
comp=Z,32nm,0.5s,baz=290,slow=7.4,SNR=65
DZM LR LR 23 24 33.2
comp=Z,563nm,20.4s,baz=290,slow=35
comp=Z,32nm,0.5s
DZM Mont Dzumac 21.64 144 P **P** **23 16 48.1 -1.0**
DZM IAmb IAmb 23 17 09.3
comp=Z,137nm,1.2s
DZM Mont Dzumac 21.64 144 P **P** **23 16 48.6 -0.5**
ONTNC Ouen Toro 21.83 145 P **P** **23 16 49.1 -2.0**
ONTNC IAmb IAmb 23 17 11.0
comp=Z,126nm,1.1s
KDU Kakadu 21.85 247 P **P** **23 16 50.1 -1.3**
baz=22,SNR=194
KDU Kakadu 21.85 247 P **P** **23 16 50.1 -1.3**
YATNC Mamie plateau, 21.89 144 P **P** **23 16 51.5 -0.2**
comp=Z,64nm,0.8s
SIJI Sorong 22.09 279 P **P** **23 16 55.3 +1.3**
comp=Z,20nm,0.5s,baz=113,slow=7.6,SNR=15
SIJI LR LR 23 25 05.2
comp=Z,204nm,20.8s,baz=116,slow=35
comp=Z,20nm,0.5s
SWI Sorong 22.10 279 P **P** **23 16 55.6 +1.6**
comp=Z,59nm,1.1s
RMQ Roma 22.11 190 P **P** **23 16 55.7 +1.6**
baz=22,SNR=6.9
RMQ Roma 22.11 190 P **P** **23 16 55.6 +1.6**
OUENC Ouen Island, N 22.14 144 P **P** **23 16 52.8 -1.6**
OUENC IAmb IAmb 23 17 15.4
comp=Z,55nm,1.0s
OUENC Ouen Island, N 22.14 144 P **P** **23 16 53.0 -1.4**
comp=Z,73nm,1.3s
MARNC Mare, Loyalty 22.16 140 P **P** **23 16 54.1 -0.4**
PINNC Pines Island, 22.64 143 P **P** **23 16 59.2 -0.6**
PINNC IAmb IAmb 23 17 15.4
comp=Z,66nm,1.0s
MTN Manton Dam 23.14 248 P **P** **23 17 03.6 -1.4**
baz=23,SNR=57
MTN Manton Dam 23.14 248 P **P** **23 17 03.8 -1.2**
MTN IAmb IAmb 23 17 16.9
comp=Z,40nm,0.5s
MTN Manton Dam 23.14 248 P **P** **23 17 04.0 -0.9**
QLP Quilpie 23.39 200 P **P** **23 17 07.6 +0.4**
baz=24,SNR=5.4
WB0 Warramunga Arr 23.60 229 P **P** **23 17 08.5 -0.8**
WB0 IAmb IAmb 23 17 27.3
comp=Z,118nm,1.4s
WRAB Tennant Creek 23.73 229 P **P** **23 17 10.3 -0.1**
WRAB Tennant Creek 23.73 229 *de*P **P** **23 17 10.1 -0.3**
WRAB pmax pmax
comp=Z,34nm,0.6s
WRA Warramunga Arr 23.75 229 P **P** **23 17 10.0 -0.6**
comp=Z,32nm,0.5s,baz=52,slow=10,SNR=280
WRA S **S** **23 21 23.1 +1.4**
comp=Z,4.2nm,0.9s,baz=54,slow=20,SNR=5.9
WRA LR LR 23 27 09.7
comp=Z,318nm,19.0s,baz=54,slow=38
comp=Z,32nm,0.5s
WRA Warramunga Arr 23.75 229 P **P** **23 17 10.3 -0.3**
WRA Warramunga Arr 23.75 229 P **P** **23 17 10.3 -0.3**
WRA pmax pmax
comp=Z,22nm,1.6s
ARMA Armidale 25.67 183 P **P** **23 17 29.9 +1.9**
baz=26,SNR=7.9
ARMA Armidale 25.67 183 P **P** **23 17 26.6 -1.4**
ARMA IAmb IAmb 23 17 49.6
comp=Z,20nm,0.8s
ARMA Armidale 25.67 183 P **P** **23 17 28.4 +0.3**
INKA Innaminka 25.79 206 P **P** **23 17 29.4 +0.3**
KNRA Kununurra 26.28 244 P **P** **23 17 32.9 -0.7**
baz=26,SNR=326
KNRA Kununurra 26.28 244 P **P** **23 17 32.8 -0.8**
KNRA Kununurra 26.28 244 P **P** **23 17 33.5 -0.1**
AS01 Alice Springs 26.41 222 P **P** **23 17 34.5 -0.3**
AS31 Alice Springs 26.44 223 P **P** **23 17 34.3 -0.7**
ASAR Alice Springs 26.44 223 P **P** **23 17 34.4 -0.7**
comp=Z,10.0nm,0.5s,baz=55,slow=9.0,SNR=110
ASAR S **S** **23 22 09.7 +5.0**
comp=Z,1.7nm,0.6s,baz=44,slow=15,SNR=2.4
ASAR LR LR 23 28 00.2
comp=Z,318nm,19.5s,baz=78,slow=36
comp=Z,10.0nm,0.5s
ASAR Alice Springs 26.44 223 P **P** **23 17 34.1 -0.9**
ASAR Alice Springs 26.44 223 P **P** **23 17 34.1 -0.9**
SANI Sanana 27.15 275 P **P** **23 17 41.9 +0.4**
comp=Z,53nm,1.0s
MSVF Nonsavu 27.70 120 P **P** **23 17 46.4 0.0**
comp=Z,3.6nm,0.7s,baz=150,slow=23,SNR=2.1
MSVF LR LR 23 27 30.7
comp=Z,427nm,22.0s,baz=248,slow=34
comp=Z,3.6nm,0.7s
OOD Oodnadatta 28.35 214 P **P** **23 17 51.6 -0.4**
STKA Stephens Creek 29.15 200 P **P** **23 17 58.7 -0.4**
comp=Z,5.5nm,0.7s,baz=28,slow=8.4,SNR=9.6
comp=Z,5.5nm,0.7s
STKA Stephens Creek 29.15 200 P **P** **23 17 58.9 -0.2**
baz=29,SNR=13
STKA Stephens Creek 29.15 200 P **P** **23 17 58.4 -0.7**
STKA Stephens Creek 29.15 200 P **P** **23 17 58.4 -0.7**
STKA pmax pmax
comp=Z,3.0nm,1.2s
BATI Baumata 29.66 258 P **P** **23 18 03.4 -0.5**
comp=Z,6.2nm,0.4s,baz=307,slow=20,SNR=1.4
BATI LR LR 23 32 20.8
comp=Z,597nm,20.5s,baz=105,slow=41
comp=Z,6.2nm,0.4s
DAV Davao City (W) 29.80 293 LR LR 23 30 18.6
comp=Z,100nm,18.6s,baz=113,slow=37
FITZ Fitzroy Crossi 29.96 241 P **P** **23 18 05.3 -1.1**
FITZ Fitzroy Crossi 29.96 241 P **P** **23 18 05.6 -0.9**
CAN Canberra 30.76 187 P **P** **23 18 13.3 0.0**
CAN IAmb IAmb 23 18 35.0
comp=Z,24nm,1.0s
CAN Canberra 30.76 187 P **P** **23 18 13.3 0.0**
CAN pmax pmax
comp=Z,24nm,1.0s
CAN Canberra 30.76 187 P **P** **23 18 13.1 -0.3**
CAN pP **pP** **23 18 27.0 -0.8**
CAN sP **sP** **23 18 33.5 -1.3**
MULG Mulgathing 31.18 213 P **P** **23 18 16.0 -1.0**
WRKA Warakurna 31.26 227 P **P** **23 18 16.6 -1.3**
baz=31,SNR=84
WRKA Warakurna 31.26 227 P **P** **23 18 17.1 -0.8**
HTT Hallett 31.53 203 P **P** **23 18 19.8 -0.3**
baz=32,SNR=5.8
HTT Hallett 31.53 203 P **P** **23 18 19.6 -0.6**
BBOO Buckleboo 32.22 208 P **P** **23 18 25.5 -0.6**
BBOO IAmb IAmb 23 18 34.8
comp=Z,20nm,1.2s
BBOO Buckleboo 32.22 208 P **P** **23 18 26.3 +0.2**
TOLI2 Tolitoli 32.76 279 P **P** **23 18 30.4 -0.7**
TOLI2 Tolitoli 32.76 279 P **P** **23 18 31.9 +0.8**
TOO Toolangi 33.50 191 P **P** **23 18 37.1 -0.2**
TOO IAmb IAmb 23 18 59.4
comp=Z,54nm,2.0s
TOO Toolangi 33.50 191 P **P** **23 18 37.1 -0.2**
TOO pmax pmax
comp=Z,54nm,2.0s
MPSI Mapaga 33.50 278 P **P** **23 18 36.8 -0.8**
comp=Z,15nm,1.4s
ARPS Mount Arapiles 33.59 196 P **P** **23 18 38.7 +0.6**
baz=34,SNR=4.9
ARPS Mount Arapiles 33.59 196 P **P** **23 18 38.6 +0.5**
FORT Forrest 35.08 219 P **P** **23 18 50.6 -0.5**
baz=35,SNR=20
FORT Forrest 35.08 219 P **P** **23 18 50.5 -0.5**
FORT Forrest 35.08 219 P **P** **23 18 50.4 -0.6**
PLAI Plampang 35.28 261 P **P** **23 18 52.7 -0.3**
AFI Afiamalu 35.85 107 LR LR 23 31 36.1
comp=Z,224nm,20.5s,baz=306,slow=33
MBWA Marble Bar 36.28 240 P **P** **23 19 00.6 -0.8**
MBWA Marble Bar 36.28 240 P **P** **23 19 00.9 -0.6**
MBWA Marble Bar 36.28 240 P **P** **23 19 00.8 -0.7**
MBWA sP **sP** **23 19 21.9 -1.9**
PSA00 Pilbara Seismi 36.34 239 P **P** **23 19 00.8 -1.2**
PSA00 Pilbara Seismi 36.34 239 P **P** **23 19 01.0 -1.0**
KKM Kota Kinabalu 38.30 286 P **P** **23 19 18.2 -0.6**
KKM IAmb IAmb 23 20 24.1
comp=Z,30nm,1.2s
TAU Tasmania Unive 38.45 187 P **P** **23 19 19.7 +0.2**
TAU Tasmania Unive 38.45 187 P **P** **23 19 19.7 +0.2**
TAU pmax pmax
comp=Z,188nm,1.9s
JOW Kunigami 39.42 324 LR LR 23 32 51.9
comp=Z,112nm,21.6s,baz=259,slow=32
MEEK Meekatharra 39.51 233 P **P** **23 19 27.9 -0.8**
baz=40,SNR=46
MEEK Meekatharra 39.51 233 P **P** **23 19 28.2 -0.5**
KMBL Kambalda 39.55 224 P **P** **23 19 28.4 -0.5**
baz=40,SNR=5.7
KMBL Kambalda 39.55 224 P **P** **23 19 28.1 -0.8**
JHJ Hachijo jima 2 39.61 342 LR LR 23 34 21.0
comp=Z,76nm,19.1s,baz=200,slow=34
URZ Urewera 39.99 150 P **P** **23 19 32.7 +0.3**
comp=Z,6.3nm,0.6s,baz=114,slow=2.2,SNR=8.2
comp=Z,6.3nm,0.6s
URZ Urewera 39.99 150 P **P** **23 19 33.1 +0.7**
RTZ Ruatahuna 40.20 151 P **P** **23 19 33.9 -0.4**
RTZ IAmb IAmb 23 20 03.2
comp=Z,22nm,1.1s
BKZ Black Stump Fm 40.40 152 P **P** **23 19 34.7 -1.2**
BKZ IAmb IAmb 23 19 55.8
comp=Z,46nm,1.6s
SBUM Sibu 41.41 279 P **P** **23 19 45.5 +0.9**
SBUM IAmb IAmb 23 20 41.7
comp=Z,18nm,1.2s
GIRL Giralia 41.57 241 P **P** **23 19 46.2 +0.5**
baz=42,SNR=5.1
GIRL Giralia 41.57 241 P **P** **23 19 45.4 -0.3**
GIRL Giralia 41.57 241 P **P** **23 19 45.8 +0.1**
RPZ Rata Peaks 42.03 160 P **P** **23 19 49.6 +0.5**
comp=Z,15nm,0.5s,baz=322,slow=3.5,SNR=11
RPZ LR LR 23 36 52.4
comp=Z,288nm,18.2s,baz=316,slow=35
comp=Z,15nm,0.5s
RPZ Rata Peaks 42.03 160 P **P** **23 19 49.8 +0.6**
JMN Monobe 42.26 336 P **P** **23 19 51.4 +0.3**
JMN IAmb IAmb 23 21 02.8
comp=Z,20nm,1.2s
INU Inuyama 42.54 340 P **P** **23 19 54.7 +1.3**
INU pP **pP** **23 20 09.6 +0.3**
INU sP **sP** **23 20 15.8 -0.6**
KLBR Kellerberrin 42.60 227 P **P** **23 19 55.1 +1.1**
baz=43,SNR=9.1
KLBR Kellerberrin 42.60 227 P **P** **23 19 52.3 -1.7**
MORW Morawa 42.65 231 P **P** **23 19 54.0 -0.4**
baz=43,SNR=4.6
MORW Morawa 42.65 231 P **P** **23 19 53.9 -0.6**
MORW Morawa 42.65 231 P **P** **23 19 54.5 +0.1**
JGF Kuroka 42.66 341 P **P** **23 19 53.0 -1.4**
JGF IAmb IAmb 23 20 31.3
comp=Z,19nm,1.3s
JGF Kuroka 42.66 341 P **P** **23 19 56.5 +2.1**
BLDU Ballidu 42.88 229 P **P** **23 19 55.6 -0.7**
baz=43,SNR=11
BLDU Ballidu 42.88 229 P **P** **23 19 56.0 -0.3**
JNU Nakatsue 43.05 332 LR LR 23 34 43.8
comp=Z,75nm,19.6s,baz=114,slow=32
JNU Nakatsue 43.05 332 P **P** **23 19 56.8 -0.8**
JNU IAmb IAmb 23 20 19.7
comp=Z,44nm,1.2s
JNU Nakatsue 43.05 332 P **P** **23 19 58.4 +0.8**
ODZ Otahua Downs 43.08 162 P **P** **23 19 57.7 0.0**
MJAR Matsushiro Arr 43.26 342 P **P** **23 19 58.7 -0.6**
comp=Z,1.0nm,0.6s,baz=289,slow=12,SNR=6.2
MJAR LR LR 23 37 51.7
comp=Z,77nm,18.1s,baz=170,slow=36
comp=Z,1.0nm,0.6s
MAJO Matsushiro 43.26 342 P **P** **23 19 59.3 +0.1**
MAJO pP **pP** **23 20 14.9 -0.2**
MAJO sP **sP** **23 20 22.2 0.0**
JHS Saijyo 43.67 336 P **P** **23 20 01.6 -1.0**
JHS IAmb IAmb 23 20 28.1
comp=Z,19nm,1.2s
NWAO Narrogin (SRO) 43.69 225 LR LR 23 39 48.5
comp=Z,227nm,18.4s,slow=38
NWAO Narrogin (SRO) 43.69 225 P **P** **23 20 02.2 -0.4**
NWAO Narrogin (SRO) 43.69 225 P **P** **23 20 02.3 -0.4**
NWAO pmax pmax
comp=Z,424nm,2.0s
MUN Mundaring 43.93 227 P **P** **23 20 04.6 -0.1**
baz=44,SNR=4.2
MUN Mundaring 43.93 227 P **P** **23 20 04.6 -0.1**
KNMB Chin-men Tao 44.45 312 P **P** **23 20 08.6 -0.3**
KNMB IAmb IAmb 23 20 26.0
comp=Z,70nm,1.5s
BBJI Bungbulang 45.23 264 P **P** **23 20 14.6 -0.8**
LEM Lembang 45.26 265 LR LR 23 43 34.2
comp=Z,97nm,18.5s,baz=250,slow=42
JTM Tenmabayashi 46.53 347 P **P** **23 20 26.8 +1.7**
TJN Taejon 47.36 332 P **P** **23 20 31.3 -0.3**
TJN Taejon 47.36 332 *de*P **P** **23 20 32.1 +0.4**
KSRS Korea Array 47.98 333 P **P** **23 20 36.6 +0.2**
comp=Z,4.2nm,1.0s,baz=152,slow=8.8,SNR=16
comp=Z,4.2nm,1.0s
KSAR Wonju Array Be 47.99 333 P **P** **23 20 36.2 -0.2**
KSAR Wonju Array Be 47.99 333 P **P** **23 20 36.3 -0.2**
INCN Inchon 48.60 332 P **P** **23 20 40.9 -0.3**
INCN Inchon 48.60 332 P **P** **23 20 40.9 -0.3**
INCN pmax pmax
comp=Z,30nm,0.9s
INCN Inchon 48.60 332 P **P** **23 20 42.1 +0.9**
INCN sP **sP** **23 21 04.0 -0.3**
RAR Rarotonga 48.60 114 LR LR 23 39 50.6
comp=Z,35nm,19.0s,baz=234,slow=34
NJ2 Nanjing 48.89 321 *eP* **P** **23 20 44.3 +0.8**
ASAJ Asahikawa 49.44 350 LR LR 23 40 30.7
comp=Z,100nm,19.2s,baz=158,slow=34
USRK Ussuriysk Ar. 52.19 341 P **P** **23 21 08.9 +0.8**
comp=Z,4.3nm,0.8s,baz=176,slow=4.0,SNR=4.5
USRK LR LR 23 43 20.8
comp=Z,68nm,18.1s,baz=171,slow=36
comp=Z,4.3nm,0.8s
USRK Ussuriysk Ar. 52.19 341 P **P** **23 21 07.9 -0.3**
USRK Ussuriysk Ar. 52.19 341 P **P** **23 21 07.9 -0.3**
KULM Kulim 53.27 280 P **P** **23 21 16.0 -0.7**
KULM IAmb IAmb 23 21 39.9
comp=Z,24nm,1.2s
MDJ Mudanjiang 53.37 339 P **P** **23 21 17.0 +0.1**
MDJ pP pP 23 21 33.0 -0.2
MDJ sP sP 23 21 39.5 -0.8
MDJ ScP **ScP** **23 26 14.8 -1.4**
MDJ PcS **PcS** **23 26 21.5 -1.0**
MDJ S **S** **23 28 45.8 +1.4**
MDJ pmax pmax
comp=Z,9.0nm,1.6s
MDJ pmax pmax
comp=Z,250nm,4.3s
MDJ LR LR
comp=Z,320nm,4.2s
MDJ LR LR
comp=Z,340nm,4.8s
MDJ LR LR
comp=Z,290nm,5.5s
ENH Enshi 54.24 313 P **P** **23 21 23.3 -0.3**
ENH IAmb IAmb 23 21 25.1
comp=Z,13nm,1.0s
ENH Enshi 54.24 313 P **P** **23 21 24.5 +0.9**
ENH Enshi 54.24 313 P **P** **23 21 24.0 +0.4**
ENH pP **pP** **23 21 40.0 0.0**
CN2 Changchun 54.27 336 P **P** **23 21 24.0 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HNS HongShan 54.98 323 ⇓P **P** **23 21 29.0 +0.2**
HNS pmax pmax
comp=Z,15nm,1.1s
BNX BinXian 55.12 338 ⇑P **P** **23 21 29.8 +0.2**
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,380nm,4.6s
GSI Gunungsitoli 55.75 275 P **P** **23 21 35.6 +0.9**
XAN Xi'an 56.69 316 ⇑P **P** **23 21 41.5 +0.3**
XAN pP pP 23 21 58.8 +1.2
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN LR LR
comp=Z,150nm,15.9s
XAN LR LR
comp=Z,180nm,19.4s
XAN LR LR
comp=Z,250nm,18.4s
XAN Xi'an 56.69 316 P **P** **23 21 41.7 +0.5**
KLR Kul'dur 56.77 343 LR LR 23 44 09.5
comp=Z,67nm,21.4s,baz=178,slow=34
KLR Kul'dur 56.77 343 ⇑*i*P **P** **23 21 41.9 +0.6**
KLR pmax pmax
comp=Z,11nm,1.3s
PHRA Phrae 56.90 295 P **P** **23 21 42.4 -0.5**
KMI Kunming 57.12 304 ⇓P **P** **23 21 44.3 -0.3**
KMI pP pP 23 22 01.0 -0.1
KMI pmax pmax
comp=Z,5.0nm,1.3s
CRAI Chiangrai 57.34 297 P **P** **23 21 45.7 -0.2**
PEA0B Petropavlovsk- 57.67 3 P **P** **23 21 48.3 +0.7**
PEA0B Petropavlovsk- 57.67 3 P **P** **23 21 48.3 +0.7**
PEA0B pmax pmax
comp=Z,191nm,1.7s
PETK Petropavlovsk- 57.67 3 P **P** **23 21 48.6 +1.0**
comp=Z,2.9nm,0.6s,baz=176,slow=7.6,SNR=8.3
PETK LR LR 23 41 52.1
comp=Z,63nm,20.8s,baz=177,slow=31
comp=Z,2.9nm,0.6s
PETK Petropavlovsk- 57.67 3 P **P** **23 21 47.8 +0.2**
PETK Petropavlovsk- 57.67 3 P **P** **23 21 47.8 +0.2**
CMAR Chiang Mai Arr 58.05 295 P **P** **23 21 52.4 +1.4**
comp=Z,2.3nm,0.3s,baz=122,slow=5.8,SNR=19
CMAR LR LR 23 45 26.5
comp=Z,59nm,20.9s,baz=110,slow=34
comp=Z,2.3nm,0.3s
CMAR Chiang Mai Arr 58.05 295 P **P** **23 21 50.6 -0.4**
CMAR Chiang Mai Arr 58.05 295 *i* P **P** **23 21 52.5 +1.5**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
CHTO Chiang Mai 58.16 295 P **P** **23 21 51.5 -0.2**
CHTO Chiang Mai 58.16 295 P **P** **23 21 51.5 -0.2**
CHTO pmax pmax
comp=Z,1.0nm,1.7s
PZH PanZhiHua 58.50 305 P **P** **23 21 54.3 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,60nm,4.6s
PZH LR LR
comp=Z,360nm,22.1s
PZH LR LR
comp=Z,520nm,23.0s
PZH LR LR
comp=Z,500nm,18.5s
XLT XiLinHaoTe 58.67 329 *e*P **P** **23 21 55.5 +0.6**
XLT pP pP 23 22 13.3 +1.9
XLT pmax pmax
comp=Z,9.0nm,1.1s
XLT pmax pmax
comp=Z,130nm,5.5s
CD2 Chengdu 58.84 310 P **P** **23 21 56.0 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HEH HeiHe 58.99 341 *e*P **P** **23 21 55.8 -1.1**
HEH pmax pmax
comp=Z,7.0nm,0.8s
HHC Hu-ho-hao-te 59.08 324 *e*P **P** **23 22 00.0 +2.2**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,160nm,5.6s
SHEM Shemya Is, Ala 59.87 15 LR LR 23 43 50.5
comp=Z,290nm,20.8s,baz=114,slow=32
TNCH TengChong 60.62 302 P P 23 22 14.3 +5.5
TNCH pP pP 23 22 26.8 +1.5
TNCH sP sP 23 22 35.0 +2.7
TNCH S **S** **23 30 16.8 -4.2**
TNCH sS sS 23 30 48.3 +0.2
TNCH pmax pmax
comp=Z,6.0nm,0.9s
TNCH pmax pmax
comp=Z,120nm,6.7s
LZH Lanzhou 61.30 316 *e*P **P** **23 22 15.0 +1.8**
LZH pP pP 23 22 31.5 +1.6
LZH sP sP 23 22 37.8 +0.9
LZH pmax pmax
comp=Z,14nm,1.0s
ZEA Zeya 62.07 343 *e*P **P** **23 22 19.1 +1.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
DRV Dumont d'Urvil 62.58 186 P **P** **23 22 21.1 +0.2**
DRV sP **sP** **23 22 42.9 -0.7**
MA2 Magadan 64.05 359 P **P** **23 22 30.7 -0.1**
MA2 IAmb IAmb 23 22 45.3
comp=Z,17nm,1.0s
MA2 Magadan 64.05 359 P **P** **23 22 30.7 -0.1**
MA2 pmax pmax
comp=Z,17nm,1.0s
MA2 Magadan 64.05 359 P **P** **23 22 30.9 +0.1**
MA2 pP **pP** **23 22 46.9 -0.4**
GTA Gaotai 65.72 317 ⇓P **P** **23 22 43.5 +1.2**
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,71nm,6.4s
GTA LR LR
comp=Z,84nm,17.1s
GTA LR LR
comp=Z,140nm,18.2s
GTA LR LR
comp=Z,160nm,19.6s
ULN Ulaanbaatar 66.00 328 P **P** **23 22 44.3 +0.4**
ULN Ulaanbaatar 66.00 328 ⇑*e*P **P** **23 22 45.1 +1.1**
ULN pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 66.00 328 P **P** **23 22 46.5 +2.5**
ULN pP **pP** **23 23 02.0 +1.4**
ULN sP **sP** **23 23 10.0 +2.6**
SONM Songino Array 66.33 328 P **P** **23 22 46.4 +0.4**
comp=Z,1.9nm,0.5s,baz=143,slow=5.4,SNR=24
comp=Z,1.9nm,0.5s
SONM Songino Array 66.33 328 P **P** **23 22 45.7 -0.3**
SONM Songino Array 66.33 328 P **P** **23 22 45.7 -0.3**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SEY Seymchan 67.39 360 ⇑*e*P **P** **23 22 52.8 +0.6**
SEY pmax pmax
comp=Z,9.0nm,1.9s
GOMU GeErMu 67.85 312 P **P** **23 22 57.5 +1.3**
GOMU pmax pmax
comp=Z,2.0nm,1.0s
GOMU pmax pmax
comp=Z,100nm,6.7s

YAK	Yakutsk	68.87	348	LR	LR	23 52 06.9		
	comp=Z,28nm,20.2s,baz=70,slow=35							
YAK	Yakutsk	68.87	348	⇓eP	P	23 23 01.8	+0.3	
YAK				pmax	pmax			
	comp=Z,11nm,0.5s							
ZAK	Zakamensk	69.50	329	eP	P	23 23 06.5	+0.7	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BOD	Bodaibo	69.74	339	eP	P	23 23 07.1	+0.1	
BOD				pmax	pmax			
	comp=Z,8.0nm,1.6s							
TAPN	Taplejung	70.55	301	eP	P	23 23 13.9	+0.9	
RAMN	Ramite	71.40	300	eP	P	23 23 18.7	+0.6	
	comp=Z,3.9nm,0.4s							
JIRN	Jiri	71.94	301	eP	P	23 23 22.2	+0.7	
	comp=Z,6.9nm,0.5s							
GUN	Gumba	72.27	301	eP	P	23 23 24.1	+0.7	
	comp=Z,15nm,0.6s							
PKI	Pulchoki	72.58	301	eP	P	23 23 25.6	+0.3	
PKIN	Phulchoki	72.59	301	eP	P	23 23 25.6	+0.3	
	comp=Z,5.5nm,0.4s							
DMN	Daman	72.85	301	eP	P	23 23 26.5	-0.3	
	comp=Z,14nm,0.6s							
VNDA	Vanda	72.98	178	P	P	23 23 26.6	+0.4	
	comp=Z,2.1nm,0.6s,baz=352,slow=6.1,SNR=7.2							
	comp=Z,2.1nm,0.6s							
VNDA	Vanda	72.98	178	P	P	23 23 26.4	+0.1	
VNDA				IAmb	IAmb	23 25 12.5		
	comp=Z,64nm,1.9s							
VNDA	Vanda	72.98	178	P	P	23 23 26.4	+0.1	
VNDA				pmax	pmax			
	comp=Z,64nm,2.0s							
BILL	Bilibino	73.11	5	P	P	23 23 27.2	0.0	
BILL	Bilibino	73.11	5	eP	P	23 23 27.5	+0.4	
BILL				e		23 23 47.6		
BILL				e		23 26 07.8		
BILL				ePPP	PPP	23 27 56.5		
BILL				pmax	pmax			
	comp=Z,9.0nm,0.9s							
BILL				MLR	MLR			
	comp=Z,43nm,15.0s							
GKN	Gorkha	73.35	301	eP	P	23 23 29.3	-0.3	
DANN	Dangsing	74.19	301	eP	P	23 23 35.0	+0.3	
ANM	Nome	75.55	17	P	P	23 23 41.3	0.0	
ANM				IAmb	IAmb	23 24 19.3		
	comp=Z,20nm,1.5s							
ANM	Nome	75.55	17	P	P	23 23 41.3	0.0	
ANM				pmax	pmax			
	comp=Z,20nm,1.5s							
P18K	Big Mountain,	75.70	24	P	P	23 23 42.0	-0.4	
WMQ	Urumqi	75.81	317	eP	P	23 23 44.8	+1.4	
WMQ				pP	pP	23 24 00.0	-0.4	
WMQ				sP	sP	23 24 08.5	+1.3	
WMQ				pmax	pmax			
	comp=Z,14nm,0.7s							
WMQ				LR	LR			
	comp=Z,82nm,18.1s							
KDAK	Kodiak Island	75.92	27	LR	LR	23 50 36.1		
	comp=Z,270nm,20.6s,baz=253,slow=30							
N19K	Bonanza Creek	76.84	24	P	P	23 23 48.2	-0.7	
N19K				IAmb	IAmb	23 25 07.4		
	comp=Z,35nm,1.6s							
M19K	Big River Lodg	77.52	23	P	P	23 23 52.4	-0.1	
TIXI	Tiksi	77.78	352	⇓eP	P	23 23 54.8	+1.0	
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.7s							
DGZ	Jazzator, Alta	78.12	323	⇑iP	P	23 23 57.1	+0.7	
DGZ				pmax	pmax			
	comp=Z,11nm,2.0s							
IMAR	Indian Mountai	80.15	19	P	P	23 24 06.0	-0.9	
MK31	Makanchi Array	80.38	319	P	P	23 24 08.4	-0.2	
MK31	Makanchi Array	80.38	319	diP	P	23 24 09.0	+0.4	
MKAR	Makanchi Array	80.38	319	P	P	23 24 09.1	+0.5	
	comp=Z,2.4nm,0.7s,baz=95,slow=7.2,SNR=40							
	comp=Z,2.4nm,0.7s							
MKAR	Makanchi Array	80.38	319	P	P	23 24 08.4	-0.2	
MKAR	Makanchi Array	80.38	319	P	P	23 24 08.4	-0.2	
MAKZ	Makanchi	80.59	319	P	P	23 24 09.5	-0.2	
MAKZ	Makanchi	80.59	319	P	P	23 24 09.5	-0.2	
MAKZ				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MLY	Manley	80.64	21	P	P	23 24 08.9	-0.8	
MLY				IAmb	IAmb	23 24 34.4		
	comp=Z,9.0nm,0.8s							
ZAA0	Zalesovo Array	81.17	326	P	P	23 24 12.2	-0.4	
ZALV	Zalesovo Beam	81.17	326	P	P	23 24 12.2	-0.4	
	comp=Z,2.1nm,0.5s,baz=112,slow=5.6,SNR=13							
	comp=Z,2.1nm,0.5s							
ZALV	Zalesovo Beam	81.17	326	P	P	23 24 12.1	-0.5	
SHLS	Shalkode	81.31	315	eP	P	23 24 12.3	-1.5	
	baz=315							
SHLS	Shalkode	81.31	315	eP	P	23 24 12.3	-1.5	
COLA	College	81.61	22	⇓eP	P	23 24 17.4	+2.7	
COLA				pmax	pmax			
	comp=Z,24nm,1.9s							
UZB	Uzynbulak	81.62	315	eP	P	23 24 15.4	-0.1	
	baz=315							
UZB	Uzynbulak	81.62	315	eP	P	23 24 15.3	-0.1	
ILAR	Eielson Array	81.92	22	P	P	23 24 14.7	-1.6	
	comp=Z,0.7nm,0.5s,baz=241,slow=5.9,SNR=12							
ILAR				LR	LR	23 59 04.9		
	comp=Z,67nm,18.4s,baz=256,slow=34							
	comp=Z,0.7nm,0.5s							
KPKS	Kokpek	81.94	315	eP	P	23 24 17.1	0.0	
	baz=315							
KPKS	Kokpek	81.94	315	eP	P	23 24 17.0	0.0	
SATY	Saty	82.03	314	eP	P	23 24 17.8	+0.1	
	baz=314							
SATY	Saty	82.03	314	eP	P	23 24 17.7	+0.1	
ZHN	Zhinishke	82.04	315	eP	P	23 24 17.7	0.0	
	baz=315							
ZHN	Zhinishke	82.04	315	eP	P	23 24 17.6	0.0	
SEM	Semipalatinsk	82.72	322	eP	P	23 24 21.8	+0.6	
	baz=322							
SEM	Semipalatinsk	82.72	322	eP	P	23 24 21.7	+0.6	
M27K	Edge Creek, AK	82.82	25	P	P	23 24 21.1	-0.2	
M27K				IAmb	IAmb	23 24 47.3		
	comp=Z,37nm,1.2s							
MDOK	Medeo	83.03	314	eP	P	23 24 23.1	+0.2	
	baz=314							
MDOK	Medeo	83.03	314	eP	P	23 24 23.0	+0.2	
KSH	Kashi	83.03	311	P	P	23 24 26.3	+3.4	
KSH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TNSS	Tian-Shan	83.07	314	eP	P	23 24 24.4	+1.0	
	baz=314							
TNSS	Tian-Shan	83.07	314	eP	P	23 24 24.3	+1.0	
BCAR	Beaver Creek A	83.16	25	P	P	23 24 22.8	-0.1	
CHKK	Chushkaly	83.22	315	eP	P	23 24 24.4	+0.8	
	baz=315							
CHKK	Chushkaly	83.22	315	eP	P	23 24 24.4	+0.8	
KUU	Kurty	83.69	315	eP	P	23 24 25.8	-0.2	
	comp=Z,12nm,1.3s,baz=315							
KUU	Kurty	83.69	315	eP	P	23 24 25.8	-0.2	
KUU				pmax	pmax			
	comp=Z,12nm,1.3s							
KURK	Kurchatov	83.81	322	P	P	23 24 26.5	+0.1	
KURK				IAmb	IAmb	23 24 27.5		
	comp=Z,11nm,1.3s							
KURK	Kurchatov	83.81	322	P	P	23 24 26.5	+0.1	
KURK				pmax	pmax			
	comp=Z,11nm,1.3s							
BMAR	Burnt Mountain	84.01	20	P	P	23 24 27.0	-0.2	
TKM2	Tokmak 2	84.01	314	P	P	23 24 28.9	+0.9	
	SNR=7.3							
NIL	Nilore	84.11	304	P	P	23 24 28.3	-0.1	
NIL				IAmb	IAmb	23 25 01.0		
	comp=Z,11nm,0.8s							
NIL	Nilore	84.11	304	P	P	23 24 28.3	-0.1	
NIL				pmax	pmax			
	comp=Z,11nm,0.9s							
UCH	Uchtor	84.66	313	P	P	23 24 33.5	+2.0	
	SNR=7.2							
AAK	Ala-Archa	84.75	313	P	P	23 24 32.8	+1.2	
	SNR=13							
AAK	Ala-Archa	84.75	313	P	P	23 24 32.3	+0.6	
AAK				IAmb	IAmb	23 24 33.5		
	comp=Z,11nm,0.6s							
AAK	Ala-Archa	84.75	313	⇓eP	P	23 24 32.8	+1.2	
AAK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
SGDS	Sogindy	84.81	314	eP	P	23 24 32.1	+0.2	
	baz=314							
SGDS	Sogindy	84.81	314	eP	P	23 24 32.0	+0.2	
AML	Almayashu	85.24	313	P	P	23 24 34.3	-0.1	
	SNR=5.6							
EKS2	Erkin-Say	85.28	313	P	P	23 24 35.5	+1.3	
	SNR=14							
QSPA	South Pole Qui	85.32	180	P	P	23 24 33.6	-0.3	
QSPA				IAmb	IAmb	23 24 57.6		
	comp=Z,33nm,1.6s							
BTLS	Baital	85.53	316	eP	P	23 24 35.5	+0.3	
	baz=316							
BTLS	Baital	85.53	316	eP	P	23 24 35.5	+0.3	
MAW	Mawson	85.81	203	LR	LR	23 58 54.2		
	comp=Z,58nm,21.9s,baz=144,slow=33							
NRIK	Noril'sk	85.90	341	P	P	23 24 36.7	+0.2	
	comp=Z,5.7nm,0.5s,baz=99,slow=5.7,SNR=19							
	comp=Z,5.7nm,0.5s							
NRIK	Noril'sk	85.90	341	P	P	23 24 36.4	-0.1	
NRIK				IAmb	IAmb	23 25 08.6		
	comp=Z,8.0nm,1.0s							
NRIK	Noril'sk	85.90	341	⇓eP	P	23 24 36.9	+0.4	
NRIK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
DLBC	Dease Lake	87.11	31	LR	LR	23 57 53.3		
	comp=Z,138nm,20.0s,baz=282,slow=32							
KKAR	Karatay Array	87.72	313	P	P	23 24 45.7	-0.3	
KKAR	Karatay Array	87.72	313	P	P	23 24 45.7	-0.3	
CHGR	Chuyangaron	88.12	309	P	P	23 24 47.3	-0.8	
CHGR				IAmb	IAmb	23 25 22.3		
	comp=Z,12nm,0.8s							
CHGR	Chuyangaron	88.12	309	P	P	23 24 47.3	-0.8	
CHGR				pmax	pmax			
	comp=Z,12nm,0.8s							
INK	Inuvik	88.21	21	LR	LR	23 58 55.6		
	comp=Z,111nm,21.3s,baz=176,slow=32							
INK	Inuvik	88.21	21	P	P	23 24 46.6	-1.1	
INK				IAmb	IAmb	23 25 20.9		
	comp=Z,22nm,1.5s							
INK	Inuvik	88.21	21	P	P	23 24 46.6	-1.1	
INK				pmax	pmax			
	comp=Z,22nm,1.5s							
YBH	Yreka Blue Hor	88.75	48	LR	LR	23 56 50.9		
	comp=Z,102nm,21.0s,baz=296,slow=30							
BRVK	Borovoye	89.34	323	P	P	23 24 52.5	-0.9	
BRVK				IAmb	IAmb	23 24 53.7		
	comp=Z,7.2nm,0.8s							
BRVK	Borovoye	89.34	323	diP	P	23 24 52.7	-0.7	
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PFO	Pinyon Flats O	92.94	57	LR	LR	23 59 01.1		
	comp=Z,90nm,21.2s,baz=288,slow=30							
NEW	Newport	93.31	42	LR	LR	00 02 04.2		
	comp=Z,71nm,19.4s,baz=328,slow=32							
ELK	Elko	94.28	50	LR	LR	00 00 29.3		
	comp=Z,184nm,20.3s,baz=291,slow=31							
RPN	Rapa Nui	94.65	118	LR	LR	00 01 31.0		
	comp=Z,48nm,19.4s,baz=259,slow=31							
YKA	Yellowknife Ar	95.17	28	P	P	23 25 21.3	+1.2	
	comp=Z,0.5nm,0.9s,baz=269,slow=4.8,SNR=4.4							
	comp=Z,0.5nm,0.9s							
ARU	Arti	96.33	326	ciP	P	23 25 24.7	-0.9	
ARU				*PP	pP	23 25 42.3	-0.7	
ARU						23 29 19.8		
ARU				S	SKSac	23 35 55.9	-1.0	
ARU				SP	SP	23 37 58.5	-1.6	
ARU				pmax	pmax			
	comp=Z,11nm,2.1s							
PDAR	Pinedale Array	98.55	48	LR	LR	00 02 25.6		
	comp=Z,116nm,20.3s,baz=310,slow=31							
NVL	N'lazarevskaya	100.47	192	eP	Pdif	23 25 45.7	+1.9	
NVL				pmax	pmax			
	comp=Z,24nm,1.1s							
MNK	Minsk	113.60	329	i P	Pdif	23 26 41.4	-1.1	
	comp=E,1.0nm,0.8s							
MNK				i LR	LR	00 17 34.3		
MNK				i LRM	MLR	00 19 14.2		
	comp=N,429nm,14.8s							
MNK				i LRM	MLR	00 19 21.9		
	comp=E,16nm,13.5s							
MNK				i LRM	MLR	00 19 29.0		
	comp=Z,86nm,12.2s							
MNK				i P	Pdif	23 26 41.4	-1.1	
	comp=N,52nm,0.9s							
MNK				i P	Pdif	23 26 41.4	-1.1	
	comp=Z,3.0nm,0.8s,baz=243							
MNK				i PP	PP	23 31 26.2	-1.1	
MNK				i PPP	PPP	23 33 50.1		
MNK				i SKS	SKSdf	23 37 40.5	-1.3	
MNK				i PS	PS	23 41 03.4	-1.3	
MNK				i SS	SS	23 47 10.4	+0.4	
MNK				i SSS	SSS	23 51 24.0		
MNK	Minsk	113.60	329	i P	Pdif	23 26 41.4	-1.1	
MNK				i		23 31 26.2		
MNK				i PPP	PPP	23 33 50.1		
MNK				i		23 37 40.5		
MNK				i PS	PKKPbc	23 41 03.4	-17	
MNK				i SS	SS	23 47 10.3	+0.4	
MNK				i SSS	SSS	23 51 24.0		
MNK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MNK				pmax	pmax			
	comp=N,52nm,0.9s							
MNK				pmax	pmax			
	comp=E,1.0nm,0.8s							
MNK				MLR	MLR			
	comp=N,429nm,15.0s							
MNK				MLR	MLR			
	comp=E,16nm,14.0s							
MNK				MLR	MLR			
	comp=Z,86nm,12.0s							
AKASG	Malin Array Be	114.52	325	PKiKP	PKiKP	23 30 36.2	-0.7	
	comp=Z,0.9nm,0.5s,baz=58,slow=2.2,SNR=4.9							
BR131	Keskin Array S	115.39	312	⇓iPKIKP	PKPdf	23 30 40.8	+1.7	
BRTR	Keskin Array B	115.39	312	PKP	PKiKP	23 30 38.9	-0.3	
	comp=Z,0.4nm,0.7s,baz=144,slow=5.3,SNR=4.1							
NOA	NORSAR Array B	116.86	340	PKP	PKiKP	23 30 42.0	+0.8	
	comp=Z,0.7nm,0.7s,baz=47,slow=2.0,SNR=3.8							
NOA	NORSAR Array B	116.86	340	PKIKP	PKiKP	23 30 42.0	+0.8	
PLCA	Paso Flores	119.74	143	PKP	PKiKP	23 30 47.7	+0.2	
	comp=Z,1.0nm,0.5s,baz=236,slow=4.5,SNR=8.1							
DPC	Dobruska-Polom	121.79	329	ePKPDF	PKiKP	23 30 55.4	+4.3	
DPC	Dobruska-Polom	121.79	329	ePKIKP	PKiKP	23 30 55.4	+4.3	
MODS	Modra-Piesok	122.43	327	ePKIKP	PKiKP	23 30 54.5	+2.1	
MODS	Modra-Piesok	122.43	327	ePKP	PKiKP	23 30 54.5	+2.1	
BRG	Berggiesshubel	122.67	330	ePKP	PKiKP	23 30 53.7	+1.0	
BRG				Amp		23 30 55.2		
	comp=Z,4.0nm,0.9s							
BRG				Amp		23 54 20.0		
	comp=Z,0.7nm,25.8s							
BRG	Berggiesshubel	122.67	330	ePKIKP	PKiKP	23 30 53.7	+1.0	
BRG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BRG				MLR	MLR			
	comp=Z,666nm,25.8s							
CLL	Collm	122.84	331	ePKPdf	PKPdf	23 30 52.0	-0.9	
CLL				ex	x	23 30 56.0		
	comp=Z,4.0nm,0.9s							
CLL				esPKPdf	sPKPdf	23 31 17.0	0.0	
CLL				ePP	PP	23 32 32.0	+0.8	
CLL				LmV		00 24 00.0		
	comp=Z,200nm,20.5s							
CLL	Collm	122.84	331	ePKIKP	PKPdf	23 30 52.0	-0.9	
RONA	Rosalia, Austr	123.36	326	iPKiKP	PKiKP	23 30 55.1	+0.8	
	comp=Z,2.2nm,0.8s							
CONA	Conrad Observa	123.46	327	ePKiKP	PKiKP	23 30 54.8	+0.3	
	comp=Z,1.5nm,0.6s							
CKRC	Cesky Krumlov	123.76	328	ePKPDF	PKiKP	23 30 55.0	0.0	
FNA	Florina	123.76	317		PKPdf	23 30 54.7	-0.4	
FNA	Florina	123.76	317	PKIKP	PKPdf	23 30 54.7	-0.4	
KHC	Kasperske Hory	123.94	329	ePKPDF	PKPdf	23 30 55.1	0.0	
KHC				ex	x	23 31 20.2		
KHC	Kasperske Hory	123.94	329	ePKIKP	PKPdf	23 30 55.1	0.0	
GERES	GERESS Array B	124.06	329	PKP	PKiKP	23 30 56.0	+0.3	
	comp=Z,1.2nm,0.5s,baz=72,slow=1.9,SNR=16							
MOA	Molln	124.37	327	iPKiKP	PKiKP	23 30 56.6	+0.3	
	comp=Z,3.0nm,1.8s							
ABTA	Abfaltersbach	125.99	327	ePKiKP	PKiKP	23 30 59.5	-0.1	
	comp=Z,3.2nm,0.9s							
WATA	Walderalm	126.12	328	iPKiKP	PKiKP	23 31 01.1	+1.2	
	comp=Z,2.4nm,0.5s							
WTTA	Wattenberg	126.13	328	iPKiKP	PKiKP	23 31 00.6	+0.6	
	comp=Z,6.4nm,1.0s							
MOTA	Moosalm	126.36	329	iPKiKP	PKiKP	23 31 00.7	+0.3	
	comp=Z,2.6nm,0.5s							
SQTA	Sankt Quirin	126.38	328	iPKiKP	PKiKP	23 31 00.9	+0.5	
	comp=Z,2.0nm,0.6s							
FETA	Feichten	126.76	329	ePKiKP	PKiKP	23 31 01.9	+0.7	
	comp=Z,2.5nm,0.8s							
ESDC	Sonseca Array	139.41	332	PKP	PKPdf	23 31 24.7	+0.1	
	comp=Z,0.6nm,1.0s,baz=2.5,slow=2.0,SNR=5.2							
TORD	Torodi Ar. Bea	150.51	289	PKPbc	PKPbc	23 31 49.4	-0.2	
	comp=Z,9.6nm,0.7s,baz=68,slow=2.4,SNR=62							
BDFB	Brasilia	150.99	134	PKPbc	PKPbc	23 31 49.8	-1.0	
	comp=Z,6.2nm,0.6s,baz=307,slow=0.6,SNR=16							
DBIC	Dimbokro	157.94	276	PKPab	PKPab	23 32 27.8	-0.1	
	comp=Z,5.9nm,0.9s,baz=152,slow=3.0,SNR=6.8							

*JMA **28** 23:19:03.9±0.2,25°N±1°×122.3E±0.5,h146km±1km, MV2.5/11,TAIWAN REGION*
*TAP **28** 23:19:03.1,24.97N×122.28E,h151km,ML3.2,C*
ISC 28 23:19:03.0±1.6,24.93N±0.05×122.25E±0.03,h151km±8km, n90,σ0.971/153,2C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.25	289	i	P		Pn	23 19 23.8	+0.3
	baz=270								
TWB1				e	S		Sn	23 19 38.4	-0.7
	baz=270								
EGS		0.30	254	e	P		Pn	23 19 24.0	+0.3
	baz=242								
SXI1	Grass Mountain	0.38	296		P		Pn	23 19 24.1	0.0
	baz=281								
SXI1				e	S		Sn	23 19 39.5	-0.6
	baz=281								
TIPB	Shuangxi	0.39	277	i	P		Pn	23 19 24.2	+0.1
	baz=260								
TIPB				e	S		Sn	23 19 38.9	-1.1
	baz=260								
NWF	Wu-fen Shan	0.45	289	e	P		Pn	23 19 24.5	+0.2
	baz=276								
WFSB	Wu-fen Shan	0.45	289		P		Pn	23 19 24.4	+0.2
	baz=275								
ILA	Ilan	0.48	250	e	P		Pn	23 19 24.5	+0.1
	baz=248								
TWC	Suao	0.48	229	i	P		Pn	23 19 24.5	+0.1
	baz=228								
TWC				e	S		Sn	23 19 39.5	-1.1
	baz=228								
TNOU	National Taiwa	0.48	297	e	P		Pn	23 19 24.7	+0.3
	baz=282								
NDS	Dongshan	0.57	239	e	P		Pn	23 19 25.4	+0.5
	baz=238								
NDS				e	S		Sn	23 19 41.9	+0.4
	baz=238								
TWE	Neicheng	0.57	249	e	P		Pn	23 19 25.1	+0.3
	baz=249								
TWE				e	S		Sn	23 19 41.4	0.0
	baz=249								
FUSB	Fushanzhiwuyua	0.62	254	⇑i	P		Pn	23 19 25.5	+0.2
	baz=253								
FUSB				i	S		Sn	23 19 42.1	-0.1
	baz=253								
EWUT	Wuta	0.64	222	⇑	P		Pn	23 19 26.0	+0.7
	baz=218								
EWUT				e	S		Sn	23 19 42.0	-0.3
	baz=218								
YM08	YM08	0.65	294	e	P		Pn	23 19 25.4	0.0
	baz=284								
YM01	YM01	0.65	290		P		Pn	23 19 25.5	+0.1
	baz=279								
NHDH	Xindian Distri	0.66	273	e	P		Pn	23 19 25.4	+0.1
	baz=270								
NHDH				e	S		Sn	23 19 42.2	-0.1
	baz=270								
ENA	Nanau	0.68	223	e	P		Pn	23 19 26.3	+0.7
	baz=221								
ENA				e	S		Sn	23 19 42.6	-0.1
	baz=221								
TWY	Chenhua	0.68	301	e	P		Pn	23 19 25.8	+0.3
	baz=292								
ENTT	Nioudou	0.68	245	e	P		Pn	23 19 26.2	+0.7
	baz=244								
ENTT				e	S		Sn	23 19 43.3	+0.5
	baz=244								
TATO	Taipei	0.69	274	e	P		Pn	23 19 25.8	+0.2
	baz=271								
TATO				e	S		Sn	23 19 42.7	-0.1
	baz=271								
NWLT	Wulai	0.69	258	e	P		Pn	23 19 25.8	+0.2
	baz=256								
NWLT				e	S		Sn	23 19 42.2	-0.6
	baz=256								
PCYT	Pengchaiyu	0.72	347	e	P		Pn	23 19 26.0	+0.3
	baz=344								
NTST	Danshui	0.76	288	e	S		Sn	23 19 43.1	-0.5
	baz=285								
LATG	Datong	0.76	239	e	P		Pn	23 19 27.1	+0.8
	baz=244								
LATG				e	S		Sn	23 19 44.3	+0.4
	baz=244								
TWS1	Kuangyinshan	0.77	283	e	P		Pn	23 19 26.5	+0.4
	baz=280								
TWS1				e	S		Sn	23 19 43.8	0.0
	baz=280								
JYNG	Yonagunijimaku	0.79	127	e	P		Pn	23 19 26.6	+0.3
JYNG					S		Sn	23 19 43.9	-0.1
YHNB	Yeheng	0.83	252		P		Pn	23 19 26.9	+0.2
	baz=243								
YHNB				e	S		Sn	23 19 44.6	-0.1
	baz=243								
YOJ	Yonaguni jima	0.83	124		P		Pn	23 19 26.9	+0.3
YOJ				e	S		Sn	23 19 44.5	-0.1
YOJ	Yonaguni jima	0.83	124		P		Pn	23 19 26.6	0.0
	baz=134								
YOJ					S		Sn	23 19 44.4	-0.1
	baz=134								
NSK	Sanguang	0.85	253	e	P		Pn	23 19 26.9	+0.2
	baz=243								
NSK				e	S		Sn	23 19 44.0	-0.9
	baz=243								
NNSB	Datong	0.93	238	e	P		Pn	23 19 28.2	+0.7
	baz=242								
NNSB				e	S		Sn	23 19 45.7	-0.5
	baz=242								
NNSH	Datong	0.93	238	e	P		Pn	23 19 28.1	+0.6
	baz=241								
NNSH				e	S		Sn	23 19 45.9	-0.2
	baz=241								
NNS	Nan Shan	0.93	239	e	P		Pn	23 19 28.3	+0.8
	baz=242								
NNS				e	S		Sn	23 19 46.9	+0.7
	baz=242								
ETL	Fush Village	0.95	217	e	P		Pn	23 19 27.6	+0.1
	baz=211								
ETL				e	S		Sn	23 19 45.4	-0.9
	baz=211								
NACB	Ninganchiao	0.96	219	e	P		Pn	23 19 27.7	+0.1
	baz=219								
NACB				e	S		Sn	23 19 45.3	-1.0
	baz=219								
NCU	National Centr	0.96	273	e	S		Sn	23 19 46.7	+0.3
	baz=262								
NCUH	Zhongli	0.97	273	e	P		Pn	23 19 28.0	+0.4
	baz=262								
NCUH				e	S		Sn	23 19 46.1	-0.3
	baz=262								

baz=223
TWT Tachien 1.19 236 *e*P Pn 23 19 30.9 +1.1
baz=238
TWT *e*S Sn 23 19 50.9 +0.7
baz=238
TDCB Techi 1.20 236 *e*P Pn 23 19 31.1 +1.2
baz=243
TDCB *e*S Sn 23 19 50.3 0.0
baz=243
TEYL Yanliau Villag 1.21 209 *e*S Sn 23 19 50.1 -0.2
baz=207
CHGB Renai 1.31 229 *e*P Pn 23 19 32.3 +1.3
baz=225
CHGB *e*S Sn 23 19 53.1 +0.8
baz=225
ESL Shilin 1.34 214 *e*P Pn 23 19 30.7 -0.3
baz=220
ESL *e*S Sn 23 19 50.2 -2.3
baz=220
OWD Renai 1.38 225 *e*P Pn 23 19 32.5 +1.0
baz=224
OWD *e*S Sn 23 19 53.5 +0.1
baz=224
NMLH Miaoli 1.38 254 *e*P Pn 23 19 31.8 +0.3
baz=253
NMLH *e*S Sn 23 19 52.6 -0.6
baz=253
NSY Sanyi 1.45 250 *e*P Pn 23 19 33.0 +0.8
baz=242
NSY *e*S Sn 23 19 54.6 +0.2
baz=242
EGFH Guangfu 1.46 211 *e*S Sn 23 19 53.5 -1.2
baz=220
TWQ1 Liyutan 1.46 247 *e*P Pn 23 19 32.8 +0.5
baz=247
TWQ1 *e*S Sn 23 19 54.4 -0.2
baz=247
IRIF Iriomote-Funau 1.47 113 P Pn 23 19 32.8 +0.4
IRIF S Sn 23 19 54.4 -0.4
DPDB Guoxing 1.50 234 *e*P Pn 23 19 33.4 +0.6
baz=234
DPDB *e*S Sn 23 19 55.9 +0.4
baz=234
VWDT VWDT 1.54 221 *e*P Pn 23 19 34.2 +1.1
baz=215
VWDT *e*S Sn 23 19 56.8 +0.6
baz=215
SMLT Sun Moon Lake 1.61 230 *e*P Pn 23 19 35.0 +1.0
baz=230
SMLT *e*S Sn 23 19 58.6 +0.9
baz=230
HGSD Ruisui 1.62 208 *e*P Pn 23 19 34.4 +0.4
baz=217
HGSD *e*S Sn 23 19 57.0 -0.6
baz=217
TYC Yuchr 1.63 231 *e*P Pn 23 19 35.1 +1.0
baz=232
TYC *e*S Sn 23 19 58.6 +0.8
baz=232
TCU Taichung 1.63 242 *e*S Sn 23 19 57.8 0.0
baz=247
SSLB Suanglung 1.64 226 *e*P Pn 23 19 35.2 +1.0
baz=236
SSLB *e*S Sn 23 19 58.5 +0.4
baz=236
EHY Hungye 1.65 211 *e*P Pn 23 19 34.3 0.0
baz=217
EHY *e*S Sn 23 19 57.2 -1.1
baz=217
HATJ Hateruma jima 1.66 121 S Sn 23 19 58.6 +0.2
JKRS Kuro-shima 1.74 113 P Pn 23 19 36.2 +0.9
JKRS S Sn 23 20 00.2 +0.2
EYUL Yuli 1.79 209 *e*P Pn 23 19 36.1 +0.3
baz=217
EYUL *e*S Sn 23 20 00.2 -0.8
baz=217
TWF1 Yuli 1.79 209 *e*P Pn 23 19 36.2 +0.3
baz=217
TWF1 *e*S Sn 23 19 59.9 -1.2
baz=217
JIJ Ishigaki jima 1.81 108 P Pn 23 19 36.4 +0.4
JIJ S Sn 23 20 00.1 -1.3
JISG Ishigakijimahi 1.91 100 P Pn 23 19 37.5 +0.4
JISG S Sn 23 20 02.6 -0.6
ALS Alishan 1.93 223 *e*P Pn 23 19 38.5 +0.7
baz=232
ALS *e*S Sn 23 20 04.9 +0.5
baz=232
FULB Fuli 1.93 207 *e*P Pn 23 19 38.2 +0.7
baz=215
FULB *e*S Sn 23 20 05.0 +1.1
baz=215
EHD Haiduan 2.01 208 *e*P Pn 23 19 37.6 -0.8
baz=214
EHD *e*S Sn 23 20 03.8 -1.8
baz=214
ELDTW Lidau 2.06 213 *e*P Pn 23 19 39.1 0.0
baz=214
ELDTW *e*S Sn 23 20 07.1 +0.2
baz=214
WCKO Fanlu 2.11 226 *e*S Sn 23 20 07.9 +0.3
baz=226
EDH Donghe 2.13 204 *e*S Sn 23 20 07.8 -0.2
baz=210
CHN4 Tsaushan 2.18 224 *e*P Pn 23 19 41.2 +0.8
baz=225
CHN4 *e*S Sn 23 20 09.6 +0.5
baz=225
CHY Chiayi 2.19 230 *e*S Sn 23 20 08.8 -0.4
baz=230
TPUB Ta-pu 2.19 223 *e*P Pn 23 19 39.7 -0.8
baz=224
TPUB *e*S Sn 23 20 09.2 -0.2
baz=224
STYH Taoyuan 2.21 218 *e*P Pn 23 19 42.5 +1.8
baz=227
STYH *e*S Sn 23 20 09.9 +0.3
baz=227
STYT Tauyuan 2.22 218 *e*S Sn 23 20 10.3 +0.2
baz=227
JTJ Tarama 2.25 97 P Pn 23 19 41.7 +0.6
JTJ S Sn 23 20 10.3 -0.2
LONT Longtian 2.26 207 *e*S Sn 23 20 09.2 -1.6
baz=205
TWK Hsinying 2.31 225 *e*S Sn 23 20 11.8 0.0
baz=225
CHN1 Nanshi 2.34 223 *e*S Sn 23 20 12.5 -0.1
baz=223
MASBT Mashibuluo 2.74 213 *e*P Pn 23 19 47.4 +0.2
baz=223
MASBT *e*S Sn 23 20 20.0 -1.3
baz=223
PNG Penghu 2.81 242 *e*S Sn 23 20 20.9 -1.9
baz=237
PHUB P'eng-hu 2.82 241 *e*S Sn 23 20 20.9 -2.1
baz=236
PTMZ Houxiangcun 2.84 273 *e*P Pn 23 19 48.0 -0.4
baz=271
MHZQ Yeshan 3.13 293 *e*P Pn 23 19 52.7 +0.6
baz=291

*IPEC **28** 23:23:39.0±0.3,51.°52N×16.°20E, h0km, MB-1.0, ML2.3/4, MS-1.0, Error ellipse: s-maj=3.0km s-min=1.5km az=71.0*
*DNK **28** 23:23:39.7±1.1,51.°38N×16.°15E, h38km±36km, ML2.0*
*VIE **28** 23:23:40.8,51.°40N×16.°21E, h0km, mb2.5/7, ml2.4/10 65 km WNW of Wroclaw Suspected Mining induced.*
*PRU **28** 23:23:41.5±0.0,51.°42N×16.°06E, h0km*
*IDC **28** 23:23:41.1±1.1,51.°55N×15.°79E, h0km, mbtmp3.8/2, ML2.3/3, Error ellipse: s-maj=47.8km s-min=8.9km az=115.0*

ISC 28 23:23:38.2±0.7,**51.°57N**±0.°03×**16.°12E**±0.°02,**h0**km,**n45,** σ1**1**°**51**/86,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg		**Pg**	**23 23 52.3**	**+0.1**
KSP				*e*Sg		**Sg**	**23 24 01.1**	**-0.6**
OSTC	**Ostas**	**1.01**	**177**	*e*PG		**Pg**	**23 23 58.1**	**+0.5**
OSTC				*e*SG		**Sg**	**23 24 10.2**	**-0.5**
	comp=Z,29nm,0.4s							
UPC	**Upice**	**1.06**	**184**	*e*PG		**Pg**	**23 23 58.6**	**0.0**
UPC				*e*SG		**Sg**	**23 24 11.5**	**-0.8**
	comp=Z,38nm,0.4s							
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG		**Pg**	**23 24 01.3**	**-0.4**
DPC				*e*SG		**Sg**	**23 24 16.3**	**-1.2**
	comp=Z,20nm,0.5s							
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG		**Pn**	**23 24 05.9**	**+0.5**
PVCC				*e*SG		**Sg**	**23 24 24.3**	**+0.2**
	comp=Z,92nm,0.3s							
BRG	**Berggiesshubel**	**1.54**	**244**	Pg		**Pg**	**23 24 08.4**	**+0.8**
BRG				Sg		**Sg**	**23 24 28.6**	**+1.1**
BRG				Amp			23 24 30.6	
	comp=Z,52nm,0.3s							
KRLC	**Kraliky**	**1.55**	**164**	*e*PG		**Pn**	**23 24 07.4**	**+0.3**
KRLC				*e*SG		**Sg**	**23 24 26.6**	**-1.4**
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	*e*SG		**Pb**	**23 24 13.1**	**0.0**
GOPC				*e*SG		**Sn**	**23 24 36.4**	**+0.9**
PRU	**Pruhonice**	**1.87**	**213**	*e*PG		**Pb**	**23 24 13.4**	**+0.1**
PRU				*e*SG		**Sb**	**23 24 36.9**	**-0.3**
	comp=Z,21nm,0.3s							
CLL	**Collm**	**1.97**	**264**	*e*Pn		**Pn**	**23 24 14.0**	**+1.2**
CLL				*e*Pg		**Pb**	**23 24 16.0**	**+1.1**
CLL				*ex*		x	23 24 19.0	
CLL				*ex*		x	23 24 31.0	
CLL				*e*Sg		**Sg**	**23 24 42.0**	**+0.6**
	comp=Z,19nm,0.4s							
MORC	**Moravsky Berou**	**2.01**	**153**	*e*PN		**Pn**	**23 24 13.0**	**-0.4**
MORC				*e*SG		**Sb**	**23 24 39.9**	**-1.2**
MORC	**Moravsky Berou**	**2.01**	**153**	*e*Pn		**Pn**	**23 24 13.0**	**-0.4**
	baz=334							
MORC				*e*Sg		**Sn**	**23 24 39.8**	**+0.6**
	comp=Z,16nm,0.4s,baz=334							
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*SG		**Sb**	**23 24 44.9**	**-0.5**
VRAC	**Vranov**	**2.28**	**172**	*e*PN		**Pn**	**23 24 17.2**	**+0.1**
VRAC				*e*SG		**Sb**	**23 24 49.0**	**0.0**
VRAC	**Vranov**	**2.28**	**172**	*e*Pn		**Pn**	**23 24 17.2**	**+0.1**
	baz=354							
VRAC				*e*Sg		**Sb**	**23 24 48.9**	**0.0**
	comp=Z,13nm,0.4s,baz=354							
KRUC	**Moravsky**	**2.51**	**176**	*e*PN		**Pn**	**23 24 20.6**	**+0.2**
KRUC				*e*SG		**Sb**	**23 24 56.2**	**+0.6**
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn		**Pn**	**23 24 20.5**	**+0.2**
	baz=357							
KRUC				*e*Sg		**Sb**	**23 24 56.1**	**+0.5**
	comp=Z,14nm,0.5s,baz=357							
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN		**Pn**	**23 24 23.4**	**+0.7**
NKC				*e*Pg		**Pg**	**23 24 29.3**	**-0.3**
NKC				*e*SG		**Sg**	**23 25 04.3**	**0.0**
	comp=Z,28nm,0.3s							
OJC	**Ojcow**	**2.69**	**119**	*e*Pg		**Pg**	**23 24 30.5**	**+0.8**
OJC				*e*Sg		**Sg**	**23 25 05.5**	**+0.8**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*PN		**Pn**	**23 24 25.6**	**+0.1**
JAVC				*e*SG		**Sb**	**23 25 07.5**	**+1.0**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*Pn		**Pn**	**23 24 25.6**	**+0.1**
	baz=341							
JAVC				*e*Sg		**Sb**	**23 25 07.5**	**+1.0**
	comp=Z,17nm,1.0s,baz=341							
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN		**Pn**	**23 24 26.8**	**+0.7**
KHC				*e*PG		**Pb**	**23 24 32.5**	**+1.1**
KHC				*e*SN		**Sn**	**23 25 00.9**	**-1.1**
KHC				*e*SG		**Sb**	**23 25 10.2**	**+2.5**
	comp=Z,10nm,0.4s							
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN		**Pn**	**23 24 27.8**	**+1.0**
CKRC				*e*PG		**Pb**	**23 24 33.5**	**+1.2**
CKRC				*e*SG		**Sg**	**23 25 11.9**	**-2.2**
GERES	**GERESS Array B**	**3.14**	**211**	Pn		**Pn**	**23 24 29.7**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=24,slow=13,SNR=15							
GERES				Pg		**Pb**	**23 24 36.1**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=25,slow=16,SNR=15							
GERES				Sn		**Sn**	**23 25 07.3**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=27,slow=22,SNR=4.8							
GERES				Lg		Lg	23 25 15.5	
	comp=Z,2.7nm,0.3s,baz=26,slow=25,SNR=12							
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG		**Pg**	**23 24 43.1**	**+3.0**
LANS				*e*SG		**Sg**	**23 25 19.7**	**-2.3**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PG		**Pg**	**23 24 40.9**	**-0.2**
MODS				*e*SG		**Sg**	**23 25 21.4**	**-2.2**
VYHS	**Vyhne**	**3.54**	**149**	*e*PG		**Pg**	**23 24 46.9**	**+0.9**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P		**Pn**	**23 24 36.0**	**+0.4**
BSD				*i* S		**Sn**	**23 25 18.1**	**-1.0**
BSD				IAML			23 25 19.9	
	comp=Z,1.4nm,0.2s							
CONA	**Conrad Observa**	**3.65**	**183**	*i* Pn		**Pn**	**23 24 36.8**	**+0.8**
	comp=Z,0.2nm,0.1s							
CONA				*e*Sg		**Sg**	**23 25 33.2**	**-2.0**
	comp=Z,6.1nm,0.3s							
RONA	**Rosalia, Austr**	**3.87**	**178**	*e*Sg		**Sg**	**23 25 40.9**	**-1.7**
	comp=Z,1.8nm,0.3s							
MOA	**Molln**	**3.91**	**199**	*i* Pn		**Pn**	**23 24 39.9**	**+0.4**
	comp=Z,0.3nm,0.1s							
MOA				*e*Sg		**Sg**	**23 25 42.1**	**-1.7**
	comp=Z,5.2nm,0.4s							
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PG		**Pg**	**23 24 55.7**	**+2.5**
STHS				*e*SG		**Sg**	**23 25 48.1**	**+4.2**
ARSA	**Arzberg**	**4.34**	**185**	Sg		**Sg**	**23 25 58.4**	**+1.0**
	comp=Z,5.0nm,0.5s							
LUNU	**Lund**	**4.38**	**340**	*i* P		**Pn**	**23 24 46.0**	**+0.1**
LUNU				*i* S		**Sn**	**23 25 35.7**	**-1.8**
BLEU	**Blekinge**	**4.75**	**358**	*i* P		**Pn**	**23 24 52.1**	**+1.1**
BLEU				*i* S		**Sn**	**23 25 44.3**	**-2.4**
KBA	**Koelnbreinsper**	**4.84**	**203**	*e*Pn		**Pn**	**23 24 53.3**	**+0.8**
	comp=Z,0.9nm,0.5s							
BJUU	**Bjuv**	**4.88**	**339**	*i* P		**Pn**	**23 24 54.2**	**+1.5**
BJUU				*i* S		**Sn**	**23 25 47.0**	**-2.8**
DEL	**Delary**	**5.09**	**346**	*i* P		**Pn**	**23 24 56.0**	**+0.3**
DEL				*i* S		**Sn**	**23 25 51.6**	**-3.5**
WATA	**Walderalm**	**5.17**	**217**	*i* Pn		**Pn**	**23 24 58.4**	**+1.5**
	comp=Z,0.2nm,0.2s							
WTTA	**Wattenberg**	**5.21**	**216**	*i* Pn		**Pn**	**23 24 58.8**	**+1.4**
	comp=Z,0.3nm,0.2s							
WTTA				Sg		**Sg**	**23 26 25.0**	**-0.3**
	comp=Z,2.1nm,0.5s							
MOTA	**Moosalm**	**5.34**	**220**	*e*Sg		**Sg**	**23 26 29.5**	**-0.3**
	comp=Z,2.3nm,0.6s							
ABTA	**Abfaltersbach**	**5.37**	**208**	Sg		**Sg**	**23 26 27.8**	**-2.9**
	comp=Z,1.6nm,0.5s							
SQTA	**Sankt Quirin**	**5.40**	**218**	*e*Pn		**Pn**	**23 25 01.9**	**+1.8**
	comp=Z,0.7nm,0.2s							
FINES	**FINESS Array B**	**11.31**	**25**	Pn		**Pn**	**23 26 21.1**	**+0.2**
	baz=219,slow=11,SNR=2.8							
FINES				Sn		**Sn**	**23 28 20.9**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=220,slow=20,SNR=2.0							
	comp=Z,3.3nm,0.9s							
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn		**P**	**23 27 56.6**	**+0.3**
	baz=199,slow=13,SNR=1.6							
	comp=Z,2.5nm,1.0s							

*IDC **28** 23:51:17.6±1.2,5.°56N×125.°52E, h0km, mb3.1/3, mbtmp3.1/3, MS3.1/1, Error ellipse: s-maj=75.4km s-min=18.2km az=81.0*
*MAN **28** 23:51:19.2,5.°83N×126.°59E, h22km, mb4.4, ML3.3, MS3.1*

ISC 28 23:51:21.0±1.8,**5.7N**±0.°1×**126.°4E**±0.°1,**h35**km,**n9,** σ1**9**°**39**/10,**mb3.0**/3,**2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.46**	**285**	*e*P		**Pn**	**23 51 44.1**	**-0.8**
DAV	**Davao City (W)**	**1.56**	**330**	Pn		**Pn**	**23 51 47.0**	**+0.7**
	54nm,0.3s,baz=56,slow=3.3,SNR=5.8							
DAV				Sn		**Sn**	**23 52 06.2**	**+0.9**
	63nm,0.3s,baz=250,slow=9.0,SNR=13							
KCP	**Kidapawan**	**1.81**	**316**	*e*P		**Pn**	**23 51 49.6**	**-0.2**
KCP				*i* S		**Sn**	**23 52 10.8**	**-0.7**
BIPH	**Bislig**	**2.46**	**0**	*e*P		**Pn**	**23 51 58.2**	**-0.5**
BIPH				*e*S		**Sn**	**23 52 26.5**	**-1.1**
CGP	**Cagayan de Oro**	**3.19**	**329**	*e*P		Pn	23 52 15.2	+6.4
CGP				*e*S		**Sn**	**23 52 47.5**	**+1.9**
LEM	**Lembang**	**22.47**	**237**	LR		LR	00 05 07.6	
	comp=Z,60nm,21.4s,baz=191,slow=38							
WRA	**Warramunga Arr**	**26.67**	**163**	P		P	23 56 59.0	+2.2
	0.1nm,0.4s,baz=344,slow=9.3,SNR=2.3							
	0.1nm,0.4s							
ASAR	**Alice Springs**	**30.11**	**166**	P		P	23 57 30.2	+2.7
	0.1nm,0.4s,baz=344,slow=7.0,SNR=6.6							
ASAR				PcP		**PcP**	**00 00 30.9**	**+2.1**
	0.3nm,0.4s,baz=344,slow=3.2,SNR=5.7							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**55.74**	**325**	P		**P**	**00 00 53.0**	**-1.3**
	0.1nm,0.5s,baz=121,slow=6.6,SNR=4.3							
	0.1nm,0.5s							

*IDC **29** 00:07:09.2±1.5,23.°22S×179.°84W, h510km±15km, mb3.5/15, mbtmp4.3/18, Error ellipse: s-maj=17.4km s-min=12.6km az=132.0*
*NEIC **29** 00:07:09.9±1.8,23.°4S±0.°1×179.°7W±0.°1, h517km±8km, mb4.5/48, Error ellipse: s-maj=16.7km s-min=14.8km az=134.0*

*NOU **29** 00:07:10.3,23.°31S×179.°45W, h554km, mb4.5/24, South of Fiji Islands*

ISC 29 00:07:10.7±0.4,**23.°42S**±0.°05×**179.°80W**±0.°07,**h532**km, **n193,** σ1**5**°**59**/208,**mb4.5**/45,**16C-11D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.01**	**340**	P		**P**	**00 08 49.3**	**+0.6**
	3.7nm,0.3s,baz=207,slow=16,SNR=8.5							
MSVF	**Nonsavu**	**6.01**	**340**	P		**P**	**00 08 49.2**	**+0.5**
GLKZ	**Green Lake**	**6.06**	**164**	P		**P**	**00 08 49.6**	**+0.8**
GLKZ				S		**S**	**00 10 09.7**	**+0.5**
TAVE	**Taveuni**	**6.68**	**359**	P		**P**	**00 08 56.9**	**+1.9**
NIUE	**Niue**	**10.17**	**67**	P		**P**	**00 09 29.7**	**-0.6**
MARNC	**Mare, Loyalty**	**11.42**	**277**	P		**P**	**00 09 44.2**	**+1.1**
MARNC	**Mare, Loyalty**	**11.42**	**277**	P		**P**	**00 09 44.7**	**+1.6**
	1.4nm,0.4s							
PINNC	**Pines Island,**	**11.77**	**271**	P		**P**	**00 09 46.9**	**0.0**
AFI	**Afiamalu**	**12.13**	**40**	P		**P**	**00 09 46.5**	**-4.3**
	16nm,0.6s,baz=178,slow=14,SNR=2.7							
AFI				S		S	00 11 51.1	-12
	5.1nm,0.3s,baz=306,slow=24,SNR=1.6							
AFI	**Afiamalu**	**12.13**	**40**	P		**P**	**00 09 46.8**	**-4.0**
LIFNC	**LIFOU**	**12.30**	**280**	P		**P**	**00 09 50.9**	**-1.5**
DZM	**Mont Dzumac**	**12.76**	**273**	P		**P**	**00 09 54.4**	**-3.0**
	5.6nm,0.9s,baz=131,slow=19,SNR=1.9							
DZM	**Mont Dzumac**	**12.76**	**273**	P		**P**	**00 09 57.4**	**+0.1**
DZM	**Mont Dzumac**	**12.76**	**273**	P		**P**	**00 09 59.5**	**+2.2**
MXZ	**Matakaoa Point**	**14.19**	**186**	P		**P**	**00 10 13.7**	**+1.9**
HAZ	**Te Kaha**	**14.44**	**188**	P		**P**	**00 10 16.0**	**+1.6**
HAZ				S		**S**	**00 10 43.1**	**-2.8**
PKGZ	**Pakihiroa**	**14.53**	**187**	P		**P**	**00 10 15.8**	**+0.3**
RUGZ	**Raukumara Rang**	**14.66**	**188**	P		**P**	**00 10 18.8**	**+2.0**
RUGZ				S		**S**	**00 12 47.9**	**-2.4**
PUZ	**Puketiti**	**14.70**	**186**	P		**P**	**00 10 19.7**	**+2.5**
PUZ				S		**S**	**00 12 49.0**	**-1.9**
TOZ	**Tahuroa Road**	**14.82**	**195**	P		**P**	**00 10 22.0**	**+3.6**
TWGZ	**Tauwhareparae**	**14.83**	**187**	P		**P**	**00 10 16.9**	**-1.7**
TWGZ				S		**S**	**00 12 51.1**	**-2.3**
KMRZ	**Kaimai**	**14.83**	**193**	P		**P**	**00 10 22.6**	**+4.1**
URZ	**Urewera**	**15.02**	**189**	P		**P**	**00 10 20.4**	**-0.1**
	13nm,0.3s,baz=357,slow=3.1,SNR=37							
URZ				S		**S**	**00 12 50.1**	**-6.8**
	3.5nm,0.4s,baz=287,slow=17,SNR=2.6							
URZ	**Urewera**	**15.02**	**189**	P		**P**	**00 10 20.4**	**-0.1**
URZ	**Urewera**	**15.02**	**189**	P		**P**	**00 10 19.1**	**-1.4**
URZ				S		**S**	**00 12 50.6**	**-6.4**
MWZ	**Matawai**	**15.04**	**188**	P		**P**	**00 10 20.5**	**-0.2**
MWZ				S		**S**	**00 12 55.4**	**-1.9**
CNGZ	**Carnagh Statio**	**15.11**	**186**	P		**P**	**00 10 22.8**	**+1.4**
RRRZ	**Republican Roa**	**15.20**	**191**	P		**P**	**00 10 23.7**	**+1.4**
RIGZ	**Rimuhau**	**15.38**	**187**	P		**P**	**00 10 25.2**	**+1.0**
RTZ	**Ruatahuna**	**15.39**	**190**			**P**	**00 10 22.9**	**-1.5**
RTZ				IAmb		IAmb	00 10 27.2	
	comp=Z,11nm,0.5s							
MTHZ	**Maungataniwha**	**15.64**	**190**	P		**P**	**00 10 28.2**	**+1.2**
MTHZ				S		**S**	**00 13 03.0**	**-5.3**
RAHZ	**Arahi**	**15.67**	**189**	P		**P**	**00 10 27.9**	**+0.7**
KNZ	**Kokohu**	**15.70**	**187**	P		**P**	**00 10 27.5**	**+0.1**
KNZ				S		**S**	**00 13 08.3**	**-0.7**
WATZ	**Wairara**	**15.71**	**193**	P		**P**	**00 10 30.7**	**+3.1**
HIZ	**Hauiti**	**15.72**	**196**	P		**P**	**00 10 30.1**	**+2.4**
HIZ	**Hauiti**	**15.72**	**196**	P		**P**	**00 10 32.0**	**+4.3**
RITZ	**Rihia Road**	**15.94**	**192**	P		**P**	**00 10 30.6**	**+0.7**
KATZ	**Kakaramea**	**15.97**	**193**	P		**P**	**00 10 32.9**	**+2.5**
BKZ	**Black Stump Fm**	**16.01**	**190**			**P**	**00 10 28.3**	**-2.4**
BKZ	**Black Stump Fm**	**16.01**	**190**	P		**P**	**00 10 28.3**	**-2.4**
BKZ	**Black Stump Fm**	**16.01**	**190**	P		**P**	**00 10 29.5**	**-1.1**
BKZ				S		**S**	**00 13 08.3**	**-6.2**
TMVZ	**Te Maari**	**16.11**	**193**	P		**P**	**00 10 32.1**	**+0.4**
TWVZ	**Taurewa**	**16.12**	**193**	P		**P**	**00 10 32.5**	**+0.7**
WTVZ	**West Tongariro**	**16.13**	**193**	P		**P**	**00 10 33.0**	**+1.0**
NNVZ	**North Ngauruho**	**16.14**	**193**	P		**P**	**00 10 33.4**	**+1.3**
OTVZ	**Oturere**	**16.16**	**193**	P		**P**	**00 10 31.2**	**-1.1**
NGZ	**Ngauruhoe**	**16.18**	**193**	P		**P**	**00 10 33.9**	**+1.3**
SNVZ	**South Ngauruho**	**16.19**	**193**	P		**P**	**00 10 32.8**	**+0.2**
MCHZ	**McNeill Hill**	**16.25**	**190**	P		**P**	**00 10 32.2**	**-0.8**
KWHZ	**Kaweka Forest**	**16.27**	**190**	P		**P**	**00 10 31.4**	**-1.9**
TRVZ	**Turoa**	**16.31**	**193**	P		**P**	**00 10 33.4**	**-0.4**
VRZ	**Vera Road**	**16.32**	**195**	P		**P**	**00 10 36.8**	**+3.1**
WNVZ	**Wahianoa**	**16.33**	**193**	P		**P**	**00 10 33.4**	**-0.6**
MOVZ	**Moawhango**	**16.38**	**192**	P		**P**	**00 10 34.3**	**0.0**
BHHZ	**Black Hill Sta**	**16.40**	**191**	P		**P**	**00 10 32.9**	**-1.6**
KRHZ	**Kereru**	**16.49**	**190**	P		**P**	**00 10 34.7**	**-0.7**
KAHZ	**Kahuranaki**	**16.56**	**189**	P		**P**	**00 10 35.0**	**-1.1**
KHEZ	**Kahui Hut**	**16.67**	**197**	P		**P**	**00 10 38.8**	**+1.7**
PXZ	**Pawanui**	**16.80**	**189**	P		**P**	**00 10 37.4**	**-0.7**
BFZ	**Birch Farm**	**17.53**	**190**	P		**P**	**00 10 43.1**	**-1.8**
BFZ	**Birch Farm**	**17.53**	**190**	P		**P**	**00 10 44.2**	**-0.7**
QRZ	**Quartz Range**	**18.51**	**199**	P		**P**	**00 10 54.6**	**+0.7**
LHI	**Lord Howe Isla**	**20.39**	**242**	P		**P**	**00 11 11.0**	**-0.1**
RPZ	**Rata Peaks**	**21.60**	**198**	P		**P**	**00 11 21.6**	**-0.3**
	comp=Z,7.4nm,0.5s,baz=37,slow=8.2,SNR=2.1							
	comp=Z,7.4nm,0.5s							
JCZ	**Jackson Bay**	**22.63**	**202**	P		**P**	**00 11 31.4**	**+0.1**
ODZ	**Otahua Downs**	**22.93**	**198**	P		**P**	**00 11 35.1**	**+1.3**
ARMA	**Armidale**	**26.36**	**248**	P		**P**	**00 12 05.7**	**+1.1**
ARMA						IAmb	IAmb	00 12 07.6
	comp=Z,36nm,1.4s							
ARMA	**Armidale**	**26.36**	**248**	P		**P**	**00 12 06.7**	**+2.1**
EIDS	**Eidsvold**	**26.57**	**260**	P		**P**	**00 12 07.0**	**+0.7**
EIDS						IAmb	IAmb	00 12 07.8
	comp=Z,9.5nm,0.7s							
EIDS	**Eidsvold**	**26.57**	**260**	P		**P**	**00 12 07.3**	**+1.0**
MGCD	**Mangrove Creek**	**27.32**	**243**	P		**P**	**00 12 14.9**	**+2.0**
RMO	**Roma**	**28.63**	**257**	P		**P**	**00 12 26.1**	**+1.7**
CNB	**Canberra Magne**	**29.25**	**239**	P		**P**	**00 12 30.3**	**+0.6**
CAN	**Canberra**	**29.54**	**239**	P		**P**	**00 12 33.4**	**+1.2**
CAN						IAmb	IAmb	00 12 34.2
	comp=Z,9.6nm,0.6s							
CMSA	**Cobar Meteorol**	**31.56**	**248**	P		**P**	**00 12 50.2**	**+0.6**
CTAO	**Charters Tower**	**31.66**	**269**	P		**P**	**00 12 51.3**	**+0.7**
CTAO	**Charters Tower**	**31.66**	**269**	P		**P**	**00 12 51.1**	**+0.5**
QLP	**Quilpie**	**32.68**	**257**	P		**P**	**00 13 00.0**	**+0.8**
TOO	**Toolangi**	**32.86**	**236**	P		**P**	**00 13 01.2**	**+0.6**
TOO						IAmb	IAmb	00 13 02.2
	comp=Z,8.8nm,0.6s							
TOO	**Toolangi**	**32.86**	**236**	P		**P**	**00 13 01.5**	**+0.9**
TAU	**Tasmania Unive**	**33.39**	**226**	P		**P**	**00 13 05.5**	**+0.5**
PMG	**Port Moresby**	**34.51**	**288**	P		**P**	**00 13 14.2**	**-0.6**
STKA	**Stephens Creek**	**35.07**	**247**	P		**P**	**00 13 19.7**	**+0.5**
	comp=Z,9.0nm,0.4s,baz=92,slow=10,SNR=40							
	comp=Z,9.0nm,0.4s							
STKA	**Stephens Creek**	**35.07**	**247**	P		**P**	**00 13 20.0**	**+0.8**
COEN	**Coen**	**36.22**	**278**	P

comp=Z,1.7nm,0.6s,baz=0.5,slow=6.8,SNR=9.8
comp=Z,1.7nm,0.6s
VNDA Vanda 54.87 185 P **P** **00 15 52.1 +1.8**
SOEI Soe 54.98 274 P **P** **00 15 53.0 +0.6**
SOEI IAmb IAmb 00 16 01.2
comp=Z,19nm,0.8s
BATI Baumata 55.37 274 P **P** **00 15 55.0 +0.1**
comp=Z,36nm,0.6s
PSA00 Pilbara Seismi 55.43 259 P **P** **00 15 54.7 -0.5**
PSA00 IAmb IAmb 00 16 01.9
comp=Z,30nm,1.1s
NWAO Narrogin (SRO) 55.60 245 P **P** **00 15 55.8 -0.4**
MBWA Marble Bar 55.63 260 P **P** **00 15 56.4 -0.3**
MBWA IAmb IAmb 00 15 57.9
comp=Z,61nm,1.5s
SANI Sanana 56.57 284 P **P** **00 16 02.6 -0.6**
comp=Z,9.0nm,0.8s
MORW Morawa 57.21 250 P **P** **00 16 07.1 -0.2**
MMRI Maumere 57.26 275 P **P** **00 16 07.7 -0.2**
MMRI IAmb IAmb 00 16 09.9
comp=Z,51nm,1.3s
GIRL Giralia 60.20 256 P **P** **00 16 28.0 +0.4**
BKSI Bulukumba 60.48 277 P **P** **00 16 27.7 -1.9**
comp=Z,16nm,0.8s
CASY Casey 60.62 206 P **P** **00 16 29.8 +0.2**
TOLI2 Tolitoli 62.63 284 P **P** **00 16 44.7 +1.1**
TOLI2 IAmb IAmb 00 16 45.9
comp=Z,5.5nm,0.6s
MPSI Mapaga 63.08 283 P **P** **00 16 45.8 -0.7**
QSPA South Pole Qui 66.66 180 P **P** **00 17 09.7 +1.4**
QSPA IAmb IAmb 00 17 12.0
comp=Z,8.6nm,1.1s
MJAR Matsushiro Arr 71.61 325 P **P** **00 17 37.3 -1.0**
comp=Z,1.6nm,0.8s,baz=150,slow=6.2,SNR=5.8
comp=Z,1.6nm,0.8s
KIWB Kanaga Island 74.98 2 P **P** **00 17 57.3 +0.1**
ADK Adak 75.03 2 P **P** **00 17 57.3 -0.1**
BELA Belgrano 2 76.88 173 P **P** **00 18 08.2 +0.7**
KSRS Korea Array 78.00 320 P **P** **00 18 14.5 +0.4**
comp=Z,0.5nm,0.6s,baz=163,slow=8.9,SNR=2.8
comp=Z,0.5nm,0.6s
PEA0B Petropavlovsk- 78.68 346 P **P** **00 18 17.4 0.0**
PETK Petropavlovsk- 78.68 346 P **P** **00 18 16.6 -0.8**
comp=Z,1.9nm,0.6s,baz=100,slow=8.3,SNR=7.7
comp=Z,1.9nm,0.6s
PETK Petropavlovsk- 78.68 346 P **P** **00 18 16.9 -0.5**
PMSA Palmer Station 79.28 157 P **P** **00 18 21.2 +0.7**
NJ2 Nanjing 80.48 311 *e*P **P** **00 18 29.3 +1.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CMB Columbia Colle 82.73 43 P **P** **00 18 39.4 +0.6**
EMB Emerald Bay 83.47 43 P **P** **00 18 42.8 0.0**
ELIB Princess Elisa 83.56 187 *d*P **P** **00 18 43.2 +0.7**
YBH Yreka Blue Hor 83.60 39 P **P** **00 18 43.2 +0.1**
comp=Z,1.0nm,0.6s,baz=218,slow=3.4,SNR=3.7
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 84.28 44 P **P** **00 18 47.0 +0.2**
comp=Z,0.6nm,0.6s,baz=226,slow=6.2,SNR=8.8
comp=Z,0.6nm,0.6s
NVAR Mina Array Bea 84.28 44 P **P** **00 18 46.9 +0.1**
KVN Kaiserville 84.78 44 P **P** **00 18 49.6 +0.4**
SNAA Sanae 85.14 179 P **P** **00 18 50.1 -0.1**
SNAA IAmb IAmb 00 19 03.1
comp=Z,15nm,1.4s
K05A Summer Lake 85.28 39 P **P** **00 18 52.5 +1.0**
K05A IAmb IAmb 00 19 12.3
comp=Z,11nm,1.5s
PINE Pine Mountain 85.91 38 P **P** **00 18 55.3 +0.8**
PINE IAmb IAmb 00 18 56.5
comp=Z,3.8nm,0.8s
I07A Izee 86.91 39 P **P** **00 18 59.8 +0.7**
I07A IAmb IAmb 00 19 01.3
comp=Z,12nm,1.4s
U15A North Rim 87.15 48 P **P** **00 19 01.4 +0.7**
U15A IAmb IAmb 00 19 02.6
comp=Z,4.8nm,0.9s
K20K Telida 88.84 11 P **P** **00 19 07.2 -0.3**
K20K IAmb IAmb 00 19 33.9
comp=Z,9.5nm,1.5s
XLT XiLinHaoTe 89.04 319 *e*P P 00 19 15.3 +6.3
XLT pP pwP 00 21 10.0 -0.4
XLT sP sP 00 22 01.0 +3.0
XLT pmax pmax
comp=Z,2.0nm,0.6s
XLT pmax pmax
comp=Z,150nm,4.5s
CAST Castle Rocks 89.27 12 P **P** **00 19 08.0 -1.5**
CAST IAmb IAmb 00 19 10.5
comp=Z,3.7nm,1.0s
CMAR Chiang Mai Arr 89.53 290 P **P** **00 19 12.5 +0.8**
comp=Z,1.1nm,0.4s,baz=154,slow=3.0,SNR=5.7
comp=Z,1.1nm,0.4s
HLID Hailey 89.62 41 P **P** **00 19 11.9 +0.1**
MNTX Cornudas Mount 89.79 55 P **P** **00 19 12.7 0.0**
TXAR Lajitas Array 90.03 58 P **P** **00 19 14.8 +0.8**
comp=Z,0.9nm,0.7s,baz=213,slow=6.4,SNR=10
comp=Z,0.9nm,0.7s
HHC Hu-ho-hao-te 90.21 315 *e*P **P** **00 19 15.0 +0.5**
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,210nm,5.0s
PZH PanZhiHua 90.61 299 P **P** **00 19 18.8 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,4.5s
ILAR Eielson Array 91.53 13 P **P** **00 19 18.4 -1.5**
comp=Z,0.3nm,0.6s,baz=211,slow=5.7,SNR=12
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 92.22 44 P **P** **00 19 23.8 -0.2**
comp=Z,0.8nm,0.6s,baz=201,slow=4.0,SNR=8.9
comp=Z,0.8nm,0.6s
YKA Yellowknife Ar 99.86 25 P **Pdif** **00 19 58.0 +0.5**
comp=Z,0.1nm,0.5s,baz=256,slow=5.0,SNR=2.2
comp=Z,0.1nm,0.5s
MKAR Makanchi Array 111.96 313 PKiKP **PKiKP** **00 24 44.4 -0.9**
comp=Z,0.1nm,0.3s,baz=215,slow=0.5,SNR=4.8
GEYT Alibeck 128.88 301 PKP **PKPdf** **00 25 17.6 -0.4**
comp=Z,0.7nm,0.5s,baz=0.0,slow=1.4,SNR=1.9
FINES FINESS Array B 138.05 342 PKhKP PKPpre 00 25 26.8
comp=Z,2.8nm,1.0s,baz=40,slow=2.4,SNR=3.7
FINES PKP **PKPdf** **00 25 34.4 0.0**
comp=Z,1.5nm,0.8s,baz=29,slow=3.2,SNR=3.5
FINES SKPbc **SKPbc** **00 28 18.4 -0.1**
comp=Z,5.5nm,1.1s,baz=44,slow=4.2,SNR=2.5
NB2 NORSAR Subarra141.64 351 PKP PKPpre 00 25 35.9
comp=Z,0.5nm,0.5s,baz=20,slow=3.7
NOA NORSAR Array B 141.64 351 PKhKP PKPpre 00 25 35.4
comp=Z,0.5nm,0.6s,baz=63,slow=1.4,SNR=6.8
AKASG Malin Array Be 144.67 328 PKP **PKPdf** **00 25 45.9 -0.6**
comp=Z,2.8nm,0.5s,baz=44,slow=4.0,SNR=19
SORM Soroca 146.72 325 ⇓P **PKPbc** **00 25 52.3 -0.5**
PURM Purcari 146.82 321 ⇓P **PKPbc** **00 25 52.4 -0.7**
BRTR Keskin Array B 147.43 308 PKPbc **PKPbc** **00 25 54.7 -0.5**
comp=Z,0.8nm,0.7s,baz=144,slow=3.8,SNR=6.5
VASR Vaslui 147.93 323 ⇓P **PKPdf** **00 25 53.4 +1.2**
TLCR 148.18 320 ⇑P **PKPbc** **00 25 55.7 -0.9**
VLDR Vladesti 148.23 322 ⇓P **PKPbc** **00 25 56.5 -0.3**
GHRR 148.49 322 ⇑P **PKiKP** **00 25 58.3 -0.2**
CFR Carcaliu 148.58 321 ⇑P **PKPbc** **00 25 57.4 -0.3**
TPGR Topolog 148.59 320 ⇑P **PKPbc** **00 25 58.0 +0.3**
BIZ Bicaz 148.66 325 ⇑P **PKPdf** **00 25 50.7 -2.6**
BUR08 Bucovina Ar. S 148.66 327 **PKPbc** **00 25 58.4 +0.4**
BURAR Bucovina Array 148.67 327 ⇑P **PKPbc** **00 25 58.3 +0.3**
BURAR Bucovina Array 148.67 327 **PKPbc** **00 25 58.3 +0.3**
HARR Harsova 148.98 320 ⇓P **PKPbc** **00 25 58.3 -0.3**
TLBR Topalu 148.99 320 ⇑P **PKPbc** **00 25 59.0 +0.4**
TRPA Tarpa 149.61 330 ⇓P **PKPbc** **00 25 59.8 -0.2**
DOPR Dopca 149.65 324 ⇑P **PKiKP** **00 26 00.7 -0.3**
CJR Cluj-Napoca 150.10 327 ⇑P **PKPbc** **00 26 01.5 +0.2**
VOIR 150.17 323 ⇓P **PKPbc** **00 26 01.7 +0.1**
MARR Marisel-Cluj 150.36 327 ⇑P **PKiKP** **00 26 02.7 +0.2**
ARR Arges 150.44 324 ⇑P **PKiKP** **00 26 02.5 -0.2**
CLL Collm 150.45 344 *i* PKPbc **PKPbc** **00 26 01.9 0.0**
comp=Z,7.0nm,0.7s
CLL *i* PKPab **PKPab** **00 26 10.8 0.0**
comp=Z,4.0nm,0.9s
CLL *ex* x 00 27 54.0
DRGR 150.49 328 ⇑P **PKPbc** **00 25 59.4 -2.8**
BRG Berggiesshubel 150.59 342 *e*PKP **PKiKP** **00 26 02.7 0.0**
BRG Amp 00 26 03.3
comp=Z,6.4nm,0.7s
HUMR Humele 150.78 322 ⇓P **PKPbc** **00 26 02.2 -0.7**
SIRR Siria 151.37 328 ⇑P **PKPbc** **00 26 03.9 -0.3**
GZR Gura Zlata 151.41 326 ⇑P **PKPdf** **00 25 58.9 +1.1**
SURR Surduc 151.50 327 ⇓P **PKPbc** **00 26 03.9 -0.6**
BZS Buzias 151.85 327 ⇑P **PKPbc** **00 26 04.9 -0.3**
GERES GERESS Array B 152.47 341 PKPbc **PKPbc** **00 26 05.7 -1.0**
comp=Z,0.2nm,0.5s,baz=44,slow=3.0,SNR=3.5
GERES PKPab **PKPab** **00 26 19.1 -0.4**
comp=Z,0.3nm,0.6s,baz=53,slow=5.3,SNR=2.2
CONA Conrad Observa 152.54 337 *i* PKP **PKPab** **00 26 20.7 +0.8**
comp=Z,1.5nm,0.7s
RONA Rosalia, Austr 152.57 336 *e*PKP **PKPab** **00 26 20.8 +0.8**
comp=Z,4.8nm,1.1s
MORH Mrgy, Hungar 152.81 331 ⇑P **PKPbc** **00 26 06.7 -0.6**
VTS Vitosha 152.95 321 ⇓P **PKPbc** **00 26 06.8 -1.2**
WTTA Wattenberg 154.50 342 *i* PKP **PKPab** **00 26 28.5 +0.1**
comp=Z,1.6nm,0.5s
RETA Reutte 154.54 343 *e*PKP **PKPab** **00 26 28.5 +0.1**
comp=Z,2.1nm,0.6s
MOTA Moosalm 154.58 343 *i* PKP **PKPab** **00 26 28.9 +0.2**
comp=Z,4.3nm,1.1s
ABTA Abfaltersbach 154.70 340 *e*PKP **PKPab** **00 26 29.0 -0.1**
comp=Z,4.3nm,1.3s
ESDC Sonseca Array 163.42 11 PKPab **PKPab** **00 27 06.2 -1.0**
comp=Z,0.1nm,0.3s,baz=355,slow=3.1,SNR=2.2
TORD Torodi Ar. Bea 169.68 188 PKPab **PKPab** **00 27 36.4 +1.1**
comp=Z,0.4nm,0.6s,baz=176,slow=4.0,SNR=2.2

IDC 29 00:16:07.2±1.8, 11°48N×144°08E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=67.2km s-min=35.1km az=97.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.67**	**197**	P	P	00 22 41.3	0.0
	0.5nm,0.9s,baz=21,slow=9.6,SNR=3.2						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**62.48**	**317**	P	P	00 26 32.5	-0.1
	0.2nm,0.5s,baz=102,slow=6.6,SNR=7.0						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**70.79**	**25**	P	P	00 27 25.3	0.0
	0.7nm,1.2s,baz=248,slow=4.8,SNR=1.3						
	0.7nm,1.2s						

*IPEC **29** 00:21:03.6±0.3, 51°51N×16°13E, h0km±1km, ML2.4/5, Error ellipse: s-maj=2.5km s-min=1.2km az=31.0*
*DNK **29** 00:21:04.9±1.8, 51°58N×15°97E, h10km, ML1.8*
*VIE **29** 00:21:05.0, 51°42N×16°03E, h0km, mb2.4/2, ml2.6/4 77 km WNW of Wroclaw Suspected Mining induced.*
*PRU **29** 00:21:05.4±0.0, 51°45N×16°01E, h0km*
ISC 29 00:21:02.9±0.8, 51°57N±0°03×16°05E±0°02, h0km, n36, σ1s10/76, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**168**	*e*Pg	**Pg**	**00 21 17.2**	**+0.1**
KSP				*e*Sg	**Sg**	**00 21 26.0**	**-0.6**
OSTC	**Ostas**	**1.01**	**174**	*e*PG	**Pg**	**00 21 22.2**	**-0.1**
OSTC				*e*SG	**Sg**	**00 21 34.2**	**-1.3**
	comp=Z,29nm,0.3s						
UPC	**Upice**	**1.06**	**181**	*e*PG	**Pg**	**00 21 22.7**	**-0.5**
UPC				*e*SG	**Sg**	**00 21 35.9**	**-1.0**
	comp=Z,65nm,0.2s						
DPC	**Dobruska-Polom**	**1.23**	**172**	*e*PG	**Pg**	**00 21 26.0**	**-0.4**
DPC				*e*SG	**Sg**	**00 21 40.7**	**-1.6**
	comp=Z,32nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**223**	*e*PG	**Pb**	**00 21 30.0**	**+0.2**
PVCC				*e*SG	**Sg**	**00 21 48.0**	**+0.3**
	comp=Z,81nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**243**	Pg	**Pg**	**00 21 32.8**	**+1.3**
BRG				Sg	**Sn**	**00 21 52.4**	**+1.3**
BRG				Amp		00 21 55.0	
	comp=Z,44nm,0.4s						
KRLC	**Kraliky**	**1.56**	**162**	*e*PG	**Pn**	**00 21 31.4**	**-0.6**
KRLC				*e*SG	**Sn**	**00 21 51.0**	**-1.9**
	comp=Z,21nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.84**	**206**	*e*PG	**Pn**	**00 21 36.1**	**+0.4**
GOPC				*e*SG	**Sb**	**00 22 00.8**	**-0.1**
	comp=Z,14nm,0.4s						
PRU	**Pruhonice**	**1.85**	**212**	*e*PG	**Pn**	**00 21 35.9**	**+0.1**
PRU				*e*SG	**Sb**	**00 22 00.7**	**-0.4**
	comp=Z,10nm,0.3s						
CLL	**Collm**	**1.92**	**263**	*e*Pn	**Pn**	**00 21 37.0**	**+0.1**
CLL				*e*Pg	**Pg**	**00 21 40.0**	**+0.3**
CLL				*i* x	x	00 21 44.6	
CLL				*e*Sg	**Sg**	**00 22 05.0**	**+0.3**
	comp=Z,12nm,0.4s						
MORC	**Moravsky Berou**	**2.03**	**151**	*e*PN	**Pn**	**00 21 38.0**	**-0.3**
MORC				*e*SG	**Sn**	**00 22 04.6**	**+0.2**
MORC	**Moravsky Berou**	**2.03**	**151**	*e*Pn	**Pn**	**00 21 38.0**	**-0.3**
	baz=333						
MORC				*e*Sg	**Sn**	**00 22 04.6**	**+0.2**
	comp=Z,25nm,0.5s,baz=333						
OKC	**Ostrava-Krasne**	**2.18**	**142**	*e*PG	**Pb**	**00 21 43.2**	**-0.1**
OKC				*e*SG	**Sb**	**00 22 10.7**	**-0.1**
	comp=Z,20nm,0.8s						
VRAC	**Vranov**	**2.29**	**171**	*e*PN	**Pn**	**00 21 41.8**	**-0.1**
VRAC				*e*SG	**Sb**	**00 22 13.5**	**-0.3**
VRAC	**Vranov**	**2.29**	**171**	*e*Pn	**Pn**	**00 21 41.7**	**-0.1**
	baz=352						
VRAC				*e*Sg	**Sb**	**00 22 13.4**	**-0.3**
	comp=Z,23nm,0.5s,baz=352						
TREC	**Trest**	**2.30**	**189**	*e*PG	**Pn**	**00 21 43.7**	**+1.6**
TREC				*e*SG	**Sb**	**00 22 14.2**	**0.0**
	comp=Z,20nm,0.7s						
MAUC	**Maruska**	**2.48**	**152**	*e*PN	**Pn**	**00 21 45.3**	**+0.8**
MAUC				*e*PG	**Pb**	**00 21 47.6**	**-0.7**
MAUC				*e*SG	**Sb**	**00 22 19.9**	**+0.6**
KRUC	**Moravsky**	**2.52**	**175**	*e*PN	**Pn**	**00 21 45.0**	**-0.1**
KRUC				*e*SG	**Sb**	**00 22 20.7**	**+0.3**
KRUC	**Moravsky**	**2.52**	**175**	*e*Pn	**Pn**	**00 21 44.9**	**-0.1**
	baz=356						
KRUC				*e*Sg	**Sb**	**00 22 20.7**	**+0.3**
	comp=Z,16nm,0.6s,baz=356						
NKC	**Novy Kostel**	**2.64**	**241**	*e*PN	**Pn**	**00 21 47.9**	**+1.1**
NKC				*e*PG	**Pg**	**00 21 53.0**	**-0.5**
NKC				*e*SG	**Sg**	**00 22 29.0**	**+1.3**
	comp=Z,19nm,0.3s						
OJC	**Ojcow**	**2.73**	**118**	*e*Pg	**Pg**	**00 21 54.9**	**-0.3**
OJC				*e*Sg	**Sg**	**00 22 30.6**	**+0.1**
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN	**Pn**	**00 21 50.7**	**+0.3**
KHC				*e*PG	**Pb**	**00 21 56.3**	**+0.7**
KHC				*e*SN	**Sn**	**00 22 26.2**	**+0.2**
KHC				*e*SG	**Sg**	**00 22 34.1**	**-2.1**
	comp=Z,6.5nm,0.6s						
CKRC	**Cesky Krumlov**	**2.97**	**203**	*e*PN	**Pn**	**00 21 52.1**	**+0.9**
CKRC				*e*PG	**Pb**	**00 21 56.9**	**+0.3**
CKRC				*e*SG	**Sg**	**00 22 35.9**	**-2.2**
LANS	**Liptovska Anna**	**3.26**	**137**	*e*PG	**Pg**	**00 22 06.9**	**+1.5**
LANS				*e*SG	**Sg**	**00 22 47.4**	**-0.2**
MODS	**Modra-Piesok**	**3.29**	**166**	*e*PG	**Pg**	**00 22 05.6**	**-0.3**
MODS				*e*SG	**Sg**	**00 22 49.0**	**+0.4**
VYHS	**Vyhne**	**3.56**	**149**	*e*PN	**Pn**	**00 22 00.0**	**+0.6**
VYHS				*e*PG	**Pg**	**00 22 11.9**	**+0.8**
VYHS				*e*SG	**Sg**	**00 22 56.6**	**-0.6**
BSD	**Bornholm Skovb**	**3.62**	**350**	*i* P	**Pn**	**00 22 01.0**	**+0.8**
BSD				*i* S	**Sn**	**00 22 41.9**	**-1.7**
BSD				IAML		00 22 46.6	
	comp=Z,1.0nm,0.2s						
CONA	**Conrad Observa**	**3.64**	**182**	*i* Pn	**Pn**	**00 22 00.9**	**+0.3**
	comp=Z,0.3nm,0.2s						
RONA	**Rosalia, Austr**	**3.87**	**178**	*e*Pn	**Pn**	**00 22 04.8**	**+1.1**
	comp=Z,0.4nm,0.2s						
MOA	**Molln**	**3.90**	**198**	*e*Pn	**Pn**	**00 22 04.7**	**+0.7**
	comp=Z,0.8nm,0.2s						
MOA				Sg	**Sg**	**00 23 09.0**	**+1.0**
	comp=Z,4.9nm,0.3s						
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*PG	**Pg**	**00 22 19.9**	**+1.3**
STHS				*e*SG	**Sg**	**00 23 12.9**	**+3.1**
LUNU	**Lund**	**4.36**	**340**	*i* P	**Pn**	**00 22 11.3**	**+1.0**
LUNU				*i* S	**Sn**	**00 23 00.9**	**-0.8**
BLEU	**Blekinge**	**4.75**	**358**	*i* P	**Pn**	**00 22 18.5**	**+2.8**
BLEU				*i* S	**Sn**	**00 23 08.7**	**-2.7**
KBA	**Koelnbreinsper**	**4.83**	**203**	*e*Pn	**Pn**	**00 22 17.7**	**+0.8**
	comp=Z,0.8nm,0.4s						
BJUU	**Bjuv**	**4.86**	**340**	*i* P	**Pn**	**00 22 17.6**	**+0.4**
BJUU				*e*S	**Sn**	**00 23 11.1**	**-3.0**
DEL	**Delary**	**5.08**	**346**	*i* P	**Pn**	**00 22 20.0**	**-0.2**
DEL				*i* S	**Sn**	**00 23 16.7**	**-2.8**

*SOME **29** 00:23:05.4, 44°60N×79°52E, h15km*
*NNC **29** 00:23:05.4±0.1, 43°98N×79°67E, h0km, mb2.9, mpv2.4, Error ellipse: s-maj=5.5km s-min=1.2km az=156.0*
ISC 29 00:23:03.5±2.6, 44°7N±0°1×79°59E±0°05, h17km±5km, n10, σ0s69/20, 2C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.37**	**157**	P	**Pb**	**00 23 12.3**	**+0.7**
	1.2nm,0.1s						
DJR				S	**Sb**	**00 23 17.4**	**+0.3**
	4.1nm,0.1s						
DJR	**Jarkent**	**0.37**	**157**	*e*P	**Pb**	**00 23 12.3**	**+0.7**
	1.5nm,0.1s						
DJR				*e*S	**Sb**	**00 23 17.3**	**+0.3**
	5.8nm,0.1s						
BLB	**Baldybastay**	**0.98**	**235**	P	**Pg**	**00 23 22.6**	**0.0**
	0.8nm,0.1s						
BLB				S	**Sg**	**00 23 35.1**	**-0.5**
	2.9nm,0.2s						
KTMS	**Ketmen**	**1.34**	**156**	*e*P	**Pg**	**00 23 29.2**	**-0.2**
	0.4nm,0.1s						
KTMS				*e*S	**Sg**	**00 23 46.5**	**-0.4**
	2.0nm,0.2s						
KPKS	**Kokpek**	**1.37**	**209**	*e*P	**Pb**	**00 23 29.3**	**+0.6**
	1.2nm,0.1s						
KPKS				*e*S	**Sb**	**00 23 46.6**	**+0.7**
	1.8nm,0.3s						
SHLS	**Shalkode**	**1.52**	**184**	*e*P	**Pg**	**00 23 32.8**	**+0.1**
	1.0nm,0.3s						
SHLS				*e*S	**Sg**	**00 23 52.4**	**0.0**
	1.5nm,0.3s						
KURS	**Kuram**	**1.56**	**221**	*e*P	**Pb**	**00 23 32.8**	**+0.8**
	0.5nm,0.4s						
KURS				*e*S	**Sb**	**00 23 52.6**	**+1.1**
	0.9nm,0.5s						
UZB	**Uzynbulak**	**1.58**	**195**	*e*P	**Pb**	**00 23 32.7**	**+0.4**
	2.5nm,0.1s						
UZB				*e*S	**Sb**	**00 23 52.3**	**+0.4**
	1.6nm,0.4s						
MDOK	**Medeo**	**2.38**	**232**	⇑Pn	**Pn**	**00 23 41.5**	**-0.3**
	0.7nm,0.8s						
MDOK				Sn	**Sn**	**00 24 09.1**	**-1.5**
	0.8nm,0.5s						
KNDC	**Almaty**	**2.39**	**233**	⇓Pn	**Pn**	**00 23 42.0**	**+0.1**
	4.4nm,0.3s						
KNDC				⇑Sn	**Sn**	**00 24 09.9**	**-0.8**
	2.4nm,0.3s						

*UPP **29** 00:23:11.8±0.1, 67°84N×20°20E, h0km, ML2.7, Suspected explosion*
*HEL **29** 00:23:11.7±0.3, 67°79N×20°22E, h0km, ML1.7, Explosion*
ISC 29 00:23:12.1±0.8, 67°83N±0°02×20°22E±0°02, h0km, n28, σ1s04/40, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**268**	P	**Pg**	**00 23 16.4**	**-0.2**
RATU				S	**Sg**	**00 23 19.7**	**0.0**
KOVU	**Salmi**	**0.39**	**357**	P	**Pg**	**00 23 19.2**	**-0.4**
NIKU	**Nikkaluokta**	**0.45**	**275**	P	**Pg**	**00 23 20.3**	**-0.4**
NIKU				S	**Sg**	**00 23 26.5**	**+0.1**
LANU	**Lannavaara**	**0.70**	**71**	PB	**Pg**	**00 23 25.2**	**-0.4**
LANU				SG	**Sg**	**00 23 34.7**	**+0.1**
DUNU	**Dundret**	**0.73**	**169**	P	**Pg**	**00 23 25.4**	**-0.5**
MASU	**Masugnsbyn**	**0.78**	**118**	P	**Pg**	**00 23 26.7**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**00 23 26.8**	**-0.5**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**00 23 34.7**	**-0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	PG	**Pg**	**00 23 34.0**	**-0.4**
KIF				MSG		00 23 50.3	
	comp=Z,9.7nm,0.2s						
KIF				SG	**Sg**	**00 23 50.5**	**0.0**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**00 23 37.3**	**-1.2**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**00 23 38.1**	**-1.0**
HEF	**Hetta**	**1.41**	**64**	PN	**Pn**	**00 23 37.9**	**-1.2**
	baz=249						
HEF				MSG		00 23 54.7	
	comp=Z,6.7nm,0.2s						
HEF				SN	**Sg**	**00 23 56.9**	**-0.5**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**00 23 39.3**	**-0.8**
ERTU	**Ertsjaerv**	**1.50**	**148**	PN	**Pn**	**00 23 38.9**	**-1.2**
ERTU				SN	**Sb**	**00 24 00.1**	**-0.1**
KLF	**Kolari**	**1.56**	**111**	PN	**Pn**	**00 23 40.4**	**-0.6**
	baz=295						
KLF				MSG		00 23 58.1	
	comp=Z,3.5nm,0.2s						
KLF				SN	**Sg**	**00 24 02.2**	**+0.1**
KTK1	**Kautokeino**	**1.63**	**42**	PG	**Pn**	**00 23 41.6**	**-0.4**
KTK1				SN	**Sg**	**00 24 05.0**	**+0.7**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**00 23 42.9**	**-0.1**
TRO	**Tromso**	**1.87**	**346**	PG	**Pb**	**00 23 46.3**	**-0.7**
TRO				SG	**Sb**	**00 24 10.7**	**-0.2**
KALU	**Kalix**	**2.34**	**146**	PG	**Pn**	**00 23 52.5**	**+0.8**
	baz=330						
TOF	**Tornio**	**2.39**	**136**	PG	**Pn**	**00 23 53.8**	**+1.4**
	baz=323						
TOF				MSG		00 24 21.7	
	comp=Z,3.1nm,0.2s						
TOF				SG	**Sb**	**00 24 26.3**	**+0.4**
SGF	**Sodankyl**	**2.44**	**96**	PG	**Pn**	**00 23 54.1**	**+1.0**
SGF				SG	**Sn**	**00 24 25.2**	**+1.5**
RNF	**Rovaniemi**	**2.57**	**116**	PG	**Pn**	**00 23 56.4**	**+1.5**
RNF				SG	**Sb**	**00 24 30.8**	**-0.2**
ARA0	**ARCESS Array S**	**2.58**	**46**	PB	**Pn**	**00 23 55.5**	**+0.4**
	baz=229						
KEV	**Kevo**	**3.13**	**49**	PB	**Pn**	**00 24 03.7**	**+1.1**
VRF	**Varrio**	**3.57**	**87**	PB	**Pn**	**00 24 11.1**	**+2.5**
OUL	**Oulu**	**3.58**	**138**	PG	**Pb**	**00 24 13.5**	**-2.6**
UMAU	**Umeaa**	**3.97**	**177**	PB	**Pn**	**00 24 16.9**	**+2.8**
KU6	**Riekki**	**4.22**	**111**	PG	**Pb**	**00 24 27.7**	**+0.7**
	baz=298						

*IDC **29** 00:25:08.7±4.4, 17°37S×14°69W, h0km, mb4.1/9, mbtmp4.1/9, MS3.8/23, Error ellipse: s-maj=127.1km s-min=63.4km az=74.0*
*NEIC **29** 00:25:11.4±1.3, 17°5S±0°2×13°9W±0°1, h10km±1km, mb4.7/14, Error ellipse: s-maj=28.9km s-min=17.4km az=150.0*
ISC 29 00:25:11.2±0.6, 17°5S±0°2×13°9W±0°1, h10km, n51, σ0s93/25, mb4.5/15, MS3.8/23, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEL	**Horse Pasture**	**8.00**	**80**	Pn	**Pn**	**00 27 06.6**	**-1.0**
H10S2	**ASCENSION HYDR**	**8.52**	**355**	T	T	00 36 15.6	
	baz=172,slow=74,SNR=28						
H10S3	**ASCENSION HYDR**	**8.53**	**355**	T	T	00 36 23.8	
	baz=48,slow=74,SNR=46						
H10N1	**ASCENSION HYDR**	**9.61**	**357**	T	T	00 37 49.5	
	baz=180,slow=74						
H10N3	**ASCENSION HYDR**	**9.62**	**357**	T	T	00 37 46.2	
	baz=180,slow=74						
H10N2	**ASCENSION HYDR**	**9.63**	**357**	T	T	00 37 39.1	
	baz=180						
RCBR	**Riachuelo**	**24.40**	**296**	LR	LR	00 38 09.5	
	comp=Z,178nm,20.5s,baz=268,slow=33						
DBIC	**Dimbokro**	**25.64**	**21**	P	**P**	**00 30 41.1**	**0.0**
	4.6nm,0.9s,baz=220,slow=10,SNR=

MDT	**Midelt**	**50.82**	**10**	LR	LR		00 53 54.3	
	comp=Z,96nm,18.8s,baz=228,slow=34							
CFA	**Coronel Fontan**	**50.87**	**243**	LR	LR		00 52 58.5	
	comp=Z,76nm,20.7s,baz=92,slow=33							
LPAZ	**La Paz**	**51.72**	**263**	LR	LR		00 55 15.0	
	comp=Z,111nm,18.3s,baz=80,slow=35							
PB03	**IPOC Station P**	**52.48**	**255**	P	**P**		**00 34 25.0**	**+0.1**
LODK	**Lodwar**	**52.88**	**72**	P	**P**		**00 34 26.6**	**-1.2**
PLCA	**Paso Flores**	**53.60**	**232**	LR	LR		00 55 19.8	
	comp=Z,154nm,18.8s,baz=54,slow=34							
KEST	**Kesra**	**57.36**	**22**	LR	LR		00 59 49.3	
	comp=Z,89nm,18.9s,baz=265,slow=36							
ESDC	**Sonseca Array**	**57.64**	**9**	P	**P**		**00 35 00.1**	**-1.5**
	comp=Z,1.4nm,1.2s,baz=254,slow=9.2,SNR=2.0							
	comp=Z,1.4nm,1.2s							
NNA	**Nana**	**60.86**	**266**	LR	LR		01 01 08.2	
	comp=Z,93nm,18.4s,baz=78,slow=36							
CBYP	**Canovanas**	**62.22**	**302**	P	**P**		**00 35 32.9**	**-0.7**
ATD	**Arta Tunnel**	**63.07**	**67**	LR	LR		01 00 33.1	
	comp=Z,55nm,21.0s,baz=22,slow=33							
ATAH	**Atahualpa**	**63.56**	**271**	LR	LR		01 02 46.4	
	comp=Z,71nm,18.1s,baz=75,slow=36							
ROSC	**El Rosal**	**63.58**	**285**	LR	LR		01 03 01.9	
	comp=Z,186nm,18.1s,baz=82,slow=36							
IDI	**Anoyia**	**64.13**	**35**	LR	LR		01 00 47.1	
	comp=Z,22nm,21.9s,baz=146,slow=33							
EIL	**Elat**	**66.49**	**46**	LR	LR		01 02 40.1	
	comp=Z,41nm,19.1s,baz=237,slow=34							
STAL	**STALIGIAL**	**67.88**	**20**	P	**P**		**00 36 10.3**	**+0.5**
STAL				IAmb	IAmb		00 36 20.7	
	comp=Z,7.4nm,1.3s							
DIVS	**Divibare**	**68.70**	**26**	P	**P**		**00 36 15.9**	**+0.8**
DIVS				IAmb	IAmb		00 36 18.0	
	comp=Z,6.3nm,1.3s							
MMAI	**Mount Meron Ar**	**68.88**	**43**	LR	LR		01 04 22.0	
	comp=Z,42nm,21.6s,baz=151,slow=34							
VTS	**Vitosha**	**68.92**	**29**	P	**P**		**00 36 17.0**	**+0.5**
VTS				IAmb	IAmb		00 36 27.1	
	comp=Z,8.0nm,1.5s							
GERES	**GERESS Array B**	**70.48**	**19**	P	**P**		**00 36 26.0**	**0.0**
	comp=Z,0.4nm,0.8s,baz=220,slow=5.2,SNR=4.1							
	comp=Z,0.4nm,0.8s							
VRAC	**Vranov**	**71.82**	**20**	LR	LR		01 06 45.8	
	comp=Z,43nm,20.9s,baz=236,slow=35							
BR131	**Keskin Array S**	**72.17**	**37**	P	**P**		**00 36 36.1**	**-0.3**
BR131				IAmb	IAmb		00 36 47.7	
	comp=Z,11nm,1.1s							
BRTR	**Keskin Array B**	**72.17**	**37**	P	**P**		**00 36 38.6**	**+2.2**
	comp=Z,2.1nm,0.8s,baz=194,slow=7.3,SNR=14							
	comp=Z,2.1nm,0.8s							
BRTR	**Keskin Array B**	**72.17**	**37**	P	**P**		**00 36 35.8**	**-0.6**
MLR	**Muntele Rosu**	**72.38**	**28**	P	**P**		**00 36 37.7**	**+0.1**
QSPA	**South Pole Qui**	**72.68**	**180**	P	**P**		**00 36 39.2**	**+0.1**
QSPA				IAmb	IAmb		00 36 41.3	
	comp=Z,16nm,1.5s							
AKASG	**Malin Array Be**	**77.76**	**26**	P	**P**		**00 37 08.5**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=223,slow=4.9,SNR=12							
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**77.76**	**26**	P	**P**		**00 37 08.0**	**-0.3**
KBZ	**Khabaz**	**80.06**	**38**	P	**P**		**00 37 22.3**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=186,slow=9.2,SNR=2.7							
	comp=Z,1.8nm,0.9s							
HFS	**Hagfors**	**80.54**	**14**	LR	LR		01 12 21.6	
	comp=Z,47nm,18.0s,baz=253,slow=35							
NOA	**NORSAR Array B**	**80.83**	**12**	LR	LR		01 12 40.8	
	comp=Z,19nm,19.0s,baz=300,slow=35							
WSAR	**Wadi Sarin**	**81.62**	**63**	P	**P**		**00 37 31.5**	**+1.5**
	comp=Z,7.1nm,1.0s,baz=288,slow=3.2,SNR=4.9							
WSAR				LR	LR		01 12 46.5	
	comp=Z,120nm,19.8s,baz=248,slow=35							
	comp=Z,7.1nm,1.0s							
GEYT	**Alibeck**	**87.16**	**49**	P	**P**		**00 37 58.8**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=297,slow=9.8,SNR=3.9							
	comp=Z,0.7nm,0.5s							

*SOME **29** 00:27:17.0,42˚.15N×80˚.48E,h15km*
*KRNET **29** 00:27:17.1±0.1,42˚.14N×80˚.77E,mb2.5*
*NNC **29** 00:27:18.6±1.9,42˚.21N×80˚.41E,h0km,mb3.0,mpv2.7,*
Error ellipse: s-maj=11.0km s-min=8.0km az=147.0

ISC 29 00:27:18.6±1.9,42˚.24N±0˙.06×80˚.46E±0˙.06,h17km±10km, n36,σ1s82/51,13C-3D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.18**	**322**	P	**Pn**	**00 27 38.6**	**-1.8**
	1.8nm,0.3s						
SHLS				S	**Sb**	**00 27 54.4**	**-1.1**
	7.7nm,0.6s						
SHLS	**Shalkode**	**1.18**	**322**	*e*P	**Pn**	**00 27 37.4**	**-2.9**
	0.7nm,0.2s						
SHLS				*e*S	**Sb**	**00 27 52.0**	**-3.5**
	63nm,0.4s						
KTMS	**Ketmen**	**1.21**	**356**	*e*P	**Pn**	**00 27 41.4**	**+0.6**
	0.8nm,0.2s						
KTMS				*e*S	**Sg**	**00 27 58.8**	**+1.0**
	3.8nm,0.3s						
UZB	**Uzynbulak**	**1.40**	**311**	P	**Pb**	**00 27 44.2**	**0.0**
	3.1nm,0.1s						
UZB				S	**Sg**	**00 28 04.2**	**+0.5**
	2.6nm,0.3s						
UZB	**Uzynbulak**	**1.40**	**311**	*e*P	**Pn**	**00 27 43.7**	**+0.3**
	1.8nm,0.3s						
UZB				*e*S	**Sn**	**00 28 03.1**	**+1.6**
	4.1nm,0.5s						
PRZ	**Przheval'sk**	**1.55**	**280↑**	*e*P	**Pg**	**00 27 50.2**	**+1.9**
	baz=82						
PRZ			↑	*e*S	**Sg**	**00 28 14.1**	**+5.6**
	baz=82						
SATY	**Saty**	**1.72**	**299**	*e*P	**Pb**	**00 27 50.5**	**+0.7**
	1.5nm,0.4s						
SATY				*e*S	**Sg**	**00 28 14.6**	**+0.5**
	19nm,0.8s						
KPKS	**Kokpek**	**1.79**	**314**	S	**Sg**	**00 28 17.7**	**+1.4**
	24nm,0.5s						
KPKS	**Kokpek**	**1.79**	**314**	*e*P	**Pb**	**00 27 51.3**	**+0.3**
	3.6nm,0.2s						
KPKS				*e*S	**Sg**	**00 28 16.1**	**-0.2**
	24nm,0.5s						
TARG	**Taragay, Kyrgy**	**2.04**	**256↑**	*e*P	**Pg**	**00 27 56.7**	**-1.1**
	baz=61						
TARG			↑	*e*S	**Sg**	**00 28 25.6**	**+1.2**
	baz=61						
KURS	**Kuram**	**2.10**	**307**	Pg	**Pb**	**00 27 56.7**	**+0.6**
	5.5nm,0.6s						
KURS				Lg	Lg	00 28 25.3	
	5.4nm,0.4s						
KURS	**Kuram**	**2.10**	**307**	*e*Pg	**Pb**	**00 27 56.7**	**+0.6**
	5.5nm,0.6s						
KURS				*e*Lg	Lg	00 28 25.3	
	5.4nm,0.4s						
ANVS	**Anan'yevo**	**2.13**	**286↑**	*e*P	**Pg**	**00 27 58.5**	**-1.1**
	baz=87						
ANVS			↑	*e*S	**Sg**	**00 28 29.0**	**+1.7**
	baz=87						
DJR	**Jarkent**	**2.15**	**347**	Pg	**Pb**	**00 27 57.1**	**0.0**
	1.8nm,0.6s						
DJR				Lg	Lg	00 28 26.0	
	4.2nm,0.6s						
DJR	**Jarkent**	**2.15**	**347**	*e*Pg	**Pb**	**00 27 58.0**	**+1.0**
	1.7nm,0.4s						
DJR				*e*Lg	Lg	00 28 27.6	
	5.8nm,0.8s						
BLB	**Baldybastay**	**2.36**	**323**	Pg	**Pb**	**00 28 01.2**	**+0.6**
	5.2nm,0.6s						
BLB				Lg	Lg	00 28 33.4	
	6.5nm,0.5s						
KDJ	**Kajisay**	**2.44**	**269↑**	*e*P	**Pb**	**00 28 02.4**	**+0.3**
	baz=71						
KDJ			↑	*e*S	**Sg**	**00 28 35.4**	**-1.6**
	baz=71						
MDOK	**Medeo**	**2.68**	**291**	Pn	**Pb**	**00 28 06.5**	**+0.4**
	3.1nm,0.5s						
MDOK				Pg	**Pg**	**00 28 07.4**	**-2.5**
	3.2nm,0.4s						
MDOK			↑	Sn	**Sn**	**00 28 35.6**	**+2.5**
	1.9nm,0.5s						
MDOK				Lg	Lg	00 28 44.0	
	4.6nm,0.4s						
MDOK	**Medeo**	**2.68**	**291**	*e*Pg	**Pb**	**00 28 07.0**	**+0.9**
	3.4nm,0.4s						
MDOK				*e*Lg	Lg	00 28 43.1	
	4.6nm,0.4s						
TNSS	**Tian-Shan**	**2.71**	**288**	Pg	**Pb**	**00 28 07.4**	**+0.6**
	2.9nm,0.5s						
TNSS				Lg	Lg	00 28 43.4	
	2.2nm,0.6s						
TNSS	**Tian-Shan**	**2.71**	**288**	*e*Pg	**Pb**	**00 28 07.4**	**+0.6**
	2.9nm,0.5s						
TNSS				*e*Lg	Lg	00 28 43.4	
	2.2nm,0.6s						
IZV	**Izvestkoviy**	**2.95**	**287**	Pg	**Pb**	**00 28 12.0**	**+1.3**
	1.4nm,0.9s						
IZV				Lg	Lg	00 28 51.5	
	4.9nm,0.3s						
IZV	**Izvestkoviy**	**2.95**	**287**	*e*Pg	**Pb**	**00 28 11.8**	**+1.1**
	0.7nm,0.5s						
IZV				*e*Lg	Lg	00 28 51.2	
	2.6nm,0.2s						
MTBS	**Maitube**	**3.10**	**288**	Pg	**Pb**	**00 28 15.1**	**+1.8**
	1.1nm,0.3s						
MTBS				Lg	Lg	00 28 56.7	
	4.3nm,0.8s						
MTBS	**Maitube**	**3.10**	**288**	*e*Pg	**Pb**	**00 28 13.9**	**+0.7**
	1.0nm,0.4s						
MTBS				*e*Lg	Lg	00 28 54.8	
	4.6nm,0.3s						
KTBS	**Karatobe**	**3.14**	**299**	Pg	**Pb**	**00 28 15.1**	**+1.2**
	1.7nm,0.6s						
KTBS				Lg	Lg	00 28 56.7	
	13nm,0.5s						
KTBS	**Karatobe**	**3.14**	**299**	*e*Pg	**Pb**	**00 28 15.1**	**+1.2**
	1.7nm,0.6s						
KTBS				*e*Lg	Lg	00 28 56.7	
	13nm,0.5s						
KST	**Kastek**	**3.41**	**285**	Pg	**Pg**	**00 28 20.9**	**-3.1**
	2.4nm,0.7s						
KST				Lg	Lg	00 29 06.7	
	3.8nm,0.5s						
KST	**Kastek**	**3.41**	**285**	*e*Pg	**Pb**	**00 28 19.7**	**+1.1**
	2.1nm,0.2s						
KST				*e*Lg	Lg	00 29 04.8	
	3.9nm,0.5s						
KUU	**Kurty**	**3.44**	**300**	Lg	Lg	00 29 04.7	
	3.6nm,0.5s						
KUU	**Kurty**	**3.44**	**300**	*e*Pg	**Pb**	**00 28 20.8**	**+1.8**
	0.7nm,1.3s						
KUU				*e*Lg	Lg	00 29 06.7	
	3.9nm,0.5s						
TKM2	**Tokmak 2**	**3.66**	**282**	⇓Pn	**Pb**	**00 28 19.5**	**-3.3**
	1.0nm,0.8s						
TKM2				⇑Sn	**Sn**	**00 28 59.0**	**+1.7**
	1.7nm,1.1s						
TKM2	**Tokmak 2**	**3.66**	**282↑**	*e*P	**Pb**	**00 28 19.5**	**-3.3**
	baz=83						
TKM2			↑	*e*S	**Sb**	**00 29 05.1**	**-1.8**
	baz=83						
KRBS	**Karabastau**	**3.80**	**294**	Pg	**Pb**	**00 28 26.9**	**+1.7**
	1.1nm,0.7s						
KRBS				Lg	Lg	00 29 17.1	
	1.6nm,0.4s						
KRBS	**Karabastau**	**3.80**	**294**	*e*Pg	**Pb**	**00 28 26.9**	**+1.7**
	1.1nm,0.7s						
KRBS				*e*Lg	Lg	00 29 17.1	
	1.6nm,0.4s						
MK31	**Makanchi Array**	**4.74**	**15**	⇓Pn	**Pn**	**00 28 31.3**	**+2.1**
	baz=205,slow=14,SNR=23						
MK31			↑	Pg	**Pb**	**00 28 40.1**	**-1.1**
	0.2nm,0.3s,baz=200,slow=17,SNR=3.8						
MK31				⇓Lg	Lg	00 29 33.0	
	1.2nm,0.5s,baz=201,slow=24						

*UPP **29** 00:27:41.6±0.1,67˚.84N×20˚.21E,h0km,ML2.5,Suspected explosion*
*HEL **29** 00:27:42.2±0.2,67˚.83N×20˚.22E,h0km,ML1.4,Explosion*

ISC 29 00:27:41.8±0.8,67˚.85N±0˙.02×20˚.22E±0˙.03,h0km,n28, σ0s96/42,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**264**	P	**Pg**	**00 27 46.2**	**-0.1**
RATU				S	**Sg**	**00 27 48.7**	**-0.8**
KOVU	**Salmi**	**0.38**	**356**	P	**Pg**	**00 27 48.9**	**0.0**
KOVU				S	**Sg**	**00 27 54.1**	**+0.3**
NIKU	**Nikkaluokta**	**0.45**	**273**	P	**Pg**	**00 27 50.1**	**-0.3**
LANU	**Lannavaara**	**0.70**	**72**	PG	**Pg**	**00 27 54.8**	**-0.3**
LANU				SG	**Sg**	**00 28 04.1**	**0.0**
DUNU	**Dundret**	**0.74**	**170**	P	**Pg**	**00 27 55.3**	**-0.7**
MASU	**Masugnsbyn**	**0.79**	**119**	P	**Pg**	**00 27 56.5**	**-0.3**
SALU	**Saltoluokta**	**0.81**	**235**	P	**Pg**	**00 27 56.5**	**-0.7**
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	**Pg**	**00 28 04.4**	**+0.1**
KIF	**Kilpisjarvi**	**1.18**	**10**	PG	**Pb**	**00 28 04.6**	**-0.4**
KIF				MSG		00 28 19.8	
	comp=Z,5.6nm,0.2s						
KIF				SB	**Sb**	**00 28 20.7**	**0.0**
PAJU	**Pajala**	**1.39**	**125**	P	**Pg**	**00 28 07.0**	**-1.4**
HEF	**Hetta**	**1.40**	**65**	*e*P	**Pn**	**00 28 07.3**	**-1.3**
HEF	**Hetta**	**1.40**	**65**	PG	**Pn**	**00 28 07.5**	**-1.1**
	baz=243						
HEF				MSG		00 28 24.7	
	comp=Z,2.3nm,0.2s						
HEF				SG	**Sg**	**00 28 26.6**	**-0.2**
ERTU	**Ertsjaerv**	**1.51**	**149**	P	**Pn**	**00 28 09.0**	**-1.0**
ERTU	**Ertsjaerv**	**1.51**	**149**	SN	**Sn**	**00 28 31.1**	**+0.7**
KLF	**Kolari**	**1.56**	**112**	PG	**Pn**	**00 28 10.1**	**-0.7**
	baz=296						
KLF				MSG		00 28 28.9	
	comp=Z,2.4nm,0.2s						
KLF				SN	**Sg**	**00 28 31.7**	**-0.3**
KTK1	**Kautokeino**	**1.61**	**42**	PG	**Pn**	**00 28 11.2**	**-0.3**
KTK1				SN	**Sg**	**00 28 34.7**	**+1.2**
HARU	**Harads**	**1.72**	**170**	P	**Pn**	**00 28 12.5**	**-0.4**
TRO	**Tromso**	**1.85**	**346**	PG	**Pb**	**00 28 15.6**	**-0.8**
TRO				SG	**Sb**	**00 28 40.0**	**-0.1**
KALU	**Kalix**	**2.35**	**147**	PG	**Pn**	**00 28 22.2**	**+0.7**
	baz=326						
KALU				SG	**Sb**	**00 28 54.3**	**-0.1**
TOF	**Tornio**	**2.40**	**136**	PB	**Pn**	**00 28 23.4**	**+1.2**
TOF				MSG		00 28 52.9	
	comp=Z,1.5nm,0.2s						
TOF				SG	**Sb**	**00 28 55.6**	**-0.2**
SGF	**Sodankyl**	**2.44**	**97**	PB	**Pb**	**00 28 24.5**	**-2.0**
SGF				SG	**Sb**	**00 28 57.4**	**+0.2**
ARA0	**ARCESS Array S**	**2.57**	**46**	PN	**Pn**	**00 28 25.0**	**+0.4**
	baz=228						
ARA0				SB	**Sn**	**00 28 58.3**	**+1.9**
RNF	**Rovaniemi**	**2.58**	**116**	PB	**Pn**	**00 28 26.3**	**+1.6**
RNF				SG	**Sb**	**00 28 59.8**	**-1.1**
KEV	**Kevo**	**3.12**	**49**	PB	**Pb**	**00 28 36.1**	**-1.9**
KEV				MSG		00 29 14.2	
	comp=Z,1.1nm,0.2s						
KEV				SG	**Sb**	**00 29 16.2**	**-0.3**
VRF	**Varrio**	**3.56**	**87**	PG	**Pb**	**00 28 46.2**	**+0.6**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PG	**Pb**	**00 28 53.0**	**+1.6**
UMAU	**Umeaa**	**3.99**	**177**	PN	**Pn**	**00 28 46.0**	**+2.0**
KU6	**Riekki**	**4.22**	**111**	PG	**Pb**	**00 28 57.6**	**+0.8**
	baz=302						

*IDC **29** 00:51:04.3±2.0,38˚.20S×177˚.39E,h60km±10km,mb3.0/2, mbtmp3.5/3,Error ellipse: s-maj=57.4km s-min=34.8km az=175.0*
*NOU **29** 00:51:04.2,38˚.17S×177˚.61E,h59km,MLv3.9/12,North Island, New Zealand*
*WEL **29** 00:51:05.7,38˚.3±3˚×177˚.7E±˚,h46km±5km,M3.6/57, ML3.9/58,MLv3.6/57,Error ellipse: s-maj=0.0km s-min=0.0km az=133.3,confirmed*

ISC 29 00:51:04.3±0.9,38˚.02S±0˙.03×177˚.45E±0˙.03,h62km±6km, n115,σ1s71/134,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUGZ	**Raukumara Rang**	**0.18**	**73**	P	**Pn**	**00 51 13.3**	**-0.8**
RUGZ				S	**Sn**	**00 51 19.6**	**-1.6**
MWZ	**Matawai**	**0.32**	**169**	P	**Pn**	**00 51 15.0**	**+0.1**
URZ	**Urewera**	**0.36**	**228**	P	**Pn**	**00 51 15.3**	**+0.2**
	2μm,0.3s,baz=138,slow=5.3,SNR=7414						
URZ				S	**Sn**	**00 51 23.0**	**+0.1**
	3μm,0.4s,baz=175,slow=24,SNR=28						
URZ	**Urewera**	**0.36**	**228**	P	**Pn**	**00 51 15.2**	**+0.1**
URZ	**Urewera**	**0.36**	**228**	P	**Pn**	**00 51 15.3**	**+0.2**
URZ				S	**Sn**	**00 51 23.2**	**+0.2**
HAZ	**Te Kaha**	**0.37**	**45**	P	**Pn**	**00 51 14.8**	**-0.4**
HAZ				S	**Sn**	**00 51 21.9**	**-1.2**
WHRZ	**Whale Island**	**0.41**	**293**	P	**Pn**	**00 51 16.1**	**+0.5**
WHRZ				S	**Sn**	**00 51 24.8**	**+0.9**
TWGZ	**Tauwhareparae**	**0.44**	**111**	P	**Pn**	**00 51 17.2**	**+1.3**
TWGZ				S	**Sn**	**00 51 27.6**	**+3.2**
RAGZ	**Rawiri**	**0.48**	**184**	P	**Pn**	**00 51 17.2**	**+0.8**
PKGZ	**Pakihiroa**	**0.51**	**75**	P	**Pn**	**00 51 17.0**	**+0.4**
TKGZ	**Te Karaka**	**0.52**	**144**	P	**Pn**	**00 51 17.8**	**+1.1**
WIZ	**White Island**	**0.54**	**337**	P	**Pn**	**00 51 16.6**	**-0.2**
WSRZ	**White Island S**	**0.55**	**336**	P	**Pn**	**00 51 17.1**	**+0.1**
EDRZ	**Edgecumbe**	**0.57**	**261**	P	**Pn**	**00 51 17.9**	**+0.6**
MARZ	**Manawahe**	**0.62**	**273**	P	**Pn**	**00 51 18.2**	**+0.5**
PUZ	**Puketiti**	**0.64**	**95**	P	**Pn**	**00 51 18.7**	**+0.8**
PUZ				S	**Sn**	**00 51 29.7**	**+1.7**
RTZ	**Ruatahuna**	**0.70**	**212**	P	**Pn**	**00 51 19.3**	**+0.5**
RTZ				S	**Sn**	**00 51 30.0**	**+0.6**
MUGZ	**Murupara**	**0.71**	**229**	P	**Pn**	**00 51 19.5**	**+0.7**
MUGZ				S	**Sn**	**00 51 30.0**	**+0.7**
RIGZ	**Rimuhau**	**0.73**	**161**	P	**Pn**	**00 51 20.3**	**+1.2**
RIGZ				S	**Sn**	**00 51 33.4**	**+3.5**
OPRZ	**Ohinepanea**	**0.73**	**284**	P	**Pn**	**00 51 19.3**	**+0.2**
OPRZ				S	**Sn**	**00 51 29.9**	**+0.1**
CNGZ	**Carnagh Statio**	**0.75**	**128**	P	**Pn**	**00 51 20.6**	**+1.3**
SNGZ	**Shannon Statio**	**0.77**	**187**	P	**Pn**	**00 51 21.0**	**+1.5**
TARZ	**Mount Tarawera**	**0.78**	**254**	P	**Pn**	**00 51 20.7**	**+1.0**
TARZ				S	**Sn**	**00 51 32.6**	**+1.5**
WMGZ	**Waiomatatini S**	**0.79**	**76**	P	**Pn**	**00 51 20.7**	**+1.0**
MKRZ	**Makatiti**	**0.79**	**261**	P	**Pn**	**00 51 21.6**	**+1.8**
RRRZ	**Republican Roa**	**0.81**	**246**	P	**Pn**	**00 51 20.8**	**+0.9**
MXZ	**Matakaoa Point**	**0.82**	**56**	P	**Pn**	**00 51 21.3**	**+1.2**
MXZ	**Matakaoa Point**	**0.82**	**56**	P	**Pn**	**00 51 21.2**	**+1.1**
OMRZ	**Omania**	**0.86**	**264**	P	**Pn**	**00 51 21.8**	**+1.1**
HLRZ	**Highlands Stat**	**0.90**	**255**	P	**Pn**	**00 51 22.4**	**+1.2**
RAHZ	**Arahi**	**0.94**	**198**	P	**Pn**	**00 51 23.3**	**+1.6**
MTHZ	**Maungataniwha**	**0.96**	**210**	P	**Pn**	**00 51 22.8**	**+0.9**
PRRZ	**Plateau Road**	**0.96**	**240**	P	**Pn**	**00 51 22.8**	**+0.9**
TGRZ	**Tauranga**	**0.99**	**287**	P	**Pn**	**00 51 22.6**	**+0.4**
HRRZ	**Handcock Road**	**0.99**	**248**	P	**Pn**	**00 51 23.4**	**+1.0**
HSRZ	**Hossack Road**	**1.00**	**253**	P	**Pn**	**00 51 23.9**	**+1.5**
KNZ	**Kokohu**	**1.01**	**170**	P	**Pn**	**00 51 23.4**	**+0.8**
ALRZ	**Allen Road**	**1.03**	**238**	P	**Pn**	**00 51 23.7**	**+0.9**
WHHZ	**Waihua**	**1.07**	**189**	P	**Pn**	**00 51 24.7**	**+1.4**
WHHZ				S	**Sn**	**00 51 40.6**	**+3.1**
WPRZ	**Whakapapatarin**	**1.13**	**243**	P	**Pn**	**00 51 25.5**	**+1.3**
MRHZ	**Matea Rd**	**1.15**	**225**	P	**Pn**	**00 51 25.3**	**+0.9**
MRHZ				S	**Sn**	**00 51 40.2**	**+0.7**
MHGZ	**Mahia Peninsul**	**1.19**	**163**	P	**Pn**	**00 51 25.8**	**+1.0**
NMHZ	**Naumai**	**1.19**	**205**	P	**Pn**	**00 51 27.0**	**+2.0**
MYRZ	**Mayor Island**	**1.21**	**307**	P	**Pn**	**00 51 25.6**	**+0.4**
ARHZ	**Aropaoanui**	**1.29**	**196**	P	**Pn**	**00 51 27.5**	**+1.3**
KUTZ	**Kaahu Road**	**1.37**	**249**	P	**Pn**	**00 51 28.5**	**+1.3**
BKZ	**Black Stump Fm**	**1.37**	**213**	P	**Pn**	**00 51 28.5**	**+1.2**
BKZ	**Black Stump Fm**	**1.37**	**213**	P	**Pn**	**00 51 28.5**	**+1.2**
HATZ	**Hinemaiaia**	**1.38**	**230**	P	**Pn**	**00 51 28.4**	**+1.0**
WATZ	**Wairara**	**1.52**	**243**	P	**Pn**	**00 51 30.6**	**+1.3**
MCHZ	**McNeill Hill**	**1.54**	**202**	P	**Pn**	**00 51 30.8**	**+1.2**
TLZ	**Tolley Road**	**1.54**	**258**	P	**Pn**	**00 51 31.4**	**+1.8**
RATZ	**Rangitukua**	**1.57**	**237**	P	**Pn**	**00 51 31.5**	**+1.5**
TOZ	**Tahuroa Road**	**1.57**	**280**	P	**Pn**	**00 51 30.7**	**+0.7**
RITZ	**Rihia Road**	**1.57**	**232**	P	**Pn**	**00 51 31.6**	**+1.6**
KWHZ	**Kaweka Forest**	**1.62**	**210**	P	**Pn**	**00 51 31.7**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.66**	**190**	P	**Pn**	**00 51 31.4**	**+0.2**
CKHZ				S	**Sn**	**00 51 52.8**	**+1.3**
KATZ	**Kakaramea**	**1.68**	**235**	P	**Pn**	**00 51 33.3**	**+1.8**
TMVZ	**Te Maari**	**1.75**	**231**	P	**Pn**	**00 51 33.9**	**+1.4**
NTVZ	**North Tongarir**	**1.76**	**232**	P	**Pn**	**00 51 34.2**	**+1.5**
ETVZ	**East Tongariro**	**1.76**	**230**	P	**Pn**	**00 51 34.0**	**+1.3**
KRVZ	**Karewarewa**	**1.78**	**232**	P	**Pn**	**00 51 34.3**	**+1.4**
OTVZ	**Oturere**	**1.81**	**230**	P	**Pn**	**00 51 34.7**	**+1.4**
NNVZ	**North Ngauruho**	**1.82**	**232**	P	**Pn**	**00 51 35.0**	**+1.5**
WTVZ	**West Tongariro**	**1.82**	**233**	P	**Pn**	**00 51 35.0**	**+1.5**
BHHZ	**Black Hill Sta**	**1.83**	**216**	P	**Pn**	**00 51 34.6**	**+1.1**
KAHZ	**Kahuranaki**	**1.83**	**194**	P	**Pn**	**00 51 33.8**	**+0.3**
KRHZ	**Kereru**	**1.83**	**207**	P	**Pn**	**00 51 33.9**	**+0.4**
KRHZ				S	**Sn**	**00 51 57.4**	**+1.7**
SNVZ	**South Ngauruho**	**1.84**	**230**	P	**Pn**	**00 51 35.3**	**+1.6**
NGZ	**Ngauruhoe**	**1.85**	**231**	P	**Pn**	**00 51 35.6**	**+1.6**
KUZ	**Kuaotunu**	**1.88**	**312**	P	**Pn**	**00 51 35.4**	**+1.3**
TUVZ	**Tukino**	**1.88**	**228**	P	**Pn**	**00 51 35.6**	**+1.3**
TWVZ	**Taurewa**	**1.90**	**236**	P	**Pn**	**00 51 36.0**	**+1.5**
MOVZ	**Moawhango**	**1.92**	**223**	P	**Pn**	**00 51 35.7**	**+1.0**
WHVZ	**Whangaehu Hut**	**1.93**	**229**	P	**Pn**	**00 51 36.6**	**+1.5**
FWVZ	**Far West T-bar**	**1.93**	**230**	P	**Pn**	**00 51 36.6**	**+1.5**
WNVZ	**Wahianoa**	**1.95**	**227**	P	**Pn**	**00 51 36.5**	**+1.2**
TRVZ	**Turoa**	**1.96**	**229**	P	**Pn**	**00 51 36.7**	**+1.2**
MKAZ	**Moumakai**	**2.04**	**296**	P	**Pn**	**00 51 37.0**	**+0.8**
MKAZ

comp=Z,92nm,18.3s,baz=160,slow=34
SOE Somerset East 33.18 104 P P 01 02 05.2 -1.0
BOSA Boshof 33.64 97 P P 01 02 08.7 -1.6
1.9nm,0.8s,baz=225,slow=9.7,SNR=4.2
BOSA LR LR 01 13 38.5
comp=Z,149nm,18.7s,baz=256,slow=32
1.9nm,0.8s
BOSA Boshof 33.64 97 P P 01 02 08.2 -2.1
BOSA IAmb IAmb 01 02 16.9
comp=Z,30nm,1.5s
LBTB Lobatse 34.90 91 LR LR 01 13 58.9
comp=Z,239nm,21.2s,baz=246,slow=32
BDFB Brasilia 34.91 287 P P 01 02 21.0 -0.4
comp=Z,9.9nm,0.8s,baz=124,slow=5.5,SNR=16
BDFB LR LR 01 14 29.6
comp=Z,182nm,21.7s,baz=135,slow=33
comp=Z,9.9nm,0.8s
BDFB Brasilia 34.91 287 P P 01 02 20.6 -0.8
BDFB IAmb IAmb 01 02 22.7
comp=Z,19nm,1.0s
ITQB Itaqui 37.15 260 P P 01 02 40.2 -0.1
DBIC Dimbokro 37.98 14 P P 01 02 45.6 -1.9
DBIC IAmb IAmb 01 03 01.2
comp=Z,30nm,1.6s
CPUP Villa Florida 38.59 265 LR LR 01 16 04.0
comp=Z,250nm,20.0s,baz=100,slow=32
AQDB Aquidauana 39.20 275 P P 01 02 57.9 +0.2
POGA Pongola 39.48 97 P P 01 02 59.3 -0.7
POGA IAmb IAmb 01 03 10.2
comp=Z,37nm,1.3s
SNAA Sanae 41.52 175 LR LR 01 16 53.3
comp=Z,122nm,20.5s,baz=338,slow=31
PTLB Pontes e Lacer 44.33 279 P P 01 03 41.0 +1.3
SIV San Ignacio 45.73 277 P P 01 03 51.7 +0.7
comp=Z,3.2nm,0.9s,baz=110,slow=6.2,SNR=12
SIV LR LR 01 21 24.1
comp=Z,160nm,19.8s,baz=108,slow=34
comp=Z,3.2nm,0.9s
TORD Torodi Ar. Bea 45.90 21 P P 01 03 52.8 +0.7
comp=Z,2.3nm,1.0s,baz=199,slow=8.4,SNR=9.6
comp=Z,2.3nm,1.0s
TORD Torodi Ar. Bea 45.90 21 P P 01 03 51.4 -0.8
PMSA Palmer Station 46.17 207 LR LR 01 20 51.7
comp=Z,222nm,18.9s,baz=144,slow=33
CFA Coronel Fontan 46.46 254 LR LR 01 20 45.8
comp=Z,134nm,19.6s,baz=114,slow=33
PLCA Paso Flores 46.72 241 LR LR 01 23 51.4
comp=Z,125nm,18.3s,baz=65,slow=36
LMEL Las Melosas 47.57 250 P P 01 04 05.8 +0.4
LMEL IAmb IAmb 01 04 06.8
comp=Z,11nm,1.1s
LVC Limon Verde 49.77 265 LR LR 01 23 51.4
comp=Z,158nm,20.6s,baz=137,slow=34
MBAR Mbarara 51.46 63 LR LR 01 25 12.8
comp=Z,176nm,18.2s,baz=244,slow=35
MDP Montagnes des 51.60 307 LR LR 01 24 22.1
comp=Z,116nm,19.4s,baz=110,slow=34
LPAZ La Paz 51.66 273 P P 01 04 36.8 -0.5
comp=Z,1.0nm,0.6s,baz=94,slow=9.4,SNR=4.0
LPAZ LR LR 01 24 53.6
comp=Z,118nm,19.7s,baz=117,slow=34
comp=Z,1.0nm,0.6s
ETMB Extrema 53.10 281 P P 01 04 47.1 -0.1
ETMB IAmb IAmb 01 04 48.9
comp=Z,17nm,1.5s
OPO Ambohidratompo 55.88 93 LR LR 01 26 56.6
comp=Z,79nm,19.7s,baz=358,slow=34
TBTG Tabatinga, AM 59.18 285 P P 01 05 31.0 +0.2
TBTG IAmb IAmb 01 05 32.5
comp=Z,14nm,0.9s
CZSB Cruzeiro do Su 59.67 279 P P 01 05 32.9 -1.2
CZSB IAmb IAmb 01 05 34.2
comp=Z,11nm,0.9s
NNA Nana 61.12 273 LR LR 01 31 10.8
comp=Z,80nm,20.2s,baz=96,slow=35
NNA Nana 61.12 273 P P 01 05 44.0 -0.2
MDT Midelt 63.64 8 LR LR 01 31 50.3
comp=Z,75nm,18.1s,baz=227,slow=34
ATAH Atahualpa 64.83 277 LR LR 01 33 47.3
comp=Z,146nm,21.5s,baz=121,slow=36
SDV Santo Domingo 67.39 296 LR LR 01 34 18.6
comp=Z,164nm,18.8s,baz=90,slow=35
SDV Santo Domingo 67.39 296 P P 01 06 26.2 +0.8
SDV IAmb IAmb 01 06 27.3
comp=Z,8.8nm,1.1s
RUSC La Rusia 67.52 292 P P 01 06 26.6 0.0
RUSC IAmb IAmb 01 06 53.4
comp=Z,20nm,1.5s
ROSC El Rosal 67.90 290 LR LR 01 35 36.0
comp=Z,144nm,18.7s,baz=138,slow=35
PORT Chimborazo Vol 68.08 282 P P 01 06 30.7 +0.3
PORT IAmb IAmb 01 06 33.4
comp=Z,13nm,1.2s
CHSH Refugio Sur-Vo 68.15 282 P P 01 06 30.2 -0.6
CHSH IAmb IAmb 01 07 12.4
comp=Z,7.5nm,0.5s
ATD Arta Tunnel 68.42 61 LR LR 01 33 13.2
comp=Z,71nm,21.8s,baz=250,slow=33
TULM Tulcn-Chalpat 68.43 284 P P 01 06 32.0 -0.4
KEST Kesra 69.40 20 P P 01 06 38.2 +0.9
comp=Z,3.8nm,1.0s,baz=265,slow=12,SNR=2.5
KEST LR LR 01 33 53.9
comp=Z,206nm,20.9s,baz=303,slow=33
comp=Z,3.8nm,1.0s
KEST Kesra 69.40 20 P P 01 06 38.7 +1.3
HUMP Col San Antonio 69.89 307 P P 01 06 40.3 -0.3
ESDC Sonseca Array 70.49 8 P P 01 06 44.0 +0.1
comp=Z,0.6nm,0.8s,baz=191,slow=6.0,SNR=3.3
ESDC LR LR 01 35 45.0
comp=Z,70nm,18.1s,baz=234,slow=34
comp=Z,0.6nm,0.8s
EIL Elat 75.63 42 LR LR 01 39 11.0
comp=Z,26nm,18.3s,baz=234,slow=35
MMAI Mount Meron Ar 78.38 40 LR LR 01 39 57.6
comp=Z,41nm,20.3s,baz=309,slow=34
JTS Las Juntas de 79.64 288 LR LR 01 44 00.2
comp=Z,70nm,18.4s,baz=37,slow=36
DAVOX Davos/Dischmat 79.88 16 LR LR 01 39 59.7
comp=Z,103nm,21.3s,baz=247,slow=33
RPN Rapa Nui 81.28 244 LR LR 01 37 44.5
comp=Z,71nm,18.3s,baz=172,slow=31
BRTR Keskin Array B 82.54 35 P P 01 07 52.8 +0.4
comp=Z,0.9nm,0.9s,baz=180,slow=5.1,SNR=3.7
comp=Z,0.9nm,0.9s
BRTR Keskin Array B 82.54 35 P P 01 07 52.4 0.0
GERES GERESS Array B 82.75 18 P P 01 07 53.6 +0.4
comp=Z,0.3nm,0.6s,baz=149,slow=5.6,SNR=4.4
GERES LR LR 01 43 30.7
comp=Z,55nm,18.7s,baz=246,slow=35
comp=Z,0.3nm,0.6s
MLR Muntele Rosu 83.79 27 LR LR 01 45 18.8
comp=Z,47nm,18.1s,baz=242,slow=36
MLR Muntele Rosu 83.79 27 P P 01 07 58.5 -0.2
MLR IAmb IAmb 01 08 00.5
comp=Z,11nm,1.1s
VRAC Vranov 83.97 19 LR LR 01 44 27.5
comp=Z,92nm,18.1s,baz=214,slow=35
BURAR Bucovina Array 85.29 25 P P 01 08 07.1 +0.9
EKA Eskdalemuir Ar 86.06 6 LR LR 01 42 56.4
comp=Z,75nm,19.2s,baz=219,slow=33
WSAR Wadi Sarin 87.44 61 LR LR 01 46 29.0
comp=Z,50nm,21.1s,baz=233,slow=35
GNI Garni 88.71 41 LR LR 01 48 37.5
comp=Z,43nm,18.5s,baz=267,slow=36
AKASG Malin Array Be 89.33 26 P P 01 08 25.9 +0.5
comp=Z,0.1nm,0.3s,baz=221,slow=3.8,SNR=2.0
comp=Z,0.1nm,0.3s
CMIG Matias Romero 91.41 289 LR LR 01 49 16.6
comp=Z,47nm,19.9s,baz=195,slow=35
NOA NORSAR Array B 93.52 12 LR LR 01 50 22.7
comp=Z,42nm,18.5s,baz=350,slow=35
GEYT Ailbeck 95.45 49 LR LR 01 52 24.6
comp=Z,84nm,18.7s,baz=238,slow=36
BELG Belogornoye 98.35 33 LR LR 01 56 47.1
comp=Z,41nm,18.1s,baz=116,slow=37
ASAR Alice Springs 117.62 146 PKP PKPdf 01 14 15.6 -0.6
comp=Z,0.6nm,0.8s,baz=224,slow=2.2,SNR=4.5
CMAR Chiang Mai Arr 118.15 84 PKP PKiKP 01 14 17.8 +0.6
comp=Z,0.5nm,0.3s,baz=187,slow=3.1,SNR=1.2
WRA Warramunga Arr 120.98 144 PKP PKiKP 01 14 22.4 -0.4
comp=Z,0.3nm,0.8s,baz=238,slow=2.6,SNR=3.3
YKA Yellowknife Ar 121.73 328 PKP PKPdf 01 14 21.3 -1.3
comp=Z,0.2nm,0.6s,baz=106,slow=2.3,SNR=3.6
INK Inuvik 129.11 335 PKP PKiKP 01 14 38.3 +1.0
comp=Z,1.0nm,0.9s,baz=86,slow=3.8,SNR=4.9
ILAR Eielson Array 135.37 334 PKP PKPdf 01 14 49.2 +0.7
comp=Z,0.6nm,0.7s,baz=12,slow=1.7,SNR=7.1
SEY Seymchan 146.41 12 PKPbc PKPab 01 15 10.4 -0.2
comp=Z,7.9nm,0.9s,baz=310,slow=1.5,SNR=22
KSRS Korea Array 147.47 67 PKPbc PKPdf 01 15 12.1 +1.1
comp=Z,0.8nm,0.8s,baz=253,slow=1.3,SNR=4.3
KLR Kul'dur 147.88 45 PKPbc PKPbc 01 15 14.1 -0.3
comp=Z,2.4nm,0.8s,baz=297,slow=3.6,SNR=9.2
MA2 Magadan 149.15 16 PKPbc PKPbc 01 15 17.8 +0.5
comp=Z,3.4nm,0.7s,baz=151,slow=10,SNR=5.1

*NEIC **29** 00:59:12.9±1.9, 7°.78S±0°.08×122°.52E±0°.09, h259km±4km, mb4.2/18, Error ellipse: s-maj=13.7km s-min=9.7km az=50.0*
*DJA **29** 00:59:12.3±0.2, 8°.S±2°.×12°.2E±°, h253km±2km, M4.3/10, mb4.4/10, mB5.3/3, MLv4.2/9, Mw(mB)4.7/3*
*IDC **29** 00:59:13.4±1.1, 7°.71S×122°.66E, h265km±11km, mb3.5/11, mbtmp4.2/16, Error ellipse: s-maj=18.3km s-min=9.0km az=68.0*

ISC 29 00:59:12.3±0.6, 7°.82S±0°.04×122°.56E±0°.05, h255km±5km, n100, σ1$25/112, mb4.1/18, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.88**	**201**		**Pn**	**00 59 48.1**	**+0.9**
MMRI				Sn	**S**	**01 00 15.5**	**+0.6**
MMRI	**Maumere**	**0.88**	**201**	P	**Pn**	**00 59 48.3**	**+1.1**
MMRI	**Maumere**	**0.88**	**201**	P	**Pn**	**00 59 48.1**	**+0.9**
MMRI				S	**S**	**01 00 15.2**	**+0.4**
SOEI	**Soe**	**2.56**	**139**	Pn	**Pn**	**01 00 01.6**	**+1.0**
SOEI	**Soe**	**2.56**	**139**	P	**Pn**	**01 00 02.0**	**+1.3**
SOEI	**Soe**	**2.56**	**139**	P	**Pn**	**01 00 01.9**	**+1.3**
SOEI				S	**S**	**01 00 37.7**	**-1.3**
BATI	**Baumata**	**2.61**	**155**	P	**Pn**	**01 00 02.5**	**+1.4**
	84nm,0.4s,baz=357,slow=2.9,SNR=17						
BATI				S	**S**	**01 00 40.0**	**+0.2**
	464nm,0.3s,baz=285,slow=20,SNR=4.3						
BATI	**Baumata**	**2.61**	**155**	P	**Pn**	**01 00 02.2**	**+1.1**
BATI				S	**S**	**01 00 39.3**	**-0.5**
BSSI	**Bau Bau, Buton**	**2.64**	**309**	P	**Pn**	**01 00 01.7**	**+0.3**
BASI	**Baing, Sumba**	**3.09**	**219**	P	**Pn**	**01 00 05.3**	**-0.8**
BASI				S	**S**	**01 00 46.1**	**-2.6**
BKSI	**Bulukumba**	**3.46**	**315**	P	**Pn**	**01 00 10.1**	**-0.1**
BKSI				S	**S**	**01 00 56.8**	**+0.6**
KAPI	**Kappang**	**3.94**	**315**	P	**Pn**	**01 00 16.7**	**+1.0**
	30nm,1.0s,baz=151,slow=9.0,SNR=4.9						
KAPI	**Kappang**	**3.94**	**315**	Pn	**Pn**	**01 00 15.1**	**-0.6**
SPSI	**Sidrap Palu**	**4.73**	**324**	P	**Pn**	**01 00 24.2**	**-0.8**
PLAI	**Plampang**	**4.84**	**258**	P	**Pn**	**01 00 26.0**	**-0.4**
PLAI	**Plampang**	**4.84**	**258**	P	**Pn**	**01 00 25.9**	**-0.4**
PLAI				S	**S**	**01 01 20.8**	**-4.6**
TWSI	**Taliwang, Sumb**	**5.70**	**260**	P	**Pn**	**01 00 35.9**	**-0.9**
	119nm,1.1s,3μm1.1nm						
SANI	**Sanana**	**6.67**	**31**	P	**Pn**	**01 00 50.2**	**+1.3**
	29nm,1.1s,0.1nm						
LUWI	**Luwuk**	**6.73**	**2**	Pn	**Pn**	**01 00 48.2**	**-1.5**
LUWI	**Luwuk**	**6.73**	**2**	P	**Pn**	**01 00 50.4**	**+0.7**
	50nm,1.0s,0.2nm						
BNDI	**Bandanaira**	**8.00**	**66**	P	Pn	01 01 14.9	+9.2
JAGI	**Jajag, Banyuwa**	**8.35**	**265**	Pn	**Pn**	**01 01 07.9**	**-2.2**
JAGI	**Jajag, Banyuwa**	**8.35**	**265**	P	**Pn**	**01 01 07.5**	**-2.6**
JAGI	**Jajag, Banyuwa**	**8.35**	**265**	P	**Pn**	**01 01 08.7**	**-1.4**
	41nm,2.0s						
SAUI	**Saumlaki**	**8.66**	**92**	Pn	**Pn**	**01 01 14.3**	**+0.3**
SAUI	**Saumlaki**	**8.66**	**92**	P	**Pn**	**01 01 16.1**	**+2.1**
	124nm,0.7s,5μm						
MTN	**Manton Dam**	**9.80**	**121**	Pn	**Pn**	**01 01 28.4**	**+0.1**
MTN	**Manton Dam**	**9.80**	**121**	P	**Pn**	**01 01 28.8**	**+0.5**
KNRA	**Kununurra**	**9.89**	**143**	Pn	**Pn**	**01 01 28.9**	**-0.6**
KNRA	**Kununurra**	**9.89**	**143**	P	**Pn**	**01 01 29.5**	**0.0**
FITZ	**Fitzroy Crossi**	**10.65**	**164**	Pn	**Pn**	**01 01 39.4**	**+0.4**
PWJI	**Pagerwojo**	**10.66**	**268**	P	**Pn**	**01 01 39.6**	**+0.5**
	36nm,1.5s						
FAKI	**Fak Fak**	**10.80**	**64**	Pn	**Pn**	**01 01 39.8**	**-1.1**
FAKI	**Fak Fak**	**10.80**	**64**	P	**Pn**	**01 01 40.2**	**-0.7**
FAKI	**Fak Fak**	**10.80**	**64**	P	**Pn**	**01 01 39.3**	**-1.6**
	54nm,0.7s						
SIJI	**Sorong**	**11.08**	**52**	P	**Pn**	**01 01 44.1**	**-0.4**
	46nm,0.6s,baz=226,slow=7.2,SNR=34						
SIJI				S	**S**	**01 03 44.5**	**-4.2**
	3.6nm,0.6s,baz=200,slow=23,SNR=1.5						
UGM	**Wanagama**	**11.93**	**269**	Pn	**Pn**	**01 01 53.2**	**-1.7**
UGM	**Wanagama**	**11.93**	**269**	P	**Pn**	**01 01 55.6**	**+0.6**
	199nm,2.0s						
MBWA	**Marble Bar**	**13.55**	**191**		**Pn**	**01 02 14.7**	**-0.1**
MBWA	**Marble Bar**	**13.55**	**191**	P	**P**	**01 02 16.1**	**+0.3**
PSA00	**Pilbara Seismi**	**13.93**	**191**		**Pn**	**01 02 18.9**	**-0.5**
PSA00	**Pilbara Seismi**	**13.93**	**191**	P	**Pn**	**01 02 19.8**	**+0.4**
WB0	**Warramunga Arr**	**16.51**	**137**	P	**P**	**01 02 48.9**	**+0.3**
WB0				IAmb	IAmb	01 02 56.5	
	comp=Z,5.5nm,0.8s						
WRA	**Warramunga Arr**	**16.60**	**138**	P	**P**	**01 02 50.1**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=316,slow=12,SNR=59						
WRA				S	**S**	**01 05 48.0**	**-1.9**
	comp=Z,11nm,1.0s,baz=315,slow=20,SNR=6.2						
WRA	**Warramunga Arr**	**16.60**	**138**	P	**P**	**01 02 50.0**	**+0.5**
WRAB	**Tennant Creek**	**16.60**	**138**	P	**P**	**01 02 50.3**	**+0.8**
WR0	**Warramunga Arr**	**16.75**	**137**	P	**P**	**01 02 51.6**	**+0.5**
WR0				IAmb	IAmb	01 02 59.0	
	comp=Z,12nm,1.1s						
GIRL	**Giralia**	**16.78**	**208**	P	**Pn**	**01 02 53.0**	**-0.3**
GIRL	**Giralia**	**16.78**	**208**	P	**Pn**	**01 02 52.8**	**-0.6**
WRKA	**Warakurna**	**17.98**	**163**	P	**P**	**01 03 05.9**	**+1.4**
MEEK	**Meekatharra**	**19.09**	**191**	P	**P**	**01 03 17.2**	**+0.8**
AS31	**Alice Springs**	**19.15**	**147**	P	**P**	**01 03 18.6**	**+1.5**
AS31				IAmb	IAmb	01 03 24.0	
	comp=Z,6.5nm,0.5s						
ASAR	**Alice Springs**	**19.15**	**147**	P	**P**	**01 03 18.6**	**+1.6**
	comp=Z,9.5nm,0.6s,baz=332,slow=12,SNR=237						
ASAR				S	**S**	**01 06 37.6**	**-2.8**
	comp=Z,5.9nm,0.9s,baz=320,slow=17,SNR=18						
ASAR				ScP	**ScP**	**01 10 38.0**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=346,slow=1.9,SNR=2.1						
ASAR	**Alice Springs**	**19.15**	**147**	P	**P**	**01 03 18.4**	**+1.3**
AS01	**Alice Springs**	**19.18**	**147**	P	**P**	**01 03 19.0**	**+1.7**
QIS	**Mount Isa**	**20.79**	**129**	P	**P**	**01 03 35.1**	**+0.6**
MORW	**Morawa**	**22.02**	**195**	P	**P**	**01 03 46.3**	**+0.3**
MORW				IAmb	IAmb	01 03 48.8	
	comp=Z,21nm,0.9s						
MORW	**Morawa**	**22.02**	**195**	P	**P**	**01 03 46.7**	**+0.7**
BLDU	**Ballidu**	**23.34**	**193**	P	**P**	**01 03 58.5**	**+0.5**
FORT	**Forrest**	**23.42**	**168**	P	**P**	**01 03 59.5**	**+0.7**
FORT	**Forrest**	**23.42**	**168**	P	**P**	**01 03 59.6**	**+0.8**
OOD	**Oodnadatta**	**23.43**	**150**	P	**P**	**01 03 59.6**	**+0.7**
KMBL	**Kambalda**	**23.44**	**181**	P	**P**	**01 03 59.4**	**+0.4**
KLBR	**Kellerberrin**	**24.08**	**190**	P	**P**	**01 04 05.3**	**+0.5**
PMG	**Port Moresby**	**24.37**	**96**	P	**P**	**01 04 06.6**	**-1.0**
	comp=Z,3.4nm,0.5s,baz=303,slow=17,SNR=1.4						
	comp=Z,3.4nm,0.5s						
MUN	**Mundaring**	**24.76**	**193**	P	**P**	**01 04 11.7**	**+0.8**
MULG	**Mulgathing**	**24.81**	**156**	P	**P**	**01 04 12.3**	**+0.9**
NWAO	**Narrogin (SRO)**	**25.47**	**190**	P	**P**	**01 04 18.2**	**+0.9**
	comp=Z,5.3nm,0.5s						
	comp=Z,5.3nm,0.5s						
NWAO	**Narrogin (SRO)**	**25.47**	**190**	P	**P**	**01 04 17.6**	**+0.3**
INKA	**Innaminka**	**26.25**	**141**	P	**P**	**01 04 24.9**	**+0.6**
BBOO	**Buckleboo**	**27.85**	**155**	P	**P**	**01 04 39.1**	**+0.6**
BBOO	**Buckleboo**	**27.85**	**155**	P	**P**	**01 04 39.1**	**+0.6**
HTT	**Hallett**	**29.64**	**152**	P	**P**	**01 04 55.7**	**+1.3**
STKA	**Stephens Creek**	**29.79**	**146**	P	**P**	**01 04 56.8**	**+1.2**
	comp=Z,6.6nm,0.5s,baz=321,slow=9.8,SNR=23						
STKA				S	**S**	**01 09 32.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=343,slow=14,SNR=1.8						
	comp=Z,6.6nm,0.5s						
STKA	**Stephens Creek**	**29.79**	**146**	P	**P**	**01 04 56.6**	**+1.0**
STKA				IAmb	IAmb	01 04 57.7	
	comp=Z,1.5nm,0.6s						
CMSA	**Cobar Meteorol**	**31.97**	**141**	P	**P**	**01 05 15.2**	**+0.5**
TOO	**Toolangi**	**36.19**	**148**	P	**P**	**01 05 52.2**	**+1.4**
TOO				IAmb	IAmb	01 05 53.3	
	comp=Z,13nm,1.5s						
PZH	**PanZhiHua**	**39.65**	**330**	P	**P**	**01 06 23.0**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,3.8s						
MJAR	**Matsushiro Arr**	**46.50**	**17**	P	**P**	**01 07 13.5**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=184,slow=7.8,SNR=4.5						
	comp=Z,1.6nm,0.9s						
HHC	**Hu-ho-hao-te**	**49.47**	**349**	*e*P	**P**	**01 07 39.8**	**+2.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,230nm,6.0s						
USRK	**Ussuriysk Ar.**	**52.47**	**9**	P	**P**	**01 07 59.1**	**0.0**
	comp=Z,1.7nm,0.7s,baz=155,slow=19,SNR=2.0						
	comp=Z,1.7nm,0.7s						
SONM	**Songino Array**	**57.22**	**347**	P	**P**	**01 08 32.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=178,slow=4.0,SNR=2.8						
	comp=Z,0.4nm,0.7s						
SONM	**Songino Array**	**57.22**	**347**	P	**P**	**01 08 34.5**	**+1.3**
CASY	**Casey**	**58.96**	**186**	P	**P**	**01 08 45.1**	**+0.4**
CASY				IAmb	IAmb	01 08 46.4	
	comp=Z,5.2nm,1.0s						
WMQ	**Urumqi**	**60.31**	**332**	*e*P	**P**	**01 08 55.5**	**+1.1**
KSH	**Kashi**	**63.83**	**321**	P	**P**	**01 09 18.8**	**+0.9**
KSH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**65.08**	**331**	P	**P**	**01 09 26.9**	**+1.2**
MKAR	**Makanchi Array**	**65.08**	**331**	P	**P**	**01 09 25.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=140,slow=7.3,SNR=14						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**65.08**	**331**	P	**P**	**01 09 25.3**	**-0.4**
AAK	**Ala-Archa**	**66.58**	**323**	P	**P**	**01 09 36.3**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=119,slow=6.2,SNR=3.7						
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**66.58**	**323**	P	**P**	**01 09 36.3**	**+0.8**
KKAR	**Karatay Array**	**69.25**	**322**	P	**P**	**01 09 51.7**	**-0.2**
ZALV	**Zalesovo Beam**	**69.26**	**337**	P	**P**	**01 09 51.0**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=145,slow=5.4,SNR=5.0						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**69.53**	**332**	P	**P**	**01 09 53.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=133,slow=5.2,SNR=2.1						
	comp=Z,0.1nm,0.3s						
VNDA	**Vanda**	**72.62**	**172**	P	**P**	**01 10 12.4**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=322,slow=6.8,SNR=8.0						
	comp=Z,1.8nm,0.6s						
VNDA	**Vanda**	**72.62**	**172**	P	**P**	**01 10 12.6**	**+1.1**
VNDA				IAmb	IAmb	01 10 22.1	
	comp=Z,6.2nm,1.4s						
QSPA	**South Pole Qui**	**82.17**	**180**	P	**P**	**01 11 05.2**	**+0.6**
QSPA				IAmb	IAmb	01 11 09.8	
	comp=Z,6.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**121.72**	**281**	PKP	**PKPdf**	**01 17 36.2**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=30,slow=2.9,SNR=1.4						
CPUP	**Villa Florida**	**146.06**	**180**	PKPbc	**PKPbc**	**01 18 23.1**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=94,slow=2.0,SNR=4.2						
LPAZ	**La Paz**	**153.82**	**156**	PKPab	**PKPab**	**01 18 56.1**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=192,slow=5.3,SNR=4.8						

*GUC **29** 01:03:55.8±0.8, 21°.14S×67°.66W, h191km±10km, ML3.4*
*SCB **29** 01:03:56.2±1.2, 21°.14S×67°.63W, h162km±24km, ML3.3/1, MW2.8, Error ellipse: s-maj=5.6km s-min=5.5km az=0.0*
*IDC **29** 01:03:57.8±6.7, 20°.86S×67°.18W, h206km±48km, mb3.2/2, mbtmp3.7/4, Error ellipse: s-maj=74.5km s-min=25.4km az=14.0*

ISC 29 01:03:54.4±0.9, 21°.13S±0°.05×67°.61W±0°.05, h187km±8km, n31, σ1$09/47, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.66**	**246**	*e*P	**Pn**	**01 04 30.5**	**+1.8**
PB09				*e*S	**Sn**	**01 04 56.0**	**+0.7**
PB09				IAML		01 04 57.7	
	comp=N,80nm,0.2s						
PB01	**IPOC Station P**	**1.75**	**272**	*e*P	**Pn**	**01 04 30.3**	**+0.8**
PB01				*e*S	**Sn**	**01 04 56.6**	**-0.1**
PB01				IAML		01 04 58.9	
	comp=E,125nm,0.2s						
MOCB	**Mochara**	**1.84**	**94**	Pg	**Pn**	**01 04 31.6**	**+0.8**
MOCB				Sg	**Sn**	**01 04 58.4**	**-0.6**
MOCB				IAML		01 04 59.2	
	comp=E,145nm,0.3s						
LVC	**Limon Verde**	**1.91**	**219**	*e*P	**Pn**	**01 04 32.0**	**+0.7**
LVC				*e*S	**Sn**	**01 05 00.3**	**+0.1**
LVC	**Limon Verde**	**1.91**	**219**	Pg	**Pn**	**01 04 32.2**	**+0.8**
GO01	**Chusmiza**	**2.08**	**314**	*e*P	**Pn**	**01 04 34.3**	**+1.0**
GO01				IAML		01 05 09.9	
	comp=N,263nm,0.1s						
GO01	**Chusmiza**	**2.08**	**314**	Pg	**Pn**	**01 04 34.3**	**+1.0**
PB02	**IPOC Station P**	**2.14**	**264**	*e*P	**Pn**	**01 04 34.4**	**+0.8**
PB02				*e*S	**Sn**	**01 05 03.8**	**-0.2**
PB02				IAML		01 05 05.2	
	comp=E,244nm,0.2s						
PB02	**IPOC Station P**	**2.14**	**264**	Pg	**Pn**	**01 04 34.2**	**+0.6**
PB03	**IPOC Station P**	**2.19**	**245**	*e*P	**Pn**	**01 04 35.0**	**+0.8**
PB03				*e*S	**Sn**	**01 05 04.4**	**-0.8**
PB03				IAML		01 05 06.2	
	comp=E,160nm,0.1s						
PB07	**IPOC Station P**	**2.20**	**254**	*e*P	**Pn**	**01 04 35.1**	**+0.8**
PB07				*e*S	**Sn**	**01 05 04.4**	**-1.0**
PB07				IAML		01 05 06.4	
	comp=N,220nm,0.3s						
YJA	**Yavi**	**2.21**	**119**	Pg	**Pn**	**01 04 35.5**	**+0.8**
HMBC	**Humberstone**	**2.29**	**291**	↑*i*P	**Pn**	**01 04 35.4**	**+0.1**
HMBC				*i* S	**Sn**	**01 05 06.1**	**-0.9**
HMBC				IAML		01 05 07.3	
	comp=E,134nm,0.3s						
PB11	**IPOC Station P**	**2.35**	**305**	↑*i*P	**Pn**	**01 04 36.4**	**+0.4**
PB11				*e*S	**Sn**	**01 05 07.6**	**-0.7**
PB11				IAML		01 05 09.3	
	comp=E,200nm,0.2s						
PATCX	**Punta Patache**	**2.40**	**277**	*e*P	**Pn**	**01 04 36.8**	**+0.4**
PATCX				*e*S	**Sn**	**01 05 08.2**	**-0.8**
PATCX				IAML		01 05 11.2	
	comp=E,129nm,0.3s						
PB06	**IPOC Station P**	**2.41**	**229**	*e*P	**Pn**	**01 04 37.4**	**+0.8**
PB06				*e*S	**Sn**	**01 05 08.9**	**-0.6**
PB06				IAML		01 05 10.2	
	comp=N,232nm,0.2s						
PB06	**IPOC Station P**	**2.41**	**229**	Pg	**Pn**	**01 04 38.1**	**+1.5**
TA01	**Diego Aracena**	**2.47**	**283**	*e*P	**Pn**	**01 04 37.1**	**+0.1**
TA01				*e*S	**Sn**	**01 05 08.7**	**-1.6**
TA01				IAML		01 05 11.5	
	comp=E,111nm,0.2s						
TA01	**Diego Aracena**	**2.47**	**283**	Pg	**Pn**	**01 04 37.2**	**+0.1**
PB04	**IPOC Station P**	**2.65**	**243**	*e*P	**Pn**	**01 04 39.8**	**+0.4**
PB04				*e*S	**Sn**	**01 05 13.0**	**-1.4**
PB04				IAML		01 05 16.5	
	comp=N,79nm,0.2s						
PB04	**IPOC Station P**	**2.65

comp=Z,338nm,0.4s
SC01 Santiago de lo 1.38 269 Pn 01 14 57.1 +1.3
SC01 IAML 01 15 23.1
comp=N,436nm,0.5s
SC01 IAML 01 15 23.7
comp=E,334nm,0.6s
SC01 Santiago de lo 1.38 269 i P Pn 01 14 58.2 +2.4
SC01 IAML 01 15 20.6
comp=Z,162nm,0.7s
SDDR Presa de Saban 1.97 256 Pn Pn 01 15 05.7 +2.4
SDDR IAML 01 15 31.0
comp=Z,265nm,0.6s
SDDR IAML 01 15 32.0
comp=Z,206nm,0.5s
SDDR Presa de Saban 1.97 256 i P Pn 01 15 05.6 +2.4
SDDR eS Sn 01 15 29.7 +1.9
SDDR IAML 01 15 33.4
comp=Z,139nm,0.3s
IDE Isla Desecheo 2.01 122⇓eP Pn 01 15 05.4 +1.6
IDE Isla Desecheo 2.01 122 Pn 01 15 05.4 +1.6
AGPR Aguadilla, PR 2.27 116⇓eP Pn 01 15 08.5 +1.4
AGPR Aguadilla, PR 2.27 116 eS Sn 01 15 34.5 -0.2
AGPR Aguadilla, PR 2.27 116 Pn Pn 01 15 07.1 0.0
AGPR Sn 01 15 33.6 -1.1
AGPR IAML 01 15 35.7
comp=N,302nm,0.5s
AGPR IAML 01 15 36.6
comp=E,213nm,0.3s
AGPR Aguadilla, PR 2.27 116 i P Pn 01 15 08.6 +1.4
AGPR eS Sn 01 15 33.6 -1.1
AGPR IAML 01 15 35.7
comp=Z,128nm,0.4s
PRSN Puerto Rico Se 2.36 121 Pn Pn 01 15 08.9 +0.6
LSP Las Mesas 2.43 121⇓eP Pn 01 15 11.5 +2.2
LSP Las Mesas 2.43 121 eS Sn 01 15 39.1 +0.5
LSP Las Mesas 2.43 121 Pn 01 15 11.5 +2.2
LSP Sn 01 15 39.1 +0.5
CRPR Cabo Rojo, PR 2.51 125⇑eP Pn 01 15 12.8 +2.5
CRPR Cabo Rojo, PR 2.51 125 eS Sn 01 15 41.9 +1.6
CRPR Cabo Rojo, PR 2.51 125 Pn Pn 01 15 10.9 +0.7
CRPR Sn 01 15 39.4 -0.9
CRPR IAML 01 15 45.5
comp=N,101nm,0.3s
CRPR Cabo Rojo, PR 2.51 125 i P Pn 01 15 12.4 +2.2
CRPR eS Sn 01 15 40.1 -0.2
CRPR IAML 01 15 44.4
comp=Z,127nm,1.1s
AOPR Arecibo Observ 2.62 115⇑eP Pn 01 15 12.8 +0.9
AOPR Arecibo Observ 2.62 115 eS Sn 01 15 42.3 -0.9
AOPR Arecibo Observ 2.62 115 Pn Pn 01 15 11.1 -0.7
AOPR Arecibo Observ 2.62 115 Sn 01 15 42.3 -0.9
GRTK Grand Turk 2.69 320 Pn Pn 01 15 13.4 +0.8
GRTK IAML 01 15 46.6
comp=Z,179nm,0.4s
GRTK IAML 01 15 48.1
comp=Z,162nm,0.3s
GRTK Grand Turk 2.69 320 eS Sn 01 15 46.4 +1.8
UUPR Utuado, UPR, P 2.69 116⇑eP Pn 01 15 13.8 +1.0
UUPR Utuado, UPR, P 2.69 116 eS Sn 01 15 44.2 -0.6
UUPR Utuado, UPR, P 2.69 116 Pn Pn 01 15 12.7 0.0
UUPR Sn Sn 01 15 44.1 -0.8
EMPR Esperanza - Ma 2.77 110⇑eP Pn 01 15 14.8 +1.1
EMPR Esperanza - Ma 2.77 110 eS Sn 01 15 45.4 -1.2
EMPR Esperanza - Ma 2.77 110 Pn Pn 01 15 13.9 +0.2
EMPR IAML 01 15 53.1
comp=E,185nm,0.5s
EMPR IAML 01 15 56.3
comp=N,136nm,0.9s
EMPR Esperanza - Ma 2.77 110 Sn 01 15 45.4 -1.2
OBIP Obispado Ponce 2.89 119⇑eP Pn 01 15 17.4 +2.0
OBIP Obispado Ponce 2.89 119 eS Sn 01 15 49.6 +0.2
OBIP Obispado Ponce 2.89 119 Pn Pn 01 15 16.0 +0.6
GCPR Guaynabo City 3.23 110 eS Sn 01 15 56.6 -0.9
GCPR Guaynabo City 3.23 110 Pn Pn 01 15 18.1 -1.7
SJG San Juan 3.24 114 Pn Pn 01 15 17.7 -2.4
SJG IAML 01 15 57.2
comp=N,103nm,0.3s
IGPR InterUniversit 3.34 116 eS Sn 01 15 59.2 -1.1
CBYP Canovanas 3.44 110 eS Sn 01 16 01.8 -1.0
CBYP Canovanas 3.44 110 Pn Pn 01 15 22.5 -0.3
CBYP Canovanas 3.44 110 Sn 01 16 01.8 -1.0
HUMP Col San Antoni 3.49 112⇑eP Pn 01 15 24.8 +1.4
HUMP Col San Antoni 3.49 112 eS Sn 01 16 02.6 -1.3
HUMP Col San Antoni 3.49 112 Pn Pn 01 15 22.9 -0.5
HUMP IAML 01 16 06.0
comp=E,110nm,0.2s
MTP Monte Pirata 3.77 111⇑eP Pn 01 15 28.8 +1.6
MTP Monte Pirata 3.77 111 eS Sn 01 16 09.5 -1.1
MTP Monte Pirata 3.77 111 Pn Pn 01 15 27.3 +0.1
MTP IAML 01 16 14.0
comp=E,65nm,0.2s
MTP IAML 01 16 20.6
comp=N,63nm,0.2s
MTP Monte Pirata 3.77 111 Sn 01 16 09.5 -1.1
CUPR Culebra, Puert 3.94 106⇑eP Pn 01 15 29.9 +0.4
CUPR Culebra, Puert 3.94 106 eS Sn 01 16 12.8 -2.0
CUPR Culebra, Puert 3.94 106 Pn Pn 01 15 28.2 -1.3
CUPR Culebra, Puert 3.94 106 Sn 01 16 12.8 -2.0
MASC Masc 4.73 279 eP Pn 01 15 40.2 +0.1
MASC IAML 01 15 46.6
comp=Z,2.7nm,0.6s
MASC eS Sn 01 16 31.1 -2.7
MASC IAML 01 16 32.8
comp=N,6.5nm,0.1s
MASC IAML 01 16 37.3
comp=E,16nm,0.2s
MASC Masc 4.73 279 IAML 01 16 31.3
comp=Z,12nm,1.6s
MASC eS Sn 01 16 31.5 -2.3
MOAC Moa 5.48 283 eP Pn 01 15 50.0 -0.4
MOAC eS Sn 01 16 49.5 -2.6
GTBY Guantanamo Bay 5.53 276 eP Pn 01 15 50.5 -0.5
GTBY IAmb IAmb 01 15 54.6
comp=Z,20nm,1.0s
GTBY eS Sn 01 16 50.4 -2.8
RCC Rio Carpintero 6.08 276 eP Pn 01 15 58.6 +0.1
RCC IAmb IAmb 01 16 05.1
comp=Z,12nm,1.1s
RCC eS Sn 01 17 03.6 -3.1
RCC IAML 01 17 05.7
comp=E,5.3nm,0.4s
RCC IAML 01 17 06.1
comp=N,4.7nm,0.3s
HLGC Holguin 6.54 284 eP Pn 01 16 06.4 +1.7
HLGC eS Sn 01 17 18.7 +0.8
HLGC IAML 01 17 19.9
comp=E,7.9nm,0.1s
HLGC IAML 01 17 21.4
comp=N,5.4nm,0.2s

ROM 29 02:01:37.9±0.1, 42.925N±0.002×13.188E±0.005, h14km, ML2.1/33, 15C-9D, Error ellipse: s-maj=0.4km s-min=0.0km az=79.0, Central Italy

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

MC2 Monte Cornacci 0.01 172 P Pg 02 01 40.7 0.0
MC2 S Sg 02 01 42.9 +0.3
T1245 Castelsantange 0.07 180 ⇓P Pg 02 01 41.0 +0.1
T1245 S Sg 02 01 43.4 +0.4
T1245 AML AML
comp=N,5325μm,0.5s
T1245 AML AML
comp=E,5440μm,0.2s
T1245 AML AML
comp=E,5725μm,0.2s
T1245 AML AML
comp=N,4945μm,0.5s
T1245 AML AML
comp=E,5730μm,0.2s
NRCA Norcia 0.11 211 P Pg 02 01 41.3 +0.1
NRCA AML AML
comp=E,5590μm,0.2s
NRCA AML AML
comp=E,5595μm,0.2s
NRCA AML AML
comp=N,5830μm,0.2s
FEMA Monte Fema 0.11 290 P Pg 02 01 41.4 +0.1
FEMA S Sg 02 01 43.9 +0.3
T1216 Preci, Frazion 0.13 255 P Pg 02 01 41.6 +0.1
T1216 S Sb 02 01 44.4 -0.5
T1216 AML AML
comp=E,4480μm,0.2s
T1216 AML AML
comp=E,4475μm,0.2s
T1216 AML AML
comp=N,3420μm,0.2s
FDMO Fiordimonte 0.13 326 P Pg 02 01 41.5 0.0
FDMO S Sg 02 01 44.3 +0.3
FDMO Fiordimonte 0.13 326 P Pg 02 01 38.0 -3.5
FDMO AML AML
comp=E,2630μm,0.8s
FDMO AML AML
comp=N,3620μm,0.2s
FDMO AML AML
comp=E,2630μm,0.8s
FDMO AML AML
comp=N,3620μm,0.2s
FDMO AML AML
comp=N,3620μm,0.2s
FDMO AML AML
comp=E,2630μm,0.8s
FDMO AML AML
comp=N,3620μm,0.2s
FDMO AML AML
comp=E,2630μm,0.8s
CSP1 Cessapalombo 0.17 4 P Pg 02 01 42.1 0.0
CSP1 S Sg 02 01 45.3 +0.4
GUMA Gualdo di Mace 0.17 38 ⇓P Pg 02 01 42.5 +0.4
GUMA S Sb 02 01 46.1 -0.1
GUMA AML AML
comp=E,3295μm,0.4s
GUMA AML AML
comp=E,2660μm,0.3s
GUMA AML AML
comp=N,3955μm,0.4s
GUMA AML AML
comp=N,2570μm,0.2s
T1219 Muccia, Frazio 0.19 315 P Pg 02 01 42.4 +0.1
T1219 S Sg 02 01 45.8 +0.6
T1219 Muccia, Frazio 0.19 315 ⇓P Pg 02 01 38.1 -4.2
T1219 AML AML
comp=E,1620μm,1.0s
T1219 AML AML
comp=N,2200μm,0.2s
T1219 AML AML
comp=E,1560μm,1.0s
T1219 AML AML
comp=N,2230μm,0.2s
T1219 AML AML
comp=E,1620μm,1.0s
T1219 AML AML
comp=N,2200μm,0.2s
T1219 AML AML
comp=E,1565μm,1.0s
T1219 AML AML
comp=N,2235μm,0.2s
T1219 AML AML
comp=E,1565μm,1.0s
T1219 AML AML
comp=E,1620μm,1.0s
T1219 AML AML
comp=N,2200μm,1.8s
T1219 AML AML
comp=N,2235μm,1.8s
T1219 AML AML
comp=E,1565μm,1.0s
T1219 AML AML
comp=E,1620μm,1.0s
T1219 AML AML
comp=N,2235μm,1.8s
T1219 AML AML
comp=N,2200μm,1.8s
T1220 Camerino, Fraz 0.20 339 P Pg 02 01 42.5 0.0
T1220 S Sg 02 01 46.1 +0.6
T1220 Camerino, Fraz 0.20 339 ⇑P Pg 02 01 39.2 -3.2
T1220 AML AML
comp=E,3520μm,1.3s
T1220 AML AML
comp=N,3565μm,0.4s
T1220 AML AML
comp=E,3560μm,1.4s
T1220 AML AML
comp=N,3465μm,1.5s
T1220 AML AML
comp=E,3520μm,0.7s
T1220 AML AML
comp=E,3560μm,0.6s
T1220 AML AML
comp=N,3565μm,1.6s
T1220 AML AML
comp=N,3465μm,1.5s
T1220 AML AML
comp=E,3520μm,0.7s
T1220 AML AML
comp=E,3560μm,0.6s
T1220 AML AML
comp=N,3465μm,1.5s
T1220 AML AML
comp=N,3565μm,1.6s
T1212 Cascia, Frazio 0.20 211 P Pg 02 01 42.8 +0.2
T1212 S Sb 02 01 46.4 -0.6
T1212 AML AML
comp=E,1004μm,0.2s
T1212 AML AML
comp=N,1625μm,0.2s
T1212 AML AML
comp=E,1001μm,0.3s
T1212 AML AML
comp=N,1630μm,0.2s
T1212 AML AML
comp=E,1004μm,0.1s
T1212 AML AML
comp=E,1000μm,0.3s
T1212 AML AML
comp=N,1630μm,0.2s
CESI CESI - Serrava 0.22 291 ⇑P Pg 02 01 43.0 +0.2
CESI S Sb 02 01 47.1 -0.6
CESI AML AML
comp=E,1564μm,0.6s
CESI AML AML
comp=N,2895μm,0.3s
T1218 Civita (PG) 0.26 192 P Pg 02 01 43.6 +0.1
T1218 S Sb 02 01 48.2 -0.5
T1218 AML AML
comp=E,674μm,0.4s
T1218 AML AML
comp=N,572μm,1.3s
T1218 AML AML
comp=E,640μm,0.4s
T1218 AML AML
comp=N,617μm,0.5s
T1218 AML AML
comp=N,617μm,1.5s
T1215 Vallo di Nera, 0.27 242 P Pg 02 01 43.6 +0.1
T1215 S Sg 02 01 48.1 +0.7
T1215 AML AML
comp=E,281μm,0.4s
T1215 AML AML
comp=N,259μm,1.1s
T1215 AML AML
comp=E,278μm,0.4s
T1215 AML AML
comp=N,246μm,0.2s
T1215 AML AML
comp=N,259μm,1.1s
T1215 AML AML
comp=N,245μm,0.3s
T1215 AML AML
comp=E,278μm,0.4s
T1215 AML AML
comp=N,259μm,0.9s
MDAR Monte D'Aria 0.27 353 P Pg 02 01 43.7 +0.1
MDAR S Sb 02 01 48.4 -0.6
SEF1 Sefro 0.28 322 P Pg 02 01 44.1 +0.2
SEF1 S Sb 02 01 48.7 -0.6
T1217 Poggiodomo (PG 0.28 222 P Pg 02 01 44.0 +0.1
T1217 S Sb 02 01 48.8 -0.6
T1217 AML AML
comp=E,238μm,1.4s
T1217 AML AML
comp=N,360μm,0.7s
T1217 AML AML
comp=E,220μm,0.4s
T1217 AML AML
comp=N,274μm,0.8s
T1217 AML AML
comp=E,237μm,1.4s
T1217 AML AML
comp=N,274μm,0.8s
T1217 AML AML
comp=E,237μm,0.6s
SSM1 San Severino M 0.30 358 P Pg 02 01 44.3 +0.1
SSM1 S Sb 02 01 49.3 -0.6
SMA1 SAN MARTINO 0.31 160 P Pg 02 01 44.4 0.0
SMA1 S Sb 02 01 49.7 -0.6
SMA1 SAN MARTINO 0.31 160 ⇑P Pg 02 01 44.4 0.0
SMA1 AML AML
comp=E,300μm,1.2s
SMA1 AML AML
comp=N,357μm,0.2s
SMA1 AML AML
comp=E,300μm,1.2s
SMA1 AML AML
comp=N,357μm,0.2s
SMA1 AML AML
comp=E,300μm,1.2s
SMA1 AML AML
comp=N,357μm,0.2s
GAG1 Gagliole 0.33 344 P Pg 02 01 44.8 +0.2
GAG1 S Sb 02 01 50.3 -0.3
LNSS Leonessa 0.34 199 P Pg 02 01 44.8 -0.1
LNSS S Sb 02 01 50.9 -0.1
LNSS AML AML
comp=N,534μm,0.1s
LNSS AML AML
comp=E,566μm,0.2s
OFFI Offida 0.37 88 P Pb 02 01 46.2 +0.1
OFFI S Sn 02 01 53.8 -1.8
OFFI Offida 0.37 88 S Sg 02 01 46.2 -4.2
OFFI AML AML
comp=E,368μm,0.5s
OFFI AML AML
comp=N,468μm,0.7s
OFFI AML AML
comp=N,468μm,0.7s
OFFI AML AML
comp=E,368μm,0.5s
OFFI AML AML
comp=E,368μm,0.5s
OFFI AML AML
comp=N,468μm,0.7s
SNTG Esanatoglia 0.38 331 P Pg 02 01 45.3 -0.2
SNTG S Sb 02 01 51.5 -0.6
SNTG AML AML
comp=E,186μm,1.2s
SNTG AML AML
comp=N,264μm,0.2s
ASSB Assisi San Ben 0.41 287 ⇑P Pg 02 01 45.9 -0.1
ASSB S Sb 02 01 52.4 -0.4
ASSB AML AML
comp=E,450μm,1.2s
ASSB AML AML
comp=N,336μm,0.4s
ASSB AML AML
comp=E,450μm,0.8s
EL6 Elcito 0.41 351 ⇑P Pg 02 01 46.1 0.0
EL6 S Sb 02 01 52.8 -0.2
EL6 AML AML
comp=E,290μm,0.1s
EL6 AML AML
comp=N,407μm,0.4s
EL6 AML AML
comp=E,290μm,0.1s
RM33 Pellescritta (0.42 177 P Pg 02 01 46.4 +0.1
RM33 S Sb 02 01 53.2 0.0
RM33 AML AML
comp=E,59μm,0.2s
RM33 AML AML
comp=E,59μm,0.2s
RM33 AML AML
comp=N,53μm,0.5s
RM33 Pellescritta (0.42 177 ⇓P Pg 02 01 46.4 +0.2
RM33 AML AML
comp=E,197μm,0.2s
RM33 AML AML
comp=N,228μm,0.4s
RM33 AML AML
comp=E,197μm,0.2s
RM33 AML AML
comp=N,228μm,0.4s
RM33 AML AML
comp=E,197μm,0.2s
RM33 AML AML
comp=N,228μm,0.4s
RM33 AML AML
comp=E,197μm,0.2s
RM33 AML AML
comp=N,228μm,0.4s
CAMP Campotosto 0.42 157 P Pg 02 01 46.1 -0.2
CAMP S Sb 02 01 52.8 -0.6
TERO Teramo 0.43 134 P Pg 02 01 46.2 -0.3
TERO S Sb 02 01 53.0 -0.5
TERO Teramo 0.43 134 ⇑P Pg 02 01 46.2 -0.3
TERO AML AML
comp=E,324μm,0.6s
TERO AML AML
comp=N,448μm,0.5s
TERO AML AML
comp=N,448μm,0.5s
TERO AML AML
comp=E,324μm,0.6s
TERO AML AML
comp=N,448μm,0.5s
TERO AML AML
comp=E,324μm,0.6s
CING Cingoli 0.45 1 P Pg 02 01 46.6 -0.3
CING S Sb 02 01 54.2 0.0
CING AML AML
comp=E,168μm,0.8s
CING AML AML
comp=N,138μm,0.3s
CING AML AML
comp=N,138μm,1.7s
T1211 Morro Reatino 0.46 212 P Pg 02 01 47.3 +0.3
T1211 S Sb 02 01 54.3 -0.2
T1211 AML AML
comp=E,236μm,0.4s
T1211 AML AML
comp=N,351μm,0.2s
T1211 AML AML
comp=E,246μm,0.4s
T1211 AML AML
comp=N,358μm,0.2s
T1211 AML AML
comp=E,236μm,1.6s
T1211 AML AML
comp=E,246μm,1.6s
ARRO Arrone 0.47 222 P Pg 02 01 47.1 0.0
ARRO S Sb 02 01 54.4 -0.1
ARRO AML AML
comp=N,130μm,0.9s
ARRO AML AML
comp=E,191μm,0.5s
ARRO AML AML
comp=N,130μm,0.9s
ARRO AML AML
comp=N,130μm,1.1s
MOMA Monte Martano 0.47 255 ⇑P Pg 02 01 47.1 -0.1
MOMA S Sb 02 01 55.3 +0.6
MOMA AML AML
comp=E,266μm,0.1s
MOMA AML AML
comp=N,188μm,1.1s
ATCC AVT- Casa Cast 0.48 303 ⇑P Pg 02 01 47.3 -0.1
ATCC S Sb 02 01 55.0 +0.1
ATCC AML AML
comp=N,253μm,0.7s
ATCC AML AML
comp=N,253μm,1.3s
ATCC AML AML
comp=E,214μm,0.6s
FOSV Fossato di Vic 0.48 320 P Pg 02 01 47.3 -0.2
FOSV S Sb 02 01 55.0 -0.2
FOSV AML AML
comp=N,382μm,0.4s
FOSV AML AML
comp=E,214μm,0.8s
T1247 Pizzolo (AQ) 0.49 170 P Pg 02 01 47.6 0.0
T1247 S Sb 02 01 55.9 +0.6
T1247 AML AML
comp=E,301μm,0.4s
T1247 AML AML
comp=N,244μm,0.1s
T1247 AML AML
comp=E,301μm,1.6s

T1247				AML	AML		
	comp=N,244μm,0.1s						
T1247	**Pizzolo (AQ)**	**0.49**	**170**	⇑P	Pg	02 01 47.4	-0.2
T1247				S	Sb	02 01 55.8	+0.5
T1222	**Castel Sant'An**	**0.54**	**192**	P	Pg	02 01 48.5	+0.1
T1222				S	Sb	02 01 56.3	-0.2
T1222	**Castel Sant'An**	**0.54**	**192**	⇑P	Pg	02 01 48.6	+0.2
T1222				AML	AML		
	comp=E,176μm,0.2s						
T1222				AML	AML		
	comp=N,121μm,0.9s						
T1222				AML	AML		
	comp=E,176μm,0.2s						
T1222				AML	AML		
	comp=N,121μm,1.1s						
T1222				AML	AML		
	comp=E,176μm,0.2s						
T1222				AML	AML		
	comp=N,121μm,1.1s						
TRTR	**Tortoreto Alta**	**0.55**	**102**	P	Pb	02 01 49.0	-0.1
CESX	**Cesi**	**0.55**	**235**	AML	AML		
	comp=N,161μm,0.4s						
CESX				AML	AML		
	comp=E,146μm,0.3s						
CESX	**Cesi**	**0.55**	**235**	AML	AML		
	comp=N,161μm,0.4s						
CESX				AML	AML		
	comp=E,146μm,0.3s						
PP3	**Marolino**	**0.55**	**34**	⇑P	Pb	02 01 49.5	+0.3
PP3				S	Sn	02 01 59.7	-0.4
PP3				AML	AML		
	comp=E,270μm,1.1s						
PP3				AML	AML		
	comp=N,490μm,0.3s						
PP3				AML	AML		
	comp=N,507μm,0.3s						
PP3				AML	AML		
	comp=E,277μm,0.8s						
PP3				AML	AML		
	comp=E,270μm,0.9s						
PP3				AML	AML		
	comp=E,277μm,1.2s						
GIGS	**Gran Sasso**	**0.55**	**149**	P	Pg	02 01 48.2	-0.5
GIGS				S	Sg	02 01 56.6	+0.5
GIGS	**Gran Sasso**	**0.55**	**149**	⇑P	Pg	02 01 48.4	-0.4
GIGS				AML	AML		
	comp=E,96μm,1.0s						
GIGS				AML	AML		
	comp=N,71μm,0.2s						
GIGS				AML	AML		
	comp=N,71μm,0.2s						
GIGS				AML	AML		
	comp=E,96μm,1.0s						
GIGS				AML	AML		
	comp=N,71μm,0.2s						
GIGS				AML	AML		
	comp=E,96μm,1.0s						
SSFR	**Montelago di S**	**0.59**	**330**	P	Pg	02 01 48.9	-0.6
SSFR				S	Sb	02 01 58.4	+0.2
SSFR				AML	AML		
	comp=E,686μm,0.3s						
SSFR				AML	AML		
	comp=N,608μm,0.3s						
SSFR				AML	AML		
	comp=E,539μm,0.2s						
SSFR				AML	AML		
	comp=N,582μm,0.3s						
SSFR				AML	AML		
	comp=N,608μm,1.7s						
AQU	**L'Aquila**	**0.59**	**164**	AML	AML		
	comp=N,301μm,0.4s						
AQU				AML	AML		
	comp=E,252μm,0.5s						
AQU				AML	AML		
	comp=E,214μm,0.3s						
AQU				AML	AML		
	comp=N,284μm,0.3s						
MURB	**Monte Urbino**	**0.59**	**305**	P	Pg	02 01 49.5	0.0
MURB				S	Sb	02 01 59.0	+0.7
MURB				AML	AML		
	comp=E,350μm,0.2s						
MURB				AML	AML		
	comp=N,346μm,1.2s						
MURB				AML	AML		
	comp=E,430μm,0.2s						
MURB				AML	AML		
	comp=N,315μm,0.2s						
MURB				AML	AML		
	comp=E,351μm,0.2s						
MURB				AML	AML		
	comp=N,346μm,1.2s						
ARVD	**Arcevia**	**0.60**	**343**	P	Pg	02 01 44.4	-5.3
ARVD				AML	AML		
	comp=E,81μm,0.2s						
ARVD				AML	AML		
	comp=N,50μm,1.6s						
ARVD				AML	AML		
	comp=E,81μm,0.2s						
ARVD				AML	AML		
	comp=N,50μm,1.6s						
ARVD				AML	AML		
	comp=N,50μm,0.4s						
ARVD				AML	AML		
	comp=E,81μm,0.2s						
ARVD				AML	AML		
	comp=N,50μm,0.4s						
ARVD				AML	AML		
	comp=E,81μm,0.2s						
ATFO	**Monte Foce - G**	**0.63**	**315**	⇓P	Pg	02 01 50.0	-0.2
ATFO				AML	AML		
	comp=E,72μm,1.1s						
ATFO				AML	AML		
	comp=E,72μm,0.9s						
ATFO				AML	AML		
	comp=N,65μm,0.5s						
FIAM	**Fiamignano**	**0.66**	**185**	P	Pg	02 01 50.4	-0.3
FIAM				S	Sb	02 02 00.5	+0.3
FIAM	**Fiamignano**	**0.66**	**185**	P	Pg	02 01 50.7	0.0
FIAM				AML	AML		
	comp=E,93μm,0.4s						
FIAM				AML	AML		
	comp=N,85μm,0.3s						
FIAM				AML	AML		
	comp=E,93μm,0.4s						
FIAM				AML	AML		
	comp=N,85μm,0.3s						
FIAM				AML	AML		
	comp=E,93μm,0.4s						
FIAM				AML	AML		
	comp=N,85μm,0.3s						
FRON	**Frontone**	**0.68**	**330**	P	Pg	02 01 50.7	-0.5
FRON				S	Sb	02 02 01.2	+0.4
FRON				AML	AML		
	comp=E,67μm,0.6s						
FRON				AML	AML		
	comp=N,137μm,0.3s						
COR1	**Corinaldo**	**0.72**	**349**	⇓P	Pn	02 01 52.9	-0.7
COR1				AML	AML		
COR1				AML	AML		
COR1				AML	AML		
COR1				AML	AML		
ATVO	**AVT- Monte Val**	**0.73**	**309**	P	Pg	02 01 51.6	-0.6
ATVO				S	Sb	02 02 02.9	+0.7
ATVO				AML	AML		
	comp=N,57μm,0.3s						
ATVO				AML	AML		
	comp=E,70μm,0.7s						
MPAG	**Monte Paganucc**	**0.77**	**336**	P	Pb	02 01 53.0	-0.1
MPAG				AML	AML		
	comp=E,51μm,1.4s						
MPAG				AML	AML		
	comp=E,51μm,0.6s						
MPAG				AML	AML		
	comp=N,49μm,0.2s						
PIEI	**Pieia**	**0.78**	**322**	⇓P	Pg	02 01 52.7	-0.3
PIEI				AML	AML		
	comp=E,76μm,0.9s						
PIEI				AML	AML		
	comp=N,47μm,1.5s						
ATPI	**Pietralunga -**	**0.78**	**313**	⇑P	Pb	02 01 53.2	0.0
ATPI				AML	AML		
	comp=E,55μm,0.5s						
ATPI				AML	AML		
	comp=N,39μm,0.4s						
MGAB	**Montegabbione**	**0.79**	**269**	P	Pg	02 01 52.9	-0.4
MGAB				AML	AML		
	comp=E,86μm,0.8s						
MGAB				AML	AML		
	comp=N,80μm,1.3s						
MGAB				AML	AML		
	comp=N,80μm,0.7s						
T0110	**Collepietro**	**0.82**	**148**	⇓P	Pg	02 01 53.6	-0.2
T0110				AML	AML		
	comp=E,115μm,0.8s						
T0110				AML	AML		
	comp=N,114μm,0.3s						
T0110				AML	AML		
	comp=N,114μm,0.3s						
T0110				AML	AML		
	comp=E,115μm,1.2s						
T0110				AML	AML		
	comp=N,114μm,0.3s						
T0110				AML	AML		
	comp=E,115μm,1.2s						
BADI	**Badiali**	**0.90**	**311**	P	Pg	02 01 55.4	0.0
PE3	**Peglio**	**0.92**	**327**	P	Pg	02 01 55.9	+0.1
SACS	**San Casciano d**	**0.94**	**266**	P	Pn	02 01 56.5	-0.2
CERT	**Cerreto**	**0.99**	**189**	⇑P	Pn	02 01 57.9	+0.6
PAOL	**Paolisi**	**2.15**	**151**	P	Pn	02 02 11.9	-1.4
PZUN	**Potenza**	**3.00**	**138**	⇓P	Pn	02 02 22.8	-2.2
ROVR	**Rover Verones**	**3.12**	**332**	⇑P	Pb	02 02 35.0	+2.0

ROM 29 02:02:31.3±0.4, 45°83N±0°02×11°15E±0°02, h10km, ML1.1/2, 1C-3D, Error ellipse: s-maj=2.2km s-min=1.2km az=174.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOSS	**Dosso del Somm**	**0.06**	**27**	⇓*e*Pg	Pg	02 02 33.8	+0.1
DOSS				*e*Sg	Sg	02 02 35.7	+0.3
DOSS	**Dosso del Somm**	**0.06**	**27**	P	Pg	02 02 33.8	+0.1
DOSS				S	Sg	02 02 35.6	+0.2
DOSS				AML	AML		
	comp=E,258μm,0.1s						
DOSS				AML	AML		
	comp=N,134μm,1.2s						
DOSS				AML	AML		
	comp=N,278μm,0.1s						
DOSS				AML	AML		
	comp=N,134μm,0.8s						
DOSS				AML	AML		
	comp=E,144μm,0.1s						
VARA	**Varagna**	**0.18**	**270**	*e*Pg	Pg	02 02 36.0	+0.7
VARA				*e*Sg	Sg	02 02 39.4	+1.4
MARN	**Marana (Italy)**	**0.19**	**167**	⇑*e*Pg	Pg	02 02 34.6	-0.8
MARN				*e*Sg	Sg	02 02 37.0	-1.2
LUSI	**Trento, Gardas**	**0.20**	**313**	P	Pg	02 02 36.1	+0.5
LUSI				S	Sg	02 02 39.8	+1.4
PANI	**Panarotta**	**0.26**	**30**	⇓*e*Pg	Pg	02 02 36.5	-0.2
PANI				*e*Sg	Sg	02 02 40.3	-0.1
GAGG	**Gaggia**	**0.29**	**333**	⇓*e*Pg	Pg	02 02 37.8	+0.5
GAGG				*e*Sg	Sb	02 02 42.6	-1.1
GAGG	**Gaggia**	**0.29**	**333**	P	Pg	02 02 37.8	+0.5
GAGG				S	Sb	02 02 42.9	-0.8
GAGG				AML	AML		
	comp=E,94μm,1.6s						
GAGG				AML	AML		
	comp=N,84μm,1.2s						
GAGG				AML	AML		
	comp=E,27μm,1.6s						
GAGG				AML	AML		
	comp=N,30μm,1.6s						
GAGG				AML	AML		
	comp=E,94μm,0.4s						
GAGG				AML	AML		
	comp=N,30μm,0.4s						
GAGG				AML	AML		
	comp=E,27μm,0.4s						
GARGN	**Gargnano BS**	**0.37**	**249**	*e*Pg	Pg	02 02 38.7	+0.1
RONC	**Roncone**	**0.40**	**293**	*e*Pg	Pg	02 02 39.9	+0.7
RONC				*e*Sg	Sb	02 02 46.5	-0.3
CGRP	**Cima Grappa**	**0.46**	**83**	*e*Pg	Pg	02 02 39.2	-1.2
CGRP				*e*Sg	Sg	02 02 45.0	-1.5
MABI	**Malga Bissina**	**0.50**	**298**	P	Pb	02 02 41.8	-0.5
MABI				S	Sg	02 02 48.6	+0.9
ZIAN	**Ziano**	**0.54**	**32**	*e*Pg	Pg	02 02 41.3	-0.5
TEOL	**Teolo**	**0.59**	**142**	*e*Pg	Pg	02 02 41.6	-1.2
APPI	**Appiano**	**0.66**	**5**	P	Pb	02 02 44.5	-0.4
APPI				S	Sg	02 02 53.2	+0.5
MOSI	**Grossmontoni**	**0.89**	**333**	P	Pg	02 02 47.3	-1.3

*CRAAG **29** 02:18:59.5, 34°79N×6°28E, Ml3.5, Algerie 05km SE M"ziraa*
*LDG **29** 02:19:00.7±0.3, 34°74N×6°25E, h10km, Ml3.1/9, Error ellipse: s-maj=6.1km s-min=3.7km az=154.0*
*CNRM **29** 02:19:13.3, 35°08N×5°00E, h152km*
ISC 29 02:19:00.2±1.4, 34°98N±0°07×5°88E±0°07, h10km, n23, σ2s35/33, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**1.08**	**344**	P	**Sg**	**02 19 32.2**	**-2.8**
CTEI	**Djebel Teioual**	**1.16**	**22**	P	**Pg**	**02 19 22.7**	**+0.1**
SET	**Setif**	**1.28**	**342**	P	**Pg**	**02 19 28.0**	**+3.2**
CASM	**Ain Smara**	**1.37**	**21**	P	**Pn**	**02 19 25.4**	**-0.1**
DFRA	**Djebel Bou Aff**	**1.56**	**360**	P	**Pn**	**02 19 29.5**	**+1.3**
CKFL	**Kef-Lekhel**	**1.57**	**26**	P	**Pg**	**02 19 33.4**	**+2.9**
CART	**Cartagena**	**6.13**	**297**	P	**Pn**	**02 20 33.5**	**+2.6**
CART				S	**Sn**	**02 21 34.5**	**-6.7**
FIGM	**Figuig**	**6.60**	**247**	P	**Pn**	**02 20 38.1**	**+0.6**
FIGM				S	**Sn**	**02 21 49.5**	**-3.4**
JBK	**JBK**	**6.99**	**267**	P	**Pn**	**02 20 44.3**	**+1.5**
JBK				S	**Sn**	**02 21 59.5**	**-3.0**
PGF	**Pioggiola**	**7.94**	**17**	*e*Pn	**Pn**	**02 20 56.2**	**+0.4**
PGF				*e*Sn	**Sn**	**02 22 23.6**	**-2.1**
	0.5nm,0.2s						
LMR	**La Mourre**	**8.36**	**3**	*e*Pn	**Pn**	**02 21 01.9**	**+0.5**
LMR				*e*Sn	**Sn**	**02 22 32.3**	**-3.5**
	1.5nm,0.3s						
MTLF	**Montolieu**	**8.82**	**342**	*e*Pn	**Pn**	**02 21 09.6**	**+1.8**
MTLF				*e*Sn	**Sn**	**02 22 47.2**	**0.0**
	0.4nm,0.2s						
MDT	**Midelt**	**8.98**	**259**	P	**Pn**	**02 21 11.1**	**+1.0**
MDT				S	Sn	02 22 44.2	-7.1
SMRF	**Simiane la Rot**	**8.99**	**359**	*e*Pn	**Pn**	**02 21 11.2**	**+1.1**
SMRF				*e*Sn	**Sn**	**02 22 49.7**	**-1.7**
	0.5nm,0.3s						
MD31	**MD31**	**9.09**	**260**	P	**Pn**	**02 21 14.0**	**+2.4**
MD31				S	Sn	02 22 43.0	-11
EPF	**Esparros**	**9.12**	**333**	*e*Pn	**Pn**	**02 21 14.9**	**+3.0**
EPF				*e*Sn	**Sn**	**02 22 55.0**	**+0.4**
	5.4nm,0.8s						
LASF	**Ste Croix**	**9.22**	**351**	*e*Pn	**Pn**	**02 21 15.0**	**+1.8**
LASF				*e*Sn	**Sn**	**02 22 55.2**	**-1.8**
ETSF	**Etsaut**	**9.36**	**330**	*e*Pn	Pn	02 21 20.5	+5.3
ETSF				*e*Sn	**Sn**	**02 23 01.0**	**+0.4**
	1.0nm,0.3s						
MBDF	**Montbardon**	**9.76**	**4**	*e*Pn	**Pn**	**02 21 21.6**	**+0.8**
SJPF	**Ste Jean**	**9.82**	**328**	*e*Pn	**Pn**	**02 21 24.2**	**+2.7**
VIVF	**Saint-Julien-l**	**9.91**	**355**	*e*Pn	**Pn**	**02 21 24.1**	**+1.4**
VIVF				*e*Sn	**Sn**	**02 23 11.7**	**-2.3**
	0.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**9.93**	**0**	*e*Pn	**Pn**	**02 21 24.1**	**+1.1**
ZGR	**Zagora**	**10.84**	**247**	P	**Pn**	**02 21 36.1**	**+0.5**

IDC 29 02:23:05.6±2.2, 1°22N×126°56E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=180.1km s-min=27.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.37**	**160**	P	P	02 28 04.5	-1.0
	0.5nm,0.5s,baz=339,slow=11,SNR=10						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.74**	**164**	P	P	02 28 39.2	+1.1
	0.1nm,0.5s,baz=347,slow=12,SNR=2.3						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**59.52**	**326**	P	P	02 33 10.7	-0.1
	0.1nm,0.4s,baz=116,slow=7.8,SNR=4.6						
	0.1nm,0.4s						

IDC 29 02:23:56.2±6.2, 12°86S×75°63W, h0km, mb3.6/2, mbtmp3.6/3, ML3.6/1, MS3.6/2, Error ellipse: s-maj=264.7km s-min=38.7km az=35.0, Central Peru

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

LPAZ	**La Paz**	**8.02**	**116**	Pn	Pn	02 25 55.0	+0.3
	0.4nm,0.3s,baz=293,slow=10,SNR=10						
	1.6nm,0.4s						
SIV	**San Ignacio**	**14.44**	**104**	LR	LR	02 33 48.5	
	comp=Z,96nm,18.8s,baz=280,slow=41						
H03N1	**Juan Fernandez**	**20.71**	**188**	T	T	02 47 54.7	
	baz=7.7,slow=74,SNR=433						
H03N2	**Juan Fernandez**	**20.71**	**188**	T	T	02 47 53.9	
	baz=7.7,slow=74,SNR=520						
H03N3	**Juan Fernandez**	**20.72**	**188**	T	T	02 47 52.9	
	baz=7.7,slow=74,SNR=513						
BBB	**Bella Bella**	**78.96**	**330**	LR	LR	03 14 41.7	
	comp=Z,71nm,19.2s,baz=42,slow=39						
TORD	**Torodi Ar. Bea**	**80.88**	**74**	P	P	02 36 12.7	-0.2
	1.2nm,0.7s,baz=257,slow=4.6,SNR=5.9						
	1.2nm,0.7s						
YKA	**Yellowknife Ar**	**81.02**	**343**	P	P	02 36 12.9	+0.4
	0.1nm,0.7s,baz=148,slow=5.9,SNR=1.7						
	0.1nm,0.7s						
H11N3	**WAKE ISLAND Hyl**	**19.86**	**285**	T	T	04 53 32.6	
	baz=96,slow=74,SNR=22						
H11N2	**WAKE ISLAND Hyl**	**19.87**	**285**	T	T	04 53 34.4	
	baz=96,slow=74,SNR=23						
H11N1	**WAKE ISLAND Hyl**	**19.87**	**285**	T	T	04 53 32.4	
	baz=96,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hyl**	**19.96**	**284**	T	T	04 53 29.8	
	baz=97,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hyl**	**19.97**	**284**	T	T	04 53 29.4	
	baz=97,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hyl**	**19.98**	**284**	T	T	04 53 30.6	
	baz=97,slow=75,SNR=29						
SONM	**Songino Array**	**145.09**	**358**	PKPbc	PKPbc	02 43 34.2	-1.1
	0.3nm,0.5s,baz=346,slow=3.7,SNR=2.9						

*IDC **29** 02:45:57.5±1.3, 22°69S×66°74W, h192km±15km, mb3.1/2, mbtmp3.7/7, Error ellipse: s-maj=30.2km s-min=16.8km az=142.0*
*VAO **29** 02:45:58.8±0.6, 22°17S×66°94W, h206km±10km, mb3.7*
*GUC **29** 02:45:59.1±0.6, 22°68S×67°13W, h233km±8km, ML4.1*
ISC 29 02:45:57.7±0.8, 22°55S±0°07×66°82W±0°07, h203km±9km, n31, σ1s40/47, 6C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.93**	**268**	P	**Pn**	**02 46 37.0**	**+0.8**
	84nm,0.3s,baz=97,slow=5.6,SNR=259						
LVC				S	**S**	**02 47 05.5**	**+0.1**
	25nm,0.3s,baz=228,slow=20,SNR=16						
LVC	**Limon Verde**	**1.93**	**268**	⇑*i*P	**Pn**	**02 46 37.0**	**+0.8**
LVC				*e*S	**S**	**02 47 05.3**	**-0.2**
LVC	**Limon Verde**	**1.93**	**268**	*e*P	**Pn**	**02 46 36.5**	**+0.4**
LVC				*e*S	**S**	**02 47 06.2**	**+0.7**
PB09	**IPOC Station P**	**2.37**	**288**	⇑*i*P	**Pn**	**02 46 42.1**	**+1.5**
PB09				*e*S	**S**	**02 47 14.6**	**+1.3**
PB06	**IPOC Station P**	**2.54**	**266**	*e*P	**Pn**	**02 46 42.8**	**+0.3**
PB06				*e*S	**S**	**02 47 16.3**	**-0.4**
PB06				IAML		02 47 19.2	
	comp=E,226nm,0.1s						
PB03	**IPOC Station P**	**2.76**	**280**	⇑*i*P	**Pn**	**02 46 45.3**	**+0.4**
PB03				*e*S	**S**	**02 47 20.5**	**-0.6**
PB03				IAML		02 47 21.4	
	comp=N,479nm,0.1s						
PB01	**IPOC Station P**	**2.90**	**301**	*i*P	**Pn**	**02 46 47.5**	**+1.0**
PB01				*e*S	**S**	**02 47 24.8**	**+0.9**
PB01				IAML		02 47 27.4	
	comp=E,231nm,0.2s						
PB07	**IPOC Station P**	**2.96**	**286**	*i*P	**Pn**	**02 46 47.8**	**+0.6**
PB07				*e*S	**S**	**02 47 24.5**	**-0.7**
PB07				IAML		02 47 25.3	
	comp=N,378nm,0.4s						
PB04	**IPOC Station P**	**3.09**	**273**	⇑*i*P	**Pn**	**02 46 48.8**	**+0.1**
PB04				*e*S	**S**	**02 47 26.3**	**-1.6**
PB04				IAML		02 47 30.1	
	comp=N,246nm,0.3s						
PB02	**IPOC Station P**	**3.11**	**293**	⇓*i*P	**Pn**	**02 46 49.4**	**+0.5**
PB02				*e*S	**S**	**02 47 27.7**	**-0.6**
PB02				IAML		02 47 28.3	
	comp=N,384nm,0.4s						
PATCX	**Punta Patache**	**3.54**	**298**	⇑*e*P	**Pn**	**02 46 54.5**	**+0.3**
PATCX				*e*S	**S**	**02 47 36.8**	**-0.9**
PB10	**IPOC Station P**	**3.57**	**254**	*i*P	**Pn**	**02 46 53.8**	**-0.5**
PB10				*e*S	**S**	**02 47 34.2**	**-3.9**
HMBC	**Humberstone**	**3.64**	**308**	⇑*i*P	**Pn**	**02 46 55.6**	**+0.2**
HMBC				*e*S	**S**	**02 47 39.4**	**-0.6**
TA01	**Diego Aracena**	**3.70**	**302**	*i*P	**Pn**	**02 46 55.9**	**0.0**
TA01				*e*S	**S**	**02 47 39.7**	**-1.2**
PB11	**IPOC Station P**	**3.83**	**316**	*e*P	**Pn**	**02 46 58.3**	**+0.6**
PB11				*e*S	**S**	**02 47 44.3**	**0.0**
LPAZ	**La Paz**	**6.35**	**349**	P	**Pn**	**02 47 32.9**	**+2.7**
	comp=N,0.8nm,0.3s,baz=168,slow=13,SNR=6.9						
BBRB	**Robore, Bolivi**	**7.83**	**58**	*e*P	**Pn**	**02 47 47.0**	**-1.9**
BBSD	**Serra de San D**	**7.91**	**49**	*e*P	**Pn**	**02 47 49.8**	**-0.2**
SIV	**San Ignacio**	**8.49**	**41**	P	**Pn**	**02 47 56.7**	**-0.8**
	comp=N,3.4nm,0.4s,baz=214,slow=12,SNR=29						
SIV				S	**S**	**02 49 27.2**	**-5.9**
	comp=N,0.5nm,0.3s,baz=124,slow=19,SNR=1.8						
CRSM	**Crissiumal (Br**	**12.59**	**116**	*e*P	**P**	**02 48 54.1**	**+0.5**
FRBT	**Francisco Belt**	**13.01**	**108**	*e*P	**P**	**02 48 59.4**	**+1.0**
SNDB	**Serra Nova Dou**	**18.16**	**57**	*e*P	**P**	**02 49 55.7**	**+0.4**
PLCA	**Paso Flores**	**18.40**	**189**	P	**P**	**02 49 57.0**	**-0.7**
	comp=N,1.5nm,0.8s,baz=20,slow=13,SNR=4.5						
BDFB	**Brasilia**	**19.05**	**72**	P	**P**	**02 50 06.0**	**+1.1**
	comp=N,2.8nm,0.4s,baz=244,slow=11,SNR=8.2						
BDFB	**Brasilia**	**19.05**	**72**	*e*P	**P**	**02 50 06.1**	**+1.1**
JANB	**Januaria**	**22.56**	**75**	*e*P	**P**	**02 50 40.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**75.90**	**69**	P	**P**	**02 57 22.4**	**0.0**
	comp=N,0.2nm,0.3s,baz=231,slow=5.6,SNR=9.2						
	comp=N,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**92.83**	**340**	P	**P**	**02 58 47.8**	**+1.1**
	comp=N,0.1nm,0.6s,baz=130,slow=5.1,SNR=2.3						
	comp=N,0.1nm,0.6s						
ASAR	**Alice Springs**	**129.83**	**205**	PKP	**PKiKP**	**03 04 43.8**	**-0.7**
	comp=N,0.1nm,0.4s,baz=151,slow=1.5,SNR=2.0						
WRA	**Warramunga Arr**	**132.98**	**208**	PKP	**PKiKP**	**03 04 51.0**	**+0.1**
	comp=N,0.2nm,0.8s,baz=150,slow=2.0,SNR=4.6						
MKAR	**Makanchi Array**	**145.30**	**38**	PKPbc	**PKPab**	**03 05 12.6**	**+0.8**
	comp=N,0.6nm,0.9s,baz=334,slow=3.3,SNR=5.4						

*IDC **29** 02:50:52.3±0.9, 54°92S×30°63W, h0km, mb4.0/5, mbtmp4.2/6, ML5.2/1, MS3.4/4, Error ellipse: s-maj=33.0km s-min=23.3km az=45.0*
*NEIC **29** 02:50:53.5±2.3, 55°9S±0°2×32°3W±0°1, h10km±2km, mb4.4/8, Error ellipse: s-maj=33.6km s-min=9.3km az=18.0*
ISC 29 02:50:52.2±0.7, 55°1S±0°1×30°7W±0°2, h10km, n22, σ1s76/18, mb4.2/6, MS3.4/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPZ	**Base Esperanza**	**15.72**	**227**		Pn	02 54 24.8	-8.6
PMSA	**Palmer Station**	**19.09**	**226**	P	**Pn**	**02 55 18.1**	**+2.7**
	7.4nm,0.3s,baz=52,slow=12,SNR=11						
	27nm,0.5s						
SNAA	**Sanae**	**20.46**	**155**	P	Pn	02 55 32.9	+1.1
	3.3nm,0.8s,baz=299,slow=10.0,SNR=5.4						
	3.3nm,0.8s						
SNAA	**Sanae**	**20.46**	**155**	P	**P**	**02 55 27.2**	**-2.4**
PLCA	**Paso Flores**	**29.86**	**282**	LR	LR	03 09 18.9	
	comp=Z,50nm,20.3s,baz=160,slow=37						
CPUP	**Villa Florida**	**34.68**	**315**	P	**P**	**02 57 42.8**	**+0.9**
	2.3nm,0.7s,baz=147,slow=7.2,SNR=7.4						
	2.3nm,0.7s						
CPUP	**Villa Florida**	**34.68**	**315**	P	**P**	**02 57 41.9**	**+0.1**
MAW	**Mawson**	**42.11**	**145**	P	**P**	**02 58 44.1**	**+0.3**
SUR	**Sutherland**	**42.36**	**79**	LR	LR	03 11 25.1	
	comp=Z,39nm,20.6s,baz=243,slow=29						
PB01	**IPOC Station P**	**44.70**	**304**	P	**P**	**02 59 04.8**	**-0.5**
PB01				IAmb	IAmb	02 59 07.3	
	comp=Z,7.3nm,0.9s						
PTLB	**Pontes e Lacer**	**45.23**	**320**	P	**P**	**02 59 09.7**	**+0.2**
PTLB				IAmb	IAmb	02 59 13.9	
	comp=Z,3.0nm,0.9s						
SIV	**San Ignacio**	**45.47**	**317**	P	**P**	**02 59 11.7**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=152,slow=7.3,SNR=4.0						
SIV				LR	LR	03 19 03.1	
	comp=Z,45nm,18.2s,baz=86,slow=37						
	comp=Z,0.7nm,0.5s						
MNMC	**Minye Minye**	**46.39**	**305**	P	**P**	**02 59 19.6**	**+0.6**
LPAZ	**La Paz**	**48.

LPAZ				IAmb	IAmb	02 59 39.2		
	comp=Z,3.8nm,1.0s							
TULM	**Tulcn-Chalpat**	**67.58**	**308**	P	**P**	**03 01 44.8**	**-4.7**	
OPO	**Ambohidratompo**	**68.07**	**91**	LR	LR	03 27 17.7		
	comp=Z,30nm,18.6s,baz=275,slow=32							
TORD	**Torodi Ar. Bea**	**73.25**	**33**	P	**P**	**03 02 25.6**	**+2.2**	
	comp=Z,0.6nm,0.6s,baz=209,slow=8.1,SNR=3.2							
	comp=Z,0.6nm,0.6s							
FINES	**FINESS Array B**	**124.47**	**29**	PKP	**PKiKP**	**03 09 51.4**	**+1.0**	
	comp=Z,1.3nm,0.7s,baz=230,slow=4.7,SNR=6.5							
YKA	**Yellowknife Ar**	**134.12**	**320**	PKP	**PKiKP**	**03 10 09.1**	**-0.6**	
	comp=Z,0.2nm,0.7s,baz=135,slow=2.2,SNR=4.6							
ILAR	**Eielson Array**	**147.98**	**313**	PKPbc	**PKPbc**	**03 10 36.9**	**+0.6**	
	comp=Z,2.3nm,0.9s,baz=121,slow=1.6,SNR=24							
SONM	**Songino Array**	**152.67**	**87**	PKPbc	**PKiKP**	**03 10 49.2**	**+0.8**	
	comp=Z,0.6nm,0.7s,baz=207,slow=2.9,SNR=5.4							
SONM				PKPab	**pPKPab**	**03 10 59.4**	**-0.9**	
	comp=Z,0.9nm,0.7s,baz=223,slow=4.4,SNR=5.9							

*MEX **29** 03:08:58.0±0.6, 18°.28N×101°.41W, h69km±7km, MD4.2*
*IDC **29** 03:09:03.3±5.9, 18°.59N×100°.98W, h110km±46km, mb3.1/4, mbtmp3.4/6, Error ellipse: s-maj=95.7km s-min=27.1km az=37.0*
ISC 29 03:08:57.2±0.8, 18°.26N±0°.03×101°.42W±0°.03, h64km±9km, n48, σ2ᵎ19/85, mb3.4/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UON	**La Union**	**0.47**	**233**	*eP*	**Pn**	**03 09 08.4**	**-0.7**
UON				*eS*	**Sn**	**03 09 17.6**	**-0.2**
ZIIG	**Zihuatanejo**	**0.65**	**184**	*i P*	**Pn**	**03 09 10.9**	**-2.1**
ZIIG				*i S*	**Sn**	**03 09 21.8**	**+0.6**
PET2	**Petatlan**	**0.74**	**168**	*eP*	**Pn**	**03 09 11.8**	**-0.3**
PET2				*eS*	**Sn**	**03 09 23.1**	**+0.1**
ARIG	**Puente Sto Nin**	**1.02**	**89**	*i P*	**Pn**	**03 09 15.1**	**-0.6**
ARIG				*i S*	**Sn**	**03 09 28.6**	**-0.8**
URUA	**Uruapan**	**1.31**	**332**	*eP*	**Pn**	**03 09 19.1**	**-0.5**
URUA				*eS*	**Sn**	**03 09 35.8**	**-0.6**
TEJU	**Tejupilco**	**1.36**	**62**	*eP*	**Pn**	**03 09 19.4**	**-0.8**
TEJU				*eS*	**Sn**	**03 09 35.9**	**-1.6**
ATYC	**Atoyac**	**1.40**	**138**	*eP*	**Pn**	**03 09 20.5**	**-0.2**
ATYC				*eS*	**Sn**	**03 09 37.8**	**-0.5**
CAIG	**El Cayaco**	**1.63**	**137**	*i P*	**Pn**	**03 09 23.5**	**-0.2**
CAIG				*i S*	**Sn**	**03 09 38.6**	**-5.2**
MEIG	**Mezcala**	**1.75**	**101**	*eP*	**Pn**	**03 09 24.6**	**-0.7**
MEIG				*i S*	**Sn**	**03 09 45.3**	**-1.3**
PLIG	**Platanillo**	**1.83**	**86**	*eP*	**Pn**	**03 09 27.3**	**+0.9**
PLIG				*eS*	**Sn**	**03 09 49.3**	**+0.6**
MMIG	**Aquila**	**1.83**	**271**	*eP*	**Pn**	**03 09 25.3**	**-1.0**
MMIG				*eS*	**Sn**	**03 09 47.1**	**-1.4**
TOVM	**TOLUCA**	**1.94**	**58**	*eP*	**Pn**	**03 09 28.2**	**0.0**
TOVM				*eS*	**Sn**	**03 09 43.7**	**-8.1**
MAVM	**Malinalco, Edo**	**1.95**	**69**	*eP*	**Pn**	**03 09 28.7**	**+0.4**
MAVM				*eS*	**Sn**	**03 09 52.7**	**+0.8**
DAIG	**Los Arroyos**	**2.09**	**126**	*eP*	**Pn**	**03 09 29.8**	**-0.2**
DAIG				*eS*	**Sn**	**03 09 54.7**	**-0.2**
ATVM	**ATLACOMULCO**	**2.11**	**45**	*eP*	**Pn**	**03 09 30.3**	**-0.2**
ATVM				*eS*	**Sn**	**03 09 55.8**	**-0.1**
INVM	**La Marquesa**	**2.19**	**62**	*eP*	**Pn**	**03 09 31.4**	**-0.2**
INVM				*eS*	**Sn**	**03 09 55.7**	**-2.1**
AOVM	**Tlapan**	**2.23**	**63**	*eP*	**Pn**	**03 09 32.0**	**-0.2**
AOVM				*eS*	**Sn**	**03 09 56.0**	**-2.9**
ACIG	**Acambay**	**2.25**	**40**	*eP*	**Pn**	**03 09 31.6**	**-0.6**
ACIG				*eS*	**Sn**	**03 09 57.0**	**-2.0**
CJVM	**Cuajimalpa**	**2.30**	**61**	*eS*	**Sn**	**03 09 54.4**	**-6.0**
YAIG	**Yautepec**	**2.31**	**75**	*eP*	**Pn**	**03 09 32.8**	**-0.3**
YAIG				*eS*	**Sn**	**03 10 00.7**	**+0.2**
TLVM	**San Miguel Top**	**2.35**	**66**	*eP*	**Pn**	**03 09 35.7**	**+2.0**
TLVM				*eS*	**Sn**	**03 10 00.9**	**-0.7**
MHVM	**Bosque de Chap**	**2.38**	**61**	*eS*	**Sn**	**03 10 01.2**	**-1.3**
XCVM	**Xochimilco**	**2.40**	**65**	*eP*	**Pn**	**03 09 35.4**	**+1.0**
XCVM				*eS*	**Sn**	**03 10 03.5**	**+0.7**
BJVM	**Benito Juarez**	**2.40**	**62**	*eS*	**Sn**	**03 09 57.7**	**-5.2**
COVM	**Coyoacan**	**2.40**	**63**	*eS*	**Sn**	**03 10 05.1**	**+2.2**
CTVM	**Cuauhtemoc**	**2.44**	**61**	*eS*	**Sn**	**03 10 06.5**	**+2.7**
PBVM	**Pinon**	**2.50**	**62**	*eP*	**Pn**	**03 09 37.9**	**+2.3**
PBVM				*eS*	**Sn**	**03 10 09.5**	**+4.5**
THVM	**De Xico**	**2.54**	**65**	*eP*	**Pn**	**03 09 38.6**	**+2.3**
THVM				*eS*	**Sn**	**03 10 04.5**	**-1.9**
PTVM	**Pico Tres Padr**	**2.56**	**58**	*eP*	**Pn**	**03 09 36.7**	**+0.2**
PTVM				*eS*	**Sn**	**03 10 07.6**	**+1.0**
ZUVM	**ZUMPANGO**	**2.71**	**55**	*eS*	**Sn**	**03 10 04.2**	**-6.2**
TLIG	**Tlapa**	**2.80**	**104**	*eP*	**Pn**	**03 09 40.9**	**+1.1**
TLIG				*eS*	**Sn**	**03 10 10.4**	**-2.1**
MGIG	**Malinaltepec**	**2.84**	**111**	*eP*	**Pn**	**03 09 41.1**	**+0.7**
MGIG				*eS*	**Sn**	**03 10 12.3**	**-1.3**
VTVM	**Tizayuca**	**2.92**	**59**	*eP*	**Pn**	**03 09 40.5**	**-1.0**
VTVM				*eS*	**Sn**	**03 10 15.0**	**-0.6**
FTIG	**Fresnillo de T**	**3.15**	**96**	*eP*	**Pn**	**03 09 45.3**	**+0.8**
FTIG				*eS*	**Sn**	**03 10 16.6**	**-4.3**
HLIG	**Huajuapan de L**	**3.47**	**97**	*eP*	**Pn**	**03 09 50.0**	**+1.1**
HLIG				*eS*	**Sn**	**03 10 25.8**	**-3.1**
TXIG	**Tlaxiaco**	**3.62**	**105**	*eP*	**Pn**	**03 09 52.5**	**+1.4**
TXIG				*eS*	**Sn**	**03 10 30.2**	**-2.6**
PNIG	**Pinotepa**	**3.65**	**120**	*eP*	**Pn**	**03 09 51.6**	**+0.3**
PNIG				*eS*	**Sn**	**03 10 32.7**	**-0.5**
TPIG	**Tehuac#an**	**3.86**	**87**	*eP*	**Pn**	**03 09 55.9**	**+1.6**
TPIG				*eS*	**Sn**	**03 10 39.0**	**+0.6**
YOIG	**Yosondua**	**3.95**	**110**	*eP*	**Pn**	**03 09 57.2**	**+1.6**
YOIG				*eS*	**Sn**	**03 10 39.6**	**-1.3**
TOIG	**Toxpalan**	**4.14**	**92**	*eP*	**Pn**	**03 09 59.0**	**+0.9**
TOIG				*eS*	**Sn**	**03 10 42.0**	**-3.4**
VHO	**Vista Hermosa**	**4.62**	**104**	*eP*	**Pn**	**03 10 06.7**	**+1.9**
VHO				*eS*	**Sn**	**03 10 55.7**	**-1.5**
PEIG	**Puerto Escondi**	**4.66**	**118**	*eP*	**Pn**	**03 10 05.8**	**+0.7**
PEIG				*eS*	**Sn**	**03 10 53.3**	**-4.7**
CMIG	**Matias Romero**	**6.34**	**100**	P	**Pn**	**03 10 29.5**	**+1.5**
	2.4nm,0.3s,baz=275,slow=14,SNR=11						
CMIG				S	**Sn**	**03 11 37.7**	**-1.4**
	4.2nm,0.6s,baz=163,slow=21,SNR=2.0						
TXAR	**Lajitas Array**	**11.21**	**350**	P	**Pn**	**03 11 37.1**	**+2.3**
	0.5nm,0.9s,baz=167,slow=12,SNR=3.9						
NVAR	**Mina Array Bea**	**24.91**	**327**	P	**P**	**03 14 15.9**	**+1.4**
	0.6nm,0.6s,baz=154,slow=9.6,SNR=8.0						
	0.6nm,0.6s						
PDAR	**Pinedale Array**	**25.39**	**346**	P	**P**	**03 14 18.8**	**0.0**
	1.3nm,0.8s,baz=148,slow=11,SNR=12						
	1.3nm,0.8s						
YKA	**Yellowknife Ar**	**45.14**	**351**	P	**P**	**03 17 05.5**	**-1.6**
	0.3nm,0.8s,baz=164,slow=7.4,SNR=5.2						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**55.46**	**338**	P	**P**	**03 18 25.6**	**+0.6**
	0.3nm,0.7s,baz=152,slow=5.4,SNR=6.6						
	0.3nm,0.7s						

IDC 29 03:09:57.9±7.0, 6°.68S×128°.35E, h250km±77km, mb2.6/1, mbtmp3.9/4, Error ellipse: s-maj=77.0km s-min=24.5km az=45.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.81**	**233**	P	Pn	03 11 25.4	+1.7
	65nm,0.6s,baz=117,slow=1.4,SNR=7.8						
BATI				S	S	03 12 31.6	-0.8
	23nm,0.5s,baz=38,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**14.41**	**157**	P	Pn	03 13 10.1	-1.0
	1.2nm,0.5s,baz=336,slow=12,SNR=16						
ASAR	**Alice Springs**	**17.72**	**163**	P	P	03 13 47.9	+0.4
	3.1nm,0.5s,baz=343,slow=11,SNR=95						
MKAR	**Makanchi Array**	**67.07**	**328**	P	P	03 20 24.1	-0.3
	0.2nm,0.7s,baz=111,slow=6.9,SNR=1.8						
	0.2nm,0.7s						

*UPP **29** 03:30:37.7±0.0, 67°.83N×20°.21E, h0km, ML2.5, Confirmed Induced event*
*HEL **29** 03:30:38.1±0.2, 67°.79N×20°.16E, h0km, ML1.0, Explosion*
ISC 29 03:30:37.1±0.8, 67°.81N±0°.03×20°.31E±0°.03, h0km, n23, σ1ᵎ04/33, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.27**	**273**	P	**Pg**	**03 30 42.2**	**0.0**
RATU				S	**Sg**	**03 30 45.6**	**-0.1**
KOVU	**Salmi**	**0.42**	**353**	P	**Pg**	**03 30 45.4**	**+0.3**
NIKU	**Nikkaluokta**	**0.48**	**277**	P	**Pg**	**03 30 46.3**	**-0.1**
LANU	**Lannavaara**	**0.68**	**69**	P	**Pb**	**03 30 51.1**	**-0.7**
LANU	**Lannavaara**	**0.68**	**69**	PG	**Pb**	**03 30 51.4**	**-0.4**
LANU				SG	**Sb**	**03 31 00.9**	**-0.9**
DUNU	**Dundret**	**0.70**	**172**	P	**Pg**	**03 30 50.8**	**+0.3**
MASU	**Masugnsbyn**	**0.74**	**118**	P	**Pb**	**03 30 52.5**	**-0.3**
SALU	**Saltoluokta**	**0.81**	**239**	P	**Pg**	**03 30 53.2**	**+0.5**
KIF	**Kilpisjarvi**	**1.21**	**8**	PG	**Pn**	**03 31 01.1**	**-0.1**
KIF				MSG		03 31 16.7	
	comp=Z,1.9nm,0.2s						
KIF				SB	**Sn**	**03 31 17.6**	**-0.7**
PAJU	**Pajala**	**1.34**	**125**	P	**Pn**	**03 31 02.9**	**-0.1**
HEF	**Hetta**	**1.39**	**63**	PG	**Pb**	**03 31 03.9**	**-0.1**
HEF				MSG		03 31 21.9	
	comp=Z,0.7nm,0.2s						
HEF				SG	**Sn**	**03 31 23.2**	**+0.3**
ERTU	**Ertsjaerv**	**1.46**	**149**	P	**Pb**	**03 31 05.1**	**0.0**
ERTU	**Ertsjaerv**	**1.46**	**149**	PN	**Pb**	**03 31 05.5**	**+0.4**
ERTU				SN	**Sn**	**03 31 25.7**	**+1.2**
KLF	**Kolari**	**1.52**	**111**	PG	**Pg**	**03 31 06.3**	**+0.1**
KLF				MSG		03 31 25.0	
	comp=Z,0.9nm,0.2s						
KLF				SN	**Sn**	**03 31 27.8**	**+1.9**
KTK1	**Kautokeino**	**1.62**	**41**	PG	**Pg**	**03 31 08.6**	**+0.5**
KTK1				SN	**Sg**	**03 31 32.0**	**+2.9**
TRO	**Tromso**	**1.90**	**345**	SG	**Sg**	**03 31 38.1**	**+0.1**
KALU	**Kalix**	**2.30**	**147**	SG	**Sg**	**03 31 51.4**	**+0.4**
TOF	**Tornio**	**2.35**	**136**	PG	**Pb**	**03 31 19.9**	**-0.4**
TOF				MSG		03 31 48.3	
	comp=Z,0.4nm,0.2s						
TOF				SG	**Sg**	**03 31 51.4**	**-1.1**
SGF	**Sodankyl**	**2.41**	**96**	SG	**Sg**	**03 31 54.0**	**-0.4**
RNF	**Rovaniemi**	**2.53**	**116**	PB	**Pb**	**03 31 22.4**	**-0.9**
RNF				SG	**Sg**	**03 31 56.7**	**-1.5**
ARA0	**ARCESS Array S**	**2.57**	**45**	PB	**Pb**	**03 31 22.2**	**-1.8**
	baz=227						
ARA0				SB	**Sb**	**03 31 55.6**	**-0.5**
KEV	**Kevo**	**3.12**	**48**	SN	**Sn**	**03 32 08.0**	**+2.6**
KU6	**Riekki**	**4.18**	**111**	SG	**Sg**	**03 32 50.2**	**-1.0**

IDC 29 03:32:12.8±2.4, 29°.69S×60°.93E, h0km, mb3.5/3, mbtmp3.6/4, ML4.2/1, MS3.4/3, Error ellipse: s-maj=201.2km s-min=28.6km az=25.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.71**	**308**	Pn	Pn	03 36 06.7	-2.0
	0.1nm,0.3s,baz=124,slow=9.4,SNR=5.5						
	1.7nm,0.5s						
H08S1	**Diego Carcia H**	**24.47**	**29**	T	T	04 02 10.4	
	baz=204,slow=76,SNR=5.7						
H08S2	**Diego Garcia H**	**24.48**	**29**	T	T	04 02 11.2	
	baz=204,slow=76,SNR=4.7						
H08S3	**Diego Garcia H**	**24.49**	**29**	T	T	04 02 13.1	
	baz=204,slow=76,SNR=6.6						
MBAR	**Mbarara**	**40.78**	**310**	LR	LR	03 54 58.8	
	comp=Z,45nm,18.8s,baz=312,slow=34						
ATD	**Arta Tunnel**	**44.54**	**334**	LR	LR	03 56 51.2	
	comp=Z,44nm,18.1s,baz=356,slow=33						
H01W2	**Cape Leeuwin H**	**44.84**	**111**	T	T	04 28 05.2	
	baz=261,slow=75,SNR=9.9						
H01W3	**Cape Leeuwin H**	**44.85**	**111**	T	T	04 28 05.5	
	baz=261,slow=75,SNR=9.3						
H01W1	**Cape Leeuwin H**	**44.86**	**111**	T	T	04 28 06.5	
	baz=261,slow=75,SNR=9.2						
ASAR	**Alice Springs**	**64.52**	**104**	P	P	03 42 51.7	-0.2
	0.3nm,0.7s,baz=242,slow=6.1,SNR=5.6						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**66.37**	**100**	P	P	03 43 03.7	-0.2
	0.3nm,0.6s,baz=248,slow=5.1,SNR=3.1						
	0.3nm,0.6s						
GNI	**Garni**	**71.10**	**347**	LR	LR	04 11 49.3	
	comp=Z,20nm,21.8s,baz=124,slow=33						
TORD	**Torodi Ar. Bea**	**71.20**	**298**	P	P	03 43 34.2	+0.2
	0.6nm,0.9s,baz=121,slow=5.6,SNR=2.7						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**147.06**	**356**	PKPbc	PKPbc	03 51 56.9	0.0
	0.2nm,0.6s,baz=349,slow=3.3,SNR=5.1						

*NORS **29** 04:01:46.9±0.0, 42°.67N×44°.53E, h15km, MPVA3.6*
*MOS **29** 04:01:48.4±0.0, 42°.76N×44°.50E, h11km, MPVA3.5*
*TIF **29** 04:01:48.6, 42°.80N×44°.48E, h2km±1km*
ISC 29 04:01:49.7±0.8, 42°.77N±0°.02×44°.51E±0°.01, h13km±6km, n61, σ1ᵎ41/97, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNSH	**Pansheti**	**0.15**	**150**	P	**Pb**	**04 01 52.9**	**-1.7**
PNSH				S	**Sg**	**04 01 57.0**	**+0.7**
PNSH	**Pansheti**	**0.15**	**150**	*eP*	**Pb**	**04 01 52.9**	**-1.7**
PNSH				*eS*	**Sg**	**04 01 57.0**	**+0.7**
LACR	**Lac**	**0.17**	**290**	*i Pg*	**Pb**	**04 01 52.9**	**-1.8**
LACR				*eSg*	**Sg**	**04 01 57.9**	**+1.4**
VLKR	**Vladikavkaz**	**0.30**	**24**	*ePg*	**Pg**	**04 01 55.5**	**-0.5**
VLKR				*eSg*	**Sb**	**04 02 02.2**	**+0.2**
GUDG	**Gudauri**	**0.31**	**185**	P	**Pb**	**04 01 56.3**	**-0.9**
GUDG				S	**Sb**	**04 02 02.9**	**+0.8**
GUDG	**Gudauri**	**0.31**	**185**	*ePg*	**Pb**	**04 01 56.3**	**-0.9**
GUDG				*eSg*	**Sb**	**04 02 02.9**	**+0.8**
KMGR	**Komgaron**	**0.39**	**42**	*ePg*	**Pb**	**04 01 57.1**	**-1.4**
KMGR				*eSg*	**Sb**	**04 02 05.7**	**+1.3**
ARNR	**Ardon**	**0.44**	**338**	*ePg*	**Pb**	**04 01 58.4**	**-1.0**
ARNR				*eSg*	**Sb**	**04 02 07.9**	**+1.9**
ZEI	**Tsey**	**0.45**	**273**	*ePg*	**Pb**	**04 01 58.0**	**-1.6**
ZEI				*eSg*	**Sb**	**04 02 05.7**	**-0.6**
KORR	**Kora**	**0.45**	**314**	*ePg*	**Pb**	**04 01 59.5**	**0.0**
KORR				*eSg*	**Sb**	**04 02 08.3**	**+2.0**
SHTL	**Shatili**	**0.49**	**103**	P	**Pg**	**04 01 57.6**	**-1.7**
SHTL	**Shatili**	**0.49**	**103**	*ePg*	**Pg**	**04 01 57.6**	**-1.7**
BTKR	**Batakoyurt**	**0.60**	**2**	*ePg*	**Pb**	**04 02 01.9**	**-0.2**
BTKR				*eSg*	**Sn**	**04 02 13.4**	**-0.3**
STDR	**Stavd-Durt**	**0.68**	**331**	*ePg*	**Pn**	**04 02 04.2**	**-0.9**
DIGR	**Digorskoe uzhe**	**0.70**	**281**	*i Pg*	**Pb**	**04 02 02.5**	**-1.3**
DIGR				*eSg*	**Sn**	**04 02 13.8**	**-2.5**
LSNR	**Lesken**	**0.71**	**316**	*ePg*	**Pn**	**04 02 04.3**	**-1.2**
ONI	**Oni**	**0.80**	**257**	P	**Pn**	**04 02 05.0**	**-1.7**
ONI	**Oni**	**0.80**	**257**	*ePg*	**Pn**	**04 02 05.0**	**-1.7**
ALIG	**Mtskhetisjvari**	**0.92**	**224**	P	**Pn**	**04 02 07.8**	**-0.6**
ALIG	**Mtskhetisjvari**	**0.92**	**224**	*ePg*	**Pn**	**04 02 07.8**	**-0.6**
TRKR	**Terskaya**	**0.97**	**10**	*ePg*	**Pn**	**04 02 09.4**	**+0.4**
TRKR				*eSg*	**Sn**	**04 02 24.9**	**+2.4**
NCK	**Nalchik**	**0.99**	**318**	*ePg*	**Pn**	**04 02 10.0**	**+0.7**
NCK				*eSg*	**Sn**	**04 02 24.8**	**+1.7**
PRTR	**Priterechnaya**	**0.99**	**350**	*ePg*	**Pn**	**04 02 09.7**	**+0.3**
PRTR				*eSg*	**Sn**	**04 02 26.5**	**+3.2**
GROC	**Groznyy**	**1.04**	**65**	*ePg*	**Pn**	**04 02 10.5**	**+0.6**
GROC				*eSg*	**Sn**	**04 02 26.8**	**+2.5**
TKB	**Tkibuli**	**1.20**	**250**	P	**Pg**	**04 02 14.3**	**+1.6**
TKB	**Tkibuli**	**1.20**	**250**	*ePg*	**Pg**	**04 02 14.3**	**+1.6**
DVE	**Vedeno**	**1.20**	**81**	*ePg*	**Pg**	**04 02 12.0**	**-0.8**
DVE				*eSg*	**Sn**	**04 02 29.1**	**+0.6**
BTLR	**Botlikh**	**1.27**	**94**	*ePg*	**Pg**	**04 02 13.8**	**-0.2**
BTLR				*eSg*	**Sg**	**04 02 33.7**	**+3.3**
TRLG	**Trialeti**	**1.27**	**194**	P	**Pg**	**04 02 15.2**	**+1.2**
TRLG	**Trialeti**	**1.27**	**194**	*ePg*	**Pg**	**04 02 15.2**	**+1.2**
KBTC	**Kuba-Taba**	**1.32**	**323**	*ePg*	**Pg**	**04 02 14.8**	**-0.2**
KBTC				*eSg*	**Sg**	**04 02 36.0**	**+3.8**
NEY	**Neytrino**	**1.40**	**291**	*ePg*	**Pg**	**04 02 15.5**	**-1.0**
NEY				*eSg*	**Sg**	**04 02 36.8**	**+2.0**
DMNI	**Dmanisi**	**1.46**	**190**	P	**Pg**	**04 02 17.6**	**-0.1**
KBZ	**Khabaz**	**1.52**	**310**	*ePg*	**Pg**	**04 02 17.1**	**-1.7**
KBZ				*eSg*	**Sg**	**04 02 39.8**	**+1.2**
AKH	**Akhalkalaki**	**1.56**	**210**	P	**Pg**	**04 02 19.9**	**+0.3**
AKH	**Akhalkalaki**	**1.56**	**210**	*ePg*	**Pg**	**04 02 19.9**	**+0.3**
DLMR	**Dylym**	**1.58**	**78**	*ePg*	**Pb**	**04 02 17.9**	**-0.9**
DLMR				*eSg*	**Sg**	**04 02 42.6**	**+2.0**
LGD	**Lagodekhi**	**1.59**	**125**	P	**Pg**	**04 02 19.9**	**-0.3**
LGD	**Lagodekhi**	**1.59**	**125**	*ePg*	**Pg**	**04 02 19.9**	**-0.3**
ABS	**Abastumani**	**1.62**	**232**	P	**Pg**	**04 02 20.1**	**-0.7**
ABS	**Abastumani**	**1.62**	**232**	*ePg*	**Pg**	**04 02 20.1**	**-0.7**
BGD	**Bogdanovka**	**1.65**	**205**	P	**Pg**	**04 02 21.9**	**+0.5**
BGD	**Bogdanovka**	**1.65**	**205**	*ePg*	**Pg**	**04 02 21.9**	**+0.5**
PYA1	**Pyatigorsk**	**1.65**	**322**	*ePg*	**Pg**	**04 02 19.8**	**-1.6**
PYA1				*eSg*	**Sg**	**04 02 42.4**	**-0.5**
SHA1	**Shidzhatmaz**	**1.67**	**306**	*ePg*	**Pg**	**04 02 19.8**	**-1.8**
SHA1				*eSg*	**Sg**	**04 02 44.0**	**+0.7**
UNCR	**Uncukul**	**1.68**	**91**	*ePg*	**Pb**	**04 02 20.2**	**-0.3**
UNCR				*eSg*	**Sg**	**04 02 44.6**	**+0.8**
DBC	**Dubki**	**1.72**	**81**	*ePg*	**Pg**	**04 02 21.0**	**-1.7**
DBC				*eSg*	**Sg**	**04 02 46.9**	**+1.9**
BEYR	**Belyy Ugol+**	**1.75**	**316**	*ePg*	**Pb**	**04 02 21.0**	**-0.7**
BEYR				*eSg*	**Sg**	**04 02 46.9**	**+0.9**
KRNR	**Karanay**	**1.76**	**87**	*ePg*	**Pb**	**04 02 21.6**	**-0.3**
KRNR				*eSg*	**Sg**	**04 02 46.7**	**+0.3**
KIV	**Kislovodsk**	**1.78**	**312**	*ePg*	**Pg**	**04 02 22.0**	**-1.8**
KIV				*eSg*	**Sg**	**04 02 47.5**	**+0.5**
ARKR	**Arakani**	**1.84**	**94**	*ePg*	**Pb**	**04 02 22.8**	**-0.4**
ARKR				*eSg*	**Sg**	**04 02 47.6**	**-1.2**
GNBR	**Gunib**	**1.85**	**101**	*ePg*	**Pg**	**04 02 23.8**	**-1.4**
GNBR				*eSg*	**Sg**	**04 02 49.7**	**+0.5**
BUJR	**Buynaksk**	**1.91**	**87**	*ePg*	**Pg**	**04 02 25.5**	**-0.8**
BUJR				*eSg*	**Sg**	**04 02 53.6**	**+2.4**
KMKR	**Kumukh**	**2.02**	**108**	*ePg*	**Pb**	**04 02 25.2**	**-1.1**
KMKR				*eSg*	**Sg**	**04 02 52.1**	**-2.4**
DOMR	**Dombai**	**2.18**	**285**	*ePg*	**Pb**	**04 02 27.9**	**-1.2**
DOMR				*eSg*	**Sb**	**04 02 56.4**	**+0.3**
MAK	**Makhachkala**	**2.21**	**84**	*ePg*	**Pb**	**04 02 28.9**	**-0.6**
MAK				*eSg*	**Sg**	**04 02 58.8**	**-1.9**
KANR	**Karaman**	**2.23**	**78**	*ePn*	**Pb**	**04 02 29.6**	**-0.2**
ALER	**Alexandrovskoy**	**2.30**	**330**	*ePn*	**Pg**	**04 02 31.4**	**-2.4**
ALER				*eSn*	**Sb**	**04 02 58.1**	**-1.4**
ARXR	**Arkhyz**	**2.50**	**290**	*ePn*	**Pb**	**04 02 33.2**	**-1.3**
GNI	**Garni**	**2.62**	**176**	*ePn*	**Pb**	**04 02 36.4**	**-0.3**
AKT	**Akhty**	**2.72**	**117**	*ePn*	**Pb**	**04 02 36.3**	**-2.0**

*NORS **29** 04:02:00.4±0.0, 42°.68N×44°.45E, h14km, MPVA3.9*
*MOS **29** 04:02:00.8±0.0, 42°.74N×44°.47E, h12km, MPVA3.8*
*TIF **29** 04:02:02.1, 42°.82N×44°.45E, h3km×3km*
ISC 29 04:02:02.7±1.0, 42°.79N±0°.02×44°.51E±0°.01, h6km±8km, n57, σ0ᵎ89/94, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LACR	**Lac**	**0.16**	**283**	*ePg*	**Pg**	**04 02 05.6**	**-0.4**
LACR				*eSg*	**Sg**	**04 02 09.5**	**+1.3**
PNSH	**Pansheti**	**0.17**	**153**	P	**Pg**	**04 02 05.6**	**-0.6**
PNSH				S	**Sg**	**04 02 09.4**	**+0.8**
PNSH	**Pansheti**	**0.17**	**153**	*ePg*	**Pg**	**04 02 05.6**	**-0.6**
PNSH				*eSg*	**Sg**	**04 02 09.4**	**+0.8**
GUDG	**Gudauri**	**0.33**	**184**	P	**Pg**	**04 02 09.2**	**+0.1**
GUDG				S	**Sb**	**04 02 15.5**	**-1.2**
GUDG	**Gudauri**	**0.33**	**184**	*ePg*	**Pg**	**04 02 09.2**	**+0.1**
GUDG				*eSg*	**Sb**	**04 02 15.5**	**-1.2**
KMGR	**Komgaron**	**0.37**	**44**	*ePg*	**Pg**	**04 02 09.8**	**-0.2**
KMGR				*eSg*	**Sb**	**04 02 18.2**	**+0.3**
ARNR	**Ardon**	**0.42**	**337**	*ePg*	**Pg**	**04 02 11.4**	**+0.4**
ARNR				*eSg*	**Sb**	**04 02 20.9**	**+1.5**
ZEI	**Tsey**	**0.45**	**270**	*ePg*	**Pg**	**04 02 10.8**	**-0.6**
ZEI				*eSg*	**Sg**	**04 02 17.9**	**+0.6**
BTKR	**Batakoyurt**	**0.58**	**2**	*ePg*	**Pn**	**04 02 16.2**	**-1.1**
BTKR				*eSg*	**Sn**	**04 02 27.4**	**-0.1**
STDR	**Stavd-Durt**	**0.67**	**331**	*ePg*	**Pb**	**04 02 17.1**	**+0.3**
STDR				*eSg*	**Sn**	**04 02 28.2**	**-1.3**
STDR	**Stavd-Durt**	**0.67**	**331**	*eSg*	**P

	3.9nm,0.3s,baz=311,slow=22,SNR=1.7							
GUMO	**Guam**	**7.18**	**179**	LR	LR	04 12 08.4		
	comp=Z,153nm,19.2s,baz=96,slow=35							
MJAR	**Matsushiro Arr**	**16.66**	**342**	Pn	**Pn**	**04 11 56.5**	**-3.1**	
	baz=153,slow=9.4,SNR=5.5							
	2.0nm,1.0s							
H11S3	**WAKE ISLAND Hy 20.85**		**93**	T	T	04 34 00.9		
	baz=279,slow=75,SNR=43							
H11S1	**WAKE ISLAND Hy 20.86**		**92**	T	T	04 34 01.1		
	baz=279,slow=75,SNR=51							
H11N1	**WAKE ISLAND Hy 20.87**		**89**	T	T	04 34 02.9		
	baz=276,slow=75,SNR=49							
H11N2	**WAKE ISLAND Hy 20.87**		**89**	T	T	04 34 02.2		
	baz=276,slow=75,SNR=53							
H11S2	**WAKE ISLAND Hy 20.87**		**93**	T	T	04 34 01.7		
	baz=279,slow=75,SNR=43							
H11N3	**WAKE ISLAND Hy 20.88**		**89**	T	T	04 34 06.2		
	baz=276,slow=75,SNR=49							
KSRS	**Korea Array**	**22.06**	**322**	P	**P**	**04 12 59.3**	**+0.4**	
	2.8nm,1.0s,baz=145,slow=8.8,SNR=11							
	2.8nm,1.0s							
DAV	**Davao City (W)**	**22.99**	**236**	LR	LR	04 19 56.0		
	comp=Z,50nm,21.7s,baz=59,slow=31							
BATI	**Baumata**	**37.11**	**216**	LR	LR	04 30 53.7		
	comp=Z,51nm,18.7s,baz=331,slow=37							
WRA	**Warramunga Arr**	**41.75**	**195**	P	**P**	**04 15 50.9**	**-0.8**	
	1.0nm,0.7s,baz=13,slow=8.8,SNR=9.0							
	1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**43.03**	**275**	P	**P**	**04 16 04.0**	**+1.7**	
	0.7nm,0.2s,baz=56,slow=6.7,SNR=1.6							
CMAR				LR	LR	04 34 38.6		
	comp=Z,10nm,19.1s,baz=335,slow=37							
	0.7nm,0.2s							
ASAR	**Alice Springs**	**45.44**	**194**	P	**P**	**04 16 20.1**	**-1.2**	
	0.3nm,0.6s,baz=16,slow=7.7,SNR=8.6							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**55.77**	**322**	P	**P**	**04 17 38.9**	**+0.3**	
	0.5nm,0.5s,baz=80,slow=9.5,SNR=3.1							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**56.32**	**313**	P	**P**	**04 17 42.8**	**+0.1**	
	0.9nm,0.8s,baz=97,slow=9.2,SNR=7.1							
	0.9nm,0.8s							
KDAK	**Kodiak Island**	**58.14**	**34**	LR	LR	04 41 42.4		
	comp=Z,26nm,19.6s,baz=163,slow=35							
ILAR	**Eielson Array**	**62.19**	**27**	P	**P**	**04 18 22.2**	**-0.6**	
	1.6nm,0.9s,baz=262,slow=5.6,SNR=14							
	1.6nm,0.9s							
INK	**Inuvik**	**67.82**	**23**	P	**P**	**04 18 59.7**	**+0.6**	
	1.6nm,0.8s,baz=288,slow=5.7,SNR=6.6							
	1.6nm,0.8s							
YKA	**Yellowknife Ar**	**76.58**	**28**	P	**P**	**04 19 52.0**	**+0.6**	
	1.8nm,0.8s,baz=288,slow=5.6,SNR=25							
	1.8nm,0.8s							
NVAR	**Mina Array Bea**	**82.60**	**52**	P	**P**	**04 20 26.4**	**+1.5**	
	1.9nm,0.8s,baz=270,slow=6.0,SNR=10.0							
	1.9nm,0.8s							
FINES	**FINESS Array B**	**84.58**	**335**	P	**P**	**04 20 33.5**	**-0.7**	
	1.5nm,0.8s,baz=101,slow=3.9,SNR=4.5							
	1.5nm,0.8s							
PDAR	**Pinedale Array**	**87.03**	**45**	P	**P**	**04 20 47.3**	**+0.3**	
	0.5nm,0.8s,baz=236,slow=1.6,SNR=4.4							
	0.5nm,0.8s							

*KEA **29** 04:45:51.9, 38˚.73N×127˚.15E, h17km, ML2.8/5*
*KMA **29** 04:45:53.5±0.5, 38˚.70N×127˚.16E, h8km±4km, Error ellipse: s-maj=4.0km s-min=1.8km az=170.0*

ISC 29 04:45:52.4±1.4, 38˚.74N±0˚.04×127˚.15E±0˚.04, h11km±13km, n14, σ0§46/25, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWCB	**Hwacheon**	**0.66**	**142**	P	**Pb**	**04 46 05.7**	**-0.2**
HWCB	SNR=166			P	**Pb**	**04 46 05.7**	**-0.2**
	SNR=166						
YNCB	**YEONGCHEON**	**0.72**	**194**	P	**Pb**	**04 46 06.8**	**-0.1**
KSMUS	SNR=84 **Musan**	**0.90**	**200**	P	**Pb**	**04 46 10.1**	**+0.1**
KSMUS	SNR=20			P	**Pb**	**04 46 10.1**	**+0.1**
	SNR=20						
GAPB	**Gapyeong**	**0.93**	**163**	P	**Pb**	**04 46 10.8**	**+0.2**
GAPB	SNR=13			P	**Pb**	**04 46 10.8**	**+0.2**
	SNR=13						
SEHB	**SEOHWA**	**0.98**	**118**	P	**Pn**	**04 46 11.8**	**-0.3**
SEHB	SNR=125			P	**Pn**	**04 46 11.8**	**-0.3**
	SNR=125						
KSCHC	**Chuncheon**	**1.09**	**151**	P	**Pn**	**04 46 13.8**	**+0.2**
KSCHC	SNR=350			P	**Pn**	**04 46 13.8**	**+0.2**
	SNR=350						
PYAG	**Pyongyang**	**1.13**	**286**	Pg	**Pb**	**04 46 13.9**	**0.0**
PYAG				Sg	**Sb**	**04 46 28.9**	**+0.3**
PYAG	comp=N,375nm,0.5s			AML	AML		
PYAG	comp=E,269nm,0.2s			AML	AML		
PYAG	comp=Z,281nm,0.5s			AML	AML		
PYS	**Pyongsong**	**1.13**	**297**	Pg	**Pb**	**04 46 13.6**	**-0.3**
PYS				Sg	**Sb**	**04 46 28.4**	**-0.2**
PYS	comp=N,581nm,0.5s			AML	AML		
PYS	comp=E,794nm,0.5s			AML	AML		
PYS	comp=Z,236nm,0.3s			AML	AML		
IJAA	**Inje Acc Boreh**	**1.22**	**130**	P	**Pg**	**04 46 16.2**	**+0.5**
HHU	SNR=9.9 **Hamhung**	**1.22**	**14**	Pg	**Pn**	**04 46 15.1**	**-0.3**
HHU				Sg	**Sb**	**04 46 31.0**	**-0.2**
HHU	comp=N,74nm,0.3s			AML	AML		
HHU	comp=E,92nm,0.4s			AML	AML		
HHU	comp=Z,60nm,0.5s			AML	AML		
KSSEO	**Seoul**	**1.26**	**188**	P	**Pg**	**04 46 16.7**	**+0.1**
KSSEO	SNR=29			P	**Pg**	**04 46 16.7**	**+0.1**
	SNR=29						
YAYA	**Ganghyeon**	**1.28**	**117**	P	**Pg**	**04 46 17.5**	**+0.4**
HJU	SNR=13 **Haeju**	**1.32**	**239**	Pg	**Pn**	**04 46 16.6**	**0.0**
HJU				Sg	**Sn**	**04 46 34.2**	**0.0**
HJU	comp=N,1μm,0.2s			AML	AML		
HJU	comp=E,547nm,0.2s			AML	AML		
HJU	comp=Z,517nm,0.4s			AML	AML		
SUJ	**Sinuiju**	**2.47**	**304**	Pg	**Pb**	**04 46 38.2**	**+1.5**
SUJ				Sg	**Sg**	**04 47 10.6**	**-1.1**
SUJ	comp=N,130nm,0.5s			AML	AML		
SUJ	comp=E,129nm,0.2s			AML	AML		
SUJ	comp=Z,72nm,0.2s			AML	AML		

*MAN **29** 04:50:14.9, 3˚.62N×127˚.21E, h33km, mb4.6, ML3.5, MS3.4*
*NEIC **29** 04:50:15.2±1.8, 3˚.64N±0˚.07×126˚.98E±0˚.06, h72km±9km, mb4.2/16, Error ellipse: s-maj=12.9km s-min=4.6km az=216.0*
*DJA **29** 04:50:16.9±0.4, 3˚.N±4˚×12˚.7E±˚, h70km±7km, M4.6/12, mB5.2/7, mb4.7/12, MLv4.5/12, Mw(mB)4.6/7*
*IDC **29** 04:50:17.1±3.8, 3˚.47N×126˚.96E, h83km±37km, mb3.7/7, mbtmp4.1/8, MS2.9/3, Error ellipse: s-maj=34.4km s-min=17.3km az=67.0*

ISC 29 04:50:17.7±0.5, 3˚.48N±0˚.05×126˚.90E±0˚.06, h100km, n49, σ1§34/50, mb4.2/12, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.39**	**279**	P	**Pn**	**04 50 40.4**	**-2.1**
SGSI				S	**Sn**	**04 50 58.5**	**-2.9**
TNTI	**Ternate**	**2.73**	**170**	Pn	**Pn**	**04 50 58.8**	**-1.0**
TNTI	**Ternate**	**2.73**	**170**	P	**Pn**	**04 50 58.2**	**-1.6**
TNTI				S	**Sn**	**04 51 30.9**	**-1.3**
DAV	**Davao City (W)**	**3.80**	**340**	Pn	Pn	04 51 08.8	-5.4
KCP	**Kidapawan**	**3.94**	**333**	⇑P	**Pn**	**04 51 15.6**	**-0.6**
KCP				*i* S	**Sn**	**04 52 01.4**	**-0.1**
CTBH	**Cotabato--PC H**	**4.56**	**325**	*e*P	Pn	04 51 34.3	+10
CTBH				*i* S	**Sn**	**04 52 16.4**	**0.0**
BIPH	**Bislig**	**4.71**	**353**	⇓*i*P	**Pn**	**04 51 23.7**	**-2.8**
BIPH				*e*S	**Sn**	**04 52 17.3**	**-2.6**
GTOI	**Gorontalo**	**4.80**	**234**	P	**Pn**	**04 51 28.3**	**+0.5**
SANI	**Sanana**	**5.57**	**189**	P	**Pn**	**04 51 35.5**	**-2.6**
	36nm,0.6s,4μm0.5nm						
MRSI	**Marisa**	**5.79**	**239**	P	**Pn**	**04 51 42.4**	**+1.3**
	395nm,0.7s,4μm1.3nm						
LUWI	**Luwuk**	**6.10**	**223**		**Pn**	**04 51 43.4**	**-2.0**
LUWI	**Luwuk**	**6.10**	**223**	P	**Pn**	**04 51 45.6**	**+0.3**
	198nm,1.1s,2μm0.7nm						
SWI	**Sorong**	**6.13**	**135**	P	**Pn**	**04 51 44.0**	**-1.8**
	32nm,0.4s,2μm0.2nm						
SIJI	**Sorong**	**6.14**	**135**	P	**Pn**	**04 51 45.6**	**-0.3**
	22nm,0.4s,baz=185,slow=24,SNR=18						
SIJI				S	**Sn**	**04 52 52.5**	**-2.3**
	15nm,0.4s,baz=17,slow=21,SNR=6.0						
TOLI2	**Tolitoli**	**6.55**	**249**		**Pn**	**04 51 50.0**	**-1.4**
NLAI	**Namlea**	**6.67**	**178**	P	**Pn**	**04 51 52.6**	**-0.6**
MPSI	**Mapaga**	**7.66**	**246**	P	**Pn**	**04 52 07.0**	**+0.4**
	34nm,1.4s,0.2nm						
FAKI	**Fak Fak**	**8.30**	**140**	P	**Pn**	**04 52 14.7**	**-0.7**
	20nm,0.9s						
KAPI	**Kappang**	**11.05**	**220**	LR	LR	04 57 33.1	
	comp=Z,34nm,21.2s,baz=5.0,slow=39						
BATI	**Baumata**	**13.97**	**193**	LR	LR	05 00 33.4	
	comp=Z,47nm,19.0s,baz=266,slow=44						
GENI	**Genyem**	**14.57**	**114**	P	**Pn**	**04 53 40.0**	**+1.0**
	147nm,0.9s						
PLAI	**Plampang**	**15.24**	**217**	P	**Pn**	**04 53 46.8**	**-0.7**
	60nm,0.8s						
TWSI	**Taliwang, Sumb**	**15.72**	**219**	P	**Pn**	**04 53 53.3**	**-0.2**
	29nm,1.0s						
MTN	**Manton Dam**	**16.75**	**166**	Pn	**Pn**	**04 54 04.0**	**-2.3**
MTN				IAmb	IAmb	04 54 17.4	
	comp=Z,9.3nm,1.1s						
KNRA	**Kununurra**	**19.12**	**175**	P	**P**	**04 54 32.7**	**-0.2**
KNRA				IAmb	IAmb	04 54 51.4	
	comp=Z,6.6nm,0.6s						
PMG	**Port Moresby**	**23.90**	**123**	LR	LR	05 05 20.3	
	comp=Z,42nm,19.8s,baz=16,slow=38						
WRAB	**Tennant Creek**	**24.39**	**163**	P	**P**	**04 55 27.2**	**+0.5**
WRAB				IAmb	IAmb	04 55 28.6	
	comp=Z,15nm,1.0s						
WRA	**Warramunga Arr**	**24.39**	**163**	P	**P**	**04 55 27.2**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=343,slow=11,SNR=39						
	comp=Z,5.1nm,0.7s						
WRA	**Warramunga Arr**	**24.39**	**163**	P	**P**	**04 55 25.4**	**-1.4**
WR0	**Warramunga Arr**	**24.47**	**162**	P	**P**	**04 55 27.9**	**+0.4**
WR0				IAmb	IAmb	04 55 29.4	
	comp=Z,5.0nm,0.7s						
PSA00	**Pilbara Seismi**	**25.84**	**195**	P	**P**	**04 55 40.7**	**+0.8**
ASAR	**Alice Springs**	**27.83**	**166**	P	**P**	**04 55 58.4**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=344,slow=7.3,SNR=8.7						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.15**	**301**	P	**P**	**04 56 29.1**	**+1.8**
	comp=Z,1.6nm,0.3s,baz=118,slow=7.3,SNR=4.8						
	comp=Z,1.6nm,0.3s						
BBOO	**Buckleboo**	**37.12**	**167**	P	**P**	**04 57 19.8**	**+1.2**
BJT	**Baijiatuau**	**37.65**	**346**	P	**P**	**04 57 22.7**	**-0.3**
BJT				IAmb	IAmb	04 57 40.5	
	comp=Z,4.3nm,0.9s						
STKA	**Stephens Creek**	**37.84**	**159**	P	**P**	**04 57 26.4**	**+1.7**
	comp=Z,3.3nm,0.5s,baz=336,slow=9.3,SNR=11						
	comp=Z,3.3nm,0.5s						
STKA	**Stephens Creek**	**37.84**	**159**	P	**P**	**04 57 25.6**	**+1.0**
STKA				IAmb	IAmb	04 57 30.3	
	comp=Z,3.1nm,1.4s						
ARMA	**Armidale**	**41.16**	**147**	P	**P**	**04 57 53.5**	**+0.9**
ARMA				IAmb	IAmb	04 58 11.7	
	comp=Z,6.2nm,1.1s						
PETK	**Petropavlovsk-**	**55.60**	**22**	P	**P**	**04 59 44.7**	**+1.9**
	comp=Z,5.5nm,1.0s,baz=191,slow=6.9,SNR=4.1						
	comp=Z,5.5nm,1.0s						
MK31	**Makanchi Array**	**57.86**	**325**	P	**P**	**04 59 58.9**	**-0.1**
MKAR	**Makanchi Array**	**57.86**	**325**	P	**P**	**04 59 59.8**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=123,slow=7.3,SNR=11						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**57.86**	**325**	P	**P**	**04 59 59.0**	**0.0**
KURK	**Kurchatov**	**62.04**	**328**	P	**P**	**05 00 28.4**	**+0.9**
KK31	**Karatay Array**	**63.53**	**317**	P	**P**	**05 00 36.9**	**-0.7**
KKAR	**Karatay Array**	**63.53**	**317**	P	**P**	**05 00 36.9**	**-0.7**
ABKAR	**Akbulak array**	**72.45**	**321**	P	**P**	**05 01 33.7**	**+0.4**
ARU	**Arti**	**75.24**	**328**	P	**P**	**05 01 49.3**	**-0.1**
IL31		**85.26**	**25**	P	**P**	**05 02 42.0**	**-0.9**
IL31				IAmb	IAmb	05 02 47.5	
	comp=Z,1.9nm,1.1s						
ILAR	**Eielson Array**	**85.26**	**25**	P	**P**	**05 02 43.8**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=251,slow=5.2,SNR=5.3						
	comp=Z,0.3nm,0.8s						

*IDC **29** 05:06:36.6±0.7, 9˚.85N×126˚.29E, h0km, mb4.0/14, mbtmp4.0/14, MS2.9/6, Error ellipse: s-maj=35.2km s-min=15.0km az=74.0*
*NEIC **29** 05:06:39.6±1.0, 9˚.9N±0˚.1×125˚.9E±0˚.2, h16km±5km, mb4.5/24, Error ellipse: s-maj=29.5km s-min=13.9km az=76.0*
*MAN **29** 05:06:41.5, 9˚.81N×126˚.34E, h14km, mb4.7, ML3.6, MS3.6 MAN INTENSITY II - DEL CARMEN SURIGAO DEL NORTE.*

ISC 29 05:06:41.4±1.7, 9˚.88N±0˚.04×126˚.44E±0˚.06, h32km±12km, n80, σ1§56/80, mb4.2/25, MS2.8/5, 7C-11D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.94**	**264**	⇓*i*P	**Pn**	**05 06 56.7**	**-1.7**
SCPH				*i* S	**Sn**	**05 07 08.1**	**-2.7**
TASP	**Talacogon, Agu**	**1.55**	**204**	⇓*i*P	**Pb**	**05 07 08.5**	**-1.0**
TASP				*i* S	**Sb**	**05 07 32.6**	**+3.8**
MSLP	**Maasin**	**1.58**	**279**	⇓*e*P	**Pn**	**05 07 07.3**	**+0.2**
MSLP				*i* S	**Sb**	**05 07 30.5**	**+1.0**
BIPH	**Bislig**	**1.69**	**183**	⇑*e*P	**Pn**	**05 07 08.4**	**-0.3**
BIPH				*i* S	**Sn**	**05 07 27.3**	**-1.9**
TABP	**Talibon, Bohol**	**2.08**	**276**	⇓*e*P	**Pn**	**05 07 14.6**	**+0.4**
TABP				*e*S	**Sn**	**05 07 38.9**	**-0.2**
GHBP	**Garcia Hernand**	**2.10**	**263**	⇓*i*P	**Pn**	**05 07 14.9**	**+0.5**
GHBP				*i* S	**Sb**	**05 07 46.1**	**+1.6**
CGP	**Cagayan de Oro**	**2.23**	**231**	⇑*i*P	**Pn**	**05 07 15.8**	**-0.4**
CGP				*i* S	**Sn**	**05 07 42.7**	**0.0**
BUKP	**Musuan**	**2.41**	**214**	⇑*i*P	**Pn**	**05 07 20.6**	**+1.9**
BUKP				*i* S	**Sb**	**05 07 50.9**	**-2.6**
LLP	**Lapu-Lapu**	**2.47**	**280**	⇑*e*P	**Pn**	**05 07 21.2**	**+1.7**
LLP				*e*S	**Sn**	**05 07 50.6**	**+1.9**
TBP	**Tagbilaran**	**2.55**	**266**	⇓*e*P	**Pn**	**05 07 21.3**	**+0.7**
TBP				*i* S	**Sn**	**05 07 51.3**	**+0.8**
LSIP	**Lazi, Siquijor**	**2.87**	**255**	⇓*i*P	**Pn**	**05 07 25.7**	**+0.7**
LSIP				*i* S	**Sn**	**05 07 59.6**	**+1.1**
KCP	**Kidapawan**	**3.15**	**205**	⇑*i*P	**Pn**	**05 07 31.1**	**+2.2**
KCP				*i* S	**Sn**	**05 08 00.5**	**-5.0**
SNPH	**Sibulan**	**3.20**	**261**	⇑*e*P	Pn	05 07 31.4	+1.7
SNPH				*e*S	Sn	05 07 57.8	-9.0
DCPH	**Dipolog City**	**3.31**	**247**	⇓*i*P	**Pn**	**05 07 31.4**	**+0.4**
DCPH				*i* S	Sn	05 08 10.0	+0.7
CTBH	**Cotabato--PC H**	**3.42**	**220**	⇑*e*P	**Pn**	**05 07 33.8**	**+1.2**
CTBH				*i* S	**Sn**	**05 08 14.2**	**+2.2**
PAGZ	**Pagadian**	**3.63**	**236**	⇓*e*P	**Pn**	**05 07 37.2**	**+1.7**
PAGZ				*e*S	**Sn**	**05 08 19.6**	**+2.3**
CNOP	**Candoni, Negro**	**3.74**	**270**	⇓*e*P	Pn	05 07 38.8	+1.8
CNOP				*e*S	**Sn**	**05 08 21.0**	**+1.0**
RCP	**Roxas**	**4.00**	**295**	⇓*e*P	**Pn**	**05 07 42.7**	**+2.2**
YULB	**Yu-li**	**14.31**	**341**	Pn	**Pn**	**05 09 59.2**	**-2.7**
TPUB	**Ta-pu**	**14.46**	**338**	Pn	Pn	05 09 59.0	-4.9
KAPI	**Kappang**	**16.23**	**205**	LR	LR	05 17 16.4	
	comp=Z,51nm,19.0s,baz=344,slow=40						
BATI	**Baumata**	**20.14**	**188**	LR	LR	05 19 19.7	
	comp=Z,70nm,19.8s,baz=326,slow=38						
MTN	**Manton Dam**	**23.05**	**168**	P	**P**	**05 11 44.5**	**+0.2**
MTN				IAmb	IAmb	05 11 49.2	
	comp=Z,9.2nm,0.6s						
KNRA	**Kununurra**	**25.50**	**175**	P	**P**	**05 12 06.7**	**-0.4**
KSRS	**Korea Array**	**27.49**	**3**	LR	LR	05 22 11.7	
	comp=Z,17nm,21.9s,baz=205,slow=34						
CMAR	**Chiang Mai Arr**	**27.96**	**291**	P	**P**	**05 12 29.0**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=104,slow=3.6,SNR=1.4						
CMAR				LR	LR	05 24 28.2	
	comp=Z,22nm,18.3s,baz=35,slow=38						
	comp=Z,0.7nm,0.3s						
MJAR	**Matsushiro Arr**	**28.61**	**20**	LR	LR	05 21 43.6	
	comp=Z,28nm,21.8s,baz=175,slow=32						
WB0	**Warramunga Arr**	**30.48**	**165**	P	**P**	**05 12 50.5**	**-1.2**
WRA	**Warramunga Arr**	**30.64**	**165**	P	**P**	**05 12 53.2**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=346,slow=9.2,SNR=9.1						
	comp=Z,0.9nm,0.6s						
WB2	**Warramunga Arr**	**30.64**	**165**	P	**P**	**05 12 53.5**	**+0.4**
WB2				IAmb	IAmb	05 12 56.4	
	comp=Z,4.6nm,1.1s						
WR0	**Warramunga Arr**	**30.71**	**165**	P	**P**	**05 12 54.1**	**+0.5**
PSA00	**Pilbara Seismi**	**31.92**	**192**	P	**P**	**05 13 02.9**	**-1.4**
AS31	**Alice Springs**	**34.13**	**168**	P	**P**	**05 13 23.8**	**+0.1**
ASAR	**Alice Springs**	**34.13**	**168**	P	**P**	**05 13 22.9**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=349,slow=7.2,SNR=18						
	comp=Z,0.8nm,0.4s						
ASAR	**Alice Springs**	**34.13**	**168**	P	**P**	**05 13 25.2**	**+1.5**
USRK	**Ussuriysk Ar.**	**34.53**	**7**	LR	LR	05 27 27.4	
	comp=Z,19nm,20.2s,baz=134,slow=36						
CTAO	**Charters Tower**	**35.60**	**147**	P	**P**	**05 13 37.6**	**+1.3**
CTAO				IAmb	IAmb	05 13 45.2	
	comp=Z,7.2nm,1.1s						
KLR	**Kul'dur**	**39.48**	**5**	P	**P**	**05 14 09.9**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=327,slow=1.4,SNR=3.7						
	comp=Z,0.5nm,0.3s						
H11S3	**WAKE ISLAND Hy 39.87**		**73**	T	T	05 57 07.4	
	baz=261,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy 39.89**		**73**	T	T	05 57 09.5	
	baz=261,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy 39.89**		**73**	T	T	05 57 07.9	
	baz=261,slow=75,SNR=12						
MORW	**Morawa**	**40.00**	**194**	P	**P**	**05 14 12.9**	**-0.5**
MORW				IAmb	IAmb	05 14 16.8	
	comp=Z,9.0nm,1.1s						
H11N1	**WAKE ISLAND Hy 40.22**		**71**	T	T	05 57 38.8	
	baz=264,slow=74,SNR=37						
H11N2	**WAKE ISLAND Hy 40.23**		**71**	T	T	05 57 32.1	
	baz=264,slow=74,SNR=31						
H11N3	**WAKE ISLAND Hy 40.24**		**71**	T	T	05 57 39.8	
	baz=264,slow=74,SNR=40						
FORT	**Forrest**	**40.45**	**178**	P	**P**	**05 14 17.4**	**+0.2**
SONM	**Songino Array**	**41.44**	**340**	P	**P**	**05 14 25.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=165,slow=9.9,SNR=3.7						
	comp=Z,0.5nm,0.6s						
BBOO	**Buckleboo**	**43.43**	**168**	P	**P**	**05 14 41.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**43.46**	**191**	P	**P**	**05 14 41.8**	**+0.1**
STKA	**Stephens Creek**	**43.98**	**161**	P	**P**	**05 14 45.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=338,slow=8.7,SNR=6.7						
	comp=Z,1.2nm,0.3s						
TOO	**Toolangi**	**50.47**	**160**	P	**P**	**05 15 37.6**	**+1.2**
TOO				IAmb	IAmb	05 15 56.6	
	comp=Z,3.9nm,0.9s						
MKAR	**Makanchi Array**	**52.44**	**323**	P	**P**	**05 15 50.2**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=122,slow=7.5,SNR=12						
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**55.05**	**331**	P	**P**	**05 16 09.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=120,slow=7.2,SNR=2.2						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**55.05**	**331**	P	**P**	**05 16 07.9**	**-2.1**
AAK	**Ala-Archa**	**55.72**	**315**	P	**P**	**05 16 12.6**	**-2.7**
KKAR	**Karatay Array**	**58.64**	**315**	P	**P**	**05 16 33.3**	**-2.5**
TIXI	**Tiksi**	**61.74**	**1**	P	**P**	**05 16 57.1**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=90,slow=24,SNR=14						
	comp=Z,4.2nm,0.9s						
TIXI	**Tiksi**	**61.74**	**1**	P	**P**	**05 16 56.5**	**+0.1**
TIXI				IAmb	IAmb	05 16 58.4	
	comp=Z,5.2nm,1.1s						
BRVK	**Borovoye**	**62.15**	**325**	P	**P**	**05 16 57.4**	**-2.1**
LTZ	**Lake Taylor**	**67.04**	**145**	P	**P**	**05 17 33.3**	**+1.7**
A21K	**Barrow**	**76.52**	**19**	P	**P**	**05 18 30.0**	**+2.0**
A21K				IAmb	IAmb	05 18 32.3	
	comp=Z,5.9nm,0.9s						
IMAR	**Indian Mountai**	**76.89**	**24**	P	**P**	**05 18 32.0**	**+1.7**
ILAR	**Eielson Array**	**79.72**	**26**	P	**P**	**05 18 45.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=246,slow=4.4,SNR=6.4						
	comp=Z,0.4nm,0.7s						
BMAR	**Burnt Mountain**	**80.56**	**23**	P	**P**	**05 18 52.6**	**+2.1**
BCAR	**Beaver Creek A**	**82.08**	**27**	P	**P**	**05 19 01.1**	**+2.4**
EGAK	**Eagle**	**82.17**	**26**	P	**P**	**05 19 00.1**	**+1.1**
EGAK				IAmb	IAmb	05 19 10.9	
	comp=Z,2.7nm,1.1s						
DAWY	**Dawson**	**83.02**	**26**	P	**P**	**05 19 05.5**	**+2.0**
INK	**Inuvik**	**84.58**	**22**	P	**P**	**05 19 11.9**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=300,slow=9.1,SNR=3.8						
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**84.58**	**22**	P	**P**	**05 19 12.6**	**+1.2**
ARCES	**ARCESS Array B**	**84.61**	**340**	P	**P**	**05 19 11.3**	**-0.2**
FARO	**Faro, Yukon**	**86.06**	**28**	P	**P**	**05 19 21.1**	**+2.2**
FARO				IAmb	IAmb	05 19 33.0	
	comp=Z,2.7nm,1.1s						
A36M	**Sachs Harbour**	**86.23**	**17**	IAmb	IAmb	05 19 21.7	
	comp=Z,6.2nm,1.1s						
FIA1	**FINESS Array S**	**86.31**	**332**	P	**P**	**05 19 19.4**	**-0.7**
FIA1				IAmb	IAmb	05 19 35.2	
	comp=Z,6.8nm,1.1s						
FINES	**FINESS Array B**	**86.31**	**332**	P	**P**	**05 19 19.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=71,slow=5.6,SNR=16						
	comp=Z,0.8nm,0.5s						
FINES	**FINESS Array B**	**86.31**	**332**	P	**P**	**05 19 19.4**	**-0.7**
C36M	**Paulatuk**	**87.55**	**20**	P	**P**	**05 19 26.9**	**+1.0**
C36M				IAmb	IAmb	05 19 52.1	
	comp=Z,

T1212 Cascia, Frazio 0.21 305 ⇑P Pg 05 11 00.0 -0.2
T1212 S Sg 05 11 03.9 +0.8
T1212 AML AML
comp=E,40450µm,0.5s
T1212 AML AML
comp=N,40050µm,1.2s
T1212 AML AML
comp=E,43700µm,1.0s
T1212 AML AML
comp=N,40650µm,1.2s
T1212 AML AML
comp=N,40050µm,1.2s
T1212 AML AML
comp=E,43700µm,1.0s
T1212 AML AML
comp=N,40550µm,1.2s
T1212 AML AML
comp=E,43700µm,1.0s
TERO Teramo 0.23 91 ⇑P Pg 05 10 59.5 -1.1
TERO S Sg 05 11 03.4 -0.3
T1245 Castelsantange 0.24 342 ⇑P Pg 05 11 00.4 -0.3
T1245 AML AML
comp=E,54600µm,1.2s
T1245 AML AML
comp=N,79400µm,1.4s
T1245 AML AML
comp=E,50850µm,1.2s
T1245 AML AML
comp=N,83850µm,1.4s
T1245 AML AML
comp=E,50850µm,1.2s
T1245 AML AML
comp=E,50850µm,0.8s
T1245 AML AML
comp=N,83850µm,1.4s
T1245 AML AML
comp=E,54600µm,0.8s
NRCA Norcia 0.24 328 P Pg 05 11 00.4 -0.3
NRCA S Sg 05 11 04.7 +0.9
NRCA AML AML
comp=E,65250µm,0.5s
NRCA AML AML
comp=E,65250µm,0.5s
NRCA AML AML
comp=N,61450µm,0.2s
NRCA AML AML
comp=E,65250µm,1.5s
NRCA AML AML
comp=N,61450µm,0.2s
T1217 Poggiodomo (PG 0.27 288 ⇑P Pg 05 11 00.9 -0.3
T1217 S Sg 05 11 05.6 +0.6
T1217 AML AML
comp=E,25750µm,1.1s
T1217 AML AML
comp=E,27000µm,1.2s
T1217 AML AML
comp=E,27000µm,1.2s
T1217 AML AML
comp=N,23500µm,0.9s
T1217 AML AML
comp=N,26950µm,1.6s
T1217 AML AML
comp=N,23450µm,0.9s
T1217 AML AML
comp=E,25750µm,1.1s
T1217 AML AML
comp=N,26950µm,0.4s
GIGS Gran Sasso 0.28 130 P Pg 05 11 00.3 -1.0
GIGS S Sg 05 11 04.7 -0.3
GIGS AML AML
comp=E,20700µm,1.6s
GIGS AML AML
comp=E,20700µm,0.4s
GIGS AML AML
comp=N,20200µm,0.6s
AQU L'Aquila 0.29 163 ⇑P Pg 05 11 00.9 -0.7
AQU S Sg 05 11 05.7 +0.3
AQU AML AML
comp=N,90550µm,0.5s
AQU AML AML
comp=N,96600µm,0.5s
AQU AML AML
comp=N,90550µm,1.5s
AQU AML AML
comp=N,96600µm,1.5s
AQU AML AML
comp=E,66050µm,1.0s
AQU AML AML
comp=E,61650µm,1.0s
MC2 Monte Cornacci 0.29 346 ⇓P Pg 05 11 01.2 -0.5
MC2 S Sg 05 11 06.8 +1.2
T1222 Castel Sant'An 0.29 219 ⇑P Pg 05 11 01.1 -0.5
T1222 S Sg 05 11 06.2 +0.7
T1222 AML AML
comp=N,44800µm,0.4s
T1222 AML AML
comp=E,39700µm,0.6s
T1222 AML AML
comp=N,42850µm,1.6s
T1222 AML AML
comp=N,42850µm,0.4s
T1222 AML AML
comp=N,44800µm,0.4s
T1222 AML AML
comp=E,40850µm,0.4s
T1222 AML AML
comp=E,39700µm,1.4s
T1216 Preci, Frazion 0.33 323 P Pg 05 11 01.8 -0.5
T1216 S Sg 05 11 07.8 +1.2
T1216 AML AML
comp=N,35900µm,0.7s
T1216 AML AML
comp=E,39250µm,0.3s
T1216 AML AML
comp=N,35900µm,0.7s
T1211 Morro Reatino 0.33 253 ⇑P Pg 05 11 01.9 -0.5
T1211 S Sg 05 11 07.8 +1.0
T1211 AML AML
comp=E,24000µm,1.1s
T1211 AML AML
comp=N,40100µm,0.6s
T1211 AML AML
comp=E,24050µm,1.1s
T1211 AML AML
comp=N,39850µm,0.6s
T1211 AML AML
comp=N,39900µm,0.6s
T1211 AML AML
comp=E,24050µm,0.9s
T1211 AML AML
comp=E,24000µm,0.9s
T1211 AML AML
comp=N,40100µm,0.6s
T1215 Vallo di Nera, 0.35 299 P Pg 05 11 02.2 -0.6
T1215 S Sg 05 11 08.1 +0.7
T1215 AML AML
comp=E,8995µm,1.3s
T1215 AML AML
comp=N,8680µm,1.1s
T1215 AML AML
comp=N,8570µm,1.1s
T1215 AML AML
comp=E,8945µm,1.3s
T1215 AML AML
comp=N,8690µm,1.1s
T1215 AML AML
comp=E,8945µm,0.7s
T1215 AML AML
comp=E,8995µm,0.7s
T1215 AML AML
comp=N,8690µm,0.9s
T1215 AML AML
comp=N,8570µm,0.9s
FEMA Monte Fema 0.38 333 P Pg 05 11 02.9 -0.4
FEMA S Sg 05 11 09.5 +1.3
FEMA AML AML
comp=N,25850µm,0.6s
FEMA AML AML
comp=E,31750µm,0.5s
FIAM Fiamignano 0.38 199 ⇑P Pg 05 11 02.5 -0.8
FIAM S Sg 05 11 08.8 +0.4
FIAM AML AML
comp=N,26750µm,0.6s
FIAM AML AML
comp=E,32450µm,0.6s
FIAM AML AML
comp=N,26750µm,1.4s

ARRO Arrone 0.39 263 P Pg 05 11 03.0 -0.3
ARRO AML AML
comp=E,14850µm,1.0s
ARRO AML AML
comp=N,11050µm,1.3s
ARRO AML AML
comp=N,11100µm,1.3s
ARRO AML AML
comp=E,14850µm,1.0s
ARRO AML AML
comp=N,11100µm,0.7s
T1221 Campello sul C 0.40 306 ⇓P Pg 05 11 03.1 -0.5
T1221 S Sg 05 11 09.8 +0.9
OFFI Offida 0.42 44 ⇑P Pg 05 11 04.0 -0.1
OFFI AML AML
comp=E,50000µm,0.6s
OFFI AML AML
comp=N,59200µm,0.6s
OFFI AML AML
comp=E,50000µm,1.4s
FAGN Fagnano 0.42 149 P Pg 05 11 03.4 -0.7
FAGN AML AML
comp=N,66150µm,0.5s
FAGN AML AML
comp=E,98850µm,0.6s
FDMO Fiordimonte 0.43 340 P Pg 05 11 03.7 -0.6
FDMO S Sg 05 11 11.1 +1.2
FDMO AML AML
comp=E,15400µm,0.2s
FDMO AML AML
comp=N,17350µm,1.5s
FDMO AML AML
comp=N,17350µm,0.5s
GUMA Gualdo di Mace 0.43 5 ⇑P Pg 05 11 03.9 -0.4
GUMA S Sb 05 11 11.6 -1.1
GUMA AML AML
comp=E,47150µm,0.3s
GUMA AML AML
comp=N,41100µm,1.2s
GUMA AML AML
comp=E,44450µm,1.3s
GUMA AML AML
comp=N,49850µm,0.5s
GUMA AML AML
comp=E,44450µm,0.7s
GUMA AML AML
comp=N,41100µm,0.8s
CSP1 Cessapalombo 0.47 353 P Pg 05 11 04.2 -0.7
CSP1 S Sg 05 11 12.1 +1.0
CSP1 AML AML
comp=N,19750µm,0.8s
CSP1 AML AML
comp=E,16600µm,1.5s
CSP1 AML AML
comp=E,16600µm,0.5s
CESI CESI - Serrava 0.47 323 ⇓P Pg 05 11 04.4 -0.6
CESI S Sg 05 11 12.3 +1.2
CESI AML AML
comp=N,19600µm,0.8s
CESI AML AML
comp=E,11600µm,0.3s
T1219 Muccia, Frazio 0.47 334 P Pg 05 11 04.3 -0.7
T1219 S Sg 05 11 12.4 +1.2
T1219 AML AML
comp=E,22350µm,0.2s
T1219 AML AML
comp=N,23250µm,0.2s
T1219 AML AML
comp=E,21300µm,0.2s
T1219 AML AML
comp=E,22300µm,0.2s
T1219 AML AML
comp=N,24950µm,0.2s
T1219 AML AML
comp=E,21300µm,1.8s
T1219 AML AML
comp=E,22300µm,1.8s
TRTR Tortoreto Alta 0.50 69 ⇑P Pg 05 11 05.6 +0.1
TRTR AML AML
comp=N,40350µm,1.0s
TRTR AML AML
comp=E,64900µm,0.5s
T1220 Camerino, Fraz 0.50 343 ⇓P Pg 05 11 04.8 -0.8
T1220 S Sg 05 11 13.4 +1.3
T1220 AML AML
comp=E,45200µm,0.3s
T1220 AML AML
comp=N,44450µm,0.2s
T1220 AML AML
comp=N,45000µm,0.2s
T1220 AML AML
comp=E,43650µm,0.3s
T1220 AML AML
comp=N,45050µm,0.2s
T1220 AML AML
comp=E,43650µm,1.7s
T1220 AML AML
comp=E,45200µm,1.7s
T1220 AML AML
comp=N,44450µm,0.2s
CESX Cesi 0.52 268 ⇑P Pg 05 11 05.1 -0.9
CESX AML AML
comp=N,13500µm,0.5s
CESX AML AML
comp=E,10435µm,0.4s
MNTP Montappone 0.53 15 P Pg 05 11 05.9 -0.2
MNTP S Sb 05 11 15.3 0.0
MNTP AML AML
comp=E,50450µm,0.3s
MNTP AML AML
comp=N,28200µm,1.5s
MNTP AML AML
comp=E,50500µm,0.3s
MNTP AML AML
comp=N,28200µm,1.5s
MNTP AML AML
comp=N,28200µm,0.5s
T0110 Collepietro 0.54 138 P Pg 05 11 05.3 -1.1
T0110 AML AML
comp=E,47200µm,0.5s
T0110 AML AML
comp=N,49000µm,0.6s
MOMA Monte Martano 0.56 289 P Pg 05 11 06.0 -0.5
MOMA AML AML
comp=N,14300µm,1.5s
MOMA AML AML
comp=N,14950µm,1.5s
MOMA AML AML
comp=E,14450µm,1.1s
MOMA AML AML
comp=E,15200µm,1.2s
MOMA AML AML
comp=N,14300µm,0.5s
MOMA AML AML
comp=E,15200µm,0.8s
MOMA AML AML
comp=N,14950µm,0.5s
MOMA AML AML
comp=E,14450µm,0.9s
MDAR Monte D'Aria 0.57 350 P Pg 05 11 06.3 -0.7
MDAR S Sg 05 11 15.6 +1.2
SEF1 Sefro 0.57 334 P Pg 05 11 06.4 -0.5
SEF1 S Sb 05 11 16.1 -0.6
SEF1 AML AML
comp=N,13800µm,0.3s
SEF1 AML AML
comp=N,13800µm,0.3s
SEF1 AML AML
comp=E,15150µm,1.2s
PIO1 Pioraco 0.59 338 P Pg 05 11 07.0 -0.3
SSM1 San Severino M 0.60 352 P Pg 05 11 06.8 -0.7
PTQR Pietraquaria 0.61 172 P Pg 05 11 06.2 -1.4
PTQR AML AML
comp=E,7320µm,0.6s
PTQR AML AML
comp=N,6175µm,1.1s
PTQR AML AML
comp=E,7320µm,1.4s
FIU1 Fiuminata 0.62 335 P Pg 05 11 07.3 -0.4
ASSB Assisi San Ben 0.62 312 P Pg 05 11 07.1 -0.7
ASSB S Sg 05 11 17.1 +1.2
ASSB AML AML
comp=E,8170µm,0.2s
ASSB AML AML
comp=N,8560µm,0.5s
GAG1 Gagliole 0.63 345 P Pg 05 11 07.5 -0.5
GAG1 S Sb 05 11 17.9 -0.4
GAG1 AML AML
comp=E,19200µm,1.5s
GAG1 AML AML
comp=N,18500µm,0.8s
GAG1 AML AML
comp=E,19150µm,1.5s
GAG1 AML AML
comp=N,18450µm,0.8s
GAG1 AML AML
comp=N,18450µm,1.2s
GAG1 AML AML
comp=E,19150µm,0.5s
CADA Capodarco di F 0.66 32 P Pg 05 11 09.1 +0.4
SNTG Esanatoglia 0.68 338 P Pg 05 11 07.8 -1.0
SNTG AML AML
comp=N,5070µm,1.1s
SNTG AML AML
comp=E,4545µm,1.4s
SNTG AML AML
comp=E,4545µm,0.6s
SNTG AML AML
comp=E,4525µm,1.0s
SNTG AML AML
comp=N,5185µm,1.1s
SRES S.Oreste - Sor 0.69 236 ⇑P Pg 05 11 08.0 -1.2
SRES AML AML
comp=N,5635µm,0.7s
SRES AML AML
comp=N,5635µm,1.3s
SRES AML AML
comp=E,6940µm,0.5s
EL6 Elcito 0.71 349 P Pg 05 11 08.7 -0.9
CERT Cerreto 0.72 198 ⇑P Pg 05 11 08.3 -1.3
MTCE Montecelio 0.73 214 P Pg 05 11 08.6 -1.2
MTCE AML AML
comp=N,8305µm,0.5s
MTCE AML AML
comp=E,14550µm,0.6s
ATCC AVT- Casa Cast 0.73 320 P Pg 05 11 09.2 -0.7
ATCC AML AML
comp=E,8175µm,0.4s
ATCC AML AML
comp=N,9785µm,1.0s
ATCC AML AML
comp=N,9790µm,1.0s
ATCC AML AML
comp=E,8175µm,1.6s
CIMA Civitanova Mar 0.73 23 P Pg 05 11 10.2 +0.2
CIMA AML AML
comp=E,16800µm,0.9s
CIMA AML AML
comp=N,17200µm,0.7s
CIMA AML AML
comp=N,17200µm,1.3s
CIMA AML AML
comp=E,16800µm,1.1s
CING Cingoli 0.75 355 P Pg 05 11 09.3 -1.0
CING AML AML
comp=N,6305µm,0.8s
CING AML AML
comp=E,11615µm,0.2s
FOSV Fossato di Vic 0.77 330 P Pg 05 11 09.6 -1.0
FOSV AML AML
comp=E,4450µm,1.1s
FOSV AML AML
comp=E,4455µm,1.1s
FOSV AML AML
comp=N,5820µm,0.7s
PP3 Marolino 0.79 18 P Pg 05 11 10.5 -0.5
PP3 AML AML
comp=E,16450µm,0.9s
PP3 AML AML
comp=E,17550µm,0.8s
PP3 AML AML
comp=N,14300µm,1.0s
PP3 AML AML
comp=E,16500µm,0.8s
PP3 AML AML
comp=N,14250µm,1.0s
PP3 AML AML
comp=E,17500µm,0.8s
PP3 AML AML
comp=N,14350µm,1.0s
PP3 AML AML
comp=E,17500µm,1.2s
PP3 AML AML
comp=E,16500µm,1.2s
VVLD Villa Vallelon 0.80 162 P Pg 05 11 09.9 -1.3
VVLD AML AML
comp=E,7745µm,0.7s
VVLD AML AML
comp=N,8890µm,0.7s
VVLD AML AML
comp=N,8890µm,1.3s
RCAV Rocca di Cave 0.82 198 P Pg 05 11 11.0 -0.6
RCAV AML AML
comp=E,12150µm,0.5s
RCAV AML AML
comp=E,12150µm,1.5s
RCAV AML AML
comp=N,16200µm,0.6s
GUAR Guarcino 0.83 179 P Pg 05 11 11.1 -0.8
GUAR AML AML
comp=N,10360µm,0.7s
GUAR AML AML
comp=E,7435µm,0.6s
MMUR Monte Murano 0.84 346 P Pg 05 11 11.3 -0.7
MURB Monte Urbino 0.84 319 P Pg 05 11 11.3 -0.8
MURB AML AML
comp=E,16150µm,1.1s
MURB AML AML
comp=N,15100µm,1.1s
MURB AML AML
comp=E,16900µm,1.1s
MURB AML AML
comp=N,15050µm,1.1s
MURB AML AML
comp=N,15050µm,1.1s
LPEL Lama dei Pelig 0.88 131 P Pg 05 11 10.7 -2.2
LPEL AML AML
comp=E,10400µm,1.1s
LPEL AML AML
comp=E,10400µm,0.9s
LPEL AML AML
comp=N,6500µm,0.9s
SSFR Montelago di S 0.89 336 P Pg 05 11 11.9 -1.0
SSFR AML AML
comp=N,10700µm,0.2s
SSFR AML AML
comp=N,9385µm,0.2s
SSFR AML AML
comp=E,10500µm,0.2s
SSFR AML AML
comp=E,10080µm,0.2s
ATTE AVT- Monte Tez 0.89 310 P Pg 05 11 12.8 -0.2
ARVD Arcevia 0.90 344 P Pg 05 11 12.0 -1.3
ARVD AML AML
comp=E,3640µm,0.8s
ARVD AML AML
comp=E,3640µm,1.2s
ARVD AML AML
comp=N,2700µm,0.8s
ATFO Monte Foce - G 0.90 325 P Pg 05 11 12.5 -0.8
ATFO AML AML
comp=E,6155µm,1.0s
ATFO AML AML
comp=N,3795µm,0.6s
ATSC Scheggia e Pas 0.91 331 P Pg 05 11 12.2 -1.1
MGAB Montegabbione 0.91 289 P Pg 05 11 12.6 -0.8
MGAB AML AML
comp=E,11000µm,1.3s
MGAB AML AML
comp=E,11000µm,0.7s
MGAB AML AML
comp=N,6115µm,0.5s
RMP Rome, Mte Porz 0.93 208 P Pg 05 11 12.4 -1.2
RMP AML AML
comp=E,12100µm,1.6s
RMP AML AML
comp=N,15000µm,0.8s
RMP AML AML
comp=E,12100µm,0.4s
RMP AML AML
comp=N,15000µm,1.2s
AOI Ancona 0.95 14 P Pg 05 11 13.0 -1.1
AOI AML AML

AOI comp=E,4160µm,1.1s AML AML
AOI comp=E,4160µm,0.9s AML AML
VIVA Pratoni del Vi 0.96 204 P **Pg 05 11 13.3 -0.9**
VIVA AML AML
VIVA comp=N,4320µm,1.1s comp=E,22800µm,0.8s AML AML
VIVA comp=E,22800µm,1.2s AML AML
POFI Posta Fibreno 0.96 161 P **Pg 05 11 13.0 -1.4**
POFI AML AML
POFI comp=N,16150µm,1.4s comp=E,5270µm,0.8s AML AML
RDP Rocca di Papa 0.97 206 AML AML
RDP comp=N,4365µm,0.6s comp=E,18350µm,0.6s AML AML
RDP comp=N,20800µm,0.8s AML AML
MA9 Marino 0.98 209 P **Pg 05 11 13.4 -1.2**
MA9 comp=E,18350µm,1.4s AML AML
MA9 comp=E,15450µm,0.6s AML AML
MA9 comp=N,14550µm,1.6s AML AML
TB01 Gubbio 0.98 321 P **Pg 05 11 13.3 -1.3**
FRON Frontone 0.98 335 P **Pg 05 11 13.3 -1.4**
FRON comp=E,15450µm,1.4s AML AML
FRON comp=N,5670µm,0.7s AML AML
ATVA AVT- Monte Val 0.98 312 ⇑P **Pg 05 11 14.0 -0.7**
ATVO AVT- Monte Val 0.99 320 ⇓P **Pg 05 11 13.8 -1.1**
ATVO comp=E,3720µm,1.2s AML AML
ATVO comp=N,2235µm,0.8s AML AML
SAMA S.Maria delle 0.99 211 P **Pg 05 11 14.3 -0.6**
PCRO Pietralacroce 0.99 10 P **Pg 05 11 15.1 +0.1**
TB03 Pietralunga 1.00 321 P **Pg 05 11 14.0 -1.1**
LRP Arpino 1.01 167 P **Pg 05 11 15.1 0.0**
LRP comp=E,3720µm,1.2s AML AML
LRP comp=E,3490µm,0.8s AML AML
COR1 Corinaldo 1.02 348 P **Pg 05 11 15.2 -0.3**
COR1 comp=N,4525µm,0.9s AML AML
COR1 comp=E,11100µm,1.0s AML AML
COR1 comp=E,5960µm,1.0s AML AML
COR1 comp=N,9920µm,1.6s AML AML
ATMI Monte Miggiano 1.03 314 P **Pg 05 11 14.8 -0.8**
ATMI comp=N,13200µm,1.4s AML AML
ATMI comp=E,6570µm,0.9s AML AML
ATMI comp=N,7100µm,0.7s AML AML
ATMI comp=N,7100µm,1.3s AML AML
SACS San Casciano d 1.04 283 P **Pg 05 11 15.0 -0.7**
SACS comp=E,6570µm,1.1s AML AML
SACS comp=E,4040µm,0.7s AML AML
SACS comp=N,4275µm,1.1s AML AML
SACS comp=E,3730µm,0.7s AML AML
SACS comp=N,4100µm,1.1s AML AML
SACS comp=E,4040µm,1.3s AML AML
SACS comp=E,3730µm,1.3s AML AML
SACS comp=N,4100µm,0.9s AML AML
ATPC Poggio Castell 1.04 325 P **Pg 05 11 14.9 -1.0**
ATPI Pietralunga - 1.05 322 P **Pg 05 11 14.7 -1.2**
ATPI comp=N,4275µm,0.9s AML AML
ATPI comp=N,3505µm,0.6s AML AML
ATPI comp=N,3505µm,1.4s AML AML
ATPI comp=E,3580µm,1.3s AML AML
LAV9 Lanuvio 1.05 205 P **Pg 05 11 15.4 -0.5**
LAV9 comp=N,12750µm,0.9s AML AML
LAV9 comp=N,13000µm,0.9s AML AML
LAV9 comp=E,15900µm,1.3s AML AML
LAV9 comp=E,16750µm,1.3s AML AML
LAV9 comp=N,12750µm,1.1s AML AML
LAV9 comp=N,13000µm,1.1s AML AML
PIEI Pieia 1.06 329 P **Pg 05 11 15.0 -1.2**
PIEI comp=E,2655µm,0.4s AML AML
PIEI comp=N,2615µm,1.1s AML AML
PIEI comp=E,2655µm,1.6s AML AML
PIEI comp=N,2615µm,0.9s AML AML
GIUL Giuliano Di Ro 1.07 181 P **Pg 05 11 15.6 -0.8**
GIUL comp=E,4565µm,1.0s AML AML
GIUL comp=N,4830µm,0.7s AML AML
MPAG Monte Paganucc 1.07 339 P **Pg 05 11 15.3 -1.2**
MPAG comp=E,4815µm,1.1s AML AML
MPAG comp=N,4130µm,1.2s AML AML
MPAG comp=E,4565µm,1.0s AML AML
MPAG comp=N,4220µm,1.2s AML AML
MPAG comp=E,4565µm,1.0s AML AML
MPAG comp=N,4220µm,0.8s AML AML
MPAG comp=N,4130µm,0.8s AML AML
MPAG comp=E,4815µm,0.9s AML AML
SENI Senigallia 1.08 358 P **Pg 05 11 16.2 -0.3**
SENI comp=E,14900µm,0.5s AML AML
SENI comp=N,18000µm,0.3s AML AML
SENI comp=E,4975µm,0.7s AML AML
SENI comp=E,14900µm,1.5s AML AML
SENI comp=N,5695µm,1.0s AML AML
LATE Laterza 1.09 270 P **Pg 05 11 16.2 -0.7**
TOLF Tolfa 1.11 240 P **Pg 05 11 15.9 -1.2**
TOLF comp=E,3720µm,0.7s AML AML
TOLF comp=N,4690µm,0.7s AML AML
APEC Apecchio 1.12 326 P **Pg 05 11 16.5 -1.0**
RNI2 Rionero Sannit 1.13 145 P **Pg 05 11 16.9 -0.7**
RNI2 comp=E,9930µm,0.9s AML AML
RNI2 comp=E,9945µm,0.9s AML AML
RNI2 comp=E,9945µm,1.1s AML AML
RNI2 comp=N,7945µm,0.9s AML AML
RNI2 comp=E,9930µm,1.1s AML AML
RNI2 AML AML

comp=N,8040µm,0.8s
LIK San Giovanni I 1.14 170 P **Pg 05 11 16.6 -1.1**
ATMC Monte Cedrone 1.14 316 P **Pg 05 11 17.3 -0.6**
LATB Latina 1.16 192 P **Pg 05 11 16.4 -1.7**
LATB AML AML
LATB comp=E,2065µm,1.3s AML AML
LATB comp=N,1315µm,0.9s AML AML
LATB comp=E,2065µm,0.7s AML AML
BADI Badiali 1.17 319 P **Pg 05 11 17.2 -1.0**
BADI AML AML
BADI comp=E,124µm,1.0s AML AML
BADI comp=E,124µm,1.0s AML AML
BADI comp=N,2565µm,0.6s AML AML
CERA Filignano 1.17 152 P **Pg 05 11 16.9 -1.3**
SF03 Valle Cupa 1.19 279 P **Pg 05 11 17.8 -0.9**
CAFI Castiglion Fio 1.19 306 P **Pg 05 11 17.8 -1.0**
CAFI AML AML
CAFI comp=E,2220µm,0.8s AML AML
CAFI comp=N,2610µm,0.9s AML AML
CAFI comp=N,2580µm,0.9s AML AML
CAFI comp=E,2220µm,0.7s AML AML
MCIV Monte Civitell 1.20 278 P **Pg 05 11 18.0 -0.8**
MCIV AML AML
MCIV comp=E,1745µm,0.7s AML AML
MCIV comp=N,1628µm,1.2s AML AML
MCIV comp=E,1745µm,1.3s AML AML
SF11 Podere del Sol 1.21 282 P **Pg 05 11 18.7 -0.3**
PE3 Peglio 1.21 332 P **Pg 05 11 18.2 -1.0**
PE3 AML AML
PE3 comp=E,8115µm,0.7s AML AML
PE3 comp=N,13µm,1.2s AML AML
PE3 comp=N,13µm,0.8s AML AML
PE3 comp=E,8115µm,1.3s AML AML
SF04 Casetta 1.22 280 P **Pg 05 11 18.4 -0.7**
SF04 AML AML
SF04 comp=N,1755µm,0.8s AML AML
SF04 comp=N,1755µm,1.2s AML AML
SF04 comp=E,1740µm,0.7s AML AML
FRES Fresagrandinar 1.22 122 P **Pg 05 11 16.9 -2.3**
MIDA Miranda 1.22 144 P **Pg 05 11 17.0 -2.3**
SF14 Selvena 1.24 276 P **Pb 05 11 18.7 -0.9**
SF13 Bagnolo 1.24 279 P **Pb 05 11 18.6 -1.1**
SSP9 Sansepolcro 1.27 319 P **Pn 05 11 19.3 -0.7**
SSP9 AML AML
SSP9 comp=E,2325µm,1.4s AML AML
SSP9 comp=E,2325µm,0.6s AML AML
SSP9 comp=N,3550µm,1.5s AML AML
PARC Parchiule 1.27 323 P **Pn 05 11 19.1 -1.1**
PARC AML AML
PARC comp=E,2635µm,1.6s AML AML
PARC comp=N,2535µm,1.3s AML AML
PARC comp=E,2635µm,0.4s AML AML
PARC comp=N,2535µm,0.7s AML AML
TRIV Trivento 1.27 132 P **Pn 05 11 18.9 -1.3**
TRIV AML AML
TRIV AML AML
TRIV AML AML
TRIV comp=N,3590µm,1.6s AML AML
TRIV AML AML
TRIV comp=N,3590µm,0.4s AML AML
TRIV AML AML
TRIV comp=E,5135µm,1.0s AML AML
SF01 Poggio Pratacc 1.28 279 P **Pn 05 11 19.9 -0.4**
SF01 AML AML
SF01 comp=E,3690µm,0.7s AML AML
SF01 comp=N,2985µm,0.8s AML AML
SF01 comp=N,2985µm,1.2s AML AML
SF01 comp=E,3690µm,1.3s AML AML
PESA Pesaro 1.35 346 P **Pn 05 11 20.9 -0.3**
PESA AML AML
PESA comp=E,4395µm,0.7s AML AML
PESA comp=E,4395µm,1.3s AML AML
PESA comp=N,4900µm,1.2s AML AML
ARCI Arcidosso 1.35 280 P **Pn 05 11 21.3 0.0**
ARCI AML AML
ARCI comp=E,732µm,1.0s AML AML
ARCI comp=N,855µm,1.1s AML AML
CPGN Carpegna, Ital 1.37 329 P **Pn 05 11 21.6 +0.1**
CPGN AML AML
CPGN comp=E,4285µm,1.0s AML AML
CPGN comp=N,5460µm,0.9s AML AML
CPGN comp=E,4780µm,0.8s AML AML
CPGN comp=N,4535µm,0.8s AML AML
CPGN comp=E,4285µm,1.0s AML AML
CPGN comp=N,5460µm,1.1s AML AML
CRE Caprese Michel 1.39 316 P **Pn 05 11 20.5 -1.4**
CRE AML AML
CRE comp=E,1385µm,0.6s AML AML
CRE comp=N,1605µm,0.9s AML AML
VAGA Valle Agricola 1.40 149 P **Pn 05 11 21.1 -0.9**
VAGA AML AML
VAGA comp=E,2330µm,0.8s AML AML
VAGA comp=N,3405µm,1.1s AML AML
VAGA comp=E,2360µm,0.8s AML AML
VAGA comp=N,3460µm,1.1s AML AML
VAGA comp=N,3460µm,0.9s AML AML
VAGA comp=N,3405µm,0.9s AML AML
VAGA comp=E,2330µm,1.2s AML AML
VAGA comp=E,2360µm,1.2s AML AML
BSSO Busso 1.46 138 P **Pb 05 11 23.0 -0.3**
SGG Gregorio Mates 1.48 146 P **Pn 05 11 22.4 -0.6**
SGG AML AML
SGG comp=E,3160µm,0.9s AML AML
SGG comp=E,10nm,0.9s AML AML
SGG comp=N,6.5nm,0.7s AML AML
SGG comp=N,2235µm,0.7s AML AML
MODR Mondragone 1.55 163 P **Pn 05 11 23.8 0.0**
MODR AML AML
MODR comp=N,1545µm,1.6s AML AML
MODR comp=N,1545µm,0.4s AML AML
MODR comp=E,1415µm,0.8s AML AML
CIGN Sant'Elia a Pi 1.55 128 P **Pb 05 11 24.6 -0.3**
ASQU Asqua 1.60 317 P **Pn 05 11 23.5 -1.2**
ASQU Asqua 1.60 317 P **Pn 05 11 23.6 -1.0**
MAON Monte Argentar 1.60 264 P **Pn 05 11 23.7 -0.9**
MAON AML AML
MAON comp=E,737µm,0.8s AML AML
MAON comp=N,699µm,1.0s AML AML
SACR S. Croce Del S 1.62 139 P **Pb 05 11 25.9 -0.3**
GATE Gambatesa 1.65 132 P **Pb 05 11 26.7 +0.2**

MELA Melanico ??? S 1.65 123 P **Pn 05 11 24.8 -0.5**
MELA AML AML
MELA comp=E,4470µm,1.6s AML AML
MELA comp=N,4670µm,0.6s AML AML
MELA comp=E,4740µm,1.6s AML AML
MELA comp=N,4915µm,0.6s AML AML
MELA comp=N,4670µm,1.4s AML AML
MELA comp=E,4470µm,0.4s AML AML
MELA comp=N,4915µm,1.4s AML AML
MELA comp=E,4740µm,0.4s AML AML
FROS Frosini 1.67 291 P **Pn 05 11 25.2 -0.3**
FROS AML AML
FROS comp=E,1380µm,0.9s AML AML
FROS comp=N,941µm,1.0s AML AML
FROS comp=E,1380µm,1.1s AML AML
FROS comp=N,941µm,1.0s AML AML
CSNT Castellina Chi 1.69 301 P **Pn 05 11 25.7 -0.1**
CSNT Castellina Chi 1.69 301 P **Pn 05 11 25.8 -0.1**
OSSC Osservatorio P 1.74 302 P **Pn 05 11 26.3 -0.3**
OSSC AML AML
OSSC comp=E,766µm,1.3s AML AML
OSSC comp=N,712µm,1.6s AML AML
OSSC comp=E,766µm,0.7s AML AML
OSSC comp=E,863µm,0.9s AML AML
OSSC comp=N,852µm,0.9s AML AML
OSSC Osservatorio P 1.74 302 P **Pn 05 11 26.9 +0.3**
VITU Vitulano (BN) 1.76 145 P **Pb 05 11 27.9 -0.7**
RUFI Rufina 1.77 314 P **Pn 05 11 26.3 -0.7**
RUFI AML AML
RUFI comp=E,832µm,1.1s AML AML
RUFI comp=N,1127µm,1.2s AML AML
RUFI comp=E,832µm,0.9s AML AML
RUFI Rufina 1.77 314 P **Pn 05 11 26.3 -0.7**
RUFI S **Sb 05 11 51.8 +0.6**
CASP Castiglione de 1.79 276 P **Pn 05 11 26.4 -0.8**
CASP AML AML
CASP comp=E,296µm,1.5s AML AML
CASP comp=N,260µm,0.7s AML AML
CASP comp=E,296µm,0.5s AML AML
TRIF Trifonti 1.82 286 P **Pn 05 11 27.4 -0.3**
TRIF AML AML
TRIF comp=E,505µm,0.5s AML AML
TRIF comp=N,736µm,0.7s AML AML
TRIF comp=E,505µm,1.5s AML AML
TRIF comp=N,736µm,1.3s AML AML
LMD Lutirano 1.85 322 P **Pn 05 11 27.8 -0.2**
LMD AML AML
LMD comp=E,1210µm,1.1s AML AML
LMD comp=N,860µm,1.4s AML AML
LMD comp=N,860µm,0.6s AML AML
LMD Lutirano 1.85 322 P **Pn 05 11 27.9 -0.2**
MOCO Biccari - m.te 1.88 131 P **Pb 05 11 30.3 -0.2**
MOCO AML AML
MOCO comp=E,1074µm,1.5s AML AML
MOCO comp=N,874µm,1.6s AML AML
MOCO comp=E,1062µm,1.5s AML AML
MOCO comp=N,890µm,1.6s AML AML
MOCO comp=N,874µm,0.4s AML AML
MOCO comp=N,890µm,0.4s AML AML
APRC Apricena 1.89 117 P **Pn 05 11 28.3 -0.4**
APRC AML AML
APRC comp=E,2175µm,0.9s AML AML
APRC comp=E,2175µm,1.1s AML AML
APRC comp=N,2360µm,1.3s AML AML
BRIS BRISIGHELLA 2.00 320 P **Pn 05 11 30.5 +0.5**
SEI Scarperia 2.00 316 P **Pn 05 11 30.5 +0.3**
SEI Scarperia 2.00 316 P **Pn 05 11 31.3 +1.1**
CRMI Carmignano 2.05 305 P **Pn 05 11 30.5 -0.3**
CRMI AML AML
CRMI comp=E,456µm,1.1s AML AML
CRMI comp=N,363µm,0.9s AML AML
CRMI comp=E,472µm,1.1s AML AML
CRMI comp=N,372µm,0.9s AML AML
CRMI comp=E,472µm,0.9s AML AML
CRMI comp=E,456µm,0.9s AML AML
CRMI Carmignano 2.05 305 P **Pn 05 11 30.9 +0.1**
IMOL Imola, Italy 2.06 328 P **Pg 05 11 35.3 -0.1**
MPPT Montemurlo 2.08 310 P **Pn 05 11 30.8 -0.5**
MPPT AML AML
MPPT comp=E,580µm,0.9s AML AML
MPPT comp=N,496µm,1.2s AML AML
MPPT comp=E,580µm,1.1s AML AML
MSAG Monte S. Angel 2.15 114 P **Pn 05 11 32.6 +0.3**
MSAG AML AML
MSAG comp=N,3110µm,0.7s AML AML
MSAG comp=E,1800µm,1.0s AML AML
MSAG comp=N,1550µm,0.4s AML AML
MSAG comp=E,2235µm,0.8s AML AML
MSAG comp=N,3110µm,1.3s AML AML
MSAG comp=N,1550µm,1.6s AML AML
MTCR Monte La Croce 2.18 311 P **Pn 05 11 31.9 -0.7**
MTCR AML AML
MTCR comp=N,839µm,1.0s AML AML
MTCR comp=E,602µm,1.0s AML AML
MTCR Monte La Croce 2.18 311 P **Pn 05 11 32.1 -0.5**
PII Pisa 2.30 299 P **Pn 05 11 34.0 -0.1**
PII AML AML
PII comp=E,490µm,1.2s AML AML
PII comp=N,380µm,0.7s AML AML
PII comp=N,380µm,1.3s AML AML
PII comp=E,490µm,0.8s AML AML
BRJN Brijuni 2.30 8 P **Pn 05 11 33.6 -0.5**
CAPA Cerignola FG 2.39 127 P **Pn 05 11 35.5 0.0**
CAPA AML AML
CAPA comp=N,2115µm,1.1s AML AML
CAPA comp=E,2565µm,1.0s AML AML
MAIM Mastiano 2.41 303 P **Pn 05 11 35.7 0.0**
MAIM AML AML
MAIM comp=N,315µm,1.1s AML AML
MAIM comp=N,315µm,0.9s AML AML
MAIM comp=E,354µm,0.5s AML AML
MAIM Mastiano 2.41 303 P **Pn 05 11 35.7 0.0**
BDI Bagni Di Lucca 2.43 307 P **Pn 05 11 35.5 -0.6**
BDI AML AML
BDI comp=E,443µm,1.3s AML AML
BDI comp=N,456µm,1.0s AML AML

BDI AML AML
comp=E,174µm,1.2s
BDI AML AML
comp=E,174µm,0.8s
BDI AML AML
comp=E,443µm,0.7s
BDI AML AML
comp=N,213µm,0.7s
BDI Bagni Di Lucca 2.43 307 P **Pn 05 11 35.4 -0.7**
CARD Cardoso 2.48 305 P **Pn 05 11 36.3 -0.3**
CARD AML AML
comp=E,359µm,1.2s
CARD AML AML
comp=N,398µm,0.7s
CARD AML AML
comp=E,359µm,0.8s
CARD Cardoso 2.48 305 P **Pn 05 11 36.4 -0.2**
PALZ Palazzo San Ge 2.62 129 P **Pn 05 11 38.7 +0.2**
PALZ AML AML
comp=E,1595µm,1.6s
PALZ AML AML
comp=N,1495µm,1.3s
PALZ AML AML
comp=N,1495µm,0.7s
PALZ AML AML
comp=E,1595µm,0.4s
MRVN Minervino Murg 2.68 125 P **Pn 05 11 39.7 +0.2**
MRVN AML AML
comp=N,366µm,0.8s
MRVN AML AML
comp=E,420µm,0.9s
EQUI Equi 2.75 305 P **Pn 05 11 40.2 -0.2**
EQUI AML AML
comp=E,207µm,1.0s
EQUI AML AML
comp=N,212µm,1.0s
EQUI AML AML
comp=E,207µm,1.0s
SERM Sermide 2.78 330 P **Pn 05 11 42.6 +1.8**
SKDS Skadanscina 2.96 10 *e*Pn **Pn 05 11 42.3 -1.1**
A050A Klekovaca 3.00 51 ⇑*i*Pn **Pn 05 11 44.2 +0.3**
AMUR Altamura 3.02 124 P **Pn 05 11 44.0 -0.1**
AMUR AML AML
comp=E,398µm,1.0s
AMUR AML AML
comp=N,458µm,0.5s
AMUR AML AML
comp=E,398µm,1.0s
OPPE Oppeano 3.08 331 AML AML
comp=N,790µm,1.4s
OPPE AML AML
comp=E,726µm,0.8s
OPPE AML AML
comp=E,726µm,1.2s
PGF Pioggiola 3.17 270 *e*Pn **Pn 05 11 47.3 +1.1**
PGF *e*Sn **Sn 05 12 21.2 -3.1**
comp=E,14nm,0.5s
SRKY Kupres RS 3.17 62 *e*Pn **Pn 05 11 47.5 +1.2**
BOJS Bojanci 3.20 26 AML AML
comp=E,946µm,0.6s
BOJS AML AML
comp=N,482µm,1.1s
BOJS AML AML
comp=N,482µm,0.9s
BOJS Bojanci 3.20 26 ⇑*i*Pn **Pn 05 11 46.3 -0.3**
CEY Cerknica 3.21 14 ⇑*i*Pn **Pn 05 11 46.1 -0.7**
MSSA Maissana 3.22 303 P **Pn 05 11 46.9 -0.1**
MSSA AML AML
comp=E,168µm,1.3s
MSSA AML AML
comp=N,168µm,0.8s
MSSA AML AML
comp=E,168µm,0.7s
MSSA AML AML
comp=N,168µm,1.2s
MATE Matera 3.24 127 ⇑P **Pn 05 11 48.1 +1.0**
STON Ston 3.26 84 AML AML
comp=N,226µm,1.2s
STON AML AML
comp=E,242µm,1.5s
STON AML AML
comp=N,226µm,0.8s
STON AML AML
comp=E,242µm,0.5s
STON Ston 3.26 84 *e*Pn **Pn 05 11 46.6 -0.8**
STON *e*Sn **Sn 05 12 25.4 -1.0**
STON Ston 3.26 84 ⇑*i*Pn **Pn 05 11 46.7 -0.7**
CRAC Craco 3.27 133 AML AML
comp=N,684µm,1.3s
CRAC AML AML
comp=E,756µm,1.1s
CRAC AML AML
comp=E,756µm,0.9s
MGRS Mrkonjic Grad 3.29 56 ⇑*i*Pn **Pn 05 11 47.4 -0.5**
LTRZ Laterza 3.33 126 P **Pn 05 11 48.4 -0.1**
LTRZ AML AML
comp=E,356µm,1.2s
LTRZ AML AML
comp=N,514µm,1.1s
LTRZ AML AML
comp=E,356µm,0.8s
SABO M.te Sabotino 3.36 4 P **Pn 05 11 48.1 -0.7**
SABO AML AML
comp=E,2490µm,0.6s
SABO AML AML
comp=N,2915µm,0.6s
SABO AML AML
comp=E,570µm,0.6s
SABO AML AML
comp=E,570µm,1.4s
SABO AML AML
comp=N,712µm,0.6s
SABO AML AML
comp=E,2490µm,1.4s
NOCI Noci 3.37 122 P **Pn 05 11 48.9 -0.1**
NOCI AML AML
comp=E,368µm,0.6s
NOCI AML AML
comp=N,509µm,1.2s
ROVR Rover Verones 3.41 333 P **Pn 05 11 50.0 +0.3**
ROVR AML AML
comp=E,356µm,1.2s
ROVR AML AML
comp=N,456µm,1.0s
ROVR AML AML
comp=E,94µm,1.1s
ROVR AML AML
comp=N,183µm,1.0s
ROVR AML AML
comp=E,356µm,0.8s
ROVR AML AML
comp=E,94µm,0.9s
CGRP Cima Grappa 3.42 342 P **Pn 05 11 49.6 -0.2**
CGRP AML AML
comp=E,638µm,1.6s
CGRP AML AML
comp=N,448µm,0.7s
CGRP AML AML
comp=E,640µm,1.6s
CGRP AML AML
comp=N,467µm,0.5s
CGRP AML AML
comp=E,638µm,0.4s
CGRP AML AML
comp=N,448µm,1.3s
CGRP AML AML
comp=N,467µm,1.5s
CGRP AML AML
comp=E,640µm,0.4s
VARN Col Varnada, M 3.47 346 P **Pn 05 11 50.2 -0.1**
VARN AML AML
comp=N,420µm,1.2s
VARN AML AML
comp=N,436µm,1.2s
VARN AML AML
comp=E,553µm,0.6s
VARN AML AML
comp=E,560µm,0.6s
BLY Banja Luka 3.53 52 *e*Pn **Pn 05 11 52.4 +1.2**
A051A Mrakovica 3.54 46 ⇑*i*Pn **Pn 05 11 51.6 +0.3**
CRES Cresnjev 3.56 25 *e*Pn **Pn 05 11 50.6 -0.9**
DOSS Dosso del Somm 3.58 336 P **Pn 05 11 52.1 +0.1**
DOSS AML AML
comp=E,257µm,0.7s
DOSS AML AML
comp=E,302µm,0.6s
DOSS AML AML
comp=N,288µm,0.7s
DOSS AML AML
comp=E,302µm,1.4s
DOSS AML AML
comp=E,257µm,1.3s
DOSS AML AML
comp=N,288µm,1.3s
DOSS AML AML
comp=N,251µm,0.4s
SALO Salr 3.59 327 P **Pn 05 11 52.7 +0.7**
SALO AML AML
comp=E,320µm,0.8s
SALO AML AML
comp=N,608µm,1.1s
CTI Castel Tesino 3.61 342 P **Pn 05 11 52.4 0.0**
CTI AML AML
comp=E,324µm,0.9s
CTI AML AML
comp=N,358µm,0.3s
CTI AML AML
comp=E,324µm,1.1s
MPRI Monte Prat 3.62 357 P **Pn 05 11 52.0 -0.4**
MPRI AML AML
comp=E,374µm,1.0s
MPRI AML AML
comp=E,498µm,1.0s
MPRI AML AML
comp=N,440µm,0.6s
MPRI AML AML
comp=E,374µm,1.0s
MPRI AML AML
comp=E,498µm,1.0s
MPRI AML AML
comp=N,581µm,0.6s
STAL STALIGIAL 3.65 354 P **Pn 05 11 52.1 -0.7**
STAL AML AML
comp=E,425µm,0.7s
STAL AML AML
comp=E,366µm,0.3s
STAL AML AML
comp=N,365µm,0.8s
STAL AML AML
comp=N,292µm,0.3s
TAR1 Taranto 3.66 124 P **Pn 05 11 53.4 +0.5**
TAR1 AML AML
comp=E,471µm,0.8s
TAR1 AML AML
comp=N,436µm,0.8s
TAR1 AML AML
comp=E,471µm,1.2s
CIMO Cimolais 3.73 351 P **Pn 05 11 53.4 -0.5**
CIMO AML AML
comp=E,121µm,1.3s
CIMO AML AML
comp=E,114µm,1.3s
CIMO AML AML
comp=N,100µm,0.7s
CIMO AML AML
comp=N,95µm,0.7s
CIMO AML AML
comp=E,121µm,0.7s
CIMO AML AML
comp=E,114µm,0.7s
LUSI Trento, Gardas 3.73 334 P **Pn 05 11 54.2 +0.3**
LUSI AML AML
comp=E,330µm,1.2s
LUSI AML AML
comp=N,354µm,0.7s
AGOR Agordo 3.76 347 P **Pn 05 11 54.3 0.0**
AGOR AML AML
comp=E,124µm,0.7s
AGOR AML AML
comp=N,99µm,1.1s
AGOR AML AML
comp=N,99µm,0.9s
AGOR AML AML
comp=E,124µm,1.3s
PTCC Patocco-Chiusa 3.78 1 P **Pn 05 11 53.9 -0.7**
PTCC AML AML
comp=N,142µm,1.0s
PTCC AML AML
comp=E,183µm,0.8s
GAGG Gaggia 3.83 335 P **Pn 05 11 55.9 +0.4**
GAGG AML AML
comp=E,304µm,1.0s
GAGG AML AML
comp=N,320µm,0.9s
GAGG AML AML
comp=E,292µm,0.9s
GAGG AML AML
comp=N,320µm,1.1s
GAGG AML AML
comp=N,300µm,1.0s
HCY Herceg Novi 3.85 91 *e*Pn **Pn 05 11 55.4 -0.2**
HCY Herceg Novi 3.85 91 ⇓*i*Pn **Pn 05 11 55.8 +0.2**
HCY *i* Sn **Sn 05 12 42.1 +1.0**
BRY Bratogost 3.88 84 *e*Pn **Pn 05 11 56.2 +0.2**
BRY Bratogost 3.88 84 ⇑*i*Pn **Pn 05 11 56.0 0.0**
BRY *i* Sn **Sn 05 12 42.3 +0.4**
ACOM Acomizza, Ital 3.92 2 P **Pn 05 11 56.8 +0.1**
ACOM AML AML
comp=E,425µm,0.9s
ACOM AML AML
comp=N,320µm,0.9s
ACOM AML AML
comp=N,285µm,0.9s
ACOM AML AML
comp=E,400µm,0.9s
A052A Srbac 3.93 50 *e*Pn **Pn 05 11 56.1 -0.5**
MABI Malga Bissina 3.96 331 P **Pn 05 11 57.8 +0.6**
MABI AML AML
comp=E,91µm,1.5s
MABI AML AML
comp=E,91µm,0.5s
MABI AML AML
comp=N,101µm,0.6s
FVI Forni Avoltri 3.98 355 P **Pn 05 11 57.2 -0.2**
FVI AML AML
comp=E,133µm,0.7s
FVI AML AML
comp=N,182µm,0.9s
OBKA Obir 3.98 13 *i* Pn **Pn 05 11 57.3 -0.1**
comp=N,4.2nm,0.2s,SNR=7.1
OBKA Obir 3.98 13 ⇑*i*Pn **Pn 05 11 57.3 -0.1**
MYKA Terra Mystica 4.01 4 *i* Pn **Pn 05 11 57.8 0.0**
comp=N,1.5nm,0.2s,SNR=7.9
APPI Appiano 4.12 340 P **Pn 05 11 59.8 +0.5**
APPI AML AML
comp=N,230µm,1.4s
APPI AML AML
comp=N,230µm,0.6s
APPI AML AML
comp=E,210µm,0.3s
ABTA Abfaltersbach 4.15 353 *i* Pn **Pn 05 11 59.7 -0.1**
comp=E,5.4nm,0.2s,SNR=44
CEME Cevo 4.16 89 ⇑*i*Pn **Pn 05 12 00.2 +0.4**
CEME *i* Sn **Sn 05 12 49.7 +1.0**
BUM Brajici-Budva 4.16 93 ⇑*i*Pn **Pn 05 12 00.3 +0.4**
BUM *i* Sn **Sn 05 12 49.5 +0.7**
UPM Unac-Piva 4.17 80 *e*Pn **Pn 05 12 00.8 +0.7**
UPM Unac-Piva 4.17 80 ⇓*i*Pn **Pn 05 12 00.7 +0.7**
UPM *i* Sn **Sn 05 12 49.8 +0.7**
NKME Niksic 4.18 86 ⇑*i*Pn **Pn 05 12 00.4 +0.3**
NKME *i* Sn **Sn 05 12 49.6 +0.4**
BRES Bressanone 4.22 345 AML AML
comp=N,258µm,0.9s
BRES AML AML
comp=E,268µm,0.8s
SOKA Soboth 4.24 17 *e*Pn **Pn 05 12 03.2 +2.3**
comp=E,2.4nm,0.2s
KOGS Kog 4.37 28 AML AML
comp=N,906µm,1.1s
KOGS AML AML
comp=E,1054µm,1.2s
KOGS AML AML
comp=N,906µm,0.9s
KOGS AML AML
comp=E,1054µm,0.8s
BRMO Bormio 4.37 333 P **Pn 05 12 04.3 +1.5**
DRME Dracevica, Mon 4.39 94 ⇑*i*Pn **Pn 05 12 03.4 +0.5**
DRME Dracevica, Mon 4.39 94 ⇑*i*Pn **Pn 05 12 03.4 +0.5**
DRME *i* Sn **Sn 05 12 55.3 +1.0**
RISI Rein 4.40 349 P **Pn 05 12 04.2 +0.9**
RISI AML AML
comp=E,404µm,0.5s
RISI AML AML
comp=N,444µm,0.4s
PDG Podgorica 4.42 91 ⇑P **Pn 05 12 03.8 +0.5**
PDG Podgorica 4.42 91 AML AML
comp=E,244µm,0.4s
PDG AML AML
comp=E,244µm,1.6s
PDG AML AML
comp=N,638µm,1.4s
PDG AML AML
comp=E,175µm,0.5s
PDG AML AML
comp=N,500µm,1.4s
PDG AML AML
comp=N,500µm,0.6s
PDG AML AML
comp=N,638µm,0.6s
PDG AML AML
comp=E,175µm,1.5s
PDG Podgorica 4.42 91 ⇑*i*Pn **Pn 05 12 03.7 +0.4**
PDG *i* Sn **Sn 05 12 55.6 +0.7**
MOSI Grossmontoni 4.44 335 P **Pn 05 12 05.9 +2.1**
SBF Sospel 4.45 288 *e*Pn **Pn 05 12 03.6 -0.2**
SBF *e*Sn **Sn 05 12 52.8 -3.1**
comp=E,21nm,0.5s
KBA Koelnbreinsper 4.45 1 *e*Pn **Pn 05 12 04.2 +0.3**
comp=E,4.2nm,0.2s,SNR=12
ULC Ulcinj 4.47 97 ⇑*i*Pn **Pn 05 12 04.6 +0.5**
ULC *i* Sn **Sn 05 12 56.6 +0.3**
MUGIO Muggio 4.49 319 P **Pn 05 12 04.0 -0.3**
MUGIO AML AML
comp=E,98µm,1.2s
MUGIO AML AML
comp=N,67µm,0.6s
ROSI Rosskopf 4.50 343 P **Pn 05 12 05.4 +0.7**
PLE Pljevlja 4.53 79 ⇓*i*Pn **Pn 05 12 05.8 +0.8**
PLE *i* Sn **Sn 05 12 58.5 +0.5**
RUDO Rudo 4.56 75 ⇑*i*Pn **Pn 05 12 05.7 +0.4**
KOME Kolasin 4.59 85 ⇑*i*Pn **Pn 05 12 06.9 +1.1**
KOME *i* Sn **Sn 05 13 00.2 +0.7**
BBLS Lazi?i 4.64 72 *e*Pn **Pn 05 12 06.9 +0.5**
BBLS Lazi?i 4.64 72 ⇑*i*Pn **Pn 05 12 06.9 +0.5**
FETA Feichten 4.75 338 *i* Pn **Pn 05 12 09.8 +1.8**
comp=N,7.8nm,0.4s,SNR=5.9
WTTA Wattenberg 4.78 346 *i* Pn **Pn 05 12 10.1 +1.7**
comp=N,4.7nm,0.2s,SNR=8.6
WTTA Wattenberg 4.78 346 P **Pn 05 12 10.0 +1.6**
DAVOX Davos/Dischmat 4.81 331 Pn **Pn 05 12 10.7 +1.9**
comp=N,4.2nm,0.3s,baz=156,slow=17,SNR=38
DAVOX Sn **Sn 05 13 06.9 +2.1**
comp=N,1.0nm,0.3s,baz=290,slow=24,SNR=1.1
DAVOX LR LR 05 14 42.7
comp=N,257nm,18.5s,baz=128,slow=49
DAVOX Davos/Dischmat 4.81 331 P **Pn 05 12 10.6 +1.7**
SQTA Sankt Quirin 4.82 343 *i* Pn **Pn 05 12 10.4 +1.4**
comp=N,16nm,0.4s,SNR=12
WATA Walderalm 4.86 346 *i* Pn **Pn 05 12 11.3 +1.8**
comp=N,5.3nm,0.2s,SNR=9.6
IVA Berane 4.87 85 ⇑*i*Pn **Pn 05 12 11.4 +1.8**
IVA *i* Sn **Sn 05 13 06.4 +0.1**
ARSA Arzberg 4.89 18 *e*Pn **Pn 05 12 09.5 -0.3**
comp=N,2.3nm,0.2s
TEKS Tekeris 4.92 65 *e*Pn **Pn 05 12 09.4 -0.9**
PVY Plav 4.92 88 ⇓*i*Pn **Pn 05 12 10.8 +0.4**
PVY *i* Sn **Sn 05 13 08.2 +0.5**
SJES Sjenica 4.95 80 *e*Pn **Pn 05 12 11.6 +0.9**
SJES *e*Sn **Sn 05 13 06.5 -1.8**
SJES Sjenica 4.95 80 ⇑*i*Pn **Pn 05 12 11.7 +1.0**
MOTA Moosalm 4.96 343 *i* Pn **Pn 05 12 12.6 +1.7**
comp=N,1.9nm,0.2s,SNR=8.8
LMR La Mourre 5.02 280 *e*Pn **Pn 05 12 10.5 -1.1**
LMR *e*Sn **Sn 05 13 04.9 -5.0**
comp=N,3.7nm,0.5s
BIOA Bad Ischl, Aus 5.07 3 *i* Pn **Pn 05 12 12.4 +0.1**
comp=N,2.9nm,0.2s,SNR=9.6
TIR Tirane 5.07 102 ⇓P **Pn 05 12 12.7 +0.4**
TIR Tirane 5.07 102 P **Pn 05 12 12.6 +0.4**
DIVS Divibare 5.11 71 *e*Pn **Pn 05 12 12.9 +0.1**
DIVS *e*Sn **Sn 05 13 08.2 -3.9**
DIVS Divibare 5.11 71 ⇑*i*Pn **Pn 05 12 12.1 -0.7**
MBDF Montbardon 5.17 296 *e*Pn **Pn 05 12 14.1 +0.3**
MBDF *e*Sn **Sn 05 13 10.9 -2.8**
comp=N,35nm,0.9s
RETA Reutte 5.18 341 *i* Pn **Pn 05 12 15.6 +1.8**
comp=N,3.4nm,0.3s
DAVA Damuels 5.25 334 *i* Pn **Pn 05 12 16.9 +2.1**
comp=N,4.7nm,0.3s,SNR=8.1
MORH Mrgy, Hungar 5.25 45 ⇓P **Pn 05 12 15.8 +1.1**
MOA Molln 5.27 7 *i* Pn **Pn 05 12 15.6 +0.6**
comp=N,1.8nm,0.1s
MOA Molln 5.27 7 *e*Pn **Pn 05 12 15.6 +0.6**
MOA *e*Sn **Sn 05 13 15.8 -0.1**
FRGS Fruska Gora 5.35 60 ⇑P **Pn 05 12 16.1 0.0**
FRGS Fruska Gora 5.35 60 *e*Pn **Pn 05 12 16.4 +0.3**
FRGS Fruska Gora 5.35 60 *e*Pn **Pn 05 12 15.9 -0.2**
TRUS Trudelj 5.42 71 *e*Pn **Pn 05 12 17.3 +0.1**
RONA Rosalia, Austr 5.50 22 *i* Pn **Pn 05 12 18.1 -0.1**
comp=N,1.0nm,0.1s,SNR=9.2
LPL La Plagne 5.53 304 *e*Pn **Pn 05 12 19.8 +1.0**
LPL *e*Sn **Sn 05 13 18.6 -4.2**
comp=N,12nm,0.5s
GRUS Gruza 5.57 74 *e*Pn **Pn 05 12 19.4 +0.3**
CONA Conrad Observa 5.60 18 *i* Pn **Pn 05 12 19.5 -0.2**
comp=N,1.6nm,0.2s,SNR=7.5
KEK Kerkira 5.71 118 P **Pn 05 12 22.6 +1.5**
SRN Sarande 5.76 116 P **Pn 05 12 22.2 +0.5**
SELS Selova 5.78 81 *e*Pn **Pn 05 12 22.1 0.0**
SELS *e*Sn **Sn 05 13 25.9 -2.8**
SMRF Simiane la Rot 5.79 286 *e*Pn **Pn 05 12 23.5 +1.4**
SMRF *e*Sn **Sn 05 13 23.4 -5.4**
comp=N,3.9nm,0.6s
OHR Ohrid 5.81 103 *i* Pn **Pn 05 12 23.9 +1.4**
OHR *i* Sn **Sn 05 13 26.6 -2.9**
ORIF Oris-en-Rattie 5.83 296 *e*Pn **Pn 05 12 25.3 +2.5**
ORIF *e*Sn **Sn 05 13 26.5 -3.4**
comp=N,15nm,0.7s
KBN Korca 5.97 107 P **Pn 05 12 25.8 +1.1**
LSK Leskovik 6.03 112 P **Pn 05 12 26.4 +0.8**
SKO Skopje 6.08 93 *i* Pn **Pn 05 12 27.0 +0.8**
IGT Igoumenitsa 6.16 118 P **Pn 05 12 28.3 +1.1**
ZST Bratislava 6.18 24 *e*PN **Pn 05 12 28.1 +0.6**
GERES GERESS Array B 6.22 3 Pn **Pn 05 12 27.5 -0.7**
comp=N,0.7nm,0.3s,baz=174,slow=11,SNR=25
GERES Sn **Sn 05 13 39.2 -0.4**
comp=N,2.4nm,0.3s,baz=181,slow=16,SNR=1.8
GERES LR LR 05 15 26.1
comp=N,206nm,18.4s,baz=186,slow=44
comp=N,1.5nm,0.3s
CKRC Cesky Krumlov 6.23 6 *e*PN **Pn 05 12 27.8 -0.5**
CKRC *e*SN **Sn 05 13 36.8 -2.9**
SRO Srobarova 6.28 33 *e*PN **Pn 05 12 29.2 +0.3**
SRO *e*SN **Sn 05 13 38.7 -2.2**
BARS Barje 6.29 85 *e*Pn **Pn 05 12 29.4 +0.4**
BARS *e*Sn **Sn 05 13 38.1 -3.0**
FNA Florina 6.33 104 P **Pn 05 12 29.5 -0.1**
PENT Pentalofos 6.38 110 P **Pn 05 12 32.2 +1.8**
MODS Modra-Piesok 6.39 25 *e*PN **Pn 05 12 30.9 +0.5**
MODS *e*SN **Sn 05 13 43.5 -0.2**
PRVS Prvonek 6.49 88 *e*Pn **Pn 05 12 32.2 +0.4**
CABF La Chapelle 6.50 310 *e*Pn **Pn 05 12 31.7 -0.3**
CABF *e*Sn **Sn 05 13 41.3 -5.1**
comp=N,24nm,0.8s
KHC Kasperske Hory 6.51 2 *e*PN **Pn 05 12 31.3 -0.7**
KHC *e*SN **Sn 05 13 44.1 -2.4**
VIVF Saint-Julien-l 6.62 293 *e*Pn **Pn 05 12 32.3 -1.3**
VIVF *e*Sn **Sn 05 13 45.0 -4.4**
comp=N,1.2nm,0.4s
ZAGS Zajecar 6.64 77 *e*Pn **Pn 05 12 33.6 -0.3**
ZAGS *e*Sn **Sn 05 13 47.8 -2.0**
STIP Stip 6.68 95 *i* Pn **Pn 05 12 36.8 +2.4**
STIP *i* Sn **Sn 05 13 52.3 +1.6**
BZS Buzias 6.70 61 ⇑P **Pn 05 12 34.2 -0.4**
KZN Kozani 6.78 107 P **Pn 05 12 37.4 +1.5**
LKD2 Lefkada island 6.79 122 P **Pn 05 12 39.2 +3.3**
KRUC Moravsky 6.79 18 *e*PN **Pn 05 12 35.2 -0.7**
KRUC *e*SN **Sn 05 13 50.1 -3.3**
TREC Trest 6.84 12 *e*PN **Pn 05 12 36.1 -0.5**
NYDR Nydri-Lefkada 6.86 122 P **Pn 05 12 39.0 +2.2**
EVGI Lefkada island 6.89 123 P **Pn 05 12 37.9 +0.6**
ZAPS Zavoj 6.89 81 *e*Pn **Pn 05 12 37.9 +0.6**
ZAPS *e*Sn **Sn 05 13 52.8 -3.2**
HINF Hinteralfeld 6.89 321 *e*Pn **Pn 05 12 36.9 -0.4**
HINF *e*Sn **Sn 05 13 51.0 -5.0**
comp=N,7.8nm,0.4s
FSK Fiskardo 6.93 125 P **Pn 05 12 39.0 +1.2**

KEF3	**Kipouria, Keph**	**6.97**	**127**	P		**Pn**	**05 12 38.4**	**+0.1**
KEF4	**Livadi, Kephal**	**6.98**	**126**	P		**Pn**	**05 12 38.9**	**+0.4**
HERR	**Herculane**	**6.98**	**68**	⇑P		**Pn**	**05 12 38.7**	**+0.1**
SIRR	**Siria**	**7.01**	**56**	⇑P		**Pn**	**05 12 39.2**	**+0.3**
LASF	**Ste Croix**	**7.02**	**285**	*e*Pn		**Pn**	**05 12 38.2**	**-0.9**
LASF				*e*Sn		**Sn**	**05 13 53.9**	**-5.3**
	comp=N,1.0nm,0.4s							
VYHS	**Vyhne**	**7.04**	**32**	*e*PN		**Pn**	**05 12 40.8**	**+1.5**
VAY	**Valandovo**	**7.04**	**98**	*i* Pn		**Pn**	**05 12 40.1**	**+0.7**
VRAC	**Vranov**	**7.07**	**18**	Pn		**Pn**	**05 12 39.7**	**0.0**
	comp=N,0.4nm,0.3s,baz=202,slow=11,SNR=7.1							
VRAC				LR		LR	05 15 37.2	
	comp=N,229nm,19.3s,baz=209,slow=40							
	comp=N,2.3nm,0.5s							
VRAC	**Vranov**	**7.07**	**18**	⇑P		**Pn**	**05 12 39.1**	**-0.6**
VRAC	**Vranov**	**7.07**	**18**	*e*PN		**Pn**	**05 12 39.3**	**-0.4**
VLS	**Valsamata**	**7.13**	**126**	P		**Pn**	**05 12 42.0**	**+1.4**
CDF	**Champ du Feu**	**7.16**	**326**	*e*Pn		**Pn**	**05 12 41.1**	**+0.1**
CDF				*e*Sn		**Sn**	**05 13 58.4**	**-4.2**
	comp=N,6.0nm,0.3s							
HAU	**Haudompre**	**7.26**	**320**	*e*Pn		**Pn**	**05 12 42.2**	**-0.2**
HAU				*e*Sn		**Sn**	**05 14 01.6**	**-3.6**
	comp=N,18nm,0.4s							
KKB	**Krupnik**	**7.31**	**93**	P		**Pn**	**05 12 43.7**	**+0.6**
KNT	**Kendrikon**	**7.32**	**98**	P		**Pn**	**05 12 43.3**	**+0.1**
VTS	**Vitosha**	**7.34**	**87**	⇑P		**Pn**	**05 12 43.6**	**+0.1**
VTS	**Vitosha**	**7.34**	**87**	P		**Pn**	**05 12 44.5**	**+0.9**
TYRN	**Tyrnavos**	**7.35**	**110**	P		**Pn**	**05 12 44.8**	**+1.2**
GOPC	**GO Pecny, Ondr**	**7.36**	**8**	*e*PN		**Pn**	**05 12 42.5**	**-1.2**
GZR	**Gura Zlata**	**7.38**	**65**	⇑P		**Pn**	**05 12 44.0**	**-0.1**
PRU	**Pruhonice**	**7.41**	**6**	*e*PN		**Pn**	**05 12 43.2**	**-1.2**
PRU				*e*SN		**Sn**	**05 14 04.8**	**-3.9**
PVO	**Paravola**	**7.44**	**120**	P		**Pn**	**05 12 45.1**	**+0.3**
EVR	**Evrytania**	**7.46**	**117**	P		**Pn**	**05 12 47.6**	**+2.5**
KEST	**Kesra**	**7.54**	**205**	Pn		**Pn**	**05 12 50.1**	**+3.8**
	comp=N,1.4nm,0.3s,baz=316,slow=5.3,SNR=22							
KEST				LR		LR	05 15 54.6	
	comp=N,402nm,18.6s,baz=359,slow=39							
	comp=N,7.2nm,0.5s							
MAKR	**Makrakomi, Fth**	**7.62**	**115**	P		**Pn**	**05 12 48.8**	**+1.5**
NKC	**Novy Kostel**	**7.63**	**356**	*e*PN		**Pn**	**05 12 46.6**	**-0.8**
NKC				*e*SN		**Sn**	**05 14 09.7**	**-4.4**
DEV	**Deva**	**7.63**	**61**	⇓P		**Pn**	**05 12 48.9**	**+1.4**
ANX	**Ano Chora**	**7.71**	**119**	P		**Pn**	**05 12 50.9**	**+2.3**
MORC	**Moravsky Berou**	**7.73**	**21**	⇑P		**Pn**	**05 12 50.6**	**+1.7**
MORC	**Moravsky Berou**	**7.73**	**21**	*e*PN		**Pn**	**05 12 51.6**	**+2.7**
AGG	**Agios Georgios**	**7.75**	**115**	P		**Pn**	**05 12 50.8**	**+1.7**
EFP	**Efpalio**	**7.79**	**120**	P		**Pn**	**05 12 51.7**	**+2.1**
MMB	**Musomiste**	**7.83**	**94**	P		**Pn**	**05 12 49.6**	**-0.7**
SMF	**Signal de Mont**	**7.84**	**304**	*e*Pn		**Pn**	**05 12 49.6**	**-0.7**
SMF				*e*Sn		**Sn**	**05 14 14.2**	**-5.1**
	comp=N,4.6nm,0.4s							
SERG	**Sergoula**	**7.90**	**119**	P		**Pn**	**05 12 54.3**	**+3.2**
LAKA	**Lakka**	**7.95**	**121**	P		**Pn**	**05 12 53.2**	**+1.4**
PAGF	**Fort de Pagny**	**7.95**	**321**	*e*Pn		**Pn**	**05 12 51.7**	**-0.1**
PAGF				*e*Sn		**Sn**	**05 14 16.8**	**-5.1**
	comp=N,9.2nm,0.5s							
DRO	**Drossia**	**7.95**	**123**	P		**Pn**	**05 12 53.9**	**+2.0**
NVR	**Nevrokopi**	**7.98**	**96**	P		**Pn**	**05 12 54.0**	**+1.7**
DPC	**Dobruska-Polom**	**8.00**	**14**	*e*PN		**Pn**	**05 12 51.4**	**-1.1**
DPC				*e*SN		**Sn**	**05 14 19.6**	**-3.7**
SFTF	**Sexfontaines**	**8.04**	**317**	*e*Pn		**Pn**	**05 12 54.2**	**+1.1**
SFTF				*e*Sn		**Sn**	**05 14 19.5**	**-4.8**
	comp=N,3.2nm,0.4s							
MARR	**Marisel-Cluj**	**8.09**	**57**	⇓P		**Pn**	**05 12 54.4**	**+0.5**
AXAR	**Agios Charalam**	**8.10**	**115**	P		**Pn**	**05 12 56.5**	**+2.6**
LOR	**Lormes**	**8.13**	**308**	*e*Pn		**Pn**	**05 12 54.2**	**-0.2**
LOR				*e*Sn		**Sn**	**05 14 20.7**	**-5.8**
	comp=N,4.8nm,0.4s							
MTLF	**Montolieu**	**8.15**	**279**	*e*Pn		**Pn**	**05 12 53.2**	**-1.3**
MTLF	**Montolieu**	**8.15**	**279**	*e*P		**Pn**	**05 12 57.6**	**+3.1**
MTLF				*e*Sn		**Sn**	**05 14 19.2**	**-7.6**
KLV	**Kalavryta, Ach**	**8.17**	**121**	P		**Pn**	**05 12 56.8**	**+1.9**
OSTC	**Ostas**	**8.18**	**13**	*e*PN		**Pn**	**05 12 53.9**	**-1.1**
OSTC				*e*SN		**Sn**	**05 14 23.2**	**-4.5**
AVF	**Avril sur Loir**	**8.21**	**304**	*e*Pn		**Pn**	**05 12 54.5**	**-0.8**
AVF				*e*Sn		**Sn**	**05 14 22.7**	**-5.5**
	comp=N,1.4nm,0.4s							
MEZF	**Maizieres J'vi**	**8.23**	**318**	*e*Pn		**Pn**	**05 12 55.7**	**0.0**
MEZF				*e*Sn		**Sn**	**05 14 23.8**	**-5.1**
	comp=N,7.1nm,0.6s							
SSF	**Saint Saulge**	**8.24**	**306**	*e*Pn		**Pn**	**05 12 54.2**	**-1.6**
SSF				*e*Sn		**Sn**	**05 14 23.8**	**-5.3**
	comp=N,2.2nm,0.3s							
BRG	**Berggiesshubel**	**8.26**	**3**	*e*P		**Pn**	**05 12 55.1**	**-1.0**
BRG				Amp			05 13 00.2	
	comp=Z,2.7nm,0.9s							
BRG				r			05 14 30.4	
BRG				Amp			05 14 35.8	
	comp=Z,5.6nm,0.9s							
BRG				r			05 15 31.6	
BRG				Amp			05 16 03.2	
	comp=Z,17nm,1.4s							
BRG				Amp			05 16 28.0	
	comp=Z,0.4nm,8.6s							
SAVF	**Savonnieres en**	**8.28**	**319**	*e*Pn		**Pn**	**05 12 58.7**	**+2.4**
SAVF				*e*Sn		**Sn**	**05 14 24.9**	**-5.0**
	comp=Z,4.3nm,0.5s							
PLVB	**Pleven**	**8.34**	**81**	⇑P		**Pn**	**05 12 58.1**	**+1.0**
BGF	**Bois d'Agland**	**8.42**	**301**	*e*Pn		**Pn**	**05 12 56.7**	**-1.6**
BGF				*e*Sn		**Sn**	**05 14 26.9**	**-6.6**
	comp=Z,2.8nm,0.4s							
CAF	**Calviac**	**8.44**	**290**	*e*Pn		**Pn**	**05 12 58.8**	**+0.3**
ARR	**Arges**	**8.63**	**68**	⇑P		**Pn**	**05 13 02.3**	**+1.2**
CLL	**Collm**	**8.68**	**359**	*e*Pn		**Pn**	**05 13 03.0**	**+1.2**
CLL				*e*Pg		**Pg**	**05 13 43.0**	**+1.0**
CLL				*e*Sn		Sn	05 14 21.0	-19
CLL				*ex*		x	05 14 38.0	
CLL				*e*Sg		**Sg**	**05 15 28.0**	**-6.4**
	comp=Z,127nm,2.6s							
CLL				Lm		MLR	05 16 00.0	
	comp=Z,200nm,18.8s							
CLL				Lmax			05 16 00.0	
TCF	**Toulx Ste Croi**	**8.72**	**299**	*e*Pn		**Pn**	**05 13 00.7**	**-1.7**
TCF				*e*Sn		**Sn**	**05 14 35.2**	**-5.8**
	comp=Z,0.6nm,0.2s							
STHS	**Stebnicka Huta**	**8.76**	**36**	*e*PN		**Pn**	**05 13 06.9**	**+4.0**
RJF	**Les Rejaudoux**	**8.90**	**291**	*e*Pn		**Pn**	**05 13 03.2**	**-1.6**
RJF	**Les Rejaudoux**	**8.90**	**291**	*e*P		**Pn**	**05 13 08.9**	**+4.1**
VOIR		**8.93**	**68**	⇑P		**Pn**	**05 13 06.5**	**+1.2**
LFF	**La Frestale**	**9.36**	**289**	*e*Pn		**Pn**	**05 13 09.8**	**-1.4**
GIVF	**Givet**	**9.48**	**325**	*e*Pn		**Pn**	**05 13 12.6**	**-0.2**
MLR	**Muntele Rosu**	**9.55**	**68**	Pn		**Pn**	**05 13 16.0**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=122,slow=19,SNR=10							
MLR				LR		LR	05 17 47.0	
	comp=Z,471nm,19.9s,baz=255,slow=43							
	comp=Z,3.6nm,0.8s							
MLR	**Muntele Rosu**	**9.55**	**68**	⇑P		**Pn**	**05 13 15.6**	**+1.7**
BAIF	**Baives**	**9.72**	**323**	*e*Pn		**Pn**	**05 13 16.2**	**+0.2**
BURAR	**Bucovina Array**	**9.79**	**55**	⇓P		**Pn**	**05 13 19.0**	**+1.9**
PLOR	**Plostina**	**10.12**	**67**	⇑P		**Pn**	**05 13 22.8**	**+1.2**
VRI	**Vrincioaia**	**10.17**	**67**	⇓P		**Pn**	**05 13 23.3**	**+1.0**
ICOR	**Ion Corvin**	**10.67**	**77**	⇓P		**Pn**	**05 13 30.4**	**+1.3**
HARR	**Harsova**	**10.81**	**74**	⇓P		**Pn**	**05 13 32.7**	**+1.8**
LDF	**La Druitiere**	**11.12**	**307**	*e*P		Pn	05 13 40.4	+5.2
FLN	**La Foliniere**	**11.41**	**307**	*e*P		**Pn**	**05 13 43.8**	**+4.7**
GRR	**Gorron**	**11.47**	**305**	*e*P		**Pn**	**05 13 44.5**	**+4.6**
IDI	**Anoyia**	**11.63**	**125**	LR		LR	05 19 00.9	
	comp=Z,39nm,18.9s,baz=283,slow=41							
ESDC	**Sonseca Array**	**13.33**	**263**	Pn		**Pn**	**05 14 05.6**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=70,slow=12,SNR=4.4							
ESDC				LR		LR	05 18 20.0	
	comp=Z,153nm,21.3s,baz=84,slow=33							
AKASG	**Malin Array Be**	**13.58**	**48**	LR		LR	05 19 55.4	
	comp=Z,149nm,20.4s,baz=190,slow=40							
BRTR	**Keskin Array B**	**15.60**	**94**	Pn		**P**	**05 14 40.4**	**-0.2**
	baz=282,slow=9.6,SNR=3.8							
BRTR				LR		LR	05 21 42.4	
	comp=Z,238nm,18.8s,baz=298,slow=41							
	comp=Z,0.9nm,0.9s							
MDT	**Midelt**	**17.18**	**241**	LR		LR	05 21 40.3	
	comp=Z,97nm,18.1s,baz=83,slow=38							
HFS	**Hagfors**	**17.53**	**1**	LR		LR	05 22 45.1	
	comp=Z,116nm,20.2s,baz=192,slow=41							
NOA	**NORSAR Array B**	**18.48**	**357**	P		**Pn**	**05 15 13.2**	**+0.9**
	baz=176,slow=11,SNR=3.5							
NOA				LR		LR	05 22 29.3	
	comp=Z,86nm,18.8s,baz=175,slow=38							
	comp=Z,0.6nm,0.7s							
OBN	**Obninsk**	**19.65**	**42**	LR		LR	05 24 11.4	
	comp=Z,32nm,19.6s,baz=188,slow=41							
MMAI	**Mount Meron Ar**	**19.89**	**112**	LR		LR	05 25 12.5	
	comp=Z,55nm,18.3s,baz=292,slow=43							
FINES	**FINESS Array B**	**20.35**	**18**	P		**P**	**05 15 32.5**	**0.0**
	comp=Z,2.1nm,0.7s,baz=220,slow=7.7,SNR=7.5							
FINES				LR		LR	05 23 29.3	
	comp=Z,97nm,20.2s,baz=242,slow=37							
	comp=Z,2.1nm,0.7s							
KBZ	**Khabaz**	**21.57**	**77**	P		**P**	**05 15 47.0**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=296,slow=7.5,SNR=4.5							
KBZ				LR		LR	05 26 13.5	
	comp=Z,55nm,19.4s,baz=295,slow=42							
	comp=Z,3.9nm,0.9s							
GNI	**Garni**	**23.66**	**85**	LR		LR	05 27 51.7	
	comp=Z,30nm,20.5s,baz=310,slow=43							
BELG	**Belogornoye**	**24.95**	**55**	P		**P**	**05 16 20.4**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=232,slow=16,SNR=2.5							
BELG				LR		LR	05 27 13.2	
	comp=Z,146nm,20.6s,baz=150,slow=39							
	comp=Z,2.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**31.04**	**202**	P		**P**	**05 17 16.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=9.0,slow=8.0,SNR=4.3							
	comp=Z,0.8nm,0.8s							
AKTO	**Aktyubinsk**	**31.34**	**60**	LR		LR	05 31 35.6	
	comp=Z,73nm,20.7s,baz=85,slow=40							
ARU	**Arti**	**31.83**	**48**	P		**P**	**05 17 21.1**	**0.0**
	comp=Z,3.6nm,0.5s,baz=257,slow=11,SNR=5.3							
ARU				LR		LR	05 30 06.7	
	comp=Z,94nm,20.0s,baz=259,slow=36							
	comp=Z,3.6nm,0.5s							
GEYT	**Alibeck**	**34.22**	**83**	LR		LR	05 35 15.2	
	comp=Z,33nm,19.9s,baz=291,slow=43							
BVAR	**Borovoye Array**	**38.75**	**54**	P		**P**	**05 18 21.5**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=282,slow=7.4,SNR=5.5							
BVAR				LR		LR	05 35 36.7	
	comp=Z,92nm,19.5s,baz=271,slow=38							
	comp=Z,1.7nm,0.9s							
WSAR	**Wadi Sarin**	**42.11**	**103**	LR		LR	05 40 20.1	
	comp=Z,36nm,20.4s,baz=306,slow=42							
AAK	**Ala-Archa**	**44.14**	**68**	LR		LR	05 40 50.4	
	comp=Z,95nm,19.1s,baz=331,slow=41							
NRIK	**Noril'sk**	**45.42**	**29**	LR		LR	05 41 06.5	
	comp=Z,74nm,18.9s,baz=142,slow=40							
MKAR	**Makanchi Array**	**47.78**	**60**	P		**P**	**05 19 34.3**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=280,slow=5.7,SNR=7.1							
MKAR				LR		LR	05 43 54.5	
	comp=Z,64nm,18.3s,baz=340,slow=41							
	comp=Z,0.5nm,0.6s							
TSUM	**Tsumeb**	**61.65**	**175**	LR		LR	05 48 22.0	
	comp=Z,48nm,19.5s,baz=332,slow=36							
SONM	**Songino Array**	**61.86**	**50**	P		**P**	**05 21 17.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=276,slow=4.1,SNR=5.7							
	comp=Z,0.5nm,0.7s							
YAK	**Yakutsk**	**63.87**	**28**	LR		LR	05 51 29.3	
	comp=Z,41nm,18.4s,baz=280,slow=38							
YKA	**Yellowknife Ar**	**67.22**	**337**	P		**P**	**05 21 50.7**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=39,slow=5.5,SNR=7.1							
	comp=Z,0.5nm,0.7s							
MA2	**Magadan**	**72.30**	**21**	LR		LR	05 58 21.0	
	comp=Z,43nm,18.4s,baz=350,slow=39							
KLR	**Kul'dur**	**73.80**	**37**	LR		LR	05 58 38.1	
	comp=Z,62nm,18.2s,baz=328,slow=39							
CMAR	**Chiang Mai Arr**	**74.61**	**79**	LR		LR	06 03 32.8	
	comp=Z,14nm,18.0s,baz=5.0,slow=42							
SUR	**Sutherland**	**74.96**	**173**	LR		LR	05 58 28.1	
	comp=Z,58nm,18.9s,baz=235,slow=38							
BDFB	**Brasilia**	**80.75**	**239**	P		**P**	**05 23 10.8**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=45,slow=4.9,SNR=4.0							
	comp=Z,2.4nm,0.9s							
ANMO	**Albuquerque**	**85.18**	**314**	LR		LR	05 59 41.1	
	comp=Z,90nm,18.4s,baz=188,slow=34							
MJAR	**Matsushiro Arr**	**86.57**	**41**	LR		LR	06 06 21.9	
	comp=Z,62nm,19.1s,baz=11,slow=38							
TXAR	**Lajitas Array**	**87.89**	**309**	LR		LR	06 00 27.4	
	comp=Z,30nm,18.6s,baz=58,slow=34							

NORS ***29*** *05:11:16.8±0.0, 42°.09N×46°.31E, h29km, MPVA3.5*
TIF ***29*** *05:11:16.3, 42°.16N×45°.96E, h13km±3km*
MOS ***29*** *05:11:17.1±0.0, 42°.16N×46°.01E, h20km, MPVA3.4*
DRS ***29*** *05:11:19.5±0.0, 42°.15N×45°.99E, h15km, ML2.5/5*

ISC 29 05:11:17.8±1.0, **42°.14N**±0°.02×**45°.95E**±0°.02, **h9**km±9km, **n43**, σ**1s20**/83, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LGD	**Lagodekhi**	**0.37**	**144**	P	**Pg**	**05**	**11**	**25.2**	**+0.1**
LGD				S	**Sg**	**05**	**11**	**30.4**	**+0.3**
LGD	**Lagodekhi**	**0.37**	**144**	*e*Pg	**Pg**	**05**	**11**	**25.2**	**+0.1**
LGD				*e*Sg	**Sg**	**05**	**11**	**30.4**	**+0.3**
BTLR	**Botlikh**	**0.56**	**21**	*e*Pg	**Pg**	**05**	**11**	**28.9**	**+0.2**
BTLR				AML	AML	05	11	36.7	
	210nm,0.4s								
BTLR				*e*Sg	**Sg**	**05**	**11**	**36.9**	**+0.8**
XNZR	**Khunzakh**	**0.69**	**54**	*e*Pg	**Pb**	**05**	**11**	**31.7**	**-0.4**
	24nm,0.3s								
XNZR				*e*Sg	**Sb**	**05**	**11**	**41.3**	**-0.6**
	34nm,0.4s								
XNZR				AML	AML	05	11	41.5	
	88nm,0.4s								
SHTL	**Shatili**	**0.78**	**312**	P	**Pg**	**05**	**11**	**31.7**	**-1.2**
SHTL				S	**Sg**	**05**	**11**	**40.4**	**-2.7**
GNBR	**Gunib**	**0.79**	**71**	*i* Pg	**Pb**	**05**	**11**	**33.2**	**-0.6**
	76nm,0.4s								
GNBR				*e*Sg	**Sg**	**05**	**11**	**43.4**	**0.0**
	175nm,0.6s								
DVE	**Vedeno**	**0.83**	**9**	*e*Pg	**Pb**	**05**	**11**	**33.8**	**-0.6**
DVE				*e*Sg	**Sg**	**05**	**11**	**45.5**	**+0.9**
UNCR	**Uncukul**	**0.85**	**47**	*e*Pg	**Pb**	**05**	**11**	**34.5**	**-0.3**
	14nm,0.3s								
UNCR				*e*Sg	**Sb**	**05**	**11**	**45.3**	**-1.0**
	286nm,0.2s								
UNCR				AML	AML	05	11	46.4	
	153nm,0.6s								
KMKR	**Kumukh**	**0.86**	**90**	*i* Pg	**Pb**	**05**	**11**	**34.2**	**-0.7**
	6.0nm,0.0s								
KMKR				*e*Sg	**Sg**	**05**	**11**	**45.7**	**+0.3**
	26nm,0.2s								
KMKR				AML	AML	05	11	46.6	
	268nm,0.2s								
ARKR	**Arakani**	**0.90**	**59**	*e*Pg	**Pb**	**05**	**11**	**35.2**	**-0.4**
	1.0nm,0.5s								
ARKR				*e*Sg	**Sg**	**05**	**11**	**47.7**	**+0.8**
	86nm,0.2s								
KRNR	**Karanay**	**0.99**	**46**	*e*Pg	**Pb**	**05**	**11**	**37.0**	**-0.2**
	7.0nm,0.2s								
KRNR				*e*Sg	**Sb**	**05**	**11**	**49.6**	**-0.7**
	59nm,0.4s								
DLMR	**Dylym**	**1.06**	**28**	*e*Pg	**Pg**	**05**	**11**	**38.8**	**+0.7**
	23nm,0.2s								
DLMR				*e*Sg	**Sn**	**05**	**11**	**53.5**	**-0.2**
	212nm,0.3s								
GROC	**Groznyy**	**1.07**	**354**	*e*Pg	**Pg**	**05**	**11**	**39.5**	**+1.2**
	89nm,0.4s								
GROC				*e*Sg	**Sn**	**05**	**11**	**55.2**	**+1.2**
	29nm,0.2s								
DBC	**Dubki**	**1.09**	**36**	*e*Pg	**Pn**	**05**	**11**	**38.8**	**-0.6**
	9.0nm,0.1s								
DBC				*e*Sg	**Sb**	**05**	**11**	**53.1**	**-0.3**
	224nm,0.4s								
DBC				AML	AML	05	11	54.1	
	65nm,0.6s								
BUJR	**Buynaksk**	**1.10**	**51**	*i* Pg	**Pg**	**05**	**11**	**39.3**	**+0.5**
	75nm,0.2s								
BUJR				*e*Sg	**Sn**	**05**	**11**	**54.2**	**-0.6**
	93nm,0.6s								
PNSH	**Pansheti**	**1.10**	**297**	P	**Pb**	**05**	**11**	**37.8**	**-1.4**
PNSH				S	**Sb**	**05**	**11**	**50.0**	**-3.8**
GUDG	**Gudauri**	**1.14**	**287**	P	**Pn**	**05**	**11**	**38.2**	**-1.9**
GUDG				S	**Sb**	**05**	**11**	**52.9**	**-1.9**
KMGR	**Komgaron**	**1.22**	**319**	*e*Pg	**Pg**	**05**	**11**	**42.2**	**+1.0**
KMGR				*e*Sg	**Sg**	**05**	**11**	**60.0**	**+3.0**
URKR	**Urkarakh**	**1.25**	**88**	*e*Pg	**Pb**	**05**	**11**	**41.4**	**-0.3**
	34nm,0.4s								
URKR				*e*Sg	**Sg**	**05**	**11**	**58.1**	**0.0**
	43nm,0.4s								
LACR	**Lac**	**1.40**	**300**	*e*Pg	**Pn**	**05**	**11**	**43.7**	**0.0**
MAK	**Makhachkala**	**1.41**	**54**	*e*Pg	**Pb**	**05**	**11**	**43.8**	**-0.5**
MAK				*e*Sg	**Sb**	**05**	**12**	**01.5**	**-0.9**
AKT	**Akhty**	**1.49**	**116**	*e*Pg	**Pb**	**05**	**11**	**44.9**	**-0.8**
AKT				*e*Sg	**Sg**	**05**	**12**	**05.7**	**+0.2**
TRLG	**Trialeti**	**1.50**	**247**	P	**Pb**	**05**	**11**	**45.3**	**-0.7**
TRLG				S	**Sb**	**05**	**12**	**05.7**	**+0.4**
TRLG	**Trialeti**	**1.50**	**247**	*e*Pg	**Pb**	**05**	**11**	**45.3**	**-0.7**
TRLG				*e*Sg	**Sb**	**05**	**12**	**05.7**	**+0.4**
DMNI	**Dmanisi**	**1.54**	**239**	P	**Pn**	**05**	**11**	**45.3**	**-0.3**
DMNI				S	**Sb**	**05**	**12**	**06.7**	**+0.3**
ZEI	**Tsey**	**1.65**	**294**	*e*Pg	**Pb**	**05**	**11**	**48.3**	**-0.2**
ZEI				*e*Sg	**Sg**	**05**	**12**	**11.1**	**+0.3**
BRNG	**Burnasheti**	**1.67**	**253**	P	**Pb**	**05**	**11**	**48.2**	**-0.6**
BRNG				S	**Sg**	**05**	**12**	**10.8**	**-0.5**
KORR	**Kora**	**1.68**	**305**	*e*Pg	**Pb**	**05**	**11**	**49.6**	**+0.7**
KORR				*e*Sg	**Sg**	**05**	**12**	**13.1**	**+1.3**
ALIG	**Mtskhetisjvari**	**1.71**	**270**	P	**Pn**	**05**	**11**	**48.2**	**+0.3**
ALIG				S	**Sb**	**05**	**12**	**10.6**	**-0.5**
ALIG	**Mtskhetisjvari**	**1.71**	**270**	*e*Pg	**Pn**	**05**	**11**	**48.2**	**+0.3**
STDR	**Stavd-Durt**	**1.85**	**312**	*e*Pg	**Pn**	**05**	**11**	**50.3**	**+0.5**
STDR				*e*Sg	**Sg**	**05**	**12**	**17.6**	**+0.3**
ONI	**Oni**	**1.90**	**285**	P	**Pb**	**05**	**11**	**52.5**	**-0.3**
ONI				S	**Sb**	**05**	**12**	**18.1**	**+1.4**
ONI	**Oni**	**1.90**	**285**	*e*Pg	**Pb**	**05**	**11**	**52.5**	**-0.3**
ONI				*e*Sg	**Sb**	**05**	**12**	**18.1**	**+1.4**
DIGR	**Digorskoe uzhe**	**1.91**	**294**	*e*Pg	**Pb**	**05**	**11**	**52.5**	**-0.4**
DIGR				*e*Sg	**Sg**	**05**	**12**	**18.4**	**-0.7**
GNI	**Garni**	**2.19**	**205**	*e*Pg	**Pb**	**05**	**11**	**56.9**	**-0.7**
TKB	**Tkibuli**	**2.20**	**277**	P	**Pb**	**05**	**11**	**56.8**	**-1.0**
TKB				S	**Sb**	**05**	**12**	**25.6**	**+0.3**
TKB	**Tkibuli**	**2.20**	**277**	*e*Pn	**Pb**	**05**	**11**	**56.8**	**-1.0**
TKB				*e*Sn	**Sb**	**05**	**12**	**25.6**	**+0.3**
ABS	**Abastumani**	**2.37**	**262**	P	**Pn**	**05**	**11**	**58.3**	**+1.3**
ABS				S	**Sb**	**05**	**12**	**30.5**	**+0.3**
ABS	**Abastumani**	**2.37**	**262**	*e*Pn	**Pn**	**05**	**11**	**58.3**	**+1.3**
ABS				*e*Sn	**Sb**	**05**	**12**	**30.5**	**+0.3**
KBZ	**Khabaz**	**2.75**	**306**	*e*Pn	**Pb**	**05**	**12**	**07.8**	**+0.7**
KBZ				*e*Sn	**Sb**	**05**	**12**	**41.1**	**+0.3**
SHA1	**Shidzhatmaz**	**2.90**	**305**	*e*Pn	**Pn**	**05**	**12**	**06.1**	**+1.8**
SHA1				*e*Sn	**Sb**	**05**	**12**	**42.0**	**-3.5**
BEYR	**Belyy Ugol+**	**2.96**	**310**	*e*Pn	**Pn**	**05**	**12**	**06.4**	**+1.4**
BEYR				*e*Sn	**Sb**	**05**	**12**	**43.5**	**-3.5**
KIV	**Kislovodsk**	**3.00**	**308**	*e*Pn	**Pb**	**05**	**12**	**08.5**	**-3.0**
KIV				*e*Sn	**Sn**	**05**	**12**	**43.5**	**+1.7**

IDC 29 05:48:32.3±4.7, **24°.08S**×**177°.94W**, **h0**km, **mb4.3**/3, **mbtmp4.3**/3, **Error ellipse: s-maj=221.4km s-min=46.8km az=155.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CTA	**Charters Tower**	**33.36**	**270**	P	P	05	55	14.2	+1.8
	3.7nm,0.5s,baz=99,slow=13,SNR=8.2								
	3.7nm,0.5s								
ASAR	**Alice Springs**	**43.86**	**260**	P	P	05	56	40.2	-0.5
	1.4nm,0.7s,baz=98,slow=7.2,SNR=16								
	1.4nm,0.7s								
WRA	**Warramunga Arr**	**44.27**	**

DRLN	**Deer Lake**	**7.64**	**349**	PN	Pn	06 35 51.0	-1.4
DRLN				SN	Sn	06 37 12.7	-5.8
DRLN				Trac		06 37 19.6	
	comp=Z,118nm,1.9s						
ELNB	**Elgin, New Bru**	**8.20**	**303**	PN	Pn	06 35 59.1	-1.0
ELNB				SN	Sn	06 37 25.6	-6.6
ELNB				Trac		06 37 29.3	
	comp=Z,2.5nm,0.2s						
HKNB	**Havelock Quarr**	**8.40**	**303**	SN	Sn	06 37 30.7	-6.4
HKNB				Trac		06 37 35.7	
	comp=Z,4.2nm,0.2s						

*DJA **29** 06:36:49.8±0.5,9°S±6″×11°6E±°, h40km±26km, M4.4/12, mb4.5/4, MLv4.4/12*
*IDC **29** 06:36:54.8±8.0,9.21S×116°51E, h131km±73km, mb3.2/5, mbtmp3.7/6, Error ellipse: s-maj=74.5km s-min=16.5km az=65.0*
ISC 29 06:36:49.4±1.1,9°44S±0°10×116°37E±0°04, h72km±13km, n18, σ1°03/25, mb3.7/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TWSI	**Taliwang, Sumb**	**0.87**	**36**	P		**Pn**	**06 37 05.7**	**-0.7**
TWSI				S		**Sn**	**06 37 18.1**	**-0.9**
DNP	**Denpasar**	**1.37**	**304**	P		**Pn**	**06 37 13.2**	**+0.5**
DNP				S		**Sn**	**06 37 30.6**	**+0.3**
PLAI	**Plampang**	**1.52**	**66**	P		**Pn**	**06 37 15.1**	**+0.4**
PLAI				S		**Sn**	**06 37 33.6**	**-0.2**
JAGI	**Jajag, Banyuwa**	**2.39**	**294**	P		**Pn**	**06 37 26.4**	**0.0**
JAGI				S		**Sn**	**06 37 53.4**	**-1.3**
ABJI	**Asem Bagus**	**2.67**	**308**	P		**Pn**	**06 37 30.4**	**+0.3**
ABJI				S		**Sn**	**06 38 01.8**	**+0.3**
GMJI	**Gumukmas**	**3.11**	**292**	P		**Pn**	**06 37 35.9**	**-0.3**
BLJI	**Banyuglugur**	**3.22**	**301**	P		**Pn**	**06 37 38.5**	**+0.9**
BLJI				S		**Sn**	**06 38 15.8**	**+1.0**
BASI	**Baing, Sumba**	**4.22**	**101**	P		**Pn**	**06 37 51.5**	**+0.2**
GRJI	**Gresik**	**4.60**	**303**	P		**Pn**	**06 37 56.8**	**+0.4**
BSSI	**Bau Bau, Buton**	**5.24**	**52**	P		**Pn**	**06 38 06.8**	**+1.6**
	98nm,1.3s,0.5nm							
BKSI	**Bulukumba**	**5.54**	**43**	P		**Pn**	**06 38 10.5**	**+1.2**
	22nm,0.6s,0.1nm							
KAPI	**Kappang**	**5.54**	**38**	P		**Pn**	**06 38 10.9**	**+1.6**
	8.9nm,0.3s,baz=206,slow=8.3,SNR=12							
KAPI				S		**Sn**	**06 39 11.7**	**+0.2**
	9.3nm,0.3s,baz=50,slow=22,SNR=14							
UGM	**Wanagama**	**5.97**	**284**	P		**Pn**	**06 38 16.1**	**+0.8**
WRA	**Warramunga Arr**	**20.25**	**123**	P		**P**	**06 41 19.6**	**+0.5**
	1.4nm,0.8s,baz=301,slow=12,SNR=8.1							
	1.4nm,0.8s							
ASAR	**Alice Springs**	**21.93**	**132**	P		**P**	**06 41 38.0**	**+1.0**
	1.1nm,0.8s,baz=304,slow=8.9,SNR=18							
	1.1nm,0.8s							
STKA	**Stephens Creek**	**32.33**	**137**	P		**P**	**06 43 12.8**	**+1.0**
	1.3nm,0.6s,baz=328,slow=8.8,SNR=3.0							
	1.3nm,0.6s							
MKAR	**Makanchi Array**	**63.70**	**335**	P		**P**	**06 47 11.7**	**-1.6**
	0.4nm,0.6s,baz=138,slow=7.0,SNR=6.7							
	0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**68.56**	**341**	P		**P**	**06 47 42.1**	**-2.1**
	0.7nm,0.6s,baz=124,slow=2.6,SNR=2.9							
	0.7nm,0.6s							

*IDC **29** 06:39:31.9±4.8, 19°10S×65°18E, h0km, mb3.9/6, mbtmp3.9/6, MS3.3/11, Error ellipse: s-maj=142.0km s-min=31.8km az=60.0*
ISC 29 06:39:33.5±4.4, 19°1S±0°5×65°2E±0°8, h10km, n17, σ0°72/6, mb3.9/6, MS3.3/11, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
H08S1	**Diego Garcia H**	**13.41**	**33**	T		T	06 55 55.3	
	baz=211,slow=76,SNR=45							
H08S2	**Diego Garcia H**	**13.41**	**33**	T		T	06 55 56.2	
	baz=211,slow=76,SNR=35							
H08S3	**Diego Garcia H**	**13.43**	**33**	T		T	06 55 56.9	
	baz=211,slow=76,SNR=50							
LBTB	**Lobatse**	**37.08**	**254**	LR		LR	06 59 44.7	
	comp=Z,80nm,19.1s,baz=126,slow=33							
BOSA	**Boshof**	**37.59**	**248**	LR		LR	06 59 26.5	
	comp=Z,44nm,18.9s,baz=175,slow=32							
PSI	**Prapat**	**39.67**	**60**	LR		LR	07 00 18.7	
	comp=Z,53nm,19.2s,baz=227,slow=32							
SUR	**Sutherland**	**41.83**	**243**	LR		LR	07 02 51.5	
	comp=Z,38nm,21.6s,baz=144,slow=34							
LEM	**Lembang**	**42.98**	**79**	LR		LR	07 01 14.5	
	comp=Z,48nm,21.8s,baz=290,slow=30							
TSUM	**Tsumeb**	**44.86**	**262**	LR		LR	07 02 52.2	
	comp=Z,41nm,20.4s,baz=149,slow=31							
CMAR	**Chiang Mai Arr**	**49.91**	**44**	P		**P**	**06 48 27.5**	**-0.2**
	2.0nm,0.4s,baz=226,slow=7.7,SNR=1.9							
CMAR				LR		LR	07 05 59.8	
	comp=Z,22nm,21.8s,baz=65,slow=32							
	2.0nm,0.4s							
KAPI	**Kappang**	**54.93**	**83**	LR		LR	07 10 54.1	
	comp=Z,12nm,18.7s,baz=266,slow=34							
ASAR	**Alice Springs**	**63.60**	**107**	P		**P**	**06 50 05.0**	**-0.1**
	1.0nm,0.7s,baz=272,slow=5.7,SNR=12							
ASAR				LR		LR	07 13 48.5	
	comp=Z,62nm,20.8s,baz=271,slow=32							
	1.0nm,0.7s							
WRA	**Warramunga Arr**	**64.72**	**104**	P		**P**	**06 50 12.9**	**+0.4**
	1.9nm,0.9s,baz=263,slow=5.9,SNR=11							
WRA				LR		LR	07 15 23.5	
	comp=Z,58nm,18.8s,baz=249,slow=33							
	1.9nm,0.9s							
MKAR	**Makanchi Array**	**67.38**	**13**	P		**P**	**06 50 29.9**	**+1.0**
	0.6nm,1.0s,baz=214,slow=9.8,SNR=3.0							
	0.6nm,1.0s							
ZALV	**Zalesovo Beam**	**74.69**	**12**	P		**P**	**06 51 12.5**	**-0.5**
	0.5nm,0.5s,baz=207,slow=2.9,SNR=3.8							
	0.5nm,0.5s							
SONM	**Songino Array**	**76.17**	**27**	P		**P**	**06 51 21.7**	**-0.3**
	0.6nm,0.9s,baz=212,slow=5.3,SNR=3.5							
	0.6nm,0.9s							
KSRS	**Korea Array**	**81.50**	**46**	LR		LR	07 27 42.7	
	comp=Z,7.2nm,20.3s,baz=290,slow=36							

*DDA **29** 06:42:25.6±0.0,39°55N×26°13E, h8km±1km, ML1.6*
*ISK **29** 06:42:25.1,39°55N×26°09E, h10km, ML2.4/9*
ISC 29 06:42:25.1±0.9,39°56N±0°03×26°06E±0°06, h10km±7km, n13, σ0°89/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KOCA	**Canakkale, Ayv**	**0.09**	**131**	P		**Pg**	**06 42 27.4**	**-0.1**
KOCA				S		**Sg**	**06 42 28.8**	**-0.4**
KOCA				*i* AML		AML	06 42 29.0	
	comp=E,366nm,0.6s							
GPNR	**Gulpinar-Canak**	**0.12**	**149**	Pg		**Pg**	**06 42 28.1**	**+0.2**
GPNR				Sg		**Sg**	**06 42 30.3**	**+0.4**
BOZC	**Bozcaada**	**0.28**	**360**	Pg		**Pg**	**06 42 31.4**	**+0.6**
BOZC				Sg		**Sg**	**06 42 35.9**	**+1.3**
BOZC	**Bozcaada**	**0.28**	**360**	P		**Pg**	**06 42 28.3**	**-2.6**
BOZC				*i* AML		AML	06 42 36.0	
	comp=N,81nm,0.3s							
BOZC				S		**Sb**	**06 42 36.4**	**-0.8**
EZN	**Ezine**	**0.34**	**38**	Pg		**Pg**	**06 42 32.3**	**+0.5**
EZN				Sg		**Sg**	**06 42 37.1**	**+0.8**
SIGR	**SIGRI**	**0.38**	**204**	Pg		**Pg**	**06 42 33.2**	**+0.6**
SIGR				Sg		**Sb**	**06 42 38.9**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**0.42**	**64**	P		**Pg**	**06 42 33.2**	**-0.2**
BAYC				S		**Sg**	**06 42 38.4**	**-0.5**
ECEA	**Canakkale, Ece**	**0.49**	**11**	P		**Pn**	**06 42 39.1**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.90**	**21**	Pg		**Pb**	**06 42 43.1**	**+0.3**
CHOS	**Chios island**	**1.17**	**180**	Pn		**Pn**	**06 42 47.7**	**+0.1**
KRBG	**Karabiga-Canak**	**1.27**	**49**	Pn		**Pb**	**06 42 49.0**	**-0.1**
URLA	**Izmir**	**1.27**	**160**	Pn		**Pb**	**06 42 48.8**	**-0.3**
ALN	**Alexandroupoli**	**1.34**	**360**	Pn		**Pb**	**06 42 50.3**	**0.0**

*THE **29** 06:42:44.9, 39°57N×26°01E, h1km±2km, ML2.1/2, Error ellipse: s-maj=2.2km s-min=0.6km az=117.0*
*ISK **29** 06:42:44.7, 39°54N×26°13E, h5km, ML2.5/21*
*DDA **29** 06:42:44.3±0.0, 39°51N×26°12E, h12km, ML2.4*
*ATH **29** 06:42:45.6, 39°50N×26°15E, h15km±1km, ML2.3/3, Error ellipse: s-maj=4.1km s-min=1.0km az=268.0*
ISC 29 06:42:44.5±0.8, 39°52N±0°01×26°15E±0°02, h12km±5km, n56, σ0°90/82, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KOCA	**Canakkale, Ayv**	**0.02**	**210**	P		**Pg**	**06 42 46.9**	**+0.2**
KOCA				*i* AML		AML	06 42 48.0	
	comp=E,3μm,0.6s							
KOCA				S		**Sg**	**06 42 48.0**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.06**	**192**	Pg		**Pg**	**06 42 47.2**	**+0.2**
GPNR				Sg		**Sg**	**06 42 49.1**	**+0.3**
BOZC	**Bozcaada**	**0.33**	**347**	Pg		**Pg**	**06 42 51.5**	**+0.3**
BOZC				Sg		**Sg**	**06 42 55.8**	**0.0**
BOZC	**Bozcaada**	**0.33**	**347**	P		**Pg**	**06 42 51.4**	**+0.1**
BOZC				S		**Sg**	**06 42 55.8**	**0.0**
BOZC				*i* AML		AML	06 42 56.0	
	comp=N,408nm,0.3s							
EZN	**Ezine**	**0.34**	**24**	P		**Pg**	**06 42 51.7**	**+0.4**
EZN				S		**Sg**	**06 42 56.6**	**+0.8**
EZN	**Ezine**	**0.34**	**24**	Pg		**Pg**	**06 42 51.7**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.38**	**54**	P		**Pg**	**06 42 52.7**	**+0.6**
BAYC				S		**Sg**	**06 42 57.8**	**+0.6**
SIGR	**SIGRI**	**0.38**	**217**	P		**Pb**	**06 42 53.0**	**-0.2**
SIGR				S		**Sg**	**06 42 57.4**	**+0.1**
	410nm,0.3s							
SIGR	**SIGRI**	**0.38**	**217**	Pg		**Pb**	**06 42 52.8**	**-0.3**
SIGR	**SIGRI**	**0.38**	**217**	P		**Pb**	**06 42 52.9**	**-0.3**
SIGR				S		**Sb**	**06 42 58.4**	**-0.6**
SIGR				AML		AML	06 42 59.0	
	comp=N,959μm,0.7s							
SIGR				AML		AML	06 42 59.4	
	comp=E,695μm,0.2s							
AYVA	**Ayvalik**	**0.47**	**116**	P		**Pg**	**06 42 51.2**	**-2.5**
AYVA				S		**Sb**	**06 43 00.9**	**-0.6**
ECEA	**Canakkale, Ece**	**0.53**	**2**	S		**Sg**	**06 42 59.0**	**-2.8**
GADA	**Gvkgeada**	**0.70**	**344**	Pg		**Pb**	**06 42 58.5**	**-0.1**
BUHA	**Balikesir, Bur**	**0.72**	**91**	P		**Pb**	**06 42 59.5**	**+0.6**
BUHA				S		**Sb**	**06 43 09.3**	**+0.6**
DKL	**Dikili**	**0.74**	**127**	Pg		**Pn**	**06 43 00.2**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.91**	**16**	Pg		**Pn**	**06 43 02.8**	**-0.3**
LPK	**Lapseki**	**0.97**	**29**	Pg		**Pg**	**06 43 03.6**	**+0.3**
SMTH	**Samothraki Isl**	**1.06**	**334**	P		**Pb**	**06 43 03.2**	**-1.6**
SMTH				S		**Sb**	**06 43 17.3**	**-1.4**
SMTH	**Samothraki Isl**	**1.06**	**334**	P		**Pn**	**06 43 05.5**	**+0.3**
SMTH				S		**Sg**	**06 43 19.0**	**+0.1**
PSRA	**Psara**	**1.08**	**205**	P		**Pn**	**06 43 05.3**	**0.0**
PSRA				S		**Sg**	**06 43 19.4**	**+0.1**
PSRA				AML		AML	06 43 25.2	
	comp=E,389μm,0.2s							
PSRA				AML		AML	06 43 25.2	
	comp=N,554μm,0.3s							
CHOS	**Chios island**	**1.13**	**184**	P		**Pg**	**06 43 06.7**	**+0.4**
CHOS				S		**Sn**	**06 43 23.6**	**+1.9**
CHOS	**Chios island**	**1.13**	**184**	Pn		**Pg**	**06 43 06.3**	**0.0**
CHOS	**Chios island**	**1.13**	**184**	P		**Pb**	**06 43 05.7**	**-0.3**
BALY	**Balya**	**1.16**	**78**	P		**Pb**	**06 43 04.2**	**-2.3**
BALY				S		**Sn**	**06 43 22.9**	**+0.7**
ERIK	**Erikli-Kesan**	**1.18**	**13**	Pn		**Pb**	**06 43 06.8**	**-0.1**
URLA	**Izmir**	**1.21**	**163**	Pn		**Pg**	**06 43 07.7**	**0.0**
URLA	**Izmir**	**1.21**	**163**	P		**Pn**	**06 43 05.4**	**-1.8**
URLA				S		**Sg**	**06 43 23.7**	**+0.2**
ENEZ	**Enez**	**1.22**	**0**	Pn		**Pn**	**06 43 07.0**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.22**	**96**	P		**Pg**	**06 43 08.0**	**0.0**
STEP				S		**Sg**	**06 43 26.0**	**+2.1**
KRBG	**Karabiga-Canak**	**1.24**	**45**	Pn		**Pg**	**06 43 08.5**	**+0.1**
GONE	**Gonen-Balikesi**	**1.30**	**65**	Pn		**Pg**	**06 43 09.8**	**+0.4**
KNL	**Balıkesir**	**1.30**	**54**	P		**Pb**	**06 43 09.1**	**+0.3**
KNL				*i* AML		AML	06 43 22.0	
	comp=N,73nm,1.2s							
KNL				S		**Sb**	**06 43 22.8**	**-2.6**
ZEYE	**Izmir, Urla-Ze**	**1.31**	**168**	P		**Pn**	**06 43 06.7**	**-1.9**
ZEYE				S		**Sg**	**06 43 27.1**	**+0.5**
BLCB	**Balcova**	**1.33**	**148**	Pn		**Pg**	**06 43 10.7**	**+0.7**
BALB	**Balikesir**	**1.34**	**84**	Pn		**Pg**	**06 43 10.5**	**+0.2**
KESN	**Edirne-Kesan**	**1.37**	**17**	P		**Pb**	**06 43 10.0**	**-0.2**
KESN				S		**Sb**	**06 43 27.8**	**0.0**
KESN				*i* AML		AML	06 43 32.0	
	comp=N,74nm,0.2s							
ALN	**Alexandroupoli**	**1.38**	**357**	P		**Pn**	**06 43 09.4**	**-0.1**
ALN				S		**Sb**	**06 43 27.6**	**-0.2**
	comp=N,88nm,0.4s							
ALN	**Alexandroupoli**	**1.38**	**357**	Pn		**Pb**	**06 43 10.5**	**+0.3**
ALN	**Alexandroupoli**	**1.38**	**357**	P		**Pn**	**06 43 09.5**	**-0.1**
ALN				AML		AML	06 43 29.6	
	comp=E,206μm,0.4s							
ALN				AML		AML	06 43 29.8	
	comp=N,142μm,0.4s							
RKY	**Sarkoy-Tekirda**	**1.41**	**34**	Pn		**Pg**	**06 43 11.4**	**-0.2**
SART	**Tekirdag**	**1.41**	**34**	P		**Pb**	**06 43 10.8**	**0.0**
SART				S		**Sb**	**06 43 29.4**	**+0.6**
SART				*i* AML		AML	06 43 32.0	
	comp=N,54nm,0.3s							
THAS	**Thassos island**	**1.54**	**315**	P		**Pn**	**06 43 11.9**	**+0.1**
EDC	**Edincik**	**1.56**	**57**	Pn		**Pg**	**06 43 13.9**	**-0.5**
UKOP	**Uzunkopru-Edir**	**1.65**	**13**	Pn		**Pb**	**06 43 14.8**	**0.0**
RDO	**Rodhopi**	**1.69**	**344**	P		**Pn**	**06 43 13.4**	**-0.4**
RDO				S		**Sn**	**06 43 35.8**	**+0.4**
RDO	**Rodhopi**	**1.69**	**344**	Pn		**Pb**	**06 43 15.4**	**-0.1**
RDO	**Rodhopi**	**1.69**	**344**	P		**Pb**	**06 43 14.8**	**-0.7**
RDO				S		**Sn**	**06 43 35.4**	**0.0**
KYMI	**Kymi, Euboea I**	**1.82**	**242**	P		**Pn**	**06 43 15.5**	**-0.2**
SMG	**Samos**	**1.89**	**163**	P		**Pb**	**06 43 19.0**	**+0.2**
SMG				S		**Sg**	**06 43 45.8**	**+0.7**
SMG	**Samos**	**1.89**	**163**	P		**Pn**	**06 43 16.7**	**+0.2**
KAVA	**Kavala**	**1.94**	**320**	P		**Pn**	**06 43 17.0**	**-0.2**
KDZ	**Kurdzhali**	**2.20**	**346**	Pn		**Pb**	**06 43 22.8**	**-1.4**
ULDT	**Uludag**	**2.38**	**74**	S		**Sg**	**06 44 01.4**	**+0.3**
VIZE	**Kirklareli, Vi**	**2.43**	**31**	S		**Sb**	**06 43 57.4**	**-0.6**
NVR	**Nevrokopi**	**2.53**	**317**	P		**Pn**	**06 43 26.7**	**+1.3**
ARMN	**Kirklareli, Me**	**2.54**	**22**	P		**Pn**	**06 43 25.0**	**-0.4**
ARMN				S		**Sn**	**06 43 58.6**	**+2.3**

IDC 29 06:45:30.4±8.2, 31°20S×177°47W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=360.0km s-min=61.2km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
URZ	**Urewera**	**8.33**	**211**	Sn		Sn	06 48 49.0	-18
	1.7nm,0.3s,baz=255,slow=13,SNR=7.4							
ASAR	**Alice Springs**	**43.52**	**268**	P		P	06 53 35.8	-0.2
	0.3nm,0.5s,baz=107,slow=6.9,SNR=7.1							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**44.58**	**273**	P		P	06 53 44.5	0.0
	0.3nm,0.3s,baz=114,slow=7.7,SNR=4.9							
	0.3nm,0.3s							
FINES	**FINESS Array B**	**146.05**	**340**	PKPbc		PKPdf	07 05 10.7	0.0
	1.7nm,0.9s,baz=5.4,slow=4.5,SNR=4.2							

IDC 29 06:54:40.1±4.0, 48°54S×120°49E, h0km, mb3.7/3, mbtmp3.7/3, MS3.4/1, Error ellipse: s-maj=120.7km s-min=72.7km az=123.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
H01W1	**Cape Leeuwin H**	**14.43**	**339**	T		T	07 13 41.0	
	baz=160,slow=74,SNR=15							
H01W2	**Cape Leeuwin H**	**14.43**	**339**	T		T	07 13 40.4	
	baz=160,slow=74,SNR=11							
H01W3	**Cape Leeuwin H**	**14.44**	**339**	T		T	07 13 40.9	
	baz=160,slow=74,SNR=13							
STKA	**Stephens Creek**	**23.05**	**51**	P		P	06 59 47.1	+0.1
	0.7nm,0.3s,baz=224,slow=11,SNR=3.0							
	0.7nm,0.3s							
ASAR	**Alice Springs**	**27.00**	**28**	P		P	07 00 23.8	0.0
	0.9nm,0.8s,baz=199,slow=7.9,SNR=9.1							
	0.9nm,0.8s							
WRA	**Warramunga Arr**	**30.64**	**26**	P		P	07 00 56.0	-0.1
	0.9nm,0.9s,baz=200,slow=8.7,SNR=5.0							
	0.9nm,0.9s							
PSI	**Prapat**	**54.48**	**333**	LR		LR	07 27 42.6	
	comp=Z,30nm,18.1s,baz=270,slow=36							
YKA	**Yellowknife Ar**	**146.97**	**44**	PKPbc		PKPbc	07 14 22.6	-0.8
	0.2nm,0.5s,baz=266,slow=3.1,SNR=3.5							

IDC 29 07:54:27.8±54.0, 17°55S×179°79E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=970.8km s-min=161.8km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
STKA	**Stephens Creek**	**37.30**	**240**	P		P	08 01 41.6	-0.3
	0.4nm,0.2s,baz=86,slow=10,SNR=3.2							
	0.4nm,0.2s							
WRA	**Warramunga Arr**	**43.01**	**259**	P		P	08 02 29.9	+0.4
	0.3nm,0.4s,baz=92,slow=7.8,SNR=5.6							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**43.24**	**254**	P		P	08 02 30.8	-0.5
	1.4nm,0.6s,baz=89,slow=8.5,SNR=33							
	1.4nm,0.6s							

*IDC **29** 08:03:19.1±0.6,50°.18S×135°.82E, h0km, mb4.6/10, mbtmp4.6/11, ML4.3/1, MS4.7/46, Error ellipse: s-maj=34.2km s-min=15.3km az=83.0*
*NEIC **29** 08:03:19.9±1.1,50°.33S±0°.08×135°.2E±0°.1, h10km±1km, mb4.9/31, Error ellipse: s-maj=18.0km s-min=6.3km az=223.0*
*GCMT **29** 08:03:21.9±0.1,50°.26S±0°.01×135°.39E±0°.01, h12km, MW5.3/127, Moment Tensor Solution. s90,c141; s127,c232; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.41±.02; $M_{\theta\theta}$=1.02±.01; $M_{\phi\phi}$=-0.60±.02; $M_{r\theta}$=0.02±.04; $M_{r\phi}$=0.77±.01; $M_{\theta\phi}$=-0.27±.04; Best double couple: M_0=1.17700×10^{17} NP1:ϕ_s=26.00000°, δ76.00000°, λ=-161.00000°. NP2:ϕ_s=291.00000°, δ72.00000°, λ=-15.00000°. Principal axes: T 1.3320, Plg3.0000°, Azm158.0000°; N -0.3060, Plg67.0000°, Azm61.0000°; P -1.0230, Plg23.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 08:03:20.6±0.4, 50°.37S±0°.06×135°.34E±0°.07, h10km, n202, σ1°54/162, mb4.9/40, MS4.8/57, 2C-6D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MOO	**Moorlands**	**11.38**	**50**	P		**Pn**	**08 06 06.0**	**+2.8**
	baz=11,SNR=3.9							
CORO	**Coronation Par**	**12.12**	**47**	P		**Pn**	**08 06 16.8**	**+3.6**
BRAT	**Ballarat**	**14.21**	**29**	P		**Pn**	**08 06 44.3**	**+2.5**
ARPS	**Mount Arapiles**	**14.38**	**21**	P		**Pn**	**08 06 43.2**	**-0.9**
	baz=14,SNR=38							
ARPS	**Mount Arapiles**	**14.38**	**21**	P		**Pn**	**08 06 44.2**	**+0.1**
TOO	**Toolangi**	**14.71**	**33**	P		**Pn**	**08 06 49.6**	**+0.9**
	baz=14,SNR=6.0							
TOO	**Toolangi**	**14.71**	**33**	Pn		**Pn**	**08 06 47.7**	**-1.0**
TOO	**Toolangi**	**14.71**	**33**	P		**Pn**	**08 06 48.8**	**+0.1**
MILA	**Mila**	**16.60**	**42**	P		**P**	**08 07 15.5**	**-0.4**
	baz=16,SNR=5.2							
MILA	**Mila**	**16.60**	**42**	P		**P**	**08 07 17.0**	**+1.1**
AUSMG	**Snowy Mountain**	**16.91**	**40**	P		**Pn**	**08 07 17.3**	**-0.1**
HTT	**Hallett**	**17.13**	**10**	P		**Pn**	**08 07 17.6**	**-2.5**
	baz=16,SNR=8.5							
HTT	**Hallett**	**17.13**	**10**	P		**Pn**	**08 07 17.8**	**-2.2**
WHYH	**Whyalla**	**17.40**	**6**	P		**Pn**	**08 07 22.7**	**-0.6**
BBOO	**Buckleboo**	**17.55**	**2**	P		**Pn**	**08 07 25.6**	**+0.3**
	baz=17,SNR=21							
BBOO	**Buckleboo**	**17.55**	**2**	P		**Pn**	**08 07 23.0**	**-2.2**
BBOO				IAmb		IAmb	08 07 31.9	
	comp=Z,94nm,1.1s							
BBOO	**Buckleboo**	**17.55**	**2**	P		**P**	**08 07 26.3**	**0.0**
CAN	**Canberra**	**18.02**	**39**	P		**Pn**	**08 07 30.5**	**-0.7**
CNB	**Canberra Magne**	**18.18**	**39**	P		**P**	**08 07 36.3**	**+3.0**
AUUHS	**Ulladulla High**	**18.60**	**42**	P		**Pn**	**08 07 40.3**	**+2.2**
STKA	**Stephens Creek**	**19.05**	**17**	P		**P**	**08 07 41.2**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=185,slow=16,SNR=30							
STKA				LR		LR	08 13 53.7	
	comp=Z,4μm,19.9s,baz=191,slow=34							
	comp=Z,15nm,0.8s							
STKA	**Stephens Creek**	**19.05**	**17**	P		**P**	**08 07 42.5**	**-0.3**
	baz=18,SNR=36							
STKA	**Stephens Creek**	**19.05**	**17**	P		**P**	**08 07 41.8**	**-1.1**
STKA	**Stephens Creek**	**19.05**	**17**	P		**P**	**08 07 42.2**	**-0.7**
MULG	**Mulgathing**	**20.09**	**357**	P		**P**	**08 07 53.4**	**-0.7**
FORT	**Forrest**	**20.31**	**342**	P		**P**	**08 07 56.4**	**-0.2**
	baz=20,SNR=17							
FORT	**Forrest**	**20.31**	**342**	P		**P**	**08 07 55.3**	**-1.3**
FORT				IAmb		IAmb	08 08 03.8	
	comp=Z,64nm,0.8s							
FORT	**Forrest**	**20.31**	**342**	P		**P**	**08 07 56.4**	**-0.2**
CMSA	**Cobar Meteorol**	**20.34**	**26**	P		**P**	**08 07 57.4**	**+0.5**
	baz=20,SNR=12							
CMSA	**Cobar Meteorol**	**20.34**	**26**	P		Pn	08 07 58.2	-0.7
CASY	**Casey**	**20.35**	**209**	P		**P**	**08 07 53.9**	**-2.9**
AUDCS	**Dubbo College**	**20.63**	**34**	P		Pn	08 08 02.0	-0.4
KMBL	**Kumbalda**	**21.47**	**327**	P		**P**	**08 08 09.8**	**+0.6**
H01W1	**Cape Leeuwin H**	**21.84**	**307**	T		T	08 30 42.0	
	baz=140,slow=75,SNR=97							
H01W2	**Cape Leeuwin H**	**21.84**	**307**	T		T	08 30 38.3	
	baz=140,slow=75,SNR=90							
H01W3	**Cape Leeuwin H**	**21.86**	**307**	T		T	08 30 44.4	
	baz=140,slow=75,SNR=72							
NWAO	**Narrogin (SRO)**	**21

WRA Warramunga Arr 30.37 358 P **P** **08 09 30.5 -2.1**
WRAB Tennant Creek 30.38 358 P **P** **08 09 30.7 -1.9**
WRAB IAmb IAmb 08 09 34.4
comp=Z,21nm,0.7s
WRAB Tennant Creek 30.38 358 P **P** **08 09 30.9 -1.8**
WB0 Warramunga Arr 30.54 358 P **P** **08 09 32.2 -2.0**
WB0 IAmb IAmb 08 09 35.7
comp=Z,13nm,0.7s
PSA00 Pilbara Seismi 31.22 331 P **P** **08 09 37.3 -2.8**
CTA Charters Tower 31.43 20 LR LR 08 21 53.8
comp=Z,2µm,18.7s,baz=196,slow=36
RTZ Ruatahuna 31.54 84 P **P** **08 09 42.1 -0.8**
RTZ IAmb IAmb 08 09 54.0
comp=Z,26nm,0.9s
URZ Urewera 31.83 84 LR LR 08 21 10.8
comp=Z,1µm,18.8s,baz=314,slow=34
KNRA Kununurra 35.01 349 P **P** **08 10 11.8 -1.3**
baz=34,SNR=5.7
KNRA Kununurra 35.01 349 P **P** **08 10 11.9 -1.3**
KNRA IAmb IAmb 08 10 13.9
comp=Z,27nm,1.2s
KNRA Kununurra 35.01 349 P **P** **08 10 12.3 -0.9**
OUENC Ouen Island, N 37.21 53 P **P** **08 10 30.8 -1.2**
DZM Mont Dzumac 37.29 52 *e*S **S** **08 16 20.4 +0.1**
comp=Z,197nm,29.4s
DZM *e*LR LR 08 20 36.2
comp=Z,3µm,27.1s
DZM Mont Dzumac 37.29 52 LR LR 08 22 15.7
comp=Z,1µm,21.8s,baz=213,slow=31
DZM Mont Dzumac 37.29 52 P **P** **08 10 31.9 -0.9**
DZM IAmb IAmb 08 10 35.3
comp=Z,48nm,1.5s
YATNC Mamie plateau, 37.53 53 P **P** **08 10 36.8 +2.1**
MTN Manton Dam 37.58 353 P **P** **08 10 34.2 -0.9**
MTN Manton Dam 37.58 353 P **P** **08 10 34.7 -0.4**
KDU Kakadu 37.65 355 P **P** **08 10 34.4 -1.3**
MAW Mawson 38.43 216 LR LR 08 23 34.7
comp=Z,1µm,21.2s,baz=90,slow=31
QSPA South Pole Qui 39.75 180 P **P** **08 10 54.7 +1.6**
comp=Z,5.5nm,0.8s,baz=335,slow=4.2,SNR=18
QSPA LR LR 08 26 32.7
comp=Z,4µm,21.7s,baz=358,slow=35
comp=Z,5.5nm,0.8s
QSPA South Pole Qui 39.75 180 P **P** **08 10 52.1 -1.0**
RAO Raoul Island 40.81 77 LR LR 08 24 43.0
comp=Z,2µm,19.1s,baz=157,slow=32
BATI Baumata 41.19 342 LR LR 08 28 37.8
comp=Z,2µm,18.9s,baz=190,slow=37
PMG Port Moresby 41.99 18 LR LR 08 26 57.1
comp=Z,1µm,21.3s,baz=195,slow=34
HNR Honiara 45.61 35 LR LR 08 27 44.3
comp=Z,6µm,21.0s,baz=203,slow=32
KAPI Kappang 47.06 339 P **P** **08 11 52.6 +0.3**
comp=Z,22nm,0.9s,baz=201,slow=12,SNR=3.7
KAPI LR LR 08 30 29.7
comp=Z,1µm,21.3s,baz=146,slow=35
comp=Z,22nm,0.9s
MSVF Nonsavu 47.08 62 LR LR 08 27 28.2
comp=Z,668nm,20.7s,baz=198,slow=31
MSVF Nonsavu 47.08 62 P **P** **08 11 52.0 -0.7**
FAKI Fak Fak 47.35 356 P **P** **08 11 54.3 -0.3**
comp=Z,26nm,1.3s
NLAI Namlea 47.47 349 P **P** **08 11 55.1 -0.5**
comp=Z,15nm,1.1s,comp=Z,5µm
KRVT Keravat (AS076 48.01 23 LR LR 08 30 28.9
comp=Z,443nm,19.9s,baz=319,slow=34
SPSI Sidrap Palu 48.07 339 P **P** **08 12 00.2 0.0**
comp=Z,16nm,1.1s,comp=Z,2µm
ELIB Princess Elisa 49.08 202 *d*x x 08 12 11.4
SlJI Sorong 49.44 355 LR LR 08 33 25.2
comp=Z,847nm,21.7s,baz=202,slow=37
BBKI Banjar Baru 49.84 333 P **P** **08 12 13.6 -0.2**
comp=Z,44nm,0.6s,comp=Z,12µm
SBJI Serang 50.42 321 P **P** **08 12 16.9 -1.3**
comp=Z,116nm,0.8s,comp=Z,8µm
BELA Belgrano 2 51.88 183 P **P** **08 12 28.5 +0.1**
BELA IAmb IAmb 08 12 31.6
comp=Z,8.0nm,0.9s
MDSI Maura Dua 52.70 320 P **P** **08 12 33.7 -1.5**
comp=Z,16nm,1.0s,comp=Z,2µm
MDSI pP **pwP** **08 12 47.3 +5.9**
comp=Z,16nm,1.0s,comp=Z,2µm
TOLI2 Tolitoli 52.77 342 P **P** **08 12 34.2 -1.6**
TOLI2 IAmb IAmb 08 12 38.5
comp=Z,25nm,1.0s
TROLL Troll, Antarti 53.50 196 P **P** **08 12 42.7 +2.0**
SNAA Sanae 54.72 195 P **P** **08 12 51.8 +2.3**
SNAA Sanae 54.72 195 LR LR 08 36 32.3
comp=Z,935nm,18.1s,baz=147,slow=36
SNAA Sanae 54.72 195 P **P** **08 12 48.0 -1.5**
MASI Maura Aman, Be 54.72 318 P **P** **08 12 47.5 -2.6**
comp=Z,30nm,2.0s
AFI Afiamalu 56.03 69 LR LR 08 31 53.6
comp=Z,476nm,21.9s,baz=206,slow=31
VNA2 Neumayer--Watz 56.10 194 P **P** **08 13 01.3 +1.9**
baz=153,slow=8.0
VNA3 Neumayer Olymp 56.15 193 P **P** **08 13 00.4 +0.6**
SDSI Sungai Dareh 57.05 318 P **P** **08 13 05.9 -0.9**
comp=Z,7.8nm,0.6s,comp=Z,2µm
DAV Davao City (W) 57.83 349 LR LR 08 38 53.2
comp=Z,441nm,21.2s,baz=150,slow=37
RAR Rarotonga 58.01 85 LR LR 08 35 04.0
comp=Z,261nm,19.0s,baz=260,slow=33
GSI Gunungsitoli 60.74 315 P **P** **08 13 31.7 -0.7**
PSI Prapat 61.48 318 LR LR 08 36 25.8
comp=Z,632nm,21.5s,baz=136,slow=32
IPM Ipoh 62.11 321 P **P** **08 13 40.4 -1.2**
IPM IAmb IAmb 08 13 48.2
comp=Z,18nm,1.1s
KULM Kulim 63.00 321 P **P** **08 13 47.6 0.0**
PMSA Palmer Station 64.21 171 LR LR 08 38 30.3
comp=Z,847nm,21.8s,baz=150,slow=33
GUMO Guam 64.23 10 LR LR 08 44 13.1
comp=Z,281nm,18.1s,baz=184,slow=38
H08S2 Diego Garcia H 66.97 287 T T 09 26 59.7
baz=142,slow=76,SNR=8.0
H08S1 Diego Carcia H 66.98 287 T T 09 27 12.0
baz=142,slow=76,SNR=4.6
H08S3 Diego Garcia H 66.99 287 T T 09 27 07.6
baz=142,slow=76,SNR=8.7
PPT2 Papeete2 67.18 90 *e*S **S** **08 23 09.2 -0.3**
comp=Z,190nm,24.2s
PPT2 Papeete2 67.18 90 *e*LR LR 08 34 27.0
comp=Z,620nm,31.5s
PPT2 *e*LR LR 08 34 27.8
comp=Z,603nm,22.5s
PPT Papeete 67.19 90 LR LR 08 37 33.4
comp=Z,376nm,18.6s,baz=250,slow=31
QIZ Qiongzhong 72.67 335 P **P** **08 14 48.5 +0.2**
QIZ S **S** **08 24 15.0 +1.6**
QIZ LR LR
comp=Z,360nm,13.1s
QIZ LR LR
comp=Z,420nm,20.8s
USHA Ushuaia 73.30 166 LR LR 08 43 23.5
comp=Z,821nm,19.6s,baz=218,slow=33
OPO Ambohidratompo 74.77 259 LR LR 08 41 33.9
comp=Z,366nm,18.7s,baz=5.0,slow=31
CMAR Chiang Mai Arr 75.66 324 P **P** **08 15 06.5 +0.7**
comp=Z,1.5nm,0.4s,baz=177,slow=5.4,SNR=12
CMAR LR LR 08 47 11.9
comp=Z,498nm,20.5s,baz=165,slow=35
comp=Z,1.5nm,0.4s
CMAR Chiang Mai Arr 75.66 324 P **P** **08 15 06.0 +0.2**
CHTO Chiang Mai 75.99 325 P **P** **08 15 07.2 -0.5**
CHTO IAmb IAmb 08 15 15.9
comp=Z,7.0nm,1.1s
JOW Kunigami 77.11 354 LR LR 08 48 55.6
comp=Z,337nm,20.2s,baz=90,slow=36
JCJ Chichijima 77.36 6 LR LR 08 47 01.3
comp=Z,317nm,21.1s,baz=161,slow=34
SUR Sutherland 79.37 232 LR LR 08 42 44.3
comp=Z,556nm,21.9s,baz=156,slow=30
TAOE Nuku Hiva Isla 79.75 91 *e*LR LR 08 40 17.0
comp=Z,609nm,23.1s
BOSA Boshof 80.06 237 P **P** **08 15 32.5 +1.9**
comp=Z,3.7nm,0.9s,baz=198,slow=6.4,SNR=4.3
BOSA LR LR 08 45 47.9
comp=Z,262nm,18.2s,baz=176,slow=32
comp=Z,3.7nm,0.9s
KMI Kunming 80.51 330 ⇓P **P** **08 15 32.3 -0.6**
KMI pP pP 08 15 35.5 +0.3
KMI S **S** **08 25 39.8 +0.2**
KMI SS **SS** **08 30 52.0 -0.5**
KMI pmax pmax
comp=Z,9.0nm,1.2s
KMI pmax pmax
comp=Z,180nm,5.4s
KMI LR LR
comp=Z,360nm,19.2s
KMI LR LR
comp=Z,350nm,15.5s
KMI LR LR
comp=Z,810nm,27.7s
GYA Guiyang 80.60 334 P **P** **08 15 32.5 -0.7**
GYA S **S** **08 25 45.0 +4.8**
GYA pmax pmax
comp=Z,82nm,10.6s
GYA LR LR
comp=Z,530nm,25.5s
PZH PanZhiHua 82.12 330 P **P** **08 15 42.8 +1.5**
PZH S **S** **08 25 59.3 +3.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.2s
PZH LR LR
comp=Z,1µm,21.8s
PZH LR LR
comp=Z,610nm,21.0s
PZH LR LR
comp=Z,2µm,24.1s
LBTB Lobatse 82.72 239 LR LR 08 47 34.0
comp=Z,412nm,18.4s,baz=145,slow=32
JHJ Hachijo jima 2 83.21 4 LR LR 08 50 05.6
comp=Z,679nm,21.9s,baz=198,slow=34
JNU Nakatsue 83.22 356 LR LR 08 51 49.5
comp=Z,282nm,20.6s,baz=161,slow=35
NJ2 Nanjing 83.35 346 *e*P **P** **08 15 48.0 +0.7**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
RPN Rapa Nui 84.02 126 LR LR 08 45 57.6
comp=Z,344nm,19.3s,baz=218,slow=30
CD2 Chengdu 85.62 333 *e*P **P** **08 15 59.0 0.0**
PLCA Paso Flores 86.48 161 LR LR 08 51 40.6
comp=Z,151nm,18.1s,baz=182,slow=34
MJAR Matsushiro Arr 86.57 2 P **P** **08 16 02.5 -1.0**
comp=Z,1.4nm,0.9s,baz=159,slow=6.6,SNR=4.9
MJAR LR LR 08 52 27.1
comp=Z,330nm,21.0s,baz=144,slow=34
comp=Z,1.4nm,0.9s
LYN LuoYang 86.94 341 ⇓P **P** **08 16 06.0 +0.7**
LYN S **S** **08 26 43.0 -0.4**
LYN LR LR
comp=Z,190nm,21.4s
LYN LR LR
comp=Z,170nm,16.3s
LYN LR LR
comp=Z,430nm,33.3s
XAN Xi'an 87.23 338 ⇑P **P** **08 16 08.5 +1.7**
XAN pP pwP 08 16 15.8 +2.7
XAN pmax pmax
comp=Z,3.0nm,1.0s
KSAR Wonju Array Be 87.68 354 P **P** **08 16 08.2 -0.6**
KSRS Korea Array 87.69 354 P **P** **08 16 07.9 -0.9**
comp=Z,1.9nm,0.9s,baz=183,slow=4.9,SNR=5.5
KSRS LR LR 08 55 19.4
comp=Z,98nm,20.1s,baz=170,slow=36
comp=Z,1.9nm,0.9s
HNS HongShan 89.27 344 ⇑P **P** **08 16 17.8 +1.5**
HNS S **S** **08 27 09.0 +3.6**
HNS pmax pmax
comp=Z,4.0nm,1.1s
HNS LR LR
comp=Z,330nm,18.3s
HNS LR LR
comp=Z,260nm,23.5s
LZH Lanzhou 90.46 335 *e*P **P** **08 16 25.3 +3.1**
LZH pP pwP 08 16 29.8 +1.4
LZH S **S** **08 27 15.5 -1.5**
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=Z,2µm,15.8s
LZH LR LR
comp=Z,350nm,14.6s
LZH LR LR
comp=Z,1µm,18.2s
TSUM Tsumeb 91.76 237 LR LR 08 50 19.4
comp=Z,297nm,22.0s,baz=153,slow=31
HHC Hu-ho-hao-te 93.20 342 *e*P **P** **08 16 34.3 -0.4**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,200nm,4.8s
HHC LR LR
comp=Z,550nm,21.6s
HHC LR LR
comp=Z,620nm,21.4s
USRK Ussuriysk Ar. 94.23 358 LR LR 08 57 21.8
comp=Z,402nm,21.3s,baz=185,slow=34
ASAJ Asahikawa 94.31 5 LR LR 08 58 43.3
comp=Z,81nm,19.3s,baz=202,slow=35
XLT XiLinHaoTe 95.37 346 *e*P **P** **08 16 45.5 +1.0**
XLT pmax pmax
comp=Z,3.0nm,1.6s
XLT pmax pmax
comp=Z,170nm,4.8s
XLT LR LR
comp=Z,24nm,17.9s
XLT LR LR
comp=Z,240nm,16.2s
XLT LR LR
comp=Z,360nm,20.0s
MBAR Mbarara 98.82 258 LR LR 08 54 20.6
comp=Z,521nm,21.6s,baz=104,slow=31
KLR Kul'dur 99.26 358 LR LR 08 58 59.5
comp=Z,317nm,21.9s,baz=202,slow=34
WMQ Urumqi 102.57 327 *e*P **Pdif** **08 17 18.0 +1.2**
WMQ LR LR
comp=Z,370nm,18.9s
TORD Torodi Ar. Bea 127.17 242 PKP **PKiKP** **08 22 26.6 +0.9**
comp=Z,0.2nm,0.5s,baz=143,slow=0.7,SNR=4.2
NVAR Mina Array Bea 128.10 73 PKP **PKPdf** **08 22 26.0 -0.6**
comp=Z,0.9nm,0.8s,baz=221,slow=4.8,SNR=6.1
ILAR Eielson Array 129.48 33 PKP **PKPdf** **08 22 27.4 -0.7**
comp=Z,0.5nm,0.9s,baz=253,slow=4.1,SNR=4.2
TXAR Lajitas Array 131.48 93 PKP **PKPdf** **08 22 32.8 -0.4**
comp=Z,0.8nm,0.9s,baz=180,slow=3.3,SNR=6.9
AKASG Malin Array Be 134.89 300 PKP **PKPdf** **08 22 39.5 +0.8**
comp=Z,0.3nm,0.5s,baz=95,slow=2.6,SNR=4.6
PDAR Pinedale Array 136.03 74 PKP **PKPdf** **08 22 41.4 -0.1**
comp=Z,0.1nm,0.4s,baz=212,slow=3.2,SNR=2.3
ARSA Arzbo **141.18 289** PKP **PKPdf** **08 22 51.0 +0.5**
comp=Z,4.2nm,1.2s
YKA Yellowknife Ar 141.46 44 PKP **PKPdf** **08 22 47.5 -3.0**
comp=Z,0.9nm,0.8s,baz=248,slow=2.7,SNR=11
DPC Dobruska-Polom 142.06 294 *e*PKP **PKPdf** **08 22 48.9 -3.1**
CKRC Cesky Krumlov 142.61 291 *e*PKP **PKPdf** **08 22 51.4 -1.6**
ARCES ARCESS Array B 142.69 327 PKP **PKPdf** **08 22 50.5 -2.0**
comp=Z,4.5nm,0.9s,baz=98,slow=3.9,SNR=2.0
GERES GERESS Array B 142.98 291 PKhKP PKPpre 08 22 49.8
comp=Z,2.4nm,0.9s,baz=131,slow=3.0,SNR=16
KHC Kasperske Hory 143.18 291 *e*PKP PKPab 08 22 50.5 +0.8
SQTA Sankt Quirin 143.79 287 *e*PKP PKPbc 08 22 54.3 +1.4
comp=Z,6.5nm,1.2s
MOTA Moosalm 143.91 287 *e*PKP PKPbc 08 22 54.7 +1.4
comp=Z,5.5nm,1.0s
FETA Feichten 144.00 287 *e*PKP PKPbc 08 22 54.9 +1.3
comp=Z,6.7nm,1.1s
RETA Reutte 144.18 287 *e*PKP PKPbc 08 22 54.8 +0.7
comp=Z,5.9nm,0.9s
NKC Novy Kostel 144.29 292 *e*PKP **PKPdf** **08 22 57.8 +1.9**
CLL Collm 144.38 294 *i* PKPdf PKPbc 08 22 55.1 +0.7
comp=Z,11nm,0.9s
CLL *i* PKiKP **PKiKP** **08 23 00.1 +0.5**
CLL *i* sPKiKP sPKiKP 08 23 05.0 +2.2
CLL *e*PKSdf **PKSdf** **08 26 31.0 -0.3**
CLL *e*SS SS 08 45 00.0 +1.3
CLL *e*SSS SSS 08 50 12.0
CLL *e*x x 08 52 06.0
CLL *e*SSSS 08 54 00.0
DAVA Damuels 144.63 287 *e*PKP **PKPab** **08 22 55.3 -0.1**
comp=Z,16nm,0.9s
GRF Grafenberg Ar 144.81 291 *e*PKPab **PKPdf** **08 22 57.6 +0.8**
baz=113,slow=4.5
GRF *e*L L 09 24 36.1
comp=Z,151nm,19.9s
NOR Nord 147.44 353 *i* P **PKPbc** **08 23 03.3 +0.3**
NB2 NORSAR Subarra 147.75 311 PKP **PKPdf** **08 23 01.7 +0.2**
comp=Z,21nm,1.4s,baz=80,slow=3.8
NOA NORSAR Array B 147.75 311 PKPbc **PKPbc** **08 23 04.3 0.0**
comp=Z,5.9nm,1.0s,baz=89,slow=4.0,SNR=5.7
ULM Lac du Bonnet 147.82 70 PKPbc **PKPdf** **08 23 02.2 +0.3**
comp=Z,2.2nm,0.5s,baz=256,slow=2.8,SNR=4.8
RCHB Rochefort 148.59 289 *d*PKP **PKiKP** **08 23 08.7 +0.4**
BCLA Clavier 148.63 290 *d*PKP **PKiKP** **08 23 09.2 +0.9**
DOU Dourbes 148.95 289 *d*PKP **PKiKP** **08 23 09.4 +0.4**
ESDC Sonseca Array 149.66 265 PKPbc **PKPbc** **08 23 10.4 +0.5**
comp=Z,3.4nm,1.0s,baz=88,slow=1.3,SNR=9.9
DAG Danmarks Havn 151.63 348 *i* P **PKPbc** **08 23 13.0 -0.4**
NEEM North Greenlan 152.71 3 *i* P **PKPbc** **08 23 16.1 -0.2**

*NEIC **29** 08:07:48.1±1.2,5.°91S±0.°09×147.°8E±0.°1,h10km±1km, mb4.1/17, Error ellipse: s-maj=23.5km s-min=3.2km az=130.0*
*IDC **29** 08:07:52.6±2.0,6.°00S×147.°93E,h59km±19km, mb3.6/8, mbtmp3.9/12, ML3.8/3, Error ellipse: s-maj=27.6km s-min=9.5km az=124.0*
ISC 29 08:07:52.6±0.5,5.°97S±0.°07×147.°88E±0.°08,h60km,n43, σ1s17/47,mb3.8/12,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.49**	**192**	P	**Pn**	**08 08 44.0**	**-0.5**
	183nm,0.6s,baz=2.8,slow=7.3,SNR=64						
PMG				S	**Sn**	**08 09 26.2**	**+1.6**
	91nm,0.4s,baz=132,slow=2.2,SNR=5.4						
PMG	**Port Moresby**	**3.49**	**192**		**Pn**	**08 08 43.9**	**-0.5**
KRVT	**Keravat (AS076**	**4.45**	**68**	P	**Pn**	**08 08 56.9**	**-0.8**
	1.1nm,0.3s,baz=116,slow=20,SNR=1.0						
KRVT				S	**Sn**	**08 09 47.4**	**-0.7**
	45nm,0.8s,baz=86,slow=22,SNR=0.9						
	15nm,0.5s						
RABL	**Rabaul**	**4.62**	**68**		**Pn**	**08 08 59.7**	**-0.2**
COEN	**Coen**	**9.19**	**210**	Pn	**Pn**	**08 10 00.1**	**-2.5**
COEN	**Coen**	**9.19**	**210**	P	**Pn**	**08 10 01.4**	**-1.2**
CTA	**Charters Tower**	**14.13**	**186**	P	**Pn**	**08 11 08.6**	**-1.3**
	0.2nm,0.3s,baz=3.8,slow=18,SNR=1.5						
	3.8nm,0.9s						
QIS	**Mount Isa**	**16.58**	**208**	P	**Pn**	**08 11 40.7**	**-0.6**
MTN	**Manton Dam**	**17.87**	**246**		**Pn**	**08 11 55.2**	**-2.0**
MTN				IAmb	IAmb	08 11 59.4	
	comp=Z,14nm,1.1s						
WB0	**Warramunga Arr**	**18.98**	**222**	P	**P**	**08 12 08.0**	**-1.4**
WB0				IAmb	IAmb	08 12 13.2	
	comp=Z,7.8nm,0.8s						
WR0	**Warramunga Arr**	**19.01**	**222**	P	**P**	**08 12 08.7**	**-1.0**
WR0				IAmb	IAmb	08 12 11.8	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**19.12**	**222**	P	**P**	**08 12 09.5**	**-1.4**
WRAB	**Tennant Creek**	**19.12**	**222**	P	**P**	**08 12 09.5**	**-1.4**
WB2	**Warramunga Arr**	**19.13**	**222**	P	**P**	**08 12 10.1**	**-0.9**
WB2				IAmb	IAmb	08 12 29.1	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**19.14**	**222**	P	**P**	**08 12 09.9**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=49,slow=11,SNR=22						
	comp=Z,2.5nm,0.4s						
WRA	**Warramunga Arr**	**19.14**	**222**	P	**P**	**08 12 07.3**	**-3.8**
EIDS	**Eidsvold**	**19.54**	**171**	P	**Pn**	**08 12 16.8**	**-0.4**
EIDS				IAmb	IAmb	08 12 18.0	
	comp=Z,5.2nm,0.6s						
QLP	**Quilpie**	**20.80**	**189**	P	**P**	**08 12 29.9**	**+0.9**
KNRA	**Kununurra**	**21.09**	**241**	P	**P**	**08 12 31.4**	**-0.9**
KNRA				IAmb	IAmb	08 12 56.2	
	comp=Z,9.2nm,0.8s						
KNRA	**Kununurra**	**21.09**	**241**	P	**P**	**08 12 31.5**	**-0.8**
AS31	**Alice Springs**	**22.15**	**216**	P	**P**	**08 12 43.3**	**-0.3**
AS31				IAmb	IAmb	08 12 43.6	
	comp=Z,4.2nm,0.5s						
ASAR	**Alice Springs**	**22.15**	**216**	P	**P**	**08 12 43.0**	**-0.7**
	comp=Z,7.7nm,0.5s,baz=50,slow=8.9,SNR=126						
ASAR				S	**S**	**08 16 43.7**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=39,slow=20,SNR=4.3						
ASAR				ScP	**ScP**	**08 20 13.0**	**+1.5**
	comp=Z,0.4nm,1.0s,baz=33,slow=3.0,SNR=4.3						
	comp=Z,7.7nm,0.5s						
ASAR	**Alice Springs**	**22.15**	**216**	P	**P**	**08 12 42.8**	**-0.8**
INKA	**Innaminka**	**22.69**	**197**	P	**P**	**08 12 49.1**	**-0.2**
ARMA	**Armidale**	**24.58**	**172**	P	**P**	**08 13 08.1**	**+0.9**
ARMA	**Armidale**	**24.58**	**172**	P	**P**	**08 13 08.6**	**+1.4**
OOD	**Oodnadatta**	**24.60**	**207**	P	**P**	**08 13 07.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.83**	**239**	P	**P**	**08 13 09.9**	**+0.4**
STKA	**Stephens Creek**	**26.44**	**192**	P	**P**	**08 13 24.0**	**0.0**
	comp=Z,3.7nm,0.7s,baz=354,slow=9.2,SNR=11						
	comp=Z,3.7nm,0.7s						
STKA	**Stephens Creek**	**26.44**	**192**	P	**P**	**08 13 24.5**	**+0.5**
BBOO	**Buckleboo**	**28.89**	**201**	P	**P**	**08 13 46.9**	**+1.0**
BBOO				IAmb	IAmb	08 14 10.1	
	comp=Z,2.3nm,0.9s						
FORT	**Forrest**	**30.91**	**215**	P	**P**	**08 14 04.2**	**+0.4**
PSA00	**Pilbara Seismi**	**31.25**	**237**	P	**P**	**08 14 06.8**	**0.0**
INCN	**Inchon**	**47.55**	**337**	P	**P**	**08 16 22.7**	**+0.5**
SONM	**Songino Array**	**64.80**	**330**	P	**P**	**08 18 26.1**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=128,slow=8.2,SNR=1.8						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**78.03**	**320**	P	**P**	**08 19 46.3**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=100,slow=8.0,SNR=5.1						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**78.03**	**320**	P	**P**	**08 19 45.8**	**+0.9**
ZALV	**Zalesovo Beam**	**79.45**	**328**	P	**P**	**08 19 52.4**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=146,slow=8.0,SNR=4.1						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**84.00**	**180**	IAmb	IAmb	08 20 18.0	
	comp=Z,1.6nm,1.1s						
QSPA				P	**P**	**08 20 18.2**	**+1.7**
ILAR	**Eielson Array**	**85.11**	**23**	P	**P**	**08 20 21.6**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=240,slow=5.1,SNR=1.8						
	comp=Z,0.2nm,0.7s						
NVAR	**Mina Array Bea**	**96.66**	**52**	P	**P**	**08 21 16.3**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=242,slow=1.9,SNR=1.5						
	comp=Z,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**98.73**	**28**	P	**P**	**08 21 24.4**	**-1.0**
	comp=Z,0.1nm,0.8s,baz=244,slow=6.8,SNR=2.4						
	comp=Z,0.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**145.93**	**285**	PKPbc	**PKPab**	**08 27 27.6**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=65,slow=3.6,SNR=9.7						

*DJA **29** 08:17:11.4±1.5,2.°N±4.×12.°7E±.,h23km±14km, M4.3/13, mb4.3/6, mB5.4/4, MLv4.1/13, Mw(mB)4.8/4*
*IDC **29** 08:17:12.2±2.8,2.°19N×126.°68E,h46km±27km, mb3.9/13, mbtmp4.1/14, ML3.2/1, MS4.4/2, Error ellipse: s-maj=31.4km s-min=11.2km az=71.0*
*NEIC **29** 08:17:12.5±0.8,2.°27N±0.°08×126.°76E±0.°08, h45km±9km, mb4.4/24, Error ellipse: s-maj=14.2km s-min=9.4km az=222.0*
ISC 29 08:17:13.0±0.5,2.°29N±0.°05×126.°77E±0.°08,h53km,n64, σ1s34/67,mb4.3/28,MS4.4/3,1C-1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.62**	**159**	Pn	**Pn**	**08 17 38.6**	**-0.8**
TNTI	**Ternate**	**1.62**	**159**	P	**Pn**	**08 17 38.5**	**-0.8**
TNTI				S	**Sn**	**08 18 01.9**	**+2.8**
SGSI	**Sangihe**	**1.86**	**318**	P	**Pn**	**08 17 42.1**	**-0.4**
SGSI				S	**Sn**	**08 18 04.4**	**-0.4**
GTOI	**Gorontalo**	**4.11**	**246**	P	**Pn**	**08 18 15.7**	**+2.4**
SANI	**Sanana**	**4.38**	**190**	P	**Pn**	**08 18 16.6**	**-0.5**
KCP	**Kidapawan**	**4.97**	**340**	⇓*e*P	**Pn**	**08 18 26.8**	**+1.5**
MRSI	**Marisa**	**5.16**	**250**	P	**Pn**	**08 18 30.4**	**+2.7**
	70nm,0.5s,1µm0.3nm						
LUWI	**Luwuk**	**5.20**	**230**	Pn	**Pn**	**08 18 27.0**	**-1.2**
LUWI	**Luwuk**	**5.20**	**230**	P	**Pn**	**08 18 29.7**	**+1.5**
SlJI	**Sorong**	**5.48**	**125**	P	**Pn**	**08 18 30.9**	**-1.2**
	0.7nm,0.3s,baz=189,slow=23,SNR=2.4						
SlJI				LR	LR	08 21 08.7	
	comp=Z,274nm,20.8s,baz=254,slow=43						
	7.2nm,0.7s						
NLAI	**Namlea**	**5.51**	**177**	P	**Pn**	**08 18 33.5**	**+1.0**
	11nm,0.6s,6µm0.1nm						
BIPH	**Bislig**	**5.87**	**356**	⇑*e*P	**Pn**	**08 18 40.0**	**+2.6**
TOLI2	**Tolitoli**	**6.10**	**259**		**Pn**	**08 18 40.5**	**-0.1**
MPSI	**Mapaga**	**7.14**	**254**	P	**Pn**	**08 18 57.8**	**+2.9**
MYLDM	**Lahad Datu**	**8.74**	**289**		**Pn**	**08 19 16.1**	**-0.7**
KKM	**Kota Kinabalu**	**11.17**	**290**	Pn	**Pn**	**08 19 47.4**	**-2.7**
MTN	**Manton Dam**	**15.65**	**164**		**Pn**	**08 20 48.6**	**-1.6**
KNRA	**Kununurra**	**17.96**	**174**	P	**P**	**08 21 17.8**	**-1.3**
KNRA				IAmb	IAmb	08 21 20.4	
	comp=Z,20nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.29**	**183**	P	**P**	**08 21 43.6**	**-1.0**
YULB	**Yu-li**	**21.63**	**346**	P	**P**	**08 21 55.6**	**-3.3**
YULB				IAmb	IAmb	08 22 17.0	
	comp=Z,22nm,1.3s						
YHNB	**Yeheng**	**22.85**	**347**	P	**P**	**08 22 10.4**	**-1.6**
YHNB				IAmb	IAmb	08 22 23.1	

	comp=Z,24nm,1.3s							
WB0	**Warramunga Arr**	**23.17**	**161**	P	**P**	08 22 13.4	-1.7
WB0				IAmb	IAmb	08 22 17.4	
	comp=Z,14nm,1.1s							
WRAB	**Tennant Creek**	**23.31**	**162**	P	**P**	08 22 15.9	-0.6
WRAB				IAmb	IAmb	08 22 18.1	
	comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**23.31**	**162**	P	**P**	08 22 15.0	-1.6
	comp=Z,4.1nm,0.5s,baz=337,slow=11,SNR=29							
WRA				PcP	**PcP**	08 26 03.0	+0.4
	comp=Z,0.4nm,0.5s,baz=7.9,slow=2.3,SNR=1.5							
WRA				S	**S**	08 26 24.4	-0.9
	comp=Z,0.2nm,0.4s,baz=332,slow=21,SNR=1.5							
	comp=Z,4.1nm,0.5s							
WRA	**Warramunga Arr**	**23.31**	**162**	P	**P**	08 22 15.1	-1.5
WB2	**Warramunga Arr**	**23.32**	**162**	P	**P**	08 22 15.8	-0.8
WB2				IAmb	IAmb	08 22 21.4	
	comp=Z,8.1nm,0.8s							
WR0	**Warramunga Arr**	**23.39**	**161**	P	**P**	08 22 16.4	-1.0
WR0				IAmb	IAmb	08 22 21.0	
	comp=Z,9.4nm,1.1s							
PSA00	**Pilbara Seismi**	**24.67**	**196**	P	**P**	08 22 29.0	0.0
BKNI	**Bangkinang**	**25.80**	**266**	P	**P**	08 22 38.6	-0.8
AS31	**Alice Springs**	**26.72**	**165**	P	**P**	08 22 47.6	0.0
ASAR	**Alice Springs**	**26.72**	**165**	P	**P**	08 22 47.1	-0.6
	comp=Z,0.7nm,0.3s,baz=348,slow=6.9,SNR=28							
ASAR				PcP	**PcP**	08 26 10.8	+0.6
	comp=Z,1.0nm,0.7s,baz=341,slow=8.0,SNR=7.0							
	comp=Z,0.7nm,0.3s							
ASAR	**Alice Springs**	**26.72**	**165**	P	**P**	08 22 47.6	0.0
CMAR	**Chiang Mai Arr**	**31.65**	**302**	P	**P**	08 23 31.2	-0.3
	comp=Z,1.5nm,0.3s,baz=119,slow=6.5,SNR=9.3							
	comp=Z,1.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**31.65**	**302**	P	**P**	08 23 30.9	-0.6
CHTO	**Chiang Mai**	**31.81**	**303**	P	**P**	08 23 32.2	-0.8
FORT	**Forrest**	**32.91**	**178**	P	**P**	08 23 42.1	-0.2
PZH	**PanZhiHua**	**34.01**	**317**	P	**P**	08 23 53.0	+0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
	comp=Z,70nm,5.5s							
JGF	**Kuroka**	**34.56**	**15**	P	**P**	08 23 57.6	+0.9
JGF				IAmb	IAmb	08 23 58.7	
	comp=Z,5.9nm,0.8s							
KSRS	**Korea Array**	**35.01**	**2**	P	**P**	08 24 01.9	+1.5
	comp=Z,2.2nm,0.6s,baz=177,slow=10.0,SNR=15							
	comp=Z,2.2nm,0.6s							
KS19	**Wonju Array Si**	**35.05**	**2**	P	**P**	08 24 00.8	-0.1
MJAR	**Matsushiro Arr**	**35.68**	**16**	P	**P**	08 24 05.9	-0.4
	comp=Z,2.9nm,0.9s,baz=187,slow=9.1,SNR=10							
	comp=Z,2.9nm,0.9s							
XAN	**Xi'an**	**35.71**	**334**	P	**P**	08 24 06.0	-0.7
XAN				pmax	pmax		
	comp=Z,3.0nm,1.0s							
BBOO	**Buckleboo**	**36.00**	**167**	P	**P**	08 24 08.7	-0.4
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	08 24 16.5	+0.7
	comp=Z,1.2nm,0.3s,baz=332,slow=9.4,SNR=3.8							
	comp=Z,1.2nm,0.3s							
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	08 24 16.2	+0.5
ARMA	**Armidale**	**40.26**	**146**	P	**P**	08 24 44.5	-0.6
HHC	**Hu-ho-hao-te**	**40.77**	**342**	*e*P	**P**	08 24 52.0	+2.9
HHC				pmax	pmax		
	comp=Z,11nm,0.9s							
USRK	**Ussuriysk Ar.**	**41.98**	**6**	P	**P**	08 25 00.7	+1.8
	comp=Z,7.8nm,0.8s,baz=191,slow=7.7,SNR=9.9							
	comp=Z,7.8nm,0.8s							
XLT	**XiLinHaoTe**	**42.50**	**349**	*e*P	**P**	08 25 04.0	+0.7
XLT				pP	pP	08 25 15.5	-1.1
XLT				sP	pwP	08 25 20.3	+1.1
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s							
XLT				pmax	pmax		
	comp=Z,130nm,4.5s							
XLT				LR	LR		
	comp=N,24nm,17.0s							
XLT				LR	LR		
	comp=E,250nm,16.6s							
XLT				LR	LR		
	comp=Z,350nm,19.1s							
SONM	**Songino Array**	**48.66**	**342**	P	**P**	08 25 51.8	-0.1
	comp=Z,0.6nm,0.5s,baz=162,slow=10,SNR=4.7							
	comp=Z,0.6nm,0.5s							
WMQ	**Urumqi**	**53.92**	**326**	*e*P	**P**	08 26 34.0	+2.7
MK31	**Makanchi Array**	**58.76**	**326**	P	**P**	08 27 05.4	-0.3
MK31				IAmb	IAmb	08 27 08.2	
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**58.76**	**326**	P	**P**	08 27 05.2	-0.5
	comp=Z,1.3nm,0.5s,baz=119,slow=7.6,SNR=23							
	comp=Z,1.3nm,0.5s							
MKAR	**Makanchi Array**	**58.76**	**326**	P	**P**	08 27 05.4	-0.3
MAKZ	**Makanchi**	**58.94**	**326**	P	**P**	08 27 06.6	-0.3
MAKZ				IAmb	IAmb	08 27 22.3	
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**61.88**	**333**	P	**P**	08 27 25.6	-1.2
	comp=Z,0.6nm,0.4s,baz=144,slow=5.4,SNR=4.6							
	comp=Z,0.6nm,0.4s							
KURK	**Kurchatov**	**62.97**	**328**	P	**P**	08 27 33.9	-0.3
KURK				IAmb	IAmb	08 27 35.4	
	comp=Z,4.3nm,0.7s							
VNDA	**Vanda**	**82.01**	**173**	P	**P**	08 29 27.3	+0.4
VNDA				IAmb	IAmb	08 29 28.0	
	comp=Z,7.6nm,1.4s							
ILAR	**Eielson Array**	**86.37**	**25**	P	**P**	08 29 49.9	+0.6
	comp=Z,0.3nm,0.7s,baz=244,slow=6.2,SNR=4.6							
	comp=Z,0.3nm,0.7s							
BRTR	**Keskin Array B**	**90.96**	**310**	P	**P**	08 30 12.5	+0.7
	comp=Z,0.3nm,0.6s,baz=130,slow=5.8,SNR=1.6							
	comp=Z,0.3nm,0.6s							
FINES	**FINESS Array B**	**93.11**	**332**	P	**P**	08 30 21.9	+0.9
	comp=Z,2.6nm,1.0s,baz=106,slow=5.1,SNR=4.6							
	comp=Z,2.6nm,1.0s							
DLBC	**Dease Lake**	**94.94**	**31**	LR	LR	09 10 18.9	
	comp=Z,218nm,19.4s,baz=271,slow=34							
BBB	**Bella Bella**	**97.42**	**37**	LR	LR	09 09 54.7	
	comp=Z,114nm,19.3s,baz=266,slow=32							
TORD	**Torodi Ar. Bea**	**123.39**	**287**	PKP	**PKPdf**	08 36 04.9	-0.4
	comp=Z,0.2nm,0.6s,baz=58,slow=3.6,SNR=1.7							

IDC 29 08:23:11.1±1.5, 15°.39S×173°.31W, h0km, mb4.0/4, mbtmp4.0/5, ML4.1/1, Error ellipse: s-maj=58.0km s-min=25.5km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**45**	Pn	Pn	08 23 47.4	0.0
	70nm,0.3s,baz=188,slow=1.9,SNR=113						
AFI				Sn	Sn	08 24 09.2	-5.0
	73nm,0.3s,baz=58,slow=22,SNR=8.1						
	232nm,0.4s						
URZ	**Urewera**	**24.30**	**199**	P	P	08 28 30.3	-0.1
	6.8nm,0.7s,baz=150,slow=3.1,SNR=6.3						
	6.8nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**39.00**	**329**	T	T	09 11 10.3	
	baz=147,slow=74						
H11S3	**WAKE ISLAND Hy**	**39.01**	**329**	T	T	09 11 35.9	
	baz=147						
H11S1	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	09 11 37.3	
	baz=147,slow=74						
H11N3	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	09 13 31.7	
	baz=148						
H11N1	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	09 13 30.1	
	baz=148						
H11N2	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	09 13 33.2	
	baz=148						
STKA	**Stephens Creek**	**44.12**	**240**	P	P	08 31 21.6	+0.1
	1.3nm,0.7s,baz=67,slow=6.6,SNR=4.0						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**49.94**	**257**	P	P	08 32 06.1	-1.1
	0.8nm,1.1s,baz=95,slow=9.5,SNR=2.2						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**50.20**	**252**	P	P	08 32 09.6	+0.4
	1.4nm,0.6s,baz=85,slow=8.2,SNR=23						
	1.4nm,0.6s						

*IDC **29** 08:27:09.8±7.0, 1°.08N×98°.71E, h85km±40km, mb3.5/3, mbtmp3.8/4, Error ellipse: s-maj=133.3km s-min=62.6km az=98.0*
*DJA **29** 08:27:12.2±0.4, 1°.N±2°×9°.9E±°, h86km±6km, M3.9/11, mb5.0/1, MLv3.4/11, MwMwp5.1/1, Mwp5.4/1*
ISC 29 08:27:12.2±1.0, 1°.25N±0°.05×98°.96E±0°.07, h103km±8km, n13, σ18°26/18, mb3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.31**	**347**	P	**Pn**	**08 27 27.9**	**+0.7**
SBSI				S	**Sn**	**08 27 40.1**	**+1.7**
GSI	**Gunungsitoli**	**1.39**	**272**	P	**Pn**	08 27 37.0	-0.2
GSI				S	**Sn**	08 27 55.2	-1.0
PBSI	**Pulau Batu**	**1.46**	**208**	P	**Pn**	08 27 37.3	-0.9
PBSI				S	**Sn**	08 27 56.0	-1.8
PSI	**Prapat**	**1.54**	**359**	P	**Pn**	08 27 36.7	-2.5
	5.0nm,0.3s,baz=355,slow=9.0,SNR=5.8						
PSI				S	**Sn**	08 27 57.6	-2.1
	5.8nm,0.4s,baz=53,slow=5.1,SNR=2.8						
KCSI	**Kotacane, Aceh**	**2.55**	**332**	P	**Pn**	08 27 51.3	-0.8
KCSI				S	**Sn**	08 28 22.4	-0.3
PDSI	**Padang**	**2.62**	**145**	P	**Pn**	08 27 52.4	-0.6
SNSI	**Sinabang, Aceh**	**2.87**	**294**	P	**Pn**	08 27 56.3	0.0
SDSI	**Sungai Dareh**	**3.28**	**131**	P	**Pn**	08 28 01.6	-0.2
MLSI	**Meulaboh, Aceh**	**3.94**	**320**	P	**Pn**	08 28 10.7	+0.1
CMAR	**Chiang Mai Arr**	**17.10**	**360**	P	**Pn**	08 31 05.8	+0.9
	1.4nm,0.3s,baz=188,slow=13,SNR=7.3						
SONM	**Songino Array**	**46.85**	**7**	P	**P**	08 35 32.8	+0.9
	0.7nm,0.5s,baz=190,slow=9.2,SNR=6.3						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**47.64**	**345**	P	**P**	08 35 38.2	+0.2
	0.5nm,0.4s,baz=162,slow=8.3,SNR=12						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**53.81**	**350**	P	**P**	08 36 24.2	+0.1
	0.5nm,0.3s,baz=160,slow=8.7,SNR=3.1						
	0.5nm,0.3s						

*IDC **29** 08:41:58.8±1.1, 24°.26N×91°.59E, h0km, mb3.6/5, mbtmp3.5/6, ML4.0/1, Error ellipse: s-maj=41.3km s-min=12.6km az=84.0*
ISC 29 08:42:03.3±1.2, 24°.2N±0°.1×91°.4E±0°.2, h35km, n7, σ0°33/7, mb3.5/5, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**1.49**	**173**	Pn	**Pn**	**08 42 27.8**	**+0.2**
	36nm,0.3s,baz=270,slow=21,SNR=10						
BRDH				Lg	Lg	08 42 49.5	
	221nm,0.3s,baz=270,slow=24,SNR=7.1						
CMAR	**Chiang Mai Arr**	**9.01**	**128**	Pn	**Pn**	08 44 10.9	0.0
	0.4nm,0.3s,baz=305,slow=13,SNR=4.7						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**23.74**	**344**	P	**P**	08 47 12.4	+0.1
	0.8nm,0.5s,baz=166,slow=8.6,SNR=20						
	0.8nm,0.5s						
SONM	**Songino Array**	**26.44**	**23**	P	**P**	08 47 37.5	+0.5
	0.5nm,0.6s,baz=205,slow=10,SNR=4.4						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**28.25**	**342**	P	**P**	08 47 52.6	-0.3
	0.3nm,0.7s,baz=164,slow=8.7,SNR=2.2						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**60.56**	**133**	P	**P**	08 52 10.5	-0.1
	0.6nm,0.5s,baz=324,slow=7.1,SNR=8.3						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**62.91**	**136**	P	**P**	08 52 26.2	-0.2
	0.3nm,0.5s,baz=310,slow=6.6,SNR=7.5						
	0.3nm,0.5s						

*IDC **29** 08:51:00.5±0.5, 26°.70N×66°.06E, h0km, mb4.4/37, mbtmp4.4/40, ML4.1/3, MS4.3/41, Error ellipse: s-maj=11.6km s-min=10.7km az=29.0*
*NEIC **29** 08:51:01.4±1.2, 26°.77N±0°.08×65°.95E±0°.08, h10km±1km, mb4.7/66, Error ellipse: s-maj=14.8km s-min=10.8km az=137.0*
*MOS **29** 08:51:02.1±1.2, 26°.80N×66°.09E, h21km, mb4.8/44, MS4.5/6, Error ellipse: s-maj=6.1km s-min=3.8km az=101.8*
*GCMT **29** 08:51:03.4±0.3, 26°.60N±0°.02×65°.99E±0°.02, h12km, MW5.0/81, Moment Tensor Solution. s30,c32; s81,c108; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~0.52±.12; Mθθ 1.30±.13; Mϕϕ~0.77±.12; Mrθ~3.15±.33; Mϕθ~2.58±.08; Mϕr~1.28±.31; Best double couple: M0 4.38700×10^16 NP1: ϕ8 79.00000°, δ85.00000°, λ-130.00000°. NP2: ϕ343.00000°, δ40.00000°, λ-8.00000°. Principal axes: T 4.0940, Plg28.0000°, Azm201.0000°; N 0.5850, Plg40.0000°, Azm84.0000°; P -4.6790, Plg37.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 08:51:04.7±0.3, 26°.67N±0°.04×65°.99E±0°.03, h35km, n396, σ2s42/426, mb4.6/141, MS4.4/62, 30C-14D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**4.56**	**254**	P	**Pn**	**08 52 12.1**	**+0.9**
	SNR=21						
NGCH				S	**Sn**	08 53 03.8	+0.8
BHUJ	**Bhuj**	**4.75**	**135**	*e*P	**Pn**	08 52 14.5	+0.7
BHUJ				*e*S	**Sn**	08 53 08.1	+0.3
BHUJ				IAML		08 53 15.8	
	comp=E,2μm,0.4s						
BHUJ				IAML		08 53 15.9	
	comp=N,2μm,0.4s						
JASK	**Jask - Hormozg**	**7.34**	**266**	P	**Pn**	**08 52 50.4**	**+1.0**
	SNR=7.5						
JASK				S	**Sn**	08 54 09.8	-1.7
JLN	**Jalan Bani Buh**	**7.50**	**235**	P	**Pn**	08 52 50.0	-1.6
	SNR=38						
JLN				S	**Sn**	08 54 11.5	-3.9
WSAR	**Wadi Sarin**	**7.50**	**245**	Pn	**Pn**	08 52 50.7	-1.0
	comp=N,6.0nm,0.3s,baz=117,slow=8.8,SNR=56						
WSAR				Sn	**Sn**	08 54 09.4	-6.2
	comp=N,20nm,0.3s,baz=306,slow=5.6,SNR=8.3						
WSAR				LR	LR	08 56 35.5	
	comp=N,1μm,18.9s,baz=84,slow=44						
	comp=N,26nm,0.4s						
WSAR	**Wadi Sarin**	**7.50**	**245**	P	**Pn**	**08 52 50.4**	**-1.2**
	SNR=5.8						
WSAR				S	**Sn**	08 54 09.0	-6.6
WBK	**Wadi Bani Khal**	**7.56**	**239**	P	**Pn**	08 52 51.6	-0.8
	SNR=14						
WBK				P	**Pn**	**08 52 51.6**	**-0.8**
	SNR=14						
WBK				S	**Sn**	**08 54 15.1**	**-1.9**
	SNR=7.5						
WBK				S	**Sn**	**08 54 15.1**	**-1.9**
	SNR=7.5						
AJM	**Ajmer**	**7.75**	**89**	*e*P	**Pn**	08 52 53.6	-1.4
AJM				*e*S	**Sn**	08 54 16.1	-5.5
BIDO	**Bidbid**	**7.79**	**248**	P	**Pn**	08 52 56.1	+0.5
	SNR=10						
BIDO				S	**Sn**	08 54 18.3	-4.3
THW	**Thamme Wali**	**7.89**	**38**	P	**Pn**	08 52 55.1	-1.8
SMDO	**Samad**	**8.06**	**245**	P	**Pn**	08 52 59.4	0.0
	SNR=19						
SMDO				S	**Sn**	08 54 26.7	-2.7
KBL	**Kabul**	**8.27**	**18**	Pn	**Pn**	08 53 01.6	-0.8
KBL	**Kabul**	**8.27**	**18**	P	**Pn**	08 53 01.6	-0.8
JMDO	**Jabal Madar**	**8.36**	**241**	P	**Pn**	08 53 03.4	0.0
	SNR=46						
JMDO				S	**Sn**	08 54 34.5	-2.2
HOQ	**Hoqain**	**8.45**	**251**	P	**Pn**	08 53 04.0	-0.6
	SNR=5.1						
HOQ				P	**Pn**	**08 53 04.0**	**-0.6**
	SNR=5.1						
HOQ				S	**Sn**	08 54 35.4	-3.4
HOQ				S	**Sn**	08 54 35.4	-3.4
BANOM	**Banah**	**8.73**	**267**	P	**Pn**	08 53 08.6	+0.1
CEP	**Cherat**	**8.77**	**34**	P	**Pn**	08 53 08.2	-1.0
CEP				S	**Sn**	08 54 43.0	-3.9
MDH	**Madha**	**8.83**	**263**	P	**Pn**	08 53 09.3	-0.6
MDH				S	**Sn**	08 54 44.1	-4.0
SHME	**Shamm**	**8.86**	**268**	P	**Pn**	08 53 12.0	+1.8
	SNR=14						
BSY	**Bisya**	**8.90**	**246**	P	**Pn**	**08 53 11.7**	**+0.8**
	SNR=18						
BSY				S	**Sn**	08 54 46.6	-3.3
SOHO	**SOHO**	**8.92**	**256**	P	**Pn**	08 53 09.9	-1.2
SOHO				P	**Pn**	08 53 09.9	-1.2
SOHO				S	**Sn**	08 54 44.9	-5.4
SOHO				S	**Sn**	08 54 44.9	-5.4
MASF	**Masafi**	**8.94**	**264**	P	**Pn**	08 53 10.6	-0.8
MASF				P	**Pn**	08 53 10.6	-0.8
MASF				S	**Sn**	08 54 46.7	-4.2
MASF				S	**Sn**	08 54 46.7	-4.2
UOSS	**Minazif**	**8.99**	**261**	P	**Pn**	08 53 10.1	-1.9
UOSS	**Minazif**	**8.99**	**261**	P	**Pn**	08 53 10.7	-1.3
UOSS				P	**Pn**	08 53 10.7	-1.3
UOSS				S	**Sn**	08 54 45.4	-6.6
UOSS				S	**Sn**	08 54 45.4	-6.6

HATD	**Hatta, Dubai**	**9.08**	**260**	P	**Pn**	**08 53 12.8**	**-0.5**
HATD				P	**Pn**	08 53 12.8	-0.5
ASHO	**Ashiyiah**	**9.18**	**260**	P	**Pn**	08 53 15.1	+0.4
	SNR=25						
ASHO				P	**Pn**	**08 53 15.1**	**+0.4**
	SNR=25						
ASHO				S	**Sn**	08 54 50.6	-6.2
ASHO				S	**Sn**	08 54 50.6	-6.2
ARQ	**Araqi**	**9.21**	**251**	P	**Pn**	08 53 17.2	+2.1
	SNR=14						
ARQ				P	**Pn**	**08 53 17.2**	**+2.1**
	SNR=14						
MHTO	**MHTO**	**9.27**	**234**	P	**Pn**	**08 53 14.8**	**-1.1**
	SNR=11						
MHTO				P	**Pn**	**08 53 14.8**	**-1.1**
	SNR=11						
MHTO				S	**Sn**	08 54 54.0	-4.9
MHTO				S	**Sn**	08 54 54.0	-4.9
NIL	**Nilore**	**9.37**	**40**	P	**Pn**	08 53 15.4	-1.9
NIL	**Nilore**	**9.37**	**40**	P	**Pn**	08 53 15.4	-1.9
CHCP	**Chirah Chowk**	**9.38**	**40**	P	**Pn**	08 53 14.9	-2.5
KUDL	**Kundal**	**9.44**	**79**	*e*P	**Pn**	08 53 16.5	-1.8
KUDL				*e*S	**Sn**	08 54 54.7	-8.5
NAZ	**Nazwa, Dubai**	**9.46**	**262**	P	**Pn**	08 53 20.8	+2.4
NAZ				P	**Pn**	08 53 20.8	+2.4
NAZ				S	**Sn**	08 54 04.4	+0.9
NAZ				S	**Sn**	08 55 04.4	+0.9
FAQ	**Al Faqa, Dubai**	**9.57**	**261**	P	**Pn**	08 53 21.5	+1.5
	SNR=7.5						
FAQ				P	**Pn**	**08 53 21.5**	**+1.5**
	SNR=7.5						
FAQ				S	**Sn**	08 55 04.5	-2.0
FAQ				S	**Sn**	08 55 04.5	-2.0
ALNE	**Al Ain**	**9.62**	**257**	P	**Pn**	08 53 21.4	+0.7
ALNE				P	**Pn**	08 53 21.4	+0.7
ALNE				S	**Sn**	08 55 04.4	-3.2
ALNE				S	**Sn**	08 55 04.4	-3.2
JMU	**Jammu**	**9.81**	**50**	*e*P	**Pn**	08 53 23.0	-0.3
JMU				*e*S	**Sn**	08 55 04.7	-7.5
ASUD	**Al Ashush, Dub**	**9.84**	**260**	P	**Pn**	08 53 25.8	+2.2
ASUD				S	**Sn**	08 55 12.4	-0.5
SONA	**Sohna**	**9.98**	**78**	*e*P	**Pn**	08 53 22.4	-3.2
NDI	**New Delhi**	**10.15**	**76**	*e*P	**Pn**	08 53 26.0	-1.9
NDI				*e*P	**Pn**	08 53 26.4	-1.6
NDI				*e*S	**Sn**	08 55 13.3	-7.2
NDI				*e*S	**Sn**	08 55 15.0	-5.5
THN	**Thein Dam**	**10.23**	**54**	*e*P	**Pn**	08 53 27.5	-1.4
THN				*e*S	**Sn**	08 55 18.1	-4.2
THN				IAML		08 55 26.6	
	comp=E,482nm,0.7s						
DQM	**DQM**	**10.26**	**231**	P	**Pn**	08 53 28.3	-1.2
DQM				P	**Pn**	08 53 28.3	-1.2
DQM				S	**Sn**	08 55 16.4	-7.0
DQM				S	**Sn**	08 55 16.4	-7.0
BHK	**Bhakra**	**10.27**	**60**	*e*P	**Pn**	08 53 29.3	-0.3
BHK				*e*S	**Sn**	08 55 16.7	-6.8
SMLA	**Simla**	**10.75**	**63**	*e*P	**Pn**	08 53 33.2	-2.9
SMLA				*e*S	Sn	08 55 24.2	-11
SMLA				IAML		08 55 34.7	
	comp=E,394nm,0.9s						
SMLA				IAML		08 55 35.4	
	comp=N,569nm,0.8s						
BHPL	**Bhopal**	**10.92**	**106**	*e*P	**Pn**	**08 53 36.2**	**-2.3**
BHPL				*e*S	**Sn**	**08 55 32.5**	**-7.0**
AKL	**Akola**	**11.71**	**118**	*e*P	**Pn**	**08 53 49.5**	**+0.1**
AKL				IAmb	IAmb	08 53 50.5	
	comp=Z,24nm,0.4s						
CHGR	**Chuyangaron**	**12.24**	**12**	Pn	**Pn**	08 53 52.9	-3.8
CHGR	**Chuyangaron**	**12.24**	**12**	P	**Pn**	08 53 52.9	-3.8
GAR	**Garm**	**12.82**	**15**		**Pn**	08 54 01.3	-3.2
PTH	**Pithoragarh**	**12.88**	**74**	*e*P	**Pn**	08 54 02.3	-3.2
GEYT	**Alibeck**	**13.05**	**331**	Pn	**Pn**	08 54 06.8	-0.8
	comp=Z,0.3nm,0.3s,baz=159,slow=13,SNR=6.7						
GEYT				Lg	Lg	08 57 56.4	
	comp=Z,0.2nm,0.3s,baz=134,slow=20,SNR=1.5						
	comp=Z,2.7nm,0.8s						
JBP	**Jabalpur**	**13.16**	**102**	*e*P	**Pn**	08 54 06.6	-2.6
JBP				*ex*	**Sn**	08 56 30.6	-3.8
DMTO	**DMTO**	**13.56**	**231**	P	**Pn**	08 54 13.9	-0.7
DMTO				P	**Pn**	08 54 13.9	-0.7
DOK	**Doka**	**13.56**	**236**	P	**Pn**	08 54 14.2	-0.5
	SNR=8.7						
DOK				S	**Sn**	08 56 42.1	-2.1
RBK	**Rabkut**	**14.22**	**233**	P	**Pn**	08 54 23.3	-0.5
	SNR=9.7						
RBK				S	**Sn**	08 56 53.6	-6.8
WHFO	**Wadi Hawf**	**14.27**	**235**	P	**Pn**	08 54 23.5	-0.8
	SNR=6.9						
WHFO				S	**Sn**	08 56 56.0	-5.4
ALBI	**Allahabad**	**14.29**	**92**	*e*P	**Pn**	08 54 21.1	-3.4
HYB	**Hyderabad**	**14.84**	**126**	*e*P	**Pn**	08 54 31.1	-0.8
ABTO	**Aybut**	**14.97**	**234**	P	**Pn**	08 54 32.6	-1.3
	SNR=6.4						
KSH	**Kashi**	**15.28**	**31**	P	Pn	08 54 29.3	-8.6
KSH				S	Sn	08 57 07.3	-19
KSH				pmax	pmax		
	comp=Z,28nm,0.6s						
KSH				LR	LR		
	comp=Z,4μm,14.1s						
KSH				LR	LR		
	comp=Z,5μm,14.1s						
KSH				LR	LR		
	comp=Z,3μm,16.8s						
KOLN	**Koldanda**	**15.70**	**82**	*e*P	**Pn**	08 54 38.3	-5.2
IUG	**Iuzhnay**	**15.79**	**11**	*e*P	**Pn**	08 54 40.8	-3.7
DANN	**Dangsing**	**15.85**	**80**	*e*P	**Pn**	08 54 41.2	-4.3
	comp=Z,19nm,0.2s						
GKN	**Gorkha**	**16.62**	**81**	*e*P	**Pn**	08 54 51.3	-3.9
	comp=Z,13nm,0.3s						
AML	**Almayashu**	**16.67**	**20**	P	**Pn**	08 54 52.2	-3.7
	SNR=23		

RAYN **Ar Rayn** 18.82 265 P P 08 55 20.4 -1.1
RAYN pmax pmax
comp=Z,36nm,1.3s
TAPN **Taplejung** 19.36 83 eP P 08 55 26.5 -1.2
comp=Z,43nm,0.6s
BTLS **Baital** 19.44 17 eP P 08 55 27.0 -1.1
UZB **Uzynbulak** 19.57 30 eP P 08 55 28.5 -1.1
KOD **Kodaikanal** 19.62 144 eP Pn 08 55 30.8 -1.2
KPKS **Kokpek** 19.68 28 eP P 08 55 29.7 -1.1
SHLS **Shalkode** 19.77 30 eP Pn 08 55 33.1 -0.4
GTK **Tadong** 20.16 83 eP S 08 59 08.4 -12
GTK IAmb IAmb 08 59 13.7
comp=Z,82nm,1.0s
AKT **Akhty** 21.08 319 eP P 08 55 47.0 +1.0
AKT e 08 56 06.1
AKT pmax pmax
comp=Z,123nm,0.8s
MAK **Makhachkala** 22.16 322 eP P 08 55 53.0 -4.5
MAK eS S 08 59 55.0 -4.5
MAK pmax pmax
comp=Z,267nm,1.7s
MAK MLR MLR
comp=Z,523nm,18.0s
GNI **Garni** 22.19 313 P P 08 55 59.6 +1.6
comp=Z,31nm,1.0s,baz=194,slow=2.6,SNR=10
comp=Z,31nm,1.0s
GNI **Garni** 22.19 313 P P 08 55 56.0 -2.0
GNI IAmb IAmb 08 56 07.2
comp=Z,42nm,0.9s
LSA **Lhasa** 22.37 76 P P 08 56 01.5 +1.1
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA **Lhasa** 22.37 76 P P 08 55 59.4 -1.0
LSA IAmb IAmb 08 56 22.0
comp=Z,29nm,0.8s
LSA **Lhasa** 22.37 76 P P 08 55 59.4 -1.0
LSA pmax pmax
comp=Z,29nm,0.8s
AB31 **Akbulak array** 23.03 350 i P P 08 56 07.0 +0.4
ABKAR **Akbulak array** 23.03 350 P P 08 56 05.7 -0.9
GROC **Groznyy** 23.28 320 eP P 08 56 10.2 +1.1
GROC e 08 56 36.4
GROC pmax pmax
comp=Z,37nm,0.4s
GURO **Guroymak-BITLI** 23.33 306 P P 08 56 08.7 -1.2
KARS **Kars** 23.53 312 P P 08 56 10.7 -1.1
KARS **Kars** 23.53 312 P P 08 56 10.7 -1.1
KARS pmax pmax
comp=Z,138nm,1.2s
BRDH **Bariadhala** 23.63 94 LR LR 09 06 47.3
comp=Z,849nm,18.7s,baz=234,slow=40
AKH **Akhalkalaki** 23.65 314 P P 08 56 11.4 -1.6
AKH **Akhalkalaki** 23.65 314 P P 08 56 11.4 -1.6
AKH pmax pmax
comp=Z,130nm,1.3s
MAKZ **Makanchi** 23.75 28 P P 08 56 12.7 -1.0
MAKZ **Makanchi** 23.75 28 P P 08 56 12.7 -1.0
MAKZ pmax pmax
comp=Z,56nm,1.1s
PALK **Pallekele** 23.83 141 P P 08 56 14.3 -0.4
PALK IAmb IAmb 08 56 41.2
comp=Z,28nm,1.4s
PALK **Pallekele** 23.83 141 P P 08 56 14.3 -0.4
PALK pmax pmax
comp=Z,28nm,1.5s
MK31 **Makanchi Array** 23.87 28 P P 08 56 13.9 -0.9
MK31 IAmb IAmb 08 56 19.4
comp=Z,32nm,0.9s
MK31 **Makanchi Array** 23.87 28 d iP P 08 56 15.1 +0.3
MK31 pmax pmax
comp=Z,18nm,0.8s
MKAR **Makanchi Array** 23.87 28 P P 08 56 14.8 0.0
comp=Z,30nm,1.0s,baz=212,slow=7.4,SNR=125
MKAR LR LR 09 06 34.5
comp=Z,1μm,18.4s,baz=216,slow=39
comp=Z,30nm,1.0s
MKAR **Makanchi Array** 23.87 28 P P 08 56 14.3 -0.6
ZEI **Tsey** 24.14 317 eP P 08 56 19.0 +1.4
ZEI pmax pmax
comp=Z,28nm,1.4s
ONI **Oni** 24.31 317 P P 08 56 17.4 -1.6
ONI IAmb IAmb 08 56 45.0
comp=Z,21nm,1.1s
ONI **Oni** 24.31 317 P P 08 56 17.4 -1.6
ONI pmax pmax
comp=Z,21nm,1.1s
AKTO **Aktyubinsk** 24.51 348 P P 08 56 21.6 +1.0
comp=Z,5.6nm,0.7s,baz=161,slow=9.9,SNR=15
comp=Z,5.6nm,0.7s
WMQ **Urumqi** 24.52 40 eP P 08 56 22.3 +1.4
WMQ pP pP 08 56 24.5 -6.7
WMQ sP sP 08 56 27.8 -7.8
WMQ pmax pmax
comp=Z,67nm,0.9s
WMQ pmax pmax
comp=Z,250nm,4.5s
WMQ LR LR
comp=Z,3μm,17.5s
WMQ LR LR
comp=Z,2μm,14.5s
WMQ LR LR
comp=Z,490nm,18.7s
NCK **Nalchik** 24.73 318 i P P 08 56 23.7 +0.9
NCK pmax pmax
comp=Z,34nm,1.0s
KOPT **Kop Dagi** 25.01 309 P P 08 56 24.4 -1.2
KOPT IAmb IAmb 08 56 35.6
comp=Z,22nm,1.1s
NEY **Neytrino** 25.12 317 i P P 08 56 27.0 +0.5
NEY pmax pmax
comp=Z,4.0nm,1.0s
KBZ **Khabaz** 25.28 318 P P 08 56 29.6 +1.9
comp=Z,10nm,1.0s,baz=135,slow=7.8,SNR=11
comp=Z,10nm,1.0s
SHA1 **Shidzhatmaz** 25.43 318 i P P 08 56 29.1 -0.2
KIV **Kislovodsk** 25.54 318 P P 08 56 28.6 -1.5
KIV **Kislovodsk** 25.54 318 eP P 08 56 32.0 +1.9
KIV eS S 09 00 59.6 +4.1
KIV pmax pmax
comp=Z,42nm,1.1s
KURBB **Kurchatov Arra** 25.77 19 P P 08 56 32.7 +0.7
comp=Z,7.3nm,0.9s,baz=210,slow=9.0,SNR=37
KURBB LR LR 09 08 10.1
comp=Z,1μm,21.2s,baz=181,slow=40
comp=Z,7.3nm,0.9s
KURBB **Kurchatov Arra** 25.77 19 P P 08 56 32.1 +0.1
KURK **Kurchatov** 25.88 19 P P 08 56 31.9 -1.1
KURK IAmb IAmb 08 56 53.5
comp=Z,16nm,0.9s
KURK **Kurchatov** 25.88 19 P P 08 56 32.7 -0.3
GOMU **GeErMu** 26.28 62 P P 08 56 39.5 +2.2
GOMU sP pP 08 56 43.5 -4.2
GOMU S S 09 01 14.5 +6.6
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU pmax pmax
comp=Z,120nm,4.3s
GOMU LR LR
comp=Z,790nm,15.2s
GOMU LR LR
comp=Z,600nm,13.2s
GOMU LR LR
comp=Z,580nm,13.1s
ATD **Arta Tunnel** 26.48 240 P P 08 56 41.2 +2.3
comp=Z,4.8nm,0.3s,baz=336,slow=8.2,SNR=3.6
comp=Z,4.8nm,0.3s
ATD **Arta Tunnel** 26.48 240 P P 08 56 37.4 -1.5
ATD IAmb IAmb 08 56 48.9
comp=Z,29nm,1.2s
BVA0 **Borovoye Array** 26.53 6 i P P 08 56 39.9 +1.0
BVAR **Borovoye Array** 26.53 6 P P 08 56 39.6 +0.7
comp=Z,3.5nm,0.5s,baz=170,slow=10,SNR=16
comp=Z,3.5nm,0.5s
BRVK **Borovoye** 26.55 6 P P 08 56 38.0 -1.1
BRVK IAmb IAmb 08 56 59.5
comp=Z,22nm,1.1s
BRVK **Borovoye** 26.55 6 ceP P 08 56 38.6 -0.5
BRVK pmax pmax
comp=Z,8.0nm,0.7s
SOC **Sochi** 27.16 315 eP P 08 56 40.6 -4.1
SOC e 08 57 26.0
SOC eS S 09 01 17.4 -3.5
SOC MLR MLR
comp=Z,214nm,16.0s
DGZ **Jazzator, Alta** 28.32 30 i P P 08 56 55.3 +0.2
DGZ pmax pmax
comp=Z,5.0nm,1.1s
BELG **Belogornoye** 29.17 337 P P 08 57 03.5 +1.1
comp=Z,16nm,1.0s,baz=276,slow=3.6,SNR=9.7
BELG LR LR 09 12 23.2
comp=Z,650nm,18.5s,baz=119,slow=44
comp=Z,16nm,1.0s
TNCH **TengChong** 29.28 86 P P 08 57 05.0 +1.0
TNCH sP pP 08 57 13.0 -1.4
TNCH PP PnPn 08 57 58.3 +0.4
TNCH S S 09 01 55.8 +0.8
TNCH sS sS 09 02 06.0 -6.2
TNCH pmax pmax
comp=Z,13nm,0.5s
TNCH pmax pmax
comp=Z,170nm,7.1s
TNCH LR LR
comp=Z,610nm,13.6s
TNCH LR LR
comp=Z,370nm,13.9s
TNCH LR LR
comp=Z,720nm,13.9s
BR131 **Keskin Array S** 29.87 304 P P 08 57 07.8 -1.3
BR131 **Keskin Array S** 29.87 304 i P P 08 57 09.0 0.0
BRTR **Keskin Array B** 29.87 304 P P 08 57 10.0 +0.9
comp=Z,0.8nm,0.7s,baz=108,slow=8.5,SNR=4.4
comp=Z,0.8nm,0.7s
BRTR **Keskin Array B** 29.87 304 P P 08 57 07.9 -1.2
BRTR **Keskin Array B** 29.87 304 ceP P 08 57 11.1 +2.0
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ARU **Arti** 30.21 352 LR LR 09 10 39.3
comp=Z,684nm,19.1s,baz=160,slow=39
ARU **Arti** 30.21 352 P P 08 57 11.8 +0.1
ARU 08 58 05.6
ARU S S 09 02 11.1 +2.5
ARU MLR MLR
comp=Z,676nm,18.0s
SVE **Sverdlovsk** 30.38 354 eP P 08 57 20.2 +7.1
SVE MLR MLR
comp=Z,685nm,14.0s
ZAA0 **Zalesovo Array** 30.60 22 P P 08 57 14.9 -0.3
ZAA0 IAmb IAmb 08 57 22.9
comp=Z,6.2nm,0.6s
ZALV **Zalesovo Beam** 30.60 22 P P 08 57 14.9 -0.2
comp=Z,4.1nm,0.4s,baz=226,slow=9.0,SNR=19
ZALV LR LR 09 10 55.0
comp=Z,812nm,18.2s,baz=210,slow=39
comp=Z,4.1nm,0.4s
ZALV **Zalesovo Beam** 30.60 22 P P 08 57 14.7 -0.4
ZALV **Zalesovo Beam** 30.60 22 P P 08 57 15.0 -0.2
VRH **Novokhopyorsk** 30.66 330 P P 08 57 14.9 -0.8
VRH pmax pmax
comp=Z,5.0nm,1.1s
GTA **Gaotai** 30.88 57 eP P 08 57 19.5 +1.5
GTA sP sP 08 57 33.5 +0.8
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,120nm,6.4s
GTA LR LR
comp=Z,1μm,20.0s
GTA LR LR
comp=Z,360nm,17.8s
CHTO **Chiang Mai** 31.31 98 P P 08 57 20.9 -0.9
CHTO **Chiang Mai** 31.31 98 P P 08 57 20.9 -0.9
CM31 **Chiang Mai Arr** 31.44 98 P P 08 57 23.0 +0.1
CM31 IAmb IAmb 08 57 29.6
comp=Z,9.1nm,1.1s
CMAR **Chiang Mai Arr** 31.44 98 P P 08 57 23.6 +0.7
comp=Z,2.1nm,0.6s,baz=295,slow=10,SNR=12
comp=Z,2.1nm,0.6s
CMAR **Chiang Mai Arr** 31.44 98 P P 08 57 22.5 -0.4
CMAR **Chiang Mai Arr** 31.44 98 ceP P 08 57 24.7 +1.8
CMAR pmax pmax
comp=Z,3.0nm,0.6s
ISP **Isparta** 31.82 299 P P 08 57 25.6 -0.6
ISP IAmb IAmb 08 57 40.6
comp=Z,9.2nm,0.8s
ISP **Isparta** 31.82 299 P P 08 57 25.6 -0.6
ISP pmax pmax
comp=Z,9.0nm,0.8s
VSR **Storozhevoye** 31.86 327 P P 08 57 26.5 +0.2
VSR pmax pmax
comp=Z,5.0nm,1.0s
PZH **PanZhiHua** 31.91 82 P P 08 57 28.8 +1.7
PZH S S 09 02 42.5 +6.5
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,140nm,6.6s
PZH LR LR
comp=Z,2μm,18.6s
PZH LR LR
comp=Z,760nm,19.2s
PZH LR LR
comp=Z,510nm,16.3s
CRAI **Chiangrai** 32.12 94 P P 08 57 29.3 +0.4
CRAI IAmb IAmb 08 57 33.4
comp=Z,7.1nm,0.9s
VORR **Voronezh** 32.14 328 P P 08 57 30.9 +2.2
VORR pmax pmax
comp=Z,6.0nm,0.5s
PHRA **Phrae** 32.56 97 P P 08 57 32.5 -0.3
LPSR **Galich'ya Gora** 32.88 329 eP P 08 57 35.2 0.0
LPSR pmax pmax
comp=Z,6.0nm,1.4s
KMI **Kunming** 33.02 84 P P 08 57 37.5 +0.5
KMI pmax pmax
comp=Z,7.0nm,1.0s
KMI LR LR
comp=Z,880nm,17.9s
KMI LR LR
comp=Z,700nm,20.6s
KMI LR LR
comp=Z,960nm,17.5s
LZH **Lanzhou** 33.48 64 eP P 08 57 47.5 +6.7
LZH sP sP 08 57 58.0 +2.4
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=N,2μm,15.8s
LZH LR LR
comp=E,350nm,14.6s
LZH LR LR
comp=Z,1μm,18.2s
KIRV **Kirov** 33.95 344 LR LR 09 13 36.2
comp=Z,686nm,18.3s,baz=150,slow=40
KIRV **Kirov** 33.95 344 ceP P 08 57 44.7 +0.3
TIRR **Tirgusor** 34.97 310 P P 08 57 53.2 -0.2
TIRR **Tirgusor** 34.97 310 P P 08 57 52.5 -1.0
TIRR **Tirgusor** 34.97 310 P P 08 57 53.2 -0.2
MOS **Moscow** 35.56 332 eP P 08 58 00.2 +1.8
MOS e 08 59 21.8
MOS pmax pmax
comp=Z,58nm,1.2s
OBN **Obninsk** 35.59 331 P P 08 57 57.1 -1.5
OBN **Obninsk** 35.59 331 eP P 08 58 00.3 +1.7
OBN e 08 59 20.1
OBN pmax pmax
comp=Z,53nm,1.7s
GYA **Guiyang** 36.27 81 iP P 08 58 02.0 -3.0
GYA S S 09 03 43.8 +0.3
GYA pmax pmax
comp=Z,21nm,0.8s
GYA LR LR
comp=Z,1μm,16.5s
GYA LR LR
comp=Z,350nm,14.2s
GYA LR LR
comp=Z,640nm,13.3s
SORM **Soroca** 36.28 316 P P 08 58 04.4 -0.2
SORM **Soroca** 36.28 316 P P 08 58 04.4 -0.2
MOY **Mondy** 36.31 37 eP P 08 58 06.2 +1.2
MOY pmax pmax
comp=Z,21nm,1.6s
VRI **Vrincioaia** 36.54 312 P P 08 58 11.1 +4.2
VRI **Vrincioaia** 36.54 312 P P 08 58 11.1 +4.2
PLOR **Plostina** 36.59 312 P P 08 58 12.1 +4.8
PLOR **Plostina** 36.59 312 P P 08 58 12.1 +4.8
TESR **Tescani** 36.79 313 P P 08 58 14.0 +5.0
AKASG **Malin Array Be** 36.84 321 P P 08 58 09.6 +0.3
comp=Z,1.9nm,0.7s,baz=117,slow=6.8,SNR=14
comp=Z,1.9nm,0.7s
AKBB **Malin Array Si** 36.84 321 P P 08 58 07.6 -1.7
AKBB IAmb IAmb 08 58 35.8
comp=Z,10nm,0.9s
AKBB **Malin Array Si** 36.84 321 ceP P 08 58 08.3 -1.0
AKBB pmax pmax
comp=Z,7.0nm,1.0s
MLR **Muntele Rosu** 36.95 311 P P 08 58 13.1 +2.6
comp=Z,8.3nm,1.0s,baz=98,slow=5.4,SNR=7.5
comp=Z,8.3nm,1.0s
MLR **Muntele Rosu** 36.95 311 P P 08 58 12.0 +1.4
DOPR **Dopca** 37.46 312 P P 08 58 16.4 +1.6
VOIR 37.54 311 P P 08 58 12.1 -3.4
VOIR 37.54 311 P P 08 58 12.1 -3.4
XAN **Xi'an** 37.55 68 P P 08 58 16.0 +0.3
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN LR LR
comp=Z,1μm,18.7s
XAN LR LR
comp=Z,480nm,16.5s
XAN LR LR
comp=Z,760nm,15.9s
ARR **Arges** 37.80 311 P P 08 58 11.6 -6.1
SONM **Songino Array** 37.91 45 P P 08 58 20.0 +1.3
comp=Z,3.9nm,0.8s,baz=246,slow=8.7,SNR=18
SONM LR LR 09 15 50.2
comp=Z,591nm,19.0s,baz=200,slow=39
comp=Z,3.9nm,0.8s
SONM **Songino Array** 37.91 45 P P 08 58 19.0 +0.3
SONM **Songino Array** 37.91 45 P P 08 58 20.0 +1.3
BURAR **Bucovina Array** 38.08 314 P P 08 58 21.5 +1.5
BURAR **Bucovina Array** 38.08 314 IAmb IAmb 08 58 25.1
comp=Z,12nm,0.8s
BURAR **Bucovina Array** 38.08 314 P P 08 58 21.5 +1.5
BUR08 **Bucovina Ar. S** 38.09 314 P P 08 58 20.3 +0.1
BUR08 IAmb IAmb 08 58 25.5
comp=Z,10nm,1.0s
ULN **Ulaanbaatar** 38.34 45 P P 08 58 22.5 +0.2
ULN **Ulaanbaatar** 38.34 45 P P 08 58 22.5 +0.2
ULN pmax pmax
comp=Z,6.0nm,1.0s
KLMR **Klimovskoe** 38.61 340 eP P 08 58 24.1 -0.1
KLMR AMP 08 58 28.7
comp=Z,59nm,1.3s
KLMR LQ LQ 09 12 22.4
KLMR LQ LQ 09 12 22.4
KLMR LR LR 09 13 32.8
KLMR AMP 09 16 21.0
comp=Z,1μm,15.3s
KLMR LRM MLR 09 16 34.5
KLMR **Klimovskoe** 38.61 340 eP P 08 58 24.1 -0.1
KLMR pmax pmax
comp=Z,59nm,1.3s
KLMR MLR MLR
comp=Z,1μm,15.0s
KMBO **Kilima Mbogo** 39.13 230 P P 08 58 29.8 +0.4
KMBO **Kilima Mbogo** 39.13 230 P P 08 58 29.8 +0.4
KMBO pmax pmax
comp=Z,16nm,1.4s
MARR **Marisel-Cluj** 39.17 312 P P 08 58 17.1 -12
MNK **Minsk** 39.35 325 i P P 08 58 26.6 -3.9
comp=E,3.0nm,1.1s
MNK i P P 08 58 26.6 -3.9
comp=N,42nm,0.9s
MNK i P P 08 58 26.6 -3.9
comp=Z,4.0nm,0.9s,baz=119
MNK i PP PP 08 59 55.3 -5.7
MNK i PPP PPP 09 00 17.5
MNK i S S 09 04 27.1 -2.1
MNK i SS SS 09 07 21.2 -2.4
MNK i SSS SSS 09 07 38.6
MNK i LQ LQ 09 11 43.9
MNK i LR LR 09 14 37.8
MNK i LRM MLR 09 16 13.3
comp=N,538nm,15.0s
MNK i LRM MLR 09 16 25.4
comp=Z,69nm,14.1s
MNK i LRM MLR 09 16 31.5
comp=E,20nm,15.7s
MNK **Minsk** 39.35 325 i P P 08 58 26.5 -3.9
MNK i S S 09 04 27.1 -2.1
MNK i SS SS 09 07 21.2 -2.4
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=Z,4.0nm,0.9s
MNK pmax pmax
comp=N,42nm,0.9s
MNK MLR MLR
comp=N,538nm,15.0s
MNK MLR MLR
comp=Z,69nm,14.0s
MNK MLR MLR
comp=E,20nm,16.0s
PSI **Prapat** 39.48 121 P P 08 58 33.7 +1.6
comp=E,8.9nm,0.8s,baz=263,slow=7.0,SNR=6.1
comp=E,8.9nm,0.8s
KIBK **Kibwezi** 39.49 227 P P 08 58 32.7 +0.5
KIBK IAmb IAmb 08 58 38.7
comp=Z,17nm,1.2s
RPSI **Rantau Prapat** 39.55 121 P P 08 58 32.4 -0.2
RPSI IAmb IAmb 08 58 51.3
comp=Z,13nm,0.9s
BZS **Buzias** 39.92 310 P P 08 58 37.0 +1.6
BZS **Buzias** 39.92 310 P P 08 58 37.0 +1.6
HHC **Hu-ho-hao-te** 40.00 57 eP P 08 58 36.8 +0.6
HHC pmax pmax
comp=Z,6.0nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.0s
HHC LR LR
comp=Z,640nm,15.5s
HHC LR LR
comp=Z,1μm,15.5s
HHC LR LR
comp=Z,2μm,15.2s
UZH **Uzhgorod** 40.25 315 eP P 08 58 42.0 +4.0
UZH i 08 58 50.8
LYN **LuoYang** 40.48 67 eP P 08 58 37.0 -3.1
LYN LR LR
comp=Z,740nm,21.1s
LYN LR LR
comp=Z,340nm,16.2s
LYN LR LR
comp=Z,450nm,19.1s
CRVS **Cervenica-Dubn** 40.86 315 eP P 08 58 46.9 +3.8
CRVS pmax pmax
comp=Z,27nm,1.0s
CRVS **Cervenica-Dubn** 40.86 315 eP P 08 58 46.9 +3.8
QIZ **Qiongzhong** 40.96 91 P P 08 58 43.5 -0.8
QIZ S S 09 04 56.8 +2.7
QIZ LR LR
comp=Z,720nm,19.4s
QIZ LR LR
comp=Z,390nm,18.6s
QIZ LR LR
comp=Z,210nm,12.5s
STHS **Stebnicka Huta** 41.14 316 eP P 08 58 47.3 +1.9
STHS **Stebnicka Huta** 41.14 316 eP P 08 58 47.3 +1.9
PSZ **Piszkesteto** 41.61 313 IAmb IAmb 08 59 11.3
comp=Z,9.2nm,0.8s
MORH **Mrgy, Hungar** 42.08 310 P P 08 58 53.5 +0.4
LANS **Liptovska Anna** 42.19 315 eP P 08 58 57.0 +3.0
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS **Liptovska Anna** 42.19 315 eP P 08 58 57.0 +3.0
HNS **HongShan** 42.25 63 P P 08 58 53.8 -0.8
HNS S S 09 05 16.0 +3.2
HNS pmax pmax
comp=Z,8.0nm,1.8s
HNS LR LR
comp=Z,380nm,12.7s
HNS LR LR
comp=Z,920nm,17.5s
HNS LR LR
comp=Z,850nm,15.7s
OJC **Ojcow** 42.27 316 eP P 08 58 55.8 +1.2
OJC **Ojcow** 42.27 316 P P 08 58 53.4 -1.2
OJC **Ojcow** 42.27 316 P P 08 58 53.4 -1.2
OJC pmax pmax
comp=Z,8.0nm,1.0s
VYHS **Vyhne** 42.43 314 eP P 08 58 57.4 +1.4
VYHS pmax pmax
comp=Z,8.0nm,0.9s
VYHS **Vyhne** 42.43 314 eP P 08 58 57.4 +1.4
PDSI **Padang** 43.07 124 P P 08 59 02.9 +1.4

comp=Z,14nm,1.4s,comp=Z,2µm
JAVC Velka Javorina 43.27 314 *e*P **P** **08 59 06.1 +3.3**
MODS Modra-Piesok 43.42 313 *e*P **P** **08 59 07.2 +3.2**
MODS pmax pmax
comp=Z,25nm,1.3s
MODS Modra-Piesok 43.42 313 *e*P **P** **08 59 07.2 +3.2**
KLNR Kaliningrad 43.44 323 *i* P **P** **08 59 04.2 +0.3**
CUC Castrocucco 43.45 301 P **P** **08 59 04.3 0.0**
MORC Moravsky Berou 43.56 315 P **P** **08 59 03.9 -1.2**
MORC lAmb lAmb 08 59 25.2
comp=Z,11nm,1.1s
MORC Moravsky Berou 43.56 315 *e*P **P** **08 59 06.3 +1.2**
MORC Moravsky Berou 43.56 315 P **P** **08 59 03.9 -1.2**
MORC pmax pmax
comp=Z,11nm,1.1s
XLT XiLinHaoTe 43.66 53 *e*P **P** **08 59 07.8 +1.8**
XLT pP pP 08 59 12.5 -4.2
XLT sP sP 08 59 14.3 -6.7
XLT PcP **PcP** **09 00 59.0 +6.1**
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,240nm,5.7s
XLT LR LR
comp=Z,69nm,16.2s
XLT LR LR
comp=Z,470nm,16.6s
XLT LR LR
comp=Z,440nm,22.5s
FIA1 FINESS Array S 43.84 334 P **P** **08 59 05.8 -1.3**
FIA1 lAmb lAmb 08 59 12.3
comp=Z,14nm,1.1s
FINES FINESS Array B 43.84 334 P **P** **08 59 07.9 +0.8**
comp=Z,6.6nm,0.7s,baz=130,slow=7.9,SNR=27
comp=Z,6.6nm,0.7s
FINES FINESS Array B 43.84 334 P **P** **08 59 06.3 -0.8**
RONA Rosalia, Austr 43.93 312 *e*p**P** **P** **08 59 10.1 +1.9**
comp=Z,5.4nm,0.8s
VRAC Vranov 44.05 314 P **P** **08 59 11.0 +1.9**
comp=Z,2.3nm,0.5s,baz=58,slow=8.9,SNR=5.1
comp=Z,2.3nm,0.5s
VRAC Vranov 44.05 314 *e*P **P** **08 59 07.4 -1.7**
VRAC Vranov 44.05 314 P **P** **08 59 11.0 +1.9**
KRUC Moravsky 44.13 314 *e*P **P** **08 59 07.0 -2.7**
CONA Conrad Observa 44.26 312 *e*p**P** **P** **08 59 12.8 +2.0**
comp=Z,6.4nm,1.0s
ARSA Arzberg 44.37 311 *e*p**P** P 08 59 15.7 +4.0
comp=Z,6.9nm,1.1s
DPC Dobruska-Polom 44.46 316 *e*P **P** **08 59 13.7 +1.4**
DPC Dobruska-Polom 44.46 316 *e*P **P** **08 59 13.7 +1.4**
NRIK Noril'sk 44.54 11 P **P** **08 59 13.7 +1.1**
comp=Z,2.0nm,0.5s,baz=207,slow=7.0,SNR=1.9
comp=Z,2.0nm,0.5s
NRIK Noril'sk 44.54 11 P **P** **08 59 12.2 -0.4**
NRIK Noril'sk 44.54 11 *ce*P **P** **08 59 14.4 +1.8**
NRIK pmax pmax
comp=Z,10.0nm,1.5s
OSTC Ostas 44.57 316 *e*P **P** **08 59 14.5 +1.3**
SOKA Soboth 44.62 310 *e*p**P** **P** **08 59 16.1 +2.4**
comp=Z,5.2nm,1.2s
UPC Upice 44.69 316 *e*P **P** **08 59 16.1 +2.0**
UPC Upice 44.69 316 *e*P **P** **08 59 16.1 +2.0**
MOA Molln 45.31 312 *e*p**P** **P** **08 59 20.1 +1.0**
comp=Z,6.6nm,1.3s
CKRC Cesky Krumlov 45.44 313 *e*P **P** **08 59 21.3 +1.2**
PRU Pruhonice 45.50 315 *e*P **P** **08 59 21.6 +1.1**
PRU Pruhonice 45.50 315 *e*P **P** **08 59 21.6 +1.1**
BIOA Bad Ischl, Aus 45.70 312 pP **P** **08 59 23.4 +1.1**
comp=Z,7.6nm,1.3s
BOD Bodaibo 45.77 34 *e*P **P** **08 59 23.2 +0.6**
BOD pmax pmax
comp=Z,9.0nm,1.5s
KBA Koelnbreinsper 45.82 311 *e*p**P** **P** **08 59 24.6 +1.3**
comp=Z,6.3nm,0.9s
GEC2 GERESS Array S 45.84 313 P **P** **08 59 21.8 -1.5**
GEC2 lAmb lAmb 08 59 28.7
comp=Z,14nm,1.3s
GERES GERESS Array B 45.84 313 P **P** **08 59 24.2 +0.8**
comp=Z,1.5nm,0.7s,baz=124,slow=6.6,SNR=9.4
comp=Z,1.5nm,0.7s
GERES GERESS Array B 45.84 313 P **P** **08 59 23.1 -0.3**
MASI Maura Aman, Be 45.87 125 P **P** **08 59 26.9 +3.0**
comp=Z,23nm,1.0s
JMBI JAMBI 45.93 122 P **P** **08 59 28.2 +3.9**
KHC Kasperske Hory 45.96 314 *e*P **P** **08 59 27.2 +2.9**
KHC Kasperske Hory 45.96 314 *e*P **P** **08 59 27.2 +2.9**
NJ2 Nanjing 46.01 70 *e*P **P** **08 59 24.3 -0.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
BRG Berggiesshubel 46.05 316 Amp 08 59 31.2
comp=Z,34nm,1.4s
BRG Berggiesshubel 46.05 316 Amp 09 25 28.0
comp=Z,0.3nm,18.8s
BRG Berggiesshubel 46.05 316 *e*P **P** **08 59 27.0 +2.1**
BRG pmax pmax
comp=Z,34nm,1.4s
BRG pmax pmax
comp=Z,25nm,1.5s
BRG Berggiesshubel 46.05 316 *e*P **P** **08 59 27.0 +2.1**
ABTA Abfaltersbach 46.35 310 *e*p**P** **P** **08 59 28.0 +0.6**
comp=Z,5.4nm,0.8s
CIMO Cimolais 46.35 310 lAmb lAmb 08 59 52.1
comp=Z,5.3nm,0.9s
CLL Collm 46.72 316 *e*P **P** **08 59 30.0 -0.1**
CLL *i* pP **P** **08 59 33.2 +3.1**
comp=Z,16nm,1.1s
CLL LmV 09 25 00.0
comp=Z,200nm,20.1s
CLL Collm 46.72 316 *i* P **P** **08 59 33.2 +3.1**
CLL pmax pmax
comp=Z,16nm,1.1s
HIA Hailar 46.85 46 *i* P **P** **08 59 31.1 -0.1**
HIA pmax pmax
comp=Z,6.0nm,1.0s
WTTA Wattenberg 47.00 311 *e*p**P** **P** **08 59 33.1 +0.5**
comp=Z,18nm,1.6s
WATA Walderalm 47.05 311 *i* P **P** **08 59 33.2 +0.3**
comp=Z,11nm,1.1s
SQTA Sankt Quirin 47.28 311 *e*p**P** **P** **08 59 35.4 +0.7**
comp=Z,10nm,1.1s
MOTA Moosalm 47.37 311 *e*P **P** **08 59 34.8 -0.7**
comp=Z,12nm,1.2s
GRF Grafenberg Arr 47.57 314 *e*P **P** **08 59 38.5 +1.7**
comp=Z,12nm,1.1s,baz=98,slow=8.0
FETA Feichten 47.59 310 *e*p**P** **P** **08 59 37.6 +0.4**
comp=Z,11nm,1.0s
RETA Reutte 47.61 311 P **P** **08 59 36.9 -0.3**
comp=Z,4.9nm,0.6s
FUORN Ofenpass-Fuorn 47.88 310 P **P** **08 59 37.7 -1.8**
FUORN lAmb lAmb 08 59 53.4
comp=Z,8.0nm,1.1s
DAVOX Davos/Dischmat 48.15 310 P **P** **08 59 42.8 +1.2**
comp=Z,2.4nm,0.5s,baz=42,slow=1.3,SNR=5.2
comp=Z,2.4nm,0.5s
DAVA Damuels 48.19 311 *e*P **P** **08 59 41.5 -0.4**
comp=Z,5.7nm,0.6s
LWLI Liwa 48.47 125 P **P** **08 59 46.0 +1.7**
OPO Ambohidratompo 48.53 204 P **P** **08 59 46.4 +1.7**
comp=Z,1.7nm,0.9s,baz=77,slow=12,SNR=2.0
comp=Z,1.7nm,0.9s
HFS Hagfors 48.67 328 P **P** **08 59 45.9 +0.8**
comp=Z,8.7nm,0.8s,baz=109,slow=8.3,SNR=10
comp=Z,8.7nm,0.8s
STU Stuttgart 48.78 313 P **P** **08 59 45.2 -1.0**
STU Stuttgart 48.78 313 P **P** **08 59 45.2 -1.0**
STU pmax pmax
comp=Z,10.0nm,0.8s
NC602 NORSAR Array S 49.88 328 P **P** **08 59 53.2 -1.1**
ECH Echery 50.09 312 P **P** **08 59 55.2 -1.0**
ECH lAmb lAmb 09 00 00.8
comp=Z,13nm,1.1s
ECH Echery 50.09 312 P **P** **08 59 55.2 -1.0**
ECH pmax pmax
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 50.12 329 P **P** **08 59 56.8 +0.6**
comp=Z,12nm,1.1s,baz=108,slow=7.9
NOA NORSAR Array B 50.12 329 P **P** **08 59 57.0 +0.8**
comp=Z,3.5nm,0.8s,baz=108,slow=7.5,SNR=9.1
comp=Z,3.5nm,0.8s
BNI Bardonecchia 50.31 308 P **P** **08 59 54.2 -3.8**
BNI lAmb lAmb 09 00 09.8
comp=Z,8.4nm,0.8s
BNI Bardonecchia 50.31 308 P **P** **08 59 54.2 -3.8**
BNI pmax pmax
comp=Z,8.0nm,0.8s
CN2 Changchun 50.42 54 P **P** **08 59 59.3 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,700nm,13.0s
CN2 LR LR
comp=Z,700nm,16.0s
WLF Walferdange 50.84 314 *dx* x 09 00 06.7
MEM Membach 51.00 315 *dx* x 09 00 08.5
BCLA Clavier 51.44 314 *dx* x 09 00 11.0
BGES Gesves 51.57 314 *dx* x 09 00 12.8
BGES *d*PcP **PcP** **09 01 21.3 +0.4**
VOI Vohitsoka 51.75 203 P **P** **09 00 09.9 +1.0**
VOI lAmb lAmb 09 00 14.6
comp=Z,23nm,1.5s
BNX BinXian 51.79 52 ⇑P **P** **09 00 12.5 +3.5**
BNX pmax pmax
comp=Z,8.0nm,1.1s
BNX pmax pmax
comp=Z,150nm,4.4s
HEH HeiHe 51.89 46 *e*P **P** **09 00 10.5 +0.8**
HEH pmax pmax
comp=Z,13nm,1.0s
ZEA Zeya 52.07 41 *e*P **P** **09 00 12.2 +1.3**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=Z,300nm,14.0s
KSRS Korea Array 52.74 62 P **P** **09 00 16.3 +0.2**
comp=Z,2.5nm,0.8s,baz=268,slow=6.8,SNR=13
KSRS LR LR 09 25 32.5
comp=Z,249nm,18.1s,baz=265,slow=39
comp=Z,2.5nm,0.8s
YAK Yakutsk 54.50 31 LR LR 09 26 39.4
comp=Z,278nm,21.3s,baz=266,slow=39
YAK Yakutsk 54.50 31 *ce*P **P** **09 00 30.2 +1.6**
YAK pmax pmax
comp=Z,16nm,1.3s
KLR Kul'dur 54.69 47 LR LR 09 28 15.9
comp=Z,378nm,18.3s,baz=266,slow=41
KLR Kul'dur 54.69 47 *ce*P **P** **09 00 29.9 -0.3**
KLR pmax pmax
comp=Z,11nm,0.8s
JOW Kunigami 55.09 75 LR LR 09 26 36.0
comp=Z,485nm,21.0s,baz=190,slow=39
USRK Ussuriysk Ar. 55.11 53 LR LR 09 27 04.1
comp=Z,381nm,20.4s,baz=259,slow=39
SPITS Spitsbergen Ar 56.19 349 LR LR 09 30 38.8
comp=Z,282nm,20.3s,baz=63,slow=42
TIXI Tiksi 56.45 20 LR LR 09 27 18.6
comp=Z,393nm,18.4s,baz=184,slow=39
TIXI Tiksi 56.45 20 P **P** **09 00 42.6 +0.2**
TIXI Tiksi 56.45 20 *ce*P **P** **09 00 42.9 +0.4**
TIXI pmax pmax
comp=Z,12nm,2.5s
EKA Eskdalemuir Ar 56.75 320 P **P** **09 00 45.2 +0.4**
comp=Z,0.6nm,0.4s,baz=98,slow=7.7,SNR=9.0
comp=Z,0.6nm,0.4s
ESDC Sonseca Array 58.63 302 P **P** **09 00 59.4 +1.0**
comp=Z,2.6nm,0.8s,baz=66,slow=7.0,SNR=11
comp=Z,2.6nm,0.8s
DAV Davao City (W) 59.72 98 LR LR 09 29 18.5
comp=Z,137nm,20.7s,baz=318,slow=38
JMIC Jan Mayen 59.99 339 LR LR 09 28 36.0
comp=Z,266nm,18.4s,baz=258,slow=38
KAPI Kappang 60.77 113 LR LR 09 30 27.3
comp=Z,117nm,19.3s,baz=290,slow=39
MJAR Matsushiro Arr 61.00 61 LR LR 09 29 50.5
comp=Z,157nm,18.8s,baz=252,slow=38
TORD Torodi Ar. Bea 61.38 271 P **P** **09 01 19.4 +1.8**
comp=Z,15nm,0.9s,baz=64,slow=6.6,SNR=19
comp=Z,15nm,0.9s
TORD Torodi Ar. Bea 61.38 271 P **P** **09 01 17.3 -0.4**
YSS Yuzh-Sakhalins 62.25 49 *e*P **P** **09 01 24.4 +1.4**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,700nm,19.0s
ASAJ Asahikawa 62.68 52 LR LR 09 31 46.3
comp=Z,412nm,18.4s,baz=302,slow=39
NOR Nord 62.72 351 *i* P **P** **09 01 27.3 +1.7**
NOR lAmb lAmb 09 01 50.2
comp=Z,2.4nm,1.0s
DAG Danmarks Havn 63.02 345 *i* P **P** **09 01 30.0 +2.4**
DAG lAmb lAmb 09 02 08.4
comp=Z,2.8nm,1.0s
JHJ Hachijo jima 2 63.10 65 LR LR 09 33 02.6
comp=Z,272nm,18.1s,baz=312,slow=40
LBTB Lobatse 64.50 221 P **P** **09 01 39.8 +1.7**
comp=Z,3.7nm,0.6s,baz=345,slow=3.7,SNR=5.0
LBTB LR LR 09 28 16.1
comp=Z,181nm,20.1s,baz=45,slow=35
comp=Z,3.7nm,0.6s
MA2 Magadan 64.80 34 LR LR 09 31 44.7
comp=Z,231nm,18.6s,baz=270,slow=38
MA2 Magadan 64.80 34 *i* P **P** **09 01 41.2 +1.6**
MA2 pmax pmax
comp=Z,2.0nm,1.0s
SEY Seymchan 64.99 30 P **P** **09 01 41.6 +0.8**
comp=Z,2.3nm,0.6s,baz=270,slow=7.3,SNR=12
SEY LR LR 09 33 39.0
comp=Z,302nm,19.4s,baz=337,slow=39
comp=Z,2.3nm,0.6s
SEY Seymchan 64.99 30 *ce*P **P** **09 01 42.3 +1.5**
SEY pmax pmax
comp=Z,9.0nm,1.7s
TSUM Tsumeb 65.46 231 P **P** **09 01 44.4 -0.1**
BATI Baumata 66.89 115 LR LR 09 32 27.5
comp=Z,216nm,21.7s,baz=300,slow=37
BOSA Boshof 67.45 218 P **P** **09 01 58.4 +1.3**
comp=Z,1.6nm,0.5s,baz=51,slow=4.8,SNR=5.4
comp=Z,1.6nm,0.5s
BOSA Boshof 67.45 218 P **P** **09 01 57.3 +0.1**
SIJI Sorong 68.44 102 LR LR 09 35 35.8
comp=Z,48nm,19.7s,baz=160,slow=39
SUMG Summit 69.00 342 *i* P **P** **09 02 09.0 +2.4**
SUMG lAmb lAmb 09 02 19.7
comp=Z,4.0nm,0.8s
BILL Bilibino 69.29 23 ⇓*e*P **P** **09 02 10.0 +2.0**
BILL pmax pmax
comp=Z,7.0nm,1.7s
BILL MLR MLR
comp=Z,388nm,18.0s
DBIC Dimbokro 69.94 267 P **P** **09 02 14.3 +1.5**
comp=Z,8.5nm,1.1s,baz=19,slow=5.5,SNR=4.9
DBIC LR LR 09 38 31.7
comp=Z,160nm,18.6s,baz=54,slow=41
comp=Z,8.5nm,1.1s
PETK Petropavlovsk- 70.11 40 LR LR 09 35 19.8
comp=Z,340nm,19.4s,baz=288,slow=38
SUR Sutherland 72.80 219 LR LR 09 33 04.2
comp=Z,168nm,19.5s,baz=21,slow=35
GUMO Guam 74.21 83 LR LR 09 34 30.6
comp=Z,65nm,21.1s,baz=98,slow=35
SHEM Shemya Is, Ala 79.32 36 LR LR 09 41 20.5
comp=Z,168nm,19.9s,baz=292,slow=38
WB0 Warramunga Arr 80.78 117 P **P** **09 03 14.0 -1.1**
WB0 lAmb lAmb 09 03 28.6
comp=Z,7.2nm,1.2s
WRA Warramunga Arr 80.84 118 P **P** **09 03 17.5 +2.2**
comp=Z,2.3nm,1.0s,baz=316,slow=4.7,SNR=8.5
WRA LR LR 09 42 21.0
comp=Z,50nm,18.8s,baz=286,slow=38
comp=Z,2.3nm,1.0s
WRA Warramunga Arr 80.84 118 *ce*P **P** **09 03 19.0 +3.7**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WR0 Warramunga Arr 81.00 118 P **P** **09 03 15.3 -0.9**
WR0 lAmb lAmb 09 03 37.4
comp=Z,8.6nm,1.4s
A36M Sachs Harbour 81.30 4 lAmb lAmb 09 03 44.8
comp=Z,6.7nm,0.9s
ASAR Alice Springs 82.51 121 P **P** **09 03 24.4 +0.3**
comp=Z,1.4nm,0.6s,baz=308,slow=5.4,SNR=16
ASAR LR LR 09 42 07.0
comp=Z,48nm,20.1s,baz=318,slow=37
comp=Z,1.4nm,0.6s
ASAR Alice Springs 82.51 121 P **P** **09 03 24.1 0.0**
AS31 Alice Springs 82.51 121 P **P** **09 03 24.1 0.0**
COLD Coldfoot 82.52 13 lAmb lAmb 09 03 47.6
comp=Z,12nm,1.4s
H21K Melozitna Rive 83.27 15 lAmb lAmb 09 03 39.8
comp=Z,4.3nm,1.0s
BMAR Burnt Mountain 83.43 11 P **P** **09 03 28.1 -0.1**
C36M Paulatuk 83.98 4 lAmb lAmb 09 03 55.8
comp=Z,4.9nm,1.1s
INK Inuvik 84.21 7 P **P** **09 03 32.3 +0.3**
comp=Z,1.4nm,0.7s,baz=345,slow=5.7,SNR=11
comp=Z,1.4nm,0.7s
INK Inuvik 84.21 7 P **P** **09 03 32.4 +0.3**
INK lAmb lAmb 09 03 47.1
comp=Z,11nm,1.4s
INK Inuvik 84.21 7 P **P** **09 03 32.4 +0.3**
INK pmax pmax
comp=Z,11nm,1.4s
CAST Castle Rocks 85.31 16 P **P** **09 03 38.0 +0.2**
CAST lAmb lAmb 09 03 56.8
comp=Z,9.3nm,1.2s
ILAR Eielson Array 85.34 14 P **P** **09 03 38.9 +1.1**
comp=Z,0.4nm,0.8s,baz=339,slow=3.3,SNR=5.1
ILAR LR LR 09 46 52.7
comp=Z,246nm,20.4s,baz=348,slow=39
comp=Z,0.4nm,0.8s
ILAR Eielson Array 85.34 14 P **P** **09 03 38.0 +0.1**
KRVT Keravat (AS076 88.37 96 LR LR 09 44 02.9
comp=Z,32nm,20.2s,baz=315,slow=36
SCHQ Schefferville 89.30 335 LR LR 09 47 11.4
comp=Z,252nm,18.9s,baz=188,slow=38
CTA Charters Tower 90.59 112 LR LR 09 47 52.3
comp=Z,39nm,20.8s,baz=262,slow=38
YKA Yellowknife Ar 91.15 0 P **P** **09 04 06.2 +0.6**
comp=Z,0.4nm,0.7s,baz=348,slow=4.4,SNR=14
comp=Z,0.4nm,0.7s
STKA Stephens Creek 92.60 124 P **P** **09 04 13.9 +1.1**
comp=Z,1.1nm,0.6s,baz=325,slow=11,SNR=5.7
STKA LR LR 09 48 54.6
comp=Z,80nm,18.9s,baz=283,slow=38
comp=Z,1.1nm,0.6s
MAW Mawson 94.01 181 LR LR 09 40 24.4
comp=Z,88nm,19.9s,baz=350,slow=32
NVAR Mina Aray Bea 115.12 4 PKP **PKPdf** **09 09 44.5 +1.8**
comp=Z,0.3nm,0.7s,baz=135,slow=0.6,SNR=3.8
TXAR Lajitas Aray 123.44 349 PKP **PKiKP** **09 10 00.1 +1.0**
comp=Z,0.5nm,0.8s,baz=147,slow=2.5,SNR=4.7

IDC ***29*** *08:52:56.5±1.4, 6.71S×72.63E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=44.1km s-min=17.1km az=101.0*
ISC 29 08:52:59.1±1.3, 6.70S±0.08×72.5E±0.3, h18km, n12, σ1°28/12, mb4.0/5, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**0.93**	**182**	Pn	**Pg**	**08 53 16.5**	**-0.6**
H08S3				Sn	**Sn**	**08 53 31.5**	**+1.8**
H08S1	**Diego Garcia H**	**0.94**	**183**	Pn	**Pn**	**08 53 16.5**	**-0.7**
H08S1				Sn	**Sn**	**08 53 31.5**	**+1.3**
H08S2	**Diego Garcia H**	**0.94**	**182**	Pn	**Pg**	**08 53 16.5**	**-0.9**
H08S2				Sn	**Sn**	**08 53 31.5**	**+1.4**
BKNI	**Bangkinang** 71nm,0.4s,6um	**29.30**	**77**	P	**P**	**08 59 01.2**	**+0.4**
H01W3	**Cape Leeuwin H** baz=297,slow=75,SNR=27	**47.43**	**132**	T	T	09 52 05.1	
H01W2	**Cape Leeuwin H** baz=297,slow=75,SNR=26	**47.44**	**132**	T	T	09 52 05.5	
H01W1	**Cape Leeuwin H** baz=297,slow=75,SNR=31	**47.45**	**132**	T	T	09 52 06.4	
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=177,slow=7.8,SNR=1.8 0.5nm,0.7s	**53.96**	**8**	P	**P**	**09 02 23.5**	**+1.8**
ASAR	**Alice Springs** 0.9nm,0.9s,baz=280,slow=6.5,SNR=8.5 0.9nm,0.9s	**61.16**	**113**	P	**P**	**09 03 12.6**	**-0.4**
WRA	**Warramunga Arr** 1.4nm,0.8s,baz=284,slow=6.8,SNR=13 1.4nm,0.8s	**61.28**	**109**	P	**P**	**09 03 13.7**	**-0.1**
SONM	**Songino Array** 1.2nm,0.9s,baz=225,slow=5.7,SNR=3.8 1.2nm,0.9s	**61.96**	**25**	P	**P**	**09 03 17.4**	**-0.6**
NVAR	**Mina Aray Bea** 0.3nm,0.6s,baz=316,slow=2.5,SNR=2.1	**146.92**	**16**	PKPbc	**PKPbc**	**09 12 39.7**	**-1.5**

CRAAG ***29*** *08:55:23.6, 36.14N×4.50E, Ml4.0, Algerie 05km E Mansoura*
IDC ***29*** *08:55:24.0±0.7, 36.09N×4.51E, h0km, mb4.1/22, mbtmp4.1/29, ML3.8/7, MS3.2/2, Error ellipse: s-maj=18.5km s-min=11.6km az=174.0*
MDD ***29*** *08:55:25.5±0.6, 35.91N×4.74E, h16km±10km, Mb4.4/34, M_mb3.8/34, Error ellipse: s-maj=11.8km s-min=3.3km az=138.0*
NEIC ***29*** *08:55:26.1±1.1, 36.17N±0.07×4.50E±0.08, h10km±1km, mb4.6/24, Error ellipse: s-maj=12.2km s-min=10.7km az=180.0*
LDG ***29*** *08:55:27.4±0.3, 36.07N×4.70E, h10km, Ml3.6/22, Error ellipse: s-maj=6.2km s-min=3.1km az=148.0*
CNRM ***29*** *08:55:37.3, 36.17N×3.68E, h59km, ml3.9*
ISC 29 08:55:25.5±0.4, 36.17N±0.05×4.51E±0.03, h10km, n183, σ2°14/211, mb4.4/31, 29C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.34**	**213**	P	**Pg**	**08 55 31.1**	**-1.3**
AKET	**Djebel Ketaf**	**0.52**	**257**	P	**Pg**	**08 55 35.4**	**-0.2**
SET	**Setif**	**0.72**	**87**	P	**Pg**	**08 55 39.0**	**-0.5**
CKHR	**Kef el Ahmar**	**0.83**	**100**	P	**Pg**	**08 55 41.5**	**0.0**
DFRA	**Djebel Bou Aff**	**1.17**	**71**	P	**Pn**	**08 55 48.9**	**+0.9**
CASM	**Ain Smara**	**1.61**	**86**	P	**Pg**	**08 55 57.7**	**+1.4**
CKFL	**Kef-Lekhel**	**1.80**	**82**	P	**Pg**	**08 56 00.4**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.99**	**71**	P	**Pb**	**08 56 02.5**	**+0.8**
CMAH	**Djebel Manchou**	**2.40**	**78**	P	**Pn**	**08 56 05.6**	**+0.8**
ABSA	**Djebel Ababsia**	**2.41**	**87**	P	**Pb**	**08 56 07.9**	**-1.0**
OJGS	**Djebel Guires**	**3.12**	**259**	P	Pg	08 56 40.0	+15
OKGL	**Djebel Kef Gue**	**3.13**	**269**	P	Pg	08 56 40.0	+15
OJBR	**Djebel Berber**	**3.43**	**261**	P	Pg	08 56 39.0	+7.8
MAHO	**Mahon**	**3.73**	**357**		**Pn**	**08 56 23.5**	**+0.4**
EIBI	**Ibiza**	**3.80**	**320**	P	**Pn**	**08 56 26.0**	**+1.8**
EIBI	814nm,SNR=1.5			⇑*i*Vmb_V		08 56 28.9	
EIBI				S	**Sn**	**08 57 10.9**	**+2.0**
ETOS	**Mallorca**	**3.84**	**340**	P	**Pn**	**08 56 26.1**	**+1.5**
ETOS	895nm,SNR=1.6			⇑*i*Vmb_V		08 56 27.3	
ETOS				S	**Sn**	**08 57 07.6**	**-2.2**
ODJA	**Bouhanifia**	**3.88**	**259**	P	**Pg**	**08 56 42.0**	**+2.2**
KEST	**Kesra** 5.8nm,0.3s,baz=246,slow=3.0,SNR=41	**3.95**	**95**	Pn	**Pn**	**08 56 27.1**	**+0.8**
KEST				Sn	**Sn**	**08 57 13.3**	**+0.6**
KEST	**Kesra** 5.5nm,0.3s,baz=326,slow=6.7,SNR=5.3 62nm,0.8s	**3.95**	**95**	Pn	**Pn**	**08 56 26.7**	**+0.5**
OTSS	**Djebel Tessala**	**4.40**	**260**	P	**Pn**	**08 56 35.0**	**+2.6**
CART	**Cartagena**	**4.64**	**289**	Pn	**Pn**	**08 56 35.6**	**+0.1**
AFON	**Font Roja**	**4.73**	**303**	P	**Pn**	**08 56 39.9**	**+2.9**
AFON	189nm,SNR=0.6			⇑*i*Vmb_V		08 56 42.8	
ECOL	**Islas Columbre**	**4.79**	**322**	P	**Pn**	**08 56 39.3**	**+1.5**
EMUR	**La Murta**	**4.89**	**292**	P	**Pn**	**08 56 39.9**	**+0.7**
EMUR	461nm,SNR=2.6			⇑*i*Vmb_V		08 56 41.0	
EMUR				S	**Sn**	**08 57 35.4**	**-0.5**
EZAR	**Zarzadilla de**	**5.25**	**291**	P	**Pn**	**08 56 45.1**	**+1.1**
EZAR	949nm,SNR=5.7			⇑*i*Vmb_V		08 56 46.3	
EZAR				S	**Sn**	**08 57 45.7**	**+1.1**
ETOB	**Tobarra**	**5.42**	**299**	P	**Pn**	**08 56 48.3**	**+1.9**
ETOB	524nm,SNR=2.1			⇑*i*Vmb_V		08 56 50.3	
ETOB				S	**Sn**	**08 57 51.4**	**+2.5**
EVIV	**Cofrentes, Val**	**5.43**	**306**	P	**Pn**	**08 56 48.6**	**+2.0**
EVIV	427nm,SNR=1.9			⇑*i*Vmb_V		08 56 51.2	
EVIV				S	**Sn**	**08 57 49.0**	**-0.1**
ENIJ	**Nijar** 341nm,SNR=2.2	**5.46**	**280**	P	**Pn**	**08 56 46.2**	**-0.8**
ENIJ				⇑*i*Vmb_V		08 56 47.7	
ECHE	**Chera**	**5.52**	**310**	P	**Pn**	**08 56 50.2**	**+2.4**
ECHE	694nm,SNR=3.1			⇑*i*Vmb_V		08 56 53.0	
ECHE				S	**Sn**	**08 57 51.2**	**-0.1**
EMOS	**Mosqueruela** 125nm,SNR=0.6	**5.74**	**318**	P	**Pn**	**08 56 52.8**	**+1.9**
EMOS				⇑*i*Vmb_V		08 56 54.7	
EMOS				S	**Sn**	**08 57 55.9**	**-1.0**
TAF	**Taforalt**	**5.80**	**259**	P	**Pn**	**08 56 53.2**	**+1.5**

TAF S Sn 08 57 49.7 -8.6
EPOB Poblet 5.83 334 P **Pn** **08 56 53.5 +1.4**
EPOB ⇑*i*Vmb_V 08 56 56.3
226nm,SNR=1.7
EPOB S **Sn** **08 57 55.5 -3.5**
EBER Berja 6.00 279 P **Pn** **08 56 54.0 -0.4**
EBER ⇑*i*Vmb_V 08 56 55.1
189nm,SNR=1.3
EBER S **Sn** **08 58 02.7 -0.7**
JBK JBK 6.07 255 P **Pn** **08 56 56.3 +0.9**
JBK S **Sn** **08 58 01.1 -4.0**
EMIR Miracle 6.19 339 P **Pn** **08 56 58.9 +1.9**
EMIR S **Sn** **08 58 06.9 -1.0**
FIGM Figuig 6.25 232 P **Pn** **08 56 58.7 +0.9**
FIGM S **Sn** **08 58 06.3 -3.0**
EJON La Jonquera 6.40 349 P **Pn** **08 57 01.8 +2.0**
EJON ⇑*i*Vmb_V 08 57 02.8
283nm,SNR=1.7
EJON S **Sn** **08 58 11.7 -1.3**
ELGU Los Guajares, 6.59 279 P **Pn** **08 57 03.1 +0.7**
ELGU ⇑*i*Vmb_V 08 57 04.5
160nm,SNR=1.8
ELGU S **Sn** **08 58 17.5 -0.2**
ESAC San Caprasio 6.77 327 P **Pn** **08 57 07.4 +2.5**
ESAC ⇑*i*Vmb_V 08 57 08.6
418nm,SNR=1.5
ETOR Torete 6.93 314 P **Pn** **08 57 11.4 +4.2**
ETOR ⇑*i*Vmb_V 08 57 12.7
56nm,SNR=0.5
EGOR Sierra Gorda, 6.99 280 P **Pn** **08 57 10.4 +2.3**
EGOR ⇑*i*Vmb_V 08 57 13.0
142nm,SNR=2.8
PGF Pioggiola 7.26 27 *e*Pn **Pn** **08 57 12.0 +0.3**
PGF *e*Sn **Sn** **08 58 29.6 -4.7**
6.9nm,0.4s
ECHI Chisagues Biel 7.30 334 P **Pn** **08 57 14.6 +2.4**
LMR La Mourre 7.32 12 *e*Pn **Sn** **08 57 12.8 +0.3**
LMR *e*Sn **Sn** **08 58 30.5 -5.1**
13nm,0.5s
MTLF Montolieu 7.38 347 *e*Pn **Pn** **08 57 15.4 +2.1**
MTLF *e*Sn **Sn** **08 58 34.5 -2.5**
22nm,0.6s
EMIJ Mijas 7.50 276 P **Pn** **08 57 14.4 -0.5**
EMIJ ⇑*i*Vmb_V 08 57 16.2
71nm,SNR=1.3
EMIJ S **Sn** **08 58 38.6 -1.4**
EADA Adamuz 7.52 288 P **Pn** **08 57 16.5 +1.2**
EADA ⇑*i*Vmb_V 08 57 20.5
68nm,SNR=0.9
EADA S **Sn** **08 58 43.1 +2.5**
ESBB Sonseca Array 7.55 300 Pn **Pn** **08 57 15.6 -0.1**
ESDC Sonseca Array 7.55 300 Pn **Pn** **08 57 17.3 +1.6**
1.1nm,0.3s,baz=112,slow=13,SNR=68
ESDC Sn **Sn** **08 58 44.1 +2.6**
baz=111,slow=26
ESDC LR LR 09 00 10.1
comp=Z,121nm,18.2s,baz=168,slow=38
5.3nm,0.6s
ESDC Sonseca Array 7.55 300 Pn **Pn** **08 57 15.3 -0.4**
ESDC Sonseca Array 7.55 300 P **Pn** **08 57 18.4 +2.7**
ESDC ⇑*i*Vmb_V 08 57 19.9
78nm,SNR=1.0
EPF Esparros 7.57 336 *e*Pn **Pn** **08 57 19.0 +3.1**
EPF *e*Sn **Sn** **08 58 38.8 -3.0**
7.9nm,0.5s
PAB San Pablo 7.78 298 **Pn** **08 57 19.0 +0.2**
PAB San Pablo 7.78 298 P **Pn** **08 57 21.2 +2.5**
PAB ⇑*i*Vmb_V 08 57 23.0
28nm,SNR=0.4
ETSF Etsaut 7.78 331 *e*Pn **Sn** **08 57 21.6 +2.8**
ETSF *e*Sn **Sn** **08 58 44.8 -2.2**
2.3nm,0.4s
SMRF Simiane la Rot 7.84 6 *e*Pn **Pn** **08 57 20.5 +0.8**
SMRF Simiane la Rot 7.84 6 *e*P Pn 08 57 25.6 +5.9
SMRF *e*Sn **Sn** **08 58 44.2 -4.3**
4.6nm,0.4s
LASF Ste Croix 7.92 357 *e*Pn **Pn** **08 57 21.2 +0.6**
LASF *e*Sn **Sn** **08 58 45.7 -4.6**
9.4nm,0.6s
RAFF Raffo Rosso 7.99 79 Pn **Pn** **08 57 22.6 +0.9**
SBF Sospel 8.01 15 *e*Pn **Sn** **08 57 21.9 0.0**
SBF *e*Sn **Sn** **08 58 48.1 -4.5**
15nm,0.5s
EORO Oroz-Betelu 8.08 328 P **Pn** **08 57 24.2 +1.3**
EARA Aranguren 8.10 326 P **Pn** **08 57 24.9 +1.7**
EARA ⇑*i*Vmb_V 08 57 27.4
93nm,SNR=0.5
GUD Guadarrama 8.14 306 P **Pn** **08 57 26.9 +3.2**
GUD ⇑*i*Vmb_V 08 57 27.7
70nm,SNR=0.8
ECAB El Cabril 8.15 286 P **Pn** **08 57 24.4 +0.4**
ECAB ⇑*i*Vmb_V 08 57 25.4
62nm,SNR=0.8
ECAB S **Sn** **08 58 59.5 +3.3**
SJPF Ste Jean 8.23 329 *e*Pn **Pn** **08 57 27.0 +2.1**
SJPF *e*Sn **Sn** **08 58 54.6 -3.3**
1.7nm,0.3s
MDT Midelt 8.23 249 Pn **Pn** **08 57 25.7 +0.6**
0.2nm,0.3s,baz=80,slow=15,SNR=8.9
MDT Sn **Sn** **08 58 59.5 +1.3**
0.7nm,0.3s,baz=248,slow=20,SNR=1.6
MDT Lg Lg 08 59 43.8
1.0nm,0.3s,baz=157,slow=17,SNR=2.0
4.2nm,0.8s
MDT Midelt 8.23 249 P **Pn** **08 57 26.2 +1.1**
MDT S **Sn** **08 58 50.8 -7.4**
MD31 MD31 8.32 249 P **Pn** **08 57 27.3 +1.0**
MD31 S **Sn** **08 58 53.3 -7.2**
EALK Alkurruntz 8.43 329 P **Pn** **08 57 30.4 +2.6**
EALK ⇑*i*Vmb_V 08 57 31.5
230nm,SNR=1.7
EALK S **Sn** **08 59 02.4 -0.6**
VIVF Saint-Julien-l 8.68 1 *e*Pn **Pn** **08 57 31.2 +0.1**
VIVF *e*Sn **Sn** **08 59 05.4 -3.7**
7.9nm,0.6s
MBDF Montbardon 8.72 11 *e*Pn **Pn** **08 57 32.7 +0.9**
MBDF *e*Sn **Sn** **08 59 05.9 -4.4**
24nm,0.9s
ORIF Oris-en-Rattie 8.81 6 *e*Pn **Pn** **08 57 33.1 +0.2**
ORIF Oris-en-Rattie 8.81 6 *e*P Pn 08 57 38.9 +6.0
ORIF *e*Sn **Sn** **08 59 07.5 -4.7**
5.7nm,0.7s
CAF Calviac 8.95 349 *e*Pn **Pn** **08 57 36.1 +1.3**
MSSA Maissana 9.00 24 Pn **Pn** **08 57 35.3 -0.2**
BNI Bardonecchia 9.03 10 Pn **Pn** **08 57 37.2 +1.2**
SSB Saint Sauveur 9.11 0 **Pn** **08 57 37.8 +0.9**
VLC Villacollemand 9.16 28 Pn **Pn** **08 57 38.2 +0.5**
LFF La Frestale 9.22 343 *e*Pn **Pn** **08 57 41.0 +2.5**
ELAN Lanestosa 9.34 322 P **Pn** **08 57 42.8 +2.7**
ELAN ⇑*i*Vmb_V 08 57 45.7
95nm,SNR=0.6
RJF Les Rejaudoux 9.41 347 *e*Pn **Pn** **08 57 42.0 +1.0**
RJF *e*Sn **Sn** **08 59 21.8 -5.0**
1.4nm,0.3s
LPL La Plagne 9.49 10 *e*P Pn 08 57 48.0 +5.6
LPL *e*Sn **Sn** **08 59 23.5 -5.8**
9.3nm,0.5s
EGRO El Granado 9.71 282 P **Pn** **08 57 46.8 +1.6**
EGRO ⇑*i*Vmb_V 08 57 49.7
81nm,SNR=1.0
PVAQ Vaqueiros 9.88 281 Pn **Pn** **08 57 46.6 -1.0**
PESTR Estremoz 9.98 289 Pn **Pn** **08 57 49.6 +0.7**
TIP Timpagrande 10.17 69 Pn **Pn** **08 57 51.2 -0.3**
TCF Toulx Ste Croi 10.26 351 *e*Pn **Pn** **08 57 53.5 +0.8**
MESJ Messejana 10.32 283 Pn **Pn** **08 57 52.7 -0.8**
EARI Arriondas 10.33 317 P **Pn** **08 57 57.3 +3.6**
EARI ⇑*i*Vmb_V 08 57 58.4
89nm,SNR=0.4
MTE Manteigas 10.37 298 Pn **Pn** **08 57 55.1 +0.7**
SENIN Lac Senin/Sane 10.40 11 Pn **Pn** **08 57 57.1 +2.2**
BGF Bois d'Agland 10.46 354 *e*Pn **Pn** **08 57 54.7 -0.7**
ECAL Calabor 10.47 307 P **Pn** **08 57 58.1 +2.4**
ECAL ⇑*i*Vmb_V 08 57 60.0
302nm,SNR=1.5
SMF Signal de Mont 10.48 357 *e*Pn **Pn** **08 57 56.3 +0.5**
CABF La Chapelle 10.50 6 *e*Pn **Pn** **08 57 57.3 +1.2**
CABF *e*Sn **Sn** **08 59 47.8 -6.1**
15nm,0.8s
AVF Avril sur Loir 10.65 356 *e*Pn **Pn** **08 57 59.2 +1.1**
SSF Saint Saulge 10.91 356 *e*Pn **Pn** **08 58 02.1 +0.4**
MFF Saint Martin d 10.99 343 *e*Pn **Pn** **08 58 03.9 +1.1**
MFF *e*Sn **Sn** **09 00 01.3 -4.5**
LOR Lormes 11.11 358 *e*Pn **Pn** **08 58 04.8 +0.5**
LOR *e*Sn **Sn** **09 00 02.2 -6.3**
6.7nm,0.6s
DAVOX Davos/Dischmat 11.34 19 Pn **Pn** **08 58 09.2 +1.5**
0.2nm,0.3s,baz=147,slow=19,SNR=2.5
0.5nm,0.4s
HINF Hinteralfeld 11.77 8 *e*Pn **Pn** **08 58 13.6 +0.2**
FETA Feichten 11.80 21 *e*Pn Pn 08 58 19.6 +5.7
8.3nm,1.2s
DAVA Damuels 11.81 18 Pn Pn 08 58 20.7 +6.6
4.2nm,0.8s
HAU Haudompre 11.91 6 *e*Pn **Pn** **08 58 15.2 -0.1**
HAU *e*Sn **Sn** **09 00 21.9 -6.3**
4.8nm,0.6s
SFTF Sexfontaines 12.04 2 *e*Pn **Pn** **08 58 17.0 0.0**
SQTA Sankt Quirin 12.12 22 *e*Pn Pn 08 58 25.1 +6.8
10nm,1.4s
ABTA Abfaltersbach 12.15 27 *e*Pn Pn 08 58 24.0 +5.4
7.3nm,0.9s
MOTA Moosalm 12.20 22 Pn Pn 08 58 24.9 +5.5
8.7nm,1.7s
RETA Reutte 12.23 20 Pn **Pn** **08 58 24.5 +4.8**
5.3nm,0.8s
WTTA Wattenberg 12.29 23 Pn Pn 08 58 27.7 +7.0
8.3nm,1.3s
CDF Champ du Feu 12.41 9 *e*Pn **Pn** **08 58 22.3 +0.1**
MYKA Terra Mystica 12.49 30 *e*Pn Pn 08 58 29.6 +6.3
5.1nm,1.1s
KBA Koelnbreinsper 12.74 28 *e*Pn Pn 08 58 33.4 +6.6
8.7nm,1.3s
OBKA Obir 12.78 33 *e*Pn Pn 08 58 33.9 +6.5
4.3nm,1.2s
GRR Gorron 12.84 344 *e*Pn **Pn** **08 58 28.7 +0.7**
LDF La Druitiere 12.88 346 *e*Pn **Pn** **08 58 29.0 +0.5**
LDF *e*Sn **Sn** **09 00 45.6 -6.3**
1.4nm,0.4s
QUIF Quistinic 13.04 337 *e*Pn **Pn** **08 58 30.6 -0.1**
FLN La Foliniere 13.11 345 *e*Pn **Pn** **08 58 32.1 +0.4**
SOKA Soboth 13.13 34 *e*Pn P 08 58 37.9 -4.4
3.5nm,1.4s
SGMF Saint Gilles 13.16 339 *e*Pn **Pn** **08 58 31.9 -0.4**
ROSF Rostrenen 13.45 337 *e*Pn **Pn** **08 58 37.6 +1.3**
MOA Molln 13.73 29 *e*Pn **P** **08 58 47.4 -1.5**
4.1nm,1.1s
ARSA Arzberg 13.78 33 *e*Pn **Pn** **08 58 45.4 +4.6**
4.3nm,0.9s
GERES GERESS Array B 14.36 25 Pn **Pn** **08 58 50.5 +1.7**
0.1nm,0.3s,baz=212,slow=9.2,SNR=13
2.9nm,1.1s
CONA Conrad Observa 14.45 32 *e*Pn **P** **08 58 54.1 -2.8**
8.0nm,1.1s
RONA Rosalia, Austr 14.46 34 *e*Pn **Pn** **08 58 51.4 +1.2**
3.2nm,1.0s
CKRC Cesky Krumlov 14.55 27 *e*P **P** **08 58 56.2 -1.8**
KHC Kasperske Hory 14.56 24 *e*P **P** **08 58 55.4 -2.7**
CLL Collm 16.32 19 *e*P **Pn** **08 59 15.0 +0.5**
CLL *es*P **pP** **08 59 20.0 -0.6**
CLL *es*PP 08 59 28.0
IDI Anoyia 16.58 87 Pn **Pn** **08 59 18.7 +0.6**
0.2nm,0.3s,baz=256,slow=12,SNR=3.2
3.1nm,0.9s
MLR Muntele Rosu 18.66 53 P **Pn** **08 59 45.9 +2.0**
0.2nm,0.3s,baz=305,slow=12,SNR=3.1
10nm,1.0s
EKA Eskdalemuir Ar 19.88 347 P **Pn** **08 59 60.0 +1.7**
3.9nm,0.9s,baz=156,slow=12,SNR=4.8
EKA LR LR 09 08 23.8
comp=Z,77nm,18.9s,baz=194,slow=39
MDUB Mudurnu 21.34 70 P **P** **09 00 13.1 +0.2**
ANTO Ankara 22.55 72 P **P** **09 00 24.7 -1.0**
AKASG Malin Array Be 22.95 43 P **P** **09 00 29.4 -0.3**
9.6nm,0.7s,baz=240,slow=9.9,SNR=13
9.6nm,0.7s
AKASG Malin Array Be 22.95 43 P **P** **09 00 29.8 +0.1**
AKBB Malin Array Si 22.95 43 P **P** **09 00 29.4 -0.3**
AKBB IAmb IAmb 09 00 32.5
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 23.06 187 P **P** **09 00 30.6 -0.5**
comp=Z,4.0nm,0.7s,baz=4.1,slow=10,SNR=18
comp=Z,4.0nm,0.7s
TORD Torodi Ar. Bea 23.06 187 P **P** **09 00 31.4 +0.3**
BR131 Keskin Array S 23.20 72 P **P** **09 00 32.6 0.0**
BRTR Keskin Array B 23.20 72 P **P** **09 00 32.6 0.0**
comp=Z,2.6nm,0.8s,baz=260,slow=6.8,SNR=9.2
comp=Z,2.6nm,0.8s
BRTR Keskin Array B 23.20 72 P **P** **09 00 33.1 +0.5**
NOA NORSAR Array B 25.26 8 P **P** **09 00 53.5 +1.9**
comp=Z,1.2nm,0.8s,baz=187,slow=9.4,SNR=3.0
comp=Z,1.2nm,0.8s
MMAI Mnt Meron Ar 25.57 88 P **P** **09 00 55.5 +0.7**
comp=Z,4.3nm,0.9s,baz=301,slow=11,SNR=1.9
comp=Z,4.3nm,0.9s
ANGG Ammassalik, Gr 38.41 333 P **P** **09 02 47.1 +0.5**
ANGG IAmb IAmb 09 03 00.6
comp=Z,14nm,1.1s
ARU Arti 41.20 43 P **P** **09 03 10.0 -0.1**
ARU IAmb IAmb 09 03 12.7
comp=Z,12nm,0.8s
GEYT Ailbeck 42.33 71 P **P** **09 03 19.0 -0.6**
comp=Z,1.3nm,0.7s,baz=251,slow=8.5,SNR=2.0
comp=Z,1.3nm,0.7s
KBS Kingsbay 42.98 2 P **P** **09 03 25.2 +0.9**
BRVK Borovoye 48.02 48 P **P** **09 04 05.3 +0.7**
BRVK IAmb IAmb 09 04 08.1
comp=Z,5.6nm,1.0s
BVAR Borovoye Array 48.09 48 P **P** **09 04 05.4 +0.3**
comp=Z,2.9nm,0.4s,baz=292,slow=7.6,SNR=6.9
comp=Z,2.9nm,0.4s
SCHQ Schefferville 51.02 315 P **P** **09 04 27.6 +0.2**
comp=Z,6.8nm,0.8s,baz=96,slow=5.2,SNR=5.7
comp=Z,6.8nm,0.8s
SCHQ Schefferville 51.02 315 P **P** **09 04 27.4 0.0**
SCHQ IAmb IAmb 09 04 30.1
comp=Z,13nm,1.1s
KURBB Kurchatov Arra 53.50 50 P **P** **09 04 46.1 +0.2**
comp=Z,5.4nm,0.7s,baz=290,slow=8.1,SNR=22
comp=Z,5.4nm,0.7s
KURK Kurchatov 53.53 49 P **P** **09 04 46.0 -0.1**
NRIK Noril'sk 54.27 26 P **P** **09 04 52.0 +0.9**
comp=Z,0.7nm,0.3s,baz=241,slow=10,SNR=1.4
comp=Z,0.7nm,0.3s
ZALV Zalesovo Beam 56.33 44 P **P** **09 05 06.0 -0.3**
comp=Z,2.2nm,0.7s,baz=283,slow=8.8,SNR=7.6
comp=Z,2.2nm,0.7s
ZALV Zalesovo Beam 56.33 44 P **P** **09 05 06.3 0.0**
TSUM Tsumeb 56.44 165 P **P** **09 05 08.1 +0.5**
MK31 Makanchi Array 57.01 53 P **P** **09 05 11.3 0.0**
MK31 IAmb IAmb 09 05 14.2
comp=Z,3.8nm,0.7s
MKAR Makanchi Array 57.01 53 P **P** **09 05 11.3 0.0**
comp=Z,5.2nm,0.6s,baz=285,slow=5.9,SNR=42
comp=Z,5.2nm,0.6s
MKAR Makanchi Array 57.01 53 P **P** **09 05 11.6 +0.3**
Q54A Coxs Mills 65.21 301 P **P** **09 06 06.6 -0.4**
R53A Hurricane 66.28 301 P **P** **09 06 14.8 +0.8**
ULM Lac du Bonnet 69.09 317 P **P** **09 06 31.5 0.0**
comp=Z,3.3nm,0.6s,baz=66,slow=8.3,SNR=7.9
comp=Z,3.3nm,0.6s
ULM Lac du Bonnet 69.09 317 P **P** **09 06 31.7 +0.2**
ULM IAmb IAmb 09 06 34.5
comp=Z,4.4nm,0.8s
YKA Yellowknife Ar 70.27 334 P **P** **09 06 38.7 +0.2**
comp=Z,2.3nm,0.8s,baz=51,slow=5.8,SNR=19
comp=Z,2.3nm,0.8s
YKA Yellowknife Ar 70.27 334 P **P** **09 06 39.8 +1.3**
SONM Songino Array 71.23 44 P **P** **09 06 45.0 +0.2**
comp=Z,0.4nm,0.7s,baz=319,slow=5.7,SNR=2.6
comp=Z,0.4nm,0.7s
INK Inuvik 71.23 345 P **P** **09 06 44.1 -0.2**
comp=Z,2.0nm,0.8s,baz=26,slow=7.7,SNR=5.5
comp=Z,2.0nm,0.8s
INK Inuvik 71.23 345 P **P** **09 06 44.7 +0.4**
INK IAmb IAmb 09 06 47.2
comp=Z,3.0nm,0.9s
LRAL Lakeview Retre 72.49 298 P **P** **09 06 52.8 +0.3**
ECSD EROS Data Cent 73.05 312 P **P** **09 06 56.1 +0.5**
ECSD IAmb IAmb 09 06 58.6
comp=Z,3.3nm,0.8s
WHAR Wooly Hollow 74.95 303 P **P** **09 07 07.0 +0.1**
WHAR IAmb IAmb 09 07 09.6
comp=Z,2.9nm,0.8s
ILAR Eielson Array 76.92 348 P **P** **09 07 19.7 +2.1**
comp=Z,0.9nm,0.9s,baz=347,slow=3.7,SNR=6.2
comp=Z,0.9nm,0.9s
PDAR Pinedale Array 81.11 317 P **P** **09 07 42.4 +1.1**
comp=Z,1.1nm,0.9s,baz=73,slow=5.1,SNR=7.2
comp=Z,1.1nm,0.9s
NEW Newport 81.17 325 P **P** **09 07 40.9 -0.3**
comp=Z,1.4nm,0.9s,baz=13,slow=7.7,SNR=2.8
comp=Z,1.4nm,0.9s
CMAR Chiang Mai Arr 82.79 73 P **P** **09 07 50.5 +0.3**
comp=Z,1.0nm,0.3s,baz=300,slow=7.8,SNR=4.3
comp=Z,1.0nm,0.3s
ENH Enshi 83.47 57 P **P** **09 07 53.4 -0.2**
ENH IAmb IAmb 09 07 56.8
comp=Z,5.9nm,0.8s
BMO Blue Mountains 83.71 323 P **P** **09 07 54.5 -0.2**
BMO IAmb IAmb 09 07 57.9
comp=Z,3.9nm,0.9s
TXAR Lajitas Array 86.22 304 P **P** **09 08 06.6 -0.9**
comp=Z,0.4nm,0.9s,baz=88,slow=6.5,SNR=2.1
comp=Z,0.4nm,0.9s
NVAR Mina Array Bea 88.89 319 P **P** **09 08 21.6 +1.2**
comp=Z,0.2nm,0.7s,baz=106,slow=5.7,SNR=1.8
comp=Z,0.2nm,0.7s
WRA Warramunga Arr 133.38 84 PKP **PKPdf** **09 14 43.2 +0.9**
comp=Z,0.2nm,0.5s,baz=333,slow=1.8,SNR=1.6
ASAR Alice Springs 134.86 88 PKP **PKPdf** **09 14 44.7 -0.3**
comp=Z,0.3nm,0.7s,baz=320,slow=1.7,SNR=5.6

*VIE **29** 08:55:44.3, 46.°34N×13.°18E, h8km, ml0.9/2 2 km ENE of Venzone*
ISC 29 08:55:44.5±1.4, **46.°35N**±0.°03×**13.°20E**±0.°03, **h12**km±9km, **n15**, **σ0°48/28**, **Austria**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BOO	**Bordano**	**0.07**	**248**	*e*Pg	**Pg**	**Pg**	**08 55 46.8**	**-0.3**
BOO				*e*Sg	**Sg**	**Sg**	**08 55 48.5**	**-0.5**
VINO	**Villanova**	**0.11**	**148**	*e*Pg	**Pg**	**Pg**	**08 55 47.2**	**-0.3**
VINO				*e*Sg	**Sg**	**Sg**	**08 55 49.4**	**-0.3**
BAD	**Bernadia**	**0.12**	**164**	*e*Pg	**Pg**	**Pg**	**08 55 47.5**	**-0.1**
BAD				*e*Sg	**Sg**	**Sg**	**08 55 50.2**	**+0.4**
BUA	**Buia**	**0.14**	**202**	*e*Pg	**Pg**	**Pg**	**08 55 48.0**	**+0.1**
BUA				*e*Sg	**Sg**	**Sg**	**08 55 50.9**	**+0.5**
FUSE	**Fusea**	**0.15**	**296**	*e*Pg	**Pg**	**Pg**	**08 55 48.2**	**+0.1**
FUSE				*e*Sg	**Sg**	**Sg**	**08 55 51.0**	**+0.4**
MPRI	**Monte Prat**	**0.18**	**234**	*e*Pg	**Pg**	**Pg**	**08 55 48.9**	**+0.3**
MPRI				*e*Sg	**Sg**	**Sg**	**08 55 52.0**	**+0.6**
PLRO	**Paularo**	**0.20**	**350**	*e*Pg	**Pg**	**Pg**	**08 55 49.1**	**0.0**
PLRO				*e*Sg	**Sg**	**Sg**	**08 55 52.3**	**+0.1**
ROBS	**Robic**	**0.24**	**115**	*i*Pg	**Pg**	**Pg**	**08 55 49.2**	**-0.4**
ROBS				*i*Sg	**Sg**	**Sg**	**08 55 53.0**	**0.0**
ROBS				IAML			08 55 54.5	
	comp=Z,1.9nm,0.0s							
CLUD	**Cludinico**	**0.24**	**297**	*e*Pg	**Pg**	**Pg**	**08 55 49.6**	**-0.1**
CLUD				*e*Sg	**Sg**	**Sg**	**08 55 53.5**	**+0.3**
COLI	**Coloredo**	**0.25**	**150**	*e*Pg	**Pg**	**Pg**	**08 55 49.7**	**0.0**
COLI				*e*Sg	**Sg**	**Sg**	**08 55 54.1**	**+0.9**
LSR	**Lussari**	**0.26**	**61**	*e*Pg	**Pg**	**Pg**	**08 55 50.1**	**0.0**
LSR				*e*Sg	**Sg**	**Sg**	**08 55 54.3**	**+0.5**
ACOM	**Acomizza, Ital**	**0.30**	**47**	*e*Pg	**Pg**	**Pg**	**08 55 50.6**	**0.0**
ACOM				*e*Sg	**Sg**	**Sg**	**08 55 55.6**	**+0.8**
CADS	**Cadrg**	**0.39**	**108**	*e*Pg	**Pg**	**Pg**	**08 55 51.8**	**-0.6**
CADS				*i*Sg	**Sg**	**Sg**	**08 55 58.6**	**+1.0**
CADS				IAML			08 55 58.8	
	comp=Z,2.2nm,0.1s							
ABTA	**Abfaltersbach**	**0.62**	**310**	*e*Sg		**Sb**	**08 56 05.2**	**-0.8**
	comp=Z,0.3nm,0.1s							
KBA	**Koelnbreinsper**	**0.74**	**8**	*e*Sg		**Sg**	**08 56 09.0**	**+0.5**
	comp=Z,0.6nm,0.1s							

ROM 29 08:57:02.0±0.1, **42.°542N**±0.°005×**13.°347E**±0.°006, **h8**km, **ML1.6/7, 8C-4D, Error ellipse: s-maj=0.6km s-min=0.5km az=167.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.05**	**98**	P	Pg	Pg	08 57 04.2	+0.3
CAMP				S	Sg	Sg	08 57 05.7	+0.4
SMA1	**SAN MARTINO**	**0.09**	**354**	P	Pg	Pg	08 57 02.7	-1.7
SMA1				AML	AML			
	comp=E,306μm,1.1s							
SMA1				AML	AML			
	comp=N,281μm,1.5s							
RM33	**Pellescritta (**	**0.10**	**251**	⇑P	Pg	Pg	08 57 05.0	+0.4
RM33				S	Sg	Sg	08 57 06.9	+0.5
RM33				AML	AML			
	comp=E,515μm,0.3s							
RM33				AML	AML			
	comp=N,470μm,0.1s							
RM33				AML	AML			
	comp=E,514μm,0.3s							
T1247	**Pizzolo (AQ)**	**0.11**	**200**	P	Pg	Pg	08 57 05.1	+0.5
T1247				S	Sg	Sg	08 57 07.1	+0.7
T1247				AML	AML			
	comp=N,949μm,0.3s							
T1247				AML	AML			
	comp=E,1060μm,0.5s							
T1247				AML	AML			
	comp=N,949μm,1.7s							
GIGS	**Gran Sasso**	**0.19**	**119**	AML	AML			
	comp=E,78μm,0.2s							
GIGS				AML	AML			
	comp=E,78μm,0.2s							
GIGS				AML	AML			
	comp=N,46μm,0.2s							
GIGS				AML	AML			
	comp=E,78μm,1.8s							
AQU	**L'Aquila**	**0.19**	**168**	AML	AML			
	comp=E,99μm,0.6s							
AQU				AML	AML			
	comp=N,114μm,1.3s							
TERO	**Teramo**	**0.21**	**67**	⇑P	Pg	Pg	08 57 05.8	-0.5
T1218	**Civita (PG)**	**0.21**	**307**	P	Pg	Pg	08 57 07.0	+0.6
T1218				S	Sg	Sg	08 57 10.7	+1.3
T1218				AML	AML			
	comp=E,97μm,0.3s							
T1218				AML	AML			
	comp=N,174μm,1.2s							
T1218				AML	AML			
	comp=E,97μm,0.3s							
T1218				AML	AML			
	comp=N,176μm,1.2s							
T1218				AML	AML			
	comp=E,97μm,1.7s							
T1218				AML	AML			
	comp=N,176μm,0.8s							
LNSS	**Leonessa**	**0.23**	**285**	⇑P	Pg	Pg	08 57 07.3	+0.6
LNSS				S	Sg	Sg	08 57 11.4	+1.4
LNSS				AML	AML			
	comp=N,238μm,1.0s							
LNSS				AML	AML			
	comp=E,257μm,0.1s							
LNSS				AML	AML			
	comp=N,238μm,1.0s							
T1222	**Castel Sant'An**	**0.27**	**239**	⇓P	Pg	Pg	08 57 08.2	+0.8
T1212	**Cascia, Frazio**	**0.31**	**313**	⇓P	Pg	Pg	08 57 08.6	+0.5
T1212				S	Sb	Sb	08 57 13.8	-1.2
T1212				AML	AML			
	comp=E,79μm,0.2s							
T1212				AML	AML			
	comp=N,106μm,0.6s							
T1212				AML	AML			
	comp=N,106μm,1.4s							
FAGN	**Fagnano**	**0.33**	**147**	⇑P	Pb	Pb	08 57 09.6	-0.5
FAGN				AML	AML			
	comp=E,112μm,0.6s							
FAGN				AML	AML			
	comp=N,128μm,0.2s							
FAGN				AML	AML			
	comp=E,112μm,1.4s							
T1245	**Castelsantange**	**0.34**	**340**	⇑P	Pg	Pg	08 57 09.3	+0.6
T1211	**Morro Reatino**	**0.36**	**269**	P	Pg	Pg	08 57 09.7	+0.5
T1211				S	Sb	Sb	08 57 16.0	-0.6
MC2	**Monte Cornacci**	**0.39**	**343**	P	Pg	Pg	08 57 10.1	+0.5
MC2				S	Sb	Sb	08 57 16.6	-0.9
T1215	**Vallo di Nera,**	**0.44**	**306**	P	Pg	Pg	08 57 10.9	+0.4
T0110	**Collepietro**	**0.45**	**134**	⇓P	Pg	Pg	08 57 11.3	+0.5
GUMA	**Gualdo di Mace**	**0.52**	**359**	⇓P	Pb	Pb	08 57 13.1	-0.3
GUMA				AML	AML			
	comp=N,117μm,0.6s							
GUMA				AML	AML			
	comp=E,149μm,0.1s							
FDMO	**Fiordimonte**	**0.53**	**339**	⇑P	Pb	Pb	08 57 13.0	-0.5
FDMO				S	Sb	Sb	08 57 20.9	-0.4
CSP1	**Cessapalombo**	**0.56**	**349**	⇑P	Pg	Pg	08 57 13.1	+0.2
CSP1				S	Sb	Sb	08 57 22.3	0.0
T1219	**Muccia, Frazio**	**0.57**	**334**	P	Pg	Pg	08 57 13.3	+0.2
T1219				S	Sb	Sb	08 57 22.4	-0.2
T1220	**Camerino, Fraz**	**0.60**	**342**	⇑P	Pg	Pg	08 57 13.8	+0.2

*IDC **29** 09:05:56.7±1.9, 39.43N×51.45E, h0km, mb3.6/5, mbtmp3.7/11, ML3.3/6, Error ellipse: s-maj=34.3km s-min=17.9km az=10.0*
*TEH **29** 09:05:59.8, 39.52N×51.60E, h10km, ML3.7*
*AZER **29** 09:06:03.7±0.1, 39.58N×51.49E, h48km±41km, Error ellipse: s-maj=1.8km s-min=1.1km az=288.0*

ISC 29 09:06:02.6±1.0, **39.59N**±0.04×**51.62E**±0.04, **h41**km±14km, **n82**, σ1§**71**/108, **mb3.7**/5, **3C-1D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOBA	**Gobu**	**1.66**	**300**	Sn	**Sn**	**09 06 50.4**	**+1.2**
ALIB	**Äli-Bayra**	**2.05**	**281**	Pn	**Pn**	**09 06 37.1**	**+2.6**
ALIB				Sn	**Sn**	**09 07 00.6**	**+1.8**
ALIB	**Äli-Bayra**	**2.05**	**281**	Pn	**Pn**	**09 06 37.1**	**+2.6**
GBS	**Qobustan**	**2.26**	**295**	Pn	**Pn**	**09 06 40.0**	**+2.4**
GBS				Sn	**Sn**	**09 07 07.0**	**+2.8**
GBS	**Qobustan**	**2.26**	**295**	Pn	**Pn**	**09 06 39.9**	**+2.4**
LKRN	**Lenkeran, Azer**	**2.38**	**249**	Pn	**Pn**	**09 06 40.1**	**+1.1**
LKRN				Sn	**Sn**	**09 07 06.8**	**-0.1**
LKRN	**Lenkeran, Azer**	**2.38**	**249**	Pn	**Pn**	**09 06 40.1**	**+1.1**
ATGJ	**Altiaghaj**	**2.41**	**303**	Pn	**Pn**	**09 06 41.7**	**+2.0**
ATGJ				Sn	**Sn**	**09 07 10.9**	**+2.9**
ATGJ	**Altiaghaj**	**2.41**	**303**	Pn	**Pn**	**09 06 41.6**	**+2.0**
ASTR	**Astara**	**2.43**	**246**	Pn	**Pn**	**09 06 40.1**	**+0.3**
ASTR				Sn	**Sn**	**09 07 08.7**	**+0.4**
ASTR	**Astara**	**2.43**	**246**	Pn	**Pn**	**09 06 40.0**	**+0.3**
GAS1	**Astara - Iran**	**2.48**	**242**	Pn	**Pn**	**09 06 40.6**	**+0.2**
GLBA	**Clilabad** SNR=4.1	**2.52**	**263**	Pn	**Pn**	**09 06 43.0**	**+1.9**
GLBA				Sn	**Sn**	**09 07 11.2**	**+0.7**
GLBA	**Clilabad**	**2.52**	**263**	Pn	**Pn**	**09 06 42.9**	**+1.9**
SIZA	**Siyzn**	**2.55**	**306**	Pn	**Pn**	**09 06 43.3**	**+1.7**
SIZA				Sn	**Sn**	**09 07 13.1**	**+1.6**
SIZA	**Siyzn**	**2.55**	**306**	Pn	**Pn**	**09 06 43.2**	**+1.7**
PQL	**Pirkuli**	**2.61**	**298**	Pn	**Pn**	**09 06 44.9**	**+2.6**
PQL				Sn	**Sn**	**09 07 13.9**	**+1.0**
PQL	**Pirkuli**	**2.61**	**298**	Pn	**Pn**	**09 06 44.9**	**+2.6**
YRD	**Yardimli** SNR=4.5	**2.71**	**257**	Pn	**Pn**	**09 06 44.6**	**+0.8**
YRD				Sn	**Sn**	**09 07 15.1**	**-0.3**
YRD	**Yardimli**	**2.71**	**257**	Pn	**Pn**	**09 06 44.9**	**+1.1**
LHJ2	**Lahijan - Gila**	**2.71**	**207**	Pn	**Pn**	**09 06 43.4**	**-0.2**
LRK	**Lerik** SNR=4.6	**2.72**	**251**	Pn	**Pn**	**09 06 45.0**	**+1.1**
LRK				Sn	**Sn**	**09 07 15.2**	**-0.5**
LRK	**Lerik**	**2.72**	**251**	Pn	**Pn**	**09 06 45.0**	**+1.1**
QUBA	**Quba, Azerbaij**	**2.96**	**307**	Pn	**Pn**	**09 06 49.0**	**+1.8**
QUBA				Sn	**Sn**	**09 07 23.0**	**+1.5**
GIDE	**GILAN DEYLAMAN**	**2.99**	**207**	Pn	**Pn**	**09 06 47.4**	**-0.2**
GRMI	**Germi**	**3.00**	**256**	Pn	**Pn**	**09 06 49.1**	**+1.4**
XNQ	**Khinaliq** SNR=17	**3.09**	**302**	Pn	**Pn**	**09 06 50.6**	**+1.5**
XNQ				Sn	**Sn**	**09 07 24.8**	**0.0**
KLST	**Kelardasht - M**	**3.10**	**188**	Pn	**Pn**	**09 06 50.2**	**+0.9**
ZRD	**Zardab**	**3.10**	**284**	Sn	**Sn**	**09 07 24.5**	**-0.3**
BLQ	**Beylaqan**	**3.14**	**274**	Pn	**Pn**	**09 06 48.9**	**-0.6**
BLQ				Sn	**Sn**	**09 07 24.5**	**-1.2**
MZPU	**Pul - Mazandar**	**3.15**	**181**	Pn	**Pn**	**09 06 51.3**	**+1.4**
QBL	**Gabala**	**3.19**	**296**	Pn	**Pn**	**09 06 49.7**	**-0.6**
QBL				Sn	**Sn**	**09 07 26.3**	**-0.8**
QSAR	**Qusar** SNR=13	**3.20**	**308**	Pn	**Pn**	**09 06 52.3**	**+1.9**
QSAR				Sn	**Sn**	**09 07 29.3**	**+2.0**
JIR1	**Jirandeh**	**3.22**	**207**	Pn	**Pn**	**09 06 50.7**	**0.0**
QRD	**Qoradiz**	**3.33**	**269**	Sn	**Sn**	**09 07 31.1**	**+0.7**
IGZV	**Ghazvin**	**3.39**	**200**	Pn	**Pn**	**09 06 54.7**	**+1.5**
IPRN	**Peran**	**3.39**	**170**	Pn	**Pn**	**09 06 54.5**	**+1.4**
BRDA	**Brd**	**3.48**	**283**	Pn	**Pn**	**09 06 55.2**	**+1.1**
BRDA				Sn	**Sn**	**09 07 34.8**	**+0.7**
IGLO	**Ghaloghah**	**3.54**	**150**	Pn	**Pn**	**09 06 57.1**	**+1.8**
ISRB	**Sarab**	**3.56**	**242**	Pn	**Pn**	**09 06 56.6**	**+1.1**
CHTH	**Charan**	**3.70**	**186**	Pn	**Pn**	**09 06 59.7**	**+2.3**
THKV	**Tehran--Karaj**	**3.72**	**189**	Pn	**Pn**	**09 06 59.9**	**+2.2**
ZNJK	**Zanjan**	**3.72**	**219**	Pn	**Pn**	**09 06 58.6**	**+0.8**
SEKA	**Sheki**	**3.74**	**297**	Pn	**Pn**	**09 06 59.1**	**+1.2**
SEKA				Sn	**Sn**	**09 07 39.9**	**-0.8**
IHRS	**Heris**	**3.79**	**252**	Pn	**Pn**	**09 07 00.4**	**+1.7**
DAMV	**Damavand**	**3.96**	**176**	Pn	**Pn**	**09 07 03.9**	**+2.8**
MRVT	**Maraveh tapeh**	**4.00**	**117**	Pn	**Pn**	**09 07 02.8**	**+1.4**
ISHM	**Shahmirzad**	**4.00**	**160**	Pn	**Pn**	**09 07 02.9**	**+1.2**
IDMV	**Damavand**	**4.02**	**175**	Pn	**Pn**	**09 07 04.9**	**+3.0**
IFIR	**Firoozkooh**	**4.04**	**167**	Pn	**Pn**	**09 07 05.2**	**+3.0**
IHSH	**Hashtrud**	**4.11**	**238**	Pn	**Pn**	**09 07 04.1**	**+0.9**
GANJ	**Ganja**	**4.20**	**286**	Pn	**Pn**	**09 07 04.7**	**+0.7**
GANJ				Sn	**Sn**	**09 07 49.8**	**-2.0**
ZKTA	**Zakatala**	**4.32**	**300**	Pn	**Pn**	**09 07 08.5**	**+2.8**
ZKTA				Sn	**Sn**	**09 07 55.3**	**+0.5**
IRAZ	**Razeghan**	**4.39**	**198**	Pn	**Pn**	**09 07 08.8**	**+1.8**
ORD	**Ordubad** SNR=4.8	**4.42**	**263**	Pn	**Pn**	**09 07 08.8**	**+1.7**
ORD				Sn	**Sn**	**09 07 56.8**	**-0.6**
IANJ	**Anjilo**	**4.50**	**155**	Pn	**Pn**	**09 07 10.5**	**+2.0**
GDB	**GEDABAY** SNR=8.6	**4.63**	**286**	Pn	**Pn**	**09 07 12.0**	**+1.8**
GDB				Sn	**Sn**	**09 08 01.7**	**-1.1**
IMRD	**Marand**	**4.68**	**261**	Pn	**Pn**	**09 07 11.5**	**+0.6**
SBZ	**Shahbuz**	**4.70**	**270**	Pn	**Pn**	**09 07 12.9**	**+1.8**
SBZ				Sn	**Sn**	**09 08 04.4**	**+0.1**
IQOM	**Qom**	**4.76**	**185**	Pn	**Pn**	**09 07 14.7**	**+2.7**
NAX	**Nakhchivan**	**4.76**	**267**	Pn	**Pn**	**09 07 12.5**	**+0.6**
NAX				Sn	**Sn**	**09 08 06.1**	**+0.2**
ISHB	**Shabestar**	**4.86**	**256**	Pn	**Pn**	**09 07 15.0**	**+1.6**
QZX	**Qazax, Azerbai**	**5.00**	**289**	Pn	**Pn**	**09 07 15.8**	**+0.7**
QZX				Sn	**Sn**	**09 08 09.7**	**-1.7**
SHRO	**Shahrood**	**5.00**	**135**	Pn	**Pn**	**09 07 17.5**	**+2.3**
ASAO	**Ashtian**	**5.19**	**195**	Pn	**Pn**	**09 07 20.6**	**+2.7**
GEYT	**Alibeck** 4.7nm,0.3s,baz=279,slow=16,SNR=44	**5.34**	**106**	Pn	**Pn**	**09 07 20.8**	**+1.0**
GEYT				Sn	**Sn**	**09 08 18.1**	**-1.9**
	0.4nm,0.3s,baz=283,slow=13,SNR=1.1 11nm,0.3s						
SNGE	**Sanandaj**	**5.63**	**218**	Pn	**Pn**	**09 07 26.2**	**+2.2**
IEMG	**Emamgholi**	**5.93**	**109**	Pn	**Pn**	**09 07 29.3**	**+1.2**
IMYA	**Miami**	**7.44**	**113**	Pn	**Pn**	**09 07 50.2**	**+1.4**
KBZ	**Khabaz** 0.1nm,0.3s,baz=104,slow=14,SNR=2.2	**7.73**	**305**	Pn	**Pn**	**09 07 53.5**	**+1.1**
KBZ				Sn	**Sn**	**09 09 13.2**	**-5.3**
	0.1nm,0.3s,baz=277,slow=16,SNR=1.5 1.9nm,1.0s						
AB31	**Akbulak array** 0.3nm,0.4s,baz=202,slow=13,SNR=14	**11.34**	**29**	⇑Pn	**Pn**	**09 08 39.0**	**-2.9**
AB31				⇓Sn	Sn	09 10 37.2	-10
	0.4nm,0.3s,baz=200,slow=24						
AKTO	**Aktyubinsk** 0.7nm,0.3s,baz=223,slow=9.3,SNR=8.8	**11.74**	**20**	Pn	**Pn**	**09 08 45.9**	**-1.5**
AKTO				Sn	Sn	09 10 48.2	-8.8
	0.7nm,0.3s,baz=258,slow=21,SNR=6.8 1.5nm,0.3s						
AKTO	**Aktyubinsk** 2.2nm,0.9s	**11.74**	**20**	⇑Pn	**Pn**	**09 08 46.0**	**-1.3**
AKTO				⇑Sn	**Sn**	**09 10 54.4**	**-2.6**
	2.4nm,0.7s						
BELG	**Belogornoye** 0.7nm,0.3s,baz=162,slow=23,SNR=10	**13.10**	**349**	Sn	Sn	09 11 20.1	-10
ARU	**Arti** baz=154,slow=9.9,SNR=4.0 1.3nm,0.3s	**17.46**	**13**	Pn	**Pn**	**09 09 59.9**	**-2.9**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=234,slow=9.7,SNR=9.8 1.9nm,0.5s	**18.59**	**38**	P	**P**	**09 10 15.8**	**-0.3**
AKASG	**Malin Array Be** 0.9nm,0.3s,baz=104,slow=9.2,SNR=5.7 0.7nm,0.6s	**19.23**	**313**	P	**P**	**09 10 22.5**	**-0.6**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=250,slow=10,SNR=4.1 0.3nm,0.5s	**23.39**	**62**	P	**P**	**09 11 08.7**	**+1.2**
FINES	**FINESS Array B** 1.8nm,0.8s,baz=138,slow=11,SNR=1.9 1.8nm,0.8s	**26.91**	**333**	P	**P**	**09 11 39.6**	**+0.1**
HFS	**Hagfors** 1.5nm,0.7s,baz=106,slow=11,SNR=1.4 1.5nm,0.7s	**31.28**	**324**	P	**P**	**09 12 17.9**	**-0.4**
KSRS	**Korea Array** 0.4nm,0.5s,baz=293,slow=6.3,SNR=2.3 0.4nm,0.5s	**57.99**	**66**	P	**P**	**09 15 52.2**	**+1.2**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=4.7,slow=5.6,SNR=5.0 0.2nm,0.7s	**77.66**	**354**	P	**P**	**09 17 54.8**	**+0.6**

IDC 29 09:12:47.1±4.4, **17.24S**×**178.95W**, **h586**km±19km, **mb3.2**/3, **mbtmp4.1**/4, **Error ellipse: s-maj=107.9km s-min=76.7km az=144.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu** 21nm,0.6s,baz=85,slow=2.4,SNR=19	**2.90**	**260**	P	P	09 14 04.6	0.0
STKA	**Stephens Creek** 1.8nm,0.5s,baz=84,slow=9.2,SNR=11 1.8nm,0.5s	**38.51**	**240**	P	P	09 19 20.2	-0.3
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=92,slow=7.1,SNR=13 0.7nm,0.5s	**44.25**	**259**	P	P	09 20 05.7	-0.2
ASAR	**Alice Springs** 7.8nm,0.6s,baz=89,slow=8.2,SNR=179	**44.48**	**254**	P	P	09 20 07.7	0.0
ASAR				PcP	PcP	09 21 38.0	-0.2
	0.1nm,0.4s,baz=104,slow=3.9,SNR=1.8 7.8nm,0.6s						

IDC 29 09:13:19.6±7.3, **5.88S**×**153.88E**, **h0**km, **mb3.3**/3, **mbtmp3.3**/3, **Error ellipse: s-maj=225.1km s-min=41.0km az=109.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=56,slow=9.3,SNR=2.4 0.4nm,0.9s	**23.58**	**232**	P	P	09 18 32.0	-0.2
ASAR	**Alice Springs** 0.6nm,0.9s,baz=57,slow=9.2,SNR=7.6 0.6nm,0.9s	**26.12**	**225**	P	P	09 18 55.5	-0.1
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=99,slow=5.1,SNR=4.2 0.3nm,0.7s	**81.84**	**319**	P	P	09 25 41.1	+0.2

NNC 29 09:13:41.5±2.4, **37.90N**×**71.83E**, **h0**km, **mb3.7**, **mpv3.9**, **2C-1D**, **Error ellipse: s-maj=16.4km s-min=16.3km az=177.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay** 53nm,0.2s	**4.47**	**343**	Pg	Pb	09 15 03.1	+2.2
IUG				Lg	Lg	09 16 03.5	
	29nm,0.6s						
MRKS	**Merke** 4.2nm,0.5s	**4.96**	**12**	Pg	Pb	09 15 12.0	+2.7
MRKS				Lg	Lg	09 16 19.3	
	5.6nm,0.7s						
KK31	**Karatay Array** 1.1nm,0.6s,baz=201,slow=12,SNR=66	**5.30**	**349**	⇑P	Pb	09 15 10.3	-4.7
KK31				⇓S	Sb	09 16 23.4	+4.2
	3.4nm,0.6s						
KK31	**Karatay Array** 1.1nm,0.6s,baz=201,slow=12,SNR=66	**5.30**	**349**	⇑P	Pb	09 15 10.3	-4.7

WEL 29 09:20:59.8±0.4, **42°S**×**3°**×**17°4E**±°, **h12**km, **M2.8**/12, **ML3.1**/19, **MLv2.8**/12, **Error ellipse: s-maj=0.0km s-min=0.0km az=122.8, confirmed, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.28**	**245**	P	Pg	09 21 04.9	-0.7
KHZ				S	Sg	09 21 10.0	+0.5
BSWZ	**Blackbirch Sta**	**0.58**	**359**	P	Pg	09 21 11.1	+0.1
BSWZ				S	Sg	09 21 19.2	+0.5
CMWZ	**Cape Campbell**	**0.60**	**24**	P	Pb	09 21 13.0	+0.9
CMWZ				S	Sn	09 21 24.1	+0.4
THZ	**Tophouse**	**0.90**	**306**	P	Pg	09 21 16.3	-0.9
THZ				S	Sg	09 21 28.1	-0.9
GVZ	**Greta Valley S**	**0.92**	**223**	P	Pn	09 21 18.3	-0.3
GVZ				S	Sn	09 21 31.5	-0.3
TCW	**Tory Channel**	**1.12**	**15**	P	Pb	09 21 20.8	-0.3
TCW				S	Sn	09 21 36.4	-0.2
NNZ	**Nelson**	**1.14**	**340**	P	Pb	09 21 20.7	-0.7
MRNZ	**Matariki Terra**	**1.23**	**316**	P	Pn	09 21 22.7	-0.1
MRNZ				S	Sg	09 21 39.7	+0.3
PLWZ	**Palliser**	**1.25**	**55**	P	Pn	09 21 22.5	-0.6
AMCZ	**Amberley**	**1.27**	**225**	P	Pg	09 21 24.0	-0.1
LTZ	**Lake Taylor**	**1.29**	**247**	P	Pn	09 21 23.5	-0.2
LTZ				S	Sn	09 21 40.7	-0.1
TKNZ	**Takaka Hill**	**1.44**	**331**	P	Pb	09 21 26.1	-0.3
TKNZ				S	Sg	09 21 45.9	-0.1
PAWZ	**Paruwai Farm**	**1.47**	**52**	P	Pn	09 21 25.0	-1.0
CAW	**Cannon Point**	**1.48**	**37**	P	Pn	09 21 25.7	-0.5
DUWZ	**D'Urville Isla**	**1.49**	**1**	P	Pn	09 21 26.4	0.0
OKCZ	**Okains Bay**	**1.55**	**203**	P	Pn	09 21 27.2	0.0
KIW	**Kapiti Island**	**1.62**	**29**	P	Pn	09 21 28.2	0.0
DSZ	**Denniston Nort**	**1.65**	**289**	P	Pb	09 21 29.4	-0.6
MTW	**Mount Morrison**	**1.66**	**47**	P	Pn	09 21 27.5	-1.1
MQZ	**McQueen's Vall**	**1.68**	**212**	P	Pn	09 21 27.5	-1.4
OXZ	**Oxford**	**1.71**	**232**	P	Pn	09 21 28.3	-1.0
AKCZ	**Akaroa Harbour**	**1.73**	**204**	P	Pn	09 21 29.4	-0.3
OGWZ	**Otaki Gorge**	**1.76**	**34**	P	Pn	09 21 29.6	-0.5
QRZ	**Quartz Range**	**1.79**	**325**	P	Pn	09 21 31.4	+1.0
HOWZ	**Holdsworth Sta**	**1.85**	**42**	P	Pg	09 21 37.2	+1.9
INZ	**Inchbonnie**	**1.86**	**256**	P	Pn	09 21 32.2	+0.8
MRZ	**Mangatainoka R**	**2.07**	**38**	P	Pn	09 21 33.5	-0.8
WACZ	**Wakanui South**	**2.23**	**222**	P	Pn	09 21 35.8	-0.7
RPZ	**Rata Peaks**	**2.52**	**235**	P	Pn	09 21 38.5	-2.0
WAZ	**Wanganui**	**2.67**	**19**	P	Pn	09 21 44.2	+1.7
KHEZ	**Kahui Hut**	**3.00**	**2**	P	Pb	09 21 51.5	-1.7
NBEZ	**Newall Road No**	**3.02**	**360**	P	Pb	09 21 53.4	-0.1
VRZ	**Vera Road**	**3.23**	**12**	P	Pn	09 21 51.8	+1.5
WNVZ	**Wahianoa**	**3.24**	**24**	P	Pn	09 21 51.7	+1.2
TUVZ	**Tukino**	**3.31**	**25**	P	Pn	09 21 52.5	+1.1
NNVZ	**North Ngauruho**	**3.42**	**23**	P	Pn	09 21 54.7	+1.6
ETVZ	**East Tongariro**	**3.45**	**24**	P	Pn	09 21 55.1	+1.7
TMVZ	**Te Maari**	**3.46**	**24**	P	Pn	09 21 55.4	+1.8

*IDC **29** 09:21:32.4±1.7, 5.41S×147.05E, h199km±17km, mb3.7/12, mbtmp4.2/17, Error ellipse: s-maj=16.3km s-min=13.1km az=86.0*
*DJA **29** 09:21:33.0±0.4, 5°S±5°×14°7E±°, h185km±9km, M4.4/6, mB4.6/3, mb4.3/6, MLv4.5/3, Mw(mB)3.8/3*
*NEIC **29** 09:21:34.2±0.8, 5.44S±0.07×147.0E±0.1, h199km±9km, mb4.6/20, Error ellipse: s-maj=15.3km s-min=10.6km az=91.0*

ISC 29 09:21:32.4±0.5, **5.49S**±0.05×**146.99E**±0.07, **h195**km, **n67**, σ1§**39**/69, **mb4.4**/26, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.44**	**6**		**Pn**	**09 22 28.6**	**+1.4**
MANU	**Manus Island**	**3.44**	**6**	P	**Pn**	**09 22 28.4**	**+1.2**
PMG	**Port Moresby** 185nm,0.6s,baz=5.4,slow=9.2,SNR=176	**3.90**	**178**	P	**Pn**	**09 22 32.7**	**-0.1**
PMG				S	**Sn**	**09 23 17.2**	**-3.0**
	138nm,0.8s,baz=287,slow=19,SNR=6.8						
PMG	**Port Moresby**	**3.90**	**178**	Pn	**Pn**	**09 22 32.4**	**-0.3**
PMG	**Port Moresby**	**3.90**	**178**	P	**Pn**	**09 22 32.4**	**-0.3**
PMG	**Port Moresby**	**3.90**	**178**	P	**Pn**	**09 22 32.9**	**+0.1**
KRVT	**Keravat (AS076** 21nm,0.5s,baz=270,slow=2.0,SNR=1.8	**5.15**	**77**	P	**Pn**	**09 22 48.6**	**-0.1**
RABL	**Rabaul**	**5.31**	**76**	Pn	**Pn**	**09 22 53.3**	**+2.5**
RABL	**Rabaul** 151nm,0.9s	**5.31**	**76**	P	**Pn**	**09 22 52.5**	**+1.7**
COEN	**Coen**	**9.22**	**204**	Pn	**Pn**	**09 23 43.2**	**+1.6**
COEN	**Coen** 46nm,0.8s	**9.22**	**204**	P	**Pn**	**09 23 43.9**	**+2.3**
MTSU	**Mount Surprise** 17nm,0.8s	**12.84**	**192**	P	**P**	**09 24 30.8**	**-0.9**
HNR	**Honiara** 1µm,0.8s,baz=243,slow=2.3,SNR=4.1	**13.43**	**108**	P	**Pn**	**09 24 34.5**	**-1.1**
CTA	**Charters Tower** 5.4nm,0.7s,baz=351,slow=17,SNR=2.9	**14.53**	**183**	P	**P**	**09 24 50.6**	**+0.1**
CTAO	**Charters Tower**	**14.53**	**183**	P	**P**	**09 24 53.4**	**+2.9**
KDU	**Kakadu** 49nm,0.5s	**16.01**	**242**	P	**Pn**	**09 25 07.1**	**-0.2**
SIJI	**Sorong** 2.9nm,0.4s,baz=90,slow=20,SNR=2.0	**16.35**	**286**	P	**P**	**09 25 10.2**	**-0.5**
QIS	**Mount Isa** 16nm,0.9s	**16.61**	**205**	P	**Pn**	**09 25 15.5**	**+1.1**
MTN	**Manton Dam**	**17.27**	**244**	P	**Pn**	**09 25 21.7**	**-0.6**
MTN	comp=Z,16nm,0.8s				IAmb	IAmb	09 25 22.2
MTN	**Manton Dam** comp=Z,24nm,0.9s	**17.27**	**244**	P	**Pn**	**09 25 21.6**	**-0.6**
WB0	**Warramunga Arr**	**18.75**	**220**	P	**P**	**09 25 37.8**	**+0.9**
WR0	**Warramunga Arr**	**18.80**	**219**	P	**P**	**09 25 38.6**	**+1.2**
WR0	comp=Z,16nm,0.7s				IAmb	IAmb	09 25 39.3
WRAB	**Tennant Creek**	**18.91**	**219**	P	**P**	**09 25 39.6**	**+1.1**
WRAB	**Tennant Creek** comp=Z,31nm,0.7s	**18.91**	**219**	P	**P**	**09 25 39.9**	**+1.4**
WB2	**Warramunga Arr**	**18.91**	**219**	P	**P**	**09 25 39.8**	**+1.2**
WRA	**Warramunga Arr** comp=Z,12nm,0.6s,baz=39,slow=11,SNR=90	**18.92**	**219**	P	**P**	**09 25 39.7**	**+1.1**
WRA				S	**S**	**09 28 58.8**	**-4.5**
	comp=Z,6.8nm,1.2s,baz=40,slow=18,SNR=5.7						
EIDS	**Eidsvold**	**20.16**	**169**	P	**P**	**09 25 53.3**	**+1.5**
EIDS	comp=Z,10nm,0.8s				IAmb	IAmb	09 25 55.6
KNRA	**Kununurra**	**20.56**	**239**	P	**P**	**09 25 58.2**	**+2.0**
KNRA	comp=Z,29nm,0.9s				IAmb	IAmb	09 25 59.0
KNRA	**Kununurra** comp=Z,44nm,0.8s	**20.56**	**239**	P	**P**	**09 25 58.0**	**+1.7**
RMQ	**Roma** comp=Z,16nm,0.8s	**20.95**	**176**	P	**P**	**09 26 02.2**	**+1.9**
QLP	**Quilpie** comp=Z,26nm,1.8s	**21.14**	**187**	P	**P**	**09 26 03.6**	**+1.3**
AS01	**Alice Springs** comp=Z,23nm,0.9s	**22.01**	**214**	P	**P**	**09 26 12.6**	**+1.3**
AS31	**Alice Springs**	**22.03**	**214**	P	**P**	**09 26 12.7**	**+1.2**
ASAR	**Alice Springs** comp=Z,14nm,0.8s,baz=48,slow=8.1,SNR=64	**22.04**	**214**	P	**P**	**09 26 12.7**	**+1.2**
ASAR	comp=Z,1.0nm,0.7s,baz=42,slow=13,SNR=5.3 comp=Z,14nm,0.8s			S	**S**	**09 29 58.9**	**-1.6**
INKA	**Innaminka** comp=Z,39nm,0.8s	**22.91**	**194**	P	**P**	**09 26 21.3**	**+1.9**
FITZ	**Fitzroy Crossi**	**24.33**	**237**	P	**P**	**09 26 33.2**	**+0.8**
OOD	**Oodnadatta** comp=Z,80nm,0.7s	**24.65**	**205**	P	**P**	**09 26 36.6**	**+1.4**
DZM	**Mont Dzumac** comp=Z,7.5nm,0.7s,baz=125,slow=4.2,SNR=9.8 comp=Z,7.5nm,0.7s	**25.02**	**133**	P	**P**	**09 26 38.4**	**-0.4**
DZM	**Mont Dzumac**	**25.02**	**133**	P	**P**	**09 26 39.5**	**+0.7**
ARMA	**Armidale**	**25.18**	**171**	P	**P**	**09 26 41.6**	**+1.4**
ARMA	comp=Z,12nm,0.9s				IAmb	IAmb	09 26 42.6
ARMA	**Armidale** comp=Z,14nm,1.0s	**25.18**	**171**	P	**P**	**09 26 41.6**	**+1.4**
AUPHS	**Peel High Scho** comp=Z,26nm,1.1s	**25.74**	**172**	P	**P**	**09 26 46.5**	**+1.4**
LCRK	**Leigh Creek** comp=Z,18nm,0.7s	**26.17**	**197**	P	**P**	**09 26 49.7**	**+0.8**
WRKA	**Warakurna** comp=Z,21nm,1.9s	**26.45**	**221**	P	**P**	**09 26 53.9**	**+2.4**
STKA	**Stephens Creek** comp=Z,2.1nm,0.7s	**26.74**	**190**	P	**P**	**09 26 55.8**	**+1.9**
MULG	**Mulgathing**	**27.51**	**205**	P	**P**	**09 27 01.5**	**+0.6**
BBOO	**Buckleboo**	**29.03**	**199**	P	**P**	**09 27 14.8**	**+0.4**
BBOO	comp=Z,11nm,1.4s				IAmb	IAmb	09 27 47.2
PSA00	**Pilbara Seismi**	**30.77**	**236**	P	**P**	**09 27 30.0**	**+0.3**
FORT	**Forrest**	**30.82**	**213**	P	**P**	**09 27 31.2**	**+1.1**
MORW	**Morawa**	**37.51**	**228**	P	**P**	**09 28 28.0**	**+0.3**
MORW	comp=Z,25nm,1.4s				IAmb	IAmb	09 28 51.8
YULB	**Yu-li**	**38.12**	**320**	P	**P**	**09 28 32.8**	**-0.1**
YULB	comp=Z,27nm,1.5s				IAmb	IAmb	09 28 57.9
YHNB	**Yeheng**	**38.99**	**321**	P	**P**	**09 28 41.1**	**+0.9**
YHNB	comp=Z,16nm,0.9s				IAmb	IAmb	09 28 44.1
URZ	**Urewera** comp=Z,3.8nm,0.6s,baz=350,slow=4.5,SNR=1.8 comp=Z,3.8nm,0.6s	**42.57**	**144**	P	**P**	**09 29 09.4**	**+0.3**
RTZ	**Ruatahuna**	**42.74**	**145**	P	**P**	**09 29 11.3**	**+0.7**
RTZ	comp=Z,17nm,1.3s				IAmb	IAmb	09 29 44.5
KSRS	**Korea Array** comp=Z,1.3nm,0.8s,baz=148,slow=8.5,SNR=5.1 comp=Z,1.3nm,0.8s	**46.27**	**339**	P	**P**	**09 29 38.3**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,4.0nm,0.9s,baz=151,slow=6.6,SNR=2.4 comp=Z,4.0nm,0.9s	**59.08**	**8**	P	**P**	**09 31 11.4**	**-0.5**
SONM	**Songino Array** comp=Z,1.4nm,0.7s,baz=121,slow=5.3,SNR=7.2 comp=Z,1.4nm,0.7s	**63.95**	**331**	P	**P**	**09 31 44.1**	**-0.8**
SONM	**Songino Array**	**63.95**	**331**	P	**P**	**09 31 45.1**	**+0.2**
VNDA	**Vanda** comp=Z,2.5nm,0.7s,baz=320,slow=8.3,SNR=7.1 comp=Z,2.5nm,0.7s	**72.42**	**177**	P	**P**	**09 32 36.8**	**-0.1**
VNDA	**Vanda**	**72.42**	**177**	P	**P**	**09 32 37.3**	**+0.5**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.7s,baz=97,slow=8.3,SNR=8.3 comp=Z,0.6nm,0.7s	**77.10**	**320**	P	**P**	**09 33 03.8**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.4s,baz=98,slow=6.3,SNR=5.9 comp=Z,1.0nm,0.4s	**78.58**	**328**	P	**P**	**09 33 11.1**	**-1.2**
IMAR	**Indian Mountai**	**83.02**	**21**	P	**P**	**09 33 36.5**	**+1.0**
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=246,slow=4.8,SNR=12 comp=Z,0.4nm,0.6s	**85.02**	**23**	P	**P**	**09

WHHZ	**Waihua**	**2.59 218**	P		**Pn**	09 40 20.4	**-1.6**
KARZ	**Kaharoa**	**2.61 248**	P		**Pn**	09 40 23.0	**+0.6**
HLRZ	**Highlands Stat**	**2.62 242**	P		**Pn**	09 40 23.7	**+1.2**
MTHZ	**Maungataniwha**	**2.64 227**	P		**Pn**	09 40 23.6	**+0.8**
UTU	**Utuhina**	**2.70 245**	P		**Pn**	09 40 25.8	**+2.1**
PRRZ	**Plateau Road**	**2.71 237**	P		**Pn**	09 40 24.5	**+0.7**
HSRZ	**Hossack Road**	**2.72 242**	P		**Pn**	09 40 25.1	**+1.2**
HRRZ	**Handcock Road**	**2.73 240**	P		**Pn**	09 40 25.2	**+1.1**
ALRZ	**Allen Road**	**2.78 236**	P		**Pn**	09 40 25.5	**+0.8**
KMRZ	**Kaimai**	**2.78 253**	P		**Pn**	09 40 24.6	**-0.1**
NMHZ	**Naumai**	**2.83 223**	P		**Pn**	09 40 26.2	**+0.8**
GRRZ	**Galatos Road**	**2.83 242**	P		**Pn**	09 40 26.9	**+1.4**
ARHZ	**Arapoaonui**	**2.85 219**	P		**Pn**	09 40 26.0	**+0.4**
WPRZ	**Whakapapatarin**	**2.88 239**	P		**Pn**	09 40 27.3	**+1.3**
KUZ	**Kuaotunu**	**2.88 275**	P		**Pn**	09 40 24.9	**-1.2**
MRHZ	**Matea Rd**	**2.88 231**	P		**Pn**	09 40 26.7	**+0.5**
BKZ	**Black Stump Fm**	**3.05 226**			**Pn**	09 40 28.9	**+0.4**
BKZ	**Black Stump Fm**	**3.05 226**	P		**Pn**	09 40 28.7	**+0.2**
TOZ	**Tahuroa Road**	**3.09 256**	P		**Pn**	09 40 28.2	**-0.8**
KUTZ	**Kaahu Road**	**3.10 242**	P		**Pn**	09 40 30.1	**+1.0**
CKHZ	**Cape Kidnapper**	**3.12 213**	P		**Pn**	09 40 28.8	**-0.6**
MCHZ	**McNeill Hill**	**3.14 220**	P		**Pn**	09 40 29.7	**+0.1**
GRZ	**Great Barrier**	**3.19 284**	P		**Pn**	09 40 30.1	**-0.2**
TLZ	**Tolley Road**	**3.24 246**	P		**Pn**	09 40 31.7	**+0.7**
WATZ	**Wairara**	**3.26 239**	P		**Pn**	09 40 32.7	**+1.3**
MKAZ	**Moumakai**	**3.31 268**	P		**Pn**	09 40 31.2	**-0.7**
RATZ	**Rangitukua**	**3.32 236**	P		**Pn**	09 40 33.1	**+1.0**
RITZ	**Rihia Road**	**3.32 234**	P		**Pn**	09 40 33.1	**+0.9**
KAHZ	**Kahuranaki**	**3.33 214**	P		**Pn**	09 40 31.5	**-0.7**
KRHZ	**Kereru**	**3.46 221**	P		**Pn**	09 40 33.1	**-0.9**
ETAZ	**East Tamaki Re**	**3.50 270**	P		**Pn**	09 40 34.6	**0.0**
TMVZ	**Te Maari**	**3.50 233**	P		**Pn**	09 40 34.8	**+0.1**
ETVZ	**East Tongariro**	**3.51 233**	P		**Pn**	09 40 34.8	**0.0**
NTVZ	**North Tongarir**	**3.51 233**	P		**Pn**	09 40 35.2	**+0.3**
BHHZ	**Black Hill Sta**	**3.51 225**	P		**Pn**	09 40 34.7	**-0.2**
PXZ	**Pawanui**	**3.53 212**	P		**Pn**	09 40 33.6	**-1.3**
KRVZ	**Karewarewa**	**3.53 234**	P		**Pn**	09 40 35.6	**+0.5**
MBAZ	**Motutapu North**	**3.54 273**	P		**Pn**	09 40 34.9	**-0.1**
OTVZ	**Oturere**	**3.55 233**	P		**Pn**	09 40 35.8	**+0.3**
NNVZ	**North Ngauruho**	**3.56 233**	P		**Pn**	09 40 36.1	**+0.5**
WTVZ	**West Tongariro**	**3.57 234**	P		**Pn**	09 40 36.4	**+0.7**
SNVZ	**South Ngauruho**	**3.58 233**	P		**Pn**	09 40 36.2	**+0.4**
NGZ	**Ngauruhoe**	**3.60 233**	P		**Pn**	09 40 36.3	**+0.2**
TUVZ	**Tukino**	**3.62 231**	P		**Pn**	09 40 36.4	**+0.1**
MOVZ	**Moawhango**	**3.64 229**	P		**Pn**	09 40 36.4	**-0.2**
TWVZ	**Taurewa**	**3.65 235**	P		**Pn**	09 40 37.7	**+1.0**
EPAZ	**Eden Park BICE**	**3.65 272**	P		**Pn**	09 40 37.3	**+0.7**
HBAZ	**Herne Bay Bore**	**3.66 272**	P		**Pn**	09 40 37.5	**+0.7**
WNVZ	**Wahianoa**	**3.69 231**	P		**Pn**	09 40 37.2	**-0.1**
TRVZ	**Turoa**	**3.70 232**	P		**Pn**	09 40 37.8	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.72 269**	P		**Pn**	09 40 37.7	**+0.1**
WPHZ	**Waipukurau**	**3.74 216**	P		**Pn**	09 40 36.8	**-1.2**
WTAZ	**Waiatarua**	**3.78 271**	P		**Pn**	09 40 39.0	**+0.5**
RVAZ	**Riverhead Bore**	**3.79 273**	P		**Pn**	09 40 38.9	**+0.3**
MTVZ	**Mangateitei**	**3.80 231**	P		**Pn**	09 40 39.6	**+0.8**
HIZ	**Hauiti**	**3.80 246**			**Pn**	09 40 39.5	**+0.7**
HIZ	**Hauiti**	**3.80 246**	P		**Pn**	09 40 40.2	**+1.4**
PKVZ	**Pokaka**	**3.83 233**	P		**Pn**	09 40 39.6	**+0.5**
VRZ	**Vera Road**	**4.13 239**	P		**Pn**	09 40 44.4	**+1.2**
WCZ	**Waipu Caves**	**4.14 284**	P		**Pn**	09 40 43.7	**+0.3**
WAZ	**Wanganui**	**4.32 230**	P		**Pn**	09 40 46.2	**+0.2**
BFZ	**Birch Farm**	**4.33 212**	Pn		**Pn**	09 40 43.4	**-2.6**
PRWZ	**Pori Road**	**4.35 216**	P		**Pn**	09 40 45.1	**-1.2**
LREZ	**Lake Rotokare**	**4.54 237**	P		**Pn**	09 40 49.9	**+1.1**
DREZ	**Durham Road**	**4.54 241**	P		**Pn**	09 40 51.6	**+2.7**
MRZ	**Mangatainoka R**	**4.62 218**	Pn		**Pn**	09 40 47.9	**-2.1**
NEZ	**North Egmont**	**4.65 246**	P		**Pn**	09 40 50.6	**+2.0**
PKE	**Pukeiti**	**4.70 241**	P		**Pn**	09 40 53.4	**+2.4**
KHEZ	**Kahui Hut**	**4.72 240**	P		**Pn**	09 40 53.5	**+2.1**
NBEZ	**Newall Road No**	**4.81 241**	P		**Pn**	09 40 55.4	**+2.8**
OUZ	**Omahuta**	**4.96 290**	P		**Pn**	09 40 55.4	**+0.7**
TKNZ	**Takaka Hill**	**6.33 229**	Pn		**Pn**	09 41 10.9	**-2.6**
TKNZ	**Takaka Hill**	**6.33 229**	P		**Pn**	09 41 11.6	**-1.9**
THZ	**Tophouse**	**6.82 225**			**Pn**	09 41 16.8	**-3.5**
KHZ	**Kahutara**	**6.95 218**	Pn		**Pn**	09 41 18.6	**-3.3**
CTZ	**Chatham Island**	**7.36 156**	P		**Pn**	09 41 30.0	**+2.4**
AS31	**Alice Springs**	**41.01 276**	P		**P**	09 47 22.1	**-1.5**
AS31	comp=Z,0.8nm,0.5s		IAmb		IAmb	09 47 23.3	
ASAR	**Alice Springs**	**41.01 276**	P		**P**	09 47 22.7	**-1.0**
	comp=Z,1.5nm,0.5s,baz=119,slow=7.9,SNR=51 comp=Z,1.5nm,0.5s						
ASAR	**Alice Springs**	**41.01 276**	P		**P**	09 47 22.1	**-1.5**
VNDA	**Vanda**	**41.26 186**	P		P	09 47 31.4	**+6.3**
FORT	**Forrest**	**42.56 263**	P		**P**	09 47 34.4	**-1.8**
FORT	comp=Z,14nm,1.2s		IAmb		IAmb	09 48 03.5	
WB2	**Warramunga Arr**	**42.60 281**	P		**P**	09 47 35.4	**-1.3**
WB2	comp=Z,3.4nm,0.6s		IAmb		IAmb	09 47 36.0	
WRA	**Warramunga Arr**	**42.61 281**	P		**P**	09 47 35.4	**-1.4**
	comp=Z,2.7nm,0.7s,baz=121,slow=7.7,SNR=29 comp=Z,2.7nm,0.7s						
WB0	**Warramunga Arr**	**42.66 281**	P		**P**	09 47 35.5	**-1.7**
WB0	comp=Z,6.0nm,1.1s		IAmb		IAmb	09 47 41.4	
QSPA	**South Pole Qui**	**53.06 180**	P		**P**	09 49 01.3	**+3.9**
H03N3	**Juan Fernandez** baz=236	**78.89 123**	T		T	11 18 34.4	
H03N2	**Juan Fernandez** baz=236	**78.89 123**	T		T	11 18 33.2	
H03N1	**Juan Fernandez** baz=236	**78.91 123**	T		T	11 18 32.7	
FINES	**FINESS Array B** comp=Z,3.2nm,1.0s,baz=36,slow=3.6,SNR=5.6	**150.39 334**	PKPbc		**PKiKP**	09 59 30.5	**-1.2**

IDC 29 09:46:42.1±1.9, 5°08S×146°56E, h0km, mb3.4/2, mbtmp3.6/4, ML2.8/2, MS2.8/2, Error ellipse: s-maj=72.3km s-min=30.0km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.33 172**		Pn	Pn	09 47 49.5	**+0.3**
	4.6nm,0.3s,baz=357,slow=6.8,SNR=13						
PMG				Sn	Sn	09 48 35.9	-4.7
	1.9nm,0.3s,baz=262,slow=13,SNR=3.2						
PMG				LR	LR	09 49 10.3	
	comp=Z,30nm,20.6s,baz=22,slow=34 26nm,0.6s						
WRA	**Warramunga Arr**	**18.97 218**		P	P	09 51 05.2	0.0
	0.1nm,0.3s,baz=42,slow=11,SNR=6.9 1.2nm,0.9s						
ASAR	**Alice Springs**	**22.14 212**		P	P	09 51 39.4	-0.2
	0.7nm,0.6s,baz=46,slow=8.4,SNR=22 0.7nm,0.6s						
SHEM	**Shemya Is, Ala**	**62.14 19**		LR	LR	10 17 56.3	
	comp=Z,38nm,20.6s,baz=314,slow=30						
ILAR	**Eielson Array**	**84.82 23**		P	P	09 59 18.3	**+0.1**
	0.5nm,1.0s,baz=245,slow=5.8,SNR=2.8 0.5nm,1.0s						

*ASRS **29** 09:51:21.0±0.3, 52°N±1°×9°-3E±°, h5km, MLh3.7/10, Error ellipse: s-maj=3.1km s-min=2.6km az=170.5, confirmed*
*NNC **29** 09:51:39.4±8.5, 51°.04N×92°.13E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=73.2km s-min=33.0km az=95.0*
ISC 29 09:51:22.7±0.9, 52°.08N±0°.03×92°.70E±0°.02, h10km, n29, σ1s91/43, 6C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJOS	**Djoyskaya Sosn**	**1.07 312**		Pg	Pn	09 51 48.1	+4.2
DJOS				Sg	**Sn**	**09 52 02.4**	**+3.6**
CERR	**Cheremushki**	**1.10 315**		Pg	Pn	09 51 47.6	+3.4
CERR				Sg	**Sn**	**09 52 02.2**	**+2.6**
KZLR	**Kyzyl**	**1.15 108**		Pg	**Pg**	**09 51 44.5**	**-0.3**
KZLR				Sg	**Sg**	**09 51 59.1**	**-0.6**
LUZB	**Luzhba, Kemero**	**2.80 306**		Pg	**Pg**	**09 52 15.5**	**-0.8**
LUZB				Sg	**Sg**	**09 52 53.3**	**+0.8**
MINR	**Mina**	**2.96 17**		Pg	**Pg**	**09 52 18.6**	**-0.9**
MINR				Sg	**Sg**	**09 52 59.7**	**+1.8**
TASR	**Tashtagol**	**3.03 285**		Pg	**Pg**	**09 52 20.8**	**0.0**
TASR				Sg	**Sg**	**09 52 58.9**	**-1.1**
ULGR	**Ulagan, Altay**	**3.31 246**		Pg	**Pg**	**09 52 27.6**	**+1.5**
ULGR				Sg	**Sg**	**09 53 10.8**	**+1.8**
ARTR	**Artybash**	**3.37 267**		Pg	**Pg**	**09 52 27.4**	**+0.1**
ARTR				Sg	**Sg**	**09 53 11.9**	**+1.1**
CUR	**Chagan-Uzun**	**3.38 236**		Pg	**Pb**	**09 52 21.5**	**-1.4**
CUR				Sg	**Sg**	**09 53 11.6**	**+0.2**
MALIN	**Malinovka, Kuz**	**3.56 294**		Pg	**Pg**	**09 52 30.5**	**-0.4**
MALIN				Sg	**Sg**	**09 53 17.8**	**+0.8**
TAIL	**Tailep, Kuzbas**	**3.61 294**		Sg	**Sg**	**09 53 19.5**	**+0.8**
ERU	**Erunakovo, Kuz**	**3.81 305**		Sg	**Sg**	**09 53 25.8**	**+0.8**
KOTO	**Kotino, Kuzbas**	**4.07 304**		Sg	**Sg**	**09 53 33.5**	**+0.2**
DGZ	**Jazzator, Alta**	**4.10 237**		Pg	**Pg**	**09 52 38.6**	**-2.6**
DGZ				Sg	**Sg**	**09 53 34.4**	**+0.1**
ELT	**Eltsovka**	**4.11 289**		Pg	**Pg**	**09 52 40.0**	**-1.4**
ELT				Sg	**Sg**	**09 53 33.5**	**-1.1**
VCHU	**Verkh-Chumysh,**	**4.22 299**		Sg	**Sg**	**09 53 39.3**	**+1.1**
SHTK	**Zheleznogorsk-**	**4.29 7**		Pg	**Pb**	**09 52 34.6**	**-3.6**
SHTK				Sg	**Sb**	**09 53 30.0**	**-0.1**
GZLN	**Zheleznogorsk**	**4.35 8**		Pg	**Pg**	**09 52 44.2**	**-1.9**
GZLN				Sg	**Sg**	**09 53 43.4**	**+0.9**
POMOR	**Pomortsevo, Ku**	**4.38 305**		Sg	**Sg**	**09 53 46.0**	**+2.7**
SALR	**Pechorkino, Sa**	**4.81 302**		Pg	**Pg**	**09 52 53.4**	**-1.4**
SALR				Sg	**Sg**	**09 53 56.8**	**-0.2**
UKR	**Ust'-Kan**	**5.08 260**		Pg	**Pg**	**09 52 58.3**	**-1.7**
UKR				Sg	**Sg**	**09 54 05.0**	**-0.9**
ZAA0	**Zalesovo Array**	**5.11 295**	⇑	Pn	**Pg**	**09 53 00.2**	**-0.4**
	0.5nm,0.5s,baz=123,slow=15						
ZAA0			⇑	Sn	**Sg**	**09 54 03.0**	**-3.8**
	4.7nm,0.8s,baz=125,slow=24						
MOY	**Mondy**	**5.15 91**		Pg	**Pb**	**09 52 55.6**	**+2.6**
MOY				Sg	**Sg**	**09 54 04.5**	**-3.6**
NVSII	**Novosibirsk**	**6.29 300**		Sg	**Sg**	**09 54 49.0**	**+4.4**
BSTK	**Bystrovka, Nov**	**6.52 296**		Sg	**Sg**	**09 54 53.9**	**+2.2**
MK31	**Makanchi Array**	**8.60 236**		P	Pn	09 53 32.6	+5.4
	1.0nm,0.6s,baz=58,slow=13,SNR=8.6						
MK31			⇓	S	**Sn**	**09 55 06.9**	**+2.6**
	6.9nm,0.9s,baz=54,slow=22						
MAKZ	**Makanchi**	**8.75 237**	⇑	P	Pn	09 53 33.9	+4.6
	6.2nm,2.1s						
MAKZ			⇑	S	**Sn**	**09 55 07.1**	**-0.8**
	10nm,1.1s						
KURK	**Kurchatov**	**8.91 267**		Pg	Pn	09 53 35.6	+4.1
KURK			⇑	Lg	Lg	09 56 17.9	
	10.0nm,0.7s						
KURBB	**Kurchatov Arra**	**8.99 266**		Pg	Pn	09 53 38.4	+5.9
KURBB			⇑	Lg	Lg	09 56 22.4	
	13nm,0.7s						

*IDC **29** 09:52:38.6±1.9, 10°.36S×161°.74E, h0km, mb3.8/5, mbtmp3.8/5, MS3.6/1, Error ellipse: s-maj=48.4km s-min=28.8km az=132.0*
ISC 29 09:52:47.6±1.4, 10°.3S±0°.2×161°.5E±0°.2, h61km, n7, σ0s74/7, mb3.8/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.72 299**		Pn	**Pn**	**09 53 14.5**	**-0.7**
	459nm,0.3s,baz=181,slow=5.4,SNR=10.0						
HNR				Sn	**Sn**	**09 53 36.7**	**+0.5**
	2µm,0.3s,baz=37,slow=20,SNR=15						
HNR				LR	LR	09 54 10.6	
	comp=Z,4µm,18.7s,baz=68,slow=46						
WRA	**Warramunga Arr**	**27.85 247**		P	**P**	**09 58 32.5**	**+0.8**
	1.6nm,0.6s,baz=76,slow=9.1,SNR=18 1.6nm,0.6s						
ASAR	**Alice Springs**	**29.45 240**		P	**P**	**09 58 45.7**	**-0.3**
	0.4nm,0.8s,baz=64,slow=9.4,SNR=8.2 0.4nm,0.8s						
SONM	**Songino Array**	**75.61 325**		P	**P**	**10 04 26.9**	**+0.8**
	1.1nm,0.6s,baz=137,slow=5.4,SNR=8.7 1.1nm,0.6s						
ILAR	**Eielson Array**	**84.18 20**		P	**P**	**10 05 11.8**	**-0.2**
	1.0nm,1.1s,baz=248,slow=3.8,SNR=4.7 1.0nm,1.1s						
MKAR	**Makanchi Array**	**90.11 318**		P	**P**	**10 05 40.8**	**-0.3**
	0.2nm,0.6s,baz=108,slow=3.2,SNR=2.7 0.2nm,0.6s						
PDAR	**Pinedale Array**	**96.15 48**		LR	LR	10 41 50.7	
	comp=Z,23nm,19.4s,baz=96,slow=31						

*IDC **29** 10:08:30.5±1.4, 38°.17N×56°.96E, h0km, mb3.0/1, mbtmp3.4/2, ML3.0/1, Error ellipse: s-maj=10.0km s-min=7.6km az=94.0*
*TEH **29** 10:08:36.6, 37°.86N×57°.15E, h5km±47km, ML3.0*
ISC 29 10:08:29.9±0.8, 38°.43N±0°.05×57°.24E±0°.05, h10km, n13, σ2s13/16, 1C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJRD	**Bojnurd**	**0.74 169**		Pg	**Pg**	**10 08 42.0**	**-2.3**
GEYT	**Alibeck**	**0.86 126**		Pg	**Pn**	**10 08 49.4**	**+1.4**
	18nm,0.3s,baz=282,slow=21,SNR=107						
GEYT				Lg	Lg	10 09 01.2	
	81nm,0.3s,baz=287,slow=25,SNR=19						
MRVT	**Maraveh tapeh**	**1.19 230**		Pg	**Pn**	**10 08 54.0**	**+1.3**
MRVT				Sg	**Sn**	**10 09 08.7**	**-0.2**
IEMG	**Emamgholi**	**1.51 132**		Pg	**Pg**	**10 09 01.0**	**+2.1**
IMND	**Minoodasht**	**1.86 232**		Pg	**Pg**	**10 09 06.2**	**+0.6**
IAKL	**Akhelmad**	**2.19 146**		Pg	**Pg**	**10 09 11.2**	**-0.7**
IKRD	**Kardeh**	**2.45 132**		Pn	**Pg**	**10 09 16.1**	**-0.7**
SHRO	**Shahrood**	**2.63 202**		Pn	**Pn**	**10 09 13.6**	**+1.1**
IMYA	**Miami**	**3.09 132**		Pn	**Pb**	**10 09 23.8**	**-1.3**
AB31	**Akbulak array**	**10.99 9**	⇑	P	**Pn**	**10 11 10.8**	**+3.7**
	0.3nm,0.6s,baz=191,slow=12,SNR=8.3						
AB31				S	**Sn**	**10 13 06.4**	**-3.7**
	0.8nm,0.4s,baz=191,slow=24,SNR=15						
AKTO	**Aktyubinsk**	**12.01 2**	⇓	P	**Pn**	**10 11 22.1**	**+1.0**
	15nm,2.5s,baz=107,slow=26						
AKTO			⇓	S	**Sn**	**10 13 31.7**	**-3.3**
	6.4nm,1.6s,baz=107,slow=26						
KBZ	**Khabaz**	**12.04 301**		Pn	**Pn**	**10 11 21.9**	**+0.4**
	0.1nm,0.3s,baz=111,slow=8.6,SNR=1.9						
KBZ				Sn	**Sn**	**10 13 34.4**	**-1.4**
	0.1nm,0.3s,baz=176,slow=23,SNR=1.1 1.7nm,1.0s						
MKAR	**Makanchi Array**	**20.18 58**		P	Pn	10 13 09.9	+3.5
	0.7nm,0.8s,baz=248,slow=9.9,SNR=6.4 0.7nm,0.8s						

ROM 29 10:13:40.5±0.1, 42°.916N±0°.002×13°.114E±0°.004, h10km, ML0.7/1, 4C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=281.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.06 94**		⇑P	Pg	10 13 43.1	+0.3
MC2				S	Sg	10 13 44.2	-0.2
T1216	**Preci, Frazion**	**0.07 250**		⇑P	Pg	10 13 43.1	+0.3
T1216				S	Sg	10 13 44.7	+0.2
T1245	**Castelsantange**	**0.08 138**		⇓P	Pg	10 13 43.3	+0.3
T1245				S	Sg	10 13 45.2	+0.4
FDMO	**Fiordimonte**	**0.12 351**		⇑P	Pg	10 13 44.0	+0.6
FDMO				S	Sg	10 13 46.1	+0.6
FDMO				AML	AML		
	comp=N,47µm,0.2s						
FDMO				AML	AML		
	comp=E,59µm,1.4s						
FDMO				AML	AML		
	comp=N,47µm,0.2s						
T1219	**Muccia, Frazio**	**0.16 331**		⇓P	Pg	10 13 44.6	+0.5
T1219				S	Sg	10 13 47.5	+1.0
T1212	**Cascia, Frazio**	**0.17 197**		P	Pg	10 13 45.0	+0.7
T1212				S	Sg	10 13 48.1	+1.3
CESI	**CESI - Serrava**	**0.18 300**		⇓P	Pg	10 13 45.1	+0.7
CESI				S	Sg	10 13 48.4	+1.4
CSP1	**Cessapalombo**	**0.19 21**		⇑P	Pg	10 13 45.2	+0.6
CSP1				S	Sg	10 13 48.6	+1.2
T1215	**Vallo di Nera,**	**0.21 238**		P	Pg	10 13 45.7	+0.7
T1215				S	Sg	10 13 49.2	+1.3
LNSS	**Leonessa**	**0.32 190**		P	Pg	10 13 47.5	+0.6
LNSS				S	Sb	10 13 52.6	-1.1

*SKO **29** 10:14:36.9, 41°.88N×20°.81E, h15km, ML3.0*
*PDG **29** 10:14:37.6±0.2, 41°.90N×20°.82E, h2km, MD3.2/1, ML3.1/13, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0*
*BEO **29** 10:14:38.9±0.2, 41°.89N×20°.84E, h0km, ML2.6/15*
*THE **29** 10:14:39.5, 41°.88N×20°.98E, h0km±4km, ML2.9/1, Error ellipse: s-maj=5.2km s-min=2.2km az=350.0*
*ATH **29** 10:14:40.3, 41°.85N×20°.96E, h5km±31km, ML2.6/3, Error ellipse: s-maj=31.6km s-min=2.5km az=0.0*
ISC 29 10:14:37.9±1.1, 41°.89N±0°.02×20°.83E±0°.02, h5km±9km, n102, σ1s15/143, 11C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.46 79**		*e*Pg	**Pg**	**10 14 46.9**	**+0.1**
SKO				*e*Sg	**Sg**	**10 14 52.9**	**0.0**
SKO	**Skopje**	**0.46 79**		*i* Pg	**Pg**	**10 14 47.0**	**+0.2**
SKO				*i* Sg	**Sg**	**10 14 53.9**	**+1.0**
SKO				*e*Lg	Lg	10 14 54.0	
	comp=N,52nm,0.3s						
SKO				*e*Lg	Lg	10 14 54.0	
	comp=E,36nm,0.5s						
OHR	**Ohrid**	**0.78 182**		*e*Pg	**Pg**	**10 14 52.2**	**-0.5**
OHR				*e*Sg	**Sb**	**10 15 04.4**	**-0.4**
OHR	**Ohrid**	**0.78 182**		*i* Pg	**Pg**	**10 14 52.3**	**-0.5**
OHR				*i* Sg	**Sb**	**10 15 04.6**	**-0.2**
OHR				*e*Lg	Lg	10 15 05.3	
	comp=E,683nm,0.7s						
OHR				*e*Lg	Lg	10 15 08.2	
	comp=N,550nm,1.0s						
TIR	**Tirane**	**0.90 234**	⇑	P	**Pg**	**10 14 54.8**	**-0.3**
TIR			⇑	S	**Sg**	**10 15 07.1**	**+0.2**
TIR	**Tirane**	**0.90 234**		*i* Pg	**Pg**	**10 14 54.9**	**-0.3**
TIR				*i* Sg	**Sb**	**10 15 08.2**	**-0.2**
PVY	**Plav**	**0.96 318**	⇑	*i* Pg	**Pg**	**10 14 54.8**	**-1.5**
PVY				*i* Sg	**Sb**	**10 15 10.1**	**-0.1**
STIP	**Stip**	**1.03 100**		*i* Pg	**Pn**	**10 14 60.0**	**+0.9**
STIP				*i* Sg	**Sn**	**10 15 17.9**	**+4.0**
STIP				*e*Lg	Lg	10 15 19.1	
	comp=E,50nm,0.5s						
STIP				*e*Lg	Lg	10 15 19.8	
	comp=N,50nm,0.5s						
PRVS	**Prvonek**	**1.11 56**		*e*Pg	**Pb**	**10 14 59.2**	**-0.5**
FNA	**Florina**	**1.18 159**		P	**Pb**	**10 14 59.6**	**-1.2**
FNA				S	**Sn**	**10 15 17.4**	**-0.2**
FNA	**Florina**	**1.18 159**		*i* Pg	**Pb**	**10 14 59.3**	**-1.5**
FNA				*i* Sg	**Sn**	**10 15 17.2**	**-0.4**
FNA	**Florina**	**1.18 159**		P	**Pb**	**10 14 59.2**	**-1.5**
FNA				S	**Sb**	**10 15 15.6**	**-0.8**
FNA				AML	AML	10 15 20.0	
	comp=N,1165µm,0.4s						
FNA				AML	AML	10 15 20.6	
	comp=E,1824µm,0.3s						
BARS	**Barje**	**1.18 38**		*e*Pg	**Pb**	**10 15 00.2**	**-0.7**
BARS				*e*Sg	**Sn**	**10 15 17.7**	**0.0**
BARS	**Barje**	**1.18 38**		*i* Pg	**Pb**	**10 15 00.1**	**-0.8**
ULC	**Ulcinj**	**1.19 274**		*i* Pg	**Pb**	**10 14 59.7**	**-1.2**
ULC	**Ulcinj**	**1.19 274**	⇓	*i* Pg	**Pb**	**10 14 59.4**	**-1.5**
ULC				*i* Sg	**Sn**	**10 15 17.8**	**0.0**
BEY	**Berane**	**1.21 325**		*i* Pg	**Pb**	**10 15 00.3**	**-1.0**
IVA	**Berane**	**1.21 325**	⇓	*i* Pg	**Pb**	**10 14 59.5**	**-1.8**
IVA				*i* Sg	**Sn**	**10 15 18.3**	**-0.1**
DRME	**Dracevica, Mon**	**1.26 284**		*e*Pn	**Pn**	**10 15 00.2**	**-2.1**
DRME	**Dracevica, Mon**	**1.26 284**	⇑	*i* Pg	**Pn**	**10 15 00.6**	**-1.7**
DRME				*i* Sg	**Sn**	**10 15 20.2**	**+0.6**
KBN	**Korca**	**1.26 181**		P	**Pg**	**10 15 02.3**	**+0.2**
KBN				S	**Sn**	**10 15 21.9**	**+2.2**
PDG	**Podgorica**	**1.29 295**		*e*Pn	**Pg**	**10 15 03.1**	**+0.4**
PDG				*e*Sg	**Sg**	**10 15 20.8**	**+1.4**
PDG	**Podgorica**	**1.29 295**		*i* Pg	**Pn**	**10 15 01.0**	**-1.7**
PDG	**Podgorica**	**1.29 295**	⇑	*i* Pg	**Pn**	**10 15 00.7**	**-1.9**
PDG				*i* Sg	**Sg**	**10 15 21.4**	**+2.0**
SELS	**Selova**	**1.35 9**		*e*Pg	**Pn**	**10 15 02.3**	**-1.2**
SELS				*e*Sg	**Sg**	**10 15 21.8**	**+0.5**
KOME	**Kolasin**	**1.37 315**	⇓	*i* Pg	**Pn**	**10 15 02.4**	**-1.4**
KOME				*i* Sg	**Sg**	**10 15 24.0**	**+2.0**
VAY	**Valandovo**	**1.42 113**		*e*Pg	**Pn**	**10 15 03.9**	**-0.5**
VAY				*e*Sg	**Sb**	**10 15 22.9**	**-0.5**
VAY	**Valandovo**	**1.42 113**		*i* Pg	**Pb**	**10 15 04.4**	**-0.6**
VAY				*i* Sg	**Sb**	**10 15 22.9**	**-0.5**
VAY				*e*Lg	Lg	10 15 25.7	
	comp=E,178nm,0.6s						
VAY				*e*Lg	Lg	10 15 26.1	
	comp=N,170nm,0.7s						
BUM	**Brajici-Budva**	**1.50 287**	⇑	*i* Pg	**Pn

CRES	**Cresnjev**	**5.53**	**317**	*e*Pn	**Pn**	**10 16 01.2**	**+0.3**
CEY	**Cerknica**	**6.02**	**312**	*e*Pn	**Pn**	**10 16 09.3**	**+1.6**
SKDS	**Skadanscina**	**6.14**	**309**	*e*Pn	**Pn**	**10 16 09.3**	**-0.1**
SOKA	**Soboth**	**6.34**	**321**	*e*Pn	**Pn**	**10 16 12.3**	**+0.1**
	comp=E,1.1nm,0.5s						
OBKA	**Obir**	**6.46**	**318**	*e*Pn	**Pn**	**10 16 16.3**	**+2.5**
ARSA	**Arzberg**	**6.57**	**327**	*e*Pn	**Pn**	**10 16 15.0**	**-0.1**
	comp=E,1.0nm,0.5s						
KBA	**Koelnbreinsper**	**7.45**	**317**	*e*Pn	**Pn**	**10 16 29.4**	**+1.9**
	comp=E,0.7nm,0.3s						
WTTA	**Wattenberg**	**8.48**	**312**	*e*Pn	**Pn**	**10 16 43.4**	**+1.9**
	comp=E,2.3nm,0.5s						
WATA	**Walderalm**	**8.55**	**313**	*e*Pn	**Pn**	**10 16 44.9**	**+2.3**
	comp=E,1.4nm,0.4s						
SQTA	**Sankt Quirin**	**8.69**	**311**	*e*Pn	**Pn**	**10 16 46.8**	**+2.4**
	comp=E,2.0nm,0.3s						
MOTA	**Moosalm**	**8.82**	**311**	*e*Pn	**Pn**	**10 16 48.6**	**+2.3**
	comp=E,1.3nm,0.4s						

GUC ***29*** *10:20:16.3±0.8, 22°.45S×67°.87W, h180km±7km, ML3.6*
SCB ***29*** *10:20:17.4±1.4, 22°.45S×67°.70W, h108km±36km, ML3.3/3, MW3.1, Error ellipse: s-maj=10.0km s-min=5.3km az=0.0*

ISC 29 10:20:15.5±2.1, 22°.49S±0'.07×67°.70W±0'.05, h159km±17km, n22, σ0s91/36, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.12**	**263**	*e*P	**Pn**		**10 20 43.4**	**+0.7**
LVC				*e*S	**Sn**		**10 21 03.8**	**+0.5**
PB09	**IPOC Station P**	**1.58**	**295**	⇑*i*P	**Pn**		**10 20 47.9**	**+1.0**
PB09				*e*S	**Sn**		**10 21 11.6**	**+0.7**
PB06	**IPOC Station P**	**1.74**	**262**	*e*P	**Pn**		**10 20 49.3**	**+0.8**
PB06				*e*S	**Sn**		**10 21 14.6**	**+0.7**
PB06	**IPOC Station P**	**1.74**	**262**	Pg	**Pn**		**10 20 49.2**	**+0.7**
PB03	**IPOC Station P**	**1.95**	**283**	⇑*i*P	**Pn**		**10 20 51.1**	**+0.3**
PB03				*e*S	**Sn**		**10 21 17.5**	**-0.4**
PB03				IAML			10 21 18.5	
	comp=E,514nm,0.2s							
YJA	**Yavi**	**2.05**	**82**	Pg	**Pn**		**10 20 52.8**	**+0.6**
PB07	**IPOC Station P**	**2.16**	**290**	⇑*e*P	**Pn**		**10 20 53.7**	**+0.4**
PB07				*e*S	**Sn**		**10 21 21.4**	**-0.9**
PB07				IAML			10 21 22.9	
	comp=N,307nm,0.1s							
PB01	**IPOC Station P**	**2.19**	**311**	*e*P	**Pn**		**10 20 53.6**	**+0.1**
PB01				*e*S	**Sn**		**10 21 22.6**	**-0.4**
PB01				IAML			10 21 25.0	
	comp=E,156nm,0.2s							
PB04	**IPOC Station P**	**2.27**	**273**	*e*P	**Pn**		**10 20 55.0**	**+0.5**
PB04				*e*S	**Sn**		**10 21 23.8**	**-0.8**
PB04				IAML			10 21 26.2	
	comp=N,385nm,0.2s							
PB04	**IPOC Station P**	**2.27**	**273**	Pg	**Pn**		**10 20 55.0**	**+0.5**
PB04				Sg	**Sn**		**10 21 23.7**	**-0.9**
PB04				IAML			10 21 26.1	
	comp=N,373nm,0.2s							
MOCB	**Mochara**	**2.28**	**58**	Pg	**Pn**		**10 20 54.8**	**-0.1**
MOCB				Sg	**Sn**		**10 21 23.4**	**-1.8**
MOCB				IAML			10 21 24.8	
	comp=N,57nm,0.7s							
PB02	**IPOC Station P**	**2.35**	**299**	⇑*i*P	**Pn**		**10 20 55.3**	**0.0**
PB02				*e*S	**Sn**		**10 21 25.0**	**-1.1**
PB02				IAML			10 21 29.1	
	comp=E,200nm,0.2s							
PB02	**IPOC Station P**	**2.35**	**299**	Pg	**Pn**		**10 20 55.3**	**0.0**
PB02				Sg	**Sn**		**10 21 25.2**	**-0.9**
PB02				IAML			10 21 33.0	
	comp=E,127nm,0.2s							
PATCX	**Punta Patache**	**2.82**	**306**	⇑*i*P	**Pn**		**10 21 00.5**	**-0.6**
PATCX				*e*S	**Sn**		**10 21 34.6**	**-1.8**
PATCX				IAML			10 21 37.6	
	comp=E,101nm,0.3s							
PB10	**IPOC Station P**	**2.82**	**248**	*e*P	**Pn**		**10 21 01.3**	**+0.3**
PB10				*e*S	**Sn**		**10 21 34.7**	**-1.6**
GO01	**Chusmiza**	**3.13**	**333**	*e*P	**Pn**		**10 21 05.7**	**+0.3**
GO01				*e*S	**Sn**		**10 21 43.8**	**-0.3**
GO01				IAML			10 21 47.6	
	comp=N,223nm,0.1s							
GO01	**Chusmiza**	**3.13**	**333**	Pg	**Pn**		**10 21 05.5**	**+0.1**
TA02	**Huaiquique**	**3.16**	**314**	Pg	**Pn**		**10 21 05.4**	**+0.1**
SOEJ	**Jacaque**	**5.50**	**355**	Pg	**Pn**		**10 21 37.8**	**+1.6**
BBOE	**La Paz, Chanca**	**5.65**	**357**	Pg	**Pn**		**10 21 39.8**	**+1.6**
BBOD	**La Paz, Gloria**	**5.88**	**352**	Pg	**Pn**		**10 21 42.6**	**+1.3**
LPAZ	**La Paz**	**6.18**	**356**	Pg	**Pn**		**10 21 46.1**	**+0.8**

IDC ***29*** *10:30:51.3±1.7, 7°.11S×155°.15E, h0km, mb3.6/8, mbtmp3.6/9, ML3.4/1, MS3.2/2, Error ellipse: s-maj=48.4km s-min=26.7km az=116.0*

ISC 29 10:30:58.3±1.2, 7°.0S±0'.2×154°.9E±0'.2, h41km, n12, σ1s10/11, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.95**	**313**	Pn	**Pn**		**10 31 56.9**	**+0.5**
	2.3nm,0.3s,baz=204,slow=18,SNR=1.4							
KRVT				Sn	**Sn**		**10 32 40.8**	**-0.8**
	6.9nm,0.3s,baz=289,slow=4.1,SNR=3.8							
	14nm,0.6s							
CTA	**Charters Tower**	**15.49**	**212**	LR	LR		10 40 15.2	
	comp=Z,78nm,18.2s,baz=86,slow=36							
WRA	**Warramunga Arr**	**23.76**	**235**	P	**P**		**10 36 06.5**	**-0.7**
	0.8nm,0.8s,baz=58,slow=9.2,SNR=4.7							
	0.8nm,0.8s							
ASAR	**Alice Springs**	**26.12**	**228**	P	**P**		**10 36 27.9**	**-0.7**
	0.3nm,1.0s,baz=63,slow=9.4,SNR=4.7							
	0.3nm,1.0s							
KSRS	**Korea Array**	**50.93**	**332**	P	**P**		**10 39 55.2**	**-0.4**
	0.9nm,0.9s,baz=133,slow=6.8,SNR=2.1							
	0.9nm,0.9s							
PETK	**Petropavlovsk-**	**59.94**	**2**	LR	LR		11 04 43.5	
	comp=Z,21nm,19.2s,baz=88,slow=34							
CMAR	**Chiang Mai Arr**	**60.74**	**296**	P	**P**		**10 41 08.7**	**+2.4**
	0.9nm,0.3s,baz=106,slow=5.1,SNR=4.9							
	0.9nm,0.8s							
SONM	**Songino Array**	**69.32**	**327**	P	**P**		**10 42 00.7**	**-0.9**
	0.5nm,0.8s,baz=122,slow=7.0,SNR=3.6							
	0.5nm,0.8s							
MKAR	**Makanchi Array**	**83.38**	**319**	P	**P**		**10 43 21.6**	**+0.3**
	0.8nm,0.8s,baz=104,slow=5.1,SNR=7.8							
	0.8nm,0.8s							
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**		**10 43 21.4**	**+0.4**
	0.4nm,0.9s,baz=236,slow=4.9,SNR=5.7							
	0.4nm,0.9s							
ZALV	**Zalesovo Beam**	**84.16**	**326**	P	**P**		**10 43 24.0**	**-1.0**
	0.3nm,0.4s,baz=100,slow=7.5,SNR=2.2							
	0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**152.97**	**285**	PKPbc	**PKPbc**		**10 50 52.0**	**-0.3**
	0.6nm,0.9s,baz=71,slow=5.2,SNR=3.0							

IDC ***29*** *10:51:28.7±2.8, 55°.87N×114°.39E, h0km, mb2.9/2, mbtmp2.9/3, ML3.1/1, Error ellipse: s-maj=97.0km s-min=31.6km az=135.0*
MOS ***29*** *10:51:28.3±1.0, 56°.08N×113°.75E, h11km, mb3.2/1, Error ellipse: s-maj=17.7km s-min=10.6km az=79.5*
BYKL ***29*** *10:51:29.0±0.1, 56°.13N×113°.78E, h6km±3km*

ISC 29 10:51:28.7±0.9, 56°.03N±0'.02×113°.57E±0'.02, h5km±7km, n45, σ2s49/80, 4C-2D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.09**	**356**	⇓*i*Pg	**Pg**		**10 51 30.9**	**+0.1**
SVKR				*e*Sg	**Sg**		**10 51 33.0**	**+0.8**
SVKR				Pmax				
	4μm,0.1s							
SVKR				Smax				
	19μm,0.6s							
SVKR	**Severomuysk**	**0.09**	**356**	*e*PG	**Pg**		**10 51 30.8**	**0.0**
SVKR				pmax	pmax			
	comp=Z,2μm,0.1s							
UKT	**Uakit**	**0.54**	**177**	⇑*i*Pg	**Pb**		**10 51 40.2**	**-0.5**
UKT				*e*Sg	**Sb**		**10 51 49.5**	**+0.7**
UKT				Pmax				
	comp=Z,105nm,0.5s							
UKT				Smax				
	comp=Z,387nm,0.6s							
UKT	**Uakit**	**0.54**	**177**	⇑*i*PG	**Pb**		**10 51 40.2**	**-0.5**
UKT				*e*			10 51 49.3	
UKT				pmax	pmax			
	comp=Z,69nm,0.2s							
UKT				smax	smax			
	comp=N,224nm,0.5s							
YOA	**Uoyan**	**1.04**	**277**	*e*Pg	**Pn**		**10 51 50.3**	**+0.3**
YOA				*e*Sg	**Sn**		**10 52 05.4**	**+0.5**
YOA				*e*			10 52 11.1	
YOA				Pmax				
	comp=N,155nm,0.2s							
YOA				max				
	comp=N,1μm,0.3s							
YOA	**Uoyan**	**1.04**	**277**	*e*PG	**Pn**		**10 51 50.2**	**+0.3**
YOA				*e*			10 52 04.8	
YOA				pmax	pmax			
	comp=Z,120nm,0.4s							
YOA				smax	smax			
	comp=N,1μm,0.5s							
NLYR	**Nelyaty**	**1.28**	**68**	⇓*i*Pg	**Pn**		**10 51 49.2**	**-4.0**
NLYR				*e*Pb	**Pb**		**10 51 51.7**	**-1.6**
NLYR				*e*Sg	**Sb**		**10 52 05.0**	**-5.0**
NLYR				*e*Sb	**Sg**		**10 52 09.3**	**-0.5**
NLYR				max				
	comp=N,477nm,0.3s							
NLYR				max				
	comp=N,451nm,0.8s							
KMO	**Kumora**	**1.34**	**265**	*e*Pg	**Pg**		**10 51 55.2**	**+0.9**
KMO				*e*Sg	**Sg**		**10 52 14.7**	**+3.0**
KMO				*e*			10 52 20.9	
KMO				Pmax				
	comp=N,228nm,0.4s							
KMO				max				
	comp=N,428nm,0.8s							
KMO	**Kumora**	**1.34**	**265**	⇑*i*PG	**Pg**		**10 51 55.3**	**+0.9**
KMO				*e*			10 52 14.7	
KMO				pmax	pmax			
	comp=Z,190nm,0.4s							
KMO				smax	smax			
	comp=N,428nm,0.7s							
YLYR	**Ulyunkhan**	**1.79**	**231**	*e*Pg	**Pg**		**10 52 03.6**	**+0.6**
YLYR				*e*			10 52 05.4	
YLYR				*e*Sg	**Sg**		**10 52 30.1**	**+3.9**
YLYR				*e*			10 52 31.9	
YLYR				max				
	comp=N,214nm,0.3s							
YLYR				max				
	comp=N,350nm,0.2s							
BOD	**Bodaibo**	**1.81**	**7**	*e*Pg	**Pn**		**10 51 59.2**	**-1.3**
BOD				*e*Sg	**Sn**		**10 52 21.5**	**-2.4**
BOD				*e*			10 52 23.7	
BOD				Pmax				
	comp=N,88nm,0.4s							
BOD				max				
	comp=N,356nm,0.3s							
BOD	**Bodaibo**	**1.81**	**7**	*e*PN	**Pn**		**10 51 59.1**	**-1.4**
BOD				*e*			10 52 21.2	
BOD				pmax	pmax			
	comp=Z,58nm,0.6s							
BOD				smax	smax			
	comp=E,352nm,0.3s							
CRS	**Chara**	**2.75**	**69**	*e*Pn	**Pn**		**10 52 12.2**	**-1.3**
CRS				*e*Pg	**Pb**		**10 52 16.4**	**-1.9**
CRS				*e*Sg	**Sb**		**10 52 50.2**	**-2.1**
CRS				Pmax				
	comp=E,161nm,0.7s							
CRS				Smax				
	comp=E,152nm,0.7s							
CRS	**Chara**	**2.75**	**69**	*e*PN	**Pn**		**10 52 12.2**	**-1.3**
CRS				*e*			10 52 16.0	
CRS				*e*			10 52 49.6	
CRS				pmax	pmax			
	comp=Z,126nm,0.6s							
CRS				smax	smax			
	comp=E,152nm,0.6s							
SYVR	**Suvo**	**3.15**	**223**	*e*Pn	**Pb**		**10 52 21.8**	**-3.3**
SYVR				*e*Pg	**Pg**		**10 52 27.9**	**-1.1**
SYVR				*e*Sg	**Sg**		**10 53 11.2**	**+1.5**
SYVR				Pmax				
	comp=E,42nm,0.9s							
SYVR				Smax				
	comp=E,139nm,0.9s							
SYVR	**Suvo**	**3.15**	**223**	*e*PN	**Pn**		**10 52 21.5**	**+2.6**
SYVR				*e*			10 52 27.6	
SYVR				*e*			10 53 11.1	
SYVR				pmax	pmax			
	comp=Z,43nm,0.8s							
SYVR				smax	smax			
	comp=E,144nm,1.0s							
VTMR	**Vitim**	**3.47**	**351**	*e*Pn	**Pn**		**10 52 22.2**	**-1.1**
VTMR				*e*Pg	**Pb**		**10 52 30.4**	**-0.1**
VTMR				*e*Sn	**Sn**		**10 53 01.1**	**-3.5**
VTMR				*e*			10 53 12.2	
VTMR				*e*Sg	**Sb**		**10 53 14.4**	**+1.5**
KHNR	**Khani**	**3.67**	**73**	*e*Pn	**Pn**		**10 52 25.3**	**-0.7**
KHNR				*e*Pg	**Pb**		**10 52 31.8**	**-2.1**
KHNR				*e*Sg	**Sb**		**10 53 17.1**	**-1.6**
MXMB	**Maximikha**	**3.94**	**227**	*e*Pn	**Pn**		**10 52 31.8**	**+2.0**
MXMB				*e*Pg	**Pg**		**10 52 42.1**	**-2.1**
MXMB				*e*Sn	**Sn**		**10 53 19.9**	**+3.5**
MXMB				*e*Sg	**Sg**		**10 53 35.2**	**0.0**
TUP	**Tupik**	**3.99**	**111**	*e*Pn	**Pn**		**10 52 29.7**	**-0.8**
TUP				*e*Pg	**Pb**		**10 52 39.1**	**-0.4**
TUP				*e*			10 52 40.5	
TUP				*e*Sg	**Sb**		**10 53 30.2**	**+2.2**
TUP				max				
	comp=E,28nm,0.4s							
TUP				Smax				
	comp=E,178nm,1.0s							
TUP	**Tupik**	**3.99**	**111**	⇑*i*PN	**Pn**		**10 52 30.0**	**-0.5**
TUP				*e*			10 52 38.4	
TUP				*e*S	**Sn**		**10 53 14.8**	**-2.9**
TUP				*e*			10 53 29.4	
TUP				pmax	pmax			
	comp=Z,25nm,0.3s							
TUP				smax	smax			
	comp=N,178nm,1.0s							
CIT	**Chita**	**4.01**	**180**	*e*	Sb		10 53 33.5	
CIT				*e*Sg	**Sg**		**10 53 36.6**	**-0.9**
CIT				Smax				
	comp=N,121nm,0.3s							
OGRR	**Ongureny**	**4.20**	**238**	*e*PN	**Pb**		**10 52 39.0**	**-4.0**
OGRR				*e*			10 52 50.3	
OGRR				*e*			10 53 45.7	
OGRR				pmax	pmax			
	comp=Z,13nm,0.7s							
OGRR				smax	smax			
	comp=E,45nm,1.6s							
YKLR	**Yuktali**	**4.54**	**79**	*e*Pn	**Pn**		**10 52 36.6**	**-1.4**
YKLR				*e*			10 52 45.4	
YKLR				*e*Pg	**Pb**		**10 52 47.6**	**-1.2**
YKLR				*e*Sg	**Sb**		**10 53 45.5**	**+1.8**
YKLR				*e*			10 53 50.4	
KELR	**Kotokel**	**4.58**	**227**	*e*Pg	**Pg**		**10 52 53.8**	**-2.7**
KELR				*e*Sg	**Sg**		**10 53 56.4**	**+0.6**
ZRHB	**Zarechye**	**5.12**	**230**	*e*Sg	**Sg**		**10 54 12.4**	**-0.7**
ZRHB				Smax				
	comp=E,159nm,1.2s							
TRG	**Tyrgan**	**5.34**	**235**	*e*Pn	**Pn**		**10 52 52.8**	**+3.8**
TRG				*e*Pg	**Pg**		**10 53 07.3**	**-3.6**
TRG				*e*Sg	**Sg**		**10 54 19.5**	**-0.5**
TRG				Pmax				
	comp=E,8.0nm,0.6s							
TRG				Smax				
	comp=E,27nm,0.8s							
FFNB	**Fofonovo**	**5.65**	**228**	*e*Sg	**Sg**		**10 54 29.5**	**-0.6**
BGT	**Bolshoye Golou**	**6.25**	**234**	*e*Sg	**Sg**		**10 54 47.8**	**-1.3**
BGT				Smax				
	comp=E,14nm,1.0s							
IENR	**Iengra**	**6.32**	**84**	*e*Pn	**Pn**		**10 53 00.8**	**-1.6**
IENR				*e*Pg	**Pb**		**10 53 19.4**	**+0.3**
IENR				*e*Sg	**Sb**		**10 54 41.0**	**+6.1**
CLNS	**Chul'man**	**6.33**	**78**	*e*Sg	**Sb**		**10 54 40.7**	**+5.3**
KPC	**Khapcheranga**	**6.38**	**187**	*e*Pn	**Pn**		**10 53 05.0**	**+1.7**
KPC				*e*Pg	Pg		10 53 26.1	-4.7
KPC				*e*			10 53 27.9	
KPC				*e*Sg	**Sg**		**10 54 51.1**	**-2.2**
KPC				*e*			10 55 04.3	
KPC				max				
	comp=E,3.0nm,0.3s							
KPC				max				
	comp=E,58nm,1.1s							
KPC	**Khapcheranga**	**6.38**	**187**	*e*PN	**Pn**		**10 53 05.4**	**+2.1**
KPC				*e*			10 53 26.0	
KPC				*e*			10 54 49.0	
KPC				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KPC				smax	smax			
	comp=E,58nm,1.2s							
LSTR	**Listvyanka**	**6.63**	**235**	*e*Pg	**Pg**		**10 53 31.4**	**-4.2**
LSTR				*e*Sg	**Sg**		**10 54 59.9**	**-1.5**
LSTR				Pmax				
	comp=E,4.0nm,0.7s							
LSTR				Smax				
	comp=E,37nm,1.5s							
IVK	**Ivanovka**	**6.87**	**236**	*e*Pg	Pg		10 53 35.5	-4.6
IVK				*e*Sg	**Sg**		**10 55 06.0**	**-3.0**
IVK				Pmax				
	comp=E,1.0nm,0.1s							
IVK				Smax				
	comp=E,16nm,1.0s							
TLY	**Talaya**	**7.31**	**238**	*e*			10 55 17.4	
TLY				*e*Sg	**Sg**		**10 55 20.4**	**-2.7**
TLY				Smax				
	comp=E,9.0nm,0.7s							
ARS	**Arshan**	**7.75**	**243**	*e*Sg	**Sg**		**10 55 34.4**	**-3.0**
ARS				Smax				
	comp=E,62nm,0.9s							
ZEA	**Zeya**	**8.21**	**101**	*e*PG	**Pg**		**10 54 08.4**	**+2.5**
ZAK	**Zakamensk**	**8.37**	**232**	*e*Sg	**Sg**		**10 55 52.6**	**-4.5**
ZAK				Smax				
	comp=E,8.0nm,0.6s							
MOY	**Mondy**	**8.62**	**245**	*e*Sg	**Sg**		**10 56 00.8**	**-4.4**
MOY				Smax				
	comp=E,18nm,1.7s							
ORL	**Orlik**	**8.77**	**252**	*e*Pn	**Pn**		**10 53 39.5**	**+3.3**
ORL				*e*Sn	**Sn**		**10 55 15.9**	**+0.4**
ORL				*e*Sg	**Sg**		**10 56 05.3**	**-4.8**
ORL				Smax				
	comp=E,14nm,2.9s							
SONM	**Songino Array**	**9.32**	**211**	Pn	**Pn**		**10 53 46.1**	**+2.3**
	comp=E,0.2nm,0.3s,baz=24,slow=14,SNR=2.7							
	comp=E,0.1nm,0.3s							
MKAR	**Makanchi Array**	**21.42**	**258**	P	**P**		**10 56 22.4**	**+5.1**
	comp=E,0.4nm,0.6s,baz=57,slow=11,SNR=5.2							
	comp=E,0.4nm,0.6s							
YKA	**Yellowknife Ar**	**56.00**	**25**	P	**P**		**11 01 08.0**	**+0.4**
	comp=E,0.1nm,0.7s,baz=329,slow=6.9,SNR=2.3							
	comp=E,0.1nm,0.7s							
YKA	**Yellowknife Ar**	**56.00**	**25**	P	**P**		**11 01 08.0**	**+0.4**

IDC ***29*** *11:20:23.4±0.9, 37°.93N×13°.98E, h0km, mb3.5/7, mbtmp3.5/12, ML3.3/5, MS2.9/5, Error ellipse: s-maj=20.7km s-min=10.3km az=73.0*
ROM ***29*** *11:20:24.3±0.1, 37°.815N±0'.006×14°.084E±0'.009, h9km, ML3.5/35, Error ellipse: s-maj=0.7km s-min=0.7km az=296.0*
LDG ***29*** *11:20:24.1±0.1, 37°.80N×14°.12E, h7km, Ml2.8/3, Error ellipse: s-maj=4.8km s-min=3.4km az=19.0*

ISC 29 11:20:24.1±0.7, 37°.80N±0'.03×14°.10E±0'.02, h15km±4km, n87, σ1s54/92, mb3.3/7, 18C, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PETRA	**Petralia Sopra**	**0.04**	**25**	⇑P	**Pg**		**11 20 26.0**	**-1.0**
PETRA				S	**Sg**		**11 20 28.1**	**-0.8**
CSLB	**Castelbuono**	**0.14**	**348**	⇑P	**Pg**		**11 20 27.5**	**-0.4**
CSLB				S	**Sg**		**11 20 30.4**	**0.0**
CSLB				AML	AML			
	comp=E,13800μm,1.3s							
CSLB				AML	AML			
	comp=N,14545μm,1.4s							
CSLB				AML	AML			
	comp=E,13800μm,0.7s							
RESU	**Resuttano**	**0.16**	**191**	⇑P	**Pg**		**11 20 27.5**	**-0.6**
RESU				S	**Sg**		**11 20 31.4**	**+0.7**
RESU				AML	AML			
	comp=E,60750μm,0.5s							
RESU				AML	AML			
	comp=N,66750μm,0.5s							
PLLN	**Pollina**	**0.20**	**11**	⇑P	**Pg**		**11 20 28.6**	**-0.1**
PLLN				S	**Sg**		**11 20 32.6**	**+0.8**
PLLN				AML	AML			
	comp=N,44150μm,0.7s							
PLLN				AML	AML			
	comp=E,18200μm,0.6s							
PLLN				AML	AML			
	comp=E,18250μm,0.6s							
PLLN				AML	AML			
	comp=N,44150μm,1.3s							
GIB	**Gibilmanna**	**0.20**	**344**	⇑P	**Pg**		**11 20 28.6**	**-0.1**
GIB				S	**Sg**		**11 20 32.6**	**+0.8**
GIB				AML	AML			
	comp=E,21500μm,0.6s							
GIB				AML	AML			
	comp=N,25550μm,1.2s							
GIB				AML	AML			
	comp=E,21500μm,1.4s							
GIB				AML	AML			
	comp=N,25550μm,0.8s							
ALJA	**Alia**	**0.28**	**259**	⇑P	**Pg**		**11 20 29.5**	**-0.4**
ALJA				S	**Sg**		**11 20 35.4**	**+1.5**
ALJA				AML	AML			
	comp=E,8235μm,0.8s							
ALJA				AML	AML			
	comp=N,12000μm,1.3s							
ALJA				AML	AML			
	comp=N,12000μm,0.7s							
ALJA				AML	AML			
	comp=E,8235μm,1.2s							
CAGR	**Agira**	**0.37**	**119**	P	**Pb**		**11 20 33.0**	**+0.7**
CAGR				AML	AML			
	comp=E,10575μm,0.5s							
CAGR				AML	AML			
	comp=N,13450μm,0.4s							
GALF	**Gagliano Caste**	**0.38**	**103**	⇑P	**Pb**		**11 20 32.5**	**-0.2**
GALF				AML	AML			
	comp=E,6985μm,0.4s							
GALF				AML	AML			
	comp=N,9720μm,0.6s							
GALF				AML	AML			
	comp=N,9720μm,1.4s							
GALF				AML	AML			
	comp=E,6985μm,1.6s							
MCT	**Mte Cammarata**	**0.40**	**245**	AML	AML			
	comp=N,6030μm,1.2s							
MCT				AML	AML			
	comp=E,4175μm,0.5s							
MCT				AML	AML			
	comp=E,5210μm,1.4s							
MCT				AML	AML			
	comp=N,6030μm,0.8s							
MCT				AML	AML			
	comp=E,5210μm,0.6s							
VAE	**Valguarnera**	**0.41**	**142**	Pg	**Pb**		**11 20 34.2**	**+1.2**
	comp=E,89nm,0.3s,baz=264,slow=4.3,SNR=246							
MSFR	**San Fratello**	**0.46**	**59**	⇑P	**Pg**		**11 20 33.4**	**+0.2**
MSFR				S	**Sb**		**11 20 41.2**	**+0.7**
MSFR				AML	AML			
	comp=E,3455μm,1.6s							
MSFR				AML	AML			
	comp=N,3070μm,1.6s							
MSFR				AML	AML			
	comp=N,3070μm,0.4s							
MSFR				AML	AML			
	comp=E,3455μm,0.4s							
MNO	**Monte Soro**	**0.49**	**74**	⇑P	**Pg**		**11 20 34.2**	**+0.3**
MNO				AML	AML			
	comp=E,7660μm,0.5s							
MNO				AML	AML			
	comp=N,7020μm,0.4s							
MNO				AML	AML			
	comp=N,7015μm,0.4s							
MNO				AML	AML			
	comp=E,7665μm,0.5s							
SOLUN	**Solunto**	**0.53**	**303**	⇑P	**Pg**		**11 20 34.4**	**-0.2**
SOLUN				AML	AML			
	comp=E,1975μm,1.0s							
SOLUN				AML	AML			
	comp=N,1525μm,0.6s							
SOLUN				AML	AML			
	comp=E,1975μm,1.0s							
SOLUN				AML	AML			
	comp=N,1525μm,1.4s							
EPZF	**Pizzo Felice**	**0.60**

comp=N,1760µm,0.7s
RAFF AML AML
comp=E,2315µm,1.5s
CORL Corleone 0.63 279 ⇑P **Pg 11 20 36.7 +0.2**
CORL AML AML
comp=E,4510µm,0.7s
CORL AML AML
comp=N,3650µm,0.6s
CORL AML AML
comp=E,4510µm,1.3s
ESML S. M. di Licod 0.65 106 P **Pn 11 20 39.2 +0.5**
CLTA Licata 0.65 189 P **Pn 11 20 38.5 -0.3**
CLTA AML AML
comp=N,4295µm,0.8s
CLTA AML AML
comp=E,4510µm,0.7s
EMSG Monte Spagnolo 0.68 88 P **Pn 11 20 38.9 -0.5**
EMSG AML AML
comp=N,7710µm,1.2s
EMSG AML AML
comp=N,7710µm,0.8s
EMSG AML AML
comp=E,7780µm,0.6s
ESLN Serra La Nave 0.70 98 P **Pn 11 20 39.9 +0.2**
ESLN AML AML
comp=E,5125µm,0.5s
ESLN AML AML
comp=N,3905µm,1.3s
ESLN AML AML
comp=N,3905µm,0.7s
ESLN AML AML
comp=E,5125µm,1.5s
IACL Alicudi 0.76 16 ⇑P **Pg 11 20 39.4 +0.5**
IACL AML AML
comp=E,5420µm,0.4s
IACL AML AML
comp=N,8580µm,0.5s
HLNI Lentini 0.77 126 P **Pb 11 20 39.2 +0.1**
HLNI AML AML
comp=E,1410µm,0.4s
HLNI AML AML
comp=N,1440µm,1.5s
HVZN Vizzini 0.79 141 P **Pb 11 20 40.1 +0.4**
EPOZ Pozzillo 0.83 110 P **Pn 11 20 42.9 +1.6**
IFIL Filicudi I Eol 0.85 26 P **Pg 11 20 40.4 -0.2**
IFIL AML AML
comp=E,16350µm,0.9s
IFIL AML AML
comp=N,7635µm,0.5s
IFIL AML AML
comp=E,16350µm,1.1s
NOV Novara 0.85 74 P **Pg 11 20 40.4 -0.3**
NOV AML AML
comp=E,2810µm,0.6s
NOV AML AML
comp=N,3720µm,1.5s
NOV AML AML
comp=E,2810µm,1.4s
NOV AML AML
comp=N,3720µm,0.5s
MMGO Monte Magaggia 0.90 261 P **Pb 11 20 42.5 +1.1**
VPL Vulcano Piano 0.91 50 ⇑P **Pg 11 20 41.7 0.0**
VPL AML AML
comp=E,12655µm,1.3s
VPL AML AML
comp=N,14200µm,1.2s
VPL AML AML
comp=N,14200µm,0.8s
VPL AML AML
comp=E,12655µm,0.7s
AIO Antillo 0.92 79 P **Pg 11 20 41.5 -0.3**
AIO AML AML
comp=N,2760µm,0.8s
AIO AML AML
comp=E,2605µm,0.7s
MFNL Monte Finestre 0.93 270 P **Pg 11 20 42.9 +0.8**
LLI Lipari 0.93 46 ⇑P **Pg 11 20 42.4 +0.3**
LLI AML AML
comp=E,17800µm,0.6s
LLI AML AML
comp=N,20350µm,0.7s
LLI AML AML
comp=E,17800µm,1.4s
MEU Monte Lauro 0.96 136 P **Pg 11 20 42.0 -0.7**
MEU AML AML
comp=E,2410µm,0.6s
MEU AML AML
comp=N,3630µm,1.5s
MEU AML AML
comp=E,2410µm,1.4s
MEU AML AML
comp=N,3630µm,0.5s
HAGA Augusta 0.99 121 P **Pn 11 20 44.0 +0.5**
HMDC Modica 1.00 147 P **Pb 11 20 43.1 -0.1**
HMDC AML AML
comp=N,1900µm,1.0s
HMDC AML AML
comp=E,2370µm,0.6s
HMDC AML AML
comp=N,1900µm,1.0s
MILZ Milazzo 1.01 62 ⇑P **Pb 11 20 43.3 0.0**
MILZ AML AML
comp=E,2750µm,1.0s
MILZ AML AML
comp=N,1925µm,0.7s
MILZ AML AML
comp=N,1925µm,1.3s
CAVT Castelvetrano 1.07 264 P **Pb 11 20 44.2 -0.1**
CAVT AML AML
comp=E,2065µm,0.7s
CAVT AML AML
comp=N,2905µm,0.9s
MSRU Castanea 1.21 67 ⇑P **Pn 11 20 46.7 +0.2**
MSRU AML AML
comp=E,4405µm,0.5s
MSRU AML AML
comp=N,2735µm,0.7s
ERC Erice 1.22 282 P **Pn 11 20 47.5 +0.9**
ISTR Stromboli Gino 1.31 41 P **Pn 11 20 47.6 -0.3**
HPAC Pachino 1.37 143 ⇑P **Pn 11 20 48.9 +0.3**
HPAC AML AML
comp=E,2730µm,1.1s
HPAC AML AML
comp=N,3575µm,0.6s
HPAC AML AML
comp=N,3575µm,1.4s
HPAC AML AML
comp=E,2730µm,0.9s
MSCL Scilla 1.41 72 P **Pn 11 20 49.5 +0.2**
GMB Gambarie 1.42 74 AML AML
comp=N,4295µm,0.8s
GMB AML AML
comp=N,4295µm,1.2s
GMB AML AML
comp=E,3375µm,0.6s
SOI Samo 1.57 79 P **Pb 11 20 53.5 +0.6**
SOI AML AML
comp=E,1140µm,0.7s
SOI AML AML
comp=E,1140µm,1.3s
SOI AML AML
comp=N,854µm,0.8s
JOPP Joppolo 1.62 60 P **Pn 11 20 52.0 -0.2**
JOPP AML AML
comp=E,398µm,0.5s
JOPP AML AML
comp=N,454µm,0.6s
PLAC Placanica 1.96 70 P **Pn 11 20 58.4 +1.5**
CAR1 CAROLEI 2.21 48 P **Pn 11 21 00.4 +0.1**
CAR1 AML AML
comp=E,788µm,0.6s
CAR1 AML AML
comp=N,982µm,0.8s
CAR1 AML AML
comp=E,696µm,0.7s
CAR1 AML AML
comp=N,964µm,0.8s
CAR1 AML AML
comp=E,696µm,1.3s
CAR1 AML AML
comp=E,788µm,1.4s
CAR1 AML AML
comp=N,964µm,1.2s
CAR1 AML AML
comp=N,982µm,1.2s
CET2 Cetraro 2.26 40 P **Pn 11 21 00.8 -0.1**
SPS2 Spezzano della 2.31 49 P **Pn 11 21 01.6 0.0**

SERS Sersale 2.38 58 P **Pn 11 21 04.4 +1.6**
CELI Celico 2.48 49 P **Pn 11 21 04.2 +0.2**
CELI AML AML
comp=E,350µm,0.8s
CELI AML AML
comp=N,470µm,0.8s
CELI AML AML
comp=N,470µm,1.2s
MMN Mormanno 2.56 35 P **Pn 11 21 05.3 +0.3**
MGR Morigerati 2.60 26 P **Pn 11 21 05.4 -0.2**
CMPR Campora 2.69 20 P **Pn 11 21 06.9 0.0**
SIRI Monte Sirino - 2.75 30 P **Pn 11 21 08.7 +0.9**
SIRI AML AML
comp=E,164µm,0.9s
SIRI AML AML
comp=N,116µm,1.6s
SIRI AML AML
comp=N,116µm,0.4s
SIRI AML AML
comp=E,164µm,1.1s
SIRI AML AML
comp=E,155µm,0.3s
SIRI AML AML
comp=N,148µm,1.5s
MTSN Montesano sull 2.78 27 P **Pn 11 21 08.7 +0.5**
MTSN AML AML
comp=E,100µm,0.9s
MTSN AML AML
comp=N,81µm,0.9s
MTSN AML AML
comp=N,81µm,1.1s
MCEL Monticello 2.85 27 P **Pn 11 21 09.7 +0.5**
SCHR S. Chirico Rap 2.85 32 P **Pn 11 21 09.8 +0.6**
AG11 Viggiano (PZ) 2.91 29 P **Pn 11 21 11.3 +1.3**
KEST Kesra 4.33 243 Pn **Pn 11 21 29.6 0.0**
comp=N,0.2nm,0.3s,baz=331,slow=20,SNR=1.7
comp=N,1.1nm,0.4s
PGF Pioggiola 6.14 322 *e*Pn **Pn 11 21 53.7 -0.7**
PGF Pioggiola 6.14 322 *e*P **Pn 11 21 56.0 +1.6**
PGF *e*Sn **Sn 11 23 00.7 -3.7**
comp=N,1.1nm,0.4s
SBF Sospel 7.88 322 *e*Pn **Pn 11 22 17.5 -0.7**
LMR La Mourre 7.99 316 *e*Pn **Pn 11 22 18.6 -1.0**
LMR *e*Sn **Sn 11 23 45.4 -4.3**
comp=N,0.6nm,0.3s
OBKA Obir 8.71 2 Pn **Pn 11 22 32.1 +2.5**
comp=N,4.5nm,1.1s
MBDF Montbardon 8.85 324 *e*P **Pn 11 22 35.2 +3.7**
SOKA Soboth 8.90 4 Pn **Pn 11 22 34.5 +2.3**
comp=N,4.2nm,1.6s
SMRF Simiane la Rot 8.92 316 *e*Pn **Pn 11 22 30.6 -1.9**
SMRF *e*Sn **Sn 11 24 06.8 -6.0**
comp=N,0.5nm,0.3s
ABTA Abfaltersbach 9.02 353 *e*Pn **Pn 11 22 36.8 +3.0**
comp=N,1.5nm,0.8s
IDI Anoyia 9.04 103 Pn **Pn 11 22 35.0 +0.8**
comp=N,0.1nm,0.3s,baz=309,slow=6.5,SNR=2.2
IDI Sn **Sn 11 24 12.3 -3.4**
comp=N,0.4nm,0.3s,baz=85,slow=16,SNR=1.9
comp=N,5.7nm,1.0s
KBA Koelnbreinsper 9.29 357 *e*Pn Pn 11 22 42.4 +4.8
comp=N,2.4nm,0.8s
ORIF Oris-en-Rattie 9.41 322 *e*Pn **Pn 11 22 38.9 -0.4**
MOTA Moosalm 9.79 348 Pn **Pn 11 22 49.2 +4.8**
comp=N,5.8nm,1.4s
BIOA Bad Ischl, Aus 9.89 358 *e*Pn Pn 11 22 50.7 +5.0
comp=N,7.0nm,0.9s
MOA Molln 10.04 1 *e*Pn **Pn 11 22 51.9 +4.1**
comp=N,5.6nm,1.4s
CONA Conrad Observa 10.21 7 *e*Pn **Pn 11 22 52.6 +2.5**
comp=N,1.7nm,0.8s
GERES GERESS Array B 11.04 359 Pn **Pn 11 23 00.8 -0.8**
baz=181,slow=12,SNR=5.1
GERES LR LR 11 27 33.2
comp=N,39nm,19.1s,baz=170,slow=39
comp=N,0.3nm,0.6s
VRAC Vranov 11.64 8 LR LR 11 27 19.9
comp=N,39nm,18.8s,baz=190,slow=36
MLR Muntele Rosu 11.72 45 Pn **Pn 11 23 12.5 +1.6**
comp=N,0.2nm,0.3s,baz=153,slow=13,SNR=3.5
MLR LR LR 11 29 08.7
comp=N,79nm,18.8s,baz=240,slow=45
comp=N,2.0nm,0.7s
AKASG Malin Array Be 16.80 35 Pn **Pn 11 24 19.7 +1.0**
comp=N,0.2nm,0.3s,baz=229,slow=10,SNR=8.3
comp=N,0.9nm,0.6s
EKA Eskdalemuir Ar 21.07 332 P **P 11 25 07.5 0.0**
comp=N,0.7nm,0.7s,baz=139,slow=11,SNR=1.8
comp=N,0.7nm,0.7s
HFS Hagfors 22.36 359 P **P 11 25 21.4 +0.1**
comp=N,4.5nm,0.8s,baz=179,slow=17,SNR=3.6
HFS LR LR 11 34 31.8
comp=N,56nm,18.2s,baz=230,slow=38
comp=N,4.5nm,0.8s
NOA NORSAR Array B 23.33 356 P **P 11 25 30.2 -1.3**
comp=N,0.8nm,0.9s,baz=170,slow=9.9,SNR=2.6
comp=N,0.8nm,0.9s
FINES FINESS Array B 24.82 14 P **P 11 25 45.7 +0.3**
comp=N,2.5nm,0.8s,baz=189,slow=6.9,SNR=10
comp=N,2.5nm,0.8s
TORD Torodi Ar. Bea 26.93 208 P **P 11 26 06.5 +1.6**
comp=N,0.5nm,0.7s,baz=18,slow=10.0,SNR=4.1
comp=N,0.5nm,0.7s
BELG Belogormoye 27.51 47 LR LR 11 38 54.4
comp=N,26nm,19.9s,baz=119,slow=40
MKAR Makanchi Array 49.79 57 P **P 11 29 15.9 -0.2**
comp=N,0.3nm,0.7s,baz=277,slow=5.1,SNR=2.4
comp=N,0.3nm,0.7s
YKA Yellowknife Ar 71.90 338 P **P 11 31 48.3 +2.0**
comp=N,0.2nm,0.9s,baz=42,slow=5.1,SNR=5.0
comp=N,0.2nm,0.9s

*IDC **29** 11:23:22.9±2.8, 6°.22S×155°.17E, h160km±22km, mb3.3/6, mbtmp3.8/8, Error ellipse: s-maj=28.4km s-min=18.4km az=83.0*
ISC 29 11:23:21.3±1.1, **6°.3S**±0°.2×**155°.3E**±0°.2, **h150km, n11, σ0s65/9, mb3.7/6, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
KRVT	**Keravat (AS076**	**3.77**	**301**	P		**Pn**	**11 24 18.2**	**-0.4**
	11nm,0.4s,baz=177,slow=22,SNR=2.1							
KRVT				S		**Sn**	**11 25 03.4**	**+0.2**
	28nm,0.3s,baz=159,slow=21,SNR=6.8							
DZM	**Mont Dzumac**	**19.05**	**147**	P		**Pn**	**11 27 34.4**	**-0.3**
	4.9nm,0.5s,baz=323,slow=20,SNR=2.8							
WRA	**Warramunga Arr**	**24.45**	**234**	P		**P**	**11 28 27.3**	**+0.9**
	2.1nm,0.4s,baz=57,slow=10,SNR=28							
	2.1nm,0.4s							
ASAR	**Alice Springs**	**26.85**	**228**	P		**P**	**11 28 48.1**	**+0.1**
	0.1nm,0.4s,baz=56,slow=9.3,SNR=6.4							
	0.1nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**27.07**	**24**	T		T	11 57 33.0	
	baz=202,slow=75,SNR=7.9							
H11S2	**WAKE ISLAND Hy**	**27.08**	**24**	T		T	11 57 32.4	
	baz=202,slow=75,SNR=7.5							
H11S1	**WAKE ISLAND Hy**	**27.09**	**24**	T		T	11 57 33.5	
	baz=202,slow=75,SNR=3.3							
PETK	**Petropavlovsk-**	**59.20**	**2**	P		**P**	**11 33 07.1**	**+0.7**
	1.0nm,0.7s,baz=153,slow=7.4,SNR=4.0							
	1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**60.72**	**295**	P		**P**	**11 33 17.5**	**0.0**
	0.5nm,0.3s,baz=106,slow=5.7,SNR=1.5							
	0.5nm,0.3s							
SONM	**Songino Array**	**68.89**	**327**	P		**P**	**11 34 10.2**	**+0.3**
	0.3nm,0.4s,baz=137,slow=7.3,SNR=3.5							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**83.05**	**319**	P		**P**	**11 35 29.1**	**-0.9**
	0.5nm,0.8s,baz=96,slow=6.2,SNR=5.4							
	0.5nm,0.8s							

*IDC **29** 11:26:09.7±3.2, 23°.70S×179°.95W, h489km±32km, mb3.3/4, mbtmp4.1/5, Error ellipse: s-maj=55.9km s-min=29.2km az=175.0*
*NEIC **29** 11:26:11.6±1.1, 23°.9S±0°.4×179°.8E±0°.7, h482km±69km, mb4.1/7, Error ellipse: s-maj=104.2km s-min=32.5km az=58.0*
ISC 29 11:26:10.3±1.2, **23°.9S**±0°.1×**180°.0W**±0°.2, **h500km, n14, σ0s56/15, mb4.0/9, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
MSVF	**Nonsavu**	**6.43**	**343**	P		**P**	**11 27 50.9**	**-0.1**
URZ	**Urewera**	**14.52**	**189**	P		**P**	**11 29 15.3**	**0.0**
	2.5nm,0.7s,baz=80,slow=21,SNR=1.1							

CTA Charters Tower 31.52 270 P **P 11 31 51.6 +0.7**
5.0nm,0.3s,baz=93,slow=10,SNR=15
5.0nm,0.3s
CTAO Charters Tower 31.52 270 P **P 11 31 51.9 +1.0**
AS31 Alice Springs 42.07 261 P **P 11 33 18.4 +0.4**
ASAR Alice Springs 42.07 261 P **P 11 33 18.2 +0.3**
1.0nm,0.5s,baz=94,slow=7.3,SNR=20
ASAR ScP **ScP 11 38 04.6 +0.5**
0.3nm,0.7s,baz=114,slow=4.3,SNR=7.3
1.0nm,0.5s
ASAR Alice Springs 42.07 261 P **P 11 33 17.9 0.0**
WB2 Warramunga Arr 42.44 266 P **P 11 33 20.9 0.0**
WB2 IAmb IAmb 11 33 30.2
comp=Z,5.0nm,1.2s
WB0 Warramunga Arr 42.44 266 P **P 11 33 20.5 -0.4**
WB0 IAmb IAmb 11 33 29.1
comp=Z,12nm,1.5s
WRA Warramunga Arr 42.45 266 P **P 11 33 20.6 -0.3**
comp=Z,1.7nm,0.5s,baz=91,slow=8.5,SNR=16
comp=Z,1.7nm,0.5s
FORT Forrest 46.35 250 P **P 11 33 50.1 -0.9**
FORT IAmb IAmb 11 34 24.9
comp=Z,15nm,1.2s
MTN Manton Dam 47.50 274 P **P 11 33 59.0 -0.9**
MTN IAmb IAmb 11 34 29.0
comp=Z,8.0nm,1.3s
KNRA Kununurra 48.73 270 P **P 11 34 08.8 -0.3**
KNRA IAmb IAmb 11 34 27.4
comp=Z,13nm,1.4s
TXAR Lajitas Array 90.40 58 P **P 11 38 18.4 +0.1**
comp=Z,0.3nm,0.8s,baz=208,slow=5.1,SNR=3.8
comp=Z,0.3nm,0.8s

*DJA **29** 11:57:27.7±0.3, 10°.5S×3°.1E±1°, h46km±8km, M4.8/20, mB5.3/6, mb4.8/18, MLv5.0/20, Mw(mB)4.7/6*
*IDC **29** 11:57:28.2±1.7, 9°.31S×112°.96E, h52km±14km, mb4.4/20, mbtmp4.7/23, ML4.5/2, MS3.9/52, Error ellipse: s-maj=17.7km s-min=9.6km az=35.0*
*NEIC **29** 11:57:29.2±1.5, 9°.43S±0°.07×112°.91E±0°.06, h63km±5km, mb4.8/37, Error ellipse: s-maj=11.4km s-min=8.5km az=207.0*
ISC 29 11:57:28.0±0.4, **9°.53S**±0°.04×**112°.90E**±0°.04, **h59km**±3km, **h60km:pP-P, n230, σ1s67/220, mb4.8**/51, **MS4.0**/61, **3C-2D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
GMJI	**Gumukmas**	**1.36**	**23**	P		**Pn**	**11 57 49.0**	**-1.8**
GMJI				S		**Sn**	**11 58 03.6**	**-4.3**
JAGI	**Jajag, Banyuwa**	**1.63**	**50**	Pn		**Pn**	**11 57 53.6**	**-0.8**
JAGI				Sn		**Sn**	**11 58 16.4**	**+2.1**
JAGI	**Jajag, Banyuwa**	**1.63**	**50**	P		**Pn**	**11 57 55.2**	**+0.8**
JAGI	**Jajag, Banyuwa**	**1.63**	**50**	P		**Pn**	**11 57 52.9**	**-1.5**
JAGI				S		**Sn**	**11 58 10.6**	**-3.7**
PWJI	**Pagerwojo**	**1.85**	**324**	P		**Pn**	**11 57 56.2**	**-1.2**
PWJI				S		**Sn**	**11 58 17.8**	**-2.0**
BLJI	**Banyuglugur**	**1.91**	**21**	P		**Pn**	**11 57 58.7**	**+0.5**
BLJI				S		**Sn**	**11 58 22.9**	**+1.8**
ABJI	**Asem Bagus**	**2.17**	**37**	P		**Pn**	**11 58 03.1**	**+1.3**
DNP	**Denpasar**	**2.44**	**70**	P		**Pn**	**11 58 05.5**	**+0.1**
NGJI	**Ngawi**	**2.58**	**326**	P		**Pn**	**11 58 10.1**	**+2.7**
GRJI	**Gresik**	**2.63**	**351**	P		**Pn**	**11 58 10.2**	**+2.1**
SRBI	**Singaraja**	**2.70**	**58**	P		**Pn**	**11 58 09.1**	**+0.1**
UGM	**Wanagama**	**2.85**	**304**	Pn		**Pn**	**11 58 10.8**	**-0.3**
UGM	**Wanagama**	**2.85**	**304**	P		**Pn**	**11 58 11.4**	**+0.3**
UGM	**Wanagama**	**2.85**	**304**	P		**Pn**	**11 58 10.9**	**-0.2**
SMRI	**Semarang**	**3.47**	**315**			**Pn**	**11 58 20.2**	**+0.7**
SMRI	**Semarang**	**3.47**	**315**	P		**Pn**	**11 58 20.6**	**+1.1**
SMRI	**Semarang**	**3.47**	**315**	P		**Pn**	**11 58 19.5**	**0.0**
BWJI	**Bawean**	**3.67**	**356**	P		**Pn**	**11 58 23.8**	**+1.5**
TWSI	**Taliwang, Sumb**	**4.01**	**79**	P		**Pn**	**11 58 27.1**	**+0.1**
KPJI	**Karang Pucung**	**4.49**	**299**	P		**Pn**	**11 58 32.6**	**-1.0**
CMJI	**Cimerak**	**4.73**	**291**	P		**Pn**	**11 58 36.2**	**-0.6**
PLAI	**Plampang**	**4.87**	**82**	P		**Pn**	**11 58 39.5**	**+0.8**
PLAI	**Plampang**	**4.87**	**82**	P		**Pn**	**11 58 39.4**	**+0.8**
BBJI	**Bungbulang**	**5.58**	**291**	P		**Pn**	**11 58 48.7**	**+0.1**
LEM	**Lembang**	**5.88**	**297**	P		**Pn**	**11 58 54.4**	**+1.7**
	25nm,0.5s,baz=221,slow=23,SNR=2.5							
LEM				S		**Sn**	**12 00 00.6**	**+1.6**
	41nm,0.6s,baz=7.2,slow=22,SNR=1.2							
LEM				LR		LR	12 01 17.1	
	comp=Z,722nm,20.1s,baz=172,slow=39							
CNJI	**Cibinong**	**6.12**	**291**	P		**Pn**	**11 58 57.2**	**+1.3**
	62nm,1.2s,0.5nm							
BBKI	**Banjar Baru**	**6.33**	**18**	P		**Pn**	**11 59 00.5**	**+1.7**
	281nm,1.3s,1.0nm							
XMI	**Christmas Isla**	**7.16**	**262**	P		**Pn**	**11 59 08.0**	**-2.2**
CGJI	**Cibinong**	**7.70**	**292**	P		**Pn**	**11 59 16.7**	**-0.9**
	115nm,1.0s,3µm0.5nm							
KAPI	**Kappang**	**8.14**	**57**	P		**Pn**	**11 59 22.3**	**-1.3**
	3.4nm,0.3s,baz=210,slow=8.3,SNR=5.9							
KAPI				S		**Sn**	**12 00 51.2**	**-3.1**
	19nm,0.9s,baz=218,slow=19,SNR=1.4							
KAPI				LR		LR	12 03 03.6	
	comp=Z,736nm,18.3s,baz=250,slow=42							
	5.7nm,0.3s							
KAPI	**Kappang**	**8.14**	**57**	Pn		**Pn**	**11 59 24.0**	**+0.4**
KAPI	**Kappang**	**8.14**	**57**	P		**Pn**	**11 59 25.8**	**+2.2**
BSSI	**Bau Bau, Buton**	**8.24**	**66**	P		**Pn**	**11 59 24.7**	**-0.2**
	101nm,0.6s							
BKSI	**Bulukumba**	**8.29**	**60**	P		**Pn**	**11 59 26.6**	**+0.9**
	56nm,0.8s							
SPSI	**Sidrap Palu**	**8.78**	**51**	P		**Pn**	**11 59 36.9**	**+4.6**
	28nm,0.9s							
BATI	**Baumata**	**10.63**	**95**	P		**Pn**	**11 59 57.5**	**-0.1**
	6.0nm,0.3s,baz=240,slow=4.6,SNR=3.2							
BATI				S		Sn	12 01 43.8	-11
	16nm,0.5s,baz=148,slow=22,SNR=1.1							
	15nm,0.4s							
MNAI	**Manna**	**11.13**	**297**	Pn		**Pn**	**12 00 03.7**	**-0.7**
MNAI	**Manna**	**11.13**	**297**	P		**Pn**	**12 00 04.1**	**-0.3**
SOEI	**Soe**	**11.21**	**92**	Pn		**Pn**	**12 00 06.7**	**+1.0**
SOEI	**Soe**	**11.21**	**92**	P		**Pn**	**12 00 06.8**	**+1.1**
SOEI	**Soe**	**11.21**	**92**	P		**Pn**	**12 00 08.8**	**+3.1**
	70nm,0.8s,1µm							
SBUM	**Sibu**	**11.92**	**357**	Pn		**Pn**	**12 00 18.2**	**+2.9**
MPSI	**Mapaga**	**12.03**	**36**	P		P	12 00 34.2	+6.4
MASI	**Maura Aman, Be**	**12.35**	**300**	P		**Pn**	**12 00 20.9**	**-0.3**
	64nm,0.9s							
GIRL	**Giralia**	**13.10**	**175**	Pn		**Pn**	**12 00 27.3**	**-3.9**
GIRL	**Giralia**	**13.10**	**175**	P		**Pn**	**12 00 27.4**	**-3.9**
MBWA	**Marble Bar**	**13.30**	**151**			Pn	12 00 29.6	-4.5
MBWA	**Marble Bar**	**13.30**	**151**	P		**Pn**	**12 00 29.9**	**-4.1**
MRSI	**Marisa**	**13.41**	**43**	P		P	12 00 50.6	+7.4
PSA00	**Pilbara Seismi**	**13.71**	**152**	Pn		Pn	12 00 34.5	-5.1
PSA00	**Pilbara Seismi**	**13.71**	**152**	P		**Pn**	**12 00 36.1**	**-3.5**
GTOI	**Gorontalo**	**14.26**	**45**	P		**Pn**	**12 00 44.6**	**-2.4**
	24nm,1.3s							
SANI	**Sanana**	**14.99**	**61**	P		**Pn**	**12 00 57.1**	**+0.7**
	53nm,0.9s,695nm							
FITZ	**Fitzroy Crossi**	**15.01**	**126**	Pn		**Pn**	**12 00 55.2**	**-1.5**
NLAI	**Namlea**	**15.43**	**67**	P		**Pn**	**12 01 01.7**	**-0.4**
	26nm,0.8s,4µm							
KNRA	**Kununurra**	**16.64**	**113**			**Pn**	**12 01 17.9**	**+0.5**
KNRA	**Kununurra**	**16.64**	**113**	P		**Pn**	**12 01 18.1**	**+0.7**
BNDI	**Bandanaira**	**17.59**	**75**	P		P	**12 01 35.1**	**+5.5**
	339nm,1.2s,4µm							
TNTI	**Ternate**	**17.67**	**55**	P		P	**12 01 32.4**	**+2.0**
	35nm,1.1s							
MEEK	**Meekatharra**	**17.85**	**163**	P		P	**12 01 30.9**	**-1.5**
MTN	**Manton Dam**	**18.18**	**102**			**Pn**	**12 01 37.2**	**+0.7**
MTN	**Manton Dam**	**18.18**	**102**	P		**Pn**	**12 01 37.1**	**+0.7**
SAUI	**Saumlaki**	**18.25**	**87**	P		P	**12 01 35.2**	**-1.6**
SAUI	**Saumlaki**	**18.25**	**87**	P		P	**12 01 37.1**	**+0.3**
PSI	**Prapat**	**18.55**	**311**	LR		LR	12 09 41.7	
	comp=Z,478nm,20.3s,baz=140,slow=40							
MORW	**Morawa**	**19.66**	**172**	P		P	**12 01 51.1**	**-1.0**
SIJI	**Sorong**	**20.20**	**66**	P		P	**12 01 58.5**	**+0.3**
	36nm,0.9s,baz=295,slow=5.7,SNR=17							
SIJI				LR		LR	12 10 31.0	
	comp=Z,169nm,19.3s,baz=232,slow=39							
	36nm,0.9s							
FAKI	**Fak Fak**	**20.32**	**72**	P		P	**12 01 58.7**	**-0.8**
FAKI				IAmb		IAmb	12 02 14.6	
	comp=Z,67nm,1.0s							
FAKI	**Fak Fak**	**20.32**	**72**	P		Pn	12 02 02.3	+0.4
FAKI	**Fak Fak**	**20.32**	**72**	P		P	**12 01 57.4**	**-2.0**
DAV	**Davao City (W)**	**20.78**	**38**	LR		LR	12 10 37.5	
	comp=Z,325nm,21.5s,baz=240,slow=38							
WRKA	**Warakurna**	**21.27**	**138**	P		P	**12 02 11.4**	**+1.8**
BLDU	**Ballidu**	**21.27**	**171**	P		P	**12 02 09.4**	**-0.2**
MUN	**Mundaring**	**22.55**	**173**	P		P	**12 02 23.8**	**+0.6**

WB0	Warramunga Arr	23.12	119	P	P	12 02 29.3	0.0	
WRA	Warramunga Arr	23.14	119	P	P	12 02 29.2	-0.3	
	comp=Z,10nm,1.0s,baz=294,slow=12,SNR=9.5							
WRA				LR	LR	12 12 07.3		
	comp=Z,349nm,20.1s,baz=276,slow=38							
	comp=Z,10nm,1.0s							
WRAB	Tennant Creek	23.15	119	P	P	12 02 30.5	+1.0	
WB2	Warramunga Arr	23.15	119	P	P	12 02 30.2	+0.7	
KMBL	Kambalda	23.27	160	P	P	12 02 30.6	0.0	
WR0	Warramunga Arr	23.32	119	P	P	12 02 31.6	+0.4	
WR0				IAmb	IAmb	12 02 47.1		
	comp=Z,24nm,0.9s							
NWAO	Narrogin (SRO)	23.62	171	LR	LR	12 12 53.3		
	comp=Z,596nm,18.6s,slow=39							
ASAR	Alice Springs	24.50	128	P	P	12 02 43.1	+1.2	
	comp=Z,16nm,0.7s,baz=305,slow=9.0,SNR=274							
ASAR				S	S	12 07 05.0	+6.5	
	comp=Z,0.5nm,0.7s,baz=309,slow=26,SNR=1.8							
ASAR				LR	LR	12 12 34.7		
	comp=Z,245nm,21.3s,baz=304,slow=37							
	comp=Z,16nm,0.7s							
AS31	Alice Springs	24.50	128	P	P	12 02 43.6	+1.7	
AS01	Alice Springs	24.53	128	P	P	12 02 43.4	+1.1	
FORT	Forrest	25.42	148	P	P	12 02 51.7	+1.4	
FORT				IAmb	IAmb	12 03 27.5		
	comp=Z,36nm,0.7s							
FORT	Forrest	25.42	148	P	P	12 02 51.8	+1.6	
OOD	Oodnadatta	28.12	133	P	P	12 03 15.5	+1.0	
QIZ	Qiongzhong	28.54	354	P	P	12 03 19.5	+1.2	
QIZ				S	S	12 08 04.3	+2.0	
QIZ				LR	LR			
	comp=N,240nm,4.6s							
QIZ				LR	LR			
	comp=E,210nm,3.6s							
QIZ				LR	LR			
	comp=Z,270nm,15.7s							
MULG	Mulgathing	28.57	139	P	P	12 03 19.9	+1.4	
CM31	Chiang Mai Arr	31.04	334	P	P	12 03 40.0	-0.4	
CM31				IAmb	IAmb	12 03 42.4		
	comp=Z,14nm,1.1s							
CMAR	Chiang Mai Arr	31.04	334	P	P	12 03 41.0	+0.5	
	comp=Z,6.7nm,1.0s,baz=166,slow=8.1,SNR=40							
CMAR				ScP	ScP	12 10 14.3	+1.0	
	comp=Z,0.4nm,0.3s,baz=172,slow=2.7,SNR=6.2							
CMAR				LR	LR	12 18 34.1		
	comp=Z,223nm,18.0s,baz=150,slow=41							
	comp=Z,6.7nm,1.0s							
CMAR	Chiang Mai Arr	31.04	334	P	P	12 03 40.7	+0.3	
CHTO	Chiang Mai	31.35	334	P	P	12 03 43.2	0.0	
LCRK	Leigh Creek	31.46	135	P	P	12 03 45.3	+1.2	
CRAI	Chiangrai	32.04	337	P	P	12 03 48.8	-0.4	
PMG	Port Moresby	33.78	93	LR	LR	12 21 01.3		
	comp=Z,144nm,18.9s,baz=314,slow=42							
CTA	Charters Tower	33.84	112	LR	LR	12 19 07.6		
	comp=Z,201nm,19.6s,baz=274,slow=38							
STKA	Stephens Creek	34.66	134	P	P	12 04 14.1	+2.1	
	comp=Z,7.7nm,0.7s,baz=307,slow=8.2,SNR=28							
STKA				LR	LR	12 18 58.3		
	comp=Z,546nm,21.6s,baz=288,slow=37							
	comp=Z,7.7nm,0.7s							
STKA	Stephens Creek	34.66	134	P	P	12 04 14.0	+2.1	
KMI	Kunming	35.84	344	⇑P	P	12 04 16.5	-5.9	
KMI				pP	pP	12 04 32.0	-4.5	
KMI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KMI				LR	LR			
	comp=N,230nm,11.8s							
KMI				LR	LR			
	comp=E,280nm,14.6s							
KMI				LR	LR			
	comp=Z,260nm,17.0s							
GYA	Guiyang	36.29	351	P	P	12 04 27.5	+1.4	
GYA				pmax	pmax			
	comp=Z,6.0nm,1.5s							
GYA				pmax	pmax			
	comp=Z,210nm,4.1s							
GYA				LR	LR			
	comp=Z,330nm,20.0s							
TNCH	TengChong	37.10	338	*e*P	P	12 04 34.0	+0.9	
TNCH				pP	pwP	12 04 50.3	-0.2	
TNCH				PP	PnPn	12 06 03.5	+3.8	
TNCH				S	S	12 10 15.3	-0.1	
TNCH				sS	sS	12 10 38.3	-0.9	
TNCH				pmax	pmax			
	comp=Z,15nm,1.1s							
TNCH				pmax	pmax			
	comp=Z,140nm,4.8s							
TNCH				LR	LR			
	comp=N,180nm,8.2s							
TNCH				LR	LR			
	comp=E,170nm,10.9s							
TNCH				LR	LR			
	comp=Z,450nm,16.3s							
PZH	PanZhiHua	37.42	343	P	P	12 04 35.0	-0.8	
PZH				S	S	12 10 21.0	+0.8	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,80nm,6.2s							
PZH				LR	LR			
	comp=N,400nm,18.4s							
PZH				LR	LR			
	comp=E,490nm,18.6s							
PZH				LR	LR			
	comp=Z,510nm,21.2s							
BRDH	Bariadhala	38.19	327	LR	LR	12 23 15.7		
	comp=Z,195nm,18.5s,baz=89,slow=41							
JOW	Kunigami	39.11	22	LR	LR	12 24 30.2		
	comp=Z,40nm,18.1s,baz=209,slow=42							
GUMO	Guam	39.17	55	LR	LR	12 20 35.8		
	comp=Z,49nm,21.5s,baz=157,slow=36							
ENH	Enshi	39.71	355	P	P	12 04 54.8	0.0	
ENH				pP	pP	12 05 08.7	-0.3	
H08S2	Diego Garcia H	39.98	269	T	T	12 48 02.1		
	baz=95,slow=74,SNR=9.4							
H08S3	Diego Garcia H	39.99	269	T	T	12 48 03.3		
	baz=95,slow=74,SNR=10							
H08S1	Diego Garcia H	40.00	269	T	T	12 47 59.9		
	baz=95							
SSE	Sheshan	41.17	11	P	P	12 05 07.3	+0.6	
SSE				pP	pP	12 05 21.6	+0.5	
CAN	Canberra	41.72	134	P	P	12 05 13.4	+2.0	
NJ2	Nanjing	41.74	8	*e*P	P	12 05 12.3	+0.9	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
XAN	Xi'an	43.50	355	⇑P	P	12 05 25.0	-0.7	
XAN				pP	pwP	12 05 43.0	-0.2	
XAN				S	S	12 11 49.5	-0.8	
XAN				pmax	pmax			
	comp=Z,7.0nm,1.3s							
XAN				LR	LR			
	comp=N,250nm,18.1s							
XAN				LR	LR			
	comp=Z,330nm,18.4s							
XAN	Xi'an	43.50	355	P	P	12 05 25.6	-0.1	
XAN				pP	pP	12 05 40.4	+0.3	
XAN				sP	sP	12 05 47.7	+1.0	
TAPN	Taplejung	44.05	327	*e*P	P	12 05 30.4	-0.2	
LSA	Lhasa	44.27	332	P	P	12 05 32.5	0.0	
LSA				pmax	pmax			
	comp=Z,13nm,1.0s							
LSA	Lhasa	44.27	332	P	P	12 05 31.9	-0.6	
LSA				IAmb	IAmb	12 05 35.4		
	comp=Z,8.9nm,0.6s							
LSA	Lhasa	44.27	332	P	P	12 05 32.6	0.0	
LSA				pP	pP	12 05 48.5	+1.6	
JIRN	Jiri	45.12	326	*e*P	P	12 05 38.7	-0.5	
	comp=Z,13nm,0.5s							
GUN	Gumba	45.49	326	*e*P	P	12 05 41.5	-0.6	
	comp=Z,8.6nm,0.4s							
JNU	Nakatsue	45.75	21	LR	LR	12 26 05.6		
	comp=Z,36nm,19.9s,baz=149,slow=38							
LZH	Lanzhou	46.17	350	*e*P	P	12 05 47.5	+0.4	
LZH				sP	sP	12 06 09.5	+1.3	
LZH				PcP	PcP	12 07 17.8	-4.4	
LZH				PP	PP	12 07 38.0	+1.5	
LZH				pmax	pmax			
	comp=Z,21nm,1.2s							
LZH				LR	LR			
	comp=N,250nm,15.1s							
LZH				LR	LR			
	comp=E,120nm,16.0s							
LZH				LR	LR			
	comp=Z,260nm,17.3s							
HNR	Honiara	46.38	94	LR	LR	12 29 39.8		
	comp=Z,831nm,18.2s,baz=183,slow=42							
HNS	HongShan	46.72	2	⇑P	P	12 05 50.5	-0.6	
HNS				pmax	pmax			
	comp=Z,9.0nm,1.2s							
DANN	Dangsing	47.03	324	*e*P	P	12 05 53.2	-0.9	
	comp=Z,7.5nm,0.5s							
GOMU	GeErMu	48.57	340	P	P	12 06 05.8	-0.2	
GOMU				pP	pP	12 06 09.3	-11	
GOMU				sP	pwP	12 06 10.5	-14	
GOMU				PP	PP	12 07 48.3	-11	
GOMU				S	S	12 13 01.8	-2.0	
KSAR	Wonju Array Be	48.79	16	P	P	12 06 07.3	+0.1	
KSRS	Korea Array	48.81	16	P	P	12 06 05.8	-1.5	
	comp=Z,3.8nm,1.0s,baz=187,slow=6.8,SNR=10							
KSRS				LR	LR	12 27 46.6		
	comp=Z,48nm,21.2s,baz=205,slow=37							
	comp=Z,3.8nm,1.0s							
BJT	Baijiatuau	49.39	3	P	P	12 06 12.0	+0.3	
BJT	Baijiatuau	49.39	3	P	P	12 06 11.6	-0.2	
BJI	Beijing	49.41	3	P	P	12 06 11.8	-0.1	
BJI				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BTO	Baotou	49.96	357	*e*P	P	12 06 17.3	+1.1	
INU	Inuyama	50.12	26	P	P	12 06 15.8	-1.6	
INU	Inuyama	50.12	26	P	P	12 06 16.1	-1.3	
HHC	Hu-ho-hao-te	50.15	359	*e*P	P	12 06 17.5	-0.1	
HHC				pmax	pmax			
	comp=Z,20nm,1.1s							
HHC				pmax	pmax			
	comp=Z,170nm,5.4s							
GTA	Gaotai	50.19	347	⇓P	P	12 06 19.0	+1.0	
GTA				sP	sP	12 06 38.0	-1.1	
GTA				ScP	ScP	12 11 30.5	+3.0	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,90nm,5.1s							
GTA				LR	LR			
	comp=N,130nm,19.3s							
GTA				LR	LR			
	comp=E,170nm,19.3s							
GTA				LR	LR			
	comp=Z,170nm,21.8s							
JGF	Kuroka	50.48	26	P	P	12 06 18.5	-1.7	
JGF				IAmb	IAmb	12 06 20.8		
	comp=Z,13nm,0.8s							
MAJO	Matsushiro	51.64	26	P	P	12 06 27.8	-1.0	
MAJO				IAmb	IAmb	12 06 28.1		
	comp=Z,15nm,1.1s							
MAJO	Matsushiro	51.64	26	P	P	12 06 27.0	-1.8	
MJAR	Matsushiro Arr	51.64	26	P	P	12 06 27.1	-1.8	
	comp=Z,15nm,0.9s,baz=198,slow=7.3,SNR=40							
MJAR				LR	LR	12 30 14.8		
	comp=Z,34nm,18.7s,baz=194,slow=38							
	comp=Z,15nm,0.9s							
DZM	Mont Dzumac	52.76	110	*e*LR	LR	12 21 55.0		
	comp=Z,158nm,24.4s							
DZM	Mont Dzumac	52.76	110	LR	LR	12 30 55.0		
	comp=Z,93nm,18.6s,baz=220,slow=38							
XLT	XiLinHaoTe	53.26	3	*e*P	P	12 06 39.8	-0.9	
XLT				pP	pP	12 06 55.5	+0.1	
XLT				sP	sP	12 07 03.0	+1.2	
XLT				PcP	PcP	12 07 45.8	-2.0	
XLT				pmax	pmax			
	comp=Z,13nm,1.1s							
XLT				pmax	pmax			
	comp=Z,170nm,4.9s							
CN2	Changchun	54.29	11	P	P	12 06 47.0	-1.2	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MDJ	Mudanjiang	55.97	14	P	P	12 06 59.8	-0.5	
USRK	Ussuriysk Ar.	56.21	16	P	P	12 07 01.7	-0.3	
	comp=Z,12nm,1.1s,baz=191,slow=6.9,SNR=6.1							
USRK				LR	LR	12 32 41.9		
	comp=Z,61nm,19.0s,baz=185,slow=38							
	comp=Z,12nm,1.1s							
BNX	BinXian	56.54	12	⇓P	P	12 07 03.8	-0.5	
BNX				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BNX				pmax	pmax			
	comp=Z,120nm,6.9s							
NIL	Nilore	57.13	321	P	P	12 07 07.7	-1.1	
NIL	Nilore	57.13	321	P	P	12 07 07.4	-1.4	
ULN	Ulaanbaatar	57.38	355	P	P	12 07 10.0	-0.4	
ULN				IAmb	IAmb	12 07 11.5		
	comp=Z,11nm,0.9s							
ULN	Ulaanbaatar	57.38	355	P	P	12 07 10.5	+0.1	
ULN				pP	pP	12 07 26.1	+0.8	
ULN				sP	sP	12 07 33.4	+1.7	
SONM	Songino Array	57.41	355	P	P	12 07 10.5	0.0	
	comp=Z,8.0nm,0.8s,baz=176,slow=7.6,SNR=46							
SONM				ScP	ScP	12 11 59.3	+0.5	
	comp=Z,0.3nm,0.4s,baz=157,slow=4.1,SNR=3.6							
SONM				LR	LR	12 34 18.8		
	comp=Z,108nm,18.6s,baz=158,slow=39							
	comp=Z,8.0nm,0.8s							
SONM	Songino Array	57.41	355	P	P	12 07 10.3	-0.2	
SONM				IAmb	IAmb	12 07 11.6		
	comp=Z,11nm,0.9s							
WMQ	Urumqi	57.83	339	*e*P	P	12 07 13.5	0.0	
WMQ				sP	sP	12 07 36.5	+1.8	
WMQ				pmax	pmax			
	comp=Z,16nm,1.3s							
WMQ				LR	LR			
	comp=Z,100nm,27.7s							
WUS	Wushi	59.24	331	P	P	12 07 23.5	0.0	
KSH	Kashi	59.62	327	P	P	12 07 24.8	-1.4	
KSH				pP	pP	12 07 33.5	-7.7	
KSH				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ASAJ	Asahikawa	59.80	24	LR	LR	12 34 20.8		
	comp=Z,26nm,21.3s,baz=207,slow=37							
KBL	Kabul	60.38	319	P	P	12 07 30.5	-1.1	
KBL				IAmb	IAmb	12 07 32.4		
	comp=Z,14nm,1.4s							
RPZ	Rata Peaks	60.61	135	LR	LR	12 33 27.3		
	comp=Z,317nm,19.6s,baz=271,slow=36							
KLR	Kul'dur	60.81	14	LR	LR	12 37 06.9		
	comp=Z,67nm,18.4s,baz=236,slow=39							
HEH	HeiHe	60.87	11	*e*P	P	12 07 33.3	-1.0	
HEH				pmax	pmax			
	comp=Z,12nm,1.2s							
HEH				pmax	pmax			
	comp=Z,220nm,4.7s							
YSS	Yuzh-Sakhalins	62.22	23	P	P	12 07 44.0	+0.6	
YSS				pP	pP	12 08 00.4	+1.9	
WSAR	Wadi Sarin	62.27	302	LR	LR	12 37 03.4		
	comp=Z,32nm,18.3s,baz=114,slow=38							
TKM2	Tokmak 2	62.31	330	P	P	12 07 44.4	0.0	
	SNR=16							
UCH	Uchtor	62.35	329	P	P	12 07 46.3	+1.3	
	SNR=8.6							
MK31	Makanchi Array	62.37	337	P	P	12 07 44.0	-0.5	
MK31				IAmb	IAmb	12 07 45.1		
	comp=Z,12nm,1.4s							
MKAR	Makanchi Array	62.37	337	P	P	12 07 44.2	-0.3	
	comp=Z,4.2nm,0.5s,baz=148,slow=7.2,SNR=128							
MKAR				LR	LR	12 37 18.8		
	comp=Z,63nm,21.2s,baz=126,slow=38							
	comp=Z,4.2nm,0.5s							
GAR	Garm	62.43	324	P	P	12 07 44.5	-0.8	
GAR				IAmb	IAmb	12 07 46.3		
	comp=Z,6.8nm,0.6s							
KBK	Karagaybulak	62.44	329	P	P	12 07 45.6	+0.4	
	SNR=16							
MAKZ	Makanchi	62.51	337	P	P	12 07 45.3	-0.1	
MAKZ				pP	pP	12 08 01.6	+1.1	
AAK	Ala-Archa	62.66	329	P	P	12 07 47.0	+0.3	
	SNR=11							
AAK	Ala-Archa	62.66	329	P	P	12 07 46.1	-0.6	
	comp=Z,7.4nm,1.0s,baz=170,slow=4.7,SNR=14							
AAK				LR	LR	12 39 05.2		
	comp=Z,82nm,19.0s,baz=142,slow=40							
	comp=Z,7.4nm,1.0s							
AAK	Ala-Archa	62.66	329	P	P	12 07 46.6	-0.1	
AAK				IAmb	IAmb	12 07 48.6		
	comp=Z,8.6nm,1.0s							
AAK	Ala-Archa	62.66	329	P	P	12 07 46.6	-0.1	
AML	Almayashu	62.70	328	P	P	12 07 47.5	+0.2	
	SNR=29							
EKS2	Erkin-Say	63.04	329	P	P	12 07 49.7	+0.5	
	SNR=8.6							
USP	Ospenovka	63.11	329	P	P	12 07 49.7	+0.2	
	SNR=6.3							
URZ	Urewera	63.94	128	LR	LR	12 36 19.5		
	comp=Z,235nm,20.0s,baz=14,slow=36							
ABPO	Ambohimpanom	64.04	254	P	P	12 07 58.7	+2.3	
ABPO				pP	pwP	12 08 15.1	-0.8	
KK31	Karatay Array	65.07	327	P	P	12 08 02.0	-0.4	
KK31				IAmb	IAmb	12 08 04.5		
	comp=Z,16nm,1.6s							
KKAR	Karatay Array	65.07	327	P	P	12 08 02.1	-0.3	
KKAR				IAmb	IAmb	12 08 04.5		
	comp=Z,16nm,1.6s							
KKAR	Karatay Array	65.07	327	P	P	12 08 02.1	-0.3	
CCD	Concordia, Ant	65.80	177	P	P	12 08 09.6	+2.5	
MAW	Mawson	66.75	199	LR	LR	12 30 57.5		
	comp=Z,143nm,21.4s,baz=58,slow=30							
KURBB	Kurchatov Arra	66.94	337	P	P	12 08 13.9	-0.3	
	comp=Z,2.7nm,0.2s,baz=153,slow=5.3,SNR=2.0							
	comp=Z,2.7nm,0.2s							
KURK	Kurchatov	66.98	337	P	P	12 08 13.9	-0.4	
RAO	Raoul Island	67.27	118	LR	LR	12 38 54.3		
	comp=Z,113nm,18.2s,baz=96,slow=37							
ZAA0	Zalesovo Array	67.56	342	P	P	12 08 17.4	-0.7	
ZAA0				IAmb	IAmb	12 08 18.2		
	comp=Z,7.2nm,0.8s							
ZALV	Zalesovo Beam	67.56	342	P	P	12 08 17.2	-0.8	
	comp=Z,5.1nm,0.6s,baz=148,slow=4.0,SNR=30							
ZALV				LR	LR	12 40 31.7		
	comp=Z,59nm,18.8s,baz=156,slow=38							
	comp=Z,5.1nm,0.6s							
GEYT	Alibeck	69.57	316	P	P	12 08 31.1	+0.1	
	comp=Z,14nm,1.1s,baz=152,slow=6.7,SNR=15							
	comp=Z,14nm,1.1s							
BVAR	Borovoye Array	72.06	335	LR	LR	12 43 41.4		
	comp=Z,53nm,19.6s,baz=143,slow=39							
BRVK	Borovoye	72.13	335	P	P	12 08 46.1	0.0	
VNDA	Vanda	72.45	170	LR	LR	12 39 58.8		
	comp=Z,149nm,18.5s,baz=332,slow=35							
VNDA	Vanda	72.45	170	P	P	12 08 48.9	+1.1	
YAK	Yakutsk	72.54	8	LR	LR	12 43 19.0		
	comp=Z,35nm,19.1s,baz=260,slow=38							
PETK	Petropavlovsk-	73.10	26	LR	LR	12 45 16.4		
	comp=Z,41nm,18.0s,baz=228,slow=39							
ABKAR	Akbulak array	74.63	327	P	P	12 09 01.1	+0.2	
ABKAR	Akbulak array	74.63	327	P	P	12 09 01.1	+0.2	
MA2	Magadan	75.25	19	LR	LR	12 45 39.7		
	comp=Z,18nm,18.4s,baz=213,slow=38							
AKTO	Aktyubinsk	76.33	327	P	P	12 09 11.2	+0.6	
	comp=Z,8.0nm,0.8s,baz=99,slow=3.6,SNR=20							
AKTO				LR	LR	12 46 17.3		
	comp=Z,100nm,20.9s,baz=27,slow=38							
	comp=Z,8.0nm,0.8s							
ARU	Arti	79.48	333	P	P	12 09 27.6	-0.4	
	comp=Z,4.6nm,0.4s,baz=133,slow=4.5,SNR=10.0							
ARU				LR	LR	12 49 23.6		
	comp=Z,84nm,18.1s,baz=127,slow=39							
	comp=Z,4.6nm,0.4s							
ARU	Arti	79.48	333	P	P	12 09 27.9	0.0	
ARU				IAmb	IAmb	12 09 29.2		
	comp=Z,23nm,1.3s							
QSPA	South Pole Qui	80.47	180	P	P	12 09 34.5	+1.1	
	comp=Z,1.7nm,1.0s,baz=340,slow=1.4,SNR=4.0							
QSPA				LR	LR	12 43 50.2		
	comp=Z,191nm,19.9s,baz=340,slow=34							
	comp=Z,1.7nm,1.0s							
QSPA	South Pole Qui	80.47	180	P	P	12 09 32.7	-0.8	
QSPA				IAmb	IAmb	12 10 10.9		
	comp=Z,32nm,1.8s							
NRIK	Noril'sk	80.64	351	P	P	12 09 33.7	-0.3	
	comp=Z,2.2nm,0.4s,baz=142,slow=6.7,SNR=3.3							
	comp=Z,2.2nm,0.4s							
TIXI	Tiksi	81.70	5	LR	LR	12 48 12.2		
	comp=Z,41nm,21.9s,baz=358,slow=37							
TIXI	Tiksi	81.70	5	P	P	12 09 38.8	-0.7	
TIXI				IAmb	IAmb	12 09 40.3		
	comp=Z,13nm,1.1s							
MBAR	Mbarara	82.17	271	LR	LR	12 42 55.0		
	comp=Z,74nm,19.5s,baz=284,slow=33							
BELG	Belogornoye	82.95	326	P	P	12 09 46.1	-0.4	
	comp=Z,24nm,1.2s,baz=175,slow=21,SNR=4.6							
BELG				LR	LR	12 51 49.9		
	comp=Z,40nm,20.4s,baz=119,slow=39							
	comp=Z,24nm,1.2s							
BOSA	Boshof	83.45	242	LR	LR	12 39 09.6		
	comp=Z,120nm,21.7s,baz=135,slow=30							
LBTB	Lobatse	83.61	246	LR	LR	12 40 32.7		
	comp=Z,48nm,18.9s,baz=142,slow=31							
EIL	Elat	84.36	301	LR	LR	12 49 22.3		
	comp=Z,56nm,18.9s,baz=236,slow=37							
KIRV	Kirov	84.81	332	LR	LR	12 51 00.3		
	comp=Z,59nm,20.2s,baz=123,slow=38							
SUR	Sutherland	86.72	238	LR	LR	12 42 06.4		
	comp=Z,81nm,20.3s,baz=161,slow=31							
BRTR	Keskin Array B	87.88	311	P	P	12 10 12.3	+0.8	
	comp=Z,1.2nm,0.8s,baz=153,slow=8.3,SNR=6.5							
	comp=Z,1.2nm,0.8s							
SNAA	Sanae	88.82	197	LR	LR	12 46 11.5		
	comp=Z,128nm,18.5s,baz=166,slow=33							
SNAA	Sanae	88.82	197	P	P	12 10 18.0	+2.7	
KLMR	Klimovskoe	90.31	332	*e*P	P	12 10 20.9	-1.3	
KLMR				AMP		12 10 23.6		
	comp=Z,22nm,1.3s							
TSUM	Tsumeb	91.87	250	LR	LR	12 49 39.5		
	comp=Z,44nm,18.0s,baz=162,slow=34							
AKASG	Malin Array Be	93.32	321	LR	LR	12 59 04.7		
	comp=Z,19nm,20.5s,baz=166,slow=40							
TNA	Tin City	94.16	24	P	P	12 10 37.7	-2.3	
PPT2	Papeete2	94.23	109	*e*LR	LR	12 41 07.7		
	comp=Z,126nm,24.2s							
MNK	Minsk	94.80	324	*i* P	P	12 10 39.6	-3.5	
	comp=E,2.0nm,0.9s							
MNK				*i* P	P	12 10 39.6	-3.5	
	comp=N,31nm,1.1s							
MNK				*i* P	P	12 10 39.6	-3.5	
	comp=Z,5.0nm,0.8s,baz=100							
MNK				*i* pP	pP	12 10 56.6	-2.3	
MNK				*i* PP	PP	12 14 28.3	-4.2	
MNK				*i* PPP	PPP	12 16 31.7		
MNK				*i* S	SKSac	12 21 09.3	-4.2	
MNK				*i* sS	SKKSac	12 21 40.1	+4.3	
MNK				*i* SS	SS	12 28 13.9	-3.5	
MNK				*i* SSS	SSS	12 31 55.9		
MNK				*i* LQ	LQ	12 47 34.8		
MNK				*i* LR	LR	12 52 15.1		
MNK				*i* LRM	MLR	12 54 10.7		
	comp=E,39nm,17.9s							
MNK				*i* LRM	MLR	12 54 14.5		
	comp=Z,62nm,13.4s							
MNK				*i* LRM	MLR	12 54 16.9		
	comp=N,261nm,14.7s							
FINES	FINESS Array B	96.78	331	LR	LR	12 59 30.0		
	comp=N,66nm,18.9s,baz=54,slow=38							
TAOE	Nuku Hiva Isla	105.01	102	*e*LR	LR	12 46 06.0		
	comp=N,203nm,29.6s							
YKA	Yellowknife Ar	117.07	23	PKP	PKiKP	12 16 06.7	+0.7	
	comp=N,0.2nm,0.5s,baz=316,slow=1.8,SNR=6.3							
NVAR	Mina Array Bea	125.96	49	PKP	PKiKP	12 16 25.2	+0.7	
	comp=N,0.2nm,0.6s,baz=276,slow=2.6,SNR=2.0							
PDAR	Pinedale Array

PLAI	Plampang	4.88	82	P	Pn	12 09 07.4 +1.2
CGJI	Cibinong	7.71	292	P	Pn	12 09 44.9 0.0
WRA	Warramunga Arr	23.13	119	P	P	12 12 56.4 -0.2
	0.5nm,0.4s,baz=280,slow=11,SNR=1.5					
	0.5nm,0.4s					
ASAR	Alice Springs	24.48	127	P	P	12 13 10.5 +1.5
	1.0nm,0.7s,baz=305,slow=8.8,SNR=12					
	1.0nm,0.7s					
CMAR	Chiang Mai Arr	31.07	334	P	P	12 14 07.9 -0.1
	0.4nm,0.3s,baz=168,slow=8.0,SNR=6.2					
	0.4nm,0.3s					
MJAR	Matsushiro Arr	51.69	26	P	P	12 16 54.6 -1.8
	1.0nm,0.7s,baz=193,slow=7.3,SNR=4.1					
	1.0nm,0.7s					
SONM	Songino Array	57.45	355	P	P	12 17 38.2 +0.1
	1.1nm,0.6s,baz=175,slow=9.1,SNR=7.3					
	1.1nm,0.6s					
MKAR	Makanchi Array	62.41	337	P	P	12 18 11.8 -0.2
	1.4nm,0.5s,baz=153,slow=7.5,SNR=26					
	1.4nm,0.5s					
AAK	Ala-Archa	62.69	329	P	P	12 18 14.2 +0.1
	1.1nm,0.6s,baz=183,slow=2.8,SNR=4.2					
	1.1nm,0.6s					
KURBB	Kurchatov Arra	66.97	337	P	P	12 18 41.4 -0.2
	1.2nm,0.2s,baz=150,slow=6.1,SNR=1.8					
	1.2nm,0.2s					
ZALV	Zalesovo Beam	67.60	342	P	P	12 18 44.9 -0.6
	1.3nm,0.6s,baz=158,slow=2.6,SNR=6.5					
	1.3nm,0.6s					
AKTO	Aktyubinsk	76.36	327	P	P	12 19 38.4 +0.4
	1.6nm,0.7s,baz=28,slow=2.1,SNR=4.3					
	1.6nm,0.7s					

WEL 29 12:32:29.2±0.6, 42°S±4°×17°4E±°, h33km, M2.6/4, ML2.7/10, MLv2.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=135.1, confirmed, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.51	258	P	Pn	12 32 40.6	+0.5
KHZ				S	Sn	12 32 48.3	+0.7
BSWZ	Blackbirch Sta	0.65	337	P	Pb	12 32 43.1	+1.0
BSWZ				S	Sn	12 32 52.4	+1.3
PLWZ	Palliser	1.08	47	P	Pn	12 32 48.3	+0.3
THZ	Tophouse	1.12	299	P	Pb	12 32 49.5	-0.5
THZ				S	Sb	12 33 05.8	+1.6
CAW	Cannon Point	1.37	28	P	Pn	12 32 52.7	+0.7
CAW				S	Sn	12 33 08.7	-0.1
MRNZ	Matariki Terra	1.42	310	P	Pb	12 32 54.2	-0.8
LTZ	Lake Taylor	1.51	251	P	Pn	12 32 52.9	-1.0
LTZ				S	Sn	12 33 13.1	+0.7
MTW	Mount Morrison	1.51	40	P	Pn	12 32 53.9	0.0
MTW				S	Sn	12 33 12.2	-0.2
KIW	Kapiti Island	1.54	20	P	Pn	12 32 55.4	+1.0
MQZ	McQueen's Vall	1.80	219	P	Pn	12 32 57.6	-0.3
AKCZ	Akaroa Harbour	1.82	211	P	Pn	12 32 58.4	+0.2
OXZ	Oxford	1.89	237	P	Pn	12 32 59.6	+0.5

IDC 29 12:33:47.6±3.4, 9°32S×112°92E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=191.3km s-min=27.0km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	24.61	128	P	P	12 39 10.0	+0.1
	0.7nm,0.6s,baz=303,slow=8.8,SNR=19						
	0.7nm,0.6s						
SONM	Songino Array	57.20	355	P	P	12 43 36.2	-0.4
	0.2nm,0.3s,baz=168,slow=7.4,SNR=1.5						
	0.2nm,0.3s						
MKAR	Makanchi Array	62.19	337	P	P	12 44 11.2	+0.3
	0.4nm,0.4s,baz=154,slow=5.7,SNR=4.2						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	67.37	342	P	P	12 44 44.3	-0.2
	0.2nm,0.4s,baz=153,slow=9.8,SNR=2.3						
	0.2nm,0.4s						

IDC 29 12:53:53.9±7.5, 19°19S×177°75W, h581km±43km, mb2.7/2, mbtmp3.8/3, Error ellipse: s-maj=202.1km s-min=37.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.24	289	P	P	12 55 19.9	0.0
	17nm,0.5s,baz=128,slow=4.1,SNR=21						
WRA	Warramunga Arr	45.03	261	P	P	13 01 18.8	-0.3
	0.4nm,0.3s,baz=96,slow=8.2,SNR=2.4						
	0.4nm,0.3s						
ASAR	Alice Springs	45.06	255	P	P	13 01 19.1	-0.1
	0.7nm,0.5s,baz=87,slow=7.7,SNR=30						
ASAR				PcP	PcP	13 02 47.2	-0.3
	0.2nm,0.4s,baz=99,slow=3.7,SNR=6.0						
	0.7nm,0.5s						
BRTR	Keskin Array B	146.12	314	PKPbc	PKPbc	13 12 30.1	-0.1
	1.2nm,1.0s,baz=88,slow=3.4,SNR=2.4						
GERES	GERESS Array B	149.01	345	PKPbc	PKPbc	13 12 36.3	-0.9
	0.2nm,0.6s,baz=354,slow=2.7,SNR=3.9						

*WEL **29** 13:10:00,41°63S×174°43E, h21km, ML3.8, Mw3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴ Nm; Mrr3.47; Mθθ-0.43; Mϕϕ-3.04; Mrθ-0.61; Mθϕ 0.41; Mϕr-0.98; Fault plane solution: M0 3.47000×10¹⁴ NP1: ϕs342.00000°, δ38.00000°, λ74.00000°. NP2: ϕs182.00000°, δ53.00000°, λ102.00000°. Principal axes: T 37.2400, Plg78.0000°, Azm136.0000°; N -5.0100, Plg10.0000°, Azm354.0000°; P -32.2300, Plg8.0000°, Azm263.0000°;*

*IDC **29** 13:10:20.5±1.2, 41°59S×174°42E, h0km, mb3.8/3, mbtmp3.8/5, ML3.2/2, MS2.9/1 Error ellipse: s-maj=32.9km s-min=25.3km az=123.0*

*WEL **29** 13:10:23.6, 42°S±3°×17°4E±°, h23km±5km, M3.8/25, ML4.1/25, MLv3.8/25, Error ellipse: s-maj=0.0km s-min=0.0km az=117.3, confirmed*

*NEIC **29** 13:10:23.5±1.1, 41°73S±0°04×174°5E±0°1, h18km±8km, mb4.2/8, Error ellipse: s-maj=15.2km s-min=4.2km az=73.0*

ISC 29 13:10:22.3±1.1, 41°75S±0°03×174°53E±0°02, h13km±8km, n155, σ1s18/181, mb4.1/6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.23	269	Pg	Pb	13 10 28.9	+0.5
CMWZ	Cape Campbell	0.23	269	P	Pb	13 10 29.1	+0.7
CMWZ				S	Sb	13 10 34.1	+1.5
BHW	Baring Head	0.42	38	Pg	Pb	13 10 32.1	+0.4
SNZO	South Karori	0.45	17	Pg	Pb	13 10 32.0	-0.1
BSWZ	Blackbirch Sta	0.49	273		Pb	13 10 32.7	-0.1
BSWZ	Blackbirch Sta	0.49	273	P	Pb	13 10 32.9	+0.1
BSWZ				S	Sb	13 10 39.9	0.0
WEL	Wellington	0.49	21	P	Pb	13 10 32.9	+0.1
WEL				S	Sb	13 10 40.2	+0.2
TCW	Tory Channel	0.57	340	Pg	Pg	13 10 32.9	-0.5
TCW	Tory Channel	0.57	340	P	Pg	13 10 33.0	-0.4
TCW				S	Sg	13 10 39.4	-1.5
PLWZ	Palliser	0.57	72	Pg	Pn	13 10 36.0	-0.2
PLWZ	Palliser	0.57	72	P	Pn	13 10 36.7	+0.5
PLWZ				S	Sn	13 10 47.2	+1.7
MSWZ	Moikau Station	0.63	59	Pg	Pn	13 10 36.3	-0.8
MSWZ	Moikau Station	0.63	59	P	Pn	13 10 37.1	+0.1
MSWZ				S	Sn	13 10 48.9	+1.9
CAW	Cannon Point	0.76	33	P	Pn	13 10 37.6	+0.3
CAW				S	Sn	13 10 51.0	+1.1
PAWZ	Paruwai Farm	0.77	62	P	Pn	13 10 39.4	+0.5
PAWZ				S	Sn	13 10 52.2	+2.0
KIW	Kapiti Island	0.93	18	P	Pb	13 10 40.1	-0.2
KIW				S	Sg	13 10 52.8	+0.4
TRWZ	Traveller	0.94	69	P	Pn	13 10 42.0	+0.8
MTW	Mount Morrison	0.94	52	P	Pn	13 10 41.9	+0.7
MTW				S	Sn	13 10 56.6	+2.1
KHZ	Kahutara	1.00	227		Pn	13 10 42.7	+0.7
KHZ	Kahutara	1.00	227	P	Pn	13 10 43.2	+1.2
KHZ				S	Sn	13 10 57.5	+1.6
NNZ	Nelson	1.01	301		Pb	13 10 41.0	-0.7
NNZ	Nelson	1.01	301	P	Pb	13 10 41.1	-0.7
OGWZ	Otaki Gorge	1.05	28	P	Pb	13 10 42.4	+0.1
OGWZ				S	Sn	13 10 58.3	+1.1
DUWZ	D'Urville Isla	1.05	334	P	Pb	13 10 41.5	-0.8
DUWZ				S	Sb	13 10 54.5	-1.4
HOWZ	Holdsworth Sta	1.13	42	P	Pg	13 10 44.4	+0.3
TMWZ	Te Maipa	1.21	59	P	Pg	13 10 45.5	-0.1
THZ	Tophouse	1.21	269		Pb	13 10 45.5	+0.3
THZ	Tophouse	1.21	269	P	Pb	13 10 45.5	+0.3
THZ				S	Sg	13 11 04.3	+2.8
MRZ	Mangatainoka R	1.34	37	P	Pb	13 10 47.4	+0.1
MRZ				S	Sg	13 11 05.5	-0.1
MRNZ	Matariki Terra	1.37	284		Pb	13 10 47.7	-0.2
MRNZ	Matariki Terra	1.37	284	P	Pb	13 10 47.8	0.0
MRNZ				S	Sg	13 11 06.6	+0.1
TKNZ	Takaka Hill	1.38	301		Pn	13 10 47.2	-0.1
TKNZ	Takaka Hill	1.38	301	P	Pn	13 10 47.5	+0.2
TKNZ				S	Sn	13 11 05.0	-0.4
TIWZ	Tintock	1.41	47	P	Pn	13 10 48.2	-0.3
PRWZ	Pori Road	1.61	43	P	Pn	13 10 50.9	+0.4
POWZ	Post Office Ro	1.65	35	P	Pn	13 10 51.4	+0.5
GVZ	Greta Valley S	1.65	222		Pb	13 10 52.0	-0.6
GVZ	Greta Valley S	1.65	222	P	Pb	13 10 52.0	-0.6
GVZ				S	Sb	13 11 13.1	-0.1
BFZ	Birch Farm	1.68	51	P	Pn	13 10 51.2	-0.2
QRZ	Quartz Range	1.76	301		Pn	13 10 53.5	+1.0
QRZ	Quartz Range	1.76	301	P	Pb	13 10 53.7	-0.8
QRZ				S	Sb	13 11 16.3	-0.2
LTZ	Lake Taylor	1.97	238		Pn	13 10 56.1	+0.7
LTZ	Lake Taylor	1.97	238	P	Pn	13 10 56.3	+0.8
AMCZ	Amberley	1.99	224		Pn	13 10 56.1	+0.4
AMCZ	Amberley	1.99	224	P	Pn	13 10 56.3	+0.5
WAZ	Wanganui	2.02	10	P	Pb	13 10 59.0	+0.1
DSZ	Denniston Nort	2.04	269	Pn	Pn	13 10 56.9	+0.5
DSZ	Denniston Nort	2.04	269	P	Pn	13 10 57.4	+1.0
DSZ				S	Sb	13 11 25.5	+1.0
WPHZ	Waipukurau	2.22	41	P	Pn	13 10 58.7	-0.1
OKCZ	Okains Bay	2.25	208	P	Pn	13 10 59.6	+0.3
LREZ	Lake Rotokare	2.28	358	P	Pb	13 11 04.0	+0.6
NMEZ	Namu Road	2.38	348	P	Pb	13 11 04.9	-0.1
NMEZ				S	Sg	13 11 38.0	-0.8
MQZ	McQueen's Vall	2.40	215		Pn	13 11 00.5	-0.7
MQZ	McQueen's Vall	2.40	215	P	Pn	13 11 00.8	-0.4
MQZ				S	Sn	13 11 29.0	-1.5
OXZ	Oxford	2.42	229		Pn	13 11 01.2	-0.4
OXZ	Oxford	2.42	229	P	Pn	13 11 01.4	-0.3
OXZ				S	Sn	13 11 30.1	-1.1
AKCZ	Akaroa Harbour	2.44	209	P	Pn	13 11 01.9	+0.1
AKCZ				S	Sn	13 11 31.1	-0.4
MTVZ	Mangateitei	2.46	17	P	Pn	13 11 04.1	+1.9
KHEZ	Kahui Hut	2.48	351	P	Pb	13 11 05.7	-1.1
INZ	Inchbonnie	2.49	246		Pn	13 11 02.7	+0.2
INZ	Inchbonnie	2.49	246	P	Pn	13 11 03.3	+0.8
NEZ	North Egmont	2.49	352	P	Pb	13 11 06.1	-0.9
MOVZ	Moawhango	2.52	22	P	Pn	13 11 03.8	+0.8
KRHZ	Kereru	2.52	34	P	Pn	13 11 02.8	-0.3
NBEZ	Newall Road No	2.52	348	P	Pb	13 11 05.6	-1.9
PKVZ	Pokaka	2.53	15	P	Pb	13 11 05.3	-2.3
BHHZ	Black Hill Sta	2.54	28	P	Pn	13 11 05.0	+1.7
WNVZ	Wahianoa	2.55	19	P	Pn	13 11 05.0	+1.5
TRVZ	Turoa	2.56	18	P	Pn	13 11 05.6	+1.9
DREZ	Durham Road	2.56	354	P	Pb	13 11 06.7	-1.5
PKE	Pukeiti	2.58	351	P	Pb	13 11 06.6	-1.9
WHVZ	Whangaehu Hut	2.59	19	P	Pn	13 11 06.0	+1.9
DRZ	Dome Shelter	2.59	18	P	Pb	13 11 09.4	+0.6
FWVZ	Far West T-bar	2.61	18	P	Pb	13 11 07.5	-1.6
TUVZ	Tukino	2.62	20	P	Pn	13 11 05.9	+1.4
VRZ	Vera Road	2.62	4	P	Pb	13 11 06.7	-2.4
KAHZ	Kahuranaki	2.64	43	P	Pn	13 11 04.0	-0.6
RACZ	Rakaia	2.65	221	P	Pn	13 11 04.3	-0.4
MHEZ	Mangahewa	2.67	357	P	Pn	13 11 06.7	+1.7
SNGZ	South Ngauruho	2.69	19	P	Pn	13 11 07.1	+1.6
NGZ	Ngauruhoe	2.69	18	P	Pn	13 11 07.4	+1.9
OTVZ	Oturere	2.72	19	P	Pn	13 11 07.9	+2.0
KWHZ	Kaweka Forest	2.73	33	P	Pg	13 11 13.4	-1.2
NNVZ	North Ngauruho	2.74	18	P	Pn	13 11 08.0	+1.9
WTVZ	West Tongariro	2.75	17	P	Pb	13 11 08.8	-2.5
ETVZ	East Tongariro	2.76	19	P	Pn	13 11 07.9	+1.5
TWVZ	Taurewa	2.76	15	P	Pb	13 11 08.9	-2.7
TMVZ	Te Maari	2.77	19	P	Pn	13 11 07.9	+1.3
KRVZ	Karewarewa	2.78	18	P	Pn	13 11 08.4	+1.8
NTVZ	North Tongariro	2.79	19	P	Pn	13 11 08.1	+1.4
MCHZ	McNeill Hill	2.83	36	P	Pn	13 11 06.9	-0.3
KATZ	Kakaramea	2.91	18	P	Pb	13 11 15.0	+0.9
RITZ	Rihia Road	2.94	21	P	Pb	13 11 13.8	-0.9
WACZ	Wakanui South	2.96	221	P	Pn	13 11 08.5	-0.4
BKZ	Black Stump Fm	2.98	31	P	Pn	13 11 08.8	-0.5
RATZ	Rangitukua	3.03	19	P	Pb	13 11 17.2	+1.0
WVZ	Waitaha Valley	3.11	243	P	Pn	13 11 11.5	+0.6
ARHZ	Aropaoanui	3.11	38	P	Pn	13 11 10.3	-0.8
WATZ	Wairara	3.17	17	P	Pb	13 11 18.7	+0.2
RPZ	Rata Peaks	3.23	231	Pn	Pn	13 11 12.7	0.0
	15nm,0.3s,baz=124,slow=1.4,SNR=171						
RPZ				Sn	Sn	13 11 49.5	-1.6
	11nm,0.3s,baz=149,slow=22,SNR=15						
RPZ				LR	LR	13 12 51.6	
	comp=Z,173nm,18.6s,baz=349,slow=46						
	37nm,0.3s						
RPZ	Rata Peaks	3.23	231		Pn	13 11 12.2	-0.5
RPZ	Rata Peaks	3.23	231	P	Pn	13 11 12.3	-0.5
HIZ	Hauiti	3.24	5		Pn	13 11 14.9	+2.1
HIZ	Hauiti	3.24	5	P	Pn	13 11 14.9	+2.1
MRHZ	Matea Rd	3.25	27	P	Pn	13 11 12.8	-0.2
ARCZ	Arundel	3.30	227	P	Pn	13 11 13.5	-0.3
MTHZ	Maungataniwha	3.39	32	P	Pb	13 11 22.5	+0.2
ALRZ	Allen Road	3.47	24	P	Pb	13 11 23.4	-0.2
GCSZ	Gaunt Creek Bo	3.48	242	P	Pn	13 11 17.2	+1.0
TLZ	Tolley Road	3.50	13	P	Pn	13 11 18.7	+2.3
MHGZ	Mahia Peninsul	3.65	46	P	Pn	13 11 17.7	-0.8
TMZ	Timaru	3.69	223	P	Pn	13 11 18.7	-0.4
RRRZ	Republican Roa	3.73	25	P	Pb	13 11 26.7	-1.3
FOZ	Fox Glacier	3.91	241	Pn	Pn	13 11 22.6	+0.6
FOZ	Fox Glacier	3.91	241	P	Pn	13 11 22.5	+0.5
URZ	Urewera	4.01	31	Pn	Pn	13 11 23.9	+0.5
	0.3nm,0.3s,baz=198,slow=18,SNR=1.2						
URZ				Sn	Sn	13 12 07.9	-2.2
	3.5nm,0.3s,baz=252,slow=19,SNR=1.9						
	8.0nm,0.9s						
TOZ	Tahuroa Road	4.08	11	P	Pn	13 11 26.4	+2.0
LBZ	Lake Benmore	4.13	229	Pn	Pn	13 11 25.5	+0.3
LBZ	Lake Benmore	4.13	229	P	Pn	13 11 25.5	+0.3
TGRZ	Tauranga	4.23	19	P	Pb	13 11 32.7	-3.8
ODZ	Otahua Downs	4.34	219	Pn	Pn	13 11 27.4	-0.6
ODZ	Otahua Downs	4.34	219	P	Pn	13 11 27.5	-0.6
MKAZ	Moumakai	4.66	6	P	Pn	13 11 33.9	+1.6
AWAZ	Awhitu Peninsu	4.68	1	P	Pn	13 11 34.5	+1.9
ETAZ	East Tamaki Re	4.79	4	P	Pn	13 11 36.1	+1.8
JCZ	Jackson Bay	4.82	239	P	Pn	13 11 34.3	-0.3
RVAZ	Riverhead Bore	4.97	0	P	Pn	13 11 38.7	+2.1
MBAZ	Motutapu North	4.98	2	P	Pn	13 11 40.6	+4.0
HHSZ	Highcliff Hill	5.02	213	P	Pn	13 11 37.1	-0.2
WKZ	Wanaka	5.07	231	Pn	Pn	13 11 37.2	-0.7
WKZ	Wanaka	5.07	231	P	Pn	13 11 37.5	-0.5
EAZ	Earnscleugh	5.15	226	P	Pn	13 11 39.0	-0.1
TUZ	Tuapeka	5.50	218	P	Pn	13 11 43.4	-0.4
MLZ	Mavora Lakes	5.90	230	Pn	Pn	13 11 48.6	-0.8
MLZ	Mavora Lakes	5.90	230	P	Pn	13 11 49.2	-0.2
SYZ	Scrubby Hill	6.16	217	P	Pn	13 11 53.0	0.0
WHZ	Wether Hill Ro	6.31	227	Pn	Pn	13 11 55.0	0.0
WHZ	Wether Hill Ro	6.31	227	P	Pn	13 11 54.4	-0.7
DCZ	Deep Cove	6.52	233	Pn	Pn	13 11 58.6	+0.8
OUZ	Omahuta	6.56	353	P	Pn	13 12 00.9	+2.5
CTZ	Chatham Island	6.82	110	P	Pn	13 12 02.8	+0.8
APZ	The Paps	6.92	220	P	Pn	13 12 03.0	-0.4
MSVF	Nonsavu	24.12	8	P	P	13 15 38.1	+0.2
MSVF				IAmb	IAmb	13 16 00.2	
	comp=Z,13nm,1.2s						
ASAR	Alice Springs	38.23	285	P	P	13 17 41.6	-0.5
	comp=Z,0.5nm,0.4s,baz=128,slow=7.3,SNR=5.9						
	comp=Z,0.5nm,0.4s						
WB2	Warramunga Arr	40.29	290	P	P	13 17 58.4	-0.9
WB2				IAmb	IAmb	13 17 59.3	
	comp=Z,2.8nm,0.6s						
WRAB	Tennant Creek	40.30	290	P	P	13 17 58.7	-0.6
WRAB				IAmb	IAmb	13 18 00.3	
	comp=Z,6.0nm,1.3s						
WRA	Warramunga Arr	40.30	290	P	P	13 17 58.5	-0.8
	comp=Z,1.3nm,0.5s,baz=127,slow=8.4,SNR=8.6						
	comp=Z,1.3nm,0.5s						
WRA	Warramunga Arr	40.30	290	P	P	13 17 58.5	-0.8
KNRA	Kununurra	47.08	290	P	P	13 18 53.1	-0.9
MTN	Manton Dam	47.40	294	P	P	13 18 55.2	-1.2
FITZ	Fitzroy Crossi	47.72	284	P	P	13 18 57.7	-1.2
QSPA	South Pole Qui	48.38	180	P	P	13 19 05.9	+2.2
	comp=Z,0.9nm,0.9s,baz=71,slow=5.8,SNR=1.9						
	comp=Z,0.9nm,0.9s						
QSPA	South Pole Qui	48.38	180	P	P	13 19 05.5	+1.8
QSPA				IAmb	IAmb	13 19 33.2	
	comp=Z,3.6nm,1.3s						
TORD	Torodi Ar. Bea	150.83	194	PKPbc	PKPbc	13 30 14.8	0.0
	comp=Z,0.6nm,0.5s,baz=142,slow=2.0,SNR=7.6						
FINES	FINESS Array B	152.64	327	PKPbc	PKPbc	13 30 16.0	-1.5
	comp=Z,3.8nm,1.1s,baz=64,slow=3.2,SNR=3.3						

PRU 29 13:11:23.8±0.0, 50°53N×16°10E, h0km, Hronov, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	Upice	0.06	248	*e*PG	Pg	13 11 24.4	-0.5
UPC				*e*SG	Sg	13 11 25.9	+0.2
	comp=Z,5.6nm,0.2s						
OSTC	Ostas	0.08	70	*e*PG	Pg	13 11 25.3	0.0
OSTC				*e*SG	Sg	13 11 26.2	-0.1
	comp=Z,6.3nm,0.2s						
DPC	Dobruska-Polom	0.23	142	*e*PG	Pg	13 11 28.7	+0.5
DPC				*e*SG	Sg	13 11 30.5	-0.6

*NEIC **29** 13:11:38.2±1.6, 17°95S±0°06×178°3W±0°1, h595km±9km, mb4.2/22, Error ellipse: s-maj=17.8km s-min=6.5km az=71.0*

*IDC **29** 13:11:41.1±1.5, 17°84S×178°55W, h628km±17km, mb3.1/9, mbtmp4.1/10, Error ellipse: s-maj=25.5km s-min=14.6km az=151.0*

ISC 29 13:11:38.1±0.6, 18°0S±0°1×178°36W±0°09, h600km, n46, σ1s14/49, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.43	273	P	P	13 13 03.7	+3.8
	27nm,0.8s,baz=120,slow=8.1,SNR=15						
AFI	Afiamalu	7.50	58	P	P	13 13 30.0	-3.0
RAO	Raoul Island	11.25	178	P	P	13 14 07.9	-1.3
KOUNC	Koumac, New Ca	16.59	258	P	P	13 15 01.0	+0.1
HNR	Honiara	22.70	289	P	P	13 15 54.8	-1.3
EIDS	Eidsvold	29.30	250	P	P	13 16 52.5	-1.4
CTA	Charters Tower	33.49	261	P	P	13 17 29.8	+0.2
	2.4nm,0.6s,baz=73,slow=10.0,SNR=1.4						
	2.4nm,0.6s						
CTAO	Charters Tower	33.49	261	P	P	13 17 29.7	+0.2
COEN	Coen	37.16	270	P	P	13 18 01.1	+1.1
COEN				IAmb	IAmb	13 18 28.9	
	comp=Z,6.7nm,1.0s						
TOO	Toolangi	37.17	231	P	P	13 17 59.7	-0.1
TOO				IAmb	IAmb	13 18 28.4	
	comp=Z,16nm,1.4s						
STKA	Stephens Creek	38.65	241	P	P	13 18 12.6	+0.7
	comp=Z,1.4nm,0.3s,baz=74,slow=11,SNR=6.4						
	comp=Z,1.4nm,0.3s						
STKA	Stephens Creek	38.65	241	P	P	13 18 13.0	+1.2
BBOO	Buckleboo	43.42	241	P	P	13 18 50.0	+0.6
BBOO				IAmb	IAmb	13 18 51.0	
	comp=Z,5.7nm,1.0s						
WB0	Warramunga Arr	44.64	260	P	P	13 18 58.7	-0.3
WB2	Warramunga Arr	44.66	260	P	P	13 18 59.0	-0.1
WB2				IAmb	IAmb	13 19 13.1	
	comp=Z,7.4nm,1.4s						
WRAB	Tennant Creek	44.66	260	P	P	13 18 58.8	-0.4
WRAB				IAmb	IAmb	13 18 59.7	
	comp=Z,4.4nm,0.5s						
WRA	Warramunga Arr	44.67	260	P	P	13 18 59.3	+0.1
	comp=Z,1.6nm,0.5s,baz=94,slow=7.3,SNR=16						
WRA				PcP	PcP	13 20 27.9	-0.6
	comp=Z,0.6nm,0.6s,baz=91,slow=3.2,SNR=3.8						
	comp=Z,1.6nm,0.5s						
AS31	Alice Springs	44.82	254	P	P	13 19 00.6	+0.2
ASAR	Alice Springs	44.82	254	P	P	13 19 00.8	+0.4
	comp=Z,7.9nm,0.5s,baz=86,slow=8.6,SNR=76						
ASAR				PcP	PcP	13 20 28.5	-0.6
	comp=Z,1.2nm,0.7s,baz=104,slow=3.8,SNR=8.5						
ASAR				S	S	13 24 53.4	-2.1
	comp=Z,0.6nm,0.8s,baz=90,slow=15,SNR=5.7						
	comp=Z,7.9nm,0.5s						
ASAR	Alice Springs	44.82	254	P	P	13 19 00.2	-0.2
MTN	Manton Dam	48.85	268	P	P	13 19 30.1	-0.5
MTN				IAmb	IAmb	13 20 05.8	
	comp=Z,11nm,1.4s						
FORT	Forrest	50.03	245	P	P	13 19 38.7	-0.4
FORT				IAmb	IAmb	13 19 39.2	
	comp=Z,14nm,0.9s						
KNRA	Kununurra	50.53	264	P	P	13 19 42.9	-0.1
KNRA				IAmb	IAmb	13 20 04.6	
	comp=Z,16nm,1.5s						
MJAR	Matsushiro Arr	67.98	323	P	P	13 21 37.4	-1.2
	comp=Z,0.8nm,0.5s,baz=127,slow=5.1,SNR=2.2						
	comp=Z,0.8nm,0.5s						
QSPA	South Pole Qui	72.09	180	P	P	13 22 03.7	+1.1
	comp=Z,1.6nm,0.7s,baz=9.4,slow=3.2,SNR=9.3						
	comp=Z,1.6nm,0.7s						
QSPA	South Pole Qui

PYL AML AML 13 12 23.2
comp=E,41414µm,0.7s
KLMT Kalamata 0.74 9 P **Pn 13 12 11.0 +1.4**
KLMT S **Sn 13 12 24.8 +5.1**
comp=E,15µm,0.6s
ITM Ithomi 0.85 1 P **Pn 13 12 12.9 +1.8**
ITM S **Sn 13 12 27.6 +5.2**
ITM Ithomi 0.85 1 P **Pn 13 12 12.2 +1.1**
ITM Ithomi 0.85 1 P **Pn 13 12 12.3 +1.1**
ITM S **Sn 13 12 25.4 +2.9**
ITM AML AML 13 12 28.6
comp=N,24376µm,0.4s
ITM AML AML 13 12 31.4
comp=E,27445µm,0.4s
KTHR Kythira 0.88 94 P **Pn 13 12 12.2 +0.6**
KTHR S **Sn 13 12 26.4 +3.1**
comp=E,6µm,0.6s
KTHR Kythira 0.88 94 P **Pn 13 12 11.9 +0.4**
KTHR S **Sn 13 12 22.0 -1.3**
KTHR AML AML 13 12 31.7
comp=E,26611µm,0.6s
KTHR AML AML 13 12 31.9
comp=N,38610µm,0.5s
VLI Velíai 0.91 65 P **Pn 13 12 13.0 +1.1**
VLI S **Sn 13 12 27.6 +3.7**
comp=N,6µm,0.8s
VLI Velíai 0.91 65 P **Pn 13 12 12.5 +0.5**
VLI S **Sn 13 12 23.3 -0.6**
VLI AML AML 13 12 30.5
comp=N,10263µm,0.4s
VLI AML AML 13 12 33.6
comp=E,12880µm,0.7s
MNVA Monemvasia 0.97 68 P **Pn 13 12 14.5 +1.7**
MNVA AML AML 13 12 33.6
comp=E,4209µm,0.7s
MNVA AML AML 13 12 34.2
comp=N,4759µm,0.5s
ANKY Antikythira Is 1.22 112 P **Pn 13 12 17.0 +0.9**
ANKY S **Sn 13 12 35.5 +4.1**
ANKY Antikythira Is 1.22 112 P **Pn 13 12 16.6 +0.5**
ANKY S **Sn 13 12 29.6 -1.7**
ANKY AML AML 13 12 40.0
comp=E,5975µm,1.2s
ANKY AML AML 13 12 45.2
comp=N,4698µm,0.6s
KRND KRANIDI 1.44 43 P **Pn 13 12 23.1 +3.9**
KRND S **Sn 13 12 44.2 +7.2**
comp=N,3µm,1.0s
KRND KRANIDI 1.44 43 P **Pn 13 12 19.7 +0.5**
KRND AML AML 13 12 49.7
comp=N,7030µm,1.0s
KRND AML AML 13 12 51.0
comp=E,6540µm,1.0s
EPID Epidavros 1.60 37 P **Pn 13 12 25.2 +3.8**
EPID Epidavros 1.60 37 P **Pn 13 12 22.7 +1.2**
LTHK Lithakia 1.62 328 P **Pn 13 12 23.6 +1.9**
LTHK S **Sn 13 12 45.9 +4.5**
comp=E,2µm,0.4s
LTHK Lithakia 1.62 328 P **Pn 13 12 23.0 +1.3**
LTHK AML AML 13 12 54.9
comp=E,4223µm,0.4s
LTHK AML AML 13 13 03.1
comp=N,5303µm,0.4s
DRO Drossia 1.62 354 P **Pn 13 12 24.8 +3.0**
DRO Drossia 1.62 354 P **Pn 13 12 24.5 +2.7**
DRO AML AML 13 13 03.0
comp=E,12915µm,0.6s
DRO AML AML 13 13 08.4
comp=N,9992µm,0.6s
KLV Kalavryta, Ach 1.72 6 P **Pn 13 12 26.9 +3.8**
KLV Kalavryta, Ach 1.72 6 P **Pn 13 12 26.2 +3.1**
KLV AML AML 13 12 59.0
comp=E,3049µm,0.9s
KLV AML AML 13 13 10.9
comp=N,2800µm,1.4s
RLS Riolos of Patr 1.76 348 P **Pn 13 12 27.0 +3.4**
RLS Riolos of Patr 1.76 348 P **Pn 13 12 26.7 +3.1**
RLS AML AML 13 13 13.2
comp=E,4130µm,1.2s
RLS AML AML 13 13 14.7
comp=N,4591µm,0.6s
THAL Thalero 1.80 19 P **Pn 13 12 27.1 +2.9**
THAL Thalero 1.80 19 P **Pn 13 12 26.1 +1.9**
THAL AML AML 13 13 08.9
comp=E,15484µm,0.7s
THAL AML AML 13 13 14.3
comp=N,12067µm,0.7s
KNDR Palaiochora Ch 1.81 127 P **Pn 13 12 27.3 +3.1**
LOUT Loutraki 1.86 27 P **Pn 13 12 27.6 +2.7**
IMMV Iera Moni Meta 1.89 117 P **Pn 13 12 25.0 -0.4**
LAKA Lakka 1.91 1 P **Pn 13 12 28.9 +3.3**
LAKA Lakka 1.91 1 P **Pn 13 12 28.6 +3.0**
CHAN Chania 1.91 115 P **Pn 13 12 25.8 +0.2**
ALIK Aliki, Aigiali 1.93 5 P **Pn 13 12 29.9 +4.0**
MHLO Agia Marina, M 2.04 79 P **Pn 13 12 27.0 -0.3**
MHLO AML AML 13 13 05.7
comp=N,6750µm,1.0s
MHLO AML AML 13 13 06.9
comp=E,4555µm,0.5s
SERG Sergoula 2.08 3 P **Pn 13 12 32.0 +4.0**
SERG Sergoula 2.08 3 P **Pn 13 12 31.1 +3.0**
EFP Efpalio 2.09 360 P **Pn 13 12 31.9 +3.8**
EFP AML AML 13 13 17.6
comp=N,2590µm,0.7s
EFP AML AML 13 13 25.5
comp=E,2495µm,1.0s
VLS Valsamata 2.12 331 P **Pn 13 12 30.6 +2.0**
VLS Valsamata 2.12 331 P **Pn 13 12 30.3 +1.7**
VLY Voula,Athens 2.13 44 P **Pn 13 12 32.5 +3.8**
VLY Voula,Athens 2.13 44 P **Pn 13 12 29.0 +0.3**
VILL Villia 2.14 31 P **Pn 13 12 31.6 +2.7**
VIL2 Platees 2.16 30 P **Pn 13 12 29.5 +0.3**
VIL2 AML AML 13 13 13.2
comp=E,4192µm,0.8s
VIL2 AML AML 13 13 18.6
comp=N,2652µm,0.9s
ATH Athens Observa 2.18 41 P **Pn 13 12 32.6 +3.3**
ATHU Athens Univers 2.21 42 P **Pn 13 12 32.6 +2.8**
ATHU Athens Univers 2.21 42 P **Pn 13 12 30.4 +0.6**
KEF3 Kipouria, Keph 2.25 327 P **Pn 13 12 32.5 +2.2**
ANX Ano Chora 2.26 0 P **Pn 13 12 34.2 +3.7**
ANX Ano Chora 2.26 0 P **Pn 13 12 33.6 +3.1**
ANX AML AML 13 13 21.9
comp=N,5182µm,0.6s
ANX AML AML 13 13 25.1
comp=E,4544µm,0.9s
KEF4 Livadi, Kephal 2.26 329 P **Pn 13 12 32.8 +2.4**
PVO Paravola 2.30 352 P **Pn 13 12 34.3 +3.3**
PVO Paravola 2.30 352 P **Pn 13 12 33.9 +2.9**
PTL Penteli 2.31 42 P **Pn 13 12 34.0 +2.8**
PTL Penteli 2.31 42 P **Pn 13 12 32.7 +1.5**
PTL AML AML 13 13 17.7
comp=E,2040µm,0.7s
PTL AML AML 13 13 24.6
comp=N,1394µm,1.0s
DION Dionisos Attik 2.37 42 P **Pn 13 12 34.8 +2.8**
DION Dionisos Attik 2.37 42 P **Pn 13 12 32.4 +0.4**
DION AML AML 13 13 14.5
comp=N,3634µm,0.9s
DION AML AML 13 13 20.5
comp=E,2920µm,1.1s
FSK Fiskardo 2.38 334 P **Pn 13 12 34.8 +2.7**
FSK Fiskardo 2.38 334 P **Pn 13 12 33.8 +1.7**
AXAR Agios Charalam 2.50 13 P **Pn 13 12 37.7 +3.9**
EVR Evrytania 2.58 358 P **Pn 13 12 39.7 +4.8**
IDI Anoyia 2.63 112 P **Pn 13 12 35.3 -0.3**
comp=E,1.5nm,0.3s,baz=296,slow=17,SNR=14
IDI S **Sn 13 12 58.0 -8.3**
comp=E,40nm,0.4s,baz=21,slow=16,SNR=7.9
IDI LR LR 13 13 49.9
comp=E,398nm,18.0s,baz=288,slow=45
comp=E,4.5nm,0.3s
IDI Anoyia 2.63 112 ⇓P **Pn 13 12 35.5 -0.1**
IDI Anoyia 2.63 112 Pn **Pn 13 12 35.1 -0.6**
IDI Anoyia 2.63 112 P **Pn 13 12 35.4 -0.3**
LKD2 Lefkada island 2.65 338 P **Pn 13 12 39.2 +3.4**
LKD2 Lefkada island 2.65 338 P **Pn 13 12 40.0 +4.2**
MAKR Makrakomi, Fth 2.68 4 P **Pn 13 12 39.1 +2.8**
TSLK Tsoukalades, L 2.68 338 P **Pn 13 12 39.1 +2.9**
AGG Agios Georgios 2.71 7 P **Pn 13 12 39.9 +3.3**
AGG Agios Georgios 2.71 7 P **Pn 13 12 38.6 +2.0**
APE Apeiranthos 3.00 75 ⇑P **Pn 13 12 40.9 +0.3**
APE Apeiranthos 3.00 75 P **Pn 13 12 40.9 +0.3**
THL Klokotos Trika 3.23 1 P **Pn 13 12 47.6 +3.9**

TYRN Tyrnavos 3.38 4 P **Pn 13 12 49.0 +3.2**
JAN Janina 3.42 346 P **Pn 13 12 49.5 +3.0**
IGT Igoumenitsa 3.43 339 P **Pn 13 12 48.9 +2.4**
KPRO Kipourio 3.64 353 P **Pn 13 12 53.4 +3.9**
KEK Kerkira 3.77 334 P **Pn 13 12 53.9 +2.8**
KEK Kerkira 3.77 334 Pn **Pn 13 12 52.9 +1.7**
LIT Litokhoron 3.79 7 P **Pn 13 12 54.9 +3.4**
LIT Litokhoron 3.79 7 Pn **Pn 13 12 53.7 +2.2**
LIT Litokhoron 3.79 7 P **Pn 13 12 53.7 +2.2**
SRN Sarande 3.85 337 P **Pn 13 12 55.0 +2.7**
LSK Leskovik 3.95 345 P **Pn 13 12 56.6 +2.9**
KZN Kozani 3.97 358 P **Pn 13 12 57.5 +3.5**
KBN Korca 4.38 349 **Pn 13 13 02.0 +2.4**
KBN Korca 4.38 349 P **Pn 13 13 02.0 +2.4**
FNA Florina 4.46 355 P **Pn 13 13 03.5 +2.7**
FNA Florina 4.46 355 **Pn 13 13 02.3 +1.5**
FNA Florina 4.46 355 P **Pn 13 13 02.3 +1.5**
FNA Florina 4.46 355 *e*Pn **Pn 13 13 02.7 +1.9**
FNA *e*Sn **Sn 13 13 49.5 -2.0**
SCTE Santa Cesarea 4.62 325 Pn **Pn 13 13 03.3 +0.6**
OHR Ohrid 4.85 350 *i* Pn **Pn 13 13 08.5 +2.5**
OHR *i* Sn **Sn 13 14 03.0 +2.1**
SRS Serrai 4.95 15 *e*Pn **Pn 13 13 09.0 +1.6**
SRS *e*Sn **Sn 13 14 01.6 -1.9**
TIP Timpagrande 4.98 306 ⇓P **Pn 13 13 05.3 -2.5**
TIP ⇑S **Sn 13 14 02.2 -1.9**
TIP Timpagrande 4.98 306 Pn **Pn 13 13 08.7 +0.9**
VAY Valandovo 5.01 6 *i* Pn **Pn 13 13 09.8 +1.7**
ARG Arkhangelos 5.02 89 Pn **Pn 13 13 08.2 -0.1**
ARG Arkhangelos 5.02 89 P **Pn 13 13 08.2 -0.1**
CEL Celeste 5.17 294 Pn **Pn 13 13 10.8 +0.3**
TIR Tirane 5.26 343 ⇓P **Pn 13 13 09.9 -1.7**
TIR Tirane 5.26 343 **Pn 13 13 13.6 +2.0**
TIR Tirane 5.26 343 P **Pn 13 13 13.6 +2.0**
STIP Stip 5.36 2 *i* Pn **Pn 13 13 15.5 +2.5**
STIP *i* Sn **Sn 13 14 17.0 +3.6**
MMB Musomiste 5.44 15 P **Pn 13 13 15.8 +1.7**
RDO Rodhopi 5.58 29 **Pn 13 13 16.7 +0.7**
SKO Skopje 5.64 356 *i* Pn **Pn 13 13 18.4 +1.5**
RZN Rozhen 5.78 21 P **Pn 13 13 21.2 +2.3**
MATE Matera 5.94 318 ⇑P **Pn 13 13 18.1 -2.8**
MATE ⇑S **Sn 13 14 25.5 -2.2**
ULC Ulcinj 5.99 341 ⇓*i*Pn **Pn 13 13 22.1 +0.4**
ULC *i* Sn **Sn 13 14 29.1 0.0**
CUC Castrocucco 6.04 309 **Pn 13 13 23.5 +1.1**
VAE Valguarnera 6.12 283 P **Pn 13 13 26.6 +3.1**
comp=E,1.4nm,0.3s,baz=153,slow=21,SNR=4.0
VAE S **Sn 13 14 31.4 -0.8**
comp=E,40nm,0.7s,baz=136,slow=10.0,SNR=2.6
comp=E,5.9nm,0.4s
RAFF Raffo Rosso 6.13 281 **Pn 13 13 23.4 -0.1**
PRVS Prvonek 6.17 1 *e*Pn **Pn 13 13 25.3 +1.2**
PRVS *e*Sn **Sn 13 14 29.5 -3.9**
AKAS Kas 6.21 89 Pn **Pn 13 13 23.5 -1.4**
DRME Dracevica, Mon 6.22 341 ⇑*i*Pn **Pn 13 13 25.0 +0.3**
DRME Dracevica, Mon 6.22 341 ⇓*i*Pn **Pn 13 13 25.1 +0.3**
DRME *i* Sn **Sn 13 14 34.6 +0.1**
PLNA Plana 6.25 10 P **Pn 13 13 27.5 +2.2**
VTS Vitosha 6.36 9 ⇑P **Pn 13 13 25.8 -1.0**
VTS ⇑S **Sn 13 14 38.9 +0.6**
VTS Vitosha 6.36 9 Pn **Pn 13 13 27.1 +0.2**
VTS Vitosha 6.36 9 P **Pn 13 13 27.1 +0.2**
VTS Vitosha 6.36 9 P **Pn 13 13 27.3 +0.4**
BUM Brajici-Budva 6.40 339 ⇓*i*Pn **Pn 13 13 27.4 0.0**
BUM *i* Sn **Sn 13 14 38.6 -0.6**
PDG Podgorica 6.43 342 ⇓P **Pn 13 13 26.4 -1.2**
PDG Podgorica 6.43 342 Pn **Pn 13 13 27.4 -0.3**
PDG Podgorica 6.43 342 ⇑*i*Pn **Pn 13 13 27.7 +0.1**
PDG *i* Sn **Sn 13 14 39.3 -0.4**
PVY Plav 6.43 347 ⇓*i*Pn **Pn 13 13 29.3 +1.4**
PVY *i* Sn **Sn 13 14 39.5 -0.5**
ELL Elmali 6.45 84 Pn **Pn 13 13 27.2 -0.9**
ELL Elmali 6.45 84 P **Pn 13 13 27.2 -0.9**
BARS Barje 6.48 359 *e*Pn **Pn 13 13 29.4 +1.1**
BARS *e*Sn **Sn 13 14 38.2 -2.7**
CEME Cevo 6.62 340 ⇑*i*Pn **Pn 13 13 30.1 -0.3**
CEME *i* Sn **Sn 13 14 43.8 -0.8**
HCY Herceg Novi 6.66 338 *e*Pn **Pn 13 13 28.8 -2.0**
HCY Herceg Novi 6.66 338 ⇓*i*Pn **Pn 13 13 29.8 -1.0**
HCY *i* Sn **Sn 13 14 44.4 -0.9**
IVA Berane 6.71 347 ⇓*i*Pn **Pn 13 13 33.0 +1.3**
IVA *i* Sn **Sn 13 14 46.1 -0.8**
KOME Kolasin 6.77 345 ⇓*i*Pn **Pn 13 13 34.0 +1.6**
KOME *i* Sn **Sn 13 14 47.2 -1.0**
NKME Niksic 6.82 341 ⇓*i*Pn **Pn 13 13 33.0 -0.1**
NKME *i* Sn **Sn 13 14 48.8 -0.6**
SELS Selova 6.91 355 *e*Pn **Pn 13 13 34.1 -0.1**
SELS *e*Sn **Sn 13 14 47.6 -3.9**
TREB Trebinje 6.95 338 ⇑*i*Pn **Pn 13 13 33.8 -0.9**
ZAPS Zavoj 6.96 4 *e*Pn **Pn 13 13 36.2 +1.3**
BRY Bratogost 7.06 339 ⇑*i*Pn **Pn 13 13 36.0 -0.4**
BRY Bratogost 7.06 339 ⇑*i*Pn **Pn 13 13 36.2 -0.2**
BRY *i* Sn **Sn 13 14 54.5 -0.9**
SJES Sjenica 7.08 348 *e*Pn **Pn 13 13 37.3 +0.6**
SJES *e*Sn **Sn 13 14 51.8 -4.1**
SJES Sjenica 7.08 348 ⇑*i*Pn **Pn 13 13 37.1 +0.4**
SGRT San Giovanni R 7.24 320 **Pn 13 13 38.5 -0.3**
UPM Unac-Piva 7.24 342 ⇑*i*Pn **Pn 13 13 39.4 +0.4**
UPM Unac-Piva 7.24 342 ⇑*i*Pn **Pn 13 13 40.5 +1.5**
UPM *i* Sn **Sn 13 14 58.6 -1.4**
PLE Pljevlja 7.25 345 ⇓*i*Pn **Pn 13 13 39.9 +0.8**
PLE *i* Sn **Sn 13 14 59.4 -0.8**
STON Ston 7.29 335 ⇑*i*Pn **Pn 13 13 38.4 -1.1**
BOVS Bovan 7.30 359 ⇑P **Pn 13 13 38.7 -0.9**
BOVS Bovan 7.30 359 *e*Pn **Pn 13 13 39.5 0.0**
PAOL Paolisi 7.42 311 Pn **Pn 13 13 41.4 +0.1**
ZAGS Zajecar 7.48 2 *e*Pn **Pn 13 13 43.1 +1.1**
RUDO Rudo 7.53 346 ⇑*i*Pn **Pn 13 13 42.1 -0.7**
GRUS Gruza 7.60 353 *e*Pn **Pn 13 13 43.5 -0.3**
GRUS *e*Sn **Sn 13 15 04.2 -4.4**
BBLS Lazići 7.77 346 *e*Pn **Pn 13 13 45.4 -0.7**
BBLS *e*Sn **Sn 13 15 08.8 -3.9**
BBLS Lazići 7.77 346 ⇑*i*Pn **Pn 13 13 45.4 -0.7**
DIVS Divibare 7.89 350 Pn **Pn 13 13 47.2 -0.6**
DIVS Divibare 7.89 350 *e*Pn **Pn 13 13 47.5 -0.3**
DIVS *e*Sn **Sn 13 15 10.2 -5.7**
DIVS Divibare 7.89 350 ⇑*i*Pn **Pn 13 13 47.2 -0.6**
TRUS Trudelj 7.97 352 *e*Pn **Pn 13 13 48.1 -0.6**
DJES Djerdap 8.34 3 Pn **Pn 13 13 54.2 +0.3**
TEKS Tekeris 8.41 348 *e*Pn **Pn 13 13 53.3 -1.5**
TEKS *e*Sn **Sn 13 15 23.8 -4.5**
TEKS Tekeris 8.41 348 ⇑*i*Pn **Pn 13 13 53.1 -1.7**
MGRS Mrkonjic Grad 8.88 337 ⇑*i*Pn **Pn 13 14 00.4 -0.8**
FRGS Fruska Gora 8.96 350 ⇓P **Pn 13 14 00.4 -2.0**
FRGS Fruska Gora 8.96 350 *e*Pn **Pn 13 14 01.8 -0.6**
FRGS *e*Sn **Sn 13 15 35.2 -6.7**
FRGS Fruska Gora 8.96 350 ⇑*i*Pn **Pn 13 14 01.8 -0.6**
CAMP Campotosto 9.03 316 Pn **Pn 13 14 04.9 +1.4**
GZR Gura Zlata 9.08 4 ⇑P **Pn 13 14 02.8 -1.3**
GZR Gura Zlata 9.08 4 P **Pn 13 14 02.7 -1.3**
A050A Klekovaca 9.12 335 ⇑*i*Pn **Pn 13 14 04.3 -0.2**
BLJ Banja Luka 9.14 338 ⇑*i*Pn **Pn 13 14 03.7 -1.2**
BZS Buzias 9.28 359 ⇓P **Pn 13 14 05.3 -1.5**
BZS Buzias 9.28 359 P **Pn 13 14 05.2 -1.5**
VOIR 9.40 14 ⇑P **Pn 13 14 08.3 -0.1**
VOIR 9.40 14 P **Pn 13 14 08.3 -0.1**
GUMA Gualdo di Mace 9.42 318 Pn **Pn 13 14 10.0 +1.2**
A051A Mrakovica 9.47 338 *e*Pn **Pn 13 14 08.5 -0.8**
FDMO Fiordimonte 9.54 317 **Pn 13 14 12.0 +1.7**
MLR Muntele Rosu 9.64 17 P **Pn 13 14 13.6 +1.8**
comp=E,0.1nm,0.3s,baz=175,slow=11,SNR=2.3
MLR LR LR 13 18 51.3
comp=E,335nm,18.2s,baz=195,slow=43
comp=E,1.1nm,0.6s
MLR Muntele Rosu 9.64 17 ⇑P **Pn 13 14 10.6 -1.2**
BR131 Keskin Array S 9.85 66 *i* P **Pn 13 14 16.1 +1.4**
BRTR Keskin Array B 9.85 66 P **Pn 13 14 15.9 +1.2**
comp=E,0.1nm,0.3s,baz=252,slow=14,SNR=10.0
BRTR LR LR 13 18 44.1
comp=E,275nm,18.7s,baz=256,slow=42
comp=E,2.2nm,0.9s
BRTR Keskin Array B 9.85 66*ce*P **Pn 13 14 16.7 +2.0**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
DOPR Dopca 9.97 14 ⇑P **Pn 13 14 16.1 -0.1**
MURB Monte Urbino 10.00 317 Pn **Pn 13 14 19.2 +2.5**
MORH Mrgy, Hungar 10.18 347 ⇑P **Pn 13 14 17.3 -1.6**
VRI Vrincioaia 10.19 19 ⇓P **Pn 13 14 18.4 -0.9**
VRI Vrincioaia 10.19 19 P **Pn 13 14 18.3 -0.9**
KEST Kesra 10.20 270 P **Pn 13 14 20.8 +1.4**
comp=Z,0.2nm,0.3s,baz=70,slow=19,SNR=2.6
KEST LR LR 13 18 49.0
comp=Z,110nm,20.1s,baz=38,slow=40
comp=Z,3.4nm,0.8s
BOJS Bojanci 10.45 333 *e*Pn **Pn 13 14 20.8 -2.0**
DRGR 10.47 3 ⇑P **Pn 13 14 22.6 -0.4**
DRGR 10.47 3 P **Pn 13 14 22.6 -0.4**
CRES Cresnjev 10.66 335 *e*Pn **Pn 13 14 24.5 -1.1**
CEY Cerknica 10.96 331 ⇑*i*Pn **Pn 13 14 29.2 -0.6**
SKDS Skadanscina 10.97 329 *e*Pn **Pn 13 14 29.0 -0.8**
BURAR Bucovina Array 11.54 11 Pn **Pn 13 14 38.0 +0.3**
OBKA Obir 11.57 334 ⇑*i*Pn **Pn 13 14 37.2 -0.9**
comp=Z,1.0nm,0.2s
OBKA Obir 11.57 334 ⇑*i*Pn **Pn 13 14 37.2 -0.9**
SRO Srobarova 11.78 348 *e*S **Sn 13 16 47.6 -3.2**
PRED Cave del Predi 11.88 331 **Pn 13 14 41.8 -0.6**
TEOL Teolo 11.89 322 Pn **Pn 13 14 43.5 +1.1**
ARSA Arzberg 11.90 338 *e*Pn **Pn 13 14 42.3 -0.3**
comp=Z,1.7nm,0.6s
STAL STALIGIAL 12.09 328 Pn **Pn 13 14 45.3 +0.2**
RONA Rosalia, Austr 12.10 342 *e*Pn **Pn 13 14 44.1 -1.2**
comp=Z,0.4nm,0.2s
CLUD Cludinico 12.17 329 Pn **Pn 13 14 46.5 +0.2**
CIMO Cimolais 12.24 327 **Pn 13 14 47.0 -0.2**
VYHS Vyhne 12.36 350 *e*P **Pn 13 14 48.2 -0.7**
VYHS *e*S **Sn 13 17 04.7 -0.5**
VYHS Vyhne 12.36 350 *e*S **Sn 13 17 04.7 -0.5**
VYHS Vyhne 12.36 350 *e*P **Pn 13 14 48.2 -0.7**
CTI Castel Tesino 12.40 325 **Pn 13 14 48.4 -1.0**
CTI Castel Tesino 12.40 325 P **Pn 13 14 48.4 -1.0**
CONA Conrad Observa 12.42 341 *e*Pn **Pn 13 14 49.3 -0.5**
comp=Z,0.1nm,0.1s
KBA Koelnbreinsper 12.49 332 *e*Pn **Pn 13 14 50.2 -0.6**
comp=Z,0.5nm,0.3s
MODS Modra-Piesok 12.51 346 *e*P **Pn 13 14 50.3 -0.6**
MODS Modra-Piesok 12.51 346 *e*P **Pn 13 14 50.2 -0.6**
ABTA Abfaltersbach 12.55 329 *e*Pn **Pn 13 14 51.9 +0.4**
comp=Z,1.0nm,0.4s
CRVS Cervenica-Dubn 12.57 359 *e*P **Pn 13 14 52.1 +0.5**
CRVS Cervenica-Dubn 12.57 359 *e*P **Pn 13 14 52.1 +0.5**
CRVS *e* 13 15 05.0
SALO Salr 12.64 321 Pn **Pn 13 14 52.3 -0.4**
MOA Molln 12.82 336 *e*Pn **Pn 13 14 54.1 -1.1**
comp=Z,1.0nm,0.3s
STHS Stebnicka Huta 13.09 358 *e* **P 13 15 11.1 +3.1**
WTTA Wattenberg 13.33 328 *e*Pn **Pn 13 15 03.5 +1.2**
comp=Z,0.8nm,0.3s
WATA Walderalm 13.41 328 *e*Pn **Pn 13 15 04.3 +1.0**
comp=Z,2.1nm,0.6s
FUORN Ofenpass-Fuorn 13.47 323 Pn **Pn 13 15 05.2 +1.0**
SQTA Sankt Quirin 13.48 327 *e*Pn **Pn 13 15 06.3 +2.1**
comp=Z,0.8nm,0.3s
VRAC Vranov 13.54 345 P **Pn 13 15 04.5 -0.4**
comp=Z,0.2nm,0.3s,baz=163,slow=14,SNR=1.9
comp=Z,0.9nm,0.4s
MOTA Moosalm 13.62 327 *e*Pn **Pn 13 15 07.5 +1.3**
comp=Z,6.0nm,0.9s,SNR=5.7
DAVOX Davos/Dischmat 13.77 323 P **Pn 13 15 09.1 +0.8**
comp=Z,0.2nm,0.3s,baz=163,slow=14,SNR=2.3
DAVOX S Sn 13 17 27.7 -12
comp=Z,1.5nm,0.4s,baz=171,slow=16,SNR=3.0
DAVOX LR LR 13 22 13.7
comp=Z,52nm,18.9s,baz=260,slow=45
comp=Z,0.9nm,0.5s
MORC Moravsky Berou 13.81 348 **P 13 15 17.5 +1.4**
MORC Moravsky Berou 13.81 348 P **P 13 15 17.5 +1.4**
GERES GERESS Array B 13.88 337 P **Pn 13 15 09.3 -0.3**
comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=7.2
GERES S **Sn 13 17 33.6 -8.7**
comp=Z,0.5nm,0.4s,baz=149,slow=24,SNR=3.2
GERES LR LR 13 21 50.8
comp=Z,327nm,19.7s,baz=136,slow=43
comp=Z,0.5nm,0.6s
KHC Kasperske Hory 14.17 337 *e*PN **Pn 13 15 13.0 -0.5**
KHC *e*SN **Sn 13 17 44.0 -5.2**
KHC Kasperske Hory 14.17 337 *e*P **Pn 13 15 13.0 -0.5**
KHC *e* 13 17 44.0
KRLC Kraliky 14.23 346 *e*PN **P 13 15 22.2 +1.4**
KRLC Kraliky 14.23 346 *e*P **P 13 15 22.2 +1.4**
DPC Dobruska-Polom 14.58 346 *e*PN **P 13 15 25.3 +0.6**
DPC Dobruska-Polom 14.58 346 *e*P **P 13 15 25.3 +0.6**
UPC Upice 14.80 345 *e*PN **P 13 15 27.6 +0.6**
UPC Upice 14.80 345 *e*P **P 13 15 27.6 +0.6**
OSTC Ostas 14.80 346 *e*PN **P 13 15 27.4 +0.3**
SENIN Lac Senin/Sane 14.84 317 Pn **Pn 13 15 22.4 -0.2**
AKASG Malin Array Be 15.30 18 P **Pn 13 15 26.7 -1.7**
comp=Z,0.4nm,0.3s,baz=212,slow=10,SNR=2.7
AKASG LR LR 13 22 03.7
comp=Z,101nm,20.6s,baz=208,slow=40
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 15.30 18*ce*P **P 13 15 32.4 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
BRG Berggiesshubel 15.62 341 *e*P P 13 15 48.5 +12
BRG Amp 13 15 50.2
comp=Z,3.7nm,1.0s
BRG Amp 13 22 37.0
comp=Z,0.2nm,14.8s
CLL Collm 16.27 340 *e*Px Px 13 15 44.0
CLL *e*PP **P 13 15 48.0 +4.7**
CLL *e*sPP 13 15 59.0
CLL Lm MLR 13 22 00.0
comp=N,100nm,20.7s
CLL Lm MLR 13 22 00.0
comp=E,100nm,20.8s
CLL Lm MLR 13 22 00.0
comp=Z,200nm,19.6s
SHA1 Shidzhatmaz 17.50 59 *i* P **P 13 15 58.0 +0.8**
KIV Kislovodsk 17.58 58 *e*P **Pn 13 15 56.1 -1.3**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,29nm,14.0s
KBZ Khabaz 17.66 59 P **P 13 15 58.9 +0.2**
comp=Z,0.1nm,0.3s,baz=294,slow=11,SNR=8.0
KBZ LR LR 13 24 06.7
comp=Z,73nm,18.1s,baz=265,slow=42
comp=Z,5.5nm,0.8s
KBZ Khabaz 17.66 59*ce*P **P 13 15 59.0 +0.3**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
NCK Nalchik 18.08 60 *i* P **P 13 16 05.2 +1.8**
NCK pmax pmax
comp=Z,10.0nm,0.9s
KLNR Kaliningrad 18.31 357 *i* P **Pn 13 16 07.5 +1.4**
KLNR pmax pmax
comp=Z,59nm,1.0s
GNI Garni 18.32 71 LR LR 13 24 03.3
comp=Z,84nm,19.8s,baz=266,slow=40
MNK Minsk 18.63 11 *i* P **P 13 16 06.7 -2.6**
comp=E,3.0nm,0.8s
MNK *i* P **P 13 16 06.7 -2.6**
comp=N,36nm,1.0s
MNK *i* P **P 13 16 06.7 -2.6**
comp=Z,12nm,0.8s,baz=195
MNK *i* pP **pP 13 16 21.2 +1.4**
MNK *i* S **Sn 13 19 33.9 -3.4**
MNK *i* sS **sS 13 19 52.0 -2.4**
MNK *i* LQ LQ 13 21 43.4
MNK *i* LR LR 13 23 04.5
MNK *i* LRM MLR 13 24 33.2
comp=Z,165nm,15.3s
MNK *i* LRM MLR 13 25 04.5
comp=N,681nm,11.4s
MNK *i* LRM MLR 13 25 23.6
comp=E,41nm,18.6s
MNK Minsk 18.63 11 *i* P **P 13 16 06.7 -2.6**
MNK *i* S **Sn 13 19 33.8 -3.4**
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,36nm,1.0s
MNK MLR MLR
comp=Z,165nm,15.0s
MNK MLR MLR
comp=N,681nm,11.0s
MNK MLR MLR
comp=E,41nm,19.0s
NACGM Naroch 18.87 9 *e*P **P 13 16 11.5 -0.5**
comp=N,2µm,1.0s
PABE Paberze 19.23 4 P **Pn 13 16 16.9 -0.2**
PABE IAmb IAmb 13 16 19.8
comp=Z,18nm,0.8s

PABE	**Paberze**	**19.23**	**4**	*eP*		**P**		**13 16 15.4**	**-0.5**
PABE					IAmb	IAmb		13 16 39.1	
	comp=Z,18nm,0.9s								
IIGN	**Ignalina**	**19.25**	**7**	IAmb		IAmb		13 16 33.4	
	comp=Z,5.4nm,0.9s								
VSR	**Storozhevoye**	**19.33**	**34**	*eP*		**Pn**		**13 16 18.0**	**-0.4**
VSR					pmax	pmax			
	comp=Z,7.0nm,0.9s								
BSD	**Bornholm Skovb**	**19.39**	**348**	*eP*		**Pn**		**13 16 18.4**	**-0.7**
VORR	**Voronezh**	**19.67**	**33**	*eP*		**P**		**13 16 20.1**	**-0.6**
VORR					pmax	pmax			
	comp=Z,6.0nm,0.4s								
LPSR	**Galich'ya Gora**	**20.21**	**31**	*eP*		**P**		**13 16 25.8**	**-0.8**
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VRH	**Novokhopyorsk**	**20.53**	**37**	*eP*		**P**		**13 16 29.4**	**-0.7**
VRH					pmax	pmax			
	comp=Z,10.0nm,1.1s								
ESDC	**Sonseca Array**	**20.64**	**287**	P		**P**		**13 16 32.5**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=86,slow=9.0,SNR=3.1								
	comp=Z,0.8nm,0.7s								
DEL	**Delary**	**20.86**	**347**	*eP*		Pn		13 16 35.5	-1.0
OBN	**Obninsk**	**21.31**	**24**	*eP*		**P**		**13 16 37.2**	**-1.1**
OBN				*eS*		**S**		**13 20 30.8**	**-1.7**
OBN					pmax	pmax			
	comp=Z,8.0nm,0.5s								
OBN					MLR	MLR			
	comp=Z,103nm,17.0s								
MDT	**Midelt**	**22.09**	**269**	P		**P**		**13 16 47.6**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=102,slow=12,SNR=2.7								
	comp=Z,1.2nm,0.8s								
MOS	**Moscow**	**22.16**	**24**	*eP*		**P**		**13 16 46.3**	**-1.3**
MOS					pmax	pmax			
	comp=Z,42nm,1.0s								
VSU	**Vasula**	**22.37**	**7**	*i* P		**P**		**13 16 50.9**	**+1.2**
VSU					pmax	pmax			
	comp=Z,63nm,0.9s								
VSU	**Vasula**	**22.37**	**7**	*eP*		**P**		**13 16 49.2**	**-0.5**
MTSE	**Matsula**	**22.43**	**3**	*eP*		**P**		**13 16 50.5**	**+0.1**
AAL	**Aland**	**23.89**	**358**	*eP*		**P**		**13 17 04.4**	**-0.5**
MEF	**Metsahovi**	**23.96**	**3**	*eP*		**P**		**13 17 05.5**	**+0.1**
BELG	**Belogornoye**	**24.22**	**40**	P		**P**		**13 17 05.9**	**-2.1**
	comp=Z,21nm,0.7s,baz=309,slow=1.6,SNR=6.1								
BELG					LR	LR		13 27 23.1	
	comp=Z,64nm,19.6s,baz=168,slow=38								
	comp=Z,21nm,0.7s								
BELG	**Belogornoye**	**24.22**	**40**	*i* P		**P**		**13 17 06.0**	**-2.0**
BELG					pmax	pmax			
	comp=Z,4.0nm,1.0s								
HFS	**Hagfors**	**24.40**	**350**	P		**P**		**13 17 08.8**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=161,slow=11,SNR=7.5								
HFS					LR	LR		13 28 40.9	
	comp=Z,50nm,19.2s,baz=163,slow=41								
	comp=Z,3.2nm,0.7s								
RAF	**Rauma**	**24.71**	**360**	*eP*		**P**		**13 17 12.8**	**+0.4**
FINES	**FINESS Array B**	**25.27**	**5**	P		**P**		**13 17 16.9**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=192,slow=8.8,SNR=11								
FINES					LR	LR		13 27 58.0	
	comp=Z,75nm,19.0s,baz=70,slow=38								
	comp=Z,4.1nm,0.8s								
FINES	**FINESS Array B**	**25.27**	**5**	P		**P**		**13 17 17.1**	**-0.4**
FINES	**FINESS Array B**	**25.27**	**5**	P		**P**		**13 17 17.1**	**-0.4**
FIA1	**FINESS Array S**	**25.27**	**5**	P		**P**		**13 17 16.7**	**-0.7**
FIA1					IAmb	IAmb		13 17 36.9	
	comp=Z,28nm,1.4s								
NC602	**NORSAR Array S**	**25.31**	**348**	P		**P**		**13 17 19.0**	**+1.3**
EKA	**Eskdalemuir Ar**	**25.58**	**326**	P		**P**		**13 17 20.9**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=125,slow=11,SNR=4.8								
	comp=Z,2.1nm,0.7s								
NB2	**NORSAR Subarra**	**25.65**	**348**	P		**P**		**13 17 20.6**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=152,slow=11								
NOA	**NORSAR Array B**	**25.65**	**348**	P		**P**		**13 17 21.2**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=160,slow=9.5,SNR=3.7								
NOA					LR	LR		13 29 42.5	
	comp=Z,49nm,18.7s,baz=160,slow=42								
	comp=Z,1.2nm,0.9s								
NBO00	**NORSAR Array S**	**25.71**	**347**	P		**P**		**13 17 21.4**	**-0.1**
NBO00					IAmb	IAmb		13 17 50.7	
	comp=Z,26nm,1.4s								
NC303	**NORSAR Array S**	**25.80**	**348**	P		**P**		**13 17 23.1**	**+0.9**
NC303					IAmb	IAmb		13 17 39.0	
	comp=Z,22nm,1.2s								
NC204	**NORSAR Array S**	**25.95**	**348**	P		**P**		**13 17 25.0**	**+1.3**
KLMR	**Klimovskoe**	**26.98**	**19**	*eP*		**P**		**13 17 32.4**	**-0.5**
KLMR					AMP			13 17 34.3	
	comp=Z,41nm,2.5s								
KLMR	**Klimovskoe**	**26.98**	**19**	*eP*		**P**		**13 17 32.3**	**-0.6**
KLMR					pmax	pmax			
	comp=Z,41nm,2.5s								
KIRV	**Kirov**	**28.64**	**30**	P		**P**		**13 17 46.9**	**-0.9**
	comp=Z,13nm,0.5s,baz=337,slow=6.7,SNR=3.8								
KIRV					LR	LR		13 29 56.5	
	comp=Z,38nm,20.2s,baz=247,slow=38								
GEYT	**Alibeck**	**28.80**	**76**	P		**P**		**13 17 48.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=292,slow=4.5,SNR=1.7								
GEYT					LR	LR		13 32 58.4	
	comp=Z,33nm,18.1s,baz=320,slow=44								
	comp=Z,0.6nm,0.3s								
TORD	**Torodi Ar. Bea**	**29.37**	**223**	P		**P**		**13 17 55.0**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=31,slow=8.3,SNR=8.9								
	comp=Z,1.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**29.37**	**223**	P		**P**		**13 17 55.3**	**+0.7**
AKTO	**Aktyubinsk**	**29.46**	**50**	P		**P**		**13 17 54.0**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=268,slow=11,SNR=2.6								
AKTO					LR	LR		13 32 34.9	
	comp=Z,52nm,18.3s,baz=188,slow=42								
	comp=Z,0.8nm,0.3s								
ABKAR	**Akbulak array**	**30.41**	**53**	P		**P**		**13 18 02.6**	**-0.9**
ARU	**Arti**	**31.74**	**39**	LR		LR		13 32 17.0	
	comp=Z,52nm,18.2s,baz=254,slow=38								
ARU	**Arti**	**31.74**	**39**	*c i* P		**P**		**13 18 14.6**	**-0.6**
ARU								13 19 19.6	
ARU				S		**S**		**13 23 18.8**	**-3.1**
ARU				SS		**SnSn**		**13 25 05.8**	**-5.7**
ARU					pmax	pmax			
	comp=Z,8.0nm,1.2s								
SVE	**Sverdlovsk**	**32.96**	**39**	*eP*		**P**		**13 18 25.2**	**-0.6**
SVE					pmax	pmax			
	comp=Z,10.0nm,1.0s								
ARCES	**ARCESS Array B**	**33.32**	**2**	P		**P**		**13 18 29.2**	**+0.4**
ARCES	**ARCESS Array B**	**33.32**	**2**	P		**P**		**13 18 29.2**	**+0.4**
ARCES					pmax	pmax			
	comp=Z,19nm,1.3s								
BRVK	**Borovoye**	**37.43**	**48**	P		**P**		**13 19 04.1**	**-0.3**
BRVK	**Borovoye**	**37.43**	**48**	P		**P**		**13 19 04.1**	**-0.3**
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KK31	**Karatay Array**	**37.55**	**64**	P		**P**		**13 19 05.2**	**-0.4**
KK31	**Karatay Array**	**37.55**	**64**	P		**P**		**13 19 05.2**	**-0.4**
KK31					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KKAR	**Karatay Array**	**37.55**	**64**	P		**P**		**13 19 04.6**	**-1.0**
KKAR	**Karatay Array**	**37.55**	**64**	P		**P**		**13 19 04.6**	**-1.0**
GAR	**Garm**	**38.05**	**71**	P		**P**		**13 19 10.2**	**+0.3**
GAR					IAmb	IAmb		13 19 10.9	
	comp=Z,7.6nm,1.1s								
DBIC	**Dimbokro**	**38.35**	**226**	P		**P**		**13 19 11.5**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=85,slow=5.9,SNR=2.2								
	comp=Z,2.0nm,0.8s								
AAK	**Ala-Archa**	**40.52**	**64**	LR		LR		13 40 13.6	
	comp=Z,23nm,20.3s,baz=278,slow=42								
AAK	**Ala-Archa**	**40.52**	**64**	*ceP*		**P**		**13 19 30.4**	**-0.1**
AAK					pmax	pmax			
	comp=Z,4.0nm,1.0s								
SPB2	**Spitsbergen Ar**	**42.01**	**358**	P		**P**		**13 19 43.2**	**+1.1**
KURK	**Kurchatov**	**42.51**	**52**	*ceP*		**P**		**13 19 45.1**	**-1.4**
KURK					pmax	pmax			
	comp=Z,6.0nm,2.5s								
MKAR	**Makanchi Array**	**45.34**	**57**	P		**P**		**13 20 08.3**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=268,slow=8.1,SNR=50								
	comp=Z,1.1nm,0.3s								
ZALV	**Zalesovo Beam**	**46.12**	**47**	P		**P**		**13 20 13.8**	**-1.5**
	comp=Z,0.7nm,0.2s,baz=281,slow=7.4,SNR=5.0								
ZALV					LR	LR		13 41 39.3	
	comp=Z,41nm,19.1s,baz=298,slow=39								
	comp=Z,0.7nm,0.2s								
NRIK	**Noril'sk**	**47.96**	**26**	*i* P		**P**		**13 20 29.2**	**-0.2**
NRIK					pmax	pmax			
	comp=Z,2.0nm,0.9s								
TSUM	**Tsumeb**	**55.38**	**185**	LR		LR		13 46 43.6	
	comp=Z,62nm,19.4s,baz=166,slow=38								
SONM	**Songino Array**	**60.77**	**50**	P		**P**		**13 22 02.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=286,slow=11,SNR=5.1								
	comp=Z,0.5nm,0.7s								
TIXI	**Tiksi**	**60.99**	**20**	LR		LR		13 52 24.3	
	comp=Z,45nm,18.6s,baz=351,slow=40								
TIXI	**Tiksi**	**60.99**	**20**	*ceP*		**P**		**13 22 03.2**	**-0.7**
TIXI					pmax	pmax			
	comp=Z,9.0nm,2.5s								
BOSA	**Boshof**	**64.68**	**177**	LR		LR		13 54 58.6	
	comp=Z,71nm,19.2s,baz=200,slow=40								
CMAR	**Chiang Mai Arr**	**69.04**	**82**	P		**P**		**13 22 55.7**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=306,slow=8.0,SNR=9.6								
	comp=Z,0.9nm,0.3s								
CMAR	**Chiang Mai Arr**	**69.04**	**82**	*ceP*		**P**		**13 22 56.4**	**-0.7**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
A36M	**Sachs Harbour**	**69.54**	**350**	P		**P**		**13 23 00.1**	**+0.8**
A36M					IAmb	IAmb		13 23 03.1	
	comp=Z,3.9nm,0.8s								
BILL	**Bilibino**	**72.56**	**13**	*eP*		**P**		**13 23 17.4**	**-0.2**
BILL				*e*				13 23 36.9	
BILL				*e*				13 26 01.7	
BILL					pmax	pmax			
	comp=Z,3.0nm,1.3s								
BILL					MLR	MLR			
	comp=Z,25nm,15.0s								
A21K	**Barrow**	**72.64**	**360**	P		**P**		**13 23 19.7**	**+1.7**
A21K					IAmb	IAmb		13 23 20.4	
	comp=Z,6.3nm,1.2s								
SEY	**Seymchan**	**73.45**	**21**	P		**P**		**13 23 22.4**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=66,slow=2.7,SNR=5.9								
	comp=Z,1.0nm,0.6s								
SEY	**Seymchan**	**73.45**	**21**	*i* P		**P**		**13 23 24.4**	**+1.4**
SEY					pmax	pmax			
	comp=Z,2.0nm,0.9s								
INK	**Inuvik**	**74.06**	**351**	P		**P**		**13 23 26.1**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=49,slow=6.6,SNR=2.7								
	comp=Z,1.1nm,1.0s								
KLR	**Kul'dur**	**74.58**	**40**	*ceP*		**P**		**13 23 29.5**	**-0.3**
KLR					pmax	pmax			
	comp=Z,9.0nm,2.5s								
YKA	**Yellowknife Ar**	**75.50**	**341**	P		**P**		**13 23 35.7**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=37,slow=5.4,SNR=8.3								
	comp=Z,0.6nm,0.8s								
YKA	**Yellowknife Ar**	**75.50**	**341**	*ceP*		**P**		**13 23 36.2**	**+1.3**
YKA					pmax	pmax			
	comp=Z,1.0nm,0.9s								
MA2	**Magadan**	**75.52**	**24**	P		**P**		**13 23 35.5**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=330,slow=4.2,SNR=7.8								
	comp=Z,4.2nm,0.7s								
MA2	**Magadan**	**75.52**	**24**	*ceP*		**P**		**13 23 35.7**	**+0.6**
MA2					pmax	pmax			
	comp=Z,9.0nm,1.7s								
IMAR	**Indian Mountai**	**77.96**	**358**	P		**P**		**13 23 50.2**	**+1.5**
H21K	**Melozitna Rive**	**78.26**	**358**	P		**P**		**13 23 52.6**	**+2.2**
MDM	**Murphy Dome**	**78.74**	**356**	P		**P**		**13 23 54.5**	**+1.4**
ILAR	**Eielson Array**	**78.84**	**355**	P		**P**		**13 23 53.8**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=351,slow=5.8,SNR=6.5								
	comp=Z,0.6nm,0.9s								
ILAR	**Eielson Array**	**78.84**	**355**	P		**P**		**13 23 55.1**	**+1.5**
ILAR	**Eielson Array**	**78.84**	**355**	P		**P**		**13 23 55.1**	**+1.5**
DAWY	**Dawson**	**78.84**	**352**	P		**P**		**13 23 55.1**	**+1.4**
DAWY					IAmb	IAmb		13 24 14.3	
	comp=Z,6.3nm,1.4s								
J26L	**Joseph Creek**	**78.85**	**354**	P		**P**		**13 23 54.8**	**+1.0**
WRH	**Wood River Hil**	**79.22**	**356**	P		**P**		**13 23 56.5**	**+0.9**
WRH					IAmb	IAmb		13 24 21.6	
	comp=Z,6.8nm,1.5s								
KSAR	**Wonju Array Be**	**79.61**	**51**	P		**P**		**13 23 58.7**	**+0.4**
KSAR	**Wonju Array Be**	**79.61**	**51**	P		**P**		**13 23 58.7**	**+0.4**
KSRS	**Korea Array**	**79.63**	**51**	P		**P**		**13 23 58.4**	**0.0**
	comp=Z,2.1nm,0.9s,baz=311,slow=4.0,SNR=5.2								
	comp=Z,2.1nm,0.9s								
BCAR	**Beaver Creek A**	**80.08**	**353**	P		**P**		**13 24 02.0**	**+1.5**
L27K	**Beaver Creek,**	**80.09**	**353**	P		**P**		**13 24 02.2**	**+1.7**
L27K					IAmb	IAmb		13 24 20.6	
	comp=Z,7.9nm,1.4s								
CAST	**Castle Rocks**	**80.47**	**357**	P		**P**		**13 24 04.1**	**+1.6**
CAST					IAmb	IAmb		13 24 41.9	
	comp=Z,6.6nm,1.4s								
TKL	**Tuckaleechee C**	**80.53**	**307**	P		**P**		**13 24 06.3**	**+3.0**
TKL					IAmb	IAmb		13 24 08.3	
	comp=Z,8.8nm,1.1s								
TKL	**Tuckaleechee C**	**80.53**	**307**	P		**P**		**13 24 06.3**	**+3.0**
TKL					pmax	pmax			
	comp=Z,9.0nm,1.2s								
DHY	**Denali Highway**	**80.56**	**355**	P		**P**		**13 24 04.1**	**+0.9**
YSS	**Yuzh-Sakhalins**	**81.59**	**36**	*eP*		**P**		**13 24 08.7**	**0.0**
SKT	**Skwentna**	**81.89**	**357**	P		**P**		**13 24 10.2**	**+0.2**
SKT					IAmb	IAmb		13 24 31.8	
	comp=Z,5.8nm,1.1s								
SPU	**Mount Spurr**	**82.71**	**357**	P		**P**		**13 24 16.0**	**+1.6**
PLCA	**Paso Flores**	**114.19**	**236**	PKP		PKPdf		13 30 29.2	-0.8
	comp=Z,1.5nm,1.1s,baz=18,slow=3.2,SNR=3.4								
ASAR	**Alice Springs**	**120.84**	**98**	PKP		**PKPdf**		**13 30 43.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=311,slow=1.7,SNR=7.5								
ASAR	**Alice Springs**	**120.84**	**98**	PKIKP		**PKPdf**		**13 30 43.0**	**-0.4**

*IDC **29** 13:23:55.3±1.0,52.48S×26.53E,h0km,mb3.9/7, mbtmp3.9/7,MS3.1/2,Error ellipse: s-maj=47.5km s-min=19.6km az=84.0*
*NEIC **29** 13:23:57.2±0.3,52.5S±0.2×26.3E±0.5,h10km±1km, mb4.3/6,Error ellipse: s-maj=48.1km s-min=25.4km az=82.0*

ISC 29 13:23:56.6±0.9,52.5S±0.1×26.4E±0.2,h10km,n14, σ0.6s4/13,mb4.1/8,South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.49**	**346**	P		**P**	**13 28 35.7**	**+0.9**
	4.1nm,0.9s,baz=175,slow=12,SNR=1.9							
SUR				LR		LR	13 34 51.9	
	comp=Z,53nm,20.3s,baz=156,slow=32							
	4.1nm,0.9s							
SUR	**Sutherland**	**20.49**	**346**			**P**	**13 28 35.5**	**+0.7**
SNAA	**Sanae**	**23.16**	**203**	P		**P**	**13 29 03.2**	**+0.3**
	4.9nm,1.2s,baz=40,slow=7.9,SNR=1.6							
	4.9nm,1.2s							
BOSA	**Boshof**	**23.86**	**358**	P		**P**	**13 29 10.5**	**+0.4**
	1.4nm,0.6s,baz=171,slow=11,SNR=5.0							
	1.4nm,0.6s							
BOSA	**Boshof**	**23.86**	**358**	P		**P**	**13 29 10.3**	**+0.2**
BOSA					IAmb	IAmb	13 29 43.2	
	comp=Z,9.8nm,1.4s							
LBTB	**Lobatse**	**27.43**	**358**	LR		LR	13 38 44.1	
	comp=Z,48nm,20.9s,baz=352,slow=32							
LBTB	**Lobatse**	**27.43**	**358**	P		**P**	**13 29 42.8**	**+0.2**
LBTB					IAmb	IAmb	13 30 15.9	
	comp=Z,6.8nm,1.2s							
TSUM	**Tsumeb**	**33.92**	**345**	P		**P**	**13 30 39.7**	**-0.2**
	comp=Z,2nm,0.3s,baz=163,slow=11,SNR=2.4							
	comp=Z,1.2nm,0.3s							
QSPA	**South Pole Qui**	**37.74**	**180**	P		**P**	**13 31 12.5**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=197,slow=8.8,SNR=21							
	comp=Z,1.6nm,0.5s							
QSPA	**South Pole Qui**	**37.74**	**180**	P		**P**	**13 31 12.7**	**+0.4**
QSPA					IAmb	IAmb	13 31 36.7	
	comp=Z,8.3nm,1.4s							
RCBR	**Riachuelo**	**68.73**	**289**	P		**P**	**13 35 00.3**	**-0.3**
AQDB	**Aquidauana**	**69.27**	**263**	P		**P**	**13 35 03.6**	**-0.3**
AQDB					IAmb	IAmb	13 35 45.4	
	comp=Z,6.2nm,1.3s							
ASAR	**Alice Springs**	**81.54**	**118**	P		**P**	**13 36 15.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=212,slow=5.3,SNR=6.7							
	comp=Z,0.4nm,0.7s							
WRA	**Warramunga Arr**	**84.78**	**116**	P		**P**	**13 36 30.0**	**-1.3**
	comp=Z,0.6nm,1.0s,baz=219,slow=6.5,SNR=2.3							
	comp=Z,0.6nm,1.0s							

*DJA **29** 13:29:34.4±1.4,1°N±8°×13°0E±°,h29km±14km,M4.1/9, mB5.5/3,mb4.4/5,MLv3.8/9,Mw(mB)4.9/3*
*IDC **29** 13:29:36.4±1.9,0.82N×130.04E,h0km,mb3.7/3, mbtmp3.7/4,ML3.3/1,Error ellipse: s-maj=82.3km s-min=23.1km az=59.0*

ISC 29 13:29:40.0±1.5,1.0N±0.1×130.09E±0.09,h35km,n10, σ1s49/13,mb3.8/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.17**	**147**	Pn		**Pn**	**13 30 12.1**	**-1.5**
	10nm,0.3s,baz=342,slow=19,SNR=124							
SIJI				Sn		**Sn**	**13 30 38.9**	**-0.4**
	9.3nm,0.3s,baz=354,slow=23,SNR=12							
	34nm,0.3s							
TNTI	**Ternate**	**2.73**	**266**	P		**Pn**	13 30 18.9	**-2.5**
TNTI				S		**Sn**	**13 30 53.0**	**-0.3**
FAKI	**Fak Fak**	**4.42**	**151**	P		**Pn**	**13 30 43.5**	**-1.1**
FAKI				S		**Sn**	**13 31 33.5**	**-1.4**
SANI	**Sanana**	**5.08**	**234**	P		**Pn**	**13 30 52.6**	**-1.1**
	16nm,0.6s,0.1nm							
NLAI	**Namlea**	**5.14**	**216**	P		**Pn**	**13 30 55.9**	**+1.4**
	14nm,0.7s,0.1nm							
BNDI	**Bandaira**	**5.45**	**182**	P		**Pn**	**13 30 59.1**	**+0.3**
	171nm,0.7s,7μm1.2nm							
LUWI	**Luwuk**	**7.59**	**255**	P		**Pn**	**13 31 26.9**	**-1.3**
WRA	**Warramunga Arr**	**21.19**	**169**	P		**P**	**13 34 22.3**	**-0.3**
	3.4nm,0.7s,baz=347,slow=11,SNR=26							
	3.4nm,0.7s							
ASAR	**Alice Springs**	**24.76**	**172**	P		**P**	**13 34 59.2**	**+0.6**
	2.2nm,0.6s,baz=357,slow=10,SNR=58							
	2.2nm,0.6s							
MKAR	**Makanchi Array**	**61.73**	**325**	P		**P**	**13 39 57.1**	**+2.2**
	0.2nm,0.7s,baz=118,slow=8.6,SNR=2.3							
	0.2nm,0.7s							

*IDC **29** 13:34:34.3±2.7,15.80N×145.96E,h113km±25km, mb3.4/10,mbtmp3.8/11,Error ellipse: s-maj=23.0km s-min=16.8km az=88.0*
*NEIC **29** 13:34:34.5±1.2,15.89N±0.09×145.7E±0.1,h110km±5km, mb4.4/55,Error ellipse: s-maj=18.0km s-min=12.1km az=111.0*

ISC 29 13:34:33.9±0.5,15.82N±0.07×145.9E±0.1,h109km,n81, σ0.84/77,mb4.3/39,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.42**	**204**	P		**Pn**	**13 35 13.4**	**+1.1**
	168nm,0.2s,baz=123,slow=5.0,SNR=50							
GUMO				S		**Sn**	**13 35 39.3**	**-2.5**
	179nm,0.2s,baz=155,slow=23,SNR=5.2							
GUMO	**Guam**	**2.42**	**204**	Pn		**Pn**	**13 35 13.0**	**+0.7**
GUMO				Sn		**Sn**	**13 35 41.6**	**-0.1**
PATS	**Pohnpei**	**15.11**	**125**	Pn		**Pn**	**13 38 02.8**	**+1.0**
H11S3	**WAKE ISLAND Hy**	**20.07**	**79**	T		T	13 59 49.6	
	baz=266,slow=75,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**20.08**	**79**	T		T	13 59 49.7	
	baz=266,slow=75,SNR=39							
H11S2	**WAKE ISLAND Hy**	**20.09**	**79**	T		T	13 59 50.7	
	baz=266,slow=75,SNR=67							
H11N1	**WAKE ISLAND Hy**	**20.39**	**76**	T		T	14 00 16.9	
	baz=263,slow=75,SNR=42							
H11N2	**WAKE ISLAND Hy**	**20.40**	**76**	T		T	14 00 16.4	
	baz=263,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**20.41**	**76**	T		T	14 00 14.0	
	baz=263,slow=75,SNR=0.2							
FAKI	**Fak Fak**	**22.98**	**217**	P		**P**	**13 39 29.6**	**+0.2**
KSRS	**Korea Array**	**26.77**	**327**	P		**P**	**13 40 04.4**	**+1.0**
	1.2nm,0.7s,baz=148,slow=10,SNR=3.2							
	1.2nm,0.7s							
KNRA	**Kununurra**	**35.56**	**209**	P		**P**	**13 41 20.2**	**-0.7**
KNRA					IAmb	IAmb	13 41 51.9	
	comp=Z,14nm,1.4s							
CTAO	**Charters Tower**	**35.69**	**179**	P		**P**	**13 41 22.4**	**+0.5**
WB0	**Warramunga Arr**	**37.12**	**198**	P		**P**	**13 41 33.4**	**-0.8**
WB0					IAmb	IAmb	13 41 48.0	
	comp=Z,8.5nm,1.5s							
WR0	**Warramunga Arr**	**37.26**	**198**	P		**P**	**13 41 34.5**	**-0.8**
WB2	**Warramunga Arr**	**37.30**	**198**	P		**P**	**13 41 35.5**	**-0.2**
WB2					IAmb	IAmb	13 41 59.4	
	comp=Z,5.2nm,1.2s							
WRA	**Warramunga Arr**	**37.30**	**198**	P		**P**	**13 41 35.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=18,slow=9.6,SNR=5.6							
	comp=Z,0.7nm,0.6s							
ASAR	**Alice Springs**	**40.95**	**197**	P		**P**	**13 42 05.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=18,slow=12,SNR=9.4							
	comp=Z,0.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**44.82**	**280**	P		**P**	**13 42 37.9**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=74,slow=6.7,SNR=1.7							
	comp=Z,0.3nm,0.4s							
SONM	**Songino Array**	**45.50**	**323**	P		**P**	**13 42 44.8**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=123,slow=7.6,SNR=1.6							
	comp=Z,0.2nm,0.5s							
ARMA	**Armidale**	**46.31**	**173**	P		**P**	**13 42 49.4**	**+0.4**
ARMA					IAmb	IAmb	13 43 01.1	
	comp=Z,16nm,1.4s							
GSTR	**Great Sitkin T**	**47.10**	**31**	P		**P**	**13 42 52.3**	**-2.5**
BBOO	**Buckleboo**	**49.26**	**191**	P		**P**	**13 43 10.9**	**-0.6**
BBOO		

ZALV Zalesovo Beam 60.40 323 P P 13 44 31.3 -0.3
comp=Z,0.4nm,0.3s,baz=104,slow=6.1,SNR=2.4
comp=Z,0.4nm,0.3s
MK31 Makanchi Array 60.58 315 P P 13 44 32.3 -0.8
MKAR Makanchi Array 60.58 315 P P 13 44 33.4 +0.3
comp=Z,0.5nm,0.4s,baz=93,slow=8.1,SNR=18
comp=Z,0.5nm,0.4s
MKAR Makanchi Array 60.58 315 P P 13 44 32.1 -1.0
O18K Koktuh Hills 61.01 30 P P 13 44 36.8 +1.1
O18K IAmb IAmb 13 44 37.4
comp=Z,9.1nm,1.1s
OHAK Old Harbor 61.15 33 P P 13 44 37.5 +0.9
SVW2 Sparrevohn 61.26 28 P P 13 44 38.4 +1.0
SVW2 IAmb IAmb 13 45 01.6
comp=Z,11nm,1.4s
N19K Bonanza Creek 61.67 29 P P 13 44 40.8 +0.6
N19K IAmb IAmb 13 44 52.9
comp=Z,12nm,1.4s
KDAK Kodiak Island 61.67 32 P P 13 44 39.9 -0.3
comp=Z,6.8nm,0.9s,baz=270,slow=1.0,SNR=7.5
comp=Z,6.8nm,0.9s
KDAK Kodiak Island 61.67 32 P P 13 44 40.3 +0.1
P19K Oil Pt 61.89 30 P P 13 44 41.0 -0.7
K20K Telida 62.71 26 P P 13 44 47.5 +0.4
CNPM China Poot 62.83 31 P P 13 44 47.6 -0.3
BRLK Bradley Lake 63.06 30 P P 13 44 49.0 -0.4
PPLA Purkeypile 63.37 27 P P 13 44 52.2 +0.7
SKT Skwentna 63.38 28 P P 13 44 51.3 -0.2
SKT IAmb IAmb 13 44 52.3
comp=Z,5.5nm,1.1s
KURK Kurchatov 63.52 319 P P 13 44 51.6 -1.0
KURK IAmb IAmb 13 44 52.9
comp=Z,3.9nm,0.9s
CAST Castle Rocks 63.58 26 P P 13 44 53.1 +0.3
CAST IAmb IAmb 13 45 37.0
comp=Z,5.7nm,1.4s
IMAR Indian Mountai 63.77 23 P P 13 44 54.3 +0.3
RC01 Rabbit Creek A 63.96 29 P P 13 44 55.0 -0.3
RC01 IAmb IAmb 13 45 29.9
comp=Z,13nm,1.3s
H21K Melozitna Rive 64.02 24 P P 13 44 55.3 -0.3
H21K IAmb IAmb 13 44 58.1
comp=Z,6.0nm,1.4s
KTH Kantishna Hill 64.12 26 P P 13 44 56.2 -0.2
KTH IAmb IAmb 13 45 17.6
comp=Z,11nm,1.5s
TRF Thorofare Moun 64.36 27 P P 13 44 57.4 -0.6
TRF IAmb IAmb 13 45 03.0
comp=Z,7.9nm,1.2s
MLY Manley 64.64 25 P P 13 44 59.9 +0.2
MLY IAmb IAmb 13 45 01.8
comp=Z,4.8nm,1.4s
KNK Knik Glacier 64.64 29 P P 13 45 00.0 +0.3
I23K Minto, Yukon-K 65.23 25 P P 13 45 04.1 +0.6
I23K IAmb IAmb 13 45 15.7
comp=Z,6.7nm,1.4s
DHY Denali Highway 65.53 27 P P 13 45 05.8 +0.2
DHY IAmb IAmb 13 45 25.6
comp=Z,6.5nm,1.2s
WRH Wood River Hil 65.57 26 P P 13 45 05.3 -0.4
WRH IAmb IAmb 13 45 25.3
comp=Z,4.3nm,1.3s
M24K Tolsona, Glenn 65.86 29 P P 13 45 08.9 +1.3
HDA Harding Lake 66.03 26 P P 13 45 07.3 -1.4
HDA IAmb IAmb 13 45 09.3
comp=Z,3.5nm,1.0s
IL31 66.15 26 P P 13 45 07.8 -1.6
ILAR Eielson Array 66.15 26 P P 13 45 08.0 -1.4
comp=Z,0.4nm,0.4s,baz=254,slow=5.7,SNR=19
comp=Z,0.4nm,0.4s
PAX Paxson 66.36 28 P P 13 45 11.1 +0.2
PAX IAmb IAmb 13 45 37.0
comp=Z,14nm,1.4s
N25K Chitina, Valde 66.49 29 P P 13 45 12.5 +0.8
RIDG Independent Ri 66.79 27 P P 13 45 13.4 -0.1
RIDG IAmb IAmb 13 45 22.1
comp=Z,6.5nm,1.2s
VRDI Verde Repeater 66.97 30 P P 13 45 15.5 +0.6
SCRK Sand Creek 67.21 27 P P 13 45 16.5 +0.2
L26K Log Cabin Wild 67.32 28 P P 13 45 17.2 +0.3
L26K IAmb IAmb 13 45 30.4
comp=Z,7.1nm,1.4s
J26L Joseph Creek 67.49 26 P P 13 45 18.0 0.0
BMAR Burnt Mountain 67.68 23 P P 13 45 20.0 +0.9
M27K Edge Creek, AK 67.88 29 P P 13 45 21.2 +0.6
M27K IAmb IAmb 13 45 22.2
comp=Z,3.3nm,1.0s
L27K Beaver Creek, 68.01 28 P P 13 45 21.6 +0.4
L27K IAmb IAmb 13 46 01.0
comp=Z,4.8nm,1.4s
BCAR Beaver Creek A 68.03 28 P P 13 45 21.7 +0.3
EGAK Eagle 68.56 26 P P 13 45 25.1 +0.6
KKAR Karatay Array 68.73 310 P P 13 45 26.5 +0.4
GAR Garm 69.08 306 P P 13 45 27.9 -0.6
GAR IAmb IAmb 13 45 33.0
comp=Z,4.9nm,1.2s
DAWY Dawson 69.22 27 P P 13 45 29.0 +0.2
M30M Minto, Yukon 70.25 29 P P 13 45 35.8 +0.7
M31M Drury Creek, Y 71.35 29 P P 13 45 42.3 +0.5
ABKAR Akbulak array 75.55 318 P P 13 46 05.3 -1.3
B08A Colville Reser 81.48 42 P P 13 46 39.8 +0.5
PINE Pine Mountain 81.49 47 P P 13 46 39.3 -0.3
PINE IAmb IAmb 13 46 48.7
comp=Z,6.6nm,1.4s
K05A Summer Lake 81.77 48 P P 13 46 42.0 +0.9
K05A IAmb IAmb 13 47 09.2
comp=Z,16nm,1.5s
NVAR Mina Array Bea 84.78 52 P P 13 46 57.4 +0.7
comp=Z,0.6nm,0.6s,baz=275,slow=5.8,SNR=7.0
comp=Z,0.6nm,0.6s
CFA Coronel Fontan 145.22 123 PKPbc PKPbc 13 53 59.3 +0.1
comp=Z,2.1nm,0.8s,baz=183,slow=4.4,SNR=5.3
LPAZ La Paz 147.35 96 PKPbc PKPbc 13 54 05.7 -0.9
comp=Z,0.4nm,0.4s,baz=346,slow=4.2,SNR=2.5

*NEIC **29** 13:34:37.2±1.6,20.°9S±0.°2×178.°4W±0.°2,h538km±11km, mb4.3/37,Error ellipse: s-maj=23.2km s-min=19.2km az=142.0*
*IDC **29** 13:34:40.4±2.4,20.°95S×178.°53W,h574km±21km, mb3.2/10,mbtmp4.1/13,Error ellipse: s-maj=61.9km s-min=13.6km az=152.0*
ISC 29 13:34:38.2±0.6,20.°9S±0.°1×178.°4W±0.°1,h550km,n67, σ1§11/64,mb4.2/27,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.55**	**313**	P		P		13 36 09.2	+4.6
	2.3nm,0.4s,baz=101,slow=24,SNR=5.3								
MSVF	**Nonsavu**	**4.55**	**313**	P		P		13 36 09.5	+5.0
NIUE	**Niue**	**8.19**	**79**	P		P		13 36 30.4	-7.5
AFI	**Afiamalu**	**9.39**	**44**	P		**P**		**13 36 52.2**	**+2.1**
	18nm,0.7s,baz=14,slow=2.8,SNR=4.9								
AFI	**Afiamalu**	**9.39**	**44**	P		**P**		**13 36 47.0**	**-3.1**
DZM	**Mont Dzumac**	**14.13**	**262**	P		P		**13 37 40.2**	**+1.3**
	5.0nm,0.7s,baz=130,slow=19,SNR=2.6								
DZM	**Mont Dzumac**	**14.13**	**262**	P		**P**		**13 37 41.6**	**+2.7**
BKZ	**Black Stump Fm**	**18.76**	**192**	P		**P**		**13 38 21.0**	**-1.9**
BKZ	IAmb IAmb 13 38 33.5								
	comp=Z,26nm,1.3s								
TKNZ	**Takaka Hill**	**21.40**	**198**	P		**P**		**13 38 46.1**	**-0.7**
THZ	**Tophouse**	**22.09**	**197**	P		**P**		**13 38 52.4**	**-0.6**
DSZ	**Denniston Nort**	**22.39**	**199**	P		**P**		**13 38 55.8**	**+0.1**
LTZ	**Lake Taylor**	**23.21**	**198**	P		**P**		**13 39 01.4**	**-1.5**
INZ	**Inchbonnie**	**23.40**	**199**	P		**P**		**13 39 03.2**	**-1.3**
HNR	**Honiara**	**23.73**	**295**	P		**P**		**13 39 06.1**	**-1.8**
WHZ	**Wether Hill Ro**	**27.35**	**201**	P		**P**		**13 39 40.7**	**+1.3**
ARMA	**Armidale**	**28.55**	**244**	P		**P**		**13 39 51.0**	**+0.8**
ARMA	IAmb IAmb 13 40 33.3								
	comp=Z,12nm,1.4s								
CTA	**Charters Tower**	**33.05**	**265**	P		**P**		**13 40 29.3**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=90,slow=11,SNR=8.1								
	comp=Z,3.2nm,0.7s								
CTAO	**Charters Tower**	**33.05**	**265**	P		**P**		**13 40 29.4**	**+0.4**
CTAO	IAmb IAmb 13 41 07.0								
	comp=Z,15nm,1.2s								
STKA	**Stephens Creek**	**37.27**	**245**	P		**P**		**13 41 03.1**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=80,slow=12,SNR=2.1								
	comp=Z,1.1nm,0.7s								
BBOO	**Buckleboo**	**42.02**	**244**	P		**P**		**13 41 41.6**	**-0.3**
BBOO	IAmb IAmb 13 41 50.4								
	comp=Z,9.0nm,1.5s								
WR0	**Warramunga Arr**	**43.96**	**263**	P		**P**		**13 41 57.1**	**-0.1**
AS31	**Alice Springs**	**44.04**	**257**	P		**P**		**13 41 57.7**	**-0.2**
ASAR	**Alice Springs**	**44.04**	**257**	P		**P**		**13 41 57.6**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=93,slow=7.8,SNR=43								
ASAR				PcP		PcP		13 43 31.2	0.0
	comp=Z,0.2nm,0.7s,baz=99,slow=5.7,SNR=1.9								
	comp=Z,1.6nm,0.5s								
WB0	**Warramunga Arr**	**44.13**	**263**	P		**P**		**13 41 57.8**	**-0.7**
WRAB	**Tennant Creek**	**44.14**	**263**	P		**P**		**13 41 57.6**	**-1.0**
WRA	**Warramunga Arr**	**44.15**	**263**	P		**P**		**13 41 58.3**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=96,slow=7.7,SNR=7.7								
	comp=Z,0.5nm,0.4s								
WRA	**Warramunga Arr**	**44.15**	**263**	P		**P**		**13 41 57.4**	**-1.2**
FORT	**Forrest**	**48.78**	**247**	P		**P**		**13 42 32.7**	**-0.8**
FORT	IAmb IAmb 13 43 04.7								
	comp=Z,38nm,1.4s								
KAPI	**Kappang**	**61.91**	**276**	P		**P**		**13 44 03.6**	**-1.4**
	comp=Z,5.4nm,0.6s,baz=127,slow=5.1,SNR=1.5								
	comp=Z,5.4nm,0.6s								
QSPA	**South Pole Qui**	**69.21**	**180**	P		**P**		**13 44 50.8**	**+0.9**
JSU	**Suzuyama**	**71.50**	**315**	P		**P**		**13 45 04.0**	**+0.2**
JSU	IAmb IAmb 13 45 16.6								
	comp=Z,22nm,1.0s								
TPUB	**Ta-pu**	**73.83**	**303**	P		**P**		**13 45 16.2**	**-1.2**
PEA0B	**Petropavlovsk-**	**76.52**	**345**	P		**P**		**13 45 32.7**	**+1.0**
YBH	**Yreka Blue Hor**	**80.83**	**39**	PcP		**PcP**		**13 45 58.0**	**-1.8**
YERR	**Yerington**	**81.29**	**43**	PcP		**PcP**		**13 45 59.9**	**-2.1**
NVAR	**Mina Array Bea**	**81.57**	**44**	P		**P**		**13 46 00.7**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=225,slow=7.9,SNR=8.2								
	comp=Z,0.6nm,0.5s								
NVAR	**Mina Array Bea**	**81.57**	**44**	PcP		**PcP**		**13 46 01.3**	**-1.9**
KVN	**Kaiserville**	**82.05**	**43**	PcP		**PcP**		**13 46 03.4**	**-1.9**
K05A	**Summer Lake**	**82.50**	**39**	PcP		**PcP**		**13 46 06.3**	**-0.9**
O18K	**Koktuh Hills**	**82.64**	**12**	P		**P**		**13 46 04.4**	**+0.6**
O18K	IAmb IAmb 13 46 16.9								
	comp=Z,14nm,1.4s								
O19K	**Port Alsworth**	**83.12**	**12**	P		**P**		**13 46 06.6**	**+0.5**
O19K	IAmb IAmb 13 46 07.5								
	comp=Z,7.3nm,1.0s								
M19K	**Big River Lodg**	**84.69**	**11**	P		**P**		**13 46 14.8**	**+0.9**
M19K	IAmb IAmb 13 46 55.2								
	comp=Z,13nm,1.5s								
SUA	**Susitna One**	**85.00**	**13**	P		**P**		**13 46 16.2**	**+0.7**
SUA	IAmb IAmb 13 46 53.3								
	comp=Z,6.3nm,1.2s								
SCM	**Sheep Creek Mo**	**86.08**	**14**	P		**P**		**13 46 21.1**	**+0.4**
SCM	IAmb IAmb 13 46 31.2								
	comp=Z,24nm,1.4s								
CAST	**Castle Rocks**	**86.51**	**12**	P		**P**		**13 46 22.4**	**-0.2**
N25K	**Chitina, Valde**	**86.54**	**15**	P		**P**		**13 46 24.0**	**+1.2**
N25K	IAmb IAmb 13 46 27.7								
	comp=Z,11nm,1.1s								
SEY	**Seymchan**	**86.64**	**347**	P		**P**		**13 46 23.9**	**+0.8**
	comp=Z,3.4nm,0.4s,baz=176,slow=4.6,SNR=3.7								
	comp=Z,3.4nm,0.4s								
TRF	**Thorofare Moun**	**86.89**	**12**	P		**P**		**13 46 24.9**	**+0.3**
TRF	IAmb IAmb 13 46 30.6								
	comp=Z,11nm,1.4s								
SKAG	**Skagway**	**87.46**	**20**	P		**P**		**13 46 27.2**	**+0.2**
TXAR	**Lajitas Array**	**87.59**	**57**	P		**P**		**13 46 29.2**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=235,slow=4.4,SNR=6.6								
	comp=Z,0.7nm,0.8s								
I21K	**Tanana**	**88.14**	**11**	P		**P**		**13 46 30.6**	**+0.5**
I21K	IAmb IAmb 13 47 01.4								
	comp=Z,4.1nm,1.4s								
MLY	**Manley**	**88.23**	**11**	P		**P**		**13 46 30.8**	**+0.2**
MLY	IAmb IAmb 13 47 13.7								
	comp=Z,5.3nm,1.4s								
WRH	**Wood River Hil**	**88.24**	**13**	P		**P**		**13 46 31.0**	**+0.4**
WRH	IAmb IAmb 13 46 39.1								
	comp=Z,6.1nm,1.4s								
HDA	**Harding Lake**	**88.43**	**13**	P		**P**		**13 46 32.0**	**+0.5**
HDA	IAmb IAmb 13 46 34.8								
	comp=Z,5.4nm,1.5s								
H21K	**Melozitna Rive**	**88.44**	**10**	P		**P**		**13 46 31.3**	**-0.2**
CCB	**Clear Creek Bu**	**88.46**	**13**	P		**P**		**13 46 31.6**	**+0.1**
CCB	IAmb IAmb 13 47 11.5								
	comp=Z,4.1nm,1.4s								
BCAR	**Beaver Creek A**	**88.48**	**16**	P		**P**		**13 46 31.6**	**-0.2**
IMAR	**Indian Mountai**	**88.58**	**10**	P		**P**		**13 46 32.9**	**+0.8**
I23K	**Minto, Yukon-K**	**88.59**	**12**	P		**P**		**13 46 32.5**	**+0.3**
ILAR	**Eielson Array**	**88.76**	**13**	P		**P**		**13 46 33.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=220,slow=6.4,SNR=4.9								
	comp=Z,0.3nm,0.5s								
ILAR	**Eielson Array**	**88.76**	**13**	P		**P**		**13 46 34.1**	**+1.1**
M30M	**Minto, Yukon**	**89.44**	**18**	P		**P**		**13 46 37.1**	**+0.8**
M30M	IAmb IAmb 13 46 47.6								
	comp=Z,4.3nm,1.2s								
PDAR	**Pinedale Array**	**89.50**	**43**	P		**P**		**13 46 38.2**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=213,slow=3.1,SNR=8.4								
	comp=Z,0.7nm,0.6s								
PDAR	**Pinedale Array**	**89.50**	**43**	P		**P**		**13 46 38.5**	**+1.2**
AKASG	**Malin Array Be**	**143.13**	**331**	PKP		PKPbc		13 53 07.2	-0.7
	comp=Z,2.0nm,0.5s,baz=41,slow=4.3,SNR=13								
KHC	**Kasperske Hory**	**150.21**	**344**	*e*PKP		**PKiKP**		**13 53 27.5**	**-0.3**
GERES	**GERESS Array 9**	**150.44**	**344**	PKPbc		**PKiKP**		**13 53 27.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=90,slow=0.7,SNR=4.5								

*BJI **29** 13:47:38.9±0.0, 12.°68N×145.°31E,h17km,mb4.5/51, mB4.9/25,Ms4.4/23,Ms7 4.2/26*
*NEIC **29** 13:47:41.7±1.4, 12.°69N±0.°06×145.°2E±0.°1,h10km±1km, mb5.0/143,Error ellipse: s-maj=19.1km s-min=9.8km az=78.0*
*MOS **29** 13:47:43.3±0.8, 12.°71N×145.°05E,h39km,mb4.8/30, MS4.1/4,Error ellipse: s-maj=11.4km s-min=6.8km az=101.2*
*DJA **29** 13:47:44.4±0.6, 13.°N±4.°×14.°5E±.°, h49km±6km,M5.0/36, mb4.9/36,mB5.7/5,MLv4.9/1,Mw(mB)5.2/5,MwMwp5.0/1, Mwp5.2/1*
*GCMT **29** 13:47:45.7±0.4, 12.°49N±0.°03×145.°10E±0.°03,h18km±1km, MW4.8/71,Moment Tensor Solution. s16,c19; s71,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.45±.14; Mθθ0.14±.08; Mϕϕ-1.59±.10; Mrθ0.24±.25; Mrϕ-0.70±.06; Mθϕ0.67±.21; Best double couple: M₀1.79300×10¹⁶ NP1:ϕ20.00000°,δ57.00000°,λ90.00000°. NP2: ϕ199.00000°,δ33.00000°,λ89.00000°. Principal axes: T 1.5980, Plg78.0000°, Azm291.0000°; N 0.3940, Plg0.0000°, Azm200.0000°; P -1.9880, Plg12.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **29** 13:47:46.0±1.6, 12.°74N×145.°15E,h42km±12km,mb4.1/18, mbtmp4.3/19,ML3.8/1,MS4.0/51 Error ellipse: s-maj=20.5km s-min=11.7km az=95.0*
ISC 29 13:47:44.5±0.9, 12.°65N±0.°04×145.°11E±0.°06,h32km±5km, n447,σ1§03/420,mb4.8/144,MS4.0/65,13C-5D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.96**	**346**	P		P	**Pn**	**13 48 02.1**	**+0.3**
	3μm,0.5s,baz=141,slow=12,SNR=172								
GUMO				S			**Sb**	**13 48 14.8**	**-0.2**
	4μm,0.5s,baz=91,slow=20,SNR=9.0								
GUMO	**Guam**	**0.96**	**346**				**Pn**	**13 48 01.8**	**0.0**
GUMO				Sn			**Sn**	**13 48 14.2**	**-0.1**
PATS	**Pohnpei**	**14.23**	**113**	Pn			Pn	13 50 58.7	-5.3
SMPI	**Sarmi**	**15.88**	**204**	P			**Pn**	**13 51 27.4**	**+1.7**
	43nm,1.4s								
GENI	**Genyem**	**15.92**	**198**	P			**P**	**13 51 29.4**	**-0.2**
KRVT	**Keravat (AS076**	**18.20**	**157**	LR			LR	13 59 13.2	
	comp=Z,253nm,19.1s,baz=121,slow=38								
SIJI	**Sorong**	**19.22**	**227**	P			**Pn**	**13 52 08.1**	**+0.9**
	0.3nm,0.3s,baz=36,slow=7.8,SNR=8.2								
SIJI				LR			LR	13 58 31.5	
	comp=Z,184nm,19.6s,baz=44,slow=33								
	8.4nm,0.8s								
DAV	**Davao City (W)**	**20.02**	**256**	P			Pn	13 52 16.7	0.0
	181nm,0.4s,baz=77,slow=10,SNR=3.9								
DAV				LR			LR	14 01 41.3	
	comp=Z,231nm,19.0s,baz=79,slow=42								
FAKI	**Fak Fak**	**20.06**	**220**				Pn	13 52 16.7	-0.6
FAKI				IAmb			IAmb	13 52 22.4	
	comp=Z,59nm,0.8s								
FAKI	**Fak Fak**	**20.06**	**220**	P			Pn	13 52 17.3	+0.1
	comp=Z,85nm,0.8s,comp=Z,1μmcomp=Z,2μm								
JOW	**Kunigami**	**21.18**	**314**	P			**P**	**13 52 27.1**	**-0.2**
	comp=Z,16nm,0.8s,baz=108,slow=12,SNR=2.2								
JOW				LR			LR	13 59 10.0	
	comp=Z,426nm,20.7s,baz=126,slow=32								
	comp=Z,16nm,0.8s								
JOW	**Kunigami**	**21.18**	**314**	P			**P**	**13 52 27.4**	**+0.1**
JOW				IAmb			IAmb	13 52 33.0	
	comp=Z,47nm,1.0s								
TNTI	**Ternate**	**21.18**	**237**	P			**P**	**13 52 27.7**	**+0.2**
TNTI	**Ternate**	**21.18**	**237**	P			**P**	**13 52 27.4**	**0.0**
	comp=Z,30nm,1.2s								
PMG	**Port Moresby**	**22.01**	**175**	LR			LR	14 01 22.5	
	comp=Z,358nm,18.4s,baz=332,slow=37								
H11N1	**WAKE ISLAND Hy**	**22.05**	**69**	T			T	14 15 51.3	
	baz=256								
H11N2	**WAKE ISLAND Hy**	**22.06**	**69**	T			T	14 15 58.0	
	baz=256,slow=74								
H11N3	**WAKE ISLAND Hy**	**22.07**	**69**	T			T	14 15 48.6	
	baz=256,slow=74								
BNDI	**Bandanaira**	**22.79**	**222**	P			**P**	**13 52 47.3**	**+2.6**
	comp=Z,61nm,1.1s								
AAI	**Ambon**	**23.37**	**227**	P			**P**	**13 52 51.3**	**+0.8**
	comp=Z,82nm,0.9s								
INU	**Inuyama**	**23.75**	**343**	P			**P**	**13 52 54.5**	**+0.5**
JGF	**Kuroka**	**23.90**	**344**	P			**P**	**13 52 55.2**	**-0.3**
JNU	**Nakatsue**	**24.18**	**330**	P			**P**	**13 52 57.4**	**-0.7**
	comp=Z,14nm,0.9s,baz=102,slow=0.9,SNR=6.0								
JNU				LR			LR	14 01 41.7	
	comp=Z,180nm,19.8s,baz=145,slow=35								
	comp=Z,14nm,0.9s								
JNU	**Nakatsue**	**24.18**	**330**	P			**P**	**13 52 56.9**	**-1.1**
JNU				IAmb			IAmb	13 53 26.3	
	comp=Z,45nm,1.4s								
MJAR	**Matsushiro Arr**	**24.58**	**347**	P			**P**	**13 53 01.3**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=169,slow=9.1,SNR=16								
MJAR				LR			LR	14 01 20.5	
	comp=Z,501nm,20.6s,baz=150,slow=33								
	comp=Z,3.5nm,0.7s								
MAJO	**Matsushiro**	**24.59**	**347**	P			**P**	**13 53 01.1**	**-0.6**
MAJO	**Matsushiro**	**24.59**	**347**	P			**P**	**13 53 01.1**	**-0.6**
MAJO				pmax			pmax		
	comp=Z,9.0nm,0.9s								
GTOI	**Gorontalo**	**24.95**	**243**	P			**P**	**13 53 06.0**	**+0.8**
	comp=Z,14nm,1.0s								
YULB	**Yu-li**	**25.00**	**299**	P			**P**	**13 53 04.7**	**-0.9**
NACB	**Ninganchiao**	**25.04**	**301**	P			**P**	**13 53 05.6**	**-0.3**
JMM	**Marumori**	**25.40**	**352**	P			**P**	**13 53 08.6**	**-0.5**
JMM	IAmb IAmb 13 53 35.5								
	comp=Z,45nm,1.3s								
YHNB	**Yeheng**	**25.42**	**301**	P			**P**	**13 53 09.4**	**0.0**
YHNB	IAmb IAmb 13 53 37.8								
	comp=Z,34nm,1.4s								
SSLB	**Suanglung**	**25.43**	**299**	P			**P**	**13 53 08.7**	**-0.9**
SSLB	IAmb IAmb 13 53 15.2								
	comp=Z,24nm,0.7s								
TPUB	**Ta-pu**	**25.54**	**298**	P			**P**	**13 53 09.8**	**-0.8**
TPUB	IAmb IAmb 13 53 42.8								
	comp=Z,57nm,1.4s								
MRSI	**Marisa**	**25.96**	**244**	P			**P**	**13 53 15.2**	**+0.8**
	comp=Z,58nm,1.0s,comp=Z,723nm								
LUWI	**Luwuk**	**26.01**	**240**	P			**P**	**13 53 14.9**	**+0.1**
LUWI	**Luwuk**	**26.01**	**240**	P			**P**	**13 53 14.1**	**-0.8**
	comp=Z,144nm,1.1s,comp=Z,2μm								
HNR	**Honiara**	**26.43**	**145**	LR			LR	14 04 45.9	
	comp=Z,5μm,18.0s,baz=326,slow=38								
MYLDM	**Lahad Datu**	**27.30**	**257**	P			**P**	**13 53 25.6**	**-0.9**
MYLDM	IAmb IAmb 13 53 35.6								
	comp=Z,38nm,1.0s								
MPSI	**Mapaga**	**27.83**	**246**	P			**P**	**13 53 31.2**	**-0.1**
	comp=Z,15nm,1.2s								
KNMB	**Chin-men Tao**	**27.86**	**299**	P			**P**	**13 53 29.8**	**-1.6**
KNMB	IAmb IAmb 13 54 00.1								
	comp=Z,37nm,1.3s								
MTN	**Manton Dam**	**28.88**	**209**	P			**P**	**13 53 39.8**	**-0.7**
KSRS	**Korea Array**	**29.09**	**331**	P			**P**	**13 53 41.0**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=146,slow=9.7,SNR=9.3								
	comp=Z,2.8nm,0.8s								
KSRS	**Korea Array**	**29.09**	**331**	P			**P**	**13 53 41.0**	**-1.2**
SOEI	**Soe**	**30.40**	**224**	P			**P**	**13 53 53.6**	**-0.5**
SOEI	IAmb IAmb 13 54 14.9								
	comp=Z,30nm,1.1s								
SOEI	**Soe**	**30.40**	**224**	P			**P**	**13 53 52.9**	**-1.3**
	comp=Z,27nm,1.2s								
KAPI	**Kappang**	**30.71**	**237**	LR			LR	14 07 57.4	
	comp=Z,61nm,19.1s,baz=24,slow=39								
KAPI	**Kappang**	**30.71**	**237**	P			**P**	**13 53 57.1**	**+0.3**
KAPI	IAmb IAmb 13 53 58.5								
	comp=Z,36nm,1.1s								
KAPI	**Kappang**	**30.71**	**237**	P			**P**	**13 53 57.1**	**+0.3**
KAPI				pmax			pmax		
	comp=Z,36nm,1.1s								
NJ2	**Nanjing**	**30.88**	**313**	*e*P			**P**	**13 53 58.0**	**-0.1**
NJ2				pmax			pmax		
	comp=Z,3.0nm,0.5s								
JKA	**Kamikawa-asahi**	**31.43**	**357**	P			**P**	**13 54 03.5**	**+0.7**
ASAJ	**Asahikawa**	**31.43**	**357**	LR			LR	14 08 33.4	
	comp=Z,120nm,18.8s,baz=188,slow=40								
ASAJ	**Asahikawa**	**31.43**	**357**	P			**P**	**13 54 03.5**	**+0.7**
ASAJ				pmax			pmax		
	comp=Z,112nm,2.0s								
KNRA	**Kununurra**	**32.47**	**210**	P			**P**	**13 54 10.6**	**-1.6**
KNRA	IAmb IAmb 13 54 31.5								
	comp=Z,14nm,1.1s								
CTA	**Charters Tower**	**32.55**	**178**	LR			LR	14 08 45.1	
	comp=Z,88nm,18.3s,baz=348,slow=39								
CTAO	**Charters Tower**	**32.55**	**178**	P			**P**	**13 54 13.9**	**+1.0**
CTAO	IAmb IAmb 13 54 59.6								
	comp=Z,55nm,1.9s								
CTAO	**Charters Tower**	**32.55**	**178**	P			**P**	**13 54 13.9**	**+1.0**
CTAO				pmax			pmax		
	comp=Z,55nm,1.9s								
USRK	**Ussuriysk Ar.**	**33.40**	**343**	LR			LR	14 06 19.6	
	comp=Z,258nm,18.8s,baz=136,slow=33								
WB0	**Warramunga Arr**	**33.90**	**198**	P			**P**	**13 54 24.8**	**+0.1**
WB0	IAmb IAmb 13 55 21.6								
	comp=Z,33nm,1.9s								
WR0	**Warramunga Arr**	**34.04**	**198**	P			**P**	**13

KLR pmax pmax
comp=Z,10.0nm,2.5s
GYA Guiyang 38.58 297 ⇓*i*P **P 13 55 05.8 +0.9**
GYA S **S 14 01 02.3 +3.0**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA LR LR
comp=Z,380nm,18.2s
PWJI Pagerwojo 38.95 240 P **P 13 55 06.6 -1.3**
comp=Z,59nm,1.1s
XAN Xi'an 39.16 309 P **P 13 55 08.3 -1.2**
XAN pP pP 13 55 12.8 -3.9
XAN PcP **PcP 13 57 20.0 +1.3**
XAN pmax pmax
comp=Z,3.0nm,0.9s
XLT XiLinHaoTe 39.89 327 *e*P **P 13 55 13.3 -2.2**
XLT pP pP 13 55 17.8 -5.1
XLT sP sP 13 55 20.5 -5.2
XLT S **S 14 01 24.0 +5.6**
XLT sS sS 14 01 31.5 +0.3
XLT pmax pmax
comp=Z,5.0nm,1.3s
XLT pmax pmax
comp=Z,130nm,5.7s
XLT LR LR
comp=Z,270nm,15.7s
XLT LR LR
comp=Z,300nm,17.4s
HEH HeiHe 40.20 342 *e*P **P 13 55 16.5 -1.4**
HEH PcP **PcP 13 57 22.0 +0.5**
HEH pmax pmax
comp=Z,9.0nm,1.1s
HEH pmax pmax
comp=Z,120nm,4.2s
HEH LR LR
comp=Z,220nm,19.1s
HEH LR LR
comp=Z,350nm,15.4s
HEH LR LR
comp=Z,400nm,16.4s
DZM Mont Dzumac 40.36 149 *e*S **S 14 01 28.5 +2.7**
comp=Z,62nm,26.4s
DZM *e*LR LR 14 06 22.8
comp=Z,239nm,20.1s
DZM Mont Dzumac 40.36 149 LR LR 14 12 14.7
comp=Z,458nm,18.5s,baz=30,slow=36
HHC Hu-ho-hao-te 40.63 320 *e*P **P 13 55 20.5 -1.2**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.3s
HHC LR LR
comp=Z,480nm,16.9s
HHC LR LR
comp=Z,480nm,19.4s
HHC LR LR
comp=Z,670nm,16.3s
PEA0B Petropavlovsk- 41.59 11 P **P 13 55 29.2 -0.1**
PEA0B lAmb lAmb 13 56 21.1
comp=Z,77nm,1.4s
PEA0B Petropavlovsk- 41.59 11 P **P 13 55 29.2 -0.1**
PEA0B pmax pmax
comp=Z,77nm,1.5s
PETK Petropavlovsk- 41.59 11 LR LR 14 12 40.5
comp=Z,140nm,19.2s,baz=190,slow=36
KMI Kunming 41.79 294 ⇓P **P 13 55 32.5 +0.9**
KMI pP pP 13 55 36.0 -3.0
KMI PP **PP 13 57 07.0 -1.6**
KMI pmax pmax
comp=Z,6.0nm,1.0s
KMI LR LR
comp=Z,130nm,7.7s
KMI LR LR
comp=Z,160nm,14.4s
KMI LR LR
comp=Z,180nm,18.1s
MBWA Marble Bar 41.84 217 P **P 13 55 32.5 +0.7**
MBWA lAmb lAmb 13 56 26.5
comp=Z,84nm,1.6s
LEM Lembang 41.99 245 LR LR 14 12 28.8
comp=Z,64nm,21.6s,baz=66,slow=35
PSA00 Pilbara Seismi 42.10 216 P **P 13 55 34.6 +0.8**
PSA00 lAmb lAmb 13 56 52.1
comp=Z,78nm,1.6s
CD2 Chengdu 42.19 302 *e*P **P 13 55 34.0 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MYKOM Kota Tinggi 42.26 259 P **P 13 55 36.3 +1.0**
MYKOM lAmb lAmb 13 55 37.7
comp=Z,41nm,0.9s
PZH PanZhiHua 42.91 295 P **P 13 55 40.3 -0.3**
PZH S **S 14 02 07.5 +3.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.5s
PZH LR LR
comp=Z,360nm,19.2s
PZH LR LR
comp=Z,450nm,18.6s
PZH LR LR
comp=Z,470nm,18.6s
ZEA Zeya 43.37 345 *e*P **P 13 55 42.8 -0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=Z,200nm,14.0s
CRAI Chiangrai 43.46 286 P **P 13 55 45.0 0.0**
LZH Lanzhou 43.79 309 *e*P **P 13 55 46.8 -0.8**
LZH pP pP 13 55 50.5 -4.4
LZH sP sP 13 55 52.8 -5.2
LZH pmax pmax
comp=Z,9.0nm,1.1s
LZH LR LR
comp=Z,230nm,14.6s
LZH LR LR
comp=Z,120nm,16.0s
LZH LR LR
comp=Z,300nm,17.9s
MDSI Maura Dua 44.09 250 P **P 13 55 50.1 0.0**
comp=Z,29nm,1.5s
MSVF Nonsavu 44.37 132 LR LR 14 14 11.9
comp=Z,276nm,18.5s,baz=329,slow=36
STKA Stephens Creek 44.40 184 P **P 13 55 52.0 -0.3**
comp=Z,1.2nm,0.7s,baz=332,slow=5.8,SNR=3.2
STKA LR LR 14 16 31.4
comp=Z,159nm,18.1s,baz=19,slow=39
comp=Z,1.2nm,0.7s
STKA Stephens Creek 44.40 184 P **P 13 55 52.0 -0.3**
STKA Stephens Creek 44.40 184 P **P 13 55 52.0 -0.3**
STKA pmax pmax
comp=Z,6.0nm,2.0s
KULM Kulim 44.47 265 P **P 13 55 53.8 +0.6**
CM31 Chiang Mai Arr 44.76 283 P **P 13 55 55.9 +0.5**
CMAR Chiang Mai Arr 44.76 283 P **P 13 55 56.2 +0.8**
comp=Z,6.2nm,0.8s,baz=84,slow=6.2,SNR=52
CMAR PcP **PP 13 57 39.6 -0.7**
comp=Z,3.4nm,0.8s,baz=85,slow=1.8,SNR=13
comp=Z,6.2nm,0.8s
CMAR Chiang Mai Arr 44.76 283 P **P 13 55 55.6 +0.2**
CMAR Chiang Mai Arr 44.76 283 *ce*P **P 13 55 56.2 +0.8**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 44.76 284 P **P 13 55 55.1 -0.3**
CHTO Chiang Mai 44.76 284 P **P 13 55 55.2 -0.3**
MNAI Manna 45.16 251 P **P 13 55 57.1 -1.6**
MASI Maura Aman, Be 45.38 253 P **P 13 55 59.8 -0.6**
comp=Z,43nm,1.2s
SDSI Sungai Dareh 45.39 256 P **P 13 56 00.4 -0.1**
comp=Z,9.9nm,0.9s
TNCH TengChong 45.57 293 P **P 13 56 02.0 0.0**
TNCH pP pP 13 56 06.3 -3.2
TNCH sP sP 13 56 09.5 -3.0
TNCH pmax pmax
comp=Z,18nm,0.9s
TNCH pmax pmax
comp=Z,170nm,3.9s
BBOO Buckleboo 46.03 191 P **P 13 56 04.9 -0.2**
BBOO lAmb lAmb 13 56 19.1
comp=Z,12nm,0.9s
FORT Forrest 46.19 200 P **P 13 56 06.6 +0.1**
FORT lAmb lAmb 13 56 27.4
comp=Z,30nm,1.1s
PDSI Padang 46.30 256 P **P 13 56 06.5 -1.2**
comp=Z,18nm,0.8s
PSI Prapat 46.73 262 LR LR 14 18 32.1
comp=Z,63nm,18.5s,baz=60,slow=39
PSI Prapat 46.73 262 P **P 13 56 11.0 -0.2**
PSI pmax pmax
comp=Z,9.0nm,0.8s
RPSI Rantau Prapat 46.75 262 P **P 13 56 11.0 -0.2**
RPSI lAmb lAmb 13 56 12.9
comp=Z,8.7nm,0.8s
MA2 Magadan 47.03 4 LR LR 14 16 14.8
comp=Z,69nm,19.5s,baz=188,slow=36
MA2 Magadan 47.03 4 *i*P **P 13 56 12.6 -0.1**
MA2 pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 47.28 326 *ce*P **P 13 56 13.7 -1.4**
ULN pmax pmax
comp=Z,4.0nm,1.7s
SONM Songino Array 47.63 325 P **P 13 56 17.5 -0.3**
comp=Z,1.3nm,0.6s,baz=146,slow=10,SNR=9.4
SONM PcP **PcP 13 57 47.9 +0.9**
comp=Z,4.2nm,0.9s,baz=143,slow=4.0,SNR=9.2
SONM LR LR 14 16 33.5
comp=Z,313nm,19.2s,baz=148,slow=36
comp=Z,1.3nm,0.6s
SONM Songino Array 47.63 325 P **P 13 56 16.7 -1.0**
SONM Songino Array 47.63 325 P **P 13 56 16.7 -1.0**
SONM pmax pmax
comp=Z,3.0nm,0.8s
KCSI Kotacane, Aceh 47.66 263 P **P 13 56 18.3 -0.1**
comp=Z,15nm,0.9s
GTA Gaotai 47.97 312 *e*P **P 13 56 20.8 +0.3**
GTA PcP **PcP 13 57 49.5 +1.0**
GTA ScS ScS 14 06 14.0 +2.2
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,90nm,6.2s
GTA LR LR
comp=Z,120nm,17.4s
GTA LR LR
comp=Z,130nm,19.3s
GTA LR LR
comp=Z,170nm,19.3s
LHMI Lhok Sumawe 48.08 266 P **P 13 56 21.2 -0.4**
GSI Gunungsitoli 48.42 260 P **P 13 56 23.4 -0.8**
GSI lAmb lAmb 13 56 24.5
comp=Z,14nm,0.8s
GSI Gunungsitoli 48.42 260 P **P 13 56 22.6 -1.6**
comp=Z,20nm,0.9s
ADK Adak 49.75 30 P **P 13 56 33.9 +0.2**
ADK Adak 49.75 30 P **P 13 56 33.9 +0.2**
ADK pmax pmax
comp=Z,243nm,1.6s
AFI Afiamalu 50.22 120 LR LR 14 16 10.9
comp=Z,222nm,18.8s,baz=336,slow=34
SEY Seymchan 50.47 4 LR LR 14 18 25.1
comp=Z,121nm,19.7s,baz=243,slow=36
SEY Seymchan 50.47 4 *i*P **P 13 56 39.2 +0.1**
SEY pmax pmax
comp=Z,2.0nm,1.0s
YAK Yakutsk 50.54 351 LR LR 14 17 54.3
comp=Z,128nm,18.1s,baz=105,slow=36
YAK Yakutsk 50.54 351 P **P 13 56 38.9 -0.6**
YAK lAmb lAmb 13 56 40.3
comp=Z,22nm,0.7s
YAK Yakutsk 50.54 351 *e*P **P 13 56 39.0 -0.6**
YAK *e* 13 57 54.6
YAK *e* 13 58 34.4
YAK *e*PPP PPP 13 59 29.6
YAK *e*S **S 14 03 52.4 +0.9**
YAK *e**SS **sS 14 04 09.5 +5.0**
YAK *e* 14 06 21.7
YAK *e*SS **SS 14 07 23.2 -2.5**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,1.0nm,0.8s
YAK pmax pmax
comp=Z,132nm,4.6s
YAK pmax pmax
comp=N,60nm,3.8s
YAK pmax pmax
comp=E,62nm,4.0s
YAK smax smax
comp=E,86nm,5.6s
YAK smax smax
comp=N,75nm,5.0s
YAK MLR MLR
comp=Z,202nm,20.0s
ZAK Zakamensk 50.74 327 *e*P **P 13 56 39.2 -2.3**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
GOMU GeErMu 50.78 307 P **P 13 56 42.3 0.0**
GOMU pP pP 13 56 46.0 -3.7
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU pmax pmax
comp=Z,55nm,5.5s
BRDH Bariadhala 51.68 289 LR LR 14 21 01.3
comp=Z,142nm,19.1s,baz=88,slow=39
LSA Lhasa 52.63 298 P **P 13 56 56.4 0.0**
LSA Lhasa 52.63 298 P **P 13 56 56.4 0.0**
LSA pmax pmax
comp=Z,8.0nm,0.8s
TAPN Taplejung 55.45 295 *e*P **P 13 57 16.2 -0.6**
comp=Z,11nm,0.7s
RAMN Ramite 56.41 294 *e*P **P 13 57 22.9 -0.7**
JIRN Jiri 56.81 295 *e*P **P 13 57 26.0 -0.6**
comp=Z,4.2nm,0.3s
BILL Bilibino 57.04 9 P **P 13 57 25.6 -1.5**
BILL Bilibino 57.04 9 *de*P **P 13 57 26.1 -1.0**
BILL *e* 13 59 35.2
BILL *e*S S 14 05 07.9 -11
BILL pmax pmax
comp=Z,3.0nm,0.7s
BILL MLR MLR
comp=Z,72nm,18.0s
GUN Gumba 57.10 295 *e*P **P 13 57 28.0 -0.6**
PKI Pulchoki 57.50 295 *e*P **P 13 57 30.1 -1.3**
comp=Z,3.5nm,0.5s
PKIN Phulchoki 57.51 295 *e*P **P 13 57 30.7 -0.7**
comp=Z,4.4nm,0.4s
DMN Daman 57.77 295 *e*P **P 13 57 32.1 -1.1**
WMQ Urumqi 57.95 314 *e*P **P 13 57 34.3 +0.3**
WMQ PcP **PcP 13 58 26.3 +0.3**
WMQ pmax pmax
comp=Z,6.0nm,1.5s
WMQ LR LR
comp=Z,120nm,20.9s
GKN Gorkha 58.20 295 *e*P **P 13 57 35.6 -0.5**
comp=Z,2.7nm,0.2s
URZ Urewera 58.84 151 LR LR 14 20 26.3
comp=Z,111nm,20.4s,baz=74,slow=33
DANN Dangsing 58.98 296 *e*P **P 13 57 41.0 -0.8**
comp=Z,27nm,0.7s
DGZ Jazzator, Alta 59.71 321 *i*P **P 13 57 46.1 -0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
TIXI Tiksi 59.78 354 P **P 13 57 45.0 -1.1**
TIXI Tiksi 59.78 354 P **P 13 57 45.0 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
SDPT Sand Point 59.80 33 P **P 13 57 46.9 +0.4**
SDPT Sand Point 59.80 33 P **P 13 57 45.9 -0.5**
baz=247
BHW Baring Head 60.40 155 P **P 13 57 51.2 +0.5**
RPZ Rata Peaks 60.89 159 LR LR 14 25 14.8
comp=Z,127nm,18.1s,baz=337,slow=37
CHGN Chignik 61.24 32 P **P 13 57 55.0 -1.3**
MK31 Makanchi Array 62.32 316 P **P 13 58 02.9 -1.0**
MK31 Makanchi Array 62.32 316 *i*P **P 13 58 03.4 -0.5**
MKAR Makanchi Array 62.32 316 P **P 13 58 03.2 -0.7**
comp=Z,1.8nm,0.8s,baz=95,slow=8.5,SNR=20
MKAR LR LR 14 26 02.9
comp=Z,111nm,18.8s,baz=100,slow=37
comp=Z,1.8nm,0.8s
MKAR Makanchi Array 62.32 316 P **P 13 58 03.1 -0.8**
P16K Nushagak River 62.49 29 P **P 13 58 04.8 +0.1**
baz=247
ZALV Zalesovo Beam 62.52 325 P **P 13 58 04.9 0.0**
comp=Z,0.5nm,0.6s,baz=79,slow=7.5,SNR=2.3
ZALV PcP **PcP 13 58 43.0 -1.0**
comp=Z,3.0nm,0.6s,baz=116,slow=4.9,SNR=11
ZALV LR LR 14 26 02.8
comp=Z,104nm,19.1s,baz=97,slow=37
comp=Z,0.5nm,0.6s
CHIR Chirikof Islan 62.54 33 P **P 13 58 04.4 -0.7**
baz=251
MAKZ Makanchi 62.54 316 P **P 13 58 04.3 -1.0**
MAKZ Makanchi 62.54 316 P **P 13 58 04.3 -1.0**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
N16K Nishlik Lake 62.70 28 P **P 13 58 07.0 +0.9**
baz=246
O17K Koliganek Bris 63.20 29 P **P 13 58 09.2 -0.1**
baz=248
SII Sitkinak Islan 63.53 33 P **P 13 58 11.6 -0.2**
baz=252
P18K Big Mountain, 63.94 29 P **P 13 58 14.1 -0.3**
P18K Big Mountain, 63.94 29 P **P 13 58 14.4 0.0**
baz=250
O18K Koktuh Hills 64.11 29 P **P 13 58 15.6 +0.1**
baz=249
HYB Hyderabad 64.19 283 *e*P **P 13 58 16.8 0.0**
HYB IVmB_BB 13 58 17.3
comp=Z,81nm,1.0s
SVW2 Sparrevohn 64.39 28 P **P 13 58 16.6 -0.6**
SVW2 lAmb lAmb 13 58 19.5
comp=Z,14nm,1.3s
Q19K Cape Douglas, 64.56 30 P **P 13 58 17.6 -0.8**
O19K Port Alsworth 64.65 29 P **P 13 58 19.0 +0.1**
baz=250
KDAK Kodiak Island 64.74 32 LR LR 14 23 12.9
comp=Z,99nm,20.6s,baz=265,slow=33
KDAK Kodiak Island 64.74 32 P **P 13 58 20.5 +1.0**
KDAK Kodiak Island 64.74 32 P **P 13 58 20.5 +1.0**
KDAK pmax pmax
comp=Z,104nm,1.9s
N19K Bonanza Creek 64.79 28 P **P 13 58 20.9 +0.9**
N19K lAmb lAmb 13 58 49.4
comp=Z,18nm,1.1s
N19K Bonanza Creek 64.79 28 P **P 13 58 20.7 +0.7**
baz=250
TTA Tatalina 64.89 26 P **P 13 58 20.6 0.0**
baz=247
P19K Oil Pt 64.99 30 P **P 13 58 20.5 -0.7**
baz=251
L19K White Mountain 65.11 27 P **P 13 58 22.4 +0.4**
L19K lAmb lAmb 13 58 23.6
comp=Z,10.0nm,0.9s
L19K White Mountain 65.11 27 P **P 13 58 21.9 -0.1**
baz=249
M19K Big River Lodg 65.21 27 P **P 13 58 22.3 -0.3**
baz=249
GCSA Galena City Sc 65.27 24 P **P 13 58 23.0 +0.2**
baz=246
KURK Kurchatov 65.45 320 P **P 13 58 22.1 -2.2**
KURK Kurchatov 65.45 320 *ce*P **P 13 58 23.7 -0.6**
KURK pmax pmax
comp=Z,6.0nm,1.0s
RSO Redoubt South 65.47 29 P **P 13 58 23.9 -0.6**
KURBB Kurchatov Arra 65.49 320 LR LR 14 28 19.2
comp=Z,164nm,18.6s,baz=182,slow=37
L20K Farewell, AK 65.64 26 P **P 13 58 25.2 -0.2**
baz=250
M20K Styx River 65.77 27 P **P 13 58 26.1 -0.1**
baz=250
K20K Telida 65.87 26 P **P 13 58 27.3 +0.5**
K20K lAmb lAmb 13 58 28.7
comp=Z,9.6nm,0.8s
K20K Telida 65.87 26 P **P 13 58 26.8 0.0**
baz=249
CNPM China Poot 65.92 30 P **P 13 58 27.1 -0.2**
N20K Mount Spurr 65.96 28 P **P 13 58 27.7 +0.2**
baz=252
KSH Kashi 66.00 308 P **P 13 58 30.3 +2.1**
KSH pmax pmax
comp=Z,4.0nm,0.9s
BRLK Bradley Lake 66.16 30 P **P 13 58 28.2 -0.6**
BRSE Bradley Lake S 66.22 30 P **P 13 58 29.5 +0.4**
baz=254
SKT Skwentna 66.51 27 P **P 13 58 30.8 -0.2**
SKT lAmb lAmb 13 58 52.7
comp=Z,13nm,1.2s
SKT Skwentna 66.51 27 P **P 13 58 30.7 -0.3**
baz=252
PPLA Purkeypile 66.52 26 P **P 13 58 31.0 -0.1**
PPLA lAmb lAmb 13 58 32.4
comp=Z,14nm,0.8s
PPLA Purkeypile 66.52 26 P **P 13 58 31.0 -0.1**
baz=251
SUA Susitna One 66.71 28 P **P 13 58 32.3 -0.1**
SUA lAmb lAmb 13 58 34.1
comp=Z,18nm,1.2s
SUA Susitna One 66.71 28 P **P 13 58 31.6 -0.8**
baz=253
CAST Castle Rocks 66.73 26 P **P 13 58 32.4 +0.1**
CAST lAmb lAmb 13 58 33.6
comp=Z,15nm,0.8s
CAST Castle Rocks 66.73 26 P **P 13 58 32.5 +0.2**
baz=251,SNR=13
CHUM Lake Minchumin 66.79 25 P **P 13 58 33.1 +0.5**
baz=250,SNR=5.8
SEW Seward 66.94 30 P **P 13 58 33.8 +0.1**
SEW Seward 66.94 30 P **P 13 58 33.2 -0.5**
baz=255
IMAR Indian Mountai 66.96 23 P **P 13 58 33.4 -0.3**
RC01 Rabbit Creek A 67.08 29 P **P 13 58 33.9 -0.6**
RC01 Rabbit Creek A 67.08 29 P **P 13 58 34.3 -0.3**
baz=254
M22K Willow 67.08 28 P **P 13 58 33.8 -0.8**
M22K Willow 67.08 28 P **P 13 58 34.7 +0.1**
baz=253
NRIK Noril'sk 67.09 341 P **P 13 58 33.5 -0.9**
comp=Z,2.2nm,0.6s,baz=115,slow=8.6,SNR=4.1
NRIK PcP **PcP 13 59 03.4 +0.9**
comp=Z,5.3nm,0.7s,baz=133,slow=6.2,SNR=6.6
comp=Z,2.2nm,0.6s
NRIK Noril'sk 67.09 341 P **P 13 58 33.9 -0.6**
NRIK lAmb lAmb 13 59 03.9
comp=Z,6.0nm,0.8s
NRIK Noril'sk 67.09 341 P **P 13 58 33.9 -0.6**
NRIK pmax pmax
comp=Z,6.0nm,0.9s
H21K Melozitna Rive 67.20 23 P **P 13 58 35.2 -0.1**
H21K Melozitna Rive 67.20 23 P **P 13 58 35.8 +0.5**
baz=249
CUT Chulitna 67.21 27 P **P 13 58 34.4 -0.9**
CUT Chulitna 67.21 27 P **P 13 58 34.8 -0.5**
baz=253
G21K Allakaket 67.25 22 P **P 13 58 35.4 -0.2**
baz=248
KTH Kantishna Hill 67.27 26 P **P 13 58 35.4 -0.4**
KTH lAmb lAmb 13 58 42.7
comp=Z,20nm,1.1s
AAK Ala-Archa 67.30 311 LR LR 14 30 21.1
comp=Z,91nm,18.9s,baz=64,slow=38
AAK Ala-Archa 67.30 311 *ce*P **P 13 58 36.7 +0.2**
AAK pmax pmax
comp=Z,4.0nm,1.7s
I21K Tanana 67.36 24 P **P 13 58 36.8 +0.5**
I21K lAmb lAmb 13 58 38.3
comp=Z,9.2nm,1.0s
I21K Tanana 67.36 24 P **P 13 58 35.7 -0.5**
baz=250
BPAW Bear Paw Mtn. 67.41 25 P **P 13 58 36.8 +0.1**
BPAW lAmb lAmb 13 58 37.8
comp=Z,11nm,0.8s
BPAW Bear Paw Mtn. 67.41 25 P **P 13 58 36.1 -0.6**
baz=252,SNR=6.8
PMR Palmer 67.49 28 P **P 13 58 36.7 -0.4**
PMR lAmb lAmb 13 58 45.7
comp=Z,13nm,1.0s
PMR Palmer 67.49 28 P **P 13 58 35.8 -1.4**
baz=254
PMR Palmer 67.49 28 P **P 13 58 36.7 -0.4**
PMR pmax pmax
comp=Z,13nm,1.0s
TRF Thorofare Moun 67.51 26 P **P 13 58 36.7 -0.8**
TRF Thorofare Moun 67.51 26 P **P 13 58 35.9 -1.6**
baz=253
F21K Alatna River 67.52 22 P **P 13 58 36.1 -1.2**
baz=248
GHO Glory Hole Cre 67.64 28 P **P 13 58 37.5 -0.7**
GHO lAmb lAmb 13 58 54.3
comp=Z,18nm,1.0s
PWL Port Wells 67.67 29 P **P 13 58 38.2 -0.1**
PWL Port Wells 67.67 29 P **P 13 58 38.4 0.0**
baz=255
KNK Knik Glacier 67.76 28 P **P 13 58 38.7 -0.2**
KNK Knik Glacier 67.76 28 P **P 13 58 38.3 -0.6**
baz=255

MLY	**Manley**	**67.81**	**24**	P	**P**	**13 58 39.2**	**0.0**
MLY				IAmb	IAmb	13 58 40.4		
	comp=Z,8.7nm,0.8s							
MLY	**Manley**	**67.81**	**24**	P	**P**	**13 58 38.3**	**-0.9**
	baz=252,SNR=14							
H22K	**Ishtalitna Cre**	**67.84**	**23**	P	**P**	**13 58 38.4**	**-0.9**
	baz=251							
SML	**Sawmill**	**67.92**	**28**	P	**P**	**13 58 40.1**	**+0.1**
SML	**Sawmill**	**67.92**	**28**	P	**P**	**13 58 39.0**	**-0.9**
	baz=255,SNR=5.8							
NIL	**Nilore**	**68.07**	**301**	P	**P**	**13 58 40.9**	**-0.5**
NIL	**Nilore**	**68.07**	**301**	P	**P**	**13 58 40.9**	**-0.5**
NIL				pmax	pmax			
	comp=Z,17nm,0.8s							
BWN	**Browne**	**68.07**	**25**	P	**P**	**13 58 40.9**	**+0.1**
WAT1	**Susitna Watana**	**68.09**	**27**	P	**P**	**13 58 39.9**	**-1.0**
	baz=254							
MCK	**McKinley**	**68.17**	**26**	P	**P**	**13 58 40.7**	**-0.8**
MCK				IAmb	IAmb	13 59 10.3		
	comp=Z,37nm,1.8s							
MCK	**McKinley**	**68.17**	**26**	P	**P**	**13 58 40.7**	**-0.8**
	baz=254							
MCK	**McKinley**	**68.17**	**26**	P	**P**	**13 58 40.7**	**-0.8**
MCK				pmax	pmax			
	comp=Z,37nm,1.8s							
M23K	**Glacier View**	**68.19**	**28**	P	**P**	**13 58 40.9**	**-0.7**
	baz=256							
A21K	**Barrow**	**68.20**	**17**	P	**P**	**13 58 41.2**	**-0.2**
A21K				IAmb	IAmb	13 58 54.6		
	comp=Z,12nm,1.1s							
A21K	**Barrow**	**68.20**	**17**	P	**P**	**13 58 40.8**	**-0.6**
	baz=243							
NEA2	**Nenana**	**68.36**	**25**	P	**P**	**13 58 42.0**	**-0.6**
NEA2				IAmb	IAmb	13 59 44.2		
	comp=Z,13nm,1.7s							
NEA2	**Nenana**	**68.36**	**25**	P	**P**	**13 58 42.0**	**-0.6**
	baz=253							
WAT6	**Susitna Watana**	**68.38**	**27**	P	**P**	**13 58 42.1**	**-0.8**
	baz=255,SNR=5.8							
SCM	**Sheep Creek Mo**	**68.39**	**28**	P	**P**	**13 58 42.8**	**-0.1**
SCM	**Sheep Creek Mo**	**68.39**	**28**	P	**P**	**13 58 41.8**	**-1.1**
	baz=256							
SCM	**Sheep Creek Mo**	**68.39**	**28**	P	**P**	**13 58 42.8**	**-0.1**
SCM				pmax	pmax			
	comp=Z,40nm,1.2s							
I23K	**Minto, Yukon-K**	**68.40**	**24**	P	**P**	**13 58 43.1**	**+0.3**
I23K				IAmb	IAmb	13 58 44.1		
	comp=Z,7.1nm,0.8s							
I23K	**Minto, Yukon-K**	**68.40**	**24**	P	**P**	**13 58 42.6**	**-0.2**
	baz=253,SNR=5.5							
E22K	**Anaktuvuk Pass**	**68.45**	**21**	P	**P**	**13 58 42.6**	**-0.6**
	baz=249							
G23K	**Bananza Creek**	**68.62**	**23**	P	**P**	**13 58 43.8**	**-0.5**
	baz=252							
DHY	**Denali Highway**	**68.67**	**27**	P	**P**	**13 58 44.4**	**-0.4**
DHY	**Denali Highway**	**68.67**	**27**	P	**P**	**13 58 44.4**	**-0.4**
	baz=256							
COLD	**Coldfoot**	**68.72**	**22**	P	**P**	**13 58 44.3**	**-0.4**
COLD				IAmb	IAmb	13 58 46.3		
	comp=Z,7.7nm,0.8s							
COLD	**Coldfoot**	**68.72**	**22**	P	**P**	**13 58 44.8**	**0.0**
	baz=251							
WRH	**Wood River Hil**	**68.73**	**25**	P	**P**	**13 58 44.4**	**-0.5**
WRH				IAmb	IAmb	13 58 53.0		
	comp=Z,18nm,1.2s							
MDM	**Murphy Dome**	**68.81**	**25**	P	**P**	**13 58 45.0**	**-0.4**
MDM				IAmb	IAmb	13 58 47.5		
	comp=Z,7.8nm,0.8s							
EYAK	**Cordova Ski Ar**	**68.84**	**30**	P	**P**	**13 58 46.1**	**+0.5**
CCB	**Clear Creek Bu**	**68.90**	**25**	P	**P**	**13 58 45.3**	**-0.6**
CCB				IAmb	IAmb	13 58 52.2		
	comp=Z,7.5nm,1.1s							
TCOL	**CIGO, UAF Yank**	**68.93**	**25**	P	**P**	**13 58 46.3**	**+0.2**
	baz=254							
COLA	**College**	**68.94**	**25**	P	**P**	**13 58 46.3**	**+0.2**
	baz=254							
COLA	**College**	**68.94**	**25**	*i* P	**P**	**13 58 45.0**	**-1.1**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KLU	**Klutina**	**68.96**	**29**	P	**P**	**13 58 46.7**	**+0.2**
KLU	**Klutina**	**68.96**	**29**	P	**P**	**13 58 45.9**	**-0.5**
	baz=257							
M24K	**Tolsona, Glenn**	**68.98**	**28**	P	**P**	**13 58 47.2**	**+0.6**
M24K	**Tolsona, Glenn**	**68.98**	**28**	P	**P**	**13 58 46.1**	**-0.5**
	baz=257							
D23K	**Nanushuk River**	**69.13**	**20**	P	**P**	**13 58 46.9**	**-0.4**
	baz=250							
POKR	**Poker Plat Res**	**69.17**	**25**	P	**P**	**13 58 47.3**	**-0.4**
	baz=255							
H24K	**Noodor Dome**	**69.19**	**24**	P	**P**	**13 58 48.2**	**+0.4**
H24K				IAmb	IAmb	13 58 54.8		
	comp=Z,12nm,1.1s							
H24K	**Noodor Dome**	**69.19**	**24**	P	**P**	**13 58 47.9**	**+0.1**
	baz=254							
HDA	**Harding Lake**	**69.19**	**26**	P	**P**	**13 58 46.7**	**-1.1**
HDA				IAmb	IAmb	13 58 50.4		
	comp=Z,8.9nm,0.8s							
HDA	**Harding Lake**	**69.19**	**26**	P	**P**	**13 58 47.6**	**-0.2**
	baz=255,SNR=8.1							
E23K	**Chandalar**	**69.20**	**21**	P	**P**	**13 58 47.6**	**-0.3**
	baz=252							
IL31		**69.31**	**25**	P	**P**	**13 58 47.4**	**-1.0**
IL31				IAmb	IAmb	13 58 48.0		
	comp=Z,7.7nm,0.7s							
ILAR	**Eielson Array**	**69.31**	**25**	P	**P**	**13 58 47.1**	**-1.3**
	comp=Z,5.2nm,0.6s,baz=250,slow=6.1,SNR=109							
ILAR				LR	LR	14 26 04.8		
	comp=Z,99nm,21.9s,baz=270,slow=33							
	comp=Z,5.2nm,0.6s							
ILAR	**Eielson Array**	**69.31**	**25**	P	**P**	**13 58 47.0**	**-1.5**
ILAR	**Eielson Array**	**69.31**	**25**	P	**P**	**13 58 47.0**	**-1.5**
BMRM	**Bremner River**	**69.47**	**29**	P	**P**	**13 58 50.3**	**+0.6**
PAX	**Paxson**	**69.49**	**27**	P	**P**	**13 58 50.0**	**+0.2**
PAX				IAmb	IAmb	13 58 50.9		
	comp=Z,8.1nm,0.8s							
PAX	**Paxson**	**69.49**	**27**	P	**P**	**13 58 49.0**	**-0.8**
	baz=257,SNR=6.1							
PAX	**Paxson**	**69.49**	**27**	P	**P**	**13 58 50.0**	**+0.2**
PAX				pmax	pmax			
	comp=Z,8.0nm,0.8s							
HARP	**HAARP**	**69.51**	**28**	P	**P**	**13 58 48.9**	**-0.9**
	baz=258							
K24K	**Donnelly Dome**	**69.54**	**26**	P	**P**	**13 58 49.4**	**-0.6**
	baz=257,SNR=6.7							
G24K	**Hadweenzic Riv**	**69.59**	**23**	P	**P**	**13 58 50.2**	**0.0**
	baz=254							
N25K	**Chitina, Valde**	**69.60**	**29**	P	**P**	**13 58 51.0**	**+0.5**
N25K				IAmb	IAmb	13 59 09.6		
	comp=Z,19nm,1.2s							
N25K	**Chitina, Valde**	**69.60**	**29**	P	**P**	**13 58 50.3**	**-0.2**
	baz=259							
E24K	**Your Creek**	**69.61**	**22**	P	**P**	**13 58 50.2**	**-0.1**
	baz=253							
F24K	**Squaw Lake**	**69.66**	**22**	P	**P**	**13 58 50.6**	**0.0**
	baz=253							
RIDG	**Independent Ri**	**69.93**	**26**	P	**P**	**13 58 52.5**	**0.0**
RIDG	**Independent Ri**	**69.93**	**26**	P	**P**	**13 58 51.7**	**-0.7**
	baz=258							
GLB	**Gilahina Butte**	**69.94**	**29**	P	**P**	**13 58 53.0**	**+0.5**
GLB				IAmb	IAmb	13 59 00.2		
	comp=Z,15nm,1.0s							
C24K	**Franklin Bluff**	**70.04**	**20**	P	**P**	**13 58 52.5**	**-0.3**
	baz=252							
VRDI	**Verde Repeater**	**70.07**	**29**	P	**P**	**13 58 53.8**	**+0.3**
VRDI				IAmb	IAmb	13 59 21.8		
	comp=Z,19nm,1.2s							
KK31	**Karatay Array**	**70.24**	**311**	P	**P**	**13 58 54.1**	**-0.6**
KK31	**Karatay Array**	**70.24**	**311**	P	**P**	**13 58 54.1**	**-0.6**
KK31				pmax	pmax			
	comp=Z,5.0nm,1.4s							
KKAR	**Karatay Array**	**70.24**	**311**	P	**P**	**13 58 54.0**	**-0.6**
KKAR	**Karatay Array**	**70.24**	**311**	P	**P**	**13 58 54.1**	**-0.6**
KKAR	**Karatay Array**	**70.24**	**311**	P	**P**	**13 58 54.1**	**-0.6**
KKAR				pmax	pmax			
	comp=Z,5.0nm,1.4s							
DOT	**Dot Lake**	**70.26**	**27**	P	**P**	**13 58 54.1**	**-0.3**
DOT				IAmb	IAmb	13 59 01.4		
	comp=Z,24nm,1.2s							
MENT	**Mentasta**	**70.27**	**27**	P	**P**	**13 58 53.8**	**-0.6**
MCARA	**McCarthy VSAT**	**70.31**	**29**	P	**P**	**13 58 55.4**	**+0.7**
MCARA	**McCarthy VSAT**	**70.31**	**29**	P	**P**	**13 58 54.2**	**-0.5**
	baz=260							
SCRK	**Sand Creek**	**70.36**	**26**	P	**P**	**13 58 55.0**	**-0.1**
SCRK				IAmb	IAmb	13 58 58.6		
	comp=Z,6.3nm,0.8s							
SCRK	**Sand Creek**	**70.36**	**26**	P	**P**	**13 58 54.3**	**-0.8**
	baz=258,SNR=6.1							
GAR	**Garm**	**70.37**	**307**	P	**P**	**13 58 55.3**	**-0.4**
GAR				IAmb	IAmb	13 58 56.2		
	comp=Z,12nm,0.9s							
L26K	**Log Cabin Wild**	**70.45**	**27**	P	**P**	**13 58 55.8**	**+0.2**
L26K				IAmb	IAmb	13 58 57.0		
	comp=Z,8.1nm,0.8s							
L26K	**Log Cabin Wild**	**70.45**	**27**	P	**P**	**13 58 54.9**	**-0.7**
	baz=259							
M26K	**Nabesna, AK**	**70.50**	**28**	P	**P**	**13 58 55.5**	**-0.4**
	baz=260							
F25K	**Christian Rive**	**70.51**	**22**	P	**P**	**13 58 56.2**	**+0.3**
	baz=256							
J26L	**Joseph Creek**	**70.64**	**26**	P	**P**	**13 58 56.2**	**-0.6**
J26L				IAmb	IAmb	13 59 05.6		
	comp=Z,8.3nm,0.8s							
J26L	**Joseph Creek**	**70.64**	**26**	P	**P**	**13 58 55.6**	**-1.2**
	baz=258							
E25K	**Arctic Village**	**70.67**	**22**	P	**P**	**13 58 55.7**	**-1.2**
	baz=255							
BVAR	**Borovoye Array**	**70.80**	**322**	LR	LR	14 30 43.5		
	comp=Z,151nm,20.6s,baz=90,slow=36							
BMAR	**Burnt Mountain**	**70.87**	**23**	P	**P**	**13 58 58.7**	**+0.6**
BRVK	**Borovoye**	**70.87**	**322**	P	**P**	**13 58 58.1**	**-0.2**
BRVK	**Borovoye**	**70.87**	**322**	*ce*P	**P**	**13 58 57.6**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BARN	**Barnard Glacie**	**70.91**	**30**	P	**P**	**13 58 58.8**	**+0.2**
I26K	**Coal Creek Min**	**70.97**	**25**	P	**P**	**13 58 57.7**	**-1.0**
	baz=259							
M27K	**Edge Creek, AK**	**71.00**	**28**	P	**P**	**13 58 59.4**	**+0.3**
M27K				IAmb	IAmb	13 59 06.3		
	comp=Z,13nm,1.1s							
M27K	**Edge Creek, AK**	**71.00**	**28**	P	**P**	**13 58 58.6**	**-0.5**
	baz=261							
F26K	**Sheenjek River**	**71.09**	**22**	P	**P**	**13 58 59.5**	**+0.1**
	baz=257							
PPT	**Papeete**	**71.12**	**114**	LR	LR	14 26 14.1		
	comp=Z,191nm,20.4s,baz=236,slow=32							
PPT2	**Papeete2**	**71.13**	**114**	*e*S	**S**	**14 08 17.2**	**+1.6**
	comp=Z,79nm,23.2s							
PPT2	**Papeete2**	**71.13**	**114**	*e*LR	LR	14 20 13.4		
PPT2								
	comp=Z,144nm,32.8s							
				*e*LR	LR	14 20 38.2		
	comp=Z,176nm,26.8s							
L27K	**Beaver Creek,**	**71.14**	**27**	P	**P**	**13 59 00.1**	**+0.3**
L27K	**Beaver Creek,**	**71.14**	**27**	P	**P**	**13 58 59.4**	**-0.4**
	baz=261							
BCAR	**Beaver Creek A**	**71.16**	**27**	P	**P**	**13 59 00.1**	**+0.2**
CHGR	**Chuyangaron**	**71.28**	**307**	P	**P**	**13 59 00.7**	**-0.5**
CHGR				IAmb	IAmb	13 59 01.7		
	comp=Z,14nm,0.9s							
CHGR	**Chuyangaron**	**71.28**	**307**	P	**P**	**13 59 00.7**	**-0.5**
CHGR				pmax	pmax			
	comp=Z,14nm,0.9s							
C26K	**Camden Bay**	**71.36**	**20**	P	**P**	**13 59 01.2**	**+0.3**
	baz=255							
BVCY	**Beaver Creek**	**71.48**	**28**	P	**P**	**13 59 02.2**	**+0.3**
	baz=262							
KBL	**Kabul**	**71.53**	**302**	P	**P**	**13 59 00.7**	**-2.2**
KBL	**Kabul**	**71.53**	**302**	P	**P**	**13 59 00.7**	**-2.2**
KBL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
O28M	**Mount Upton**	**71.58**	**30**	P	**P**	**13 59 03.1**	**+0.3**
	baz=263							
YUK3	**Moose Creek**	**71.58**	**29**	P	**P**	**13 59 02.8**	**+0.1**
	baz=262							
I27K	**Kandik River**	**71.66**	**25**	P	**P**	**13 59 03.0**	**+0.1**
	baz=260							
C27K	**Jago River**	**71.69**	**20**	P	**P**	**13 59 03.1**	**+0.2**
	baz=257							
EGAK	**Eagle**	**71.71**	**26**	P	**P**	**13 59 02.9**	**-0.3**
EGAK	**Eagle**	**71.71**	**26**	P	**P**	**13 59 03.2**	**+0.1**
	baz=261							
H27K	**Steamboat Moun**	**71.81**	**24**	P	**P**	**13 59 04.2**	**+0.4**
	baz=260							
YUK8	**Steele Glacier**	**71.84**	**29**	P	**P**	**13 59 04.2**	**-0.2**
	baz=263							
G27K	**Doyon Strip**	**71.86**	**24**	P	**P**	**13 59 04.1**	**0.0**
	baz=260							
E27K	**Coleen River**	**72.14**	**22**	P	**P**	**13 59 05.7**	**+0.1**
	baz=259							
O29M	**Mount Kennedy**	**72.32**	**31**	P	**P**	**13 59 08.2**	**+1.1**
	baz=264							
DAWY	**Dawson**	**72.37**	**27**	P	**P**	**13 59 07.3**	**+0.2**
DAWY				IAmb	IAmb	13 59 17.5		
	comp=Z,8.1nm,1.0s							
DAWY	**Dawson**	**72.37**	**27**	P	**P**	**13 59 07.5**	**+0.4**
	baz=262							
YUK4	**Talbot Arm**	**72.39**	**29**	P	**P**	**13 59 08.7**	**+1.1**
	baz=264							
M29M	**Somme Creek**	**72.59**	**28**	P	**P**	**13 59 09.2**	**+0.6**
	baz=264							
L29M	**L29M**	**72.81**	**28**	P	**P**	**13 59 10.7**	**+0.8**
	baz=264							
HYT	**Haines Junctio**	**72.89**	**30**	P	**P**	**13 59 11.4**	**+1.0**
HYT				IAmb	IAmb	13 59 19.4		
	comp=Z,14nm,1.0s							
HYT	**Haines Junctio**	**72.89**	**30**	P	**P**	**13 59 11.3**	**+0.9**
	baz=265							
I29M	**Ogilvie Camp,**	**72.99**	**25**	P	**P**	**13 59 10.9**	**+0.1**
	baz=263							
P30M	**Million Dollar**	**73.11**	**31**	P	**P**	**13 59 11.5**	**-0.1**
	baz=266							
K29M	**Barlow Dome**	**73.16**	**27**	P	**P**	**13 59 12.2**	**+0.2**
	baz=264							
PLBC	**Pleasant Camp**	**73.36**	**31**	P	**P**	**13 59 13.4**	**+0.4**
	baz=267							
M30M	**Minto, Yukon**	**73.37**	**28**	P	**P**	**13 59 13.2**	**0.0**
M30M				IAmb	IAmb	14 01 41.4		
	comp=Z,29nm,1.9s							
M30M	**Minto, Yukon**	**73.37**	**28**	P	**P**	**13 59 13.0**	**-0.1**
	baz=265							
N31M	**Braeburn, Yuko**	**73.77**	**29**	P	**P**	**13 59 14.9**	**-0.6**
N31M				IAmb	IAmb	13 59 22.1		
	comp=Z,39nm,1.5s							
MAYO	**Mayo, Yukon**	**73.86**	**27**	P	**P**	**13 59 16.7**	**+0.8**
MAYO	**Mayo, Yukon**	**73.86**	**27**	P	**P**	**13 59 16.4**	**+0.4**
	baz=266							
G30M	**tAoh Zraii Nji**	**74.01**	**24**	P	**P**	**13 59 17.2**	**+0.4**
	baz=265							
WHY	**Whitehorse**	**74.17**	**30**	P	**P**	**13 59 18.2**	**+0.2**
WHY				IAmb	IAmb	14 00 35.6		
	comp=Z,43nm,1.9s							
WHY	**Whitehorse**	**74.17**	**30**	P	**P**	**13 59 18.1**	**+0.2**
	baz=268							
M31M	**Drury Creek, Y**	**74.47**	**29**	P	**P**	**13 59 20.2**	**+0.6**
M31M	**Drury Creek, Y**	**74.47**	**29**	P	**P**	**13 59 19.8**	**+0.3**
	baz=268							
P32M	**Atlin**	**74.72**	**31**	P	**P**	**13 59 21.3**	**+0.2**
	baz=269							
F31M	**Tsiigehtchic**	**75.00**	**23**	P	**P**	**13 59 21.5**	**-0.9**
	baz=267							
N32M	**Quiet Lake**	**75.06**	**30**	P	**P**	**13 59 22.9**	**-0.1**
	baz=269							
INK	**Inuvik**	**75.14**	**22**	P	**P**	**13 59 22.9**	**-0.3**
INK				IAmb	IAmb	13 59 29.6		
	comp=Z,13nm,1.4s							
INK	**Inuvik**	**75.14**	**22**	P	**P**	**13 59 23.0**	**-0.3**
	baz=267							
INK	**Inuvik**	**75.14**	**22**	P	**P**	**13 59 22.9**	**-0.3**
INK				pmax	pmax			
	comp=Z,13nm,1.4s							
P33M	**Teslin, Yukon**	**75.18**	**31**	P	**P**	**13 59 23.0**	**-0.8**
P33M				IAmb	IAmb	14 00 07.7		
	comp=Z,16nm,1.5s							
S34M	**Telegraph Cree**	**76.07**	**33**	P	**P**	**13 59 28.1**	**-0.7**
	baz=272							
DLBC	**Dease Lake**	**76.64**	**33**	P	**P**	**13 59 32.1**	**0.0**
DLBC				IAmb	IAmb	13 59 40.2		
	comp=Z,17nm,1.2s							
DLBC	**Dease Lake**	**76.64**	**33**	P	**P**	**13 59 31.3**	**-0.8**
	baz=272							
WTLY	**Watson Lake, Y**	**77.19**	**31**	P	**P**	**13 59 35.0**	**-0.2**
	baz=273							
ABKAR	**Akbulak array**	**77.39**	**318**	P	**P**	**13 59 35.0**	**-1.3**
ABKAR	**Akbulak array**	**77.39**	**318**	P	**P**	**13 59 35.1**	**-1.3**
ARU	**Arti**	**77.67**	**325**	LR	LR	14 36 28.2		
	comp=Z,138nm,18.0s,baz=86,slow=38							
ARU	**Arti**	**77.67**	**325**	*c i*P	**P**	**13 59 41.7**	**+3.9**
ARU						14 02 34.9		
ARU				S	**S**	**14 09 33.9**	**+6.4**
ARU				SS	**SS**	**14 14 34.3**	**+7.1**
ARU				pmax	pmax			
	comp=Z,11nm,1.8s							
A36M	**Sachs Harbour**	**77.95**	**19**	P	**P**	**13 59 38.5**	**-0.6**
A36M	**Sachs Harbour**	**77.95**	**19**	P	**P**	**13 59 38.8**	**-0.2**
	baz=274							
BBB	**Bella Bella**	**78.15**	**39**	LR	LR	14 28 47.5		
	comp=Z,87nm,21.0s,baz=257,slow=32							
AKTO	**Aktyubinsk**	**78.52**	**319**	LR	LR	14 35 49.4		
	comp=Z,181nm,19.9s,baz=50,slow=37							
C36M	**Paulatuk**	**78.55**	**21**	P	**P**	**13 59 41.8**	**-0.6**
	baz=275							
GEYT	**Alibeck**	**80.00**	**307**	P	**P**	**13 59 51.3**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=39,slow=0.9,SNR=9.3							
GEYT				LR	LR	14 37 00.9		
	comp=Z,73nm,21.6s,baz=143,slow=37							
	comp=Z,4.2nm,0.8s							
WSAR	**Wadi Sarin**	**81.92**	**292**	LR	LR	14 38 09.2		
	comp=Z,30nm,20.3s,baz=92,slow=37							
KIRV	**Kirov**	**82.26**	**328**	LR	LR	14 36 55.4		
	comp=Z,90nm,20.8s,baz=56,slow=36							
KIRV	**Kirov**	**82.26**	**328**	*ce*P	**P**	**14 00 02.1**	**-0.4**
YBH	**Yreka Blue Hor**	**83.31**	**49**	LR	LR	14 29 37.2		
	comp=Z,105nm,20.6s,baz=258,slow=30							
YKA	**Yellowknife Ar**	**83.58**	**27**	P	**P**	**14 00 09.5**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=285,slow=5.6,SNR=26							
	comp=Z,1.5nm,0.7s							
YKA	**Yellowknife Ar**	**83.58**	**27**	P	**P**	**14 00 09.3**	**0.0**
YKA	**Yellowknife Ar**	**83.58**	**27**	P	**P**	**14 00 09.3**	**0.0**
EUNU	**Eureka**	**83.76**	**8**	P	**P**	**14 00 09.9**	**-0.1**
EUNU				IAmb	IAmb	14 00 29.0		
	comp=Z,32nm,2.0s							
K05A	**Summer Lake**	**84.43**	**48**	P	**P**	**14 00 13.8**	**-0.6**
BELG	**Belogornoye**	**84.60**	**322**	LR	LR	14 40 06.1		
	comp=Z,120nm,19.0s,baz=114,slow=37							
RES	**Resolute Bay**	**85.40**	**13**	P	**P**	**14 00 18.4**	**+0.1**
RES	**Resolute Bay**	**85.40**	**13**	P	**P**	**14 00 18.4**	**+0.1**
RES				pmax	pmax			
	comp=Z,4.0nm,1.0s							
NEW	**Newport**	**85.77**	**42**	LR	LR	14 38 59.3		
	comp=Z,83nm,18.7s,baz=308,slow=36							
NEW	**Newport**	**85.77**	**42**	P	**P**	**14 00 20.3**	**-0.4**
	baz=284							
NVAR	**Mina Array Bea**	**87.32**	**51**	P	**P**	**14 00 30.1**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=268,slow=5.3,SNR=14							
	comp=Z,1.3nm,0.7s							
HLID	**Hailey**	**88.83**	**46**	P	**P**	**14 00 36.8**	**+1.0**
	baz=286							
ELK	**Elko**	**89.02**	**49**	LR	LR	14 39 30.2		
	comp=Z,88nm,18.7s,baz=284,slow=35							
GNI	**Garni**	**89.71**	**311**	LR	LR	14 44 53.4		
	comp=Z,40nm,18.2s,baz=84,slow=38							
PFO	**Pinyon Flats O**	**89.97**	**56**	LR	LR	14 41 57.9		
	comp=Z,100nm,19.0s,baz=246,slow=36							
OBN	**Obninsk**	**90.01**	**327**	⇑ *eP*	**P**	**14 00 40.1**	**-0.7**
OBN				*e*		14 04 16.4		
OBN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
OBN				MLR	MLR			
	comp=Z,106nm,17.0s							
KIV	**Kislovodsk**	**90.06**	**315**	*e*P	**P**	**14 00 39.2**	**-2.3**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
FINES	**FINESS Array B**	**92.11**	**335**	P	**P**	**14 00 49.1**	**-1.3**
	comp=Z,4.2nm,0.8s,baz=64,slow=6.0,SNR=6.6							
FINES				LR	LR	14 45 42.6		
	comp=Z,58nm,19.1s,baz=41,slow=38							
	comp=Z,4.2nm,0.8s							
FINES	**FINESS Array B**	**92.11**	**335**	*ce*P	**P**	**14 00 52.4**	**+2.0**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
PDAR	**Pinedale Array**	**92.45**	**45**	LR	LR	14 35 51.0		
	comp=Z,54nm,20.0s,baz=310,slow=31							
AKASG	**Malin Array Be**	**95.91**	**325**	LR	LR	14 46 39.4		
	comp=Z,118nm,19.4s,baz=21,slow=37							
BRTR	**Keskin Array B**	**97.87**	**314**	LR	LR	14 50 22.0		
	comp=Z,50nm,19.1s,baz=106,slow=38							
NB2	**NORSAR Subarra**	**98.00**	**339**	P	**P**	**14 01 15.9**	**-1.6**
	comp=Z,5.6nm,1.1s,baz=47,slow=4.4							
NB2	**NORSAR Subarra**	**98.00**	**339**	P	**P**	**14 01 15.9**	**-1.6**
	baz=47,slow=4.4							
NOA	**NORSAR Array B**	**98.00**	**339**	P	**P**	**14 01 15.7**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=48,slow=4.8,SNR=4.2							
	comp=Z,1.4nm,0.8s							
ESDC	**Sonseca Array**	**120.52**	**333**	PKP	**PKiKP**	**14 06 34.3**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=48,slow=1.9,SNR=2.3							
MDT	**Midelt**	**126.33**	**328**	PKP	**PKiKP**	**14 06 46.3**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=132,slow=3.2,SNR=4.4							
TORD	**Torodi Ar. Bea**	**135.58**	**304**	PKP	**PKiKP**	**14 07 04.4**	**+0.3**
	comp=Z,2.7nm,1.0s,baz=30,slow=3.2,SNR=8.8							
DBIC	**Dimbokro**	**144.51**	**301**	PKP	PKPbc	14 07 17.8	+0.4	
	comp=Z,8.9nm,0.7s,baz=64,slow=3.1,SNR=12							
KIC	**Kosan Boka**	**144.58**	**301**	⇓ *i*PKP1	PKPbc	14 07 18.3	+0.7	
	comp=Z,8.1nm,0.5s							
TIC	**Toumodi**	**144.66**	**301**	⇑ *i*PKP1	PKPbc	14 07 18.1	+0.2	
	comp=Z,5.9nm,0.2s							
LIC	**Lamto**	**144.89**	**301**	⇑ *i*PKP1	PKPbc	14 07 19.0	+0.4	
	comp=Z,41nm,0.4s							
LPAZ	**La Paz**	**147.63**	**100**	PKPbc	**PKPbc**	**14 07 26.6**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=253,slow=11,SNR=5.1							
CPUP	**Villa Florida**	**154.91**	**126**	PKPbc	**PKPbc**	**14 07 43.1**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=236,slow=3.6,SNR=1.8							

*IDC **29** 13:53:28.2±1.9

comp=E,9159µm,0.3s
GVDS Gavdos 0.64 99 P Pn 14 03 58.0 +1.7
GVDS S Sn 14 04 08.6 +3.1
comp=E,3µm,0.3s
RODP Rodopos 0.71 30 P Pn 14 03 58.5 +1.3
IMMV Iera Moni Meta 0.75 46 P Pn 14 03 58.7 +1.0
IMMV S Sn 14 04 12.7 +4.7
comp=E,2µm,0.5s
IMMV Iera Moni Meta 0.75 46 P Pn 14 03 58.6 +0.9
IMMV S Sn 14 04 09.2 +1.2
IMMV AML AML 14 04 13.6
comp=N,4834µm,0.7s
IMMV AML AML 14 04 16.2
comp=E,4362µm,0.4s
CHAN Chania 0.82 46 P Pn 14 04 00.0 +1.3
CHAN S Sn 14 04 13.1 +3.3
CHAN AML AML 14 04 14.4
comp=N,3170µm,0.6s
CHAN AML AML 14 04 15.3
comp=E,4358µm,0.6s
ANKY Antikythira Is 0.92 359 P Pn 14 04 01.2 +1.2
ANKY S Sn 14 04 15.4 +3.3
ANKY Antikythira Is 0.92 359 P Pn 14 04 01.0 +1.0
ANKY S Sn 14 04 14.4 +2.3
ANKY AML AML 14 04 17.9
comp=N,3330µm,0.6s
ANKY AML AML 14 04 18.6
comp=E,3364µm,0.5s
PRNS Prines Rethymn 1.06 66 P Pn 14 04 03.0 +1.2
PRNS S Sn 14 04 20.1 +4.7
IDI Anoyia 1.33 75 P Pn 14 04 07.6 +1.9
comp=E,53nm,0.3s,baz=263,slow=10,SNR=247
IDI S Sn 14 04 26.2 +3.9
comp=E,96nm,0.4s,baz=354,slow=13,SNR=9.6
IDI LR LR 14 04 58.3
comp=E,55nm,20.3s,baz=286,slow=52
IDI Anoyia 1.33 75 P Pn 14 04 07.4 +1.7
IDI AML AML 14 04 30.2
comp=N,458µm,0.6s
IDI AML AML 14 04 31.9
comp=E,453µm,0.3s
KTHR Kythira 1.34 349 P Pn 14 04 07.8 +2.1
KTHR S Sn 14 04 26.4 +4.0
KTHR Kythira 1.34 349 P Pn 14 04 06.8 +1.1
KTHR AML AML 14 04 31.2
comp=E,2738µm,0.3s
KTHR AML AML 14 04 33.9
comp=N,4014µm,0.4s
HRKL Herakleio 1.51 75 P Pn 14 04 09.9 +1.9
MNVA Monemvasia 1.75 353 P Pn 14 04 11.5 +0.1
VLI Veliai 1.80 350 P Pn 14 04 14.8 +2.8
VLI S Sn 14 04 38.3 +4.7
VLI Veliai 1.80 350 P Pn 14 04 13.2 +1.2
VLI AML AML 14 04 48.1
comp=N,726µm,0.6s
VLI AML AML 14 04 49.6
comp=E,784µm,0.8s
MHLO Agia Marina, M 1.95 27 P Pn 14 04 15.0 +0.9
PYL PYLOS 2.33 327 P Pn 14 04 21.8 +2.5
PYL PYLOS 2.33 327 P Pn 14 04 18.5 -0.8
ZKR Zakros 2.38 85 P Pn 14 04 23.4 +3.3
ZKR Zakros 2.38 85 P Pn 14 04 22.6 +2.5
KRND KRANIDI 2.44 357 P Pn 14 04 23.7 +2.9
KRND KRANIDI 2.44 357 P Pn 14 04 20.6 -0.2
KRND AML AML 14 05 04.5
comp=N,248µm,0.5s
KRND AML AML 14 05 11.0
comp=E,290µm,0.6s
VLY Voula,Athens 2.93 7 P Pn 14 04 28.0 +0.5
ATHU Athens Univers 3.04 7 P Pn 14 04 29.3 +0.3
LOUT Loutraki 3.05 355 P Pn 14 04 31.8 +2.6
KLV Kalavryta, Ach 3.23 343 P Pn 14 04 34.1 +2.3
KLV Kalavryta, Ach 3.23 343 P Pn 14 04 31.7 -0.1
VIL2 Platees 3.26 359 P Pn 14 04 31.8 -0.4
DRO Drossia 3.27 337 P Pn 14 04 33.9 +1.7
LAKA Lakka 3.46 342 P Pn 14 04 35.4 +0.5
SERG Sergoula 3.61 344 P Pn 14 04 39.0 +2.1
SERG Sergoula 3.61 344 P Pn 14 04 37.9 +1.0
ANX Ano Chora 3.81 343 P Pn 14 04 41.9 +2.2
ANX Ano Chora 3.81 343 P Pn 14 04 41.0 +1.3
AXAR Agios Charalam 3.85 352 P Pn 14 04 40.8 +0.6
VLS Valsamata 3.90 327 P Pn 14 04 40.4 -0.5
EVR Evrytania 4.14 343 P Pn 14 04 47.5 +3.2
AGG Agios Georgios 4.15 349 P Pn 14 04 44.6 +0.3
MAKR Makrakomi, Fth 4.17 347 P Pn 14 04 45.8 +1.2
EVGI Lefkada island 4.25 331 P Pn 14 04 48.3 +2.7
BRTR Keskin Array B 9.50 57 P Pn 14 05 59.0 +1.3
comp=E,0.1nm,0.3s,baz=227,slow=14,SNR=2.2
comp=E,0.3nm,0.5s
MMAI Mount Meron Ar 10.22 97 P Pn 14 06 08.0 +0.5
comp=E,0.8nm,0.2s,baz=280,slow=10,SNR=6.7
MMAI S Sn 14 07 55.5 -5.3
comp=E,0.5nm,0.3s,baz=262,slow=22,SNR=1.6
GERES GERESS Array B 15.61 336 P Pn 14 07 21.7 +1.4
comp=E,0.4nm,0.4s,baz=146,slow=11,SNR=7.3
AKASG Malin Array Be 16.32 13 P Pn 14 07 28.6 -0.7
comp=E,1.0nm,0.3s,baz=205,slow=8.9,SNR=2.5
comp=E,0.3nm,0.3s
HFS Hagfors 25.97 349 P P 14 09 10.0 -1.5
comp=E,1.3nm,0.4s,baz=138,slow=11,SNR=10
comp=E,1.3nm,0.4s
FINES FINESS Array B 26.58 3 P P 14 09 14.8 -2.1
comp=E,3.0nm,0.9s,baz=167,slow=9.7,SNR=5.7
comp=E,3.0nm,0.9s
NOA NORSAR Array B 27.25 347 P P 14 09 21.6 -1.5
comp=E,0.6nm,0.7s,baz=156,slow=10,SNR=6.4
comp=E,0.6nm,0.7s
EKA Eskdalemuir Ar 27.36 326 P P 14 09 22.3 -1.8
comp=E,1.0nm,0.8s,baz=124,slow=9.5,SNR=1.5
comp=E,1.0nm,0.8s
TORD Torodi Ar. Bea 29.21 227 P P 14 09 41.7 +0.7
comp=E,0.2nm,0.4s,baz=33,slow=8.5,SNR=1.5
comp=E,0.2nm,0.4s
ARCES ARCESS Array B 34.66 1 P P 14 10 26.1 -2.1
comp=E,1.8nm,0.8s,baz=205,slow=8.0,SNR=5.4
comp=E,1.8nm,0.8s
MKAR Makanchi Array 45.15 56 P P 14 11 55.4 -0.1
comp=E,0.4nm,0.3s,baz=264,slow=7.9,SNR=15
comp=E,0.4nm,0.3s
ZALV Zalesovo Beam 46.24 46 P P 14 12 02.9 -1.1
comp=E,1.1nm,0.3s,baz=274,slow=8.7,SNR=8.3
comp=E,1.1nm,0.3s
SONM Songino Array 60.78 50 P P 14 13 50.8 -0.1
comp=E,0.4nm,0.5s,baz=285,slow=6.8,SNR=4.7
comp=E,0.4nm,0.5s
ASAR Alice Springs 119.50 100 PKP PKiKP 14 22 28.5 0.0
comp=E,0.3nm,1.0s,baz=307,slow=1.4,SNR=5.5

*IDC **29** 14:45:02.5±2.3, 7.61S×127.51E, h0km, mb3.3/1, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=291.6km s-min=32.4km az=63.0*
*DJA **29** 14:45:12.6±0.4, 7.5±3.3×12.8E±., h187km±12km, M4.0/10, mb3.8/6, mB4.7/2, MLv4.0/10, Mw(mB)4.0/2*
*NEIC **29** 14:45:14.6±0.8, 7.57S±0.06×128.36E±0.08, h152km±8km, mb4.1/4, Error ellipse: s-maj=12.1km s-min=8.9km az=69.0*

ISC 29 14:45:12.9±0.8, 7.57S±0.07×128.37E±0.07, h151km, n27, σ2.529/29, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.93**	**98**	Pn	**Pn**	**14 46 01.2**	**+1.7**
SAUI	**Saumlaki**	**2.93**	**98**	P	**Pn**	**14 46 01.6**	**+2.1**
SAUI				S	**Sn**	**14 46 36.9**	**+1.4**
AAI	**Ambon**	**3.87**	**357**	P	**Pn**	**14 46 09.6**	**-1.9**
NLAI	**Namlea**	**4.49**	**344**	P	**Pn**	**14 46 17.8**	**-1.9**
SOEI	**Soe**	**4.60**	**242**	P	**Pn**	**14 46 22.7**	**+1.4**
SOEI	**Soe**	**4.60**	**242**	P	**Pn**	**14 46 23.0**	**+1.8**
BATI	**Baumata**	**5.34**	**240**	P	**Pn**	**14 46 33.1**	**+2.2**
	40nm,1.2s,0.1nm						
MTN	**Manton Dam**	**5.90**	**153**	Pn	**Pn**	**14 46 40.0**	**+1.6**
SANI	**Sanana**	**5.98**	**336**	P	**Pn**	**14 46 36.0**	**-3.4**
	4.4nm,1.1s,0.0nm						
FAKI	**Fak Fak**	**6.02**	**40**	Pn	**Pn**	**14 46 40.5**	**+0.4**
FAKI	**Fak Fak**	**6.02**	**40**	P	**Pn**	**14 46 39.0**	**-1.1**
	13nm,1.3s,0.1nm						
MMRI	**Maumere**	**6.16**	**260**	P	**Pn**	**14 46 42.0**	**+0.1**
	33nm,1.1s,0.2nm						
KNRA	**Kununurra**	**8.06**	**177**	Pn	**Pn**	**14 47 09.6**	**+2.3**
BKSI	**Bulukumba**	**8.49**	**285**	P	**Pn**	**14 47 10.4**	**-2.6**
FITZ	**Fitzroy Crossi**	**10.79**	**194**	Pn	**Pn**	**14 47 45.8**	**+2.3**
WB0	**Warramunga Arr**	**13.46**	**155**		**Pn**	**14 48 18.6**	**+0.5**
WRAB	**Tennant Creek**	**13.59**	**155**	Pn	**Pn**	**14 48 20.8**	**+1.1**
WRA	**Warramunga Arr**	**13.59**	**155**	Pn	**Pn**	**14 48 20.2**	**+0.5**
	0.8nm,0.3s,baz=330,slow=13,SNR=19						
WRA				Sn	**Sn**	**14 50 43.6**	**-6.7**
	0.6nm,0.3s,baz=328,slow=23,SNR=7.7						
	1.1nm,0.4s						
WB2	**Warramunga Arr**	**13.60**	**155**	Pn	**Pn**	**14 48 20.7**	**+0.9**
WR0	**Warramunga Arr**	**13.69**	**155**	Pn	**Pn**	**14 48 21.5**	**+0.5**
AS31	**Alice Springs**	**16.86**	**162**	P	**Pn**	**14 49 00.7**	**+0.5**
ASAR	**Alice Springs**	**16.86**	**162**	Pn	**Pn**	**14 49 04.2**	**+4.0**
	0.3nm,0.3s,baz=336,slow=9.1,SNR=30						
ASAR				Sn	**S**	**14 52 05.0**	**-2.8**
	0.2nm,0.3s,baz=346,slow=25,SNR=5.5						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**16.86**	**162**	P	**Pn**	**14 49 00.6**	**+0.4**
RPSI	**Rantau Prapat**	**31.10**	**288**	P	**P**	**14 51 17.5**	**+0.2**
RPSI				IAmb	IAmb	14 51 34.8	
	comp=Z,6.3nm,1.0s						
ERM	**Érimo**	**51.17**	**14**	P	**P**	**14 54 02.4**	**+1.9**
TARG	**Taragay, Kyrgy**	**67.38**	**321**	P	**P**	**14 55 53.5**	**+1.0**
TARG				IAmb	IAmb	14 56 14.6	
	comp=Z,1.9nm,0.9s						
MKAR	**Makanchi Array**	**67.83**	**328**	P	P	14 55 59.9	+5.1
	comp=Z,0.2nm,0.5s,baz=127,slow=6.8,SNR=4.8						
	comp=Z,0.2nm,0.5s						

MAN 29 14:55:15.9, 8.84N×124.51E, h4km, mb4.4, ML3.2, MS3.0, 4C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.42**	**154**	↑*i*	P	14 55 23.8	-0.2
GHBP	**Garcia Hernand**	**0.81**	**347**	↑*i*	P	14 55 32.7	+0.1
GHBP				*i*	S	14 55 46.0	-0.6
TBP	**Tagbilaran**	**1.06**	**323**	*e*	P	14 55 35.7	-0.6
TBP				*e*	S	14 55 50.7	-0.5
BUKP	**Musuan**	**1.09**	**150**	↓*e*	P	14 55 42.0	+3.9
BUTP	**Butuan**	**1.10**	**83**	↓*e*	P	14 55 40.1	+1.9
MSLP	**Maasin**	**1.34**	**15**	↓*e*	P	14 55 40.4	-0.9
MSLP				*e*	S	14 56 00.2	+0.7
SCPH	**Surigao**	**1.35**	**46**	↑*e*	P	14 55 40.5	-1.0
SCPH				*e*	S	14 55 59.5	+0.2
PAGZ	**Pagadian**	**1.49**	**229**	↓*e*	P	14 55 42.5	-0.9
PAGZ				*e*	S	14 55 52.1	-11
LLP	**Lapu-Lapu**	**1.57**	**340**	*e*	P	14 55 45.5	+0.1
LLP				*e*	S	14 56 05.4	+0.1
CTBH	**Cotabato--PC H**	**1.62**	**189**	↑*e*	P	14 55 44.5	-0.8
CTBH				*i*	S	14 56 08.0	-0.1
BIPH	**Bislig**	**1.94**	**109**	↓*e*	P	14 55 54.0	+0.9
BIPH				*e*	S	14 56 16.3	-0.1

MAN 29 14:57:00.6, 14.02N×120.46E, h115km, mb4.0, ML2.8, MS2.4, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACP	**Maragondon, Ca**	**0.35**	**45**	↓*e*	P	14 57 18.6	+1.4
MACP				*e*	S	14 57 32.4	+2.7
LUBP	**Lubang**	**0.35**	**217**	↓*i*	P	14 57 19.1	+1.9
LUBP	**Lubang**	**0.35**	**217**	↓*e*	P	14 57 19.0	+1.8
LUBP	**Lubang**	**0.35**	**217**	*e*	S	14 57 32.1	+2.5
LUBP	**Lubang**	**0.35**	**217**	*i*	S	14 57 32.2	+2.6
LQP	**Lukban**	**1.05**	**85**	↑*e*	P	14 57 20.6	-2.3

*IDC **29** 14:59:48.9±0.3, 30.08S×177.48W, h0km, mb5.3/19, mbtmp5.3/20, ML4.0/1, MS5.5/59, Error ellipse: s-maj=14.7km s-min=10.5km az=79.0*
*MOS **29** 14:59:49.4±1.0, 30.15S×177.51W, h12km, mb5.9/53, MS5.6/34, Error ellipse: s-maj=9.6km s-min=6.9km az=103.9*
*BJI **29** 14:59:49.4±0.0, 30.00S×177.20W, h19km, mb5.5/58, mB6.0/62, Ms5.7/78, Ms7 5.5/73*
*NEIC **29** 14:59:52.0±1.6, 30.09S±0.07×177.5W±0.1, h18km±1km, mb5.7/271, Ms_20 5.8/340, Mwb5.7/56, Mww5.9, Error ellipse: s-maj=15.4km s-min=11.9km az=70.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.55; $M_{\theta\theta}$-0.72; $M_{\phi\phi}$-2.82; $M_{r\theta}$1.14; $M_{\theta\phi}$-1.34; $M_{\phi r}$2.30; Fault plane solution: $M_0$4.35000×10^{17} NP1: ϕ_s205.67000°, δ26.94000°, λ89.55000°. NP2:ϕ_s26.18000°, δ63.07000°, λ90.23000°. Principal axes: T 4.3817, Plg72.0000°, Azm297.0000°; N -0.0703, Plg0.0000°, Azm206.0000°; P -4.3114, Plg18.0000°, Azm116.0000°;*
*NEIC **29** 14:59:51, 30.37S×176.58W, h24km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^{17}Nm; M_{rr}7.42; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$-6.08; $M_{r\theta}$1.54; $M_{\theta\phi}$-3.72; $M_{\phi r}$4.99; Fault plane solution: $M_0$9.38000×10^{17} NP1: ϕ_s216.00000°, δ29.00000°, λ103.00000°. NP2: ϕ_s22.00000°, δ62.00000°, λ83.00000°. Principal axes: T 9.0719, Plg72.0000°, Azm276.0000°; N 0.5931, Plg6.0000°, Azm25.0000°; P -9.6649, Plg17.0000°, Azm117.0000°;*
*NOU **29** 14:59:53.4, 30.59S×176.85W, h51km, ML5.8/118, Kermadec Islands Region*
*GCMT **29** 14:59:55.0±0.1, 30.15S±0.01×177.19W, h24km, MW5.9/156, Moment Tensor Solution. s156,c328; s156,c476; Duration: 2s1 Moment tensor: Scale 10^{18} Nm; M_{rr}0.70±.01; $M_{\theta\theta}$-0.04±.00; $M_{\phi\phi}$-0.65±.01; $M_{r\theta}$0.09±.01; $M_{\theta\phi}$-0.20±.00; $M_{\phi r}$0.46±.01; Best double couple: $M_0$0.84500×10^{18} NP1:ϕ_s14.00000°, δ62.00000°, λ87.00000°. NP2:ϕ_s200.00000°, δ28.00000°, λ95.00000°. Principal axes: T 0.8390, Plg73.0000°, Azm277.0000°; N 0.0120, Plg2.0000°, Azm15.0000°; P -0.8510, Plg17.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 29 14:59:51.6±0.3, 30.23S±0.03×177.33W±0.04, h21km±2km, h21km:pP-P, n1656, σ1.983/1622, mb5.7/280, MS5.8/281, 98C-67D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.10**	**332**	P	**Pn**	**15 00 09.6**	**-2.1**
GLKZ				S	**Sb**	**15 00 24.3**	**-1.4**
RAO	**Raoul Island**	**1.10**	**332**	Pn	**Pn**	**15 00 10.0**	**-1.8**
	4µm,0.3s,baz=170,slow=5.7,SNR=178						
RAO				Sn	**Sb**	**15 00 23.8**	**-2.1**
	13µm,0.3s,baz=80,slow=22,SNR=15						
RAO	**Raoul Island**	**1.10**	**332**	↓P	**Pn**	**15 00 09.8**	**-2.0**
RAO	**Raoul Island**	**1.10**	**332**	P	**Pn**	**15 00 10.0**	**-1.8**
RIZ	**Raoul Island**	**1.11**	**332**	P	**Pn**	**15 00 10.1**	**-1.9**
MXZ	**Matakaoa Point**	**8.16**	**205**	Pn	**Pn**	**15 01 45.9**	**-2.9**
MXZ	**Matakaoa Point**	**8.16**	**205**	P	**Pn**	**15 01 46.1**	**-2.7**
	126nm,0.7s						
MXZ	**Matakaoa Point**	**8.16**	**205**	P	**Pn**	**15 01 45.7**	**-3.1**
WMGZ	**Waiomatatini S**	**8.35**	**204**	P	**Pn**	**15 01 47.9**	**-3.4**
HAZ	**Te Kaha**	**8.53**	**207**	P	**Pn**	**15 01 50.1**	**-3.7**
HAZ				S	**Sn**	**15 03 30.7**	**+1.3**
PKGZ	**Pakihiroa**	**8.53**	**205**	P	**Pn**	**15 01 49.8**	**-4.1**
PKGZ				S	**Sn**	**15 03 27.7**	**-1.9**
PUZ	**Puketiti**	**8.63**	**204**	P	**Pn**	**15 01 50.9**	**-4.3**
KUZ	**Kuaotunu**	**8.71**	**220**	P	**Pn**	**15 01 58.8**	**+2.5**
	356nm,1.1s						
RUGZ	**Raukumara Rang**	**8.75**	**207**	P	**Pn**	**15 01 53.3**	**-3.7**
TWGZ	**Tauwhareparae**	**8.82**	**205**	P	**Pn**	**15 01 53.8**	**-4.2**
WHRZ	**Whale Island**	**8.95**	**210**	P	**Pn**	**15 02 01.9**	**+2.2**
WCZ	**Waipu Caves**	**9.01**	**229**	P	**Pn**	**15 02 03.8**	**+3.4**
CNGZ	**Carnagh Station**	**9.02**	**203**	P	**Pn**	**15 01 57.0**	**-3.6**
TKGZ	**Te Karaka**	**9.10**	**205**	P	**Pn**	15 01 56.8	-4.9
OUZ	**Omahuta**	**9.12**	**235**	P	**Pn**	15 02 07.8	+5.9
	557nm,1.0s						
OUZ	**Omahuta**	**9.12**	**235**	↑P	**Pn**	**15 02 05.9**	**+3.9**
OPRZ	**Ohinepanea**	**9.13**	**212**	P	**Pn**	**15 02 00.1**	**-2.0**
MWZ	**Matawai**	**9.13**	**206**	P	**Pn**	**15 01 57.5**	**-4.7**
TGRZ	**Tauranga**	**9.17**	**214**	P	**Pn**	**15 02 05.0**	**+2.3**
MARZ	**Manawahe**	**9.19**	**211**	P	**Pn**	**15 02 02.6**	**-0.3**
URZ	**Urewera**	**9.23**	**208**	Pn	**Pn**	15 01 58.6	-4.9
	1.6nm,0.3s,baz=337,slow=5.3,SNR=28						
URZ				Sn	**Sn**	**15 03 43.6**	**-3.1**
	33nm,0.3s,baz=336,slow=7.0,SNR=10						
URZ	**Urewera**	**9.23**	**208**	P	**Pn**	**15 01 58.9**	**-4.6**
	237nm,1.0s						
URZ	**Urewera**	**9.23**	**208**	↑P	Pn	15 01 58.7	-4.8
URZ	**Urewera**	**9.23**	**208**	P	**Pn**	**15 01 58.8**	**-4.6**
RAGZ	**Rawiri**	**9.31**	**206**	P	**Pn**	**15 02 03.7**	**-1.0**
RIGZ	**Rimuhau**	**9.37**	**204**	P	**Pn**	**15 02 01.1**	**-4.3**
WTAZ	**Waiatarua**	**9.50**	**223**	P	Pn	15 02 21.6	+14
RRRZ	**Republican Roa**	**9.55**	**211**	P	**Pn**	**15 02 10.6**	**+2.7**
TOZ	**Tahuroa Road**	**9.55**	**217**	P	**Pn**	**15 02 10.2**	**+2.3**
MUGZ	**Murupara**	**9.56**	**209**	P	**Pn**	**15 02 04.3**	**-3.7**
RTZ	**Ruatahuna**	**9.59**	**208**	Pn	**Pn**	**15 02 04.3**	**-4.2**
RTZ	**Ruatahuna**	**9.59**	**208**	P	**Pn**	**15 02 04.2**	**-4.2**
SNGZ	**Shannon Statio**	**9.59**	**206**	P	**Pn**	**15 02 04.4**	**-4.1**
KNZ	**Kokohu**	**9.68**	**204**	P	Pn	15 02 04.1	-5.5
MHGZ	**Mahia Peninsul**	**9.72**	**202**	P	**Pn**	**15 02 06.6**	**-3.6**
PRRZ	**Plateau Road**	**9.74**	**210**	P	**Pn**	**15 02 10.2**	**-0.2**
RAHZ	**Arahi**	**9.81**	**206**	P	**Pn**	**15 02 08.1**	**-3.3**
ALRZ	**Allen Road**	**9.81**	**210**	P	**Pn**	**15 02 09.4**	**-2.1**
WHHZ	**Waihua**	**9.89**	**205**	P	**Pn**	**15 02 09.3**	**-3.2**
KUTZ	**Kaahu Road**	**9.99**	**213**	P	**Pn**	**15 02 18.6**	**+4.7**
TLZ	**Tolley Road**	**10.00**	**214**	P	**Pn**	**15 02 14.4**	**+0.3**
MRHZ	**Matea Rd**	**10.01**	**209**	P	**Pn**	**15 02 10.3**	**-3.9**
WHTZ	**Whakaora**	**10.07**	**212**	P	**Pn**	**15 02 13.8**	**-1.2**
NMHZ	**Naumai**	**10.07**	**207**	P	**Pn**	**15 02 11.3**	**-3.8**
ARHZ	**Aropaoanui**	**10.14**	**206**	P	**Pn**	**15 02 11.8**	**-4.2**
BKZ	**Black Stump Fm**	**10.26**	**208**	Pn	Pn	15 02 12.2	-5.4
BKZ	**Black Stump Fm**	**10.26**	**208**	P	Pn	15 02 12.7	-4.9
	96nm,0.6s						
BKZ	**Black Stump Fm**	**10.26**	**208**	P	Pn	15 02 12.5	-5.1
RATZ	**Rangitukua**	**10.32**	**212**	P	**Pn**	**15 02 20.7**	**+2.3**
RITZ	**Rihia Road**	**10.37**	**211**	P	**Pn**	**15 02 18.4**	**-0.7**
MCHZ	**McNeill Hill**	**10.41**	**206**	P	**Pn**	**15 02 17.5**	**-2.2**
CKHZ	**Cape Kidnapper**	**10.46**	**204**	P	**Pn**	**15 02 15.6**	**-4.7**
HIZ	**Hauiti**	**10.48**	**216**		**Pn**	**15 02 17.6**	**-3.0**
HIZ	**Hauiti**	**10.48**	**216**	P	**Pn**	**15 02 21.5**	**+0.9**
	198nm,0.5s						
HIZ	**Hauiti**	**10.48**	**216**	P	**Pn**	**15 02 21.0**	**+0.4**
NTVZ	**North Tongarir**	**10.55**	**211**	P	**Pn**	**15 02 19.9**	**-1.8**
TMVZ	**Te Maari**	**10.55**	**211**	P	**Pn**	**15 02 19.3**	**-2.4**
ETVZ	**East Tongariro**	**10.56**	**211**	P	**Pn**	**15 02 19.9**	**-2.0**
WTVZ	**West Tongariro**	**10.60**	**211**	P	**Pn**	**15 02 23.5**	**+1.1**
NNVZ	**North Ngauruho**	**10.60**	**211**	P	**Pn**	**15 02 21.6**	**-0.9**
OTVZ	**Oturere**	**10.61**	**211**	P	**Pn**	**15 02 19.2**	**-3.3**
SNVZ	**South Ngauruho**	**10.64**	**211**	P	**Pn**	**15 02 20.3**	**-2.6**
NGZ	**Ngauruhoe**	**10.65**	**211**	P	**Pn**	**15 02 22.9**	**-0.1**
KAHZ	**Kahuranaki**	**10.65**	**205**	P	**Pn**	**15 02 18.4**	**-4.6**
BHHZ	**Black Hill Sta**	**10.71**	**209**	P	**Pn**	**15 02 23.0**	**-0.7**
KRHZ	**Kereru**	**10.71**	**207**	P	Pn	15 02 19.0	-4.8
MOVZ	**Moawhango**	**10.77**	**210**	P	**Pn**	**15 02 21.8**	**-2.9**
TRVZ	**Turoa**	**10.77**	**211**	P	**Pn**	**15 02 26.9**	**+2.1**
WNVZ	**Wahianoa**	**10.77**	**211**	P	**Pn**	**15 02 23.7**	**-1.0**
PKVZ	**Pokaka**	**10.85**	**212**	P	**Pn**	**15 02 28.6**	**+2.9**
PXZ	**Pawanui**	**10.87**	**204**	P	**Pn**	**15 02 23.6**	**-2.3**
VRZ	**Vera Road**	**11.00**	**214**	P	**Pn**	**15 02 29.1**	**+1.4**
WPHZ	**Waipukurau**	**11.05**	**206**	P	**Pn**	**15 02 24.2**	**-4.3**
LREZ	**Lake Rotokare**	**11.43**	**214**	P	**Pn**	**15 02 37.4**	**+3.7**
PKE	**Pukeiti**	**11.44**	**216**	P	**Pn**	**15 02 37.0**	**+3.3**
NEZ	**North Egmont**	**11.44**	**216**	P	**Pn**	**15 02 36.1**	**+2.3**
KHEZ	**Kahui Hut**	**11.50**	**216**	P	Pn	15 02 39.5	+4.9
PRWZ	**Pori Road**	**11.65**	**206**	P	**Pn**	**15 02 33.4**	**-3.2**
BFZ	**Birch Farm**	**11.66**	**205**		Pn	15 02 29.3	-7.4
BFZ	**Birch Farm**	**11.66**	**205**	P	**Pn**	**15 02 35.3**	**-1.5**
	195nm,0.9s						
BFZ	**Birch Farm**	**11.66**	**205**	P	Pn	15 02 30.9	-5.9
CPWZ	**Castlepoint**	**11.88**	**205**	P	**Pn**	**15 02 39.1**	**-0.6**
TIWZ	**Tintock**	**11.88**	**206**	P	Pn	15 02 33.9	-5.9
MRZ	**Mangatainoka R**	**11.90**	**207**	Pn	Pn	15 02 32.9	-7.1
SNZO	**South Karori**	**12.80**	**208**	↓S	**Sn**	**15 05 05.9**	**-8.1**
NFK	**Norfolk Island**	**12.87**	**272**	P	**P**	**15 03 01.5**	**-2.5**
	2µm,1.5s						
NIUE	**Niue**	**12.98**	**33**	Pn	Pn	15 02 47.9	-7.0
MSVF	**Nonsavu**	**13.14**	**340**	Pn	**Pn**	**15 02 57.7**	**+0.6**
	1.9nm,0.3s,baz=215,slow=11,SNR=13						
MSVF				LR	LR	15 07 18.1	
	comp=Z,27µm,18.2s,baz=172,slow=35						
MSVF	**Nonsavu**	**13.14**	**340**	Pn	**Pn**	**15 02 56.9**	**-0.2**
MSVF	**Nonsavu**	**13.14**	**340**	P	**Pn**	**15 03 01.4**	**+4.3**
	349nm,1.6s						
MSVF	**Nonsavu**	**13.14**	**340**	↓P	**Pn**	**15 02 58.5**	**+1.4**
MSVF	**Nonsavu**	**13.14**	**340**	/ P	**Pn**	**15 02 57.1**	**0.0**
TKNZ	**Takaka Hill**	**13.35**	**214**		Pn	15 02 54.1	-5.7
QRZ	**Quartz Range**	**13.40**	**215**	P	**Pn**	**15 02 58.5**	**-2.0**
	53nm,0.9s						
QRZ	**Quartz Range**	**13.40**	**215**	P	**Pn**	**15 02 58.3**	**-2.2**
BSWZ	**Blackbirch Sta**	**13.48**	**209**	P	**Pn**	**15 03 02.6**	**+1.0**
CTZ	**Chatham Island**	**13.49**	**178**	P	**Pn**	**15 02 59.0**	**-2.7**
	309nm,0.9s						
TAVE	**Taveuni**	**13.67**	**349**	P	**P**	**15 03 11.7**	**-1.2**
	346nm,1.0s						
MRNZ	**Matariki Terra**	**13.73**	**213**		Pn	15 02 59.9	-5.1
THZ	**Tophouse**	**13.95**	**212**		**Pn**	**15 03 04.1**	**-3.9**
DGTI	**Dogotuki**	**14.13**	**348**	P	**P**	**15 03 16.2**	**-1.8**
	314nm,1.2s						
KHZ	**Kahutara**	**14.20**	**209**		Pn	15 03 05.9	-5.5
KHZ	**Kahutara**	**14.20**	**209**	↓P	Pn	15 03 05.7	-5.7
KHZ	**Kahutara**	**14.20**	**209**	P	Pn	15 03 05.6	-5.8
DSZ	**Denniston Nort**	**14.45**	**214**	P	**Pn**	**15 03 12.8**	**-2.2**
GVZ	**Greta Valley S**	**14.86**	**209**	Pn	Pn	15 03 14.0	-6.5
GVZ	**Greta Valley S**	**14.86**	**209**	P	Pn	15 03 14.7	-5.8
LTZ	**Lake Taylor**	**15.04**	**211**	Pn	**Pn**	**15 03 19.3**	**-3.6**
LTZ	**Lake Taylor**	**15.04**	**211**	P	**Pn**	**15 03 17.2**	**-5.7**
AMCZ	**Amberley**	**15.20**	**209**	P	**Pn**	**15 03 22.2**	**-2.7**
INZ	**Inchbonnie**	**15.37**	**213**	Pn	**Pn**	**15 03 22.9**	**-4.4**
INZ	**Inchbonnie**	**15.37**	**213**	P	**Pn**	**15 03 22.8**	**-4.4**
**OX

RTV **Rentapao** 17.94 310 P P 15 04 06.5 +6.2
comp=Z,1µm,1.5s
DVP **Devils Point** 18.15 310 P P 15 04 09.9 +7.3
comp=Z,2µm,1.3s
RAR **Rarotonga** 18.17 64 P Pn 15 04 01.7 -0.9
comp=Z,4.5nm,0.3s,baz=239,slow=6.3,SNR=17
RAR S Sn 15 07 08.6 -16
comp=Z,107nm,1.1s,baz=60,slow=16,SNR=3.1
RAR LR LR 15 09 17.3
comp=Z,14µm,19.8s,baz=252,slow=31
comp=Z,116nm,0.9s
RAR **Rarotonga** 18.17 64 P Pn 15 03 59.6 -3.1
RAR IAmb IAmb 15 04 05.1
comp=Z,808nm,1.5s
RAR **Rarotonga** 18.17 64 P Pn 15 04 01.1 -1.6
comp=Z,371nm,1.9s
HHSZ **Highcliff Hill** 18.25 208 P P 15 04 05.0 +1.3
EAZ **Earnscleugh** 18.29 211 P Pn 15 04 03.0 -1.0
TUZ **Tuapeka** 18.71 209 P P 15 04 08.7 +0.1
MLZ **Mavora Lakes** 18.94 213 P P 15 04 07.6 -3.6
KOUNC **Koumac, New Ca** 19.18 296 P Pn 15 04 18.3 +3.4
comp=Z,451nm,1.4s
KOUNC **Koumac, New Ca** 19.18 296 ⇑P Pn 15 04 17.1 +2.2
SYZ **Scrubby Hill** 19.38 209 P Pn 15 04 16.9 -0.2
comp=Z,399nm,1.1s
SYZ **Scrubby Hill** 19.38 209 P P 15 04 16.5 +0.5
WHZ **Wether Hill Ro** 19.41 212 P P 15 04 12.5 -3.9
DCZ **Deep Cove** 19.48 214 P P 15 04 13.3 -3.6
LHI **Lord Howe Isla** 20.30 260 P Pn 15 04 30.7 +2.5
baz=20,SNR=30
LHI **Lord Howe Isla** 20.30 260 P 15 04 25.3 -0.8
LHI **Lord Howe Isla** 20.30 260 P Pn 15 04 30.8 +2.6
comp=Z,987nm,1.1s
LHI **Lord Howe Isla** 20.30 260 ⇑P Pn 15 04 30.2 +2.0
AUWSH **Wavell State H** 26.08 269 P P 15 05 27.0 +3.2
comp=Z,243nm,1.3s
AUBSH **Beerwah State** 26.29 270 P P 15 05 28.1 +2.4
comp=Z,158nm,1.2s
NTLH **Newcastle Hard** 26.47 256 P P 15 05 28.6 +1.3
comp=Z,240nm,1.2s
ARMA **Armidale** 26.76 262 P P 15 05 32.9 +2.8
baz=27,SNR=26
ARMA **Armidale** 26.76 262 P P 15 05 32.3 +2.2
comp=Z,150nm,1.9s
ARMA **Armidale** 26.76 262 ⇑P P 15 05 32.9 +2.8
WOLH **Wollongong Har** 27.13 253 P P 15 05 36.1 +2.9
comp=Z,235nm,1.0s
AUPHS **Peel High Scho** 27.30 260 P P 15 05 36.4 +1.5
comp=Z,128nm,1.1s
AUUHS **Ulladulla High** 27.47 251 P P 15 05 39.6 +3.3
comp=Z,152nm,1.2s
PPT2 **Papeete2** 28.24 70 eP P 15 05 43.1 -0.3
comp=Z,111nm,1.4s
PPT2 eS S 15 10 31.3 +3.0
comp=Z,3µm,25.2s
PPT2 eLR LR 15 12 55.5
comp=Z,19µm,26.0s
PPT2 eLR LR 15 12 58.4
comp=Z,24µm,24.5s
PPT2 **Papeete2** 28.24 70 eT T 15 35 21.2
comp=Z,10nm,0.3s
PPTF **Pamatai, Papee** 28.25 70 P P 15 05 43.5 +0.1
PPTF IAmb IAmb 15 06 12.3
comp=Z,445nm,1.9s
PPT **Papeete** 28.25 70 P P 15 05 44.0 +0.6
comp=Z,50nm,0.9s,baz=187,slow=21,SNR=2.4
PPT LR LR 15 14 09.2
comp=Z,8µm,20.9s,baz=246,slow=30
comp=Z,50nm,0.9s
EIDS **Eidsvold** 28.31 272 P P 15 05 45.5 +1.6
baz=28,SNR=15
EIDS **Eidsvold** 28.31 272 P P 15 05 42.8 -1.1
EIDS IAmb IAmb 15 06 03.8
comp=Z,277nm,1.6s
EIDS **Eidsvold** 28.31 272 P P 15 05 46.2 +2.3
comp=Z,109nm,1.0s
EIDS **Eidsvold** 28.31 272 ⇑P P 15 05 45.1 +1.2
CNB **Canberra Magne** 28.38 251 P P 15 05 47.0 +2.5
comp=Z,211nm,1.4s
TIAR **Tiarei** 28.44 70 eP P 15 05 45.5 +0.4
comp=Z,12nm,0.8s
MILA **Mila** 28.62 247 P P 15 05 48.7 +2.1
baz=29,SNR=24
MILA **Mila** 28.62 247 P P 15 05 48.9 +2.3
comp=Z,259nm,1.4s
MILA **Mila** 28.62 247 ⇑P P 15 05 48.5 +1.9
GD1S **Gladstone Soft** 28.71 275 P P 15 05 53.0 +5.5
comp=Z,68nm,0.8s
AUSMG **Snowy Mountain** 29.02 249 P P 15 05 49.4 -0.8
comp=Z,167nm,1.1s
AUDCS **Dubbo College** 29.11 257 P P 15 05 52.9 +2.0
comp=Z,296nm,1.2s
RK1H **Rockhampton Ha** 29.45 276 P P 15 05 56.4 +2.4
comp=Z,175nm,1.1s
HNR **Honiara** 29.64 310 P P 15 05 58.5 +2.8
comp=Z,785nm,0.8s,baz=118,slow=3.3,SNR=4.1
HNR LR LR 15 16 46.5
comp=Z,119µm,18.6s,baz=144,slow=35
HNR **Honiara** 29.64 310 P P 15 05 58.3 +2.6
comp=Z,172nm,1.1s
RMQ **Roma** 30.01 269 P P 15 06 01.2 +2.2
baz=30,SNR=53
RMQ **Roma** 30.01 269 P P 15 06 03.1 +4.1
comp=Z,189nm,0.7s
AULRC **Lightning Ridg** 30.04 263 P P 15 06 01.2 +2.0
comp=Z,228nm,1.4s
AUSSC **Sale College,** 30.34 245 P P 15 06 03.2 +1.5
comp=Z,390nm,1.9s
CORO **Coronation Par** 30.70 239 P P 15 06 07.3 +2.4
comp=Z,64nm,1.3s
MOO **Moorlands** 30.85 237 P P 15 06 07.2 +0.9
baz=31,SNR=6.3
MOO **Moorlands** 30.85 237 P P 15 06 07.0 +0.8
comp=Z,150nm,1.2s
TAU **Tasmania Unive** 30.85 236 P P 15 06 06.7 +0.5
TAU IAmb IAmb 15 06 08.3
comp=Z,164nm,1.3s
TAU **Tasmania Unive** 30.85 236 P P 15 06 06.3 +0.1
comp=Z,94nm,1.2s
TAU **Tasmania Unive** 30.85 236 ⇓P P 15 06 07.4 +1.1
TAU **Tasmania Unive** 30.85 236 P P 15 06 06.7 +0.5
TAU pmax pmax
comp=Z,164nm,1.3s
VAH **Vaihoa** 31.07 68 eT T 15 38 53.0
comp=Z,60nm,0.3s
TOO **Toolangi** 31.56 247 P P 15 06 14.1 +1.5
baz=32,SNR=36
TOO **Toolangi** 31.56 247 P P 15 06 12.5 -0.1
TOO **Toolangi** 31.56 247 P P 15 06 14.8 +2.2
comp=Z,133nm,1.0s
TOO **Toolangi** 31.56 247 ⇑P P 15 06 14.2 +1.5
TOO **Toolangi** 31.56 247 P P 15 06 12.5 -0.1
TOO pmax pmax
comp=Z,358nm,1.5s
CMSA **Cobar Meteorol** 31.67 258 P P 15 06 15.6 +2.0
baz=32,SNR=79
CMSA **Cobar Meteorol** 31.67 258 P P 15 06 15.5 +2.0
comp=Z,265nm,1.1s
MLBS **Spotswood, Mel** 32.04 246 P P 15 06 19.6 +2.8
comp=Z,112nm,1.4s
GEXS **Deakin Univers** 32.54 245 P P 15 06 23.5 +2.4
comp=Z,90nm,1.0s
TARA **Tarawa** 32.76 342 P P 15 06 21.4 -1.8
TARA **Tarawa** 32.76 342 IAMs_20 IAMs_20 15 18 46.3
comp=Z,14µm,18.0s
BRAT **Ballarat** 32.80 247 P P 15 06 25.6 +2.2
comp=Z,60nm,1.3s
QLP **Quilpie** 33.90 267 P P 15 06 34.2 +1.1
baz=34,SNR=32
QLP **Quilpie** 33.90 267 P P 15 06 35.0 +1.9
comp=Z,352nm,1.7s
QLP **Quilpie** 33.90 267 ⇑P P 15 06 33.4 +0.3
AUHPC **Hawkesdale P12** 34.09 246 P P 15 06 35.8 +1.2
comp=Z,293nm,1.6s
TV1H **Townsville Har** 34.23 280 P P 15 06 37.9 +1.8
comp=Z,126nm,1.0s
CTA **Charters Tower** 34.34 279 LR LR 15 19 25.7
comp=Z,25µm,18.2s,baz=130,slow=34
CTA **Charters Tower** 34.34 279 P P 15 06 39.3 +2.2
comp=Z,345nm,1.2s
CTAO **Charters Tower** 34.34 279 P P 15 06 36.6 -0.4
CTAO **Charters Tower** 34.34 279 P P 15 06 39.2 +2.2
comp=Z,293nm,1.2s
CTAO **Charters Tower** 34.34 279 ⇑P P 15 06 37.9 +0.8
CTAO **Charters Tower** 34.34 279 P P 15 06 36.7 -0.4
CTAO pmax pmax
comp=Z,195nm,0.9s
CTAO MLR MLR
comp=Z,30µm,18.0s
ARPS **Mount Arapiles** 34.47 248 P P 15 06 39.2 +1.2
baz=34,SNR=36
ARPS **Mount Arapiles** 34.47 248 P P 15 06 39.5 +1.5
comp=Z,146nm,1.1s
STKA **Stephens Creek** 35.08 257 P P 15 06 44.4 +1.0
comp=Z,71nm,0.5s,baz=100,slow=11,SNR=196
STKA LR LR 15 20 09.9
comp=Z,18µm,18.1s,baz=92,slow=35
comp=Z,71nm,0.5s
STKA **Stephens Creek** 35.08 257 P P 15 06 44.5 +1.1
baz=35,SNR=242
STKA **Stephens Creek** 35.08 257 P P 15 06 43.9 +0.5
STKA **Stephens Creek** 35.08 257 P P 15 06 44.8 +1.5
comp=Z,44nm,1.4s
INKA **Innaminka** 36.61 263 P P 15 06 58.3 +1.8
comp=Z,449nm,1.0s
MTSU **Mount Surprise** 36.83 280 P P 15 06 59.3 +0.8
baz=37,SNR=36
MTSU **Mount Surprise** 36.83 280 P P 15 07 00.3 +1.8
comp=Z,56nm,0.7s
HTT **Hallett** 37.10 253 P P 15 07 00.9 +0.2
baz=37,SNR=135
HTT **Hallett** 37.10 253 P P 15 07 02.1 +1.4
comp=Z,181nm,0.8s
HTT **Hallett** 37.10 253 ⇑P P 15 07 01.0 +0.3
GHSS **Government Hou** 37.20 251 P P 15 07 03.0 +1.6
comp=Z,77nm,1.0s
PTPS **Port Pirie** 37.91 254 P P 15 07 09.8 +2.4
comp=Z,344nm,0.6s
LCRK **Leigh Creek** 38.18 258 P P 15 07 10.2 +0.5
comp=Z,330nm,0.8s
WHYH **Whyalla** 38.28 254 P P 15 07 11.3 +0.8
comp=Z,184nm,0.8s
RABL **Rabaul** 38.73 306 P P 15 07 13.6 -1.0
RABL IAmb IAmb 15 07 50.6
comp=Z,80nm,0.5s
PMG **Port Moresby** 39.06 295 LR LR 15 20 29.7
comp=Z,10µm,21.5s,baz=137,slow=32
PMG **Port Moresby** 39.06 295 P P 15 07 16.5 -0.7
PMG **Port Moresby** 39.06 295 P P 15 07 19.0 +1.7
comp=Z,80nm,1.7s
PMG **Port Moresby** 39.06 295 ceP P 15 07 16.6 -0.7
PMG pmax pmax
comp=Z,109nm,1.3s
BBOO **Buckleboo** 39.57 254 P P 15 07 21.3 -0.1
baz=40,SNR=68
BBOO **Buckleboo** 39.57 254 P P 15 07 20.7 -0.7
BBOO IAmb IAmb 15 07 22.5
comp=Z,181nm,1.0s
BBOO **Buckleboo** 39.57 254 P P 15 07 22.6 +1.2
comp=Z,152nm,0.8s
COEN **Coen** 39.78 285 P P 15 07 24.6 +1.3
baz=40,SNR=10
COEN **Coen** 39.78 285 P P 15 07 22.9 -0.5
COEN **Coen** 39.78 285 P P 15 07 24.6 +1.3
comp=Z,57nm,1.7s
COEN **Coen** 39.78 285 ⇑P P 15 07 23.6 +0.3
QIS **Mount Isa** 39.88 274 P P 15 07 24.0 -0.1
baz=40,SNR=28
QIS **Mount Isa** 39.88 274 P P 15 07 25.0 +0.9
comp=Z,71nm,0.8s
TAOE **Nuku Hiva Isla** 40.71 66 eP P 15 07 33.5 +2.4
comp=Z,541nm,24.2s
TAOE eS S 15 13 43.8 +3.2
comp=Z,3µm,24.7s
TAOE eLR LR 15 18 44.8
comp=Z,14µm,24.6s
OOD **Oodnadatta** 40.94 261 P P 15 07 33.7 +1.0
comp=Z,229nm,1.2s
KWAJ **Kwajalein Atol** 41.42 337 IAMs_20 IAMs_20 15 22 39.8
comp=Z,9µm,19.0s
MULG **Mulgathing** 41.73 257 P P 15 07 39.2 0.0
comp=Z,85nm,0.9s
PATS **Pohnpei** 43.65 324 IAMs_20 IAMs_20 15 22 35.6
comp=Z,10µm,20.0s
MANU **Manus Island** 43.65 303 P P 15 07 53.1 -1.9
MANU IAmb IAmb 15 07 55.3
comp=Z,200nm,1.4s
AS31 **Alice Springs** 43.70 266 P P 15 07 53.9 -1.5
ASAR **Alice Springs** 43.70 266 P P 15 07 54.1 -1.3
comp=Z,37nm,0.7s,baz=105,slow=7.4,SNR=262
ASAR PcP PcP 15 09 43.0 +0.7
comp=Z,15nm,0.8s,baz=119,slow=3.7,SNR=4.5
ASAR ScP ScP 15 13 33.7 +1.0
comp=Z,5.3nm,0.7s,baz=106,slow=4.1,SNR=5.8
ASAR S S 15 14 22.1 -2.4
comp=Z,1.0nm,0.7s,baz=34,slow=34,SNR=2.8
ASAR PKiKP PKiKP 15 16 44.6 +0.3
comp=Z,0.5nm,0.8s,baz=86,slow=1.6,SNR=4.1
ASAR LR LR 15 25 52.2
comp=Z,27µm,18.1s,baz=113,slow=36
comp=Z,37nm,0.7s
ASAR **Alice Springs** 43.70 266 P P 15 07 53.8 -1.5
WR0 **Warramunga Arr** 44.49 272 P P 15 08 00.3 -1.4
WR0 IAmb IAmb 15 08 20.4
comp=Z,96nm,0.8s
WB2 **Warramunga Arr** 44.66 272 P P 15 08 01.5 -1.6
WRAB **Tennant Creek** 44.66 272 P P 15 08 01.2 -1.9
WRAB IAmb IAmb 15 08 21.7
comp=Z,124nm,0.8s
WRAB **Tennant Creek** 44.66 272 P P 15 08 02.5 -0.6
comp=Z,226nm,0.9s
WRAB **Tennant Creek** 44.66 272 ⇓P P 15 08 01.7 -1.4
WRAB **Tennant Creek** 44.66 272 ceP P 15 08 02.7 -0.4
WRAB pmax pmax
comp=Z,298nm,1.7s
WRA **Warramunga Arr** 44.67 272 P P 15 08 02.3 -0.9
comp=Z,81nm,0.7s,baz=112,slow=7.3,SNR=113
WRA ScP ScP 15 13 39.2 +2.5
comp=Z,2.8nm,0.8s,baz=105,slow=4.1,SNR=3.3
WRA S S 15 14 34.6 -4.1
comp=Z,8.1nm,1.0s,baz=109,slow=13,SNR=5.5
WRA LR LR 15 25 34.5
comp=Z,11µm,18.5s,baz=99,slow=35
comp=Z,81nm,0.7s
WRA **Warramunga Arr** 44.67 272 P P 15 08 01.6 -1.6
WB0 **Warramunga Arr** 44.69 272 P P 15 08 01.5 -1.9
FORT **Forrest** 46.65 255 P P 15 08 17.2 -1.5
baz=47,SNR=24
FORT **Forrest** 46.65 255 P P 15 08 16.8 -1.8
FORT **Forrest** 46.65 255 P P 15 08 18.1 -0.6
comp=Z,159nm,0.7s
FORT **Forrest** 46.65 255 ⇑P P 15 08 17.1 -1.6
JOHN **Johnston Islan** 47.29 10 P P 15 08 22.5 -1.2
WRKA **Warakurna** 48.08 262 P P 15 08 28.1 -1.9
baz=48,SNR=103
WRKA **Warakurna** 48.08 262 P P 15 08 28.6 -1.3
comp=Z,154nm,1.6s
WRKA **Warakurna** 48.08 262 ⇑P P 15 08 28.0 -1.9
SBA **Scott Base** 48.25 184 P P 15 08 32.1 +1.7
SBA **Scott Base** 48.25 184 P P 15 08 32.1 +1.7
SBA pmax pmax
comp=Z,311nm,1.3s
VNDA **Vanda** 48.32 186 P P 15 08 33.9 +2.9
comp=Z,6.4nm,0.6s,baz=4.0,slow=6.8,SNR=24
VNDA S S 15 15 34.9 +5.4
comp=Z,1.8nm,0.9s,baz=336,slow=19,SNR=1.4
VNDA LR LR 15 25 24.7
comp=Z,2µm,21.2s,baz=38,slow=32
comp=Z,6.4nm,0.6s
VNDA **Vanda** 48.32 186 P P 15 08 33.6 +2.6
VNDA IAmb IAmb 15 09 01.6
comp=Z,92nm,1.4s
GENI **Genyem** 48.71 296 P P 15 08 34.6 -0.2
comp=Z,173nm,1.6s
GENI **Genyem** 48.71 296 P P 15 08 32.8 -2.0
comp=Z,173nm,1.6s,comp=Z,5µmcomp=Z,4µm
KDU **Kakadu** 49.46 279 P P 15 08 40.3 -0.3
comp=Z,52nm,1.2s
SMPI **Sarmi** 50.22 295 P P 15 08 44.8 -1.5
comp=Z,89nm,1.4s
MTN **Manton Dam** 50.53 278 P P 15 08 46.4 -2.3
baz=50,SNR=17
MTN **Manton Dam** 50.53 278 P P 15 08 46.5 -2.2
MTN IAmb IAmb 15 08 48.8
comp=Z,200nm,1.6s
MTN **Manton Dam** 50.53 278 P P 15 08 48.5 -0.2
comp=Z,47nm,0.9s
MTN **Manton Dam** 50.53 278 ⇑P P 15 08 46.9 -1.8
KNRA **Kununurra** 51.27 274 P P 15 08 52.7 -1.6
baz=51,SNR=18
KNRA **Kununurra** 51.27 274 P P 15 08 52.9 -1.4
KNRA IAmb IAmb 15 09 13.0
comp=Z,295nm,1.8s
KNRA **Kununurra** 51.27 274 P P 15 08 54.7 +0.4
comp=Z,85nm,1.1s
WAKE **Wake Island** 51.59 341 IAMs_20 IAMs_20 15 28 54.4
comp=Z,12µm,20.0s
KMBL **Kambalda** 51.63 252 P P 15 08 55.3 -1.5
baz=52,SNR=12
SRPI **Serui, Papua** 52.23 294 P P 15 09 01.1 -0.4
comp=Z,91nm,1.3s,comp=Z,4µm
SAUI **Saumlaki** 52.83 284 P P 15 09 04.6 -1.3
SAUI IAMs_20 IAMs_20 15 30 46.5
comp=Z,8µm,18.0s
SAUI **Saumlaki** 52.83 284 P P 15 09 07.1 +1.2
comp=Z,112nm,1.1s
SAUI **Saumlaki** 52.83 284 P P 15 09 05.0 -0.9
comp=Z,115nm,1.1s,comp=Z,5µmcomp=Z,8µm
FITZ **Fitzroy Crossi** 52.94 269 P P 15 09 05.4 -1.3
FITZ **Fitzroy Crossi** 52.94 269 P P 15 09 07.4 +0.7
comp=Z,6.2nm,0.9s
FITZ **Fitzroy Crossi** 52.94 269 ⇑P P 15 09 05.8 -0.9
POHA **Pohakuloa** 53.95 26 P P 15 09 13.2 -1.0
POHA IAmb IAmb 15 09 36.6
comp=Z,158nm,1.1s
RKPI **Ransiki, Papua** 54.09 292 P P 15 09 13.2 -2.0
comp=Z,110nm,0.8s,comp=Z,2µmcomp=Z,4µm
HPAH **Hawaii Prepara** 54.14 25 P P 15 09 13.3 -2.1
FAKI **Fak Fak** 54.83 290 P P 15 09 18.3 -2.2
FAKI IAmb IAmb 15 09 20.5
comp=Z,202nm,1.4s
FAKI **Fak Fak** 54.83 290 P P 15 09 19.3 -1.2
comp=Z,96nm,1.6s
FAKI **Fak Fak** 54.83 290 P P 15 09 18.4 -2.1
comp=Z,96nm,2.1s,comp=Z,2µmcomp=Z,4µm
KLBR **Kellerberrin** 54.95 251 P P 15 09 19.6 -1.7
baz=55,SNR=28
KLBR **Kellerberrin** 54.95 251 P P 15 09 20.0 -1.3
comp=Z,286nm,1.2s
NWAO **Narrogin (SRO)** 55.00 249 LR LR 15 31 47.8
comp=Z,6µm,19.6s,slow=35
NWAO **Narrogin (SRO)** 55.00 249 P P 15 09 19.2 -2.4
NWAO IAmb IAmb 15 09 21.1
comp=Z,75nm,1.3s
NWAO **Narrogin (SRO)** 55.00 249 P P 15 09 19.2 -2.4
NWAO pmax pmax
comp=Z,75nm,1.3s
CASY **Casey** 55.56 208 P P 15 09 24.7 -0.3
CASY **Casey** 55.56 208 ⇑P P 15 09 24.8 -0.3
MEEK **Meekatharra** 55.78 257 P P 15 09 25.7 -1.7
baz=56,SNR=11
MEEK **Meekatharra** 55.78 257 P P 15 09 26.4 -1.0
comp=Z,101nm,1.9s
BNDI **Bandanaira** 55.85 286 P P 15 09 28.9 +1.0
comp=Z,188nm,1.3s
BNDI **Bandanaira** 55.85 286 P P 15 09 25.9 -2.0
comp=Z,190nm,1.3s,comp=Z,4µmcomp=Z,4µm
BLDU **Ballidu** 56.10 252 P P 15 09 27.8 -1.7
baz=56,SNR=5.5
MUN **Mundaring** 56.10 250 P P 15 09 28.6 -0.9
baz=56,SNR=8.9
MUN **Mundaring** 56.10 250 P P 15 09 29.2 -0.3
comp=Z,104nm,1.7s
PSA00 **Pilbara Seismi** 56.56 263 P P 15 09 31.0 -1.9
PSA00 IAmb IAmb 15 09 32.6
comp=Z,238nm,1.7s
PSA00 **Pilbara Seismi** 56.56 263 P P 15 09 34.1 +1.2
comp=Z,71nm,1.7s
GUMO **Guam** 56.77 315 LR LR 15 30 58.6
comp=Z,4µm,20.4s,baz=132,slow=33
GUMO **Guam** 56.77 315 P P 15 09 32.2 -2.2
GUMO **Guam** 56.77 315 P P 15 09 32.2 -2.2
GUMO pmax pmax
comp=Z,620nm,1.5s
SIJI **Sorong** 56.81 291 LR LR 15 32 28.0
comp=Z,4µm,21.1s,baz=121,slow=35
MBWA **Marble Bar** 56.82 263 P P 15 09 32.4 -2.4
MBWA **Marble Bar** 56.82 263 P P 15 09 34.0 -0.8
comp=Z,50nm,1.7s
MBWA **Marble Bar** 56.82 263 ⇓P P 15 09 33.5 -1.3
MORW **Morawa** 57.13 253 P P 15 09 35.6 -1.3
baz=57,SNR=11
MORW **Morawa** 57.13 253 P P 15 09 34.9 -2.1
MORW IAmb IAmb 15 09 36.8
comp=Z,129nm,1.4s
MORW **Morawa** 57.13 253 P P 15 09 35.9 -1.0
comp=Z,66nm,1.9s
MORW **Morawa** 57.13 253 ⇑P P 15 09 35.2 -1.7
AAI **Ambon** 57.73 286 P P 15 09 38.7 -2.6
comp=Z,66nm,1.3s,comp=Z,2µmcomp=Z,4µm
SOEI **Soe** 57.91 278 P P 15 09 41.3 -1.3
SOEI **Soe** 57.91 278 P P 15 09 43.6 +1.0
comp=Z,127nm,1.1s
SOEI **Soe** 57.91 278 P P 15 09 40.5 -2.1
comp=Z,128nm,1.1s,comp=Z,3µmcomp=Z,5µm
BATI **Baumata** 58.20 277 LR LR 15 35 24.7
comp=Z,29µm,18.5s,baz=158,slow=37
BATI **Baumata** 58.20 277 P P 15 09 44.0 -0.6
comp=Z,88nm,1.1s,comp=Z,4µm
NLAI **Namlea** 58.89 286 P P 15 09 48.0 -1.4
comp=Z,55nm,1.3s,comp=Z,12µm
RPN **Rapa Nui** 58.92 105 LR LR 15 28 47.8
comp=Z,4µm,22.0s,baz=296,slow=29
QSPA **South Pole Qui** 59.88 180 P P 15 09 58.3 +2.7
comp=Z,165nm,1.0s,baz=32,slow=1.6,SNR=87
QSPA LR LR 15 34 00.4
comp=Z,8µm,18.8s,baz=41,slow=34
comp=Z,165nm,1.0s
QSPA **South Pole Qui** 59.88 180 P P 15 09 57.5 +1.9
MMRI **Maumere** 60.20 278 P P 15 09 56.4 -2.0
MMRI **Maumere** 60.20 278 P P 15 09 57.9 -0.5
comp=Z,173nm,1.4s
MMRI **Maumere** 60.20 278 P P 15 09 55.8 -2.6
comp=Z,174nm,1.3s,comp=Z,3µmcomp=Z,4µm
SANI **Sanana** 60.47 286 P P 15 09 59.5 -0.8
comp=Z,114nm,1.4s
SANI **Sanana** 60.47 286 P P 15 09 57.3 -3.0
comp=Z,114nm,1.3s,comp=Z,2µmcomp=Z,4µm
TNTI **Ternate** 60.93 290 P P 15 10 01.0 -2.4
TNTI IAmb IAmb 15 10 03.3
comp=Z,118nm,1.2s
TNTI **Ternate** 60.93 290 P P 15 10 02.4 -1.0
comp=Z,88nm,1.2s
TNTI **Ternate** 60.93 290 P P 15 10 01.2 -2.2
comp=Z,88nm,1.2s,comp=Z,2µmcomp=Z,2µm
GIRL **Giralia** 60.95 259 P P 15 10 03.5 +0.1
baz=61,SNR=6.3
GIRL **Giralia** 60.95 259 P P 15 10 02.6 -0.8
BKSI **Bulukumba** 63.68 280 P P 15 10 19.6 -2.2
comp=Z,33nm,0.7s,comp=Z,1µm
LUWI **Luwuk** 63.70 285 P P 15 10 20.3 -1.7
LUWI **Luwuk** 63.70 285 P P 15 10 22.8 +0.8
comp=Z,142nm,1.1s
LUWI **Luwuk** 63.70 285 P P 15 10 19.3 -2.7
comp=Z,140nm,1.1s,comp=Z,2µm
PLAI **Plampang** 63.94 275 P P 15 10 23.9 +0.3
comp=Z,129nm,1.0s
PLAI **Plampang** 63.94 275 P P 15 10 21.6 -2.0
comp=Z,127nm,1.0s,comp=Z,2µmcomp=Z,4µm
KAPI **Kappang** 64.15 280 LR LR 15 36 35.6
comp=Z,3µm,21.6s,baz=134,slow=34
KAPI **Kappang** 64.15 280 P P 15 10 23.7 -1.2
KAPI IAmb IAmb 15 10 51.0
comp=Z,119nm,1.4s
KAPI **Kappang** 64.15 280 P P 15 10 23.7 -1.2
KAPI pmax pmax
comp=Z,119nm,1.5s
SPSI **Sidrap Palu** 64.68 281 P P 15 10 25.9 -2.5
comp=Z,48nm,1.3s,comp=Z,1µm
TWSI **Taliwang, Sumb** 64.76 275 P P 15 10 26.4 -2.5
comp=Z,72nm,1.0s,comp=Z,2µmcomp=Z,4µm
DAV **Davao City (W)** 66.08 294 LR LR 15 38 19.7
comp=Z,1µm,21.4s,baz=136,slow=35
TOLI2 **Tolitoli** 66.54 286 P P 15 10 38.0 -2.4
TOLI2 IAmb IAmb 15 10 39.7
comp=Z,120nm,1.6s
MPSI **Mapaga** 66.86 285 P P 15 10 39.9 -2.5
comp=Z,59nm,1.4s,comp=Z,1µmcomp=Z,3µm
JAGI **Jajag, Banyuwa** 67.24 273 P P 15 10 42.4 -2.5
JAGI IAMs_20 IAMs_20 15 39 43.2
comp=Z,6µm,20.0s
JAGI **Jajag, Banyuwa** 67.24 273 P P 15 10 45.0 +0.1
comp=Z,90nm,1.1s
GMJI **Gumukmas** 67.95 273 P P 15 10 46.5 -2.8
comp=Z,90nm,2.2s
JCJ **Chichijima** 68.91 322 LR LR 15 35 10.2
comp=Z,2µm,21.7s,baz=162,slow=31
JCJ **Chichijima** 68.91 322 P P 15 10 53.1 -1.9
BBKI **Banjar Baru** 69.14 278 P P 15 10 54.9 -1.9
comp=Z,88nm,2.2s,comp=Z,4µm
SMAI **San Martin Ant** 69.36 158 P P 15 10 57.3 0.0

BELA Belgrano 2 69.87 172 P **P** 15 11 00.8 +0.5
BELA IAmb IAmb 15 11 06.5
comp=Z,53nm,0.6s
UGM Wanagama 70.65 272 P **P** 15 11 03.9 -2.2
MYLDM Lahad Datu 70.69 288 ⇑P **P** 15 11 06.6 +0.3
SMRI Semarang 71.14 273 P **P** 15 11 07.5 -1.6
PMSA Palmer Station 72.18 156 LR LR 15 39 15.7
comp=Z,3µm,18.2s,baz=294,slow=33
PMSA Palmer Station 72.18 156 IAMs_20 IAMs_20 15 42 33.7
comp=Z,5µm,18.0s
KPJI Karang Pucung 72.31 272 P **P** 15 11 15.1 -1.0
comp=Z,55nm,0.8s
MAW Mawson 72.67 200 P **P** 15 11 18.7 +1.4
comp=Z,79nm,1.1s,baz=117,slow=7.6,SNR=22
MAW LR LR 15 42 30.1
comp=Z,4µm,19.7s,baz=119,slow=35
comp=Z,79nm,1.1s
MAW Mawson 72.67 200 P **P** 15 11 19.1 +1.8
baz=73,SNR=12
MAW Mawson 72.67 200 P **P** 15 11 18.7 +1.4
MAW Mawson 72.67 200 P **P** 15 11 18.7 +1.4
MAW pmax pmax
comp=Z,58nm,1.4s
KKM Kota Kinabalu 73.06 288 P **P** 15 11 19.5 -1.2
KKM Kota Kinabalu 73.06 288 P **P** 15 11 21.0 +0.4
comp=Z,129nm,1.7s
KKM Kota Kinabalu 73.06 288 ⇑P **P** 15 11 19.2 -1.5
LEM Lembang 73.69 272 LR LR 15 45 36.9
comp=Z,6µm,18.7s,baz=112,slow=37
LEM Lembang 73.69 272 P **P** 15 11 23.5 -1.0
comp=Z,99nm,1.9s,comp=Z,3µmcomp=Z,3µm
SBUM Sibu 74.45 282 P **P** 15 11 27.8 -0.9
SBUM IAmb IAmb 15 11 29.7
comp=Z,129nm,1.4s
SBUM Sibu 74.45 282 ⇑P **P** 15 11 27.8 -0.9
JHJ Hachijo jima 2 74.95 324 LR LR 15 39 40.2
comp=Z,1µm,21.8s,baz=100,slow=32
MG05 Puerto Natales 75.28 142 P **P** 15 11 32.4 -0.5
MG05 IAmb IAmb 15 11 50.5
comp=Z,80nm,0.9s
GO10 Punta Arenas 75.30 143 ⇑P P 15 11 40.6 +7.6
CGJI Cibinong 75.46 271 P **P** 15 11 31.4 -3.2
comp=Z,77nm,1.6s,comp=Z,2µm
GO09 Cerro Castillo 75.57 141 P **P** 15 11 35.4 +0.8
USHA Ushuaia 75.73 146 LR LR 15 37 00.6
comp=Z,3µm,20.7s,baz=230,slow=29
JOW Kunigami 76.98 312 LR LR 15 39 29.2
comp=Z,2µm,21.9s,baz=120,slow=31
JOW Kunigami 76.98 312 P **P** 15 11 41.1 -1.7
JSG Sagara 76.99 324 P **P** 15 11 40.1 -2.6
JSG Sagara 76.99 324 P **P** 15 11 44.0 +1.3
comp=Z,156nm,0.8s
JSG Sagara 76.99 324 ⇑P **P** 15 11 42.5 -0.2
KASI Kota Agung 77.03 271 P **P** 15 11 40.4 -3.1
comp=Z,72nm,1.1s
ELIB Princess Elisa 77.08 186 *d*P **P** 15 11 44.4 +1.4
comp=Z,107nm,1.2s
LWLI Liwa 77.66 271 P **P** 15 11 45.8 -1.4
comp=Z,129nm,1.0s
MDSI Maura Dua 77.81 272 P **P** 15 11 45.5 -2.4
comp=Z,60nm,0.9s,comp=Z,2µmcomp=Z,2µm
TROLL Troll, Antarti 78.04 180 P **P** 15 11 49.8 +1.4
INU Inuyama 78.11 323 P **P** 15 11 50.1 +1.1
comp=Z,44nm,1.2s
INU Inuyama 78.11 323 ⇑P **P** 15 11 48.2 -0.8
JGF Kuroka 78.13 324 P **P** 15 11 47.1 -2.0
JGF Kuroka 78.13 324 ⇑P **P** 15 11 48.0 -1.2
JMM Marumori 78.24 327 P **P** 15 11 48.5 -1.1
JMM IAmb IAmb 15 12 08.1
comp=Z,66nm,1.2s
SNAA Sanae 78.30 178 P **P** 15 11 50.7 +0.9
SNAA Sanae 78.30 178 PcP PcP 15 12 10.0 +11
SNAA Sanae 78.30 178 P **P** 15 11 51.0 +1.2
comp=Z,36nm,1.0s,baz=187,slow=6.7,SNR=14
SNAA LR LR 15 44 26.9
comp=Z,3µm,19.2s,baz=198,slow=34
comp=Z,36nm,1.0s
SNAA Sanae 78.30 178 P **P** 15 11 50.2 +0.4
SNAA IAmb IAmb 15 12 05.9
comp=Z,177nm,1.4s
SNAA IAMs_20 IAMs_20 15 44 26.6
comp=Z,4µm,19.0s
SNAA Sanae 78.30 178 P **P** 15 11 51.0 +1.2
VNA3 Neumayer Olymp 78.43 176 P **P** 15 11 51.3 +0.9
VNA3 Neumayer Olymp 78.43 176 PcP PcP 15 12 13.2 +14
VNA3 Neumayer Olymp 78.43 176 pP pP 15 11 55.8 +0.1
VNA3 Neumayer Olymp 78.43 176 sP sP 15 12 00.3 +2.6
MJAR Matsushiro Arr 78.44 325 P **P** 15 11 49.2 -1.6
comp=Z,20nm,0.9s,baz=160,slow=5.5,SNR=34
MJAR LR LR 15 47 34.1
comp=Z,702nm,18.1s,baz=140,slow=37
comp=Z,20nm,0.9s
MAJO Matsushiro 78.44 325 P **P** 15 11 48.4 -2.4
MAJO IAmb IAmb 15 12 10.2
comp=Z,59nm,1.0s
MAJO Matsushiro 78.44 325 P **P** 15 11 51.2 +0.4
comp=Z,66nm,1.2s
MAJO Matsushiro 78.44 325 ⇑P **P** 15 11 49.9 -0.9
MAJO Matsushiro 78.44 325*c i*P **P** 15 11 49.4 -1.4
MAJO pmax pmax
comp=Z,27nm,0.9s
JMN Monobe 78.56 320 P **P** 15 11 49.7 -1.9
JMN IAmb IAmb 15 12 50.8
comp=Z,122nm,1.6s
COYC Coyhaique 78.66 136 ⇓P P 15 11 58.0 +6.0
VNA2 Neumayer--Watz 78.87 177 P **P** 15 11 54.0 +1.2
baz=166,slow=5.0
JSU Suzuyama 78.91 317 P **P** 15 11 52.4 -1.1
JSU IAmb IAmb 15 13 23.4
comp=Z,95nm,1.3s
MNAI Manna 78.94 271 IAMs_20 IAMs_20 15 50 07.0
comp=Z,4µm,18.0s
NVL N'lazarevskaya 79.07 183 ⇓*i*P **P** 15 11 53.9 0.0
NVL *e*S **S** 15 21 45.5 -6.1
NVL *e*SS **SS** 15 27 05.4 +9.2
NVL pmax pmax
comp=Z,86nm,1.2s
NVL MLR MLR
comp=Z,4µm,18.0s
VNA1 Neumayer--Stat 79.10 176 P **P** 15 11 55.2 +1.2
TWG Pinlang 79.25 304 P **P** 15 11 53.2 -2.3
YULB Yu-li 79.44 305 P **P** 15 11 53.4 -3.3
JSD Sado 79.59 326 P **P** 15 11 54.8 -2.2
JSD IAmb IAmb 15 12 16.5
comp=Z,98nm,1.5s
JSD Sado 79.59 326 ⇑P **P** 15 11 56.6 -0.4
NACB Ninganchiao 79.73 306 P **P** 15 11 55.5 -2.6
JNU Nakatsue 79.82 318 LR LR 15 42 47.5
comp=Z,1µm,21.2s,baz=102,slow=32
JNU Nakatsue 79.82 318 P **P** 15 11 55.2 -3.3
JNU IAmb IAmb 15 12 18.7
comp=Z,141nm,1.5s
TPUB Ta-pu 79.86 304 P **P** 15 11 55.7 -3.2
TPUB Ta-pu 79.86 304 P **P** 15 12 02.1 +3.2
comp=Z,55nm,1.1s
JHS Saijyo 79.93 321 P **P** 15 11 57.9 -1.1
JHS IAmb IAmb 15 12 21.4
comp=Z,52nm,0.8s
JHS Saijyo 79.93 321 P **P** 15 11 59.7 +0.7
comp=Z,70nm,0.9s
JHS Saijyo 79.93 321 ⇑P **P** 15 11 58.5 -0.4
JHS ⇓P **pP** 15 11 58.9 -5.7
SSLB Suanglung 79.94 305 P **P** 15 11 57.6 -1.7
H03S2 Juan Fernandez 80.07 123 T T 16 41 30.9
baz=238,slow=74,SNR=16
H03S1 Juan Fernandez 80.08 123 T T 16 41 32.5
baz=238,slow=74,SNR=26
H03S3 Juan Fernandez 80.09 123 T T 16 41 31.4
baz=238,slow=74,SNR=18
MASI Maura Aman, Be 80.16 272 P **P** 15 11 56.1 -4.7
comp=Z,87nm,1.2s
H03N3 Juan Fernandez 80.26 123 T T 16 41 37.8
baz=241,slow=72,SNR=23
H03N2 Juan Fernandez 80.26 123 T T 16 41 36.1
baz=241,slow=72,SNR=16
H03N1 Juan Fernandez 80.28 123 T T 16 41 39.0
baz=241,slow=72,SNR=26
JTM Tenmabayashi 80.48 329 P **P** 15 12 01.3 -0.4
ERM Erimo 80.59 331 P **P** 15 12 02.7 +0.4
ERM IAmb IAmb 15 12 28.2
comp=Z,123nm,1.4s
ERM Erimo 80.59 331 IAMs_20 IAMs_20 15 43 24.3
comp=Z,6µm,20.0s
ERM Erimo 80.59 331 *i* P **P** 15 12 03.1 +0.8
ERM pmax pmax
comp=Z,41nm,1.0s

PAF Port-aux-Franc 80.63 218 P **P** 15 12 02.8 +0.1
PAF Port-aux-Franc 80.63 218 P **P** 15 12 02.8 +0.1
PAF pmax pmax
comp=Z,538nm,1.3s
MYKOM Kota Tinggi 81.25 277 P **P** 15 12 05.0 -1.6
MYKOM IAMs_20 IAMs_20 15 53 41.5
comp=Z,4µm,19.0s
MYKOM Kota Tinggi 81.25 277 ⇑P **P** 15 12 05.8 -0.7
AMKA Amchitka 81.31 358 P **P** 15 12 05.5 -0.4
JTU Tsushima 81.68 318 P **P** 15 12 07.0 -1.3
KIWB Kanaga Island 81.73 0 P **P** 15 12 07.9 -0.2
ADK Adak 81.77 0 P **P** 15 12 08.1 -0.2
ADK Adak 81.77 0 P **P** 15 12 10.0 +1.7
comp=Z,179nm,1.4s
ADK Adak 81.77 0 P **P** 15 12 08.1 -0.2
ADK pmax pmax
comp=Z,290nm,1.3s
PLCA Paso Flores 82.19 133 P **P** 15 12 13.1 +1.8
comp=Z,5.6nm,1.1s,baz=235,slow=5.1,SNR=25
PLCA LR LR 15 40 05.2
comp=Z,4µm,21.4s,baz=249,slow=29
comp=Z,5.6nm,1.1s
PLCA Paso Flores 82.19 133 P **P** 15 12 12.7 +1.4
PLCA IAmb IAmb 15 12 32.1
comp=Z,198nm,1.6s
JKA Kamikawa-asahi 82.56 332 P **P** 15 12 12.8 +0.1
ASAJ Asahikawa 82.56 332 LR LR 15 45 08.6
comp=Z,3µm,19.8s,baz=161,slow=33
ASAJ Asahikawa 82.56 332 P **P** 15 12 12.8 +0.1
ASAJ pmax pmax
comp=Z,245nm,1.4s
EFI East Falkland 82.61 147 P **P** 15 12 14.8 +1.7
EFI IAmb IAmb 15 12 31.1
comp=Z,112nm,1.1s
EFI East Falkland 82.61 147 P **P** 15 12 14.8 +1.7
EFI pmax pmax
comp=Z,112nm,1.2s
EFI MLR MLR
comp=Z,2µm,18.0s
AIS Amsterdam Isla 82.70 230 P **P** 15 12 14.1 +0.3
BKNI Bangkinang 82.93 274 IAMs_20 IAMs_20 15 51 10.9
comp=Z,5µm,20.0s
BKNI Bangkinang 82.93 274 P **P** 15 12 17.4 +2.0
comp=Z,92nm,0.6s
SHEM Shemya Is, Ala 82.95 355 LR LR 15 44 23.2
comp=Z,5µm,20.4s,baz=152,slow=32
SMY Shemya 82.95 355 P **P** 15 12 14.6 +0.1
SMY Shemya 82.95 355 P **P** 15 12 14.6 +0.1
SMY pmax pmax
comp=Z,451nm,1.4s
NIKH Nikolski High 83.18 5 P **P** 15 12 15.5 -0.2
NIKH Nikolski High 83.18 5 P **P** 15 12 15.0 -0.7
baz=188
SNCC San Nicolas Is 83.51 46 P **P** 15 12 14.8 -3.1
baz=228
SCZ2 Santa Cruz Isl 83.95 45 P **P** 15 12 17.3 -2.8
baz=227
LPIG La Paz 83.95 58 LR LR 15 44 43.9
comp=Z,3µm,18.1s,baz=226,slow=32
SLBS Sierra La Lagu 83.97 58 P **P** 15 12 22.0 +1.4
SLBS IAmb IAmb 15 12 38.0
comp=Z,125nm,1.8s
SLBS Sierra La Lagu 83.97 58 IAMs_20 IAMs_20 15 45 10.4
comp=Z,5µm,19.0s
TJN Taejon 84.16 318*ce*P **P** 15 12 20.2 -0.9
SBC Santa Barbara 84.20 45 P **P** 15 12 19.7 -1.6
baz=227
UNV Unalaska Valle 84.25 6 P **P** 15 12 21.3 +0.2
UNV IAmb IAmb 15 12 26.6
comp=Z,115nm,1.4s
UNV Unalaska Valle 84.25 6 P **P** 15 12 21.2 0.0
baz=190
CIS Catalina Islan 84.30 46 P **P** 15 12 21.5 -0.5
baz=228
SSE Sheshan 84.44 311 P **P** 15 12 21.5 -1.2
SSE S **S** 15 22 48.5 +0.6
SSE pmax pmax
comp=Z,7.0nm,0.9s
SSE pmax pmax
comp=Z,390nm,11.1s
SSE LR LR
comp=Z,370nm,23.1s
SSE LR LR
comp=Z,510nm,23.8s
PKM Mcpherson Peak 84.44 44 P **P** 15 12 22.9 0.0
baz=227
FMP Fort Macarthur 84.58 46 P **P** 15 12 22.7 -0.7
baz=228
KSRS Korea Array 84.60 319 P **P** 15 12 23.1 -0.2
comp=Z,9.5nm,1.0s,baz=137,slow=5.9,SNR=16
KSRS LR LR 15 47 40.1
comp=Z,1µm,19.2s,baz=145,slow=34
comp=Z,9.5nm,1.0s
KSAR Wonju Array Be 84.61 319 P **P** 15 12 22.6 -0.8
KSAR Wonju Array Be 84.61 319 P **P** 15 12 22.6 -0.8
SMMC Simmler 84.62 44 P **P** 15 12 24.6 +1.1
baz=227
VTX Valle De La Tr 84.67 49 P **P** 15 12 24.4 +0.5
PMPB Monarch Peak 84.76 43 P **P** 15 12 25.4 +1.1
PMPB IAmb IAmb 15 12 40.3
comp=Z,94nm,1.3s
SAO San Andreas Ge 84.77 42 P **P** 15 12 25.0 +0.8
SAO IAmb IAmb 15 12 41.7
comp=Z,50nm,1.1s
SAO San Andreas Ge 84.77 42 ⇓P **P** 15 12 26.9 +2.7
SAO San Andreas Ge 84.77 42 P **P** 15 12 25.0 +0.8
SAO pmax pmax
comp=Z,51nm,1.2s
109C Camp Elliot, M 84.79 47 IAMs_20 IAMs_20 15 48 11.8
comp=Z,3µm,18.0s
109C Camp Elliot, M 84.79 47 P **P** 15 12 23.1 -1.3
baz=229
YSS Yuzh-Sakhalins 84.85 334 P **P** 15 12 25.2 +0.9
YSS IAMs_20 IAMs_20 15 42 52.0
comp=Z,5µm,22.0s
YSS Yuzh-Sakhalins 84.85 334 ⇑P **P** 15 12 25.8 +1.4
YSS ⇑P **P** 15 12 25.8 +1.4
YSS Yuzh-Sakhalins 84.85 334*ce*P **P** 15 12 25.6 +1.3
YSS pmax pmax
comp=Z,399nm,1.4s
YSS MLR MLR
comp=Z,2µm,19.0s
MCCM Marconi Confer 84.92 40 P **P** 15 12 25.5 +0.6
MCCM IAmb IAmb 15 12 30.4
comp=Z,99nm,1.2s
DECC Green Verdugo 84.92 45 P **P** 15 12 26.0 +0.9
baz=228
OSI Osito Audit: C 84.92 45 P **P** 15 12 26.9 +1.8
baz=228
PASC Pasadena Art C 84.96 46 IAMs_20 IAMs_20 15 47 56.1
comp=Z,4µm,18.0s
IPM Ipoh 85.04 278 P **P** 15 12 23.2 -3.0
IPM IAmb IAmb 15 12 26.5
comp=Z,126nm,1.8s
IPM IAMs_20 IAMs_20 15 54 35.9
comp=Z,4µm,20.0s
ELS Elsinore Mount 85.08 46 P **P** 15 12 26.8 +0.9
ELS IAmb IAmb 15 12 42.5
comp=Z,130nm,1.7s
MURC Murrieta 85.20 47 P **P** 15 12 26.8 +0.3
baz=229,SNR=11
ARVC Arvin 85.20 45 P **P** 15 12 25.6 -0.8
baz=228
MONP2 Monument Peak 85.22 48 P **P** 15 12 27.2 +0.3
baz=229,SNR=11
IKP In-Ko-Pah, Jac 85.27 48 P **P** 15 12 26.8 -0.1
baz=230,SNR=7.8
BO02 Sierra Bellavi 85.31 128 P **P** 15 12 27.6 +0.2
BO01 Tunca 85.33 127 P **P** 15 12 28.4 +1.0
BFSC Mount Baldy Ra 85.33 46 P **P** 15 12 26.2 -1.1
baz=229,SNR=14
HOPS Hopland Field 85.41 39 P **P** 15 12 28.8 +1.4
HOPS IAmb IAmb 15 12 44.8
comp=Z,60nm,1.0s
GDXM Geysers 85.43 40 P **P** 15 12 28.2 +0.6
GDXM IAmb IAmb 15 12 36.0
comp=Z,46nm,1.1s
QIZ Qiongzhong 85.45 295 P **P** 15 12 28.0 0.0
QIZ S **S** 15 23 00.8 +2.3
QIZ SS **SS** 15 28 36.5 +2.1
QIZ pmax pmax
comp=Z,10.0nm,1.0s
QIZ pmax pmax
comp=Z,1µm,12.0s
QIZ LR LR
comp=Z,1µm,18.6s

QIZ LR LR
comp=Z,640nm,15.1s
QIZ LR LR
comp=Z,1µm,18.2s
MT01 Popeta 85.50 127 P **P** 15 12 28.6 +0.4
PET Petropavlovsk 85.51 346 P **P** 15 12 27.3 -0.2
PET IAmb IAmb 15 12 29.3
comp=Z,60nm,1.0s
PET IAMs_20 IAMs_20 15 46 36.5
comp=Z,4µm,20.0s
PET Petropavlovsk 85.51 346 *e*P **P** 15 12 27.7 +0.2
PET *e* 15 15 44.8
PET *e*S **S** 15 22 57.8 +0.3
PET *e*PS **PnS** 15 24 02.1 +6.3
PET *e*PPS PPS 15 24 25.9
PET *e*SS **SS** 15 28 37.4 +3.2
PET pmax pmax
comp=Z,85nm,1.0s
PET pmax pmax
comp=Z,1µm,12.7s
PET MLR MLR
comp=Z,3µm,16.0s
PET MLR MLR
comp=Z,2µm,15.0s
VES Vestal, Richgr 85.53 44 P **P** 15 12 28.3 +0.3
baz=228
EDW2 Edwards Air Fo 85.55 45 P **P** 15 12 30.2 +1.9
baz=228,SNR=29
KCPM Cahto Peak 85.63 39 P **P** 15 12 29.0 +0.4
SWSC Sam W. Stewart 85.66 48 P **P** 15 12 27.4 -1.3
baz=230,SNR=6.8
PFO Pinyon Flats O 85.67 47 LR LR 15 46 31.1
comp=Z,2µm,18.1s,baz=238,slow=33
PFO Pinyon Flats O 85.67 47 P **P** 15 12 30.7 +1.7
PFO IAmb IAmb 15 12 45.6
comp=Z,128nm,1.8s
PFO Pinyon Flats O 85.67 47 IAMs_20 IAMs_20 15 53 34.2
comp=Z,3µm,18.0s
PFO Pinyon Flats O 85.67 47 P **P** 15 12 26.7 -2.3
baz=229
PFO Pinyon Flats O 85.67 47 P **P** 15 12 30.7 +1.7
PFO pmax pmax
comp=Z,128nm,1.8s
PFO MLR MLR
comp=Z,3µm,18.0s
TPFO Pinon Flats 85.67 47 P **P** 15 12 28.6 -0.4
baz=229,SNR=14
VOG Valley Oaks Go 85.67 43 P **P** 15 12 29.1 +0.4
baz=227
MT09 Talagante 85.73 127 P **P** 15 12 29.6 0.0
MT09 IAmb IAmb 15 12 49.4
comp=Z,112nm,1.2s
PMD Palm Desert 85.74 47 P **P** 15 12 29.3 +0.1
PMD IAmb IAmb 15 12 45.9
comp=Z,100nm,1.6s
KULM Kulim 85.77 279 P **P** 15 12 27.6 -2.2
KULM IAmb IAmb 15 12 30.5
comp=Z,136nm,1.6s
KULM IAMs_20 IAMs_20 15 55 11.3
comp=Z,4µm,19.0s
ISA Isabella, Lake 85.77 44 P **P** 15 12 29.3 -0.1
ISA IAmb IAmb 15 12 46.9
comp=Z,64nm,1.1s
ISA Isabella, Lake 85.77 44 P **P** 15 12 29.3 -0.1
baz=228
ISA Isabella, Lake 85.77 44 P **P** 15 12 29.3 -0.1
ISA pmax pmax
comp=Z,64nm,1.2s
PEA0B Petropavlovsk- 85.80 345 P **P** 15 12 29.4 +0.5
PEA0B Petropavlovsk- 85.80 345*ce*P **P** 15 12 29.9 +0.9
PETK Petropavlovsk- 85.80 345 P **P** 15 12 29.0 +0.1
comp=Z,66nm,0.9s,baz=106,slow=6.2,SNR=56
PETK LR LR 15 44 36.3
comp=Z,2µm,21.9s,baz=162,slow=31
comp=Z,66nm,0.9s
BBRC Big Bear Solar 85.80 46 P **P** 15 12 30.4 +0.6
baz=229
TEY Ternei 85.84 329⇓*e*P **P** 15 12 29.4 0.0
TEY pmax pmax
comp=Z,10.0nm,1.2s
TEY pmax pmax
comp=Z,100nm,12.4s
MT02 Curacav 85.91 126 P **P** 15 12 30.5 +0.2
MT02 IAmb IAmb 15 12 51.8
comp=Z,58nm,1.1s
KMRM Mail Ridge 85.94 38 P **P** 15 12 30.0 -0.1
RPSI Rantau Prapat 85.94 275 P **P** 15 12 28.3 -2.4
RPSI IAmb IAmb 15 12 30.4
comp=Z,103nm,1.5s
PSI Prapat 86.00 276 LR LR 15 53 48.1
comp=Z,4µm,18.1s,baz=138,slow=38
PSI Prapat 86.00 276 P **P** 15 12 28.3 -2.8
PSI pmax pmax
comp=Z,103nm,1.5s
PSI MLR MLR
comp=Z,5µm,19.0s
MT05 Renca 86.12 127 P **P** 15 12 31.8 +0.4
LRMC Laurel Mtn Rad 86.13 45 P **P** 15 12 31.8 +0.6
baz=228,SNR=14
RRX Edison Barstow 86.16 46 P **P** 15 12 31.9 +0.7
baz=229
CMB Columbia Colle 86.25 42 P **P** 15 12 32.5 +0.9
CMB IAmb IAmb 15 12 59.5
comp=Z,46nm,1.1s
CMB Columbia Colle 86.25 42 P **P** 15 12 32.5 +0.9
CMB pmax pmax
comp=Z,46nm,1.1s
PEL Peldehue 86.29 126 P **P** 15 12 32.1 -0.1
PEL IAmb IAmb 15 42 02.0
comp=Z,3µm,21.0s
PEL Peldehue 86.29 126 P **P** 15 12 32.1 -0.1
PEL pmax pmax
comp=Z,213nm,1.4s
PIX Pinacate 86.31 50 P **P** 15 12 32.2 +0.2
PIX IAmb IAmb 15 13 58.6
comp=Z,30nm,0.6s
BC3 Big Chuckawall 86.33 47 P **P** 15 12 33.5 +1.2
baz=230,SNR=7.9
GLA Glamis 86.35 48 P **P** 15 12 31.8 -0.5
GLA Glamis 86.35 48 P **P** 15 12 34.3 +2.1
baz=230
GLA Glamis 86.35 48 P **P** 15 12 31.8 -0.5
GLA pmax pmax
comp=Z,183nm,1.7s
KHMM Horse Mountain 86.40 38 P **P** 15 12 32.0 -0.5
KHMM IAmb IAmb 15 12 40.6
comp=Z,58nm,1.1s
GSI Gunungsitoli 86.41 274 P **P** 15 12 32.1 -0.9
GSI IAMs_20 IAMs_20 15 54 59.1
comp=Z,3µm,20.0s
KRPM Rodgers 86.44 37 P **P** 15 12 32.9 +0.4
KRPM IAmb IAmb 15 12 47.8
comp=Z,106nm,1.3s
SDPT Sand Point 86.45 10 P **P** 15 12 31.9 -0.2
CWC Cottonwood Cre 86.53 44 P **P** 15 12 34.9 +1.7
baz=228
HEC Hector,Ludlow 86.54 46 P **P** 15 12 33.8 +0.6
baz=229,SNR=33
AFDM Forest Hills D 86.55 41 P **P** 15 12 32.0 -1.1
AFDM IAmb IAmb 15 12 50.0
comp=Z,51nm,1.2s
GSC Goldstone, Bar 86.55 46 P **P** 15 12 35.2 +2.0
baz=229,SNR=28
NJ2 Nanjing 86.58 310 ⇑P **P** 15 12 33.5 +0.2
NJ2 pP **pP** 15 12 37.3 -1.6
NJ2 sP **sP** 15 12 41.8 +0.8
NJ2 S **S** 15 23 14.0 +5.0
NJ2 sS **sS** 15 23 20.5 +2.0
NJ2 pmax pmax
comp=Z,41nm,2.0s
NJ2 pmax pmax
comp=Z,1µm,5.1s
NJ2 LR LR
comp=Z,910nm,19.9s
NJ2 LR LR
comp=Z,1µm,18.0s
NJ2 LR LR
comp=Z,2µm,20.4s
S12K Black Hills 86.58 9 P **P** 15 12 33.9 +1.1
baz=193
MPMC Manual Prospec 86.63 45 P **P** 15 12 34.9 +1.1
baz=229,SNR=24
ORV Oroville 86.67 40 P **P** 15 12 34.0 +0.4
ORV IAmb IAmb 15 12 36.9
comp=Z,78nm,1.5s
ORV IAMs_20 IAMs_20 15 49 22.0

comp=Z,4µm,18.0s
ORV Oroville 86.67 40 P P 15 12 34.0 +0.4
ORV pmax pmax
comp=Z,78nm,1.5s
TIN Tinemaha, Big 86.85 43 P P 15 12 35.7 +1.0
baz=228
IRM Iron Mountain 86.85 47 P P 15 12 37.2 +2.5
baz=230,SNR=24
113A Mohawk Valley, 86.86 49 P P 15 12 35.1 +0.4
113A IAmb IAmb 15 12 51.5
comp=Z,81nm,1.5s
UGL Uglegorsk 86.87 335 *e*P **P 15 12 35.5 +1.2**
UGL *e*S **S 15 23 12.6 +1.6**
UGL pmax pmax
comp=Z,140nm,1.3s
UGL smax smax
comp=E,2µm,15.0s
UGL smax smax
comp=N,2µm,16.0s
UGL MLR MLR
comp=E,1µm,17.0s
UGL MLR MLR
comp=N,3µm,18.0s
UGL MLR MLR
comp=Z,2µm,20.0s
MLAC Mammoth, Mammo 86.88 43 P P 15 12 36.4 +1.4
baz=228
GMRC Granite Mounta 86.93 47 P P 15 12 36.5 +1.3
baz=230,SNR=13
QSM Queen of Sheba 86.95 45 P P 15 12 35.8 +0.7
QSM IAmb IAmb 15 12 43.0
comp=Z,60nm,1.3s
214A Organ Pipe Nat 86.98 50 P P 15 12 35.9 +0.5
214A IAmb IAmb 15 12 52.3
comp=Z,131nm,1.8s
214A Organ Pipe Nat 86.98 50 P P 15 12 35.4 +0.1
baz=232
CO02 Combarbal 87.15 125 P P 15 12 37.0 +0.5
CO02 IAmb IAmb 15 12 56.6
comp=Z,97nm,1.1s
TUQ Turquoise Moun 87.19 46 P P 15 12 37.5 +1.1
baz=230,SNR=9.5
DSP Deep Springs 87.21 43 P P 15 12 36.4 +0.1
DSP IAmb IAmb 15 12 53.7
comp=Z,37nm,1.1s
GWY Greenwater Val 87.22 45 P P 15 12 36.4 -0.2
GWY IAmb IAmb 15 12 53.0
comp=Z,113nm,1.7s
SHOC Shoshone, Teco 87.27 45 P P 15 12 39.3 +2.7
baz=229,SNR=10
FURC Furnace Creek, 87.28 45 P P 15 12 39.2 +2.6
baz=229,SNR=10
LCH Last Change Ra 87.32 44 P P 15 12 37.4 +0.4
LCH IAmb IAmb 15 12 40.4
comp=Z,78nm,1.7s
MPK Martis Peak 87.32 41 P P 15 12 37.0 -0.2
GRAC Grapevine Rang 87.33 44 P **P 15 12 39.4 +2.5**
baz=229,SNR=15
USA0B Ussuriysk Arra 87.34 326 P P 15 12 36.5 -0.2
USA0B Ussuriysk Arra 87.34 326 *c i*P **P 15 12 37.1 +0.4**
USRK Ussuriysk Ar. 87.34 326 P **P 15 12 37.5 +0.7**
comp=Z,70nm,1.1s,baz=130,slow=3.0,SNR=36
USRK LR LR 15 46 50.7
comp=Z,2µm,21.2s,baz=128,slow=32
comp=Z,70nm,1.1s
USRK Ussuriysk Ar. 87.34 326 P P 15 12 36.4 -0.3
LHV Little Huntoon 87.49 42 P P 15 12 39.0 +1.4
LHV IAmb IAmb 15 12 55.2
comp=Z,62nm,1.1s
YBH Yreka Blue Hor 87.55 38 LR LR 15 48 33.0
comp=Z,2µm,18.2s,baz=228,slow=33
YBH Yreka Blue Hor 87.55 38 P P 15 12 38.5 +0.6
YBH IAmb IAmb 15 12 52.8
comp=Z,71nm,1.6s
YBH Yreka Blue Hor 87.55 38 P P 15 12 38.5 +0.6
YBH pmax pmax
comp=Z,71nm,1.6s
YERR Yerington 87.56 41 P P 15 12 38.0 -0.2
YERR IAmb IAmb 15 12 41.4
comp=Z,99nm,1.6s
CO03 El Pedregal 87.57 124 P P 15 12 39.2 +0.6
NEE2 Needles Airpor 87.58 47 P P 15 12 39.8 +1.7
baz=230
PDMCI Parker Dam,Lak 87.59 48 P P 15 12 41.3 +3.1
baz=231,SNR=11
CHGN Chignik 87.68 10 P P 15 12 38.9 +0.8
CHGN Chignik 87.68 10 P P 15 12 38.3 +0.3
baz=196
CHIR Chirikof Islan 87.70 12 IAMs_20 IAMs_20 15 47 16.6
comp=Z,5µm,20.0s
CHIR Chirikof Islan 87.70 12 P P 15 12 36.1 -2.0
baz=199
NVAR Mina Array Bea 87.72 42 P P 15 12 40.5 +1.5
comp=Z,10.0nm,1.0s,baz=220,slow=7.2,SNR=53
NVAR PKKP **PKKPdf 15 30 22.4 -0.1**
comp=Z,0.1nm,0.3s,baz=75,slow=1.7,SNR=2.6
NVAR PKKPbc **PKKPbc 15 30 28.1 +0.6**
comp=Z,1.1nm,0.9s,baz=96,slow=4.6,SNR=4.7
NVAR LR LR 15 48 41.9
comp=Z,5µm,18.1s,baz=234,slow=33
comp=Z,10.0nm,1.0s
NVAR Mina Array Bea 87.72 42 P P 15 12 39.0 0.0
RYN Ryan 87.73 42 P P 15 12 39.7 +0.7
RYN IAmb IAmb 15 12 55.4
comp=Z,89nm,1.6s
MZP Montezuma Peak 87.78 43 P P 15 12 39.7 +0.3
NV11 Mina Array Sit 87.81 42 P P 15 12 39.6 +0.2
NV11 IAmb IAmb 15 12 42.6
comp=Z,131nm,1.8s
TPNV Topopah Spring 87.97 45 IAMs_20 IAMs_20 15 50 46.8
comp=Z,4µm,18.0s
TPNV Topopah Spring 87.97 45 P P 15 12 42.2 +2.0
baz=229,SNR=23
TPNV Topopah Spring 87.97 45 ⇑P **P 15 12 42.2 +2.0**
TPNV ⇑P **P 15 12 42.2 +2.0**
HUMO Hull Mountain 88.04 37 P P 15 12 40.9 +0.7
HUMO IAMs_20 IAMs_20 15 48 07.8
comp=Z,3µm,19.0s
TYV Tymovskoe 88.14 336 *e*P **P 15 12 41.6 +1.2**
TYV *e*S **S 15 23 21.8 -1.3**
TYV pmax pmax
comp=Z,148nm,1.5s
TYV pmax pmax
comp=Z,1µm,2.5s
TYV smax smax
comp=N,300nm,6.6s
TYV smax smax
comp=E,300nm,6.6s
KVN Kaiserville 88.26 42 P P 15 12 42.1 +0.6
KVN Kaiserville 88.26 42 P P 15 12 42.1 +0.6
KVN pmax pmax
comp=Z,27nm,1.0s
CNSH ChangSha 88.33 304 ⇑P P 15 12 29.8 -12
SHPR Sheep Range 88.35 45 P P 15 12 42.8 +0.8
SHPR IAmb IAmb 15 12 47.1
comp=Z,87nm,1.9s
GULI GuiLin 88.55 300 *e*P P 15 12 54.8 +12
TUC Tucson 88.56 51 P **P 15 12 44.6 +1.6**
TUC Tucson 88.56 51 IAMs_20 IAMs_20 15 49 07.0
comp=Z,3µm,19.0s
TUC Tucson 88.56 51 P P 15 12 43.5 +0.5
baz=233
TUC Tucson 88.56 51 P P 15 12 44.6 +1.6
TUC pmax pmax
comp=Z,137nm,1.7s
LCO Las Campanas 88.58 123 IAMs_20 IAMs_20 15 42 22.6
comp=Z,4µm,22.0s
SII Sitkinak Islan 88.66 13 IAMs_20 IAMs_20 15 47 55.2
comp=Z,4µm,21.0s
SII Sitkinak Islan 88.66 13 P P 15 12 43.9 +1.1
baz=200
WHN Wuhan 88.71 307 ⇓P **P 15 12 44.0 +0.4**
WHN SKS **SKSac 15 23 03.5 -8.3**
WHN S **S 15 23 31.0 +1.5**
WHN pmax pmax
comp=Z,590nm,2.4s
WHN LR LR
comp=Z,4µm,18.7s
WHN LR LR
comp=Z,2µm,20.0s
WHN LR LR
comp=Z,6µm,20.9s
S11A Rachel 88.73 44 P P 15 12 43.9 +0.2
S11A IAmb IAmb 15 13 13.4
comp=Z,80nm,1.3s
MDJ Mudanjiang 88.82 325 P P 15 12 44.8 +1.0
MDJ PP **PP 15 16 10.5 -3.0**
MDJ S **S 15 23 24.5 -5.4**
MDJ pmax pmax
comp=Z,55nm,1.4s
MDJ pmax pmax
comp=Z,1µm,10.2s
MDJ LR LR
comp=Z,1µm,18.6s
MDJ LR LR
comp=Z,1µm,17.5s
MDJ LR LR
comp=Z,3µm,23.1s
MDJ Mudanjiang 88.82 325 P P 15 12 43.5 -0.3
MDJ IAmb IAmb 15 12 46.1
comp=Z,119nm,1.5s
CFA Coronel Fontan 88.87 126 P P 15 12 46.8 +2.1
comp=Z,29nm,1.2s,baz=250,slow=4.8,SNR=13
CFA LR LR 15 43 38.3
comp=Z,3µm,21.9s,baz=254,slow=30
comp=Z,29nm,1.2s
LHMI Lhok Sumawe 88.92 277 IAMs_20 IAMs_20 15 55 30.7
comp=Z,4µm,20.0s
MOD Modoc Plateau 88.95 39 P P 15 12 44.6 0.0
MOD IAmb IAmb 15 12 47.7
comp=Z,94nm,1.6s
AC05 El Transito 88.99 123 P P 15 12 46.1 +0.8
319A Douglas 89.02 53 P P 15 12 44.9 -0.3
319A IAmb IAmb 15 13 05.8
comp=Z,52nm,1.3s
TRQA Tornquist 89.14 134 P P 15 12 46.1 +0.3
TRQA IAmb IAmb 15 13 07.0
comp=Z,60nm,1.5s
TRQA Tornquist 89.14 134 P P 15 12 46.1 +0.3
TRQA pmax pmax
comp=Z,60nm,1.5s
K05A Summer Lake 89.20 38 P P 15 12 46.4 +0.5
DL2 Dalian 89.22 317 P P 15 12 46.5 +0.7
DL2 pmax pmax
comp=Z,580nm,9.1s
DL2 LR LR
comp=Z,1µm,26.1s
DL2 LR LR
comp=Z,920nm,24.5s
DL2 LR LR
comp=Z,2µm,24.3s
R11A Troy Canyon, C 89.28 44 P P 15 12 46.7 +0.3
R11A Troy Canyon, C 89.28 44 P P 15 12 48.5 +2.1
baz=230,SNR=11
R17K Ugashik Creek 89.29 11 P P 15 12 46.6 +1.0
baz=198
OHAK Old Harbor 89.45 13 P P 15 12 47.0 +0.6
OHAK IAmb IAmb 15 12 49.0
comp=Z,74nm,1.5s
OHAK Old Harbor 89.45 13 P P 15 12 47.5 +1.2
baz=201
BMN Battle Mountai 89.68 41 P P 15 12 48.8 +0.7
BMN IAmb IAmb 15 12 52.2
comp=Z,154nm,1.9s
BMN Battle Mountai 89.68 41 P P 15 12 48.8 +0.7
BMN pmax pmax
comp=Z,154nm,1.9s
AC06 Mina Casimiro 89.75 122 P P 15 12 49.8 +1.0
AC06 IAmb IAmb 15 13 11.4
comp=Z,74nm,1.8s
UNM Universidad Na 89.83 68 IAMs_20 IAMs_20 15 43 00.8
comp=Z,3µm,22.0s
DUN6 Lazy B Ranch 89.85 52 P P 15 12 49.5 +0.4
LCMT Little Creek M 89.86 46 P P 15 12 49.5 +0.5
LCMT IAmb IAmb 15 13 11.8
comp=Z,58nm,1.5s
H04A Detroit Lake 89.90 36 P P 15 12 49.5 +0.6
H04A IAmb IAmb 15 12 51.7
comp=Z,99nm,1.3s
PINE Pine Mountain 89.92 37 P P 15 12 50.1 +0.9
Q17K Contact Creek 89.97 11 P P 15 12 50.0 +1.0
baz=198,SNR=8.6
SNY Shenyang 90.04 320 ⇑P **P 15 12 49.5 0.0**
SNY S **S 15 23 34.0 -7.3**
SNY pmax pmax
comp=Z,53nm,1.3s
SNY pmax pmax
comp=Z,980nm,9.6s
SNY LR LR
comp=Z,1µm,22.1s
SNY LR LR
comp=Z,860nm,20.4s
SNY LR LR
comp=Z,3µm,23.1s
KDAK Kodiak Island 90.11 13 IAMs_20 IAMs_20 15 48 28.7
comp=Z,3µm,20.0s
KDAK Kodiak Island 90.11 13 P P 15 12 49.5 +0.1
baz=201
KDAK Kodiak Island 90.11 13 *i*P **P 15 12 50.7 +1.2**
KDAK pmax pmax
comp=Z,42nm,1.1s
WUAZ Wupatki 90.12 48 P P 15 12 50.3 0.0
WUAZ IAmb IAmb 15 13 08.1
comp=Z,60nm,1.1s
WUAZ IAMs_20 IAMs_20 15 50 45.1
comp=Z,3µm,18.0s
WUAZ Wupatki 90.12 48 P P 15 12 50.9 +0.6
baz=232
Q16K King Salmon 90.24 11 P P 15 12 51.2 +1.2
baz=198,SNR=8.9
TIA Tai'an 90.28 313 ⇑P **P 15 12 51.3 +0.4**
TIA pmax pmax
comp=Z,43nm,1.0s
TIA pmax pmax
comp=Z,950nm,10.3s
TIA LR LR
comp=Z,780nm,20.6s
TIA LR LR
comp=Z,1µm,19.1s
TIA LR LR
comp=Z,2µm,22.6s
SZCU Shurtz Canyon 90.32 46 P P 15 12 51.4 +0.1
SZCU IAmb IAmb 15 13 08.3
comp=Z,123nm,1.9s
CN2 Changchun 90.36 322 ⇑*i*P **P 15 12 51.3 +0.3**
CN2 sP pwP 15 13 05.8 +3.6
CN2 SKS **SKSac 15 23 18.0 -2.9**
CN2 S **S 15 23 41.3 -3.0**
CN2 SS **SS 15 29 45.5 +0.1**
CN2 pmax pmax
comp=Z,120nm,1.3s
CN2 pmax pmax
comp=Z,800nm,4.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,1µm,19.0s
P16K Nushagak River 90.37 10 P P 15 12 50.6 0.0
baz=197
GRNR Gornyy 90.40 333 ⇓*i*P **P 15 12 52.2 +1.2**
GRNR *e*S **S 15 23 52.5 +8.1**
GRNR pmax pmax
comp=E,10.0nm,1.2s
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,60nm,1.1s
GRNR smax smax
comp=N,2.0nm,0.8s
SPR3 Spring Creek 3 90.45 44 P P 15 12 52.4 +0.4
Q18K Katmai Hardscr 90.49 11 P P 15 12 52.0 +0.6
baz=199,SNR=11
E03A Lebam 90.54 34 P P 15 12 53.5 +1.7
HOOD Mount Hood Mea 90.62 36 P P 15 12 52.8 +0.5
HOOD IAmb IAmb 15 13 12.7
comp=Z,37nm,0.9s
BNX BinXian 90.70 325 ⇑P **P 15 12 52.3 -0.2**
BNX pP **pwP 15 13 03.3 -0.5**
BNX SKS **SKSac 15 23 20.0 -2.8**
BNX S **S 15 23 48.5 +1.2**
BNX sS **sS 15 24 02.8 +6.0**
BNX pmax pmax
comp=Z,66nm,1.2s
BNX pmax pmax
comp=Z,730nm,11.5s
BNX LR LR
comp=Z,830nm,23.5s
BNX LR LR
comp=Z,1µm,21.2s
BNX LR LR
comp=Z,2µm,22.3s
PKCU Pink Cliffs 90.71 46 P P 15 12 53.1 -0.1
PKCU IAmb IAmb 15 13 22.3
comp=Z,74nm,1.2s
NKL Nikolayevsk 90.72 336 *e*P **P 15 12 52.4 0.0**
NKL *e*S **SKSac 15 23 22.0 -0.4**
NKL pmax pmax
comp=N,156nm,1.2s
NKL pmax pmax
comp=E,69nm,1.2s
NKL pmax pmax
comp=Z,782nm,1.3s
NKL smax smax
comp=E,155nm,3.8s
NKL smax smax
comp=N,46nm,2.0s
121A Cookes Peak, D 90.72 52 P P 15 12 54.3 +1.1
121A IAmb IAmb 15 13 10.2
comp=Z,79nm,1.6s
121A Cookes Peak, D 90.72 52 P P 15 12 52.7 -0.5
baz=234
P17K Kvichak River 90.77 11 P P 15 12 54.1 +1.6
baz=198,SNR=6.5
I07A Izee 90.87 38 P P 15 12 54.0 +0.5
I07A IAmb IAmb 15 12 56.9
comp=Z,83nm,1.5s
O16K Kokwok River B 90.90 10 P P 15 12 52.5 -0.6
baz=197
Q20K Shuyak Island 90.92 13 P P 15 12 54.1 +0.9
baz=202
J08A Circle Bar Ran 90.93 39 P P 15 12 54.6 +0.8
W18A Petrified Fore 90.94 49 P P 15 12 56.6 +2.4
baz=233
Q19K Cape Douglas, 90.99 12 P P 15 12 54.9 +1.3
Q19K IAMs_20 IAMs_20 15 49 12.7
comp=Z,4µm,20.0s
Q19K Cape Douglas, 90.99 12 P P 15 12 54.2 +0.6
baz=200
NLWA Neilton Lookou 91.00 33 IAMs_20 IAMs_20 15 48 22.1
comp=Z,4µm,19.0s
ELK Elko 91.03 42 LR LR 15 50 54.9
comp=Z,4µm,18.0s,baz=233,slow=34
ELK Elko 91.03 42 P P 15 12 55.5 +1.0
ELK IAmb IAmb 15 12 57.7
comp=Z,45nm,1.6s
ELK Elko 91.03 42 P P 15 12 55.5 +1.0
ELK pmax pmax
comp=Z,45nm,1.6s
P18K Big Mountain, 91.15 11 P P 15 12 53.7 -0.7
P18K IAmb IAmb 15 13 10.6
comp=Z,33nm,0.9s
P18K Big Mountain, 91.15 11 P P 15 12 54.9 +0.6
baz=199,SNR=12
EPT El Paso 91.17 54 IAMs_20 IAMs_20 15 50 53.9
comp=Z,3µm,18.0s
KLR Kul'dur 91.19 329 LR LR 15 49 04.6
comp=Z,1µm,21.1s,baz=140,slow=32
KLR Kul'dur 91.19 329 *e*P **P 15 12 55.5 +0.8**
KLR pmax pmax
comp=Z,105nm,1.4s
KLR MLR MLR
comp=Z,2µm,19.0s
O17K Koliganek Bris 91.22 10 P P 15 12 54.8 +0.2
baz=198
TCRU Three Creeks R 91.35 45 P P 15 12 56.9 +0.8
TCRU IAmb IAmb 15 13 19.0
comp=Z,37nm,1.4s
MVU Marysvale 91.43 45 P P 15 12 57.0 +0.6
LON Longmire 91.54 35 P P 15 12 56.8 +0.3
LON IAmb IAmb 15 12 59.3
comp=Z,50nm,1.6s
LON Longmire 91.54 35 P P 15 12 56.8 +0.3
LON pmax pmax
comp=Z,50nm,1.7s
O18K Koktuh Hills 91.59 11 P P 15 12 56.4 +0.1
O18K IAmb IAmb 15 12 58.8
comp=Z,48nm,0.9s
O18K Koktuh Hills 91.59 11 P P 15 12 56.5 +0.1
baz=199
N16K Nishlik L Lake 91.65 9 P P 15 12 57.1 +0.5
baz=196
P19K Oil Pt 91.75 12 P P 15 12 57.7 +0.6
P19K IAmb IAmb 15 13 13.8
comp=Z,30nm,0.8s
P19K IAMs_20 IAMs_20 15 49 47.0
comp=Z,3µm,20.0s
P19K Oil Pt 91.75 12 P P 15 12 57.4 +0.3
baz=201
TX31 Lajitas Ar. Si 91.81 57 P P 15 12 59.0 +0.8
TX32 Lajitas Array 91.81 57 P P 15 12 59.3 +1.0
TX32 IAmb IAmb 15 13 14.5
comp=Z,33nm,1.4s
TXAR Lajitas Array 91.81 57 P P 15 12 59.8 +1.5
comp=Z,6.3nm,1.2s,baz=224,slow=2.5,SNR=20
TXAR PKKPbc **PKKPbc 15 30 17.2 +0.7**
comp=Z,1.2nm,1.0s,baz=94,slow=5.0,SNR=5.0
TXAR PKPPKP **P'P'df 15 38 26.4 +1.7**
comp=Z,0.6nm,1.0s,baz=97,slow=4.0,SNR=4.2
TXAR LR LR 15 49 39.3
comp=Z,2µm,18.0s,baz=236,slow=33
comp=Z,6.3nm,1.2s
TXAR Lajitas Array 91.81 57 P P 15 12 58.9 +0.6
F07A Phinny Hill Vi 91.89 36 P P 15 12 59.4 +1.3
F07A IAmb IAmb 15 13 01.2
comp=Z,69nm,1.5s
MNTX Cornudas Mount 91.91 54 P P 15 12 59.5 +1.0
MNTX Cornudas Mount 91.91 54 P P 15 12 58.4 -0.2
baz=236
GYA Guiyang 91.97 300 ⇑*i*P **P 15 12 59.0 -0.1**
GYA PP **PP 15 16 39.0 -0.1**
GYA S **S 15 23 53.0 -7.0**
GYA pmax pmax
comp=Z,19nm,2.2s
GYA pmax pmax
comp=Z,640nm,12.5s
GYA LR LR
comp=Z,750nm,19.3s
GYA LR LR
comp=Z,680nm,19.9s
GYA LR LR
comp=Z,2µm,19.4s
G08A Pilot Rock 91.98 37 P P 15 12 58.7 0.0
G08A IAmb IAmb 15 13 01.8
comp=Z,75nm,1.3s
ENH Enshi 91.99 304 P P 15 12 58.5 -0.5
CNPM China Poot 92.00 13 P P 15 12 58.8 +0.5
CNPM IAMs_20 IAMs_20 15 49 28.8
comp=Z,4µm,20.0s
HOM Homer 92.04 13 IAMs_20 IAMs_20 15 54 43.9
comp=Z,3µm,19.0s
HOM Homer 92.04 13 P P 15 13 00.1 +1.7
baz=202
O19K Port Alsworth 92.07 11 P P 15 12 58.1 -0.3
O19K IAMs_20 IAMs_20 15 50 28.1
comp=Z,3µm,20.0s
O19K Port Alsworth 92.07 11 P P 15 12 59.1 +0.7
baz=200,SNR=25
DUG Dugway, Tooele 92.11 44 IAMs_20 IAMs_20 15 52 06.4
comp=Z,4µm,18.0s
DUG Dugway, Tooele 92.11 44 P P 15 13 01.5 +2.1
baz=232,SNR=6.6
CMIG Matias Romero 92.15 72 LR LR 15 46 22.7
comp=Z,1µm,19.9s,baz=240,slow=30
Y22D IRIS PASSCAL I 92.21 51 IAMs_20 IAMs_20 15 51 26.8
comp=Z,4µm,19.0s
Y22D IRIS PASSCAL I 92.21 51 P P 15 12 55.8 -4.2
baz=235
Y22F Passcal Instru 92.21 51 P P 15 12 55.8 -4.2
baz=235
LENM Lemitar 92.22 51 P P 15 13 00.1 -0.1
O20K Slope Mountain 92.26 12 P P 15 12 60.0 +0.5
baz=201
BRLK Bradley Lake 92.29 13 P P 15 12 59.8 +0.2
BRLK IAmb IAmb 15 13 01.8
comp=Z,72nm,1.4s
BRLK IAMs_20 IAMs_20 15 49 47.7
comp=Z,4µm,20.0s
BRSE Bradley Lake S 92.30 13 P P 15 13 01.7 +2.1
baz=203,SNR=6.9
Q16A Castle Valley 92.32 46 P P 15 13 01.8 +1.3
Q16A IAmb IAmb 15 13 18.2
comp=Z,42nm,1.4s
LYN LuoYang 92.34 309 ⇑*i*P **P 15 13 01.0 +0.6**
LYN S **S 15 24 01.0 -1.7**
LYN pmax pmax
comp=Z,30nm,1.4s
LYN pmax pmax

comp=Z,710nm,11.6s
LYN LR LR
comp=Z,960nm,21.1s
LYN LR LR
comp=Z,900nm,21.6s
LYN LR LR
comp=Z,2µm,24.5s
NLU North Lily Min 92.41 44 P **P 15 13 01.3 +0.4**
NLU IAmb IAmb 15 13 04.4
comp=Z,56nm,1.9s
MFID Camas Ranch 92.42 40 P **P 15 13 00.8 +0.1**
MFID IAmb IAmb 15 13 15.1
comp=Z,34nm,1.2s
MFID IAMs_20 IAMs_20 15 50 45.0
comp=Z,3µm,19.0s
HAWA Hanford 92.43 36 P **P 15 13 00.9 +0.3**
HAWA IAmb IAmb 15 13 03.8
comp=Z,77nm,1.4s
HAWA IAMs_20 IAMs_20 15 51 14.9
comp=Z,4µm,19.0s
BGU Big Grassy Mou 92.44 43 P **P 15 13 01.6 +0.7**
BGU IAmb IAmb 15 13 05.0
comp=Z,43nm,1.7s
BNM Barren Site 92.45 52 P **P 15 13 01.6 +0.4**
LTY Liberty 92.45 35 P **P 15 13 01.0 +0.3**
LTY IAmb IAmb 15 13 03.6
comp=Z,89nm,1.8s
TMUT Trail Mountain 92.53 45 P **P 15 13 02.2 +0.6**
TMUT IAmb IAmb 15 13 26.5
comp=Z,44nm,1.3s
HNS HongShan 92.55 312 ⇑P **P 15 13 02.0 +0.7**
HNS PP **PP 15 16 45.0 +1.8**
HNS SKS **SKSac 15 23 34.0 +0.4**
HNS S **ScS 15 24 07.8 +1.4**
HNS pmax pmax
comp=Z,35nm,1.4s
HNS pmax pmax
comp=Z,750nm,10.1s
HNS LR LR
comp=Z,1µm,23.9s
HNS LR LR
comp=Z,960nm,24.6s
HNS LR LR
comp=Z,2µm,24.5s
BMO Blue Mountains 92.56 38 P **P 15 13 01.9 +0.6**
BMO IAmb IAmb 15 13 04.0
comp=Z,58nm,1.7s
BMO IAMs_20 IAMs_20 15 51 29.6
comp=Z,4µm,19.0s
BMO Blue Mountains 92.56 38 P **P 15 13 01.9 +0.6**
BMO pmax pmax
comp=Z,58nm,1.7s
RSO Redoubt South 92.59 12 P **P 15 13 01.4 +0.2**
N19K Bonanza Creek 92.62 11 P **P 15 13 01.1 -0.1**
N19K Bonanza Creek 92.62 11 P **P 15 13 01.7 +0.5**
baz=200
BBB Bella Bella 92.68 28 LR LR 15 50 38.8
comp=Z,3µm,18.4s,baz=230,slow=33
PHRA Phrae 92.86 290 P **P 15 13 02.6 -0.6**
SEW Seward 92.89 14 P **P 15 13 02.5 +0.3**
baz=204
GDL2 Guadalupe Moun 92.91 54 P **P 15 13 02.7 -0.6**
NNA Nana 92.91 106 LR LR 15 45 07.1
comp=Z,1µm,20.7s,baz=242,slow=29
NNA Nana 92.91 106 *i*P **P 15 13 01.1 -2.6**
NNA pmax pmax
comp=Z,15nm,1.1s
P17A Butcher Ranch, 92.93 45 P **P 15 13 03.6 +0.4**
P17A IAmb IAmb 15 13 20.4
comp=Z,41nm,1.4s
MVCO Mesa Verde 92.99 48 P **P 15 13 03.8 +0.1**
MVCO IAMs_20 IAMs_20 15 52 01.1
comp=Z,3µm,18.0s
MVCO Mesa Verde 92.99 48 P **P 15 13 02.8 -0.8**
baz=234
SPUT South Promonto 93.02 43 P **P 15 13 04.2 +0.5**
SPUT IAmb IAmb 15 13 30.9
comp=Z,45nm,1.2s
ANMO Albuquerque 93.02 51 LR LR 15 51 39.7
comp=Z,3µm,18.1s,baz=323,slow=33
ANMO Albuquerque 93.02 51 IAMs_20 IAMs_20 15 52 31.2
comp=Z,4µm,18.0s
ANMO Albuquerque 93.02 51 P **P 15 13 05.0 +1.2**
baz=235
ANMO Albuquerque 93.02 51*ce*P **P 15 13 03.2 -0.6**
ANMO pmax pmax
comp=Z,21nm,1.5s
CTU Camp Tracy 93.06 44 P **P 15 13 03.9 +0.1**
CTU IAmb IAmb 15 13 06.8
comp=Z,43nm,1.8s
HVU Hansel Valley 93.12 43 P **P 15 13 03.8 -0.3**
HVU IAmb IAmb 15 13 07.2
comp=Z,58nm,1.4s
HVU Hansel Valley 93.12 43 P **P 15 13 03.8 -0.3**
HVU pmax pmax
comp=Z,59nm,1.4s
PB03 IPOC Station P 93.18 118 P **P 15 13 06.4 +1.4**
PB03 IAmb IAmb 15 13 21.1
comp=Z,45nm,1.3s
JLU Jordanelle 93.18 44 P **P 15 13 04.7 +0.2**
JLU IAmb IAmb 15 13 08.7
comp=Z,51nm,1.7s
D08A Wollman Farm, 93.19 36 P **P 15 13 04.4 +0.3**
D08A IAmb IAmb 15 13 07.1
comp=Z,60nm,1.4s
BJT Baijiatuau 93.20 315 P **P 15 13 03.3 -1.0**
BJT IAmb IAmb 15 13 06.0
comp=Z,28nm,1.3s
BJT Baijiatuau 93.20 315 P **P 15 13 03.3 -1.0**
BJT pmax pmax
comp=Z,28nm,1.3s
BJI Beijing 93.21 315 P **P 15 13 04.5 +0.2**
BJI SKS **SKSac 15 23 36.8 -0.3**
BJI S **ScS 15 24 14.0 +2.1**
BJI pmax pmax
comp=Z,9.0nm,1.3s
BJI pmax pmax
comp=Z,310nm,11.5s
BJI LR LR
comp=Z,520nm,21.7s
BJI LR LR
comp=Z,630nm,23.7s
BJI LR LR
comp=Z,1µm,22.0s
E09A Wood Farm, Sta 93.22 36 P **P 15 13 04.6 +0.4**
E09A IAmb IAmb 15 13 31.7
comp=Z,38nm,1.2s
MA2 Magadan 93.29 344 LR LR 15 56 16.5
comp=Z,2µm,18.0s,baz=164,slow=36
MA2 Magadan 93.29 344 IAMs_20 IAMs_20 15 57 44.2
comp=Z,3µm,18.0s
MA2 Magadan 93.29 344*ce*P **P 15 13 03.7 -0.5**
MA2 pmax pmax
comp=Z,67nm,1.6s
MA2 MLR MLR
comp=Z,3µm,18.0s
HLID Hailey 93.30 40 P **P 15 13 05.0 +0.1**
HLID IAMs_20 IAMs_20 15 53 14.5
comp=Z,4µm,18.0s
HLID Hailey 93.30 40 P **P 15 13 06.7 +1.8**
baz=231,SNR=22
P18A Preston Nutter 93.33 45 P **P 15 13 05.6 +0.3**
N20K Mount Spurr 93.38 12 P **P 15 13 04.9 +0.2**
baz=202,SNR=6.6
SPCR Spurr Chakacha 93.38 12 P **P 15 13 05.4 +0.7**
baz=202
SPU Mount Spurr 93.39 12 P **P 15 13 04.0 -0.6**
PLID Pearl Lake 93.41 39 P **P 15 13 05.8 +0.4**
PLID IAmb IAmb 15 13 08.1
comp=Z,54nm,1.4s
LVC Limon Verde 93.51 119 LR LR 15 46 33.8
comp=Z,1µm,21.0s,baz=268,slow=30
TCUT Toone Canyon 93.52 44 P **P 15 13 06.6 +0.5**
CRAI Chiangrai 93.63 291 P **P 15 13 06.9 +0.1**
M19K Big River Lodg 93.67 11 P **P 15 13 06.7 +0.8**
M19K Big River Lodg 93.67 11 P **P 15 13 06.5 +0.6**
baz=200
RC01 Rabbit Creek A 93.74 13 P **P 15 13 06.4 +0.2**
baz=204
V35K Ketchikan 93.77 24 P **P 15 13 06.6 +0.1**
baz=218
PWL Port Wells 93.81 14 IAMs_20 IAMs_20 15 54 04.7
comp=Z,2µm,20.0s
M20K Styx River 93.86 11 IAMs_20 IAMs_20 15 50 33.7
comp=Z,3µm,20.0s
M20K Styx River 93.86 11 P **P 15 13 07.3 +0.5**
baz=201
L19K White Mountain 93.86 10 P **P 15 13 07.3 +0.5**
L19K IAmb IAmb 15 13 09.0
comp=Z,43nm,1.4s
L19K White Mountain 93.86 10 P **P 15 13 07.1 +0.3**
baz=200
B08A Colville Reser 93.86 35 P **P 15 13 08.2 +1.1**
HEH HeiHe 93.87 328*eP* **P 15 13 06.8 -0.3**
HEH pP **pP 15 13 12.8 +0.1**
HEH SKS **SKSac 15 23 36.5 -3.8**
HEH S **ScS 15 24 16.5 -0.4**
HEH sS **sS 15 24 31.5 +6.7**
HEH pmax pmax
comp=Z,32nm,1.6s
HEH pmax pmax
comp=Z,620nm,8.2s
HEH LR LR
comp=Z,810nm,18.8s
HEH LR LR
comp=Z,1µm,19.5s
HEH LR LR
comp=Z,2µm,20.5s
U33K Whale Pass 93.87 23 P **P 15 13 07.7 +0.8**
baz=217
SUA Susitna One 93.89 12 P **P 15 13 07.9 +0.8**
SUA IAMs_20 IAMs_20 15 50 53.7
comp=Z,4µm,21.0s
SUA Susitna One 93.89 12 P **P 15 13 06.9 -0.2**
baz=203,SNR=8.6
CM31 Chiang Mai Arr 93.89 289 P **P 15 13 07.4 -0.6**
CM31 Chiang Mai Arr 93.89 289 P **P 15 13 08.8 +0.8**
SNR=8.4
CM31 P **P 15 13 08.8 +0.8**
SNR=8.4
CMAR Chiang Mai Arr 93.89 289 P **P 15 13 08.4 +0.4**
comp=Z,3.8nm,0.8s,baz=140,slow=3.2,SNR=27
CMAR PP **PP 15 16 53.5 -0.6**
comp=Z,7.4nm,1.2s,baz=137,slow=5.9,SNR=6.7
CMAR PKKPbc **PKKPbc 15 30 13.3 +2.7**
comp=Z,1.0nm,0.8s,baz=288,slow=4.9,SNR=6.6
CMAR LR LR 15 57 43.7
comp=Z,815nm,19.1s,baz=130,slow=37
comp=Z,3.8nm,0.8s
CMAR Chiang Mai Arr 93.89 289 P **P 15 13 07.5 -0.5**
CHTO Chiang Mai 94.07 289 P **P 15 13 07.9 -0.9**
CHTO Chiang Mai 94.07 289 P **P 15 13 07.9 -0.9**
CHTO pmax pmax
comp=Z,1.0nm,1.2s
CHTO MLR MLR
comp=Z,2µm,20.0s
EYAK Cordova Ski Ar 94.08 15 P **P 15 13 09.3 +1.5**
baz=207
ATAH Atahualpa 94.10 101 LR LR 15 45 48.5
comp=Z,1µm,20.9s,baz=245,slow=29
TIY Taiyuan 94.19 312 ⇑P **P 15 13 09.5 +0.5**
TIY SKS **SKSac 15 23 45.0 +2.2**
TIY S **ScS 15 24 22.8 +2.5**
TIY pmax pmax
comp=Z,18nm,1.3s
TIY pmax pmax
comp=Z,460nm,8.0s
TIY LR LR
comp=Z,840nm,21.0s
TIY LR LR
comp=Z,770nm,16.7s
TIY LR LR
comp=Z,1µm,25.5s
SKT Skwentna 94.22 12 P **P 15 13 08.0 -0.5**
SKT IAMs_20 IAMs_20 15 51 37.5
comp=Z,3µm,21.0s
SKT Skwentna 94.22 12 P **P 15 13 08.2 -0.3**
baz=202
KMI Kunming 94.27 296 ⇑P **P 15 13 09.0 -0.8**
KMI PP **PP 15 16 53.5 -3.7**
KMI SKS **SKSac 15 23 45.3 +1.2**
KMI SS **SS 15 30 38.8 -3.8**
KMI pmax pmax
comp=Z,10.0nm,1.2s
KMI pmax pmax
comp=Z,440nm,11.9s
KMI LR LR
comp=Z,620nm,19.7s
KMI LR LR
comp=Z,660nm,16.8s
KMI LR LR
comp=Z,1µm,22.5s
M22K Willow 94.27 13 IAMs_20 IAMs_20 15 50 44.5
comp=Z,3µm,21.0s
M22K Willow 94.27 13 P **P 15 13 07.5 -1.1**
baz=204
KNK Knik Glacier 94.28 13 IAMs_20 IAMs_20 15 50 14.3
comp=Z,3µm,21.0s
KNK Knik Glacier 94.28 13 P **P 15 13 07.6 -1.2**
baz=205
L20K Farewell, AK 94.29 11 P **P 15 13 08.3 -0.5**
baz=200
PMR Palmer 94.31 13 P **P 15 13 07.7 -1.1**
baz=204
BCYI Bear Canyon 94.34 40 P **P 15 13 10.1 +0.4**
S22A 4UR Ranch, Cre 94.38 49 P **P 15 13 10.0 -0.1**
baz=235
TTA Tatalina 94.39 10 P **P 15 13 09.3 0.0**
baz=198
XAN Xi'an 94.48 307 ⇑P **P 15 13 09.8 -0.6**
XAN pP sP 15 13 16.8 -1.2
XAN SKS **SKSac 15 23 42.0 -2.5**
XAN pmax pmax
comp=Z,10.0nm,2.0s
XAN pmax pmax
comp=Z,570nm,8.1s
XAN LR LR
comp=Z,720nm,20.0s
XAN LR LR
comp=Z,1µm,19.7s
XAN LR LR
comp=Z,2µm,19.4s
GHO Glory Hole Cre 94.52 13 P **P 15 13 10.3 +0.4**
GHO IAmb IAmb 15 13 29.3
comp=Z,22nm,0.8s
PB11 IPOC Station P 94.54 116 P **P 15 13 11.8 +0.5**
PB11 IAmb IAmb 15 13 31.4
comp=Z,75nm,1.5s
SML Sawmill 94.67 13 IAMs_20 IAMs_20 15 54 44.5
comp=Z,2µm,20.0s
AHID Auburn Hatcher 94.71 43 P **P 15 13 11.4 0.0**
AHID IAmb IAmb 15 13 38.6
comp=Z,38nm,1.2s
AHID IAMs_20 IAMs_20 15 59 57.0
comp=Z,3µm,18.0s
BMRM Bremner River 94.72 15 P **P 15 13 10.8 0.0**
baz=208
M23K Glacier View 94.78 14 P **P 15 13 10.6 -0.4**
baz=206
CUT Chulitna 94.84 12 IAMs_20 IAMs_20 15 51 35.1
comp=Z,4µm,21.0s
CUT Chulitna 94.84 12 P **P 15 13 12.3 +1.1**
baz=203
O20A White River Ci 94.87 46 P **P 15 13 11.3 -0.9**
O20A White River Ci 94.87 46 P **P 15 13 10.7 -1.5**
baz=234
KLU Klutina 94.89 15 IAMs_20 IAMs_20 15 50 17.3
comp=Z,3µm,21.0s
KLU Klutina 94.89 15 P **P 15 13 12.4 +0.8**
baz=207
SCM Sheep Creek Mo 94.90 14 P **P 15 13 11.7 +0.1**
baz=206
NEW Newport 94.90 36 LR LR 15 52 32.4
comp=Z,3µm,18.1s,baz=226,slow=33
NEW Newport 94.90 36 IAMs_20 IAMs_20 15 52 58.3
comp=Z,4µm,19.0s
MNMC Minye Minye 94.94 115 P **P 15 13 13.6 +0.4**
MNMC IAmb IAmb 15 13 34.1
comp=Z,33nm,1.1s
ANM Nome 94.95 5 IAMs_20 IAMs_20 15 51 40.2
comp=Z,3µm,20.0s
ANM Nome 94.95 5 P **P 15 13 08.9 -2.8**
baz=190
GO01 Chusmiza 94.95 116 P **P 15 13 13.6 +0.1**
GO01 IAmb IAmb 15 13 34.2
comp=Z,43nm,1.5s
MCMT McKenzie Canyo 94.97 40 P **P 15 13 12.5 -0.1**
MSTX Muleshoe 95.00 54 P **P 15 13 11.0 -1.9**
baz=237
K20K Telida 95.09 10 P **P 15 13 12.3 -0.1**
K20K Telida 95.09 10 P **P 15 13 10.4 -2.0**
baz=200
SMCO Snowmass 95.11 47 P **P 15 13 13.7 +0.1**
SMCO IAMs_20 IAMs_20 15 53 57.2
comp=Z,2µm,18.0s
SNET Serv Nac Est T 95.16 77 IAMs_20 IAMs_20 15 45 35.0
comp=Z,3µm,21.0s
VRDI Verde Repeater 95.21 16 IAMs_20 IAMs_20 15 56 12.0
comp=Z,3µm,19.0s
REDW Red Top Meadow 95.21 42 P **P 15 13 14.6 +0.8**
REDW IAMs_20 IAMs_20 15 53 45.3
comp=Z,4µm,19.0s
SDCO Great Sand Dun 95.25 49 P **P 15 13 12.6 -1.5**
baz=236
JCT Junction City 95.25 58 P **P 15 13 11.7 -2.3**
baz=238
FXWY Fox Creek 95.28 42 P **P 15 13 14.4 +0.3**
FXWY IAMs_20 IAMs_20 15 54 14.5
comp=Z,4µm,18.0s
N25K Chitina, Valde 95.28 15 IAMs_20 IAMs_20 15 54 07.4
comp=Z,3µm,20.0s
N25K Chitina, Valde 95.28 15 P **P 15 13 12.8 -0.6**
baz=208
GLB Gilahina Butte 95.32 15 IAMs_20 IAMs_20 15 56 24.7
comp=Z,2µm,20.0s
M24K Tolsona, Glenn 95.38 14 IAMs_20 IAMs_20 15 50 35.1
comp=Z,3µm,18.0s
DLMT Dillon 95.44 40 IAMs_20 IAMs_20 15 52 34.2
comp=Z,3µm,19.0s
MCARA McCarthy VSAT 95.45 16 IAMs_20 IAMs_20 15 54 00.3
comp=Z,4µm,19.0s
PB16 IPOC Station P 95.45 115 P **P 15 13 15.6 -0.3**
PB16 IAmb IAmb 15 13 38.0
comp=Z,96nm,1.8s
CAST Castle Rocks 95.47 11 IAMs_20 IAMs_20 15 52 35.4
comp=Z,3µm,20.0s
CAST Castle Rocks 95.47 11 P **P 15 13 13.8 -0.3**
baz=202
IMW Indian Meadow 95.48 42 P **P 15 13 15.4 +0.3**
IMW IAmb IAmb 15 13 41.6
comp=Z,32nm,1.4s
IMW IAMs_20 IAMs_20 15 54 20.8
comp=Z,4µm,18.0s
WAT6 Susitna Watana 95.49 13 P **P 15 13 14.7 +0.2**
baz=206
BARN Barnard Glacie 95.50 17 IAMs_20 IAMs_20 15 53 21.6
comp=Z,4µm,20.0s
LOHW Long Hollow 95.51 42 P **P 15 13 16.0 +0.9**
LOHW IAmb IAmb 15 13 18.1
comp=Z,44nm,1.7s
LOHW IAMs_20 IAMs_20 15 54 39.1
comp=Z,4µm,18.0s
MOOW Moose Ponds 95.51 42 P **P 15 13 15.7 +0.6**
MOOW IAmb IAmb 15 13 18.1
comp=Z,42nm,1.9s
WAT1 Susitna Watana 95.56 13 P **P 15 13 15.0 +0.4**
baz=205
XLT XiLinHaoTe 95.60 318*eP* **P 15 13 14.5 -0.8**
XLT pP PcP 15 13 18.0 +2.5
XLT sP sP 15 13 22.5 -0.3
XLT SKS **SKSac 15 23 49.5 -0.6**
XLT S **S 15 24 29.5 -1.6**
XLT sS pS 15 24 38.0 -0.2
XLT pmax pmax
comp=Z,7.0nm,1.8s
XLT pmax pmax
comp=Z,430nm,7.3s
XLT LR LR
comp=Z,1µm,22.5s
XLT LR LR
comp=Z,2µm,23.8s
BW06 Boulder Array 95.62 43 P **P 15 13 15.5 -0.1**
BW06 Boulder Array 95.62 43 P **P 15 13 14.5 -1.1**
baz=234
PD31 Pinedale Array 95.62 43 P **P 15 13 15.7 +0.1**
PDAR Pinedale Array 95.62 43 P **P 15 13 16.8 +1.1**
comp=Z,2.0nm,0.8s,baz=204,slow=3.3,SNR=7.8
PDAR PKKPbc **PKKPbc 15 30 07.7 +0.3**
comp=Z,1.0nm,0.6s,baz=74,slow=3.5,SNR=8.7
PDAR LR LR 15 53 18.5
comp=Z,3µm,18.2s,baz=238,slow=34
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 95.62 43 P **P 15 13 15.5 -0.1**
MSO Missoula 95.63 38 P **P 15 13 15.1 -0.3**
baz=231
O29M Mount Kennedy 95.65 18 P **P 15 13 15.7 +0.5**
baz=213
PZH PanZhiHua 95.74 297 P **P 15 13 15.5 -0.9**
PZH pP **pP 15 13 21.5 -0.5**
PZH PP **PP 15 17 13.5 +4.9**
PZH SKS **SKSac 15 23 46.8 -5.0**
PZH S **S 15 24 33.3 +0.1**
PZH sS **pS 15 24 39.3 -1.2**
PZH SS **SS 15 31 03.0 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,370nm,9.7s
PZH LR LR
comp=Z,1µm,22.0s
PZH LR LR
comp=Z,2µm,20.8s
PZH LR LR
comp=Z,2µm,22.0s
TNA Tin City 95.76 4 P **P 15 13 15.8 +0.5**
TNA Tin City 95.76 4 P **P 15 13 17.4 +2.0**
baz=188
KTH Kantishna Hill 95.79 12 IAMs_20 IAMs_20 15 52 16.9
comp=Z,4µm,20.0s
TRF Thorofare Moun 95.81 12 P **P 15 13 15.7 -0.2**
TRF Thorofare Moun 95.81 12 P **P 15 13 16.7 +0.8**
baz=203
LRM Limekiln Ridge 95.81 40 P **P 15 13 16.8 +0.4**
CHUM Lake Minchumin 95.86 11 P **P 15 13 14.5 -1.4**
baz=202
SKAG Skagway 95.87 20 P **P 15 13 16.6 +0.6**
baz=216
SEY Seymchan 95.95 347 LR LR 15 51 26.7
comp=Z,3µm,21.8s,baz=152,slow=32
SEY Seymchan 95.95 347*ce*P **P 15 13 16.8 +0.5**
SEY pmax pmax
comp=Z,32nm,1.2s
SEY MLR MLR
comp=Z,1µm,18.0s
GCSA Galena City Sc 96.01 9 P **P 15 13 17.5 +1.1**
baz=198
DHY Denali Highway 96.01 13 IAMs_20 IAMs_20 15 56 21.9
comp=Z,2µm,19.0s
RND Reindeer 96.03 12 P **P 15 13 17.4 +0.7**
RND IAmb IAmb 15 13 36.5
comp=Z,24nm,1.2s
RND Reindeer 96.03 12 P **P 15 13 17.5 +0.7**
RND pmax pmax
comp=Z,25nm,1.2s
BOZ Bozeman (W) 96.12 40 P **P 15 13 18.3 +0.6**
BOZ IAmb IAmb 15 13 20.8
comp=Z,46nm,1.6s
BOZ IAMs_20 IAMs_20 15 52 37.2
comp=Z,3µm,19.0s
BOZ Bozeman (W) 96.12 40 P **P 15 13 17.7 -0.1**
baz=233,SNR=14
BOZ Bozeman (W) 96.12 40 P **P 15 13 18.3 +0.6**
BOZ pmax pmax
comp=Z,46nm,1.6s
Q24A Divide 96.16 48 P **P 15 13 18.8 +0.5**
Q24A Divide 96.16 48 P **P 15 13 17.6 -0.7**
baz=236
AMTX Amarillo 96.25 53 IAMs_20 IAMs_20 15 54 16.0
comp=Z,4µm,18.0s
BPAW Bear Paw Mtn. 96.28 11 IAMs_20 IAMs_20 15 52 22.0
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 96.28 11 P **P 15 13 17.5 -0.3**
baz=203
PAX Paxson 96.31 14 P **P 15 13 16.3 -1.7**
baz=208
MCK McKinley 96.31 12 P **P 15 13 17.6 -0.4**
MCK IAmb IAmb 15 13 52.3
comp=Z,28nm,1.4s
MCK McKinley 96.31 12 P **P 15 13 18.1 +0.2**
baz=205
MCK McKinley 96.31 12 P **P 15 13 17.6 -0.4**
MCK pmax pmax
comp=Z,28nm,1.4s
ISCO Idaho Springs 96.33 47 P **P 15 13 17.7 -1.4**
baz=236
M26K Nabesna, AK 96.34 15 IAMs_20 IAMs_20 15 55 00.9
comp=Z,3µm,19.0s
M26K Nabesna, AK 96.34 15 P **P 15 13 18.2 0.0**
baz=210
ZEA Zeya 96.39 331*eP* **P 15 13 18.7 +0.2**

ZEA *e* 15 24 01.0
ZEA *eS* **S** **15 24 41.1 +3.9**
ZEA *ePS* **PS** **15 26 03.7 +3.6**
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,20nm,1.4s
ZEA pmax pmax
comp=Z,200nm,11.6s
ZEA pmax pmax
comp=N,100nm,10.5s
ZEA pmax pmax
comp=Z,200nm,12.0s
ZEA smax smax
comp=E,300nm,17.5s
ZEA smax smax
comp=N,400nm,15.0s
RWWY Rawlins **96.40 45** IAMs_20 IAMs_20 15 50 19.6
comp=Z,2µm,20.0s
YUK3 Moose Creek **96.41 17** P **P** **15 13 16.6 -2.1**
baz=212
CD2 Chengdu **96.49 302** P **P** **15 13 20.5 +0.9**
CD2 pP pP 15 13 25.5 +0.3
CD2 PP **PP** **15 17 13.0 -1.2**
CD2 SKS **SKSac** **15 23 56.8 +1.5**
CD2 S **ScS** **15 24 40.3 +0.5**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,540nm,6.2s
CD2 LR LR
comp=Z,850nm,20.2s
CD2 LR LR
comp=Z,1µm,18.2s
CD2 LR LR
comp=Z,1µm,16.1s
HHC Hu-ho-hao-te **96.54 314** *eP* **P** **15 13 20.0 +0.3**
HHC S **S** **15 24 39.8 +0.4**
HHC sS sS 15 24 48.0 -0.9
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,730nm,8.3s
HHC LR LR
comp=Z,2µm,18.6s
HHC LR LR
comp=Z,760nm,18.8s
HHC LR LR
comp=Z,3µm,22.6s
M27K Edge Creek, AK **96.57 16** P **P** **15 13 19.8 +0.4**
M27K IAmb IAmb 15 13 39.6
comp=Z,42nm,1.6s
M27K IAMs_20 IAMs_20 15 54 45.9
comp=Z,4µm,19.0s
M27K Edge Creek, AK **96.57 16** P **P** **15 13 20.3 +1.0**
baz=210
DLBC Dease Lake **96.74 23** LR LR 15 53 08.5
comp=Z,1µm,19.6s,baz=229,slow=33
L26K Log Cabin Wild **96.81 15** IAMs_20 IAMs_20 15 55 17.9
comp=Z,2µm,20.0s
L26K Log Cabin Wild **96.81 15** P **P** **15 13 22.0 +1.7**
baz=209
BVCY Beaver Creek **96.86 16** P **P** **15 13 22.7 +2.2**
baz=211
K24K Donnelly Dome **96.98 14** P **P** **15 13 23.6 +2.5**
baz=207,SNR=6.0
TGUH Tegucigalpa,Un **96.99 78** IAMs_20 IAMs_20 15 46 42.7
comp=Z,3µm,21.0s
435B Jarrell **97.04 59** IAMs_20 IAMs_20 15 53 01.8
comp=Z,3µm,18.0s
NEA2 Nenana **97.07 12** P Pdif 15 13 21.9 +0.4
NEA2 Nenana **97.07 12** P **P** **15 13 19.8 -1.5**
baz=204
RIDG Independent Ri **97.12 14** P Pdif 15 13 22.3 +0.6
RIDG IAmb IAmb 15 13 43.6
comp=Z,26nm,1.3s
RIDG IAMs_20 IAMs_20 15 51 40.3
comp=Z,3µm,21.0s
RIDG Independent Ri **97.12 14** P **P** **15 13 21.7 0.0**
baz=206
I21K Tanana **97.13 10** P Pdif 15 13 21.7 +0.1
I21K Tanana **97.13 10** P **P** **15 13 21.3 -0.3**
baz=202
JTS Las Juntas de **97.14 82** LR LR 15 47 48.3
comp=Z,2µm,19.9s,baz=270,slow=30
RLMT Red Lodge **97.18 41** P **P** **15 13 22.3 -0.3**
baz=234
L27K Beaver Creek, **97.19 15** IAMs_20 IAMs_20 15 55 08.2
comp=Z,3µm,19.0s
L27K Beaver Creek, **97.19 15** P **P** **15 13 21.9 -0.1**
baz=210
MLY Manley **97.19 11** P Pdif 15 13 22.1 +0.1
MLY IAMs_20 IAMs_20 15 58 39.8
comp=Z,2µm,18.0s
MLY Manley **97.19 11** P Pdif 15 13 22.1 +0.1
baz=203
DOT Dot Lake **97.20 14** P Pdif 15 13 22.3 +0.2
PHWY Pilot Hill **97.27 46** IAMs_20 IAMs_20 15 54 46.7
comp=Z,2µm,18.0s
HDA Harding Lake **97.30 13** P **P** **15 13 21.9 -0.5**
HDA IAmb IAmb 15 13 37.8
comp=Z,30nm,1.6s
HDA IAMs_20 IAMs_20 15 57 22.9
comp=Z,2µm,19.0s
HDA Harding Lake **97.30 13** P Pdif 15 13 22.5 0.0
baz=206
CCB Clear Creek Bu **97.35 12** P **P** **15 13 22.0 -0.6**
CCB IAmb IAmb 15 13 27.4
comp=Z,48nm,2.0s
CCB IAMs_20 IAMs_20 15 56 28.2
comp=Z,2µm,20.0s
K22A Casper **97.37 45** P **P** **15 13 22.5 -1.0**
baz=236
BTO Baotou **97.37 313** *eP* Pdif 15 13 25.8 +2.3
BTO S **S** **15 24 50.5 +4.0**
BTO LR LR
comp=Z,4µm,22.6s
BTO LR LR
comp=Z,4µm,25.3s
N31M Braeburn, Yuko **97.40 19** IAMs_20 IAMs_20 15 52 50.7
comp=Z,3µm,20.0s
H21K Melozitna Rive **97.44 10** P **P** **15 13 22.9 -0.2**
H21K Melozitna Rive **97.44 10** P Pdif 15 13 23.9 +0.8
baz=201
SCRK Sand Creek **97.51 14** IAMs_20 IAMs_20 15 51 51.6
comp=Z,2µm,21.0s
SCRK Sand Creek **97.51 14** P Pdif 15 13 25.7 +2.1
baz=209
TNCH TengChong **97.52 294** P Pdif 15 13 26.0 +1.3
TNCH PP **PP** **15 17 26.0 +3.6**
TNCH SKS **SKSac** **15 24 04.0 +2.8**
TNCH S **S** **15 24 48.3 -0.3**
TNCH sS sS 15 25 00.0 +1.7
TNCH pmax pmax
comp=Z,14nm,1.3s
TNCH pmax pmax
comp=Z,290nm,9.1s
TNCH LR LR
comp=Z,430nm,19.2s
TNCH LR LR
comp=Z,340nm,17.6s
TNCH LR LR
comp=Z,2µm,20.5s
I23K Minto, Yukon-K **97.53 12** IAMs_20 IAMs_20 15 53 30.6
comp=Z,4µm,21.0s
I23K Minto, Yukon-K **97.53 12** P **P** **15 13 22.5 -0.9**
baz=204
TCOL CIGO, UAF Yank **97.55 12** P Pdif 15 13 23.7 +0.1
TCOL IAMs_20 IAMs_20 15 53 30.1
comp=Z,3µm,20.0s
TCOL CIGO, UAF Yank **97.55 12** P Pdif 15 13 23.7 +0.1
baz=206
COLA College **97.55 12** P Pdif 15 13 23.6 +0.1
COLA College **97.55 12** IAMs_20 IAMs_20 15 53 30.1
comp=Z,3µm,20.0s
COLA College **97.55 12** P **P** **15 13 23.1 -0.4**
baz=206
COLA College **97.55 12** *i* P Pdif 15 13 24.1 +0.6
COLA pmax pmax
comp=Z,26nm,2.0s
MDM Murphy Dome **97.56 12** P **P** **15 13 22.8 -0.8**
MDM IAmb IAmb 15 13 24.8
comp=Z,28nm,1.4s
MDM IAMs_20 IAMs_20 15 53 19.7
comp=Z,4µm,20.0s
BRIGG Briggsdale **97.59 47** IAMs_20 IAMs_20 15 55 02.2
comp=Z,2µm,18.0s

IMAR Indian Mountai **97.61 10** P Pdif 15 13 24.1 +0.2
IL31 **97.64 13** P **P** **15 13 23.5 -0.4**
ILAR Eielson Array **97.64 13** P **P** **15 13 23.6 -0.4**
comp=Z,2.7nm,1.0s,baz=219,slow=5.0,SNR=21
ILAR PP **PP** **15 17 16.1 -6.2**
comp=Z,2.4nm,1.2s,baz=211,slow=6.9,SNR=3.2
ILAR PKKPbc **PKKPbc** **15 30 01.9 -0.3**
comp=Z,0.8nm,1.0s,baz=10,slow=5.2,SNR=4.9
ILAR LR LR 15 51 45.3
comp=Z,1µm,20.9s,baz=192,slow=32
comp=Z,2.7nm,1.0s
LPAZ La Paz **97.68 114** P Pdif 15 13 31.1 +4.9
comp=Z,2.5nm,0.9s,baz=285,slow=3.3,SNR=6.4
LPAZ PP **PP** **15 17 29.4 +5.7**
comp=Z,4.3nm,1.2s,baz=229,slow=7.9,SNR=3.9
LPAZ LR LR 15 48 38.5
comp=Z,1µm,21.5s,baz=222,slow=30
POKR Poker Plat Res **97.85 12** IAMs_20 IAMs_20 15 53 49.3
comp=Z,3µm,20.0s
POKR Poker Plat Res **97.85 12** P **P** **15 13 24.4 -0.5**
baz=206
H22K Ishtalitna Cre **97.89 10** P Pdif 15 13 25.2 +0.2
baz=203
HKT Hockley **97.92 60** IAMs_20 IAMs_20 15 56 21.9
comp=Z,2µm,18.0s
M30M Minto, Yukon **98.02 18** IAMs_20 IAMs_20 15 54 41.4
comp=Z,3µm,20.0s
M30M Minto, Yukon **98.02 18** P Pdif 15 13 26.7 +0.9
baz=215
J26L Joseph Creek **98.06 14** P Pdif 15 13 26.8 +0.8
J26L IAmb IAmb 15 13 43.4
comp=Z,14nm,0.8s
J26L IAMs_20 IAMs_20 15 52 20.3
comp=Z,3µm,21.0s
J26L Joseph Creek **98.06 14** P Pdif 15 13 27.0 +1.0
baz=209
L29M L29M **98.12 17** P **P** **15 13 24.8 -1.4**
baz=214
G21K Allakaket **98.15 9** P **P** **15 13 25.3 -0.9**
baz=201
WMOK Wichita Mounta **98.20 55** IAMs_20 IAMs_20 15 56 21.8
comp=Z,2µm,18.0s
M31M Drury Creek, Y **98.37 19** IAMs_20 IAMs_20 15 53 39.7
comp=Z,4µm,20.0s
RDOG Red Dog Mine **98.58 5** IAMs_20 IAMs_20 16 01 56.2
comp=Z,3µm,21.0s
BILL Bilibino **98.74 354** **P** **15 13 28.4 -0.3**
BILL IAMs_20 IAMs_20 15 56 41.7
comp=Z,3µm,20.0s
BILL Bilibino **98.74 354** *eP* **P** **15 13 28.7 -0.1**
BILL *e* 15 17 36.8
BILL *ePPP* PPP 15 19 37.9
BILL *i* S **SKSac** **15 24 05.1 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,3µm,19.0s
F21K Alatna River **98.81 9** P **P** **15 13 27.7 -1.5**
baz=201
EGAK Eagle **98.82 15** P Pdif 15 13 29.4 +0.1
EGAK IAMs_20 IAMs_20 15 56 22.3
comp=Z,3µm,19.0s
EGAK Eagle **98.82 15** P **P** **15 13 28.0 -1.2**
baz=211
I26K Coal Creek Min **98.85 14** IAMs_20 IAMs_20 15 53 57.0
comp=Z,2µm,20.0s
I26K Coal Creek Min **98.85 14** P **P** **15 13 28.8 -0.6**
baz=210
K29M Barlow Dome **98.89 17** P **P** **15 13 29.4 -0.3**
baz=214
LZH Lanzhou **99.09 306** *eP* **Pdif** **15 13 32.0 +0.6**
LZH sP sP 15 13 38.5 -0.5
LZH PP **PP** **15 17 39.0 +4.8**
LZH SKS **SKSac** **15 24 08.5 -0.1**
LZH pmax pmax
comp=Z,7.0nm,1.1s
LZH pmax pmax
comp=Z,440nm,6.7s
LZH LR LR
comp=Z,740nm,18.9s
LZH LR LR
comp=Z,630nm,18.9s
LZH LR LR
comp=Z,2µm,19.8s
OK038 West end E0370 **99.12 53** IAMs_20 IAMs_20 15 55 30.5
comp=Z,4µm,19.0s
J29M Klondike Camp **99.22 16** IAMs_20 IAMs_20 15 57 15.1
comp=Z,3µm,19.0s
COLD Coldfoot **99.30 10** **Pdif** **15 13 31.6 +0.3**
COLD Coldfoot **99.30 10** P **Pdif** **15 13 32.1 +0.7**
baz=204
I27K Kandik River **99.43 14** P **Pdif** **15 13 30.2 -1.9**
baz=211
CPUP Villa Florida **99.63 128** P **Pdif** **15 13 39.7 +5.8**
comp=Z,1.1nm,0.3s,baz=203,slow=4.8,SNR=3.5
CPUP PKKPbc **PKKPbc** **15 29 53.7 -1.1**
comp=Z,1.1nm,0.4s,baz=82,slow=3.0,SNR=5.5
CPUP LR LR 15 54 43.7
comp=Z,2µm,18.0s,baz=244,slow=33
OK025 Westminster Rd **99.65 55** IAMs_20 IAMs_20 15 55 52.6
comp=Z,3µm,19.0s
OK032 Salt Plains WL **99.66 53** IAMs_20 IAMs_20 15 55 38.1
comp=Z,3µm,19.0s
OK029 Liberty Lake **99.67 54** IAMs_20 IAMs_20 15 56 11.2
comp=Z,3µm,19.0s
NATX Nacogdoches **99.69 59** IAMs_20 IAMs_20 15 55 04.7
comp=Z,2µm,19.0s
RSSD Black Hills **99.69 44** P **Pdif** **15 13 32.2 -1.7**
baz=237
LAO LASA Array **99.81 41** IAMs_20 IAMs_20 15 56 49.0
comp=Z,3µm,19.0s
E22K Anaktuvuk Pass **99.90 9** P **Pdif** **15 13 36.5 +2.5**
baz=202
F24K Squaw Lake **99.94 11** P **Pdif** **15 13 37.2 +2.9**
baz=206
I29M Ogilvie Camp, **99.96 16** IAMs_20 IAMs_20 15 57 04.2
comp=Z,2µm,19.0s
H27K Steamboat Moun **99.99 14** P **Pdif** **15 13 35.0 +0.5**
baz=211
OK033 Mehan **100.16 54** IAMs_20 IAMs_20 15 56 36.1
comp=Z,3µm,18.0s
G26K Porcupine Rive **100.17 13** P **Pdif** **15 13 35.8 +0.6**
baz=209
OK031 S. Brethren Rd **100.19 54** IAMs_20 IAMs_20 15 56 18.8
comp=Z,3µm,18.0s
OK030 Cody Creek RV **100.21 54** IAMs_20 IAMs_20 15 56 27.5
comp=Z,3µm,19.0s
OK052 Battle Ridge R **100.23 54** IAMs_20 IAMs_20 15 56 29.0
comp=Z,3µm,18.0s
OK053 SW of W Deep R **100.25 54** IAMs_20 IAMs_20 15 56 28.5
comp=Z,3µm,18.0s
OK034 N. Norfolk Rd. **100.30 54** IAMs_20 IAMs_20 15 56 30.9
comp=Z,3µm,18.0s
OK050 Pawnee Station **100.31 54** IAMs_20 IAMs_20 15 58 05.9
comp=Z,3µm,18.0s
OK048 Pawnee Station **100.34 54** IAMs_20 IAMs_20 15 56 40.9
comp=Z,3µm,19.0s
E24K Your Creek **100.35 11** P **Pdif** **15 13 36.7 +0.6**
baz=205
OK046 Pawnee Station **100.36 54** IAMs_20 IAMs_20 15 56 59.3
comp=Z,3µm,18.0s
OK045 Pawnee Station **100.37 54** IAMs_20 IAMs_20 15 56 40.6
comp=Z,3µm,18.0s
OK044 Pawnee Station **100.42 54** IAMs_20 IAMs_20 15 57 01.0
comp=Z,3µm,18.0s
G27K Doyon Strip **100.46 14** P **Pdif** **15 13 38.2 +1.7**
baz=211
F26K Sheenjek River **100.75 12** P **Pdif** **15 13 37.8 0.0**
baz=209
D23K Nanushuk River **100.83 9** P **Pdif** **15 13 38.9 +0.8**
baz=203
E25K Arctic Village **100.88 12** P **Pdif** **15 13 37.2 -1.1**
baz=208
YAK Yakutsk **101.32 337** IAMs_20 IAMs_20 15 52 17.4
comp=Z,2µm,22.0s
YAK Yakutsk **101.32 337** *c i* P **Pdif** **15 13 38.6 -1.8**
YAK *ePPP* PPP 15 19 56.7
YAK *eS* **SKSac** **15 24 18.0 +0.1**
YAK *eSP* **SP** **15 26 49.2 -0.7**
YAK *eSS* **SS** **15 32 26.7 +6.8**
YAK *eSSS* SSS 15 36 18.3
YAK pmax pmax
comp=Z,12nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.6s
YAK pmax pmax
comp=E,2.0nm,1.4s

YAK pmax pmax
comp=Z,255nm,5.8s
YAK pmax pmax
comp=N,143nm,4.5s
YAK pmax pmax
comp=E,145nm,5.1s
YAK smax smax
comp=E,141nm,4.6s
YAK smax smax
comp=N,77nm,3.1s
YAK MLR MLR
comp=Z,3µm,20.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK MLR MLR
comp=E,1µm,18.0s
E27K Coleen River **101.66 13** P **Pdif** **15 13 40.7 -1.2**
baz=211
G30M tAoh Zraii Nji **101.78 15** P **Pdif** **15 13 42.8 +0.4**
baz=216
C24K Franklin Bluff **101.81 10** P **Pdif** **15 13 42.0 -0.4**
baz=205
KSU1 Kansas State U **101.89 52** IAMs_20 IAMs_20 15 58 55.2
comp=Z,2µm,18.0s
C27K Jago River **102.53 11** P **Pdif** **15 13 44.0 -1.7**
baz=210
C26K Camden Bay **102.58 11** P **Pdif** **15 13 44.2 -1.6**
baz=208
F31M Tsiigehtchic **102.73 16** P **Pdif** **15 13 47.0 +0.4**
baz=218
ROCAM Rodrigues Isla **103.33 238** IAMs_20 IAMs_20 15 58 41.6
comp=Z,3µm,19.0s
SONM Songino Array **103.41 318** Pdiff **Pdif** **15 13 50.6 +0.4**
comp=Z,0.9nm,1.0s,baz=151,slow=3.4,SNR=5.0
SONM PP **PP** **15 18 05.7 -0.8**
comp=Z,2.5nm,1.2s,baz=126,slow=5.0,SNR=3.8
SONM PKKPbc **PKKPbc** **15 29 45.5 +0.4**
comp=Z,1.4nm,0.7s,baz=255,slow=1.7,SNR=6.3
ECSD EROS Data Cent **104.12 48** IAMs_20 IAMs_20 15 58 43.0
comp=Z,2µm,19.0s
OXF Oxford **104.87 59** IAMs_20 IAMs_20 16 00 29.2
comp=Z,3µm,18.0s
YKA Yellowknife Ar **105.05 25** Pdiff **Pdif** **15 13 57.8 +0.9**
comp=Z,0.1nm,0.6s,baz=109,slow=38,SNR=3.6
YKA PKKPbc **PKKPbc** **15 29 36.9 -3.5**
comp=Z,1.2nm,0.8s,baz=39,slow=3.1,SNR=6.5
YKA PKKP **PKKPdf** **15 29 52.1 +0.8**
comp=Z,1.4nm,0.9s,baz=39,slow=2.7,SNR=6.8
CCM Cathedral Cave **105.12 55** IAMs_20 IAMs_20 15 59 11.5
comp=Z,3µm,19.0s
SCIA State Center **105.49 50** IAMs_20 IAMs_20 15 59 46.8
comp=Z,2µm,18.0s
FFC Flin Flon **106.33 36** IAMs_20 IAMs_20 15 57 47.1
comp=Z,2µm,20.0s
C36M Paulatuk **106.54 17** IAMs_20 IAMs_20 15 58 36.6
comp=Z,3µm,20.0s
AGMN Agassiz Nation **106.69 44** IAMs_20 IAMs_20 16 00 30.6
comp=Z,3µm,19.0s
WVT Waverly **106.74 58** IAMs_20 IAMs_20 16 00 54.6
comp=Z,2µm,18.0s
MTDJ Mount Denham **107.20 79** IAMs_20 IAMs_20 15 52 24.6
comp=Z,3µm,22.0s
ULM Lac du Bonnet **107.55 42** PKKP **PKKPab** **15 29 44.9 +1.5**
comp=Z,12nm,1.1s,baz=68,slow=4.6,SNR=7.5
HDIL Hopedale **107.57 53** IAMs_20 IAMs_20 16 02 15.1
comp=Z,2µm,18.0s
SPB Sao Paulo **108.05 132** IAMs_20 IAMs_20 15 55 38.8
comp=Z,2µm,22.0s
A36M Sachs Harbour **108.10 15** IAMs_20 IAMs_20 16 02 03.6
comp=Z,3µm,20.0s
TIXI Tiksi **108.26 344** IAMs_20 IAMs_20 16 06 42.8
comp=Z,2µm,19.0s
HQIL Hanson Quary C **109.07 52** IAMs_20 IAMs_20 16 01 28.7
comp=Z,2µm,19.0s
EYMN Ely **109.18 45** IAMs_20 IAMs_20 16 00 37.8
comp=Z,2µm,19.0s
AAM Ann Arbor **112.15 53** IAMs_20 IAMs_20 16 06 35.4
comp=Z,3µm,18.0s
VOI Vohitsoka **113.02 225** IAMs_20 IAMs_20 15 57 08.6
comp=Z,2µm,20.0s
BDFB Brasilia **113.21 126** PKKPab PKKPab 15 29 21.5 -1.6
comp=Z,1.6nm,0.5s,baz=96,slow=7.1,SNR=4.0
WMQ Urumqi **113.58 308** *e*PKP **PKiKP** **15 18 27.5 -0.7**
WMQ sPKP 15 18 39.3
WMQ PP **PP** **15 19 25.3 +4.6**
WMQ AMB AMB
comp=Z,160nm,5.1s
WMQ LR LR
comp=Z,600nm,22.1s
WMQ LR LR
comp=Z,810nm,22.1s
WMQ LR LR
comp=Z,1µm,25.5s
CNNC Cliffs of the **113.83 62** IAMs_20 IAMs_20 16 10 11.7
comp=Z,2µm,18.0s
ABPO Ambohimpanom **114.91 227** IAMs_20 IAMs_20 16 01 26.6
comp=Z,2µm,18.0s
OPO Ambohidratompo **115.26 227** PKP **PKiKP** **15 18 32.4 0.0**
comp=Z,1.5nm,0.3s,baz=356,slow=4.4,SNR=4.0
SUR Sutherland **115.40 197** PKP **PKPdf** **15 18 32.6 +0.2**
comp=Z,8.2nm,1.0s,baz=117,slow=2.3,SNR=3.2
SUR PP **PP** **15 19 35.3 +3.1**
comp=Z,15nm,1.0s,baz=170,slow=6.4,SNR=4.3
ZSN Zaisan **116.60 311** *e*PKP **PKPdf** **15 18 32.7 -1.2**
baz=311
ZSN Zaisan **116.60 311** *e*PKIKP **PKPdf** **15 18 32.6 -1.2**
RES Resolute Bay **116.92 17** PKPdf **PKPdf** **15 18 31.9 -1.7**
RES Resolute Bay **116.92 17** PKIKP **PKPdf** **15 18 31.9 -1.7**
BOSA Boshof **117.64 202** PKP **PKiKP** **15 18 36.9 +0.2**
comp=Z,6.9nm,1.0s,baz=196,slow=1.5,SNR=6.1
BOSA Boshof **117.64 202** **PKPdf** **15 18 36.0 -0.7**
MK31 Makanchi Array **118.11 310** PKPdf **PKPdf** **15 18 36.1 -0.7**
MK31 Makanchi Array **118.11 310** PKIKP **PKPdf** **15 18 36.1 -0.7**
MKAR Makanchi Array **118.11 310** Pdiff **Pdif** **15 14 58.0 +2.5**
comp=Z,0.1nm,0.5s,baz=73,slow=4.8,SNR=1.6
MKAR PKP **PKPdf** **15 18 35.5 -1.3**
comp=Z,7.7nm,1.0s,baz=82,slow=2.6,SNR=37
MKAR PKKPbc **PKKPab** **15 28 58.8 +1.5**
comp=Z,0.7nm,0.6s,baz=272,slow=3.2,SNR=6.6
MKAR Makanchi Array **118.11 310** PKIKP **PKPdf** **15 18 35.6 -1.2**
ZAA0 Zalesovo Array **118.29 318** PKPdf **PKPdf** **15 18 35.5 -1.3**
ZALV Zalesovo Beam **118.29 318** PKP **PKPdf** **15 18 35.5 -1.3**
comp=Z,2.6nm,0.7s,baz=116,slow=0.9,SNR=16
ZALV Zalesovo Beam **118.29 318** PKPdf **PKPdf** **15 18 35.3 -1.5**
MAKZ Makanchi **118.32 310** PKPdf **PKPdf** **15 18 35.6 -1.5**
MAKZ IAMs_20 IAMs_20 16 05 18.2
comp=Z,2µm,22.0s
MAKZ Makanchi **118.32 310** PKIKP **PKPdf** **15 18 35.6 -1.5**
MSEY Mahe Island **118.74 245** IAMs_20 IAMs_20 16 03 52.1
comp=Z,2µm,20.0s
SHLS Shalkode **119.09 305** *e*PKP **PKPdf** **15 18 36.5 -2.4**
baz=305
SHLS Shalkode **119.09 305** *e*PKIKP **PKPdf** **15 18 36.5 -2.4**
LONY Lake Ozonia **119.15 53** IAMs_20 IAMs_20 16 08 43.4
comp=Z,2µm,19.0s
SABA Saba **119.18 86** IAMs_20 IAMs_20 15 59 27.4
comp=Z,2µm,21.0s
SEUS St. Eustatius **119.35 86** IAMs_20 IAMs_20 15 59 57.0
comp=Z,2µm,22.0s
UZB Uzynbulak **119.40 305** *e*PKP **PKPdf** **15 18 37.7 -1.8**
baz=305
UZB Uzynbulak **119.40 305** *e*PKIKP **PKPdf** **15 18 37.7 -1.8**
KPKS Kokpek **119.72 306** *e*PKP **PKPdf** **15 18 38.2 -1.8**
baz=305
KPKS Kokpek **119.72 306** *e*PKIKP **PKPdf** **15 18 38.2 -1.8**
NRIK Noril'sk **119.72 336** PKP **PKPdf** **15 18 38.7 -0.4**
comp=Z,8.3nm,0.9s,baz=106,slow=3.5,SNR=9.4
NRIK Noril'sk **119.72 336** PKPdf **PKPdf** **15 18 38.5 -0.6**
NRIK Noril'sk **119.72 336** PKIKP **PKPdf** **15 18 38.5 -0.6**
SATY Saty **119.81 305** *e*PKP **PKPdf** **15 18 38.0 -2.3**
baz=305
SATY Saty **119.81 305** *e*PKIKP **PKPdf** **15 18 38.0 -2.3**
ZHN Zhinishke **119.82 305** *e*PKP **PKPdf** **15 18 38.5 -1.8**
baz=305
ZHN Zhinishke **119.82 305** *e*PKIKP **PKPdf** **15 18 38.4 -1.8**
SEM Semipalatinsk **120.27 314** *e*PKP **PKPdf** **15 18 38.4 -2.7**
baz=314
SEM LR LR 16 09 41.4
comp=Z,442nm,16.3s,baz=314
SEM Semipalatinsk **120.27 314** *e*PKIKP **PKPdf** **15 18 38.3 -2.7**
SEM MLR MLR
comp=Z,442nm,16.0s
KSH Kashi **120.65 301** PKP **PKiKP** **15 18 42.3 +0.2**
KSH PP **PP** **15 20 14.0 +3.7**
KSH SKS **SKSdf** **15 25 54.3 +1.4**
KSH AMB AMB
comp=Z,250nm,5.4s

KSH LR LR
comp=Z,620nm,19.1s
KSH LR LR
comp=Z,830nm,17.3s
KSH LR LR
comp=Z,2μm,22.2s
MDOK Medeo 120.80 305 *e*PKP **PKPdf 15 18 39.8 -2.5**
baz=305
MDOK LR LR 16 07 14.6
comp=Z,355nm,18.0s,baz=305
MDOK Medeo 120.80 305 *e*PKIKP **PKPdf 15 18 39.7 -2.5**
MDOK MLR MLR
comp=Z,355nm,18.0s
LBTB Lobatse 120.83 204 PKP **PKPdf 15 18 42.3 -0.6**
comp=Z,1.7nm,0.6s,baz=125,slow=3.7,SNR=3.6
TNSS Tian-Shan 120.84 305 *e*PKP **PKPdf 15 18 41.2 -1.4**
baz=305
TNSS Tian-Shan 120.84 305 *e*PKIKP **PKPdf 15 18 41.2 -1.4**
AAA Alma-Ata 120.90 305 *e*PKP **PKPdf 15 18 40.7 -1.6**
baz=305
AAA Alma-Ata 120.90 305 *e*PKIKP **PKPdf 15 18 40.7 -1.6**
CHKK Chushkaly 121.01 306 *e*PKP **PKPdf 15 18 40.1 -2.3**
baz=306
CHKK Chushkaly 121.01 306 *e*PKIKP **PKPdf 15 18 41.0 -1.4**
NIL Nilore 121.09 293 PKPdf **PKPdf 15 18 41.0 -1.9**
NIL Nilore 121.09 293 PKIKP **PKPdf 15 18 41.0 -1.9**
NIL Nilore 121.09 293 P **PKiKP 15 18 44.7 +1.7**
ULHL Ulahol 121.15 304 P **PKiKP 15 18 43.2 +0.1**
SNR=27
KURK Kurchatov 121.35 314 PKPdf **PKPdf 15 18 41.1 -1.7**
KURK Kurchatov 121.35 314 *i* PKIKP **PKPdf 15 18 41.3 -1.5**
KURK pmax pmax
comp=Z,51nm,1.8s
KURK MLR MLR
comp=Z,952nm,18.0s
KURBB Kurchatov Arra 121.39 314 PKIKP **PKPdf 15 18 41.7 -1.2**
KUU Kurty 121.47 306 *e*PKP **PKPdf 15 18 41.2 -2.1**
baz=305
KUU LR LR 16 08 11.4
baz=305
KUU Kurty 121.47 306 *e*PKIKP **PKPdf 15 18 41.2 -2.1**
TKM2 Tokmak 2 121.78 304 P **PKPdf 15 18 43.7 -0.5**
SNR=32
TKM2 Tokmak 2 121.78 304 PKIKP **PKPdf 15 18 43.0 -1.2**
KBK Karagaybulak 122.18 304 P **PKPdf 15 18 44.8 -0.2**
SNR=16
UCH Uchtor 122.40 303 P **PKiKP 15 18 46.0 +0.1**
SNR=45
CHMS Chumysh 122.40 304 P **PKPdf 15 18 44.9 -0.3**
SNR=17
AAK Ala-Archa 122.50 304 P **PKPdf 15 18 45.4 -0.1**
SNR=16
AAK Ala-Archa 122.50 304 PKPdf **PKPdf 15 18 44.9 -0.6**
AAK Ala-Archa 122.50 304 PKIKP **PKPdf 15 18 44.9 -0.6**
AAK MLR MLR
comp=Z,1μm,22.0s
AAK Ala-Archa 122.50 304 *i* P **PKPdf 15 18 43.8 -1.7**
SNR=5.5
AAK Ala-Archa 122.50 304 P **PKiKP 15 18 47.1 +1.4**
SGDS Sogindy 122.58 305 *e*PKP **PKPdf 15 18 43.0 -2.6**
baz=305
SGDS Sogindy 122.58 305 *e*PKIKP **PKPdf 15 18 42.9 -2.6**
USP Ospenovka 122.64 304 P **PKPdf 15 18 44.9 -0.7**
SNR=21
AML Almayashu 122.97 303 P **PKPdf 15 18 46.5 -0.2**
SNR=44
EKS2 Erkin-Say 123.02 304 P **PKPdf 15 18 46.4 -0.1**
SNR=25
BTLS Baital 123.32 306 *e*PKP **PKPdf 15 18 44.3 -2.5**
baz=306
BTLS Baital 123.32 306 *e*PKIKP **PKPdf 15 18 44.3 -2.5**
TULEG Thule 123.46 15 **PKiKP 15 18 46.3 +0.1**
TULEG IAMs_20 IAMs_20 16 10 50.5
comp=Z,2μm,20.0s
TULEG Thule 123.46 15 *i* P **PKPdf 15 18 45.3 -0.9**
TULEG IAMs_20 IAMs_20 16 10 52.6
comp=Z,2μm,16.5s
KBL Kabul 124.69 293 PKPdf **PKPdf 15 18 49.3 -0.7**
KBL Kabul 124.69 293 PKIKP **PKPdf 15 18 49.3 -0.7**
KBL Kabul 124.69 293 P **PKPdf 15 18 49.7 -0.3**
SNR=34
GAR Garm 124.78 299 **PKPdf 15 18 49.3 -0.7**
DZA Taraz 124.83 303 *e*PKP **PKPdf 15 18 48.7 -1.1**
baz=303
DZA Taraz 124.83 303 *e*PKIKP **PKPdf 15 18 48.7 -1.1**
OTUK Ortayu 125.00 310 PKIKP **PKPdf 15 18 49.1 -0.8**
KK31 Karatay Array 125.46 304 PKPdf **PKPdf 15 18 50.3 -0.7**
KK31 Karatay Array 125.46 304 *i* PKIKP **PKPdf 15 18 50.4 -0.6**
KKAR Karatay Array 125.46 304 **PKPdf 15 18 50.2 -0.8**
KKAR Karatay Array 125.46 304 PKPdf **PKPdf 15 18 50.2 -0.8**
KKAR Karatay Array 125.46 304 PKIKP **PKPdf 15 18 50.2 -0.8**
KKAR 15 18 50.2
CHGR Chuyangaron 125.59 298 PKPdf **PKPdf 15 18 51.0 -0.4**
CHGR Chuyangaron 125.59 298 PKIKP **PKPdf 15 18 51.1 -0.4**
IUG luzhnay 125.64 302 *e*PKP **PKPdf 15 18 50.0 -1.5**
baz=302
IUG luzhnay 125.64 302 *e*PKIKP **PKPdf 15 18 50.0 -1.5**
SCHQ Schefferville 125.73 42 PKP **PKPdf 15 18 51.0 -0.1**
comp=Z,12nm,1.0s,baz=251,slow=3.1,SNR=5.0
CHM Chimkent 125.98 303 *e*PKP **PKPdf 15 18 50.7 -1.3**
baz=302
CHM Chimkent 125.98 303 *e*PKIKP **PKPdf 15 18 50.7 -1.3**
BVA0 Borovoye Array 126.69 316 *i* PKIKP **PKPdf 15 18 52.5 -0.5**
BRVK Borovoye 126.76 316 PKPdf **PKPdf 15 18 52.4 -0.7**
BRVK Borovoye 126.76 316 PKIKP **PKPdf 15 18 52.4 -0.7**
BRVK MLR MLR
comp=Z,2μm,22.0s
NEEM North Greenlan 126.93 13 *i* P **PKPdf 15 18 53.1 -0.1**
NEEM IAMs_20 IAMs_20 16 13 36.6
comp=Z,2μm,18.2s
UPNV Upernavik 127.72 19 *i* P **PKPdf 15 18 54.2 -0.1**
UPNV IAMs_20 IAMs_20 16 11 22.4
comp=Z,2μm,6.3s
NOR Nord 128.00 4 *i* P **PKPdf 15 18 54.2 -0.5**
RCBR Riachuelo 128.51 128 IAMs_20 IAMs_20 16 15 01.2
comp=Z,2μm,18.0s
NGCH Negor - Chabah 128.53 280 P **PKiKP 15 18 58.8 +0.9**
SNR=12
TSUM Tsumeb 128.80 198 PKP **PKiKP 15 18 59.0 +0.1**
comp=Z,2.9nm,0.7s,baz=110,slow=7.1,SNR=5.7
TSUM PP **PP 15 21 04.6 +1.3**
comp=Z,17nm,1.1s,baz=142,slow=6.2,SNR=5.9
TSUM Tsumeb 128.80 198 PKPdf **PKPdf 15 18 56.3 -2.0**
JLN Jalan Bani Buh 128.89 275 P **PKPdf 15 18 57.5 -0.6**
SNR=21
WBK Wadi Bani Khal 129.44 275 P **PKPdf 15 18 59.2 0.0**
DQM DQM 129.67 272 P **PKPdf 15 18 59.9 +0.3**
MHTO MHTO 129.70 273 P **PKPdf 15 18 59.0 -0.7**
SNR=15
WSAR Wadi Sarin 129.95 276 P **PKPdf 15 19 00.2 +0.1**
SNR=5.5
JMDO Jabal Madar 130.10 275 P **PKPdf 15 19 00.6 +0.2**
SNR=12
SMDO Samad 130.39 276 P **PKiKP 15 19 01.9 0.0**
SNR=17
BIDO Bidbid 130.49 276 P **PKiKP 15 19 01.9 -0.1**
SNR=8.8
BSY Bisya 131.01 275 P **PKiKP 15 19 02.9 -0.2**
SNR=12
DMTO DMTO 131.01 268 P **PKPdf 15 19 02.5 +0.3**
HOQ Hoqain 131.21 276 P **PKiKP 15 19 03.6 +0.2**
SNR=11
JASK Jask - Hormozg 131.49 279 P **PKiKP 15 19 05.3 +1.3**
RBK Rabkut 131.57 267 P **PKiKP 15 19 05.1 +0.7**
SNR=17
SPITS Spitsbergen Ar 131.58 356 PKP **PKPdf 15 19 02.0 +0.3**
comp=Z,18nm,0.8s,baz=198,slow=10,SNR=3.8
SPITS Spitsbergen Ar 131.58 356 PKIKP **PKPdf 15 19 02.0 +0.3**
ARQ Araqi 131.80 275 P **PKiKP 15 19 04.7 0.0**
SNR=8.0
SOHO SOHO 132.07 276 *i* P **PKPdf 15 19 02.4 -1.7**
SNR=9.5
SOHO SOHO 132.07 276 P **PKiKP 15 19 04.9 -0.2**
DOK Doka 132.09 268 P **PKPdf 15 19 04.7 +0.5**
SNR=11
WHFO Wadi Hawf 132.12 267 P **PKiKP 15 19 06.0 +0.5**
SNR=14
SVE Sverdlovsk 132.13 321 *i* PKIKP **PKiKP 15 19 04.0 -0.2**
SVE pmax pmax
comp=Z,38nm,1.8s
SVE MLR MLR
comp=Z,1μm,23.0s
ABTO Aybut 132.29 266 P **PKiKP 15 19 05.6 -0.3**
SNR=13
DAG Danmarks Havn 132.31 7 *i* P **PKPdf 15 19 03.0 0.0**
DAG IAMs_20 IAMs_20 16 11 54.6
comp=Z,2μm,19.0s
SUMG Summit 132.39 16 *i* P **PKPdf 15 19 04.0 +0.2**
UOSS Minazif 132.62 277 PKPdf **PKPdf 15 19 04.5 -0.7**
UOSS Minazif 132.62 277 *i* P **PKPdf 15 19 03.6 -1.5**
SNR=5.8
UOSS Minazif 132.62 277 P **PKPdf 15 19 05.1 0.0**
HATD Hatta, Dubai 132.64 277 P **PKPdf 15 19 03.5 -1.7**
HATD *i* P **PKiKP 15 19 03.9 -2.4**
SNR=5.1
HATD Hatta, Dubai 132.64 277 P **PKPdf 15 19 04.8 -0.4**
SNR=6.6
MDH Madha 132.65 278 P **PKPdf 15 19 04.5 -0.7**
ASHO Ashiyiah 132.66 277 *i* P **PKPdf 15 19 03.7 -1.5**
SNR=8.2
ASHO Ashiyiah 132.66 277 P **PKPdf 15 19 04.8 -0.4**
ALNE Al Ain 132.71 276 *i* P **PKPdf 15 19 03.3 -2.1**
SNR=6.0
ALNE Al Ain 132.71 276 P **PKPdf 15 19 04.2 -1.1**
SNR=8.2
UMZA Um Al Zommool 132.76 274 P **PKPdf 15 19 04.4 -1.0**
MSFE Esma-Masafi 132.79 278 *i* P **PKPdf 15 19 04.0 -1.5**
SNR=5.4
MASF Masafi 132.79 278 P **PKPdf 15 19 06.0 +0.5**
SHME Shamm 133.02 279 P **PKPdf 15 19 04.9 -1.0**
NAZ Nazwa, Dubai 133.10 277 *i* P **PKPdf 15 19 05.1 -0.9**
SNR=10.0
NAZ Nazwa, Dubai 133.10 277 P **PKPdf 15 19 04.6 -1.4**
KIBK Kibwezi 133.22 233 IAMs_20 IAMs_20 16 13 23.2
comp=Z,2μm,20.0s
KIBK Kibwezi 133.22 233 P **PKPdf 15 19 04.4 -2.4**
SNR=7.2
AB31 Akbulak array 133.24 311 *i* PKIKP **PKPdf 15 19 00.4 -5.1**
ABKAR Akbulak array 133.24 311 PKPdf **PKPdf 15 19 04.5 -1.0**
ABKAR Akbulak array 133.24 311 PKPdf **PKPdf 15 19 05.3 -0.2**
ASUD Al Ashush, Dub 133.26 276 P **PKiKP 15 19 08.7 +1.1**
ARU Arti 133.33 321 PKP **PKPdf 15 19 05.4 0.0**
comp=Z,4.0nm,0.4s,baz=23,slow=1.9,SNR=7.6
ARU SKPbc **SKPab 15 22 34.5 0.0**
comp=Z,6.2nm,0.7s,baz=237,slow=22,SNR=10
ARU Arti 133.33 321 PKPdf **PKPdf 15 19 04.6 -0.8**
ARU IAMs_20 IAMs_20 16 18 37.4
comp=Z,2μm,20.0s
DY2G Dye2 133.40 25 *i* P **PKPdf 15 19 05.8 +0.2**
DY2G IAMs_20 IAMs_20 16 15 21.5
comp=Z,6μm,5.6s
GEYT Alibeck 134.01 295 PKP **PKPdf 15 19 07.3 -0.1**
comp=Z,20nm,1.0s,baz=222,slow=2.0,SNR=9.4
GEYT SKPbc **SKPab 15 22 37.1 -1.1**
comp=Z,10nm,0.8s,baz=202,slow=1.6,SNR=8.8
ICESG Greenland Ices 134.21 20 *i* P **PKPdf 15 19 06.5 -0.7**
MZR Muzera 134.31 274 *i* P **PKPdf 15 19 08.2 -0.2**
SNR=10
DBG Daneborg 134.35 9 *i* P **PKPdf 15 19 06.5 -0.4**
DBG IAMs_20 IAMs_20 16 11 48.2
comp=Z,2μm,22.8s
AKTO Aktyubinsk 134.42 313 PKP **PKPdf 15 19 08.2 +0.5**
comp=Z,7.0nm,0.6s,baz=123,slow=2.9,SNR=10
AKTO SKPbc **SKPab 15 22 38.3 -1.2**
comp=Z,7.8nm,1.0s,baz=224,slow=23,SNR=12
KMBO Kilima Mbogo 134.64 233 PKP **PKPdf 15 19 09.4 -0.2**
comp=Z,0.2nm,0.9s,baz=156,slow=24,SNR=5.2
KMBO SKPbc **SKPbc 15 22 39.5 +1.0**
comp=Z,0.1nm,0.5s,baz=145,slow=23,SNR=5.4
KMBO Kilima Mbogo 134.64 233 IAMs_20 IAMs_20 16 15 21.1
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 134.64 233 *i* P **PKiKP 15 19 10.6 -0.4**
SNR=7.3
SCO Scoresbysund 137.41 12 PKPdf **PKPdf 15 19 13.4 +0.7**
SCO Scoresbysund 137.41 12 *e*P **PKiKP 15 19 13.7 -0.9**
SCO IAMs_20 IAMs_20 16 25 32.7
comp=Z,3μm,6.3s
SCO Scoresbysund 137.41 12 PKIKP **PKPdf 15 19 13.4 +0.7**
KIRV Kirov 137.51 326 PKP **PKPdf 15 19 12.2 -1.0**
comp=Z,8.5nm,0.5s,baz=89,slow=3.5,SNR=3.2
H10S2 ASCENSION HYDR 137.63 154 T T 17 53 49.8
baz=16,slow=74,SNR=16
H10S3 ASCENSION HYDR 137.63 154 T T 17 53 49.7
baz=204,slow=74,SNR=63
ATD Arta Tunnel 138.38 252 PKP **PKiKP 15 19 17.7 -0.6**
comp=Z,15nm,0.7s,baz=69,slow=2.6,SNR=10
ATD Arta Tunnel 138.38 252 IAMs_20 IAMs_20 16 12 55.6
comp=Z,2μm,22.0s
ATD Arta Tunnel 138.38 252 P **PKiKP 15 19 17.6 -0.8**
SNR=6.0
APA Apatity 138.43 343 ⇓ *i* PKHKP PKPpre 15 18 56.7
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,3μm,18.0s
H10N3 ASCENSION HYDR 138.71 154 T T 17 55 18.6
baz=203,slow=75,SNR=89
H10N1 ASCENSION HYDR 138.71 154 T T 17 55 18.7
baz=203,slow=75,SNR=83
H10N2 ASCENSION HYDR 138.72 154 T T 17 55 19.6
baz=203,slow=75,SNR=110
MBAR Mbarara 139.32 226 PKP **PKiKP 15 19 20.3 -0.2**
comp=Z,1.6nm,0.3s,baz=102,slow=10.0,SNR=3.7
ADZR Andozero 139.49 337 *e*PKIKP **PKPdf 15 19 16.3 -0.3**
ADZR pmax pmax
comp=Z,19nm,1.3s
BELG Belogornoye 140.46 317 PKhKP PKPpre 15 19 09.8
comp=Z,30nm,0.9s,baz=232,slow=3.2,SNR=6.6
BELG SKPab **SKPab 15 23 09.9 +3.9**
comp=Z,31nm,1.1s,baz=179,slow=3.5,SNR=3.9
KLMR Klimovskoe 140.89 332 *e*PKPdf **PKPdf 15 19 15.8 -3.5**
KLMR AMP 15 19 22.4
comp=Z,54nm,1.2s
KLMR *e*PP **PP 15 22 16.1 -4.0**
KLMR *e* 15 23 06.2
KLMR LQ LQ 16 12 13.1
KLMR LQ LQ 16 12 13.1
KLMR LR LR 16 12 31.4
KLMR AMP 16 16 36.4
comp=Z,3μm,21.8s
KLMR Klimovskoe 140.89 332 *e*PKIKP **PKPdf 15 19 15.7 -3.5**
KLMR *e* 15 22 16.1
KLMR pmax pmax
comp=Z,54nm,1.2s
RAYN Ar Rayn 141.39 271 PKPpre 15 19 15.1
RAYN Ar Rayn 141.39 271 IAMs_20 IAMs_20 16 18 04.8
comp=Z,2μm,22.0s
RAYN Ar Rayn 141.39 271 PKHKP PKPpre 15 19 15.1
AKT Akhty 142.18 300 *e*PKIKP **PKPdf 15 19 19.3 -3.1**
AKT *e* 15 22 29.8
AKT pmax pmax
comp=Z,52nm,1.0s
MAK Makhachkala 142.25 302 *e*PKHKP PKPpre 15 19 16.4
MAK *e* 15 22 24.9
MAK *e* 15 26 30.0
MAK *e*SS SS 15 41 04.9 +1.9
MAK *e*SSS SSS 15 46 25.0
MAK pmax pmax
comp=Z,423nm,1.8s
GROC Groznyy 143.48 303 *e*PKHKP PKPpre 15 19 18.3
GROC pmax pmax
comp=Z,73nm,0.4s
VRH Novokhopyorsk 144.32 317 *e*PKIKP **PKPdf 15 19 25.0 -0.7**
VRH pmax pmax
comp=Z,50nm,1.0s
GNI Garni 144.51 298 PKP PKPbc 15 19 25.7 +0.4
comp=Z,60nm,1.1s,baz=177,slow=4.3,SNR=16
GNI Garni 144.51 298 PKPdf PKPbc 15 19 25.2 0.0
GNI Garni 144.51 298 P **PKiKP 15 19 28.7 -1.6**
MOS Moscow 144.52 326 *i* PKHKP PKPpre 15 19 22.1
MOS pmax pmax
comp=Z,231nm,1.4s
ZEI Tsey 144.91 302 *i* PKIKP **PKPab 15 19 24.8 -1.7**
ZEI pmax pmax
comp=Z,134nm,0.9s
FIA1 FINESS Array S 145.18 340 **PKPbc 15 19 25.9 -0.6**
FINES FINESS Array B 145.19 340 PKPbc **PKPbc 15 19 25.8 -0.7**
comp=Z,140nm,0.8s,baz=48,slow=2.6,SNR=180
FINES FINESS Array B 145.19 340 **PKPbc 15 19 25.5 -1.0**
NSS Namsos 145.19 353 *e*PKPbc **PKPbc 15 19 26.0 -0.4**
LPSR Galich'ya Gora 145.35 321 PKIKP **PKPbc 15 19 27.0 -0.3**
LPSR pmax pmax
comp=Z,340nm,1.4s
OBN Obninsk 145.36 326 PKPbc **PKPbc 15 19 27.0 -0.2**
comp=Z,25nm,0.6s,baz=56,slow=1.7,SNR=74
OBN Obninsk 145.36 326 ⇑ P **PKPbc 15 19 27.0 -0.2**
OBN Obninsk 145.36 326 **PKPbc 15 19 26.2 -1.0**
OBN Obninsk 145.36 326 *c* *i* PKIKP **PKPbc 15 19 26.6 -0.6**
OBN *e* 15 22 45.4
OBN *e* 15 26 05.3
OBN *e*SS SS 15 41 30.9 -6.5
OBN pmax pmax
comp=Z,807nm,1.5s
KBZ Khabaz 145.50 304 PKPbc **PKPbc 15 19 28.1 +0.1**
comp=Z,103nm,1.2s,baz=99,slow=2.1,SNR=41
VORR Voronezh 145.59 319 PKIKP **PKPbc 15 19 28.1 0.0**
VORR pmax pmax
comp=Z,400nm,1.6s
KVAR Kislovodsk Arr 145.60 305 PKPbc **PKPab 15 19 29.1 +0.2**
comp=Z,33nm,1.1s,baz=96,slow=23,SNR=14
KIV Kislovodsk 145.61 305 ⇓ P **PKPab 15 19 29.1 +0.3**
KIV Kislovodsk 145.61 305 **PKPdf 15 19 27.7 -0.6**
KIV IAMs_20 IAMs_20 16 28 09.9
comp=Z,1μm,20.0s
KIV Kislovodsk 145.61 305 *i* PKIKP **PKPdf 15 19 27.9 -0.4**
KIV *e* 15 22 46.8
KIV *e*SS SS 15 41 41.9 +0.2
KIV *e*SSS SSS 15 47 15.4
KIV pmax pmax
comp=Z,93nm,1.0s
KIV Kislovodsk 145.61 305 *i* P **PKPdf 15 19 27.4 -0.9**
SNR=17
SHA1 Shidzhatmaz 145.67 304 *c* *i* PKIKP **PKPdf 15 19 28.0 -0.6**
KARS Kars 145.74 299 **PKPbc 15 19 29.1 -0.1**
KARS Kars 145.74 299 PKIKP **PKPbc 15 19 29.1 -0.1**
VSR Storozhevoye 145.80 318 *e*PKIKP **PKPdf 15 19 28.4 +0.2**
VSR pmax pmax
comp=Z,490nm,1.5s
GEVA Gevas 145.88 295 **PKPdf 15 19 29.0 -0.1**
TBLU Trondheim 146.61 354 *e*PKPbc **PKPdf 15 19 30.0 +0.7**
MEF Metsahovi 146.66 340 *e*P **PKPbc 15 19 30.3 -0.7**
GURO Guroymak-BITLI 146.68 295 PKPbc **PKPbc 15 19 31.7 -0.3**
RAF Rauma 146.70 343 *e*P **PKPbc 15 19 31.1 0.0**
VSU Vasula 147.31 337 *e*P **PKPbc 15 19 33.2 +0.3**
KOPT Kop Dagi 147.76 298 **PKPbc 15 19 34.3 -0.9**
SOC Sochi 147.79 305 *i* PKP2 **PKPbc 15 19 34.2 -0.8**
SOC *e* 15 22 59.1
SOC *e*PPP PPP 15 26 18.6
SOC *e*SS SS 15 42 04.7 -1.5
SOC pmax pmax
comp=Z,106nm,1.1s
AAL Aland 147.87 344 *e*P **PKPbc 15 19 33.9 -0.5**
DOMB Dombas 147.91 354 *e*PKPbc **PKPbc 15 19 34.0 -0.5**
AKN Aaknes 147.92 356 *e*PKPbc **PKPbc 15 19 34.1 -0.4**
MTSE Matsula 148.06 339 *e*P **PKPbc 15 19 33.8 -1.1**
KTUT Trabzon 148.20 300 ⇑ P **PKPbc 15 19 36.5 +0.6**
NC303 NORSAR Array S 148.47 352 **PKPbc 15 19 35.6 -0.4**
NC204 NORSAR Array S 148.49 353 **PKPbc 15 19 36.4 +0.3**
NC405 NORSAR Array S 148.54 352 **PKPbc 15 19 35.3 -0.8**
FOO Floro 148.59 358 *e*PKPbc **PKPbc 15 19 36.3 +0.1**
NB201 NORSAR Array S 148.65 352 **PKPbc 15 19 36.0 -0.5**
NB2 NORSAR Subarra 148.67 352 PKP **PKPbc 15 19 36.4 -0.2**
comp=Z,304nm,1.7s,baz=13,slow=2.7
NB2 NORSAR Subarra 148.67 352 PKPbc **PKPbc 15 19 36.4 -0.2**
slow=2.7
NOA NORSAR Array B 148.67 352 PKP **PKPdf 15 19 33.4 +0.6**
comp=Z,61nm,1.0s,baz=14,slow=4.3,SNR=50
NOA PKPbc **PKPbc 15 19 36.5 0.0**
comp=Z,7.4nm,0.7s,baz=50,slow=1.7,SNR=26
UPP Uppsala 148.70 345 *e*P **PKPbc 15 19 35.9 -0.7**
NBO00 NORSAR Array S 148.73 352 **PKPdf 15 19 32.5 -0.3**
NAO00 NORSAR Array S 148.90 352 **PKPbc 15 19 37.1 0.0**
NC602 NORSAR Array S 148.93 352 **PKPbc 15 19 36.7 -0.5**
NC602 NORSAR Array S 148.93 352 *e*PKPbc **PKPbc 15 19 37.0 -0.2**
HYA Hoyanger 148.97 357 *e*PKPbc **PKPbc 15 19 37.4 +0.1**
ANN Anapa 149.09 308 *c* *i* PKP2 **PKPbc 15 19 37.9 -0.1**
ANN *e* 15 26 39.0
ANN pmax pmax
comp=Z,301nm,1.4s
SUE Sulen 149.14 358 *e*PKPbc **PKPbc 15 19 37.6 0.0**
HFS Hagfors 149.19 349 PKPbc **PKPbc 15 19 37.2 -0.6**
comp=Z,40nm,0.8s,baz=49,slow=2.7,SNR=42
SKAR Skarslia 149.32 355 *e*PKPbc **PKPbc 15 19 38.3 +0.1**
IZAR Zarasai 149.51 334 *e*P **PKiKP 15 19 41.8 +1.9**
IDID Didziasalis 149.63 333 *e*P **PKPdf 15 19 26.9 -7.6**
ISAL Salakas 149.69 333 *e*P **PKiKP 15 19 41.6 +1.4**
MNK Minsk 149.73 330 *i* PKP **PKPdf 15 19 36.4 +1.8**
comp=E,6.0nm,1.0s
MNK *i* PKP **PKPdf 15 19 36.4 +1.8**
comp=N,45nm,1.0s
MNK *i* PKP **PKPdf 15 19 36.4 +1.8**
comp=Z,111nm,1.2s,baz=46
MNK *i* SKP 15 23 08.7
MNK *i* PKS **PP 15 23 11.3 -1.4**
MNK *i* PP **PP 15 23 17.6 +4.9**
MNK *i* PPP PPP 15 26 40.2
MNK *i* SKS **SKSdf 15 26 44.5 +3.3**
MNK *i* SKKS **SKKSdf 15 35 38.9 +2.5**
MNK *i* SS **SS 15 45 34.8 +8.4**
MNK *i* SSS SSS 15 48 17.4
MNK *i* LQ LQ 16 18 54.0
MNK *i* LR LR 16 25 56.3
MNK Minsk 149.73 330 *i* PKHKP PKPpre 15 19 36.4
MNK *i* 15 23 17.6
MNK *i* PPP PPP 15 26 40.2
MNK *i* 15 26 44.4
MNK pmax pmax
comp=N,45nm,1.0s
MNK pmax pmax
comp=Z,111nm,1.2s
MNK pmax pmax
comp=E,6.0nm,1.0s
NACGM Naroch 149.91 332 *e*PKP **PKPbc 15 19 39.8 +0.1**
comp=N,6μm,1.4s
VSVD Vaisvydziai 150.19 336 *e*P **PKiKP 15 19 41.2 0.0**
ODD1 Odda 150.20 356 *e*PKPbc **PKPbc 15 19 40.5 +0.1**
KONO Kongsberg 150.21 353 **PKPbc 15 19 40.3 0.0**
KONO Kongsberg 150.21 353 PKIKP **PKPbc 15 19 40.3 0.0**
KONO Kongsberg 150.21 353 *e*PKPbc **PKPbc 15 19 40.4 +0.1**
PABE Paberze 150.55 335 PKPdf **PKPdf 15 19 36.0 +0.2**
PABE **PKPbc 15 19 41.0 -0.3**
PABE Paberze 150.55 335 *e*P **PKiKP 15 19 41.9 -0.1**
BLS5 Blasjo 150.70 356 *e*PKPbc **PKPbc 15 19 41.1 -0.5**
ASF Jabal al Asfar 150.73 283 PKP **PKPdf 15 19 36.5 -0.6**
comp=N,102nm,1.1s,baz=349,slow=13,SNR=5.7
ASF PKPbc **PKPbc 15 19 42.6 0.0**
comp=N,124nm,1.1s,baz=124,slow=1.1,SNR=62
PBUR Paburge 150.84 338 *e*P **PKiKP 15 19 42.9 +0.3**
SIM Simferopol' 151.29 310 *i* PKIKP **PKiKP 15 19 44.2 +0.3**
SIM *e* 15 19 51.0
SIM pmax pmax
comp=Z,272nm,1.3s
DIKM Dikmen 151.43 302 ⇑ P **PKPbc 15 19 42.4 -1.4**
BEIL Beino 151.45 287 *e*P **PKiKP 15 19 44.5 -0.1**
BNN Bunyan 151.47 297 PKPdf **PKPdf 15 19 37.3 -0.8**
BNN PKPbc **PKPbc 15 19 44.1 -0.1**
AKASG Malin Array Be 151.52 323 PKP **PKPdf 15 19 36.9 -0.6**
comp=Z,1.7nm,0.8s,baz=44,slow=1.2,SNR=12
AKASG PKPbc **pPKPdf 15 19 43.1 -0.1**
comp=Z,41nm,0.8s,baz=48,slow=3.0,SNR=42
AKBB Malin Array Si 151.52 323 PKPdf **PKPdf 15 19 36.8 -0.7**
AKBB PKPbc **pPKPdf 15 19 43.2 -0.1**
AKBB Malin Array Si 151.52 323 PKIKP **PKPdf 15 19 36.8 -0.7**
AKBB 15 19 43.2
HWQ Hawqa 151.65 287 *e*P **PKPbc 15 19 44.9 +0.2**
HOMB Homborsund 151.68 353 *e*pPKPdf **PKPbc 15 19 43.6 -0.2**
ZAHL Zahle 151.69 286 *e*P **PKiKP 15 19 45.2 0.0**
RCY Rachaya 151.71 285 *e*P **PKiKP 15 19 45.4 +0.1**
SNART Snartemo 151.73 355 *e*PKPbc **PKPbc 15 19 44.0 +0.1**
QRWL Qaraoun 151.84 285 *e*P **PKiKP 15 19 45.9 +0.4**
BHL Bhannes 151.88 286 *e*P **PKiKP 15 19 45.6 0.0**
DQRL Deir Qamar 151.94 286 *e*P **PKiKP 15 19 46.1 +0.3**
MMAI Mount Meron Ar 152.05 284 PKPbc **PKiKP 15 19 46.3 +0.3**
comp=Z,179nm,0.9s,baz=78,slow=3.8,SNR=102
EIL Elat 152.07 277 PKP **PKPdf 15 19 39.6 +0.6**
comp=Z,8.2nm,0.9s,baz=2.1,slow=0.8,SNR=7.4
EIL PKPbc **PKiKP 15 19 46.3 +0.3**
comp=Z,138nm,1.0s,baz=102,slow=0.9,SNR=38
DEL Delary 152.61 346 *e*P **PKiKP 15 19 47.4 +1.2**
BR131 Keskin Array S 153.03 299 P **PKPdf 15 19 43.1 +2.8**
SNR=18
BRTR Keskin Array B 153.03 299 PKP **PKPdf 15 19 39.7 -0.6**
comp=Z,1.3nm,1.0s,baz=121,slow=4.8,SNR=6.4
BRTR PKPbc **PKPbc 15 19 47.4 -0.3**
comp=Z,36nm,1.1s,baz=132,slow=2.1,SNR=70
BRTR Keskin Array B 153.03 299 PKPdf **PKPdf 15 19 39.4 -1.0**
BRTR **PKPbc 15 19 47.0 -0.7**
MUD Monsted U'grnd 153.39 352 *e*P **PKiKP 15 19 48.5 +0.8**
MUD IAMs_20 IAMs_20 16 23 39.8
comp=Z,2μm,5.9s
SORM Soroca 153.44 320 ⇑ P **PKPbc 15 19 48.1 +0.1**
SORM Soroca 153.44 320 ⇑ PKIKP **PKPbc 15 19 48.1 +0.1**
BSD Bornholm Skovb 153.63 344 *e*P **PKiKP 15 19 49.3 +1.0**
ANTO Ankara 153.64 300 ⇑ P **PKiKP 15 19 49.5 +0.5**

ANTO	Ankara	153.64 300			PKPbc	PKPbc	15 19 48.7	-0.2	
ANTO	Ankara	153.64 300		IAMs_20	IAMs_20		16 37 46.4		
	comp=Z,1µm,19.0s								
ANTO	Ankara	153.64 300	⇑PKIKP		PKiKP	PKiKP	15 19 49.5	+0.5	
ANTO	Ankara	153.64 300	P		PKPdf	PKPdf	15 19 43.5	+2.4	
BR231	Keskin MP Arra	153.66 300			PKPbc	PKPbc	15 19 48.6	-0.4	
KIS	Kishinev	153.77 317	*e*PKP		PKPdf	PKPdf	15 19 41.0	+0.1	
KIS			*eL*		L	L	16 20 34.0		
KIS			LRM		MLR	MLR	16 37 21.0		
	comp=Z,500nm,19.0s								
KIS	Kishinev	153.77 317	*e*PKIKP		PKPdf	PKPdf	15 19 41.0	+0.1	
KIS			*e*				15 19 59.0		
KIS			MLR		MLR	MLR			
	comp=Z,500nm,19.0s								
CSS	Mathiatis	153.80 288	PKPbc		PKPbc	PKPbc	15 19 49.0	-0.3	
MILM	Milestii Mici	153.81 317	*e*PKP		PKPdf	PKPdf	15 19 41.6	+0.6	
	comp=Z,1µm,4.6s								
MILM			*eL*		L	L	16 28 02.0		
MILM			LRM		MLR	MLR	16 36 53.0		
	comp=Z,900nm,18.0s								
MILM	Milestii Mici	153.81 317	⇓P		PKiKP	PKiKP	15 19 50.2	+1.3	
MILM	Milestii Mici	153.81 317	*i* PKIKP		PKPdf	PKPdf	15 19 41.6	+0.6	
MILM			*e*				15 19 58.0		
MILM			pmax		pmax				
	comp=Z,1µm,4.5s								
MILM			MLR		MLR	MLR			
	comp=Z,1µm,16.0s								
MILM			MLR		MLR	MLR			
	comp=N,900nm,18.0s								
RGN	Rugen	154.52 346	IAMs_20		IAMs_20	IAMs_20	16 36 08.6		
	comp=Z,2µm,20.0s								
EKA	Eskdalemuir Ar	154.57 8	PKPbc		PKPbc	PKPbc	15 19 49.7	-0.5	
	comp=Z,2.2nm,0.7s,baz=334,slow=0.5,SNR=7.6								
EKA			PKPab		PKPab	PKPab	15 20 05.2	+0.4	
	comp=Z,10nm,0.8s,baz=345,slow=2.5,SNR=12								
BEL	Belsk	154.59 333	*e*PKPbc		PKiKP	PKiKP	15 19 51.0	+0.5	
BEL			*e*PKPab		PKPab	PKPab	15 20 05.8	+0.7	
TLCR		154.64 313	⇓P		PKiKP	PKiKP	15 19 51.9	+1.1	
TLCR		154.64 313	⇓PKIKP		PKiKP	PKiKP	15 19 51.9	+1.1	
GKP	Gorka Klasztor	154.64 339	*e*PKPbc		PKiKP	PKiKP	15 19 51.0	+0.5	
GKP			*e*PKPab		PKPab	PKPab	15 20 05.5	+0.3	
GKP	Gorka Klasztor	154.64 339	*e*P		PKPab	PKPab	15 20 06.6	+1.4	
LVV	L'vov	154.66 327	*e*PKIKP		PKiKP	PKiKP	15 19 50.8	+0.1	
LVV			*e*				15 23 40.3		
LVV			*e*				15 26 40.9		
LVV			MLR		MLR	MLR			
	comp=N,800nm,23.0s								
LVV			MLR		MLR	MLR			
	comp=E,1µm,23.0s								
LVV			MLR		MLR	MLR			
	comp=Z,1µm,23.0s								
VLDR	Vladesti	154.78 315	⇑P		PKPab	PKPab	15 19 59.7	-6.5	
SCTR	Scanteiesti	154.92 315	⇑P		PKiKP	PKiKP	15 19 52.7	+1.4	
TPGR	Topolog	155.04 313	⇑P		PKPdf	PKPdf	15 19 53.3	+10	
LIC	Lamto	155.04 162	⇓*i* PKP1		PKPdf	PKPdf	15 19 45.3	+1.5	
	comp=Z,36nm,0.7s								
CFR	Carcaliu	155.07 314	⇑P		PKPdf	PKPdf	15 19 43.4	+0.6	
CFR	Carcaliu	155.07 314	⇑PKIKP		PKPdf	PKPdf	15 19 43.4	+0.6	
GHRR		155.08 316	⇑P		PKPdf	PKPdf	15 19 53.9	+11	
IZVR	Izvoarele	155.12 315	⇓P		PKPdf	PKPdf	15 19 54.0	+11	
TIRR	Tirgusor	155.22 312	⇓P		PKPdf	PKPdf	15 19 53.1	+10	
TIRR	Tirgusor	155.22 312			PKPdf	PKPdf	15 19 51.6	+8.6	
TIRR			PKPab		PKPab	PKPab	15 20 07.4	-0.6	
TIRR	Tirgusor	155.22 312	PKP2		PKPab	PKPab	15 20 07.4	-0.6	
TIRR			MLR		MLR				
	comp=Z,7µm,21.0s								
KIC	Kosan Boka	155.25 162	⇑*i* PKP1		PKPdf	PKPdf	15 19 46.1	+2.0	
	comp=Z,5.9nm,0.5s								
TESR	Tescani	155.29 318	⇑P		PKPdf	PKPdf	15 19 53.0	+10	
PANC	Panciu	155.33 316	⇓P		PKPab	PKPab	15 20 09.5	+1.0	
BORA	Eskisehir	155.39 301			PKPdf	PKPdf	15 19 43.0	-0.6	
BORA					sPKPdf	sPKPdf	15 19 52.3	+1.1	
HARR	Harsova	155.43 313	⇓P		PKPdf	PKPdf	15 19 51.9	+8.6	
HARR	Harsova	155.43 313	⇓PKIKP		PKPdf	PKPdf	15 19 51.9	+8.6	
TIC	Toumodi	155.45 161	⇑*i* PKP1		PKPdf	PKPdf	15 19 45.2	+0.9	
	comp=Z,3.2nm,0.2s								
BURAR	Bucovina Array	155.47 321	⇑P		PKPdf	PKPdf	15 19 52.9	+9.5	
BURAR	Bucovina Array	155.47 321	PKPdf		PKPdf	PKPdf	15 19 42.6	-0.8	
BURAR			PKPbc		sPKPdf	sPKPdf	15 19 53.0	+1.9	
BURAR			PKPab		PKPab	PKPab	15 20 09.2	+0.1	
BURAR	Bucovina Array	155.47 321	⇑PKIKP		PKPdf	PKPdf	15 19 52.9	+9.5	
DBIC	Dimbokro	155.51 162	PKP		PKPdf	PKPdf	15 19 45.2	+0.8	
	comp=Z,12nm,1.1s,baz=219,slow=2.4,SNR=9.1								
DBIC	Dimbokro	155.51 162	PKPdf		PKPdf	PKPdf	15 19 43.6	-0.8	
DBIC	Dimbokro	155.51 162	⇑PKIKP		PKPdf	PKPdf	15 19 45.5	+1.1	
VRI	Vrincioaia	155.59 316	⇑P		PKPab	PKPab	15 19 56.9	-13	
PLOR	Plostina	155.64 316	⇑P		PKPab	PKPab	15 19 59.0	-11	
BSEG	Bad Segeberg	155.67 349	*e*PKPab		PKPab	PKPab	15 20 09.9	+0.3	
	baz=18,slow=4.3								
OZUR		156.02 318	⇑P		PKPdf	PKPdf	15 19 54.6	+10	
ISR	Istrita	156.08 315	⇑P		PKPdf	PKPdf	15 19 49.5	+5.2	
ISR	Istrita	156.08 315	⇑PKIKP		PKPdf	PKPdf	15 19 49.5	+5.2	
STHS	Stebnicka Huta	156.23 329	*e*PKP2		PKPab	PKPab	15 20 12.4	+0.2	
OJC	Ojcow	156.24 332	*e*PKPdf		PKPdf	PKPdf	15 19 43.6	-0.7	
OJC			*e*PKPab		PKPab	PKPab	15 20 11.6	-0.6	
OJC	Ojcow	156.24 332	PKPdf		PKPdf	PKPdf	15 19 44.0	-0.3	
OJC	Ojcow	156.24 332	PKIKP		PKPdf	PKPdf	15 19 44.0	-0.3	
MLR	Muntele Rosu	156.25 316	PKP		PKPdf	PKPdf	15 19 44.5	-0.1	
	comp=Z,1.7nm,0.7s,baz=58,slow=1.9,SNR=4.8								
MLR	Muntele Rosu	156.25 316	⇓P		PKPdf	PKPdf	15 19 44.5	-0.1	
MLR	Muntele Rosu	156.25 316			PKPdf	PKPdf	15 19 43.8	-0.8	
MLR			IAMs_20		IAMs_20	IAMs_20	16 32 02.1		
	comp=Z,2µm,22.0s								
UZH	Uzhgorod	156.30 326	*i* PKIKP		PKPdf	PKPdf	15 19 44.3	-0.1	
UZH			*i*				15 19 53.4		
UZH			*e*				15 23 56.5		
UZH			*e*				15 26 44.8		
UZH			*e*PPP		PPP		15 27 26.1		
UZH			MLR		MLR	MLR			
	comp=N,240nm,21.0s								
UZH			MLR		MLR	MLR			
	comp=E,210nm,21.0s								
UZH			MLR		MLR	MLR			
	comp=Z,200nm,21.0s								
RUE	Ruedersdorf	156.31 343	*e*P		PKPab	PKPab	15 20 07.1	-5.2	
RUE	Ruedersdorf	156.31 343	*e*PKPdf		PKPdf	PKPdf	15 19 44.5	+0.2	
	baz=19,slow=1.1								
RUE			*e*PKPab		PKPab	PKPab	15 20 12.7	+0.4	
	baz=18,slow=4.3								
DOPR	Dopca	156.32 318	⇓P		PKPdf	PKPdf	15 19 54.4	+10	
ELL	Elmali	156.42 293			PKPdf	PKPdf	15 19 44.1	-1.0	
ELL	Elmali	156.42 293	PKIKP		PKPdf	PKPdf	15 19 44.1	-1.0	
SUR		156.48 314	⇑P		PKPab	PKPab	15 20 14.2	+0.8	
CRVS	Cervenica-Dubn	156.50 328	*e*PKIKP		PKPdf	PKPdf	15 19 45.4	+0.7	
CRVS	Cervenica-Dubn	156.50 328	*e*PKP		PKPdf	PKPdf	15 19 45.4	+0.7	
CRVS			*e*				15 20 13.5		
TRPA	Tarpa	156.52 325	⇑P		PKPab		15 20 02.9	-11	
NIE	Niedzica	156.64 330	*e*PKPdf		PKPdf	PKPdf	15 19 45.3	+0.5	
NIE			*e*PKPab		PKPab	PKPab	15 20 14.5	+0.5	
VOIR		156.81 317	⇑P		PKPdf		15 19 55.6	+10	
VOIR		156.81 317	⇑PKIKP		PKPdf		15 19 55.6	+10	
RAZG	Razgrad	156.85 312	⇑P		PKPab	PKPab	15 20 09.8	-5.3	
RETH	Rethem/Aller,	156.98 350	*e*PKPdf		PKPdf	PKPdf	15 19 45.0	-0.1	
	baz=19,slow=1.1								
RETH			*e*PKPab		PKPab	PKPab	15 20 14.7	-0.5	
	baz=18,slow=4.3								
KSP	Ksiaz	157.03 338	*e*PKPdf		PKPdf	PKPdf	15 19 45.1	-0.2	
KSP			*e*PKPab		PKPab	PKPab	15 20 15.0	-0.6	
FLTG	Flechtingen	157.03 346	*e*PKPdf		PKPdf	PKPdf	15 19 45.0	-0.1	
	baz=19,slow=1.1								
FLTG			*e*PKPab		PKPab	PKPab	15 20 15.6	+0.1	
	baz=18,slow=4.3								
NRDL	Niedersach Rie	157.09 348	*e*PKPdf		PKPdf	PKPdf	15 19 45.3	+0.1	
	baz=19,slow=1.1								
NRDL			*e*PKPab		PKPab	PKPab	15 20 15.6	-0.1	
	baz=18,slow=4.3								
ARR	Arges	157.09 317	⇑P		PKPdf	PKPdf	15 19 45.9	+0.2	
MARR	Marisel-Cluj	157.17 322	⇑P		PKPdf	PKPdf	15 19 55.0	+9.3	
OKC	Ostrava-Krasne	157.20 334	*e*PKPab		PKPab	PKPab	15 20 16.6	+0.3	
OKC			*e*PP		PP	PP	15 23 50.7	-4.1	
OKC			AMS		AMS	AMS	16 27 20.0		
	comp=Z,2µm,22.1s								
OKC	Ostrava-Krasne	157.20 334	*e*PKP2		PKPab	PKPab	15 20 16.6	+0.3	
OKC			*e*				15 23 50.7		
OKC			MLR		MLR	MLR			
	comp=Z,2µm,22.1s								
LANS	Liptovska Anna	157.20 331	*e*PKP2		PKPab	PKPab	15 20 17.4	+1.0	
OSTC	Ostas	157.30 337	*e*PKPDF		PKPdf	PKPdf	15 19 46.0	+0.4	
OSTC			*e*PKPAB		PKPab	PKPab	15 20 17.8	+1.0	
OSTC			*e*PP		PP	PP	15 23 47.6	-7.7	
OSTC			AMS		AMS	AMS	16 31 30.0		
	comp=Z,2µm,20.6s								
DRGR		157.32 322	⇓P		PKPdf	PKPdf	15 19 42.1	-3.8	
DRGR		157.32 322	⇓PKIKP		PKPdf	PKPdf	15 19 42.1	-3.8	
ASSE	Asse, Remlinge	157.34 347	*e*PKPdf		PKPdf	PKPdf	15 19 45.0	-0.5	
	baz=19,slow=1.1								
ASSE			*e*PKPab		PKPab	PKPab	15 20 16.4	-0.3	
	baz=18,slow=4.3								
HUMR	Humele	157.34 315	⇑P		PKPab	PKPab	15 20 16.8	-0.3	
SZH	Strazhica	157.36 311	P		PKPab	PKPab	15 20 15.4	-1.9	
COPA	Copaceanca	157.40 314	⇑P		PKPab	PKPab	15 20 16.9	-0.5	
UPC	Upice	157.41 337	*e*PKPAB		PKPab	PKPab	15 20 17.7	+0.5	
UPC			*e*PP		PP	PP	15 23 43.0	-13	
UPC			AMS		AMS	AMS	16 31 50.0		
	comp=Z,2µm,20.6s								
UPC	Upice	157.41 337	*e*PKP2		PKPab	PKPab	15 20 17.7	+0.5	
UPC			MLR		MLR	MLR			
	comp=Z,2µm,20.6s								
DPC	Dobruska-Polom	157.44 337	*e*PKPDF		PKPdf	PKPdf	15 19 46.5	+0.6	
DPC			*e*PKPAB		PKPab	PKPab	15 20 17.6	+0.2	
DPC			*e*PP		PP	PP	15 23 52.2	-3.9	
DPC			AMS		AMS	AMS	16 31 10.0		
	comp=Z,2µm,22.5s								
DPC	Dobruska-Polom	157.44 337	*e*PKIKP		PKPdf	PKPdf	15 19 46.5	+0.6	
DPC			*e*				15 23 52.2		
DPC			MLR		MLR	MLR			
	comp=Z,2µm,22.5s								
MORC	Moravsky Berou	157.48 334	⇓P		PKPdf	PKPdf	15 19 46.3	+0.4	
MORC	Moravsky Berou	157.48 334			PKPdf	PKPdf	15 19 45.2	-0.8	
MORC	Moravsky Berou	157.48 334	*e*PKP		PKPdf	PKPdf	15 19 45.5	-0.4	
MORC			*e*				15 20 17.5		
MORC	Moravsky Berou	157.48 334	⇓PKIKP		PKPdf	PKPdf	15 19 46.3	+0.4	
KRLC	Kraliky	157.51 336	*e*PKPAB		PKPab	PKPab	15 20 17.8	+0.1	
KRLC			*e*PP		PP	PP	15 23 53.7	-2.8	
KRLC			AMS		AMS	AMS	16 35 30.0		
	comp=Z,2µm,19.8s								
KRLC	Kraliky	157.51 336	*e*PKP2		PKPab	PKPab	15 20 17.8	+0.1	
KRLC			*e*				15 23 53.7		
KRLC			MLR		MLR	MLR			
	comp=Z,2µm,19.8s								
CLL	Collm	157.58 343	IAMs_20		IAMs_20	IAMs_20	16 45 45.7		
	comp=Z,1µm,20.0s								
CLL	Collm	157.58 343	*e*PKPdf		PKPdf	PKPdf	15 19 46.0	+0.1	
CLL			*ep*PKPdf		pPKPdf	pPKPdf	15 19 52.0	+0.5	
CLL			*e*PKPdif		sPKPdf	sPKPdf	15 19 57.0	+3.4	
CLL			*ex*		x		15 20 00.0		
CLL			*ex*		x		15 20 05.0		
CLL			*i* PKPab		PKPab	PKPab	15 20 17.2	-0.7	
	comp=Z,125nm,1.4s								
CLL			*ep*PKPab		pPKPab	pPKPab	15 20 22.0	-1.5	
CLL			*ex*		x		15 20 33.0		
CLL			*ex*		x		15 21 14.0		
CLL			*e*PP		PP	PP	15 23 55.0	-1.7	
CLL			*ex*		x		15 25 00.0		
CLL			*e*PPP		PPP		15 27 30.0		
CLL			*e*PPPP				15 30 06.0		
CLL			*e*SKKSac		SKKSac		15 30 54.0	+9.1	
CLL			*e*(SKSP)				15 33 53.0		
CLL			*e*PSKS				15 34 20.0		
CLL			*e*PPS		PPS		15 37 16.0		
CLL			*e*SS		SS		15 43 48.0	-3.6	
CLL			*e*PSS		PSS		15 44 36.0		
CLL			*e*PSPS				15 45 06.0		
CLL			*ex*		x		15 47 36.0		
CLL			*e*SSS		SSS		15 49 54.0		
CLL			*ex*		x		15 52 12.0		
CLL			*e*SSSS				15 54 04.0		
CLL			LmV				16 45 00.0		
	comp=Z,1µm,19.6s								
CLL	Collm	157.58 343	*e*PKIKP		PKPdf	PKPdf	15 19 46.0	+0.1	
CLL			*e*				15 19 52.0		
CLL			pmax		pmax				
	comp=Z,125nm,1.4s								
CLL			MLR		MLR	MLR			
	comp=Z,1µm,19.6s								
CLL	Collm	157.58 343	*e*PKPdf		PKPdf	PKPdf	15 19 45.9	0.0	
	baz=19,slow=1.1								
CLL			*e*PKPab		PKPab	PKPab	15 20 18.1	+0.2	
	baz=18,slow=4.3								
IBBN	Ibbenburen	157.63 352	*e*PKPab		PKPab	PKPab	15 20 18.1	+0.1	
	baz=18,slow=4.3								
CLZ	Clausthal	157.67 347	*e*PKPdf		PKPdf	PKPdf	15 19 46.4	+0.4	
	baz=19,slow=1.1								
CLZ			*e*PKPab		PKPab	PKPab	15 20 19.0	+0.6	
	baz=18,slow=4.3								
MAUC	Maruska	157.70 333	*e*PKPAB		PKPab	PKPab	15 20 18.8	+0.2	
BRG	Berggiesshubel	157.72 341	⇓*e*PKPf				15 19 46.5		
BRG			Amp				15 19 48.4		
	comp=Z,37nm,1.6s								
BRG	Berggiesshubel	157.72 341	P		PKPdf	PKPdf	15 19 53.6	+7.5	
BRG			Amp				15 19 59.2		
	comp=Z,27nm,1.7s								
BRG			PKPab		PKPab	PKPab	15 20 19.4	+0.8	
BRG			Amp				15 20 20.8		
	comp=Z,120nm,1.4s								
BRG	Berggiesshubel	157.72 341	P		PKPab		15 20 33.3	+15	
BRG			Amp				15 20 39.2		
	comp=Z,50nm,1.1s								
BRG			PP		PP	PP	15 23 56.3	-1.2	
BRG			Amp				15 24 13.3		
	comp=Z,26nm,1.8s								
BRG	Berggiesshubel	157.72 341	SKKS				15 34 22.0		
BRG	Berggiesshubel	157.72 341	PKP2		PKPab	PKPab	15 20 19.3	+0.8	
BRG							15 23 56.3		
BRG			SS		SS		15 43 57.0	+3.8	
BRG			pmax		pmax				
	comp=Z,120nm,1.4s								
BRG			pmax		pmax				
	comp=Z,50nm,1.2s								
BRG			pmax		pmax				
	comp=Z,26nm,1.8s								
BRG			pmax		pmax				
	comp=Z,2µm,22.7s								
BRG			MLR		MLR	MLR			
	comp=E,1µm,19.2s								
BRG			MLR		MLR	MLR			
	comp=N,1µm,20.5s								
BRG	Berggiesshubel	157.72 341	*e*PKPdf		PKPdf	PKPdf	15 19 46.7	+0.6	
	baz=19,slow=1.1								
BRG			*e*PKPab		PKPab	PKPab	15 20 18.7	+0.1	
	baz=18,slow=4.3								
FBE	Freiberg	157.84 342	*e*PKPdf		PKPdf	PKPdf	15 19 46.4	+0.2	
	baz=19,slow=1.1								
FBE			*e*PKPab		PKPab	PKPab	15 20 19.5	+0.5	
	baz=18,slow=4.3								
PVCC	Panska Ves	157.85 340	*e*PKPAB		PKPab	PKPab	15 20 20.0	+0.9	
PVCC			AMS		AMS	AMS	16 29 00.0		
	comp=N,2µm,21.6s								
PVCC	Panska Ves	157.85 340	*e*PKP2		PKPab	PKPab	15 20 20.0	+0.9	
PVCC			MLR		MLR	MLR			
	comp=Z,2µm,21.6s								
PSZ	Piszkesteto	157.94 328	⇓P		PKPab	PKPab	15 20 20.0	+0.3	
PSZ	Piszkesteto	157.94 328	⇓PKP2		PKPab	PKPab	15 20 20.0	+0.3	
NEUB	Neuenburg	157.97 345	*e*PKPdf		PKPdf	PKPdf	15 19 46.7	+0.3	
	baz=19,slow=1.1								
NEUB			*e*PKPab		PKPab	PKPab	15 20 19.8	+0.2	
	baz=18,slow=4.3								
VYHS	Vyhne	157.97 330	*e*PKIKP		PKPdf	PKPdf	15 19 45.9	-0.6	
VYHS			*e*				15 20 19.9		
VYHS	Vyhne	157.97 330	*e*PKP		PKPdf	PKPdf	15 19 45.8	-0.7	
VYHS			*e*				15 20 19.9		
GTTG	Gottingen	158.03 348	*e*PKPdf		PKPdf	PKPdf	15 19 47.0	+0.5	
	baz=19,slow=1.1								
GTTG			*e*PKPab		PKPab	PKPab	15 20 20.7	+0.8	
	baz=18,slow=4.3								
PLVB	Pleven	158.14 313	⇓P		PKPdf		15 19 58.7	+12	
GZR	Gura Zlata	158.15 319	⇓P		PKPdf	PKPdf	15 19 46.3	-0.6	
GZR	Gura Zlata	158.15 319	⇓PKIKP		PKPdf	PKPdf	15 19 46.3	-0.6	
JAVC	Velka Javorina	158.17 333	*e*PKP		PKPdf	PKPdf	15 19 47.7	+0.9	
JAVC			*e*				15 20 21.6		
VRAC	Vranov	158.22 335	PKP		PKPdf	PKPdf	15 19 46.8	0.0	
	comp=Z,1.1nm,0.4s,baz=308,slow=3.7,SNR=6.1								
VRAC			PKPab		PKPab	PKPab	15 20 20.9	+0.2	
	comp=Z,45nm,1.2s,baz=40,slow=4.6,SNR=28								
VRAC	Vranov	158.22 335	⇑P		PKPab	PKPab	15 20 21.0	+0.3	
VRAC	Vranov	158.22 335	*e*PKP		PKPdf	PKPdf	15 19 46.4	-0.4	
VRAC			*e*				15 20 21.0		
SURR	Surduc	158.29 321	⇓P		PKPdf		15 19 59.8	+13	
GOPC	GO Pecny, Ondr	158.32 338	*e*PKPAB		PKPab	PKPab	15 20 21.4	+0.2	
GOPC			*e*PP		PP	PP	15 23 53.7	-7.2	
GOPC			AMS		AMS	AMS	16 26 40.0		
	comp=Z,1µm,20.0s								
GOPC	GO Pecny, Ondr	158.32 338	*e*PKP2		PKPab	PKPab	15 20 21.4	+0.2	
GOPC			MLR		MLR	MLR			
	comp=Z,1µm,20.0s								
PRU	Pruhonice	158.33 339	*e*PKPDF		PKPdf	PKPdf	15 19 53.0	+6.1	
PRU			*e*PKPAB		PKPab	PKPab	15 20 21.6	+0.4	
PRU			*e*PP		PP	PP	15 23 53.7	-7.2	
PRU			AMS		AMS	AMS	16 35 10.0		
	comp=Z,2µm,19.8s								
PRU	Pruhonice	158.33 339	*e*PKIKP		PKPdf	PKPdf	15 19 53.0	+6.1	
PRU			*e*				15 20 21.6		
PRU			MLR		MLR	MLR			
	comp=Z,2µm,19.8s								
KRUC	Moravsky	158.49 335	*e*PKP		PKPdf	PKPdf	15 19 46.5	-0.6	
KRUC			*e*				15 20 22.1		
MOX	Moxa	158.53 344	*e*PKPdf		PKPdf	PKPdf	15 19 46.7	-0.4	
	baz=19,slow=1.1								
MOX			*e*PKPab		PKPab	PKPab	15 20 22.4	+0.3	
	baz=18,slow=4.3								
BUG	Bochum--Univer	158.54 352	*e*PKPdf		PKPdf	PKPdf	15 19 46.7	-0.3	
	baz=19,slow=1.1								
BUG			*e*PKPab		PKPab	PKPab	15 20 21.8	-0.2	
	baz=18,slow=4.3								
TANN	Tannenbergstha	158.54 343	*e*PKPdf		PKPdf	PKPdf	15 19 46.7	-0.5	
	baz=19,slow=1.1								
TANN			*e*PKPab		PKPab	PKPab	15 20 22.1	-0.1	
	baz=18,slow=4.3								
SMOL	Smolenice	158.54 332	*e*PKP2		PKPab	PKPab	15 20 22.5	+0.3	
WERD	Werda	158.55 343	*e*PKPdf		PKPdf	PKPdf	15 19 46.7	-0.5	
	baz=19,slow=1.1								
WERD			*e*PKPab		PKPab	PKPab	15 20 22.4	+0.2	
	baz=18,slow=4.3								
PLN	Plauen	158.55 343	*e*PKPdf		PKPdf	PKPdf	15 19 46.7	-0.4	
	baz=19,slow=1.1								
PLN			*e*PKPab		PKPab	PKPab	15 20 22.1	-0.1	
	baz=18,slow=4.3								
KASTN	Kahler Asten	158.62 350	*e*PKPdf		PKPdf	PKPdf	15 19 46.7	-0.5	
	baz=19,slow=1.1								
KASTN			*e*PKPab		PKPab	PKPab	15 20 22.1	-0.3	
	baz=18,slow=4.3								
GUNZ	Gunzen	158.62 343	*e*PKPab		PKPab	PKPab	15 20 22.9	+0.4	
	baz=18,slow=4.3								
TREC	Trest	158.62 337	AMS		AMS	AMS	16 30 10.0		
	comp=Z,2µm,24.8s								
BZS	Buzias	158.65 321	⇓P		PKPdf	PKPdf	15 19 47.0	-0.4	
BZS	Buzias	158.65 321	⇓PKIKP		PKPdf	PKPdf	15 19 47.0	-0.4	
WERN	Wernitzgruen	158.68 343	*e*PKPab		PKPab	PKPab	15 20 22.9	+0.2	
	baz=18,slow=4.3								
NKC	Novy Kostel	158.71 343	*e*PKPDF		PKPdf		15 19 55.9	+8.5	
NKC			*e*PKPAB		PKPab	PKPab	15 20 23.2	+0.3	
NKC			*e*PP		PP	PP	15 23 56.8	-6.1	
NKC			AMS		AMS	AMS	16 28 20.0		
	comp=Z,2µm,23.0s								
NKC	Novy Kostel	158.71 343	*e*PKIKP		PKPdf		15 19 55.9	+8.5	
NKC			*e*				15 20 23.2		
NKC			MLR		MLR	MLR			
	comp=Z,2µm,23.0s								
MODS	Modra-Piesok	158.71 332	*e*PKIKP		PKPdf	PKPdf	15 19 48.5	+1.1	
MODS			*e*				15 20 23.3		
MODS	Modra-Piesok	158.71 332	*e*PKP		PKPdf	PKPdf	15 19 48.5	+1.1	
MODS			*e*				15 20 23.3		
UBBA	Unterbreizbach	158.72 347	*e*PKPdf		PKPdf	PKPdf	15 19 46.4	-0.7	
	baz=19,slow=1.1								
UBBA			*e*PKPab		PKPab	PKPab	15 20 22.6	0.0	
	baz=18,slow=4.3								
SRO	Srobarova	158.72 330	*e*PKP2		PKPab	PKPab	15 20 24.3	+1.3	
SRO	Srobarova	158.72 330	*e*PKP		PKPab	PKPab	15 20 24.3	+1.3	
ZST	Bratislava	158.93 332	*e*PKP2		PKPab	PKPab	15 20 24.4	+0.6	
ZST	Bratislava	158.93 332	*e*PKP		PKPab	PKPab	15 20

WLF	**Walferdange**	**160.41 353**	*d*PKPdf	**PKPdf**	**15 19 49.3**	**0.0**
WLF			*d*PKP	**PKPab**	**15 20 30.1**	**-0.1**
WLF	**Walferdange**	**160.41 353**	*e*PKPdf	**PKPdf**	**15 19 49.3**	**0.0**
	baz=19,slow=1.1					
WLF			*e*PKPab	**PKPab**	**15 20 31.1**	**+0.9**
	baz=18,slow=4.3					
VAY	**Valandovo**	**160.47 310**	*i* P	**PKPab**	**15 20 30.6**	**-0.3**
STIP	**Stip**	**160.55 311**	*i* P	**PKPab**	**15 20 30.2**	**-0.9**
BIOA	**Bad Ischl, Aus**	**160.63 337**	*e*PKP	**PKPab**	**15 20 31.7**	**+0.4**
	comp=Z,98nm,1.4s,SNR=18					
BIOA			*e*PP	**PP**	**15 24 16.0**	**+2.5**
	comp=Z,22nm,1.9s					
IDI	**Anoyia**	**160.66 291**	PKP	**PKPdf**	**15 19 50.6**	**+0.5**
	comp=Z,1.1nm,1.1s,baz=146,slow=4.9,SNR=4.2					
IDI	**Anoyia**	**160.66 291**	⇑P	**PKPdf**	**15 19 51.1**	**+0.9**
KOGS	**Kog**	**160.67 331**	*e*PKPdf	**PKPdf**	**15 19 48.9**	**-0.8**
STU	**Stuttgart**	**160.83 347**	PKPdf	**PKPdf**	**15 19 50.0**	**+0.3**
STU			PKPab	**PKPab**	**15 20 31.8**	**-0.3**
STU	**Stuttgart**	**160.83 347**	PKP2	**PKPab**	**15 20 31.8**	**-0.3**
STU					16 19 50.1	
STU	**Stuttgart**	**160.83 347**	*e*PKPdf	**PKPdf**	**15 19 49.5**	**-0.3**
	baz=19,slow=1.1					
STU			*e*PKPab	**PKPab**	**15 20 32.8**	**+0.8**
	baz=18,slow=4.3					
RJOB	**Jochberg**	**160.86 339**	*e*PKPdf	**PKPdf**	**15 19 49.5**	**-0.4**
	baz=19,slow=1.1					
RJOB			*e*PKPab	**PKPab**	**15 20 33.1**	**+0.8**
	baz=18,slow=4.3					
SKO	**Skopje**	**160.88 313**	*i* P	**PKPab**	**15 20 33.3**	**+0.6**
FUR	**Furstenfeldbru**	**160.91 342**	*e*PKPdf	**PKPdf**	**15 19 49.5**	**-0.4**
	baz=19,slow=1.1					
FUR			*e*PKPab	**PKPab**	**15 20 33.7**	**+1.2**
	baz=18,slow=4.3					
SOKA	**Soboth**	**160.98 333**	*e*PKP	**PKPdf**	**15 19 49.6**	**-0.6**
	comp=Z,10nm,1.5s					
SOKA			*e*PKP	**PKPab**	**15 20 32.5**	**-0.4**
	comp=Z,51nm,1.3s,SNR=12					
LIT	**Litokhoron**	**161.08 307**		**PKPab**	**15 20 32.0**	**-1.6**
LIT	**Litokhoron**	**161.08 307**	PKP2	**PKPab**	**15 20 32.0**	**-1.6**
KBA	**Koelnbreinsper**	**161.26 337**	*i* PKP	**PKPdf**	**15 19 49.2**	**-1.3**
	comp=Z,11nm,1.5s					
KBA			*e*PKP	**PKPab**	**15 20 33.9**	**-0.3**
	comp=Z,52nm,1.9s					
KBA			*e*PP	**PP**	**15 24 18.4**	**+1.3**
	comp=Z,15nm,1.5s					
OBKA	**Obir**	**161.31 334**	*e*PKP	**PKPdf**	**15 19 49.9**	**-0.6**
	comp=Z,4.6nm,1.0s					
OBKA			*e*PKP	**PKPab**	**15 20 33.7**	**-0.7**
	comp=Z,12nm,1.1s					
BFO	**Black Forest**	**161.41 348**	PKPab	**PKPab**	**15 20 34.9**	**+0.2**
BFO	**Black Forest**	**161.41 348**	PKP2	**PKPab**	**15 20 34.9**	**+0.2**
BFO	**Black Forest**	**161.41 348**	*e*PKPdf	**PKPdf**	**15 19 50.4**	**-0.1**
	baz=19,slow=1.1					
BFO			*e*PKPab	**PKPab**	**15 20 33.7**	**-1.0**
	baz=18,slow=4.3					
FNA	**Florina**	**161.52 310**		**PKPdf**	**15 19 50.0**	**-0.9**
FNA	**Florina**	**161.52 310**	PKIKP	**PKPdf**	**15 19 50.0**	**-0.9**
MYKA	**Terra Mystica**	**161.54 336**	*e*PKP	**PKPab**	**15 20 34.6**	**-0.8**
	comp=Z,55nm,1.5s,SNR=7.1					
WATA	**Walderalm**	**161.59 341**	*e*PKP	**PKPdf**	**15 19 50.3**	**-0.6**
	comp=Z,13nm,1.5s					
WATA			*e*PKP	**PKPab**	**15 20 36.2**	**+0.6**
	comp=Z,99nm,1.3s,SNR=21					
WATA			*e*PP	**PP**	**15 24 17.4**	**-1.3**
	comp=Z,25nm,2.0s					
WTTA	**Wattenberg**	**161.64 340**	*i* PKP	**PKPdf**	**15 19 50.5**	**-0.5**
	comp=Z,24nm,2.0s					
WTTA			*e*PKP	**PKPab**	**15 20 36.3**	**+0.4**
	comp=Z,104nm,1.3s,SNR=11					
WTTA			*e*PP	**PP**	**15 24 17.9**	**-1.0**
	comp=Z,24nm,1.8s					
UBR	**Ueberruh**	**161.66 344**	*e*PKPdf	**PKPdf**	**15 19 50.1**	**-0.7**
	baz=19,slow=1.1					
UBR			*e*PKPab	**PKPab**	**15 20 35.1**	**-0.7**
	baz=18,slow=4.3					
RETA	**Reutte**	**161.67 342**	*e*PKP	**PKPab**	**15 20 36.6**	**+0.7**
	comp=Z,84nm,1.3s,SNR=14					
RETA			*e*PP	**PP**	**15 24 18.7**	**-0.3**
	comp=Z,24nm,2.1s					
LJU	**Ljubljana**	**161.70 333**	*e*		15 28 11.8	
LJU	**Ljubljana**	**161.70 333**	*e*PKPdf	**PKPdf**	**15 19 49.8**	**-1.0**
LJU	**Ljubljana**	**161.70 333**	*i* PKPab	**PKPab**	**15 20 35.1**	**-0.9**
LJU	**Ljubljana**	**161.70 333**	*i* PP	PP	15 24 18.0	-1.2
MOTA	**Moosalm**	**161.71 341**	*e*PKP	**PKPdf**	**15 19 50.4**	**-0.6**
	comp=Z,6.2nm,1.2s					
MOTA			*i* PKP	**PKPab**	**15 20 36.6**	**+0.4**
	comp=Z,113nm,1.3s,SNR=15					
MOTA			*e*PP	**PP**	**15 24 18.6**	**-0.7**
	comp=Z,25nm,2.0s					
ECH	**Echery**	**161.72 350**		**PKPab**	**15 20 35.3**	**-0.7**
ECH	**Echery**	**161.72 350**	PKP2	**PKPab**	**15 20 35.3**	**-0.7**
PRED	**Cave del Predi**	**161.73 335**		**PKPdf**	**15 19 48.5**	**-2.4**
OHR	**Ohrid**	**161.74 311**	*i* P	**PKPab**	**15 20 32.4**	**-4.1**
SQTA	**Sankt Quirin**	**161.80 341**	*e*PKP	**PKPdf**	**15 19 50.3**	**-0.7**
	comp=Z,9.5nm,1.4s					
SQTA			*e*PKP	**PKPab**	**15 20 36.8**	**+0.3**
	comp=Z,96nm,1.2s,SNR=15					
SQTA			*e*PP	**PP**	**15 24 19.6**	**-0.1**
	comp=Z,19nm,1.9s					
ABTA	**Abfaltersbach**	**161.83 338**	*e*PKP	**PKPdf**	**15 19 50.3**	**-0.7**
	comp=Z,13nm,1.6s					
ABTA			*e*PKP	**PKPab**	**15 20 35.8**	**-0.8**
	comp=Z,50nm,1.3s,SNR=7.7					
BOJS	**Bojanci**	**161.84 331**	*i* PKPab	**PKPab**	**15 20 36.0**	**-0.6**
BOJS	**Bojanci**	**161.84 331**	*i* PKPdf	**PKPdf**	**15 19 50.4**	**-0.6**
CLUD	**Cludinico**	**161.96 337**	PKPdf	**PKPdf**	**15 19 50.4**	**-0.7**
PDG	**Podgorica**	**161.96 317**	PKPdf	**PKPdf**	**15 19 50.6**	**-0.6**
CEY	**Cerknica**	**161.99 333**	*i* PKPdf	**PKPdf**	**15 19 50.1**	**-1.0**
DAVA	**Damuels**	**162.08 344**	*e*PKP	**PKPdf**	**15 19 50.6**	**-0.7**
	comp=Z,12nm,1.4s					
DAVA			*e*PKP	**PKPab**	**15 20 38.1**	**+0.3**
	comp=Z,58nm,1.3s,SNR=12					
DAVA			*e*PP	**PP**	**15 24 20.4**	**-0.8**
	comp=Z,19nm,1.6s					
SABO	**M.te Sabotino**	**162.11 335**	PKPdf	**PKPdf**	**15 19 51.0**	**-0.3**
SABO			PKPab	**PKPab**	**15 20 36.2**	**-1.6**
FETA	**Feichten**	**162.11 342**	*e*PKP	**PKPdf**	**15 19 50.9**	**-0.5**
	comp=Z,12nm,1.5s					
FETA			*e*PKP	**PKPab**	**15 20 38.2**	**+0.3**
	comp=Z,59nm,1.3s,SNR=7.0					
FETA			*e*PP	**PP**	**15 24 22.3**	**+0.9**
	comp=Z,20nm,2.0s					
STAL	**STALIGIAL**	**162.19 337**		**PKPdf**	**15 19 50.4**	**-0.9**
DAVOX	**Davos/Dischmat**	**162.56 343**	PKP	**PKPdf**	**15 19 52.0**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=127,slow=5.1,SNR=5.9					
DAVOX			PKPab	**PKPab**	**15 20 39.6**	**-0.4**
	comp=Z,30nm,0.9s,baz=280,slow=1.9,SNR=11					
DAVOX			PP	**PP**	**15 24 21.4**	**-2.4**
	comp=Z,2.2nm,0.6s,baz=20,slow=6.4,SNR=5.8					
FUORN	**Ofenpass-Fuorn**	**162.61 342**	PKPdf	**PKPdf**	**15 19 50.5**	**-1.5**
TORD	**Torodi Ar. Bea**	**162.97 177**	PKP	**PKPdf**	**15 19 53.0**	**0.0**
	comp=Z,19nm,1.1s,baz=242,slow=0.5,SNR=35					
TORD			PKPab	**PKPab**	**15 20 43.4**	**+1.2**
	comp=Z,22nm,1.2s,baz=169,slow=3.4,SNR=7.6					
TORD			PP	**PP**	**15 24 27.5**	**+1.9**
	comp=Z,4.0nm,1.0s,baz=142,slow=3.1,SNR=3.7					
TORD	**Torodi Ar. Bea**	**162.97 177**		**PKPdf**	**15 19 51.9**	**-1.1**
KEK	**Kerkira**	**163.10 309**		**PKPdf**	**15 19 51.2**	**-1.3**
TEOL	**Teolo**	**163.33 337**	PKPdf	**PKPdf**	**15 19 51.5**	**-1.0**
TEOL				**PKPab**	**15 20 42.6**	**-0.5**
SALO	**Salr**	**163.45 340**	PKPab	**PKPab**	**15 20 42.8**	**-0.9**
SENIN	**Lac Senin/Sane**	**163.50 349**	PKPdf	**PKPdf**	**15 19 52.2**	**-0.6**
SENIN			PKPab	**PKPab**	**15 20 44.0**	**-0.1**
FDMO	**Fiordimonte**	**164.75 330**		**PKPdf**	**15 19 53.2**	**-0.6**
BNI	**Bardonecchia**	**164.87 349**		**PKPdf**	**15 19 54.1**	**+0.1**
BNI			PKPab	**PKPab**	**15 20 51.1**	**+1.0**
BNI	**Bardonecchia**	**164.87 349**	PKIKP	**PKPdf**	**15 19 54.1**	**+0.1**
SSB	**Saint Sauveur**	**164.91 355**		**PKPdf**	**15 19 53.9**	**0.0**
SSB			PKPab	**PKPab**	**15 20 50.8**	**+0.7**
SSB	**Saint Sauveur**	**164.91 355**	PKP2	**PKPab**	**15 20 50.8**	**+0.7**
SSB					16 19 53.9	
MSSA	**Maissana**	**164.93 341**		**PKPab**	**15 20 49.3**	**-1.0**
CAMP	**Campotosto**	**165.00 328**	PKPdf	**PKPdf**	**15 19 53.7**	**-0.5**
CAMP				**PKPab**	**15 20 50.0**	**-0.8**
OSSC	**Osservatorio P**	**165.08 335**	PKPab	**PKPab**	**15 20 49.5**	**-1.4**
AQU	**L'Aquila**	**165.15 327**		**PKPab**	**15 20 50.3**	**-1.0**
AQU	**L'Aquila**	**165.15 327**	PKP2	**PKPab**	**15 20 50.3**	**-1.0**
PGAV	**Gavieira, Arco**	**165.34 34**	*e*SS	SS	15 45 20.5	+6.8
PGAV	**Gavieira, Arco**	**165.34 34**	*e*LR	LR	16 19 04.8	
	comp=Z,2µm,20.0s					
LATE	**Laterza**	**165.64 332**		**PKPdf**	**15 19 53.8**	**-0.8**
POLO	**Lamas de Olo**	**166.03 34**	*e*PKPdf	**PKPdf**	**15 19 56.8**	**+1.7**
MVO	**Moncorvo**	**166.56 33**	*e*PKPdf	**PKPdf**	**15 19 57.5**	**+2.0**
MVO	**Moncorvo**	**166.56 33**	*e*SS	SS	15 45 38.8	+13
MVO	**Moncorvo**	**166.56 33**	*e*LR	LR	16 18 42.9	
	comp=Z,2µm,18.0s					
PMAFR	**Mafra**	**166.87 45**	*e*PKPdf	**PKPdf**	**15 19 57.0**	**+1.3**
MTE	**Manteigas**	**166.88 37**	*e*SS	SS	15 45 41.7	+12
MTE	**Manteigas**	**166.88 37**	*e*LR	LR	16 19 59.0	
	comp=Z,2µm,20.0s					
LIS	**Lisbon**	**167.10 46**	*e*PKPdf	**PKPdf**	**15 19 56.1**	**+0.2**
LIS			IAMs_20	IAMs_20	16 40 02.6	
	comp=Z,2µm,10.3s					
LIS	**Lisbon**	**167.10 46**	*e*PKIKP	**PKPdf**	**15 19 56.0**	**+0.2**
PCBR	**Castelo Branco**	**167.32 38**	*e*PKPdf	**PKPdf**	**15 19 58.0**	**+2.0**
PMTG	**Montargil**	**167.43 43**	*e*PKPdf	**PKPdf**	**15 19 56.6**	**+0.5**
PMRV	**Marv??o**	**167.66 39**	*e*LR	LR	16 20 12.3	
	comp=Z,2µm,18.0s					
PNCL	**Nicolau / Gran**	**167.85 47**	*e*PKPdf	**PKPdf**	**15 19 58.2**	**+1.8**
PESTR	**Estremoz**	**167.94 42**	*e*PKPdf	**PKPdf**	**15 19 57.8**	**+1.3**
MESJ	**Messejana**	**168.21 47**	*e*PKPdf	**PKPdf**	**15 19 57.0**	**+0.3**
MESJ			*e*PP	**PP**	**15 24 54.8**	**+0.9**
MESJ			*e*SS	SS	15 45 45.8	+2.5
MESJ			IAMs_20	IAMs_20	16 50 30.0	
	comp=Z,2µm,15.8s					
MESJ	**Messejana**	**168.21 47**	*e*PKPdf	**PKPdf**	**15 19 53.1**	**-3.6**
MESJ	**Messejana**	**168.21 47**	*e*PKIKP	**PKPdf**	**15 19 57.0**	**+0.3**
MESJ			*e*		15 24 54.7	
MESJ			*e*SS	SS	15 45 45.7	+2.4
MORF	**Marmelete**	**168.24 50**	*e*PKPdf	**PKPdf**	**15 19 57.0**	**+0.2**
MORF			IAMs_20	IAMs_20	16 40 00.2	
	comp=Z,1µm,17.0s					
MORF	**Marmelete**	**168.24 50**	*e*PKPdf	**PKPdf**	**15 19 59.2**	**+2.4**
MORF	**Marmelete**	**168.24 50**	*e*PKIKP	**PKPdf**	**15 19 57.0**	**+0.2**
PCVE	**Castro Verde**	**168.45 47**	*e*PKPdf	**PKPdf**	**15 19 59.4**	**+2.6**
PBAR	**Barrancos**	**168.72 43**	*e*PKPdf	**PKPdf**	**15 19 58.9**	**+1.9**
PVAQ	**Vaqueiros**	**168.79 48**	*e*PKPdf	**PKPdf**	**15 19 58.5**	**+1.4**
PVAQ	**Vaqueiros**	**168.79 48**	*e*SS	SS	15 46 00.0	+11
PVAQ	**Vaqueiros**	**168.79 48**	*e*LR	LR	16 19 28.7	
	comp=Z,2µm,18.0s					
PVAQ	**Vaqueiros**	**168.79 48**		**PKPdf**	**15 19 57.1**	**0.0**
PAB	**San Pablo**	**169.07 30**	⇓PKIKP	**PKPdf**	**15 19 59.3**	**+2.0**
ESDC	**Sonseca Array**	**169.13 28**	PKP	**PKPdf**	**15 19 58.5**	**+1.3**
	comp=Z,11nm,1.3s,baz=319,slow=2.0,SNR=24					
ESDC			PKPab	**PKPab**	**15 21 10.3**	**+1.4**
	comp=Z,4.9nm,1.1s,baz=315,slow=4.4,SNR=5.5					
ESDC			PP	**PP**	**15 24 59.1**	**+1.2**
	comp=Z,3.0nm,1.3s,baz=345,slow=8.0,SNR=4.8					
ESDC	**Sonseca Array**	**169.13 28**		**PKPdf**	**15 19 57.8**	**+0.5**
OUK	**Oukaimeden**	**170.88 81**	P	**PKPdf**	**15 20 02.0**	**+3.0**
ZHG	**ZHG**	**171.46 66**	P	**PKPdf**	**15 20 03.0**	**+4.2**
CHEFC	**Chefchaouen**	**171.68 52**	P	**PKPdf**	**15 20 03.0**	**+4.1**
OUZM	**OUZ**	**171.84 83**	P	**PKPdf**	**15 20 02.0**	**+2.8**
KEST	**Kesra**	**172.16 316**	PKP	**PKPdf**	**15 19 59.5**	**+0.4**
	comp=Z,5.9nm,1.0s,baz=193,slow=5.5,SNR=3.7					
KEST			PKPab	**PKPab**	**15 21 23.0**	**+0.4**
	comp=Z,11nm,1.1s,baz=352,slow=3.6,SNR=2.8					
ZGR	**Zagora**	**172.82 89**	P	**PKPdf**	**15 20 02.0**	**+2.4**
TZRR	**Tazzarine**	**172.87 84**	P	**PKPdf**	**15 20 02.0**	**+2.4**
MDT	**Midelt**	**173.28 66**	PKP	**PKPdf**	**15 20 00.4**	**+0.7**
	comp=Z,9.1nm,1.1s,baz=247,slow=1.2,SNR=18					
MDT	**Midelt**	**173.28 66**	P	**PKPdf**	**15 20 02.0**	**+2.4**
GOLM	**Goulmima**	**173.29 75**	P	**PKPdf**	**15 20 03.0**	**+3.2**
TAF	**Taforalt**	**173.73 42**	P	**PKPdf**	**15 20 04.0**	**+4.2**
ARF	**Arif**	**173.96 77**	P	**PKPdf**	**15 20 03.0**	**+3.0**
FIGM	**Figuig**	**176.13 60**	P	**PKPdf**	**15 20 03.0**	**+2.4**

ROM 29 15:18:49.7±0.1, 42°48.5N±0.002×13°28.9E±0.004, h14km, ML1.3/9, 4C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=231.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1247	**Pizzolo (AQ)**	**0.04**	**170**	P	Pg	15 18 52.5	+0.2
T1247				S	Sg	15 18 54.3	+0.2
T1247				AML	AML		
	comp=E,776µm,0.7s						
T1247				AML	AML		
	comp=N,1030µm,0.1s						
RM33	**Pellescritta (**	**0.06**	**294**	⇓P	Pg	15 18 50.8	-1.7
RM33				AML	AML		
	comp=N,413µm,1.4s						
RM33				AML	AML		
	comp=E,495µm,0.3s						
RM33				AML	AML		
	comp=E,494µm,0.3s						
RM33				AML	AML		
	comp=E,496µm,0.3s						
RM33				AML	AML		
	comp=N,413µm,0.6s						
RM33				AML	AML		
	comp=N,412µm,0.2s						
CAMP	**Campotosto**	**0.10**	**60**	P	Pg	15 18 53.2	+0.3
CAMP				S	Sg	15 18 55.4	+0.2
CAMP				AML	AML		
	comp=N,140µm,0.5s						
CAMP				AML	AML		
	comp=E,77µm,0.6s						
SMA1	**SAN MARTINO**	**0.15**	**13**	P	Pb	15 18 54.1	-0.3
SMA1				S	Sb	15 18 57.0	-0.5
SMA1				AML	AML		
	comp=E,914µm,0.3s						
SMA1				AML	AML		
	comp=N,696µm,0.3s						
SMA1				AML	AML		
	comp=N,696µm,0.3s						
T1222	**Castel Sant'An**	**0.20**	**246**	P	Pg	15 18 54.6	+0.3
GIGS	**Gran Sasso**	**0.21**	**99**	P	Pg	15 18 54.7	+0.3
GIGS				S	Sb	15 18 58.5	-0.8
GIGS				AML	AML		
	comp=N,18µm,1.4s						
GIGS				AML	AML		
	comp=E,19µm,1.3s						
GIGS				AML	AML		
	comp=N,18µm,1.4s						
GIGS				AML	AML		
	comp=E,19µm,0.7s						
LNSS	**Leonessa**	**0.22**	**303**	P	Pg	15 18 54.9	+0.3
LNSS				S	Sb	15 18 58.8	-0.7
LNSS				AML	AML		
	comp=N,198µm,0.2s						
LNSS				AML	AML		
	comp=E,186µm,0.2s						
T1218	**Civita (PG)**	**0.23**	**325**	P	Pg	15 18 55.0	+0.3
T1218				S	Sg	15 18 58.6	+0.5
T1218				AML	AML		
	comp=E,90µm,0.1s						
T1218				AML	AML		
	comp=N,182µm,0.2s						
T1218				AML	AML		
	comp=E,90µm,0.1s						
FIAM	**Fiamignano**	**0.25**	**210**	⇑P	Pg	15 18 55.5	+0.4
FIAM				S	Sb	15 18 59.7	-0.7
FIAM				AML	AML		
	comp=E,42µm,0.5s						
FIAM				AML	AML		
	comp=N,37µm,0.7s						
FIAM				AML	AML		
	comp=N,37µm,1.3s						
FIAM				AML	AML		
	comp=E,42µm,1.5s						
TERO	**Teramo**	**0.27**	**59**	⇑P	Pg	15 18 55.7	+0.3
TERO				AML	AML		
	comp=E,37µm,1.4s						
TERO				AML	AML		
	comp=E,37µm,0.6s						
TERO				AML	AML		
	comp=N,49µm,0.7s						
T1212	**Cascia, Frazio**	**0.32**	**326**	⇑P	Pb	15 18 57.1	-0.3
T1211	**Morro Reatino**	**0.32**	**279**	⇓P	Pg	15 18 56.6	+0.2
T1217	**Poggiodomo (PG**	**0.35**	**311**	P	Pg	15 18 57.1	+0.3
T1217				S	Sb	15 19 02.5	-0.8
ARRO	**Arrone**	**0.40**	**284**	P	Pg	15 18 57.8	+0.2
ARRO				AML	AML		
	comp=E,44µm,0.2s						
ARRO				AML	AML		
	comp=N,40µm,1.0s						
T1215	**Vallo di Nera,**	**0.44**	**316**	⇓P	Pg	15 18 58.4	-0.2
T0110	**Collepietro**	**0.45**	**125**	⇑P	Pg	15 18 59.0	+0.4

*NEIC **29** 15:24:15.2±1.7, 54°.9N±0°.2×161°.6W±0°.2, h68km±16km, ML3.6/12, ML3.1(AEIC), Error ellipse: s-maj=29.5km s-min=8.8km az=155.0*

*AEIC **29** 15:24:16.1±2.3, 54°.8N±0°.2×161°.6W±0°.2, h59km±9km, Error ellipse: s-maj=26.1km s-min=6.9km az=152.0*

ISC 29 15:24:15.2±1.4, 54°.85N±0°.09×161°.61W±0°.06, h49km, n70, σ1§08/74, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.82**	**52**		**Pn**	**15 24 31.2**	**+0.7**
SDPT				Sn	**Sn**	**15 24 42.5**	**+0.9**
SDPT				IAML		15 24 43.8	
	comp=N,1µm,0.3s						
SDPT	**Sand Point**	**0.82**	**52**	P	**Pn**	**15 24 31.3**	**+0.7**
	baz=236						
SDPT				S	**Sn**	**15 24 43.4**	**+1.7**
	baz=236						
S12K	**Black Hills**	**0.90**	**343**	P	**Pn**	**15 24 31.7**	**+0.2**
	baz=164						
S12K				S	**Sn**	**15 24 44.0**	**+0.5**
	baz=164						
CHGN	**Chignik**	**2.33**	**50**	Pn	**Pn**	**15 24 51.7**	**+0.7**
CHGN				IAML		15 25 29.7	
	comp=E,269nm,0.1s						
CHGN	**Chignik**	**2.33**	**50**	P	**Pn**	**15 24 51.9**	**+0.9**
	baz=234						
AKUT	**Akutan**	**2.53**	**255**	Pn	**Pn**	**15 24 54.3**	**+0.5**
UNV	**Unalaska Valle**	**3.04**	**253**		**Sn**	**15 25 36.6**	**+0.8**
UNV	**Unalaska Valle**	**3.04**	**253**		**Pn**	**15 25 00.6**	**-0.1**
UNV	**Unalaska Valle**	**3.04**	**253**	P	**Pn**	**15 25 00.7**	**0.0**
	baz=68						
UNV				S	**Sn**	**15 25 36.6**	**+0.8**
	baz=68						
R16K	**Pilot Point**	**3.54**	**38**	P	**Pn**	**15 25 08.2**	**+0.6**
	baz=222						
CHIR	**Chirikof Islan**	**3.56**	**72**	Pn	**Pn**	**15 25 08.4**	**+0.6**
CHIR				IAML		15 26 12.3	
	comp=N,158nm,1.7s						
CHIR				IAML		15 26 56.5	
	comp=E,152nm,3.9s						
R17K	**Ugashik Creek**	**4.04**	**44**	P	**Pn**	**15 25 15.2**	**+0.7**
	baz=229						
SII	**Sitkinak Islan**	**4.54**	**65**	Pn	**Pn**	**15 25 21.0**	**-0.3**
P16K	**Nushagak River**	**4.64**	**24**	P	**Pn**	**15 25 22.6**	**-0.1**
	baz=207						
Q17K	**Contact Creek**	**4.66**	**40**	P	**Pn**	**15 25 23.8**	**+0.6**
	baz=226						
O16K	**Kokwok River B**	**5.13**	**20**	P	**Pn**	**15 25 28.7**	**-0.6**
	baz=204						
P17K	**Kvichak River**	**5.19**	**31**	P	**Pn**	**15 25 30.0**	**-0.3**
	baz=216						
OHAK	**Old Harbor**	**5.24**	**60**	Pn	**Pn**	**15 25 31.1**	**+0.2**
OHAK				IAML		15 26 58.5	
	comp=N,34nm,3.4s						
OHAK				IAML		15 27 18.4	
	comp=E,42nm,3.5s						
Q18K	**Katmai Hardscr**	**5.26**	**41**	P	**Pn**	**15 25 32.1**	**+0.7**
	baz=227						
O17K	**Koliganek Bris**	**5.51**	**24**	P	**Pn**	**15 25 34.4**	**-0.2**
	baz=209						
P18K	**Big Mountain,**	**5.73**	**35**	Pn	**Pn**	**15 25 38.5**	**+0.9**
P18K	**Big Mountain,**	**5.73**	**35**	P	**Pn**	**15 25 38.2**	**+0.5**
	baz=220						
KDAK	**Kodiak Island**	**5.82**	**56**	Pn	**Pn**	**15 25 38.0**	**-0.9**
KDAK	**Kodiak Island**	**5.82**	**56**	P	**Pn**	**15 25 37.7**	**-1.1**
	baz=244						
N16K	**Nishlik Lake**	**5.84**	**14**	P	**Pn**	**15 25 39.5**	**+0.2**
	baz=197						
Q19K	**Cape Douglas,**	**5.98**	**44**	Pn	**Pn**	**15 25 41.7**	**+0.6**
O18K	**Koktuh Hills**	**6.10**	**32**	Pn	**Pn**	**15 25 43.4**	**+0.7**
O18K	**Koktuh Hills**	**6.10**	**32**	P	**Pn**	**15 25 43.0**	**+0.3**
	baz=218						
Q20K	**Shuyak Island**	**6.32**	**50**	P	**Pn**	**15 25 45.8**	**+0.2**
	baz=238						
O19K	**Port Alsworth**	**6.64**	**33**	Pn	**Pn**	**15 25 50.1**	**0.0**
O19K	**Port Alsworth**	**6.64**	**33**	P	**Pn**	**15 25 50.9**	**+0.8**
	baz=220						
SVW2	**Sparrevohn**	**7.04**	**25**	Pn	**Pn**	**15 25 54.2**	**-1.3**
N19K	**Bonanza Creek**	**7.09**	**30**	Pn	**Pn**	**15 25 57.4**	**+1.1**
N19K	**Bonanza Creek**	**7.09**	**30**	P	**Pn**	**15 25 56.7**	**+0.4**
	baz=216						
CNPM	**China Poot**	**7.33**	**46**		**Pn**	**15 25 59.2**	**-0.4**
BRLK	**Bradley Lake**	**7.61**	**45**		**Pn**	**15 26 02.1**	**-1.3**
BRSE	**Bradley Lake S**	**7.66**	**46**		**Pn**	**15 26 03.2**	**-0.9**
BRSE	**Bradley Lake S**	**7.66**	**46**	P	**Pn**	**15 26 03.4**	**-0.7**
	baz=235						
M19K	**Big River Lodg**	**8.02**	**25**	Pn	**Pn**	**15 26 08.6**	**-0.5**
M19K	**Big River Lodg**	**8.02**	**25**	P	**Pn**	**15 26 07.9**	**-1.1**
	baz=212						
SPU	**Mount Spurr**	**8.12**	**35**	Pn	**Pn**	**15 26 09.7**	**-0.7**
L19K	**White Mountain**	**8.16**	**23**	Pn	**Pn**	**15 26 09.8**	**-1.1**
L19K	**White Mountain**	**8.16**	**23**	P	**Pn**	**15 26 10.0**	**-0.9**
	baz=209						
SLKM	**Skilak Lake**	**8.33**	**42**		**Pn**	**15 26 12.7**	**-0.5**
M20K	**Styx River**	**8.34**	**29**	Pn	**Pn**	**15 26 13.1**	**-0.3**
SEW	**Seward**	**8.40**	**46**	Pn	**Pn**	**15 26 13.5**	**-0.6**
SUA	**Susitna One**	**8.77**	**36**		**P

CFA	**Coronel Fontan**	**1.32**	**159**	*eP*	**Pn**	**15 47 25.7**	**+0.7**
CFA				*eS*	**Sn**	**15 47 45.1**	**+1.5**
RTLS	**Leoncito**	**1.48**	**197**	*eP*	**Pn**	**15 47 27.6**	**+0.4**
RTLS				IAML		15 47 52.4	
	comp=Z,4μm,0.7s						
RTLS	**Leoncito**	**1.48**	**197**	*eP*	**Pn**	**15 47 27.6**	**+0.4**
RTLS				IAML		15 47 52.4	
	comp=Z,4μm,0.7s						
CO03	**El Pedregal**	**1.70**	**254**		**Pn**	**15 47 30.4**	**+0.8**
CO03	**El Pedregal**	**1.70**	**254**	*eP*	**Pn**	**15 47 29.7**	**+0.2**
CO03				IAML		15 47 57.6	
	comp=Z,3μm,0.6s						
CO03	**El Pedregal**	**1.70**	**254**	*eP*	**Pn**	**15 47 29.7**	**+0.2**
CO03				IAML		15 47 57.6	
	comp=Z,3μm,0.6s						
GO04	**Tololo Observa**	**1.74**	**276**		**Pn**	**15 47 31.2**	**+0.9**
GO04	**Tololo Observa**	**1.74**	**276**	*eP*	**Pn**	**15 47 30.6**	**+0.3**
GO04				*eS*	**Sn**	**15 47 54.6**	**+1.5**
GO04	**Tololo Observa**	**1.74**	**276**	*eP*	**Pn**	**15 47 30.6**	**+0.3**
GO04				*eS*	**Sn**	**15 47 54.6**	**+1.5**
AC05	**El Transito**	**2.00**	**320**		**Pn**	**15 47 35.0**	**+1.5**
CO02	**Combarbal**	**2.07**	**246**		**Pn**	**15 47 34.4**	**+0.2**
CO02	**Combarbal**	**2.07**	**246**	*eP*	**Pn**	**15 47 34.1**	**-0.2**
CO02				*eS*	**Sn**	**15 48 00.6**	**+0.4**
CO02				IAML		15 48 02.3	
	comp=Z,4μm,0.3s						
CO02	**Combarbal**	**2.07**	**246**	*eP*	**Pn**	**15 47 34.1**	**-0.2**
CO02				*eS*	**Sn**	**15 48 00.6**	**+0.4**
CO02				IAML		15 48 02.3	
	comp=Z,4μm,0.3s						
LCO	**Las Campanas**	**2.14**	**309**		**Pn**	**15 47 36.0**	**+0.6**
LCO	**Las Campanas**	**2.14**	**309**	*eP*	**Pn**	**15 47 35.8**	**+0.5**
LCO				*eS*	**Sn**	**15 48 02.9**	**+0.8**
LCO	**Las Campanas**	**2.14**	**309**	*eP*	**Pn**	**15 47 35.8**	**+0.5**
LCO				*eS*	**Sn**	**15 48 02.9**	**+0.8**
CO05	**La Serena**	**2.16**	**281**		**Pn**	**15 47 35.2**	**-0.1**
TINO	**Tinogasta**	**2.54**	**25**	*eP*	**Pn**	**15 47 42.0**	**+1.6**
TINO	**Tinogasta**	**2.54**	**25**	*eP*	**Pn**	**15 47 42.0**	**+1.6**
AAGR	**Agrelo**	**2.70**	**181**	*eP*	**Pn**	**15 47 42.1**	**-0.4**
AAGR				IAML		15 48 19.6	
	comp=Z,533nm,0.7s						
AAGR	**Agrelo**	**2.70**	**181**	*eP*	**Pn**	**15 47 42.1**	**-0.4**
AAGR				IAML		15 48 19.6	
	comp=Z,533nm,0.7s						
VA03	**San Esteban**	**2.81**	**212**		**Pn**	**15 47 44.4**	**+0.5**
VA03	**San Esteban**	**2.81**	**212**	*eP*	**Pn**	**15 47 43.0**	**-1.0**
VA03				IAML		15 48 29.3	
	comp=Z,804nm,0.5s						
VA03	**San Esteban**	**2.81**	**212**	*eP*	**Pn**	**15 47 43.0**	**-1.0**
VA03				IAML		15 48 29.3	
	comp=Z,804nm,0.5s						
AC04	**Llanos de Chal**	**2.94**	**317**	Pn	**Pn**	**15 47 45.7**	**+0.3**
AC04	**Llanos de Chal**	**2.94**	**317**	*eP*	**Pn**	**15 47 45.8**	**+0.3**
AC04				IAML		15 48 36.9	
	comp=Z,952nm,0.9s						
AC04	**Llanos de Chal**	**2.94**	**317**	*eP*	**Pn**	**15 47 45.8**	**+0.3**
AC04				IAML		15 48 36.9	
	comp=Z,952nm,0.9s						
GO03	**Copiap**	**3.04**	**335**		**Pn**	**15 47 47.5**	**+0.6**
GO03	**Copiap**	**3.04**	**335**	*eP*	**Pn**	**15 47 47.0**	**+0.1**
GO03				*eS*	**Sn**	**15 48 23.5**	**+0.7**
GO03	**Copiap**	**3.04**	**335**	*eP*	**Pn**	**15 47 47.0**	**+0.1**
GO03				*eS*	**Sn**	**15 48 23.5**	**+0.7**
VA06	**Catapilco**	**3.05**	**224**	Pn	**Pn**	**15 47 46.2**	**-0.8**
PEL	**Peldehue**	**3.20**	**210**		**Pn**	**15 47 48.7**	**-0.2**
PEL	**Peldehue**	**3.20**	**210**	*eP*	**Pn**	**15 47 49.0**	**+0.1**
PEL	**Peldehue**	**3.20**	**210**	*eP*	**Pn**	**15 47 49.0**	**+0.1**
ROC1	**El Roble**	**3.21**	**216**		**Pn**	**15 47 48.5**	**-0.8**
CYA	**Choya**	**3.25**	**54**	*eP*	**Pn**	**15 47 50.0**	**+0.4**
CYA				*eS*	**Sn**	**15 48 27.8**	**+0.2**
CYA				IAML		15 48 28.9	
	comp=Z,454nm,0.3s						
CYA	**Choya**	**3.25**	**54**	*eP*	**Pn**	**15 47 50.0**	**+0.4**
CYA				*eS*	**Sn**	**15 48 27.8**	**+0.2**
CYA				IAML		15 48 28.9	
	comp=Z,454nm,0.3s						
AC06	**Mina Casimiro**	**3.30**	**335**	Pn	**Pn**	**15 47 50.6**	**+0.2**
MRA	**San Martin**	**3.33**	**129**	*eP*	**Pn**	**15 47 51.6**	**+0.9**
MRA				*eS*	**Sn**	**15 48 30.1**	**+0.4**
MRA				IAML		15 48 31.6	
	comp=Z,3μm,1.1s						
MRA	**San Martin**	**3.33**	**129**	*eP*	**Pn**	**15 47 51.6**	**+0.9**
MRA				*eS*	**Sn**	**15 48 30.1**	**+0.4**
MRA				IAML		15 48 31.6	
	comp=Z,3μm,1.1s						
MT05	**Renca**	**3.43**	**208**	Pn	**Pn**	**15 47 52.0**	**-0.1**
MT05	**Renca**	**3.43**	**208**	*eP*	**Pn**	**15 47 50.7**	**-1.3**
MT05				IAML		15 48 40.3	
	comp=Z,470nm,0.3s						
MT05	**Renca**	**3.43**	**208**	*eP*	**Pn**	**15 47 50.7**	**-1.3**
MT05				IAML		15 48 40.3	
	comp=Z,470nm,0.3s						
MT03	**Universidad Ad**	**3.44**	**205**		**Pn**	**15 47 52.2**	**+0.1**
MT03	**Universidad Ad**	**3.44**	**205**	*eP*	**Pn**	**15 47 50.7**	**-1.4**
MT03				IAML		15 48 43.2	
	comp=Z,470nm,0.2s						
MT03	**Universidad Ad**	**3.44**	**205**	*eP*	**Pn**	**15 47 50.7**	**-1.4**
MT03				IAML		15 48 43.2	
	comp=Z,470nm,0.2s						
MT02	**Curacav**	**3.50**	**214**		**Pn**	**15 47 51.7**	**-1.3**
MT02	**Curacav**	**3.50**	**214**	*eP*	**Pn**	**15 47 51.6**	**-1.3**
MT02				IAML		15 49 04.0	
	comp=Z,369nm,0.6s						
MT02	**Curacav**	**3.50**	**214**	*eP*	**Pn**	**15 47 51.6**	**-1.3**
MT02				IAML		15 49 04.0	
	comp=Z,369nm,0.6s						
AC02	**Maricunga**	**3.54**	**355**	*eP*	**Pn**	**15 47 54.2**	**+0.3**
AC02				*eS*	**Sn**	**15 48 39.8**	**+4.5**
AC02				IAML		15 48 43.5	
	comp=Z,379nm,0.9s						
AC02	**Maricunga**	**3.54**	**355**	*eP*	**Pn**	**15 47 54.2**	**+0.3**
AC02				*eS*	**Sn**	**15 48 39.8**	**+4.5**
AC02				IAML		15 48 43.5	
	comp=Z,379nm,0.9s						
VA01	**Torpederas**	**3.59**	**222**		**Pn**	**15 47 52.4**	**-1.6**
LMEL	**Las Melosas**	**3.66**	**199**	Pn	**Pn**	**15 47 53.8**	**-1.5**
MT09	**Talagante**	**3.87**	**208**		**Pn**	**15 47 56.7**	**-1.3**
BO04	**La Punta**	**3.92**	**203**		**Pn**	**15 47 57.5**	**-1.1**
VA05	**Santo Domingo**	**4.05**	**215**	Pn	**Pn**	**15 47 58.1**	**-2.3**
MT01	**Popeta**	**4.06**	**210**		**Pn**	**15 47 58.7**	**-1.7**
MT01	**Popeta**	**4.06**	**210**	*eP*	**Pn**	**15 47 58.8**	**-1.6**
MT01				IAML		15 49 02.0	
	comp=Z,173nm,0.5s						
MT01	**Popeta**	**4.06**	**210**	*eP*	**Pn**	**15 47 58.8**	**-1.6**
MT01				IAML		15 49 02.0	
	comp=Z,173nm,0.5s						
BO01	**Tunca**	**4.45**	**205**	Pn	**Pn**	**15 48 03.8**	**-1.8**
BO01	**Tunca**	**4.45**	**205**	*eP*	**Pn**	**15 48 03.9**	**-1.8**
BO01	**Tunca**	**4.45**	**205**	*eP*	**Pn**	**15 48 03.9**	**-1.8**
AC01	**Pan de Azucar**	**4.50**	**339**	Pn	**Pn**	**15 48 06.1**	**-0.3**
AC01	**Pan de Azucar**	**4.50**	**339**	*eP*	**Pn**	**15 48 06.2**	**-0.2**
AC01				IAML		15 49 08.8	
	comp=Z,186nm,0.7s						
AC01	**Pan de Azucar**	**4.50**	**339**	*eP*	**Pn**	**15 48 06.2**	**-0.2**
AC01				IAML		15 49 08.8	
	comp=Z,186nm,0.7s						
BO02	**Sierra Bellavi**	**4.71**	**200**		**Pn**	**15 48 08.3**	**-0.9**
BO02	**Sierra Bellavi**	**4.71**	**200**	*eP*	**Pn**	**15 48 07.9**	**-1.4**
BO02	**Sierra Bellavi**	**4.71**	**200**	*eP*	**Pn**	**15 48 07.9**	**-1.4**
PB14	**IPOC Station P**	**5.90**	**346**	Pn	**Pn**	**15 48 24.0**	**-1.7**
PB10	**IPOC Station P**	**7.01**	**347**	Pn	**Pn**	**15 48 37.8**	**-2.6**
VACA	**Villa Angela C**	**7.59**	**71**	*eP*	**Pn**	**15 48 46.8**	**-1.4**
PB06	**IPOC Station P**	**7.67**	**355**		**Pn**	**15 48 47.2**	**-2.3**
LVC	**Limon Verde**	**7.73**	**359**	P	**Pn**	**15 48 49.3**	**-1.2**
	comp=Z,21nm,0.3s,baz=168,slow=11,SNR=71						
LVC				S	**Sn**	**15 50 12.7**	**-4.0**
	comp=Z,14nm,0.4s,baz=186,slow=18,SNR=1.6						
LVC	**Limon Verde**	**7.73**	**359**	Pn	**Pn**	**15 48 48.9**	**-1.6**
LVC	**Limon Verde**	**7.73**	**359**	*eP*	**Pn**	**15 48 49.3**	**-1.2**
PB03	**IPOC Station P**	**8.34**	**354**		**Pn**	**15 48 55.3**	**-3.2**
PB09	**IPOC Station P**	**8.55**	**357**		**Pn**	**15 48 59.3**	**-2.2**
PB07	**IPOC Station P**	**8.67**	**353**		**Pn**	**15 48 59.2**	**-3.8**
H03N1	**Juan Fernandez**	**9.13**	**248**	P	**Pn**	**15 49 07.9**	**-0.9**
	baz=83,slow=15,SNR=27						
H03N1				T	T	15 56 24.4	
	baz=73,slow=72,SNR=332						
H03N3	**Juan Fernandez**	**9.14**	**248**	P	**Pn**	**15 49 08.0**	**-1.0**
	baz=83,slow=15,SNR=20						
H03N3				T	T	15 56 28.9	
	baz=73,slow=72,SNR=357						
H03N2	**Juan Fernandez**	**9.14**	**248**	P	**Pn**	**15 49 08.3**	**-0.6**
	baz=83,slow=15,SNR=21						
H03N2				T	T	15 56 30.1	
	baz=73,slow=72,SNR=336						
TRQA	**Tornquist**	**9.51**	**145**	Pn	**Pn**	**15 49 12.7**	**-1.6**
PLCA	**Paso Flores**	**10.44**	**187**	P	**Pn**	**15 49 26.2**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=4.7,slow=11,SNR=8.1						
PLCA	**Paso Flores**	**10.44**	**187**	Pn	**Pn**	**15 49 25.6**	**-1.2**
ITQB	**Itaqui**	**10.57**	**89**	Pn	**Pn**	**15 49 26.6**	**-2.1**
ITQB	**Itaqui**	**10.57**	**89**	*eP*	**Pn**	**15 49 25.9**	**-2.7**
CPUP	**Villa Florida**	**10.87**	**71**	P	**Pn**	**15 49 29.7**	**-3.0**
	comp=Z,3.9nm,0.4s,baz=254,slow=12,SNR=12						
CPUP	**Villa Florida**	**10.87**	**71**	Pn	**Pn**	**15 49 29.3**	**-3.4**
PB16	**IPOC Station P**	**12.00**	**357**	Pn	**Pn**	**15 49 45.3**	**-3.1**
LL06	**Loncomilla**	**12.44**	**197**	Pn	**Pn**	**15 49 52.9**	**-0.5**
PLTB	**Pedras Altas**	**13.10**	**100**	Pn	**Pn**	**15 50 00.6**	**-1.6**
PLTB	**Pedras Altas**	**13.10**	**100**	*eP*	**Pn**	**15 49 57.8**	**-4.4**
CRSM	**Crissiumal (Br**	**13.23**	**81**	*eP*	**Pn**	**15 50 03.0**	**-1.0**
CPSB	**Cacapava Do Su**	**13.26**	**94**	*eP*	**Pn**	**15 50 01.8**	**-2.4**
ALGR	**Alto Alegre (B**	**13.81**	**87**	*eP*	**Pn**	**15 50 10.5**	**-1.0**
LPAZ	**La Paz**	**14.03**	**3**	P	**Pn**	**15 50 15.7**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=162,slow=7.2,SNR=4.8						
LPAZ	**La Paz**	**14.03**	**3**	Pn	**Pn**	**15 50 12.2**	**-2.7**
LPAZ	**La Paz**	**14.03**	**3**	*eP*	**Pn**	**15 50 12.4**	**-2.6**
FRBT	**Francisco Belt**	**14.55**	**76**	*eP*	**Pn**	**15 50 21.3**	**+0.3**
ITAB	**Concordia**	**14.94**	**82**		**Pn**	**15 50 25.9**	**0.0**
ITAB	**Concordia**	**14.94**	**82**	*eP*	**Pn**	**15 50 26.2**	**+0.4**
BBSD	**Serra de San D**	**15.10**	**31**	*eP*	**P**	**15 50 29.6**	**-1.0**
CNLB	**Canela**	**15.61**	**91**	*eP*	**Pn**	**15 50 33.4**	**-0.9**
SIV	**San Ignacio**	**15.97**	**28**	P	**P**	**15 50 40.3**	**0.0**
	comp=Z,2.7nm,0.6s,baz=203,slow=8.1,SNR=16						
TER01	**Tubaro-SC**	**17.23**	**89**	*eP*	**P**	**15 50 53.2**	**-0.8**
PCMB	**Pacaembu**	**18.00**	**65**	*eP*	**Pn**	**15 51 04.0**	**+0.4**
FRTB	**Fartura**	**18.52**	**72**	*eP*	**Pn**	**15 51 10.2**	**+0.4**
SALV	**Santo Antonio**	**18.75**	**43**	*eP*	**Pn**	**15 51 12.1**	**-0.4**
VILB	**Vilhena**	**19.07**	**26**	P	**P**	**15 51 14.5**	**+0.2**
VILB	**Vilhena**	**19.07**	**26**	*eP*	**P**	**15 51 14.6**	**+0.2**
ITRB	**Iturama**	**19.77**	**62**	*eP*	**Pn**	**15 51 23.3**	**-1.1**
PET01	**Itanhaem-SP**	**20.04**	**78**	*eP*	**P**	**15 51 24.6**	**-0.2**
SPB	**Sao Paulo**	**20.19**	**76**	*eP*	Pn	**15 51 28.3**	**-0.9**
ETMB	**Extrema**	**20.59**	**7**	P	**P**	**15 51 31.4**	**+0.7**
ETMB	**Extrema**	**20.59**	**7**	*eP*	**P**	**15 51 31.6**	**+0.9**
RCLB	**Rio Claro- Sao**	**20.61**	**72**	*eP*	**P**	**15 51 31.6**	**+0.6**
VAO	**Valinhos**	**20.82**	**75**	*eP*	**P**	**15 51 34.1**	**+0.8**
ARAG	**Araguaiana, MT**	**21.34**	**51**	*eP*	**P**	**15 51 38.4**	**-0.4**
PARB	**Paraibuna**	**21.81**	**77**	*eP*	**P**	**15 51 43.5**	**-0.3**
SAML	**Samuel**	**21.95**	**15**	P	**P**	**15 51 45.5**	**+0.3**
EFI	**East Falkland**	**22.72**	**163**	P	**P**	**15 51 52.4**	**-0.4**
EFI				IAmb	IAmb	15 52 29.4	
	comp=Z,52nm,1.2s						
BDFB	**Brasilia**	**24.04**	**57**	P	**P**	**15 52 05.7**	**+0.2**
	comp=Z,7.5nm,0.6s,baz=238,slow=10.0,SNR=16						
	comp=Z,7.5nm,0.6s						
BDFB	**Brasilia**	**24.04**	**57**	P	**P**	**15 52 05.0**	**-0.5**
BDFB				IAmb	IAmb	15 52 06.4	
	comp=Z,28nm,1.3s						
BDFB	**Brasilia**	**24.04**	**57**	*eP*	**P**	**15 52 05.4**	**-0.1**
JANB	**Januaria**	**27.16**	**61**	*eP*	**P**	**15 52 32.9**	**-0.7**
CMC01	**Camacan, BA**	**30.72**	**67**	*eP*	**P**	**15 53 03.6**	**-1.5**
BOAV	**Boa Vista**	**33.53**	**15**	P	**P**	**15 53 29.2**	**-0.4**
BOAV				IAmb	IAmb	15 53 58.1	
	comp=Z,15nm,1.4s						
RUSC	**La Rusia**	**36.29**	**353**	P	**P**	**15 53 54.6**	**+0.7**
SDV	**Santo Domingo**	**39.07**	**357**	pP	pP	15 54 42.8	0.0
	comp=Z,3.3nm,0.4s,baz=209,slow=6.2,SNR=4.0						
OBIP	**Obispado Ponce**	**48.18**	**3**	P	**P**	**15 55 29.6**	**-0.1**
BELA	**Belgrano 2**	**49.99**	**171**	P	**P**	**15 55 43.8**	**+0.9**
BELA				IAmb	IAmb	15 55 51.5	
	comp=Z,4.5nm,0.8s						
VNA3	**Neumayer Olymp**	**51.72**	**159**	P	**P**	**15 55 56.7**	**+0.8**
VNA1	**Neumayer--Stat**	**51.97**	**158**	P	**P**	**15 55 59.2**	**+1.5**
VNA2	**Neumayer--Watz**	**52.33**	**159**	P	**P**	**15 56 01.2**	**+0.8**
	baz=270,slow=7.0						
SNAA	**Sanae**	**53.94**	**159**	P	**P**	**15 56 12.5**	**+0.2**
SNAA	**Sanae**	**53.94**	**159**	P	**P**	**15 56 12.5**	**+0.2**
SNAA				IAmb	IAmb	15 56 42.2	
	comp=Z,6.7nm,1.1s						
TROLL	**Troll, Antarti**	**55.65**	**159**	P	**P**	**15 56 25.4**	**+0.7**
QSPA	**South Pole Qui**	**59.85**	**180**	P	**P**	**15 56 54.7**	**+0.5**
QSPA				IAmb	IAmb	15 56 56.0	
	comp=Z,5.6nm,0.8s						
TXAR	**Lajitas Array**	**68.04**	**327**	P	**P**	**15 57 47.0**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=156,slow=9.6,SNR=2.2						
TXAR				pP	**pP**	**15 58 14.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=149,slow=6.7,SNR=4.1						
LIC	**Lamto**	**71.00**	**71** ⇓ *iP*		**P**	**15 58 07.0**	**+0.4**
	comp=Z,21nm,0.4s						
TIC	**Toumodi**	**71.25**	**70** ⇑ *iP*		**P**	**15 58 08.9**	**+0.8**
	comp=Z,12nm,0.3s						
KIC	**Kosan Boka**	**71.31**	**71** ⇑ *iP*		**P**	**15 58 09.2**	**+0.8**
	comp=Z,16nm,0.4s						
DBIC	**Dimbokro**	**71.39**	**70**	P	**P**	**15 58 09.5**	**+0.6**
	comp=Z,13nm,0.5s,baz=238,slow=7.0,SNR=34						
	comp=Z,13nm,0.5s						
DBIC	**Dimbokro**	**71.39**	**70**	P	**P**	**15 58 09.3**	**+0.4**
SUR	**Sutherland**	**74.15**	**118**	P	**P**	**15 58 26.7**	**+1.4**
SUR				IAmb	IAmb	15 58 39.3	
	comp=Z,12nm,1.2s						
MAW	**Mawson**	**75.84**	**163**	P	**P**	**15 58 34.5**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=211,slow=6.8,SNR=2.0						
	comp=Z,3.1nm,0.5s						
MAW	**Mawson**	**75.84**	**163**	P	**P**	**15 58 34.4**	**+0.4**
E62A	**Clayton Lake**	**76.64**	**359**	P	**P**	**15 58 40.1**	**+1.5**
E62A				IAmb	IAmb	15 59 22.9	
	comp=Z,7.2nm,0.9s						
D62A	**Allapoint, All**	**77.10**	**360**	P	**P**	**15 58 42.1**	**+0.9**
D62A				IAmb	IAmb	15 58 50.9	
	comp=Z,23nm,1.4s						
BATG	**Bathurst New B**	**77.33**	**2**	P	**P**	**15 58 43.6**	**+1.1**
TSUM	**Tsumeb**	**77.52**	**105**	P	**P**	**15 58 44.8**	**+0.2**
TSUM				IAmb	IAmb	15 58 46.6	
	comp=Z,6.6nm,0.8s						
GRHM	**Grahamstown, E**	**77.91**	**121**	P	**P**	**15 58 47.0**	**+0.6**
ECSD	**EROS Data Cent**	**78.03**	**340**	P	**P**	**15 58 46.6**	**+0.1**
ECSD				IAmb	IAmb	15 58 47.6	
	comp=Z,3.7nm,0.9s						
BOSA	**Boshof**	**79.28**	**117**	P	**P**	**15 58 54.5**	**+0.4**
	comp=Z,4.4nm,0.5s,baz=276,slow=3.8,SNR=19						
	comp=Z,4.4nm,0.5s						
BOSA	**Boshof**	**79.28**	**117**	P	**P**	**15 58 54.3**	**+0.2**
BOSA				IAmb	IAmb	15 59 25.6	
	comp=Z,7.7nm,1.3s						
DRLN	**Deer Lake**	**79.91**	**7**	P	**P**	**15 58 57.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**80.36**	**69**	P	**P**	**15 59 00.3**	**+0.4**
	comp=Z,7.9nm,0.6s,baz=279,slow=6.5,SNR=64						
TORD				pP	**pP**	**15 59 29.8**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=268,slow=5.0,SNR=5.6						
	comp=Z,7.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.36**	**69**	P	**P**	**15 58 59.9**	**0.0**
TORD				IAmb	IAmb	15 59 01.1	
	comp=Z,7.2nm,0.6s						
LBTB	**Lobatse**	**81.29**	**114**	P	**P**	**15 59 05.2**	**+0.3**
NVAR	**Mina Array Bea**	**82.57**	**323**	pP	pP	15 59 40.2	0.0
	comp=Z,0.3nm,0.5s,baz=159,slow=5.6,SNR=2.5						
CASY	**Casey**	**83.66**	**180**	P	**P**	**15 59 17.3**	**+1.0**
CASY				IAmb	IAmb	15 59 18.1	
	comp=Z,5.2nm,0.8s						
RLMT	**Red Lodge**	**83.68**	**332**	P	**P**	**15 59 17.8**	**+0.9**
RLMT				IAmb	IAmb	15 59 18.5	
	comp=Z,2.3nm,0.7s						
HLID	**Hailey**	**84.61**	**329**	P	**P**	**15 59 23.1**	**+1.5**
HLID				IAmb	IAmb	15 59 24.2	
	comp=Z,6.3nm,1.5s						
PLID	**Pearl Lake**	**86.51**	**329**	P	**P**	**15 59 32.0**	**+1.0**
K05A	**Summer Lake**	**87.07**	**324**	P	**P**	**15 59 34.8**	**+1.1**
K05A				IAmb	IAmb	15 59 36.4	
	comp=Z,6.2nm,1.1s						
HUMO	**Hull Mountain**	**88.04**	**323**	P	**P**	**15 59 39.6**	**+1.5**
HUMO				IAmb	IAmb	15 59 50.6	
	comp=Z,6.3nm,1.2s						
ESDC	**Sonseca Array**	**92.08**	**44**	P	**P**	**15 59 57.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=234,slow=3.6,SNR=4.9						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**99.55**	**340**	P	**Pdif**	**16 00 30.4**	**0.0**
	comp=Z,0.1nm,0.5s,baz=142,slow=4.6,SNR=3.1						
	comp=Z,0.1nm,0.5s						
AKASG	**Malin Array Be**	**117.71**	**45**	PKP	**PKiKP**	**16 05 32.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=264,slow=2.8,SNR=8.5						
ASAR	**Alice Springs**	**122.02**	**205**	PKP	**PKiKP**	**16 05 42.0**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=132,slow=1.8,SNR=14						
ASAR				PKKPbc	**PKKPbc**	**16 15 39.5**	**-0.1**
	comp=Z,1.1nm,1.1s,baz=342,slow=3.6,SNR=8.4						
WRA	**Warramunga Arr**	**125.24**	**207**	PKP	**PKiKP**	**16 05 48.5**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=158,slow=1.6,SNR=18						
WRA				pPKP	**pPKPdf**	**16 06 19.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=164,slow=1.6,SNR=2.3						
SIJI	**Sorong**	**143.52**	**215**	PKP	**PKPdf**	**16 06 21.1**	**-1.8**
	comp=Z,2.3nm,0.5s,baz=339,slow=5.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**149.70**	**31**	PKPbc	**PKiKP**	**16 06 37.6**	**-0.1**
	comp=Z,20nm,0.4s,baz=309,slow=3.3,SNR=41						
ZALV				pPKPbc	**pPKPbc**	**16 07 07.7**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=314,slow=2.4,SNR=2.4						
KSH	**Kashi**	**149.87**	**63**	PKPbc	**PKiKP**	**16 06 37.8**	**-0.9**
MKAR	**Makanchi Array**	**152.29**	**46**	PKPbc	**PKiKP**	**16 06 43.5**	**+0.2**
	comp=Z,6.1nm,0.4s,baz=299,slow=1.4,SNR=176						
MKAR				PKPab	**PKPab**	**16 06 54.2**	**+0.8**
	comp=Z,4.3nm,0.6s,baz=302,slow=3.0,SNR=14						
MKAR				pPKPbc	**pPKPbc**	**16 07 14.0**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=302,slow=1.1,SNR=3.1						
CMAR	**Chiang Mai Arr**	**163.72**	**134**	PKPab	**PKPab**	**16 07 43.2**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=234,slow=5.6,SNR=5.1						
PZH	**PanZhiHua**	**170.82**	**113**	PKP	**PKPdf**	**16 06 55.8**	**-0.2**

*IDC **29** 16:01:17.3±4.5, 15°.68S×172°.96W, h0km, mb3.7/4, mbtmp3.7/5, ML4.3/1, Error ellipse: s-maj=202.2km s-min=23.2km az=136.0*

*NOU **29** 16:01:36.1, 14°.17S×172°.34W, h100km, MLv3.8/4, Samoa Islands*

ISC 29 16:01:22.7±3.5, 15°.3S±0°.9×173°.1W±0°.9, h35km, n11, σ2s41/6, mb3.6/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.87**	**41**	Pn	**Pn**	**16 01 53.6**	**+1.3**
	93nm,0.3s,baz=216,slow=19,SNR=149						
AFI				Sn	**Sn**	**16 02 11.7**	**-3.1**
	276nm,0.3s,baz=228,slow=10,SNR=21						
	210nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.08**	**329**	T	T	16 49 33.2	
	baz=146,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**39.09**	**329**	T	T	16 49 29.0	
	baz=146,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**39.10**	**329**	T	T	16 49 30.3	
	baz=146,slow=76,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**40.02**	**330**	T	T	16 51 19.0	
	baz=144,slow=76						
H11N1	**WAKE ISLAND Hy**	**40.02**	**330**	T	T	16 51 20.2	
	baz=144						
H11N2	**WAKE ISLAND Hy**	**40.04**	**330**	T	T	16 51 26.1	
	baz=144,slow=76						
STKA	**Stephens Creek**	**44.37**	**240**	P	**P**	**16 09 28.6**	**-1.3**
	0.8nm,0.5s,baz=59,slow=5.9,SNR=1.8						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**50.19**	**257**	P	**P**	**16 10 15.1**	**-0.3**
	0.2nm,0.4s,baz=93,slow=6.9,SNR=4.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**	**16 10 17.1**	**-0.4**
	0.5nm,0.3s,baz=89,slow=7.6,SNR=38						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**82.31**	**11**	P	**P**	**16 13 42.4**	**+2.1**
	0.5nm,1.1s,baz=226,slow=7.5,S

141nm,0.3s,baz=86,slow=16,SNR=2.5
RAO Sn **Sn** **16 10 56.9 -0.5**
1µm,0.3s,baz=356,slow=22,SNR=12
STKA Stephens Creek 34.31 256 P **P** **16 17 22.2 +0.2**
0.6nm,0.4s,baz=98,slow=16,SNR=3.5
0.6nm,0.4s
ASAR Alice Springs 42.74 266 P **P** **16 18 33.2 +0.2**
0.4nm,0.5s,baz=105,slow=7.2,SNR=8.6
0.4nm,0.5s
WRA Warramunga Arr 43.63 271 P **P** **16 18 40.8 +0.6**
1.2nm,0.6s,baz=110,slow=7.7,SNR=7.1
1.2nm,0.6s
H03N3 Juan Fernandez 81.61 124 T T 17 50 30.5
baz=238,slow=72
H03N2 Juan Fernandez 81.61 124 T T 17 50 25.9
baz=238,slow=72
H03N1 Juan Fernandez 81.62 124 T T 17 50 22.1
baz=238,slow=72
MKAR Makanchi Array 116.75 311 PKiKP **PKPdf** **16 29 19.0 -0.6**
0.2nm,0.7s,baz=82,slow=2.5,SNR=2.1
FINES FINESS Array B 143.99 340 PKhKP PKPpre 16 30 03.1
1.7nm,0.6s,baz=80,slow=2.1,SNR=6.5
FINES PKP **PKPab** **16 30 07.7 +0.1**
1.7nm,0.5s,baz=46,slow=4.0,SNR=2.2
NOA NORSAR Array B 147.63 351 PKPbc **PKPdf** **16 30 17.6 +1.1**
1.2nm,0.9s,baz=15,slow=4.2,SNR=2.3
AKASG Malin Array Be 150.19 323 PKPbc **PKPbc** **16 30 24.9 -1.2**
0.7nm,0.5s,baz=46,slow=2.8,SNR=6.6
BRTR Keskin Array B 151.70 300 PKPbc **PKPbc** **16 30 29.5 -0.7**
1.8nm,1.1s,baz=45,slow=2.2,SNR=2.1
TORD Torodi Ar. Bea 163.90 181 PKPab **PKPab** **16 31 31.4 -0.3**
0.3nm,0.5s,baz=173,slow=4.4,SNR=2.5

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*WEL **29** 16:17:05.0±0.4, 42°S×17°4E±°, h6km±3km, M2.8/17, ML3.0/19, MLv2.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=150.1, confirmed*
*NOU **29** 16:17:05.0, 42°10S×174°40E, h16km, MLv3.5/9, Off E. Coast of S. Island, N.Z.*
ISC 29 16:17:04.2±1.1, 41°99S±0°03×174°22E±0°03, h10km±9km, n68, σ1°916/77, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.24**	**359**	P		**P**	**Pg**	**16 17 09.3**	**+0.2**
CMWZ				S		**S**	**Sg**	**16 17 12.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.38**	**317**	P		**P**	**Pg**	**16 17 10.9**	**-0.7**
BSWZ				S		**S**	**Sg**	**16 17 16.0**	**-0.6**
KHZ	**Kahutara**	**0.66**	**230**	P		**P**	**Pn**	**16 17 19.8**	**+0.3**
KHZ	**Kahutara**	**0.66**	**230**	P		**P**	**Pn**	**16 17 19.5**	**0.0**
KHZ				S		**S**	**Sn**	**16 17 30.0**	**0.0**
SNZO	**South Karori**	**0.77**	**28**	P		**P**	**Pb**	**16 17 20.3**	**+0.7**
TCW	**Tory Channel**	**0.78**	**3**	P		**P**	**Pb**	**16 17 18.7**	**-1.0**
TCW				S		**S**	**Sg**	**16 17 30.0**	**+0.6**
PLWZ	**Palliser**	**0.88**	**62**	P		**P**	**Pn**	**16 17 23.1**	**+0.5**
NNZ	**Nelson**	**0.99**	**320**	P		**P**	**Pb**	**16 17 22.4**	**-1.1**
NNZ				S		**S**	**Sb**	**16 17 35.2**	**-1.4**
THZ	**Tophouse**	**1.01**	**283**	P		**P**	**Pb**	**16 17 23.3**	**-0.4**
THZ				S		**S**	**Sb**	**16 17 36.2**	**-0.8**
CAW	**Cannon Point**	**1.09**	**36**	P		**P**	**Pg**	**16 17 25.7**	**+0.7**
CAW				S		**S**	**Sn**	**16 17 40.9**	**+0.5**
PAWZ	**Paruwai Farm**	**1.09**	**57**	P		**P**	**Pg**	**16 17 25.6**	**+0.5**
DUWZ	**D'Urville Isla**	**1.21**	**349**	P		**P**	**Pn**	**16 17 26.0**	**-1.1**
KIW	**Kapiti Island**	**1.24**	**25**	P		**P**	**Pb**	**16 17 27.8**	**+0.2**
KIW				S		**S**	**Sg**	**16 17 45.1**	**+1.0**
MRNZ	**Matariki Terra**	**1.24**	**298**	P		**P**	**Pn**	**16 17 27.4**	**-0.2**
MRNZ				S		**S**	**Sn**	**16 17 43.9**	**-0.4**
TRWZ	**Traveller**	**1.25**	**62**	P		**P**	**Pg**	**16 17 27.7**	**-0.4**
MTW	**Mount Morrison**	**1.27**	**52**	P		**P**	**Pb**	**16 17 27.9**	**-0.2**
GVZ	**Greta Valley S**	**1.31**	**221**	P		**P**	**Pb**	**16 17 29.7**	**+0.8**
TKNZ	**Takaka Hill**	**1.34**	**315**	P		**P**	**Pn**	**16 17 28.5**	**-0.5**
OGWZ	**Otaki Gorge**	**1.37**	**32**	P		**P**	**Pn**	**16 17 29.6**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.46**	**42**	P		**P**	**Pn**	**16 17 30.5**	**0.0**
TMWZ	**Te Maipa**	**1.53**	**55**	P		**P**	**Pn**	**16 17 31.4**	**-0.2**
LTZ	**Lake Taylor**	**1.65**	**241**	P		**P**	**Pn**	**16 17 34.0**	**+0.9**
AMCZ	**Amberley**	**1.66**	**224**	P		**P**	**Pn**	**16 17 33.9**	**+0.7**
MRZ	**Mangatainoka R**	**1.68**	**38**	P		**P**	**Pn**	**16 17 33.5**	**0.0**
QRZ	**Quartz Range**	**1.72**	**312**	P		**P**	**Pn**	**16 17 35.6**	**+1.5**
QRZ	**Quartz Range**	**1.72**	**312**	P		**P**	**Pn**	**16 17 35.1**	**+0.9**
TIWZ	**Tintock**	**1.74**	**47**	P		**P**	**Pn**	**16 17 34.1**	**-0.3**
DSZ	**Denniston Nort**	**1.82**	**277**	P		**P**	**Pn**	**16 17 37.0**	**+1.5**
OKCZ	**Okains Bay**	**1.93**	**206**	P		**P**	**Pn**	**16 17 37.5**	**+0.5**
PRWZ	**Pori Road**	**1.95**	**43**	P		**P**	**Pn**	**16 17 36.9**	**-0.3**
POWZ	**Post Office Ro**	**1.98**	**37**	P		**P**	**Pn**	**16 17 37.7**	**+0.1**
BFZ	**Birch Farm**	**2.01**	**50**	P		**P**	**Pn**	**16 17 37.9**	**-0.2**
BFZ	**Birch Farm**	**2.01**	**50**	P		**P**	**Pn**	**16 17 37.3**	**-0.8**
MQZ	**McQueen's Vall**	**2.07**	**213**	P		**P**	**Pn**	**16 17 38.6**	**-0.3**
OXZ	**Oxford**	**2.09**	**330**	P		**P**	**Pn**	**16 17 39.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**2.11**	**207**	P		**P**	**Pn**	**16 17 39.6**	**+0.1**
INZ	**Inchbonnie**	**2.19**	**249**	P		**P**	**Pn**	**16 17 42.0**	**+1.5**
WAZ	**Wanganui**	**2.31**	**15**	P		**P**	**Pb**	**16 17 45.1**	**-0.8**
RACZ	**Rakaia**	**2.31**	**221**	P		**P**	**Pn**	**16 17 42.6**	**+0.4**
LREZ	**Lake Rotokare**	**2.53**	**3**	P		**P**	**Pb**	**16 17 49.1**	**-0.5**
WACZ	**Wakanui South**	**2.62**	**221**	P		**P**	**Pn**	**16 17 46.8**	**+0.4**
KHEZ	**Kahui Hut**	**2.70**	**357**	P		**P**	**Pn**	**16 17 50.4**	**+2.8**
KHEZ	**Kahui Hut**	**2.70**	**357**	P		**P**	**Pb**	**16 17 51.5**	**-1.0**
NEZ	**North Egmont**	**2.72**	**358**	P		**P**	**Pb**	**16 17 52.4**	**-0.5**
NBEZ	**Newall Road No**	**2.73**	**354**	P		**P**	**Pb**	**16 17 52.4**	**-0.6**
MTVZ	**Mangateitei**	**2.77**	**20**	P		**P**	**Pn**	**16 17 51.3**	**+2.7**
WVZ	**Waitaha Valley**	**2.79**	**246**	P		**P**	**Pn**	**16 17 50.2**	**+1.4**
PKE	**Pukeiti**	**2.80**	**356**	P		**P**	**Pb**	**16 17 52.6**	**-1.6**
MOVZ	**Moawhango**	**2.83**	**25**	P		**P**	**Pb**	**16 17 53.8**	**-1.0**
KRHZ	**Kereru**	**2.85**	**36**	P		**P**	**Pn**	**16 17 48.8**	**-0.9**
WNVZ	**Wahianoa**	**2.86**	**22**	P		**P**	**Pn**	**16 17 50.9**	**+1.0**
BHHZ	**Black Hill Sta**	**2.86**	**30**	P		**P**	**Pn**	**16 17 50.3**	**+0.4**
TRVZ	**Turoa**	**2.87**	**21**	P		**P**	**Pb**	**16 17 53.7**	**-1.8**
VRZ	**Vera Road**	**2.89**	**8**	P		**P**	**Pn**	**16 17 53.6**	**+3.4**
RPZ	**Rata Peaks**	**2.90**	**232**	P		**P**	**Pn**	**16 17 50.6**	**+0.3**
RPZ	**Rata Peaks**	**2.90**	**232**	P		**P**	**Pn**	**16 17 50.6**	**+0.3**
NGZ	**Ngauruhoe**	**3.00**	**21**	P		**P**	**Pb**	**16 17 55.7**	**-2.1**
SNVZ	**South Ngauruho**	**3.00**	**22**	P		**P**	**Pn**	**16 17 54.6**	**+2.7**
OTVZ	**Oturere**	**3.03**	**22**	P		**P**	**Pn**	**16 17 53.3**	**+1.0**
NNVZ	**North Ngauruho**	**3.04**	**21**	P		**P**	**Pn**	**16 17 54.0**	**+1.5**
TMVZ	**Te Maari**	**3.08**	**22**	P		**P**	**Pn**	**16 17 54.0**	**+1.0**
NTVZ	**North Tongarir**	**3.09**	**22**	P		**P**	**Pn**	**16 17 54.2**	**+1.2**
GCSZ	**Gaunt Creek Bo**	**3.16**	**244**	P		**P**	**Pn**	**16 17 55.9**	**+2.0**
BKZ	**Black Stump Fm**	**3.31**	**32**	P		**P**	**Pn**	**16 17 55.7**	**-0.3**
TMZ	**Timaru**	**3.35**	**223**	P		**P**	**Pn**	**16 17 56.8**	**+0.2**
HIZ	**Hauiti**	**3.50**	**8**	P		**P**	**Pn**	**16 18 01.0**	**+2.4**
HIZ	**Hauiti**	**3.50**	**8**	P		**P**	**Pn**	**16 18 01.8**	**+3.2**
ODZ	**Otahua Downs**	**4.01**	**219**	P		**P**	**Pn**	**16 18 05.8**	**+0.2**

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*HEL **29** 16:18:06.2±0.2, 67°19N×20°63E, h0km, ML1.4, Explosion*
*BER **29** 16:18:06.1±1.8, 67°00N×20°78E, h0km, ML1.5, Suspected explosion*
*UPP **29** 16:18:06.1±0.1, 67°17N×20°75E, h0km, ML2.5, Confirmed Induced event*
ISC 29 16:18:05.0±0.9, 67°21N±0°02×20°78E±0°03, h0km, n24, σ0°855/36, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.12**	**224**	S		**S**	**Sg**	**16 18 09.3**	**+0.6**
MASU	**Masugnsbyn**	**0.54**	**61**	P		**P**	**Pb**	**16 18 16.8**	**-0.5**
MASU				S		**S**	**Sb**	**16 18 24.9**	**-0.6**
ERTU	**Ertsjaerv**	**0.86**	**139**	P		**P**	**Pg**	**16 18 21.5**	**+0.1**
ERTU				S		**S**	**Sb**	**16 18 34.1**	**-0.7**
ERTU	**Ertsjaerv**	**0.86**	**139**	*eP*		**P**	**Pg**	**16 18 21.6**	**+0.1**
ERTU				*eS*		**S**	**Sg**	**16 18 35.5**	**+0.9**
SALU	**Saltoluokta**	**0.90**	**282**	*e*		**P**	**Pb**	**16 18 21.2**	**-1.0**
PAJU	**Pajala**	**0.93**	**100**	P		**P**	**Pb**	**16 18 23.8**	**-0.2**
LANU	**Lannavaara**	**0.97**	**28**	*eP*		**P**	**Pb**	**16 18 24.2**	**-0.4**
HARU	**Harads**	**1.05**	**176**	P		**P**	**Pg**	**16 18 25.2**	**+0.2**
KLF	**Kolari**	**1.24**	**87**	*eP*		**P**	**Pb**	**16 18 29.2**	**0.0**
KLF				*eS*		**S**	**Sn**	**16 18 46.6**	**-0.3**
HEF	**Hetta**	**1.63**	**41**	*eP*		**P**	**Pg**	**16 18 36.6**	**+0.4**
HEF				*eS*		**S**	**Sg**	**16 18 57.4**	**+0.1**
HEF	**Hetta**	**1.63**	**41**	*eP*		**P**	**Pb**	**16 18 35.6**	**-0.2**
HEF				*eS*		**S**	**Sg**	**16 18 57.4**	**+0.1**
HEF				MSG				16 19 01.3	
	comp=Z,1.5nm,0.2s								
KALU	**Kalix**	**1.70**	**141**	P		**P**	**Pg**	**16 18 37.4**	**-0.1**
KALU	**Kalix**	**1.70**	**141**	*ePN*		**P**	**Pg**	**16 18 37.8**	**+0.2**
SJUU	**Sjulsmark**	**1.74**	**169**	P		**P**	**Pb**	**16 18 37.7**	**0.0**
KIF	**Kilpisjarvi**	**1.81**	**0**	*eP*		**P**	**Pb**	**16 18 38.7**	**-0.2**
KIF				*eS*		**S**	**Sg**	**16 19 05.0**	**+2.0**
KIF	**Kilpisjarvi**	**1.81**	**0**	*eP*		**P**	**Pb**	**16 18 38.7**	**-0.2**
KIF				*eS*		**S**	**Sg**	**16 19 03.5**	**+0.6**
KIF				MSG				16 19 08.2	
	comp=Z,3.5nm,0.2s								
TOF	**Tornio**	**1.81**	**127**	*ePG*		**P**	**Pg**	**16 18 39.5**	**-0.1**
TOF				*eSG*		**S**	**Sg**	**16 19 03.1**	**+0.1**
LILU	**Lilltraesk**	**1.96**	**191**	P		**P**	**Pb**	**16 18 41.1**	**-0.5**
KTK1	**Kautokeino**	**2.04**	**26**	*eP*		**P**	**Pb**	**16 18 42.9**	**+0.1**
KTK1				*eS*		**S**	**Sg**	**16 19 10.4**	**+0.1**
KTK1				IAML				16 19 12.9	
	comp=Z,6.3nm,0.5s								
KTK1	**Kautokeino**	**2.04**	**26**	*eP*		**P**	**Pb**	**16 18 42.4**	**-0.4**
FAUS	**Fauske**	**2.14**	**277**	*e*		**P**	**Pb**	**16 18 44.5**	**0.0**
FAUS				*eSg*		**S**	**Sg**	**16 19 13.7**	**+0.1**
RNF	**Rovaniemi**	**2.15**	**104**	*ePB*		**P**	**Pb**	**16 18 44.4**	**-0.3**
SGF	**Sodankyl**	**2.24**	**81**	*ePB*		**P**	**Pb**	**16 18 46.5**	**+0.3**
SGF				*eSG*		**S**	**Sg**	**16 19 16.8**	**-0.1**
SGF				MSG				16 19 18.8	
	comp=Z,1.7nm,0.2s								
MOR8	**Moi Rana**	**2.73**	**251**	*eSg*		**S**	**Sn**	**16 19 24.5**	**+0.9**

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*IDC **29** 16:24:30.4±2.8, 30°15S×177°43W, h0km, mb3.9/3, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=55.1km s-min=21.3km az=91.0*
*NEIC **29** 16:24:30.7±1.0, 30°18S±0°05×177°3W±0°2, h10km±2km, mb4.4/8, Error ellipse: s-maj=27.8km s-min=8.6km az=85.0*
ISC 29 16:24:31.5±2.2, 30°26S±0°07×177°4W±0°3, h10km, n17, σ1°838/19, mb4.2/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**337**	Pn		**Pn**	**Pn**	**16 24 52.0**	**-0.9**
	370nm,0.3s,baz=169,slow=23,SNR=12								
RAO				Sn		**Sg**	**Sg**	**16 25 05.7**	**-1.1**
	361nm,0.3s,baz=286,slow=22,SNR=6.1								
RAO	**Raoul Island**	**1.10**	**337**			**Pn**	**Pn**	**16 24 52.0**	**-0.9**
URZ	**Urewera**	**9.17**	**208**	Pn		**Pn**	**Pn**	**16 26 43.3**	**-0.5**
	0.1nm,0.3s,baz=75,slow=22,SNR=1.3								
URZ				Sn		**Sn**	**Sn**	**16 28 24.1**	**-3.0**
	0.9nm,0.3s,baz=284,slow=22,SNR=9.7								
	1.2nm,0.3s								
RTZ	**Ruatahuna**	**9.53**	**208**	Pn		**Pn**	**Pn**	**16 26 49.1**	**+0.3**
LTZ	**Lake Taylor**	**14.98**	**211**	Pn		**Pn**	**Pn**	**16 28 03.4**	**+0.1**
OXZ	**Oxford**	**15.52**	**210**	Pn		**Pn**	**Pn**	**16 28 10.8**	**+0.5**
OXZ				IAmb		IAmb	IAmb	16 28 33.7	
	comp=Z,37nm,1.3s								
RPZ	**Rata Peaks**	**16.26**	**211**	Pn		**Pn**	**Pn**	**16 28 20.6**	**+0.7**
EIDS	**Eidsvold**	**28.23**	**272**	P		**P**	**P**	**16 30 24.3**	**-0.5**
EIDS				IAmb		IAmb	IAmb	16 30 49.3	
	comp=Z,14nm,1.4s								
CTA	**Charters Tower**	**34.27**	**279**	P		**P**	**P**	**16 31 21.2**	**+3.2**
	comp=Z,2.7nm,0.8s,baz=100,slow=10,SNR=1.4								
STKA	**Stephens Creek**	**35.00**	**257**	P		**P**	**P**	**16 31 26.5**	**+2.3**
	comp=Z,1.5nm,0.7s,baz=94,slow=9.6,SNR=4.0								
	comp=Z,1.5nm,0.7s								
BBOO	**Buckleboo**	**39.49**	**254**	P		**P**	**P**	**16 32 03.1**	**+0.8**
BBOO				IAmb		IAmb	IAmb	16 32 08.8	
	comp=Z,12nm,1.5s								
ASAR	**Alice Springs**	**43.62**	**267**	P		**P**	**P**	**16 32 36.4**	**0.0**
	comp=Z,0.8nm,0.9s,baz=106,slow=7.3,SNR=13								
	comp=Z,0.8nm,0.9s								
WR0	**Warramunga Arr**	**44.41**	**272**	P		**P**	**P**	**16 32 42.4**	**-0.3**
WR0				IAmb		IAmb	IAmb	16 33 21.8	
	comp=Z,8.0nm,1.5s								
WB2	**Warramunga Arr**	**44.59**	**272**	P		**P**	**P**	**16 32 43.8**	**-0.3**
WRA	**Warramunga Arr**	**44.59**	**272**	P		**P**	**P**	**16 32 44.0**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=111,slow=7.6,SNR=11								
	comp=Z,1.1nm,0.5s								
WB0	**Warramunga Arr**	**44.62**	**272**	P		**P**	**P**	**16 32 44.2**	**-0.1**
FINES	**FINESS Array B**	**145.19**	**340**	PKPbc		**PKPdf**	**PKPdf**	**16 44 07.6**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=64,slow=3.2,SNR=7.4								

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*IDC **29** 16:24:34.7±3.6, 5°70S×152°02E, h51km±24km, mb3.4/5, mbtmp3.7/6, ML2.1/1, Error ellipse: s-maj=57.6km s-min=10.1km az=114.0*
ISC 29 16:24:33.7±1.6, 5°7S±0°1×152°1E±0°2, h45km, n8, σ0°859/10, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.41**	**356**	P		**P**	**Pn**	**16 24 57.0**	**+0.1**
	1µm,0.3s,baz=280,slow=1.7,SNR=552								
KRVT				S			**Sn**	**16 25 15.0**	**+0.6**
	2µm,0.3s,baz=155,slow=23,SNR=9.6								
PMG	**Port Moresby**	**6.13**	**233**	P		**P**	**Pn**	**16 26 02.7**	**+0.9**
	2.8nm,0.3s,baz=42,slow=8.0,SNR=12								
PMG				S			**Sn**	**16 27 10.0**	**-0.7**
	9.7nm,0.7s,baz=128,slow=20,SNR=1.7								
	22nm,0.7s								
WRA	**Warramunga Arr**	**22.33**	**229**	P		**P**	**P**	**16 29 27.6**	**-0.3**
	1.2nm,0.8s,baz=53,slow=9.9,SNR=10.0								
	1.2nm,0.8s								
ASAR	**Alice Springs**	**25.02**	**223**	P		**P**	**P**	**16 29 53.9**	**+0.2**
	3.0nm,0.7s,baz=57,slow=8.7,SNR=42								
	3.0nm,0.7s								
SONM	**Songino Array**	**66.75**	**328**	P		**P**	**P**	**16 35 20.2**	**-0.3**
	0.4nm,0.6s,baz=122,slow=6.4,SNR=3.0								
	0.4nm,0.6s								
MKAR	**Makanchi Array**	**80.58**	**319**	P		**P**	**P**	**16 36 41.0**	**-0.5**
	0.3nm,0.9s,baz=92,slow=7.2,SNR=2.3								
	0.3nm,0.9s								
ILAR	**Eielson Array**	**83.26**	**22**	P		**P**	**P**	**16 36 55.2**	**0.0**
	0.3nm,0.7s,baz=244,slow=5.0,SNR=7.2								
	0.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**149.94**	**286**	PKPbc		**PKPbc**	**PKPbc**	**16 44 20.6**	**+0.4**
	1.4nm,0.7s,baz=71,slow=2.9,SNR=7.2								

ROM 29 16:27:20.4±0.1, 43°637N±0°006×12°089E±0°004, h9km, ML0.7/2, 1C, Error ellipse: s-maj=0.7km s-min=0.2km az=180.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SSP9	**Sansepolcro**	**0.07**	**154**	P		P	Pg	16 27 22.9	+0.3
SSP9				S		S	Sg	16 27 24.6	+0.5
CRE	**Caprese Michel**	**0.10**	**260**	⇑P		P	Pg	16 27 23.5	+0.4
CRE				S		S	Sg	16 27 25.4	+0.4
CRE				AML		AML			
	comp=N,120µm,0.2s								
CRE				AML		AML			
	comp=E,50µm,0.5s								
PARC	**Parchiule**	**0.11**	**84**	P		P	Pg	16 27 23.6	+0.5
PARC				S		S	Sg	16 27 25.6	+0.6
PARC				AML		AML			
	comp=N,79µm,0.5s								
PARC				AML		AML			
	comp=N,79µm,1.5s								
PARC				AML		AML			
	comp=E,40µm,0.3s								
BADI	**Badiali**	**0.17**	**138**	P		P	Pg	16 27 24.7	+0.6
PIEI	**Pieia**	**0.34**	**107**	P		P	Pg	16 27 27.7	+0.5
PIEI				S		S	Sb	16 27 33.5	-0.7

ROM 29 16:28:16.2±0.2, 43°029N±0°007×13°08E±0°01, h10km±1km, ML1.5/11, 6C-3D, Error ellipse: s-maj=0.9km s-min=0.6km az=303.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.01**	**22**	P		P	Pg	16 28 17.7	-0.3
FDMO				S		S	Sg	16 28 18.3	-0.9
T1220	**Camerino, Fraz**	**0.08**	**3**	⇑P		P	Pg	16 28 18.9	+0.4
T1220				S		S	Sg	16 28 21.4	+1.1
T1220				AML		AML			
	comp=E,2425µm,1.2s								
T1220				AML		AML			
	comp=N,2225µm,0.5s								
T1220				AML		AML			
	comp=E,2425µm,1.2s								
T1220				AML		AML			
	comp=E,2425µm,1.2s								
T1220				AML		AML			
	comp=N,2260µm,0.5s								
T1220				AML		AML			
	comp=N,2225µm,0.5s								
T1220				AML		AML			
	comp=E,2425µm,0.8s								
T1220				AML		AML			
	comp=E,2425µm,0.8s								
CSP1	**Cessapalombo**	**0.11**	**55**	⇑P		P	Pg	16 28 19.3	+0.3
CSP1				S		S	Sg	16 28 21.6	+0.6
CSP1				AML		AML			
	comp=E,382µm,0.7s								
CSP1				AML		AML			
	comp=N,363µm,0.5s								
CSP1				AML		AML			
	comp=E,382µm,1.3s								
CESI	**CESI - Serrava**	**0.13**	**260**	⇑P		P	Pg	16 28 20.0	+0.7
CESI				S		S	Sg	16 28 22.6	+1.1
CESI				AML		AML			
	comp=E,190µm,0.5s								
CESI				AML		AML			
	comp=N,158µm,0.4s								
CESI				AML		AML			
	comp=E,190µm,1.5s								
MC2	**Monte Cornacci**	**0.14**	**146**	P		P	Pg	16 28 19.7	+0.3
MC2				S		S	Sg	16 28 23.1	+1.3
T1216	**Preci, Frazion**	**0.15**	**199**	⇓P		P	Pg	16 28 19.9	+0.5
T1216				S		S	Sg	16 28 22.8	+1.0
T1216				AML		AML			
	comp=E,238µm,0.1s								
T1216				AML		AML			
	comp=N,247µm,0.3s								
T1245	**Castelsantange**	**0.19**	**156**	⇓P		P	Pg	16 28 20.6	+0.4
T1245				S		S	Sg	16 28 24.4	+1.4
T1245				AML		AML			
	comp=E,168µm,0.7s								
T1245				AML		AML			
	comp=N,202µm,1.2s								
T1245				AML		AML			
	comp=N,202µm,0.8s								
SNTG	**Esanatoglia**	**0.25**	**335**	P		P	Pg	16 28 22.1	+0.8
SNTG				AML		AML			
	comp=N,98µm,1.2s								
SNTG				AML		AML			
	comp=N,98µm,0.8s								
SNTG				AML		AML			
	comp=E,124µm,0.4s								
T1215	**Vallo di Nera,**	**0.28**	**215**	⇑P		P	Pg	16 28 22.3	+0.6
T1215				S		S	Sb	16 28 26.9	-1.2
T1212	**Cascia, Frazio**	**0.28**	**186**	⇑P		P	Pg	16 28 22.2	+0.4
T1212				AML		AML			
	comp=E,113µm,1.5s								
T1212				AML		AML			
	comp=N,98µm,0.3s								
T1212				AML		AML			
	comp=E,113µm,0.5s								
EL6	**Elcito**	**0.30**	**3**	⇑P		P	Pg	16 28 21.4	-0.8
ASSB	**Assisi San Ben**	**0.31**	**273**	⇓P		P	Pb	16 28 23.3	-0.6
ASSB				AML		AML			
	comp=E,123µm,1.4s								
ASSB				AML		AML			
	comp=N,124µm,0.2s								
ASSB				AML		AML			
	comp=E,123µm,0.6s								
CING	**Cingoli**	**0.36**	**13**	S		Sb	Sb	16 28 29.9	-0.4
CING				AML		AML			
	comp=E,65µm,0.6s								
CING				AML		AML			
	comp=N,60µm,1.3s								
CING				AML		AML			
	comp=N,60µm,0.7s								
T1218	**Civita (PG)**	**0.36**	**176**	P		P	Pg	16 28 23.5	+0.2
T1218				AML		AML			
	comp=N,150µm,0.9s								
T1218				AML		AML			
	comp=E,89µm,0.1s								
T1218				AML		AML			
	comp=N,150µm,1.1s								
ARVD	**Arcevia**	**0.48**	**348**	P		P	Pb	16 28 26.6	-0.2
ARVD				AML		AML			
	comp=E,536µm,0.5s								
ARVD				AML		AML			
	comp=N,461µm,0.4s								
ARVD				AML		AML			
	comp=E,536µm,1.5s								

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*ROM **29** 16:28:18.3±0.1, 43°624N±0°004×12°090E±0°005, h8km, ML2.7/53, Error ellipse: s-maj=0.6km s-min=0.1km az=202.0*
*PRU **29** 16:28:20.1±0.0, 43°57N×12°06E, h10km*
ISC 29 16:28:18.6±0.8, 43°61N±0°02×12°07E±0°02, h10km±5km, n78, σ0°896/90, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SSP9	**Sansepolcro**	**0.06**	**123**	P		**P**	**Pg**	**16 28 20.5**	**-0.2**
SSP9				S		**S**	**Sg**	**16 28 22.3**	**+0.1**
SSP9				AML		AML			
	comp=E,14100µm,0.4s								
SSP9				AML		AML			
	comp=N,13600µm,0.5s								
SSP9				AML		AML			
	comp=N,13550µm,0.5s								
CRE	**Caprese Michel**	**0.09**	**280**	P		**P**	**Pg**	**16 28 20.9**	**-0.2**
CRE				S		**S**	**Sg**	**16 28 22.9**	**-0.1**
CRE				AML		AML			
	comp=E,9725µm,0.6s								
CRE				AML		AML			
	comp=N,11100µm,0.9s								
CRE				AML		AML			

ATMI	**Monte Miggiano**	**0.31**	**151**	P	**Pg**	**16 28 25.1**	**+0.3**
ATMI				AML	AML			
	comp=E,2505μm,0.4s							
ATMI				AML	AML			
	comp=N,2745μm,1.6s							
ATMI				AML	AML			
	comp=N,2745μm,0.4s							
PE3	**Peglio**	**0.33**	**74**	P	**Pg**	**16 28 24.9**	**-0.2**
PE3				S	**Sb**	**16 28 30.5**	**-1.4**
PE3				AML	AML			
	comp=E,30250μm,0.4s							
PE3				AML	AML			
	comp=N,100μm,0.3s							
ATVO	**AVT- Monte Val**	**0.33**	**132**	P	**Pg**	**16 28 25.3**	**0.0**
ATVO				S	**Sb**	**16 28 31.1**	**-1.0**
ATVO				AML	AML			
	comp=E,1905μm,0.5s							
ATVO				AML	AML			
	comp=N,1735μm,0.7s							
PIEI	**Pieia**	**0.35**	**101**	P	**Pg**	**16 28 25.2**	**-0.4**
PIEI				S	**Sg**	**16 28 31.0**	**+0.8**
PIEI				AML	AML			
	comp=N,1195μm,1.4s							
PIEI				AML	AML			
	comp=E,2845μm,0.1s							
PIEI				AML	AML			
	comp=N,1195μm,0.6s							
ATFO	**Monte Foce - G**	**0.44**	**123**	P	**Pg**	**16 28 27.2**	**0.0**
ATFO				AML	AML			
	comp=E,1455μm,0.6s							
ATFO				AML	AML			
	comp=N,1204μm,0.4s							
RUFI	**Rufina**	**0.47**	**300**	P	**Pg**	**16 28 27.5**	**-0.2**
RUFI				S	**Sb**	**16 28 35.0**	**-1.0**
RUFI				AML	AML			
	comp=N,981μm,0.8s							
RUFI				AML	AML			
	comp=E,1170μm,0.5s							
RUFI				AML	AML			
	comp=N,976μm,0.8s							
RUFI	**Rufina**	**0.47**	**300**	P	**Pg**	**16 28 27.6**	**-0.2**
RUFI				S	**Sb**	**16 28 34.9**	**-1.0**
MURB	**Monte Urbino**	**0.48**	**136**	P	**Pg**	**16 28 28.2**	**+0.2**
MURB				AML	AML			
	comp=E,2545μm,1.1s							
MURB				AML	AML			
	comp=E,2830μm,0.4s							
MURB				AML	AML			
	comp=N,2920μm,0.3s							
MURB				AML	AML			
	comp=E,2830μm,1.6s							
MURB				AML	AML			
	comp=N,3075μm,0.3s							
FRON	**Frontone**	**0.49**	**100**	P	**Pg**	**16 28 27.7**	**-0.5**
FRON				S	**Sb**	**16 28 35.4**	**-1.1**
FRON				AML	AML			
	comp=E,811μm,0.2s							
FRON				AML	AML			
	comp=N,1345μm,1.6s							
FRON				AML	AML			
	comp=N,1345μm,0.4s							
LMD	**Lutirano**	**0.54**	**331**	P	**Pg**	**16 28 28.7**	**-0.4**
LMD				S	**Sb**	**16 28 37.2**	**-0.8**
LMD				AML	AML			
	comp=N,915μm,0.4s							
LMD				AML	AML			
	comp=N,915μm,1.6s							
LMD				AML	AML			
	comp=E,1250μm,0.4s							
LMD	**Lutirano**	**0.54**	**331**	P	**Pg**	**16 28 28.7**	**-0.4**
LMD				S	**Sb**	**16 28 37.3**	**-0.8**
SSFR	**Montelago di S**	**0.55**	**108**	P	**Pg**	**16 28 29.0**	**-0.3**
SSFR				S	**Sb**	**16 28 37.6**	**-0.7**
SSFR				AML	AML			
	comp=N,3380μm,0.2s							
SSFR				AML	AML			
	comp=E,2940μm,0.2s							
SSFR				AML	AML			
	comp=N,3030μm,0.6s							
SSFR				AML	AML			
	comp=E,3245μm,0.2s							
CSNT	**Castellina Chi**	**0.58**	**257**	P	**Pb**	**16 28 30.5**	**-0.4**
CSNT				AML	AML			
	comp=N,902μm,0.7s							
CSNT				AML	AML			
	comp=E,652μm,0.7s							
CSNT	**Castellina Chi**	**0.58**	**257**	P	**Pb**	**16 28 30.5**	**-0.4**
ATCC	**AVT- Casa Cast**	**0.59**	**135**	P	**Pg**	**16 28 30.2**	**+0.1**
ATCC				AML	AML			
	comp=E,1410μm,0.7s							
ATCC				AML	AML			
	comp=N,1075μm,0.6s							
ATCC				AML	AML			
	comp=E,1410μm,1.3s							
FOSV	**Fossato di Vic**	**0.59**	**121**	P	**Pg**	**16 28 30.2**	**0.0**
FOSV				AML	AML			
	comp=E,481μm,0.8s							
FOSV				AML	AML			
	comp=E,480μm,0.8s							
FOSV				AML	AML			
	comp=N,540μm,0.9s							
OSSC	**Osservatorio P**	**0.60**	**263**	P	**Pb**	**16 28 31.1**	**-0.2**
OSSC				AML	AML			
	comp=E,668μm,1.1s							
OSSC				AML	AML			
	comp=E,728μm,0.5s							
OSSC				AML	AML			
	comp=N,690μm,0.5s							
OSSC				AML	AML			
	comp=N,592μm,0.6s							
OSSC	**Osservatorio P**	**0.60**	**263**	P	**Pb**	**16 28 31.2**	**-0.1**
ARVD	**Arcevia**	**0.65**	**99**	AML	AML			
	comp=N,461μm,0.4s							
ARVD				AML	AML			
	comp=E,536μm,0.5s							
ARVD				AML	AML			
	comp=E,536μm,1.5s							
PESA	**Pesaro**	**0.65**	**59**	P	**Pg**	**16 28 30.6**	**-0.7**
PESA				AML	AML			
	comp=N,1150μm,0.4s							
PESA				AML	AML			
	comp=E,990μm,0.4s							
BRIS	**BRISIGHELLA**	**0.68**	**324**	P	**Pg**	**16 28 31.5**	**-0.2**
BRIS				AML	AML			
	comp=N,905μm,0.5s							
BRIS				AML	AML			
	comp=E,961μm,0.5s							
COR1	**Corinaldo**	**0.68**	**87**	P	**Pg**	**16 28 31.4**	**-0.3**
COR1				AML	AML			
	comp=E,920μm,0.4s							
COR1				AML	AML			
	comp=N,1170μm,0.3s							
COR1				AML	AML			
	comp=E,920μm,0.4s							
SEI	**Scarperia**	**0.68**	**311**	P	**Pg**	**16 28 31.9**	**0.0**
SEI				AML	AML			
	comp=N,1830μm,0.5s							
SEI				AML	AML			
	comp=E,962μm,0.7s							
SEI				AML	AML			
	comp=N,1830μm,1.5s							
SEI	**Scarperia**	**0.68**	**311**	P	**Pb**	**16 28 32.0**	**-0.7**
MGAB	**Montegabbione**	**0.69**	**177**	P	**Pb**	**16 28 32.4**	**-0.4**
MGAB				AML	AML			
	comp=E,1100μm,1.3s							
MGAB				AML	AML			
	comp=E,32500μm,1.6s							
MGAB				AML	AML			
	comp=N,1260μm,0.6s							
MGAB				AML	AML			
	comp=E,32500μm,0.4s							
MGAB				AML	AML			
	comp=N,1320μm,0.6s							
MGAB				AML	AML			
	comp=E,1037μm,1.3s							
SNTG	**Esanatoglia**	**0.73**	**118**	AML	AML			
	comp=E,389μm,0.6s							
SNTG				AML	AML			
	comp=E,498μm,0.6s							
SNTG				AML	AML			
	comp=N,561μm,0.3s							
SNTG				AML	AML			
	comp=N,530μm,0.4s							
SNTG				AML	AML			
	comp=N,530μm,1.6s							
SNTG				AML	AML			
	comp=E,498μm,1.4s							
SNTG				AML	AML			
	comp=N,561μm,1.7s							
SNTG				AML	AML			
	comp=E,389μm,1.4s							
SACS	**San Casciano d**	**0.76**	**189**	P	**Pg**	**16 28 33.4**	**+0.1**
SACS				AML	AML			
	comp=E,653μm,0.6s							
SACS				AML	AML			
	comp=E,638μm,0.7s							
SACS				AML	AML			
	comp=N,726μm,0.9s							
SACS				AML	AML			
	comp=N,742μm,0.9s							
FROS	**Frosini**	**0.77**	**240**	P	**Pb**	**16 28 34.0**	**-0.2**
FROS				AML	AML			
	comp=E,1138μm,0.7s							
FROS				AML	AML			
	comp=N,812μm,0.7s							
FROS				AML	AML			
	comp=E,1138μm,1.3s							
FROS				AML	AML			
	comp=N,812μm,1.3s							
FROS	**Frosini**	**0.77**	**240**	P	**Pb**	**16 28 33.9**	**-0.3**
FROS				S	**Sb**	**16 28 44.6**	**-0.2**
IMOL	**Imola, Italy**	**0.79**	**343**	P	**Pn**	**16 28 35.0**	**-0.8**
IMOL				AML	AML			
	comp=N,909μm,0.8s							
IMOL				AML	AML			
	comp=E,1064μm,0.5s							
MPPT	**Montemurlo**	**0.79**	**297**	P	**Pg**	**16 28 33.9**	**0.0**
MPPT				AML	AML			
	comp=E,558μm,0.9s							
MPPT				AML	AML			
	comp=N,416μm,0.6s							
MPPT				AML	AML			
	comp=E,558μm,1.1s							
CRMI	**Carmignano**	**0.82**	**283**	P	**Pb**	**16 28 34.8**	**-0.2**
CRMI				AML	AML			
	comp=E,425μm,0.7s							
CRMI				AML	AML			
	comp=N,552μm,0.6s							
CRMI				AML	AML			
	comp=E,425μm,1.3s							
CRMI	**Carmignano**	**0.82**	**283**	P	**Pb**	**16 28 34.9**	**-0.1**
SF04	**Casetta**	**0.82**	**201**	AML	AML			
	comp=N,264μm,0.5s							
SF04				AML	AML			
	comp=N,264μm,1.5s							
SF04				AML	AML			
	comp=E,230μm,0.3s							
ARCI	**Arcidosso**	**0.87**	**210**	P	**Pg**	**16 28 35.5**	**+0.1**
ARCI				AML	AML			
	comp=E,277μm,0.9s							
ARCI				AML	AML			
	comp=N,418μm,0.6s							
MCIV	**Monte Civitell**	**0.87**	**199**	P	**Pb**	**16 28 35.9**	**0.0**
MCIV				AML	AML			
	comp=N,124μm,0.8s							
MCIV				AML	AML			
	comp=E,114μm,1.0s							
MCIV				AML	AML			
	comp=E,114μm,1.0s							
MCIV				AML	AML			
	comp=N,124μm,1.2s							
SF01	**Poggio Pratacc**	**0.87**	**205**	P	**Pb**	**16 28 35.7**	**-0.2**
SF01				AML	AML			
	comp=E,232μm,0.7s							
SF01				AML	AML			
	comp=N,267μm,0.6s							
SF01				AML	AML			
	comp=E,232μm,1.3s							
MTCR	**Monte La Croce**	**0.88**	**299**	P	**Pg**	**16 28 35.5**	**-0.1**
MTCR				AML	AML			
	comp=E,358μm,0.8s							
MTCR				AML	AML			
	comp=N,558μm,0.8s							
MTCR				AML	AML			
	comp=E,358μm,1.2s							
MTCR	**Monte La Croce**	**0.88**	**299**	P	**Pg**	**16 28 35.5**	**-0.1**
MTCR				S	**Sb**	**16 28 48.2**	**+0.2**
CSP1	**Cessapalombo**	**0.98**	**121**	P	**Pb**	**16 28 37.4**	**-0.3**
CSP1				AML	AML			
	comp=E,553μm,0.6s							
CSP1				AML	AML			
	comp=N,590μm,0.5s							
TRIF	**Trifonti**	**0.98**	**240**	P	**Pb**	**16 28 37.8**	**+0.1**
TRIF				AML	AML			
	comp=E,306μm,0.7s							
TRIF				AML	AML			
	comp=N,202μm,0.8s							
T1215	**Vallo di Nera,**	**0.99**	**144**	AML	AML			
	comp=N,144μm,1.6s							
T1215				AML	AML			
	comp=E,140μm,0.7s							
T1215				AML	AML			
	comp=N,144μm,0.4s							
T1215				AML	AML			
	comp=E,140μm,1.3s							
T1216	**Preci, Frazion**	**1.00**	**135**	AML	AML			
	comp=E,424μm,0.4s							
T1216				AML	AML			
	comp=N,394μm,0.3s							
ZCCA	**Zocca**	**1.08**	**314**	AML	AML			
	comp=E,190μm,0.6s							
ZCCA				AML	AML			
	comp=N,173μm,1.3s							
ZCCA				AML	AML			
	comp=N,173μm,0.7s							
T1245	**Castelsantange**	**1.11**	**132**	AML	AML			
	comp=N,610μm,0.7s							
T1245				AML	AML			
	comp=N,626μm,0.6s							
T1245				AML	AML			
	comp=E,519μm,0.6s							
T1245				AML	AML			
	comp=E,543μm,0.6s							
T1245				AML	AML			
	comp=N,626μm,1.4s							
T1212	**Cascia, Frazio**	**1.11**	**140**	AML	AML			
	comp=E,398μm,0.6s							
T1212				AML	AML			
	comp=N,410μm,1.1s							
T1212				AML	AML			
	comp=N,410μm,0.9s							
T1212				AML	AML			
	comp=E,370μm,0.6s							
T1212				AML	AML			
	comp=N,385μm,0.8s							
PII	**Pisa**	**1.12**	**277**	P	**Pb**	**16 28 39.9**	**-0.3**
PII				AML	AML			
	comp=E,282μm,0.4s							
PII				AML	AML			
	comp=N,394μm,0.5s							
PII				AML	AML			
	comp=N,394μm,1.5s							
PII				AML	AML			
	comp=E,282μm,1.6s							
BDI	**Bagni Di Lucca**	**1.16**	**294**	P	**Pn**	**16 28 40.7**	**-0.3**
MAIM	**Mastiano**	**1.18**	**286**	P	**Pn**	**16 28 41.0**	**-0.3**
MAIM				AML	AML			
	comp=E,203μm,1.0s							
MAIM				AML	AML			
	comp=N,230μm,0.5s							
MAIM				AML	AML			
	comp=E,203μm,1.0s							
MAIM	**Mastiano**	**1.18**	**286**	P	**Pg**	**16 28 41.2**	**-0.2**
CASP	**Castiglione de**	**1.20**	**228**	P	**Pn**	**16 28 40.5**	**-0.9**
CASP				AML	AML			
	comp=N,87μm,0.8s							
CASP				AML	AML			
	comp=N,87μm,1.2s							
CASP				AML	AML			
	comp=E,78μm,0.5s							
T1218	**Civita (PG)**	**1.21**	**140**	AML	AML			
	comp=N,320μm,1.1s							
T1218				AML	AML			
	comp=E,252μm,0.9s							
CARD	**Cardoso**	**1.22**	**291**	P	**Pb**	**16 28 41.6**	**-0.3**
LNSS	**Leonessa**	**1.23**	**144**	AML	AML			
	comp=E,348μm,1.3s							
LNSS				AML	AML			
	comp=N,308μm,0.8s							
LNSS				AML	AML			
	comp=E,348μm,0.7s							
SARO	**Sassorosso**	**1.34**	**296**	P	**Pn**	**16 28 42.9**	**-0.5**
ABTA	**Abfaltersbach**	**3.16**	**6**	*e*Pn	**Pn**	**16 29 09.9**	**+1.4**
	comp=E,0.5nm,0.2s							
OBKA	**Obir**	**3.40**	**30**	*e*Pn	**Pn**	**16 29 13.7**	**+1.9**
	comp=E,1.8nm,0.5s							
FETA	**Feichten**	**3.54**	**345**	*e*Pn	**Pn**	**16 29 16.4**	**+2.5**
	comp=E,3.1nm,0.5s,SNR=8.0							
SQTA	**Sankt Quirin**	**3.67**	**351**	*e*Pn	**Pn**	**16 29 18.7**	**+3.2**
	comp=E,4.0nm,0.3s,SNR=7.0							
WTTA	**Wattenberg**	**3.67**	**355**	*e*Pn	**Pn**	**16 29 17.5**	**+1.8**
	comp=E,1.1nm,0.2s							
WATA	**Walderalm**	**3.75**	**355**	*e*Pn	**Pn**	**16 29 19.0**	**+2.4**
	comp=E,1.2nm,0.2s							
MOTA	**Moosalm**	**3.80**	**350**	*e*Pn	**Pn**	**16 29 20.3**	**+2.9**
	comp=E,3.2nm,0.4s,SNR=8.2							
RETA	**Reutte**	**3.99**	**347**	*e*Pn	**Pn**	**16 29 23.1**	**+3.2**
	comp=E,1.3nm,0.3s							
DAVA	**Damuels**	**3.99**	**338**	*e*Pn	**Pn**	**16 29 21.2**	**+1.2**
	comp=E,1.3nm,0.3s							
MOA	**Molln**	**4.52**	**19**	*i* Pn	**Pn**	**16 29 29.0**	**+1.9**
	comp=E,0.6nm,0.2s							
CONA	**Conrad Observa**	**5.07**	**30**	*e*Pn	**Pn**	**16 29 33.9**	**-0.9**
	comp=E,0.2nm,0.2s							
CKRC	**Cesky Krumlov**	**5.44**	**16**	*e*SN	**Sn**	**16 30 42.2**	**-0.3**
KHC	**Kasperske Hory**	**5.63**	**10**	*e*PN	**Pn**	**16 29 42.7**	**+0.4**
KHC				*e*SN	**Sn**	**16 30 46.6**	**-0.4**

ROM 29 16:28:45.8±0.1, 42°.621N±0°.002×13°.312E±0°.004, h7km, ML1.7/7, 5C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.02**	**60**	P	Pg	16 28 47.2	+0.1
SMA1				S	Sg	16 28 48.2	0.0
SMA1				AML	AML		
	comp=E,21268μm,0.2s						
SMA1				AML	AML		
	comp=N,8552μm,0.1s						
RM33	**Pellescritta (**	**0.13**	**213**	⇑P	Pg	16 28 49.1	+0.5
RM33				S	Sg	16 28 51.5	+1.0
RM33				AML	AML		
	comp=N,894μm,0.3s						
RM33				AML	AML		
	comp=E,875μm,0.9s						
RM33				AML	AML		
	comp=E,771μm,0.1s						
RM33				AML	AML		
	comp=N,893μm,0.3s						
T1218	**Civita (PG)**	**0.15**	**289**	⇑P	Pg	16 28 49.4	+0.4
T1218				S	Sg	16 28 52.1	+0.9
T1218				AML	AML		
	comp=E,252μm,0.9s						
T1218				AML	AML		
	comp=N,320μm,1.1s						
T1218				AML	AML		
	comp=E,252μm,0.9s						
T1218				AML	AML		
	comp=N,320μm,1.1s						
T1218				AML	AML		
	comp=E,231μm,0.2s						
T1218				AML	AML		
	comp=E,250μm,0.2s						
T1218				AML	AML		
	comp=N,324μm,0.2s						
T1218				AML	AML		
	comp=N,294μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.18**	**183**	P	Pg	16 28 49.9	+0.5
T1247				S	Sg	16 28 53.0	+1.1
T1247				AML	AML		
	comp=N,670μm,0.3s						
T1247				AML	AML		
	comp=E,513μm,0.2s						
T1247				AML	AML		
	comp=N,671μm,0.3s						
T1247				AML	AML		
	comp=E,513μm,0.2s						
LNSS	**Leonessa**	**0.20**	**265**	⇑P	Pg	16 28 50.5	+0.7
LNSS				S	Sg	16 28 53.7	+1.1
LNSS				AML	AML		
	comp=E,284μm,0.6s						
LNSS				AML	AML		
	comp=N,308μm,0.8s						
LNSS				AML	AML		
	comp=N,258μm,0.1s						
LNSS				AML	AML		
	comp=E,260μm,0.4s						
TERO	**Teramo**	**0.21**	**89**	⇑P	Pg	16 28 50.3	+0.2
TERO				AML	AML		
	comp=E,474μm,0.2s						
TERO				AML	AML		
	comp=N,772μm,0.2s						
TERO				AML	AML		
	comp=E,371μm,0.1s						
TERO				AML	AML		
	comp=N,653μm,0.1s						
TERO				AML	AML		
	comp=N,759μm,0.1s						
TERO				AML	AML		
	comp=E,438μm,0.2s						
T1217	**Poggiodomo (PG**	**0.29**	**288**	AML	AML		
	comp=E,224μm,0.5s						
T1217				AML	AML		
	comp=N,298μm,0.7s						
T1222	**Castel Sant'An**	**0.30**	**223**	⇑P	Pg	16 28 52.0	+0.3
T1222				AML	AML		
	comp=E,154μm,1.0s						
T1222				AML	AML		
	comp=N,106μm,0.5s						
MC2	**Monte Cornacci**	**0.30**	**343**	S	Sb	16 28 57.5	-1.5
T1211	**Morro Reatino**	**0.35**	**256**	⇓P	Pg	16 28 52.8	+0.2
T1211				AML	AML		
	comp=E,202μm,1.3s						
T1211				AML	AML		
	comp=N,472μm,0.4s						
T1211				AML	AML		
	comp=E,174μm,1.3s						
T1211				AML	AML		
	comp=N,454μm,0.4s						
VVLD	**Villa Vallelon**	**0.78**	**163**	P	Pb	16 29 02.5	+0.8
VVLD				AML	AML		
	comp=E,31μm,1.5s						
VVLD				AML	AML		
	comp=N,41μm,0.6s						

IDC 29 16:40:58.7±6.9, 54°.49S×151°.98W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=566.4km s-min=93.1km az=166.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**53.72**	**99**	T	T	17 47 15.2	
	baz=220						
H03S1	**Juan Fernandez**	**53.73**	**99**	T	T	17 46 51.5	
	baz=220						
H03S3	**Juan Fernandez**	**53.74**	**99**	T	T	17 46 54.0	
	baz=220						
H03N3	**Juan Fernandez**	**54.00**	**99**	T	T	17 47 29.2	
	baz=222,slow=72,SNR=11						
H03N2	**Juan Fernandez**	**54.00**	**99**	T	T	17 47 26.4	
	baz=222,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**54.02**	**99**	T	T	17 47 28.6	
	baz=222,slow=72,SNR=14						
ASAR	**Alice Springs**	**61.93**	**268**	P	P	16 51 20.2	+0.1
	0.2nm,0.5s,baz=141,slow=6.7,SNR=9.4 0.2nm,0.5s						
WRA	**Warramunga Arr**	**64.56**	**271**	P	P	16 51 37.4	-0.2
	0.3nm,0.7s,baz=135,slow=8.3,SNR=1.9 0.3nm,0.7s						
MKAR	**Makanchi Array**	**145.51**	**280**	PKPbc	PKPdf	17 00 37.4	-0.4
	0.7nm,0.7s,baz=110,slow=4.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**147.56**	**293**	PKPbc	PKPbc	17 00 42.5	-1.1
	0.6nm,0.7s,baz=116,slow=6.6,SNR=1.9						

*BJI **29** 16:42:23.5±0.0, 29°.20S×61°.10E, h10km, mb5.2/64, mB5.7/42, Ms5.1/51, Ms7 4.8/51*
*IDC **29** 16:42:24.5±0.3, 29°.19S×61°.25E, h0km, mb5.3/35, mbtmp5.2/36, ML5.0/1, MS4.8/67, Error ellipse: s-maj=12.7km s-min=10.7km az=80.0*
*GCMT **29** 16:42:27.7±0.1, 29°.13S±0°.01×61°.03E±0°.01, h12km, MW5.4/142, Moment Tensor Solution. s99,c143; s142,c263; Duration: 1ŝ2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.63±.02; $M_{\theta\theta}$ 1.10±.02; $M_{\phi\phi}$ 0.52±.02; $M_{r\theta}$ 0.02±.06; $M_{\theta\phi}$ 0.76±.02; $M_{\phi r}$-0.14±.06; Best double couple: $M_0$1.63200×10^{17} NP1:ϕ_s51.00000°, δ46.00000°,*

λ-96.00000°. NP2:φs240.00000°, δ44.00000°, λ-84.00000°. Principal axes: T 1.6240, Plg1.0000°, Azm145.0000°; N 0.0100, Plg4.0000°, Azm55.0000°; P -1.6410, Plg85.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC **29** 16:42:27,29.23S×61.02E,h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.55; $M_{\theta\theta}$1.03; $M_{\phi\phi}$0.52; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.47; $M_{\phi r}$-0.02; Fault plane solution: $M_0$1.45000×10^{17} NP1: φs240.00000°,δ45.00000°,λ-89.00000°. NP2:φs59.00000°, δ45.00000°,λ-90.00000°. Principal axes: T 1.3138, Plg0.0000°, Azm149.0000°; N 0.2364, Plg0.0000°, Azm59.0000°; P -1.5502, Plg90.0000°, Azm-83.0000°;

MOS **29** 16:42:27.6±3.0,29.10S×61.20E,h10km,mb5.9/77, MS4.8/14 Error ellipse: s-maj=9.0km s-min=4.2km az=100.3

NEIC **29** 16:42:27.7±2.1,29.20S±0.08×61.28E±0.09,h10km±1km, mb5.8/181,Mww5.4,Error ellipse: s-maj=13.9km s-min=12.9km az=100.0

BGR **29** 16:42:48.3,28.17S×59.81E,h32km, mb5.8,Ms4.8

ISC 29 16:42:28.4±0.4,**29.19S**±0.04×**61.14E**±0.04,**h24**km±2km, **h24**km:**pP-P,n1666,**σ1s**03**/1760,**mb5.7**/305,**MS4.9**/102, **45C-126D,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ROCAM	**Rodrigues Isla**	**9.60**	**13**	Pn	**Pn**		**16 44 44.8**	**-0.4**
VOI	**Vohitsoka**	**14.83**	**296**	Pn	**Pn**		**16 45 56.4**	**-0.5**
VOI	**Vohitsoka**	**14.83**	**296**	P	**Pn**		**16 45 57.0**	**+0.2**
VOI	**Vohitsoka**	**14.83**	**296**	P	**Pn**		**16 45 57.5**	**+0.6**
	SNR=38							
AIS	**Amsterdam Isla**	**16.16**	**126**	P	**Pn**		**16 46 15.3**	**+1.4**
ABPO	**Ambohimpanom**	**16.23**	**305**	Pn	**Pn**		**16 46 14.8**	**-0.3**
ABPO				IAmb	IAmb		16 46 22.3	
	comp=Z,612nm,1.3s							
ABPO	**Ambohimpanom**	**16.23**	**305**	P	**Pn**		**16 46 14.8**	**-0.3**
ABPO				pmax	pmax			
	comp=Z,612nm,1.3s							
OPO	**Ambohidratompo**	**16.55**	**307**	Pn	**Pn**		**16 46 19.1**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=121,slow=12,SNR=32							
OPO				Sn	Sn		16 49 07.1	-15
	comp=Z,0.2nm,0.3s,baz=96,slow=22,SNR=2.3							
	comp=Z,72nm,0.8s							
CRZF	**Crozet Islands**	**18.69**	**200**	P	**P**		**16 46 44.9**	**0.0**
SBV	**Sambava**	**18.80**	**324**	P	**Pn**		**16 46 48.2**	**+1.4**
SBV	**Sambava**	**18.80**	**324**	P	**Pn**		**16 46 48.2**	**+1.4**
	SNR=29							
PAF	**Port-aux-Franc**	**21.30**	**164**	P	**P**		**16 47 14.1**	**+0.9**
PAF	**Port-aux-Franc**	**21.30**	**164**	P	**P**		**16 47 14.1**	**+0.9**
PAF				pmax	pmax			
	comp=Z,1μm,1.2s							
H08S1	**Diego Garcia H**	**23.94**	**29**	P	**P**		**16 47 41.5**	**+0.9**
	baz=118							
H08S1				T	T		17 12 19.6	
	baz=204,slow=76,SNR=567							
H08S2	**Diego Garcia H**	**23.95**	**29**	P	**P**		**16 47 40.1**	**-0.6**
	baz=118							
H08S2				T	T		17 12 20.2	
	baz=204,slow=76,SNR=365							
H08S3	**Diego Garcia H**	**23.96**	**29**	P	**P**		**16 47 40.2**	**-0.6**
	baz=118							
H08S3				T	T		17 12 21.1	
	baz=204,slow=76,SNR=625							
DGAR	**Diego Garcia**	**24.14**	**28**	P	**P**		**16 47 43.4**	**+0.7**
DGAR				IAmb	IAmb		16 47 59.1	
	comp=Z,447nm,1.2s							
DGAR	**Diego Garcia**	**24.14**	**28**	P	**P**		**16 47 43.4**	**+0.7**
DGAR				pmax	pmax			
	comp=Z,447nm,1.2s							
MSEY	**Mahe Island**	**24.96**	**347**	P	**P**		**16 47 50.8**	**+0.5**
MSEY	**Mahe Island**	**24.96**	**347**	P	**P**		**16 47 50.8**	**+0.5**
MSEY				pmax	pmax			
	comp=Z,573nm,1.5s							
CNG	**Changalane**	**25.76**	**269**	*e*P	**P**		**16 47 58.3**	**+0.8**
CNG				IAmb	IAmb		16 48 00.6	
	comp=Z,140nm,0.9s							
POGA	**Pongola**	**25.96**	**267**	P	**P**		**16 47 58.3**	**-1.0**
POGA	**Pongola**	**25.96**	**267**	*e*P	**P**		**16 47 59.6**	**+0.3**
POGA				IAmb	IAmb		16 48 02.5	
	comp=Z,81nm,0.8s							
MOPA	**Mopani**	**27.20**	**275**	↓*i*P	**P**		**16 48 10.7**	**+0.2**
MOPA				IAmb	IAmb		16 48 11.7	
	comp=Z,236nm,1.3s							
NWCL	**Newcastle**	**27.48**	**265**	↓*i*P	**P**		**16 48 13.2**	**+0.1**
NWCL				IAmb	IAmb		16 48 13.6	
	comp=Z,102nm,0.9s							
KSTD	**Kokstad**	**27.59**	**259**	*e*P	**P**		**16 48 14.5**	**+0.4**
KSTD				IAmb	IAmb		16 48 19.0	
	comp=Z,82nm,0.7s							
CRLN	**Carolina, Mapu**	**27.73**	**269**	*e*P	**P**		**16 48 14.6**	**-0.8**
CRLN				IAmb	IAmb		16 48 20.1	
	comp=Z,80nm,1.2s							
MUSN	**Musina, Limpop**	**28.95**	**276**	↓*i*P	**P**		**16 48 26.2**	**0.0**
MUSN				IAmb	IAmb		16 48 26.8	
	comp=Z,87nm,1.0s							
SNKL	**Senekal, Frees**	**29.23**	**264**	↓*i*P	**P**		**16 48 28.8**	**0.0**
SNKL				IAmb	IAmb		16 48 29.7	
	comp=Z,132nm,0.9s							
SLR	**Silverton**	**29.31**	**269**	↓*i*P	**P**		**16 48 29.4**	**0.0**
SLR				IAmb	IAmb		16 48 30.5	
	comp=Z,130nm,1.1s							
PRYS	**Parys**	**29.84**	**266**	↓*i*P	**P**		**16 48 33.9**	**-0.3**
PRYS				IAmb	IAmb		16 48 34.7	
	comp=Z,63nm,0.9s							
WDLM	**Western Deep L**	**29.90**	**267**	*e*P	**P**		**16 48 35.0**	**+0.2**
WDLM				IAmb	IAmb		16 48 35.6	
	comp=Z,86nm,0.8s							
GRHM	**Grahamstown, E**	**29.92**	**253**	P	**P**		**16 48 34.6**	**-0.1**
GRHM				IAmb	IAmb		16 48 36.2	
	comp=Z,148nm,0.8s							
GRHM	**Grahamstown, E**	**29.92**	**253**	↓*i*P	**P**		**16 48 35.1**	**+0.4**
GRHM				IAmb	IAmb		16 48 35.9	
	comp=Z,136nm,0.7s							
LEPH	**Lephalale, Lim**	**30.24**	**272**	↓*i*P	**P**		**16 48 37.1**	**-0.5**
LEPH				IAmb	IAmb		16 48 38.4	
	comp=Z,620nm,2.1s							
KSR	**Koster**	**30.49**	**268**	↓*i*P	**P**		**16 48 40.2**	**+0.3**
KSR				IAmb	IAmb		16 48 41.1	
	comp=Z,117nm,1.1s							
SOE	**Somerset East**	**30.63**	**254**	P	**P**		**16 48 40.6**	**-0.4**
SOE	**Somerset East**	**30.63**	**254**	*e*P	**P**		**16 48 40.6**	**-0.4**
SOE				IAmb	IAmb		16 49 15.9	
	comp=Z,4μm,5.0s							
HVD	**Gariep Dam**	**30.86**	**258**	↓*i*P	**P**		**16 48 43.3**	**+0.2**
HVD				IAmb	IAmb		16 48 44.4	
	comp=Z,367nm,2.0s							
BUFB	**Buffelsbos**	**31.27**	**251**	IAmb	IAmb		16 48 45.9	
	comp=Z,462nm,2.2s							
BUFB				*e*P	**P**		**16 48 46.0**	**-0.4**
BOSA	**Boshof**	**31.35**	**262**	P	**P**		**16 48 47.5**	**0.0**
	comp=Z,53nm,1.0s,baz=95,slow=9.1,SNR=47							
BOSA				PcP	**PcP**		**16 51 41.9**	**+0.8**
	comp=Z,9.2nm,0.8s,baz=156,slow=20,SNR=2.4							
BOSA				LR	LR		16 59 15.9	
	comp=Z,3μm,20.6s,baz=104,slow=32							
	comp=Z,53nm,1.0s							
BOSA	**Boshof**	**31.35**	**262**	P	**P**		**16 48 46.9**	**-0.5**
BOSA				IAmb	IAmb		16 48 48.7	
	comp=Z,266nm,1.5s							
BOSA	**Boshof**	**31.35**	**262**	↓*i*P	**P**		**16 48 46.1**	**-1.3**
BOSA				IAmb	IAmb		16 48 48.2	
	comp=Z,274nm,1.5s							
KROM	**Kromhout**	**31.37**	**251**	*e*P	**P**		**16 48 47.2**	**-0.2**
SWZ	**Schweizer**	**31.56**	**265**	*e*P	**P**		**16 48 48.8**	**-0.5**
SWZ				IAmb	IAmb		16 48 49.8	
	comp=Z,190nm,0.9s							
GRAF	**Camdeboo Natio**	**31.56**	**255**	*e*P	**P**		**16 48 49.9**	**+0.7**
GRAF				IAmb	IAmb		16 48 50.5	
	comp=Z,111nm,1.1s							
KAAM	**Kaadhehdhoo**	**31.61**	**23**	P	**P**		**16 48 50.9**	**+1.3**
LBTB	**Lobatse**	**31.84**	**269**	LR	LR		16 59 35.5	
	comp=Z,1μm,20.0s,baz=98,slow=32							
LBTB	**Lobatse**	**31.84**	**269**	P	**P**		**16 48 51.1**	**-0.6**
LBTB				IAmb	IAmb		16 48 53.0	
	comp=Z,195nm,1.5s							
LBTB	**Lobatse**	**31.84**	**269**	↓*i*P	**P**		**16 48 51.5**	**-0.3**
LBTB				IAmb	IAmb		16 48 52.6	
	comp=Z,158nm,1.4s							
LBTB	**Lobatse**	**31.84**	**269**	P	**P**		**16 48 51.1**	**-0.6**
LBTB				pmax	pmax			
	comp=Z,195nm,1.5s							
BFON	**Badsfontein, M**	**32.28**	**256**	*e*P	**P**		**16 48 56.2**	**+0.6**
BFON				IAmb	IAmb		16 48 56.9	
	comp=Z,78nm,1.0s							
ROOI	**Rooidraai Farm**	**32.34**	**255**	↓*i*P	**P**		**16 48 56.2**	**+0.2**
ROOI				IAmb	IAmb		16 48 57.1	
	comp=Z,102nm,0.8s							
BRAK	**Brakfontein**	**32.95**	**256**	↓*i*P	**P**		**16 49 01.6**	**+0.2**
BRAK				IAmb	IAmb		16 49 02.1	
	comp=Z,82nm,1.0s							
GRAN	**Grantham**	**33.52**	**255**	*e*P	**P**		**16 49 06.5**	**+0.1**
GRAN				IAmb	IAmb		16 49 07.3	
	comp=Z,45nm,0.8s							
MERW	**Merweville**	**34.03**	**254**	↓*i*P	**P**		**16 49 11.3**	**+0.5**
MERW				IAmb	IAmb		16 49 11.5	
	comp=Z,110nm,0.8s							
FRAZ	**Fraserburg**	**34.20**	**255**	↓*i*P	**P**		**16 49 12.8**	**+0.5**
FRAZ				IAmb	IAmb		16 49 13.1	
	comp=Z,74nm,0.9s							
KIBK	**Kibwezi**	**34.58**	**316**	P	**P**		**16 49 15.8**	**+0.1**
KIBK				IAmb	IAmb		16 49 17.9	
	comp=Z,98nm,1.1s							
KIBK	**Kibwezi**	**34.58**	**316**	P	**P**		**16 49 16.9**	**+1.3**
	SNR=27							
SUR	**Sutherland**	**34.66**	**254**	P	**P**		**16 49 16.4**	**0.0**
	comp=Z,41nm,1.0s,baz=96,slow=11,SNR=27							
SUR				LR	LR		17 00 48.0	
	comp=Z,2μm,20.6s,baz=100,slow=32							
	comp=Z,41nm,1.0s							
SUR	**Sutherland**	**34.66**	**254**	P	**P**		**16 49 16.1**	**-0.3**
UPI	**Upington**	**34.86**	**261**	↓*i*P	**P**		**16 49 18.1**	**+0.1**
UPI				IAmb	IAmb		16 49 18.9	
	comp=Z,257nm,1.6s							
ELIM	**Elim**	**35.38**	**250**	*e*P	**P**		**16 49 22.0**	**-0.4**
ELIM				IAmb	IAmb		16 49 22.8	
	comp=Z,62nm,0.7s							
AUGR	**Augrabies**	**35.61**	**261**	*e*P	**P**		**16 49 24.4**	**0.0**
CVNA	**Calvinia**	**35.64**	**256**	↓*i*P	**P**		**16 49 24.6**	**-0.1**
CVNA				IAmb	IAmb		16 49 26.0	
	comp=Z,32nm,0.8s							
CER	**Ceres**	**35.84**	**252**	↓*i*P	**P**		**16 49 26.4**	**0.0**
CER				IAmb	IAmb		16 49 26.9	
	comp=Z,25nm,0.7s							
KMBO	**Kilima Mbogo**	**36.02**	**316**	P	**P**		**16 49 26.8**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=132,slow=23,SNR=19							
KMBO				LR	LR		17 01 39.4	
	comp=Z,57nm,19.7s,baz=92,slow=32							
KMBO	**Kilima Mbogo**	**36.02**	**316**	P	**P**		**16 49 28.7**	**+0.4**
KMBO	**Kilima Mbogo**	**36.02**	**316**	↓*i*P	**P**		**16 49 29.0**	**+0.8**
KMBO				IAmb	IAmb		16 49 29.8	
	comp=Z,129nm,1.1s							
KMBO	**Kilima Mbogo**	**36.02**	**316**	P	**P**		**16 49 28.7**	**+0.4**
KMBO				pmax	pmax			
	comp=Z,53nm,1.2s							
KMBO	**Kilima Mbogo**	**36.02**	**316**	*i* P	**P**		**16 49 28.6**	**+0.4**
	SNR=40							
KMBO	**Kilima Mbogo**	**36.02**	**316**	*e*P	P		16 49 38.5	+10
ARMS	**Ukamas**	**36.23**	**262**	*e*P	**P**		**16 49 29.3**	**-0.6**
ARMS				IAmb	IAmb		16 49 30.7	
	comp=Z,80nm,0.9s							
KOMG	**Komaggas**	**37.84**	**258**	↓*i*P	**P**		**16 49 43.6**	**+0.2**
KOMG				IAmb	IAmb		16 49 44.2	
	comp=Z,445nm,1.8s							
MAW	**Mawson**	**38.46**	**179**	P	**P**		**16 49 45.9**	**-2.1**
	comp=Z,63nm,0.9s,baz=72,slow=14,SNR=20							
MAW				LR	LR		17 02 21.5	
	comp=Z,2μm,19.2s,baz=353,slow=31							
	comp=Z,63nm,0.9s							
MAW	**Mawson**	**38.46**	**179**	P	**P**		**16 49 46.1**	**-1.9**
	baz=38,SNR=11							
MAW	**Mawson**	**38.46**	**179**	P	**P**		**16 49 45.4**	**-2.6**
AUSN	**Aus**	**39.56**	**263**	*e*P	**P**		**16 49 58.6**	**+0.6**
AUSN				IAmb	IAmb		16 49 59.5	
	comp=Z,272nm,1.5s							
WIN	**Windhoek**	**39.99**	**269**	*e*P	**P**		**16 50 02.6**	**+0.9**
WIN				IAmb	IAmb		16 50 04.9	
	comp=Z,30nm,1.1s							
MBAR	**Mbarara**	**40.61**	**309**	LR	LR		17 06 35.1	
	comp=Z,2μm,18.1s,baz=123,slow=36							
MBAR	**Mbarara**	**40.61**	**309**	P	**P**		**16 50 07.1**	**+0.3**
MBAR	**Mbarara**	**40.61**	**309**	*d*P	**P**		**16 50 07.9**	**+1.1**
MBAR				pmax	pmax			
	comp=Z,28nm,1.0s							
TSUM	**Tsumeb**	**40.76**	**274**	LR	LR		17 05 23.2	
	comp=Z,3μm,20.1s,baz=108,slow=34							
TSUM	**Tsumeb**	**40.76**	**274**	P	**P**		**16 50 08.4**	**+0.4**
TSUM				IAmb	IAmb		16 50 10.5	
	comp=Z,306nm,1.1s							
TSUM	**Tsumeb**	**40.76**	**274**	↓*i*P	**P**		**16 50 09.2**	**+1.2**
LODK	**Lodwar**	**40.78**	**318**	P	**P**		**16 50 08.5**	**+0.4**
LODK	**Lodwar**	**40.78**	**318**	*e*P	P		16 49 58.8	-9.3
LODK	**Lodwar**	**40.78**	**318**	P	**P**		**16 50 09.9**	**+1.9**
	SNR=19							
PALK	**Pallekele**	**40.85**	**31**	P	**P**		**16 50 08.9**	**+0.3**
PALK				IAmb	IAmb		16 50 12.6	
	comp=Z,205nm,1.9s							
PALK	**Pallekele**	**40.85**	**31**	P	**P**		**16 50 08.9**	**+0.3**
PALK				pmax	pmax			
	comp=Z,205nm,1.9s							
DILA	**Dilla**	**41.69**	**325**	*e*P	P		16 50 06.6	-9.1
PCHI	**Peechi**	**42.12**	**23**	↓*e*P	**P**		**16 50 20.2**	**+1.3**
PCHI				*e*S	**S**		**16 56 42.8**	**+5.4**
FURI	**Furi**	**43.62**	**327**	*e*P	P		16 50 17.6	-14
ATD	**Arta Tunnel**	**44.16**	**334**	LR	LR		17 06 05.9	
	comp=Z,3μm,20.3s,baz=147,slow=32							
ATD	**Arta Tunnel**	**44.16**	**334**	P	**P**		**16 50 35.2**	**-0.4**
ATD				IAmb	IAmb		16 50 51.7	
	comp=Z,87nm,1.0s							
ATD	**Arta Tunnel**	**44.16**	**334**	P	**P**		**16 50 38.0**	**+2.5**
	SNR=10							
H01W2	**Cape Leeuwin H**	**44.85**	**111**	T	T		17 38 14.2	
	baz=261,slow=75,SNR=606							
H01W3	**Cape Leeuwin H**	**44.85**	**111**	T	T		17 38 14.6	
	baz=261,slow=75,SNR=653							
H01W1	**Cape Leeuwin H**	**44.87**	**111**	T	T		17 38 15.1	
	baz=261,slow=75,SNR=624							
PBSI	**Pulu Batu**	**45.77**	**57**	P	**P**		**16 50 50.0**	**+1.7**
	comp=Z,71nm,1.8s							
SNSI	**Sinabang, Aceh**	**46.07**	**53**	P	**P**		**16 50 52.5**	**+1.8**
	comp=Z,21nm,1.0s							
GSI	**Gunungsitoli**	**46.18**	**55**	P	**P**		**16 50 52.5**	**+0.9**
GSI				IAmb	IAmb		16 51 08.9	
	comp=Z,166nm,1.7s							
GSI	**Gunungsitoli**	**46.18**	**55**	P	**P**		**16 50 53.4**	**+1.8**
GSI	**Gunungsitoli**	**46.18**	**55**	P	**P**		**16 50 53.8**	**+2.2**
	comp=Z,50nm,1.3s,comp=Z,1μm							
MNAI	**Manna**	**46.64**	**66**	P	**P**		**16 50 56.1**	**+0.8**
	comp=Z,203nm,1.5s							
MASI	**Maura Aman, Be**	**46.81**	**64**	P	**P**		**16 50 58.0**	**+1.4**
	comp=Z,62nm,2.1s,comp=Z,1μm							
PDSI	**Padang**	**46.84**	**60**	P	**P**		**16 50 58.5**	**+1.7**
	comp=Z,39nm,1.1s,comp=Z,2μm							
ABTO	**Aybut**	**46.88**	**350**	P	**P**		**16 50 58.0**	**+1.0**
	SNR=10							
ABTO				P	**P**		**16 50 58.0**	**+1.0**
	SNR=10							
RBK	**Rabkut**	**46.90**	**351**	P	**P**		**16 50 58.0**	**+0.9**
	SNR=7.1							
RBK				P	**P**		**16 50 58.0**	**+0.9**
	SNR=7.1							
DMTO	**DMTO**	**47.01**	**352**	P	**P**		**16 50 59.1**	**+1.2**
	SNR=5.6							
DMTO				P	**P**		**16 50 59.1**	**+1.2**
	SNR=5.6							
MUN	**Mundaring**	**47.06**	**108**	P	**P**		**16 50 58.9**	**+0.6**
	baz=47,SNR=3.9							
MUN	**Mundaring**	**47.06**	**108**	P	**P**		**16 51 00.3**	**+2.0**
LWLI	**Liwa**	**47.15**	**68**	P	**P**		**16 50 59.0**	**-0.3**
	comp=Z,78nm,1.1s,comp=Z,2μm							
KASI	**Kota Agung**	**47.21**	**69**	P	**P**		**16 51 00.6**	**+0.9**
	comp=Z,99nm,1.2s,comp=Z,2μm							
WHFO	**Wadi Hawf**	**47.37**	**350**	P	**P**		**16 51 02.0**	**+1.2**
	SNR=6.9							
WHFO				P	**P**		**16 51 02.0**	**+1.2**
	SNR=6.9							
ELIB	**Princess Elisa**	**47.44**	**195**	*d*P	**P**		**16 51 01.2**	**+0.3**
	comp=Z,36nm,1.1s							
MDSI	**Maura Dua**	**47.55**	**67**	P	**P**		**16 51 02.8**	**+0.5**
	comp=Z,36nm,1.7s,comp=Z,753nm							
SDSI	**Sungai Dareh**	**47.56**	**61**	P	**P**		**16 51 03.5**	**+1.1**
	comp=Z,31nm,1.3s,comp=Z,1μm							
MORW	**Morawa**	**47.57**	**104**	P	**P**		**16 51 02.7**	**+0.4**
	baz=48,SNR=5.9							
MORW	**Morawa**	**47.57**	**104**	P	**P**		**16 51 01.6**	**-0.8**
MORW	**Morawa**	**47.57**	**104**	P	**P**		**16 51 02.4**	**0.0**
CGJI	**Cibinong**	**47.58**	**71**	P	**P**		**16 51 04.1**	**+1.6**
	comp=Z,84nm,1.8s,comp=Z,2μm							
CASY	**Casey**	**47.63**	**155**	P	**P**		**16 51 02.3**	**+0.1**
CASY				IAmb	IAmb		16 51 04.1	
	comp=Z,82nm,1.0s							
NWAO	**Narrogin (SRO)**	**47.72**	**109**	LR	LR		17 07 36.3	
	comp=Z,1μm,18.3s,slow=32							
NWAO	**Narrogin (SRO)**	**47.72**	**109**	P	**P**		**16 51 02.2**	**-1.2**
NWAO				IAmb	IAmb		16 51 08.8	
	comp=Z,69nm,1.3s							
NWAO	**Narrogin (SRO)**	**47.72**	**109**	P	**P**		**16 51 04.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**47.72**	**109**	P	**P**		**16 51 02.3**	**-1.2**
NWAO				pmax	pmax			
	comp=Z,69nm,1.3s							
BLDU	**Ballidu**	**47.77**	**106**	P	**P**		**16 51 04.3**	**+0.4**
	baz=48,SNR=5.8							
BLDU	**Ballidu**	**47.77**	**106**	P	**P**		**16 51 04.0**	**+0.1**
GIRL	**Giralia**	**47.87**	**95**	P	**P**		**16 51 03.4**	**-1.4**
KCSI	**Kotacane, Aceh**	**47.87**	**53**	P	**P**		**16 51 05.3**	**+0.5**
	comp=Z,34nm,1.1s,comp=Z,848nm							
DOK	**Doka**	**48.00**	**351**	P	**P**		**16 51 06.0**	**+0.3**
	SNR=25							
DOK				P	**P**		**16 51 06.0**	**+0.3**
	SNR=25							
BKNI	**Bangkinang**	**48.08**	**60**	P	**P**		**16 51 05.5**	**-0.9**
BKNI	**Bangkinang**	**48.08**	**60**	P	P		16 51 11.3	+4.9
BKNI	**Bangkinang**	**48.08**	**60**	P	**P**		**16 51 09.0**	**+2.6**
	comp=Z,208nm,1.2s,comp=Z,2μm							
SKJI	**Sukabumi**	**48.08**	**72**	P	**P**		**16 51 05.7**	**-0.7**
	comp=Z,124nm,0.8s,comp=Z,1μm							
RPSI	**Rantau Prapat**	**48.11**	**55**	P	**P**		**16 51 07.8**	**+1.2**
PSI	**Prapat**	**48.18**	**55**	LR	LR		17 06 39.1	
	comp=Z,545nm,21.4s,baz=232,slow=30							
PSI	**Prapat**	**48.18**	**55**	P	**P**		**16 51 10.1**	**+2.8**
PSI	**Prapat**	**48.18**	**55**	P	**P**		**16 51 07.8**	**+0.5**
PSI				pmax	pmax			
	comp=Z,42nm,1.1s							
CNJI	**Cibinong**	**48.39**	**73**	P	**P**		**16 51 08.1**	**-0.7**
	comp=Z,103nm,1.4s,comp=Z,1μm							
KLBR	**Kellerberrin**	**48.43**	**108**	P	**P**		**16 51 08.8**	**-0.2**
	baz=48,SNR=13							
KLBR	**Kellerberrin**	**48.43**	**108**	P	**P**		**16 51 09.0**	**0.0**
CBJI	**Citeko**	**48.64**	**71**	P	**P**		**16 51 11.2**	**+0.4**
	comp=Z,311nm,1.0s,comp=Z,3μm							
BBJI	**Bungbulang**	**48.74**	**73**	P	**P**		**16 51 13.7**	**+2.1**
JMBI	**JAMBI**	**48.84**	**64**	P	**P**		**16 51 13.5**	**+1.2**
	comp=Z,69nm,0.4s							
DQM	**DQM**	**48.95**	**356**	P	**P**		**16 51 13.1**	**+0.2**
	SNR=11							
DQM				P	**P**		**16 51 13.1**	**+0.2**
	SNR=11							
LEM	**Lembang**	**49.06**	**72**	LR	LR		17 07 18.6	
	comp=Z,659nm,21.3s,baz=212,slow=30							
LEM	**Lembang**	**49.06**	**72**	P	**P**		**16 51 16.3**	**+2.1**
	comp=Z,216nm,1.6s,comp=Z,4μm							
CMJI	**Cimerak**	**49.24**	**74**	P	**P**		**16 51 16.6**	**+1.2**
	comp=Z,161nm,1.4s							
HYB	**Hyderabad**	**49.29**	**22**	↓*e*P	**P**		**16 51 16.0**	**+0.4**
HYB				IVmB_BB			16 51 16.5	
	comp=Z,798nm,1.6s							
HYB				*e*S	**S**		**16 58 21.7**	**+1.1**
HYB				*e*ScS	**ScS**		**17 01 07.7**	**+1.3**
HYB				IVMs_BB	IVMs_BB		17 06 34.8	
	comp=Z,359nm,29.9s							
NVL	**N'lazarevskaya**	**49.71**	**199**	*e*P	**P**		**16 51 19.7**	**+1.5**
NVL				*e*S	**S**		**16 58 29.7**	**+4.3**
NVL				pmax	pmax			
	comp=Z,17nm,0.9s							
KPJI	**Karang Pucung**	**49.89**	**74**	P	**P**		**16 51 22.7**	**+2.4**
	comp=Z,60nm,1.1s							
MHTO	**MHTO**	**49.97**	**356**	P	**P**		**16 51 21.0**	**+0.3**
	SNR=24							
DSRI	**Dabo**	**50.28**	**63**	P	**P**		**16 51 24.3**	**+1.0**
	comp=Z,47nm,1.3s,comp=Z,1μm							
MEEK	**Meekatharra**	**50.41**	**102**	P	**P**		**16 51 23.6**	**-0.6**
	baz=50,SNR=7.0							
MEEK	**Meekatharra**	**50.41**	**102**	P	**P**		**16 51 23.2**	**-1.1**
YOGI	**Yogyakarta**	**50.78**	**75**	P	**P**		**16 51 27.6**	**+0.5**
	comp=Z,175nm,1.5s							
IPM	**Ipoh**	**50.85**	**56**	P	**P**		**16 51 27.6**	**0.0**
JLN	**Jalan Bani Buh**	**51.06**	**358**	P	**P**		**16 51 29.0**	**0.0**
	SNR=28							
KULM	**Kulim**	**51.14**	**54**	P	**P**		**16 51 29.4**	**-0.3**
MYKOM	**Kota Tinggi**	**51.16**	**61**	P	**P**		**16 51 27.5**	**-2.3**
JMDO	**Jabal Madar**	**51.34**	**356**	P	**P**		**16 51 32.4**	**+1.4**
	SNR=6.0							
WBK	**Wadi Bani Khal**	**51.54**	**357**	P	**P**		**16 51 33.0**	**+0.5**
	SNR=11							
BSY	**Bisya**	**51.77**	**355**	P	**P**		**16 51 34.2**	**0.0**
	SNR=32							
KMBL	**Kambalda**	**51.91**	**109**	P	**P**		**16 51 34.8**	**-0.5**
	baz=52,SNR=12							
KMBL	**Kambalda**	**51.91**	**109**	P	**P**		**16 51 33.9**	**-1.5**
PWJI	**Pagerwojo**	**51.96**	**77**	P	**P**		**16 51 35.6**	**-0.3**
	comp=Z,179nm,1.0s							
NGJI	**Ngawi**	**52.00**	**76**	P	**P**		**16 51 37.7**	**+1.5**
	comp=Z,130nm,1.2s							
SMDO	**Samad**	**52.03**	**356**	P	**P**		**16 51 37.0**	**+0.7**
	SNR=34							
WSAR	**Wadi Sarin**	**52.18**	**357**	P	**P**		**16 51 37.1**	**-0.2**
	comp=Z,20nm,0.9s,baz=199,slow=8.2,SNR=18							
WSAR				LR	LR		17 08 18.1	

SNR=6.0
SNAA Sanae 54.44 200 P **P** **16 51 54.7 +1.2**
SNAA Sanae 54.44 200 P **P** **16 51 53.8 +0.3**
comp=Z,12nm,0.9s,baz=92,slow=6.9,SNR=11
SNAA LR LR 17 11 08.4
comp=Z,902nm,19.1s,baz=62,slow=32
comp=Z,12nm,0.9s
SNAA Sanae 54.44 200 P **P** **16 51 52.6 -0.9**
SNAA Sanae 54.44 200 *e*P **P** **16 51 54.1 +0.6**
MSFE Esma-Masafi 54.44 354 *i* P **P** **16 51 53.3 -0.7**
SNR=18
MASF Masafi 54.45 354 P **P** **16 51 53.3 -0.7**
SNR=12
RAYN Ar Rayn 54.52 342 P **P** **16 51 53.6 -0.9**
RAYN Ar Rayn 54.52 342 P **P** **16 51 54.9 +0.3**
RAYN Ar Rayn 54.52 342 *i* P **P** **16 51 54.8 +0.3**
SNR=27
UMQ Umm Al-Quwin 54.65 354 P **P** **16 51 54.4 -1.0**
PBKI Pangkalan Bun 54.69 71 P **P** **16 51 56.8 +0.8**
comp=Z,241nm,1.2s
JASK Jask - Hormozg 54.83 356 P **P** **16 51 57.5 +0.8**
SNR=9.9
BANOM Banah 54.99 355 P **P** **16 51 57.0 -0.8**
VNA2 Neumayer--Watz 55.71 202 P **P** **16 52 04.6 +2.0**
baz=81,slow=7.0
TWSI Taliwang, Sumb 55.95 80 P **P** **16 52 05.4 +0.3**
comp=Z,85nm,1.7s
VNA3 Neumayer Olymp 56.49 201 P **P** **16 52 10.1 +1.9**
PLAI Plampang 56.68 81 P **P** **16 52 11.5 +1.2**
PLAI Plampang 56.68 81 P **P** **16 52 09.9 -0.4**
comp=Z,148nm,1.1s,comp=Z,3µm
BBKI Banjar Baru 56.91 74 P **P** **16 52 12.5 +0.5**
comp=Z,106nm,1.0s
FORT Forrest 57.17 110 P **P** **16 52 14.3 +0.7**
baz=57,SNR=7.9
FORT Forrest 57.17 110 P **P** **16 52 13.2 -0.5**
FORT IAmb IAmb 16 52 17.2
comp=Z,199nm,1.5s
SBUM Sibu 58.11 66 P **P** **16 52 20.4 0.0**
SBUM IAmb IAmb 16 52 23.7
comp=Z,168nm,1.7s
WRKA Warakurna 59.19 103 P **P** **16 52 27.7 -0.2**
baz=59,SNR=58
BRDH Bariadhala 59.34 33 LR LR 17 14 28.0
comp=Z,660nm,21.9s,baz=247,slow=32
FITZ Fitzroy Crossi 59.48 95 P **P** **16 52 28.4 -1.4**
CM31 Chiang Mai Arr 59.79 42 P **P** **16 52 31.0 -0.9**
CM31 IAmb IAmb 16 52 43.9
comp=Z,49nm,1.0s
CM31 Chiang Mai Arr 59.79 42 P **P** **16 52 32.4 +0.5**
SNR=35
CMAR Chiang Mai Arr 59.79 42 P **P** **16 52 31.5 -0.4**
comp=Z,9.7nm,0.8s,baz=231,slow=7.3,SNR=59
CMAR LR LR 17 14 54.0
comp=Z,178nm,19.4s,baz=245,slow=33
CMAR PKP2bc **P'P'bc** **17 22 06.7 +1.4**
comp=Z,0.7nm,0.9s,baz=17,slow=3.6,SNR=4.8
comp=Z,9.7nm,0.8s
CMAR Chiang Mai Arr 59.79 42 P **P** **16 52 31.0 -0.9**
BKB Balikpapan 59.83 73 P **P** **16 52 34.5 +2.2**
comp=Z,92nm,0.8s
CHTO Chiang Mai 60.07 42 P **P** **16 52 32.9 -0.9**
CHTO Chiang Mai 60.07 42 P **P** **16 52 32.9 -0.9**
CHTO pmax pmax
comp=Z,46nm,1.4s
KAPI Kappang 60.27 78 LR LR 17 13 35.4
comp=Z,292nm,21.7s,baz=216,slow=31
KAPI Kappang 60.27 78 P **P** **16 52 35.6 +0.2**
KAPI IAmb IAmb 16 52 37.3
comp=Z,66nm,1.0s
KAPI Kappang 60.27 78 P **P** **16 52 35.6 +0.2**
KAPI pmax pmax
comp=Z,66nm,1.0s
BKSI Bulukumba 60.43 79 P **P** **16 52 38.1 +1.6**
comp=Z,53nm,1.2s,comp=Z,1µm
KOLN Koldanda 60.58 23 *e*P **P** **16 52 35.8 -1.5**
comp=Z,87nm,1.7s
PHRA Phrae 60.59 43 P **P** **16 52 36.9 -0.4**
PHRA IAmb IAmb 16 52 51.6
comp=Z,117nm,1.1s
MMRI Maumere 60.64 83 P **P** **16 52 37.7 -0.1**
MMRI Maumere 60.64 83 P **P** **16 52 39.9 +2.0**
comp=Z,112nm,1.2s,comp=Z,3µm
SPSI Sidrap Palu 60.82 77 P **P** **16 52 40.8 +1.7**
comp=Z,61nm,2.5s,comp=Z,1µm
RAMN Ramite 60.92 26 *e*P **P** **16 52 39.4 -0.3**
DMN Daman 60.96 24 *e*P **P** **16 52 39.3 -0.7**
QSPA South Pole Qui 60.97 180 P **P** **16 52 39.5 0.0**
comp=Z,49nm,0.8s,baz=264,slow=2.5,SNR=149
QSPA LR LR 17 15 31.5
comp=Z,1µm,21.1s,baz=278,slow=33
comp=Z,49nm,0.8s
PKI Pulchoki 61.03 25 *e*P **P** **16 52 39.6 -1.0**
PKIN Phulchoki 61.03 25 *e*P **P** **16 52 39.4 -1.1**
BATI Baumata 61.14 86 LR LR 17 15 51.4
comp=Z,767nm,20.4s,baz=274,slow=33
ODAN Odare 61.14 27 *e*P **P** **16 52 39.8 -1.4**
GKN Gorkha 61.15 24 *e*P **P** **16 52 40.5 -0.7**
comp=Z,490nm,1.2s
DANN Dangsing 61.16 23 *e*P **P** **16 52 40.6 -0.8**
comp=Z,490nm,1.0s
KKN Kakani 61.19 24 *e*P **P** **16 52 40.1 -1.4**
JIRN Jiri 61.40 25 *e*P **P** **16 52 42.2 -0.9**
GUN Gumba 61.51 25 *e*P **P** **16 52 43.1 -0.8**
comp=Z,910nm,1.5s
TAPN Taplejung 61.71 27 *e*P **P** **16 52 44.6 -0.5**
comp=Z,248nm,1.2s
SOEI Soe 61.88 86 P **P** **16 52 45.3 -1.2**
SOEI IAmb IAmb 16 53 05.6
comp=Z,79nm,0.9s
SOEI Soe 61.88 86 P **P** **16 52 49.1 +2.7**
comp=Z,98nm,1.1s,comp=Z,2µm
CRAI Chiangrai 62.01 42 P **P** **16 52 46.0 -1.0**
CRAI IAmb IAmb 16 52 50.9
comp=Z,66nm,1.7s
BELA Belgrano 2 62.90 194 P **P** **16 52 52.7 +0.6**
BELA IAmb IAmb 16 52 55.3
comp=Z,101nm,1.8s
BBOO Buckleboo 63.05 114 P **P** **16 52 53.4 -0.5**
baz=63,SNR=17
BBOO Buckleboo 63.05 114 P **P** **16 52 53.0 -0.9**
BBOO IAmb IAmb 16 53 02.7
comp=Z,53nm,1.1s
KNRA Kununurra 63.19 94 P **P** **16 52 54.2 -0.8**
baz=63,SNR=8.6
KNRA Kununurra 63.19 94 P **P** **16 52 53.8 -1.2**
KNRA IAmb IAmb 16 53 05.8
comp=Z,80nm,1.2s
MPSI Mapaga 63.21 73 P **P** **16 52 56.8 +1.7**
comp=Z,54nm,1.3s,comp=Z,860nm
KKM Kota Kinabalu 63.44 66 P **P** **16 52 56.3 -0.4**
KKM IAmb IAmb 16 53 05.8
comp=Z,54nm,1.4s
NIL Nilore 63.54 11 P **P** **16 52 55.6 -1.3**
NIL Nilore 63.54 11 P **P** **16 52 55.6 -1.3**
NIL pmax pmax
comp=Z,137nm,1.1s
EIL Elat 63.64 335 LR LR 17 17 20.9
comp=Z,1µm,19.2s,baz=188,slow=33
KBL Kabul 63.82 7 P **P** **16 52 59.0 0.0**
KBL IAmb IAmb 16 53 00.1
comp=Z,67nm,1.0s
KBL Kabul 63.82 7 P **P** **16 52 59.0 0.0**
KBL pmax pmax
comp=Z,67nm,1.0s
KBL Kabul 63.82 7 P **P** **16 52 59.6 +0.7**
SNR=79
VNDA Vanda 64.01 166 P **P** **16 52 59.4 -0.1**
comp=Z,21nm,0.8s,baz=259,slow=7.0,SNR=37
VNDA LR LR 17 19 06.9
comp=Z,2µm,18.4s,baz=254,slow=34
comp=Z,21nm,0.8s
VNDA Vanda 64.01 166 P **P** **16 52 59.2 -0.3**
VNDA IAmb IAmb 16 53 02.6
comp=Z,50nm,1.1s
TOLI2 Tolitoli 64.37 73 P **P** **16 53 02.0 -0.8**
ASAR Alice Springs 64.45 104 P **P** **16 53 02.5 -0.8**
comp=Z,40nm,0.8s,baz=244,slow=5.7,SNR=381
ASAR LR LR 17 18 02.9
comp=Z,929nm,19.2s,baz=267,slow=33
ASAR PKP2bc **P'P'df** **17 21 52.6 -2.5**
comp=Z,4.2nm,0.9s,baz=62,slow=3.2,SNR=14
comp=Z,40nm,0.8s
ASAR Alice Springs 64.45 104 P **P** **16 53 02.0 -1.3**
AS31 Alice Springs 64.45 104 P **P** **16 53 02.3 -1.0**
TNCH TengChong 64.77 38 ⇓P **P** **16 53 05.0 -0.3**

TNCH sP pP 16 53 12.0 +0.5
TNCH S **S** **17 01 45.0 +0.1**
TNCH sS sS 17 01 56.5 +1.7
TNCH pmax pmax
comp=Z,64nm,1.8s
TNCH LR LR
comp=Z,220nm,15.7s
TNCH LR LR
comp=Z,190nm,18.0s
TNCH LR LR
comp=Z,490nm,18.1s
SBA Scott Base 64.89 167 P **P** **16 53 06.5 +1.2**
SBA Scott Base 64.89 167 P **P** **16 53 06.5 +1.2**
SBA pmax pmax
comp=Z,437nm,2.0s
LUWI Luwuk 64.90 76 P **P** **16 53 06.6 +0.3**
LUWI Luwuk 64.90 76 P **P** **16 53 10.3 +4.0**
comp=Z,198nm,1.2s,comp=Z,2µm
MRSI Marisa 65.00 74 P **P** **16 53 05.5 -1.4**
comp=Z,65nm,0.7s,comp=Z,791nm
HTT Hallett 65.11 116 P **P** **16 53 07.3 -0.2**
baz=65,SNR=11
LSA Lhasa 65.18 29 P **P** **16 53 08.3 0.0**
LSA pmax pmax
comp=Z,60nm,2.1s
LSA Lhasa 65.18 29 P **P** **16 53 08.5 +0.2**
LSA Lhasa 65.18 29 P **P** **16 53 08.5 +0.2**
LSA pmax pmax
comp=Z,192nm,1.5s
LSA Lhasa 65.18 29 *i* P **P** **16 53 08.7 +0.4**
SNR=55
GTOI Gorontalo 65.99 75 P **P** **16 53 15.7 +2.4**
comp=Z,14nm,0.9s
ARPS Mount Arapiles 66.25 120 P **P** **16 53 15.4 +0.7**
baz=66,SNR=21
WRA Warramunga Arr 66.28 100 P **P** **16 53 14.6 -0.6**
comp=Z,30nm,0.7s,baz=248,slow=5.3,SNR=100
WRA LR LR 17 17 40.4
comp=Z,2µm,22.0s,baz=246,slow=32
WRA PKP2bc **P'P'df** **17 21 49.5 -2.3**
comp=Z,5.0nm,0.9s,baz=65,slow=3.7,SNR=12
comp=Z,30nm,0.7s
WRA Warramunga Arr 66.28 100 P **P** **16 53 14.4 -0.7**
WB2 Warramunga Arr 66.29 100 P **P** **16 53 14.6 -0.6**
WRAB Tennant Creek 66.29 100 P **P** **16 53 14.7 -0.6**
WRAB Tennant Creek 66.29 100 P **P** **16 53 14.7 -0.6**
WRAB pmax pmax
comp=Z,153nm,1.3s
WB0 Warramunga Arr 66.39 100 P **P** **16 53 14.9 -1.0**
WB0 IAmb IAmb 16 53 24.6
comp=Z,105nm,1.2s
WR0 Warramunga Arr 66.44 100 P **P** **16 53 15.4 -0.8**
MTN Manton Dam 66.48 92 P **P** **16 53 15.9 -0.6**
baz=67,SNR=7.4
MTN Manton Dam 66.48 92 P **P** **16 53 15.9 -0.6**
MTN IAmb IAmb 16 53 19.8
comp=Z,174nm,1.8s
MMAI Mount Meron Ar 66.50 337 LR LR 17 18 38.1
comp=Z,1µm,20.4s,baz=34,slow=33
GEYT Alibeck 66.82 357 P **P** **16 53 18.0 -0.1**
comp=Z,19nm,0.9s,baz=197,slow=4.6,SNR=42
GEYT LR LR 17 19 52.2
comp=Z,573nm,21.4s,baz=180,slow=34
GEYT PKP2bc **P'P'ab** **17 21 49.2 +3.0**
comp=Z,0.4nm,0.3s,baz=42,slow=4.5,SNR=1.7
comp=Z,19nm,0.9s
QIZ Qiongzhong 67.12 50 P **P** **16 53 21.8 +1.4**
QIZ S **S** **17 02 17.5 +4.1**
QIZ LR LR
comp=Z,390nm,22.3s
QIZ LR LR
comp=Z,290nm,17.7s
QIZ LR LR
comp=Z,320nm,23.5s
SANI Sanana 67.13 79 P **P** **16 53 21.8 +1.2**
comp=Z,36nm,2.0s,comp=Z,825nm
KMI Kunming 67.17 41 ⇓P **P** **16 53 20.8 -0.1**
KMI PcP **PcP** **16 53 49.0 +0.2**
KMI S **S** **17 02 16.5 +2.2**
KMI pmax pmax
comp=Z,24nm,1.7s
KMI LR LR
comp=Z,330nm,17.6s
KMI LR LR
comp=Z,290nm,18.4s
KMI LR LR
comp=Z,500nm,22.4s
PZH PanZhiHua 67.69 39 P **P** **16 53 23.3 -0.7**
PZH sP **pP** **16 53 30.5 +0.3**
PZH PcP **PcP** **16 53 51.5 +0.7**
PZH PP **PP** **16 55 54.0 +0.3**
PZH S **S** **17 02 22.0 +1.8**
PZH sS **pS** **17 02 28.8 +0.8**
PZH ScS **ScS** **17 03 23.5 +2.2**
PZH SS **SS** **17 06 46.8 +4.7**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,200nm,3.5s
PZH LR LR
comp=Z,650nm,21.8s
PZH LR LR
comp=Z,630nm,19.3s
PZH LR LR
comp=Z,1µm,24.3s
KDU Kakadu 67.72 92 P **P** **16 53 23.8 -0.5**
baz=68,SNR=7.2
STKA Stephens Creek 67.77 115 P **P** **16 53 23.9 -0.6**
comp=Z,15nm,0.8s,baz=271,slow=4.5,SNR=28
STKA LR LR 17 18 53.7
comp=Z,986nm,18.6s,baz=241,slow=32
STKA PKP2bc **P'P'df** **17 21 45.0 -5.3**
comp=Z,3.5nm,0.9s,baz=106,slow=0.9,SNR=5.5
comp=Z,15nm,0.8s
STKA Stephens Creek 67.77 115 P **P** **16 53 24.1 -0.4**
baz=68,SNR=13
STKA Stephens Creek 67.77 115 P **P** **16 53 23.7 -0.8**
CHGR Chuyangaron 67.91 7 P **P** **16 53 24.6 -0.4**
CHGR Chuyangaron 67.91 7 P **P** **16 53 24.6 -0.4**
CHGR pmax pmax
comp=Z,243nm,1.3s
AAI Ambon 68.21 82 P **P** **16 53 29.0 +1.6**
comp=Z,50nm,1.9s,comp=Z,991nm
MOO Moorlands 68.23 127 P **P** **16 53 29.1 +1.9**
baz=68,SNR=3.3
TOO Toolangi 68.72 122 P **P** **16 53 31.2 +0.9**
baz=69,SNR=11
TOO Toolangi 68.72 122 P **P** **16 53 30.4 0.0**
TOO IAmb IAmb 16 53 34.0
comp=Z,81nm,1.3s
TOO Toolangi 68.72 122 P **P** **16 53 30.4 0.0**
TOO pmax pmax
comp=Z,81nm,1.3s
SAUI Saumlaki 68.84 87 P **P** **16 53 35.4 +4.0**
comp=Z,182nm,1.2s
CSS Mathiatis 68.99 336 P **P** **16 53 32.0 +0.2**
CSS IAmb IAmb 16 53 33.4
comp=Z,98nm,1.0s
GURO Guroymak-BITLI 69.71 344 P **P** **16 53 37.1 +0.7**
GAZ Gaziantep 69.72 340 P **P** **16 53 37.0 +0.6**
GAZ IAmb IAmb 16 53 38.4
comp=Z,96nm,1.0s
KSH Kashi 69.73 12 P **P** **16 53 33.0 -3.4**
KSH pP pP 16 53 39.0 -3.6
KSH pmax pmax
comp=Z,220nm,0.9s
KSH LR LR
comp=Z,1µm,16.8s
KSH LR LR
comp=Z,500nm,14.1s
KSH LR LR
comp=Z,1µm,21.0s
TNTI Ternate 69.75 77 P **P** **16 53 37.2 +0.1**
TNTI IAmb IAmb 16 53 46.2
comp=Z,63nm,1.1s
TNTI Ternate 69.75 77 P **P** **16 53 39.3 +2.3**
comp=Z,59nm,1.4s,comp=Z,1µm
GYA Guiyang 70.47 43 ⇓*i*P **P** **16 53 42.5 +1.2**
GYA S **S** **17 02 55.0 +1.8**
GYA SS **SS** **17 07 23.3 -1.8**
GYA pmax pmax
comp=Z,34nm,1.9s
GYA pmax pmax
comp=Z,350nm,3.8s
GYA LR LR
comp=Z,600nm,22.6s

QIS Mount Isa 70.53 103 P **P** **16 53 41.5 -0.3**
baz=71,SNR=17
GNI Garni 70.65 347 P **P** **16 53 42.8 +0.7**
comp=Z,72nm,1.0s,baz=139,slow=1.8,SNR=22
GNI LR LR 17 22 48.4
comp=Z,1µm,19.9s,baz=176,slow=34
comp=Z,72nm,1.0s
GNI Garni 70.65 347 P **P** **16 53 42.1 0.0**
DCPH Dipolog City 70.65 68⇑*i*P **P** **16 53 42.5 +0.1**
CMSA Cobar Meteorol 71.13 116 P **P** **16 53 45.6 +0.4**
baz=71,SNR=9.9
TORD Torodi Ar. Bea 71.14 298 P **P** **16 53 45.8 +0.4**
comp=Z,90nm,0.9s,baz=118,slow=5.4,SNR=327
TORD PP **PP** **16 56 23.4 -0.1**
comp=Z,6.1nm,1.0s,baz=119,slow=5.1,SNR=3.6
comp=Z,90nm,0.9s
TORD Torodi Ar. Bea 71.14 298 P **P** **16 53 45.4 0.0**
AKT Akhty 71.40 349 *e*P **P** **16 53 47.2 +0.7**
AKT *e* 16 54 06.4
AKT pmax pmax
comp=Z,112nm,1.0s
IUG luzhnay 71.45 7⇓*i*P **P** **16 53 47.2 +0.3**
comp=Z,94nm,1.0s,baz=6.9
IUG luzhnay 71.45 7*d i*P **P** **16 53 47.1 +0.3**
IUG pmax pmax
comp=Z,94nm,1.0s
KARS Kars 71.45 346 P **P** **16 53 48.1 +1.2**
KARS Kars 71.45 346 P **P** **16 53 48.1 +1.2**
KARS pmax pmax
comp=Z,583nm,1.8s
AKAS Kas 71.51 334 P **P** **16 53 47.1 -0.3**
CHM Chimkent 71.58 7 *e*P **P** **16 53 48.1 +0.6**
baz=6.6
CHM Chimkent 71.58 7 *e*P **P** **16 53 48.0 +0.6**
DAV Davao City (W) 71.63 71 LR LR 17 23 01.0
comp=Z,278nm,19.8s,baz=260,slow=34
BNN Bunyan 71.69 339 P **P** **16 53 48.0 -0.4**
TBP Tagbilaran 71.70 67 *e*P **P** **16 53 46.9 -1.9**
ELL Elmali 71.85 334 P **P** **16 53 49.3 -0.1**
ELL Elmali 71.85 334 P **P** **16 53 49.3 -0.1**
ELL pmax pmax
comp=Z,248nm,1.6s
AML Almayashu 71.90 10 P **P** **16 53 50.4 +0.5**
SNR=140
QLP Quilpie 71.93 111 P **P** **16 53 50.0 -0.2**
baz=72,SNR=9.8
ZKR Zakros 71.94 330 P **P** **16 53 50.3 +0.5**
ARG Arkhangelos 72.09 332 P **P** **16 53 50.8 +0.1**
ARG IAmb IAmb 16 53 52.1
comp=Z,130nm,1.1s
ARG Arkhangelos 72.09 332 P **P** **16 53 50.8 +0.1**
ARG pmax pmax
comp=Z,130nm,1.1s
FAKI Fak Fak 72.10 83 P **P** **16 53 51.1 -0.2**
FAKI IAmb IAmb 16 53 54.7
comp=Z,102nm,1.4s
FAKI Fak Fak 72.10 83 P **P** **16 53 53.9 +2.6**
comp=Z,54nm,1.6s,comp=Z,2µm
AKH Akhalkalaki 72.11 346 P **P** **16 53 51.6 +0.6**
AKH Akhalkalaki 72.11 346 P **P** **16 53 51.6 +0.6**
AKH pmax pmax
comp=Z,378nm,1.3s
UCH Uchtor 72.12 10 P **P** **16 53 51.5 +0.2**
SNR=43
CD2 Chengdu 72.23 38 P **P** **16 53 50.5 -1.2**
CD2 S **S** **17 03 15.3 +2.1**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 LR LR
comp=Z,420nm,19.6s
SIJI Sorong 72.27 81 LR LR 17 24 52.3
comp=Z,186nm,18.2s,baz=258,slow=35
DZA Taraz 72.33 8 *e*P **P** **16 53 52.4 +0.3**
comp=Z,78nm,0.9s,baz=7.8
DZA Taraz 72.33 8 *e*P **P** **16 53 52.3 +0.3**
DZA pmax pmax
comp=Z,78nm,0.9s
GOMU GeErMu 72.34 28 P **P** **16 53 52.5 -0.1**
GOMU pP sP 16 54 00.0 -1.2
GOMU sP pwP 16 54 02.5 -1.9
GOMU PP **PP** **16 56 31.3 -2.7**
GOMU S **S** **17 03 12.8 -2.1**
GOMU pmax pmax
comp=Z,33nm,1.8s
GOMU LR LR
comp=Z,230nm,17.6s
GOMU LR LR
comp=Z,210nm,16.1s
GOMU LR LR
comp=Z,340nm,17.3s
ULHL Ulahol 72.43 12 P **P** **16 53 53.3 +0.5**
SNR=46
EKS2 Erkin-Say 72.43 10 P **P** **16 53 53.6 +0.9**
SNR=182
KIC Kosan Boka 72.44 288⇑*e*P **P** **16 53 53.6 +0.3**
comp=Z,48nm,0.8s
KK31 Karatay Array 72.45 7 P **P** **16 53 52.9 +0.2**
KK31 Karatay Array 72.45 7 P **P** **16 53 52.9 +0.2**
KK31 pmax pmax
comp=Z,154nm,1.1s
KKAR Karatay Array 72.45 7 P **P** **16 53 52.7 0.0**
KKAR Karatay Array 72.45 7 P **P** **16 53 52.7 0.0**
AAK Ala-Archa 72.52 10 P **P** **16 53 54.1 +0.8**
SNR=93
AAK Ala-Archa 72.52 10 LR LR 17 22 14.4
comp=Z,443nm,18.4s,baz=214,slow=33
AAK Ala-Archa 72.52 10 P **P** **16 53 53.5 +0.2**
AAK Ala-Archa 72.52 10*de*P **P** **16 53 53.8 +0.5**
AAK pmax pmax
comp=Z,222nm,1.7s
AAK MLR MLR
comp=Z,190nm,16.0s
AAK Ala-Archa 72.52 10 *i* P **P** **16 53 53.9 +0.6**
SNR=146
ISP Isparta 72.56 335 P **P** **16 53 52.2 -1.4**
ISP Isparta 72.56 335 P **P** **16 53 52.2 -1.4**
ISP pmax pmax
comp=Z,33nm,1.1s
LIC Lamto 72.61 288⇑*e*P **P** **16 53 54.5 +0.2**
comp=Z,264nm,0.9s
KBK Karagaybulak 72.61 11 P **P** **16 53 54.5 +0.6**
SNR=50
GVD Gavdhos 72.66 329 P **P** **16 53 54.2 +0.1**
GVDS Gavdos 72.66 329 P **P** **16 53 54.2 +0.1**
IDI Anoyia 72.67 330 P **P** **16 53 54.9 +0.7**
comp=Z,46nm,0.9s,baz=153,slow=11,SNR=17
IDI LR LR 17 24 12.5
comp=Z,192nm,20.8s,baz=159,slow=34
comp=Z,46nm,0.9s
IDI Anoyia 72.67 330 ⇓P **P** **16 53 55.0 +0.8**
IDI Anoyia 72.67 330 P **P** **16 53 55.2 +0.9**
IDI Anoyia 72.67 330 P **P** **16 53 54.2 0.0**
IDI IAmb IAmb 16 53 56.2
comp=Z,127nm,1.1s
DBIC Dimbokro 72.70 288 P **P** **16 53 56.0 +1.2**
comp=Z,81nm,0.8s,baz=126,slow=6.7,SNR=105
DBIC LR LR 17 25 14.1
comp=Z,1µm,18.8s,baz=134,slow=35
comp=Z,81nm,0.8s
DBIC Dimbokro 72.70 288 P **P** **16 53 55.2 +0.4**
DAT Datca 72.75 332 P **P** **16 53 54.6 -0.2**
MSLP Maasin 72.75 68 *e*P **P** **16 53 53.7 -1.4**
YER Yerkesik 72.82 333 P **P** **16 53 55.7 +0.6**
TIC Toumodi 72.83 288⇑*e*P **P** **16 53 55.9 +0.3**
comp=Z,157nm,0.8s
TOKA Tokat 72.85 340 P **P** **16 53 55.5 +0.3**
TOKA IAmb IAmb 16 53 57.2
comp=Z,103nm,1.3s
MAK Makhachkala 72.88 350 *e*P **P** **16 53 49.6 -5.6**
MAK *e*S **S** **17 03 14.7 -5.2**
MAK pmax pmax
comp=Z,830nm,2.3s
CHMS Chumysh 72.91 10 P **P** **16 53 55.6 +0.2**
SNR=17
TKM2 Tokmak 2 72.97 11 P **P** **16 53 55.8 -0.2**
SNR=97
USP Ospenovka 73.13 10 P **P** **16 53 57.2 +0.4**
SNR=139
BR131 Keskin Array S 73.18 338 P **P** **16 53 56.4 -0.9**
BR131 IAmb IAmb 16 53 58.3
comp=Z,95nm,1.1s
BR131 Keskin Array S 73.18 338*d i*P **P** **16 53 56.7 -0.6**
BR131 Keskin Array S 73.18 338 P **P** **16 53 57.2 0.0**
SNR=20
BRTR Keskin Array B 73.18 338 P **P** **16 53 56.9 -0.4**
comp=Z,31nm,0.9s,baz=164,slow=7.6,SNR=118

BRTR LR LR 17 23 22.2
comp=Z,702nm,20.3s,baz=150,slow=34
comp=Z,31nm,0.9s
BRTR Keskin Array B 73.18 338 P P 16 53 56.6 -0.7
ONI Oni 73.26 346 P P 16 53 57.7 +0.2
ONI IAmb IAmb 16 54 00.7
comp=Z,274nm,2.0s
ONI Oni 73.26 346 P P 16 53 57.7 +0.2
ONI pmax pmax
comp=Z,274nm,2.0s
TNSS Tian-Shan 73.32 12 eP P 16 53 58.5 +0.1
baz=12
TNSS Tian-Shan 73.32 12 eP P 16 53 58.4 +0.1
SGDS Sogindy 73.33 10⇓iP P 16 53 58.0 0.0
comp=Z,77nm,2.0s,baz=10
SGDS Sogindy 73.33 10dP P 16 53 58.0 0.0
SGDS pmax pmax
comp=Z,77nm,2.0s
ZEI Tsey 73.36 347 eP P 16 53 57.7 -0.6
ZEI pmax pmax
comp=Z,54nm,1.3s
GROC Groznyy 73.40 348 eP P 16 53 57.5 -0.8
GROC e 16 54 14.2
GROC eS S 17 03 23.4 -2.5
GROC pmax pmax
comp=Z,30nm,0.4s
MDOK Medeo 73.46 12 iP P 16 53 59.1 +0.2
baz=12
MDOK eS SKiKP 17 03 29.2 +1.0
baz=12
MDOK Medeo 73.46 12 iP P 16 53 59.1 +0.2
MDOK eS SKiKP 17 03 29.2 +1.0
AAA Alma-Ata 73.48 12 eP P 16 53 59.4 +0.5
comp=Z,134nm,1.1s,baz=12
AAA Alma-Ata 73.48 12 eP P 16 53 59.4 +0.5
AAA pmax pmax
comp=Z,133nm,1.1s
BR231 Keskin MP Arra 73.57 338 P P 16 53 59.3 -0.3
BR231 IAmb IAmb 16 54 00.9
comp=Z,58nm,1.0s
ANTO Ankara 73.59 338 ⇑P P 16 53 58.9 -0.7
ANTO Ankara 73.59 338 P P 16 53 59.3 -0.3
ANTO IAmb IAmb 16 54 01.0
comp=Z,65nm,1.0s
ANTO Ankara 73.59 338 P P 16 53 59.3 -0.3
ANTO pmax pmax
comp=Z,65nm,1.0s
SATY Saty 73.62 13⇓iP P 16 54 00.1 +0.3
baz=13
SATY Saty 73.62 13diP P 16 54 00.0 +0.3
ZHN Zhinishke 73.73 13 eP P 16 54 00.5 +0.1
comp=Z,84nm,1.6s,baz=13
ZHN Zhinishke 73.73 13 eP P 16 54 00.5 +0.1
ZHN pmax pmax
comp=Z,85nm,1.6s
UZB Uzynbulak 73.83 14⇓iP P 16 54 01.2 +0.2
comp=Z,101nm,1.4s,baz=14
UZB eS S 17 03 33.5 +2.3
baz=14
UZB Uzynbulak 73.83 14diP P 16 54 01.2 +0.2
UZB eS S 17 03 33.4 +2.3
UZB pmax pmax
comp=Z,101nm,1.4s
ANKY Antikythira Is 73.86 329 P P 16 54 02.0 +0.8
MANT Manisa 73.89 334 P P 16 54 01.1 -0.4
MANT IAmb IAmb 16 54 02.9
comp=Z,93nm,1.2s
APE Apeiranthos 73.89 331 ⇓P P 16 54 01.0 -0.4
APE Apeiranthos 73.89 331 P P 16 54 01.4 0.0
APE Apeiranthos 73.89 331 P P 16 54 01.2 -0.2
SMG Samos 73.89 332 P P 16 54 01.3 -0.1
SHLS Shalkode 73.93 14⇓iP P 16 54 02.8 +1.2
comp=Z,68nm,1.1s,baz=14
SHLS eS S 17 03 35.6 +3.4
baz=14
SHLS Shalkode 73.93 14diP P 16 54 02.7 +1.2
SHLS eS S 17 03 35.6 +3.4
SHLS pmax pmax
comp=Z,68nm,1.1s
NEY Neytrino 74.04 346 iP P 16 54 02.4 +0.1
NEY pmax pmax
comp=Z,6.0nm,0.9s
NEY MLR MLR
comp=Z,478nm,17.0s
KUU Kurty 74.04 11⇓iP P 16 54 01.9 -0.2
comp=Z,114nm,1.0s,baz=11
KUU Kurty 74.04 11diP P 16 54 01.9 -0.2
KUU pmax pmax
comp=Z,114nm,1.0s
KPKS Kokpek 74.07 13⇓iP P 16 54 02.4 0.0
comp=Z,74nm,1.2s,baz=13
KPKS Kokpek 74.07 13diP P 16 54 02.3 0.0
KPKS pmax pmax
comp=Z,74nm,1.2s
NCK Nalchik 74.10 347 iP P 16 54 02.5 +0.1
NCK pmax pmax
comp=Z,46nm,1.0s
NCK MLR MLR
comp=Z,1µm,19.0s
CHKK Chushkaly 74.12 12 eP P 16 54 02.2 -0.4
baz=12
CHKK Chushkaly 74.12 12 eP P 16 54 02.1 -0.4
KTHR Kythira 74.33 329 P P 16 54 04.0 +0.1
BORA Eskisehir 74.41 336 P P 16 54 04.2 -0.2
KBZ Khabaz 74.46 346 P P 16 54 04.9 +0.4
comp=Z,36nm,1.1s,baz=156,slow=4.2,SNR=19
KBZ LR LR 17 24 47.5
comp=Z,2µm,21.6s,baz=164,slow=34
comp=Z,36nm,1.1s
SHA1 Shidzhatmaz 74.52 346diP P 16 54 04.6 -0.5
MDUB Mudurnu 74.67 337 P P 16 54 05.5 -0.4
KVAR Kislovodsk Arr 74.72 346 P P 16 54 06.8 +0.6
comp=Z,15nm,0.9s,baz=82,slow=19,SNR=7.0
KVAR LR LR 17 25 23.9
comp=Z,695nm,21.0s,baz=74,slow=34
comp=Z,15nm,0.9s
KIV Kislovodsk 74.72 346 ⇓P P 16 54 06.6 +0.5
KIV Kislovodsk 74.72 346 P P 16 54 05.8 -0.4
KIV IAmb IAmb 16 54 09.1
comp=Z,81nm,1.0s
KIV Kislovodsk 74.72 346 P P 16 54 06.6 +0.5
KIV Kislovodsk 74.72 346 iP P 16 54 06.4 +0.3
SNR=21
CHOS Chios island 74.79 332 P P 16 54 07.0 +0.3
BTLS Baital 74.80 9⇓iP P 16 54 06.5 0.0
comp=Z,69nm,1.2s,baz=9.4
BTLS Baital 74.80 9diP P 16 54 06.4 0.0
BTLS pmax pmax
comp=Z,69nm,1.2s
ENH Enshi 74.96 42 P P 16 54 06.9 -0.9
ENH IAmb IAmb 16 54 11.2
comp=Z,68nm,1.1s
SOC Sochi 75.03 344 eP P 16 54 07.0 -0.8
BALB Balikesir 75.15 334 P P 16 54 08.3 -0.2
BALB IAmb IAmb 16 54 10.1
comp=Z,121nm,1.0s
KRND KRANIDI 75.19 330 P P 16 54 07.3 -1.5
VLY Voula,Athens 75.30 330 P P 16 54 09.1 -0.4
PYL PYLOS 75.42 328 P P 16 54 09.9 -0.3
DION Dionisos Attik 75.42 330 P P 16 54 11.0 +0.8
PTL Penteli 75.43 330 P P 16 54 11.1 +0.8
CNSH ChangSha 75.55 46 ⇓P P 16 54 11.3 +0.2
CNSH S S 17 03 51.5 +0.9
CNSH LR LR
comp=Z,370nm,9.7s
CNSH LR LR
comp=Z,340nm,8.5s
CNSH LR LR
comp=Z,330nm,14.7s
ITM Ithomi 75.57 329 P P 16 54 10.9 -0.2
ITM Ithomi 75.57 329 P P 16 54 10.5 -0.6
MTSU Mount Surprise 75.59 103 P P 16 54 12.3 +0.6
baz=76,SNR=11
VILL Villia 75.77 330 P P 16 54 11.7 -0.5
LOUT Loutraki 75.77 330 P P 16 54 11.4 -0.8
EZN Ezine 75.91 333 P P 16 54 13.2 +0.3
EZN Ezine 75.91 333 P P 16 54 13.3 +0.3
THAL Thalero 75.95 330 P P 16 54 12.9 -0.3
ISK Istanbul-Kandi 75.95 336 P P 16 54 12.9 -0.2
KLV Kalavryta, Ach 76.18 329 P P 16 54 13.4 -1.2
ARMA Armidale 76.23 117 P P 16 54 16.2 +0.8
baz=76,SNR=6.1
ARMA Armidale 76.23 117 P P 16 54 15.1 -0.3
DRO Drossia 76.30 329 P P 16 54 16.1 +0.8
LZH Lanzhou 76.35 34 ⇓P P 16 54 15.5 -0.2
LZH sP sP 16 54 24.5 +0.2
LZH S S 17 03 56.5 -2.9
LZH sS sS 17 04 09.0 -0.8
LZH SS SS 17 08 51.0 -3.6
LZH pmax pmax
comp=Z,48nm,1.4s
LZH pmax pmax
comp=Z,370nm,4.8s
LZH LR LR
comp=Z,260nm,15.8s
LZH LR LR
comp=Z,410nm,16.5s
LZH LR LR
comp=Z,380nm,17.7s
CTA Charters Tower 76.37 105 LR LR 17 25 30.1
comp=Z,841nm,18.5s,baz=242,slow=34
CTAO Charters Tower 76.37 105 P P 16 54 15.6 -0.6
CTAO Charters Tower 76.37 105 P P 16 54 15.6 -0.6
CTAO pmax pmax
comp=Z,42nm,1.3s
RLS Riolos of Patr 76.50 329 P P 16 54 17.2 +0.9
SERG Sergoula 76.53 329 P P 16 54 17.8 +1.3
AXAR Agios Charalam 76.55 330 P P 16 54 16.8 +0.2
EFP Efpalio 76.60 329 P P 16 54 17.3 +0.4
WMQ Urumqi 76.62 19 ⇓P P 16 54 17.0 0.0
WMQ S S 17 04 00.5 -1.4
WMQ SKS SKSac 17 04 26.5 -0.6
WMQ pmax pmax
comp=Z,67nm,2.4s
WMQ pmax pmax
comp=Z,340nm,6.1s
WMQ LR LR
comp=Z,490nm,19.3s
WMQ LR LR
comp=Z,600nm,21.9s
WMQ LR LR
comp=Z,810nm,26.9s
KNMB Chin-men Tao 76.62 52 P P 16 54 17.3 0.0
KNMB IAmb IAmb 16 54 38.7
comp=Z,66nm,1.3s
ANX Ano Chora 76.73 329 P P 16 54 18.4 +0.6
ANN Anapa 76.74 343 eP P 16 54 17.5 0.0
ANN eS S 17 04 05.1 +2.1
ANN eSSS SSS 17 12 24.0
ANN pmax pmax
comp=Z,89nm,1.0s
AGG Agios Georgios 76.91 330 P P 16 54 18.2 -0.5
PVO Paravola 76.93 329 P P 16 54 18.7 0.0
ALN Alexandroupoli 76.94 333 P P 16 54 18.5 -0.2
ALN Alexandroupoli 76.94 333 P P 16 54 18.3 -0.4
ALN IAmb IAmb 16 54 19.6
comp=Z,66nm,0.9s
ALN Alexandroupoli 76.94 333 P P 16 54 18.3 -0.4
ALN pmax pmax
comp=Z,66nm,0.9s
MAKR Makrakomi, Fth 76.99 330 P P 16 54 19.7 +0.6
EVR Evrytania 77.05 330 P P 16 54 20.8 +1.2
THAS Thassos island 77.22 332 P P 16 54 19.7 -0.6
EVGI Lefkada island 77.33 329 P P 16 54 21.1 +0.1
RDO Rodhopi 77.35 333 P P 16 54 20.4 -0.7
RDO Rodhopi 77.35 333 P P 16 54 20.4 -0.7
NYDR Nydri-Lefkada 77.38 329 P P 16 54 21.3 0.0
XAN Xi'an 77.43 39 ⇓P P 16 54 20.8 -0.9
XAN pP sP 16 54 29.0 -1.3
XAN pmax pmax
comp=Z,39nm,1.6s
XAN pmax pmax
comp=Z,310nm,5.7s
XAN LR LR
comp=Z,250nm,18.1s
XAN LR LR
comp=Z,250nm,19.0s
XAN LR LR
comp=Z,440nm,19.7s
EDRB Edirne 77.49 334 P P 16 54 22.1 +0.3
OTUK Ortayu 77.73 8 P P 16 54 20.4 -2.6
LIT Litokhoron 77.73 331 P P 16 54 23.2 0.0
LIT Litokhoron 77.73 331 P P 16 54 22.5 -0.7
LIT IAmb IAmb 16 54 23.9
comp=Z,62nm,1.0s
LIT Litokhoron 77.73 331 P P 16 54 22.5 -0.7
LIT pmax pmax
comp=Z,62nm,1.0s
SIM Simferopol' 77.79 341diP P 16 54 23.7 +0.3
SIM e 16 54 34.0
SIM e 16 57 21.0
SIM eS S 17 04 16.0 +1.6
SIM pmax pmax
comp=Z,369nm,1.4s
KDZ Kurdzhali 77.83 333 P P 16 54 23.0 -0.7
MAKZ Makanchi 77.95 14 P P 16 54 23.7 -0.5
MAKZ IAmb IAmb 16 54 25.6
comp=Z,144nm,1.5s
MAKZ Makanchi 77.95 14 P P 16 54 23.8 -0.5
YULB Yu-li 77.98 55 P P 16 54 24.4 -0.6
MK31 Makanchi Array 78.00 15 P P 16 54 23.8 -0.8
MK31 IAmb IAmb 16 54 25.7
comp=Z,75nm,1.3s
MK31 Makanchi Array 78.00 15 P P 16 54 23.8 -0.8
MKAR Makanchi Array 78.00 15 P P 16 54 24.2 -0.4
comp=Z,29nm,0.9s,baz=205,slow=5.4,SNR=184
MKAR PKKP **PKKPdf 17 13 15.1 -1.1**
comp=Z,0.2nm,0.7s,baz=8.5,slow=2.9,SNR=1.2
MKAR PKKPbc **PKKPbc 17 13 25.7 -1.6**
comp=Z,0.6nm,0.8s,baz=43,slow=4.8,SNR=4.6
MKAR LR LR 17 25 12.1
comp=Z,406nm,19.5s,baz=269,slow=33
comp=Z,29nm,0.9s
EIDS Eidsvold 78.02 112 P P 16 54 25.3 -0.1
baz=78,SNR=4.7
EIDS Eidsvold 78.02 112 P P 16 54 24.7 -0.6
JAN Janina 78.08 329 P P 16 54 26.1 +0.9
WHN Wuhan 78.08 45 ⇓P P 16 54 27.3 +1.9
JMB Yambol 78.08 335 P P 16 54 25.0 -0.1
AB31 Akbulak array 78.09 359 iP P 16 54 24.7 -0.3
ABKAR Akbulak array 78.09 359 P P 16 54 24.5 -0.5
NVR Nevrokopi 78.20 332 P P 16 54 26.4 +0.6
PENT Pentalofos 78.39 330 P P 16 54 27.5 +0.5
PRD Provadia 78.42 336 P P 16 54 26.0 -0.9
KNT Kendrikon 78.44 332 P P 16 54 26.7 -0.4
GRG Griva 78.48 331 P P 16 54 27.1 -0.3
LSK Leskovik 78.59 329 P P 16 54 28.6 +0.5
KEK Kerkira 78.60 329 P P 16 54 29.0 +0.9
KEK IAmb IAmb 16 54 30.5
comp=Z,97nm,0.9s
SRN Sarande 78.64 329 P P 16 54 27.7 -0.5
VAY Valandovo 78.71 331 iP P 16 54 28.1 -0.5
FNA Florina 78.77 330 P P 16 54 28.2 -0.8
FNA Florina 78.77 330 P P 16 54 28.2 -0.8
FNA pmax pmax
comp=Z,20nm,0.9s
KBN Korca 78.90 330 P P 16 54 29.8 0.0
KBN Korca 78.90 330 P P 16 54 29.5 -0.3
KBN IAmb IAmb 16 54 31.5
comp=Z,202nm,1.6s
KBN Korca 78.90 330 P P 16 54 29.5 -0.3
KBN pmax pmax
comp=Z,202nm,1.6s
SZH Strazhica 79.02 335 P P 16 54 29.5 -0.7
RAZG Razgrad 79.06 335 ⇑P P 16 54 30.4 -0.1
ICOR Ion Corvin 79.07 336 ⇑P P 16 54 30.8 +0.4
TIRR Tirgusor 79.16 337 ⇓P P 16 54 30.9 -0.1
TIRR Tirgusor 79.16 337 ⇓P P 16 54 30.9 -0.1
TIRR Tirgusor 79.16 337 P P 16 54 30.3 -0.7
TIRR Tirgusor 79.16 337 P P 16 54 31.3 +0.4
ZSN Zaisan 79.22 16⇓iP P 16 54 31.7 +0.4
baz=16
ZSN Zaisan 79.22 16diP P 16 54 31.7 +0.4
JURR Jurilovca 79.27 337 ⇑P P 16 54 31.7 +0.2
OHR Ohrid 79.29 330 iP P 16 54 32.2 +0.3
RAFF Raffo Rosso 79.29 324 P P 16 54 32.1 +0.2
RAFF IAmb IAmb 16 54 33.9
comp=Z,151nm,1.0s
CEL Celeste 79.31 325 P P 16 54 31.3 -0.7
AKTO Aktyubinsk 79.31 358 P P 16 54 31.6 -0.1
comp=Z,42nm,0.8s,baz=188,slow=3.5,SNR=103
AKTO LR LR 17 26 52.1
comp=Z,576nm,21.1s,baz=182,slow=34
comp=Z,42nm,0.8s
VAE Valguarnera 79.46 324 LR LR 17 30 08.6
comp=Z,711nm,19.0s,baz=132,slow=36
SCTE Santa Cesarea 79.50 328 P P 16 54 32.3 -0.6
SCTE IAmb IAmb 16 54 34.1
comp=Z,62nm,1.0s
TPGR Topolog 79.50 337 ⇓P P 16 54 32.4 -0.5
VTS Vitosha 79.52 333 ⇓P P 16 54 32.7 -0.5
VTS Vitosha 79.52 333 P P 16 54 32.1 -1.1
VTS Vitosha 79.52 333 P P 16 54 32.7 -0.5
VTS Vitosha 79.52 333 P P 16 54 32.0 -1.2
HARR Harsova 79.53 337 ⇓P P 16 54 32.6 -0.4
HARR Harsova 79.53 337 P P 16 54 32.9 0.0
TIP Timpagrande 79.60 326 ⇓P P 16 54 34.1 +0.5
TIP Timpagrande 79.60 326 P P 16 54 33.0 -0.6
TIP IAmb IAmb 16 54 35.3
comp=Z,174nm,1.8s
PLVB Pleven 79.62 334 ⇑P P 16 54 32.7 -0.8
LEHL Lehliu 79.73 336 ⇑P P 16 54 34.6 +0.5
LYN LuoYang 79.80 41 ⇓P P 16 54 34.8 +0.1
LYN S S 17 04 36.3 0.0
LYN pmax pmax
comp=Z,18nm,2.2s
LYN LR LR
comp=Z,340nm,16.7s
LYN LR LR
comp=Z,270nm,18.1s
LYN LR LR
comp=Z,340nm,19.1s
CFR Carcaliu 79.88 337 ⇓P P 16 54 34.9 +0.1
CFR Carcaliu 79.88 337 P P 16 54 34.9 +0.1
TIR Tirane 79.89 330 ⇓P P 16 54 35.8 +0.7
TIR Tirane 79.89 330 P P 16 54 35.1 +0.1
TIR IAmb IAmb 16 54 36.7
comp=Z,147nm,1.0s
TIR Tirane 79.89 330 P P 16 54 35.7 +0.7
SULR 80.11 336 ⇑P P 16 54 36.6 +0.5
WHZ Wether Hill Ro 80.17 137 P P 16 54 36.4 -0.4
WHZ IAmb IAmb 16 54 49.0
comp=Z,78nm,1.2s
SCHL Schela 80.27 337 ⇓P P 16 54 37.9 +1.0
TATR Tatarca 80.28 337 ⇑P P 16 54 37.3 +0.3
IZVR Izvoarele 80.33 337 ⇑P P 16 54 38.1 +0.8
SCTR Scanteiesti 80.36 337 ⇑P P 16 54 37.6 +0.2
SLCR Slobozia Conac 80.37 337 ⇓P P 16 54 37.7 +0.3
ISR Istrita 80.39 336 ⇓P P 16 54 37.4 -0.3
ISR Istrita 80.39 336 P P 16 54 38.2 +0.5
HUMR Humele 80.45 335 ⇑P P 16 54 37.9 -0.1
VLDR Vladesti 80.48 337 ⇓P P 16 54 38.1 0.0
PURM Purcari 80.50 339 ⇑P P 16 54 38.4 +0.2
VARL Varlezi 80.61 337 ⇓P P 16 54 39.0 +0.2
CUC Castrocucco 80.69 326 P P 16 54 38.0 -1.5
BISRR Bisoca 80.70 336 ⇓P P 16 54 39.7 +0.3
NEHR Nehoiu 80.74 336 ⇑P P 16 54 40.1 +0.6
ODBI Odobesti 80.76 337 ⇓P P 16 54 39.9 +0.3
MATE Matera 80.78 327 ⇓P P 16 54 39.8 0.0
PANC Panciu 80.83 337 ⇑P P 16 54 40.8 +0.8
GHRR 80.90 337 ⇓P P 16 54 41.1 +0.8
KEST Kesra 80.91 320 P P 16 54 41.5 +0.7
comp=Z,18nm,1.0s,baz=93,slow=4.2,SNR=18
KEST LR LR 17 32 20.1
comp=Z,2µm,18.1s,baz=46,slow=37
comp=Z,18nm,1.0s
KEST Kesra 80.91 320 P P 16 54 41.3 +0.5
KEST IAmb IAmb 16 54 45.0
comp=Z,166nm,1.5s
KEST Kesra 80.91 320 P P 16 54 43.6 +2.9
SNR=11
MLR Muntele Rosu 80.92 336 LR LR 17 30 32.3
comp=Z,590nm,18.3s,baz=172,slow=36
MLR Muntele Rosu 80.92 336 ⇓P P 16 54 40.0 -0.7
MLR Muntele Rosu 80.92 336 P P 16 54 40.0 -0.7
MLR IAmb IAmb 16 54 41.8
comp=Z,72nm,1.0s
MLR Muntele Rosu 80.92 336 P P 16 54 40.4 -0.3
KURBB Kurchatov Arra 80.94 11 LR LR 17 26 54.2
comp=Z,442nm,18.6s,baz=187,slow=33
KURBB Kurchatov Arra 80.94 11 P P 16 54 39.2 -1.2
VRI Vrincioaia 80.97 336 ⇓P P 16 54 40.8 +0.1
VRI Vrincioaia 80.97 336 P P 16 54 40.8 +0.1
PLOR Plostina 80.98 336 ⇓P P 16 54 40.9 0.0
PLOR Plostina 80.98 336 P P 16 54 40.8 0.0
BOVS Bovan 80.98 332 ⇑P P 16 54 40.3 -0.5
MTUR Matau 81.02 335 ⇑P P 16 54 40.7 -0.5
MTUR Matau 81.02 335 P P 16 54 40.6 -0.5
PUNG Punghina 81.03 333 ⇓P P 16 54 41.2 +0.1
SEM Semipalatinsk 81.03 12⇓iP P 16 54 41.3 +0.1
comp=Z,104nm,1.3s,baz=12
SEM Semipalatinsk 81.03 12diP P 16 54 41.3 +0.1
SEM pmax pmax
comp=Z,103nm,1.3s
PDG Podgorica 81.03 330 P P 16 54 40.4 -0.7
PDG IAmb IAmb 16 54 42.6
comp=Z,106nm,1.4s
KURK Kurchatov 81.04 11 P P 16 54 40.5 -0.4
KURK IAmb IAmb 16 54 42.5
comp=Z,144nm,1.2s
KURK Kurchatov 81.04 11ceP P 16 54 40.9 -0.1
KURK pmax pmax
comp=Z,91nm,1.1s
KURK MLR MLR
comp=Z,273nm,17.0s
COVR Voineasa-Covas 81.13 336 ⇑P P 16 54 41.4 -0.3
MILM Milestii Mici 81.18 338 iP P 16 54 42.0 +0.2
comp=Z,390nm,3.2s
MILM Milestii Mici 81.18 338 ⇓P P 16 54 42.1 +0.3
MILM Milestii Mici 81.18 338diP P 16 54 42.0 +0.2
MILM e 16 54 50.0
MILM pmax pmax
comp=Z,400nm,3.2s
VOIR 81.20 335 ⇓P P 16 54 41.3 -0.8
VOIR 81.20 335 P P 16 54 41.3 -0.8
SRE Strehaia 81.24 334 ⇓P P 16 54 42.9 +0.6
SRE Strehaia 81.24 334 P P 16 54 42.8 +0.6
KIS Kishinev 81.25 338⇓iP P 16 54 42.0 -0.2
comp=Z,200nm,4.7s
KIS Kishinev 81.25 338diP P 16 54 42.0 -0.2
KIS pmax pmax
comp=Z,200nm,4.7s
VASR Vaslui 81.28 337 ⇑P P 16 54 42.7 +0.3
ARR Arges 81.29 335 ⇓P P 16 54 41.8 -0.7
HCY Herceg Novi 81.38 330⇓iP P 16 54 42.9 -0.1
SJES Sjenica 81.40 331⇓iP P 16 54 43.1 -0.1
OZUR 81.50 336 ⇓P P 16 54 42.9 -0.7
DJES Djerdap 81.51 333 P P 16 54 42.9 -0.7
DOPR Dopca 81.53 336 ⇑P P 16 54 43.2 -0.5
TESR Tescani 81.55 337 ⇑P P 16 54 43.6 -0.3
TREB Trebinje 81.66 330 eP P 16 54 44.5 0.0
BRY Bratogost 81.73 330⇓iP P 16 54 45.1 +0.1
UPM Unac-Piva 81.81 330⇓iP P 16 54 45.6 +0.1
VRH Novokhopyorsk 81.85 348 eP P 16 54 45.2 0.0
VRH e 16 54 54.0
VRH pmax pmax
comp=Z,90nm,0.8s
NJ2 Nanjing 81.92 46⇑iP P 16 54 46.0 -0.1
NJ2 sP sP 16 54 53.3 -1.4
NJ2 pmax pmax
comp=Z,35nm,1.2s
RUDO Rudo 81.94 331 eP P 16 54 45.2 -0.8
DGZ Jazzator, Alta 81.95 17diP P 16 54 46.3 +0.3
DGZ pmax pmax
comp=Z,46nm,1.0s
DGZ MLR MLR
comp=Z,413nm,16.0s
GZR Gura Zlata 82.02 334 ⇑P P 16 54 46.3 -0.1
GZR Gura Zlata 82.02 334 P P 16 54 46.3 -0.1
PMG Port Moresby 82.03 96 LR LR 17 29 20.1
comp=Z,1µm,18.3s,baz=236,slow=34
PMG Port Moresby 82.03 96 P P 16 54 42.6 -4.5
PMG Port Moresby 82.03 96ceP P 16 54 44.5 -2.6
PMG pmax pmax
comp=Z,24nm,1.7s
TIY Taiyuan 82.06 39 eP P 16 54 46.8 0.0
TIY S S 17 05 03.0 +3.1
TIY pmax pmax
comp=Z,32nm,1.4s
TIY pmax pmax
comp=Z,400nm,4.4s
TIY LR LR
comp=Z,210nm,19.9s
TIY LR LR
comp=Z,210nm,17.9s
TIY LR LR
comp=Z,400nm,18.5s
DIVS Divibare 82.07 331 P P 16 54 46.5 -0.2
DIVS IAmb IAmb 16 54 48.4
comp=Z,99nm,1.3s
DIVS Divibare 82.07 331 ⇓iP P 16 54 45.7 -1.0
STON Ston 82.08 329⇓iP P 16 54 46.1 -0.5

BELG Belogornoye 82.09 352 LR LR 17 33 41.4
comp=Z,262nm,18.4s,baz=150,slow=38
BELG Belogornoye 82.09 352*d* iP **P** **16 54 46.1 -0.3**
BELG pmax pmax
comp=Z,52nm,1.0s
BELG MLR MLR
comp=Z,77nm,17.0s
SGRT San Giovanni R 82.09 327 P **P** **16 54 46.2 -0.7**
PAOL Paolisi 82.10 326 P **P** **16 54 45.6 -1.3**
PAOL IAmb IAmb 16 54 47.7
comp=Z,61nm,1.4s
BBLS Lazići 82.13 331⇓*i* P **P** **16 54 47.3 +0.3**
BVA0 Borovoye Array 82.26 6 *i* P **P** **16 54 46.4 -1.0**
BVAR Borovoye Array 82.26 6 P **P** **16 54 47.1 -0.3**
comp=Z,40nm,0.9s,baz=165,slow=6.2,SNR=107
BVAR LR LR 17 28 43.9
comp=Z,877nm,20.8s,baz=207,slow=34
comp=Z,40nm,0.9s
BRVK Borovoye 82.28 6 P **P** **16 54 46.8 -0.7**
BRVK IAmb IAmb 16 54 48.6
comp=Z,71nm,1.4s
BRVK Borovoye 82.28 6*ce* P **P** **16 54 47.3 -0.2**
BRVK pmax pmax
comp=Z,61nm,1.4s
BRVK MLR MLR
comp=Z,397nm,18.0s
VSR Storozhevoye 82.37 346 *e* P **P** **16 54 47.8 -0.1**
VSR *e* 16 54 56.1
VSR pmax pmax
comp=Z,120nm,1.2s
DEV Deva 82.38 334⇑P **P** **16 54 48.9 +0.7**
DEV Deva 82.38 334 P **P** **16 54 48.8 +0.7**
SORM Soroca 82.40 339⇓P **P** **16 54 47.4 -0.8**
SORM Soroca 82.40 339 P **P** **16 54 47.4 -0.8**
HAPS Han Pijesak,BI 82.50 331⇓*i* P **P** **16 54 49.5 +0.5**
SURR Surduc 82.57 334⇓P **P** **16 54 49.2 0.0**
BANR Banloc 82.66 333⇓P **P** **16 54 50.3 +0.7**
BZS Buzias 82.66 333⇓P **P** **16 54 49.3 -0.4**
BZS Buzias 82.66 333 P **P** **16 54 49.2 -0.4**
VORR Voronezh 82.79 346 *e* P **P** **16 54 49.0 -1.1**
VORR pmax pmax
comp=Z,110nm,1.0s
CJR Cluj-Napoca 82.82 335⇑P **P** **16 54 51.1 +0.6**
CJR Cluj-Napoca 82.82 335 P **P** **16 54 51.1 +0.6**
ARCR ARCALIA 82.86 336⇓P **P** **16 54 51.0 +0.3**
BTO Baotou 82.92 35 *e* P **P** **16 54 51.0 -0.2**
MARR Marisel-Cluj 82.96 335⇑P **P** **16 54 51.4 +0.1**
BURAR Bucovina Array 83.00 336⇑P **P** **16 54 51.8 +0.3**
BURAR Bucovina Array 83.00 336 P **P** **16 54 51.2 -0.3**
BURAR Bucovina Array 83.00 336 P **P** **16 54 51.8 +0.3**
FRGS Fruska Gora 83.01 332⇑P **P** **16 54 52.0 +0.5**
FRGS Fruska Gora 83.01 332⇓*i* P **P** **16 54 51.9 +0.4**
BUR08 Bucovina Ar. S 83.03 336 P **P** **16 54 51.7 +0.1**
HNS HongShan 83.10 40⇓P **P** **16 54 52.3 +0.2**
HNS *e*S **S** **17 05 13.5 +3.2**
HNS pmax pmax
comp=Z,49nm,1.6s
HNS LR LR
comp=Z,370nm,19.9s
HNS LR LR
comp=Z,500nm,23.9s
HNS LR LR
comp=Z,460nm,21.6s
SIRR Siria 83.18 334⇓P **P** **16 54 52.3 0.0**
DRGR 83.21 335⇑P **P** **16 54 52.2 -0.5**
DRGR 83.21 335 P **P** **16 54 52.1 -0.5**
RPZ Rata Peaks 83.21 137 LR LR 17 23 20.3
comp=Z,2µm,21.6s,baz=234,slow=30
TIA Tai'an 83.67 42⇑P **P** **16 54 55.0 -0.1**
TIA S **S** **17 05 16.5 +0.3**
TIA pmax pmax
comp=Z,19nm,1.2s
TIA pmax pmax
comp=Z,490nm,3.6s
AQU L'Aquila 83.67 326 P **P** **16 54 54.1 -0.9**
AQU IAmb IAmb 16 55 24.1
comp=Z,49nm,1.1s
AQU L'Aquila 83.67 326 P **P** **16 54 54.1 -0.9**
AQU pmax pmax
comp=Z,49nm,1.1s
LPSR Galich'ya Gora 83.72 347 *e* P **P** **16 54 55.1 +0.2**
LPSR *e* 16 55 03.6
LPSR pmax pmax
comp=Z,80nm,1.0s
BLY Banja Luka 83.79 330⇓*i* P **P** **16 54 54.8 -0.7**
CAMP Campotosto 83.81 327 P **P** **16 54 54.8 -1.0**
CAMP IAmb IAmb 16 54 56.3
comp=Z,85nm,1.3s
A050A Klekovaca 83.87 330⇓*i* P **P** **16 54 55.3 -0.7**
HHC Hu-ho-hao-te 83.88 36⇓*i* P **P** **16 54 56.5 +0.3**
HHC S **S** **17 05 21.0 +2.6**
HHC pmax pmax
comp=Z,74nm,1.7s
HHC pmax pmax
comp=Z,440nm,4.6s
HHC LR LR
comp=Z,550nm,15.5s
HHC LR LR
comp=Z,520nm,16.3s
HHC LR LR
comp=Z,580nm,19.1s
A051A Mrakovica 84.12 330⇓*i* P **P** **16 54 56.8 -0.5**
GUMA Gualdo di Mace 84.24 327 P **P** **16 54 56.4 -1.5**
GUMA IAmb IAmb 16 55 00.1
comp=Z,52nm,1.0s
CESX Cesi 84.26 326 P **P** **16 54 56.5 -1.5**
FDMO Fiordimonte 84.34 327 P **P** **16 54 57.0 -1.3**
MORH Mrgy, Hungar 84.34 332⇑P **P** **16 54 57.7 -0.6**
TRPA Tarpa 84.40 335⇑P **P** **16 54 58.6 +0.1**
AKASG Malin Array Be 84.40 340 P **P** **16 54 58.0 -0.4**
comp=Z,31nm,0.8s,baz=162,slow=4.3,SNR=110
AKASG PP **PP** **16 58 14.8 +0.7**
comp=Z,0.5nm,0.7s,baz=139,slow=8.7,SNR=4.6
AKASG LR LR 17 32 47.4
comp=Z,295nm,18.9s,baz=148,slow=36
comp=Z,31nm,0.8s
AKASG Malin Array Be 84.40 340 P **P** **16 54 57.5 -0.9**
AKASG IAmb IAmb 16 54 59.3
comp=Z,61nm,1.1s
AKASG Malin Array Be 84.40 340 P **P** **16 54 58.0 -0.4**
AKBB Malin Array Si 84.40 340 P **P** **16 54 57.5 -1.0**
AKBB IAmb IAmb 16 54 59.2
comp=Z,77nm,1.0s
AKBB Malin Array Si 84.40 340*ce* P **P** **16 54 57.9 -0.5**
AKBB pmax pmax
comp=Z,91nm,1.1s
LATE Laterza 84.64 326 P **P** **16 54 58.5 -1.5**
LATE IAmb IAmb 16 55 00.7
comp=Z,95nm,1.2s
MURB Monte Urbino 84.78 327 P **P** **16 54 59.4 -1.2**
MURB IAmb IAmb 16 55 26.0
comp=Z,42nm,1.2s
UZH Uzhgorod 84.91 335*c* *i* P **P** **16 55 00.0 -1.0**
UZH *i* 16 55 03.5
FIGM Figuig 85.02 311 P **P** **16 55 04.1 +1.9**
PSZ Piszkesteto 85.22 334 P **P** **16 55 01.7 -1.1**
PSZ Piszkesteto 85.22 334 P **P** **16 55 01.7 -1.1**
PSZ pmax pmax
comp=Z,23nm,1.0s
BOJS Bojanci 85.23 330 *i* P **P** **16 55 02.1 -0.6**
BOJS Bojanci 85.23 330⇓*i* P **P** **16 55 01.9 -0.9**
CASP Castiglione de 85.24 325 P **P** **16 55 01.6 -1.3**
CASP IAmb IAmb 16 55 03.1
comp=Z,59nm,1.1s
ZAA0 Zalesovo Array 85.29 14 P **P** **16 55 01.9 -1.0**
ZAA0 IAmb IAmb 16 55 04.6
comp=Z,106nm,1.1s
ZALV Zalesovo Beam 85.29 14 P **P** **16 55 02.4 -0.5**
comp=Z,49nm,0.8s,baz=206,slow=3.8,SNR=185
ZALV LR LR 17 29 35.5
comp=Z,436nm,19.2s,baz=234,slow=33
comp=Z,49nm,0.8s
ZALV Zalesovo Beam 85.29 14 P **P** **16 55 01.8 -1.0**
LVV L'vov 85.29 337 *e* P **P** **16 55 01.2 -1.8**
LVV *e*S **S** **17 05 27.0 -4.8**
LVV *e* 17 06 30.1
LVV pmax pmax
comp=Z,60nm,1.4s
LVV MLR MLR
comp=E,400nm,17.0s
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=Z,700nm,18.0s

ARU Arti 85.30 359 P **P** **16 55 01.7 -1.1**
ARU Arti 85.30 359*d* iP **P** **16 55 03.1 +0.3**
ARU 16 58 19.1
ARU S **S** **17 05 27.7 -3.9**
ARU SS **SS** **17 11 09.1 +1.9**
ARU pmax pmax
comp=Z,224nm,1.5s
CRES Cresnjev 85.39 330⇓*i* P **P** **16 55 02.8 -0.8**
CRVS Cervenica-Dubn 85.44 335 *e* P **P** **16 55 03.8 0.0**
CRVS pmax pmax
comp=Z,64nm,1.1s
CRVS Cervenica-Dubn 85.44 335 *e* P **P** **16 55 03.8 0.0**
KOGS Kog 85.53 331 *i* P **P** **16 55 04.0 -0.3**
SVE Sverdlovsk 85.67 360*c* *i* P **P** **16 55 05.3 +0.6**
SVE pmax pmax
comp=Z,218nm,1.4s
BJI Beijing 85.76 39 P **P** **16 55 07.0 +1.5**
BJI S **S** **17 05 38.8 +2.0**
BJI LR LR
comp=Z,180nm,16.9s
BJI LR LR
comp=Z,150nm,15.9s
BJI LR LR
comp=Z,260nm,17.5s
SRO Srobarova 85.76 333 *e* P **P** **16 55 05.4 +0.1**
SRO pmax pmax
comp=Z,360nm,3.0s
SRO Srobarova 85.76 333 *e* P **P** **16 55 05.4 +0.1**
CEY Cerknica 85.78 329⇓*i* P **P** **16 55 04.6 -1.0**
SKDS Skadanscina 85.82 329⇓*i* P **P** **16 55 04.7 -1.0**
STHS Stebnicka Huta 85.94 335 *e* P **P** **16 55 05.1 -1.2**
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 85.94 335 *e* P **P** **16 55 05.1 -1.2**
VYHS Vyhne 86.11 333 *e* P **P** **16 55 06.6 -0.5**
VYHS pmax pmax
comp=Z,29nm,1.1s
VYHS Vyhne 86.11 333 *e* P **P** **16 55 06.6 -0.5**
PERS Pernice 86.17 330 *i* P **P** **16 55 07.1 -0.4**
SOKA Soboth 86.24 330 *e* P **P** **16 55 07.5 -0.3**
comp=Z,16nm,1.0s,SNR=10
CMWZ Cape Campbell 86.25 136 P **P** **16 55 06.7 -1.6**
OBKA Obir 86.32 330 *e* P **P** **16 55 07.9 -0.4**
comp=Z,23nm,1.1s,SNR=8.8
OBKA Obir 86.32 330⇓*i* P **P** **16 55 07.3 -1.0**
SABO M.te Sabotino 86.34 329 P **P** **16 55 07.4 -0.9**
SABO IAmb IAmb 16 55 08.3
comp=Z,21nm,0.9s
ZCCA Zocca 86.34 326 P **P** **16 55 07.5 -0.8**
LANS Liptovska Anna 86.39 334 *e* P **P** **16 55 09.0 +0.5**
LANS pmax pmax
comp=Z,15nm,1.0s
LANS Liptovska Anna 86.39 334 *e* P **P** **16 55 09.0 +0.5**
ARSA Arzberg 86.47 331 *e* P **P** **16 55 08.6 -0.3**
comp=Z,16nm,1.0s,SNR=11
RONA Rosalia, Austr 86.50 331 *e* P **P** **16 55 08.8 -0.2**
comp=Z,49nm,1.8s,SNR=18
ZST Bratislava 86.56 332 *e* P **P** **16 55 08.8 -0.5**
ZST pmax pmax
comp=Z,112nm,1.3s
ZST Bratislava 86.56 332 *e* P **P** **16 55 08.8 -0.5**
ARF Arif 86.57 309 P **P** **16 55 12.1 +2.2**
OBN Obninsk 86.57 346 LR LR 17 33 57.1
comp=Z,164nm,19.1s,baz=165,slow=36
OBN Obninsk 86.57 346⇓*i* P **P** **16 55 09.4 +0.3**
OBN Obninsk 86.57 346 P **P** **16 55 08.1 -1.1**
OBN Obninsk 86.57 346*d* *i* P **P** **16 55 09.5 +0.4**
OBN pmax pmax
comp=Z,116nm,1.1s
OBN MLR MLR
comp=Z,615nm,19.0s
MODS Modra-Piesok 86.63 332 *e* P **P** **16 55 09.0 -0.7**
MODS pmax pmax
comp=Z,436nm,2.2s
MODS Modra-Piesok 86.63 332 *e* P **P** **16 55 09.0 -0.7**
BBTS Babate 86.64 289 LR LR 17 31 12.7
comp=Z,2µm,21.3s,baz=96,slow=34
SMOL Smolenice 86.68 333 *e* P **P** **16 55 09.6 -0.3**
SMOL pmax pmax
comp=Z,66nm,2.5s
PRED Cave del Predi 86.71 329 P **P** **16 55 07.7 -2.5**
ZGR Zagora 86.75 307 P **P** **16 55 13.0 +2.1**
TEOL Teolo 86.76 328 P **P** **16 55 09.2 -1.1**
TEOL IAmb IAmb 16 55 11.8
comp=Z,86nm,1.2s
SONM Songino Array 86.77 29 P **P** **16 55 09.9 -0.6**
comp=Z,11nm,0.9s,baz=216,slow=3.0,SNR=54
SONM PKKP **PKKPdf** **17 13 02.8 +1.7**
comp=Z,0.8nm,0.9s,baz=3.1,slow=2.6,SNR=4.3
SONM LR LR 17 31 33.9
comp=Z,707nm,20.4s,baz=276,slow=34
comp=Z,11nm,0.9s
SONM Songino Array 86.77 29 P **P** **16 55 09.6 -0.9**
MYKA Terra Mystica 86.81 329 *e* P **P** **16 55 10.5 -0.2**
comp=Z,9.7nm,1.0s,SNR=5.7
JAVC Velka Javorina 86.86 333 *e* P **P** **16 55 11.1 +0.3**
CONA Conrad Observa 86.86 331 *e* P **P** **16 55 10.5 -0.4**
comp=Z,75nm,1.7s,SNR=34
MOS Moscow 86.94 347 *e* P **P** **16 55 09.0 -1.9**
MOS pmax pmax
comp=Z,299nm,1.7s
STAL STALIGIAL 86.95 329 P **P** **16 55 10.4 -0.9**
CLUD Cludinico 87.02 329 P **P** **16 55 10.8 -0.9**
ULN Ulaanbaatar 87.08 29 P **P** **16 55 11.2 -0.8**
ULN Ulaanbaatar 87.08 29*ce* P **P** **16 55 11.6 -0.4**
ULN pmax pmax
comp=Z,17nm,1.1s
ULN MLR MLR
comp=Z,335nm,17.0s
TZRR Tazzarine 87.11 308 P **P** **16 55 15.1 +2.5**
CIMO Cimolais 87.11 329 P **P** **16 55 11.1 -1.0**
CIMO IAmb IAmb 16 55 12.3
comp=Z,12nm,0.9s
OJC Ojcow 87.14 335 P **P** **16 55 11.0 -1.1**
OJC Ojcow 87.14 335 P **P** **16 55 11.0 -1.1**
OJC pmax pmax
comp=Z,202nm,1.9s
MAUC Maruska 87.20 333 *e* P **P** **16 55 12.2 -0.2**
MAUC *ep* P **sP** **16 55 20.8 -0.2**
GOLM Goulmima 87.23 309 P **P** **16 55 16.0 +2.8**
JBK JBK 87.24 312 P **P** **16 55 15.0 +1.8**
CTI Castel Tesino 87.28 328 P **P** **16 55 12.3 -0.7**
CTI IAmb IAmb 16 55 15.9
comp=Z,110nm,1.9s
CTI Castel Tesino 87.28 328 P **P** **16 55 12.3 -0.7**
CTI pmax pmax
comp=Z,110nm,1.9s
KBA Koelnbreinsper 87.29 330 *e* P **P** **16 55 12.6 -0.5**
comp=Z,31nm,1.5s,SNR=10
ABTA Abfaltersbach 87.41 329 *e* P **P** **16 55 13.7 +0.1**
comp=Z,16nm,1.0s,SNR=28
TAF Taforalt 87.44 312 P **P** **16 55 16.4 +2.4**
OKC Ostrava-Krasne 87.46 334 *e* P **P** **16 55 13.0 -0.6**
OKC *ep* **sP** **16 55 22.0 -0.1**
OKC Ostrava-Krasne 87.46 334 *e* P **P** **16 55 13.0 -0.6**
OKC *e* 16 55 22.0
MOA Molln 87.48 331 *e* P **P** **16 55 13.5 -0.3**
comp=Z,53nm,1.2s,SNR=19
SALO Salr 87.49 327 P **P** **16 55 13.3 -0.7**
SALO IAmb IAmb 16 55 29.0
comp=Z,141nm,1.7s
KRUC Moravsky **87.53 332** *e* P **P** **16 55 13.3 -0.7**
ZAK Zakamensk 87.57 25 *e* P **P** **16 55 13.3 -1.0**
ZAK pmax pmax
comp=Z,12nm,1.6s
BIOA Bad Ischl, Aus 87.63 330 *e* P **P** **16 55 13.8 -0.7**
comp=Z,48nm,1.8s,SNR=27
MORC Moravsky Berou 87.64 333⇓P **P** **16 55 14.1 -0.5**
MORC Moravsky Berou 87.64 333 P **P** **16 55 13.5 -1.1**
MORC Moravsky Berou 87.64 333 *e* P **P** **16 55 13.9 -0.7**
MORC Moravsky Berou 87.64 333 P **P** **16 55 14.1 -0.5**
VRAC Vranov 87.65 333 LR LR 17 33 01.2
comp=Z,260nm,21.4s,baz=174,slow=35
VRAC Vranov 87.65 333⇑P **P** **16 55 14.8 +0.2**
VRAC Vranov 87.65 333 *e* P **P** **16 55 13.9 -0.7**
VRAC Vranov 87.65 333 P **P** **16 55 14.8 +0.2**
MDT Midelt 87.66 310 P **P** **16 55 15.3 +0.2**
comp=Z,11nm,0.9s,baz=115,slow=4.9,SNR=30
MDT LR LR 17 34 11.4
comp=Z,1µm,19.4s,baz=130,slow=35
comp=Z,11nm,0.9s
MDT Midelt 87.66 310 P **P** **16 55 17.2 +2.0**
KIRV Kirov 87.98 354 LR LR 17 35 55.5
comp=Z,448nm,18.2s,baz=171,slow=36

KIRV Kirov 87.98 354*ce* P **P** **16 55 14.8 -1.1**
OUZM OUZ 88.01 307 P **P** **16 55 19.0 +2.1**
TREC Trest 88.08 332 *ep* P **P** **16 55 16.3 -0.4**
TREC Trest 88.08 332 *ep* P **P** **16 55 16.3 -0.4**
MNK Minsk 88.14 341 *i* P **P** **16 55 16.0 -0.7**
comp=E,6.0nm,1.0s
MNK *i* P **P** **16 55 16.0 -0.7**
comp=N,63nm,1.3s
MNK *i* P **P** **16 55 16.0 -0.7**
comp=Z,159nm,1.0s,baz=151
MNK *i* PP **PP** **16 58 41.3 -3.0**
MNK *i* PPP PPP 17 00 35.9
MNK *i* S **SKSac** **17 05 44.1 +0.7**
MNK *i* SS **SS** **17 11 49.7 +0.8**
MNK *i* SSS SSS 17 15 25.3
MNK *i* LQ LQ 17 29 06.8
MNK *i* LR LR 17 31 48.2
MNK *i* LRM MLR 17 34 38.3
comp=E,94nm,18.1s
MNK *i* LRM MLR 17 35 08.4
comp=N,430nm,20.6s
MNK *i* LRM MLR 17 35 09.3
comp=Z,267nm,24.1s
MNK Minsk 88.14 341 *i* P **P** **16 55 16.0 -0.7**
MNK *i* 16 58 41.3
MNK *i* S **SKSac** **17 05 44.1 +0.7**
MNK *i* SS **SS** **17 11 49.7 +0.8**
MNK *i* SSS SSS 17 15 25.2
MNK pmax pmax
comp=Z,159nm,1.0s
MNK pmax pmax
comp=N,63nm,1.3s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK MLR MLR
comp=E,94nm,18.0s
MNK MLR MLR
comp=N,430nm,21.0s
MNK MLR MLR
comp=Z,267nm,24.0s
KRLC Kraliky 88.18 333 *e* P **P** **16 55 16.2 -0.9**
KRLC *ep* **sP** **16 55 25.3 -0.4**
KRLC Kraliky 88.18 333 *e* P **P** **16 55 16.2 -0.9**
KRLC *e* 16 55 25.3
AKLM AKL 88.19 312 P **P** **16 55 20.0 +2.3**
WTTA Wattenberg 88.19 329 *i* P **P** **16 55 17.2 -0.3**
comp=Z,57nm,1.1s,SNR=25
CKRC Cesky Krumlov 88.21 331 *e* P **P** **16 55 15.4 -1.9**
WATA Walderalm 88.28 329 *i* P **P** **16 55 17.3 -0.5**
comp=Z,52nm,1.2s,SNR=24
CART Cartagena 88.29 315 P **P** **16 55 18.3 +0.5**
FUORN Ofenpass-Fuorn 88.35 328 P **P** **16 55 18.0 -0.3**
FUORN IAmb IAmb 16 55 41.1
comp=Z,38nm,1.1s
SQTA Sankt Quirin 88.36 329 *i* P **P** **16 55 17.8 -0.3**
comp=Z,78nm,1.6s,SNR=20
XLT XiLinHaoTe 88.40 36 *e* P **P** **16 55 17.3 -1.1**
XLT *ep* P **P** **16 55 23.0 -1.7**
XLT sP sP 16 55 27.3 +0.3
XLT SKS **SKSac** **17 05 44.0 -1.7**
XLT S **S** **17 06 05.3 +2.9**
XLT sS pS 17 06 10.0 -0.3
XLT pmax pmax
comp=Z,14nm,1.2s
XLT pmax pmax
comp=Z,340nm,5.0s
XLT LR LR
comp=Z,340nm,20.0s
XLT LR LR
comp=Z,380nm,17.9s
FETA Feichten 88.43 328 *e* P **P** **16 55 18.5 -0.1**
comp=Z,58nm,0.9s,SNR=26
GEC2 GERESS Array S 88.48 331 P **P** **16 55 17.5 -1.1**
GEC2 IAmb IAmb 16 55 19.1
comp=Z,65nm,1.7s
GERES GERESS Array B 88.48 331 P **P** **16 55 17.8 -0.9**
comp=Z,5.2nm,1.0s,baz=134,slow=5.8,SNR=34
GERES PP **PP** **16 58 45.5 -1.8**
comp=Z,1.5nm,1.0s,baz=155,slow=10,SNR=3.5
GERES LR LR 17 33 27.2
comp=Z,196nm,21.1s,baz=142,slow=35
comp=Z,5.2nm,1.0s
GERES GERESS Array B 88.48 331 P **P** **16 55 17.2 -1.4**
MOTA Moosalm 88.50 329 *i* P **P** **16 55 18.5 -0.3**
comp=Z,49nm,1.0s,SNR=27
DPC Dobruska-Polom 88.58 333 *e* P **P** **16 55 18.4 -0.6**
DPC *ex* x 16 55 27.4
DPC Dobruska-Polom 88.58 333 *e* P **P** **16 55 18.4 -0.6**
DPC *e* 16 55 27.4
DAVOX Davos/Dischmat 88.65 328 LR LR 17 34 52.5
comp=Z,186nm,21.2s,baz=150,slow=36
TUE Stuetta 88.67 327 P **P** **16 55 18.8 -1.0**
TUE IAmb IAmb 16 55 29.7
comp=Z,48nm,1.0s
KRVT Keravat (AS076 88.69 94 LR LR 17 34 25.9
comp=Z,593nm,18.1s,baz=20,slow=35
KHC Kasperske Hory 88.75 331 P **P** **16 55 18.4 -1.4**
KHC IAmb IAmb 16 55 20.4
comp=Z,56nm,1.5s
KHC Kasperske Hory 88.75 331 *e* P **P** **16 55 18.5 -1.4**
KHC *ep* **sP** **16 55 27.3 -1.1**
KHC Kasperske Hory 88.75 331 *e* P **P** **16 55 18.5 -1.4**
KHC *e* 16 55 27.3
RETA Reutte 88.76 328 *i* P **P** **16 55 19.9 -0.1**
comp=Z,26nm,0.8s,SNR=22
OSTC Ostas 88.78 333 *e* P **P** **16 55 19.7 -0.2**
OSTC *ex* x 16 55 28.6
NACGM Naroch 88.81 341⇓*e* P **P** **16 55 20.1 +0.2**
comp=E,2µm,0.9s
UPC Upice 88.82 333 *e* P **P** **16 55 20.3 +0.2**
UPC *ep* **sP** **16 55 29.0 +0.4**
UPC Upice 88.82 333 *e* P **P** **16 55 20.3 +0.2**
UPC *e* 16 55 29.0
GOPC GO Pecny, Ondr 88.85 332 *e* P **P** **16 55 20.0 -0.3**
GOPC *ep* **sP** **16 55 28.4 -0.4**
GOPC GO Pecny, Ondr 88.85 332 *e* P **P** **16 55 20.0 -0.3**
GOPC *e* 16 55 28.4
OUK Oukaimeden 88.95 307 P **P** **16 55 24.0 +2.3**
BNI Bardonecchia 88.97 325 P **P** **16 55 20.5 -0.6**
BNI Bardonecchia 88.97 325 P **P** **16 55 20.5 -0.6**
BNI pmax pmax
comp=Z,23nm,1.0s
PRU Pruhonice 89.01 332 *e* P **P** **16 55 20.5 -0.5**
PRU *ep* **sP** **16 55 29.4 -0.1**
PRU Pruhonice 89.01 332 *e* P **P** **16 55 20.5 -0.5**
PRU *e* 16 55 29.4
DAVA Damuels 89.02 328 *e* P **P** **16 55 21.1 -0.2**
comp=Z,44nm,0.8s,SNR=15
IDID Didziasalis 89.18 341 *e* P P 16 55 08.4 -13
ZHG ZHG 89.41 309 P **P** **16 55 26.0 +2.6**
PVCC Panska Ves 89.42 332 *e* P **P** **16 55 23.0 +0.1**
PVCC *ep* **sP** **16 55 30.3 -1.1**
PVCC Panska Ves 89.42 332 *e* P **P** **16 55 23.0 +0.1**
PVCC *e* 16 55 30.3
IRK Irkutsk 89.44 25 *e* P **P** **16 55 22.2 -0.7**
IRK pmax pmax
comp=Z,127nm,2.3s
SENIN Lac Senin/Sane 89.58 326 P **P** **16 55 23.4 -0.7**
SRHM Skhour des Reh 89.70 308 P **P** **16 55 27.0 +2.2**
SMIR Smir Dam 89.89 312 P **P** **16 55 27.1 +1.6**
BRG Berggiesshubel 89.94 332⇓*i* P **P** **16 55 25.6 +0.3**
BRG Amp 16 55 27.9
comp=Z,59nm,1.3s
BRG Berggiesshubel 89.94 332 P P 16 55 34.7 +9.4
BRG Amp 16 55 35.7
comp=Z,44nm,1.2s
BRG Berggiesshubel 89.94 332 P P 16 55 40.4 +15
BRG Amp 16 55 42.2
comp=Z,59nm,1.5s
BRG Berggiesshubel 89.94 332⇓*i* P **P** **16 55 25.6 +0.3**
BRG 16 55 34.7
BRG pmax pmax
comp=Z,59nm,1.3s
BRG pmax pmax
comp=Z,44nm,1.2s
BRG pmax pmax
comp=Z,59nm,1.5s
NKC Novy Kostel 90.07 331 *e* P **P** **16 55 25.5 -0.5**
NKC *ep* **sP** **16 55 35.0 +0.5**
NKC Novy Kostel 90.07 331 *e* P **P** **16 55 25.5 -0.5**
URZ Urewera 90.13 135 LR LR 17 29 49.0
comp=Z,1µm,18.1s,baz=306,slow=32
PABE Paberze 90.15 340 P **P** **16 55 26.6 +0.4**
PABE IAmb IAmb 16 55 27.6

	comp=Z,70nm,1.1s								
PABE	**Paberze**	**90.15**	**340**	*e*P	**P**	**16**	**55**	**27.4**	**+1.3**
GRA1	**Grafenberg Arr**	**90.19**	**330**	P	**P**	**16**	**55**	**26.1**	**-0.4**
GRF	**Grafenberg Arr**	**90.19**	**330**	P	**P**	**16**	**55**	**26.1**	**-0.4**
GRF				pmax	pmax				
	comp=Z,118nm,1.3s								
GRF	**Grafenberg Arr**	**90.19**	**330**	*e*P	**P**	**16**	**55**	**26.4**	**-0.1**
	comp=Z,84nm,1.3s,baz=132,slow=5.7								
GRF				*e*pP	**sP**	**16**	**55**	**35.7**	**+0.6**
GRF				*e*L	L	17	31	05.2	
	comp=Z,462nm,26.9s								
GRFO	**Grafenberg**	**90.19**	**330**	P	**P**	**16**	**55**	**26.3**	**-0.2**
GRFO				IAmb	IAmb	16	55	37.2	
	comp=Z,107nm,1.3s								
GRFO	**Grafenberg**	**90.19**	**330**	P	**P**	**16**	**55**	**26.3**	**-0.2**
GRFO				pmax	pmax				
	comp=Z,107nm,1.3s								
SSB	**Saint Sauveur**	**90.21**	**324**	P	**P**	**16**	**55**	**26.6**	**-0.2**
SSB				IAmb	IAmb	16	55	42.3	
	comp=Z,77nm,1.8s								
SSB	**Saint Sauveur**	**90.21**	**324**	P	**P**	**16**	**55**	**26.6**	**-0.2**
SSB				pmax	pmax				
	comp=Z,77nm,1.8s								
STU	**Stuttgart**	**90.42**	**329**	P	**P**	**16**	**55**	**26.8**	**-0.8**
STU				IAmb	IAmb	16	55	29.1	
	comp=Z,84nm,1.6s								
STU	**Stuttgart**	**90.42**	**329**	P	**P**	**16**	**55**	**26.8**	**-0.8**
STU				pmax	pmax				
	comp=Z,84nm,1.6s								
BFO	**Black Forest**	**90.49**	**328**	P	**P**	**16**	**55**	**27.1**	**-0.9**
BFO				IAmb	IAmb	16	55	29.5	
	comp=Z,99nm,1.8s								
BFO	**Black Forest**	**90.49**	**328**	P	**P**	**16**	**55**	**27.1**	**-0.9**
BFO				pmax	pmax				
	comp=Z,99nm,1.8s								
GKP	**Gorka Klasztor**	**90.54**	**335**	*e*P	**P**	**16**	**55**	**28.3**	**+0.3**
JNU	**Nakatsue**	**90.55**	**52**	LR	LR	17	35	14.3	
	comp=Z,231nm,19.1s,baz=296,slow=35								
VSVD	**Vaisvydziai**	**90.56**	**340**	*e*P	**P**	**16**	**55**	**29.0**	**+0.9**
CLL	**Collm**	**90.65**	**332**	P	**P**	**16**	**55**	**28.0**	**-0.6**
CLL				IAmb	IAmb	16	55	31.5	
	comp=Z,68nm,1.5s								
CLL	**Collm**	**90.65**	**332**	*i* P	**P**	**16**	**55**	**28.4**	**-0.2**
	comp=Z,169nm,2.0s								
CLL				*i* x	x	16	55	37.2	
CLL				*e*PP	**PP**	**16**	**59**	**03.0**	**-1.4**
CLL				*ex*	x	16	59	19.0	
CLL				*e*PPS	PPS	17	08	06.0	
CLL				*e*SS	SS	17	12	18.0	-7.5
CLL				LmV		17	42	00.0	
	comp=Z,300nm,18.8s								
CLL	**Collm**	**90.65**	**332**	*i* P	**P**	**16**	**55**	**28.4**	**-0.2**
CLL				*i*		16	55	37.2	
CLL				pmax	pmax				
	comp=Z,169nm,2.0s								
CLL				MLR	MLR				
	comp=Z,300nm,18.8s								
BSFB	**Barra de Sao F**	**90.94**	**248**	*e*P	**P**	**16**	**55**	**31.9**	**+1.0**
ECH	**Echery**	**90.96**	**327**	P	**P**	**16**	**55**	**29.6**	**-0.6**
ECH				IAmb	IAmb	16	55	31.4	
	comp=Z,58nm,1.7s								
ECH	**Echery**	**90.96**	**327**	P	**P**	**16**	**55**	**29.6**	**-0.6**
ECH				pmax	pmax				
	comp=Z,58nm,1.7s								
KSAR	**Wonju Array Be**	**91.08**	**47**	P	**P**	**16**	**55**	**29.7**	**-1.3**
KSAR	**Wonju Array Be**	**91.08**	**47**	P	**P**	**16**	**55**	**29.7**	**-1.3**
KSRS	**Korea Array**	**91.11**	**47**	P	**P**	**16**	**55**	**30.2**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=247,slow=4.6,SNR=11								
KSRS				PKKPbc	**PKKPbc**	**17**	**12**	**54.4**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=23,slow=1.6,SNR=5.3								
KSRS				LR	LR	17	35	11.0	
	comp=Z,194nm,19.7s,baz=240,slow=35								
	comp=Z,4.6nm,0.8s								
GUMO	**Guam**	**91.16**	**75**	LR	LR	17	32	46.2	
	comp=Z,80nm,19.4s,baz=200,slow=33								
SJMB	**Sao Joao De Ma**	**91.28**	**248**	*e*P	**P**	**16**	**55**	**33.2**	**+0.7**
ESBB	**Sonseca Array**	**91.40**	**316**	P	**P**	**16**	**55**	**32.3**	**-0.1**
ESBB				IAmb	IAmb	16	55	35.1	
	comp=Z,100nm,1.4s								
ESDC	**Sonseca Array**	**91.40**	**316**	P	**P**	**16**	**55**	**33.5**	**+1.1**
	comp=Z,23nm,1.1s,baz=115,slow=3.5,SNR=74								
ESDC				LR	LR	17	35	38.7	
	comp=Z,647nm,21.1s,baz=118,slow=35								
	comp=Z,23nm,1.1s								
ESDC	**Sonseca Array**	**91.40**	**316**	P	**P**	**16**	**55**	**32.8**	**+0.3**
ESDC				IAmb	IAmb	16	55	35.1	
	comp=Z,100nm,1.4s								
KLMR	**Klimovskoe**	**91.44**	**350**	*e*P	**P**	**16**	**55**	**29.3**	**-2.7**
KLMR				AMP		16	55	32.9	
	comp=Z,106nm,1.2s								
KLMR				LR	LR	17	30	59.8	
KLMR	**Klimovskoe**	**91.44**	**350**	*e*P	**P**	**16**	**55**	**29.3**	**-2.7**
KLMR				pmax	pmax				
	comp=Z,106nm,1.2s								
PAB	**San Pablo**	**91.56**	**315**	P	**P**	**16**	**55**	**33.7**	**+0.4**
PAB				IAmb	IAmb	16	55	35.9	
	comp=Z,97nm,1.4s								
PAB	**San Pablo**	**91.56**	**315**	P	**P**	**16**	**55**	**35.0**	**+1.7**
PAB	**San Pablo**	**91.56**	**315**	P	**P**	**16**	**55**	**34.4**	**+1.1**
DZM	**Mont Dzumac**	**91.88**	**116**	*e*SS	SS	17	12	45.1	+1.6
	comp=Z,639nm,26.4s								
DZM	**Mont Dzumac**	**91.88**	**116**	*e*LR	LR	17	24	59.0	
	comp=Z,891nm,22.4s								
DZM	**Mont Dzumac**	**91.88**	**116**	LR	LR	17	30	19.6	
	comp=Z,660nm,20.9s,baz=218,slow=31								
PVAQ	**Vaqueiros**	**92.42**	**312**	*e*P	**P**	**16**	**55**	**38.4**	**+1.2**
	comp=Z,44nm,1.7s								
PVAQ	**Vaqueiros**	**92.42**	**312**	*e*LR	LR	17	29	29.8	
	comp=Z,572nm,18.0s								
PBAR	**Barrancos**	**92.43**	**313**	*e*P	**P**	**16**	**55**	**39.6**	**+2.4**
PCVE	**Castro Verde**	**92.77**	**312**	*e*P	**P**	**16**	**55**	**40.7**	**+1.9**
	comp=Z,93nm,1.3s								
PBEJ	**Beja**	**92.88**	**312**	*e*P	**P**	**16**	**55**	**40.8**	**+1.5**
	comp=Z,52nm,1.5s								
MORF	**Marmelete**	**92.98**	**311**	*e*P	**P**	**16**	**55**	**41.5**	**+1.7**
MESJ	**Messejana**	**93.00**	**312**	*e*P	**P**	**16**	**55**	**41.7**	**+1.8**
	comp=Z,56nm,1.4s								
HNR	**Honiara**	**93.04**	**102**	LR	LR	17	32	53.3	
	comp=Z,11µm,21.9s,baz=253,slow=33								
PESTR	**Estremoz**	**93.19**	**313**	*e*P	**P**	**16**	**55**	**42.4**	**+1.7**
	comp=Z,56nm,1.3s								
PESTR	**Estremoz**	**93.19**	**313**	P	**P**	**16**	**55**	**41.1**	**+0.4**
RCBR	**Riachuelo**	**93.31**	**262**	P	**P**	**16**	**55**	**42.3**	**+0.3**
	comp=Z,20nm,0.8s,baz=255,slow=4.1,SNR=8.5								
	comp=Z,20nm,0.8s								
PMRV	**Marv??o**	**93.39**	**314**	*e*P	**P**	**16**	**55**	**43.2**	**+1.6**
PMRV	**Marv??o**	**93.39**	**314**	*e*LR	LR	17	30	56.2	
	comp=Z,826nm,20.0s								
CN2	**Changchun**	**93.44**	**41**	P	**P**	**16**	**55**	**39.5**	**-2.2**
CN2				pmax	pmax				
	comp=Z,10.0nm,1.3s								
CN2				LR	LR				
	comp=Z,300nm,16.0s								
CN2				LR	LR				
	comp=Z,300nm,16.0s								
CN2				LR	LR				
	comp=Z,400nm,18.0s								
DIAM	**Diamantina, MG**	**93.50**	**247**	*e*P	**P**	**16**	**55**	**44.1**	**+1.2**
VAO	**Valinhos**	**93.55**	**241**	*e*P	**P**	**16**	**55**	**45.5**	**+2.4**
PCBR	**Castelo Branco**	**93.68**	**314**	*e*P	**P**	**16**	**55**	**44.5**	**+1.6**
PMTG	**Montargil**	**93.71**	**313**	*e*P	**P**	**16**	**55**	**45.0**	**+1.9**
	comp=Z,61nm,1.7s								
MTE	**Manteigas**	**94.04**	**315**	*e*LR	LR	17	30	29.0	
	comp=Z,1µm,20.0s								
MVO	**Moncorvo**	**94.17**	**315**	*e*P	**P**	**16**	**55**	**48.9**	**+3.7**
	comp=Z,63nm,1.8s								
MVO	**Moncorvo**	**94.17**	**315**	*e*LR	LR	17	33	38.0	
	comp=Z,608nm,20.0s								
PBRG	**Braganca**	**94.36**	**316**	*e*P	**P**	**16**	**55**	**48.0**	**+1.9**
PVIS	**Viseu**	**94.44**	**315**	*e*P	**P**	**16**	**55**	**48.5**	**+2.0**
ADZR	**Andozero**	**94.54**	**350**	*e*P	**P**	**16**	**55**	**44.8**	**-1.4**
ADZR				pmax	pmax				
	comp=Z,13nm,0.7s								
TRQA	**Tornquist**	**94.55**	**222**	P	**P**	**16**	**55**	**46.7**	**-0.6**
TRQA	**Tornquist**	**94.55**	**222**	P	**P**	**16**	**55**	**46.7**	**-0.6**
TRQA				pmax	pmax				
	comp=Z,12nm,0.9s								
FINES	**FINESS Array B**	**94.68**	**344**	P	**P**	**16**	**55**	**46.6**	**-0.3**
	comp=Z,5.4nm,1.1s,baz=116,slow=6.3,SNR=3.5								
FINES				PP	**PP**	**16**	**59**	**36.1**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=141,slow=9.0,SNR=1.7								
FINES				LR	LR	17	38	29.5	
	comp=Z,334nm,20.6s,baz=182,slow=36								
	comp=Z,5.4nm,1.1s								
FINES	**FINESS Array B**	**94.68**	**344**	*i* P	**P**	**16**	**55**	**51.7**	**+4.8**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
JCJ	**Chichijima**	**95.65**	**62**	LR	LR	17	33	10.0	
	comp=Z,211nm,21.1s,baz=292,slow=32								
JANB	**Januaria**	**95.73**	**249**	*e*P	**P**	**16**	**55**	**54.4**	**+1.3**
HFS	**Hagfors**	**97.12**	**338**	LR	LR	17	39	54.8	
	comp=Z,335nm,19.0s,baz=132,slow=36								
PLCA	**Paso Flores**	**97.28**	**215**	P	Pdif	16	56	00.1	+0.4
	comp=Z,1.4nm,0.9s,baz=152,slow=8.3,SNR=2.5								
	comp=Z,1.4nm,0.9s								
MJAR	**Matsushiro Arr**	**97.47**	**52**	P	**P**	**16**	**55**	**58.9**	**-1.4**
	comp=Z,2.0nm,1.0s,baz=235,slow=5.9,SNR=4.5								
MJAR				PKKPbc	**PKKPbc**	**17**	**12**	**37.5**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=80,slow=2.7,SNR=13								
MJAR				LR	LR	17	36	04.3	
	comp=Z,222nm,21.8s,baz=288,slow=33								
	comp=Z,2.0nm,1.0s								
SDBA	**SAO DESIDERIO**	**97.62**	**251**	*e*P	Pdif	16	56	02.9	+1.2
HEH	**HeiHe**	**98.40**	**36**	*e*P	Pdif	16	56	08.8	+4.7
HEH				pmax	pmax				
	comp=Z,4.0nm,1.2s								
HEH				pmax	pmax				
	comp=Z,140nm,3.9s								
BDFB	**Brasilia**	**98.42**	**247**	P	Pdif	16	56	06.2	+0.9
	comp=Z,2.6nm,0.9s,baz=131,slow=8.2,SNR=2.6								
	comp=Z,2.6nm,0.9s								
NOA	**NOAR Array B**	**98.62**	**338**	LR	LR	17	40	50.7	
	comp=Z,301nm,19.0s,baz=135,slow=36								
APA	**Apatity**	**98.68**	**350**	*i*P	Pdif	16	56	17.6	+13
APA				pmax	pmax				
	comp=Z,14nm,1.0s								
APA				MLR	MLR				
	comp=Z,1µm,24.0s								
RAO	**Raoul Island**	**99.03**	**131**	LR	LR	17	33	01.4	
	comp=Z,333nm,19.0s,baz=142,slow=31								
NRIK	**Noril'sk**	**100.11**	**9**	*i* P	**Pdif**	**16**	**56**	**09.6**	**-1.7**
NRIK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
NRIK				MLR	MLR				
	comp=Z,437nm,19.0s								
KLR	**Kul'dur**	**100.14**	**39**	P	**Pdif**	**16**	**56**	**11.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=325,slow=23,SNR=2.3								
SIV	**San Ignacio**	**108.39**	**239**	PKiKP	**PKiKP**	**17**	**00**	**55.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=83,slow=4.3,SNR=3.6								
TIXI	**Tiksi**	**110.80**	**18**	PP	**PP**	**17**	**01**	**34.2**	**-2.3**
	comp=Z,4.0nm,0.9s,baz=270,slow=11,SNR=6.1								
LPAZ	**La Paz**	**113.35**	**234**	PKiKP	**PKiKP**	**17**	**01**	**06.4**	**+0.7**
	comp=Z,4.4nm,1.0s,baz=48,slow=5.4,SNR=8.4								
ETMB	**Extrema**	**116.15**	**241**		**PKPdf**	**17**	**01**	**09.3**	**-1.1**
PET	**Petropavlovsk**	**117.11**	**42**	*i* PKIKP	**PKiKP**	**17**	**01**	**11.6**	**+0.6**
PET				pmax	pmax				
	comp=Z,21nm,1.2s								
PET				MLR	MLR				
	comp=Z,244nm,18.0s								
BILL	**Bilibino**	**122.37**	**25**	*e*PKIKP	**PKPdf**	**17**	**01**	**19.8**	**-0.9**
BILL				*e*		17	08	34.9	
BILL				*e*SS	SS	17	19	46.7	+11
BILL				pmax	pmax				
	comp=Z,2.0nm,1.0s								
NNA	**Nana**	**122.39**	**231**	PKP	**PKiKP**	**17**	**01**	**22.7**	**0.0**
	comp=Z,13nm,0.7s,baz=248,slow=2.6,SNR=11								
NNA	**Nana**	**122.39**	**231**	PKPdf	**PKPdf**	**17**	**01**	**22.1**	**-0.3**
PPT2	**Papeete2**	**124.84**	**144**	*e*SS	SS	17	20	11.0	+3.8
	comp=Z,597nm,30.2s								
PPT2	**Papeete2**	**124.84**	**144**	*e*LR	LR	17	40	15.5	
	comp=Z,664nm,22.8s								
PPT2				*e*LR	LR	17	40	16.0	
	comp=Z,574nm,29.0s								
ATAH	**Atahualpa**	**126.90**	**234**	PKP	**PKPdf**	**17**	**01**	**31.6**	**0.0**
	comp=Z,16nm,0.9s,baz=201,slow=3.2,SNR=13								
BAUV	**El Baul**	**128.38**	**258**	PKPdf	**PKPdf**	**17**	**01**	**33.6**	**-0.2**
PTGC	**Puerto Gaitan,**	**129.28**	**250**	*e*P	**PKPdf**	**17**	**01**	**34.3**	**-1.3**
MACC	**Macarena, Meta**	**129.48**	**246**	*e*P	**PKPdf**	**17**	**01**	**36.4**	**+0.3**
MCRA	**Macar, Loja**	**129.93**	**235**	PKPdf	**PKPdf**	**17**	**01**	**37.1**	**+0.2**
SDV	**Santo Domingo**	**130.55**	**256**	PKP	**PKPdf**	**17**	**01**	**38.0**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=7.6,slow=2.4,SNR=6.3								
FLOC	**Florencia**	**130.58**	**244**	*e*P	**PKiKP**	**17**	**01**	**38.7**	**-0.3**
GARC	**Garzon, Huila**	**130.82**	**245**	*e*P	**PKiKP**	**17**	**01**	**39.4**	**-0.4**
CHIC	**Chingaza**	**130.84**	**249**	*e*P	**PKPdf**	**17**	**01**	**38.5**	**-0.6**
GCPR	**Guaynabo City**	**130.85**	**270**		**PKPdf**	**17**	**01**	**38.0**	**-0.4**
RUSC	**La Rusia**	**131.01**	**251**	PKPdf	**PKPdf**	**17**	**01**	**38.8**	**-0.7**
RUSC	**La Rusia**	**131.01**	**251**	*e*P	**PKPdf**	**17**	**01**	**38.5**	**-1.0**
ROSC	**El Rosal**	**131.44**	**249**	PKP	**PKPdf**	**17**	**01**	**39.2**	**-0.9**
	comp=Z,23nm,0.9s,baz=134,slow=3.4,SNR=13								
ROSC	**El Rosal**	**131.44**	**249**	*e*P	**PKPdf**	**17**	**01**	**40.1**	**-0.1**
BARC	**Barichara**	**131.48**	**252**	*e*P	**PKPdf**	**17**	**01**	**39.5**	**-0.6**
PAMC	**Pamplona, Colo**	**131.48**	**253**	*e*P	**PKPdf**	**17**	**01**	**39.2**	**-1.1**
ORTC	**Ortega, Tolima**	**131.65**	**247**	*e*P	**PKPdf**	**17**	**01**	**39.9**	**-0.3**
GCUF	**Volcan Galeras**	**131.68**	**243**	*e*P	**PKiKP**	**17**	**01**	**42.5**	**+0.7**
OTAV	**Otavalo**	**131.90**	**241**		**PKPdf**	**17**	**01**	**40.4**	**-0.8**
OTAV	**Otavalo**	**131.90**	**241**	PKIKP	**PKPdf**	**17**	**01**	**40.4**	**-0.8**
OTAV	**Otavalo**	**131.90**	**241**	*e*P	**PKiKP**	**17**	**01**	**42.5**	**+0.3**
OTAV	**Otavalo**	**131.90**	**241**	*e*P	**PKPdf**	**17**	**01**	**41.3**	**+0.1**
BRRC	**Barranca, Sant**	**132.20**	**252**	*e*P	**PKiKP**	**17**	**01**	**42.0**	**-0.1**
NORC	**Norcasia**	**132.30**	**249**	*e*P	**PKPdf**	**17**	**01**	**41.2**	**-0.2**
PTBC	**PUERTO BERRIO**	**132.50**	**251**	*e*P	**PKPdf**	**17**	**01**	**41.2**	**-0.5**
YOTC	**Yotoco, Valle**	**132.57**	**246**	*e*P	**PKPdf**	**17**	**01**	**41.5**	**-0.5**
TNA	**Tin City**	**132.81**	**25**		**PKiKP**	**17**	**01**	**41.8**	**+0.1**
TNA	**Tin City**	**132.81**	**25**	P	**PKiKP**	**17**	**01**	**42.0**	**+0.2**
	baz=296								
A21K	**Barrow**	**133.00**	**16**	P	**PKiKP**	**17**	**01**	**42.0**	**0.0**
	baz=313								
PLMC	**San Jos del P**	**133.06**	**247**	*e*P	**PKPdf**	**17**	**01**	**42.1**	**-0.8**
ZARC	**Zaragoza, Cauc**	**133.36**	**251**	*e*P	**PKPdf**	**17**	**01**	**43.7**	**+0.4**
UREC	**San Jos de Ur**	**134.06**	**251**	*e*P	**PKPdf**	**17**	**01**	**44.5**	**-0.1**
DBBC	**Dabeiba**	**134.21**	**250**	*e*P	**PKPdf**	**17**	**01**	**45.2**	**+0.2**
ANM	**Nome**	**134.22**	**26**	P	**PKiKP**	**17**	**01**	**45.5**	**+0.8**
	baz=298								
SMRC	**Santa Marta, M**	**134.75**	**256**	*e*P	**PKPdf**	**17**	**01**	**43.8**	**-2.0**
SJCC	**San Jacinto, C**	**134.91**	**254**	*e*P	**PKiKP**	**17**	**01**	**47.4**	**-0.4**
C24K	**Franklin Bluff**	**135.98**	**14**	P	**PKiKP**	**17**	**01**	**48.3**	**+0.2**
	baz=321								
D23K	**Nanushuk River**	**136.11**	**16**	P	**PKiKP**	**17**	**01**	**48.5**	**+0.1**
	baz=318								
E22K	**Anaktuvuk Pass**	**136.44**	**17**	P	**PKiKP**	**17**	**01**	**49.3**	**+0.1**
	baz=316								
C26K	**Camden Bay**	**136.60**	**13**	P	**PKiKP**	**17**	**01**	**49.0**	**-0.4**
	baz=326								
F21K	**Alatna River**	**136.64**	**19**	P	**PKPdf**	**17**	**01**	**48.3**	**+0.4**
	baz=314								
TAOE	**Nuku Hiva Isla**	**136.97**	**148**	*e*LR	LR	17	45	52.7	
	comp=Z,366nm,24.0s								
A36M	**Sachs Harbour**	**137.00**	**3**	PKPdf	**PKPdf**	**17**	**01**	**48.9**	**+0.6**
A36M	**Sachs Harbour**	**137.00**	**3**	P	**PKPdf**	**17**	**01**	**48.5**	**+0.2**
	baz=352								
C27K	**Jago River**	**137.08**	**12**	P	**PKPdf**	**17**	**01**	**49.3**	**+0.7**
	baz=327								
G21K	**Allakaket**	**137.12**	**20**	P	**PKPdf**	**17**	**01**	**49.5**	**+0.8**
	baz=313								
GCSA	**Galena City Sc**	**137.20**	**23**	P	**PKPdf**	**17**	**01**	**49.3**	**+0.4**
	baz=307								
E24K	**Your Creek**	**137.31**	**16**	P	**PKPdf**	**17**	**01**	**47.9**	**-1.2**
	baz=320								
G22K	**Bettles**	**137.40**	**18**	P	**PKPdf**	**17**	**01**	**49.4**	**+0.2**
	baz=316								
IMAR	**Indian Mountai**	**137.41**	**20**		**PKPdf**	**17**	**01**	**49.5**	**+0.3**
COLD	**Coldfoot**	**137.53**	**17**	P	**PKiKP**	**17**	**01**	**51.1**	**-0.3**
	baz=318								
F24K	**Squaw Lake**	**137.89**	**16**	P	**PKPdf**	**17**	**01**	**49.8**	**-0.4**
	baz=321								
H21K	**Melozitna Rive**	**137.92**	**20**		**PKPdf**	**17**	**01**	**50.3**	**+0.1**
H21K	**Melozitna Rive**	**137.92**	**20**	P	**PKPdf**	**17**	**01**	**47.3**	**-2.9**
	baz=313								
E25K	**Arctic Village**	**137.95**	**15**	P	**PKPdf**	**17**	**01**	**48.6**	**-1.6**
	baz=324								
G23K	**Bananza Creek**	**137.96**	**18**	P	**PKPdf**	**17**	**01**	**50.3**	**0.0**
	baz=317								
H22K	**Ishtalitna Cre**	**138.17**	**19**	P	**PKPdf**	**17**	**01**	**51.5**	**+0.8**
	baz=315								
F25K	**Christian Rive**	**138.36**	**15**	P	**PKiKP**	**17**	**01**	**52.7**	**-0.4**
	baz=324								
I21K	**Tanana**	**138.50**	**20**	P	**PKiKP**	**17**	**01**	**52.5**	**-0.8**
	baz=314								
F26K	**Sheenjek River**	**138.61**	**14**	P	**PKiKP**	**17**	**01**	**53.6**	**0.0**
	baz=325								
TTA	**Tatalina**	**138.61**	**25**	P	**PKPdf**	**17**	**01**	**52.7**	**+1.1**
	baz=322								
G24K	**Hadweenzic Riv**	**138.63**	**17**	P	**PKiKP**	**17**	**01**	**53.2**	**-0.5**
	baz=320								
E27K	**Coleen River**	**138.71**	**13**	P	**PKPdf**	**17**	**01**	**52.5**	**+0.9**
	baz=329								
N16K	**Nishlik Lake**	**138.91**	**29**	P	**PKPdf**	**17**	**01**	**51.2**	**-1.0**
	baz=301								
G25K	**Bearman Lake**	**138.92**	**16**	P	**PKiKP**	**17**	**01**	**53.7**	**-0.5**
	baz=322								
MLY	**Manley**	**138.98**	**20**	P	**PKPdf**	**17**	**01**	**50.0**	**-2.2**
	baz=315								
K20K	**Telida**	**139.04**	**23**	P	**PKPdf**	**17**	**01**	**50.1**	**-2.2**
	baz=310								
H24K	**Noodor Dome**	**139.19**	**18**		**PKPdf**	**17**	**01**	**51.8**	**-0.8**
H24K	**Noodor Dome**	**139.19**	**18**	P	**PKPdf**	**17**	**01**	**50.0**	**-2.6**
	baz=319								
CHUM	**Lake Minchumin**	**139.28**	**22**	P	**PKPdf**	**17**	**01**	**49.7**	**-3.0**
	baz=312								
I23K	**Minto, Yukon-K**	**139.29**	**19**		**PKPdf**	**17**	**01**	**52.6**	**-0.1**
I23K	**Minto, Yukon-K**	**139.29**	**19**	P	**PKPdf**	**17**	**01**	**48.9**	**-3.8**
	baz=317								
G26K	**Porcupine Rive**	**139.30**	**15**	P	**PKPdf**	**17**	**01**	**50.2**	**-2.5**
	baz=325								
BPAW	**Bear Paw Mtn.**	**139.56**	**21**	P	**PKiKP**	**17**	**01**	**55.7**	**+0.1**
	baz=314								
O16K	**Kokwok River B**	**139.66**	**30**	P	**PKPdf**	**17**	**01**	**53.4**	**-0.2**
	baz=301								
L20K	**Farewell, AK**	**139.66**	**24**	P	**PKPdf**	**17**	**01**	**53.0**	**-0.6**
	baz=309								
CAST	**Castle Rocks**	**139.67**	**22**	P	**PKPdf**	**17**	**01**	**53.0**	**-0.6**
	baz=312								
C36M	**Paulatuk**	**139.69**	**3**	PKPdf	**PKPdf**	**17**	**01**	**53.7**	**+0.4**
C36M	**Paulatuk**	**139.69**	**3**	P	**PKPdf**	**17**	**01**	**53.0**	**-0.3**
	baz=353								
NEA2	**Nenana**	**139.79**	**20**	P	**PKPdf**	**17**	**01**	**51.5**	**-2.2**
	baz=317								
POKR	**Poker Plat Res**	**139.86**	**18**	P	**PKPdf**	**17**	**01**	**55.0**	**+1.2**
	baz=319								
G27K	**Doyon Strip**	**139.88**	**14**	P	**PKPdf**	**17**	**01**	**53.8**	**-0.1**
	baz=328								
INK	**Inuvik**	**139.90**	**8**	P	**PKPdf**	**17**	**01**	**52.1**	**-1.6**
	baz=340								
PPLA	**Purkeypile**	**139.99**	**23**	P	**PKPdf**	**17**	**01**	**53.1**	**-1.2**
	baz=312								
O17K	**Koliganek Bris**	**139.99**	**29**	P	**PKPdf**	**17**	**01**	**52.7**	**-1.4**
	baz=302								
P16K	**Nushagak River**	**139.99**	**31**	P	**PKPdf**	**17**	**01**	**52.3**	**-1.9**
	baz=301								
LBNH	**Lisbon**	**140.04**	**305**	P	**PKPdf**	**17**	**01**	**53.9**	**-0.9**
	baz=84								
PRP	**Porcupine Dome**	**140.05**	**17**	P	**PKPdf**	**17**	**01**	**53.2**	**-1.1**
	baz=322								
WRH	**Wood River Hil**	**140.16**	**19**	PKPdf	**PKPdf**	**17**	**01**	**55.3**	**+0.9**
TRF	**Thorofare Moun**	**140.24**	**21**	P	**PKPdf**	**17**	**01**	**51.9**	**-2.9**
	baz=314								
ILAR	**Eielson Array**	**140.28**	**18**	PKhKP	PKPpre	17	01	40.8	
	comp=Z,0.2nm,0.7s,baz=183,slow=27,SNR=4.5								
ILAR				PKP	**PKPdf**	**17**	**01**	**53.1**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=324,slow=2.8,SNR=7.9								
ILAR				PP	PP	17	04	43.4	-9.2
	comp=Z,3.6nm,1.1s,baz=318,slow=

baz=92
MCARA McCarthy VSAT 144.03 20 PKPdf 17 02 01.1 -0.3
MCARA McCarthy VSAT 144.03 20 P PKPdf 17 02 01.9 +0.6
baz=322,SNR=9.2
T60A Surry 144.09 294 PKPbc 17 02 00.8 +0.6
T60A Surry 144.09 294 P PKPbc 17 02 00.7 +0.5
baz=90
T60A P PKPbc 17 02 00.7 +0.5
baz=90
SDMD Soldier's Deli 144.10 298 PKPdf PKPab 17 01 59.9 +0.2
SDMD Soldier's Deli 144.10 298 P PKPab 17 01 60.0 +0.2
baz=87
M57A Sunshine Farm, 144.16 301 PKPdf PKPbc 17 02 00.2 -0.2
M57A Sunshine Farm, 144.16 301 P PKPbc 17 02 00.5 +0.1
baz=84
M57A P PKPbc 17 02 00.5 +0.1
baz=84
ACON Acoyapa 144.29 248 PKPab 17 02 01.3 +0.2
M29M Somme Creek 144.35 16 P PKPdf 17 02 02.1 +0.1
baz=330
L56A Greenwood 144.38 303 PKPab 17 02 00.8 +0.1
L56A Greenwood 144.38 303 P PKPab 17 02 00.7 -0.1
baz=82,SNR=32
L56A P PKPab 17 02 00.7 -0.1
baz=82,SNR=32
J55A Hilton 144.40 305 PKPdf PKPab 17 01 59.8 -1.0
J55A Hilton 144.40 305 P PKPbc 17 02 01.7 +0.7
baz=80,SNR=5.1
J55A P PKPbc 17 02 01.7 +0.7
baz=80,SNR=5.1
YUK3 Moose Creek 144.42 18 P PKPab 17 02 00.0 -0.5
baz=326,SNR=6.9
Q23K Middleton Isla 144.43 24 P PKPab 17 01 59.6 -0.7
baz=316
MMNY Mt. Morris Dam 144.55 304 PKPab 17 02 00.9 -0.4
CBN Corbin Frederi 144.58 296 PKPbc 17 02 02.0 +0.3
CBN Corbin Frederi 144.58 296 P PKPab 17 02 01.6 0.0
baz=88
CBN Corbin Frederi 144.58 296 P PKPdf 17 02 02.9 -0.1
baz=88
M30M Minto, Yukon 144.61 14 P PKPab 17 02 00.5 -0.5
baz=332,SNR=7.1
BARN Barnard Glacie 144.68 19 PKPbc 17 02 02.1 +0.5
T59A Double "B" Far 144.75 294 PKPdf PKPab 17 02 02.0 -0.2
T59A Double "B" Far 144.75 294 P PKPbc 17 02 02.3 0.0
baz=90
T59A P PKPbc 17 02 02.3 0.0
baz=90
SSPA Standing Stone 144.81 300 PKPab 17 02 01.9 -0.5
SSPA Standing Stone 144.81 300 P PKPab 17 02 02.1 -0.2
baz=84
SSPA Standing Stone 144.81 300 P PKPab 17 02 01.6 -0.7
baz=84
MEDO Medina 144.88 304 PKPab 17 02 02.0 -0.5
U59A Littleton 144.94 293 PKPbc 17 02 03.0 +0.1
U59A Littleton 144.94 293 P PKPab 17 02 02.9 0.0
baz=90
U59A P PKPab 17 02 02.9 0.0
baz=90
BOAB BOACO BROADBAN 144.96 249 PKPab 17 02 02.9 -0.6
R58B Mineral 144.98 295 PKPbc 17 02 03.0 -0.1
R58B Mineral 144.98 295 P PKPab 17 02 03.3 +0.2
baz=88
R58B P PKPab 17 02 03.3 +0.2
baz=88
CNNC Cliffs of the 145.00 291 PKPbc 17 02 03.2 0.0
CNNC Cliffs of the 145.00 291 P PKPab 17 02 03.3 +0.1
baz=92
CNNC Cliffs of the 145.00 291 P PKPdf 17 02 04.6 +0.8
baz=92
P57A Homestead Farm 145.00 298 PKPbc 17 02 02.9 -0.3
P57A Homestead Farm 145.00 298 P PKPbc 17 02 02.8 -0.3
baz=86
P57A P PKPbc 17 02 02.8 -0.3
baz=86
YUK8 Steele Glacier 145.01 17 P PKPab 17 02 02.9 +0.1
baz=327,SNR=14
SADO Sadowa 145.05 307 PKPbc 17 02 02.4 -0.7
WVNY West Valley, N 145.11 303 PKPbc 17 02 02.9 -0.5
WVNY West Valley, N 145.11 303 P PKPbc 17 02 03.4 0.0
baz=81,SNR=24
Y60A Bolivia 145.21 288 PKPdf 17 02 04.3 +0.1
Y60A Bolivia 145.21 288 P PKPdf 17 02 05.2 +1.0
baz=94,SNR=8.7
Y60A P PKPdf 17 02 05.2 +1.0
baz=94,SNR=8.7
YUK4 Talbot Arm 145.25 17 P PKPbc 17 02 02.0 -1.4
baz=329,SNR=18
O28M Mount Upton 145.33 18 P PKPdf 17 02 04.9 +0.9
baz=326
PABK Blue Knob Stat 145.37 299 P PKPbc 17 02 03.8 -0.5
baz=84
PSDB Penn State Uni 145.40 301 P PKPbc 17 02 04.0 -0.3
baz=83
M31M Drury Creek, Y 145.44 13 P PKPbc 17 02 03.5 -0.3
baz=335,SNR=16
FARO Faro, Yukon 145.61 12 PKPdf 17 02 04.2 +0.1
FARO Faro, Yukon 145.61 12 P PKPdf 17 02 02.5 -1.6
baz=337,SNR=12
YUK6 Outpost Mounta 145.67 17 P PKPab 17 02 05.2 +0.1
baz=329
N31M Braeburn, Yuko 145.80 14 PKPdf PKPdf 17 02 04.1 -0.3
N31M Braeburn, Yuko 145.80 14 P PKPbc 17 02 04.8 -0.2
baz=333,SNR=12
WRGLY Wrigley 145.82 4 P PKPab 17 02 05.2 -0.1
baz=353,SNR=14
S57A Dark Hollow, R 145.84 295 PKPbc PKPbc 17 02 06.0 +0.2
S57A Dark Hollow, R 145.84 295 P PKPbc 17 02 05.6 -0.2
baz=88
S57A P PKPbc 17 02 05.6 -0.2
baz=88
PINM Pinnacle 145.87 19 P PKPbc 17 02 05.0 -0.3
baz=325
FCC Fort Churchill 145.88 337 PKPdf PKPdf 17 02 04.6 0.0
FCC Fort Churchill 145.88 337 PKIKP PKPdf 17 02 04.6 0.0
Q56A Snyder Ridge, 145.95 297 PKPdf PKPdf 17 02 05.0 -0.4
Q56A Snyder Ridge, 145.95 297 P PKPbc 17 02 06.3 +0.2
baz=86
Q56A P PKPbc 17 02 06.3 +0.2
baz=86
HYT Haines Junctio 145.98 16 PKPdf PKPdf 17 02 05.1 +0.2
HYT Haines Junctio 145.98 16 P PKPdf 17 02 03.5 -1.4
baz=330,SNR=19
V58A Windy Hill, Pi 146.01 292 PKPdf 17 02 05.6 +0.1
V58A Windy Hill, Pi 146.01 292 P PKPbc 17 02 06.2 -0.1
baz=90
V58A P PKPbc 17 02 06.2 -0.1
baz=90
PAOC Oil Creek Stat 146.04 302 P PKPdf 17 02 05.7 +0.3
baz=82
T57A Hurt 146.11 294 PKPdf 17 02 05.8 +0.1
T57A Hurt 146.11 294 P PKPbc 17 02 06.2 -0.4
baz=88
T57A P PKPbc 17 02 06.2 -0.4
baz=88
O29M Mount Kennedy 146.16 18 P PKPdf 17 02 05.5 +0.3
baz=328
X58A Rowland 146.17 289 PKPbc 17 02 06.6 -0.3
X58A Rowland 146.17 289 P PKPbc 17 02 06.9 0.0
baz=92,SNR=17
X58A P PKPbc 17 02 06.9 0.0
baz=92,SNR=17
ERPA Erie 146.17 303 PKPdf PKPdf 17 02 05.9 +0.3
ERPA Erie 146.17 303 P PKPdf 17 02 05.9 +0.3
baz=80
ERPA Erie 146.17 303 P PKPdf 17 02 04.9 -0.7
baz=80
061Z Ochoppi 146.28 274 P PKPbc 17 02 07.0 -0.4
baz=104
ALLY Alegheny Colle 146.36 302 PKPdf PKPdf 17 02 06.1 +0.1
ALLY Alegheny Colle 146.36 302 P PKPbc 17 02 07.2 -0.1
baz=81,SNR=13
O30N Mendenhall 146.37 15 P PKPbc 17 02 06.8 +0.1
baz=332,SNR=6.4
MCWV Mont Chateau 146.40 299 P PKPbc 17 02 07.1 -0.4
baz=84
MCWV Mont Chateau 146.40 299 P PKPdf 17 02 06.1 0.0
baz=84
Y58A Scranton 146.41 288 P PKPbc 17 02 07.0 -0.6
baz=93,SNR=18
Y58A P PKPbc 17 02 07.0 -0.6
baz=93,SNR=18
PAMR Moraine State 146.43 301 P PKPbc 17 02 06.9 -0.6
baz=82
UPAO U. Pittsburgh 146.44 300 P PKPbc 17 02 07.1 -0.4
baz=83
YKA Yellowknife Ar 146.57 356 PKPbc PKPdf 17 02 06.3 +0.6
comp=Z,24nm,0.8s,baz=351,slow=2.6,SNR=84
YKA PP PP 17 05 28.8 -1.4
comp=Z,11nm,1.0s,baz=354,slow=5.6,SNR=9.9
N32M Quiet Lake 146.65 13 P PKPdf 17 02 03.8 -2.1
baz=337
W57A Gilead 146.72 290 PKPdf PKPdf 17 02 06.8 +0.1
W57A Gilead 146.72 290 P PKPdf 17 02 07.5 +0.8
baz=91,SNR=32
W57A P PKPdf 17 02 07.5 +0.8
baz=91,SNR=32
P30M Million Dollar 146.73 16 P PKPdf 17 02 06.4 +0.4
baz=330
R55A Marlinton 146.73 296 PKPdf PKPdf 17 02 07.2 +0.3
R55A Marlinton 146.73 296 P PKPbc 17 02 07.8 -0.7
baz=86
R55A P PKPbc 17 02 07.8 -0.7
baz=86
WHY Whitehorse 146.74 14 PKPdf PKPdf 17 02 06.2 0.0
WHY Whitehorse 146.74 14 P PKPbc 17 02 07.2 -0.7
baz=334
O54A Avella 146.75 300 PKPdf 17 02 06.7 0.0
O54A Avella 146.75 300 P PKPbc 17 02 08.1 -0.4
baz=83,SNR=32
O54A P PKPbc 17 02 08.1 -0.4
baz=83,SNR=32
M53A WI Miller and 146.79 302 PKPdf PKPdf 17 02 06.8 +0.1
M53A WI Miller and 146.79 302 P PKPdf 17 02 05.5 -1.2
baz=81,SNR=9.4
NHSC New Hope 146.79 287 PKPbc 17 02 09.1 +0.3
NHSC New Hope 146.79 287 P PKPdf 17 02 07.4 +0.4
baz=94,SNR=9.8
NHSC New Hope 146.79 287 P PKPdf 17 02 07.6 +0.7
baz=94,SNR=9.8
N53A Lisbon 147.01 301 PKPdf PKPdf 17 02 06.8 -0.3
N53A Lisbon 147.01 301 P PKPdf 17 02 07.1 0.0
baz=82,SNR=17
N53A P PKPdf 17 02 07.1 0.0
baz=82,SNR=17
Y57A Sumter 147.02 288 PKPdf PKPdf 17 02 07.8 +0.5
Y57A Sumter 147.02 288 P PKPdf 17 02 07.7 +0.4
baz=92,SNR=21
Y57A P PKPdf 17 02 07.7 +0.4
baz=92,SNR=21
U56A King 147.03 293 PKPdf PKPdf 17 02 07.6 +0.3
U56A King 147.03 293 P PKPdf 17 02 08.3 +1.0
baz=89,SNR=22
U56A P PKPdf 17 02 08.3 +1.0
baz=89,SNR=22
BLA Blacksburg 147.03 294 PKPdf PKPdf 17 02 07.5 +0.2
BLA Blacksburg 147.03 294 P PKPdf 17 02 07.5 +0.2
baz=87
BLA Blacksburg 147.03 294 P PKPdf 17 02 08.2 +0.9
baz=87,SNR=25
BLA Blacksburg 147.03 294 PKIKP PKPdf 17 02 07.5 +0.2
BIRD Birdtown, Kers 147.10 290 PKPdf PKPdf 17 02 07.2 -0.2
BIRD Birdtown, Kers 147.10 290 P PKPdf 17 02 07.6 +0.2
baz=91
TGUH Tegucigalpa,Un 147.14 250 PKPdf PKPdf 17 02 08.2 0.0
DWPF Disney Wildern 147.23 277 P PKPbc 17 02 09.4 -0.7
baz=101
Q54A Coxs Mills 147.23 298 PKPdf PKPdf 17 02 07.5 0.0
Q54A Coxs Mills 147.23 298 P PKPdf 17 02 08.2 +0.7
baz=84,SNR=29
Q54A P PKPdf 17 02 08.2 +0.7
baz=84,SNR=29
M52A Chesterland 147.28 302 P PKPdf 17 02 07.8 +0.2
baz=80,SNR=9.1
M52A P PKPdf 17 02 07.8 +0.2
baz=80,SNR=9.1
O53A New Philadelph 147.37 300 PKPdf PKPdf 17 02 08.2 +0.5
O53A New Philadelph 147.37 300 P PKPdf 17 02 08.8 +1.1
baz=82,SNR=46
PLBC Pleasant Camp 147.46 17 P PKPdf 17 02 08.5 +1.3
baz=331
P33M Teslin, Yukon 147.57 13 P PKPbc 17 02 09.2 -0.9
baz=337
P53A Whipple 147.60 299 PKPdf PKPdf 17 02 08.2 +0.1
P53A Whipple 147.60 299 P PKPdf 17 02 08.3 +0.1
baz=83,SNR=28
P53A P PKPdf 17 02 08.3 +0.1
baz=83,SNR=28
S54A Dingess, Beckl 147.71 295 PKPdf PKPdf 17 02 08.5 +0.1
S54A PKPbc PKPbc 17 02 11.2 0.0
S54A Dingess, Beckl 147.71 295 P PKPdf 17 02 08.7 +0.3
baz=86,SNR=18
S54A P PKPdf 17 02 08.7 +0.3
baz=86,SNR=18
SKAG Skagway 147.71 16 P PKPbc 17 02 09.5 -0.9
baz=332
V55A Taylorsville 147.72 292 PKPdf PKPdf 17 02 08.3 -0.2
V55A PKPbc PKPbc 17 02 11.4 +0.1
V55A Taylorsville 147.72 292 P PKPdf 17 02 09.4 +1.0
baz=89,SNR=39
V55A P PKPdf 17 02 09.4 +1.0
baz=89,SNR=39
KMSC Kings Mountain 147.82 290 PKPdf PKPdf 17 02 08.8 +0.2
KMSC PKPbc 17 02 11.7 +0.2
KMSC Kings Mountain 147.82 290 P PKPdf 17 02 08.4 -0.2
baz=90,SNR=12
KMSC Kings Mountain 147.82 290 P PKPdf 17 02 09.5 +0.9
baz=90,SNR=12
O52A Adamsville 147.86 300 PKPdf 17 02 08.6 0.0
O52A PKPbc PKPbc 17 02 11.7 +0.2
O52A Adamsville 147.86 300 P PKPdf 17 02 09.2 +0.7
baz=82,SNR=23
O52A P PKPdf 17 02 09.2 +0.7
baz=82,SNR=23
K50A Casco 147.95 305 P PKPdf 17 02 08.9 +0.3
baz=77
K50A P PKPdf 17 02 08.9 +0.3
baz=77
P32M Atlin 147.96 14 P PKPbc 17 02 11.0 -0.2
baz=335,SNR=7.1
HAW Hawthorne Fire 148.01 287 P PKPdf 17 02 09.3 +0.3
baz=93
E46A Sault Ste Mari 148.07 312 PKPdf PKPdf 17 02 08.9 +0.2
E46A Sault Ste Mari 148.07 312 P PKPdf 17 02 08.6 0.0
baz=70
456A Hilliard 148.14 282 PKPbc PKPbc 17 02 12.0 -0.5
N51A Ashland 148.14 301 PKPdf PKPdf 17 02 08.9 -0.1
N51A PKPbc PKPbc 17 02 12.3 +0.1
N51A Ashland 148.14 301 P PKPdf 17 02 09.4 +0.4
baz=80,SNR=7.8
N51A P PKPdf 17 02 09.4 +0.4
baz=80,SNR=7.8
P52A Corning 148.16 299 PKPdf PKPdf 17 02 08.4 -0.7
P52A PKPbc PKPbc 17 02 12.0 -0.3
P52A Corning 148.16 299 P PKPdf 17 02 09.5 +0.5
baz=82,SNR=32
R53A Hurricane 148.16 296 PKPbc 17 02 12.5 +0.1
R53A Hurricane 148.16 296 P PKPdf 17 02 09.2 +0.1
baz=85,SNR=9.4
R53A P PKPdf 17 02 09.2 +0.1
baz=85,SNR=9.4
U54A Nelsons Funny 148.19 293 PKPbc PKPbc 17 02 12.5 -0.1
U54A Nelsons Funny 148.19 293 P PKPdf 17 02 09.7 +0.5
baz=88,SNR=30
U54A P PKPdf 17 02 09.7 +0.5
baz=88,SNR=30
PAULI Pauline 148.21 290 PKPdf 17 02 09.4 +0.1
PAULI PKPbc PKPbc 17 02 12.7 +0.1
PAULI PKPab sPKPdf 17 02 16.6 -1.3
PAULI Pauline 148.21 290 P PKPdf 17 02 09.4 +0.1
baz=90,SNR=33
Q52A Bidwell 148.34 298 PKPdf 17 02 08.2 -1.2
Q52A PKPbc PKPbc 17 02 12.8 0.0
Q52A Bidwell 148.34 298 P PKPdf 17 02 09.4 0.0
baz=83,SNR=34
Q52A P PKPdf 17 02 09.4 0.0
baz=83,SNR=34
WTLY Watson Lake, Y 148.35 9 P PKPdf 17 02 08.3 -0.5
baz=343,SNR=6.6
656A Willston 148.40 279 P PKPdf 17 02 10.3 +0.6
baz=99
R31K City Hall, Gus 148.53 17 P PKPdf 17 02 08.1 -0.8
baz=331
M50A Fremont 148.55 302 PKPdf 17 02 09.1 -0.5
M50A Fremont 148.55 302 P PKPdf 17 02 09.6 +0.1
baz=79
M50A P PKPdf 17 02 09.6 +0.1
baz=79
HODGE Hodges 148.57 289 PKPdf PKPdf 17 02 10.3 +0.4
HODGE PKPbc PKPbc 17 02 13.5 0.0
HODGE Hodges 148.57 289 P PKPdf 17 02 10.2 +0.4
baz=91
255A Hazlehurst 148.64 284 P PKPdf 17 02 11.2 +1.1
baz=95
ACSO Alum Creek Sta 148.71 300 PKPdf 17 02 09.5 -0.5
ACSO PKPbc PKPbc 17 02 13.7 -0.1
ACSO Alum Creek Sta 148.71 300 P PKPdf 17 02 10.3 +0.3
baz=81
ACSO Alum Creek Sta 148.71 300 P PKPdf 17 02 10.6 +0.7
baz=80,SNR=12
GLMI Grayling 148.79 309 PKPbc PKPbc 17 02 13.8 0.0
GLMI Grayling 148.79 309 P PKPdf 17 02 09.8 -0.1
baz=72
GLMI Grayling 148.79 309 P PKPdf 17 02 11.5 +1.6
baz=72
S31K Pelican 148.79 18 P PKPdf 17 02 09.8 +0.4
baz=330
AAM Ann Arbor 148.81 304 PKPbc 17 02 13.6 -0.3
AAM Ann Arbor 148.81 304 P PKPdf 17 02 09.9 -0.1
baz=77
AAM Ann Arbor 148.81 304 P PKPdf 17 02 11.4 +1.4
baz=76
AAM Ann Arbor 148.81 304 PKIKP PKPbc 17 02 13.6 -0.3
Q32M Nakina River 148.84 13 P PKPbc 17 02 12.9 -0.8
baz=337
P51A Williamsport 148.89 299 PKPdf 17 02 09.6 -0.7
P51A Williamsport 148.89 299 P PKPdf 17 02 10.2 0.0
baz=82,SNR=16
P51A P PKPdf 17 02 10.2 0.0
baz=82,SNR=16
R32K Eaglecrest 148.96 16 P PKPdf 17 02 11.3 +1.6
baz=333
V53A Saluda 149.02 291 PKPdf 17 02 10.6 0.0
V53A Saluda 149.02 291 P PKPdf 17 02 11.1 +0.4
baz=88,SNR=56
V53A P PKPdf 17 02 11.1 +0.4
baz=88,SNR=56
CASEE Lake Jocassee 149.13 290 P PKPdf 17 02 11.4 +0.6
baz=89,SNR=18
Q51A Peebles 149.17 298 P PKPdf 17 02 11.0 +0.3
baz=82,SNR=12
Q51A P PKPdf 17 02 11.0 +0.3
baz=82,SNR=12
154A Montrose 149.22 286 P PKPdf 17 02 11.8 +0.8
baz=93
LIRD Liard River Hi 149.38 7 P PKPdf 17 02 10.1 -0.3
baz=347
J47A Sunmer 149.40 307 PKPdf 17 02 11.1 +0.2
J47A Sunmer 149.40 307 P PKPdf 17 02 10.9 0.0
baz=74
J47A P PKPdf 17 02 10.9 0.0
baz=74
L48A N Adams 149.45 304 PKPdf 17 02 11.0 0.0
L48A N Adams 149.45 304 P PKPdf 17 02 10.8 -0.2
baz=77
L48A P PKPdf 17 02 10.8 -0.2
baz=77
N49A Columbus Grove 149.49 302 PKPdf 17 02 10.8 -0.3
N49A Columbus Grove 149.49 302 P PKPdf 17 02 12.1 +1.0
baz=78,SNR=13
N49A P PKPdf 17 02 12.1 +1.0
baz=78,SNR=13
S51A Beattyville 149.52 295 PKPdf 17 02 11.5 +0.2
S51A Beattyville 149.52 295 P PKPdf 17 02 12.1 +0.8
baz=84,SNR=19
S51A P PKPdf 17 02 12.1 +0.8
baz=84,SNR=19
TIGA Tifton 149.55 283 P PKPdf 17 02 13.6 +2.1
baz=95,SNR=15
TIGA Tifton 149.55 283 P PKPdf 17 02 13.7 +2.2
baz=95
TZTN Tazewell 149.57 293 PKPdf 17 02 11.6 +0.2
TZTN Tazewell 149.57 293 P PKPdf 17 02 12.0 +0.5
baz=86,SNR=12
TZTN Tazewell 149.57 293 P PKPdf 17 02 13.1 +1.6
baz=86
V52A Sevierville 149.65 292 PKPdf PKPdf 17 02 11.6 +0.1
V52A Sevierville 149.65 292 P PKPdf 17 02 11.7 +0.1
baz=88,SNR=16
O49A Covington 149.74 301 PKPdf 17 02 11.1 -0.5
O49A Covington 149.74 301 P PKPdf 17 02 11.1 -0.5
baz=80,SNR=8.6
O49A P PKPdf 17 02 11.1 -0.5
baz=80,SNR=8.6
DLBC Dease Lake 149.75 12 PKPdf PKPdf 17 02 12.3 +1.2
DLBC Dease Lake 149.75 12 P PKPbc 17 02 14.3 -1.6
baz=340
E43A Lone Tree Farm 149.80 313 P PKPdf 17 02 11.5 +0.1
baz=67
TKL Tuckaleechee C 149.80 291 PKPdf 17 02 12.3 +0.5
TKL Tuckaleechee C 149.80 291 P PKPdf 17 02 12.8 +0.9
baz=88
TKL Tuckaleechee C 149.80 291 PKIKP PKPdf 17 02 12.4 +0.5
SIT Sitka 149.82 18 P PKPbc 17 02 13.5 -2.3
baz=330
W52A Murphy 149.95 290 P PKPdf 17 02 12.9 +0.8
baz=89,SNR=27
R50A Paris 150.03 297 PKPbc PKPbc 17 02 16.9 -0.2
R50A Paris 150.03 297 P PKPdf 17 02 11.1 -1.0
baz=83,SNR=16
R50A P PKPdf 17 02 11.1 -1.0
baz=83,SNR=16
S34M Telegraph Cree 150.03 13 P PKPdf 17 02 12.6 +1.2
baz=338
Y52A Lilburn 150.07 288 P PKPdf 17 02 12.1 -0.2
baz=91,SNR=28
Y52A P PKPdf 17 02 12.1 -0.2
baz=91,SNR=28
553A Crawfordville 150.14 281 P PKPdf 17 02 12.5 0.0
baz=97
P49A Miami Univ. Ec 150.14 299 P PKPdf 17 02 11.8 -0.4
baz=80,SNR=18
P49A Miami Univ. Ec 150.14 299 P PKPdf 17 02 12.2 -0.1
baz=80,SNR=18
V51A Loudon 150.26 292 P PKPdf 17 02 12.1 -0.4
baz=87,SNR=61
O48B Farmland 150.34 301 P PKPdf 17 02 11.4 -1.1
baz=79,SNR=12
O48B Farmland 150.34 301 P PKPdf 17 02 14.4 +1.9
baz=78,SNR=12
D41A Chassel 150.49 316 P PKPdf 17 02 13.4 +0.9
baz=64,SNR=6.9
T50A Nancy 150.57 294 PKPdf 17 02 13.4 +0.5
152A Waverly Hall 150.59 285 P PKPdf 17 02 13.1 0.0
baz=92,SNR=14
HILA High Level 150.61 358 PKPbc 17 02 17.4 -0.4
N47A Urbana 150.62 302 PKPbc 17 02 17.8 -0.6
N47A Urbana 150.62 302 P PKPdf 17 02 13.4 +0.5
baz=77,SNR=9.3
N47A P PKPdf 17 02 13.4 +0.5
baz=77,SNR=9.3
R49A Shelbyville 150.68 297 PKPbc PKPbc 17 02 17.9 -0.7
R49A Shelbyville 150.68 297 P PKPdf 17 02 12.2 -0.9
baz=82,SNR=22
R49A P PKPdf 17 02 12.2 -0.9
baz=82,SNR=22
352A Blakely 150.69 283 PKPbc 17 02 19.1 +0.3
352A Blakely 150.69 283 P PKPdf 17 02 12.4 -0.9
baz=94,SNR=15
P48A Milroy 150.70 299 PKPbc PKPbc 17 02 17.5 -1.1
P48A Milroy 150.70 299 P PKPdf 17 02 12.3 -0.8
baz=80,SNR=18
P48A P PKPdf 17 02 12.3 -0.8
baz=80,SNR=18
X51A Calhoun 150.72 289 P PKPdf 17 02 12.6 -0.7
baz=89,SNR=33
X51A P PKPdf 17 02 12.6 -0.7
baz=89,SNR=33
F42A Maple Grove Fa 150.77 313 PKPbc 17 02 18.1 -0.4
F42A Maple Grove Fa 150.77 313 P PKPdf 17 02 12.6 -0.5
baz=66,SNR=7.5
L46A Eue Claire 150.78 305 P PKPdf 17 02 13.3 +0.2
baz=75
L46A P PKPdf 17 02 13.3 +0.2
baz=75
Z51A Franklin 150.99 287 PKiKP 17 02 20.0 -0.1
Z51A Franklin 150.99 287 P PKPdf 17 02 12.9 -0.9
baz=91,SNR=15
H43A Windswept, Lux 151.03 310 PKPbc 17 02 18.8 -0.4
H43A Windswept, Lux 151.03 310 P PKPdf 17 02 13.4 -0.1
baz=69,SNR=5.9
W50A Signal Mountai 151.08 291 PKPbc 17 02 19.6 -0.1
W50A Signal Mountai 151.08 291 P PKPdf 17 02 14.7 +0.8
baz=88,SNR=62
T35M Bob Quinn 151.08 13 P PKPdf 17 02 14.1 +0.9
baz=339
COWI Conover 151.26 314 PKPdf 17 02 13.5 -0.3
COWI PKPbc PKPbc 17 02 19.5 -0.3
COWI Conover 151.26 314 P PKPdf 17 02 13.7 -0.1
baz=64

451A	Vernon	151.32	281		PKiKP	17 02 21.0	+0.2	
451A	Vernon	151.32	281	P	PKPdf	17 02 13.8	-0.5	
	baz=96,SNR=6.9							
FPAL	Fort Paine	151.34	289		PKPbc	17 02 20.3	-0.1	
U49A	Red Boiling Sp	151.37	293	P	PKPdf	17 02 14.1	-0.1	
	baz=85							
WCI	Wyandotte Cave	151.57	297	PKPbc	PKPbc	17 02 19.6	-1.1	
WCI	Wyandotte Cave	151.57	297	P	PKPdf	17 02 14.4	0.0	
	baz=81							
WCI	Wyandotte Cave	151.57	297	P	PKPdf	17 02 16.3	+1.8	
	baz=81							
WCI	Wyandotte Cave	151.57	297	PKIKP	PKPbc	17 02 19.6	-1.1	
SWET	Sewanee	151.58	291		PKPbc	17 02 20.1	-0.8	
BLO	Bloomington	151.59	299		PKPbc	17 02 19.9	-0.8	
BLO	Bloomington	151.59	299	PKIKP	PKPbc	17 02 19.9	-0.8	
FFC	Flin Flon	151.71	339	PKPdf	PKPdf	17 02 14.4	+0.2	
FFC	Flin Flon	151.71	339	PKIKP	PKPdf	17 02 14.4	+0.2	
SFIN	Lafayette	151.77	302	P	PKPdf	17 02 14.6	-0.1	
	baz=77,SNR=8.9							
SFIN	Lafayette	151.77	302	P	PKPdf	17 02 14.6	-0.1	
	baz=76							
EYMN	Ely	151.79	319		PKPbc	17 02 20.4	-0.5	
EYMN	Ely	151.79	319	P	PKPdf	17 02 15.1	+0.6	
	baz=58							
EYMN	Ely	151.79	319	P	PKPdf	17 02 12.5	-2.0	
	baz=58							
CLTN	Cedars of Leba	151.85	293		PKPbc	17 02 21.1	-0.3	
250A	Grady	151.86	284	P	PKPdf	17 02 15.6	+0.5	
	baz=93,SNR=17							
L44A	Lake County Fo	151.88	306	PKPbc	PKPbc	17 02 21.2	-0.1	
L44A					sPKPbc	17 02 29.9	0.0	
L44A	Lake County Fo	151.88	306	P	PKPdf	17 02 15.1	+0.3	
	baz=73							
L44A	Lake County Fo	151.88	306	P	PKPdf	17 02 15.2	+0.4	
	baz=72							
HQIL	Hanson Quary C	151.95	305		PKiKP	17 02 21.8	0.0	
I42A	Draeger Farm,	152.00	310	PKPdf	PKPdf	17 02 14.2	-0.7	
I42A	Draeger Farm,	152.00	310	P	PKPdf	17 02 14.4	-0.6	
	baz=68							
K43A	Burlington	152.02	307		PKPbc	17 02 21.4	-0.1	
K43A	Burlington	152.02	307	P	PKPdf	17 02 15.1	+0.1	
	baz=71,SNR=5.0							
Y49A	Blount Mountai	152.02	288		PKPbc	17 02 21.6	-0.2	
Y49A	Blount Mountai	152.02	288	P	PKPdf	17 02 15.4	+0.1	
	baz=89,SNR=23							
M44A	Midewin, Midew	152.21	304		PKPdf	17 02 14.8	-0.5	
M44A				PKPbc	PKiKP	17 02 22.2	-0.1	
M44A	Midewin, Midew	152.21	304	P	PKPdf	17 02 15.5	+0.1	
	baz=74,SNR=10							
G40A	Rib Lake	152.30	313		PKPbc	17 02 22.0	-0.2	
G40A	Rib Lake	152.30	313	P	PKPdf	17 02 16.9	+1.5	
	baz=64,SNR=6.4							
T47A	Sharon Grove	152.38	295	P	PKPdf	17 02 14.8	-1.0	
	baz=83							
BRAL	Brewton	152.48	282		PKiKP	17 02 23.7	+0.5	
BRAL	Brewton	152.48	282	P	PKPdf	17 02 15.7	-0.3	
	baz=94							
BRAL	Brewton	152.48	282	P	PKPdf	17 02 14.0	-2.0	
	baz=94							
LRAL	Lakeview Retre	152.51	286		PKPbc	17 02 22.7	-0.3	
LRAL	Lakeview Retre	152.51	286	P	PKPdf	17 02 16.1	+0.1	
	baz=91							
LRAL	Lakeview Retre	152.51	286	P	PKPdf	17 02 15.7	-0.3	
	baz=90							
E38A	The Farm, Brul	152.51	317		PKPbc	17 02 22.0	-0.6	
X48A	Hartselle	152.53	289		PKPbc	17 02 22.1	-0.9	
X48A	Hartselle	152.53	289	P	PKPdf	17 02 15.9	-0.1	
	baz=88							
USIN	University of	152.68	297		PKPbc	17 02 22.6	-0.6	
ULM	Lac du Bonnet	152.72	327	PKPbc	PKPbc	17 02 22.1	-0.8	
	comp=Z,20nm,0.9s,baz=18,slow=3.6,SNR=27							
ULM	Lac du Bonnet	152.72	327		PKPdf	17 02 14.8	-1.0	
ULM				PKPbc	PKPbc	17 02 21.8	-1.1	
ULM	Lac du Bonnet	152.72	327	PKIKP	PKPbc	17 02 21.8	-1.1	
O44A	Mansfield	152.84	302		PKPbc	17 02 22.6	-0.9	
O44A	Mansfield	152.84	302	P	PKPdf	17 02 16.4	+0.1	
	baz=76							
OLIL	Olney	152.88	299		PKPdf	17 02 16.5	+0.2	
OLIL				PKPbc	PKPbc	17 02 23.6	0.0	
OLIL	Olney	152.88	299	P	PKPdf	17 02 17.2	+0.9	
	baz=79							
WVT	Waverly	153.05	293		PKPbc	17 02 23.0	-1.1	
WVT	Waverly	153.05	293	P	PKPdf	17 02 17.2	+0.5	
	baz=84							
WVT	Waverly	153.05	293	P	PKPdf	17 02 16.1	-0.6	
	baz=84							
WVT	Waverly	153.05	293	PKIKP	PKPbc	17 02 23.0	-1.1	
I40A	Norwalk	153.14	311		PKPbc	17 02 23.6	-0.5	
L42A	Oliver, Polo	153.18	306		PKPbc	17 02 24.2	+0.1	
L42A	Oliver, Polo	153.18	306	P	PKPdf	17 02 16.6	-0.1	
	baz=71							
JFWS	Jewell Farm	153.27	309	P	PKPdf	17 02 16.7	-0.2	
	baz=69							
JFWS	Jewell Farm	153.27	309	P	PKPdf	17 02 18.5	+1.6	
	baz=68							
HDIL	Hopedale	153.35	303		PKPbc	17 02 24.6	0.0	
HDIL	Hopedale	153.35	303	P	PKPdf	17 02 17.1	+0.1	
	baz=74							
HDIL	Hopedale	153.35	303	P	PKPdf	17 02 15.3	-1.8	
	baz=74							
Z47A	Carrollton	153.41	286	P	PKPdf	17 02 17.5	+0.2	
	baz=90							
Q44A	Meyer Farm, Va	153.54	299	P	PKPdf	17 02 17.2	-0.2	
	baz=78							
T45A	Paducah	153.59	295	PKPbc	PKPbc	17 02 25.1	-0.2	
P43A	Skaggs, Pawnee	153.75	301		PKPbc	17 02 25.1	-0.4	
P43A	Skaggs, Pawnee	153.75	301	P	PKPdf	17 02 18.1	+0.4	
	baz=76							
SPMN	Marine on St.	153.95	315	P	PKPdf	17 02 17.9	+0.2	
	baz=61							
SPMN	Marine on St.	153.95	315	P	PKPdf	17 02 18.8	+1.0	
	baz=61							
S44A	Carbondale	153.96	297		PKPbc	17 02 25.6	-0.5	
AGMN	Agassiz Nation	153.98	324		PKPbc	17 02 25.0	-0.7	
AGMN	Agassiz Nation	153.98	324	P	PKPdf	17 02 18.8	+1.1	
	baz=51							
F36A	Milaca	154.07	317		PKPbc	17 02 25.1	-0.9	
146A	Union	154.24	285	P	PKPdf	17 02 18.1	-0.5	
	baz=90							
W45A	Hickory Valley	154.25	291	PKPab	PKPab	17 02 40.3	-0.4	
L40A	Anamosa	154.25	307		PKPbc	17 02 25.8	-0.7	
L40A	Anamosa	154.25	307	P	PKPdf	17 02 18.1	-0.2	
	baz=69							
CGM3	Cape Girardeau	154.35	296	PKPbc	PKPbc	17 02 26.8	0.0	
N41A	Harden Midland	154.44	304	P	PKPdf	17 02 18.4	-0.1	
	baz=72							
OXF	Oxford	154.48	290	P	PKPdf	17 02 19.0	+0.2	
	baz=86							
PARMO	Parma	154.52	295	PKPbc	PKPbc	17 02 27.2	0.0	
Y45A	Yeager Farm, C	154.62	288		PKPbc	17 02 27.2	-0.3	
Y45A				PKPab	PKPab	17 02 42.5	+0.2	
GNAR	Gosnell	154.83	293		PKPbc	17 02 27.3	-0.6	
GNAR				PKPab	PKPab	17 02 42.8	-0.3	
PBMO	Poplar Bluff	155.04	295		PKPdf	17 02 27.5	+8.0	
PBMO				PKPab	PKPab	17 02 43.9	-0.1	
CCM	Cathedral Cave	155.43	298	P	PKPdf	17 02 20.5	+0.5	
	baz=77							
CCM	Cathedral Cave	155.43	298	P	PKPdf	17 02 18.2	-1.8	
	baz=77							
VBMS	Vicksburg	155.47	284	P	PKPdf	17 02 19.9	-0.3	
	baz=90							
T42A	Van Buren	155.52	296	P	PKPdf	17 02 20.5	+0.4	
	baz=80							
344A	Westbrook Farm	155.64	282	P	PKPdf	17 02 21.1	+0.6	
	baz=92							
EDM	Edmonton	155.65	352	PKPdf	PKPdf	17 02 19.4	-0.5	
EDM				PKPab	PKPab	17 02 46.1	+0.1	
EDM	Edmonton	155.65	352	PKIKP	PKPdf	17 02 19.4	-0.5	
EDM						17 02 46.1		
P40A	Paris	155.66	302	P	PKPdf	17 02 20.4	+0.2	
	baz=73							
F33A	5 Mile Ranch,	155.70	319		PKPdf	17 02 19.2	-0.9	
F33A				PKPab	PKPab	17 02 46.3	-0.2	
F33A	5 Mile Ranch,	155.70	319	P	PKPdf	17 02 19.4	-0.7	
	baz=55							
R40A	Maddies Statio	156.16	299	P	PKPdf	17 02 19.8	-1.2	
	baz=76							
143A	Socs Landing,	156.22	285		PKPab	17 02 50.0	+0.8	
P38A	Dawn	156.73	303	P	PKPdf	17 02 21.3	-0.4	
	baz=71							
ECSD	EROS Data Cent	157.06	315		PKPdf	17 02 20.8	-1.2	
ECSD	EROS Data Cent	157.06	315	P	PKPdf	17 02 21.3	-0.7	
	baz=58							
ECSD	EROS Data Cent	157.06	315	P	PKPdf	17 02 20.3	-1.7	
	baz=58							
S39A	Bolivar	157.12	298	P	PKPdf	17 02 21.3	-1.0	
	baz=76							
X40A	Basin Creek Fa	157.30	290		PKPab	17 02 53.1	-0.7	
Z41A	Richland Creek	157.38	287		PKPab	17 02 54.2	0.0	
WLAR	White Oak Lake	157.60	288	PKPab	PKPab	17 02 55.9	+0.7	
DGMT	Dagmar	157.68	334	P	PKPdf	17 02 21.4	-1.2	
	baz=35							
MIAR	Mount Ida	157.90	290		PKPdf	17 02 23.2	-0.1	
MIAR				PKPab	PKPab	17 02 57.0	+0.6	
MIAR	Mount Ida	157.90	290	P	PKPdf	17 02 23.2	-0.1	
	baz=83							
MIAR	Mount Ida	157.90	290	P	PKPdf	17 02 24.5	+1.2	
	baz=83							
MIAR	Mount Ida	157.90	290	PKP2	PKPab	17 02 57.0	+0.6	
MIAR						18 02 23.2		
HHAR	Hobbs	157.91	295		PKPab	17 02 56.3	-0.1	
SUSD	Miller	158.04	319		PKPab	17 02 56.7	0.0	
SUSD	Miller	158.04	319	P	PKPdf	17 02 20.2	-3.0	
	baz=52							
U38A	Gravette	158.23	296	PKPab	PKPab	17 02 57.3	-0.5	
U38A	Gravette	158.23	296	P	PKPdf	17 02 22.9	-0.7	
	baz=78							
RLO	Rose Lookout	158.79	295		PKPab	17 02 59.9	-0.4	
NATX	Nacogdoches	159.00	283	PKPab	PKPab	17 03 01.7	+0.5	
NATX	Nacogdoches	159.00	283	P	PKPdf	17 02 25.6	+0.9	
	baz=89							
NATX	Nacogdoches	159.00	283	P	PKPdf	17 02 23.5	-1.2	
	baz=89							
X37A	Clayton	159.36	291	PKPab	PKPab	17 03 03.6	+0.8	
X37A	Clayton	159.36	291	P	PKPdf	17 02 25.2	+0.1	
	baz=82							
TUL1	Leonard	159.46	295		PKPab	17 03 03.2	+0.1	
TUL1	Leonard	159.46	295	P	PKPdf	17 02 24.6	-0.5	
	baz=78							
TUL1	Leonard	159.46	295	P	PKPdf	17 02 23.2	-1.9	
	baz=77							
T35A	Sooner Cattle	159.78	298	PKPdf	PKPdf	17 02 25.0	-0.5	
T35A					PKPab	17 03 04.8	+0.3	
T35B	Sooner Cattle	159.78	298	P	PKPdf	17 02 25.0	-0.5	
	baz=74							
EGMT	Eagleton	159.92	342	P	PKPdf	17 02 24.5	-0.9	
	baz=23							
LAO	LASA Array	159.93	334	PKPab	PKPab	17 03 05.3	+0.5	
LAO	LASA Array	159.93	334	P	PKPdf	17 02 22.0	-3.4	
	baz=34							
HKT	Hockley	159.96	278	P	PKPdf	17 02 27.0	+1.2	
	baz=94							
DEOK	Depew	160.03	295	PKPdf	PKPdf	17 02 25.4	-0.4	
DEOK					PKPab	17 03 05.9	+0.2	
QUOK	Quay	160.12	296		PKPab	17 03 06.2	+0.2	
OK044	Pawnee Station	160.14	297		PKPab	17 03 06.6	+0.5	
OK034	N. Norfolk Rd.	160.16	296		PKPab	17 03 06.7	+0.5	
OK046	Pawnee Station	160.22	297		PKPab	17 03 07.2	+0.7	
OK053	SW of W Deep R	160.22	296		PKPab	17 03 07.0	+0.5	
OK052	Battle Ridge R	160.24	296		PKPab	17 03 07.0	+0.5	
OK030	Cody Creek RV	160.24	296		PKPab	17 03 07.1	+0.6	
OK048	Pawnee Station	160.24	297		PKPab	17 03 07.1	+0.5	
OK031	S. Brethren Rd	160.28	296		PKPab	17 03 07.2	+0.5	
OK050	Pawnee Station	160.28	297		PKPab	17 03 07.3	+0.6	
OK033	Mehan	160.33	296		PKPab	17 03 07.3	+0.4	
BLOK	Blackwell	160.36	298		PKPab	17 03 07.6	+0.6	
W35A	Tecumseh	160.48	293		PKPdf	17 02 26.4	+0.1	
W35A				PKPab	PKPab	17 03 08.3	+0.7	
OK025	Westminster Rd	160.76	295		PKPab	17 03 09.1	+0.2	
OK029	Liberty Lake	160.80	296		PKPab	17 03 09.5	+0.5	
B08A	Colville Reser	160.85	1	PKPab	PKPab	17 03 08.2	-0.4	
KAN14	Manchester OK	160.88	299		PKPab	17 03 09.4	+0.1	
FNO	Franklin	160.88	294		PKPab	17 03 09.9	+0.5	
NEW	Newport	160.90	356		PKPab	17 03 08.9	0.0	
NEW	Newport	160.90	356	P	PKPdf	17 02 25.1	-1.3	
	baz=4.3							
NEW	Newport	160.90	356	PKP2	PKPab	17 03 08.9	0.0	
R32A	Long Quarter,	160.92	304		PKPab	17 03 09.8	+0.4	
R32A	Long Quarter,	160.92	304	P	PKPdf	17 02 27.1	+0.4	
	baz=67							
LOOK	Love County	160.93	290		PKPab	17 03 09.8	+0.2	
BCOK	Bluff Creek, N	160.96	295		PKPab	17 03 10.0	+0.3	
RSSD	Black Hills	160.98	326	PKPdf	PKPdf	17 02 26.4	-0.5	
RSSD				PKPab	PKPab	17 03 09.7	0.0	
RSSD	Black Hills	160.98	326	P	PKPdf	17 02 24.9	-2.0	
	baz=43							
RSSD	Black Hills	160.98	326	PKP2	PKPab	17 03 09.7	0.0	
RSSD						18 02 26.4		
CROK	Carrier	161.03	298		PKPab	17 03 10.3	+0.3	
Z35A	Perchaven, San	161.08	288		PKPab	17 03 10.7	+0.4	
X34A	Smith Ranch, M	161.36	292		PKPab	17 03 11.4	0.0	
WHTX	Lake Whitney,	161.37	284	P	PKPdf	17 02 25.3	-2.0	
	baz=87							
CBKS	Cedar Bluff	161.50	306	P	PKPdf	17 02 25.9	-1.5	
	baz=64							
435B	Jarrell	161.50	280	PKPab	PKPab	17 03 12.7	+0.5	
435B	Jarrell	161.50	280	P	PKPdf	17 02 25.1	-2.5	
	baz=90							
HRY	Holter Researc	161.66	344		PKPab	17 03 12.4	0.0	
CSTR	Hydro, Custer	161.81	296		PKPab	17 03 14.1	+0.7	
U32A	Winter Ranch,	161.85	298		PKPab	17 03 14.6	+1.0	
OGNE	Ogallala	161.94	315	P	PKPdf	17 02 27.7	-0.1	
	baz=55							
OGNE	Ogallala	161.94	315	P	PKPdf	17 02 25.1	-2.7	
	baz=54							
MSO	Missoula	161.97	349	PKPdf	PKPdf	17 02 26.5	-1.1	
MSO				PKPdif	sPKPdf	17 02 42.4	+6.1	
MSO	Missoula	161.97	349	P	PKPdf	17 02 25.4	-2.2	
	baz=14							
WMOK	Wichita Mounta	162.10	293		PKPdf	17 02 28.1	+0.1	
WMOK					PKPab	17 03 15.2	+0.4	
WMOK	Wichita Mounta	162.10	293	P	PKPdf	17 02 28.2	+0.1	
	baz=78							
WMOK	Wichita Mounta	162.10	293	P	PKPdf	17 02 25.3	-2.8	
	baz=77							
WMOK	Wichita Mounta	162.10	293	PKIKP	PKPdf	17 02 28.1	+0.1	
WMOK						17 03 15.2		
RLMT	Red Lodge	162.37	337	PKPdf	PKPdf	17 02 28.3	0.0	
RLMT					PKPab	17 03 16.2	+0.5	
RLMT	Red Lodge	162.37	337	P	PKPdf	17 02 28.8	+0.5	
	baz=28							
LRM	Limekiln Ridge	162.64	345		PKPab	17 03 16.3	-0.6	
BOZ	Bozeman (W)	162.65	343	PKPdf	PKPdf	17 02 28.1	-0.3	
BOZ					PKPab	17 03 16.8	-0.1	
BOZ	Bozeman (W)	162.65	343	P	PKPdf	17 02 27.4	-1.0	
	baz=21							
BOZ	Bozeman (W)	162.65	343	PKIKP	PKPdf	17 02 28.1	-0.3	
BOZ						17 03 16.8		
833A	Chaparral WMA,	162.91	272	P	PKPdf	17 02 29.3	+0.3	
	baz=98							
833A	Chaparral WMA,	162.91	272	P	PKPdf	17 02 29.0	0.0	
	baz=98							
DLMT	Dillon	163.11	345		PKPab	17 03 18.7	-0.1	
ABTX	Abilene, Hawle	163.16	287		PKPab	17 03 20.3	+0.8	
ABTX	Abilene, Hawle	163.16	287	P	PKPdf	17 02 29.7	+0.5	
	baz=84							
ABTX	Abilene, Hawle	163.16	287	P	PKPdf	17 02 28.8	-0.3	
	baz=83							
YMR	Madison River	163.32	340		PKPab	17 03 20.6	+0.8	
KSCO	Kaye Shedlock'	163.39	310	P	PKPdf	17 02 29.5	+0.1	
	baz=58							
JCT	Junction City	163.41	279	PKPab	PKPab	17 03 21.0	+0.3	
JCT	Junction City	163.41	279	P	PKPdf	17 02 30.0	+0.5	
	baz=90							
JCT	Junction City	163.41	279	P	PKPdf	17 02 29.5	0.0	
	baz=90							
JCT	Junction City	163.41	279	PKP2	PKPab	17 03 21.0	+0.3	
H17A	Grant Village	163.45	339	P	PKPdf	17 02 28.2	-1.2	
	baz=26							
MCMT	McKenzie Canyo	163.67	345		PKPab	17 03 21.2	-0.2	
PHWY	Pilot Hill	163.72	321	PKPdf	PKPdf	17 02 28.9	-0.9	
PHWY					PKPab	17 03 21.5	-0.4	
FLWY	Flagg Ranch	163.77	339		PKPab	17 03 23.0	+1.2	
PLID	Pearl Lake	163.97	353		PKPdf	17 02 28.9	-0.9	
PLID				PKPab	PKPab	17 03 21.8	-0.9	
IMW	Indian Meadow	164.01	339		PKPab	17 03 24.0	+1.0	
MOOW	Moose Ponds	164.08	338	PKPab	PKPab	17 03 23.7	+0.4	
LOHW	Long Hollow	164.16	338		PKPdf	17 02 29.3	-0.7	
LOHW					PKPab	17 03 23.8	+0.2	
N23A	Red Feather La	164.26	321		PKPdf	17 02 30.2	0.0	
N23A				PKPab	PKPab	17 03 24.1	-0.1	
N23A	Red Feather La	164.26	321	P	PKPdf	17 02 29.4	-0.9	
	baz=46							
FXWY	Fox Creek	164.27	339		PKPdf	17 02 30.2	+0.1	
FXWY				PKPab	PKPab	17 03 24.8	+0.7	
AMTX	Amarillo	164.37	296	P	PKPdf	17 02 30.2	-0.1	
	baz=74							
AMTX	Amarillo	164.37	296	P	PKPdf	17 02 28.3	-2.0	
	baz=73							
TPAW	Teton Pass	164.38	338		PKPdf	17 02 29.6	-0.7	
TPAW					PKPab	17 03 24.2	-0.4	
REDW	Red Top Meadow	164.46	338	PKPdf	PKPdf	17 02 30.3	-0.1	
REDW					PKPab	17 03 25.4	+0.5	
BW06	Boulder Array	164.51	334		PKPdf	17 02 29.6	-0.8	
BW06				PKPab	PKPab	17 03 24.1	-1.1	
BW06	Boulder Array	164.51	334	P	PKPdf	17 02 28.8	-1.6	
	baz=32,SNR=6.3							
PD31	Pinedale Array	164.51	334		PKPdf	17 02 29.3	-1.1	
PD31					PKPab	17 03 23.9	-1.3	
PDAR	Pinedale Array	164.51	334	PKP	PKPdf	17 02 29.6	-0.8	
	comp=Z,2.5nm,0.9s,baz=122,slow=1.9,SNR=11							
PDAR				PKPab	PKPab	17 03 24.3	-0.9	
	comp=Z,4.9nm,1.0s,baz=49,slow=4.5,SNR=5.5							
PDAR				PP	PP	17 07 10.1	-0.7	
	comp=Z,2.8nm,1.1s,baz=40,slow=4.7,SNR=2.8							
PDAR	Pinedale Array	164.51	334		PKPdf	17 02 29.4	-1.0	
PDAR				PKPab	PKPab	17 03 24.1	-1.1	
ISCO	Idaho Springs	164.81	318		PKPdf	17 02 31.1	+0.2	
ISCO	Idaho Springs	164.81	318	P	PKPdf	17 02 31.1	+0.2	
	baz=50							
ISCO	Idaho Springs	164.81	318	P	PKPdf	17 02 31.8	+1.0	
	baz=50							
ISCO	Idaho Springs	164.81	318	PKIKP	PKPdf	17 02 31.1	+0.2	
ECR	Eagle Creek	164.91	338		PKPab	17 03 26.8	-0.1	
Q24A	Divide	165.04	314		PKPdf	17 02 30.7	-0.3	
Q24A	Divide	165.04	314	P	PKPdf	17 02 32.2	+1.1	
	baz=53							
AHID	Auburn Hatcher	165.07	337		PKPab	17 03 27.3	-0.3	
I07A	Izee	165.12	2		PKPab	17 03 27.8	+0.1	
HLID	Hailey	165.22	347	PKPab	PKPab	17 03 28.2	+0.1	
HLID	Hailey	165.22	347	P	PKPdf	17 02 31.4	+0.5	
	baz=15							
MSTX	Muleshoe	165.49	293	PKPab	PKPab	17 03 30.5	+0.7	
MSTX	Muleshoe	165.49	293	P	PKPdf	17 02 31.7	+0.4	
	baz=75							
MSTX	Muleshoe	165.49	293	P	PKPdf	17 02 29.7	-1.7	
	baz=75							
T25A	Trinidad	165.54	307	P	PKPdf	17 02 29.7	-1.7	
	baz=61							
MFID	Camas Ranch	165.59	351	PKPab	PKPab	17 03 30.2	+0.5	
SDCO	Great Sand Dun	165.97	311	PKPab	PKPab	17 03 32.1	+0.1	
SDCO	Great Sand Dun	165.97	311	P	PKPdf	17 02 32.8	+0.9	
	baz=56							
SDCO	Great Sand Dun	165.97	311	P	PKPdf	17 02 30.9	-0.9	
	baz=56							
SMCO	Snowmass	166.01	319		PKPab	17 03 31.8	-0.4	
O20A	White River Ci	166.03	324		PKPab	17 03 31.3	-0.6	
O20A	White River Ci	166.03	324	P	PKPdf	17 02 29.7	-2.0	
	baz=41							
HWUT	Hardware Ranch	166.26	336	PKPdf	PKPdf	17 02 31.5	-0.4	
HWUT					PKPab	17 03 32.6	-0.2	
RDMU	Red Mountain	166.33	329	PKPdf	PKPdf	17 02 31.6	-0.3	
RDMU					PKPab	17 03 32.6	-0.6	
HVU	Hansel Valley	166.50	340	PKPdf	PKPdf	17 02 32.0	+0.1	
HVU					PKPab	17 03 33.8	0.0	
HVU	Hansel Valley	166.50	340	PKP2	PKPab	17 03 33.8	0.0	
HVU						18 02 32.0		
TCUT	Toone Canyon	166.63	335	PKPdf	PKPdf	17 02 31.7	-0.6	
TCUT					PKPab	17 03 34.2	-0.4	
TXAR	Lajitas Array	166.74	274	PKP	PKPdf	17 02 32.7	+0.2	
	comp=Z,1.6nm,0.9s,baz=164,slow=0.9,SNR=14							
TXAR				PKPab	PKPab	17 03 35.7	+0.2	
	comp=Z,3.0nm,0.8s,baz=114,slow=5.6,SNR=8.7							
TXAR				PP	PP	17 07 25.8	+1.9	
	comp=Z,1.3nm,0.9s,baz=97,slow=4.2,SNR=4.3							
TX31	Lajitas Ar. Si	166.74	274	P	PKPdf	17 02 33.0	+0.6	
	baz=93							
CLNB	Carlsbad	166.75	287		PKPab	17 03 35.0	-0.4	
SPUT	South Promonto	166.83	338	PKPdf	PKPdf	17 02 31.8	-0.5	
SPUT					PKPab	17 03 35.3	0.0	
S22A	4UR Ranch, Cre	166.83	314	P	PKPdf	17 02 31.2	-1.4	
	baz=53							
JLU	Jordanelle	167.10	334		PKPab	17 03 36.5	-0.2	
CTU	Camp Tracy	167.13	335		PKPab	17 03 36.4	-0.3	
GDL2	Guadalupe Moun	167.17	287	PKPab	PKPab	17 03 37.4	+0.1	
MOD	Modoc Plateau	167.26	5	PKPdf	PKPdf	17 02 32.4	-0.1	
MOD				PKPab	PKPab	17 03 37.2	+0.1	
BGU	Big Grassy Mou	167.36	339	PKPdf	PKPdf	17 02 32.1	-0.5	
BGU				

	baz=8.2					
GSC	Goldstone, Bar	173.66 345			PKPab	17 04 06.3 +0.7
GSC	Goldstone, Bar	173.66 345	P		PKPdf	17 02 38.0 +1.8
	baz=15,SNR=6.6					
GSC	Goldstone, Bar	173.66 345	PKP2		PKPab	17 04 06.3 +0.7
GMRC	Granite Mounta	173.79 335	P		PKPdf	17 02 37.7 +1.5
	baz=26					
SMMC	Simmler	173.81 9	P		PKPdf	17 02 37.7 +1.5
	baz=350					
HEC	Hector,Ludlow	173.98 340	P		PKPdf	17 02 36.8 +0.6
	baz=20					
ARVC	Arvin	174.07 360	P		PKPdf	17 02 40.2 +4.0
	baz=359					
214A	Organ Pipe Nat	174.10 299			PKPab	17 04 08.4 +0.5
214A	Organ Pipe Nat	174.10 299	P		PKPdf	17 02 36.5 +0.1
	baz=63					
IRM	Iron Mountain	174.12 328	P		PKPdf	17 02 36.9 +0.6
	baz=32					
PKM	Mcpherson Peak	174.25 8	P		PKPdf	17 02 36.9 +0.4
	baz=350					
EDW2	Edwards Air Fo	174.27 353	P		PKPdf	17 02 36.1 -0.2
	baz=6.4					
OSI	Osito Audit: C	174.59 359	P		PKPdf	17 02 37.0 +0.6
	baz=360					
BBRC	Big Bear Solar	174.68 342	P		PKPdf	17 02 34.6 -2.2
	baz=17					
BC3	Big Chuckawall	174.68 328	P		PKPdf	17 02 36.7 +0.1
	baz=33					
GLA	Glamis	174.82 319	P		PKPdf	17 02 36.7 +0.2
	baz=42					
DECC	Green Verdugo	174.93 355	P		PKPdf	17 02 34.2 -2.3
	baz=3.9					
PMD	Palm Desert	175.07 335			PKPab	17 04 12.4 +0.6
PFO	Pinyon Flats O	175.13 336			PKPab	17 04 12.9 +0.6
PFO	Pinyon Flats O	175.13 336	P		PKPdf	17 02 36.8 +0.1
	baz=24					
PFO	Pinyon Flats O	175.13 336	PKP2		PKPab	17 04 12.9 +0.6
TPFO	Pinon Flats	175.14 336	P		PKPdf	17 02 36.4 -0.4
	baz=24,SNR=6.8					
SCZ2	Santa Cruz Isl	175.16 8	P		PKPdf	17 02 34.3 -2.3
	baz=351					
MURC	Murrieta	175.38 343	P		PKPdf	17 02 36.4 -0.2
	baz=17					
ELS	Elsinore Mount	175.39 345	PKPdf		PKPdf	17 02 35.5 -1.3
ELS			PKPab		PKPab	17 04 13.5 +0.2
SWSC	Sam W. Stewart	175.43 326	P		PKPdf	17 02 36.0 -0.6
	baz=34					
FMP	Fort Macarthur	175.46 354	P		PKPdf	17 02 35.2 -1.4
	baz=4.8					
MONP2	Monument Peak	175.75 331	P		PKPdf	17 02 35.7 -1.3
	baz=29,SNR=5.0					
CIS	Catalina Islan	175.78 355	P		PKPdf	17 02 35.7 -1.1
	baz=3.7					
IKP	In-Ko-Pah, Jac	175.82 326	P		PKPdf	17 02 38.2 +1.4
	baz=34					
SNCC	San Nicolas Is	175.91 8	P		PKPdf	17 02 34.5 -2.3
	baz=350					
109C	Camp Elliot, M	176.01 338	P		PKPdf	17 02 39.1 +2.3
	baz=21					
BAR	Barrett	176.04 332			PKPab	17 04 16.7 +0.5

*IDC **29** 16:52:18.8±1.1,19.˚95S×66.˚85W,h211km±16km,mb3.3/3, mbtmp3.6/5,Error ellipse: s-maj=30.8km s-min=10.4km az=103.0*

*SCB **29** 16:52:20.3±0.9,20.˚07S×67.˚10W,h212km±12km,ML3.3/2, MW3.3,Error ellipse: s-maj=3.7km s-min=2.7km az=0.0*

ISC 29 16:52:19.4±0.9,20.˚01S±0.˚05×67.˚07W±0.˚05,h218km±8km, n28,σ1°27/39,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOCB	Mochara	1.82	133	Pg		Pn	16 52 58.8	+0.7
MOCB				Sg		S	16 53 27.8	-0.2
MOCB				IAML			16 53 29.1	
	382nm,0.8s							
GO01	Chusmiza	2.03	279	*e*P		Pn	16 53 00.8	+0.7
GO01				*i* S		S	16 53 33.8	+2.2
GO01	Chusmiza	2.03	279	Pg		Pn	16 53 00.7	+0.5
PB11	IPOC Station P	2.45	275	*e*P		Pn	16 53 04.0	-0.1
PB11				*i* S		S	16 53 38.3	-0.4
PB01	IPOC Station P	2.49	245	*e*P		Pn	16 53 04.5	0.0
PB01				*i* S		S	16 53 39.0	-0.4
PB01				IAML			16 53 40.2	
	comp=N,153nm,0.3s							
MNMC	Minye Minye	2.54	290	*e*P		Pn	16 53 05.8	+0.6
YJA	Yavi	2.60	146	Pg		Pn	16 53 06.5	+0.5
YJA				Sg		S	16 53 41.4	-0.8
YJA				IAML			16 53 43.4	
	comp=N,30nm,0.8s							
TA02	Huaiquique	2.89	264	Pg		Pn	16 53 10.3	+1.5
PSGC	Pisagua	2.91	278	*e*P		Pn	16 53 07.9	-1.2
PSGC				*i* S		S	16 53 46.0	-1.7
PSGC				IAML			16 53 47.6	
	comp=E,69nm,0.2s							
PB02	IPOC Station P	2.95	243	Pg		Pn	16 53 09.7	+0.1
PB02				Sg		S	16 53 47.1	-1.5
TA01	Diego Aracena	2.98	259	*e*P		Pn	16 53 09.2	-0.5
TA01				*i* S		S	16 53 46.5	-2.4
TA01	Diego Aracena	2.98	259	Pg		Pn	16 53 10.8	+1.1
LVC	Limon Verde	3.11	213	P		Pn	16 53 12.2	+0.6
	comp=E,6.3nm,0.3s,baz=27,slow=10,SNR=20							
LVC				S		S	16 53 54.2	+1.9
	comp=E,3.0nm,0.3s,baz=123,slow=24,SNR=1.2							
LVC	Limon Verde	3.11	213	Pg		Pn	16 53 12.2	+0.6
PB07	IPOC Station P	3.14	237	*i* S		S	16 53 51.4	-1.3
SOEJ	Jacaque	3.20	340	Pg		Pn	16 53 14.8	+1.9
BBOE	La Paz, Chanca	3.29	345	Pg		Pn	16 53 15.7	+1.6
PB06	IPOC Station P	3.56	221	*e*P		Pn	16 53 16.7	0.0
PB06				*i* S		S	16 54 00.6	-0.9
PB06	IPOC Station P	3.56	221	Pg		Pn	16 53 17.3	+0.6
PB06	IPOC Station P	3.56	221	Pg		Pn	16 53 17.6	+0.9
PB04	IPOC Station P	3.69	231	Pg		Pn	16 53 18.6	+0.3
LPAZ	La Paz	3.83	345	P		Pn	16 53 21.5	+0.9
	comp=E,1.4nm,0.5s,baz=171,slow=10.0,SNR=8.5							
LPAZ				S		S	16 54 07.6	-0.7
	comp=E,2.7nm,0.7s,baz=332,slow=22,SNR=11							
LPAZ	La Paz	3.83	345	Pg		Pn	16 53 21.8	+1.2
SIV	San Ignacio	6.96	56	P		Pn	16 53 56.7	-2.8
	comp=E,3.8nm,0.4s,baz=244,slow=9.6,SNR=15							
PLCA	Paso Flores	20.87	187	P		P	16 56 46.3	+1.4
	comp=E,1.1nm,0.7s,baz=2.2,slow=13,SNR=4.6							
	comp=E,1.1nm,0.7s							
QSPA	South Pole Qui	70.18	180	P		P	17 03 09.7	+1.4
	comp=E,0.6nm,0.5s,baz=344,slow=2.5,SNR=1.3							
	comp=E,0.6nm,0.5s							
TORD	Torodi Ar. Bea	75.23	70	P		P	17 03 36.6	-2.1
	comp=E,0.8nm,0.3s,baz=246,slow=5.9,SNR=6.9							
	comp=E,0.8nm,0.3s							
ASAR	Alice Springs	132.02	206	PKP		PKPdf	17 11 07.8	-0.1
	comp=E,0.1nm,0.8s,baz=125,slow=0.8,SNR=1.4							

*IDC **29** 17:38:47.9±0.5,58.˚05S×64.˚69W,h0km,mb4.9/18, mbtmp4.8/20,ML4.5/2,MS4.5/39,Error ellipse: s-maj=24.5km s-min=11.0km az=75.0*

*MOS **29** 17:38:48.4±1.0,58.˚02S×64.˚65W,h10km,mb5.3/18,Error ellipse: s-maj=28.8km s-min=8.9km az=91.7*

*NEIC **29** 17:38:49.8±1.9,58.˚04S±0.˚06×64.˚9W±0.˚2,h10km±1km, mb5.4/88,Mww5.4,ML5.1(GUC),Error ellipse: s-maj=16.3km s-min=9.8km az=252.0*

*GUC **29** 17:38:51.1±0.3,58.˚02S×65.˚46W,h10km,ML5.1*

*GCMT **29** 17:38:51.8±0.2,58.˚13S±0.˚01×64.˚73W±0.˚02,h21km, MW5.3/127,Moment Tensor Solution. s66,c94; s127,c196; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.49±.03; $M_{\theta\theta}$0.07±.02; $M_{\phi\phi}$-0.55±.02; $M_{r\theta}$0.66±.04; $M_{\theta\phi}$0.66±.01; $M_{\phi r}$0.54±.04; Best double couple: $M_0$1.15600×10^{17} NP1:ϕ_s4.00000°,δ65.00000°, λ141.00000°. NP2:ϕ_s114.00000°,δ55.00000°,λ31.00000°. Principal axes: T 1.3320, Plg45.0000°, Azm325.0000°; N -0.3510, Plg44.0000°, Azm157.0000°; P -0.9810, Plg6.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **29** 17:38:53.0±0.0,58.˚00S×64.˚90W,h10km,mB5.2/6, Ms5.2/3,Ms7 5.0/5*

*NEIC **29** 17:38:53,58.˚04S×64.˚88W,h26km,Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.64; $M_{\theta\theta}$0.28; $M_{\theta\phi}$-0.92; $M_{r\theta}$0.53; $M_{\phi\phi}$0.88; $M_{\phi r}$0.36; Fault plane solution: $M_0$1.36000×10^{17} NP1:*

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ϕ_s116.00000°,δ60.00000°,λ32.00000°. NP2:ϕ_s9.00000°, δ63.00000°,λ145.00000°. Principal axes: T 1.3341, Plg43.0000°, Azm331.0000°; N 0.0540, Plg47.0000°, Azm155.0000°; P -1.3881, Plg2.0000°, Azm63.0000°:

ISC 29 17:38:51.4±1.1,58.˚05S±0.˚04×64.˚91W±0.˚07,h23km±7km, n374,σ1°18/356,mb5.3/71,MS4.5/43,1C-2D,Drake Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MG01	Puerto William	3.47	333			Pn	17 39 43.6	-0.3
MG01	Puerto William	3.47	333	*e*P		Pn	17 39 43.6	-0.3
MG01				*i* S		Sn	17 40 24.6	+0.4
MG01				IAML			17 40 34.5	
	comp=N,4μm,0.6s							
USHA	Ushuaia	3.77	327	Pn		Pn	17 39 47.6	-0.5
	comp=N,114nm,0.3s,baz=173,slow=13,SNR=129							
USHA				Sn		Sn	17 40 30.9	-0.8
	comp=N,150nm,0.3s,baz=310,slow=21,SNR=5.9							
	comp=N,345nm,0.4s							
USHA	Ushuaia	3.77	327	*e*P		Pn	17 39 47.9	-0.1
USHA				*i* S		Sn	17 40 31.0	-0.6
MG02	Cerro Sombrero	5.82	333			Pn	17 40 16.9	+0.7
MG02	Cerro Sombrero	5.82	333	*e*P		Pn	17 40 16.5	+0.3
MG02				*i* S		Sn	17 41 20.4	-1.8
MG04	Isla Riesco	6.43	321			Pn	17 40 23.8	-0.8
MG04	Isla Riesco	6.43	321	*e*P		Pn	17 40 24.2	-0.4
MG04				*i* S		Sn	17 41 34.6	-2.6
PMSA	Palmer Station	6.76	177	Pn		Pn	17 40 26.9	-2.2
	comp=N,2.8nm,0.3s,baz=16,slow=8.1,SNR=12							
PMSA				Sn		Sn	17 41 40.5	-4.8
	baz=231,slow=16							
PMSA				LR		LR	17 42 33.1	
	comp=N,9μm,18.3s,baz=335,slow=33							
	comp=N,7.9nm,0.3s							
PMSA	Palmer Station	6.76	177	Pn		Pn	17 40 27.6	-1.5
EFI	East Falkland	7.50	35	Pn		Pn	17 40 38.3	-1.0
EFI	East Falkland	7.50	35	P		Pn	17 40 38.3	-1.0
MG05	Puerto Natales	7.74	322	Pn		Pn	17 40 40.9	-1.6
GO09	Cerro Castillo	8.04	324			Pn	17 40 44.3	-2.4
GO08	Villa O'Higgin	10.63	331	Pn		Pn	17 41 20.6	-1.5
LL02	Futaleuf	15.50	341	P		Pn	17 42 30.4	+2.0
PLCA	Paso Flores	17.70	346	P		P	17 42 59.1	+1.9
	comp=N,20nm,0.6s,baz=175,slow=11,SNR=41							
PLCA				LR		LR	17 50 12.3	
	comp=N,3μm,18.5s,baz=174,slow=39							
PLCA	Paso Flores	17.70	346			P	17 42 57.8	+0.7
PLCA	Paso Flores	17.70	346	P		P	17 42 57.8	+0.7
PLCA				pmax		pmax		
	comp=Z,250nm,1.7s							
PLCA	Paso Flores	17.70	346	*e*P		P	17 42 59.0	+1.9
GO06	Curarrehue	18.96	344			Pn	17 43 13.5	+1.8
TRQA	Tornquist	20.10	7	Pn		P	17 43 24.2	+1.0
TRQA	Tornquist	20.10	7	P		P	17 43 24.2	+1.0
TRQA				pmax		pmax		
	comp=Z,645nm,1.9s							
BELA	Belgrano 2	22.36	164	P		P	17 43 48.1	+0.8
BELA				IAmb		IAmb	17 43 56.6	
	comp=Z,232nm,1.1s							
GO05	Huala	23.52	345	P		P	17 44 00.2	+0.6
BO02	Sierra Bellavi	23.59	348	P		P	17 44 00.7	+0.3
BO01	Tunca	24.02	347	P		P	17 44 02.3	-2.1
LMEL	Las Melosas	24.47	349	P		P	17 44 09.6	+0.9
LMEL				IAmb		IAmb	17 44 13.3	
	comp=Z,50nm,0.9s							
MT01	Popeta	24.56	347	P		P	17 44 09.9	+0.6
MT01				IAmb		IAmb	17 44 12.9	
	comp=Z,62nm,0.7s							
MT09	Talagante	24.62	348	P		P	17 44 09.8	-0.2
MT09				IAmb		IAmb	17 44 11.9	
	comp=Z,88nm,0.8s							
VA05	Santo Domingo	24.81	347	P		P	17 44 12.2	+0.6
MT03	Universidad Ad	24.85	349	P		P	17 44 12.2	+0.2
MT03				IAmb		IAmb	17 44 15.0	
	comp=Z,132nm,1.1s							
MT05	Renca	24.97	348	P		P	17 44 13.6	+0.5
MT02	Curacav	25.15	348	P		P	17 44 13.9	-0.7
ROC1	El Roble	25.41	348	P		P	17 44 16.0	-1.3
ROC1				IAmb		IAmb	17 44 26.2	
	comp=Z,50nm,0.6s							
VA03	San Esteban	25.57	349	P		P	17 44 19.7	+1.1
VA06	Catapilco	25.86	348	P		P	17 44 21.6	+0.6
VNA3	Neumayer Olymp	25.92	143	P		P	17 44 22.0	+0.7
VNA3	Neumayer Olymp	25.92	143	PcP		PcP	17 47 49.6	+0.4
VNA1	Neumayer--Stat	26.38	141	P		P	17 44 25.6	+0.2
CFA	Coronel Fontan	26.54	354	P		P	17 44 26.6	-0.6
	comp=Z,6.8nm,0.5s,baz=182,slow=9.6,SNR=17							
CFA				PcP		PcP	17 47 52.0	+0.6
	comp=Z,1.0nm,0.3s,baz=243,slow=2.9,SNR=2.0							
CFA				LR		LR	17 56 09.0	
	comp=Z,1μm,18.7s,baz=164,slow=39							
	comp=Z,6.8nm,0.5s							
VNA2	Neumayer--Watz	26.66	142	P		P	17 44 28.6	+0.7
	baz=270,slow=11							
VNA2	Neumayer--Watz	26.66	142	PcP		PcP	17 47 51.6	+0.7
CO02	Combarbal	27.16	349	P		P	17 44 33.8	+0.8
CO02				IAmb		IAmb	17 44 35.9	
	comp=Z,66nm,1.0s							
PLTB	Pedras Altas	27.40	21	P		P	17 44 34.8	-0.2
PLTB				IAmb		IAmb	17 44 36.5	
	comp=Z,82nm,1.4s							
PLTB	Pedras Altas	27.40	21	*e*P		P	17 44 35.1	+0.1
CO03	El Pedregal	27.49	349	P		P	17 44 36.1	+0.1
CO03				IAmb		IAmb	17 44 38.8	
	comp=Z,48nm,1.1s							
SNAA	Sanae	28.09	144	P		P	17 44 41.4	+0.5
SNAA	Sanae	28.09	144	PcP		PcP	17 47 53.0	-1.5
SNAA	Sanae	28.09	144	P		P	17 44 40.7	-0.2
	comp=Z,38nm,1.1s,baz=258,slow=8.9,SNR=22							
SNAA				PcP		PcP	17 47 54.6	+0.1
	comp=Z,5.0nm,0.9s,baz=248,slow=8.8,SNR=2.6							
SNAA				LR		LR	17 53 41.8	
	comp=Z,954nm,21.9s,baz=282,slow=32							
	comp=Z,38nm,1.1s							
SNAA	Sanae	28.09	144	P		P	17 44 40.6	-0.2
SNAA				IAmb		IAmb	17 44 45.2	
	comp=Z,108nm,1.3s							
SNAA	Sanae	28.09	144	*e*P		P	17 44 41.1	+0.2
GO04	Tololo Observa	28.16	349	P		P	17 44 41.7	-0.4
GO04				IAmb		IAmb	17 44 43.5	
	comp=Z,146nm,1.9s							
CO01	Juntas del Tor	28.29	350	P		P	17 44 44.6	+1.4
CO01				IAmb		IAmb	17 44 46.9	
	comp=Z,120nm,1.6s							
CPSB	Cacapava Do Su	28.75	21	*e*P		P	17 44 46.5	-0.5
ITQB	Itaqui	28.95	15	P		P	17 44 49.0	+0.3
ITQB				IAmb		IAmb	17 44 51.6	
	comp=Z,90nm,1.0s							
ITQB	Itaqui	28.95	15	*e*P		P	17 44 49.1	+0.4
TROLL	Troll, Antarti	29.73	145	P		P	17 44 56.2	+0.7
AC02	Maricunga	31.34	353	P		P	17 45 09.7	-0.8
ITAB	Concordia	32.08	22	P		P	17 45 15.9	-0.6
ITAB	Concordia	32.08	22	*e*P		P	17 45 16.9	+0.4
CPUP	Villa Florida	32.15	13	P		P	17 45 16.9	-0.1
	comp=Z,8.8nm,0.6s,baz=194,slow=7.8,SNR=30							
CPUP				LR		LR	17 59 20.0	
	comp=Z,2μm,18.7s,baz=190,slow=38							
	comp=Z,8.8nm,0.6s							
CPUP	Villa Florida	32.15	13	P		P	17 45 16.9	-0.1
CPUP	Villa Florida	32.15	13	P		P	17 45 16.9	-0.1
CPUP				pmax		pmax		
	comp=Z,24nm,1.1s							
CPUP	Villa Florida	32.15	13	*e*P		P	17 45 16.9	-0.1
QSPA	South Pole Qui	32.19	180	P		P	17 45 17.9	+0.6
	comp=Z,36nm,1.0s,baz=156,slow=2.2,SNR=35							
QSPA				PcP		PcP	17 48 06.1	+0.8
	comp=Z,3.8nm,0.6s,baz=293,slow=0.4,SNR=8.3							
QSPA				LR		LR	17 57 44.6	
	comp=Z,1μm,19.6s,baz=160,slow=35							
	comp=Z,36nm,1.0s							
QSPA	South Pole Qui	32.19	180	P		P	17 45 17.6	+0.3
NVL	N'lazarevskaya	32.92	144	*e*P		P	17 45 25.5	+2.1
NVL				*e*S		S	17 50 44.5	+5.0
NVL				pmax		pmax		
	comp=Z,101nm,1.0s							
PB14	IPOC Station P	33.62	351	P		P	17 45 29.0	-1.3
PTGB	Pitanga	34.55	21	*e*P		P	17 45 38.8	+0.7
TIJ01	Guaruva-PR	34.60	26	*e*P		P	17 45 34.1	-4.5
PB10	IPOC Station P	34.74	351	P		P	17 45 37.9	-1.8
PB10				IAmb		IAmb	17 45 41.7	
	comp=Z,44nm,0.9s							
PB06	IPOC Station P	35.47	353	P		P	17 45 44.9	-1.2
PB06				IAmb		IAmb	17 45 48.5	
	comp=Z,46nm,1.0s							
LVC	Limon Verde	35.52	354	LR		LR	18 00 42.5	
	comp=Z,2μm,20.3s,baz=195,slow=37							
LVC	Limon Verde	35.52	354	P		P	17 45 46.5	-0.3
LVC	Limon Verde	35.52	354	P		P	17 45 46.5	-0.3
LVC				pmax		pmax		
	comp=Z,23nm,0.9s							
LVC	Limon Verde	35.52	354	*e*P		P	17 45 47.5	+0.8
ELIB	Princess Elisa	35.93	148	*d*P		P	17 45 49.5	-0.1
	comp=Z,31nm,1.2s							
PET01	Itanhaem-SP	36.01	28	*e*P		P	17 45 50.8	+0.2
PB03	IPOC Station P	36.13	352	P		P	17 45 51.5	-0.2
FRTB	Fartura	36.39	24	*e*P		P	17 45 54.6	+0.7
PB07	IPOC Station P	36.46	352	P		P	17 45 54.9	+0.2
PB02	IPOC Station P	36.86	352	P		P	17 45 57.9	-0.1
PB02				IAmb		IAmb	17 46 00.4	
	comp=Z,53nm,0.9s							
PB01	IPOC Station P	37.11	353	P		P	17 45 59.5	-0.5
PATCX	Punta Patache	37.38	352	P		P	17 46 01.8	-0.5
PATCX				IAmb		IAmb	17 46 05.4	
	comp=Z,112nm,1.3s							
TA01	Diego Aracena	37.63	352	P		P	17 46 05.0	+0.6
PCMB	Pacaembu	37.73	21	*e*P		P	17 46 05.4	+0.2
RCLB	Rio Claro- Sao	37.75	27	*e*P		P	17 46 06.5	+1.1
TA02	Huaiquique	37.92	352	P		P	17 46 06.2	-0.6
TA02				IAmb		IAmb	17 46 09.1	
	comp=Z,57nm,0.9s							
AQDB	Aquidauana	38.12	14	P		P	17 46 08.2	-0.3
AQDB	Aquidauana	38.12	14	*e*P		P	17 46 08.3	-0.2
PB11	IPOC Station P	38.39	353	P		P	17 46 11.1	+0.1
PB11				IAmb		IAmb	17 46 13.8	
	comp=Z,55nm,0.9s							
GO01	Chusmiza	38.46	354	P		P	17 46 12.1	+0.2
GO01				IAmb		IAmb	17 46 15.2	
	comp=Z,48nm,1.1s							
PSGCX	Pisagua	38.59	352	P		P	17 46 12.9	+0.4
MNMC	Minye Minye	39.02	353	P		P	17 46 17.1	+0.7
MNMC				IAmb		IAmb	17 46 19.0	
	comp=Z,172nm,1.9s							
DUB01	Friburgo-RJ	39.46	34	*e*P		P	17 46 20.6	+0.8
PB12	IPOC Station P	39.58	352	P		P	17 46 21.3	+0.4
PB12				IAmb		IAmb	17 46 23.5	
	comp=Z,63nm,0.8s							
ITRB	Iturama	39.75	22	*e*P		P	17 46 22.3	+0.1
PB16	IPOC Station P	39.80	353	P		P	17 46 24.2	+0.9
C2SB	Chapadao do Su	40.22	18	*e*P		P	17 46 26.7	+0.6
PP1B	Ponte de Pedra	41.06	15	*e*P		P	17 46 33.7	+0.6
ALF01	Guarapari-ES	41.34	36	*e*P		P	17 46 36.3	+1.1
VNDA	Vanda	41.64	194	P		P	17 46 40.7	+3.5
	comp=Z,9.1nm,1.2s,baz=174,slow=5.3,SNR=4.9							
VNDA				PcP		PcP	17 48 36.1	+2.7
	comp=Z,3.0nm,1.0s,baz=164,slow=5.3,SNR=2.6							
VNDA				LR		LR	18 03 21.7	
	comp=Z,567nm,18.8s,baz=146,slow=35							
LPAZ	La Paz	41.76	355	P		P	17 46 40.4	+1.0
	comp=Z,18nm,1.0s,baz=152,slow=6.2,SNR=34							
LPAZ				PcP		PcP	17 48 36.5	+1.0
	comp=Z,4.8nm,0.6s,baz=113,slow=2.8,SNR=7.7							
LPAZ				LR		LR	18 05 58.0	
	comp=Z,1μm,18.8s,baz=162,slow=39							
	comp=Z,18nm,1.0s							
LPAZ	La Paz	41.76	355	P		P	17 46 38.4	-1.0
LPAZ	La Paz	41.76	355	*e*P		P	17 46 40.1	+0.7
IPMB	Ipameri, GO	41.87	24	*e*P		P	17 46 39.3	-0.5
SIV	San Ignacio	42.08	6	PcP		PcP	17 48 36.7	+0.8
	comp=Z,4.8nm,0.7s,baz=208,slow=13,SNR=3.2							
SIV				LR		LR	18 06 28.4	
	comp=Z,1μm,18.1s,baz=192,slow=40							
SALV	Santo Antonio	42.64	13	*e*P		P	17 46 46.3	+0.4
PTLB	Pontes e Lacer	42.74	8	P		P	17 46 46.8	+0.1
PTLB				IAmb		IAmb	17 46 48.8	
	comp=Z,75nm,1.6s							
PTLB	Pontes e Lacer	42.74	8	*e*P		P	17 46 46.6	-0.2
SJMB	Sao Joao De Ma	43.00	34	*e*P		P	17 46 48.6	-0.2
ARAG	Araguaiana, MT	43.39	19	*e*P		P	17 46 52.7	+0.7
BDFB	Brasilia	44.18	24	P		P	17 46 58.8	+0.3
	comp=Z,33nm,0.7s,baz=198,slow=4.9,SNR=71							
BDFB				LR		LR	18 05 08.7	
	comp=Z,558nm,19.6s,baz=185,slow=36							
	comp=Z,33nm,0.7s							
BDFB	Brasilia	44.18	24	P		P	17 46 58.0	-0.5
BDFB				IAmb		IAmb	17 47 09.5	
	comp=Z,54nm,0.8s							
BDFB	Brasilia	44.18	24	*e*P		P	17 46 58.5	0.0
VILB	Vilhena	45.15	6	P		P	17 47 06.0	-0.1
VILB	Vilhena	45.15	6	*e*P		P	17 47 06.7	+0.6
GUA01	Guaratinga, BA	45.41	35	*e*P		P	17 47 08.2	0.0
JANB	Januaria	45.61	28	*e*P		P	17 47 09.9	+0.1
PDRB	Porto dos Gac	46.76	11	*e*P		P	17 47 18.4	-0.4
NNA	Nana	46.85	344	P		P	17 47 19.0	-0.6
	comp=Z,11nm,0.8s,baz=192,slow=7.8,SNR=3.3							
NNA				LR		LR	18 05 24.5	
	comp=Z,441nm,18.7s,baz=150,slow=34							
	comp=Z,11nm,0.8s							
NNA	Nana	46.85	344	P		P	17 47 19.3	-0.3
NNA				IAmb		IAmb	17 47 22.8	
	comp=Z,74nm,1.9s							
NNA	Nana	46.85	344	P		P	17 47 19.3	-0.3
NNA				pmax		pmax		
	comp=Z,74nm,1.9s							
SNDB	Serra

BOAV					IAmb	IAmb	17 49 00.7		
	comp=Z,29nm,1.1s								
BOAV	**Boa Vista**	**60.36**	**5**	*e*P	**P**		**17 48 58.0**	**-0.4**	
BOAV	**Boa Vista**	**60.36**	**5**	*e*P	**P**		**17 48 57.4**	**-1.0**	
MACC	**Macarena, Meta**	**60.43**	**350**	*e*P	**P**		**17 48 59.0**	**0.0**	
GARC	**Garzon, Huila**	**60.64**	**348**	*e*P	**P**		**17 49 01.2**	**+0.5**	
SUR	**Sutherland**	**60.99**	**105**	LR	LR		18 10 30.5		
	comp=Z,348nm,19.4s,baz=207,slow=31								
CVNA	**Calvinia**	**61.16**	**104**	*e*P	**P**		**17 49 01.2**	**-2.8**	
CVNA					IAmb	IAmb	17 49 08.0		
	comp=Z,41nm,1.4s								
GRAN	**Grantham**	**61.75**	**106**	*e*P	**P**		**17 49 07.3**	**-0.6**	
GRAN					IAmb	IAmb	17 49 12.2		
	comp=Z,5,9nm,0.8s								
H10S3	**ASCENSION HYDR**	**62.17**	**59**	T	T		18 56 50.1		
	baz=207,slow=74,SNR=48								
H10S2	**ASCENSION HYDR**	**62.17**	**59**	T	T		18 56 50.4		
	baz=13,slow=74,SNR=19								
PTGC	**Puerto Gaitan,**	**62.32**	**352**	*e*P	**P**		**17 49 10.4**	**-1.3**	
YOTC	**Yotoco, Valle**	**62.51**	**347**	*e*P	**P**		**17 49 13.6**	**+0.5**	
CHIC	**Chingaza**	**62.88**	**350**	*e*P	**P**		**17 49 16.2**	**+0.3**	
GRAF	**Camdeboo Natio**	**62.95**	**108**	*e*P	**P**		**17 49 13.8**	**-2.1**	
GRAF					IAmb	IAmb	17 49 24.8		
	comp=Z,63nm,1.3s								
ROSC	**El Rosal**	**63.14**	**349**	P	**P**		**17 49 17.6**	**0.0**	
	comp=Z,19nm,0.7s,baz=137,slow=5.3,SNR=12								
ROSC					LR	LR	18 15 28.6		
	comp=Z,442nm,22.0s,baz=214,slow=35								
	comp=Z,19nm,0.7s								
ROSC	**El Rosal**	**63.14**	**349**	P	**P**		**17 49 17.2**	**-0.4**	
ROSC					IAmb	IAmb	17 49 21.0		
	comp=Z,38nm,1.0s								
ROSC	**El Rosal**	**63.14**	**349**	*e*P	**P**		**17 49 18.9**	**+1.2**	
H10N3	**ASCENSION HYDR**	**63.22**	**59**	T	T		18 58 13.4		
	baz=207,slow=75,SNR=68								
H10N1	**ASCENSION HYDR**	**63.23**	**59**	T	T		18 58 17.8		
	baz=207,slow=75,SNR=94								
H10N2	**ASCENSION HYDR**	**63.24**	**59**	T	T		18 58 12.8		
	baz=207,slow=75,SNR=67								
PLMC	**San Jos del P**	**63.41**	**347**	*e*P	**P**		**17 49 19.3**	**+0.2**	
MDP	**Montagnes des**	**63.72**	**14**	LR	LR		18 18 38.7		
	comp=Z,797nm,18.0s,baz=188,slow=38								
NORC	**Norcasia**	**63.91**	**349**	*e*P	**P**		**17 49 21.5**	**-0.8**	
RUSC	**La Rusia**	**64.07**	**351**	P	**P**		**17 49 23.1**	**-0.7**	
RUSC	**La Rusia**	**64.07**	**351**	*e*P	**P**		**17 49 23.8**	**-0.1**	
CBOC	**Ciudad Bolivar**	**64.33**	**348**	*e*P	**P**		**17 49 23.7**	**-1.5**	
TAMC	**Tame, Arauca**	**64.51**	**352**	*e*P	**P**		**17 49 25.6**	**-0.6**	
BARC	**Barichara**	**64.77**	**351**	*e*P	**P**		**17 49 26.1**	**-2.1**	
HVD	**Gariep Dam**	**64.80**	**108**	*e*P	P		17 49 35.0	+6.8	
HVD					IAmb	IAmb	17 49 36.8		
	comp=Z,48nm,1.3s								
PTBC	**PUERTO BERRIO,**	**64.83**	**350**	*e*P	**P**		**17 49 25.6**	**-2.7**	
PAMC	**Pamplona, Colo**	**65.47**	**352**	*e*P	P		17 49 26.8	-6.2	
UREC	**San Jos de Ur**	**66.14**	**348**	*e*P	**P**		**17 49 37.5**	**+0.8**	
BOSA	**Boshof**	**66.29**	**106**	P	**P**		**17 49 36.7**	**-1.1**	
	comp=Z,14nm,1.0s,baz=205,slow=6.5,SNR=14								
BOSA					LR	LR	18 13 35.6		
	comp=Z,231nm,18.8s,baz=194,slow=32								
	comp=Z,14nm,1.0s								
BOSA	**Boshof**	**66.29**	**106**	P	**P**		**17 49 37.3**	**-0.5**	
BOSA					IAmb	IAmb	17 49 47.7		
	comp=Z,31nm,1.2s								
BOSA	**Boshof**	**66.29**	**106**	*e*P	**P**		**17 49 37.1**	**-0.7**	
BOSA					IAmb	IAmb	17 49 46.6		
	comp=Z,38nm,1.3s								
BOSA	**Boshof**	**66.29**	**106**	P	**P**		**17 49 37.3**	**-0.5**	
BOSA					pmax	pmax			
	comp=Z,31nm,1.2s								
APAC	**Apartado, Choc**	**66.41**	**347**	*e*P	**P**		**17 49 39.4**	**+1.0**	
BAUV	**El Baul**	**66.81**	**357**	P	**P**		**17 49 41.1**	**+0.1**	
SDV	**Santo Domingo**	**66.86**	**354**	P	**P**		**17 49 41.8**	**+0.2**	
	comp=Z,2.5nm,0.4s,baz=246,slow=12,SNR=6.6								
SDV					LR	LR	18 20 44.2		
	comp=Z,451nm,18.3s,baz=154,slow=38								
	comp=Z,2.5nm,0.4s								
SDV	**Santo Domingo**	**66.86**	**354**	P	**P**		**17 49 40.3**	**-1.2**	
SDV					IAmb	IAmb	17 49 43.2		
	comp=Z,79nm,2.0s								
SDV	**Santo Domingo**	**66.86**	**354**	*e*P	**P**		**17 49 42.7**	**+1.1**	
WIN	**Windhoek**	**66.95**	**96**	P	**P**		**17 49 41.9**	**-0.3**	
WIN					IAmb	IAmb	17 49 50.8		
	comp=Z,48nm,1.6s								
WIN	**Windhoek**	**66.95**	**96**	*e*P	**P**		**17 49 42.2**	**-0.1**	
WIN					IAmb	IAmb	17 49 50.3		
	comp=Z,15nm,1.5s								
WIN	**Windhoek**	**66.95**	**96**	P	**P**		**17 49 41.9**	**-0.3**	
WIN					pmax	pmax			
	comp=Z,48nm,1.6s								
SNKL	**Senekal, Frees**	**67.84**	**108**	*e*P	**P**		**17 49 47.2**	**-0.6**	
SNKL					IAmb	IAmb	17 49 52.4		
	comp=Z,31nm,0.9s								
RPZ	**Rata Peaks**	**68.45**	**220**	LR	LR		18 13 07.4		
	comp=Z,316nm,18.2s,baz=146,slow=30								
PRYS	**Parys**	**68.74**	**107**	*e*P	**P**		**17 49 52.7**	**-0.7**	
PRYS					IAmb	IAmb	17 49 56.8		
	comp=Z,15nm,0.9s								
RIMA	**Rio Macho**	**69.33**	**340**	P	**P**		**17 49 57.2**	**+0.1**	
NWCL	**Newcastle**	**69.35**	**109**	*e*P	**P**		**17 49 56.4**	**-0.8**	
NWCL					IAmb	IAmb	17 50 00.2		
	comp=Z,29nm,1.1s								
JACO	**JACO, Garabito**	**69.37**	**339**	P	**P**		**17 49 56.5**	**-0.6**	
JACO					IAmb	IAmb	17 51 54.5		
	comp=Z,23nm,1.0s								
KSR	**Koster**	**69.38**	**106**	*e*P	**P**		**17 49 57.2**	**-0.2**	
KSR					IAmb	IAmb	17 50 00.7		
	comp=Z,51nm,1.1s								
LBTB	**Lobatse**	**69.40**	**104**	LR	LR		18 15 30.1		
	comp=Z,184nm,18.4s,baz=188,slow=32								
LBTB	**Lobatse**	**69.40**	**104**	P	**P**		**17 49 56.3**	**-1.1**	
LBTB					IAmb	IAmb	17 50 01.1		
	comp=Z,26nm,1.1s								
LBTB	**Lobatse**	**69.40**	**104**	*e*P	**P**		**17 49 57.2**	**-0.3**	
LBTB					IAmb	IAmb	17 50 01.8		
	comp=Z,8.2nm,0.9s								
LBTB	**Lobatse**	**69.40**	**104**	P	**P**		**17 49 56.3**	**-1.1**	
LBTB					pmax	pmax			
	comp=Z,26nm,1.1s								
TSUM	**Tsumeb**	**69.97**	**94**	LR	LR		18 17 57.2		
	comp=Z,125nm,18.1s,baz=193,slow=34								
JTS	**Las Juntas de**	**70.04**	**339**	P	**P**		**17 50 02.3**	**+1.1**	
	comp=Z,4.1nm,0.4s,baz=178,slow=5.6,SNR=6.2								
JTS					LR	LR	18 16 36.6		
	comp=Z,314nm,18.2s,baz=94,slow=32								
	comp=Z,4.1nm,0.4s								
JTS	**Las Juntas de**	**70.04**	**339**	P	**P**		**17 50 00.8**	**-0.5**	
JTS					IAmb	IAmb	17 50 05.9		
	comp=Z,39nm,1.4s								
ORTG	**Ortega, Santa**	**70.21**	**338**	P	**P**		**17 50 03.0**	**+0.7**	
ORTG					IAmb	IAmb	17 50 05.5		
	comp=Z,18nm,0.9s								
COVE	**Coope Vega, Sa**	**70.36**	**340**	P	**P**		**17 50 04.2**	**+1.1**	
COVE					IAmb	IAmb	17 50 30.7		
	comp=Z,26nm,0.6s								
URZ	**Urewera**	**70.98**	**227**	LR	LR		18 13 10.9		
	comp=Z,385nm,21.5s,baz=239,slow=29								
LEPH	**Lephalale, Lim**	**71.48**	**105**	*e*P	**P**		**17 50 10.4**	**+0.2**	
LEPH					IAmb	IAmb	17 50 13.2		
	comp=Z,29nm,1.3s								
BOAB	**BOACO BROADBAN**	**72.28**	**339**	P	**P**		**17 50 13.8**	**-1.0**	
PPT2	**Papeete2**	**72.45**	**265**	*e*LR	LR		18 12 22.9		
	comp=Z,295nm,27.5s								
PPT2				*e*LR	LR		18 12 23.3		
	comp=Z,283nm,24.0s								
PPT	**Papeete**	**72.47**	**265**	LR	LR		18 13 32.5		
	comp=Z,89nm,21.9s,baz=144,slow=29								
TAOE	**Nuku Hiva Isla**	**74.73**	**278**	*e*LR	LR		18 13 26.6		
	comp=Z,252nm,28.5s								
RAR	**Rarotonga**	**74.78**	**254**	LR	LR		18 18 57.2		
	comp=Z,68nm,18.3s,baz=112,slow=32								
SJG	**San Juan**	**75.88**	**359**	LR	LR		18 27 07.0		
	comp=Z,410nm,18.1s,baz=184,slow=38								
RAO	**Raoul Island**	**76.70**	**236**	LR	LR		18 18 37.2		
	comp=Z,141nm,19.1s,baz=124,slow=31								
LSZ	**Lusaka**	**78.81**	**101**	LR	LR		18 23 46.9		
	comp=Z,139nm,18.1s,baz=232,slow=34								
CMIG	**Matias Romero**	**78.86**	**331**	P	**P**		**17 50 52.0**	**-0.4**	
	comp=Z,4.7nm,0.8s,baz=228,slow=12,SNR=2.7								
CMIG					LR	LR	18 18 38.5		
	comp=Z,469nm,21.4s,baz=168,slow=30								
	comp=Z,4.7nm,0.8s								
DBIC	**Dimbokro**	**80.45**	**61**	P	**P**		**17 51 00.8**	**-0.4**	
	comp=Z,2.5nm,0.7s,baz=245,slow=2.8,SNR=3.2								
DBIC					LR	LR	18 23 57.2		
	comp=Z,103nm,18.1s,baz=228,slow=34								
	comp=Z,2.5nm,0.7s								
TOO	**Toolangi**	**81.39**	**204**	P	**P**		**17 51 05.4**	**-0.6**	
TOO	**Toolangi**	**81.39**	**204**	P	**P**		**17 51 05.4**	**-0.6**	
TOO					pmax	pmax			
	comp=Z,24nm,1.3s								
VOI	**Vohitsoka**	**82.44**	**119**	P	**P**		**17 51 12.3**	**+0.4**	
VOI					IAmb	IAmb	17 51 17.6		
	comp=Z,33nm,1.1s								
BBTS	**Babate**	**82.60**	**47**	LR	LR		18 29 04.9		
	comp=Z,106nm,18.2s,baz=224,slow=37								
ABPO	**Ambohimpanom**	**85.14**	**118**	P	**P**		**17 51 24.7**	**-1.1**	
ABPO	**Ambohimpanom**	**85.14**	**118**	P	**P**		**17 51 24.7**	**-1.1**	
ABPO					pmax	pmax			
	comp=Z,11nm,1.1s								
OPO	**Ambohidratompo**	**85.51**	**118**	LR	LR		18 23 31.6		
	comp=Z,89nm,18.9s,baz=6.5,slow=31								
STKA	**Stephens Creek**	**87.70**	**202**	P	**P**		**17 51 38.4**	**+0.4**	
	baz=207,slow=74,SNR=48								
STKA					LR	LR	18 26 02.2		
	comp=Z,175nm,18.9s,baz=182,slow=32								
	comp=Z,4.0nm,0.8s								
STKA	**Stephens Creek**	**87.70**	**202**	P	**P**		**17 51 39.5**	**+1.5**	
STKA	**Stephens Creek**	**87.70**	**202**	P	**P**		**17 51 39.5**	**+1.5**	
STKA					pmax	pmax			
	comp=Z,2.0nm,1.2s								
BBOO	**Buckleboo**	**87.79**	**198**	P	**P**		**17 51 37.1**	**-1.3**	
BBOO					IAmb	IAmb	17 51 42.6		
	comp=Z,31nm,1.4s								
MSVF	**Nonsavu**	**88.51**	**238**	LR	LR		18 27 50.8		
	comp=Z,126nm,18.5s,baz=152,slow=33								
TORD	**Torodi Ar. Bea**	**89.18**	**63**	P	**P**		**17 51 45.1**	**+0.1**	
	comp=Z,2.7nm,0.8s,baz=212,slow=4.0,SNR=13								
TORD					PP	**PP**		**17 55 12.3**	**-3.4**
	comp=Z,0.4nm,0.6s,baz=218,slow=8.4,SNR=1.9								
	comp=Z,2.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**89.18**	**63**	P	**P**		**17 51 44.9**	**-0.2**	
TORD					IAmb	IAmb	17 51 47.7		
	comp=Z,29nm,1.9s								
NWAO	**Narrogin (SRO)**	**89.36**	**182**	LR	LR		18 31 45.6		
	comp=Z,320nm,18.7s,slow=36								
DZM	**Mont Dzumac**	**89.52**	**226**	*e*LR	LR		18 20 18.0		
	comp=Z,1µm,31.9s								
DZM	**Mont Dzumac**	**89.52**	**226**	LR	LR		18 22 21.9		
	comp=Z,168nm,21.9s,baz=213,slow=29								
MBAR	**Mbarara**	**92.49**	**95**	LR	LR		18 29 51.3		
	comp=Z,116nm,19.3s,baz=200,slow=33								
TX31	**Lajitas Ar. Si**	**92.91**	**327**	P	**P**		**17 52 03.7**	**+1.6**	
TX32	**Lajitas Array**	**92.91**	**327**	P	**P**		**17 52 03.3**	**+1.2**	
TXAR	**Lajitas Array**	**92.91**	**327**	P	**P**		**17 52 03.5**	**+1.4**	
	comp=Z,2.1nm,0.9s,baz=150,slow=7.5,SNR=18								
	comp=Z,2.1nm,0.9s								
TXAR	**Lajitas Array**	**92.91**	**327**	P	**P**		**17 52 02.5**	**+0.4**	
JCT	**Junction City**	**92.92**	**330**	P	**P**		**17 52 02.4**	**+0.3**	
JCT					IAmb	IAmb	17 52 04.7		
	comp=Z,21nm,1.2s								
JCT	**Junction City**	**92.92**	**330**	P	**P**		**17 52 03.4**	**+1.3**	
	baz=162								
JCT	**Junction City**	**92.92**	**330**	P	**P**		**17 52 02.4**	**+0.3**	
JCT					pmax	pmax			
	comp=Z,21nm,1.2s								
TKL	**Tuckaleechee C**	**94.69**	**345**	LR	LR		18 34 47.5		
	comp=Z,289nm,20.6s,baz=222,slow=36								
ASAR	**Alice Springs**	**97.09**	**197**	PP	**PP**		**17 56 18.2**	**+1.6**	
	comp=Z,2.2nm,1.2s,baz=179,slow=6.8,SNR=5.6								
ASAR					PKKPbc	**PKKPdf**	**18 08 59.9**	**+1.1**	
	comp=Z,0.5nm,0.5s,baz=347,slow=2.5,SNR=19								
WRA	**Warramunga Arr**	**100.67**	**198**	P	**Pdif**		**17 52 36.9**	**-0.8**	
	comp=Z,2.4nm,0.8s,baz=173,slow=4.1,SNR=20								
WRAB	**Tennant Creek**	**100.68**	**198**	*i* P	**Pdif**		**17 52 37.1**	**-0.6**	
WRAB					pmax	pmax			
	comp=Z,4.0nm,1.1s								
PDAR	**Pinedale Array**	**107.12**	**327**	PP	**PP**		**17 57 34.8**	**+1.5**	
	comp=Z,0.1nm,0.4s,baz=169,slow=5.2,SNR=1.4								
GERES	**GERESS Array B**	**124.50**	**52**	PKP	**PKPdf**		**17 57 47.6**	**0.0**	
	comp=Z,1.3nm,0.5s,baz=202,slow=1.4,SNR=18								
CLL	**Collm**	**126.11**	**49**	*e*(PKP)	PKiKP		17 57 59.0	+8.1	
CLL				*e*PP	**PP**		**17 59 45.0**	**-0.6**	
CLL				*e*PKSdf	**PKSdf**		**18 01 29.0**	**+2.2**	
CLL				LmV			18 54 00.0		
	comp=Z,200nm,20.4s								
CLL	**Collm**	**126.11**	**49**	*e*PKiKP	PKiKP		17 57 59.0	+8.1	
YKA	**Yellowknife Ar**	**126.18**	**334**	PKP	**PKPdf**		**17 57 50.4**	**+0.1**	
	comp=Z,2.3nm,0.6s,baz=161,slow=2.2,SNR=46								
VYHS	**Vyhne**	**126.43**	**55**	*e*PKiKP	**PKPdf**		**17 57 51.5**	**+0.3**	
VYHS	**Vyhne**	**126.43**	**55**	*e*PKP	**PKPdf**		**17 57 51.5**	**+0.3**	
BRTR	**Keskin Array B**	**126.87**	**72**	PKP	**PKPdf**		**17 57 51.9**	**-0.7**	
	comp=Z,1.1nm,0.7s,baz=199,slow=2.9,SNR=6.4								
UPNV	**Upernavik**	**130.69**	**3**	*i* P	**PKPdf**		**17 57 56.5**	**-2.0**	
SUMG	**Summit**	**131.61**	**10**	*i* P	**PKPdf**		**17 58 01.0**	**+0.1**	
YUK4	**Talbot Arm**	**132.08**	**321**	P	**PKiKP**		**17 58 05.0**	**+2.1**	
	baz=137								
O28M	**Mount Upton**	**132.19**	**320**	P	**PKiKP**		**17 58 04.9**	**+1.7**	
	baz=136								
M30M	**Minto, Yukon**	**132.38**	**323**	P	**PKiKP**		**17 58 04.2**	**+0.9**	
	baz=137								
YUK8	**Steele Glacier**	**132.41**	**321**	P	**PKiKP**		**17 58 04.9**	**+1.3**	
	baz=136								
NOA	**NORSAR Array B**	**132.67**	**40**	PKP	**PKPdf**		**17 58 02.9**	**+0.1**	
	comp=Z,1.0nm,0.9s,baz=57,slow=11,SNR=6.5								
NOA					PP	**PP**		**18 00 28.9**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=352,slow=5.3,SNR=3.5								
AKASG	**Malin Array Be**	**132.69**	**60**	PKP	**PKPdf**		**17 58 02.3**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=240,slow=1.2,SNR=8.8								
M29M	**Somme Creek**	**132.82**	**323**	P	**PKiKP**		**17 58 05.4**	**+1.2**	
	baz=136								
L29M	**L29M**	**133.19**	**323**	P	**PKiKP**		**17 58 05.3**	**+0.4**	
	baz=136								
K29M	**Barlow Dome**	**133.53**	**324**	P	**PKiKP**		**17 58 06.4**	**+0.8**	
	baz=136								
M27K	**Edge Creek, AK**	**133.88**	**321**	P	**PKiKP**		**17 58 07.0**	**+0.6**	
	baz=134								
L27K	**Beaver Creek,**	**134.36**	**322**	P	**PKiKP**		**17 58 07.4**	**+0.1**	
	baz=134								
KBZ	**Khabaz**	**134.53**	**75**	*i* PKiKP	**PKPdf**		**17 58 06.1**	**-0.6**	
KBZ					pmax	pmax			
	comp=Z,4.0nm,1.1s								
KIV	**Kislovodsk**	**134.58**	**75**	*i* PKiKP	**PKiKP**		**17 58 08.5**	**+0.2**	
KIV					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,53nm,24.0s								
L26K	**Log Cabin Wild**	**134.84**	**321**	P	**PKiKP**		**17 58 08.4**	**+0.2**	
	baz=133								
EGAK	**Eagle**	**135.32**	**324**	P	**PKiKP**		**17 58 08.7**	**-0.3**	
	baz=133								
G30M	**tAoh Zraii Nji**	**135.37**	**328**	P	**PKPdf**		**17 58 08.6**	**+0.9**	
	baz=134								
NEEM	**North Greenlan**	**135.51**	**4**	*i* P	**PKPdf**		**17 58 08.9**	**+1.0**	
M23K	**Glacier View**	**135.53**	**318**	P	**PKiKP**		**17 58 10.5**	**+0.9**	
	baz=131								
RIDG	**Independent Ri**	**135.82**	**321**	P	**PKiKP**		**17 58 10.2**	**0.0**	
	baz=131								
I27K	**Kandik River**	**136.02**	**324**	P	**PKiKP**		**17 58 10.4**	**-0.2**	
	baz=132								
WAT6	**Susitna Watana**	**136.05**	**319**	P	**PKiKP**		**17 58 10.8**	**-0.1**	
	baz=130								
I26K	**Coal Creek Min**	**136.30**	**323**	P	**PKiKP**		**17 58 10.6**	**-0.4**	
	baz=131								
H27K	**Steamboat Moun**	**136.41**	**325**	P	**PKiKP**		**17 58 11.1**	**-0.2**	
	baz=131								
G27K	**Doyon Strip**	**136.83**	**326**	P	**PKiKP**		**17 58 13.0**	**+0.9**	
	baz=131								
HDA	**Harding Lake**	**136.96**	**321**	P	**PKPdf**		**17 58 11.3**	**+0.7**	
	baz=130								
SKT	**Skwentna**	**137.03**	**316**	P	**PKPdf**		**17 58 11.3**	**+0.5**	
	baz=129								
ILAR	**Eielson Array**	**137.17**	**321**	PKhKP	PKPpre		17 57 59.9		
	comp=Z,0.6nm,0.7s,baz=207,slow=1.6,SNR=9.1								
ILAR					PKP	**PKPdf**		**17 58 09.8**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=232,slow=1.8,SNR=18								
TRF	**Thorofare Moun**	**137.50**	**318**	P	**PKPdf**		**17 58 12.2**	**+0.3**	
	baz=128								
DAG	**Danmarks Havn**	**137.68**	**14**	*i* P	**PKPdf**		**17 58 07.5**	**-4.1**	
CAST	**Castle Rocks**	**138.12**	**318**	P	**PKPdf**		**17 58 13.9**	**+1.1**	
	baz=127								
F26K	**Sheenjek River**	**138.15**	**326**	P	**PKiKP**		**17 58 14.9**	**+0.1**	
	baz=128								
FINES	**FINESS Array B**	**138.34**	**46**	PKhKP	PKPpre		17 58 04.8		
	comp=Z,3.0nm,1.0s,baz=180,slow=3.9,SNR=1.7								
FINES					PKP	**PKPdf**		**17 58 12.1**	**-1.1**
	comp=Z,5.4nm,1.1s,baz=17,slow=2.0,SNR=5.7								
CHUM	**Lake Minchumin**	**138.48**	**318**	P	**PKiKP**		**17 58 14.7**	**-0.8**	
	baz=127								
CMAR	**Chiang Mai Arr**	**138.71**	**156**	PKhKP	PKPpre		17 58 06.3		
	comp=Z,0.6nm,0.9s,baz=221,slow=3.2,SNR=4.5								
CMAR					PKP	**PKPdf**		**17 58 15.2**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=221,slow=3.4,SNR=16								
OBN	**Obninsk**	**138.93**	**59**	*e*PKiKP	**PKPdf**		**17 58 15.1**	**+0.7**	
OBN				*e*			18 01 08.1		
OBN					*e*PPP	PPP	18 04 10.0		
OBN					pmax	pmax			
	comp=Z,4.0nm,1.0s								
OBN					MLR	MLR			
	comp=Z,109nm,17.0s								
C27K	**Jago River**	**139.21**	**328**	P	**PKiKP**		**17 58 16.6**	**-0.3**	
	baz=127								
E24K	**Your Creek**	**139.69**	**325**	P	**PKiKP**		**17 58 19.2**	**+1.3**	
	baz=125								
H21K	**Melozitna Rive**	**139.69**	**320**	P	**PKiKP**		**17 58 18.9**	**+0.9**	
	baz=125								
G21K	**Allakaket**	**140.41**	**321**	P	**PKiKP**		**17 58 20.9**	**+1.5**	
	baz=124								
D23K	**Nanushuk River**	**140.86**	**325**	P	**PKiKP**		**17 58 21.1**	**+0.9**	
	baz=123								
NOR	**Nord**	**141.78**	**10**	*i* P	**PKPdf**		**17 58 14.2**	**-4.7**	
BELG	**Belogornoye**	**142.57**	**69**	*i* PKiKP	**PKPdf**		**17 58 21.6**	**+0.5**	
BELG					pmax	pmax			
	comp=Z,2.0nm,1.1s								
KLMR	**Klimovskoe**	**143.45**	**53**	*e*PKPdf	**PKiKP**		**17 58 26.3**	**+0.5**	
KLMR					AMP		17 58 45.8		
	comp=Z,54nm,1.7s								
KLMR	**Klimovskoe**	**143.45**	**53**	*e*PKiKP	**PKiKP**		**17 58 26.3**	**+0.5**	
KLMR					pmax	pmax			
	comp=Z,54nm,1.7s								
ANM	**Nome**	**143.66**	**314**	PKPdf	PKPbc		17 58 20.4	0.0	
ANM	**Nome**	**143.66**	**314**	PKiKP	PKPbc		17 58 20.4	+0.1	
A21K	**Barrow**	**143.79**	**327**	PKPdf	PKPab		17 58 20.3	+0.6	
ADZR	**Andozero**	**144.43**	**48**	*e*PKiKP	**PKPab**		**17 58 21.3**	**-1.0**	
ADZR					pmax	pmax			
	comp=Z,11nm,0.6s								
CHGR	**Chuyangaron**	**144.73**	**103**	PKPdf	**PKPab**		**17 58 23.8**	**-0.6**	
CHGR	**Chuyangaron**	**144.73**	**103**	PKiKP	**PKPab**		**17 58 23.8**	**-0.6**	
LVZ	**Lovozero**	**144.82**	**40**	PKPdf	**PKPab**		**17 58 24.0**	**+0.2**	
LVZ	**Lovozero**	**144.82**	**40**	*i* PKiKP	PKPbc		17 58 24.4	+0.5	
LVZ					pmax	pmax			
	comp=Z,45nm,1.1s								
TNCH	**TengChong**	**144.96**	**153**	PKPbc	**PKPab**		**17 58 25.8**	**+0.1**	
TNCH					pPKP	PKiKP	17 58 29.0	-1.3	
TNCH					sPKP		17 58 31.3		
TNCH					AMB	AMB			
	comp=Z,170nm,6.1s								
TPUB	**Ta-pu**	**145.06**	**189**	PKPdf	**PKPab**		**17 58 26.4**	**+0.4**	
TNA	**Tin City**	**145.08**	**315**		**PKPdf**		**17 58 25.8**	**+0.7**	
SSLB	**Suanglung**	**145.51**	**190**	PKPdf	**PKPab**		**17 58 27.8**	**+0.1**	
GAR	**Garm**	**145.58**	**104**	PKPdf	**PKPdf**		**17 58 27.1**	**0.0**	
KMI	**Kunming**	**145.94**	**160**	⇑PKPbc	**PKPbc**		**17 58 29.0**	**+0.1**	
KMI				sPKP			17 58 33.3		
KMI				LR	LR				
	comp=Z,110nm,12.5s								
KMI				LR	LR				
	comp=Z,100nm,13.6s								
KMI				LR	LR				
	comp=Z,270nm,21.4s								
KIRV	**Kirov**	**146.74**	**60**	*i* PKiKP	**PKPdf**		**17 58 28.0**	**-0.1**	
ABKAR	**Akbulak array**	**147.02**	**81**	PKPdf	**PKPdf**		**17 58 28.9**	**0.0**	
PZH	**PanZhiHua**	**147.09**	**158**	PKPbc	**PKPdf**		**17 58 30.8**	**+0.8**	
LSA	**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.46**	**306**	⇑	*i*P	**Pg**	**18 06 35.6 +0.6**
	baz=5.0						
NRN				⇑	*i*S	**Sg**	**18 06 53.8 -0.1**
	baz=5.0						
NRN	**Naryn**	**1.46**	**306**	*i*	PN	**Pg**	**18 06 35.6 +0.6**
NRN				*i*	S	**Sg**	**18 06 53.8 -0.1**
KDJ	**Kajisay**	**1.56**	**349**	⇑	*i*P	**Pg**	**18 06 37.5 +0.4**
	baz=52						
KDJ				⇑	*i*S	**Sb**	**18 06 57.1 -0.2**
	baz=52						
KDJ	**Kajisay**	**1.56**	**349**	*i*	PN	**Pg**	**18 06 37.5 +0.4**
KDJ				*i*	S	**Sb**	**18 06 57.1 -0.2**
KSH	**Kashi**	**1.63**	**229**		Pn	Pg	18 06 46.5 +8.1
KSH					pP	Pb	18 06 50.5 +13
KSH					Sn	Sg	18 07 18.0 +19
KSH					pmax	pmax	
	comp=Z,33nm,0.5s						
KSH					smax	smax	
	comp=N,5μm,0.7s						
KSH					smax	smax	
	comp=E,6μm,0.7s						
ULHL	**Ulahol**	**1.93**	**329**	⇓	*i*P	**Pb**	**18 06 43.0 -0.2**
	baz=30						
ULHL				⇓	*i*S	**Sb**	**18 07 06.8 -1.0**
	baz=30						
ULHL	**Ulahol**	**1.93**	**329**	*i*	PN	**Pb**	**18 06 43.0 -0.2**
PRZ	**Przheval'sk**	**1.99**	**18**	⇓	*i*P	**Pb**	**18 06 44.9 +0.7**
	baz=21						
PRZ				⇓	*i*S	**Sb**	**18 07 09.9 +0.4**
	baz=21						
ANVS	**Anan'yevo**	**2.19**	**2**	⇓	*i*P	**Pb**	**18 06 47.6 0.0**
	baz=4.0						
ANVS				⇓	*i*S	**Sb**	**18 07 14.7 -0.6**
	baz=4.0						
TNSS	**Tian-Shan**	**2.49**	**349**		Pg	**Pg**	**18 06 54.2 -0.7**
	comp=E,1μm,0.5s						
TNSS					Lg	Lg	18 07 27.6
	comp=E,1μm,0.9s						
TNSS	**Tian-Shan**	**2.49**	**349**	*i*	Pn	**Pb**	**18 06 52.2 -0.7**
	baz=349						
TNSS				*i*	Pg	**Pg**	**18 06 54.1 -0.7**
	baz=349						
TNSS				*e*	Sn	**Sn**	**18 07 19.9 -0.3**
	baz=349						
TNSS				*e*	Lg	Lg	18 07 27.5
	baz=349						
TNSS	**Tian-Shan**	**2.49**	**349**	*e*	Pg	**Pg**	**18 06 54.7 -0.1**
	comp=E,1μm,0.5s						
TNSS				*e*	Lg	Lg	18 07 27.6
	comp=E,1μm,0.9s						
TNSS	**Tian-Shan**	**2.49**	**349**	*i*	PN	**Pb**	**18 06 52.1 -0.7**
SATY	**Saty**	**2.54**	**14**		Pg	**Pg**	**18 06 54.9 -1.0**
	comp=E,535nm,0.7s						
SATY					Lg	Lg	18 07 28.5
	comp=E,1μm,0.7s						
SATY	**Saty**	**2.54**	**14**	⇑	*i*Pn	**Pb**	**18 06 52.5 -1.1**
	baz=14						
SATY				⇑	*i*Pg	**Pg**	**18 06 55.0 -1.0**
	baz=14						
SATY				*e*	Sn	**Sn**	**18 07 20.8 -0.4**
	baz=14						
SATY				*i*	Lg	Lg	18 07 29.0
	baz=14						
SATY	**Saty**	**2.54**	**14**	*e*	Pg	**Pg**	**18 06 54.9 -1.0**
	comp=E,535nm,0.7s						
SATY				*e*	Lg	Lg	18 07 28.1
	comp=E,1μm,0.7s						
SATY	**Saty**	**2.54**	**14**	*c*	iPN	**Pb**	**18 06 52.5 -1.1**
SATY				*i*			18 06 54.9
IZV	**Izvestkoviy**	**2.54**	**344**		Pg	**Pg**	**18 06 55.4 -0.5**
	comp=E,480nm,0.5s						
IZV					Lg	Lg	18 07 29.1
	comp=E,2μm,0.7s						
IZV	**Izvestkoviy**	**2.54**	**344**	*e*	Pg	**Pg**	**18 06 55.4 -0.5**
	comp=E,480nm,0.5s						
IZV				*e*	Lg	Lg	18 07 29.1
	comp=E,2μm,0.7s						
MDOK	**Medeo**	**2.60**	**352**	⇑	Pg	**Pg**	**18 06 56.0 -1.0**
	comp=E,687nm,0.6s						
MDOK					Pg	**Pg**	**18 06 56.2 -0.7**
	comp=E,904nm,0.5s						
MDOK				⇓	Lg	Lg	18 07 28.1
	comp=E,1μm,0.6s						
MDOK					Lg	Lg	18 07 30.3
	comp=E,2μm,0.5s						
MDOK	**Medeo**	**2.60**	**352**	*i*	Pn	**Pb**	**18 06 53.6 -1.0**
	baz=351						
MDOK				*i*	Pg	**Pg**	**18 06 55.8 -1.1**
	baz=351						
MDOK	**Medeo**	**2.60**	**352**	*e*	Pg	**Pg**	**18 06 56.2 -0.7**
	comp=E,904nm,0.5s						
MDOK				*e*	Lg	Lg	18 07 30.3
	comp=E,2μm,0.5s						
MDOK	**Medeo**	**2.60**	**352**		PN	**Pg**	**18 06 55.9 -1.0**
MDOK							18 07 28.0
ZHN	**Zhinishke**	**2.65**	**14**		Pg	**Pb**	**18 06 54.5 -1.0**
	comp=E,152nm,0.5s						
ZHN	**Zhinishke**	**2.65**	**14**	⇑	*i*Pn	**Pb**	**18 06 54.2 -1.4**
	baz=14						
ZHN				*i*	Pg	**Pg**	**18 06 56.6 -1.4**
	baz=14						
ZHN	**Zhinishke**	**2.65**	**14**	*e*	Pg	**Pb**	**18 06 56.2 +0.7**
	comp=E,152nm,0.5s						
ZHN				*e*	Lg	Lg	18 07 30.1
	comp=E,915nm,0.6s						
ZHN	**Zhinishke**	**2.65**	**14**	*c*	iPN	**Pb**	**18 06 54.1 -1.4**
AAA	**Alma-Ata**	**2.66**	**350**		Pg	**Pg**	**18 06 57.8 -0.4**
	comp=E,3μm,0.4s						
AAA					Lg	Lg	18 07 32.8
	comp=E,2μm,0.6s						
AAA	**Alma-Ata**	**2.66**	**350**	*e*	Pn	**Pb**	**18 06 54.3 -1.3**
	baz=349						
AAA				*i*	Pg	**Pg**	**18 06 57.4 -0.8**
	baz=349						
AAA	**Alma-Ata**	**2.66**	**350**	*e*	Pg	**Pg**	**18 06 57.8 -0.4**
	comp=E,3μm,0.4s						
AAA				*e*	Lg	Lg	18 07 32.8
	comp=E,2μm,0.6s						
AAA	**Alma-Ata**	**2.66**	**350**	*e*	PN	**Pb**	**18 06 54.2 -1.3**
KNDC	**Almaty**	**2.66**	**350**	⇑	Pg	**Pb**	**18 06 56.9 +1.3**
	comp=E,946nm,0.6s						
KNDC				⇑	Lg	Lg	18 07 32.9
	comp=E,3μm,0.6s						
KNDC	**Almaty**	**2.66**	**350**		PN	**Pb**	**18 06 56.8 +1.3**
KNDC							18 07 32.8
KOTS	**Kotyrbulak**	**2.66**	**353**		Pg	**Pg**	**18 06 57.5 -0.7**
	comp=E,602nm,0.5s						
KOTS					Lg	Lg	18 07 32.6
	comp=E,2μm,0.5s						
KOTS	**Kotyrbulak**	**2.66**	**353**	*e*	Pg	**Pg**	**18 06 57.5 -0.7**
	comp=E,602nm,0.5s						
KOTS				*e*	Lg	Lg	18 07 32.6
	comp=E,2μm,0.5s						
MTBS	**Maitube**	**2.68**	**342**		Pg	**Pg**	**18 06 57.7 -0.8**
	comp=E,648nm,0.5s						
MTBS					Lg	Lg	18 07 32.7
	comp=E,873nm,0.5s						
MTBS	**Maitube**	**2.68**	**342**	*e*	Pg	**Pg**	**18 06 57.6 -0.8**
	comp=E,648nm,0.5s						
MTBS				*e*	Lg	Lg	18 07 32.7
	comp=E,873nm,0.5s						
KST	**Kastek**	**2.73**	**334**		Pg	**Pg**	**18 06 58.5 -1.0**
	comp=E,287nm,0.9s						
KST					Lg	Lg	18 07 34.2
	comp=E,1μm,1.0s						
KST	**Kastek**	**2.73**	**334**	*e*	Pg	**Pg**	**18 06 58.5 -1.0**
	comp=E,287nm,0.9s						
KST				*e*	Lg	Lg	18 07 34.2
	comp=E,1μm,1.0s						
TKM2	**Tokmak 2**	**2.76**	**328**	⇓	Pg	**Pg**	**18 06 59.3 -0.7**
	comp=E,106nm,0.4s						
TKM2				⇑	Lg	Lg	18 07 34.7
	comp=E,494nm,0.6s						
TKM2	**Tokmak 2**	**2.76**	**328**	⇑	*i*P	**Pn**	**18 06 54.6 +2.0**
	baz=29						
TKM2				⇑	*i*S	**Sn**	**18 07 26.5 0.0**
	baz=29						
TKM2	**Tokmak 2**	**2.76**	**328**	*i*	PN	**Pg**	**18 06 59.3 -0.7**
TKM2					pmax	pmax	
	comp=Z,106nm,0.4s						
ARLS	**Aral**	**2.76**	**298**	⇓	*i*P	**Pn**	**18 06 54.5 +2.0**
	baz=98						
ARLS				⇓	*i*S	**Sn**	**18 07 26.3 -0.2**
	baz=98						
ARLS	**Aral**	**2.76**	**298**	*i*	PN	**Pn**	**18 06 54.5 +2.0**
UZB	**Uzynbulak**	**2.77**	**23**		Pg	**Pg**	**18 06 59.1 -1.2**
	comp=Z,359nm,0.6s						
UZB					Lg	Lg	18 07 35.2
	comp=Z,486nm,0.7s						
UZB	**Uzynbulak**	**2.77**	**23**	*i*	Pn	**Pb**	**18 06 55.8 -1.8**
	baz=23						
UZB				*i*	Pg	**Pg**	**18 06 58.8 -1.5**
	baz=23						
UZB	**Uzynbulak**	**2.77**	**23**	*e*	Pg	**Pg**	**18 06 59.1 -1.2**
	comp=Z,359nm,0.6s						
UZB				*e*	Lg	Lg	18 07 35.2
	comp=Z,486nm,0.7s						
UZB	**Uzynbulak**	**2.77**	**23**	*i*	PN	**Pb**	**18 06 55.7 -1.8**
UCH	**Uchtor**	**2.82**	**306**	⇓	*i*P	**Pn**	**18 06 55.5 +1.8**
	baz=6.0						
UCH				⇓	*i*S	**Sn**	**18 07 28.4 -0.1**
	baz=6.0						
UCH	**Uchtor**	**2.82**	**306**	*i*	PN	**Pn**	**18 06 55.5 +1.8**
KBK	**Karagaybulak**	**2.85**	**317**	⇓	*e*P	**Pn**	**18 06 55.8 +2.0**
	baz=18						
KBK				⇓	*i*S	**Sn**	**18 07 28.8 0.0**
	baz=18						
KBK	**Karagaybulak**	**2.85**	**317**	*e*	PN	**Pn**	**18 06 55.8 +2.0**
SHLS	**Shalkode**	**2.93**	**28**		Pg	**Pg**	**18 07 04.8 +1.5**
	comp=Z,179nm,0.5s						
SHLS					Lg	Lg	18 07 44.9
	comp=Z,13μm,0.5s						
SHLS	**Shalkode**	**2.93**	**28**	⇑	*i*Pn	**Pb**	**18 06 59.8 -0.4**
	baz=33						
SHLS				*i*	Pg	**Pg**	**18 07 05.1 +1.9**
	baz=33						
SHLS	**Shalkode**	**2.93**	**28**	*e*	Pg	**Pg**	**18 07 04.8 +1.5**
	comp=Z,179nm,0.5s						
SHLS				*e*	Lg	Lg	18 07 44.9
	comp=Z,13μm,0.5s						
SHLS	**Shalkode**	**2.93**	**28**	*c*	iPN	**Pb**	**18 06 59.7 -0.4**
SHLS				*i*			18 07 05.1
KURS	**Kuram**	**2.93**	**9**		Pg	**Pb**	**18 07 01.5 +1.4**
	comp=Z,280nm,0.7s						
KURS					Lg	Lg	18 07 39.7
	comp=Z,586nm,1.1s						
KURS	**Kuram**	**2.93**	**9**	*e*	Pg	**Pb**	**18 07 01.5 +1.4**
	comp=Z,280nm,0.7s						
KURS				*e*	Lg	Lg	18 07 39.7
	comp=Z,586nm,1.1s						
DGS	**Degeres**	**2.97**	**334**		Pg	**Pb**	**18 07 02.4 +1.6**
	comp=Z,274nm,0.6s						
DGS					Lg	Lg	18 07 41.3
	comp=Z,1μm,0.6s						
DGS	**Degeres**	**2.97**	**334**	*e*	Pg	**Pg**	**18 07 02.8 -1.3**
	comp=Z,274nm,0.6s						
DGS				*e*	Lg	Lg	18 07 41.3
	comp=Z,1μm,0.6s						
KPKS	**Kokpek**	**2.99**	**16**		Pg	**Pb**	**18 07 02.6 +1.4**
	comp=Z,205nm,0.4s						
KPKS					Lg	Lg	18 07 41.3
	comp=Z,1μm,0.6s						
KPKS	**Kokpek**	**2.99**	**16**	⇑	*i*Pn	**Pb**	**18 06 58.6 -2.6**
	baz=16						
KPKS				*i*	Pg	**Pb**	**18 07 02.6 +1.4**
	baz=16						
KPKS	**Kokpek**	**2.99**	**16**	*e*	Pg	**Pb**	**18 07 02.6 +1.4**
	comp=Z,205nm,0.4s						
KPKS				*e*	Lg	Lg	18 07 41.3
	comp=Z,1μm,0.6s						
KPKS	**Kokpek**	**2.99**	**16**	*c*	iPN	**Pb**	**18 06 58.6 -2.6**
AAK	**Ala-Archa**	**3.08**	**313**		Pn	**Pb**	**18 07 00.9 -1.8**
	comp=Z,3.8nm,0.3s,baz=139,slow=11,SNR=52						
AAK					Pg	**Pg**	**18 07 05.1 -1.1**
	comp=Z,93nm,0.3s,baz=158,slow=13,SNR=77						
AAK					LR	LR	18 07 43.7
	comp=Z,77nm,18.4s,baz=170,slow=30						
AAK					Lg	Lg	18 07 44.4
	comp=Z,21nm,0.3s,baz=276,slow=16,SNR=4.3						
	comp=Z,187nm,0.3s						
AAK	**Ala-Archa**	**3.08**	**313**	⇑	*i*P	**Pn**	**18 06 59.0 +2.0**
	baz=13						
AAK				⇑	*i*S	**Sn**	**18 07 34.3 -0.2**
	baz=13						
FRU1	**Bishkek**	**3.12**	**316**	⇑	*i*P	**Pn**	**18 06 59.9 +2.4**
	baz=16						
FRU1				⇑	*i*S	**Sn**	**18 07 35.6 +0.2**
	baz=16						
FRU1	**Bishkek**	**3.12**	**316**	*i*	PN	**Pn**	**18 06 59.9 +2.4**
KTBS	**Karatobe**	**3.19**	**348**		Pg	**Pb**	**18 07 06.4 +1.9**
	comp=Z,174nm,0.5s						
KTBS					Lg	Lg	18 07 47.8
	comp=Z,1μm,0.5s						
KTBS	**Karatobe**	**3.19**	**348**	*e*	Pg	**Pb**	**18 07 06.4 +1.9**
	comp=Z,174nm,0.5s						
KTBS				*e*	Lg	Lg	18 07 47.8
	comp=Z,1μm,0.5s						
CHMS	**Chumysh**	**3.20**	**320**	⇑	Pg	**Pg**	**18 07 07.6 -0.9**
	comp=Z,130nm,0.4s						
CHMS				⇑	Lg	Lg	18 07 48.4
	comp=Z,168nm,0.5s						
CHMS					Pg	Sg	18 08 05.1 +15
	comp=Z,53nm,0.5s						
CHMS					Lg	Lg	18 09 28.2
	comp=Z,213nm,0.5s						
CHMS	**Chumysh**	**3.20**	**320**	⇑	*e*P	**Pn**	**18 07 00.6 +2.1**
	baz=20						
CHMS				⇑	*i*S	**Sn**	**18 07 36.7 -0.5**
	baz=20						
CHMS	**Chumysh**	**3.20**	**320**	*i*	PN	**Pg**	**18 07 07.5 -0.9**
CHMS					pmax	pmax	
	comp=Z,130nm,0.4s						
CHKK	**Chushkaly**	**3.29**	**353**		Pg	**Pb**	**18 07 08.1 +1.8**
	comp=Z,252nm,0.5s						
CHKK					Lg	Lg	18 07 51.3
	comp=Z,1μm,0.6s						
CHKK	**Chushkaly**	**3.29**	**353**	*i*	Pn	**Pn**	**18 07 03.0 +3.2**
	baz=353						
CHKK				*i*	Pg	**Pb**	**18 07 08.0 +1.8**
	baz=353						
CHKK	**Chushkaly**	**3.29**	**353**	*e*	Pg	**Pg**	**18 07 08.5 -1.7**
	comp=Z,252nm,0.5s						
CHKK				*e*	Lg	Lg	18 07 51.3
	comp=Z,1μm,0.6s						
CHKK	**Chushkaly**	**3.29**	**353**	*i*	PN	**Pn**	**18 07 02.9 +3.2**
AML	**Almayashu**	**3.30**	**299**	⇓	*i*P	**Pn**	**18 07 02.3 +2.1**
	baz=99						
AML				⇓	*i*S	**Sn**	**18 07 39.9 -0.3**
	baz=99						
AML	**Almayashu**	**3.30**	**299**	*i*	PN	**Pn**	**18 07 02.3 +2.1**
KRBS	**Karabastau**	**3.41**	**336**		Pg	**Pg**	**18 07 10.5 -1.9**
	comp=Z,186nm,0.4s						
KRBS					Lg	Lg	18 07 54.9
	comp=Z,963nm,0.8s						
KRBS	**Karabastau**	**3.41**	**336**	*e*	Pg	**Pg**	**18 07 10.5 -1.9**
	comp=Z,186nm,0.4s						
KRBS				*e*	Lg	Lg	18 07 54.9
	comp=Z,963nm,0.8s						
KUU	**Kurty**	**3.42**	**345**		Pg	**Pb**	**18 07 10.1 +1.6**
	comp=Z,146nm,0.7s						
KUU					Lg	Lg	18 07 54.1
	comp=Z,613nm,0.6s						
KUU	**Kurty**	**3.42**	**345**	*e*	Pn	**Pn**	**18 07 04.6 +3.0**
	baz=345						
KUU				*i*	Pg	**Pb**	**18 07 10.1 +1.6**
	baz=345						
KUU	**Kurty**	**3.42**	**345**	*e*	Pg	**Pb**	**18 07 10.1 +1.6**
	comp=Z,146nm,0.7s						
KUU				*e*	Lg	Lg	18 07 54.1
	comp=Z,613nm,0.6s						
KUU	**Kurty**	**3.42**	**345**	*e*	PN	**Pn**	**18 07 04.6 +3.0**
EKS2	**Erkin-Say**	**3.52**	**307**	⇑	*i*P	**Pn**	**18 07 04.9 +2.0**
	baz=7.0						
EKS2				⇑	*i*S	**Sn**	**18 07 44.6 -0.5**
	baz=7.0						
EKS2	**Erkin-Say**	**3.52**	**307**	*i*	PN	**Pn**	**18 07 04.9 +2.0**
USP	**Ospenovka**	**3.52**	**320**	⇑	*e*P	**Pn**	**18 07 05.1 +2.2**
	baz=21						
USP				⇑	*i*S	**Sn**	**18 07 45.0 -0.2**
	baz=21						
USP	**Ospenovka**	**3.52**	**320**	*e*	PN	**Pn**	**18 07 05.1 +2.2**
KTMS	**Ketmen**	**3.53**	**35**		Pg	**Pb**	**18 07 11.5 +1.2**
	comp=Z,44nm,0.5s						
KTMS					Lg	Lg	18 07 57.4
	comp=Z,520nm,0.8s						
KTMS	**Ketmen**	**3.53**	**35**	*e*	Pg	**Pg**	**18 07 12.8 -2.0**
	comp=Z,44nm,0.5s						
KTMS				*e*	Lg	Lg	18 07 58.7
	comp=Z,520nm,0.8s						
BLB	**Baldybastay**	**3.57**	**11**		Pg	**Pb**	**18 07 12.7 +1.7**
	comp=Z,369nm,0.6s						
BLB					Lg	Lg	18 07 58.5
	comp=Z,1μm,0.4s						
SGDS	**Sogindy**	**3.60**	**324**		Pg	**Pg**	**18 07 14.1 -2.1**
	comp=Z,151nm,0.5s						
SGDS					Lg	Lg	18 08 00.8
	comp=Z,471nm,1.2s						
SGDS	**Sogindy**	**3.60**	**324**	⇑	*i*Pg	**Pg**	**18 07 14.0 -2.1**
	baz=323						
SGDS	**Sogindy**	**3.60**	**324**	*c*	*i*PN	**Pb**	**18 07 13.9 +2.3**
OHH	**Osh**	**3.65**	**270**	⇑	*i*P	**Pn**	**18 07 07.1 +2.4**
	baz=69						
OHH				⇑	*i*S	**Sn**	**18 07 48.4 +0.1**
	baz=69						
OHH	**Osh**	**3.65**	**270**	*i*	PN	**Pn**	**18 07 07.1 +2.4**
OHH				*i*	S	**Sn**	**18 07 48.4 +0.1**
MRKS	**Merke**	**3.90**	**305**		Pg	**Pg**	**18 07 20.0 -1.9**
	comp=Z,144nm,0.3s						
MRKS	**Merke**	**3.90**	**305**	*e*	Pg	**Pg**	**18 07 20.0 -1.9**
	comp=Z,144nm,0.3s						
MRKS				*e*	Lg	Lg	18 08 11.1
	comp=Z,452nm,0.9s						
DJR	**Jarkent**	**4.08**	**23**		Pg	**Pb**	**18 07 22.2 +2.4**
	comp=Z,85nm,0.4s						
DJR					Lg	Lg	18 08 15.2
	comp=Z,298nm,0.5s						
DJR	**Jarkent**	**4.08**	**23**	*e*	Pg	**Pb**	**18 07 22.2 +2.4**
	comp=Z,85nm,0.4s						
DJR				*e*	Lg	Lg	18 08 15.2
	comp=Z,298nm,0.5s						
ARK	**Arkit**	**4.40**	**288**	⇓	*e*P	**Pn**	**18 07 17.4 +2.4**
	baz=87						
ARK				⇓	*i*S	**Sn**	**18 08 06.1 -0.8**
	baz=87						
ARK	**Arkit**	**4.40**	**288**	*e*	PN	**Pn**	**18 07 17.4 +2.4**
TRKS	**Terek-Say**	**4.95**	**283**	⇑	*i*P	**Pn**	**18 07 24.6 +1.9**
	baz=82						
TRKS				⇑	*i*S	**Sn**	**18 08 18.5 -2.1**
	baz=82						
TRKS	**Terek-Say**	**4.95**	**283**	*i*	PN	**Pn**	**18 07 24.6 +1.9**
BTLS	**Baital**	**5.15**	**331**		Pg	**Pb**	**18 07 41.8 +3.9**
BTLS					Lg	Lg	18 08 48.3
BTLS	**Baital**	**5.15**	**331**	*e*	Pb	**Pb**	**18 07 38.9 +1.0**
	baz=331						
BTLS				*e*	Pg	**Pg**	**18 07 41.7 -4.0**
	baz=331						
BTLS	**Baital**	**5.15**	**331**	*e*	Pg	**Pg**	**18 07 43.5 -2.2**
	comp=Z,59nm,1.0s						
BTLS				*e*	Lg	Lg	18 08 51.5
	comp=Z,154nm,1.2s						
BTLS	**Baital**	**5.15**	**331**	*e*	PN	**Pb**	**18 07 38.9 +1.0**
BTLS				*e*			18 07 41.6
BTK	**Batken**	**5.19**	**266**	⇑	*i*P	**Pn**	**18 07 28.5 +2.6**
	baz=65						
BTK				⇑	*i*S	**Sn**	**18 08 25.4 -0.9**
	baz=65						
BTK	**Batken**	**5.19**	**266**	*i*	PN	**Pn**	**18 07 28.5 +2.6**
BTK				*i*	S	**Sn**	**18 08 25.4 -0.9**
DZA	**Taraz**	**5.20**	**298**	*e*	Pg	**Pg**	**18 07 43.1 -3.7**
	baz=298						
GAR	**Garm**	**5.81**	**256**	⇓	*i*P	**Pn**	**18 07 37.2 +2.8**
	baz=56						
GAR				⇓	*i*S	**Sn**	**18 08 40.4 -1.3**
	baz=56						
KKAR	**Karatay Array**	**5.84**	**298**	⇑	*i*P	**Pn**	**18 07 37.1 +2.4**
	baz=97						
KKAR				⇑	*i*S	**Sn**	**18 08 40.0 -2.2**
	baz=97						
KKAR	**Karatay Array**	**5.84**	**298**	*i*	PN	**Pn**	**18 07 37.1 +2.4**
IUG	**Iuzhnay**	**5.88**	**288**	*i*	Pn	**Pn**	**18 07 39.0 +3.5**
	baz=288						
IUG				*e*	Pg	**Pg**	**18 07 56.2 -3.6**
	baz=288						
IUG	**Iuzhnay**	**5.88**	**288**	*e*	Pg	**Pg**	**18 07 58.0 -1.8**
	comp=Z,55nm,0.8s						
IUG				*e*	Lg	Lg	18 09 16.6
	comp=Z,237nm,1.1s						
IUG	**Iuzhnay**	**5.88**	**288**	*i*	PN	**Pn**	**18 07 38.9 +3.5**
IUG				*e*			18 07 56.2
CHM	**Chimkent**	**6.23**	**289**	*e*	Pg	**Pg**	**18 08 02.5 -3.9**
	baz=288						
CHM	**Chimkent**	**6.23**	**289**	*e*	Pg	**Pg**	**18 08 03.9 -2.6**
	comp=Z,36nm,0.4s						
CHM				*e*	Lg	Lg	18 09 26.0
	comp=Z,209nm,1.0s						
CHGR	**Chuyangaron**	**6.77**	**256**	⇑	*i*P	**Pn**	**18 07 50.4 +2.7**
	baz=55						
CHGR				⇑	*i*S	**Sn**	**18 09 03.4 -2.0**
	baz=55						
CHGR	**Chuyangaron**	**6.77**	**256**	*i*	PN	**Pn**	**18 07 50.4 +2.7**
CHGR				*i*	S	**Sb**	**18 09 34.0 +6.9**
MK31	**Makanchi Array**	**7.08**	**27**	*i*	P	**Pn**	**18 07 52.9 +1.1**
MKAR	**Makanchi Array**	**7.08**	**27**		Pn	**Pn**	**18 07 52.8 +1.0**
	comp=Z,2.0nm,0.3s,baz=203,slow=16,SNR=131						
MKAR					Sn	**Sn**	**18 09 09.2 -3.6**
	comp=Z,1.5nm,0.3s,baz=200,slow=21,SNR=3.0						
MKAR					Lg	Lg	18 09 45.2
	comp=Z,1.5nm,0.3s,baz=221,slow=26,SNR=1.9						
MKAR					LR	LR	18 11 03.4
	comp=Z,164nm,21.6s,baz=311,slow=42						
	comp=Z,2.8nm,0.3s						
MKAR	**Makanchi Array**	**7.08**	**27**	*e*	PN	**Pn**	**18 07 53.0 +1.2**
MKAR					pmax	pmax	
	comp=Z,2.0nm,0.3s						
CHCP	**Chirah Chowk**	**7.73**	**208**		P	**Pn**	**18 08 05.1 +4.4**
CEP	**Cherat**	**8.12**	**216**		P	Pn	18 08 11.3 +5.1
CEP					S	**Sn**	**18 09 38.0 -0.7**
WMQ	**Urumqi**	**8.18**	**63**	*e*	Pn	**Pn**	**18 08 09.0 +2.1**
WMQ					Sn	**Sn**	**18 09 40.0 +0.1**
WMQ					smax	smax	
	comp=N,60nm,1.5s						
WMQ					smax	smax	
	comp=E,58nm,1.7s						
ZSN	**Zaisan**	**8.64**	**35**	*e*	Pn	**Pn**	**18 08 16.3 +3.1**
	baz=35						
ZSN	**Zaisan**	**8.64**	**35**	*e*	P	**Pn**	**18 08 16.2 +3.1**
THW	**Thamme Wali**	**9.08**	**213**		P	Pn	**18 08 21.5 +2.3**
SEM	**Semipalatinsk**	**9.99**	**10**	*e*	Pn	**Pn**	**18 08 33.0 +1.1**
	baz=9.9						
SEM	**Semipalatinsk**	**9.99**	**10**	*e*	P	**Pn**	**18 08 33.0 +1.1**
KURBB	**Kurchatov Arra**	**10.05**	**4**		Pn	**Pn**	**18 08 32.4 -0.1**
	comp=E,0.2nm,0.3s,baz=195,slow=12,SNR=30						
KURBB					Sn	**Sn**	**18 10 18.4 -7.4**
	comp=E,0.2nm,0.3s,baz=170,slow=28,SNR=4.6						
KURBB					Lg	Lg	18 11 21.6
	comp=E,0.5nm,0.3s,baz=193,slow=28,SNR=12						
	comp=E,1.4nm,0.4s						
KURK	**Kurchatov**	**10.15**	**4**	*i*	P	**Pn**	**18 08 33.0 -0.8**
DGZ	**Jazzator, Alta**	**11.46**	**34**	*i*	P	**Pn**	**18 08 52.9 +1.1**
DANN	**Dangsing**	**13.23**	**155**	*

comp=Z,0.1nm,0.3s,baz=286,slow=16,SNR=1.3
AKTO Sn **Sn** **18 13 08.5 -2.6**
comp=Z,0.2nm,0.3s,baz=216,slow=8.0,SNR=1.2
AKTO Lg Lg 18 14 48.7
comp=Z,0.1nm,0.3s,baz=203,slow=16,SNR=1.2
comp=Z,0.5nm,0.4s
GTA Gaotai 17.08 87 *e*P **Pn** **18 10 06.8 -0.4**
GTA pP pP 18 10 10.3 -0.2
GTA sP sP 18 10 13.0 +2.0
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=N,130nm,16.7s
GTA LR LR
comp=E,120nm,16.0s
GTA LR LR
comp=Z,190nm,16.4s
ARU Arti 20.13 328 P **P** **18 10 42.8 +0.5**
comp=Z,1.2nm,0.5s,baz=269,slow=22,SNR=2.4
comp=Z,1.2nm,0.5s
ARU Arti 20.13 328 *d i*P Pn 18 10 45.3 +1.3
ARU 18 11 00.3
ARU S Sn 18 14 35.6 +4.8
ARU SS **SnSn** **18 14 55.1 +10**
ARU pmax pmax
comp=Z,15nm,2.5s
ZAK Zakamensk 20.42 53 *e*P **P** **18 10 46.1 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 21.81 61 P **P** **18 11 00.4 -0.1**
comp=Z,1.0nm,0.6s,baz=260,slow=12,SNR=7.5
comp=Z,1.0nm,0.6s
SONM Songino Array 21.81 61 *e*P **P** **18 11 03.8 +3.2**
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 22.25 61 *i*P **P** **18 11 05.8 +0.5**
ULN pmax pmax
comp=Z,2.0nm,0.9s
NRIK Noril'sk 29.29 7 *i*P **P** **18 12 10.9 +0.4**
NRIK pmax pmax
comp=Z,1.0nm,1.1s
BRTR Keskin Array B 33.33 283 P **P** **18 12 48.1 +1.5**
comp=Z,3.1nm,0.7s,baz=97,slow=8.5,SNR=18
comp=Z,3.1nm,0.7s
BRTR Keskin Array B 33.33 283 *e*P **P** **18 12 48.4 +1.9**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 34.71 303 P **P** **18 12 58.4 +0.1**
comp=Z,1.5nm,0.9s,baz=76,slow=8.6,SNR=5.4
comp=Z,1.5nm,0.9s
HEH HeiHe 35.69 57 *e*P **P** **18 13 07.5 +0.8**
HEH pmax pmax
comp=Z,5.0nm,0.8s
HEH pmax pmax
comp=Z,210nm,5.3s
FINES FINESS Array B 37.23 322 P **P** **18 13 20.2 +0.6**
comp=Z,3.0nm,0.6s,baz=111,slow=10,SNR=11
comp=Z,3.0nm,0.6s
FINES FINESS Array B 37.23 322 *e*P **P** **18 13 21.1 +1.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
YAK Yakutsk 37.62 38 *i*P **P** **18 13 24.0 +1.0**
YAK pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 38.59 58 *i*P **P** **18 13 31.8 +0.4**
KLR pmax pmax
comp=Z,2.0nm,1.0s
KSRS Korea Array 38.82 78 P **P** **18 13 33.4 0.0**
comp=Z,0.4nm,0.6s,baz=293,slow=8.6,SNR=2.6
comp=Z,0.4nm,0.6s
NB2 NORSAR Subarra 44.37 320 P **P** **18 14 19.1 +0.4**
comp=Z,1.6nm,0.6s,baz=87,slow=7.9
NOA NORSAR Array B 44.37 320 P **P** **18 14 18.6 -0.1**
comp=Z,2.3nm,0.7s,baz=87,slow=7.9,SNR=7.3
NOA LR LR 18 33 23.9
comp=Z,43nm,18.1s,baz=230,slow=37
comp=Z,2.3nm,0.7s
NOA NORSAR Array B 44.37 320 *e*P **P** **18 14 19.4 +0.7**
NOA pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 44.78 306 *e*P **P** **18 14 23.0 +1.0**
CLL Collm 44.78 306 *e*P **P** **18 14 23.0 +1.0**
GERES GERESS Array B 44.91 303 P **P** **18 14 23.5 +0.2**
comp=Z,0.5nm,0.6s,baz=69,slow=7.3,SNR=5.6
comp=Z,0.5nm,0.6s
GERES GERESS Array B 44.91 303 *e*P **P** **18 14 26.0 +2.7**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BILL Bilibino 52.62 28↑ *e*P **P** **18 15 21.9 -0.2**
BILL *e* 18 17 20.3
BILL *e*PPP PPP 18 18 27.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
LEM Lembang 54.69 142 LR LR 18 43 45.0
comp=Z,234nm,18.1s,baz=154,slow=41
KAPI Kappang 59.61 129 LR LR 18 48 14.3
comp=Z,230nm,18.9s,baz=174,slow=42
ESDC Sonseca Array 60.09 298 P **P** **18 16 15.5 -0.4**
comp=Z,0.4nm,0.8s,baz=52,slow=6.4,SNR=4.2
comp=Z,0.4nm,0.8s
ILAR Eielson Array 69.35 19 P **P** **18 17 14.6 -1.2**
comp=Z,1.3nm,0.7s,baz=322,slow=5.3,SNR=19
comp=Z,1.3nm,0.7s
ILAR Eielson Array 69.35 19 *e*P **P** **18 17 15.0 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 70.88 271 P **P** **18 17 25.5 -0.5**
comp=Z,1.2nm,0.5s,baz=47,slow=6.0,SNR=13
comp=Z,1.2nm,0.5s
YKA Yellowknife Ar 76.80 6 P **P** **18 17 59.5 -0.3**
comp=Z,2.4nm,0.6s,baz=345,slow=5.5,SNR=41
comp=Z,2.4nm,0.6s
WRA Warramunga Arr 80.05 127 P **P** **18 18 16.8 -1.6**
comp=Z,0.5nm,0.7s,baz=314,slow=5.1,SNR=3.0
comp=Z,0.5nm,0.7s
ASAR Alice Springs 82.63 130 P **P** **18 18 29.8 -2.3**
comp=Z,0.5nm,0.8s,baz=316,slow=5.2,SNR=11
comp=Z,0.5nm,0.8s
PDAR Pinedale Array 96.77 5 P **P** **18 19 39.0 -0.7**
comp=Z,0.3nm,0.7s,baz=16,slow=4.7,SNR=2.3
comp=Z,0.3nm,0.7s

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*IDC **29** 18:07:51.8±1.1,21.60S×68.35W,h112km±16km,mb3.3/2, mbtmp3.7/3,Error ellipse: s-maj=46.8km s-min=22.1km az=116.0*
*GUC **29** 18:07:53.0±0.6,21.72S×68.55W,h129km±4km,ML3.5*
ISC 29 18:07:51.1±1.0,21.61S±0.05×68.31W±0.08, h116km±10km,n16,σ1°68/30,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.89**	**258**	*e*P		**Pn**		**18 08 12.8**	**+0.9**
PB09				*i* S		**Sn**		**18 08 28.5**	**+0.9**
PB09				IAML				18 08 29.1	
	comp=N,747nm,0.3s								
LVC	**Limon Verde**	**1.14**	**209**	P		**Pn**		**18 08 15.2**	**+0.6**
	comp=N,43nm,0.3s,baz=25,slow=7.8,SNR=202								
LVC				S		**Sn**		**18 08 32.5**	**+0.1**
	comp=N,120nm,0.3s,baz=90,slow=20,SNR=22								
PB01	**IPOC Station P**	**1.24**	**297**	*e*P		**Pn**		**18 08 16.3**	**+0.9**
PB01				*i* S		**Sn**		**18 08 34.3**	**+0.5**
PB01				IAML				18 08 34.9	
	comp=N,935nm,0.3s								
PB03	**IPOC Station P**	**1.41**	**252**	*e*P		**Pn**		**18 08 17.2**	**-0.2**
PB03				*i* S		**Sn**		**18 08 35.3**	**-2.0**
PB03				IAML				18 08 36.5	
	comp=N,987nm,0.3s								
PB07	**IPOC Station P**	**1.47**	**265**	*e*P		**Pn**		**18 08 18.0**	**-0.1**
PB07				*i* S		**Sn**		**18 08 37.0**	**-1.6**
PB07				IAML				18 08 37.7	
	comp=N,1μm,0.1s								
PB02	**IPOC Station P**	**1.51**	**281**	*e*P		**Pn**		**18 08 18.6**	**+0.1**
PB02				*i* S		**Sn**		**18 08 38.5**	**-0.8**
PB02				IAML				18 08 40.5	
	comp=E,1μm,0.2s								
PB06	**IPOC Station P**	**1.60**	**227**	*e*P		**Pn**		**18 08 19.5**	**-0.1**
PB06				*i* S		**Sn**		**18 08 39.4**	**-1.9**
PB06				IAML				18 08 41.6	
	comp=E,468nm,0.2s								
PB04	**IPOC Station P**	**1.85**	**247**	*e*P		**Pn**		**18 08 21.9**	**-0.8**
PB04				*i* S		**Sn**		**18 08 43.5**	**-3.3**
PB04				IAML				18 08 46.3	
	comp=N,580nm,0.3s								
PATCX	**Punta Patache**	**1.89**	**294**	*e*P		**Pn**		**18 08 23.3**	**+0.1**
PATCX				*i* S		**Sn**		**18 08 46.3**	**-1.3**
HMBC	**Humberstone**	**1.99**	**312**	*e*P		**Pn**		**18 08 24.8**	**+0.4**
HMBC				*i* S		**Sn**		**18 08 50.1**	**+0.4**
TA01	**Diego Aracena**	**2.04**	**300**	*e*P		**Pn**		**18 08 24.7**	**-0.1**
TA01				*i* S		**Sn**		**18 08 49.2**	**-1.4**
TA01				IAML				18 08 52.3	
	comp=N,401nm,0.3s								
PB11	**IPOC Station P**	**2.23**	**325**	*e*P		**Pn**		**18 08 28.7**	**+1.2**
PB11				*i* S		**Sn**		**18 08 56.4**	**+1.1**
LPAZ	**La Paz**	**5.30**	**2**	P		**Pn**		**18 09 09.7**	**+1.0**
	comp=N,0.6nm,0.4s,baz=186,slow=9.2,SNR=2.5								
LPAZ				S		**Sn**		**18 10 04.5**	**-4.5**
	comp=N,1.5nm,0.7s,baz=201,slow=20,SNR=2.0								
SIV	**San Ignacio**	**8.84**	**52**	P		**Pn**		**18 09 56.3**	**+0.2**
	comp=N,2.2nm,0.6s,baz=234,slow=13,SNR=10.0								
SIV				S		**Sn**		**18 11 29.9**	**-4.2**
	comp=N,0.2nm,0.3s,baz=303,slow=22,SNR=1.1								
TORD	**Torodi Ar. Bea**	**76.87**	**70**	P		**P**		**18 19 32.5**	**+1.7**
	comp=N,0.3nm,0.4s,baz=251,slow=6.1,SNR=5.0								
	comp=N,0.3nm,0.4s								
YKA	**Yellowknife Ar**	**91.48**	**340**	P		**P**		**18 20 44.3**	**+0.5**
	comp=N,0.2nm,0.6s,baz=129,slow=4.8,SNR=3.1								
	comp=N,0.2nm,0.6s								

ROM 29 18:12:17.6±0.0,42.601N±0.003×13.322E±0.004, h11km,ML2.0/29,16C-11D,Error ellipse: s-maj=0.3km s-min=0.2km az=226.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.03**	**18**	P		P	Pg	18 12 20.0	+0.3
SMA1				S		S	Sg	18 12 21.4	+0.2
SMA1				AML		AML	AML		
	comp=N,19650μm,0.4s								
SMA1				AML		AML	AML		
	comp=E,37050μm,0.2s								
CAMP	**Campotosto**	**0.09**	**135**	↑P		P	Pg	18 12 20.7	+0.4
CAMP				S		S	Sg	18 12 22.5	+0.3
CAMP				AML		AML	AML		
	comp=E,844μm,0.6s								
CAMP				AML		AML	AML		
	comp=N,646μm,0.5s								
CAMP				AML		AML	AML		
	comp=E,844μm,1.4s								
RM33	**Pellescritta (**	**0.12**	**221**	↑P		P	Pg	18 12 21.1	+0.5
RM33				S		S	Sg	18 12 23.4	+0.6
RM33				AML		AML	AML		
	comp=N,2700μm,0.3s								
RM33				AML		AML	AML		
	comp=E,3615μm,0.1s								
RM33				AML		AML	AML		
	comp=E,3560μm,0.1s								
RM33				AML		AML	AML		
	comp=N,2695μm,0.3s								
RM33				AML		AML	AML		
	comp=N,2510μm,0.6s								
T1247	**Pizzolo (AQ)**	**0.16**	**186**	↑P		P	Pg	18 12 21.8	+0.6
T1247				S		S	Sg	18 12 24.7	+1.0
T1247				AML		AML	AML		
	comp=E,2605μm,1.5s								
T1247				AML		AML	AML		
	comp=N,4700μm,0.2s								
T1247				AML		AML	AML		
	comp=N,4700μm,1.8s								
T1247				AML		AML	AML		
	comp=E,2605μm,0.5s								
T1218	**Civita (PG)**	**0.17**	**294**	↑P		P	Pg	18 12 21.8	+0.5
T1218				S		S	Sg	18 12 24.8	+0.7
T1218				AML		AML	AML		
	comp=E,588μm,0.2s								
T1218				AML		AML	AML		
	comp=E,570μm,0.2s								
T1218				AML		AML	AML		
	comp=N,1410μm,1.4s								
T1218				AML		AML	AML		
	comp=E,588μm,0.3s								
T1218				AML		AML	AML		
	comp=N,1405μm,1.4s								
T1218				AML		AML	AML		
	comp=E,570μm,0.3s								
T1218				AML		AML	AML		
	comp=N,1410μm,0.6s								
T1218				AML		AML	AML		
	comp=N,1405μm,0.6s								
T1218				AML		AML	AML		
	comp=E,570μm,1.7s								
T1218				AML		AML	AML		
	comp=E,588μm,1.7s								
LNSS	**Leonessa**	**0.21**	**271**	↑P		P	Pg	18 12 22.6	+0.6
LNSS				S		S	Sg	18 12 26.1	+1.0
LNSS				AML		AML	AML		
	comp=N,783μm,0.3s								
LNSS				AML		AML	AML		
	comp=E,887μm,0.2s								
LNSS				AML		AML	AML		
	comp=N,784μm,0.3s								
TERO	**Teramo**	**0.21**	**84**	↑P		P	Pg	18 12 22.6	+0.6
TERO				S		S	Sg	18 12 26.1	+1.0
TERO				AML		AML	AML		
	comp=N,1160μm,0.1s								
TERO				AML		AML	AML		
	comp=N,1315μm,0.1s								
TERO				AML		AML	AML		
	comp=E,716μm,0.2s								
TERO				AML		AML	AML		
	comp=E,788μm,0.2s								
GIGS	**Gran Sasso**	**0.24**	**129**	P		P	Pg	18 12 23.0	+0.5
GIGS				S		S	Sg	18 12 26.9	+1.0
GIGS				AML		AML	AML		
	comp=E,154μm,0.3s								
GIGS				AML		AML	AML		
	comp=N,134μm,0.5s								
AQU	**L'Aquila**	**0.25**	**167**	P		P	Pg	18 12 23.3	+0.5
AQU				S		S	Sb	18 12 27.8	-0.9
T1212	**Cascia, Frazio**	**0.25**	**306**	P		P	Pg	18 12 23.3	+0.5
T1212				S		S	Sb	18 12 27.6	-1.2
T1212				AML		AML	AML		
	comp=N,540μm,0.1s								
T1212				AML		AML	AML		
	comp=E,346μm,0.9s								
T1245	**Castelsantange**	**0.27**	**339**	P		P	Pg	18 12 23.9	+0.7
T1245				S		S	Sb	18 12 28.6	-0.8
T1245				AML		AML	AML		
	comp=N,504μm,1.0s								
T1245				AML		AML	AML		
	comp=N,472μm,0.1s								
T1245				AML		AML	AML		
	comp=E,460μm,1.4s								
T1245				AML		AML	AML		
	comp=E,417μm,1.1s								
T1245				AML		AML	AML		
	comp=E,417μm,0.9s								
T1245				AML		AML	AML		
	comp=E,460μm,0.6s								
T1245				AML		AML	AML		
	comp=N,504μm,1.0s								
NRCA	**Norcia**	**0.28**	**327**	↓P		P	Pg	18 12 23.9	+0.6
NRCA				S		S	Sb	18 12 28.4	-1.1
T1217	**Poggiodomo (PG**	**0.31**	**291**	P		P	Pg	18 12 24.2	+0.4
T1217				S		S	Sb	18 12 29.4	-1.0
T1217				AML		AML	AML		
	comp=E,285μm,1.0s								
T1217				AML		AML	AML		
	comp=N,444μm,0.4s								
T1217				AML		AML	AML		
	comp=E,285μm,1.1s								
T1217				AML		AML	AML		
	comp=E,285μm,0.9s								
T1217				AML		AML	AML		
	comp=N,444μm,1.6s								
MC2	**Monte Cornacci**	**0.33**	**343**	↑P		P	Pg	18 12 24.9	+0.6
T1211	**Morro Reatino**	**0.35**	**259**	↑P		P	Pg	18 12 24.9	+0.3
T1211				AML		AML	AML		
	comp=E,940μm,0.1s								
T1211				AML		AML	AML		
	comp=N,484μm,0.6s								
T1211				AML		AML	AML		
	comp=E,942μm,0.1s								
T1211				AML		AML	AML		
	comp=N,464μm,0.1s								
T1211				AML		AML	AML		
	comp=E,940μm,0.1s								
T1211				AML		AML	AML		
	comp=N,484μm,0.6s								
T1211				AML		AML	AML		
	comp=E,942μm,0.1s								
T1211				AML		AML	AML		
	comp=N,464μm,0.1s								
FIAM	**Fiamignano**	**0.37**	**205**	↑P		P	Pg	18 12 25.1	+0.3
FIAM				S		Sb	Sb	18 12 31.5	-0.4
FIAM				AML		AML	AML		
	comp=E,124μm,0.2s								
FIAM				AML		AML	AML		
	comp=N,111μm,1.3s								
FIAM				AML		AML	AML		
	comp=N,111μm,0.7s								
T1216	**Preci, Frazion**	**0.37**	**322**	P		P	Pg	18 12 25.5	+0.6
T1216				AML		AML	AML		
	comp=E,259μm,0.3s								
T1216				AML		AML	AML		
	comp=N,216μm,0.6s								
T1216				AML		AML	AML		
	comp=E,259μm,0.3s								
T1216				AML		AML	AML		
	comp=N,216μm,0.7s								
T1216				AML		AML	AML		
	comp=E,259μm,1.7s								
FAGN	**Fagnano**	**0.39**	**150**	P		P	Pg	18 12 25.8	+0.6
FAGN				AML		AML	AML		
	comp=E,497μm,0.4s								
FAGN				AML		AML	AML		
	comp=N,550μm,0.3s								
T1215	**Vallo di Nera,**	**0.39**	**301**	↑P		P	Pg	18 12 25.6	+0.3
T1215				AML		AML	AML		
	comp=N,192μm,1.4s								
T1215				AML		AML	AML		
	comp=E,157μm,0.4s								
T1215				AML		AML	AML		
	comp=N,174μm,0.2s								
T1215				AML		AML	AML		
	comp=E,157μm,0.4s								
T1215				AML		AML	AML		
	comp=N,174μm,0.2s								
T1215				AML		AML	AML		
	comp=E,223μm,0.6s								
T1215				AML		AML	AML		
	comp=N,174μm,1.8s								
ARRO	**Arrone**	**0.41**	**267**	↑P		P	Pg	18 12 26.0	+0.3
ARRO				AML		AML	AML		
	comp=N,206μm,0.3s								
ARRO				AML		AML	AML		
	comp=E,166μm,1.1s								
OFFI	**Offida**	**0.43**	**39**	↑P		P	Pb	18 12 27.5	+0.3
OFFI				AML		AML	AML		
	comp=N,322μm,0.5s								
OFFI				AML		AML	AML		
	comp=E,363μm,0.6s								
GUMA	**Gualdo di Mace**	**0.46**	**1**	↓P		P	Pb	18 12 27.7	-0.1
GUMA				AML		AML	AML		
	comp=E,482μm,0.6s								
GUMA				AML		AML	AML		
	comp=N,550μm,0.3s								
GUMA				AML		AML	AML		
	comp=E,482μm,0.6s								
GUMA				AML		AML	AML		
	comp=N,464μm,0.2s								
GUMA				AML		AML	AML		
	comp=E,482μm,1.4s								
GUMA				AML		AML	AML		
	comp=E,500μm,0.3s								
GUMA				AML		AML	AML		
	comp=N,550μm,0.3s								
FDMO	**Fiordimonte**	**0.47**	**338**	↓P		P	Pg	18 12 27.1	+0.4
FDMO				AML		AML	AML		
	comp=N,118μm,0.2s								
FDMO				AML		AML	AML		
	comp=E,127μm,0.2s								
FDMO				AML		AML	AML		
	comp=N,118μm,1.8s								
TRTR	**Tortoreto Alta**	**0.48**	**64**	↑P		P	Pb	18 12 28.9	+0.7
TRTR				AML		AML	AML		
	comp=N,248μm,1.3s								
TRTR				AML		AML	AML		
	comp=E,308μm,1.2s								
TRTR				AML		AML	AML		
	comp=N,248μm,0.7s								
CSP1	**Cessapalombo**	**0.50**	**350**	↑P		P	Pg	18 12 27.8	+0.5
CSP1				AML		AML	AML		
	comp=E,147μm,0.4s								
CSP1				AML		AML	AML		
	comp=N,174μm,0.4s								
T0110	**Collepietro**	**0.50**	**138**	↓P		P	Pg	18 12 27.9	+0.5
T0110				AML		AML	AML		
	comp=N,342μm,0.3s								
T0110				AML		AML	AML		
	comp=E,376μm,1.0s								
T0110				AML		AML	AML		
	comp=E,376μm,1.0s								
T0110				AML		AML	AML		
	comp=N,342μm,1.7s								
CESI	**CESI - Serrava**	**0.51**	**323**	↓P		P	Pg	18 12 28.0	+0.5
CESI				AML		AML	AML		
	comp=E,95μm,0.5s								
CESI				AML		AML	AML		
	comp=N,174μm,0.3s								
T1219	**Muccia, Frazio**	**0.51**	**333**	P		P	Pg	18 12 28.0	+0.4
T1219				S		Sb	Sb	18 12 36.1	-0.1
T1219				AML		AML	AML		
	comp=E,148μm,1.5s								
T1219				AML		AML	AML		
	comp=N,182μm,0.2s								
T1220	**Camerino, Fraz**	**0.54**	**341**	↓P		P	Pg	18 12 28.5	+0.4
T1220				AML		AML	AML		
	comp=N,564μm,1.4s								
T1220				AML		AML	AML		
	comp=N,525μm,0.3s								
T1220				AML		AML	AML		
	comp=E,423μm,0.3s								
T1220				AML		AML	AML		
	comp=N,564μm,0.6s								
T1220				AML		AML	AML		
	comp=E,426μm,0.3s								
CESX	**Cesi**	**0.55**	**271**	↓P		P	Pg	18 12 28.1	-0.2
CESX				AML		AML	AML		
	comp=E,120μm,1.5s								
CESX				AML		AML	AML		
	comp=E,120μm,0.5s								
CESX				AML		AML	AML		
	comp=N,204μm,0.2s								
MOMA	**Monte Martano**	**0.59**	**290**	↓P		P	Pg	18 12 29.2	+0.1
MOMA				S		S	Sb	18 12 38.6	+0.1
MOMA				AML		AML	AML		
	comp=E,298μm,0.2s								
MOMA				AML		AML	AML		
	comp=N,327μm,0.9s								
MOMA				AML		AML	AML		
	comp=N,248μm,0.9s								
MOMA				AML		AML	AML		
	comp=E,314μm,0.2s								
MOMA				AML		AML	AML		
	comp=N,327μm,1.1s								
ASSB	**Assisi San Ben**	**0.66**	**312**	P		P	Pb	18 12 30.9	-0.3
ASSB				S		S	Sb	18 12 41.1	+0.8
ASSB				AML		AML	AML		
	comp=E,86μm,0.7s								
ASSB				AML		AML	AML		
	comp=N,86μm,0.5s								
ASSB				AML		AML	AML		
	comp=E,86μm,1.3s								
SRES	**S.Oreste - Sor**	**0.70**	**239**	↑P		P	Pg	18 12 31.4	+0.2
SNTG	**Esanatoglia**	**0.71**	**337**	↓P		P	Pg	18 12 31.6	+0.2
SNTG				AML		AML	AML		
	comp=E,37μm,0.5s								
SNTG				AML		AML	AML		
	comp=N,51μm,0.1s								
EL6	**Elcito**	**0.75**	**348**	↓P		P	Pb	18 12 32.4	-0.3
EL6				S		Sb	Sb	18 12 44.2	+1.3
EL6				AML		AML	AML		
	comp=N,124μm,0.8s								
EL6				AML		AML	AML		
	comp=E,114μm,1.2s								
EL6				AML		AML	AML		
	comp=N,124μm,0.8s								
EL6				AML		AML	AML		
	comp=N,124μm,1.2s								
CING	**Cingoli**	**0.78**	**353**	P		P	Pb	18 12 33.0	-0.2
CING				AML		AML	AML		
	comp=E,77μm,0.6s								
CING				AML		AML	AML		
	comp=N,85μm,0.8s								
CING				AML		AML	AML		
	comp=N,85μm,1.2s								
LPEL	**Lama dei Pelig**	**0.84**	**131**	S		Sb	Sb	18 12 46.3	+0.6

ARVD	**Arcevia**	**0.94**	**343**	⇑P	Pn	18 12 36.6	-0.2
ARVD	comp=N,23μm,1.6s			AML	AML		
ARVD	comp=N,23μm,0.4s			AML	AML		
ARVD	comp=E,27μm,0.8s			AML	AML		
LAV9	**Lanuvio**	**1.03**	**207**	⇓P	Pg	18 12 35.7	-1.8

IDC 29 18:22:49.7±2.4, 30°.10S×177°.54W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=42.4km s-min=24.1km az=99.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.91**	**339**	Pn	Pn	18 23 10.4	+0.7
	100nm,0.3s,baz=160,slow=23,SNR=7.1						
RAO				Sn	Sn	18 23 23.0	-0.5
	492nm,0.3s,baz=101,slow=21,SNR=10						
ASAR	**Alice Springs**	**43.52**	**266**	P	P	18 30 54.9	-0.5
	0.2nm,0.7s,baz=104,slow=7.6,SNR=16						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**44.49**	**272**	P	P	18 31 03.7	+0.6
	0.5nm,0.4s,baz=111,slow=7.4,SNR=2.6						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	18 42 26.1	-1.4
	3.9nm,0.9s,baz=37,slow=3.5,SNR=3.6						

ISK 29 18:30:11.9, 40°.29N×40°.58E, h5km, ML2.6/10
TIF 29 18:30:11.9, 40°.30N×40°.59E, h5km,
DDA 29 18:30:12.5±0.0, 40°.43N×40°.52E, h11km±3km, ML2.3
ISC 29 18:30:12.4±1.1, 40°.31N±0°.03×40°.58E±0°.02, h9km±10km, n28, σ0°.94/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYB	**BAYBURT**	**0.25**	**257**	P	**Pb**	**18 30 18.8**	**-0.4**
BAYB				*i* AML	AML	18 30 22.0	
	comp=N,2μm,0.3s						
BAYB				S	**Sb**	**18 30 22.6**	**-1.2**
KRIK	**Erzurum-spir**	**0.27**	**85**	P	**Pb**	**18 30 19.4**	**-0.2**
KRIK				S	**Sb**	**18 30 23.9**	**-0.4**
KRIK				*i* AML	AML	18 30 24.0	
	comp=N,808nm,0.4s						
KRIK				*i* AML	AML	18 30 24.0	
	comp=E,544nm,0.3s						
KOPT	**Kop Dagi**	**0.30**	**192**	P	**Pb**	**18 30 20.3**	**+0.1**
KOPT				S	**Sb**	**18 30 26.5**	**+1.2**
KOPT				*i* AML	AML	18 30 27.0	
	comp=N,736nm,0.2s						
KOPT				*i* AML	AML	18 30 27.0	
	comp=E,622nm,0.3s						
BAYT	**Aydıntepe-Bayb**	**0.34**	**283**	Pg	**Pg**	**18 30 20.1**	**+0.9**
EMRE	**Erzurum,Aziziy**	**0.42**	**133**	P	**Pn**	**18 30 23.8**	**-1.0**
ECAT	**Cat-ERZURUM**	**0.77**	**157**	P	**Pn**	**18 30 28.9**	**-0.8**
ECAT				*i* AML	AML	18 30 43.0	
	comp=N,30nm,0.4s						
ECAT				*i* AML	AML	18 30 43.0	
	comp=E,58nm,0.4s						
ECAT				S	**Sn**	**18 30 43.2**	**+1.7**
CHAY	**Cayeli-Rize**	**0.78**	**8**	Pg	**Pb**	**18 30 28.4**	**+0.3**
MACK	**Trabzon**	**0.88**	**316**	P	**Pb**	**18 30 29.7**	**-0.1**
MACK				S	**Sb**	**18 30 41.9**	**+0.1**
ERZN	**Erzincan**	**0.98**	**222**	Pg	**Pg**	**18 30 30.8**	**-0.4**
KOPR	**Koprukoy-ERZUR**	**1.03**	**108**	Pg	**Pb**	**18 30 32.6**	**+0.1**
KOPR				Sg	**Sn**	**18 30 47.6**	**-0.2**
DDEM	**Demirkent**	**1.06**	**57**	P	**Pg**	**18 30 32.4**	**-0.4**
DDEM				S	**Sg**	**18 30 46.5**	**-0.1**
DDEM				*i* AML	AML	18 30 49.0	
	comp=N,277nm,0.3s						
DDEM				*i* AML	AML	18 30 49.0	
	comp=E,154nm,0.3s						
DBAD	**Bademkaya**	**1.10**	**50**	P	**Pg**	**18 30 33.0**	**-0.5**
DBAD				*i* AML	AML	18 30 47.0	
	comp=E,61nm,0.1s						
DBAD				S	**Sg**	**18 30 47.4**	**-0.5**
DBAD				*i* AML	AML	18 30 48.0	
	comp=N,73nm,0.3s						
DAGI	**Agillar**	**1.27**	**53**	P	**Pn**	**18 30 36.2**	**-0.3**
DAGI				S	**Sb**	**18 30 52.8**	**-0.2**
DAGI				*i* AML	AML	18 30 53.0	
	comp=N,40nm,0.2s						
DAGI				*i* AML	AML	18 30 53.0	
	comp=E,34nm,0.2s						
BNGB	**Bingl**	**1.32**	**177**	Pn	**Pg**	**18 30 38.1**	**+0.3**
VRTB	**Varto-Mus**	**1.34**	**149**	Pn	**Pg**	**18 30 38.3**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.38**	**79**	Pn	**Pg**	**18 30 39.3**	**+0.5**
ALUC	**Giresun/Alucra**	**1.38**	**272**	P	**Pb**	**18 30 38.7**	**+0.2**
ALUC				S	**Sn**	**18 30 56.5**	**0.0**
ALUC				*i* AML	AML	18 30 57.0	
	comp=N,196nm,0.3s						
ALUC				*i* AML	AML	18 30 57.0	
	comp=E,184nm,0.6s						
TNCL	**Tunceli-Merkez**	**1.44**	**214**	P	**Pg**	**18 30 42.0**	**+2.0**
TNCL				*i* AML	AML	18 31 05.0	
	comp=N,20nm,0.7s						
TNCL				*i* AML	AML	18 31 06.0	
	comp=E,31nm,1.1s						
ESPY	**Espiye-Giresun**	**1.53**	**294**	Pn	**Pb**	**18 30 41.0**	**0.0**
BATM	**Batumi**	**1.54**	**33**	P	**Pb**	**18 30 41.0**	**-0.1**
BATM				S	**Sb**	**18 31 00.8**	**0.0**
SUSE	**Susehri**	**1.82**	**267**	P	**Pb**	**18 30 46.2**	**+0.2**
SUSE				S	**Sg**	**18 31 10.4**	**-0.5**
SUSE				*i* AML	AML	18 31 11.0	
	comp=N,73nm,0.2s						
SUSE				*i* AML	AML	18 31 11.0	
	comp=E,37nm,0.2s						
KEMA	**Kemaliye**	**1.92**	**238**	P	**Pg**	**18 30 49.0**	**-0.1**
KEMA				S	**Sg**	**18 31 15.3**	**+1.4**
KEMA				*i* AML	AML	18 31 17.0	
	comp=N,11nm,0.8s						
AGRB	**Hanur-Agry**	**2.00**	**111**	Pn	**Pb**	**18 30 47.8**	**-1.2**
ARPR	**Arapgir-MALATY**	**2.12**	**236**	Pn	**Pb**	**18 30 50.3**	**-0.7**
ABS	**Abastumani**	**2.22**	**49**	P	**Pb**	**18 30 52.9**	**+0.1**
ABS				S	**Sg**	**18 31 22.5**	**-1.2**
TKB	**Tkibuli**	**2.73**	**41**	P	**Pb**	**18 31 01.9**	**+0.5**
TKB				S	**Sb**	**18 31 37.2**	**+2.2**
SVSK	**Karacayir**	**2.77**	**263**	Pn	**Pb**	**18 30 59.8**	**-2.3**
ALIG	**Mtskhetisjvari**	**2.93**	**51**	P	**Pb**	**18 31 04.8**	**+0.1**
ALIG				S	**Sb**	**18 31 42.9**	**+2.2**

IDC 29 18:32:39.0±2.1, 6°.24S×151°.99E, h0km, mb3.5/3, mbtmp3.6/4, ML1.4/1, Error ellipse: s-maj=82.4km s-min=21.9km az=118.0
ISC 29 18:32:44.5±1.7, 6°.1S±0°.2×151°.8E±0°.3, h36km, n6, σ0°.62/8, mb3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.83**	**6**	Pn	**Pn**	**18 33 13.3**	**-0.2**
	27nm,0.3s,baz=246,slow=0.8,SNR=41						
KRVT				Sn	**Sn**	**18 33 35.9**	**+0.4**
	98nm,0.3s,baz=37,slow=23,SNR=30						
PMG	**Port Moresby**	**5.66**	**235**	Pn	**Pn**	**18 34 06.8**	**+0.7**
	0.7nm,0.3s,baz=34,slow=6.7,SNR=6.6						
PMG				Sn	**Sn**	**18 35 09.5**	**-0.5**
	1.4nm,0.3s,baz=20,slow=19,SNR=3.0						
	5.9nm,0.5s						
WRA	**Warramunga Arr**	**21.85**	**229**	P	**P**	**18 37 33.3**	**-0.9**
	0.4nm,0.3s,baz=51,slow=9.8,SNR=2.4						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**24.52**	**223**	P	**P**	**18 38 00.6**	**-0.3**
	1.6nm,0.7s,baz=58,slow=9.0,SNR=39						
	1.6nm,0.7s						
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**18 45 09.7**	**+0.1**
	0.4nm,0.9s,baz=237,slow=6.3,SNR=2.6						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.78**	**286**	PKPbc	**PKPbc**	**18 52 32.2**	**+0.4**
	0.6nm,0.9s,baz=68,slow=1.4,SNR=2.6						

WEL 29 18:58:46.0±0.3, 42°S±2°×174°E±°, h5km, M2.7/13, ML3.0/17, MLv2.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=137.8, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.27**	**22**	P	Pg	18 58 51.8	+0.5
BSWZ				S	Sg	18 58 56.5	+1.7
CMWZ	**Cape Campbell**	**0.41**	**59**	P	Pb	18 58 55.3	-0.5
KHZ	**Kahutara**	**0.47**	**198**	P	Pg	18 58 55.4	+0.3
KHZ				S	Sg	18 59 02.3	+1.0
THZ	**Tophouse**	**0.66**	**288**	P	Pg	18 58 58.5	0.0
THZ				S	Sg	18 59 07.2	+0.2
NNZ	**Nelson**	**0.80**	**340**	P	Pg	18 59 00.9	-0.3
NNZ				S	Sg	18 59 11.8	+0.3
TCW	**Tory Channel**	**0.85**	**28**	P	Pg	18 59 02.2	-0.2
TCW				S	Sb	18 59 14.9	-0.2
MRNZ	**Matariki Terra**	**0.93**	**307**	P	Pg	18 59 03.8	0.0
MRNZ				S	Sb	18 59 17.0	-0.1
WEL	**Wellington**	**1.03**	**49**	P	Pb	18 59 06.3	+0.1
TKNZ	**Takaka Hill**	**1.10**	**328**	P	Pg	18 59 06.7	-0.3
TKNZ				S	Sb	18 59 21.9	-0.2
GVZ	**Greta Valley S**	**1.13**	**207**	P	Pg	18 59 07.2	-0.4
GVZ				S	Sn	18 59 23.8	-0.6
DUWZ	**D'Urville Isla**	**1.17**	**7**	P	Pg	18 59 07.8	-0.6
DUWZ				S	Sg	18 59 23.9	+0.3
PLWZ	**Palliser**	**1.20**	**71**	P	Pg	18 59 07.7	-1.2
CAW	**Cannon Point**	**1.31**	**50**	P	Pn	18 59 10.0	-1.0
CAW				S	Sg	18 59 27.5	-0.7
LTZ	**Lake Taylor**	**1.36**	**233**	P	Pn	18 59 10.8	-0.9
LTZ				S	Sb	18 59 29.3	-0.3
PAWZ	**Paruwai Farm**	**1.39**	**66**	P	Pn	18 59 10.4	-1.7
KIW	**Kapiti Island**	**1.41**	**39**	P	Pn	18 59 11.8	-0.5
KIW				S	Sb	18 59 31.0	-0.1
AMCZ	**Amberley**	**1.45**	**213**	P	Pn	18 59 11.4	-1.4
QRZ	**Quartz Range**	**1.46**	**321**	P	Pn	18 59 12.8	-0.2
DSZ	**Denniston Nort**	**1.46**	**278**	P	Pb	18 59 13.5	-0.2
DSZ				S	Sg	18 59 34.1	+1.2
MTW	**Mount Morrison**	**1.55**	**59**	P	Pn	18 59 12.4	-1.8
OGWZ	**Otaki Gorge**	**1.57**	**44**	P	Pn	18 59 13.7	-0.8
HOWZ	**Holdsworth Sta**	**1.71**	**52**	P	Pn	18 59 14.8	-1.6
OKCZ	**Okains Bay**	**1.83**	**196**	P	Pn	18 59 16.4	-1.7
TMWZ	**Te Maipa**	**1.83**	**63**	P	Pn	18 59 16.1	-2.0
OXZ	**Oxford**	**1.85**	**222**	P	Pn	18 59 16.3	-2.0
INZ	**Inchbonnie**	**1.86**	**245**	P	Pn	18 59 18.7	+0.2
MRZ	**Mangatainoka R**	**1.90**	**47**	P	Pn	18 59 17.6	-1.5
MQZ	**McQueen's Vall**	**1.91**	**204**	P	Pn	18 59 16.1	-3.1
AKCZ	**Akaroa Harbour**	**2.00**	**197**	P	Pn	18 59 18.4	-2.0
RACZ	**Rakaia**	**2.12**	**213**	P	Pn	18 59 19.9	-2.1
WAZ	**Wanganui**	**2.40**	**24**	P	Pb	18 59 30.0	+0.3
WACZ	**Wakanui South**	**2.42**	**215**	P	Pn	18 59 23.3	-2.8
RPZ	**Rata Peaks**	**2.64**	**228**	P	Pn	18 59 27.7	-1.5
RPZ				S	Sn	18 59 58.1	-3.5
ARCZ	**Arundel**	**2.73**	**223**	P	Pn	18 59 28.6	-1.9
ARCZ				S	Sn	19 00 00.7	-3.2

IDC 29 19:04:12.9±1.1, 30°.13S×177°.30W, h0km, mb4.1/5, mbtmp4.2/7, ML3.8/2, Error ellipse: s-maj=29.8km s-min=18.2km az=66.0
ISC 29 19:04:14.3±1.0, 30°.32S±0°.06×177°.5W±0°.2, h10km, n16, σ1°.42/20, mb4.1/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.13**	**340**	Pn	**Pb**	**19 04 33.9**	**-2.1**
	461nm,0.3s,baz=115,slow=14,SNR=15						
RAO				Sn	**Sg**	**19 04 50.0**	**-0.7**
	1μm,0.3s,baz=91,slow=20,SNR=9.6						
URZ	**Urewera**	**9.09**	**208**	Pn	**Pn**	**19 06 22.6**	**-3.0**
	0.1nm,0.3s,baz=275,slow=19,SNR=1.1						
URZ				Sn	**Sn**	**19 08 06.0**	**-2.0**
	3.3nm,0.3s,baz=151,slow=23,SNR=6.7						
RPZ	**Rata Peaks**	**16.18**	**211**	Pn	**P**	**19 08 05.6**	**+0.6**
	1.3nm,0.3s,baz=0.9,slow=14,SNR=3.7						
RPZ				Sn	Sn	19 10 49.0	-12
	0.6nm,0.3s,baz=38,slow=20,SNR=1.4						
	7.8nm,0.4s						
DZM	**Mont Dzumac**	**16.59**	**296**	Pn	**Pn**	**19 08 06.6**	**-0.6**
	0.1nm,0.3s,baz=120,slow=17,SNR=1.2						
	5.0nm,1.0s						
CTA	**Charters Tower**	**34.23**	**279**	P	**P**	**19 11 02.8**	**+2.3**
	3.2nm,0.7s,baz=130,slow=12,SNR=1.5						
	3.2nm,0.7s						
STKA	**Stephens Creek**	**34.93**	**257**	P	**P**	**19 11 09.0**	**+2.5**
	1.3nm,0.5s,baz=93,slow=9.1,SNR=6.5						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**43.56**	**267**	P	**P**	**19 12 20.1**	**+1.4**
	0.6nm,0.5s,baz=105,slow=6.9,SNR=11						
ASAR				PcP	**PcP**	**19 14 07.0**	**+0.6**
	0.3nm,0.6s,baz=126,slow=4.7,SNR=1.5						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**44.54**	**272**	P	**P**	**19 12 26.9**	**+0.4**
	1.0nm,0.4s,baz=112,slow=7.5,SNR=12						
WRA				PP	**PP**	**19 14 10.2**	**-0.3**
	0.6nm,0.7s,baz=111,slow=8.1,SNR=1.6						
	1.0nm,0.4s						
QSPA	**South Pole Qui**	**59.79**	**180**	P	**P**	**19 14 20.1**	**+0.6**
	3.2nm,0.9s,baz=56,slow=2.0,SNR=4.5						
	3.2nm,0.9s						
MKAR	**Makanchi Array**	**118.06**	**310**	PKP	**PKPdf**	**19 23 00.2**	**-1.1**
	0.1nm,0.4s,baz=134,slow=1.0,SNR=4.0						
FINES	**FINESS Array B**	**145.22**	**340**	PKPbc	**PKPbc**	**19 23 51.2**	**+0.1**
	7.0nm,0.7s,baz=58,slow=2.2,SNR=22						
NB2	**NORSAR Subarra**	**148.74**	**352**	PKP	**PKPbc**	**19 24 00.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=14,slow=4.3						
NOA	**NORSAR Array B**	**148.74**	**352**	PKPbc	**PKPbc**	**19 24 01.2**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=14,slow=4.2,SNR=2.8						
AKASG	**Malin Array Be**	**151.51**	**323**	PKPbc	**PKPbc**	**19 24 08.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=49,slow=3.1,SNR=6.1						
BRTR	**Keskin Array B**	**152.96**	**299**	PKPbc	**PKiKP**	**19 24 12.6**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=147,slow=5.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**162.89**	**177**	PKPab	**PKPab**	**19 25 06.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=180,slow=2.3,SNR=2.3						

IDC 29 19:09:25.2±1.1, 30°.09S×177°.24W, h0km, mb4.2/5, mbtmp4.3/6, ML4.6/1, MS3.8/21, Error ellipse: s-maj=30.0km s-min=18.2km az=63.0
NEIC 29 19:09:27.4±2.9, 30°.27S±0°.06×177°.5W±0°.2, h10km±2km, mb4.5/13, Error ellipse: s-maj=27.0km s-min=3.0km az=67.0
ISC 29 19:09:27.1±0.9, 30°.32S±0°.05×177°.6W±0°.2, h10km, n50, σ1°.47/37, mb4.5/11, MS4.0/18, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.11**	**343**	Pn	**Pb**	**19 09 48.1**	**-0.3**
	726nm,0.3s,baz=2.9,slow=19,SNR=12						
RAO				Sn	**Sg**	**19 10 01.7**	**-1.2**
	1μm,0.3s,baz=55,slow=18,SNR=9.3						
RAO	**Raoul Island**	**1.11**	**343**		**Pb**	**19 09 46.9**	**-1.5**
RAO				Sg	**Sb**	**19 10 03.1**	**+0.2**
URZ	**Urewera**	**9.07**	**208**	Pn	**Pn**	**19 11 36.3**	**-1.7**
	0.5nm,0.3s,baz=35,slow=23,SNR=1.2						
URZ				Sn	**Sn**	**19 13 18.8**	**-1.4**
	3.3nm,0.3s,baz=192,slow=22,SNR=2.3						
RTZ	**Ruatahuna**	**9.43**	**207**	Pn	**Pn**	**19 11 41.7**	**-1.3**
SNZO	**South Karori**	**12.63**	**208**	Pn	**Pn**	**19 12 24.4**	**-2.5**
NNZ	**Nelson**	**13.12**	**212**	Pn	**Pn**	**19 12 34.0**	**+0.4**
MSVF	**Nonsavu**	**13.15**	**341**	LR	LR	19 16 54.1	
	comp=Z,277nm,19.0s,baz=184,slow=34						
THZ	**Tophouse**	**13.78**	**211**	Pn	**Pn**	**19 12 43.3**	**+0.8**
LTZ	**Lake Taylor**	**14.87**	**210**	Pn	**Pn**	**19 12 56.4**	**-1.1**
OXZ	**Oxford**	**15.41**	**210**	Pn	**Pn**	**19 13 01.8**	**-2.9**
RPZ	**Rata Peaks**	**16.15**	**211**	Pn	**P**	**19 13 17.3**	**-0.1**
	2.4nm,0.3s,baz=360,slow=3.5,SNR=5.6						
RPZ				Sn	Sn	19 16 00.5	-13
	0.3nm,0.3s,baz=318,slow=18,SNR=3.1						
	11nm,0.7s						
DZM	**Mont Dzumac**	**16.53**	**296**	LR	LR	19 18 29.6	
	comp=Z,295nm,19.8s,baz=160,slow=33						
RAR	**Rarotonga**	**18.38**	**65**	LR	LR	19 18 37.5	
	comp=Z,333nm,20.5s,baz=294,slow=31						
WHZ	**Wether Hill Ro**	**19.24**	**212**	P	**P**	**19 13 49.9**	**-1.6**
WHZ				IAmb	IAmb	19 14 16.8	
	comp=Z,16nm,1.2s						
PPT	**Papeete**	**28.45**	**70**	LR	LR	19 23 49.8	
	comp=Z,66nm,20.0s,baz=244,slow=31						
CTA	**Charters Tower**	**34.17**	**279**	P	**P**	**19 16 14.4**	**+1.7**
	comp=Z,4.2nm,0.7s,baz=350,slow=3.9,SNR=1.7						
CTA				LR	LR	19 28 16.8	
	comp=Z,217nm,19.6s,baz=107,slow=33						
	comp=Z,4.2nm,0.7s						
CTAO	**Charters Tower**	**34.17**	**279**	P	**P**	**19 16 11.6**	**-1.2**
STKA	**Stephens Creek**	**34.88**	**257**	P	**P**	**19 16 22.1**	**+3.3**
	comp=Z,2.3nm,0.5s,baz=104,slow=13,SNR=13						
STKA				LR	LR	19 29 40.7	
	comp=Z,189nm,18.4s,baz=36,slow=34						
	comp=Z,2.3nm,0.5s						
STKA	**Stephens Creek**	**34.88**	**257**	P	**P**	**19 16 20.5**	**+1.7**
BBOO	**Buckleboo**	**39.37**	**254**	P	**P**	**19 16 58.2**	**+1.3**
BBOO				IAmb	IAmb	19 17 24.2	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**43.50**	**267**	P	**P**	**19 17 30.8**	**-0.2**
ASAR	**Alice Springs**	**43.50**	**267**	P	**P**	**19 17 32.3**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=107,slow=7.4,SNR=17						
ASAR				PcP	**PcP**	**19 19 19.3**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=115,slow=4.4,SNR=2.1						
ASAR				LR	LR	19 35 22.8	
	comp=Z,193nm,19.0s,baz=96,slow=36						
	comp=Z,0.5nm,0.4s						
WR0	**Warramunga Arr**	**44.30**	**272**	P	**P**	**19 17 38.3**	**+0.8**
WR0				IAmb	IAmb	19 17 51.7	
	comp=Z,4.2nm,0.5s						
WB2	**Warramunga Arr**	**44.47**	**272**	P	**P**	**19 17 39.5**	**+0.7**
WB2				IAmb	IAmb	19 17 53.6	
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**44.48**	**272**	P	**P**	**19 17 39.7**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=111,slow=8.0,SNR=24						
WRA				LR	LR	19 35 31.6	
	comp=Z,116nm,18.0s,baz=122,slow=35						
	comp=Z,1.5nm,0.3s						
WRA	**Warramunga Arr**	**44.48**	**272**	P	**P**	**19 17 39.1**	**+0.2**
WB0	**Warramunga Arr**	**44.51**	**272**	P	**P**	**19 17 39.1**	**0.0**
WB0				IAmb	IAmb	19 17 53.3	
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**48.22**	**186**	LR	LR	19 35 10.0	
	comp=Z,55nm,21.0s,baz=8.0,slow=32						
VNDA	**Vanda**	**48.22**	**186**	P	**P**	**19 18 06.2**	**-1.2**
VNDA				IAmb	IAmb	19 18 26.6	
	comp=Z,2.1nm,0.9s						
KNRA	**Kununurra**	**51.09**	**274**	P	**P**	**19 18 31.3**	**+1.2**
KNRA				IAmb	IAmb	19 18 34.8	
	comp=Z,11nm,1.2s						
NWAO	**Narrogin (SRO)**	**54.79**	**249**	LR	LR	19 38 48.2	
	comp=Z,110nm,21.3s,slow=32						
BATI	**Baumata**	**58.03**	**277**	LR	LR	19 44 15.8	
	comp=Z,180nm,19.2s,baz=138,slow=36						
QSPA	**South Pole Qui**	**59.79**	**180**	P	**P**	**19 19 34.4**	**+2.2**
	comp=Z,2.5nm,0.7s,baz=72,slow=1.7,SNR=6.4						
	comp=Z,2.5nm,0.7s						
QSPA	**South Pole Qui**	**59.79**	**180**	P	**P**	**19 19 34.5**	**+2.2**
MAW	**Mawson**	**72.52**	**200**	LR	LR	19 52 29.5	
	comp=Z,75nm,19.3s,baz=108,slow=36						
LEM	**Lembang**	**73.50**	**272**	LR	LR	19 55 16.2	
	comp=Z,86nm,18.0s,baz=204,slow=37						
SHEM	**Shemya Is, Ala**	**83.02**	**355**	LR	LR	19 53 34.0	
	comp=Z,81nm,19.7s,baz=287,slow=32						
LPIG	**La Paz**	**84.16**	**58**	LR	LR	19 50 03.2	
	comp=Z,66nm,21.1s,baz=216,slow=29						
PFO	**Pinyon Flats O**	**85.86**	**47**	LR	LR	19 57 55.2	
	comp=Z,61nm,18.3s,baz=352,slow=34						
KLR	**Kul'dur**	**91.16**	**330**	LR	LR	20 02 10.1	
	comp=Z,37nm,18.9s,baz=118,slow=35						
ELK	**Elko**	**91.22**	**42**	LR	LR	20 02 15.4	
	comp=Z,58nm,18.3s,baz=230,slow=35						
TXAR	**Lajitas Array**	**92.02**	**57**	LR	LR	19 57 10.7	
	comp=Z,43nm,18.5s,baz=249,slow=31						
NEW	**Newport**	**95.08**	**36**	LR	LR	20 02 50.3	
	comp=Z,56nm,18.4s,baz=210,slow=34						
PDAR	**Pinedale Array**	**95.81**	**43**	LR	LR	19 59 55.8	
	comp=Z,32nm,19.3s,baz=262,slow=32						
MKAR	**Makanchi Array**	**118.02**	**310**	PKP	**PKPdf**	**19 28 11.5**	**-2.5**
	comp=Z,0.1nm,0.4s,baz=207,slow=2.4,SNR=5.7						
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc	**PKPbc**	**19 29 03.3**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=44,slow=3.8,SNR=14						
NOA	**NORSAR Array B**	**148.73**	**352**	PKPbc	**PKPdf**	**19 29 11.7**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=11,slow=4.5,SNR=2.2						
AKASG	**Malin Array Be**	**151.47**	**323**	PKPbc	**PKPbc**	**19 29 21.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=3.2,SNR=2.5						
BRTR	**Keskin Array B**	**152.90**	**299**	PKPbc	**PKPbc**	**19 29 24.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=149,slow=4.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**162.90**	**177**	PKPab	**PKPab**	**19 30 19.6**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=170,slow=3.0,SNR=2.0						

IDC 29 19:37:20.8±3.0, 36°.46N×71°.41E, h165km±26km, mb3.3/12, mbtmp3.8/18, Error ellipse: s-maj=22.6km s-min=15.9km az=3.0
NNC 29 19:37:25.6±2.0, 36°.92N×71°.18E, h145km±25km, mb3.6, mpv4.3, Error ellipse: s-maj=19.4km s-min=8.2km az=42.0
ISC 29 19:37:20.6±0.7, 36°.62N±0°.07×71°.25E±0°.06, h150km, n43, σ1°75/53, mb3.5/12, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**5.60**	**351**	Pg	**Pn**	**19 38 45.0**	**+3.0**
	104nm,0.7s						
IUG				Lg	Lg	19 39 45.9	
	146nm,0.6s						
AML	**Almayashu**	**5.82**	**18**	P	**Pn**	**19 38 47.0**	**+1.9**
	SNR=70						
UCH	**Uchtor**	**6.14**	**23**	P	**Pn**	**19 38 52.0**	**+2.5**
	SNR=31						
MRKS	**Merke**	**6.30**	**13**	Pg	**Pn**	**19 38 53.1**	**+1.8**
	22nm,0.6s						
EKS2	**Erkin-Say**	**6.34**	**17**	P	**Pn**	**19 38 54.6**

7.6nm,0.9s,baz=119,slow=4.0,SNR=4.8
7.6nm,0.9s
BRTR Keskin Array B 29.59 288 P **P 19 43 13.8 +2.2**
0.6nm,0.7s,baz=85,slow=9.3,SNR=2.3
0.6nm,0.7s
AKASG Malin Array Be 33.03 309 P **P 19 43 41.8 +0.4**
0.4nm,0.5s,baz=79,slow=7.8,SNR=5.1
0.4nm,0.5s
FINES FINESS Array B 37.50 326 P **P 19 44 20.2 +0.9**
4.0nm,1.1s,baz=116,slow=8.9,SNR=6.5
4.0nm,1.1s
NB2 NORSAR Subarra 44.41 323 P **P 19 45 16.5 +0.6**
comp=Z,1.4nm,0.6s,baz=100,slow=7.9
NOA NORSAR Array B 44.41 323 P **P 19 45 16.2 +0.2**
comp=Z,0.4nm,0.5s,baz=106,slow=7.2,SNR=5.5
comp=Z,0.4nm,0.5s
ESDC Sonseca Array 57.58 298 P **P 19 46 54.6 -0.1**
comp=Z,0.6nm,0.7s,baz=66,slow=6.4,SNR=6.8
comp=Z,0.6nm,0.7s
TORD Torodi Ar. Bea 65.92 269 P **P 19 47 49.2 -1.5**
comp=Z,1.2nm,0.5s,baz=49,slow=6.0,SNR=11
comp=Z,1.2nm,0.5s
INK Inuvik 73.75 9 P **P 19 48 37.6 -0.1**
comp=Z,1.1nm,1.1s,baz=328,slow=5.1,SNR=3.5
comp=Z,1.1nm,1.1s
YKA Yellowknife Ar 81.11 3 P **P 19 49 17.4 -1.3**
comp=Z,0.3nm,0.7s,baz=350,slow=5.3,SNR=7.3
YKA pP **pP 19 49 59.3 +2.0**
comp=Z,0.5nm,0.9s,baz=348,slow=5.4,SNR=1.8
comp=Z,0.3nm,0.7s
WRA Warramunga Art 81.88 122 P **P 19 49 20.8 -2.6**
comp=Z,0.3nm,0.6s,baz=323,slow=4.6,SNR=3.1
comp=Z,0.3nm,0.6s
ASAR Alice Springs 84.16 125 P **P 19 49 33.0 -2.0**
comp=Z,0.5nm,0.6s,baz=306,slow=5.1,SNR=8.4
comp=Z,0.5nm,0.6s

DJA 29 19:41:09.7±0.5, 8°S±7′×11°7E±°, h14km±6km, M3.7/11, mb3.7/1, MLv3.8/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**0.26**	**175**	P	Pb	19 41 16.6	+0.4
TWSI				S	Sb	19 41 21.3	+0.8
PLAI	**Plampang**	**0.97**	**111**	P	Pb	19 41 28.3	0.0
DNP	**Denpasar**	**1.64**	**263**	P	Pn	19 41 36.5	-1.7
SRBI	**Singaraja**	**1.68**	**283**	P	Pn	19 41 38.9	+0.3
JAGI	**Jajag, Banyuwa**	**2.68**	**270**	P	Pn	19 41 52.8	+0.3
BLJI	**Banyuglugur**	**3.31**	**282**	P	Pn	19 41 59.2	-2.0
GMJI	**Gumukmas**	**3.39**	**273**	P	Pn	19 42 03.3	+1.1
BSSI	**Bau Bau, Buton**	**4.29**	**57**	P	Pn	19 42 14.7	+0.1
BKSI	**Bulukumba**	**4.51**	**46**	P	Pn	19 42 17.5	-0.1
GRJI	**Gresik**	**4.61**	**289**	P	Pn	19 42 19.1	+0.1
SPSI	**Sidrap Palu**	**5.34**	**33**	P	Pn	19 42 28.8	-0.2

IDC 29 19:58:24.8±7.5, 25°79S×69°85E, h0km, mb3.6/3, mbtmp3.6/3, MS3.2/8, Error ellipse: s-maj=196.7km s-min=57.2km az=63.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**18.22**	**8**	T	T	20 20 47.9	
	baz=189,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**18.22**	**8**	T	T	20 20 45.1	
	baz=189,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**18.24**	**8**	T	T	20 20 47.6	
	baz=189,slow=76,SNR=14						
BOSA	**Boshof**	**39.59**	**256**	LR	LR	20 18 37.4	
	comp=Z,61nm,21.8s,baz=180,slow=31						
PSI	**Prapat**	**40.01**	**49**	LR	LR	20 17 54.2	
	comp=Z,44nm,20.0s,baz=165,slow=29						
NWAO	**Narrogin (SRO)**	**41.63**	**111**	LR	LR	20 18 31.4	
	comp=Z,27nm,21.0s,slow=29						
SUR	**Sutherland**	**43.05**	**249**	LR	LR	20 20 50.4	
	comp=Z,67nm,19.4s,baz=150,slow=31						
KAPI	**Kappang**	**51.97**	**75**	LR	LR	20 27 28.9	
	comp=Z,18nm,19.7s,baz=214,slow=34						
CMAR	**Chiang Mai Arr**	**52.30**	**36**	P	P	20 07 38.0	-0.3
	0.4nm,0.5s,baz=224,slow=6.3,SNR=5.3						
CMAR				LR	LR	20 25 02.2	
	comp=Z,22nm,21.7s,baz=255,slow=30						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**57.70**	**103**	P	P	20 08 17.6	0.0
	0.5nm,0.8s,baz=250,slow=6.7,SNR=3.0						
	0.5nm,0.8s						
AAK	**Ala-Archa**	**68.22**	**4**	LR	LR	20 35 33.4	
	comp=Z,24nm,18.9s,baz=192,slow=33						
SONM	**Songino Array**	**80.32**	**24**	P	P	20 10 37.8	+0.2
	0.6nm,1.0s,baz=217,slow=4.5,SNR=4.3						
	0.6nm,1.0s						
KSRS	**Korea Array**	**83.26**	**43**	LR	LR	20 47 41.0	
	comp=Z,5.5nm,18.7s,baz=210,slow=36						

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*SNET **29** 20:07:55.2±2.4, 13°.31N×90°.11W, h63km, ML3.7*
*GCG **29** 20:08:00.0±0.4, 13°.44N×90°.27W, h21km±4km, MD3.7*
ISC 29 20:07:58.6±1.7, 13°.4N±0°.1×89°.99W±0°.06, h51km±19km, n37, σ0°71/52, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.55**	**22**	*e*P	**Pn**	**20 08 09.9**	**-0.8**
NUBE				*e*S	**Sn**	**20 08 18.8**	**-0.5**
CEVE	**Cerro Verde**	**0.56**	**39**	||*e*P	**Pn**	**20 08 10.4**	**-0.5**
CEVE				*e*S	**Sn**	**20 08 21.5**	**+1.8**
SBLS	**San Blas**	**0.57**	**39**	*e*P	**Pn**	**20 08 10.4**	**-0.6**
JAYA	**Jayaque - finc**	**0.59**	**63**	*e*P	**Pn**	**20 08 10.3**	**-0.8**
JAYA				*e*S	**Sn**	**20 08 20.2**	**+0.1**
RTR	**El Retiro**	**0.60**	**33**	*e*P	**Pn**	**20 08 10.9**	**-0.4**
LOAL	**Lomas de Alarc**	**0.64**	**18**	*e*P	**Pn**	**20 08 11.2**	**-0.5**
LOAL				*e*S	**Sn**	**20 08 21.5**	**+0.5**
SLOZ	**Alcaldia de Sa**	**0.66**	**17**	*e*P	**Pn**	**20 08 11.3**	**-0.6**
SLOZ				*e*S	**Sn**	**20 08 21.9**	**+0.3**
CEDA	**San Andres**	**0.71**	**55**	*e*P	**Pn**	**20 08 12.1**	**-0.5**
CEDA				*e*S	**Sn**	**20 08 23.2**	**+0.6**
PMON	**Piamonte**	**0.73**	**64**	*e*P	**Pn**	**20 08 12.4**	**-0.5**
PMON				*e*S	**Sn**	**20 08 24.6**	**+1.4**
ITCA	**Escuela Especi**	**0.74**	**68**	*e*P	**Pn**	**20 08 12.6**	**-0.5**
BOQS	**Boqueron**	**0.77**	**64**	*e*P	**Pn**	**20 08 13.0**	**-0.5**
BOQS				*e*S	**Sn**	**20 08 25.4**	**+1.1**
SNET	**Serv Nac Est T**	**0.79**	**68**	*e*P	**Pn**	**20 08 13.1**	**-0.5**
SNET				*e*S	**Sn**	**20 08 25.3**	**+0.7**
UEES	**Universidad Ev**	**0.80**	**66**	*e*P	**Pn**	**20 08 13.3**	**-0.4**
SEMO	**Seminario San**	**0.81**	**67**	*e*P	**Pn**	**20 08 13.3**	**-0.6**
UESS	**Universidad de**	**0.83**	**67**	*e*P	**Pn**	**20 08 14.0**	**-0.2**
IGN	**Direccin Gen**	**0.86**	**68**	*e*P	**Pn**	**20 08 14.3**	**-0.2**
AEIL	**Aeropuerto Ilo**	**0.90**	**70**	*e*P	**Pn**	**20 08 15.3**	**+0.2**
LFU	**La Fuente**	**0.92**	**67**	*e*P	**Pn**	**20 08 15.5**	**+0.1**
LFRS	**El Faro**	**0.93**	**76**	*e*P	**Pn**	**20 08 14.9**	**-0.6**
LFRS				*e*S	**Sn**	**20 08 28.0**	**+0.1**
SJTE	**Alcalda de S**	**0.98**	**77**	*e*P	**Pn**	**20 08 15.6**	**-0.5**
SJTE				*e*S	**Sn**	**20 08 28.8**	**-0.3**
PAVA	**Las Pavas**	**1.07**	**72**	*e*P	**Pn**	**20 08 17.6**	**+0.2**
COEG	**Centro de Oper**	**1.10**	**78**	*e*P	**Pn**	**20 08 17.5**	**-0.3**
MTO3	**Montecristo**	**1.17**	**31**	*e*P	**Pn**	**20 08 18.2**	**-0.7**
UESV	**Universidad de**	**1.19**	**78**	*e*P	**Pn**	**20 08 18.8**	**-0.2**
NBG	**Las Nubes**	**1.24**	**344**	*e*P	**Pn**	**20 08 21.0**	**+1.1**
NBG				*e*S	**Sn**	**20 08 37.8**	**+2.2**
SCLA	**Alcaldia de Sa**	**1.26**	**76**	*e*P	**Pn**	**20 08 19.7**	**-0.3**
LLGN	**La Laguna**	**1.27**	**53**	*e*P	**Pn**	**20 08 19.2**	**-0.9**
LLGN				*e*S	**Sn**	**20 08 35.4**	**-0.8**
ESQI	**Esquipulas**	**1.32**	**28**	*e*P	**Pn**	**20 08 20.2**	**-0.6**
PSNO	**Presa 5 de nov**	**1.33**	**64**	*e*P	**Pn**	**20 08 20.0**	**-0.9**
FUG	**Fuego 3**	**1.34**	**322**	*e*P	**Pn**	**20 08 21.0**	**-0.1**
FUG				*e*S	**Sn**	**20 08 37.1**	**-0.8**
COEB	**Comit de Eme**	**1.42**	**86**	*e*P	**Pn**	**20 08 22.1**	**-0.1**
PACA	**Pacayal**	**1.62**	**87**	*e*P	**Pn**	**20 08 25.5**	**+0.5**
RANC	**El Ranchito**	**1.65**	**88**	*e*P	**Pn**	**20 08 25.2**	**-0.2**
FAGO	**Alcalda de S**	**1.85**	**80**	*e*P	**Pn**	**20 08 27.3**	**-0.7**
STG3	**Santiaguito 3,**	**2.02**	**311**	*e*P	**Pn**	**20 08 30.2**	**-0.2**
STG3				*e*S	**Sn**	**20 08 53.7**	**-0.9**
LCND	**La Caada**	**2.04**	**92**	*e*P	**Pn**	**20 08 30.5**	**-0.1**
CNCH	**Conchagua**	**2.10**	**93**	*e*P	**Pn**	**20 08 31.5**	**0.0**

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*DNK **29** 20:13:03.1±1.8, 80°.23N×0°.76W, h32km±20km, ML2.1*
*BER **29** 20:13:04.0±1.1, 80°.22N×1°.15W, h28km±10km, ML2.6, ML3.4(NAO), Confirmed Earthquake*
*IEPN **29** 20:13:05.0, 79°.97N×0°.49W, h10km*
*KOLA **29** 20:13:09.8, 80°.43N×3°.96E, h0km, ML2.4, Error ellipse: s-maj=39.5km s-min=12.4km az=40.0, Greenland sea*
ISC 29 20:13:02.0±0.9, 80°.16N±0°.05×1°.04W±0°.04, h35km, n32, σ2°27/59, 1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.67**	**111**	Pn	**Pn**	**20 13 43.6**	**+1.2**
KBS				Sn	**Sn**	**20 14 12.1**	**-1.3**
KBS	**Kingsbay**	**2.67**	**111**	*i*P	**Pn**	**20 13 43.5**	**+1.1**
KBS				*i*S	**Sn**	**20 14 10.9**	**-2.6**
KBS	**Kingsbay**	**2.67**	**111**	*e*P	**Pn**	**20 13 43.6**	**+1.2**
KBS				*e*		20 14 12.1	
KBS				IAML		20 14 18.0	
	comp=Z,39nm,0.3s						
KBS	**Kingsbay**	**2.67**	**111**	P	**Pn**	**20 13 43.4**	**+1.1**
KBS				S	**Sn**	**20 14 09.7**	**-3.8**
NOR	**Nord**	**2.87**	**308**	Pn	**Pn**	**20 13 45.9**	**+0.7**
NOR				Sn	**Sn**	**20 14 17.3**	**-1.1**
NOR	**Nord**	**2.87**	**308**	*i*P	**Pn**	**20 13 46.0**	**+0.9**
NOR				*i*S	**Sn**	**20 14 17.5**	**-0.8**
NOR				IAML		20 14 20.0	
	comp=Z,11nm,0.3s						
NOR	**Nord**	**2.87**	**308**	*e*P	**Pn**	**20 13 45.6**	**+0.5**
NOR				*e*S	**Sn**	**20 14 16.8**	**-1.5**
BRBB	**Barentsburg B**	**3.55**	**118**	Pn	**Pn**	**20 13 57.3**	**+2.8**
BRBB				Sn	**Sn**	**20 14 36.4**	**+1.3**
BRBB	**Barentsburg B**	**3.55**	**118**	*e*P	**Pn**	**20 13 57.0**	**+2.5**
BRBB				*e*S	**Sn**	**20 14 35.0**	**-0.1**
BRBB	**Barentsburg B**	**3.55**	**118**	P	**Pn**	**20 13 57.2**	**+2.8**
BRBB				S	**Sn**	**20 14 32.4**	**-2.7**
BRBA	**Barentsburg A**	**3.57**	**118**	Pn	**Pn**	**20 13 58.0**	**+3.2**
BRBA				Sn	**Sn**	**20 14 37.4**	**+1.7**
BRBA	**Barentsburg A**	**3.57**	**118**	*e*P	**Pn**	**20 13 57.2**	**+2.4**
BRBA				*e*S	**Sn**	**20 14 35.7**	**+0.1**
BRBA				IAML		20 14 42.5	
	comp=Z,23nm,0.3s						
SPA0	**Spitsbergen Ar**	**3.83**	**112**	Pn	**Pn**	**20 14 00.3**	**+2.0**
	baz=315,slow=6.5						
SPA0				Sn	**Sn**	**20 14 41.1**	**-0.9**
	baz=325,slow=12						
SPA0	**Spitsbergen Ar**	**3.83**	**112**	||*i*P	**Pn**	**20 14 00.2**	**+1.8**
SPA0				*i*S	**Sn**	**20 14 40.9**	**-1.1**
SPA0	**Spitsbergen Ar**	**3.83**	**112**	Pn	**Pn**	**20 14 00.3**	**+2.0**
SPA0				Sn	**Sn**	**20 14 41.1**	**-0.9**
SPA0				IAML		20 14 50.4	
	comp=Z,26nm,0.3s						
SPITS	**Spitsbergen Ar**	**3.83**	**112**	P	**Pn**	**20 13 60.0**	**+1.7**
SPITS				S	**Sn**	**20 14 38.7**	**-3.3**
HSPB	**Hornsund (broa**	**4.55**	**126**	Pn	**Pn**	**20 14 10.7**	**+2.5**
HSPB				Sn	**Sn**	**20 15 00.9**	**+1.1**
HSPB	**Hornsund (broa**	**4.55**	**126**	*e*P	**Pn**	**20 14 10.5**	**+2.2**
HSPB				*e*S	**Sn**	**20 14 58.9**	**-0.9**
HSPB	**Hornsund (broa**	**4.55**	**126**	*e*P	**Pn**	**20 14 10.4**	**+2.2**
HSPB				*e*S	**Sn**	**20 14 59.3**	**-0.6**
HSPB				IAML		20 15 06.0	
	comp=Z,23nm,0.6s						
HSPB	**Hornsund (broa**	**4.55**	**126**	P	**Pn**	**20 14 10.5**	**+2.2**
HSPB				S	**Sn**	**20 15 01.3**	**+1.5**
DAG	**Danmarks Havn**	**4.88**	**235**	*e*	**Pn**	**20 14 11.6**	**-1.2**
	baz=41,slow=14						
DAG				*i*P	**Pn**	**20 14 14.1**	**+1.4**
DAG				*i*S	**Sn**	**20 15 05.4**	**-2.5**
DAG				IAML		20 15 07.5	
	comp=Z,22nm,0.3s						
DAG	**Danmarks Havn**	**4.88**	**235**	*e*P	**Pn**	**20 14 14.0**	**+1.2**
DAG				*e*S	**Sn**	**20 15 05.3**	**-2.5**
HOPEN	**Hopen**	**6.36**	**111**	*e*S	**Sn**	**20 15 41.2**	**-3.0**
HOPEN				IAML		20 15 46.9	
	comp=Z,20nm,0.5s						
DBG	**Daneborg**	**7.20**	**226**	Pn	**Pn**	**20 14 45.7**	**+1.2**
DBG				Sn	**Sn**	**20 16 00.8**	**-4.0**
DBG	**Daneborg**	**7.20**	**226**	*i*P	**Pn**	**20 14 45.4**	**+0.9**
DBG				*i*S	**Sn**	**20 16 00.5**	**-4.3**
DBG				IAML		20 16 04.5	
	comp=Z,11nm,0.4s						
DBG	**Daneborg**	**7.20**	**226**	*e*P	**Pn**	**20 14 44.8**	**+0.3**
DBG				*e*S	**Sn**	**20 15 59.9**	**-4.9**
ZFI2	**Zemlya Franca-**	**7.89**	**62**	*e*P	**Pn**	**20 14 55.1**	**+1.2**
ZFI2				*e*S	**Sn**	**20 16 17.2**	**-4.5**
	comp=Z,14nm,0.4s						
ZFI	**Zemlya Franca-**	**7.89**	**62**	*e*P	**Pn**	**20 14 55.1**	**+1.2**
ZFI				*e*S	**Sn**	**20 16 17.2**	**-4.6**
NEEM	**North Greenlan**	**9.80**	**280**	*i*P	**Pn**	**20 15 19.6**	**-0.7**
NEEM				*e*S	Sn	20 17 00.3	-8.7
NEEM				IAML		20 17 12.4	
	comp=Z,4.0nm,0.4s						
SCO	**Scoresbysund**	**10.95**	**219**	*i*P	**Pn**	**20 15 39.0**	**+3.2**
SCO				IAML		20 17 53.1	
	comp=Z,0.7nm,0.4s						
SUMG	**Summit**	**11.34**	**249**	*i*P	**Pn**	**20 15 41.5**	**0.0**
SUMG				*i*S	Sn	20 17 39.5	-7.3
SUMG				IAML		20 17 49.0	
	comp=Z,3.0nm,0.3s						
UPNV	**Upernavik**	**14.14**	**269**	*i*P	**Pn**	**20 16 16.5**	**-2.8**
UPNV				*i*		20 18 40.0	
UPNV				IAML		20 18 43.9	
	comp=Z,2.9nm,0.4s						

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*PGC **29** 20:38:46.8±1.0, 50°.14N×114°.95W, h0km, ML3.3/11, 92km northeast of Cranbrook, Bc Alberta, Canada Mining explosion.*
*IDC **29** 20:38:46.6±1.3, 50°.34N×114°.59W, h0km, mbtmp2.9/3, ML3.3/3, Error ellipse: s-maj=43.8km s-min=12.0km az=86.0*
ISC 29 20:38:44.8±0.8, 50°.26N±0°.03×114°.84W±0°.04, h0km, n26, σ1°63/39, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WALA	**Waterton Lakes**	**1.35**	**153**	P	**Pg**	**20 39 09.7**	**-0.9**
WALA				Sg	**Sn**	**20 39 30.4**	**+0.6**
SLEB	**Sale Mountain**	**2.28**	**295**	Pn	**Pn**	**20 39 25.3**	**+1.4**
SLEB				Sg	**Sg**	**20 39 58.2**	**+0.2**
BSMT	**Bassoo Peak**	**2.41**	**179**	Pn	**Pn**	**20 39 24.4**	**-1.3**
BSMT				Sg	**Sb**	**20 39 57.8**	**-1.8**
YBMT	**Yellow Bay**	**2.46**	**167**	Pn	**Pn**	**20 39 25.9**	**-0.5**
YBMT				Sg	**Sb**	**20 40 00.1**	**-0.8**
I56US	**NEWPORT INFRAS**	**2.50**	**218**	I	I	20 52 50.0	
	0.3nm,1.2s,baz=37,slow=323,SNR=7.9						
JTMT	**Jette**	**2.55**	**171**	Pn	**Pn**	**20 39 26.6**	**-0.9**
JTMT				Sg	**Sb**	**20 40 02.9**	**-0.4**
MNB	**Mounoet Dainar**	**2.95**	**312**	Pn	**Pn**	**20 39 35.4**	**+2.2**
MNB				Sg	**Sg**	**20 40 19.0**	**-0.6**
EDM	**Edmonton**	**3.10**	**17**	Pn	**Pn**	**20 39 35.4**	**+0.3**
PNT	**Penticton**	**3.24**	**255**	Pn	**Pn**	**20 39 36.6**	**-0.2**
PNT				Sn	**Sn**	**20 40 16.0**	**-0.1**
BLBC	**Blue River**	**3.29**	**304**	Pn	**Pn**	**20 39 38.1**	**+0.2**
OVMT	**Ovando**	**3.43**	**158**	Pn	**Pn**	**20 39 39.3**	**-0.3**
OVMT				Sg	**Sb**	**20 40 29.5**	**+0.7**
B08A	**Colville Reser**	**3.50**	**239**	Pn	**Pn**	**20 39 40.0**	**-0.6**
B08A				Sn	**Sn**	**20 40 21.5**	**-1.2**
LYMT	**Lyon Mountain**	**3.71**	**152**	Pn	**Pn**	**20 39 43.5**	**-0.1**
LYMT				Sg	**Sg**	**20 40 42.8**	**-1.0**
BRLDA	**Berland Lookou**	**4.15**	**339**	Pn	**Pn**	**20 39 51.2**	**+1.7**
BRLDA				Sn	**Sn**	**20 40 40.1**	**+1.5**
BRLDA				Sg	**Sg**	**20 40 56.9**	**-1.1**
LLLB	**Lillooet**	**4.51**	**277**	Pn	**Pn**	**20 39 55.5**	**+1.0**
LLLB				Sg	**Sg**	**20 41 06.2**	**-3.5**
SWHSA	**Sweathouse Loo**	**4.79**	**347**	Pn	**Pn**	**20 39 59.2**	**+1.0**
SWHSA				Sg	**Sg**	**20 41 15.0**	**-3.5**
LTY	**Liberty**	**4.89**	**234**	Sn	**Sn**	**20 40 55.0**	**-1.9**
HNBB	**Haney**	**5.10**	**262**	Pn	**Pn**	**20 40 03.0**	**+0.5**
BDMTA	**Bald Mountain**	**5.19**	**333**	Pn	**Pn**	**20 40 05.3**	**+1.5**
WPB	**Watts Point**	**5.43**	**267**	Pn	**Pn**	**20 40 08.3**	**+1.2**
STPRA	**Salt Prairie L**	**5.44**	**354**	Pn	**Pn**	**20 40 07.8**	**+0.7**
STPRA				Sn	**Sn**	**20 41 07.9**	**-2.5**
BIB	**Bowen Island**	**5.54**	**264**	Pn	**Pn**	**20 40 09.6**	**+1.1**
PDAR	**Pinedale Array**	**8.34**	**152**	Pn	**Pn**	**20 40 49.5**	**+2.4**
	0.1nm,0.3s,baz=353,slow=13,SNR=2.9						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**12.09**	**193**	Pn	**Pn**	**20 41 42.3**	**+3.8**
	0.1nm,0.3s,baz=18,slow=15,SNR=1.8						
	0.1nm,0.3s						
ULM	**Lac du Bonnet**	**12.14**	**83**	Lg	Lg	20 45 01.2	
	0.1nm,0.3s,baz=221,slow=20,SNR=3.0						
YKA	**Yellowknife Ar**	**12.26**	**1**	Pn	**Pn**	**20 41 37.7**	**-2.8**
	0.3nm,0.3s,baz=181,slow=13,SNR=17						
YKA				Sn	Sn	20 43 46.6	-11
	0.1nm,0.3s,baz=183,slow=22,SNR=3.3						
YKA				Lg	Lg	20 45 07.1	
	0.1nm,0.3s,baz=178,slow=26,SNR=3.6						
	0.4nm,0.4s						

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*NEIC **29** 21:03:46.9±1.9, 43°.69N±0°.05×105°.18W±0°.05, h0km±2km, ML3.3/50, Error ellipse: s-maj=9.9km s-min=4.2km az=144.0*
*IDC **29** 21:03:51.0±1.9, 43°.67N×105°.50W, h0km, mb3.8/4, mbtmp3.5/8, ML3.4/4, Error ellipse: s-maj=59.6km s-min=9.0km az=150.0*
ISC 29 21:03:49.0±0.8, 43°.64N±0°.05×105°.30W±0°.05, h0km, n39, σ1°98/39, mb3.8/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.03**	**62**	Pn	**Pg**	**21 04 07.7**	**-1.0**
K22A	**Casper**	**1.34**	**223**		**Pg**	**21 04 14.0**	**-0.5**
K22A				IAML		21 04 41.3	
	comp=E,436nm,0.3s						
PHWY	**Pilot Hill**	**2.34**	**183**	Pn	**Pn**	**21 04 28.4**	**-0.6**
PHWY				IAML		21 05 09.2	
	comp=E,124nm,0.4s						
PHWY				IAML		21 05 09.4	
	comp=E,100nm,0.3s						
RWWY	**Rawlins**	**2.41**	**217**	Pn	**Pn**	**21 04 28.8**	**-1.0**
RWWY				IAML		21 05 08.6	
	comp=E,139nm,0.3s						
N23A	**Red Feather La**	**2.79**	**190**	Pn	**Pn**	**21 04 35.4**	**+0.4**
N23A				IAML		21 05 23.0	
	comp=E,91nm,0.4s						
LAO	**LASA Array**	**3.12**	**348**	Pn	**Pn**	**21 04 36.3**	**-3.2**
BRIGG	**Briggsdale**	**3.14**	**166**	Pn	**Pn**	**21 04 36.5**	**-3.4**
RLMT	**Red Lodge**	**3.21**	**299**	Pn	**Pn**	**21 04 39.9**	**-1.0**
RLMT				IAML		21 05 39.5	
	comp=E,74nm,0.3s						
RLMT				IAML		21 05 42.0	
	comp=E,79nm,0.3s						
BW06	**Boulder Array**	**3.24**	**256**	Pn	**Pn**	**21 04 39.7**	**-1.5**
BW06				IAML		21 05 32.3	
	comp=E,68nm,0.4s						
BW06				IAML		21 05 34.6	
	comp=E,46nm,0.4s						
PD31	**Pinedale Array**	**3.24**	**256**	Pn	**Pn**	**21 04 42.1**	**+0.9**
PDAR	**Pinedale Array**	**3.24**	**256**	Pn	**Pb**	**21 04 44.8**	**-2.7**
	comp=E,5.8nm,0.3s,baz=70,slow=16,SNR=91						
PDAR				Lg	Lg	21 05 27.4	
	comp=E,15nm,0.3s,baz=72,slow=40,SNR=2.2						
	comp=E,8.0nm,0.3s						
PDAR	**Pinedale Array**	**3.24**	**256**	Pn	**Pn**	**21 04 40.4**	**-0.8**
ISCO	**Idaho Springs**	**3.84**	**184**	Pn	**Pn**	**21 04 48.9**	**-0.8**
YNR	**Norris Junctio**	**4.02**	**287**		**Pn**	**21 04 49.9**	**-2.1**
YNM	**Yellowstone No**	**4.04**	**287**	Pn	**Pn**	**21 04 52.2**	**-0.1**
REDW	**Red Top Meadow**	**4.05**	**268**	Pn	**Pn**	**21 04 51.5**	**-0.9**
REDW				IAML		21 06 08.8	
	comp=E,47nm,1.1s						
REDW				IAML		21 06 13.7	
	comp=E,47nm,1.2s						
TPAW	**Teton Pass**	**4.11**	**270**	Pn	**Pn**	**21 04 52.3**	**-1.0**
TPAW				IAML		21 06 07.8	
	comp=E,23nm,0.8s						
TPAW				IAML		21 06 10.9	
	comp=E,29nm,1.0s						
O20A	**White River Ci**	**4.13**	**213**	Pn	**Pn**	**21 04 52.3**	**-1.2**
O20A				IAML		21 06 17.4	
	comp=N,40nm,1.2s						
O20A				IAML		21 06 24.5	
	comp=E,45nm,1.1s						
FXWY	**Fox Creek**	**4.16**	**272**	Pn	**Pn**	**21 04 50.3**	**-3.6**
YMR	**Madison River**	**4.21**	**286**		**Pn**	**21 04 53.7**	**-0.8**
YMR				IAML		21 06 11.3	
	comp=E,34nm,1.1s						
YMR				IAML		21 06 20.6	
	comp=N,39nm,1.1s						
AHID	**Auburn Hatcher**	**4.33**	**260**	Pn	**Pn**	**21 04 56.4**	**+0.2**
AHID				IAML		21 06 19.9	
	comp=N,35nm,0.9s						
RDMU	**Red Mountain**	**4.42**	**227**	Pn	**Pn**	**21 04 55.8**	**-1.6**
RDMU				IAML		21 06 16.0	
	comp=N,31nm,1.3s						
RDMU				IAML		21 06 32.4	
	comp=E,25nm,1.1s						
ECR	**Eagle Creek**	**4.47**	**265**		**Pn**	**21 04 57.7**	**-0.4**
QLMT	**Earthquake Lak**	**4.57**	**287**		**Pn**	**21 04 57.6**	**-1.9**
DGMT	**Dagmar**	**4.89**	**9**		**Pn**	**21 05 00.7**	**-3.0**
K31A	**O'Neill**	**4.89**	**100**		**Pn**	**21 05 01.2**	**-2.6**
KSCO	**Kaye Shedlock'**	**5.04**	**156**		**Pn**	**21 05 04.2**	**-1.8**
EGMT	**Eagleton**	**5.38**	**326**		**Pn**	**21 05 07.1**	**-3.4**
MCMT	**McKenzie Canyo**	**5.55**	**285**		**Pn**	**21 05 10.9**	**-2.2**
P17A	**Butcher Ranch,**	**5.83**	**226**	Pn	**Pn**	**21 05 14.1**	**-2.7**
NLU	**North Lily Min**	**6.26**	**236**	Pn	**Pn**	**21 05 21.4**	**-1.4**
T25A	**Trinidad**	**6.53**	**174**	Pn	**Pn**	**21 05 24.7**	**-1.8**
ULM	**Lac du Bonnet**	**9.23**	**41**	Pn	**Pn**	**21 06 04.0**	**+0.8**
	comp=E,2.2nm,0.3s,baz=227,slow=11,SNR=17						
ULM				Lg	Lg	21 08 31.0	
	comp=E,0.6nm,0.3s,baz=325

H11S1	**WAKE ISLAND Hy**	**29.48**	**0**	T	T	21 45 12.3		
	baz=178							
MRZ	**Mangatainoka R**	**30.46**	**166**	P	**P**	**21 14 34.7**	**+1.2**	
MRZ				IAmb	IAmb	21 14 56.0		
	comp=Z,26nm,1.2s							
MRNZ	**Matariki Terra**	**30.62**	**171**	P	**P**	**21 14 36.4**	**+1.4**	
STKA	**Stephens Creek**	**30.86**	**224**	P	**P**	**21 14 38.1**	**+0.9**	
	comp=Z,5.3nm,0.8s,baz=38,slow=9.9,SNR=12							
	comp=Z,5.3nm,0.8s							
STKA	**Stephens Creek**	**30.86**	**224**	P	**P**	**21 14 38.0**	**+0.8**	
THZ	**Tophouse**	**31.00**	**171**	P	**P**	**21 14 39.2**	**+0.8**	
THZ				IAmb	IAmb	21 14 41.7		
	comp=Z,19nm,0.9s							
BHW	**Baring Head**	**31.02**	**168**	P	**P**	**21 14 39.5**	**+1.1**	
LTZ	**Lake Taylor**	**31.90**	**172**	P	**P**	**21 14 47.2**	**+1.0**	
LTZ				IAmb	IAmb	21 15 16.1		
	comp=Z,6.9nm,1.0s							
WR0	**Warramunga Arr**	**31.94**	**250**	P	**P**	**21 14 46.2**	**-0.6**	
WB0	**Warramunga Arr**	**32.04**	**251**	P	**P**	**21 14 47.3**	**-0.4**	
WB0				IAmb	IAmb	21 14 48.0		
	comp=Z,7.7nm,0.7s							
WB2	**Warramunga Arr**	**32.11**	**250**	P	**P**	**21 14 47.5**	**-0.9**	
WB2				IAmb	IAmb	21 14 48.2		
	comp=Z,4.1nm,0.7s							
WRAB	**Tennant Creek**	**32.11**	**250**	P	**P**	**21 14 47.5**	**-0.8**	
WRAB				IAmb	IAmb	21 14 48.6		
	comp=Z,6.1nm,0.9s							
WRA	**Warramunga Arr**	**32.12**	**250**	P	**P**	**21 14 47.9**	**-0.6**	
	comp=Z,3.7nm,0.6s,baz=83,slow=8.7,SNR=46							
WRA				PcP	**PcP**	**21 17 34.9**	**+0.6**	
	comp=Z,0.1nm,0.4s,baz=74,slow=3.4,SNR=4.6							
	comp=Z,3.7nm,0.6s							
OXZ	**Oxford**	**32.41**	**172**	P	**P**	**21 14 51.5**	**+0.9**	
RPZ	**Rata Peaks**	**32.67**	**174**	P	**P**	**21 14 53.6**	**+0.6**	
	comp=Z,14nm,0.6s,baz=313,slow=2.5,SNR=9.1							
	comp=Z,14nm,0.6s							
RPZ	**Rata Peaks**	**32.67**	**174**	P	**P**	**21 14 54.2**	**+1.3**	
MQZ	**McQueen's Vall**	**32.86**	**172**	P	**P**	**21 14 55.1**	**+0.5**	
LBZ	**Lake Benmore**	**33.26**	**175**	P	**P**	**21 14 58.8**	**+0.7**	
LBZ				IAmb	IAmb	21 15 27.2		
	comp=Z,23nm,1.3s							
AS31	**Alice Springs**	**33.39**	**244**	P	**P**	**21 14 58.1**	**-1.4**	
ASAR	**Alice Springs**	**33.39**	**244**	P	**P**	**21 14 58.5**	**-1.0**	
	comp=Z,2.4nm,0.8s,baz=66,slow=10,SNR=21							
ASAR				PcP	**PcP**	**21 17 38.4**	**+0.5**	
	comp=Z,0.6nm,0.5s,baz=72,slow=2.3,SNR=8.1							
	comp=Z,2.4nm,0.8s							
BBOO	**Buckleboo**	**35.28**	**228**	P	**P**	**21 15 16.0**	**+0.4**	
BBOO				IAmb	IAmb	21 15 16.8		
	comp=Z,16nm,0.7s							
KNRA	**Kununurra**	**36.93**	**259**	P	**P**	**21 15 29.6**	**-0.2**	
KNRA				IAmb	IAmb	21 15 57.5		
	comp=Z,21nm,1.4s							
FITZ	**Fitzroy Crossi**	**40.05**	**255**	P	**P**	**21 15 55.5**	**-0.3**	
FORT	**Forrest**	**40.57**	**235**	P	**P**	**21 15 59.8**	**-0.2**	
PSA00	**Pilbara Seismi**	**45.77**	**251**	P	**P**	**21 16 41.5**	**-0.5**	
PSA00				IAmb	IAmb	21 17 12.7		
	comp=Z,38nm,1.4s							
NWAO	**Narrogin (SRO)**	**50.00**	**236**	P	**P**	**21 17 13.1**	**-1.2**	
MORW	**Morawa**	**50.20**	**241**	P	**P**	**21 17 16.3**	**+0.5**	
JAGI	**Jajag, Banyuwa**	**51.58**	**268**	P	**P**	**21 17 24.9**	**-1.5**	
KKM	**Kota Kinabalu**	**52.86**	**286**	P	**P**	**21 17 35.6**	**-0.4**	
KKM				IAmb	IAmb	21 18 11.8		
	comp=Z,12nm,1.1s							
JSU	**Suzuyama**	**54.70**	**322**	P	**P**	**21 17 47.6**	**-1.3**	
BKNI	**Bangkinang**	**66.00**	**275**	P	**P**	**21 19 04.7**	**-1.4**	
VNDA	**Vanda**	**66.39**	**181**	P	**P**	**21 19 08.1**	**+0.7**	
	comp=Z,2.3nm,1.0s,baz=10,slow=7.4,SNR=2.7							
	comp=Z,2.3nm,1.0s							
VNDA	**Vanda**	**66.39**	**181**	P	**P**	**21 19 08.1**	**+0.7**	
VNDA				IAmb	IAmb	21 19 19.2		
	comp=Z,14nm,1.5s							
CASY	**Casey**	**66.53**	**201**	P	**P**	**21 19 08.5**	**0.0**	
CASY				IAmb	IAmb	21 19 40.1		
	comp=Z,7.5nm,1.3s							
IPM	**Ipoh**	**66.95**	**280**	P	**P**	**21 19 12.0**	**-0.1**	
IPM				IAmb	IAmb	21 19 18.1		
	comp=Z,24nm,1.5s							
GSI	**Gunungsitoli**	**69.59**	**276**	P	**P**	**21 19 28.3**	**-0.2**	
GSI				IAmb	IAmb	21 19 29.2		
	comp=Z,4.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**72.82**	**293**	P	**P**	**21 19 49.2**	**+1.3**	
	comp=Z,0.7nm,0.7s,baz=120,slow=5.5,SNR=5.6							
	comp=Z,0.7nm,0.7s							
P18K	**Big Mountain,**	**76.77**	**19**	P	**P**	**21 20 10.0**	**+0.3**	
P18K				IAmb	IAmb	21 20 11.5		
	comp=Z,17nm,1.4s							
O18K	**Koktuh Hills**	**77.14**	**19**	P	**P**	**21 20 11.9**	**+0.1**	
O18K				IAmb	IAmb	21 20 44.5		
	comp=Z,14nm,1.3s							
M19K	**Big River Lodg**	**78.99**	**18**	P	**P**	**21 20 23.6**	**+1.6**	
M19K				IAmb	IAmb	21 20 56.7		
	comp=Z,9.2nm,1.4s							
L19K	**White Mountain**	**79.07**	**17**	P	**P**	**21 20 23.8**	**+1.4**	
SONM	**Songino Array**	**79.19**	**324**	P	**P**	**21 20 22.8**	**-0.7**	
M20K	**Styx River**	**79.35**	**18**	P	**P**	**21 20 24.6**	**+0.6**	
M20K				IAmb	IAmb	21 20 51.3		
	comp=Z,9.9nm,1.4s							
SUA	**Susitna One**	**79.79**	**19**	P	**P**	**21 20 27.3**	**+0.9**	
SKT	**Skwentna**	**79.92**	**19**	P	**P**	**21 20 25.5**	**-1.6**	
SKT				IAmb	IAmb	21 20 26.2		
	comp=Z,3.8nm,0.6s							
ILAR	**Eielson Array**	**83.39**	**18**	P	**P**	**21 20 45.6**	**+0.4**	
	comp=Z,0.4nm,0.5s,baz=255,slow=5.1,SNR=12							
	comp=Z,0.4nm,0.5s							
NVAR	**Mina Array Bea**	**85.55**	**50**	P	**P**	**21 20 57.8**	**+0.9**	
	comp=Z,0.3nm,0.6s,baz=242,slow=6.8,SNR=2.6							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**93.10**	**47**	P	**P**	**21 21 33.4**	**+1.0**	
	comp=Z,0.2nm,0.6s,baz=266,slow=2.7,SNR=1.9							
	comp=Z,0.2nm,0.6s							
ZALV	**Zalesovo Beam**	**94.07**	**324**	P	**P**	**21 21 35.9**	**-0.4**	
	comp=Z,0.5nm,0.6s,baz=131,slow=4.0,SNR=2.8							
	comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**94.10**	**317**	P	**P**	**21 21 36.9**	**+0.3**	
	comp=Z,1.0nm,0.6s,baz=91,slow=6.2,SNR=17							
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**94.75**	**27**	P	**P**	**21 21 38.4**	**-0.8**	
	comp=Z,0.2nm,0.5s,baz=255,slow=4.5,SNR=4.5							
	comp=Z,0.2nm,0.5s							
FINES	**FINESS Array B**	**122.14**	**339**	PKP	**PKPdf**	**21 27 11.6**	**-0.1**	
	comp=Z,2.6nm,1.0s,baz=156,slow=9.6,SNR=5.8							
BOSA	**Boshof**	**125.52**	**223**	PKP	**PKiKP**	**21 27 20.0**	**+0.2**	
	comp=Z,1.9nm,1.0s,baz=121,slow=5.1,SNR=4.2							
KEST	**Kesra**	**147.94**	**323**	PKPbc	**PKPbc**	**21 28 03.6**	**+0.3**	
	comp=Z,1.9nm,0.8s,baz=25,slow=3.4,SNR=4.3							
ESDC	**Sonseca Array**	**150.36**	**345**	PKPbc	**PKPbc**	**21 28 09.0**	**-0.2**	
	comp=Z,0.5nm,0.8s,baz=348,slow=3.1,SNR=3.0							

WEL 29 21:21:21.2±0.5,**42°S**±3°×**17°4E**±°,**h12**km±3km,**M2.4/2, ML2.4/7,MLv2.4/2,Error ellipse: s-maj=0.0km s-min=0.0km az=117.2,confirmed,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**213**	P	Pb	21 21 29.0	+0.5
KHZ				S	Sb	21 21 33.8	+0.4
BSWZ	**Blackbirch Sta**	**0.46**	**11**	P	Pb	21 21 31.2	-0.1
BSWZ				S	Sb	21 21 37.4	-0.6
THZ	**Tophouse**	**0.75**	**302**	P	Pg	21 21 35.5	-0.2
THZ				S	Sg	21 21 44.9	-0.7
TCW	**Tory Channel**	**1.03**	**22**	P	Pb	21 21 40.9	-0.1
TCW				S	Sb	21 21 55.0	+0.6
MRNZ	**Matariki Terra**	**1.07**	**315**	P	Pb	21 21 40.3	-1.4
LTZ	**Lake Taylor**	**1.26**	**240**	P	Pb	21 21 44.9	0.0
LTZ				S	Sg	21 22 01.8	-0.1
DSZ	**Denniston Nort**	**1.52**	**285**	P	Pg	21 21 50.0	-0.4
DSZ				S	Sg	21 22 09.8	-0.2
OKCZ	**Okains Bay**	**1.64**	**198**	P	Pn	21 21 50.1	+0.1
MQZ	**McQueen's Vall**	**1.74**	**207**	P	Pn	21 21 50.2	-1.1
MQZ				S	Sn	21 22 11.7	-1.8

*NOU **29** 21:23:25.7, 41°.70S×174°.72E, h3km, MLv3.9/9, Cook Strait, New Zealand*

*WEL **29** 21:23:27.1±0.3, 41°S±3°×17°5E±°, h10km±2km, M3.8/22, ML4.0/22, MLv3.8/22, Error ellipse: s-maj=0.0km s-min=0.0km az=158.6, confirmed*

ISC 29 21:23:26.1±1.3,**41°60S**±0°.03×**174°61E**±0°.03,**h9**km±12km, **n101,σ1°15/105,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.30**	**15**	P	**Pb**	**21 23 33.1**	**-0.6**

CMWZ	**Cape Campbell**	**0.33**	**243**	P	**Pb**	**21 23 34.9**	**+0.6**	
CMWZ				S	**Sb**	**21 23 41.2**	**+1.5**	
WEL	**Wellington**	**0.34**	**21**	P	**Pb**	**21 23 34.1**	**-0.2**	
WEL				S	**Sb**	**21 23 39.0**	**-0.9**	
TCW	**Tory Channel**	**0.46**	**327**	P	**Pg**	**21 23 35.2**	**+0.1**	
TCW				S	**Sg**	**21 23 40.2**	**-1.0**	
PLWZ	**Palliser**	**0.49**	**87**	P	**Pb**	**21 23 38.3**	**+1.3**	
PLWZ				S	**Sb**	**21 23 47.0**	**+2.7**	
MSWZ	**Moikau Station**	**0.52**	**69**	P	**Pb**	**21 23 38.5**	**+1.0**	
MSWZ				S	**Sn**	**21 23 47.4**	**-1.4**	
BSWZ	**Blackbirch Sta**	**0.56**	**258**	P	**Pg**	**21 23 38.0**	**+1.1**	
CAW	**Cannon Point**	**0.60**	**35**	P	**Pb**	**21 23 38.8**	**-0.1**	
PAWZ	**Paruwai Farm**	**0.66**	**71**	P	**Pb**	**21 23 40.8**	**+1.0**	
KIW	**Kapiti Island**	**0.77**	**17**	P	**Pg**	**21 23 41.3**	**+0.3**	
MTW	**Mount Morrison**	**0.81**	**57**	P	**Pb**	**21 23 43.2**	**+0.8**	
TRWZ	**Traveller**	**0.84**	**76**	P	**Pn**	**21 23 44.1**	**-0.1**	
OGWZ	**Otaki Gorge**	**0.89**	**29**	P	**Pg**	**21 23 43.5**	**+0.2**	
DUWZ	**D'Urville Isla**	**0.95**	**327**	P	**Pg**	**21 23 43.9**	**-0.5**	
HOWZ	**Holdsworth Sta**	**0.98**	**45**	P	**Pb**	**21 23 45.6**	**+0.2**	
NNZ	**Nelson**	**1.00**	**292**	P	**Pg**	**21 23 44.7**	**-0.6**	
TMWZ	**Te Maipa**	**1.09**	**63**	P	**Pb**	**21 23 47.3**	**+0.2**	
KHZ	**Kahutara**	**1.14**	**224**	P	**Pg**	**21 23 48.3**	**+0.3**	
KHZ	**Kahutara**	**1.14**	**224**	P	**Pg**	**21 23 48.1**	**+0.1**	
MRZ	**Mangatainoka R**	**1.19**	**38**	P	**Pg**	**21 23 48.9**	**-0.1**	
TIWZ	**Tintock**	**1.27**	**50**	P	**Pn**	**21 23 50.0**	**-0.1**	
THZ	**Tophouse**	**1.28**	**262**	P	**Pn**	**21 23 49.9**	**-0.5**	
TKNZ	**Takaka Hill**	**1.36**	**294**	P	**Pn**	**21 23 50.7**	**-0.7**	
CPWZ	**Castlepoint**	**1.39**	**61**	P	**Pn**	**21 23 51.5**	**-0.2**	
MRNZ	**Matariki Terra**	**1.40**	**278**	P	**Pn**	**21 23 51.5**	**-0.4**	
PRWZ	**Pori Road**	**1.47**	**45**	P	**Pn**	**21 23 52.6**	**-0.2**	
POWZ	**Post Office Ro**	**1.49**	**36**	P	**Pn**	**21 23 53.2**	**0.0**	
BFZ	**Birch Farm**	**1.54**	**54**	P	**Pn**	**21 23 53.1**	**-0.8**	
BFZ	**Birch Farm**	**1.54**	**54**	P	**Pn**	**21 23 53.0**	**-0.9**	
QRZ	**Quartz Range**	**1.75**	**296**	P	**Pn**	**21 23 56.9**	**+0.2**	
QRZ	**Quartz Range**	**1.75**	**296**	P	**Pn**	**21 23 56.9**	**+0.2**	
GVZ	**Greta Valley S**	**1.80**	**220**	P	**Pn**	**21 23 57.0**	**-0.4**	
WAZ	**Wanganui**	**1.87**	**9**	P	**Pb**	**21 24 00.3**	**-0.1**	
PRHZ	**Porangahau**	**2.04**	**50**	P	**Pn**	**21 23 59.5**	**-1.1**	
WPHZ	**Waipukurau**	**2.07**	**43**	P	**Pn**	**21 24 00.8**	**-0.3**	
LTZ	**Lake Taylor**	**2.10**	**235**	P	**Pn**	**21 24 01.2**	**-0.4**	
DSZ	**Denniston Nort**	**2.10**	**265**	P	**Pn**	**21 24 02.0**	**+0.4**	
LREZ	**Lake Rotokare**	**2.14**	**356**	P	**Pb**	**21 24 06.3**	**+1.1**	
MTVZ	**Mangateitei**	**2.31**	**17**	P	**Pn**	**21 24 05.8**	**+1.3**	
KHEZ	**Kahui Hut**	**2.35**	**349**	P	**Pb**	**21 24 08.0**	**-0.7**	
KHEZ	**Kahui Hut**	**2.35**	**349**	P	**Pb**	**21 24 07.6**	**-1.0**	
MOVZ	**Moawhango**	**2.36**	**22**	P	**Pn**	**21 24 05.5**	**+0.4**	
NEZ	**North Egmont**	**2.36**	**350**	P	**Pb**	**21 24 08.7**	**-0.2**	
KRHZ	**Kereru**	**2.37**	**35**	P	**Pn**	**21 24 04.5**	**-0.8**	
PKVZ	**Pokaka**	**2.38**	**14**	P	**Pn**	**21 24 07.5**	**+2.1**	
BHHZ	**Black Hill Sta**	**2.38**	**28**	P	**Pn**	**21 24 05.7**	**+0.2**	
WNVZ	**Wahianoa**	**2.39**	**19**	P	**Pn**	**21 24 06.5**	**+0.8**	
NBEZ	**Newall Road No**	**2.40**	**346**	P	**Pb**	**21 24 09.0**	**-0.5**	
OKCZ	**Okains Bay**	**2.41**	**208**	P	**Pn**	**21 24 04.6**	**-1.2**	
TRVZ	**Turoa**	**2.41**	**18**	P	**Pn**	**21 24 07.1**	**+1.1**	
DREZ	**Durham Road**	**2.43**	**353**	P	**Pb**	**21 24 11.3**	**+1.3**	
WHVZ	**Whangaehu Hut**	**2.43**	**18**	P	**Pb**	**21 24 09.9**	**-0.3**	
DRZ	**Dome Shelter**	**2.44**	**18**	P	**Pb**	**21 24 09.5**	**-0.8**	
PKE	**Pukeiti**	**2.45**	**349**	P	**Pb**	**21 24 09.3**	**-1.1**	
FWVZ	**Far West T-bar**	**2.45**	**17**	P	**Pn**	**21 24 08.3**	**+1.7**	
TUVZ	**Tukino**	**2.46**	**19**	P	**Pn**	**21 24 07.6**	**+0.9**	
VRZ	**Vera Road**	**2.48**	**3**	P	**Pb**	**21 24 09.3**	**-1.5**	
KAHZ	**Kahuranaki**	**2.50**	**44**	P	**Pn**	**21 24 05.6**	**-1.4**	
SNVZ	**South Ngauruho**	**2.54**	**18**	P	**Pn**	**21 24 08.6**	**+0.9**	
NGZ	**Ngauruhoe**	**2.54**	**18**	P	**Pn**	**21 24 09.1**	**+1.3**	
MQZ	**McQueen's Vall**	**2.55**	**214**	P	**Pn**	**21 24 05.9**	**-1.8**	
OTVZ	**Oturere**	**2.56**	**19**	P	**Pn**	**21 24 09.0**	**+0.9**	
KWHZ	**Kaweka Forest**	**2.58**	**33**	P	**Pn**	**21 24 07.6**	**-0.6**	
NNVZ	**North Ngauruho**	**2.58**	**18**	P	**Pn**	**21 24 09.6**	**+1.3**	
AKCZ	**Akaroa Harbour**	**2.59**	**208**	P	**Pn**	**21 24 06.9**	**-1.4**	
WTVZ	**West Tongariro**	**2.59**	**17**	P	**Pn**	**21 24 10.3**	**+1.9**	
ETVZ	**East Tongariro**	**2.60**	**19**	P	**Pn**	**21 24 09.7**	**+1.1**	
INZ	**Inchbonnie**	**2.60**	**243**	P	**Pn**	**21 24 08.9**	**+0.4**	
TWVZ	**Taurewa**	**2.60**	**14**	P	**Pn**	**21 24 10.1**	**+1.5**	
TMVZ	**Te Maari**	**2.62**	**19**	P	**Pn**	**21 24 09.5**	**+0.7**	
KRVZ	**Karewarewa**	**2.62**	**18**	P	**Pn**	**21 24 10.2**	**+1.4**	
NTVZ	**North Tongarir**	**2.63**	**18**	P	**Pn**	**21 24 09.7**	**+0.8**	
MCHZ	**McNeill Hill**	**2.68**	**37**	P	**Pn**	**21 24 08.8**	**-0.7**	
KATZ	**Kakaramea**	**2.75**	**18**	P	**Pb**	**21 24 14.8**	**-0.8**	
RITZ	**Rihia Road**	**2.79**	**20**	P	**Pb**	**21 24 16.4**	**+0.2**	
BKZ	**Black Stump Fm**	**2.83**	**31**	P	**Pn**	**21 24 12.8**	**+1.2**	
BKZ	**Black Stump Fm**	**2.83**	**31**	P	**Pb**	**21 24 17.8**	**+0.9**	
RATZ	**Rangitukua**	**2.87**	**18**	P	**Pb**	**21 24 18.4**	**+0.8**	
WATZ	**Wairara**	**3.02**	**17**	P	**Pb**	**21 24 20.1**	**0.0**	
HIZ	**Hauiti**	**3.09**	**4**	P	**Pn**	**21 24 18.0**	**+2.9**	
HIZ	**Hauiti**	**3.09**	**4**	P	**Pn**	**21 24 17.9**	**+2.8**	
MRHZ	**Matea Rd**	**3.09**	**27**	P	**Pn**	**21 24 15.2**	**0.0**	
WACZ	**Wakanui South**	**3.10**	**220**	P	**Pn**	**21 24 14.0**	**-1.3**	
WVZ	**Waitaha Valley**	**3.22**	**242**	P	**Pn**	**21 24 18.1**	**+1.1**	
MTHZ	**Maungataniwha**	**3.23**	**33**	P	**Pn**	**21 24 16.7**	**-0.5**	
RPZ	**Rata Peaks**	**3.37**	**230**	P	**Pn**	**21 24 18.2**	**-0.8**	
RPZ	**Rata Peaks**	**3.37**	**230**	P	**Pn**	**21 24 18.0**	**-1.0**	
RTZ	**Ruatahuna**	**3.49**	**32**	P	**Pn**	**21 24 19.5**	**-1.3**	
GCSZ	**Gaunt Creek Bo**	**3.60**	**240**	P	**Pn**	**21 24 23.6**	**+1.5**	
TMZ	**Timaru**	**3.83**	**222**	P	**Pn**	**21 24 24.2**	**-1.2**	
URZ	**Urewera**	**3.85**	**31**	P	**Pn**	**21 24 25.1**	**-0.5**	
URZ	**Urewera**	**3.85**	**31**	P	**Pn**	**21 24 23.9**	**-1.7**	
TOZ	**Tahuroa Road**	**3.93**	**10**	P	**Pb**	**21 24 32.8**	**-2.7**	
FOZ	**Fox Glacier**	**4.03**	**240**	P	**Pn**	**21 24 27.9**	**-0.1**	
LBZ	**Lake Benmore**	**4.27**	**228**	P	**Pn**	**21 24 31.6**	**+0.2**	
ODZ	**Otahua Downs**	**4.49**	**219**	P	**Pn**	**21 24 31.9**	**-2.5**	
AWAZ	**Awhitu Peninsu**	**4.53**	**0**	P	**Pn**	**21 24 37.7**	**+2.8**	
ETAZ	**East Tamaki Re**	**4.65**	**3**	P	**Pb**	**21 24 42.7**	**-5.1**	
JCZ	**Jackson Bay**	**4.94**	**233**	P	**Pn**	**21 24 41.6**	**+0.9**	
MXZ	**Matakaoa Point**	**4.94**	**37**	P	**Pn**	**21 24 42.0**	**+1.4**	
OUZ	**Omahuta**	**6.42**	**353**	P	**Pn**	**21 25 02.8**	**+1.9**	

*IDC **29** 21:36:02.3±0.6, 26°.02N×96°.54E, h0km, mb4.1/27, mbtmp4.1/28, ML4.3/1, MS3.4/18, Error ellipse: s-maj=28.0km s-min=11.5km az=56.0*

*NDI **29** 21:36:06.4±3.1, 25°.87N×96°.61E, h33km, mb4.1, ML4.2, mb4.5(NEIC)*

*MOS **29** 21:36:06.3±1.0, 25°.90N×96°.42E, h43km, mb4.5/24, Error ellipse: s-maj=14.4km s-min=5.6km az=119.3*

*NEIC **29** 21:36:08.2±1.2, 25°.93N±0°.07×96°.50E±0°.09, h41km±7km, mb4.5/45, Error ellipse: s-maj=12.1km s-min=9.6km az=55.0*

ISC 29 21:36:03.7±0.4,**25°91N**±0°.05×**96°46E**±0°.03,**h10**km,**n171,** σ1°43/182,**mb4.4**/61,**MS3.4**/17,**5C-1D,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**1.52**	**339**	*e*P	**Pg**	**21 36 33.0**	**+0.1**
MOKO	**MOKOCHONG**	**1.79**	**284**	*e*Pg	**Pg**	**21 36 39.0**	**+0.8**
MOKO				*i* Sg	**Sg**	**21 37 06.4**	**+4.9**
MOKO				IAML		21 37 09.8	
	comp=E,3μm,0.5s						
MOKO				IAML		21 37 10.4	
	comp=N,2μm,0.9s						
MOKO				IAML		21 37 12.4	
	comp=N,2μm,0.5s						
TNCH	**TengChong**	**2.06**	**115**	||Pn	**Pn**	**21 36 39.8**	**+1.2**
TNCH				Pg	**Pb**	**21 36 42.8**	**+1.5**
TNCH				Sn	**Sn**	**21 37 03.3**	**-1.1**
TNCH				Sg	**Sb**	**21 37 09.0**	**+1.9**
TNCH				smax	smax		
	comp=N,3μm,0.9s						
TNCH				smax	smax		
	comp=E,3μm,1.1s						
TNCH				LR	LR		
	comp=N,6μm,2.2s						
TNCH				LR	LR		
	comp=E,4μm,2.3s						
JORH	**JORHAT**	**2.15**	**293**	*e*P	**Pb**	**21 36 44.1**	**+1.4**
ITAN	**ITANAGAR**	**2.74**	**297**	*e*P	**Pb**	**21 36 51.1**	**-1.8**
ZIRO	**ZIRO**	**2.84**	**305**	*e*P	**Pn**	**21 36 50.8**	**+1.5**
ZIRO				*e*S	**Sn**	**21 37 25.3**	**+1.7**
ZIRO				IAML		21 37 35.3	
	comp=E,2μm,0.6s						
ZIRO				IAML		21 37 35.5	
	comp=N,2μm,0.5s						
TEZP	**TEZPUR**	**3.36**	**283**	*e*P	**Pn**	**21 36 58.4**	**+2.1**
SILR	**SILCHAR**	**3.49**	**252**	*e*P	**Pb**	**21 37 03.2**	**-2.5**
MND	**Mandalay**	**3.89**	**185**		**Pn**	**21 37 04.5**	**+0.9**
SHL	**Shillong**	**4.14**	**266**	*e*P	**Pn**	**21 37 09.1**	**+1.8**
GUWA	**GUWAHATI**	**4.30**	**275**	*e*P	**Pn**	**21 37 10.6**	**+1.4**
PZH	**PanZhiHua**	**4.78**	**82**	Pn	**Pn**	**21 37 19.5**	**+3.5**
PZH				Pg	**Pg**	**21 37 34.3**	**-1.1**
PZH				Sg	**Sg**	**21 38 34.3**	**-3.1**
PZH				smax	smax		
	comp=N,80nm,1.4s						
PZH				smax	smax		
	comp=E,50nm,1.0s						
PZH				LR	LR		
	comp=N,1μm,10.8s						
PZH				LR	LR		
	comp=E,440nm,8.4s						
PZH				LR	LR		
	comp=Z,500nm,10.3s						
DHUB	**DHUBRI**	**5.82**	**273**	*e*P	**Pn**	**21 37 31.2**	**+1.2**
LSA	**Lhasa**	**6.03**	**310**	P	**Pn**	**21 37 35.5**	**+2.1**
LSA				S	Sg	21 39 36.3	+19
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LSA				LR	LR		
	comp=N,600nm,11.0s						
LSA				LR	LR		
	comp=E,570nm,12.5s						
LSA				LR	LR		
	comp=Z,500nm,10.7s						
LSA	**Lhasa**	**6.03**	**310**	Pn	**Pn**	**21 37 35.3**	**+1.9**
LSA	**Lhasa**	**6.03**	**310**	P	**Pn**	**21 37 35.3**	**+1.9**
CRAI	**Chiangrai**	**6.70**	**147**		**Pn**	**21 37 43.4**	**+1.0**
GTK	**Tadong**	**7.17**	**283**	*e*P	**Pn**	**21 37 50.8**	**+1.9**
CHTO	**Chiang Mai**	**7.43**	**161**	Pn	**Pn**	**21 37 54.0**	**+1.8**
CHTO	**Chiang Mai**	**7.43**	**161**	P	**Pn**	**21 37 54.0**	**+1.8**
CM31	**Chiang Mai Arr**	**7.76**	**162**		**Pn**	**21 37 58.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**7.76**	**162**	Pn	**Pn**	**21 37 59.1**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=337,slow=13,SNR=36						
CMAR				Pg	Pg	21 38 28.1	-4.3
	comp=Z,0.3nm,0.3s,baz=337,slow=16,SNR=4.6						
CMAR				Lg	Lg	21 40 10.6	
	comp=Z,0.1nm,0.3s,baz=160,slow=38,SNR=1.3						
CMAR				LR	LR	21 41 25.0	
	comp=Z,156nm,18.4s,baz=330,slow=41						
	comp=Z,2.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.76**	**162**	Pn	**Pn**	**21 37 58.2**	**+1.3**
TAPN	**Taplejung**	**7.96**	**282**	*e*Pg	**Pn**	**21 38 00.9**	**+1.1**
TAPN				*e*Sg	**Sn**	**21 39 29.5**	**-0.6**
	comp=Z,121nm,0.7s						
PHRA	**Phrae**	**8.16**	**154**	Pn	**Pn**	**21 38 04.2**	**+1.9**
ODAN	**Odare**	**8.19**	**279**	*e*Pg	**Pn**	**21 38 04.6**	**+1.7**
ODAN				*e*Sg	**Sn**	**21 39 36.1**	**+0.5**
RAMN	**Ramite**	**8.90**	**279**	*e*Pg	**Pn**	**21 38 14.6**	**+2.0**
RAMN				*e*Sg	**Sn**	**21 39 53.2**	**+0.1**
	comp=Z,72nm,0.6s						
GYA	**Guiyang**	**9.18**	**84**	P	**Pn**	**21 38 19.0**	**+2.6**
GYA				pmax	pmax		
	comp=Z,18nm,0.8s						
JIRN	**Jiri**	**9.34**	**283**	*e*Pg	**Pn**	**21 38 19.9**	**+1.1**
JIRN				*e*Sg	**Sn**	**21 40 01.8**	**-2.4**
	comp=Z,16nm,0.4s						
GUN	**Gumba**	**9.65**	**284**	*

AAK Ala-Archa 24.54 318 P P 21 41 24.4 +0.7
AAK Ala-Archa 24.54 318 *ce*P **P 21 41 25.3 +1.5**
AAK pmax pmax
comp=Z,9.0nm,1.3s
DGZ Jazzator, Alta 24.76 346 *i* P **P 21 41 23.5 -2.2**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
USP Ospenovka 24.91 320 P P 21 41 28.0 +1.0
SNR=7.2
EKS2 Erkin-Say 24.99 318 P P 21 41 29.3 +1.6
SNR=9.5
ZAK Zakamensk 25.00 10 *e*P **P 21 41 28.8 +1.1**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
KBL Kabul 25.14 297 P P 21 41 29.9 +0.6
KBL Kabul 25.14 297 P P 21 41 29.9 +0.6
KBL pmax pmax
comp=Z,17nm,0.6s
GAR Garm 25.53 307 P P 21 41 32.6 -0.1
GAR IAmb IAmb 21 41 39.2
comp=Z,23nm,0.9s
CHGR Chuyangaron 26.24 306 P P 21 41 38.7 -0.4
CHGR IAmb IAmb 21 42 23.2
comp=Z,12nm,0.9s
CHGR Chuyangaron 26.24 306 P P 21 41 38.7 -0.4
CHGR pmax pmax
comp=Z,12nm,0.9s
KURBB Kurchatov Arra 28.26 336 P P 21 41 57.6 +0.6
comp=Z,2.5nm,0.7s,baz=146,slow=9.2,SNR=13
comp=Z,2.5nm,0.7s
KURK Kurchatov 28.30 336 P P 21 41 57.8 +0.5
KURK Kurchatov 28.30 336 P P 21 41 57.8 +0.5
KURK pmax pmax
comp=Z,9.0nm,1.2s
JOW Kunigami 28.48 81 LR LR 21 54 34.9
comp=Z,92nm,18.7s,baz=85,slow=39
KSRS Korea Array 29.01 59 LR LR 21 53 23.5
comp=Z,40nm,18.0s,baz=255,slow=36
ZAA0 Zalesovo Array 29.32 346 P P 21 42 06.3 0.0
ZALV Zalesovo Beam 29.32 346 P P 21 42 06.8 +0.5
comp=Z,2.7nm,0.5s,baz=164,slow=8.1,SNR=19
comp=Z,2.7nm,0.5s
JNU Nakatsue 30.70 68 LR LR 21 55 45.0
comp=Z,45nm,20.4s,baz=162,slow=39
BVAR Borovoye Array 33.38 331 P P 21 42 42.9 +0.7
comp=Z,1.9nm,0.4s,baz=133,slow=9.5,SNR=18
comp=Z,1.9nm,0.4s
BRVK Borovoye 33.45 331 P P 21 42 43.2 +0.4
BRVK Borovoye 33.45 331 P P 21 42 43.2 +0.4
BRVK pmax pmax
comp=Z,3.0nm,0.8s
HEH HeiHe 34.00 36 *e*P P 21 42 55.5 +7.9
HEH pmax pmax
comp=Z,5.0nm,1.1s
HEH pmax pmax
comp=Z,190nm,3.8s
WSAR Wadi Sarin 34.43 274 LR LR 21 59 49.6
comp=Z,25nm,19.0s,baz=168,slow=41
GEYT Alibeck 34.45 300 P P 21 42 53.0 +1.3
comp=Z,3.5nm,0.8s,baz=126,slow=7.7,SNR=8.2
GEYT LR LR 21 57 27.5
comp=Z,56nm,19.9s,baz=170,slow=37
comp=Z,3.5nm,0.8s
ABKAR Akbulak array 36.62 319 P P 21 43 10.7 +0.5
ABKAR IAmb IAmb 21 43 16.1
comp=Z,4.9nm,1.0s
ABKAR Akbulak array 36.62 319 P P 21 43 10.7 +0.5
MJAR Matsushiro Arr 36.99 63 LR LR 22 00 15.8
comp=Z,28nm,18.6s,baz=240,slow=39
AKTO Aktyubinsk 38.26 320 P P 21 43 24.1 +0.1
comp=Z,2.4nm,0.8s,baz=119,slow=5.1,SNR=6.7
AKTO LR LR 22 01 19.1
comp=Z,62nm,18.0s,baz=31,slow=40
comp=Z,2.4nm,0.8s
SVE Sverdlovsk 40.14 330 *e*P **P 21 43 40.8 +1.2**
SVE pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 40.87 329 P P 21 43 45.6 -0.1
comp=Z,2.6nm,0.6s,baz=149,slow=12,SNR=6.6
ARU LR LR 22 02 22.5
comp=Z,67nm,18.8s,baz=173,slow=39
comp=Z,2.6nm,0.6s
ARU Arti 40.87 329 P P 21 43 46.0 +0.3
ARU IAmb IAmb 21 44 26.3
comp=Z,11nm,1.4s
ARU Arti 40.87 329 *c i* P **P 21 43 45.3 -0.4**
ARU 21 45 20.9
ARU S S 21 49 46.2 -11
ARU SS **SS 21 52 56.5 -1.6**
ARU pmax pmax
comp=Z,15nm,1.9s
YAK Yakutsk 42.40 23 *i* P P 21 43 49.8 -8.3
YAK pmax pmax
comp=Z,3.0nm,0.5s
SOEI Soe 44.59 139 P P 21 44 16.0 -0.5
GNI Garni 45.02 302 P P 21 44 20.9 +1.1
comp=Z,4.8nm,1.0s,baz=104,slow=16,SNR=2.3
comp=Z,4.8nm,1.0s
BELG Belogornoye 45.03 319 P P 21 44 18.9 -0.5
comp=Z,11nm,0.8s,baz=167,slow=1.5,SNR=9.5
comp=Z,11nm,0.8s
RAYN Ar Rayn 46.12 278 P P 21 44 28.0 -0.5
RAYN IAmb IAmb 21 44 29.4
comp=Z,4.3nm,0.9s
RAYN Ar Rayn 46.12 278 P P 21 44 28.0 -0.5
RAYN pmax pmax
comp=Z,4.0nm,1.0s
KIRV Kirov 46.24 328 P P 21 44 27.7 -1.2
comp=Z,4.3nm,0.5s,baz=72,slow=18,SNR=3.2
comp=Z,4.3nm,0.5s
KIRV Kirov 46.24 328 *ce*P **P 21 44 28.8 -0.1**
GURO Guroymak-BITLI 47.12 299 P P 21 44 36.4 +0.1
GURO IAmb IAmb 21 44 39.7
comp=Z,4.4nm,1.0s
TIXI Tiksi 49.23 13 P P 21 44 51.3 -0.6
TIXI IAmb IAmb 21 45 03.1
comp=Z,7.3nm,1.5s
TIXI Tiksi 49.23 13 P P 21 44 51.3 -0.6
TIXI pmax pmax
comp=Z,7.0nm,1.5s
KLMR Klimovskoe 51.72 328 *e*P **P 21 45 09.5 -1.5**
KLMR AMP 21 45 11.9
comp=Z,27nm,1.5s
KLMR Klimovskoe 51.72 328 *e*P **P 21 45 09.4 -1.5**
KLMR pmax pmax
comp=Z,27nm,1.5s
OBN Obninsk 52.03 321⇑*e*P **P 21 45 12.5 -0.8**
OBN *e* 21 47 17.2
OBN *e*PPP PPP 21 48 17.3
OBN pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 53.56 301 P P 21 45 25.8 +0.6
comp=Z,0.6nm,0.5s,baz=126,slow=5.3,SNR=6.1
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 53.56 301 P P 21 45 25.5 +0.4
BRTR Keskin Array B 53.56 301 *e*P **P 21 45 29.6 +4.5**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 56.15 315 P P 21 45 41.8 -1.7
comp=Z,1.2nm,0.6s,baz=77,slow=6.7,SNR=8.3
AKASG LR LR 22 15 13.5
comp=Z,53nm,18.4s,baz=94,slow=42
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 56.15 315 *e*P **P 21 45 43.5 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ELL Elmali 56.86 298 P P 21 45 48.3 -0.6
ELL Elmali 56.86 298 P P 21 45 48.3 -0.6
ELL pmax pmax
comp=Z,20nm,0.7s
FINES FINESS Array B 58.24 328 P P 21 45 57.0 -1.0
comp=Z,4.6nm,0.9s,baz=126,slow=9.7,SNR=8.2
comp=Z,4.6nm,0.9s
FINES FINESS Array B 58.24 328 P P 21 45 57.9 -0.1
FINES FINESS Array B 58.24 328 P P 21 45 57.9 -0.1
WB0 Warramunga Arr 58.47 137 P P 21 45 59.4 -0.8
WB0 IAmb IAmb 21 46 03.1
comp=Z,2.8nm,0.7s
WRAB Tennant Creek 58.57 137 P P 21 46 01.8 +0.9
WRAB IAmb IAmb 21 46 03.6
comp=Z,3.8nm,0.8s
WRAB Tennant Creek 58.57 137 *ce*P **P 21 46 03.4 +2.5**
WRAB pmax pmax
comp=Z,11nm,1.8s
WRA Warramunga Arr 58.57 137 P P 21 46 01.2 +0.3
comp=Z,1.6nm,0.6s,baz=328,slow=7.4,SNR=20
comp=Z,1.6nm,0.6s

WRA Warramunga Arr 58.57 137 *e*P **P 21 46 02.7 +1.8**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WB2 Warramunga Arr 58.58 137 P P 21 45 59.8 -1.2
WB2 IAmb IAmb 21 46 03.5
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 58.65 309 P P 21 46 01.8 +0.4
comp=Z,1.5nm,0.5s,baz=335,slow=2.5,SNR=8.6
MLR LR LR 22 14 22.4
comp=Z,27nm,19.0s,baz=263,slow=39
comp=Z,1.5nm,0.5s
MLR Muntele Rosu 58.65 309 P P 21 46 03.2 +1.8
MLR IAmb IAmb 21 46 20.5
comp=Z,4.5nm,1.0s
MLR Muntele Rosu 58.65 309 P P 21 46 03.2 +1.8
MLR pmax pmax
comp=Z,4.0nm,1.0s
WR0 Warramunga Arr 58.71 137 P P 21 46 02.4 +0.5
WR0 IAmb IAmb 21 46 44.3
comp=Z,7.3nm,1.2s
BURAR Bucovina Array 58.94 312 P P 21 46 02.5 -0.8
ASAR Alice Springs 61.17 140 P P 21 46 19.8 +1.0
comp=Z,0.8nm,0.6s,baz=323,slow=6.9,SNR=16
comp=Z,0.8nm,0.6s
VYHS Vyhne 63.07 313 *e*P **P 21 46 30.7 -0.6**
VYHS Vyhne 63.07 313 *e*P **P 21 46 30.7 -0.6**
HFS Hagfors 64.34 327 P P 21 46 38.8 -0.6
comp=Z,2.7nm,0.6s,baz=111,slow=8.4,SNR=12
HFS LR LR 22 16 58.5
comp=Z,63nm,19.1s,baz=144,slow=38
comp=Z,2.7nm,0.6s
VRAC Vranov 64.39 314 P P 21 46 40.3 +0.3
comp=Z,1.6nm,0.5s,baz=49,slow=6.8,SNR=3.5
comp=Z,1.6nm,0.5s
NB2 NORSAR Subarra 65.42 328 P P 21 46 44.3 -2.2
comp=Z,0.8nm,0.5s,baz=82,slow=6.5
NOA NORSAR Array B 65.42 328 P P 21 46 45.4 -1.1
comp=Z,1.6nm,0.6s,baz=81,slow=6.5,SNR=5.9
NOA LR LR 22 17 36.6
comp=Z,39nm,18.1s,baz=255,slow=38
comp=Z,1.6nm,0.6s
NC204 NORSAR Array S 65.60 328 P P 21 46 46.9 -0.8
GERES GERESS Array B 66.34 314 P P 21 46 51.8 -0.9
comp=Z,0.6nm,0.8s,baz=66,slow=6.6,SNR=5.1
GERES LR LR 22 17 51.4
comp=Z,36nm,18.6s,baz=322,slow=38
comp=Z,0.6nm,0.8s
DAVOX Davos/Dischmat 69.35 313 P P 21 47 11.3 -0.6
comp=Z,1.1nm,0.6s,baz=126,slow=7.0,SNR=4.9
comp=Z,1.1nm,0.6s
STKA Stephens Creek 71.81 141 P P 21 47 27.4 +0.7
comp=Z,0.8nm,0.4s,baz=338,slow=11,SNR=3.0
comp=Z,0.8nm,0.4s
IMAR Indian Mountai 74.24 24 P P 21 47 39.6 -1.0
EKA Eskdalemuir Ar 74.30 324 P P 21 47 39.5 -1.7
comp=Z,1.5nm,0.8s,baz=62,slow=6.0,SNR=4.6
comp=Z,1.5nm,0.8s
H21K Melozitna Rive 74.73 24 P P 21 47 42.1 -1.4
MLY Manley 75.80 24 P P 21 47 49.0 -0.7
MLY IAmb IAmb 21 48 14.4
comp=Z,6.2nm,1.4s
PPLA Purkeypile 76.34 26 P P 21 47 52.2 -0.7
BMAR Burnt Mountain 76.55 20 P P 21 47 54.0 0.0
BWN Browne 76.72 24 P P 21 47 55.2 +0.3
ILAR Eielson Array 77.32 23 P P 21 47 56.1 -2.2
comp=Z,0.2nm,0.6s,baz=294,slow=2.9,SNR=2.1
comp=Z,0.2nm,0.6s
CAPN Captain Cook N 77.86 28 P P 21 48 00.1 -1.2
LSZ Lusaka 77.99 246 P P 21 48 02.0 -0.9
LSZ IAmb IAmb 21 48 02.8
comp=Z,3.9nm,0.5s
LSZ Lusaka 77.99 246 P P 21 48 02.0 -0.9
LSZ pmax pmax
comp=Z,4.0nm,0.5s
SML Sawmill 78.45 26 P P 21 48 03.2 -1.5
SML IAmb IAmb 21 48 20.0
comp=Z,11nm,1.2s
INK Inuvik 79.16 17 P P 21 48 07.2 -1.1
INK IAmb IAmb 21 48 28.4
comp=Z,5.6nm,1.4s
INK Inuvik 79.16 17 P P 21 48 07.2 -1.1
INK pmax pmax
comp=Z,6.0nm,1.4s
N25K Chitina, Valde 80.02 25 P P 21 48 12.7 -0.6
N25K IAmb IAmb 21 48 20.0
comp=Z,13nm,1.4s
BCAR Beaver Creek A 80.15 23 P P 21 48 13.7 -0.3
BMRM Bremner River 80.40 26 P P 21 48 15.1 -0.2
C36M Paulatuk 80.59 14 P P 21 48 14.8 -1.3
ESDC Sonseca Array 81.34 310 P P 21 48 20.3 -0.4
comp=Z,0.9nm,1.0s,baz=66,slow=3.1,SNR=4.7
comp=Z,0.9nm,1.0s
WHY Whitehorse 84.20 23 P P 21 48 35.2 -0.1
WHY IAmb IAmb 21 48 48.9
comp=Z,4.5nm,1.1s
LBTB Lobatse 85.11 239 P P 21 48 39.6 -0.8
LBTB IAmb IAmb 21 48 52.0
comp=Z,4.3nm,1.0s
LBTB Lobatse 85.11 239 P P 21 48 39.6 -0.8
LBTB pmax pmax
comp=Z,4.0nm,1.0s
IVI Ivigtut 88.59 344 P P 21 48 57.1 +0.5
SUR Sutherland 92.45 235 LR LR 22 29 53.8
comp=Z,39nm,19.4s,baz=168,slow=35
BDFB Brasilia 145.35 280 PKPbc **PKPbc 21 55 43.2 +0.6**
comp=Z,0.9nm,0.5s,baz=149,slow=5.9,SNR=1.9

IDC 29 21:47:59.4±331.0, 5.70S×147.73E, h0km, Error ellipse: s-maj=128.6km s-min=14.0km az=72.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**18.60**	**315**	I	I	23 46 50.0	
	baz=133,slow=313,SNR=3.8						
I07AU	**WARRAMUNGA INF**	**79.24**	**221**	I	I	23 48 40.0	
	baz=42,slow=312,SNR=2.7						

ROM 29 21:48:09.0±0.1, 43.623N×0.007×12.084E±0.005, h9km, ML0.7/2, 2C-1D, Error ellipse: s-maj=0.8km s-min=0.2km az=190.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSP9	**Sansepolcro**	**0.06**	**145**	P	Pg	21 48 11.3	+0.3
SSP9				S	Sg	21 48 12.9	+0.5
SSP9	**Sansepolcro**	**0.06**	**145**	⇓P	Pg	21 48 11.3	+0.3
SSP9				AML	AML		
	comp=E,34μm,0.2s						
CRE	**Caprese Michel**	**0.10**	**268**	P	Pg	21 48 11.8	+0.3
CRE				S	Sg	21 48 13.7	+0.3
CRE				AML	AML		
	comp=E,36μm,0.2s						
CRE				AML	AML		
	comp=N,77μm,0.2s						
CRE				AML	AML		
	comp=E,36μm,1.8s						
CRE	**Caprese Michel**	**0.10**	**268**	⇑P	Pg	21 48 11.8	+0.3
CRE				AML	AML		
	comp=E,36μm,0.2s						
CRE				AML	AML		
	comp=N,77μm,0.2s						
CRE				AML	AML		
	comp=E,36μm,0.2s						
CRE				AML	AML		
	comp=N,77μm,0.2s						
CRE				AML	AML		
	comp=E,36μm,1.8s						
CRE				AML	AML		
	comp=N,77μm,0.2s						
PARC	**Parchiule**	**0.12**	**77**	P	Pg	21 48 12.1	+0.3
PARC	**Parchiule**	**0.12**	**77**	P	Pg	21 48 12.1	+0.4
PARC				S	Sg	21 48 14.2	+0.5
PARC				AML	AML		
	comp=N,96μm,0.2s						
PARC				AML	AML		
	comp=E,34μm,0.2s						
PARC	**Parchiule**	**0.12**	**77**	P	Pg	21 48 12.1	+0.3
PARC	**Parchiule**	**0.12**	**77**	P	Pg	21 48 12.1	+0.3
PARC				AML	AML		
	comp=E,34μm,0.2s						
PARC				AML	AML		
	comp=N,96μm,0.2s						
PARC				AML	AML		
	comp=E,34μm,0.2s						
PARC				AML	AML		
	comp=N,96μm,0.2s						
BADI	**Badiali**	**0.16**	**134**	P	Pg	21 48 13.1	+0.7
BADI				S	Sg	21 48 16.2	+1.4
BADI	**Badiali**	**0.16**	**134**	P	Pg	21 48 13.3	+0.8
CPGN	**Carpegna, Ital**	**0.25**	**44**	P	Pg	21 48 15.4	+1.3
ASQU	**Asqua**	**0.28**	**309**	P	Pb	21 48 15.4	-0.7
PIEI	**Pieia**	**0.34**	**105**	P	Pg	21 48 16.1	+0.4
PIEI				S	Sb	21 48 21.9	-0.8
PIEI	**Pieia**	**0.34**	**105**	⇑P	Pg	21 48 16.2	+0.5

ROM 29 21:48:09.8±0.1, 42.987N±0.004×13.040E±0.004, h6km, ML0.6/6, 9C-16D, Error ellipse: s-maj=0.3km s-min=0.3km az=150.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.06**	**35**	⇑P	Pg	21 48 11.7	+0.2
FDMO	**Fiordimonte**	**0.06**	**35**	⇑P	Pg	21 48 11.7	+0.2
FDMO				AML	AML		
	comp=N,67μm,0.2s						
FDMO				AML	AML		
	comp=E,64μm,0.4s						
FDMO	**Fiordimonte**	**0.06**	**35**	⇑P	Pg	21 48 11.7	+0.2
FDMO	**Fiordimonte**	**0.06**	**35**	⇑P	Pg	21 48 11.7	+0.2
FDMO				S	Sg	21 48 13.0	+0.4
FDMO				AML	AML		
	comp=E,64μm,0.4s						
FDMO				AML	AML		
	comp=N,67μm,0.2s						
FDMO				AML	AML		
	comp=E,64μm,0.4s						
FDMO				AML	AML		
	comp=N,67μm,0.2s						
FDMO				AML	AML		
	comp=N,67μm,0.2s						
FDMO				AML	AML		
	comp=E,64μm,0.4s						
FDMO	**Fiordimonte**	**0.06**	**35**	⇑P	Pg	21 48 11.7	+0.2
T1219	**Muccia, Frazio**	**0.07**	**341**	⇓P	Pg	21 48 11.9	+0.2
T1219	**Muccia, Frazio**	**0.07**	**341**	⇓P	Pg	21 48 11.9	+0.2
T1219	**Muccia, Frazio**	**0.07**	**341**	⇓P	Pg	21 48 11.9	+0.2
T1219				S	Sg	21 48 13.3	+0.3
T1219	**Muccia, Frazio**	**0.07**	**341**	⇓P	Pg	21 48 11.9	+0.2
T1216	**Preci, Frazion**	**0.10**	**189**	⇓P	Pg	21 48 12.3	+0.3
T1216				AML	AML		
	comp=E,140μm,1.1s						
T1216				AML	AML		
	comp=N,111μm,0.4s						
T1216				AML	AML		
	comp=E,140μm,1.1s						
T1216				AML	AML		
	comp=E,140μm,0.9s						
T1216				AML	AML		
	comp=N,111μm,0.4s						
T1216	**Preci, Frazion**	**0.10**	**189**	⇓P	Pg	21 48 12.3	+0.3
T1216	**Preci, Frazion**	**0.10**	**189**	⇓P	Pg	21 48 12.3	+0.3
T1216				AML	AML		
	comp=E,140μm,1.1s						
T1216				AML	AML		
	comp=N,111μm,0.4s						
T1216				AML	AML		
	comp=E,140μm,1.1s						
T1216				AML	AML		
	comp=N,111μm,0.4s						
T1216				AML	AML		
	comp=N,111μm,0.4s						
T1216				AML	AML		
	comp=N,30μm,0.2s						
T1216	**Preci, Frazion**	**0.10**	**189**	⇓P	Pg	21 48 12.3	+0.3
CESI	**CESI - Serrava**	**0.10**	**280**	⇓P	Pg	21 48 12.4	+0.3
CESI	**CESI - Serrava**	**0.10**	**280**	P	Pg	21 48 12.4	+0.3
CESI				S	Sg	21 48 14.4	+0.8
CESI				AML	AML		
	comp=N,33μm,0.2s						
T1220	**Camerino, Fraz**	**0.13**	**16**	⇓P	Pg	21 48 13.0	+0.4
T1220	**Camerino, Fraz**	**0.13**	**16**	⇓P	Pg	21 48 13.0	+0.4
T1220	**Camerino, Fraz**	**0.13**	**16**	⇓P	Pg	21 48 13.0	+0.4
T1220	**Camerino, Fraz**	**0.13**	**16**	⇓P	Pg	21 48 13.0	+0.4
MC2	**Monte Cornacci**	**0.13**	**124**	⇓P	Pg	21 48 10.3	-2.4
MC2	**Monte Cornacci**	**0.13**	**124**	⇓P	Pg	21 48 10.3	-2.4
MC2	**Monte Cornacci**	**0.13**	**124**	⇓P	Pg	21 48 10.3	-2.4
CSP1	**Cessapalombo**	**0.16**	**49**	⇑P	Pg	21 48 13.4	+0.3
CSP1	**Cessapalombo**	**0.16**	**49**	⇑P	Pg	21 48 13.4	+0.3
CSP1	**Cessapalombo**	**0.16**	**49**	⇑P	Pg	21 48 13.4	+0.3
CSP1				S	Sg	21 48 16.5	+1.1
CSP1	**Cessapalombo**	**0.16**	**49**	⇑P	Pg	21 48 13.4	+0.3
T1245	**Castelsantange**	**0.17**	**140**	P	Pg	21 48 09.2	-4.1
T1245	**Castelsantange**	**0.17**	**140**	P	Pg	21 48 09.2	-4.1
T1245				AML	AML		
	comp=E,358μm,0.7s						
T1245				AML	AML		
	comp=N,391μm,0.3s						
T1245				AML	AML		
	comp=E,370μm,0.7s						
T1245				AML	AML		
	comp=N,442μm,0.3s						
T1245				AML	AML		
	comp=E,358μm,1.3s						

IDC 29 21:57:48.8±1.6, 28.27N×140.98E, h0km, mb3.3/2, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=59.3km s-min=20.6km az=54.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.58**	**137**	Pn	Pb	21 58 18.6	-0.3
	2.1nm,0.3s,baz=348,slow=22,SNR=6.4						
JCJ				Sn	Sn	21 58 38.4	-0.9
	4.9nm,0.3s,baz=277,slow=23,SNR=5.7						
MJAR	**Matsushiro Arr**	**8.57**	**345**	Pn	Pn	21 59 53.8	-0.3
	0.1nm,0.3s,baz=147,slow=14,SNR=4.5						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**48.36**	**188**	P	P	22 06 32.3	-0.1
	0.4nm,0.5s,baz=9.3,slow=8.4,SNR=6.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**48.91**	**309**	P	P	22 06 36.2	-0.3
	0.2nm,0.7s,baz=88,slow=9.1,SNR=2.0						
	0.2nm,0.7s						

*IDC **29** 22:05:22.3±2.4, 4.31N×126.21E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=205.1km s-min=27.9km az=65.0*
*MAN **29** 22:05:36.3, 3.96N×125.78E, h35km, mb4.3, ML3.1, MS2.8*
ISC 29 22:05:35.4±1.3, 3.9N±0.1×125.7E±0.3, h100km, n6, g0 s93/6, mb3.1/3, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.30**	**342**	*e*P	**Pn**	**22 06 12.9**	**+0.9**
KCP	**Kidapawan**	**3.15**	**350**	⇓*e*P	Pn	22 06 29.7	+6.4
KCP				*i* S	**Sn**	**22 07 00.3**	**+0.1**
BIPH	**Bislig**	**4.33**	**9**	⇓*i*P	Pn	22 06 45.6	+6.6
BIPH				*i* S	**Sn**	**22 07 28.1**	**-0.3**
WRA	**Warramunga Arr**	**25.17**	**161**	P	**P**	**22 10 51.4**	**-0.2**
	0.4nm,0.5s,baz=341,slow=10.0,SNR=6.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**28.54**	**164**	P	**P**	**22 11 22.4**	**+0.5**
	0.2nm,0.4s,baz=342,slow=7.0,SNR=4.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**56.82**	**326**	P	**P**	**22 15 08.4**	**-1.1**
	0.5nm,1.0s,baz=140,slow=5.6,SNR=4.5						
	0.5nm,1.0s						

IDC 29 22:07:07.3±3.2, 6.53S×148.27E, h100km±51km, mb3.2/2, mbtmp3.7/5, MS3.2/2, Error ellipse: s-maj=98.4km s-min=18.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.06**	**201**	P	Pn	22 07 53.3	-0.6
	34nm,0.3s,baz=358,slow=4.5,SNR=15						
PMG				S	Sn	22 08 30.7	+0.8
	40nm,0.4s,baz=331,slow=16,SNR=1.8						
KRVT	**Keravat (AS076**	**4.34**	**60**	P	Pn	22 08 11.4	+0.3
	50nm,0.7s,baz=114,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**19.00**	**224**	P	P	22 11 20.1	-1.1
	0.7nm,0.4s,baz=52,slow=11,SNR=21						
ASAR	**Alice Springs**	**21.93**	**218**	P	P	22 11 53.9	+1.0
	2.7nm,0.6s,baz=48,slow=9.1,SNR=30						
	2.7nm,0.6s						
BATI	**Baumata**	**24.61**	**260**	LR	LR	22 25 40.6	

comp=Z,125nm,18.2s,baz=8.5,slow=45
ASAJ Asahikawa 50.67 355 LR LR 22 37 42.6
comp=Z,12nm,20.0s,baz=134,slow=36
MKAR Makanchi Array 78.71 320 P P 22 18 58.6 -0.1
0.2nm,0.7s,baz=111,slow=6.3,SNR=1.7
0.2nm,0.7s

ROM 29 22:37:57.6±0.0, 42°.899N±0°.001×13°.110E±0°.001, h6km, ML1.4/7, 4C-2D, Error ellipse: s-maj=0.9km s-min=0.0km az=177.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.06**	**77**	⇑P	Pg	22 37 59.4	0.0
MC2				S	Sg	22 38 00.8	+0.1
T1216	**Preci, Frazion**	**0.07**	**263**	⇑P	Pg	22 37 59.6	+0.2
T1216				S	Sg	22 38 01.0	+0.4
T1216				AML	AML		
	comp=E,250μm,0.4s						
T1216				AML	AML		
	comp=N,142μm,0.3s						
T1216				AML	AML		
	comp=N,142μm,0.3s						
T1212	**Cascia, Frazio**	**0.15**	**198**	⇑P	Pg	22 38 01.3	+0.5
T1212				S	Sg	22 38 04.0	+1.0
T1212				AML	AML		
	comp=N,63μm,1.2s						
T1212				AML	AML		
	comp=E,52μm,0.1s						
T1212				AML	AML		
	comp=N,63μm,0.8s						
CESI	**CESI - Serrava**	**0.18**	**305**	⇓P	Pg	22 38 01.8	+0.5
CESI				S	Sg	22 38 05.1	+1.2
CESI				AML	AML		
	comp=E,38μm,0.7s						
CESI				AML	AML		
	comp=N,36μm,0.3s						
T1215	**Vallo di Nera,**	**0.20**	**241**	P	Pg	22 38 02.3	+0.6
T1220	**Camerino, Fraz**	**0.21**	**356**	⇑P	Pg	22 38 02.5	+0.6
RM33	**Pellescritta (**	**0.40**	**169**	AML	AML		
	comp=E,36μm,1.3s						
RM33				AML	AML		
	comp=N,31μm,0.1s						
RM33				AML	AML		
	comp=N,31μm,0.1s						
TERO	**Teramo**	**0.46**	**127**	⇓P	Pg	22 38 06.4	-0.1

VAO 29 23:24:02.7±0.7, 29°.66S×59°.69W, h0km, mb3.9, Northeastern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MECA	**Mercedes**	**1.37**	**75**	*eP*	Pb	23 24 30.1	+0.9
ITQB	**Itaqui**	**2.67**	**91**	*eP*	Pn	23 24 47.9	+1.0
ITQB				*eS*	Sb	23 25 24.1	-0.5
AZCA	**Azaras, Argent**	**3.61**	**65**	*eP*	Pn	23 25 00.4	+0.5
AZCA				*eS*	Sn	23 25 45.8	+2.6
CPUP	**Villa Florida**	**3.92**	**33**	*eP*	Pn	23 25 02.6	-1.6
CPUP				*eS*	Sn	23 25 50.5	-0.3
RODS	**Rosario do Sul**	**3.95**	**101**	*eP*	Pn	23 25 04.8	+0.1
RODS				*eS*	Sn	23 25 52.4	+0.7
CRSM	**Crissiumal (Br**	**5.41**	**68**	*eP*	Pn	23 25 25.2	+0.5
CRSM				*eS*	Sn	23 26 27.9	+0.2
CPSB	**Cacapava Do Su**	**5.47**	**99**	*eP*	Pn	23 25 24.9	-0.5
CPSB				*eS*	Sn	23 26 29.7	+0.7
PLTB	**Pedras Altas**	**5.64**	**113**	*eP*	Pn	23 25 26.7	-1.1
PLTB				*eS*	Sn	23 26 31.5	-1.9
ALGR	**Alto Alegre (B**	**5.88**	**83**	*eP*	Pn	23 25 32.1	+0.9
ALGR				*eS*	Sn	23 26 40.5	+1.0
FRBT	**Francisco Belt**	**6.92**	**60**	*eP*	Pn	23 25 45.7	+0.2
FRBT				*eS*	Sn	23 27 03.9	-1.1
ITAB	**Concordia**	**7.08**	**72**	*eP*	Pn	23 25 47.5	-0.1
ITAB				*eS*	Sn	23 27 08.0	-0.8
CNLB	**Canela**	**7.71**	**90**	*eP*	Pn	23 25 55.6	-0.7
CNLB				*eS*	Sn	23 27 22.2	-2.2
PTGB	**Pitanga**	**8.38**	**56**	*eP*	Pn	23 26 05.8	+0.1

*IDC **29** 23:28:09.9±0.7, 55°.08S×31°.32W, h0km, mb4.3/8, mbtmp4.4/8, MS3.8/22, Error ellipse: s-maj=36.8km s-min=17.3km az=44.0*
*NEIC **29** 23:28:12.7±1.4, 55°.0S±0°.1×31°.3W±0°.2, h10km±1km, mb4.7/25, Error ellipse: s-maj=25.2km s-min=18.8km az=33.0*

ISC 29 23:28:11.8±0.6, 55°.0S±0°.1×31°.2W±0°.1, h10km, n63, σ0s80/41, mb4.6/19, MS3.8/21, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**16.32**	**271**		**Pn**	**23 32 01.7**	**+0.9**
VNA3	**Neumayer Olymp**	**18.75**	**158**	P	**P**	**23 32 30.6**	**+0.1**
PMSA	**Palmer Station**	**18.89**	**226**	LR	LR	23 39 03.6	
	comp=Z,254nm,18.3s,baz=14,slow=35						
VNA2	**Neumayer--Watz**	**19.03**	**156**	P	**P**	**23 32 33.5**	**+0.1**
	baz=318,slow=11						
SNAA	**Sanae**	**20.62**	**155**	P	**P**	**23 32 50.0**	**-0.9**
SNAA	**Sanae**	**20.62**	**155**	P	**P**	**23 32 49.6**	**-1.3**
	7.9nm,0.9s,baz=295,slow=13,SNR=12						
SNAA				LR	LR	23 38 57.6	
	comp=Z,130nm,21.8s,baz=323,slow=31						
	7.9nm,0.9s						
SNAA	**Sanae**	**20.62**	**155**	P	**P**	**23 32 51.2**	**+0.3**
TROLL	**Troll, Antarti**	**22.19**	**153**	P	**P**	**23 33 08.7**	**+0.9**
TRQA	**Tornquist**	**26.81**	**297**	P	**P**	**23 33 52.3**	**+0.4**
TRQA				IAmb	IAmb	23 34 07.0	
	comp=Z,19nm,1.4s						
PLCA	**Paso Flores**	**29.55**	**282**	LR	LR	23 46 39.8	
	comp=Z,171nm,18.4s,baz=156,slow=38						
CPUP	**Villa Florida**	**34.45**	**316**	P	**P**	**23 34 59.2**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=159,slow=7.0,SNR=12						
CPUP				LR	LR	23 48 10.3	
	comp=Z,74nm,20.3s,baz=190,slow=35						
	comp=Z,6.2nm,0.9s						
CPUP	**Villa Florida**	**34.45**	**316**		**P**	**23 34 59.6**	**+0.3**
CPUP				IAmb	IAmb	23 35 02.1	
	comp=Z,9.5nm,1.1s						
CFA	**Coronel Fontan**	**35.05**	**297**	P	**P**	**23 35 02.6**	**-2.0**
	comp=Z,2.3nm,0.5s,baz=157,slow=7.9,SNR=10						
CFA				LR	LR	23 48 50.8	
	comp=Z,109nm,21.8s,baz=122,slow=35						
	comp=Z,2.3nm,0.5s						
PEL	**Peldehue**	**35.13**	**292**	P	**P**	**23 35 04.6**	**-0.7**
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**23 35 05.8**	**0.0**
	comp=Z,2.3nm,0.6s,baz=176,slow=7.6,SNR=4.9						
QSPA				LR	LR	23 48 18.5	
	comp=Z,181nm,18.9s,baz=189,slow=34						
	comp=Z,2.3nm,0.6s						
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**23 35 06.9**	**+1.0**
VA03	**San Esteban**	**35.35**	**293**	P	**P**	**23 35 08.1**	**+0.8**
VA03				IAmb	IAmb	23 35 28.0	
	comp=Z,15nm,1.0s						
CO01	**Juntas del Tor**	**37.30**	**296**	P	**P**	**23 35 24.9**	**+0.7**
AC05	**El Transito**	**38.31**	**297**	P	**P**	**23 35 32.5**	**-0.1**
AC05				IAmb	IAmb	23 35 38.3	
	comp=Z,8.6nm,0.8s						
SUR	**Sutherland**	**42.66**	**80**	LR	LR	23 48 31.6	
	comp=Z,67nm,21.7s,baz=190,slow=29						
LVC	**Limon Verde**	**42.81**	**304**	P	**P**	**23 36 10.1**	**0.0**
	comp=Z,6.1nm,0.7s,baz=186,slow=6.5,SNR=6.9						
	comp=Z,6.1nm,0.7s						
LVC	**Limon Verde**	**42.81**	**304**		**P**	**23 36 11.2**	**+1.1**
PB01	**IPOC Station P**	**44.43**	**304**	P	**P**	**23 36 23.0**	**+0.3**
PB01				IAmb	IAmb	23 36 25.4	
	comp=Z,10nm,0.8s						
PATCX	**Punta Patache**	**44.93**	**304**	P	**P**	**23 36 26.3**	**-0.5**
PATCX				IAmb	IAmb	23 36 31.5	
	comp=Z,16nm,1.0s						
PTLB	**Pontes e Lacer**	**45.01**	**320**		**P**	**23 36 27.7**	**+0.4**
PTLB				IAmb	IAmb	23 36 29.6	
	comp=Z,8.8nm,0.8s						
SIV	**San Ignacio**	**45.24**	**318**	P	**P**	**23 36 27.4**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=140,slow=9.2,SNR=7.2						
	comp=Z,1.2nm,0.6s						
GO01	**Chusmiza**	**45.47**	**306**		**P**	**23 36 32.0**	**+0.5**
GO01				IAmb	IAmb	23 36 34.7	
	comp=Z,10nm,1.0s						
PB11	**IPOC Station P**	**45.61**	**305**		**P**	**23 36 33.1**	**+0.9**
PB11				IAmb	IAmb	23 36 35.1	
	comp=Z,8.3nm,0.8s						
PSGCX	**Pisagua**	**45.97**	**305**		**P**	**23 36 35.4**	**+0.4**
PSGCX				IAmb	IAmb	23 36 38.8	
	comp=Z,12nm,1.4s						

MNMC	**Minye Minye**	**46.12**	**306**		**P**	**23 36 37.6**	**+1.1**
PB16	**IPOC Station P**	**46.77**	**306**		**P**	**23 36 40.4**	**-1.5**
PB16				IAmb	IAmb	23 36 54.2	
	comp=Z,4.9nm,1.1s						
VILB	**Vilhena**	**47.69**	**320**	P	**P**	**23 36 48.5**	**0.0**
H10S2	**ASCENSION HYDR**	**47.82**	**22**	T	T	00 29 04.0	
	baz=193						
H10S3	**ASCENSION HYDR**	**47.82**	**22**	T	T	00 29 02.9	
	baz=27						
LPAZ	**La Paz**	**47.93**	**309**	P	**P**	**23 36 51.7**	**+0.7**
	comp=Z,9.5nm,0.6s,baz=131,slow=4.2,SNR=32						
	comp=Z,9.5nm,0.6s						
LPAZ	**La Paz**	**47.93**	**309**		**P**	**23 36 51.4**	**+0.4**
BOSA	**Boshof**	**48.01**	**81**	LR	LR	23 54 41.6	
	comp=Z,52nm,18.4s,baz=197,slow=33						
H10N1	**ASCENSION HYDR**	**48.93**	**22**	T	T	00 30 26.8	
	baz=192,slow=75,SNR=8.5						
H10N3	**ASCENSION HYDR**	**48.93**	**22**	T	T	00 30 24.6	
	baz=192,slow=75,SNR=9.7						
H10N2	**ASCENSION HYDR**	**48.95**	**22**	T	T	00 30 25.1	
	baz=192,slow=75,SNR=7.8						
RCBR	**Riachuelo**	**49.21**	**354**	LR	LR	23 55 01.5	
	comp=Z,101nm,19.8s,baz=69,slow=33						
LBTB	**Lobatse**	**50.98**	**78**	P	**P**	**23 37 14.3**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=213,slow=8.2,SNR=2.8						
LBTB				LR	LR	23 57 47.3	
	comp=Z,43nm,18.1s,baz=210,slow=35						
	comp=Z,2.8nm,0.8s						
TSUM	**Tsumeb**	**51.28**	**66**	LR	LR	23 53 01.8	
	comp=Z,60nm,21.6s,baz=156,slow=29						
ETMB	**Extrema**	**52.89**	**315**	P	**P**	**23 37 27.6**	**-0.2**
LSZ	**Lusaka**	**60.22**	**73**	P	**P**	**23 38 20.1**	**-0.1**
LSZ				IAmb	IAmb	23 38 22.1	
	comp=Z,5.5nm,1.2s						
VA02	**Isla de Pascua**	**61.56**	**263**	P	**P**	**23 38 27.8**	**-1.2**
MDP	**Montagnes des**	**62.51**	**336**	LR	LR	00 03 21.1	
	comp=Z,129nm,20.4s,baz=130,slow=34						
MCRA	**Macar, Loja**	**63.86**	**303**	P	**P**	**23 38 44.8**	**+0.3**
MCRA				IAmb	IAmb	23 38 49.6	
	comp=Z,4.0nm,0.9s						
DBIC	**Dimbokro**	**65.30**	**29**	LR	LR	00 00 10.7	
	comp=Z,67nm,19.8s,baz=214,slow=29						
SDV	**Santo Domingo**	**71.70**	**319**	LR	LR	00 14 46.4	
	comp=Z,96nm,18.2s,baz=112,slow=39						
MBAR	**Mbarara**	**73.80**	**67**	LR	LR	00 10 05.2	
	comp=Z,109nm,18.8s,baz=213,slow=34						
SJG	**San Juan**	**78.68**	**326**	LR	LR	00 14 09.9	
	comp=Z,38nm,21.9s,baz=162,slow=35						
RPZ	**Rata Peaks**	**79.81**	**196**	LR	LR	00 15 16.7	
	comp=Z,35nm,18.1s,baz=203,slow=35						
ATD	**Arta Tunnel**	**90.44**	**70**	LR	LR	00 20 49.7	
	comp=Z,91nm,18.4s,baz=200,slow=35						
MDT	**Midelt**	**90.44**	**22**	LR	LR	00 15 52.1	
	comp=Z,160nm,20.9s,baz=210,slow=32						
STKA	**Stephens Creek**	**93.22**	**174**	LR	LR	00 20 40.3	
	comp=Z,142nm,20.2s,baz=205,slow=34						
KEST	**Kesra**	**96.88**	**32**	LR	LR	00 20 34.2	
	comp=Z,125nm,19.2s,baz=235,slow=32						
ESDC	**Sonseca Array**	**97.19**	**21**	LR	LR	00 20 52.5	
	comp=Z,93nm,20.0s,baz=215,slow=32						
FINES	**FINESS Array B**	**124.60**	**29**	PKP	**PKPdf**	**23 47 09.5**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=186,slow=1.9,SNR=9.2						
CMAR	**Chiang Mai Arr**	**127.58**	**114**	PKP	**PKPdf**	**23 47 16.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=226,slow=2.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**144.00**	**65**	PKP	**PKPab**	**23 47 43.8**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=218,slow=4.0,SNR=7.8						
ILAR	**Eilson Array**	**147.74**	**314**	PKPbc	**PKPbc**	**23 47 54.7**	**-0.5**
	comp=Z,4.3nm,0.9s,baz=132,slow=1.9,SNR=13						
SONM	**Songino Array**	**152.97**	**88**	PKPbc	**PKPbc**	**23 48 08.0**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=220,slow=4.0,SNR=12						

*BJI **29** 23:35:35.7±0.0, 19°.56N×145°.66E, h175km, mb4.3/39, mB4.8/24*
*IDC **29** 23:35:37.5±0.8, 19°.26N×145°.48E, h186km±7km, mb4.2/28, mbtmp4.7/33, MS3.3/14, Error ellipse: s-maj=12.1km s-min=6.6km az=81.0*
*NEIC **29** 23:35:38.7±1.6, 19°.24N±0°.04×145°.45E±0°.09, h186km±5km, mb4.8/179, Error ellipse: s-maj=12.1km s-min=5.2km az=102.0*
*GCMT **29** 23:35:38.7±0.4, 19°.25N±0°.02×145°.46E±0°.03, h182km±4km, MW4.8/85, Moment Tensor Solution. s9,c9; s85,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.91±.11; $M_{\theta\theta}$0.17±.15; $M_{\phi\phi}$-1.08±.14; $M_{r\theta}$-1.78±.09; $M_{\theta\phi}$1.19±.13; $M_{r\phi}$0.28±.09; Best double couple: M_o2.38100×10^{16} NP1:ϕ_s292.00000°, δ76.00000°, λ56.00000°. NP2:ϕ_s183.00000°, δ37.00000°, λ157.00000°. Principal axes: T 2.4480, Plg47.0000°, Azm166.0000°; N -0.1300, Plg33.0000°, Azm302.0000°; P -2.3140, Plg23.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **29** 23:35:39.4±1.0, 19°.N±.5°×14°.6E±°, h203km±10km, M5.1/24, mB5.0/1, mb4.9/24, MLv5.2/1, Mw(mB)4.3/1*

ISC 29 23:35:37.9±0.5, 19°.29N±0°.04×145°.46E±0°.07, h184km±4km, h184km:pP-P, n459, σ0s99/427, mb4.8/130, 3C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.70**	**186**	P	**Pn**	**23 37 01.9**	**+0.9**
	54nm,0.4s,baz=113,slow=6.4,SNR=6.1						
GUMO				S	**Sn**	**23 38 06.0**	**-0.5**
	59nm,0.3s,baz=34,slow=24,SNR=1.9						
GUMO	**Guam**	**5.70**	**186**	Pn	**Pn**	**23 37 01.7**	**+0.6**
JCJ	**Chichijima**	**8.34**	**339**	P	**Pn**	**23 37 36.4**	**+0.8**
	90nm,0.6s,baz=257,slow=24,SNR=14						
JCJ				S	**Sn**	**23 39 06.1**	**-2.9**
	514nm,0.4s,baz=280,slow=23,SNR=19						
JCJ	**Chichijima**	**8.34**	**339**	Pn	**Pn**	**23 37 35.6**	**+0.1**
JCJ				Sn	**Sn**	**23 39 02.7**	**-6.3**
JCJ	**Chichijima**	**8.34**	**339**	P	**Pn**	**23 37 34.4**	**-1.1**
JOW	**Kunigami**	**17.50**	**299**	P	**P**	**23 39 29.0**	**-0.4**
	16nm,0.8s,baz=137,slow=21,SNR=2.3						
JOW	**Kunigami**	**17.50**	**299**	P	**P**	**23 39 29.9**	**+0.6**
PATS	**Pohnpei**	**17.59**	**133**	Pn	**Pn**	**23 39 32.5**	**+0.5**
INU	**Inuyama**	**17.66**	**337**		**Pn**	**23 39 32.3**	**-0.4**
INU	**Inuyama**	**17.66**	**337**	P	**Pn**	**23 39 32.5**	**-0.2**
JMN	**Monobe**	**17.71**	**327**	P	**Pn**	**23 39 32.8**	**-0.6**
JGF	**Kuroka**	**17.76**	**338**	P	**P**	**23 39 32.8**	**+0.6**
JGF	**Kuroka**	**17.76**	**338**	P	**P**	**23 39 32.7**	**+0.6**
MJAR	**Matsushiro Arr**	**18.33**	**341**	P	**P**	**23 39 37.7**	**-0.6**
	14nm,0.5s,baz=169,slow=9.9,SNR=34						
MJAR				S	**S**	**23 42 55.7**	**-2.6**
	10nm,0.9s,baz=107,slow=18,SNR=7.1						
MAJO	**Matsushiro**	**18.33**	**341**	P	**P**	**23 39 38.0**	**-0.4**
MAJO					**S**	**23 43 00.3**	**+2.0**
MAJO	**Matsushiro**	**18.33**	**341**	P	**P**	**23 39 39.4**	**+1.0**
JMM	**Marumori**	**18.95**	**349**	P	**P**	**23 39 45.8**	**+0.8**
JMM					**S**	**23 43 15.7**	**+5.2**
JMM	**Marumori**	**18.95**	**349**	P	**Pn**	**23 39 46.6**	**-1.3**
JNU	**Nakatsue**	**18.97**	**319**	P	**Pn**	**23 39 47.0**	**-1.2**
	14nm,0.8s,baz=73,slow=7.1,SNR=3.8						
JHS	**Saijyo**	**19.09**	**328**	P	**P**	**23 39 46.4**	**-0.2**
JSD	**Sado**	**19.71**	**343**	P	**P**	**23 39 53.4**	**+0.3**
JSD	**Sado**	**19.71**	**343**	P	**P**	**23 39 53.8**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**20.10**	**89**	T	T	00 01 06.1	
	baz=275,slow=75,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**20.11**	**89**	T	T	00 01 04.1	
	baz=275,slow=75,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**20.12**	**89**	T	T	00 01 16.4	
	baz=275,slow=75,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**20.21**	**85**	T	T	00 01 33.8	
	SNR=3.0						
MANU	**Manus Island**	**21.28**	**175**	P	**P**	**23 40 09.0**	**-1.2**
MANU	**Manus Island**	**21.28**	**175**	P	**P**	**23 40 09.4**	**-0.8**
JTM	**Tenmabayashi**	**21.76**	**351**	P	**P**	**23 40 15.4**	**+0.5**
JTM	**Tenmabayashi**	**21.76**	**351**	P	**P**	**23 40 16.4**	**+1.5**
SMPI	**Sarmi**	**22.16**	**198**	P	**P**	**23 40 19.3**	**+0.2**
	148nm,1.6s						
GENI	**Genyem**	**22.36**	**194**	P	**P**	**23 40 22.1**	**+1.1**
GENI	**Genyem**	**22.36**	**194**	P	**P**	**23 40 21.8**	**+0.8**
	196nm,1.3s						
ERM	**Erimo**	**22.74**	**356**	P	**P**	**23 40 25.9**	**+1.8**
YULB	**Yu-li**	**22.87**	**285**	P	**P**	**23 40 26.1**	**+0.5**
SRPI	**Serui, Papua**	**22.90**	**204**	P	**P**	**23 40 26.8**	**+1.0**
	99nm,0.4s						
YHNB	**Yeheng**	**22.95**	**288**	P	**P**	**23 40 27.2**	**+0.7**
TWG	**Pinlang**	**23.02**	**283**	P	**P**	**23 40 26.7**	**-0.3**
TWG				IAmb	IAmb	23 40 38.3	
	comp=Z,15nm,0.9s						
SSLB	**Suanglung**	**23.22**	**285**	P	**P**	**23 40 29.2**	**+0.5**
SSLB				IAmb	IAmb	23 40 32.5	
	comp=Z,22nm,0.8s						
TPUB	**Ta-pu**	**23.47**	**284**	P	**P**	**23 40 31.3**	**+0.2**
KSRS	**Korea Array**	**23.71**	**323**	P	**P**	**23 40 33.0**	**0.0**
	comp=Z,14nm,0.8s,baz=144,slow=9.3,SNR=29						
KSRS				pP	**pP**	**23 41 08.0**	**+1.1**
	comp=Z,10nm,0.8s,baz=147,slow=9.3,SNR=1.6						
KSRS				LR	LR	23 49 29.3	
	comp=Z,27nm,18.4s,baz=0.0,slow=35						
	comp=Z,14nm,0.8s						
KS19	**Wonju Array Si**	**23.78**	**323**	P	**P**	**23 40 32.9**	**-0.8**
KS19				IAmb	IAmb	23 40 44.6	
	comp=Z,28nm,0.7s						
SWI	**Sorong**	**24.40**	**216**	P	**P**	**23 40 41.3**	**+1.8**
	comp=Z,16nm,1.3s						
SIJI	**Sorong**	**24.40**	**216**	P	**P**	**23 40 38.8**	**-0.8**
	comp=Z,4.4nm,0.3s,baz=1.2,slow=9.8,SNR=5.7						
	comp=Z,4.4nm,0.3s						
JKA	**Kamikawa-asahi**	**24.87**	**355**	P	**P**	**23 40 44.5**	**+1.0**
ASAJ	**Asahikawa**	**24.87**	**355**	P	**P**	**23 40 43.0**	**-0.6**
	comp=Z,42nm,0.6s,baz=215,slow=11,SNR=32						
ASAJ				LR	LR	23 52 00.8	
	comp=Z,18nm,18.9s,baz=154,slow=40						
	comp=Z,42nm,0.6s						
FAKI	**Fak Fak**	**25.61**	**212**	P	**P**	**23 40 50.4**	**-0.1**
FAKI				IAmb	IAmb	23 40 52.7	
	comp=Z,14nm,0.8s						
KNMB	**Chin-men Tao**	**25.62**	**286**	P	**P**	**23 40 51.1**	**+0.6**
KNMB				IAmb	IAmb	23 41 37.0	
	comp=Z,22nm,1.3s						
NJ2	**Nanjing**	**27.06**	**303**	*e*P	**P**	**23 41 03.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,53nm,2.5s						
USRK	**Ussuriysk Ar.**	**27.28**	**339**	P	**P**	**23 41 03.7**	**-1.4**
	comp=Z,6.0nm,0.8s,baz=161,slow=10,SNR=4.8						
	comp=Z,6.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**27.68**	**356**	P	**P**	**23 41 09.2**	**+0.6**
PMG	**Port Moresby**	**28.56**	**176**	P	**P**	**23 41 14.5**	**-2.2**
	comp=Z,16nm,0.6s,baz=0.7,slow=8.0,SNR=7.7						
	comp=Z,16nm,0.6s						
PMG	**Port Moresby**	**28.56**	**176**	P	**P**	**23 41 15.6**	**-1.2**
PMG				IAmb	IAmb	23 41 22.5	
	comp=Z,25nm,0.8s						
PMG	**Port Moresby**	**28.56**	**176**	P	**P**	**23 41 18.2**	**+1.4**
PMG	**Port Moresby**	**28.56**	**176**	P	**P**	**23 41 18.1**	**+1.3**
BNX	**BinXian**	**30.31**	**335**	⇑P	**P**	**23 41 32.0**	**+0.1**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,210nm,4.2s						
MPSI	**Mapaga**	**31.35**	**236**	P	**P**	**23 41 41.8**	**+0.4**
	comp=Z,13nm,0.6s						
KKM	**Kota Kinabalu**	**31.36**	**249**	P	**P**	**23 41 42.7**	**+1.1**
KKM				IAmb	IAmb	23 41 43.2	
	comp=Z,18nm,0.8s						
HNS	**HongShan**	**32.33**	**310**	⇑P	**P**	**23 41 50.3**	**+0.6**
HNS				pmax	pmax		
	comp=Z,13nm,1.1s						
BJT	**Baijiatuao**	**32.55**	**316**	P	**P**	**23 41 52.5**	**+0.9**
BJT	**Baijiatuao**	**32.55**	**316**	P	**P**	**23 41 51.8**	**+0.2**
BJI	**Beijing**	**32.56**	**316**	P	**P**	**23 41 52.0**	**+0.3**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
COEN	**Coen**	**33.11**	**184**	P	**P**	**23 41 55.8**	**-0.9**
COEN				IAmb	IAmb	23 41 56.5	
	comp=Z,14nm,0.7s						
HEH	**HeiHe**	**34.08**	**339**	*e*P	**P**	**23 42 03.8**	**-0.9**
HEH				pmax	pmax		
	comp=Z,39nm,0.9s						
HEH				pmax	pmax		
	comp=Z,270nm,4.8s						
SPSI	**Sidrap Palu**	**34.25**	**230**	P	**P**	**23 42 05.9**	**-0.7**
	comp=Z,37nm,0.8s						
KDU	**Kakadu**	**34.25**	**203**	P	**P**	**23 42 06.2**	**-0.3**
XLT	**XiLinHaoTe**	**34.73**	**321**	*e*P	**P**	**23 42 09.5**	**-1.0**
XLT				pmax	pmax		
	comp=Z,19nm,1.0s						
XLT				pmax	pmax		
	comp=Z,120nm,5.4s						
MTN	**Manton Dam**	**34.91**	**205**	P	**P**	**23 42 12.1**	**-0.1**
MTN	**Manton Dam**	**34.91**	**205**	P	**P**	**23 42 12.2**	**0.0**
PETK	**Petropavlovsk-**	**35.07**	**13**	P	**P**	**23 42 12.6**	**-0.6**
	comp=Z,15nm,0.8s,baz=198,slow=12,SNR=13						
PETK				LR	LR	23 54 25.7	
	comp=Z,29nm,21.2s,baz=209,slow=32						
	comp=Z,15nm,0.8s						
PET	**Petropavlovsk**	**35.20**	**14**	P	**P**	**23 42 15.2**	**+1.0**
HHC	**Hu-ho-hao-te**	**36.03**	**314**	*e*P	**P**	**23 42 22.3**	**+0.6**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,290nm,5.0s						
SBUM	**Sibu**	**36.56**	**247**	P	**P**	**23 42 27.2**	**+0.8**
SBUM				IAmb	IAmb	23 42 28.4	
	comp=Z,22nm,0.7s						
MTSU	**Mount Surprise**	**37.21**	**182**	P	**P**	**23 42 30.7**	**-1.0**
KNRA	**Kununurra**	**38.44**	**206**	P	**P**	**23 42 41.9**	**0.0**
KNRA	**Kununurra**	**38.44**	**206**	P	**P**	**23 42 43.6**	**+1.6**
CTA	**Charters Tower**	**39.14**	**179**	P	**P**	**23 42 46.3**	**-1.5**
	comp=Z,5.8nm,0.7s,baz=20,slow=8.4,SNR=3.4						
	comp=Z,5.8nm,0.7s						
CTAO	**Charters Tower**	**39.14**	**179**	P	**P**	**23 42 46.8**	**-1.0**
CTAO				IAmb	IAmb	23 42 49.2	
	comp=Z,62nm,1.7s						
CTAO	**Charters Tower**	**39.14**	**179**	P	**P**	**23 42

comp=Z,30nm,0.6s
AS01 Alice Springs 44.14 195 P **P** **23 43 28.3 -0.1**
AS31 Alice Springs 44.16 195 P **P** **23 43 27.2 -1.3**
ASAR Alice Springs 44.16 195 P **P** **23 43 28.2 -0.3**
comp=Z,16nm,0.7s,baz=15,slow=7.2,SNR=161
ASAR PcP **PcP** **23 45 09.1 -1.1**
comp=Z,2.0nm,0.7s,baz=30,slow=2.9,SNR=4.8
ASAR LR LR 00 02 40.3
comp=Z,21nm,18.1s,baz=75,slow=37
comp=Z,16nm,0.7s
ASAR Alice Springs 44.16 195 P **P** **23 43 27.1 -1.4**
MYKOM Kota Tinggi 44.27 252 IAmb IAmb 23 43 32.3
comp=Z,26nm,0.7s
SURA Surathani 45.43 264 P **P** **23 43 40.1 +1.4**
QLP Quilpie 45.61 182 P **P** **23 43 38.4 -1.5**
RMQ Roma 45.61 176 P **P** **23 43 38.6 -1.3**
IPM Ipoh 45.74 257 P **P** **23 43 40.8 -0.4**
IPM IAmb IAmb 23 43 43.9
comp=Z,16nm,0.8s
IPM Ipoh 45.74 257 P **P** **23 43 42.0 +0.7**
KULM Kulim 45.79 258 P **P** **23 43 39.7 -1.9**
KULM IAmb IAmb 23 43 44.2
comp=Z,22nm,0.8s
NOUC Port Laguerre 45.91 153 P **P** **23 43 41.7 -0.6**
DZM Mont Dzumac 45.94 152 P **P** **23 43 42.1 -0.6**
comp=Z,40nm,1.0s,baz=342,slow=5.4,SNR=20
comp=Z,40nm,1.0s
DZM Mont Dzumac 45.94 152 P **P** **23 43 41.7 -0.9**
DZM IAmb IAmb 23 43 43.2
comp=Z,58nm,1.1s
DZM Mont Dzumac 45.94 152 P **P** **23 43 42.9 +0.2**
DZM Mont Dzumac 45.94 152 P **P** **23 43 42.4 -0.2**
OUENC Ouen Island, N 46.42 152 P **P** **23 43 45.7 -0.5**
OUENC IAmb IAmb 23 43 46.9
comp=Z,49nm,1.0s
AUBSH Beerwah State 46.45 171 P **P** **23 43 46.7 +0.3**
INKA Innaminka 46.97 186 P **P** **23 43 50.1 -0.4**
WRKA Warakurna 47.12 201 P **P** **23 43 51.9 +0.2**
GOMU GeErMu 47.35 302 P **P** **23 43 56.3 +2.4**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,99nm,5.6s
MBWA Marble Bar 47.44 213 P **P** **23 43 53.9 -0.2**
PSA00 Pilbara Seismi 47.72 213 P **P** **23 43 55.8 -0.6**
PSA00 IAmb IAmb 23 43 57.2
comp=Z,36nm,1.1s
PSA00 Pilbara Seismi 47.72 213 P **P** **23 43 56.4 0.0**
OOD Oodnadatta 47.75 192 P **P** **23 43 56.1 -0.4**
PSI Prapat 48.33 256 P **P** **23 44 02.6 +1.2**
RPSI Rantau Prapat 48.37 256 IAmb IAmb 23 44 04.1
comp=Z,18nm,1.1s
AULRC Lightning Ridg 48.49 177 P **P** **23 44 01.8 -0.3**
MSVF Nonsavu 48.77 137 P **P** **23 44 05.1 +0.6**
comp=Z,10nm,0.9s,baz=309,slow=11,SNR=4.5
comp=Z,10nm,0.9s
LCRK Leigh Creek 49.94 188 P **P** **23 44 13.0 -0.1**
GSI Gunungsitoli 50.16 255 P **P** **23 44 14.7 -0.4**
GSI Gunungsitoli 50.16 255 P **P** **23 44 16.0 +0.9**
UNV Unalaska Valle 50.30 35 P **P** **23 44 15.8 +0.3**
baz=246
BILL Bilibino 50.48 10 P **P** **23 44 17.4 +0.7**
BILL Bilibino 50.48 10 P **P** **23 44 17.5 +0.8**
MULG Mulgathing 50.49 193 P **P** **23 44 16.8 -0.4**
CMSA Cobar Meteorol 50.53 180 P **P** **23 44 17.1 -0.4**
STKA Stephens Creek 51.01 184 P **P** **23 44 19.3 -1.8**
comp=Z,8.0nm,0.9s,baz=358,slow=7.5,SNR=9.4
comp=Z,8.0nm,0.9s
STKA Stephens Creek 51.01 184 P **P** **23 44 19.6 -1.4**
STKA Stephens Creek 51.01 184 P **P** **23 44 20.2 -0.9**
FORT Forrest 52.52 199 P **P** **23 44 32.6 +0.3**
BBOO Buckleboo 52.58 190 P **P** **23 44 32.0 -0.7**
BBOO IAmb IAmb 23 45 54.0
comp=Z,36nm,1.4s
HTT Hallett 52.79 187 P **P** **23 44 34.6 +0.3**
TIXI Tiksi 53.26 354 P **P** **23 44 37.7 +0.5**
WMQ Urumqi 53.76 311 *eP* **P** **23 44 42.5 +1.1**
WMQ pP pwP 23 45 25.0 -1.5
WMQ pmax pmax
comp=Z,9.0nm,1.1s
SDPT Sand Point 54.12 35 P **P** **23 44 44.0 +0.4**
baz=251
CAN Canberra 54.41 176 P **P** **23 44 45.5 -0.5**
CAN pP **pwP** **23 45 29.2 -1.3**
TNA Tin City 55.35 22 P **P** **23 44 53.1 +0.8**
TNA IAmb IAmb 23 44 54.2
comp=Z,17nm,1.0s
TNA Tin City 55.35 22 P **P** **23 44 52.8 +0.5**
baz=236,SNR=9.1
CHGN Chignik 55.52 34 P **P** **23 44 53.2 -0.5**
baz=252
ANM Nome 55.74 23 IAmb IAmb 23 44 57.3
comp=Z,19nm,0.9s
ANM Nome 55.74 23 P **P** **23 44 56.2 +1.0**
baz=240,SNR=15
ARPS Mount Arapiles 55.86 184 P **P** **23 44 55.9 -0.4**
R16K Pilot Point 56.35 33 P **P** **23 45 00.6 +1.0**
baz=252
TOO Toolangi 56.55 180 P **P** **23 45 00.1 -1.2**
TOO IAmb IAmb 23 45 06.7
comp=Z,59nm,2.0s
P16K Nushagak River 56.61 31 P **P** **23 45 02.5 +1.2**
baz=251,SNR=8.1
N16K Nishlik Lake 56.74 29 P **P** **23 45 02.8 +0.4**
baz=249
O16K Kokwok River B 56.75 30 P **P** **23 45 02.8 +0.5**
baz=250
R17K Ugashik Creek 56.98 33 P **P** **23 45 04.0 -0.1**
baz=253
Q16K King Salmon 57.16 32 P **P** **23 45 05.3 +0.1**
baz=252
O17K Koliganek Bris 57.29 30 P **P** **23 45 06.1 0.0**
baz=251,SNR=13
ZALV Zalesovo Beam 57.41 322 P **P** **23 45 06.3 -0.8**
comp=Z,4.0nm,0.6s,baz=107,slow=8.2,SNR=20
comp=Z,4.0nm,0.6s
Q17K Contact Creek 57.42 32 P **P** **23 45 07.0 -0.2**
baz=253
P17K Kvichak River 57.42 31 P **P** **23 45 07.2 +0.1**
baz=252
SII Sitkinak Islan 57.85 35 P **P** **23 45 11.4 +1.3**
SII Sitkinak Islan 57.85 35 P **P** **23 45 10.1 0.0**
baz=256
MK31 Makanchi Array 57.90 314 P **P** **23 45 10.9 +0.2**
MKAR Makanchi Array 57.90 314 P **P** **23 45 10.9 +0.2**
comp=Z,2.6nm,0.7s,baz=93,slow=8.3,SNR=30
MKAR pP **pP** **23 45 53.0 +1.4**
comp=Z,3.3nm,0.8s,baz=94,slow=9.9,SNR=4.1
comp=Z,2.6nm,0.7s
MKAR Makanchi Array 57.90 314 P **P** **23 45 10.6 -0.1**
Q18K Katmai Hardscr 57.97 32 P **P** **23 45 10.4 -0.7**
baz=254,SNR=5.5
P18K Big Mountain, 58.08 31 P **P** **23 45 11.8 +0.2**
P18K IAmb IAmb 23 45 13.9
comp=Z,8.1nm,0.8s
P18K Big Mountain, 58.08 31 P **P** **23 45 11.5 -0.2**
baz=253
MAKZ Makanchi 58.11 314 P **P** **23 45 12.6 +0.4**
MAKZ Makanchi 58.11 314 P **P** **23 45 12.2 0.0**
MAKZ pP **pwP** **23 45 55.7 -2.2**
O18K Koktuh Hills 58.22 31 P **P** **23 45 14.3 +1.6**
O18K Koktuh Hills 58.22 31 P **P** **23 45 13.6 +0.9**
baz=253,SNR=11
SVW2 Sparrevohn 58.42 29 P **P** **23 45 15.2 +1.2**
SVW2 IAmb IAmb 23 45 16.2
comp=Z,16nm,0.9s
SVW2 Sparrevohn 58.42 29 P **P** **23 45 15.2 +1.2**
OHAK Old Harbor 58.49 34 P **P** **23 45 14.5 0.0**
baz=256
NWAO Narrogin (SRO) 58.52 208 P **P** **23 45 14.8 -0.2**
Q19K Cape Douglas, 58.73 32 P **P** **23 45 15.7 -0.5**
Q19K Cape Douglas, 58.73 32 P **P** **23 45 16.0 -0.2**
baz=255
O19K Port Alsworth 58.75 30 P **P** **23 45 16.2 0.0**
baz=254,SNR=9.5
TTA Tatalina 58.83 27 P **P** **23 45 17.7 +0.8**
TTA IAmb IAmb 23 45 18.7
comp=Z,16nm,1.1s
TTA Tatalina 58.83 27 P **P** **23 45 17.2 +0.3**
baz=250,SNR=8.9
TTA Tatalina 58.83 27 P **P** **23 45 17.6 +0.7**
N19K Bonanza Creek 58.85 30 P **P** **23 45 18.4 +1.3**
baz=253
KDAK Kodiak Island 58.99 33 P **P** **23 45 18.1 +0.2**
comp=Z,12nm,0.7s,baz=170,slow=2.1,SNR=10
KDAK LR LR 00 11 13.7
comp=Z,29nm,19.1s,baz=256,slow=36
comp=Z,12nm,0.7s
KDAK Kodiak Island 58.99 33 P **P** **23 45 18.7 +0.7**
KDAK IAmb IAmb 23 46 26.0
comp=Z,30nm,1.1s
KDAK Kodiak Island 58.99 33 P **P** **23 45 18.2 +0.2**
KDAK Kodiak Island 58.99 33 P **P** **23 45 18.4 +0.5**
L19K White Mountain 59.09 28 IAmb IAmb 23 45 20.7
comp=Z,14nm,1.1s
L19K White Mountain 59.09 28 P **P** **23 45 19.2 +0.5**
baz=252
GCSA Galena City Sc 59.11 25 P **P** **23 45 18.9 +0.2**
baz=248
P19K Oil Pt 59.13 31 P **P** **23 45 19.4 +0.5**
P19K Oil Pt 59.13 31 P **P** **23 45 19.6 +0.7**
baz=255
M19K Big River Lodg 59.22 29 P **P** **23 45 20.9 +1.4**
M19K IAmb IAmb 23 45 21.7
comp=Z,15nm,1.3s
M19K Big River Lodg 59.22 29 P **P** **23 45 20.2 +0.8**
baz=252
Q20K Shuyak Island 59.28 33 P **P** **23 45 19.9 -0.1**
baz=256
L20K Farewell, AK 59.62 28 P **P** **23 45 22.7 +0.4**
baz=253
M20K Styx River 59.78 29 IAmb IAmb 23 45 25.7
comp=Z,13nm,0.8s
M20K Styx River 59.78 29 P **P** **23 45 24.5 +1.1**
baz=254
K20K Telida 59.80 27 IAmb IAmb 23 45 25.9
comp=Z,23nm,1.0s
K20K Telida 59.80 27 P **P** **23 45 24.9 +1.4**
baz=252,SNR=15
HOM Homer 59.91 31 P **P** **23 45 24.8 +0.6**
baz=256
N20K Mount Spurr 60.02 30 P **P** **23 45 25.4 +0.3**
baz=255
CNPM China Poot 60.08 32 P **P** **23 45 25.8 +0.3**
BRLK Bradley Lake 60.31 31 P **P** **23 45 27.0 0.0**
BRSE Bradley Lake S 60.37 32 P **P** **23 45 27.5 +0.1**
baz=257
PPLA Purkeypile 60.48 28 P **P** **23 45 29.5 +1.2**
SKT Skwentna 60.53 29 IAmb IAmb 23 45 29.3
comp=Z,19nm,1.0s
SKT Skwentna 60.53 29 P **P** **23 45 28.5 +0.1**
baz=255,SNR=7.2
CAST Castle Rocks 60.67 27 P **P** **23 45 29.8 +0.4**
baz=254,SNR=17
KURK Kurchatov 60.69 318 P **P** **23 45 29.2 -0.5**
KURK Kurchatov 60.69 318 P **P** **23 45 29.7 +0.1**
KURK pP **PcP** **23 46 13.4 +1.5**
KURK sP **sP** **23 46 34.8 +4.2**
CHUM Lake Minchumin 60.71 27 P **P** **23 45 30.0 +0.5**
baz=253,SNR=12
SUA Susitna One 60.77 30 IAmb IAmb 23 45 31.4
comp=Z,12nm,0.8s
SUA Susitna One 60.77 30 P **P** **23 45 30.9 +0.7**
baz=256,SNR=6.8
IMAR Indian Mountai 60.77 24 P **P** **23 45 30.8 +0.8**
NRIK Noril'sk 60.98 340 P **P** **23 45 30.5 -0.8**
comp=Z,6.3nm,0.7s,baz=108,slow=8.1,SNR=21
comp=Z,6.3nm,0.7s
NRIK Noril'sk 60.98 340 P **P** **23 45 30.9 -0.4**
NRIK IAmb IAmb 23 45 31.9
comp=Z,7.2nm,0.8s
H21K Melozitna Rive 61.04 25 IAmb IAmb 23 45 34.0
comp=Z,15nm,0.9s
H21K Melozitna Rive 61.04 25 P **P** **23 45 32.7 +0.9**
baz=252
G21K Allakaket 61.04 24 P **P** **23 45 32.7 +0.8**
baz=251
SEW Seward 61.09 31 P **P** **23 45 32.7 +0.5**
baz=258
M22K Willow 61.13 29 P **P** **23 45 32.2 -0.2**
baz=257
RC01 Rabbit Creek A 61.16 30 P **P** **23 45 32.5 -0.2**
baz=257,SNR=8.1
CUT Chulitna 61.21 29 P **P** **23 45 32.4 -0.6**
CUT IAmb IAmb 23 45 33.6
comp=Z,27nm,1.1s
CUT Chulitna 61.21 29 P **P** **23 45 32.9 -0.1**
baz=256
I21K Tanana 61.22 25 IAmb IAmb 23 45 35.2
comp=Z,17nm,1.0s
I21K Tanana 61.22 25 P **P** **23 45 33.7 +0.7**
baz=253
F21K Alatna River 61.29 23 P **P** **23 45 33.6 +0.1**
baz=250
BPAW Bear Paw Mtn. 61.33 27 P **P** **23 45 34.1 +0.3**
baz=254,SNR=21
TRF Thorofare Moun 61.46 27 P **P** **23 45 34.8 -0.1**
baz=256,SNR=14
PMR Palmer 61.55 30 IAmb IAmb 23 45 36.0
comp=Z,22nm,1.1s
PMR Palmer 61.55 30 P **P** **23 45 35.2 -0.1**
baz=258,SNR=5.6
PMR Palmer 61.55 30 P **P** **23 45 35.2 -0.1**
H22K Ishtalitna Cre 61.67 25 P **P** **23 45 36.4 +0.3**
baz=253
MLY Manley 61.69 26 P **P** **23 45 37.3 +1.1**
MLY IAmb IAmb 23 45 38.0
comp=Z,18nm,1.0s
MLY Manley 61.69 26 P **P** **23 45 36.5 +0.3**
baz=254,SNR=18
PWL Port Wells 61.78 31 P **P** **23 45 37.0 +0.1**
baz=259
A21K Barrow 61.81 18 P **P** **23 45 37.4 +0.6**
A21K Barrow 61.81 18 P **P** **23 45 37.3 +0.6**
baz=245,SNR=19
KNK Knik Glacier 61.83 30 P **P** **23 45 37.3 +0.1**
baz=258,SNR=9.9
SML Sawmill 61.97 29 P **P** **23 45 38.5 +0.3**
SML Sawmill 61.97 29 P **P** **23 45 38.2 +0.1**
baz=256,SNR=17
P23K Montague Islan 62.07 32 P **P** **23 45 39.2 +0.4**
baz=260
RND Reindeer 62.08 28 IAmb IAmb 23 45 40.2
comp=Z,6.3nm,0.8s
MCK McKinley 62.12 27 IAmb IAmb 23 45 39.9
comp=Z,18nm,1.1s
MCK McKinley 62.12 27 P **P** **23 45 38.7 -0.4**
baz=257,SNR=7.8
M23K Glacier View 62.25 30 P **P** **23 45 40.2 +0.2**
baz=259,SNR=6.3
NEA2 Nenana 62.26 26 IAmb IAmb 23 45 41.6
comp=Z,14nm,0.9s
NEA2 Nenana 62.26 26 P **P** **23 45 40.3 +0.3**
baz=256,SNR=15
I23K Minto, Yukon-K 62.28 26 P **P** **23 45 41.0 +0.9**
I23K Minto, Yukon-K 62.28 26 P **P** **23 45 40.9 +0.9**
baz=256,SNR=16
KSH Kashi 62.35 305 P **P** **23 45 44.5 +3.3**
KSH PcP **pwP** **23 46 25.8 -1.7**
KSH pmax pmax
comp=Z,4.0nm,0.8s
G23K Bananza Creek 62.43 24 P **P** **23 45 42.2 +1.1**
baz=254,SNR=9.2
SCM Sheep Creek Mo 62.44 30 P **P** **23 45 41.5 +0.1**
baz=259,SNR=11
COLD Coldfoot 62.50 23 IAmb IAmb 23 45 43.7
comp=Z,12nm,1.0s
COLD Coldfoot 62.50 23 P **P** **23 45 42.1 +0.6**
baz=254,SNR=8.3
Q23K Middleton Isla 62.51 32 P **P** **23 45 42.0 +0.4**
baz=261
WRH Wood River Hil 62.65 27 IAmb IAmb 23 45 43.2
comp=Z,12nm,0.8s
MDM Murphy Dome 62.70 26 IAmb IAmb 23 45 44.6
comp=Z,12nm,0.7s
TCOL CIGO, UAF Yank 62.83 26 P **P** **23 45 44.2 +0.5**
TCOL IAmb IAmb 23 45 46.2
comp=Z,14nm,0.8s
TCOL CIGO, UAF Yank 62.83 26 P **P** **23 45 44.5 +0.8**
baz=257
COLA College 62.84 26 P **P** **23 45 44.2 +0.5**
COLA IAmb IAmb 23 45 46.2
comp=Z,15nm,0.8s
COLA College 62.84 26 P **P** **23 45 44.9 +1.1**
baz=257
COLA College 62.84 26 P **P** **23 45 44.5 +0.8**
COLA College 62.84 26 P **P** **23 45 44.8 +1.1**
D23K Nanushuk River 62.84 21 P **P** **23 45 44.6 +0.9**
baz=252
EYAK Cordova Ski Ar 62.98 31 P **P** **23 45 45.4 +0.7**
baz=261
M24K Tolsona, Glenn 63.03 29 P **P** **23 45 45.7 +0.5**
baz=260
KLU Klutina 63.04 30 P **P** **23 45 46.0 +0.7**
KLU IAmb IAmb 23 45 47.0
comp=Z,16nm,0.8s
KLU Klutina 63.04 30 P **P** **23 45 45.9 +0.6**
baz=261,SNR=6.9
H24K Noodor Dome 63.05 25 IAmb IAmb 23 45 52.1
comp=Z,8.4nm,0.7s
H24K Noodor Dome 63.05 25 P **P** **23 45 46.0 +0.7**
baz=257,SNR=14
DIV Divide 63.06 30 P **P** **23 45 45.2 -0.1**
DIV IAmb IAmb 23 45 47.1
comp=Z,13nm,0.9s
POKR Poker Plat Res 63.06 26 P **P** **23 45 44.8 -0.5**
POKR IAmb IAmb 23 45 47.8
comp=Z,9.2nm,1.1s
POKR Poker Plat Res 63.06 26 P **P** **23 45 45.7 +0.4**
baz=257
HDA Harding Lake 63.12 27 IAmb IAmb 23 45 45.8
comp=Z,11nm,0.8s
HDA Harding Lake 63.12 27 P **P** **23 45 45.1 -0.6**
baz=258,SNR=11
IL31 63.22 26 IAmb IAmb 23 45 46.4
comp=Z,16nm,0.9s
ILAR Eielson Array 63.22 26 P **P** **23 45 45.3 -1.0**
comp=Z,12nm,0.9s,baz=259,slow=5.2,SNR=87
comp=Z,12nm,0.9s
AAK Ala-Archa 63.33 309 P **P** **23 45 48.3 +0.7**
E24K Your Creek 63.37 23 P **P** **23 45 47.7 +0.4**
baz=255
G24K Hadweenzic Riv 63.41 24 P **P** **23 45 48.3 +0.8**
baz=257,SNR=9.2
F24K Squaw Lake 63.44 23 P **P** **23 45 48.0 +0.2**
baz=256
PAX Paxson 63.50 28 IAmb IAmb 23 45 49.6
comp=Z,30nm,1.4s
PAX Paxson 63.50 28 P **P** **23 45 48.7 +0.5**
baz=260,SNR=8.8
K24K Donnelly Dome 63.51 28 P **P** **23 45 49.0 +0.8**
baz=260
D24K Happy Valley 63.53 21 P **P** **23 45 49.2 +0.9**
baz=254
HARP HAARP 63.55 29 P **P** **23 45 49.2 +0.7**
baz=261,SNR=7.0
BMRM Bremner River 63.59 31 P **P** **23 45 49.7 +0.8**
baz=262,SNR=5.5
N25K Chitina, Valde 63.69 30 P **P** **23 45 50.3 +0.8**
N25K IAmb IAmb 23 45 51.4
comp=Z,12nm,0.9s
N25K Chitina, Valde 63.69 30 P **P** **23 45 49.7 +0.2**
baz=262
C24K Franklin Bluff 63.73 21 P **P** **23 45 49.9 +0.3**
baz=254
RIDG Independent Ri 63.90 28 P **P** **23 45 50.8 -0.1**
baz=260,SNR=10
PRP Porcupine Dome 63.93 26 P **P** **23 45 51.3 +0.1**
baz=259
G25K Bearman Lake 63.95 24 P **P** **23 45 51.6 +0.6**
baz=258
GLB Gilahina Butte 64.04 30 IAmb IAmb 23 45 53.6
comp=Z,22nm,1.1s
VRDI Verde Repeater 64.18 31 IAmb IAmb 23 45 54.4
comp=Z,19nm,0.9s
DOT Dot Lake 64.23 28 IAmb IAmb 23 45 54.1
comp=Z,16nm,0.8s
FYU Fort Yukon 64.25 25 IAmb IAmb 23 45 55.8
comp=Z,23nm,0.9s
F25K Christian Rive 64.30 23 P **P** **23 45 54.1 +0.7**
baz=258
SCRK Sand Creek 64.32 27 P **P** **23 45 54.1 +0.4**
SCRK IAmb IAmb 23 45 54.8
comp=Z,20nm,0.9s
SCRK Sand Creek 64.32 27 P **P** **23 45 53.8 +0.2**
baz=261,SNR=21
MCARA McCarthy VSAT 64.41 30 P **P** **23 45 54.8 +0.6**
baz=263
E25K Arctic Village 64.44 23 P **P** **23 45 55.1 +0.9**
baz=258,SNR=13
L26K Log Cabin Wild 64.46 29 IAmb IAmb 23 45 56.1
comp=Z,7.8nm,0.9s
L26K Log Cabin Wild 64.46 29 P **P** **23 45 55.2 +0.7**
baz=262,SNR=5.1
URZ Urewera 64.50 153 P **P** **23 45 53.4 -1.5**
comp=Z,16nm,1.0s,baz=17,slow=3.3,SNR=4.2
comp=Z,16nm,1.0s
M26K Nabesna, AK 64.54 29 P **P** **23 45 55.3 +0.2**
baz=263
J26L Joseph Creek 64.58 27 IAmb IAmb 23 45 56.4
comp=Z,23nm,0.9s
J26L Joseph Creek 64.58 27 P **P** **23 45 55.4 +0.1**
baz=261
RTZ Ruatahuna 64.74 153 P **P** **23 45 55.0 -1.7**
I26K Coal Creek Min 64.87 26 P **P** **23 45 56.5 -0.5**
baz=261
F26K Sheenjek River 64.88 23 P **P** **23 45 58.0 +0.8**
baz=259
G26K Porcupine Rive 64.89 24 P **P** **23 45 58.5 +1.4**
baz=260
BKZ Black Stump Fm 65.00 154 P **P** **23 45 57.6 -0.6**
NIL Nilore 65.05 299 P **P** **23 46 01.1 +2.2**
NIL **pwP** **23 46 44.7 -0.8**
NIL IAmb IAmb 23 46 46.2
comp=Z,16nm,0.9s
NIL Nilore 65.05 299 P **P** **23 46 00.5 +1.6**
NIL pP **pwP** **23 46 44.7 -0.8**
M27K Edge Creek, AK 65.06 29 IAmb IAmb 23 46 01.4
comp=Z,14nm,1.2s
M27K Edge Creek, AK 65.06 29 P **P** **23 45 59.5 +1.0**
baz=264
C26K Camden Bay 65.06 21 P **P** **23 45 59.5 +1.3**
baz=258
L27K Beaver Creek, 65.15 29 P **P** **23 45 59.1 +0.1**
baz=264
C27K Jago River 65.41 21 P **P** **23 46 01.2 +0.8**
baz=259
BVCY Beaver Creek 65.53 29 P **P** **23 46 01.7 +0.2**
baz=265
I27K Kandik River 65.55 26 P **P** **23 46 02.0 +0.5**
baz=263
EGAK Eagle 65.64 27 P **P** **23 46 02.7 +0.7**
baz=264
PINM Pinnacle 65.65 32 P **P** **23 46 03.2 +0.9**
baz=266
YUK3 Moose Creek 65.67 30 P **P** **23 46 03.2 +0.7**
baz=265,SNR=6.1
H27K Steamboat Moun 65.67 25 P **P** **23 46 03.2 +1.0**
baz=262
G27K Doyon Strip 65.69 25 P **P** **23 46 02.9 +0.6**
baz=262
O28M Mount Upton 65.72 31 P **P** **23 46 03.5 +0.6**
baz=266,SNR=6.7
E27K Coleen River 65.91 23 P **P** **23 46 04.5 +0.7**
baz=262
BRVK Borovoye 65.94 320 P **P** **23 46 04.0 -0.2**
BRVK pP **pP** **23 46 43.8 -2.4**
BRVK IAmb IAmb 23 46 44.5
comp=Z,9.1nm,1.0s
BRVK Borovoye 65.94 320 P **P** **23 46 03.7 -0.4**
YUK8 Steele Glacier 65.96 31 P **P** **23 46 05.4 +0.9**
baz=266
KKAR Karatay Array 66.22 309 P **P** **23 46 06.0 -0.2**
KKAR Karatay Array 66.22 309 pP 23 46 47.8 -0.5
DAWY Dawson 66.34 28 P **P** **23 46 07.2 +0.7**
baz=265,SNR=7.3
O29M Mount Kennedy 66.50 32 P **P** **23 46 09.0 +1.3**
baz=268,SNR=5.4
YUK4 Talbot Arm 66.50 31 P **P** **23 46 09.2 +1.3**
baz=267,SNR=7.4
PLWZ Palliser 66.54 156 P **P** **23 46 06.8 -1.2**
YUK6 Outpost Mounta 66.62 31 P **P** **23 46 10.1 +1.4**
baz=268
M29M Somme Creek 66.65 29 P **P** **23 46 09.5 +0.9**
baz=267,SNR=7.5
L29M L29M 66.84 29 P **P** **23 46 10.8 +1.1**
baz=267
I29M Ogilvie Camp, 66.90 26 P **P** **23 46 10.9 +0.9**
baz=266,SNR=6.5
HYT Haines Junctio 67.04 31 IAmb IAmb 23 46 13.7
comp=Z,17nm,1.0s
HYT Haines Junctio 67.04 31 P **P** **23 46 12.2 +1.1**
baz=268,SNR=7.5
K29M Barlow Dome 67.15 28 P **P** **23 46 12.8 +1.0**
baz=267,SNR=11
P30M Million Dollar 67.30 32 P **P** **23 46 13.3 +0.6**
baz=269
M30M Minto, Yukon 67.43 29 P **P** **23 46 14.5 +1.1**
baz=268

PLBC	**Pleasant Camp**	**67.59**	**33**	P		**P**	**23 46 15.1**	**+0.6**
	baz=270							
CHGR	**Chuyangaron**	**67.71**	**305**	IAmb		IAmb	23 46 17.3	
	comp=Z,15nm,0.9s							
O30N	**Mendenhall**	**67.73**	**31**	P		**P**	**23 46 15.6**	**+0.2**
	baz=270							
G30M	**tAoh Zraii Nji**	**67.84**	**25**	P		**P**	**23 46 16.6**	**+0.6**
	baz=267							
N31M	**Braeburn, Yuko**	**67.89**	**31**	IAmb		IAmb	23 46 18.7	
	comp=Z,18nm,1.1s							
N31M	**Braeburn, Yuko**	**67.89**	**31**	P		**P**	**23 46 16.7**	**+0.4**
	baz=270							
ODZ	**Otahua Downs**	**68.01**	**161**	P		**P**	**23 46 17.4**	**+0.3**
WHY	**Whitehorse**	**68.33**	**31**	P		**P**	**23 46 19.3**	**+0.2**
	baz=271							
BESE	**Bessie Mountai**	**68.39**	**34**	P		**P**	**23 46 18.6**	**-0.9**
M31M	**Drury Creek, Y**	**68.54**	**30**	P		**P**	**23 46 21.3**	**+0.9**
M31M				IAmb		IAmb	23 46 45.8	
	comp=Z,34nm,1.9s							
M31M	**Drury Creek, Y**	**68.54**	**30**	P		**P**	**23 46 20.9**	**+0.5**
	baz=271							
F31M	**Tsiigehtchic**	**68.83**	**24**	P		**P**	**23 46 22.1**	**+0.1**
	baz=269,SNR=6.3							
INK	**Inuvik**	**68.92**	**23**	P		**P**	**23 46 22.6**	**+0.1**
	comp=Z,8.5nm,0.8s,baz=269,slow=5.8,SNR=29							
	comp=Z,8.5nm,0.8s							
INK	**Inuvik**	**68.92**	**23**	IAmb		IAmb	23 46 23.6	
	comp=Z,11nm,0.9s							
INK	**Inuvik**	**68.92**	**23**	P		**P**	**23 46 22.4**	**-0.1**
	baz=269,SNR=12							
P32M	**Atlin**	**68.94**	**33**	P		**P**	**23 46 23.2**	**+0.3**
	baz=272							
FARO	**Faro, Yukon**	**69.03**	**30**	P		**P**	**23 46 23.6**	**+0.2**
	baz=272							
N32M	**Quiet Lake**	**69.19**	**31**	P		**P**	**23 46 24.9**	**+0.5**
	baz=272							
P33M	**Teslin, Yukon**	**69.36**	**32**	P		**P**	**23 46 26.4**	**+0.8**
	baz=273							
S34M	**Telegraph Cree**	**70.39**	**34**	P		**P**	**23 46 32.6**	**+0.9**
	baz=275							
DLBC	**Dease Lake**	**70.93**	**34**	P		**P**	**23 46 36.1**	**+1.1**
DLBC				IAmb		IAmb	23 48 58.2	
	comp=Z,46nm,1.9s							
DLBC	**Dease Lake**	**70.93**	**34**	P		**P**	**23 46 35.4**	**+0.3**
	baz=276							
T35M	**Bob Quinn**	**70.96**	**35**	P		**P**	**23 46 35.6**	**+0.4**
	baz=276							
A36M	**Sachs Harbour**	**71.60**	**19**	IAmb		IAmb	23 46 40.0	
	comp=Z,13nm,1.1s							
A36M	**Sachs Harbour**	**71.60**	**19**	P		**P**	**23 46 39.4**	**+0.7**
	baz=276,SNR=6.7							
C36M	**Paulatuk**	**72.29**	**22**	IAmb		IAmb	23 46 43.7	
	comp=Z,34nm,1.6s							
C36M	**Paulatuk**	**72.29**	**22**	P		**P**	**23 46 42.4**	**-0.5**
	baz=278,SNR=11							
ARU	**Arti**	**72.46**	**324**	P		**P**	**23 46 43.2**	**-0.9**
ARU				IAmb		IAmb	23 48 16.7	
	comp=Z,22nm,1.8s							
ABKAR	**Akbulak array**	**72.76**	**317**	P		**P**	**23 46 45.2**	**-0.9**
ABKAR	**Akbulak array**	**72.76**	**317**	IAmb		IAmb	23 46 52.3	
	comp=Z,5.6nm,0.7s							
WRGLY	**Wrigley**	**73.46**	**28**	P		**P**	**23 46 50.4**	**+0.5**
	baz=280							
GEYT	**Alibeck**	**76.37**	**306**	P		**P**	**23 47 06.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=70,slow=6.3,SNR=4.5							
	comp=Z,1.2nm,0.7s							
BUCK	**Buck Mountain**	**77.89**	**47**	P		**P**	**23 47 17.0**	**+1.5**
HUMO	**Hull Mountain**	**78.33**	**49**	P		**P**	**23 47 21.3**	**+3.4**
HUMO				IAmb		IAmb	23 48 07.6	
	comp=Z,25nm,1.8s							
KMRM	**Mail Ridge**	**78.42**	**51**	P		**P**	**23 47 19.3**	**+0.8**
KMRM				IAmb		IAmb	23 48 60.0	
	comp=Z,37nm,1.5s							
LTY	**Liberty**	**78.64**	**44**	P		**P**	**23 47 20.3**	**+0.7**
LTY				IAmb		IAmb	23 48 32.2	
	comp=Z,19nm,1.4s							
KCPM	**Cahto Peak**	**78.66**	**52**	P		**P**	**23 47 21.4**	**+1.6**
KCPM				IAmb		IAmb	23 49 31.3	
	comp=Z,24nm,1.3s							
RES	**Resolute Bay**	**78.91**	**14**	P		**P**	**23 47 20.8**	**+0.5**
PINE	**Pine Mountain**	**79.42**	**47**	P		**P**	**23 47 25.8**	**+1.7**
PINE				IAmb		IAmb	23 47 26.3	
	comp=Z,9.0nm,0.8s							
HAWA	**Hanford**	**79.63**	**45**	P		**P**	**23 47 25.7**	**+0.8**
HAWA				IAmb		IAmb	23 47 32.8	
	comp=Z,20nm,1.8s							
K05A	**Summer Lake**	**79.76**	**48**	P		**P**	**23 47 26.8**	**+0.9**
K05A				IAmb		IAmb	23 47 28.1	
	comp=Z,15nm,1.1s							
CMB	**Columbia Colle**	**81.52**	**53**	P		**P**	**23 47 36.3**	**+1.2**
RYN	**Ryan**	**82.73**	**52**	P		**P**	**23 47 41.5**	**0.0**
LHV	**Little Huntoon**	**82.86**	**52**	P		**P**	**23 47 42.9**	**+0.9**
LHV				IAmb		IAmb	23 48 30.1	
	comp=Z,27nm,1.9s							
KVN	**Kaiserville**	**82.90**	**51**	P		**P**	**23 47 42.9**	**+0.4**
NVAR	**Mina Array Bea**	**82.95**	**52**	P		**P**	**23 47 43.7**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=269,slow=5.7,SNR=27							
	comp=Z,2.7nm,0.6s							
NVAR	**Mina Array Bea**	**82.95**	**52**	P		**P**	**23 47 43.0**	**+0.2**
CWC	**Cottonwood Cre**	**83.77**	**54**	P		**P**	**23 47 46.4**	**-0.6**
	baz=289							
TPH	**Tonopah**	**83.87**	**52**	IAmb		IAmb	23 47 56.9	
	comp=Z,13nm,1.0s							
HLID	**Hailey**	**83.98**	**46**	P		**P**	**23 47 47.6**	**-0.3**
	baz=291							
GRAC	**Grapevine Rang**	**84.13**	**53**	P		**P**	**23 47 49.2**	**+0.6**
	baz=290							
MPMC	**Manual Prospec**	**84.35**	**54**	P		**P**	**23 47 50.3**	**+0.4**
	baz=290							
EDW2	**Edwards Air Fo**	**84.35**	**55**	P		**P**	**23 47 50.3**	**+0.5**
	baz=290							
LRMC	**Laurel Mtn Rad**	**84.39**	**55**	P		**P**	**23 47 50.4**	**+0.3**
	baz=290							
ELK	**Elko**	**84.40**	**49**	P		**P**	**23 47 50.9**	**+0.8**
FMP	**Fort Macarthur**	**84.50**	**56**	P		**P**	**23 47 49.9**	**-0.6**
	baz=289							
TPNV	**Topopah Spring**	**84.98**	**53**	IAmb		IAmb	23 47 54.5	
	comp=Z,18nm,1.8s							
TPNV	**Topopah Spring**	**84.98**	**53**	P		**P**	**23 47 52.3**	**-0.7**
	baz=290							
R11A	**Troy Canyon, C**	**84.99**	**51**	P		**P**	**23 47 53.0**	**0.0**
	baz=291							
BOZ	**Bozeman (W)**	**85.08**	**43**	P		**P**	**23 47 53.3**	**0.0**
	baz=292							
HEC	**Hector,Ludlow**	**85.65**	**55**	P		**P**	**23 47 56.2**	**-0.1**
	baz=290							
PFO	**Pinyon Flats O**	**85.98**	**56**	P		**P**	**23 47 58.9**	**+0.9**
	baz=290							
AKH	**Akhalkalaki**	**86.04**	**312**	P		**P**	**23 47 56.6**	**-1.5**
SPUT	**South Promonto**	**86.16**	**48**			**P**	**23 47 58.6**	**-0.2**
SPUT				IAmb		IAmb	23 49 25.3	
	comp=Z,16nm,1.9s							
GMRC	**Granite Mounta**	**86.19**	**55**	P		**P**	**23 47 59.4**	**+0.4**
	baz=291							
IMW	**Indian Meadow**	**86.20**	**45**	P		**P**	**23 47 57.9**	**-1.2**
FXWY	**Fox Creek**	**86.24**	**45**	P		**P**	**23 47 59.9**	**+0.7**
H17A	**Grant Village**	**86.24**	**44**	P		**P**	**23 47 59.3**	**+0.1**
	baz=293							
FINES	**FINESS Array B**	**86.26**	**335**	P		**P**	**23 47 56.3**	**-2.2**
	comp=Z,4.4nm,0.4s,baz=75,slow=4.7,SNR=65							
	comp=Z,4.4nm,0.4s							
DUG	**Dugway, Tooele**	**86.33**	**49**	IAmb		IAmb	23 48 01.1	
	comp=Z,16nm,1.6s							
DUG	**Dugway, Tooele**	**86.33**	**49**	P		**P**	**23 47 59.7**	**+0.1**
	baz=292							
FFC	**Flin Flon**	**86.72**	**32**	P		**P**	**23 48 01.4**	**+0.5**
SWSC	**Sam W. Stewart**	**86.73**	**56**	P		**P**	**23 48 01.4**	**-0.1**
	baz=291							
BC3	**Big Chuckawall**	**86.75**	**56**	P		**P**	**23 48 01.6**	**-0.1**
	baz=291							
RLMT	**Red Lodge**	**86.80**	**43**	P		**P**	**23 48 02.8**	**+0.9**
	baz=294							
IRM	**Iron Mountain**	**86.81**	**55**	P		**P**	**23 48 02.2**	**+0.3**
	baz=291							
NLU	**North Lily Min**	**86.94**	**49**	P		**P**	**23 48 02.8**	**+0.1**
TCUT	**Toone Canyon**	**86.96**	**47**	P		**P**	**23 48 02.3**	**-0.5**
JLU	**Jordanelle**	**87.13**	**48**	P		**P**	**23 48 03.6**	**0.0**
KNB	**Kanab**	**87.52**	**52**	IAmb		IAmb	23 48 59.6	
	comp=Z,14nm,1.5s							
PDMCI	**Parker Dam,Lak**	**87.53**	**55**	P		**P**	**23 48 05.6**	**+0.4**
	baz=292							
BW06	**Boulder Array**	**87.57**	**45**	P		**P**	**23 48 05.1**	**-0.6**
	baz=294							
PDAR	**Pinedale Array**	**87.57**	**45**	P		**P**	**23 48 04.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=190,slow=1.5,SNR=7.2							
	comp=Z,0.6nm,0.6s							
P18A	**Preston Nutter**	**88.37**	**48**	P		**P**	**23 48 09.7**	**+0.1**
DGMT	**Dagmar**	**88.48**	**39**	P		**P**	**23 48 10.2**	**+0.7**
	baz=298							
WUAZ	**Wupatki**	**89.17**	**53**	P		**P**	**23 48 13.6**	**+0.4**
WUAZ	**Wupatki**	**89.17**	**53**	P		**P**	**23 48 13.3**	**+0.1**
	baz=293							
O20A	**White River Ci**	**89.56**	**47**	P		**P**	**23 48 15.3**	**+0.3**
	baz=295							
RWWY	**Rawlins**	**89.61**	**46**	P		**P**	**23 48 13.4**	**-1.9**
RWWY				IAmb		IAmb	23 51 42.2	
	comp=Z,14nm,0.9s							
RSSD	**Black Hills**	**90.60**	**42**	P		**P**	**23 48 19.1**	**-0.6**
	baz=298							
AKASG	**Malin Array Be**	**90.70**	**325**	P		**P**	**23 48 18.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=48,slow=5.2,SNR=4.2							
AKASG				LR		LR	00 32 48.4	
	comp=Z,38nm,18.9s,baz=194,slow=38							
	comp=Z,0.1nm,0.3s							
N23A	**Red Feather La**	**90.81**	**46**	P		**P**	**23 48 21.1**	**+0.2**
	baz=296							
TUC	**Tucson**	**90.89**	**55**	P		**P**	**23 48 21.1**	**-0.1**
	baz=294							
S22A	**4UR Ranch, Cre**	**91.58**	**49**	P		**P**	**23 48 24.5**	**-0.1**
	baz=296							
HFS	**Hagfors**	**91.76**	**338**	LR		LR	00 33 16.3	
	comp=Z,61nm,19.3s,baz=192,slow=38							
NOA	**NORSAR Array B**	**91.94**	**340**	LR		LR	00 33 53.5	
	comp=Z,14nm,18.9s,baz=210,slow=38							
BRTR	**Keskin Array B**	**93.54**	**314**	P		**P**	**23 48 31.3**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=85,slow=4.2,SNR=2.9							
BRTR				LR		LR	00 34 22.8	
	comp=Z,32nm,18.1s,baz=308,slow=38							
	comp=Z,0.7nm,0.8s							
MLR	**Muntele Rosu**	**95.39**	**322**	LR		LR	00 32 42.5	
	comp=Z,55nm,19.9s,baz=310,slow=36							
BORG	**Borgarnes**	**95.61**	**354**	LR		LR	00 33 45.6	
	comp=Z,14nm,19.1s,baz=213,slow=36							
TXAR	**Lajitas Array**	**97.69**	**55**	P		Pdif	23 48 53.4	+1.0
	comp=Z,0.2nm,0.6s,baz=270,slow=2.7,SNR=2.2							
	comp=Z,0.2nm,0.6s							
LPAZ	**La Paz**	**147.90**	**90**	PKPbc		**PKPdf**	**23 54 59.5**	**-0.2**
	comp=Z,6.7nm,0.9s,baz=302,slow=2.4,SNR=15							
CPUP	**Villa Florida**	**157.87**	**113**	PKPab		**PKPab**	**23 55 46.9**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=272,slow=6.3,SNR=10							

*IDC **29** 23:36:18.0±1.6, 29.37°S×179.10°W, h135km±28km, mb3.6/2, mbtmp4.0/2, Error ellipse: s-maj=156.2km s-min=33.5km az=159.0*

ISC 29 23:36:17.6±1.7, 30.1°S×178.7°W±0.3, h150km, n8, σ1§37/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.76**	**70**	P	**Pn**	**23 36 41.6**	**+1.1**
	227nm,0.3s,baz=80,slow=22,SNR=1.7						
RAO				S	**Sn**	**23 36 55.8**	**-2.2**
	351nm,0.3s,baz=77,slow=23,SNR=2.6						
STKA	**Stephens Creek**	**34.06**	**256**	P	**P**	**23 42 46.6**	**-1.0**
	0.9nm,0.4s,baz=80,slow=6.1,SNR=4.0						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**42.52**	**266**	ScP	**ScP**	**23 49 27.1**	**+1.9**
	0.6nm,0.8s,baz=99,slow=4.8,SNR=3.5						
WRA	**Warramunga Arr**	**43.43**	**272**	P	**P**	**23 44 05.5**	**-0.3**
	0.7nm,0.3s,baz=111,slow=7.8,SNR=1.9						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**144.09**	**340**	PKP	**PKPdf**	**23 55 35.0**	**+0.3**
	2.7nm,0.5s,baz=53,slow=3.9,SNR=24						
HFS	**Hagfors**	**148.25**	**348**	PKPbc	**PKiKP**	**23 55 46.8**	**-0.1**
	3.3nm,0.9s,baz=72,slow=4.7,SNR=5.6						
AKASG	**Malin Array Be**	**150.21**	**323**	PKPbc	**PKiKP**	**23 55 51.2**	**0.0**
	0.7nm,0.6s,baz=44,slow=2.3,SNR=6.5						
MMAI	**Mount Meron Ar**	**150.68**	**286**	PKPbc	**PKiKP**	**23 55 53.5**	**+0.7**
	0.9nm,0.5s,baz=80,slow=6.9,SNR=6.7						

*IDC **29** 23:37:00.2±2.0, 55.4°S×31.6°W, h0km, mb3.9/3, mbtmp4.0/3, Error ellipse: s-maj=143.8km s-min=31.1km az=50.0*

*NEIC **29** 23:37:01.6±1.7, 55.3°S±0.1°×31.96°W±0.09, h10km±1km, mb5.0/23, Error ellipse: s-maj=25.3km s-min=8.5km az=190.0*

ISC 29 23:37:01.3±0.6, 55.4°S±0.1°×32.0°W±0.1, h10km, n45, σ0§76/45, mb4.9/14, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**20.51**	**154**	P	**P**	**23 41 38.7**	**-0.6**
	3.2nm,0.8s,baz=295,slow=17,SNR=3.3						
	3.2nm,0.8s						
GO10	**Punta Arenas**	**22.74**	**259**	P	**P**	**23 42 03.1**	**-0.3**
GO10				IAmb	IAmb	23 42 07.7	
	comp=Z,216nm,1.5s						
GO09	**Cerro Castillo**	**24.22**	**263**	P	**P**	**23 42 18.2**	**+0.2**
ITQB	**Itaqui**	**31.14**	**315**	P	**P**	**23 43 18.9**	**-1.1**
ITQB				IAmb	IAmb	23 43 21.5	
	comp=Z,19nm,1.3s						
ITAB	**Concordia**	**31.69**	**324**	P	**P**	**23 43 25.2**	**+0.3**
CFA	**Coronel Fontan**	**34.83**	**298**	P	**P**	**23 43 53.5**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=140,slow=9.7,SNR=4.3						
	comp=Z,1.2nm,0.7s						
VA05	**Santo Domingo**	**34.97**	**292**	P	**P**	**23 43 52.1**	**-1.3**
VA05				IAmb	IAmb	23 44 07.4	
	comp=Z,47nm,1.4s						
ROC1	**El Roble**	**35.18**	**293**	P	**P**	**23 43 54.6**	**-1.0**
ROC1				IAmb	IAmb	23 44 17.3	
	comp=Z,14nm,1.1s						
GO04	**Tololo Observa**	**37.28**	**296**	P	**P**	**23 44 14.1**	**+0.5**
AC05	**El Transito**	**38.10**	**298**	P	**P**	**23 44 20.0**	**-0.3**
AC01	**Pan de Azucar**	**40.48**	**300**	P	**P**	**23 44 39.8**	**-0.2**
AC01				IAmb	IAmb	23 44 45.1	
	comp=Z,45nm,1.4s						
PB11	**IPOC Station P**	**45.46**	**306**	P	**P**	**23 45 19.3**	**-1.4**
PB11				IAmb	IAmb	23 45 24.8	
	comp=Z,12nm,1.3s						
SOE	**Somerset East**	**45.56**	**85**	P	**P**	**23 45 22.3**	**+1.0**
SOE				IAmb	IAmb	23 45 30.0	
	comp=Z,46nm,1.5s						
LPAZ	**La Paz**	**47.82**	**310**	P	**P**	**23 45 41.5**	**+1.9**
	comp=Z,2.0nm,0.6s,baz=123,slow=5.3,SNR=10						
	comp=Z,2.0nm,0.6s						
LPAZ	**La Paz**	**47.82**	**310**	P	**P**	**23 45 39.9**	**+0.2**
WIN	**Windhoek**	**48.76**	**68**	P	**P**	**23 45 45.2**	**-1.2**
PORT	**Chimborazo Vol**	**65.70**	**307**	P	**P**	**23 47 46.7**	**0.0**
PORT				IAmb	IAmb	23 47 49.6	
	comp=Z,7.7nm,1.1s						
FDF	**Fort de France**	**74.05**	**331**	P	**P**	**23 48 36.0**	**-1.2**
BCIP	**Isla Barro Col**	**75.63**	**311**	P	**P**	**23 48 46.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**80.83**	**199**	P	**P**	**23 49 15.8**	**+0.8**
BHW	**Baring Head**	**80.93**	**200**	P	**P**	**23 49 14.7**	**-0.9**
PAPH	**Port-au-Prince**	**81.16**	**322**	P	**P**	**23 49 16.7**	**-0.1**
TOO	**Toolangi**	**87.41**	**178**	P	**P**	**23 49 48.8**	**+0.2**
TOO				IAmb	IAmb	23 49 59.7	
	comp=Z,15nm,1.4s						
CCIG	**Comitan**	**87.48**	**303**	P	**P**	**23 49 49.6**	**+0.4**
CCIG				IAmb	IAmb	23 49 52.1	
	comp=Z,19nm,1.3s						
PAB	**San Pablo**	**97.43**	**21**	P	**P**	**23 50 34.2**	**-0.3**
PAB				IAmb	IAmb	23 50 49.9	
	comp=Z,4.7nm,1.4s						
Z51A	**Franklin**	**99.35**	**317**	P	**Pdif**	**23 50 43.6**	**+0.4**
Z51A				IAmb	IAmb	23 50 52.1	
	comp=Z,5.8nm,0.9s						
U59A	**Littleton**	**99.40**	**324**	P	**Pdif**	**23 50 43.4**	**0.0**
YKA	**Yellowknife Ar**	**133.88**	**320**	PKP	**PKPdf**	**23 56 17.2**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=136,slow=2.4,SNR=4.2						
I27K	**Kandik River**	**145.75**	**316**	P	**PKPab**	**23 56 39.8**	**+0.3**
	baz=107						
H27K	**Steamboat Moun**	**145.90**	**317**	P	**PKPab**	**23 56 40.0**	**0.0**
	baz=106						
J26L	**Joseph Creek**	**146.21**	**314**	P	**PKPbc**	**23 56 40.9**	**+0.3**
	baz=107						
RIDG	**Independent Ri**	**146.52**	**312**	P	**PKPab**	**23 56 42.7**	**+0.3**
	baz=108						
PAX	**Paxson**	**146.55**	**311**	P	**PKPab**	**23 56 42.7**	**+0.1**
	baz=108						
F26K	**Shoenjek River**	**147.26**	**319**	P	**PKPbc**	**23 56 44.3**	**+0.9**
	baz=102						
C27K	**Jago River**	**147.47**	**323**	P	**PKPbc**	**23 56 44.7**	**+0.8**
	baz=100						
ILAR	**Eielson Array**	**147.66**	**313**	PKPbc	**PKPbc**	**23 56 44.5**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=119,slow=1.6,SNR=12						
F25K	**Christian Rive**	**147.80**	**319**	P	**PKPbc**	**23 56 45.9**	**+1.0**
	baz=101						
E25K	**Arctic Village**	**147.87**	**320**	P	**PKPbc**	**23 56 46.0**	**+1.0**
	baz=100						
G24K	**Hadweenzic Riv**	**148.33**	**317**	P	**PKPbc**	**23 56 47.1**	**+0.9**
	baz=101						
F24K	**Squaw Lake**	**148.63**	**318**	P	**PKPbc**	**23 56 47.9**	**+0.8**
	baz=99						
E24K	**Your Creek**	**148.94**	**319**	P	**PKPbc**	**23 56 48.6**	**+0.7**
	baz=98						
D24K	**Happy Valley**	**149.20**	**321**	P	**PKPbc**	**23 56 48.8**	**+0.5**
	baz=96						
BPAW	**Bear Paw Mtn.**	**149.23**	**311**	P	**PKPbc**	**23 56 49.3**	**+0.6**
	baz=103						
G23K	**Bananza Creek**	**149.33**	**317**	P	**PKiKP**	**23 56 50.0**	**0.0**
	baz=99						
G21K	**Allakaket**	**150.68**	**316**	P	**PKiKP**	**23 56 53.2**	**+0.5**
	baz=96						

WEL 29 23:44:52.1±0.5, 42.°S±3.°×17.°4E±.°, h9km±3km, M2.4/8, ML2.6/17, MLv2.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=132.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.25**	**248**	P	Pb	23 44 58.7	-0.1
KHZ				S	Sb	23 45 02.7	-0.7
BSWZ	**Blackbirch Sta**	**0.61**	**2**	P	Pg	23 45 04.3	+0.4
BSWZ				S	Sg	23 45 12.0	+0.2
GVZ	**Greta Valley S**	**0.88**	**223**	P	Pn	23 45 11.4	+0.6
GVZ				S	Sn	23 45 24.9	+1.2
THZ	**Tophouse**	**0.90**	**308**	P	Pg	23 45 08.9	-0.5
THZ				S	Sg	23 45 19.6	-1.6
TCW	**Tory Channel**	**1.16**	**16**	P	Pb	23 45 14.1	-0.2
TCW				S	Sb	23 45 29.3	0.0
NNZ	**Nelson**	**1.16**	**342**	P	Pb	23 45 13.6	-0.7
MRNZ	**Matariki Terra**	**1.23**	**318**	P	Pn	23 45 15.4	-0.1
LTZ	**Lake Taylor**	**1.26**	**248**	P	Pb	23 45 16.1	+0.1
LTZ				S	Sg	23 45 32.5	-0.1
PLWZ	**Palliser**	**1.29**	**55**	P	Pn	23 45 15.9	-0.4
TKNZ	**Takaka Hill**	**1.45**	**332**	P	Pb	23 45 19.0	-0.3
PAWZ	**Paruwai Farm**	**1.50**	**52**	P	Pn	23 45 18.6	-0.7
CAW	**Cannon Point**	**1.52**	**37**	P	Pn	23 45 19.2	-0.2
OKCZ	**Okains Bay**	**1.52**	**202**	P	Pb	23 45 20.1	-0.3
DUWZ	**D'Urville Isla**	**1.52**	**2**	P	Pn	23 45 19.9	+0.4
DSZ	**Denniston Nort**	**1.63**	**290**	P	Pb	23 45 21.9	-0.5
DSZ				S	Sb	23 45 43.3	+0.2
MQZ	**McQueen's Vall**	**1.64**	**212**	P	Pn	23 45 20.5	-0.6
MQZ				S	Sn	23 45 40.7	-1.6
KIW	**Kapiti Island**	**1.66**	**29**	P	Pn	23 45 21.0	-0.4
OXZ	**Oxford**	**1.67**	**232**	P	Pn	23 45 21.0	-0.6
OXZ				S	Sn	23 45 41.8	-1.3
MTW	**Mount Morrison**	**1.69**	**47**	P	Pn	23 45 21.1	-0.8
MTW				S	Sn	23 45 43.1	-0.6
QRZ	**Quartz Range**	**1.79**	**326**	P	Pb	23 45 24.6	-0.6
QRZ				S	Sn	23 45 46.9	+0.7
OGWZ	**Otaki Gorge**	**1.80**	**34**	P	Pn	23 45 23.0	-0.3
INZ	**Inchbonnie**	**1.83**	**256**	P	Pn	23 45 24.1	+0.4
WACZ	**Wakanui South**	**2.19**	**222**	P	Pn	23 45 28.5	-0.2
WACZ				S	Sn	23 45 55.0	-0.9
RPZ	**Rata Peaks**	**2.48**	**235**	P	Pn	23 45 32.1	-0.6
RPZ				S	Sn	23 46 01.2	-1.9
MTHZ	**Maungataniwha**	**4.14**	**34**	P	Pn	23 45 57.3	+1.7

*SOME **29** 23:46:08.6, 44.°33N×84.°80E, h15km*

*NNC **29** 23:46:46.7±4.1, 44.°16N×83.°05E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=48.3km s-min=30.3km az=107.0*

ISC 29 23:46:38.9±2.9, 43.°9N±0.°1×82.°4E±0.°2, h10km, n14, σ1§08/16, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.57**	**253**	Pg	**Pg**	**23 47 09.5**	**+0.4**
	0.9nm,0.3s						
KTMS				Lg	Lg	23 47 53.5	
	5.1nm,0.4s						
KTMS	**Ketmen**	**1.57**	**253**	*e*Pg	**Pg**	**23 47 09.5**	**+0.4**
	0.6nm,0.3s						
KTMS				*e*Lg	Lg	23 47 53.5	
	5.1nm,0.4s						
DJR	**Jarkent**	**1.93**	**283**	Pg	**Pb**	**23 47 14.6**	**+0.4**
	1.5nm,0.5s						
DJR				Lg	Lg	23 48 02.4	
	8.8nm,0.3s						
DJR	**Jarkent**	**1.93**	**283**	*e*Pg	**Pb**	**23 47 14.6**	**+0.4**
	0.4nm,0.1s						
DJR				*e*Lg	Lg	23 48 02.4	
	8.8nm,0.3s						
SHLS	**Shalkode**	**2.28**	**251**	Pg	**Pn**	**23 47 16.9**	**+0.2**
	2.2nm,0.9s						
SHLS				Lg	Lg	23 48 06.1	
	4.3nm,0.4s						
SHLS	**Shalkode**	**2.28**	**251**	*e*Pg	**Pn**	**23 47 17.0**	**+0.2**
	1.1nm,0.4s						
SHLS				*e*Lg	Lg	23 48 06.5	
	84nm,0.5s						
UZB	**Uzunbulak**	**2.59**	**253**	Pg	**Pb**	**23 47 26.0**

DLMR					smax	smax			
	comp=E,63μm,0.3s								
KRNR	**Karanay**		**0.29**	**163**	*i* Pg	**Pg**	**23 54 38.5**	**-0.7**
	comp=E,123nm,0.5s								
KRNR					*i* Sg	**Sg**	**23 54 42.7**	**-0.2**
	comp=E,1μm,0.5s								
KRNR	**Karanay**		**0.29**	**163**	⇓*i* PG	**Pg**	**23 54 38.4**	**-0.7**
KRNR					*e*S	**Sg**	**23 54 42.8**	**-0.2**
KRNR					pmax	pmax			
	comp=Z,123nm,0.5s								
KRNR					smax	smax			
	comp=E,1μm,0.6s								
BUJR	**Buynaksk**		**0.37**	**140**	*e*Pg	**Pg**	**23 54 40.9**	**+0.5**
	comp=E,254nm,0.4s								
BUJR					*e*Sg	**Sb**	**23 54 46.6**	**-1.5**
	comp=E,143nm,0.7s								
BUJR	**Buynaksk**		**0.37**	**140**	*e*PG	**Pg**	**23 54 40.9**	**+0.5**
BUJR					*e*S	**Sb**	**23 54 46.7**	**-1.4**
BUJR					pmax	pmax			
	comp=Z,254nm,0.4s								
BUJR					smax	smax			
	comp=N,2μm,0.5s								
KANR	**Karaman**		**0.52**	**80**	*e*Pg	**Pb**	**23 54 45.5**	**+0.7**
KANR					*e*Sg	**Sn**	**23 54 55.1**	**-1.2**
KANR	**Karaman**		**0.52**	**80**	*e*PG	**Pb**	**23 54 45.4**	**+0.7**
KANR					*e*S	**Sn**	**23 54 55.1**	**-1.2**
KANR					pmax	pmax			
	comp=Z,412nm,0.2s								
KANR					smax	smax			
	comp=E,1μm,0.5s								
KANR					smax	smax			
	comp=N,591nm,0.6s								
KANR					smax	smax			
	comp=E,1μm,0.4s								
ARKR	**Arakani**		**0.53**	**163**	*e*Pg	**Pg**	**23 54 42.6**	**-0.8**
	comp=E,4.0nm,0.2s								
ARKR					*e*Sg	**Sg**	**23 54 49.9**	**-0.4**
	comp=E,418nm,0.6s								
ARKR	**Arakani**		**0.53**	**163**	*e*PG	**Pg**	**23 54 42.6**	**-0.8**
ARKR					*e*S	**Sg**	**23 54 50.1**	**-0.2**
ARKR					pmax	pmax			
	comp=Z,4.0nm,0.2s								
ARKR					smax	smax			
	comp=E,752nm,0.3s								
MAK	**Makhachkala**		**0.55**	**105**	*e*Pg	**Pb**	**23 54 45.5**	**+0.3**
MAK					*e*Sg	**Sb**	**23 54 54.4**	**+1.2**
MAK	**Makhachkala**		**0.55**	**105**	*e*PG	**Pb**	**23 54 45.7**	**+0.5**
MAK					*e*		23 54 54.9	
MAK					pmax	pmax			
	comp=Z,75nm,0.8s								
MAK					smax	smax			
	comp=E,2μm,0.4s								
MAK					smax	smax			
	comp=E,1μm,0.4s								
HNZR	**Khunzah**		**0.55**	**186**	*e*PG	**Pg**	**23 54 42.8**	**-1.1**
HNZR					*e*S	**Sg**	**23 54 50.8**	**-0.3**
HNZR					pmax	pmax			
	comp=Z,287nm,0.4s								
HNZR					smax	smax			
	comp=E,505nm,0.6s								
XNZR	**Khunzakh**		**0.57**	**186**	*e*Pg	**Pg**	**23 54 42.9**	**-1.4**
	comp=E,287nm,0.4s								
XNZR					*i* Sg	**Sg**	**23 54 50.6**	**-1.1**
	comp=E,419nm,0.6s								
BTLR	**Botlikh**		**0.61**	**223**	*i* Pg	**Pg**	**23 54 43.6**	**-1.5**
	comp=E,150nm,0.3s								
BTLR					*e*Sg	**Sg**	**23 54 51.9**	**-1.0**
	comp=E,510nm,0.3s								
BTLR	**Botlikh**		**0.61**	**223**	⇓*i* PG	**Pg**	**23 54 43.5**	**-1.5**
BTLR					*e*S	**Sg**	**23 54 52.0**	**-0.9**
BTLR					pmax	pmax			
	comp=Z,151nm,0.3s								
BTLR					smax	smax			
	comp=E,519nm,0.4s								
GNBR	**Gunib**		**0.73**	**170**	*i* Pg	**Pg**	**23 54 47.0**	**-0.3**
	comp=E,143nm,0.7s								
GNBR					*e*Sg	**Sg**	**23 54 57.1**	**+0.3**
	comp=E,163nm,0.5s								
GNBR	**Gunib**		**0.73**	**170**	⇑*i* PG	**Pg**	**23 54 47.0**	**-0.3**
GNBR					*e*S	**Sg**	**23 54 57.2**	**+0.4**
GNBR					pmax	pmax			
	comp=Z,144nm,0.6s								
GNBR					smax	smax			
	comp=E,800nm,0.4s								
GROC	**Groznyy**		**0.73**	**278**	*e*Pg	**Pg**	**23 54 47.8**	**+0.5**
	comp=E,229nm,0.4s								
GROC					*e*Sg	**Sg**	**23 54 58.2**	**+1.3**
	comp=E,64nm,0.8s								
GROC	**Groznyy**		**0.73**	**278**	*e*PG	**Pb**	**23 54 48.6**	**+0.2**
GROC					*e*S	**Sg**	**23 54 56.4**	**-0.5**
GROC					pmax	pmax			
	comp=Z,153nm,0.4s								
GROC					smax	smax			
	comp=E,17nm,0.2s								
KMKR	**Kumukh**		**1.00**	**167**	*e*Pg	**Pg**	**23 54 52.4**	**-0.2**
	comp=E,7.0nm,0.2s								
KMKR					*e*Sg	**Sb**	**23 55 06.1**	**-0.5**
	comp=E,298nm,0.3s								
KMKR	**Kumukh**		**1.00**	**167**	*e*PG	**Pg**	**23 54 52.3**	**-0.2**
KMKR					*e*S	**Sb**	**23 55 06.5**	**-0.1**
KMKR					pmax	pmax			
	comp=Z,7.0nm,0.2s								
KMKR					smax	smax			
	comp=N,1μm,0.4s								
URKR	**Urkarakh**		**1.13**	**146**	*e*Pg	**Pg**	**23 54 54.8**	**-0.1**
	comp=N,71nm,0.4s								
URKR					*e*Sg	**Sn**	**23 55 11.0**	**-0.5**
	comp=N,460nm,0.5s								
URKR	**Urkarakh**		**1.13**	**146**	*e*PG	**Pg**	**23 54 54.8**	**-0.1**
URKR					*e*S	**Sn**	**23 55 11.4**	**-0.1**
URKR					pmax	pmax			
	comp=Z,72nm,0.4s								
URKR					smax	smax			
	comp=E,329nm,0.5s								
SHTL	**Shatili**		**1.28**	**250**	P	**Pn**	**23 54 55.9**	**-1.9**
SHTL					S	**Sb**	**23 55 12.5**	**-2.2**
SHTL	**Shatili**		**1.28**	**250**	*e*Pg	**Pn**	**23 54 55.9**	**-1.9**
SHTL					*e*Sg	**Sb**	**23 55 12.5**	**-2.2**
SHTL	**Shatili**		**1.28**	**250**	*e*PG	**Pn**	**23 54 55.9**	**-1.9**
SHTL					*e*S	**Sb**	**23 55 12.5**	**-2.2**
LGD	**Lagodekhi**		**1.33**	**198**	P	**Pn**	**23 54 57.0**	**-1.4**
LGD					S	**Sb**	**23 55 14.7**	**-1.3**
LGD	**Lagodekhi**		**1.33**	**198**	*e*Pg	**Pn**	**23 54 57.0**	**-1.4**
LGD					*e*Sg	**Sb**	**23 55 14.7**	**-1.3**
LGD	**Lagodekhi**		**1.33**	**198**	*e*PG	**Pn**	**23 54 57.0**	**-1.4**
LGD					*e*S	**Sb**	**23 55 14.7**	**-1.3**
KMGR	**Komgaron**		**1.41**	**269**	*i* Pg	**Pn**	**23 54 59.8**	**+0.3**
KMGR					*e*Sg	**Sg**	**23 55 20.3**	**+1.7**
KMGR	**Komgaron**		**1.41**	**269**	⇓*i* PG	**Sn**	**23 54 59.8**	**+0.3**
KMGR					*e*S	**Sg**	**23 55 20.3**	**+1.7**
ZKTA	**Zakatala**		**1.47**	**185**	P	**Pn**	**23 54 59.9**	**-0.5**
	SNR=17								
ZKTA					S	**Sn**	**23 55 17.5**	**-2.3**
VLKR	**Vladikavkaz**		**1.55**	**268**	*e*Pg	**Pb**	**23 55 02.3**	**0.0**
VLKR					*e*Sg	**Sg**	**23 55 24.6**	**+1.5**
VLKR	**Vladikavkaz**		**1.55**	**268**	*e*PG	**Pb**	**23 55 02.3**	**0.0**
VLKR					*e*S	**Sg**	**23 55 24.6**	**+1.5**
DRN	**Derbent**		**1.57**	**133**	*e*Pg	**Pb**	**23 55 02.6**	**0.0**
	comp=E,64nm,0.8s								
DRN					*e*Sg	**Sg**	**23 55 24.6**	**+1.0**
	comp=E,246nm,0.4s								
DRN	**Derbent**		**1.57**	**133**	*e*PG	**Pb**	**23 55 02.6**	**0.0**
DRN					*e*S	**Sg**	**23 55 24.9**	**+1.3**
DRN					pmax	pmax			
	comp=Z,65nm,0.8s								
DRN					smax	smax			
	comp=E,432nm,0.5s								
TRKR	**Terskaya**		**1.62**	**293**	*e*Pg	**Pn**	**23 55 02.5**	**+0.2**
TRKR					*e*Sg	**Sg**	**23 55 25.9**	**+0.5**
TRKR	**Terskaya**		**1.62**	**293**	*e*PG	**Pn**	**23 55 02.5**	**+0.2**
TRKR					*e*S	**Sg**	**23 55 25.9**	**+0.5**
BTKR	**Batakoyurt**		**1.66**	**280**	*e*Pg	**Pb**	**23 55 04.5**	**+0.2**
BTKR					*e*Sg	**Sg**	**23 55 27.8**	**+1.1**
BTKR	**Batakoyurt**		**1.66**	**280**	*e*PN	**Pb**	**23 55 04.5**	**+0.2**
BTKR					*e*S	**Sg**	**23 55 27.8**	**+1.1**
PNSH	**Pansheti**		**1.67**	**254**	P	**Pn**	**23 55 01.9**	**-1.2**
PNSH					S	**Sn**	**23 55 23.6**	**-1.3**
PNSH	**Pansheti**		**1.67**	**254**	*e*Pg	**Pn**	**23 55 01.9**	**-1.2**
PNSH					*e*Sg	**Sn**	**23 55 23.6**	**-1.3**
PNSH	**Pansheti**		**1.67**	**254**	*e*PN	**Pn**	**23 55 01.9**	**-1.2**
PNSH					*e*S	**Sn**	**23 55 23.6**	**-1.3**
DDFL	**Dedoflistskaro**		**1.73**	**197**	P	**Pg**	**23 55 06.9**	**+0.4**
DDFL					S	**Sg**	**23 55 35.0**	**+6.0**
DDFL	**Dedoflistskaro**		**1.73**	**197**	*e*PN	**Pg**	**23 55 06.9**	**+0.4**
DDFL					*e*S	**Sg**	**23 55 34.9**	**+6.0**
AKT	**Akhty**		**1.77**	**156**	*e*Pg	**Pb**	**23 55 05.2**	**-1.0**
	comp=E,89nm,0.2s								
AKT					*e*Sg	**Sg**	**23 55 29.4**	**-0.7**
	comp=E,570nm,0.4s								
AKT	**Akhty**		**1.77**	**156**	*e*PN	**Pb**	**23 55 05.2**	**-1.0**
AKT					*e*S	**Sg**	**23 55 29.9**	**-0.2**
AKT					pmax	pmax			
	comp=Z,89nm,0.2s								
AKT					smax	smax			
	comp=E,394nm,0.5s								
KSMR	**Kasumkent**		**1.80**	**146**	*e*Pg	**Pb**	**23 55 05.8**	**-0.9**
	comp=E,1.0nm,0.8s								
KSMR					*e*Sg	**Sg**	**23 55 30.4**	**-0.7**
KSMR	**Kasumkent**		**1.80**	**146**	*e*PN	**Pb**	**23 55 05.7**	**-0.9**
KSMR					*e*S	**Sg**	**23 55 30.9**	**-0.3**
KSMR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
KSMR					smax	smax			
	comp=E,537nm,0.4s								
GUDG	**Gudauri**		**1.82**	**250**	P	**Pn**	**23 55 05.3**	**0.0**
GUDG					S	**Sn**	**23 55 28.4**	**-0.3**
GUDG	**Gudauri**		**1.82**	**250**	*e*Pg	**Pn**	**23 55 05.3**	**0.0**
GUDG					*e*Sg	**Sn**	**23 55 28.4**	**-0.3**
ARNR	**Ardon**		**1.83**	**273**	*e*Pg	**Pn**	**23 55 05.4**	**+0.1**
ARNR					*e*Sg	**Sb**	**23 55 30.4**	**0.0**
ARNR	**Ardon**		**1.83**	**273**	*e*PN	**Pn**	**23 55 05.4**	**+0.1**
ARNR					*e*S	**Sb**	**23 55 30.4**	**0.0**
LACR	**Lac**		**1.85**	**262**	*e*Pg	**Pn**	**23 55 04.5**	**-1.1**
LACR					*e*Sg	**Sn**	**23 55 29.2**	**-0.1**
LACR	**Lac**		**1.85**	**262**	*e*PN	**Pn**	**23 55 04.1**	**-1.5**
SEKA	**Sheki**		**1.92**	**171**	P	**Pb**	**23 55 08.0**	**-0.7**
	SNR=71								
SEKA					S	**Sg**	**23 55 34.5**	**-0.5**
QSAR	**Qusar**		**1.93**	**145**	P	**Pb**	**23 55 08.8**	**-0.1**
	SNR=50								
QSAR					S	**Sg**	**23 55 35.7**	**+0.4**
PRTR	**Priterechnaya**		**1.94**	**290**	*e*Pg	**Pn**	**23 55 06.6**	**0.0**
PRTR					*e*Sg	**Sb**	**23 55 33.3**	**0.0**
PRTR	**Priterechnaya**		**1.94**	**290**	*e*PN	**Pn**	**23 55 06.6**	**0.0**
PRTR					*e*S	**Sb**	**23 55 33.3**	**0.0**
KORR	**Kora**		**1.99**	**270**	*e*Pg	**Pn**	**23 55 08.4**	**+0.9**
KORR					*e*Sg	**Sb**	**23 55 36.2**	**+1.2**
KORR	**Kora**		**1.99**	**270**	*e*PN	**Pn**	**23 55 08.4**	**+0.9**
KORR					*e*S	**Sb**	**23 55 36.2**	**+1.2**
STDR	**Stavd-Durt**		**2.01**	**278**	*e*Pg	**Pb**	**23 55 10.1**	**-0.1**
STDR					*e*Sg	**Sg**	**23 55 38.5**	**+0.6**
STDR	**Stavd-Durt**		**2.01**	**278**	*e*PN	**Pb**	**23 55 10.1**	**-0.1**
STDR					*e*S	**Sg**	**23 55 38.5**	**+0.6**
BTNK	**Botanikuri**		**2.05**	**227**	P	Pn	23 55 02.9	-5.4
BTNK	**Botanikuri**		**2.05**	**227**	*e*PN	Pn	23 55 02.8	-5.4
ZEI	**Tsey**		**2.14**	**262**	*e*Pg	**Pn**	**23 55 10.6**	**+0.9**
ZEI					*e*Sg	**Sn**	**23 55 38.1**	**+1.5**
ZEI	**Tsey**		**2.14**	**262**	*e*PN	**Pn**	**23 55 07.8**	**-1.9**
QUBA	**Quba, Azerbaij**		**2.16**	**144**	P	**Pb**	**23 55 12.6**	**-0.2**
QUBA					S	**Sg**	**23 55 42.7**	**0.0**
LSNR	**Lesken**		**2.17**	**276**	*e*Pg	**Pn**	**23 55 10.1**	**+0.1**
LSNR					*e*Sg	**Sb**	**23 55 39.1**	**-1.0**
LSNR	**Lesken**		**2.17**	**276**	*e*PN	**Pn**	**23 55 10.1**	**+0.1**
LSNR					pmax	pmax			
	comp=Z,4.0nm,0.3s								
XNQ	**Khinaliq**		**2.18**	**152**	P	**Pb**	**23 55 13.2**	**0.0**
	SNR=11								
XNQ					S	**Sb**	**23 55 41.3**	**+0.8**
QBL	**Gabala**		**2.30**	**160**	P	**Pb**	**23 55 14.5**	**-0.6**
	SNR=11								
QBL					S	**Sb**	**23 55 43.1**	**-0.6**
QZX	**Qazax, Azerbai**		**2.30**	**208**	P	**Pn**	**23 55 12.0**	**+0.3**
	SNR=22								
QZX					S	**Sn**	**23 55 39.8**	**-0.5**
MNGR	**Mingechevir, A**		**2.34**	**174**	P	**Pn**	**23 55 13.0**	**+0.8**
MNGR					S	**Sb**	**23 55 42.9**	**-2.0**
DIGR	**Digorskoe uzhe**		**2.36**	**266**	*e*Pn	**Pn**	**23 55 12.6**	**-0.1**
DIGR					*e*Sn	**Sn**	**23 55 43.4**	**+1.4**
DIGR	**Digorskoe uzhe**		**2.36**	**266**	*e*PN	**Pn**	**23 55 11.2**	**-1.5**
NCK	**Nalchik**		**2.36**	**281**	*e*Pn	**Pn**	**23 55 11.3**	**-1.3**
NCK					*e*Sn	**Sn**	**23 55 41.7**	**-0.2**
NCK	**Nalchik**		**2.36**	**281**	*i* PN	**Pn**	**23 55 11.3**	**-1.3**
NCK					pmax	pmax			
	comp=Z,22nm,0.2s								
GANJ	**Ganja**		**2.48**	**188**	P	**Pn**	**23 55 14.1**	**-0.1**
	SNR=8.6								
GANJ					S	**Sn**	**23 55 43.7**	**-1.1**
GDB	**GEDABAY**		**2.51**	**198**	P	**Pn**	**23 55 14.2**	**-0.4**
GDB					S	**Sn**	**23 55 45.3**	**-0.3**
ONI	**Oni**		**2.51**	**259**	P	**Pn**	**23 55 14.5**	**0.0**
ONI	**Oni**		**2.51**	**259**	*e*Pn	**Pn**	**23 55 14.5**	**0.0**
ONI	**Oni**		**2.51**	**259**	*e*PN	**Pn**	**23 55 14.5**	**0.0**
ALIG	**Mtskhetisjvari**		**2.52**	**248**	P	**Pn**	**23 55 15.6**	**+0.8**
ALIG					S	**Sn**	**23 55 45.9**	**0.0**
ALIG	**Mtskhetisjvari**		**2.52**	**248**	*e*Pn	**Pn**	**23 55 15.6**	**+0.8**
ALIG					*e*Sn	**Sn**	**23 55 45.9**	**0.0**
ALIG	**Mtskhetisjvari**		**2.52**	**248**	*e*PN	**Pn**	**23 55 15.6**	**+0.8**
ALIG					*e*S	**Sn**	**23 55 45.9**	**0.0**
IML	**Ismayilli**		**2.54**	**155**	P	**Pb**	**23 55 17.5**	**-1.7**
IML					S	**Sb**	**23 55 51.0**	**+0.4**
TRLG	**Trialeti**		**2.54**	**233**	P	**Pn**	**23 55 16.1**	**+1.1**
TRLG					S	**Sn**	**23 55 48.1**	**+1.9**
TRLG	**Trialeti**		**2.54**	**233**	*e*Pn	**Pn**	**23 55 16.1**	**+1.1**
TRLG					*e*Sn	**Sn**	**23 55 48.1**	**+1.9**
TRLG	**Trialeti**		**2.54**	**233**	*e*PN	**Pn**	**23 55 16.1**	**+1.1**
TRLG					*e*S	**Sn**	**23 55 48.1**	**+1.9**
KBTC	**Kuba-Taba**		**2.56**	**287**	*e*Pn	**Pn**	**23 55 14.4**	**-0.9**
KBTC					*e*Sn	**Sn**	**23 55 46.8**	**+0.1**
KBTC	**Kuba-Taba**		**2.56**	**287**	*e*PN	**Pn**	**23 55 14.4**	**-0.9**
KBTC					*e*S	**Sn**	**23 55 46.8**	**+0.1**
SIZA	**Siyzn**		**2.57**	**142**	P	**Pb**	**23 55 19.3**	**-0.4**
	SNR=8.4								
SIZA					S	**Sg**	**23 55 53.3**	**-2.4**
DMNI	**Dmanisi**		**2.62**	**228**	P	**Pn**	**23 55 17.4**	**+1.1**
DMNI					S	**Sn**	**23 55 49.5**	**+1.1**
DMNI	**Dmanisi**		**2.62**	**228**	*e*PN	**Pn**	**23 55 17.3**	**+1.1**
DMNI					*e*S	**Sn**	**23 55 49.5**	**+1.1**
BRNG	**Burnasheti**		**2.65**	**237**	P	**Pn**	**23 55 17.9**	**+1.3**
BRNG					S	**Sb**	**23 55 55.3**	**+1.3**
BRNG	**Burnasheti**		**2.65**	**237**	*e*PN	**Pn**	**23 55 17.9**	**+1.3**
BRNG					*e*S	**Sb**	**23 55 55.3**	**+1.3**
PQL	**Pirkuli**		**2.68**	**149**	P	**Pb**	**23 55 20.5**	**-1.2**
PQL					S	**Sb**	**23 55 54.5**	**-0.3**
ATGJ	**Altiaghaj**		**2.76**	**144**	P	**Pb**	**23 55 22.8**	**-0.2**
ATGJ					S	**Sb**	**23 55 56.7**	**-0.3**
PYA1	**Pyatigorsk**		**2.85**	**291**	*e*Pn	**Pn**	**23 55 19.1**	**-0.2**
PYA1					*e*Sn	**Sn**	**23 55 51.6**	**-2.2**
PYA1	**Pyatigorsk**		**2.85**	**291**	*e*PN	**Pn**	**23 55 19.1**	**-0.2**
PYA1					*e*S	**Sn**	**23 55 51.6**	**-2.2**
BRDA	**Brd**		**2.86**	**174**	P	**Pb**	**23 55 21.8**	**-2.8**
BRDA					S	**Sn**	**23 55 55.7**	**+1.8**
TKB	**Tkibuli**		**2.90**	**256**	P	**Pn**	**23 55 21.4**	**+1.5**
TKB					S	**Sn**	**23 55 57.6**	**+2.6**
TKB	**Tkibuli**		**2.90**	**256**	*e*Pn	**Pn**	**23 55 21.4**	**+1.5**
TKB					*e*Sn	**Sn**	**23 55 57.6**	**+2.6**
TKB	**Tkibuli**		**2.90**	**256**	*e*PN	**Pn**	**23 55 21.4**	**+1.5**
TKB					*e*S	**Sn**	**23 55 57.6**	**+2.6**
ZRD	**Zardab**		**2.90**	**166**	P	**Pn**	**23 55 21.7**	**+1.7**
ZRD					S	**Sb**	**23 55 58.7**	**-2.4**
KDMR	**Kurdemir**		**2.92**	**159**	S	**Sb**	**23 55 59.6**	**-2.0**
AKH	**Akhalkalaki**		**2.98**	**236**	P	**Pb**	**23 55 25.3**	**-1.5**
AKH					S	**Sn**	**23 55 57.7**	**+0.5**
AKH	**Akhalkalaki**		**2.98**	**236**	*e*Pn	**Pb**	**23 55 25.3**	**-1.5**
AKH					*e*Sn	**Sn**	**23 55 57.7**	**+0.5**
AKH	**Akhalkalaki**		**2.98**	**236**	*e*PN	**Pb**	**23 55 25.3**	**-1.5**
AKH					*e*S	**Sn**	**23 55 57.7**	**+0.5**
NEY	**Neytrino**		**2.98**	**274**	*e*Pn	**Pn**	**23 55 20.3**	**-0.8**
NEY					*e*Sn	**Sn**	**23 55 54.5**	**-2.7**
NEY	**Neytrino**		**2.98**	**274**	*e*PN	**Pn**	**23 55 20.3**	**-0.8**
NEY					*e*S	**Sn**	**23 55 54.5**	**-2.7**
BGD	**Bogdanovka**		**3.00**	**233**	P	**Pn**	**23 55 23.2**	**+1.6**
BGD					S	**Sb**	**23 56 04.4**	**+0.2**
BGD	**Bogdanovka**		**3.00**	**233**	*e*PN	**Pn**	**23 55 23.1**	**+1.6**
BGD					*e*S	**Sb**	**23 56 04.4**	**+0.2**
AGDM	**Agdam**		**3.01**	**175**	P	**Pn**	**23 55 22.4**	**+1.0**
	SNR=4.6								
AGDM					S	**Sn**	**23 55 57.9**	**+0.2**
BEYR	**Belyy Ugol+**		**3.03**	**289**	*e*Pn	**Pn**	**23 55 19.7**	**-2.0**
BEYR					*e*Sn	**Sn**	**23 55 55.1**	**-3.1**
BEYR	**Belyy Ugol+**		**3.03**	**289**	*e*PN	**Pn**	**23 55 19.7**	**-2.0**
BEYR					*e*S	**Sn**	**23 55 55.1**	**-3.1**
GBS	**Qobustan**		**3.03**	**147**	P	**Pb**	**23 55 25.2**	**-2.4**
GBS					S	**Sb**	**23 56 02.6**	**-2.2**
SHA1	**Shidzhatmaz**		**3.08**	**283**	*e*Pn	**Pn**	**23 55 20.6**	**-1.9**
SHA1					*e*Sn	**Sn**	**23 55 55.9**	**-3.8**
SHA1	**Shidzhatmaz**		**3.08**	**283**	*i* PN	**Pn**	**23 55 20.6**	**-1.9**
KIV	**Kislovodsk**		**3.10**	**287**	*e*Pn	**Pn**	**23 55 21.1**	**-1.7**
KIV					*e*Sn	**Sn**	**23 55 57.0**	**-3.2**
KIV	**Kislovodsk**		**3.10**	**287**	*e*PN	**Pn**	**23 55 21.1**	**-1.7**
KIV					*e*S	**Sn**	**23 55 57.0**	**-3.2**
ABS	**Abastumani**		**3.24**	**247**	P	**Pn**	**23 55 26.1**	**+1.4**
ABS					S	**Sb**	**23 56 10.2**	**-0.8**
ABS	**Abastumani**		**3.24**	**247**	*e*PN	**Pn**	**23 55 26.1**	**+1.4**
ABS					*e*S	**Sb**	**23 56 10.1**	**-0.8**
ALER	**Alexandrovskoy**		**3.25**	**302**	*e*Pn	**Pn**	**23 55 24.4**	**-0.4**
ALER					*e*Sn	**Sn**	**23 56 02.0**	**-1.8**
ALER	**Alexandrovskoy**		**3.25**	**302**	*e*PN	**Pn**	**23 55 24.4**	**-0.4**
ALER					*e*S	**Sn**	**23 56 02.0**	**-1.8**
GNI	**Garni**		**3.33**	**208**	*e*Pn	**Pn**	**23 55 26.8**	**+0.8**
GNI	**Garni**		**3.33**	**208**	*e*PN	**Pn**	**23 55 26.8**	**+0.8**
BLQ	**Beylaqan**		**3.43**	**170**	P	**Pn**	**23 55 30.0**	**+2.7**
BLQ					S	**Sn**	**23 56 07.7**	**-0.4**
QRD	**Qoradiz**		**3.66**	**174**	P	**Pn**	**23 55 31.3**	**+0.9**
QRD					S	**Sn**	**23 56 14.8**	**+0.9**
HYR	**Heyderabad**		**3.69**	**204**	P	**Pn**	**23 55 32.2**	**+1.5**
HYR					S	**Sn**	**23 56 11.4**	**-3.1**
SBZ	**Shahbuz**		**3.82**	**195**	P	**Pn**	**23 55 33.4**	**+0.8**
SBZ					S	**Sn**	**23 56 16.1**	**-1.9**
GLBA	**Clilabad**		**4.05**	**162**	P	**Pn**	**23 55 37.2**	**+1.5**
GLBA					S	**Sn**	**23 56 25.5**	**+2.2**
ARXR	**Arkhyz**		**4.05**	**278**	*e*Pn	**Pn**	**23 55 36.5**	**+0.7**
ARXR					*e*Sn	**Sn**	**23 56 24.7**	**+1.1**
ARXR	**Arkhyz**		**4.05**	**278**	*e*PN	**Pn**	**23 55 36.5**	**+0.7**
ARXR					*e*S	**Sn**	**23 56 24.7**	**+1.1**
NAX	**Nakhchivan**		**4.05**	**194**	S	**Sn**	**23 56 23.7**	**+0.2**
ORD	**Ordubad**		**4.22**	**188**	P	**Pn**	**23 55 38.6**	**+0.5**
ORD					S	**Sn**	**23 56 27.1**	**-0.5**
YRD	**Yardimli**		**4.33**	**165**	P	**Pn**	**23 55 40.3**	**+0.5**
	SNR=15								
YRD					S	**Sn**	**23 56 29.7**	**-0.8**
LRK	**Lerik**		**4.61**	**165**	P	**Pn**	**23 55 44.2**	**+0.6**
	SNR=8.3								
LRK					S	**Sn**	**23 56 37.0**	**-0.5**
LKRN	**Lenkeran, Azer**		**4.64**	**160**	P	**Pn**	**23 55 43.7**	**-0.1**
LKRN					S	**Sn**	**23 56 38.2**	**+0.2**
ASTR	**Astara**		**4.79**	**161**	P	**Pn**	**23 55 46.3**	**+0.4**
ASTR					S	**Sn**	**23 56 41.7**	**+0.1**
ERBR	**Yeremizino-Bor**		**5.21**	**302**	*e*Pn	**Pn**	**23 55 52.9**	**+1.2**
ERBR					*e*Sn	**Sn**	**23 56 49.2**	**-2.9**
ERBR	**Yeremizino-Bor**		**5.21**	**302**	*e*PN	**Pn**	**23 55 52.9**	**+1.2**
ERBR					*e*S	**Sn**	**23 56 49.2**	**-2.9**
AKTO	**Aktyubinsk**		**10.62**	**42**	⇑P	**Pn**	**23 57 06.0**	**+0.2**
	comp=Z,7.3nm,2.3s								
AKTO					⇑S	Sn	23 58 54.5	-11
	comp=Z,1.2nm,0.6s								
AB31	**Akbulak array**		**10.99**	**51**	⇓P	**Pn**	**23 57 10.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=238,slow=12,SNR=26								
AB31					S	**Sn**	**23 59 08.5**	**-5.5**
	comp=Z,1.3nm,0.6s,baz=247,slow=23,SNR=9.8								
BRVK	**Borovoye**		**18.51**	**49**	*i* P	**Pn**	**23 58 50.6**	**+0.6**
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.9s								
FINES	**FINESS Array B**		**22.13**	**333**	*i* P	**P**	**23 59 27.8**	**-1.4**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
KURK	**Kurchatov**		**22.90**	**59**	*i* P	**P**	**23 59 39.8**	**+2.3**
KURK					pmax	pmax			
	comp=Z,1.0nm,1.2s								
CMAR	**Chiang Mai Arr**		**50.15**	**

MRNZ	**Matariki Terra**	**2.12**	**257**	P		**Pn**	**00 21 49.8**	**0.0**
MRHZ	**Matea Rd**	**2.22**	**19**	P		**Pn**	**00 21 50.1**	**-1.2**
WATZ	**Wairara**	**2.23**	**5**	P		**Pn**	**00 21 51.3**	**-0.1**
QRZ	**Quartz Range**	**2.25**	**272**	P		**Pn**	**00 21 53.3**	**+1.7**
QRZ	**Quartz Range**	**2.25**	**272**	P		**Pn**	**00 21 52.4**	**+0.8**
MTHZ	**Maungataniwha**	**2.33**	**27**	P		**Pn**	**00 21 52.3**	**-0.4**
ALRZ	**Allen Road**	**2.46**	**16**	P		**Pn**	**00 21 57.2**	**+2.6**
HIZ	**Hauiti**	**2.47**	**348**	P		**Pn**	**00 21 54.9**	**+0.2**
HIZ	**Hauiti**	**2.47**	**348**	P		**Pn**	**00 21 55.3**	**+0.6**
RTZ	**Ruatahuna**	**2.59**	**27**	P		**Pn**	**00 21 55.1**	**-1.2**
TARZ	**Mount Tarawera**	**2.81**	**16**	P		**Pn**	**00 21 58.2**	**-1.2**
DSZ	**Denniston Nort**	**2.89**	**253**	P		**Pn**	**00 22 00.2**	**-0.3**
URZ	**Urewera**	**2.95**	**26**	P		Pn	00 21 55.5	-5.7
LTZ	**Lake Taylor**	**3.03**	**232**	P		**Pn**	**00 22 00.7**	**-1.7**
MWZ	**Matawai**	**3.04**	**32**	P		**Pn**	**00 22 00.1**	**-2.4**
TOZ	**Tahuroa Road**	**3.20**	**0**	P		**Pb**	**00 22 11.1**	**-1.3**
OKCZ	**Okains Bay**	**3.32**	**212**	P		**Pn**	**00 22 04.1**	**-2.2**
TWGZ	**Tauwhareparae**	**3.36**	**36**	P		**Pn**	**00 22 09.7**	**+2.8**
MQZ	**McQueen's Vall**	**3.48**	**216**	P		**Pn**	**00 22 06.3**	**-2.2**
AKCZ	**Akaroa Harbour**	**3.50**	**212**	P		**Pn**	**00 22 07.8**	**-1.1**
MKAZ	**Moumakai**	**3.84**	**356**	P		**Pn**	**00 22 13.7**	**+0.3**
RPZ	**Rata Peaks**	**4.31**	**228**	P		**Pn**	**00 22 18.3**	**-1.6**
ARCZ	**Arundel**	**4.39**	**225**	P		**Pn**	**00 22 19.2**	**-1.8**
TMZ	**Timaru**	**4.78**	**222**	P		**Pn**	**00 22 24.3**	**-2.0**

*DJA **30** 00:42:18.1±0.9,0°N±3°×12°5E±°, h12km±6km, M4.2/13, mb4.2/5, mB5.0/1, MLv4.1/13, Mw(mB)4.3/1*
*IDC **30** 00:42:21.8±3.1,0.07S×125.02E, h62km±30km, mb3.5/6, mbtmp3.8/8, ML3.6/2, MS3.0/3, Error ellipse: s-maj=23.9km s-min=17.7km az=60.0*
*NEIC **30** 00:42:22.2±1.5,0.08S±0.10×125.12E±0.03, h65km±26km, mb4.1/6, Error ellipse: s-maj=14.6km s-min=3.2km az=192.0*
ISC 30 00:42:21.6±1.0,**0.03S**±0.06×**125.23E**±0.05,**h64**km±12km, **n34**,σ1§**81**/40,**mb4.0**/9,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**2.14**	**159**	P	**Pn**	**00 42 53.1**	**-2.0**
SANI				S	**Sn**	**00 43 24.8**	**+4.1**
TNTI	**Ternate**	**2.28**	**70**	Pn	**Pn**	**00 42 58.5**	**+1.5**
TNTI	**Ternate**	**2.28**	**70**	P	**Pn**	**00 42 55.4**	**-1.5**
TNTI				S	**Sn**	**00 43 23.3**	**-0.7**
GTOI	**Gorontalo**	**2.32**	**287**	P	**Pn**	**00 42 58.8**	**+1.4**
GTOI				S	**Sn**	**00 43 26.4**	**+1.6**
LUWI	**Luwuk**	**2.66**	**248**	Pn	**Pn**	**00 43 01.4**	**-0.7**
LUWI				Sn	**Sn**	**00 43 35.6**	**+2.5**
LUWI	**Luwuk**	**2.66**	**248**	P	**Pn**	**00 43 03.4**	**+1.4**
LUWI				S	**Sn**	**00 43 36.1**	**+3.0**
MRSI	**Marisa**	**3.33**	**279**	P	**Pn**	**00 43 07.8**	**-3.4**
NLAI	**Namlea**	**3.69**	**150**	P	**Pn**	**00 43 15.9**	**-0.4**
TOLI2	**Tolitoli**	**4.59**	**284**		**Pn**	**00 43 27.5**	**-1.0**
AAI	**Ambon**	**4.69**	**141**	P	**Pn**	**00 43 30.7**	**+0.8**
MPSI	**Mapaga** 18nm,0.5s,1µm0.1nm	**5.34**	**274**	P	**Pn**	**00 43 36.7**	**-2.1**
SIJI	**Sorong** 1.1nm,0.3s,baz=240,slow=22,SNR=1.6 3.4nm,0.3s	**6.09**	**98**	P	**Pn**	**00 43 52.5**	**+3.4**
SPSI	**Sidrap Palu** 20nm,0.6s,0.1nm	**6.71**	**234**	P	**Pn**	**00 43 57.2**	**-0.4**
BKSI	**Bulukumba** 18nm,1.2s,0.1nm	**7.32**	**224**	P	**Pn**	**00 44 05.1**	**-0.9**
KAPI	**Kappang** 1.4nm,0.3s,baz=148,slow=21,SNR=1.7	**7.38**	**228**	P	**Pn**	**00 44 05.7**	**-1.0**
KAPI				S	**Sn**	**00 45 25.3**	**-3.7**
	10nm,0.5s,baz=145,slow=23,SNR=2.5 8.8nm,0.6s						
KAPI	**Kappang**	**7.38**	**228**	Pn	**Pn**	**00 44 05.0**	**-1.7**
KAPI				Sn	**Sn**	**00 45 26.3**	**-2.7**
FAKI	**Fak Fak**	**7.58**	**112**	Pn	**Pn**	**00 44 09.7**	**+0.2**
FAKI	**Fak Fak**	**7.58**	**112**	P	**Pn**	**00 44 08.7**	**-0.8**
MYLDM	**Lahad Datu**	**8.48**	**308**	Pn	**Pn**	**00 44 21.5**	**-0.3**
BATI	**Baumata**	**10.23**	**189**	LR	LR	00 49 40.8	
	comp=Z,100nm,18.5s,baz=237,slow=43						
KNRA	**Kununurra**	**15.93**	**168**	Pn	**Pn**	**00 46 01.6**	**-0.3**
KNRA				IAmb	IAmb	00 46 31.6	
	comp=Z,34nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.96**	**179**	P	**P**	**00 46 24.5**	**-2.3**
WB0	**Warramunga Arr**	**21.57**	**156**	P	**P**	**00 47 05.5**	**-0.6**
WB0				IAmb	IAmb	00 47 34.3	
	comp=Z,8.8nm,1.3s						
WRA	**Warramunga Arr**	**21.71**	**156**	P	**P**	**00 47 06.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=332,slow=11,SNR=11 comp=Z,0.5nm,0.4s						
WB2	**Warramunga Arr**	**21.71**	**156**	P	**P**	**00 47 08.2**	**+0.6**
WB2				IAmb	IAmb	00 47 28.4	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**21.81**	**156**	P	**P**	**00 47 07.8**	**-0.8**
WR0				IAmb	IAmb	00 47 08.1	
	comp=Z,3.9nm,1.1s						
PSA00	**Pilbara Seismi**	**22.05**	**193**	P	**P**	**00 47 10.6**	**-0.5**
ASAR	**Alice Springs**	**24.96**	**161**	P	**P**	**00 47 40.1**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=340,slow=7.3,SNR=7.4						
ASAR				PcP	**PcP**	**00 51 14.8**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=339,slow=2.4,SNR=1.5 comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.69**	**307**	LR	LR	01 02 44.5	
	comp=Z,11nm,19.0s,baz=220,slow=39						
STKA	**Stephens Creek**	**35.26**	**155**	P	**P**	**00 49 11.6**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=322,slow=9.2,SNR=5.5 comp=Z,1.6nm,0.5s						
SONM	**Songino Array**	**50.41**	**344**	P	**P**	**00 51 12.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=156,slow=10,SNR=3.7 comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**59.83**	**327**	P	**P**	**00 52 19.9**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=126,slow=7.4,SNR=18						
MKAR				PcP	**PcP**	**00 53 05.7**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=114,slow=5.4,SNR=3.6 comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**63.28**	**335**	LR	LR	01 20 43.2	
	comp=Z,21nm,19.0s,baz=11,slow=36						
NRIK	**Noril'sk**	**73.72**	**347**	P	**P**	**00 53 49.3**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=118,slow=6.0,SNR=5.6 comp=Z,1.8nm,0.4s						

*HEL **30** 00:44:32.6±0.2, 67.85N×20.07E, h0km, ML1.3, Explosion*
*UPP **30** 00:44:33.0±0.1, 67.83N×20.20E, h0km, ML2.5, Suspected explosion*
ISC 30 00:44:32.4±0.8,**67.78N**±0.03×**20.23E**±0.03,**h0**km,**n24**, σ1§**06**/36,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.24**	**280**	P	**Pg**	**00 44 37.5**	**+0.5**
RATU				S	**Sg**	**00 44 40.8**	**+0.6**
KOVU	**Salmi**	**0.44**	**357**	P	**Pg**	**00 44 40.6**	**-0.3**
KOVU				S	**Sg**	**00 44 45.9**	**-0.7**
NIKU	**Nikkaluokta**	**0.46**	**281**	P	**Pg**	**00 44 41.5**	**+0.3**
DUNU	**Dundret**	**0.68**	**169**	P	**Pb**	**00 44 46.4**	**-0.6**
DUNU				S	**Sb**	**00 44 56.4**	**-0.5**
LANU	**Lannavaara**	**0.72**	**67**	PG	**Pg**	**00 44 46.3**	**+0.1**
LANU				SG	**Sg**	**00 44 55.7**	**+0.3**
MASU	**Masugnsbyn**	**0.75**	**115**	P	**Pb**	**00 44 47.8**	**-0.6**
SALU	**Saltoluokta**	**0.77**	**239**	P	**Pb**	**00 44 47.9**	**-0.8**
KIF	**Kilpisjarvi**	**1.25**	**10**	*e*P	**Pg**	**00 44 55.8**	**-0.4**
KIF	**Kilpisjarvi**	**1.25**	**10**	PN	**Pb**	**00 44 56.5**	**-0.2**
KIF				MSG		00 45 09.7	
	comp=Z,4.5nm,0.2s						
KIF				SN	**Sg**	**00 45 12.0**	**-0.3**
PAJU	**Pajala**	**1.35**	**123**	P	**Pb**	**00 44 58.3**	**-0.2**
HEF	**Hetta**	**1.43**	**62**	*e*P	**Pn**	**00 44 59.0**	**-0.7**
HEF	**Hetta**	**1.43**	**62**	PG	**Pn**	**00 44 59.0**	**-0.7**
HEF				MSG		00 45 16.4	
	comp=Z,1.7nm,0.2s						
HEF				SN	**Sn**	**00 45 22.1**	**+2.9**
ERTU	**Ertsjaerv**	**1.45**	**147**	P	**Pb**	**00 45 00.2**	**0.0**
ERTU	**Ertsjaerv**	**1.45**	**147**	PG	**Pb**	**00 45 00.4**	**+0.1**
ERTU				SG	**Sn**	**00 45 20.7**	**+1.1**
KLF	**Kolari**	**1.54**	**109**	PG	**Pg**	**00 45 01.6**	**-0.2**
KLF				MSG		00 45 21.1	
	comp=Z,1.7nm,0.2s						
KLF				SG	**Sg**	**00 45 23.2**	**+1.4**
KTK1	**Kautokeino**	**1.67**	**41**	PN	**Pn**	**00 45 02.9**	**+0.1**
KTK1				SN	**Sn**	**00 45 24.7**	**-0.1**
KALU	**Kalix**	**2.29**	**146**	SG	**Sg**	**00 45 45.1**	**-0.9**
TOF	**Tornio** baz=314	**2.35**	**135**	PB	**Pb**	**00 45 14.9**	**-0.7**
TOF				MSG		00 45 44.9	
	comp=Z,1.3nm,0.2s						
TOF				SG	**Sg**	**00 45 46.5**	**-1.3**
SGF	**Sodankyl**	**2.44**	**95**	PB	**Pb**	**00 45 16.8**	**-0.2**
SGF				SG	**Sg**	**00 45 49.2**	**-1.3**
RNF	**Rovaniemi**	**2.54**	**115**	PB	**Pb**	**00 45 17.8**	**-1.0**
RNF				SB	**Sb**	**00 45 50.8**	**+0.2**
ARA0	**ARCESS Array S**	**2.61**	**45**	SB	**Sb**	**00 45 50.3**	**-2.4**
KEV	**Kevo**	**3.17**	**48**	SG	**Sb**	**00 46 09.8**	**+1.4**
VRF	**Varrio**	**3.57**	**86**	SG	**Sb**	**00 46 22.9**	**+2.8**
OBF0	**Syolatti, Pyha**	**3.68**	**152**	SG	**Sg**	**00 46 30.3**	**-0.1**

*UPP **30** 00:48:50.8±0.1, 67.86N×20.19E, h0km, ML2.7, Suspected explosion*
*HEL **30** 00:48:51.5±0.1, 67.84N×20.21E, h0km, ML1.3, Explosion*
ISC 30 00:48:50.2±0.9,**67.84N**±0.02×**20.29E**±0.03,**h0**km,**n24**, σ0§**88**/37,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.26**	**268**	P	**Pg**	**00 48 55.4**	**+0.2**
RATU				S	**Sg**	**00 48 58.7**	**+0.1**
KOVU	**Salmi**	**0.39**	**353**	P	**Pg**	**00 48 57.8**	**+0.1**
KOVU				S	**Sg**	**00 49 02.9**	**+0.1**
NIKU	**Nikkaluokta**	**0.48**	**274**	P	**Pg**	**00 48 59.0**	**-0.3**
LANU	**Lannavaara**	**0.68**	**71**	PG	**Pb**	**00 49 04.2**	**-0.7**
LANU				SG	**Sb**	**00 49 13.4**	**-1.4**
DUNU	**Dundret**	**0.72**	**171**	P	**Pb**	**00 49 05.0**	**-0.7**
MASU	**Masugnsbyn**	**0.76**	**119**	P	**Pb**	**00 49 06.0**	**-0.2**
SALU	**Saltoluokta**	**0.82**	**237**	P	**Pg**	**00 49 06.1**	**+0.2**
KIF	**Kilpisjarvi**	**1.19**	**9**	*e*P	**Pb**	**00 49 13.7**	**+0.1**
KIF	**Kilpisjarvi** baz=195	**1.19**	**9**	PG	**Pb**	**00 49 13.5**	**-0.1**
KIF				MSG		00 49 28.8	
	comp=Z,2.7nm,0.2s						
KIF				SG	**Sb**	**00 49 29.7**	**+0.2**
PAJU	**Pajala**	**1.36**	**125**	P	**Pb**	**00 49 16.6**	**0.0**
HEF	**Hetta**	**1.39**	**64**	*e*P	**Pg**	**00 49 16.8**	**0.0**
HEF	**Hetta** baz=248	**1.39**	**64**	PG	**Pg**	**00 49 16.8**	**0.0**
HEF				MSG		00 49 34.0	
	comp=Z,1.9nm,0.2s						
HEF				SB	**Sn**	**00 49 35.6**	**-0.3**
ERTU	**Ertsjaerv**	**1.48**	**149**	P	**Pb**	**00 49 19.0**	**+0.4**
ERTU	**Ertsjaerv**	**1.48**	**149**	PG	**Pb**	**00 49 18.7**	**0.0**
ERTU				SN	**Sn**	**00 49 39.7**	**+1.5**
KLF	**Kolari** baz=294	**1.54**	**111**	PG	**Pg**	**00 49 19.6**	**0.0**
KLF				MSG		00 49 38.4	
	comp=Z,1.4nm,0.2s						
KLF				SN	**Sg**	**00 49 40.9**	**+1.5**
KTK1	**Kautokeino**	**1.61**	**41**	PG	**Pb**	**00 49 20.7**	**0.0**
KTK1				SN	**Sg**	**00 49 42.8**	**+1.0**
HARU	**Harads**	**1.70**	**171**	P	**Pg**	**00 49 22.2**	**-0.5**
TRO	**Tromso**	**1.87**	**345**	PG	**Pb**	**00 49 25.0**	**-0.2**
TRO				SG	**Sb**	**00 49 49.4**	**+0.2**
KALU	**Kalix** baz=329	**2.33**	**147**	PB	**Pb**	**00 49 31.9**	**-1.1**
KALU				SG	**Sg**	**00 50 04.3**	**-0.5**
TOF	**Tornio**	**2.37**	**136**	PB	**Pb**	**00 49 33.3**	**-0.4**
TOF				MSG		00 50 02.5	
	comp=Z,0.8nm,0.2s						
TOF				SG	**Sg**	**00 50 05.8**	**-0.6**
SGF	**Sodankyl**	**2.42**	**96**	PG	**Pb**	**00 49 34.2**	**-0.3**
SGF				SG	**Sg**	**00 50 07.8**	**0.0**
RNF	**Rovaniemi**	**2.55**	**116**	PB	**Pb**	**00 49 35.9**	**-0.8**
RNF				SG	**Sb**	**00 50 09.7**	**+1.2**
KEV	**Kevo**	**3.11**	**49**	SB	**Sb**	**00 50 21.8**	**-2.9**
KEV				MSG		00 50 23.5	
	comp=Z,0.7nm,0.2s						
KU6	**Riekki** baz=295	**4.19**	**111**	PG	**Pb**	**00 50 06.8**	**+2.1**

*IDC **30** 00:56:48.6±0.7, 55.11S×31.19W, h0km, mb4.1/10, mbtmp4.1/10, MS3.7/10, Error ellipse: s-maj=28.4km s-min=17.8km az=54.0*
*NEIC **30** 00:56:50.9±1.4, 55.18S±0.03×31.14W±0.2, h10km±1km, mb4.5/34, Error ellipse: s-maj=19.8km s-min=5.3km az=83.0*
ISC 30 00:56:50.4±0.5,**55.09S**±0.09×**31.34W**±0.10,**h10**km,**n63**, σ1§**16**/55,**mb4.4**/24,**MS3.8**/10,**South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**16.27**	**271**	P	**P**	**01 00 42.1**	**+0.4**
EFI				IAmb	IAmb	01 00 48.9	
	comp=Z,23nm,1.0s						
VNA3	**Neumayer Olymp**	**18.72**	**158**	P	**Pn**	**01 01 09.3**	**+0.2**
VNA2	**Neumayer--Watz** baz=318,slow=12	**19.00**	**156**	P	**Pn**	**01 01 16.6**	**+4.2**
SNAA	**Sanae**	**20.60**	**155**	P	**P**	**01 01 29.4**	**+0.2**
SNAA	**Sanae**	**20.60**	**155**	P	**P**	**01 01 27.8**	**-1.5**
	comp=Z,4.3nm,0.8s,baz=318,slow=12,SNR=5.4 comp=Z,4.3nm,0.8s						
SNAA	**Sanae**	**20.60**	**155**	P	**P**	**01 01 29.2**	**0.0**
TROLL	**Troll, Antarti**	**22.17**	**153**	P	**P**	**01 01 47.2**	**+1.0**
MG02	**Cerro Sombrero**	**22.25**	**260**	P	**P**	**01 01 46.1**	**-0.8**
BELA	**Belgrano 2**	**22.91**	**182**	P	**P**	**01 01 52.8**	**-1.2**
MG05	**Puerto Natales**	**24.53**	**261**	P	**P**	**01 02 10.0**	**+0.2**
MG05				IAmb	IAmb	01 02 17.5	
	comp=Z,21nm,1.1s						
GO09	**Cerro Castillo**	**24.61**	**262**	P	**P**	**01 02 07.8**	**-2.6**
GO09				IAmb	IAmb	01 02 25.2	
	comp=Z,24nm,1.1s						
TRQA	**Tornquist**	**26.78**	**297**	P	**P**	**01 02 31.9**	**+1.6**
TRQA				IAmb	IAmb	01 02 42.6	
	comp=Z,6.8nm,1.1s						
ITQB	**Itaqui**	**31.20**	**314**	P	**P**	**01 03 10.0**	**+0.5**
ITQB				IAmb	IAmb	01 03 20.0	
	comp=Z,6.3nm,1.1s						
GO05	**Huala**	**34.35**	**289**	P	**P**	**01 03 37.8**	**+0.6**
CPUP	**Villa Florida**	**34.45**	**316**	P	**P**	**01 03 37.0**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=163,slow=11,SNR=2.6						
CPUP				LR	LR	01 16 35.1	
	comp=Z,62nm,20.1s,baz=20,slow=34 comp=Z,1.2nm,0.7s						
CPUP	**Villa Florida**	**34.45**	**316**	P	**P**	**01 03 37.6**	**-0.4**
MT09	**Talagante**	**34.77**	**291**	P	**P**	**01 03 39.6**	**-1.3**
MT09				IAmb	IAmb	01 03 51.3	
	comp=Z,12nm,1.1s						
MT01	**Popeta**	**34.84**	**291**	P	**P**	**01 03 40.0**	**-1.4**
MT01				IAmb	IAmb	01 03 51.9	
	comp=Z,7.7nm,1.1s						
QSPA	**South Pole Qui**	**35.16**	**180**	P	**P**	**01 03 43.3**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=280,slow=6.0,SNR=1.7						
QSPA				LR	LR	01 16 46.8	
	comp=Z,102nm,21.2s,baz=148,slow=34 comp=Z,1.8nm,0.7s						
MT02	**Curacav**	**35.25**	**292**	P	**P**	**01 03 44.8**	**-0.1**
VA06	**Catapilco**	**35.87**	**292**	P	**P**	**01 03 50.3**	**+0.1**
CO02	**Combarbal**	**36.77**	**294**	P	**P**	**01 03 59.0**	**+0.9**
CO02				IAmb	IAmb	01 04 17.5	
	comp=Z,11nm,1.1s						
CO03	**El Pedregal**	**36.90**	**295**	P	**P**	**01 03 59.4**	**+0.2**
CO01	**Juntas del Tor**	**37.28**	**296**	P	**P**	**01 03 59.3**	**-3.2**
CO01				IAmb	IAmb	01 04 12.3	
	comp=Z,4.6nm,0.9s						
AC05	**El Transito**	**38.29**	**297**	P	**P**	**01 04 11.2**	**+0.2**
AC05				IAmb	IAmb	01 04 14.4	
	comp=Z,6.2nm,0.8s						
BDFB	**Brasilia**	**41.43**	**335**	P	**P**	**01 04 38.0**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=129,slow=13,SNR=1.9 comp=Z,1.9nm,0.9s						
BDFB	**Brasilia**	**41.43**	**335**	P	**P**	**01 04 38.2**	**+1.1**
LVC	**Limon Verde**	**42.80**	**304**	P	**P**	**01 04 49.9**	**+1.4**
	comp=Z,3.0nm,0.5s,baz=205,slow=5.5,SNR=2.3 comp=Z,3.0nm,0.5s						
PB01	**IPOC Station P**	**44.41**	**304**	P	**P**	**01 05 02.5**	**+1.3**
PB01				IAmb	IAmb	01 05 03.7	
	comp=Z,5.3nm,0.7s						
SIV	**San Ignacio**	**45.24**	**318**	P	**P**	**01 05 08.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=115,slow=10,SNR=1.2 comp=Z,0.3nm,0.4s						
GO01	**Chusmiza**	**45.46**	**306**	P	**P**	**01 05 10.9**	**+0.9**
GO01				IAmb	IAmb	01 05 15.1	
	comp=Z,4.3nm,0.7s						
PB11	**IPOC Station P**	**45.59**	**305**	P	**P**	**01 05 11.7**	**+1.0**
PB11				IAmb	IAmb	01 05 17.2	
	comp=Z,4.5nm,0.8s						
MNMC	**Minye Minye**	**46.11**	**306**	P	**P**	**01 05 16.0**	**+1.1**
PB16	**IPOC Station P**	**46.76**	**306**	P	**P**	**01 05 20.9**	**+0.6**
VNDA	**Vanda**	**47.40**	**184**	P	**P**	**01 05 24.2**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=174,slow=10,SNR=2.0 comp=Z,1.2nm,0.8s						
VNDA	**Vanda**	**47.40**	**184**	P	**P**	**01 05 24.6**	**+0.5**
LPAZ	**La Paz**	**47.92**	**309**	P	**P**	**01 05 30.1**	**+0.6**
	comp=Z,6.1nm,0.5s,baz=107,slow=5.9,SNR=48 comp=Z,6.1nm,0.5s						
LPAZ	**La Paz**	**47.92**	**309**	P	**P**	**01 05 30.2**	**+0.7**
BOSA	**Boshof**	**48.08**	**81**	P	**P**	**01 05 29.8**	**-0.3**
H10N1	**ASCENSION HYDR** baz=201	**49.00**	**22**	T	T	01 59 03.4	
H10N3	**ASCENSION HYDR** baz=201	**49.00**	**22**	T	T	01 59 07.9	
H10N2	**ASCENSION HYDR** baz=201	**49.02**	**22**	T	T	01 59 10.1	
LBTB	**Lobatse** comp=Z,3.5nm,0.9s,baz=225,slow=10.0,SNR=3.3 comp=Z,3.5nm,0.9s	**51.05**	**78**	P	**P**	**01 05 53.0**	**+0.2**
LBTB	**Lobatse**	**51.05**	**78**	P	**P**	**01 05 53.4**	**+0.6**
LBTB				IAmb	IAmb	01 05 56.0	
	comp=Z,5.7nm,1.0s						
TSUM	**Tsumeb** comp=Z,29nm,20.1s,baz=273,slow=30	**51.35**	**66**	LR	LR	01 22 24.0	
ETMB	**Extrema**	**52.89**	**315**	P	**P**	**01 06 07.0**	**+0.6**
LSZ	**Lusaka** comp=Z,66nm,18.1s,baz=172,slow=34	**60.29**	**73**	LR	LR	01 31 09.4	
LSZ	**Lusaka**	**60.29**	**73**	P	**P**	**01 06 58.9**	**-0.4**
LSZ				IAmb	IAmb	01 07 00.8	
	comp=Z,2.2nm,1.0s						
BOAV	**Boa Vista**	**62.13**	**327**	P	**P**	**01 07 12.1**	**+0.6**
MDP	**Montagnes des** comp=Z,133nm,19.0s,baz=126,slow=35	**62.54**	**336**	LR	LR	01 32 59.2	
MCRA	**Macar, Loja**	**63.84**	**304**	P	**P**	**01 07 23.6**	**+0.6**
MCRA				IAmb	IAmb	01 07 30.4	
	comp=Z,3.8nm,1.2s						
SDV	**Santo Domingo** comp=Z,51nm,18.0s,baz=86,slow=40	**71.70**	**319**	LR	LR	01 44 18.9	
TORD	**Torodi Ar. Bea** comp=Z,1.4nm,0.7s,baz=201,slow=5.9,SNR=9.8 comp=Z,1.4nm,0.7s	**73.47**	**34**	P	**P**	**01 08 22.0**	**-0.9**
MBAR	**Mbarara** comp=Z,50nm,18.2s,baz=182,slow=34	**73.88**	**67**	LR	LR	01 38 42.8	
WHZ	**Wether Hill Ro**	**78.07**	**194**	P	**P**	**01 08 48.5**	**-0.4**
TOO	**Toolangi**	**87.66**	**177**	P	**P**	**01 09 39.3**	**+0.5**
TOO				IAmb	IAmb	01 09 45.9	
	comp=Z,3.1nm,1.1s						
ATD	**Arta Tunnel** comp=Z,39nm,18.1s,baz=140,slow=36	**90.51**	**71**	LR	LR	01 50 23.5	
STKA	**Stephens Creek** comp=Z,52nm,20.8s,baz=205,slow=34	**93.17**	**174**	LR	LR	01 48 59.2	
KEST	**Kesra** comp=Z,81nm,18.3s,baz=248,slow=32	**96.95**	**32**	LR	LR	01 48 49.9	
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.7s,baz=136,slow=2.3,SNR=5.8	**133.90**	**320**	PKP	**PKPdf**	**01 16 04.2**	**-2.0**
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.6s,baz=238,slow=3.5,SNR=5.9	**144.07**	**65**	PKP	**PKPab**	**01 16 22.5**	**0.0**
ILAR	**Eielson Array** comp=Z,0.1nm,0.6s,baz=120,slow=1.8,SNR=6.3	**147.73**	**314**	PKP	**PKPdf**	**01 16 29.3**	**-1.6**
ILAR				PKPbc	**pPKPdf**	**01 16 33.1**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=129,slow=1.7,SNR=18						
SONM	**Songino Array** comp=Z,0.2nm,0.6s,baz=222,slow=1.9,SNR=1.4	**153.03**	**88**	PKP	**PKPdf**	**01 16 40.4**	**+0.6**
SONM				PKPbc	**PKPbc**	**01 16 46.2**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=218,slow=2.8,SNR=7.7						
SONM				PKPab	**PKPab**	**01 16 58.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=220,slow=3.7,SNR=2.1						

*IDC **30** 01:04:07.7±1.2, 36.52N×6.34E, h0km, mb3.3/6, mbtmp3.4/10, ML4.1/2, MS2.8/1, Error ellipse: s-maj=22.5km s-min=19.0km az=13.0*
*CRAAG **30** 01:04:08.0, 36.60N×6.35E, Ml3.3, Algerie 03km NE Hamala*
*LDG **30** 01:04:11.5±0.3, 36.65N×6.38E, h10km, Ml3.7/18, Error ellipse: s-maj=7.2km s-min=4.0km az=140.0*
ISC 30 01:04:08.2±0.6,**36.66N**±0.05×**6.33E**±0.04,**h9**km,**n69**, σ2§**62**/95,**mb3.5**/6,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.38**	**253**	P	**Pb**	**01 04 17.2**	**0.0**
CKFL	**Kef-Lekhel**	**0.41**	**129**	P	**Pg**	**01 04 13.2**	**-3.0**
CASM	**Ain Smara**	**0.42**	**162**	P	**Pb**	**01 04 17.0**	**-0.8**
CAEH	**'Ain El Ouahch**	**0.44**	**73**	P	**Pb**	**01 04 18.3**	**+0.2**
CMAH	**Djebel Manchou**	**0.88**	**92**	P	**Pn**	**01 04 27.0**	**+0.2**
SET	**Setif**	**0.88**	**239**	P	Pg	01 04 18.0	-7.1
CKHR	**Kef el Ahmar**	**0.92**	**226**	P	**Pg**	**01 04 24.3**	**-1.6**
ABSA	**Djebel Ababsia**	**1.00**	**112**	P	**Pn**	**01 04 29.5**	**+1.0**
AKET	**Djebel Ketaf**	**2.07**	**254**	P	**Pn**	**01 04 44.2**	**+0.9**
KEST	**Kesra** 10nm,0.3s,baz=260,slow=17,SNR=204	**2.61**	**110**	Pn	**Pn**	**01 04 52.3**	**+1.7**
KEST				Sn	**Sn**	**01 05 23.4**	**+0.9**
	4.5nm,0.3s,

CAF eSn Sn 01 07 52.3 -4.3
0.8nm,0.3s
LFF La Frestale 9.29 335 ePn Pn 01 06 23.2 +0.9
LFF eSn Sn 01 08 02.6 -4.3
4.4nm,0.4s
RJF Les Rejaudoux 9.37 339 eSn Sn 01 08 04.4 -4.5
1.7nm,0.3s
ECAB El Cabril 9.46 282 P Pn 01 06 25.9 +1.2
CABF La Chapelle 9.95 359 ePn Pn 01 06 32.7 +1.3
DAVOX Davos/Dischmat 10.46 14 Pn Pn 01 06 42.9 +4.5
0.4nm,0.4s,baz=180,slow=19
DAVOX Sn Sn 01 08 39.9 +4.2
0.1nm,0.3s,baz=126,slow=19,SNR=1.4
PBAR Barrancos 10.74 282 eP Pn 01 06 44.8 +2.6
HINF Hinteralfeld 11.16 2 ePn Pn 01 06 48.4 +0.5
PMRV Marv??o 11.17 288 i LQ LQ 01 06 55.5
PESTR Estremoz 11.24 286 i LQ LQ 01 06 55.1
PVAQ Vaqueiros 11.26 278 eP Pn 01 06 49.8 +0.6
PVAQ Vaqueiros 11.26 278 P Pn 01 06 49.6 +0.3
PCBR Castelo Branco 11.31 290 eP Pn 01 06 54.2 +4.2
MVO Moncorvo 11.34 297 eP Pn 01 06 53.1 +2.7
HAU Haudompre 11.34 0 ePn Pn 01 06 51.1 +0.7
PBRG Braganca 11.36 301 eP Pn 01 06 52.7 +2.0
PBEJ Beja 11.38 281 eP Pn 01 06 52.5 +1.5
SFTF Sexfontaines 11.58 356 ePn Pn 01 06 54.1 +0.5
PVIS Viseu 11.83 294 eP Pn 01 07 00.7 +3.6
PVRL Vila Real 11.86 297 eP Pn 01 07 00.0 +2.4
PAGF Fort de Pagny 11.90 358 ePn Pn 01 06 58.4 +0.4
SAVF Savonnieres en 11.98 356 ePn Pn 01 06 59.9 +0.8
PCAS Casmilo, Conde 12.12 291 eP Pn 01 07 04.9 +3.8
GERES GERESS Array B 13.32 22 Pn P 01 07 27.4 +0.1
0.2nm,0.3s,baz=194,slow=12,SNR=7.1
AKASG Malin Array Be 21.59 42 P P 01 08 59.4 +1.3
0.7nm,0.5s,baz=240,slow=11,SNR=3.6
0.7nm,0.5s
BRTR Keskin Array B 21.65 74 P P 01 08 59.9 +0.9
0.3nm,0.7s,baz=264,slow=10.0,SNR=1.5
0.3nm,0.7s
TORD Torodi Ar. Bea 23.78 191 P P 01 09 20.4 -0.7
1.9nm,0.8s,baz=6.7,slow=9.7,SNR=8.7
1.9nm,0.8s
KURBB Kurchatov Arra 52.06 50 P P 01 13 20.7 +2.6
0.2nm,0.3s,baz=300,slow=8.4,SNR=1.7
0.2nm,0.3s
MKAR Makanchi Array 55.53 54 P P 01 13 44.1 +0.5
0.4nm,0.7s,baz=284,slow=6.2,SNR=6.2
0.4nm,0.7s
YKA Yellowknife Ar 70.45 335 P P 01 15 23.7 +1.2
0.3nm,0.6s,baz=48,slow=5.8,SNR=5.4
0.3nm,0.6s

*IDC **30** 01:04:35.8±2.5,31.52°S×177.08°W,h0km,mb4.3/3, mbtmp4.3/4,ML4.0/1,Error ellipse: s-maj=53.3km s-min=34.4km az=101.0*
ISC 30 01:04:41.0±2.2,31.5°S±0.1×177.0°W±0.3,h35km,n6, σ1°56/7,mb4.3/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.40**	**341**	Pn	**Pn**	**01 05 16.0**	**-1.7**
	35nm,0.3s,baz=139,slow=20,SNR=1.3						
RAO				Sn	**Sn**	**01 05 47.3**	**+1.5**
	94nm,0.3s,baz=192,slow=20,SNR=2.9						
	102nm,0.2s						
CTA	**Charters Tower**	**34.80**	**280**	P	**P**	**01 11 29.7**	**+1.2**
	3.2nm,0.8s,baz=130,slow=7.9,SNR=2.0						
	3.2nm,0.8s						
ASAR	**Alice Springs**	**43.88**	**268**	P	**P**	**01 12 43.5**	**-0.7**
	11nm,0.4s,baz=107,slow=7.2,SNR=2.7						
	11nm,0.4s						
WRA	**Warramunga Arr**	**44.97**	**273**	P	**P**	**01 12 51.8**	**-1.2**
	0.3nm,0.3s,baz=112,slow=7.8,SNR=12						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**119.13**	**309**	PKP	**PKiKP**	**01 23 26.6**	**+0.7**
	0.1nm,0.5s,baz=84,slow=2.9,SNR=1.8						
FINES	**FINESS Array B**	**146.49**	**340**	PKPbc	**PKPdf**	**01 24 17.1**	**+0.8**
	11nm,1.2s,baz=27,slow=4.7,SNR=2.6						

*IDC **30** 01:08:34.0±1.0,31.62°S×177.30W,h0km,mb4.4/5, mbtmp4.4/6,ML4.4/1,Error ellipse: s-maj=31.3km s-min=27.3km az=64.0*
*WEL **30** 01:08:36.2±1.6,32.3°S±9.4×17.8W±2.9,h33km,M4.4/1, mB4.6/2,ML4.8/1,MLv4.4/1,Mw(mB)3.8/2,Error ellipse: s-maj=0.0km s-min=0.0km az=105.4,confirmed*
*NEIC **30** 01:08:36.5±1.1,32.08S±0.05×177.5W±0.1,h10km±1km, mb4.4/16,Error ellipse: s-maj=20.4km s-min=6.6km az=72.0*
ISC 30 01:08:37.8±0.7,31.76S±0.06×177.7W±0.1,h35km, h36km:pP-P,n55,σ1°82/53,mb4.4/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.50**	**355**	P	**Pn**	**01 09 14.3**	**-1.7**
GLKZ				S	**Sn**	**01 09 43.6**	**-1.7**
RAO	**Raoul Island**	**2.51**	**355**	Pn	**Pn**	**01 09 14.3**	**-1.8**
	92nm,0.3s,baz=133,slow=19,SNR=1.4						
RAO				Sn	**Sn**	**01 09 42.7**	**-2.9**
	185nm,0.3s,baz=181,slow=23,SNR=2.7						
	224nm,0.3s						
RAO	**Raoul Island**	**2.51**	**355**	Pn	Pn	01 09 20.8	+4.6
URZ	**Urewera**	**7.77**	**212**	Pn	**Pn**	**01 10 28.2**	**-0.1**
	0.7nm,0.3s,baz=65,slow=17,SNR=1.9						
URZ				Sn	**Sn**	**01 11 55.4**	**+0.3**
	4.3nm,0.3s,baz=55,slow=19,SNR=11						
RTZ	**Ruatahuna**	**8.12**	**211**	Pn	**Pn**	**01 10 30.5**	**-2.8**
RAHZ	**Arahi**	**8.33**	**210**	S	**Sn**	**01 12 08.3**	**-0.5**
MTHZ	**Maungataniwha**	**8.38**	**211**	P	**Pn**	**01 10 35.8**	**-1.0**
MTHZ				S	**Sn**	**01 12 09.4**	**-0.7**
WHHZ	**Waihua**	**8.40**	**208**	S	**Sn**	**01 12 10.7**	**+0.1**
ARHZ	**Aropaoanui**	**8.66**	**209**	S	**Sn**	**01 12 14.5**	**-2.4**
MCHZ	**McNeill Hill**	**8.93**	**209**	S	**Sn**	**01 12 23.5**	**-0.2**
KWHZ	**Kaweka Forest**	**9.03**	**211**	P	**Pn**	**01 10 45.2**	**-0.5**
KWHZ				S	**Sn**	**01 12 25.7**	**-0.5**
TMVZ	**Te Maari**	**9.11**	**215**	S	**Sn**	**01 12 26.4**	**-1.9**
ETVZ	**East Tongariro**	**9.13**	**214**	S	**Sn**	**01 12 28.0**	**-0.6**
KAHZ	**Kahuranaki**	**9.16**	**207**	P	**Pn**	**01 10 46.0**	**-1.5**
KAHZ				S	**Sn**	**01 12 25.4**	**-3.9**
PXZ	**Pawanui**	**9.37**	**207**	S	**Sn**	**01 12 30.6**	**-3.7**
BHW	**Baring Head**	**11.34**	**210**	Pn	**Pn**	**01 11 15.1**	**-2.2**
RPZ	**Rata Peaks**	**14.88**	**214**	Pn	**Pn**	**01 12 03.1**	**-2.5**
WKZ	**Wanaka**	**16.69**	**215**	Pn	**Pn**	**01 12 26.9**	**-1.9**
WKZ				IAmb	IAmb	01 12 45.9	
	comp=Z,44nm,1.4s						
MLZ	**Mavora Lakes**	**17.52**	**215**	Pn	**P**	**01 12 38.3**	**-1.8**
MLZ				IAmb	IAmb	01 12 47.7	
	comp=Z,46nm,1.4s						
KOUNC	**Koumac, New Ca**	**19.65**	**300**	P	**Pn**	**01 13 06.9**	**+1.7**
KOUNC				IAmb	IAmb	01 13 15.7	
	comp=Z,31nm,1.3s						
CTA	**Charters Tower**	**34.33**	**281**	P	P	01 15 25.4	+4.1
	comp=Z,3.5nm,0.5s,baz=110,slow=13,SNR=6.3						
	comp=Z,3.5nm,0.5s						
CTAO	**Charters Tower**	**34.33**	**281**	P	P	01 15 25.1	+3.8
STKA	**Stephens Creek**	**34.48**	**259**	P	P	01 15 26.9	+4.5
	comp=Z,1.4nm,0.6s,baz=110,slow=12,SNR=2.1						
	comp=Z,1.4nm,0.6s						
STKA	**Stephens Creek**	**34.48**	**259**	P	**P**	**01 15 23.4**	**+0.9**
BBOO	**Buckleboo**	**38.90**	**256**	P	**P**	**01 16 02.2**	**+2.1**
BBOO				IAmb	IAmb	01 16 12.6	
	comp=Z,7.8nm,1.1s						
COEN	**Coen**	**39.94**	**287**	P	P	01 16 12.1	+3.2
COEN				IAmb	IAmb	01 16 34.4	
	comp=Z,6.0nm,1.1s						
AS31	**Alice Springs**	**43.34**	**268**	P	P	01 16 39.3	+2.5
ASAR	**Alice Springs**	**43.34**	**268**	P	P	01 16 39.9	+3.1
	comp=Z,11nm,0.3s,baz=107,slow=7.3,SNR=12						
	comp=Z,11nm,0.3s						
WR0	**Warramunga Arr**	**44.28**	**273**	P	P	01 16 47.4	+3.1
WB2	**Warramunga Arr**	**44.45**	**273**	P	**P**	**01 16 47.9**	**+2.2**
WB2				IAmb	IAmb	01 16 52.1	
	comp=Z,7.4nm,1.2s						
WRAB	**Tennant Creek**	**44.45**	**273**	P	P	01 16 48.9	+3.2
WRAB				IAmb	IAmb	01 17 09.1	
	comp=Z,5.7nm,1.0s						
WRA	**Warramunga Arr**	**44.45**	**273**	P	P	01 16 49.0	+3.3
	comp=Z,1.4nm,0.3s,baz=112,slow=7.7,SNR=28						
	comp=Z,1.4nm,0.3s						
WRA	**Warramunga Arr**	**44.45**	**273**	P	P	01 16 49.1	+3.4
WB0	**Warramunga Arr**	**44.48**	**274**	P	P	01 16 48.7	+2.7
FITZ	**Fitzroy Crossi**	**52.66**	**271**	P	P	01 17 51.7	+2.8
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**01 18 31.6**	**+2.3**
	comp=Z,2.3nm,0.7s,baz=49,slow=3.0,SNR=4.7						
	comp=Z,2.3nm,0.7s						
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**01 18 29.7**	**+0.5**
QSPA				IAmb	IAmb	01 18 34.8	
	comp=Z,4.8nm,1.1s						
SNAA	**Sanae**	**76.79**	**178**	P	**P**	**01 20 25.9**	**+0.5**
BOSA	**Boshof**	**116.12**	**202**	PKPdf	**PKPdf**	**01 27 17.4**	**-0.4**
MKAR	**Makanchi Array**	**118.87**	**309**	PKP	**PKiKP**	**01 27 23.1**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=132,slow=1.3,SNR=4.1						
MKAR	**Makanchi Array**	**118.87**	**309**	PKPdf	**PKiKP**	**01 27 23.5**	**+1.2**
KURK	**Kurchatov**	**122.20**	**313**	PKPdf	**PKiKP**	**01 27 29.4**	**+0.8**
KKAR	**Karatay Array**	**126.06**	**303**	PKPdf	**PKiKP**	**01 27 37.2**	**+0.6**
ONI	**Oni**	**145.81**	**300**	PKPdf	**PKiKP**	**01 28 14.1**	**-2.7**
KBZ	**Khabaz**	**146.10**	**302**	PKPbc	**PKiKP**	**01 28 16.8**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=203,slow=2.3,SNR=4.6						
FIA1	**FINESS Array S**	**146.52**	**339**	PKPdf	**PKiKP**	**01 28 15.1**	**-2.4**
FINES	**FINESS Array B**	**146.52**	**339**	PKPbc	**PKiKP**	**01 28 15.9**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=42,slow=4.5,SNR=15						
FINES	**FINESS Array B**	**146.52**	**339**	PKPdf	**PKiKP**	**01 28 15.1**	**-2.4**
GURO	**Guroymak-BITLI**	**147.04**	**293**	PKPdf	**PKPbc**	**01 28 15.8**	**-1.3**
AKASG	**Malin Array Be**	**152.55**	**321**	PKP	**PKPdf**	**01 28 23.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=58,slow=0.4,SNR=1.7						
AKASG				PKPbc	**pPKPdf**	**01 28 32.0**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=48,slow=2.1,SNR=1.7						
AKASG				PKPab	**sPKPbc**	**01 28 42.1**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=48,slow=4.8,SNR=6.0						
BRTR	**Keskin Array B**	**153.48**	**296**	PKPbc	**PKiKP**	**01 28 36.5**	**+3.6**
	comp=Z,0.4nm,0.8s,baz=152,slow=5.3,SNR=1.8						
BRTR				PKPab	**sPKPbc**	**01 28 46.6**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=97,slow=4.0,SNR=6.6						
BRTR	**Keskin Array B**	**153.48**	**296**	PKPdf	**PKPdf**	**01 28 25.7**	**+0.7**
BRTR				PKPbc	**pPKPdf**	**01 28 33.8**	**-0.8**
BRTR				PKPab	**sPKPbc**	**01 28 47.2**	**+1.7**
BUR08	**Bucovina Ar. S**	**156.45**	**319**	PKPab	**PKPab**	**01 28 59.8**	**+2.3**
BURAR	**Bucovina Array**	**156.46**	**319**	PKPab	**PKPab**	**01 28 59.7**	**+2.2**
TORD	**Torodi Ar. Bea**	**161.46**	**178**	PKPab	**PKPab**	**01 29 21.3**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=172,slow=3.7,SNR=2.5						

*IDC **30** 01:10:13.2±1.0,31.62S×177.19W,h0km,mb4.5/5, mbtmp4.5/6,ML4.3/1,MS3.3/4,Error ellipse: s-maj=32.4km s-min=23.2km az=73.0*
ISC 30 01:10:18.7±1.0,31.69S±0.07×177.8W±0.2,h35km,n33, σ2°02/36,mb4.5/5,MS3.3/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.43**	**357**	P	**Pn**	**01 10 54.8**	**-1.1**
GLKZ				S	**Sn**	**01 11 22.8**	**-1.5**
RAO	**Raoul Island**	**2.44**	**357**	Pn	**Pn**	**01 10 55.2**	**-0.8**
	65nm,0.3s,baz=127,slow=20,SNR=1.2						
RAO				Sn	**Sn**	**01 11 24.3**	**-0.3**
	170nm,0.3s,baz=252,slow=23,SNR=2.7						
	208nm,0.3s						
RIZ	**Raoul Island**	**2.44**	**357**	P	**Pn**	**01 10 54.8**	**-1.3**
RIZ				S	**Sn**	**01 11 22.2**	**-2.5**
MXZ	**Matakaoa Point**	**6.68**	**208**	S	**Sn**	**01 13 10.0**	**+0.8**
WMGZ	**Waiomatatini S**	**6.86**	**206**	S	**Sn**	**01 13 17.9**	**+4.3**
PKGZ	**Pakihiroa**	**7.05**	**208**	S	**Sn**	**01 13 19.0**	**+0.5**
HAZ	**Te Kaha**	**7.06**	**210**	S	**Sn**	**01 13 20.5**	**+2.0**
PUZ	**Puketiti**	**7.14**	**206**	S	**Sn**	**01 13 20.5**	**-0.1**
URZ	**Urewera**	**7.77**	**211**	Sn	**Sn**	**01 13 36.1**	**0.0**
	6.3nm,0.3s,baz=251,slow=18,SNR=9.5						
RAHZ	**Arahi**	**8.33**	**209**	S	**Sn**	**01 13 47.2**	**-2.6**
MTHZ	**Maungataniwha**	**8.38**	**210**	S	**Sn**	**01 13 50.2**	**-0.9**
WHHZ	**Waihua**	**8.41**	**207**	S	**Sn**	**01 13 52.0**	**+0.2**
ARHZ	**Aropaoanui**	**8.67**	**208**	P	Pn	01 12 15.0	-6.5
ARHZ				S	**Sn**	**01 13 55.5**	**-2.5**
MCHZ	**McNeill Hill**	**8.94**	**209**	S	**Sn**	**01 14 05.1**	**+0.2**
KWHZ	**Kaweka Forest**	**9.04**	**210**	S	**Sn**	**01 14 03.6**	**-3.7**
TMVZ	**Te Maari**	**9.11**	**214**	S	**Sn**	**01 14 07.9**	**-1.2**
ETVZ	**East Tongariro**	**9.12**	**214**	S	**Sn**	**01 14 07.9**	**-1.5**
KAHZ	**Kahuranaki**	**9.17**	**207**	P	Pn	01 12 21.2	-7.3
KAHZ				S	**Sn**	**01 14 08.5**	**-2.0**
PXZ	**Pawanui**	**9.38**	**206**	S	**Sn**	**01 14 10.6**	**-5.0**
RPZ	**Rata Peaks**	**14.88**	**213**	Pn	**Pn**	**01 13 43.2**	**-3.2**
	0.6nm,0.3s,baz=35,slow=20,SNR=2.2						
RPZ				Sn	Sn	01 16 18.2	-12
	0.7nm,0.3s,baz=71,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**17.00**	**300**	LR	LR	01 20 03.6	
	comp=Z,84nm,18.6s,baz=316,slow=34						
PPT	**Papeete**	**29.14**	**68**	LR	LR	01 24 38.8	
	comp=Z,61nm,21.5s,baz=340,slow=30						
CTA	**Charters Tower**	**34.20**	**281**	P	P	01 17 05.3	+4.2
	4.7nm,0.7s,baz=115,slow=9.0,SNR=5.7						
CTA				LR	LR	01 31 01.7	
	comp=Z,52nm,18.4s,baz=82,slow=36						
	4.7nm,0.7s						
STKA	**Stephens Creek**	**34.38**	**259**	P	P	01 17 07.9	+5.3
	2.0nm,0.7s,baz=130,slow=9.6,SNR=2.9						
STKA				LR	LR	01 30 44.6	
	comp=Z,54nm,18.0s,baz=73,slow=35						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**43.24**	**268**	P	**P**	**01 18 19.3**	**+2.4**
	9.9nm,0.3s,baz=106,slow=7.6,SNR=8.6						
ASAR				PcP	**PcP**	**01 20 07.9**	**+2.2**
	0.3nm,0.5s,baz=116,slow=4.3,SNR=1.6						
	9.9nm,0.3s						
WRA	**Warramunga Arr**	**44.34**	**273**	P	**P**	**01 18 29.0**	**+3.3**
	1.5nm,0.4s,baz=112,slow=8.0,SNR=8.3						
WRA				PcP	**PcP**	**01 20 11.0**	**+1.6**
	0.5nm,0.9s,baz=115,slow=3.4,SNR=1.8						
	1.5nm,0.4s						
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**01 20 11.5**	**+0.9**
	6.7nm,1.0s,baz=32,slow=5.1,SNR=5.8						
	6.7nm,1.0s						
MKAR	**Makanchi Array**	**118.74**	**309**	PKP	**PKPdf**	**01 29 02.7**	**-0.2**
	0.3nm,0.6s,baz=132,slow=0.7,SNR=4.3						
KBZ	**Khabaz**	**145.97**	**302**	PKPbc	**PKPab**	**01 29 55.3**	**+0.3**
	1.7nm,0.8s,baz=135,slow=2.9,SNR=1.5						
FINES	**FINESS Array B**	**146.42**	**339**	PKPbc	**PKPab**	**01 29 55.7**	**-0.4**
	1.7nm,0.5s,baz=318,slow=2.6,SNR=8.6						
AKASG	**Malin Array Be**	**152.43**	**321**	PKPbc	**PKiKP**	**01 30 11.6**	**+0.7**
	0.2nm,0.3s,baz=54,slow=2.1,SNR=1.7						
AKASG				PKPab	**PKPab**	**01 30 21.6**	**+0.7**
	0.9nm,0.5s,baz=48,slow=4.8,SNR=7.0						
BRTR	**Keskin Array B**	**153.35**	**296**	PKPbc	**PKPbc**	**01 30 13.3**	**0.0**
	0.2nm,0.5s,baz=37,slow=0.7,SNR=2.4						
BRTR				PKPab	**sPKPbc**	**01 30 27.4**	**+1.2**
	1.5nm,0.8s,baz=110,slow=4.2,SNR=7.4						
TORD	**Torodi Ar. Bea**	**161.53**	**178**	PKPab	**PKPab**	**01 31 00.0**	**-0.9**
	0.9nm,0.8s,baz=171,slow=3.6,SNR=4.4						

*GUC **30** 01:14:59.7±0.5,21.40S×67.08W,h267km±12km,ML3.5 SCB **30** 01:14:59.9±1.3,21.34S×66.79W,h210km±14km,ML3.3/2, Error ellipse: s-maj=7.6km s-min=7.3km az=0.0*
ISC 30 01:14:58.5±3.1,21.35S±0.07×66.76W±0.07, h225km±24km,n22,σ1°30/37,1C,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.05**	**85**	Pg	Pn	**01 15 32.2**	**+0.5**
MOCB				Sg	**Sn**	**01 15 56.5**	**-1.1**
MOCB				IAML		01 15 57.8	
	75nm,0.4s						
YJA	**Yavi**	**1.42**	**126**	Pg	**Pn**	**01 15 34.9**	**+0.6**
YJA				Sg	**S**	**01 16 00.9**	**-1.3**
LVC	**Limon Verde**	**2.35**	**237**	Pg	**Pn**	**01 15 44.3**	**+1.4**
PB01	**IPOC Station P**	**2.56**	**276**	eP	**Pn**	**01 15 45.7**	**+0.9**
PB01				eS	**S**	**01 16 20.7**	**-0.2**
PB01				IAML		01 16 22.2	
	comp=N,48nm,0.3s						
CHUZ	**Chusmiza**	**2.83**	**306**	eP	**Pn**	**01 15 49.5**	**+1.4**
GO01				eS	**S**	**01 16 29.2**	**+2.4**
GO01	**Chusmiza**	**2.83**	**306**	Pg	**Pn**	**01 15 49.3**	**+1.2**
PB03	**IPOC Station P**	**2.87**	**255**	eP	**Pn**	**01 15 49.1**	**+0.9**
PB03				i S	**S**	**01 16 26.1**	**-0.9**
PB02	**IPOC Station P**	**2.92**	**270**	eP	**Pn**	**01 15 49.5**	**+0.8**
PB02				eS	**S**	**01 16 26.8**	**-1.1**
PB02				IAML		01 16 28.1	
	comp=N,129nm,0.4s						
PB02	**IPOC Station P**	**2.92**	**270**	Pg	**Pn**	**01 15 49.5**	**+0.8**
PB02				Sg	**S**	**01 16 26.9**	**-1.1**
PB02				IAML		01 16 27.5	
	comp=N,142nm,0.5s						
PB06	**IPOC Station P**	**2.94**	**242**	eP	**Pn**	**01 15 50.5**	**+1.6**
PB06				i S	**S**	**01 16 27.7**	**-0.6**
PB06	**IPOC Station P**	**2.94**	**242**	Pg	**Pn**	**01 15 50.7**	**+1.8**
HMBC	**Humberstone**	**3.11**	**289**	eP	**Pn**	**01 15 51.1**	**+0.2**
HMBC				eS	**S**	**01 16 30.8**	**-1.1**
PB11	**IPOC Station P**	**3.14**	**300**	eP	**Pn**	**01 15 52.0**	**+0.8**
PB11				eS	**S**	**01 16 32.5**	**-0.1**
PATCX	**Punta Patache**	**3.21**	**279**	eP	**Pn**	**01 15 52.7**	**+0.7**
PATCX				eS	**S**	**01 16 32.6**	**-1.3**
TA01	**Diego Aracena**	**3.29**	**283**	eP	**Pn**	**01 15 52.8**	**0.0**
TA01				eS	**S**	**01 16 33.2**	**-2.2**
TA01	**Diego Aracena**	**3.29**	**283**	Pg	**Pn**	**01 15 53.1**	**+0.3**
PB04	**IPOC Station P**	**3.30**	**252**	eP	**Pn**	**01 15 53.4**	**+0.4**
PB04	**IPOC Station P**	**3.30**	**252**	Pg	**Pn**	**01 15 53.5**	**+0.4**
MNMC	**Minye Minye**	**3.46**	**309**	eP	**Pn**	**01 15 56.5**	**+1.4**
MNMC				eS	**S**	**01 16 40.1**	**+0.7**
PSGC	**Pisagua**	**3.60**	**298**	eP	**Pn**	**01 15 56.5**	**-0.1**
PSGC				eS	**S**	**01 16 40.0**	**-2.2**
PB16	**IPOC Station P**	**3.96**	**319**	eP	**Pn**	**01 16 03.4**	**+2.0**
PB12	**IPOC Station P**	**4.32**	**308**	eP	**Pn**	**01 16 04.4**	**-0.8**
PB12				i S	**S**	**01 16 55.1**	**-2.8**

*DJA **30** 01:26:29.8±0.4,4.3S±3.3×13.0E±.1°,h111km±5km,M4.2/12, mb4.6/3,mB5.4/1,MLv4.0/12,Mw(mB)4.8/1*
*IDC **30** 01:26:31.8±4.6,4.34S×130.50E,h172km±60km,mb3.3/3, mbtmp4.1/5,Error ellipse: s-maj=166.2km s-min=13.2km az=76.0*
ISC 30 01:26:28.0±0.8,4.40S±0.06×129.78E±0.05,h132km±7km, n16,σ1°67/23,mb3.5/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.18**	**134**	P	**Pn**	**01 26 47.3**	**+1.3**
BNDI				S	**Sn**	**01 26 59.5**	**-0.1**
MSAI	**Masohi**	**1.34**	**321**	P	**Pn**	**01 26 55.2**	**+0.7**
MSAI				S	**Sn**	**01 27 13.6**	**-1.1**
AAI	**Ambon**	**1.73**	**294**	P	**Pn**	**01 26 59.6**	**+0.8**
AAI				S	**Sn**	**01 27 21.1**	**-1.3**
FAKI	**Fak Fak**	**2.87**	**59**	P	**Pn**	**01 27 14.5**	**+1.4**
FAKI				S	**Sn**	**01 27 45.1**	**-2.7**
NLAI	**Namlea**	**2.91**	**293**	P	**Pn**	**01 27 14.1**	**+0.6**
NLAI				S	**Sn**	**01 27 49.0**	**+0.4**
SIJI	**Sorong**	**3.81**	**23**	P	**Pn**	**01 27 26.3**	**+1.0**
	40nm,0.2s,baz=164,slow=19,SNR=71						
SIJI				S	**Sn**	**01 28 06.9**	**-2.8**
	67nm,0.2s,baz=232,slow=23,SNR=10						
SWI	**Sorong**	**3.81**	**23**	P	**Pn**	**01 27 26.3**	**+0.9**
SAUI	**Saumlaki**	**3.87**	**157**	P	**Pn**	**01 27 27.7**	**+1.6**
SANI	**Sanana**	**4.44**	**302**	P	**Pn**	**01 27 33.3**	**-0.4**
RKPI	**Ransiki, Papua**	**5.25**	**57**	P	**Pn**	**01 27 46.2**	**+1.7**
	69nm,0.7s,5μm1.3mm						
TNTI	**Ternate**	**5.67**	**335**	P	**Pn**	**01 27 50.0**	**-0.2**
	51nm,0.9s,0.2nm						
WRA	**Warramunga Arr**	**16.08**	**164**	P	**Pn**	**01 30 03.5**	**-3.3**
	0.6nm,0.4s,baz=349,slow=13,SNR=14						
WRA				S	Sn	01 32 51.7	-14
	0.9nm,0.5s,baz=350,slow=23,SNR=9.1						
ASAR	**Alice Springs**	**19.57**	**169**	P	**P**	**01 30 46.4**	**+0.6**
	12nm,0.4s,baz=343,slow=8.8,SNR=41						
ASAR				S	**S**	**01 34 17.2**	**-2.5**
	0.5nm,0.6s,baz=352,slow=21,SNR=4.1						
SONM	**Songino Array**	**55.92**	**341**	P	**P**	**01 35 53.9**	**+1.5**
	0.3nm,0.5s,baz=167,slow=8.7,SNR=3.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**65.95**	**326**	P	**P**	**01 37 01.4**	**+1.3**
	1.2nm,0.5s,baz=117,slow=8.0,SNR=21						
	1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**69.17**	**333**	P	**P**	**01 37 21.0**	**+0.9**
	0.3nm,0.4s,baz=127,slow=9.2,SNR=2.3						
	0.3nm,0.4s						

*MAN **30** 01:28:53.4,7.93N×126.80E,h15km,mb4.9,ML3.8,MS3.8 NEIC **30** 01:28:58.0±1.6,7.93N±0.07×126.6E±0.1,h74km±7km, mb4.4/40,Error ellipse: s-maj=19.8km s-min=6.5km az=116.0*
*IDC **30** 01:28:58.6±1.8,7.91N×126.65E,h88km±16km,mb3.8/15, mbtmp4.2/17,MS2.8/4,Error ellipse: s-maj=25.3km s-min=12.0km az=89.0*
ISC 30 01:28:54.5±1.1,7.89N±0.04×126.86E±0.08,h50km±10km, n84,σ1°75/88,mb4.3/35,5C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.57**	**301**	i P	**Pn**	**01 29 03.7**	**-2.9**
BIPH				i S	**Sn**	**01 29 10.5**	**-4.9**
TASP	**Talacogon, Agu**	**1.18**	**299**	eP	**Pn**	**01 29 13.7**	**-1.0**
TASP				eS	**Sn**	**01 29 36.5**	**+6.9**
DAV	**Davao City (W)**	**1.50**	**237**	P	**Pn**	**01 29 20.3**	**+1.3**
	654nm,0.4s,baz=62,slow=4.7,SNR=19						
DAV				S	**Sn**	**01 29 40.6**	**+3.1**
	598nm,0.4s,baz=139,slow=19,SNR=8.0						
DAV				LR	LR	01 29 58.5	
	comp=Z,682nm,20.3s,baz=324,slow=44						
DAV	**Davao City (W)**	**1.50**	**237**	Pn	**Pn**	**01 29 19.5**	**+0.5**
BUKP	**Musuan**	**1.78**	**270**	eP	**Pn**	**01 29 24.6**	**+1.8**
KCP	**Kidapawan**	**1.95**	**244**	eP	**Pn**	**01 29 24.2**	**-1.0**
KCP				i S	**Sn**	**01 29 45.2**	**-3.4**

SONM	**Songino Array**	**43.44**	**340**	P		**P**	**01 36 51.9**	**-0.8**
PETK	**Petropavlovsk-**	**51.57**	**23**	P		**P**	**01 37 56.7**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=224,slow=4.0,SNR=2.2							
	comp=Z,1.6nm,0.6s							
MK31	**Makanchi Array**	**54.27**	**324**	P		**P**	**01 38 14.5**	**-1.1**
MK31				IAmb		IAmb	01 38 15.4	
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	**54.27**	**324**	P		**P**	**01 38 14.7**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=122,slow=8.0,SNR=18							
MKAR				PcP		PcP	01 39 19.1	-0.2
	comp=Z,0.9nm,0.8s,baz=121,slow=4.7,SNR=2.5							
	comp=Z,1.5nm,0.6s							
MA2	**Magadan**	**54.67**	**15**	P		**P**	**01 38 19.2**	**+1.0**
	comp=Z,4.1nm,0.5s,baz=201,slow=7.4,SNR=7.0							
	comp=Z,4.1nm,0.5s							
MA2	**Magadan**	**54.67**	**15**	P		**P**	**01 38 20.1**	**+1.9**
MA2				IAmb		IAmb	01 38 20.7	
	comp=Z,4.6nm,0.7s							
ZALV	**Zalesovo Beam**	**56.98**	**332**	P		**P**	**01 38 33.3**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=116,slow=6.8,SNR=5.0							
	comp=Z,0.8nm,0.6s							
KURK	**Kurchatov**	**58.35**	**326**	P		**P**	**01 38 43.3**	**-1.2**
KURK				IAmb		IAmb	01 38 44.4	
	comp=Z,4.7nm,1.1s							
GAR	**Garm**	**59.27**	**311**	P		**P**	**01 38 49.1**	**-2.2**
GAR				IAmb		IAmb	01 39 15.4	
	comp=Z,2.3nm,0.8s							
KK31	**Karatay Array**	**60.34**	**315**	P		**P**	**01 38 57.3**	**-1.2**
KK31				IAmb		IAmb	01 39 20.9	
	comp=Z,4.5nm,1.5s							
KKAR	**Karatay Array**	**60.34**	**315**	P		**P**	**01 38 56.4**	**-2.1**
TIXI	**Tiksi**	**63.71**	**1**	P		**P**	**01 39 20.5**	**0.0**
TIXI				IAmb		IAmb	01 39 50.8	
	comp=Z,5.7nm,0.5s							
ABKAR	**Akbulak array**	**69.05**	**320**	P		**P**	**01 39 53.4**	**-1.7**
KDAK	**Kodiak Island**	**78.34**	**33**	P		**P**	**01 40 50.1**	**+0.7**
M20K	**Styx River**	**78.38**	**28**	P		**P**	**01 40 49.8**	**+0.1**
M20K				IAmb		IAmb	01 41 14.4	
	comp=Z,12nm,1.4s							
IMAR	**Indian Mountai**	**78.52**	**24**	P		**P**	**01 40 51.9**	**+1.7**
H21K	**Melozitna Rive**	**78.88**	**25**	P		**P**	**01 40 54.0**	**+1.8**
CAST	**Castle Rocks**	**78.99**	**27**	P		**P**	**01 40 52.9**	**0.0**
CAST				IAmb		IAmb	01 41 32.5	
	comp=Z,4.5nm,1.3s							
RAYN	**Ar Rayn**	**79.00**	**292**	P		**P**	**01 40 52.8**	**-1.0**
SKT	**Skwentna**	**79.14**	**28**	P		**P**	**01 40 54.4**	**+0.7**
SKT				IAmb		IAmb	01 41 37.5	
	comp=Z,9.6nm,1.4s							
I21K	**Tanana**	**79.18**	**25**	P		**P**	**01 40 54.9**	**+1.0**
I21K				IAmb		IAmb	01 41 20.9	
	comp=Z,3.0nm,1.2s							
SUA	**Susitna One**	**79.49**	**29**	P		**P**	**01 40 57.4**	**+1.7**
SUA				IAmb		IAmb	01 41 31.2	
	comp=Z,12nm,1.4s							
BPAW	**Bear Paw Mtn.**	**79.53**	**26**	P		**P**	**01 40 57.0**	**+1.2**
BPAW				IAmb		IAmb	01 40 57.7	
	comp=Z,6.4nm,1.4s							
MLY	**Manley**	**79.69**	**25**	P		**P**	**01 40 58.3**	**+1.6**
COLD	**Coldfoot**	**80.04**	**23**	P		**P**	**01 41 00.3**	**+1.8**
COLD				IAmb		IAmb	01 41 18.2	
	comp=Z,3.9nm,1.4s							
I23K	**Minto, Yukon-K**	**80.28**	**25**	P		**P**	**01 41 01.4**	**+1.6**
I23K				IAmb		IAmb	01 41 37.3	
	comp=Z,5.8nm,1.3s							
SML	**Sawmill**	**80.65**	**29**	P		**P**	**01 41 02.5**	**+0.6**
MDM	**Murphy Dome**	**80.75**	**25**	P		**P**	**01 41 04.0**	**+1.6**
MDM				IAmb		IAmb	01 41 45.9	
	comp=Z,3.4nm,1.2s							
H24K	**Noodor Dome**	**80.92**	**25**	P		**P**	**01 41 04.6**	**+1.3**
H24K				IAmb		IAmb	01 41 08.6	
	comp=Z,3.0nm,1.2s							
SCM	**Sheep Creek Mo**	**81.13**	**29**	P		**P**	**01 41 05.3**	**+0.8**
ILAR	**Eielson Array**	**81.33**	**26**	P		**P**	**01 41 04.5**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=255,slow=4.5,SNR=7.2							
	comp=Z,0.4nm,0.6s							
BMAR	**Burnt Mountain**	**82.22**	**23**	P		**P**	**01 41 10.3**	**+0.2**
RIDG	**Independent Ri**	**82.23**	**27**	P		**P**	**01 41 10.0**	**-0.3**
RIDG				IAmb		IAmb	01 41 51.4	
	comp=Z,10nm,1.5s							
SCRK	**Sand Creek**	**82.61**	**26**	P		**P**	**01 41 13.4**	**+1.1**
SCRK				IAmb		IAmb	01 41 21.4	
	comp=Z,6.2nm,1.4s							
BRTR	**Keskin Array B**	**87.48**	**310**	P		**P**	**01 41 35.2**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=136,slow=5.8,SNR=2.4							
	comp=Z,0.4nm,0.6s							
FINES	**FINESS Array B**	**88.25**	**332**	P		**P**	**01 41 38.7**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=71,slow=5.6,SNR=13							
	comp=Z,2.6nm,0.8s							
YKA	**Yellowknife Ar**	**95.69**	**24**	P		**P**	**01 42 14.4**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=276,slow=5.5,SNR=2.6							
	comp=Z,0.1nm,0.4s							
TXAR	**Lajitas Array**	**118.92**	**50**	PKP		**PKPdf**	**01 47 37.2**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=169,slow=0.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**121.66**	**291**	PKP		**PKPdf**	**01 47 43.0**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=45,slow=2.4,SNR=11							

*SLM **30** 01:46:35.5±0.6,36°671N±0°009×89°52W±0°01, h14km±2km, Md2.5, mb_Lg2.4/3(NEIC), ML2.0/26(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=46.0*

NEIC 30 01:46:35.8±0.5,36°681N±0°010×89°52W±0°01, h17km±2km, Error ellipse: s-maj=1.6km s-min=1.3km az=218.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENM	**Henderson Moun**	**0.05**	**46**		Pg	01 46 38.5	-0.4
HENM					Sg	01 46 40.9	0.0
KEWM	**Kewanee**	**0.06**	**286**		Pg	01 46 38.5	-0.4
KEWM					Sg	01 46 41.0	0.0
NMMO	**New Madrid**	**0.10**	**197**		Pg	01 46 38.7	-0.5
NMMO					Sg	01 46 41.3	-0.2
DWDM	**Dogwood**	**0.12**	**10**		Pg	01 46 39.2	-0.2
DWDM					Sb	01 46 42.2	+0.1
MATM	**Matthews**	**0.12**	**323**		Pg	01 46 39.2	-0.2
MATM					Sb	01 46 42.0	-0.1
NMEM	**New Madrid Sch**	**0.12**	**207**		Pg	01 46 39.0	-0.5
CATM	**Catron**	**0.12**	**237**		Pg	01 46 39.1	-0.4
CATM					Sg	01 46 42.0	-0.1
WALK	**Watson Lake**	**0.14**	**188**		Pg	01 46 39.3	-0.5
WALK					Sg	01 46 42.2	-0.1
COKM	**Charter Oak**	**0.17**	**280**		Pg	01 46 39.9	-0.3
COKM					Sg	01 46 43.1	0.0
PARMO	**Parma**	**0.19**	**265**		Pg	01 46 40.0	-0.4
PARMO					Sg	01 46 43.3	-0.2
PARMO				IAML		01 46 43.7	
	comp=E,447nm,0.2s						
MARMO	**Marston**	**0.19**	**219**		Pg	01 46 40.0	-0.4
MARMO					Sg	01 46 43.6	0.0
CHRM	**Charleston**	**0.21**	**36**		Pg	01 46 40.4	-0.3
CHRM					Sg	01 46 44.2	+0.1
PENMO	**Penman**	**0.25**	**201**		Pg	01 46 40.8	-0.5
PENMO					Sg	01 46 45.0	-0.1
HICK	**Hickman**	**0.27**	**121**	Pg	Pg	01 46 41.2	-0.5
HICK				Sg	Sg	01 46 45.0	-0.8
PGVM	**Portageville**	**0.28**	**218**		Pg	01 46 41.4	-0.4
PGVM					Sg	01 46 45.8	-0.1
PPLM	**Point Pleasant**	**0.28**	**191**		Pg	01 46 41.4	-0.4
PPLM					Sg	01 46 46.0	0.0
POBM	**Portage Bay**	**0.30**	**203**		Sg	01 46 46.4	0.0
FLPT	**Flippin**	**0.31**	**150**		Pg	01 46 41.9	-0.5
FLPT					Sg	01 46 47.0	+0.1
MLDM	**Malden**	**0.33**	**260**		Pg	01 46 42.3	-0.4
WYBT	**Wynnburg**	**0.33**	**177**		Pg	01 46 42.3	-0.5
WYBT					Sg	01 46 47.5	0.0
TOPM	**Tallapoosa**	**0.34**	**243**		Pg	01 46 42.3	-0.5
TOPM					Sg	01 46 47.5	-0.1
WADM	**Wardell**	**0.39**	**216**		Pg	01 46 43.2	-0.5
BETM	**Bethany**	**0.44**	**261**		Pg	01 46 44.2	-0.5
GLAT	**Glass**	**0.45**	**156**	Pg	Pg	01 46 44.0	-0.8
FMKY	**Fulgham**	**0.49**	**92**		Pg	01 46 44.9	-0.7
LNXT	**Lenox**	**0.58**	**178**	Pg	Pg	01 46 46.4	-0.8
LNXT				IAML		01 46 52.6	
	comp=E,62nm,1.4s						
LNXT				IAML		01 47 05.0	
	comp=N,79nm,2.7s						
CGM3	**Cape Girardeau**	**0.63**	**350**	Pg	Pg	01 46 47.4	-0.7
CGM3				IAML		01 46 56.2	
	comp=N,98nm,0.2s						
PEBM	**Pemiscott Bayo**	**0.63**	**206**	Pg	Pg	01 46 47.3	-0.9
PEBM				IAML		01 46 59.8	
	comp=N,77nm,1.0s						
PEBM				IAML		01 47 02.8	
	comp=E,58nm,0.8s						
PBMO	**Poplar Bluff**	**0.74**	**278**	Pg	Pb	01 46 49.2	-1.0
PBMO				IAML		01 46 59.6	
	comp=N,79nm,0.2s						
T45A	**Paducah**	**0.78**	**64**	Pg	Pb	01 46 49.9	-1.0
T45A				IAML		01 47 01.5	
	comp=E,44nm,0.3s						
HALT	**Halls**	**0.78**	**169**	Pg	Pb	01 46 50.4	-0.6
HALT				IAML		01 47 01.6	
	comp=E,56nm,1.6s						
HALT				IAML		01 47 11.0	
	comp=N,52nm,2.3s						
GNAR	**Gosnell**	**0.82**	**210**	Pg	Pb	01 46 50.9	-0.7
GNAR				IAML		01 47 04.0	
	comp=E,47nm,0.9s						
GNAR				IAML		01 47 10.7	
	comp=N,61nm,0.7s						
S44A	**Carbondale**	**1.03**	**12**	Pg	Pb	01 46 54.4	-0.8
S44A				IAML		01 47 08.7	
	comp=E,44nm,0.1s						
S44A				IAML		01 47 10.0	
	comp=N,29nm,0.1s						
LPAR	**Lepanto**	**1.25**	**211**		Pn	01 46 57.8	-0.7
T42A	**Van Buren**	**1.31**	**286**		Pn	01 46 59.3	-0.1
T42A	**Van Buren**	**1.31**	**286**		Pn	01 46 58.6	-0.8
LCAR	**Lake Charles**	**1.46**	**246**	Pn	Pn	01 47 00.6	-0.7
WVT	**Waverly**	**1.47**	**111**	Pn	Pn	01 47 00.8	-0.7
CCM	**Cathedral Cave**	**1.94**	**315**	Pn	Pn	01 47 08.4	+0.4
T47A	**Sharon Grove**	**1.96**	**80**	Pn	Pn	01 47 08.1	-0.2
FCAR	**Ozark Folk Cen**	**2.25**	**250**	Pn	Pn	01 47 11.4	-0.8
FCAR				IAmb_Lg		01 47 48.4	
	comp=Z,2.5nm,0.8s						
V48A	**Smith Brothers**	**2.37**	**113**		Pn	01 47 15.7	+1.7
V48A	**Smith Brothers**	**2.37**	**113**	IAmb_Lg		01 47 52.4	
	comp=Z,29nm,0.7s						
X48A	**Hartselle**	**3.00**	**137**		Pn	01 47 24.1	+1.5
RCG	**Rock City**	**3.79**	**115**		Pn	01 47 29.7	-3.8
250A	**Grady**	**5.41**	**149**	IAmb_Lg		01 49 22.3	
	comp=Z,8.6nm,1.0s						

*IDC **30** 01:59:03.6±1.3,6°89N×73°25W,h158km±17km, mb3.0/1, mbtmp3.8/3, MS2.9/1, Error ellipse: s-maj=63.1km s-min=16.3km az=125.0*

*RSNC **30** 01:59:04.9±1.0,6°80N×73°14W,h151km±4km, ML3.2, Mw3.6*

ISC 30 01:59:03.0±0.9,6°83N±0°03×73°10W±0°04, h161km±6km, n29, σ1s72/52, 4C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**199**	*i*P	**Pn**	**01 59 25.1**	**+0.1**
BARC				*e*S	**Sn**	**01 59 40.6**	**-1.2**
BARC				*i*		01 59 43.2	
	comp=Z,390nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**38**	*i*P	**Pn**	**01 59 27.9**	**+0.9**
PAMC				*e*S	**Sn**	**01 59 45.0**	**-0.2**
PAMC				*i*		01 59 46.6	
	comp=Z,288nm,0.3s						
BRRC	**Barranca, Sant**	**0.67**	**295**	*i*P	**Pn**	**01 59 26.9**	**+0.5**
BRRC				*e*S	**Sn**	**01 59 44.3**	**0.0**
BRRC				*i*		01 59 47.5	
	comp=Z,275nm,0.1s						
RUSC	**La Rusia**	**0.93**	**179**	*i*P	**Pn**	**01 59 29.0**	**+0.2**
RUSC				*e*S	**Sn**	**01 59 47.7**	**-0.9**
RUSC				*i*		01 59 48.8	
	comp=Z,120nm,0.3s						
TAMC	**Tame, Arauca**	**1.36**	**107**	*i*P	**Pn**	**01 59 33.3**	**+1.3**
TAMC				*e*S	**Sn**	**01 59 55.0**	**+0.7**
TAMC				*i*		01 59 55.5	
	comp=Z,158nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*e*P	**Pn**	**01 59 31.6**	**-0.5**
PTBC				*e*S	**Sn**	**01 59 53.7**	**-0.9**
PTBC				*i*		02 00 00.6	
	comp=Z,337nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P	**Pn**	**01 59 37.8**	**+0.5**
ZARC				*e*S	**Sn**	**02 00 03.8**	**+0.2**
ZARC				*i*		02 00 09.4	
	comp=Z,358nm,0.5s						
NORC	**Norcasia**	**2.16**	**235**	*e*P	**Pn**	**01 59 41.1**	**+0.4**
NORC				*e*S	**Sn**	**02 00 08.7**	**-1.1**
NORC				*i*		02 00 12.3	
	comp=Z,195nm,0.3s						
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**01 59 43.3**	**+0.9**
CHIC				*e*S	**Sn**	**02 00 14.4**	**+1.6**
CHIC				*i*		02 00 18.6	
	comp=Z,53nm,0.4s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**01 59 44.3**	**+1.4**
	comp=Z,49nm,0.3s,baz=201,slow=1.3,SNR=84						
ROSC				S	**Sn**	**02 00 13.9**	**+0.2**
	comp=Z,99nm,0.4s,baz=95,slow=15,SNR=10.0						
ROSC	**El Rosal**	**2.32**	**212**	*e*P	**Pn**	**01 59 44.9**	**+2.0**
ROSC				*e*S	**Sn**	**02 00 15.2**	**+1.5**
ROSC				*i*		02 00 23.0	
	comp=Z,208nm,0.3s						
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P	**Pn**	**01 59 45.5**	**-0.2**
UREC				*e*S	**Sn**	**02 00 16.3**	**-2.3**
UREC				*i*		02 00 28.9	
	comp=Z,170nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*e*P	Pn	01 59 57.3	+10
LL1C				*e*S	**Sn**	**02 00 26.1**	**+4.1**
LL1C				*i*		02 00 34.2	
	comp=Z,202nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	*e*P	**Pn**	**01 59 48.3**	**+0.1**
PTGC				*e*S	**Sn**	**02 00 21.2**	**-2.0**
PTGC				*i*		02 00 25.2	
	comp=Z,44nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*e*P	**Pn**	**01 59 52.8**	**+1.2**
CBOC				*e*S	**Sn**	**02 00 27.8**	**-1.4**
CBOC				*i*		02 00 46.3	
	comp=Z,43nm,0.5s						
DBBC	**Dabeiba**	**3.09**	**274**	*i*P	**Pn**	**01 59 52.7**	**+0.6**
DBBC				*e*S	**Sn**	**02 00 27.7**	**-2.4**
DBBC				*i*		02 00 32.8	
	comp=Z,45nm,0.2s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**01 59 54.4**	**+1.1**
	comp=Z,42nm,0.3s,baz=213,slow=2.9,SNR=102						
SDV				S	**Sn**	**02 00 30.4**	**-2.0**
	comp=Z,38nm,0.4s,baz=231,slow=23,SNR=24						
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P	**Pn**	**01 59 59.5**	**+1.0**
ORTC				*e*S	**Sn**	**02 00 42.4**	**+0.8**
ORTC				*i*		02 00 48.4	
	comp=Z,49nm,0.4s						
APAC	**Apartado, Choc**	**3.61**	**287**	*i*P	**Pn**	**01 59 59.1**	**+0.6**
APAC				*e*S	**Sn**	**02 00 43.3**	**+1.6**
APAC				*i*		02 00 45.5	
	comp=Z,45nm,0.6s						
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P	**Pn**	**01 59 58.8**	**-0.7**
SJCC				*e*S	**Sn**	**02 00 40.4**	**-2.9**
SJCC				*i*		02 00 44.6	
	comp=Z,46nm,0.5s						
PLMC	**San Jos del P**	**3.70**	**239**	*i*P	**Pn**	**02 00 00.8**	**+1.0**
PLMC				*e*S	**Sn**	**02 00 43.7**	**-0.2**
PLMC				*i*		02 00 49.3	
	comp=Z,26nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	**Pn**	**02 00 05.4**	**-0.5**
CRJC				*e*S	**Sn**	**02 00 52.4**	**-2.5**
CRJC				*i*		02 01 01.6	
	comp=Z,27nm,0.2s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P	**Pn**	**02 00 07.8**	**+0.3**
YOTC				*e*S	**Sn**	**02 01 02.2**	**+4.5**
MACC	**Macarena, Meta**	**4.71**	**189**	*e*P	**Pn**	**02 00 12.2**	**-0.7**
MACC				*e*S	**Sn**	**02 01 04.1**	**-3.5**
MACC				*i*		02 01 23.3	
	comp=Z,8.8nm,0.5s						
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P	**Pn**	**02 00 19.3**	**-0.1**
GARC				*e*S	**Sn**	**02 01 13.9**	**-5.2**
GARC				*i*		02 01 23.7	
	comp=Z,17nm,0.2s						
JTS	**Las Juntas de**	**12.21**	**287**	LR	LR	02 08 13.5	
	comp=Z,49nm,18.1s,baz=90,slow=46						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**02 09 14.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=134,slow=6.5,SNR=7.0						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**02 18 33.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=109,slow=3.7,SNR=2.5						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**02 18 36.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=106,slow=3.0,SNR=8.0						

*IDC **30** 02:09:45.7±0.8,35°89N×78°51E,h0km, mb3.6/13, mbtmp3.7/18, ML3.4/5, MS2.7/3, Error ellipse: s-maj=21.2km s-min=14.1km az=51.0*

*NNC **30** 02:09:47.0±3.3,35°88N×78°52E,h0km, mb4.0, mpv4.1, Error ellipse: s-maj=36.6km s-min=20.6km az=134.0*

ISC 30 02:09:46.9±0.8,35°81N±0°08×78°64E±0°08, h10km, n37, σ1s70/41, mb3.5/13, 6C-6D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**7.17**	**335**	P	**Pn**	**02 11 34.4**	**+2.2**
	SNR=30						
AML	**Almayashu**	**7.40**	**330**	P	**Pn**	**02 11 37.4**	**+2.1**
	SNR=13						
KBK	**Karagaybulak**	**7.42**	**338**	P	**Pn**	**02 11 38.8**	**+3.4**
	SNR=8.6						
MDOK	**Medeo**	**7.45**	**351**	P	**Pn**	**02 11 37.9**	**+2.1**
	8.1nm,0.5s						
TKM2	**Tokmak 2**	**7.49**	**343**	P	**Pn**	**02 11 39.1**	**+2.7**
	SNR=6.6						
TKM2	**Tokmak 2**	**7.49**	**343**	⇓P	**Pn**	**02 11 37.3**	**+0.9**
	6.4nm,0.6s						
PDGK	**Podgornoye**	**7.54**	**5**	⇑P	**Pn**	**02 11 38.4**	**+1.4**
	5.3nm,0.5s						
PDGK				⇑S	**Sn**	**02 13 03.5**	**+0.8**
	20nm,0.7s						
AAK	**Ala-Archa**	**7.54**	**336**	P	**Pn**	**02 11 39.5**	**+2.4**
	SNR=16						
AAK	**Ala-Archa**	**7.54**	**336**	Pn	**Pn**	**02 11 39.4**	**+2.3**
	3.2nm,0.3s,baz=167,slow=11,SNR=31						
AAK				Lg	Lg	02 13 39.5	
	0.9nm,0.3s,baz=30,slow=15,SNR=5.2						
AAK				LR	LR	02 14 22.9	
	comp=Z,24nm,19.0s,baz=182,slow=37						
	11nm,0.4s						
CHMS	**Chumysh**	**7.79**	**338**	P	**Pn**	**02 11 43.4**	**+3.1**
	SNR=5.0						
EKS2	**Erkin-Say**	**7.82**	**333**	P	**Pn**	**02 11 43.7**	**+2.9**
	SNR=6.6						
KK31	**Karatay Array**	**9.62**	**322**	P	**Pn**	**02 12 06.2**	**+0.7**
	0.4nm,0.3s,baz=149,slow=15,SNR=10						
KK31				⇓S	**Sn**	**02 13 54.6**	**+1.0**
	2.3nm,0.6s						
MAKZ	**Makanchi**	**11.27**	**12**	⇓P	**Pn**	**02 12 28.8**	**+0.8**
	3.7nm,0.6s						
MAKZ				⇑S	**Sn**	**02 14 34.1**	**+0.1**
	1.6nm,0.7s						
MK31	**Makanchi Array**	**11.31**	**13**	⇑P	**Pn**	**02 12 29.4**	**+0.9**
	0.3nm,0.2s,baz=193,slow=13,SNR=34						
MK31				⇑S	**Sn**	**02 14 35.6**	**+0.5**
	4.0nm,0.8s,baz=195,slow=24,SNR=6.0						
MKAR	**Makanchi Array**	**11.31**	**13**	Pn	**Pn**	**02 12 29.1**	**+0.5**
	0.6nm,0.3s,baz=198,slow=13,SNR=32						
MKAR				Sn	**Sn**	**02 14 34.2**	**-0.9**
	0.7nm,0.3s,baz=192,slow=24,SNR=5.5						
	0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**14.81**	**360**	Pn	**Pn**	**02 13 15.2**	**-1.1**
	baz=187,slow=10,SNR=1.9						
	0.8nm,0.2s						
GEYT	**Alibeck**	**16.56**	**283**	LR	LR	02 20 38.1	
	comp=Z,40nm,18.6s,baz=24,slow=40						
BVA0	**Borovoye Array**	**18.18**	**344**	⇓P	**P**	**02 14 00.8**	**+1.3**
	4.7nm,0.8s,baz=155,slow=4.7,SNR=24						
BVAR	**Borovoye Array**	**18.18**	**344**	P	**Pn**	**02 13 59.1**	**-0.1**
	0.1nm,0.3s,baz=148,slow=9.9,SNR=32						
	4.9nm,0.6s						
BRVK	**Borovoye**	**18.23**	**344**	⇓P	**P**	**02 14 01.8**	**+1.8**
	7.2nm,0.8s						
ZALV	**Zalesovo Beam**	**18.65**	**11**	P	**P**	**02 14 03.0**	**-1.6**
	0.3nm,0.3s,baz=202,slow=11,SNR=4.3						
	1.1nm,0.5s						
AB31	**Akbulak array**	**19.18**	**320**	⇓P	**P**	**02 14 10.8**	**+0.2**
	0.2nm,0.4s,baz=123,slow=12,SNR=19						
AKTO	**Aktyubinsk**	**20.89**	**321**	P	**P**	**02 14 28.0**	**-1.1**
	2.0nm,0.7s,baz=105,slow=11,SNR=6.6						
	2.0nm,0.7s						
AKTO	**Aktyubinsk**	**20.89**	**321**	⇑P	**P**	**02 14 26.9**	**-2.2**
	3.7nm,1.0s						
SONM	**Songino Array**	**23.78**	**51**	P	**P**	**02 15 02.0**	**+2.2**
	0.8nm,0.7s,baz=246,slow=9.3,SNR=8.4						
	0.8nm,0.7s						
ARU	**Arti**	**24.71**	**333**	P	**P**	**02 15 07.2**	**-0.8**
	1.8nm,0.5s,baz=116,slow=4.3,SNR=4.5						
	1.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**24.91**	**129**	P	**P**	**02 15 12.5**	**+2.3**
	3.5nm,0.3s,baz=316,slow=10,SNR=13						
CMAR				LR	LR	02 26 55.7	
	comp=Z,19nm,19.2s,baz=125,slow=41						
	3.5nm,0.3s						
BRTR	**Keskin Array B**	**35.51**	**290**	P	**P**	**02 16 42.6**	**-1.4**
	0.5nm,0.8s,baz=34,slow=47,SNR=2.3						
	0.5nm,0.8s						
AKASG	**Malin Array Be**	**38.21**	**309**	P	**P**	**02 17 05.3**	**-1.3**
	0.4nm,0.5s,baz=77,slow=8.0,SNR=6.3						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**41.56**	**325**	P	**P**	**02 17 32.7**	**-1.6**
	2.5nm,0.8s,baz=116,slow=8.7,SNR=11						
	2.5nm,0.8s						
GERES	**GERESS Array B**	**48.34**	**307**	P	**P**	**02 18 29.4**	**+0.7**
	0.1nm,0.3s,baz=63,slow=6.1,SNR=3.9						
	0.1nm,0.3s						
NOA	**NORSAR Array B**	**48.65**	**323**	P	**P**	**02 18 29.2**	**-1.6**
	0.6nm,0.6s,baz=91,slow=7.7,SNR=1.7						
	0.6nm,0.6s						
ESDC	**Sonseca Array**	**63.19**	**301**	P	**P**	**02 20 14.1**	**-1.2**
	0.2nm,0

YUK pmax pmax
comp=Z,145nm,0.3s
YUK pmax pmax
comp=N,33nm,0.1s
YUK smax smax
comp=N,84nm,0.3s
YUK smax smax
comp=E,291nm,0.4s
YUK Yuzh-Kuril'sk 5.98 237 *i* P **Pn 02 13 42.2 +0.6**
YUK AMB AMB 02 13 46.6
comp=E,150nm,0.3s
YUK *e*S **Sn 02 14 47.2 -1.5**
YUK A A 02 15 04.7
comp=E,80nm,0.4s
YUK A A 02 15 04.7
comp=E,290nm,0.4s
RUSJ Misakicho 6.30 240 *e*PN **Pn 02 13 46.0 +0.1**
RUSJ *e*S **Sn 02 14 56.5 +0.2**
PEA0B Petropavlovsk- 6.44 27 Pn **Pn 02 13 47.5 -0.2**
PEA0B Petropavlovsk- 6.44 27 PN **Pn 02 13 47.5 -0.2**
PETK Petropavlovsk- 6.44 27 P **Pn 02 13 47.8 +0.1**
comp=E,38nm,0.8s,baz=196,slow=14,SNR=28
PETK S **Sn 02 15 00.1 +0.5**
comp=E,6.5nm,0.5s,baz=235,slow=14,SNR=0.9
NMR Nemuro--Hokkai 6.48 233 *i*PN **Pn 02 13 45.5 -2.8**
NMR *e*S **Sn 02 14 55.1 -5.7**
NMR Nemuro--Hokkai 6.48 233 *i* P **Pn 02 13 45.6 -2.8**
PET Petropavlovsk 6.68 32 Pn **Pn 02 13 51.0 0.0**
PET Petropavlovsk 6.68 32 *e*PN **Pn 02 13 50.4 -0.6**
PET *e*S **Sn 02 15 02.7 -2.9**
PET pmax pmax
comp=Z,53nm,0.6s
PET smax smax
comp=N,204nm,0.6s
PET smax smax
comp=E,206nm,0.7s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,100nm,13.0s
PET Petropavlovsk 6.68 32 *e*P **Pn 02 13 50.4 -0.6**
PET AMB AMB 02 13 59.6
comp=Z,50nm,0.6s
PET *e*S **Sn 02 15 02.7 -2.9**
PET A A 02 15 25.1
comp=Z,200nm,0.6s
PET A A 02 15 25.1
comp=Z,200nm,0.6s
YSS Yuzh-Sakhalins 6.90 269 Pn **Pn 02 13 52.3 -1.7**
YSS Yuzh-Sakhalins 6.90 269 *e*PN **Pn 02 13 56.5 +2.5**
YSS *e*S **Sn 02 15 11.5 +0.5**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=Z,200nm,4.0s
YSS MLR MLR
comp=Z,300nm,13.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=E,100nm,13.0s
YSS Yuzh-Sakhalins 6.90 269 *e*P **Pn 02 13 56.3 +2.3**
YSS AMB AMB 02 13 57.4
comp=E,50nm,0.6s
YSS AMB AMB 02 14 01.0
comp=E,200nm,4.0s
YSS *e*S **Sn 02 15 11.5 +0.5**
YSS A A 02 15 12.0
comp=E,40nm,0.7s
YSS A A 02 15 12.0
comp=E,20nm,0.7s
UGL Uglegorsk 7.38 287 *d i*PN **Pn 02 14 03.4 +2.9**
UGL pmax pmax
comp=Z,530nm,2.0s
UGL pmax pmax
comp=Z,140nm,1.3s
UGL Uglegorsk 7.38 287 *i* P **Pn 02 14 03.2 +2.7**
UGL AMB AMB 02 14 04.5
comp=Z,500nm,2.0s
UGL AMB AMB 02 14 05.0
comp=Z,10.0nm,0.5s
UGL *e*S **Sn 02 15 24.3 +1.8**
UGL A A 02 15 30.5
comp=Z,90nm,0.4s
UGL A A 02 15 30.5
comp=Z,90nm,0.4s
TYV Tymovskoe 7.50 301 *e*PN **Pn 02 14 04.3 +2.2**
TYV *e*S **Sn 02 15 24.3 -1.1**
TYV pmax pmax
comp=Z,113nm,1.1s
TYV pmax pmax
comp=Z,300nm,2.2s
TYV smax smax
comp=N,9.0nm,1.4s
TYV smax smax
comp=E,10.0nm,1.4s
TYV smax smax
comp=N,100nm,3.2s
TYV Tymovskoe 7.50 301 *e*P **Pn 02 14 04.3 +2.2**
TYV AMB AMB 02 14 05.4
comp=N,40nm,0.4s
TYV AMB AMB 02 14 06.2
comp=N,300nm,2.2s
TYV *e*S **Sn 02 15 26.0 +0.6**
JKA Kamikawa-asahi 7.92 249 Pn **Pn 02 14 07.8 0.0**
JKA Kamikawa-asahi 7.92 249 *e*P **Pn 02 14 08.1 +0.3**
ASAJ Asahikawa 7.92 249 P **Pn 02 14 08.1 +0.3**
comp=N,24nm,0.5s,baz=89,slow=15,SNR=23
HRK Horoka 7.92 243 *e*P **Pn 02 14 08.0 0.0**
OKH Okha 8.77 318 *e*P **Pn 02 14 21.5 +2.2**
ERM Erimo 8.80 235 Pn **Pn 02 14 18.6 -1.2**
ERM Erimo 8.80 235 PN **Pn 02 14 18.6 -1.2**
ERM Erimo 8.80 235 *e*P **Pn 02 14 18.6 -1.2**
NKL Nikolayevsk 9.64 311 *e*P **Pn 02 14 32.6 +1.6**
NKL AMB AMB 02 14 33.5
comp=N,20nm,0.5s
NKL *e*S **Sn 02 16 15.4 -1.9**
KBG Krutoberegovo 10.68 31 *e*P **Pn 02 14 43.2 -2.0**
MA2 Magadan 12.19 355 LR LR 02 20 33.7
comp=N,34nm,18.5s,baz=164,slow=41
MA2 Magadan 12.19 355 Pn **Pn 02 15 03.2 -2.1**
MA2 Magadan 12.19 355 *ce*PN **Pn 02 15 07.1 +1.8**
MA2 pmax pmax
comp=Z,10.0nm,0.6s
MA2 Magadan 12.19 355 *e*P **Pn 02 15 07.1 +1.8**
KLR Kul'dur 14.14 285 P **Pn 02 15 30.5 -0.3**
comp=Z,3.7nm,1.0s,baz=83,slow=7.6,SNR=17
KLR LR LR 02 21 30.5
comp=Z,83nm,19.9s,baz=80,slow=40
KLR Kul'dur 14.14 285 *e*P **Pn 02 15 30.2 -0.6**
SHEM Shemya Is, Ala 14.59 61 P **P 02 15 37.7 -2.2**
comp=Z,92nm,0.5s,baz=273,slow=6.0,SNR=13
SHEM S **Sn 02 18 08.7 -8.5**
comp=Z,74nm,0.5s,baz=350,slow=20,SNR=10
SHEM LR LR 02 20 49.1
comp=Z,43nm,21.5s,baz=267,slow=35
SMY Shemya 14.59 61 Pn **P 02 15 37.4 -2.5**
SMY Shemya 14.59 61 P **P 02 15 37.4 -2.5**
USA0B Ussuriysk Arra 14.90 265 Pn **Pn 02 15 39.9 -0.6**
USA0B Ussuriysk Arra 14.90 265 P **Pn 02 15 39.9 -0.6**
USRK Ussuriysk Ar. 14.90 265 P **Pn 02 15 40.2 -0.3**
comp=Z,12nm,0.6s,baz=71,slow=11,SNR=20
MAJO Matsushiro 15.39 230 Pn **Pn 02 15 46.9 +0.1**
MAJO Matsushiro 15.39 230 P **Pn 02 15 46.9 +0.1**
MAJO pmax pmax
comp=Z,17nm,1.0s
MAJO Matsushiro 15.39 230 *e*P **Pn 02 15 46.9 +0.1**
MJAR Matsushiro Arr 15.39 230 P **P 02 15 48.8 -0.2**
comp=Z,1.4nm,0.4s,baz=22,slow=10,SNR=2.4
MJAR LR LR 02 22 00.7
comp=Z,48nm,20.5s,baz=72,slow=38
SEY Seymchan 15.50 359 P **Pn 02 15 47.7 -0.1**
comp=Z,2.5nm,0.6s,baz=171,slow=10,SNR=9.3
SEY Seymchan 15.50 359 *ce*P **Pn 02 15 47.9 +0.1**
SEY pmax pmax
comp=Z,7.0nm,1.3s
SEY Seymchan 15.50 359 *e*P **Pn 02 15 47.9 +0.1**
JGF Kuroka 16.56 230 **P 02 16 01.7 -0.2**
INU Inuyama 16.93 230 **P 02 16 06.7 +0.8**
HEH HeiHe 16.95 289 *e*P **P 02 16 06.5 +0.5**
HEH pmax pmax
comp=Z,42nm,1.4s
ZEA Zeya 17.36 301 *e*P **P 02 16 11.6 +1.0**
ZEA pmax pmax
comp=Z,20nm,1.4s

ZEA Zeya 17.36 301 *e*P **P 02 16 11.6 +1.0**
YAK Yakutsk 19.62 326 LR LR 02 23 54.5
comp=Z,42nm,19.2s,baz=86,slow=36
YAK Yakutsk 19.62 326 *e*P **P 02 16 38.0 +2.9**
YAK *e*S **S 02 20 12.1 +1.7**
YAK pmax pmax
comp=Z,31nm,1.4s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK smax smax
comp=E,116nm,3.5s
YAK Yakutsk 19.62 326 *e*P **P 02 16 36.3 +1.2**
KSRS Korea Array 20.86 250 P **P 02 16 48.9 +0.2**
comp=E,5.5nm,0.9s,baz=43,slow=12,SNR=16
KSRS LR LR 02 24 32.3
comp=E,37nm,19.5s,baz=50,slow=35
comp=E,5.5nm,0.9s
KSRS Korea Array 20.86 250 *e*P Pn 02 16 52.9 +0.7
KSRS pmax pmax
comp=Z,4.0nm,0.5s
KS19 Wonju Array Si 20.87 251 P **P 02 16 48.0 -0.8**
KS19 IAmb IAmb 02 17 16.3
comp=Z,62nm,1.5s
KSAR Wonju Array Be 20.89 250 P **P 02 16 47.8 -1.2**
KSAR Wonju Array Be 20.89 250 P **P 02 16 47.8 -1.2**
BILL Bilibino 21.73 14 **P 02 16 56.8 -0.9**
BILL Bilibino 21.73 14 *i* P **P 02 16 57.3 -0.4**
BILL pmax pmax
comp=Z,3.0nm,0.6s
BILL MLR MLR
comp=Z,40nm,16.0s
BILL Bilibino 21.73 14 *e*P **P 02 16 57.3 -0.4**
JNU Nakatsue 21.95 237 LR LR 02 26 13.3
comp=Z,15nm,21.6s,baz=20,slow=38
SPIA Saint Paul Isl 24.26 53 P **P 02 17 25.0 +2.8**
baz=263
XLT XiLinHaoTe 25.78 276 *e*P **P 02 17 37.0 +0.7**
XLT pmax pmax
comp=Z,12nm,0.6s
XLT pmax pmax
comp=Z,140nm,4.8s
TIXI Tiksi 26.72 343 P **P 02 17 42.2 -2.1**
comp=Z,1.2nm,0.3s,baz=270,slow=23,SNR=2.3
TIXI LR LR 02 29 34.6
comp=Z,24nm,18.9s,baz=155,slow=39
comp=Z,1.2nm,0.3s
TIXI Tiksi 26.72 343 *i* P **P 02 17 44.6 +0.3**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 26.72 343 *e*P **P 02 17 44.6 +0.3**
TNA Tin City 27.53 35 **P 02 17 52.2 +0.7**
TNA Tin City 27.53 35 P **P 02 17 53.7 +2.1**
baz=249
ANM Nome 28.22 37 **P 02 17 57.8 +0.1**
ANM IAmb IAmb 02 18 00.7
comp=Z,10nm,0.9s
ANM Nome 28.22 37 P **P 02 17 59.4 +1.7**
baz=254,SNR=8.4
ANM Nome 28.22 37 P **P 02 17 57.8 +0.1**
ANM pmax pmax
comp=Z,10.0nm,0.9s
HNS HongShan 29.64 264 JP **P 02 18 11.8 +1.2**
HNS pmax pmax
comp=Z,6.0nm,1.3s
SDPT Sand Point 29.66 57 P **P 02 18 12.5 +1.9**
baz=275
H11N2 WAKE ISLAND Hy 29.94 153 T T 02 50 02.2
baz=342,slow=74
H11N1 WAKE ISLAND Hy 29.96 153 T T 02 50 15.0
baz=342
H11N3 WAKE ISLAND Hy 29.96 153 T T 02 49 54.9
baz=342,slow=74
NJ2 Nanjing 30.05 251 *e*P **P 02 18 15.5 +1.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
HHC Hu-ho-hao-te 30.08 273 *e*P **P 02 18 15.3 +0.7**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,170nm,7.8s
ULN Ulaanbaatar 30.50 288 *ce*P **P 02 18 18.4 +0.1**
ULN pmax pmax
comp=Z,4.0nm,1.7s
ULN Ulaanbaatar 30.50 288 *e*P **P 02 18 18.4 +0.1**
N16K Nishlik Lake 30.52 47 P **P 02 18 20.2 +2.1**
baz=267
CHGN Chignik 30.75 55 P **P 02 18 22.6 +2.5**
baz=275
O16K Kokwok River B 30.83 49 P **P 02 18 22.6 +1.8**
baz=270
SONM Songino Array 30.94 288 P **P 02 18 20.7 -1.4**
comp=Z,0.5nm,0.5s,baz=68,slow=7.6,SNR=9.1
SONM LR LR 02 32 04.7
comp=Z,57nm,19.4s,baz=28,slow=39
comp=Z,0.5nm,0.5s
SONM Songino Array 30.94 288 **P 02 18 20.6 -1.4**
SONM Songino Array 30.94 288 *e*P **P 02 18 22.4 +0.3**
SONM pmax pmax
comp=Z,1.0nm,0.5s
H11S1 WAKE ISLAND Hy 31.03 154 T T 02 51 55.3
baz=344,slow=76,SNR=943
H11S3 WAKE ISLAND Hy 31.04 154 T T 02 51 49.0
baz=344,slow=76,SNR=903
H11S2 WAKE ISLAND Hy 31.05 154 T T 02 51 55.4
baz=344,slow=76,SNR=670
O17K Koliganek Bris 31.34 48 P **P 02 18 27.1 +1.8**
baz=270
GCSA Gale City Sc 31.82 39 P **P 02 18 30.4 +0.9**
baz=262
Q17K Contact Creek 32.00 51 P **P 02 18 32.9 +1.7**
baz=274
TTA Tatalina 32.00 42 P **P 02 18 32.1 +1.0**
TTA IAmb IAmb 02 18 33.6
comp=Z,12nm,0.7s
TTA Tatalina 32.00 42 P **P 02 18 32.3 +1.0**
baz=266,SNR=8.8
TTA Tatalina 32.00 42 P **P 02 18 32.2 +1.0**
TTA pmax pmax
comp=Z,12nm,0.7s
SVW2 Sparrevohn 32.11 46 **P 02 18 33.1 +1.1**
SVW2 IAmb IAmb 02 18 35.0
comp=Z,8.6nm,0.9s
O18K Koktuh Hills 32.29 48 P **P 02 18 35.2 +1.6**
O18K IAmb IAmb 02 18 36.4
comp=Z,17nm,1.3s
O18K Koktuh Hills 32.29 48 P **P 02 18 35.3 +1.6**
baz=272
P18K Big Mountain, 32.29 49 **P 02 18 35.2 +1.4**
P18K IAmb IAmb 02 19 00.9
comp=Z,22nm,1.3s
P18K Big Mountain, 32.29 49 P **P 02 18 34.9 +1.2**
baz=272
Q18K Katmai Hardscr 32.44 50 P **P 02 18 36.5 +1.4**
baz=274
L19K White Mountain 32.49 44 P **P 02 18 36.6 +1.1**
baz=268
N19K Bonanza Creek 32.64 46 P **P 02 18 38.4 +1.6**
baz=271
M19K Big River Lodg 32.70 44 P **P 02 18 36.0 -1.2**
M19K Big River Lodg 32.70 44 P **P 02 18 39.0 +1.7**
baz=269
K20K Telida 32.91 42 P **P 02 18 38.0 -1.0**
K20K IAmb IAmb 02 18 42.3
comp=Z,9.6nm,0.8s
K20K Telida 32.91 42 P **P 02 18 40.7 +1.7**
baz=267,SNR=9.1
L20K Farewell, AK 32.95 43 P **P 02 18 40.7 +1.2**
baz=269
SII Sitkinak Islan 33.06 54 P **P 02 18 42.0 +1.6**
baz=278
Q19K Cape Douglas, 33.13 50 P **P 02 18 41.4 +0.3**
IMAR Indian Mountai 33.29 37 P **P 02 18 42.9 +0.6**
M20K Styx River 33.29 44 P **P 02 18 43.7 +1.2**
M20K IAmb IAmb 02 18 45.6
comp=Z,7.9nm,0.8s
M20K Styx River 33.29 44 P **P 02 18 44.2 +1.7**
baz=270
P19K Oil Pt 33.30 48 P **P 02 18 44.3 +1.8**
baz=274
A21K Barrow 33.44 27 P **P 02 18 44.1 +0.6**
A21K IAmb IAmb 02 18 45.8
comp=Z,10.0nm,0.7s
A21K Barrow 33.44 27 P **P 02 18 44.3 +0.8**
baz=252,SNR=9.2
G21K Allakaket 33.45 36 P **P 02 18 44.9 +1.1**
baz=263
OHAK Old Harbor 33.47 53 P **P 02 18 45.8 +1.9**
baz=277
F21K Alatna River 33.57 35 P **P 02 18 45.8 +1.1**
baz=262
H21K Melozitna Rive 33.64 37 P **P 02 18 45.5 +0.2**
H21K Melozitna Rive 33.64 37 P **P 02 18 46.9 +1.5**
baz=265,SNR=15
CHUM Lake Minchumin 33.72 41 P **P 02 18 45.0 -1.1**
baz=268
N20K Mount Spurr 33.74 46 P **P 02 18 48.1 +1.7**
baz=272
SPCR Spurr Chakacha 33.74 46 P **P 02 18 48.1 +1.7**
baz=272
PPLA Purkeypile 33.74 42 P **P 02 18 47.2 +0.8**
PPLA IAmb IAmb 02 18 51.5
comp=Z,23nm,1.3s
PPLA Purkeypile 33.74 42 P **P 02 18 48.6 +2.1**
baz=270
KDAK Kodiak Island 33.79 52 LR LR 02 33 25.1
comp=Z,57nm,20.3s,baz=274,slow=38
CAST Castle Rocks 33.80 42 P **P 02 18 47.1 +0.2**
CAST IAmb IAmb 02 18 49.8
comp=Z,11nm,0.8s
CAST Castle Rocks 33.80 42 P **P 02 18 48.6 +1.7**
baz=269,SNR=9.0
SPU Mount Spurr 33.82 46 **P 02 18 47.7 +0.7**
I21K Tanana 33.94 38 **P 02 18 49.0 +1.1**
I21K IAmb IAmb 02 18 50.8
comp=Z,14nm,0.8s
I21K Tanana 33.94 38 P **P 02 18 49.8 +1.9**
baz=266
SKT Skwentna 34.05 44 P **P 02 18 49.4 +0.4**
SKT Skwentna 34.05 44 P **P 02 18 51.2 +2.3**
baz=272
H22K Ishtalitna Cre 34.25 37 P **P 02 18 52.4 +1.8**
baz=266
BPAW Bear Paw Mtn. 34.31 40 **P 02 18 51.8 +0.6**
BPAW IAmb IAmb 02 18 53.9
comp=Z,13nm,0.8s
BPAW Bear Paw Mtn. 34.31 40 P **P 02 18 53.0 +1.7**
baz=269,SNR=11
KTH Kantishna Hill 34.33 41 **P 02 18 52.5 +1.1**
SUA Susitna One 34.44 45 P **P 02 18 52.6 +0.2**
SUA IAmb IAmb 02 19 17.9
comp=Z,7.6nm,0.9s
SUA Susitna One 34.44 45 P **P 02 18 51.8 -0.6**
baz=273
MLY Manley 34.45 39 **P 02 18 53.2 +0.7**
MLY IAmb IAmb 02 18 55.3
comp=Z,13nm,0.8s
MLY Manley 34.45 39 P **P 02 18 54.1 +1.6**
baz=268,SNR=12
BRLK Bradley Lake 34.47 48 P **P 02 18 53.2 +0.5**
TRF Thorofare Moun 34.61 41 P **P 02 18 54.8 +0.8**
TRF IAmb IAmb 02 18 56.4
comp=Z,8.0nm,0.7s
TRF Thorofare Moun 34.61 41 P **P 02 18 55.1 +1.2**
baz=270
CUT Chulitna 34.63 43 P **P 02 18 54.9 +0.9**
baz=272
COLD Coldfoot 34.83 35 P **P 02 18 56.0 +0.4**
COLD IAmb IAmb 02 18 58.1
comp=Z,13nm,1.1s
COLD Coldfoot 34.83 35 P **P 02 18 57.0 +1.3**
baz=265,SNR=12
G23K Bananza Creek 34.86 36 P **P 02 18 57.3 +1.4**
baz=266
D23K Nanuskuk River 34.87 32 P **P 02 18 57.8 +1.9**
baz=262
RC01 Rabbit Creek A 34.94 46 P **P 02 18 57.6 +0.9**
baz=274
BWN Browne 34.98 40 P **P 02 18 58.8 +1.9**
I23K Minto, Yukon-K 35.04 39 P **P 02 18 58.1 +0.7**
I23K IAmb IAmb 02 19 00.3
comp=Z,10nm,0.8s
I23K Minto, Yukon-K 35.04 39 P **P 02 18 59.2 +1.8**
baz=269,SNR=9.5
NEA2 Nenana 35.16 39 P **P 02 18 59.0 +0.5**
NEA2 Nenana 35.16 39 P **P 02 18 59.9 +1.5**
baz=270,SNR=20
MCK McKinley 35.22 41 P **P 02 18 58.7 -0.3**
MCK McKinley 35.22 41 P **P 02 19 00.1 +1.2**
baz=271,SNR=10
MCK McKinley 35.22 41 P **P 02 18 58.7 -0.3**
MCK pmax pmax
comp=Z,24nm,1.1s
RND Reindeer 35.26 42 P **P 02 18 59.5 +0.1**
RND IAmb IAmb 02 19 01.3
comp=Z,15nm,1.0s
RND Reindeer 35.26 42 P **P 02 18 59.5 +0.1**
RND pmax pmax
comp=Z,15nm,1.0s
XAN Xi'an 35.41 264 P **P 02 19 00.8 -0.2**
XAN pmax pmax
comp=Z,6.0nm,1.1s
MDM Murphy Dome 35.52 39 P **P 02 19 01.5 -0.1**
KNK Knik Glacier 35.54 45 P **P 02 19 02.2 +0.4**
KNK Knik Glacier 35.54 45 P **P 02 19 02.6 +0.8**
baz=275,SNR=6.7
D24K Happy Valley 35.55 32 P **P 02 19 02.8 +1.1**
baz=264
E24K Your Creek 35.56 33 P **P 02 19 02.4 +0.5**
baz=265
SML Sawmill 35.57 44 P **P 02 19 03.2 +1.1**
SML Sawmill 35.57 44 P **P 02 19 03.2 +1.1**
baz=274,SNR=13
WRH Wood River Hil 35.58 40 P **P 02 19 03.0 +0.9**
WRH IAmb IAmb 02 19 07.3
comp=Z,9.9nm,0.9s
C24K Franklin Bluff 35.67 31 P **P 02 19 04.3 +1.6**
baz=263
TCOL CIGO, UAF Yank 35.67 39 P **P 02 19 03.8 +1.0**
TCOL CIGO, UAF Yank 35.67 39 P **P 02 19 04.4 +1.6**
baz=270,SNR=8.0
COLA College 35.68 39 P **P 02 19 03.8 +0.9**
COLA College 35.68 39 P **P 02 19 04.1 +1.3**
baz=270
COLA College 35.68 39 *i* P **P 02 19 04.4 +1.5**
COLA pmax pmax
comp=Z,36nm,0.8s
H24K Noodor Dome 35.68 37 P **P 02 19 03.9 +1.0**
H24K IAmb IAmb 02 19 06.0
comp=Z,13nm,0.8s
H24K Noodor Dome 35.68 37 P **P 02 19 05.5 +2.5**
baz=269
F24K Squaw Lake 35.75 34 P **P 02 19 05.4 +1.9**
baz=267
M23K Glacier View 35.86 44 P **P 02 19 06.3 +1.8**
baz=275
POKR Poker Plat Res 35.86 39 P **P 02 19 05.2 +0.8**
POKR Poker Plat Res 35.86 39 P **P 02 19 06.1 +1.6**
baz=271,SNR=9.7
G24K Hadweenzic Riv 35.87 36 P **P 02 19 06.6 +2.0**
baz=268
SCM Sheep Creek Mo 36.04 44 P **P 02 19 07.3 +1.2**
baz=275
HDA Harding Lake 36.08 40 P **P 02 19 07.3 +1.0**
baz=272,SNR=12
IL31 36.09 39 P **P 02 19 06.8 +0.5**
ILAR Eielson Array 36.09 39 P **P 02 19 07.3 +0.9**
comp=Z,8.7nm,0.9s,baz=261,slow=6.3,SNR=72
ILAR pP **pwP 02 19 31.6 -0.9**
comp=Z,2.2nm,0.7s,baz=259,slow=6.2,SNR=4.1
ILAR LR LR 02 36 10.2
comp=Z,29nm,18.2s,baz=44,slow=40
comp=Z,8.7nm,0.9s
ILAR Eielson Array 36.09 39 P **P 02 19 07.0 +0.6**
G25K Bearman Lake 36.42 36 P **P 02 19 10.8 +1.6**
baz=270
M24K Tolsona, Glenn 36.56 44 P **P 02 19 12.3 +1.8**
baz=276
F25K Christian Rive 36.61 34 P **P 02 19 12.7 +1.8**
baz=269
K24K Donnelly Dome 36.61 41 P **P 02 19 11.8 +0.9**
baz=274,SNR=7.1
PRP Porcupine Dome 36.65 38 P **P 02 19 12.6 +1.2**
baz=272,SNR=8.0
E25K Arctic Village 36.66 34 P **P 02 19 12.8 +1.5**
baz=268,SNR=6.1
KLU Klutina 36.74 45 P **P 02 19 12.7 +0.6**
KLU IAmb IAmb 02 19 38.6
comp=Z,14nm,1.2s
KLU Klutina 36.74 45 P **P 02 19 13.9 +1.8**
baz=277
PAX Paxson 36.81 42 P **P 02 19 14.7 +2.0**
baz=275

DIV **Divide** 36.86 45 IAmb IAmb 02 19 14.9
comp=Z,11nm,0.8s
C26K **Camden Bay** 37.00 31 P P 02 19 16.2 +2.2
baz=266
HARP **HAARP** 37.01 43 P P 02 19 15.5 +1.3
baz=276
RIDG **Independent Ri** 37.03 41 P P 02 19 14.9 +0.4
RIDG **Independent Ri** 37.03 41 P P 02 19 15.2 +0.7
baz=275,SNR=9.2
F26K **Sheenjek River** 37.19 34 P P 02 19 17.2 +1.5
baz=270
G26K **Porcupine Rive** 37.33 35 P P 02 19 18.3 +1.4
baz=271
N25K **Chitina, Valde** 37.36 44 P P 02 19 18.5 +1.2
N25K IAmb IAmb 02 19 43.9
comp=Z,7.1nm,0.8s
N25K **Chitina, Valde** 37.36 44 P P 02 19 19.4 +2.0
baz=278
DOT **Dot Lake** 37.39 41 IAmb IAmb 02 19 18.8
comp=Z,5.7nm,0.7s
SCRK **Sand Creek** 37.39 40 IAmb IAmb 02 19 19.2
comp=Z,23nm,1.5s
SCRK **Sand Creek** 37.39 40 P P 02 19 18.6 +1.0
baz=275,SNR=7.6
C27K **Jago River** 37.40 31 P P 02 19 18.6 +1.2
baz=268
BMRM **Bremner River** 37.44 45 P P 02 19 19.0 +1.0
baz=279
J26L **Joseph Creek** 37.54 40 P P 02 19 18.0 -0.8
J26L **Joseph Creek** 37.54 40 P P 02 19 19.7 +1.0
baz=275
I26K **Coal Creek Min** 37.65 38 P P 02 19 21.0 +1.4
baz=274
LZH **Lanzhou** 37.70 271 eP P 02 19 19.3 -1.3
LZH pP pwP 02 19 52.5 +4.4
LZH sP sP 02 20 02.8 +6.2
LZH pmax pmax
comp=Z,13nm,1.1s
L26K **Log Cabin Wild** 37.77 42 IAmb IAmb 02 19 23.8
comp=Z,7.4nm,0.7s
L26K **Log Cabin Wild** 37.77 42 P P 02 19 22.7 +2.0
baz=277
M26K **Nabesna, AK** 38.01 43 P P 02 19 24.2 +1.4
baz=278
MCARA **McCarthy VSAT** 38.14 45 P P 02 19 25.6 +1.9
baz=279
E27K **Coleen River** 38.15 33 P P 02 19 25.6 +1.8
baz=272
G27K **Doyon Strip** 38.18 36 P P 02 19 25.7 +1.6
baz=274
H27K **Steamboat Moun** 38.26 37 P P 02 19 26.6 +1.8
baz=274
I27K **Kandik River** 38.27 38 P P 02 19 26.2 +1.2
baz=275
L27K **Beaver Creek,** 38.45 42 P P 02 19 28.4 +1.9
baz=278,SNR=18
M27K **Edge Creek, AK** 38.53 43 P P 02 19 29.3 +2.1
baz=279
EGAK **Eagle** 38.54 39 P P 02 19 28.0 +0.9
baz=276,SNR=14
GTA **Gaotai** 38.69 278 eP P 02 19 28.5 -0.3
GTA pP pP 02 19 57.3 +4.6
GTA pmax pmax
comp=Z,3.0nm,1.1s
BVCY **Beaver Creek** 38.99 43 P P 02 19 33.0 +2.1
baz=280,SNR=7.3
YUK3 **Moose Creek** 39.28 44 P P 02 19 35.3 +1.7
baz=281,SNR=6.6
DAWY **Dawson** 39.39 40 P P 02 19 35.9 +1.6
baz=279
O28M **Mount Upton** 39.60 45 P P 02 19 38.1 +1.8
baz=282
I29M **Ogilvie Camp,** 39.67 38 P P 02 19 37.0 +0.4
I29M IAmb IAmb 02 19 39.2
comp=Z,14nm,0.8s
I29M **Ogilvie Camp,** 39.67 38 P P 02 19 38.7 +2.1
baz=278,SNR=5.3
YUK8 **Steele Glacier** 39.70 44 P P 02 19 38.7 +1.6
baz=282
PCA **Pinnacle** 39.71 46 P P 02 19 38.1 +1.2
PINM **Pinnacle** 39.71 46 P P 02 19 38.9 +1.9
baz=283
M29M **Somme Creek** 40.08 42 P P 02 19 42.1 +2.1
baz=282
L29M **L29M** 40.11 41 P P 02 19 42.7 +2.5
baz=281,SNR=12
YUK4 **Talbot Arm** 40.22 44 P P 02 19 43.2 +1.9
baz=283
K29M **Barlow Dome** 40.24 40 P P 02 19 43.7 +2.3
baz=281
G30M **tAoh Zraii Nji** 40.30 35 P P 02 19 43.4 +1.7
baz=278
YUK6 **Outpost Mounta** 40.44 45 P P 02 19 43.5 +0.3
baz=283
M30M **Minto, Yukon** 40.81 42 P P 02 19 48.2 +2.2
baz=283
HYT **Haines Junctio** 40.88 45 P P 02 19 48.0 +1.3
HYT IAmb IAmb 02 19 49.8
comp=Z,11nm,0.8s
HYT **Haines Junctio** 40.88 45 P P 02 19 49.1 +2.5
baz=284
INK **Inuvik** 41.13 33 P P 02 19 49.6 +1.2
comp=Z,4.0nm,0.5s,baz=274,slow=5.3,SNR=40
INK pP pwP 02 20 15.6 +2.5
comp=Z,4.1nm,0.8s,baz=280,slow=6.2,SNR=6.3
comp=Z,4.0nm,0.5s
INK **Inuvik** 41.13 33 P P 02 19 48.9 +0.5
INK **Inuvik** 41.13 33 P P 02 19 50.2 +1.8
baz=279,SNR=6.5
F31M **Tsiigehtchic** 41.19 34 P P 02 19 50.7 +1.8
baz=280,SNR=7.5
P30M **Million Dollar** 41.31 46 P P 02 19 52.7 +2.6
baz=285
N31M **Braeburn, Yuko** 41.53 43 P P 02 19 54.6 +2.7
baz=285,SNR=5.2
O30N **Mendenhall** 41.56 44 P P 02 19 54.5 +2.4
baz=285,SNR=6.7
GYA **Guiyang** 41.71 257 P P 02 19 54.0 +0.2
GYA pmax pmax
comp=Z,9.0nm,2.1s
PLBC **Pleasant Camp** 41.78 46 P P 02 19 56.7 +2.9
baz=286
M31M **Drury Creek, Y** 41.99 42 P P 02 19 57.9 +2.3
baz=285,SNR=8.7
ZALV **Zalesovo Beam** 42.05 305 P P 02 19 53.9 -2.2
comp=Z,0.8nm,0.4s,baz=56,slow=7.9,SNR=3.8
ZALV pP pP 02 20 22.4 +2.5
comp=Z,1.3nm,0.5s,baz=63,slow=6.1,SNR=4.2
ZALV PcP PcP 02 21 48.4 -0.5
comp=Z,0.6nm,0.5s,baz=64,slow=3.4,SNR=2.2
ZALV LR LR 02 38 30.0
comp=Z,54nm,20.1s,baz=75,slow=38
comp=Z,0.8nm,0.4s
WHY **Whitehorse** 42.16 44 P P 02 19 59.7 +2.5
baz=286
SKAG **Skagway** 42.28 46 P P 02 20 00.6 +2.7
baz=287
FARO **Faro, Yukon** 42.45 42 P P 02 20 01.4 +2.1
baz=286,SNR=5.6
N32M **Quiet Lake** 42.87 43 P P 02 20 05.0 +2.2
baz=287
P32M **Atlin** 43.03 46 P P 02 20 06.4 +2.3
baz=288
R32K **Eaglecrest** 43.05 48 P P 02 20 06.8 +2.6
baz=289
P33M **Teslin, Yukon** 43.27 45 P P 02 20 08.3 +2.3
baz=288,SNR=6.4
A36M **Sachs Harbour** 43.28 27 P P 02 20 06.5 +0.7
A36M **Sachs Harbour** 43.28 27 P P 02 20 07.6 +1.8
baz=282,SNR=9.6
GOMU **GeErMu** 43.74 277 P P 02 20 09.5 -1.0
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU pmax pmax
comp=Z,29nm,4.4s
C36M **Paulatuk** 44.28 30 P P 02 20 14.8 +1.0
C36M **Paulatuk** 44.28 30 P P 02 20 15.3 +1.5
baz=286,SNR=16
WMQ **Urumqi** 44.51 290 eP P 02 20 17.0 +0.9
S34M **Telegraph Cree** 44.86 47 P P 02 20 21.7 +3.1
baz=292
PZH **PanZhiHua** 44.95 261 P P 02 20 19.5 -0.4
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,180nm,4.8s
WTLY **Watson Lake, Y** 45.21 44 P P 02 20 23.5 +2.2
baz=291,SNR=5.0

KMI **Kunming** 45.21 259 ⇑P P 02 20 21.8 -0.2
KMI pmax pmax
comp=Z,9.0nm,1.4s
DLBC **Dease Lake** 45.22 46 P P 02 20 23.4 +1.8
comp=Z,11nm,0.9s,baz=289,slow=7.2,SNR=19
DLBC pP pwP 02 20 50.0 +1.2
comp=Z,3.9nm,0.9s,baz=194,slow=5.7,SNR=2.8
comp=Z,11nm,0.9s
DLBC **Dease Lake** 45.22 46 P P 02 20 24.1 +2.5
baz=292
T35M **Bob Quinn** 45.65 48 P P 02 20 27.7 +2.8
baz=293
MK31 **Makanchi Array** 46.46 297 P P 02 20 29.1 -2.2
MK31 **Makanchi Array** 46.46 297 P P 02 20 29.2 -2.2
MK31 pmax pmax
comp=Z,3.0nm,1.4s
MKAR **Makanchi Array** 46.46 297 P P 02 20 29.9 -1.5
comp=Z,0.5nm,0.5s,baz=69,slow=7.2,SNR=10
MKAR pP pP 02 20 54.8 -0.8
comp=Z,0.9nm,0.8s,baz=58,slow=7.3,SNR=4.2
MKAR PcP PcP 02 22 03.5 -0.7
comp=Z,0.4nm,0.5s,baz=52,slow=7.5,SNR=2.3
MKAR ScP ScP 02 25 46.0 -1.5
comp=Z,0.2nm,0.6s,baz=60,slow=8.5,SNR=1.9
MKAR LR LR 02 41 35.9
comp=Z,39nm,19.0s,baz=346,slow=38
comp=Z,0.5nm,0.5s
MKAR **Makanchi Array** 46.46 297 P P 02 20 28.2 -3.2
MKAR **Makanchi Array** 46.46 297 eP P 02 20 29.9 -1.5
WRGLY **Wrigley** 46.46 38 P P 02 20 33.1 +2.0
baz=292
LIRD **Liard River Hi** 46.74 44 P P 02 20 35.9 +2.6
baz=294,SNR=5.7
KURK **Kurchatov** 46.82 303 P P 02 20 31.8 -2.3
KURK **Kurchatov** 46.82 303 P P 02 20 32.8 -1.3
KURK *PP pP 02 20 59.9 +1.5
KURK **Kurchatov** 46.82 303 eP P 02 20 32.8 -1.3
KURBB **Kurchatov Arra** 46.91 303 P P 02 20 32.8 -2.1
comp=Z,2.0nm,0.6s,baz=65,slow=7.7,SNR=6.8
KURBB pP pP 02 20 59.9 +0.8
comp=Z,1.3nm,0.6s,baz=68,slow=8.5,SNR=2.3
KURBB LR LR 02 41 35.2
comp=Z,60nm,19.7s,baz=178,slow=38
comp=Z,2.0nm,0.6s
BBB **Bella Bella** 48.82 53 LR LR 02 42 02.0
comp=Z,26nm,18.9s,baz=6.5,slow=36
BVAR **Borovoye Array** 50.27 309 P P 02 20 58.8 -1.6
comp=Z,1.2nm,0.4s,baz=48,slow=7.2,SNR=13
BVAR PcP PcP 02 22 17.8 0.0
comp=Z,1.2nm,0.5s,baz=80,slow=2.0,SNR=7.0
BVAR LR LR 02 44 15.4
comp=Z,46nm,18.6s,baz=42,slow=38
comp=Z,1.2nm,0.4s
BRVK **Borovoye** 50.31 309 P P 02 20 59.3 -1.4
BRVK **Borovoye** 50.31 309 ceP P 02 20 59.6 -1.2
BRVK pmax pmax
comp=Z,6.0nm,2.5s
BRVK **Borovoye** 50.31 309 eP P 02 20 59.6 -1.2
YKA **Yellowknife Ar** 50.45 37 P P 02 21 03.1 +1.5
comp=Z,9.8nm,0.9s,baz=296,slow=7.2,SNR=37
YKA PcP PcP 02 22 18.9 +0.6
comp=Z,0.7nm,0.8s,baz=289,slow=4.4,SNR=4.4
comp=Z,9.8nm,0.9s
AAK **Ala-Archa** 53.36 296 LR LR 02 46 23.2
comp=Z,29nm,19.4s,baz=54,slow=39
KSH **Kashi** 54.22 292 P P 02 21 32.8 +2.8
KSH pmax pmax
comp=Z,3.0nm,1.4s
ARU **Arti** 54.36 317 P P 02 21 29.8 -0.9
comp=Z,2.1nm,0.4s,baz=123,slow=13,SNR=4.5
ARU LR LR 02 47 04.0
comp=Z,38nm,19.1s,baz=1.0,slow=39
comp=Z,2.1nm,0.4s
ARU **Arti** 54.36 317 P P 02 21 29.2 -1.5
ARU IAmb IAmb 02 22 09.5
comp=Z,8.8nm,1.3s
ARU **Arti** 54.36 317 di P P 02 21 29.5 -1.1
ARU *PP pP 02 21 56.4 +0.9
ARU 02 23 29.9
ARU S S 02 28 58.6 -1.5
ARU SS SS 02 32 38.8 -4.2
ARU pmax pmax
comp=Z,13nm,1.6s
ARU **Arti** 54.36 317 eP P 02 21 29.5 -1.1
JIRN **Jiri** 54.72 274 eP P 02 21 33.9 -0.2
comp=Z,8.0nm,0.4s
GUN **Gumba** 54.77 274 eP P 02 21 34.1 -0.3
comp=Z,7.2nm,0.4s
RAMN **Ramite** 54.90 273 eP P 02 21 34.7 -0.6
comp=Z,9.6nm,0.4s
PKI **Pulchoki** 55.30 274 eP P 02 21 37.4 -0.9
comp=Z,1.2nm,0.2s
PKIN **Phulchoki** 55.31 274 eP P 02 21 37.5 -0.7
comp=Z,9.2nm,0.4s
DMN **Daman** 55.49 275 eP P 02 21 39.4 -0.1
comp=Z,8.7nm,0.4s
GKN **Gorkha** 55.55 275 eP P 02 21 39.9 +0.1
comp=Z,11nm,0.3s
DANN **Dangsing** 55.92 276 eP P 02 21 42.8 +0.2
comp=Z,15nm,0.5s
EDM **Edmonton** 55.94 46 P P 02 21 42.3 +0.2
EDM **Edmonton** 55.94 46 P P 02 21 42.3 +0.2
EDM pmax pmax
comp=Z,11nm,0.8s
NEW **Newport** 56.88 53 P P 02 21 49.4 +0.7
comp=Z,3.3nm,0.9s,baz=310,slow=6.6,SNR=4.5
comp=Z,3.3nm,0.9s
NEW **Newport** 56.88 53 P P 02 21 49.5 +0.7
baz=306
KIRV **Kirov** 57.09 323 LR LR 02 47 03.6
comp=Z,45nm,20.9s,baz=353,slow=37
YBH **Yreka Blue Hor** 57.55 62 P P 02 21 55.2 +1.4
comp=Z,2.1nm,0.8s,baz=245,slow=18,SNR=4.5
YBH pP pwP 02 22 22.7 +0.5
comp=Z,3.2nm,0.7s,baz=3.9,slow=3.4,SNR=5.7
YBH LR LR 02 44 52.9
comp=Z,17nm,18.0s,baz=314,slow=34
comp=Z,2.1nm,0.8s
ABKAR **Akbulak array** 57.83 309 P P 02 21 53.0 -2.4
I07A **Izee** 58.03 58 IAmb IAmb 02 22 26.3
comp=Z,7.5nm,1.0s
K05A **Summer Lake** 58.04 60 IAmb IAmb 02 22 26.9
comp=Z,9.1nm,0.8s
GAR **Garm** 58.06 294 P P 02 21 56.3 -1.1
GAR IAmb IAmb 02 21 59.2
comp=Z,3.8nm,0.7s
AKTO **Aktyubinsk** 58.12 311 LR LR 02 47 32.3
comp=Z,60nm,19.7s,baz=43,slow=37
BMO **Blue Mountains** 58.81 56 IAmb IAmb 02 22 31.2
comp=Z,4.4nm,0.8s
MOD **Modoc Plateau** 58.88 61 P P 02 22 04.5 +1.4
MOD IAmb IAmb 02 22 31.9
comp=Z,6.4nm,0.8s
PLID **Pearl Lake** 59.40 55 P P 02 22 07.1 +0.4
MSO **Missoula** 59.46 53 P P 02 22 07.6 +0.7
MSO **Missoula** 59.46 53 P P 02 22 08.6 +1.7
baz=309,SNR=8.8
WVOR **Wild Horse Val** 59.53 59 IAmb IAmb 02 22 37.2
comp=Z,8.4nm,0.9s
FFC **Flin Flon** 60.30 40 P P 02 22 13.0 +0.6
FFC **Flin Flon** 60.30 40 P P 02 22 13.0 +0.6
FFC pmax pmax
comp=Z,9.0nm,0.8s
MPK **Martis Peak** 60.66 63 P P 02 22 16.1 +0.7
FCC **Fort Churchill** 60.75 33 P P 02 22 14.9 -0.4
FCC **Fort Churchill** 60.75 33 P P 02 22 14.9 -0.4
FCC pmax pmax
comp=Z,11nm,1.0s
EMB **Emerald Bay** 60.82 63 IAmb IAmb 02 22 19.1
comp=Z,7.8nm,1.1s
EGMT **Eagleton** 60.92 50 P P 02 22 18.6 +1.7
baz=310
HLID **Hailey** 61.24 56 P P 02 22 20.7 +1.5
baz=310
YERR **Yerington** 61.33 63 IAmb IAmb 02 22 49.2
comp=Z,5.6nm,0.9s
BOZ **Bozeman (W)** 61.48 53 P P 02 22 22.3 +1.6
baz=310
BMN **Battle Mountai** 61.62 60 P P 02 22 23.0 +1.3
BMN IAmb IAmb 02 22 51.1
comp=Z,7.0nm,0.7s
BMN **Battle Mountai** 61.62 60 P P 02 22 23.0 +1.3
BMN pmax pmax
comp=Z,7.0nm,0.7s
BELG **Belogornoye** 61.88 318 P P 02 22 22.0 -1.0
comp=Z,3.0nm,0.5s,baz=288,slow=2.2,SNR=5.8
BELG LR LR 02 50 43.1
comp=Z,28nm,18.8s,baz=144,slow=37
comp=Z,3.0nm,0.5s
BELG **Belogornoye** 61.88 318 P P 02 22 22.0 -1.0
KVN **Kaiserville** 61.98 62 IAmb IAmb 02 22 53.6
comp=Z,6.1nm,0.9s
RYN **Ryan** 61.99 62 IAmb IAmb 02 22 53.5
comp=Z,4.6nm,0.8s
LHV **Little Huntoon** 62.25 63 IAmb IAmb 02 22 29.2
comp=Z,13nm,1.1s
NVAR **Mina Array Bea** 62.25 63 P P 02 22 27.5 +1.4
comp=Z,2.6nm,0.7s,baz=287,slow=7.2,SNR=21
NVAR pP pwP 02 22 54.5 -0.4
comp=Z,3.0nm,0.7s,baz=295,slow=7.3,SNR=13
comp=Z,2.6nm,0.7s
MDPB **Devils Postpil** 62.30 64 P P 02 22 26.7 +0.3
ELK **Elko** 62.58 59 LR LR 02 47 33.4
comp=Z,22nm,20.2s,baz=268,slow=34
H17A **Grant Village** 62.83 53 P P 02 22 32.8 +2.9
baz=311
RLMT **Red Lodge** 63.06 52 IAmb IAmb 02 23 02.4
comp=Z,14nm,1.4s
RLMT **Red Lodge** 63.06 52 P P 02 22 34.0 +2.7
baz=312
DSP **Deep Springs** 63.14 63 P P 02 22 33.1 +1.4
DSP IAmb IAmb 02 22 34.9
comp=Z,8.2nm,1.1s
SMMC **Simmler** 63.23 66 P P 02 22 34.4 +2.0
baz=311
FINES **FINESS Array B** 63.31 334 P P 02 22 30.1 -2.2
comp=Z,2.1nm,0.7s,baz=36,slow=7.1,SNR=13
comp=Z,2.1nm,0.7s
FINES **FINESS Array B** 63.31 334 eP P 02 22 31.4 -1.0
FINES pmax pmax
comp=Z,2.0nm,0.7s
LOHW **Long Hollow** 63.33 54 IAmb IAmb 02 22 36.7
comp=Z,9.3nm,1.4s
REDW **Red Top Meadow** 63.35 54 IAmb IAmb 02 23 03.3
comp=Z,6.1nm,0.9s
DGMT **Dagmar** 63.43 46 P P 02 22 34.8 +1.3
baz=313
VES **Vestal, Richgr** 63.45 65 P P 02 22 34.7 +1.0
baz=311
LAO **LASA Array** 63.61 49 IAmb IAmb 02 22 37.7
comp=Z,11nm,1.0s
LAO **LASA Array** 63.61 49 P P 02 22 36.1 +1.4
baz=312
PKM **Mcpherson Peak** 63.62 66 P P 02 22 36.1 +1.0
baz=311
CWC **Cottonwood Cre** 63.67 64 P P 02 22 36.2 +0.7
baz=311
R11A **Troy Canyon, C** 63.93 61 P P 02 22 38.2 +1.1
R11A **Troy Canyon, C** 63.93 61 P P 02 22 38.7 +1.6
baz=311,SNR=8.8
ISA **Isabella, Lake** 63.94 65 P P 02 22 37.6 +0.5
baz=311
SPR3 **Spring Creek 3** 64.24 60 IAmb IAmb 02 23 09.2
comp=Z,6.2nm,0.8s
MPMC **Manual Prospec** 64.29 64 P P 02 22 41.4 +1.9
baz=312,SNR=5.5
S11A **Rachel** 64.30 62 IAmb IAmb 02 23 08.6
comp=Z,9.4nm,0.8s
DUG **Dugway, Tooele** 64.34 58 IAmb IAmb 02 23 09.3
comp=Z,7.0nm,0.9s
DUG **Dugway, Tooele** 64.34 58 P P 02 22 41.3 +1.6
baz=312,SNR=5.9
FURC **Furnace Creek,** 64.40 63 P P 02 22 41.5 +1.6
baz=312,SNR=6.0
TPNV **Topopah Spring** 64.45 63 P P 02 22 41.3 +0.8
TPNV IAmb IAmb 02 22 43.1
comp=Z,7.5nm,1.1s
TPNV **Topopah Spring** 64.45 63 P P 02 22 41.7 +1.2
baz=312
TPNV **Topopah Spring** 64.45 63 P P 02 22 41.3 +0.8
TPNV pmax pmax
comp=Z,7.0nm,1.1s
BW06 **Boulder Array** 64.46 54 IAmb IAmb 02 23 09.8
comp=Z,6.9nm,0.9s
BW06 **Boulder Array** 64.46 54 P P 02 22 41.5 +1.0
baz=312,SNR=6.0
PD31 **Pinedale Array** 64.46 54 IAmb IAmb 02 23 09.8
comp=Z,6.0nm,0.9s
PDAR **Pinedale Array** 64.46 54 P P 02 22 41.5 +0.9
comp=Z,1.7nm,0.8s,baz=298,slow=2.0,SNR=14
PDAR pP pwP 02 23 08.7 -0.7
comp=Z,5.1nm,0.9s,baz=305,slow=3.2,SNR=15
comp=Z,1.7nm,0.8s
LRMC **Laurel Mtn Rad** 64.55 65 P P 02 22 42.4 +1.3
baz=312
OBN **Obninsk** 64.61 325 eP P 02 22 41.4 +0.4
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN **Obninsk** 64.61 325 eP P 02 22 41.4 +0.4
GWY **Greenwater Val** 64.70 63 IAmb IAmb 02 22 44.6
comp=Z,8.1nm,1.2s
QSM **Queen of Sheba** 64.72 64 IAmb IAmb 02 22 44.7
comp=Z,10nm,1.2s
EDW2 **Edwards Air Fo** 64.75 65 P P 02 22 44.0 +1.7
baz=312,SNR=7.7
SNCC **San Nicolas Is** 64.88 68 P P 02 22 43.5 +0.3
baz=312
GSC **Goldstone, Bar** 65.20 64 P P 02 22 46.5 +1.2
baz=312
SHPR **Sheep Range** 65.40 62 P P 02 22 48.1 +1.4
TUQ **Turquoise Moun** 65.65 64 P P 02 22 50.1 +1.8
baz=312
HEC **Hector,Ludlow** 65.80 64 P P 02 22 50.7 +1.5
baz=312,SNR=5.4
RDMU **Red Mountain** 65.93 56 P P 02 22 51.1 +1.1
ULM **Lac du Bonnet** 66.09 41 P P 02 22 51.3 +0.6
comp=Z,3.5nm,0.7s,baz=335,slow=7.4,SNR=6.4
comp=Z,3.5nm,0.7s
ULM **Lac du Bonnet** 66.09 41 eP P 02 22 52.3 +1.7
ULM pmax pmax
comp=Z,2.0nm,1.0s
MURC **Murrieta** 66.09 66 P P 02 22 51.9 +0.9
baz=312
K22A **Casper** 66.19 52 P P 02 22 53.0 +1.3
baz=314
LCMT **Little Creek M** 66.20 61 IAmb IAmb 02 23 21.5
comp=Z,5.8nm,0.8s
GMRC **Granite Mounta** 66.25 64 P P 02 22 53.4 +1.3
baz=313
SRU **San Rafael Swe** 66.37 58 IAmb IAmb 02 23 22.3
comp=Z,10nm,0.8s
RSSD **Black Hills** 66.49 50 P P 02 22 53.6 0.0
RSSD IAmb IAmb 02 23 22.2
comp=Z,11nm,1.1s
RSSD **Black Hills** 66.49 50 P P 02 22 54.1 +0.5
baz=314
RSSD **Black Hills** 66.49 50 P P 02 22 53.6 0.0
RSSD pmax pmax
comp=Z,11nm,1.1s
O20A **White River Ci** 66.97 55 P P 02 22 57.5 +0.9
baz=314
IRM **Iron Mountain** 66.98 64 P P 02 22 57.5 +0.9
baz=313
MONP2 **Monument Peak** 67.05 66 P P 02 22 58.4 +1.1
baz=313
BC3 **Big Chuckawall** 67.13 65 P P 02 22 58.1 +0.4
baz=313
NC204 **NORSAR Array S** 67.38 341 P P 02 22 57.1 -1.6
NC204 IAmb IAmb 02 23 37.1
comp=Z,16nm,1.1s
IKP **In-Ko-Pah, Jac** 67.41 66 P P 02 23 00.5 +1.1
baz=313
NB2 **NORSAR Subarra** 67.49 341 P P 02 22 59.1 -0.3
comp=Z,0.5nm,0.4s,baz=26,slow=6.5
NOA **NORSAR Array B** 67.49 341 P P 02 22 58.9 -0.5
comp=Z,0.6nm,0.4s,baz=28,slow=6.1,SNR=15
NOA LR LR 02 56 41.0
comp=Z,13nm,19.6s,baz=255,slow=40
comp=Z,0.6nm,0.4s
NOA **NORSAR Array B** 67.49 341 eP P 02 22 59.2 -0.2
NOA pmax pmax
comp=Z,1.0nm,0.4s
PDMCI **Parker Dam,Lak** 67.49 63 P P 02 23 01.3 +1.4
baz=313
AGMN **Agassiz Nation** 67.51 42 P P 02 22 59.3 -0.4
AGMN **Agassiz Nation** 67.51 42 P P 02 22 59.5 -0.2
baz=317
N23A **Red Feather La** 67.71 53 P P 02 23 02.0 +0.5
baz=314
GLA **Glamis** 67.93 65 P P 02 23 03.3 +0.7
baz=313
WUAZ **Wupatki** 68.33 61 P P 02 23 06.2 +0.9
baz=314
B35A **Bob, Littlefor** 68.43 41 P P 02 23 05.3 -0.2
B35A IAmb IAmb 02 23 06.4

ISCO Idaho Springs 68.66 54 P P 02 23 08.4 +1.0
baz=315
113A Mohawk Valley, 68.77 64 IAmb IAmb 02 23 10.0
comp=Z,10nm,1.3s
MVCO Mesa Verde 68.84 58 P P 02 23 09.6 +1.1
baz=314
F33A 5 Mile Ranch, 69.11 44 IAmb IAmb 02 23 11.3
comp=Z,7.7nm,0.8s
WRA Warramunga Arr 69.14 199 P P 02 23 10.4 +0.4
comp=Z,0.5nm,0.9s,baz=14,slow=6.9,SNR=4.5
comp=Z,0.5nm,0.9s
WRA Warramunga Arr 69.14 199 *e*P P 02 23 12.2 +2.1
WRA pmax pmax
comp=Z,1.0nm,0.9s
S22A 4UR Ranch, Cre 69.42 56 P P 02 23 12.4 +0.3
S22A 4UR Ranch, Cre 69.42 56 P P 02 23 14.0 +1.8
baz=315
Q24A Divide 69.50 55 P P 02 23 14.2 +1.6
baz=315
EYMN Ely 69.73 40 P P 02 23 14.6 +1.1
baz=320
214A Organ Pipe Nat 69.91 64 P P 02 23 15.6 +0.7
baz=314
SDCO Great Sand Dun 70.16 56 P P 02 23 18.1 +1.5
baz=316
KIV Kislovodsk 70.17 314 *e*P P 02 23 14.7 -1.7
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,24nm,18.0s
KIV Kislovodsk 70.17 314 *e*P P 02 23 14.7 -1.7
KBZ Khabaz 70.23 314 P P 02 23 15.3 -1.3
comp=Z,1.5nm,0.8s,baz=77,slow=18,SNR=6.2
KBZ LR LR 02 57 51.2
comp=Z,26nm,18.3s,baz=352,slow=39
comp=Z,1.5nm,0.8s
KBZ Khabaz 70.23 314 *e*P P 02 23 15.3 -1.3
F36A Milaca 70.39 43 P P 02 23 17.8 +0.2
ECSD EROS Data Cent 70.51 46 IAmb IAmb 02 23 19.9
comp=Z,9.8nm,1.0s
ECSD EROS Data Cent 70.51 46 P P 02 23 19.3 +0.9
baz=318
AKASG Malin Array Be 70.85 326 P P 02 23 19.0 -1.2
comp=Z,1.0nm,0.4s,baz=34,slow=6.1,SNR=9.9
AKASG LR LR 02 56 46.5
comp=Z,52nm,18.1s,baz=344,slow=38
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 70.85 326 *e*P P 02 23 19.2 -1.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
TUC Tucson 70.90 63 P P 02 23 22.1 +1.1
baz=315
SPMN Marine on St. 71.20 43 P P 02 23 23.1 +0.7
baz=320
GNI Garni 71.93 310 LR LR 02 58 03.5
comp=Z,33nm,18.1s,baz=20,slow=38
319A Douglas 72.47 63 IAmb IAmb 02 23 33.0
comp=Z,12nm,1.0s
BIGH Upper Bighouse 72.67 347 *e*P P 02 23 30.9 0.0
BIGH IAmb IAmb 02 23 35.0
comp=Z,52nm,1.4s
SCHQ Schefferville 72.71 23 P P 02 23 31.6 +0.2
comp=Z,1.3nm,0.4s,baz=295,slow=9.3,SNR=8.3
comp=Z,1.3nm,0.4s
SCHQ Schefferville 72.71 23 P P 02 23 30.6 -0.7
SCHQ IAmb IAmb 02 23 40.8
comp=Z,12nm,1.4s
ASAR Alice Springs 72.84 198 P P 02 23 34.1 +1.7
comp=Z,1.8nm,0.7s,baz=9.6,slow=5.8,SNR=14
SCIA State Center 73.53 45 P P 02 23 37.1 +0.7
baz=320
PURM Purcari 73.95 323 ⇑P P 02 23 39.6 +1.0
DRUM Mains of Drumt 73.97 346 *e*P P 02 23 38.3 -0.3
DRUM IAmb IAmb 02 23 40.2
comp=Z,327nm,2.3s
AMTX Amarillo 74.36 55 P P 02 23 42.2 +0.8
baz=318
MSTX Muleshoe 74.41 57 P P 02 23 42.1 +0.3
baz=317
MNTX Cornudas Mount 74.55 60 P P 02 23 43.8 +1.2
baz=317
BUR08 Bucovina Ar. S 74.87 326 P P 02 23 41.7 -2.5
BURAR Bucovina Array 74.89 326 ⇑P P 02 23 44.3 0.0
BURAR Bucovina Array 74.89 326 P P 02 23 42.5 -1.8
BURAR Bucovina Array 74.89 326 ⇑P P 02 23 44.3 0.0
LAWE Loch Awe, Argy 75.05 348 *e*P P 02 23 44.9 0.0
LAWE IAmb IAmb 02 23 48.0
comp=Z,80nm,1.8s
GLMI Grayling 75.13 38 P P 02 23 46.1 +0.5
baz=324
VLDR Vladesti 75.23 324 ⇑P P 02 23 46.6 +0.5
TRPA Tarpa 75.44 328 ⇓P P 02 23 47.2 -0.1
ESK Eskdalemuir 75.62 346 *e*P P 02 23 49.0 +0.9
ESK IAmb IAmb 02 23 51.4
comp=Z,35nm,1.4s
ESK Eskdalemuir 75.62 346 P P 02 23 47.3 -0.9
ESK IAmb IAmb 02 24 24.1
comp=Z,19nm,1.4s
ESK Eskdalemuir 75.62 346 P P 02 23 47.3 -0.9
ESK pmax pmax
comp=Z,19nm,1.5s
CLL Collm 75.73 335 *i* P P 02 23 48.2 -0.7
comp=Z,7.0nm,1.1s
CLL Collm 75.73 335 *i* P P 02 23 48.2 -0.7
CLL pmax pmax
comp=Z,7.0nm,1.1s
TPGR Topolog 75.90 323 ⇑P P 02 23 49.9 -0.1
WMOK Wichita Mounta 76.07 54 P P 02 23 51.6 +0.4
baz=319
KESW Keswick, Cumbr 76.30 346 *e*P P 02 23 52.6 +0.5
MLR Muntele Rosu 76.37 325 ⇓P P 02 23 53.7 +0.9
MLR Muntele Rosu 76.37 325 P P 02 23 52.6 -0.2
MLR Muntele Rosu 76.37 325 ⇓P P 02 23 53.7 +0.9
VRAC Vranov 76.43 332 LR LR 03 03 44.0
comp=Z,28nm,19.7s,baz=348,slow=40
HDIL Hopedale 76.44 44 P P 02 23 53.1 0.0
baz=322
HPK Haverah Park 76.65 345 *e*P P 02 23 54.3 +0.3
HPK IAmb IAmb 02 23 55.5
comp=Z,19nm,0.7s
SECR 76.70 324 ⇑P P 02 23 55.4 +0.8
VOIR 76.77 325 ⇑P P 02 23 55.6 +0.6
VOIR 76.77 325 ⇑P P 02 23 55.6 +0.6
TUL1 Leonard 76.79 51 P P 02 23 55.7 +0.6
baz=320
ARR Arges 76.99 325 ⇑P P 02 23 57.3 +1.1
TX32 Lajitas Array 77.29 61 P P 02 23 58.5 +0.3
TXAR Lajitas Array 77.29 61 P P 02 23 59.3 +1.1
comp=Z,4.1nm,0.8s,baz=298,slow=4.3,SNR=54
TXAR pP **pwP** 02 24 26.8 -1.0
comp=Z,4.3nm,0.8s,baz=305,slow=4.8,SNR=10
comp=Z,4.1nm,0.8s
TXAR Lajitas Array 77.29 61 P P 02 23 58.6 +0.5
SIRR Siria 77.34 328 ⇑P P 02 23 59.0 +0.9
CCM Cathedral Cave 77.46 47 P P 02 23 59.3 +0.4
baz=322
KHC Kasperske Hory 77.51 334 *e*P P 02 23 59.4 +0.4
KHC *ex* x 02 24 03.9
KHC Kasperske Hory 77.51 334 *e*P P 02 23 59.4 +0.4
KHC *e* 02 24 03.9
SURR Surduc 77.61 327 ⇓P P 02 23 58.3 -1.3
GZR Gura Zlata 77.67 327 ⇑P P 02 23 59.7 -0.3
GZR Gura Zlata 77.67 327 ⇑P P 02 23 59.7 -0.3
GERES GERESS Array B 77.73 334 P P 02 24 00.1 -0.2
comp=Z,0.6nm,0.5s,baz=35,slow=4.6,SNR=8.6
comp=Z,0.6nm,0.5s
GERES GERESS Array B 77.73 334 P P 02 23 59.5 -0.8
BRTR Keskin Array B 77.74 316 P P 02 24 00.9 +0.3
comp=Z,0.6nm,0.6s,baz=54,slow=7.3,SNR=2.2
comp=Z,0.6nm,0.6s
CONA Conrad Observa 77.87 332 *i* P P 02 24 01.8 +0.7
comp=Z,1.6nm,0.6s
BZS Buzias 77.91 327 ⇓P P 02 24 00.3 -0.9
BZS Buzias 77.91 327 ⇓P P 02 24 00.3 -0.9
RONA Rosalia, Austr 77.94 332 *i* P P 02 24 02.4 +1.0
comp=Z,2.6nm,1.0s
FOEL Foel Wylfa 77.95 345 *e*P P 02 24 01.3 0.0
FOEL IAmb IAmb 02 24 05.4
comp=Z,127nm,2.1s
MOA Molln 78.44 333 *i* P P 02 24 05.4 +1.2
comp=Z,2.1nm,0.8s
MORH Mrgy, Hungar 78.45 329 ⇑P P 02 24 03.7 -0.5
O48B Farmland 78.58 41 P P 02 24 05.3 +0.2
baz=324
JCT Junction City 78.68 57 P P 02 24 06.9 +1.1
baz=319
BIOA Bad Ischl, Aus 78.78 333 *i* P P 02 24 06.2 +0.2
comp=Z,2.1nm,0.5s
WHTX Lake Whitney, 78.86 55 P P 02 24 07.9 +1.2
baz=320
FRGS Fruska Gora 78.96 328 ⇓P P 02 24 07.7 +0.7
MIAR Mount Ida 79.00 50 P P 02 24 08.1 +0.7
baz=321
WOL Wolverton 79.10 344 *e*P P 02 24 07.7 0.0
SOKA Soboth 79.24 332 *i* P P 02 24 08.9 +0.2
comp=Z,1.1nm,0.5s
ERPA Erie 79.28 37 P P 02 24 09.6 +0.8
baz=327
P49A Miami Univ. Ec 79.37 42 P P 02 24 08.7 -0.7
baz=325
KBA Koelnbreinsper 79.42 333 *i* P P 02 24 10.4 +0.7
comp=Z,5.9nm,0.5s
OBKA Obir 79.55 332 *i* P P 02 24 10.7 +0.4
comp=Z,1.6nm,0.5s
M53A WI Miller and 79.56 38 P P 02 24 10.8 +0.5
baz=327
BOVS Bovan 79.57 326 ⇑P P 02 24 09.5 -0.8
ACSO Alum Creek Sta 79.57 40 P P 02 24 10.8 +0.4
baz=326
WCI Wyandotte Cave 79.70 43 P P 02 24 11.8 +0.7
baz=324
WATA Walderlm 79.71 334 *i* P P 02 24 11.6 +0.4
comp=Z,2.2nm,0.5s
WTTA Wattenberg 79.76 334 *i* P P 02 24 12.1 +0.6
comp=Z,5.9nm,0.5s
DIVS Divibare 79.81 328 P P 02 24 09.8 -1.9
RETA Reutte 79.81 335 *i* P P 02 24 11.9 +0.2
comp=Z,2.9nm,0.7s
MOTA Moosalm 79.84 335 *i* P P 02 24 12.3 +0.3
comp=Z,2.9nm,0.7s
VTS Vitosha 79.84 325 ⇓P P 02 24 11.5 -0.6
VTS Vitosha 79.84 325 ⇓P P 02 24 11.5 -0.6
SQTA Sankt Quirin 79.92 335 *i* P P 02 24 12.7 +0.3
comp=Z,6.9nm,1.5s
ABTA Abfaltersbach 79.97 334 *i* P P 02 24 11.6 -0.9
comp=Z,0.8nm,0.5s
FETA Feichten 80.25 335 *i* P P 02 24 14.3 +0.2
comp=Z,4.4nm,1.2s
DAVA Damuels 80.25 335 *i* P P 02 24 14.5 +0.3
comp=Z,2.4nm,0.7s
M55A Ridgway 80.32 37 P P 02 24 15.0 +0.5
M55A IAmb IAmb 02 24 45.9
comp=Z,21nm,1.4s
O53A New Philadelph 80.32 39 P P 02 24 14.6 +0.1
baz=326
WVT Waverly 80.65 46 P P 02 24 17.0 +0.7
baz=324
FUORN Ofenpass-Fuorn 80.74 335 P P 02 24 15.6 -1.3
OXF Oxford 81.16 48 P P 02 24 19.5 +0.4
baz=323
S51A Beattyville 81.42 42 P P 02 24 19.0 -1.4
S51A IAmb IAmb 02 24 23.0
comp=Z,10nm,0.9s
PDG Podgorica 81.52 327 P P 02 24 18.4 -2.3
PDG IAmb IAmb 02 24 20.4
comp=Z,7.0nm,0.6s
SENIN Lac Senin/Sane 81.80 337 P P 02 24 21.4 -1.1
SENIN IAmb IAmb 02 24 38.6
comp=Z,18nm,1.1s
MMAI Mount Meron Ar 82.20 311 LR LR 03 05 35.3
comp=Z,25nm,18.2s,baz=341,slow=39
TZTN Tazewell 82.34 43 P P 02 24 25.6 +0.4
TZTN IAmb IAmb 02 25 06.1
comp=Z,23nm,1.4s
TZTN Tazewell 82.34 43 P P 02 24 26.0 +0.8
baz=326
PPT Papeete 82.72 126 P P 02 24 30.3 +3.0
comp=Z,19nm,0.6s,baz=104,slow=21,SNR=4.7
BNI Bardonecchia 83.18 337 P P 02 24 29.1 -0.5
BNI Bardonecchia 83.18 337 P P 02 24 29.1 -0.5
BNI pmax pmax
comp=Z,7.0nm,1.4s
SSB Saint Sauveur 83.53 338 P P 02 24 31.0 -0.2
SSB IAmb IAmb 02 25 14.6
comp=Z,16nm,1.5s
SSB Saint Sauveur 83.53 338 P P 02 24 31.0 -0.2
SSB pmax pmax
comp=Z,16nm,1.5s
RAYN Ar Rayn 83.92 298 P P 02 24 32.8 -0.9
RAYN IAmb IAmb 02 24 34.2
comp=Z,4.6nm,0.7s
RAYN Ar Rayn 83.92 298 ⇓P P 02 24 33.9 +0.3
ESDC Sonseca Array 90.81 342 P P 02 25 07.7 +1.1
comp=Z,0.3nm,0.5s,baz=10,slow=4.2,SNR=6.3
comp=Z,0.3nm,0.5s
KEST Kesra 90.95 331 P P 02 25 07.2 -0.1
comp=Z,1.0nm,0.5s,baz=65,slow=4.4,SNR=4.3
comp=Z,1.0nm,0.5s
PCED Cedros 94.27 1 *e*S S 02 36 35.8 +11
PCED A A 02 36 37.7
comp=Z,17nm,0.1s
PFCBR Castelo Branco 94.37 1 *e*S S 02 36 36.5 +11
PFCBR A A 02 36 37.2
comp=Z,15nm,0.2s
H03N2 Juan Fernandez 138.92 89 T T 05 05 24.3
baz=310,slow=77,SNR=12
H03N1 Juan Fernandez 138.94 89 T T 05 05 25.3
baz=310,slow=77,SNR=15
H03N3 Juan Fernandez 138.94 89 T T 05 05 24.7
baz=310,slow=77,SNR=13
BDFB Brasilia 143.86 36 PKP PKPbc 02 31 36.0 -0.3
comp=Z,1.6nm,0.7s,baz=339,slow=4.4,SNR=3.9
CPUP Villa Florida 148.25 59 PKPbc **PKPbc** 02 31 48.6 -0.2
comp=Z,0.7nm,0.5s,baz=315,slow=7.1,SNR=3.4
PLCA Paso Flores 148.44 94 PKPbc **PKiKP** 02 31 50.0 -0.5
comp=Z,2.1nm,0.8s,baz=267,slow=6.3,SNR=5.1

*PGC **30** 02:27:52.8±0.1,48.°60N×123.°10W,h16km,ML2.8, ML2.4/27,22km east of Sidney, Bc Vancouver Island, Canada Region*
*SEA **30** 02:27:52.8±2.2,48.°61N±0.°01×123.°07W±0.°03,h15km±3km, ML2.8/19,ML2.7/36(NEIC),Error ellipse: s-maj=2.6km s-min=2.1km az=82.0*
*NEIC **30** 02:27:52.1±1.8,48.°61N±0.°01×123.°10W±0.°03,h18km±2km, Error ellipse: s-maj=2.6km s-min=1.9km az=76.0*

ISC 30 02:27:51.7±0.9,48.°61N±0.°02×123.°10W±0.°01,h24km±4km, n127,s0ø96/180,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UWFH	**University of**	**0.08**	**139**			**Pb**	**02 27 57.0**	**+1.0**
SNB	**Saturna Island**	**0.17**	**343**			**Pb**	**02 27 56.9**	**-0.1**
SNB						**Sb**	**02 28 00.1**	**-0.5**
SNB	**Saturna Island**	**0.17**	**343**	P		**Pb**	**02 27 56.9**	**-0.1**
SNB				S		**Sb**	**02 28 00.0**	**-0.5**
MCW	**Mount Constitu**	**0.19**	**68**			**Pb**	**02 27 56.7**	**-0.5**
MCW						**Sb**	**02 27 59.7**	**-1.2**
MCW	**Mount Constitu**	**0.19**	**68**	P		**Pb**	**02 27 56.7**	**-0.5**
B011	**North Saanich**	**0.24**	**280**			**Pb**	**02 27 57.6**	**-0.1**
B011						**Sb**	**02 28 01.2**	**-0.6**
B011	**North Saanich**	**0.24**	**280**	P		**Pb**	**02 27 57.6**	**-0.1**
B011				S		**Sb**	**02 28 01.2**	**-0.6**
PA01	**PA01 North**	**0.24**	**281**	P		**Pb**	**02 27 57.6**	**-0.1**
PA01				S		**Sb**	**02 28 01.2**	**-0.6**
B009	**North Saanich**	**0.24**	**280**	P		**Pb**	**02 27 57.6**	**-0.1**
B009				S		**Sb**	**02 28 01.3**	**-0.5**
B010	**North Saanich**	**0.24**	**280**	P		**Pb**	**02 27 57.6**	**-0.1**
B010				S		**Sb**	**02 28 01.2**	**-0.6**
PGC	**Sidney**	**0.24**	**280**			**Pb**	**02 27 57.6**	**-0.1**
PGC						**Sb**	**02 28 01.2**	**-0.6**
PGC				IAML			02 28 01.6	
	comp=E,1μm,0.3s							
PGC	**Sidney**	**0.24**	**280**	P		**Pb**	**02 27 57.6**	**-0.1**
PGC				S		**Sb**	**02 28 01.4**	**-0.5**
VGZ	**Gonzales**	**0.25**	**218**			**Pb**	**02 27 57.6**	**-0.2**
VGZ	**Gonzales**	**0.25**	**218**	P		**Pb**	**02 27 57.6**	**-0.2**
VGZ				S		**Sb**	**02 28 01.2**	**-0.8**
ERW	**Mount Erie**	**0.35**	**116**			**Pb**	**02 27 59.3**	**-0.1**
GOBB	**Galiano Island**	**0.44**	**321**	P		**Pb**	**02 28 01.0**	**+0.2**
GOBB				S		**Sb**	**02 28 07.4**	**+0.4**
SYMB	**Survey Mountai**	**0.47**	**264**	P		**Pb**	**02 28 01.2**	**-0.2**
SYMB				S		**Sb**	**02 28 07.6**	**-0.4**
SQM	**Sequim**	**0.54**	**176**			**Pb**	**02 28 02.7**	**+0.3**
STW	**Striped Peak**	**0.60**	**220**			**Pb**	**02 28 03.6**	**+0.1**
STW						**Sb**	**02 28 11.9**	**+0.4**
STW	**Striped Peak**	**0.60**	**220**	P		**Pb**	**02 28 03.6**	**+0.1**
STW				S		**Sb**	**02 28 11.4**	**-0.1**
BLN	**Blyn Mountain**	**0.61**	**172**			**Pb**	**02 28 03.7**	**0.0**
BLN						**Sb**	**02 28 12.4**	**+0.5**
B04A	**Port Angeles**	**0.62**	**206**			**Pb**	**02 28 03.7**	**-0.1**
B04A	**Port Angeles**	**0.62**	**206**	Pg		**Pb**	**02 28 03.5**	**-0.3**
B04A				Sg		**Sb**	**02 28 12.0**	**-0.1**
B04A				IAML			02 28 12.4	
	comp=E,515nm,0.4s							
B04A				IAML			02 28 12.5	
	comp=N,749nm,0.3s							
CMW	**Cultus Mountai**	**0.68**	**106**			**Pb**	**02 28 04.9**	**0.0**
CMW	**Cultus Mountai**	**0.68**	**106**	P		**Pb**	**02 28 04.8**	**0.0**
CMW				S		**Sn**	**02 28 15.0**	**-0.6**
B926	**Mesachie Lake**	**0.72**	**287**			**Pb**	**02 28 05.1**	**-0.3**
B926	**Mesachie Lake**	**0.72**	**287**	P		**Pb**	**02 28 05.2**	**-0.3**
B926				S		**Sb**	**02 28 14.6**	**-0.4**
CLRS	**Cowichan Lake**	**0.72**	**287**	Pg		**Pb**	**02 28 05.0**	**-0.5**
CLRS				IAML			02 28 16.3	
	comp=N,280nm,0.2s							
CLRS	**Cowichan Lake**	**0.72**	**287**	P		**Pb**	**02 28 05.2**	**-0.3**
CLRS				S		**Sb**	**02 28 14.7**	**-0.2**
SWID	**South Whidbey**	**0.76**	**143**			**Pn**	**02 28 06.7**	**-0.1**
HNBB	**Haney**	**0.76**	**27**	P		**Pb**	**02 28 06.0**	**-0.2**
HNBB				S		**Sb**	**02 28 15.9**	**-0.3**
VDB	**Vedder Mountai**	**0.78**	**57**			**Pb**	**02 28 06.3**	**-0.2**
VDB	**Vedder Mountai**	**0.78**	**57**	P		**Pb**	**02 28 06.3**	**-0.2**
VDB				S		**Sb**	**02 28 16.3**	**-0.4**
B013	**Quilcene**	**0.81**	**171**			**Pb**	**02 28 06.6**	**-0.4**
B013	**Quilcene**	**0.81**	**171**			**Pb**	**02 28 06.6**	**-0.4**
BIB	**Bowen Island**	**0.81**	**350**	P		**Pb**	**02 28 07.0**	**0.0**
BIB				S		**Sb**	**02 28 17.8**	**+0.2**
MBW	**Mount Baker**	**0.81**	**77**			**Pn**	**02 28 07.8**	**+0.1**
MBW	**Mount Baker**	**0.81**	**77**	P		**Pn**	**02 28 07.5**	**-0.2**
NLLB	**Nanaimo Lost L**	**0.85**	**317**			**Pb**	**02 28 07.5**	**-0.4**
NLLB	**Nanaimo Lost L**	**0.85**	**317**	P		**Pb**	**02 28 07.4**	**-0.4**
NLLB				S		**Sb**	**02 28 18.5**	**-0.4**
OBC	**Olympics--Boni**	**0.87**	**229**			**Pb**	**02 28 08.3**	**+0.1**
OBC	**Olympics--Boni**	**0.87**	**229**	P		**Pb**	**02 28 08.2**	**+0.1**
JCW	**Jim Creek**	**0.88**	**118**			**Pb**	**02 28 08.0**	**-0.3**
JCW	**Jim Creek**	**0.88**	**118**	P		**Pb**	**02 28 08.1**	**-0.3**
P403	**Sandy Floe Qua**	**0.89**	**232**			**Pb**	**02 28 08.2**	**-0.2**
OSD	**Olympics--Snow**	**0.89**	**207**			**Pn**	**02 28 09.0**	**+0.2**
OSD	**Olympics--Snow**	**0.89**	**207**	P		**Pn**	**02 28 08.9**	**+0.1**
PFB	**Port Renfrew**	**0.89**	**268**			**Pb**	**02 28 08.5**	**0.0**
PFB	**Port Renfrew**	**0.89**	**268**	P		**Pb**	**02 28 08.3**	**-0.2**
PFB				S		**Sb**	**02 28 19.8**	**-0.2**
C04A	**Brinnon**	**0.90**	**175**			**Pb**	**02 28 08.1**	**-0.4**
HDW	**Hoodsport**	**0.96**	**178**			**Pb**	**02 28 09.2**	**-0.5**
HDW	**Hoodsport**	**0.96**	**178**	P		**Pb**	**02 28 09.2**	**-0.5**
HDW				S		**Sb**	**02 28 21.9**	**-0.2**
SHUK	**Shuksan-Mt. Ba**	**0.97**	**75**			**Pn**	**02 28 10.4**	**+0.4**
GHNB	**Nanoose**	**1.02**	**313**	P		**Pn**	**02 28 10.3**	**-0.2**
GHNB				S		**Sb**	**02 28 23.7**	**0.0**
WPB	**Watts Point**	**1.05**	**356**	P		**Pn**	**02 28 10.8**	**0.0**
WPB				S		**Sb**	**02 28 23.8**	**-0.7**
GNW	**Green Mountain**	**1.06**	**170**			**Pn**	**02 28 10.7**	**-0.3**
GNW	**Green Mountain**	**1.06**	**170**	P		**Pn**	**02 28 10.7**	**-0.3**
GNW				S		**Sb**	**02 28 24.4**	**-0.4**
RPW	**Rockport**	**1.06**	**98**			**Pb**	**02 28 11.8**	**+0.4**
RPW	**Rockport**	**1.06**	**98**	P		**Pb**	**02 28 11.7**	**+0.3**
RPW				S		**Sn**	**02 28 25.0**	**-0.2**
OCP	**Olym-Cheeka Pk**	**1.06**	**254**			**Pn**	**02 28 11.1**	**0.0**
OCP	**Olym-Cheeka Pk**	**1.06**	**254**	P		**Pn**	**02 28 11.1**	**0.0**
OCP				S		**Sb**	**02 28 25.0**	**+0.1**
B06A	**Marblemount**	**1.07**	**94**			**Pb**	**02 28 11.6**	**+0.1**
B06A	**Marblemount**	**1.07**	**94**	P		**Pb**	**02 28 11.6**	**+0.1**
B06A				S		**Sn**	**02 28 25.7**	**+0.4**
GMW	**Gold Mountain**	**1.08**	**169**			**Pn**	**02 28 11.0**	**-0.3**
SHB	**Sechelt**	**1.11**	**333**			**Pn**	**02 28 11.8**	**0.0**
SHB	**Sechelt**	**1.11**	**333**	P		**Pn**	**02 28 11.8**	**0.0**
SHB				S		**Sb**	**02 28 26.3**	**-0.1**
C03A	**Quillayute Air**	**1.19**	**237**	Pn		**Pb**	**02 28 14.2**	**+0.8**
C03A				IAML			02 28 32.8	
	comp=N,207nm,2.7s							
C03A				IAML			02 28 35.0	
	comp=E,197nm,2.0s							
OLQ	**Olympics--Lake**	**1.19**	**204**			**Pb**	**02 28 15.0**	**+1.4**
SP2	**Seward Park 2**	**1.20**	**151**			**Pb**	**02 28 14.2**	**+0.6**
HTW	**Haystack Looko**	**1.20**	**132**			**Pb**	**02 28 13.6**	**-0.2**
B927	**Port Alberni**	**1.28**	**299**			**Pn**	**02 28 14.7**	**+0.7**
B927	**Port Alberni**	**1.28**	**299**	P		**Pn**	**02 28 14.8**	**+0.7**
B927				S		**Sn**	**02 28 30.5**	**0.0**
NLWA	**Neilton Lookou**	**1.32**	**203**	Pn		**Pb**	**02 28 16.1**	**+0.2**
B928	**Bamfield**	**1.37**	**280**			**Pb**	**02 28 16.1**	**-0.5**
B928	**Bamfield**	**1.37**	**280**	P		**Pb**	**02 28 16.2**	**-0.4**
B928				S		**Sb**	**02 28 33.4**	**-0.1**
BFSB	**Bamfield**	**1.37**	**280**	P		**Pn**	**02 28 16.1**	**+0.9**
BFSB				S		**Sn**	**02 28 33.4**	**+0.8**
GPW	**Glacier Peak**	**1.40**	**110**	P		**Pb**	**02 28 16.8**	**-0.4**
GPW				S		**Sb**	**02 28 34.9**	**+0.2**
TXB	**Texada**	**1.40**	**322**	P		**Pn**	**02 28 16.4**	**+0.7**
TXB				S		**Sn**	**02 28 34.4**	**+1.0**
RATT	**Rattlesnake La**	**1.47**	**143**			**Pb**	**02 28 17.6**	**-0.7**
WISH	**Wishkah**	**1.56**	**197**	Pn		**Pb**	**02 28 19.2**	**-0.6**
WISH				IAML			02 28 52.6	
	comp=N,116nm,3.9s							
WISH				IAML			02 29 02.1	
	comp=E,85nm,2.7s							
D05A	**Enumclaw**	**1.61**	**152**	Pn		**Pb**	**02 28 19.6**	**-1.0**
D05A				IAML			02 28 46.3	
	comp=N,53nm,0.4s							
D05A	**Enumclaw**	**1.61**	**152**	P		**Pb**	**02 28 20.1**	**-0.5**
D05A				S		**Sb**	**02 28 40.3**	**-0.1**
OZB	**Mount Ozzard**	**1.62**	**283**	Pn		**Pb**	**02 28 20.3**	**-0.7**
OZB				IAML			02 28 54.1	
	comp=E,112nm,2.3s							
OZB	**Mount Ozzard**	**1.62**	**283**	P		**Pb**	**02 28 20.3**	**-0.7**
OZB				S		**Sb**	**02 28 41.2**	**+0.2**
CPW	**Capitol Peak**	**1.64**	**181**	P		**Pb**	**02 28 20.7**	**-0.5**
CPW				S		**Sb**	**02 28 42.0**	**+0.6**
B012	**Ucluelet**	**1.65**	**282**	S		**Sb**	**02 28 42.4**	**+0.7**
WRW	**Wenatchee Ridg**	**1.66**	**116**			**Pb**	**02 28 21.2**	**-0.4**
NLW	**Nelson Butte**	**1.92**	**105**			**Pb**	**02 28 26.3**	**+0.4**
OBSR	**Observation Ro**	**1.92**	**153**			**Pb**	**02 28 25.3**	**-0.7**
FMW	**Mount Fremont**	**1.93**	**150**			**Pb**	**02 28 24.8**	**-1.5**
FMW	**Mount Fremont**	**1.93**	**150**	P		**Pb**	**02 28 24.8**	**-1.5**
FMW				S		**Sb**	**02 28 49.6**	**-0.5**
RCS	**Mount Rainier-**	**1.97**	**152**			**Pb**	**02 28 26.0**	**-1.0**
REMR	**Mount Rainier-**	**1.98**	**154**			**Pb**	**02 28 25.9**	**-1.3**
LON	**Longmire**	**2.05**	**154**			**Pb**	**02 28 26.9**	**-1.3**
LON	**Longmire**	**2.05**	**154**	Pn		**Pn**	**02 28 26.3**	**+1.6**
LON				IAML			02 28 56.6	
	comp=E,22nm,0.4s							
LON				IAML			02 28 58.0	
	comp=N,20nm,0.6s							
LON	**Longmire**	**2.05**	**154**	P		**Pb**	**02 28 26.8**	**-1.5**
LON				S		**Sb**	**02 28 52.2**	**-1.2**
CBB	**Campbell River**	**2.06**	**315**	P		**Pb**	**02 28 27.0**	**-1.3**
CBB				S		**Sb**	**02 28 52.3**	**-1.2**
E03A	**Lebam**	**2.09**	**189**	Pn		**Pn**	**02 28 26.6**	**+1.5**
E03A				IAML			02 29 06.5	
	comp=E,57nm,1.8s							
E03A				IAML			02 29 15.6	
	comp=N,50nm,2.5s							
E03A	**Lebam**	**2.09**	**189**	P		**Pb**	**02 28 27.3**	**-1.5**
E03A				S		**Sb**	**02 28 52.8**	**-1.5**
SPLB	**Strathcona Par**	**2.11**	**308**	P		**Pb**	**02 28 27.6**	**-1.6**
SPLB				S		**Sb**	**02 28 53.5**	**-1.4**
LTY	**Liberty**	**2.12**	**129**	Pn		**Pb**	**02 28 27.8**	**-1.6**
LTY				IAML			02 28 57.4	
	comp=N,44nm,0.5s							
LTY	**Liberty**	**2.12**	**129**	P		**Pb**	**02 28 28.4**	**-1.0**
LTY				S		**Sb**	**02 28 54.5**	**-0.7**
BMW	**Boistfort Moun**	**2.14**	**182**			**Pb**	**02 28 28.3**	**-1.4**
LLLB	**Lillooet**	**2.15**	**21**	Pn		**Pb**	**02 28 28.2**	**-1.7**
LLLB				IAML			02 28 58.6	
	comp=N,38nm,0.8s							
LLLB				IAML			02 28 59.7	
	comp=E,34nm,0.9s							
LLLB	**Lillooet**	**2.15**	**21**	P		**Pb**	**02 28 28.5**	**-1.5**
LLLB				S		**Sb**	**02 28 57.1**	**+0.9**
WPW	**White Pass**	**2.18**	**151**			**Pb**	**02 28 29.7**	**-0.7**
TBM	**Table Mountain**	**2.21**	**130**			**Pb**	**02 28 31.6**	**+0.5**
ERK	**Elk Rock**	**2.36**	**167**			**Pb**	**02 28 32.6**	**-0.9**
B201	**Coldwater, Mou**	**2.38**	**166**			**Pb**	**02 28 32.6**	**-1.1**
PNT	**Penticton**	**2.40**	**72**

B08A	**Colville Reser**	**2.52**	**94**	P	**Pb**	**02 28 36.0**	**-0.2**
B08A				S	**Sb**	**02 29 06.9**	**+0.3**
NCRB	**Newcastle Ridg**	**2.63**	**314**	P	**Pb**	**02 28 36.3**	**-1.9**
NCRB				S	**Sb**	**02 29 09.7**	**-0.4**
ASR	**Mount Adams--S**	**2.66**	**157**		**Pb**	**02 28 37.2**	**-1.5**
WOSB	**Woss**	**2.75**	**306**	P	**Pb**	**02 28 38.8**	**-1.3**
WOSB				S	**Sb**	**02 29 12.0**	**-1.5**
MAYB	**Maynard**	**3.21**	**306**	P	**Pn**	**02 28 43.5**	**+2.9**
MAYB				S	**Sb**	**02 29 23.2**	**-3.4**
HAWA	**Hanford**	**3.28**	**131**	Pn	**Pn**	**02 28 42.5**	**+0.9**
HAWA				IAML		02 29 38.0	
	comp=E,16nm,4.8s						
HAWA				IAML		02 29 59.5	
	comp=E,13nm,5.0s						
C09A	**Chrisman Ranch**	**3.33**	**102**	Pn	**Pn**	**02 28 43.4**	**+1.2**
PACB	**Port Alice, BC**	**3.40**	**304**	P	**Pb**	**02 28 49.2**	**-1.9**
PACB				S	**Sn**	**02 29 27.1**	**+4.5**
NEW	**Newport**	**3.99**	**93**	Pn	**Pn**	**02 28 54.0**	**+2.6**
NEW				IAML		02 29 23.2	
	comp=E,12nm,4.2s						
NEW				IAML		02 31 29.7	
	comp=E,8.6nm,4.9s						
RNO	**Roman Nose**	**4.72**	**186**		**Pb**	**02 29 09.2**	**-4.6**

*AUST **30** 02:33:09.4±0.8, 34°.16S×137°.63E, h10km, Error ellipse: s-maj=10.5km s-min=6.5km az=45.0*
*NOU **30** 02:33:09.6, 34°.13S×137°.58E, h0km, MLv3.8/12, Near Coast of South Australia*
*IDC **30** 02:33:12.3±6.4, 33°.61S×137°.40E, h0km, mbtmp4.0/3, ML3.6/3, Error ellipse: s-maj=67.1km s-min=24.0km az=12.0*
ISC 30 02:33:08.7±0.9, **34°.15S**±0°.05×**137°.53E**±0°.05, **h10**km, **n26, s26**, **11/35, 1D, Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTPS	**Port Pirie**	**1.05**	**22**	P			**Pg**	**02 33 29.4**	**+0.5**
WHYH	**Whyalla**	**1.12**	**2**	P			**Pb**	**02 33 30.3**	**+0.2**
GHSS	**Government Hou**	**1.17**	**131**	P			**Pb**	**02 33 32.2**	**+1.2**
AUMAR	**Marden Senior**	**1.18**	**129**	P			**Pb**	**02 33 30.8**	**-0.4**
	baz=1.1								
HTT	**Hallett**	**1.36**	**59**	⇓P			**Pn**	**02 33 34.0**	**+0.1**
	baz=1.3,SNR=81								
HTT				S			**Sb**	**02 33 51.6**	**-0.3**
	baz=1.3								
HTT	**Hallett**	**1.36**	**59**	P			**Pn**	**02 33 34.1**	**+0.2**
BBOO	**Buckleboo**	**1.82**	**317**	P			**Pn**	**02 33 42.2**	**+2.1**
	baz=1.9,SNR=425								
BBOO				S			**Sb**	**02 34 06.7**	**+1.8**
	baz=1.9								
BBOO	**Buckleboo**	**1.82**	**317**	P			**Pn**	**02 33 42.7**	**+2.6**
LCRK	**Leigh Creek**	**3.74**	**9**	P			**Pn**	**02 34 08.7**	**+2.2**
	baz=3.7,SNR=14								
LCRK	**Leigh Creek**	**3.74**	**9**	P			**Pn**	**02 34 08.8**	**+2.3**
STKA	**Stephens Creek**	**4.10**	**58**	Pn			**Pn**	**02 34 13.4**	**+2.0**
	2.1nm,0.3s,baz=247,slow=14,SNR=33								
STKA				Pg			**Pb**	**02 34 23.9**	**+2.9**
	1.5nm,0.3s,baz=237,slow=14,SNR=6.0								
STKA				Sn			**Sn**	**02 35 02.3**	**+2.8**
	4.0nm,0.3s,baz=248,slow=19,SNR=5.8								
STKA				Lg			Lg	02 35 17.9	
	18nm,0.3s,baz=261,slow=15,SNR=9.4 7.9nm,0.5s								
STKA	**Stephens Creek**	**4.10**	**58**	P			**Pn**	**02 34 12.1**	**+0.6**
	baz=4.0,SNR=16								
STKA				S			**Sn**	**02 35 02.0**	**+2.5**
	baz=4.0								
STKA	**Stephens Creek**	**4.10**	**58**	P			**Pn**	**02 34 13.1**	**+1.6**
ARPS	**Mount Arapiles**	**4.38**	**128**	P			**Pn**	**02 34 16.2**	**+0.9**
	baz=4.3,SNR=42								
ARPS				S			**Sn**	**02 35 04.9**	**-1.5**
	baz=4.3								
ARPS	**Mount Arapiles**	**4.38**	**128**	P			**Pn**	**02 34 16.4**	**+1.1**
MULG	**Mulgathing**	**4.85**	**322**	P			**Pn**	**02 34 23.6**	**+1.7**
	baz=4.9,SNR=9.8								
MULG	**Mulgathing**	**4.85**	**322**	P			**Pn**	**02 34 23.9**	**+2.1**
OOD	**Oodnadatta**	**6.53**	**345**	P			**Pn**	**02 34 45.3**	**+0.4**
	baz=6.6,SNR=7.0								
OOD				S			**Sn**	**02 35 58.1**	**-1.3**
	baz=6.6								
OOD	**Oodnadatta**	**6.53**	**345**	P			**Pn**	**02 34 45.9**	**+1.0**
CMSA	**Cobar Meteorol**	**7.34**	**71**	P			**Pn**	**02 34 56.1**	**+0.1**
	baz=7.3								
CMSA				S			**Sn**	**02 36 16.2**	**-3.3**
	baz=7.3								
CMSA	**Cobar Meteorol**	**7.34**	**71**	P			**Pn**	**02 34 56.2**	**+0.1**
FORT	**Forrest**	**8.68**	**290**	P			**Pn**	**02 35 16.1**	**+1.7**
	baz=8.7,SNR=14								
FORT				S			**Sn**	**02 36 49.0**	**-3.4**
	baz=8.7								
FORT	**Forrest**	**8.68**	**290**	P			**Pn**	**02 35 16.4**	**+2.0**
ASAR	**Alice Springs**	**10.92**	**342**	Pn			**Pn**	**02 35 43.2**	**-2.0**
	0.4nm,0.3s,baz=162,slow=11,SNR=7.4								
ASAR				Sn			**Sn**	**02 37 41.1**	**-6.3**
	0.4nm,0.3s,baz=164,slow=22,SNR=8.0 12nm,0.4s								
WRKA	**Warakurna**	**12.12**	**316**	P			**Pn**	**02 36 01.6**	**0.0**
	baz=12,SNR=3.4								
WRA	**Warramunga Arr**	**14.44**	**348**	Pn			Pn	02 36 29.8	-3.4
	0.3nm,0.3s,baz=166,slow=13,SNR=21								
WRA				Sn			Sn	02 39 05.5	-7.9
	0.1nm,0.3s,baz=168,slow=24,SNR=3.6 0.8nm,0.4s								

TAP 30 02:43:33.2, 24°.47N×122°.55E, h23km±1km, **ML2.4, C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**91**	*e*P			Pb	02 43 42.1	0.0
	baz=83								
TWC	**Suao**	**0.65**	**283**	*e*P			Pb	02 43 45.8	-0.2
	baz=283								
TWC				*i* S			Sb	02 43 54.2	-0.4
	baz=283								
EWUT	**Wuta**	**0.70**	**268**	*e*P			Pn	02 43 47.5	-0.2
	baz=277								
EWUT				*e*S			Sb	02 43 56.4	+0.4
	baz=277								
ENA	**Nanau**	**0.74**	**267**	P			Pb	02 43 47.0	-0.3
	baz=275								
ENA				*e*S			Sb	02 43 55.9	-1.1
	baz=275								
TWB1	**Santiao Chiao**	**0.74**	**317**	P			Pb	02 43 47.2	-0.3
	baz=329								
TWB1				S			Sb	02 43 57.1	0.0
	baz=329								
NDS	**Dongshan**	**0.78**	**283**	P			Pb	02 43 48.2	+0.2
	baz=283								
NDS				S			Sb	02 43 58.2	+0.1
	baz=283								
TIPB	**Shuangxi**	**0.83**	**308**	*e*P			Pb	02 43 48.8	-0.1
	baz=320								
TIPB				S			Sb	02 43 59.4	-0.3
	baz=320								
TWE	**Neicheng**	**0.84**	**288**	P			Pb	02 43 49.0	-0.1
	baz=282								
TWE				*e*S			Sb	02 43 59.4	-0.6
	baz=282								
SXI1	**Grass Mountain**	**0.87**	**316**	P			Pn	02 43 50.0	-0.2
	baz=327								
SXI1				S			Sn	02 44 02.0	-0.2
	baz=327								
ENTT	**Nioudou**	**0.91**	**281**	P			Pb	02 43 50.4	+0.1
	baz=293								
ENTT				*e*S			Sb	02 44 01.9	-0.1
	baz=293								
NACB	**Ninganchiao**	**0.92**	**252**	*e*P			Pb	02 43 50.2	-0.2
	baz=257								
NACB				*e*S			Sb	02 44 01.6	-0.6
	baz=257								
NWF	**Wu-fen Shan**	**0.92**	**311**	*e*P			Pn	02 43 51.0	+0.2
	baz=312								
NWF				*e*S			Sn	02 44 03.3	0.0
	baz=312								
FUSB	**Fushanzhiwuyua**	**0.92**	**289**	P			Pn	02 43 50.7	-0.1
	baz=289								
FUSB				*e*S			Sb	02 44 02.0	-0.4
	baz=289								
LATG	**Datong**	**0.93**	**274**	P			Pb	02 43 50.8	0.0
	baz=286								
LATG				S			Sn	02 44 03.3	-0.4
	baz=286								
TWD	**Chiawan**	**0.95**	**246**	*e*P			Pn	02 43 51.5	+0.4
	baz=230								
TWD				*e*S			Sn	02 44 04.7	+0.8
	baz=230								
NWLT	**Wulai**	**1.00**	**288**	*e*P			Pb	02 43 52.1	+0.2
	baz=289								
NWLT				*e*S			Sb	02 44 04.2	-0.4
	baz=289								
ETLH	**Xiulin Townshi**	**1.01**	**255**	*e*P			Pb	02 43 52.8	+0.8
	baz=257								
ETLH				*e*S			Sn	02 44 05.9	+0.5
	baz=257								
NHDH	**Xindian Distri**	**1.05**	**298**	*e*P			Pb	02 43 52.7	0.0
	baz=300								
NHDH				*e*S			Sn	02 44 06.7	+0.2
	baz=300								
NNSB	**Datong**	**1.06**	**268**	P			Pb	02 43 53.1	+0.2
	baz=274								
NNSB				*e*S			Sb	02 44 05.8	-0.7
	baz=274								
NNSH	**Datong**	**1.06**	**268**	*e*P			Pb	02 43 53.5	+0.6
	baz=278								
YHNB	**Yeheng**	**1.08**	**281**	P			Pn	02 43 53.1	0.0
	baz=294								
YHNB				S			Sb	02 44 07.1	0.0
	baz=294								
NSK	**Sanguang**	**1.10**	**281**	P			Pb	02 43 53.7	+0.1
	baz=294								
NSK				*e*S			Sb	02 44 07.1	-0.5
	baz=294								
TAP	**Taipei**	**1.10**	**301**	*e*P			Pb	02 43 53.9	+0.2
	baz=302								
NSM	**Shimen**	**1.19**	**313**	*e*P			Pb	02 43 56.6	+1.5
	baz=314								
FUSS	**Fushou**	**1.21**	**260**	*e*P			Pb	02 43 56.0	+0.5
	baz=261								
WHF	**Hehuan Shan**	**1.21**	**255**	*e*P			Pb	02 43 55.6	-0.1
	baz=255								
CHGB	**Renai**	**1.32**	**252**	*e*P			Pb	02 43 57.6	+0.3
	baz=238								
WUSB	**Renai**	**1.39**	**250**	*e*P			Pb	02 43 58.7	+0.2
	baz=238								
WUSB				*e*S			Sb	02 44 16.3	+0.4
	baz=238								
LIOB	**Emei**	**1.41**	**278**	*e*P			Pb	02 43 59.2	+0.4
	baz=294								
HGSD	**Ruisui**	**1.41**	**227**	*e*P			Pn	02 43 57.0	-0.5
	baz=227								
NSTT	**Nanjuang**	**1.42**	**277**	*e*P			Pb	02 44 00.4	+1.5
	baz=293								
VWDT	**VWDT**	**1.47**	**241**	*e*P			Pb	02 43 59.3	-0.5
	baz=229								
SSLB	**Suanglung**	**1.60**	**245**	*e*P			Pb	02 44 02.6	+0.4
	baz=246								
SSLB				*e*S			Sn	02 44 20.5	+0.3
	baz=246								
TYC	**Yuchr**	**1.64**	**250**	*e*P			Pb	02 44 03.2	+0.4
	baz=237								

*BJI **30** 02:43:53.1±0.0, 9°.58N×126°.06E, h73km, mb4.9/78, mB5.0/35, Ms4.5/28, Ms7 4.3/31*
*MOS **30** 02:43:54.2±0.9, 10°.01N×125°.82E, h53km, mb5.3/52, Error ellipse: s-maj=8.3km s-min=4.3km az=115.9*
*DJA **30** 02:43:54.6±0.5, 10°.N±3°.×12°.6E±°, h53km±4km, M5.1/38, mB5.4/12, mb5.1/38, MLv5.5/2, Mw(mB)4.9/12*
*MAN **30** 02:43:55.0, 9°.89N×126°.16E, h29km, mb5.6, ML4.6, MS4.9*
MAN INTENSITY V - BURGOS SURIGAO DEL NORTE; INTENSITY IV - SURIGAO CITY; DEL CARMEN DAPA SURIGAO DEL NORTE; INTENSITY III - LORETO DINAGAT ISLAND; SOCORRO SURIGAO DEL NORTE; INTENSITY II - SAN FRANCISCO SOUTHERN LEYTE ; GENERAL LUNA TUBOD SURIGAO DEL NORTE.
*NEIC **30** 02:43:55.8±1.9, 9°.94N±0°.07×126°.04E±0°.09, h53km±5km, mb5.1/190, Error ellipse: s-maj=13.2km s-min=10.0km az=80.0*
*GCMT **30** 02:43:56.8±0.4, 9°.87N±0°.02×126°.28E±0°.03, h46km±1km, MW5.1/65, Moment Tensor Solution. s41,c49; s65,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.75±.26; Mθθ=0.18±.16; Mφφ=4.57±.15; Mrθ=0.77±.12; Mrφ=0.25±.11; Mθφ=1.19±.18; Best double couple: M0=4.87300×10^16 NP1:φs=6.00000°, δ=53.00000°, λ=101.00000°. NP2: φs=168.00000°, δ=39.00000°, λ=76.00000°. Principal axes: T 5.0210, Plg=79.0000°, Azm=320.0000°; N -0.2990, Plg=9.0000°, Azm=179.0000°; P -4.7250, Plg=7.0000°, Azm=88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **30** 02:43:59.2±1.2, 9°.86N×125°.97E, h89km±10km, mb4.6/30, mbtmp5.0/33, MS3.8/66 Error ellipse: s-maj=13.2km s-min=6.8km az=82.0*
ISC 30 02:43:55.3±0.3, **9°.88N**±0°.03×**126°.10E**±0°.04, **h57**km±2km, **h57**km:**pP-P, n872,** σ1=**52**/864, **mb5.1**/208, **MS3.9**/75, **60C-40D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.61**	**261**	⇑*i*P			**Pn**	**02 44 07.9**	**-0.5**
SCPH				*i* S			**Sn**	**02 44 17.4**	**-0.4**
MSLP	**Maasin**	**1.25**	**282**	⇓*e*P			**Pn**	**02 44 17.3**	**+0.8**
MSLP				*e*S			**Sn**	**02 44 36.5**	**+4.0**
TASP	**Talacogon, Agu**	**1.45**	**192**	⇑*e*P			**Pn**	**02 44 21.4**	**+2.1**
BIPH	**Bislig**	**1.70**	**171**	⇑*e*P			**Pn**	**02 44 22.7**	**0.0**
BIPH				*i* S			**Sn**	**02 44 44.2**	**+0.7**
TABP	**Talibon, Bohol**	**1.76**	**277**	⇓*e*P			**Pn**	**02 44 24.5**	**+1.1**
TABP				*e*S			**Sn**	**02 44 47.4**	**+2.7**
GHBP	**Garcia Hernand**	**1.77**	**262**	⇓*i*P			**Pn**	**02 44 25.1**	**+1.4**
GHBP				*e*S			**Sn**	**02 44 48.5**	**+3.4**
CGP	**Cagayan de Oro**	**1.98**	**225**	⇓*i*P			**Pn**	**02 44 27.8**	**+1.3**
CGP				*i* S			**Sn**	**02 44 51.4**	**+1.1**
CDOP	**Cateel, Davao**	**2.11**	**171**	⇑*e*P			**Pn**	**02 44 29.0**	**+0.7**
CDOP				*i* S			**Sn**	**02 44 59.2**	**+6.0**
LLP	**Lapu-Lapu**	**2.15**	**282**	⇓*i*P			**Pn**	**02 44 30.7**	**+2.0**
LLP				*i* S			**Sn**	**02 44 57.3**	**+3.0**
BUKP	**Musuan**	**2.24**	**207**	⇓*e*P			Pn	02 44 35.1	+5.1
BUKP				*e*S			**Sn**	**02 45 02.7**	**+6.2**
LSIP	**Lazi, Siquijor**	**2.55**	**253**	⇓*e*P			**Pn**	**02 44 35.5**	**+1.3**
LSIP				*e*S			**Sn**	**02 45 09.7**	**+5.7**
DAV	**Davao City (W)**	**2.84**	**191**	P			Pn	02 44 43.0	+4.8
	867nm,0.4s,baz=289,slow=3.8,SNR=11								
DAV				S			**Sn**	**02 45 15.7**	**+4.5**
	2μm,0.7s,baz=272,slow=21,SNR=6.4								
DAV				LR			LR	02 46 01.1	
	comp=Z,4μm,21.4s,baz=348,slow=44								
DAV	**Davao City (W)**	**2.84**	**191**	Pn			**Pn**	**02 44 40.8**	**+2.6**
DAV	**Davao City (W)**	**2.84**	**191**	P			**Pn**	**02 44 41.7**	**+3.5**
DCPH	**Dipolog City**	**3.00**	**245**	⇓*e*P			**Pn**	**02 44 41.5**	**+1.0**
DCPH				*i* S			**Sn**	**02 45 18.8**	**+3.6**
KCP	**Kidapawan**	**3.02**	**199**	⇓*i*P			**Pn**	**02 44 42.9**	**+2.1**
KCP				*i* S			**Sn**	**02 45 18.0**	**+2.2**
CTBH	**Cotabato--PC H**	**3.21**	**215**	⇑*i*P			**Pn**	**02 44 45.5**	**+2.2**
CTBH				*i* S			**Sn**	**02 45 21.6**	**+1.1**
PAGZ	**Pagadian**	**3.36**	**233**	⇓*e*P			**Pn**	**02 44 47.6**	**+2.2**
CNOP	**Candoni, Negro**	**3.41**	**269**	⇓*e*P			**Pn**	**02 44 48.2**	**+2.1**
CNOP				*e*S			**Sn**	**02 45 33.7**	**+8.4**
RCP	**Roxas**	**3.70**	**297**	⇓*e*P			**Pn**	**02 44 52.1**	**+2.1**
RCP				*e*S			**Sn**	**02 45 34.2**	**+1.9**
GSPH	**General Santos**	**3.94**	**197**	*e*P			**Pn**	**02 44 57.8**	**+4.4**
JAP	**San Jose, Anti**	**4.18**	**282**	⇑*e*P			**Pn**	**02 45 00.3**	**+3.7**
IBAJ	**Ibajay, Aklan**	**4.32**	**297**	⇓*e*P			**Pn**	**02 45 00.9**	**+2.5**
GQP	**Guinayangan**	**5.37**	**319**	⇓*e*P			**Pn**	**02 45 14.2**	**+1.3**
LQP	**Lukban**	**6.13**	**314**	⇑*e*P			**Pn**	**02 45 26.3**	**+2.7**
SGSI	**Sangihe**	**6.18**	**185**	P			**Pn**	**02 45 26.6**	**+2.6**
	246nm,0.6s,10μm2.5nm								
TGY	**Tagaytay City**	**6.57**	**310**	⇑*e*P			**Pn**	**02 45 34.0**	**+4.6**
QVP	**Quezon City--P**	**6.86**	**314**	⇓*e*P			**Pn**	**02 45 36.4**	**+3.1**
LUBP	**Lubang**	**6.89**	**304**	⇑*e*P			**Pn**	**02 45 37.6**	**+3.8**
PPR	**Puerto Princes**	**7.26**	**270**	⇓*i*P			**Pn**	**02 45 42.5**	**+3.6**
PCPH	**Palayan**	**7.47**	**320**	⇓*e*P			Pn	02 45 48.2	+6.6
I39PW	**PALAU INFRASON**	**8.67**	**105**	I			I	03 44 30.0	
	baz=284,slow=310,SNR=0.9								
MYLDM	**Lahad Datu**	**8.86**	**239**	Pn			**Pn**	**02 46 00.9**	**+0.1**
GTOI	**Gorontalo**	**9.68**	**199**	P			**Pn**	**02 46 13.6**	**+1.6**
	70nm,0.8s,540nm								
TOLI2	**Tolitoli**	**10.19**	**212**	Pn			**Pn**	**02 46 19.2**	**+0.2**
KKM	**Kota Kinabalu**	**10.51**	**249**	Pn			**Pn**	**02 46 25.9**	**+2.6**
LUWI	**Luwuk**	**11.34**	**197**	Pn			**Pn**	**02 46 38.1**	**+3.4**
LUWI	**Luwuk**	**11.34**	**197**	P			**Pn**	**02 46 39.0**	**+4.3**
	203nm,1.3s								
SANI	**Sanana**	**11.85**	**181**	P			**Pn**	**02 46 42.3**	**+0.7**
SANI	**Sanana**	**11.85**	**181**	P			**Pn**	**02 46 42.9**	**+1.3**
	66nm,0.8s								
SIJI	**Sorong**	**11.85**	**154**	LR			LR	02 52 08.9	
	comp=Z,323nm,20.4s,baz=40,slow=41								
NLAI	**Namlea**	**13.07**	**176**	P			**Pn**	**02 46 57.5**	**-0.8**
TWGBT	**Beinan**	**13.74**	**340**	P			**P**	**02 47 12.8**	**-1.4**
TWG	**Pinlang**	**13.74**	**340**	Pn			**Pn**	**02 47 06.5**	**-0.9**
FAKI	**Fak Fak**	**14.11**	**154**	Pn			**Pn**	**02 47 13.0**	**+0.6**
YULB	**Yu-li**	**14.20**	**342**	Pn			**Pn**	**02 47 14.2**	**+0.6**
YULB	**Yu-li**	**14.20**	**342**	P			**P**	**02 47 18.2**	**-1.1**
TPUB	**Ta-pu**	**14.34**	**339**	Pn			**Pn**	**02 47 15.5**	**+0.1**
TPUB	**Ta-pu**	**14.34**	**339**	P			**P**	**02 47 20.0**	**-0.9**
SSLB	**Suanglung**	**14.68**	**341**	Pn			**Pn**	**02 47 19.1**	**-0.7**
SSLB	**Suanglung**	**14.68**	**341**	P			**P**	**02 47 24.1**	**-0.6**
NACB	**Ninganchiao**	**14.85**	**344**				**P**	**02 47 25.4**	**-1.1**
NACB	**Ninganchiao**	**14.85**	**344**	P			**P**	**02 47 26.6**	**0.0**
SPSI	**Sidrap Palu**	**15.13**	**205**	P			**P**	**02 47 28.0**	**-1.7**
	49nm,1.0s								
YHNB	**Yeheng**	**15.38**	**344**				**P**	**02 47 32.4**	**-0.1**
YHNB	**Yeheng**	**15.38**	**344**	P			**P**	**02 47 33.5**	**+1.0**
SBUM	**Sibu**	**15.64**	**243**				**P**	**02 47 34.5**	**-0.9**
TATO	**Taipei**	**15.64**	**344**	P			**P**	**02 47 35.4**	**+0.1**
TATO				IAmb			IAmb	02 47 40.8	
	comp=Z,329nm,1.6s								
KAPI	**Kappang**	**16.09**	**203**	P			**P**	**02 47 39.4**	**-0.9**
	comp=Z,14nm,0.9s,baz=11,slow=5.2,SNR=1.8								
KAPI				LR			LR	02 54 21.3	
	comp=Z,419nm,19.9s,baz=11,slow=39								
KAPI	**Kappang**	**16.09**	**203**	P			**P**	**02 47 39.5**	**-0.9**
KAPI	**Kappang**	**16.09**	**203**	P			**P**	**02 47 39.5**	**-0.9**
KAPI				pmax			pmax		
	comp=Z,80nm,1.1s								
KNMB	**Chin-men Tao**	**16.26**	**334**				**Pn**	**02 47 40.6**	**+0.6**
JOW	**Kunigami**	**16.99**	**7**	P			**P**	**02 47 52.6**	**+2.3**
	comp=Z,39nm,0.7s,baz=200,slow=12,SNR=7.9								
JOW				LR			LR	02 53 27.1	
	comp=Z,290nm,20.7s,baz=93,slow=33								
JOW	**Kunigami**	**16.99**	**7**				**P**	**02 47 49.9**	**-0.4**
QIZ	**Qiongzhong**	**18.17**	**302**	P			**Pn**	**02 48 04.0**	**+0.3**
QIZ				S			**Sn**	**02 51 26.5**	**+0.6**
QIZ				pmax			pmax		
	comp=Z,29nm,0.8s								
QIZ				pmax			pmax		
	comp=Z,310nm,2.9s								
QIZ				LR			LR		
	comp=Z,380nm,15.8s								
QIZ				LR			LR		
	comp=Z,550nm,19.6s								
QIZ	**Qiongzhong**	**18.17**	**302**	P			**P**	**02 48 01.8**	**-1.5**
SAUI	**Saumlaki**	**18.48**	**164**	P			**P**	**02 48 06.8**	**0.0**
SAUI				IAmb			IAmb	02 48 16.5	
	comp=Z,93nm,0.6s								
SAUI	**Saumlaki**	**18.48**	**164**	P			**Pn**	**02 48 08.0**	**+0.5**
	comp=Z,131nm,0.8s,comp=Z,8μm								
GUMO	**Guam**	**18.74**	**77**	LR			LR	02 53 47.7	
	comp=Z,331nm,21.3s,baz=252,slow=31								
SOEI	**Soe**	**19.59**	**185**	P			**P**	**02 48 19.4**	**+0.4**
SOEI	**Soe**	**19.59**	**185**	P			**Pn**	**02 48 21.6**	**+0.8**
	comp=Z,93nm,0.9s								
BATI	**Baumata**	**20.10**	**187**	P			Pn	02 48 26.7	0.0
	comp=Z,121nm,1.0s,baz=312,slow=1.1,SNR=9.2								
BATI				LR			LR	02 57 33.7	
	comp=Z,261nm,21.9s,baz=324,slow=41 comp=Z,121nm,1.0s								
BATI	**Baumata**	**20.10**	**187**	P			Pn	02 48 26.9	+0.2
	comp=Z,193nm,1.0s								
PLAI	**Plampang**	**20.35**	**204**	P			Pn	02 48 30.8	+1.2
TWSI	**Taliwang, Sumb**	**20.65**	**207**	P			Pn	02 48 32.0	-1.2
	comp=Z,46nm,1.4s								
JCJ	**Chichijima**	**22.89**	**39**	P			**P**	**02 48 57.4**	**+3.1**
	comp=Z,50nm,0.7s,baz=284,slow=12,SNR=5.1								
JCJ				LR			LR	02 56 01.9	
	comp=Z,189nm,21.9s,baz=278,slow=31 comp=Z,50nm,0.7s								
JCJ	**Chichijima**	**22.89**	**39**	P			**P**	**02 48 53.0**	**-1.2**
JCJ				IAmb			IAmb	02 48 56.5	
	comp=Z,157nm,1.2s								
JCJ	**Chichijima**	**22.89**	**39**	P			**P**	**02 48 55.2**	**+0.9**
NJ2	**Nanjing**	**23.06**	**344**	⇓P			**P**	**02 48 57.0**	**+1.0**
NJ2				pmax			pmax		
	comp=Z,38nm,0.7s								
MTN	**Manton Dam**	**23.12**	**167**	P			**P**	**02 48 57.4**	**+0.7**
	baz=23,SNR=11								
MTN	**Manton Dam**	**23.12**	**167**	P			**P**	**02 48 56.0**	**-0.7**
KDU	**Kakadu**	**23.29**	**164**	P			**P**	**02 48 58.6**	**+0.3**
	baz=23,SNR=19								
WHN	**Wuhan**	**23.30**	**334**	⇓P			**P**	**02 48 59.0**	**+0.8**
WHN				pmax			pmax		
	comp=Z,190nm,0.6s								
MYKOM	**Kota Tinggi**	**23.53**	**251**	P			**P**	**02 49 00.3**	**-0.3**
MYKOM				IAmb			IAmb	02 49 05.3	
	comp=Z,45nm,0.9s								
JNU	**Nakatsue**	**23.55**	**10**	P			**P**	**02 49 02.4**	**+1.8**
	comp=Z,28nm,1.0s,baz=195,slow=6.7,SNR=3.9								
JNU				LR			LR	02 57 12.2	
	comp=Z,152nm,21.8s,baz=178,slow=34 comp=Z,28nm,1.0s								
GYA	**Guiyang**	**24.70**	**314**	P			**P

comp=Z,23nm,0.8s
CHTO Chiang Mai 27.74 292 P **P** **02 49 38.4 -0.3**
CHTO PcP **PcP** **02 52 54.5 0.0**
CHTO Chiang Mai 27.74 292 P **P** **02 49 38.4 -0.3**
CHTO 02 52 54.5
CHTO pmax pmax
comp=Z,1.0nm,0.9s
FITZ Fitzroy Crossi 27.80 181 P **P** **02 49 39.3 +0.1**
PSI Prapat 27.89 257 P **P** **02 49 40.1 -0.2**
comp=Z,6.0nm,0.4s,baz=172,slow=11,SNR=2.4
PSI PcP **PcP** **02 52 53.9 -1.2**
comp=Z,2.9nm,0.4s,baz=333,slow=2.3,SNR=4.2
PSI LR LR 03 03 32.7
comp=Z,200nm,18.7s,baz=96,slow=42
comp=Z,6.0nm,0.4s
RPSI Rantau Prapat 27.92 257 P **P** **02 49 40.1 -0.3**
RPSI PcP **PcP** **02 52 53.9 -1.1**
PZH PanZhiHua 28.35 309 P **P** **02 49 44.3 0.0**
PZH S **S** **02 54 23.5 -3.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,150nm,4.8s
PZH LR LR
comp=Z,490nm,21.2s
PZH LR LR
comp=Z,650nm,22.9s
PZH LR LR
comp=Z,900nm,22.4s
PMG Port Moresby 28.39 132 P **P** **02 49 44.9 +0.3**
comp=Z,20nm,0.9s,baz=345,slow=11,SNR=3.3
comp=Z,20nm,0.9s
PMG Port Moresby 28.39 132 P **P** **02 49 44.5 -0.1**
PMG Port Moresby 28.39 132 *ce*P **P** **02 49 45.3 +0.7**
PMG pmax pmax
comp=Z,18nm,0.8s
MJAR Matsushiro Arr 28.73 21 P **P** **02 49 47.4 +0.1**
comp=Z,2.6nm,0.6s,baz=195,slow=9.1,SNR=4.5
MJAR LR LR 03 01 13.5
comp=Z,174nm,19.5s,baz=204,slow=36
comp=Z,2.6nm,0.6s
XAN Xi'an 28.75 329 ⇑P **P** **02 49 46.5 -1.1**
XAN PcP **PcP** **02 52 57.3 +0.6**
XAN pmax pmax
comp=Z,69nm,0.8s
DL2 Dalian 29.18 353 P **P** **02 49 52.8 +1.5**
DL2 pmax pmax
comp=Z,57nm,0.8s
HNS HongShan 29.27 341 ⇑P **P** **02 49 52.5 +0.4**
HNS pmax pmax
comp=Z,57nm,1.0s
CD2 Chengdu 29.49 318 P **P** **02 49 53.5 -0.7**
CD2 S **S** **02 54 43.5 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=Z,430nm,16.2s
CD2 LR LR
comp=Z,610nm,15.7s
GSI Gunungsitoli 29.61 255 P **P** **02 49 55.7 +0.2**
GSI IAmb IAmb 02 49 58.4
comp=Z,30nm,0.8s
GSI PcP **PcP** **02 52 59.1 -0.1**
GSI Gunungsitoli 29.61 255 P **P** **02 49 56.3 +0.8**
comp=Z,25nm,0.5s,comp=Z,8µm
TNCH TengChong 30.23 303 *e*P **P** **02 50 01.3 +0.3**
TNCH pP pP 02 50 17.0 +1.7
TNCH pmax pmax
comp=Z,12nm,0.6s
TIY Taiyuan 30.33 338 *e*P **P** **02 50 02.3 +0.7**
TIY pmax pmax
comp=Z,23nm,0.7s
WB0 Warramunga Arr 30.57 165 P **P** **02 50 03.3 -0.5**
WRAB Tennant Creek 30.72 165 P **P** **02 50 04.8 -0.3**
WRAB Tennant Creek 30.72 165 *ce*P **P** **02 50 03.9 -1.2**
WRAB pmax pmax
comp=Z,26nm,2.5s
WRAB Tennant Creek 30.72 165 P **P** **02 50 04.5 -0.6**
WRAB pP **pP** **02 50 15.7 -3.6**
WRA Warramunga Arr 30.72 165 P **P** **02 50 04.6 -0.5**
comp=Z,7.1nm,1.1s,baz=340,slow=10.0,SNR=20
WRA PcP **PcP** **02 53 02.5 +0.6**
comp=Z,3.4nm,0.9s,baz=345,slow=3.0,SNR=5.6
WRA S **S** **02 54 56.0 -8.2**
comp=Z,1.7nm,1.0s,baz=339,slow=15,SNR=3.2
WRA ScP **ScP** **02 56 37.4 -2.5**
comp=Z,0.8nm,0.7s,baz=350,slow=3.6,SNR=4.8
WRA LR LR 03 04 40.6
comp=Z,109nm,20.2s,baz=336,slow=40
comp=Z,7.1nm,1.1s
WRA Warramunga Arr 30.72 165 P **P** **02 50 04.2 -0.9**
WB2 Warramunga Arr 30.73 165 P **P** **02 50 04.5 -0.6**
WR0 Warramunga Arr 30.79 164 P **P** **02 50 04.9 -0.8**
BJT Baijiatuau 31.29 345 P **P** **02 50 09.4 -0.5**
BJT IAmb IAmb 02 50 11.7
comp=Z,59nm,1.4s
BJT Baijiatuau 31.29 345 P **P** **02 50 09.4 -0.5**
BJT pmax pmax
comp=Z,59nm,1.4s
BJT Baijiatuau 31.29 345 P **P** **02 50 10.5 +0.6**
BJI Beijing 31.31 345 P **P** **02 50 10.5 +0.4**
BJI pP **pP** **02 50 26.0 +1.9**
BJI sP **sP** **02 50 32.5 +1.8**
BJI pmax pmax
comp=Z,14nm,1.0s
MBWA Marble Bar 31.47 191 P **P** **02 50 10.3 -1.4**
MBWA IAmb IAmb 02 50 23.6
comp=Z,47nm,1.2s
MBWA Marble Bar 31.47 191 P **P** **02 50 13.5 +1.8**
MBWA Marble Bar 31.47 191 P **P** **02 50 13.6 +1.8**
MBWA pP **pP** **02 50 24.7 -1.3**
PSA00 Pilbara Seismi 31.85 191 P **P** **02 50 14.4 -0.6**
PSA00 IAmb IAmb 02 50 27.1
comp=Z,35nm,1.1s
SNY Shenyang 31.90 356 ⇓P **P** **02 50 16.8 +1.6**
SNY pmax pmax
comp=Z,130nm,0.9s
LZH Lanzhou 33.00 326 *e*P **P** **02 50 25.5 +0.3**
LZH PcP **PcP** **02 53 09.5 +1.4**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH LR LR
comp=Z,410nm,17.5s
LZH LR LR
comp=Z,320nm,18.5s
LZH LR LR
comp=Z,350nm,17.8s
QIS Mount Isa 33.03 156 P **P** **02 50 25.4 0.0**
baz=33,SNR=12
QIS Mount Isa 33.03 156 P **P** **02 50 25.9 +0.5**
MTSU Mount Surprise 33.14 147 P **P** **02 50 24.5 -1.9**
baz=33,SNR=5.4
HHC Hu-ho-hao-te 33.42 340 *e*P **P** **02 50 29.8 +1.0**
HHC pmax pmax
comp=Z,96nm,1.0s
HHC pmax pmax
comp=Z,230nm,5.6s
HHC LR LR
comp=Z,280nm,9.8s
HHC LR LR
comp=Z,290nm,5.3s
HHC LR LR
comp=Z,350nm,14.7s
CN2 Changchun 33.80 359 P **P** **02 50 32.5 +0.7**
CN2 pmax pmax
comp=Z,20nm,0.6s
AS31 Alice Springs 34.20 167 P **P** **02 50 35.2 -0.3**
ASAR Alice Springs 34.20 167 P **P** **02 50 34.8 -0.8**
comp=Z,14nm,0.3s,baz=345,slow=7.4,SNR=25
ASAR PcP **PcP** **02 53 11.8 +0.3**
comp=Z,5.2nm,0.8s,baz=344,slow=2.5,SNR=8.2
ASAR S **S** **02 55 56.0 -2.3**
comp=Z,2.6nm,0.8s,baz=347,slow=12,SNR=6.1
ASAR LR LR 03 05 13.7
comp=Z,140nm,21.7s,baz=340,slow=37
comp=Z,14nm,0.3s
AS01 Alice Springs 34.21 167 P **P** **02 50 36.3 +0.7**
USA0B Ussuriysk Arra 34.57 7 P **P** **02 50 39.2 +0.7**
USA0B IAmb IAmb 02 50 41.1
comp=Z,22nm,0.8s
USA0B Ussuriysk Arra 34.57 7 P **P** **02 50 39.2 +0.7**
USA0B pmax pmax
comp=Z,22nm,0.9s
USRK Ussuriysk Ar. 34.57 7 P **P** **02 50 39.6 +1.1**
comp=Z,13nm,0.6s,baz=186,slow=7.5,SNR=34
USRK PcP **PcP** **02 53 12.1 0.0**
comp=Z,1.7nm,0.6s,baz=168,slow=6.6,SNR=4.8
USRK LR LR 03 03 04.2
comp=Z,139nm,21.7s,baz=172,slow=33
comp=Z,13nm,0.6s
MDJ Mudanjiang 34.74 4 P **P** **02 50 42.3 +2.3**
MDJ pmax pmax
comp=Z,38nm,0.9s
MDJ pmax pmax
comp=Z,220nm,3.5s
MDJ Mudanjiang 34.74 4 P **P** **02 50 41.2 +1.2**
MDJ IAmb IAmb 02 50 43.4
comp=Z,34nm,1.0s
MDJ Mudanjiang 34.74 4 P **P** **02 50 41.9 +1.9**
WRKA Warakurna 34.77 177 P **P** **02 50 40.9 +0.4**
baz=35,SNR=31
WRKA Warakurna 34.77 177 P **P** **02 50 41.8 +1.3**
XLT XiLinHaoTe 34.99 347 *e*P **P** **02 50 42.5 +0.2**
XLT pP pP 02 50 59.0 +2.5
XLT sP sP 02 51 11.5 +8.4
XLT PP **PP** **02 52 04.8 +2.2**
XLT pmax pmax
comp=Z,56nm,0.7s
XLT pmax pmax
comp=Z,130nm,5.3s
BRDH Bariadhala 35.34 295 LR LR 03 06 18.9
comp=Z,237nm,19.6s,baz=89,slow=38
BNX BinXian 35.75 2 ⇑P **P** **02 50 49.0 +0.4**
BNX pmax pmax
comp=Z,45nm,0.7s
BNX pmax pmax
comp=Z,150nm,4.7s
CTA Charters Tower 35.78 146 LR LR 03 07 30.4
comp=Z,67nm,20.8s,baz=298,slow=39
ASAJ Asahikawa 36.99 20 P **P** **02 51 01.2 +2.0**
comp=Z,11nm,0.7s,baz=231,slow=13,SNR=8.1
ASAJ LR LR 03 06 12.6
comp=Z,110nm,19.9s,baz=181,slow=36
comp=Z,11nm,0.7s
JKA Kamikawa-asahi 36.99 20 P **P** **02 50 59.4 +0.2**
JKA IAmb IAmb 02 51 02.4
comp=Z,15nm,0.9s
MEEK Meekatharra 37.02 191 P **P** **02 50 59.8 +0.1**
baz=37,SNR=6.8
MEEK Meekatharra 37.02 191 P **P** **02 51 00.1 +0.4**
GTA Gaotai 37.61 326 ⇑P **P** **02 51 04.5 -0.2**
GTA PcP **PcP** **02 53 22.0 +0.5**
GTA pmax pmax
comp=Z,18nm,0.6s
GTA pmax pmax
comp=Z,75nm,4.7s
GTA LR LR
comp=Z,130nm,17.5s
GTA LR LR
comp=Z,160nm,18.5s
GTA LR LR
comp=Z,320nm,17.8s
LSA Lhasa 38.12 306 P **P** **02 51 09.4 -0.2**
LSA Lhasa 38.12 306 P **P** **02 51 09.4 -0.2**
LSA pmax pmax
comp=Z,10.0nm,0.9s
OOD Oodnadatta 38.58 166 P **P** **02 51 13.4 +0.6**
GOMU GeErMu 38.62 318 P **P** **02 51 13.0 -0.5**
GOMU pmax pmax
comp=Z,6.0nm,1.2s
GOMU pmax pmax
comp=Z,80nm,5.1s
GOMU LR LR
comp=Z,170nm,19.6s
GOMU LR LR
comp=Z,260nm,21.0s
GOMU LR LR
comp=Z,490nm,21.1s
HNR Honiara 38.77 119 LR LR 03 05 11.6
comp=Z,1µm,21.4s,baz=314,slow=33
KLR Kul'dur 39.51 6 *ce*P **P** **02 51 20.7 +0.4**
KLR pmax pmax
comp=Z,32nm,1.3s
YSS Yuzh-Sakhalins 39.57 18 *e*P **P** **02 51 22.3 +1.5**
YSS *e* 02 51 31.9
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,17.0s
HIA Hailar 39.62 353 P **P** **02 51 20.8 -0.6**
HIA IAmb IAmb 02 51 22.9
comp=Z,16nm,0.8s
HIA Hailar 39.62 353 *i* P **P** **02 51 21.4 +0.1**
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 39.62 353 P **P** **02 51 22.2 +0.8**
MORW Morawa 39.92 194 P **P** **02 51 25.8 +1.8**
baz=40,SNR=4.7
MORW Morawa 39.92 194 P **P** **02 51 24.9 +0.9**
MORW IAmb IAmb 02 52 56.4
comp=Z,86nm,1.8s
MORW Morawa 39.92 194 P **P** **02 51 25.8 +1.8**
TAPN Taplejung 40.11 301 *e*P **P** **02 51 25.7 -0.3**
comp=Z,24nm,0.4s
ODAN Odare 40.23 300 *e*P **P** **02 51 26.7 -0.3**
comp=Z,10nm,0.6s
HEH HeiHe 40.27 1 *e*P **P** **02 51 27.5 +0.9**
HEH pmax pmax
comp=Z,51nm,1.0s
HEH pmax pmax
comp=Z,150nm,4.0s
FORT Forrest 40.47 177 P **P** **02 51 30.0 +1.5**
baz=41,SNR=44
FORT Forrest 40.47 177 P **P** **02 51 27.7 -0.8**
FORT Forrest 40.47 177 P **P** **02 51 29.7 +1.2**
H11N1 WAKE ISLAND Hy 40.54 71 T T 03 34 52.1
baz=264,slow=74,SNR=355
H11N2 WAKE ISLAND Hy 40.54 71 T T 03 34 52.6
baz=264,slow=74,SNR=200
H11N3 WAKE ISLAND Hy 40.55 71 T T 03 34 52.0
baz=264,slow=74,SNR=352
MULG Mulgathing 40.66 169 P **P** **02 51 31.2 +1.2**
RAMN Ramite 40.93 300 *e*P **P** **02 51 33.2 +0.4**
comp=Z,35nm,0.6s
ULN Ulaanbaatar 41.13 340 P **P** **02 51 33.7 -0.3**
ULN IAmb IAmb 02 51 35.6
comp=Z,30nm,1.1s
ULN Ulaanbaatar 41.13 340 *ce*P **P** **02 51 34.5 +0.5**
ULN pmax pmax
comp=Z,31nm,1.0s
ULN Ulaanbaatar 41.13 340 P P 02 51 29.1 -4.9
ULN Ulaanbaatar 41.13 340 P **P** **02 51 34.4 +0.5**
ULN pP **pP** **02 51 46.2 -2.5**
ULN ScP **ScP** **02 57 18.8 +1.1**
KMBL Kambalda 41.21 185 P **P** **02 51 36.0 +1.4**
baz=42,SNR=7.0
KMBL Kambalda 41.21 185 P **P** **02 51 36.0 +1.4**
SONM Songino Array 41.33 340 P **P** **02 51 35.7 +0.2**
comp=Z,5.5nm,0.6s,baz=155,slow=9.6,SNR=47
SONM PcP **PcP** **02 53 33.6 +0.5**
comp=Z,3.0nm,0.7s,baz=170,slow=3.5,SNR=4.7
SONM ScP **ScP** **02 57 18.3 -0.1**
comp=Z,1.5nm,0.8s,baz=166,slow=2.0,SNR=7.5
SONM LR LR 03 10 31.0
comp=Z,128nm,19.0s,baz=190,slow=38
comp=Z,5.5nm,0.6s
SONM Songino Array 41.33 340 P **P** **02 51 34.8 -0.7**
SONM PcP **PcP** **02 53 33.3 +0.2**
JIRN Jiri 41.49 301 *e*P **P** **02 51 37.3 -0.2**
comp=Z,51nm,0.4s
GRNR Gornyy 41.65 10 ⇑*i*P **P** **02 51 39.8 +1.8**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,250nm,16.0s
GRNR MLR MLR
comp=N,200nm,17.0s
GRNR MLR MLR
comp=Z,180nm,19.0s
LCRK Leigh Creek 41.75 164 P **P** **02 51 40.0 +1.0**
GUN Gumba 41.82 301 *e*P **P** **02 51 39.7 -0.5**
comp=Z,67nm,0.6s
KLBR Kellerberrin 42.00 191 P **P** **02 51 42.2 +1.1**
baz=42,SNR=9.8
KLBR Kellerberrin 42.00 191 P **P** **02 51 41.8 +0.7**
PKI Pulchoki 42.12 300 *e*P **P** **02 51 42.2 -0.4**
comp=Z,28nm,0.6s
PKIN Phulchoki 42.14 300 *e*P **P** **02 51 42.1 -0.6**
comp=Z,32nm,0.6s
TYV Tymovskoe 43.08 15 *e*P **P** **02 51 52.0 +2.4**
TYV *e*S **S** **02 58 16.5 +5.1**
TYV pmax pmax
comp=Z,10.0nm,0.6s
TYV pmax pmax
comp=Z,100nm,2.4s
TYV smax smax
comp=E,200nm,5.3s
NWAO Narrogin (SRO) 43.40 191 LR LR 03 12 51.0
comp=E,32nm,19.1s,slow=40
NWAO Narrogin (SRO) 43.40 191 P **P** **02 51 53.9 +1.6**
baz=44,SNR=9.3
NWAO P **P** **02 51 53.9 +1.6**
baz=44,SNR=9.3
NWAO Narrogin (SRO) 43.40 191 P **P** **02 51 52.6 +0.2**
NWAO IAmb IAmb 02 52 05.5
comp=Z,26nm,0.9s
NWAO Narrogin (SRO) 43.40 191 P **P** **02 51 52.6 +0.2**
NWAO pmax pmax
comp=Z,26nm,1.0s
NWAO Narrogin (SRO) 43.40 191 P **P** **02 51 53.7 +1.3**
NWAO pP **pP** **02 52 04.8 -2.4**
BBOO Buckleboo 43.50 168 P **P** **02 51 54.4 +1.2**
baz=44,SNR=29
BBOO Buckleboo 43.50 168 P **P** **02 51 53.6 +0.4**
BBOO Buckleboo 43.50 168 P **P** **02 51 54.2 +1.0**
KOLN Koldanda 43.72 300 *e*P **P** **02 51 55.0 -0.4**
comp=Z,5.2nm,0.7s
DANN Dangsing 43.74 301 *e*P **P** **02 51 54.9 -0.8**
comp=Z,45nm,0.6s
ZEA Zeya 43.75 1 *e*P **P** **02 51 55.5 +0.6**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.7s
STKA Stephens Creek 44.09 161 P **P** **02 51 59.0 +1.1**
comp=Z,7.2nm,0.6s,baz=334,slow=8.5,SNR=12
STKA LR LR 03 12 36.6
comp=Z,28nm,20.9s,baz=14,slow=39
comp=Z,7.2nm,0.6s
STKA Stephens Creek 44.09 161 P **P** **02 51 59.1 +1.1**
baz=44,SNR=15
STKA Stephens Creek 44.09 161 P **P** **02 51 58.5 +0.6**
STKA Stephens Creek 44.09 161 P **P** **02 51 59.1 +1.1**
ZAK Zakamensk 44.57 339 *e*P **P** **02 52 00.5 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
HTT Hallett 44.76 165 P **P** **02 52 04.8 +1.4**
baz=45,SNR=12
HTT Hallett 44.76 165 P **P** **02 52 04.7 +1.4**
RKGY Rocky Gully 45.08 191 P **P** **02 52 08.2 +2.4**
baz=45,SNR=6.9
CMSA Cobar Meteorol 45.26 156 P **P** **02 52 08.1 +0.9**
baz=46,SNR=8.5
MOY Mondy 46.45 339 *e*P **P** **02 52 17.1 +0.6**
MOY pmax pmax
comp=Z,25nm,1.8s
HYB Hyderabad 46.71 285 *e*P **P** **02 52 19.4 +0.3**
HYB IVmB_BB 02 52 20.2
comp=Z,201nm,0.5s
WMQ Urumqi 47.43 322 ⇓*i*P **P** **02 52 24.0 -0.3**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=Z,110nm,20.3s
ARPS Mount Arapiles 48.70 163 P **P** **02 52 35.5 +1.4**
baz=49,SNR=9.1
ARPS Mount Arapiles 48.70 163 P **P** **02 52 35.4 +1.4**
BOD Bodaibo 48.73 351 *e*P **P** **02 52 34.6 +0.6**
BOD pmax pmax
comp=Z,20nm,1.4s
PCHI Peechi 48.93 275 *e*P **P** **02 52 37.6 +1.4**
CAN Canberra 49.90 155 P **P** **02 52 43.1 -0.1**
CAN IAmb IAmb 02 52 47.4
comp=Z,25nm,1.0s
CAN Canberra 49.90 155 P **P** **02 52 43.1 -0.1**
CAN pmax pmax
comp=Z,25nm,1.0s
CAN Canberra 49.90 155 P **P** **02 52 45.4 +2.1**
CAN pP **pP** **02 52 56.0 -2.2**
PETK Petropavlovsk- 50.06 24 P **P** **02 52 45.8 +1.6**
comp=Z,6.8nm,0.5s,baz=208,slow=6.4,SNR=10
PETK LR LR 03 13 27.2
comp=Z,67nm,21.1s,baz=215,slow=35
comp=Z,6.8nm,0.5s
PET Petropavlovsk 50.39 25 *ce*P **P** **02 52 46.1 -0.6**
PET pmax pmax
comp=Z,94nm,2.5s
TOO Toolangi 50.58 160 P **P** **02 52 50.6 +2.3**
baz=51,SNR=4.2
TOO Toolangi 50.58 160 P **P** **02 52 49.9 +1.5**
TOO IAmb IAmb 02 53 02.4
comp=Z,31nm,1.2s
TOO Toolangi 50.58 160 P **P** **02 52 49.9 +1.5**
TOO pmax pmax
comp=Z,31nm,1.2s
LIFNC LIFOU 50.63 127 P **P** **02 52 48.7 -0.2**
LIFNC LIFOU 50.63 127 P **P** **02 52 49.9 +0.9**
DZM Mont Dzumac 50.73 129 *e*P **P** **02 52 52.2 +2.4**
comp=Z,50nm,1.1s
DZM Mont Dzumac 50.73 129 *e*SS **SS** **03 03 38.0 +1.2**
comp=Z,100nm,23.9s
DZM *e*LR LR 03 07 28.8
comp=Z,384nm,26.5s
DZM Mont Dzumac 50.73 129 P **P** **02 52 51.4 +1.5**
comp=Z,21nm,0.9s,baz=301,slow=5.9,SNR=6.8
DZM LR LR 03 14 24.8
comp=Z,32nm,18.7s,baz=29,slow=36
comp=Z,21nm,0.9s
DZM Mont Dzumac 50.73 129 P **P** **02 52 50.0 +0.2**
DZM Mont Dzumac 50.73 129 P **P** **02 52 52.9 +3.1**
DZM pP **pP** **02 53 03.1 -1.5**
DGZ Jazzator, Alta 51.01 329 *i* P **P** **02 52 50.7 -1.0**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
ZSN Zaisan 51.09 325 *e*P **P** **02 52 51.2 -1.0**
baz=325
ZSN Zaisan 51.09 325 *e*P **P** **02 52 51.1 -1.0**
WUS Wushi 51.68 315 P **P** **02 52 56.5 -0.3**
YAK Yakutsk 52.12 2 LR LR 03 17 54.3
comp=Z,59nm,18.8s,baz=266,slow=39
YAK Yakutsk 52.12 2 P **P** **02 52 59.7 +0.2**
YAK Yakutsk 52.12 2 *ce*P **P** **02 53 00.1 +0.6**
YAK pmax pmax
comp=Z,93nm,0.8s
YAK Yakutsk 52.12 2 P **P** **02 53 00.3 +0.8**
MK31 Makanchi Array 52.24 323 P **P** **02 52 60.0 -0.8**
MK31 IAmb IAmb 02 53 01.3
comp=Z,18nm,0.7s
MK31 **PcP** **02 54 10.9 -0.6**
MK31 Makanchi Array 52.24 323 *i* P **P** **02 52 59.9 -0.8**
MK31 pmax pmax
comp=Z,21nm,0.6s
MKAR Makanchi Array 52.24 323 P **P** **02 53 00.5 -0.3**
comp=Z,24nm,0.7s,baz=122,slow=8.1,SNR=234
MKAR PcP **PcP** **02 54 11.7 +0.1**
comp=Z,6.6nm,0.8s,baz=103,slow=4.3,SNR=4.9
MKAR ScP **ScP** **02 58 01.7 -2.2**
comp=Z,1.0nm,0.8s,baz=116,slow=5.5,SNR=4.3
MKAR LR LR 03 16 37.9
comp=Z,192nm,21.4s,baz=143,slow=38
comp=Z,24nm,0.7s
SHLS Shalkode 52.32 318 *e*P **P** **02 52 58.4 -3.2**
baz=318
SHLS Shalkode 52.32 318 *e*P **P** **02 52 58.3 -3.2**
MAKZ Makanchi 52.43 323 P **P** **02 53 01.0 -1.1**
MAKZ IAmb IAmb 02 53 02.7
comp=Z,18nm,0.9s
MAKZ Makanchi 52.43 323 P **P** **02 53 01.0 -1.1**
MAKZ pmax pmax
comp=Z,18nm,1.0s
MAKZ Makanchi 52.43 323 P **P** **02 53 01.7 -0.4**
MAKZ ScP **ScP** **02 58 05.0 +0.3**
UZB Uzynbulak 52.61 318 *e*P **P** **02 53 02.5 -1.3**
comp=Z,4.7nm,0.6s,baz=318
UZB Uzynbulak 52.61 318 *e*P **P** **02 53 02.4 -1.3**
UZB pmax pmax
comp=Z,5.0nm,0.6s
TARG Taragay, Kyrgy 52.86 315 P **P** **02 53 04.1 -1.8**
TARG Taragay, Kyrgy 52.86 315 P **P** **02 53 04.1 -1.8**
TARG pmax pmax
comp=Z,5.0nm,0.7s
MA2 Magadan 52.95 15 LR LR 03 14 55.5
comp=Z,25nm,21.6s,baz=189,slow=35
MA2 Magadan 52.95 15 P **P** **02 53 05.2 -0.5**
MA2 IAmb IAmb 02 53 08.2
comp=Z,15nm,0.7s
MA2 **PcP** **02 54 14.7 +0.8**
MA2 Magadan 52.95 15 *ce*P **P** **02 53 06.9 +1.2**

MA2 pmax pmax
comp=Z,14nm,0.6s
MA2 Magadan 52.95 15 P **P** **02 53 07.3 +1.6**
KPKS Kokpek 52.97 318 *e*P **P** **02 53 05.1 -1.1**
baz=318
KPKS Kokpek 52.97 318 *e*P **P** **02 53 05.1 -1.1**
SATY Saty 52.98 317 *e*P **P** **02 53 05.7 -0.7**
comp=Z,6.5nm,0.9s,baz=317
SATY Saty 52.98 317 *e*P **P** **02 53 05.7 -0.7**
SATY pmax pmax
comp=Z,7.0nm,0.9s
KSH Kashi 53.37 312 P **P** **02 53 10.0 +0.7**
KSH pmax pmax
comp=Z,6.0nm,1.3s
NIL Nilore 53.82 305 P **P** **02 53 11.0 -1.6**
NIL Nilore 53.82 305 P **P** **02 53 11.0 -1.6**
NIL pmax pmax
comp=Z,34nm,0.8s
NIL Nilore 53.82 305 P **P** **02 53 10.8 -1.7**
NIL Nilore 53.82 305 P **P** **02 53 12.3 -0.2**
NIL pP **pP** **02 53 23.2 -4.6**
NIL sP **sP** **02 53 27.6 -6.8**
MDOK Medeo 53.94 317 *e*P **P** **02 53 12.6 -0.8**
baz=317
MDOK Medeo 53.94 317 *e*P **P** **02 53 12.6 -0.8**
TNSS Tian-Shan 53.96 317 *e*P **P** **02 53 13.7 -0.2**
baz=317
TNSS Tian-Shan 53.96 317 *e*P **P** **02 53 13.6 -0.3**
CHKK Chushkaly 54.25 318 *e*P **P** **02 53 14.3 -1.2**
baz=318
CHKK Chushkaly 54.25 318 *e*P **P** **02 53 14.3 -1.2**
KUU Kurty 54.70 317 *e*P **P** **02 53 17.7 -1.1**
comp=Z,15nm,0.8s,baz=318
KUU Kurty 54.70 317 *e*P **P** **02 53 17.7 -1.1**
KUU pmax pmax
comp=Z,15nm,0.8s
ZAA0 Zalesovo Array 54.89 332 P **P** **02 53 18.6 -1.4**
ZAA0 IAmb IAmb 02 53 19.8
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 54.89 332 P **P** **02 53 18.9 -0.9**
comp=Z,15nm,0.6s,baz=123,slow=7.1,SNR=55
ZALV LR LR 03 19 13.6
comp=Z,122nm,18.1s,baz=124,slow=39
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 54.89 332 P **P** **02 53 19.0 -0.9**
KBK Karagaybulak 55.18 316 P **P** **02 53 22.7 +0.2**
SNR=8.2
SEM Semipalatinsk 55.24 326 *e*P **P** **02 53 21.0 -1.9**
baz=326
SEM Semipalatinsk 55.24 326 *e*P **P** **02 53 20.9 -1.9**
UCH Uchtor 55.33 315 P **P** **02 53 24.4 +0.4**
SNR=26
AAK Ala-Archa 55.49 315 LR LR 03 20 44.6
comp=Z,83nm,18.2s,baz=98,slow=40
AAK Ala-Archa 55.49 315 P **P** **02 53 23.6 -1.1**
AAK Ala-Archa 55.49 315 *i* P **P** **02 53 25.1 +0.4**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 55.49 315 P **P** **02 53 24.7 +0.1**
SGDS Sogindy 55.68 316 *e*P **P** **02 53 24.6 -1.3**
baz=316
SGDS Sogindy 55.68 316 *e*P **P** **02 53 24.6 -1.3**
USP Ospenovka 55.70 316 P **P** **02 53 25.9 -0.2**
SNR=9.9
AML Almayashu 55.87 315 P **P** **02 53 28.0 +0.2**
SNR=17
NFK Norfolk Island 55.91 135 P **P** **02 53 29.8 +2.2**
baz=56,SNR=4.5
EKS2 Erkin-Say 55.99 315 P **P** **02 53 28.5 +0.3**
SNR=11
SEY Seymchan 56.24 14*ce*P **P** **02 53 31.5 +2.0**
SEY pmax pmax
comp=Z,33nm,1.7s
KURK Kurchatov 56.30 326 P **P** **02 53 29.0 -1.1**
KURK Kurchatov 56.30 326*ce*P **P** **02 53 29.5 -0.6**
KURK pmax pmax
comp=Z,34nm,0.7s
KURK Kurchatov 56.30 326 P **P** **02 53 27.0 -3.1**
KURK Kurchatov 56.30 326 P **P** **02 53 29.7 -0.4**
KURBB Kurchatov Arra 56.30 326 LR LR 03 19 22.3
comp=Z,70nm,20.9s,baz=165,slow=38
BTLS Baital 56.65 318 *e*P **P** **02 53 31.4 -1.4**
comp=Z,3.4nm,0.5s,baz=318
BTLS Baital 56.65 318 *e*P **P** **02 53 31.3 -1.4**
BTLS pmax pmax
comp=Z,3.0nm,0.5s
GAR Garm 57.41 310 P **P** **02 53 37.2 -1.2**
GAR IAmb IAmb 02 53 38.8
comp=Z,40nm,1.2s
KBL Kabul 57.42 305 P **P** **02 53 36.8 -1.8**
KBL IAmb IAmb 02 53 39.0
comp=Z,14nm,0.6s
KBL Kabul 57.42 305 P **P** **02 53 36.8 -1.8**
KBL pmax pmax
comp=Z,14nm,0.6s
SHEM Shemya Is, Ala 57.57 32 LR LR 03 12 36.8
comp=Z,77nm,21.8s,baz=302,slow=30
DZA Taraz 57.77 315 *e*P **P** **02 53 39.6 -1.1**
comp=Z,4.7nm,0.5s,baz=315
DZA Taraz 57.77 315 *e*P **P** **02 53 39.6 -1.1**
DZA pmax pmax
comp=Z,5.0nm,0.5s
MSVF Nonsavu 58.18 118 LR LR 03 19 18.1
comp=Z,70nm,18.1s,baz=336,slow=36
CHGR Chuyangaron 58.21 309 P **P** **02 53 42.3 -1.7**
CHGR Chuyangaron 58.21 309 P **P** **02 53 42.3 -1.7**
CHGR pmax pmax
comp=Z,23nm,0.7s
KK31 Karatay Array 58.41 315 P **P** **02 53 44.7 -0.5**
KK31 IAmb IAmb 02 53 45.1
comp=Z,6.6nm,0.6s
KK31 Karatay Array 58.41 315 P **P** **02 53 44.7 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 58.41 315 P **P** **02 53 44.4 -0.8**
KKAR Karatay Array 58.41 315 P **P** **02 53 44.4 -0.8**
IUG luzhnay 58.47 314 *e*P **P** **02 53 45.0 -0.7**
baz=314
IUG luzhnay 58.47 314 *e*P **P** **02 53 45.0 -0.7**
OTUK Ortayu 58.93 321 P **P** **02 53 47.6 -1.1**
TIXI Tiksi 61.74 1 LR LR 03 21 36.7
comp=Z,67nm,22.0s,baz=178,slow=37
TIXI Tiksi 61.74 1 P **P** **02 54 07.4 0.0**
TIXI Tiksi 61.74 1 P **P** **02 54 07.4 0.0**
TIXI pmax pmax
comp=Z,53nm,0.8s
TIXI Tiksi 61.74 1 P **P** **02 54 08.0 +0.5**
BVA0 Borovoye Array 61.89 326 *i* P **P** **02 54 08.2 -0.6**
BRVK Borovoye 61.96 326 P **P** **02 54 08.1 -1.2**
BRVK IAmb IAmb 02 54 09.7
comp=Z,17nm,0.8s
BRVK Borovoye 61.96 326*ce*P **P** **02 54 08.2 -1.1**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 61.96 326 P **P** **02 54 06.4 -2.8**
BRVK Borovoye 61.96 326 P **P** **02 54 08.7 -0.5**
BILL Bilibino 63.82 16 P **P** **02 54 22.2 +0.9**
BILL IAmb IAmb 02 54 23.8
comp=Z,20nm,0.9s
BILL Bilibino 63.82 16*d i*P **P** **02 54 21.9 +0.6**
BILL *i* 02 54 58.7
BILL *i* 02 56 52.5
BILL *i* S **S** **03 02 44.1 -7.9**
BILL *i* SS **SS** **03 06 56.2 -4.6**
BILL pmax pmax
comp=Z,17nm,1.0s
BILL MLR MLR
comp=Z,37nm,15.0s
BILL Bilibino 63.82 16 P **P** **02 54 22.7 +1.3**
BILL pP **pP** **02 54 34.0 -2.6**
BILL sP **pwP** **02 54 39.3 +2.6**
NRIK Noril'sk 64.35 346 LR LR 03 25 45.0
comp=Z,99nm,18.5s,baz=150,slow=39
WBK Wadi Bani Khal 65.23 290 P **P** **02 54 30.6 -0.8**
WBK P **P** **02 54 30.8 -0.6**
WSAR Wadi Sarin 65.53 291 LR LR 03 27 39.7
comp=Z,34nm,18.8s,baz=103,slow=40
AFI Afiamalu 66.00 110 LR LR 03 18 17.5
comp=Z,103nm,21.6s,baz=294,slow=31
JMDO Jabal Madar 66.03 290 P **P** **02 54 36.0 -0.5**
SMDO Samad 66.07 291 P **P** **02 54 36.7 -0.3**
DQM DQM 66.64 287 P **P** **02 54 39.7 -0.7**
GEYT Alibeck 66.64 307 P **P** **02 54 40.6 +0.3**
comp=Z,21nm,0.9s,baz=116,slow=3.4,SNR=40
GEYT LR LR 03 28 58.5
comp=Z,93nm,19.4s,baz=96,slow=41
comp=Z,21nm,0.9s
GYA0 ALIBECK ARRAY 66.64 307 P **P** **02 54 39.0 -1.3**
HOQ Hoqain 66.74 291 P **P** **02 54 40.1 -1.0**
BSY Bisya 66.86 291 P **P** **02 54 41.3 -0.6**
NNZ Nelson 66.89 143 P **P** **02 54 42.4 +0.9**
AB31 Akbulak array 67.06 319 *i* P **P** **02 54 41.5 -1.1**
ABKAR Akbulak array 67.06 319 P **P** **02 54 41.4 -1.3**
ABKAR IAmb IAmb 02 54 43.0
comp=Z,16nm,1.1s
RPZ Rata Peaks 67.15 146 P **P** **02 54 44.3 +1.1**
comp=Z,15nm,0.8s,baz=288,slow=3.2,SNR=5.3
comp=Z,15nm,0.8s
NIKH Nikolski High 67.22 36 P **P** **02 54 44.0 +0.5**
baz=256
SOHO SOHO 67.44 292 *i* P **P** **02 54 45.1 -0.4**
SNR=7.0
SOHO SOHO 67.44 292 P **P** **02 54 44.8 -0.7**
ARQ Araqi 67.47 291 P **P** **02 54 45.4 -0.3**
URZ Urewera 67.48 139 LR LR 03 26 08.5
comp=Z,63nm,19.0s,baz=38,slow=37
BKZ Black Stump Fm 67.59 140 P **P** **02 54 47.0 +0.8**
BKZ IAmb IAmb 02 54 50.4
comp=Z,26nm,0.8s
SPIA Saint Paul Isl 67.60 32 P **P** **02 54 46.5 +0.7**
baz=253
RTZ Ruatahuna 67.60 139 P **P** **02 54 47.3 +1.1**
RTZ IAmb IAmb 02 55 01.5
comp=Z,17nm,1.0s
BANOM Banah 67.64 294 P **P** **02 54 46.3 -0.5**
MDH Madha 67.64 293 P **P** **02 54 45.5 -1.2**
MDH Madha 67.64 293 P **P** **02 54 45.4 -1.4**
UOSS Minazif 67.73 293 P **P** **02 54 45.5 -1.8**
UOSS IAmb IAmb 02 54 55.0
comp=Z,10nm,0.7s
UOSS Minazif 67.73 293 *i* P **P** **02 54 46.9 -0.4**
SNR=5.9
UOSS Minazif 67.73 293 P **P** **02 54 46.3 -1.0**
UOSS Minazif 67.73 293 P **P** **02 54 46.3 -1.0**
MASF Masafi 67.77 293 P **P** **02 54 46.8 -0.8**
MSFE Esma-Masafi 67.77 293 P **P** **02 54 47.6 0.0**
SHME Shamm 67.78 294 P **P** **02 54 47.9 +0.3**
HATD Hatta, Dubai 67.80 293 *i* P **P** **02 54 48.0 +0.2**
SNR=17
HATD Hatta, Dubai 67.80 293 P **P** **02 54 47.5 -0.3**
ASHO Ashiyiah 67.87 293 *i* P **P** **02 54 48.0 -0.3**
SNR=17
ASHO Ashiyiah 67.87 293 P **P** **02 54 47.8 -0.5**
ALNE Al Ain 68.16 292 *i* P **P** **02 54 50.8 +0.8**
SNR=7.3
UMQ Umm Al-Quwin 68.22 294 P **P** **02 54 49.5 -0.8**
NAZ Nazwa, Dubai 68.22 293 P **P** **02 54 49.9 -0.5**
NAZ *i* P **P** **02 54 50.1 -0.3**
SNR=6.0
FAQ Al Faqa, Dubai 68.29 293 P **P** **02 54 50.5 -0.3**
FAQ Al Faqa, Dubai 68.29 293 P **P** **02 54 50.2 -0.6**
SVE Sverdlovsk 68.45 327*li e*P **P** **02 54 50.7 -0.5**
SVE pmax pmax
comp=Z,30nm,0.7s
AKTO Aktyubinsk 68.52 320 LR LR 03 26 55.5
comp=Z,174nm,18.9s,baz=314,slow=38
AKTO Aktyubinsk 68.52 320 P **P** **02 54 49.9 -1.9**
ASUD Al Ashush, Dub 68.53 293 P **P** **02 54 52.5 +0.2**
ASUD Al Ashush, Dub 68.53 293 P **P** **02 54 51.9 -0.4**
UNV Unalaska Valle 68.79 36 P **P** **02 54 53.4 0.0**
UNV Unalaska Valle 68.79 36 P **P** **02 54 54.0 +0.6**
baz=257
DMTO DMTO 69.21 285 P **P** **02 54 56.1 -0.6**
ARU Arti 69.46 327 LR LR 03 27 11.4
comp=Z,79nm,21.4s,baz=96,slow=37
ARU Arti 69.46 327 P **P** **02 54 56.1 -1.3**
ARU Arti 69.46 327*c i*P **P** **02 54 56.3 -1.2**
ARU *PP **pP** **02 55 16.7 +3.4**
ARU S **S** **03 03 57.2 -3.3**
ARU SS **SS** **03 08 23.3 -5.3**
ARU pmax pmax
comp=Z,29nm,0.6s
ARU Arti 69.46 327 P **P** **02 54 56.5 -1.0**
DOK Doka 69.92 286 P **P** **02 55 00.9 -0.2**
SNR=8.5
RBK Rabkut 69.93 285 P **P** **02 55 01.6 +0.4**
MZR Muzera 70.28 291 *i* P **P** **02 55 03.6 +0.4**
SNR=8.4
MZR Muzera 70.28 291 P **P** **02 55 02.8 -0.4**
WHFO Wadi Hawf 70.31 286 P **P** **02 55 03.2 -0.3**
SNR=30
WHFO P **P** **02 55 03.4 -0.1**
ABTO Aybut 70.81 285 P **P** **02 55 07.0 +0.4**
SNR=9.8
TNA Tin City 71.22 24 P **P** **02 55 09.5 +1.4**
TNA Tin City 71.22 24 P **P** **02 55 09.4 +1.4**
baz=252
S12K Black Hills 71.68 35 P **P** **02 55 12.1 +1.1**
baz=261
ANM Nome 71.97 25 P **P** **02 55 13.6 +1.0**
ANM Nome 71.97 25 P **P** **02 55 14.3 +1.7**
baz=255
ANM Nome 71.97 25 P **P** **02 55 13.6 +1.0**
ANM pmax pmax
comp=Z,12nm,0.8s
SDPT Sand Point 72.51 35 P **P** **02 55 16.3 +0.3**
baz=262
SMRA Abu-Samra 72.62 293 P **P** **02 55 16.6 -0.6**
CHGN Chignik 73.79 34 P **P** **02 55 24.2 +0.7**
CHGN Chignik 73.79 34 P **P** **02 55 24.1 +0.7**
baz=264
RDOG Red Dog Mine 73.82 22 P **P** **02 55 25.1 +1.5**
baz=256
N16K Nishlik Lake 74.14 30 P **P** **02 55 27.0 +1.5**
baz=262
P16K Nushagak River 74.34 31 P **P** **02 55 28.8 +2.1**
baz=263
O16K Kokwok River B 74.36 31 P **P** **02 55 28.9 +2.1**
baz=263
R16K Pilot Point 74.39 33 P **P** **02 55 28.7 +1.8**
baz=264
KIRV Kirov 74.69 328 LR LR 03 30 40.6
comp=Z,90nm,20.4s,baz=102,slow=38
KIRV Kirov 74.69 328*ce*P **P** **02 55 27.4 -1.3**
AKT Akhty 74.83 310 *e*P **P** **02 55 28.1 -1.9**
AKT *e* 02 55 41.7
AKT *e**PP **pP** **02 55 49.1 +3.1**
AKT pmax pmax
comp=Z,34nm,1.1s
O17K Koliganek Bris 74.88 31 P **P** **02 55 31.8 +2.0**
baz=264
Q16K King Salmon 74.99 32 P **P** **02 55 31.6 +1.2**
baz=264
R17K Ugashik Creek 75.03 33 P **P** **02 55 31.5 +0.8**
baz=265
P17K Kvichak River 75.15 31 P **P** **02 55 33.3 +2.0**
baz=264,SNR=7.7
BELG Belogornoye 75.21 322 LR LR 03 31 31.1
comp=Z,51nm,18.6s,baz=107,slow=38
BELG Belogornoye 75.21 322 *i* P **P** **02 55 30.5 -1.3**
BELG pmax pmax
comp=Z,12nm,0.9s
CHIR Chirikof Islan 75.30 35 P **P** **02 55 33.6 +1.3**
baz=266
Q17K Contact Creek 75.35 32 P **P** **02 55 33.1 +0.4**
baz=265,SNR=8.1
GCSA Galena City Sc 75.59 26 P **P** **02 55 35.3 +1.6**
baz=263
TTA Tatalina 75.75 27 P **P** **02 55 36.0 +1.2**
TTA Tatalina 75.75 27 P **P** **02 55 36.0 +1.2**
baz=264,SNR=5.9
TTA Tatalina 75.75 27 P **P** **02 55 36.1 +1.2**
TTA pmax pmax
comp=Z,15nm,1.1s
SVW2 Sparrevohn 75.76 29 P **P** **02 55 35.6 +0.7**
SVW2 IAmb IAmb 02 55 38.3
comp=Z,20nm,1.2s
P18K Big Mountain, 75.79 31 P **P** **02 55 35.6 +0.5**
P18K IAmb IAmb 02 56 41.2
comp=Z,59nm,1.9s
P18K Big Mountain, 75.79 31 P **P** **02 55 36.4 +1.3**
baz=265,SNR=5.1
O18K Koktuh Hills 75.84 31 P **P** **02 55 37.2 +1.9**
O18K Koktuh Hills 75.84 31 P **P** **02 55 37.1 +1.8**
baz=265,SNR=24
Q18K Katmai Hardscr 75.84 32 P **P** **02 55 36.1 +0.6**
baz=266
SII Sitkinak Islan 76.15 34 P **P** **02 55 38.6 +1.4**
baz=267
L19K White Mountain 76.21 28 P **P** **02 55 38.9 +1.5**
baz=265
N19K Bonanza Creek 76.27 30 P **P** **02 55 38.9 +1.0**
N19K IAmb IAmb 02 55 41.3
comp=Z,26nm,0.9s
N19K Bonanza Creek 76.27 30 P **P** **02 55 39.5 +1.6**
baz=266
O19K Port Alsworth 76.31 30 P **P** **02 55 38.8 +0.9**
O19K IAmb IAmb 02 55 41.3
comp=Z,29nm,0.9s
O19K Port Alsworth 76.31 30 P **P** **02 55 39.5 +1.6**
baz=266
M19K Big River Lodg 76.40 29 P **P** **02 55 40.2 +1.7**
baz=266
Q19K Cape Douglas, 76.57 32 P **P** **02 55 39.5 0.0**
Q19K Cape Douglas, 76.57 32 P **P** **02 55 40.0 +0.5**
baz=267
A21K Barrow 76.63 19 P **P** **02 55 40.9 +1.4**
A21K Barrow 76.63 19 P **P** **02 55 41.1 +1.5**
baz=261,SNR=21
K20K Telida 76.67 27 P **P** **02 55 41.7 +1.8**
K20K Telida 76.67 27 P **P** **02 55 41.6 +1.6**
baz=265,SNR=6.4
OHAK Old Harbor 76.68 33 P **P** **02 55 41.6 +1.6**
baz=268
L20K Farewell, AK 76.69 28 P **P** **02 55 41.4 +1.3**
baz=266
P19K Oil Pt 76.82 31 P **P** **02 55 42.3 +1.4**
baz=267
M20K Styx River 77.00 29 P **P** **02 55 42.9 +1.0**
M20K IAmb IAmb 02 55 45.2
comp=Z,15nm,0.8s
M20K Styx River 77.00 29 P **P** **02 55 43.6 +1.7**
baz=267
IMAR Indian Mountai 77.03 24 P **P** **02 55 42.9 +1.0**
KDAK Kodiak Island 77.08 33 LR LR 03 25 56.9
comp=Z,47nm,20.6s,baz=269,slow=33
KDAK Kodiak Island 77.08 33 P **P** **02 55 43.1 +0.8**
KDAK Kodiak Island 77.08 33 P **P** **02 55 43.9 +1.6**
baz=268
KDAK Kodiak Island 77.08 33 P **P** **02 55 43.1 +0.8**
KDAK pmax pmax
comp=Z,29nm,0.7s
GNI Garni 77.12 309 LR LR 03 33 53.6
comp=Z,67nm,21.1s,baz=77,slow=39
GNI Garni 77.12 309 P **P** **02 55 42.3 -0.9**
GNI IAmb IAmb 02 56 21.8
comp=Z,39nm,1.5s
GNI Garni 77.12 309 P **P** **02 55 42.3 -0.9**
GNI pmax pmax
comp=Z,39nm,1.5s
GNI Garni 77.12 309 P **P** **02 55 41.8 -1.4**
O20K Slope Mountain 77.15 31 P **P** **02 55 44.1 +1.4**
baz=268
G21K Allakaket 77.17 24 P **P** **02 55 44.6 +1.9**
baz=265
Q20K Shuyak Island 77.21 32 P **P** **02 55 44.0 +1.0**
baz=268
F21K Alatna River 77.24 23 P **P** **02 55 44.0 +0.9**
baz=265
H21K Melozitna Rive 77.39 25 P **P** **02 55 45.6 +1.7**
H21K IAmb IAmb 02 55 47.2
comp=Z,19nm,0.8s
H21K Melozitna Rive 77.39 25 P **P** **02 55 45.8 +1.8**
baz=266
N20K Mount Spurr 77.40 29 P **P** **02 55 45.6 +1.3**
baz=268
SPCR Spurr Chakacha 77.40 29 P **P** **02 55 45.3 +1.1**
baz=268
PPLA Purkeypile 77.49 28 P **P** **02 55 46.1 +1.4**
baz=267
RAYN Ar Rayn 77.56 292 P **P** **02 55 45.3 -0.5**
RAYN IAmb IAmb 02 55 46.5
comp=Z,37nm,1.3s
RAYN Ar Rayn 77.56 292 P **P** **02 55 45.3 -0.5**
RAYN pmax pmax
comp=Z,37nm,1.3s
RAYN Ar Rayn 77.56 292 *i* P **P** **02 55 45.6 -0.2**
SNR=23
RAYN Ar Rayn 77.56 292 P **P** **02 55 45.8 0.0**
CAST Castle Rocks 77.56 27 IAmb IAmb 02 55 47.8
comp=Z,23nm,0.8s
CAST Castle Rocks 77.56 27 P **P** **02 55 46.4 +1.4**
baz=267,SNR=18
HOM Homer 77.63 31 P **P** **02 55 46.4 +1.1**
baz=268
ZEI Tsey 77.66 312 *e*P **P** **02 55 44.9 -1.3**
ZEI pmax pmax
comp=Z,44nm,1.0s
I21K Tanana 77.70 25 P **P** **02 55 47.2 +1.5**
baz=267
SKT Skwentna 77.76 29 P **P** **02 55 46.8 +0.7**
baz=268
NCK Nalchik 77.85 312 *i* P **P** **02 55 46.3 -0.7**
NCK pmax pmax
comp=Z,15nm,0.9s
CAPN Captain Cook N 77.90 30 P **P** **02 55 48.3 +1.5**
baz=269
H22K Ishtalitna Cre 77.99 25 P **P** **02 55 48.9 +1.6**
baz=267,SNR=20
ONI Oni 77.99 312 P **P** **02 55 48.0 +0.1**
ONI IAmb IAmb 02 55 50.3
comp=Z,27nm,1.2s
ONI Oni 77.99 312 P **P** **02 55 48.0 +0.1**
ONI pmax pmax
comp=Z,27nm,1.2s
BPAW Bear Paw Mtn. 78.08 26 P **P** **02 55 49.1 +1.2**
BPAW Bear Paw Mtn. 78.08 26 P **P** **02 55 49.1 +1.2**
baz=268,SNR=33
BRSE Bradley Lake S 78.09 31 P **P** **02 55 49.0 +1.0**
baz=269
SUA Susitna One 78.12 29 IAmb IAmb 02 55 50.5
comp=Z,22nm,0.8s
SUA Susitna One 78.12 29 P **P** **02 55 49.3 +1.0**
baz=269,SNR=13
MLY Manley 78.22 26 P **P** **02 55 49.7 +1.0**
MLY IAmb IAmb 02 55 51.5
comp=Z,25nm,0.8s
MLY Manley 78.22 26 P **P** **02 55 50.0 +1.4**
baz=268,SNR=26
KBZ Khabaz 78.35 313 P **P** **02 55 49.2 -0.5**
comp=Z,14nm,0.9s,baz=74,slow=6.6,SNR=12
KBZ LR LR 03 34 23.5
comp=Z,83nm,20.5s,baz=60,slow=39
comp=Z,14nm,0.9s
TRF Thorofare Moun 78.37 27 IAmb IAmb 02 55 53.5
comp=Z,20nm,0.9s
TRF Thorofare Moun 78.37 27 P **P** **02 55 50.5 +0.9**
baz=269,SNR=9.7
D23K Nanushuk River 78.41 21 P **P** **02 55 51.2 +1.6**
baz=267
M22K Willow 78.42 29 P **P** **02 55 50.7 +1.0**
baz=269
KIV Kislovodsk 78.49 313 P **P** **02 55 49.9 -0.7**
KIV Kislovodsk 78.49 313 *e*P **P** **02 55 51.2 +0.6**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,61nm,19.0s
KIV Kislovodsk 78.49 313 *i* P **P** **02 55 51.0 +0.4**
SNR=6.5
KIV Kislovodsk 78.49 313 P **P** **02 55 49.9 -0.7**
COLD Coldfoot 78.52 23 IAmb IAmb 02 55 53.5
comp=Z,23nm,0.8s
COLD Coldfoot 78.52 23 P **P** **02 55 51.5 +1.4**
baz=268,SNR=26
SHA1 Shidzhatmaz 78.52 313 *i* P **P** **02 55 50.3 -0.7**
G23K Bananza Creek 78.57 24 P **P** **02 55 52.2 +1.6**
baz=268,SNR=15
RC01 Rabbit Creek A 78.60 30 IAmb IAmb 02 55 52.9
comp=Z,35nm,1.5s
RC01 Rabbit Creek A 78.60 30 P **P** **02 55 51.5 +0.7**
baz=270
SEW Seward 78.74 31 P **P** **02 55 52.5 +1.0**
baz=270
BWN Browne 78.75 26 IAmb IAmb 02 55 54.5
comp=Z,22nm,0.8s
E23K Chandalar 78.77 22 P **P** **02 55 53.4 +1.7**
baz=268
I23K Minto, Yukon-K 78.81 25 IAmb IAmb 02 55 55.9
comp=Z,18nm,0.6s
I23K Minto, Yukon-K 78.81 25 P **P** **02 55 53.1 +1.4**
baz=269,SNR=21
VRH Novokhopyorsk 78.86 320 *e*P **P** **02 55 51.4 -0.9**
VRH pmax pmax
comp=Z,50nm,0.7s
PMR Palmer 78.89 29 IAmb IAmb 02 55 54.1
comp=Z,20nm,0.8s

PMR	Palmer		78.89	29	P		P	02 55 53.3	+1.0
	baz=270,SNR=7.5								
NEA2	Nenana		78.93	26	IAmb		IAmb	02 55 55.6	
	comp=Z,27nm,0.8s								
NEA2	Nenana		78.93	26	P		P	02 55 53.8	+1.3
	baz=270,SNR=23								
MCK	McKinley		78.98	27	P		P	02 55 54.0	+1.1
	baz=270,SNR=35								
GHO	Glory Hole Cre		78.99	29	P		P	02 55 53.4	+0.5
GHO					IAmb		IAmb	02 55 55.1	
	comp=Z,18nm,1.0s								
RAR	Rarotonga		79.04	114	LR		LR	03 23 23.4	
	comp=Z,66nm,20.8s,baz=272,slow=30								
D24K	Happy Valley		79.08	21	P		P	02 55 55.5	+2.3
	baz=269,SNR=36								
C24K	Franklin Bluff		79.13	21	P		P	02 55 54.9	+1.4
	baz=269								
E24K	Your Creek		79.19	22	P		P	02 55 55.3	+1.4
	baz=270								
KNK	Knik Glacier		79.22	29	IAmb		IAmb	02 55 56.5	
	comp=Z,32nm,0.9s								
KNK	Knik Glacier		79.22	29	P		P	02 55 55.2	+1.0
	baz=271,SNR=7.9								
SML	Sawmill		79.27	29	IAmb		IAmb	02 55 56.8	
	comp=Z,32nm,0.9s								
SML	Sawmill		79.27	29	P		P	02 55 55.5	+1.0
	baz=271,SNR=7.7								
PWL	Port Wells		79.28	30	P		P	02 55 55.4	+0.9
PWL	Port Wells		79.28	30	P		P	02 55 56.0	+1.5
	baz=271,SNR=8.4								
WRH	Wood River Hil		79.35	26	IAmb		IAmb	02 55 56.9	
	comp=Z,24nm,1.4s								
F24K	Squaw Lake		79.42	23	P		P	02 55 57.5	+2.3
	baz=270								
H24K	Noodor Dome		79.43	25	IAmb		IAmb	02 55 59.2	
	comp=Z,19nm,0.9s								
H24K	Noodor Dome		79.43	25	P		P	02 55 57.2	+1.9
	baz=270								
TCOL	CIGO, UAF Yank		79.44	26	IAmb		IAmb	02 55 58.8	
	comp=Z,14nm,0.7s								
TCOL	CIGO, UAF Yank		79.44	26	P		P	02 55 56.4	+1.1
	baz=271								
COLA	College		79.45	26	P		P	02 55 55.4	+0.2
COLA					IAmb		IAmb	02 55 58.8	
	comp=Z,14nm,0.7s								
COLA	College		79.45	26	P		P	02 55 56.4	+1.1
	baz=271								
COLA	College		79.45	26	*i* P		P	02 55 56.7	+1.4
COLA					pmax		pmax		
	comp=Z,13nm,0.9s								
M23K	Glacier View		79.56	29	P		P	02 55 56.7	+0.7
	baz=271,SNR=8.4								
G24K	Hadweenzic Riv		79.58	24	P		P	02 55 57.3	+1.3
	baz=271,SNR=19								
POKR	Poker Plat Res		79.62	25	P		P	02 55 57.7	+1.4
	baz=271,SNR=5.1								
SCM	Sheep Creek Mo		79.75	29	IAmb		IAmb	02 55 59.6	
	comp=Z,40nm,0.9s								
SCM	Sheep Creek Mo		79.75	29	P		P	02 55 58.0	+0.9
	baz=272,SNR=8.6								
P23K	Montague Islan		79.77	31	P		P	02 55 58.6	+1.5
	baz=272								
KLMR	Klimovskoe		79.78	330	*e*P		P	02 55 54.7	-2.5
KLMR					AMP			02 55 57.1	
	comp=Z,28nm,0.8s								
KLMR	Klimovskoe		79.78	330	*e*P		P	02 55 54.6	-2.6
KLMR					pmax		pmax		
	comp=Z,28nm,0.8s								
HDA	Harding Lake		79.85	26	IAmb		IAmb	02 55 58.7	
	comp=Z,16nm,0.8s								
HDA	Harding Lake		79.85	26	P		P	02 55 57.4	-0.1
	baz=272,SNR=16								
ILAR	Eielson Array		79.86	26	P		P	02 55 57.5	-0.1
	comp=Z,6.6nm,0.8s,baz=243,slow=6.2,SNR=84				PKKPbc		PKKPbc	03 14 43.1	-2.6
ILAR					comp=Z,0.6nm,0.8s,baz=86,slow=1.2,SNR=5.0				
					LR		LR	03 30 23.9	
	comp=Z,27nm,21.9s,baz=305,slow=35								
	comp=Z,6.6nm,0.8s								
G25K	Bearman Lake		80.13	24	P		P	02 56 00.3	+1.3
	baz=272								
F25K	Christian Rive		80.28	23	P		P	02 56 01.4	+1.6
	baz=272								
M24K	Tolsona, Glenn		80.28	28	P		P	02 55 59.8	-0.2
M24K					IAmb		IAmb	02 56 03.0	
	comp=Z,34nm,0.8s								
M24K	Tolsona, Glenn		80.28	28	P		P	02 56 01.3	+1.4
	baz=273,SNR=8.1								
E25K	Arctic Village		80.28	22	P		P	02 56 01.4	+1.6
	baz=272,SNR=20								
K24K	Donnelly Dome		80.38	27	P		P	02 56 01.9	+1.5
	baz=273,SNR=9.1								
VORR	Voronezh		80.41	321	P		P	02 55 59.6	-1.1
VORR					pmax		pmax		
	comp=Z,40nm,0.4s								
PRP	Porcupine Dome		80.41	25	P		P	02 56 01.3	+0.6
	baz=273								
KLU	Klutina		80.43	29	IAmb		IAmb	02 56 04.8	
	comp=Z,13nm,0.7s								
KLU	Klutina		80.43	29	P		P	02 56 02.3	+1.5
	baz=273,SNR=6.7								
C26K	Camden Bay		80.45	20	P		P	02 56 02.9	+2.3
	baz=273								
VSR	Storozhevoye		80.47	320	*e*P		P	02 55 59.9	-1.2
VSR					pmax		pmax		
	comp=Z,30nm,0.8s								
LPSR	Galich'ya Gora		80.52	322	*e*P		P	02 56 00.5	-0.8
LPSR					pmax		pmax		
	comp=Z,50nm,0.8s								
DIV	Divide		80.52	29	IAmb		IAmb	02 56 04.1	
	comp=Z,24nm,0.8s								
PAX	Paxson		80.56	28	P		P	02 56 02.7	+1.2
	baz=273,SNR=8.4								
HARP	HAARP		80.74	28	P		P	02 56 03.8	+1.4
	baz=274								
RIDG	Independent Ri		80.80	27	IAmb		IAmb	02 56 04.9	
	comp=Z,40nm,1.0s								
RIDG	Independent Ri		80.80	27	P		P	02 56 03.5	+0.8
	baz=274,SNR=20								
F26K	Sheenjek River		80.84	23	P		P	02 56 04.6	+1.8
	baz=274								
C27K	Jago River		80.88	21	P		P	02 56 04.7	+1.8
	baz=274								
G26K	Porcupine Rive		81.03	23	P		P	02 56 05.6	+1.9
	baz=274								
N25K	Chitina, Valde		81.06	29	P		P	02 56 05.6	+1.4
	baz=274								
MOS	Moscow		81.06	325	*e*P		P	02 56 01.9	-2.2
MOS					*e*			02 56 12.7	
MOS					*e*			03 06 09.9	
MOS					pmax		pmax		
	comp=Z,49nm,0.8s								
BMRM	Bremner River		81.10	30	P		P	02 56 05.9	+1.6
	baz=274								
SCRK	Sand Creek		81.16	27	P		P	02 56 05.1	+0.3
SCRK	Sand Creek		81.16	27	P		P	02 56 06.0	+1.3
	baz=274,SNR=10.0								
J26L	Joseph Creek		81.31	26	P		P	02 56 07.5	+2.1
	baz=275,SNR=6.4								
I26K	Coal Creek Min		81.41	25	P		P	02 56 06.6	+0.8
	baz=275								
GLB	Gilahina Butte		81.45	29	IAmb		IAmb	02 56 09.0	
	comp=Z,20nm,1.0s								
L26K	Log Cabin Wild		81.53	27	P		P	02 56 07.5	+0.9
L26K	Log Cabin Wild		81.53	27	P		P	02 56 08.0	+1.5
	baz=275								
ATD	Arta Tunnel		81.53	280	LR		LR	03 30 54.0	
	comp=Z,29nm,19.4s,baz=4.5,slow=35								
ATD	Arta Tunnel		81.53	280	P		P	02 56 08.7	+1.2
OBN	Obninsk		81.71	325	||*i* P		P	02 56 06.7	-0.9
OBN					*e*			02 59 13.6	
OBN					pmax		pmax		
	comp=Z,80nm,2.5s								
M26K	Nabesna, AK		81.74	28	P		P	02 56 09.3	+1.6
	baz=276,SNR=9.9								
E27K	Coleen River		81.76	22	P		P	02 56 09.7	+2.0
	baz=276								
MCARA	McCarthy VSAT		81.83	29	P		P	02 56 09.7	+1.6
	baz=276								
G27K	Doyon Strip		81.88	24	P		P	02 56 10.3	+2.0
	baz=276								
H27K	Steamboat Moun		81.99	24	P		P	02 56 11.3	+2.3
	baz=276								
I27K	Kandik River		82.03	25	P		P	02 56 11.1	+1.9
	baz=276								
ANN	Anapa		82.18	314	*e*P		P	02 56 09.1	-1.2
ANN					pmax		pmax		
	comp=Z,60nm,1.1s								
L27K	Beaver Creek,		82.21	27	P		P	02 56 12.2	+2.0
	baz=276								
M27K	Edge Creek, AK		82.27	28	IAmb		IAmb	02 56 13.7	
	comp=Z,23nm,1.1s								
M27K	Edge Creek, AK		82.27	28	P		P	02 56 12.4	+1.8
	baz=276								
EGAK	Eagle2		82.31	26	P		P	02 56 12.2	+1.7
	baz=277,SNR=8.0								
BARN	Barnard Glacie		82.52	29	P		P	02 56 13.3	+1.4
BVCY	Beaver Creek		82.73	28	P		P	02 56 15.0	+2.1
	baz=277,SNR=7.5								
YUK3	Moose Creek		83.00	29	P		P	02 56 16.3	+1.8
	baz=278,SNR=6.9								
DAWY	Dawson		83.16	26	IAmb		IAmb	02 56 18.3	
	comp=Z,22nm,1.1s								
DAWY	Dawson		83.16	26	P		P	02 56 16.6	+1.5
	baz=278,SNR=18								
GAZ	Gaziantep		83.23	306	IAmb		IAmb	02 56 17.4	
	comp=Z,25nm,0.7s								
O28M	Mount Upton		83.27	30	P		P	02 56 17.5	+1.5
	baz=278								
PINM	Pinnacle		83.33	30	P		P	02 56 18.0	+1.9
	baz=278								
YUK8	Steele Glacier		83.40	29	P		P	02 56 18.8	+2.1
	baz=278								
I29M	Ogilvie Camp,		83.43	25	IAmb		IAmb	02 56 19.5	
	comp=Z,24nm,1.2s								
I29M	Ogilvie Camp,		83.43	25	P		P	02 56 18.4	+2.0
	baz=279								
J29M	Klondike Camp		83.61	26	P		P	02 56 19.2	+1.8
J29M					IAmb		IAmb	02 56 21.2	
	comp=Z,28nm,1.1s								
J29M	Klondike Camp		83.61	26	P		P	02 56 19.7	+2.3
	baz=280,SNR=6.5								
PNL	Peninsula		83.82	31	P		P	02 56 20.3	+1.8
	baz=278								
M29M	Somme Creek		83.83	28	P		P	02 56 20.9	+2.3
	baz=280								
L29M	L29M		83.87	27	P		P	02 56 21.5	+2.8
	baz=280								
YUK4	Talbot Arm		83.92	29	P		P	02 56 21.6	+2.4
	baz=280,SNR=6.0								
G30M	tAoh Zraii Nji		83.98	23	P		P	02 56 20.5	+1.3
	baz=281								
K29M	Barlow Dome		84.02	26	P		P	02 56 21.4	+1.9
	baz=280								
YUK6	Outpost Mounta		84.13	29	P		P	02 56 21.9	+1.6
	baz=280,SNR=5.3								
O29M	Mount Kennedy		84.13	30	P		P	02 56 22.6	+2.4
	baz=280								
SPA0	Spitsbergen Ar		84.36	349	*e*P		P	02 56 21.2	+0.2
SPA0					IAmb		IAmb	02 56 22.5	
	comp=Z,57nm,1.0s								
SPITS	Spitsbergen Ar		84.36	349	LR		LR	03 40 42.9	
	comp=Z,50nm,18.4s,baz=27,slow=40								
ARA0	ARCESS Array S		84.50	340	*e*P		P	02 56 21.9	+0.1
SIM	Simferopol'		84.50	315	*e*P		P	02 56 21.6	-0.7
SIM					pmax		pmax		
	comp=Z,53nm,0.7s								
HYT	Haines Junctio		84.56	29	P		P	02 56 24.6	+2.3
	baz=280,SNR=12								
M30M	Minto, Yukon		84.57	27	P		P	02 56 24.6	+2.3
	baz=281,SNR=13								
INK	Inuvik		84.71	22	P		P	02 56 23.4	+0.6
INK					IAmb		IAmb	02 56 25.2	
	comp=Z,28nm,1.2s								
INK	Inuvik		84.71	22	P		P	02 56 24.1	+1.4
	baz=283,SNR=22								
INK	Inuvik		84.71	22	P		P	02 56 23.4	+0.6
INK					pmax		pmax		
	comp=Z,28nm,1.2s								
MAYO	Mayo, Yukon		84.77	26	P		P	02 56 25.6	+2.3
	baz=282,SNR=5.3								
F31M	Tsiigehtchic		84.83	22	P		P	02 56 24.5	+1.1
	baz=283,SNR=13								
HAMF	Hammerfest		84.83	341	*e*P		P	02 56 23.3	-0.1
P30M	Million Dollar		84.95	30	P		P	02 56 26.0	+1.8
	baz=281								
HSPB	Hornsund (broa		84.97	348	*e*P		P	02 56 24.2	+0.2
O30N	Mendenhall		85.25	29	P		P	02 56 28.0	+2.2
	baz=282								
N31M	Braeburn, Yuko		85.25	28	P		P	02 56 28.4	+2.7
	baz=282,SNR=11								
MMAI	Mont Meron Ar		85.28	303	LR		LR	03 37 46.0	
	comp=Z,42nm,18.3s,baz=346,slow=38								
PLBC	Pleasant Camp		85.38	31	P		P	02 56 29.1	+2.7
	baz=282								
KTK1	Kautokeino		85.41	339	*e*		P	02 56 26.4	+0.1
BR131	Keskin Array S		85.65	309	IAmb		IAmb	02 56 28.4	
	comp=Z,12nm,0.8s								
BR131	Keskin Array S		85.65	309	*i* P		P	02 56 27.5	-0.8
BR131	Keskin Array S		85.65	309	P		P	02 56 27.3	-1.0
BRTR	Keskin Array B		85.65	309	P		P	02 56 27.3	-1.0
	comp=Z,7.5nm,0.8s,baz=101,slow=4.0,SNR=44								
BRTR					LR		LR	03 40 47.4	
	comp=Z,47nm,18.5s,baz=96,slow=40								
	comp=Z,7.5nm,0.8s								
BRTR	Keskin Array B		85.65	309	P		P	02 56 26.9	-1.4
M31M	Drury Creek, Y		85.74	28	IAmb		IAmb	02 56 31.1	
	comp=Z,12nm,0.9s								
M31M	Drury Creek, Y		85.74	28	P		P	02 56 29.8	+1.7
	baz=283,SNR=7.1								
WHY	Whitehorse		85.86	29	IAmb		IAmb	02 56 32.3	
	comp=Z,21nm,0.9s								
WHY	Whitehorse		85.86	29	P		P	02 56 30.5	+1.7
	baz=283,SNR=9.1								
FINES	FINESS Array B		86.16	332	P		P	02 56 29.7	-0.4
	comp=Z,22nm,0.7s,baz=68,slow=4.9,SNR=124								
FINES					LR		LR	03 39 02.2	
	comp=Z,78nm,18.1s,baz=70,slow=38								
	comp=Z,22nm,0.7s								
FINES	FINESS Array B		86.16	332	P		P	02 56 29.5	-0.6
EIL	Elat		86.17	299	LR		LR	03 41 39.0	
	comp=Z,49nm,18.5s,baz=55,slow=40								
FARO	Faro, Yukon		86.21	27	P		P	02 56 32.1	+1.7
	baz=284,SNR=6.8								
JETT	Jettan, Norway		86.22	340	*e*		P	02 56 30.3	0.0
A36M	Sachs Harbour		86.33	17	P		P	02 56 32.1	+1.3
	baz=291,SNR=26								
VSU	Vasula		86.52	329	*e*P		P	02 56 31.3	-0.6
N32M	Quiet Lake		86.60	29	P		P	02 56 34.1	+1.7
	baz=284								
P32M	Atlin		86.67	30	P		P	02 56 34.7	+1.9
	baz=284								
AKASG	Malin Array Be		86.76	321	P		P	02 56 32.3	-1.0
	comp=Z,7.4nm,0.6s,baz=63,slow=4.9,SNR=40								
AKASG					LR		LR	03 37 13.6	
	comp=Z,67nm,19.4s,baz=90,slow=37								
	comp=Z,7.4nm,0.6s								
AKASG	Malin Array Be		86.76	321	IAmb		IAmb	02 56 33.7	
	comp=Z,20nm,1.1s								
AKBB	Malin Array Si		86.76	321	IAmb		IAmb	02 56 33.4	
	comp=Z,20nm,0.8s								
AKBB	Malin Array Si		86.76	321	*ce*P		P	02 56 32.1	-1.2
AKBB					pmax		pmax		
	comp=Z,21nm,1.0s								
MNK	Minsk		86.77	325	*i* P		P	02 56 33.4	+0.1
	comp=E,4.0nm,1.1s								
MNK					*i* P		P	02 56 33.4	+0.1
	comp=N,43nm,0.8s								
MNK					*i* P		P	02 56 33.4	+0.1
	comp=Z,17nm,0.7s,baz=79								
MNK					*i* pP		sP	02 56 54.9	-0.8
MNK					*i* PP		PP	03 00 03.4	+7.3
MNK					*i* PPP		PPP	03 01 50.2	
MNK					*i* SKS		SKiKP	03 05 44.8	+36
MNK					*i* S		SKSac	03 06 51.9	-3.4
MNK					*i* sS		pS	03 07 30.7	+3.7
MNK					*i* SS		SS	03 11 50.1	-59
MNK					*i* SSS		SSS	03 16 02.6	
MNK	Minsk		86.77	325	*i* P		P	02 56 33.3	+0.1
MNK					*i* *PP		sP	02 56 54.9	-0.8
MNK					*i*			03 00 03.3	
MNK					*i* PPP		PPP	03 01 50.2	
MNK					*i* S		SKSac	03 06 51.9	-3.4
MNK					pmax		pmax		
	comp=Z,17nm,0.7s								
MNK					pmax		pmax		
	comp=E,4.0nm,1.1s								
MNK					pmax		pmax		
	comp=N,43nm,0.8s								
NOR	Nord		86.95	355	*i* P		P	02 56 34.3	+0.6
NOR					IAmb		IAmb	02 56 34.9	
	comp=Z,11nm,0.8s								
P33M	Teslin, Yukon		86.96	29	P		P	02 56 35.7	+1.5
	baz=285								
PURM	Purcari		87.16	317	||P		P	02 56 35.3	-0.1
IDID	Didziasalis		87.24	326	*e*P		P	02 56 39.8	+4.3
MEF	Metsahovi		87.26	331	*e*P		P	02 56 35.5	0.0
NACGM	Naroch		87.31	325	P		P	02 56 36.0	+0.1
	comp=Z,24nm,1.1s,baz=77								
PPT2	Papeete2		87.61	108	*e*LR		LR	03 24 35.0	
	comp=Z,109nm,22.2s								
PPT2					*e*LR		LR	03 24 35.0	
	comp=Z,137nm,28.0s								
C36M	Paulatuk		87.66	20	IAmb		IAmb	02 56 40.0	
	comp=Z,28nm,1.1s								
C36M	Paulatuk		87.66	20	P		P	02 56 38.1	+0.8
	baz=292,SNR=27								
SORM	Soroca		87.85	318	⇑P		P	02 56 37.7	-0.9
SORM	Soroca		87.85	318	⇑P		P	02 56 37.7	-0.9
MTSE	Matsula		87.94	329	*e*P		P	02 56 38.5	-0.3
TLCR			88.16	315	⇑P		P	02 56 39.5	-0.6
TLCR			88.16	315	⇑P		P	02 56 39.5	-0.6
LEOM	Leova		88.27	317	⇓P		P	02 56 40.4	-0.3
LEOM	Leova		88.27	317	⇓P		P	02 56 40.4	-0.3
RAF	Rauma		88.28	332	*e*P		P	02 56 40.0	-0.4
ISP	Isparta		88.38	308	IAmb		IAmb	02 56 40.6	
	comp=Z,11nm,0.7s								
KIBK	Kibwezi		88.48	267	P		P	02 56 42.4	0.0
KIBK					IAmb		IAmb	02 56 44.1	
	comp=Z,8.3nm,0.9s								
TPGR	Topolog		88.50	315	⇑P		P	02 56 40.9	-1.0
VLDR	Vladesti		88.52	316	⇑P		P	02 56 41.5	-0.3
VASR	Vaslui		88.54	317	⇓P		P	02 56 41.9	0.0
STEI	Steigen		88.56	339	*e*P		P	02 56 40.5	-1.1
SCTR	Scanteiesti		88.62	316	⇑P		P	02 56 42.3	0.0
CFR	Carcaliu		88.63	316	⇓P		P	02 56 40.7	-1.7
CFR	Carcaliu		88.63	316	⇓P		P	02 56 40.7	-1.7
EUNU	Eureka		88.66	5	IAmb		IAmb	02 56 43.0	
	comp=Z,10nm,0.8s								
PABE	Paberze		88.72	326	*e*P		P	02 56 41.7	-0.8
FAUS	Fauske		88.75	339	*e*		P	02 56 41.1	-1.4
IZVR	Izvoarele		88.80	316	⇓P		P	02 56 42.3	-0.9
TLBR	Topalu		88.83	315	⇓P		P	02 56 42.6	-0.8
HARR	Harsova		88.88	315	⇑P		P	02 56 42.5	-1.1
HARR	Harsova		88.88	315	⇑P		P	02 56 42.5	-1.1
WTLY	Watson Lake, Y		88.91	29	P		P	02 56 44.9	+1.4
	baz=288								
KMBO	Kilima Mbogo		89.06	269	P		P	02 56 45.5	+0.2
KMBO					IAmb		IAmb	02 56 47.0	
	comp=Z,7.4nm,0.9s								
KMBO	Kilima Mbogo		89.06	269	P		P	02 56 45.5	+0.2
KMBO					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KMBO	Kilima Mbogo		89.06	269	*i* P		P	02 56 46.3	+1.0
	SNR=8.7								
ICOR	Ion Corvin		89.10	315	⇑P		P	02 56 42.2	-2.4
TESR	Tescani		89.34	317	⇓P		P	02 56 45.4	-0.3
VRI	Vrincioaia		89.44	316	⇓P		P	02 56 46.7	+0.5
VRI	Vrincioaia		89.44	316	⇓P		P	02 56 46.7	+0.5
PLOR	Plostina		89.50	316	⇑P		P	02 56 38.6	-8.0
PLOR	Plostina		89.50	316	⇑P		P	02 56 38.6	-7.9
VNDA	Vanda		89.56	173	P		P	02 56 47.0	+1.0
	comp=Z,4.8nm,0.9s,baz=336,slow=6.1,SNR=10.0								
VNDA					LR		LR	03 38 21.1	
	comp=Z,92nm,18.5s,baz=300,slow=36								
	comp=Z,4.8nm,0.9s								
BURAR	Bucovina Array		90.02	318	⇑P		P	02 56 49.1	+0.1
BURAR	Bucovina Array		90.02	318	IAmb		IAmb	02 56 50.7	
	comp=Z,12nm,0.7s								
BURAR	Bucovina Array		90.02	318	⇑P		P	02 56 49.1	+0.1
BUR08	Bucovina Ar. S		90.03	318	IAmb		IAmb	02 56 50.7	
	comp=Z,8.0nm,0.7s								
MLR	Muntele Rosu		90.06	316	LR		LR	03 42 23.0	
	comp=Z,170nm,19.0s,baz=66,slow=39								
MLR	Muntele Rosu		90.06	316	⇑P		P	02 56 49.4	+0.1
MLR	Muntele Rosu		90.06	316	IAmb		IAmb	02 56 56.6	
	comp=Z,23nm,1.6s								
MLR	Muntele Rosu		90.06	316	⇑P		P	02 56 49.4	+0.1
WRGLY	Wrigley		90.22	25	P		P	02 56 51.4	+2.0
	baz=293								
LIRD	Liard River Hi		90.44	29	P		P	02 56 52.3	+1.7
	baz=290								
UPP	Uppsala		90.60	331	*e*P		P	02 56 50.6	-0.6
VOIR			90.69	316	⇑P		P	02 56 51.5	-0.6
VOIR			90.69	316	⇑P		P	02 56 51.5	-0.6
ARR	Arges		90.99	316	⇑P		P	02 56 53.1	-0.4
DAG	Danmarks Havn		91.12	352	*i* P		P	02 56 53.0	-0.3
DAG					IAmb		IAmb	02 56 53.7	
	comp=Z,16nm,0.7s								
NSS	Namsos		91.18	337	*e*P		P	02 56 53.1	-0.8
PLVB	Pleven		91.51	314	⇓P		P	02 56 54.8	-1.0
VIKU	Vikbolandet		91.54	330	*e*P		P	02 56 55.0	-0.6
TRPA	Tarpa		91.62	319	⇑P		P	02 56 55.8	-0.5
UZH	Uzhgorod		91.63	320	*e*P		P	02 56 55.5	-0.8
UZH					*i*			02 57 21.5	
MARR	Marisel-Cluj		91.65	318	⇓P		P	02 56 56.7	+0.1
DRGR			91.89	318	⇑P		P	02 56 57.4	-0.3
DRGR			91.89	318	⇑P		P	02 56 57.4	-0.3
RES	Resolute Bay		91.91	10	P		P	02 56 57.9	+0.8
RES					IAmb		IAmb	02 56 59.2	
	comp=Z,10.0nm,0.8s								
RES	Resolute Bay		91.91	10	P		P	02 56 57.9	+0.8
RES					pmax		pmax		
	comp=Z,10.0nm,0.8s								
DEV	Deva		92.02	317	⇓P		P	02 56 57.7	-0.5
DEV	Deva		92.02	317	⇓P		P	02 56 57.7	-0.5
STHS	Stebnicka Huta		92.06	321	*e*P		P	02 56 58.5	+0.2
STHS					pmax		pmax		
	comp=Z,8.0nm,0.8s								
STHS	Stebnicka Huta		92.06	321	*e*P		P	02 56 58.5	+0.2
CRVS	Cervenica-Dubn		92.08

VRAC	Vranov	94.96	322	⇑P		P	02 57 12.1	+0.4
TAOE	Nuku Hiva Isla	95.15	98	*e*LR		LR	03 28 04.1	
	comp=Z,180nm,25.6s							
KRUC	Moravsky	95.17	322	*e*P		P	02 57 12.4	-0.2
MBAR	Mbarara	95.39	270	LR		LR	03 36 51.0	
	comp=Z,53nm,20.4s,baz=82,slow=33							
WAPA	Wapiti River	95.51	32	IAmb		IAmb	02 57 16.6	
	comp=Z,11nm,0.9s							
PDG	Podgorica	95.56	315	⇓P		P	02 57 13.8	-0.7
KULLO	Kullorsuaq	95.68	1	*i* P		P	02 57 14.8	+0.4
KULLO				IAmb		IAmb	02 57 15.8	
	comp=Z,18nm,0.9s							
RONA	Rosalia, Austr	95.73	320	*e*PcP		PcP	02 57 15.4	-0.1
	comp=Z,1.3nm,0.7s							
CONA	Conrad Observa	95.92	321	*i* PcP		P	02 57 16.1	-0.1
	comp=Z,5.7nm,1.3s							
PRU	Pruhonice	95.94	323	*e*P		P	02 57 16.4	+0.3
PRU	Pruhonice	95.94	323	*e*P		P	02 57 16.4	+0.3
CLL	Collm	96.31	324	*e*P		P	02 57 18.0	+0.3
CLL				LmV			03 45 00.0	
	comp=Z,100nm,21.7s							
CLL	Collm	96.31	324	*e*P		P	02 57 18.0	+0.3
CKRC	Cesky Krumlov	96.54	322	*e*P		P	02 57 19.1	+0.2
KHC	Kasperske Hory	96.86	322	IAmb		IAmb	02 57 20.7	
	comp=Z,4.5nm,0.9s							
KHC	Kasperske Hory	96.86	322	*e*P		P	02 57 20.4	+0.1
KHC	Kasperske Hory	96.86	322	*e*P		P	02 57 20.4	+0.1
GEC2	GERESS Array S	96.90	322	IAmb		IAmb	02 57 21.3	
	comp=Z,6.7nm,0.9s							
GERES	GERESS Array B	96.90	322	P		P	02 57 20.2	-0.4
	comp=Z,4.6nm,0.9s,baz=74,slow=5.7,SNR=33							
GERES				LR		LR	03 46 47.1	
	comp=Z,56nm,18.5s,baz=87,slow=39							
	comp=Z,4.6nm,0.9s							
GERES	GERESS Array B	96.90	322	P		P	02 57 19.3	-1.3
SCO	Scoresbysund	96.92	350	*e*P		P	02 57 18.8	-1.3
SCO				IAmb		IAmb	02 57 22.0	
	comp=Z,12nm,1.2s							
MOA	Molln	96.94	321	*i* PcP		P	02 57 20.6	-0.1
	comp=Z,13nm,1.0s							
SUMG	Summit	97.10	355	*e*P		P	02 57 20.9	-0.5
SUMG				IAmb		IAmb	02 57 24.1	
	comp=Z,7.5nm,1.2s							
BIOA	Bad Ischl, Aus	97.39	321	*i* PcP		P	02 57 22.8	0.0
	comp=Z,6.1nm,1.0s							
KBA	Koelnbreinsper	97.82	320	*e*P		P	02 57 23.9	-1.0
	comp=Z,3.8nm,0.9s							
ABTA	Abfaltersbach	98.48	320	*e*Pdiff		P	02 57 26.5	-1.3
	comp=Z,5.2nm,1.1s							
STAL	STALIGIAL	98.55	320	IAmb		IAmb	02 57 27.8	
	comp=Z,13nm,1.3s							
CIMO	Cimolais	98.70	320	IAmb		IAmb	02 57 28.5	
	comp=Z,6.7nm,1.3s							
WTTA	Wattenberg	98.81	321	*i* Pdiff		P	02 57 28.6	-0.7
	comp=Z,12nm,1.1s,SNR=6.8							
WATA	Walderalm	98.82	321	*e*Pdiff		P	02 57 28.4	-0.9
	comp=Z,9.8nm,1.5s							
YBH	Yreka Blue Hor	98.83	45	LR		LR	03 33 50.0	
	comp=Z,35nm,20.2s,baz=296,slow=30							
SQTA	Sankt Quirin	99.09	321	*i* Pdiff		Pdif	02 57 30.1	-0.5
	comp=Z,6.3nm,0.9s,SNR=6.7							
MOTA	Moosalm	99.10	321	*i* Pdiff		Pdif	02 57 30.0	-0.6
	comp=Z,6.6nm,0.9s,SNR=6.0							
FETA	Feichten	99.47	321	*i* Pdiff		Pdif	02 57 31.8	-0.4
	comp=Z,5.0nm,0.9s							
QSPA	South Pole Qui	99.75	180	LR		LR	03 46 03.4	
	comp=Z,71nm,19.0s,baz=130,slow=37							
NEW	Newport	99.78	37	LR		LR	03 52 55.1	
	comp=Z,26nm,18.1s,baz=310,slow=41							
NEW	Newport	99.78	37	P		Pdif	02 57 34.9	+1.5
	baz=297							
LSZ	Lusaka	100.11	256	LR		LR	03 41 03.5	
	comp=Z,65nm,20.0s,baz=112,slow=34							
MSO	Missoula	102.35	38	P		Pdif	02 57 45.3	+0.3
	baz=299							
NVAR	Mina Arroyo Bea	103.23	47	Pdiff		Pdif	02 57 50.6	+1.4
	comp=Z,0.4nm,0.7s,baz=286,slow=5.5,SNR=4.1							
NVAR				PKKPbc		PKKPbc	03 13 42.3	-3.0
	comp=Z,0.4nm,0.6s,baz=148,slow=4.8,SNR=4.6							
ECSD	EROS Data Cent	114.04	33	P		PKPdf	03 02 28.2	-0.1
	baz=313							
MNTX	Cornudas Mount	115.72	48	P		PKPdf	03 02 32.1	+0.2
	baz=301							
JFWS	Jewell Farm	117.87	30	P		PKiKP	03 02 35.9	+0.1
	baz=319							
TXAR	Lajitas Array	118.21	49	PKP		PKiKP	03 02 37.5	+0.6
	comp=Z,0.6nm,0.7s,baz=360,slow=1.9,SNR=9.8							
WMOK	Wichita Mounta	118.58	41	P		PKiKP	03 02 37.5	+0.1
	baz=308							
GLMI	Grayling	118.89	25	P		PKPdf	03 02 37.4	-0.2
	baz=325							
S39A	Bolivar	120.00	36	PKPdf		PKPdf	03 02 39.9	-0.1
HDIL	Hopedale	120.11	31	P		PKPdf	03 02 39.5	-0.6
	baz=319							
U38A	Gravette	120.23	37	PKPdf		PKPdf	03 02 40.4	-0.1
TORD	Torodi Ar. Bea	120.26	291	PKP		PKPdf	03 02 40.6	-0.4
	comp=Z,4.7nm,0.8s,baz=61,slow=1.9,SNR=29							
JCT	Junction City	120.39	46	PKiKP		PKPdf	03 02 40.0	-1.0
JCT	Junction City	120.39	46	P		PKPdf	03 02 40.3	-0.7
	baz=305							
JCT	Junction City	120.39	46	PKiKP		PKPdf	03 02 40.0	-1.0
CCM	Cathedral Cave	120.92	34	P		PKiKP	03 02 42.0	+0.1
	baz=316							
WHTX	Lake Whitney,	121.12	43	P		PKPdf	03 02 42.3	0.0
	baz=308							
SFIN	Lafayette	121.33	29	P		PKPdf	03 02 42.4	-0.1
	baz=321							
AAM	Ann Arbor	121.35	26	P		PKPdf	03 02 42.4	-0.1
	baz=325							
435B	Jarrell	121.77	44	P		PKPdf	03 02 43.2	-0.4
	baz=307							
833A	Chaparral WMA,	121.90	48	P		PKPdf	03 02 43.1	-0.8
	baz=304							
MIAR	Mount Ida	121.99	38	P		PKPdf	03 02 43.4	-0.5
	baz=312							
ERPA	Erie	122.99	23	P		PKPdf	03 02 45.6	0.0
	baz=329							
P49A	Miami Univ. Ec	123.12	28	P		PKiKP	03 02 46.1	0.0
	baz=323							
WCI	Wyandotte Cave	123.38	30	P		PKPdf	03 02 46.4	-0.1
	baz=321							
WVT	Waverly	124.18	33	P		PKPdf	03 02 47.8	-0.2
	baz=319							
P52A	Corning	124.20	26	P		PKPdf	03 02 47.8	-0.2
	baz=326							
BINY	Binghamton	124.36	20	P		PKPdf	03 02 47.7	-0.5
	baz=334							
OXF	Oxford	124.49	36	P		PKPdf	03 02 48.0	-0.7
	baz=316							
SSPA	Standing Stone	125.07	22	P		PKPdf	03 02 49.0	-0.7
	baz=331							
MCWV	Mont Chateau	125.14	24	P		PKPdf	03 02 49.6	-0.2
	baz=328							
L61B	Northampton	125.16	17	P		PKPdf	03 02 49.5	-0.3
	baz=337							
HRV	Adam Dziewonsk	125.42	16	P		PKPdf	03 02 49.4	-0.9
	baz=339							
LRAL	Lakeview Retre	126.94	35	P		PKPdf	03 02 52.2	-1.2
	baz=318							
BLA	Blacksburg	126.96	26	P		PKPdf	03 02 52.3	-1.2
	baz=327							
KMSC	Kings Mountain	128.25	29	P		PKPdf	03 02 54.7	-1.2
	baz=325							
DBIC	Dimbokro	128.46	287	PKP		PKPdf	03 02 56.1	-0.7
	comp=Z,4.6nm,0.8s,baz=72,slow=5.5,SNR=5.5							
CNNC	Cliffs of the	129.72	26	P		PKPdf	03 02 57.8	-0.8
	baz=329							
DWPF	Disney Wildern	133.78	34	P		PKPdf	03 03 05.6	-0.9
	baz=321							
PLCA	Paso Flores	145.91	157	PKPbc		PKPdf	03 03 28.1	-0.1
	comp=Z,13nm,1.0s,baz=186,slow=6.6,SNR=17							
PLCA	Paso Flores	145.91	157			PKPab	03 03 29.3	-0.1
PLCA	Paso Flores	145.91	157	PKP2		PKPab	03 03 29.3	-0.1
PLCA	Paso Flores	145.91	157	*e*P		PKPab	03 03 30.6	+1.2
TRQA	Tornquist	151.02	167			PKPbc	03 03 42.2	-0.1
TRQA	Tornquist	151.02	167	PKIKP		PKPbc	03 03 42.2	-0.1
PEL	Peldehue	152.16	149	PKPbc		PKPbc	03 03 44.5	-0.6
PEL	Peldehue	152.16	149	PKIKP		PKPbc	03 03 44.5	-0.6
CFA	Coronel Fontan	154.62	150	PKP		PKPdf	03 03 41.6	-0.4
	comp=Z,5.0nm,1.1s,baz=214,slow=2.1,SNR=7.1							
CFA				PKPbc		PKiKP	03 03 50.6	+0.1
	comp=Z,2.5nm,0.7s,baz=238,slow=1.2,SNR=7.8							
CFA				PKPab		PKPab	03 04 03.4	-1.8
	comp=Z,3.0nm,0.8s,baz=235,slow=3.9,SNR=5.4							
PLTB	Pedras Altas	158.22	181	PKPab		PKPab	03 04 19.3	-1.2
CZSB	Cruzeiro do Su	161.29	85	*e*P		PKPdf	03 03 51.9	+1.3
CPUP	Villa Florida	163.32	169	PKP		PKPdf	03 03 52.4	+0.1
	comp=Z,1.5nm,0.8s,baz=180,slow=3.0,SNR=3.4							
CPUP				PKPab		PKPab	03 04 44.2	+1.3
	comp=Z,2.5nm,0.8s,baz=195,slow=5.9,SNR=5.3							
LPAZ	La Paz	164.75	116	PKP		PKPdf	03 03 55.5	+1.0
	comp=Z,4.2nm,0.9s,baz=225,slow=1.4,SNR=15							
LPAZ				PKPab		PKPab	03 04 51.8	+1.3
	comp=Z,2.6nm,0.8s,baz=240,slow=2.6,SNR=7.1							
BBSD	Serra de San D	170.24	139	*e*P		PKPdf	03 03 58.9	+1.2
PTLB	Pontes e Lacer	172.47	138	*e*P		PKPdf	03 03 59.8	+1.0

IDC 30 02:58:37.7±2.2, 1°38'N×126°31'E, h0km, mb3.4/2, mbtmp3.5/2, Error ellipse: s-maj=185.8km s-min=27.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.61	160	P	P	03 03 40.1	-0.1
	1.4nm,0.7s,baz=338,slow=12,SNR=13 1.4nm,0.7s						
ASAR	Alice Springs	25.97	164	P	P	03 04 12.5	+0.2
	0.2nm,0.3s,baz=350,slow=11,SNR=3.0						
MKAR	Makanchi Array	59.25	326	P	P	03 08 40.8	-0.2
	0.3nm,0.6s,baz=118,slow=8.0,SNR=4.0 0.3nm,0.6s						

IDC 30 03:20:52.6±8.1, 2°34N×126°24E, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=178.1km s-min=125.2km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.53	161	P	P	03 26 05.6	+1.0
	0.8nm,0.5s,baz=339,slow=11,SNR=15 0.8nm,0.5s						
ASAR	Alice Springs	26.91	164	P	P	03 26 34.8	-0.8
	12nm,0.4s,baz=347,slow=7.6,SNR=1.3 12nm,0.4s						
STKA	Stephens Creek	37.02	158	P	P	03 28 03.8	-0.4
	1.1nm,0.5s,baz=319,slow=11,SNR=3.5 1.1nm,0.5s						

WEL 30 03:24:28.2±0.3, 44°S±3°×17°0E±°, h5km, M3.6/12, ML3.8/12, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=166.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	Lake Benmore	0.35	154	P	Pg	03 24 35.6	+0.6
LBZ				S	Sg	03 24 40.0	+0.3
FOZ	Fox Glacier	0.55	348	P	Pg	03 24 38.8	+0.1
FOZ				S	Sg	03 24 45.8	0.0
GCSZ	Gaunt Creek Bo	0.80	19	P	Pg	03 24 43.3	-0.2
TMZ	Timaru	0.81	113	P	Pg	03 24 44.0	+0.3
TMZ				S	Sg	03 24 54.4	+0.1
JCZ	Jackson Bay	0.85	269	P	Pb	03 24 45.0	-0.5
JCZ				S	Sg	03 24 55.8	+0.3
RPZ	Rata Peaks	0.86	66	P	Pg	03 24 44.6	-0.1
ARCZ	Arundel	0.88	82	P	Pg	03 24 45.2	+0.1
WKZ	Wanaka	1.02	222	P	Pg	03 24 47.6	-0.1
ODZ	Otahua Downs	1.09	154	P	Pg	03 24 48.3	-0.7
WVZ	Waitaha Valley	1.14	30	P	Pg	03 24 49.8	-0.3
EAZ	Earnscleugh	1.25	202	P	Pg	03 24 51.7	-0.5
EAZ				S	Sb	03 25 08.6	-0.1
WACZ	Wakanui South	1.36	85	P	Pn	03 24 53.7	-0.1
WACZ				S	Sb	03 25 11.6	-0.1
MSZ	Milford Sound	1.58	247	P	Pb	03 24 57.7	-0.2
MSZ				S	Sn	03 25 17.5	-0.2
RACZ	Rakaia	1.61	78	P	Pn	03 24 57.1	-0.1
OXZ	Oxford	1.68	64	P	Pn	03 24 57.9	-0.3
INZ	Inchbonnie	1.72	39	P	Pb	03 25 00.1	-0.2
MLZ	Mavora Lakes	1.85	225	P	Pn	03 25 00.6	0.0
HHSZ	Highcliff Hill	1.87	166	P	Pb	03 25 02.8	0.0
TUZ	Tuapeka	1.90	187	P	Pn	03 25 00.4	-0.8
MQZ	McQueen's Vall	1.98	80	P	Pn	03 25 01.7	-0.6
LTZ	Lake Taylor	2.12	53	P	Pn	03 25 04.7	+0.5
AKCZ	Akaroa Harbour	2.13	86	P	Pn	03 25 04.0	-0.5
AMCZ	Amberley	2.15	66	P	Pn	03 25 04.7	+0.1
OKCZ	Okains Bay	2.26	82	P	Pn	03 25 06.6	+0.3
WHZ	Wether Hill Ro	2.32	217	P	Pn	03 25 06.2	-0.8
DCZ	Deep Cove	2.44	234	P	Pn	03 25 08.9	+0.2
SYZ	Scrubby Hill	2.54	193	P	Pn	03 25 08.8	-1.2
DSZ	Denniston Nort	2.69	31	P	Pn	03 25 13.2	+1.1
KHZ	Kahutara	3.09	59	P	Pn	03 25 18.1	+0.5
APZ	The Paps	3.09	206	P	Pn	03 25 16.4	-1.2
THZ	Tophouse	3.16	44	P	Pn	03 25 19.7	+1.1
MRNZ	Matariki Terra	3.37	39	P	Pn	03 25 23.5	+2.1
BSWZ	Blackbirch Sta	3.71	52	P	Pn	03 25 29.1	+2.9
TKNZ	Takaka Hill	3.75	37	P	Pn	03 25 28.9	+2.1
QRZ	Quartz Range	3.76	31	P	Pn	03 25 28.1	+1.4
NNZ	Nelson	3.80	43	P	Pn	03 25 29.4	+2.0
TCW	Tory Channel	4.28	50	P	Pn	03 25 35.6	+1.8
DUWZ	D'Urville Isla	4.39	43	P	Pn	03 25 38.3	+2.8
MRZ	Mangatainoka R	5.38	53	P	Pn	03 25 48.8	-0.2
NBEZ	Newall Road No	5.62	33	P	Pn	03 25 55.1	+2.8
KHEZ	Kahui Hut	5.65	34	P	Pn	03 25 55.4	+2.5
NEZ	North Egmont	5.71	34	P	Pn	03 25 56.7	+3.1
PKE	Pukeiti	5.73	33	P	Pn	03 25 55.7	+1.8
TRVZ	Turoa	6.34	43	P	Pn	03 26 08.8	+6.3
NGZ	Ngauruhoe	6.46	43	P	Pn	03 26 09.3	+5.2
OTVZ	Oturere	6.50	43	P	Pn	03 26 07.8	+3.2

MAN 30 03:49:21.4, 10°99N×124°91E, h6km, mb4.0, ML2.8, MS2.5, Leyte

WEL 30 04:18:54.8±0.3, 42°S±3°×17°4E±°, h12km±3km, M3.2/23, ML3.4/23, MLv3.2/23, Error ellipse: s-maj=0.0km s-min=0.0km az=135.9, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.37	14	P	Pg	04 19 02.7	+0.5
KHZ	Kahutara	0.38	205	P	Pb	04 19 03.5	+0.2
KHZ				S	Sb	04 19 09.7	+0.5
CMWZ	Cape Campbell	0.47	47	P	Pb	04 19 05.5	+0.5
CMWZ				S	Sb	04 19 13.4	+1.5
THZ	Tophouse	0.70	296	P	Pg	04 19 08.6	+0.2
THZ				S	Sg	04 19 17.7	0.0
NNZ	Nelson	0.90	342	P	Pg	04 19 11.8	-0.3
TCW	Tory Channel	0.95	25	P	Pg	04 19 12.7	-0.3
TCW				S	Sb	04 19 26.1	+0.6
MRNZ	Matariki Terra	1.00	312	P	Pg	04 19 14.1	0.0
MRNZ				S	Sb	04 19 27.7	+0.4
GVZ	Greta Valley S	1.04	210	P	Pn	04 19 15.5	+0.3
WEL	Wellington	1.09	44	P	Pn	04 19 15.9	0.0
TKNZ	Takaka Hill	1.20	330	P	Pn	04 19 17.3	0.0
PLWZ	Palliser	1.23	66	P	Pn	04 19 17.0	-0.8
DUWZ	D'Urville Isla	1.28	6	P	Pn	04 19 18.4	0.0
LTZ	Lake Taylor	1.31	237	P	Pb	04 19 19.4	+0.1
AMCZ	Amberley	1.37	216	P	Pn	04 19 20.0	+0.3
CAW	Cannon Point	1.38	46	P	Pn	04 19 19.5	-0.2
PAWZ	Paruwai Farm	1.43	62	P	Pn	04 19 19.6	-1.0
KIW	Kapiti Island	1.49	36	P	Pn	04 19 21.5	+0.1
DSZ	Denniston Nort	1.49	282	P	Pg	04 19 23.0	-0.4
QRZ	Quartz Range	1.55	323	P	Pb	04 19 23.1	-0.2
TRWZ	Traveller	1.60	66	P	Pn	04 19 21.6	-1.2
MTW	Mount Morrison	1.60	56	P	Pn	04 19 21.7	-1.1
OGWZ	Otaki Gorge	1.65	41	P	Pn	04 19 23.2	-0.8
OKCZ	Okains Bay	1.73	197	P	Pn	04 19 24.0	-0.6
HOWZ	Holdsworth Sta	1.77	49	P	Pn	04 19 24.2	-1.0
OXZ	Oxford	1.78	225	P	Pn	04 19 24.5	-0.8
MQZ	McQueen's Vall	1.82	206	P	Pn	04 19 24.4	-1.4
INZ	Inchbonnie	1.83	248	P	Pn	04 19 26.8	+0.8
TMWZ	Te Maipa	1.87	60	P	Pn	04 19 25.2	-1.4
AKCZ	Akaroa Harbour	1.90	199	P	Pn	04 19 26.5	-0.5
MRZ	Mangatainoka R	1.97	45	P	Pn	04 19 27.1	-0.8
RACZ	Rakaia	2.04	215	P	Pn	04 19 27.8	-1.0
PRWZ	Pori Road	2.26	48	P	Pb	04 19 33.7	-1.7
POWZ	Post Office Ro	2.26	43	P	Pn	04 19 31.2	-0.8
WACZ	Wakanui South	2.34	216	P	Pn	04 19 32.1	-0.9
WVZ	Waitaha Valley	2.44	245	P	Pn	04 19 35.6	+1.2
WAZ	Wanganui	2.50	22	P	Pb	04 19 37.6	-2.0
RPZ	Rata Peaks	2.58	230	P	Pn	04 19 35.8	-0.4
ARCZ	Arundel	2.66	224	P	Pn	04 19 36.8	-0.6
KHEZ	Kahui Hut	2.78	4	P	Pb	04 19 44.2	-0.2
GCSZ	Gaunt Creek Bo	2.81	243	P	Pn	04 19 40.8	+1.3
PRHZ	Porangahau	2.83	51	P	Pb	04 19 45.8	+0.7
PKE	Pukeiti	2.88	4	P	Pb	04 19 43.9	-2.2
PKVZ	Pokaka	3.03	24	P	Pb	04 19 47.8	-0.9
VRZ	Vera Road	3.04	15	P	Pb	04 19 46.5	-2.3
TMZ	Timaru	3.06	220	P	Pn	04 19 42.2	-0.8
MOVZ	Moawhango	3.07	30	P	Pb	04 19 48.0	-1.2
WNVZ	Wahianoa	3.08	28	P	Pn	04 19 44.7	+1.4
TRVZ	Turoa	3.09	27	P	Pb	04 19 48.4	-1.3
BHHZ	Black Hill Sta	3.12	35	P	Pn	04 19 43.3	-0.5
BHHZ				P	Pb	04 19 49.8	-0.4
KRHZ	Kereru	3.13	40	P	Pn	04 19 42.2	-1.7
TUVZ	Tukino	3.15	28	P	Pb	04 19 48.9	-1.8
NGZ	Ngauruhoe	3.22	27	P	Pn	04 19 48.5	+3.3
SNVZ	South Ngauruho	3.22	27	P	Pb	04 19 51.3	-0.7
FOZ	Fox Glacier	3.24	242	P	Pn	04 19 46.7	+1.3
OTVZ	Oturere	3.25	27	P	Pb	04 19 51.7	-0.8
NNVZ	North Ngauruho	3.26	26	P	Pn	04 19 46.9	+1.1
WTVZ	West Tongariro	3.27	26	P	Pb	04 19 51.5	-1.2
ETVZ	East Tongariro	3.29	28	P	Pb	04 19 48.9	+2.7
TMVZ	Te Maari	3.31	27	P	Pb	04 19 52.0	-1.4
HIZ	Hauiti	3.65	14	P	Pb	04 19 55.8	-3.4
ODZ	Otahua Downs	3.73	216	P	Pn	04 19 50.8	-1.4
JCZ	Jackson Bay	4.15	240	P	Pn	04 19 59.6	+1.6
MKAZ	Moumakai	5.08	13	P	Pn	04 20 14.6	+3.9

*IDC **30** 04:41:15.0±1.5, 0°.59S×124°.18E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=197.9km s-min=23.7km az=62.0*
*DJA **30** 04:41:18.9±0.9, 0°.5S±6°×12°.5E±°, h17km±8km, M3.7/8, mb3.8/1, MLv3.6/8*

ISC 30 04:41:15.7±0.9, 0°.0N±0°.1×125°.30E±0°.05, h10km, n10, σ0°.84/11, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	2.17	162	P	Pn	04 41 52.3	+0.4
TNTI	Ternate	2.19	70	P	Pg	04 41 57.5	-0.3
GTOI	Gorontalo	2.37	285	P	Pb	04 41 57.8	-0.6
GTOI				S	Sb	04 42 26.7	-1.1
LUWI	Luwuk	2.74	247	P	Pn	04 42 00.2	+0.5
MRSI	Marisa	3.39	278	Pg	Pg	04 42 20.5	-0.2
MPSI	Mapaga	5.41	273	P	Pn	04 42 38.0	+1.5
WRA	Warramunga Arr	21.73	156	P	P	04 46 06.7	-0.7
	0.3nm,0.4s,baz=331,slow=11,SNR=5.2 0.3nm,0.4s						
ASAR	Alice Springs	24.99	161	P	P	04 46 39.2	-0.6
	0.9nm,1.1s,baz=334,slow=8.2,SNR=2.6						
STKA	Stephens Creek	35.28	156	P	P	04 48 11.5	+0.7
	1.4nm,0.6s,baz=345,slow=12,SNR=2.8 1.4nm,0.6s						
MKAR	Makanchi Array	59.82	327	P	P	04 51 21.6	+0.3
	0.3nm,0.4s,baz=124,slow=8.5,SNR=10 0.3nm,0.4s						

*NEIC **30** 04:56:32.5±1.8, 2°.78S±0°.05×79°.48W±0°.08, h51km±11km, mb4.2/10, Error ellipse: s-maj=12.8km s-min=4.8km az=116.0*
*IGQ **30** 04:56:32±0.2, 3°S±2°×8°0W±°, h36km*
*VAO **30** 04:56:38.6±1.5, 2°.44S×78°.56W, h10km, mb4.5*

ISC 30 04:56:30.5±0.9, 2°.62S±0°.03×79°.87W±0°.04, h39km±3km, n135, σ2°18/135, mb4.4/3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILO	Milagro-Astudi	0.46	43	P	Pn	04 56 43.0	+2.4
GYE3	Ecuador-Guayaq	0.46	356	P	Pn	04 56 42.0	+1.3
MORR	Playas El Morr	0.47	267	P	Pn	04 56 43.0	+2.3
APLA	Playas - Guaya	0.52	268	P	Pn	04 56 43.0	+1.5
AMIL	Milagro (Trans	0.55	30	P	Pn	04 56 44.0	+2.0
AGUAY	Guayaquil	0.57	352	P	Pn	04 56 46.0	+3.8
ACH2	Ecuador-Machal	0.64	175	P	Pn	04 56 45.0	+1.8
ACH1	Ecuador-Univer	0.67	183	P	Pn	04 56 46.0	+2.5
ARNL	Arenillas	0.94	192	Pn	Pn	04 56 49.0	+1.7
ARNL				Sn	Sn	04 57 02.2	+2.6
ARNL	Arenillas	0.94	192	P	Pn	04 56 49.0	+1.7
ACUE	Ecuador-Cuenca	0.95	108	P	Pn	04 56 51.0	+3.3
ALIBE	La Libertad	1.04	291	P	Pn	04 56 49.0	+0.4
PPLP	Puerto Lpez	1.40	320	P	Pn	04 56 54.0	+0.4
PPLP	Puerto Lpez	1.40	320	P	Pn	04 56 54.0	+0.4
PPLP	Puerto Lpez	1.40	320	*e*P	Pn	04 56 54.5	+1.0
CHSH	Refugio Sur-Vo	1.50	42	Pn	Pn	04 56 56.4	+1.0
CHSH				Sn	Sn	04 57 12.0	-2.1
CHSH	Refugio Sur-Vo	1.50	42	P	Pn	04 56 56.0	+0.6
TAMH	Tambohuasha Ch	1.52	46	P	Pn	04 56 57.0	+1.3
PORT	Chimborazo Vol	1.59	44	Pn	Pn	04 56 58.3	+1.6
PORT				Sn	Sn	04 57 14.3	-1.9
PORT	Chim

REVN	**San Rafael**	**3.38**	**42**	P	**Pn**	**04 57 23.0**	**+2.0**
URCU	**Urcuqui**	**3.44**	**28**	P	**Pn**	**04 57 24.0**	**+2.0**
YAHU	**Yahuarcocha**	**3.47**	**31**	P	**Pn**	**04 57 25.0**	**+2.6**
RVRD	**Rio Verde**	**3.69**	**8**	P	**Pn**	**04 57 26.0**	**+0.9**
CASC	**Dorado de Casc**	**3.73**	**43**	P	**Pn**	**04 57 27.0**	**+1.3**
LNGL	**El Angel-Carch**	**3.82**	**29**	P	**Pn**	**04 57 30.0**	**+2.7**
BONI	**La Bonita**	**3.84**	**38**	P	**Pn**	**04 57 29.0**	**+1.6**
CHL1	**Volc¡n Chiles**	**3.90**	**30**	P	**Pn**	**04 57 30.0**	**+1.6**
CHMA	**Chilma**	**3.90**	**28**	P	**Pn**	**04 57 31.0**	**+2.8**
ECEN	**Cerro Negro**	**3.91**	**29**	P	**Pn**	**04 57 31.0**	**+2.4**
TULM	**Tulcn-Chalpat**	**3.91**	**32**	Pn	**Pn**	**04 57 30.3**	**+1.8**
TULM	**Tulcn-Chalpat**	**3.91**	**32**	P	**Pn**	**04 57 30.0**	**+1.5**
TULM	**Tulcn-Chalpat**	**3.91**	**32**	*eP*	**Pn**	**04 57 31.4**	**+2.8**
SNLR	**San Lorenzo-Es**	**4.02**	**15**	P	**Pn**	**04 57 30.0**	**+0.5**
CMBC	**Cumbal**	**4.08**	**30**	P	**Pn**	**04 57 34.0**	**+3.1**
CMBC	**Cumbal**	**4.08**	**30**	*eP*	Pn	04 57 36.1	+5.2
TUMC	**Tumaco**	**4.56**	**15**	Pn	**Pn**	**04 57 41.4**	**+4.4**
GCUF	**Volcan Galeras**	**4.58**	**33**	*eP*	**Pn**	**04 57 40.9**	**+3.2**
CRUC	**La Cruz**	**5.08**	**35**	*eP*	**Pn**	**04 57 47.6**	**+3.1**
FLOC	**Florencia**	**5.93**	**45**	*eP*	**Pn**	**04 57 56.7**	**+0.8**
GARC	**Garzon, Huila**	**6.47**	**43**	*eP*	**Pn**	**04 58 05.2**	**+1.6**
PLMC	**San Jos del P**	**8.29**	**26**	*eP*	**Pn**	**04 58 28.9**	**+0.6**
CZSB	**Cruzeiro do Su**	**8.76**	**126**	Pn	**Pn**	**04 58 33.6**	**-1.1**
CZSB	**Cruzeiro do Su**	**8.76**	**126**	*eP*	**Pn**	**04 58 34.2**	**-0.5**
NNA	**Nana**	**9.78**	**162**	Pn	**Pn**	**04 58 47.0**	**-1.8**
NNA	**Nana**	**9.78**	**162**	*eP*	**Pn**	**04 58 49.5**	**+0.8**
TBTG	**Tabatinga, AM**	**10.06**	**99**	Pn	Pn	04 58 49.3	-3.3
DUNO	**Dulce Nombre,**	**13.80**	**336**	P	**P**	**04 59 54.5**	**+3.0**
SDV	**Santo Domingo**	**14.68**	**39**	P	**Pn**	**04 59 58.3**	**+2.5**
ETMB	**Extrema**	**15.34**	**118**	Pn	Pn	04 59 59.8	-4.5
ETMB	**Extrema**	**15.34**	**118**	*eP*	Pn	04 59 59.9	-4.4
BAUV	**El Baul**	**16.46**	**46**		**Pn**	**05 00 17.1**	**-1.6**
BAUV				IAmb	IAmb	05 00 56.9	
	comp=Z,9.0nm,0.9s						
LPAZ	**La Paz**	**17.83**	**140**	P	**Pn**	**05 00 33.8**	**-2.6**
PB12	**IPOC Station P**	**18.44**	**150**	P	**P**	**05 00 39.3**	**-3.7**
PB12				IAmb	IAmb	05 00 42.2	
	comp=Z,6.4nm,0.8s						
PB16	**IPOC Station P**	**18.63**	**148**	P	**P**	**05 00 43.4**	**-2.1**
MACA	**Manacapuru-AM**	**19.17**	**92**	P	**P**	**05 00 47.3**	**-3.6**
MACA	**Manacapuru-AM**	**19.17**	**92**	*eP*	**P**	**05 00 48.5**	**-2.4**
BOAV	**Boa Vista**	**19.97**	**76**	P	**P**	**05 00 55.9**	**-3.8**
BOAV				IAmb	IAmb	05 01 33.5	
	comp=Z,18nm,1.4s						
PTLB	**Pontes e Lacer**	**24.08**	**123**	*eP*	**P**	**05 01 44.5**	**+2.0**
ITTB	**Itaituba**	**24.15**	**95**	*eP*	**P**	**05 01 41.6**	**-1.6**
NPGB	**Novo Progresso**	**24.81**	**101**	*eP*	**P**	**05 01 49.3**	**0.0**
GCPR	**Guaynabo City**	**24.84**	**33**	P	**P**	**05 01 48.2**	**-1.2**
MALB	**Monte Alegre**	**25.60**	**89**	*eP*	**P**	**05 01 56.6**	**+0.3**
PLCA	**Paso Flores**	**38.87**	**169**	P	**P**	**05 03 49.7**	**-2.5**
PLCA				IAmb	IAmb	05 03 57.5	
	comp=Z,8.2nm,1.2s						
T35A	**Sooner Cattle**	**42.27**	**340**	P	**P**	**05 04 22.5**	**+2.3**
T35A				IAmb	IAmb	05 04 52.8	
	comp=Z,14nm,1.4s						
DLBC	**Dease Lake**	**72.66**	**335**	P	**P**	**05 07 57.3**	**+3.2**
DLBC				IAmb	IAmb	05 08 08.9	
	comp=Z,3.8nm,0.8s						

*NORS **30** 05:11:33.1±0.0, 41°.86N×45°.94E, h16km, MPVA3.5*
*MOS **30** 05:11:34.0±0.0, 41°.86N×45°.95E, h22km, MPVA3.4*
*DRS **30** 05:11:35.6±0.0, 41°.84N×45°.90E, h16km*
*TIF **30** 05:11:35.3, 41°.90N×45°.86E, h16km±2km*

ISC 30 05:11:35.2±1.1, 41°.86N±0°.03×45°.91E±0°.02, h13km±9km, n43, σ1§13/83, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.25**	**96**	P	**Pb**	**05 11 42.0**	**+0.4**
LGD				S	**Sb**	**05 11 46.9**	**+1.0**
LGD	**Lagodekhi**	**0.25**	**96**	*e*Pg	**Pb**	**05 11 42.0**	**+0.4**
LGD				*e*Sg	**Sb**	**05 11 46.9**	**+1.0**
DDFL	**Dedoflistskaro**	**0.44**	**159**	P	**Pn**	**05 11 47.8**	**+0.5**
DDFL				S	**Sn**	**05 11 58.7**	**+3.5**
SEAG	**Tbilisi Sea**	**0.83**	**264**	P	**Pg**	**05 11 52.0**	**+0.7**
SEAG				S	**Sn**	**05 12 04.6**	**-0.1**
SEAG	**Tbilisi Sea**	**0.83**	**264**	*e*Pg	**Pg**	**05 11 52.0**	**+0.7**
SEAG				*e*Sg	**Sn**	**05 12 04.6**	**-0.1**
BTLR	**Botlikh**	**0.84**	**16**	*e*Pg	**Pb**	**05 11 51.2**	**-0.4**
BTLR				*e*Sg	**Sg**	**05 12 02.9**	**+0.5**
BTNK	**Botanikuri**	**0.85**	**258**	P	Pb	05 11 45.6	-6.2
BTNK				S	**Sb**	**05 11 57.8**	**-5.3**
BTNK	**Botanikuri**	**0.85**	**258**	*e*Pg	Pb	05 11 45.6	-6.2
BTNK				*e*Sg	**Sb**	**05 11 57.8**	**-5.3**
XNZR	**Khunzakh**	**0.90**	**41**	*e*Pg	**Pg**	**05 11 52.5**	**-0.1**
	29nm,0.2s						
XNZR				*e*Sg	**Sg**	**05 12 05.0**	**+0.5**
	202nm,0.2s						
KMKR	**Kumukh**	**0.93**	**73**	*e*Pg	**Pb**	**05 11 52.4**	**-0.9**
	4.0nm,0.1s						
KMKR				*e*Sg	**Sg**	**05 12 05.3**	**-0.1**
	1.0nm,0.4s						
GNBR	**Gunib**	**0.95**	**56**	*e*Pg	**Pb**	**05 11 52.6**	**-0.9**
	20nm,0.2s						
GNBR				*e*Sg	**Sg**	**05 12 05.7**	**-0.2**
	45nm,0.5s						
SHTL	**Shatili**	**0.97**	**325**	P	**Pb**	**05 11 53.6**	**-0.4**
SHTL				S	**Sb**	**05 12 06.0**	**-0.8**
SHTL	**Shatili**	**0.97**	**325**	*e*Pg	**Pb**	**05 11 53.6**	**-0.4**
SHTL				*e*Sg	**Sb**	**05 12 06.0**	**-0.8**
ARKR	**Arakani**	**1.10**	**47**	*e*Pg	**Pb**	**05 11 55.3**	**-0.7**
	8.0nm,0.1s						
ARKR				*e*Sg	**Sn**	**05 12 10.4**	**-0.9**
	13nm,0.3s						
KRNR	**Karanay**	**1.22**	**37**	*e*Pg	**Pn**	**05 11 57.5**	**-0.5**
	7.0nm,0.2s						
KRNR				*e*Sg	**Sg**	**05 12 14.6**	**+0.1**
	71nm,0.3s						
GUDG	**Gudauri**	**1.22**	**300**	P	**Pn**	**05 11 57.9**	**-0.3**
GUDG				S	**Sb**	**05 12 14.4**	**+0.4**
GUDG	**Gudauri**	**1.22**	**300**	*e*Pg	**Pn**	**05 11 57.9**	**-0.3**
GUDG				*e*Sg	**Sb**	**05 12 14.4**	**+0.4**
PNSH	**Pansheti**	**1.23**	**309**	P	**Pn**	**05 11 58.2**	**-0.1**
PNSH				S	**Sb**	**05 12 13.9**	**-0.4**
PNSH	**Pansheti**	**1.23**	**309**	*e*Pg	**Pn**	**05 11 58.2**	**-0.1**
PNSH				*e*Sg	**Sb**	**05 12 13.9**	**-0.4**
BUJR	**Buynaksk**	**1.31**	**42**	*e*Pg	**Pb**	**05 11 59.2**	**-0.5**
	37nm,0.2s						
BUJR				*e*Sg	**Sg**	**05 12 17.3**	**-0.2**
	32nm,0.3s						
DLMR	**Dylym**	**1.32**	**24**	*e*Pg	**Pg**	**05 12 00.1**	**-0.5**
	63nm,0.3s						
DLMR				*e*Sg	**Sg**	**05 12 18.9**	**+1.0**
	37nm,0.3s						
URKR	**Urkarakh**	**1.32**	**76**	*e*Pg	**Pb**	**05 11 59.3**	**-0.6**
	14nm,0.4s						
URKR				*e*Sg	**Sg**	**05 12 17.3**	**-0.5**
	25nm,0.3s						
GROC	**Groznyy**	**1.34**	**357**	*e*Pg	**Pb**	**05 11 60.0**	**-0.3**
	72nm,0.4s						
GROC				*e*Sg	**Sg**	**05 12 18.5**	**0.0**
	119nm,0.4s						
DBC	**Dubki**	**1.34**	**30**	*e*Pg	**Pb**	**05 12 00.3**	**0.0**
	6.0nm,1.1s						
DBC				*e*Sg	**Sg**	**05 12 19.2**	**+0.6**
	79nm,0.4s						
TRLG	**Trialeti**	**1.39**	**257**	P	**Pn**	**05 12 00.5**	**0.0**
TRLG				S	**Sb**	**05 12 19.5**	**+0.7**
TRLG	**Trialeti**	**1.39**	**257**	*e*Pg	**Pn**	**05 12 00.5**	**0.0**
TRLG				*e*Sg	**Sb**	**05 12 19.5**	**+0.7**
DMNI	**Dmanisi**	**1.39**	**248**	P	**Pn**	**05 11 59.9**	**-0.5**
DMNI				S	**Sn**	**05 12 18.8**	**0.0**
AKT	**Akhty**	**1.42**	**105**	*e*Pg	**Pn**	**05 12 00.1**	**-0.7**
	17nm,0.2s						
AKT				*e*Sg	**Sb**	**05 12 19.0**	**-0.5**
	50nm,0.4s						
LACR	**Lac**	**1.54**	**310**	*e*Pg	**Pb**	**05 12 03.5**	**-0.1**
LACR				*e*Sg	**Sb**	**05 12 23.5**	**+0.5**
BRNG	**Burnasheti**	**1.57**	**262**	P	**Pn**	**05 12 03.6**	**+0.6**
BRNG				S	**Sg**	**05 12 25.8**	**-0.1**
KSMR	**Kasumkent**	**1.68**	**98**	*e*Pg	**Pb**	**05 12 05.4**	**-0.7**
KSMR				*e*Sg	**Sg**	**05 12 27.9**	**-1.5**
ALIG	**Mtskhetisjvari**	**1.70**	**279**	P	**Pn**	**05 12 05.2**	**+0.6**
ALIG				S	**Sn**	**05 12 27.2**	**+0.9**
ALIG	**Mtskhetisjvari**	**1.70**	**279**	*e*Pg	**Pn**	**05 12 05.2**	**+0.6**
ALIG				*e*Sg	**Sn**	**05 12 27.2**	**+0.9**
ZEI	**Tsey**	**1.75**	**303**	*e*Pg	**Pb**	**05 12 07.3**	**0.0**
ZEI				*e*Sg	**Sb**	**05 12 30.7**	**+1.4**
ARNR	**Ardon**	**1.78**	**318**	*e*Pg	**Pb**	**05 12 07.2**	**-0.5**
ARNR				*e*Sg	**Sg**	**05 12 32.6**	**+0.1**
GNI	**Garni**	**1.92**	**208**	*e*Pg	**Pb**	**05 12 09.8**	**-0.4**
ONI	**Oni**	**1.96**	**293**	P	**Pb**	**05 12 10.4**	**-0.4**
ONI				S	**Sb**	**05 12 35.8**	**+0.6**
ONI	**Oni**	**1.96**	**293**	*e*Pg	**Pb**	**05 12 10.4**	**-0.4**
ONI				*e*Sg	**Sb**	**05 12 35.8**	**+0.6**
DIGR	**Digorskoe uzhe**	**2.01**	**302**	*e*Pg	**Pb**	**05 12 11.8**	**+0.1**
DIGR				*e*Sg	**Sb**	**05 12 38.0**	**+1.3**
STDR	**Stavd-Durt**	**2.03**	**319**	*e*Pg	**Pg**	**05 12 14.5**	**+0.4**
STDR				*e*Sg	**Sg**	**05 12 41.9**	**+1.4**
ABS	**Abastumani**	**2.31**	**268**	P	**Pb**	**05 12 15.4**	**-1.5**
ABS				S	**Sb**	**05 12 46.3**	**+0.9**
ABS	**Abastumani**	**2.31**	**268**	*e*Pn	**Pb**	**05 12 15.4**	**-1.5**
ABS				*e*Sn	**Sb**	**05 12 46.3**	**+0.9**
SHA1	**Shidzhatmaz**	**3.04**	**309**	*e*Pn	**Pn**	**05 12 23.5**	**+0.3**
SHA1				*e*Sn	**Sn**	**05 12 59.2**	**-0.4**

*UPP **30** 05:17:58.7±0.0, 67°.83N×20°.17E, h0km, ML2.7, Confirmed*
Induced event
*HEL **30** 05:17:59.5±0.4, 67°.81N×20°.24E, h0km, ML1.7, Explosion*

ISC 30 05:17:58.1±0.8, 67°.80N±0°.03×20°.29E±0°.02, h0km, n28, σ1§10/45, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.27**	**276**	P	**Pg**	**05 18 03.0**	**-0.2**
RATU				S	**Sg**	**05 18 06.5**	**-0.1**
KOVU	**Salmi**	**0.43**	**354**	P	**Pg**	**05 18 06.5**	**+0.2**
NIKU	**Nikkaluokta**	**0.48**	**279**	P	**Pg**	**05 18 07.2**	**-0.1**
NIKU				S	**Sg**	**05 18 12.5**	**-1.1**
DUNU	**Dundret**	**0.69**	**171**	P	**Pb**	**05 18 12.4**	**-0.5**
LANU	**Lannavaara**	**0.69**	**68**	P	**Pb**	**05 18 12.2**	**-0.8**
LANU	**Lannavaara**	**0.69**	**68**	PG	**Pg**	**05 18 11.1**	**-0.2**
LANU				SG	**Sb**	**05 18 21.8**	**-1.2**
MASU	**Masugnsbyn**	**0.74**	**117**	P	**Pb**	**05 18 13.6**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**239**	P	**Pg**	**05 18 13.6**	**+0.1**
KIF	**Kilpisjarvi**	**1.23**	**9**	*e*P	**Pn**	**05 18 22.7**	**+0.3**
KIF	**Kilpisjarvi**	**1.23**	**9**	PG	**Pn**	**05 18 22.4**	**0.0**
KIF				SG	**Sg**	**05 18 37.3**	**-0.2**
KIF				MSG		05 18 37.6	
	comp=Z,6.3nm,0.2s						
PAJU	**Pajala**	**1.34**	**124**	P	**Pb**	**05 18 24.1**	**0.0**
PAJU	**Pajala**	**1.34**	**124**	PG	**Pg**	**05 18 22.9**	**-0.8**
PAJU				SB	**Sn**	**05 18 43.3**	**+0.8**
HEF	**Hetta**	**1.40**	**63**	*e*P	**Pb**	**05 18 25.2**	**+0.1**
HEF	**Hetta**	**1.40**	**63**	PG	**Pb**	**05 18 25.0**	**-0.1**
HEF				MSG		05 18 42.3	
	comp=Z,4.1nm,0.2s						
HEF				SB	**Sn**	**05 18 43.8**	**-0.3**
ERTU	**Ertsjaerv**	**1.45**	**148**	P	**Pb**	**05 18 26.5**	**+0.5**
ERTU	**Ertsjaerv**	**1.45**	**148**	PG	**Pb**	**05 18 26.0**	**0.0**
ERTU				SN	**Sn**	**05 18 47.0**	**+1.7**
KLF	**Kolari**	**1.52**	**110**	PG	**Pg**	**05 18 27.4**	**+0.2**
KLF				MSG		05 18 45.6	
	comp=Z,4.1nm,0.2s						
KLF				SN	**Sn**	**05 18 48.9**	**+1.9**
KTK1	**Kautokeino**	**1.64**	**40**	PG	**Pn**	**05 18 27.5**	**-0.6**
KTK1				SN	**Sg**	**05 18 53.6**	**+3.1**
TRO	**Tromso**	**1.91**	**346**	PB	**Pb**	**05 18 32.8**	**-1.0**
TRO				SG	**Sb**	**05 18 58.1**	**0.0**
KALU	**Kalix**	**2.29**	**147**	PG	**Pb**	**05 18 40.1**	**-0.2**
	baz=334						
KALU				SG	**Sg**	**05 19 11.5**	**-0.2**
TOF	**Tornio**	**2.35**	**136**	PB	**Pb**	**05 18 39.7**	**-1.4**
TOF				MSG		05 19 09.5	
	comp=Z,3.1nm,0.2s						
TOF				SG	**Sg**	**05 19 13.3**	**0.0**
SGF	**Sodankyl**	**2.41**	**96**	PB	**Pb**	**05 18 42.0**	**-0.3**
SGF				SB	**Sb**	**05 19 13.1**	**+0.5**
RNF	**Rovaniemi**	**2.53**	**116**	PB	**Pb**	**05 18 42.8**	**-1.5**
RNF				SG	**Sg**	**05 19 18.2**	**-1.0**
ARA0	**ARCESS Array S**	**2.58**	**45**	PN	**Pb**	**05 18 43.2**	**-2.1**
	baz=227						
ARA0				SB	**Sb**	**05 19 17.1**	**-0.4**
KEV	**Kevo**	**3.13**	**48**	PB	**Pb**	**05 18 53.6**	**-1.0**
KEV				SN	**Sn**	**05 19 29.2**	**+2.4**
KEV				MSG		05 19 31.7	
	comp=Z,2.6nm,0.2s						
VRF	**Varrio**	**3.54**	**87**	PN	**Pn**	**05 18 55.6**	**+1.4**
VRF				SB	**Sb**	**05 19 46.3**	**+1.3**
OLKF	**Oulanka, Finla**	**3.86**	**108**	PG	**Pg**	**05 19 10.4**	**-1.6**
KU6	**Riekki**	**4.18**	**111**	PG	**Pg**	**05 19 15.9**	**-2.2**
	baz=300						

IDC 30 05:33:14.7±2.7, 54°.31N×86°.74E, h0km, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=22.2km s-min=13.7km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.19**	**253**	I	I	05 40 00.0	
	baz=70,slow=332,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.19**	**253**	Pg	Pg	05 33 35.7	-1.8
	1.2nm,0.3s,baz=68,slow=16,SNR=15						
ZALV				Lg	Lg	05 33 54.1	
	1.3nm,0.3s,baz=69,slow=28,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.23**	**237**	Pn	Pn	05 34 48.6	+0.8
	baz=52,slow=13,SNR=8.2						
KURBB				Sn	Sn	05 35 58.4	-1.3
	baz=45,slow=46,SNR=1.1						
KURBB				Lg	Lg	05 36 33.9	
	0.1nm,0.3s,baz=57,slow=35,SNR=3.7						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**8.04**	**202**	Pn	Pn	05 35 13.4	+0.7
	0.1nm,0.3s,baz=21,slow=12,SNR=5.3						
MKAR				Sn	Sn	05 36 43.0	-1.4
	0.1nm,0.3s,baz=27,slow=26,SNR=4.4						
MKAR				Lg	Lg	05 37 32.4	
	baz=19,slow=27,SNR=2.4						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**9.79**	**269**	Pn	Pn	05 35 36.8	+0.2
	baz=81,slow=13,SNR=1.8						
	0.2nm,0.3s						

*NEIC **30** 05:44:32.6±1.8, 29°.8S±0°.1×177°.5W±0°.1, h56km±8km, mb4.5/20, Error ellipse: s-maj=21.4km s-min=11.2km az=48.0*
*IDC **30** 05:44:34.3±4.7, 29°.89S×177°.49W, h52km±37km, mb4.1/4, mbtmp4.3/4, MS4.5/2, Error ellipse: s-maj=59.8km s-min=51.1km az=7.0*

ISC 30 05:44:30.6±0.8, 30°.03S±0°.09×177°.4W±0°.1, h35km, n28, σ1§83/28, mb4.4/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.88**	**332**	P	**Pn**	**05 44 49.0**	**+2.5**
	471nm,0.2s,baz=107,slow=23,SNR=7.4						
RAO				S	**Sn**	**05 45 00.4**	**+2.3**
	1µm,0.2s,baz=104,slow=23,SNR=13						
RAO	**Raoul Island**	**0.88**	**332**	Pn	**Pn**	**05 44 45.1**	**-1.4**
RAO				Sn	**Sn**	**05 45 00.3**	**+2.3**
OUENC	**Ouen Island, N**	**16.00**	**295**	Pn	**Pn**	**05 48 12.8**	**-0.2**
OUENC				IAmb	IAmb	05 48 41.9	
	comp=Z,24nm,1.0s						
ONTNC	**Ouen Toro**	**16.36**	**294**		**Pn**	**05 48 17.5**	**-0.2**
ONTNC				IAmb	IAmb	05 48 43.8	
	comp=Z,41nm,1.1s						
DZM	**Mont Dzumac**	**16.50**	**295**	Pn	**Pn**	**05 48 17.6**	**-1.9**
LIFNC	**LIFOU**	**16.61**	**300**	Pn	**Pn**	**05 48 18.6**	**-2.2**
LIFNC				IAmb	IAmb	05 48 29.9	
	comp=Z,132nm,1.1s						
AFI	**Afiamalu**	**16.88**	**19**	Pn	**Pn**	**05 48 22.5**	**-1.7**
AFI				IAmb	IAmb	05 48 31.1	
	comp=Z,41nm,1.1s						
CTA	**Charters Tower**	**34.22**	**278**	P	**P**	**05 51 15.8**	**+2.7**
	comp=Z,2.2nm,0.5s,baz=102,slow=8.7,SNR=1.5						
	comp=Z,2.2nm,0.5s						
CTAO	**Charters Tower**	**34.22**	**278**	P	**P**	**05 51 11.6**	**-1.5**
CTAO				IAmb	IAmb	05 51 33.2	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**35.03**	**256**	P	**P**	**05 51 22.5**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=113,slow=15,SNR=3.0						
	comp=Z,0.7nm,0.3s						
STKA	**Stephens Creek**	**35.03**	**256**	P	**P**	**05 51 18.0**	**-2.1**
PMG	**Port Moresby**	**38.89**	**294**	LR	LR	06 05 42.0	
	comp=Z,2µm,18.8s,baz=6.5,slow=33						
BBOO	**Buckleboo**	**39.53**	**254**	P	**P**	**05 51 59.4**	**+1.2**
BBOO				IAmb	IAmb	05 52 36.7	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**43.61**	**266**	P	**P**	**05 52 32.9**	**+1.1**
	comp=Z,12nm,0.4s,baz=104,slow=8.6,SNR=4.8						
	comp=Z,12nm,0.4s						
WR0	**Warramunga Arr**	**44.39**	**272**	P	**P**	**05 52 38.7**	**+0.7**
WR0				IAmb	IAmb	05 52 57.0	
	comp=Z,8.3nm,1.5s						
WB2	**Warramunga Arr**	**44.56**	**271**	P	**P**	**05 52 38.3**	**-1.1**
WB2				IAmb	IAmb	05 52 42.6	
	comp=Z,9.4nm,1.4s						
WRAB	**Tennant Creek**	**44.56**	**271**	P	**P**	**05 52 37.6**	**-1.9**
WRAB				IAmb	IAmb	05 53 14.9	
	comp=Z,9.1nm,1.5s						
WRA	**Warramunga Arr**	**44.57**	**271**	P	**P**	**05 52 40.4**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=111,slow=7.6,SNR=13						
	comp=Z,0.7nm,0.4s						
WRA	**Warramunga Arr**	**44.57**	**271**	P	**P**	**05 52 37.2**	**-2.2**
WB0	**Warramunga Arr**	**44.59**	**272**	P	**P**	**05 52 38.2**	**-1.4**
WB0				IAmb	IAmb	05 53 09.7	
	comp=Z,8.1nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.84**	**269**	P	**P**	**05 53 40.4**	**-2.7**
PSA00	**Pilbara Seismi**	**56.49**	**263**	P	**P**	**05 54 07.8**	**-1.7**
SIJI	**Sorong**	**56.65**	**291**	LR	LR	06 17 41.5	
	comp=Z,172nm,19.5s,baz=296,slow=35						
QSPA	**South Pole Qui**	**60.08**	**180**	P	**P**	**05 54 35.2**	**+1.1**
JCJ	**Chichijima**	**68.69**	**322**	P	**P**	**05 55 28.6**	**-2.1**
MG05	**Puerto Natales**	**75.50**	**142**	P	**P**	**05 56 12.1**	**+1.0**
ESPZ	**Base Esperanza**	**75.71**	**156**	P	**P**	**05 56 12.3**	**+0.2**
FINES	**FINESS Array B**	**144.96**	**340**	PKP	**PKPdf**	**06 04 04.4**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=82,slow=3.1,SNR=17						

IDC 30 05:52:07.4±1.6, 4°.14S×136°.10E, h0km, mb3.7/2, mbtmp3.9/4, ML3.4/2, Error ellipse: s-maj=71.4km s-min=30.1km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.80**	**186**	Pn	Pn	05 55 51.4	-0.1
	0.1nm,0.3s,baz=9.1,slow=12,SNR=4.8						
WRA				Sn	Sn	05 58 41.5	-5.9
	0.1nm,0.3s,baz=1.1,slow=15,SNR=2.1						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**19.53**	**186**	P	P	05 56 36.1	-0.5
	0.2nm,0.3s,baz=12,slow=11,SNR=6.2						
	11nm,0.4s						
STKA	**Stephens Creek**	**28.07**	**170**	P	P	05 58 00.7	-0.1
	1.3nm,0.7s,baz=315,slow=11,SNR=2.0						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**69.36**	**324**	P	P	06 03 16.5	-0.5
	0.3nm,0.9s,baz=123,slow=10,SNR=2.2						
	0.3nm,0.9s						
LPAZ	**La Paz**	**148.60**	**131**	PKPbc	PKPbc	06 11 58.5	+0.2
	0.8nm,0.3s,baz=231,slow=3.2,SNR=7.7						

*NOU **30** 05:56:03.1, 41°.69S×174°.79E, h0km, MLv3.9/11, Cook Strait, New Zealand*
*WEL **30** 05:56:04.5±0.4, 41°.5±4°×17°.5E±°, h5km, M3.4/20, ML3.7/20, MLv3.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=172.2, confirmed*

ISC 30 05:56:04.3±1.0, 41°.54S±0°.03×174°.71E±0°.02, h18km±8km, n108, σ1§28/111, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.23**	**360**	P	**Pg**	**05 56 08.9**	**-0.8**
WEL	**Wellington**	**0.26**	**10**	P	**Pg**	**05 56 09.3**	**-0.9**
PLWZ	**Palliser**	**0.41**	**94**	P	**Pg**	**05 56 13.0**	**+0.2**
PLWZ				S	**Sg**	**05 56 19.6**	**+1.0**
CMWZ	**Cape Campbell**	**0.42**	**241**	P	**Pb**	**05 56 14.4**	**+1.1**
MSWZ	**Moikau Station**	**0.43**	**73**	P	**Pg**	**05 56 13.2**	**+0.1**
MSWZ				S	**Sg**	**05 56 19.5**	**+0.5**
TCW	**Tory Channel**	**0.46**	**316**	P	**Pg**	**05 56 13.0**	**-0.7**
CAW	**Cannon Point**	**0.51**	**32**	P	**Pg**	**05 56 13.8**	**-0.8**
PAWZ	**Paruwai Farm**	**0.57**	**74**	P	**Pg**	**05 56 15.6**	**0.0**
PAWZ				S	**Sg**	**05 56 23.6**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.65**	**254**	P	**Pg**	**05 56 17.7**	**+0.6**
KIW	**Kapiti Island**	**0.70**	**13**	P	**Pg**	**05 56 17.1**	**-0.9**
MTW	**Mount Morrison**	**0.71**	**57**	P	**Pg**	**05 56 18.1**	**-0.2**
TRWZ	**Traveller**	**0.75**	**79**	P	**Pb**	**05 56 19.5**	**+0.6**
OGWZ	**Otaki Gorge**	**0.81**	**26**	P	**Pg**	**05 56 18.9**	**-1.2**
HOWZ	**Holdsworth Sta**	**0.89**	**44**	P	**Pg**	**

LBZ	Lake Benmore	4.37 228	P	Pn	05 57 10.1	+0.3
MKAZ	Moumakai	4.45 5	P	Pn	05 57 14.6	+3.7
AWAZ	Awhitu Peninsu	4.47 359	P	Pn	05 57 14.7	+3.4
ODZ	Otahua Downs	4.58 219	P	Pn	05 57 11.5	-1.3
ODZ	Otahua Downs	4.58 219	P	Pn	05 57 11.9	-0.9
JCZ	Jackson Bay	5.04 238	P	Pn	05 57 20.2	+1.2
JCZ	Jackson Bay	5.04 238	P	Pn	05 57 20.5	+1.5
HHSZ	Highcliff Hill	5.26 213	P	Pn	05 57 21.5	-0.5
EAZ	Earnscleugh	5.39 225	P	Pn	05 57 23.3	-0.5
TUZ	Tuapeka	5.74 218	P	Pn	05 57 28.3	-0.3

GCMT ***30*** *06:01:10.8±0.3,5.˝79S±0.˝02×152.˝28E±0.˝03,h51km±1km, MW5.2/60,Moment Tensor Solution. s42,c48; s60,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.03±.29; $M_{\theta\theta}$-3.58±.18; $M_{\phi\phi}$4.61±.24; $M_{r\theta}$1.29±.14; $M_{\theta\phi}$-5.52±.28; $M_{\theta r}$0.22±.19; Best double couple: $M_0$7.02200×10^{16} NP1:ϕ_s289.00000°,δ93.00000°,λ-169.00000°. NP2: ϕ_s198.00000°,δ79.00000°,λ-7.00000°. Principal axes: T 7.4060, Plg3.0000°, Azm63.0000°; N -0.7670, Plg77.0000°, Azm322.0000°; P -6.6380, Plg13.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***30*** *06:01:12.1±0.0,5.˝75S×152.˝04E,h55km,mb4.8/55, mB5.1/27,Ms4.6/10,Ms7 4.4/13*

MOS ***30*** *06:01:15.8±0.8,5.˝42S×151.˝64E,h58km,mb5.2/29,Error ellipse: s-maj=10.0km s-min=8.0km az=101.6*

NEIC ***30*** *06:01:16.8±1.9,5.˝47S±0.˝06×151.˝76E±0.˝08,h49km±5km, mb5.0/149,Error ellipse: s-maj=11.7km s-min=7.8km az=105.0*

DJA ***30*** *06:01:16.4±0.3,6.˚S±3.˚×15.˚2E±.˚,h66km±4km,M5.1/21, mB5.3/7,mb4.9/21,MLv5.5/3,Mw(mB)4.7/7*

IDC ***30*** *06:01:17.1±0.9,5.˝55S×151.˝78E,h66km±7km,mb4.3/19, mbtmp4.7/21,MS4.2/41,Error ellipse: s-maj=13.1km s-min=8.1km az=109.0*

ISC 30 06:01:15.9±0.3,5.˝51S±0.˝04×151.˝78E±0.˝04,h50km,n452, σ1§11/428,mb5.0/115,MS4.2/46,2C-2D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.22**	**12**	P	**Pn**	**06 01 36.9**	**+0.3**
	12μm,0.4s,baz=274,slow=1.4,SNR=931						
KRVT				S	**Sn**	**06 01 55.5**	**+3.4**
	71μm,0.8s,baz=264,slow=19,SNR=12						
KRVT				LR	LR	06 02 16.1	
	comp=Z,62μm,19.8s,baz=47,slow=47						
RABL	**Rabaul**	**1.36**	**16**	Pn	**Pn**	**06 01 40.0**	**+1.4**
RABL	**Rabaul**	**1.36**	**16**	P	**Pn**	**06 01 40.1**	**+1.5**
PMG	**Port Moresby**	**6.00**	**230**	P	**Pn**	**06 02 43.4**	**+1.2**
	417nm,0.9s,baz=44,slow=11,SNR=82						
PMG				S	**Sn**	**06 03 50.4**	**+0.8**
	255nm,0.7s,baz=154,slow=16,SNR=8.5						
PMG	**Port Moresby**	**6.00**	**230**	Pn	**Pn**	**06 02 43.7**	**+1.5**
PMG	**Port Moresby**	**6.00**	**230**	P	**Pn**	**06 02 45.0**	**+2.8**
PMG	**Port Moresby**	**6.00**	**230**	P	**Pn**	**06 02 43.7**	**+1.5**
HNR	**Honiara**	**8.98**	**116**	P	**Pn**	**06 03 22.7**	**-0.4**
	1μm,0.6s,baz=319,slow=4.6,SNR=3.7						
HNR				S	**Sn**	**06 05 02.6**	**-0.4**
	855nm,0.4s,baz=333,slow=2.3,SNR=1.7						
HNR				LR	LR	06 06 21.4	
	comp=Z,12μm,21.2s,baz=288,slow=34						
HNR	**Honiara**	**8.98**	**116**	Pn	**Pn**	**06 03 22.5**	**-0.6**
HNR	**Honiara**	**8.98**	**116**	P	**Pn**	**06 03 22.5**	**-0.6**
COEN	**Coen**	**11.93**	**225**	Pn	**Pn**	**06 04 04.5**	**+1.0**
SMPI	**Sarmi**	**13.50**	**285**	P	**Pn**	**06 04 27.6**	**+2.6**
	56nm,1.1s						
MTSU	**Mount Surprise**	**14.51**	**210**	P	**Pn**	**06 04 38.0**	**-0.5**
	baz=14,SNR=5.4						
CTA	**Charters Tower**	**15.46**	**200**	P	**Pn**	**06 04 50.9**	**+0.1**
	16nm,0.8s,baz=22,slow=12,SNR=4.7						
CTA				LR	LR	06 10 26.4	
	comp=Z,977nm,19.3s,baz=74,slow=36						
CTAO	**Charters Tower**	**15.46**	**200**	Pn	**Pn**	**06 04 51.5**	**+0.7**
CTAO	**Charters Tower**	**15.46**	**200**	P	**Pn**	**06 04 51.5**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,22nm,0.8s						
QIS	**Mount Isa**	**19.07**	**217**	P	**P**	**06 05 33.8**	**-0.6**
	baz=19,SNR=36						
QIS	**Mount Isa**	**19.07**	**217**	P	**Pn**	**06 05 35.6**	**0.0**
EIDS	**Eidsvold**	**19.76**	**182**	P	**P**	**06 05 42.3**	**+0.3**
	baz=20,SNR=14						
EIDS	**Eidsvold**	**19.76**	**182**	P	**P**	**06 05 42.2**	**+0.3**
EIDS	**Eidsvold**	**19.76**	**182**	P	**P**	**06 05 42.5**	**+0.6**
GUMO	**Guam**	**20.18**	**340**	LR	LR	06 12 13.5	
	comp=Z,203nm,21.6s,baz=137,slow=32						
KDU	**Kakadu**	**20.35**	**248**	P	**P**	**06 05 48.4**	**+0.1**
	baz=20,SNR=11						
SIJI	**Sorong**	**20.99**	**282**	P	**P**	**06 05 55.4**	**0.0**
	comp=Z,19nm,0.6s,baz=90,slow=23,SNR=3.6						
	comp=Z,19nm,0.6s						
RMQ	**Roma**	**21.06**	**188**	P	**P**	**06 05 57.0**	**+1.0**
	baz=21,SNR=10						
RMQ	**Roma**	**21.06**	**188**	P	**P**	**06 05 57.4**	**+1.4**
MTN	**Manton Dam**	**21.64**	**249**	P	**P**	**06 06 02.2**	**0.0**
	baz=22,SNR=20						
MTN	**Manton Dam**	**21.64**	**249**	P	**P**	**06 06 02.6**	**+0.4**
MTN				IAmb	IAmb	06 06 11.6	
	comp=Z,63nm,1.2s						
MTN	**Manton Dam**	**21.64**	**249**	P	**P**	**06 06 02.7**	**+0.4**
DZM	**Mont Dzumac**	**21.73**	**141**	*e*Pn	**P**	**06 06 07.3**	**+4.0**
	comp=Z,69nm,1.1s						
DZM				*e*S	**S**	**06 09 58.1**	**-3.2**
	comp=Z,442nm,24.5s						
DZM				*e*LR	LR	06 11 22.3	
	comp=Z,1μm,23.0s						
DZM	**Mont Dzumac**	**21.73**	**141**	P	**P**	**06 06 02.6**	**-0.7**
	comp=Z,9.1nm,0.7s,baz=348,slow=19,SNR=9.7						
DZM				LR	LR	06 13 47.3	
	comp=Z,1μm,19.5s,baz=274,slow=35						
	comp=Z,9.1nm,0.7s						
DZM	**Mont Dzumac**	**21.73**	**141**	P	**P**	**06 06 03.3**	**0.0**
DZM	**Mont Dzumac**	**21.73**	**141**	P	**P**	**06 06 02.9**	**-0.4**
WB0	**Warramunga Arr**	**22.07**	**229**	P	**P**	**06 06 06.6**	**-0.3**
WB0				IAmb	IAmb	06 06 29.7	
	comp=Z,63nm,1.1s						
WR0	**Warramunga Arr**	**22.08**	**228**	P	**P**	**06 06 08.0**	**+1.0**
QLP	**Quilpie**	**22.16**	**198**	P	**P**	**06 06 07.8**	**0.0**
	baz=22,SNR=7.9						
WRAB	**Tennant Creek**	**22.21**	**228**	P	**P**	**06 06 08.2**	**-0.1**
WRAB	**Tennant Creek**	**22.21**	**228**	P	**P**	**06 06 07.6**	**-0.7**
WRAB	**Tennant Creek**	**22.21**	**228**	P	**P**	**06 06 08.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,36nm,0.9s						
WB2	**Warramunga Arr**	**22.21**	**228**	P	**P**	**06 06 08.2**	**-0.2**
WB2				IAmb	IAmb	06 06 15.6	
	comp=Z,35nm,0.8s						
WRA	**Warramunga Arr**	**22.22**	**228**	P	**P**	**06 06 08.4**	**-0.1**
	comp=Z,20nm,0.8s,baz=52,slow=11,SNR=71						
WRA				S	**S**	**06 10 05.8**	**-4.4**
	comp=Z,15nm,1.1s,baz=53,slow=18,SNR=8.1						
WRA				ScP	**ScP**	**06 13 38.5**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=46,slow=2.8,SNR=8.0						
WRA				LR	LR	06 15 29.5	
	comp=Z,422nm,19.4s,baz=52,slow=38						
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**22.22**	**228**	P	**P**	**06 06 08.4**	**-0.1**
WRA	**Warramunga Arr**	**22.22**	**228**	P	**P**	**06 06 08.4**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KNRA	**Kununurra**	**24.75**	**244**	P	**P**	**06 06 32.2**	**-0.9**
	baz=25,SNR=56						
KNRA	**Kununurra**	**24.75**	**244**	P	**P**	**06 06 32.7**	**-0.4**
KNRA	**Kununurra**	**24.75**	**244**	P	**P**	**06 06 32.8**	**-0.3**
ARMA	**Armidale**	**24.78**	**180**	P	**P**	**06 06 32.9**	**-0.4**
ARMA				IAmb	IAmb	06 06 34.8	
	comp=Z,106nm,2.0s						
AS01	**Alice Springs**	**24.92**	**222**	P	**P**	**06 06 34.2**	**-0.4**
AS31	**Alice Springs**	**24.95**	**222**	P	**P**	**06 06 34.7**	**-0.1**
ASAR	**Alice Springs**	**24.95**	**222**	P	**P**	**06 06 33.5**	**-1.3**
	comp=Z,33nm,0.7s,baz=55,slow=9.1,SNR=161						
ASAR				LR	LR	06 18 08.0	
	comp=Z,428nm,18.1s,baz=68,slow=41						
	comp=Z,33nm,0.7s						
ASAR	**Alice Springs**	**24.95**	**222**	P	**P**	**06 06 36.6**	**+1.8**
ASAR	**Alice Springs**	**24.95**	**222**	P	**P**	**06 06 36.6**	**+1.8**
CMSA	**Cobar Meteorol**	**26.52**	**192**	P	**P**	**06 06 48.0**	**-0.9**
	baz=26,SNR=7.5						
CMSA	**Cobar Meteorol**	**26.52**	**192**	P	**P**	**06 06 49.4**	**+0.5**
OOD	**Oodnadatta**	**26.93**	**213**	P	**P**	**06 06 52.8**	**+0.1**
SOEI	**Soe**	**27.59**	**260**	P	**P**	**06 06 57.8**	**-1.0**
SOEI				IAmb	IAmb	06 07 41.6	
	comp=Z,39nm,0.8s						
SOEI	**Soe**	**27.59**	**260**	P	**P**	**06 06 58.0**	**-0.9**
	comp=Z,45nm,0.7s,comp=Z,893nm						
STKA	**Stephens Creek**	**27.91**	**199**	P	**P**	**06 07 01.0**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=34,slow=7.5,SNR=8.9						
STKA				LR	LR	06 18 28.7	
	comp=Z,411nm,18.9s,baz=28,slow=37						
	comp=Z,4.4nm,0.7s						
STKA	**Stephens Creek**	**27.91**	**199**	P	**P**	**06 07 01.2**	**-0.2**
	baz=28,SNR=9.3						
STKA	**Stephens Creek**	**27.91**	**199**	P	**P**	**06 07 01.4**	**0.0**
STKA	**Stephens Creek**	**27.91**	**199**	P	**P**	**06 07 01.4**	**0.0**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BATI	**Baumata**	**28.23**	**259**	P	**P**	**06 07 04.2**	**-0.3**
	comp=Z,59nm,0.8s,baz=68,slow=2.9,SNR=3.9						
BATI				LR	LR	06 20 30.2	
	comp=Z,720nm,21.6s,baz=98,slow=41						
	comp=Z,59nm,0.8s						
BATI	**Baumata**	**28.23**	**259**	P	**P**	**06 07 05.2**	**+0.7**
MSVF	**Nonsavu**	**28.40**	**118**	P	**P**	**06 07 07.5**	**+1.4**
MSVF				IAmb	IAmb	06 07 16.3	
	comp=Z,74nm,1.7s						
MSVF	**Nonsavu**	**28.40**	**118**	P	**P**	**06 07 07.5**	**+1.4**
MSVF				pmax	pmax		
	comp=Z,74nm,1.7s						
FITZ	**Fitzroy Crossi**	**28.43**	**242**	P	**P**	**06 07 05.6**	**-0.6**
DAV	**Davao City (W)**	**28.98**	**295**	LR	LR	06 18 28.5	
	comp=Z,502nm,18.3s,baz=146,slow=36						
MMRI	**Maumere**	**29.48**	**262**	P	**P**	**06 07 14.5**	**-1.1**
WRKA	**Warakurna**	**29.74**	**227**	P	**P**	**06 07 16.9**	**-0.9**
	baz=30,SNR=10						
WRKA	**Warakurna**	**29.74**	**227**	P	**P**	**06 07 17.0**	**-0.8**
FORT	**Forrest**	**33.60**	**219**	P	**P**	**06 07 51.2**	**-0.4**
FORT				IAmb	IAmb	06 08 09.6	
	comp=Z,22nm,0.8s						
JCJ	**Chichijima**	**33.72**	**344**	P	**P**	**06 07 50.8**	**-1.8**
MBWA	**Marble Bar**	**34.74**	**240**	P	**P**	**06 08 01.2**	**-0.4**
MBWA				IAmb	IAmb	06 08 10.6	
	comp=Z,26nm,0.9s						
MBWA	**Marble Bar**	**34.74**	**240**	P	**P**	**06 08 03.0**	**+1.4**
MBWA				pP	**pP**	**06 08 15.4**	**+0.8**
MBWA				sP	**sP**	**06 08 21.5**	**+0.9**
PSA00	**Pilbara Seismi**	**34.80**	**240**	P	**P**	**06 08 01.0**	**-1.2**
AFI	**Afiamalu**	**36.83**	**106**	LR	LR	06 21 32.6	
	comp=Z,190nm,19.0s,baz=278,slow=33						
MEEK	**Meekatharra**	**37.97**	**233**	P	**P**	**06 08 29.9**	**+0.7**
	baz=38,SNR=12						
JOW	**Kunigami**	**39.39**	**326**	LR	LR	06 22 04.9	
	comp=Z,436nm,20.6s,baz=353,slow=32						
URZ	**Urewera**	**39.91**	**148**	LR	LR	06 23 13.8	
	comp=Z,438nm,19.0s,baz=64,slow=33						
PBKI	**Pangkalan Bun**	**40.10**	**272**	P	pP	06 09 02.2	+1.5
KLBR	**Kellerberrin**	**41.09**	**227**	P	**P**	**06 08 56.0**	**+1.0**
	baz=41,SNR=4.6						
MORW	**Morawa**	**41.12**	**231**	P	**P**	**06 08 56.5**	**+1.2**
	baz=41,SNR=14						
MORW	**Morawa**	**41.12**	**231**	P	**P**	**06 08 57.0**	**+1.7**
TWG	**Pinlang**	**41.16**	**314**	P	**P**	**06 08 53.7**	**-2.0**
TWG				IAmb	IAmb	06 09 02.3	
	comp=Z,31nm,1.1s						
BLDU	**Ballidu**	**41.35**	**229**	P	**P**	**06 08 59.7**	**+2.5**
	baz=41,SNR=4.9						
YULB	**Yu-li**	**41.37**	**315**	P	**P**	**06 08 58.2**	**+0.8**
NACB	**Ninganchiao**	**41.66**	**316**	P	**P**	**06 09 00.2**	**+0.4**
NACB				IAmb	IAmb	06 09 02.6	
	comp=Z,38nm,1.0s						
RPZ	**Rata Peaks**	**41.67**	**159**	LR	LR	06 23 58.6	
	comp=Z,528nm,21.5s,baz=296,slow=33						
TPUB	**Ta-pu**	**41.78**	**314**	P	**P**	**06 09 00.9**	**+0.1**
SSLB	**Suanglung**	**41.86**	**315**	P	**P**	**06 09 02.3**	**+0.8**
LBZ	**Lake Benmore**	**41.95**	**160**	P	**P**	**06 09 04.2**	**+2.2**
LBZ				IAmb	IAmb	06 10 31.9	
	comp=Z,73nm,1.5s						
NWAO	**Narrogin (SRO)**	**42.17**	**225**	LR	LR	06 27 30.6	
	comp=Z,400nm,19.4s,slow=37						
JWT	**Wachi**	**43.40**	**340**	P	**P**	**06 09 12.0**	**-1.7**
KNMB	**Chin-men Tao**	**44.10**	**314**	P	**P**	**06 09 20.6**	**+1.1**
SKJI	**Sukabumi**	**44.97**	**266**	P	**P**	**06 09 26.4**	**-0.3**
	comp=Z,456nm,0.7s						
QIZ	**Qiongzhong**	**47.97**	**302**	P	**P**	**06 09 50.3**	**+0.2**
QIZ				S	**S**	**06 16 45.5**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,23nm,1.3s						
QIZ				LR	LR		
	comp=Z,140nm,16.7s						
QIZ				LR	LR		
	comp=Z,210nm,14.7s						
QIZ				LR	LR		
	comp=Z,270nm,19.1s						
QIZ	**Qiongzhong**	**47.97**	**302**	P	**P**	**06 09 51.1**	**+1.0**
QIZ				sP	**sP**	**06 10 10.4**	**+0.5**
KSRS	**Korea Array**	**48.18**	**334**	P	**P**	**06 09 49.8**	**-1.6**
	comp=Z,2.2nm,0.8s,baz=142,slow=7.6,SNR=3.9						
	comp=Z,2.2nm,0.8s						
NJ2	**Nanjing**	**48.77**	**322**	*e*P	**P**	**06 09 58.0**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
RAR	**Rarotonga**	**49.43**	**113**	LR	LR	06 28 25.4	
	comp=Z,64nm,19.2s,baz=265,slow=33						
SDSI	**Sungai Dareh**	**50.46**	**273**	P	**P**	**06 10 07.5**	**-1.8**
XMAS	**Kiritimati**	**51.26**	**83**	P	**P**	**06 10 14.2**	**-1.1**
XMAS				pP	**pP**	**06 10 27.7**	**-1.2**
XMAS				sP	**sP**	**06 10 33.8**	**-0.8**
ENH	**Enshi**	**53.90**	**314**	P	**P**	**06 10 34.7**	**+0.1**
ENH				IAmb	IAmb	06 10 36.3	
	comp=Z,22nm,1.1s						
ENH	**Enshi**	**53.90**	**314**	P	**P**	**06 10 34.8**	**+0.2**
ENH				pP	**pP**	**06 10 48.7**	**+0.2**
ENH				sP	**sP**	**06 10 54.6**	**+0.3**
HNS	**HongShan**	**54.91**	**324**	⇓P	**P**	**06 10 42.0**	**+0.3**
HNS				pmax	pmax		
	comp=Z,12nm,1.4s						
PHRA	**Phrae**	**56.13**	**296**	P	**P**	**06 10 51.4**	**+0.6**
XAN	**Xi'an**	**56.44**	**317**	P	**P**	**06 10 52.5**	**-0.4**
XAN				pP	pP	06 11 06.3	-0.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
XAN	**Xi'an**	**56.44**	**317**	P	**P**	**06 10 52.4**	**-0.4**
CRAI	**Chiangrai**	**56.61**	**298**	P	**P**	**06 10 55.3**	**+1.1**
CRAI				IAmb	IAmb	06 10 55.9	
	comp=Z,17nm,1.1s						
KLR	**Kul'dur**	**57.24**	**345**	P	**P**	**06 10 58.1**	**0.0**
	comp=Z,2.3nm,0.8s,baz=154,slow=3.9,SNR=4.6						
	comp=Z,2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.27**	**296**	P	**P**	**06 10 59.4**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=118,slow=7.3,SNR=17						
CMAR				LR	LR	06 35 43.4	
	comp=Z,66nm,18.9s,baz=125,slow=36						
	comp=Z,2.3nm,0.4s						
CHTO	**Chiang Mai**	**57.38**	**296**	P	**P**	**06 10 59.7**	**0.0**
CHTO	**Chiang Mai**	**57.38**	**296**	P	**P**	**06 10 59.7**	**0.0**
PZH	**PanZhiHua**	**57.95**	**306**	P	**P**	**06 11 07.3**	**+3.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,130nm,4.6s						
CD2	**Chengdu**	**58.43**	**311**	*e*P	**P**	**06 11 07.0**	**0.0**
PPT2	**Papeete2**	**58.48**	**107**	*e*S	**S**	**06 19 08.2**	**+0.3**
	comp=Z,47nm,22.0s						
PPT2				*e*LR	LR	06 28 24.8	
	comp=Z,109nm,23.5s						
PET	**Petropavlovsk**	**58.60**	**5**	*e*P	**P**	**06 11 10.8**	**+3.2**
PET				*e*S	**S**	**06 19 07.0**	**-0.9**
PET				pmax	pmax		
	comp=Z,100nm,12.3s						
PETK	**Petropavlovsk-**	**58.61**	**4**	P	**P**	**06 11 05.8**	**-1.9**
	comp=Z,3.2nm,0.9s,baz=167,slow=8.3,SNR=2.5						
PETK				LR	LR	06 32 43.8	
	comp=Z,151nm,20.8s,baz=186,slow=32						
	comp=Z,3.2nm,0.9s						
XLT	**XiLinHaoTe**	**58.77**	**330**	⇑*i*P	**P**	**06 11 09.3**	**+0.2**
XLT				pP	pP	06 11 25.5	+2.3
XLT				sP	sP	06 11 31.0	+2.0
XLT				pmax	pmax		
	comp=Z,22nm,0.9s						
XLT				pmax	pmax		
	comp=Z,90nm,5.1s						
HHC	**Hu-ho-hao-te**	**59.04**	**325**	*e*P	**P**	**06 11 14.0**	**+3.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.0s						
HHC				LR	LR		
	comp=Z,400nm,17.6s						
HHC				LR	LR		
	comp=Z,440nm,17.8s						
HHC				LR	LR		
	comp=Z,560nm,15.4s						
HEH	**HeiHe**	**59.41**	**342**	*e*P	**P**	**06 11 11.8**	**-1.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HEH				pmax	pmax		
	comp=Z,190nm,4.1s						
SHEM	**Shemya Is, Ala**	**61.03**	**15**	LR	LR	06 33 12.8	
	comp=Z,251nm,20.9s,baz=280,slow=31						
LZH	**Lanzhou**	**61.04**	**317**	*e*P	**P**	**06 11 25.0**	**+0.1**
LZH				pP	pP	06 11 38.0	-1.1
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
DRV	**Dumont d'Urvil**	**61.60**	**185**	P	**P**	**06 11 27.9**	**-0.1**
MA2	**Magadan**	**64.88**	**359**	P	**P**	**06 11 49.8**	**0.0**
MA2	**Magadan**	**64.88**	**359**	P	**P**	**06 11 49.8**	**0.0**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MA2	**Magadan**	**64.88**	**359**	P	**P**	**06 11 51.1**	**+1.3**
MA2				pP	**pP**	**06 12 04.2**	**0.0**
MA2				sP	**sP**	**06 12 11.2**	**+1.3**
GTA	**Gaotai**	**65.49**	**318**	*e*P	**P**	**06 11 54.5**	**+0.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,59nm,4.5s						
GTA				LR	LR		
	comp=Z,120nm,18.2s						
GTA				LR	LR		
	comp=Z,140nm,18.5s						
GTA				LR	LR		
	comp=Z,170nm,19.3s						
ULN	**Ulaanbaatar**	**66.06**	**329**	P	**P**	**06 11 57.8**	**0.0**
ULN	**Ulaanbaatar**	**66.06**	**329**	P	**P**	**06 11 57.8**	**0.0**
ULN				pmax	pmax		
	comp=Z,12nm,1.1s						
ULN	**Ulaanbaatar**	**66.06**	**329**	P	**P**	**06 11 58.5**	**+0.7**
ULN				pP	**pP**	**06 12 12.7**	**+0.6**
ULN				sP	**sP**	**06 12 18.6**	**+0.8**
SONM	**Songino Array**	**66.39**	**328**	P	**P**	**06 11 59.9**	**0.0**
	comp=Z,7.2nm,0.6s,baz=146,slow=5.0,SNR=39						
SONM				LR	LR	06 41 24.0	
	comp=Z,157nm,19.8s,baz=154,slow=36						
	comp=Z,7.2nm,0.6s						
SONM	**Songino Array**	**66.39**	**328**	P	**P**	**06 12 00.2**	**+0.3**
SONM				IAmb	IAmb	06 12 01.0	
	comp=Z,21nm,1.4s						
SONM	**Songino Array**	**66.39**	**328**	P	**P**	**06 12 00.2**	**+0.3**
SONM				pmax	pmax		
	comp=Z,21nm,1.4s						
GOMU	**GeErMu**	**67.49**	**313**	P	**P**	**06 12 07.5**	**+0.1**
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,67nm,4.9s						
GOMU				LR	LR		
	comp=Z,87nm,18.6s						
GOMU				LR	LR		
	comp=Z,130nm,16.6s						
GOMU				LR	LR		
	comp=Z,210nm,19.4s						
LSA	**Lhasa**	**67.81**	**305**	P	**P**	**06 12 09.9**	**+0.2**
LSA				IAmb	IAmb	06 12 11.0	
	comp=Z,12nm,1.1s						
LSA	**Lhasa**	**67.81**	**305**	P	**P**	**06 12 09.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,13nm,1.1s						
YAK	**Yakutsk**	**69.47**	**349**	LR	LR	06 41 41.5	
	comp=Z,60nm,20.5s,baz=108,slow=35						
ZAK	**Zakamensk**	**69.57**	**329**	*e*P	**P**	**06 12 19.5**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,21nm,1.0s						
MOY	**Mondy**	**71.50**	**329**	*e*P	**P**	**06 12 31.5**	**0.0**
MOY				pmax	pmax		
	comp=Z,18nm,1.6s						
VNDA	**Vanda**	**72.17**	**178**	P	**P**	**06 12 34.6**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=316,slow=6.7,SNR=3.9						
VNDA				LR	LR	06 40 19.8	
	comp=Z,82nm,19.9s,baz=286,slow=32						
	comp=Z,1.7nm,0.9s						
VNDA	**Vanda**	**72.17**	**178**	P	**P**	**06 12 35.8**	**+0.8**
VNDA	**Vanda**	**72.17**	**178**	P	**P**	**06 12 35.8**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,23nm,1.7s						
BILL	**Bilibino**	**74.09**	**6**	P	**P**	**06 12 47.3**	**+0.9**
BILL	**Bilibino**	**74.09**	**6**	*i*P	**P**	**06 12 48.0**	**+1.6**
BILL				*i*		06 13 02.8	
BILL				*i*		06 15 27.9	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,51nm,16.0s						
WMQ	**Urumqi**	**75.58**	**318**	⇓*i*P	**P**	**06 12 55.8**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,20nm,1.3s						
WMQ				LR	LR		
	comp=Z,56nm,20.5s						
Q18K	**Katmai Hardscr**	**76.68**	**25**	P	**P**	**06 13 01.6**	**0.0**
	baz=235						
P18K	**Big Mountain,**	**77.02**	**25**	P	**P**	**06 13 02.5**	**-0.9**
KDAK	**Kodiak Island**	**77.26**	**27**	LR	LR	06 39 59.2	
	comp=Z,154nm,20.3s,baz=249,slow=30						
Q18K	**Koktuh Hills**	**77.29**	**24**	P	**P**	**06 13 05.2**	**+0.3**
Q19K	**Cape Douglas,**	**77.42**	**26**	P	**P**	**06 13 06.2**	**+0.5**
	baz=236						
SVW2	**Sparrevohn**	**77.87**	**23**	P	**P**	**06 13 08.8**	**+0.7**
N19K	**Bonanza Creek**	**78.14**	**24**	P	**P**	**06 13 09.8**	**+0.1**
ZSN	**Zaisan**	**78.76**	**320**	*e*P	**P**	**06 13 12.9**	**-0.5**
	baz=320						
ZSN	**Zaisan**	**78.76**

UZB **Uzynbulak** 81.32 315 *e*P P 06 13 26.7 -0.7
IMAR **Indian Mountai** 81.39 20 P P 06 13 27.7 +0.6
H21K **Melozitna Rive** 81.52 20 P P 06 13 29.2 +1.4
baz=236
I21K **Tanana** 81.54 21 P P 06 13 29.6 +1.7
KPKS **Kokpek** 81.64 315 *e*P P 06 13 28.3 -0.8
baz=315
KPKS **Kokpek** 81.64 315 *e*P P 06 13 28.3 -0.8
SATY **Saty** 81.73 315 *e*P P 06 13 28.7 -0.9
baz=315
SATY **Saty** 81.73 315 *e*P P 06 13 28.6 -0.9
G21K **Allakaket** 81.77 19 P P 06 13 30.9 +1.8
baz=235
TARG **Taragay, Kyrgy** 81.81 313 P P 06 13 29.3 -1.1
TARG **Taragay, Kyrgy** 81.81 313 P P 06 13 29.3 -1.1
TARG pmax pmax
comp=Z,4.0nm,1.0s
MCK **McKinley** 81.90 23 P P 06 13 29.4 -0.5
MCK IAmb IAmb 06 14 05.8
comp=Z,13nm,1.0s
MCK **McKinley** 81.90 23 P P 06 13 29.9 0.0
baz=240
MCK **McKinley** 81.90 23 P P 06 13 29.4 -0.5
MCK pmax pmax
comp=Z,13nm,1.0s
MLY **Manley** 81.90 21 P P 06 13 28.9 -1.0
MLY IAmb IAmb 06 13 50.8
comp=Z,22nm,1.6s
H22K **Ishtalitna Cre** 82.14 20 P P 06 13 32.6 +1.5
baz=237
NEA2 **Nenana** 82.29 22 P P 06 13 30.9 -0.9
NEA2 IAmb IAmb 06 13 44.7
comp=Z,21nm,1.6s
I23K **Minto, Yukon-K** 82.46 21 P P 06 13 33.8 +1.1
baz=239
WRH **Wood River Hil** 82.59 22 P P 06 13 33.5 0.0
SEM **Semipalatinsk** 82.62 322 *e*P P 06 13 32.0 -2.2
baz=322
SEM **Semipalatinsk** 82.62 322 *e*P P 06 13 32.0 -2.2
KSH **Kashi** 82.63 311 P P 06 13 35.0 +0.7
KSH pmax pmax
comp=Z,5.0nm,1.1s
MDOK **Medeo** 82.72 315 *e*P P 06 13 34.0 -0.7
MDOK **Medeo** 82.72 315 *e*P P 06 13 34.0 -0.7
TNSS **Tian-Shan** 82.76 314 *e*P P 06 13 35.1 -0.2
baz=314
TNSS **Tian-Shan** 82.76 314 *e*P P 06 13 35.1 -0.2
CCB **Clear Creek Bu** 82.79 22 P P 06 13 33.9 -0.5
TCOL **CIGO, UAF Yank** 82.88 22 P P 06 13 34.8 -0.1
TCOL IAmb IAmb 06 13 36.1
comp=Z,10.0nm,0.6s
TCOL **CIGO, UAF Yank** 82.88 22 P P 06 13 35.3 +0.4
baz=241
COLA **College** 82.88 22 P P 06 13 34.7 -0.2
COLA IAmb IAmb 06 13 36.1
comp=Z,10nm,0.8s
COLA **College** 82.88 22 P P 06 13 34.7 -0.2
COLA pmax pmax
comp=Z,10.0nm,0.8s
G23K **Bananza Creek** 83.04 20 P P 06 13 37.2 +1.4
baz=238
IL31 83.19 22 P P 06 13 36.2 -0.3
ILAR **Eielson Array** 83.19 22 P P 06 13 35.4 -1.2
comp=Z,4.3nm,0.7s,baz=250,slow=5.2,SNR=36
ILAR LR LR 06 48 25.1
comp=Z,159nm,18.5s,baz=254,slow=34
comp=Z,4.3nm,0.7s
ILAR **Eielson Array** 83.19 22 P P 06 13 35.2 -1.4
ILAR **Eielson Array** 83.19 22 P P 06 13 35.2 -1.4
IL03 **Eielson Array** 83.21 22 P P 06 13 36.3 -0.3
COLD **Coldfoot** 83.26 19 P P 06 13 38.2 +1.4
COLD IAmb IAmb 06 13 44.1
comp=Z,22nm,1.8s
COLD **Coldfoot** 83.26 19 P P 06 13 39.0 +2.2
baz=238
H24K **Noodor Dome** 83.35 21 P P 06 13 38.7 +1.3
H24K IAmb IAmb 06 15 32.1
comp=Z,21nm,1.9s
KUU **Kurty** 83.40 315 *e*P P 06 13 37.2 -1.0
comp=Z,13nm,0.9s,baz=315
KUU **Kurty** 83.40 315 *e*P P 06 13 37.1 -1.0
KUU pmax pmax
comp=Z,13nm,0.9s
NIL **Nilore** 83.54 305 P P 06 13 38.7 -0.4
NIL IAmb IAmb 06 13 39.8
comp=Z,20nm,1.1s
NIL **Nilore** 83.54 305 P P 06 13 38.7 -0.4
NIL pmax pmax
comp=Z,20nm,1.1s
TKM2 **Tokmak 2** 83.69 314 P P 06 13 39.2 -0.6
SNR=5.8
KURK **Kurchatov** 83.70 322 P P 06 13 39.1 -0.3
KURK IAmb IAmb 06 13 40.2
comp=Z,22nm,1.2s
KURK **Kurchatov** 83.70 322 P P 06 13 39.1 -0.3
KURK pmax pmax
comp=Z,22nm,1.2s
BARN **Barnard Glacie** 83.72 27 P P 06 13 40.1 +0.5
BARN IAmb IAmb 06 13 52.8
comp=Z,12nm,1.0s
KURBB **Kurchatov Arra** 83.73 322 LR LR 06 51 46.1
comp=Z,88nm,19.0s,baz=176,slow=36
A21K **Barrow** 83.75 15 P P 06 13 39.6 +0.5
G24K **Hadweenzic Riv** 83.91 20 P P 06 13 40.9 +0.7
baz=241
D23K **Nanushuk River** 84.03 18 P P 06 13 42.0 +1.3
baz=238
M27K **Edge Creek, AK** 84.15 25 P P 06 13 43.1 +1.4
F24K **Squaw Lake** 84.18 20 P P 06 13 44.1 +2.6
baz=240
CHMS **Chumysh** 84.31 314 P P 06 13 42.7 -0.1
SNR=6.4
UCH **Uchtor** 84.31 313 P P 06 13 44.3 +0.9
SNR=14
J26L **Joseph Creek** 84.35 23 P P 06 13 44.5 +1.9
AAK **Ala-Archa** 84.42 314 P P 06 13 43.9 +0.4
SNR=7.1
AAK **Ala-Archa** 84.42 314 P P 06 13 42.9 -0.6
comp=Z,6.9nm,0.9s,baz=142,slow=3.4,SNR=17
AAK LR LR 06 51 29.2
comp=Z,71nm,20.2s,baz=95,slow=36
comp=Z,6.9nm,0.9s
AAK **Ala-Archa** 84.42 314 P P 06 13 43.4 -0.1
AAK **Ala-Archa** 84.42 314 P P 06 13 43.4 -0.1
AAK pmax pmax
comp=Z,10.0nm,1.0s
QSPA **South Pole Qui** 84.46 180 P P 06 13 43.5 +0.3
QSPA IAmb IAmb 06 13 53.0
comp=Z,13nm,1.1s
SGDS **Sogindy** 84.50 314 *e*P P 06 13 43.0 -0.9
baz=314
SGDS **Sogindy** 84.50 314 *e*P P 06 13 42.9 -0.9
MAW **Mawson** 84.53 203 LR LR 06 47 53.1
comp=Z,132nm,21.8s,baz=106,slow=33
USP **Ospenovka** 84.55 314 P P 06 13 43.9 -0.1
SNR=6.1
AML **Almayashu** 84.89 313 P P 06 13 47.0 +0.8
SNR=31
EKS2 **Erkin-Say** 84.94 314 P P 06 13 46.8 +0.7
SNR=14
F25K **Christian Rive** 84.97 20 P P 06 13 47.4 +1.8
baz=242
C24K **Franklin Bluff** 85.03 18 P P 06 13 47.4 +1.7
baz=240
E25K **Arctic Village** 85.24 20 P P 06 13 49.0 +2.1
baz=243
BMAR **Burnt Mountain** 85.26 20 P P 06 13 49.4 +2.3
BTLS **Baital** 85.26 316 *e*P P 06 13 46.6 -0.9
comp=Z,13nm,1.1s,baz=316
BTLS **Baital** 85.26 316 *e*P P 06 13 46.6 -0.9
BTLS pmax pmax
comp=Z,13nm,1.1s
G26K **Porcupine Rive** 85.32 21 P P 06 13 50.0 +2.8
baz=244
EGAK **Eagle** 85.41 23 P P 06 13 49.4 +1.7
EGAK **Eagle** 85.41 23 P P 06 13 49.7 +2.0
baz=247
F26K **Sheenjek River** 85.53 20 P P 06 13 50.9 +2.5
baz=244
HYT **Haines Junctio** 85.53 28 P P 06 13 49.6 +1.0
HYT IAmb IAmb 06 14 10.4
comp=Z,9.8nm,1.0s
I27K **Kandik River** 85.56 22 P P 06 13 49.8 +1.3
baz=246
R31K **City Hall, Gus** 85.60 30 P P 06 13 50.2 +1.4
baz=252
M29M **Somme Creek** 85.65 26 P P 06 13 50.6 +1.4
baz=250
H27K **Steamboat Moun** 85.84 22 P P 06 13 52.4 +2.5
baz=246
DAWY **Dawson** 85.84 24 P P 06 13 51.0 +1.0
DAWY IAmb IAmb 06 14 27.1
comp=Z,21nm,1.6s
DAWY **Dawson** 85.84 24 P P 06 13 52.3 +2.3
baz=249
G27K **Doyon Strip** 86.03 21 P P 06 13 53.1 +2.3
baz=246
L29M **L29M** 86.03 25 P P 06 13 52.6 +1.7
baz=250
C26K **Camden Bay** 86.27 18 P P 06 13 54.3 +2.4
baz=243
NRIK **Noril'sk** 86.30 341 P P 06 13 50.7 -1.4
comp=Z,2.9nm,0.7s,baz=119,slow=6.3,SNR=5.4
NRIK LR LR 06 53 24.8
comp=Z,81nm,19.6s,baz=116,slow=36
comp=Z,2.9nm,0.7s
NRIK **Noril'sk** 86.30 341 P P 06 13 51.7 -0.4
NRIK IAmb IAmb 06 14 05.9
comp=Z,15nm,1.6s
NRIK **Noril'sk** 86.30 341 P P 06 13 51.7 -0.4
NRIK pmax pmax
comp=Z,15nm,1.7s
M30M **Minto, Yukon** 86.43 26 P P 06 13 54.1 +1.2
baz=251
C27K **Jago River** 86.52 18 P P 06 13 54.8 +1.6
baz=244
K29M **Barlow Dome** 86.54 25 P P 06 13 55.3 +1.7
baz=250
E27K **Coleen River** 86.61 20 P P 06 13 54.7 +1.0
baz=246
I29M **Ogilvie Camp,** 86.75 23 P P 06 13 54.9 +0.5
I29M **Ogilvie Camp,** 86.75 23 P P 06 13 55.2 +0.8
baz=250
DZA **Taraz** 86.75 313 *e*P P 06 13 54.4 -0.5
baz=314
DZA **Taraz** 86.75 313 *e*P P 06 13 54.4 -0.5
MAYO **Mayo, Yukon** 87.14 25 P P 06 13 56.5 +0.1
M31M **Drury Creek, Y** 87.38 27 P P 06 13 58.3 +0.8
baz=253
KK31 **Karatay Array** 87.38 314 P P 06 13 57.6 -0.3
KK31 IAmb IAmb 06 13 59.2
comp=Z,14nm,1.4s
KK31 **Karatay Array** 87.38 314 P P 06 13 57.7 -0.3
KK31 pmax pmax
comp=Z,14nm,1.4s
KKAR **Karatay Array** 87.38 314 P P 06 13 57.1 -0.9
KKAR **Karatay Array** 87.38 314 P P 06 13 57.1 -0.9
IUG **luzhnay** 87.57 313 *e*P P 06 13 58.1 -0.9
baz=313
IUG **luzhnay** 87.57 313 *e*P P 06 13 58.1 -0.9
CHGR **Chuyangaron** 87.67 309 P P 06 13 59.2 -0.4
CHGR IAmb IAmb 06 14 01.5
comp=Z,11nm,0.8s
CHGR **Chuyangaron** 87.67 309 P P 06 13 59.2 -0.4
CHGR pmax pmax
comp=Z,11nm,0.8s
N32M **Quiet Lake** 87.68 28 P P 06 14 00.5 +1.4
baz=254
FARO **Faro, Yukon** 87.85 27 P P 06 14 00.4 +0.6
FARO IAmb IAmb 06 14 18.6
comp=Z,12nm,1.3s
FARO **Faro, Yukon** 87.85 27 P P 06 14 00.7 +0.9
baz=254
CHM **Chimkent** 87.91 313 *e*P P 06 13 59.5 -1.0
baz=313
CHM **Chimkent** 87.91 313 *e*P P 06 13 59.5 -1.0
BBB **Bella Bella** 88.27 37 LR LR 06 48 09.0
comp=Z,80nm,19.4s,baz=237,slow=32
DLBC **Dease Lake** 88.51 31 LR LR 06 47 33.9
comp=Z,222nm,20.4s,baz=257,slow=31
DLBC **Dease Lake** 88.51 31 P P 06 14 04.5 +1.4
DLBC **Dease Lake** 88.51 31 P P 06 14 04.6 +1.5
baz=257
F31M **Tsiigehtchic** 89.15 22 P P 06 14 06.4 +0.7
baz=254
BVAR **Borovoye Array** 89.20 323 LR LR 06 56 29.8
comp=Z,65nm,18.4s,baz=86,slow=37
BRVK **Borovoye** 89.27 323 P P 06 14 04.8 -1.8
BRVK IAmb IAmb 06 14 07.1
comp=Z,11nm,1.1s
BRVK **Borovoye** 89.27 323 P P 06 14 04.8 -1.8
BRVK pmax pmax
comp=Z,11nm,1.1s
INK **Inuvik** 89.47 21 LR LR 06 55 19.3
comp=Z,60nm,18.4s,baz=293,slow=36
INK **Inuvik** 89.47 21 P P 06 14 07.2 0.0
INK IAmb IAmb 06 14 08.1
comp=Z,12nm,1.4s
INK **Inuvik** 89.47 21 P P 06 14 07.8 +0.6
baz=254
INK **Inuvik** 89.47 21 P P 06 14 07.2 0.0
INK pmax pmax
comp=Z,12nm,1.4s
WTLY **Watson Lake, Y** 89.48 29 P P 06 14 08.1 +0.6
WTLY **Watson Lake, Y** 89.48 29 P P 06 14 09.2 +1.7
baz=258
HUMO **Hull Mountain** 90.21 47 P P 06 14 12.3 +1.0
YBH **Yreka Blue Hor** 90.28 48 LR LR 06 47 05.7
comp=Z,133nm,21.6s,baz=279,slow=30
YBH **Yreka Blue Hor** 90.28 48 P P 06 14 12.9 +1.2
YBH **Yreka Blue Hor** 90.28 48 P P 06 14 12.9 +1.2
YBH pmax pmax
comp=Z,12nm,1.0s
AFDM **Forest Hills D** 91.28 51 P P 06 14 16.3 -0.2
AFDM IAmb IAmb 06 14 19.6
comp=Z,5.9nm,0.9s
CMB **Columbia Colle** 91.65 52 P P 06 14 18.1 -0.1
CMB IAmb IAmb 06 14 20.1
comp=Z,5.8nm,1.1s
CMB **Columbia Colle** 91.65 52 P P 06 14 18.1 -0.1
CMB pmax pmax
comp=Z,6.0nm,1.2s
LLLB **Lillooet** 91.89 40 P P 06 14 19.4 +0.4
EMB **Emerald Bay** 91.96 51 P P 06 14 21.0 +1.2
EMB IAmb IAmb 06 14 21.8
comp=Z,8.8nm,1.1s
MOD **Modoc Plateau** 92.09 48 P P 06 14 20.4 +0.1
YERR **Yerington** 92.63 51 IAmb IAmb 06 14 24.8
comp=Z,7.0nm,1.0s
MDPB **Devils Postpil** 92.64 53 P P 06 14 23.2 +0.2
MDPB IAmb IAmb 06 14 27.9
comp=Z,9.2nm,1.1s
ISA **Isabella, Lake** 92.96 55 P P 06 14 25.8 +1.5
baz=265
A36M **Sachs Harbour** 93.02 18 IAmb IAmb 06 14 25.2
comp=Z,9.0nm,1.1s
A36M **Sachs Harbour** 93.02 18 P P 06 14 24.2 +0.5
baz=262
HAWA **Hanford** 93.04 44 P P 06 14 24.6 +0.3
C36M **Paulatuk** 93.05 21 IAmb IAmb 06 14 24.7
comp=Z,6.5nm,0.9s
C36M **Paulatuk** 93.05 21 P P 06 14 23.9 +0.1
baz=263
LHV **Little Huntoon** 93.14 52 P P 06 14 26.5 +1.5
RYN **Ryan** 93.16 52 P P 06 14 25.9 +0.6
NVAR **Mina Array Bea** 93.32 52 P P 06 14 26.8 +0.7
comp=Z,7.3nm,0.8s,baz=255,slow=6.6,SNR=54
comp=Z,7.3nm,0.8s
B08A **Colville Reser** 93.33 42 P P 06 14 25.6 -0.1
B08A IAmb IAmb 06 14 26.3
comp=Z,6.6nm,1.0s
CWC **Cottonwood Cre** 93.34 54 P P 06 14 27.4 +1.3
baz=266
G08A **Pilot Rock** 93.35 45 P P 06 14 26.3 +0.4
E08A **Dider Farm, El** 93.37 44 P P 06 14 26.3 +0.5
D08A **Wollman Farm,** 93.51 43 IAmb IAmb 06 14 27.9
comp=Z,8.4nm,1.1s
KVN **Kaiserville** 93.52 51 IAmb IAmb 06 14 28.9
comp=Z,8.4nm,1.0s
J08A **Circle Bar Ran** 93.55 47 P P 06 14 27.4 +0.5
LRMC **Laurel Mtn Rad** 93.59 55 P P 06 14 28.8 +1.5
baz=266
LCH **Last Change Ra** 93.75 53 P P 06 14 29.1 +1.1
LCH IAmb IAmb 06 14 29.7
comp=Z,6.5nm,1.2s
MPMC **Manual Prospec** 93.79 54 P P 06 14 29.7 +1.4
baz=266
MZP **Montezuma Peak** 93.99 53 IAmb IAmb 06 14 31.2
comp=Z,5.3nm,0.9s
C09A **Chrisman Ranch** 94.00 43 IAmb IAmb 06 14 29.9
comp=Z,6.7nm,0.9s
QSM **Queen of Sheba** 94.29 54 IAmb IAmb 06 14 32.4
comp=Z,9.0nm,1.0s
GSC **Goldstone, Bar** 94.30 55 P P 06 14 32.3 +1.9
baz=266
FURC **Furnace Creek,** 94.32 54 P P 06 14 31.9 +1.5
baz=266
GWY **Greenwater Val** 94.46 54 IAmb IAmb 06 14 32.7
comp=Z,6.0nm,1.1s
PFO **Pinyon Flats O** 94.47 57 LR LR 06 48 53.9
comp=Z,117nm,21.5s,baz=246,slow=30
BMO **Blue Mountains** 94.49 46 IAmb IAmb 06 14 32.5
comp=Z,11nm,1.1s
F10A **Beach Ranch, E** 94.61 44 P P 06 14 31.1 -0.6
SHOC **Shoshone, Teco** 94.76 55 P P 06 14 34.2 +1.6
baz=267
NEW **Newport** 94.80 42 LR LR 06 53 05.5
comp=Z,190nm,18.2s,baz=271,slow=33
NEW **Newport** 94.80 42 P P 06 14 32.6 +0.2
NEW IAmb IAmb 06 14 34.1
comp=Z,9.2nm,1.0s
NEW **Newport** 94.80 42 P P 06 14 32.9 +0.5
baz=267
NEW **Newport** 94.80 42 P P 06 14 32.6 +0.2
NEW pmax pmax
comp=Z,9.0nm,1.0s
TPNV **Topopah Spring** 94.84 53 P P 06 14 34.2 +1.1
TPNV IAmb IAmb 06 14 35.1
comp=Z,8.7nm,0.9s
TPNV **Topopah Spring** 94.84 53 P P 06 14 34.4 +1.4
baz=267
TPNV **Topopah Spring** 94.84 53 P P 06 14 34.2 +1.1
TPNV pmax pmax
comp=Z,9.0nm,1.0s
GMRC **Granite Mounta** 95.20 56 P P 06 14 36.6 +1.9
baz=267
ABKAR **Akbulak array** 95.33 319 P P 06 14 33.3 -1.4
PLID **Pearl Lake** 95.43 45 P P 06 14 35.4 -0.2
PLID IAmb IAmb 06 14 37.3
comp=Z,6.1nm,0.9s
R11A **Troy Canyon, C** 95.44 52 IAmb IAmb 06 14 37.9
comp=Z,7.3nm,1.2s
R11A **Troy Canyon, C** 95.44 52 P P 06 14 36.9 +1.2
baz=267
ELK **Elko** 95.81 50 LR LR 06 52 08.9
comp=Z,147nm,19.9s,baz=263,slow=32
ELK **Elko** 95.81 50 P P 06 14 37.1 -0.4
ELK **Elko** 95.81 50 P P 06 14 37.1 -0.4
ELK pmax pmax
comp=Z,4.0nm,1.2s
PRN **Pahroc Range** 95.82 53 P P 06 14 38.0 +0.5
PRN IAmb IAmb 06 14 39.8
comp=Z,7.5nm,1.0s
V12A **Nelson** 95.91 55 P P 06 14 37.1 -0.7
V12A IAmb IAmb 06 14 40.4
comp=Z,7.5nm,1.2s
GEYT **Alibeck** 96.24 307 LR LR 07 00 54.4
comp=Z,75nm,19.9s,baz=114,slow=37
ARU **Arti** 96.34 326 P P 06 14 37.7 -1.5
comp=Z,4.3nm,0.2s,baz=23,slow=21,SNR=3.4
ARU LR LR 06 57 40.4
comp=Z,233nm,21.7s,baz=94,slow=35
ARU **Arti** 96.34 326*c i*P P 06 14 37.1 -2.1
ARU 06 18 32.0
ARU S SKSac 06 25 09.3 -2.2
ARU SS SS 06 32 28.0 -0.6
HLID **Hailey** 96.52 47 IAmb IAmb 06 14 43.3
comp=Z,3.2nm,0.8s
HLID **Hailey** 96.52 47 P P 06 14 41.7 +1.2
baz=269
YKA **Yellowknife Ar** 96.52 28 P P 06 14 39.3 -0.5
comp=Z,0.9nm,0.7s,baz=270,slow=4.9,SNR=17
YKA PKKP PKKPbc 06 31 23.5 -3.2
comp=Z,0.2nm,0.7s,baz=98,slow=2.6,SNR=4.4
comp=Z,0.9nm,0.7s
AKTO **Aktyubinsk** 96.61 320 LR LR 06 58 00.6
comp=Z,120nm,21.2s,baz=104,slow=35
WALA **Waterton Lakes** 96.95 41 P P 06 14 43.1 +0.8
CCUT **Cedar City** 97.17 53 P P 06 14 44.3 +0.6
CCUT IAmb IAmb 06 14 46.7
comp=Z,3.5nm,1.0s
LCMT **Little Creek M** 97.25 54 IAmb IAmb 06 14 46.4
comp=Z,5.9nm,1.2s
BCYI **Bear Canyon** 97.26 46 P P 06 14 42.4 -1.6
EDM **Edmonton** 97.30 37 P P 06 14 44.2 +0.5
EDM **Edmonton** 97.30 37 P P 06 14 44.2 +0.5
EDM pmax pmax
comp=Z,17nm,0.8s
KNB **Kanab** 97.59 54 IAmb IAmb 06 14 48.3
comp=Z,6.6nm,1.1s
SPUT **South Promonto** 97.94 49 P Pdif 06 14 47.9 +0.9
SPUT IAmb IAmb 06 14 48.4
comp=Z,3.8nm,1.0s
PKCU **Pink Cliffs** 98.00 53 P P 06 14 46.4 -1.2
U15A **North Rim** 98.00 54 IAmb IAmb 06 14 50.2
comp=Z,8.0nm,1.3s
MTPU **Mount Pierson** 98.11 52 P Pdif 06 14 49.4 +1.3
MTPU IAmb IAmb 06 14 53.4
comp=Z,4.8nm,1.2s
TMUT **Trail Mountain** 98.88 51 IAmb IAmb 06 14 53.8
comp=Z,5.2nm,0.9s
AHID **Auburn Hatcher** 98.94 48 IAmb IAmb 06 14 53.7
comp=Z,5.3nm,1.1s
FXWY **Fox Creek** 98.98 47 P Pdif 06 14 52.1 +0.4
FXWY IAmb IAmb 06 14 53.6
comp=Z,4.6nm,1.1s
MOOW **Moose Ponds** 99.18 47 Pdif 06 14 51.9 -0.7
H17A **Grant Village** 99.29 46 P Pdif 06 14 54.7 +1.6
H17A IAmb IAmb 06 14 56.4
comp=Z,4.8nm,0.9s
H17A **Grant Village** 99.29 46 P Pdif 06 14 55.4 +2.3
baz=271
SRU **San Rafael Swe** 99.42 51 P Pdif 06 14 52.9 -0.8
SRU **San Rafael Swe** 99.42 51 P Pdif 06 14 52.9 -0.8
SRU pmax pmax
comp=Z,3.0nm,0.9s
LPIG **La Paz** 99.43 67 LR LR 06 52 58.9
comp=Z,98nm,20.0s,baz=262,slow=31
BW06 **Boulder Array** 100.07 48 P Pdif 06 14 56.8 +0.2
baz=272
PDAR **Pinedale Array** 100.07 48 P Pdif 06 14 56.5 -0.1
comp=Z,3.4nm,0.9s,baz=249,slow=2.3,SNR=25
RLMT **Red Lodge** 100.19 45 P Pdif 06 14 58.7 +1.6
baz=272
AKASG **Malin Array Be** 114.47 324 PKiKP PKPdf 06 19 49.2 -1.2
comp=Z,1.7nm,0.7s,baz=59,slow=2.2,SNR=7.2
BRTR **Keskin Array B** 115.01 311 PKP PKiKP 06 19 50.2 -1.8
comp=Z,1.0nm,0.7s,baz=101,slow=1.3,SNR=5.1
NOA **NORSAR Array B** 117.23 340 PKP PKPdf 06 19 53.8 -1.7
comp=Z,1.4nm,0.9s,baz=48,slow=2.2,SNR=3.3
VTS **Vitosha** 121.48 317 PKPdf PKPdf 06 20 03.2 -1.2
VTS **Vitosha** 121.48 317 PKiKP PKPdf 06 20 03.2 -1.2
MAUC **Maruska** 121.59 326 *e*PKPDF PKiKP 06 20 05.2 +0.8
OSTC **Ostas** 121.79 328 *e*PKPDF PKPdf 06 20 04.5 -0.1
DPC **Dobruska-Polom** 121.85 328 *e*PKPDF PKiKP 06 20 05.1 +0.2
DPC **Dobruska-Polom** 121.85 328 *e*PKIKP PKiKP 06 20 05.1 +0.2
DIVS **Divibare** 122.96 320 PKPdf PKPdf 06 20 06.8 -0.3
CLL **Collm** 122.97 330 *e*PKPdf PKPdf 06 20 06.0 -0.8
comp=Z,5.0nm,0.8s
CLL *ex* x 06 20 16.0
CLL **Collm** 122.97 330 *e*PKIKP PKPdf 06 20 06.0 -0.8
CLL pmax pmax
comp=Z,5.0nm,0.8s
RONA **Rosalia, Austr** 123.35 325 *e*PKP PKPdf 06 20 07.7 0.0
comp=Z,5.5nm,1.3s
CONA **Conrad Observa** 123.47 326 *i* PKP PKPdf 06 20 07.1 -0.9
comp=Z,3.2nm,0.8s
FNA **Florina** 123.50 316 PKPdf PKPdf 06 20 07.7 -0.5
FNA **Florina** 123.50 316 PKIKP PKPdf 06 20 07.7 -0.5
AGG **Agios Georgios** 123.54 314 PKPdf PKPdf 06 20 07.9 -0.4
AGG **Agios Georgios** 123.54 314 PKIKP PKPdf 06 20 07.9 -0.4
CKRC **Cesky Krumlov** 123.81 327 *e*PKPDF PKPdf 06 20 08.4 -0.1
KHC **Kasperske Hory** 124.01 328 PKPdf PKPdf 06 20 08.8 -0.1
KHC **Kasperske Hory** 124.01 328 *e*PKPDF PKPdf 06 20 08.8 -0.1
KHC *ex* x 06 20 18.6
KHC **Kasperske Hory** 124.01 328 PKIKP PKPdf 06 20 08.8 -0.1
GEC2 **GERESS Array S** 124.12 328 PKPdf 06 20 09.1 -0.2
GERES **GERESS Array B** 124.12 328 PKP PKPdf 06 20 08.7 -0.5
comp=Z,3.1nm,0.6s,baz=77,slow=1.8,SNR=29
GERES **GERESS Array B** 124.12 328 PKPdf PKPdf 06 20 09.0 -0.2
GERES **GERESS Array B** 124.12 328 PKIKP PKPdf 06 20 09.0 -0.2
N58A **Sunbury** 124.23 43 PKPdf PKPdf 06 20 09.8 +0.3
SOKA **Soboth** 124.64 325 *i* PKP PKPdf 06 20 10.0 -0.3
comp=Z,5.8nm,1.0s
OBKA **Obir** 125.01 325 *e*PKP PKPdf 06 20 10.7 -0.2
comp=Z,1.0nm,0.5s
KBA **Koelnbreinsper** 125.36 326 *i* PKP PKPdf 06 20 11.1 -0.6

	comp=Z,5.3nm,1.1s							
MYKA	**Terra Mystica**	**125.45**	**326**	*i* PKP		**PKPdf**	**06 20 11.3**	**-0.5**
	comp=Z,1.0nm,0.4s							
ABTA	**Abfaltersbach**	**126.01**	**326**	*i* PKP		**PKPdf**	**06 20 11.9**	**-1.0**
	comp=Z,7.3nm,1.0s							
WATA	**Walderalm**	**126.17**	**327**	*i* PKP		**PKPdf**	**06 20 12.8**	**-0.4**
	comp=Z,4.9nm,0.9s							
WTTA	**Wattenberg**	**126.18**	**327**	*i* PKP		**PKPdf**	**06 20 13.3**	**0.0**
	comp=Z,9.4nm,0.7s							
STAL	**STALIGIAL**	**126.19**	**326**			**PKPdf**	**06 20 12.4**	**-0.7**
CIMO	**Cimolais**	**126.31**	**326**	PKPdf		**PKPdf**	**06 20 12.7**	**-0.7**
MOTA	**Moosalm**	**126.41**	**328**	*i* PKP		**PKPdf**	**06 20 13.3**	**-0.4**
	comp=Z,8.2nm,0.8s							
SQTA	**Sankt Quirin**	**126.43**	**327**	*i* PKP		**PKPdf**	**06 20 13.9**	**+0.1**
	comp=Z,4.2nm,0.5s							
FETA	**Feichten**	**126.81**	**328**	*i* PKP		**PKPdf**	**06 20 14.8**	**+0.3**
	comp=Z,6.6nm,0.8s							
AC05	**El Transito**	**127.06**	**133**			**PKPdf**	**06 20 15.6**	**+0.1**
DAVA	**Damuels**	**127.10**	**328**	*e*PKP		**PKPdf**	**06 20 14.4**	**-0.6**
	comp=Z,4.0nm,0.7s							
KEST	**Kesra**	**134.22**	**316**	PKP		**PKPdf**	**06 20 28.6**	**-0.2**
	comp=Z,7.0nm,1.0s,baz=242,slow=3.1,SNR=6.7							
LPAZ	**La Paz**	**134.97**	**119**	PKP		**PKPdf**	**06 20 31.1**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=315,slow=1.7,SNR=10							
LPAZ	**La Paz**	**134.97**	**119**	PKPdf		**PKPdf**	**06 20 32.1**	**+0.7**
LPAZ	**La Paz**	**134.97**	**119**	PKIKP		**PKPdf**	**06 20 32.1**	**+0.7**
CPUP	**Villa Florida**	**137.60**	**140**	PKP		**PKPdf**	**06 20 35.4**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=279,slow=4.6,SNR=3.7							
SDV	**Santo Domingo**	**137.80**	**83**	PKPdf		**PKPdf**	**06 20 35.6**	**-0.6**
ESDC	**Sonseca Array**	**139.56**	**331**	PKP		**PKPdf**	**06 20 39.3**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=11,slow=3.5,SNR=2.4							
PTLB	**Pontes e Lacer**	**142.97**	**125**				06 20 42.8	
BOAV	**Boa Vista**	**147.63**	**94**	PKPbc		**PKPbc**	**06 20 56.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**149.55**	**287**	PKPbc		**PKPbc**	**06 21 00.5**	**-0.4**
	comp=Z,42nm,0.8s,baz=51,slow=2.4,SNR=74							
TORD	**Torodi Ar. Bea**	**149.55**	**287**	PKPbc		**PKPbc**	**06 21 00.3**	**-0.6**
BDFB	**Brasilia**	**151.26**	**137**	PKPbc		**PKPbc**	**06 21 04.6**	**-0.5**
	comp=Z,11nm,0.8s,baz=187,slow=2.1,SNR=20							
BDFB	**Brasilia**	**151.26**	**137**	PKPbc		**PKPbc**	**06 21 04.8**	**-0.2**
BDFB	**Brasilia**	**151.26**	**137**	PKIKP		**PKPbc**	**06 21 04.9**	**-0.2**
DBIC	**Dimbokro**	**156.74**	**274**	PKPab		**PKPab**	**06 21 36.0**	**-0.4**
	comp=Z,7.9nm,0.9s,baz=94,slow=4.5,SNR=5.2							

WEL 30 06:07:28.8±0.3, 42°S×3°×17'4E±', h5km, M2.9/17, ML3.1/18, MLv2.9/17, Error ellipse: s-maj=0.0km s-min=0.0km az=146.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.33**	**25**	P	Pg	06 07 35.7	+0.4
BSWZ				S	Sg	06 07 41.2	+1.5
KHZ	**Kahutara**	**0.41**	**196**	P	Pg	06 07 37.4	+0.6
KHZ				S	Sg	06 07 43.6	+1.4
CMWZ	**Cape Campbell**	**0.48**	**56**	P	Pb	06 07 39.0	-0.6
THZ	**Tophouse**	**0.64**	**293**	P	Pg	06 07 41.2	+0.1
THZ				S	Sg	06 07 50.0	+0.6
NNZ	**Nelson**	**0.83**	**344**	P	Pg	06 07 44.6	-0.2
TCW	**Tory Channel**	**0.92**	**29**	P	Pg	06 07 46.3	-0.2
MRNZ	**Matariki Terra**	**0.93**	**311**	P	Pg	06 07 46.8	+0.1
GVZ	**Greta Valley S**	**1.06**	**207**	P	Pb	06 07 49.5	-0.2
WEL	**Wellington**	**1.09**	**48**	P	Pb	06 07 50.2	+0.1
TKNZ	**Takaka Hill**	**1.13**	**331**	P	Pg	06 07 50.1	-0.2
DUWZ	**D'Urville Isla**	**1.23**	**8**	P	Pg	06 07 51.7	-0.7
DUWZ				S	Sb	06 08 08.9	+0.2
PLWZ	**Palliser**	**1.25**	**70**	P	Pg	06 07 51.4	-1.4
PLWZ				S	Sb	06 08 09.5	+0.1
LTZ	**Lake Taylor**	**1.30**	**234**	P	Pn	06 07 52.8	-0.8
LTZ				S	Sb	06 08 10.7	0.0
CAW	**Cannon Point**	**1.38**	**49**	P	Pn	06 07 53.9	-0.8
AMCZ	**Amberley**	**1.39**	**213**	P	Pn	06 07 53.8	-1.0
DSZ	**Denniston Nort**	**1.43**	**280**	P	Pb	06 07 56.0	0.0
PAWZ	**Paruwai Farm**	**1.45**	**65**	P	Pn	06 07 54.0	-1.7
KIW	**Kapiti Island**	**1.48**	**39**	P	Pn	06 07 55.8	-0.2
QRZ	**Quartz Range**	**1.48**	**323**	P	Pn	06 07 55.9	-0.2
MTW	**Mount Morrison**	**1.61**	**58**	P	Pn	06 07 56.3	-1.6
TRWZ	**Traveller**	**1.62**	**68**	P	Pn	06 07 56.0	-2.0
OGWZ	**Otaki Gorge**	**1.64**	**43**	P	Pn	06 07 57.5	-0.8
OKCZ	**Okains Bay**	**1.77**	**195**	P	Pn	06 07 58.7	-1.4
HOWZ	**Holdsworth Sta**	**1.77**	**51**	P	Pn	06 07 59.5	-0.6
OXZ	**Oxford**	**1.79**	**222**	P	Pn	06 07 58.6	-1.8
INZ	**Inchbonnie**	**1.81**	**246**	P	Pn	06 08 00.9	+0.3
MQZ	**McQueen's Vall**	**1.85**	**204**	P	Pn	06 07 58.8	-2.4
TMWZ	**Te Maipa**	**1.89**	**62**	P	Pn	06 07 59.9	-1.8
AKCZ	**Akaroa Harbour**	**1.94**	**197**	P	Pn	06 08 00.7	-1.8
MRZ	**Mangatainoka R**	**1.97**	**47**	P	Pn	06 08 01.4	-1.4
RACZ	**Rakaia**	**2.05**	**213**	P	Pn	06 08 02.2	-1.7
BFZ	**Birch Farm**	**2.34**	**56**	P	Pn	06 08 06.6	-1.4
WACZ	**Wakanui South**	**2.35**	**215**	P	Pn	06 08 06.2	-1.8
WVZ	**Waitaha Valley**	**2.42**	**243**	P	Pn	06 08 09.0	0.0
WAZ	**Wanganui**	**2.47**	**24**	P	Pb	06 08 13.5	-0.1
RPZ	**Rata Peaks**	**2.57**	**228**	P	Pn	06 08 09.8	-1.3
ARCZ	**Arundel**	**2.67**	**223**	P	Pn	06 08 11.1	-1.3
KHEZ	**Kahui Hut**	**2.73**	**5**	P	Pb	06 08 16.6	-1.6
NBEZ	**Newall Road No**	**2.75**	**3**	P	Pb	06 08 16.7	-1.7
GCSZ	**Gaunt Creek Bo**	**2.80**	**241**	P	Pn	06 08 14.6	+0.4
PKE	**Pukeiti**	**2.83**	**5**	P	Pb	06 08 17.7	-2.1
MOVZ	**Moawhango**	**3.04**	**32**	P	Pb	06 08 22.0	-1.5
WNVZ	**Wahianoa**	**3.06**	**29**	P	Pb	06 08 21.2	-2.6
TRVZ	**Turoa**	**3.06**	**28**	P	Pn	06 08 21.0	+2.9
TMZ	**Timaru**	**3.07**	**219**	P	Pn	06 08 19.6	-1.0
BHHZ	**Black Hill Sta**	**3.10**	**36**	P	Pb	06 08 23.8	-0.7
TUVZ	**Tukino**	**3.13**	**29**	P	Pb	06 08 24.4	-0.6
NGZ	**Ngauruhoe**	**3.19**	**28**	P	Pb	06 08 23.3	-2.8
SNVZ	**South Ngauruho**	**3.19**	**28**	P	Pn	06 08 22.8	+3.0
OTVZ	**Oturere**	**3.23**	**28**	P	Pb	06 08 23.6	-3.0
FOZ	**Fox Glacier**	**3.23**	**241**	P	Pn	06 08 20.7	+0.6
NNVZ	**North Ngauruho**	**3.23**	**28**	P	Pn	06 08 23.6	+3.2
WTVZ	**West Tongariro**	**3.24**	**27**	P	Pn	06 08 23.6	+3.1
ETVZ	**East Tongariro**	**3.27**	**29**	P	Pn	06 08 23.2	+2.4
TMVZ	**Te Maari**	**3.28**	**29**	P	Pn	06 08 23.8	+2.8
LBZ	**Lake Benmore**	**3.49**	**226**	P	Pn	06 08 23.1	-0.6
ODZ	**Otahua Downs**	**3.75**	**215**	P	Pn	06 08 25.0	-2.2

*ISK **30** 06:10:54.8, 39°48N×25°92E, h5km, ML2.5/16*
*DDA **30** 06:10:55.5±0.0, 39°45N×25°87E, h6km±5km, ML2.3*
*THE **30** 06:10:56.4, 39°46N×25°93E, h3km±1km, ML2.3/4, Error ellipse: s-maj=1.7km s-min=0.4km az=118.0*
*ATH **30** 06:10:56.6, 39°46N×25°87E, h9km±2km, ML2.5/4, Error ellipse: s-maj=3.7km s-min=0.7km az=266.0*

ISC 30 06:10:56.1±1.0, 39°47N±0°02×25°91E±0°03, h8km±8km, n41, σ0°67/67, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.17**	**95**	Pg	**Pg**	**06 10 58.7**	**-1.0**
SIGR	**SIGRI**	**0.26**	**189**	P	**Pg**	**06 11 01.4**	**+0.1**
SIGR				S	**Sg**	**06 11 05.0**	**+0.2**
	1µm,0.3s						
SIGR	**SIGRI**	**0.26**	**189**	Pg	**Pg**	**06 11 01.5**	**+0.1**
SIGR	**SIGRI**	**0.26**	**189**	P	**Pg**	**06 11 01.4**	**+0.1**
SIGR				S	**Sg**	**06 11 04.9**	**+0.1**
SIGR				AML	AML	06 11 05.9	
	comp=N,2187µm,0.3s						
SIGR				AML	AML	06 11 06.8	
	comp=E,2584µm,0.3s						
BOZC	**Bozcaada**	**0.39**	**17**	P	**Pg**	**06 11 02.8**	**-0.9**
BOZC				P	**Pb**	**06 11 03.3**	**-1.9**
BOZC				S	**Sg**	**06 11 10.2**	**+1.4**
EZN	**Ezine**	**0.48**	**42**	P	**Pg**	**06 11 05.4**	**0.0**
EZN				S	**Sg**	**06 11 12.5**	**+0.8**
	comp=E,298nm,0.2s						
EZN	**Ezine**	**0.48**	**42**	Pg	**Pg**	**06 11 04.9**	**-0.5**
EZN				Sg	**Sg**	**06 11 12.7**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**0.56**	**61**	P	**Pg**	**06 11 06.7**	**-0.3**
BAYC				S	**Sg**	**06 11 15.2**	**+0.9**
ECEA	**Canakkale, Ece**	**0.61**	**19**	P	**Pg**	**06 11 08.7**	**+0.9**
ECEA				S	**Sb**	**06 11 17.9**	**+0.2**
ECEA				*i* AML	AML	06 11 23.0	
	comp=E,143nm,0.6s						
ECEA				*i* AML	AML	06 11 26.0	
	comp=E,148nm,1.1s						
AYVA	**Ayvalik**	**0.63**	**105**	P	**Pb**	**06 11 08.9**	**-0.3**
AYVA				S	**Sn**	**06 11 20.3**	**-1.1**
GADA	**Gvkgeada**	**0.72**	**359**	Pg	**Pg**	**06 11 09.7**	**-0.3**
BUHA	**Balikesir, Bur**	**0.90**	**88**	P	**Pg**	**06 11 12.9**	**-0.6**
BUHA				S	**Sb**	**06 11 27.6**	**+1.3**
BUHA				*i* AML	AML	06 11 34.0	
	comp=E,66nm,0.7s						
PSRA	**Psara**	**0.97**	**196**	P	**Pg**	**06 11 14.1**	**-0.5**
PSRA				S	**Sg**	**06 11 27.6**	**+0.4**
PSRA				AML	AML	06 11 31.7	
	comp=N,812µm,0.2s						
PSRA				AML	AML	06 11 31.8	
	comp=E,1110µm,0.2s						
GELI	**Tayfur-Gelibol**	**1.02**	**25**	Pg	**Pg**	**06 11 15.2**	**-0.5**
GELI				Sg	**Sb**	**06 11 30.2**	**+0.6**
ZEDA	**zmir-Bergama**	**1.04**	**119**	P	**Pg**	**06 11 16.0**	**0.0**
ZEDA				S	**Sb**	**06 11 30.7**	**+0.6**
SMTH	**Samothraki Isl**	**1.04**	**344**	P	**Pg**	**06 11 16.2**	**+0.1**
SMTH				S	**Sb**	**06 11 31.2**	**+1.0**
	comp=E,108nm,0.3s						
SMTH	**Samothraki Isl**	**1.04**	**344**	P	**Pg**	**06 11 16.1**	**0.0**
SMTH				S	**Sg**	**06 11 30.4**	**+0.8**
SMTH				AML	AML	06 11 32.2	
	comp=N,206µm,0.3s						
SMTH				AML	AML	06 11 32.4	
	comp=E,218µm,0.4s						
CHOS	**Chios island**	**1.09**	**174**	P	**Pg**	**06 11 16.8**	**-0.2**
CHOS				S	**Sb**	**06 11 32.3**	**+0.7**
	comp=E,318nm,0.2s						
CHOS	**Chios island**	**1.09**	**174**	Pn	**Pg**	**06 11 17.1**	**+0.1**
CHOS				Sn	**Sn**	**06 11 33.4**	**+0.4**
CHOS	**Chios island**	**1.09**	**174**	P	**Pg**	**06 11 16.8**	**-0.2**
CHOS				S	**Sb**	**06 11 31.9**	**+0.3**
CHOS				AML	AML	06 11 34.2	
	comp=N,520µm,0.3s						
CHOS				AML	AML	06 11 35.5	
	comp=E,756µm,0.2s						
LPK	**Lapseki**	**1.11**	**36**	Pn	**Pg**	**06 11 16.9**	**-0.6**
ENEZ	**Enez**	**1.28**	**8**	Pn	**Pn**	**06 11 20.1**	**-0.1**
ENEZ				Sn	**Sn**	**06 11 38.6**	**+1.0**
ERIK	**Erikli-Kesan**	**1.28**	**21**	Pn	**Pn**	**06 11 20.2**	**-0.1**
ERIK				Sn	**Sn**	**06 11 38.8**	**+1.1**
BALY	**Balya**	**1.35**	**78**	P	**Pn**	**06 11 21.1**	**-0.1**
BALY				S	**Sb**	**06 11 38.4**	**-0.6**
BALY				*i* AML	AML	06 11 40.0	
	comp=E,67nm,0.6s						
STEP	**BALIKESIR_Sava**	**1.40**	**93**	P	**Pb**	**06 11 22.6**	**0.0**
STEP				S	**Sg**	**06 11 41.9**	**+0.6**
KRBG	**Karabiga-Canak**	**1.41**	**49**	Pn	**Pn**	**06 11 22.1**	**0.0**
ALN	**Alexandroupoli**	**1.43**	**4**	P	**Pn**	**06 11 22.4**	**+0.1**
ALN				S	**Sb**	**06 11 41.8**	**+0.5**
ALN	**Alexandroupoli**	**1.43**	**4**	Pn	**Pn**	**06 11 22.6**	**+0.3**
ALN	**Alexandroupoli**	**1.43**	**4**	P	**Pn**	**06 11 22.1**	**-0.2**
ALN				S	**Sb**	**06 11 40.4**	**-0.9**
KESN	**Edirne-Kesan**	**1.48**	**23**	P	**Pn**	**06 11 22.0**	**-1.3**
KESN				S	**Sb**	**06 11 43.0**	**-0.1**
KESN				*i* AML	AML	06 11 47.0	
	comp=E,50nm,0.3s						
KESN				*i* AML	AML	06 11 51.0	
	comp=E,40nm,0.3s						
GONE	**Gonen-Balikesi**	**1.48**	**67**	Pn	**Pn**	**06 11 23.2**	**+0.1**
BALB	**Balikesir**	**1.53**	**83**	Pn	**Pn**	**06 11 23.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.56**	**38**	Pn	**Pn**	**06 11 24.3**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.64**	**240**	P	**Pn**	**06 11 24.2**	**-1.0**
RDO	**Rodhopi**	**1.70**	**350**	P	**Pn**	**06 11 26.3**	**+0.3**
RDO	**Rodhopi**	**1.70**	**350**	Pn	**Pn**	**06 11 26.1**	**+0.1**
RDO	**Rodhopi**	**1.70**	**350**	P	**Pn**	**06 11 26.0**	**0.0**
RDO				S	**Sn**	**06 11 46.6**	**-1.3**
OUR	**Ouranopolis**	**1.72**	**301**	Pn	**Pn**	**06 11 26.8**	**+0.5**
EDC	**Edincik**	**1.74**	**59**	Pn	**Pn**	**06 11 26.8**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.75**	**18**	Pn	**Pn**	**06 11 27.0**	**+0.3**
KDZ	**Kurdzhali**	**2.21**	**350**	Pn	**Pn**	**06 11 33.5**	**+0.4**

IDC 30 06:27:33.4±3.8, 55°54N×86°30E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=29.1km s-min=25.0km az=14.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**209**	I	I	06 37 50.0	
	baz=25,slow=340,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.81**	**209**	Pg	Pn	06 28 04.6	-1.2
	1.7nm,0.3s,baz=24,slow=16,SNR=26						
ZALV				Lg	Lg	06 28 30.1	
	1.3nm,0.3s,baz=27,slow=27,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.79**	**227**	Pn	Pn	06 29 14.4	+0.2
	0.1nm,0.3s,baz=41,slow=13,SNR=1.6						
KURBB				Sn	Sn	06 30 33.4	+1.3
	baz=50,slow=28,SNR=1.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**9.11**	**198**	Pn	Pn	06 29 46.0	0.0
	baz=16,slow=14,SNR=2.5						
	0.2nm,0.5s						

*MOS **30** 06:28:19.9±0.0, 42°88N×46°43E, h11km, MPVA3.6*
*DRS **30** 06:28:19.9±0.0, 42°88N×46°41E, h8km, ML2.4/5*
*NORS **30** 06:28:21.6±0.0, 42°87N×46°26E, h2km, MPVA3.8*
*TIF **30** 06:28:22.5, 42°83N×46°27E, h10km±2km*

ISC 30 06:28:21.6±0.9, 42°92N±0°02×46°42E±0°01, h7km±8km, n49, σ1°23/97, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.22**	**46**	*e*Pg	**Pg**	**06 28 25.6**	**-0.4**
	397nm,0.2s						
DLMR				*e*Sg	**Sg**	**06 28 29.8**	**+0.8**
	716nm,0.4s						
DVE	**Vedeno**	**0.22**	**280**	*e*Pg	**Pg**	**06 28 25.6**	**-0.4**
DVE				*e*Sg	**Sg**	**06 28 29.4**	**+0.5**
BTLR	**Botlikh**	**0.29**	**209**	*e*Pg	**Pg**	**06 28 26.8**	**-0.6**
BTLR				*i* Sg	**Sg**	**06 28 31.3**	**0.0**
	1µm,0.3s						
DBC	**Dubki**	**0.32**	**71**	*i* Pg	**Pg**	**06 28 27.4**	**-0.5**
	64nm,0.3s						
DBC				*i* Sg	**Sg**	**06 28 32.9**	**+0.7**
	675nm,0.2s						
KRNR	**Karanay**	**0.37**	**104**	*e*Pg	**Pg**	**06 28 28.4**	**-0.6**
	81nm,0.2s						
KRNR				*e*Sg	**Sg**	**06 28 34.4**	**+0.6**
	504nm,0.2s						
XNZR	**Khunzakh**	**0.43**	**151**	*i* Pg	**Pg**	**06 28 29.6**	**-0.5**
	96nm,0.3s						
XNZR				*i* Sg	**Sg**	**06 28 36.0**	**+0.3**
	340nm,0.5s						
BUJR	**Buynaksk**	**0.52**	**100**	*e*Pg	**Pb**	**06 28 32.6**	**-0.4**
	87nm,0.2s						
BUJR				*e*Sg	**Sb**	**06 28 41.2**	**+0.5**
	342nm,0.5s						
ARKR	**Arakani**	**0.53**	**126**	*e*Pg	**Pg**	**06 28 31.4**	**-0.5**
	4.0nm,0.4s						
ARKR				*e*Sg	**Sg**	**06 28 39.5**	**+0.8**
	3.0nm,0.4s						
GROC	**Groznyy**	**0.54**	**302**	*e*Pg	**Pb**	**06 28 32.6**	**-0.7**
	232nm,0.4s						
GROC				*e*Sg	**Sb**	**06 28 40.3**	**-0.9**
	1µm,0.4s						
GNBR	**Gunib**	**0.67**	**143**	*e*Pg	**Pg**	**06 28 34.5**	**+0.1**
	46nm,0.1s						
GNBR				*e*Sg	**Sb**	**06 28 44.4**	**-0.6**
	284nm,0.2s						
MAK	**Makhachkala**	**0.80**	**87**	*e*Pg	**Pg**	**06 28 36.4**	**-0.6**
MAK				*e*Sg	**Sn**	**06 28 50.3**	**-1.1**
KANR	**Karaman**	**0.83**	**70**	*e*Pg	**Pb**	**06 28 38.3**	**0.0**
KANR				*e*Sg	**Sn**	**06 28 51.8**	**-0.4**
KMKR	**Kumukh**	**0.94**	**147**	*e*Pg	**Pg**	**06 28 39.7**	**+0.1**
	3.0nm,0.4s						
KMKR				*e*Sg	**Sb**	**06 28 53.4**	**+0.5**
	112nm,0.4s						
SHTL	**Shatili**	**0.97**	**255**	P	**Pg**	**06 28 39.3**	**-0.9**
SHTL				S	**Sg**	**06 28 51.1**	**-1.6**
SHTL	**Shatili**	**0.97**	**255**	*e*Pg	**Pg**	**06 28 39.3**	**-0.9**
LGD	**Lagodekhi**	**1.09**	**187**	P	**Pg**	**06 28 41.8**	**-0.7**
LGD				S	**Sg**	**06 28 56.3**	**-0.4**
LGD	**Lagodekhi**	**1.09**	**187**	*e*Pg	**Pg**	**06 28 41.8**	**-0.7**
LGD				*e*Sg	**Sg**	**06 28 56.3**	**-0.4**
KMGR	**Komgaron**	**1.15**	**277**	*e*Pg	**Pg**	**06 28 43.6**	**0.0**
KMGR				*e*Sg	**Sn**	**06 29 00.9**	**+0.9**
URKR	**Urkarakh**	**1.17**	**130**	*e*Pg	**Pn**	**06 28 44.5**	**-0.1**
	32nm,0.3s						
URKR				*e*Sg	**Sn**	**06 29 01.4**	**+0.6**
	54nm,0.3s						
PNSH	**Pansheti**	**1.36**	**259**	P	**Pn**	**06 28 46.2**	**-0.8**
PNSH				S	**Sg**	**06 29 05.0**	**-0.2**
PNSH	**Pansheti**	**1.36**	**259**	*e*Pg	**Pn**	**06 28 46.2**	**-0.8**
PNSH				*e*Sg	**Sg**	**06 29 05.0**	**-0.2**
BTKR	**Batakoyurt**	**1.45**	**289**	*e*Pg	**Pg**	**06 28 49.5**	**+0.2**
BTKR				*e*Sg	**Sg**	**06 29 11.9**	**+3.8**
TRKR	**Terskaya**	**1.47**	**304**	*e*Pg	**Pg**	**06 28 50.1**	**+0.3**
TRKR				*e*Sg	**Sg**	**06 29 11.6**	**+2.8**
DDFL	**Dedoflistskaro**	**1.49**	**189**	P	**Pg**	**06 28 52.3**	**+2.2**
DDFL				S	**Sg**	**06 29 13.1**	**+3.6**
GUDG	**Gudauri**	**1.50**	**253**	P	**Pn**	**06 28 49.0**	**-0.1**
GUDG				S	**Sg**	**06 29 09.6**	**-0.2**
GUDG	**Gudauri**	**1.50**	**253**	*e*Pg	**Pn**	**06 28 49.0**	**-0.1**
GUDG				*e*Sg	**Sg**	**06 29 09.6**	**-0.2**
LACR	**Lac**	**1.56**	**267**	*e*Pg	**Pb**	**06 28 50.4**	**-0.5**
LACR				*e*Sg	**Sg**	**06 29 12.1**	**+0.3**
ARNR	**Ardon**	**1.58**	**280**	*e*Pg	**Pb**	**06 28 51.0**	**-0.2**
ARNR				*e*Sg	**Sg**	**06 29 14.6**	**+2.0**
DRN	**Derbent**	**1.67**	**121**	*e*Pg	**Pg**	**06 28 53.3**	**-0.3**
DRN				*e*Sg	**Sg**	**06 29 17.8**	**+2.5**
KORR	**Kora**	**1.73**	**276**	*e*Pg	**Pg**	**06 28 54.5**	**-0.3**
KORR				*e*Sg	**Sg**	**06 29 18.7**	**+1.5**
AKT	**Akhty**	**1.74**	**145**	*e*Pg	**Pn**	**06 28 52.0**	**-0.2**
AKT				*e*Sg	**Sb**	**06 29 15.6**	**-0.4**
PRTR	**Priterechnaya**	**1.77**	**299**	*e*Pg	**Pg**	**06 28 55.0**	**-0.4**
PRTR				*e*Sg	**Sg**	**06 29 19.5**	**+1.2**
STDR	**Stavd-Durt**	**1.78**	**285**	*e*Pg	**Pb**	**06 28 54.9**	**+0.4**
STDR				*e*Sg	**Sg**	**06 29 20.8**	**+2.0**
KSMR	**Kasumkent**	**1.83**	**135**	*e*Pg	**Pn**	**06 28 51.9**	**-1.6**
KSMR				*e*Sg	**Sn**	**06 29 16.1**	**-0.8**
ZEI	**Tsey**	**1.85**	**267**	*e*Pg	**Pn**	**06 28 54.0**	**+0.1**
ZEI				*e*Sg	**Sb**	**06 29 19.7**	**+0.3**
LSNR	**Lesken**	**1.93**	**282**	*e*Pg	**Pb**	**06 28 56.8**	**-0.4**
LSNR				*e*Sg	**Sg**	**06 29 22.7**	**-1.0**
DIGR	**Digorskoe uzhe**	**2.08**	**270**	*e*Pg	**Pn**	**06 28 57.8**	**+0.6**
DIGR				*e*Sg	**Sb**	**06 29 26.7**	**+0.7**
ALIG	**Mtskhetisjvari**	**2.20**	**249**	P	**Pb**	**06 29 01.1**	**-0.6**
ALIG				S	**Sb**	**06 29 28.1**	**-1.1**
TRLG	**Trialeti**	**2.20**	**232**	P	**Pb**	**06 29 01.4**	**-0.5**
TRLG				S	**Sb**	**06 29 28.7**	**-0.7**
TRLG	**Trialeti**	**2.20**	**232**	*e*Pg	**Pb**	**06 29 01.4**	**-0.5**
TRLG				*e*Sg	**Sb**	**06 29 28.7**	**-0.7**
ONI	**Oni**	**2.21**	**262**	P	**Pn**	**06 29 00.1**	**+1.4**
ONI				S	**Sb**	**06 29 30.4**	**+1.0**
ONI	**Oni**	**2.21**	**262**	*e*Pg	**Pn**	**06 29 00.1**	**+1.4**
ONI				*e*Sg	**Sb**	**06 29 30.4**	**+1.0**
KBZ	**Khabaz**	**2.69**	**289**	*e*Pn	**Pn**	**06 29 04.6**	**-0.7**
KBZ				*e*Sn	**Sb**	**06 29 41.8**	**-1.4**
NEY	**Neytrino**	**2.73**	**278**	*e*Pn	**Pb**	**06 29 10.9**	**+0.1**
NEY				*e*Sn	**Sb**	**06 29 45.3**	**+0.9**
BEYR	**Belyy Ugol+**	**2.84**	**294**	*e*Sn	**Pn**	**06 29 03.8**	**-3.5**
BEYR				*e*Sn	**Sn**	**06 29 39.8**	**-2.0**
SHA1	**Shidzhatmaz**	**2.86**	**288**	*e*Pn	**Pn**	**06 29 07.2**	**-0.7**
SHA1				*e*Sn	**Sb**	**06 29 46.4**	**-2.0**
KIV	**Kislovodsk**	**2.91**	**292**	*e*Pn	**Pn**	**06 29 07.7**	**-0.6**
KIV				*e*Sn	**Sn**	**06 29 43.3**	**-0.2**
ALER	**Alexandrovskoy**	**3.13**	**307**	*e*Pn	**Pn**	**06 29 14.1**	**+2.7**
ALER				*e*Sn	**Sn**	**06 29 50.1**	**+1.1**

IDC 30 06:29:26.1±3.3, 54°37N×87°12E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=28.3km s-min=20.1km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**254**	I	I	06 36 40.0	
	baz=71,slow=334,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.41**	**254**	Pg	Pn	06 29 51.7	-1.3
	0.5nm,0.3s,baz=70,slow=16,SNR=4.5						
ZALV				Lg	Lg	06 30 11.2	
	1.1nm,0.3s,baz=69,

comp=N,0.1nm,0.3s,baz=212,slow=1.6,SNR=3.8
comp=N,0.6nm,0.4s
SIV San Ignacio 16.04 39 P P 06 39 58.2 -2.6
baz=211,slow=14,SNR=1.8
comp=N,0.8nm,0.8s
TORD Torodi Ar. Bea 82.06 70 P P 06 48 31.9 +0.3
comp=N,0.9nm,0.7s,baz=253,slow=4.1,SNR=4.9
comp=N,0.9nm,0.7s
KURBB Kurchatov Arra 148.69 38 PKPbc PKiKP 06 55 58.3 -0.7
comp=N,0.4nm,0.7s,baz=297,slow=3.2,SNR=5.0
ZALV Zalesovo Beam 149.58 28 PKPbc PKiKP 06 56 00.6 -0.2
comp=N,1.4nm,0.7s,baz=304,slow=3.1,SNR=3.7
MKAR Makanchi Array 152.85 42 PKPbc PKiKP 06 56 07.8 0.0
comp=N,0.2nm,0.6s,baz=338,slow=1.6,SNR=4.8

IDC 30 06:39:15.7±1.6, 3°.33S×133°.83E, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1, MS4.2/1, Error ellipse: s-maj=77.9km s-min=29.0km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.52**	**178**	Pn	Pn	06 43 09.8	+0.8
	0.2nm,0.3s,baz=358,slow=12,SNR=6.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**20.22**	**180**	P	P	06 43 52.0	-0.4
	11nm,0.4s,baz=7.3,slow=12,SNR=14						
	11nm,0.4s						
HNR	**Honiara**	**26.64**	**104**	LR	LR	06 55 35.3	
	comp=Z,498nm,18.3s,baz=22,slow=37						
MKAR	**Makanchi Array**	**67.37**	**324**	P	P	06 50 12.8	-0.1
	0.2nm,0.6s,baz=112,slow=6.8,SNR=4.9						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**88.43**	**25**	P	P	06 52 09.8	+0.2
	0.2nm,0.6s,baz=262,slow=4.5,SNR=1.2						
	0.2nm,0.6s						

IDC 30 06:48:56.6±330.0, 5°.57S×147°.90E, h0km, Error ellipse: s-maj=131.2km s-min=11.9km az=73.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**18.63**	**314**	I	I	08 44 10.0	
	baz=135,slow=313,SNR=2.9						
I07AU	**WARRAMUNGA INF**	**9.44**	**222**	I	I	08 51 50.0	
	baz=44,slow=302,SNR=2.0						

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*IDC **30** 06:49:08.7±2.1, 39°.13N×141°.81E, h0km, mb3.5/6, mbtmp3.4/7, ML2.5/1, MS2.5/2, Error ellipse: s-maj=49.7km s-min=24.0km az=148.0*
*JMA **30** 06:49:14.0±0.1, 38°.7N±0°.2×141°.9E±0°.4, h58km, MV3.9/40, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
ISC 30 06:49:13.3±1.2, 38°.66N±0°.04×142°.00E±0°.09, h56km±8km, n20, σ1$15/32, mb3.2/6, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.44**	**291**	*i* P	**Pn**	**06 49 24.8**	**+0.5**
JKMT				S	**Sn**	**06 49 32.3**	**+0.1**
OFUJ	**Ofunato**	**0.50**	**328**	*i* P	**Pn**	**06 49 25.7**	**+0.7**
OFUJ				S	**Sn**	**06 49 33.9**	**+0.6**
JIKH	**Ishinomakikobu**	**0.55**	**231**	*i* P	**Pn**	**06 49 25.7**	**+0.3**
JIKH				S	**Sn**	**06 49 34.0**	**-0.2**
JIO	**Ouri**	**0.55**	**249**	*i* P	**Pn**	**06 49 25.7**	**+0.2**
JIO				S	**Sn**	**06 49 33.9**	**-0.5**
JMK	**Ichinoseki**	**0.68**	**296**	*i* P	**Pn**	**06 49 27.4**	**+0.3**
JMK				S	**Sn**	**06 49 37.1**	**0.0**
JOM	**Ohasama**	**0.99**	**326**	⇓*i* P	**Pn**	**06 49 31.6**	**+0.6**
JOM				⇓S	**Sn**	**06 49 44.5**	**+0.4**
JOU	**Okura**	**1.09**	**255**	*i* P	**Pn**	**06 49 32.4**	**-0.1**
JOU				S	**Sn**	**06 49 46.0**	**-0.7**
JMM	**Marumori**	**1.24**	**231**	*i* P	**Pn**	**06 49 34.0**	**-0.4**
JMM				S	**Sn**	**06 49 49.3**	**-0.7**
JRG	**Rokugo**	**1.30**	**305**	⇓*i* P	**Pn**	**06 49 35.2**	**+0.1**
JRG				⇓S	**Sn**	**06 49 51.6**	**0.0**
JYK	**Kaneyama**	**1.31**	**282**	⇓*i* P	**Pn**	**06 49 35.5**	**+0.1**
JYK				⇓*e*S	**Sn**	**06 49 52.0**	**+0.1**
JFK	**Kawauchi**	**1.57**	**215**	*i* P	**Pn**	**06 49 38.9**	**0.0**
JFK				S	**Sn**	**06 49 57.3**	**-0.8**
JYS	**Shirataka**	**1.58**	**255**	P	**Pn**	**06 49 39.5**	**+0.4**
JYS				S	**Sn**	**06 49 58.4**	**-0.1**
MJAR	**Matsushiro Arr**	**3.68**	**236**	Pn	**Pn**	**06 50 09.5**	**+1.8**
	0.3nm,0.3s,baz=40,slow=11,SNR=7.6						
MJAR				Sn	**Sn**	**06 50 55.0**	**+5.1**
	baz=102,slow=14						
MJAR				LR	LR	06 51 36.0	
	comp=Z,51nm,18.2s,baz=194,slow=38						
	2.1nm,0.4s						
KSRS	**Korea Array**	**11.17**	**268**	LR	LR	06 55 37.2	
	comp=Z,33nm,19.9s,baz=170,slow=35						
SONM	**Songino Array**	**27.31**	**301**	P	**P**	**06 54 52.7**	**0.0**
	0.2nm,0.4s,baz=108,slow=9.3,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**43.67**	**301**	P	**P**	**06 57 11.3**	**-1.2**
	0.3nm,0.6s,baz=85,slow=12,SNR=4.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.39**	**307**	P	**P**	**06 57 25.5**	**-0.5**
	2.3nm,0.4s,baz=81,slow=8.2,SNR=16						
	2.3nm,0.4s						
ILAR	**Eielson Array**	**47.88**	**33**	P	**P**	**06 57 46.0**	**+0.7**
	0.2nm,0.6s,baz=266,slow=7.2,SNR=4.4						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**49.84**	**311**	P	**P**	**06 57 59.4**	**-1.2**
	0.7nm,0.8s,baz=79,slow=7.5,SNR=2.5						
	0.7nm,0.8s						
YKA	**Yellowknife Ar**	**62.17**	**31**	P	**P**	**06 59 28.7**	**+0.3**
	0.1nm,0.7s,baz=300,slow=6.5,SNR=2.0						
	0.1nm,0.7s						

IDC 30 06:53:14.8±2.8, 54°.11N×87°.13E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=25.5km s-min=17.2km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**264**	I	I	07 01 10.0	
	0.1nm,1.0s,baz=81,slow=339,SNR=7.8						
ZALV	**Zalesovo Beam**	**1.37**	**264**	Pg	Pg	06 53 39.3	-1.8
	1.5nm,0.3s,baz=85,slow=14,SNR=18						
ZALV				Lg	Lg	06 53 58.3	
	3.2nm,0.3s,baz=80,slow=23,SNR=12						
KURBB	**Kurchatov Arra**	**6.32**	**240**	Pn	Pn	06 54 49.3	+0.1
	0.1nm,0.3s,baz=56,slow=14,SNR=4.3						
KURBB				Lg	Lg	06 56 34.7	
	baz=64,slow=31,SNR=3.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.94**	**205**	Pn	Pn	06 55 12.1	+0.6
	baz=23,slow=7.8,SNR=1.2						
MKAR				Lg	Lg	06 57 29.9	
	baz=38,slow=35,SNR=3.4						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**10.02**	**271**	Pn	Pn	06 55 40.6	+0.7
	baz=74,slow=11,SNR=2.3						
	0.3nm,0.4s						

ROM 30 06:54:36.4±0.1, 41°.728N±0°.005×14°.226E±0°.010, h10km, Md1.2/3, ML0.9/1, 3C, Error ellipse: s-maj=0.8km s-min=0.6km az=244.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RNI2	**Rionero Sannit**	**0.06**	**245**	⇑P	Pg	06 54 39.0	+0.4
RNI2				S	Sg	06 54 40.8	+0.7
RNI2				END			
MIDA	**Miranda**	**0.09**	**166**	⇑P	Pg	06 54 39.3	+0.4
MIDA				S	Sg	06 54 40.9	+0.3
MIDA				AML	AML		
	comp=E,118μm,1.5s						
MIDA				AML	AML		
	comp=N,102μm,1.0s						
MIDA				AML	AML		
	comp=N,102μm,1.0s						
MIDA				AML	AML		
	comp=E,118μm,0.5s						
MIDA				END			
CERA	**Filignano**	**0.20**	**230**	⇑P	Pg	06 54 41.0	+0.3
CERA				S	Sg	06 54 44.4	+0.9
CERA				END			
VAGA	**Valle Agricola**	**0.31**	**179**	P	Pb	06 54 43.5	-0.6
VAGA				S	Sb	06 54 48.5	-0.8
LPEL	**Lama dei Pelig**	**0.32**	**354**	P	Pg	06 54 43.2	+0.4
LPEL				S	Sb	06 54 48.6	-1.0
POFI	**Posta Fibreno**	**0.39**	**269**	P	Pg	06 54 44.6	+0.6
POFI				S	Sb	06 54 51.0	-0.5
VVLD	**Villa Vallelon**	**0.47**	**288**	P	Pg	06 54 45.8	+0.2
VVLD				S	Sg	06 54 52.9	+1.0

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*ISK **30** 06:56:16.7, 39°.60N×26°.42E, h8km, ML4.1/43*
*THE **30** 06:56:17.9, 39°.61N×26°.37E, h12km, ML3.6/15, Error ellipse: s-maj=0.6km s-min=0.3km az=269.0*
*DDA **30** 06:56:17.3±0.0, 39°.61N×26°.43E, h8km±1km, MW3.9*
*ATH **30** 06:56:18.2, 39°.59N×26°.40E, h14km±1km, ML3.7/10, Error ellipse: s-maj=2.0km s-min=0.8km az=252.0*
*CFUSG **30** 06:56:18.4, 39°.24N×29°.34E, h12km, Western Turkey Magtype MSH 3.2 from 1 stations*
*SOF **30** 06:56:19.3, 39°.85N×26°.33E, h9km, MD3.7*
*BEO **30** 06:56:21.6±0.7, 39°.89N×26°.17E, h0km, ML3.8/9*
ISC 30 06:56:17.3±0.8, 39°.61N±0°.01×26°.40E±0°.02, h14km±6km, n193, σ1$32/259, 27C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYC	**CANAKKALE_Bayr**	**0.17**	**42**	P	**Pg**	**06 56 20.8**	**-0.7**
BAYC				S	**Sg**	**06 56 23.4**	**-0.8**
EZN	**Ezine**	**0.22**	**345**	P	**Pg**	**06 56 22.4**	**+0.2**
EZN				S	**Sg**	**06 56 25.5**	**0.0**
	13μm,0.2s						
EZN	**Ezine**	**0.22**	**345**	Pg	**Pg**	**06 56 22.4**	**+0.2**
EZN				Sg	**Sb**	**06 56 26.5**	**-0.4**
KOCA	**Canakkale, Ayv**	**0.23**	**241**	P	**Pb**	**06 56 22.8**	**-0.4**
KOCA				S	**Sb**	**06 56 26.6**	**-0.6**
GPNR	**Gulpinar-Canak**	**0.26**	**233**	Pg	**Pg**	**06 56 22.8**	**0.0**
BOZC	**Bozcaada**	**0.35**	**311**	Pg	**Pg**	**06 56 24.9**	**+0.5**
BOZC				Sg	**Sb**	**06 56 30.3**	**-0.4**
BOZC	**Bozcaada**	**0.35**	**311**	P	**Pg**	**06 56 24.9**	**+0.5**
BOZC				S	**Sb**	**06 56 30.5**	**-0.2**
AYVA	**Ayvalik**	**0.38**	**143**	P	**Pg**	**06 56 24.8**	**-0.1**
AYVA				S	**Sg**	**06 56 30.1**	**0.0**
ECEA	**Canakkale, Ece**	**0.46**	**338**	P	**Pb**	**06 56 27.2**	**-0.1**
ECEA				S	**Sb**	**06 56 33.9**	**0.0**
BUHA	**Balikesir, Bur**	**0.54**	**102**	P	**Pg**	**06 56 27.6**	**-0.3**
BUHA				S	**Sg**	**06 56 34.7**	**-0.3**
SIGR	**SIGRI**	**0.58**	**227**	P	**Pg**	**06 56 28.7**	**+0.1**
SIGR				S	**Sb**	**06 56 37.2**	**-0.1**
	13μm,0.4s						
SIGR	**SIGRI**	**0.58**	**227**	Pg	**Pg**	**06 56 28.7**	**+0.1**
SIGR	**SIGRI**	**0.58**	**227**	P	**Pg**	**06 56 28.8**	**+0.1**
SIGR				S	**Sb**	**06 56 37.0**	**-0.3**
SIGR				AML	AML	06 56 42.7	
	comp=E,21624μm,0.3s						
SIGR				AML	AML	06 56 43.5	
	comp=N,30128μm,0.4s						
DKL	**Dikili**	**0.67**	**144**	Pg	**Pg**	**06 56 29.7**	**-0.6**
GADA	**Gvkgeada**	**0.69**	**327**	Pg	**Pg**	**06 56 30.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.79**	**4**	Pg	**Pg**	**06 56 32.5**	**-0.1**
LPK	**Lapseki**	**0.81**	**20**	Pg	**Pg**	**06 56 32.6**	**-0.4**
ZEDA	**zmir-Bergama**	**0.83**	**141**	P	**Pg**	**06 56 33.0**	**-0.4**
ZEDA				S	**Sb**	**06 56 45.0**	**+0.4**
BALY	**Balya**	**0.95**	**82**	P	**Pb**	**06 56 35.0**	**-0.6**
BALY				S	**Sg**	**06 56 48.8**	**+0.6**
KRBG	**Karabiga-Canak**	**1.04**	**41**	Pg	**Pb**	**06 56 36.3**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.05**	**103**	P	**Pb**	**06 56 37.0**	**-0.3**
STEP				S	**Sb**	**06 56 51.0**	**+0.2**
ERIK	**Erikli-Kesan**	**1.06**	**5**	Pg	**Pb**	**06 56 37.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.08**	**66**	Pg	**Pb**	**06 56 37.4**	**-0.4**
SMTH	**Samothraki Isl**	**1.08**	**322**	P	**Pb**	**06 56 38.0**	**+0.2**
SMTH				S	**Sn**	**06 56 53.1**	**+0.2**
	comp=N,7μm,0.4s						
SMTH	**Samothraki Isl**	**1.08**	**322**	P	**Pn**	**06 56 38.3**	**+0.2**
SMTH				S	**Sn**	**06 56 53.2**	**+0.3**
SMTH				AML	AML	06 56 55.7	
	comp=N,13833μm,0.5s						
SMTH				AML	AML	06 56 55.9	
	comp=E,12533μm,0.4s						
KNL	**Balıkesir**	**1.09**	**53**	P	**Pb**	**06 56 37.1**	**-0.8**
KNL				S	**Sn**	**06 56 53.7**	**+0.7**
CAVK	**Edirne/Enez-Ca**	**1.09**	**351**	P	**Pn**	**06 56 38.3**	**+0.1**
CAVK				S	**Sb**	**06 56 52.5**	**+0.5**
ENEZ	**Enez**	**1.14**	**351**	P	**Pg**	**06 56 39.3**	**+0.1**
ENEZ				S	**Sg**	**06 56 54.2**	**+0.1**
ENEZ	**Enez**	**1.14**	**351**	Pn	**Pb**	**06 56 38.6**	**-0.1**
BALB	**Balikesir**	**1.15**	**88**	Pn	**Pb**	**06 56 38.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.23**	**29**	Pn	**Pn**	**06 56 39.6**	**-0.5**
KESN	**Edirne-Kesan**	**1.23**	**10**	P	**Pn**	**06 56 39.6**	**-0.8**
KESN				S	**Sg**	**06 56 57.4**	**+0.2**
SART	**Tekirdag**	**1.23**	**29**	P	**Pn**	**06 56 39.6**	**-0.5**
SART				S	**Sg**	**06 56 57.3**	**+0.3**
PSRA	**Psara**	**1.25**	**212**	P	**Pb**	**06 56 40.6**	**0.0**
PSRA				S	**Sn**	**06 56 56.7**	**-0.2**
PSRA				AML	AML	06 57 01.3	
	comp=E,16543μm,0.5s						
PSRA				AML	AML	06 57 04.5	
	comp=N,14875μm,0.2s						
CHOS	**Chios island**	**1.25**	**192**	P	**Pn**	**06 56 40.1**	**-0.3**
CHOS				S	**Sb**	**06 56 56.8**	**+0.1**
	comp=N,7μm,0.5s						
CHOS	**Chios island**	**1.25**	**192**	Pn	**Pn**	**06 56 40.3**	**-0.2**
CHOS	**Chios island**	**1.25**	**192**	P	**Pn**	**06 56 40.2**	**-0.2**
CHOS				S	**Sb**	**06 56 56.1**	**-0.6**
CHOS				AML	AML	06 56 58.4	
	comp=N,8783μm,0.6s						
CHOS				AML	AML	06 57 04.2	
	comp=E,17965μm,0.4s						
URLA	**Izmir**	**1.26**	**173**	Pn	**Pn**	**06 56 40.2**	**-0.3**
URLA	**Izmir**	**1.26**	**173**	P	**Pn**	**06 56 40.2**	**-0.3**
URLA				S	**Sn**	**06 56 57.2**	**0.0**
ALN	**Alexandroupoli**	**1.31**	**348**	P	**Pn**	**06 56 41.6**	**+0.4**
ALN				S	**Sn**	**06 56 59.1**	**+0.7**
	comp=E,3μm,0.7s						
ALN	**Alexandroupoli**	**1.31**	**348**	Pn	**Pb**	**06 56 41.8**	**+0.1**
ALN	**Alexandroupoli**	**1.31**	**348**	P	**Pb**	**06 56 42.1**	**+0.4**
ALN				S	**Sn**	**06 56 58.9**	**+0.5**
ALN				AML	AML	06 57 00.5	
	comp=N,6211μm,1.0s						
ALN				AML	AML	06 57 02.2	
	comp=E,5440μm,0.4s						
AKS	**Akhisar**	**1.32**	**123**	Pn	**Pb**	**06 56 42.0**	**+0.1**
BLCB	**Balcova**	**1.32**	**158**	P	**Pn**	**06 56 41.1**	**-0.2**
BLCB				S	**Sg**	**06 56 59.4**	**-0.6**
BLCB	**Balcova**	**1.32**	**158**	Pn	**Pn**	**06 56 41.2**	**-0.1**
EDC	**Edincik**	**1.34**	**56**	Pn	**Pn**	**06 56 41.9**	**+0.3**
ZEYE	**Izmir, Urla-Ze**	**1.37**	**177**	P	**Pn**	**06 56 41.6**	**-0.4**
ZEYE				S	**Sn**	**06 56 59.6**	**-0.4**
UKOP	**Uzunkopru-Edir**	**1.52**	**7**	Pn	**Pb**	**06 56 45.3**	**0.0**
DGB	**zmir**	**1.60**	**166**	P	**Pn**	**06 56 44.9**	**-0.2**
DGB				S	**Sn**	**06 57 04.8**	**-0.8**
THAS	**Thassos island**	**1.62**	**308**	P	**Pn**	**06 56 45.7**	**+0.2**
THAS				S	**Sn**	**06 57 06.1**	**-0.1**
	comp=E,1μm,0.4s						
THAS	**Thassos island**	**1.62**	**308**	P	**Pn**	**06 56 45.7**	**+0.2**
THAS				S	**Sn**	**06 57 05.9**	**-0.3**
THAS				AML	AML	06 57 07.0	
	comp=N,2772μm,0.4s						
THAS				AML	AML	06 57 11.1	
	comp=E,1452μm,0.5s						
RDO	**Rodhopi**	**1.67**	**337**	P	**Pn**	**06 56 46.8**	**+0.8**
RDO				S	**Sn**	**06 57 07.6**	**+0.4**
	comp=E,1μm,0.7s						
RDO	**Rodhopi**	**1.67**	**337**	Pn	**Pn**	**06 56 46.9**	**+0.9**
DEMI	**Demirci**	**1.89**	**107**	P	**Pn**	**06 56 49.3**	**+0.1**
DEMI				S	**Sg**	**06 57 17.0**	**-1.0**
SMG	**Samos**	**1.93**	**170**	P	**Pn**	**06 56 49.3**	**-0.4**
SMG				S	**Sn**	**06 57 14.6**	**+0.8**
	comp=E,3μm,0.6s						
SMG	**Samos**	**1.93**	**170**	P	**Pn**	**06 56 49.4**	**-0.3**
SMG				S	**Sn**	**06 57 12.5**	**-1.2**
SMG				AML	AML	06 57 23.3	
	comp=E,4385μm,0.7s						
SMG				AML	AML	06 57 24.3	
	comp=N,6430μm,0.5s						
OUR	**Ouranopolis**	**1.99**	**292**	P	**Pn**	**06 56 50.7**	**+0.2**
OUR				S	**Sn**	**06 57 15.1**	**-0.1**
	comp=N,910nm,0.4s						
OUR	**Ouranopolis**	**1.99**	**292**	Pn	**Pn**	**06 56 51.3**	**+0.9**
OUR	**Ouranopolis**	**1.99**	**292**	P	**Pn**	**06 56 51.4**	**+0.9**
OUR				S	**Sn**	**06 57 15.0**	**-0.2**
OUR				AML	AML	06 57 16.6	
	comp=E,1718μm,0.4s						
OUR				AML	AML	06 57 23.3	
	comp=N,1281μm,0.6s						
KAVA	**Kavala**	**2.00**	**314**	P	**Pn**	**06 56 50.7**	**+0.1**
KAVA				S	**Sn**	**06 57 15.6**	**+0.2**
KAVA	**Kavala**	**2.00**	**314**	P	**Pn**	**06 56 51.5**	**+0.9**
KAVA				S	**Sn**	**06 57 15.3**	**-0.1**
GCAM	**G?zelcaml?**	**2.02**	**161**	Pn	**Pn**	**06 56 50.9**	**0.0**
GCAM	**G?zelcaml?**	**2.02**	**161**	P	**Pn**	**06 56 50.8**	**-0.1**
GCAM				S	**Sg**	**06 57 22.1**	**-0.1**
KVLA	**Kavala**	**2.03**	**311**	P	**Pn**	**06 56 52.0**	**+1.0**
KVLA				S	**Sn**	**06 57 16.1**	**-0.1**
KYMI	**Kymi, Euboea I**	**2.04**	**242**	P	**Pn**	**06 56 51.0**	**-0.1**
KYMI				S	**Sn**	**06 57 15.8**	**-0.6**
	comp=N,835nm,1.0s						
KYMI	**Kymi, Euboea I**	**2.04**	**242**	P	**Pn**	**06 56 51.2**	**0.0**
MDNY	**Mudanya-Bursa**	**2.05**	**68**	Pn	**Pn**	**06 56 52.9**	**+1.5**
SMAA	**Simav-Kutahya**	**2.07**	**104**	Pn	**Pn**	**06 56 51.9**	**+0.3**
SIMA	**Simav-Kutahya**	**2.07**	**104**	Pn	**Pn**	**06 56 52.0**	**+0.3**
KULA	**Kula-Manisa**	**2.08**	**121**	P	**Pn**	**06 56 52.1**	**+0.3**
KULA				S	**Sn**	**06 57 18.8**	**+1.4**
KULA	**Kula-Manisa**	**2.08**	**121**	Pn	**Pn**	**06 56 52.4**	**+0.6**
ARMT	**Armutlu**	**2.12**	**62**	Pn	**Pn**	**06 56 53.2**	**+0.9**
PAIG	**Paliouri**	**2.12**	**279**	P	**Pn**	**06 56 52.6**	**+0.4**
PAIG	**Paliouri**	**2.12**	**279**	P	**Pn**	**06 56 52.8**	**+0.5**
PAIG				S	**Sn**	**06 57 17.7**	**-0.6**
PAIG				AML	AML	06 57 30.9	
	comp=E,861μm,0.5s						
PAIG				AML	AML	06 57 34.4	
	comp=N,1013μm,0.8s						
SLVT	**Silivri**	**2.13**	**40**	Pn	**Pn**	**06 56 53.8**	**+1.4**
SINB	**Sinanoba-Istan**	**2.15**	**49**	Pn	**Pn**	**06 56 53.6**	**+1.0**
KDZ	**Kurdzhali**	**2.17**	**340**	Pn	**Pn**	**06 56 54.1**	**+1.1**
KDZ	**Kurdzhali**	**2.17**	**340**	P	**Pn**	**06 56 53.8**	**+0.8**
PHSR	**Pinarhisar**	**2.19**	**23**	Pn	**Pn**	**06 56 54.3**	**+1.0**
EDRB	**Edirne**	**2.25**	**7**	P	**Pn**	**06 56 54.5**	**+0.5**
EDRB				S	**Sn**	**06 57 22.1**	**+0.5**
	comp=N,562nm,0.7s						
EDRB	**Edirne**	**2.25**	**7**	Pn	**Pn**	**06 56 55.3**	**+1.3**
AVCI	**Avcilar-stanb**	**2.25**	**51**	Pn	**Pn**	**06 56 55.3**	**+1.2**
TNSA	**Tinos**	**2.29**	**205**	P	**Pn**	**06 56 54.7**	**+0.2**
TNSA				S	**Sn**	**06 57 21.9**	**-0.5**
TNSA				AML	AML	06 57 37.7	
	comp=N,1178μm,0.3s						
TNSA				AML	AML	06 57 40.1	
	comp=E,877μm,0.7s						
GEMT	**Gemlik**	**2.30**	**68**	Pn	**Pn**	**06 56 56.2**	**+1.5**
CTYL	**Yalikoy Yolu**	**2.35**	**37**	Pn	**Pn**	**06 56 56.6**	**+1.1**
BGKT	**Bogazkoy**	**2.40**	**48**	Pn	**Pn**	**06 56 57.3**	**+1.2**
BRGA	**Burgazada-Ista**	**2.41**	**57**	Pn	**Pn**	**06 56 57.5**	**+1.3**
GEDZ	**Gediz**	**2.41**	**103**	Pn	**Pn**	**06 56 57.5**	**+1.2**
RZN	**Rozhen**	**2.44**	**329**	P	**Pn**	**06 56 58.2**	**+1.4**
BUYA	**Buyukada-Istan**	**2.44**	**58**	Pn	**Pn**	**06 56 57.7**	**+1.1**
DION	**Dionisos Attik**	**2.46**	**232**	P	**Pn**	**06 56 57.5**	**+0.5**
DION				S	**Sn**	**06 57 26.8**	**0.0**
NEO	**Neokhori**	**2.48**	**264**	P	**Pn**	**06 56 57.2**	**0.0**
XOR	**Xorichti**	**2.49**	**265**	P	**Pn**	**06 56 57.0**	**-0.4**
XOR	**Xorichti**	**2.49**	**265**	P	**Pn**	**06 56 57.7**	**+0.3**
ISK	**Istanbul-Kandi**	**2.50**	**54**	P	**Pn**	**06 56 57.2**	**-0.3**
ISK	**Istanbul-Kandi**	**2.50**	**54**	Pn	**Pn**	**06 56 58.9**	**+1.4**
KAVV	**Kandilli-Istan**	**2.50**	**54**	Pn	**Pn**	**06 56 58.5**	**+1.0**
TUZL	**Tuzla-Istanbul**	**2.50**	**60**	Pn	**Pn**	**06 56 58.5**	**+1.0**
PTL	**Penteli**	**2.52**	**233**	P	**Pn**	**06 56 58.3**	**+0.5**
PTL				S	**Sn**	**06 57 27.8**	**-0.5**
	comp=E,340nm,0.4s						
YLVH	**Yalova**	**2.52**	**64**	Pn	**Pn**	**06 56 58.9**	**+1.1**
NVR	**Nevrokopi**	**2.60**	**313**	P	**Pn**	**06 57 00.5**	**+1.6**
KLYT	**Kilyos**	**2.60**	**50**	Pn	**Pn**	**06 57 00.3**	**+1.4**
SRS	**Serrai**	**2.62**	**306**	P	**Pn**	**06 56 59.8**	**+0.6**
SRS	**Serrai**	**2.62**	**306**	*e*Pn	**Pn**	**06 56 59.7**	**+0.6**
SRS				*e*S	**Sn**	**06 57 30.3**	**-0.4**
ATHU	**Athens Univers**	**2.62**	**232**	P	**Pn**	**06 56 58.3**	**-0.9**
SOH	**Sokhos**	**2.62**	**298**	P	**Pn**	**06 56 59.6**	**+0.3**
APE	**Apeiranthos**	**2.63**	**195**	⇑S	**Sn**	**06 57 29.9**	**-1.1**
APE	**Apeiranthos**	**2.63**	**195**	P	**Pn**	**06 56 58.7**	**-0.6**
APE				S	**Sn**	**06 57 30.9**	**-0.2**
	comp=E,378nm,0.2s						
APE	**Apeiranthos**	**2.63**	**195**	P	**Pn**	**06 56 58.8**	**-0.6**
APE	**Apeiranthos**	**2.63**	**195**	⇑P	**Pn**	**06 56 58.9**	**-0.4**
ATH	**Athens Observa**	**2.66**	**233**	P	**Pn**	**06 56 59.0**	**-0.7**
VLY	**Voula,Athens**	**2.69**	**230**	P	**Pn**	**06 56 59.6**	**-0.5**
ADVT	**Abdulvahap**	**2.69**	**71**	Pn	**Pn**	**06 57 01.9**	**+1.7**
HORT	**Hortiatis**	**2.71**	**292**	Pn	**Pn**	**06 57 01.5**	**+1.0**
PLD	**Plovdiv**	**2.80**	**333**	Pn	**Pn**	**06 57 03.2**	**+1.5**
VILL	**Villia**	**2.81**	**240**	P	**Pn**	**06 57 01.9**	**+0.1**
VILL				S	**Sn**	**06 57 35.9**	**+0.4**
	comp=E,298nm,0.6s						
MMB	**Musomiste**	**2.83**	**315**	P	**Pn**	**06 57 02.9**	**+0.8**
YER	**Yerkesik**	**2.88**	**148**	P	**Pn**	**06 57 03.3**	**+0.4**
DAT	**Datca**	**3.03**	**162**	P	**Pn**	**06 57 04.7**	**-0.1**
DAT				S	**Sn**	**06 57 42.6**	**+1.7**
LIT	**Litokhoron**	**3.05**	**280**	P	**Pn**	**06 57 05.3**	**+0.2**
LOUT	**Loutraki**	**3.13**	**240**	P	**Pn**	**06 57 06.2**	**0.0**
LOUT			

DOPR	**Dopca**	**6.39**	**354**	⇑P	**Pn**	**06 57 52.8**	**+1.8**
TRUS	**Trudelj**	**6.42**	**318**	*e*Pn	**Pn**	**06 57 52.3**	**+1.0**
OZUR		**6.50**	**356**	⇑P	**Pn**	**06 57 54.8**	**+2.3**
DIVS	**Divibare**	**6.55**	**315**	*e*Pn	**Pn**	**06 57 54.5**	**+1.2**
DIVS				*e*Sn	**Sn**	**06 59 03.3**	**-4.5**
BBLS	**Lazići**	**6.74**	**311**	*e*Pn	**Pn**	**06 57 57.7**	**+1.9**
SURR	**Surduc**	**6.90**	**334**	⇑P	**Pn**	**06 57 58.7**	**+0.8**
TESR	**Tescani**	**6.90**	**1**	⇑P	**Pn**	**06 57 59.8**	**+1.9**
BZS	**Buzias**	**6.96**	**331**	⇓P	**Pn**	**06 57 59.4**	**+0.7**
SEV	**Sevastopol'**	**7.32**	**45**	*e*P	**Pn**	**06 58 00.2**	**-3.4**
SEV				*e*S	**Sn**	**06 59 20.9**	**-5.5**
SEV				Sm		06 59 25.6	
	comp=N,14nm,0.5s						
SEV				Sm		06 59 25.6	
	comp=E,7.0nm,0.5s						
MARR	**Marisel-Cluj**	**7.46**	**342**	⇓P	**Pn**	**06 58 07.6**	**+1.9**
SIRR	**Siria**	**7.50**	**334**	⇑P	**Pn**	**06 58 07.1**	**+0.9**
BURAR	**Bucovina Array**	**8.04**	**354**	⇓P	**Pn**	**06 58 16.8**	**+3.0**
SUDU	**Sudak**	**8.28**	**48**	*e*S	**Sn**	**06 59 45.5**	**-4.5**
SUDU				Sm		06 59 47.8	
	comp=N,13nm,0.4s						
SUDU				Sm		06 59 47.8	
	comp=E,2.0nm,0.3s						
MORH	**Mrgy, Hungar**	**8.71**	**322**	⇑P	**Pn**	**06 58 23.7**	**+1.0**
VYHS	**Vyhne**	**10.41**	**331**	*e*PN	**Pn**	**06 58 46.9**	**+0.9**

*STR **30** 07:12:51.6±0.5, 43°N±4°×°±°, h2km, MLv1.9/9, Error ellipse: s-maj=0.0km s-min=0.0km az=11.5, preliminary*
*LDG **30** 07:12:51.2±0.1, 43.09N×0.51W, h2km, Md2.5/3, Ml2.4/9, Error ellipse: s-maj=1.4km s-min=1.2km az=163.0*
*MDD **30** 07:12:52.9±0.3, 43.07N×0.56W, h11km, mb_Lg1.8/7, Error ellipse: s-maj=2.6km s-min=1.7km az=6.0*

ISC 30 07:12:51.3±1.0, 43.12N±0.02×0.49W±0.02, h6km±8km, n32, σ1§04/59, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.16**	**259**	Pg	**Pg**	**07 12 54.4**	**-0.1**
ATE				Sg	**Sg**	**07 12 56.8**	**+0.2**
ETSF	**Etsaut**	**0.22**	**193**	*e*Pg	**Pg**	**07 12 55.1**	**-0.6**
ETSF				*e*Sg	**Sg**	**07 12 57.2**	**-1.5**
	36nm,0.2s						
PYLO	**Lourdes**	**0.32**	**93**	Pg	**Pg**	**07 12 58.2**	**+0.6**
PYLO				Sg	**Sg**	**07 13 02.9**	**+1.0**
CANF	**Canfranc**	**0.35**	**183**	Pg	**Pg**	**07 12 57.6**	**-0.6**
CANF				Sg	**Sg**	**07 13 01.9**	**-0.9**
VIEF	**Viey**	**0.44**	**122**	Pg	**Pg**	**07 12 59.7**	**-0.1**
VIEF				Sg	**Sg**	**07 13 05.3**	**-0.4**
SJPF	**Ste Jean**	**0.54**	**270**	*e*Pg	**Pg**	**07 13 01.7**	**0.0**
SJPF				*e*Sg	**Sg**	**07 13 08.5**	**-0.2**
	20nm,0.3s						
OSSF	**Osses**	**0.58**	**284**	Pg	**Pg**	**07 13 02.2**	**-0.3**
OSSF				Sg	**Sg**	**07 13 09.1**	**-1.0**
EPF	**Esparros**	**0.61**	**98**	*e*Pg	**Pg**	**07 13 02.7**	**-0.4**
EPF				*e*Sg	**Sg**	**07 13 11.4**	**+0.3**
	20nm,0.2s						
EORO	**Oroz-Betelu**	**0.64**	**250**	Pg	**Pb**	**07 13 04.6**	**-0.3**
EORO				Sg	**Sg**	**07 13 11.4**	**-0.6**
EORO				*i* Vmb_Lg		07 13 15.0	
EALK	**Alkurruntz**	**0.75**	**278**	Pg	**Pg**	**07 13 05.3**	**-0.4**
EALK				Sg	**Sg**	**07 13 15.2**	**-0.3**
EALK				*i* Vmb_Lg		07 13 19.3	
EALK	**Alkurruntz**	**0.75**	**278**	Pg	**Pg**	**07 13 05.4**	**-0.4**
EALK				Sg	**Sg**	**07 13 16.3**	**+0.8**
SALF	**Salau**	**1.28**	**106**	Pg	**Pg**	**07 13 15.2**	**-0.7**
ESAC	**San Caprasio**	**1.39**	**179**	Pg	**Pn**	**07 13 17.1**	**-0.2**
ESAC				Sg	**Sn**	**07 13 36.9**	**+0.9**
MONQ	**Montcuq**	**1.75**	**44**	Pn	**Pb**	**07 13 23.5**	**-0.2**
MONQ				Sn	**Sg**	**07 13 48.5**	**+1.1**
EMIR	**Miracle**	**1.91**	**128**	Sg	**Sg**	**07 13 53.2**	**+0.5**
EMIR				*i* Vmb_Lg		07 13 53.5	
FNEB	**Nbias**	**1.92**	**95**	Pg	**Pg**	**07 13 29.0**	**+1.0**
CARF	**Carcanieres**	**1.95**	**101**	Pg	**Pg**	**07 13 29.3**	**+0.7**
CARF				Sg	**Sg**	**07 13 54.5**	**+0.7**
MTLF	**Montolieu**	**1.99**	**83**	*e*Pn	**Pn**	**07 13 24.6**	**-0.9**
MTLF	**Montolieu**	**1.99**	**83**	*e*Pg	**Pb**	**07 13 28.4**	**+0.5**
MTLF				*e*Sg	**Sb**	**07 13 54.4**	**+1.5**
	4.5nm,0.2s						
MTLF	**Montolieu**	**1.99**	**83**	Pg	**Pb**	**07 13 28.6**	**+0.8**
MTLF				Pn	**Pb**	**07 13 28.7**	**+0.8**
MTLF				Sn	**Sg**	**07 13 54.6**	**-0.6**
LFF	**La Frestale**	**2.03**	**26**	*e*Pg	**Pb**	**07 13 29.2**	**+0.7**
LFF				*e*Sn	**Sn**	**07 13 49.3**	**-2.3**
	2.8nm,0.2s						
LFF				*e*Sg	**Sb**	**07 13 56.0**	**+2.1**
	15nm,0.3s						
EPOB	**Poblet**	**2.11**	**146**	Pg	**Pb**	**07 13 30.0**	**-0.1**
EPOB				Sg	**Sg**	**07 13 57.8**	**-1.4**
EPOB				*i* Vmb_Lg		07 13 59.8	
ELAN	**Lanestosa**	**2.16**	**274**	Pg	**Pn**	**07 13 29.5**	**+1.7**
ELAN				Sg	**Sb**	**07 13 57.6**	**-0.2**
ETOR	**Torete**	**2.58**	**207**	Pg	**Pn**	**07 13 34.6**	**+1.0**
ETOR				Sn	**Sn**	**07 14 04.8**	**-0.5**
CAF	**Calviac**	**2.58**	**45**	*e*Pn	**Pn**	**07 13 32.9**	**-0.7**
CAF	**Calviac**	**2.58**	**45**	*e*Pg	**Pb**	**07 13 39.5**	**+1.5**
CAF				*e*Sn	**Sn**	**07 14 02.6**	**-2.7**
	1.2nm,0.2s						
CAF				*e*Sg	**Sg**	**07 14 13.3**	**-0.9**
	2.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.62**	**33**	*e*Pn	**Pn**	**07 13 33.2**	**-0.9**
RJF	**Les Rejaudoux**	**2.62**	**33**	*e*Pg	**Pb**	**07 13 40.0**	**+1.4**
RJF				*e*Sg	**Sg**	**07 14 14.3**	**-1.1**
	5.0nm,0.2s						
EMOS	**Mosqueruela**	**2.75**	**180**	Sg	**Sb**	**07 14 15.6**	**+0.6**
LASF	**Ste Croix**	**3.30**	**72**	*e*Pn	**Pn**	**07 13 42.0**	**-1.5**
LASF				*e*Sg	**Sg**	**07 14 35.5**	**-1.7**
	0.9nm,0.2s						
EARI	**Arriondas**	**3.46**	**275**	Pn	**Pn**	**07 13 47.2**	**+1.5**
EARI				Sn	**Sn**	**07 14 26.6**	**-0.3**
EARI				*i* Vmb_Lg		07 14 28.4	
MFF	**Saint Martin d**	**3.49**	**4**	*e*Sg	**Sg**	**07 14 41.6**	**-1.9**
	1.8nm,0.3s						

*IDC **30** 07:12:58.7±0.9, 7.61S×122.77E, h240km±11km, mb3.5/7, mbtmp4.2/11, Error ellipse: s-maj=40.2km s-min=11.3km az=61.0*
*DJA **30** 07:12:59.6±0.5, 8°S±5°×12°2E±°, h256km±6km, M4.2/7, mb4.2/4, mB5.1/2, MLv4.2/7, Mw(mB)4.5/2*
*NEIC **30** 07:13:00.1±2.1, 7.83S±0.09×122.6E±0.1, h257km±8km, mb4.4/11, Error ellipse: s-maj=17.6km s-min=10.8km az=59.0*

ISC 30 07:12:59.2±0.5, 7.80S±0.05×122.57E±0.08, h250km, n68, σ1§10/72, mb3.9/11, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.90**	**201**	Pn	**Pn**	**07 13 35.4**	**+1.7**
MMRI	**Maumere**	**0.90**	**201**	P	**Pn**	**07 13 35.4**	**+1.7**
MMRI	**Maumere**	**0.90**	**201**	P	**Pn**	**07 13 34.6**	**+0.9**
SOEI	**Soe**	**2.57**	**139**		**Pn**	**07 13 48.9**	**+1.5**
SOEI	**Soe**	**2.57**	**139**	P	**Pn**	**07 13 48.9**	**+1.5**
SOEI	**Soe**	**2.57**	**139**	P	**Pn**	**07 13 48.8**	**+1.5**
BATI	**Baumata**	**2.63**	**156**	P	**Pn**	**07 13 49.4**	**+1.6**
	171nm,0.4s,baz=247,slow=1.1,SNR=36						
BATI				S	**S**	**07 14 25.8**	**-0.6**
	384nm,0.3s,baz=336,slow=21,SNR=14						
BATI	**Baumata**	**2.63**	**156**	P	**Pn**	**07 13 49.2**	**+1.4**
BATI				S	**S**	**07 14 26.3**	**0.0**
BSSI	**Bau Bau, Buton**	**2.64**	**308**	P	**Pn**	**07 13 48.4**	**+0.5**
BASI	**Baing, Sumba**	**3.11**	**219**	P	**Pn**	**07 13 50.8**	**-2.1**
BKSI	**Bulukumba**	**3.46**	**315**	P	**Pn**	**07 13 57.8**	**+1.0**
KAPI	**Kappang**	**3.93**	**314**	P	**Pn**	**07 14 03.3**	**+1.0**
	27nm,0.8s,baz=112,slow=11,SNR=5.9						
KAPI	**Kappang**	**3.93**	**314**		**Pn**	**07 14 04.5**	**+2.2**
PLAI	**Plampang**	**4.85**	**257**	P	**Pn**	**07 14 13.3**	**0.0**
PLAI	**Plampang**	**4.85**	**257**	P	**Pn**	**07 14 12.8**	**-0.5**
TWSI	**Taliwang, Sumb**	**5.71**	**260**	P	**Pn**	**07 14 23.8**	**0.0**
	53nm,1.5s,0.5nm						
LUWI	**Luwuk**	**6.71**	**2**	Pn	**Pn**	**07 14 37.1**	**+0.7**
TNTI	**Ternate**	**9.76**	**30**	Pn	**Pn**	**07 15 14.8**	**-0.1**
MTN	**Manton Dam**	**9.80**	**121**		**Pn**	**07 15 15.6**	**+0.2**
MTN	**Manton Dam**	**9.80**	**121**	P	**Pn**	**07 15 15.8**	**+0.4**
KNRA	**Kununurra**	**9.90**	**143**		**Pn**	**07 15 16.0**	**-0.6**
KNRA	**Kununurra**	**9.90**	**143**	P	**Pn**	**07 15 16.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.67**	**164**	Pn	**Pn**	**07 15 25.5**	**-0.7**
MBWA	**Marble Bar**	**13.57**	**191**		**Pn**	**07 16 02.2**	**+0.1**
MBWA	**Marble Bar**	**13.57**	**191**	P	**P**	**07 16 04.7**	**+1.5**
PSA00	**Pilbara Seismi**	**13.95**	**191**		**Pn**	**07 16 07.2**	**+0.4**
WB0	**Warramunga Arr**	**16.52**	**137**	P	**P**	**07 16 36.0**	**+0.1**
WB0				lAmb	lAmb	07 16 38.2	
	comp=Z,6.8nm,0.6s						
WRA	**Warramunga Arr**	**16.61**	**138**	P	**P**	**07 16 37.4**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=312,slow=12,SNR=18						
WRA				S	**S**	**07 19 35.3**	**-2.4**
	comp=Z,1.6nm,0.9s,baz=309,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**16.61**	**138**	P	**P**	**07 16 37.2**	**+0.3**
WB2	**Warramunga Arr**	**16.62**	**138**	P	**P**	**07 16 37.6**	**+0.6**
WB2				lAmb	lAmb	07 16 39.3	
	comp=Z,6.7nm,0.5s						
WR0	**Warramunga Arr**	**16.76**	**137**	P	**P**	**07 16 39.1**	**+0.7**
WR0				lAmb	lAmb	07 16 41.0	
	comp=Z,9.7nm,0.6s						
GIRL	**Giralia**	**16.80**	**208**	P	**Pn**	**07 16 40.6**	**-0.2**
WRKA	**Warakurna**	**18.00**	**163**	P	**P**	**07 16 53.1**	**+1.2**
MEEK	**Meekatharra**	**19.11**	**191**	P	**P**	**07 17 04.6**	**+0.7**
ASAR	**Alice Springs**	**19.16**	**147**	P	**P**	**07 17 05.9**	**+1.4**
	comp=Z,6.0nm,0.4s,baz=331,slow=12,SNR=166						
ASAR				S	**S**	**07 20 24.9**	**-3.3**
	comp=Z,1.5nm,1.0s,baz=316,slow=20,SNR=6.3						
ASAR	**Alice Springs**	**19.16**	**147**	P	**P**	**07 17 05.6**	**+1.1**
AS01	**Alice Springs**	**19.19**	**147**	P	**P**	**07 17 06.1**	**+1.4**
QIS	**Mount Isa**	**20.80**	**129**	P	**P**	**07 17 22.4**	**+0.5**
MORW	**Morawa**	**22.04**	**195**	P	**P**	**07 17 34.0**	**+0.4**
MORW	**Morawa**	**22.04**	**195**	P	**P**	**07 17 34.4**	**+0.8**
BLDU	**Ballidu**	**23.36**	**193**	P	**P**	**07 17 45.8**	**+0.2**
FORT	**Forrest**	**23.44**	**168**	P	**P**	**07 17 44.9**	**-1.4**
FORT	**Forrest**	**23.44**	**168**	P	**P**	**07 17 46.8**	**+0.5**
OOD	**Oodnadatta**	**23.45**	**150**	P	**P**	**07 17 46.8**	**+0.3**
KMBL	**Kambalda**	**23.46**	**181**	P	**P**	**07 17 47.1**	**+0.5**
MULG	**Mulgathing**	**24.83**	**156**	P	**P**	**07 17 59.5**	**+0.5**
BBOO	**Buckleboo**	**27.86**	**155**	P	**P**	**07 18 26.6**	**+0.6**
BBOO				lAmb	lAmb	07 18 26.9	
	comp=Z,19nm,1.2s						
BBOO	**Buckleboo**	**27.86**	**155**	P	**P**	**07 18 26.3**	**+0.3**
HTT	**Hallett**	**29.66**	**152**	P	**P**	**07 18 43.3**	**+1.3**
STKA	**Stephens Creek**	**29.80**	**146**	P	**P**	**07 18 43.8**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=321,slow=9.3,SNR=14						
	comp=Z,3.0nm,0.5s						
STKA	**Stephens Creek**	**29.80**	**146**	P	**P**	**07 18 44.5**	**+1.3**
CMSA	**Cobar Meteorol**	**31.98**	**141**	P	**P**	**07 19 03.9**	**+1.7**
ARPS	**Mount Arapiles**	**33.76**	**152**	P	**P**	**07 19 19.3**	**+1.7**
USA0B	**Ussuriysk Arra**	**52.45**	**9**	P	**P**	**07 21 46.1**	**-0.3**
USA0B				lAmb	lAmb	07 22 16.1	
	comp=Z,14nm,1.4s						
USRK	**Ussuriysk Ar.**	**52.45**	**9**	P	**P**	**07 21 44.9**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=191,slow=6.8,SNR=5.3						
	comp=Z,1.8nm,0.5s						
SONM	**Songino Array**	**57.21**	**347**	P	**P**	**07 22 19.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=162,slow=10,SNR=3.4						
	comp=Z,0.5nm,0.5s						
MK31	**Makanchi Array**	**65.07**	**331**	P	**P**	**07 23 12.1**	**-1.1**
MK31				lAmb	lAmb	07 23 45.2	
	comp=Z,9.3nm,1.1s						
MKAR	**Makanchi Array**	**65.07**	**331**	P	**P**	**07 23 13.3**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=132,slow=7.4,SNR=9.0						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**65.07**	**331**	P	**P**	**07 23 13.1**	**-0.1**
MAKZ	**Makanchi**	**65.23**	**331**	P	**P**	**07 23 12.0**	**-2.1**
MAKZ				lAmb	lAmb	07 23 42.4	
	comp=Z,7.8nm,1.1s						
AAK	**Ala-Archa**	**66.57**	**323**	P	**P**	**07 23 23.4**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=51,slow=20,SNR=3.6						
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**69.24**	**322**	P	**P**	**07 23 39.2**	**-0.1**
ZALV	**Zalesovo Beam**	**69.24**	**337**	P	**P**	**07 23 37.5**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=139,slow=6.8,SNR=1.7						
	comp=Z,0.6nm,0.4s						
SEY	**Seymchan**	**74.13**	**14**	P	**P**	**07 24 07.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=242,slow=5.3,SNR=6.4						
	comp=Z,1.1nm,0.5s						
ABKAR	**Akbulak array**	**78.66**	**324**	P	**P**	**07 24 33.8**	**+0.2**
BMAR	**Burnt Mountain**	**98.24**	**23**	P	**P**	**07 26 07.8**	**0.0**
TORD	**Torodi Ar. Bea**	**121.72**	**281**	PKP	**PKiKP**	**07 31 25.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=83,slow=0.7,SNR=2.4						
CPUP	**Villa Florida**	**146.08**	**180**	PKPbc	**PKPbc**	**07 32 10.6**	**0.0**
	comp=Z,1.8nm,0.7s,baz=225,slow=4.3,SNR=4.5						

IDC 30 07:16:32.8±2.9, 53.59N×87.85E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.9km s-min=16.0km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**283**	I	I	07 28 50.0	
	0.1nm,0.9s,baz=98,slow=334,SNR=13						
ZALV	**Zalesovo Beam**	**1.84**	**283**	Pg	Pn	07 17 05.9	+0.3
	1.0nm,0.3s,baz=102,slow=14,SNR=22						
ZALV				Lg	Lg	07 17 30.4	
	2.0nm,0.3s,baz=101,slow=23,SNR=18						
KURBB	**Kurchatov Arra**	**6.46**	**246**	Pn	Pn	07 18 10.4	+1.3
	0.1nm,0.3s,baz=64,slow=14,SNR=1.6						
KURBB				Sn	Sn	07 19 23.5	-0.1
	baz=20,slow=9.0,SNR=1.9						
KURBB				Lg	Lg	07 19 57.3	
	baz=63,slow=33,SNR=10						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn	07 18 26.9	+1.0
	0.1nm,0.3s,baz=27,slow=13,SNR=9.6						
MKAR				Sn	Sn	07 19 47.0	-6.5
	0.2nm,0.3s,baz=116,slow=14,SNR=8.8						
MKAR				Lg	Lg	07 20 34.8	
	baz=30,slow=30						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**10.47**	**274**	Lg	Lg	07 22 04.3	
	baz=73,slow=15,SNR=2.8						

ROM 30 07:18:06.3±0.1, 37.660N±0.005×14.97E±0.01, h16km±1km, ML1.4/4, Error ellipse: s-maj=0.8km s-min=0.5km az=270.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.03**	**3**	P	Pg	07 18 09.1	-0.4
ESLN				S	Sg	07 18 11.6	+0.2
ESLN				AML	AML		
	comp=N,822µm,0.4s						
ESLN				AML	AML		
	comp=E,845µm,0.6s						
ESML	**S. M. di Licod**	**0.09**	**241**	P	Pg	07 18 09.5	-0.1
EMSG	**Monte Spagnolo**	**0.16**	**354**	P	Pg	07 18 10.6	0.0
EMSG				S	Sb	07 18 14.3	0.0
EMSG				AML	AML		
	comp=N,924µm,0.5s						
EMSG				AML	AML		
	comp=E,1120µm,0.5s						
EPOZ	**Pozzillo**	**0.17**	**149**	P	Pg	07 18 10.4	-0.1
EPOZ				S	Sb	07 18 15.0	+0.6
EPZF	**Pizzo Felice**	**0.19**	**331**	P	Pg	07 18 10.7	-0.2
EPZF				S	Sb	07 18 15.4	+0.4
EPZF				AML	AML		
	comp=E,590µm,1.6s						
EPZF				AML	AML		
	comp=N,682µm,0.3s						
EPZF				AML	AML		
	comp=N,681µm,0.3s						
EPZF				AML	AML		
	comp=E,441µm,0.3s						
HLNI	**Lentini**	**0.32**	**194**	P	Pg	07 18 12.8	-0.2
HLNI				S	Sb	07 18 19.0	+0.4
HLNI				AML	AML		
	comp=E,138µm,0.2s						
HLNI				AML	AML		
	comp=N,126µm,0.5s						
HLNI				AML	AML		
	comp=N,113µm,0.1s						
HLNI				AML	AML		
	comp=E,138µm,0.2s						
GALF	**Gagliano Caste**	**0.33**	**279**	P	Pb	07 18 13.7	-0.1
GALF				S	Sg	07 18 18.4	+0.5
GALF				AML	AML		
	comp=E,108µm,0.8s						
GALF				AML	AML		
	comp=N,103µm,0.8s						
GALF				AML	AML		
	comp=N,103µm,0.8s						
GALF				AML	AML		
	comp=E,104µm,0.7s						
AIO	**Antillo**	**0.37**	**33**	P	Pg	07 18 14.2	+0.2
AIO				S	Sb	07 18 20.7	+0.4
AIO				AML	AML		
	comp=E,70µm,0.6s						
AIO				AML	AML		
	comp=N,59µm,0.3s						
AIO				AML	AML		
	comp=E,60µm,0.4s						
NOV	**Novara**	**0.39**	**19**	P	Pg	07 18 14.2	-0.1
NOV				S	Sb	07 18 20.5	-0.3
HAGA	**Augusta**	**0.40**	**159**	P	Pg	07 18 14.7	+0.2
HAGA				S	Sb	07 18 21.0	+0.1
MEU	**Monte Lauro**	**0.56**	**183**	P	Pg	07 18 17.1	-0.3
MEU				S	Sb	07 18 25.9	+0.3
MEU				AML	AML		
	comp=E,112µm,1.5s						
MEU				AML	AML		
	comp=N,126µm,0.3s						

ROM 30 07:18:32.3±0.2, 37.667N±0.007×14.98E±0.02, h16km±2km, ML1.1/3, Error ellipse: s-maj=1.5km s-min=0.5km az=88.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.03**	**350**	P	Pg	07 18 35.1	-0.4
ESLN				S	Sg	07 18 37.6	+0.1
ESML	**S. M. di Licod**	**0.10**	**239**	P	Pg	07 18 35.3	-0.4
EMSG	**Monte Spagnolo**	**0.16**	**351**	P	Pg	07 18 36.4	-0.2
EMSG				S	Sb	07 18 40.4	+0.4
EPZF	**Pizzo Felice**	**0.18**	**328**	P	Pg	07 18 36.7	-0.2
EPZF				S	Sb	07 18 41.5	+0.7
EPZF				AML	AML		
	comp=E,590µm,1.6s						
EPZF				AML	AML		
	comp=N,682µm,0.3s						
HLNI	**Lentini**	**0.33**	**195**	P	Pg	07 18 39.3	+0.1
HLNI				S	Sb	07 18 44.9	+0.1
HLNI				AML	AML		
	comp=E,138µm,0.2s						
HLNI				AML	AML		
	comp=N,126µm,0.5s						
HLNI				AML	AML		
	comp=N,33µm,0.1s						
HLNI				AML	AML		
	comp=E,28µm,0.1s						
GALF	**Gagliano Caste**	**0.33**	**278**	P	Pb	07 18 39.8	-0.1
GALF				AML	AML		
	comp=E,108µm,0.8s						
GALF				AML	AML		
	comp=N,103µm,0.8s						
GALF				AML	AML		
	comp=N,79µm,0.4s						
GALF				AML	AML		
	comp=E,39µm,0.5s						
AIO	**Antillo**	**0.36**	**33**	P	Pb	07 18 40.1	-0.3
AIO				AML	AML		
	comp=N,59µm,0.3s						
AIO				AML	AML		
	comp=E,70µm,0.6s						
AIO				AML	AML		
	comp=N,61µm,0.2s						
AIO				AML	AML		
	comp=E,48µm,0.2s						
NOV	**Novara**	**0.38**	**19**	P	Pg	07 18 40.2	+0.1
HAGA	**Augusta**	**0.41**	**160**	P	Pg	07 18 40.6	+0.1
HAGA				S	Sb	07 18 47.7	+0.7

ROM 30 07:18:43.7±0.1, 37.673N±0.004×14.984E±0.007, h16km, ML2.8/28, 6C-5D, Error ellipse: s-maj=0.6km s-min=0.2km az=292.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.02**	**339**	P	Pg	07 18 46.3	-0.4
ESLN				S	Sg	07 18 49.0	+0.2
ESLN				AML	AML		
	comp=N,8745µm,0.6s						
ESLN				AML	AML		
	comp=E,10075µm,0.9s						
ESLN				AML	AML		
	comp=E,9418µm,0.4s						
ESLN				AML	AML		
	comp=N,8016µm,0.5s						
ESML	**S. M. di Licod**	**0.10**	**237**	⇓P	Pg	07 18 46.4	-0.6
ESML				S	Sg	07 18 49.1	-0.1
ESML				AML	AML		
	comp=E,9380µm,0.7s						
ESML				AML	AML		
	comp=N,7545µm,0.7s						
ESML				AML	AML		
	comp=E,8722µm,0.2s						
ESML				AML	AML		
	comp=N,5597µm,0.2s						
EMSG	**Monte Spagnolo**	**0.15**	**350**	⇓P	Pg	07 18 47.7	-0.1
EMSG				S	Sb	07 18 51.7	+0.4
EMSG				AML	AML		
	comp=N,15050µm,0.5s						
EMSG				AML	AML		
	comp=E,13200µm,1.2s						
EMSG				AML	AML		
	comp=E,11256µm,0.4s						
EMSG				AML	AML		
	comp=N,10809µm,0.2s						
EPOZ	**Pozzillo**	**0.18**	**154**	⇓P	Pb	07 18 48.7	+0.1
EPOZ				S	Sb	07 18 51.9	+0.1
EPOZ				AML	AML		
	comp=E,5555µm,0.9s						
EPOZ				AML	AML		
	comp=N,4375µm,0.3s						
EPOZ				AML	AML		
	comp=E,3322µm,0.3s						
EPOZ				AML	AML		
	comp=N,4374µm,0.3s						
EPZF	**Pizzo Felice**	**0.18**	**326**	P	Pg	07 18 48.0	-0.3
EPZF				S	Sb	07 18 52.5	+0.3
EPZF				AML	AML		
	comp=N,16450µm,0.3s						
EPZF				AML	AML		
	comp=E,9765µm,0.3s						
EPZF				AML	AML		
	comp=N,16478µm,0.3s						
EPZF				AML	AML		
	comp=E,9744µm,0.3s						
GALF	**Gagliano Caste**	**0.33**	**277**	P	Pg	07 18 50.9	+0.3
GALF				AML	AML		
	comp=E,2365µm,0.5s						
GALF				AML	AML		
	comp=N,2465µm,0.4s						
GALF				AML	AML		
	comp=N,2465µm,0.4s						
GALF				AML	AML		
	comp=E,2365µm,0.5s						
HLNI	**Lentini**	**0.34**	**195**	P	Pg	07 18 50.1	-0.5
HLNI				S	Sb	07 18 56.0	-0.4
HLNI				AML	AML

	comp=E,2450µm,0.6s							
NOV					AML	AML		
	comp=N,2649µm,0.4s							
NOV					AML	AML		
	comp=E,2452µm,0.6s							
CAGR	**Agira**	**0.39**	**263**	⇑P		Pb	07 18 52.7	+0.5
CAGR					AML	AML		
	comp=N,1990µm,0.4s							
CAGR					AML	AML		
	comp=E,2115µm,1.4s							
CAGR					AML	AML		
	comp=N,1992µm,0.4s							
CAGR					AML	AML		
	comp=E,2357µm,0.9s							
HAGA	**Augusta**	**0.41**	**161**	P		Pg	07 18 52.0	+0.1
HAGA				S		Sb	07 18 58.5	0.0
HAGA					AML	AML		
	comp=N,2145µm,0.9s							
HAGA					AML	AML		
	comp=E,3125µm,0.4s							
HAGA					AML	AML		
	comp=E,2188µm,0.2s							
HAGA					AML	AML		
	comp=N,1909µm,0.2s							
MSFR	**San Fratello**	**0.48**	**319**	P		Pg	07 18 53.1	-0.1
MSFR					AML	AML		
	comp=E,346µm,0.8s							
MSFR					AML	AML		
	comp=N,364µm,1.2s							
MSFR					AML	AML		
	comp=N,306µm,0.6s							
MSFR					AML	AML		
	comp=E,281µm,0.4s							
MEU	**Monte Lauro**	**0.57**	**184**	P		Pb	07 18 55.7	+0.3
MEU				S		Sb	07 19 03.1	-0.2
MEU					AML	AML		
	comp=N,2615µm,0.2s							
MEU					AML	AML		
	comp=E,2430µm,0.8s							
MEU					AML	AML		
	comp=N,2615µm,0.2s							
MEU					AML	AML		
	comp=E,2201µm,0.3s							
MILZ	**Milazzo**	**0.63**	**18**	⇓P		Pg	07 18 55.8	-0.2
MILZ				S		Sb	07 19 05.1	+0.2
MILZ					AML	AML		
	comp=E,702µm,0.9s							
MILZ					AML	AML		
	comp=N,597µm,1.2s							
MILZ					AML	AML		
	comp=E,673µm,0.5s							
MILZ					AML	AML		
	comp=N,574µm,0.5s							
RAFF	**Raffo Rosso**	**0.67**	**228**	⇑P		Pg	07 18 56.1	-0.6
RAFF				S		Sb	07 19 06.4	+0.4
RAFF					AML	AML		
	comp=E,921µm,0.5s							
RAFF					AML	AML		
	comp=N,825µm,0.5s							
RAFF					AML	AML		
	comp=E,835µm,0.2s							
RAFF					AML	AML		
	comp=N,739µm,0.3s							
VPL	**Vulcano Piano**	**0.70**	**360**	P		Pg	07 18 57.0	-0.5
VPL				S		Sg	07 19 06.7	-0.1
VPL					AML	AML		
	comp=E,2565µm,0.5s							
VPL					AML	AML		
	comp=N,2970µm,0.5s							
VPL					AML	AML		
	comp=N,2971µm,0.5s							
VPL					AML	AML		
	comp=E,2569µm,0.5s							
MSRU	**Castanea**	**0.72**	**35**	⇑P		Pg	07 18 57.7	-0.1
MSRU					AML	AML		
	comp=E,673µm,0.3s							
MSRU					AML	AML		
	comp=N,646µm,0.9s							
MSRU					AML	AML		
	comp=E,673µm,0.3s							
MSRU					AML	AML		
	comp=N,490µm,0.3s							
HMDC	**Modica**	**0.73**	**193**	P		Pg	07 18 57.5	-0.5
HMDC				S		Sb	07 19 08.1	+0.2
HMDC					AML	AML		
	comp=N,2140µm,0.7s							
HMDC					AML	AML		
	comp=E,2265µm,0.3s							
HMDC					AML	AML		
	comp=E,2267µm,0.3s							
HMDC					AML	AML		
	comp=N,2025µm,0.3s							
PLLN	**Pollina**	**0.74**	**296**	P		Pb	07 18 58.3	+0.1
CSLB	**Castelbuono**	**0.78**	**290**	P		Pb	07 18 59.2	+0.2
CSLB					AML	AML		
	comp=N,182µm,1.2s							
CSLB					AML	AML		
	comp=E,155µm,0.5s							
CSLB					AML	AML		
	comp=E,155µm,0.5s							
CSLB					AML	AML		
	comp=N,174µm,0.4s							
IFIL	**Filicudi I Eol**	**0.95**	**340**	P		Pb	07 19 01.0	-0.8
IFIL					AML	AML		
	comp=E,2365µm,0.6s							
IFIL					AML	AML		
	comp=N,805µm,0.4s							
IFIL					AML	AML		
	comp=N,805µm,0.4s							
IFIL					AML	AML		
	comp=E,2367µm,0.6s							
CLTA	**Licata**	**0.96**	**238**	P		Pb	07 19 01.8	-0.2
CLTA					AML	AML		
	comp=N,448µm,1.6s							
CLTA					AML	AML		
	comp=E,384µm,0.6s							
CLTA					AML	AML		
	comp=E,380µm,0.4s							
CLTA					AML	AML		
	comp=N,356µm,0.6s							
ALJA	**Alia**	**0.98**	**275**	P		Pb	07 19 02.2	-0.1
ALJA					AML	AML		
	comp=E,218µm,1.0s							
ALJA					AML	AML		
	comp=N,242µm,0.4s							
ALJA					AML	AML		
	comp=E,209µm,0.6s							
ALJA					AML	AML		
	comp=N,241µm,0.4s							
HPAC	**Pachino**	**0.98**	**174**	⇑P		Pb	07 19 01.2	-1.0
HPAC					AML	AML		
	comp=E,1140µm,1.5s							
HPAC					AML	AML		
	comp=N,1025µm,1.2s							
HPAC					AML	AML		
	comp=E,1114µm,0.2s							
HPAC					AML	AML		
	comp=N,901µm,0.3s							
IACL	**Alicudi**	**0.99**	**330**	⇑P		Pb	07 19 01.7	-0.8
IACL					AML	AML		
	comp=E,657µm,1.0s							
IACL					AML	AML		
	comp=N,603µm,0.8s							
IACL					AML	AML		
	comp=E,501µm,0.3s							
IACL					AML	AML		
	comp=N,559µm,0.3s							
JOPP	**Joppolo**	**1.17**	**37**	P		Pn	07 19 05.2	-0.3
JOPP					AML	AML		
	comp=E,166µm,0.7s							
JOPP					AML	AML		
	comp=N,177µm,0.3s							
JOPP					AML	AML		
	comp=E,127µm,0.3s							
JOPP					AML	AML		
	comp=N,177µm,0.3s							
CORL	**Corleone**	**1.35**	**280**	P		Pb	07 19 08.9	+0.3
MMGO	**Monte Magaggia**	**1.59**	**270**	⇑P		Pb	07 19 12.1	-0.6
CAR1	**CAROLEI**	**1.85**	**31**	P		Pn	07 19 14.7	-0.2
CAR1					AML	AML		
	comp=E,164µm,0.8s							
CAR1					AML	AML		
	comp=N,144µm,0.8s							
CAR1					AML	AML		
	comp=E,209µm,0.4s							
CAR1					AML	AML		
	comp=E,156µm,0.4s							
CAR1					AML	AML		
	comp=N,142µm,0.3s							
CAR1					AML	AML		
	comp=N,245µm,1.4s							
CET2	**Cetraro**	**2.00**	**22**	P		Pn	07 19 16.7	-0.2
CET2					AML	AML		
	comp=E,186µm,0.3s							
CET2					AML	AML		
	comp=N,206µm,0.3s							
CET2					AML	AML		
	comp=E,187µm,0.3s							
CET2					AML	AML		
	comp=N,206µm,0.3s							
CELI	**Celico**	**2.10**	**34**	P		Pn	07 19 18.4	0.0
CELI					AML	AML		
CELI					AML	AML		
CELI					AML	AML		
	comp=N,101µm,1.1s							
CELI					AML	AML		
	comp=E,106µm,1.0s							
TDS	**Terranova Siba**	**2.25**	**28**	AML		AML		
	comp=N,30µm,0.9s							
TDS					AML	AML		
	comp=E,26µm,0.4s							
SGG	**Gregorio Mates**	**3.74**	**353**	AML		AML		
	comp=N,35µm,0.3s							
SGG					AML	AML		
	comp=E,31µm,0.2s							
SGG					AML	AML		
	comp=E,0.5nm,0.8s							
SGG					AML	AML		
	comp=N,0.6nm,1.2s							

IDC 30 07:18:57.6±3.2, 53°.61N×90°.76E, h0km, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=27.5km s-min=23.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
I46RU	**ZALESOVO INFRA**	**3.54**	**278**	I		I	07	40	40.0	
	0.2nm,1.0s,baz=90,slow=337,SNR=16									
ZALV	**Zalesovo Beam**	**3.54**	**278**	Pn		Pn	07	19	55.0	+1.2
	0.3nm,0.3s,baz=93,slow=15,SNR=2.9									
ZALV				Lg		Lg	07	20	49.1	
	3.6nm,0.3s,baz=94,slow=28,SNR=11									
	5.7nm,0.7s									
KURBB	**Kurchatov Arra**	**8.10**	**253**	Pn		Pn	07	20	56.1	-0.2
	0.2nm,0.3s,baz=66,slow=15,SNR=12									
KURBB				Sn		Sn	07	22	28.1	-0.4
	baz=66,slow=25,SNR=3.2									
KURBB				Lg		Lg	07	23	12.7	
	baz=66,slow=36,SNR=2.9									
	1.9nm,0.5s									
MKAR	**Makanchi Array**	**8.71**	**222**	Pn		Pn	07	21	05.3	+0.5
	0.2nm,0.3s,baz=40,slow=10,SNR=7.3									
MKAR				Sn		Sn	07	22	43.0	-0.7
	0.1nm,0.3s,baz=30,slow=23,SNR=1.7									
MKAR				Lg		Lg	07	23	31.2	
	0.1nm,0.3s,baz=34,slow=29,SNR=1.7									
	0.5nm,0.5s									
SONM	**Songino Array**	**11.46**	**114**	Lg		Lg	07	24	52.1	
	baz=302,slow=26,SNR=7.0									
I34MN	**SONGINO INFRAS**	**11.49**	**114**	I		I	08	32	26.5	
	baz=309,slow=327,SNR=1.1									

ROM 30 07:19:06.7±0.2, 37°.678N×0°.007×14°.96E±0°.01, h16km±1km, ML2.2/4, Error ellipse: s-maj=1.1km s-min=0.2km az=98.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ESLN	**Serra La Nave**	**0.02**	**33**	P		Pg	07	19	09.3	-0.5
ESLN				S		Sg	07	19	12.0	+0.2
ESLN					AML	AML				
	comp=E,10075µm,0.9s									
ESLN					AML	AML				
	comp=N,8745µm,0.6s									
ESML	**S. M. di Licod**	**0.09**	**228**	P		Pg	07	19	09.2	-0.8
ESML				S		Sg	07	19	13.0	+0.9
ESML					AML	AML				
	comp=N,7545µm,0.7s									
ESML					AML	AML				
	comp=E,9380µm,0.7s									
EMSG	**Monte Spagnolo**	**0.14**	**356**	P		Pg	07	19	10.5	-0.2
EMSG				S		Sb	07	19	14.4	+0.3
EMSG					AML	AML				
	comp=E,13200µm,1.2s									
EMSG					AML	AML				
	comp=N,15050µm,0.5s									
EPZF	**Pizzo Felice**	**0.17**	**330**	P		Pg	07	19	10.9	-0.1
EPZF				S		Sb	07	19	15.0	+0.2
EPZF					AML	AML				
	comp=E,9765µm,0.3s									
EPZF					AML	AML				
	comp=N,16450µm,0.3s									
EPOZ	**Pozzillo**	**0.19**	**150**	P		Pg	07	19	11.4	+0.2
EPOZ				S		Sb	07	19	14.8	-0.4
EPOZ					AML	AML				
	comp=E,5555µm,0.9s									
EPOZ					AML	AML				
	comp=N,4375µm,0.3s									
GALF	**Gagliano Caste**	**0.32**	**276**	AML		AML				
	comp=E,2365µm,0.5s									
GALF					AML	AML				
	comp=N,2465µm,0.4s									
MNO	**Monte Soro**	**0.33**	**320**	AML		AML				
	comp=E,2175µm,0.4s									
MNO					AML	AML				
	comp=N,3610µm,0.4s									
MNO					AML	AML				
	comp=E,2175µm,1.6s									
HLNI	**Lentini**	**0.34**	**192**	P		Pb	07	19	14.1	-0.2
HLNI				S		Sb	07	19	19.0	-0.5
HLNI					AML	AML				
	comp=E,2985µm,1.0s									
HLNI					AML	AML				
	comp=N,2460µm,0.5s									
HLNI					AML	AML				
	comp=E,536µm,0.2s									
HLNI					AML	AML				
	comp=N,406µm,0.2s									
AIO	**Antillo**	**0.36**	**36**	P		Pg	07	19	14.4	+0.2
AIO					AML	AML				
	comp=E,1450µm,0.7s									
AIO					AML	AML				
	comp=N,1015µm,0.3s									
AIO					AML	AML				
	comp=N,305µm,0.3s									
CAGR	**Agira**	**0.37**	**261**	AML		AML				
	comp=E,2115µm,0.6s									
CAGR					AML	AML				
	comp=E,2115µm,1.4s									
CAGR					AML	AML				
	comp=N,1990µm,0.4s									
NOV	**Novara**	**0.38**	**22**	AML		AML				
	comp=E,2450µm,0.6s									
NOV					AML	AML				
	comp=N,2645µm,0.4s									
HAGA	**Augusta**	**0.42**	**159**	P		Pg	07	19	15.3	+0.1
HAGA				S		Sb	07	19	21.8	-0.1
HAGA					AML	AML				
	comp=N,2145µm,0.9s									
HAGA					AML	AML				
	comp=E,3125µm,0.4s									
HAGA					AML	AML				
	comp=N,382µm,0.3s									
HAGA					AML	AML				
	comp=E,416µm,0.2s									
MSFR	**San Fratello**	**0.46**	**320**	P		Pb	07	19	16.6	+0.1
MSFR					AML	AML				
	comp=E,346µm,0.8s									
MSFR					AML	AML				
	comp=N,364µm,1.2s									
MEU	**Monte Lauro**	**0.58**	**183**	AML		AML				
	comp=N,2615µm,0.2s									
MEU					AML	AML				
	comp=E,2430µm,0.8s									
MILZ	**Milazzo**	**0.63**	**20**	AML		AML				
	comp=N,597µm,1.2s									
MILZ					AML	AML				
	comp=E,702µm,0.9s									
RAFF	**Raffo Rosso**	**0.66**	**227**	AML		AML				
	comp=N,825µm,0.5s									
RAFF					AML	AML				
	comp=E,921µm,0.5s									
VPL	**Vulcano Piano**	**0.70**	**1**	AML		AML				
	comp=E,2565µm,0.5s									
VPL					AML	AML				
	comp=N,2970µm,0.5s									
VPL					AML	AML				
	comp=N,2970µm,1.5s									
MSRU	**Castanea**	**0.73**	**36**	AML		AML				
	comp=E,673µm,0.3s									
MSRU					AML	AML				
	comp=N,646µm,0.9s									
HMDC	**Modica**	**0.73**	**191**	P		Pg	07	19	20.3	-0.7
HMDC				S		Sb	07	19	31.9	+1.0
HMDC					AML	AML				
	comp=N,2140µm,0.7s									
HMDC					AML	AML				
	comp=E,2265µm,0.3s									
HMDC					AML	AML				
	comp=E,531µm,0.4s									
CSLB	**Castelbuono**	**0.76**	**290**	AML		AML				
	comp=E,155µm,0.5s									
CSLB					AML	AML				
	comp=N,182µm,1.2s									
IFIL	**Filicudi I Eol**	**0.94**	**341**	AML		AML				
	comp=E,2365µm,0.6s									
IFIL					AML	AML				
	comp=N,805µm,0.4s									
CLTA	**Licata**	**0.95**	**237**	AML		AML				
	comp=N,448µm,1.6s									
CLTA					AML	AML				
	comp=E,384µm,0.6s									
CLTA					AML	AML				
	comp=E,384µm,1.4s									
CLTA					AML	AML				
	comp=N,448µm,0.4s									
ALJA	**Alia**	**0.96**	**275**	AML		AML				
	comp=N,242µm,0.4s									
ALJA					AML	AML				
	comp=E,218µm,1.0s									
IACL	**Alicudi**	**0.98**	**331**	AML		AML				
	comp=N,603µm,0.8s									
IACL					AML	AML				
	comp=E,657µm,1.0s									
IACL					AML	AML				
	comp=E,657µm,1.0s									
HPAC	**Pachino**	**0.99**	**173**	AML		AML				
	comp=E,1140µm,1.5s									
HPAC					AML	AML				
	comp=N,1025µm,1.2s									
HPAC					AML	AML				
	comp=E,1140µm,0.5s									
JOPP	**Joppolo**	**1.18**	**38**	AML		AML				
	comp=E,166µm,0.7s									
JOPP					AML	AML				
	comp=N,177µm,0.3s									
CAR1	**CAROLEI**	**1.85**	**32**	AML		AML				
	comp=N,144µm,0.8s									
CAR1					AML	AML				
	comp=E,164µm,0.8s									
CET2	**Cetraro**	**2.00**	**23**	AML		AML				
	comp=N,206µm,0.3s									
CET2					AML	AML				
	comp=E,186µm,0.3s									

ROM 30 07:19:59.2±0.0, 42°.814N±0°.002×13°.107E±0°.004, h10km, ML1.8/11, 4C-5D, Error ellipse: s-maj=0.3km s-min=0.1km az=285.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
NRCA	**Norcia**	**0.02**	**16**	AML		AML				
	comp=E,1037µm,0.1s									
NRCA					AML	AML				
	comp=E,1038µm,0.1s									
NRCA					AML	AML				
	comp=N,1075µm,0.1s									
NRCA					AML	AML				
	comp=N,1125µm,1.8s									
T1212	**Cascia, Frazio**	**0.08**	**216**	⇑P		Pg	07	20	02.1	+0.4
T1212				S		Sg	07	20	03.9	+0.5
T1212					AML	AML				
	comp=E,382µm,0.2s									
T1212					AML	AML				
	comp=N,510µm,0.3s									
T1212					AML	AML				
	comp=E,399µm,1.0s									
T1212					AML	AML				
	comp=N,539µm,0.3s									
T1212					AML	AML				
	comp=N,510µm,0.3s									
T1212					AML	AML				
	comp=E,398µm,1.0s									
T1212					AML	AML				
	comp=N,540µm,0.3s									
T1212					AML	AML				
	comp=E,382µm,0.2s									
T1216	**Preci, Frazion**	**0.10**	**320**	P		Pg	07	20	02.5	+0.5
T1216				S		Sg	07	20	04.4	+0.5
T1216					AML	AML				
	comp=E,108µm,0.5s									
T1216					AML	AML				
	comp=N,229µm,1.6s									
MC2	**Monte Cornacci**	**0.12**	**32**	⇑P		Pg	07	20	02.6	+0.3
MC2				S		Sg	07	20	05.1	+0.5
T1218	**Civita (PG)**	**0.14**	**178**	P		Pg	07	20	03.1	+0.4
T1218				S		Sg	07	20	05.6	+0.6
T1218					AML	AML				
	comp=E,434µm,0.6s									
T1218					AML	AML				
	comp=N,650µm,0.3s									
T1218					AML	AML				
	comp=E,466µm,0.6s									
T1218					AML	AML				
	comp=N,654µm,0.3s									
T1217	**Poggiodomo (PG**	**0.16**	**232**	P		Pg	07	20	03.5	+0.6
T1217				S		Sg	07	20	06.6	+1.1
T1215	**Vallo di Nera,**	**0.18**	**266**	P		Pg	07	20	03.8	+0.7
T1215				S		Sg	07	20	06.9	+1.1
T1215					AML	AML				
	comp=E,70µm,1.1s									
T1215					AML	AML				
	comp=N,61µm,0.2s									
LNSS	**Leonessa**	**0.22**	**193**	P		Pg	07	20	04.4	+0.6
LNSS				S		Sg	07	20	08.3	+1.4
LNSS					AML	AML				
	comp=E,758µm,0.7s									
LNSS					AML	AML				
	comp=N,818µm,0.4s									
CESI	**CESI - Serrava**	**0.24**	**322**	P		Pg	07	20	04.9	+0.6
CESI				S		Sg	07	20	09.1	+1.5
CESI					AML	AML				
	comp=E,26µm,1.5s									
CESI					AML	AML				
	comp=N,37µm,0.3s									
CESI					AML	AML				
	comp=N,37µm,0.3s									
CESI					AML	AML				
	comp=E,26µm,1.5s									
SMA1	**SAN MARTINO**	**0.25**	**137**	AML		AML				
	comp=N,918µm,1.4s									
SMA1					AML	AML				
	comp=E,1440µm,0.7s									
T1219	**Muccia, Frazio**	**0.25**	**343**	P		Pg	07	20	04.5	+0.1
T1219				S		Sb	07	20	09.2	-1.1
CSP1	**Cessapalombo**	**0.29**	**14**	P		Pg	07	20	05.6	+0.4
CSP1				S		Sg	07	20	10.2	+1.1
T1220	**Camerino, Fraz**	**0.30**	**357**	P		Pg	07	20	05.7	+0.5
T1220				S		Sb	07	20	10.7	-0.9
GUMA	**Gualdo di Mace**	**0.30**	**34**	P		Pg	07	20	05.9	+0.6
GUMA				S		Sb	07	20	11.0	-0.7
GUMA					AML	AML				
	comp=E,98µm,0.4s									
GUMA					AML	AML				
	comp=N,92µm,1.3s									
GUMA					AML	AML				
	comp=N,92µm,0.7s									
GUMA					AML	AML				
	comp=E,98µm,1.6s									
RM33	**Pellescritta (**	**0.32**	**165**	AML		AML				
	comp=E,1575µm,0.3s									
RM33					AML	AML				
	comp=E,1640µm,0.3s									
RM33					AML	AML				
	comp=N,1240µm,0.4s									
RM33					AML	AML				
	comp=N,1238µm,0.4s									
T1211	**Morro Reatino**	**0.34**	**214**	P		Pg	07	20	06.4	+0.4

T1211				S	Sb	07 20 12.0	-0.8	
T1211				AML	AML			
	comp=E,136μm,1.4s							
T1211				AML	AML			
	comp=N,203μm,1.5s							
GIGS	**Gran Sasso**	**0.50**	**137**	⇓P	Pn	07 20 11.5	-1.0	
GIGS				AML	AML			
	comp=E,246μm,0.2s							
GIGS				AML	AML			
	comp=N,184μm,0.4s							
AQU	**L'Aquila**	**0.51**	**155**	⇓P	Pn	07 20 11.9	-0.7	
AQU				AML	AML			
	comp=E,342μm,0.9s							
AQU				AML	AML			
	comp=N,366μm,0.6s							
AQU				AML	AML			
	comp=E,374μm,0.9s							
AQU				AML	AML			
	comp=N,342μm,1.2s							
AQU				AML	AML			
	comp=N,342μm,0.8s							
AQU				AML	AML			
	comp=N,366μm,1.4s							
EL6	**Elcito**	**0.52**	**360**	P	Pg	07 20 09.5	+0.2	
EL6				S	Sb	07 20 18.0	0.0	
FIAM	**Fiamignano**	**0.55**	**179**	⇓P	Pn	07 20 14.1	+0.9	
FAGN	**Fagnano**	**0.65**	**147**	⇓P	Pn	07 20 13.8	-0.7	
FAGN				AML	AML			
	comp=E,410μm,0.3s							
FAGN				AML	AML			
	comp=N,318μm,0.3s							
T0110	**Collepietro**	**0.77**	**140**	⇓P	Pn	07 20 16.2	0.0	
T0110				AML	AML			
	comp=E,168μm,0.8s							
T0110				AML	AML			
	comp=N,150μm,0.3s							
VVLD	**Villa Vallelon**	**1.02**	**158**	⇑P	Pn	07 20 19.4	-0.2	
LPEL	**Lama dei Peligi**	**1.11**	**134**	⇑P	Pn	07 20 22.1	+1.3	
LPEL				AML	AML			
	comp=E,50μm,1.1s							
LPEL				AML	AML			
	comp=N,36μm,1.6s							

*NNC **30** 07:24:08.0±0.7,50.07N×78.96E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=15.1km s-min=3.3km az=64.0, Suspected Mining explosion.*
*IDC **30** 07:24:08.8±1.1,50.07N×78.75E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=17.4km s-min=7.1km az=66.0*
ISC 30 07:24:07.1±2.3, 50.02N±0.07×78.5E±0.3, h0km, n16, σ0s83/27, 19C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.56**	**3**	⇑P	**Pb**	**07 24 19.5**	**-0.4**
KUR07				⇑S	**Sb**	**07 24 29.0**	**+0.5**
KUR06	**Kurchatov Arra**	**0.58**	**4**	⇑P	**Pb**	**07 24 19.8**	**-0.4**
KUR06				⇑S	**Sb**	**07 24 29.2**	**+0.2**
KUR14	**Kurchatov Arra**	**0.60**	**8**	⇑P	**Pb**	**07 24 19.8**	**-0.7**
KUR14				⇑S	**Sb**	**07 24 29.2**	**-0.3**
KUR15	**Kurchatov Arra**	**0.60**	**6**	⇓P	**Pb**	**07 24 20.0**	**-0.6**
KUR15				⇓S	**Sb**	**07 24 29.5**	**-0.1**
KURBB	**Kurchatov Arra**	**0.60**	**4**	Pg	**Pb**	**07 24 19.7**	**-0.9**
	1.1nm,0.3s,baz=164,slow=17,SNR=17						
KURBB				Lg	Lg	07 24 28.3	
	0.9nm,0.3s,baz=165,slow=32,SNR=6.1						
KURBB	**Kurchatov Arra**	**0.60**	**4**	⇑P	**Pb**	**07 24 19.9**	**-0.7**
	9.4nm,0.3s						
KURBB				⇓S	**Sb**	**07 24 29.0**	**-0.7**
	21nm,0.5s						
KUR16	**Kurchatov Arra**	**0.61**	**2**	⇑P	**Pb**	**07 24 20.3**	**-0.4**
KUR16				⇑S	**Sb**	**07 24 29.7**	**-0.1**
KUR17	**Kurchatov Arra**	**0.61**	**0**	⇑P	**Pb**	**07 24 20.3**	**-0.4**
KUR17				⇓S	**Sb**	**07 24 29.7**	**-0.2**
KUR05	**Kurchatov Arra**	**0.62**	**4**	⇑P	**Pb**	**07 24 20.4**	**-0.5**
KUR05				⇑S	**Sb**	**07 24 29.9**	**-0.4**
KUR04	**Kurchatov Arra**	**0.64**	**4**	⇑P	**Pb**	**07 24 20.7**	**-0.6**
KUR04				⇓S	**Sb**	**07 24 30.2**	**-0.6**
KURK	**Kurchatov**	**0.70**	**8**	⇑P	**Pb**	**07 24 21.3**	**-1.0**
	3.2nm,0.3s						
KURK				⇑S	**Sb**	**07 24 30.7**	**-1.8**
	5.5nm,0.6s						
MAKZ	**Makanchi**	**3.98**	**143**	⇑Pg	**Pb**	**07 25 16.5**	**-1.5**
	3.6nm,1.3s						
MAKZ				⇑Lg	Lg	07 26 09.6	
	2.1nm,0.8s						
MK31	**Makanchi Array**	**4.11**	**140**	⇑Pn	**Pn**	**07 25 12.0**	**+0.8**
	0.1nm,0.2s,baz=323,slow=9.9,SNR=10.0						
MK31				⇑Pg	**Pb**	**07 25 20.9**	**+0.5**
	0.2nm,0.2s,baz=327,slow=14,SNR=13						
MK31				⇓Lg	Lg	07 26 15.9	
	4.2nm,0.8s,baz=322,slow=27,SNR=6.3						
MKAR	**Makanchi Array**	**4.11**	**140**	Pn	**Pn**	**07 25 12.3**	**+1.0**
	0.2nm,0.3s,baz=328,slow=12,SNR=7.4						
MKAR				Pg	**Pb**	**07 25 19.2**	**-1.2**
	0.6nm,0.3s,baz=325,slow=14,SNR=12						
MKAR				Lg	Lg	07 26 11.8	
	0.4nm,0.3s,baz=331,slow=27,SNR=5.5						
	0.2nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.56**	**43**	I	I	07 57 10.0	
	baz=225,slow=334,SNR=3.2						
ZALV	**Zalesovo Beam**	**5.56**	**43**	Pn	**Pn**	**07 25 32.4**	**+1.4**
	0.7nm,0.3s,baz=229,slow=14,SNR=7.3						
	1.1nm,0.3s						

*NOU **30** 07:25:58.6, 42.57S×173.54E, h12km, MLv4.0/14, South Island, New Zealand*
*WEL **30** 07:25:59.7±0.4, 42.52S±2.1×17.32E±0.9, h5km, M3.5/12, ML3.7/12, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=108.7, confirmed*
ISC 30 07:25:59.5±0.9, 42.49S±0.03×173.36E±0.04, h16km±8km, n46, σ0s91/51, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.15**	**62**	P	**Pg**	**07 26 03.3**	**-0.2**
KHZ	**Kahutara**	**0.15**	**62**	P	**Pg**	**07 26 03.5**	**+0.1**
KHZ				S	**Sg**	**07 26 06.3**	**+0.2**
GVZ	**Greta Valley S**	**0.54**	**206**	P	**Pg**	**07 26 11.0**	**+0.9**
GVZ				S	**Sb**	**07 26 19.7**	**+1.6**
THZ	**Tophouse**	**0.80**	**335**	P	**Pg**	**07 26 14.2**	**-0.8**
THZ				S	**Sg**	**07 26 23.5**	**-2.1**
LTZ	**Lake Taylor**	**0.85**	**250**	P	**Pg**	**07 26 15.3**	**-0.8**
AMCZ	**Amberley**	**0.86**	**217**	P	**Pb**	**07 26 17.1**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.86**	**27**	P	**Pg**	**07 26 16.5**	**+0.2**
CMWZ	**Cape Campbell**	**0.97**	**41**	P	**Pn**	**07 26 19.8**	**+1.3**
MRNZ	**Matariki Terra**	**1.18**	**337**	P	**Pb**	**07 26 21.7**	**+0.2**
MRNZ				S	**Sb**	**07 26 37.0**	**+0.6**
NNZ	**Nelson**	**1.27**	**1**	P	**Pg**	**07 26 23.2**	**-0.8**
NNZ				S	**Sg**	**07 26 39.4**	**-1.1**
OXZ	**Oxford**	**1.28**	**229**	P	**Pg**	**07 26 22.9**	**-1.2**
MQZ	**McQueen's Vall**	**1.32**	**203**	P	**Pn**	**07 26 22.2**	**-1.1**
DSZ	**Denniston Nort**	**1.37**	**302**	P	**Pb**	**07 26 25.0**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.42**	**193**	P	**Pn**	**07 26 23.9**	**-0.9**
INZ	**Inchbonnie**	**1.43**	**260**	P	**Pn**	**07 26 25.0**	**+0.2**
TCW	**Tory Channel**	**1.45**	**29**	P	**Pn**	**07 26 25.4**	**+0.3**
RACZ	**Rakaia**	**1.53**	**215**	P	**Pn**	**07 26 25.1**	**-1.0**
SNZO	**South Karori**	**1.55**	**41**	P	**Pn**	**07 26 25.8**	**-0.6**
QRZ	**Quartz Range**	**1.77**	**339**	P	**Pn**	**07 26 31.0**	**+1.5**
QRZ	**Quartz Range**	**1.77**	**339**	P	**Pn**	**07 26 31.1**	**+1.5**
WACZ	**Wakanui South**	**1.83**	**217**	P	**Pn**	**07 26 29.4**	**-0.9**
CAW	**Cannon Point**	**1.88**	**43**	P	**Pn**	**07 26 31.0**	**0.0**
KIW	**Kapiti Island**	**2.00**	**36**	P	**Pn**	**07 26 33.0**	**+0.4**
WVZ	**Waitaha Valley**	**2.02**	**252**	P	**Pn**	**07 26 33.3**	**+0.5**
MTW	**Mount Morrison**	**2.08**	**51**	P	**Pn**	**07 26 32.9**	**-0.9**
RPZ	**Rata Peaks**	**2.08**	**233**	P	**Pn**	**07 26 33.3**	**-0.5**
RPZ	**Rata Peaks**	**2.08**	**233**	P	**Pn**	**07 26 33.4**	**-0.5**
OGWZ	**Otaki Gorge**	**2.15**	**40**	P	**Pn**	**07 26 34.6**	**-0.2**
ARCZ	**Arundel**	**2.16**	**227**	P	**Pn**	**07 26 34.2**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**2.38**	**249**	P	**Pn**	**07 26 38.5**	**+0.7**
MRZ	**Mangatainoka R**	**2.47**	**43**	P	**Pn**	**07 26 38.3**	**-0.8**
TMZ	**Timaru**	**2.55**	**221**	P	**Pn**	**07 26 40.1**	**-0.2**
FOZ	**Fox Glacier**	**2.80**	**247**	P	**Pn**	**07 26 44.2**	**+0.6**
BFZ	**Birch Farm**	**2.82**	**51**	P	**Pn**	**07 26 42.9**	**-1.0**
LBZ	**Lake Benmore**	**2.99**	**230**	P	**Pn**	**07 26 47.0**	**+0.7**
ODZ	**Otahua Downs**	**3.22**	**217**	P	**Pn**	**07 26 48.8**	**-0.7**
ODZ	**Otahua Downs**	**3.22**	**217**	P	**Pn**	**07 26 48.4**	**-1.0**
KHEZ	**Kahui Hut**	**3.23**	**9**	P	**Pn**	**07 26 50.0**	**+0.4**
JCZ	**Jackson Bay**	**3.69**	**243**	P	**Pn**	**07 26 56.7**	**+0.7**
JCZ	**Jackson Bay**	**3.69**	**243**	P	**Pn**	**07 26 56.1**	**+0.1**
BKZ	**Black Stump Fm**	**4.08**	**37**	P	**Pn**	**07 27 00.4**	**-0.9**

HIZ	**Hauiti**	**4.13**	**17**	P	**Pn**	**07 27 00.7**	**-1.2**
SYZ	**Scrubby Hill**	**5.05**	**215**	P	**Pn**	**07 27 15.6**	**+1.1**
URZ	**Urewera**	**5.10**	**35**	P	**Pn**	**07 27 14.4**	**-0.9**
KUZ	**Kuaotunu**	**6.02**	**18**	P	**Pn**	**07 27 27.9**	**0.0**
OUZ	**Omahuta**	**7.26**	**2**	P	**Pn**	**07 27 46.5**	**+1.6**

IDC 30 07:32:25.4±4.5, 5.70S×151.89E, h0km, mb3.1/3, mbtmp3.1/3, MS3.5/1, Error ellipse: s-maj=147.3km s-min=14.4km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.39**	**6**	Pg	Pn	07 32 51.0	-1.1
	51nm,0.3s,baz=244,slow=1.4,SNR=17						
KRVT				Lg	Lg	07 33 09.4	
	125nm,0.3s,baz=177,slow=22,SNR=26						
SIJI	**Sorong**	**21.13**	**282**	LR	LR	07 44 36.6	
	comp=Z,152nm,21.8s,baz=236,slow=35						
WRA	**Warramunga Arr**	**22.17**	**229**	P	P	07 37 23.0	-0.2
	0.5nm,1.0s,baz=54,slow=12,SNR=2.4						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**24.87**	**222**	P	P	07 37 49.2	-0.8
	0.2nm,0.3s,baz=57,slow=8.6,SNR=5.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**80.41**	**319**	P	P	07 44 40.4	+1.5
	0.2nm,0.7s,baz=90,slow=5.8,SNR=1.5						
	0.2nm,0.7s						

*NNC **30** 07:34:30.6±0.6,50.02N×78.74E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=6.2km s-min=2.8km az=68.0, Suspected Mining explosion.*
*IDC **30** 07:34:31.6±1.0,50.08N×78.78E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=13.8km s-min=6.1km az=64.0*
ISC 30 07:34:31.3±0.8, 50.04N±0.03×78.73E±0.04, h0km, n22, σ1s31/35, 17C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.56**	**346**	⇑P	**Pg**	**07 34 41.8**	**-0.1**
KUR07				⇓S	**Sb**	**07 34 50.8**	**-1.6**
KUR06	**Kurchatov Arra**	**0.57**	**347**	⇑P	**Pg**	**07 34 42.1**	**-0.2**
KUR06				⇓S	**Sb**	**07 34 51.1**	**-1.8**
KUR14	**Kurchatov Arra**	**0.58**	**351**	⇑P	**Pg**	**07 34 42.2**	**-0.1**
KUR14				⇓S	**Sb**	**07 34 51.5**	**-1.6**
KUR15	**Kurchatov Arra**	**0.59**	**350**	⇑P	**Pg**	**07 34 42.3**	**-0.2**
KUR15				⇑S	**Sb**	**07 34 51.6**	**-1.7**
KURBB	**Kurchatov Arra**	**0.59**	**348**	Pg	**Pg**	**07 34 41.8**	**-0.9**
	1.5nm,0.3s,baz=159,slow=18,SNR=108						
KURBB				Lg	Lg	07 34 51.6	
	1.8nm,0.3s,baz=166,slow=32,SNR=25						
KURBB	**Kurchatov Arra**	**0.59**	**348**	⇑P	**Pg**	**07 34 42.4**	**-0.3**
	7.6nm,0.2s						
KURBB				⇓S	**Sb**	**07 34 51.5**	**-2.0**
	92nm,0.6s						
KUR16	**Kurchatov Arra**	**0.60**	**346**	⇑P	**Pg**	**07 34 42.5**	**-0.3**
KUR16				⇑S	**Sb**	**07 34 52.2**	**-1.6**
KUR05	**Kurchatov Arra**	**0.61**	**348**	⇑P	**Pg**	**07 34 42.7**	**-0.3**
KUR05				⇑S	**Sb**	**07 34 51.9**	**-2.1**
KUR17	**Kurchatov Arra**	**0.61**	**344**	⇓P	**Pg**	**07 34 42.7**	**-0.3**
KUR17				⇑S	**Sb**	**07 34 52.6**	**-1.4**
KUR04	**Kurchatov Arra**	**0.63**	**349**	⇓P	**Pg**	**07 34 43.2**	**-0.2**
KUR04				⇑S	**Sb**	**07 34 52.6**	**-2.0**
KURK	**Kurchatov**	**0.68**	**354**	⇑P	**Pg**	**07 34 43.8**	**-0.5**
	2.4nm,0.3s						
KURK				⇑S	**Sb**	**07 34 54.1**	**-1.7**
	62nm,0.8s						
SEM	**Semipalatinsk**	**1.04**	**69**	P	**Pb**	**07 34 52.5**	**+0.1**
	7.6nm,0.1s						
SEM				S	**Sg**	**07 35 04.3**	**-0.5**
	12nm,0.1s						
MAKZ	**Makanchi**	**3.89**	**145**	⇓Pg	**Pb**	**07 35 40.2**	**-0.6**
	5.5nm,1.5s						
MAKZ				⇓Lg	Lg	07 36 30.6	
	4.6nm,0.5s						
MK31	**Makanchi Array**	**4.03**	**143**	⇑Pn	**Pn**	**07 35 34.5**	**+0.4**
	0.1nm,0.2s,baz=326,slow=10,SNR=27						
MK31				⇓Pg	**Pb**	**07 35 44.5**	**+1.4**
	0.3nm,0.2s,baz=322,slow=15,SNR=5.8						
MK31				Lg	Lg	07 36 35.8	
	7.7nm,0.6s,baz=328,slow=27,SNR=13						
MKAR	**Makanchi Array**	**4.03**	**143**	Pn	**Pn**	**07 35 34.8**	**+0.6**
	0.2nm,0.3s,baz=326,slow=14,SNR=6.7						
MKAR				Pg	**Pb**	**07 35 42.2**	**-0.8**
	0.5nm,0.3s,baz=327,slow=15,SNR=13						
MKAR				Sn	**Sn**	**07 36 24.6**	**+2.5**
	0.3nm,0.3s,baz=336,slow=24,SNR=5.6						
MKAR				Lg	Lg	07 36 36.3	
	0.4nm,0.3s,baz=317,slow=26,SNR=4.5						
	0.3nm,0.2s						
OTUK	**Ortayu**	**4.56**	**249**	⇑Pn	**Pn**	**07 35 41.6**	**0.0**
	0.4nm,0.2s						
OTUK				⇑Pg	**Pb**	**07 35 53.5**	**+1.2**
	0.9nm,0.6s						
OTUK				⇓Lg	Lg	07 36 56.2	
	4.9nm,0.6s						
ZSN	**Zaisan**	**4.82**	**120**	Pg	**Pb**	**07 35 58.6**	**+2.1**
	4.0nm,0.2s						
ZSN				Lg	Lg	07 37 00.3	
	4.3nm,0.4s						
ZALV	**Zalesovo Beam**	**5.42**	**42**	Pn	**Pn**	**07 35 54.4**	**+1.0**
	0.5nm,0.3s,baz=231,slow=14,SNR=11						
ZALV				Lg	Lg	07 37 20.8	
	0.3nm,0.3s,baz=213,slow=30,SNR=2.3						
	0.9nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.43**	**42**	I	I	08 07 55.3	
	baz=225,slow=333,SNR=1.5						
DJR	**Jarkent**	**5.76**	**172**	Pg	**Pg**	**07 36 19.4**	**-2.2**
	0.8nm,0.2s						
DJR				Lg	Lg	07 37 33.5	
	3.7nm,0.5s						
BVAR	**Borovoye Array**	**6.00**	**303**	Sn	**Sn**	**07 37 11.3**	**+0.7**
	0.1nm,0.3s,baz=115,slow=21,SNR=4.2						
BVAR				Lg	Lg	07 37 39.2	
	baz=108,slow=28,SNR=1.6						
AAK	**Ala-Archa**	**7.96**	**203**	Lg	Lg	07 38 41.6	
	0.1nm,0.3s,baz=79,slow=12,SNR=1.9						

*ATH **30** 07:49:58.1, 38.40N×25.32E, h26km±2km, ML2.5/3, Error ellipse: s-maj=2.8km s-min=1.1km az=94.0*
*THE **30** 07:49:59.2, 38.37N×25.36E, h28km±3km, ML2.1/5, Error ellipse: s-maj=3.2km s-min=0.9km az=102.0*
ISC 30 07:49:57.5±1.0, 38.38N±0.04×25.35E±0.03, h27km±10km, n14, σ0s54/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSRA	**Psara**	**0.23**	**47**	P	**Pn**	**07 50 04.2**	**-1.0**
PSRA				S	**Sb**	**07 50 08.1**	**+0.1**
PSRA				AML	AML	07 50 08.8	
	comp=E,5828μm,0.2s						
PSRA				AML	AML	07 50 09.0	
	comp=N,8125μm,0.2s						
CHOS	**Chios island**	**0.55**	**89**	P	**Pn**	**07 50 09.6**	**-0.1**
CHOS				S	**Sn**	**07 50 18.4**	**+0.4**
	comp=N,258nm,0.3s						
CHOS	**Chios island**	**0.55**	**89**	P	**Pn**	**07 50 09.6**	**-0.1**
CHOS				S	**Sn**	**07 50 17.9**	**-0.1**
CHOS				AML	AML	07 50 22.4	
	comp=E,616μm,0.2s						
CHOS				AML	AML	07 50 22.4	
	comp=N,425μm,0.4s						
TNSA	**Tinos**	**0.86**	**190**	P	**Pn**	**07 50 13.6**	**-0.2**
TNSA				S	**Sb**	**07 50 25.1**	**+0.3**
TNSA				AML	AML	07 50 27.3	
	comp=E,478μm,0.5s						
TNSA				AML	AML	07 50 27.4	
	comp=N,431μm,0.4s						
SIGR	**SIGRI**	**0.92**	**25**	P	**Pb**	**07 50 15.2**	**+0.4**
SIGR				S	**Sn**	**07 50 28.0**	**+1.1**
	comp=N,98nm,0.4s						
SIGR	**SIGRI**	**0.92**	**25**	P	**Pb**	**07 50 14.8**	**+0.1**
SIGR				S	**Sb**	**07 50 26.1**	**-0.4**
DION	**Dionisos Attik**	**1.16**	**255**	P	**Pb**	**07 50 18.5**	**-0.4**
DION				S	**Sb**	**07 50 34.3**	**+0.8**
	comp=N,148nm,0.4s						
DION	**Dionisos Attik**	**1.16**	**255**	P	**Pn**	**07 50 18.0**	**+0.1**
DION				S	**Sn**	**07 50 32.0**	**-0.9**
ATHU	**Athens Univers**	**1.30**	**252**	P	**Pb**	**07 50 21.4**	**+0.1**
APE	**Apeiranthos**	**1.32**	**174**	P	**Pn**	**07 50 20.5**	**+0.3**
APE				S	**Sn**	**07 50 37.1**	**+0.2**
	comp=N,72nm,0.3s						

APE	**Apeiranthos**	**1.32**	**174**	P	**Pn**	**07 50 20.4**	**+0.2**
VLY	**Voula,Athens**	**1.34**	**247**	P	**Pb**	**07 50 21.2**	**-0.7**
VLY				S	**Sn**	**07 50 37.6**	**+0.3**
	comp=N,58nm,0.5s						
SMG	**Samos**	**1.35**	**119**	P	**Pb**	**07 50 22.2**	**0.0**
SMG	**Samos**	**1.35**	**119**	P	**Pb**	**07 50 21.5**	**-0.7**

*IDC **30** 07:57:17.2±3.6,21.11S×70.60W, h0km, mb3.8/1, mbtmp3.6/2, ML3.2/1, Error ellipse: s-maj=141.8km s-min=46.2km az=107.0*
*GUC **30** 07:57:22.4±0.9,20.22S×70.91W, h30km±4km, ML3.4*
ISC 30 07:57:22.1±1.8, 20.26S±0.03×70.84W±0.08, h24km±12km, n20, σ0s77/32, 6C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.66**	**91**	eP	**Pb**	**07 57 35.1**	**0.0**
TA02				eS	**Sn**	**07 57 44.9**	**-0.8**
TA02				IAML		07 57 45.2	
	comp=E,10μm,0.2s						
TA01	**Diego Aracena**	**0.69**	**116**	⇓iP	**Pb**	**07 57 35.7**	**+0.2**
TA01				eS	**Sn**	**07 57 46.0**	**-0.3**
TA01				IAML		07 57 47.5	
	comp=N,2μm,0.4s						
PATCX	**Punta Patache**	**0.85**	**131**	eP	**Pb**	**07 57 37.5**	**-0.8**
PATCX				i S	**Sn**	**07 57 51.3**	**+0.9**
PATCX				IAML		07 57 52.3	
	comp=E,922nm,0.3s						
HMBC	**Humberstone**	**0.89**	**91**	⇓iP	**Pb**	**07 57 38.8**	**-0.2**
HMBC				i S	**Sn**	**07 57 51.1**	**-0.3**
HMBC				IAML		07 57 58.9	
	comp=E,1μm,0.3s						
PSGC	**Pisagua**	**0.94**	**46**	⇓iP	**Pn**	**07 57 38.8**	**-1.1**
PSGC				eS	**Sb**	**07 57 51.5**	**-0.4**
PSGC				IAML		07 57 54.5	
	comp=E,718nm,0.3s						
PB11	**IPOC Station P**	**1.22**	**66**	⇓iP	**Pn**	**07 57 43.6**	**-0.1**
PB11				i S	**Sb**	**07 57 59.9**	**0.0**
PB02	**IPOC Station P**	**1.37**	**140**	⇑iP	**Pb**	**07 57 46.8**	**-0.5**
PB02				i S	**Sb**	**07 58 04.5**	**+0.1**
PB02				IAML		07 58 11.6	
	comp=E,1μm,0.4s						
PB01	**IPOC Station P**	**1.49**	**122**	⇑iP	**Pb**	**07 57 48.6**	**-0.5**
PB01				i S	**Sb**	**07 58 08.6**	**+1.0**
PB01				IAML		07 58 15.1	
	comp=N,914nm,0.3s						
MNMC	**Minye Minye**	**1.62**	**46**	⇑iP	**Pn**	**07 57 49.8**	**+0.3**
MNMC				eS	**Sb**	**07 58 11.6**	**-0.1**
MNMC				IAML		07 58 15.1	
	comp=N,2μm,0.3s						
GO01	**Chusmiza**	**1.66**	**69**	eP	**Pn**	**07 57 50.7**	**+0.6**
GO01				i S	**Sb**	**07 58 13.5**	**+0.7**
GO01				IAML		07 58 14.1	
	comp=N,1μm,0.3s						
PB12	**IPOC Station P**	**1.71**	**16**	eP	**Pn**	**07 57 49.8**	**-0.6**
PB12				i S	**Sn**	**07 58 13.1**	**+1.6**
PB12				IAML		07 58 13.6	
	comp=N,469nm,0.2s						
PB07	**IPOC Station P**	**1.71**	**149**	⇑iP	**Pn**	**07 57 51.2**	**+0.7**
PB07				eS	**Sb**	**07 58 14.5**	**+0.4**
PB07				IAML		07 58 28.0	
	comp=E,348nm,0.3s						
PB03	**IPOC Station P**	**2.05**	**151**	eP	**Pn**	**07 57 55.9**	**+0.7**
PB09	**IPOC Station P**	**2.14**	**136**	⇑eP	**Pb**	**07 57 58.6**	**-1.6**
PB04	**IPOC Station P**	**2.16**	**163**	eP	**Pn**	**07 57 57.0**	**+0.2**
PB16	**IPOC Station P**	**2.29**	**33**	eP	**Pn**	**07 57 59.2**	**+0.3**
PB06	**IPOC Station P**	**2.70**	**154**	eP	**Pn**	**07 58 04.4**	**+0.2**
LPAZ	**La Paz**	**4.71**	**34**	Pn	Pn	07 58 38.5	+6.2
	comp=E,0.4nm,0.3s,baz=228,slow=5.4,SNR=14						
LPAZ				Sn	**Sb**	**07 59 42.9**	**+1.8**
	baz=234,slow=20						
	comp=E,1.5nm,0.3s						
TORD	**Torodi Ar. Bea**	**78.66**	**71**	P	**P**	**08 09 22.0**	**-0.6**
	comp=E,0.4nm,0.5s,baz=254,slow=4.9,SNR=4.2						
	comp=E,0.4nm,0.5s						
MKAR	**Makanchi Array**	**145.64**	**33**	PKPbc	**PKPdf**	**08 16 58.9**	**+0.4**
	comp=E,0.1nm,0.6s,baz=336,slow=3.4,SNR=4.3						

*NNC **30** 08:06:59.8±1.7,51.39N×81.95E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=17.6km s-min=7.3km az=15.0, Suspected Mining explosion.*
*IDC **30** 08:07:00.9±2.1,51.31N×82.20E, h0km, mbtmp2.1/2, ML1.5/2, Error ellipse: s-maj=49.2km s-min=11.8km az=105.0*
ISC 30 08:06:58.6±1.0, 51.48N±0.06×82.03E±0.07, h0km, n7, σ0s60/11, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.28**	**252**	⇓Pn	**Pn**	**08 07 37.4**	**0.0**
	1.3nm,0.5s						
KURK				⇑Sn	**Sn**	**08 08 06.8**	**+0.6**
	11nm,0.6s						
KURBB	**Kurchatov Arra**	**2.37**	**250**	⇓Pn	**Pn**	**08 07 38.8**	**+0.1**
	1.3nm,0.3s						
KURBB				⇑Sn	**Sn**	**08 08 08.5**	**+0.1**
	14nm,0.7s						
ZALV	**Zalesovo Beam**	**3.00**	**33**	Pn	**Pb**	**08 07 51.8**	**-1.0**
	0.1nm,0.3s,baz=202,slow=19,SNR=2.1						
ZALV				Pg	**Pg**	**08 07 56.4**	**+0.4**
	0.3nm,0.3s,baz=220,slow=15,SNR=5.7						
ZALV				Sn	**Sn**	**08 08 24.7**	**+0.8**
	0.3nm,0.3s,baz=208,slow=20,SNR=2.5						
ZALV				Lg	Lg	08 08 39.1	
	0.5nm,0.3s,baz=211,sl

WRA	**Warramunga Arr**	**13.82**	**158**	Pn	**P**	08 17 54.7	+1.5
WB2	**Warramunga Arr**	**13.82**	**158**	P	**P**	08 17 57.2	+3.9
WR0	**Warramunga Arr**	**13.91**	**157**	P	**P**	08 17 57.5	+3.3
JAGI	**Jajag, Banyuwa**	**14.59**	**264**		**P**	08 17 59.2	-2.5
MYLDM	**Lahad Datu**	**15.98**	**320**		**P**	08 18 14.6	-2.6
MYLDM				IAmb	IAmb	08 18 34.7	
	comp=Z,27nm,1.5s						
PSA00	**Pilbara Seismi**	**16.77**	**210**	P	**P**	08 18 25.8	+0.1
PSA00				IAmb	IAmb	08 18 54.0	
	comp=Z,30nm,0.8s						
ASAR	**Alice Springs**	**17.15**	**164**	P	Pn	08 18 41.4	+9.2
	comp=Z,0.4nm,0.3s,baz=339,slow=10,SNR=54						
	comp=Z,3.2nm,0.7s						
ASAR	**Alice Springs**	**17.15**	**164**	P	**P**	08 18 32.0	+2.1
KKM	**Kota Kinabalu**	**18.15**	**316**	P	**P**	08 18 39.5	-1.4
KKM				IAmb	IAmb	08 18 54.6	
	comp=Z,10nm,0.9s						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	08 25 37.2	+20
	comp=Z,2.1nm,0.7s,baz=119,slow=8.3,SNR=24						
	comp=Z,2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**71.19**	**334**	P	P	08 25 57.5	+20
	comp=Z,0.7nm,0.5s,baz=132,slow=6.4,SNR=2.6						
	comp=Z,0.7nm,0.5s						
BVAR	**Borovoye Array**	**77.55**	**328**	P	P	08 26 34.7	+20
	comp=Z,0.7nm,0.7s,baz=127,slow=3.8,SNR=2.1						
	comp=Z,0.7nm,0.7s						

BEO ***30*** *08:15:31.6±1.1,37.72N×14.78E,h0km,ML3.8/4*
ROM ***30*** *08:15:33.2±0.1,37.671N±0.004×14.994E±0.008,*
h18km±1km,ML3.4/57,Error ellipse: s-maj=0.6km
s-min=0.3km az=90.0

ISC 30 08:15:33.1±0.8,37.67N±0.02×14.98E±0.02,h18km±3km,
n66,σ0.966/81,6C-17D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.02**	**353**	⇓P	**Pg**	**08 15 36.1**	**-0.4**
ESLN				S	**Sg**	**08 15 38.5**	**-0.4**
ESLN				AML	AML		
	comp=E,35150μm,0.5s						
ESLN				AML	AML		
	comp=E,31650μm,0.5s						
ESLN				AML	AML		
	comp=N,43000μm,0.5s						
ESML	**S. M. di Licod**	**0.10**	**237**	⇓P	**Pg**	**08 15 36.3**	**-0.5**
ESML				S	**Sg**	**08 15 39.5**	**+0.3**
ESML				AML	AML		
	comp=E,27850μm,0.8s						
ESML				AML	AML		
	comp=N,47850μm,0.7s						
ESML				AML	AML		
	comp=N,47850μm,1.3s						
EMSG	**Monte Spagnolo**	**0.15**	**352**	⇓P	**Pg**	**08 15 37.6**	**0.0**
EMSG				S	**Sg**	**08 15 41.2**	**+0.7**
EMSG				AML	AML		
	comp=N,76150μm,0.6s						
EMSG				AML	AML		
	comp=E,80900μm,0.5s						
EMSG				AML	AML		
	comp=E,80900μm,1.5s						
EPOZ	**Pozzillo**	**0.18**	**152**	⇓P	**Pg**	**08 15 38.5**	**+0.9**
EPOZ				AML	AML		
	comp=N,27950μm,0.6s						
EPOZ				AML	AML		
	comp=E,32200μm,0.8s						
EPZF	**Pizzo Felice**	**0.18**	**328**	⇑P	**Pb**	**08 15 37.8**	**+0.1**
EPZF				S	**Sg**	**08 15 42.7**	**+1.6**
EPZF				AML	AML		
	comp=E,33350μm,0.3s						
EPZF				AML	AML		
	comp=N,68200μm,0.3s						
EPZF				AML	AML		
	comp=N,68200μm,1.7s						
EPZF				AML	AML		
	comp=E,33350μm,1.7s						
GALF	**Gagliano Caste**	**0.33**	**277**	⇓P	**Pg**	**08 15 40.4**	**+0.3**
GALF				AML	AML		
	comp=N,16250μm,0.4s						
GALF				AML	AML		
	comp=E,19750μm,0.6s						
HLNI	**Lentini**	**0.33**	**195**	⇓P	**Pg**	**08 15 39.9**	**-0.2**
HLNI				S	**Sb**	**08 15 45.7**	**+0.2**
HLNI				AML	AML		
	comp=E,9565μm,0.2s						
HLNI				AML	AML		
	comp=N,10110μm,1.6s						
HLNI				AML	AML		
	comp=N,10110μm,0.4s						
MNO	**Monte Soro**	**0.35**	**320**	⇑P	**Pb**	**08 15 40.8**	**0.0**
MNO				S	**Sb**	**08 15 46.2**	**+0.1**
MNO				AML	AML		
	comp=N,22250μm,0.5s						
MNO				AML	AML		
	comp=E,14800μm,1.0s						
MNO				AML	AML		
	comp=E,14800μm,1.0s						
AIO	**Antillo**	**0.36**	**34**	⇓P	**Pb**	**08 15 41.1**	**0.0**
AIO				S	**Sb**	**08 15 46.8**	**+0.3**
AIO				AML	AML		
	comp=E,5505μm,0.4s						
AIO				AML	AML		
	comp=E,5505μm,1.6s						
AIO				AML	AML		
	comp=N,5830μm,0.3s						
NOV	**Novara**	**0.38**	**19**	⇓P	**Pb**	**08 15 41.4**	**0.0**
NOV				S	**Sg**	**08 15 46.5**	**+0.1**
NOV				AML	AML		
	comp=E,8220μm,1.5s						
NOV				AML	AML		
	comp=N,6775μm,1.6s						
NOV				AML	AML		
	comp=E,8220μm,0.5s						
NOV				AML	AML		
	comp=N,6775μm,0.4s						
CAGR	**Agira**	**0.38**	**263**	⇓P	**Pb**	**08 15 42.0**	**+0.6**
CAGR				AML	AML		
	comp=N,16650μm,0.6s						
CAGR				AML	AML		
	comp=N,16650μm,1.4s						
CAGR				AML	AML		
	comp=E,19750μm,0.5s						
HAGA	**Augusta**	**0.41**	**160**	⇑P	**Pg**	**08 15 41.7**	**+0.2**
HAGA				S	**Sb**	**08 15 48.9**	**+1.2**
HAGA				AML	AML		
	comp=E,8625μm,0.4s						
HAGA				AML	AML		
	comp=N,11730μm,0.4s						
MSFR	**San Fratello**	**0.47**	**320**	⇑P	**Pg**	**08 15 42.7**	**0.0**
MSFR				S	**Sb**	**08 15 50.9**	**+1.3**
MSFR				AML	AML		
	comp=N,3095μm,1.2s						
MSFR				AML	AML		
	comp=E,3375μm,1.1s						
MEU	**Monte Lauro**	**0.57**	**184**	⇑P	**Pb**	**08 15 44.1**	**-0.4**
MEU				S	**Sg**	**08 15 53.1**	**+1.0**
MEU				AML	AML		
	comp=E,9920μm,0.8s						
MEU				AML	AML		
	comp=N,14250μm,0.4s						
MILZ	**Milazzo**	**0.63**	**18**	⇓P	**Pb**	**08 15 45.7**	**+0.1**
MILZ				AML	AML		
	comp=N,4495μm,0.6s						
MILZ				AML	AML		
	comp=E,4590μm,0.4s						
MILZ				AML	AML		
	comp=N,4495μm,1.4s						
MILZ				AML	AML		
	comp=E,4590μm,1.6s						
RAFF	**Raffo Rosso**	**0.66**	**228**	⇓P	**Pb**	**08 15 45.9**	**-0.2**
RAFF				AML	AML		
	comp=E,6860μm,0.5s						
RAFF				AML	AML		
	comp=N,6220μm,0.3s						
PETRA	**Petralia Sopra**	**0.70**	**284**	P	**Pg**	**08 15 47.4**	**+0.5**
PETRA				AML	AML		
	comp=E,2710μm,0.5s						
PETRA				AML	AML		
	comp=N,3400μm,0.9s						
PETRA				AML	AML		
	comp=E,2710μm,1.5s						
VPL	**Vulcano Piano**	**0.71**	**0**	⇓P	**Pb**	**08 15 47.0**	**+0.1**
VPL				AML	AML		
	comp=E,18600μm,0.6s						
VPL				AML	AML		
	comp=N,18300μm,0.7s						
VPL				AML	AML		
	comp=E,18600μm,1.4s						
MSRU	**Castanea**	**0.73**	**35**	⇓P	**Pb**	**08 15 47.2**	**0.0**
MSRU				AML	AML		
	comp=E,4585μm,1.1s						
MSRU				AML	AML		
	comp=N,3320μm,0.7s						
MSRU				AML	AML		
	comp=E,4585μm,0.9s						
HMDC	**Modica**	**0.73**	**192**	P	**Pb**	**08 15 46.8**	**-0.5**
HMDC				S	**Sn**	**08 15 58.3**	**-0.9**
HMDC				AML	AML		
	comp=N,8870μm,0.4s						
HMDC				AML	AML		
	comp=E,16200μm,0.3s						
RESU	**Resuttano**	**0.73**	**268**	P	**Pn**	**08 15 48.4**	**-0.2**
RESU				AML	AML		
	comp=E,2195μm,0.5s						
RESU				AML	AML		
	comp=N,2685μm,0.9s						
PLLN	**Pollina**	**0.73**	**296**	P	**Pg**	**08 15 47.7**	**+0.2**
PLLN				AML	AML		
	comp=E,10155μm,0.5s						
PLLN				AML	AML		
	comp=N,8585μm,0.9s						
PLLN				AML	AML		
	comp=E,10155μm,1.5s						
PLLN				AML	AML		
	comp=N,8585μm,1.1s						
LLI	**Lipari**	**0.77**	**358**	P	**Pb**	**08 15 48.0**	**0.0**
LLI				AML	AML		
	comp=E,8850μm,0.6s						
LLI				AML	AML		
	comp=N,10550μm,0.6s						
LLI				AML	AML		
	comp=N,10550μm,1.4s						
CSLB	**Castelbuono**	**0.78**	**290**	P	**Pb**	**08 15 47.9**	**-0.2**
CSLB				AML	AML		
	comp=E,1110μm,0.4s						
CSLB				AML	AML		
	comp=N,1470μm,1.1s						
GIB	**Gibilmanna**	**0.82**	**293**	P	**Pn**	**08 15 49.6**	**-0.2**
GIB				AML	AML		
	comp=E,5295μm,0.6s						
GIB				AML	AML		
	comp=N,6990μm,0.6s						
GMB	**Gambarie**	**0.84**	**53**	⇓P	**Pb**	**08 15 49.4**	**+0.2**
GMB				AML	AML		
	comp=E,7970μm,0.3s						
GMB				AML	AML		
	comp=N,8585μm,0.7s						
MSCL	**Scilla**	**0.85**	**49**	⇓P	**Pb**	**08 15 49.6**	**+0.2**
MSCL				AML	AML		
	comp=E,3455μm,0.7s						
MSCL				AML	AML		
	comp=N,2740μm,0.6s						
MSCL				AML	AML		
	comp=E,3455μm,1.3s						
CEL	**Celeste**	**0.93**	**51**	⇓P	**Pb**	**08 15 51.0**	**+0.3**
CEL				AML	AML		
	comp=E,973μm,1.0s						
CEL				AML	AML		
	comp=E,1150μm,1.0s						
CEL				AML	AML		
	comp=N,1290μm,1.5s						
CEL				AML	AML		
	comp=N,1060μm,1.5s						
CEL				AML	AML		
	comp=E,973μm,1.0s						
CEL				AML	AML		
	comp=E,1150μm,1.0s						
SOI	**Samo**	**0.94**	**64**	⇓P	**Pb**	**08 15 51.2**	**+0.3**
SOI				AML	AML		
	comp=E,1460μm,0.3s						
SOI				AML	AML		
	comp=N,1395μm,0.5s						
SOI				AML	AML		
	comp=E,1460μm,1.7s						
CLTA	**Licata**	**0.96**	**238**	P	**Pg**	**08 15 51.7**	**0.0**
CLTA				AML	AML		
	comp=E,3525μm,1.6s						
CLTA				AML	AML		
	comp=N,2635μm,1.5s						
CLTA				AML	AML		
	comp=E,3525μm,0.4s						
CLTA				AML	AML		
	comp=N,2635μm,0.5s						
ALJA	**Alia**	**0.97**	**275**	P	**Pg**	**08 15 52.3**	**+0.3**
ALJA				AML	AML		
	comp=N,1595μm,0.4s						
ALJA				AML	AML		
	comp=E,1570μm,0.7s						
HPAC	**Pachino**	**0.98**	**174**	⇑P	**Pb**	**08 15 51.0**	**-0.4**
HPAC				AML	AML		
	comp=E,5575μm,1.4s						
HPAC				AML	AML		
	comp=N,5010μm,0.4s						
HPAC				AML	AML		
	comp=E,5575μm,0.6s						
IACL	**Alicudi**	**0.99**	**331**	P	**Pb**	**08 15 51.2**	**-0.6**
IACL				AML	AML		
	comp=E,4140μm,0.5s						
IACL				AML	AML		
	comp=N,3315μm,0.8s						
FAVR	**Favara**	**1.12**	**249**	P	**Pg**	**08 15 55.1**	**+0.4**
FAVR				AML	AML		
	comp=N,2550μm,0.7s						
FAVR				AML	AML		
	comp=N,2550μm,1.3s						
FAVR				AML	AML		
	comp=E,2125μm,0.5s						
ISTR	**Stromboli Gino**	**1.13**	**9**	P	**Pn**	**08 15 53.3**	**-0.7**
ISTR				AML	AML		
	comp=E,1160μm,0.5s						
ISTR				AML	AML		
	comp=N,1730μm,0.2s						
ISTR				AML	AML		
	comp=E,1160μm,1.5s						
IST3	**Stromboli F**	**1.15**	**10**	P	**Pn**	**08 15 53.8**	**-0.4**
IST3				AML	AML		
	comp=E,770μm,0.8s						
IST3				AML	AML		
	comp=N,1254μm,0.8s						
JOPP	**Joppolo**	**1.18**	**37**	P	**Pn**	**08 15 54.2**	**-0.5**
JOPP				AML	AML		
	comp=E,1235μm,0.8s						
JOPP				AML	AML		
	comp=N,1012μm,0.7s						
JOPP				AML	AML		
	comp=E,1235μm,1.2s						
CORL	**Corleone**	**1.34**	**280**	P	**Pb**	**08 15 58.3**	**+0.5**
CORL				AML	AML		
	comp=E,2075μm,1.5s						
CORL				AML	AML		
	comp=E,2075μm,0.5s						
CORL				AML	AML		
	comp=N,1950μm,0.5s						
MMGO	**Monte Magaggia**	**1.59**	**270**	P	**Pb**	**08 16 01.4**	**-0.6**
USI	**Ustica**	**1.76**	**307**	P	**Pn**	**08 16 01.9**	**-0.8**
USI				AML	AML		
	comp=E,402μm,0.6s						
USI				AML	AML		
	comp=N,964μm,0.4s						
CAR1	**CAROLEI**	**1.85**	**31**	P	**Pn**	**08 16 03.7**	**-0.4**
CAR1				AML	AML		
	comp=E,972μm,1.6s						
CAR1				AML	AML		
	comp=N,919μm,0.4s						
CAR1				AML	AML		
	comp=N,952μm,0.6s						
CAR1				AML	AML		
	comp=E,1075μm,0.3s						
CAR1				AML	AML		
	comp=N,919μm,1.6s						
CAR1				AML	AML		
	comp=N,952μm,1.4s						
SERS	**Sersale**	**1.92**	**44**	P	**Pb**	**08 16 06.4**	**-1.2**
SERS				AML	AML		
	comp=E,369μm,0.5s						
SERS				AML	AML		
	comp=N,241μm,1.4s						
SPS2	**Spezzano della**	**1.94**	**33**	P	**Pn**	**08 16 05.4**	**+0.1**
SPS2				AML	AML		
	comp=N,270μm,0.8s						
SPS2				AML	AML		
	comp=E,399μm,0.5s						
SPS2				AML	AML		
	comp=N,270μm,1.2s						
CET2	**Cetraro**	**2.01**	**22**	P	**Pn**	**08 16 05.9**	**-0.2**
CET2				AML	AML		
	comp=E,976μm,0.7s						
CET2				AML	AML		
	comp=N,1410μm,0.6s						
TIP	**Timpagrande**	**2.06**	**42**	P	**Pn**	**08 16 07.9**	**+1.0**
TIP				AML	AML		
	comp=E,176μm,0.7s						
TIP				AML	AML		
	comp=E,201μm,0.7s						
TIP				AML	AML		
	comp=N,219μm,1.6s						
TIP				AML	AML		
	comp=N,165μm,1.6s						
TIP				AML	AML		
	comp=E,176μm,1.3s						
TIP				AML	AML		
	comp=E,201μm,1.3s						
CELI	**Celico**	**2.11**	**34**	P	**Pn**	**08 16 07.5**	**-0.1**
CELI				AML	AML		
	comp=E,547μm,0.7s						
CELI				AML	AML		
	comp=N,615μm,1.5s						
CELI				AML	AML		
	comp=N,615μm,0.5s						
CELI				AML	AML		
	comp=E,547μm,1.3s						
TDS	**Terranova Siba**	**2.25**	**28**	P	**Pn**	**08 16 09.5**	**0.0**
TDS				AML	AML		
	comp=E,279μm,0.7s						
TDS				AML	AML		
	comp=N,182μm,0.7s						
CUC	**Castrocucco**	**2.41**	**15**	P	**Pn**	**08 16 12.1**	**+0.4**
CUC				AML	AML		
	comp=N,196μm,0.9s						
CUC				AML	AML		
	comp=N,230μm,0.9s						
CUC				AML	AML		
	comp=E,294μm,0.5s						
CUC				AML	AML		
	comp=E,246μm,0.6s						
CUC				AML	AML		
	comp=N,196μm,1.1s						
CUC				AML	AML		
	comp=N,230μm,1.1s						
MGR	**Morigerati**	**2.50**	**10**	P	**Pn**	**08 16 12.6**	**-0.3**
MGR				AML	AML		
	comp=E,292μm,0.9s						
MGR				AML	AML		
	comp=N,346μm,1.6s						
MGR				AML	AML		
	comp=E,182μm,0.9s						
MGR				AML	AML		
	comp=N,148μm,0.7s						
MGR				AML	AML		
	comp=N,148μm,1.3s						
MGR				AML	AML		
	comp=N,346μm,0.4s						
MGR				AML	AML		
	comp=E,182μm,1.1s						
MGR				AML	AML		
	comp=E,292μm,1.1s						
SIRI	**Monte Sirino -**	**2.60**	**15**	P	**Pn**	**08 16 14.7**	**+0.3**
SIRI				AML	AML		
	comp=E,248μm,0.6s						
SIRI				AML	AML		
	comp=N,211μm,1.4s						
SIRI				AML	AML		
	comp=E,254μm,0.6s						
SIRI				AML	AML		
	comp=N,228μm,1.4s						
SIRI				AML	AML		
	comp=E,248μm,1.4s						
SIRI				AML	AML		
	comp=E,254μm,1.4s						
CMPR	**Campora**	**2.66**	**5**	P	**Pn**	**08 16 14.8**	**-0.3**
CMPR				AML	AML		
	comp=N,114μm,0.4s						
CMPR				AML	AML		
	comp=N,114μm,1.6s						
CMPR				AML	AML		
	comp=E,89μm,0.5s						
MTSN	**Montesano sull**	**2.66**	**13**	P	**Pn**	**08 16 15.2**	**0.0**
MTSN				AML	AML		
	comp=E,190μm,0.7s						
MTSN				AML	AML		
	comp=N,196μm,1.4s						
MCEL	**Monticello**	**2.73**	**13**	P	**Pn**	**08 16 16.6**	**+0.5**
MCEL				AML	AML		
	comp=N,184μm,0.7s						
MCEL				AML	AML		
	comp=E,212μm,0.5s						
CDRU	**Civita di Ruta**	**2.83**	**5**	P	**Pn**	**08 16 17.7**	**+0.2**
LTRZ	**Laterza**	**3.26**	**25**	P	**Pn**	**08 16 23.9**	**+0.6**
LTRZ				AML	AML		
	comp=E,92μm,0.6s						
LTRZ				AML	AML		
	comp=N,154μm,1.6s						
LTRZ				AML	AML		
	comp=N,154μm,0.4s						
MATE	**Matera**	**3.26**	**24**	P	**Pn**	**08 16 24.6**	**+1.2**
MATE				AML	AML		
	comp=E,88μm,1.6s						
MATE				AML	AML		
	comp=N,112μm,1.6s						
MATE				AML	AML		
	comp=N,112μm,0.4s						
MATE				AML	AML		
	comp=E,88μm,0.4s						
MRB1	**Monte Rocchett**	**3.45**	**360**	AML	AML		
	comp=E,383μm,0.1s						
MRB1				AML	AML		
	comp=N,178μm,0.5s						
AMUR	**Altamura**	**3.47**	**21**	P	**Pn**	**08 16 26.9**	**+0.6**
AMUR				AML	AML		
	comp=E,93μm,1.1s						
AMUR				AML	AML		
	comp=N,103μm,0.5s						
AMUR				AML	AML		
	comp=N,103μm,1.5s						
NOCI	**Noci**	**3.51**	**27**	P	**Pn**	**08 16 27.0**	**+0.2**
NOCI				AML	AML		
	comp=E,110μm,1.4s						
NOCI				AML	AML		
	comp=N,112μm,1.5s						
NOCI				AML	AML		
	comp=E,110μm,0.6s						
NOCI				AML	AML		
	comp=N,112μm,0.5s						
STON	**Ston**	**5.60**	**21**	*e*Pn	**Pn**	**08 16 54.4**	**-1.0**
STON				*e*Sn	**Sn**	**08 17 58.8**	**-0.4**
TREB	**Trebinje**	**5.66**	**26**	*e*Pn	**Pn**	**08 16 55.4**	**-0.9**
SJES	**Sjenica**	**6.76**	**33**	*e*Pn	**Pn**	**08 17 13.1**	**+1.6**
SJES				*e*Sn	**Sn**	**08 18 26.6**	**-1.4**
BBLS	**Lazići**	**7.04**	**27**	*e*Pn	**Pn**	**08 17 16.7**	**+1.4**
BBLS				*e*Sn	**Sn**	**08 18 34.0**	**-0.9**
SELS	**Selova**	**7.25**	**38**	*e*Pn	**Pn**	**08 17 17.6**	**-0.6**
DIVS	**Divibare**	**7.46**	**29**	*e*Pn	**Pn**	**08 17 21.5**	**+0.4**
DIVS				*e*Sn	**Sn**	**08 18 43.2**	**-2.0**
GRUS	**Gruza**	**7.58**	**33**	*e*Pn	**Pn**	**08 17 22.8**	**+0.1**

RSNC 30 08:16:50.8±0.6,0.94N×79.49W,h22km±4km,ML2.9,
Mw3.5,3C,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAC1	**Pacto, Paraso**	**0.97**	**133**	⇑*i*P	Pb	08 17 08.2	-0.7
PAC1				*e*S	Sn	08 17 22.2	-0.1
TUMC	**Tumaco**	**1.17**	**41**	*e*P	Pn	08 17 10.5	-1.4
TUMC				*e*S	Sb	08 17 26.5	-0.6
TUMC				*i*		08 17 35.3	
	comp=Z,476nm,0.6s						
OTAV	**Otavalo**	**1.25**	**124**	⇑*i*P	Pn	08 17 12.3	-1.1
OTAV				*e*S	Sn	08 17 26.8	-3.0
CUSE	**Cuicocha Este**	**1.26**	**120**	*e*P	Pn	08 17 12.4	-1.1
CUSE				*e*S	Sn	08 17 29.4	-0.6
FLF1	**Flavio Alfaro-**	**1.33**	**195**	*e*P	Pb	08 17 16.8	+1.7
FLF1				*e*S	Sb	08 17 40.4	+8.6
CMBC	**Cumbal**	**1.67**	**90**	*e*P	Pn	08 17 18.0	-1.1
TULM	**Tulcn-Chalpat**	**1.72**	**97**	*e*P	Pn	08 17 19.6	-0.2
TULM				*e*S	Sn	08 17 40.7	-0.7
TULM				*i*		08 17 55.6	
	comp=Z,51nm,0.5s						
BONI	**La Bonita**	**2.02**	**104**	*e*P	Pn	08 17 24.4	+0.5

BONI					*e*S		Sn	08 17 48.2	-0.3
BONI					*i*			08 17 50.6	
	comp=Z,123nm,0.2s								
GCUF	**Volcan Galeras**	**2.17**	**82**	⇑	*e*P		Pn	08 17 25.2	-0.8
GCUF					*e*S		Sn	08 17 50.3	-2.2
GCUF					*i*			08 17 57.3	
	comp=Z,96nm,0.3s								
PIAT	**Ana Tenorio**	**2.28**	**147**		*e*P		Pb	08 17 30.6	-0.9
PIAT					*e*S		Sb	08 17 58.5	-1.0
GR1C	**Gorgona, Isla**	**2.44**	**33**		*e*P		Pn	08 17 25.0	-4.4
GR1C					*e*S		Sb	08 18 04.8	+1.0
CRUC	**La Cruz**	**2.62**	**76**		*e*P		Pn	08 17 32.1	0.0
CRUC					*e*S		Sn	08 18 02.9	-0.5
FLOC	**Florencia**	**3.89**	**80**		*e*P		Pn	08 17 50.3	+0.9
FLOC					*e*S		Sn	08 18 36.8	+2.3
FLOC					*i*			08 18 45.5	
	comp=Z,9.6nm,0.6s								
GARC	**Garzon, Huila**	**4.19**	**73**		*e*P		Pn	08 17 53.9	+0.3
GARC					*e*S		Sn	08 18 40.7	-1.3
YOTC	**Yotoco, Valle**	**4.37**	**46**		*e*P		Pn	08 17 50.7	-5.3
YOTC					*e*S		Sn	08 18 41.4	-4.9
YOTC					*i*			08 18 46.0	
	comp=Z,10nm,0.4s								
PLMC	**San Jos del P**	**5.08**	**39**		*e*P		Pn	08 18 04.2	-1.5
PLMC					*e*S		Sn	08 19 02.5	-1.4
PLMC					*i*			08 19 23.8	
	comp=Z,13nm,0.3s								
ORTC	**Ortega, Tolima**	**5.17**	**55**		*e*P		Pn	08 18 07.0	0.0
ORTC					*e*S		Sn	08 19 08.4	+2.4
ORTC					*i*			08 19 11.8	
	comp=Z,6.6nm,0.5s								
MACC	**Macarena, Meta**	**5.77**	**78**		*e*P		Pn	08 18 16.6	+1.4
CBOC	**Ciudad Bolivar**	**6.00**	**35**		*e*P		Pn	08 18 20.4	+1.8
CBOC					*e*S		Sn	08 19 29.2	+2.5
CHIC	**Chingaza**	**6.83**	**57**		*e*P		Pn	08 18 31.2	+1.2
CHIC					*e*S		Sn	08 19 46.4	-0.9
CHIC					*i*			08 19 52.8	
	comp=Z,2.6nm,0.7s								

IDC 30 08:17:11.7±2.9, 53°.97N×86°.63E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=24.6km s-min=14.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**270**	I	I	08 23 20.0	
	baz=88,slow=344,SNR=55						
ZALV	**Zalesovo Beam**	**1.07**	**270**	Pg	Pg	08 17 31.8	-0.4
	0.6nm,0.3s,baz=86,slow=16,SNR=7.6						
ZALV				Lg	Lg	08 17 47.0	
	1.7nm,0.3s,baz=95,slow=27,SNR=21						
KURBB	**Kurchatov Arra**	**5.99**	**239**	Pn	Pn	08 18 42.5	+1.0
	0.1nm,0.3s,baz=56,slow=13,SNR=2.1						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**7.70**	**203**	Pn	Pn	08 19 06.0	+1.0
	0.1nm,0.3s,baz=24,slow=13,SNR=6.4						
MKAR				Lg	Lg	08 21 14.8	
	baz=20,slow=26,SNR=2.2						
	0.2nm,0.3s						

RSNC 30 08:20:38.1±0.8, 2°.92N×78°.08W, h36km±5km, ML3.1, Mw3.5, 3C-3D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GR1C	**Gorgona, Isla**	**0.12**	**315**	⇑ *i*P	Pn	08 20 43.4	-4.4
GR1C				*e*S	Sn	08 20 48.9	-7.8
TUMC	**Tumaco**	**1.26**	**211**	*e*P	Pn	08 20 59.0	-0.2
TUMC				*e*S	Sn	08 21 17.4	+2.5
TUMC				*i*		08 21 19.5	
	comp=Z,465nm,0.7s						
CRUC	**La Cruz**	**1.75**	**140**	⇑ *i*P	Pn	08 21 06.2	-0.1
CRUC				*e*S	Sn	08 21 28.0	+0.4
GCUF	**Volcan Galeras**	**1.83**	**156**	⇓ *i*P	Pn	08 21 07.6	+0.1
GCUF				*e*S	Sn	08 21 30.3	+0.4
GCUF				*i*		08 21 32.6	
	comp=Z,390nm,0.3s						
CMBC	**Cumbal**	**1.98**	**173**	*e*P	Pn	08 21 08.5	-1.0
CMBC				*e*S	Sn	08 21 33.0	-0.3
YOTC	**Yotoco, Valle**	**2.03**	**59**	*e*P	Pn	08 21 06.3	-3.6
YOTC				*e*S	Sn	08 21 28.5	-5.6
YOTC				*i*		08 21 32.8	
	comp=Z,79nm,0.3s						
PIZC	**Pizarro, Choco**	**2.16**	**20**	*e*P	Pn	08 21 07.6	-4.0
PIZC				*e*S	Sn	08 21 31.7	-5.4
PIZC				*i*		08 21 40.1	
	comp=Z,57nm,0.3s						
TULM	**Tulcn-Chalpat**	**2.21**	**172**	*e*P	Pn	08 21 14.2	+1.5
TULM				*e*S	Sn	08 21 39.4	+0.4
TULM				*i*		08 21 43.0	
	comp=Z,69nm,0.6s						
BONI	**La Bonita**	**2.51**	**167**	*e*P	Pn	08 21 18.7	+2.0
BONI				*e*S	Sn	08 21 48.5	+2.4
BONI				*i*		08 21 52.5	
	comp=Z,95nm,0.3s						
CUSE	**Cuicocha Este**	**2.61**	**187**	*e*P	Pn	08 21 17.6	-0.6
CUSE				*e*S	Sn	08 21 48.5	-0.4
PLMC	**San Jos del P**	**2.67**	**42**	*e*P	Pn	08 21 15.0	-3.6
PLMC				*e*S	Sn	08 21 45.9	-3.9
PLMC				*i*		08 21 53.8	
	comp=Z,89nm,0.3s						
GARC	**Garzon, Huila**	**2.69**	**106**	⇓ *i*P	Pn	08 21 19.2	+0.1
GARC				*e*S	Sn	08 21 53.1	+2.6
GARC				*i*		08 21 54.1	
	comp=Z,92nm,0.3s						
OTAV	**Otavalo**	**2.69**	**188**	⇑ *i*P	Pn	08 21 18.4	-0.8
OTAV				*e*S	Sn	08 21 49.1	-1.7
PAC1	**Pacto, Paraso**	**2.73**	**195**	*e*P	Pn	08 21 17.2	-2.3
PAC1				*e*S	Sn	08 21 48.5	-2.9
FLOC	**Florencia**	**2.77**	**119**	*i* P	Pn	08 21 20.4	+0.4
FLOC				*e*S	Sn	08 21 53.5	+1.3
FLOC				*i*		08 21 56.4	
	comp=Z,26nm,0.3s						
ORTC	**Ortega, Tolima**	**3.00**	**71**	*e*P	Pn	08 21 23.3	+0.1
ORTC				*e*S	Sn	08 21 58.2	+0.2
ORTC				*i*		08 22 08.4	
	comp=Z,101nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.58**	**35**	*e*P	Pn	08 21 28.4	-2.9
CBOC				*e*S	Sn	08 22 07.7	-4.8
CBOC				*i*		08 22 19.4	
	comp=Z,16nm,0.5s						
MAPC	**Malpelo**	**3.68**	**287**	*e*P	Pn	08 21 29.5	-3.0
MAPC				*e*S	Sn	08 22 07.0	-7.7
MAPC				*i*		08 22 09.8	
	comp=Z,74nm,0.2s						
ROSC	**El Rosal**	**4.21**	**63**	*e*P	Pn	08 21 43.6	+3.5
ROSC				*e*S	Sn	08 22 31.5	+3.1
ROSC				*i*		08 22 33.7	
	comp=Z,16nm,0.6s						
MACC	**Macarena, Meta**	**4.30**	**100**	⇓ *i*P	Pn	08 21 40.9	-0.2
MACC				*e*S	Sn	08 22 29.2	-0.8
MACC				*i*		08 22 33.0	
	comp=Z,24nm,0.6s						
DBBC	**Dabeiba**	**4.48**	**25**	*e*P	Pn	08 21 43.2	-0.4
DBBC				*e*S	Sn	08 22 34.4	-0.1
CHIC	**Chingaza**	**4.66**	**68**	*e*P	Pn	08 21 46.4	0.0
CHIC				*e*S	Sn	08 22 39.0	-0.6
CHIC				*i*		08 22 40.9	
	comp=Z,12nm,0.5s						
PTBC	**PUERTO BERRIO,**	**5.10**	**45**	*e*P	Pn	08 21 54.9	+2.9
PTBC				*e*S	Sn	08 22 46.8	-2.9
PTBC				*i*		08 22 52.8	
	comp=Z,8.4nm,0.8s						
AZU	**Azuero**	**5.31**	**336**	*e*P	Pn	08 21 52.3	-2.6
AZU				*e*S	Sn	08 22 48.7	-6.2
AZU				*i*		08 22 51.6	
	comp=Z,41nm,0.3s						
ZARC	**Zaragoza, Cauc**	**5.56**	**35**	*e*P	Pn	08 22 02.5	+4.1
ZARC				*e*S	Sn	08 23 05.5	+4.3
RUSC	**La Rusia**	**5.79**	**59**	*e*P	Pn	08 22 02.9	+0.9
RUSC				*e*S	Sn	08 23 08.3	+0.8
BARC	**Barichara**	**6.10**	**53**	*e*P	Pn	08 22 08.7	+2.8
BARC				*e*S	Sn	08 23 15.0	+0.4
BARC				*i*		08 23 28.1	
	comp=Z,6.1nm,0.6s						

*SOME **30** 08:33:27.5, 40°.73N×77°.60E, h0km*
*KRNET **30** 08:33:27.5±0.1, 40°.64N×77°.61E, h23km, mb2.9*
*NNC **30** 08:33:29.0±1.2, 40°.72N×77°.64E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.9km s-min=5.3km az=172.0*

ISC 30 08:33:31.6±2.2, 40°.82N±0°.09×77°.65E±0°.04, h13km±12km, n62, σ1°12/76, 16C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.91**	**8**	⇓ *i*P	Pb	08 33 48.5	-1.1
	baz=8.0						
TARG				⇓ *i*S	Sn	08 34 03.9	0.0
	baz=8.0						
KDJ	**Kajisay**	**1.35**	**345**	⇑ *i*P	Pn	08 33 55.9	-0.5
	baz=48						
KDJ				⇑ *i*S	Sg	08 34 16.4	+1.2
	baz=48						
NRN	**Naryn**	**1.38**	**297**	⇓ *i*P	Pn	08 33 54.5	-2.5
	baz=3.0						
NRN				⇓ *i*S	Sn	08 34 14.2	-1.1
	baz=3.0						
PRZ	**Przheval'sk**	**1.75**	**19**	⇓ *i*P	Pb	08 34 02.9	-0.9
	baz=18						
PRZ				⇓ *i*S	Sg	08 34 29.0	+0.9
	baz=18						
ULHL	**Ulahol**	**1.77**	**324**	⇑ *i*P	Pn	08 34 02.5	+0.3
	baz=28						
ULHL				⇑ *i*S	Sg	08 34 27.9	-0.7
	baz=28						
ANVS	**Anan'yevo**	**1.96**	**0**	⇑ *i*P	Pb	08 34 06.0	-1.3
	baz=1.0						
ANVS				⇑ *i*S	Sg	08 34 34.1	-0.5
	baz=1.0						
BOOM	**Boomskoye usch**	**2.10**	**323**	⇓ *e*P	Pn	08 34 07.3	+0.6
	baz=27						
BOOM				⇓ *i*S	Sb	08 34 36.4	+0.7
	baz=27						
TNSS	**Tian-Shan**	**2.27**	**347**	Pg	Pb	08 34 12.9	+0.1
	36nm,0.5s						
TNSS				Lg	Lg	08 34 45.9	
	32nm,0.6s						
TNSS	**Tian-Shan**	**2.27**	**347**	*e*Pg	Pb	08 34 12.9	+0.1
	36nm,0.5s						
TNSS				*e*Lg	Lg	08 34 45.9	
	32nm,0.6s						
SATY	**Saty**	**2.31**	**14**	Pg	Pb	08 34 12.7	-0.5
	8.0nm,0.5s						
SATY				Lg	Lg	08 34 45.5	
	44nm,0.5s						
SATY	**Saty**	**2.31**	**14**	*e*Pg	Pb	08 34 12.7	-0.5
	8.0nm,0.5s						
SATY				*e*Lg	Lg	08 34 45.5	
	44nm,0.5s						
IZV	**Izvestkoviy**	**2.34**	**341**	Pg	Pb	08 34 14.3	+0.4
	14nm,0.6s						
IZV				Lg	Lg	08 34 47.8	
	53nm,0.8s						
IZV	**Izvestkoviy**	**2.34**	**341**	*e*Pg	Pb	08 34 14.2	+0.4
	14nm,0.6s						
IZV				*e*Lg	Lg	08 34 47.8	
	53nm,0.8s						
MDOK	**Medeo**	**2.38**	**349**	Pg	Pb	08 34 14.7	+0.3
	13nm,0.4s						
MDOK				Pg	Pb	08 34 14.8	+0.3
	24nm,0.5s						
MDOK				⇓ Lg	Lg	08 34 48.8	
	36nm,0.6s						
MDOK				Lg	Lg	08 34 49.0	
	42nm,0.5s						
MDOK	**Medeo**	**2.38**	**349**	*e*Pg	Pb	08 34 14.8	+0.3
	24nm,0.5s						
MDOK				*e*Lg	Lg	08 34 49.0	
	42nm,0.5s						
ZHN	**Zhinishke**	**2.42**	**14**	Pg	Pb	08 34 13.1	-2.0
	1.8nm,0.2s						
ZHN				Lg	Lg	08 34 46.5	
	35nm,0.2s						
ZHN	**Zhinishke**	**2.42**	**14**	*e*Pg	Pb	08 34 13.3	-1.8
	1.8nm,0.2s						
ZHN				*e*Lg	Lg	08 34 46.5	
	35nm,0.2s						
KOTS	**Kotyrbulak**	**2.44**	**351**	Pg	Pb	08 34 16.4	+0.9
	21nm,0.3s						
KOTS				Lg	Lg	08 34 51.4	
	105nm,0.6s						
KOTS	**Kotyrbulak**	**2.44**	**351**	*e*Pg	Pb	08 34 16.4	+0.9
	21nm,0.3s						
KOTS				*e*Lg	Lg	08 34 51.4	
	105nm,0.6s						
KNDC	**Almaty**	**2.45**	**348**	⇑ Pg	Pb	08 34 16.8	+1.2
	17nm,0.3s						
KNDC				⇑ Lg	Lg	08 34 51.6	
	56nm,0.5s						
MTBS	**Maitube**	**2.48**	**339**	Pg	Pb	08 34 16.2	+0.2
	29nm,0.4s						
MTBS				Lg	Lg	08 34 51.5	
	25nm,0.4s						
MTBS	**Maitube**	**2.48**	**339**	*e*Pg	Pb	08 34 16.2	+0.2
	29nm,0.4s						
MTBS				*e*Lg	Lg	08 34 51.5	
	25nm,0.4s						
UZB	**Uzynbulak**	**2.54**	**23**	Pg	Pb	08 34 16.1	-1.1
	6.5nm,0.3s						
UZB				Lg	Lg	08 34 51.6	
	20nm,0.5s						
UZB	**Uzynbulak**	**2.54**	**23**	*e*Pg	Pb	08 34 16.1	-1.1
	6.5nm,0.3s						
UZB				*e*Lg	Lg	08 34 51.6	
	20nm,0.5s						
KST	**Kastek**	**2.55**	**331**	Pg	Pb	08 34 17.2	-0.1
	7.0nm,0.3s						
KST				Lg	Lg	08 34 52.9	
	35nm,0.7s						
KST	**Kastek**	**2.55**	**331**	*e*Pg	Pb	08 34 17.2	-0.1
	7.0nm,0.3s						
KST				*e*Lg	Lg	08 34 52.9	
	35nm,0.7s						
TKM2	**Tokmak 2**	**2.59**	**325**	⇑ Pg	Pb	08 34 17.7	-0.4
	5.0nm,0.4s						
TKM2				⇑ Lg	Lg	08 34 54.2	
	17nm,0.9s						
TKM2	**Tokmak 2**	**2.59**	**325**	⇑ *e*P	Pn	08 34 14.4	+0.9
	baz=27						
TKM2				⇑ *i*S	Sb	08 34 48.5	-1.5
	baz=27						
KURS	**Kuram**	**2.69**	**8**	Pg	Pb	08 34 19.8	+0.1
	8.7nm,0.5s						
KURS				Lg	Lg	08 34 57.5	
	13nm,0.5s						
KURS	**Kuram**	**2.69**	**8**	*e*Pg	Pb	08 34 19.8	+0.1
	8.7nm,0.5s						
KURS				*e*Lg	Lg	08 34 57.5	
	13nm,0.5s						
SHLS	**Shalkode**	**2.70**	**30**	Pg	Pg	08 34 23.7	+0.4
	2.2nm,0.3s						
SHLS				Lg	Lg	08 35 04.6	
	445nm,0.7s						
SHLS	**Shalkode**	**2.70**	**30**	*e*Pg	Pg	08 34 23.7	+0.4
	2.2nm,0.3s						
SHLS				*e*Lg	Lg	08 35 04.6	
	445nm,0.7s						
ARLS	**Aral**	**2.71**	**294**	⇑ *i*P	Pn	08 34 14.5	-0.5
	baz=97						
ARLS				⇑ *i*S	Sn	08 34 48.6	+0.8
	baz=97						
KBK	**Karagaybulak**	**2.73**	**313**	⇓ *i*P	Pn	08 34 15.7	+0.4
	baz=16						
KBK				⇓ *i*S	Sb	08 34 50.8	-3.0
	baz=16						
UCH	**Uchtor**	**2.74**	**302**	⇓ *i*P	Pn	08 34 15.5	-0.2
	baz=5.0						
UCH				⇓ *i*S	Sn	08 34 50.6	+1.7
	baz=5.0						
KPKS	**Kokpek**	**2.75**	**16**	Pg	Pb	08 34 21.1	+0.4
	5.1nm,0.2s						
KPKS				Lg	Lg	08 34 59.6	
	35nm,0.6s						
KPKS	**Kokpek**	**2.75**	**16**	*e*Pg	Pb	08 34 21.1	+0.4
	5.1nm,0.2s						
KPKS				*e*Lg	Lg	08 34 59.5	
	35nm,0.6s						
DGS	**Degeres**	**2.79**	**331**	Pg	Pb	08 34 21.3	-0.2
	7.5nm,0.5s						
DGS				Lg	Lg	08 34 59.8	
	26nm,0.5s						
DGS	**Degeres**	**2.79**	**331**	*e*Pg	Pb	08 34 21.3	-0.2
	7.5nm,0.5s						
DGS				*e*Lg	Lg	08 34 59.8	
	26nm,0.5s						
PDGK	**Podgornoye**	**2.86**	**28**	Pg	Pb	08 34 23.2	+0.6
	2.9nm,0.3s						
PDGK				Lg	Lg	08 35 03.4	
	13nm,0.7s						
PDGK	**Podgornoye**	**2.86**	**28**	⇓ Pg	Pb	08 34 22.5	-0.1
	3.6nm,0.5s						
PDGK				⇓ Lg	Lg	08 35 03.5	
	31nm,1.0s						
KTBS	**Karatobe**	**2.98**	**346**	Pg	Pb	08 34 25.2	+0.7
	6.0nm,0.4s						
KTBS				Lg	Lg	08 35 06.6	
	31nm,0.4s						
KTBS	**Karatobe**	**2.98**	**346**	*e*Pg	Pb	08 34 25.2	+0.7
	6.0nm,0.4s						
KTBS				*e*Lg	Lg	08 35 06.6	
	31nm,0.4s						
CHMS	**Chumysh**	**3.06**	**316**	⇑ Pg	Pb	08 34 26.1	+0.1
	4.8nm,0.4s						
CHMS				⇓ Lg	Lg	08 35 07.4	
	17nm,0.6s						
CHMS	**Chumysh**	**3.06**	**316**	⇓ *e*P	Pn	08 34 20.3	+0.5
	baz=19						
CHMS				⇓ *i*S	Sn	08 34 58.9	+2.5
	baz=19						
CHKK	**Chushkaly**	**3.07**	**351**	Pg	Pb	08 34 26.8	+0.7
	8.0nm,0.4s						
CHKK				Lg	Lg	08 35 09.3	
	26nm,0.5s						
CHKK	**Chushkaly**	**3.07**	**351**	*e*Pg	Pb	08 34 26.8	+0.7
	8.0nm,0.4s						
CHKK				*e*Lg	Lg	08 35 09.3	
	26nm,0.5s						
KUU	**Kurty**	**3.22**	**343**	Pg	Pb	08 34 28.3	-0.3
	4.0nm,0.3s						
KUU				Lg	Lg	08 35 12.1	
	14nm,0.6s						
KUU	**Kurty**	**3.22**	**343**	*e*Pg	Pb	08 34 28.4	-0.3
	4.0nm,0.3s						
KUU				*e*Lg	Lg	08 35 12.2	
	14nm,0.6s						
KRBS	**Karabastau**	**3.22**	**334**	Pg	Pb	08 34 29.1	+0.3
	7.3nm,0.4s						
KRBS				Lg	Lg	08 35 13.1	
	19nm,0.7s						
KRBS	**Karabastau**	**3.22**	**334**	*e*Pg	Pb	08 34 29.2	+0.5
	7.3nm,0.4s						
KRBS				*e*Lg	Lg	08 35 13.1	
	19nm,0.7s						
KTMS	**Ketmen**	**3.31**	**37**	Pg	Pb	08 34 30.3	+0.1
	1.0nm,0.2s						
KTMS				Lg	Lg	08 35 15.4	
	6.6nm,0.4s						
KTMS	**Ketmen**	**3.31**	**37**	*e*Pg	Pb	08 34 30.3	+0.1
	1.0nm,0.2s						
KTMS				*e*Lg	Lg	08 35 15.4	
	6.6nm,0.4s						
BLB	**Baldybastay**	**3.33**	**10**	Pg	Pb	08 34 31.3	+0.7
	9.1nm,0.5s						
BLB				Lg	Lg	08 35 17.0	
	37nm,0.3s						
SGDS	**Sogindy**	**3.45**	**321**	Pg	Pb	08 34 32.0	-0.7
	5.0nm,0.7s						
SGDS				Lg	Lg	08 35 18.9	
	12nm,0.5s						
MRKS	**Merke**	**3.82**	**302**	Pg	Pb	08 34 38.9	-0.1
	3.0nm,0.3s						
MRKS				Lg	Lg	08 35 30.3	
	6.6nm,0.5s						
MRKS	**Merke**	**3.82**	**302**	*e*Pg	Pb	08 34 38.9	-0.1
	3.0nm,0.3s						
MRKS				*e*Lg	Lg	08 35 30.3	
	6.6nm,0.5s						
DJR	**Jarkent**	**3.85**	**24**	Pg	Pb	08 34 40.9	+1.4
	2.5nm,0.5s						
DJR				Lg	Lg	08 35 33.4	
	5.3nm,0.4s						
DJR	**Jarkent**	**3.85**	**24**	*e*Pg	Pb	08 34 40.9	+1.4
	2.5nm,0.5s						
DJR				*e*Lg	Lg	08 35 33.4	
	5.3nm,0.4s						
BTLS	**Baital**	**4.97**	**329**	Pg	Pb	08 35 00.9	+2.4
	1.6nm,0.4s						
BTLS				Lg	Lg	08 36 07.8	
	3.9nm,0.7s						
BTLS	**Baital**	**4.97**	**329**	*e*P	Pb	08 35 00.9	+2.4
	1.6nm,0.4s						
BTLS				*e*S	Sg	08 36 07.8	-3.5
	3.9nm,0.7s						
KK31	**Karatay Array**	**5.79**	**296**	⇓ Pg	Pb	08 35 14.9	+2.5
	0.2nm,0.3s,baz=99,slow=15,SNR=3.5						
KK31				⇑ Lg	Lg	08 36 32.2	
	1.3nm,0.7s,baz=106,slow=30,SNR=6.3						

*IDC **30** 08:34:21.2±0.7, 34°.60N×36°.62W, h0km, mb3.9/17, mbtmp3.9/17, MS3.8/56, Error ellipse: s-maj=19.8km s-min=16.1km az=179.0*
*NEIC **30** 08:34:22.6±2.6, 34°.7N±0°.1×36°.6W±0°.1, h10km±1km, mb4.7/31, Error ellipse: s-maj=21.9km s-min=15.8km az=143.0*

ISC 30 08:34:22.7±0.5, 34°.59N±0°.09×36°.64W±0°.08, h13km, n100, σ0°94/51, mb4.5/32, MS3.8/56, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**7.91**	**56**	Pn	**Pn**	**08 36 17.4**	**0.0**
ESDC	**Sonseca Array**	**26.46**	**69**	P	**P**	**08 39 58.6**	**-0.9**
	0.2nm,0.4s,baz=274,slow=9.4,SNR=2.8						
ESDC				LR	LR	08 47 16.1	
	comp=Z,90nm,20.8s,baz=276,slow=29						
	0.2nm,0.4s						
MDT	**Midelt**	**26.66**	**85**	LR	LR	08 49 01.9	
	comp=Z,92nm,18.1s,baz=287,slow=33						
BBTS	**Babate**	**26.88**	**133**	LR	LR	08 47 48.9	
	comp=Z,423nm,21.9s,baz=321,slow=30						
SCHQ	**Schefferville**	**29.13**	**323**	LR	LR	08 50 48.5	
	comp=Z,291nm,21.1s,baz=105,slow=34						
SJG	**San Juan**	**30.96**	**246**	LR	LR	08 49 54.0	
	comp=Z,32nm,21.0s,baz=73,slow=30						
EKA	**Eskdalemuir Ar**	**31.03**	**38**	LR	LR	08 51 36.2	
	comp=Z,71nm,18.7s,baz=174,slow=33						
BORG	**Borgarnes**	**31.59**	**12**	LR	LR	08 50 22.0	
	comp=Z,107nm,21.4s,baz=200,slow=30						
MDP	**Montagnes des**	**32.87**	**210**	LR	LR	08 50 46.7	
	comp=Z,93nm,19.2s,baz=86,slow=30						
SFJD	**Kangerlussuaq**	**33.46**	**350**	LR	LR	08 51 37.2	
	comp=Z,208nm,18.5s,baz=165,slow=31						
SADO	**Sadowa**	**33.91**	**300**	LR	LR	08 52 29.8	
	comp=Z,120nm,21.9s,baz=118,slow=32						
FRB	**Frobisher Bay**	**35.15**	**336**	LR	LR	08 53 46.5	
	comp=Z,68nm,19.2s,baz=160,slow=33						
DAVOX	**Davos/Dischmat**	**36.81**	**56**	LR	LR	08 54 53.0	
	comp=Z,63nm,18.9s,baz=256,slow=34						
TKL	**Tuckaleechee C**	**38.28**	**286**	LR	LR	08 56 00.3	
	comp=Z,141nm,18.8s,baz=73,slow=34						
BAUV	**El Baul**	**38.46**	**236**	P	**P**	**08 41 44.0**	**-0.4**
NC204	**NORSAR Array S**	**40.14**	**33**	P	**P**	**08 41 57.0**	**-1.0**
NC204				IAmb	IAmb	08 42 27.0	
	comp=Z,33nm,1.4s						
RCBR	**Riachuelo**	**40.20**	**179**	LR	LR	08 55 07.8	
	comp=Z,154nm,18.4s,baz=152,slow=31						
NOA	**NORSAR Array B**	**40.27**	**34**	P	**P**	**08 41 59.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=252,slow=8.6,SNR=3.3						
NOA				LR	LR	08 56 33.5	
	comp=Z,62nm,18.4s,baz=300,slow=33						
	comp=Z,0.7nm,0.7s						
SDV	**Santo Domingo**	**40.30**	**239**	LR	LR	08 56 04.4	
	comp=Z,72nm,20.7s,baz=94,slow=32						
DBIC	**Dimbokro**	**40.38**	**126**	LR	LR	08 56 48.3	
	comp=Z,210nm,19.7s,baz=324,slow=33						
TORD	**Torodi Ar. Bea**	**40.70

comp=Z,1.3nm,0.5s
H10N2 ASCENSION HYDR 47.11 149 T T 09 33 08.6
baz=335,slow=75,SNR=723
H10N3 ASCENSION HYDR 47.11 149 T T 09 33 09.0
baz=335,slow=75,SNR=482
H10N1 ASCENSION HYDR 47.12 149 T T 09 33 10.0
baz=335,slow=75,SNR=830
FINES FINESS Array B 47.37 35 LR LR 08 59 04.4
comp=Z,56nm,21.2s,baz=224,slow=31
MLR Muntele Rosu 48.02 57 LR LR 09 00 35.7
comp=Z,46nm,19.9s,baz=251,slow=33
H10S3 ASCENSION HYDR 48.05 150 T T 09 34 08.3
baz=334,slow=74,SNR=108
H10S2 ASCENSION HYDR 48.06 150 T T 09 34 09.3
baz=246,slow=74,SNR=45
RES Resolute Bay 48.69 342 P P **08 43 06.9 +0.8**
comp=Z,1.8nm,0.8s,baz=103,slow=9.0,SNR=9.0
RES LR LR 09 01 20.4
comp=Z,72nm,18.2s,baz=19,slow=33
comp=Z,1.8nm,0.8s
RES Resolute Bay 48.69 342 P P **08 43 06.9 +0.8**
RES IAmb IAmb 08 43 13.7
comp=Z,7.6nm,1.3s
AKASG Malin Array Be 49.41 50 P P **08 43 12.8 +0.8**
comp=Z,1.7nm,0.7s,baz=274,slow=7.3,SNR=5.8
AKASG LR LR 09 02 32.1
comp=Z,87nm,18.4s,baz=248,slow=34
comp=Z,1.7nm,0.7s
TBTG Tabatinga, AM 49.68 226 P P **08 43 14.2 -0.2**
TBTG IAmb IAmb 08 43 58.4
comp=Z,11nm,0.7s
BDFB Brasilia 51.11 194 P P **08 43 26.0 +0.8**
comp=Z,3.5nm,0.8s,baz=23,slow=7.0,SNR=4.1
comp=Z,3.5nm,0.8s
ETMB Extrema 52.30 218 P P **08 43 35.1 +1.0**
VILB Vilhena 52.31 209 P P **08 43 32.4 -1.7**
VILB IAmb IAmb 08 43 37.1
comp=Z,11nm,0.9s
AMTX Amarillo 52.56 290 P P **08 43 34.7 -1.4**
AMTX IAmb IAmb 08 43 43.1
comp=Z,5.3nm,0.9s
PTLB Pontes e Lacer 54.16 207 P P **08 43 48.7 +1.0**
CMIG Matias Romero 54.52 267 LR LR 09 03 14.4
comp=Z,55nm,21.5s,baz=58,slow=32
YKA Yellowknife Ar 54.52 326 P P **08 43 50.5 +0.6**
comp=Z,0.9nm,0.9s,baz=81,slow=7.3,SNR=10.0
comp=Z,0.9nm,0.9s
BRTR Keskin Array B 54.94 62 P P **08 43 54.1 +0.6**
comp=Z,0.5nm,0.8s,baz=314,slow=2.6,SNR=2.1
comp=Z,0.5nm,0.8s
PDAR Pinedale Array 55.89 302 P P **08 44 00.7 +0.3**
comp=Z,1.2nm,1.0s,baz=87,slow=7.6,SNR=6.8
PDAR LR LR 09 07 18.3
comp=Z,121nm,21.1s,baz=80,slow=35
comp=Z,1.2nm,1.0s
TXAR Lajitas Array 56.18 285 P P **08 44 03.4 +0.9**
comp=Z,2.0nm,1.0s,baz=92,slow=7.5,SNR=14
TXAR LR LR 09 06 59.7
comp=Z,122nm,19.6s,baz=62,slow=35
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 56.18 285 P P **08 44 03.8 +1.3**
TX31 Lajitas Ar. Si 56.18 285 P P **08 44 02.5 0.0**
TX31 IAmb IAmb 08 44 20.9
comp=Z,8.0nm,1.1s
TX32 Lajitas Array 56.18 285 P P **08 44 03.5 +1.0**
ANMO Albuquerque 56.22 292 LR LR 09 06 43.9
comp=Z,126nm,19.5s,baz=160,slow=35
LPAZ La Paz 58.79 216 P P **08 44 22.4 +0.9**
comp=Z,3.7nm,0.9s,baz=9.8,slow=7.2,SNR=9.8
LPAZ LR LR 09 07 47.8
comp=Z,71nm,18.7s,baz=68,slow=34
comp=Z,3.7nm,0.9s
LPAZ La Paz 58.79 216 P P **08 44 19.7 -1.8**
LPAZ IAmb IAmb 08 44 24.5
comp=Z,6.6nm,1.1s
DUG Dugway, Tooele 59.05 300 P P **08 44 20.7 -1.9**
DUG IAmb IAmb 08 44 30.4
comp=Z,4.8nm,1.4s
NEW Newport 59.23 310 LR LR 09 09 44.0
comp=Z,168nm,19.9s,baz=67,slow=36
KIRV Kirov 59.27 37 LR LR 09 07 58.0
comp=Z,72nm,18.4s,baz=293,slow=34
KBZ Khabaz 60.14 55 LR LR 09 11 26.2
comp=Z,19nm,18.3s,baz=78,slow=37
BELG Belogornoye 60.20 45 LR LR 09 09 52.2
comp=Z,163nm,18.3s,baz=333,slow=35
ELK Elko 60.57 301 LR LR 09 11 12.2
comp=Z,103nm,18.7s,baz=56,slow=36
INK Inuvik 60.80 335 P P **08 44 34.5 +0.5**
comp=Z,2.3nm,1.1s,baz=69,slow=5.3,SNR=3.1
INK LR LR 09 09 29.3
comp=Z,60nm,21.1s,baz=66,slow=35
comp=Z,2.3nm,1.1s
MNMC Minye Minye 61.94 216 P P **08 44 43.4 +0.8**
GO01 Chusmiza 62.21 215 P P **08 44 45.4 +0.8**
PB11 IPOC Station P 62.51 215 P P **08 44 46.8 +0.6**
PB11 IAmb IAmb 08 45 13.4
comp=Z,9.6nm,1.1s
DLBC Dease Lake 62.94 324 LR LR 09 11 43.0
comp=Z,232nm,19.2s,baz=70,slow=36
KVN Kaiserville 63.26 300 P P **08 44 50.8 -0.4**
KVN IAmb IAmb 08 45 02.2
comp=Z,6.2nm,1.3s
PB01 IPOC Station P 63.53 214 P P **08 44 54.2 +1.2**
PB01 IAmb IAmb 08 44 57.2
comp=Z,6.5nm,1.1s
NVAR Mina Array Bea 63.66 300 P P **08 44 54.0 +0.1**
comp=Z,0.8nm,0.8s,baz=75,slow=7.4,SNR=4.7
comp=Z,0.8nm,0.8s
LPIG La Paz 63.80 282 LR LR 09 11 14.7
comp=Z,49nm,20.1s,baz=50,slow=35
PB09 IPOC Station P 64.06 214 P P **08 44 57.6 +1.1**
PFO Pinyon Flats O 64.34 294 LR LR 09 10 59.7
comp=Z,85nm,20.9s,baz=98,slow=34
BBB Bella Bella 64.39 317 LR LR 09 11 39.3
comp=Z,85nm,21.7s,baz=60,slow=35
LVC Limon Verde 64.62 213 LR LR 09 10 02.2
comp=Z,69nm,20.4s,baz=176,slow=33
ARU Arti 64.64 38 LR LR 09 12 39.4
comp=Z,59nm,18.3s,baz=296,slow=36
YBH Yreka Blue Hor 65.35 305 LR LR 09 12 50.9
comp=Z,122nm,21.4s,baz=61,slow=35
BCAR Beaver Creek A 66.11 331 P P **08 45 07.7 -1.5**
AKTO Aktyubinsk 66.95 44 P P **08 45 16.1 +1.3**
comp=Z,2.4nm,0.6s,baz=306,slow=3.1,SNR=5.8
AKTO LR LR 09 14 08.9
comp=Z,55nm,18.2s,baz=338,slow=36
comp=Z,2.4nm,0.6s
ILAR Eielson Array 67.16 334 P P **08 45 16.2 +0.3**
comp=Z,0.6nm,1.1s,baz=54,slow=4.6,SNR=3.4
ILAR LR LR 09 13 46.0
comp=Z,50nm,20.7s,baz=68,slow=35
comp=Z,0.6nm,1.1s
BMRM Bremner River 68.34 330 P P **08 45 22.6 -0.9**
AC02 Maricunga 68.40 211 P P **08 45 23.8 -0.9**
AC02 IAmb IAmb 08 45 27.8
comp=Z,4.5nm,0.8s
ABKAR Akbulak array 68.60 44 P P **08 45 24.7 -0.5**
LCO Las Campanas 70.97 211 P P **08 45 39.7 -0.5**
CO01 Juntas del Tor 71.56 210 P P **08 45 42.6 -1.2**
CO01 IAmb IAmb 08 45 46.8
comp=Z,5.0nm,0.8s
MBAR Mbarara 71.86 104 LR LR 09 15 31.5
comp=Z,90nm,20.2s,baz=277,slow=34
CO03 El Pedregal 72.56 210 P P **08 45 49.9 +0.4**
CO03 IAmb IAmb 08 46 00.6
comp=Z,16nm,1.5s
KDAK Kodiak Island 73.51 330 LR LR 09 19 41.9
comp=Z,158nm,18.1s,baz=78,slow=37
TSUM Tsumeb 74.27 127 LR LR 09 16 48.4
comp=Z,57nm,18.6s,baz=334,slow=34
BO02 Sierra Bellavi 76.05 208 P P **08 46 08.7 -1.1**
ZALV Zalesovo Beam 78.39 31 LR LR 09 20 30.9
comp=Z,57nm,18.7s,baz=328,slow=35
UOSS Minazif 78.47 68 P P **08 46 21.8 -2.0**
UOSS IAmb IAmb 08 46 33.2
comp=Z,5.8nm,0.9s
BI05 Punta Hualpn 78.71 209 P P **08 46 23.9 -0.6**
LSZ Lusaka 79.01 117 LR LR 09 19 18.5
comp=Z,77nm,21.5s,baz=306,slow=34
AAK Ala-Archa 80.85 44 LR LR 09 21 19.8
comp=Z,38nm,19.2s,baz=339,slow=35
MKAR Makanchi Array 82.16 37 P P **08 46 43.4 +0.2**
comp=Z,0.4nm,0.7s,baz=320,slow=5.2,SNR=4.7
MKAR LR LR 09 22 27.0
comp=Z,83nm,19.0s,baz=324,slow=35
comp=Z,0.4nm,0.7s
LBTB Lobatse 83.62 126 LR LR 09 22 05.7
comp=Z,47nm,18.1s,baz=353,slow=34
SUR Sutherland 85.73 134 LR LR 09 20 06.7
comp=Z,55nm,19.1s,baz=332,slow=32
BOSA Boshof 85.84 129 LR LR 09 21 12.9
comp=Z,51nm,18.6s,baz=344,slow=33
MA2 Magadan 85.98 356 LR LR 09 23 32.7
comp=Z,37nm,20.2s,baz=51,slow=34
PETK Petropavlovsk- 91.78 351 LR LR 09 27 52.7
comp=Z,33nm,19.7s,baz=41,slow=35

*SOME **30** 08:47:47.8, 43˚.52N×69˚.62E*
*KRNET **30** 08:47:48.0±0.1, 43˚.62N×69˚.76E, mb2.7*
*NNC **30** 08:47:48.2±0.7, 43˚.41N×69˚.57E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=3.4km s-min=2.4km az=103.0, Suspected Mining explosion.*

ISC 30 08:47:51.9±2.8, 43˚.55N±0˚.07×69˚.8E±0˚.1, h0km, n15, σ1°55/22, 13C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KK31	**Karatay Array**	**0.67**	**132**	⇓P		**Pg**	**08 48 02.8 -1.9**
	3.5nm,0.3s,baz=295,slow=14,SNR=73						
KK31				⇑S		**Sg**	**08 48 13.5 +0.1**
	3.7nm,0.2s,baz=294,slow=30,SNR=30						
KKAR	**Karatay Array**	**0.67**	**132**	⇑*i*P		**Pg**	**08 48 02.6 -2.1**
	baz=33						
KKAR				⇑*i*S		**Sg**	**08 48 13.2 -0.2**
	baz=33						
TRKS	**Terek-Say**	**2.24**	**154**	⇑*i*P		**Pn**	**08 48 30.6 +0.2**
	baz=54						
TRKS				⇑*i*S		**Sb**	**08 49 01.8 +0.1**
	baz=54						
ARK	**Arkit**	**2.35**	**137**	⇑*i*P		**Pn**	**08 48 31.3 -0.7**
	baz=37						
ARK				⇑*i*S		**Sn**	**08 49 02.8 +1.2**
	baz=37						
EKS2	**Erkin-Say**	**3.02**	**106**	⇓*i*P		**Pn**	**08 48 40.3 -0.9**
	baz=7.0						
EKS2				⇓*i*S		**Sn**	**08 49 18.5 +0.3**
	baz=7.0						
AML	**Almayashu**	**3.18**	**115**	⇑*i*P		**Pn**	**08 48 42.7 -0.8**
	baz=16						
AML				⇑*i*S		**Sn**	**08 49 22.7 +0.4**
	baz=16						
BTLS	**Baital**	**3.38**	**62**	Pg		**Pg**	**08 48 54.5 -2.1**
	2.5nm,0.5s						
BTLS				Lg		Lg	08 49 42.0
	1.6nm,0.8s						
CHMS	**Chumysh**	**3.64**	**97**	⇓Pg		**Pb**	**08 48 59.0 +1.9**
	1.1nm,0.5s						
CHMS				⇑Lg		Lg	08 49 47.8
	3.9nm,0.5s						
ARLS	**Aral**	**3.72**	**115**	⇑*i*P		**Pn**	**08 48 50.2 -0.6**
	baz=16						
ARLS				⇑*i*S		**Sn**	**08 49 35.5 +0.2**
	baz=16						
KRBS	**Karabastau**	**4.25**	**86**	Pg		**Pb**	**08 49 09.1 +1.6**
	0.8nm,0.6s						
KRBS				Lg		Lg	08 50 07.3
	2.4nm,0.4s						
TKM2	**Tokmak 2**	**4.26**	**96**	⇓Pg		**Pb**	**08 49 08.7 +0.9**
	5.7nm,1.5s						
TKM2				⇑Lg		Lg	08 50 09.3
	2.7nm,0.5s						
DGS	**Degeres**	**4.34**	**92**	Pg		**Pb**	**08 49 11.6 +2.4**
	1.1nm,0.2s						
DGS				Lg		Lg	08 50 11.5
	4.0nm,0.5s						
KST	**Kastek**	**4.51**	**94**	Pg		**Pb**	**08 49 13.9 +1.9**
	1.0nm,0.5s						
KST				Lg		Lg	08 50 15.3
	4.5nm,0.6s						
KUU	**Kurty**	**4.73**	**84**	Pg		**Pb**	**08 49 18.0 +2.2**
	1.0nm,0.8s						
KUU				Lg		Lg	08 50 22.8
	2.3nm,0.4s						
KTBS	**Karatobe**	**4.98**	**86**	Pg		**Pb**	**08 49 22.8 +2.8**
	1.2nm,0.5s						
KTBS				Lg		Lg	08 50 30.7
	3.9nm,0.6s						

ROM 30 08:53:47.2±0.2, 37˚.660N±0˚.009×14˚.96E±0˚.02, h16km±2km, ML1.5/4, Error ellipse: s-maj=1.6km s-min=1.5km az=267.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
ESLN	**Serra La Nave**	**0.04**	**21**	P	Pg	08 53 49.8	-0.5
ESLN				S	Sg	08 53 52.5	+0.1
EMSG	**Monte Spagnolo**	**0.16**	**358**	P	Pg	08 53 51.4	-0.1
EMSG				S	Sb	08 53 55.3	+0.1
EMSG				AML	AML		
	comp=N,396μm,0.1s						
EPZF	**Pizzo Felice**	**0.18**	**334**	P	Pg	08 53 51.8	0.0
EPZF				S	Sb	08 53 56.2	+0.5
GALF	**Gagliano Caste**	**0.32**	**279**	P	Pb	08 53 54.2	-0.3
HLNI	**Lentini**	**0.32**	**192**	P	Pg	08 53 53.8	-0.1
HLNI				S	Sb	08 53 59.8	+0.3
HLNI				AML	AML		
	comp=N,74μm,0.1s						
HLNI				AML	AML		
	comp=E,149μm,0.1s						
AIO	**Antillo**	**0.38**	**35**	P	Pb	08 53 55.4	-0.3
AIO				AML	AML		
	comp=N,51μm,0.4s						
AIO				AML	AML		
	comp=E,32μm,0.2s						
HAGA	**Augusta**	**0.41**	**157**	P	Pg	08 53 55.5	+0.1
HAGA				S	Sb	08 54 02.5	+0.6
HAGA				AML	AML		
	comp=E,151μm,0.2s						
HAGA				AML	AML		
	comp=N,87μm,0.1s						

ROM 30 08:53:50.1±0.1, 42˚.992N±0˚.004×13˚.024E±0˚.006, h9km, ML2.2/7, 3C-2D, Error ellipse: s-maj=0.4km s-min=0.3km az=107.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
FDMO	**Fiordimonte**	**0.07**	**46**	P	Pg	08 53 52.3	+0.1
FDMO				S	Sg	08 53 53.7	0.0
FDMO				AML	AML		
	comp=N,282μm,0.4s						
FDMO				AML	AML		
	comp=E,320μm,0.1s						
FDMO				AML	AML		
	comp=N,282μm,1.6s						
T1219	**Muccia, Frazio**	**0.07**	**349**	P	Pg	08 53 52.4	+0.2
T1219				S	Sg	08 53 53.8	0.0
T1219				AML	AML		
	comp=E,104μm,0.1s						
T1219				AML	AML		
	comp=E,104μm,0.1s						
T1219				AML	AML		
	comp=N,186μm,0.3s						
T1219				AML	AML		
	comp=N,186μm,1.7s						
CESI	**CESI - Serrava**	**0.09**	**279**	⇑P	Pg	08 53 53.0	+0.5
CESI				S	Sg	08 53 54.8	+0.6
CESI				AML	AML		
	comp=N,102μm,0.2s						
CESI				AML	AML		
	comp=E,107μm,0.2s						
CESI				AML	AML		
	comp=E,107μm,1.8s						
T1220	**Camerino, Fraz**	**0.13**	**22**	⇑P	Pg	08 53 53.6	+0.5
T1220				S	Sg	08 53 56.1	+1.0
MC2	**Monte Cornacci**	**0.15**	**123**	P	Pg	08 53 54.1	+0.7
MC2				S	Sg	08 53 56.5	+0.8
T1215	**Vallo di Nera,**	**0.22**	**211**	⇓P	Pg	08 53 55.3	+0.7
T1215				S	Sg	08 53 59.0	+1.3
T1212	**Cascia, Frazio**	**0.24**	**176**	⇓P	Pg	08 53 55.4	+0.4
T1212				S	Sg	08 53 59.7	+1.4
EL6	**Elcito**	**0.34**	**10**	P	Pg	08 53 57.3	+0.4
EL6				S	Sb	08 54 03.3	-0.7
MOMA	**Monte Martano**	**0.38**	**241**	⇑P	Pn	08 54 00.8	-1.1
T1211	**Morro Reatino**	**0.47**	**195**	S	Sb	08 54 10.7	+2.9
T1211				AML	AML		
	comp=N,3728μm,0.6s						
T1211				AML	AML		
	comp=E,2665μm,1.2s						
T1211				AML	AML		
	comp=N,3728μm,1.4s						

*ISK **30** 08:54:51.8, 39˚.54N×26˚.14E, h6km, ML3.5/64*
*DDA **30** 08:54:52.5±0.0, 39˚.53N×26˚.18E, h8km, MW3.5*
*ATH **30** 08:54:53.2, 39˚.52N×26˚.12E, h14km±1km, ML3.2/10, Error ellipse: s-maj=2.2km s-min=0.8km az=258.0*
*THE **30** 08:54:53.7, 39˚.52N×26˚.05E, h14km±1km, ML3.2/7, Error ellipse: s-maj=1.5km s-min=0.5km az=246.0*

ISC 30 08:54:52.2±0.8, 39˚.53N±0˚.02×26˚.11E±0˚.02, h11km±5km, n120, σ0°98/145, 8C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KOCA	**Canakkale, Ayv**	**0.04**	**136**	P	Pg	**08 54 54.3**	**+0.1**
KOCA				*i* AML	AML	08 54 55.0	
	comp=N,7μm,0.3s						
KOCA				S	Sg	**08 54 55.7**	**0.0**
GPNR	**Gulpinar-Canak**	**0.07**	**164**	Pg	Pg	**08 54 54.2**	**-0.4**
BOZC	**Bozcaada**	**0.32**	**353**	Pg	Pg	**08 54 58.8**	**+0.2**
BOZC				Sg	Sg	**08 55 03.2**	**+0.3**
EZN	**Ezine**	**0.34**	**30**	Pg	Pg	**08 54 58.8**	**-0.3**
EZN				Sg	Sg	**08 55 03.6**	**0.0**
SIGR	**SIGRI**	**0.37**	**212**	P	Pg	**08 55 00.3**	**+0.8**
SIGR				S	Sb	**08 55 06.0**	**-0.6**
	6μm,0.5s						
SIGR	**SIGRI**	**0.37**	**212**	Pg	Pg	**08 54 59.9**	**+0.3**
SIGR				Sg	Sg	**08 55 05.9**	**-0.6**
SIGR	**SIGRI**	**0.37**	**212**	P	Pg	**08 55 00.3**	**+0.8**
SIGR				S	Sb	**08 55 06.0**	**-0.6**
SIGR				AML	AML	08 55 07.0	
	comp=N,17164μm,0.6s						
SIGR				AML	AML	08 55 08.4	
	comp=E,7333μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.40**	**58**	P	Pg	**08 54 59.7**	**-0.4**
BAYC				S	Sg	**08 55 04.7**	**-0.8**
ECEA	**Canakkale, Ece**	**0.52**	**6**	P	Pg	**08 55 02.5**	**+0.2**
ECEA				*i* AML	AML	08 55 10.0	
	comp=E,3μm,0.2s						
ECEA				S	Sg	**08 55 10.1**	**+0.9**
GADA	**Gvkgeada**	**0.68**	**346**	Pg	Pg	**08 55 05.3**	**-0.1**
BUHA	**Balikesir, Bur**	**0.75**	**92**	P	Pg	**08 55 06.3**	**-0.4**
BUHA				S	Sg	**08 55 16.2**	**-0.3**
DKL	**Dikili**	**0.77**	**126**	Pg	Pg	**08 55 06.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.91**	**18**	Pg	Pg	**08 55 09.5**	**-0.3**
ZEDA	**zmir-Bergama**	**0.94**	**126**	P	Pg	**08 55 10.0**	**-0.3**
ZEDA				S	Sn	**08 55 24.5**	**-0.2**
LPK	**Lapseki**	**0.98**	**31**	Pg	Pg	**08 55 10.6**	**-0.5**
SMTH	**Samothraki Isl**	**1.04**	**335**	P	Pg	**08 55 12.0**	**-0.2**
SMTH				S	Sn	**08 55 27.1**	**-0.2**
	comp=E,1μm,0.2s						
SMTH	**Samothraki Isl**	**1.04**	**335**	P	Pg	**08 55 12.2**	**0.0**
SMTH				S	Sb	**08 55 26.6**	**+0.7**
SMTH				AML	AML	08 55 28.4	
	comp=N,3123μm,0.2s						
SMTH				AML	AML	08 55 28.5	
	comp=E,2119μm,0.3s						
PSRA	**Psara**	**1.07**	**203**	P	Pn	**08 55 13.5**	**+0.4**
PSRA				S	Sb	**08 55 27.3**	**+0.6**
PSRA				AML	AML	08 55 32.0	
	comp=N,5687μm,0.3s						
PSRA				AML	AML	08 55 32.9	
	comp=E,6236μm,0.5s						
CHOS	**Chios island**	**1.14**	**182**	P	Pb	**08 55 13.9**	**-0.1**
CHOS				S	Sn	**08 55 30.0**	**+0.2**
	comp=E,2μm,0.3s						
CHOS	**Chios island**	**1.14**	**182**	Pn	Pg	**08 55 14.4**	**+0.3**
CHOS	**Chios island**	**1.14**	**182**	P	Pb	**08 55 13.8**	**-0.1**
CHOS				S	Sb	**08 55 28.8**	**0.0**
CHOS				AML	AML	08 55 34.4	
	comp=E,3537μm,0.3s						
CHOS				AML	AML	08 55 36.9	
	comp=N,2621μm,0.4s						
CAVK	**Edirne/Enez-Ca**	**1.16**	**2**	P	Pb	**08 55 13.7**	**-0.6**
CAVK				S	Sn	**08 55 30.6**	**+0.3**
ERIK	**Erikli-Kesan**	**1.18**	**15**	Pn	Pb	**08 55 14.0**	**-0.7**
ENEZ	**Enez**	**1.21**	**2**	Pn	Pn	**08 55 15.1**	**+0.1**
URLA	**Izmir**	**1.23**	**162**	Pn	Pn	**08 55 15.0**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.26**	**96**	P	Pn	**08 55 15.3**	**-0.4**
STEP				S	Sg	**08 55 32.5**	**-0.2**
KRBG	**Karabiga-Canak**	**1.26**	**46**	Pn	Pn	**08 55 15.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.32**	**66**	Pn	Pn	**08 55 16.8**	**+0.2**
BLCB	**Balcova**	**1.35**	**147**	P	Pb	**08 55 17.8**	**+0.2**
BLCB				S	Sn	**08 55 35.5**	**+0.5**
BLCB	**Balcova**	**1.35**	**147**	Pn	Pb	**08 55 17.7**	**+0.2**
ALN	**Alexandroupoli**	**1.37**	**358**	P	Pn	**08 55 17.4**	**+0.2**
ALN				S	Sn	**08 55 35.8**	**+0.4**
	comp=N,1μm,0.4s						
ALN	**Alexandroupoli**	**1.37**	**358**	Pn	Pb	**08 55 17.7**	**-0.1**
ALN	**Alexandroupoli**	**1.37**	**358**	P	Pn	**08 55 17.4**	**+0.2**
ALN				S	Sb	**08 55 34.7**	**-0.6**
ALN				AML	AML	08 55 37.3	
	comp=E,2358μm,0.3s						
ALN				AML	AML	08 55 37.4	
	comp=N,1688μm,0.4s						
BALB	**Balikesir**	**1.38**	**85**	Pn	Pn	**08 55 17.5**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.42**	**35**	Pn	Pn	**08 55 17.7**	**-0.3**
AKS	**Akhisar**	**1.48**	**116**	Pn	Pn	**08 55 19.3**	**+0.6**
THAS	**Thassos island**	**1.51**	**316**	P	Pn	**08 55 19.1**	**-0.1**
THAS				S	Sn	**08 55 38.6**	**-0.3**
	comp=N,418nm,0.3s						
THAS	**Thassos island**	**1.51**	**316**	P	Pn	**08 55 19.1**	**-0.1**
THAS				S	Sn	**08 55 38.2**	**-0.8**
THAS				AML	AML	08 55 42.4	
	comp=N,1010μm,0.3s						
THAS				AML	AML	08 55 42.8	
	comp=E,682μm,0.3s						
EDC	**Edincik**	**1.58**	**58**	Pn	Pn	**08 55 20.2**	**+0.1**
UKOP	**Uzunkopru-Edir**	**1.65**	**14**	Pn	Pn	**08 55 21.7**	**+0.6**
RDO	**Rodhopi**	**1.67**	**345**	P	Pn	**08 55 22.3**	**+0.9**
RDO				S	Sb	**08 55 44.0**	**-0.1**
	comp=E,268nm,0.3s						
RDO	**Rodhopi**	**1.67**	**345**	Pn	Pn	**08 55 22.1**	**+0.7**
RDO	**Rodhopi**	**1.67**	**345**	P	Pn	**08 55 21.8**	**+0.4**
RDO				S	Sn	**08 55 42.1**	**-0.8**
RDO				AML	AML	08 55 48.0	
	comp=E,540μm,0.3s						
RDO				AML	AML	08 55 50.5	
	comp=N,530μm,0.4s						
KYMI	**Kymi, Euboea I**	**1.80**	**241**	P	Pn	**08 55 23.0**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.80**	**241**	P	Pn	**08 55 23.0**	**-0.2**
OUR	**Ouranopolis**	**1.82**	**297**	P	Pn	**08 55 23.8**	**+0.4**
OUR				S	Sn	**08 55 45.8**	**-0.7**
	comp=N,525nm,0.5s						
OUR	**Ouranopolis**	**1.82**	**297**	Pn	Pn	**08 55 24.4**	**+1.0**
OUR	**Ouranopolis**	**1.82**	**297**	P	Pn	**08 55 23.9**	**+0.5**
OUR				S	Sn	**08 55 45.9**	**-0.6**
OUR				AML	AML	08 55 54.7	
	comp=E,1302μm,0.3s						
OUR				AML	AML	08 55 54.9	
	comp=N,680μm,0.6s						
SMG	**Samos**	**1.91**	**162**	P	Pn	**08 55 24.3**	**-0.3**
SMG	**Samos**	**1.91**	**162**	P	Pn	**08 55 24.4**	**-0.2**
SMG				S	Sn	**08 55 47.3**	**-1.3**
SMG				AML	AML	08 55 56.3	
	comp=E,1538μm,0.6s						
SMG				AML	AML	08 55 56.8	
	comp=N,1420μm,0.5s						
KAVA	**Kavala**	**1.91**	**321**	P	Pn	**08 55 25.0**	**+0.4**
KAVA	**Kavala**	**1.91**	**321**	P	Pn	**08 55 24.9**	**+0.2**
PAIG	**Paliouri**	**1.91**	**283**	P	Pn	**08 55 24.9**	**+0.2**
PAIG	**Paliouri**	**1.91**	**283**	P	Pn	**08 55 25.4**	**+0.7**
KVLA	**Kavala**	**1.93**	**317**	P	Pn	**08 55 25.6**	**+0.7**
CRLT	**Corlu**	**2.03**	**37**	Pn	Pn	**08 55 26.9**	**+0.6**
GCAM	**G?zelcaml?**	**2.03**	**154**	Pn	Pn	**08 55 27.2**	**+0.9**
KDZ	**Kurdzhali**	**2.18**	**346**	Pn	Pn	**08 55 29.3**	**+0.8**
ORLT	**Orhaneli**	**2.21**	**76**	Pn	Pn	**08 55 29.6**	**+0.7**
DION	**Dionisos Attik**	**2.23**	**230**	P	Pn	**08 55 29.9**	**+0.7**
KULA	**Kula-Manisa**	**2.23**	**116**	Pn	Pn	**08 55 29.4**	**+0.2**
XOR	**Xorichti**	**2.26**	**267**	P	Pn	**08 55 29.9**	**+0.3**
SMAA	**Simav-Kutahya**	**2.27**	**100**	Pn	Pn	**08 55 30.5**	**+0.8**
SIMA	**Simav-Kutahya**	**2.27**	**100**	Pn	Pn	**08 55 30.8**	**+1.0**
MDNY	**Mudanya-Bursa**	**2.29**	**68**	Pn	Pn	**08 55 30.8**	**+0.8**
SLVT	**Silivri**	**2.34**	**43**	Pn	Pn	**08 55 31.6**	**+1.0**
ARMT	**Armutlu**	**2.35**	**63**	Pn	Pn	**08 55 31.7**	**+0.9**
PHSR	**Pinarhisar**	**2.36**	**27**	Pn	Pn	**08 55 31.7**	**+0.8**
EDRB	**Edirne**	**2.37**	**12**	P	Pn	**08 55 31.0**	**0.0**
EDRB	**Edirne**	**2.37**	**12**	Pn	Pn	**08 55 31.5**	**+0.5**
SINB	**Sinanoba-Istan**	**2.37**	**51**	Pn	Pn	**08 55 32.1**	**+1.1**
SRS	**Serrai**	**2.49**	**310**	P	Pn	**08 55 33.4**	**+0.7**
SRS	**Serrai**	**2.49**	**310**	P	Pn	**08 55 32.7**	**-0.1**
SRS				S	Sn	**08 56 02.4**	**-0.7**

SRS				AML	AML	08 56 13.4	
	comp=N,262μm,0.6s						
SRS				AML	AML	08 56 15.7	
	comp=E,412μm,0.4s						
APE	**Apeiranthos**	**2.50**	**191**	⇓P	**Pn**	**08 55 30.2**	**-2.6**
APE	**Apeiranthos**	**2.50**	**191**	P	**Pn**	**08 55 32.7**	**-0.1**
GEMT	**Gemlik**	**2.54**	**68**	Pn	**Pn**	**08 55 33.7**	**+0.4**
HORT	**Hortiatis**	**2.54**	**296**	Pn	**Pn**	**08 55 34.7**	**+1.2**
HVHR	**Bakirkoy-Istan**	**2.54**	**55**	Pn	**Pn**	**08 55 34.3**	**+0.9**
CTYL	**Yalikoy Yolu**	**2.56**	**40**	Pn	**Pn**	**08 55 34.6**	**+1.0**
VILL	**Villia**	**2.57**	**239**	P	**Pn**	**08 55 33.2**	**-0.6**
MLSB	**Milas**	**2.59**	**149**	Pn	**Pn**	**08 55 34.7**	**+0.7**
GEDZ	**Gediz**	**2.61**	**100**	Pn	**Pn**	**08 55 35.5**	**+1.1**
BGKT	**Bogazkoy**	**2.62**	**50**	Pn	**Pn**	**08 55 35.3**	**+0.8**
BRGA	**Burgazada-Ista**	**2.64**	**58**	Pn	**Pn**	**08 55 35.7**	**+1.0**
BUYA	**Buyukada-Istan**	**2.67**	**59**	Pn	**Pn**	**08 55 36.1**	**+0.9**
KAVV	**Kandilli-Istan**	**2.73**	**55**	Pn	**Pn**	**08 55 36.9**	**+0.9**
ISK	**Istanbul-Kandi**	**2.73**	**55**	Pn	**Pn**	**08 55 36.9**	**+0.9**
YLVH	**Yalova**	**2.76**	**64**	Pn	**Pn**	**08 55 37.0**	**+0.6**
PLD	**Plovdiv**	**2.79**	**338**	Pn	**Pn**	**08 55 37.9**	**+1.2**
KLYT	**Kilyos**	**2.83**	**52**	Pn	**Pn**	**08 55 38.2**	**+0.9**
ADVT	**Abdulvahap**	**2.93**	**71**	Pn	**Pn**	**08 55 39.6**	**+0.9**
KNT	**Kendrikon**	**2.94**	**305**	P	**Pn**	**08 55 39.7**	**+0.8**
KNT	**Kendrikon**	**2.94**	**305**	Pn	**Pn**	**08 55 40.3**	**+1.4**
CAVI	**Cavuskoy**	**2.95**	**76**	Pn	**Pn**	**08 55 40.2**	**+1.1**
AGG	**Agios Georgios**	**2.97**	**261**	P	**Pn**	**08 55 40.0**	**+0.7**
AGG	**Agios Georgios**	**2.97**	**261**	Pn	**Pn**	**08 55 40.9**	**+1.6**
HRT	**Hereke**	**3.02**	**64**	Pn	**Pn**	**08 55 41.1**	**+1.1**
DAT	**Datca**	**3.03**	**157**	Pn	**Pn**	**08 55 41.6**	**+1.5**
SILT	**Sile**	**3.15**	**58**	Pn	**Pn**	**08 55 43.0**	**+1.2**
GRG	**Griva**	**3.17**	**298**	Pn	**Pn**	**08 55 43.7**	**+1.6**
TURN	**Turunc**	**3.22**	**148**	Pn	**Pn**	**08 55 44.3**	**+1.6**
APMY	**Acipayam-Deniz**	**3.24**	**128**	Pn	**Pn**	**08 55 43.9**	**+0.8**
DALY	**Dalyan (Mula)**	**3.37**	**143**	Pn	**Pn**	**08 55 46.4**	**+1.7**
ANX	**Ano Chora**	**3.39**	**255**	P	**Pn**	**08 55 44.9**	**-0.2**
KLV	**Kalavryta, Ach**	**3.43**	**246**	P	**Pn**	**08 55 46.4**	**+0.8**
SAUV	**Serdivan-Sakar**	**3.46**	**68**	Pn	**Pn**	**08 55 47.4**	**+1.5**
GULT	**Gulveren**	**3.50**	**74**	Pn	**Pn**	**08 55 48.0**	**+1.3**
SRCK	**Saricakaya, Es**	**3.52**	**80**	Pn	**Pn**	**08 55 48.2**	**+1.4**
SHUT	**Suhut-Afyon**	**3.59**	**104**	Pn	**Pn**	**08 55 49.4**	**+1.4**
VTS	**Vitosha**	**3.77**	**326**	⇑P	**Pb**	**08 55 55.5**	**-3.4**
PLVB	**Pleven**	**4.01**	**344**	⇑P	**Pb**	**08 56 05.8**	**+2.9**
BOVS	**Bovan**	**5.26**	**323**	⇑P	Pn	08 56 04.2	-6.6
CFR	**Carcaliu**	**5.84**	**14**	⇑P	**Pn**	**08 56 19.1**	**+0.4**
VOIR		**5.96**	**353**	⇑P	**Pn**	**08 56 21.4**	**+1.1**
MLR	**Muntele Rosu**	**5.96**	**359**	⇑P	**Pn**	**08 56 23.3**	**+2.9**
BISRR	**Bisoca**	**6.03**	**4**	⇓P	**Pn**	**08 56 19.2**	**-2.2**
COVR	**Voineasa-Covas**	**6.31**	**1**	⇓P	Pn	08 56 20.0	-5.2
PLOR	**Plostina**	**6.33**	**3**	⇑P	**Pn**	**08 56 21.0**	**-4.4**
VRI	**Vrincioaia**	**6.35**	**4**	⇓P	**Pn**	**08 56 28.2**	**+2.5**
GZR	**Gura Zlata**	**6.36**	**338**	⇑P	Pn	08 56 15.3	-11

IDC 30 09:02:12.6±2.5, 53°.59N×87°.10E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=23.3km s-min=13.5km az=78.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**286**	I	I	09 10 40.0	
	0.1nm,1.0s,baz=103,slow=332,SNR=8.2						
ZALV	**Zalesovo Beam**	**1.40**	**286**	Pg	Pn	09 02 38.0	-1.4
	0.8nm,0.3s,baz=102,slow=17,SNR=14						
ZALV				Lg	Lg	09 02 57.2	
	0.8nm,0.3s,baz=108,slow=28,SNR=9.6						
KURBB	**Kurchatov Arra**	**6.05**	**244**	Pn	Pn	09 03 44.4	+1.1
	baz=59,slow=13,SNR=4.5						
KURBB				Lg	Lg	09 05 22.9	
	baz=56,slow=32,SNR=2.0						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**7.47**	**206**	Pn	Pn	09 04 03.8	+1.0
	0.1nm,0.3s,baz=28,slow=13,SNR=5.4						
MKAR				Sn	Sn	09 05 29.1	+1.0
	0.1nm,0.3s,baz=29,slow=29,SNR=2.7						
MKAR				Lg	Lg	09 06 07.7	
	baz=28,slow=32						
	0.2nm,0.4s						

IDC 30 09:09:36.1±2.5, 53°.61N×86°.89E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=22.9km s-min=14.4km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**286**	I	I	09 16 55.0	
	baz=103,slow=333,SNR=10						
ZALV	**Zalesovo Beam**	**1.27**	**286**	Pg	Pg	09 09 59.2	-1.3
	0.8nm,0.3s,baz=103,slow=17,SNR=16						
ZALV				Lg	Lg	09 10 17.2	
	0.9nm,0.3s,baz=109,slow=30,SNR=18						
KURBB	**Kurchatov Arra**	**5.95**	**243**	Pn	Pn	09 11 07.0	+1.6
	baz=59,slow=14,SNR=4.0						
KURBB				Lg	Lg	09 12 44.9	
	baz=59,slow=28						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**7.43**	**205**	Pn	Pn	09 11 26.6	+0.9
	0.1nm,0.3s,baz=25,slow=11,SNR=4.6						
	0.4nm,0.7s						

IDC 30 09:10:16.4±3.0, 53°.51N×87°.87E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.5km s-min=14.9km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.86**	**285**	Pg	Pn	09 10 49.0	-0.6
	1.6nm,0.3s,baz=100,slow=14,SNR=9.9						
ZALV				Lg	Lg	09 11 16.1	
	5.4nm,0.3s,baz=104,slow=24,SNR=15						
I46RU	**ZALESOVO INFRA**	**1.86**	**285**	I	I	09 22 50.0	
	baz=98,slow=337,SNR=16						
KURBB	**Kurchatov Arra**	**6.44**	**247**	Pn	Pn	09 11 53.4	+1.0
	0.1nm,0.3s,baz=63,slow=14,SNR=4.4						
KURBB				Sn	Sn	09 13 05.8	-0.7
	baz=50,slow=21,SNR=1.4						
KURBB				Lg	Lg	09 13 39.9	
	0.1nm,0.3s,baz=60,slow=30,SNR=2.6						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	Pn	09 12 10.5	+1.9
	0.1nm,0.3s,baz=28,slow=14,SNR=5.7						
MKAR				Sn	Sn	09 13 33.5	-2.1
	baz=29,slow=28,SNR=7.4						
MKAR				Lg	Lg	09 14 18.2	
	0.1nm,0.3s,baz=30,slow=29,SNR=2.7						
	0.2nm,0.3s						

*SLM **30** 09:12:44.8±1.5, 37°.18N±0°.01×89°.78W±0°.03, h15km±4km, Md2.5/25, mb_Lg2.5/24(NEIC), ML3.0/32(NEIC), Error ellipse: s-maj=3.8km s-min=1.8km az=108.0*

NEIC 30 09:12:44.7±1.4, 37°.17N±0°.01×89°.79W±0°.03, h11km±5km, Error ellipse: s-maj=3.1km s-min=1.4km az=109.0, Cape Girardeau region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGM3	**Cape Girardeau**	**0.16**	**39**		Pg	09 12 48.6	+0.4
CGM3					Sg	09 12 51.2	+0.4
CGM3	**Cape Girardeau**	**0.16**	**39**	IAML		09 12 51.3	
	comp=E,12μm,0.1s						
CGM3				IAML		09 12 52.0	
	comp=N,5μm,0.1s						
MCIL	**McClure**	**0.26**	**61**		Pg	09 12 50.1	+0.1
MCIL					Sg	09 12 53.9	+0.3
GUAMO	**Guam**	**0.29**	**189**		Pg	09 12 50.7	+0.3
GUAMO					Sg	09 12 55.1	+0.8
MATM	**Matthews**	**0.42**	**160**		Pg	09 12 53.0	0.0
MATM					Sg	09 12 59.0	+0.5
DWDM	**Dogwood**	**0.44**	**148**		Pg	09 12 53.3	0.0
DWDM					Sg	09 12 59.5	+0.3
COKM	**Charter Oak**	**0.46**	**174**		Pg	09 12 53.6	-0.1
COKM					Sg	09 13 00.3	+0.4
CHRM	**Charleston**	**0.47**	**133**		Pg	09 12 53.7	-0.1
CHRM					Sg	09 12 60.0	+0.1
BRNM	**Bernie**	**0.48**	**201**		Pg	09 12 54.1	+0.1
BRNM					Sg	09 13 00.8	+0.4
KEWM	**Kewanee**	**0.50**	**162**		Pg	09 12 54.3	-0.1
PARMO	**Parma**	**0.51**	**177**		Pg	09 12 54.4	-0.2
PARMO					Sg	09 13 01.7	+0.4
PARMO	**Parma**	**0.51**	**177**	IAML		09 13 01.8	
	comp=E,2μm,0.3s						
PARMO				IAML		09 13 02.1	
	comp=N,768nm,0.2s						
HENM	**Henderson Moun**	**0.52**	**151**		Pg	09 12 54.7	-0.1
HENM					Sg	09 13 02.1	+0.5
MLDM	**Malden**	**0.56**	**191**		Pg	09 12 55.2	-0.2
MLDM					Sg	09 13 03.1	+0.2
CATM	**Catron**	**0.57**	**169**		Pg	09 12 55.5	-0.2
CATM					Sg	09 13 03.5	+0.3
BETM	**Bethany**	**0.60**	**202**		Pg	09 12 56.2	-0.1
BETM					Sg	09 13 04.6	+0.4
NMMO	**New Madrid**	**0.61**	**162**		Pg	09 12 56.3	-0.3
NMMO					Sg	09 13 04.7	+0.2
NMEM	**New Madrid Sch**	**0.62**	**165**		Pg	09 12 56.5	-0.1
MARMO	**Marston**	**0.65**	**172**		Pg	09 12 56.9	-0.3
MARMO					Sg	09 13 06.0	+0.3
PBMO	**Poplar Bluff**	**0.65**	**233**		Pg	09 12 57.1	-0.1
PBMO					Sg	09 13 05.8	+0.1
PBMO	**Poplar Bluff**	**0.65**	**233**	IAML		09 13 06.2	
	comp=E,257nm,0.2s						
PBMO				IAML		09 13 06.8	
	comp=N,245nm,0.1s						
TOPM	**Tallapoosa**	**0.65**	**187**		Pg	09 12 56.9	-0.3
WALK	**Watson Lake**	**0.66**	**163**		Pg	09 12 57.1	-0.3
S44A	**Carbondale**	**0.67**	**39**		Pg	09 12 57.2	-0.5
S44A				IAML		09 13 06.0	
	comp=E,1μm,0.1s						
S44A				IAML		09 13 06.1	
	comp=N,881nm,0.2s						
SIUC	**Southern Illin**	**0.70**	**40**		Pg	09 12 57.3	-1.0
SIUC	**Southern Illin**	**0.70**	**40**	IAML		09 13 06.7	
	comp=E,922nm,0.1s						
SIUC				IAML		09 13 07.6	
	comp=N,771nm,0.1s						
PGVM	**Portageville**	**0.71**	**176**		Pg	09 12 58.0	-0.4
PENMO	**Penman**	**0.73**	**170**		Pg	09 12 58.3	-0.5
PVMO	**Portageville**	**0.76**	**175**		Pg	09 12 58.8	-0.6
PVMO	**Portageville**	**0.76**	**175**	IAML		09 13 09.6	
	comp=E,685nm,0.5s						
POBM	**Portage Bay**	**0.77**	**173**		Pg	09 12 59.0	-0.5
HICK	**Hickman**	**0.77**	**145**		Sg	09 13 08.9	-0.7
HICK				IAML		09 13 09.9	
	comp=N,750nm,0.3s						
HICK	**Hickman**	**0.77**	**145**		Pg	09 12 59.1	-0.5
PPLM	**Point Pleasant**	**0.78**	**168**		Pg	09 12 59.3	-0.5
WADM	**Wardell**	**0.80**	**181**		Pg	09 12 59.6	-0.5
FLPT	**Flippin**	**0.85**	**154**		Pg	09 13 00.5	-0.5
WYBT	**Wynnburg**	**0.85**	**164**		Pg	09 13 00.7	-0.4
FMKY	**Fulgham**	**0.87**	**126**		Pg	09 13 00.6	-0.7
T45A	**Paducah**	**0.92**	**99**		Sg	09 13 12.8	-1.8
T45A				IAML		09 13 14.0	
	comp=N,383nm,0.6s						
T45A				IAML		09 13 16.2	
	comp=E,467nm,0.4s						
T45A	**Paducah**	**0.92**	**99**		Pg	09 13 01.5	-1.0
T45A	**Paducah**	**0.92**	**99**		Pg	09 13 01.0	-1.5
BRGM	**Braggadocio**	**0.97**	**184**		Pg	09 13 02.5	-0.7
GLAT	**Glass**	**0.99**	**156**		Pg	09 13 03.0	-0.7
GLAT				IAML		09 13 20.2	
	comp=N,295nm,0.2s						
GLAT				IAML		09 13 24.2	
	comp=E,304nm,0.1s						
T42A	**Van Buren**	**1.05**	**263**		Pb	09 13 04.1	-0.9
PEBM	**Pemiscott Bayo**	**1.06**	**183**		Pb	09 13 04.1	-0.9
PEBM	**Pemiscott Bayo**	**1.06**	**183**	IAML		09 13 20.4	
	comp=N,360nm,0.2s						
LNXT	**Lenox**	**1.09**	**167**		Pb	09 13 05.0	-0.6
LNXT				IAML		09 13 25.4	
	comp=N,333nm,0.2s						
LNXT				IAML		09 13 27.9	
	comp=E,416nm,0.3s						
UTMT	**University of**	**1.11**	**138**	Sg	Sb	09 13 18.8	-1.5
UTMT				IAML		09 13 24.3	
	comp=E,236nm,0.2s						
UTMT	**University of**	**1.11**	**138**		Pb	09 13 05.0	-0.9
GNAR	**Gosnell**	**1.22**	**189**	IAML		09 13 27.7	
	comp=N,304nm,0.2s						
CCM	**Cathedral Cave**	**1.46**	**308**		Pn	09 13 10.9	0.0
SLM	**Saint Louis**	**1.50**	**346**		Pn	09 13 10.7	-0.9
SLM				IAmb_Lg		09 13 33.2	
	comp=Z,23nm,0.8s						
LCAR	**Lake Charles**	**1.56**	**225**		Pn	09 13 12.3	0.0
HBAR	**Harrisburg**	**1.76**	**204**		Pn	09 13 15.7	+0.6
Q44A	**Meyer Farm, Va**	**1.83**	**19**	Pn	Pn	09 13 16.3	+0.2
Q44A				IAmb_Lg		09 13 44.2	
	comp=Z,30nm,0.8s						
USIN	**University of**	**1.86**	**64**		Pn	09 13 17.6	+1.1
WVT	**Waverly**	**1.89**	**123**		Pn	09 13 16.5	-0.3
WVT				IAmb_Lg		09 13 43.2	
	comp=Z,21nm,0.8s						
OLIL	**Olney**	**2.05**	**40**		Pn	09 13 19.2	+0.1
EBZ	**Ebenezer Churc**	**2.06**	**170**		Pb	09 13 21.0	-1.0
W45A	**Hickory Valley**	**2.07**	**166**		Pn	09 13 19.2	-0.2
T47A	**Sharon Grove**	**2.15**	**94**		Pn	09 13 21.4	+0.9
R40A	**Maddies Statio**	**2.26**	**300**		Pb	09 13 23.8	-1.7
FCAR	**Ozark Folk Cen**	**2.28**	**237**		Pn	09 13 23.1	+0.9
P43A	**Skaggs, Pawnee**	**2.47**	**5**	IAmb_Lg		09 14 07.6	
	comp=Z,17nm,0.8s						
PLAL	**Pickwick Lake**	**2.59**	**147**		Pb	09 13 30.6	-0.5
PWLA	**Pickwick Lake**	**2.59**	**147**		Pn	09 13 25.8	-0.8
OXF	**Oxford**	**2.67**	**173**	IAmb_Lg		09 14 07.7	
	comp=Z,20nm,1.1s						
WCI	**Wyandotte Cave**	**2.96**	**68**	Pn	Pn	09 13 32.3	+0.6
WCI				IAmb_Lg		09 14 20.4	
	comp=Z,17nm,1.0s						
UALR	**University of**	**3.17**	**222**	IAmb_Lg		09 14 31.5	
	comp=Z,12nm,0.9s						
U49A	**Red Boiling Sp**	**3.28**	**100**		Pn	09 13 38.6	+2.6
HDIL	**Hopedale**	**3.40**	**6**	IAmb_Lg		09 14 41.6	
	comp=Z,16nm,0.8s						
HHAR	**Hobbs**	**3.45**	**256**		Pn	09 13 40.4	+1.9
X48A	**Hartselle**	**3.51**	**140**	Pn	Pn	09 13 39.5	+0.3
P38A	**Dawn**	**3.83**	**311**	IAmb_Lg		09 14 43.6	
	comp=Z,14nm,1.2s						
MIAR	**Mount Ida**	**4.04**	**231**	IAmb_Lg		09 14 59.5	
	comp=Z,8.9nm,1.0s						
RLO	**Rose Lookout**	**4.33**	**258**	IAmb_Lg		09 15 12.2	
	comp=Z,11nm,1.2s						
WSNC	**Winespring Bal**	**5.40**	**110**		Pn	09 14 10.5	+5.1
KSU1	**Kansas State U**	**5.71**	**292**	IAmb_Lg		09 15 49.0	
	comp=Z,8.6nm,0.8s						
154A	**Montrose**	**7.13**	**128**		Pn	09 14 31.6	+2.7

*NNC **30** 09:15:23.0±2.2, 53°.63N×90°.60E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=18.9km s-min=14.6km az=28.0, Suspected Mining explosion.*

*IDC **30** 09:15:24.1±3.5, 53°.49N×90°.61E, h0km, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=28.4km s-min=23.3km az=61.0*

ISC 30 09:15:25.6±3.9, 53°.4N±0°.1×90°.5E±0°.2, h0km, n10, σ1°.22/11, 9C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.40**	**281**	I	I	09 38 40.0	
	baz=91,slow=342,SNR=3.1						
ZAA0	**Zalesovo Array**	**3.40**	**281**	⇑Pg	**Pb**	**09 16 25.2**	**-1.3**
	0.4nm,0.7s						
ZAA0				⇑Lg	Lg	09 17 14.0	
	2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**3.40**	**281**	Pn	**Pn**	**09 16 21.2**	**+1.5**
	0.8nm,0.3s,baz=100,slow=16,SNR=10						
ZALV				Lg	Lg	09 17 13.2	
	0.9nm,0.3s,baz=95,slow=27,SNR=3.7						
	0.7nm,0.3s						
KURK	**Kurchatov**	**7.79**	**254**	⇑Pn	**Pn**	**09 17 20.1**	**+0.1**
	2.4nm,1.2s						
KURK				⇑Sn	**Sn**	**09 18 49.6**	**+0.7**
	2.1nm,0.7s						
KURK				⇑Lg	Lg	09 19 37.5	
	11nm,1.4s						
KURBB	**Kurchatov Arra**	**7.88**	**254**	Pn	**Pn**	**09 17 21.4**	**+0.1**
	0.1nm,0.3s,baz=71,slow=15,SNR=2.5						
KURBB				Sn	**Sn**	**09 18 50.2**	**-0.9**
	baz=47,slow=21,SNR=2.2						
KURBB				Lg	Lg	09 19 37.2	
	baz=62,slow=30,SNR=2.3						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**7.88**	**254**	⇓Pn	**Pn**	**09 17 20.4**	**-0.9**
	2.0nm,0.8s						
KURBB				⇑Sn	**Sn**	**09 18 53.3**	**+2.2**
	10nm,0.8s						
KURBB				⇑Lg	Lg	09 19 40.2	
	30nm,1.3s						
MK31	**Makanchi Array**	**8.47**	**222**	⇑Pn	**Pn**	**09 17 30.4**	**+1.0**
	0.6nm,0.7s,baz=36,slow=12,SNR=5.4						
MK31				⇑Lg	Lg	09 19 55.8	
	3.5nm,1.0s,baz=43,slow=29,SNR=3.7						
MKAR	**Makanchi Array**	**8.47**	**222**	Pn	**Pn**	**09 17 29.6**	**+0.2**
	0.1nm,0.3s,baz=35,slow=13,SNR=5.5						
MKAR				Sn	**Sn**	**09 19 05.8**	**+0.1**
	0.1nm,0.3s,baz=33,slow=20,SNR=1.4						
MKAR				Lg	Lg	09 19 56.1	
	baz=43,slow=26						
	0.2nm,0.3s						
MAKZ	**Makanchi**	**8.58**	**223**	⇓Lg	Lg	09 20 02.1	
	3.5nm,1.2s						
I34MN	**SONGINO INFRAS**	**11.58**	**113**	I	I	10 25 30.0	
	baz=308,slow=328,SNR=1.2						

WEL 30 09:17:33.7±0.3, 42°.5S±3°.1×17°.4E±°, h12km, M2.8/19, ML3.0/24, MLv2.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=133.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.29**	**256**	P	Pb	09 17 40.5	-0.3
KHZ				S	Sg	09 17 44.6	+0.9
BSWZ	**Blackbirch Sta**	**0.63**	**357**	P	Pb	09 17 46.7	0.0
BSWZ				S	Sb	09 17 55.4	-0.1
GVZ	**Greta Valley S**	**0.90**	**226**	P	Pn	09 17 52.2	-0.1
THZ	**Tophouse**	**0.95**	**307**	P	Pg	09 17 51.5	-0.6
THZ				S	Sb	09 18 05.0	+0.1
TCW	**Tory Channel**	**1.17**	**13**	P	Pb	09 17 55.4	-0.4
NNZ	**Nelson**	**1.20**	**340**	P	Pn	09 17 55.8	-0.5
NNZ				S	Sn	09 18 12.5	0.0
WEL	**Wellington**	**1.24**	**31**	P	Pn	09 17 56.8	0.0
AMCZ	**Amberley**	**1.25**	**228**	P	Pn	09 17 56.7	-0.3
PLWZ	**Palliser**	**1.26**	**52**	P	Pn	09 17 56.9	-0.3
PLWZ				S	Sg	09 18 14.4	0.0
MRNZ	**Matariki Terra**	**1.28**	**317**	P	Pn	09 17 57.4	-0.1
LTZ	**Lake Taylor**	**1.29**	**250**	P	Pn	09 17 57.4	-0.3
PAWZ	**Paruwai Farm**	**1.48**	**50**	P	Pn	09 17 59.7	-0.5
TKNZ	**Takaka Hill**	**1.50**	**331**	P	Pn	09 18 00.6	+0.1
CAW	**Cannon Point**	**1.51**	**35**	P	Pn	09 18 00.3	-0.2
OKCZ	**Okains Bay**	**1.51**	**204**	P	Pn	09 18 00.6	-0.1
DUWZ	**D'Urville Isla**	**1.54**	**0**	P	Pn	09 18 01.1	0.0
TRWZ	**Traveller**	**1.62**	**55**	P	Pn	09 18 01.5	-0.7
MQZ	**McQueen's Vall**	**1.65**	**214**	P	Pn	09 18 01.5	-0.9
KIW	**Kapiti Island**	**1.66**	**27**	P	Pn	09 18 02.6	0.0
MTW	**Mount Morrison**	**1.68**	**45**	P	Pn	09 18 02.1	-0.7
DSZ	**Denniston Nort**	**1.69**	**290**	P	Pn	09 18 03.5	+0.5
AKCZ	**Akaroa Harbour**	**1.69**	**206**	P	Pn	09 18 02.9	-0.2
OXZ	**Oxford**	**1.70**	**234**	P	Pn	09 18 02.2	-1.0
OGWZ	**Otaki Gorge**	**1.79**	**32**	P	Pn	09 18 04.2	-0.3
QRZ	**Quartz Range**	**1.84**	**325**	P	Pn	09 18 05.8	+0.6
INZ	**Inchbonnie**	**1.87**	**258**	P	Pn	09 18 05.6	+0.1
HOWZ	**Holdsworth Sta**	**1.88**	**40**	P	Pn	09 18 05.0	-0.6
RACZ	**Rakaia**	**1.90**	**223**	P	Pn	09 18 05.2	-0.8
TMWZ	**Te Maipa**	**1.93**	**51**	P	Pn	09 18 05.5	-0.9
MRZ	**Mangatainoka R**	**2.09**	**37**	P	Pn	09 18 07.9	-0.7
WACZ	**Wakanui South**	**2.21**	**223**	P	Pn	09 18 09.4	-0.7
BFZ	**Birch Farm**	**2.41**	**47**	P	Pn	09 18 11.6	-1.4
WVZ	**Waitaha Valley**	**2.46**	**252**	P	Pn	09 18 14.4	+0.8
RPZ	**Rata Peaks**	**2.51**	**236**	P	Pn	09 18 13.7	-0.7
ARCZ	**Arundel**	**2.57**	**231**	P	Pn	09 18 14.4	-0.8
WAZ	**Wanganui**	**2.71**	**18**	P	Pn	09 18 16.6	+1.5
TMZ	**Timaru**	**2.94**	**225**	P	Pn	09 18 19.8	-0.6
KHEZ	**Kahui Hut**	**3.05**	**1**	P	Pb	09 18 25.3	-2.7
NBEZ	**Newall Road No**	**3.08**	**359**	P	Pb	09 18 28.1	-0.3
PKE	**Pukeiti**	**3.15**	**1**	P	Pn	09 18 25.4	+2.2
FOZ	**Fox Glacier**	**3.24**	**247**	P	Pn	09 18 24.6	+0.3
WNVZ	**Wahianoa**	**3.27**	**23**	P	Pn	09 18 25.4	+0.4
VRZ	**Vera Road**	**3.28**	**11**	P	Pn	09 18 26.2	+1.3
TUVZ	**Tukino**	**3.34**	**24**	P	Pn	09 18 26.5	+0.5
OTVZ	**Oturere**	**3.44**	**23**	P	Pn	09 18 27.8	+0.5
NNVZ	**North Ngauruho**	**3.46**	**22**	P	Pn	09 18 28.3	+0.7
ETVZ	**East Tongariro**	**3.48**	**24**	P	Pn	09 18 28.2	+0.4
TMVZ	**Te Maari**	**3.50**	**23**	P	Pn	09 18 28.1	0.0
NTVZ	**North Tongariro**	**3.51**	**23**	P	Pn	09 18 28.5	+0.4
ODZ	**Otahua Downs**	**3.59**	**220**	P	Pn	09 18 28.4	-0.8
HIZ	**Hauiti**	**3.90**	**11**	P	Pn	09 18 34.4	+1.1
CNGZ	**Carnagh Statio**	**5.06**	**42**	P	Pn	09 18 51.9	+2.5
AWAZ	**Awhitu Peninsu**	**5.30**	**6**	P	Pn	09 18 53.9	+1.1
MKAZ	**Moumakai**	**5.32**	**11**	P	Pn	09 18 53.2	+0.2

**IDC 30 09:29:17.2±999.0, 51°.16N×44°.96E, h0km, Error ellipse: s-maj=1203.0km s-min=164.1km az=87.0

KURBB	**Kurchatov Arra**	**2.29**	**120**	⇓Pg		**Pb**	**09 37 29.8**	**-0.4**	
	2.0nm,0.4s,baz=305,slow=18								
KURBB				⇑Lg		Lg	09 37 59.8		
	13nm,0.6s,baz=309,slow=29								
KURK	**Kurchatov**	**2.29**	**117**	⇑Pg		**Pb**	**09 37 29.7**	**-0.4**	
	4.2nm,1.0s								
KURK				⇑Lg		Lg	09 37 58.5		
	4.4nm,0.8s								
BVA0	**Borovoye Array**	**3.32**	**294**	⇓Pg		**Pg**	**09 37 51.5**	**0.0**	
	3.1nm,1.1s								
BVA0				⇓Lg		Lg	09 38 35.5		
	5.4nm,1.0s,baz=117,slow=27,SNR=4.4								
BVAR	**Borovoye Array**	**3.32**	**294**	Pg		**Pb**	**09 37 47.8**	**0.0**	
	baz=110,slow=16,SNR=3.9								
BVAR				Lg		Lg	09 38 34.2		
	0.1nm,0.3s,baz=115,slow=26,SNR=6.3								
BRVK	**Borovoye**	**3.39**	**294**	⇑Pg		**Pg**	**09 37 52.3**	**-0.7**	
	3.5nm,1.1s								
BRVK				⇑Lg		Lg	09 38 36.0		
	4.5nm,0.9s								
I46RU	**ZALESOVO INFRA**	**6.08**	**66**	I		I	10 13 20.0		
	baz=252,slow=333,SNR=12								
ZALV	**Zalesovo Beam**	**6.08**	**66**	Pn		**Pn**	**09 38 19.7**	**+0.5**	
	0.1nm,0.3s,baz=251,slow=17,SNR=2.1								
	0.3nm,0.4s								
MAKZ	**Makanchi**	**6.58**	**137**	⇑Lg		Lg	09 40 18.4		
	2.7nm,1.1s								
MK31	**Makanchi Array**	**6.73**	**135**	⇑Lg		Lg	09 40 21.4		
	0.7nm,0.6s,baz=322,slow=26,SNR=5.1								
MKAR	**Makanchi Array**	**6.73**	**135**	Pn		**Pn**	**09 38 28.8**	**+0.7**	
	baz=316,slow=12,SNR=2.8								
MKAR				Lg		Lg	09 40 16.5		
	0.1nm,0.3s,baz=328,slow=24,SNR=7.6								
	0.2nm,0.5s								

DJA ***30*** *09:39:26.8±0.3,9°S±4°×12°2E±°,h42km±17km,M4.4/11, mb5.7/3,mb4.3/5,MLv4.3/11,Mw(mB)5.2/3*

IDC ***30*** *09:39:28.6±0.8,8.78S×122.68E,h122km±13km,mb3.6/5, mbtmp3.9/8,MS2.6/3,Error ellipse: s-maj=118.1km s-min=10.9km az=53.0*

ISC 30 09:39:25.7±0.8,9°25S±0°.06×122°.00E±0°.05,h100km,n22, σ1s78/23,mb4.0/5,Savu Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.66**	**21**	P		**Pn**		**09 39 40.4**	**-2.4**
BASI	**Baing, Sumba**	**1.70**	**236**	P		**Pn**		**09 39 54.2**	**-0.3**
BATI	**Baumata**	**1.89**	**120**	P		**Pn**		**09 40 00.2**	**+3.3**
	342nm,0.5s,baz=317,slow=1.8,SNR=20								
BATI				S		**Sn**		**09 40 21.8**	**+1.1**
	356nm,0.5s,baz=173,slow=19,SNR=7.6								
BATI				LR		LR		09 40 36.3	
	comp=Z,78nm,18.7s,baz=330,slow=39								
BATI	**Baumata**	**1.89**	**120**	P		**Pn**		**09 39 58.2**	**+1.3**
SOEI	**Soe**	**2.29**	**103**	P		**Pn**		**09 40 03.2**	**+1.0**
BSSI	**Bau Bau, Buton**	**3.44**	**334**	P		**Pn**		**09 40 18.2**	**+0.8**
PLAI	**Plampang**	**4.20**	**275**	P		**Pn**		**09 40 29.1**	**+1.5**
PLAI				S		**Sn**		**09 41 15.7**	**+0.1**
BKSI	**Bulukumba**	**4.33**	**334**	P		**Pn**		**09 40 30.0**	**+0.6**
KAPI	**Kappang**	**4.77**	**332**	P		**Pn**		**09 40 37.2**	**+1.8**
	44nm,0.5s,baz=153,slow=8.1,SNR=24								
KAPI				S		**Sn**		**09 41 32.9**	**+3.5**
	13nm,0.6s,baz=256,slow=22,SNR=1.4								
KAPI				LR		LR		09 43 06.7	
	comp=Z,24nm,18.5s,baz=150,slow=46								
TWSI	**Taliwang, Sumb**	**5.09**	**275**	P		**Pn**		**09 40 41.4**	**+1.8**
	71nm,0.7s,3μm0.5nm								
SPSI	**Sidrap Palu**	**5.70**	**337**	P		**Pn**		**09 40 49.6**	**+1.6**
	18nm,1.3s,0.1nm								
WRA	**Warramunga Arr**	**15.97**	**133**	P		**Pn**		**09 43 03.0**	**-1.8**
	0.6nm,0.5s,baz=306,slow=13,SNR=6.2								
WRA				S		Sn		09 45 48.7	-13
	7.0nm,0.7s,baz=307,slow=22,SNR=12								
WRA				LR		LR		09 48 46.9	
	comp=Z,46nm,20.6s,baz=293,slow=35								
ASAR	**Alice Springs**	**18.30**	**143**	P		**Pn**		**09 43 34.5**	**+1.4**
	0.9nm,0.4s,baz=321,slow=13,SNR=40								
ASAR				S		S		09 46 43.9	-12
	0.8nm,0.7s,baz=313,slow=21,SNR=5.7								
CMAR	**Chiang Mai Arr**	**35.72**	**320**	LR		LR		10 03 34.0	
	comp=Z,10nm,18.0s,baz=280,slow=40								
SONM	**Songino Array**	**58.50**	**348**	P		**P**		**09 49 10.6**	**-1.0**
	0.4nm,0.5s,baz=178,slow=5.1,SNR=2.6								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**66.07**	**331**	P		**P**		**09 50 01.6**	**-0.3**
	1.5nm,0.5s,baz=138,slow=7.3,SNR=21								
	1.5nm,0.5s								
AAK	**Ala-Archa**	**67.41**	**324**	P		**P**		**09 50 12.9**	**+2.2**
	1.0nm,0.6s,baz=190,slow=6.1,SNR=3.9								
	1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**70.37**	**338**	P		**P**		**09 50 27.4**	**-1.2**
	1.5nm,0.5s,baz=142,slow=4.2,SNR=7.6								
	1.5nm,0.5s								
KURBB	**Kurchatov Arra**	**70.54**	**332**	P		**P**		**09 50 28.9**	**-0.8**
	0.3nm,0.3s,baz=143,slow=5.8,SNR=5.1								
	0.3nm,0.3s								
TROLL	**Troll, Antarti**	**89.95**	**196**	P		P		09 52 20.2	+6.5
SNAA	**Sanae**	**91.54**	**195**	P		**P**		**09 52 19.1**	**-1.9**
VNA2	**Neumayer--Watz**	**93.16**	**195**	P		**P**		**09 52 27.0**	**-1.4**
	baz=63,slow=13								

IDC 30 09:40:08.4±2.6,54°30N×86°16E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=19.3km s-min=11.7km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**247**	I		I		09 45 00.0	
	baz=65,slow=342,SNR=24								
ZALV	**Zalesovo Beam**	**0.86**	**247**	Pg		Pg		09 40 23.3	-1.6
	0.8nm,0.3s,baz=68,slow=17,SNR=12								
ZALV				Lg		Lg		09 40 37.8	
	3.2nm,0.3s,baz=67,slow=27,SNR=16								
KURBB	**Kurchatov Arra**	**5.94**	**235**	Pn		Pn		09 41 38.2	+0.6
	0.1nm,0.3s,baz=50,slow=13,SNR=4.4								
KURBB				Lg		Lg		09 43 18.6	
	0.1nm,0.3s,baz=55,slow=29,SNR=2.0								
	0.7nm,0.3s								
MKAR	**Makanchi Array**	**7.90**	**200**	Pn		Pn		09 42 06.0	+1.4
	0.2nm,0.3s,baz=23,slow=13,SNR=7.0								
MKAR				Sn		Sn		09 43 37.7	+3.1
	0.1nm,0.3s,baz=28,slow=28,SNR=3.2								
MKAR				Lg		Lg		09 44 17.7	
	baz=29,slow=31,SNR=4.8								
	0.3nm,0.3s								

IDC ***30*** *09:51:04.5±1.4,37°.64N×15°.25E,h0km,mb3.7/3, mbtmp3.6/8,ML3.5/5,MS3.4/2,Error ellipse: s-maj=30.3km s-min=12.8km az=154.0*

BEO ***30*** *09:51:06.7±1.2,37°.98N×14°.41E,h0km,ML3.9/4*

ROM ***30*** *09:51:07.7±0.1,37°.674N±0°.004×14°.989E±0°.008, h19km±1km,ML3.6/61,Error ellipse: s-maj=0.6km s-min=0.3km az=109.0*

ISC 30 09:51:07.2±0.8,37°.68N±0°.02×14°.99E±0°.02,h18km±2km, n101,σ1s25/115,mb3.9/3,11C-22D,Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.02**	**324**	⇓P		**Pg**		**09 51 10.6**	**-0.1**
ESLN				S		**Sg**		**09 51 12.6**	**-0.5**
ESLN				AML		AML			
	comp=N,88800μm,0.4s								
ESLN				AML		AML			
	comp=E,95550μm,0.5s								
ESML	**S. M. di Licod**	**0.11**	**237**	⇓P		**Pg**		**09 51 10.8**	**-0.2**
ESML				S		**Sg**		**09 51 13.8**	**+0.3**
ESML				AML		AML			
	comp=E,74850μm,0.2s								
ESML				AML		AML			
EMSG	**Monte Spagnolo**	**0.15**	**348**	⇑P		**Pg**		**09 51 12.0**	**+0.4**
EMSG				S		**Sg**		**09 51 15.8**	**+1.2**
EMSG				AML		AML			
EMSG				AML		AML			
EPOZ	**Pozzillo**	**0.18**	**156**	⇓P		**Pg**		**09 51 12.9**	**+1.0**
EPOZ				S		**Sg**		**09 51 17.6**	**+2.6**
EPOZ				AML		AML			
	comp=E,83850μm,0.7s								
EPOZ				AML		AML			
	comp=N,69100μm,0.6s								
EPOZ				AML		AML			
	comp=N,69100μm,1.4s								
EPZF	**Pizzo Felice**	**0.18**	**324**	⇑P		**Pg**		**09 51 12.2**	**+0.2**
EPZF				S		**Sg**		**09 51 16.7**	**+1.4**
EPZF				AML		AML			
	comp=E,52150μm,0.4s								
EPZF				AML		AML			
EPZF				AML		AML			
EPZF				AML		AML			
	comp=E,52150μm,1.6s								
GALF	**Gagliano Caste**	**0.34**	**276**	⇓P		**Pg**		**09 51 14.8**	**+0.4**
GALF				AML		AML			
	comp=N,32250μm,0.6s								
GALF				AML		AML			
	comp=E,37450μm,0.5s								
GALF				AML		AML			
	comp=N,32250μm,1.4s								
HLNI	**Lentini**	**0.34**	**196**	⇓P		**Pg**		**09 51 14.4**	**0.0**
HLNI				S		**Sb**		**09 51 20.1**	**+0.3**
HLNI				AML		AML			
	comp=N,20100μm,1.6s								
HLNI				AML		AML			
	comp=E,20250μm,1.3s								
HLNI				AML		AML			
	comp=E,20250μm,0.7s								
HLNI				AML		AML			
	comp=N,20100μm,0.4s								
MNO	**Monte Soro**	**0.35**	**318**	⇑P		**Pg**		**09 51 15.2**	**+0.6**
MNO				S		**Sb**		**09 51 21.4**	**+1.2**
MNO				AML		AML			
	comp=N,34450μm,0.7s								
MNO				AML		AML			
	comp=N,34450μm,1.3s								
MNO				AML		AML			
	comp=E,24450μm,0.5s								
AIO	**Antillo**	**0.35**	**33**	⇓P		**Pb**		**09 51 15.5**	**+0.5**
AIO				S		**Sb**		**09 51 21.7**	**+1.5**
AIO				AML		AML			
	comp=E,10310μm,1.5s								
AIO				AML		AML			
	comp=N,14500μm,0.9s								
AIO				AML		AML			
	comp=E,10310μm,0.5s								
NOV	**Novara**	**0.37**	**18**	⇓P		**Pb**		**09 51 15.8**	**+0.5**
NOV				AML		AML			
	comp=E,26500μm,0.7s								
NOV				AML		AML			
	comp=N,18250μm,0.5s								
NOV				AML		AML			
	comp=E,26500μm,1.3s								
CAGR	**Agira**	**0.39**	**262**	P		**Pb**		**09 51 16.5**	**+0.8**
CAGR				AML		AML			
	comp=E,25750μm,0.8s								
CAGR				AML		AML			
	comp=N,28500μm,0.7s								
CAGR				AML		AML			
	comp=E,25700μm,0.6s								
CAGR				AML		AML			
	comp=E,25700μm,1.4s								
HAGA	**Augusta**	**0.41**	**161**	⇑P		**Pg**		**09 51 16.0**	**+0.3**
HAGA				S		**Sb**		**09 51 23.1**	**+1.2**
HAGA				AML		AML			
	comp=E,20800μm,0.4s								
HAGA				AML		AML			
	comp=N,23550μm,0.4s								
MSFR	**San Fratello**	**0.48**	**319**	⇑P		**Pg**		**09 51 17.2**	**+0.3**
MSFR				S		**Sb**		**09 51 24.9**	**+1.1**
MSFR				AML		AML			
	comp=E,7280μm,1.3s								
MSFR				AML		AML			
	comp=N,5315μm,1.4s								
MSFR				AML		AML			
	comp=E,7280μm,0.7s								
VAE	**Valguarnera**	**0.50**	**247**	Pg		**Pb**		**09 51 18.8**	**+1.4**
	comp=E,60nm,0.3s,baz=153,slow=12,SNR=86								
MEU	**Monte Lauro**	**0.58**	**185**	P		**Pb**		**09 51 18.5**	**-0.2**
MEU				S		**Sg**		**09 51 27.5**	**+1.0**
MEU				AML		AML			
	comp=E,23150μm,0.8s								
MEU				AML		AML			
	comp=N,23300μm,0.5s								
MEU				AML		AML			
	comp=E,23150μm,1.2s								
MILZ	**Milazzo**	**0.62**	**18**	⇓P		**Pb**		**09 51 20.0**	**+0.6**
MILZ				AML		AML			
	comp=N,8675μm,0.6s								
MILZ				AML		AML			
	comp=E,7190μm,0.4s								
RAFF	**Raffo Rosso**	**0.67**	**228**	⇓P		**Pb**		**09 51 20.4**	**0.0**
RAFF				S		**Sn**		**09 51 31.8**	**-0.1**
RAFF				AML		AML			
	comp=E,13250μm,0.6s								
RAFF				AML		AML			
	comp=N,13100μm,0.5s								
RAFF				AML		AML			
	comp=N,13100μm,1.5s								
VPL	**Vulcano Piano**	**0.70**	**360**	⇓P		**Pb**		**09 51 21.4**	**+0.6**
VPL				AML		AML			
	comp=N,36900μm,0.4s								
VPL				AML		AML			
	comp=E,33750μm,0.4s								
PETRA	**Petralia Sopra**	**0.71**	**283**	⇑P		**Pb**		**09 51 21.6**	**+0.4**
PETRA				AML		AML			
	comp=E,4025μm,0.8s								
PETRA				AML		AML			
	comp=N,4850μm,0.6s								
PETRA				AML		AML			
	comp=E,4025μm,1.2s								
MSRU	**Castanea**	**0.71**	**35**	⇓P		**Pb**		**09 51 21.6**	**+0.5**
MSRU				AML		AML			
	comp=E,6385μm,1.0s								
MSRU				AML		AML			
	comp=N,5090μm,1.1s								
MSRU				AML		AML			
	comp=E,6385μm,1.0s								
HMDC	**Modica**	**0.74**	**193**	⇑P		**Pb**		**09 51 21.2**	**-0.2**
HMDC				S		**Sg**		**09 51 32.8**	**+1.3**
HMDC				AML		AML			
	comp=E,22350μm,0.3s								
HMDC				AML		AML			
	comp=N,14850μm,0.5s								
HMDC				AML		AML			
	comp=N,14850μm,1.5s								
PLLN	**Pollina**	**0.74**	**295**	P		**Pg**		**09 51 22.2**	**+0.5**
PLLN				AML		AML			
	comp=N,10600μm,0.5s								
PLLN				AML		AML			
	comp=E,13300μm,1.1s								
PLLN				AML		AML			
	comp=N,10600μm,1.5s								
RESU	**Resuttano**	**0.74**	**268**	⇓P		**Pg**		**09 51 22.7**	**+1.0**
RESU				AML		AML			
	comp=N,4620μm,0.9s								
RESU				AML		AML			
	comp=E,3230μm,0.6s								
LLI	**Lipari**	**0.77**	**358**	⇓P		**Pg**		**09 51 22.8**	**+0.6**
LLI				AML		AML			
	comp=E,15150μm,0.8s								
LLI				AML		AML			
	comp=E,15150μm,1.2s								
LLI				AML		AML			
	comp=N,21050μm,1.6s								
CSLB	**Castelbuono**	**0.78**	**290**	⇑P		**Pb**		**09 51 22.4**	**+0.1**
CSLB				AML		AML			
	comp=N,1750μm,0.5s								
CSLB				AML		AML			
	comp=N,1750μm,1.5s								
CSLB				AML		AML			
	comp=E,1595μm,0.5s								
GIB	**Gibilmanna**	**0.82**	**293**	P		**Pb**		**09 51 23.2**	**+0.2**
GIB				AML		AML			
	comp=N,8320μm,0.6s								
GIB				AML		AML			
	comp=E,7840μm,0.8s								
GMB	**Gambarie**	**0.82**	**53**	⇓P		**Pg**		**09 51 24.0**	**+0.6**
GMB				AML		AML			
	comp=N,18250μm,0.5s								
GMB				AML		AML			
	comp=N,18250μm,1.5s								
GMB				AML		AML			
	comp=E,13850μm,1.0s								
MSCL	**Scilla**	**0.84**	**49**	⇓P		**Pb**		**09 51 23.9**	**+0.6**
MSCL				AML		AML			
	comp=N,4830μm,0.6s								
MSCL				AML		AML			
	comp=E,7105μm,0.4s								
MSCL				AML		AML			
	comp=N,4830μm,1.4s								
CEL	**Celeste**	**0.92**	**51**	⇓P		**Pg**		**09 51 25.5**	**+0.4**
CEL				AML		AML			
	comp=E,1880μm,0.9s								
CEL				AML		AML			
	comp=E,2285μm,0.9s								
CEL				AML		AML			
	comp=N,3185μm,0.4s								
CEL				AML		AML			
	comp=N,2595μm,0.4s								
SOI	**Samo**	**0.93**	**65**	⇓P		**Pb**		**09 51 25.5**	**+0.8**
SOI				AML		AML			
	comp=E,3010μm,0.4s								
SOI				AML		AML			
	comp=N,3275μm,0.4s								
IFIL	**Filicudi I Eol**	**0.95**	**339**	P		**Pb**		**09 51 24.9**	**-0.2**
IFIL				AML		AML			
	comp=E,28200μm,0.5s								
IFIL				AML		AML			
	comp=N,11265μm,0.6s								
IFIL				AML		AML			
	comp=N,11265μm,1.4s								
IFIL				AML		AML			
	comp=E,28200μm,1.5s								
CLTA	**Licata**	**0.97**	**238**	⇓P		**Pb**		**09 51 25.9**	**+0.5**
CLTA				AML		AML			
	comp=E,5020μm,1.4s								
CLTA				AML		AML			
	comp=E,5020μm,0.6s								
CLTA				AML		AML			
	comp=N,5415μm,0.5s								
ALJA	**Alia**	**0.98**	**275**	⇑P		**Pg**		**09 51 27.1**	**+0.8**
ALJA				AML		AML			
	comp=E,2830μm,0.9s								
ALJA				AML		AML			
	comp=N,2645μm,0.6s								
ALJA				AML		AML			
	comp=E,2830μm,1.1s								
ALJA				AML		AML			
	comp=N,2645μm,1.4s								
HPAC	**Pachino**	**0.98**	**174**	⇑P		**Pb**		**09 51 25.5**	**-0.1**
IACL	**Alicudi**	**0.99**	**330**	⇓P		**Pb**		**09 51 25.6**	**-0.2**
IACL				AML		AML			
	comp=E,6420μm,0.5s								
IACL				AML		AML			
	comp=N,6120μm,0.5s								
IACL				AML		AML			
	comp=N,6120μm,1.5s								
ISTR	**Stromboli Gino**	**1.12**	**8**	P		**Pn**		**09 51 27.4**	**-0.6**
ISTR				AML		AML			
	comp=N,2465μm,0.4s								
ISTR				AML		AML			
	comp=E,1680μm,0.6s								
FAVR	**Favara**	**1.13**	**249**	⇑P		**Pg**		**09 51 29.7**	**+0.7**
FAVR				AML		AML			
	comp=E,3995μm,1.2s								
FAVR				AML		AML			
	comp=N,3485μm,0.9s								
FAVR				AML		AML			
	comp=E,3995μm,0.8s								
IST3	**Stromboli F**	**1.14**	**10**	P		**Pn**		**09 51 28.1**	**-0.1**
IST3				AML		AML			
	comp=E,1495μm,0.5s								
IST3				AML		AML			
	comp=N,1940μm,1.4s								
JOPP	**Joppolo**	**1.17**	**37**	P		**Pn**		**09 51 28.4**	**-0.3**
JOPP				AML		AML			
	comp=E,1440μm,0.5s								
JOPP				AML		AML			
	comp=N,1410μm,1.2s								
JOPP				AML		AML			
	comp=N,1410μm,0.8s								
SOLUN	**Solunto**	**1.23**	**290**	P		**Pn**		**09 51 29.7**	**+0.3**
SOLUN				AML		AML			
	comp=E,730μm,0.6s								
SOLUN				AML		AML			
	comp=N,649μm,1.0s								
CORL	**Corleone**	**1.35**	**280**	P		**Pb**		**09 51 32.8**	**+0.8**
CORL				AML		AML			
	comp=E,2770μm,0.7s								
CORL				AML		AML			
	comp=N,3120μm,0.8s								
PLAC	**Placanica**	**1.38**	**56**	P		**Pb**		**09 51 33.0**	**+0.6**
PLAC				AML		AML			
	comp=N,2670μm,0.6s								
PLAC				AML		AML			
	comp=E,2830μm,0.6s								
PLAC				AML		AML			
	comp=N,2485μm,0.5s								
PLAC				AML		AML			
	comp=N,2670μm,1.4s								
PLAC				AML		AML			
	comp=E,2830μm,1.4s								
PLAC				AML		AML			
	comp=E,2425μm,0.5s								
MMGO	**Monte Magaggia**	**1.60**	**270**	P		**Pn**		**09 51 35.6**	**+1.1**
GRI	**Girifalco**	**1.60**	**44**	P		**Pn**		**09 51 35.5**	**+0.8**
GRI				AML		AML			
	comp=N,1350μm,0.6s								
GRI				AML		AML			
	comp=E,1450μm,0.5s								
GRI				AML		AML			
	comp=N,1350μm,1.4s								
CAR1	**CAROLEI**	**1.84**	**31**	⇓P		**Pn**		**09 51 38.0**	**0.0**
CAR1				AML		AML			
	comp=E,1680μm,0.5s								
CAR1				AML		AML			
	comp=N,1680μm,0.5s								
CAR1				AML		AML			
	comp=E,1735μm,0.5s								
CAR1				AML		AML			
	comp=E,1680μm,1.5s								
CAR1				AML		AML			
	comp=N,1595μm,0.5s								
SERS	**Sersale**	**1.90**	**44**	P		**Pn**		**09 51 40.1**	**+1.2**
SERS				AML		AML			
	comp=E,433μm,0.5s								
SERS				AML		AML			
	comp=N,561μm,0.5s								
SERS				AML		AML			
	comp=E,609μm,0.6s								
SERS				AML		AML			
	comp=N,367μm,0.5s								
SERS				AML		AML			
	comp=E,609μm,1.4s								
ERC	**Erice**	**1.94**	**281**	P		**Pb**		**09 51 41.7**	**-0.3**
ERC				AML		AML			
	comp=E,471μm,0.9s								
ERC				AML		AML			
	comp=N,636μm,0.7s								
CET2	**Cetraro**	**2.00**	**22**	⇓P		**Pn**		**09 51 40.2**	**+0.2**
CET2				AML		AML			
	comp=E,1125μm,0.9s								
CET2				AML		AML			
	comp=N,1530μm,0.6s								
TIP	**Timpagrande**	**2.04**	**42**	P		**Pn**		**09 51 42.3**	**+1.6**
TIP				AML		AML			
	comp=N,330μm,1.6s								
TIP				AML		AML			
	comp=E,300μm,1.4s								
TIP				AML		AML			
	comp=N,429μm,1.6s								
TIP				AML		AML			
	comp=E,277μm,0.5s								
TIP				AML		AML			
	comp=E,300μm,0.6s								
TIP				AML		AML			
	comp=N,429μm,0.4s								
TIP				AML		AML			
	comp=N,330μm,0.4s								
CELI	**Celico**	**2.10**	**34**	⇓P		**Pn**		**09 51 41.8**	**+0.3**
CELI				AML		AML			
	comp=E,1082μm,1.6s								
CELI				AML		AML			
	comp=N,1190μm,1.3s								
CELI				AML		AML			
	comp=E,1082μm,0.4s								
TDS	**Terranova Siba**	**2.24**	**28**	P		**Pn**		**09 51 43.7**	**+0.3**
TDS				AML		AML			
	comp=E,538μm,0.7s								
TDS				AML		AML			
	comp=N,335μm,0.8s								
TDS				AML		AML			
	comp=E,538μm,1.3s								
CUC	**Castrocucco**	**2.40**	**15**	P		**Pn**		**09 51 45.9**	**+0.3**
CUC				AML		AML			
	comp=E,438μm,0.5s								
CUC				AML		AML			
	comp=N,312μm,0.8s								
CUC				AML		AML			
	comp=N,374μm,0.8s								

CUC					AML	AML		
	comp=N,374μm,1.2s							
CUC					AML	AML		
	comp=N,312μm,1.2s							
CUC					AML	AML		
	comp=E,534μm,0.5s							
SIRI	**Monte Sirino -**	**2.59**	**15**	P	**Pn**		**09 51 48.9**	**+0.6**
SIRI				AML	AML			
	comp=E,454μm,1.5s							
SIRI				AML	AML			
	comp=E,454μm,1.5s							
SIRI				AML	AML			
	comp=N,415μm,0.4s							
SIRI				AML	AML			
	comp=N,411μm,0.4s							
ORI	**Oriolo Calabro**	**2.64**	**25**	P	**Pn**		**09 51 51.5**	**+2.7**
ORI				AML	AML			
	comp=E,992μm,0.5s							
ORI				AML	AML			
	comp=E,992μm,1.5s							
ORI				AML	AML			
	comp=N,1090μm,0.6s							
CMPR	**Campora**	**2.65**	**5**	P	**Pn**		**09 51 49.0**	**-0.1**
CMPR				AML	AML			
	comp=N,194μm,0.5s							
CMPR				AML	AML			
	comp=N,194μm,1.5s							
CMPR				AML	AML			
	comp=E,140μm,0.4s							
MTSN	**Montesano sull**	**2.65**	**13**	P	**Pn**		**09 51 49.9**	**+0.8**
MTSN				AML	AML			
	comp=E,313μm,1.1s							
MTSN				AML	AML			
	comp=N,326μm,0.7s							
SCHR	**S. Chirico Rap**	**2.66**	**18**	P	**Pn**		**09 51 50.1**	**+1.0**
SCHR				AML	AML			
	comp=E,326μm,0.6s							
SCHR				AML	AML			
	comp=N,253μm,0.5s							
SCHR				AML	AML			
	comp=N,253μm,1.5s							
MCEL	**Monticello**	**2.72**	**13**	P	**Pn**		**09 51 50.9**	**+0.9**
MCEL				AML	AML			
	comp=E,402μm,0.5s							
MCEL				AML	AML			
	comp=N,308μm,1.6s							
MCEL				AML	AML			
	comp=E,387μm,0.5s							
MCEL				AML	AML			
	comp=N,309μm,0.7s							
MCEL				AML	AML			
	comp=E,402μm,1.5s							
MCEL				AML	AML			
	comp=E,387μm,1.5s							
MCEL				AML	AML			
	comp=N,309μm,1.3s							
MCEL				AML	AML			
	comp=N,308μm,0.4s							
SLCN	**Sala Consilina**	**2.75**	**10**	P	**Pn**		**09 51 51.0**	**+0.5**
SLCN				AML	AML			
	comp=E,578μm,0.6s							
SLCN				AML	AML			
	comp=N,478μm,0.7s							
SLCN				AML	AML			
	comp=E,526μm,0.5s							
SLCN				AML	AML			
	comp=N,410μm,0.6s							
SLCN				AML	AML			
	comp=E,578μm,1.4s							
CDRU	**Civita di Ruta**	**2.82**	**5**	P	**Pn**		**09 51 51.7**	**+0.3**
MRLC	**Muro Lucano**	**3.10**	**7**	P	**Pn**		**09 51 57.3**	**+2.1**
LTRZ	**Laterza**	**3.25**	**25**	P	**Pn**		**09 51 58.3**	**+1.1**
LTRZ				AML	AML			
	comp=N,146μm,1.5s							
LTRZ				AML	AML			
	comp=E,145μm,0.5s							
MATE	**Matera**	**3.25**	**24**	P	**Pn**		**09 51 58.4**	**+1.2**
MATE				AML	AML			
	comp=E,136μm,1.0s							
MATE				AML	AML			
	comp=N,199μm,1.6s							
MATE				AML	AML			
	comp=E,136μm,1.0s							
MATE				AML	AML			
	comp=N,199μm,0.4s							
AMUR	**Altamura**	**3.46**	**21**	P	**Pn**		**09 52 01.1**	**+0.9**
AMUR				AML	AML			
	comp=N,188μm,1.2s							
AMUR				AML	AML			
	comp=N,188μm,0.8s							
AMUR				AML	AML			
	comp=E,194μm,0.7s							
NOCI	**Noci**	**3.50**	**27**	P	**Pn**		**09 52 01.3**	**+0.6**
NOCI				AML	AML			
	comp=N,149μm,1.4s							
NOCI				AML	AML			
	comp=E,141μm,1.6s							
NOCI				AML	AML			
	comp=N,149μm,0.6s							
MRVN	**Minervino Murg**	**3.51**	**15**	P	**Pn**		**09 52 02.3**	**+1.5**
MRVN				AML	AML			
	comp=N,75μm,0.3s							
MRVN				AML	AML			
	comp=E,81μm,0.7s							
KEST	**Kesra**	**4.93**	**249**	Pn	**Pn**		**09 52 21.4**	**+1.0**
	comp=E,1.0nm,0.3s,baz=80,slow=1.4,SNR=15							
KEST				Sn	**Sn**		**09 53 16.2**	**-0.9**
	comp=E,0.8nm,0.3s,baz=19,slow=21,SNR=1.8							
	comp=E,12nm,0.6s							
HCY	**Herceg Novi**	**5.47**	**28**	*e*Pn	**Pn**		**09 52 24.8**	**-2.9**
DRME	**Dracevica, Mon**	**5.54**	**34**	*e*Pn	**Pn**		**09 52 27.9**	**-0.8**
STON	**Ston**	**5.59**	**21**	*e*Pn	**Pn**		**09 52 29.3**	**0.0**
BRY	**Bratogost**	**5.88**	**26**	*e*Pn	**Pn**		**09 52 32.5**	**-1.0**
UPM	**Unac-Piva**	**6.28**	**27**	*e*Pn	**Pn**		**09 52 39.1**	**+0.1**
SRKY	**Kupres RS**	**6.59**	**14**	*e*Pn	Pn		09 52 28.9	-14
SJES	**Sjenica**	**6.75**	**33**	*e*Pn	**Pn**		**09 52 46.9**	**+1.5**
SJES				*e*Sn	**Sn**		**09 54 02.0**	**+0.2**
SJES	**Sjenica**	**6.75**	**33**	*e*Pn	**Pn**		**09 52 46.8**	**+1.4**
RUDO	**Rudo**	**6.80**	**28**	*e*Pn	**Pn**		**09 52 46.8**	**+0.7**
A050A	**Klekovaca**	**6.90**	**9**	*e*Pn	**Pn**		**09 52 49.8**	**+2.4**
MGRS	**Mrkonjic Grad**	**6.92**	**13**	*e*Pn	**Pn**		**09 52 50.3**	**+2.7**
BBLS	**Lazići**	**7.03**	**27**	*e*Pn	**Pn**		**09 52 50.3**	**+1.1**
BBLS				*e*Sn	**Sn**		**09 54 04.9**	**-3.8**
HAPS	**Han Pijesak,Bl**	**7.07**	**24**	*e*Pn	**Pn**		**09 52 51.0**	**+1.2**
SELS	**Selova**	**7.24**	**38**	*e*Pn	**Pn**		**09 52 52.5**	**+0.4**
BLY	**Banja Luka**	**7.26**	**12**	*e*Pn	**Pn**		**09 52 55.5**	**+3.3**
PRVS	**Prvonek**	**7.26**	**46**	*e*Pn	**Pn**		**09 52 55.1**	**+2.7**
DIVS	**Divibare**	**7.45**	**29**	*e*Pn	**Pn**		**09 52 55.6**	**+0.6**
DIVS				*e*Sn	**Sn**		**09 54 16.7**	**-2.3**
DIVS	**Divibare**	**7.45**	**29**	*e*Pn	**Pn**		**09 52 54.8**	**-0.2**
GRUS	**Gruza**	**7.57**	**33**	*e*Pn	**Pn**		**09 52 57.6**	**+1.0**
GRUS				*e*Sn	**Sn**		**09 54 22.3**	**+0.4**
BOJS	**Bojanci**	**7.82**	**1**	*e*Pn	**Pn**		**09 53 03.3**	**+3.3**
CEY	**Cerknica**	**8.07**	**357**	*e*Pn	Pn		09 53 09.1	+5.7
ZAPS	**Zavoj**	**8.07**	**44**	*e*Pn	**Pn**		**09 53 05.0**	**+1.5**
CRES	**Cresnjev**	**8.15**	**2**	*e*Pn	**Pn**		**09 53 05.9**	**+1.4**
ZAGS	**Zajecar**	**8.23**	**40**	*e*Pn	**Pn**		**09 53 06.6**	**+1.0**
IDI	**Anoyia**	**8.32**	**104**	Pn	**Pn**		**09 53 05.3**	**-1.6**
	comp=E,0.4nm,0.3s,baz=324,slow=13,SNR=2.4							
IDI				Sn	Sn		09 54 30.7	-10
	comp=E,3.2nm,0.3s,baz=313,slow=5.4,SNR=6.1							
	comp=E,8.8nm,0.9s							
OBKA	**Obir**	**8.83**	**358**	*e*Pn	**Pn**		**09 53 11.4**	**-2.5**
DAVOX	**Davos/Dischmat**	**9.85**	**339**	Pn	**Pn**		**09 53 29.9**	**+1.9**
	comp=E,0.2nm,0.3s,baz=0.9,slow=23,SNR=1.6							
	comp=E,0.7nm,0.4s							
GERES	**GERESS Array B**	**11.20**	**356**	Pn	**Pn**		**09 53 48.1**	**+1.7**
	comp=E,0.2nm,0.3s,baz=172,slow=11,SNR=5.3							
	comp=E,0.5nm,0.5s							
AKASG	**Malin Array Be**	**16.50**	**33**	Pn	**Pn**		**09 54 55.2**	**-2.4**
	comp=E,0.5nm,0.3s,baz=226,slow=11,SNR=1.6							
	comp=E,0.1nm,0.3s							
GNI	**Garni**	**23.23**	**75**	LR	LR		10 07 12.2	
	comp=E,26nm,18.1s,baz=324,slow=42							
FINES	**FINESS Array B**	**24.78**	**13**	P	**P**		**09 56 26.0**	**-1.6**
	comp=E,6.4nm,1.0s,baz=198,slow=8.5,SNR=3.0							
	comp=E,6.4nm,1.0s							
ZALV	**Zalesovo Beam**	**49.26**	**47**	P	**P**		**09 59 53.7**	**-0.7**
	comp=E,0.5nm,0.4s,baz=272,slow=9.7,SNR=1.9							
	comp=E,0.5nm,0.4s							
MKAR	**Makanchi Array**	**49.26**	**57**	P	**P**		**09 59 53.3**	**-1.3**
	comp=E,0.2nm,0.5s,baz=289,slow=6.2,SNR=3.9							
	comp=E,0.2nm,0.5s							
NNA	**Nana**	**98.65**	**262**	LR	LR		10 51 11.1	
	comp=E,40nm,18.1s,baz=32,slow=36							

IDC 30 09:53:02.1±2.9, 54°22N×87°21E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=26.5km s-min=17.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**260**	I	I	10 00 40.0	
	0.1nm,0.8s,baz=78,slow=334,SNR=6.6						
ZALV	**Zalesovo Beam**	**1.43**	**260**	Pg	Pn	09 53 27.0	-2.4
	1.2nm,0.3s,baz=74,slow=14,SNR=13						
ZALV				Lg	Lg	09 53 48.9	
	1.3nm,0.3s,baz=80,slow=30,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.41**	**239**	Pn	Pn	09 54 38.5	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=9.9						
KURBB				Lg	Lg	09 56 21.9	
	baz=59,slow=32						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	09 55 01.8	+1.4
	0.1nm,0.3s,baz=27,slow=13,SNR=7.0						
	0.3nm,0.4s						

ROM 30 09:53:50.7±0.1, 37°658N±0°004×14°984E±0°009, h14km±1km, ML2.6/18, 1C-1D, Error ellipse: s-maj=0.8km s-min=0.2km az=99.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.04**	**347**	P	Pg	09 53 53.4	-0.2
ESLN				S	Sg	09 53 55.6	+0.2
ESLN				AML	AML		
	comp=E,5465μm,0.7s						
ESLN				AML	AML		
	comp=N,4530μm,1.2s						
ESLN				AML	AML		
	comp=E,4835μm,0.2s						
ESLN				AML	AML		
	comp=N,4040μm,0.4s						
ESML	**S. M. di Licod**	**0.09**	**245**	P	Pg	09 53 53.4	-0.4
ESML				S	Sg	09 53 56.6	+0.7
ESML				AML	AML		
	comp=E,4700μm,0.9s						
ESML				AML	AML		
	comp=N,5540μm,0.7s						
ESML				AML	AML		
	comp=N,4646μm,0.4s						
ESML				AML	AML		
	comp=E,4358μm,0.2s						
EPOZ	**Pozzillo**	**0.16**	**152**	P	Pb	09 53 55.6	0.0
EPOZ				AML	AML		
	comp=N,3385μm,0.6s						
EPOZ				AML	AML		
	comp=E,3275μm,0.7s						
EPOZ				AML	AML		
	comp=E,3272μm,0.7s						
EPOZ				AML	AML		
	comp=N,3386μm,0.6s						
EMSG	**Monte Spagnolo**	**0.17**	**350**	P	Pg	09 53 54.8	-0.1
EMSG				S	Sb	09 53 58.6	-0.4
EMSG				AML	AML		
	comp=E,9390μm,0.4s						
EMSG				AML	AML		
	comp=N,6525μm,1.6s						
EMSG				AML	AML		
	comp=E,9402μm,0.4s						
EMSG				AML	AML		
	comp=N,5711μm,0.4s						
EPZF	**Pizzo Felice**	**0.19**	**329**	P	Pg	09 53 54.9	-0.3
EPZF				S	Sb	09 53 59.7	-0.1
EPZF				AML	AML		
	comp=E,2905μm,0.6s						
EPZF				AML	AML		
	comp=N,5315μm,0.3s						
EPZF				AML	AML		
	comp=N,5314μm,0.3s						
EPZF				AML	AML		
	comp=E,2904μm,0.6s						
HLNI	**Lentini**	**0.32**	**196**	P	Pg	09 53 57.5	+0.1
HLNI				S	Sb	09 54 02.9	-0.4
GALF	**Gagliano Caste**	**0.34**	**279**	P	Pb	09 53 58.1	-0.4
GALF				AML	AML		
	comp=E,1710μm,0.8s						
GALF				AML	AML		
	comp=N,1260μm,0.9s						
GALF				AML	AML		
	comp=N,1257μm,0.9s						
GALF				AML	AML		
	comp=E,1712μm,0.8s						
MNO	**Monte Soro**	**0.36**	**320**	P	Pg	09 53 57.9	-0.2
MNO				S	Sb	09 54 04.6	0.0
MNO				AML	AML		
	comp=E,966μm,0.6s						
MNO				AML	AML		
	comp=N,1695μm,0.8s						
MNO				AML	AML		
	comp=E,967μm,0.6s						
MNO				AML	AML		
	comp=N,1697μm,0.8s						
AIO	**Antillo**	**0.37**	**32**	⇓P	Pg	09 53 58.3	+0.1
AIO				S	Sb	09 54 04.2	-0.6
AIO				AML	AML		
	comp=E,601μm,0.5s						
AIO				AML	AML		
	comp=N,682μm,0.5s						
AIO				AML	AML		
	comp=N,682μm,0.5s						
AIO				AML	AML		
	comp=E,601μm,0.5s						
CAGR	**Agira**	**0.39**	**265**	P	Pb	09 53 59.3	-0.1
NOV	**Novara**	**0.39**	**18**	P	Pg	09 53 58.5	-0.1
NOV				S	Sb	09 54 05.2	-0.1
NOV				AML	AML		
	comp=E,1380μm,0.6s						
NOV				AML	AML		
	comp=N,760μm,0.5s						
NOV				AML	AML		
	comp=E,1378μm,0.6s						
NOV				AML	AML		
	comp=N,760μm,0.5s						
HAGA	**Augusta**	**0.40**	**160**	P	Pg	09 53 58.9	+0.2
HAGA				S	Sb	09 54 05.9	+0.5
HAGA				AML	AML		
	comp=E,738μm,0.6s						
HAGA				AML	AML		
	comp=N,1130μm,0.5s						
HAGA				AML	AML		
	comp=N,1088μm,0.4s						
HAGA				AML	AML		
	comp=E,720μm,0.4s						
MSFR	**San Fratello**	**0.49**	**320**	P	Pg	09 54 00.6	+0.2
MSFR				AML	AML		
	comp=E,319μm,1.4s						
MSFR				AML	AML		
	comp=N,236μm,0.8s						
MSFR				AML	AML		
	comp=N,237μm,0.8s						
MSFR				AML	AML		
	comp=E,284μm,0.5s						
MEU	**Monte Lauro**	**0.56**	**184**	P	Pg	09 54 01.5	-0.3
MEU				S	Sb	09 54 10.1	-0.1
MEU				AML	AML		
	comp=E,1310μm,0.8s						
MEU				AML	AML		
	comp=N,1060μm,0.2s						
RAFF	**Raffo Rosso**	**0.66**	**229**	P	Pg	09 54 03.2	-0.4
RAFF				AML	AML		
	comp=E,592μm,0.7s						
RAFF				AML	AML		
	comp=N,546μm,0.5s						
RAFF				AML	AML		
	comp=N,546μm,0.3s						
RAFF				AML	AML		
	comp=E,582μm,0.5s						
HMDC	**Modica**	**0.72**	**193**	P	Pg	09 54 04.0	-0.7
HMDC				S	Sb	09 54 15.5	+0.7
HMDC				AML	AML		
	comp=E,1004μm,0.3s						
HMDC				AML	AML		
	comp=N,790μm,0.6s						
HMDC				AML	AML		
	comp=E,1004μm,0.3s						
HMDC				AML	AML		
	comp=N,621μm,0.3s						
VPL	**Vulcano Piano**	**0.72**	**360**	P	Pg	09 54 04.4	-0.4
VPL				AML	AML		
	comp=E,2045μm,0.5s						
VPL				AML	AML		
	comp=N,2440μm,1.2s						
VPL				AML	AML		
	comp=N,2407μm,0.4s						
VPL				AML	AML		
	comp=E,2044μm,0.5s						
MSRU	**Castanea**	**0.73**	**34**	P	Pg	09 54 04.7	-0.3
MSRU				AML	AML		
	comp=E,372μm,0.3s						
MSRU				AML	AML		
	comp=N,226μm,0.9s						
MSRU				AML	AML		
	comp=N,223μm,0.4s						
MSRU				AML	AML		
	comp=E,372μm,0.3s						
HPAC	**Pachino**	**0.96**	**174**	⇑P	Pb	09 54 08.2	-1.0
HPAC				AML	AML		
	comp=E,561μm,0.9s						
HPAC				AML	AML		
	comp=N,557μm,0.4s						
HPAC				AML	AML		
	comp=N,557μm,0.4s						
HPAC				AML	AML		
	comp=E,498μm,0.4s						
IACL	**Alicudi**	**1.00**	**331**	P	Pb	09 54 08.8	-1.2
IACL				AML	AML		
	comp=E,372μm,0.5s						
IACL				AML	AML		
	comp=N,310μm,1.3s						
IACL				AML	AML		
	comp=E,372μm,0.5s						
IACL				AML	AML		
	comp=N,263μm,0.3s						
JOPP	**Joppolo**	**1.18**	**37**	P	Pn	09 54 12.1	-0.8
JOPP				AML	AML		
	comp=E,75μm,0.8s						
JOPP				AML	AML		
	comp=N,78μm,0.6s						
PLAC	**Placanica**	**1.39**	**55**	P	Pn	09 54 16.1	+0.2
CAR1	**CAROLEI**	**1.86**	**31**	AML	AML		
	comp=E,94μm,0.8s						
CAR1				AML	AML		
	comp=E,95μm,1.2s						
CAR1				AML	AML		
	comp=N,88μm,1.2s						
CAR1				AML	AML		
	comp=E,194μm,1.1s						
CAR1				AML	AML		
	comp=N,210μm,0.9s						
CAR1				AML	AML		
	comp=N,77μm,0.7s						
CELI	**Celico**	**2.11**	**34**	AML	AML		
	comp=E,94μm,1.3s						
CELI				AML	AML		
	comp=N,87790μm,1.6s						
CELI				AML	AML		
	comp=N,72μm,1.2s						
CELI				AML	AML		
	comp=E,89177μm,1.7s						

ROM 30 09:54:47.2±0.1, 37°663N±0°005×14°996E±0°008, h16km±1km, ML3.0/35, 1C-6D, Error ellipse: s-maj=0.7km s-min=0.1km az=110.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.04**	**330**	⇓P	Pg	09 54 49.9	-0.5
ESLN				S	Sg	09 54 52.4	-0.2
ESLN				AML	AML		
	comp=E,13250μm,1.3s						
ESLN				AML	AML		
	comp=N,14300μm,0.7s						
ESLN				AML	AML		
	comp=N,14300μm,1.3s						
ESLN				AML	AML		
	comp=E,13250μm,0.7s						
ESML	**S. M. di Licod**	**0.10**	**245**	⇓P	Pg	09 54 50.1	-0.6
ESML				S	Sb	09 54 53.3	0.0
ESML				AML	AML		
	comp=E,16100μm,0.2s						
ESML				AML	AML		
	comp=N,11880μm,0.5s						
EMSG	**Monte Spagnolo**	**0.16**	**347**	⇓P	Pg	09 54 51.4	-0.2
EMSG				S	Sb	09 54 55.3	+0.2
EMSG				AML	AML		
	comp=N,22550μm,0.6s						
EMSG				AML	AML		
	comp=E,20550μm,0.7s						
EMSG				AML	AML		
	comp=E,20550μm,1.3s						
EPOZ	**Pozzillo**	**0.16**	**155**	⇓P	Pb	09 54 52.4	+0.5
EPOZ				AML	AML		
	comp=E,8380μm,0.7s						
EPOZ				AML	AML		
	comp=N,6190μm,0.5s						
EPOZ				AML	AML		
	comp=E,8380μm,1.3s						
EPZF	**Pizzo Felice**	**0.20**	**326**	P	Pg	09 54 51.7	-0.4
EPZF				S	Sb	09 54 56.0	-0.1
EPZF				AML	AML		
	comp=E,12950μm,0.9s						
EPZF				AML	AML		
	comp=E,12950μm,1.1s						
EPZF				AML	AML		
	comp=N,25100μm,0.3s						
HLNI	**Lentini**	**0.33**	**198**	P	Pg	09 54 53.7	-0.4
HLNI				S	Sb	09 54 59.7	0.0
HLNI				AML	AML		
	comp=E,4675μm,1.0s						
HLNI				AML	AML		
	comp=N,3255μm,0.5s						
HLNI				AML	AML		
	comp=E,4675μm,1.0s						
GALF	**Gagliano Caste**	**0.34**	**278**	P	Pg	09 54 54.3	-0.1
GALF				AML	AML		
	comp=N,4055μm,0.7s						
GALF				AML	AML		
	comp=E,4440μm,0.5s						
GALF				AML	AML		
	comp=E,4440μm,1.5s						
AIO	**Antillo**	**0.36**	**31**	⇓P	Pg	09 54 55.0	+0.2
AIO				AML	AML		
	comp=E,2370μm,0.6s						
AIO				AML	AML		
	comp=N,1930μm,0.4s						
AIO				AML	AML		
	comp=E,2370μm,1.4s						
MNO	**Monte Soro**	**0.36**	**319**	P	Pg	09 54 54.6	-0.2
MNO				S	Sb	09 55 00.8	-0.1
MNO				AML	AML		
	comp=E,3590μm,0.4s						
MNO				AML	AML		
	comp=N,5680μm,0.4s						
NOV	**Novara**	**0.38**	**17**	⇓P	Pg	09 54 55.2	+0.1
NOV				S	Sb	09 55 01.8	+0.4
NOV				AML	AML		
	comp=E,3365μm,0.5s						
NOV				AML	AML		
	comp=N,3755μm,0.4s						
CAGR	**Agira**	**0.40**	**264**	P	Pb	09 54 55.8	-0.1
CAGR				S	Sb	09 55 02.0	+0.3
CAGR				AML	AML		
	comp=E,4180μm,0.5s						
CAGR				AML	AML		
	comp=N,3460μm,0.4s						
CAGR				AML	AML		
	comp=E,4180μm,1.5s						
HAGA	**Augusta**	**0.40**	**161**	P	Pg	09 54 55.5	+0.1
HAGA				S	Sb	09 55 02.5	+0.9
HAGA				AML	AML		
	comp=E,4605μm,0.4s						
HAGA				AML	AML		
	comp=N,3580μm,0.9s						
HAGA				AML	AML		
	comp=N,3580μm,1.1s						
MSFR	**San Fratello**	**0.49**	**319**	P	Pg	09 54 57.0	0.0
MSFR				AML	AML		
	comp=N,576μm,1.3s						
MSFR				AML	AML		
	comp=E,678μm,0.9s						
MEU	**Monte Lauro**	**0.56**	**185**	P	Pg	09 54 57.8	-0.6
MEU				S	Sb	09 55 06.8	+0.2
MEU				AML	AML		
	comp=E,3870μm,0.8s						
MEU				AML	AML		
	comp=N,4100μm,0.2s						

MILZ	**Milazzo**	**0.64**	**17**	P	Pg	09 54 59.5	-0.3		
MILZ				AML	AML				
	comp=E,1120μm,0.5s								
MILZ				AML	AML				
	comp=N,891μm,1.2s								
MILZ				AML	AML				
	comp=E,1120μm,1.5s								
MILZ				AML	AML				
	comp=N,891μm,0.8s								
RAFF	**Raffo Rosso**	**0.67**	**229**	P	Pg	09 54 59.6	-0.7		
RAFF				AML	AML				
	comp=E,1615μm,0.5s								
RAFF				AML	AML				
	comp=N,1315μm,0.6s								
RAFF				AML	AML				
	comp=N,1315μm,1.4s								
VPL	**Vulcano Piano**	**0.71**	**359**	P	Pg	09 55 00.6	-0.6		
VPL				AML	AML				
	comp=N,5085μm,1.1s								
VPL				AML	AML				
	comp=E,4480μm,0.4s								
VPL				AML	AML				
	comp=N,5085μm,0.9s								
PETRA	**Petralia Sopra**	**0.72**	**284**	P	Pn	09 55 02.2	-0.6		
MSRU	**Castanea**	**0.72**	**34**	P	Pg	09 55 00.9	-0.5		
MSRU				AML	AML				
	comp=N,1040μm,0.9s								
MSRU				AML	AML				
	comp=E,1105μm,0.3s								
MSRU				AML	AML				
	comp=N,1040μm,1.1s								
HMDC	**Modica**	**0.72**	**194**	P	Pg	09 55 00.5	-0.9		
HMDC				AML	AML				
	comp=N,3365μm,0.7s								
HMDC				AML	AML				
	comp=E,3220μm,0.2s								
RESU	**Resuttano**	**0.75**	**269**	P	Pn	09 55 02.6	-0.5		
PLLN	**Pollina**	**0.75**	**296**	P	Pb	09 55 02.4	+0.4		
PLLN				AML	AML				
	comp=E,1375μm,0.7s								
PLLN				AML	AML				
	comp=N,1890μm,0.4s								
LLI	**Lipari**	**0.78**	**357**	P	Pg	09 55 02.5	0.0		
CSLB	**Castelbuono**	**0.79**	**291**	P	Pb	09 55 02.2	-0.4		
CSLB				AML	AML				
	comp=E,226μm,0.8s								
CSLB				AML	AML				
	comp=N,295μm,1.2s								
CSLB				AML	AML				
	comp=N,295μm,0.8s								
CSLB				AML	AML				
	comp=E,226μm,1.2s								
GMB	**Gambarie**	**0.83**	**52**	P	Pg	09 55 03.5	+0.1		
GIB	**Gibilmanna**	**0.83**	**293**	P	Pg	09 55 03.6	+0.1		
GIB				AML	AML				
	comp=E,1220μm,0.5s								
GIB				AML	AML				
	comp=N,1059μm,0.7s								
MSCL	**Scilla**	**0.85**	**48**	P	Pb	09 55 03.2	-0.4		
MSCL				AML	AML				
	comp=N,638μm,0.4s								
MSCL				AML	AML				
	comp=E,836μm,0.5s								
SOI	**Samo**	**0.93**	**64**	P	Pb	09 55 04.7	-0.3		
SOI				AML	AML				
	comp=E,278μm,0.6s								
SOI				AML	AML				
	comp=N,279μm,0.3s								
SOI				AML	AML				
	comp=E,278μm,1.4s								
IFIL	**Filicudi I Eol**	**0.96**	**339**	P	Pb	09 55 04.5	-1.0		
IFIL				AML	AML				
	comp=E,3785μm,0.5s								
IFIL				AML	AML				
	comp=N,1235μm,0.7s								
IFIL				AML	AML				
	comp=N,1235μm,1.3s								
IFIL				AML	AML				
	comp=E,3785μm,1.5s								
CLTA	**Licata**	**0.97**	**239**	P	Pb	09 55 05.6	0.0		
CLTA				AML	AML				
	comp=N,680μm,1.5s								
CLTA				AML	AML				
	comp=E,712μm,0.6s								
CLTA				AML	AML				
	comp=N,680μm,0.5s								
HPAC	**Pachino**	**0.97**	**175**	P	Pb	09 55 04.9	-0.7		
HPAC				AML	AML				
	comp=N,1495μm,0.8s								
HPAC				AML	AML				
	comp=N,1495μm,1.2s								
HPAC				AML	AML				
	comp=E,1805μm,0.3s								
ALJA	**Alia**	**0.99**	**275**	P	Pb	09 55 06.1	+0.1		
ALJA				AML	AML				
	comp=N,376μm,0.4s								
ALJA				AML	AML				
	comp=E,378μm,0.6s								
ALJA				AML	AML				
	comp=N,376μm,1.6s								
IACL	**Alicudi**	**1.00**	**330**	⇑P	Pb	09 55 05.4	-0.8		
IACL				AML	AML				
	comp=E,1031μm,0.9s								
IACL				AML	AML				
	comp=N,848μm,0.8s								
IACL				AML	AML				
	comp=N,848μm,1.2s								
FAVR	**Favara**	**1.13**	**250**	P	Pg	09 55 09.0	0.0		
JOPP	**Joppolo**	**1.18**	**36**	P	Pn	09 55 08.6	-0.4		
JOPP				AML	AML				
	comp=E,234μm,0.9s								
JOPP				AML	AML				
	comp=N,270μm,0.4s								
JOPP				AML	AML				
	comp=N,270μm,1.6s								
CORL	**Corleone**	**1.36**	**280**	P	Pb	09 55 12.5	+0.2		
PLAC	**Placanica**	**1.38**	**55**	P	Pb	09 55 12.7	0.0		
PLAC				AML	AML				
	comp=E,244μm,0.7s								
PLAC				AML	AML				
	comp=N,253μm,0.5s								
MMGO	**Monte Magaggia**	**1.60**	**271**	P	Pb	09 55 15.9	-0.5		
CAR1	**CAROLEI**	**1.85**	**31**	P	Pn	09 55 17.8	-0.5		
CAR1				AML	AML				
	comp=E,243μm,0.8s								
CAR1				AML	AML				
	comp=N,208μm,0.3s								
CAR1				AML	AML				
	comp=E,243μm,1.2s								
SPS2	**Spezzano della**	**1.94**	**32**	P	Pn	09 55 19.5	0.0		
SPS2				AML	AML				
	comp=E,81μm,1.4s								
SPS2				AML	AML				
	comp=N,79μm,0.3s								
SPS2				AML	AML				
	comp=E,81μm,0.6s								
SPS2				AML	AML				
	comp=N,79μm,1.7s								
CET2	**Cetraro**	**2.01**	**22**	P	Pn	09 55 19.9	-0.7		
CET2				AML	AML				
	comp=E,232μm,0.3s								
CET2				AML	AML				
	comp=N,286μm,0.3s								
CELI	**Celico**	**2.10**	**34**	P	Pn	09 55 21.2	-0.6		
CELI				AML	AML				
	comp=E,65250μm,1.6s								
CELI				AML	AML				
	comp=N,66400μm,1.6s								
CELI				AML	AML				
	comp=E,156μm,0.8s								
CELI				AML	AML				
	comp=N,181μm,0.8s								
CELI				AML	AML				
	comp=N,181μm,1.2s								
LTRZ	**Laterza**	**3.26**	**25**	P	Pn	09 55 38.3	+0.6		
LTRZ				AML	AML				
	comp=E,47μm,1.6s								
LTRZ				AML	AML				
	comp=N,143μm,1.6s								
LTRZ				AML	AML				
	comp=E,47μm,0.4s								

IDC 30 10:08:47.9±1.4,1°43N×126°32E,h0km,mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=162.2km s-min=22.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.65**	**160**	P	P	10 13 50.6	-0.3
	0.5nm,0.6s,baz=338,slow=11,SNR=3.0						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.02**	**164**	P	P	10 14 23.1	+0.1
	0.2nm,0.7s,baz=342,slow=11,SNR=6.3						
	0.2nm,0.7s						
SONM	**Songino Array**	**49.34**	**342**	P	P	10 17 38.2	-0.9
	0.3nm,0.7s,baz=149,slow=8.3,SNR=2.1						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**63.45**	**328**	P	P	10 19 20.0	+0.4
	0.5nm,0.3s,baz=126,slow=6.1,SNR=8.0						
	0.5nm,0.3s						

*CNRM **30** 10:17:36.6,34°.48N×3°.48W,h0km,ml2.6*
*SFS **30** 10:17:37.9,34°.41N×3°.34W,h21km,ML2.3/5,MLv2.3/5*
*INMG **30** 10:17:38.2±1.7,34°.47N×3°.48W,h19km±16km,MD2.2, ML2.0,Error ellipse: s-maj=7.8km s-min=7.6km az=159.0*
*MDD **30** 10:17:38.1±1.0,34°.45N×3°.43W,h10km±7km,Mb3.2/7, M_mb2.3/9,Error ellipse: s-maj=7.0km s-min=4.3km az=142.0*

ISC 30 10:17:36.3±1.1,34°.44N±0°.03×3°.40W±0°.02,h19km±3km, n26,σ1°§24/47,5C,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKLM	**AKL**	**0.39**	**281**	P	**Pg**	**10 17 43.9**	**-0.6**
AKLM				S	**Sg**	**10 17 48.8**	**-1.2**
JBK	**JBK**	**0.70**	**98**	P	**Pg**	**10 17 50.2**	**0.0**
JBK				S	**Sg**	**10 17 59.5**	**0.0**
TAF	**Taforalt**	**0.90**	**65**	P	**Pn**	**10 17 54.1**	**+0.1**
TAF				S	**Sn**	**10 18 06.8**	**+0.3**
EMEL	**Melilla**	**0.94**	**23**	P	**Pg**	**10 17 55.8**	**+1.3**
EMEL				S	**Sn**	**10 18 07.6**	**+0.3**
PVLZ	**Peæn de**	**1.04**	**315**	P	**Pb**	**10 17 56.4**	**+0.7**
PVLZ				S	**Sn**	**10 18 11.0**	**+1.1**
CHAS	**Isla Isabel II**	**1.09**	**47**	P	**Pb**	**10 17 57.2**	**+0.6**
CHAS				S	**Sb**	**10 18 09.9**	**-0.6**
EALB	**Alboran**	**1.53**	**11**	S	**Sn**	**10 18 22.9**	**+1.0**
EALB				Pg	**Pg**	**10 18 05.6**	**-0.2**
EALB	**Alboran**	**1.53**	**11**	P	**Pg**	**10 18 06.0**	**+0.2**
EALB				⇑*i*Vmb_V		10 18 06.1	
	115nm,SNR=1.0						
EALB				S	**Sn**	**10 18 20.3**	**-1.7**
IFR	**Ifrane**	**1.70**	**238**	Pn	**Pn**	**10 18 05.2**	**+0.1**
IFR				Pg	**Pb**	**10 18 07.5**	**+0.5**
IFR				S	**Sn**	**10 18 27.5**	**+1.1**
IFR				Sg	**Sg**	**10 18 31.6**	**+0.3**
CHEFC	**Chefchaouen**	**1.73**	**293**	P	**Pb**	**10 18 08.6**	**+1.1**
CHEFC				S	**Sg**	**10 18 32.1**	**-0.1**
MDT	**Midelt**	**1.91**	**212**	P	**Pb**	**10 18 11.4**	**+1.0**
MDT				S	**Sg**	**10 18 37.0**	**-0.7**
MD31	**MD31**	**1.93**	**216**	P	**Pb**	**10 18 11.7**	**+0.8**
MD31				S	**Sb**	**10 18 36.7**	**+2.1**
EMIJ	**Mijas**	**2.40**	**333**	⇑*i*Vmb_V		10 18 16.0	
	41nm,SNR=1.0						
EMIJ				S	**Sn**	**10 18 43.2**	**-0.2**
ELGU	**Los Guajares,**	**2.43**	**356**	S	**Sn**	**10 18 42.8**	**-1.5**
ELGU	**Los Guajares,**	**2.43**	**356**	P	**Pn**	**10 18 14.8**	**-0.2**
ELGU				⇑*i*Vmb_V		10 18 15.6	
	36nm,SNR=0.9						
EBER	**Berja**	**2.49**	**9**	S	**Sn**	**10 18 45.1**	**-0.9**
EGOR	**Sierra Gorda,**	**2.73**	**348**	P	**Pn**	**10 18 20.0**	**+0.8**
EGOR				S	**Sn**	**10 18 51.6**	**-0.2**
FIGM	**Figuig**	**2.91**	**141**	P	**Pb**	**10 18 26.4**	**-1.3**
FIGM				S	**Sb**	**10 19 02.6**	**-0.4**
GOLM	**Goulmima**	**3.02**	**206**	P	**Pb**	**10 18 27.9**	**-1.7**
GOLM				S	**Sb**	**10 19 05.6**	**-0.5**
ARF	**Arif**	**3.07**	**193**	P	**Pn**	**10 18 26.5**	**+2.7**
ARF				S	**Sb**	**10 19 05.7**	**-1.9**
ECAB	**El Cabril**	**3.98**	**336**	⇑*i*Vmb_V		10 18 38.6	
	35nm,SNR=0.5						
ECAB				S	**Sn**	**10 19 22.8**	**+0.4**
EGRO	**El Granado**	**4.53**	**314**	P	**Pn**	**10 18 44.6**	**+0.8**
EGRO				⇑*i*Vmb_V		10 18 45.2	
	37nm,SNR=0.5						
EGRO				S	**Sn**	**10 19 33.6**	**-2.3**
PVAQ	**Vaqueiros**	**4.59**	**311**	*e*Pn	**Pn**	**10 18 45.7**	**+1.1**
PVAQ				*e*Sn	**Sn**	**10 19 35.0**	**-2.3**
PVAQ				A	A	10 19 36.1	
	1.9nm,0.6s						
PBAR	**Barrancos**	**4.75**	**323**	*e*Sn	**Sn**	**10 19 40.2**	**-1.1**
MESJ	**Messejana**	**5.17**	**312**	*e*Sn	**Sn**	**10 19 49.3**	**-2.4**
PNCL	**Nicolau / Gran**	**5.53**	**313**	*e*Pn	**Pn**	**10 18 58.0**	**+0.4**
PNCL				*e*Sn	**Sn**	**10 19 57.8**	**-2.8**

*IDC **30** 10:28:21.4±2.5,6°.67N×73°.04W,h63km±22km,mb3.4/9, mbtmp3.8/11,MS3.2/4,Error ellipse: s-maj=25.1km s-min=15.0km az=93.0*
*RSNC **30** 10:28:22.5±1.1,6°.53N×73°.36W,h32km±3km,ML3.9, Mw4.0,Fault plane solution: NP1:φs18.00000°, δ88.00000°,λ-142.00000°.*

ISC 30 10:28:20.6±0.8,6°.59N±0°.03×73°.33W±0°.03,h42km±7km, n50,σ2§73/70,mb4.2/14,3C-9D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.15**	**88**	⇓*i*P	**Pn**	**10 28 28.6**	**+0.5**
BARC				*e*S	**Sn**	**10 28 33.9**	**+0.5**
BARC				*i*		10 28 39.7	
	comp=Z,17μm,0.7s						
BRRC	**Barranca, Sant**	**0.64**	**324**	*e*S	**Sn**	**10 28 43.7**	**+1.4**
BRRC				*i*		10 28 46.3	
	comp=Z,6μm,0.4s						
RUSC	**La Rusia**	**0.73**	**160**	⇑*i*P	**Pn**	**10 28 34.8**	**-0.2**
RUSC				*e*S	**Sn**	**10 28 45.3**	**0.0**
RUSC				*i*		10 28 46.2	
	comp=Z,5μm,0.4s						
PAMC	**Pamplona, Colo**	**0.98**	**40**	⇓*i*P	**Pn**	**10 28 40.4**	**+2.0**
PAMC				*e*S	**Sn**	**10 28 54.6**	**+3.3**
PAMC				*i*		10 28 56.2	
	comp=Z,7μm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.12**	**268**	⇓*i*P	**Pn**	**10 28 39.2**	**-0.6**
PTBC				*e*S	**Sn**	**10 28 54.2**	**+0.2**
PTBC				*i*		10 28 55.2	
	comp=Z,8μm,0.2s						
TAMC	**Tame, Arauca**	**1.54**	**96**	⇑*i*P	**Pn**	**10 28 48.2**	**+2.6**
TAMC				*e*S	**Sn**	**10 29 09.1**	**+4.6**
TAMC				*i*		10 29 18.3	
	comp=Z,673nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.76**	**301**	⇓*i*P	**Pn**	**10 28 48.8**	**+0.2**
ZARC				*e*S	**Sn**	**10 29 09.8**	**-0.1**
ZARC				*i*		10 29 18.6	
	comp=Z,1μm,0.2s						
CHIC	**Chingaza**	**1.98**	**192**	*e*P	**Pn**	**10 28 53.3**	**+1.2**
CHIC				*e*S	**Sn**	**10 29 19.8**	**+3.8**
CHIC				*i*		10 29 41.5	
	comp=Z,587nm,0.5s						
ROSC	**El Rosal**	**1.99**	**210**	P	**Pn**	**10 28 54.7**	**+2.5**
	comp=Z,710nm,0.4s,baz=322,slow=5.5,SNR=53						
ROSC				S	**Sn**	**10 29 23.6**	**+7.5**
	comp=Z,2μm,0.4s,baz=86,slow=22,SNR=12						
ROSC				LR	LR	10 29 52.4	
	comp=Z,449nm,21.2s,baz=17,slow=41						
ROSC	**El Rosal**	**1.99**	**210**	⇓*i*P	**Pn**	**10 28 54.0**	**+1.8**
ROSC				*e*S	**Sn**	**10 29 23.7**	**+7.6**
ROSC				*i*		10 29 33.3	
	comp=Z,2μm,0.4s						
UREC	**San Jos de Ur**	**2.47**	**298**	⇓*e*P	**Pn**	**10 28 59.7**	**+1.3**
UREC				*e*S	**Sn**	**10 29 31.1**	**+3.7**
UREC				*i*		10 29 37.7	
	comp=Z,430nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.66**	**153**	*e*P	**Pn**	**10 29 01.7**	**+0.7**
PTGC				*e*S	**Sn**	**10 29 33.7**	**+1.7**
PTGC				*i*		10 29 51.7	
	comp=Z,485nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.76**	**255**	⇓*e*P	**Pn**	**10 29 03.9**	**+1.4**
CBOC				*e*S	**Sn**	**10 29 40.2**	**+5.6**
CBOC				*i*		10 29 48.8	
	comp=Z,391nm,0.4s						
DBBC	**Dabeiba**	**2.89**	**279**	*e*P	**Pn**	**10 29 06.6**	**+2.4**
DBBC				*e*S	**Sn**	**10 29 38.5**	**+0.7**
DBBC				*i*		10 29 58.7	
	comp=Z,142nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.94**	**356**	*e*P	Pn	10 29 10.5	+5.6
LL1C				*e*S	**Sn**	**10 29 43.4**	**+4.3**
LL1C				*i*		10 30 04.9	
	comp=Z,1μm,0.5s						
ORTC	**Ortega, Tolima**	**3.27**	**216**	*e*P	**Pn**	**10 29 10.6**	**+1.1**
ORTC				*e*S	**Sn**	**10 29 55.5**	**+8.3**
ORTC				*i*		10 30 03.9	
	comp=Z,726nm,0.4s						
ARGC	**Ariguani, Magd**	**3.37**	**345**	*e*P	**Pn**	**10 29 13.6**	**+2.8**
ARGC				*e*S	**Sn**	**10 29 55.3**	**+5.6**
ARGC				*i*		10 30 07.8	
	comp=Z,108nm,0.6s						
PLMC	**San Jos del P**	**3.38**	**240**	⇓*e*P	**Pn**	**10 29 12.4**	**+1.5**
PLMC				*e*S	Sn	10 29 59.0	+9.2
PLMC				*i*		10 30 17.8	
	comp=Z,254nm,0.6s						
APAC	**Apartado, Choc**	**3.47**	**292**	⇓*e*P	**Pn**	**10 29 13.8**	**+1.6**
APAC				*e*S	**Sn**	**10 29 52.0**	**-0.2**
APAC				*i*		10 29 59.7	
	comp=Z,172nm,0.6s						
SDV	**Santo Domingo**	**3.52**	**49**	P	**Pn**	**10 29 15.1**	**+2.2**
	comp=Z,249nm,0.6s,baz=219,slow=11,SNR=261						
SDV				S	**Sn**	**10 29 57.1**	**+3.6**
	comp=Z,305nm,0.6s,baz=270,slow=20,SNR=12						
LCBC	**Los crdobas,**	**3.76**	**307**	*e*P	**Pn**	**10 29 18.1**	**+2.0**
LCBC				*e*S	**Sn**	**10 30 04.7**	**+5.5**
LCBC				*i*		10 30 10.9	
	comp=Z,110nm,0.5s						
SJCC	**San Jacinto, C**	**3.76**	**331**	⇑*i*P	**Pn**	**10 29 18.2**	**+2.0**
SJCC				*e*S	**Sn**	**10 30 01.8**	**+2.5**
SJCC				*i*		10 30 05.2	
	comp=Z,160nm,0.6s						
YOTC	**Yotoco, Valle**	**3.96**	**229**	*e*P	**Pn**	**10 29 19.4**	**+0.4**
YOTC				*e*S	Sn	10 30 17.6	+13
YOTC				*i*		10 30 34.9	
	comp=Z,71nm,0.6s						
CRJC	**Cerrejon, Guaj**	**4.43**	**6**	*e*P	**Pn**	**10 29 26.0**	**+0.6**
CRJC				*e*S	**Sn**	**10 30 17.4**	**+1.6**
CRJC				*i*		10 30 44.5	
	comp=Z,185nm,0.3s						
MACC	**Macarena, Meta**	**4.44**	**187**	*e*P	**Pn**	**10 29 25.0**	**-0.5**
MACC				*e*S	**Sn**	**10 30 15.2**	**-0.9**
MACC				*i*		10 30 40.4	
	comp=Z,140nm,0.5s						
SMRC	**Santa Marta, M**	**4.63**	**349**	*e*P	**Pn**	**10 29 30.0**	**+1.9**
SMRC				*e*S	**Sn**	**10 30 24.3**	**+3.6**
SMRC				*i*		10 30 49.9	
	comp=Z,68nm,0.4s						
GARC	**Garzon, Huila**	**4.87**	**206**	*e*P	**Pn**	**10 29 32.6**	**+0.9**
GARC				*e*S	**Sn**	**10 30 26.3**	**-0.7**
GARC				*i*		10 30 51.3	
	comp=Z,122nm,0.3s						
URIC	**Uribia, Colomb**	**5.25**	**15**	*e*P	**Pn**	**10 29 36.5**	**-0.1**
URIC				*e*S	**Sn**	**10 30 35.5**	**-0.4**
URIC				*i*		10 31 12.0	
	comp=Z,94nm,0.6s						
FLOC	**Florencia**	**5.48**	**205**	*e*P	**Pn**	**10 29 39.5**	**-0.4**
FLOC				*e*S	**Sn**	**10 30 42.6**	**+0.9**
FLOC				*i*		10 31 15.8	
	comp=Z,63nm,0.5s						
SJG	**San Juan**	**13.43**	**31**	P	Pn	10 31 24.9	-3.8
	comp=Z,11nm,0.3s,baz=220,slow=12,SNR=5.2						
SJG				LR	LR	10 36 56.0	
	comp=Z,82nm,19.6s,baz=158,slow=39						
ATAH	**Atahualpa**	**14.54**	**200**	LR	LR	10 37 13.4	
	comp=Z,99nm,19.1s,baz=2.6,slow=36						
NNA	**Nana**	**18.78**	**191**	LR	LR	10 40 53.0	
	comp=Z,70nm,21.4s,baz=330,slow=40						
LPAZ	**La Paz**	**23.30**	**167**	P	**P**	**10 33 24.2**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=2.8,slow=10.0,SNR=3.8						
	comp=Z,1.2nm,0.7s						
SIV	**San Ignacio**	**25.51**	**152**	P	**P**	**10 33 44.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=257,slow=18,SNR=1.9						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**10 35 21.4**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=122,slow=9.7,SNR=6.3						
TXAR				PcP	**PcP**	**10 37 45.1**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=138,slow=6.2,SNR=2.9						
	comp=Z,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**47.43**	**340**	P	**P**	**10 36 50.4**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=214,slow=6.8,SNR=3.2						
	comp=Z,1.2nm,0.4s						
PDAR	**Pinedale Array**	**48.14**	**324**	P	**P**	**10 36 56.3**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=121,slow=12,SNR=3.4						
	comp=Z,0.4nm,0.7s						
SCHQ	**Schefferville**	**48.39**	**5**	P	**P**	**10 36 56.8**	**-1.5**
	comp=Z,4.0nm,0.9s,baz=210,slow=9.9,SNR=3.6						
	comp=Z,4.0nm,0.9s						
NVAR	**Mina Array Bea**	**51.49**	**315**	P	**P**	**10 37 22.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=114,slow=7.4,SNR=4.3						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**63.41**	**340**	P	**P**	**10 38 44.3**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=134,slow=6.7,SNR=48						
	comp=Z,2.0nm,0.7s						
KULLO	**Kullorsuaq**	**68.58**	**5**	*i* P	P	10 39 24.8	+6.2
KULLO				IAmb	IAmb	10 39 26.1	
	comp=Z,5.5nm,0.8s						
SUMG	**Summit**	**69.25**	**11**	*i* P	**P**	**10 39 22.0**	**-1.4**
SUMG				IAmb	IAmb	10 39 23.6	
	comp=Z,7.5nm,0.8s						
NEEM	**North Greenlan**	**71.80**	**5**	*i* P	**P**	**10 39 38.2**	**-0.5**
NEEM				IAmb	IAmb	10 39 38.6	
	comp=Z,9.8nm,0.7s						
DAG	**Danmarks Havn**	**75.93**	**11**	*i* P	P	10 39 52.7	-10
DAG				IAmb	IAmb	10 40 01.8	
	comp=Z,1.5nm,0.5s						
ILAR	**Eielson Array**	**77.08**	**335**	P	**P**	**10 40 08.3**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=110,slow=4.0,SNR=6.9						
	comp=Z,0.3nm,0.5s						
NOR	**Nord**	**78.87**	**7**	*i* P	P	10 40 11.2	-7.7
NOR				IAmb	IAmb	10 40 17.9	
	comp=Z,2.4nm,0.9s						
KURBB	**Kurchatov Arra**	**118.05**	**20**	PKP	**PKPdf**	**10 46 59.9**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=322,slow=2.6,SNR=1.7						
MKAR	**Makanchi Array**	**122.61**	**20**	PKP	**PKPdf**	**10 47 10.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=339,slow=3.7,SNR=2.1						
ASAR	**Alice Springs**	**148.80**	**234**	PKPbc	**PKPdf**	**10 48 02.0**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=119,slow=3.8,SNR=33						
WRA	**Warramunga Arr**	**150.04**	**241**	PKPbc	**PKPdf**	**10 48 05.2**	**+2.6**
	comp=Z,1.2nm,0.5s,baz=107,slow=2.8,SNR=11						

*KRNET **30** 10:38:36.8±0.1,39°.60N×74°.83E,mb3.2*
*SOME **30** 10:38:37.1,39°.77N×74°.13E,h10km*
*NNC **30** 10:38:38.3±2.3,39°.64N×74°.69E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=17.2km s-min=9.2km az=157.0*

ISC 30 10:38:40.1±2.7,39°.71N±0°.08×74°.74E±0°.05,h1km±18km, n41,σ1§14/54,23C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.71**	**299**	⇑*e*P	**Pn**	**10 39 10.8**	**-0.3**
	baz=1.0						
OHH				⇑*i*S	**Sg**	**10 39 35.8**	**+0.7**
	baz=1.0						
NRN	**Naryn**	**1.97**	**29**	⇑*i*P	**Pn**	**10 39 14.2**	**-0.8**
	baz=25						
NRN				⇑*i*S	**Sb**	**10 39 41.6**	**-0.7**
	baz=25						
ARLS	**Aral**	**2.18**	**352**	⇑*e*P	**Pn**	**10 39 18.0**	**+0.3**
	baz=51						
ARLS				⇑*i*S	**Sb**	**10 39 48.0**	**0.0**
	baz=51						
DRK	**Karamyk**	**2.28**	**265**	⇑*i*P	**Pn**	**10 39 19.0**	**-0.3**
	baz=68						
DRK				⇑*i*S	**Sb**	**10 39 49.7**	**-1.5**
	baz=68						
UCH	**Uchtor**	**2.53**	**356**	P	**Pb**	**10 39 26.5**	**0.0**
	SNR=9.7						
**UC

	baz=80								
MRKS	**Merke**	**3.25**	**340**	*e*Pg		**Pn**	**10 39 33.7**	**+1.4**
	6.5nm,0.5s								
MRKS				*e*Lg		Lg	10 40 14.7		
	19nm,0.7s								
TKM2	**Tokmak 2**	**3.28**	**11**	P		**Pn**	**10 39 34.1**	**+1.2**
	SNR=10								
TKM2	**Tokmak 2**	**3.28**	**11**	⇑Pn		**Pn**	**10 39 33.1**	**+0.3**
	4.3nm,0.6s								
TKM2				⇓Sn		**Sb**	**10 40 15.4**	**-4.3**
	6.6nm,0.8s								
TKM2				⇑Lg		Lg	10 40 24.0		
	8.0nm,0.6s								
TKM2	**Tokmak 2**	**3.28**	**11**	⇑*e*P		**Pn**	**10 39 33.1**	**+0.3**
	baz=10.0								
TKM2				⇑*i*S		**Sn**	**10 40 14.1**	**+1.6**
	baz=10.0								
CHMS	**Chumysh**	**3.29**	**0**	⇑Pg		**Pb**	**10 39 39.3**	**-0.1**
	4.3nm,0.6s								
CHMS				⇑Lg		Lg	10 40 25.4		
	4.7nm,0.8s								
TRKS	**Terek-Say**	**3.29**	**305**	⇑*i*P		**Pn**	**10 39 32.9**	**-0.1**
	baz=5.0								
TRKS				⇑*e*S		**Sn**	**10 40 13.6**	**+0.7**
	baz=5.0								
USP	**Ospenovka**	**3.56**	**357**	P		**Pb**	**10 39 44.5**	**+0.5**
	SNR=7.9								
IZV	**Izvestkoviy**	**3.61**	**22**	Pg		**Pb**	**10 39 44.8**	**-0.2**
	2.0nm,0.6s								
IZV				Lg		Lg	10 40 33.3		
	8.6nm,0.8s								
IZV	**Izvestkoviy**	**3.61**	**22**	*e*Pg		**Pb**	**10 39 44.8**	**-0.2**
	2.0nm,0.6s								
IZV				*e*Lg		Lg	10 40 33.2		
	8.6nm,0.8s								
DGS	**Degeres**	**3.62**	**12**	Pg		**Pb**	**10 39 45.5**	**+0.5**
	5.3nm,0.4s								
DGS				Lg		Lg	10 40 34.9		
	7.5nm,0.5s								
DGS	**Degeres**	**3.62**	**12**	*e*Pg		**Pb**	**10 39 45.5**	**+0.5**
	5.3nm,0.4s								
DGS				*e*Lg		Lg	10 40 34.9		
	7.5nm,0.5s								
MTBS	**Maitube**	**3.65**	**20**	Pg		**Pb**	**10 39 46.2**	**+0.7**
	4.0nm,0.4s								
MTBS				Lg		Lg	10 40 35.9		
	9.4nm,0.6s								
MTBS	**Maitube**	**3.65**	**20**	*e*Pg		**Pb**	**10 39 46.2**	**+0.7**
	4.2nm,0.6s								
MTBS				*e*Lg		Lg	10 40 35.9		
	10nm,0.6s								
TNSS	**Tian-Shan**	**3.72**	**26**	Pg		**Pb**	**10 39 46.8**	**-0.1**
	4.0nm,0.5s								
TNSS				Lg		Lg	10 40 37.2		
	3.4nm,1.0s								
TNSS	**Tian-Shan**	**3.72**	**26**	*e*Pg		**Pb**	**10 39 46.8**	**-0.1**
	4.0nm,0.5s								
TNSS				*e*Lg		Lg	10 40 37.2		
	3.4nm,1.0s								
MDOK	**Medeo**	**3.87**	**26**	Pg		**Pb**	**10 39 49.5**	**+0.2**
	2.2nm,0.4s								
MDOK				Lg		Lg	10 40 41.7		
	5.0nm,0.5s								
MDOK	**Medeo**	**3.87**	**26**	*e*Pg		**Pb**	**10 39 49.4**	**+0.2**
	2.2nm,0.5s								
MDOK				*e*Lg		Lg	10 40 41.7		
	4.2nm,0.6s								
KOTS	**Kotyrbulak**	**3.95**	**26**	Pg		**Pb**	**10 39 51.5**	**+0.9**
	2.1nm,0.4s								
KOTS				Lg		Lg	10 40 45.3		
KOTS	**Kotyrbulak**	**3.95**	**26**	*e*Pg		**Pb**	**10 39 51.5**	**+0.9**
	2.1nm,0.4s								
KOTS				*e*Lg		Lg	10 40 45.3		
	10nm,0.6s								
KRBS	**Karabastau**	**4.05**	**10**	Pg		**Pb**	**10 39 52.8**	**+0.5**
	4.3nm,0.4s								
KRBS				Lg		Lg	10 40 47.3		
	5.0nm,0.7s								
KRBS	**Karabastau**	**4.05**	**10**	*e*Pg		**Pb**	**10 39 52.8**	**+0.5**
	4.3nm,0.4s								
KRBS				*e*Lg		Lg	10 40 47.3		
	5.0nm,0.7s								
KTBS	**Karatobe**	**4.26**	**19**	Pg		**Pb**	**10 39 57.5**	**+1.6**
	2.8nm,0.3s								
KTBS				Lg		Lg	10 40 55.0		
	7.8nm,0.3s								
KTBS	**Karatobe**	**4.26**	**19**	*e*Pg		**Pb**	**10 39 57.5**	**+1.6**
	2.8nm,0.3s								
KTBS				*e*Lg		Lg	10 40 55.0		
	7.8nm,0.3s								
IUG	**Iuzhnay**	**4.32**	**306**	Pg		**Pb**	**10 39 56.7**	**-0.3**
	8.8nm,0.5s								
IUG				Lg		Lg	10 40 54.1		
	13nm,0.3s								
IUG	**Iuzhnay**	**4.32**	**306**	*e*Pg		**Pn**	**10 39 48.7**	**+1.6**
	2.2nm,0.2s								
IUG				*e*Lg		Lg	10 40 39.9		
	11nm,0.4s								
KUU	**Kurty**	**4.35**	**15**	Pg		**Pb**	**10 39 58.5**	**+1.1**
KUU				Lg		Lg	10 40 57.2		
KUU	**Kurty**	**4.35**	**15**	*e*Pg		**Pb**	**10 39 58.5**	**+1.1**
	1.9nm,0.4s								
KUU				*e*Lg		Lg	10 40 57.2		
	12nm,0.8s								
KK31	**Karatay Array**	**4.65**	**318**	⇑Pn		**Pn**	**10 39 51.2**	**-0.3**
	0.3nm,0.3s,baz=124,slow=13,SNR=5.8								
KK31				⇑Pg		**Pb**	**10 40 02.2**	**-0.4**
	0.5nm,0.5s,baz=147,slow=17								
KK31				⇓Sn		**Sn**	**10 40 46.7**	**+0.5**
	1.5nm,0.5s,baz=146,slow=22,SNR=2.7								
KK31				⇑Lg		Lg	10 41 05.0		
	2.2nm,0.6s,baz=153,slow=29,SNR=4.7								

*KRNET **30** 10:40:05.6±0.1,39°.52N×74°.83E,mb3.2*
*SOME **30** 10:40:06.3,39°.68N×74°.52E,h10km*
*NNC **30** 10:40:06.1±3.5,39°.68N×74°.59E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=28.4km s-min=17.3km az=148.0
ISC 30 10:40:10.1±2.8,39°.68N±0°.08×74°.66E±0°.05,h9km±19km,
n32,σ1§43/43,20C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.67**	**301**	⇑*i*P	**Pb**	**10 40 40.4**	**-0.7**
	baz=3.0						
OHH				⇑*i*S	**Sg**	**10 41 05.6**	**+1.8**
	baz=3.0						
NRN	**Naryn**	**2.02**	**30**	⇑*e*P	**Pn**	**10 40 43.8**	**-1.0**
	baz=24						
NRN				⇑*i*S	**Sb**	**10 41 11.7**	**-1.0**
	baz=24						
ARLS	**Aral**	**2.19**	**353**	⇑*e*P	**Pn**	**10 40 47.6**	**+0.7**
	baz=51						
ARLS				⇑*i*S	**Sb**	**10 41 18.3**	**+0.9**
	baz=51						
DRK	**Karamyk**	**2.22**	**266**	⇓*e*P	**Pn**	**10 40 47.6**	**+0.1**
	baz=70						
DRK				⇓*i*S	**Sb**	**10 41 18.3**	**-0.2**
	baz=70						
UCH	**Uchtor**	**2.54**	**357**	⇑*i*P	**Pn**	**10 40 52.7**	**+0.6**
	baz=55						
UCH				⇑*i*S	**Sb**	**10 41 27.1**	**-0.8**
	baz=55						
AML	**Almayashu**	**2.55**	**344**	⇑*e*P	**Pn**	**10 40 53.1**	**+1.0**
	baz=42						
AML				⇑*i*S	**Sb**	**10 41 27.8**	**-0.3**
	baz=42						
ARK	**Arkit**	**2.94**	**317**	⇑*i*P	**Pn**	**10 40 58.6**	**+1.3**
	baz=17						
ARK				⇑*i*S	**Sb**	**10 41 37.3**	**-1.8**
	baz=17						
AAK	**Ala-Archa**	**2.95**	**358**	⇑*i*P	**Pn**	**10 40 58.3**	**+0.9**
	baz=55						
AAK				⇑*i*S	**Sb**	**10 41 36.5**	**-2.9**
	baz=55						
KBK	**Karagaybulak**	**2.98**	**4**	⇑*e*P	**Pn**	**10 40 58.4**	**+0.6**
	baz=2.0						
KBK				⇑*i*S	**Sb**	**10 41 36.9**	**-3.2**
	baz=2.0						
BTK	**Batken**	**2.98**	**278**	⇑*i*P	**Pn**	**10 40 58.2**	**+0.4**
	baz=81						
BTK				⇑*i*S	**Sb**	**10 41 36.8**	**-3.3**
	baz=81						
MRKS	**Merke**	**3.25**	**341**	*e*Pg	**Pb**	**10 41 04.2**	**-3.8**
	7.6nm,0.7s						
MRKS				*e*Lg	Lg	10 41 46.0	
	4.0nm,0.6s						
TRKS	**Terek-Say**	**3.25**	**306**	⇓*e*P	**Pn**	**10 41 02.0**	**+0.4**
	baz=6.0						
TRKS				⇓*i*S	**Sn**	**10 41 43.2**	**+2.6**
	baz=6.0						
TKM2	**Tokmak 2**	**3.31**	**12**	⇑Pg	**Pn**	**10 41 02.9**	**+0.5**
	3.8nm,0.4s						
TKM2				⇓Lg	Lg	10 41 51.9	
	9.3nm,0.6s						
CHMS	**Chumysh**	**3.31**	**1**	⇓Pg	**Pn**	**10 41 03.8**	**+1.5**
	3.7nm,0.7s						
CHMS				⇑Lg	Lg	10 41 54.4	
	9.8nm,0.6s						
DGS	**Degeres**	**3.65**	**13**	Pg	**Pb**	**10 41 13.3**	**-1.7**
	6.0nm,0.7s						
DGS				Lg	Lg	10 42 02.1	
	6.9nm,0.5s						
DGS	**Degeres**	**3.65**	**13**	*e*Pg	**Pb**	**10 41 13.5**	**-1.5**
	6.0nm,0.7s						
DGS				*e*Lg	Lg	10 42 02.1	
	6.9nm,0.5s						
IZV	**Izvestkoviy**	**3.66**	**23**	Pg	**Pb**	**10 41 14.5**	**-0.5**
	1.8nm,0.5s						
IZV				Lg	Lg	10 42 03.6	
	6.2nm,0.7s						
IZV	**Izvestkoviy**	**3.66**	**23**	*e*Pg	**Pb**	**10 41 14.5**	**-0.5**
	1.8nm,0.5s						
IZV				*e*Lg	Lg	10 42 03.6	
	6.2nm,0.7s						
MTBS	**Maitube**	**3.69**	**21**	Pg	**Pb**	**10 41 15.5**	**-0.1**
	3.5nm,0.5s						
MTBS				Lg	Lg	10 42 05.6	
	11nm,0.6s						
MTBS	**Maitube**	**3.69**	**21**	*e*Pg	**Pb**	**10 41 15.7**	**+0.2**
	3.9nm,0.9s						
MTBS				*e*Lg	Lg	10 42 05.8	
	10.0nm,0.6s						
MDOK	**Medeo**	**3.91**	**27**	Pg	**Pb**	**10 41 19.2**	**-0.2**
	2.1nm,0.4s						
MDOK				Lg	Lg	10 42 11.4	
	5.8nm,0.5s						
MDOK	**Medeo**	**3.91**	**27**	*e*Pg	**Pb**	**10 41 18.4**	**-1.0**
	2.1nm,0.8s						
MDOK				*e*Lg	Lg	10 42 10.6	
	5.7nm,0.7s						
KOTS	**Kotyrbulak**	**4.00**	**27**	Pg	**Pb**	**10 41 20.5**	**-0.4**
	2.0nm,0.3s						
KOTS				Lg	Lg	10 42 13.8	
	16nm,0.5s						
KOTS	**Kotyrbulak**	**4.00**	**27**	*e*Pg	**Pb**	**10 41 20.5**	**-0.4**
	2.0nm,0.3s						
KOTS				*e*Lg	Lg	10 42 13.8	
	16nm,0.5s						
KRBS	**Karabastau**	**4.08**	**10**	Pg	**Pb**	**10 41 21.8**	**-0.5**
	4.1nm,0.4s						
KRBS				Lg	Lg	10 42 16.0	
	5.0nm,0.6s						
KRBS	**Karabastau**	**4.08**	**10**	*e*Pg	**Pb**	**10 41 21.8**	**-0.5**
	4.1nm,0.4s						
KRBS				*e*Lg	Lg	10 42 16.0	
	5.0nm,0.6s						
IUG	**Iuzhnay**	**4.29**	**307**	Pg	**Pb**	**10 41 25.3**	**-0.5**
	7.4nm,0.4s						
IUG				Lg	Lg	10 42 22.2	
	7.0nm,0.5s						
IUG	**Iuzhnay**	**4.29**	**307**	*e*Pg	**Pb**	**10 41 25.1**	**-0.6**
	9.2nm,1.1s						
IUG				*e*Lg	Lg	10 42 22.1	
	20nm,0.7s						
KTBS	**Karatobe**	**4.30**	**20**	Pg	**Pb**	**10 41 26.9**	**+1.0**
	2.3nm,1.0s						
KTBS				Lg	Lg	10 42 24.6	
	9.1nm,0.4s						
KTBS	**Karatobe**	**4.30**	**20**	*e*Pg	**Pb**	**10 41 26.9**	**+1.0**
	2.3nm,1.0s						
KTBS				*e*Lg	Lg	10 42 24.6	
	9.1nm,0.4s						
KUU	**Kurty**	**4.39**	**16**	Pg	**Pb**	**10 41 27.8**	**+0.3**
	2.2nm,0.4s						
KUU				Lg	Lg	10 42 26.1	
	13nm,1.3s						
KUU	**Kurty**	**4.39**	**16**	*e*Pg	**Pb**	**10 41 27.8**	**+0.3**
	2.2nm,0.4s						
KUU				*e*Lg	Lg	10 42 26.1	
	13nm,1.3s						

IDC 30 10:45:45.4±1.8,7°.19S×129°.23E,h0km,mb3.7/2,
mbtmp3.3/4,ML3.0/2,Error ellipse: s-maj=115.1km
s-min=31.2km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.61**	**159**	Pn	Pn	10 48 59.3	-0.6
	0.1nm,0.3s,baz=338,slow=14,SNR=1.3						
WRA				Sn	Sn	10 51 19.6	-12
	0.4nm,0.3s,baz=288,slow=16,SNR=3.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**16.98**	**165**	Pn	Pn	10 49 45.2	+0.6
	0.1nm,0.3s,baz=346,slow=8.3,SNR=5.5						
ASAR				Sn	Sn	10 52 42.4	-12
	0.1nm,0.3s,baz=350,slow=27,SNR=1.7						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	10 56 46.9	+0.6
	0.3nm,0.4s,baz=141,slow=7.1,SNR=7.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.28**	**329**	P	P	10 57 11.8	-0.8
	0.2nm,0.3s,baz=120,slow=4.8,SNR=2.8						
	0.2nm,0.3s						

*DDA **30** 10:52:31.9±0.0,35°.96N×27°.35E,h4km±3km,ML2.4*
*ISK **30** 10:52:31.1,36°.02N×27°.17E,h10km,ML2.7/9*
*ATH **30** 10:52:32.5,36°.06N×27°.21E,h24km±8km,ML2.7/4,Error*
ellipse: s-maj=9.6km s-min=1.1km az=34.0
*THE **30** 10:52:33.0,36°.08N×27°.17E,h20km±4km,ML2.6/3,Error*
ellipse: s-maj=4.8km s-min=1.2km az=17.0
ISC 30 10:52:32.5±1.3,36°.07N±0°.04×27°.12E±0°.03,h21km±5km,
n30,σ1§16/50,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.55**	**1**	P	**Pb**	**10 52 42.6**	**-0.8**
NISR				S	**Sn**	**10 52 52.2**	**-1.2**
	522nm,0.1s						
NISR	**Nisiros**	**0.55**	**1**	P	**Pb**	**10 52 42.6**	**-0.8**
KOSK	**Kos Island**	**0.69**	**351**	Pg	**Pb**	**10 52 46.1**	**+0.3**
KOSK				Sg	**Sn**	**10 52 56.9**	**-0.2**
KOSK	**Kos Island**	**0.69**	**351**	P	**Pb**	**10 52 46.2**	**+0.3**
KOSK				S	**Sn**	**10 52 56.3**	**-0.8**
KOSK				AML	AML	10 52 59.1	
	comp=E,1463μm,0.5s						
KOSK				AML	AML	10 53 03.4	
	comp=N,1279μm,0.6s						
DAT	**Datca**	**0.76**	**29**	Pg	**Pb**	**10 52 46.9**	**-0.2**
DAT				Sg	**Sn**	**10 52 58.0**	**-0.9**
DAT	**Datca**	**0.76**	**29**	P	**Pb**	**10 52 47.4**	**+0.3**
DAT				S	**Sn**	**10 52 58.0**	**-0.9**
DAT				*i* AML	AML	10 52 59.0	
	comp=N,166nm,0.2s						
DAT				*i* AML	AML	10 53 00.0	
	comp=N,124nm,0.8s						
ARG	**Arkhangelos**	**0.83**	**79**	P	**Pb**	**10 52 46.5**	**-1.7**
ARG				S	**Sb**	**10 52 58.8**	**-0.2**
	comp=N,575nm,0.2s						
ARG	**Arkhangelos**	**0.83**	**79**	Pg	**Pb**	**10 52 46.7**	**-1.5**
ARG				Sg	**Sb**	**10 52 58.6**	**-0.4**
ARG	**Arkhangelos**	**0.83**	**79**	P	**Pb**	**10 52 46.7**	**-1.5**
ARG				S	**Sb**	**10 52 57.0**	**-1.9**
ARG				AML	AML	10 53 00.1	
	comp=N,820μm,0.2s						
ARG				AML	AML	10 53 01.9	
	comp=E,1457μm,0.2s						
TURN	**Turunc**	**1.15**	**52**	Pn	**Pn**	**10 52 53.0**	**-0.3**
TURN				Sn	**Sn**	**10 53 09.7**	**+1.3**
TURN	**Turunc**	**1.15**	**52**	P	**Pn**	**10 52 52.7**	**-0.6**
TURN				S	**Sn**	**10 53 08.9**	**+0.5**
TURN				*i* AML	AML	10 53 10.0	
	comp=E,71nm,0.3s						
TURN				*i* AML	AML	10 53 13.0	
	comp=E,65nm,0.3s						
ZKR	**Zakros**	**1.20**	**218**	P	**Pn**	**10 52 54.3**	**+0.3**
ZKR				S	**Sb**	**10 53 10.0**	**+0.5**
	comp=E,260nm,0.4s						
ZKR	**Zakros**	**1.20**	**218**	P	**Pn**	**10 52 54.0**	**0.0**
ZKR				S	**Sn**	**10 53 09.1**	**-0.5**
ZKR				AML	AML	10 53 12.7	
	comp=E,782μm,0.6s						
ZKR				AML	AML	10 53 13.3	
	comp=N,257μm,0.3s						
YER	**Yerkesik**	**1.42**	**41**	Pn	**Pb**	**10 52 57.9**	**-0.4**
DALY	**Dalyan (Mula)**	**1.45**	**58**	Pn	**Pn**	**10 52 57.5**	**+0.1**
DALY				Sn	**Sb**	**10 53 17.5**	**+0.8**
FRMA	**Ierapetra Chan**	**1.54**	**227**	P	**Pn**	**10 52 59.4**	**+0.8**
FRMA				AML	AML	10 53 21.4	
	comp=E,412μm,0.3s						
FRMA				AML	AML	10 53 23.6	
	comp=N,511μm,0.5s						
APE	**Apeiranthos**	**1.62**	**309**	P	**Pn**	**10 52 59.6**	**-0.2**
APE				S	**Sn**	**10 53 19.6**	**-0.5**
APE	**Apeiranthos**	**1.62**	**309**	P	**Pn**	**10 52 59.6**	**-0.2**
SMG	**Samos**	**1.66**	**352**	P	**Pn**	**10 52 59.4**	**-0.8**
FETY	**Fethiye**	**1.69**	**70**	Pn	**Pn**	**10 53 01.3**	**+0.6**
FETY	**Fethiye**	**1.69**	**70**	P	**Pb**	**10 53 02.9**	**+0.1**
FETY				S	**Sb**	**10 53 28.7**	**+5.1**
CAME	**Cameli-Denizli**	**1.97**	**63**	Pn	**Pn**	**10 53 05.3**	**+0.6**
IDI	**Anoyia**	**1.97**	**247**	P	**Pn**	**10 53 04.8**	**+0.2**
IDI				S	**Sn**	**10 53 29.8**	**+1.1**
IDI	**Anoyia**	**1.97**	**247**	P	**Pn**	**10 53 04.7**	**0.0**
TAVA	**DENIZLI_Tavas**	**2.01**	**45**	P	**Pb**	**10 53 08.5**	**+0.2**
TAVA				S	**Sb**	**10 53 33.4**	**+0.5**
AKAS	**Kas**	**2.02**	**85**	P	**Pn**	**10 53 06.4**	**+1.0**
AKAS				S	**Sb**	**10 53 31.8**	**-1.5**
AKAS				*i* AML	AML	10 53 35.0	
	comp=N,58nm,0.5s						
AKAS				*i* AML	AML	10 53 35.0	
	comp=N,38nm,1.1s						
CAEL	**Denizli, Camel**	**2.06**	**59**	P	**Pb**	**10 53 09.8**	**+0.5**
CAEL				S	**Sb**	**10 53 36.5**	**+2.0**
CAEL				*i* AML	AML	10 53 45.0	
	comp=N,48nm,0.9s						
CAEL				*i* AML	AML	10 53 50.0	
	comp=N,43nm,0.6s						
APMY	**Acipayam-Deniz**	**2.25**	**51**	Pn	**Pn**	**10 53 09.5**	**+1.0**
GOLH	**Golhisar**	**2.29**	**59**	P	**Pb**	**10 53 11.5**	**-1.6**
GOLH				S	**Sb**	**10 53 41.6**	**+0.7**
GOLH				*i* AML	AML	10 53 48.0	
	comp=N,22nm,0.9s						
GOLH				*i* AML	AML	10 53 51.0	
	comp=N,22nm,0.3s						
ELL	**Elmali**	**2.35**	**72**	Pn	**Pn**	**10 53 10.7**	**+0.7**

IDC 30 10:55:11.4±550.0,47°.75N×48°.57E,h0km,Error ellipse:
s-maj=198.2km s-min=126.8km az=53.0,Western
Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.76**	**63**	I	I	11 35 10.0	
	0.1nm,0.5s,baz=250,slow=341,SNR=2.0						
I43RU	**DUBNA INFRASON**	**21.35**	**327**	I	I	12 06 40.0	
	baz=138,slow=338,SNR=0.7						
I46RU	**ZALESOVO INFRA**	**23.52**	**61**	I	I	13 20 20.0	
	baz=273,slow=332,SNR=1.6						

*IDC **30** 10:59:01.4±3.2,13°.49N×92°.32W,h0km,mb3.5/7,*
mbtmp3.5/9,ML3.4/2,MS3.1/4,Error ellipse: s-maj=65.9km
s-min=49.2km az=19.0
ISC 30 10:59:05.1±2.0,13°.8N±0°.3×92°.4W±0°.3,h10km,n12,
σ1§32/11,mb3.6/7,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**4.10**	**324**	Pn	**Pn**	**11 00 07.4**	**-0.5**
	1.7nm,0.3s,baz=162,slow=14,SNR=19						
CMIG				Sn	**Sn**	**11 00 54.9**	**-1.1**
	6.7nm,0.3s,baz=139,slow=11,SNR=11						
	3.1nm,0.3s						
JTS	**Las Juntas de**	**8.03**	**115**	LR	LR	11 02 57.4	
	comp=Z,169nm,19.9s,baz=102,slow=30						
TXAR	**Lajitas Array**	**18.70**	**328**	P	**Pn**	**11 03 26.3**	**+2.1**
	baz=153,slow=11,SNR=3.8						
TXAR				LR	LR	11 10 10.9	
	comp=Z,28nm,20.3s,baz=128,slow=35						
	0.3nm,0.7s						
TKL	**Tuckaleechee C**	**23.12**	**18**	P	**P**	**11 04 12.1**	**+0.7**
	3.1nm,0.6s,baz=192,slow=12,SNR=5.8						
TKL				LR	LR	11 15 24.2	
	comp=Z,40nm,18.7s,baz=184,slow=42						
	3.1nm,0.6s						
ANMO	**Albuquerque**	**24.63**	**331**	P	**P**	**11 04 25.1**	**-0.9**
	0.1nm,0.3s,baz=87,slow=5.1,SNR=2.5						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**32.48**	**336**	P	**P**	**11 05 34.7**	**-1.4**
	0.2nm,0.6s,baz=142,slow=8.9,SNR=1.9						
	0.2nm,0.6s						
SADO	**Sadowa**	**32.88**	**17**	LR	LR	11 19 58.0	
	comp=Z,45nm,18.4s,baz=98,slow=38						
NVAR	**Mina Array Bea**	**33.63**	**322**	P	**P**	**11 05 47.4**	**+1.1**
	0.5nm,0.7s,baz=130,slow=8.9,SNR=4.7						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**51.16**	**347**	P	**P**	**11 08 08.2**	**+0.1**
	1.3nm,0.8s,baz=148,slow=7.8,SNR=14						
	1.3nm,0.8s						
INK	**Inuvik**	**60.56**	**344**	P	**P**	**11 09 15.4**	**0.0**
	1.2nm,0.8s,baz=136,slow=5.5,SNR=4.6						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**62.91**	**337**	P	**P**	**11 09 31.8**	**+0.5**
	0.4nm,0.8s,baz=134,slow=6.3,SNR=3.5						
	0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**146.09**	**341**	PKPbc	**PKPdf**	**11 18 43.7**	**-1.9**
	0.4nm,0.3s,baz=8.3,slow=1.4,SNR=4.9						

*OTT **30** 11:03:16.6±2.3,48°.61N±0°.02×123°.10W±0°.03,h17km±3km,*
Error ellipse: s-maj=2.8km s-min=2.2km az=79.0
*PGC **30** 11:03:16.6±0.3,48°.61N×123°.10W,h17km,ML3.1,*
ML2.7/27,22km east of Sidney, Bc Vancouver Island,
Canada Region
*SEA **30** 11:03:16.7±2.7,48°.611N±0°.007×123°.07W±0°.03,*
h15km±3km,ML3.1/22,ML2.9/51(NEIC),ML2.7(OTT),Error
ellipse: s-maj=2.8km s-min=0.9km az=78.0
*NEIC **30** 11:03:16.4±2.1,48°.601N±0°.010×123°.12W±0°.02,*
h14km±3km,Error ellipse: s-maj=2.1km s-min=0.7km
az=129.0
ISC 30 11:03:16.3±0.9,48°.61N±0°.02×123°.11W±0°.02,h20km±1km,
n155,σ1§07/208,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWFH	**University of**	**0.09**	**138**		**Pg**	**11 03 20.9**	**+0.8**
SNB	**Saturna Island**	**0.17**	**345**		**Pb**	**11 03 20.7**	**+0.2**
SNB					**Sg**	**11 03 24.0**	**-0.2**
SNB	**Saturna Island**	**0.17**	**345**	P	**Pb**	**11 03 20.8**	**+0.2**
SNB				S	**Sg**	**11 03 24.0**	**-0.2**
MCW	**Mount Constitu**	**0.19**	**70**		**Pb**	**11 03 20.6**	**-0.5**
MCW	**Mount Constitu**	**0.19**	**70**	P	**Pb**	**11 03 20.6**	**-0.5**
PA01	**PA01 North**	**0.23**	**280**	P	**Pb**	**11 03 21.5**	**-0.2**
PA01				S	**Sb**	**11 03 25.1**	**-0.2**
B011	**North Saanich**	**0.23**	**279**		**Pb**	**11 03 21.4**	**-0.2**
B011					**Sb**	**11 03 25.1**	**-0.2**
B011	**North Saanich**	**0.23**	**279**	P	**Pb**	**11 03 21.5**	**-0.2**
B011				S	**Sb**	**11 03 25.1**	**-0.2**
B009	**North Saanich**	**0.23**	**279

B04A	**Port Angeles**	**0.62**	**206**			**Pb**	**11 03 27.6**	**-0.8**
B04A	**Port Angeles**	**0.62**	**206**			**Sg**	**11 03 36.9**	**0.0**
CMW	**Cultus Mountai**	**0.68**	**106**			**Pb**	**11 03 28.8**	**-0.8**
CMW	**Cultus Mountai**	**0.68**	**106**		P	**Pb**	**11 03 28.6**	**-1.0**
CMW					S	**Sg**	**11 03 38.9**	**-0.1**
CLRS	**Cowichan Lake**	**0.71**	**287**		Pg	**Pb**	**11 03 29.1**	**-0.8**
CLRS					IAML		11 03 39.3	
	comp=E,1μm,0.3s							
CLRS					IAML		11 03 39.3	
	comp=N,612nm,0.4s							
CLRS	**Cowichan Lake**	**0.71**	**287**		P	**Pb**	**11 03 29.1**	**-0.8**
CLRS					S	**Sb**	**11 03 38.6**	**-0.7**
B926	**Mesachie Lake**	**0.71**	**287**			**Pb**	**11 03 28.8**	**-1.1**
B926	**Mesachie Lake**	**0.71**	**287**		P	**Pb**	**11 03 28.9**	**-1.1**
B926					S	**Sb**	**11 03 38.5**	**-0.7**
HNBB	**Haney**	**0.76**	**27**		P	**Pb**	**11 03 29.9**	**-1.0**
HNBB					S	**Sb**	**11 03 39.4**	**-1.4**
SWID	**South Whidbey**	**0.76**	**142**			**Pb**	**11 03 30.4**	**-0.5**
VDB	**Vedder Mountai**	**0.78**	**58**			**Pb**	**11 03 30.2**	**-1.0**
VDB	**Vedder Mountai**	**0.78**	**58**		P	**Pb**	**11 03 30.2**	**-1.0**
VDB					S	**Sb**	**11 03 39.9**	**-1.5**
BIB	**Bowen Island**	**0.80**	**351**		P	**Pb**	**11 03 30.9**	**-0.7**
B013	**Quilcene**	**0.81**	**171**			**Pb**	**11 03 30.5**	**-1.2**
B013	**Quilcene**	**0.81**	**171**			**Pb**	**11 03 30.4**	**-1.2**
B013						**Sb**	**11 03 41.1**	**-1.0**
MBW	**Mount Baker**	**0.82**	**78**			**Pb**	**11 03 31.3**	**-0.6**
MBW	**Mount Baker**	**0.82**	**78**		P	**Pb**	**11 03 31.4**	**-0.6**
NLLB	**Nanaimo Lost L**	**0.85**	**317**			**Pb**	**11 03 31.4**	**-0.9**
NLLB	**Nanaimo Lost L**	**0.85**	**317**		P	**Pb**	**11 03 31.4**	**-0.9**
NLLB					S	**Sb**	**11 03 42.1**	**-1.2**
EVCC	**Everett Colleg**	**0.85**	**135**			**Pb**	**11 03 32.4**	**0.0**
OBC	**Olympics--Boni**	**0.87**	**229**			**Pb**	**11 03 32.2**	**-0.6**
OBC	**Olympics--Boni**	**0.87**	**229**		P	**Pb**	**11 03 32.1**	**-0.6**
P403	**Sandy Floe Qua**	**0.88**	**232**			**Pb**	**11 03 32.1**	**-0.9**
P403						**Sb**	**11 03 44.1**	**-0.2**
PFB	**Port Renfrew**	**0.89**	**268**		P	**Pb**	**11 03 32.2**	**-0.8**
PFB					S	**Sb**	**11 03 43.6**	**-0.8**
OSD	**Olympics--Snow**	**0.89**	**207**			**Pb**	**11 03 32.7**	**-0.5**
OSD	**Olympics--Snow**	**0.89**	**207**		P	**Pb**	**11 03 32.6**	**-0.5**
JCW	**Jim Creek**	**0.89**	**118**			**Pb**	**11 03 31.9**	**-1.1**
JCW	**Jim Creek**	**0.89**	**118**		P	**Pb**	**11 03 31.8**	**-1.2**
C04A	**Brinnon**	**0.90**	**174**			**Pb**	**11 03 31.9**	**-1.3**
HDW	**Hoodsport**	**0.97**	**178**			**Pb**	**11 03 33.1**	**-1.3**
HDW						**Sb**	**11 03 46.2**	**-0.6**
HDW	**Hoodsport**	**0.97**	**178**		P	**Pb**	**11 03 33.1**	**-1.3**
HDW					S	**Sb**	**11 03 45.2**	**-1.3**
SHUK	**Shuksan-Mt. Ba**	**0.98**	**75**			**Pb**	**11 03 34.0**	**-0.6**
GHNB	**Nanoose**	**1.02**	**313**		P	**Pb**	**11 03 34.2**	**-1.0**
GHNB					S	**Sb**	**11 03 47.0**	**-1.1**
WPB	**Watts Point**	**1.05**	**356**		P	**Pb**	**11 03 34.7**	**-1.0**
WPB					S	**Sb**	**11 03 47.7**	**-1.3**
OCP	**Olym-Cheeka Pk**	**1.06**	**253**		P	**Pb**	**11 03 34.9**	**-1.0**
OCP					S	**Sb**	**11 03 48.5**	**-0.9**
GNW	**Green Mountain**	**1.07**	**170**			**Pb**	**11 03 34.6**	**-1.4**
GNW	**Green Mountain**	**1.07**	**170**		P	**Pb**	**11 03 34.6**	**-1.4**
GNW					S	**Sb**	**11 03 48.7**	**-0.8**
RPW	**Rockport**	**1.07**	**98**			**Pb**	**11 03 35.2**	**-1.0**
RPW	**Rockport**	**1.07**	**98**		P	**Pb**	**11 03 35.5**	**-0.6**
RPW					S	**Sb**	**11 03 48.9**	**-0.9**
B06A	**Marblemount**	**1.08**	**94**			**Pn**	**11 03 35.5**	**-0.8**
B06A	**Marblemount**	**1.08**	**94**		P	**Pn**	**11 03 35.5**	**-0.8**
B06A					S	**Sb**	**11 03 49.0**	**-1.0**
GMW	**Gold Mountain**	**1.09**	**168**			**Pn**	**11 03 34.9**	**-1.5**
SHB	**Sechelt**	**1.11**	**333**			**Pn**	**11 03 35.8**	**-1.0**
SHB	**Sechelt**	**1.11**	**333**		P	**Pn**	**11 03 35.7**	**-1.0**
SHB					S	**Sb**	**11 03 50.3**	**-0.6**
C03A	**Quillayute Air**	**1.18**	**236**			**Pb**	**11 03 38.4**	**+0.4**
C03A					IAML		11 04 00.9	
	comp=N,204nm,0.8s							
C03A					IAML		11 04 01.3	
	comp=E,225nm,1.5s							
OLQ	**Olympics--Lake**	**1.20**	**203**			**Pb**	**11 03 38.3**	**+0.1**
SP2	**Seward Park 2**	**1.20**	**151**			**Pn**	**11 03 38.0**	**+0.1**
HTW	**Haystack Looko**	**1.21**	**132**			**Pn**	**11 03 37.4**	**-0.7**
B927	**Port Alberni**	**1.28**	**299**			**Pn**	**11 03 38.6**	**-0.4**
B927	**Port Alberni**	**1.28**	**299**		P	**Pn**	**11 03 38.7**	**-0.4**
B927					S	**Sn**	**11 03 54.9**	**-0.6**
SMW	**South Mountain**	**1.30**	**187**		P	**Pb**	**11 03 39.9**	**-0.3**
NLWA	**Neilton Lookou**	**1.33**	**203**			**Pb**	**11 03 40.6**	**+0.1**
NLWA					IAML		11 04 00.7	
	comp=E,155nm,0.3s							
NLWA					IAML		11 04 00.8	
	comp=E,158nm,0.4s							
B928	**Bamfield**	**1.36**	**280**			**Pn**	**11 03 40.3**	**+0.2**
B928	**Bamfield**	**1.36**	**280**		P	**Pn**	**11 03 40.1**	**0.0**
B928					S	**Sn**	**11 03 57.2**	**-0.3**
BFSB	**Bamfield**	**1.36**	**280**		P	**Pn**	**11 03 39.9**	**-0.3**
BFSB					S	**Sn**	**11 03 57.3**	**-0.3**
TXB	**Texada**	**1.39**	**322**		P	**Pn**	**11 03 40.2**	**-0.4**
TXB					S	**Sn**	**11 03 57.9**	**-0.5**
GPW	**Glacier Peak**	**1.40**	**110**			**Pn**	**11 03 40.9**	**-0.1**
GPW	**Glacier Peak**	**1.40**	**110**		P	**Pn**	**11 03 40.7**	**-0.3**
GPW					S	**Sn**	**11 03 58.1**	**-0.9**
RATT	**Rattlesnake La**	**1.48**	**143**			**Pn**	**11 03 41.3**	**-0.4**
WISH	**Wishkah**	**1.56**	**197**		Pn	**Pn**	**11 03 43.5**	**+0.6**
WISH					IAML		11 04 38.1	
	comp=N,122nm,4.1s							
WISH	**Wishkah**	**1.56**	**197**		P	**Pn**	**11 03 43.4**	**+0.5**
D05A	**Enumclaw**	**1.61**	**152**		Pn	**Pn**	**11 03 44.3**	**+0.7**
D05A					IAML		11 04 10.2	
	comp=N,147nm,0.4s							
D05A	**Enumclaw**	**1.61**	**152**		P	**Pn**	**11 03 44.0**	**+0.4**
D05A					S	**Sb**	**11 04 05.1**	**-0.1**
OZB	**Mount Ozzard**	**1.62**	**283**			**Pb**	**11 03 44.7**	**-0.7**
OZB					IAML		11 04 10.5	
	comp=E,242nm,0.4s							
OZB	**Mount Ozzard**	**1.62**	**283**		P	**Pn**	**11 03 44.3**	**+0.6**
OZB					S	**Sb**	**11 04 05.7**	**+0.2**
B012	**Ucluelet**	**1.64**	**282**		S	**Sb**	**11 04 06.3**	**+0.2**
CPW	**Capitol Peak**	**1.64**	**181**		P	**Pn**	**11 03 44.6**	**+0.5**
CPW					S	**Sb**	**11 04 05.5**	**-0.7**
GSM	**Grass Mountain**	**1.67**	**147**			**Pn**	**11 03 44.6**	**+0.1**
WRW	**Wenatchee Ridg**	**1.67**	**116**			**Pn**	**11 03 45.1**	**+0.6**
GHW	**Garrison Hill**	**1.67**	**160**			**Pn**	**11 03 44.4**	**0.0**
NLW	**Nelson Butte**	**1.92**	**105**			**Pn**	**11 03 49.2**	**+1.2**
OBSR	**Observation Ro**	**1.92**	**153**			**Pn**	**11 03 48.9**	**+0.7**
FMW	**Mount Fremont**	**1.94**	**150**			**Pn**	**11 03 48.7**	**+0.3**
FMW	**Mount Fremont**	**1.94**	**150**		P	**Pn**	**11 03 48.7**	**+0.3**
FMW					S	**Sn**	**11 04 12.9**	**+0.7**
RCS	**Mount Rainier-**	**1.98**	**151**			**Pb**	**11 03 50.5**	**-1.2**
REMR	**Mount Rainier-**	**1.99**	**154**			**Pn**	**11 03 50.5**	**+0.5**
CBB	**Campbell River**	**2.05**	**315**		P	**Sb**	**11 03 50.5**	**+0.8**
CBB					S	**Sb**	**11 04 17.0**	**-0.9**
LON	**Longmire**	**2.06**	**154**			**Pn**	**11 03 50.5**	**+0.6**
LON	**Longmire**	**2.06**	**154**			**Pn**	**11 03 50.6**	**+0.8**
LON	**Longmire**	**2.06**	**154**		P	**Pn**	**11 03 50.7**	**+0.8**
LON					S	**Sb**	**11 04 16.8**	**-1.4**
E03A	**Lebam**	**2.09**	**189**			**Pn**	**11 03 50.9**	**+0.7**
E03A					IAML		11 04 23.2	
	comp=E,67nm,1.0s							
E03A	**Lebam**	**2.09**	**189**		P	**Pn**	**11 03 51.2**	**+1.0**
E03A					S	**Sb**	**11 04 17.7**	**-1.4**
SPLB	**Strathcona Par**	**2.10**	**308**		P	**Pn**	**11 03 51.6**	**+1.2**
SPLB					S	**Sn**	**11 04 17.2**	**+1.3**
ETW	**Entiat**	**2.12**	**117**			**Pn**	**11 03 52.0**	**+1.3**
LTY	**Liberty**	**2.13**	**129**			**Pn**	**11 03 52.2**	**+1.5**
LTY					IAML		11 04 23.6	
	comp=N,103nm,0.7s							
LTY	**Liberty**	**2.13**	**129**		P	**Pn**	**11 03 52.2**	**+1.5**
LTY					S	**Sb**	**11 04 19.1**	**-1.1**
BMW	**Boistfort Moun**	**2.14**	**182**			**Pn**	**11 03 52.2**	**+1.2**
LLLB	**Lillooet**	**2.15**	**21**			**Pn**	**11 03 52.3**	**+1.2**
LLLB					IAML		11 04 22.5	
	comp=N,77nm,0.7s							
LLLB					IAML		11 04 23.3	
	comp=E,88nm,0.7s							
LLLB	**Lillooet**	**2.15**	**21**		P	**Pb**	**11 03 53.4**	**-1.1**
LLLB					S	**Sb**	**11 04 21.4**	**+0.6**
WPW	**White Pass**	**2.19**	**151**			**Pn**	**11 03 53.0**	**+1.4**
CBSW	**Chelan Butte S**	**2.20**	**110**			**Pn**	**11 03 55.3**	**-0.2**
TBM	**Table Mountain**	**2.22**	**130**			**Pb**	**11 03 54.5**	**-1.3**
KOSW	**Kosmos**	**2.24**	**164**			**Pb**	**11 03 54.9**	**-1.2**
RADR	**Rader Ridge**	**2.24**	**192**		Pn	**Pn**	**11 03 53.4**	**+1.1**
RADR					IAML		11 04 22.2	
	comp=N,65nm,2.5s							
RADR					IAML		11 04 58.8	
	comp=E,83nm,4.9s							
WTV	**Waterville**	**2.30**	**112**			**Pn**	**11 03 54.3**	**+1.1**
DHW2	**Dyer Hill 2**	**2.31**	**105**			**Pb**	**11 03 57.0**	**-0.3**
B201	**Coldwater, Mou**	**2.38**	**166**			**Pn**	**11 03 56.0**	**+1.8**
PNT	**Penticton**	**2.40**	**72**			**Pb**	**11 04 00.2**	**+1.3**
PNT	**Penticton**	**2.40**	**72**		P	**Pn**	**11 03 55.7**	**+1.2**
PNT					S	**Sb**	**11 04 29.1**	**+0.9**
EBG	**Ellensburg**	**2.42**	**134**			**Pn**	**11 03 56.9**	**+2.1**
JRO	**Jston Ridge Ob**	**2.42**	**165**			**Pb**	**11 03 57.8**	**-1.3**
NAC	**Naches**	**2.43**	**140**			**Pb**	**11 03 57.4**	**-1.9**
STD	**Studebaker Rid**	**2.45**	**166**			**Pb**	**11 03 57.7**	**-2.1**
B202	**Windy Ridge, M**	**2.46**	**164**			**Pn**	**11 03 57.2**	**+1.9**
FL2	**Flat Top 2**	**2.47**	**168**			**Pb**	**11 03 57.9**	**-2.2**
RVW	**Rose Valley**	**2.48**	**174**			**Pb**	**11 03 59.5**	**-0.6**
VALT	**Mount Saint He**	**2.48**	**165**			**Pb**	**11 03 58.3**	**-2.0**
BOLM	**Sugar Bowl**	**2.48**	**165**			**Pb**	**11 03 58.7**	**-1.6**
SEPW	**September Lobe**	**2.49**	**165**			**Pb**	**11 03 58.5**	**-2.0**
B08A	**Colville Reser**	**2.52**	**94**			**Pb**	**11 04 00.6**	**-0.3**
B08A	**Colville Reser**	**2.52**	**94**		P	**Pb**	**11 03 59.5**	**-1.4**
B08A					S	**Sb**	**11 04 31.2**	**-0.3**
NCRB	**Newcastle Ridg**	**2.63**	**314**		P	**Pn**	**11 04 00.1**	**+2.5**
NCRB					S	**Sb**	**11 04 33.7**	**-0.9**
ASR	**Mount Adams--S**	**2.67**	**157**			**Pb**	**11 04 01.0**	**-2.5**
WOSB	**Woss**	**2.74**	**306**		P	**Pb**	**11 04 02.0**	**-2.7**
WOSB					S	**Sb**	**11 04 37.1**	**-0.8**
GULW	**Guler Mountain**	**2.88**	**159**			**Pn**	**11 03 58.6**	**-2.6**
EDB	**Eliza Dome**	**2.92**	**297**		S	**Sb**	**11 04 43.6**	**+0.8**
FHE	**Frenchman Hill**	**2.95**	**123**			**Pn**	**11 04 03.6**	**+1.6**
MAYB	**Maynard**	**3.20**	**306**		P	**Pn**	**11 04 07.7**	**+2.2**
MAYB					S	**Sb**	**11 04 51.0**	**0.0**
D08A	**Wollman Farm,**	**3.22**	**117**		Pn	**Pn**	**11 04 05.5**	**-0.3**
HAWA	**Hanford**	**3.29**	**131**		Pn	**Pn**	**11 04 07.3**	**+0.6**
HAWA					IAML		11 05 02.7	
	comp=E,23nm,0.8s							
HAWA					IAML		11 05 05.5	
	comp=E,24nm,1.6s							
HIYU	**Hiyu Mountain**	**3.30**	**164**			**Pb**	**11 04 11.9**	**-2.4**
C09A	**Chrisman Ranch**	**3.33**	**102**			**Pn**	**11 04 08.7**	**+1.4**
PACB	**Port Alice, BC**	**3.39**	**304**		P	**Pn**	**11 04 10.9**	**+2.9**
PACB					S	**Sb**	**11 04 54.3**	**-2.1**
HEBO	**Mount Hebo**	**3.43**	**188**		Pn	**Pn**	**11 04 09.5**	**+0.9**
F07A	**Phinny Hill Vi**	**3.48**	**140**			**Pn**	**11 04 10.1**	**+0.9**
F07A					IAML		11 05 09.4	
	comp=N,31nm,0.7s							
F07A					IAML		11 05 13.5	
	comp=E,24nm,0.5s							
E09A	**Wood Farm, Sta**	**3.96**	**120**			**Pn**	**11 04 16.7**	**+0.8**
E09A					IAML		11 05 24.4	
	comp=N,15nm,0.6s							
E09A					IAML		11 05 31.0	
	comp=E,14nm,1.0s							
H04A	**Detroit Lake**	**3.98**	**171**		Pn	**Pn**	**11 04 18.7**	**+2.5**
H04A					IAML		11 04 50.9	
	comp=E,19nm,4.2s							
H04A					IAML		11 04 52.6	
	comp=N,22nm,4.5s							
NEW	**Newport**	**4.00**	**93**		Pn	**Pn**	**11 04 18.9**	**+2.5**
COR	**Corvallis**	**4.03**	**182**		Pn	**Pn**	**11 04 17.3**	**+0.5**
BUCK	**Buck Mountain**	**4.42**	**179**		Pn	**Pn**	**11 04 24.4**	**+2.1**
F10A	**Beach Ranch, E**	**4.79**	**121**			**Pn**	**11 04 28.8**	**+1.4**
F10A					IAML		11 05 45.5	
	comp=E,18nm,2.9s							
F10A					IAML		11 05 54.3	
	comp=N,19nm,1.5s							
BMO	**Blue Mountains**	**5.48**	**131**		Pn	**Pn**	**11 04 38.5**	**+1.6**
PLID	**Pearl Lake**	**6.01**	**123**		Pn	**Pn**	**11 04 45.0**	**+0.6**

*VAO **30** 11:46:46.3±0.7, 14°.50S×72°.82W, h71^{km}±6^{km}, mb4.8*
*IDC **30** 11:46:46.4±1.9, 14°.54S×72°.83W, h74^{km}±18^{km}, mb3.9/13, mbtmp4.3/20, MS3.4/2, Error ellipse: s-maj=22.9km s-min=12.7km az=53.0*
*NEIC **30** 11:46:47.1±2.2, 14°.52S±0°.08×72°.90W±0°.10, h71^{km}±8^{km}, mb4.7/21, Error ellipse: s-maj=15.3km s-min=9.1km az=59.0*

ISC 30 11:46:47.0±0.4, **14°.54S**±0°.05×**72°.88W**±0°.06, **h83**^{km}, **n147**, σ1°**39**/154, **mb4.3**/24, **2D**, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
AP01	**Chacalluta**	**4.52**	**148**				**Pn**	**11 47 54.4**	**+1.4**
AP01	**Chacalluta**	**4.52**	**148**	*e*	P		**Pn**	**11 47 51.8**	**-1.1**
AP01					*e*	S	**Sn**	**11 48 44.8**	**+0.5**
NNA	**Nana**	**4.62**	**303**		P		**Pn**	**11 47 54.3**	**-0.2**
	100nm,0.3s,baz=124,slow=11,SNR=30								
NNA					S		**Sn**	**11 48 44.8**	**-2.2**
	371nm,0.4s,baz=157,slow=9.7,SNR=11								
PB12	**IPOC Station P**	**4.73**	**149**				**Pn**	**11 47 56.2**	**+0.3**
PB12	**IPOC Station P**	**4.73**	**149**	*i*	P		**Pn**	**11 47 56.3**	**+0.3**
PB12					*e*	S	**Sn**	**11 48 49.1**	**-0.6**
LPAZ	**La Paz**	**4.89**	**111**		P		**Pn**	**11 48 02.6**	**+3.9**
	40nm,0.4s,baz=296,slow=8.1,SNR=93								
LPAZ					S		**Sn**	**11 48 58.1**	**+3.7**
	51nm,0.7s,baz=287,slow=11,SNR=9.5								
LPAZ	**La Paz**	**4.89**	**111**	*e*	P		**Pn**	**11 48 02.5**	**+3.7**
PB16	**IPOC Station P**	**4.97**	**140**		Pn		**Pn**	**11 48 02.3**	**+2.7**
PB16	**IPOC Station P**	**4.97**	**140**	*i*	P		**Pn**	**11 48 02.5**	**+2.8**
PB16					*e*	S	**Sn**	**11 48 58.7**	**+2.6**
MNMC	**Minye Minye**	**5.54**	**146**				**Pn**	**11 48 07.6**	**+0.4**
PSGCX	**Pisagua**	**5.67**	**153**		Pn		**Pn**	**11 48 08.0**	**-0.8**
PB11	**IPOC Station P**	**6.03**	**150**				**Pn**	**11 48 13.4**	**-0.5**
GO01	**Chusmiza**	**6.20**	**146**		Pn		**Pn**	**11 48 17.3**	**+1.0**
TA02	**Huaiquique**	**6.27**	**156**				**Pn**	**11 48 14.2**	**-0.6**
TA01	**Diego Aracena**	**6.52**	**157**		Pn		**Pn**	**11 48 19.0**	**-1.3**
PATCX	**Punta Patache**	**6.76**	**158**		Pn		**Pn**	**11 48 22.5**	**-1.2**
CZSB	**Cruzeiro do Su**	**6.77**	**1**		Pn		**Pn**	**11 48 22.9**	**-0.9**
CZSB	**Cruzeiro do Su**	**6.77**	**1**	*e*	P		**Pn**	**11 48 22.5**	**-1.3**
ETMB	**Extrema**	**8.03**	**55**		Pn		**Pn**	**11 48 41.3**	**+0.4**
LVC	**Limon Verde**	**8.86**	**155**		P		**Pn**	**11 48 52.1**	**-0.5**
	10nm,0.3s,baz=360,slow=8.3,SNR=49								
LVC					S		**Sn**	**11 50 27.3**	**-3.7**
	25nm,0.5s,baz=18,slow=20,SNR=12								
ATAH	**Atahualpa**	**9.14**	**323**		P		**Pn**	**11 48 55.0**	**-1.5**
	3.0nm,0.4s,baz=85,slow=4.8,SNR=5.5								
ATAH					S		**Sn**	**11 50 35.0**	**-2.9**
	17nm,0.7s,baz=54,slow=19,SNR=1.5								
TBTG	**Tabatinga, AM**	**10.70**	**16**	*e*	P		**Pn**	**11 49 14.3**	**-3.1**
SAML	**Samuel**	**11.00**	**61**				**Pn**	**11 49 19.6**	**-1.9**
SIV	**San Ignacio**	**11.48**	**99**		P		**Pn**	**11 49 27.7**	**-0.3**
	6.1nm,0.4s,baz=281,slow=9.4,SNR=34								
SIV					S		**Sn**	**11 51 29.0**	**-5.5**
	5.2nm,0.5s,baz=247,slow=24,SNR=1.6								
SIV					LR		LR	11 54 47.2	
	comp=Z,121nm,19.9s,baz=296,slow=42								
BBSD	**Serra de San D**	**12.09**	**104**	*e*	P		**Pn**	**11 49 35.3**	**-1.0**
MCRA	**Macar, Loja**	**12.28**	**325**				**Pn**	**11 49 36.1**	**-2.8**
VILB	**Vilhena**	**12.42**	**84**		Pn		**Pn**	**11 49 40.2**	**-0.6**
VILB	**Vilhena**	**12.42**	**84**	*e*	P		**Pn**	**11 49 39.9**	**-0.9**
AC02	**Maricunga**	**12.72**	**165**		Pn		**Pn**	**11 49 44.7**	**-0.5**
BBRB	**Robore, Bolivi**	**13.08**	**108**	*e*	P		**Pn**	**11 49 47.9**	**-1.6**
PTLB	**Pontes e Lacer**	**13.31**	**96**				**Pn**	**11 49 51.7**	**-0.8**
PTLB	**Pontes e Lacer**	**13.31**	**96**	*e*	P		**Pn**	**11 49 51.5**	**-1.1**
TEFE	**Tefe**	**13.65**	**37**	*e*	P		**Pn**	**11 49 56.7**	**-0.3**
PORT	**Chimborazo Vol**	**14.24**	**335**		P		**Pn**	**11 50 07.5**	**+2.2**
SGCB	**SÃo Gabriel d**	**15.45**	**22**	*e*	P		**Pn**	**11 50 16.4**	**-3.9**
OTAV	**Otavalo**	**15.69**	**339**	*e*	P		**Pn**	**11 50 24.0**	**+0.3**
PDRB	**Porto dos Gac**	**16.00**	**81**	*e*	P		**Pn**	**11 50 25.1**	**-2.1**
FLOC	**Florencia**	**16.26**	**350**	*e*	P		**P**	**11 50 35.1**	**+3.1**
MACA	**Manacapuru-AM**	**16.51**	**48**				**Pn**	**11 50 33.0**	**-0.6**
MACA	**Manacapuru-AM**	**16.51**	**48**	*e*	P		**Pn**	**11 50 32.4**	**-1.2**
MACC	**Macarena, Meta**	**16.61**	**357**	*e*	P		**P**	**11 50 35.6**	**-0.3**
SALV	**Santo Antonio**	**16.64**	**97**	*e*	P		**Pn**	**11 50 35.6**	**+0.5**
ESFA	**Espinillo Form**	**17.04**	**130**	*e*	P		**P**	**11 50 40.8**	**+0.3**
CLDB	**Colider**	**17.06**	**80**	*e*	P		**Pn**	**11 50 40.1**	**-0.2**
VACA	**Villa Angela C**	**17.27**	**141**	*e*	P		**Pn**	**11 50 42.4**	**-0.4**
AQDB	**Aquidauana**	**17.41**	**112**		P		**Pn**	**11 50 44.5**	**-0.1**
AQDB					IAmb		IAmb	11 50 45.9	
	comp=Z,45nm,1.2s								
AQDB	**Aquidauana**	**17.41**	**112**	*e*	P		**P**	**11 50 44.8**	**+0.1**
CFA	**Coronel Fontan**	**17.51**	**167**		P		**Pn**	**11 50 45.9**	**+0.1**
	comp=Z,11nm,0.9s,baz=337,slow=11,SNR=14								
PP1B	**Ponte de Pedra**	**17.56**	**102**	*e*	P		**Pn**	**11 50 46.7**	**+0.2**
ORTC	**Ortega, Tolima**	**18.48**	**353**	*e*	P		**Pn**	**11 51 00.2**	**+2.5**
CPUP	**Villa Florida**	**18.68**	**131**		P		**P**	**11 50 59.4**	**+0.7**
	comp=Z,33nm,0.7s,baz=308,slow=11,SNR=65								
CPUP	**Villa Florida**	**18.68**	**131**		P		**Pn**	**11 50 59.7**	**-0.2**
CPUP					IAmb		IAmb	11 51 01.8	
	comp=Z,35nm,0.8s								
CPUP	**Villa Florida**	**18.68**	**131**	*e*	P		**P**	**11 50 59.2**	**+0.6**
YOTC	**Yotoco, Valle**	**18.73**	**349**	*e*	P		**Pn**	**11 51 01.7**	**+1.1**
NPGB	**Novo Progresso**	**18.74**	**68**	*e*	P		**P**	**11 50 59.1**	**-0.3**
AMBA	**Amambai (Brazi**	**18.87**	**119**	*e*	P		**P**	**11 51 00.7**	**-0.1**
CHIC	**Chingaza**	**19.07**	**357**	*e*	P		**Pn**	**11 51 07.6**	**+2.7**
ROSC	**El Rosal**	**19.31**	**356**		P		**P**	**11 51 06.1**	**+0.1**
	comp=Z,5.0nm,0.3s,baz=200,slow=15,SNR=1.5								
ROSC					LR		LR	11 58 37.5	
	comp=Z,144nm,19.2s,baz=289,slow=37								

PLMC	**San Jos del P**	**19.61**	**350**	*e*	P		**Pn**	**11 51 11.2**	**+0.2**
C2SB	**Chapadao do Su**	**19.65**	**105**	*e*	P		**P**	**11 51 09.5**	**+0.3**
ITTB	**Itaituba**	**19.68**	**61**	*e*	P		**P**	**11 51 09.4**	**-0.3**
MECA	**Mercedes**	**20.01**	**140**	*e*	P		**P**	**11 51 13.3**	**+0.2**
MCR1	**Marechal Candi**	**20.29**	**122**	*e*	P		**P**	**11 51 15.8**	**-0.4**
RUSC	**La Rusia**	**20.30**	**359**		P		**P**	**11 51 17.5**	**+0.6**
RUSC					IAmb		IAmb	11 51 26.4	
	comp=Z,36nm,1.4s								
RUSC	**La Rusia**	**20.30**	**359**	*e*	P		**P**	**11 51 17.7**	**+0.9**
ARAG	**Araguaiana, MT**	**20.37**	**96**	*e*	P		**P**	**11 51 17.0**	**-0.1**
CBOC	**Ciudad Bolivar**	**20.51**	**351**	*e*	P		**P**	**11 51 20.3**	**+1.5**
AZCA	**Azaras, Argent**	**20.68**	**133**	*e*	P		**P**	**11 51 20.8**	**+0.4**
BOAV	**Boa Vista**	**20.81**	**37**		P		**P**	**11 51 23.5**	**+1.6**
BOAV					IAmb		IAmb	11 51 24.0	
	comp=Z,55nm,0.9s								
BOAV	**Boa Vista**	**20.81**	**37**	*e*	P		**P**	**11 51 22.9**	**+1.1**
BOAV	**Boa Vista**	**20.81**	**37**	*e*	P		**P**	**11 51 20.9**	**-0.9**
BARC	**Barichara**	**21.00**	**359**	*e*	P		**P**	**11 51 22.6**	**-1.5**
PTBC	**PUERTO BERRIO,**	**21.00**	**356**	*e*	P		**P**	**11 51 24.0**	**+0.1**
SNDB	**Serra Nova Dou**	**21.16**	**86**	*e*	P		**P**	**11 51 26.1**	**+0.4**
ITQB	**Itaqui**	**21.25**	**138**		P		**P**	**11 51 28.0**	**+1.6**
ITQB	**Itaqui**	**21.25**	**138**	*e*	P		**P**	**11 51 25.9**	**-0.5**
DBBC	**Dabeiba**	**21.67**	**351**	*e*	P		**P**	**11 51 30.2**	**-0.9**
PCMB	**Pacaembu**	**21.70**	**112**	*e*	P		**P**	**11 51 30.2**	**-1.1**
CRSM	**Crissiumal (Br**	**21.76**	**129**	*e*	P		**P**	**11 51 31.3**	**-0.6**
FRBT	**Francisco Belt**	**21.76**	**125**	*e*	P		**P**	**11 51 31.5**	**-0.5**
ZARC	**

JMYK	**Miyake Tsubota**	**1.31**	**298**	P	**Pn**	**11 50 14.2**	**-0.2**
JMYK				*e*S	**Sn**	**11 50 30.4**	**-0.4**
BSO3	**Boso 3**	**1.39**	**345**	P	**Pn**	**11 50 15.2**	**-0.1**
JIZS	**Izushimoda**	**2.13**	**307**	P	**Pn**	**11 50 25.8**	**+0.2**
JIZS				*e*S	**Sn**	**11 50 50.1**	**-0.7**
JOD2	**Odawara 2**	**2.37**	**320**	P	**Pn**	**11 50 28.5**	**-0.4**
JOD2				*e*S	**Sn**	**11 50 54.7**	**-2.0**
JYN	**Shimob**	**2.85**	**316**	P	**Pn**	**11 50 36.3**	**+0.9**
MJAR	**Matsushiro Arr**	**3.81**	**325**	Pn	**Pn**	**11 50 49.5**	**+0.9**
	0.2nm,0.3s,baz=157,slow=22,SNR=9.3						
MJAR				Sn	**Sn**	**11 51 34.0**	**+1.8**
	baz=166,slow=31,SNR=1.5						
	1.8nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.84**	**114**	T	T	12 24 22.4	
	baz=307						
H11N1	**WAKE ISLAND Hy**	**26.84**	**114**	T	T	12 24 20.1	
	baz=307						
H11N3	**WAKE ISLAND Hy**	**26.86**	**114**	T	T	12 24 20.8	
	baz=307						
WRA	**Warramunga Arr**	**53.47**	**188**	P	**P**	**11 59 07.3**	**-0.2**
	0.5nm,0.3s,baz=0.5,slow=7.5,SNR=2.5						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**57.20**	**188**	P	**P**	**11 59 34.2**	**-0.1**
	0.2nm,0.4s,baz=3.4,slow=6.7,SNR=7.5						
	0.2nm,0.4s						

*IDC **30** 12:14:52.9±3.2, 19°.58S×172°.76E, h0km, mb3.6/2, mbtmp3.8/3, ML3.5/1, MS3.5/3, Error ellipse: s-maj=168.0km s-min=45.8km az=158.0*

ISC 30 12:14:57.4±2.3, 20°.S±1°×172°.8E±0°.6, h35km, n12, σ1§52/4, MS3.5/3, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YATNC	**Mamie plateau,**	**5.99**	**247**	P	Pn	12 16 26.7	+3.1
OUENC	**Ouen Island, N**	**6.17**	**244**	P	**Pn**	**12 16 25.4**	**-0.6**
DZM	**Mont Dzumac**	**6.38**	**248**	Pn	Pn	12 16 30.1	+1.0
	1.1nm,0.3s,baz=116,slow=14,SNR=29						
DZM				Sn	**Sn**	**12 17 41.8**	**+0.9**
	0.8nm,0.3s,baz=295,slow=20,SNR=2.5						
	7.8nm,0.4s						
DZM	**Mont Dzumac**	**6.38**	**248**	P	Pn	12 16 30.3	+1.2
ONTNC	**Ouen Toro**	**6.46**	**246**	P	Pn	12 16 30.9	+0.9
NOUC	**Port Laguerre**	**6.52**	**248**	P	Pn	12 16 33.3	+2.5
STKA	**Stephens Creek**	**30.47**	**240**	LR	LR	12 31 45.8	
	comp=Z,62nm,18.9s,baz=24,slow=33						
WRA	**Warramunga Arr**	**36.15**	**263**	P	P	12 21 57.2	+0.5
	0.2nm,0.4s,baz=97,slow=8.3,SNR=5.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**36.29**	**257**	P	**P**	**12 21 57.5**	**-0.4**
	1.4nm,0.9s,baz=79,slow=8.3,SNR=12						
	1.4nm,0.9s						
GUMO	**Guam**	**43.11**	**318**	LR	LR	12 39 19.3	
	comp=Z,62nm,19.0s,baz=110,slow=34						
PETK	**Petropavlovsk-**	**73.78**	**351**	LR	LR	12 53 28.5	
	comp=Z,30nm,20.2s,baz=86,slow=32						
TORD	**Torodi Ar. Bea**	**169.23**	**233**	PKP	**PKPdf**	**12 35 02.8**	**+0.9**
	0.2nm,0.6s,baz=207,slow=1.0,SNR=3.4						

BUC 30 12:37:45.1±0.3, 45°.50N×27°.85E, h3km±2km, ml1.9/8, 76C-30D, Error ellipse: s-maj=1.8km s-min=1.5km az=57.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHL	**Schela**	**0.01**	**286**	↑P	Pg	12 37 45.3	-0.4
SCHL				↑S	Sg	12 37 46.3	+0.1
SCHL	**Schela**	**0.01**	**286**	↑P	Pg	12 37 45.8	+0.1
SCHL				↑S	Sg	12 37 46.8	+0.6
SCHL	**Schela**	**0.01**	**286**	↑P	Pg	12 37 45.3	-0.4
SCHL				↑S	Sg	12 37 46.3	+0.1
SCHL	**Schela**	**0.01**	**286**	↑P	Pg	12 37 45.8	+0.1
SCHL				↑S	Sg	12 37 46.8	+0.6
IZVR	**Izvoarele**	**0.07**	**309**	↓P	Pg	12 37 45.7	-0.9
IZVR				↓S	Sg	12 37 47.0	-0.6
IZVR	**Izvoarele**	**0.07**	**309**	↑P	Pg	12 37 46.7	+0.1
IZVR				↓S	Sg	12 37 47.7	+0.1
IZVR	**Izvoarele**	**0.07**	**309**	↓P	Pg	12 37 45.7	-0.9
IZVR				↓S	Sg	12 37 47.0	-0.6
IZVR	**Izvoarele**	**0.07**	**309**	↑P	Pg	12 37 46.7	+0.1
IZVR				↓S	Sg	12 37 47.7	+0.1
SLCR	**Slobozia Conac**	**0.11**	**330**	↓P	Pg	12 37 46.2	-1.1
SLCR				↓S	Sg	12 37 47.7	-1.0
SLCR	**Slobozia Conac**	**0.11**	**330**	↑P	Pg	12 37 47.1	-0.1
SLCR				↑S	Sg	12 37 48.2	-0.5
SLCR	**Slobozia Conac**	**0.11**	**330**	↓P	Pg	12 37 46.2	-1.1
SLCR				↓S	Sg	12 37 47.7	-1.0
SLCR	**Slobozia Conac**	**0.11**	**330**	↑P	Pg	12 37 47.1	-0.1
SLCR				↑S	Sg	12 37 48.2	-0.5
TUDR		**0.16**	**308**	↓P	Pg	12 37 47.3	-0.8
TUDR				↓S	Sg	12 37 49.1	-1.2
TUDR		**0.16**	**308**	↑P	Pg	12 37 48.3	+0.2
TUDR				↑S	Sg	12 37 50.7	+0.5
TUDR		**0.16**	**308**	↓P	Pg	12 37 47.3	-0.8
TUDR				↓S	Sg	12 37 49.1	-1.2
TUDR		**0.16**	**308**	↑P	Pg	12 37 48.3	+0.2
TUDR				↑S	Sg	12 37 50.7	+0.5
TATR	**Tatarca**	**0.17**	**55**	↑P	Pg	12 37 47.9	-0.6
TATR				↓S	Sg	12 37 50.4	-0.4
TATR	**Tatarca**	**0.17**	**55**	↑P	Pg	12 37 48.9	+0.4
TATR				↓S	Sg	12 37 51.1	+0.3
TATR	**Tatarca**	**0.17**	**55**	↑P	Pg	12 37 47.9	-0.6
TATR				↑S	Sg	12 37 50.4	-0.4
TATR	**Tatarca**	**0.17**	**55**	↑P	Pg	12 37 48.9	+0.4
TATR				↓S	Sg	12 37 51.1	+0.3
SCTR	**Scanteiesti**	**0.20**	**30**	↑P	Pg	12 37 48.4	-0.7
SCTR				↓S	Sg	12 37 50.9	-0.8
SCTR	**Scanteiesti**	**0.20**	**30**	↓P	Pg	12 37 49.9	+0.8
SCTR				↑S	Sg	12 37 52.0	+0.3
SCTR	**Scanteiesti**	**0.20**	**30**	↑P	Pg	12 37 48.4	-0.7
SCTR				↓S	Sg	12 37 50.9	-0.8
SCTR	**Scanteiesti**	**0.20**	**30**	↓P	Pg	12 37 49.9	+0.8
SCTR				↑S	Sg	12 37 52.0	+0.3
CFR	**Carcaliu**	**0.38**	**147**	↑P	Pg	12 37 51.4	-1.0
CFR				↑S	Sg	12 37 56.0	-1.3
CFR	**Carcaliu**	**0.38**	**147**	↑P	Pg	12 37 52.5	+0.2
CFR				↓S	Sg	12 37 57.2	-0.1
CFR	**Carcaliu**	**0.38**	**147**	↑P	Pg	12 37 51.4	-1.0
CFR				↑S	Sg	12 37 56.0	-1.3
CFR	**Carcaliu**	**0.38**	**147**	↑P	Pg	12 37 52.5	+0.2
CFR				↓S	Sg	12 37 57.2	-0.1
VLDR	**Vladesti**	**0.38**	**25**	↓P	Pg	12 37 51.5	-1.0
VLDR				↓S	Sg	12 37 55.8	-1.7
VLDR	**Vladesti**	**0.38**	**25**	↓S	Sg	12 37 57.3	-0.2
VLDR	**Vladesti**	**0.38**	**25**	↓P	Pg	12 37 51.5	-1.0
VLDR				↓S	Sg	12 37 55.8	-1.7
VLDR	**Vladesti**	**0.38**	**25**	↓S	Sg	12 37 57.3	-0.2
VARL	**Varlezi**	**0.40**	**0**	↓S	Sg	12 37 58.1	0.0
VARL	**Varlezi**	**0.40**	**0**	↓S	Sg	12 37 58.1	0.0
PANC	**Panciu**	**0.62**	**308**	↓P	Pg	12 37 56.5	-0.4
PANC				↑S	Sg	12 38 05.8	+0.9
PANC	**Panciu**	**0.62**	**308**	↓P	Pg	12 37 56.5	-0.4
PANC				↑S	Sg	12 38 05.8	+0.9
TLCR		**0.75**	**114**	↑S	Sg	12 38 08.8	-0.4
TLCR		**0.75**	**114**	↑S	Sg	12 38 08.8	-0.4
TPGR	**Topolog**	**0.76**	**147**	↑P	Pg	12 37 58.4	-1.2
TPGR				↑S	Sg	12 38 08.7	-0.7
TPGR	**Topolog**	**0.76**	**147**	↑P	Pg	12 37 58.4	-1.2
TPGR				↑S	Sg	12 38 08.7	-0.7
BISRR	**Bisoca**	**0.80**	**274**	↑S	Sg	12 38 11.3	+0.4
BISRR	**Bisoca**	**0.80**	**274**	↑S	Sg	12 38 11.3	+0.4
HARR	**Harsova**	**0.81**	**176**	↑P	Pg	12 37 59.7	-0.9
HARR	**Harsova**	**0.81**	**176**	↑P	Pg	12 37 59.7	-0.9
VRI	**Vrincioaia**	**0.87**	**296**	↑P	Pg	12 38 01.0	-0.7
VRI				↑S	Sb	12 38 13.9	-0.8
VRI	**Vrincioaia**	**0.87**	**296**	↑P	Pg	12 38 01.0	-0.7
VRI				↑S	Sb	12 38 13.9	-0.8
PLOR	**Plostina**	**0.91**	**293**	↑P	Pg	12 38 01.9	-0.7
PLOR				↑S	Sg	12 38 14.8	+0.5
PLOR	**Plostina**	**0.91**	**293**	↑P	Pg	12 38 01.9	-0.7
PLOR				↑S	Sg	12 38 14.8	+0.5
ISR	**Istrita**	**0.99**	**248**	↓P	Pg	12 38 04.4	+0.2
ISR				↑S	Sg	12 38 17.7	+0.6
ISR	**Istrita**	**0.99**	**248**	↓P	Pg	12 38 04.4	+0.2
ISR				↑S	Sg	12 38 17.7	+0.6
LEOM	**Leova**	**1.01**	**16**	↑S	Sg	12 38 17.4	-0.3
LEOM	**Leova**	**1.01**	**16**	↑S	Sg	12 38 17.4	-0.3
TIRR	**Tirgusor**	**1.11**	**159**	↑P	Pg	12 38 04.9	-1.5
TIRR				↑S	Sg	12 38 20.4	-0.5
TIRR	**Tirgusor**	**1.11**	**159**	↑P	Pg	12 38 04.9	-1.5
TIRR				↑S	Sg	12 38 20.4	-0.5
VASR	**Vaslui**	**1.15**	**358**	↑S	Sb	12 38 22.7	-0.1
VASR	**Vaslui**	**1.15**	**358**	↑S	Sb	12 38 22.7	-0.1
COVR	**Voineasa-Covas**	**1.20**	**287**	↑S	Sg	12 38 24.0	+0.3
COVR	**Voineasa-Covas**	**1.20**	**287**	↑S	Sg	12 38 24.0	+0.3
MLR	**Muntele Rosu**	**1.34**	**270**	↑S	Sn	12 38 30.1	+1.0
MLR	**Muntele Rosu**	**1.34**	**270**	↑S	Sn	12 38 30.1	+1.0
MILM	**Milestii Mici**	**1.57**	**25**	↑P	Pn	12 38 13.2	-0.7
MILM				↑S	Sn	12 38 34.2	-0.4
MILM	**Milestii Mici**	**1.57**	**25**	↑P	Pn	12 38 13.2	-0.7
MILM				↑S	Sn	12 38 34.2	-0.4

*MAN **30** 12:40:45.3, 5°.62N×126°.42E, h10km, mb4.7, ML3.6, MS3.5*
*NEIC **30** 12:40:50.4±2.6, 5°.3N±0°.1×125°.9E±0°.1, h80km±9km, mb4.0/9, Error ellipse: s-maj=19.5km s-min=15.5km az=57.0*
*IDC **30** 12:40:51.8±2.0, 5°.34N×125°.96E, h98km±21km, mb3.5/5, mbtmp3.9/5, MS2.7/1, Error ellipse: s-maj=111.7km s-min=15.1km az=70.0*

ISC 30 12:40:46.7±0.7, 5°.45N±0°.05×126°.20E±0°.08, h50km, n30, σ1§41/30, mb4.0/9, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.40**	**297**	↑*i*P	**Pn**	**12 41 09.3**	**-0.7**
GSPH				*e*S	**Sn**	**12 41 28.8**	**+1.5**
DAV	**Davao City (W)**	**1.73**	**339**	P	Pn	12 41 20.6	+6.3
	242nm,0.4s,baz=100,slow=11,SNR=1.7						
DAV				S	Sn	12 41 44.1	+8.9
	184nm,0.4s,baz=245,slow=22,SNR=1.6						
DAV				LR	LR	12 42 09.5	
	comp=Z,174nm,21.3s,baz=154,slow=44						
KCP	**Kidapawan**	**1.90**	**325**	↓*i*P	**Pn**	**12 41 18.9**	**+2.0**
KCP				*i* S	Sn	12 41 47.8	+8.2
CTBH	**Cotabato--PC H**	**2.62**	**312**	↑*e*P	**Pn**	**12 41 28.4**	**+1.8**
CTBH				*i* S	**Sn**	**12 41 59.8**	**+2.5**
BIPH	**Bislig**	**2.72**	**3**	↑*i*P	**Pn**	**12 41 27.7**	**-0.2**
BIPH				*i* S	**Sn**	**12 41 59.6**	**-0.1**
TNTI	**Ternate**	**4.79**	**166**	Pn	**Pn**	**12 41 59.0**	**+2.6**
TOLI2	**Tolitoli**	**6.92**	**232**	Pn	**Pn**	**12 42 25.7**	**+0.2**
MTN	**Manton Dam**	**18.82**	**165**	P	**P**	**12 45 00.7**	**-1.7**
MTN				IAmb	IAmb	12 45 15.9	
	comp=Z,14nm,1.4s						
KNRA	**Kununurra**	**21.14**	**173**	P	**P**	**12 45 26.5**	**-1.1**
KNRA				IAmb	IAmb	12 45 32.4	
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.40**	**181**	P	**P**	**12 45 48.9**	**-2.4**
WB0	**Warramunga Arr**	**26.32**	**162**	P	**P**	**12 46 18.9**	**+0.9**
WB0				IAmb	IAmb	12 46 34.7	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**26.47**	**163**	P	**P**	**12 46 20.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=342,slow=10,SNR=11						
	comp=Z,0.5nm,0.6s						
WB2	**Warramunga Arr**	**26.47**	**163**	P	**P**	**12 46 19.6**	**+0.2**
WB2				IAmb	IAmb	12 46 30.1	
	comp=Z,3.8nm,1.1s						
AS31	**Alice Springs**	**29.90**	**166**	P	**P**	**12 46 50.7**	**+0.8**
ASAR	**Alice Springs**	**29.90**	**166**	P	**P**	**12 46 49.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=343,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**12 49 51.2**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=343,slow=2.5,SNR=4.7						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**29.90**	**166**	P	**P**	**12 46 51.6**	**+1.7**
MJAR	**Matsushiro Arr**	**32.85**	**18**	LR	LR	13 00 45.7	
	comp=Z,13nm,20.2s,baz=204,slow=36						
H11N1	**WAKE ISLAND Hy**	**42.03**	**67**	T	T	13 32 56.4	
	baz=254,slow=75,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**42.04**	**67**	T	T	13 32 57.9	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**42.05**	**67**	T	T	13 32 58.1	
	baz=254,slow=75,SNR=4.1						
MK31	**Makanchi Array**	**55.85**	**325**	P	**P**	**12 50 18.8**	**-0.5**
MK31				IAmb	IAmb	12 50 19.3	
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**12 50 18.9**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=120,slow=7.9,SNR=50						
MKAR				PcP	**PcP**	**12 51 17.2**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=122,slow=4.6,SNR=4.8						
	comp=Z,1.5nm,0.4s						
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**12 50 18.8**	**-0.5**
ZALV	**Zalesovo Beam**	**58.83**	**333**	P	**P**	**12 50 38.8**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=134,slow=8.3,SNR=2.2						
	comp=Z,0.4nm,0.4s						
KURK	**Kurchatov**	**60.02**	**327**	P	**P**	**12 50 47.3**	**-1.0**
NRIK	**Noril'sk**	**68.65**	**346**	P	**P**	**12 51 44.3**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=106,slow=7.4,SNR=3.7						
	comp=Z,1.8nm,0.4s						
ABKAR	**Akbulak array**	**70.50**	**320**	P	**P**	**12 51 55.1**	**-1.1**
KDAK	**Kodiak Island**	**80.73**	**32**	P	**P**	**12 52 57.4**	**+2.9**
IMAR	**Indian Mountai**	**81.00**	**24**		**P**	**12 52 57.2**	**+1.3**
BMAR	**Burnt Mountain**	**84.71**	**23**	P	**P**	**12 53 14.6**	**-0.5**

IDC 30 12:45:37.9±5.0, 22°.07S×176°.72W, h437km±67km, mb3.1/2, mbtmp3.9/3, Error ellipse: s-maj=114.0km s-min=39.4km az=3.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.54**	**310**	P	P	12 47 18.0	+0.2
	3.0nm,0.4s,baz=132,slow=21,SNR=6.5						
ASAR	**Alice Springs**	**45.34**	**258**	P	P	12 53 16.1	+0.4
	1.7nm,0.7s,baz=94,slow=7.4,SNR=16						
ASAR				PcP	PcP	12 54 47.5	+1.0
	0.3nm,0.9s,baz=109,slow=3.4,SNR=2.0						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**45.58**	**263**	P	P	12 53 16.6	-1.0
	0.7nm,0.4s,baz=97,slow=7.9,SNR=25						
	0.7nm,0.4s						
DBIC	**Dimbokro**	**162.79**	**152**	PKPab	PKPab	13 05 40.3	-1.0
	7.0nm,1.2s,baz=208,slow=3.7,SNR=3.4						

*IDC **30** 13:10:10.0±15.0, 36°.24N×70°.79E, h188km±156km, mb3.4/2, mbtmp3.9/4, ML3.5/2, Error ellipse: s-maj=100.9km s-min=60.4km az=168.0*
*NNC **30** 13:10:12.1±14.0, 36°.95N×70°.16E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=120.2km s-min=109.4km az=41.0*

ISC 30 13:10:12.3±1.1, 36°.56N±0°.08×70°.7E±0°.1, h204km, n25, σ1§13/26, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.03**	**22**	P	**Pn**	**13 11 41.0**	**+0.7**
	SNR=177						
UCH	**Uchtor**	**6.38**	**26**	P	**Pn**	**13 11 45.8**	**+0.8**
	SNR=81						
KK31	**Karatay Array**	**6.54**	**359**	↓Pn	**Pn**	**13 11 47.0**	**+0.5**
	4.0nm,0.3s,baz=182,slow=13,SNR=71						
KK31				↑Sn	**S**	**13 12 57.4**	**-3.6**
	9.9nm,0.5s,baz=190,slow=23,SNR=24						
EKS2	**Erkin-Say**	**6.54**	**20**	P	**Pn**	**13 11 47.6**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**6.74**	**25**	P	**Pn**	**13 11 50.3**	**+1.0**
	SNR=27						
AAK	**Ala-Archa**	**6.74**	**25**	S	**S**	**13 13 05.2**	**-0.9**
	4.8nm,0.6s,baz=325,slow=23,SNR=2.3						
KBK	**Karagaybulak**	**6.92**	**27**	P	**Pn**	**13 11 52.8**	**+1.3**
	SNR=14						
ULHL	**Ulahol**	**7.12**	**35**	P	**Pn**	**13 11 54.8**	**+0.6**
	SNR=9.0						
CHMS	**Chumysh**	**7.15**	**25**	P	**Pn**	**13 11 55.4**	**+1.0**
	SNR=13						
CHMS	**Chumysh**	**7.15**	**25**	↑Pn	**Pn**	**13 11 55.2**	**+0.7**
	8.9nm,0.4s						
CHMS				↓Sn	**S**	**13 13 15.0**	**-0.5**
	2.0nm,0.4s						
USP	**Ospenovka**	**7.31**	**22**	P	**Pn**	**13 11 57.0**	**+0.4**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.39**	**29**	P	**Pn**	**13 11 58.5**	**+0.8**
	SNR=51						
TKM2	**Tokmak 2**	**7.39**	**29**	↓Pn	**Pn**	**13 11 58.1**	**+0.4**
	17nm,0.5s						
MKAR	**Makanchi Array**	**13.39**	**37**	P	**Pn**	**13 13 15.3**	**+0.9**
	0.2nm,0.3s,baz=221,slow=12,SNR=13						
	1.0nm,0.6s						
DANN	**Dangsing**	**13.73**	**123**	*e*P	Pn	13 13 17.6	-1.5
	4.4nm,0.3s						
GKN	**Gorkha**	**14.54**	**122**	*e*P	**Pn**	**13 13 28.2**	**-0.8**
	12nm,0.3s						
DMN	**Daman**	**15.11**	**122**	*e*P	**Pn**	**13 13 35.4**	**-0.7**
	16nm,0.4s						
PKIN	**Phulchoki**	**15.33**	**122**	*e*P	**Pn**	**13 13 37.9**	**-0.8**
	5.2nm,0.2s						
PKI	**Pulchoki**	**15.34**	**122**	*e*P	**Pn**	**13 13 37.9**	**-1.0**
	3.0nm,0.2s						
GUN	**Gumba**	**15.46**	**120**	*e*P	**P**	**13 13 40.2**	**-0.2**
	4.6nm,0.3s						
JIRN	**Jiri**	**15.83**	**120**	*e*P	**P**	**13 13 44.3**	**-0.3**
	8.6nm,0.3s						
RAMN	**Ramite**	**16.56**	**121**	*e*P	**P**	**13 13 52.4**	**0.0**
	4.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.61**	**331**	P	**Pn**	**13 13 54.7**	**+1.2**
	0.2nm,0.3s,baz=156,slow=9.8,SNR=4.8						
	1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**19.96**	**25**	P	**P**	**13 14 30.4**	**+1.6**
	1.8nm,0.4s,baz=215,slow=11,SNR=7.0						
	1.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**65.47**	**268**	P	**P**	**13 20 33.7**	**-0.2**
	0.8nm,0.5s,baz=45,slow=5.9,SNR=6.0						
	0.8nm,0.5s						

*IDC **30** 13:15:12.9±1.0, 65°.86N×86°.01W, h0km, mb3.1/2, mbtmp3.6/8, ML3.1/6, Error ellipse: s-maj=22.2km s-min=9.3km az=7.0*
*OTT **30** 13:15:14.3±0.2, 65°.84N×86°.03W, h18km, MN3.7/4, 78km south from Repulse Bay, Nu Boothia Ungava Seismic Zone.*

ISC 30 13:15:10.0±0.8, 65°.85N±0°.06×86°.20W±0°.05, h10km, n16, σ3§52/25, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILON	**Igloolik, Nuna**	**3.91**	**23**	PN	**Pn**	**13 16 12.7**	**+2.7**
ILON				SN	**Sn**	**13 16 56.5**	**+0.6**
ILON				Trac		13 17 15.0	
	comp=Z,182nm,0.3s						
ILON				LG	Lg	13 17 16.2	
FRB	**Frobisher Bay**	**7.82**	**98**	Pn	**Pn**	**13 17 04.2**	**+0.7**
	0.5nm,0.3s,baz=291,slow=15,SNR=7.0						
FRB				Sn	**Sn**	**13 18 28.6**	**-3.4**
	2.3nm,0.3s,baz=209,slow=13,SNR=11						
FRB				Lg	Lg	13 19 09.4	
	5.4nm,0.3s,baz=198,slow=20,SNR=10						
	1.4nm,0.4s						
FRB	**Frobisher Bay**	**7.82**	**98**	PN	**Pn**	**13 17 04.7**	**+1.1**
FRB				SN	**Sn**	**13 18 28.2**	**-3.7**
FRB				LG	Lg	13 19 16.1	
FRB				Trac		13 19 18.3	
	comp=Z,28nm,0.4s						
CLRN	**Clyde River**	**8.02**	**47**	PN	**Pn**	**13 17 07.2**	**+0.9**
CLRN				SN	**Sn**	**13 18 32.6**	**-4.1**
CLRN				LG	Lg	13 19 22.2	
RES	**Resolute Bay**	**9.34**	**346**	Pn	**Pn**	**13 17 28.0**	**+3.6**
	0.2nm,0.3s,baz=178,slow=19,SNR=6.4						
RES				Sn	**Sn**	**13 19 05.2**	**-4.1**
	0.3nm,0.3s,baz=286,slow=13,SNR=5.3						
RES				Lg	Lg	13 19 59.6	
	1.4nm,0.3s,baz=255,slow=22,SNR=12						
	0.6nm,0.4s						
RES	**Resolute Bay**	**9.34**	**346**	PN	**Pn**	**13 17 26.9**	**+2.6**
RES				SN	**Sn**	**13 19 05.6**	**-3.6**
RES				Trac		13 20 00.7	
	comp=Z,16nm,0.6s						
RES				LG	Lg	13 20 05.7	
KUKN	**Kugluktuk,NWT**	**11.49**	**293**	PN	**Pn**	**13 17 56.6**	**+2.8**
KUKN				SN	**Sn**	**13 19 57.9**	**-4.1**
KUKN				LG	Lg	13 21 13.7	
KUKN				Trac		13 21 14.4	
	comp=Z,26nm,0.7s						
YKA	**Yellowknife Ar**	**12.77**	**268**	Pn	**Pn**	**13 18 11.0**	**-0.3**
	1.1nm,0.3s,baz=58,slow=13,SNR=55						
YKA				Sn	**Sn**	**13 20 28.7**	**-4.6**
	0.5nm,0.3s,baz=214,slow=15,SNR=2.6						
YKA				Lg	Lg	13 21 46.2	
	baz=58,slow=28						
	4.2nm,0.6s						
EUNU	**Eureka**	**14.28**	**360**	PN	**Pn**	**13 18 32.9**	**+1.0**
SCHQ	**Schefferville**	**14.54**	**130**	Pn	**Pn**	**13 18 34.9**	**-0.6**
	0.2nm,0.3s,baz=112,slow=19,SNR=1.6						
SCHQ				Sn	Sn	13 21 05.2	-11
	0.4nm,0.3s,baz=14,slow=2.3,SNR=3.3						
SCHQ				Lg	Lg	13 22 38.7	
	0.8nm,0.3s,baz=54,slow=14,SNR=4.0						
	1.5nm,0.6s						
A36M	**Sachs Harbour**	**15.07**	**311**	PN	**Pn**	**13 18 45.2**	**+2.6**
A36M				SN	**Sn**	**13 21 22.1**	**-7.1**
ULM	**Lac du Bonnet**	**16.42**	**202**	Pn	**Pn**	**13 18 58.5**	**-1.8**
	0.1nm,0.3s,baz=19,slow=12,SNR=4.7						
ULM				Sn	Sn	13 21 49.5	-13
	0.3nm,0.3s,baz=350,slow=9.3,SNR=1.9						
ULM				Lg	Lg	13 23 40.7	
	0.7nm,0.3s,baz=104,slow=17,SNR=3.0						

KULM **Kulim** 7.23 13 Pn 13 17 30.2 -1.6
CGJI **Cibinong** 8.19 126 P Pn 13 17 42.0 -3.0
94nm,0.9s
SBJI **Serang** 8.28 121 P Pn 13 17 45.4 -0.9
LEM **Lembang** 9.91 120 Pn Pn 13 18 08.1 -0.7
2.9nm,0.3s,baz=316,slow=20,SNR=2.1
LEM LR LR 13 22 44.2
comp=Z,474nm,18.2s,baz=178,slow=42
14nm,0.5s
SBUM **Sibu** 13.86 72 Pn Pn 13 19 02.4 -0.3
KKM **Kota Kinabalu** 18.86 65 P Pn 13 20 05.8 -0.9
KKM IAmb IAmb 13 20 10.2
comp=Z,15nm,0.6s
CMAR **Chiang Mai Arr** 20.14 360 P P 13 20 19.8 -0.1
comp=Z,4.3nm,0.8s,baz=189,slow=10,SNR=26
CMAR LR LR 13 29 29.9
comp=Z,192nm,19.2s,baz=180,slow=41
comp=Z,4.3nm,0.8s
CMAR **Chiang Mai Arr** 20.14 360 P P 13 20 19.5 -0.3
PHRA **Phrae** 20.21 3 P P 13 20 20.2 -0.4
CHTO **Chiang Mai** 20.49 360 P Pn 13 20 23.9 -2.1
MYLDM **Lahad Datu** 20.66 70 P P 13 20 25.6 0.0
MYLDM IAmb IAmb 13 20 31.0
comp=Z,30nm,1.0s
PCI **Palu** 20.83 88 P Pn 13 20 31.2 +1.2
KAPI **Kappang** 20.93 99 P P 13 20 27.6 -0.9
comp=Z,8.5nm,0.4s,baz=112,slow=9.2,SNR=2.3
comp=Z,8.5nm,0.4s
KAPI **Kappang** 20.93 99 P P 13 20 27.8 -0.7
KAPI IAmb IAmb 13 20 41.7
comp=Z,45nm,1.3s
MPSI **Mapaga** 20.98 84 P P 13 20 32.5 +3.5
CRAI **Chiangrai** 21.94 3 P P 13 20 38.6 -0.6
CRAI IAmb IAmb 13 20 43.3
comp=Z,36nm,1.0s
TOLI2 **Tolitoli** 21.95 83 P P 13 20 39.3 -0.1
TOLI2 IAmb IAmb 13 20 44.9
comp=Z,16nm,0.8s
LUWI **Luwuk** 23.75 88 P P 13 20 57.3 -0.7
LUWI IAmb IAmb 13 20 58.4
comp=Z,28nm,0.8s
GTOI **Gorontalo** 24.11 84 P P 13 21 00.9 -0.4
BRDH **Bariadhala** 25.38 344 LR LR 13 33 14.1
comp=Z,156nm,19.7s,baz=276,slow=41
TNCH **TengChong** 26.68 359 eP P 13 21 26.3 +1.6
TNCH pP pP 13 21 29.3 -5.5
TNCH S S 13 26 00.5 +2.5
TNCH pmax pmax
comp=Z,14nm,0.8s
TNCH pmax pmax
comp=Z,96nm,3.8s
TNCH LR LR
comp=N,270nm,9.9s
TNCH LR LR
comp=E,280nm,9.0s
TNCH LR LR
comp=Z,290nm,12.5s
H08S2 **Diego Garcia H** 27.06 257 T T 13 49 28.3
baz=79,slow=76,SNR=923
H08S3 **Diego Garcia H** 27.06 257 T T 13 49 28.8
baz=79,slow=76,SNR=992
H08S1 **Diego Garcia H** 27.07 257 T T 13 49 29.3
baz=79,slow=76,SNR=522
PZH **PanZhiHua** 28.27 5 P P 13 21 41.5 +2.7
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,4.4s
FITZ **Fitzroy Crossi** 30.73 123 P P 13 21 59.8 -0.8
RAMN **Ramite** 31.00 338 eP P 13 22 04.5 +1.3
JIRN **Jiri** 31.79 338 eP P 13 22 11.1 +0.8
GUN **Gumba** 32.14 338 eP P 13 22 14.4 +1.1
comp=Z,10nm,0.5s
LSA **Lhasa** 32.22 347 P P 13 22 12.6 -1.6
LSA IAmb IAmb 13 22 36.8
comp=Z,6.3nm,1.1s
SIJI **Sorong** 32.25 89 LR LR 13 37 17.0
comp=Z,68nm,20.3s,baz=224,slow=40
DANN **Dangsing** 33.38 335 eP P 13 22 24.9 +0.8
comp=Z,3.0nm,0.4s
ENH **Enshi** 33.43 17 P P 13 22 22.6 -1.6
ENH IAmb IAmb 13 22 23.6
comp=Z,7.5nm,0.6s
H01W3 **Cape Leeuwin H** 35.79 159 T T 14 00 31.9
baz=335,slow=76,SNR=1259
H01W2 **Cape Leeuwin H** 35.81 159 T T 14 00 32.7
baz=335,slow=76,SNR=1326
H01W1 **Cape Leeuwin H** 35.81 158 T T 14 00 32.8
baz=335,slow=76,SNR=1114
XAN **Xi'an** 36.85 14 ⇑P P 13 22 52.5 -1.2
XAN pP pP 13 22 56.5 -7.4
XAN pmax pmax
comp=Z,7.0nm,1.2s
LZH **Lanzhou** 37.97 6 eP P 13 23 01.8 -1.4
LZH sP pP 13 23 11.5 -2.0
LZH pmax pmax
comp=Z,6.0nm,1.0s
GOMU **GeErMu** 38.01 354 P P 13 23 07.0 +3.1
GOMU pP pP 13 23 10.8 -3.3
GOMU sP sP 13 23 12.3 -6.0
GOMU pmax pmax
comp=Z,1.0nm,0.7s
GOMU pmax pmax
comp=Z,120nm,5.0s
NJ2 **Nanjing** 38.57 28 eP P 13 23 09.3 +1.2
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
WB0 **Warramunga Arr** 38.91 120 P P 13 23 10.4 -0.8
WRA **Warramunga Arr** 38.93 120 P P 13 23 11.2 -0.3
comp=Z,2.6nm,0.7s,baz=298,slow=9.6,SNR=18
WRA PcP PcP 13 25 22.6 +0.7
comp=Z,0.5nm,0.6s,baz=316,slow=2.3,SNR=2.5
comp=Z,2.6nm,0.7s
WRA **Warramunga Arr** 38.93 120 P P 13 23 11.0 -0.5
WB2 **Warramunga Arr** 38.94 120 P P 13 23 11.4 -0.2
WR0 **Warramunga Arr** 39.11 120 P P 13 23 12.2 -0.7
WR0 IAmb IAmb 13 23 14.2
comp=Z,12nm,1.1s
ASAR **Alice Springs** 40.16 126 P P 13 23 21.8 +0.2
comp=Z,4.0nm,1.1s,baz=296,slow=8.0,SNR=26
comp=Z,4.0nm,1.1s
ASAR **Alice Springs** 40.16 126 P P 13 23 21.3 -0.4
AS31 **Alice Springs** 40.16 126 P P 13 23 21.4 -0.2
GTA **Gaotai** 41.02 1 ⇓P P 13 23 30.0 +1.4
GTA pP pP 13 23 35.5 -3.5
GTA sP sP 13 23 38.8 -4.4
GTA pmax pmax
comp=Z,5.0nm,1.5s
HNS **HongShan** 41.63 19 ⇓P P 13 23 33.8 +0.3
HNS pmax pmax
comp=Z,7.0nm,0.8s
HHC **Hu-ho-hao-te** 43.97 14 eP P 13 23 55.3 +2.8
HHC pmax pmax
comp=Z,250nm,6.0s
BJI **Beijing** 44.51 19 P P 13 23 57.3 +0.6
BJI pmax pmax
comp=Z,3.0nm,0.9s
JSU **Suzuyama** 44.59 39 P P 13 23 57.3 -0.3
JNU **Nakatsue** 45.94 38 LR LR 13 45 18.6
comp=Z,54nm,18.1s,baz=293,slow=39
JNU **Nakatsue** 45.94 38 P P 13 24 08.0 -0.2
KSH **Kashi** 46.24 335 P P 13 24 09.5 -1.2
KSH pP pP 13 24 17.0 -4.1
KSH pmax pmax
comp=Z,3.0nm,0.9s
WMQ **Urumqi** 46.55 349 ⇓iP P 13 24 14.5 +1.6
WMQ pmax pmax
comp=Z,18nm,1.1s
KSRS **Korea Array** 47.36 32 P P 13 24 18.7 -0.5
comp=Z,3.3nm,0.9s,baz=227,slow=9.6,SNR=5.7
comp=Z,3.3nm,0.9s
TARG **Taragay, Kyrgy** 47.42 338 P P 13 24 20.5 +0.4
TARG IAmb IAmb 13 24 22.5
comp=Z,3.1nm,0.7s
UCH **Uchtor** 49.12 336 P P 13 24 34.3 +1.0
SNR=5.4
TKM2 **Tokmak 2** 49.27 337 P P 13 24 35.3 +1.0
SNR=13
AML **Almayashu** 49.38 335 P P 13 24 36.3 +1.0
SNR=5.6
AAK **Ala-Archa** 49.47 336 LR LR 13 48 07.3
comp=Z,54nm,18.4s,baz=182,slow=39
AAK **Ala-Archa** 49.47 336 P P 13 24 36.0 +0.4
EKS2 **Erkin-Say** 49.78 336 P P 13 24 39.4 +1.4
SNR=6.2
SONM **Songino Array** 49.86 6 P P 13 24 39.5 +1.1
comp=Z,9.0nm,0.8s,baz=186,slow=9.5,SNR=69
comp=Z,9.0nm,0.8s
SONM **Songino Array** 49.86 6 P P 13 24 39.1 +0.6
SONM IAmb IAmb 13 24 40.5
comp=Z,10nm,0.8s
ULN **Ulaanbaatar** 49.96 7 P P 13 24 39.0 -0.4
ULN IAmb IAmb 13 24 41.2
comp=Z,8.3nm,0.8s
USP **Ospenovka** 49.99 337 P P 13 24 40.4 +0.9
SNR=9.4
STKA **Stephens Creek** 50.01 131 P P 13 24 40.5 +0.7
comp=Z,3.8nm,0.8s,baz=331,slow=7.4,SNR=7.2
comp=Z,3.8nm,0.8s
MK31 **Makanchi Array** 50.59 345 P P 13 24 44.0 +0.1
MKAR **Makanchi Array** 50.59 345 P P 13 24 44.2 +0.3
comp=Z,3.4nm,0.6s,baz=151,slow=8.3,SNR=46
MKAR LR LR 13 48 48.8
comp=Z,43nm,18.9s,baz=149,slow=39
comp=Z,3.4nm,0.6s
MKAR **Makanchi Array** 50.59 345 P P 13 24 43.8 -0.1
CN2 **Changchun** 51.21 24 P P 13 24 48.8 +0.2
INU **Inuyama** 51.25 40 P P 13 24 48.6 -0.4
KKAR **Karatay Array** 51.54 333 P P 13 24 50.7 -0.4
JGF **Kuroka** 51.63 40 P P 13 24 50.8 -1.1
JGF IAmb IAmb 13 25 23.3
comp=Z,25nm,1.3s
USA0B **Ussuriysk Arra** 54.45 29 P P 13 25 11.9 -0.7
USRK **Ussuriysk Ar.** 54.45 29 P P 13 25 12.7 +0.2
comp=Z,12nm,0.7s,baz=246,slow=3.3,SNR=15
comp=Z,12nm,0.7s
USRK **Ussuriysk Ar.** 54.45 29 P P 13 25 12.1 -0.4
KURK **Kurchatov** 55.15 344 P P 13 25 17.5 +0.1
KURK IAmb IAmb 13 25 18.8
comp=Z,5.5nm,0.9s
ZAA0 **Zalesovo Array** 56.80 350 P P 13 25 29.2 0.0
ZAA0 IAmb IAmb 13 25 30.5
comp=Z,12nm,0.9s
ZALV **Zalesovo Beam** 56.80 350 P P 13 25 29.4 +0.2
comp=Z,10.0nm,0.6s,baz=182,slow=5.8,SNR=49
comp=Z,10.0nm,0.6s
ZALV **Zalesovo Beam** 56.80 350 P P 13 25 29.1 -0.1
HEH **HeiHe** 57.29 21 eP P 13 25 37.3 +4.6
HEH pmax pmax
comp=Z,3.0nm,0.8s
HEH pmax pmax
comp=Z,170nm,4.1s
BRVK **Borovoye** 59.73 340 P P 13 25 48.7 -1.0
BRVK IAmb IAmb 13 25 49.6
comp=Z,2.2nm,0.6s
JKA **Kamikawa-asahi** 60.01 35 P P 13 25 52.2 +0.4
ABKAR **Akbulak array** 61.01 332 P P 13 25 57.6 -0.9
YSS **Yuzh-Sakhalins** 61.84 32 P P 13 26 04.6 +0.5
AKTO **Aktyubinsk** 62.72 332 P P 13 26 09.4 -0.6
comp=Z,2.0nm,0.7s,baz=160,slow=3.4,SNR=5.3
comp=Z,2.0nm,0.7s
CASY **Casey** 64.86 175 P P 13 26 25.3 +1.5
CASY IAmb IAmb 13 26 32.7
comp=Z,7.9nm,1.1s
KBZ **Khabaz** 67.52 319 P P 13 26 41.3 0.0
comp=Z,1.9nm,0.7s,baz=129,slow=8.2,SNR=4.0
comp=Z,1.9nm,0.7s
NRIK **Noril'sk** 71.44 356 P P 13 27 04.7 -0.3
comp=Z,5.8nm,0.8s,baz=161,slow=5.3,SNR=8.4
comp=Z,5.8nm,0.8s
NRIK **Noril'sk** 71.44 356 P P 13 27 04.7 -0.3
NRIK IAmb IAmb 13 27 05.9
comp=Z,12nm,1.1s
BRTR **Keskin Array B** 72.47 313 P P 13 27 10.3 -1.7
comp=Z,0.6nm,0.8s,baz=126,slow=7.3,SNR=2.4
comp=Z,0.6nm,0.8s
MA2 **Magadan** 73.26 25 P P 13 27 16.1 0.0
MA2 IAmb IAmb 13 27 17.1
comp=Z,3.0nm,0.8s
TIXI **Tiksi** 75.82 9 P P 13 27 29.6 -1.1
BKZ **Black Stump Fm** 79.15 129 P P 13 27 50.2 +0.2
BKZ IAmb IAmb 13 28 30.8
comp=Z,23nm,1.4s
BURAR **Bucovina Array** 80.47 319 P P 13 27 57.7 +0.6
BUR08 **Bucovina Ar. S** 80.49 319 P P 13 27 57.7 +0.5
BUR08 IAmb IAmb 13 28 28.0
comp=Z,9.3nm,1.4s
FIA1 **FINESS Array S** 83.49 332 P P 13 28 12.4 -0.1
FINES **FINESS Array B** 83.49 332 P P 13 28 12.8 +0.4
comp=Z,2.8nm,0.6s,baz=105,slow=5.7,SNR=16
comp=Z,2.8nm,0.6s
FINES **FINESS Array B** 83.49 332 P P 13 28 12.6 +0.1
TXAR **Lajitas Array** 145.13 36 PKPbc PKPdf 13 35 23.9 +0.7
comp=Z,6.7nm,0.6s,baz=274,slow=1.2,SNR=98

*IDC **30** 13:29:10.7±1.2,6˚.40S×121˚.58E,h0km,mb3.8/4, mbtmp3.9/6,ML3.6/2,MS2.9/2,Error ellipse: s-maj=76.0km s-min=17.4km az=51.0*
*DJA **30** 13:29:13.3±0.9,6˚S±2˚×12˚1E±˚,h17km±8km,M4.4/15, mb4.6/6,mB4.7/2,MLv4.3/15,Mw(mB)3.9/2*
*NEIC **30** 13:29:13.5±2.2,6˚.54S±0˚.04×121˚.32E±0˚.08,h15km±5km, mb4.3/12,Error ellipse: s-maj=12.5km s-min=1.7km az=65.0*
ISC 30 13:29:12.3±0.6,6˚.48S±0˚.06×121˚.45E±0˚.06,h10km,n44, σ1§14/46,mb4.3/6,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	1.01	289	P	**Pg**		13 29 31.8	0.0
BSSI				S	**Sb**		13 29 45.7	+0.4
BKSI	**Bulukumba**	1.75	311	P	**Pn**		13 29 41.8	-0.9
BKSI				Pg	**Pg**		13 29 46.7	+0.8
KAPI	**Kappang**	2.23	311	Pn	**Pn**		13 29 49.7	+0.4
	14nm,0.3s,baz=169,slow=2.2,SNR=15							
KAPI				Sn	**Sb**		13 30 19.2	-1.2
	67nm,0.3s,baz=228,slow=19,SNR=8.4							
KAPI				LR	LR		13 30 44.5	
	comp=Z,152nm,19.5s,baz=90,slow=41							
	49nm,0.3s							
KAPI	**Kappang**	2.23	311		**Pn**		13 29 49.3	0.0
MMRI	**Maumere**	2.28	160		**Pn**		13 29 50.1	0.0
MMRI	**Maumere**	2.28	160	P	**Pn**		13 29 50.8	+0.7
MMRI				S	**Sn**		13 30 17.6	-0.7
SPSI	**Sidrap Palu**	3.00	326	P	**Pn**		13 30 00.4	+0.4
BASI	**Baing, Sumba**	3.82	193	P	**Pn**		13 30 12.2	+1.0
SOEI	**Soe**	4.29	140		**Pn**		13 30 20.7	+2.9
SOEI	**Soe**	4.29	140	P	**Pn**		13 30 19.4	+1.6
BATI	**Baumata**	4.30	150	Pn	Pn		13 30 23.3	+5.4
	16nm,0.3s,baz=301,slow=0.0,SNR=12							
PLAI	**Plampang**	4.33	237	P	**Pn**		13 30 19.9	+1.7
TWSI	**Taliwang, Sumb**	5.06	243	P	**Pn**		13 30 30.1	+1.9
	28nm,0.4s,0.2nm							
LUWI	**Luwuk**	5.56	14	Pn	**Pn**		13 30 35.6	+0.4
LUWI	**Luwuk**	5.56	14	P	**Pn**		13 30 35.5	+0.4
	134nm,0.6s,0.5nm							
SANI	**Sanana**	6.31	46	P	**Pn**		13 30 45.0	-0.4
	18nm,0.6s,0.1nm							
SRBI	**Singaraja**	6.39	255	P	**Pn**		13 30 47.4	+0.8
	53nm,0.8s,0.3nm							
MRSI	**Marisa**	6.92	4	P	**Pn**		13 30 53.1	-0.8
	48nm,0.7s,568nm0.2nm							
GTOI	**Gorontalo**	7.24	12	P	**Pn**		13 30 59.3	+1.1
	15nm,0.7s,0.0nm							
JAGI	**Jajag, Banyuwa**	7.50	254	Pn	**Pn**		13 30 59.4	-2.5
TOLI2	**Tolitoli**	7.57	355	Pn	**Pn**		13 31 05.4	+2.7
MTN	**Manton Dam**	11.45	124		**Pn**		13 31 56.2	+0.2
KNRA	**Kununurra**	11.62	143	Pn	**Pn**		13 31 57.6	-0.7
MYLDM	**Lahad Datu**	11.95	346	Pn	**Pn**		13 32 01.7	-1.1
FITZ	**Fitzroy Crossi**	12.25	161	Pn	**Pn**		13 32 07.3	+0.4
LEM	**Lembang**	13.75	268	LR	LR		13 39 05.5	
	comp=Z,26nm,18.3s,baz=194,slow=43							
PSA00	**Pilbara Seismi**	15.09	186	P	**P**		13 32 52.9	+1.9
PSA00				IAmb	IAmb		13 33 31.1	
	comp=Z,12nm,1.1s							
WB0	**Warramunga Arr**	18.24	138		**Pn**		13 33 24.7	-1.0
WRA	**Warramunga Arr**	18.33	138	P	**Pn**		13 33 25.1	-1.7
	comp=Z,0.2nm,0.3s,baz=314,slow=12,SNR=22							
	comp=Z,3.7nm,0.8s							
WRAB	**Tennant Creek**	18.33	138	P	**Pn**		13 33 26.4	-0.4
WRAB				IAmb	IAmb		13 33 29.0	
	comp=Z,5.8nm,0.8s							
WB2	**Warramunga Arr**	18.33	138	P	**Pn**		13 33 26.6	-0.4
WB2				IAmb	IAmb		13 33 29.0	
	comp=Z,6.8nm,0.9s							
WR0	**Warramunga Arr**	18.47	138	P	**P**		13 33 28.2	-0.3
AS31	**Alice Springs**	20.87	146	P	**P**		13 33 55.2	+0.5
ASAR	**Alice Springs**	20.87	146	P	**P**		13 33 55.1	+0.4
	comp=Z,6.6nm,0.8s,baz=328,slow=12,SNR=50							
	comp=Z,6.6nm,0.8s							
ASAR	**Alice Springs**	20.87	146	P	**P**		13 33 55.4	+0.7
MORW	**Morawa**	23.05	192	P	**P**		13 34 16.6	-1.2
MORW				IAmb	IAmb		13 34 27.4	
	comp=Z,23nm,1.4s							
KULM	**Kulim**	23.83	299	P	**P**		13 34 24.7	-1.1
KULM				IAmb	IAmb		13 35 02.1	
	comp=Z,20nm,1.5s							
QIZ	**Qiongzhong**	27.81	336	P	**P**		13 35 01.5	-0.3
STKA	**Stephens Creek**	31.51	146	P	**P**		13 35 34.3	-0.3
	comp=Z,0.9nm,0.4s,baz=323,slow=10,SNR=3.4							
	comp=Z,0.9nm,0.4s							
HNR	**Honiara**	38.23	97	P	**P**		13 36 34.0	+1.2
SONM	**Songino Array**	55.69	348	P	**P**		13 38 48.8	-0.1
	comp=Z,0.3nm,0.4s,baz=161,slow=9.2,SNR=3.2							
	comp=Z,0.3nm,0.4s							
LTZ	**Lake Taylor**	57.45	137	P	**P**		13 39 02.5	+0.9
MKAR	**Makanchi Array**	63.39	331	P	**P**		13 39 41.8	-0.2
	comp=Z,0.3nm,0.6s,baz=142,slow=7.3,SNR=6.9							
	comp=Z,0.3nm,0.6s							
MAKZ	**Makanchi**	63.55	331	P	**P**		13 39 42.6	-0.4
MAKZ				IAmb	IAmb		13 40 07.5	
	comp=Z,4.0nm,0.7s							

*MOS **30** 13:37:23.0±0.9,34˚.56N×36˚.74W,h10km,mb5.2/65,Error ellipse: s-maj=7.2km s-min=5.2km az=53.1*
*IDC **30** 13:37:23.3±0.4,34˚.59N×36˚.65W,h0km,mb4.5/35, mbtmp4.5/35,MS4.3/58,Error ellipse: s-maj=12.6km s-min=10.1km az=144.0*
*GCMT **30** 13:37:24.8±0.2,34˚.82N±0˚.01×36˚.56W±0˚.01,h12km, MW5.1/109,Moment Tensor Solution. s38,c53; s109,c173; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.84±.14; Mθθ2.01±.14; Mϕϕ1.82±.11; Mrθ-0.42±.39; Mθϕ4.55±.10; Mϕr-1.16±.37; Best double couple: M₀5.36500×10¹⁶ NP1:ϕs28.00000°,δ54.00000°, λ-114.00000°. NP2:ϕs246.00000°,δ42.00000°, λ-61.00000°. Principal axes: T 6.5850, Plg6.0000°, Azm135.0000°; N -2.4500, Plg19.0000°, Azm43.0000°; P -4.1450, Plg70.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 13:37:24.8±1.4,34˚.60N±0˚.06×36˚.59W±0˚.07,h10km±1km, mb5.2/267 Error ellipse: s-maj=13.4km s-min=3.3km az=224.0*
ISC 30 13:37:25.1±0.3,34˚.58N±0˚.05×36˚.64W±0˚.05,h13km,n883, σ1§05/859,mb5.1/252,MS4.4/70,31C-17D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	9.53	67	Pn	**Pn**		13 39 41.9	-0.1
CMLA	**Cha da Macela**	9.53	67	P	**Pn**		13 39 41.9	-0.1
PMOZ	**Porto Moniz, M**	16.27	91	eLR	LR		13 44 31.2	
	931nm,20.0s							
PMOZ	**Porto Moniz, M**	16.27	91	Pn	**Pn**		13 41 11.7	-1.9
MACI	**Morro de la Ar**	18.29	105		**Pn**		13 41 38.4	-0.5
MACI				IAmb	IAmb		13 41 48.4	
	comp=Z,276nm,1.6s							
DRLN	**Deer Lake**	21.26	320	P	**P**		13 42 11.1	+0.1
GBN	**Guysborough**	21.83	307	P	**P**		13 42 17.4	+0.3
GBN				IAmb	IAmb		13 42 23.0	
	comp=Z,130nm,1.2s							
PACT	**Alcochete**	22.65	71	eP	**P**		13 42 25.0	-0.9
PFVI	**Vila Bisbo**	22.65	75	eP	**P**		13 42 28.3	+2.3
PTEO	**Sao Teotonio**	22.72	74	eP	**P**		13 42 29.7	+2.9
	comp=Z,88nm,1.5s							
MORF	**Marmelete**	22.79	75	eP	**P**		13 42 27.9	+0.4
	comp=Z,54nm,1.4s							
MORF	**Marmelete**	22.79	75	P	**P**		13 42 27.6	+0.1
MORF	**Marmelete**	22.79	75	P	**P**		13 42 27.6	+0.1
MORF				pmax	pmax			
	comp=Z,46nm,1.3s							
SACV	**Santiago Islan**	22.79	146	P	**P**		13 42 27.6	0.0
SACV				IAmb	IAmb		13 42 35.0	
	comp=Z,161nm,1.6s							
PNCL	**Nicolau / Gran**	22.88	73	eP	**P**		13 42 29.2	+0.9
	comp=Z,48nm,1.3s							
HAL	**Halifax**	22.98	304	P	**P**		13 42 29.8	+0.5
HAL	**Halifax**	22.98	304	P	**P**		13 42 29.8	+0.5
HAL				pmax	pmax			
	comp=Z,193nm,1.4s							
PCAS	**Casmilo, Conde**	22.98	68	eP	**P**		13 42 30.4	+0.9
	comp=Z,82nm,2.0s							
MESJ	**Messejana**	23.12	74	eP	**P**		13 42 32.2	+1.3
	comp=Z,39nm,1.8s							
PMTG	**Montargil**	23.13	71	eP	**P**		13 42 31.4	+0.4
	comp=Z,46nm,1.6s							
PCVE	**Castro Verde**	23.27	74	eP	**P**		13 42 33.0	+0.6
	comp=Z,35nm,1.3s							
EVO	**Evora**	23.29	72	eP	**P**		13 42 30.8	-1.8
PGAV	**Gavieira, Arco**	23.39	63	eP	**P**		13 42 35.5	+1.8
	comp=Z,99nm,2.0s							
PGAV				eLR	LR		13 47 12.2	
	comp=Z,318nm,16.0s							
PBEJ	**Beja**	23.40	73	eP	**P**		13 42 34.9	+1.2
	comp=Z,32nm,1.8s							
PVIS	**Viseu**	23.50	66	eP	**P**		13 42 34.8	0.0
	comp=Z,66nm,1.9s							
PCAB	**Cabril**	23.53	64	eP	**P**		13 42 33.8	-1.2
	comp=Z,85nm,1.6s							
PVAQ	**Vaqueiros**	23.53	75	eLR	LR		13 47 03.9	
	comp=Z,191nm,18.0s							
PVAQ	**Vaqueiros**	23.53	75	P	**P**		13 42 34.8	-0.2
PESTR	**Estremoz**	23.62	71	eP	**P**		13 42 37.1	+1.2
	comp=Z,32nm,1.8s							
PESTR	**Estremoz**	23.62	71	P	**P**		13 42 36.7	+0.7
POLO	**Lamas de Olo**	23.66	65	eP	**P**		13 42 36.9	+0.6
	comp=Z,44nm,1.5s							
PVRL	**Vila Real**	23.70	65	eP	**P**		13 42 37.8	+1.1
	comp=Z,86nm,2.2s							
MTE	**Manteigas**	23.74	67	eP	**P**		13 42 37.3	+0.2
	comp=Z,63nm,1.5s							
MTE				eLR	LR		13 47 18.5	
	comp=Z,326nm,18.0s							
MTE	**Manteigas**	23.74	67	P	**P**		13 42 36.9	-0.2
PCBR	**Castelo Branco**	23.75	69	eP	**P**		13 42 37.9	+0.8
	comp=Z,37nm,1.5s							
PMRV	**Marv??o**	23.80	70	eP	**P**		13 42 38.3	+0.7
	comp=Z,54nm,1.7s							
PMRV				eLR	LR		13 47 02.3	
	comp=Z,176nm,18.0s							
MVO	**Moncorvo**	24.20	65	eP	**P**		13 42 42.0	+0.5
	comp=Z,53nm,1.2s							
MVO				eLR	LR		13 47 24.0	
	comp=Z,304nm,18.0s							
AVE	**Averroes**	24.24	85	P	**P**		13 42 42.6	+0.8
AVE				IAmb	IAmb		13 42 59.1	
	comp=Z,65nm,1.1s							
GGN	**Saint George**	25.33	304	P	**P**		13 42 52.5	+0.9
GGN				IAmb	IAmb		13 43 05.5	
	comp=Z,46nm,1.3s							
BATG	**Bathurst New B**	25.43	309	P	**P**		13 42 52.7	+0.3
EMMW	**East Machias**	25.66	302	P	**P**		13 42 55.1	+0.5
EMMW				IAmb	IAmb		13 42 59.0	
	comp=Z,51nm,1.1s							
EMMW	**East Machias**	25.66	302	P	**P**		13 42 54.8	+0.3
	baz=102							
G65A	**Princeton**	25.85	304	P	**P**		13 42 56.6	+0.4
G65A				IAmb	IAmb		13 43 16.2	
	comp=Z,84nm,1.5s							
G65A	**Princeton**	25.85	304	P	**P**		13 42 57.3	+1.1
	baz=103							
G65A				P	**P**		13 42 57.3	+1.1
	baz=103							
PAB	**San Pablo**	26.15	70	P	**P**		13 42 59.1	0.0
PAB	**San Pablo**	26.15	70	P	**P**		13 42 59.2	0.0
PAB				pmax	pmax			
	comp=Z,17nm,1.2s							
ESDC	**Sonseca Array**	26.45	69	P	**P**		13 43 02.0	+0.1
	comp=Z,7.9nm,1.0s,baz=271,slow=8.4,SNR=15							
ESDC				LR	LR		13 50 26.5	
	comp=Z,321nm,19.0s,baz=269,slow=30							
	comp=Z,7.9nm,1.0s							
ESDC	**Sonseca Array**	26.45	69	P	**P**		13 43 01.3	-0.5
ESBB	**Sonseca Array**	26.45	69	P	**P**		13 43 02.1	+0.2
PQI	**Presque Isle**	26.52	307	P	**P**		13 43 02.1	-0.3
PQI				IAmb	IAmb		13 43 35.6	
	comp=Z,127nm,1.9s							
F64A	**Sherman**	26.54	305	P	**P**		13 43 02.7	+0.2
F64A				IAmb	IAmb		13 43 05.8	
	comp=Z,77nm,1.2s							
F64A	**Sherman**	26.54	305	P	**P**		13 43 03.7	+1.2
	baz=104,SNR=9.2							
F64A				P	**P**		13 43 03.7	+1.2

baz=104,SNR=9.2
MDT Midelt 26.65 85 P **P** **13 43 02.5 -1.3**
comp=Z,4.1nm,0.9s,baz=305,slow=10.0,SNR=7.1
MDT LR LR 13 51 37.5
comp=Z,400nm,18.2s,baz=296,slow=32
comp=Z,4.1nm,0.9s
E63A Oxbow 26.73 306 P **P** **13 43 05.0 +0.8**
baz=105,SNR=6.6
E63A P **P** **13 43 05.0 +0.8**
baz=105,SNR=6.6
BBTS Babate 26.87 133 LR LR 13 50 49.4
comp=Z,2µm,20.9s,baz=360,slow=30
F63A Nahmakanta, Br 27.02 304 P **P** **13 43 06.9 +0.1**
F63A Nahmakanta, Br 27.02 304 P **P** **13 43 07.0 +0.1**
baz=103,SNR=5.0
F63A P **P** **13 43 07.0 +0.1**
baz=103,SNR=5.0
PKME Peaks-Kenny Pk 27.05 303 P **P** **13 43 08.9 +1.8**
baz=102
D62A Allapoint, All 27.32 307 P **P** **13 43 09.2 -0.2**
D62A Allapoint, All 27.32 307 P **P** **13 43 10.0 +0.5**
baz=106
D62A P **P** **13 43 10.0 +0.5**
baz=106
E62A Clayton Lake 27.51 306 P **P** **13 43 11.8 +0.6**
baz=104
E62A P **P** **13 43 11.8 +0.6**
baz=104
F62A Pittston Farm, 27.65 304 P **P** **13 43 13.7 +1.3**
baz=102
F62A P **P** **13 43 13.7 +1.3**
baz=102
IVI Ivigtut 27.66 348 *e*P **P** **13 43 12.8 +0.5**
L64A Middleborough 27.71 296 P **P** **13 43 15.2 +2.2**
baz=94
L64A P **P** **13 43 15.2 +2.2**
baz=94
I63A Otisfield 27.75 300 P **P** **13 43 15.9 +2.6**
baz=98
I63A P **P** **13 43 15.9 +2.6**
baz=98
G62A West of Eustis 27.90 303 P **P** **13 43 16.4 +1.6**
baz=100
G62A P **P** **13 43 16.4 +1.6**
baz=100
H62A Milan 28.23 301 P **P** **13 43 17.8 +0.1**
H62A IAmb IAmb 13 43 23.4
comp=Z,64nm,1.7s
I62A Tamworth 28.26 300 P **P** **13 43 18.1 +0.1**
I62A IAmb IAmb 13 43 40.9
comp=Z,72nm,1.7s
DSB Dublin 28.37 40 P **P** **13 43 17.7 -1.1**
GDSD La Dsirade Is 28.47 236 P **P** **13 43 19.3 -0.8**
K62A Royalston 28.79 297 P **P** **13 43 22.9 +0.1**
K62A IAmb IAmb 13 44 07.4
comp=Z,67nm,1.6s
MAGL Barre de l'ile 28.87 236 P **P** **13 43 24.4 +0.7**
L61B Northampton 29.11 296 P **P** **13 43 25.7 +0.2**
baz=94
SCHQ Schefferville 29.14 323 P P 13 43 31.1 +5.4
comp=Z,12nm,0.9s,baz=128,slow=8.8,SNR=8.4
SCHQ LR LR 13 53 49.9
comp=Z,1µm,21.5s,baz=113,slow=34
SCHQ Schefferville 29.14 323 P **P** **13 43 26.5 +0.8**
BBGH Gun Hill 29.78 230 P **P** **13 43 31.6 -0.1**
PAL Palisades 29.98 293 P **P** **13 43 33.8 +0.5**
baz=90
FRNY Flat Rock 29.99 301 P **P** **13 43 34.6 +1.3**
baz=97
BRNY Black Rk. Fore 30.06 294 P **P** **13 43 34.9 +0.9**
baz=91
ODNJ Ogdensburg 30.51 294 P **P** **13 43 39.1 +1.2**
baz=90
J59A Piesco 30.51 298 P **P** **13 43 39.5 +1.5**
baz=94
J59A P **P** **13 43 39.5 +1.5**
baz=94
MTP Monte Pirata 30.53 245 P **P** **13 43 38.4 +0.1**
MTP IAmb IAmb 13 43 40.5
comp=Z,74nm,1.4s
CBYP Canovanas 30.65 245 P **P** **13 43 39.4 -0.1**
CBYP IAmb IAmb 13 43 40.4
comp=Z,30nm,1.2s
LONY Lake Ozonia 30.67 301 P **P** **13 43 39.6 +0.3**
LONY Lake Ozonia 30.67 301 P **P** **13 43 39.5 +0.2**
baz=96
TRQ Mont Tremblant 30.85 304 P **P** **13 43 41.0 0.0**
SJG San Juan 30.97 246 LR LR 13 56 52.9
comp=Z,50nm,18.1s,baz=41,slow=38
ESK Eskdalemuir 31.00 38 P **P** **13 43 41.6 -0.5**
ESK IAmb IAmb 13 43 43.6
comp=Z,24nm,0.8s
ESK Eskdalemuir 31.00 38 P **P** **13 43 41.6 -0.5**
ESK pmax pmax
comp=Z,24nm,0.9s
M57A Sunshine Farm, 32.41 294 P **P** **13 43 55.8 +1.1**
M57A Sunshine Farm, 32.41 294 P **P** **13 43 56.2 +1.5**
baz=89
M57A P **P** **13 43 56.2 +1.5**
baz=89
DY2G Dye2 32.43 353 *i* P **P** **13 43 55.5 +0.7**
DY2G IAmb IAmb 13 44 00.6
comp=Z,118nm,1.3s
MDP Montagnes des 32.87 210 LR LR 13 53 25.4
comp=Z,358nm,21.4s,baz=36,slow=29
J55A Hilton 32.91 298 P **P** **13 44 00.3 +1.3**
J55A IAmb IAmb 13 44 05.3
comp=Z,22nm,1.0s
SFJD Kangerlussuaq 33.47 350 P **P** **13 44 04.5 +0.9**
comp=Z,11nm,1.0s,baz=105,slow=10,SNR=3.7
comp=Z,11nm,1.0s
SFJD Kangerlussuaq 33.47 350 *i* P **P** **13 44 06.4 +2.8**
WVNY West Valley, N 33.49 296 P **P** **13 44 05.5 +1.4**
baz=89
M55A Ridgway 33.63 294 P **P** **13 44 06.3 +0.9**
M55A IAmb IAmb 13 44 11.4
comp=Z,91nm,1.9s
M55A Ridgway 33.63 294 P **P** **13 44 06.8 +1.3**
baz=88
M55A P **P** **13 44 06.8 +1.3**
baz=88
SDD Santo Domingo 33.64 250 P **P** **13 44 03.4 -2.2**
SADO Sadowa 33.92 300 LR LR 13 55 30.6
comp=Z,579nm,21.9s,baz=114,slow=32
SADO Sadowa 33.92 300 P **P** **13 44 06.3 -1.6**
SADO IAmb IAmb 13 44 38.4
comp=Z,30nm,1.3s
SDDR Presa de Saban 34.42 252 P **P** **13 44 10.8 -1.7**
SDDR IAmb IAmb 13 44 15.3
comp=Z,49nm,1.1s
ICESG Greenland Ices 34.60 358 *i* P **P** **13 44 14.8 +1.0**
ICESG IAmb IAmb 13 44 19.0
comp=Z,71nm,1.1s
SENIN Lac Senin/Sane 35.01 57 P **P** **13 44 16.5 -1.0**
M53A WI Miller and 35.07 295 P **P** **13 44 17.9 +0.1**
baz=87
FRB Frobisher Bay 35.16 336 P **P** **13 44 17.0 -1.2**
comp=Z,26nm,1.0s,baz=131,slow=8.4,SNR=18
FRB LR LR 13 56 49.3
comp=Z,273nm,21.6s,baz=135,slow=33
comp=Z,26nm,1.0s
W57A Gilead 35.37 284 P **P** **13 44 20.9 +0.5**
W57A IAmb IAmb 13 44 27.2
comp=Z,112nm,1.9s
O53A New Philadelph 35.57 293 P **P** **13 44 22.4 +0.3**
baz=85
ILULI Ilulissat 35.61 351 P **P** **13 44 21.5 -0.6**
ILULI IAmb IAmb 13 44 27.3
comp=Z,68nm,1.3s
ILULI Ilulissat 35.61 351 P **P** **13 44 21.5 -0.6**
ILULI pmax pmax
comp=Z,68nm,1.3s
KMSC Kings Mountain 36.45 284 P **P** **13 44 30.4 +0.7**
baz=78
DAVOX Davos/Dischmat 36.81 56 P **P** **13 44 34.3 +1.4**
comp=Z,4.5nm,0.8s,baz=299,slow=13,SNR=8.5
DAVOX LR LR 13 56 39.5
comp=Z,256nm,19.4s,baz=260,slow=31
comp=Z,4.5nm,0.8s
DAVA Damuels 36.83 55 *i* pP pP 13 44 34.6 -1.6
comp=Z,9.1nm,1.0s
GTBY Guantanamo Bay 36.95 257 P **P** **13 44 33.7 -0.4**
GTBY IAmb IAmb 13 44 42.3
comp=Z,115nm,1.8s
Q51A Peebles 37.34 291 P **P** **13 44 38.6 +1.3**
Q51A IAmb IAmb 13 44 44.6
comp=Z,48nm,1.5s

KEST Kesra 37.35 75 P **P** **13 44 39.4 +1.9**
comp=Z,4.1nm,0.7s,baz=110,slow=11,SNR=2.4
KEST LR LR 13 57 29.7
comp=Z,243nm,21.3s,baz=334,slow=32
comp=Z,4.1nm,0.7s
KEST Kesra 37.35 75 P **P** **13 44 40.2 +2.7**
FETA Feichten 37.40 56 *e*P **P** **13 44 38.1 +0.2**
comp=Z,11nm,1.1s
E46A Sault Ste Mari 37.59 303 P **P** **13 44 40.4 +1.1**
E46A IAmb IAmb 13 45 20.1
comp=Z,49nm,1.6s
MOTA Moosalm 37.67 55 *i* pP **P** **13 44 40.6 +0.5**
comp=Z,28nm,2.0s
SQTA Sankt Quirin 37.73 56 *e*pP **P** **13 44 41.7 +1.0**
comp=Z,16nm,1.3s
S51A Beattyville 37.76 289 P **P** **13 44 41.4 +0.6**
S51A IAmb IAmb 13 44 53.1
comp=Z,95nm,2.0s
GRF Grafenberg Arr 37.89 52 *e*P **P** **13 44 41.4 -0.4**
comp=Z,31nm,1.6s,baz=265,slow=8.1
GRF *e*L L 13 56 22.3
comp=Z,298nm,21.3s
ROSB Rosrio 37.94 192 *e*P **P** **13 44 42.3 -0.2**
WATA Walderalm 37.99 55 *i* pP **P** **13 44 43.4 +0.6**
comp=Z,13nm,1.0s
CTI Castel Tesino 38.02 58 P **P** **13 44 41.8 -1.3**
CTI Castel Tesino 38.02 58 P **P** **13 44 41.8 -1.3**
CTI pmax pmax
comp=Z,8.0nm,0.9s
WTTA Wattenberg 38.03 56 *i* pP **P** **13 44 44.0 +0.8**
comp=Z,12nm,0.8s
SUMG Summit 38.08 359 *i* P **P** **13 44 43.1 -0.4**
SUMG IAmb IAmb 13 44 49.1
comp=Z,97nm,1.2s
TKL Tuckaleechee C 38.28 286 LR LR 13 58 33.0
comp=Z,606nm,18.6s,baz=78,slow=33
TKL Tuckaleechee C 38.28 286 P **P** **13 44 43.9 -1.4**
TKL IAmb IAmb 13 44 48.9
comp=Z,78nm,1.6s
TKL Tuckaleechee C 38.28 286 P **P** **13 44 43.9 -1.4**
TKL pmax pmax
comp=Z,78nm,1.7s
TMAB Tom-Au,PA,Br 38.30 199 *e*P **P** **13 44 46.6 +1.0**
BAUV El Baul 38.46 236 P **P** **13 44 46.7 -0.2**
CIMO Cimolais 38.57 57 P **P** **13 44 46.7 -0.9**
CIMO IAmb IAmb 13 45 01.9
comp=Z,16nm,1.7s
ABTA Abfaltersbach 38.62 56 *e*P **P** **13 44 47.2 -0.9**
comp=Z,12nm,0.9s
CLUD Cludinico 38.87 57 P **P** **13 44 49.5 -0.7**
BOAV Boa Vista 38.99 220 *e*P **P** **13 44 51.6 +0.2**
FDMO Fiordimonte 39.17 62 P **P** **13 44 52.2 -0.5**
CLL Collm 39.17 49 ⇓*i* P **P** **13 44 53.3 +0.8**
comp=Z,13nm,0.9s
CLL *i* sP **sP** **13 44 56.6 -0.6**
CLL *e*SSS SSS 13 53 59.0
CLL Collm 39.17 49 ⇓*i* P **P** **13 44 53.3 +0.8**
CLL *i* 13 44 56.6
CLL pmax pmax
comp=Z,13nm,0.9s
KBA Koelnbreinsper 39.19 56 *e*P **P** **13 44 52.8 -0.2**
comp=Z,20nm,1.5s
TIGA Tifton 39.23 279 P **P** **13 44 53.5 +0.3**
baz=72
URIC Uribia, Colomb 39.38 243 P **P** **13 44 53.6 -1.0**
URIC IAmb IAmb 13 45 03.4
comp=Z,101nm,1.8s
KHC Kasperske Hory 39.39 53 P **P** **13 44 54.2 -0.2**
KHC Kasperske Hory 39.39 53 *e*P **P** **13 44 54.8 +0.3**
KHC Kasperske Hory 39.39 53 *e*P **P** **13 44 54.8 +0.3**
BIOA Bad Ischl, Aus 39.39 55 *e*P **P** **13 44 54.0 -0.4**
comp=Z,8.6nm,0.8s
JMIC Jan Mayen 39.44 14 LR LR 13 57 25.2
comp=Z,243nm,19.4s,baz=205,slow=30
GERES GERESS Array B 39.46 53 P **P** **13 44 55.6 +0.5**
comp=Z,0.7nm,0.7s,baz=259,slow=35,SNR=3.6
GERES LR LR 13 56 35.1
comp=Z,130nm,21.8s,baz=270,slow=29
comp=Z,0.7nm,0.7s
GERES GERESS Array B 39.46 53 P **P** **13 44 54.4 -0.7**
U49A Red Boiling Sp 39.69 287 P **P** **13 44 56.6 -0.5**
BRG Berggiesshubel 39.73 50 *e*P **P** **13 44 58.0 +0.9**
BRG Amp 13 45 00.5
comp=Z,15nm,1.3s
BRG Amp 13 59 33.0
comp=E,0.6nm,13.7s
BRG Amp 13 59 37.0
comp=Z,1.0nm,16.7s
BRG Amp 13 59 38.0
comp=N,0.3nm,14.7s
BRG Berggiesshubel 39.73 50 *e*P **P** **13 44 58.0 +0.9**
BRG pmax pmax
comp=Z,15nm,1.3s
WCI Wyandotte Cave 39.75 290 P **P** **13 44 58.2 +0.6**
baz=80
MOA Molln 39.82 55 *e*P **P** **13 44 58.0 0.0**
comp=Z,7.0nm,1.1s
MALB Monte Alegre 39.84 208 *e*P **P** **13 44 59.0 +0.6**
SFIN Lafayette 40.02 294 P **P** **13 44 59.7 0.0**
baz=82
OBKA Obir 40.02 57 *e*P **P** **13 44 59.7 -0.1**
comp=Z,14nm,0.8s
PRU Pruhonice 40.06 51 *e*P **P** **13 45 00.8 +0.9**
PRU AMS AMS 14 02 00.0
comp=Z,700nm,15.0s
PRU Pruhonice 40.06 51 *e*P **P** **13 45 00.8 +0.9**
PRU MLR MLR
comp=Z,700nm,15.0s
NBO00 NORSAR Array S 40.06 34 P **P** **13 44 58.2 -1.6**
NBO00 IAmb IAmb 13 45 04.5
comp=Z,106nm,1.2s
NC204 NORSAR Array S 40.14 33 P **P** **13 44 59.1 -1.4**
NC204 IAmb IAmb 13 45 30.7
comp=Z,94nm,1.9s
RCBR Riachuelo 40.20 179 LR LR 13 57 19.7
comp=Z,471nm,20.7s,baz=141,slow=30
NB2 NORSAR Subarra 40.27 34 P **P** **13 45 00.8 -0.8**
comp=Z,48nm,1.2s,baz=252,slow=9.3
NB2 NORSAR Subarra 40.27 34 P **P** **13 45 00.8 -0.8**
baz=252,slow=9.3
NOA NORSAR Array B 40.27 34 P **P** **13 45 00.8 -0.8**
comp=Z,9.8nm,0.9s,baz=252,slow=8.7,SNR=26
NOA LR LR 13 59 25.9
comp=Z,228nm,18.6s,baz=255,slow=33
comp=Z,9.8nm,0.9s
TIC Toumodi 40.28 126 ⇑*i* PKP1 P 13 45 07.5 +5.4
comp=Z,7.6nm,0.3s
SDV Santo Domingo 40.30 239 P **P** **13 45 04.3 +1.8**
comp=Z,16nm,0.9s,baz=44,slow=6.5,SNR=18
SDV LR LR 14 00 11.2
comp=Z,122nm,18.8s,baz=47,slow=34
comp=Z,16nm,0.9s
SDV Santo Domingo 40.30 239 P **P** **13 45 03.1 +0.6**
SDV IAmb IAmb 13 45 05.6
comp=Z,55nm,1.3s
SDV Santo Domingo 40.30 239 *e*P **P** **13 45 04.2 +1.6**
NB201 NORSAR Array S 40.31 34 P **P** **13 45 02.5 +0.6**
NC602 NORSAR Array S 40.32 34 P **P** **13 45 01.7 -0.3**
NC602 IAmb IAmb 13 45 07.8
comp=Z,59nm,1.1s
DBIC Dimbokro 40.37 126 P **P** **13 45 02.0 -0.9**
comp=Z,5.8nm,0.9s,baz=304,slow=9.0,SNR=6.0
DBIC LR LR 13 59 29.5
comp=Z,881nm,20.6s,baz=322,slow=33
comp=Z,5.8nm,0.9s
DBIC Dimbokro 40.37 126 P **P** **13 45 01.6 -1.2**
DBIC IAmb IAmb 13 45 08.6
comp=Z,67nm,1.6s
DBIC Dimbokro 40.37 126 ⇑P **P** **13 45 02.2 -0.6**
L44A Lake County Fo 40.39 297 P **P** **13 45 02.9 +0.1**
baz=83
NC303 NORSAR Array S 40.40 34 P **P** **13 45 01.5 -1.1**
NC303 IAmb IAmb 13 45 04.3
comp=Z,39nm,1.1s
DEL Delary 40.43 41 *e*P **P** **13 45 03.3 +0.4**
NC405 NORSAR Array S 40.52 34 P **P** **13 45 03.4 -0.2**
LIC Lamto 40.58 127 ⇓*i* PKP1 **P** **13 45 08.2 +3.6**
comp=Z,38nm,0.8s
M44A Midewin, Midew 40.59 295 P **P** **13 45 03.6 -0.9**
M44A IAmb IAmb 13 45 05.5
comp=Z,80nm,1.6s
DBG Daneborg 40.62 7 *i* P **P** **13 45 05.3 +1.1**
KIC Kosan Boka 40.67 126 ⇓*i* PKP1 **P** **13 45 07.3 +1.9**
comp=Z,3.1nm,0.3s
ARSA Arzberg 40.67 56 *e*P **P** **13 45 04.1 -1.0**
comp=Z,8.5nm,1.0s

TORD Torodi Ar. Bea 40.70 112 P **P** **13 45 04.8 -0.8**
comp=Z,20nm,1.2s,baz=306,slow=6.8,SNR=18
comp=Z,20nm,1.2s
CONA Conrad Observa 40.89 55 *e*P **P** **13 45 06.1 -0.9**
comp=Z,4.9nm,1.4s
VAE Valguarnera 40.98 71 LR LR 14 00 07.6
comp=Z,363nm,18.4s,baz=140,slow=33
UPC Upice 41.02 51 *e*P **P** **13 45 09.2 +1.3**
UPC Upice 41.02 51 *e*P **P** **13 45 09.2 +1.3**
OSTC Ostas 41.15 51 *e*P **P** **13 45 09.7 +0.7**
OSTC AMS AMS 14 00 30.0
comp=Z,800nm,18.5s
HFS Hagfors 41.17 36 P **P** **13 45 09.2 +0.2**
comp=Z,7.3nm,0.8s,baz=232,slow=7.3,SNR=8.8
HFS LR LR 14 00 22.9
comp=Z,213nm,18.9s,baz=256,slow=34
comp=Z,7.3nm,0.8s
DPC Dobruska-Polom 41.21 51 *e*P **P** **13 45 10.7 +1.2**
DPC AMS AMS 14 01 50.0
comp=Z,600nm,18.1s
DPC Dobruska-Polom 41.21 51 *e*P **P** **13 45 10.7 +1.2**
DPC MLR MLR
comp=Z,600nm,18.1s
KRUC Moravsky 41.24 53 *e*P **P** **13 45 10.4 +0.7**
KULLO Kullorsuaq 41.32 352 *i* P **P** **13 45 08.3 -1.7**
KULLO IAmb IAmb 13 45 19.4
comp=Z,62nm,1.1s
VRAC Vranov 41.37 52 LR LR 14 00 12.1
comp=Z,125nm,19.7s,baz=248,slow=33
VRAC Vranov 41.37 52 *e*P **P** **13 45 11.6 +0.8**
WVT Waverly 41.39 287 P **P** **13 45 11.2 +0.1**
WVT IAmb IAmb 13 45 17.4
comp=Z,66nm,1.9s
WVT Waverly 41.39 287 P **P** **13 45 11.0 -0.1**
baz=76
WVT Waverly 41.39 287 P **P** **13 45 11.2 +0.1**
WVT pmax pmax
comp=Z,66nm,2.0s
LRAL Lakeview Retre 41.52 283 P **P** **13 45 12.3 +0.1**
baz=73
CUC Castrocucco 41.58 67 P **P** **13 45 12.3 -0.4**
MODS Modra-Piesok 41.83 54 *e*P **P** **13 45 15.7 +1.1**
MODS Modra-Piesok 41.83 54 *e*P **P** **13 45 15.7 +1.1**
PLAL Pickwick Lake 41.86 286 P **P** **13 45 15.7 +0.8**
PLAL IAmb IAmb 13 45 36.2
comp=Z,78nm,2.0s
S44A Carbondale 42.15 290 P **P** **13 45 17.9 +0.6**
S44A IAmb IAmb 13 45 24.5
comp=Z,87nm,1.8s
VIKU Vikbolandet 42.31 39 *e*P **P** **13 45 18.8 +0.5**
PRPB Parauapebas 42.40 200 *e*P **P** **13 45 19.7 +0.2**
EYMN Ely 42.48 306 P **P** **13 45 19.0 -0.9**
EYMN Ely 42.48 306 P **P** **13 45 21.2 +1.4**
baz=88
EYMN Ely 42.48 306 P **P** **13 45 19.7 -0.2**
baz=88
SRO Srobarova 42.54 55 *e*P **P** **13 45 22.5 +2.1**
SRO Srobarova 42.54 55 *e*P **P** **13 45 22.5 +2.1**
E38A The Farm, Brul 42.59 304 P **P** **13 45 20.4 -0.4**
W45A Hickory Valley 42.70 286 P **P** **13 45 22.2 +0.4**
W45A IAmb IAmb 13 45 40.8
comp=Z,54nm,0.9s
LNXT Lenox 42.70 288 P **P** **13 45 22.2 +0.4**
LNXT IAmb IAmb 13 45 40.2
comp=Z,53nm,0.8s
ITTB Itaituba 42.72 209 *e*P **P** **13 45 22.4 +0.3**
N41A Harden Midland 42.79 295 P **P** **13 45 22.6 +0.1**
N41A Harden Midland 42.79 295 P **P** **13 45 23.6 +1.1**
baz=80
L40A Anamosa 42.85 297 P **P** **13 45 22.7 -0.3**
L40A Anamosa 42.85 297 P **P** **13 45 24.1 +1.1**
baz=81
VYHS Vyhne 42.87 54 *e*P **P** **13 45 23.7 +0.7**
VYHS pmax pmax
comp=Z,45nm,2.2s
VYHS Vyhne 42.87 54 *e*P **P** **13 45 23.7 +0.7**
MORH Mrgy, Hungar 42.87 57 ⇑P **P** **13 45 23.8 +0.8**
UPP Uppsala 43.03 37 *e*P **P** **13 45 24.0 -0.1**
OXF Oxford 43.04 286 P **P** **13 45 22.6 -2.0**
OXF IAmb IAmb 13 45 28.7
comp=Z,29nm,0.8s
OXF Oxford 43.04 286 P **P** **13 45 25.5 +0.9**
baz=74
OXF Oxford 43.04 286 P **P** **13 45 24.5 -0.1**
baz=74
OXF Oxford 43.04 286 P **P** **13 45 22.6 -2.0**
OXF pmax pmax
comp=Z,29nm,0.9s
DAG Danmarks Havn 43.07 6 *i* P **P** **13 45 24.8 +0.6**
DAG IAmb IAmb 13 45 29.4
comp=Z,7.6nm,0.9s
LANS Liptovska Anna 43.26 53 *e*P **P** **13 45 28.3 +2.1**
LANS pmax pmax
comp=Z,7.0nm,1.6s
LANS Liptovska Anna 43.26 53 *e*P **P** **13 45 28.3 +2.1**
Y45A Yeager Farm, C 43.33 285 P **P** **13 45 28.0 +1.1**
Y45A Yeager Farm, C 43.33 285 P **P** **13 45 27.9 +1.1**
baz=74,SNR=8.6
NEEM North Greenlan 43.44 355 *i* P **P** **13 45 26.4 -1.2**
NEEM IAmb IAmb 13 45 32.7
comp=Z,80nm,1.6s
OJC Ojcow 43.44 51 P **P** **13 45 28.5 +0.8**
OJC Ojcow 43.44 51 P **P** **13 45 28.5 +0.8**
OJC pmax pmax
comp=Z,30nm,1.6s
CCM Cathedral Cave 43.61 291 P **P** **13 45 29.0 -0.1**
CCM Cathedral Cave 43.61 291 P **P** **13 45 29.5 +0.3**
baz=77
CCM Cathedral Cave 43.61 291 P **P** **13 45 29.0 -0.1**
CCM pmax pmax
comp=Z,39nm,1.8s
T42A Van Buren 43.73 290 P **P** **13 45 29.6 -0.5**
T42A Van Buren 43.73 290 P **P** **13 45 30.5 +0.4**
baz=76,SNR=8.0
MACA Manacapuru-AM 43.83 216 P **P** **13 45 30.9 -0.1**
MACA Manacapuru-AM 43.83 216 *e*P **P** **13 45 31.6 +0.5**
P40A Paris 43.91 293 P **P** **13 45 31.3 -0.2**
B35A Bob, Littlefor 43.95 306 P **P** **13 45 31.7 0.0**
B35A IAmb IAmb 13 45 36.9
comp=Z,96nm,2.0s
B35A Bob, Littlefor 43.95 306 P **P** **13 45 31.9 +0.2**
baz=86
LCAR Lake Charles 44.01 288 P **P** **13 45 32.1 -0.3**
F36A Milaca 44.02 303 P **P** **13 45 31.9 -0.4**
R40A Maddies Statio 44.34 292 P **P** **13 45 34.9 -0.1**
R40A Maddies Statio 44.34 292 P **P** **13 45 35.9 +0.9**
baz=77
STHS Stebnicka Huta 44.41 52 *e*P **P** **13 45 36.8 +1.4**
STHS Stebnicka Huta 44.41 52 *e*P **P** **13 45 36.8 +1.4**
SMTB Santa Maria do 44.43 196 *e*P **P** **13 45 36.9 +1.0**
FCC Fort Churchill 44.48 321 P **P** **13 45 35.9 +0.1**
FCC IAmb IAmb 13 45 42.7
comp=Z,34nm,1.1s
FCC Fort Churchill 44.48 321 P **P** **13 45 35.9 +0.1**
FCC pmax pmax
comp=Z,34nm,1.2s
TULEG Thule 44.53 350 P **P** **13 45 35.7 -0.3**
TULEG Thule 44.53 350 *i* P **P** **13 45 35.7 -0.3**
TULEG IAmb IAmb 13 45 42.0
comp=Z,64nm,1.2s
CRVS Cervenica-Dubn 44.58 53 *e*P **P** **13 45 39.1 +2.3**
CRVS pmax pmax
comp=Z,80nm,1.9s
CRVS Cervenica-Dubn 44.58 53 *e*P **P** **13 45 39.1 +2.3**
SGCB SCo Gabriel d 44.73 226 *e*P **P** **13 45 39.5 +1.2**
SIRR Siria 44.95 57 ⇑P **P** **13 45 38.7 -1.0**
BZS Buzias 44.99 58 ⇑P **P** **13 45 38.2 -1.9**
BZS Buzias 44.99 58 ⇑P **P** **13 45 38.2 -1.9**
P38A Dawn 45.02 294 P **P** **13 45 39.8 -0.6**
P38A IAmb IAmb 13 45 46.3
comp=Z,73nm,1.7s
P38A Dawn 45.02 294 P **P** **13 45 41.5 +1.1**
baz=78
NPGB Novo Progresso 45.03 207 *e*P **P** **13 45 40.2 -0.4**
CCAR Cane Creek 45.09 286 P **P** **13 45 40.5 -0.5**
WHAR Wooly Hollow 45.11 288 P **P** **13 45 40.9 -0.2**
UZH Uzhgorod 45.15 53 *e*P **P** **13 45 41.0 -0.3**
UZH *e* 13 45 46.5
ULM Lac du Bonnet 45.24 309 P **P** **13 45 39.4 -2.6**
comp=Z,8.6nm,0.8s,baz=93,slow=7.8,SNR=11
ULM LR LR 14 04 35.7
comp=Z,678nm,18.9s,baz=92,slow=36
ULM Lac du Bonnet 45.24 309 P **P** **13 45 40.3 -1.7**
ULM Lac du Bonnet 45.24 309 P **P** **13 45 40.3 -1.7**

ULM pmax pmax
comp=Z,9.0nm,0.9s
RAF Rauma 45.25 36 *e*P **P** **13 45 42.2 +0.3**
S39A Bolivar 45.29 291 P **P** **13 45 40.9 -1.8**
S39A IAmb IAmb 13 46 00.7
comp=Z,21nm,1.0s
S39A Bolivar 45.29 291 P **P** **13 45 42.8 +0.2**
baz=76,SNR=6.7
SURR Surduc 45.33 57 ⇑P P 13 45 48.4 +5.6
BOVS Bovan 45.34 60 ⇑P **P** **13 45 43.7 +0.8**
TRPA Tarpa 45.35 54 ⇓P **P** **13 45 43.5 +0.6**
AGMN Agassiz Nation 45.38 306 P **P** **13 45 42.7 -0.4**
AGMN Agassiz Nation 45.38 306 P **P** **13 45 43.2 +0.1**
baz=85,SNR=6.4
AGMN Agassiz Nation 45.38 306 P **P** **13 45 43.1 0.0**
baz=85,SNR=6.4
ROSC El Rosal 45.73 238 LR LR 14 02 55.4
comp=Z,308nm,18.2s,baz=27,slow=34
X40A Basin Creek Fa 45.77 287 P **P** **13 45 45.4 -1.0**
GZR Gura Zlata 45.83 58 ⇑P **P** **13 45 48.3 +1.5**
PABE Paberze 45.97 44 P **P** **13 45 46.5 -1.2**
PABE Paberze 45.97 44 *e*P **P** **13 45 47.9 +0.3**
Z41A Richland Creek 46.11 285 P **P** **13 45 49.3 +0.2**
HHAR Hobbs 46.13 289 P **P** **13 45 49.3 0.0**
TEFE Tefe 46.15 221 *e*P **P** **13 45 50.5 +1.0**
LVV L'vov 46.19 51 *e*P **P** **13 45 50.1 +0.6**
MIAR Mount Ida 46.33 287 P **P** **13 45 51.1 +0.3**
MIAR Mount Ida 46.33 287 P **P** **13 45 51.3 +0.4**
baz=73
MIAR Mount Ida 46.33 287 P **P** **13 45 50.7 -0.1**
baz=73
MIAR Mount Ida 46.33 287 P **P** **13 45 51.2 +0.3**
MIAR pmax pmax
comp=Z,53nm,1.3s
MEF Metsahovi 46.45 37 *e*P **P** **13 45 51.3 0.0**
ECSD EROS Data Cent 46.49 300 P **P** **13 45 51.4 -0.6**
ECSD EROS Data Cent 46.49 300 P **P** **13 45 52.5 +0.4**
baz=80
ECSD EROS Data Cent 46.49 300 P **P** **13 45 52.3 +0.2**
baz=80
ARCR ARCALIA 46.69 55 ⇑P **P** **13 45 49.5 -4.0**
RLO Rose Lookout 47.01 290 **P** **13 45 55.6 -0.5**
RLO IAmb IAmb 13 46 02.6
comp=Z,54nm,1.1s
H10N2 ASCENSION HYDR 47.10 149 T T 14 35 56.3
baz=335,slow=75,SNR=1536
H10N3 ASCENSION HYDR 47.10 149 T T 14 35 56.7
baz=335,slow=75,SNR=1153
H10N1 ASCENSION HYDR 47.12 149 T T 14 35 57.7
baz=335,slow=75,SNR=1209
ARR Arges 47.13 58 ⇑P **P** **13 45 57.3 +0.2**
BUR08 Bucovina Ar. S 47.19 54 P **P** **13 45 57.1 -0.4**
BUR08 IAmb IAmb 13 45 59.9
comp=Z,55nm,1.9s
BURAR Bucovina Array 47.20 54 ⇑P **P** **13 45 59.1 +1.5**
BURAR Bucovina Array 47.20 54 ⇑P **P** **13 45 59.1 +1.5**
FINES FINESS Array B 47.37 35 P **P** **13 45 57.3 -1.3**
comp=Z,12nm,0.8s,baz=243,slow=6.1,SNR=13
FINES LR LR 14 04 04.3
comp=Z,210nm,18.3s,baz=257,slow=34
comp=Z,12nm,0.8s
FINES FINESS Array B 47.37 35 P **P** **13 45 57.5 -1.1**
FINES FINESS Array B 47.37 35 P **P** **13 45 57.5 -1.1**
FIA1 FINESS Array S 47.37 35 P **P** **13 45 57.6 -1.0**
FIA1 IAmb IAmb 13 45 59.8
comp=Z,33nm,1.1s
SDBA SAO DESIDERIO 47.38 191 *e*P **P** **13 45 59.2 0.0**
VOIR 47.41 57 ⇑P **P** **13 45 59.7 +0.5**
VOIR 47.41 57 ⇑P **P** **13 45 59.7 +0.5**
KSU1 Kansas State U 47.46 294 P **P** **13 46 00.7 +1.0**
baz=76
VSU Vasula 47.54 40 ⇓*e*P **P** **13 46 00.0 +0.1**
VSU pmax pmax
comp=Z,88nm,0.9s
VSU Vasula 47.54 40 *e*P **P** **13 45 59.5 -0.4**
NACGM Naroch 47.59 44 *e*P **P** **13 46 01.4 +1.0**
comp=Z,45nm,1.1s,baz=272
TUL1 Leonard 47.67 289 P **P** **13 46 01.0 -0.3**
TUL1 IAmb IAmb 13 46 07.5
comp=Z,20nm,1.1s
TUL1 Leonard 47.67 289 P **P** **13 46 01.9 +0.6**
baz=73
TUL1 Leonard 47.67 289 P **P** **13 46 00.8 -0.5**
baz=73
NOR Nord 47.71 4 *i* P **P** **13 45 60.0 -1.0**
NOR IAmb IAmb 13 46 03.3
comp=Z,57nm,1.9s
X37A Clayton 47.73 288 **P** **13 46 00.9 -0.9**
X37A Clayton 47.73 288 P **P** **13 46 02.3 +0.4**
baz=72,SNR=8.4
MDND Maddock 47.92 306 P **P** **13 46 02.4 -0.7**
baz=82
T35B Sooner Cattle 47.95 291 P **P** **13 46 04.8 +1.3**
baz=74
MLR Muntele Rosu 48.02 57 P **P** **13 46 05.9 +1.9**
comp=Z,7.4nm,1.0s,baz=171,slow=23,SNR=4.7
comp=Z,7.4nm,1.0s
MLR Muntele Rosu 48.02 57 ⇑P P 13 45 54.9 -9.1
H10S3 ASCENSION HYDR 48.04 150 T T 14 37 20.0
baz=245,slow=74,SNR=279
H10S2 ASCENSION HYDR 48.05 150 T T 14 37 19.3
baz=335,slow=74,SNR=127
BGNE Belgrade 48.06 297 P **P** **13 46 04.0 -0.3**
BGNE Belgrade 48.06 297 P **P** **13 46 03.6 -0.7**
baz=77
NATX Nacogdoches 48.08 284 P **P** **13 46 05.5 +1.0**
baz=70
GDU01 Guandu, BA 48.12 184 *e*P **P** **13 46 04.5 -0.3**
MNK Minsk 48.24 45 *i* P **P** **13 46 04.7 -0.7**
comp=Z,753nm,19.9s,baz=273
MNK *i* P **pP** **13 46 05.2 -3.6**
MNK *i* P **pP** **13 46 05.2 -3.6**
MNK *i* PP **PP** **13 47 51.7 -5.9**
MNK *i* PPP PPP 13 48 44.2
MNK *i* S **S** **13 53 04.2 -0.2**
MNK *i* SS **SS** **13 56 31.4 -2.0**
MNK *i* SSS SSS 13 57 39.4
MNK *i* LQ LQ 14 00 42.4
MNK *i* LR LR 14 03 30.7
MNK *i* LRM MLR 14 05 07.5
comp=E,100nm,18.1s
MNK *i* LRM MLR 14 05 21.9
comp=Z,662nm,17.7s
MNK *i* LRM MLR 14 05 44.5
comp=N,479nm,16.0s
MNK Minsk 48.24 45 *e*P **P** **13 46 04.7 -0.7**
QUOK Quay 48.31 290 **P** **13 46 05.3 -1.0**
SNDB Serra Nova Dou 48.35 199 *e*P **P** **13 46 07.1 +0.5**
OK046 Pawnee Station 48.40 290 P **P** **13 46 06.5 -0.4**
OK048 Pawnee Station 48.42 290 **P** **13 46 06.1 -1.0**
OK050 Pawnee Station 48.46 290 P **P** **13 46 07.4 0.0**
OK031 S. Brethren Rd 48.48 290 **P** **13 46 07.5 -0.1**
OK033 Mehan 48.53 290 **P** **13 46 08.0 0.0**
RES Resolute Bay 48.70 342 P **P** **13 46 08.8 +0.1**
comp=N,5.6nm,0.8s,baz=99,slow=7.0,SNR=20
RES LR LR 14 05 49.7
comp=N,246nm,18.0s,baz=104,slow=35
comp=N,5.6nm,0.8s
RES Resolute Bay 48.70 342 P **P** **13 46 08.5 -0.2**
RES IAmb IAmb 13 46 15.2
comp=Z,35nm,1.2s
FFC Flin Flon 48.71 315 P **P** **13 46 08.6 -0.4**
FFC IAmb IAmb 13 46 15.7
comp=Z,48nm,1.9s
FFC Flin Flon 48.71 315 P **P** **13 46 08.6 -0.4**
FFC pmax pmax
comp=Z,48nm,1.9s
CLDB Colider 48.72 205 *e*P **P** **13 46 08.9 -0.6**
W35A Tecumseh 48.74 289 **P** **13 46 09.3 -0.3**
W35A IAmb IAmb 13 46 15.8
comp=Z,48nm,1.3s
OK029 Liberty Lake 49.00 290 P **P** **13 46 12.3 +0.7**
KAN14 Manchester OK 49.05 291 P **P** **13 46 11.6 -0.4**
CROK Carrier 49.20 291 **P** **13 46 13.5 +0.4**
SORM Soroca 49.22 53 ⇑P **P** **13 46 12.9 -0.1**
SORM Soroca 49.22 53 ⇑P **P** **13 46 12.9 -0.1**
R32A Long Quarter, 49.22 294 P **P** **13 46 13.8 +0.5**
R32A IAmb IAmb 13 46 19.1
comp=Z,40nm,1.1s
OK032 Salt Plains WL 49.29 291 **P** **13 46 14.5 +0.7**
LOOK Love County 49.34 288 **P** **13 46 14.2 0.0**
LOOK IAmb IAmb 13 46 20.9
comp=Z,48nm,1.2s
AKASG Malin Array Be 49.41 50 P **P** **13 46 13.1 -1.4**
comp=Z,10nm,0.9s,baz=274,slow=7.5,SNR=34
comp=Z,10nm,0.9s
AKASG Malin Array Be 49.41 50 *e*P **P** **13 46 13.8 -0.7**
AKASG Malin Array Be 49.41 50 *i* P **P** **13 46 14.6 +0.1**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 49.41 50 P **P** **13 46 13.4 -1.0**
AKBB IAmb IAmb 13 46 16.0
comp=Z,41nm,1.3s
AKBB Malin Array Si 49.41 50 *ce*P **P** **13 46 15.2 +0.7**
EUNU Eureka 49.53 350 P **P** **13 46 14.4 -0.7**
Z35A Perchaven, San 49.62 287 P **P** **13 46 16.8 +0.5**
Z35A IAmb IAmb 13 46 23.1
comp=Z,42nm,1.0s
Z35A Perchaven, San 49.62 287 P **P** **13 46 17.3 +1.0**
baz=71
IDI Anoyia 49.70 71 LR LR 14 06 17.0
comp=Z,40nm,21.1s,baz=286,slow=35
CMC01 Camacan, BA 49.74 184 *e*P **P** **13 46 17.7 +0.4**
PDRB Porto dos Gac 49.74 206 *e*P **P** **13 46 17.8 +0.5**
CBKS Cedar Bluff 49.89 294 P **P** **13 46 18.1 -0.3**
CBKS IAmb IAmb 13 46 24.4
comp=Z,38nm,1.2s
CBKS Cedar Bluff 49.89 294 P **P** **13 46 18.1 -0.3**
CBKS pmax pmax
comp=Z,38nm,1.2s
JANB Januaria 49.90 190 *e*P **P** **13 46 18.2 -0.3**
FW06 Azle 49.98 286 P **P** **13 46 19.2 +0.1**
FW06 IAmb IAmb 13 46 25.4
comp=Z,36nm,1.1s
WHTX Lake Whitney, 50.23 285 P **P** **13 46 21.3 +0.3**
WHTX Lake Whitney, 50.23 285 P **P** **13 46 21.8 +0.8**
baz=70,SNR=9.1
WHTX Lake Whitney, 50.23 285 P **P** **13 46 21.1 +0.1**
baz=70,SNR=9.1
WMOK Wichita Mounta 50.36 289 **P** **13 46 21.9 -0.1**
WMOK IAmb IAmb 13 46 28.3
comp=Z,22nm,1.1s
WMOK Wichita Mounta 50.36 289 P **P** **13 46 23.0 +1.0**
baz=71,SNR=11
WMOK Wichita Mounta 50.36 289 P **P** **13 46 21.6 -0.3**
baz=71,SNR=11
WMOK Wichita Mounta 50.36 289 P **P** **13 46 21.9 -0.1**
WMOK pmax pmax
comp=Z,22nm,1.1s
435B Jarrell 50.76 284 P **P** **13 46 25.0 0.0**
435B Jarrell 50.76 284 P **P** **13 46 25.4 +0.3**
baz=68
DGMT Dagmar 50.85 308 P **P** **13 46 25.8 +0.3**
baz=80
APA Apatity 50.96 28 ⇓*i*P **P** **13 46 21.4 -4.6**
APA *i* 13 47 44.0
APA *i* 13 48 29.5
APA *i* SS **SS** **13 57 23.0 +6.4**
APA pmax pmax
APA comp=Z,13nm,0.9s MLR MLR
comp=Z,3μm,15.0s
GUA01 Guaratinga, BA 50.97 184 *e*P **P** **13 46 23.2 -3.3**
TULM Tulcn-Chalpat 51.08 238 P **P** **13 46 27.7 -0.5**
TULM IAmb IAmb 13 46 30.7
comp=Z,61nm,1.3s
BDFB Brasilia 51.10 194 P **P** **13 46 27.9 +0.3**
comp=Z,16nm,1.0s,baz=23,slow=8.9,SNR=12
comp=Z,16nm,1.0s
BDFB Brasilia 51.10 194 P **P** **13 46 28.0 +0.3**
BDFB IAmb IAmb 13 46 29.5
comp=Z,27nm,1.2s
BDFB Brasilia 51.10 194 P **P** **13 46 28.0 +0.3**
BDFB pmax pmax
comp=Z,27nm,1.2s
BDFB Brasilia 51.10 194 *e*P **P** **13 46 28.5 +0.8**
MC01 Montes Claros 51.48 189 *e*P **P** **13 46 30.5 +0.1**
ABTX Abilene, Hawle 51.74 287 P **P** **13 46 33.3 +0.9**
baz=69
OTAV Otavalo 51.88 238 P **P** **13 46 34.4 +0.3**
OTAV IAmb IAmb 13 46 36.5
comp=Z,48nm,1.4s
OTAV Otavalo 51.88 238 ⇑P **P** **13 46 34.6 +0.5**
OTAV Otavalo 51.88 238 *e*P **P** **13 46 35.2 +1.1**
NBRS Nobres 51.93 204 *e*P **P** **13 46 34.1 +0.3**
KSCO Kaye Shedlock' 51.99 295 P **P** **13 46 34.1 -0.2**
baz=73
ARAG Araguaiana, MT 52.05 199 *e*P **P** **13 46 34.4 -0.3**
NAN01 Guarapari, ES 52.24 184 *e*P **P** **13 46 35.7 -0.3**
ETMB Extrema 52.30 218 P **P** **13 46 35.8 -0.8**
ETMB IAmb IAmb 13 46 37.2
comp=Z,58nm,1.5s
ETMB Extrema 52.30 218 *e*P **P** **13 46 35.8 -0.8**
VILB Vilhena 52.30 210 P **P** **13 46 36.9 +0.2**
VILB Vilhena 52.30 210 *e*P **P** **13 46 37.3 +0.7**
LAO LASA Array 52.56 306 P **P** **13 46 39.3 +1.0**
baz=77
AMTX Amarillo 52.57 290 P **P** **13 46 38.7 +0.1**
AMTX IAmb IAmb 13 46 45.3
comp=Z,45nm,1.2s
AMTX Amarillo 52.57 290 P **P** **13 46 39.4 +0.8**
baz=70
AMTX Amarillo 52.57 290 P **P** **13 46 39.3 +0.7**
baz=70
JCT Junction City 52.65 284 P **P** **13 46 39.0 -0.2**
JCT Junction City 52.65 284 P **P** **13 46 39.9 +0.7**
baz=68,SNR=7.8
JCT Junction City 52.65 284 P **P** **13 46 37.6 -1.6**
baz=68,SNR=7.8
JCT Junction City 52.65 284 P **P** **13 46 39.0 -0.2**
JCT pmax pmax
comp=Z,16nm,0.8s
DIAM Diamantina, MG 53.01 188 *e*P **P** **13 46 41.7 -0.2**
833A Chaparral WMA, 53.16 282 P **P** **13 46 42.1 -0.8**
baz=66
SJMB Sao Joao De Ma 53.16 185 *e*P **P** **13 46 43.1 +0.3**
OBN Obninsk 53.17 43 LR LR 14 07 17.1
comp=Z,133nm,21.4s,baz=300,slow=34
OBN Obninsk 53.17 43 ⇓*e*P **P** **13 46 43.4 +0.8**
OBN *e* 13 48 41.5
OBN *e*S S 13 54 22.6 +10
OBN pmax pmax
comp=Z,94nm,1.3s
BSFB Barra de Sao F 53.27 185 *e*P **P** **13 46 43.1 -0.5**
PORT Chimborazo Vol 53.32 237 P **P** **13 46 43.5 -1.5**
PORT IAmb IAmb 13 46 47.6
comp=Z,33nm,1.5s
SALV Santo Antonio 53.38 203 *e*P **P** **13 46 44.9 +0.4**
PTET Porto Estrela 53.38 205 *e*P **P** **13 46 45.0 +0.5**
IPMB Ipameri, GO 53.42 194 *e*P **P** **13 46 44.4 -0.5**
PMNB Patos De Minas 53.64 192 *e*P **P** **13 46 46.9 +0.4**
MOS Moscow 53.66 43 *e*P **P** **13 46 43.4 -2.8**
VBST Vila Bela da S 53.66 208 *e*P **P** **13 46 46.9 +0.3**
MSTX Muleshoe 53.73 289 P **P** **13 46 46.7 -0.5**
MSTX IAmb IAmb 13 46 53.5
comp=Z,34nm,1.2s
MSTX Muleshoe 53.73 289 P **P** **13 46 46.8 -0.4**
baz=69
K22A Casper 53.79 301 P **P** **13 46 47.4 -0.2**
baz=74
N23A Red Feather La 53.88 299 P **P** **13 46 48.2 -0.2**
baz=73,SNR=6.5
Q24A Divide 53.88 296 P **P** **13 46 46.8 -1.7**
baz=72
KLMR Klimovskoe 53.89 36 *e*P **P** **13 46 44.7 -3.1**
KLMR AMP 13 46 50.1
comp=Z,34nm,1.4s
KLMR LR LR 14 05 21.8
KLMR Klimovskoe 53.89 36 *e*P **P** **13 46 44.7 -3.1**
KLMR pmax pmax
comp=Z,34nm,1.4s
T25A Trinidad 53.91 294 P **P** **13 46 47.8 -0.8**
baz=71,SNR=6.3
ISCO Idaho Springs 53.97 297 P **P** **13 46 48.3 -0.8**
ISCO IAmb IAmb 13 46 55.1
comp=Z,34nm,1.8s
ISCO Idaho Springs 53.97 297 P **P** **13 46 49.1 0.0**
baz=72
ISCO Idaho Springs 53.97 297 P **P** **13 46 48.9 -0.2**
baz=72
ISCO Idaho Springs 53.97 297 P **P** **13 46 48.3 -0.8**
ISCO pmax pmax
comp=Z,34nm,1.8s
PTLB Pontes e Lacer 54.16 207 P **P** **13 46 50.3 +0.1**
PTLB Pontes e Lacer 54.16 207 *e*P **P** **13 46 50.5 +0.3**
CZSB Cruzeiro do Su 54.16 226 P **P** **13 46 49.1 -1.2**
CZSB IAmb IAmb 13 46 50.6
comp=Z,28nm,1.2s
CZSB Cruzeiro do Su 54.16 226 *e*P **P** **13 46 50.3 -0.1**
ANTO Ankara 54.28 63 P **P** **13 46 53.1 +2.0**
ANTO P **P** **13 46 53.1 +2.0**
POCN Pocone 54.39 204 *e*P **P** **13 46 53.3 +1.5**
YKA Yellowknife Ar 54.53 326 P **P** **13 46 52.8 +0.3**
comp=Z,1.7nm,0.7s,baz=83,slow=7.1,SNR=17
comp=Z,1.7nm,0.7s
YKA Yellowknife Ar 54.53 326 P **P** **13 46 52.2 -0.3**
SDCO Great Sand Dun 54.53 295 P **P** **13 46 54.1 +0.8**
baz=71
SDCO Great Sand Dun 54.53 295 P **P** **13 46 53.2 -0.1**
baz=71
EGMT Eagleton 54.58 308 P **P** **13 46 53.1 -0.1**
baz=76
BR131 Keskin Array S 54.94 62 P **P** **13 46 56.0 0.0**
BR131 Keskin Array S 54.94 62 *de*P **P** **13 46 56.8 +0.8**
BRTR Keskin Array B 54.94 62 P **P** **13 46 56.4 +0.4**
comp=Z,4.0nm,0.9s,baz=290,slow=3.7,SNR=12
BRTR LR LR 14 08 37.6
comp=Z,116nm,19.3s,baz=301,slow=34
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 54.94 62 P **P** **13 46 55.9 0.0**
BRTR Keskin Array B 54.94 62 *i* P **P** **13 46 57.2 +1.2**
BRTR pmax pmax
comp=Z,6.0nm,1.1s
LPSR Galich'ya Gora 55.03 46 *e*P **P** **13 46 56.7 +0.5**
LPSR pmax pmax
comp=Z,50nm,1.0s
SIV San Ignacio 55.40 209 P **P** **13 46 59.7 +0.4**
comp=Z,12nm,1.0s,baz=48,slow=7.4,SNR=24
SIV LR LR 14 07 48.7
comp=Z,150nm,21.0s,baz=86,slow=33
comp=Z,12nm,1.0s
VORR Voronezh 55.41 47 P **P** **13 46 59.9 +1.0**
VORR pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 55.49 48 *e*P **P** **13 46 59.9 +0.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
S22A 4UR Ranch, Cre 55.53 295 P **P** **13 47 00.4 0.0**
baz=70
EDM Edmonton 55.57 315 P **P** **13 47 00.2 +0.1**
EDM Edmonton 55.57 315 P **P** **13 47 00.2 +0.1**
EDM pmax pmax
comp=Z,63nm,1.5s
GDL2 Guadalupe Moun 55.62 288 P **P** **13 47 00.7 -0.2**
YMP Mirror Lake Pl 55.73 304 P **P** **13 47 01.7 0.0**
YMP IAmb IAmb 13 47 08.4
comp=Z,21nm,1.0s
O20A White River Ci 55.78 298 P **P** **13 47 02.2 +0.1**
baz=71
BSCB Bom Sucesso 55.81 189 *e*P **P** **13 47 02.1 -0.1**
PD31 Pinedale Array 55.90 302 P **P** **13 47 01.4 -1.5**
PD31 IAmb IAmb 13 47 08.7
comp=Z,23nm,1.4s
PDAR Pinedale Array 55.90 302 P **P** **13 47 02.1 -0.8**
comp=Z,2.7nm,1.0s,baz=69,slow=7.7,SNR=9.4
PDAR LR LR 14 10 08.7
comp=Z,571nm,21.3s,baz=81,slow=35
comp=Z,2.7nm,1.0s
PDAR Pinedale Array 55.90 302 P **P** **13 47 01.5 -1.5**
BW06 Boulder Array 55.90 302 P **P** **13 47 01.6 -1.3**
BW06 IAmb IAmb 13 47 08.7
comp=Z,23nm,1.3s
BW06 Boulder Array 55.90 302 P **P** **13 47 02.8 -0.2**
baz=72,SNR=8.1
ANN Anapa 56.08 56 *e*P P 13 47 10.1 +6.2
ANN pmax pmax
comp=Z,135nm,1.6s
RVDE Rio Verde (Bra 56.09 201 *e*P **P** **13 47 04.9 +0.8**
H17A Grant Village 56.11 304 P **P** **13 47 03.8 -0.7**
baz=73
TX31 Lajitas Ar. Si 56.19 285 P **P** **13 47 04.4 -0.6**
TX31 IAmb IAmb 13 47 08.8
comp=Z,28nm,0.9s
TX31 Lajitas Ar. Si 56.19 285 P **P** **13 47 05.5 +0.5**
baz=66,SNR=23
TX32 Lajitas Array 56.19 285 P **P** **13 47 04.2 -0.8**
TXAR Lajitas Array 56.19 285 P **P** **13 47 05.3 +0.3**
comp=Z,9.1nm,0.9s,baz=95,slow=7.5,SNR=30
TXAR LR LR 14 10 10.6
comp=Z,642nm,19.1s,baz=54,slow=35
comp=Z,9.1nm,0.9s
TXAR Lajitas Array 56.19 285 P **P** **13 47 04.2 -0.8**
ANMO Albuquerque 56.22 292 LR LR 14 09 44.6
comp=Z,633nm,19.8s,baz=159,slow=34
ANMO Albuquerque 56.22 292 P **P** **13 47 06.1 +0.7**
baz=69
ANMO Albuquerque 56.22 292 P **P** **13 47 05.4 +0.1**
baz=69
ANMO Albuquerque 56.22 292 ⇑*e*P **P** **13 47 06.0 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
MCRA Macar, Loja 56.23 235 P **P** **13 47 04.5 -0.9**
MCRA IAmb IAmb 13 47 12.0
comp=Z,33nm,1.8s
FLWY Flagg Ranch 56.29 304 P **P** **13 47 05.1 -0.6**
FLWY IAmb IAmb 13 47 11.5
comp=Z,34nm,1.8s
CAM01 Campos-RJ 56.30 186 *e*P **P** **13 47 05.4 -0.1**
YMR Madison River 56.30 304 P **P** **13 47 04.9 -0.9**
YMR IAmb IAmb 13 47 12.8
comp=Z,52nm,1.4s
BBSD Serra de San D 56.31 208 *e*P **P** **13 47 05.8 0.0**
BOZ Bozeman (W) 56.47 306 P **P** **13 47 07.9 +1.0**
baz=73,SNR=5.6
BB19B Bebedouro 56.48 193 *e*P **P** **13 47 05.5 +0.6**
IMW Indian Meadow 56.51 303 P **P** **13 47 07.1 -0.3**
RDMU Red Mountain 56.60 299 P **P** **13 47 07.3 -0.7**
RDMU IAmb IAmb 13 47 14.3
comp=Z,18nm,1.0s
MNTX Cornudas Mount 56.61 288 P **P** **13 47 06.9 -1.0**
MNTX Cornudas Mount 56.61 288 P **P** **13 47 08.3 +0.4**
baz=67
MNTX Cornudas Mount 56.61 288 P **P** **13 47 08.6 +0.7**
baz=67
DUB01 Friburgo-RJ 56.61 186 *e*P **P** **13 47 08.2 +0.4**
BNM Barren Site 56.65 291 P **P** **13 47 08.4 0.0**
FXWY Fox Creek 56.65 303 P **P** **13 47 07.3 -1.0**
CRNM Carthage 56.80 291 P **P** **13 47 09.7 +0.2**
VAS01 Vassouras-RJ 56.92 188 *e*P **P** **13 47 10.1 +0.2**
LRM Limekiln Ridge 56.96 306 P **P** **13 47 09.2 -1.2**
MVCO Mesa Verde 56.96 295 P **P** **13 47 11.5 +0.9**
MVCO IAmb IAmb 13 47 18.2
comp=Z,45nm,1.3s
MVCO Mesa Verde 56.96 295 P **P** **13 47 10.8 +0.2**
baz=69,SNR=12
WALA Waterton Lakes 56.97 310 P **P** **13 47 08.8 -1.5**
Y22A Socorro 56.98 291 P **P** **13 47 11.7 +1.0**
baz=68
BBLB La Banda, Boli 57.00 205 *e*P **P** **13 47 11.2 +0.6**
BBRB Robore, Bolivi 57.00 206 *e*P **P** **13 47 11.1 +0.5**
VRH Novokhopyorsk 57.05 47 *e*P **P** **13 47 08.6 -2.0**
VRH pmax pmax
comp=Z,30nm,0.9s
A36M Sachs Harbour 57.10 338 P **P** **13 47 11.9 +1.2**
baz=79,SNR=15
SBM South Baldy 57.14 291 P **P** **13 47 10.8 -1.2**
C36M Paulatuk 57.23 335 P **P** **13 47 11.8 +0.2**
baz=79
ATAH Atahualpa 57.24 232 LR LR 14 12 09.3
comp=Z,103nm,19.7s,baz=28,slow=36
MSO Missoula 57.64 308 P **P** **13 47 14.9 -0.1**
baz=72
AQDB Aquidauana 57.68 201 P **P** **13 47 13.9 -1.4**
AQDB IAmb IAmb 13 47 17.2
comp=Z,18nm,1.1s
AQDB Aquidauana 57.68 201 *e*P **P** **13 47 16.3 +1.0**
HWUT Hardware Ranch 57.68 301 P **P** **13 47 14.7 -0.9**
TCUT Toone Canyon 57.73 300 P **P** **13 47 15.2 -0.9**
TCUT IAmb IAmb 13 47 22.2
comp=Z,25nm,1.4s
JLU Jordanelle 57.94 300 P **P** **13 47 17.2 -0.2**
JLU IAmb IAmb 13 47 23.9
comp=Z,32nm,1.3s
BDQN Bodoquena, MS 57.97 202 *e*P **P** **13 47 18.1 +0.6**
BCYI Bear Canyon 58.07 305 P **P** **13 47 17.9 -0.5**
VAO Valinhos 58.10 191 *e*P **P** **13 47 19.1 +0.7**
121A Cookes Peak, D 58.16 290 P **P** **13 47 19.7 +0.7**
baz=67
121A Cookes Peak, D 58.16 290 P **P** **13 47 18.9 -0.1**
baz=67
TMUT Trail Mountain 58.22 298 P **P** **13 47 19.0 -0.5**
TMUT IAmb IAmb 13 47 26.3
comp=Z,42nm,1.9s
HVU Hansel Valley 58.48 302 P **P** **13 47 20.1 -1.0**
HVU IAmb IAmb 13 47 27.4
comp=Z,27nm,1.4s

HVU **Hansel Valley** 58.48 302 P P 13 47 20.1 -1.0
HVU pmax pmax
comp=Z,27nm,1.4s
NLU **North Lily Min** 58.61 299 P P 13 47 21.4 -0.7
HPIG 58.79 283 P P 13 47 23.6 +0.1
HPIG IAmb IAmb 13 47 30.8
comp=Z,21nm,1.1s
LPAZ **La Paz** 58.79 216 P P 13 47 24.5 +0.5
comp=Z,19nm,1.0s,baz=19,slow=8.2,SNR=28
LPAZ LR LR 14 11 10.4
comp=Z,168nm,18.4s,baz=34,slow=34
comp=Z,19nm,1.0s
LPAZ **La Paz** 58.79 216 P P 13 47 23.8 -0.1
LPAZ **La Paz** 58.79 216 eP P 13 47 24.4 +0.5
BGU **Big Grassy Mou** 58.95 301 P P 13 47 24.2 -0.2
HLID **Hailey** 59.01 304 P P 13 47 25.7 +1.0
baz=70,SNR=6.5
DUG **Dugway, Tooele** 59.06 300 P P 13 47 25.1 0.0
DUG IAmb IAmb 13 47 32.0
comp=Z,32nm,1.3s
DUG **Dugway, Tooele** 59.06 300 P P 13 47 26.0 +0.8
baz=69,SNR=6.4
DUG **Dugway, Tooele** 59.06 300 P P 13 47 25.1 0.0
DUG pmax pmax
comp=Z,32nm,1.3s
ANTJ **Antonio Joao (** 59.20 201 eP P 13 47 25.8 -0.2
NEW **Newport** 59.24 310 LR LR 14 12 34.9
comp=Z,839nm,19.9s,baz=68,slow=36
NEW **Newport** 59.24 310 P P 13 47 25.3 -0.8
NEW IAmb IAmb 13 47 32.5
comp=Z,18nm,1.1s
NEW **Newport** 59.24 310 P P 13 47 26.3 +0.2
baz=71,SNR=6.2
NEW **Newport** 59.24 310 P P 13 47 25.3 -0.8
NEW pmax pmax
comp=Z,18nm,1.1s
KIRV **Kirov** 59.27 37 LR LR 14 11 46.7
comp=Z,248nm,18.2s,baz=278,slow=35
KIRV **Kirov** 59.27 37⇓ eP P 13 47 26.5 +0.5
TCRU **Three Creeks R** 59.37 298 P P 13 47 26.2 -1.2
TCRU IAmb IAmb 13 47 34.7
comp=Z,14nm,1.1s
MURT **Porto Murtinho** 59.38 203 eP P 13 47 27.4 +0.2
KOTAN **Kotaneelee Air** 59.49 325 P P 13 47 27.7 +0.1
baz=73
PLID **Pearl Lake** 59.56 306 P P 13 47 28.2 -0.4
PLID IAmb IAmb 13 47 35.0
comp=Z,35nm,1.2s
WUAZ **Wupatki** 59.74 294 P P 13 47 29.1 -0.9
WUAZ IAmb IAmb 13 47 37.6
comp=Z,25nm,1.2s
WUAZ **Wupatki** 59.74 294 P P 13 47 30.2 +0.3
baz=67
AMBA **Amambai (Brazi** 59.79 200 eP P 13 47 30.9 +0.8
KIV **Kislovodsk** 59.92 55 eP P 13 47 30.7 -0.3
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,107nm,17.0s
KIV **Kislovodsk** 59.92 55 P P 13 47 33.6 +2.7
KIV P P 13 47 33.6 +2.7
KBZ **Khabaz** 60.14 55 P P 13 47 34.4 +2.0
comp=Z,9.5nm,0.9s,baz=329,slow=3.8,SNR=12
KBZ LR LR 14 13 06.5
comp=Z,70nm,18.6s,baz=270,slow=36
comp=Z,9.5nm,0.9s
KBZ **Khabaz** 60.14 55⇓ eP P 13 47 34.5 +2.2
KBZ pmax pmax
comp=Z,17nm,1.1s
BELG **Belogornoye** 60.20 45 LR LR 14 12 54.2
comp=Z,681nm,18.2s,baz=317,slow=35
SZCU **Shurtz Canyon** 60.21 297 P P 13 47 32.5 -0.7
KNB **Kanab** 60.24 296 P P 13 47 32.6 -0.8
KNB IAmb IAmb 13 47 39.7
comp=Z,25nm,1.5s
KNB **Kanab** 60.24 296 P P 13 47 32.6 -0.8
KNB pmax pmax
comp=Z,25nm,1.5s
E09A **Wood Farm, Sta** 60.48 308 P P 13 47 34.5 -0.2
E09A IAmb IAmb 13 47 40.6
comp=Z,24nm,1.2s
TUC **Tucson** 60.57 291 P P 13 47 35.8 +0.2
baz=66
ELK **Elko** 60.58 301 LR LR 14 13 11.5
comp=Z,445nm,20.9s,baz=60,slow=36
SPR3 **Spring Creek 3** 60.59 299 P P 13 47 35.5 -0.4
LIRD **Liard River Hi** 60.70 324 P P 13 47 36.5 +0.6
baz=71
PTGB **Pitanga** 60.76 196 eP P 13 47 37.0 +0.2
INK **Inuvik** 60.81 335 P P 13 47 36.0 -0.5
INK **Inuvik** 60.81 335 P P 13 47 36.5 0.0
baz=70,SNR=7.9
INK **Inuvik** 60.81 335 P P 13 47 36.0 -0.5
INK pmax pmax
comp=Z,64nm,1.6s
ZEI **Tsey** 61.17 56 eP P 13 47 40.6 +1.0
ZEI pmax pmax
comp=Z,12nm,1.0s
F31M **Tsiigehtchic** 61.19 334 P P 13 47 39.1 0.0
baz=69,SNR=7.0
PB16 **IPOC Station P** 61.21 216 P P 13 47 39.0 -1.5
PB16 IAmb IAmb 13 47 42.4
comp=Z,36nm,1.7s
HAWA **Hanford** 61.42 309 P P 13 47 41.9 +0.8
HAWA IAmb IAmb 13 47 48.1
comp=Z,19nm,1.1s
G08A **Pilot Rock** 61.45 307 P P 13 47 42.0 +0.6
WTLY **Watson Lake, Y** 61.74 325 P P 13 47 43.4 +0.4
baz=69
R11A **Troy Canyon, C** 61.74 299 P P 13 47 43.6 0.0
baz=67
J08A **Circle Bar Ran** 61.84 305 P P 13 47 44.7 +0.6
PB12 **IPOC Station P** 61.85 217 P P 13 47 42.5 -1.7
MNMC **Minye Minye** 61.94 216 P P 13 47 44.1 -1.0
BMN **Battle Mountai** 62.09 302 P P 13 47 45.0 -0.9
BMN **Battle Mountai** 62.09 302 P P 13 47 45.0 -0.9
BMN pmax pmax
comp=Z,11nm,1.1s
GO01 **Chusmiza** 62.20 215 P P 13 47 45.7 -1.4
GO01 IAmb IAmb 13 47 49.2
comp=Z,20nm,1.1s
FRBT **Francisco Belt** 62.21 197 eP P 13 47 46.3 -0.2
G30M **tAoh Zraii Nji** 62.26 334 P P 13 47 46.2 -0.3
baz=67
214A **Organ Pipe Nat** 62.28 291 P P 13 47 47.7 +0.6
214A **Organ Pipe Nat** 62.28 291 P P 13 47 47.4 +0.3
baz=65
WVOR **Wild Horse Val** 62.30 304 P P 13 47 47.4 +0.2
WVOR IAmb IAmb 13 47 54.3
comp=Z,24nm,1.4s
WVOR **Wild Horse Val** 62.30 304 P P 13 47 47.4 +0.2
WVOR pmax pmax
comp=Z,24nm,1.4s
PDMCI **Parker Dam,Lak** 62.31 294 P P 13 47 48.1 +0.9
baz=65
PB11 **IPOC Station P** 62.50 215 P P 13 47 47.1 -1.6
PSGCX **Pisagua** 62.59 216 P P 13 47 47.8 -1.4
PSGCX IAmb IAmb 13 47 49.1
comp=Z,38nm,1.4s
GNI **Garni** 62.76 58 P P 13 47 51.2 +0.8
TPNV **Topopah Spring** 62.79 298 P P 13 47 49.6 -1.0
TPNV IAmb IAmb 13 48 20.9
comp=Z,16nm,1.4s
TPNV **Topopah Spring** 62.79 298 P P 13 47 51.0 +0.4
baz=66
TPNV **Topopah Spring** 62.79 298 P P 13 47 49.6 -1.0
TPNV pmax pmax
comp=Z,16nm,1.4s
DLBC **Dease Lake** 62.95 324 LR LR 14 14 34.6
comp=Z,1µm,20.5s,baz=76,slow=36
DLBC **Dease Lake** 62.95 324 P P 13 47 51.6 +0.5
baz=68
FARO **Faro, Yukon** 63.00 329 P P 13 47 51.3 -0.1
baz=67
IRM **Iron Mountain** 63.12 294 P P 13 47 53.4 +0.7
baz=65,SNR=9.0
TUQ **Turquoise Moun** 63.17 296 P P 13 47 53.3 +0.2
baz=65
ITAB **Concordia** 63.21 195 P P 13 47 51.8 -1.2
SHOC **Shoshone, Teco** 63.24 297 P P 13 47 53.0 -0.4
baz=65
GMRC **Granite Mounta** 63.25 295 P P 13 47 53.5 -0.1
baz=65
KVN **Kaiserville** 63.27 300 P P 13 47 52.6 -1.1
KVN IAmb IAmb 13 47 59.9
comp=Z,23nm,1.2s
KVN **Kaiserville** 63.27 300 P P 13 47 52.7 -1.1
KVN pmax pmax
comp=Z,23nm,1.2s
MZP **Montezuma Peak** 63.30 299 P P 13 47 53.4 -0.7
N32M **Quiet Lake** 63.31 327 P P 13 47 53.1 -0.4
baz=66
PINE **Pine Mountain** 63.33 306 P P 13 47 53.1 -1.0
GLA **Glamis** 63.35 293 P P 13 47 54.4 +0.1
baz=64
FURC **Furnace Creek,** 63.43 297 P P 13 47 55.3 +0.7
baz=65
M31M **Drury Creek, Y** 63.46 329 P P 13 47 53.7 -0.7
baz=66
PB01 **IPOC Station P** 63.53 214 P P 13 47 54.7 -0.7
PB01 IAmb IAmb 13 47 55.9
comp=Z,23nm,1.1s
P33M **Teslin, Yukon** 63.57 326 P P 13 47 55.4 +0.1
baz=66
BC3 **Big Chuckawall** 63.57 294 P P 13 47 55.9 +0.2
baz=64
E27K **Coleen River** 63.61 336 P P 13 47 55.6 +0.2
baz=63
C27K **Jago River** 63.62 338 P P 13 47 55.6 +0.2
baz=62
PATCX **Punta Patache** 63.65 215 P P 13 47 53.7 -2.5
NVAR **Mina Array Bea** 63.66 300 P P 13 47 55.9 -0.5
comp=Z,3.2nm,0.8s,baz=71,slow=5.6,SNR=22
comp=Z,3.2nm,0.8s
NVAR **Mina Array Bea** 63.66 300 P P 13 47 55.2 -1.3
CPUP **Villa Florida** 63.68 201 P P 13 47 54.9 -1.2
comp=Z,2.9nm,0.9s,baz=24,slow=9.4,SNR=5.7
CPUP LR LR 14 15 07.6
comp=Z,120nm,18.2s,baz=36,slow=36
comp=Z,2.9nm,0.9s
CPUP **Villa Florida** 63.68 201 P P 13 47 55.3 -0.8
CPUP IAmb IAmb 13 47 57.0
comp=Z,30nm,1.6s
CPUP **Villa Florida** 63.68 201 P P 13 47 55.3 -0.8
CPUP pmax pmax
comp=Z,30nm,1.6s
I29M **Ogilvie Camp,** 63.71 333 P P 13 47 56.3 +0.3
I29M **Ogilvie Camp,** 63.71 333 P P 13 47 56.3 +0.3
baz=64
K05A **Summer Lake** 63.72 305 P P 13 47 57.3 +0.6
HEC **Hector,Ludlow** 63.73 295 P P 13 47 57.2 +0.4
baz=65
RYN **Ryan** 63.74 300 P P 13 47 56.2 -0.7
LPIG **La Paz** 63.81 282 LR LR 14 14 17.2
comp=Z,165nm,21.3s,baz=63,slow=35
C26K **Camden Bay** 63.84 339 P P 13 47 57.1 +0.3
baz=61
GSC **Goldstone, Bar** 63.88 296 P P 13 47 58.5 +0.7
baz=65
LHV **Little Huntoon** 63.88 300 P P 13 47 57.5 -0.1
LHV IAmb IAmb 13 48 08.8
comp=Z,20nm,1.0s
CRSM **Crissiumal (Br** 63.90 197 eP P 13 47 57.8 +0.1
PB02 **IPOC Station P** 63.96 215 P P 13 47 57.5 -0.7
K29M **Barlow Dome** 64.06 331 P P 13 47 58.6 +0.1
baz=64
PB09 **IPOC Station P** 64.06 214 P P 13 47 58.9 -0.1
PB09 IAmb IAmb 13 48 01.2
comp=Z,24nm,1.2s
MPMC **Manual Prospec** 64.06 297 P P 13 47 58.7 -0.3
baz=65
SWSC **Sam W. Stewart** 64.14 293 P P 13 48 00.1 +0.8
baz=64
P32M **Atlin** 64.23 326 P P 13 47 59.9 +0.2
baz=65
PMD **Palm Desert** 64.27 294 P P 13 48 00.2 0.0
PMD IAmb IAmb 13 48 07.9
comp=Z,14nm,1.1s
G27K **Doyon Strip** 64.27 335 P P 13 47 58.9 -0.8
baz=62
PB07 **IPOC Station P** 64.30 214 P P 13 47 59.9 -0.7
PB07 IAmb IAmb 13 48 07.0
comp=Z,32nm,1.2s
WHY **Whitehorse** 64.31 327 P P 13 48 01.2 +1.0
baz=65
M30M **Minto, Yukon** 64.32 330 P P 13 48 00.0 -0.1
baz=64
CWC **Cottonwood Cre** 64.33 298 P P 13 48 01.8 +1.0
baz=65
TPFO **Pinon Flats** 64.34 294 P P 13 48 02.2 +1.3
baz=64
PFO **Pinyon Flats O** 64.34 294 LR LR 14 14 11.2
comp=Z,386nm,20.6s,baz=75,slow=34
PFO **Pinyon Flats O** 64.34 294 P P 13 48 01.6 +0.7
baz=64,SNR=7.2
PFO **Pinyon Flats O** 64.34 294⇓ eP P 13 48 01.8 +0.9
PFO pmax pmax
comp=Z,25nm,1.3s
N31M **Braeburn, Yuko** 64.36 328 P P 13 48 00.9 +0.6
baz=65
BBB **Bella Bella** 64.40 317 LR LR 14 15 02.9
comp=Z,481nm,21.1s,baz=66,slow=35
LRMC **Laurel Mtn Rad** 64.45 297 P P 13 48 01.4 -0.1
baz=64
H27K **Steamboat Moun** 64.50 334 P P 13 48 01.6 +0.4
baz=62
RMX **La Rumorosa** 64.50 293 P P 13 48 01.9 0.0
RMX IAmb IAmb 13 48 09.5
comp=Z,14nm,1.1s
IKP **In-Ko-Pah, Jac** 64.50 293 P P 13 48 01.4 -0.5
baz=64
PB03 **IPOC Station P** 64.52 214 P P 13 48 00.7 -1.2
LVC **Limon Verde** 64.62 213 LR LR 14 13 14.7
comp=Z,168nm,21.1s,baz=4.0,slow=33
LVC **Limon Verde** 64.62 213 P P 13 48 02.2 -0.6
LVC IAmb IAmb 13 48 03.7
comp=Z,14nm,1.0s
LVC **Limon Verde** 64.62 213 P P 13 48 02.2 -0.6
LVC **Limon Verde** 64.62 213 eP P 13 48 02.9 +0.1
MONP2 **Monument Peak** 64.63 294 P P 13 48 00.7 -2.2
baz=64
L29M **L29M** 64.63 330 P P 13 48 00.4 -1.8
baz=63
ARU **Arti** 64.64 38 LR LR 14 15 33.0
comp=Z,235nm,18.6s,baz=284,slow=35
ARU **Arti** 64.64 38 P P 13 48 01.8 -0.4
ARU IAmb IAmb 13 48 08.3
comp=Z,32nm,1.2s
ARU **Arti** 64.64 38*d* iP P 13 48 03.1 +0.9
ARU 13 48 32.9
ARU 13 50 23.3
ARU S S 13 56 45.4 +3.8
ARU SS SS 14 00 52.3 +0.6
ARU pmax pmax
comp=Z,26nm,1.0s
F26K **Sheenjek River** 64.69 336 P P 13 48 01.2 -1.3
baz=60
DAWY **Dawson** 64.70 332 P P 13 48 03.5 +0.9
DAWY **Dawson** 64.70 332 P P 13 48 01.3 -1.3
baz=63
VTX **Valle De La Tr** 64.81 292 P P 13 48 04.3 +0.5
VTX IAmb IAmb 13 48 11.7
comp=Z,15nm,1.2s
I27K **Kandik River** 64.83 334 P P 13 48 02.6 -0.8
baz=62
MURC **Murrieta** 64.90 295 P P 13 48 03.2 -1.2
baz=64
WRAK **Wrangell Islan** 64.91 322 P P 13 48 03.0 -0.9
baz=65
EDW2 **Edwards Air Fo** 64.94 296 P P 13 48 04.2 -0.5
baz=64
G26K **Porcupine Rive** 64.94 335 P P 13 48 04.7 +0.7
baz=60
E25K **Arctic Village** 64.95 337 P P 13 48 03.4 -0.7
baz=59,SNR=11
CNLB **Canela** 64.96 194 eP P 13 48 05.6 +1.0
ISA **Isabella, Lake** 64.96 297 P P 13 48 04.3 -0.5
baz=64
BFSC **Mount Baldy Ra** 64.97 295 P P 13 48 04.1 -0.8
baz=64
BMAR **Burnt Mountain** 64.97 336 P P 13 48 05.0 +0.7
PB06 **IPOC Station P** 65.00 214 P P 13 48 04.0 -1.1
SKAG **Skagway** 65.03 326 P P 13 48 02.8 -2.0
baz=64
EGAK **Eagle** 65.05 333 P P 13 48 04.9 +0.1
EGAK IAmb IAmb 13 48 12.0
comp=Z,26nm,1.3s
EGAK **Eagle** 65.05 333 P P 13 48 03.0 -1.7
baz=62
C24K **Franklin Bluff** 65.07 339 P P 13 48 04.8 0.0
baz=57
F25K **Christian Rive** 65.24 336 P P 13 48 05.5 -0.5
baz=59
YBH **Yreka Blue Hor** 65.36 305 LR LR 14 15 52.1
comp=Z,461nm,22.0s,baz=60,slow=35
SVE **Sverdlovsk** 65.51 37 eP P 13 48 09.4 +1.5
SVE pmax pmax
comp=Z,33nm,1.4s
I26K **Coal Creek Min** 65.53 334 P P 13 48 08.3 +0.4
baz=60
YUK6 **Outpost Mounta** 65.72 328 P P 13 48 08.4 -1.0
baz=62
E24K **Your Creek** 65.90 338 P P 13 48 10.9 +0.6
baz=57
CIS **Catalina Islan** 65.90 295 P P 13 48 10.2 -0.7
baz=63
F24K **Squaw Lake** 66.01 337 P P 13 48 11.6 +0.5
baz=57
D23K **Nanushuk River** 66.08 339 P P 13 48 12.5 +1.2
baz=56
J26L **Joseph Creek** 66.09 333 P P 13 48 10.5 -1.1
baz=60
BCAR **Beaver Creek A** 66.12 331 P P 13 48 12.4 +0.6
L27K **Beaver Creek,** 66.14 331 P P 13 48 12.7 +0.7
L27K IAmb IAmb 13 48 19.4
comp=Z,25nm,1.4s
L27K **Beaver Creek,** 66.14 331 P P 13 48 11.9 0.0
baz=60
YUK8 **Steele Glacier** 66.16 329 P P 13 48 10.7 -1.6
baz=61
PRP **Porcupine Dome** 66.28 334 P P 13 48 12.7 -0.2
PRP IAmb IAmb 13 48 20.3
comp=Z,18nm,1.2s
PRP **Porcupine Dome** 66.28 334 P P 13 48 14.3 +1.4
baz=58
PKM **Mcpherson Peak** 66.28 297 P P 13 48 13.5 +0.1
baz=63
A21K **Barrow** 66.30 342 P P 13 48 12.6 0.0
A21K **Barrow** 66.30 342 P P 13 48 13.7 +1.1
baz=51,SNR=5.0
G24K **Hadweenzic Riv** 66.32 336 P P 13 48 14.3 +1.3
baz=57
M27K **Edge Creek, AK** 66.51 331 P P 13 48 15.0 +0.6
baz=60
SCRK **Sand Creek** 66.52 333 P P 13 48 15.3 +0.9
SCRK IAmb IAmb 13 48 21.9
comp=Z,17nm,1.2s
SCRK **Sand Creek** 66.52 333 P P 13 48 15.6 +1.2
baz=59
CPSB **Cacapava Do Su** 66.56 196 eP P 13 48 14.7 -0.1
O28M **Mount Upton** 66.59 329 P P 13 48 15.0 -0.1
baz=61
ITQB **Itaqui** 66.64 199 P P 13 48 15.0 -0.3
ITQB IAmb IAmb 13 48 16.1
comp=Z,28nm,1.2s
ITQB **Itaqui** 66.64 199 eP P 13 48 15.3 0.0
DOT **Dot Lake** 66.71 332 P P 13 48 16.3 +0.7
DOT IAmb IAmb 13 48 22.9
comp=Z,15nm,1.2s
L26K **Log Cabin Wild** 66.76 332 P P 13 48 17.1 +1.3
baz=59
RODS **Rosario do Sul** 66.91 197 eP P 13 48 17.0 0.0
COLD **Coldfoot** 66.92 337 P P 13 48 16.5 -0.3
COLD IAmb IAmb 13 48 24.1
comp=Z,39nm,1.6s
COLD **Coldfoot** 66.92 337 P P 13 48 17.6 +0.8
baz=55
H24K **Noodor Dome** 66.93 335 P P 13 48 17.8 +0.9
baz=57
M26K **Nabesna, AK** 66.94 331 P P 13 48 17.2 +0.2
baz=59
AKTO **Aktyubinsk** 66.95 44 LR LR 14 17 01.7
comp=Z,281nm,18.0s,baz=340,slow=36
RIDG **Independent Ri** 66.96 333 P P 13 48 17.2 0.0
RIDG IAmb IAmb 13 48 35.3
comp=Z,31nm,1.2s
RIDG **Independent Ri** 66.96 333 P P 13 48 17.6 +0.5
baz=58
PB14 **IPOC Station P** 67.04 213 P P 13 48 17.7 -0.7
PB14 IAmb IAmb 13 48 19.6
comp=Z,28nm,1.2s
G23K **Bananza Creek** 67.16 337 P P 13 48 20.2 +1.9
baz=55
ILAR **Eielson Array** 67.17 334 P P 13 48 18.3 -0.1
comp=Z,1.1nm,0.8s,baz=44,slow=4.2,SNR=12
comp=Z,1.1nm,0.8s
ILAR **Eielson Array** 67.17 334 P P 13 48 18.9 +0.6
ILAR **Eielson Array** 67.17 334 P P 13 48 19.0 +0.6
K24K **Donnelly Dome** 67.28 333 P P 13 48 19.4 +0.2
baz=58
HDA **Harding Lake** 67.39 334 P P 13 48 18.8 -1.0
baz=57
COLA **College** 67.45 334⇑ eP P 13 48 22.6 +2.5
COLA pmax pmax
comp=Z,3.0nm,1.3s
MCARA **McCarthy VSAT** 67.47 330 P P 13 48 21.1 +0.8
baz=59
CCB **Clear Creek Bu** 67.56 334 P P 13 48 21.5 +0.7
CCB IAmb IAmb 13 48 27.6
comp=Z,22nm,1.4s
PAX **Paxson** 67.61 332 P P 13 48 21.2 -0.1
baz=58
HARP **HAARP** 67.80 332 P P 13 48 23.4 +0.9
baz=58
I23K **Minto, Yukon-K** 67.83 335 P P 13 48 23.4 +0.9
I23K IAmb IAmb 13 48 29.8
comp=Z,36nm,1.5s
I23K **Minto, Yukon-K** 67.83 335 P P 13 48 22.1 -0.5
baz=55
PLTB **Pedras Altas** 67.90 196 P P 13 48 23.2 -0.1
PLTB IAmb IAmb 13 48 24.3
comp=Z,31nm,1.4s
F21K **Alatna River** 67.96 338 P P 13 48 24.4 +1.0
baz=52
N25K **Chitina, Valde** 68.00 331 P P 13 48 25.0 +1.2
baz=58
NEA2 **Nenana** 68.05 335 P P 13 48 25.2 +1.2
NEA2 IAmb IAmb 13 48 30.7
comp=Z,47nm,1.9s
NEA2 **Nenana** 68.05 335 P P 13 48 23.9 0.0
baz=55
H22K **Chitaltna Cre** 68.08 336 P P 13 48 26.2 +2.1
baz=54
BMRM **Bremner River** 68.34 330 P P 13 48 25.6 -0.3
baz=58
M24K **Tolsona, Glenn** 68.36 332 P P 13 48 25.4 -0.6
baz=57
MLY **Manley** 68.37 335 P P 13 48 26.7 +0.7
MLY IAmb IAmb 13 48 36.9
comp=Z,18nm,1.5s
MLY **Manley** 68.37 335 P P 13 48 26.3 +0.2
baz=54
G21K **Allakaket** 68.40 337 P P 13 48 26.1 0.0
baz=52
AC02 **Maricunga** 68.40 211 P P 13 48 27.5 +0.4
AC02 IAmb IAmb 13 48 29.2
comp=Z,18nm,1.0s
BWN **Browne** 68.43 334 P P 13 48 27.0 +0.6
MCK **McKinley** 68.49 334 P P 13 48 26.5 -0.3
baz=55
KLU **Klutina** 68.59 331 P P 13 48 25.6 -1.9
baz=57
ABKAR **Akbulak array** 68.60 44 P P 13 48 27.3 -0.3
ABKAR **Akbulak array** 68.60 44 P P 13 48 27.2 -0.5
ABKAR IAmb IAmb 13 48 34.9
comp=Z,7.2nm,1.0s
NRIK **Noril'sk** 68.67 18 P P 13 48 28.3 +0.5
comp=Z,2.4nm,1.0s,baz=311,slow=9.0,SNR=5.2
comp=Z,2.4nm,1.0s
NRIK **Noril'sk** 68.67 18 P P 13 48 27.8 0.0
NRIK **Noril'sk** 68.67 18⇓ eP P 13 48 29.4 +1.6
NRIK pmax pmax
comp=Z,17nm,1.9s
H21K **Melozitna Rive** 68.69 336 P P 13 48 28.1 +0.1
H21K IAmb IAmb 13 48 39.8
comp=Z,22nm,1.4s
H21K **Melozitna Rive** 68.69 336 P P 13 48 27.7 -0.3
baz=53
WAT6 **Susitna Watana** 68.70 332 P P 13 48 27.6 -0.6
baz=56
I21K **Tanana** 68.71 336 P P 13 48 27.6 -0.5
baz=53
IMAR **Indian Mountai** 68.80 337 P P 13 48 29.3 +0.7
SCM **Sheep Creek Mo** 68.96 332 P P 13 48 28.4 -1.4
baz=56
BPAW **Bear Paw Mtn.** 69.01 335 P P 13 48 29.7 -0.3
BPAW **Bear Paw Mtn.** 69.01 335 P P 13 48 31.3 +1.3
baz=54
M23K **Glacier View** 69.14 332 P P 13 48 30.5 -0.3
baz=55

TRF	**Thorofare Moun**	**69.15**	**334**	P		**P**		**13 48 31.2**	**+0.2**
TRF	**Thorofare Moun**	**69.15**	**334**	P		**P**		**13 48 30.6**	**-0.5**
	baz=54								
SML	**Sawmill**	**69.37**	**332**	P		**P**		**13 48 32.0**	**-0.3**
SML	**Sawmill**	**69.37**	**332**	P		**P**		**13 48 30.7**	**-1.6**
	baz=55								
GO03	**Copiap**	**69.54**	**212**	P		**P**		**13 48 33.5**	**-0.2**
GO03				IAmb		IAmb		13 48 35.1	
	comp=Z,33nm,1.4s								
CHUM	**Lake Minchumin**	**69.61**	**335**	P		**P**		**13 48 32.4**	**-1.3**
	baz=52								
KNK	**Knik Glacier**	**69.65**	**332**	P		**P**		**13 48 31.1**	**-2.9**
	baz=55								
PMR	**Palmer**	**69.80**	**332**	P		**P**		**13 48 32.1**	**-2.8**
	baz=54								
CAST	**Castle Rocks**	**69.81**	**334**	P		**P**		**13 48 32.1**	**-2.9**
	baz=52								
PWL	**Port Wells**	**69.92**	**331**	P		**P**		**13 48 33.1**	**-2.6**
	baz=55								
AC04	**Llanos de Chal**	**70.43**	**212**	P		**P**		**13 48 39.5**	**+0.4**
SKT	**Skwentna**	**70.49**	**333**	P		**P**		**13 48 37.6**	**-1.6**
	baz=52								
SUA	**Susitna One**	**70.50**	**332**	P		**P**		**13 48 37.1**	**-2.2**
	baz=53								
AC05	**El Transito**	**70.64**	**211**	P		**P**		**13 48 40.5**	**+0.1**
AC05				IAmb		IAmb		13 48 42.4	
	comp=Z,38nm,1.6s								
RAYN	**Ar Rayn**	**70.86**	**74**	P		**P**		**13 48 41.4**	**-0.7**
RAYN	**Ar Rayn**	**70.86**	**74**	P		**P**		**13 48 41.4**	**-0.7**
RAYN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
RAYN	**Ar Rayn**	**70.86**	**74**	P		**P**		**13 48 42.3**	**+0.2**
LCO	**Las Campanas**	**70.97**	**211**	P		**P**		**13 48 42.2**	**-0.5**
LCO	**Las Campanas**	**70.97**	**211**	P		**P**		**13 48 42.2**	**-0.5**
LCO				pmax		pmax			
	comp=Z,48nm,1.5s								
CO01	**Juntas del Tor**	**71.56**	**210**	P		**P**		**13 48 47.0**	**+0.8**
L19K	**White Mountain**	**71.58**	**334**	P		**P**		**13 48 44.2**	**-1.6**
	baz=50								
MBAR	**Mbarara**	**71.85**	**104**⫛	*eP*		**P**		**13 48 48.7**	**+0.4**
MBAR				pmax		pmax			
	comp=Z,3.0nm,1.0s								
MBAR	**Mbarara**	**71.85**	**104**	P		**P**		**13 48 47.8**	**-0.5**
BRVK	**Borovoye**	**72.21**	**37**	P		**P**		**13 48 49.2**	**-0.4**
BRVK				IAmb		IAmb		13 48 55.8	
	comp=Z,20nm,1.0s								
BRVK	**Borovoye**	**72.21**	**37**	*de*P		**P**		**13 48 50.2**	**+0.5**
BRVK				pmax		pmax			
	comp=Z,41nm,2.5s								
BRVK	**Borovoye**	**72.21**	**37**	P		**P**		**13 48 48.9**	**-0.8**
BVAR	**Borovoye Array**	**72.28**	**37**	LR		LR		14 20 51.3	
	comp=Z,256nm,18.1s,baz=298,slow=36								
ZON	**Zonda**	**72.36**	**208**	P		**P**		**13 48 50.7**	**-0.1**
ZON				IAmb		IAmb		13 48 52.8	
	comp=Z,31nm,1.4s								
ZON	**Zonda**	**72.36**	**208**	P		**P**		**13 48 50.7**	**-0.1**
ZON				pmax		pmax			
	comp=Z,31nm,1.4s								
CO02	**Combarbal**	**73.00**	**210**	P		**P**		**13 48 54.2**	**-0.5**
GEYT	**Alibeck**	**73.03**	**55**	P		**P**		**13 48 55.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=154,slow=28,SNR=3.0								
GEYT				LR		LR		14 22 23.8	
	comp=Z,45nm,18.1s,baz=348,slow=37								
	comp=Z,1.9nm,0.8s								
LODK	**Lodwar**	**73.26**	**98**	P		**P**		**13 48 55.2**	**-1.4**
LODK				IAmb		IAmb		13 49 04.0	
	comp=Z,24nm,1.5s								
LODK	**Lodwar**	**73.26**	**98**	P		**P**		**13 48 57.7**	**+1.1**
	SNR=10								
TNA	**Tin City**	**73.31**	**341**	P		**P**		**13 48 56.0**	**+0.1**
TNA	**Tin City**	**73.31**	**341**	P		**P**		**13 48 54.1**	**-1.8**
	baz=40								
KDAK	**Kodiak Island**	**73.52**	**330**	LR		LR		14 22 24.1	
	comp=Z,608nm,18.3s,baz=113,slow=37								
KDAK	**Kodiak Island**	**73.52**	**330**⫛	*eP*		**P**		**13 48 58.3**	**+1.0**
KDAK				pmax		pmax			
	comp=Z,30nm,1.3s								
TIXI	**Tiksi**	**73.57**	**5**	*de*P		**P**		**13 48 59.0**	**+1.6**
TIXI				pmax		pmax			
	comp=Z,34nm,2.5s								
VA03	**San Esteban**	**74.18**	**209**	P		**P**		**13 49 01.8**	**+0.2**
VA03				IAmb		IAmb		13 49 02.9	
	comp=Z,24nm,0.8s								
TSUM	**Tsumeb**	**74.27**	**127**	LR		LR		14 18 08.3	
	comp=Z,196nm,19.1s,baz=334,slow=33								
MT02	**Curacav**	**74.85**	**209**	P		**P**		**13 49 05.6**	**+0.3**
MT02				IAmb		IAmb		13 49 06.8	
	comp=Z,40nm,1.2s								
MT09	**Talagante**	**75.24**	**209**	P		**P**		**13 49 07.8**	**0.0**
BO04	**La Punta**	**75.28**	**209**	P		**P**		**13 49 07.7**	**-0.1**
BO04				IAmb		IAmb		13 49 09.4	
	comp=Z,44nm,1.4s								
BO02	**Sierra Bellavi**	**76.05**	**208**	P		**P**		**13 49 12.8**	**+0.5**
BILL	**Bilibino**	**76.25**	**351**	P		**P**		**13 49 13.2**	**+0.2**
BILL				IAmb		IAmb		13 49 19.8	
	comp=Z,25nm,1.4s								
BILL	**Bilibino**	**76.25**	**351**	*i* P		**P**		**13 49 13.3**	**+0.3**
BILL				*i*				13 49 27.5	
BILL				*i*				13 52 04.8	
BILL				*i* S		**SKSac**		**13 59 23.4**	**-0.1**
BILL				pmax		pmax			
	comp=Z,14nm,1.3s								
BILL				MLR		MLR			
	comp=Z,125nm,17.0s								
KURK	**Kurchatov**	**77.74**	**36**	P		**P**		**13 49 21.0**	**-0.6**
KURK				IAmb		IAmb		13 49 23.3	
	comp=Z,18nm,0.9s								
KURK	**Kurchatov**	**77.74**	**36**⫛	*eP*		**P**		**13 49 21.3**	**-0.3**
KURK				pmax		pmax			
	comp=Z,19nm,0.8s								
KURK	**Kurchatov**	**77.74**	**36**	P		**P**		**13 49 20.7**	**-1.0**
AJN	**Ajban**	**77.74**	**69**	P		**P**		**13 49 21.0**	**-1.1**
KURBB	**Kurchatov Arra**	**77.76**	**36**	LR		LR		14 22 52.8	
	comp=Z,110nm,18.8s,baz=170,slow=35								
ASUD	**Al Ashush, Dub**	**77.97**	**68**	P		**P**		**13 49 22.8**	**-0.6**
NAZ	**Nazwa, Dubai**	**78.03**	**68**	P		**P**		**13 49 22.6**	**-1.1**
KKAR	**Karatay Array**	**78.08**	**46**	P		**P**		**13 49 22.9**	**-0.9**
KKAR	**Karatay Array**	**78.08**	**46**	P		**P**		**13 49 22.9**	**-0.9**
FAQ	**Al Faqa, Dubai**	**78.11**	**68**	P		**P**		**13 49 23.4**	**-0.8**
MASF	**Masafi**	**78.21**	**67**	P		**P**		**13 49 24.6**	**-0.2**
MDH	**Madha**	**78.35**	**67**	P		**P**		**13 49 25.5**	**0.0**
ZALV	**Zalesovo Beam**	**78.39**	**31**	P		**P**		**13 49 27.0**	**+1.8**
	comp=Z,2.9nm,1.0s,baz=306,slow=5.3,SNR=9.6								
ZALV				LR		LR		14 23 54.8	
	comp=Z,147nm,20.4s,baz=297,slow=36								
	comp=Z,2.9nm,1.0s								
UOSS	**Minazif**	**78.47**	**68**	P		**P**		**13 49 25.5**	**-0.6**
UOSS	**Minazif**	**78.47**	**68**	P		**P**		**13 49 25.9**	**-0.3**
ASHO	**Ashiyiah**	**78.50**	**68**	P		**P**		**13 49 26.0**	**-0.4**
ALNE	**Al Ain**	**78.60**	**69**	P		**P**		**13 49 27.1**	**+0.2**
UMZA	**Um Al Zommool**	**78.87**	**70**	P		**P**		**13 49 29.4**	**+1.0**
LSZ	**Lusaka**	**79.00**	**117**	LR		LR		14 22 19.6	
	comp=Z,423nm,20.7s,baz=298,slow=34								
SOHO	**SOHO**	**79.16**	**68**	P		**P**		**13 49 29.8**	**-0.2**
JASK	**Jask - Hormozg**	**79.23**	**66**	P		**P**		**13 49 31.5**	**+1.2**
ARQ	**Araqi**	**79.58**	**69**	P		**P**		**13 49 32.6**	**+0.3**
HOQ	**Hoqain**	**80.06**	**68**	P		**P**		**13 49 34.6**	**-0.3**
	SNR=6.8								
DOK	**Doka**	**80.28**	**74**	P		**P**		**13 49 36.3**	**+0.2**
ABTO	**Aybut**	**80.30**	**76**	P		**P**		**13 49 37.6**	**+1.3**
	SNR=6.5								
WHFO	**Wadi Hawf**	**80.37**	**75**	P		**P**		**13 49 36.8**	**+0.1**
	SNR=6.1								
BSY	**Bisya**	**80.43**	**69**	P		**P**		**13 49 39.2**	**+2.3**
GO06	**Curarrehue**	**80.52**	**207**	P		**P**		**13 49 36.7**	**-0.2**
AAK	**Ala-Archa**	**80.69**	**44**	LR		LR		14 26 25.2	
	comp=Z,145nm,18.2s,baz=331,slow=36								
AAK	**Ala-Archa**	**80.69**	**44**	P		**P**		**13 49 37.7**	**-0.5**
AAK	**Ala-Archa**	**80.69**	**44**	*ce*P		**P**		**13 49 39.5**	**+1.4**
AAK				pmax		pmax			
	comp=Z,9.0nm,1.0s								
AAK	**Ala-Archa**	**80.69**	**44**	P		**P**		**13 49 39.7**	**+1.5**
BIDO	**Bidbid**	**80.72**	**68**	P		**P**		**13 49 40.0**	**+1.6**
	SNR=9.1								
SMDO	**Samad**	**80.91**	**68**	P		**P**		**13 49 42.0**	**+2.4**
	SNR=7.8								
RBK	**Rabkut**	**80.95**	**75**	P		**P**		**13 49 40.8**	**+1.1**
PLCA	**Paso Flores**	**81.19**	**205**	P		**P**		**13 49 40.9**	**+0.4**
	comp=Z,5.2nm,0.9s,baz=28,slow=7.4,SNR=7.3								
	comp=Z,5.2nm,0.9s								
PLCA	**Paso Flores**	**81.19**	**205**	P		**P**		**13 49 40.8**	**+0.4**
PLCA	**Paso Flores**	**81.19**	**205**	*eP*		**P**		**13 49 41.1**	**+0.7**
WSAR	**Wadi Sarin**	**81.26**	**68**	P		**P**		**13 49 42.7**	**+1.4**
	SNR=7.2								
JMDO	**Jabal Madar**	**81.33**	**69**	P		**P**		**13 49 41.9**	**+0.2**
DMTO	**DMTO**	**81.42**	**74**	P		**P**		**13 49 44.4**	**+2.2**
WBK	**Wadi Bani Khal**	**81.86**	**68**	P		**P**		**13 49 45.4**	**+0.8**
	SNR=6.2								
MHTO	**MHTO**	**81.99**	**70**	P		**P**		**13 49 47.0**	**+1.8**
	SNR=9.2								
MAKZ	**Makanchi**	**82.00**	**38**	P		**P**		**13 49 44.0**	**-0.9**
MAKZ	**Makanchi**	**82.00**	**38**	P		**P**		**13 49 44.0**	**-0.9**
MAKZ				pmax		pmax			
	comp=Z,12nm,0.9s								
MK31	**Makanchi Array**	**82.17**	**37**	P		**P**		**13 49 44.9**	**-0.8**
MK31	**Makanchi Array**	**82.17**	**37**	*de*P		**P**		**13 49 46.5**	**+0.8**
MKAR	**Makanchi Array**	**82.17**	**37**	P		**P**		**13 49 45.2**	**-0.5**
	comp=Z,7.4nm,0.9s,baz=124,slow=5.3,SNR=19								
	comp=Z,7.4nm,0.9s								
MKAR	**Makanchi Array**	**82.17**	**37**	P		**P**		**13 49 44.9**	**-0.8**
MKAR	**Makanchi Array**	**82.17**	**37**	*i* P		**P**		**13 49 45.4**	**-0.3**
MKAR				pmax		pmax			
	comp=Z,8.0nm,0.9s								
JLN	**Jalan Bani Buh**	**82.46**	**68**	P		**P**		**13 49 52.0**	**+4.3**
	SNR=7.6								
SEY	**Seymchan**	**82.55**	**356**	LR		LR		14 24 03.1	
	comp=Z,173nm,21.6s,baz=85,slow=34								
SEY	**Seymchan**	**82.55**	**356**⫛	*eP*		**P**		**13 49 46.4**	**-1.0**
SEY				pmax		pmax			
	comp=Z,10.0nm,1.3s								
DGZ	**Jazzator, Alta**	**82.55**	**33**⫛	*eP*		**P**		**13 49 48.6**	**+0.7**
DGZ				pmax		pmax			
	comp=Z,14nm,1.4s								
YAK	**Yakutsk**	**83.09**	**6**	P		**P**		**13 49 49.5**	**-0.7**
YAK				IAmb		IAmb		13 49 55.8	
	comp=Z,17nm,1.0s								
YAK	**Yakutsk**	**83.09**	**6**⫛	*eP*		**P**		**13 49 50.0**	**-0.2**
YAK				pmax		pmax			
	comp=Z,22nm,1.3s								
KSH	**Kashi**	**83.53**	**46**	P		**P**		**13 49 54.0**	**+0.9**
KSH				pP		sP		13 49 58.0	0.0
KSH				pmax		pmax			
	comp=Z,23nm,1.1s								
LBTB	**Lobatse**	**83.62**	**126**	LR		LR		14 24 48.6	
	comp=Z,195nm,18.5s,baz=310,slow=34								
BOD	**Bodaibo**	**84.70**	**15**	*eP*		**P**		**13 49 57.6**	**-0.9**
BOD				pmax		pmax			
	comp=Z,67nm,1.3s								
BOSA	**Boshof**	**85.84**	**129**	P		**P**		**13 50 05.5**	**+0.8**
	comp=Z,4.8nm,1.1s,baz=272,slow=6.2,SNR=3.6								
BOSA				LR		LR		14 25 03.6	
	comp=Z,211nm,19.1s,baz=354,slow=33								
	comp=Z,4.8nm,1.1s								
MOY	**Mondy**	**86.42**	**25**	*eP*		**P**		**13 50 07.8**	**+0.4**
MOY				pmax		pmax			
	comp=Z,27nm,2.3s								
WMQ	**Urumqi**	**86.96**	**37**	*eP*		**P**		**13 50 11.8**	**+1.7**
WMQ				pP		sP		13 50 15.0	0.0
WMQ				pmax		pmax			
	comp=Z,12nm,1.1s								
WMQ				LR		LR			
	comp=N,290nm,16.3s								
WMQ				LR		LR			
	comp=Z,240nm,20.7s								
ZAK	**Zakamensk**	**88.29**	**24**	*eP*		**P**		**13 50 17.2**	**+0.8**
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.4s								
SONM	**Songino Array**	**91.53**	**24**	P		**P**		**13 50 31.8**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=335,slow=2.5,SNR=8.3								
	comp=Z,1.7nm,0.8s								
ULN	**Ulaanbaatar**	**91.72**	**24**	P		**P**		**13 50 31.2**	**-1.3**
ULN	**Ulaanbaatar**	**91.72**	**24**⫛	*eP*		**P**		**13 50 32.1**	**-0.4**
ULN				pmax		pmax			
	comp=Z,8.0nm,1.3s								
HEH	**HeiHe**	**94.36**	**10**	*eP*		**P**		**13 50 44.8**	**+0.4**
HEH				pmax		pmax			
	comp=Z,5.0nm,1.2s								
HEH				pmax		pmax			
	comp=Z,280nm,4.9s								
KLR	**Kul'dur**	**95.92**	**8**	P		**P**		**13 50 50.9**	**-0.7**
	comp=Z,3.3nm,1.0s,baz=342,slow=9.8,SNR=4.8								
	comp=Z,3.3nm,1.0s								
KLR	**Kul'dur**	**95.92**	**8**⫛	*eP*		**P**		**13 50 51.1**	**-0.5**
KLR				pmax		pmax			
	comp=Z,5.0nm,1.3s								
GTA	**Gaotai**	**96.09**	**32**	*eP*		**P**		**13 50 51.3**	**-1.4**
GTA				pP		PcP		13 50 54.3	+1.4
GTA				sP		sP		13 50 57.8	+0.2
GTA				pmax		pmax			
	comp=Z,2.0nm,1.5s								
GTA				pmax		pmax			
	comp=Z,160nm,4.7s								
GTA				LR		LR			
	comp=N,140nm,18.2s								
GTA				LR		LR			
	comp=E,170nm,18.9s								
GTA				LR		LR			
	comp=Z,180nm,18.9s								
GOMU	**GeErMu**	**96.29**	**38**	P		**P**		**13 50 56.3**	**+2.3**
HHC	**Hu-ho-hao-te**	**99.43**	**24**	*eP*		**Pdif**		**13 51 05.5**	**-2.2**
HHC				pmax		pmax			
	comp=Z,10.0nm,0.5s								
HHC				pmax		pmax			
	comp=Z,300nm,5.0s								
HHC				LR		LR			
	comp=N,380nm,10.6s								
HHC				LR		LR			
	comp=E,440nm,11.2s								
HHC				LR		LR			
	comp=Z,120nm,11.2s								
MDJ	**Mudanjiang**	**100.19**	**10**	P		**Pdif**		**13 51 09.8**	**-1.0**
MDJ				pmax		pmax			
	comp=Z,18nm,2.4s								
MDJ				pmax		pmax			
	comp=Z,420nm,4.2s								
PPT2	**Papeete2**	**118.45**	**268**	*e*LR		LR		14 32 17.4	
	comp=Z,117nm,27.2s								
PPT2				*e*LR		LR		14 32 17.4	
	comp=Z,108nm,35.5s								
DZM	**Mont Dzumac**	**156.23**	**296**	*e*LR		LR		14 49 47.5	
	comp=Z,300nm,25.1s								
WRA	**Warramunga Arr**	**163.37**	**31**	PKPab		**PKPab**		**13 58 18.8**	**+0.1**
	comp=Z,8.4nm,1.1s,baz=343,slow=3.9,SNR=14								
ASAR	**Alice Springs**	**166.35**	**40**	PKPab		**PKPab**		**13 58 31.1**	**-0.8**
	comp=Z,2.5nm,1.0s,baz=306,slow=3.2,SNR=8.3								

IDC ***30*** *13:39:17.1±2.9,0.36N×123.77E,h191km±27km, mb3.7/12, mbtmp4.2/12, Error ellipse: s-maj=26.7km s-min=10.8km az=72.0*

NEIC ***30*** *13:39:19.1±1.6,0.37N±0.08×123.91E±0.07,h202km±6km, mb4.5/43, Error ellipse: s-maj=11.0km s-min=10.1km az=164.0*

DJA ***30*** *13:39:22.3±1.2,0.7N±4.4×12.4E±.4,h18km±9km,M4.4/8, mb4.2/2,MLv4.5/8*

ISC 30 13:39:18.0±0.4,0.34N±0.05×123.97E±0.05,h200km,n80, σ1°22/86,mb4.4/34,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.82**	**221**	Pn	**Pn**	**13 39 54.9**	**+0.2**
LUWI	**Luwuk**	**1.82**	**221**	P	**Pn**	**13 39 54.8**	**+0.1**
LUWI				S	**Sn**	**13 40 19.9**	**-3.4**
MRSI	**Marisa**	**2.03**	**274**	P	**Pn**	**13 39 56.7**	**-0.2**
MRSI				S	**Sn**	**13 40 24.9**	**-2.1**
SANI	**Sanana**	**3.12**	**140**	P	**Pn**	**13 40 08.3**	**-0.8**
SANI				S	**Sn**	**13 40 43.0**	**-6.0**
TOLI2	**Tolitoli**	**3.28**	**284**	Pn	**Pn**	**13 40 11.4**	**+0.4**
TNTI	**Ternate**	**3.42**	**83**	Pn	**Pn**	**13 40 12.9**	**+0.2**
TNTI	**Ternate**	**3.42**	**83**	P	**Pn**	**13 40 12.8**	**+0.1**
TNTI				S	**Sn**	**13 40 53.0**	**-2.6**
MPSI	**Mapaga**	**4.07**	**270**	P	**Pn**	**13 40 21.4**	**+0.7**
NLAI	**Namlea**	**4.74**	**139**	P	**Pn**	**13 40 31.5**	**+2.4**
GSPH	**General Santos**	**5.79**	**10**	*e*P	**Pn**	**13 40 42.3**	**-0.5**
FAKI	**Fak Fak**	**8.89**	**111**	Pn	**Pn**	**13 41 23.9**	**+1.0**
SRPI	**Serui, Papua**	**12.46**	**100**	P	Pn	13 42 00.0	-8.9
MTN	**Manton Dam**	**14.90**	**152**		**Pn**	**13 42 39.6**	**+0.5**
UGM	**Wanagama**	**15.71**	**238**	P	**P**	**13 42 48.8**	**-0.2**
KNRA	**Kununurra**	**16.60**	**164**	P	**P**	**13 43 00.0**	**+1.4**
KNRA				IAmb	IAmb	13 43 00.9	
	comp=Z,14nm,0.6s						
WB0	**Warramunga Arr**	**22.44**	**153**	P	**P**	**13 44 00.6**	**0.0**
WB0				IAmb	IAmb	13 44 02.3	
	comp=Z,10nm,0.5s						
WRAB	**Tennant Creek**	**22.57**	**154**	P	**P**	**13 44 02.2**	**+0.6**
WRAB				IAmb	IAmb	13 44 03.6	
	comp=Z,9.9nm,0.6s						
WRA	**Warramunga Arr**	**22.57**	**154**	P	**P**	**13 44 02.4**	**+0.7**
	comp=Z,6.4nm,0.5s,baz=335,slow=10,SNR=91						
	comp=Z,6.4nm,0.5s						
WRA	**Warramunga Arr**	**22.57**	**154**	P		**P**	**13 44 02.0**	**+0.4**
WR0	**Warramunga Arr**	**22.68**	**153**	P		**P**	**13 44 02.6**	**-0.1**
TPUB	**Ta-pu**	**23.05**	**352**	P		**P**	**13 44 06.1**	**+0.1**
YULB	**Yu-li**	**23.06**	**354**	P		**P**	**13 44 06.5**	**+0.5**
IPM	**Ipoh**	**23.28**	**281**	P		**P**	**13 44 08.8**	**+0.6**
IPM				IAmb		IAmb	13 44 36.9	
	comp=Z,11nm,1.2s							
AS31	**Alice Springs**	**25.74**	**159**	P		**P**	**13 44 30.8**	**+0.4**
ASAR	**Alice Springs**	**25.74**	**159**	P		**P**	**13 44 30.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=331,slow=7.5,SNR=47							
ASAR				PcP		**PcP**	**13 47 55.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=352,slow=2.3,SNR=7.0							
ASAR				ScP		**ScP**	**13 51 15.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=341,slow=2.6,SNR=4.7							
	comp=Z,0.9nm,0.5s							
ASAR	**Alice Springs**	**25.74**	**159**	P		**P**	**13 44 31.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.47**	**308**	P		**P**	**13 45 11.3**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=135,slow=6.9,SNR=5.9							
CMAR				PcP		**PcP**	**13 48 08.1**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=158,slow=2.0,SNR=5.1							
	comp=Z,0.4nm,0.4s							
ENH	**Enshi**	**32.80**	**336**	P		**P**	**13 45 33.8**	**+1.2**
ENH				IAmb		IAmb	13 45 59.5	
	comp=Z,14nm,1.4s							
BBOO	**Buckleboo**	**34.89**	**162**	P		**P**	**13 45 49.5**	**-1.0**
BBOO				IAmb		IAmb	13 46 06.5	
	comp=Z,21nm,1.4s							
STKA	**Stephens Creek**	**36.13**	**154**	P		**P**	**13 46 02.0**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=324,slow=6.5,SNR=4.0							
	comp=Z,1.0nm,0.4s							
STKA	**Stephens Creek**	**36.13**	**154**	P		**P**	**13 46 01.9**	**+0.8**
EIDS	**Eidsvold**	**36.61**	**136**	P		**P**	**13 46 04.1**	**-1.2**
EIDS				IAmb		IAmb	13 46 09.4	
	comp=Z,16nm,1.4s							
KSRS	**Korea Array**	**37.11**	**5**	P		**P**	**13 46 09.6**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=182,slow=9.1,SNR=4.3							
	comp=Z,1.8nm,0.8s							
MAJO	**Matsushiro**	**38.37**	**19**	P		**P**	**13 46 19.5**	**-0.4**
MAJO				IAmb		IAmb	13 46 59.2	
	comp=Z,18nm,1.4s							
MJAR	**Matsushiro Arr**	**38.37**	**19**	P		**P**	**13 46 19.1**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=197,slow=9.4,SNR=4.7							
	comp=Z,1.5nm,0.6s							
MJB9	**Matsu-Tunnel**	**38.37**	**19**	P		**P**	**13 46 20.4**	**+0.5**
MJB9				IAmb		IAmb	13 47 00.2	
	comp=Z,18nm,1.4s							
BJT	**Baijiatuau**	**40.13**	**351**	P		**P**	**13 46 33.7**	**-0.7**
ARMA	**Armidale**	**40.35**	**142**	P		**P**	**13 46 38.1**	**+1.6**
ARMA				IAmb		IAmb	13 46 46.5	
	comp=Z,15nm,1.4s							
JMM	**Marumori**	**40.43**	**21**	P		**P**	**13 46 37.3**	**+0.4**
CAN	**Canberra**	**42.48**	**149**	P		**P**	**13 46 55.7**	**+2.1**
CAN				IAmb		IAmb	13 47 37.6	
	comp=Z,40nm,1.4s							
LSA	**Lhasa**	**42.77**	**316**	P		**P**	**13 46 56.6**	**0.0**
JTM	**Tenmabayashi**	**43.15**	**19**	P		**P**	**13 46 59.2**	**+0.4**
USA0B	**Ussuriysk Arra**	**44.25**	**8**	P		**P**	**13 47 08.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**44.25**	**8**	P		**P**	**13 47 08.0**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=193,slow=6.3,SNR=13							
	comp=Z,4.3nm,0.6s							
RAMN	**Ramite**	**44.60**	**310**	*eP*		**P**	**13 47 10.7**	**-0.2**
	comp=Z,8.4nm,0.6s							
GTA	**Gaotai**	**44.72**	**333**	*eP*		**P**	**13 47 12.5**	**+1.0**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.6s							
JIRN	**Jiri**	**45.27**	**310**	*eP*		**P**	**13 47 16.2**	**-0.2**
	comp=Z,3.0nm,0.3s							
GUN	**Gumba**	**45.63**	**310**	*eP*		**P**	**13 47 18.7**	**-0.5**
	comp=Z,10nm,0.5s							
WAKE	**Wake Island**	**45.87**	**63**	P		**P**	**13 47 21.3**	**+0.5**
GKN	**Gorkha**	**46.63**	**310**	*eP*		**P**	**13 47 26.5**	**-0.3**
	comp=Z,6.2nm,0.3s							
JKA	**Kamikawa-asahi**	**46.64**	**18**	P		**P**	**13 47 27.0**	**+0.7**
JKA				IAmb		IAmb	13 48 06.1	
	comp=Z,47nm,1.5s							
DANN	**Dangsing**	**47.48**	**309**	*eP*		**P**	**13 47 33.5**	**0.0**
	comp=Z,16nm,0.5s							
ULN	**Ulaanbaatar**	**49.57**	**345**	P		**P**	**13 47 48.3**	**-0.6**
SONM	**Songino Array**	**49.71**	**345**	P		**P**	**13 47 49.4**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=157,slow=6.6,SNR=27							
	comp=Z,3.9nm,0.8s							
SONM

	baz=52							
THOR				S	**Sb**	13 47 20.1	-1.7	
	baz=52							
IVOT	**Vottur**	**0.42**	**165**	P	**Pg**	13 47 13.0	0.0	
	baz=164							
IVOT				S	**Sg**	13 47 18.7	+0.3	
	baz=164							
ISKR	**Skrokkalda**	**0.43**	**255**	S	**Sg**	13 47 19.2	+0.5	
	baz=254							
ISKR				P	**Pg**	13 47 12.9	-0.2	
	baz=254							
IKRE	**Kreppuhraun**	**0.46**	**76**	P	**Pb**	13 47 13.8	-2.0	
	baz=76							
IKRE				S	**Sb**	13 47 20.8	-2.4	
	baz=76							
IJOK	**Jokulheimar**	**0.50**	**224**	P	**Pg**	13 47 14.2	-0.3	
	baz=223							
IJOK				S	**Sg**	13 47 21.6	+0.6	
	baz=223							
IMKO	**Mokollar**	**0.56**	**56**	P	**Pb**	13 47 15.6	-1.8	
	baz=57							
IMKO				S	**Sb**	13 47 24.2	-1.6	
	baz=57							
IIEY	**Innrieyrar**	**0.66**	**208**	P	**Pg**	13 47 16.8	-0.7	
	baz=207							
IIEY				S	**Sg**	13 47 26.2	+0.2	
	baz=207							
IKSK	**Karasker**	**0.66**	**141**	P	**Pg**	13 47 16.6	-0.9	
	baz=140							
IKSK				S	**Sg**	13 47 26.3	+0.2	
	baz=140							
ISVA	**Svartarkot**	**0.67**	**6**	P	**Pb**	13 47 17.3	-2.0	
	baz=7.3							
ISVA				S	**Sb**	13 47 27.0	-2.0	
	baz=7.3							
IVSH	**V-Sauoahnukur**	**0.74**	**79**	P	**Pg**	13 47 18.5	-0.6	
	baz=79							
IVSH				S	**Sb**	13 47 28.9	-2.3	
	baz=79							
IKAL	**Kalfafell**	**0.74**	**189**	P	**Pg**	13 47 18.2	-0.8	
	baz=188							
IKAL				S	**Sg**	13 47 28.4	-0.3	
	baz=188							
IADA	**Aoalbol**	**0.86**	**66**	P	**Pg**	13 47 20.4	-1.0	
	baz=66							
IADA				S	**Sb**	13 47 33.1	-1.6	
	baz=66							
IFAG	**Fagurholsmyri**	**0.87**	**157**	P	**Pg**	13 47 20.5	-1.1	
	baz=156							
IMEL	**Melhnausar**	**0.95**	**20**	P	**Pb**	13 47 22.0	-2.2	
	baz=20							
ISTE	**Stelbrattur**	**0.96**	**282**	P	**Pb**	13 47 21.6	-2.8	
	baz=282							
BORG	**Borgarnes**	**1.68**	**274**	Pg	**Pn**	13 47 33.4	-1.8	
	20nm,0.3s,baz=108,slow=7.5,SNR=58							
BORG				Lg	Lg	13 47 56.2		
	12nm,0.3s,baz=174,slow=22,SNR=8.5							
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	13 48 36.0	+0.3	
GERES	**GERESS Array B**	**22.93**	**119**	P	**P**	13 52 12.6	+2.5	
	0.3nm,0.4s,baz=331,slow=11,SNR=3.8							
	0.3nm,0.4s							
YKA	**Yellowknife Ar**	**39.23**	**313**	P	**P**	13 54 35.0	+0.9	
	0.7nm,0.9s,baz=41,slow=8.4,SNR=7.8							
	0.7nm,0.9s							
ILAR	**Eielson Array**	**45.69**	**332**	P	P	13 55 28.8	+2.2	
	1.1nm,1.1s,baz=19,slow=7.2,SNR=6.6							
ILAR				PcP	**PcP**	13 57 05.8	+1.4	
	0.6nm,0.9s,baz=350,slow=2.7,SNR=4.2							
	1.1nm,1.1s							
MKAR	**Makanchi Array**	**52.69**	**58**	P	**P**	13 56 21.7	+1.3	
	0.7nm,0.9s,baz=317,slow=6.2,SNR=5.4							
	0.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**53.14**	**156**	P	**P**	13 56 24.4	+0.4	
	1.2nm,0.9s,baz=343,slow=8.0,SNR=5.3							
	1.2nm,0.9s							
PDAR	**Pinedale Array**	**53.20**	**293**	P	**P**	13 56 24.8	+0.3	
	1.0nm,0.8s,baz=55,slow=7.2,SNR=9.6							
	1.0nm,0.8s							
TXAR	**Lajitas Array**	**62.31**	**280**	P	**P**	13 57 29.4	+0.9	
	0.3nm,1.0s,baz=68,slow=5.9,SNR=2.5							
	0.3nm,1.0s							

*WEL **30** 13:53:00,44˚.13S×168˚.73E,h6km,ML4.6,Mw4.1, Moment Tensor Solution. s8 Moment tensor: Scale 10^{15} Nm; M_{rr}0.48; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-0.96; $M_{r\theta}$-1.08; $M_{\theta\phi}$-0.31; $M_{\phi r}$-0.59; Fault plane solution: $M_0$1.52000×10^{15} NP1: ϕ_s337.00000°,δ33.00000°,λ20.00000°. NP2: ϕ_s231.00000°,δ79.00000°,λ122.00000°. Principal axes: T 157.9600, Plg46.0000°, Azm173.0000°; N -12.8900, Plg31.0000°, Azm44.0000°; P -145.0700, Plg27.0000°, Azm296.0000°;*

*NOU **30** 13:53:23.5,44˚.08S×168˚.44E,h0km,MLv4.9/13,South Island, New Zealand*

*WEL **30** 13:53:25.4±0.5,44˚.3S±3˚×16˚.9E±˚,h6km±2km,M4.6/30, mB5.2/2,ML4.8/30,MLv4.6/30,Mw(mB)4.6/2,Error ellipse: s-maj=0.0km s-min=0.0km az=114.2,confirmed*

*NEIC **30** 13:53:25.2±0.6,44˚.14S±0˚.02×168˚.68E±0˚.07,h10km±1km, mb4.9/6,Error ellipse: s-maj=9.1km s-min=2.9km az=112.0*

ISC 30 13:53:25.0±1.0,**44˚12S**±0˚.03×**168˚64E**±0˚.04,**h9**km±6km, **n124,**σ1§20/130,**mb5.1**/7,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.12**	**65**	P	**Pg**	13 53 28.1	+0.3
JCZ	**Jackson Bay**	**0.12**	**65**	P	**Pg**	13 53 28.1	+0.3
JCZ				S	**Sg**	13 53 29.7	-0.1
MSZ	**Milford Sound**	**0.75**	**223**	P	**Pb**	13 53 39.9	-0.3
WKZ	**Wanaka**	**0.76**	**159**	Pg	**Pg**	13 53 39.3	-0.2
WKZ				Sg	**Sg**	13 53 48.8	-0.6
WKZ	**Wanaka**	**0.76**	**159**	P	**Pg**	13 53 40.0	+0.4
WKZ				S	**Sg**	13 53 48.9	-0.6
FOZ	**Fox Glacier**	**1.04**	**56**		**Pg**	13 53 44.7	-0.2
FOZ				Sg	**Sg**	13 53 58.0	-0.3
FOZ	**Fox Glacier**	**1.04**	**56**	P	**Pg**	13 53 44.3	-0.6
FOZ				S	**Sg**	13 53 58.0	-0.3
LBZ	**Lake Benmore**	**1.14**	**104**	Pn	**Pg**	13 53 46.9	0.0
LBZ	**Lake Benmore**	**1.14**	**104**	P	**Pg**	13 53 47.0	0.0
LBZ				S	**Sg**	13 54 00.5	-1.2
EAZ	**Earnscleugh**	**1.21**	**157**	P	**Pg**	13 53 48.0	-0.1
EAZ				S	**Sg**	13 54 03.1	-0.7
MLZ	**Mavora Lakes**	**1.30**	**196**	Pn	**Pn**	13 53 48.9	-0.4
MLZ	**Mavora Lakes**	**1.30**	**196**	P	**Pb**	13 53 49.5	-0.1
GCSZ	**Gaunt Creek Bo**	**1.47**	**57**	P	**Pn**	13 53 51.1	-0.5
GCSZ				S	**Sn**	13 54 09.0	-1.9
ODZ	**Otahua Downs**	**1.70**	**123**		**Pn**	13 53 55.4	+0.5
ODZ	**Otahua Downs**	**1.70**	**123**	P	**Pb**	13 53 56.4	-0.1
ODZ	**Otahua Downs**	**1.70**	**123**	P	**Pn**	13 53 55.2	+0.3
ODZ				S	**Sn**	13 54 16.3	-0.4
DCZ	**Deep Cove**	**1.71**	**218**		**Pn**	13 53 55.1	+0.2
DCZ	**Deep Cove**	**1.71**	**218**	P	**Pb**	13 53 55.9	-0.6
TMZ	**Timaru**	**1.72**	**100**	P	**Pn**	13 53 55.5	+0.3
RPZ	**Rata Peaks**	**1.79**	**78**		**Pn**	13 53 56.4	+0.3
RPZ	**Rata Peaks**	**1.79**	**78**	P	**Pb**	13 53 57.9	-0.1
RPZ	**Rata Peaks**	**1.79**	**78**	P	**Pn**	13 53 56.4	+0.3
WHZ	**Wether Hill Ro**	**1.84**	**195**		**Pn**	13 53 57.1	+0.4
WHZ	**Wether Hill Ro**	**1.84**	**195**	P	**Pb**	13 53 57.5	-1.2
ARCZ	**Arundel**	**1.84**	**85**	P	**Pn**	13 53 56.8	+0.1
WVZ	**Waitaha Valley**	**1.85**	**56**	P	**Pn**	13 53 56.2	-0.6
TUZ	**Tuapeka**	**1.96**	**159**	P	**Pn**	13 53 58.6	+0.3
HHSZ	**Highcliff Hill**	**2.24**	**142**	P	**Pn**	13 54 03.0	+0.7
WACZ	**Wakanui South**	**2.32**	**87**	P	**Pn**	13 54 03.0	-0.3
SYZ	**Scrubby Hill**	**2.44**	**172**	P	**Pn**	13 54 05.1	+0.1
SYZ	**Scrubby Hill**	**2.44**	**172**	P	**Pn**	13 54 05.3	+0.3
INZ	**Inchbonnie**	**2.48**	**57**		**Pn**	13 54 05.2	-0.3
INZ	**Inchbonnie**	**2.48**	**57**	P	**Pn**	13 54 05.0	-0.5
RACZ	**Rakaia**	**2.56**	**82**	P	**Pn**	13 54 06.5	-0.1
OXZ	**Oxford**	**2.59**	**73**		**Pn**	13 54 06.9	-0.2
OXZ	**Oxford**	**2.59**	**73**	P	**Pn**	13 54 06.6	-0.5
APZ	**The Paps**	**2.75**	**189**	P	**Pn**	13 54 10.5	+1.2
MQZ	**McQueen's Vall**	**2.93**	**83**		**Pn**	13 54 11.3	-0.4
MQZ	**McQueen's Vall**	**2.93**	**83**	P	**Pn**	13 54 10.9	-0.8
LTZ	**Lake Taylor**	**2.96**	**64**		**Pn**	13 54 11.9	-0.3
LTZ	**Lake Taylor**	**2.96**	**64**	P	**Pn**	13 54 12.4	+0.2
AMCZ	**Amberley**	**3.06**	**73**	Pn	**Pn**	13 54 13.4	-0.1
AMCZ	**Amberley**	**3.06**	**73**	P	**Pn**	13 54 13.6	0.0
AKCZ	**Akaroa Harbour**	**3.09**	**87**	P	**Pn**	13 54 13.1	-0.8
DSZ	**Denniston Nort**	**3.32**	**45**		**Pn**	13 54 16.8	-0.4
DSZ	**Denniston Nort**	**3.32**	**45**	P	**Pn**	13 54 16.4	-0.8
GVZ	**Greta Valley S**	**3.40**	**72**	Pn	**Pn**	13 54 18.6	+0.5
GVZ	**Greta Valley S**	**3.40**	**72**	P	**Pn**	13 54 18.7	+0.5
THZ	**Tophouse**	**3.92**	**54**		**Pn**	13 54 25.1	-0.3
THZ	**Tophouse**	**3.92**	**54**	P	**Pn**	13 54 25.5	+0.1
KHZ	**Kahutara**	**3.96**	**66**	Pn	**Pn**	13 54 25.9	0.0
KHZ	**Kahutara**	**3.96**	**66**	P	**Pn**	13 54 27.5	+1.6
KHZ	**Kahutara**	**3.96**	**66**	P	**Pn**	13 54 26.3	+0.4
MRNZ	**Matariki Terra**	**4.08**	**50**		**Pn**	13 54 27.1	-0.4
MRNZ	**Matariki Terra**	**4.08**	**50**	P	**Pn**	13 54 27.3	-0.1
QRZ	**Quartz Range**	**4.37**	**42**		**Pn**	13 54 31.3	-0.3
QRZ	**Quartz Range**	**4.37**	**42**	P	**Pn**	13 54 32.0	+0.4
QRZ	**Quartz Range**	**4.37**	**42**	P	**Pn**	13 54 31.5	0.0
TKNZ	**Takaka Hill**	**4.44**	**47**		**Pn**	13 54 31.8	-0.7
TKNZ	**Takaka Hill**	**4.44**	**47**	P	**Pn**	13 54 32.2	-0.3
BSWZ	**Blackbirch Sta**	**4.54**	**60**	Pn	**Pn**	13 54 33.6	-0.2
BSWZ	**Blackbirch Sta**	**4.54**	**60**	P	**Pn**	13 54 34.1	+0.3
NNZ	**Nelson**	**4.54**	**52**		**Pn**	13 54 34.2	+0.3
NNZ	**Nelson**	**4.54**	**52**	P	**Pn**	13 54 34.2	+0.3
CMWZ	**Cape Campbell**	**4.73**	**62**	Pn	**Pn**	13 54 37.4	+0.9
TCW	**Tory Channel**	**5.07**	**57**		**Pn**	13 54 42.6	+1.4
TCW	**Tory Channel**	**5.07**	**57**	P	**Pn**	13 54 42.8	+1.6
DUWZ	**D'Urville Isla**	**5.13**	**51**	P	**Pn**	13 54 42.8	+0.8
BHW	**Baring Head**	**5.33**	**62**	Pn	**Pn**	13 54 45.6	+1.0
CAW	**Cannon Point**	**5.62**	**60**	P	**Pn**	13 54 49.0	+0.3
KIW	**Kapiti Island**	**5.67**	**57**	P	**Pn**	13 54 49.6	+0.2
PAWZ	**Paruwai Farm**	**5.70**	**64**	P	**Pn**	13 54 52.9	+3.1
OGWZ	**Otaki Gorge**	**5.85**	**58**	P	**Pn**	13 54 52.5	+0.6
MTW	**Mount Morrison**	**5.87**	**62**	P	**Pn**	13 54 52.1	0.0
HOWZ	**Holdsworth Sta**	**6.02**	**60**	P	**Pn**	13 54 58.2	+4.1
NMEZ	**Namu Road**	**6.12**	**42**	P	**Pn**	13 54 56.8	+1.3
TMWZ	**Te Maipa**	**6.14**	**63**	P	**Pn**	13 54 59.7	+3.8
MRZ	**Mangatainoka R**	**6.19**	**58**	Pn	**Pn**	13 54 56.5	-0.1
MRZ	**Mangatainoka R**	**6.19**	**58**	P	Pn	13 55 02.3	+5.7
NBEZ	**Newall Road No**	**6.23**	**41**	P	**Pn**	13 54 57.3	+0.3
KHEZ	**Kahui Hut**	**6.28**	**42**	P	**Pn**	13 54 58.5	+0.6
KHEZ	**Kahui Hut**	**6.28**	**42**	P	**Pn**	13 54 58.4	+0.6
NEZ	**North Egmont**	**6.34**	**42**	P	**Pn**	13 54 59.5	+0.8
LREZ	**Lake Rotokare**	**6.34**	**45**	P	**Pn**	13 55 00.2	+1.5
PKE	**Pukeiti**	**6.35**	**41**	P	**Pn**	13 54 59.7	+1.0
WAZ	**Wanganui**	**6.44**	**49**	P	**Pn**	13 55 01.4	+1.4
DREZ	**Durham Road**	**6.45**	**42**	P	**Pn**	13 55 01.2	+1.0
POWZ	**Post Office Ro**	**6.47**	**57**	P	Pn	13 55 06.7	+6.3
BFZ	**Birch Farm**	**6.60**	**61**	Pn	**Pn**	13 55 01.9	-0.3
BFZ	**Birch Farm**	**6.60**	**61**	P	**Pn**	13 55 03.0	+0.9
BFZ	**Birch Farm**	**6.60**	**61**	P	**Pn**	13 55 03.9	+1.8
MHEZ	**Mangahewa**	**6.60**	**42**	P	**Pn**	13 55 02.8	+0.6
VRZ	**Vera Road**	**6.78**	**45**	P	**Pn**	13 55 05.2	+0.6
WNVZ	**Wahianoa**	**7.07**	**50**	P	**Pn**	13 55 12.3	+3.5
FWVZ	**Far West T-bar**	**7.10**	**49**	P	**Pn**	13 55 12.4	+3.2
MOVZ	**Moawhango**	**7.10**	**51**	P	**Pn**	13 55 12.6	+3.4
TWVZ	**Taurewa**	**7.17**	**48**	P	**Pn**	13 55 12.1	+2.0
NGZ	**Ngauruhoe**	**7.18**	**49**	P	**Pn**	13 55 12.0	+1.7
WTVZ	**West Tongariro**	**7.22**	**49**	P	**Pn**	13 55 13.2	+2.4
NNVZ	**North Ngauruho**	**7.22**	**49**	P	**Pn**	13 55 12.0	+1.1
BHHZ	**Black Hill Sta**	**7.22**	**53**	P	**Pn**	13 55 10.3	-0.5
OTVZ	**Oturere**	**7.23**	**49**	P	**Pn**	13 55 13.6	+2.7
ETVZ	**East Tongariro**	**7.27**	**49**	P	**Pn**	13 55 14.4	+3.0
TMVZ	**Te Maari**	**7.28**	**49**	P	**Pn**	13 55 14.2	+2.6
HIZ	**Hauiti**	**7.30**	**42**		**Pn**	13 55 11.1	-0.6
HIZ	**Hauiti**	**7.30**	**42**	P	**Pn**	13 55 11.7	0.0
BKZ	**Black Stump Fm**	**7.69**	**53**	Pn	**Pn**	13 55 16.6	-0.5
BKZ	**Black Stump Fm**	**7.69**	**53**	P	**Pn**	13 55 16.9	-0.2
RTZ	**Ruatahuna**	**8.34**	**52**	Pn	**Pn**	13 55 26.3	+0.2
URZ	**Urewera**	**8.66**	**50**	P	**Pn**	13 55 31.0	+0.6
KUZ	**Kuaotunu**	**9.13**	**39**	P	**Pn**	13 55 37.1	+0.2
OUZ	**Omahuta**	**9.68**	**25**	P	**Pn**	13 55 44.8	+0.5
RAR	**Rarotonga**	**34.72**	**59**	P	**P**	14 00 15.3	+0.1
WRAB	**Tennant Creek**	**37.35**	**299**	P	**P**	14 00 37.8	-0.1
WRAB				IAmb	IAmb	14 01 17.7		
	comp=Z,16nm,1.6s							
KNRA	**Kununurra**	**44.05**	**297**	P	**P**	14 01 32.2	-1.0
MORW	**Morawa**	**44.09**	**272**	P	**P**	14 01 33.0	-0.5
MORW				IAmb	IAmb	14 02 11.3		
	comp=Z,52nm,1.6s							
LUWI	**Luwuk**	**59.07**	**303**	P	**P**	14 03 25.2	-0.4
SNAA	**Sanae**	**64.35**	**183**	P	**P**	14 04 02.3	+1.8
SNAA				IAmb	IAmb	14 04 30.3		
	comp=Z,18nm,1.7s							
NJ2	**Nanjing**	**88.37**	**320**	*e*P	P	14 06 09.3	-7.6	
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
PZH	**PanZhiHua**	**93.14**	**304**	P	**P**	**14 06 41.5**	**+2.0**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,140nm,4.9s							
CD2	**Chengdu**	**95.27**	**309**	*e*P	**P**	**14 06 50.0**	**+0.9**	
HHC	**Hu-ho-hao-te**	**98.92**	**320**	*e*P	**P**	**14 07 03.3**	**-2.1**	
HHC				pmax	pmax			
	comp=Z,4.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,98nm,6.1s							
HHC				LR	LR			
	comp=N,340nm,10.1s							
HHC				LR	LR			
	comp=E,300nm,13.0s							
HHC				LR	LR			
	comp=Z,410nm,16.9s							
XLT	**XiLinHaoTe**	**99.37**	**324**	*e*P	**Pdif**	**14 07 10.5**	**+3.2**	
XLT				pmax	pmax			
	comp=Z,4.0nm,1.2s							
XLT				pmax	pmax			
	comp=Z,78nm,5.2s							
WMQ	**Urumqi**	**113.37**	**309**	*e*P	**PKiKP**	**14 12 03.3**	**+0.6**	

*NEIC **30** 13:54:53.8±1.8,4˚.3S±0˚.1×141˚.86E±0˚.06,h75km±7km, mb4.6/43,Error ellipse: s-maj=15.9km s-min=8.9km az=179.0*

*IDC **30** 13:55:02.1±2.7,4˚.59S×142˚.23E,h167km±29km, mb3.7/5, mbtmp4.4/8,Error ellipse: s-maj=25.7km s-min=13.0km az=106.0*

ISC 30 13:54:50.6±0.5,**4˚41S**±0˚.06×**141˚85E**±0˚.06,**h35**km,**n81,** σ2§41/79,**mb4.6**/24,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**2.46**	**317**	P	Pn	13 55 35.5	+7.2
MANU	**Manus Island**	**5.99**	**67**	Pn	**Pn**	13 56 19.5	+2.7
PMG	**Port Moresby**	**7.24**	**134**	P	Pn	13 56 40.6	+6.5
	89nm,0.6s,baz=336,slow=3.5,SNR=68						
PMG				S	**Sn**	**13 57 57.5**	**+2.5**
	14nm,0.5s,baz=136,slow=20,SNR=1.5						
PMG	**Port Moresby**	**7.24**	**134**		Pn	13 56 39.7	+5.7
PMG	**Port Moresby**	**7.24**	**134**	P	Pn	13 56 40.2	+6.2
FAKI	**Fak Fak**	**9.69**	**278**	Pn	**Pn**	13 57 08.4	+0.7
FAKI	**Fak Fak**	**9.69**	**278**	P	**Pn**	13 57 11.9	+4.2
RABL	**Rabaul**	**10.29**	**89**		**Pn**	13 57 18.6	+2.7
KDU	**Kakadu**	**12.39**	**228**	P	**Pn**	13 57 48.4	+3.8
MTN	**Manton Dam**	**13.50**	**231**		**Pn**	13 58 02.8	+3.0
MTN	**Manton Dam**	**13.50**	**231**	P	**Pn**	13 58 02.8	+3.0
CTAO	**Charters Tower**	**16.16**	**165**	P	**P**	13 58 37.8	-0.4
QIS	**Mount Isa**	**16.20**	**188**	P	**P**	13 58 39.6	+1.1
WB0	**Warramunga Arr**	**16.91**	**205**	P	**P**	13 58 47.2	+0.8
WR0	**Warramunga Arr**	**17.02**	**204**	P	**P**	13 58 48.0	+0.3
KNRA	**Kununurra**	**17.06**	**228**	P	**P**	13 58 49.2	+1.2
KNRA				IAmb	IAmb	13 59 07.0		
	comp=Z,51nm,1.4s							
KNRA	**Kununurra**	**17.06**	**228**	P	**P**	13 58 48.6	+0.6
WRAB	**Tennant Creek**	**17.07**	**205**	P	**P**	13 58 49.1	+0.9
WRAB	**Tennant Creek**	**17.07**	**205**	P	**P**	13 58 49.8	+1.6
WB2	**Warramunga Arr**	**17.08**	**205**	P	**P**	13 58 49.5	+1.2
WRA	**Warramunga Arr**	**17.09**	**205**	P	**P**	13 58 49.3	+0.9
	comp=Z,1.0nm,0.4s,baz=23,slow=13,SNR=16						
WRA				S	**Sn**	**14 01 49.8**	**-6.2**
	comp=Z,1.2nm,0.7s,baz=26,slow=24,SNR=3.6						
SOEI	**Soe**	**18.23**	**252**	P	**Pn**	13 59 04.0	+2.8
SOEI				IAmb	IAmb	13 59 10.2		
	comp=Z,64nm,1.5s							
SOEI	**Soe**	**18.23**	**252**	P	**Pn**	13 59 04.9	+3.7
BATI	**Baumata**	**18.93**	**251**	P	**Pn**	13 59 14.2	+4.6
	comp=Z,27nm,0.5s,baz=40,slow=2.8,SNR=5.4						
MMRI	**Maumere**	**19.93**	**257**	Pn	**Pn**	13 59 21.8	+0.3
MMRI				IAmb	IAmb	13 59 43.4		
	comp=Z,69nm,1.2s							
AS31	**Alice Springs**	**20.62**	**201**	P	**P**	13 59 27.2	+0.1
ASAR	**Alice Springs**	**20.62**	**201**	P	Pn	13 59 28.1	-1.5
	comp=Z,1.1nm,0.6s,baz=30,slow=11,SNR=24						
ASAR				S	**S**	**14 03 10.5**	**-5.5**
	comp=Z,2.7nm,1.2s,baz=19,slow=23,SNR=6.7						
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**20.62**	**201**	P	**P**	13 59 27.2	0.0
TOLI2	**Tolitoli**	**21.75**	**284**	P	**P**	13 59 45.3	+5.9
EIDS	**Eidsvold**	**22.65**	**158**	P	**P**	13 59 49.3	+0.4
EIDS				IAmb	IAmb	13 59 52.0		
	comp=Z,15nm,0.8s							
EIDS	**Eidsvold**	**22.65**	**158**	P	**P**	13 59 51.6	+2.7
ARMA	**Armidale**	**27.47**	**161**	P	**P**	14 00 33.5	-0.2
ARMA				IAmb	IAmb	14 01 05.7		
	comp=Z,18nm,1.4s							
CAN	**Canberra**	**31.46**	**169**	P	**P**	14 01 09.6	+0.6
MORW	**Morawa**	**34.64**	**222**	P	**P**	14 01 36.7	-0.2
MORW				IAmb	IAmb	14 01 41.8		
	comp=Z,18nm,1.4s							
MSVF	**Nonsavu**	**37.82**	**113**	P	**P**	14 02 04.7	+0.5
BKZ	**Black Stump Fm**	**46.71**	**143**	P	**P**	14 03 16.6	+0.3
BKZ				IAmb	IAmb	14 03 17.1		
	comp=Z,10nm,1.3s							
MLZ	**Mavora Lakes**	**46.81**	**155**	P	**P**	14 03 17.6	+0.7
RAMN	**Ramite**	**61.78**	**304**	*e*P	**P**	14 05 05.3	-1.2
	comp=Z,3.7nm,0.4s							
JIRN	**Jiri**	**62.38**	**304**	*e*P	**P**	14 05 10.1	-0.6
	comp=Z,4.7nm,0.4s							
GUN	**Gumba**	**62.73**	**304**	*e*P	**P**	14 05 12.6	-0.4
	comp=Z,6.9nm,0.5s							
GKN	**Gorkha**	**63.78**	**304**	*e*P	**P**	14 05 19.3	-0.4
	comp=Z,20nm,0.6s							
DANN	**Dangsing**	**64.63**	**304**	*e*P	**P**	14 05 24.9	-0.6
	comp=Z,11nm,0.5s							
MKAR	**Makanchi Array**	**73.05**	**322**	P	**P**	**14 06 16.2**	**-0.9**	
	comp=Z,2.2nm,0.7s,baz=105,slow=7.9,SNR=21							
	comp=Z,2.2nm,0.7s							
MKAR	**Makanchi Array**	**73.05**	**322**	P	**P**	**14 06 15.9**	**-1.3**	
MAKZ	**Makanchi**	**73.25**	**322**	P	**P**	**14 06 17.3**	**-1.1**	
VNDA	**Vanda**	**73.84**	**176**	P	**P**	**14 06 20.2**	**-1.0**	
NIL	**Nilore**	**74.85**	**306**	P	**P**	**14 06 27.3**	**-0.7**	
ZAA0	**Zalesovo Array**	**74.98**	**329**	P	**P**	**14 06 26.4**	**-1.9**	
ZAA0				IAmb	IAmb	14 06 27.3		
	comp=Z,3.1nm,0.7s							
ZALV	**Zalesovo Beam**	**74.98**	**329**	P	**P**	**14 06 26.4**	**-1.9**	
	comp=Z,2.2nm,0.6s,baz=104,slow=4.9,SNR=6.7							
	comp=Z,2.2nm,0.6s							
ZALV	**Zalesovo Beam**	**74.98**	**329**	P	**P**	**14 06 26.1**	**-2.1**	
KURK	**Kurchatov**	**76.91**	**324**	P	**P**	**14 06 37.9**	**-1.3**	
KURK				IAmb	IAmb	14 06 39.4		
	comp=Z,6.1nm,1.4s							
NRIK	**Noril'sk**	**82.23**	**343**	P	**P**	**14 07 06.2**	**-1.7**	
	comp=Z,3.2nm,0.7s,baz=133,slow=6.3,SNR=7.0							
	comp=Z,3.2nm,0.7s							
M20K	**Styx River**	**82.40**	**26**	P	**P**	**14 07 07.3**	**-1.7**	
M20K				IAmb	IAmb	14 07 11.7		
	comp=Z,11nm,1.2s							
BRVK	**Borovoye**	**82.56**	**325**	P	**P**	**14 07 08.2**	**-1.7**	
BRVK				IAmb	IAmb	14 07 09.3		
	comp=Z,3.3nm,0.7s							
SPU	**Mount Spurr**	**82.59**	**27**	P	**P**	**14 07 09.0**	**-0.9**	
K20K	**Telida**	**82.63**	**24**	P	**P**	**14 07 08.6**	**-1.5**	
K20K				IAmb	IAmb	14 07 13.2		
	comp=Z,9.1nm,1.4s							
PPLA	**Purkeypile**	**83.21**	**25**	P	**P**	**14 07 11.0**	**-2.3**	
CAST	**Castle Rocks**	**83.47**	**24**	P	**P**	**14 07 12.2**	**-2.2**	
CAST				IAmb	IAmb	14 07 28.3		
	comp=Z,8.5nm,1.4s							
RC01	**Rabbit Creek A**	**83.60**	**27**	P	**P**	**14 07 12.3**	**-2.8**	
IMAR	**Indian Mountai**	**83.88**	**22**	P	**P**	**14 07 14.3**	**-2.2**	
KTH	**Kantishna Hill**	**84.00**	**25**	P	**P**	**14 07 14.4**	**-2.8**	
KTH	

ISTE	**Stelbrattur**	**0.93**	**282**	P		**Pb**	**13 55 35.6**	**-1.9**
	baz=282							
IMEL	**Melhnausar**	**0.96**	**22**	P		**Pg**	**13 55 36.3**	**-1.5**
	baz=22							
IREN	**Reynihlio**	**1.00**	**14**	P		**Pg**	**13 55 37.1**	**-1.5**
	baz=14							
IREN				S		**Sn**	**13 55 51.6**	**-2.0**
	baz=14							
ISNB	**Snabyli**	**1.07**	**208**	S		**Sb**	**13 55 52.7**	**-1.1**
	baz=208							
ISNB				P		**Pb**	**13 55 38.4**	**-1.4**
	baz=208							
IKVO	**Krokottuvotn**	**1.07**	**14**	P		**Pg**	**13 55 38.1**	**-1.8**
	baz=14							
IKVO				S		**Sn**	**13 55 53.5**	**-1.8**
	baz=14							
IHES	**Hestalda**	**1.10**	**236**	P		**Pn**	**13 55 39.0**	**-1.7**
	baz=235							
IRJU	**Rjupnafell**	**1.18**	**206**	P		**Pb**	**13 55 40.2**	**-1.6**
	baz=206							
IRJU				S		**Sg**	**13 55 56.0**	**-1.3**
	baz=206							
ISKI	**Skildingahlsh**	**1.21**	**9**	P		**Pb**	**13 55 40.5**	**-1.8**
	baz=9.4							
IGHA	**Grjothals**	**1.22**	**17**	P		**Pn**	**13 55 40.6**	**-1.8**
	baz=16							
IGYG	**Gygjarholskot**	**1.24**	**252**	P		**Pn**	**13 55 40.7**	**-1.9**
	baz=252							
IHAU	**Haukadalur**	**1.29**	**237**	P		**Pn**	**13 55 41.0**	**-2.3**
	baz=237							
IDIM	**Dimmadalss**	**1.31**	**10**	P		**Pn**	**13 55 42.0**	**-1.6**
	baz=10							
BORG	**Borgarnes**	**1.64**	**274**	Lg		Lg	13 56 10.4	
	16nm,0.3s,baz=246,slow=22,SNR=2.1							
SCO	**Scoresbysund**	**6.07**	**346**	*i* P		**Pn**	**13 56 50.0**	**+1.1**
FINES	**FINESS Array B**	**19.71**	**79**	P		**Pn**	**13 59 52.7**	**+2.8**
	0.1nm,0.3s,baz=289,slow=14,SNR=1.2							
	1.6nm,0.8s							
GERES	**GERESS Array B**	**22.96**	**119**	P		**P**	**14 00 26.8**	**+3.2**
	0.2nm,0.4s,baz=299,slow=10.0,SNR=2.3							
	0.2nm,0.4s							
YKA	**Yellowknife Ar**	**39.20**	**313**	P		**P**	**14 02 48.1**	**+1.2**
	0.6nm,1.0s,baz=40,slow=8.1,SNR=4.1							
	0.6nm,1.0s							
ILAR	**Eielson Array**	**45.67**	**332**	P		**P**	**14 03 42.0**	**+2.5**
	1.1nm,1.1s,baz=23,slow=4.9,SNR=5.8							
	1.1nm,1.1s							
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P		**P**	**14 04 38.1**	**+1.0**
	0.6nm,0.8s,baz=355,slow=7.0,SNR=3.6							
	0.6nm,0.8s							
PDAR	**Pinedale Array**	**53.17**	**293**	P		**P**	**14 04 38.3**	**+1.1**
	1.4nm,0.9s,baz=54,slow=6.1,SNR=8.9							
	1.4nm,0.9s							
TXAR	**Lajitas Array**	**62.28**	**280**	P		**P**	**14 05 42.0**	**+0.7**
	0.4nm,0.8s,baz=46,slow=3.6,SNR=4.3							
	0.4nm,0.8s							

JMA ***30*** *13:57:18.7±0.1, 24°.8N±1'.0×122°.4E±0'.4, h4km, MV3.0/7, TAIWAN REGION*

TAP ***30*** *13:57:19.2, 24°.85N×122°.30E, h4km±1km, ML3.5, D*

ISC 30 13:57:18.7±1.1, 24°.83N±0'.02×122°.41E±0'.02, h6km±9km, n88, σ0.65/141, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.42**	**295**	*i* P		**Pg**	**13 57 26.7**	**-0.1**
	baz=298							
TWB1				*i* S		**Sg**	**13 57 31.9**	**-0.3**
	baz=298							
EOS2	**EOS2**	**0.44**	**201**	P		**Pb**	**13 57 29.1**	**+0.3**
	baz=188							
EOS2				S		**Sb**	**13 57 36.7**	**+1.0**
	baz=188							
TIPB	**Shuangxi**	**0.54**	**285**	*i* P		**Pb**	**13 57 29.8**	**-0.9**
	baz=285							
TIPB				*i* S		**Sg**	**13 57 37.1**	**+0.8**
	baz=285							
SXI1	**Grass Mountain**	**0.55**	**298**	*i* P		**Pg**	**13 57 29.3**	**+0.1**
	baz=301							
SXI1				*i* S		**Sg**	**13 57 36.9**	**+0.5**
	baz=301							
EOS3	**EOS3**	**0.55**	**188**	*i* P		**Pb**	**13 57 30.6**	**-0.1**
	baz=178							
EOS3				S		**Sn**	**13 57 41.0**	**-1.4**
	baz=178							
TWC	**Suao**	**0.55**	**246**	*i* P		**Pg**	**13 57 29.6**	**+0.3**
	baz=238							
TWC				*i* S		**Sg**	**13 57 36.6**	**+0.1**
	baz=238							
ILA	**Ilan**	**0.60**	**264**	*i* P		**Pg**	**13 57 30.2**	**-0.1**
	baz=259							
ILA				S		**Sg**	**13 57 39.1**	**+1.0**
	baz=259							
NWF	**Wu-fen Shan**	**0.61**	**293**	*i* P		**Pg**	**13 57 30.9**	**+0.4**
	baz=294							
NWF				*i* S		**Sg**	**13 57 39.0**	**+0.4**
	baz=294							
WFSB	**Wu-fen Shan**	**0.61**	**293**	*i* P		**Pb**	**13 57 31.2**	**-0.7**
	baz=294							
WFSB				*i* S		**Sg**	**13 57 39.3**	**+0.8**
	baz=294							
TNOU	**National Taiwa**	**0.66**	**299**	*i* P		**Pg**	**13 57 31.0**	**-0.3**
	baz=301							
TNOU				*i* S		**Sg**	**13 57 39.8**	**0.0**
	baz=301							
NDS	**Dongshan**	**0.66**	**252**	*i* P		**Pb**	**13 57 32.1**	**-0.5**
	baz=247							
NDS				*i* S		**Sb**	**13 57 42.4**	**+0.3**
	baz=247							
YOJ	**Yonaguni jima**	**0.66**	**124**	*e*P		**Pb**	**13 57 32.1**	**-0.6**
YOJ				*e*S		**Sb**	**13 57 40.6**	**-1.5**
TWE	**Neicheng**	**0.68**	**261**	*i* P		**Pb**	**13 57 32.5**	**-0.5**
	baz=256							
TWE				*i* S		**Sb**	**13 57 41.9**	**-0.8**
	baz=256							
EWUT	**Wuta**	**0.69**	**236**	P		**Pb**	**13 57 32.5**	**-0.6**
	baz=229							
EWUT				S		**Sb**	**13 57 42.1**	**-0.8**
	baz=229							
ENA	**Nanau**	**0.73**	**236**	*i* P		**Pg**	**13 57 32.9**	**+0.2**
	baz=229							
ENA				*i* S		**Sg**	**13 57 42.6**	**+0.5**
	baz=229							
FUSB	**Fushanzhiwuyua**	**0.75**	**264**	*i* P		**Pg**	**13 57 33.3**	**+0.3**
	baz=261							
FUSB				*i* S		**Sb**	**13 57 44.7**	**+0.1**
	baz=261							
TWA	**Mucha**	**0.76**	**281**	*i* P		**Pg**	**13 57 33.4**	**+0.1**
	baz=280							
TWA				*i* S		**Sg**	**13 57 43.7**	**+0.5**
	baz=280							
ENTT	**Nioudou**	**0.79**	**256**	*i* P		**Pg**	**13 57 34.1**	**+0.3**
	baz=252							
ENTT				*i* S		**Sb**	**13 57 45.0**	**-0.8**
	baz=252							
NHDH	**Xindian Distri**	**0.81**	**279**	*i* P		**Pg**	**13 57 34.1**	**-0.2**
	baz=278							
NHDH				*i* S		**Sg**	**13 57 45.3**	**+0.5**
	baz=278							
YM01	**YM01**	**0.82**	**292**	*i* P		**Pg**	**13 57 34.3**	**-0.1**
	baz=293							
YM01				*i* S		**Sg**	**13 57 44.6**	**-0.5**
	baz=293							
NWLT	**Wulai**	**0.82**	**266**	P		**Pg**	**13 57 34.5**	**0.0**
	baz=264							
NWLT				S		**Sg**	**13 57 45.7**	**+0.5**
	baz=264							
TAP	**Taipei**	**0.84**	**284**	P		**Pb**	**13 57 35.8**	**+0.1**
	baz=284							
TAP				*i* S		**Sg**	**13 57 46.5**	**+0.7**
	baz=284							
PCYT	**Pengchaiyu**	**0.85**	**339**	*e*P		**Pb**	**13 57 35.3**	**-0.6**
	baz=345							
PCYT				*e*S		**Sb**	**13 57 48.5**	**+1.1**
	baz=345							
TWY	**Chenhua**	**0.85**	**301**	*i* P		**Pg**	**13 57 35.2**	**+0.1**
	baz=303							
TWY				*i* S		**Sg**	**13 57 46.2**	**+0.1**
	baz=303							
LATG	**Datong**	**0.85**	**250**	*i* P		**Pb**	**13 57 35.4**	**-0.6**
	baz=245							
LATG				*i* S		**Sg**	**13 57 46.9**	**+0.7**
	baz=245							
ANP	**Anpu**	**0.88**	**294**	*i* P		**Pb**	**13 57 35.8**	**-0.6**
	baz=295							
ANP				*i* S		**Sg**	**13 57 47.2**	**+0.2**
	baz=295							
NTST	**Danshui**	**0.93**	**291**	*e*P		**Pb**	**13 57 37.4**	**+0.2**
	baz=291							
NTST				*e*S		**Sg**	**13 57 49.1**	**+0.5**
	baz=291							
TWS1	**Kuangyinshan**	**0.94**	**287**	*i* P		**Pg**	**13 57 36.1**	**-0.5**
	baz=287							
TWS1				*i* S		**Sg**	**13 57 49.2**	**+0.4**
	baz=287							
YHNB	**Yeheng**	**0.95**	**260**	*i* P		**Pg**	**13 57 37.1**	**+0.1**
	baz=257							
YHNB				S		**Sg**	**13 57 49.6**	**+0.3**
	baz=257							
NSK	**Sanguang**	**0.97**	**261**	*i* P		**Pg**	**13 57 37.1**	**-0.2**
	baz=258							
NSK				*i* S		**Sb**	**13 57 50.9**	**0.0**
	baz=258							
ETL	**Fush Village**	**0.98**	**227**	*i* P		**Pb**	**13 57 38.4**	**+0.3**
	baz=221							
ETL				*i* S		**Sb**	**13 57 50.9**	**-0.5**
	baz=221							
NACB	**Ninganchiao**	**0.99**	**228**	*i* P		**Pg**	**13 57 37.6**	**0.0**
	baz=223							
NACB				*i* S		**Sg**	**13 57 50.2**	**-0.3**
	baz=223							
NNSB	**Datong**	**1.01**	**247**	*i* P		**Pb**	**13 57 38.2**	**-0.5**
	baz=243							
NNSB				*i* S		**Sg**	**13 57 51.5**	**+0.2**
	baz=243							
NNS	**Nan Shan**	**1.02**	**248**	*i* P		**Pg**	**13 57 38.0**	**-0.2**
	baz=243							
NNS				*i* S		**Sb**	**13 57 52.1**	**-0.4**
	baz=243							
ETLH	**Xiulin Townshi**	**1.05**	**234**	P		**Pg**	**13 57 38.7**	**-0.1**
	baz=229							
ETLH				S		**Sb**	**13 57 53.0**	**-0.4**
	baz=229							
TWD	**Chiawan**	**1.05**	**225**	P		**Pb**	**13 57 39.4**	**0.0**
	baz=219							
TWD				S		**Sb**	**13 57 53.6**	**+0.2**
	baz=219							
NCU	**National Centr**	**1.11**	**277**	*e*P		**Pg**	**13 57 39.3**	**-0.8**
	baz=276							
NCU				*e*S		**Sg**	**13 57 54.8**	**+0.2**
	baz=276							
NCUH	**Zhongli**	**1.12**	**277**	*e*P		**Pg**	**13 57 39.5**	**-0.6**
	baz=276							
HWA	**Hwalien**	**1.12**	**221**	*e*P		**Pn**	**13 57 41.6**	**+0.7**
	baz=215							
HWA				*e*S		**Sn**	**13 57 57.4**	**+0.7**
	baz=215							
NFF	**Wufeng Townshi**	**1.19**	**260**	P		**Pg**	**13 57 40.6**	**-0.9**
	baz=258							
NFF				*e*S		**Sb**	**13 57 57.4**	**0.0**
	baz=258							
FUSS	**Fushou**	**1.21**	**241**	P		**Pg**	**13 57 41.6**	**-0.2**
	baz=237							
FUSS				S		**Sn**	**13 57 59.5**	**+0.3**
	baz=237							
WHF	**Hehuan Shan**	**1.25**	**237**	*i* P		**Pb**	**13 57 42.8**	**0.0**
	baz=233							
WHF				*i* S		**Sb**	**13 57 59.4**	**+0.1**
	baz=233							
TWT	**Tachien**	**1.26**	**243**	*i* P		**Pb**	**13 57 42.8**	**-0.2**
	baz=239							
TWT				*e*S		**Sn**	**13 58 00.6**	**+0.1**
	baz=239							
TDCB	**Techi**	**1.27**	**243**	P		**Pg**	**13 57 42.3**	**-0.8**
	baz=240							
TDCB				S		**Sg**	**13 57 59.7**	**0.0**
	baz=240							
LIOB	**Emei**	**1.28**	**262**	P		**Pg**	**13 57 42.2**	**-1.0**
	baz=260							
SBCB	**Hsinchu**	**1.29**	**268**	P		**Pg**	**13 57 42.8**	**-0.7**
	baz=267							
SBCB				*e*S		**Sg**	**13 57 59.1**	**-1.1**
	baz=267							
NSTT	**Nanjuang**	**1.29**	**261**	P		**Pg**	**13 57 42.5**	**-1.0**
	baz=259							
NSTT				S		**Sn**	**13 58 01.1**	**+0.2**
	baz=259							
IRIF	**Iriomote-Funau**	**1.30**	**112**	*e*P		**Pn**	**13 57 44.1**	**+0.7**
HSN	**Hsinchu**	**1.31**	**269**	*e*S		**Sg**	**13 57 59.5**	**-1.1**
	baz=268							
ESL	**Shilin**	**1.35**	**221**	P		**Pn**	**13 57 42.9**	**-1.2**
	baz=217							
ESL				S		**Sn**	**13 58 02.9**	**+0.6**
	baz=217							
CHGB	**Renai**	**1.36**	**236**	P		**Pb**	**13 57 44.7**	**0.0**
	baz=232							
CHGB				S		**Sn**	**13 58 03.6**	**+0.6**
	baz=232							
OWD	**Renai**	**1.42**	**232**	*e*P		**Pn**	**13 57 45.0**	**-0.3**
	baz=228							
OWD				*e*S		**Sn**	**13 58 05.1**	**+0.8**
	baz=228							
WHP	**Taichung City**	**1.44**	**248**	P		**Pg**	**13 57 47.0**	**+0.7**
	baz=245							
WHP				S		**Sn**	**13 58 05.3**	**+0.6**
	baz=245							
WUSB	**Renai**	**1.44**	**235**	P		**Pg**	**13 57 46.3**	**0.0**
	baz=231							
WUSB				S		**Sg**	**13 58 04.8**	**-0.3**
	baz=231							
EGFH	**Guangfu**	**1.46**	**218**	*e*P		**Pg**	**13 57 46.5**	**-0.3**
	baz=214							
HATJ	**Hateruma jima**	**1.49**	**121**	*e*P		**Pg**	**13 57 47.2**	**-0.1**
HATJ				*e*S		**Sg**	**13 58 07.2**	**+0.5**
NMLH	**Miaoli**	**1.50**	**259**	*e*P		**Pn**	**13 57 45.6**	**-0.6**
	baz=257							
TWQ1	**Liyutan**	**1.56**	**252**	*e*P		**Pn**	**13 57 47.4**	**+0.3**
	baz=250							
WCS	**Beigang Elemen**	**1.57**	**241**	*e*P		**Pg**	**13 57 48.3**	**-0.4**
	baz=237							
WCS				*e*S		**Sg**	**13 58 09.4**	**+0.4**
	baz=237							
VWDT	**VWDT**	**1.58**	**227**	P		**Pn**	**13 57 46.7**	**-0.5**
	baz=224							
VWDT				S		**Sb**	**13 58 08.6**	**+0.1**
	baz=224							
HGSD	**Ruisui**	**1.61**	**214**	*e*P		**Pg**	**13 57 49.1**	**-0.5**
	baz=210							
EHY	**Hungye**	**1.65**	**217**	*e*P		**Pb**	**13 57 49.4**	**-0.2**
	baz=213							
SMLT	**Sun Moon Lake**	**1.67**	**236**	P		**Pb**	**13 57 50.0**	**+0.1**
	baz=232							
TYC	**Yuchr**	**1.69**	**237**	P		**Pb**	**13 57 50.0**	**-0.2**
	baz=234							
TCU	**Taichung**	**1.72**	**247**	*e*P		**Pb**	**13 57 50.2**	**-0.4**
	baz=244							
YULB	**Yu-li**	**1.76**	**215**	*e*P		**Pg**	**13 57 52.0**	**-0.3**
	baz=212							
EYUL	**Yuli**	**1.78**	**214**	*e*P		**Pb**	**13 57 51.5**	**-0.3**
	baz=210							
WJS	**Zhushan**	**1.83**	**237**	*e*P		**Pb**	**13 57 52.2**	**-0.4**
	baz=234							
WNT	**Mingjian**	**1.84**	**239**	*e*P		**Pb**	**13 57 52.6**	**-0.1**
	baz=236							
FULB	**Fuli**	**1.92**	**212**	*e*P		**Pb**	**13 57 53.7**	**-0.4**
	baz=209							
ALS	**Alishan**	**1.97**	**228**	*e*P		**Pb**	**13 57 54.0**	**-1.1**
	baz=225							
CHN5	**Tsauling**	**2.00**	**232**	*e*P		**Pb**	**13 57 54.7**	**-0.9**
	baz=229							
EHD	**Haiduan**	**2.00**	**213**	*e*P		**Pb**	**13 57 55.7**	**+0.1**
	baz=210							
WDLH	**Douliu**	**2.05**	**237**	*e*P		**Pb**	**13 57 55.1**	**-1.3**
	baz=234							
WRL	**Guolierlin Hig**	**2.07**	**244**	*e*P		**Pb**	**13 57 55.5**	**-1.2**
	baz=241							
ELDTW	**Lidau**	**2.07**	**218**	*e*P		**Pb**	**13 57 55.4**	**-1.4**
	baz=215							
WCKO	**Fanlu**	**2.15**	**230**	*e*P		**Pb**	**13 57 56.8**	**-1.3**
	baz=227							
CHN2	**Minshiung**	**2.19**	**234**	*e*P		**Pb**	**13 57 57.7**	**-1.0**
	baz=231							
CHN4	**Tsaushan**	**2.22**	**229**	*e*P		**Pb**	**13 57 57.9**	**-1.3**
	baz=226							
STYH	**Taoyuan**	**2.23**	**222**	*e*P		**Pn**	**13 57 57.4**	**+1.2**
	baz=219							
TPUB	**Ta-pu**	**2.23**	**227**	*e*P		**Pn**	**13 57 57.5**	**+1.3**
	baz=224							
CHY	**Chiayi**	**2.25**	**234**	*e*P		**Pn**	**13 57 57.4**	**+1.0**
	baz=231							
TWGBT	**Beinan**	**2.35**	**211**	*e*P		**Pn**	**13 57 59.2**	**+1.4**
	baz=208							
TWG	**Pinlang**	**2.35**	**212**	*e*P		**Pn**	**13 57 57.6**	**-0.2**
	baz=208							
TWK	**Hsinying**	**2.35**	**229**	*e*P		**Pn**	**13 57 59.4**	**+1.5**
	baz=226							
CHN1	**Nanshi**	**2.38**	**227**	*e*P		**Pn**	**13 57 59.7**	**+1.5**
	baz=224							
WSL	**Shuilin Townsh**	**2.38**	**237**	*e*P		**Pn**	**13 57 59.3**	**+1.0**
	baz=235							
SGST	**Jiashian**	**2.41**	**224**	*e*P		**Pn**	**13 57 59.4**	**+0.7**
	baz=221							

MOS ***30*** *14:04:05.7±0.8, 11°.78S×166°.30E, h30km, mb4.9/16, Error ellipse: s-maj=9.7km s-min=8.4km az=22.9*

IDC ***30*** *14:04:06.7±3.6, 11°.83S×166°.48E, h28km±24km, mb4.5/25, mbtmp4.7/29, ML3.6/3, MS4.0/46, Error ellipse: s-maj=14.6km s-min=12.6km az=74.0*

BJI ***30*** *14:04:09.8±0.0, 11°.43S×166°.53E, h57km, mb5.1/62, mB5.2/30, Ms5.0/7, Ms7 4.6/10*

NEIC ***30*** *14:04:10.4±1.1, 11°.80S±0°.08×166°.46E±0°.09, h58km±6km, mb5.1/78, Error ellipse: s-maj=13.7km s-min=11.4km az=59.0*

GCMT ***30*** *14:04:11.4±0.2, 11°.96S±0°.02×166°.04E±0°.02, h42km, MW5.0/77, Moment Tensor Solution. s77,c99; s67,c88; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.49±.17; Mθθ=0.36±.12; Mφφ=4.13±.11; Mrθ=0.20±.12; Mθφ=0.95±.09; Mφr=0.95±.10; Best double couple: Mo=4.52800×10^16 NP1:φs=352.00000°, δ51.00000°, λ96.00000°. NP2: φs=162.00000°, δ40.00000°, λ82.00000°. Principal axes: T 4.6120, Plg83.0000°, Azm298.0000°; N -0.1690, Plg5.0000°, Azm168.0000°; P -4.4440, Plg6.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***30*** *14:04:13.2, 11°.905×166°.26E, h66km, mb5.1/68, Santa Cruz Islands*

ISC 30 14:04:08.3±0.5, 11°.81S±0°.05×166°.46E±0°.05, h41km±3km, h41km:pP-P, n345, σ1.26/332, mb5.0/102, MS4.1/47, 12C-12D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DVP	**Devils Point**	**6.11**	**164**	P		**Pn**	**14 05 40.6**	**+4.5**
HNR	**Honiara**	**6.82**	**290**	Pn		**Pn**	**14 05 43.4**	**-2.5**
	78nm,0.3s,baz=149,slow=20,SNR=5.6							
HNR				Sn		**Sn**	**14 07 01.3**	**-1.0**
	349nm,0.3s,baz=214,slow=23,SNR=1.8							
HNR				LR		LR	14 08 42.0	
	comp=Z,27μm,21.1s,baz=122,slow=40							
HNR	**Honiara**	**6.82**	**290**	Pn		**Pn**	**14 05 46.6**	**+0.8**
HNR	**Honiara**	**6.82**	**290**	P		**Pn**	**14 05 47.9**	**+2.1**
KOUNC	**Koumac, New Ca**	**8.94**	**193**	Pn		**Pn**	**14 06 16.1**	**+1.2**
KOUNC	**Koumac, New Ca**	**8.94**	**193**	P		**Pn**	**14 06 17.0**	**+2.2**
LIFNC	**LIFOU**	**8.95**	**175**	Pn		**Pn**	**14 06 16.6**	**+1.6**
MARNC	**Mare, Loyalty**	**9.73**	**171**	Pn		**Pn**	**14 06 27.4**	**+1.6**
DZM	**Mont Dzumac**	**10.20**	**180**	*e*Pn		**Pn**	**14 06 35.4**	**+3.1**
	93nm,1.3s							
DZM				*e*LR		LR	14 08 54.4	
	comp=Z,3μm,24.9s							
DZM	**Mont Dzumac**	**10.20**	**180**	Pn		**Pn**	**14 06 31.7**	**-0.6**
	1.6nm,0.3s,baz=355,slow=14,SNR=27							
DZM				Sn		**Sn**	**14 08 23.9**	**-1.6**
	baz=126,slow=23							
	6.7nm,0.4s							
DZM	**Mont Dzumac**	**10.20**	**180**	Pn		**Pn**	**14 06 33.6**	**+1.3**
DZM	**Mont Dzumac**	**10.20**	**180**	P		**Pn**	**14 06 34.3**	**+2.0**
ONTNC	**Ouen Toro**	**10.44**	**180**	Pn		**Pn**	**14 06 37.0**	**+1.6**
OUENC	**Ouen Island, N**	**10.55**	**178**	Pn		**Pn**	**14 06 38.6**	**+1.6**
PINNC	**Pines Island,**	**10.78**	**175**	Pn		**Pn**	**14 06 42.1**	**+1.9**
MSVF	**Nonsavu**	**12.66**	**119**	Pn		**Pn**	**14 07 03.0**	**-3.0**
	7.5nm,1.0s,baz=8.0,slow=12,SNR=2.6							
MSVF				LR		LR	14 11 04.9	
	comp=Z,2μm,20.1s,baz=308,slow=33							
MSVF	**Nonsavu**	**12.66**	**119**	Pn		**Pn**	**14 07 09.3**	**+3.3**
MSVF	**Nonsavu**	**12.66**	**119**	P		**P**	**14 07 12.5**	**-4.0**
MSVF	**Nonsavu**	**12.66**	**119**	P		**Pn**	**14 07 09.3**	**+3.3**
FUNA	**Funafuti**	**12.96**	**77**	P		**P**	**14 07 17.5**	**-2.2**
TARA	**Tarawa**	**14.57**	**27**			**P**	**14 07 36.8**	**-0.8**
TARA	**Tarawa**	**14.57**	**27**	P		**P**	**14 07 39.5**	**+1.8**
RABL	**Rabaul**	**16.04**	**297**	P		**P**	**14 07 53.5**	**-0.5**
KRVT	**Keravat (AS076**	**16.11**	**296**	Pn		**Pn**	**14 07 50.9**	**-1.1**
	1.6nm,0.3s,baz=220,slow=18,SNR=1.6							
KRVT				LR		LR	14 14 28.9	
	comp=Z,548nm,20.1s,baz=258,slow=39							
	18nm,0.6s							
PMG	**Port Moresby**	**19.12**	**275**	P		**P**	**14 08 27.6**	**-0.3**
	0.7nm,0.3s,baz=93,slow=5.5,SNR=16							
PMG				LR		LR	14 15 07.9	
	comp=Z,1μm,22.0s,baz=118,slow=34							
	46nm,1.0s							
PMG	**Port Moresby**	**19.12**	**275**	P		**P**	**14 08 27.2**	**-0.7**
PMG	**Port Moresby**	**19.12**	**275**	P		**Pn**	**14 08 29.5**	**+0.4**
PMG	**Port Moresby**	**19.12**	**275**	P		**Pn**	**14 08 29.4**	**+0.4**
PMG	**Port Moresby**	**19.12**	**275**	*de*P		**Pn**	**14 08 28.8**	**-0.3**
PMG					pmax	pmax		
	comp=Z,54nm,1.1s							
AUBSH	**Beerwah State**	**19.63**	**218**	P		**Pn**	**14 08 34.9**	**-0.2**
EIDS	**Eidsvold**	**19.82**	**225**	P		**Pn**	**14 08 37.7**	**+0.2**
	baz=20,SNR=4.9							
EIDS	**Eidsvold**	**19.82**	**225**	P		**Pn**	**14 08 36.7**	**-0.7**
EIDS	**Eidsvold**	**19.82**	**225**	P		**Pn**	**14 08 38.1**	**+0.7**
AUWSH	**Wavell State H**	**19.98**	**217**	P		**Pn**	**14 08 38.9**	**-0.3**
TV1H	**Townsville Har**	**20.32**	**246**	P		**P**	**14 08 42.2**	**+1.1**
LHI	**Lord Howe Isla**	**20.77**	**198**	P		**P**	**14 08 46.9**	**+1.1**
	baz=21,SNR=5.0							
LHI	**Lord Howe Isla**	**20.77**	**198**	P		**P**	**14 08 44.7**	**-1.1**
LHI				IAmb		IAmb	14 08 51.1	
	comp=Z,108nm,0.9s							
CTA	**Charters Tower**	**21.08**	**244**	P		**P**	**14 08 49.9**	**+0.7**
	comp=Z,32nm,0.9s,baz=76,slow=11,SNR=16							
CTA				LR		LR	14 15 48.3	
	comp=Z,813nm,21.0s,baz=73,slow=33							
	comp=Z,32nm,0.9s							
CTA	**Charters Tower**	**21.08**	**244**	P		**P**	**14 08 50.1**	**+0.8**
CTAO	**Charters Tower**	**21.08**	**244**	P		**P**	**14 08 48.7**	**-0.5**
CTAO	**Charters Tower**	**21.08**	**244**	P		**P**	**14 08 49.9**	**+0.7**
CTAO	**Charters Tower**	**21.08**	**244**	P		**P**	**14 08 48.7**	**-0.5**
CTAO					pmax	pmax		
	comp=Z,37nm,1.0s							
MANU	**Manus Island**	**21.27**	**296**	P		**P**	**14 08 54.0**	**+2.7**
AFI	**Afiamalu**	**21.32**	**98**	LR		LR	14 15 45.2	
	comp=Z,275nm,18.7s,baz=256,slow=33							
RMQ	**Roma**	**22.15**	**226**	P		**P**	**14 09 02.0**	**+1.3**
	baz=22,SNR=9.1							
RMQ	**Roma**	**22.15**	**226**	P		**P**	**14 09 02.0**	**+1.3**
MTSU	**Mount Surprise**	**22.28**	**251**	P		**P**	**14 09 03

THZ IAmb IAmb 14 11 22.3
comp=Z,116nm,1.9s
STKA Stephens Creek 30.38 225 P **P** **14 10 16.7 +0.1**
comp=Z,12nm,0.7s,baz=41,slow=9.1,SNR=26
STKA LR LR 14 21 45.0
comp=Z,691nm,20.7s,baz=51,slow=35
comp=Z,12nm,0.7s
STKA Stephens Creek 30.38 225 P **P** **14 10 17.2 +0.6**
baz=30,SNR=20
STKA Stephens Creek 30.38 225 P **P** **14 10 16.7 +0.1**
STKA Stephens Creek 30.38 225 P **P** **14 10 17.8 +1.2**
STKA Stephens Creek 30.38 225 P **P** **14 10 16.7 +0.1**
STKA pmax pmax
comp=Z,3.0nm,0.8s
BHW Baring Head 30.39 167 P **P** **14 10 17.2 +0.7**
BHW IAmb IAmb 14 10 20.1
comp=Z,60nm,1.0s
CMWZ Cape Campbell 30.59 169 P **P** **14 10 19.5 +1.3**
INZ Inchbonnie 31.10 173 P **P** **14 10 22.8 0.0**
INZ IAmb IAmb 14 10 40.3
comp=Z,42nm,1.3s
KHZ Kahutara 31.11 170 P **P** **14 10 22.7 -0.1**
WR0 Warramunga Arr 31.70 251 P **P** **14 10 27.4 -1.0**
TOO Toolangi 31.79 213 P **P** **14 10 29.8 +0.8**
baz=32,SNR=23
TOO Toolangi 31.79 213 P **P** **14 10 29.2 +0.2**
TOO IAmb IAmb 14 10 30.8
comp=Z,42nm,0.7s
TOO Toolangi 31.79 213 P **P** **14 10 30.6 +1.6**
TOO Toolangi 31.79 213 P **P** **14 10 29.2 +0.2**
TOO pmax pmax
comp=Z,42nm,0.7s
WB0 Warramunga Arr 31.81 252 P **P** **14 10 28.5 -0.8**
WB0 IAmb IAmb 14 10 29.6
comp=Z,33nm,0.8s
WRAB Tennant Creek 31.87 251 P **P** **14 10 28.5 -1.4**
WRAB IAmb IAmb 14 10 30.0
comp=Z,18nm,0.8s
WRAB Tennant Creek 31.87 251 P **P** **14 10 29.8 -0.1**
WRAB Tennant Creek 31.87 251 *d iP* **P** **14 10 29.4 -0.5**
WRAB pmax pmax
comp=Z,17nm,1.0s
WRAB Tennant Creek 31.87 251 P **P** **14 10 29.0 -0.9**
WRAB pP **pP** **14 10 38.1 -2.0**
WB2 Warramunga Arr 31.87 251 P **P** **14 10 28.7 -1.2**
WB2 IAmb IAmb 14 10 30.1
comp=Z,18nm,0.8s
WRA Warramunga Arr 31.89 251 P **P** **14 10 29.1 -0.9**
comp=Z,14nm,0.7s,baz=84,slow=9.0,SNR=95
WRA PcP **PcP** **14 13 19.0 -1.1**
comp=Z,0.3nm,0.3s,baz=81,slow=2.7,SNR=7.2
WRA LR LR 14 22 49.7
comp=Z,327nm,19.4s,baz=107,slow=35
comp=Z,14nm,0.7s
WRA Warramunga Arr 31.89 251 P **P** **14 10 29.4 -0.6**
RPZ Rata Peaks 32.03 174 P **P** **14 10 31.7 +0.7**
comp=Z,21nm,0.8s,baz=310,slow=3.1,SNR=7.5
comp=Z,21nm,0.8s
RPZ Rata Peaks 32.03 174 P **P** **14 10 31.4 +0.5**
MQZ McQueen's Vall 32.23 172 P **P** **14 10 32.7 +0.1**
BRAT Ballarat 32.62 214 P **P** **14 10 37.5 +1.3**
OOD Oodnadatta 32.90 237 P **P** **14 10 38.8 +0.1**
AS01 Alice Springs 33.04 245 P **P** **14 10 39.5 -0.6**
AS31 Alice Springs 33.08 245 P **P** **14 10 39.3 -1.2**
AS31 **PcP** **14 13 22.8 -0.5**
ASAR Alice Springs 33.08 245 P **P** **14 10 39.1 -1.3**
comp=Z,22nm,0.7s,baz=70,slow=9.5,SNR=278
ASAR PcP **PcP** **14 13 23.1 -0.2**
comp=Z,5.9nm,0.8s,baz=78,slow=2.6,SNR=12
ASAR ScP **ScP** **14 17 06.0 +1.4**
comp=Z,1.4nm,0.9s,baz=71,slow=4.0,SNR=6.4
ASAR LR LR 14 23 13.9
comp=Z,452nm,18.7s,baz=72,slow=35
comp=Z,22nm,0.7s
ASAR Alice Springs 33.08 245 P **P** **14 10 39.3 -1.2**
ASAR **PcP** **14 13 22.4 -1.0**
GUMO Guam 33.09 319 LR LR 14 23 35.6
comp=Z,188nm,20.7s,baz=131,slow=35
HTT Hallett 33.12 225 P **P** **14 10 41.3 +0.7**
baz=33,SNR=9.0
HTT Hallett 33.12 225 P **P** **14 10 41.5 +0.9**
KDU Kakadu 33.21 265 P **P** **14 10 41.1 -0.5**
baz=33,SNR=16
KDU Kakadu 33.21 265 P **P** **14 10 41.1 -0.5**
ARPS Mount Arapiles 33.28 218 P **P** **14 10 43.0 +1.1**
baz=33,SNR=8.0
ARPS Mount Arapiles 33.28 218 P **P** **14 10 43.1 +1.1**
RAR Rarotonga 33.64 111 LR LR 14 21 54.4
comp=Z,218nm,20.5s,baz=276,slow=32
MTN Manton Dam 34.51 264 P **P** **14 10 52.7 -0.2**
baz=34,SNR=5.4
MTN Manton Dam 34.51 264 P **P** **14 10 52.5 -0.4**
MTN IAmb IAmb 14 10 53.6
comp=Z,14nm,0.8s
MTN **PcP** **14 13 27.7 +0.2**
MTN Manton Dam 34.51 264 P **P** **14 10 52.7 -0.2**
SAUI Saumlaki 34.82 273 P **P** **14 10 55.0 -0.7**
BBOO Buckleboo 34.83 228 P **P** **14 10 55.7 +0.3**
baz=35,SNR=6.7
BBOO Buckleboo 34.83 228 P **P** **14 10 54.6 -0.9**
BBOO IAmb IAmb 14 11 35.1
comp=Z,32nm,1.3s
TAU Tasmania Unive 35.16 205 P **P** **14 10 58.6 +0.5**
TAU Tasmania Unive 35.16 205 P **P** **14 10 58.6 +0.5**
TAU pmax pmax
comp=Z,154nm,1.7s
SIJI Sorong 36.57 285 P **P** **14 11 10.9 +0.3**
comp=Z,33nm,0.9s,baz=154,slow=5.8,SNR=4.8
SIJI LR LR 14 27 29.8
comp=Z,407nm,20.2s,baz=62,slow=38
comp=Z,33nm,0.9s
KNRA Kununurra 36.78 260 P **P** **14 11 12.5 +0.1**
baz=37,SNR=6.1
KNRA Kununurra 36.78 260 P **P** **14 11 12.3 -0.1**
KNRA IAmb IAmb 14 11 13.1
comp=Z,41nm,1.0s
KNRA Kununurra 36.78 260 P **P** **14 11 12.6 +0.2**
WRKA Warakurna 38.38 245 P **P** **14 11 25.1 -0.7**
baz=38,SNR=26
WRKA Warakurna 38.38 245 P **P** **14 11 25.4 -0.5**
NLAI Namlea 39.89 279 P **P** **14 11 41.4 +2.8**
comp=Z,46nm,1.0s
FORT Forrest 40.18 236 P **P** **14 11 40.9 0.0**
baz=40,SNR=7.1
FORT Forrest 40.18 236 P **P** **14 11 40.6 -0.2**
FORT Forrest 40.18 236 P **P** **14 11 40.8 0.0**
SANI Sanana 41.27 280 P **P** **14 11 51.5 +1.5**
SANI Sanana 41.27 280 P **P** **14 11 51.5 +1.5**
comp=Z,28nm,1.2s
SOEI Soe 41.47 269 P **P** **14 11 51.6 -0.1**
SOEI IAmb IAmb 14 12 05.8
comp=Z,32nm,1.1s
SOEI Soe 41.47 269 P **P** **14 11 52.0 +0.3**
SOEI Soe 41.47 269 P P 14 12 05.6 +14
BATI Baumata 42.01 268 P **P** **14 11 57.2 +1.1**
comp=Z,34nm,0.5s,baz=156,slow=3.3,SNR=7.2
BATI LR LR 14 28 30.2
comp=Z,387nm,21.5s,baz=140,slow=35
comp=Z,34nm,0.5s
PPT Papeete 42.84 103 LR LR 14 25 46.8
comp=Z,207nm,21.4s,baz=267,slow=30
PPT2 Papeete2 42.84 103 *eS* **S** **14 18 25.0 +0.2**
comp=Z,168nm,28.2s
PPT2 *e*SS **SS** **14 21 38.7 +1.5**
comp=Z,198nm,27.8s
PPT2 *e*LQ LQ 14 22 13.6
comp=Z,478nm,28.0s
PPT2 *e*LR LR 14 24 01.6
comp=Z,544nm,30.2s
PPT2 *e*LR LR 14 24 01.8
comp=Z,781nm,26.8s
LUWI Luwuk 44.63 281 P **P** **14 12 18.2 +1.0**
LUWI Luwuk 44.63 281 P P 14 12 30.8 +14
GTOI Gorontalo 44.88 283 P P 14 12 25.8 +6.6
JCJ Chichijima 45.29 329 LR LR 14 28 23.8
comp=Z,113nm,21.8s,baz=160,slow=32
KMBL Kambalda 45.42 237 P **P** **14 12 23.5 +0.2**
baz=45,SNR=9.6
KMBL Kambalda 45.42 237 P **P** **14 12 23.0 -0.3**
MBWA Marble Bar 45.62 252 P **P** **14 12 24.6 -0.3**
MBWA IAmb IAmb 14 12 26.4
comp=Z,31nm,1.1s
MBWA Marble Bar 45.62 252 P **P** **14 12 25.8 +0.9**
MBWA Marble Bar 45.62 252 P **P** **14 12 25.2 +0.3**
MBWA sP **pwP** **14 12 39.9 +1.6**
KAPI Kappang 46.64 274 LR LR 14 31 08.2
comp=Z,80nm,21.2s,baz=104,slow=35
MSLP Maasin 46.73 296 *e*P **P** **14 12 33.8 0.0**
TOLI2 Tolitoli 47.15 283 P **P** **14 12 36.5 -0.6**
TOLI2 IAmb IAmb 14 12 48.2
comp=Z,75nm,1.8s
MEEK Meekatharra 47.24 245 P **P** **14 12 37.9 +0.2**
baz=47,SNR=18
MEEK Meekatharra 47.24 245 P **P** **14 12 38.4 +0.7**
MPSI Mapaga 47.77 281 P **P** **14 12 41.9 0.0**
comp=Z,21nm,0.9s
KLBR Kellerberrin 48.89 238 P **P** **14 12 50.1 -0.2**
baz=49,SNR=18
KLBR Kellerberrin 48.89 238 P **P** **14 12 50.3 -0.1**
BLDU Ballidu 49.57 240 P **P** **14 12 55.5 -0.1**
baz=50,SNR=6.1
NWAO Narrogin (SRO) 49.62 237 LR LR 14 34 20.2
comp=Z,625nm,18.2s,slow=36
NWAO Narrogin (SRO) 49.62 237 P **P** **14 12 56.0 +0.1**
baz=50,SNR=13
NWAO P **P** **14 12 56.0 +0.1**
baz=50,SNR=13
NWAO Narrogin (SRO) 49.62 237 P **P** **14 12 55.2 -0.7**
NWAO IAmb IAmb 14 12 56.8
comp=Z,33nm,0.8s
NWAO Narrogin (SRO) 49.62 237 P **P** **14 12 56.2 +0.3**
NWAO Narrogin (SRO) 49.62 237 P **P** **14 12 55.2 -0.7**
NWAO pmax pmax
comp=Z,33nm,0.9s
NWAO Narrogin (SRO) 49.62 237 P **P** **14 12 54.9 -1.0**
NWAO pP **pP** **14 13 04.5 -2.5**
NWAO sP **pwP** **14 13 09.2 -0.4**
MORW Morawa 49.87 242 P **P** **14 12 58.2 +0.3**
baz=50,SNR=8.5
MORW Morawa 49.87 242 P **P** **14 12 57.2 -0.7**
MORW IAmb IAmb 14 12 59.0
comp=Z,33nm,0.9s
MORW Morawa 49.87 242 P **P** **14 12 58.1 +0.3**
MUN Mundaring 50.26 238 P **P** **14 13 01.1 +0.3**
baz=50,SNR=5.2
MUN Mundaring 50.26 238 P **P** **14 13 01.6 +0.8**
JAGI Jajag, Banyuwa 51.54 269 P **P** **14 13 08.7 -1.9**
JAGI IAmb IAmb 14 13 30.1
comp=Z,38nm,1.0s
KKM Kota Kinabalu 53.02 287 P **P** **14 13 21.6 -0.1**
KKM Kota Kinabalu 53.02 287 P **P** **14 13 22.9 +1.2**
JOW Kunigami 53.39 317 LR LR 14 36 07.6
comp=Z,82nm,18.5s,baz=76,slow=36
JGF Kuroka 54.60 331 P **P** **14 13 33.2 +0.4**
JMN Monobe 54.89 327 P **P** **14 13 35.2 +0.3**
MJAR Matsushiro Arr 54.97 332 P **P** **14 13 35.2 -0.2**
comp=Z,5.6nm,1.1s,baz=156,slow=7.2,SNR=4.9
comp=Z,5.6nm,1.1s
UGM Wanagama 55.17 269 P **P** **14 13 36.8 -0.5**
JSU Suzuyama 55.19 322 P **P** **14 13 37.0 -0.2**
SBUM Sibu 55.73 281 P **P** **14 13 40.6 -0.7**
JNU Nakatsue 56.10 324 P **P** **14 13 43.5 -0.1**
comp=Z,14nm,0.9s,baz=69,slow=2.4,SNR=4.1
JNU LR LR 14 34 30.7
comp=Z,64nm,20.9s,baz=120,slow=32
comp=Z,14nm,0.9s
TPUB Ta-pu 56.82 308 P **P** **14 13 49.3 +0.3**
SSLB Suanglung 56.84 309 P **P** **14 13 49.1 +0.1**
YHNB Yeheng 57.00 310 P **P** **14 13 50.9 +0.6**
DRV Dumont d'Urvil 57.60 192 P **P** **14 13 53.1 -0.6**
LEM Lembang 58.19 269 P **P** **14 13 59.2 +0.2**
comp=Z,20nm,0.7s,baz=100,slow=17,SNR=4.5
LEM LR LR 14 42 23.7
comp=Z,72nm,18.3s,baz=187,slow=40
comp=Z,20nm,0.7s
JKA Kamikawa-asahi 59.74 340 P **P** **14 14 09.4 +0.5**
ASAJ Asahikawa 59.74 340 P **P** **14 14 09.8 +0.8**
comp=Z,3.6nm,0.5s,baz=232,slow=7.5,SNR=6.1
comp=Z,3.6nm,0.5s
SSE Sheshan 60.88 316 P **P** **14 14 17.2 +0.3**
SSE pP **pP** **14 14 28.0 -0.6**
KSRS Korea Array 60.90 325 P **P** **14 14 17.2 +0.3**
comp=Z,3.3nm,0.8s,baz=134,slow=6.7,SNR=8.4
KSRS LR LR 14 39 45.8
comp=Z,51nm,19.1s,baz=40,slow=35
comp=Z,3.3nm,0.8s
YSS Yuzh-Sakhalins 62.23 342 *eP* **P** **14 14 26.1 +0.4**
YSS pmax pmax
comp=Z,10.0nm,1.2s
NJ2 Nanjing 63.05 315 ⇑P **P** **14 14 32.5 +1.0**
NJ2 pmax pmax
comp=Z,35nm,0.8s
QIZ Qiongzhong 63.65 298 P **P** **14 14 37.3 +1.5**
QIZ pP **pP** **14 14 47.6 +0.4**
USRK Ussuriysk Ar. 63.94 333 P **P** **14 14 38.2 +1.1**
comp=Z,7.6nm,0.9s,baz=81,slow=9.2,SNR=5.0
comp=Z,7.6nm,0.9s
SHEM Shemya Is, Ala 64.61 5 LR LR 14 36 57.3
comp=Z,74nm,21.6s,baz=302,slow=30
PETK Petropavlovsk- 65.09 354 P **P** **14 14 44.8 +0.3**
comp=Z,1.7nm,0.8s,baz=203,slow=7.0,SNR=2.2
comp=Z,1.7nm,0.8s
MDJ Mudanjiang 65.35 332 P **P** **14 14 46.6 +0.3**
MDJ pP **pP** **14 14 58.1 +0.1**
SDSI Sungai Dareh 65.38 274 P **P** **14 14 48.8 +1.6**
comp=Z,7.4nm,1.0s
VNDA Vanda 65.74 181 P **P** **14 14 48.5 0.0**
comp=Z,3.3nm,0.9s,baz=347,slow=8.2,SNR=16
comp=Z,3.3nm,0.9s
VNDA Vanda 65.74 181 P **P** **14 14 48.3 -0.1**
VNDA Vanda 65.74 181 P **P** **14 14 49.7 +1.3**
CASY Casey 65.92 202 P **P** **14 14 49.3 -0.4**
CASY Casey 65.92 202 P **P** **14 14 49.2 -0.6**
CASY pP **pP** **14 15 00.7 -0.6**
SBA Scott Base 66.04 180 P **P** **14 14 51.0 +0.7**
SBA Scott Base 66.04 180 P **P** **14 14 51.0 +0.7**
SBA pmax pmax
comp=Z,135nm,1.7s
CN2 Changchun 66.75 329 ⇓*iP* **P** **14 14 56.0 +0.6**
CN2 pmax pmax
comp=Z,20nm,0.9s
IPM Ipoh 67.04 280 P **P** **14 14 59.0 +1.1**
BNX BinXian 67.21 331 ⇓P **P** **14 14 58.5 +0.3**
BNX pmax pmax
comp=Z,10.0nm,0.7s
BNX pmax pmax
comp=Z,230nm,4.1s
CCD Concordia, Ant 67.59 191 P **P** **14 15 00.4 -0.3**
KLR Kul'dur 68.03 336 LR LR 14 39 53.5
comp=Z,72nm,21.4s,baz=103,slow=32
KLR Kul'dur 68.03 336 ⇓*eP* **P** **14 15 03.5 +0.1**
KLR pmax pmax
comp=Z,6.0nm,1.0s
PSI Prapat 68.66 278 P **P** **14 15 07.7 -0.6**
comp=Z,4.2nm,0.4s,baz=164,slow=5.5,SNR=5.5
comp=Z,4.2nm,0.4s
PSI Prapat 68.66 278 P **P** **14 15 09.0 +0.8**
LYN LuoYang 68.88 314 ⇑P **P** **14 15 09.3 +0.3**
LYN pP sP 14 15 26.5 +1.1
LYN pmax pmax
comp=Z,30nm,0.7s
HNS HongShan 68.92 318 ⇑P **P** **14 15 10.0 +0.9**
HNS pmax pmax
comp=Z,16nm,1.1s
ENH Enshi 68.92 309 P **P** **14 15 09.5 +0.1**
ENH Enshi 68.92 309 P **P** **14 15 10.0 +0.6**
ENH Enshi 68.92 309 P **P** **14 15 09.3 0.0**
NONG Nongkai 69.16 295 P **P** **14 15 12.2 +1.2**
GYA Guiyang 69.42 304 ⇓*iP* **P** **14 15 14.0 +1.3**
GYA pP sP 14 15 30.5 +1.3
GYA pmax pmax
comp=Z,39nm,0.7s
BJT Baijiatuau 69.50 321 P **P** **14 15 12.6 -0.1**
BJT Baijiatuau 69.50 321 P **P** **14 15 13.7 +1.0**
BJT Baijiatuau 69.50 321 P **P** **14 15 12.6 -0.1**
BJT pmax pmax
comp=Z,9.0nm,0.8s
BJT Baijiatuau 69.50 321 P **P** **14 15 13.5 +0.7**
BJI Beijing 69.51 321 P **P** **14 15 13.3 +0.6**
BJI pmax pmax
comp=Z,6.0nm,0.8s
GSI Gunungsitoli 69.63 276 P **P** **14 15 13.3 -0.7**
GSI IAmb IAmb 14 15 15.6
comp=Z,37nm,1.3s
GSI Gunungsitoli 69.63 276 P **P** **14 15 15.0 +0.9**
GSI Gunungsitoli 69.63 276 P **P** **14 15 15.3 +1.2**
comp=Z,25nm,1.2s
TIY Taiyuan 70.59 317 *eP* **P** **14 15 21.3 +1.7**
TIY pmax pmax
comp=Z,15nm,0.6s
HEH HeiHe 70.60 335 *eP* **P** **14 15 19.5 +0.3**
HEH pmax pmax
comp=Z,11nm,1.0s
HEH pmax pmax
comp=Z,200nm,4.5s
XAN Xi'an 71.15 312 ⇑P **P** **14 15 23.5 +0.5**
XAN pP pP 14 15 36.0 +1.1
XAN pmax pmax
comp=Z,32nm,1.0s
XAN Xi'an 71.15 312 P **P** **14 15 23.8 +0.8**
XAN pP **pP** **14 15 34.1 -0.8**
XLT XiLinHaoTe 71.89 324 ⇑*iP* **P** **14 15 28.0 +0.7**
XLT pP sP 14 15 43.5 -0.2
XLT sP PcP 14 15 51.3 +5.4
XLT pmax pmax
comp=Z,20nm,0.8s
XLT pmax pmax
comp=Z,170nm,7.8s
KMI Kunming 72.11 301 ⇑P **P** **14 15 30.8 +1.6**
KMI pP pP 14 15 42.0 +0.9
KMI pmax pmax
comp=Z,54nm,1.0s
MA2 Magadan 72.26 352 LR LR 14 41 24.5
comp=Z,130nm,21.8s,baz=158,slow=31
HHC Hu-ho-hao-te 72.86 320 *eP* **P** **14 15 35.0 +1.8**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,260nm,5.7s
CMAR Chiang Mai Arr 73.05 294 P **P** **14 15 35.9 +1.2**
comp=Z,13nm,0.9s,baz=118,slow=4.4,SNR=74
comp=Z,13nm,0.9s
CHTO Chiang Mai 73.17 294 P **P** **14 15 34.7 -0.6**
CHTO Chiang Mai 73.17 294 P **P** **14 15 34.7 -0.6**
CHTO pmax pmax
comp=Z,1.0nm,1.2s
ZEA Zeya 73.31 337 *eP* **P** **14 15 36.6 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
HIA Hailar 73.38 330 P **P** **14 15 35.9 0.0**
HIA Hailar 73.38 330 P **P** **14 15 37.2 +1.3**
HIA Hailar 73.38 330 ⇓*eP* **P** **14 15 36.6 +0.7**
HIA *i* *PP **pP** **14 15 50.0 +2.2**
HIA pmax pmax
comp=Z,10.0nm,1.2s
PZH PanZhiHua 73.47 302 P **P** **14 15 37.5 +0.4**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,260nm,5.2s
CD2 Chengdu 73.62 307 P **P** **14 15 38.0 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SEY Seymchan 75.31 353 LR LR 14 45 24.5
comp=Z,64nm,19.8s,baz=96,slow=33
SEY Seymchan 75.31 353 ⇑*eP* **P** **14 15 45.8 -1.0**
SEY pmax pmax
comp=Z,2.0nm,1.1s
TNCH TengChong 75.64 300 ⇑P **P** **14 15 51.0 +1.2**
TNCH pP sP 14 16 07.5 +1.1
TNCH sP pwP 14 16 14.5 +13
TNCH S **S** **14 25 26.5 -2.1**
TNCH pmax pmax
comp=Z,30nm,0.9s
TNCH pmax pmax
comp=Z,120nm,3.0s
TNCH LR LR
comp=Z,210nm,10.8s
TNCH LR LR
comp=Z,120nm,10.3s
TNCH LR LR
comp=Z,160nm,10.3s
LZH Lanzhou 75.78 312 *eP* **P** **14 15 52.0 +1.6**
LZH pP PcP 14 16 03.5 +0.6
LZH sP sP 14 16 11.0 +4.1
LZH pmax pmax
comp=Z,59nm,1.1s
LZH pmax pmax
comp=Z,240nm,4.8s
MND Mandalay 76.71 296 P **P** **14 15 56.8 +1.1**
KDAK Kodiak Island 77.04 21 LR LR 14 43 46.0
comp=Z,282nm,19.8s,baz=231,slow=31
QSPA South Pole Qui 78.20 180 P **P** **14 16 03.1 -0.3**
QSPA IAmb IAmb 14 16 18.4
comp=Z,22nm,1.0s
P19K Oil Pt 78.24 20 P **P** **14 16 03.5 0.0**
YAK Yakutsk 79.03 343 LR LR 14 46 06.2
comp=Z,99nm,21.8s,baz=107,slow=32
ULN Ulaanbaatar 79.33 324 P **P** **14 16 08.6 -1.3**
ULN Ulaanbaatar 79.33 324 *c iP* **P** **14 16 10.4 +0.5**
ULN pmax pmax
comp=Z,9.0nm,0.9s
RPN Rapa Nui 79.61 116 LR LR 14 43 36.3
comp=Z,145nm,19.3s,baz=286,slow=30
BILL Bilibino 79.64 360 P **P** **14 16 10.4 -0.5**
BILL Bilibino 79.64 360 *i* P **P** **14 16 09.0 -1.9**
BILL *i* 14 16 21.6
BILL *i* 14 19 16.8
BILL pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 79.69 324 P **P** **14 16 12.5 +0.7**
comp=Z,2.5nm,0.7s,baz=137,slow=6.2,SNR=14
comp=Z,2.5nm,0.7s
L19K White Mountain 79.69 17 P **P** **14 16 10.9 -0.5**
L19K IAmb IAmb 14 17 54.6
comp=Z,37nm,1.6s
GTA Gaotai 80.09 314 ⇑P **P** **14 16 15.3 +1.1**
GTA pP sP 14 16 31.5 +0.7
GTA sP pwP 14 16 37.8 +12
GTA pmax pmax
comp=Z,17nm,1.2s
GTA pmax pmax
comp=Z,140nm,5.8s
GTA LR LR
comp=Z,120nm,22.5s
GTA LR LR
comp=Z,150nm,22.5s
GTA LR LR
comp=Z,140nm,23.6s
SUA Susitna One 80.41 19 P **P** **14 16 15.2 -0.2**
SUA IAmb IAmb 14 16 54.9
comp=Z,55nm,1.8s
SKT Skwentna 80.55 19 P **P** **14 16 15.9 -0.1**
SKT IAmb IAmb 14 17 05.8
comp=Z,38nm,1.8s
SML Sawmill 81.45 20 P **P** **14 16 20.9 +0.1**
SML IAmb IAmb 14 16 23.6
comp=Z,58nm,1.7s
CAST Castle Rocks 81.46 18 P **P** **14 16 20.7 -0.1**
CAST IAmb IAmb 14 16 33.7
comp=Z,28nm,1.7s
KTH Kantishna Hill 81.91 18 P **P** **14 16 23.8 +0.5**
KTH IAmb IAmb 14 19 03.7
comp=Z,43nm,1.8s
TRF Thorofare Moun 82.02 18 P **P** **14 16 24.0 +0.1**
TRF IAmb IAmb 14 17 32.3
comp=Z,47nm,1.7s
M24K Tolsona, Glenn 82.39 20 P **P** **14 16 29.8 +3.9**
baz=227
GOMU GeErMu 82.54 309 P **P** **14 16 27.8 +0.2**
GOMU pmax pmax
comp=Z,6.0nm,1.1s
GOMU pmax pmax
comp=Z,50nm,5.0s
N25K Chitina, Valde 82.60 21 P **P** **14 16 27.2 +0.3**
N25K IAmb IAmb 14 17 52.9
comp=Z,36nm,1.7s
N25K Chitina, Valde 82.60 21 P **P** **14 16 30.4 +3.4**
baz=228
ZAK Zakamensk 82.72 325 *eP* **P** **14 16 27.1 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
VRDI Verde Repeater 82.77 22 P **P** **14 16 27.7 -0.3**
VRDI IAmb IAmb 14 16 42.0
comp=Z,26nm,1.5s
GLB Gilahina Butte 82.78 22 P **P** **14 16 27.6 -0.2**
GLB IAmb IAmb 14 18 51.4
comp=Z,27nm,1.6s
IMAR Indian Mountai 82.97 15 P **P** **14 16 28.4 -0.3**
WRH Wood River Hil 83.44 18 P **P** **14 16 30.1 -0.9**
CCB Clear Creek Bu 83.65 18 P **P** **14 16 31.4 -0.8**
CCB IAmb IAmb 14 17 36.5
comp=Z,26nm,2.0s
M26K Nabesna, AK 83.70 21 P **P** **14 16 32.6 0.0**
M26K IAmb IAmb 14 17 13.1
comp=Z,19nm,1.4s

HDA	**Harding Lake**	**83.74**	**19**	P		**P**	**14 16 32.5**	**-0.2**
HDA				IAmb		IAmb	14 16 36.8	
	comp=Z,8.0nm,0.6s							
COLA	**College**	**83.80**	**18**	⇓*e*P		**P**	**14 16 35.0**	**+2.1**
COLA				pmax		pmax		
	comp=Z,2.0nm,0.5s							
F21K	**Alatna River**	**84.00**	**15**	P		P	14 16 38.9	+4.9
	baz=219							
IL31		**84.02**	**18**	P		**P**	**14 16 33.8**	**-0.2**
IL31				IAmb		IAmb	14 16 57.4	
	comp=Z,23nm,1.8s							
ILAR	**Eielson Array**	**84.02**	**18**	P		**P**	**14 16 33.4**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=253,slow=5.0,SNR=54							
ILAR				LR		LR	14 46 34.0	
	comp=Z,139nm,21.6s,baz=179,slow=30							
	comp=Z,2.1nm,0.6s							
ILAR	**Eielson Array**	**84.02**	**18**	P		**P**	**14 16 33.7**	**-0.3**
ILAR	**Eielson Array**	**84.02**	**18**	P		**P**	**14 16 33.7**	**-0.3**
POKR	**Poker Plat Res**	**84.09**	**18**	P		**P**	**14 16 37.3**	**+2.9**
	baz=225							
SCRK	**Sand Creek**	**84.40**	**20**	P		**P**	**14 16 35.9**	**-0.2**
H24K	**Noodor Dome**	**84.47**	**17**	P		**P**	**14 16 38.9**	**+2.4**
	baz=225							
G23K	**Bananza Creek**	**84.51**	**16**	P		**P**	**14 16 40.5**	**+3.9**
	baz=223							
L27K	**Beaver Creek,**	**84.54**	**21**	P		**P**	**14 16 36.7**	**0.0**
L27K				IAmb		IAmb	14 19 34.1	
	comp=Z,25nm,2.0s							
BCAR	**Beaver Creek A**	**84.55**	**21**	P		**P**	**14 16 37.0**	**+0.1**
BBB	**Bella Bella**	**84.81**	**34**	LR		LR	14 48 55.9	
	comp=Z,132nm,18.8s,baz=244,slow=32							
MPK	**Martis Peak**	**84.99**	**48**	P		**P**	**14 16 39.3**	**-0.7**
G24K	**Hadweenzic Riv**	**85.20**	**17**	P		**P**	**14 16 43.7**	**+3.6**
	baz=225							
F24K	**Squaw Lake**	**85.67**	**16**	P		**P**	**14 16 46.9**	**+4.5**
	baz=225							
EGAK	**Eagle**	**85.86**	**20**	P		**P**	**14 16 43.4**	**+0.1**
EGAK				IAmb		IAmb	14 17 21.1	
	comp=Z,38nm,1.9s							
EGAK	**Eagle**	**85.86**	**20**	P		**P**	**14 16 46.2**	**+3.0**
	baz=231							
N31M	**Braeburn, Yuko**	**85.86**	**24**	P		**P**	**14 16 43.1**	**-0.4**
N31M				IAmb		IAmb	14 19 58.5	
	comp=Z,24nm,1.6s							
PFO	**Pinyon Flats O**	**85.95**	**55**	LR		LR	14 46 44.6	
	comp=Z,147nm,20.9s,baz=284,slow=30							
NVAR	**Mina Array Bea**	**85.99**	**50**	P		**P**	**14 16 44.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=231,slow=7.8,SNR=10							
	comp=Z,0.9nm,0.7s							
NVAR	**Mina Array Bea**	**85.99**	**50**	P		**P**	**14 16 44.1**	**-0.7**
DAWY	**Dawson**	**86.02**	**21**	P		**P**	**14 16 44.1**	**-0.1**
I27K	**Kandik River**	**86.23**	**19**	P		**P**	**14 16 48.5**	**+3.3**
	baz=230							
RAMN	**Ramite**	**86.43**	**298**	*e*P		**P**	**14 16 47.3**	**0.0**
G26K	**Porcupine Rive**	**86.44**	**18**	P		**P**	**14 16 47.4**	**+1.3**
	baz=228							
BMAR	**Burnt Mountain**	**86.53**	**17**	P		**P**	**14 16 47.3**	**+0.7**
DLBC	**Dease Lake**	**86.75**	**28**	LR		LR	14 47 13.6	
	comp=Z,88nm,21.8s,baz=260,slow=30							
JIRN	**Jiri**	**86.97**	**299**	*e*P		**P**	**14 16 50.3**	**+0.2**
TIXI	**Tiksi**	**86.97**	**349**	LR		LR	14 51 26.1	
	comp=Z,64nm,20.9s,baz=24,slow=33							
TIXI	**Tiksi**	**86.97**	**349**	⇓*e*P		**P**	**14 16 47.6**	**-1.0**
TIXI				pmax		pmax		
	comp=Z,8.0nm,2.5s							
G27K	**Doyon Strip**	**86.99**	**18**	P		**P**	**14 16 53.4**	**+4.6**
	baz=230							
C24K	**Franklin Bluff**	**87.05**	**14**	P		**P**	**14 16 52.8**	**+3.8**
	baz=224							
GUN	**Gumba**	**87.30**	**299**	*e*P		**P**	**14 16 51.8**	**+0.2**
	comp=Z,30nm,0.8s							
C26K	**Camden Bay**	**88.13**	**15**	P		P	14 16 59.0	+4.8
	baz=227							
C27K	**Jago River**	**88.24**	**16**	P		**P**	**14 16 59.5**	**+4.7**
	baz=228							
GKN	**Gorkha**	**88.38**	**299**	*e*P		**P**	**14 16 56.2**	**-0.4**
	comp=Z,79nm,0.8s							
LPIG	**La Paz**	**88.69**	**65**	LR		LR	14 48 14.2	
	comp=Z,51nm,21.8s,baz=260,slow=30							
ELK	**Elko**	**88.94**	**48**	LR		LR	14 49 30.8	
	comp=Z,116nm,19.7s,baz=256,slow=31							
DANN	**Dangsing**	**89.22**	**299**	*e*P		**P**	**14 16 59.9**	**-0.8**
	comp=Z,60nm,0.8s							
NEW	**Newport**	**89.87**	**41**	LR		LR	14 49 30.2	
	comp=Z,101nm,21.2s,baz=256,slow=30							
WMQ	**Urumqi**	**90.13**	**315**	⇑*i*P		**P**	**14 17 04.5**	**+0.2**
WMQ				pP		sP	14 17 20.5	-0.5
WMQ				pmax		pmax		
	comp=Z,11nm,0.9s							
WMQ				LR		LR		
	comp=Z,120nm,28.9s							
INK	**Inuvik**	**90.39**	**19**	LR		LR	14 50 38.2	
	comp=Z,118nm,21.1s,baz=234,slow=31							
DGZ	**Jazzator, Alta**	**91.93**	**320**	⇓*e*P		**P**	**14 17 12.5**	**-0.1**
DGZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ELIB	**Princess Elisa**	**92.92**	**191**	*d*P		**P**	**14 17 15.6**	**-1.3**
	comp=Z,10.0nm,0.9s							
PDAR	**Pinedale Array**	**93.56**	**47**	P		**P**	**14 17 20.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=225,slow=2.3,SNR=3.6							
PDAR				LR		LR	14 55 26.7	
	comp=Z,71nm,18.3s,baz=274,slow=33							
	comp=Z,0.2nm,0.5s							
ANMO	**Albuquerque**	**94.31**	**55**	LR		LR	14 51 47.2	
	comp=Z,113nm,21.6s,baz=350,slow=30							
MK31	**Makanchi Array**	**94.55**	**317**	P		**P**	**14 17 24.1**	**-0.5**
MK31				IAmb		IAmb	14 17 25.6	
	comp=Z,5.5nm,0.7s							
MK31	**Makanchi Array**	**94.55**	**317**	*d*P		**P**	**14 17 24.8**	**+0.2**
MKAR	**Makanchi Array**	**94.55**	**317**	P		**P**	**14 17 24.9**	**+0.3**
	comp=Z,7.8nm,0.6s,baz=94,slow=6.3,SNR=111							
MKAR				LR		LR	15 00 18.7	
	comp=Z,33nm,20.2s,baz=115,slow=36							
	comp=Z,7.8nm,0.6s							
MKAR	**Makanchi Array**	**94.55**	**317**	P		**P**	**14 17 24.2**	**-0.5**
MKAR	**Makanchi Array**	**94.55**	**317**	P		**P**	**14 17 25.0**	**+0.3**
ZAA0	**Zalesovo Array**	**94.58**	**324**	P		**P**	**14 17 23.1**	**-1.4**
ZAA0				IAmb		IAmb	14 17 38.8	
	comp=Z,7.3nm,1.4s							
ZALV	**Zalesovo Beam**	**94.58**	**324**	P		**P**	**14 17 23.6**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=106,slow=4.8,SNR=9.8							
ZALV				LR		LR	15 00 08.0	
	comp=Z,31nm,19.9s,baz=68,slow=36							
	comp=Z,2.3nm,0.8s							
ZALV	**Zalesovo Beam**	**94.58**	**324**	P		**P**	**14 17 23.0**	**-1.5**
TXAR	**Lajitas Array**	**95.58**	**61**	P		**P**	**14 17 31.5**	**+1.7**
	comp=Z,0.2nm,0.8s,baz=308,slow=3.3,SNR=2.0							
TXAR				LR		LR	14 53 36.0	
	comp=Z,94nm,19.6s,baz=230,slow=31							
	comp=Z,0.2nm,0.8s							
TROLL	**Troll, Antarti**	**95.69**	**185**	P		**P**	**14 17 28.2**	**-1.4**
SNAA	**Sanae**	**96.40**	**183**	P		**P**	**14 17 32.8**	**+0.1**
NRIK	**Noril'sk**	**97.08**	**339**	LR		LR	14 58 18.0	
	comp=Z,118nm,22.0s,baz=134,slow=34							
VNA3	**Neumayer Olymp**	**97.10**	**181**	P		**P**	**14 17 33.7**	**-2.1**
VNA2	**Neumayer--Watz**	**97.35**	**182**	P		**P**	**14 17 35.7**	**-1.2**
	baz=182,slow=5.0							
KURBB	**Kurchatov Arra**	**97.71**	**320**	LR		LR	15 00 47.7	
	comp=Z,78nm,21.6s,baz=162,slow=35							
AAK	**Ala-Archa**	**99.32**	**312**	LR		LR	15 03 45.2	
	comp=Z,51nm,20.5s,baz=56,slow=36							
KIV	**Kislovodsk**	**122.26**	**315**	*i* PKIKP		**PKPdf**	**14 22 58.7**	**-0.4**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.0s							
FINES	**FINESS Array B**	**122.73**	**339**	PKP		**PKPdf**	**14 22 58.6**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=56,slow=0.7,SNR=5.3							
BOSA	**Boshof**	**125.03**	**222**	PKP		**PKPdf**	**14 23 04.2**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=141,slow=3.5,SNR=4.0							
NOA	**NORSAR Array B**	**127.62**	**345**	PKP		**PKPdf**	**14 23 07.8**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=32,slow=1.9,SNR=2.2							
AKASG	**Malin Array Be**	**127.88**	**327**	PKP		**PKPdf**	**14 23 08.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=52,slow=0.4,SNR=1.7							
GERES	**GERESS Array B**	**136.69**	**334**	PKP		**PKPdf**	**14 23 25.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=20,slow=3.1,SNR=3.9							
ESDC	**Sonseca Array**	**150.98**	**345**	PKPbc		**PKPbc**	**14 23 56.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=11,slow=2.6,SNR=5.2							
ESDC				PKPab		**pPKPdf**	**14 24 04.7**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=8.6,slow=3.8,SNR=4.0							
TORD	**Torodi Ar. Bea**	**165.06**	**277**	PKP		**PKPdf**	**14 24 07.8**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=80,slow=1.2,SNR=6.9							
TORD				PKPab		**PKPab**	**14 25 06.2**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=79,slow=6.2,SNR=13							

IDC 30 14:06:26.2±330.0, 5°.64S×147°.95E, h0km, Error ellipse: s-maj=130.2km s-min=21.9km az=72.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**18.71**	**314**	I	I	16 03 10.0	
	baz=134,slow=310,SNR=3.3						
I07AU	**WARRAMUNGA INF**	**19.43**	**222**	I	I	16 09 10.0	
	baz=42,slow=306,SNR=1.3						

*KOLA **30** 14:11:21.4, 77°.67N×20°.54E, h0km, ML3.5, Error ellipse: s-maj=5.9km s-min=3.5km az=90.0, Storfjorden zone*
*IEPN **30** 14:11:23.0, 77°.75N×20°.32E, h10km*
*NAO **30** 14:11:23.0±1.3, 77°.69N×20°.55E, h20km±9km, ML3.6*
*BER **30** 14:11:24.4±2.4, 77°.77N×20°.74E, h21km±7km, ML3.5, ML3.6(NAO), Confirmed Earthquake*
ISC 30 14:11:20.3±0.7, 77°.67N±0°.03×20°.62E±0°.03, h10km, n50, σ2°.53/87°, 2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.03**	**302**	Pn	**Pn**	**14 11 41.5**	**+0.8**
	baz=117,slow=18						
SPA0				Lg	Lg	14 11 53.9	
	baz=126,slow=28						
SPA0	**Spitsbergen Ar**	**1.03**	**302**	⇓*i*P	**Pn**	**14 11 41.4**	**+0.6**
SPA0				*i* S	**Sg**	**14 11 53.7**	**+0.3**
SPA0	**Spitsbergen Ar**	**1.03**	**302**	Pn	**Pn**	**14 11 41.5**	**+0.8**
	slow=18						
SPA0				Sg	**Sg**	**14 11 53.9**	**+0.6**
	slow=28						
SPITS	**Spitsbergen Ar**	**1.03**	**302**	P	**Pg**	**14 11 40.6**	**+0.6**
SPITS				S	**Sg**	**14 11 54.0**	**+0.6**
HSPB	**Hornsund (broa**	**1.31**	**241**	Pn	**Pg**	**14 11 46.5**	**+1.1**
HSPB				Pg	**Pb**	**14 11 47.8**	**+3.0**
HSPB				Lg	Lg	14 12 05.0	
HSPB	**Hornsund (broa**	**1.31**	**241**	⇓*i*P	**Pg**	**14 11 46.3**	**+1.0**
HSPB				*i* S	**Sg**	**14 12 03.5**	**+1.2**
HSPB	**Hornsund (broa**	**1.31**	**241**	*e*P	**Pg**	**14 11 46.4**	**+1.1**
HSPB				*e*Pg	**Pb**	**14 11 47.9**	**+3.0**
HSPB				*e*S	**Sg**	**14 12 03.8**	**+1.5**
HSPB				IAML		14 12 05.7	
	comp=Z,1μm,0.1s						
HSPB	**Hornsund (broa**	**1.31**	**241**	P	**Pb**	**14 11 46.0**	**+1.2**
HSPB				S	**Sb**	**14 12 02.5**	**+0.9**
BRBA	**Barentsburg A**	**1.41**	**289**	Pn	**Pb**	**14 11 47.2**	**+0.7**
BRBA				Pg	**Pg**	**14 11 48.8**	**+1.5**
BRBA				Lg	Lg	14 12 07.5	
BRBA	**Barentsburg A**	**1.41**	**289**	*e*P	**Pb**	**14 11 47.2**	**+0.7**
BRBA				*e*Pg	**Pg**	**14 11 48.9**	**+1.6**
BRBA				*e*Sg	**Sg**	**14 12 07.0**	**+1.5**
BRBA				IAML		14 12 07.8	
	comp=Z,3μm,0.4s						
BRBB	**Barentsburg B**	**1.42**	**291**	Pn	**Pb**	**14 11 47.4**	**+0.6**
BRBB				Pg	**Pg**	**14 11 48.8**	**+1.4**
BRBB				Lg	Lg	14 12 07.6	
BRBB	**Barentsburg B**	**1.42**	**291**	*e*P	**Pb**	**14 11 47.4**	**+0.6**
BRBB				*e*Pg	**Pg**	**14 11 49.0**	**+1.5**
BRBB				*e*S	**Sb**	**14 12 05.9**	**+1.1**
BRBB	**Barentsburg B**	**1.42**	**291**	P	**Pn**	**14 11 46.9**	**+0.9**
BRBB				S	**Sg**	**14 12 06.2**	**+0.4**
HOPEN	**Hopen**	**1.53**	**138**	Pn	**Pb**	**14 11 49.2**	**+0.6**
HOPEN				Pg	**Pg**	**14 11 52.0**	**+2.4**
HOPEN				Lg	Lg	14 12 12.5	
HOPEN	**Hopen**	**1.53**	**138**	*e*P	**Pg**	**14 11 51.7**	**+2.2**
HOPEN				*e*S	**Sg**	**14 12 12.2**	**+2.8**
HOPEN	**Hopen**	**1.53**	**138**	*e*P	**Pb**	**14 11 49.4**	**+0.7**
HOPEN				*e*Pg	**Pg**	**14 11 51.9**	**+2.3**
HOPEN				*e*Sg	**Sg**	**14 12 12.6**	**+3.2**
HOPEN				IAML		14 12 15.0	
	comp=Z,2μm,0.4s						
KBS	**Kingsbay**	**2.17**	**310**	Pn	**Pn**	**14 11 56.5**	**+0.1**
KBS				Pg	**Pg**	**14 12 01.6**	**-0.2**
KBS				Lg	Lg	14 12 28.3	
KBS	**Kingsbay**	**2.17**	**310**	*i* P	**Pb**	**14 12 01.2**	**+1.7**
KBS				*i* S	**Sb**	**14 12 27.8**	**+1.4**
KBS	**Kingsbay**	**2.17**	**310**	*e*P	**Pn**	**14 11 57.0**	**+0.6**
KBS				*e*Sg	**Sb**	**14 12 28.1**	**+1.6**
KBS				IAML		14 12 29.7	
	comp=Z,587nm,0.4s						
KBS	**Kingsbay**	**2.17**	**310**	P	**Pb**	**14 11 59.6**	**+0.1**
KBS				S	**Sb**	**14 12 28.0**	**+1.6**
BJO1	**Bjornoya**	**3.21**	**188**	Pn	**Pn**	**14 12 13.2**	**+2.5**
BJO1				Pg	**Pg**	**14 12 21.2**	**-0.5**
BJO1				Lg	Lg	14 13 03.3	
BJO1	**Bjornoya**	**3.21**	**188**	*e*P	**Pn**	**14 12 13.0**	**+2.3**
BJO1				*e*S	**Sn**	**14 12 50.3**	**+1.4**
BJO1	**Bjornoya**	**3.21**	**188**	*e*Pg	**Pg**	**14 12 22.1**	**+0.4**
BJO1				*e*Sg	**Sg**	**14 13 03.0**	**-0.3**
BJO1				IAML		14 13 12.6	
	comp=Z,222nm,0.5s						
ZFI	**Zemlya Franca-**	**5.90**	**45**	*e*P	**Pn**	**14 12 47.9**	**+0.4**
ZFI				*e*S	**Sn**	**14 13 51.5**	**-3.5**
	comp=Z,46nm,2.8s						
ZFI2	**Zemlya Franca-**	**5.90**	**45**	*e*P	**Pn**	**14 12 47.9**	**+0.4**
ZFI2				*e*S	**Sn**	**14 13 51.1**	**-3.9**
	comp=Z,20nm,0.7s						
HAMF	**Hammerfest**	**7.12**	**172**	*e*S	**Sn**	**14 14 19.8**	**-5.2**
NOR	**Nord**	**7.62**	**318**	*i* P	Pn	14 13 17.1	+5.9
NOR				IAML		14 14 52.5	
	comp=Z,0.3nm,0.3s						
VADS	**Vadso**	**7.96**	**158**	*e*P	**Pn**	**14 13 17.1**	**+1.3**
VADS				*e*S	**Sn**	**14 14 40.6**	**-5.0**
VADS				IAML		14 14 46.1	
	comp=Z,14nm,0.2s						
KEV	**Kevo**	**8.15**	**164**	Pn	**Pn**	**14 13 18.7**	**+0.3**
KEV				Sn	**Sn**	**14 14 46.1**	**-4.3**
KEV	**Kevo**	**8.15**	**164**	*e*P	**Pn**	**14 13 19.0**	**+0.6**
KEV				*e*S	**Sn**	**14 14 44.9**	**-5.5**
JETT	**Jettan, Norway**	**8.16**	**181**	Pn	**Pn**	**14 13 19.1**	**+0.5**
JETT				Sn	**Sn**	**14 14 46.1**	**-4.6**
JETT	**Jettan, Norway**	**8.16**	**181**	Pn	**Pn**	**14 13 19.1**	**+0.5**
JETT				Sn	**Sn**	**14 14 46.1**	**-4.6**
ARA0	**ARCESS Array S**	**8.29**	**168**	Pn	**Pn**	**14 13 21.2**	**+0.8**
	baz=356,slow=12						
ARA0				Sn	**Sn**	**14 14 48.1**	**-5.8**
	baz=354,slow=22						
ARA0	**ARCESS Array S**	**8.29**	**168**	Pn	**Pn**	**14 13 21.2**	**+0.8**
	slow=12						
ARCES	**ARCESS Array B**	**8.29**	**168**	P	**Pn**	**14 13 21.8**	**+1.4**
ARCES				S	**Sn**	**14 14 49.6**	**-4.4**
DAG	**Danmarks Havn**	**8.62**	**283**	*i* P	Pn	14 13 32.0	+7.2
DAG				*i* S	**Sn**	**14 14 59.3**	**-2.6**
DAG				IAML		14 15 20.3	
	comp=Z,0.4nm,0.2s						
KIF	**Kilpisjarvi**	**8.72**	**180**	Pn	**Pn**	**14 13 26.6**	**+0.4**
KIF				Sn	**Sn**	**14 14 57.9**	**-6.3**
KIF	**Kilpisjarvi**	**8.72**	**180**	*e*P	**Pn**	**14 13 26.4**	**+0.3**
KIF				*e*S	**Sn**	**14 14 56.7**	**-7.5**
KTK1	**Kautokeino**	**8.74**	**174**	*e*P	**Pn**	**14 13 27.4**	**+0.9**
HEF	**Hetta**	**9.36**	**173**	*e*P	**Pn**	**14 13 35.6**	**+0.7**
HEF				*e*S	Sn	14 15 11.8	-8.2
TERR	**Teriberka**	**9.41**	**147**	P	**Pn**	**14 13 36.1**	**+0.4**
TERR				S	**Sn**	**14 15 16.5**	**-4.9**
LOF	**Lofoten**	**9.80**	**196**	*e*P	**Pn**	**14 13 43.5**	**+2.5**
STEI	**Steigen**	**9.91**	**192**	*e*P	**Pn**	**14 13 43.5**	**+1.0**
DBG	**Daneborg**	**10.26**	**272**	*i* P	Pn	14 13 55.5	+8.3
SALU	**Saltoluokta**	**10.37**	**185**	*e*P	**Pn**	**14 13 51.0**	**+2.3**
APA0	**Apatity Array**	**10.73**	**154**	Pn	**Pn**	**14 13 54.0**	**+0.4**
	baz=348,slow=12						
APA0				Sn	**Sn**	**14 15 46.0**	**-7.5**
	baz=351,slow=28						
APA0	**Apatity Array**	**10.73**	**154**	Pn	**Pn**	**14 13 54.0**	**+0.4**
FIA0	**FINESS Array S**	**16.41**	**171**	P	**Pn**	**14 15 09.0**	**-1.2**
	slow=14						
NB2	**NORSAR Subarra**	**16.99**	**196**	P	**Pn**	**14 15 17.9**	**+0.2**
HFS	**Hagfors**	**17.77**	**191**	P	**P**	**14 15 30.3**	**+2.2**
	slow=14						

*NAO **30** 14:20:10.7±1.3, 77°.73N×20°.47E, h15km±9km, ML2.3*
*KOLA **30** 14:20:11.5, 77°.66N×20°.03E, h0km, ML2.5, Error ellipse: s-maj=6.1km s-min=2.9km az=90.0, Storfjorden zone*
*IEPN **30** 14:20:11.0, 77°.75N×20°.38E, h10km*
*BER **30** 14:20:12.0±1.6, 77°.77N×20°.73E, h20km±6km, ML2.5, ML2.3(NAO), Confirmed Earthquake*
ISC 30 14:20:08.7±1.2, 77°.77N±0°.03×20°.75E±0°.03, h11km±10km, n24, σ1°.16/46°, 1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.01**	**296**	Pn	**Pn**	**14 20 29.1**	**+0.3**
	baz=130,slow=22						
SPA0				Lg	Lg	14 20 41.3	
	baz=122,slow=37						
SPA0	**Spitsbergen Ar**	**1.01**	**296**	⇓*i*P	**Pn**	**14 20 28.9**	**+0.2**
SPA0				*e*S	**Sb**	**14 20 41.1**	**-0.3**
SPA0	**Spitsbergen Ar**	**1.01**	**296**	Pn	**Pn**	**14 20 29.1**	**+0.3**
SPA0				Sg	**Sb**	**14 20 41.3**	**-0.1**
SPITS	**Spitsbergen Ar**	**1.01**	**296**	P	**Pb**	**14 20 28.5**	**+0.3**
SPITS				S	**Sb**	**14 20 41.6**	**+0.2**
HSPB	**Hornsund (broa**	**1.38**	**239**	Pn	**Pn**	**14 20 33.7**	**-0.1**
HSPB				Pg	**Pg**	**14 20 35.1**	**0.0**
HSPB				Lg	Lg	14 20 52.6	
HSPB	**Hornsund (broa**	**1.38**	**239**	*e*P	**Pn**	**14 20 33.6**	**-0.2**
HSPB				*e*S	**Sb**	**14 20 49.7**	**-2.3**
HSPB	**Hornsund (broa**	**1.38**	**239**	*e*P	**Pn**	**14 20 33.8**	**-0.1**
HSPB				*e*S	**Sg**	**14 20 51.6**	**-1.4**
HSPB				IAML		14 20 53.6	
	comp=Z,54nm,0.1s						
HSPB	**Hornsund (broa**	**1.38**	**239**	P	**Pg**	**14 20 34.4**	**-0.8**
HSPB				S	**Sb**	**14 20 49.8**	**-2.3**
BRBA	**Barentsburg A**	**1.41**	**285**	Pn	**Pg**	**14 20 35.0**	**-0.7**
BRBA				Pg	**Pb**	**14 20 36.4**	**+1.5**
BRBA				Lg	Lg	14 20 54.6	
BRBA	**Barentsburg A**	**1.41**	**285**	*e*P	**Pg**	**14 20 35.0**	**-0.7**
BRBA				*e*Pg	**Pb**	**14 20 36.4**	**+1.5**
BRBA				*e*Sg	**Sn**	**14 20 54.6**	**+1.9**
BRBA				IAML		14 20 55.0	
	comp=Z,184nm,0.2s						
BRBB	**Barentsburg B**	**1.41**	**287**	Pn	**Pn**	**14 20 34.7**	**+0.4**
BRBB				Pg	**Pg**	**14 20 36.5**	**+0.6**
BRBB				Lg	Lg	14 20 55.0	
BRBB	**Barentsburg B**	**1.41**	**287**	*e*Pg	**Pg**	**14 20 36.3**	**+0.5**
BRBB				*e*S	**Sb**	**14 20 52.3**	**-0.8**
BRBB				*e*Sg	**Sn**	**14 20 54.9**	**+1.9**
BRBB	**Barentsburg B**	**1.41**	**287**	P	**Pg**	**14 20 36.1**	**+0.3**
BRBB				S	**Sn**	**14 20 53.6**	**+0.7**
HOPEN	**Hopen**	**1.58**	**141**	Pg	**Pg**	**14 20 39.5**	**+0.5**
HOPEN				Lg	Lg	14 21 00.0	
HOPEN	**Hopen**	**1.58**	**141**	*e*P	**Pg**	**14 20 39.3**	**+0.2**
HOPEN				*i* S	**Sb**	**14 20 58.6**	**+0.7**
HOPEN	**Hopen**	**1.58**	**141**	*e*Pg	**Pg**	**14 20 39.6**	**+0.5**
HOPEN				*e*Sg	**Sg**	**14 21 00.1**	**+0.6**
HOPEN				IAML		14 21 01.7	
	comp=Z,98nm,0.2s						
KBS	**Kingsbay**	**2.13**	**307**	Pn	**Pn**	**14 20 44.8**	**+0.6**
KBS				Pg	**Pg**	**14 20 49.3**	**-0.2**
KBS				Lg	Lg	14 21 15.6	
KBS	**Kingsbay**	**2.13**	**307**	*e*P	**Pn**	**14 20 45.0**	**+0.8**
KBS				*e*Pg	**Pg**	**14 20 49.5**	**0.0**
KBS				*e*Sg	**Sb**	**14 21 15.3**	**+1.6**
KBS				IAML		14 21 17.8	
	comp=Z,53nm,0.1s						
KBS	**Kingsbay**	**2.13**	**307**	P	**Pg**	**14 20 49.2**	**-0.4**
KBS				S	**Sg**	**14 21 15.6**	**-1.6**
BJO1	**Bjornoya**	**3.31**	**188**	*e*S	**Sn**	**14 21 39.0**	**-0.6**
ZFI	**Zemlya Franca-**	**5.81**	**46**	*e*P	**Pn**	**14 21 35.5**	**+0.8**
ZFI				*e*S	**Sn**	**14 22 38.0**	**-3.2**
	comp=Z,39nm,4.0s						
ZFI2	**Zemlya Franca-**	**5.81**	**46**	*e*P	**Pn**	**14 21 35.3**	**+0.7**
ZFI2				*e*S	**Sn**	**14 22 38.1**	**-3.0**
	comp=Z,5.8nm,3.1s						
ARA0	**ARCESS Array S**	**8.38**	**168**	Pn	**Pn**	**14 22 10.1**	**+0.2**
	baz=359,slow=8.6						
ARA0	**ARCESS Array S**	**8.38**	**168**	Pn	**Pn**	**14 22 10.1**	**+0.2**
	slow=8.6						

*KOLA **30** 14:21:57.8, 77°.70N×20°.23E, h0km, ML2.8, Error ellipse: s-maj=6.5km s-min=3.1km az=90.0, Storfjorden zone*
*NAO **30** 14:21:57.4±1.2, 77°.69N×20°.42E, h17km±9km, ML2.6*
*BER **30** 14:21:59.9±1.8, 77°.74N×20°.38E, h15km±10km, ML2.7, ML2.6(NAO), Confirmed Earthquake*
*IEPN **30** 14:21:59.0, 77°.75N×20°.29E, h10km*
ISC 30 14:21:57.1±1.5, 77°.78N±0°.04×20°.58E±0°.04, h17km±11km, n23, σ1°.46/40°, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.97**	**297**	Pn	**Pg**	**14 22 15.6**	**-0.4**
	baz=126,slow=18						
SPA0				Lg	Lg	14 22 27.9	
	baz=123,slow=37						
SPA0	**Spitsbergen Ar**	**0.97**

comp=Z,82nm,20.7s,baz=313,slow=33
AKASG Malin Array Be 37.07 63 P **P** **14 46 27.7 -0.7**
1.5nm,0.7s,baz=281,slow=9.1,SNR=5.3
1.5nm,0.7s
TORD Torodi Ar. Bea 42.57 134 P **P** **14 47 14.8 +0.4**
1.2nm,0.9s,baz=317,slow=8.0,SNR=4.7
1.2nm,0.9s
INK Inuvik 51.84 333 P **P** **14 48 26.4 +0.3**
1.8nm,1.1s,baz=34,slow=9.0,SNR=4.0
1.8nm,1.1s
PDAR Pinedale Array 54.88 297 P **P** **14 48 49.8 +0.6**
0.3nm,0.6s,baz=53,slow=6.1,SNR=3.8
0.3nm,0.6s
H10N2 ASCENSION HYDR 56.53 163 T T 15 50 28.9
baz=350
H10N3 ASCENSION HYDR 56.55 163 T T 15 50 30.5
baz=350
H10N1 ASCENSION HYDR 56.55 163 T T 15 50 30.2
baz=350
ILAR Eielson Array 58.21 334 P **P** **14 49 12.2 0.0**
0.5nm,0.9s,baz=16,slow=4.5,SNR=4.1
0.5nm,0.9s
TXAR Lajitas Array 59.34 281 P **P** **14 49 20.3 -0.4**
0.3nm,0.7s,baz=78,slow=6.5,SNR=4.1
0.3nm,0.7s
KDAK Kodiak Island 65.29 331 LR LR 15 15 06.0
comp=Z,40nm,18.1s,baz=253,slow=33
MKAR Makanchi Array 68.31 44 P **P** **14 50 19.7 +0.2**
0.4nm,0.7s,baz=324,slow=6.3,SNR=5.0
0.4nm,0.7s
SONM Songino Array 77.19 29 P **P** **14 51 13.4 +1.0**
0.8nm,0.9s,baz=322,slow=5.8,SNR=6.1
0.8nm,0.9s
WRA Warramunga Arr 149.11 33 PKPbc **PKPbc** **14 59 05.9 -1.1**
0.6nm,0.8s,baz=329,slow=2.9,SNR=3.3
ASAR Alice Springs 152.31 37 PKPbc **PKPbc** **14 59 12.7 -1.8**
0.4nm,0.7s,baz=345,slow=2.0,SNR=12

IDC 30 14:44:54.7±658.0, 55.92N×1.14E, h0km, Error ellipse: s-maj=280.4km s-min=213.5km az=79.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**10.44**	**127**	I	I	15 48 50.0	
	baz=319,slow=331,SNR=0.4						
I37NO	**I37NO**	**15.37**	**24**	I	I	16 20 40.0	
	baz=220,slow=334,SNR=0.6						
I43RU	**DUBNA INFRASON**	**19.89**	**73**	I	I	16 49 40.0	
	baz=282,slow=226,SNR=1.5						
I31KZ	**AKTYUBINSK INF**	**33.71**	**75**	I	I	18 12 50.0	
	baz=302,slow=340,SNR=0.9						

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*IDC **30** 14:58:15.8±5.3, 16.93N×93.38W, h0km, mb3.4/2, mbtmp3.3/3, ML3.2/1, MS3.0/1, Error ellipse: s-maj=98.0km s-min=20.6km az=169.0*
*MEX **30** 14:58:17.3±0.6, 15.70N×93.97W, h76km±9km, MD4.0*
ISC 30 14:58:16.4±1.0, 15.69N±0.05×93.97W±0.03, h61km±12km, n24, σ1.968/42, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.73**	**89**	*e*P	**Pn**	**14 58 31.1**	**+0.1**
PCIG				*e*S	**Sn**	**14 58 42.5**	**+0.7**
NILT	**Santiago Nilte**	**1.06**	**325**	*i* P	**Pn**	**14 58 35.6**	**+0.3**
NILT				*e*S	**Sn**	**14 58 50.1**	**+0.7**
TGIG		**1.35**	**37**	*e*P	**Pn**	**14 58 38.8**	**-0.4**
TGIG				*e*S	**Sn**	**14 58 55.2**	**-1.1**
UXUV	**UXUV**	**1.62**	**354**	*e*P	**Pn**	**14 58 43.3**	**+0.6**
UXUV				*e*S	**Sn**	**14 59 00.4**	**-2.3**
CMIG	**Matias Romero**	**1.64**	**328**	Pg	**Pn**	**14 58 42.9**	**-0.2**
	13nm,0.3s,baz=133,slow=12,SNR=110						
CMIG				Lg	Lg	14 59 01.5	
	22nm,0.3s,baz=133,slow=10,SNR=11						
CMIG	**Matias Romero**	**1.64**	**328**	*e*P	**Pn**	**14 58 42.8**	**-0.2**
CMIG				*e*S	**Sn**	**14 59 03.3**	**+0.2**
PATR	**El Naranjo**	**1.77**	**109**	*e*P	**Pn**	**14 58 45.0**	**0.0**
PATR				*e*S	**Sn**	**14 59 07.7**	**+1.0**
PAVE	**Pavencul**	**1.80**	**106**	*e*P	**Pn**	**14 58 45.8**	**+0.3**
PAVE				*e*S	**Sn**	**14 59 08.0**	**+0.6**
CCIG	**Comitan**	**1.86**	**71**	*e*P	**Pn**	**14 58 45.6**	**-0.6**
CCIG				*e*S	**Sn**	**14 59 04.1**	**-4.6**
CHUJ	**Union Juarez**	**1.90**	**108**	*e*P	**Pn**	**14 58 46.6**	**-0.1**
CHUJ				*e*S	**Sn**	**14 59 09.6**	**-0.1**
HUIG	**Huatulco**	**2.06**	**272**	*e*P	**Pn**	**14 58 48.1**	**-0.5**
HUIG				*e*S	**Sn**	**14 59 10.6**	**-2.7**
NEUV	**Arroyo Zacate**	**2.66**	**319**	*e*P	**Pn**	**14 58 56.3**	**-0.6**
NEUV				*e*S	**Sn**	**14 59 28.7**	**+0.6**
VHO	**Vista Hermosa**	**2.98**	**298**	*e*P	**Pn**	**14 59 02.0**	**+0.5**
VHO				*e*S	**Sn**	**14 59 36.0**	**-0.1**
PEIG	**Puerto Escondi**	**3.07**	**276**	*e*P	**Pn**	**14 59 01.8**	**-0.7**
PEIG				*e*S	**Sn**	**14 59 34.0**	**-4.1**
YOIG	**Yosondua**	**3.62**	**289**	*e*P	**Pn**	**14 59 12.8**	**+2.5**
YOIG				*e*S	**Sn**	**14 59 51.1**	**-0.8**
TOIG	**Toxpalan**	**3.80**	**309**	*e*P	**Pn**	**14 59 13.1**	**+0.5**
TOIG				*i* S	**Sn**	**14 59 53.7**	**-2.5**
TXIG	**Tlaxiaco**	**3.96**	**294**	*e*P	**Pn**	**14 59 17.1**	**+2.2**
TXIG				*e*S	**Sn**	**14 59 58.9**	**-1.3**
PNIG	**Pinotepa**	**4.05**	**280**	*e*P	**Pn**	**14 59 15.8**	**-0.1**
PNIG				*e*S	**Sn**	**14 59 59.9**	**-2.3**
HLIG	**Huajuapan de L**	**4.24**	**301**	*e*P	**Pn**	**14 59 21.6**	**+2.9**
HLIG				*e*S	**Sn**	**15 00 05.8**	**-1.2**
FTIG	**Fresnillo de T**	**4.55**	**300**	*e*P	**Pn**	**14 59 25.6**	**+2.7**
FTIG				*e*S	**Sn**	**15 00 13.8**	**-0.8**
TXAR	**Lajitas Array**	**16.25**	**328**	Pn	**Pn**	**15 02 01.9**	**+1.0**
	baz=139,slow=14,SNR=3.8						
	0.2nm,0.7s						
ANMO	**Albuquerque**	**22.20**	**332**	LR	LR	15 13 39.6	
	comp=Z,40nm,18.9s,baz=166,slow=43						
NVAR	**Mina Array Bea**	**31.16**	**321**	P	**P**	**15 04 31.7**	**+1.8**
	0.3nm,0.5s,baz=129,slow=9.4,SNR=2.4						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**48.96**	**347**	P	**P**	**15 06 54.8**	**-1.6**
	0.3nm,0.6s,baz=153,slow=7.4,SNR=6.8						
	0.3nm,0.6s						

ROM 30 14:58:23.7±0.1, 42.632N±0.003×13.301E±0.004, h10km, ML2.7/32, Error ellipse: s-maj=0.3km s-min=0.3km az=88.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.12**	**140**	P	Pg	14 58 27.3	+0.6
CAMP				S	Sg	14 58 29.6	+0.7
CAMP				AML	AML		
	comp=E,8580μm,0.2s						
CAMP				AML	AML		
	comp=N,6070μm,0.7s						
RM33	**Pellescritta (**	**0.14**	**207**	P	Pg	14 58 27.5	+0.6
RM33				S	Sg	14 58 30.3	+1.1
RM33				AML	AML		
	comp=N,11500μm,0.5s						
RM33				AML	AML		
	comp=E,19050μm,0.9s						
RM33				AML	AML		
	comp=N,11600μm,0.5s						
RM33				AML	AML		
	comp=E,19000μm,0.9s						
RM33				AML	AML		
	comp=N,11500μm,0.5s						
RM33				AML	AML		
	comp=E,19050μm,1.1s						
RM33				AML	AML		
	comp=E,19000μm,1.1s						
T1218	**Civita (PG)**	**0.14**	**285**	P	Pg	14 58 27.4	+0.4
T1218				S	Sg	14 58 30.1	+0.9
T1218				AML	AML		
	comp=E,4060μm,0.3s						
T1218				AML	AML		
	comp=E,3905μm,1.3s						
T1218				AML	AML		
	comp=N,7550μm,1.2s						
T1218				AML	AML		
	comp=N,7795μm,0.4s						
T1218				AML	AML		
	comp=N,7550μm,0.8s						
T1247	**Pizzolo (AQ)**	**0.19**	**180**	P	Pg	14 58 28.4	+0.7
T1247				S	Sg	14 58 32.0	+1.4
T1247				AML	AML		
	comp=E,15200μm,0.8s						
T1247				AML	AML		
	comp=N,23350μm,0.2s						
LNSS	**Leonessa**	**0.19**	**261**	P	Pg	14 58 28.5	+0.6
LNSS				S	Sg	14 58 32.1	+1.4
LNSS				AML	AML		
	comp=N,5950μm,0.4s						
LNSS				AML	AML		
	comp=E,6930μm,0.6s						
LNSS				AML	AML		
	comp=N,5950μm,1.6s						
T1212	**Cascia, Frazio**	**0.22**	**302**	P	Pg	14 58 29.0	+0.6
T1212				AML	AML		
	comp=E,2160μm,0.6s						
T1212				AML	AML		
	comp=E,2025μm,0.6s						
T1212				AML	AML		
	comp=N,3170μm,0.5s						
T1212				AML	AML		
	comp=N,3170μm,0.5s						
T1212				AML	AML		
	comp=E,2160μm,0.6s						
T1212				AML	AML		
	comp=E,2025μm,0.6s						
T1212				AML	AML		
	comp=N,3165μm,0.6s						
TERO	**Teramo**	**0.22**	**92**	P	Pg	14 58 28.8	+0.5
TERO				S	Sg	14 58 32.6	+1.1
TERO				AML	AML		
	comp=E,6650μm,0.2s						
TERO				AML	AML		
	comp=N,9725μm,0.4s						
TERO				AML	AML		
	comp=E,6650μm,1.8s						
T1245	**Castelsantange**	**0.24**	**340**	P	Pg	14 58 29.2	+0.5
T1245				AML	AML		
	comp=E,2290μm,0.3s						
T1245				AML	AML		
	comp=N,3270μm,0.9s						
T1245				AML	AML		
	comp=E,2415μm,0.3s						
T1245				AML	AML		
	comp=N,3030μm,1.0s						
T1245				AML	AML		
	comp=E,2285μm,0.3s						
NRCA	**Norcia**	**0.24**	**326**	AML	AML		
	comp=E,3065μm,0.2s						
NRCA				AML	AML		
	comp=N,2105μm,1.3s						
NRCA				AML	AML		
	comp=N,2110μm,1.3s						
T1241	**Roccafluvione,**	**0.24**	**23**	P	Pg	14 58 29.2	+0.5
T1241				S	Sg	14 58 33.3	+1.2
T1241				AML	AML		
	comp=E,2595μm,0.6s						
T1241				AML	AML		
	comp=N,1845μm,0.5s						
GIGS	**Gran Sasso**	**0.27**	**132**	AML	AML		
	comp=N,1965μm,0.2s						
GIGS				AML	AML		
	comp=E,1535μm,1.4s						
T1217	**Poggiodomo (PG**	**0.28**	**286**	P	Pg	14 58 29.9	+0.4
T1217				S	Sb	14 58 34.6	-1.3
T1217				AML	AML		
	comp=E,1595μm,0.3s						
T1217				AML	AML		
	comp=N,2100μm,0.4s						
T1217				AML	AML		
	comp=E,1347μm,0.3s						
T1217				AML	AML		
	comp=E,1590μm,0.3s						
T1217				AML	AML		
	comp=N,2105μm,0.4s						
T1217				AML	AML		
	comp=E,1342μm,0.3s						
T1217				AML	AML		
	comp=N,2075μm,0.4s						
AQU	**L'Aquila**	**0.29**	**165**	P	Pg	14 58 30.3	+0.8
AQU				S	Sb	14 58 35.0	-0.9
AQU				AML	AML		
	comp=E,3240μm,0.4s						
AQU				AML	AML		
	comp=N,3560μm,1.1s						
AQU				AML	AML		
	comp=E,3245μm,1.0s						
AQU				AML	AML		
	comp=N,3520μm,0.3s						
AQU				AML	AML		
	comp=N,3560μm,0.9s						
AQU				AML	AML		
	comp=E,3240μm,1.6s						
MC2	**Monte Cornacci**	**0.29**	**344**	P	Pg	14 58 30.2	+0.5
MC2				S	Sb	14 58 35.6	-0.7
T1222	**Castel Sant'An**	**0.30**	**220**	P	Pg	14 58 30.2	+0.5
T1222				S	Sb	14 58 35.4	-1.0
T1222				AML	AML		
	comp=E,4395μm,0.4s						
T1222				AML	AML		
	comp=E,4335μm,0.4s						
T1222				AML	AML		
	comp=N,2500μm,1.5s						
T1222				AML	AML		
	comp=E,4390μm,0.4s						
T1222				AML	AML		
	comp=E,4340μm,0.4s						
T1222				AML	AML		
	comp=N,2500μm,0.5s						
T1222				AML	AML		
	comp=N,3030μm,1.4s						
T1216	**Preci, Frazion**	**0.33**	**321**	P	Pg	14 58 31.0	+0.7
T1216				S	Sb	14 58 36.3	-0.9
T1216				AML	AML		
	comp=E,1545μm,0.4s						
T1216				AML	AML		
	comp=N,2425μm,0.6s						
T1216				AML	AML		
	comp=E,1545μm,1.6s						
T1215	**Vallo di Nera,**	**0.36**	**298**	AML	AML		
	comp=E,602μm,0.9s						
T1215				AML	AML		
	comp=E,612μm,0.9s						
T1215				AML	AML		
	comp=N,567μm,0.6s						
T1215				AML	AML		
	comp=E,602μm,0.9s						
T1215				AML	AML		
	comp=N,578μm,0.9s						
T1215				AML	AML		
	comp=E,614μm,1.0s						
T1215				AML	AML		
	comp=N,578μm,0.9s						
T1215				AML	AML		
	comp=N,578μm,1.1s						
FIAM	**Fiamignano**	**0.39**	**200**	P	Pg	14 58 31.7	+0.3
FIAM				S	Sb	14 58 37.9	-1.0
FIAM				AML	AML		
	comp=E,1370μm,0.3s						
FIAM				AML	AML		
	comp=N,1173μm,0.4s						
ARRO	**Arrone**	**0.40**	**263**	P	Pg	14 58 32.0	+0.5
ARRO				S	Sb	14 58 38.4	-0.7
ARRO				AML	AML		
	comp=E,570μm,0.6s						
ARRO				AML	AML		
	comp=N,653μm,0.7s						
ARRO				AML	AML		
	comp=N,653μm,1.3s						
OFFI	**Offida**	**0.41**	**43**	P	Pb	14 58 33.2	0.0
OFFI				AML	AML		
	comp=E,6155μm,1.6s						
OFFI				AML	AML		
	comp=N,4185μm,0.6s						
FAGN	**Fagnano**	**0.42**	**150**	AML	AML		
	comp=N,4365μm,0.2s						
FAGN				AML	AML		
	comp=E,4540μm,0.8s						
GUMA	**Gualdo di Mace**	**0.43**	**3**	P	Pb	14 58 32.9	-0.6
GUMA				S	Sb	14 58 40.3	+0.2
GUMA				AML	AML		
	comp=E,2680μm,0.6s						
GUMA				AML	AML		
	comp=N,2710μm,1.5s						
GUMA				AML	AML		
	comp=N,3375μm,0.4s						
GUMA				AML	AML		
	comp=E,2705μm,0.3s						
GUMA				AML	AML		
	comp=N,2710μm,0.5s						
FDMO	**Fiordimonte**	**0.43**	**339**	AML	AML		
	comp=N,584μm,0.8s						
FDMO				AML	AML		
	comp=E,477μm,0.8s						
CSP1	**Cessapalombo**	**0.47**	**351**	AML	AML		
	comp=E,666μm,1.2s						
CSP1				AML	AML		
	comp=E,666μm,1.2s						
CSP1				AML	AML		
	comp=N,1074μm,0.4s						
CESI	**CESI - Serrava**	**0.47**	**322**	AML	AML		
	comp=E,563μm,0.4s						
CESI				AML	AML		
	comp=E,428μm,0.4s						
CESI				AML	AML		
	comp=N,791μm,0.5s						
T1219	**Muccia, Frazio**	**0.47**	**333**	AML	AML		
	comp=E,546μm,0.2s						
T1219				AML	AML		
	comp=E,522μm,1.6s						
T1219				AML	AML		
	comp=N,577μm,0.3s						
T1219				AML	AML		
	comp=N,542μm,0.3s						
T1219				AML	AML		
	comp=E,521μm,1.6s						
T1219				AML	AML		
	comp=N,578μm,0.3s						
T1219				AML	AML		
	comp=E,545μm,0.2s						
T1219				AML	AML		
	comp=E,545μm,1.8s						
T1219				AML	AML		
	comp=E,521μm,0.4s						
TRTR	**Tortoreto Alta**	**0.48**	**69**	AML	AML		
	comp=E,5305μm,0.6s						
TRTR				AML	AML		
	comp=N,4625μm,0.5s						
T1220	**Camerino, Fraz**	**0.50**	**342**	AML	AML		
	comp=E,2835μm,0.6s						
T1220				AML	AML		
	comp=N,2535μm,0.6s						
CESX	**Cesi**	**0.53**	**268**	P	Pg	14 58 34.2	+0.1
CESX				AML	AML		
	comp=E,592μm,0.4s						
CESX				AML	AML		
	comp=N,529μm,0.4s						
T0110	**Collepietro**	**0.54**	**139**	P	Pg	14 58 34.6	+0.4
T0110				AML	AML		
	comp=E,2805μm,0.9s						
T0110				AML	AML		
	comp=E,2805μm,1.1s						
T0110				AML	AML		
	comp=N,3240μm,0.4s						
MOMA	**Monte Martano**	**0.56**	**288**	P	Pb	14 58 35.3	-0.5
MOMA				AML	AML		
	comp=E,856μm,0.2s						
MOMA				AML	AML		
	comp=N,692μm,1.0s						
MOMA				AML	AML		
	comp=E,874μm,0.2s						
MOMA				AML	AML		
	comp=N,738μm,1.0s						
MOMA				AML	AML		
	comp=N,692μm,1.0s						
MOMA				AML	AML		
	comp=N,738μm,1.0s						
PTQR	**Pietraquaria**	**0.61**	**173**	AML	AML		
	comp=E,397μm,1.2s						
PTQR				AML	AML		
	comp=E,397μm,0.8s						
PTQR				AML	AML		
	comp=N,380μm,0.6s						
SNTG	**Esanatoglia**	**0.68**	**337**	AML	AML		
	comp=N,286μm,0.6s						
SNTG				AML	AML		
	comp=E,249μm,0.5s						
SNTG				AML	AML		
	comp=E,191μm,0.6s						
SNTG				AML	AML		
	comp=N,244μm,1.0s						
SNTG				AML	AML		
	comp=E,249μm,1.5s						
SRES	**S.Oreste - Sor**	**0.71**	**236**	AML	AML		
	comp=N,331μm,0.9s						
SRES				AML	AML		
	comp=N,331μm,1.1s						
SRES				AML	AML		
	comp=E,322μm,0.8s						
EL6	**Elcito**	**0.71**	**348**	AML	AML		
	comp=E,440μm,1.3s						
EL6				AML	AML		
	comp=N,538μm,0.8s						
EL6				AML	AML		
	comp=N,538μm,1.2s						
EL6				AML	AML		
	comp=E,440μm,0.7s						

ROM 30 14:59:06.1±0.1, 42.638N±0.004×13.281E±0.004, h11km, ML1.9/10, 3C, Error ellipse: s-maj=0.4km s-min=0.3km az=199.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**100**	↑↑P	Pg	14 59 08.8	+0.5
SMA1				S	Sg	14 59 10.1	+0.2
SMA1				AML	AML		
	comp=E,15800μm,0.3s						
SMA1				AML	AML		
	comp=N,5840μm,0.3s						
T1218	**Civita (PG)**	**0.13**	**285**	↑↑P	Pg	14 59 09.8	+0.5
T1218				S	Sg	14 59 12.2	+0.6
T1218				AML	AML		
	comp=N,1300μm,0.2s						
T1218				AML	AML		
	comp=E,608μm,0.1s						
T1218				AML	AML		
	comp=E,549μm,0.1s						
T1218				AML	AML		
	comp=N,1287μm,0.2s						
RM33	**Pellescritta (**	**0.14**	**201**	P	Pg	14 59 09.9	+0.5
RM33				S	Sg	14 59 12.6	+0.8
RM33				AML	AML		
	comp=N,1016μm,0.3s						
RM33				AML	AML		
	comp=E,918μm,0.6s						
RM33				AML	AML		
	comp=N,1050μm,0.3s						
RM33				AML	AML		
	comp=E,862μm,0.6s						
LNSS	**Leonessa**	**0.18**	**259**	P	Pg	14 59 10.7	+0.6
LNSS				S	Sg	14 59 13.9	+1.0
LNSS				AML	AML		
	comp=N,522μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.20**	**176**	P	Pg	14 59 11.0	+0.6
T1247				S	Sg	14 59 14.2	+0.9
T1212	**Cascia, Frazio**	**0.21**	**303**	P	Pg	14 59 11.2	+0.6
T1212				S	Sg	14 59 14.9	+1.3
T1212				AML	AML		
	comp=E,338μm,0.6s						
T1212				AML	AML		
	comp=E,354μm,0.6s						
T1245	**Castelsantange**	**0.23**	**343**	P	Pb	14 59 11.9	-0.5
T1245				S	Sg	14 59 15.7	+1.3
TERO	**Teramo**	**0.24**	**93**	↑↑P	Pg	14 59 11.7	+0.6
TERO				S	Sg	14 59 15.5	+1.1
TERO				AML	AML		
	comp=N,476μm,0.3s						
TERO				AML	AML		
	comp=E,360μm,1.3s						
TERO				AML	AML		
	comp=E,392μm,1.0s						
T1241	**Roccafluvione,**	**0.24**	**27**	P	Pb	14 59 11.9	-0.7
T1241				S	Sg	14 59 15.9	+1.2
T1241				AML	AML		
	comp=E,372μm,0.9s						
T1217	**Poggiodomo (PG**	**0.27**	**286**	P	Pg	14 59 12.2	+0.5
T1217				S	Sb	14 59 16.6	-1.1
T1217				AML	AML		
	comp=E,232μm,0.6s						
MC2	**Monte Cornacci**	**0.28**	**346**	P	Pb	14 59 12.8	-0.6
MC2				S	Sb	14 59 17.4	-0.9
GIGS	**Gran Sasso**	**0.28**	**131**	P	Pg	14 59 12.4	+0.5
GIGS				S	Sg	14 59 16.8	+1.0
T1216	**Preci, Frazion**	**0.32**	**323**	P	Pb	14 59 13.4	-0.5
T1216				S	Sg	14 59 17.1	+0.3
T1211	**Morro Reatino**	**0.33**	**252**	P	Pg	14 59 13.2	+0.4
T1211				S	Sb	14 59 18.5	-1.0
T1211				AML	AML		
	comp=N,460μm,0.5s						

T1211 AML AML
comp=E,423µm,0.4s
T1215 **Vallo di Nera, 0.35 298** P Pg 14 59 13.5 +0.4
T1215 S Sb 14 59 18.9 -0.9
ARRO **Arrone 0.39 261** P Pg 14 59 14.3 +0.5
T1219 **Muccia, Frazio 0.46 334** S Sb 14 59 23.2 -0.1
T1219 AML AML
comp=E,159µm,0.7s
T1219 AML AML
comp=N,157µm,0.1s

IDC 30 15:14:31.9±1.3, 24°93S×67°26E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=60.7km s-min=27.5km az=11.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**17.90**	**17**	T	T	15 35 11.3	
	baz=192,slow=76						
H08S2	**Diego Garcia H**	**17.90**	**17**	T	T	15 35 15.7	
	baz=192,slow=76						
H08S3	**Diego Garcia H**	**17.91**	**17**	T	T	15 35 09.9	
	baz=192,slow=76						
MATP	**Matopo**	**35.97**	**269**	P	P	15 21 34.7	-0.1
	1.0nm,0.8s,baz=108,slow=9.6,SNR=4.5						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**60.17**	**104**	P	P	15 24 42.2	+0.2
	1.0nm,0.7s,baz=250,slow=6.2,SNR=17						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**61.65**	**100**	P	P	15 24 51.7	-0.4
	1.1nm,0.8s,baz=256,slow=7.2,SNR=7.1						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**72.67**	**11**	P	P	15 26 01.5	+0.1
	0.4nm,0.9s,baz=191,slow=6.8,SNR=2.8						
	0.4nm,0.9s						

IDC 30 15:34:26.1±999.0, 51°05N×45°18E, h0km, Error ellipse: s-maj=1221.0km s-min=162.7km az=86.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**8.18**	**89**	I	I	16 22 30.0	
	0.6nm,0.6s,baz=280,slow=334,SNR=3.1						
I46RU	**ZALESOVO INFRA**	**24.09**	**68**	I	I	18 01 40.0	
	0.1nm,1.0s,baz=278,slow=328,SNR=3.5						
I34MN	**SONGINO INFRAS**	**38.95**	**70**	I	I	19 35 20.0	
	baz=301,slow=340,SNR=2.3						

*IDC **30** 15:34:31.9±7.7, 0.66N×123.93E, h219km±80km, mb3.4/6, mbtmp4.0/7, MS3.5/1, Error ellipse: s-maj=82.6km s-min=15.1km az=58.0*
*NEIC **30** 15:34:34.3±1.6, 0.5N±0.1×123.60E±0.09, h236km±10km, mb4.3/14, Error ellipse: s-maj=15.2km s-min=13.1km az=207.0*

ISC 30 15:34:32.2±0.8, 0.6N±0.1×123.9E±0.2, h218km, n37, σ1°16/34, mb4.2/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.98**	**213**	Pn	**Pn**	**15 35 13.0**	**+1.2**
LUWI	**Luwuk**	**1.98**	**213**	P	**Pn**	**15 35 13.1**	**+1.2**
TOLI2	**Tolitoli**	**3.11**	**279**	Pn	**Pn**	**15 35 25.6**	**+1.6**
TOLI2	**Tolitoli**	**3.11**	**279**	P	**Pn**	**15 35 25.7**	**+1.6**
SANI	**Sanana**	**3.41**	**141**	P	**Pn**	**15 35 30.0**	**+2.4**
TNTI	**Ternate**	**3.52**	**88**		Pn	15 35 35.0	+6.2
TNTI	**Ternate**	**3.52**	**88**	P	Pn	15 35 36.1	+7.3
SOEI	**Soe**	**10.33**	**178**	Pn	**Pn**	**15 36 55.6**	**+0.1**
BATI	**Baumata**	**10.77**	**181**	P	**Pn**	**15 37 01.0**	**0.0**
	14nm,0.4s,baz=341,slow=2.8,SNR=4.5						
MTN	**Manton Dam**	**15.21**	**152**	P	**P**	**15 37 57.1**	**+0.8**
MTN	**Manton Dam**	**15.21**	**152**	P	**P**	**15 37 57.3**	**+0.9**
KNRA	**Kununurra**	**16.91**	**164**	P	**P**	**15 38 15.4**	**+0.3**
KNRA	**Kununurra**	**16.91**	**164**	P	**Pn**	**15 38 15.6**	**-1.0**
WB0	**Warramunga Arr**	**22.75**	**154**	P	**P**	**15 39 14.9**	**-1.1**
WB0				IAmb	IAmb	15 39 16.9	
	comp=Z,7.0nm,0.3s						
WRAB	**Tennant Creek**	**22.88**	**154**	P	**P**	**15 39 16.6**	**-0.5**
WRAB				IAmb	IAmb	15 39 17.9	
	comp=Z,5.1nm,0.6s						
WRAB	**Tennant Creek**	**22.88**	**154**	P	**P**	**15 39 16.4**	**-0.7**
WRA	**Warramunga Arr**	**22.88**	**154**	P	**P**	**15 39 16.6**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=330,slow=11,SNR=61						
	comp=Z,1.9nm,0.3s						
WRA	**Warramunga Arr**	**22.88**	**154**	P	**P**	**15 39 15.9**	**-1.2**
WB2	**Warramunga Arr**	**22.89**	**154**	P	**P**	**15 39 16.5**	**-0.6**
WB2				IAmb	IAmb	15 39 18.4	
	comp=Z,5.3nm,0.7s						
WR0	**Warramunga Arr**	**22.99**	**153**	P	**P**	**15 39 17.6**	**-0.4**
WR0				IAmb	IAmb	15 39 20.1	
	comp=Z,4.7nm,0.6s						
WRKA	**Warakurna**	**25.88**	**171**	P	**P**	**15 39 42.9**	**-1.2**
AS31	**Alice Springs**	**26.05**	**159**	P	**P**	**15 39 45.4**	**-0.4**
ASAR	**Alice Springs**	**26.05**	**159**	P	**P**	**15 39 45.3**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=333,slow=9.5,SNR=39						
	comp=Z,0.5nm,0.3s						
QIS	**Mount Isa**	**26.10**	**145**	P	**P**	**15 39 46.9**	**+0.7**
MEEK	**Meekatharra**	**27.58**	**190**	P	**P**	**15 39 56.6**	**-2.7**
KRVT	**Keravat (AS076**	**28.57**	**100**	LR	LR	15 51 11.8	
	comp=Z,86nm,18.2s,baz=156,slow=35						
CMAR	**Chiang Mai Arr**	**30.20**	**307**	P	**P**	**15 40 22.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=132,slow=7.7,SNR=6.5						
	comp=Z,0.5nm,0.7s						
FORT	**Forrest**	**31.49**	**173**	P	**P**	**15 40 32.0**	**-1.6**
STKA	**Stephens Creek**	**36.44**	**154**	P	**P**	**15 41 16.9**	**+0.6**
ARMA	**Armidale**	**40.65**	**142**	P	**P**	**15 41 52.4**	**+1.0**
ARMA				IAmb	IAmb	15 42 30.9	
	comp=Z,9.2nm,1.1s						
CAN	**Canberra**	**42.78**	**149**	P	**P**	**15 42 10.2**	**+1.6**
CAN				IAmb	IAmb	15 42 21.3	
	comp=Z,34nm,1.4s						
SONM	**Songino Array**	**49.40**	**345**	P	**P**	**15 42 59.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=163,slow=9.4,SNR=5.1						
	comp=Z,0.7nm,0.7s						
MK31	**Makanchi Array**	**58.53**	**328**	P	**P**	**15 44 04.8**	**-1.1**
MK31				IAmb	IAmb	15 44 07.2	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**58.53**	**328**	P	**P**	**15 44 05.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=126,slow=8.7,SNR=17						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**58.53**	**328**	P	**P**	**15 44 05.0**	**-0.9**
ZALV	**Zalesovo Beam**	**62.10**	**335**	P	**P**	**15 44 30.3**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=149,slow=6.1,SNR=1.8						
	comp=Z,0.6nm,0.3s						
KURK	**Kurchatov**	**62.86**	**330**	P	**P**	**15 44 33.6**	**-1.3**
KURK				IAmb	IAmb	15 44 35.9	
	comp=Z,4.1nm,0.6s						

*NEIC **30** 16:20:55.3±1.6, 10.80N±0.03×86.42W±0.05, h10km±1km, mb4.7/79, Error ellipse: s-maj=9.1km s-min=2.9km az=238.0*
*INET **30** 16:20:56.2±1.3, 10.60N×86.61W, h21km±32km, MW4.2*
*SNET **30** 16:20:59.1±0.8, 10.95N×86.73W, h10km, ML3.9*
*IDC **30** 16:20:59.4±2.0, 11.00N×86.21W, h49km±18km, mb3.8/13, mbtmp4.1/15, ML3.3/2, MS3.5/9, Error ellipse: s-maj=32.3km s-min=14.8km az=44.0*

ISC 30 16:20:54.6±1.2, 10.79N±0.05×86.45W±0.05, h16km±6km, n154, σ1°21/161, mb4.6/52, MS3.7/8, 6C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.84**	**95**		**Pn**	**16 21 13.6**	**+1.8**
HZTE					**Sg**	**16 21 21.4**	**-0.8**
HZTE	**Horizontes, Gu**	**0.84**	**95**	*i* P	**Pn**	**16 21 13.9**	**+2.1**
ORTG	**Ortega, Santa**	**1.06**	**114**		**Pb**	**16 21 15.4**	**+0.7**
ORTG				Sn	**Sg**	**16 21 30.2**	**+1.0**
ORTG	**Ortega, Santa**	**1.06**	**114**	⇑*i* P	**Pb**	**16 21 15.7**	**+1.0**
DUNO	**Dulce Nombre,**	**1.18**	**127**	Pn	**Pn**	**16 21 15.6**	**-0.8**
MGAN	**Managua**	**1.36**	**8**	*e*P	**Pg**	**16 21 21.6**	**+0.8**
COPN	**Copaltepe**	**1.39**	**354**	*e*P	**Pg**	**16 21 21.3**	**+0.1**
COPN				⇑*i*P	**Pg**	**16 21 21.4**	**+0.1**
JTS	**Las Juntas de**	**1.56**	**109**	P	**Pn**	**16 21 22.9**	**+1.2**
	133nm,0.4s,baz=301,slow=18,SNR=26						
JTS				S	**Sb**	**16 21 43.8**	**+1.3**
	377nm,0.6s,baz=330,slow=14,SNR=8.4						
MOMN	**Momotombo**	**1.61**	**357**	*e*P	**Pg**	**16 21 24.4**	**-1.2**
MOMN				*e*S	**Sg**	**16 21 47.0**	**+0.5**
ACON	**Acoyapa**	**1.71**	**47**		**Pg**	**16 21 26.1**	**-1.5**
CNGN	**Cerro Negro**	**1.71**	**352**		**Pb**	**16 21 25.6**	**-0.2**
LAFE	**Finca La Fe, P**	**1.81**	**123**	*e*P	**Pn**	**16 21 24.7**	**-0.3**
LAFE				⇑*i*P	**Pb**	**16 21 24.9**	**-2.4**
BOAB	**BOACO BROADBAN**	**1.82**	**25**		**Pb**	**16 21 27.3**	**-0.2**
BOAB	**BOACO BROADBAN**	**1.82**	**25**	⇑*i*P	**Pg**	**16 21 28.0**	**-1.6**
CRIN	**San Cristobal**	**1.98**	**343**		**Pn**	**16 21 29.3**	**+1.7**
CRIN	**San Cristobal**	**1.98**	**343**	*e*P	**Pn**	**16 21 29.2**	**+1.7**
CRIN				⇑*i*P	**Pb**	**16 21 29.5**	**-0.9**
COVE	**Coope Vega, Sa**	**2.02**	**92**	Pn	**Pn**	**16 21 29.9**	**+2.0**
JACO	**JACO, Garabito**	**2.09**	**122**		**Pn**	**16 21 30.4**	**+1.5**
JACO	**JACO, Garabito**	**2.09**	**122**	*e*P	**Pn**	**16 21 30.6**	**+1.6**
MATN	**Matagalpa**	**2.19**	**14**		**Pb**	**16 21 32.7**	**-1.2**
MATN	**Matagalpa**	**2.19**	**14**	*e*P	**Pb**	**16 21 32.9**	**-0.9**
MATN				⇑*i*P	**Pg**	**16 21 33.1**	**-3.5**
HDC	**Heredia**	**2.43**	**109**		**Pn**	**16 21 36.0**	**+2.2**
RIMA	**Rio Macho**	**2.74**	**112**		**Pn**	**16 21 40.2**	**+2.1**
LCND	**La Caada**	**2.87**	**331**	*e*P	**Pn**	**16 21 41.1**	**+1.4**
LCND				*e*S	**Sn**	**16 22 13.5**	**-0.4**
LCND				IAML		16 22 20.2	
	comp=Z,277nm,0.3s						
PEZE	**Perez Zeledon,**	**3.07**	**117**		**Pn**	**16 21 44.2**	**+1.7**
BATAN	**Batan**	**3.10**	**103**		**Pn**	**16 21 44.1**	**+1.2**
VSM	**San Miguel**	**3.17**	**326**	*e*P	**Pn**	**16 21 45.8**	**+1.8**
RANC	**El Ranchito**	**3.18**	**326**	*e*P	**Pn**	**16 21 44.6**	**+0.5**
RANC				IAML		16 22 04.9	
	comp=Z,239nm,0.6s						
PACA	**Pacayal**	**3.23**	**326**	*e*P	**Pn**	**16 21 46.3**	**+1.5**
PACA				*e*S	**Sn**	**16 22 23.2**	**+0.2**
PACA				IAML		16 22 41.0	
	comp=Z,2µm,0.7s						
ALJI	**Alcalda de J**	**3.26**	**321**	*e*S	**Sn**	**16 22 22.7**	**-0.9**
FAGO	**Alcalda de S**	**3.31**	**331**	*e*S	**Sn**	**16 22 24.1**	**-0.7**
TGUH	**Tegucigalpa,Un**	**3.34**	**346**	Pn	**Pn**	**16 21 48.1**	**+1.8**
TGUH	**Tegucigalpa,Un**	**3.34**	**346**	*e*P	**Pn**	**16 21 48.4**	**+2.1**
SRBA	**San Rafael, Bu**	**3.42**	**117**		**Pn**	**16 21 48.7**	**+1.4**
PQSS	**Presa 15 de Se**	**3.49**	**324**	*i* P	**Pn**	**16 21 49.9**	**+1.6**
SCLA	**Alcaldia de Sa**	**3.65**	**323**	*e*P	**Pn**	**16 21 51.8**	**+1.3**
SJTE	**Alcalda de S**	**3.76**	**319**	*e*P	**Pn**	**16 21 52.8**	**+0.9**
P5NO	**Presa 5 de nov**	**3.89**	**325**	*e*P	**Pn**	**16 21 55.1**	**+1.3**
NUBE	**Las Nubes**	**4.49**	**314**	*e*P	**Pn**	**16 22 03.0**	**+0.9**
CMIG	**Matias Romero**	**10.30**	**308**	P	**Pn**	**16 23 24.1**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=139,slow=9.3,SNR=11						
	comp=Z,8.0nm,0.6s						
ROSC	**El Rosal**	**13.39**	**115**	LR	LR	16 30 04.5	
	comp=Z,191nm,20.1s,baz=254,slow=41						
TLIG	**Tlapa**	**13.53**	**301**	Pn	**Pn**	**16 24 09.0**	**+2.8**
SDV	**Santo Domingo**	**15.70**	**96**	P	**Pn**	**16 24 35.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=42,slow=17,SNR=1.3						
	comp=Z,0.9nm,0.4s						
SDV	**Santo Domingo**	**15.70**	**96**	P	**P**	**16 24 40.5**	**+1.0**
GRTK	**Grand Turk**	**18.15**	**52**		**P**	**16 25 07.4**	**+1.1**
BAUV	**El Baul**	**18.23**	**94**		**Pn**	**16 25 08.1**	**+0.9**
HKT	**Hockley**	**20.97**	**337**	P	**P**	**16 25 38.8**	**+1.7**
833A	**Chaparral WMA,**	**21.25**	**327**	P	**P**	**16 25 41.1**	**+1.0**
833A				IAmb	IAmb	16 26 03.0	
	comp=Z,23nm,1.4s						
152A	**Waverly Hall**	**21.83**	**4**	P	**P**	**16 25 47.9**	**+1.5**
152A				IAmb	IAmb	16 25 50.9	
	comp=Z,28nm,0.8s						
Y49A	**Blount Mountai**	**22.96**	**0**	P	**P**	**16 25 59.5**	**+1.1**
Y49A				IAmb	IAmb	16 26 01.5	
	comp=Z,17nm,0.8s						
Y52A	**Lilburn**	**23.07**	**5**	P	**P**	**16 26 01.0**	**+1.5**
Y52A				IAmb	IAmb	16 26 02.0	
	comp=Z,14nm,0.8s						
WHTX	**Lake Whitney,**	**23.42**	**336**	P	**P**	**16 26 03.5**	**+0.4**
WHTX				IAmb	IAmb	16 26 04.8	
	comp=Z,16nm,0.8s						
X48A	**Hartselle**	**23.56**	**359**	P	**P**	**16 26 05.0**	**+0.6**
X48A				IAmb	IAmb	16 26 06.3	
	comp=Z,26nm,1.4s						
HODGE	**Hodges**	**23.64**	**9**	P	**P**	**16 26 06.4**	**+1.2**
HODGE				IAmb	IAmb	16 26 07.4	
	comp=Z,12nm,0.7s						
FPAL	**Fort Paine**	**23.65**	**2**	P	**P**	**16 26 06.9**	**+1.6**
FPAL				IAmb	IAmb	16 26 09.2	
	comp=Z,9.8nm,0.8s						
Z38A	**Mt. Pleasant**	**23.70**	**342**	P	**P**	**16 26 07.3**	**+1.6**
Z38A				IAmb	IAmb	16 26 08.1	
	comp=Z,10.0nm,0.6s						
OXF	**Oxford**	**23.77**	**354**	P	**P**	**16 26 06.8**	**+0.4**
OXF				IAmb	IAmb	16 26 07.5	
	comp=Z,23nm,0.8s						
PLAL	**Pickwick Lake**	**24.13**	**357**	P	**P**	**16 26 10.5**	**+0.7**
PLAL				IAmb	IAmb	16 26 11.5	
	comp=Z,12nm,0.9s						
PAULI	**Pauline**	**24.29**	**9**	P	**P**	**16 26 12.4**	**+1.1**
PAULI				IAmb	IAmb	16 26 14.5	
	comp=Z,37nm,1.3s						
BG3	**Lake Jocassee**	**24.30**	**7**	P	**P**	**16 26 12.6**	**+1.2**
BG3				IAmb	IAmb	16 26 14.6	
	comp=Z,21nm,1.0s						
W50A	**Signal Mountai**	**24.32**	**2**	P	**P**	**16 26 12.1**	**+0.5**
W50A				IAmb	IAmb	16 26 14.2	
	comp=Z,17nm,1.1s						
TX32	**Lajitas Array**	**24.47**	**321**	P	**P**	**16 26 13.9**	**+0.8**
TXAR	**Lajitas Array**	**24.47**	**321**	P	**P**	**16 26 14.6**	**+1.4**
	comp=Z,5.4nm,0.7s,baz=136,slow=10,SNR=73						
TXAR				PcP	**PcP**	**16 29 52.9**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=140,slow=6.0,SNR=6.3						
TXAR				LR	LR	16 38 21.1	
	comp=Z,22nm,18.1s,baz=122,slow=43						
	comp=Z,5.4nm,0.7s						
TXAR	**Lajitas Array**	**24.47**	**321**	P	**P**	**16 26 14.0**	**+0.8**
TX31	**Lajitas Ar. Si**	**24.47**	**321**	P	**P**	**16 26 14.1**	**+1.0**
TX31				IAmb	IAmb	16 26 15.3	
	comp=Z,19nm,0.8s						
CPCT	**Cooper Cave**	**24.61**	**4**	P	**P**	**16 26 15.0**	**+0.8**
CPCT				IAmb	IAmb	16 26 17.8	
	comp=Z,17nm,0.8s						
KMSC	**Kings Mountain**	**24.68**	**10**	P	**P**	**16 26 15.9**	**+1.0**
KMSC				IAmb	IAmb	16 26 17.1	
	comp=Z,17nm,0.8s						
TKL	**Tuckaleechee C**	**24.87**	**5**	P	**P**	**16 26 17.5**	**+0.9**
	comp=Z,11nm,0.9s,baz=192,slow=14,SNR=5.5						
	comp=Z,11nm,0.9s						
TKL	**Tuckaleechee C**	**24.87**	**5**	P	**P**	**16 26 17.8**	**+1.1**
TKL				IAmb	IAmb	16 26 20.9	
	comp=Z,26nm,1.2s						
H06E1	**SOCORRO T-PHAS**	**24.94**	**291**	T	T	16 52 01.8	
	SNR=29						
W57A	**Gilead**	**24.95**	**13**	P	**P**	**16 26 18.3**	**+1.0**
W57A				IAmb	IAmb	16 26 19.0	
	comp=Z,15nm,0.6s						
WHAR	**Wooly Hollow**	**24.96**	**349**	P	**P**	**16 26 17.7**	**+0.3**
WHAR				IAmb	IAmb	16 26 18.4	
	comp=Z,16nm,1.0s						
SVN	**Savane Anatole**	**24.97**	**78**	P	**P**	**16 26 17.6**	**-0.1**
V51A	**Loudon**	**24.97**	**4**	P	**P**	**16 26 18.3**	**+0.8**
V51A				IAmb	IAmb	16 26 22.8	
	comp=Z,10nm,0.8s						
V53A	**Saluda**	**24.99**	**7**	P	**P**	**16 26 18.9**	**+1.2**
V53A				IAmb	IAmb	16 26 28.3	
	comp=Z,28nm,1.3s						
FCAR	**Ozark Folk Cen**	**25.51**	**349**	P	**P**	**16 26 22.2**	**-0.1**
LCAR	**Lake Charles**	**25.52**	**351**	P	**P**	**16 26 22.1**	**-0.3**
V58A	**Windy Hill, Pi**	**25.77**	**14**	P	**P**	**16 26 25.7**	**+1.0**
LPIG	**La Paz**	**26.27**	**303**	LR	LR	16 35 33.1	
	comp=Z,31nm,19.4s,baz=114,slow=33						
WMOK	**Wichita Mounta**	**26.36**	**337**	P	**P**	**16 26 31.5**	**+1.4**
WMOK				IAmb	IAmb	16 26 34.2	
	comp=Z,19nm,1.0s						
T42A	**Van Buren**	**26.46**	**352**	P	**P**	**16 26 30.5**	**-0.4**
T42A				IAmb	IAmb	16 26 31.1	
	comp=Z,6.9nm,0.8s						
HTMS	**Hat Mesa**	**26.77**	**326**	P	**P**	**16 26 35.2**	**+1.3**
R50A	**Paris**	**27.44**	**4**	P	**P**	**16 26 39.5**	**-0.3**
R50A				IAmb	IAmb	16 26 41.0	
	comp=Z,20nm,1.3s						
CCM	**Cathedral Cave**	**27.49**	**352**	P	**P**	**16 26 40.0**	**-0.2**
CCM				IAmb	IAmb	16 26 40.9	
	comp=Z,6.8nm,0.8s						
Q44A	**Meyer Farm, Va**	**28.09**	**356**	P	**P**	**16 26 45.2**	**-0.3**
Q44A				IAmb	IAmb	16 26 46.1	
	comp=Z,16nm,0.9s						
Q51A	**Peebles**	**28.25**	**5**	P	**P**	**16 26 47.1**	**0.0**
Q52A	**Bidwell**	**28.30**	**7**	P	**P**	**16 26 47.7**	**+0.2**
Q54A	**Coxs Mills**	**28.52**	**9**	P	**P**	**16 26 50.1**	**+0.7**
P46A	**Rosedale**	**28.72**	**359**	P	**P**	**16 26 51.1**	**0.0**
P46A				IAmb	IAmb	16 26 51.7	
	comp=Z,9.4nm,0.7s						
Q56A	**Snyder Ridge,**	**28.87**	**12**	P	**P**	**16 26 53.6**	**+1.1**
Q56A				IAmb	IAmb	16 26 55.1	
	comp=Z,12nm,0.8s						
P52A	**Corning**	**28.98**	**7**	P	**P**	**16 26 53.6**	**+0.1**
P38A	**Dawn**	**29.40**	**349**	P	**P**	**16 26 56.7**	**-0.5**
P38A				IAmb	IAmb	16 26 57.2	
	comp=Z,10nm,0.6s						
SFIN	**Lafayette**	**29.47**	**359**	P	**P**	**16 26 57.6**	**-0.2**
SFIN				IAmb	IAmb	16 26 58.5	
	comp=Z,22nm,1.2s						
O52A	**Adamsville**	**29.49**	**7**	P	**P**	**16 26 58.1**	**+0.1**
O53A	**New Philadelph**	**29.70**	**8**	P	**P**	**16 27 00.0**	**+0.1**
O54A	**Avella**	**29.76**	**9**	P	**P**	**16 27 01.3**	**+0.9**
O54A				IAmb	IAmb	16 27 38.3	
	comp=Z,25nm,1.4s						
N49A	**Columbus Grove**	**30.08**	**3**	P	**P**	**16 27 02.9**	**-0.3**
ANMO	**Albuquerque**	**30.17**	**326**	P	**P**	**16 27 05.6**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=264,slow=5.4,SNR=4.8						
	comp=Z,2.1nm,0.8s						
N53A	**Lisbon**	**30.30**	**8**	P	**P**	**16 27 05.4**	**+0.2**
SAML	**Samuel**	**30.34**	**129**	P	**P**	**16 27 05.5**	**-0.3**
MVL	**Millersville**	**30.44**	**15**	P	**P**	**16 27 05.7**	**-0.7**
MVL				IAmb	IAmb	16 27 47.0	
	comp=Z,12nm,1.1s						
SSPA	**Standing Stone**	**30.67**	**13**	P	**P**	**16 27 09.6**	**+1.1**
SSPA				IAmb	IAmb	16 27 10.6	
	comp=Z,12nm,0.8s						
M53A	**WI Miller and**	**30.95**	**8**	P	**P**	**16 27 11.4**	**+0.5**
L42A	**Oliver, Polo**	**31.22**	**355**	P	**P**	**16 27 12.6**	**-0.6**
L40A	**Anamosa**	**31.43**	**353**	P	**P**	**16 27 14.3**	**-0.8**
M57A	**Sunshine Farm,**	**31.51**	**13**	P	**P**	**16 27 16.8**	**+0.9**
SDCO	**Great Sand Dun**	**31.83**	**331**	P	**P**	**16 27 20.1**	**+1.0**
MMNY	**Mt. Morris Dam**	**32.68**	**12**	P	**P**	**16 27 26.9**	**+0.8**
L59A	**Walton**	**32.84**	**16**	P	**P**	**16 27 29.0**	**+1.5**
ECSD	**EROS Data Cent**	**33.98**	**347**	P	**P**	**16 27 36.6**	**-0.9**
ECSD				IAmb	IAmb	16 27 37.5	
	comp=Z,8.3nm,1.1s						
SADO	**Sadowa**	**34.44**	**9**	P	**P**	**16 27 40.5**	**-0.8**
	comp=Z,8.1nm,0.7s,baz=195,slow=7.9,SNR=5.9						
SADO				LR	LR	16 42 11.3	
	comp=Z,51nm,18.8s,baz=129,slow=37						
	comp=Z,8.1nm,0.7s						
SRU	**San Rafael Swe**	**35.43**	**327**	P	**P**	**16 27 51.6**	**+1.3**
SRU				IAmb	IAmb	16 27 53.0	
	comp=Z,4.8nm,0.7s						
F36A	**Milaca**	**35.47**	**351**	P	**P**	**16 27 49.2**	**-1.1**
F36A				IAmb	IAmb	16 27 50.5	
	comp=Z,6.5nm,0.9s						
MSU	**Marysvale**	**35.93**	**325**	P	**P**	**16 27 55.6**	**+1.0**
BW06	**Boulder Array**	**37.69**	**332**	P	**P**	**16 28 10.1**	**+0.5**
PD31	**Pinedale Array**	**37.69**	**332**	P	**P**	**16 28 10.1**	**+0.6**
PDAR	**Pinedale Array**	**37.69**	**332**	P	**P**	**16 28 09.6**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=130,slow=10,SNR=17						
PDAR				PcP	**PcP**	**16 30 26.8**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=123,slow=5.5,SNR=4.1						
	comp=Z,1.4nm,0.7s						
PDAR	**Pinedale Array**	**37.69**	**332**	P	**P**	**16 28 10.5**	**+1.0**
REDW	**Red Top Meadow**	**38.75**	**331**	P	**P**	**16 28 19.3**	**+0.8**
MCVW	**Moose Ponds**	**39.00**	**332**	P	**P**	**16 28 21.1**	**+0.6**
FLWY	**Flagg Ranch**	**39.23**	**332**	P	**P**	**16 28 24.2**	**+1.7**
NVAR	**Mina Array Bea**	**39.59**	**319**	P	**P**	**16 28 26.2**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=134,slow=7.7,SNR=9.2						
NVAR				PcP	**PcP**	**16 30 34.3**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=142,slow=4.5,SNR=9.7						
	comp=Z,2.2nm,0.9s						
NVAR	**Mina Array Bea**	**39.59**	**319**	P	**P**	**16 28 27.6**	**+2.0**
KVN	**Kaiserville**	**39.82**	**320**	P	**P**	**16 28 29.4**	**+1.9**
ULM	**Lac du Bonnet**	**40.10**	**351**	P	**P**	**16 28 27.6**	**-1.8**
	comp=Z,1.8nm,0.4s,baz=170,slow=5.5,SNR=3.3						
	comp=Z,1.8nm,0.4s						
HLID	**Hailey**	**40.66**	**328**	P	**P**	**16 28 36.2**	**+1.9**
BCYI	**Bear Canyon**	**40.69**	**330**	P	**P**	**16 28 35.8**	**+1.2**
MCMT	**McKenzie Canyo**	**40.80**	**331**	P	**P**	**16 28 37.7**	**+2.1**
WVOR	**Wild Horse Val**	**42.21**	**324**	P	**P**	**16 28 49.2**	**+2.2**
PLID	**Pearl Lake**	**42.54**	**329**	P	**P**	**16 28 50.9**	**+1.1**
KHMM	**Horse Mountain**	**44.43**	**319**	P	**P**	**16 29 06.4**	**+1.4**
KHMM				IAmb	IAmb	16 29 32.7	
	comp=Z,24nm,1.5s						
H04A	**Detroit Lake**	**45.63**	**324**	P	**P**	**16 29 15.4**	**+1.1**
H04A				IAmb	IAmb	16 29 56.2	
	comp=Z,15nm,1.4s						
BDFB	**Brasilia**	**46.24**	**124**	P	**P**	**16 29 19.2**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=297,slow=11,SNR=3.2						
	comp=Z,2.4nm,0.4s						
SCHQ	**Schefferville**	**46.59**	**16**	P	**P**	**16 29 20.1**	**-1.6**
	comp=Z,4.0nm,0.7s,baz=223,slow=7.0,SNR=8.3

TUDR				⇑S	Sg	16 23 15.4	-0.9		
TUDR		**0.16**	**309**	⇓P	Pg	16 23 14.5	+0.3		
TUDR				⇑S	Sg	16 23 16.7	+0.5		
TATR	**Tatarca**	**0.18**	**54**	⇑P	Pg	16 23 13.9	-0.7		
TATR				⇑S	Sg	16 23 16.4	-0.5		
TATR	**Tatarca**	**0.18**	**54**	⇑P	Pg	16 23 14.7	+0.2		
TATR				⇓S	Sg	16 23 17.2	+0.3		
TATR	**Tatarca**	**0.18**	**54**	⇓P	Pg	16 23 13.9	-0.7		
TATR				⇑S	Sg	16 23 16.4	-0.5		
TATR	**Tatarca**	**0.18**	**54**	⇑P	Pg	16 23 14.7	+0.2		
TATR				⇑S	Sg	16 23 17.2	+0.3		
SCTR	**Scanteiesti**	**0.21**	**30**	⇓P	Pg	16 23 14.5	-0.6		
SCTR				⇓S	Sg	16 23 17.2	-0.6		
SCTR	**Scanteiesti**	**0.21**	**30**	⇑P	Pg	16 23 15.5	+0.4		
SCTR				⇑S	Sg	16 23 18.1	+0.2		
SCTR	**Scanteiesti**	**0.21**	**30**	⇓P	Pg	16 23 14.5	-0.6		
SCTR				⇓S	Sg	16 23 17.2	-0.6		
SCTR	**Scanteiesti**	**0.21**	**30**	⇑P	Pg	16 23 15.5	+0.4		
SCTR				⇑S	Sg	16 23 18.1	+0.2		
CFR	**Carcaliu**	**0.38**	**147**	⇑P	Pg	16 23 17.4	-0.9		
CFR				⇓S	Sg	16 23 21.8	-1.4		
CFR	**Carcaliu**	**0.38**	**147**	⇑P	Pg	16 23 18.6	+0.4		
CFR				⇑S	Sg	16 23 23.2	0.0		
CFR	**Carcaliu**	**0.38**	**147**	⇑P	Pg	16 23 17.4	-0.9		
CFR				⇓S	Sg	16 23 21.8	-1.4		
CFR	**Carcaliu**	**0.38**	**147**	⇑P	Pg	16 23 18.6	+0.4		
CFR				⇑S	Sg	16 23 23.2	0.0		
VLDR	**Vladesti**	**0.39**	**25**	⇑P	Pg	16 23 17.6	-1.0		
VLDR	**Vladesti**	**0.39**	**25**	⇑P	Pg	16 23 17.6	-1.0		
VARL	**Varlezi**	**0.41**	**0**	⇑S	Sg	16 23 24.1	-0.1		
VARL	**Varlezi**	**0.41**	**0**	⇑S	Sg	16 23 24.1	-0.1		
ODBI	**Odobesti**	**0.62**	**296**	⇑P	Pg	16 23 22.8	0.0		
ODBI				⇓S	Sg	16 23 31.5	+0.6		
ODBI	**Odobesti**	**0.62**	**296**	⇑P	Pg	16 23 22.8	0.0		
ODBI				⇓S	Sg	16 23 31.5	+0.6		
PANC	**Panciu**	**0.62**	**308**	⇑P	Pg	16 23 22.6	-0.3		
PANC				⇑S	Sg	16 23 31.3	+0.3		
PANC	**Panciu**	**0.62**	**308**	⇑P	Pg	16 23 22.6	-0.3		
PANC				⇑S	Sg	16 23 31.3	+0.3		
TLCR		**0.75**	**114**	⇑S	Sg	16 23 35.1	-0.1		
TLCR		**0.75**	**114**	⇑S	Sg	16 23 35.1	-0.1		
TPGR	**Topolog**	**0.76**	**147**	⇓P	Pg	16 23 24.6	-0.9		
TPGR				⇓S	Sg	16 23 34.9	-0.4		
TPGR	**Topolog**	**0.76**	**147**	⇓P	Pg	16 23 24.6	-0.9		
TPGR				⇓S	Sg	16 23 34.9	-0.4		
BISRR	**Bisoca**	**0.80**	**274**	⇓S	Sg	16 23 36.8	0.0		
BISRR	**Bisoca**	**0.80**	**274**	⇓S	Sg	16 23 36.8	0.0		
HARR	**Harsova**	**0.81**	**176**	⇓P	Pg	16 23 25.7	-0.8		
HARR	**Harsova**	**0.81**	**176**	⇓P	Pg	16 23 25.7	-0.8		
VRI	**Vrincioaia**	**0.87**	**296**	⇑P	Pg	16 23 26.8	-0.9		
VRI				⇓S	Sb	16 23 39.9	-0.8		
VRI	**Vrincioaia**	**0.87**	**296**	⇑P	Pg	16 23 26.8	-0.9		
VRI				⇓S	Sb	16 23 39.9	-0.8		
TIRR	**Tirgusor**	**1.11**	**159**	⇓S	Sg	16 23 46.5	-0.2		
TIRR	**Tirgusor**	**1.11**	**159**	⇓S	Sg	16 23 46.5	-0.2		
COVR	**Voineasa-Covas**	**1.20**	**288**	⇓S	Sb	16 23 50.4	0.0		
COVR	**Voineasa-Covas**	**1.20**	**288**	⇓S	Sb	16 23 50.4	0.0		
TESR	**Tescani**	**1.32**	**321**	⇑P	Pg	16 23 34.8	-1.4		
TESR	**Tescani**	**1.32**	**321**	⇑P	Pg	16 23 34.8	-1.4		

*ISK **30** 16:23:33.0, 36°.07N×27°.71E, h21km, ML3.0/10*
*DDA **30** 16:23:33.8±0.0, 36°.15N×27°.68E, h10km±3km, ML2.9*
*THE **30** 16:23:34.7, 36°.19N×27°.70E, h0km±3km, ML2.8/2, Error ellipse: s-maj=5.1km s-min=2.2km az=232.0*
*ATH **30** 16:23:35.7, 36°.18N×27°.78E, h18km±4km, ML2.7/4, Error ellipse: s-maj=5.8km s-min=1.6km az=29.0*

ISC 30 16:23:34.3±1.1, 36°.15N±0°.04×27°.71E±0°.03, h16km±8km, n39, σ0s94/59, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.35**	**79**	P	**Pg**	**16 23 41.0**	**-0.5**
ARG				S	**Sg**	**16 23 46.6**	**+0.2**
	3μm,0.3s						
ARG	**Arkhangelos**	**0.35**	**79**	Pg	**Pg**	**16 23 41.0**	**-0.5**
ARG				Sg	**Sb**	**16 23 47.2**	**-0.2**
ARG	**Arkhangelos**	**0.35**	**79**	P	**Pg**	**16 23 41.0**	**-0.5**
ARG				S	**Sg**	**16 23 46.7**	**+0.4**
ARG				AML	AML	16 23 47.1	
	comp=N,6133μm,0.3s						
ARG				AML	AML	16 23 47.3	
	comp=E,7609μm,0.4s						
DAT	**Datca**	**0.58**	**350**	P	**Pg**	**16 23 45.4**	**-0.5**
DAT	**Datca**	**0.58**	**350**	Pg	**Pb**	**16 23 46.1**	**-0.2**
DAT				Sg	**Sn**	**16 23 56.9**	**-0.6**
NISR	**Nisiros**	**0.65**	**315**	P	**Pn**	**16 23 48.6**	**-0.4**
NISR				AML	AML	16 24 02.1	
	comp=E,1148μm,0.5s						
NISR				AML	AML	16 24 03.2	
	comp=N,700μm,0.5s						
TURN	**Turunc**	**0.76**	**35**	Pg	**Pb**	**16 23 48.8**	**-0.4**
TURN				Sg	**Sn**	**16 24 01.9**	**+0.3**
TURN	**Turunc**	**0.76**	**35**	P	**Pb**	**16 23 47.8**	**-1.4**
TURN				S	**Sg**	**16 23 59.9**	**+0.8**
BDRM	**Kayabasi**	**0.94**	**347**	P	**Sb**	**16 23 51.6**	**-0.6**
BDRM				S	**Sb**	**16 24 04.0**	**-0.5**
BDRM				*i* AML	AML	16 24 08.0	
	comp=N,329nm,0.7s						
DALY	**Dalyan (Mula)**	**1.01**	**49**	Pg	**Pb**	**16 23 53.4**	**-0.1**
YER	**Yerkesik**	**1.09**	**25**	P	**Pn**	**16 23 54.7**	**-0.3**
YER				S	**Sg**	**16 24 11.3**	**+1.8**
YER	**Yerkesik**	**1.09**	**25**	Pn	**Pn**	**16 23 54.7**	**-0.3**
YER				Sn	**Sg**	**16 24 10.4**	**+0.9**
MLSB	**Milas**	**1.14**	**3**	Pn	**Pn**	**16 23 55.4**	**-0.4**
MLSB				Sn	**Sg**	**16 24 11.9**	**+0.5**
MULA	**Mugla, Merkez-**	**1.21**	**24**	P	**Pg**	**16 23 57.4**	**-0.2**
MULA				S	**Sg**	**16 24 13.7**	**+0.3**
MULA				*i* AML	AML	16 24 21.0	
	comp=N,151nm,0.8s						
FETY	**Fethiye**	**1.21**	**66**	Pn	**Pn**	**16 23 56.0**	**-0.7**
DDIM	**Aydin, Didim**	**1.35**	**344**	P	**Pg**	**16 23 59.8**	**-0.6**
DDIM				S	**Sg**	**16 24 19.1**	**+1.0**
DDIM				*i* AML	AML	16 24 29.0	
	comp=N,155nm,0.7s						
CAME	**Cameli-Denizli**	**1.51**	**58**	Pn	**Pn**	**16 24 00.3**	**-0.6**
AYDN	**Tasoluk**	**1.51**	**5**	P	**Pn**	**16 24 01.1**	**+0.2**
AYDN				S	**Sb**	**16 24 20.2**	**-0.8**
AYDN				*i* AML	AML	16 24 30.0	
	comp=N,106nm,0.7s						
KSL	**Kastellorizon**	**1.52**	**90**	P	**Pb**	**16 24 02.7**	**+0.6**
KSL				S	**Sg**	**16 24 24.0**	**+0.7**
	comp=N,198nm,0.6s						
KSL	**Kastellorizon**	**1.52**	**90**	P	**Pn**	**16 24 00.5**	**-0.4**
KSL				AML	AML	16 24 25.1	
	comp=N,238μm,0.4s						
KSL				AML	AML	16 24 28.5	
	comp=E,528μm,0.6s						
AKAS	**Kas**	**1.54**	**86**	Pn	**Pn**	**16 24 00.2**	**-1.1**
AKAS	**Kas**	**1.54**	**86**	P	**Pb**	**16 24 03.0**	**+0.5**
AKAS				*i* AML	AML	16 24 37.0	
	comp=E,202nm,0.5s						
GCAM	**G?zelcaml?**	**1.59**	**346**	Pn	**Pn**	**16 24 02.2**	**+0.3**
ZKR	**Zakros**	**1.59**	**230**	P	**Pn**	**16 24 02.8**	**+0.9**
ZKR	**Zakros**	**1.59**	**230**	Pn	**Pn**	**16 24 00.4**	**-1.5**
ZKR	**Zakros**	**1.59**	**230**	P	**Pn**	**16 24 02.9**	**+1.0**
ZKR				AML	AML	16 24 26.4	
	comp=N,272μm,0.6s						
ZKR				AML	AML	16 24 29.1	
	comp=E,880μm,0.5s						
CAEL	**Denizli, Camel**	**1.62**	**53**	P	**Pb**	**16 24 04.6**	**+0.6**
CAEL				S	**Sg**	**16 24 30.0**	**+3.5**
CAEL				*i* AML	AML	16 24 44.0	
	comp=E,262nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.63**	**36**	P	**Pb**	**16 24 04.3**	**+0.1**
TAVA				S	**Sg**	**16 24 27.2**	**+0.3**
APMY	**Acipayam-Deniz**	**1.84**	**44**	Pn	**Pn**	**16 24 05.2**	**-0.2**
GOLH	**Golhisar**	**1.84**	**53**	P	**Pb**	**16 24 08.2**	**+0.5**
GOLH				S	**Sg**	**16 24 34.7**	**+1.0**
GOLH				*i* AML	AML	16 24 38.0	
	comp=E,163nm,0.5s						
GOLH				*i* AML	AML	16 24 38.0	
	comp=E,182nm,0.5s						
ELL	**Elmali**	**1.87**	**71**	Pn	**Pn**	**16 24 05.2**	**-0.7**
FRMA	**Ierapetra Chan**	**1.97**	**235**	P	**Pn**	**16 24 07.8**	**+0.8**
AKUM	**Antalya-Kumluc**	**2.14**	**85**	P	**Pb**	**16 24 11.3**	**-1.4**
KORT	**Korkueli**	**2.29**	**68**	Pn	**Pn**	**16 24 11.4**	**-0.2**
KORT	**Korkueli**	**2.29**	**68**	P	**Pb**	**16 24 15.0**	**-0.4**
KORT				S	**Sb**	**16 24 42.7**	**-0.9**
KORT				*i* AML	AML	16 24 58.0	
	comp=E,71nm,0.6s						
MANT	**Manisa**	**2.43**	**16**	P	**Pn**	**16 24 15.2**	**+1.6**
MANT				S	**Sn**	**16 24 44.4**	**+1.2**
BRDR	**BURDUR-Merkez**	**2.44**	**50**	P	**Pb**	**16 24 19.0**	**+1.2**
BRDR				S	**Sb**	**16 24 48.3**	**+0.6**
KULA	**Kula-Manisa**	**2.48**	**18**	Pn	**Pn**	**16 24 14.6**	**+0.4**
PASA	**Karahalli, USA**	**2.61**	**32**	P	**Pb**	**16 24 18.6**	**-2.3**

*DNK **30** 16:25:07.7±0.9, 67°.85N×20°.16E, h0km, ML2.9(UPP), Suspected explosion*
*UPP **30** 16:25:07.4±0.1, 67°.85N×20°.10E, h0km, ML2.9, Confirmed Induced event*
*HEL **30** 16:25:08.0±0.3, 67°.83N×20°.13E, h0km, ML1.7, Explosion*

ISC 30 16:25:07.0±0.8, 67°.79N±0°.02×20°.26E±0°.02, h0km, n38, σ0s90/52, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.25**	**277**	P	**Pg**	**16 25 11.2**	**-0.6**
RATU				S	**Sg**	**16 25 15.0**	**-0.1**
RATU	**Laukkuluspa**	**0.25**	**277**	P	**Pg**	**16 25 11.2**	**-0.6**
RATU				S	**Sg**	**16 25 15.0**	**-0.1**
KOVU	**Salmi**	**0.43**	**355**	P	**Pg**	**16 25 14.9**	**-0.3**
KOVU	**Salmi**	**0.43**	**355**	P	**Pg**	**16 25 14.9**	**-0.3**
NIKU	**Nikkaluokta**	**0.47**	**280**	P	**Pg**	**16 25 15.1**	**-0.8**
NIKU	**Nikkaluokta**	**0.47**	**280**	P	**Pg**	**16 25 15.1**	**-0.8**
DUNU	**Dundret**	**0.68**	**170**	P	**Pb**	**16 25 21.9**	**+0.1**
DUNU	**Dundret**	**0.68**	**170**	P	**Pb**	**16 25 21.9**	**+0.1**
LANU	**Lannavaara**	**0.70**	**68**	P	**Pg**	**16 25 21.1**	**+0.7**
LANU	**Lannavaara**	**0.70**	**68**	P	**Pg**	**16 25 21.1**	**+0.7**
LANU	**Lannavaara**	**0.70**	**68**	PG	**Pb**	**16 25 21.5**	**-0.6**
LANU				SG	**Sg**	**16 25 28.3**	**-1.3**
SALU	**Saltoluokta**	**0.79**	**239**	P	**Pg**	**16 25 22.2**	**+0.2**
SALU	**Saltoluokta**	**0.79**	**239**	P	**Pg**	**16 25 22.2**	**+0.2**
KIF	**Kilpisjarvi**	**1.23**	**9**	*eP*	**Pn**	**16 25 31.4**	**0.0**
KIF	**Kilpisjarvi**	**1.23**	**9**	PN	**Pn**	**16 25 31.9**	**+0.5**
KIF				MSG		16 25 45.6	
	comp=Z,111nm,0.2s						
KIF				SB	**Sg**	**16 25 46.7**	**+0.1**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**16 25 32.5**	**-0.2**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**16 25 32.5**	**-0.2**
HEF	**Hetta**	**1.42**	**63**	*eP*	**Pn**	**16 25 33.5**	**-0.4**
HEF	**Hetta**	**1.42**	**63**	PG	**Pn**	**16 25 33.7**	**-0.3**
	baz=245						
HEF				MSG		16 25 51.5	
	comp=Z,4.0nm,0.2s						
HEF				SG	**Sg**	**16 25 52.8**	**+0.3**
ERTU	**Ertsjaerv**	**1.45**	**148**	P	**Pb**	**16 25 35.2**	**+0.4**
ERTU	**Ertsjaerv**	**1.45**	**148**	P	**Pb**	**16 25 35.2**	**+0.4**
ERTU	**Ertsjaerv**	**1.45**	**148**	PG	**Pb**	**16 25 35.5**	**+0.6**
ERTU				SN	**Sn**	**16 25 56.1**	**+1.9**
KLF	**Kolari**	**1.53**	**110**	PG	**Pb**	**16 25 36.1**	**-0.1**
KLF				MSG		16 25 55.7	
	comp=Z,4.5nm,0.2s						
KLF				SG	**Sg**	**16 25 57.2**	**+1.1**
KTK1	**Kautokeino**	**1.65**	**41**	PN	**Pb**	**16 25 38.1**	**0.0**
KTK1				SN	**Sg**	**16 26 00.7**	**+0.8**
HARU	**Harads**	**1.66**	**170**	P	**Pg**	**16 25 38.7**	**0.0**
HARU	**Harads**	**1.66**	**170**	P	**Pg**	**16 25 38.7**	**0.0**
TRO	**Tromso**	**1.91**	**346**	SG	**Sb**	**16 26 06.4**	**-0.7**
KALU	**Kalix**	**2.30**	**146**	PB	**Pb**	**16 25 48.4**	**-0.8**
	baz=328						
KALU				SG	**Sg**	**16 26 19.7**	**-0.9**
TOF	**Tornio**	**2.35**	**135**	PB	**Pb**	**16 25 49.2**	**-0.9**
TOF				MSG		16 26 19.3	
	comp=Z,2.9nm,0.2s						
TOF				SG	**Sb**	**16 26 20.9**	**+1.3**
SGF	**Sodankyl**	**2.43**	**95**	PB	**Pb**	**16 25 51.0**	**-0.4**
	baz=282						
SGF				SB	**Sb**	**16 26 21.1**	**-0.7**
RNF	**Rovaniemi**	**2.54**	**115**	PB	**Pb**	**16 25 52.9**	**-0.4**
RNF				SB	**Sb**	**16 26 25.5**	**+0.5**
ARA0	**ARCESS Array S**	**2.60**	**45**	PB	**Pb**	**16 25 53.6**	**-0.8**
ARA0				SG	**Sb**	**16 26 28.2**	**+1.4**
KEV	**Kevo**	**3.15**	**48**	SN	**Sn**	**16 26 37.6**	**+1.7**
OUL	**Oulu**	**3.54**	**138**	SG	**Sg**	**16 26 59.8**	**-0.6**
VRF	**Varrio**	**3.56**	**86**	SG	**Sg**	**16 27 01.3**	**+0.2**
OLKF	**Oulanka, Finla**	**3.87**	**108**	SG	**Sg**	**16 27 08.6**	**-2.7**
MSF	**Maaselka**	**3.95**	**114**	SG	**Sg**	**16 27 13.8**	**+0.2**
KU6	**Riekki**	**4.19**	**111**	PG	**Pg**	**16 26 24.8**	**-2.3**
KU6				SG	**Sg**	**16 27 19.4**	**-1.9**

*NEIC **30** 16:27:05.4±2.8, 6°.97S±0°.08×129°.19E±0°.10, h178km±16km, mb4.4/4, Error ellipse: s-maj=14.3km s-min=11.1km az=80.0*
*IDC **30** 16:27:06.6±1.9, 6°.92S×129°.24E, h181km±26km, mb2.7/1, mbtmp3.8/5, Error ellipse: s-maj=35.0km s-min=17.4km az=103.0*

ISC 30 16:27:04.9±0.8, 6°.98S±0°.07×129°.08E±0°.08, h156km, n21, σ1s37/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.42**	**115**	Pn	**Pn**	**16 27 47.2**	**+1.8**
FAKI	**Fak Fak**	**5.12**	**38**	Pn	**Pn**	**16 28 20.9**	**+0.8**
SOEI	**Soe**	**5.50**	**240**	Pn	**Pn**	**16 28 28.1**	**+2.9**
MTN	**Manton Dam**	**6.17**	**161**	Pn	**Pn**	**16 28 33.3**	**-0.7**
BATI	**Baumata**	**6.24**	**239**	P	**Pn**	**16 28 38.6**	**+3.7**
	18nm,0.6s,baz=130,slow=11,SNR=1.9						
BATI				S	**Sn**	**16 29 45.6**	**+0.1**
	20nm,0.7s,baz=281,slow=24,SNR=1.7						
SIJI	**Sorong**	**6.45**	**20**	P	**Pn**	**16 28 39.4**	**+1.7**
	14nm,1.0s,baz=195,slow=16,SNR=1.9						
SIJI				S	**Sn**	**16 29 50.0**	**-0.4**
	6.4nm,0.2s,baz=225,slow=23,SNR=8.4						
TNTI	**Ternate**	**7.88**	**347**	Pn	**Pn**	**16 28 57.0**	**+0.2**
LUWI	**Luwuk**	**8.62**	**313**	Pn	**Pn**	**16 29 06.4**	**-0.1**
KNRA	**Kununurra**	**8.65**	**182**	Pn	**Pn**	**16 29 06.4**	**-0.6**
BKB	**Balikpapan**	**13.40**	**295**	Pn	**Pn**	**16 30 09.4**	**+0.3**
WB0	**Warramunga Arr**	**13.72**	**158**		**Pn**	**16 30 14.1**	**+1.0**
WRAB	**Tennant Creek**	**13.86**	**159**		**Pn**	**16 30 15.7**	**+0.8**
WRA	**Warramunga Arr**	**13.87**	**159**	P	**Pn**	**16 30 16.0**	**+1.1**
	1.0nm,0.3s,baz=339,slow=12,SNR=12						
WB2	**Warramunga Arr**	**13.87**	**159**		**Pn**	**16 30 15.3**	**+0.3**
PSA00	**Pilbara Seismi**	**17.04**	**211**	P	**P**	**16 30 51.7**	**-1.6**
PSA00				IAmb	IAmb	16 30 52.3	
	comp=Z,10nm,0.8s						
AS31	**Alice Springs**	**17.23**	**165**	Pn	**P**	**16 30 54.9**	**-0.5**
ASAR	**Alice Springs**	**17.23**	**165**	P	**P**	**16 30 55.1**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=341,slow=10.0,SNR=5.7						
ASAR	**Alice Springs**	**17.23**	**165**	Pn	**P**	**16 30 55.0**	**-0.5**
FORT	**Forrest**	**23.70**	**182**	P	**P**	**16 32 01.6**	**-0.9**
FORT				IAmb	IAmb	16 32 38.9	
	comp=Z,18nm,1.0s						
KULM	**Kulim**	**30.87**	**293**	P	**P**	**16 33 06.3**	**-0.6**
MKAR	**Makanchi Array**	**67.70**	**327**	P	**P**	**16 37 44.7**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=131,slow=5.9,SNR=1.8						
	comp=Z,0.2nm,0.7s						

NOU 30 16:36:20.5, 15°.63S×168°.04E, h5km, MLv4.5/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.09**	**176**	P	Pn	16 36 55.4	-0.8
KOUNC	**Koumac, New Ca**	**6.06**	**216**	P	Pn	16 37 50.3	-0.5
YATNC	**Mamie plateau,**	**6.49**	**189**	P	Pn	16 37 57.5	+0.8
DZM	**Mont Dzumac**	**6.58**	**193**	P	Pn	16 37 57.4	-0.7
NOUC	**Port Laguerre**	**6.64**	**194**	P	Pn	16 38 00.0	+1.2

IDC 30 16:40:07.5±1.4, 5°.21S×151°.08E, h0km, mb3.1/2, mbtmp3.2/2, Error ellipse: s-maj=121.2km s-min=17.5km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.30**	**46**	Pn	Pn	16 40 33.4	+0.5
	110nm,0.3s,baz=240,slow=2.3,SNR=365						
KRVT				Sn	Sn	16 40 51.3	+0.3
	145nm,0.3s,baz=160,slow=11,SNR=29						
WRA	**Warramunga Arr**	**21.91**	**227**	P	P	16 45 02.2	-0.3
	0.4nm,0.8s,baz=54,slow=10,SNR=2.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**24.71**	**220**	P	P	16 45 31.2	+0.5
	0.6nm,0.7s,baz=57,slow=8.7,SNR=10						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.79**	**287**	PKPbc	PKPbc	16 59 56.7	-1.4
	0.5nm,0.7s,baz=80,slow=1.8,SNR=2.1						

*IDC **30** 16:45:06.5±0.6, 42°.67S×83°.57W, h0km, mb4.5/19, mbtmp4.4/22, ML3.5/3, MS4.0/10, Error ellipse: s-maj=18.9km s-min=14.2km az=99.0*
*NEIC **30** 16:45:08.6±1.5, 42°.73S±0°.09×83°.67W±0°.09, h10km±1km, mb4.7/52, Error ellipse: s-maj=16.7km s-min=8.8km az=148.0*
*GCMT **30** 16:45:09.6±0.4, 42°.57S±0°.04×83°.55W±0°.04, h28km, MW5.0/80, Moment Tensor Solution. s20,c21; s80,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.53±.23; Mθθ=0.60±.13; Mφφ=2.92±.15; Mrθ=0.75±.24; Mrφ=-0.77±.10; Mθφ=-0.77±.21; Best double couple: M=3.50400×10^16 NP1:φs=336.00000°, δ53.00000°, λ=-98.00000°. NP2: φs=170.00000°, δ37.00000°, λ=-79.00000°. Principal axes: T 3.2860, Plg8.0000°, Azm72.0000°; N 0.4300, Plg7.0000°, Azm341.0000°; P -3.7220, Plg80.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 16:45:08.1±0.5, 42°.70S±0°.07×83°.66W±0°.08, h10km, n140, σ0s81/134, mb4.7/36, MS3.9/10, 1D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LR04	**Corral**	**8.20**	**73**	Pn	**Pn**	**16 47 08.5**	**+1.4**
LL02	**Futaleuf**	**8.68**	**97**		**Pn**	**16 47 15.0**	**+1.4**
H03S1	**Juan Fernandez**	**9.60**	**24**	T	T	16 57 19.5	
	baz=199,slow=73,SNR=406						
H03S2	**Juan Fernandez**	**9.60**	**24**	T	T	16 57 18.2	
	baz=199,slow=73,SNR=494						
H03S3	**Juan Fernandez**	**9.61**	**24**	T	T	16 57 19.0	
	baz=199,slow=73,SNR=271						
H03N3	**Juan Fernandez**	**9.95**	**24**	T	T	16 57 55.7	
	baz=207,slow=76						
H03N2	**Juan Fernandez**	**9.96**	**23**	T	T	16 57 46.2	
	baz=207,slow=76						
H03N1	**Juan Fernandez**	**9.97**	**24**	T	T	16 57 42.9	
	baz=207,slow=76						
PLCA	**Paso Flores**	**10.00**	**83**	Pn	**Pn**	**16 47 31.5**	**-0.3**
	0.1nm,0.3s,baz=255,slow=14,SNR=6.4						
PLCA				LR	LR	16 50 42.5	
	comp=Z,1μm,18.9s,baz=222,slow=34						
	11nm,1.1s						
PLCA	**Paso Flores**	**10.00**	**83**	Pn	**Pn**	**16 47 33.6**	**+1.8**
PLCA	**Paso Flores**	**10.00**	**83**	*eP*	**Pn**	**16 47 33.4**	**+1.6**
MG04	**Isla Riesco**	**12.99**	**146**	Pn	**Pn**	**16 48 11.9**	**-0.7**
BO04	**La Punta**	**13.42**	**54**		**Pn**	**16 48 18.0**	**-0.6**
LMEL	**Las Melosas**	**13.76**	**54**		**Pn**	**16 48 23.5**	**+0.1**
CO02	**Combarbal**	**15.28**	**45**		**Pn**	**16 48 43.0**	**-0.8**
USHA	**Ushuaia**	**15.71**	**146**	Pn	**Pn**	**16 48 49.0**	**-0.2**
	0.7nm,0.3s,baz=155,slow=4.2,SNR=1.3						
	8.4nm,0.4s						
GO04	**Tololo Observa**	**16.20**	**44**		**Pn**	**16 48 57.1**	**+1.0**
GO04				IAmb	IAmb	16 49 07.0	
	comp=Z,75nm,1.4s						
ZON	**Zonda**	**16.30**	**52**	Pn	**Pn**	**16 48 58.1**	**+1.0**
CFA	**Coronel Fontan**	**16.52**	**53**	Pn	**Pn**	**16 48 57.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=227,slow=11,SNR=13						
CFA				LR	LR	16 54 09.3	
	comp=Z,790nm,21.6s,baz=246,slow=33						
	comp=Z,9.3nm,1.0s						
CO01	**Juntas del Tor**	**16.72**	**45**		**P**	**16 49 04.4**	**-0.6**
TRQA	**Tornquist**	**17.14**	**82**	Pn	**Pn**	**16 49 07.6**	**-0.1**
LCO	**Las Campanas**	**17.20**	**42**	Pn	**Pn**	**16 49 07.4**	**-1.3**
LCO				IAmb	IAmb	16 49 18.5	
	comp=Z,65nm,1.3s						
AC05	**El Transito**	**17.56**	**42**	Pn	**Pn**	**16 49 12.9**	**-0.1**
AC05				IAmb	IAmb	16 49 26.5	
	comp=Z,85nm,1.5s						
AC04	**Llanos de Chal**	**17.70**	**39**	Pn	**Pn**	**16 49 13.2**	**-1.4**
GO03	**Copiap**	**18.61**	**40**	P	**Pn**	**16 49 26.5**	**+0.7**
EFI	**East Falkland**	**19.49**	**126**	P	**Pn**	**16 49 35.7**	**-0.5**
EFI				IAmb	IAmb	16 50 03.6	
	comp=Z,59nm,1.1s						
AC02	**Maricunga**	**19.78**	**41**		**Pn**	**16 49 40.2**	**-0.1**
LVC	**Limon Verde**	**23.50**	**36**	P	**P**	**16 50 17.6**	**-0.9**
	comp=Z,7.1nm,0.9s,baz=189,slow=12,SNR=6.0						
LVC				LR	LR	16 57 13.0	
	comp=Z,265nm,19.9s,baz=215,slow=31						
	comp=Z,7.1nm,0.9s						
LVC	**Limon Verde**	**23.50**	**36**	P	**P**	**16 50 19.2**	**+0.

SAML	**Samuel**	**38.12**	**34**	P		**P**	**16 52 26.8**	**-0.5**
SAML				IAmb		IAmb	16 52 34.4	
	comp=Z,11nm,1.1s							
IPMB	**Ipameri, GO**	**38.84**	**62**	*e*P		**P**	**16 52 33.0**	**-0.4**
CLDB	**Colider**	**39.93**	**46**	*e*P		**P**	**16 52 42.4**	**-0.1**
BDFB	**Brasilia**	**40.69**	**59**	P		**P**	**16 52 48.6**	**-0.3**
	comp=Z,17nm,1.1s,baz=218,slow=4.7,SNR=12							
	comp=Z,17nm,1.1s							
BDFB	**Brasilia**	**40.69**	**59**	P		**P**	**16 52 48.2**	**-0.8**
BDFB				IAmb		IAmb	16 52 55.6	
	comp=Z,21nm,1.1s							
BDFB	**Brasilia**	**40.69**	**59**	*e*P		**P**	**16 52 48.6**	**-0.3**
DIAM	**Diamantina, MG**	**41.63**	**67**	*e*P		**P**	**16 52 57.3**	**+0.6**
OTAV	**Otavalo**	**43.00**	**8**	P		**P**	**16 53 09.8**	**+1.7**
OTAV	**Otavalo**	**43.00**	**8**	*e*P		**P**	**16 53 10.7**	**+2.5**
NPGB	**Novo Progresso**	**43.40**	**43**	*e*P		**P**	**16 53 11.1**	**+0.2**
JANB	**Januaria**	**43.52**	**63**	*e*P		**P**	**16 53 11.6**	**-0.3**
NAN01	**Guarapari, ES**	**44.37**	**70**	*e*P		**P**	**16 53 19.0**	**+0.3**
SDBA	**SAO DESIDERIO**	**45.10**	**60**	*e*P		**P**	**16 53 24.4**	**-0.3**
VNA3	**Neumayer Olymp**	**45.16**	**154**	P		**P**	**16 53 24.8**	**+0.4**
ITTB	**Itaituba**	**45.53**	**41**	*e*P		**P**	**16 53 27.9**	**0.0**
VNA2	**Neumayer--Watz**	**45.92**	**154**	P		**P**	**16 53 30.8**	**+0.4**
	baz=252,slow=12							
SMTB	**Santa Maria do**	**46.19**	**54**	*e*P		**P**	**16 53 33.6**	**+0.4**
CMC01	**Camacan, BA**	**46.51**	**68**	*e*P		**P**	**16 53 35.6**	**-0.1**
SNAA	**Sanae**	**47.30**	**155**	P		**P**	**16 53 41.5**	**+0.2**
SNAA	**Sanae**	**47.30**	**155**	P		**P**	**16 53 41.4**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=291,slow=2.9,SNR=6.2							
	comp=Z,3.2nm,0.8s							
SNAA	**Sanae**	**47.30**	**155**	P		**P**	**16 53 41.2**	**0.0**
SNAA				IAmb		IAmb	16 53 47.8	
	comp=Z,12nm,1.2s							
QSPA	**South Pole Qui**	**47.54**	**180**	P		**P**	**16 53 44.2**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=135,slow=4.4,SNR=15							
	comp=Z,3.9nm,0.8s							
QSPA	**South Pole Qui**	**47.54**	**180**	P		**P**	**16 53 44.1**	**+0.8**
CBOC	**Ciudad Bolivar**	**48.83**	**10**	*e*P		**P**	**16 53 54.0**	**+0.2**
TROLL	**Troll, Antarti**	**48.89**	**156**	P		**P**	**16 53 53.9**	**+0.2**
RUSC	**La Rusia**	**49.31**	**14**	P		**P**	**16 53 57.9**	**+0.1**
RUSC	**La Rusia**	**49.31**	**14**	*e*P		**P**	**16 53 57.8**	**-0.1**
PTBC	**PUERTO BERRIO,**	**49.72**	**12**	*e*P		**P**	**16 53 59.4**	**-1.0**
ZARC	**Zaragoza, Cauc**	**50.59**	**11**	*e*P		**P**	**16 54 07.5**	**+0.5**
UREC	**San Jos de Ur**	**50.75**	**10**	*e*P		**P**	**16 54 08.8**	**+0.5**
TMAB	**Tom-Au,PA,Br**	**51.18**	**48**	*e*P		**P**	**16 54 13.8**	**+2.3**
SDV	**Santo Domingo**	**52.70**	**16**	P		**P**	**16 54 23.0**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=167,slow=5.9,SNR=6.5							
	comp=Z,4.4nm,0.7s							
SDV	**Santo Domingo**	**52.70**	**16**	P		**P**	**16 54 22.8**	**-0.2**
SDV				IAmb		IAmb	16 54 30.1	
	comp=Z,11nm,0.9s							
SDV	**Santo Domingo**	**52.70**	**16**	*e*P		**P**	**16 54 23.1**	**+0.1**
BAUV	**El Baul**	**53.34**	**19**	P		**P**	**16 54 27.2**	**-0.2**
ELIB	**Princess Elisa**	**54.91**	**159**	*d*P		**P**	**16 54 39.0**	**+0.5**
	comp=Z,3.8nm,1.0s							
MDP	**Montagnes des**	**55.28**	**39**	P		**P**	**16 54 41.0**	**-0.7**
	comp=Z,15nm,0.9s,baz=45,slow=4.3,SNR=1.2							
	comp=Z,15nm,0.9s							
PPT2	**Papeete2**	**60.67**	**273**	*e*LR		LR	17 13 13.9	
	comp=Z,186nm,30.2s							
PPT2				*e*LR		LR	17 13 14.0	
	comp=Z,167nm,29.2s							
MTDJ	**Mount Denham**	**60.88**	**7**	P		**P**	**16 55 22.1**	**+1.2**
PCDR	**Punta Cana, DR**	**62.52**	**16**	P		**P**	**16 55 32.6**	**+0.8**
MAW	**Mawson**	**67.14**	**167**	LR		LR	17 23 60.0	
	comp=Z,59nm,18.8s,baz=220,slow=35							
TXAR	**Lajitas Array**	**74.01**	**342**	P		**P**	**16 56 44.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=159,slow=11,SNR=5.5							
	comp=Z,0.6nm,0.7s							
NIUE	**Niue**	**74.64**	**258**	P		**P**	**16 56 47.5**	**-0.2**
ESJX	**Sierra Juarez**	**80.03**	**333**	P		**P**	**16 57 17.0**	**-0.8**
ANMO	**Albuquerque**	**80.04**	**341**			**P**	**16 57 18.4**	**+0.6**
ANMO				IAmb		IAmb	16 57 27.0	
	comp=Z,8.5nm,1.1s							
U15A	**North Rim**	**82.97**	**337**	P		**P**	**16 57 33.1**	**-0.2**
U15A				IAmb		IAmb	16 57 43.1	
	comp=Z,8.2nm,1.3s							
BOSA	**Boshof**	**83.58**	**123**	P		**P**	**16 57 36.5**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=219,slow=3.3,SNR=4.6							
	comp=Z,3.8nm,0.9s							
SHPR	**Sheep Range**	**83.90**	**335**	P		**P**	**16 57 38.2**	**+0.2**
QSM	**Queen of Sheba**	**83.96**	**333**	P		**P**	**16 57 40.0**	**+2.0**
QSM				IAmb		IAmb	16 57 55.0	
	comp=Z,9.3nm,1.5s							
TPNV	**Topopah Spring**	**84.66**	**334**	P		**P**	**16 57 42.5**	**+0.7**
MZP	**Montezuma Peak**	**85.71**	**334**	P		**P**	**16 57 48.5**	**+1.3**
R11A	**Troy Canyon, C**	**85.73**	**335**	P		**P**	**16 57 48.1**	**+1.0**
R11A				IAmb		IAmb	16 57 56.4	
	comp=Z,7.1nm,1.3s							
SPR3	**Spring Creek 3**	**85.95**	**337**	P		**P**	**16 57 49.4**	**+1.0**
SPR3				IAmb		IAmb	16 57 57.5	
	comp=Z,7.1nm,1.2s							
I49A	**Point Hope**	**86.26**	**1**	P		**P**	**16 57 50.0**	**+0.6**
DBIC	**Dimbokro**	**86.32**	**78**	P		**P**	**16 57 49.9**	**-0.5**
	comp=Z,5.7nm,1.1s,baz=221,slow=5.8,SNR=4.2							
DBIC				LR		LR	17 31 51.6	
	comp=Z,83nm,18.2s,baz=204,slow=32							
	comp=Z,5.7nm,1.1s							
DBIC	**Dimbokro**	**86.32**	**78**	P		**P**	**16 57 49.5**	**-0.9**
DUG	**Dugway, Tooele**	**86.63**	**338**	P		**P**	**16 57 52.0**	**+0.4**
DUG				IAmb		IAmb	16 58 00.9	
	comp=Z,6.7nm,1.2s							
NVAR	**Mina Array Bea**	**86.67**	**333**	P		**P**	**16 57 52.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=156,slow=4.6,SNR=1.8							
	comp=Z,0.4nm,0.3s							
SPUT	**South Promonto**	**87.57**	**339**	P		**P**	**16 57 57.1**	**+1.1**
HVU	**Hansel Valley**	**88.10**	**339**	P		**P**	**16 57 59.8**	**+1.2**
PDAR	**Pinedale Array**	**88.21**	**341**	P		**P**	**16 58 00.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=170,slow=6.0,SNR=2.2							
	comp=Z,0.2nm,0.4s							
PDAR	**Pinedale Array**	**88.21**	**341**	P		**P**	**16 57 58.5**	**-0.7**
EMMW	**East Machias**	**88.22**	**11**	P		**P**	**16 57 57.8**	**-1.1**
DZM	**Mont Dzumac**	**88.87**	**241**	*e*LR		LR	17 26 17.9	
	comp=Z,181nm,26.4s							
TORD	**Torodi Ar. Bea**	**95.43**	**77**	P		**P**	**16 58 31.9**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=214,slow=4.2,SNR=2.8							
	comp=Z,0.7nm,0.8s							
GERES	**GERESS Array B**	**124.73**	**53**	PKP		**PKPdf**	**17 04 06.6**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=202,slow=1.8,SNR=8.7							
CLL	**Collm**	**125.43**	**50**	*e*PKPdf		**PKiKP**	**17 04 10.0**	**+1.1**
NOA	**NORSAR Array B**	**128.37**	**38**	PKP		**PKPdf**	**17 04 13.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=246,slow=5.1,SNR=2.9							
MJAR	**Matsushiro Arr**	**147.42**	**273**	PKPbc		**PKPbc**	**17 04 51.6**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=156,slow=3.1,SNR=6.9							
GEYT	**Alibeck**	**150.64**	**86**	PKP		**PKPdf**	**17 04 54.0**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=291,slow=4.5,SNR=2.5							
GEYT				PKPbc		**sPKPdf**	**17 04 58.8**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=291,slow=4.5,SNR=2.5							
CMAR	**Chiang Mai Arr**	**155.73**	**186**	PKP		**PKPdf**	**17 05 02.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=211,slow=2.8,SNR=1.8							
CMAR				PKPbc		pPKPbc	17 05 12.3	-1.9
	comp=Z,0.3nm,0.3s,baz=198,slow=2.5,SNR=4.8							
CMAR				PKPab		**PKPab**	**17 05 28.6**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=203,slow=3.5,SNR=2.1							
PZH	**PanZhiHua**	**163.25**	**197**	PKP		**PKPdf**	**17 05 10.5**	**-0.5**
ZALV	**Zalesovo Beam**	**166.41**	**30**	PKP		**PKPdf**	**17 05 11.4**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=343,slow=4.5,SNR=3.6							
ZALV				PKPab		**PKPab**	**17 06 12.3**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=336,slow=6.3,SNR=1.7							
MKAR	**Makanchi Array**	**169.20**	**63**	PKPab		**PKPab**	**17 06 26.4**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=286,slow=4.3,SNR=14							
SONM	**Songino Array**	**171.25**	**309**	PKPab		**PKPab**	**17 06 36.5**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=112,slow=15,SNR=3.8							

IDC ***30*** *16:45:32.1±2.6,9.°45S×112.°89E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=135.7km s-min=27.9km az=48.0*

DJA ***30*** *16:45:39.5±0.9,9.°3S±3.°×11.°3E±.°,h15km±7km,M4.0/8, mb5.0/1,MLv3.4/8*

ISC 30 16:45:37.8±1.5,**9.°6S**±0.°1×**112.°87E**±0.°07,**h36**km,**n9,** σ1ˢ**53**/12,**mb3.2/3,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.42**	**24**	P	**Pn**	**16 46 01.4**	**+0.4**
GMJI				S	**Sn**	**16 46 16.2**	**-2.1**
JAGI	**Jajag, Banyuwa**	**1.68**	**49**	P	**Pn**	**16 46 04.6**	**0.0**
JAGI				S	**Sn**	**16 46 24.4**	**-0.4**
PWJI	**Pagerwojo**	**1.87**	**326**	P	**Pn**	**16 46 07.7**	**+0.4**
PWJI				S	**Sn**	**16 46 30.0**	**+0.3**
BLJI	**Banyuglugur**	**1.96**	**21**	Pg	**Pn**	**16 46 11.7**	**+3.3**
ABJI	**Asem Bagus**	**2.23**	**37**	P	**Pn**	**16 46 12.6**	**+0.5**
SRBI	**Singaraja**	**2.75**	**57**	P	**Pn**	**16 46 21.2**	**+1.9**
WRA	**Warramunga Arr**	**23.14**	**119**	P	**P**	**16 50 40.6**	**-0.5**
	0.6nm,1.0s,baz=293,slow=11,SNR=1.8						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**24.49**	**127**	P	**P**	**16 50 54.1**	**+0.3**
	0.4nm,0.6s,baz=303,slow=8.9,SNR=12						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**62.41**	**337**	P	**P**	**16 55 56.1**	**-0.9**
	0.3nm,0.6s,baz=151,slow=6.6,SNR=4.5						
	0.3nm,0.6s						

IDC ***30*** *16:46:25.9±0.9,42.°72S×83.°88W,h0km,mb4.3/11, mbtmp4.3/14,ML3.7/3,Error ellipse: s-maj=27.3km s-min=21.6km az=122.0*

NEIC ***30*** *16:46:30.5±2.2,42.°73S±0.°04×83.°6W±0.°1,h10km±1km, mb4.5/30,Error ellipse: s-maj=18.8km s-min=4.8km az=255.0*

ISC 30 16:46:28.9±0.6,**42.°72S**±0.°09×**83.°73W**±0.°10,**h10**km,**n56,** σ1ˢ**44**/53,**mb4.5**/18,**West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AY01	**Puyuhuapi**	**8.23**	**106**	Pn	**Pn**	**16 48 29.7**	**+1.5**
LL02	**Futaleuf**	**8.73**	**97**	Pn	**Pn**	**16 48 37.4**	**+2.3**
H03S1	**Juan Fernandez**	**9.64**	**25**	T	T	16 58 38.3	
	baz=199,slow=73,SNR=6.7						
H03S2	**Juan Fernandez**	**9.64**	**25**	T	T	16 58 36.4	
	baz=199,slow=73,SNR=6.4						
H03S3	**Juan Fernandez**	**9.65**	**25**	T	T	16 58 37.6	
	baz=199,slow=73,SNR=7.3						
PLCA	**Paso Flores**	**10.05**	**83**	Pn	**Pn**	**16 48 53.5**	**+0.2**
	0.1nm,0.3s,baz=246,slow=13,SNR=2.9						
	7.3nm,1.2s						
MT02	**Curacav**	**13.69**	**51**	Pn	**Pn**	**16 49 44.6**	**+1.6**
CO02	**Combarbal**	**15.33**	**46**		**P**	**16 50 11.2**	**+1.0**
CO02				IAmb	IAmb	16 50 20.1	
	comp=Z,29nm,1.3s						
USHA	**Ushuaia**	**15.72**	**146**	Pn	**Pn**	**16 50 10.3**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=351,slow=5.9,SNR=1.3						
	comp=Z,10nm,0.5s						
CO03	**El Pedregal**	**15.78**	**46**		**P**	**16 50 15.8**	**+0.6**
CO03				IAmb	IAmb	16 50 21.7	
	comp=Z,36nm,1.4s						
GO04	**Tololo Observa**	**16.25**	**44**	Pn	**P**	**16 50 19.4**	**-1.2**
GO04				IAmb	IAmb	16 50 27.6	
	comp=Z,39nm,1.4s						
ZON	**Zonda**	**16.36**	**52**		**P**	**16 50 21.7**	**+0.2**
CFA	**Coronel Fontan**	**16.57**	**53**	Pn	**Pn**	**16 50 19.8**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=229,slow=11,SNR=2.6						
	comp=Z,9.2nm,1.1s						
TRQA	**Tornquist**	**17.20**	**82**		**P**	**16 50 30.4**	**-0.4**
AC05	**El Transito**	**17.61**	**42**		**P**	**16 50 36.2**	**+0.7**
AC05				IAmb	IAmb	16 50 45.2	
	comp=Z,40nm,1.4s						
PB14	**IPOC Station P**	**21.14**	**36**	P	**P**	**16 51 16.0**	**+1.8**
PB14				IAmb	IAmb	16 51 24.0	
	comp=Z,35nm,1.2s						
LVC	**Limon Verde**	**23.55**	**36**	P	**P**	**16 51 38.0**	**-1.8**
	comp=Z,4.1nm,0.8s,baz=178,slow=14,SNR=1.8						
	comp=Z,4.1nm,0.8s						
LVC	**Limon Verde**	**23.55**	**36**	P	**P**	**16 51 39.2**	**-0.6**
LVC				IAmb	IAmb	16 51 47.5	
	comp=Z,29nm,1.4s						
PLTB	**Pedras Altas**	**26.23**	**75**	P	**P**	**16 52 03.7**	**-0.3**
CPUP	**Villa Florida**	**27.05**	**61**	P	**P**	**16 52 11.8**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=225,slow=9.3,SNR=3.0						
	comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**29.53**	**32**	P	**P**	**16 52 34.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=133,slow=9.3,SNR=1.7						
	comp=Z,1.8nm,0.9s						
LPAZ	**La Paz**	**29.53**	**32**	P	**P**	**16 52 35.5**	**+1.2**
LPAZ				IAmb	IAmb	16 52 42.2	
	comp=Z,14nm,1.5s						
SIV	**San Ignacio**	**32.95**	**43**	P	**P**	**16 53 02.9**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=212,slow=9.0,SNR=3.9						
	comp=Z,3.0nm,0.8s						
PTLB	**Pontes e Lacer**	**34.40**	**45**	P	**P**	**16 53 15.5**	**-0.8**
PTLB				IAmb	IAmb	16 53 22.8	
	comp=Z,7.3nm,1.0s						
ETMB	**Extrema**	**36.19**	**30**	P	**P**	**16 53 30.7**	**-1.0**
BDFB	**Brasilia**	**40.75**	**60**	P	**P**	**16 54 09.1**	**-1.1**
	comp=Z,5.4nm,0.8s,baz=195,slow=6.5,SNR=4.6						
	comp=Z,5.4nm,0.8s						
BDFB	**Brasilia**	**40.75**	**60**	P	**P**	**16 54 09.5**	**-0.7**
BDFB				IAmb	IAmb	16 54 16.4	
	comp=Z,15nm,1.2s						
PAYG	**Puerto Ayora**	**42.27**	**350**	P	**P**	**16 54 22.3**	**-0.2**
OTAV	**Otavalo**	**43.03**	**8**	P	**P**	**16 54 30.8**	**+1.6**
OTAV				IAmb	IAmb	16 54 37.4	
	comp=Z,12nm,1.2s						
SNAA	**Sanae**	**47.30**	**155**	P	**P**	**16 55 03.4**	**+1.3**
SNAA				IAmb	IAmb	16 55 04.3	
	comp=Z,3.7nm,0.9s						
QSPA	**South Pole Qui**	**47.52**	**180**	P	**P**	**16 55 02.6**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=26,slow=24,SNR=1.9						
	comp=Z,1.8nm,0.8s						
QSPA	**South Pole Qui**	**47.52**	**180**	P	**P**	**16 55 05.2**	**+1.1**
QSPA				IAmb	IAmb	16 55 20.3	
	comp=Z,5.4nm,1.0s						
RUSC	**La Rusia**	**49.34**	**14**	P	**P**	**16 55 19.2**	**+0.3**
SDV	**Santo Domingo**	**52.73**	**16**	P	**P**	**16 55 42.6**	**-1.5**
	comp=Z,2.7nm,0.7s,baz=197,slow=3.8,SNR=2.1						
	comp=Z,2.7nm,0.7s						
JTS	**Las Juntas**	**52.76**	**358**	P	**P**	**16 55 42.7**	**-1.4**
	comp=Z,2.9nm,0.4s,baz=176,slow=22,SNR=1.5						
	comp=Z,2.9nm,0.4s						
BAUV	**El Baul**	**53.38**	**19**	P	**P**	**16 55 48.0**	**-0.6**
SJG	**San Juan**	**62.66**	**19**	P	**P**	**16 56 52.2**	**-1.3**
	comp=Z,4.6nm,0.2s,baz=284,slow=22,SNR=0.8						
	comp=Z,4.6nm,0.2s						
TXAR	**Lajitas Array**	**74.01**	**342**	P	**P**	**16 58 03.4**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=156,slow=7.9,SNR=2.3						
	comp=Z,0.5nm,0.8s						
TXAR	**Lajitas Array**	**74.01**	**342**	P	**P**	**16 58 06.2**	**+1.6**
ESJX	**Sierra Juarez**	**80.03**	**333**	P	**P**	**16 58 41.0**	**+2.5**
ANMO	**Albuquerque**	**80.04**	**341**	P	**P**	**16 58 40.5**	**+1.9**
KAN10	**Anthony SW Sta**	**80.54**	**348**	P	**P**	**16 58 43.2**	**+2.2**
SDCO	**Great Sand Dun**	**82.50**	**343**	P	**P**	**16 58 53.4**	**+1.6**
SDCO				IAmb	IAmb	16 59 01.5	
	comp=Z,4.0nm,0.8s						
ODNJ	**Ogdensburg**	**83.83**	**7**	P	**P**	**16 59 00.7**	**+2.7**
SHPR	**Sheep Range**	**83.90**	**335**	P	**P**	**16 59 00.1**	**+1.3**
PRN	**Pahroc Range**	**84.70**	**335**	P	**P**	**16 59 05.2**	**+2.4**
PRN				IAmb	IAmb	16 59 06.8	
	comp=Z,6.0nm,1.1s						
L59A	**Walton**	**84.89**	**6**	P	**P**	**16 59 06.0**	**+2.5**
DBIC	**Dimbokro**	**86.37**	**78**	P	**P**	**16 59 10.4**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=182,slow=21,SNR=1.4						
	comp=Z,0.6nm,0.4s						
LHV	**Little Huntoon**	**86.57**	**333**	P	**P**	**16 59 13.1**	**+1.3**
LHV				IAmb	IAmb	16 59 18.9	
	comp=Z,7.2nm,1.3s						
SPUT	**South Promonto**	**87.57**	**339**	P	**P**	**16 59 18.5**	**+1.6**
GERES	**GERESS Array B**	**124.78**	**53**	PKP	**PKPdf**	**17 05 26.3**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=180,slow=1.3,SNR=6.5						
MJAR	**Matsushiro Arr**	**147.37**	**273**	PKPbc	**PKPdf**	**17 06 10.0**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=146,slow=4.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**155.71**	**186**	PKP	**PKPdf**	**17 06 21.4**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=193,slow=3.7,SNR=1.7						
CMAR				PKPbc	pPKPbc	17 06 33.1	-2.0
	comp=Z,0.2nm,0.3s,baz=188,slow=3.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**166.45**	**30**	PKP	**PKPdf**	**17 06 31.7**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=312,slow=5.0,SNR=1.7						
MKAR	**Makanchi Array**	**169.26**	**63**	PKPab	**PKPab**	**17 07 47.4**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=297,slow=4.0,SNR=4.6						
SONM	**Songino Array**	**171.22**	**309**	PKPab	**PKPab**	**17 07 55.6**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=69,slow=4.8,SNR=2.4						

IDC 30 16:53:40.6±4.0,**42.°82S**×**83.°12W**,**h0**km,**mb3.5/3, mbtmp3.5/3,MS3.4/1,Error ellipse: s-maj=98.8km s-min=64.6km az=175.0,West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S1	**Juan Fernandez**	**9.55**	**22**	T	T	17 05 52.6	
	baz=199,slow=73,SNR=24						
H03S2	**Juan Fernandez**	**9.55**	**22**	T	T	17 05 51.4	
	baz=199,slow=73,SNR=33						
H03S3	**Juan Fernandez**	**9.57**	**22**	T	T	17 05 52.8	
	baz=199,slow=73,SNR=24						
PLCA	**Paso Flores**	**9.62**	**82**	LR	LR	16 59 18.3	
	comp=Z,231nm,20.2s,baz=242,slow=35						
LPAZ	**La Paz**	**29.39**	**30**	P	P	16 59 46.3	+0.1
	0.3nm,0.3s,baz=214,slow=7.3,SNR=1.8						
	0.3nm,0.3s						
SIV	**San Ignacio**	**32.72**	**42**	P	P	17 00 14.8	-0.2
	0.5nm,0.5s,baz=218,slow=7.8,SNR=2.0						
	0.5nm,0.5s						
H06E1	**SOCORRO T-PHAS**	**66.43**	**331**	T	T	18 17 19.4	
	SNR=6.4						
TXAR	**Lajitas Array**	**74.24**	**341**	P	P	17 05 19.4	0.0
	0.2nm,0.8s,baz=165,slow=7.5,SNR=1.9						
	0.2nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**17.02**	**271**	T	T	19 19 45.8	
	baz=129						
H11S1	**WAKE ISLAND Hyl**	**17.03**	**271**	T	T	19 19 48.8	
	baz=129						
H11S3	**WAKE ISLAND Hyl**	**17.03**	**271**	T	T	19 19 49.5	
	baz=129						
MKAR	**Makanchi Array**	**168.90**	**64**	PKPab	PKPab	17 14 59.6	-0.4
	0.3nm,0.8s,baz=308,slow=3.7,SNR=2.5						

BUC 30 17:11:12.6±0.3,**45.°51N**×**27.°86E**,**h5**km,**ml1.4/4,22C-32D, Error ellipse: s-maj=4.7km s-min=1.5km az=49.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHL	**Schela**	**0.02**	**242**	↓P	Pg	17 11 13.2	-0.4
SCHL				↓S	Sg	17 11 14.0	-0.2
SCHL	**Schela**	**0.02**	**242**	↓P	Pg	17 11 13.7	+0.2
SCHL				↓S	Sg	17 11 14.7	+0.5
SCHL	**Schela**	**0.02**	**242**	↓P	Pg	17 11 13.2	-0.4
SCHL				↓S	Sg	17 11 14.0	-0.2
SCHL	**Schela**	**0.02**	**242**	↓P	Pg	17 11 13.7	+0.2
SCHL				↓S	Sg	17 11 14.7	+0.5
IZVR	**Izvoarele**	**0.07**	**296**	↑P	Pg	17 11 13.5	-0.7
IZVR				↑S	Sg	17 11 14.6	-0.7
IZVR	**Izvoarele**	**0.07**	**296**	↑P	Pg	17 11 14.1	-0.1
IZVR				↓S	Sg	17 11 15.5	+0.1
IZVR	**Izvoarele**	**0.07**	**296**	↑P	Pg	17 11 13.5	-0.7
IZVR				↑S	Sg	17 11 14.6	-0.7
IZVR	**Izvoarele**	**0.07**	**296**	↑P	Pg	17 11 14.1	-0.1
IZVR				↓S	Sg	17 11 15.5	+0.1
SLCR	**Slobozia Conac**	**0.10**	**321**	↓P	Pg	17 11 14.0	-0.7
SLCR				↑S	Sg	17 11 15.1	-1.0
SLCR	**Slobozia Conac**	**0.10**	**321**	↑P	Pg	17 11 14.6	-0.1
SLCR				↑S	Sg	17 11 16.1	-0.1
SLCR	**Slobozia Conac**	**0.10**	**321**	↓P	Pg	17 11 14.0	-0.7
SLCR				↓S	Sg	17 11 15.1	-1.0
SLCR	**Slobozia Conac**	**0.10**	**321**	↓P	Pg	17 11 14.6	-0.1
SLCR				↑S	Sg	17 11 16.1	-0.1
TUDR		**0.16**	**301**	↑P	Pg	17 11 15.1	-0.6
TUDR				↑S	Sg	17 11 16.8	-1.0
TUDR		**0.16**	**301**	↓P	Pg	17 11 16.3	+0.6
TUDR				↓S	Sg	17 11 18.2	+0.4
TUDR		**0.16**	**301**	↑P	Pg	17 11 15.1	-0.6
TUDR				↑S	Sg	17 11 16.8	-1.0
TUDR		**0.16**	**301**	↓P	Pg	17 11 16.3	+0.6
TUDR				↓S	Sg	17 11 18.2	+0.4
TATR	**Tatarca**	**0.16**	**57**	↑P	Pg	17 11 15.6	-0.1
TATR				↓S	Sg	17 11 19.0	+1.2
TATR	**Tatarca**	**0.16**	**57**	↑P	Pg	17 11 15.6	-0.1
TATR				↓S	Sg	17 11 19.0	+1.2
SCTR	**Scanteiesti**	**0.19**	**30**	↓S	Sg	17 11 19.7	+0.

TRWZ	**Traveller**	**0.58**	**122**	P	Pb	18 20 14.5	+0.5
TRWZ				S	Sn	18 20 23.7	-0.4
TCW	**Tory Channel**	**0.58**	**258**	P	Pn	18 20 14.9	-0.4
TCW				S	Sn	18 20 23.0	-1.1
TMWZ	**Te Maipa**	**0.65**	**91**	P	Pb	18 20 15.5	+0.3
DUWZ	**D'Urville Isla**	**0.89**	**289**	P	Pn	18 20 20.0	+0.5
DUWZ				S	Sn	18 20 32.8	+1.0
POWZ	**Post Office Ro**	**0.90**	**39**	P	Pn	18 20 20.6	+1.0
BSWZ	**Blackbirch Sta**	**1.07**	**234**	P	Pn	18 20 21.8	-0.2
BHHZ	**Black Hill Sta**	**1.79**	**27**	P	Pb	18 20 34.2	-0.4
WNVZ	**Wahianoa**	**1.82**	**14**	P	Pb	18 20 35.3	+0.1
TUVZ	**Tukino**	**1.89**	**15**	P	Pb	18 20 35.6	-0.7
KHEZ	**Kahui Hut**	**1.96**	**336**	P	Pb	18 20 37.2	-0.3
OTVZ	**Oturere**	**1.99**	**14**	P	Pn	18 20 35.9	+1.1
NNVZ	**North Ngauruho**	**2.01**	**13**	P	Pn	18 20 36.4	+1.2
ETVZ	**East Tongariro**	**2.03**	**15**	P	Pb	18 20 38.2	-0.5
TMVZ	**Te Maari**	**2.04**	**15**	P	Pb	18 20 39.0	0.0
PKE	**Pukeiti**	**2.06**	**337**	P	Pb	18 20 39.7	+0.5
TWGZ	**Tauwhareparae**	**3.70**	**39**	P	Pn	18 20 59.1	+0.9
RUGZ	**Raukumara Rang**	**3.74**	**34**	P	Pn	18 20 59.3	+0.5

*IDC **30** 18:22:21.2±1.7,2˚.44S×139˚.84E,h0km,mb3.6/4, mbtmp3.6/5,ML3.6/1, Error ellipse: s-maj=57.0km s-min=26.1km az=90.0*
*DJA **30** 18:22:22.5±0.6,2˚.S±4˚×14˚.0E±˚,h12km±4km,M4.0/4, MLv4.0/4*
ISC 30 18:22:24.6±1.0,**2˚.30S**±0˚.08×**139˚.90E**±0˚.07,**h25**km,**n12,** σ1§**61**/12,**mb3.7**/4,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.39**	**137**	P	**Pn**	**18 22 33.5**	**-1.1**
GENI				S	**Sn**	**18 22 41.3**	**0.0**
SMPI	**Sarmi**	**1.23**	**285**	P	**Pn**	**18 22 44.2**	**-2.0**
SMPI				S	**Sb**	**18 23 02.8**	**+0.2**
WAMI	**Wamena**	**1.97**	**217**	P	**Pb**	**18 22 59.3**	**-0.4**
WAMI				S	**Sb**	**18 23 26.5**	**+2.6**
SRPI	**Serui, Papua**	**3.68**	**277**	P	**Pn**	**18 23 20.0**	**0.0**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=20,slow=12,SNR=9.8 1.0nm,0.6s	**18.35**	**197**	P	**P**	**18 26 35.3**	**-2.1**
ASAR	**Alice Springs** 1.2nm,0.9s,baz=26,slow=11,SNR=16 1.2nm,0.9s	**22.02**	**195**	P	**P**	**18 27 16.0**	**-1.3**
H11N1	**WAKE ISLAND Hy** baz=233,slow=76,SNR=10.0	**34.37**	**49**	T	T	19 05 34.4	
H11N2	**WAKE ISLAND Hy** baz=233,slow=76,SNR=11	**34.38**	**49**	T	T	19 05 35.6	
H11N3	**WAKE ISLAND Hy** baz=233,slow=76,SNR=5.2	**34.38**	**49**	T	T	19 05 33.1	
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=118,slow=9.5,SNR=4.0 0.5nm,0.3s	**45.26**	**299**	P	**P**	**18 30 40.0**	**-0.5**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=107,slow=7.4,SNR=7.6 0.4nm,0.5s	**70.20**	**322**	P	**P**	**18 33 36.9**	**+1.5**
ILAR	**Eielson Array** 0.5nm,1.0s,baz=236,slow=4.2,SNR=2.4 0.5nm,1.0s	**84.97**	**24**	P	**P**	**18 34 59.0**	**+1.5**

*SOME **30** 18:35:52.1,40˚.72N×77˚.58E,h5km*
*KRNET **30** 18:35:53.5±0.1,40˚.74N×77˚.52E,h21km,mb2.8*
*NNC **30** 18:35:53.8±0.8,40˚.72N×77˚.57E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=5.4km s-min=3.8km az=177.0*
ISC 30 18:35:54.5±2.1,**40˚.76N**±0˚.09×**77˚.58E**±0˚.05,**h7**km±13km, **n57**,σ0§**85**/70,**24C-4D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy** baz=12	**0.98**	**10**	⇑*e*P	**Pg**	**18 36 12.8**	**-0.6**
TARG				⇑*e*S	**Sg**	**18 36 26.7**	**+0.5**
NRN	**Naryn** baz=1.0	**1.37**	**300**	⇑*e*P	**Pn**	**18 36 18.5**	**-1.9**
NRN				⇑*e*S	**Sb**	**18 36 37.0**	**-1.5**
KDJ	**Kajisay** baz=50	**1.40**	**348**	⇑*e*P	**Pn**	**18 36 19.6**	**-1.1**
KDJ				⇑*e*S	**Sb**	**18 36 38.5**	**-0.8**
ULHL	**Ulahol** baz=28	**1.79**	**326**	⇑*e*P	**Pn**	**18 36 26.2**	**+0.1**
ULHL				⇑*e*S	**Sb**	**18 36 50.1**	**-0.5**
PRZ	**Przheval'sk** baz=20	**1.83**	**19**	⇑*e*P	**Pb**	**18 36 27.8**	**-0.6**
PRZ				⇑*e*S	**Sg**	**18 36 52.7**	**-0.6**
ANVS	**Anan'yevo** baz=3.0	**2.02**	**2**	⇑*e*P	**Pn**	**18 36 30.0**	**+0.8**
ANVS				⇑*e*S	**Sb**	**18 36 56.9**	**-0.2**
TNSS	**Tian-Shan** 22nm,0.4s	**2.32**	**348**	Pg	**Pb**	**18 36 37.4**	**+0.4**
TNSS				Lg	Lg	18 37 10.2	
TNSS	**Tian-Shan** 22nm,0.4s	**2.32**	**348**	*e*Pg	**Pb**	**18 36 37.4**	**+0.4**
TNSS				*e*Lg	Lg	18 37 10.2	
SATY	**Saty** 6.1nm,0.4s	**2.38**	**15**	Pg	**Pb**	**18 36 38.1**	**+0.4**
SATY				Lg	Lg	18 37 11.3	
SATY	**Saty** 6.1nm,0.4s	**2.38**	**15**	*e*Pg	**Pb**	**18 36 38.1**	**+0.4**
SATY				*e*Lg	Lg	18 37 11.3	
IZV	**Izvestkoviy** 7.8nm,0.4s	**2.39**	**343**	Pg	**Pb**	**18 36 38.7**	**+0.8**
IZV				Lg	Lg	18 37 12.2	
IZV	**Izvestkoviy** 7.8nm,0.4s	**2.39**	**343**	*e*Pg	**Pb**	**18 36 38.7**	**+0.8**
IZV				*e*Lg	Lg	18 37 12.2	
MDOK	**Medeo** 6.9nm,0.4s	**2.43**	**351**	Pg	**Pb**	**18 36 39.2**	**+0.5**
MDOK				Pg	**Pb**	**18 36 39.2**	**+0.5**
MDOK				Lg	Lg	18 37 09.6	
MDOK				Lg	Lg	18 37 13.1	
MDOK	**Medeo**	**2.43**	**351**	*e*Pg	**Pb**	**18 36 39.2**	**+0.5**
MDOK				*e*Lg	Lg	18 37 13.1	
KOTS	**Kotyrbulak** 14nm,0.3s	**2.50**	**352**	Pg	**Pb**	**18 36 40.6**	**+0.8**
KOTS				Lg	Lg	18 37 15.6	
KOTS	**Kotyrbulak** 14nm,0.3s	**2.50**	**352**	*e*Pg	**Pb**	**18 36 40.6**	**+0.8**
KOTS				*e*Lg	Lg	18 37 15.6	
KNDC	**Almaty** 12nm,0.3s	**2.50**	**350**	⇓Pg	**Pb**	**18 36 41.1**	**+1.3**
KNDC				⇑Lg	Lg	18 37 15.4	
MTBS	**Maitube** 18nm,0.3s	**2.52**	**340**	Pg	**Pb**	**18 36 40.8**	**+0.7**
MTBS				Lg	Lg	18 37 16.0	
MTBS	**Maitube** 18nm,0.3s	**2.52**	**340**	*e*Pg	**Pb**	**18 36 40.8**	**+0.7**
MTBS				*e*Lg	Lg	18 37 16.0	
KST	**Kastek** 4.7nm,0.3s	**2.58**	**333**	Pg	**Pb**	**18 36 41.8**	**+0.6**
KST				Lg	Lg	18 37 17.7	
KST	**Kastek** 4.7nm,0.3s	**2.58**	**333**	*e*Pg	**Pb**	**18 36 41.8**	**+0.6**
KST				*e*Lg	Lg	18 37 17.7	
UZB	**Uzynbulak** 6.3nm,0.3s	**2.62**	**24**	Pg	**Pb**	**18 36 42.4**	**+0.6**
UZB				Lg	Lg	18 37 18.6	
UZB	**Uzynbulak** 6.3nm,0.3s	**2.62**	**24**	*e*Pg	**Pb**	**18 36 42.4**	**+0.6**
UZB				*e*Lg	Lg	18 37 18.6	
TKM2	**Tokmak 2** SNR=5.4	**2.62**	**326**	P	**Pb**	**18 36 43.2**	**+1.4**
TKM2	**Tokmak 2** 2.1nm,0.3s	**2.62**	**326**	⇑Pg	**Pb**	**18 36 42.3**	**+0.4**
TKM2				⇓Lg	Lg	18 37 17.8	
TKM2	**Tokmak 2** 4.5nm,0.5s baz=27	**2.62**	**326**	⇑*e*P	**Pn**	**18 36 37.9**	**+0.5**
TKM2				⇑*e*S	**Sn**	**18 37 10.3**	**+0.7**
ARLS	**Aral** baz=96	**2.69**	**295**	⇑*e*P	**Pn**	**18 36 38.4**	**0.0**
ARLS				⇑*e*S	**Sn**	**18 37 11.0**	**-0.2**
UCH	**Uchtor** SNR=5.5	**2.73**	**303**	P	**Pb**	**18 36 43.9**	**-0.1**
UCH	**Uchtor** baz=4.0	**2.73**	**303**	⇓*e*P	**Pn**	**18 36 39.2**	**0.0**
UCH				⇓*e*S	**Sn**	**18 37 12.8**	**+0.1**
KURS	**Kuram** 3.7nm,0.6s	**2.76**	**9**	*e*Pg	**Pb**	**18 36 44.4**	**+0.2**
KURS				*e*Lg	Lg	18 37 22.1	
SHLS	**Shalkode** 2.2nm,0.2s	**2.77**	**30**	Pg	**Pg**	**18 36 48.5**	**+0.8**
SHLS				Lg	Lg	18 37 28.8	
SHLS	**Shalkode** 2.2nm,0.2s	**2.77**	**30**	*e*Pg	**Pg**	**18 36 48.5**	**+0.8**
SHLS				*e*Lg	Lg	18 37 28.8	
DGS	**Degeres** 5.3nm,0.4s	**2.82**	**332**	Pg	**Pb**	**18 36 46.1**	**+0.8**
DGS				Lg	Lg	18 37 24.7	
DGS	**Degeres** 5.3nm,0.4s	**2.82**	**332**	*e*Pg	**Pb**	**18 36 46.1**	**+0.8**
DGS				*e*Lg	Lg	18 37 24.7	
KPKS	**Kokpek** 5.7nm,0.2s	**2.83**	**17**	Pg	**Pb**	**18 36 45.7**	**+0.4**
KPKS				Lg	Lg	18 37 24.2	
KPKS	**Kokpek** 5.7nm,0.2s	**2.83**	**17**	*e*Pg	**Pb**	**18 36 45.7**	**+0.4**
KPKS				*e*Lg	Lg	18 37 24.2	
AAK	**Ala-Archa** SNR=5.6	**2.98**	**310**	P	**Pb**	**18 36 48.4**	**+0.4**
AAK	**Ala-Archa** baz=11	**2.98**	**310**	⇑*e*P	**Pn**	**18 36 42.6**	**+0.3**
AAK				⇑*e*S	**Sn**	**18 37 18.5**	**+0.2**
KTBS	**Karatobe** 3.4nm,0.3s	**3.02**	**348**	Pg	**Pb**	**18 36 49.7**	**+1.0**
KTBS				Lg	Lg	18 37 31.2	
KTBS	**Karatobe** 3.4nm,0.3s	**3.02**	**348**	*e*Pg	**Pb**	**18 36 49.7**	**+1.0**
KTBS				*e*Lg	Lg	18 37 31.2	
CHMS	**Chumysh** 2.3nm,0.4s	**3.08**	**318**	⇑Pg	**Pb**	**18 36 50.3**	**+0.7**
CHMS				⇑Lg	Lg	18 37 31.7	
CHKK	**Chushkaly** 6.1nm,0.4s	**3.12**	**352**	Pg	**Pb**	**18 36 51.6**	**+1.3**
CHKK				Lg	Lg	18 37 34.4	
CHKK	**Chushkaly** 6.1nm,0.4s	**3.12**	**352**	*e*Pg	**Pb**	**18 36 51.6**	**+1.3**
CHKK				*e*Lg	Lg	18 37 34.5	
AML	**Almayashu** baz=97	**3.23**	**296**	⇑*e*P	**Pn**	**18 36 46.1**	**+0.1**
AML				⇑*e*S	**Sn**	**18 37 24.6**	**-0.2**
KRBS	**Karabastau** 4.3nm,0.4s	**3.26**	**335**	Pg	**Pb**	**18 36 53.4**	**+0.7**
KRBS				Lg	Lg	18 37 37.6	
KRBS	**Karabastau** 4.3nm,0.4s	**3.26**	**335**	*e*Pg	**Pb**	**18 36 53.4**	**+0.7**
KRBS				*e*Lg	Lg	18 37 37.6	
KUU	**Kurty** 2.3nm,0.3s	**3.26**	**344**	Pg	**Pb**	**18 36 52.9**	**+0.2**
KUU				Lg	Lg	18 37 36.9	
KUU	**Kurty** 2.3nm,0.3s	**3.26**	**344**	*e*Pg	**Pb**	**18 36 52.9**	**+0.2**
KUU				*e*Lg	Lg	18 37 36.9	
KTMS	**Ketmen**	**3.38**	**37**	Pg	**Pb**	**18 36 55.4**	**+0.5**
KTMS				Lg	Lg	18 37 41.1	
KTMS	**Ketmen**	**3.38**	**37**	*e*P	**Pb**	**18 36 55.4**	**+0.5**
KTMS				*e*S	**Sg**	**18 37 41.1**	**-2.1**
USP	**Ospenovka** SNR=11	**3.40**	**318**	P	**Pb**	**18 36 56.2**	**+1.2**
BLB	**Baldybastay** 3.8nm,0.2s	**3.40**	**11**	Pg	**Pb**	**18 36 56.2**	**+1.1**
BLB				Lg	Lg	18 37 42.6	
EKS2	**Erkin-Say** SNR=6.2	**3.42**	**305**	P	**Pb**	**18 36 57.5**	**+1.9**
SGDS	**Sogindy** 2.7nm,0.4s	**3.47**	**322**	Pg	**Pb**	**18 36 56.9**	**+0.5**
SGDS				Lg	Lg	18 37 43.7	
MRKS	**Merke** 1.8nm,0.2s	**3.81**	**303**	Pg	**Pb**	**18 37 03.3**	**+1.1**
MRKS				Lg	Lg	18 37 54.5	
MRKS	**Merke** 1.8nm,0.2s	**3.81**	**303**	*e*Pg	**Pb**	**18 37 03.3**	**+1.1**
MRKS				*e*Lg	Lg	18 37 54.5	
DJR	**Jarkent** 1.3nm,0.4s	**3.92**	**24**	*e*Pg	**Pb**	**18 37 05.7**	**+1.6**
DJR				*e*Lg	Lg	18 37 58.3	
	2.2nm,0.3s						

*IDC **30** 18:45:32.0±1.6,39˚.33N×96˚.49E,h0km,mb3.3/3, mbtmp3.4/6,ML3.1/3,MS2.8/1,Error ellipse: s-maj=31.6km s-min=21.0km az=38.0*
ISC 30 18:45:35.6±1.3,**39˚.5N**±0˚.1×**96˚.16E**±0˚.08,**h35**km,**n9,** σ1§**67**/12,**mb3.4**/3,**4C,Gansu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array** 0.3nm,0.3s,baz=221,slow=15,SNR=8.1	**11.18**	**38**	Pn	**Pn**	**18 48 13.1**	**+0.1**
SONM				Sn	**Sn**	**18 50 16.3**	**-0.4**
SONM	0.2nm,0.3s,baz=221,slow=24,SNR=2.2			Lg	Lg	18 51 16.7	
MK31	**Makanchi Array** 0.2nm,0.3s,baz=130,slow=13,SNR=6.6	**12.50**	**310**	⇑P	**Pn**	**18 48 31.1**	**+0.2**
MK31				⇑S	**Sn**	**18 50 47.7**	**-1.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=126,slow=12,SNR=4.9	**12.50**	**310**	Pn	**Pn**	**18 48 32.4**	**+1.5**
MKAR				Sn	**Sn**	**18 50 46.9**	**-2.0**
MKAR	0.1nm,0.3s,baz=126,slow=20,SNR=2.0			Lg	Lg	18 52 15.8	
MAKZ	**Makanchi** 1.4nm,0.8s baz=112,slow=27 0.2nm,0.5s	**12.70**	**310**	⇑P	**Pn**	**18 48 32.2**	**-1.3**
MAKZ				⇑S	**Sn**	**18 50 52.0**	**-1.6**
KURBB	**Kurchatov Arra** baz=128,slow=11,SNR=3.6	**16.69**	**318**	Pn	**Pn**	**18 49 28.1**	**+1.5**
KURBB				Lg	Lg	18 54 24.6	
CMAR	**Chiang Mai Arr** 0.9nm,0.6s baz=107,slow=33,SNR=1.8 0.5nm,0.8s	**21.05**	**173**	P	**P**	**18 50 15.9**	**-0.7**
BVAR	**Borovoye Array** 0.4nm,0.2s,baz=350,slow=10,SNR=2.3 0.4nm,0.2s	**22.25**	**316**	P	**P**	**18 50 32.3**	**+3.1**
KSRS	**Korea Array** 0.7nm,0.5s,baz=117,slow=12,SNR=6.2 0.7nm,0.5s	**24.89**	**84**	P	**P**	**18 50 54.1**	**-0.9**
	0.8nm,0.9s,baz=286,slow=8.6,SNR=2.2 0.8nm,0.9s						
OBN	**Obninsk** comp=Z,11nm,19.2s,baz=188,slow=36	**42.00**	**312**	LR	LR	19 10 46.1	

*ISN **30** 18:59:37.9±1.1,32˚.44N×47˚.69E,h20km±73km,ML2.5*
*TEH **30** 18:59:38.2,32˚.43N×47˚.63E,h7km±23km,ML2.7*
ISC 30 18:59:37.8±1.0,**32˚.45N**±0˚.05×**47˚.71E**±0˚.04,**h10**km,**n9,** σ0§**67**/12,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.43**	**302**	Pg	**Pg**	**18 59 46.1**	**-0.2**
IKFM	**Kafar-mosalman**	**1.08**	**6**	Pg	**Pn**	**18 59 59.6**	**+0.7**
IDOB	**Doab**	**1.39**	**16**	Pg	**Pg**	**19 00 05.2**	**+0.7**
RAFI	**Al-Rafai**	**1.54**	**242**	*e*Pg	**Pn**	**19 00 06.0**	**+0.7**
RAFI				*e*Sg	**Sn**	**19 00 25.0**	**-0.4**
RAFI	comp=E,59nm,0.4s			AML	AML	19 00 27.6	
RAFI	comp=N,88nm,0.4s			AML	AML	19 00 28.3	
AMIS	**Naft Sefid**	**1.55**	**120**	Pg	**Pg**	**19 00 07.9**	**+0.4**
IBDR	**Badra**	**1.64**	**294**	*e*Pn	**Pn**	**19 00 07.0**	**+0.3**
IBDR				*e*Sn	**Sb**	**19 00 29.0**	**+0.1**
IBDR	comp=Z,58nm,0.5s			AML	AML	19 00 32.1	
IBDR	comp=E,64nm,0.4s			AML	AML	19 00 32.3	
IKOM	**Komasi**	**1.73**	**354**	Pg	**Pg**	**19 00 10.7**	**-0.3**
IPIR	**Pirpir**	**2.69**	**84**	Pn	**Pb**	**19 00 25.1**	**-1.2**
BHD	**Baghdad**	**2.92**	**287**	*e*Pn	**Pn**	**19 00 25.0**	**+0.7**
BHD				*e*Sn	**Sn**	**19 01 00.0**	**+0.5**

*IDC **30** 19:08:42.2±0.5,48˚.84S×124˚.52E,h0km,mb4.6/15, mbtmp4.7/16,MS4.1/40,Error ellipse: s-maj=21.7km s-min=13.3km az=106.0*
*NEIC **30** 19:08:43.0±2.4,48˚.87S±0˚.06×124˚.7E±0˚.2,h10km±1km, mb4.8/41,Error ellipse: s-maj=21.4km s-min=8.1km az=289.0*
*GCMT **30** 19:08:43.0±0.2,48˚.92S±0˚.01×124˚.73E±0˚.03,h17km, MW5.0/95,Moment Tensor Solution. s37,c45; s95,c158; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~3.78±.20; Mθθ2.75±.12; Mϕϕ1.03±.13; Mrθ0.79±.28; Mϕϕ-1.69±.06; Mϕr~0.29±.36; Best double couple: M=3.87600×10^16^ NP1:ϕs299.00000°,δ51.00000°,λ-93.00000°. NP2: ϕs124.00000°,δ39.00000°,λ-86.00000°. Principal axes: T 3.8760, Plg6.0000°, Azm31.0000°; N 0.0010, Plg2.0000°, Azm301.0000°; P -3.8760, Plg83.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 19:08:44.2±0.3,**48˚.87S**±0˚.06×**124˚.47E**±0˚.08,**h13**km,**n187,** σ1§**36**/145,**mb4.8**/37,**MS4.1**/41,**1C-3D,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H** baz=152,slow=74,SNR=240	**15.92**	**328**	T	T	19 28 53.9	
H01W2	**Cape Leeuwin H** baz=152,slow=74,SNR=224	**15.92**	**327**	T	T	19 28 59.7	
H01W3	**Cape Leeuwin H** baz=152,slow=74,SNR=234	**15.93**	**328**	T	T	19 28 58.4	
NWAO	**Narrogin (SRO)** 22nm,0.7s	**16.83**	**339**	Pn	**Pn**	**19 12 39.8**	**+0.3**
NWAO	comp=Z,770nm,19.3s,slow=32			LR	LR	19 17 39.8	
NWAO	**Narrogin (SRO)**	**16.83**	**339**	Pn	**Pn**	**19 12 38.0**	**-1.4**
NWAO	**Narrogin (SRO)**	**16.83**	**339**	Pn	**Pn**	**19 12 37.6**	**-1.9**
NWAO	comp=Z,83nm,0.6s			IAmb	IAmb	19 12 44.5	
NWAO	**Narrogin (SRO)**	**16.83**	**339**	P	**P**	**19 12 41.5**	**0.0**
TAU	**Tasmania Unive**	**16.96**	**78**		**Pn**	**19 12 41.3**	**+0.3**
TAU	comp=Z,72nm,1.2s			IAmb	IAmb	19 12 42.8	
ARPS	**Mount Arapiles**	**17.52**	**53**	P	**P**	**19 12 50.5**	**+1.4**
CQRQ	**Coronation Par**	**17.59**	**74**	P	**P**	**19 12 53.3**	**+3.4**
BRAT	**Ballarat**	**18.09**	**59**	P	**P**	**19 12 59.4**	**+4.0**
BBOO	**Buckleboo**	**18.25**	**33**		**Pn**	**19 12 54.3**	**-2.8**
BBOO	**Buckleboo**	**18.25**	**33**	P	**P**	**19 12 58.8**	**+1.6**
FORT	**Forrest**	**18.28**	**10**	Pn	**Pn**	**19 12 53.6**	**-3.8**
FORT	**Forrest**	**18.28**	**10**	P	**P**	**19 12 58.2**	**+0.7**
HTT	**Hallett**	**18.83**	**40**	P	**Pn**	**19 13 05.4**	**+1.2**
CASY	**Casey**	**18.90**	**198**	P	**P**	**19 13 02.3**	**-1.8**
CASY	comp=Z,164nm,2.0s			IAmb	IAmb	19 13 06.4	
TOO	**Toolangi**	**18.97**	**61**	P	**P**	**19 13 00.0**	**-5.1**
TOO	comp=Z,104nm,1.9s			IAmb	IAmb	19 13 01.6	
TOO	**Toolangi**	**18.97**	**61**	P	**Pn**	**19 13 08.8**	**+3.0**
BLDU	**Ballidu**	**19.17**	**339**	P	**Pn**	**19 13 10.5**	**+2.3**
MULG	**Mulgathing**	**19.95**	**25**	P	**P**	**19 13 16.6**	**+0.7**
MORW	**Morawa**	**20.81**	**339**	P	**P**	**19 13 25.2**	**0.0**
MORW	comp=Z,38nm,1.1s			IAmb	IAmb	19 13 26.9	
MORW	**Morawa**	**20.81**	**339**	P	Pn	19 13 28.3	+0.7
LCRK	**Leigh Creek**	**21.17**	**35**	P	**P**	**19 13 29.5**	**+0.4**
STKA	**Stephens Creek** comp=Z,21nm,0.7s,baz=205,slow=9.8,SNR=20	**21.33**	**44**	P	**P**	**19 13 31.1**	**+0.3**
STKA	comp=Z,836nm,20.7s,baz=205,slow=33 comp=Z,21nm,0.7s			LR	LR	19 20 17.8	
STKA	**Stephens Creek**	**21.33**	**44**	P	**P**	**19 13 28.2**	**-2.5**
STKA	**Stephens Creek**	**21.33**	**44**	P	**P**	**19 13 31.1**	**+0.3**
CAN	**Canberra**	**22.56**	**62**	P	**P**	**19 13 46.1**	**+2.0**
MEEK	**Meekatharra**	**22.66**	**346**	P	**P**	**19 13 45.5**	**+0.4**
OOD	**Oodnadatta**	**22.76**	**26**	P	**P**	**19 13 47.7**	**+1.5**
CMSA	**Cobar Meteorol**	**23.59**	**51**	P	**P**	**19 13 54.9**	**+0.4**
WRKA	**Warakurna**	**23.98**	**9**	P	**P**	**19 13 58.2**	**-0.2**
WOLH	**Wollongong Har**	**24.30**	**63**	P	**P**	**19 14 03.3**	**+2.1**
INKA	**Innaminka**	**24.57**	**37**	P	**P**	**19 14 04.4**	**+0.7**
ASAR	**Alice Springs** comp=Z,16nm,0.9s,baz=201,slow=8.4,SNR=57	**26.24**	**20**	P	**P**	**19 14 18.1**	**-0.9**
ASAR	comp=Z,1.6nm,0.7s,baz=196,slow=1.8,SNR=8.7			PcP	**PcP**	**19 17 44.8**	**-0.6**
ASAR	comp=Z,1μm,21.8s,baz=200,slow=34 comp=Z,16nm,0.9s			LR	LR	19 23 28.5	
ASAR	**Alice Springs**	**26.24**	**20**	P	**P**	**19 14 17.8**	**-1.1**
AS31	**Alice Springs**	**26.24**	**20**	P	**P**	**19 14 17.8**	**-1.1**
AS01	**Alice Springs**	**26.25**	**20**	P	**P**	**19 14 18.3**	**-0.7**
QLP	**Quilpie**	**27.04**	**42**	P	**P**	**19 14 27.1**	**+1.0**
RMQ	**Roma**	**29.25**	**49**	P	**P**	**19 14 46.9**	**+1.1**
WRA	**Warramunga Arr** comp=Z,3.9nm,1.0s,baz=196,slow=8.6,SNR=12	**29.94**	**19**	P	**P**	**19 14 50.0**	**-2.0**
WRA	comp=Z,2.4nm,0.8s,baz=203,slow=2.3,SNR=9.5			PcP	**PcP**	**19 17 53.8**	**-0.6**
WRA	comp=Z,1μm,21.3s,baz=168,slow=34 comp=Z,3.9nm,1.0s			LR	LR	19 25 44.0	
WRA	**Warramunga Arr**	**29.94**	**19**	P	**P**	**19 14 51.5**	**-0.4**
WB2	**Warramunga Arr**	**29.94**	**19**	P	**P**	**19 14 49.2**	**-2.8**
WRAB	**Tennant Creek**	**29.95**	**19**	P	**P**	**19 14 50.2**	**-1.8**
WR0	**Warramunga Arr**	**29.96**	**19**	P	**P**	**19 14 50.1**	**-2.1**
WR0	comp=Z,18nm,1.4s			IAmb	IAmb	19 15 40.1	
WB0	**Warramunga Arr**	**30.12**	**19**	P	**P**	**19 14 51.0**	**-2.5**
FITZ	**Fitzroy Crossi**	**30.71**	**2**	P	**P**	**19 14 53.3**	**-5.5**
FITZ	**Fitzroy Crossi**	**30.71**	**2**	P	**P**	**19 14 59.8**	**+1.0**
QIS	**Mount Isa**	**30.75**	**29**	P	**P**	**19 14 58.6**	**-0.5**
AUWSH	**Wavell State H**	**30.76**	**56**	P	**P**	**19 15 02.2**	**+3.0**
VNDA	**Vanda** comp=Z,5.3nm,0.9s,baz=309,slow=8.8,SNR=9.0	**32.09**	**166**	P	**P**	**19 15 10.3**	**-0.1**
VNDA	comp=Z,327nm,18.8s,baz=324,slow=34 comp=Z,5.3nm,0.9s			LR	LR	19 27 08.6	
VNDA	**Vanda** comp=Z,1nm,1.1s	**32.09**	**166**	P	**P**	**19 15 10.0**	**-0.4**
VNDA				IAmb	IAmb	19 15 10.4	
RPZ	**Rata Peaks** comp=Z,250nm,21.3s,baz=256,slow=30	**32.20**	**99**	LR	LR	19 25 00.1	
INZ	**Inchbonnie**	**32.90**	**97**	P	**P**	**19 15 17.2**	**-0.5**
KNRA	**Kununurra**	**33.29**	**8**	P	**P**	**19 15 21.1**	**-0.3**
KNRA	**Kununurra**	**33.29**	**8**	P	**P**	**19 15 22.9**	**+1.5**
CTA	**Charters Tower** comp=Z,666nm,19.0s,baz=204,slow=36	**33.63**	**39**	LR	LR	19 28 47.0	
MAW	**Mawson** comp=Z,46nm,1.1s,baz=127,slow=5.1,SNR=4.1	**35.50**	**215**	P	**P**	**19 15 40.9**	**+0.8**
MAW	comp=Z,165nm,19.6s,baz=82,slow=32			LR	LR	19 27 43.4	

	comp=Z,46nm,1.1s								
MTN	**Manton Dam**	**36.34**	**11**	P		**P**	**19 15 45.4**	**-2.4**	
MTN				IAmb		IAmb	19 15 50.9		
	comp=Z,20nm,1.1s								
MTN	**Manton Dam**	**36.34**	**11**	P		**P**	**19 15 49.8**	**+2.0**	
MRZ	**Mangatainoka R**	**36.60**	**97**	P		**P**	**19 15 47.6**	**-2.2**	
KDU	**Kakadu**	**36.68**	**13**	P		**P**	**19 15 50.7**	**0.0**	
BATI	**Baumata**	**38.55**	**359**	LR		LR	19 32 21.5		
	comp=Z,599nm,18.2s,baz=194,slow=37								
RTZ	**Ruatahuna**	**38.59**	**95**	P		**P**	**19 16 04.7**	**-2.2**	
RTZ				IAmb		IAmb	19 16 15.4		
	comp=Z,24nm,0.8s								
URZ	**Urewera**	**38.88**	**94**	P		**P**	**19 16 09.0**	**0.0**	
	comp=Z,7.3nm,0.6s,baz=326,slow=6.1,SNR=6.4								
URZ				LR		LR	19 29 26.1		
	comp=Z,130nm,19.2s,baz=330,slow=32								
	comp=Z,7.3nm,0.6s								
QSPA	**South Pole Qui**	**41.25**	**180**	P		**P**	**19 16 28.7**	**0.0**	
	comp=Z,14nm,0.9s,baz=332,slow=5.0,SNR=21								
QSPA				PcP		**PcP**	**19 18 26.9**	**-0.2**	
	comp=Z,1.7nm,0.3s,baz=272,slow=2.9,SNR=3.7								
QSPA				LR		LR	19 32 52.3		
	comp=Z,624nm,19.5s,baz=338,slow=35								
	comp=Z,14nm,0.9s								
DZM	**Mont Dzumac**	**42.62**	**66**	*e*S		**S**	**19 23 01.9**	**-1.0**	
	comp=Z,59nm,22.3s								
DZM				*e*LR		LR	19 28 24.1		
	comp=Z,515nm,28.9s								
DZM	**Mont Dzumac**	**42.62**	**66**	LR		LR	19 31 09.5		
	comp=Z,218nm,18.4s,baz=214,slow=32								
PMG	**Port Moresby**	**43.70**	**33**	LR		LR	19 34 55.8		
	comp=Z,256nm,18.7s,baz=224,slow=36								
PMG	**Port Moresby**	**43.70**	**33**	P		**P**	**19 16 44.4**	**-4.5**	
PMG				IAmb		IAmb	19 16 51.7		
	comp=Z,12nm,0.8s								
PMG	**Port Moresby**	**43.70**	**33**	P		**P**	**19 16 49.3**	**+0.4**	
PMG	**Port Moresby**	**43.70**	**33**	P		**P**	**19 16 49.6**	**+0.7**	
KAPI	**Kappang**	**43.89**	**353**	LR		LR	19 35 36.7		
	comp=Z,129nm,18.1s,baz=171,slow=37								
LEM	**Lembang**	**44.26**	**336**	LR		LR	19 32 31.8		
	comp=Z,175nm,20.3s,baz=149,slow=32								
ELIB	**Princess Elisa**	**47.63**	**204**	*d*P		**P**	**19 17 19.7**	**+0.2**	
	comp=Z,12nm,1.1s								
ELIB				*d*PcP		**PcP**	**19 18 49.5**	**+0.6**	
SIJI	**Sorong**	**48.18**	**9**	LR		LR	19 38 38.6		
	comp=Z,111nm,18.6s,baz=188,slow=37								
HNR	**Honiara**	**49.25**	**49**	LR		LR	19 36 29.1		
	comp=Z,3jum,21.4s,baz=211,slow=34								
GTOI	**Gorontalo**	**49.33**	**358**	P		**P**	**19 17 33.5**	**+0.5**	
	comp=Z,5.6nm,0.9s								
TOLI2	**Tolitoli**	**49.89**	**355**	P		**P**	**19 17 36.4**	**-0.9**	
TOLI2				IAmb		IAmb	19 17 51.8		
	comp=Z,14nm,1.1s								
KRVT	**Keravat (AS076**	**50.23**	**37**	LR		LR	19 39 03.7		
	comp=Z,255nm,18.6s,baz=337,slow=36								
TROLL	**Troll, Antarti**	**52.75**	**199**	P		**P**	**19 17 58.1**	**-0.1**	
BELA	**Belgrano 2**	**52.86**	**185**	P		**P**	**19 17 58.6**	**-0.3**	
MSVF	**Nonsavu**	**53.06**	**74**	LR		LR	19 36 26.0		
	comp=Z,116nm,19.8s,baz=189,slow=31								
SNAA	**Sanae**	**54.13**	**198**	P		**P**	**19 18 08.2**	**-0.2**	
SNAA	**Sanae**	**54.13**	**198**	P		**P**	**19 18 08.4**	**0.0**	
	comp=Z,46nm,0.9s,baz=150,slow=7.7,SNR=37								
SNAA				LR		LR	19 39 50.2		
	comp=Z,653nm,20.6s,baz=162,slow=34								
	comp=Z,46nm,0.9s								
SNAA	**Sanae**	**54.13**	**198**	P		**P**	**19 18 07.6**	**-0.8**	
VNA2	**Neumayer--Watz**	**55.63**	**197**	P		**P**	**19 18 19.1**	**0.0**	
	baz=140,slow=10.0								
DAV	**Davao City (W)**	**55.71**	**1**	LR		LR	19 45 09.8		
	comp=Z,92nm,18.4s,baz=164,slow=39								
VNA3	**Neumayer Olymp**	**55.81**	**196**	P		**P**	**19 18 20.0**	**-0.4**	
VNA1	**Neumayer--Stat**	**56.03**	**197**	P		**P**	**19 18 22.5**	**+0.6**	
H08S2	**Diego Garcia H**	**59.84**	**295**	T		T	20 23 43.1		
	baz=143,slow=74								
H08S1	**Diego Garcia H**	**59.85**	**295**	T		T	20 23 40.2		
	baz=143								
H08S3	**Diego Garcia H**	**59.86**	**295**	T		T	20 23 41.7		
	baz=143,slow=74								
AFI	**Afiamalu**	**62.43**	**79**	LR		LR	19 40 27.4		
	comp=Z,98nm,20.8s,baz=112,slow=30								
GUMO	**Guam**	**64.76**	**22**	LR		LR	19 47 35.4		
	comp=Z,129nm,19.6s,baz=188,slow=36								
RAR	**Rarotonga**	**65.06**	**94**	LR		LR	19 42 48.9		
	comp=Z,48nm,20.6s,baz=142,slow=32								
PMSA	**Palmer Station**	**66.50**	**176**	LR		LR	19 48 26.1		
	comp=Z,253nm,19.1s,baz=208,slow=36								
OPO	**Ambohidratompo**	**67.94**	**267**	P		**P**	**19 19 43.8**	**+0.9**	
	comp=Z,3.4nm,0.8s,baz=126,slow=8.7,SNR=5.0								
OPO				LR		LR	19 43 08.7		
	comp=Z,83nm,18.9s,baz=6.0,slow=30								
	comp=Z,3.4nm,0.8s								
CM31	**Chiang Mai Arr**	**70.78**	**334**	P		**P**	**19 19 59.4**	**-0.8**	
CM31				IAmb		IAmb	19 20 01.4		
	comp=Z,5.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**70.78**	**334**	P		**P**	**19 20 00.8**	**+0.7**	
	comp=Z,3.3nm,0.7s,baz=183,slow=5.5,SNR=39								
CMAR				LR		LR	19 51 52.0		
	comp=Z,54nm,18.4s,baz=155,slow=37								
	comp=Z,3.3nm,0.7s								
CMAR	**Chiang Mai Arr**	**70.78**	**334**	P		**P**	**19 20 00.3**	**+0.1**	
CHTO	**Chiang Mai**	**71.12**	**334**	P		**P**	**19 20 02.6**	**+0.4**	
CRAI	**Chiangrai**	**72.07**	**336**	P		**P**	**19 20 08.5**	**+0.6**	
CRAI				IAmb		IAmb	19 20 10.2		
	comp=Z,10.0nm,1.1s								
PPT2	**Papeete2**	**74.34**	**99**	*e*LR		LR	19 43 06.0		
	comp=Z,121nm,28.8s								
SUR	**Sutherland**	**74.43**	**239**	LR		LR	19 48 56.5		
	comp=Z,127nm,18.6s,baz=156,slow=32								
SUR	**Sutherland**	**74.43**	**239**	P		**P**	**19 20 22.9**	**+0.7**	
BOSA	**Boshof**	**74.64**	**244**	P		**P**	**19 20 23.3**	**0.0**	
	comp=Z,6.3nm,0.9s,baz=151,slow=5.4,SNR=10								
BOSA				LR		LR	19 47 28.7		
	comp=Z,137nm,19.9s,baz=180,slow=31								
	comp=Z,6.3nm,0.9s								
BOSA	**Boshof**	**74.64**	**244**	P		**P**	**19 20 22.9**	**-0.4**	
BOSA				IAmb		IAmb	19 20 25.7		
	comp=Z,20nm,1.3s								
KMI	**Kunming**	**76.18**	**340**	⇓P		**P**	**19 20 34.3**	**+2.2**	
KMI				sP		pwP	19 20 39.3	-1.3	
KMI				pmax		pmax			
	comp=Z,17nm,1.0s								
LBTB	**Lobatse**	**77.09**	**247**	LR		LR	19 49 17.9		
	comp=Z,154nm,18.5s,baz=130,slow=32								
LBTB	**Lobatse**	**77.09**	**247**	P		**P**	**19 20 37.6**	**+0.2**	
LBTB				IAmb		IAmb	19 20 38.9		
	comp=Z,14nm,1.3s								
JCJ	**Chichijima**	**77.27**	**16**	LR		LR	19 53 07.9		
	comp=Z,83nm,21.8s,baz=156,slow=34								
PZH	**PanZhiHua**	**77.74**	**339**	P		**P**	**19 20 41.3**	**+0.6**	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
PZH				pmax		pmax			
	comp=Z,120nm,4.4s								
SHL	**Shillong**	**79.62**	**330**	P		**P**	**19 20 49.2**	**-2.0**	
SHL				IAmb		IAmb	19 21 01.4		
	comp=Z,20nm,1.2s								
EFI	**East Falkland**	**79.81**	**178**	P		**P**	**19 20 50.8**	**-1.0**	
NJ2	**Nanjing**	**80.72**	**355**	*e*P		**P**	**19 20 57.8**	**+1.1**	
NJ2				pmax		pmax			
	comp=Z,12nm,0.8s								
JNU	**Nakatsue**	**81.83**	**5**	LR		LR	19 56 34.3		
	comp=Z,48nm,21.0s,baz=160,slow=35								
LSZ	**Lusaka**	**82.70**	**255**	LR		LR	19 51 55.9		
	comp=Z,128nm,19.9s,baz=161,slow=31								
RAMN	**Ramite**	**82.72**	**326**	*e*P		**P**	**19 21 07.3**	**-0.4**	
JIRN	**Jiri**	**83.52**	**326**	*e*P		**P**	**19 21 11.8**	**-0.2**	
	comp=Z,18nm,0.9s								
LSA	**Lhasa**	**83.70**	**331**	P		**P**	**19 21 12.1**	**-0.8**	
LSA				IAmb		IAmb	19 21 15.6		
	comp=Z,6.1nm,0.8s								
XAN	**Xi'an**	**83.70**	**347**	⇑P		**P**	**19 21 13.5**	**+1.2**	
XAN				pP		PcP	19 21 17.5	+1.0	
XAN				pmax		pmax			
	comp=Z,7.0nm,1.2s								
PKI	**Pulchoki**	**83.72**	**326**	*e*P		**P**	**19 21 12.5**	**-0.5**	
PKIN	**Phulchoki**	**83.73**	**326**	*e*P		**P**	**19 21 12.3**	**-0.7**	
GUN	**Gumba**	**83.86**	**326**	*e*P		**P**	**19 21 12.8**	**-0.9**	
WIN	**Windhoek**	**84.01**	**243**	P		**P**	**19 21 15.1**	**+0.5**	
GKN	**Gorkha**	**84.40**	**325**	*e*P		**P**	**19 21 15.7**	**-0.5**	
	comp=Z,34nm,1.0s								
DANN	**Dangsing**	**85.05**	**325**	*e*P		**P**	**19 21 19.0**	**-0.6**	
	comp=Z,51nm,0.8s								
MJAR	**Matsushiro Arr**	**85.92**	**11**	P		**P**	**19 21 23.9**	**+0.5**	
	comp=Z,7.0nm,1.0s,baz=183,slow=5.6,SNR=7.3								
MJAR				LR		LR	19 57 48.8		
	comp=Z,57nm,20.8s,baz=190,slow=34								
	comp=Z,7.0nm,1.0s								

KSRS	**Korea Array**	**86.01**	**3**	P		**P**	**19 21 24.5**	**+0.8**	
	comp=Z,1.8nm,0.9s,baz=186,slow=4.5,SNR=4.1								
KSRS				LR		LR	19 59 11.3		
	comp=Z,35nm,21.8s,baz=170,slow=35								
	comp=Z,1.8nm,0.9s								
TSUM	**Tsumeb**	**86.31**	**245**	LR		LR	19 53 25.6		
	comp=Z,182nm,20.4s,baz=154,slow=31								
LZH	**Lanzhou**	**86.56**	**343**	*e*P		**P**	**19 21 28.3**	**+1.5**	
LZH				sP		pwP	19 21 34.5	-0.8	
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
BJT	**Baijiatuau**	**88.82**	**354**	P		**P**	**19 21 38.4**	**+1.2**	
BJT				IAmb		IAmb	19 21 40.8		
	comp=Z,4.6nm,1.0s								
BJI	**Beijing**	**88.84**	**354**	P		**P**	**19 21 38.8**	**+1.5**	
BJI				pmax		pmax			
	comp=Z,4.0nm,1.7s								
PLCA	**Paso Flores**	**89.79**	**169**	P		**P**	**19 21 44.5**	**+2.1**	
	comp=Z,1.5nm,0.8s,baz=147,slow=5.6,SNR=3.2								
	comp=Z,1.5nm,0.8s								
HHC	**Hu-ho-hao-te**	**90.07**	**350**	*e*P		**P**	**19 21 45.3**	**+2.0**	
HHC				pmax		pmax			
	comp=Z,7.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,150nm,6.0s								
GTA	**Gaotai**	**90.58**	**341**	*e*P		**P**	**19 21 46.5**	**+0.8**	
GTA				pP		pwP	19 21 54.3	+0.1	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
MBAR	**Mbarara**	**92.01**	**267**	LR		LR	19 57 45.8		
	comp=Z,106nm,18.5s,baz=140,slow=32								
CN2	**Changchun**	**92.30**	**1**	P		**P**	**19 21 54.0**	**+0.6**	
CN2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
XLT	**XiLinHaoTe**	**92.68**	**354**	*e*P		**P**	**19 21 56.5**	**+1.2**	
XLT				pP		sP	19 22 01.0	+1.7	
XLT				sP		pwP	19 22 04.3	+0.5	
XLT				pmax		pmax			
	comp=Z,6.0nm,1.1s								
XLT				pmax		pmax			
	comp=Z,130nm,3.8s								
USRK	**Ussuriysk Ar.**	**92.92**	**5**	LR		LR	20 01 16.9		
	comp=Z,40nm,21.9s,baz=172,slow=34								
ASAJ	**Asahikawa**	**93.96**	**13**	LR		LR	20 04 35.8		
	comp=Z,30nm,19.8s,baz=158,slow=36								
SONM	**Songino Array**	**97.59**	**348**	P		Pdif	19 22 18.2	+0.4	
	comp=Z,0.6nm,0.9s,baz=182,slow=4.3,SNR=4.7								
	comp=Z,0.6nm,0.9s								
WMQ	**Urnqi**	**97.78**	**334**	*e*P		Pdif	19 22 19.8	+1.2	
KLR	**Kul'dur**	**97.92**	**5**	LR		LR	20 05 14.0		
	comp=Z,65nm,20.8s,baz=184,slow=35								
CFA	**Coronel Fontan**	**99.08**	**169**	LR		LR	20 05 45.2		
	comp=Z,55nm,18.6s,baz=108,slow=34								
MKAR	**Makanchi Array**	**102.10**	**332**	P		**Pdif**	**19 22 37.9**	**+0.2**	
	comp=Z,0.3nm,0.8s,baz=134,slow=4.2,SNR=2.2								
H10S2	**ASCENSION HYDR**	**112.14**	**224**	T		T	21 30 08.8		
	baz=150,slow=74,SNR=34								
H10S3	**ASCENSION HYDR**	**112.16**	**224**	T		T	21 30 09.7		
	baz=70,slow=74,SNR=129								
BRTR	**Keskin Array B**	**119.04**	**298**	PKP		**PKPdf**	**19 27 31.4**	**-0.8**	
	comp=Z,0.8nm,0.7s,baz=171,slow=4.8,SNR=4.3								
TORD	**Torodi Ar. Bea**	**121.19**	**253**	PKP		**PKPdf**	**19 27 36.0**	**-0.9**	
	comp=Z,1.7nm,0.9s,baz=140,slow=0.4,SNR=7.7								
AKASG	**Malin Array Be**	**128.17**	**306**	PKP		**PKPdf**	**19 27 48.6**	**-0.6**	
	comp=Z,0.1nm,0.3s,baz=78,slow=2.6,SNR=2.4								
ILAR	**Eielson Array**	**132.21**	**35**	PKP		**PKPdf**	**19 27 55.4**	**-1.1**	
	comp=Z,1.3nm,0.7s,baz=273,slow=2.8,SNR=13								
VYHS	**Vyhne**	**132.78**	**299**	*e*PKP		**PKiKP**	**19 27 58.7**	**-0.5**	
RONA	**Rosalia, Austr**	**133.86**	**297**	*i* PKP		**PKPdf**	**19 28 00.8**	**+0.7**	
	comp=Z,3.9nm,1.2s								
ARSA	**Arzberg**	**134.09**	**296**	*i* PKP		**PKPdf**	**19 28 00.2**	**-0.4**	
	comp=Z,4.0nm,1.0s								
SOKA	**Soboth**	**134.10**	**295**	*i* PKP		**PKPdf**	**19 28 00.6**	**-0.1**	
	comp=Z,3.2nm,1.2s								
NVAR	**Mina Array Bea**	**134.60**	**79**	PKP		**PKPdf**	**19 28 02.8**	**+0.7**	
	comp=Z,0.4nm,0.3s,baz=217,slow=4.9,SNR=6.0								
FINES	**FINESS Array B**	**134.83**	**318**	PKP		**PKPdf**	**19 28 01.0**	**-0.4**	
	comp=Z,5.1nm,0.9s,baz=178,slow=4.2,SNR=4.2								
GERES	**GERESS Array B**	**135.93**	**297**	PKP		**PKPdf**	**19 28 03.0**	**-1.0**	
	comp=Z,0.5nm,0.6s,baz=90,slow=2.2,SNR=5.8								
WTTA	**Wattenberg**	**136.42**	**294**	*e*PKP		**PKPdf**	**19 28 04.8**	**-0.3**	
	comp=Z,2.8nm,0.7s								
SQTA	**Sankt Quirin**	**136.66**	**294**	*e*PKP		**PKPdf**	**19 28 05.2**	**-0.3**	
	comp=Z,4.2nm,0.6s								
MOTA	**Moosalm**	**136.78**	**294**	*e*PKP		**PKPdf**	**19 28 05.3**	**-0.5**	
	comp=Z,4.9nm,1.0s								
FETA	**Feichten**	**136.85**	**294**	*e*PKP		**PKPdf**	**19 28 05.7**	**-0.2**	
	comp=Z,4.4nm,0.9s								
RETA	**Reutte**	**137.05**	**294**	*e*PKP		**PKPdf**	**19 28 05.7**	**-0.4**	
	comp=Z,2.9nm,0.8s								
CLL	**Collm**	**137.42**	**300**	*e*PKPdf		**PKiKP**	**19 28 08.0**	**-0.5**	
	comp=Z,6.0nm,1.1s								
CLL				*e*PP		**PP**	**19 30 52.0**	**-1.0**	
DAVA	**Damuels**	**137.49**	**294**	*i* PKP		**PKPdf**	**19 28 06.8**	**-0.3**	
	comp=Z,7.3nm,1.0s								
TXAR	**Lajitas Array**	**138.66**	**100**	PKP		**PKPdf**	**19 28 09.7**	**0.0**	
	comp=Z,0.9nm,0.8s,baz=195,slow=4.8,SNR=7.7								
MDT	**Midelt**	**139.07**	**266**	PKP		**PKPdf**	**19 28 11.1**	**+0.7**	
	comp=Z,1.5nm,1.0s,baz=79,slow=0.8,SNR=2.4								
NOA	**NORSAR Array B**	**141.53**	**314**	PKhKP		PKPpre	19 28 08.6		
	comp=Z,0.7nm,0.8s,baz=90,slow=4.0,SNR=2.7								
PDAR	**Pinedale Array**	**142.54**	**78**	PKhKP		PKPpre	19 28 13.1		
	comp=Z,0.5nm,0.6s,baz=176,slow=5.0,SNR=6.0								
ESDC	**Sonseca Array**	**142.59**	**276**	PKhKP		PKPpre	19 28 11.3		
	comp=Z,0.5nm,0.7s,baz=104,slow=3.0,SNR=2.3								
PBEJ	**Beja**	**144.28**	**271**	*e*PKP		PKPbc	19 28 18.2	+0.5	
PESTR	**Estremoz**	**144.55**	**272**	*e*PKP		PKPbc	19 28 19.2	+0.6	
PTEO	**Sao Teotonio**	**144.58**	**269**	*e*PKP		PKPbc	19 28 19.1	+0.5	
EVO	**Evora**	**144.65**	**271**	*e*PKP		PKPbc	19 28 19.0	+0.1	
EVO				*i* LQ		LQ	19 28 26.8		
PNCL	**Nicolau / Gran**	**144.76**	**270**	*e*PKP		PKPbc	19 28 19.7	+0.5	
PNCL				*i* LQ		LQ	19 28 27.0		
PCBR	**Castelo Branco**	**144.99**	**273**	*e*PKP		**PKPab**	**19 28 20.0**	**+0.1**	
PCBR				*i* LQ		LQ	19 28 28.1		
PMTG	**Montargil**	**145.08**	**272**	*e*PKP		**PKPab**	**19 28 20.5**	**+0.2**	
PMTG				*i* LQ		LQ	19 28 28.0		
MTE	**Manteigas**	**145.32**	**274**	*e*PKP		**PKPab**	**19 28 21.5**	**+0.3**	
MTE				*i* LQ		LQ	19 28 29.1		
YKA	**Yellowknife Ar**	**145.36**	**44**	PKPbc		**PKPbc**	**19 28 20.5**	**+0.1**	
	comp=Z,24nm,0.9s,baz=266,slow=3.4,SNR=179								
MVO	**Moncorvo**	**145.36**	**276**	*e*PKP		**PKPab**	**19 28 21.9**	**+0.6**	
MVO				*i* LQ		LQ	19 28 29.6		
PBRG	**Braganca**	**145.49**	**277**	*e*PKP		**PKPab**	**19 28 22.1**	**+0.3**	
PCAS	**Casmilo, Conde**	**145.77**	**273**	*e*PKP		**PKPab**	**19 28 23.1**	**+0.3**	
PCAB	**Cabril**	**146.28**	**276**	*e*PKP		**PKPdf**	**19 28 23.0**	**+0.2**	
DAG	**Danmarks Havn**	**148.49**	**345**	*i* P		**PKPbc**	**19 28 28.0**	**-0.9**	
ULM	**Lac du Bonnet**	**154.02**	**72**	PKP		**PKPdf**	**19 28 33.4**	**-1.1**	
	comp=Z,1.2nm,0.5s,baz=225,slow=2.9,SNR=3.5								
ULM				PKPbc		**PKPbc**	**19 28 41.6**	**-1.0**	
	comp=Z,1.1nm,0.4s,baz=246,slow=7.1,SNR=3.8								

*NEIC **30** 19:25:45.8±0.5, 5.6S±0.2×150.14E±0.09, h51km±11km, mb4.2/13, Error ellipse: s-maj=24.5km s-min=7.3km az=155.0*
*IDC **30** 19:25:45.0±2.1, 6.47S×151.02E, h58km±16km, mb3.6/7, mbtmp4.0/9, MS3.4/5, Error ellipse: s-maj=59.2km s-min=12.1km az=123.0*

ISC 30 19:25:45.5±0.7, 5.8S±0.1×150.2E±0.1, h50km, n29, σ1§19/27, mb3.8/9, MS3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.33**	**52**	P		**Pn**	**19 26 20.8**	**-0.6**
	92nm,0.3s,baz=244,slow=1.8,SNR=101							
KRVT				S		**Sn**	**19 26 50.5**	**+1.7**
	139nm,0.3s,baz=260,slow=8.8,SNR=14							
KRVT				LR		LR	19 27 26.8	
	comp=Z,202nm,18.7s,baz=60,slow=43							
RABL	**Rabaul**	**2.51**	**51**			**Pn**	**19 26 23.4**	**-0.5**
PMG	**Port Moresby**	**4.70**	**220**	P		**Pn**	**19 26 54.1**	**+0.2**
	42nm,0.7s,baz=72,slow=8.1,SNR=28							
PMG				S		**Sn**	**19 27 47.0**	**-0.2**
	72nm,0.5s,baz=164,slow=12,SNR=10							
PMG	**Port Moresby**	**4.70**	**220**			**Pn**	**19 26 55.1**	**+1.2**
FAKI	**Fak Fak**	**18.12**	**278**	P		**P**	**19 29 52.3**	**-1.2**
SAUI	**Saumlaki**	**18.89**	**262**	P		**P**	**19 29 59.8**	**-2.2**
WB0	**Warramunga Arr**	**20.73**	**226**	P		**P**	**19 30 22.4**	**+0.3**
WB0				IAmb		IAmb	19 30 24.0	
	comp=Z,9.3nm,0.7s							
WR0	**Warramunga Arr**	**20.75**	**226**	P		**P**	**19 30 22.4**	**+0.2**
WR0				IAmb		IAmb	19 30 35.9	
	comp=Z,11nm,0.9s							
WRAB	**Tennant Creek**	**20.87**	**226**	P		**P**	**19 30 23.8**	**+0.3**
WRAB				IAmb		IAmb	19 30 25.0	

	comp=Z,9.2nm,0.6s								
WB2	**Warramunga Arr**	**20.88**	**226**	P		**P**	**19 30 23.9**	**+0.3**	
WB2				IAmb		IAmb	19 30 25.5		
	comp=Z,9.7nm,0.7s								
WRA	**Warramunga Arr**	**20.88**	**226**	P		**P**	**19 30 24.2**	**+0.5**	
	comp=Z,7.1nm,0.5s,baz=53,slow=11,SNR=71								
	comp=Z,7.1nm,0.5s								
WRA	**Warramunga Arr**	**20.88**	**226**	P		**P**	**19 30 23.9**	**+0.2**	
KNRA	**Kununurra**	**23.22**	**243**	P		**P**	**19 30 49.4**	**+1.0**	
KNRA				IAmb		IAmb	19 31 16.1		
	comp=Z,16nm,1.1s								
AS31	**Alice Springs**	**23.72**	**220**	P		**P**	**19 30 51.9**	**-1.2**	
ASAR	**Alice Springs**	**23.72**	**220**	P		**P**	**19 30 52.5**	**-0.6**	
	comp=Z,1.4nm,0.6s,baz=57,slow=9.0,SNR=32								
	comp=Z,1.4nm,0.6s								
ASAR	**Alice Springs**	**23.72**	**220**	P		**P**	**19 30 51.3**	**-1.8**	
FITZ	**Fitzroy Crossi**	**26.92**	**241**	P		**P**	**19 31 21.5**	**-0.7**	
STKA	**Stephens Creek**	**27.19**	**196**	P		**P**	**19 31 25.2**	**+0.7**	
STKA				IAmb		IAmb	19 31 34.7		
	comp=Z,2.2nm,1.4s								
JCUZ	**Jacuzzi**	**59.35**	**64**	P		**P**	**19 35 42.7**	**-0.3**	
SONM	**Songino Array**	**65.79**	**329**	P		P	19 36 30.7	+5.1	
	comp=Z,0.5nm,0.5s,baz=126,slow=7.3,SNR=6.1								
SONM				LR		LR	20 06 28.1		
	comp=Z,41nm,20.6s,baz=186,slow=37								
	comp=Z,0.5nm,0.5s								
MKAR	**Makanchi Array**	**79.36**	**320**	P		P	19 37 51.1	+4.9	
	comp=Z,0.2nm,0.5s,baz=112,slow=4.3,SNR=2.6								
	comp=Z,0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**80.53**	**327**	P		**P**	**19 37 55.4**	**+3.1**	
	comp=Z,0.7nm,0.6s,baz=108,slow=7.7,SNR=4.7								
ZALV				LR		LR	20 17 24.6		
	comp=Z,22nm,18.0s,baz=111,slow=38								
	comp=Z,0.7nm,0.6s								
SML	**Sawmill**	**82.08**	**25**	P		**P**	**19 38 01.8**	**+1.4**	
SML				IAmb		IAmb	19 38 03.3		
	comp=Z,11nm,1.0s								
IMAR	**Indian Mountai**	**82.17**	**20**	P		**P**	**19 38 00.6**	**-0.1**	
ILAR	**Eielson Array**	**84.03**	**23**	P		**P**	**19 38 10.6**	**+0.2**	
	comp=Z,1.0nm,0.6s,baz=251,slow=5.1,SNR=6.9								
	comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**88.47**	**324**	LR		LR	20 21 22.1		
	comp=Z,14nm,18.0s,baz=112,slow=37								
PFO	**Pinyon Flats O**	**95.94**	**57**	LR		LR	20 18 31.7		
	comp=Z,37nm,18.1s,baz=217,slow=33								
YKA	**Yellowknife Ar**	**97.49**	**28**	P		**P**	**19 39 11.9**	**-1.9**	
	comp=Z,0.3nm,0.8s,baz=278,slow=4.9,SNR=5.6								
	comp=Z,0.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**148.10**	**286**	PKPbc		**PKiKP**	**19 45 28.4**	**-0.1**	
	comp=Z,1.3nm,0.5s,baz=51,slow=3.0,SNR=8.3								

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WMOK	**Wichita Mounta**	**26.41**	**337**	P	**P**	**19 36 38.0**	**+1.1**
WMOK				IAmb	IAmb	19 36 40.5		
	comp=Z,15nm,1.1s							
T42A	**Van Buren**	**26.54**	**352**	P	**P**	**19 36 36.3**	**-1.6**
OK052	**Battle Ridge R**	**26.85**	**341**	P	**P**	**19 36 39.2**	**-1.6**
OK052				IAmb	IAmb	19 36 40.2		
	comp=Z,12nm,1.0s							
OK053	**SW of W Deep R**	**26.86**	**341**	P	**P**	**19 36 39.4**	**-1.5**
OK053				IAmb	IAmb	19 36 40.3		
	comp=Z,11nm,0.6s							
MSTX	**Muleshoe**	**27.53**	**330**	P	**P**	**19 36 46.1**	**-0.9**
MSTX				IAmb	IAmb	19 36 57.7		
	comp=Z,8.0nm,1.1s							
S39A	**Bolivar**	**27.56**	**348**		**P**	**19 36 45.7**	**-1.4**
S39A				IAmb	IAmb	19 36 46.6		
	comp=Z,4.7nm,0.8s							
Q51A	**Peebles**	**28.35**	**5**	P	**P**	**19 36 53.4**	**-0.8**
P53A	**Whipple**	**29.03**	**8**	P	**P**	**19 36 58.9**	**-1.2**
P53A				IAmb	IAmb	19 37 00.6		
	comp=Z,13nm,0.8s							
P52A	**Corning**	**29.08**	**7**	P	**P**	**19 36 59.7**	**-0.9**
P38A	**Dawn**	**29.47**	**349**	P	**P**	**19 37 02.6**	**-1.5**
P38A				IAmb	IAmb	19 37 11.2		
	comp=Z,5.8nm,0.8s							
ACSO	**Alum Creek Sta**	**29.58**	**5**	P	**P**	**19 37 04.3**	**-0.8**
O52A	**Adamsville**	**29.59**	**7**	P	**P**	**19 37 04.5**	**-0.7**
O53A	**New Philadelph**	**29.80**	**8**	P	**P**	**19 37 06.2**	**-0.8**
SDCO	**Great Sand Dun**	**31.87**	**331**	P	**P**	**19 37 26.5**	**+0.8**
ECSD	**EROS Data Cent**	**34.05**	**347**	P	**P**	**19 37 42.3**	**-2.0**
ECSD				IAmb	IAmb	19 37 45.1		
	comp=Z,9.8nm,1.3s							
SADO	**Sadowa**	**34.54**	**9**	LR	LR	19 51 09.0		
	comp=Z,29nm,19.7s,baz=120,slow=36							
SRU	**San Rafael Swe**	**35.47**	**327**	P	**P**	**19 37 57.1**	**+0.2**
F36A	**Milaca**	**35.55**	**352**	P	**P**	**19 37 56.2**	**-1.0**
F36A				IAmb	IAmb	19 38 04.2		
	comp=Z,5.2nm,1.0s							
PFO	**Pinyon Flats O**	**35.67**	**314**	LR	LR	19 53 08.0		
	comp=Z,60nm,19.9s,baz=166,slow=37							
PDAR	**Pinedale Array**	**37.73**	**332**	P	**P**	**19 38 16.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=132,slow=11,SNR=7.4							
PDAR				PcP	**PcP**	**19 40 33.3**	**+0.1**	
	comp=Z,0.2nm,0.6s,baz=141,slow=4.6,SNR=2.4							
	comp=Z,0.8nm,0.7s							
HWUT	**Hardware Ranch**	**37.83**	**329**	P	**P**	**19 38 16.8**	**-0.2**
HWUT				IAmb	IAmb	19 38 18.9		
	comp=Z,3.4nm,0.8s							
AGMN	**Agassiz Nation**	**38.29**	**350**	P	**P**	**19 38 18.9**	**-1.6**
AGMN				IAmb	IAmb	19 38 20.5		
	comp=Z,5.2nm,1.1s							
REDW	**Red Top Meadow**	**38.80**	**331**	P	**P**	**19 38 24.8**	**-0.4**
REDW				IAmb	IAmb	19 38 27.3		
	comp=Z,8.8nm,1.3s							
NVAR	**Mina Array Bea**	**39.61**	**320**	P	**P**	**19 38 33.8**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=128,slow=7.5,SNR=5.3							
NVAR				PcP	**PcP**	**19 40 40.2**	**+1.1**	
	comp=Z,1.1nm,0.8s,baz=99,slow=1.2,SNR=5.8							
	comp=Z,0.3nm,0.3s							
NVAR	**Mina Array Bea**	**39.61**	**320**	P	**P**	**19 38 32.8**	**+0.8**
BMN	**Battle Mountai**	**40.16**	**323**	P	**P**	**19 38 37.8**	**+1.3**
BMN				IAmb	IAmb	19 38 46.2		
	comp=Z,8.4nm,1.4s							
ULM	**Lac du Bonnet**	**40.18**	**351**	P	**P**	**19 38 34.1**	**-2.1**
	comp=Z,1.1nm,0.6s,baz=174,slow=10,SNR=1.7							
	comp=Z,1.1nm,0.6s							
WVOR	**Wild Horse Val**	**42.24**	**324**	P	**P**	**19 38 54.9**	**+1.4**
RPN	**Rapa Nui**	**43.63**	**210**	LR	LR	19 54 00.0		
	comp=Z,35nm,18.2s,baz=255,slow=31							
HOOD	**Mount Hood Mea**	**45.75**	**325**	P	**P**	**19 39 22.4**	**+0.8**
HOOD				IAmb	IAmb	19 39 24.5		
	comp=Z,9.5nm,0.9s							
BDFB	**Brasilia**	**46.25**	**124**	P	**P**	**19 39 26.2**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=294,slow=12,SNR=2.0							
	comp=Z,1.1nm,0.4s							
SCHQ	**Schefferville**	**46.70**	**16**	LR	LR	19 59 36.6		
	comp=Z,58nm,19.6s,baz=102,slow=37							
FRB	**Frobisher Bay**	**54.48**	**10**	LR	LR	20 02 38.1		
	comp=Z,62nm,19.6s,baz=321,slow=35							
YKA	**Yellowknife Ar**	**55.53**	**345**	P	**P**	**19 40 33.2**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=140,slow=6.7,SNR=5.6							
	comp=Z,0.3nm,0.8s							
SFJD	**Kangerlussuaq**	**61.15**	**15**	LR	LR	20 08 26.8		
	comp=Z,60nm,18.5s,baz=182,slow=37							
ILAR	**Eielson Array**	**67.98**	**336**	P	**P**	**19 41 57.6**	**-1.4**
	comp=Z,1.9nm,1.3s,baz=121,slow=3.8,SNR=5.5							
	comp=Z,1.9nm,1.3s							
SONM	**Songino Array**	**120.60**	**350**	PKP	**PKPdf**	**19 49 51.7**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=90,slow=1.4,SNR=2.0							
MKAR	**Makanchi Array**	**121.90**	**9**	PKP	**PKPdf**	**19 49 53.4**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=47,slow=0.6,SNR=2.2							
KSRS	**Korea Array**	**122.23**	**328**	PKP	**PKPdf**	**19 49 54.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=21,slow=3.5,SNR=2.1							
ASAR	**Alice Springs**	**139.43**	**246**	PKP	**PKiKP**	**19 50 31.6**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=127,slow=2.9,SNR=1.4							
WRA	**Warramunga Arr**	**139.63**	**252**	PKP	**PKPdf**	**19 50 30.8**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=90,slow=2.4,SNR=2.0							
CMAR	**Chiang Mai Arr**	**150.53**	**349**	PKP	**PKPdf**	**19 50 47.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=283,slow=14,SNR=4.8							
CMAR				PKPbc	**pPKPdf**	**19 50 53.2**	**+1.1**	
	comp=Z,1.7nm,0.9s,baz=331,slow=2.5,SNR=10							

*NEIC **30** 19:42:35.3±0.7, 17.9°S±0.2°×178.1°W±0.1°, h619km±13km, mb4.4/24, Error ellipse: s-maj=25.7km s-min=14.5km az=147.0*

*IDC **30** 19:42:37.7±2.2, 17.88°S×178.38°W, h634km±15km, mb3.1/6, mbtmp4.0/7, Error ellipse: s-maj=72.7km s-min=20.8km az=145.0*

ISC 30 19:42:34.0±0.8, 18.0°S±0.1°×178.0°W±0.1°, h600km, n37, σ1°57/40, mb4.4/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73**	**274**	P	**P**	**19 44 02.0**	**+4.2**
	16nm,0.6s,baz=106,slow=19,SNR=16						
MSVF				S	**S**	**19 45 11.1**	**+5.1**
	5.1nm,0.9s,baz=63,slow=23,SNR=1.2						
MSVF	**Nonsavu**	**3.73**	**274**	P	**P**	**19 43 59.9**	**+2.1**
QRZ	**Quartz Range**	**24.13**	**198**	P	**P**	**19 47 05.0**	**+0.6**
NNZ	**Nelson**	**24.26**	**196**	P	**P**	**19 47 07.0**	**+1.5**
LTZ	**Lake Taylor**	**26.02**	**196**	P	**P**	**19 47 18.7**	**-2.3**
EIDS	**Eidsvold**	**29.55**	**250**	P	**P**	**19 47 52.2**	**+0.1**
EIDS				IAmb	IAmb	19 48 19.2		
	comp=Z,14nm,1.3s							
ARMA	**Armidale**	**30.18**	**240**	P	**P**	**19 47 56.2**	**-1.3**
ARMA				IAmb	IAmb	19 48 19.3		
	comp=Z,18nm,1.4s							
CTAO	**Charters Tower**	**33.77**	**261**	P	**P**	**19 48 27.7**	**-0.2**
CTAO				IAmb	IAmb	19 48 58.0		
	comp=Z,21nm,1.4s							
TOO	**Toolangi**	**37.37**	**231**	P	**P**	**19 48 57.3**	**0.0**
COEN	**Coen**	**37.45**	**270**	P	**P**	**19 48 58.2**	**-0.1**
COEN				IAmb	IAmb	19 48 59.2		
	comp=Z,7.7nm,0.7s							
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**19 49 09.7**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=95,slow=8.2,SNR=7.4							
	comp=Z,2.1nm,0.5s							
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**19 49 10.0**	**+0.4**
BBOO	**Buckleboo**	**43.66**	**241**	P	**P**	**19 49 47.0**	**-0.2**
BBOO				IAmb	IAmb	19 50 11.8		
	comp=Z,15nm,1.2s							
WR0	**Warramunga Arr**	**44.76**	**260**	P	**P**	**19 49 55.0**	**-0.8**
WB0	**Warramunga Arr**	**44.92**	**260**	P	**P**	**19 49 56.1**	**-1.0**
WB0				IAmb	IAmb	19 49 57.0		
	comp=Z,10nm,1.2s							
WB2	**Warramunga Arr**	**44.94**	**260**	P	**P**	**19 49 55.9**	**-1.4**
WB2				IAmb	IAmb	19 49 56.5		
	comp=Z,17nm,1.5s							
WRAB	**Tennant Creek**	**44.94**	**260**	P	**P**	**19 49 56.5**	**-0.8**
WRA	**Warramunga Arr**	**44.95**	**260**	P	**P**	**19 49 56.4**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=96,slow=7.2,SNR=51							
WRA				PcP	**PcP**	**19 51 24.4**	**-1.1**	
	comp=Z,0.3nm,0.3s,baz=94,slow=3.7,SNR=2.6							
	comp=Z,2.2nm,0.5s							
WRA	**Warramunga Arr**	**44.95**	**260**	P	**P**	**19 49 56.2**	**-1.1**
AS31	**Alice Springs**	**45.09**	**254**	P	**P**	**19 49 57.6**	**-0.8**
ASAR	**Alice Springs**	**45.09**	**254**	P	**P**	**19 49 57.8**	**-0.6**
	comp=Z,4.6nm,0.4s,baz=90,slow=8.0,SNR=112							
ASAR				PcP	**PcP**	**19 51 25.1**	**-0.8**	
	comp=Z,0.9nm,0.4s,baz=104,slow=3.9,SNR=10							
	comp=Z,4.6nm,0.4s							
ASAR	**Alice Springs**	**45.09**	**254**	P	**P**	**19 49 57.3**	**-1.1**
MTN	**Manton Dam**	**49.14**	**268**	P	**P**	**19 50 27.4**	**-1.4**
MTN				IAmb	IAmb	19 51 08.2		
	comp=Z,19nm,1.4s							
FORT	**Forrest**	**50.27**	**245**	P	**P**	**19 50 36.1**	**-0.7**
FORT				IAmb	IAmb	19 50 49.6		
	comp=Z,16nm,1.0s							
FITZ	**Fitzroy Crossi**	**53.35**	**261**	P	**P**	**19 50 58.5**	**-0.5**
PSA00	**Pilbara Seismi**	**58.22**	**255**	P	**P**	**19 51 31.6**	**-1.0**
PSA00				IAmb	IAmb	19 52 10.6		
	comp=Z,40nm,1.5s							
GIRL	**Giralia**	**63.20**	**253**	P	**P**	**19 52 04.8**	**-0.3**
KKM	**Kota Kinabalu**	**69.11**	**284**	P	**P**	**19 52 39.5**	**-2.5**
KKM				IAmb	IAmb	19 52 40.8		
	comp=Z,15nm,1.3s							
AMKA	**Amchitka**	**69.14**	**358**	P	**P**	**19 52 40.1**	**-1.1**
SSLB	**Suanglung**	**72.59**	**303**	P	**P**	**19 53 00.4**	**-1.7**
TXAR	**Lajitas Array**	**85.76**	**57**	P	**P**	**19 54 13.6**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=226,slow=6.8,SNR=3.4							
	comp=Z,0.2nm,0.6s							
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**19 54 10.8**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=213,slow=4.7,SNR=4.9							
	comp=Z,0.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P	**P**	**19 54 28.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=91,slow=4.1,SNR=2.0							
	comp=Z,0.2nm,0.3s							
SNAA	**Sanae**	**90.47**	**178**	P	**P**	**19 54 33.0**	**+0.5**
SNAA				IAmb	IAmb	19 55 03.5		
	comp=Z,9.9nm,1.5s							
BRTR	**Keskin Array B**	**145.11**	**315**	PKP	**PKPdf**	**20 01 04.5**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=80,slow=4.6,SNR=5.3							
CLL	**Collm**	**145.65**	**348**	*i* PKPbc	**PKPdf**	**20 01 06.0**	**+1.1**
	comp=Z,4.0nm,0.8s							
GERES	**GERESS Array B**	**147.81**	**345**	PKPbc	**PKPbc**	**20 01 11.7**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=32,slow=3.5,SNR=6.6							

IDC 30 19:44:33.5±5.0, 32.43S×179.65E, h386km±40km, mb3.0/3, mbtmp3.8/4, Error ellipse: s-maj=65.1km s-min=26.7km az=50.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.17**	**199**	P	Pn	19 46 07.5	+0.2
	3.2nm,0.3s,baz=344,slow=3.4,SNR=9.3						
URZ				S	S	19 47 19.5	-4.3
	7.9nm,0.4s,baz=151,slow=21,SNR=16						
ASAR	**Alice Springs**	**41.05**	**270**	P	P	19 51 41.1	-0.1
	0.4nm,0.7s,baz=102,slow=7.7,SNR=2.6						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**42.23**	**276**	P	P	19 51 50.5	-0.2
	0.7nm,0.3s,baz=112,slow=7.8,SNR=6.6						
	0.7nm,0.3s						
VNDA	**Vanda**	**45.88**	**185**	P	P	19 52 18.1	-0.4
	0.9nm,0.4s,baz=40,slow=3.6,SNR=9.8						
	0.9nm,0.4s						
FINES	**FINESS Array B**	**146.30**	**337**	PKPbc	PKPbc	20 03 28.3	-0.4
	1.2nm,0.7s,baz=72,slow=4.5,SNR=1.4						

*IDC **30** 20:13:52.6±1.7, 43.94N×105.62W, h0km, mbtmp3.1/3, ML2.6/2, Error ellipse: s-maj=37.9km s-min=11.6km az=147.0*

*NEIC **30** 20:13:52.9±1.9, 43.60N±0.06×105.21W±0.08, h0km±2km, ML3.2/76, Error ellipse: s-maj=13.3km s-min=3.1km az=43.0*

ISC 30 20:13:49.8±1.0, 43.62N±0.06×105.20W±0.06, h0km, n84, σ2°35/82, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**59**	Pg	**Pn**	**20 14 11.6**	**+0.5**
K22A	**Casper**	**1.37**	**225**		**Pg**	**20 14 16.1**	**0.0**
K22A				IAML		20 14 43.2		
	comp=N,321nm,0.4s						
PHWY	**Pilot Hill**	**2.32**	**185**		**Pn**	**20 14 31.5**	**+1.9**
PHWY				IAML		20 15 13.3		
	comp=N,109nm,0.5s						
RWWY	**Rawlins**	**2.43**	**218**		**Pn**	**20 14 31.7**	**+0.6**
RWWY				IAML		20 15 16.0		
	comp=N,177nm,0.7s						
N23A	**Red Feather La**	**2.78**	**192**		**Pn**	**20 14 38.6**	**+2.8**
N23A				IAML		20 15 21.3		
	comp=N,122nm,0.5s						
N23A				IAML		20 15 24.7		
	comp=E,82nm,0.9s						
BRIGG	**Briggsdale**	**3.10**	**167**		**Pn**	**20 14 43.4**	**+3.2**
LAO	**LASA Array**	**3.15**	**347**	Pn	**Pn**	**20 14 42.7**	**+1.9**
RLMT	**Red Lodge**	**3.28**	**299**		**Pn**	**20 14 44.6**	**+2.0**
RLMT				IAML		20 15 48.9		
	comp=E,43nm,1.0s						
RLMT				IAML		20 15 58.8		
	comp=E,43nm,0.7s						
PD31	**Pinedale Array**	**3.30**	**257**		**Pn**	**20 14 44.6**	**+1.7**
PDAR	**Pinedale Array**	**3.30**	**257**	Pn	**Pn**	**20 14 45.8**	**+2.8**
	comp=E,4.9nm,0.3s,baz=75,slow=15,SNR=36						
PDAR				Lg	Lg	20 15 30.1		
	comp=E,12nm,0.3s,baz=69,slow=34,SNR=2.4						
PDAR	**Pinedale Array**	**3.30**	**257**		**Pn**	**20 14 45.6**	**+2.7**
BW06	**Boulder Array**	**3.30**	**257**		**Pn**	**20 14 45.0**	**+2.1**
BW06				IAML		20 15 38.2		
	comp=E,42nm,0.5s						
BW06				IAML		20 15 38.7		
	comp=E,52nm,0.7s						
OGNE	**Ogallala**	**3.56**	**138**	Pn	**Pn**	**20 14 49.6**	**+3.2**
YMP	**Mirror Lake Pl**	**3.74**	**289**		**Pn**	**20 14 52.5**	**+3.5**
ISCO	**Idaho Springs**	**3.83**	**185**		**Pn**	**20 14 53.7**	**+3.4**
LKWY	**Lake**	**3.86**	**286**		**Pn**	**20 14 54.7**	**+4.0**
LKWY				IAML		20 15 22.1		
	comp=E,56nm,0.6s						
LKWY				IAML		20 16 18.4		
	comp=E,32nm,2.7s						
LOHW	**Long Hollow**	**3.92**	**272**		**Pb**	**20 14 56.9**	**-3.1**
H17A	**Grant Village**	**3.95**	**283**		**Pn**	**20 14 55.9**	**+4.0**
H17A				IAML		20 15 59.9		
	comp=N,31nm,1.1s						
FLWY	**Flagg Ranch**	**4.00**	**279**		**Pn**	**20 14 56.0**	**+3.4**
FLWY				IAML		20 16 20.7		
	comp=N,41nm,2.2s						
MOOW	**Moose Ponds**	**4.02**	**274**		**Pn**	**20 14 55.0**	**+2.1**
SNOW	**Snow King Moun**	**4.04**	**270**		**Pn**	**20 14 55.6**	**+2.4**
SNOW				IAML		20 16 28.1		
	comp=N,48nm,2.1s						
SNOW				IAML		20 16 28.3		
	comp=N,46nm,0.9s						
YNR	**Norris Junctio**	**4.09**	**287**		**Pn**	**20 14 55.6**	**+1.8**
REDW	**Red Top Meadow**	**4.12**	**268**		**Pn**	**20 14 56.4**	**+2.2**
REDW				IAML		20 16 09.6		
	comp=N,48nm,0.7s						
O20A	**White River Ci**	**4.15**	**214**		**Pn**	**20 14 57.5**	**+2.9**
IMW	**Indian Meadow**	**4.17**	**276**		**Pn**	**20 14 58.8**	**+3.9**
IMW				IAML		20 16 18.6		
	comp=N,32nm,0.7s						
IMW				IAML		20 16 25.1		
	comp=N,42nm,0.6s						
TPAW	**Teton Pass**	**4.18**	**270**		**Pn**	**20 14 57.0**	**+1.9**
TPAW				IAML		20 16 27.3		
	comp=N,23nm,0.8s						
TPAW				IAML		20 16 36.0		
	comp=N,39nm,1.1s						
FXWY	**Fox Creek**	**4.23**	**272**		**Pn**	**20 14 59.0**	**+3.3**
YMR	**Madison River**	**4.28**	**286**		**Pn**	**20 14 59.4**	**+3.0**
YMR				IAML		20 16 33.1		
	comp=E,42nm,0.9s						
E28A	**Huff**	**4.35**	**46**		**Pn**	**20 14 58.0**	**+0.8**
AHID	**Auburn Hatcher**	**4.40**	**261**		**Pn**	**20 15 00.5**	**+2.5**
RDMU	**Red Mountain**	**4.45**	**228**		**Pn**	**20 15 02.0**	**+3.3**
RDMU				IAML		20 16 24.1		
	comp=E,28nm,0.9s						
RDMU				IAML		20 16 34.8		
	comp=N,24nm,1.2s						
ECR	**Eagle Creek**	**4.54**	**265**		**Pn**	**20 15 02.2**	**+2.3**
SMCO	**Snowmass**	**4.63**	**197**		**Pn**	**20 15 03.5**	**+2.1**
SMCO				IAML		20 16 27.3		
	comp=N,26nm,0.7s						
SMCO				IAML		20 16 35.2		
	comp=N,19nm,1.4s						
QLMT	**Earthquake Lak**	**4.64**	**287**		**Pn**	**20 15 03.8**	**+2.5**
Q24A	**Divide**	**4.65**	**179**		**Pn**	**20 15 03.1**	**+1.6**
Q24A				IAML		20 16 40.4		
	comp=N,19nm,0.7s						
Q24A				IAML		20 18 10.8		
	comp=E,32nm,0.2s						
DGMT	**Dagmar**	**4.90**	**8**		**Pn**	**20 15 06.1**	**+1.3**
KSCO	**Kaye Shedlock'**	**4.99**	**156**	Pn	**Pn**	**20 15 08.1**	**+2.0**
BOZ	**Bozeman (W)**	**5.00**	**296**		**Pn**	**20 15 10.7**	**+4.5**
BOZ				IAML		20 16 37.6		
	comp=E,17nm,0.8s						
BOZ				IAML		20 18 25.5		
	comp=E,12nm,4.8s						
HWUT	**Hardware Ranch**	**5.11**	**249**		**Pn**	**20 15 10.7**	**+3.0**
HWUT				IAML		20 16 48.4		
	comp=E,22nm,1.6s						
TCUT	**Toone Canyon**	**5.23**	**244**		**Pn**	**20 15 12.0**	**+2.5**
EGMT	**Eagleton**	**5.43**	**326**		**Pn**	**20 15 14.6**	**+2.4**
P18A	**Preston Nutter**	**5.49**	**225**		**Pn**	**20 15 15.9**	**+2.8**
JLU	**Jordanelle**	**5.54**	**239**	Pn	**Pn**	**20 15 15.4**	**+1.7**
HRY	**Holter Researc**	**5.62**	**306**		**Pn**	**20 15 16.6**	**+2.0**
LRM	**Limekiln Ridge**	**5.62**	**296**		**Pn**	**20 15 15.8**	**+1.0**
MCMT	**McKenzie Canyo**	**5.63**	**285**	Pn	**Pn**	**20 15 17.1**	**+2.2**
CTU	**Camp Tracy**	**5.68**	**241**	Pn	**Pn**	**20 15 16.2**	**+0.6**
PV22	**Blue Mesa, Par**	**5.75**	**209**	Pn	**Pn**	**20 15 17.4**	**+0.8**
MDND	**Maddock**	**5.77**	**41**	Pn	**Pn**	**20 15 18.4**	**+1.8**
PV07	**Paradox Valley**	**5.79**	**208**		**Pn**	**20 15 19.2**	**+2.0**
PV21	**Cone Mtn., Par**	**5.80**	**211**	Pn	**Pn**	**20 15 18.4**	**+1.1**
PV15	**Paradox Valley**	**5.83**	**206**		**Pn**	**20 15 18.9**	**+1.2**
SPUT	**South Promonto**	**5.83**	**249**		**Pn**	**20 15 18.6**	**+0.9**
P17A	**Butcher Ranch,**	**5.87**	**227**		**Pn**	**20 15 19.1**	**+1.0**
SDCO	**Great Sand Dun**	**5.87**	**182**		**Pn**	**20 15 21.1**	**+2.8**
HVU	**Hansel Valley**	**5.87**	**254**		**Pn**	**20 15 20.6**	**+2.3**
PV23	**Carpenter Ridg**	**5.91**	**210**		**Pn**	**20 15 20.2**	**+1.3**
PV04	**Paradox Valley**	**5.92**	**209**	Pn	**Pn**	**20 15 20.4**	**+1.5**
PV12	**Saucer Basin,**	**5.95**	**208**	Pn	**Pn**	**20 15 23.0**	**+3.5**
BCYI	**Bear Canyon**	**5.96**	**280**	Pn	**Pn**	**20 15 21.6**	**+2.0**
PV14	**Lion Creek, Pa**	**5.98**	**210**	Pn	**Pn**	**20 15 23.1**	**+3.2**
S22A	**4UR Ranch, Cre**	**5.99**	**192**	Pn	**Pn**	**20 15 23.3**	**+3.3**
PV16	**Nyswonger Mesa**	**6.00**	**209**	Pn	**Pn**	**20 15 21.9**	**+1.9**
SRU	**San Rafael Swe**	**6.02**	**223**		**Pn**	**20 15 23.1**	**+2.8**
PV03	**Paradox Valley**	**6.03**	**208**	Pn	**Pn**	**20 15 22.7**	**+2.3**
PV01	**Paradox Valley**	**6.04**	**206**	Pn	**Pn**	**20 15 23.4**	**+2.7**
PV17	**East Wray Mesa**	**6.04**	**209**	Pn	**Pn**	**20 15 22.9**	**+2.3**
PV18	**Skein Mesa, Pa**	**6.05**	**209**	Pn	**Pn**	**20 15 21.6**	**+0.8**
PV13	**Radium Mtn., P**	**6.10**	**208**		**Pn**	**20 15 23.9**	**+2.5**
TMUT	**Trail Mountain**	**6.24**	**228**		**Pn**	**20 15 24.7**	**+1.2**
PV05	**Paradox Valley**	**6.27**	**209**	Pn	**Pn**	**20 15 23.5**	**-0.3**
NLU	**North Lily Min**	**6.31**	**237**	Pn	**Pn**	**20 15 25.4**	**+1.2**
Q16A	**Castle Valley**	**6.50**	**226**		**Pn**	**20 15 29.2**	**+2.3**
T25A	**Trinidad**	**6.50**	**174**	Pn	**Pn**	**20 15 28.7**	**+1.8**
DUG	**Dugway, Tooele**	**6.63**	**242**	Pn	**Pn**	**20 15 30.2**	**+1.6**
HLID	**Hailey**	**6.69**	**273**	Pn	**Pn**	**20 15 31.0**	**+1.5**
MSO	**Missoula**	**6.96**	**301**	Pn	**Pn**	**20 15 32.8**	**-0.2**
MVU	**Marysvale**	**7.36**	**228**	Pn	**Pn**	**20 15 39.9**	**+1.2**
MTPU	**Mount Pierson**	**7.68**	**226**	Pn	**Pn**	**20 15 45.3**	**+2.0**
WALA	**Waterton Lakes**	**8.12**	**315**	Pn	**Pn**	**20 15 50.7**	**+1.7**
I10CA	**LAC DU BONNET**	**9.10**	**40**	I	I	21 14 29.8		
	comp=E,0.1nm,1.8s,baz=225,slow=331,SNR=2.7						
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**20 16 04.1**	**+0.4**
	comp=E,0.4nm,0.3s,baz=233,slow=14,SNR=2.6						
ULM				Lg	Lg	20 18 32.1		
	comp=E,0.1nm,0.3s,baz=294,slow=13,SNR=1.4						
	comp=E,1.7nm,0.4s						
TXAR	**Lajitas Array**	**14.31**	**175**	Pg	Pg	20 18 21.8	
	baz=3.9,slow=14,SNR=3.8						
TXAR				Lg	Lg	20 21 21.1		
	comp=E,0.1nm,0.3s,baz=358,slow=30,SNR=2.0						
YKA	**Yellowknife Ar**	**19.70**	**347**	P	**P**	**20 18 18.9**	**-1.4**
	baz=158,slow=13,SNR=2.8						
	comp=E,0.1nm,0.5s						

WEL 30 20:16:40.6±0.9, 37°S±4°×17°9E±°, h12km, M3.6/16, ML3.9/18, MLv3.6/16, Error ellipse: s-maj=0.0km s-min=0.0km az=103.7, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.54**	**239**	P	Pb	20 16 51.6	-0.4
MXZ				S	Sg	20 16 58.9	+0.6
WMGZ	**Waiomatatini S**	**0.65**	**215**	P	Pn	20 16 54.9	-0.8
PKGZ	**Pakihiroa**	**0.88**	**227**	P	Pb	20 16 58.1	+0.2
PKGZ				S	Sn	20 17 10.8	-0.9
PUZ	**Puketiti**	**0.93**	**212**	P	Pb	20 16 58.7	0.0
PUZ				S	Sn	20 17 12.1	-0.8
HAZ	**Te Kaha**	**1.00**	**242**	P	Pb	20 16 58.8	-1.0

MAN 30 20:32:57.4,5°24N×126°11E,h57km,mb4.5,ML3.4,MS3.2, 4C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.43**	**306**	⇑*iP*	Pn	20 33 20.8	-0.4
GSPH				*i* S	Sn	20 33 39.6	+0.5
KCP	**Kidapawan**	**2.03**	**330**	⇑*eP*	Pn	20 33 30.7	+1.3
KCP				*i* S	Sn	20 33 56.0	+2.4
BIPH	**Bislig**	**2.94**	**5**	⇑*eP*	Pn	20 33 42.3	+0.6
BIPH				*eS*	Sn	20 34 17.3	+1.5
CGP	**Cagayan de Oro**	**3.49**	**336**	⇓*eP*	Pn	20 33 52.3	+3.0
CGP				*eS*	Sn	20 34 25.6	-3.7
LQP	**Lukban**	**9.90**	**333**	⇑*eP*	Pn	20 35 11.8	-5.5

*ISK **30** 20:33:36.5,34°.56N×32°.69E,h33km±2km,ML2.7/8*
*GRAL **30** 20:33:37.6±0.7,34°.25N×32°.64E,h73km±444km,MD3.6*
*NIC **30** 20:33:37.6±0.0,34°.68N×32°.74E,h45km±1km,Ml2.6/7*
*DDA **30** 20:33:39.1±0.0,35°.09N×32°.57E,h7km±3km,ML2.3*
*GII **30** 20:33:39.9±0.2,34°.41N×32°.84E,h40km,Mm3.0/3*

ISC 30 20:33:37.0±1.2,34°.56N±0°.03×32°.70E±0°.04,h43km±8km, n42,σ1§02/67,3D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.24**	**334**	⇓*eP*	**Pn**	**20 33 45.2**	**+0.2**
NATA				S	**Sn**	**20 33 51.2**	**+0.6**
NATA				AML	AML	20 33 53.7	
	2.0nm,0.4s						
NATA				AML	AML	20 33 53.7	
	2.0nm,0.4s						
NATA				AML	AML	20 33 55.3	
	2.4nm,0.3s						
NATA				AML	AML	20 33 55.3	
	2.4nm,0.3s						
SZAC	**Souni**	**0.25**	**38**	⇓*iP*	**Pn**	**20 33 45.0**	**-0.1**
SZAC				S	**Sn**	**20 33 51.1**	**+0.3**
SZAC				AML	AML	20 33 51.5	
	5.9nm,0.2s						
SZAC				AML	AML	20 33 51.5	
	5.9nm,0.2s						
SZAC				AML	AML	20 33 51.6	
	4.3nm,0.3s						
SZAC				AML	AML	20 33 51.6	
	4.3nm,0.3s						
ASGA	**Asgata**	**0.51**	**63**	P	**Pn**	**20 33 47.7**	**-0.2**
ASGA				S	**Sn**	**20 33 55.5**	**-0.2**
ASGA				AML	AML	20 33 57.4	
	0.9nm,0.2s						
ASGA				AML	AML	20 33 57.4	
	0.9nm,0.2s						
AKMS	**Akamas**	**0.55**	**327**	⇓*eP*	**Pn**	**20 33 48.1**	**-0.4**
AKMS				S	**Sn**	**20 33 56.6**	**-0.1**
AKMS				AML	AML	20 33 57.5	
	1.6nm,0.3s						
AKMS				AML	AML	20 33 57.5	
	1.6nm,0.3s						
AKMS				AML	AML	20 33 57.6	
	1.4nm,0.2s						
AKMS				AML	AML	20 33 57.6	
	1.4nm,0.2s						
LEF	**Lefka**	**0.58**	**16**	Pg	**Pn**	**20 33 48.4**	**-0.5**
LEF				Sg	**Sn**	**20 33 57.1**	**-0.4**
ALFC	**Alefka**	**0.60**	**352**	P	**Pn**	**20 33 48.5**	**-0.7**
ALFC				S	**Sn**	**20 33 57.1**	**-0.9**
ALFC				AML	AML	20 33 57.4	
	3.2nm,0.3s						
ALFC				AML	AML	20 33 57.4	
	3.2nm,0.3s						
ALFC				AML	AML	20 34 00.3	
	1.5nm,0.3s						
ALFC				AML	AML	20 34 00.3	
	1.5nm,0.3s						
CSS	**Mathiatis**	**0.66**	**52**	Pg	**Pn**	**20 33 49.8**	**-0.2**
CSS				Sg	**Sn**	**20 33 59.5**	**+0.2**
CSS	**Mathiatis**	**0.66**	**52**	P	**Pn**	**20 33 49.7**	**-0.3**
CSS				S	**Sn**	**20 33 58.4**	**-0.9**
CSS				AML	AML	20 34 00.2	
	0.5nm,0.6s						
CSS				AML	AML	20 34 00.2	
	0.5nm,0.6s						
CSS				AML	AML	20 34 00.8	
	0.3nm,0.3s						
CSS				AML	AML	20 34 00.8	
	0.3nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**0.77**	**17**	Pg	**Pn**	**20 33 51.3**	**-0.2**
ATHAL	**Athalassa**	**0.82**	**44**	P	**Pn**	**20 33 52.8**	**+0.7**
MVOU	**Mavrovouni**	**0.89**	**59**	P	**Pn**	**20 33 53.4**	**+0.2**
MVOU				S	**Sn**	**20 34 03.8**	**-1.2**
MVOU				AML	AML	20 34 08.2	
	1.0nm,0.4s						
MVOU				AML	AML	20 34 08.2	
	1.0nm,0.4s						
MVOU				AML	AML	20 34 08.4	
	1.2nm,0.4s						
MVOU				AML	AML	20 34 08.4	
	1.2nm,0.4s						
LFK	**Lefkose**	**0.99**	**43**	Pg	**Pn**	**20 33 54.6**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.74**	**23**	Pn	**Pn**	**20 34 05.2**	**+0.4**
AKKU				Sn	**Sn**	**20 34 26.2**	**+0.4**
GULN	**MERSIN_Gulnar**	**1.76**	**23**	P	**Pn**	**20 34 04.8**	**-0.2**
GULN				S	**Sn**	**20 34 23.5**	**-2.8**
IKL	**Isikli**	**1.86**	**25**	Pn	**Pn**	**20 34 06.9**	**+0.5**
IKL				Sn	**Sn**	**20 34 28.9**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.97**	**18**	Pn	**Pn**	**20 34 08.4**	**+0.4**
TEVE				Sn	**Sn**	**20 34 31.7**	**+0.2**
KIZK	**Mersin**	**2.25**	**31**	Pn	**Pn**	**20 34 12.5**	**+0.8**
KIZK				Sn	**Sn**	**20 34 38.8**	**+0.5**
HDMB	**Hadim**	**2.41**	**356**	Pn	**Pn**	**20 34 14.6**	**+0.5**
KEPZ	**Antalya-Kepez**	**2.50**	**339**	P	**Pn**	**20 34 14.5**	**-0.8**
DQRL	**Deir Qamar**	**2.53**	**109**	*eP*	**Pn**	**20 34 15.2**	**-0.4**
HNTI	**Hanita**	**2.53**	**125**	Pn	**Pn**	**20 34 18.3**	**+0.7**
HNTI				Sn	**Sn**	**20 34 44.3**	**-0.9**
BHL	**Bhannes**	**2.53**	**104**	*eP*	**Pn**	**20 34 15.4**	**-0.3**
KKBE	**Karaman, Kazim**	**2.66**	**4**	P	**Pn**	**20 34 19.2**	**+1.7**
OFRI	**`Ofer**	**2.72**	**135**	Pn	**Pn**	**20 34 19.0**	**+0.8**
MMA0B	**Mount Meron ar**	**2.73**	**124**	Pn	**Pn**	**20 34 18.7**	**+0.3**
MMA0B				Sn	**Sn**	**20 34 49.6**	**-0.6**
ZAHL	**Zahle**	**2.73**	**104**	*eP*	**Pn**	**20 34 18.5**	**0.0**
ZAHL				*eS*	**Sn**	**20 34 48.0**	**-2.3**
GEM	**Giv'at Ha'Em**	**2.81**	**118**	Pn	**Pn**	**20 34 19.8**	**+0.4**
GEM				Sn	**Sn**	**20 34 51.2**	**-0.8**
NATI	**Neve Ativ**	**2.84**	**116**	Pn	**Pn**	**20 34 20.3**	**+0.5**
NATI				Sn	**Sn**	**20 34 52.2**	**-0.5**
BEIL	**Beino**	**2.88**	**89**	*eP*	**Pn**	**20 34 20.8**	**+0.4**
BEIL				*eS*	**Sn**	**20 34 53.5**	**-0.3**
SEDI	**Konya, Seydise**	**2.99**	**345**	P	**Pn**	**20 34 23.7**	**+1.8**
SEDI				S	**Sn**	**20 34 55.0**	**-1.6**
KERG	**Konya-Eregli**	**3.08**	**22**	P	**Pn**	**20 34 25.1**	**+1.9**
KERG				S	**Sn**	**20 34 59.0**	**+0.2**
KERG				*i* AML	AML	20 35 03.0	
	comp=N,13nm,0.5s						
KERG				*i* AML	AML	20 35 06.0	
	comp=E,9.4nm,0.3s						
MMLI	**Mount Malkishu**	**3.11**	**132**	Pn	**Pn**	**20 34 24.2**	**+0.7**
HMDT	**Nahal Hemdat**	**3.30**	**133**	Pn	**Pn**	**20 34 27.3**	**+1.2**
UJAP	**Al Uja**	**3.48**	**138**	Pn	**Pn**	**20 34 29.0**	**+0.4**
AKO	**Adana**	**3.65**	**37**	P	**Pn**	**20 34 33.0**	**+2.0**
GOLH	**Golhisar**	**3.69**	**317**	P	**Pn**	**20 34 32.7**	**+1.0**
GOLH				*i* AML	AML	20 35 20.0	
	comp=E,8.3nm,0.5s						
GOLH				*i* AML	AML	20 35 24.0	
	comp=N,8.7nm,0.6s						
DSI	**Dead Sea**	**3.73**	**142**	Pn	**Pn**	**20 34 33.0**	**+0.9**
DSI				Sn	**Sn**	**20 35 14.0**	**-0.9**
MSBI	**Mazada**	**3.93**	**145**	Pn	**Pn**	**20 34 36.0**	**+1.2**
TAVA	**DENIZLI_Tavas**	**4.22**	**314**	P	**Pn**	**20 34 38.0**	**-0.9**
TAVA				S	Sn	20 35 14.7	-12
PASA	**Karahalli, USA**	**4.58**	**327**	P	**Pn**	**20 34 40.5**	**-3.4**
PASA				S	Sn	20 35 17.6	-18
HRFI	**Mount Harif**	**4.92**	**156**	Pn	**Pn**	**20 34 49.7**	**+1.2**
HRFI				Sn	**Sn**	**20 35 43.5**	**-0.7**
EIL	**Elat**	**5.24**	**158**	Pn	**Pn**	**20 34 53.7**	**+1.0**
EIL				Sn	**Sn**	**20 35 50.4**	**-1.4**

*IDC **30** 20:46:35.2±2.1,39°.91N×107°.02W,h0km,mb3.3/1, mbtmp3.0/4,ML3.0/3,Error ellipse: s-maj=26.0km s-min=14.1km az=86.0*
*NEIC **30** 20:46:37.4±1.2,39°.54N±0°.02×107°.59W±0°.04,h5km±1km,*

ML3.3/156,Error ellipse: s-maj=5.3km s-min=4.3km az=96.0
*ANF **30** 20:46:38.2±0.4,39°.67N×107°.56W,h0km,ML3.2/9,Error ellipse: s-maj=4.1km s-min=3.3km az=43.0*

ISC 30 20:46:37.1±1.2,39.53N±0°.02×107.56W±0°.02,h7km±10km, n115,σ1§48/127,Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCO	**Snowmass**	**0.57**	**127**		**Pb**	**20 46 49.4**	**-0.3**
SMCO				Sg	**Sb**	**20 46 58.7**	**+0.5**
O20A	**White River Ci**	**0.80**	**319**		**Pg**	**20 46 51.6**	**-0.9**
O20A	**White River Ci** baz=138	**0.80**	**319**	P	**Pg**	**20 46 51.2**	**-1.3**
PV22	**Blue Mesa, Par**	**1.38**	**224**	Pn	**Pb**	**20 47 03.1**	**-0.1**
PV07	**Paradox Valley**	**1.38**	**218**		**Pb**	**20 47 03.4**	**+0.1**
PV15	**Paradox Valley**	**1.38**	**212**		**Pb**	**20 47 03.8**	**+0.4**
PV15				Sn	**Sn**	**20 47 22.0**	**+0.3**
PV15				IAML		20 47 29.6	
	comp=E,660nm,0.9s						
PV15				IAML		20 47 31.3	
	comp=N,513nm,0.9s						
PV21	**Cone Mtn., Par**	**1.46**	**229**	Pn	**Pn**	**20 47 04.2**	**+0.2**
PV21				IAML		20 47 29.7	
	comp=E,295nm,0.6s						
PV21				IAML		20 47 31.2	
	comp=N,343nm,0.5s						
ISCO	**Idaho Springs**	**1.53**	**79**		**Pb**	**20 47 06.0**	**+0.1**
ISCO	**Idaho Springs** baz=260	**1.53**	**79**	P	**Pg**	**20 47 06.3**	**-0.1**
ISCO				S	**Sg**	**20 47 27.0**	**+0.7**
	baz=260						
PV04	**Paradox Valley**	**1.54**	**223**	Pn	**Pn**	**20 47 05.5**	**+0.4**
PV04				IAML		20 47 29.9	
	comp=E,350nm,0.8s						
PV04				IAML		20 47 31.9	
	comp=N,411nm,1.2s						
PV12	**Saucer Basin,**	**1.55**	**219**	Pn	**Pb**	**20 47 06.1**	**-0.1**
PV12				IAML		20 47 35.7	
	comp=N,575nm,1.1s						
PV23	**Carpenter Ridg**	**1.56**	**227**		**Pg**	**20 47 06.4**	**-0.5**
PV23				IAML		20 47 39.4	
	comp=N,382nm,0.9s						
PV11	**David Mesa, Pa**	**1.60**	**220**		**Pb**	**20 47 06.4**	**-0.6**
PV01	**Paradox Valley**	**1.60**	**210**	Pn	**Pg**	**20 47 07.1**	**-0.6**
PV02	**Paradox Valley**	**1.60**	**215**	Pn	**Pb**	**20 47 06.6**	**-0.5**
PV02				IAML		20 47 33.2	
	comp=N,485nm,0.8s						
PV02				IAML		20 47 33.6	
	comp=E,391nm,1.1s						
PV16	**Nyswonger Mesa**	**1.61**	**221**	Pn	**Pb**	**20 47 06.8**	**-0.5**
PV16				IAML		20 47 34.5	
	comp=E,406nm,1.3s						
PV16				IAML		20 47 36.6	
	comp=N,382nm,0.6s						
PV20	**West Nyswonger**	**1.61**	**223**	Pn	**Pb**	**20 47 07.1**	**-0.2**
PV20				IAML		20 47 40.0	
	comp=N,415nm,0.8s						
PV20				IAML		20 47 47.3	
	comp=E,499nm,0.7s						
PV03	**Paradox Valley**	**1.62**	**219**	Pn	**Pn**	**20 47 06.5**	**+0.3**
PV03				IAML		20 47 34.1	
	comp=N,227nm,1.0s						
PV14	**Lion Creek, Pa**	**1.62**	**225**	Pn	**Pg**	**20 47 07.6**	**-0.6**
PV14				IAML		20 47 34.3	
	comp=E,334nm,0.8s						
PV14				IAML		20 47 40.0	
	comp=N,296nm,0.6s						
PV10	**Paradox Valley**	**1.63**	**226**		**Pg**	**20 47 09.1**	**+0.9**
PV10				IAML		20 47 34.7	
	comp=E,196nm,0.8s						
PV10				IAML		20 47 34.8	
	comp=N,222nm,0.5s						
PV19	**Morning Glory**	**1.64**	**223**	Pn	**Pb**	**20 47 07.4**	**-0.5**
PV17	**East Wray Mesa**	**1.65**	**222**	Pn	**Pb**	**20 47 07.4**	**-0.6**
PV18	**Skein Mesa, Pa**	**1.66**	**220**	Pn	**Pg**	**20 47 08.2**	**-0.5**
PV13	**Radium Mtn., P**	**1.68**	**216**		**Pg**	**20 47 08.8**	**-0.5**
PV13				IAML		20 47 38.1	
	comp=N,296nm,0.7s						
PV13				IAML		20 47 46.7	
	comp=E,407nm,1.0s						
N23A	**Red Feather La**	**1.84**	**42**		**Pn**	**20 47 10.4**	**+1.0**
N23A				Sn	**Sn**	**20 47 34.2**	**+1.1**
N23A				IAML		20 47 42.6	
	comp=N,226nm,1.3s						
N23A				IAML		20 47 43.3	
	comp=E,167nm,1.2s						
N23A	**Red Feather La** baz=222	**1.84**	**42**	P	**Pn**	**20 47 10.6**	**+1.2**
N23A				S	**Sn**	**20 47 34.6**	**+1.5**
	baz=222						
RDMU	**Red Mountain**	**1.86**	**305**		**Pn**	**20 47 09.8**	**+0.3**
RDMU				IAML		20 47 41.5	
	comp=E,184nm,0.8s						
S22A	**4UR Ranch, Cre**	**1.87**	**162**		**Pn**	**20 47 09.7**	**0.0**
PV05	**Paradox Valley**	**1.88**	**220**	Pn	**Pn**	**20 47 09.6**	**-0.2**
PV05				IAML		20 47 42.3	
	comp=E,240nm,0.5s						
PV05				IAML		20 47 44.3	
	comp=N,259nm,1.1s						
Q24A	**Divide**	**1.96**	**106**		**Pn**	**20 47 11.5**	**+0.5**
Q24A	**Divide** baz=288	**1.96**	**106**	P	**Pg**	**20 47 14.1**	**-0.4**
Q24A				Sb	**Sg**	**20 47 42.9**	**+3.0**
	baz=288						
P18A	**Preston Nutter**	**2.08**	**274**		**Pn**	**20 47 12.8**	**+0.2**
P18A				Sn	**Sn**	**20 47 38.9**	**0.0**
P18A				IAML		20 47 49.5	
	comp=N,264nm,0.8s						
RWWY	**Rawlins**	**2.18**	**7**		**Pn**	**20 47 14.7**	**+0.7**
RWWY				Sn	**Sn**	**20 47 41.6**	**+0.2**
RWWY				IAML		20 47 45.3	
	comp=N,284nm,1.1s						
RWWY				IAML		20 47 48.3	
	comp=N,148nm,1.1s						
SRU	**San Rafael Swe**	**2.33**	**261**		**Pn**	**20 47 17.5**	**+1.4**
SRU				IAML		20 48 03.3	
	comp=E,157nm,1.0s						
SRU				IAML		20 48 05.9	
	comp=N,131nm,0.9s						
PHWY	**Pilot Hill**	**2.39**	**41**	Pn	**Pn**	**20 47 16.8**	**-0.2**
SDCO	**Great Sand Dun**	**2.40**	**137**		**Pn**	**20 47 16.8**	**-0.3**
SDCO	**Great Sand Dun** baz=319	**2.40**	**137**	P	**Pb**	**20 47 20.3**	**-0.5**
MVCO	**Mesa Verde**	**2.43**	**198**	Pg	**Pb**	**20 47 21.4**	**+0.2**
MVCO				IAML		20 47 59.5	
	comp=N,130nm,1.5s						
MVCO				IAML		20 48 03.5	
	comp=N,152nm,1.1s						
MVCO	**Mesa Verde** baz=18	**2.43**	**198**	P	**Pg**	**20 47 22.0**	**-1.6**
P17A	**Butcher Ranch,**	**2.46**	**270**		**Pn**	**20 47 18.4**	**+0.7**
P17A				IAML		20 47 58.8	
	comp=E,194nm,0.7s						
P17A				IAML		20 48 01.9	
	comp=N,176nm,1.0s						
BRIGG	**Briggsdale**	**2.70**	**66**		**Pn**	**20 47 19.8**	**-1.3**
BRIGG				IAML		20 48 06.3	
	comp=N,127nm,1.2s						
BRIGG				IAML		20 48 36.9	
	comp=E,109nm,1.2s						
TMUT	**Trail Mountain**	**2.83**	**267**		**Pn**	**20 47 23.1**	**+0.1**
Q16A	**Castle Valley**	**2.87**	**259**		**Pn**	**20 47 23.6**	**+0.2**
Q16A				IAML		20 48 06.0	
	comp=N,157nm,1.0s						
Q16A				IAML		20 48 11.5	
	comp=E,120nm,0.9s						
JLU	**Jordanelle**	**3.17**	**291**		**Pn**	**20 47 27.6**	**0.0**
JLU				IAML		20 48 25.5	
	comp=N,78nm,1.0s						
JLU				IAML		20 48 33.1	
	comp=E,94nm,0.9s						
K22A	**Casper**	**3.22**	**14**		**Pn**	**20 47 30.6**	**+2.4**
K22A				IAML		20 48 16.8	
	comp=N,67nm,1.1s						
K22A				IAML		20 48 18.7	
	comp=E,85nm,1.0s						
K22A	**Casper** baz=194	**3.22**	**14**	Sb	**Sb**	**20 48 15.5**	**+1.4**
TCUT	**Toone Canyon**	**3.34**	**300**		**Pn**	**20 47 29.7**	**-0.3**
CTU	**Camp Tracy**	**3.42**	**291**		**Pn**	**20 47 30.1**	**-0.8**
CTU				IAML		20 48 35.5	
	comp=N,39nm,1.3s						
T25A	**Trinidad**	**3.44**	**133**		**Pn**	**20 47 30.7**	**-0.6**
T25A	**Trinidad** baz=315	**3.44**	**133**	Pb	**Pg**	**20 47 41.1**	**-1.9**
T25A				Sb	**Sg**	**20 48 29.2**	**+1.7**
NLU	**North Lily Min**	**3.51**	**278**		**Pn**	**20 47 31.6**	**-0.6**
NLU				IAML		20 48 39.9	
	comp=N,43nm,1.1s						
BW06	**Boulder Array**	**3.57**	**336**		**Pn**	**20 47 33.3**	**+0.2**
BW06				IAML		20 48 28.3	
	comp=N,48nm,1.2s						
PD31	**Pinedale Array**	**3.57**	**336**		**Pn**	**20 47 32.5**	**-0.6**
PDAR	**Pinedale Array**	**3.57**	**336**	Pn	**Pn**	**20 47 33.8**	**+0.7**
	comp=N,0.4nm,0.3s,baz=142,slow=15,SNR=16						
PDAR				Pg	**Pb**	**20 47 40.3**	**-0.4**
	comp=N,2.4nm,0.3s,baz=139,slow=18,SNR=31						
PDAR				Lg	Lg	20 48 24.0	
	comp=N,1.5nm,0.3s,baz=127,slow=33,SNR=6.0 comp=N,1.1nm,0.4s						
PDAR	**Pinedale Array**	**3.57**	**336**		**Pn**	**20 47 32.0**	**-1.1**
HWUT	**Hardware Ranch**	**3.69**	**306**		**Pn**	**20 47 34.5**	**-0.2**
HWUT				IAML		20 48 43.0	
	comp=N,55nm,0.9s						
MSU	**Marysvale**	**3.73**	**256**		**Pn**	**20 47 35.6**	**+0.3**
MVU	**Marysvale**	**3.76**	**256**		**Pn**	**20 47 36.4**	**+0.7**
KSCO	**Kaye Shedlock'**	**3.86**	**96**		**Pn**	**20 47 36.9**	**-0.2**
KSCO				IAML		20 48 50.5	
	comp=E,53nm,1.2s						
KSCO				IAML		20 48 56.1	
	comp=N,61nm,1.3s						
MTPU	**Mount Pierson**	**3.90**	**249**		**Pn**	**20 47 37.8**	**0.0**
MTPU				IAML		20 48 41.9	
	comp=N,46nm,0.9s						
MTPU				IAML		20 48 44.9	
	comp=E,42nm,1.0s						
TCRU	**Three Creeks R**	**3.91**	**258**		**Pn**	**20 47 37.5**	**-0.2**
TCRU				IAML		20 48 49.3	
	comp=E,67nm,1.2s						
TCRU				IAML		20 48 57.7	
	comp=N,51nm,1.3s						
DUG	**Dugway, Tooele**	**4.10**	**281**		**Pn**	**20 47 38.9**	**-1.3**
DUG				IAML		20 48 54.3	
	comp=N,27nm,1.3s						
SPUT	**South Promonto**	**4.13**	**297**		**Pn**	**20 47 39.9**	**-0.9**
SPUT				IAML		20 48 55.7	
	comp=N,33nm,1.0s						
SPUT				IAML		20 48 56.3	
	comp=E,29nm,1.1s						
AHID	**Auburn Hatcher**	**4.20**	**322**		**Pn**	**20 47 40.8**	**-0.8**
AHID				IAML		20 49 02.3	
	comp=E,49nm,1.1s						
PKCU	**Pink Cliffs**	**4.27**	**242**		**Pn**	**20 47 42.6**	**-0.1**
BGU	**Big Grassy Mou**	**4.41**	**290**		**Pn**	**20 47 42.6**	**-1.9**
OGNE	**Ogallala**	**4.46**	**70**	Pn	**Pn**	**20 47 45.1**	**-0.1**
OGNE				Pg	**Pg**	**20 47 59.5**	**-3.1**
ECR	**Eagle Creek**	**4.54**	**322**		**Pn**	**20 47 44.9**	**-1.6**
HVU	**Hansel Valley**	**4.56**	**301**		**Pn**	**20 47 46.5**	**-0.1**
HVU				IAML		20 49 18.0	
	comp=N,27nm,1.1s						
HVU				IAML		20 49 31.0	
	comp=E,26nm,1.1s						
REDW	**Red Top Meadow**	**4.56**	**328**		**Pn**	**20 47 45.1**	**-1.6**
SNOW	**Snow King Moun**	**4.61**	**330**	Pn	**Pn**	**20 47 46.3**	**-1.0**
SNOW					**Pb**	**20 47 59.7**	**+1.4**
ANMO	**Albuquerque**	**4.66**	**169**	Pg	**Pg**	**20 48 05.2**	**-1.1**
	comp=E,0.4nm,0.3s,baz=336,slow=18,SNR=6.0						
ANMO				Lg	Lg	20 49 06.3	
	comp=E,0.2nm,0.3s,baz=355,slow=21,SNR=3.8						
ANMO	**Albuquerque**	**4.66**	**169**		**Pn**	**20 47 47.8**	**-0.2**
LOHW	**Long Hollow**	**4.68**	**332**		**Pn**	**20 47 45.8**	**-2.5**
LOHW				IAML		20 49 09.8	
	comp=E,38nm,0.8s						
TPAW	**Teton Pass**	**4.71**	**328**		**Pn**	**20 47 46.8**	**-2.0**
W18A	**Petrified Fore**	**4.73**	**202**		**Pn**	**20 47 47.8**	**-1.1**
SZCU	**Shurtz Canyon**	**4.74**	**248**		**Pb**	**20 48 03.1**	**+2.5**
SZCU				IAML		20 49 08.3	
	comp=E,24nm,0.6s						
SZCU				IAML		20 49 27.1	
	comp=N,21nm,1.2s						
KNB	**Kanab**	**4.84**	**240**		**Pn**	**20 47 50.3**	**-0.2**
MOOW	**Moose Ponds**	**4.85**	**332**		**Pn**	**20 47 50.1**	**-0.5**
MOOW				IAML		20 49 16.8	
	comp=N,14nm,1.1s						
MOOW				IAML		20 49 18.2	
	comp=N,15nm,1.2s						
U15A	**North Rim**	**4.85**	**232**		**Pn**	**20 47 51.7**	**+1.0**
FXWY	**Fox Creek**	**4.86**	**329**		**Pn**	**20 47 49.4**	**-1.4**
FXWY				IAML		20 49 11.5	
	comp=N,16nm,1.1s						
FXWY				IAML		20 49 16.7	
	comp=N,20nm,3.5s						
CCUT	**Cedar City**	**4.96**	**248**		**Pn**	**20 47 54.5**	**+2.4**
CCUT				IAML		20 49 17.4	
	comp=N,16nm,0.9s						
CCUT				IAML		20 49 17.0	
	comp=E,17nm,0.7s						
WUAZ	**Wupatki**	**5.02**	**218**		**Pn**	**20 47 53.2**	**+0.3**
WUAZ	**Wupatki** baz=36	**5.02**	**218**	P	**Pn**	**20 47 56.8**	**+3.8**
IMW	**Indian Meadow**	**5.05**	**331**		**Pn**	**20 47 51.5**	**-1.9**
FLWY	**Flagg Ranch**	**5.12**	**334**		**Pn**	**20 47 54.0**	**-0.4**
LCMT	**Little Creek M**	**5.13**	**242**		**Pn**	**20 47 57.6**	**+3.2**
LCMT				IAML		20 49 27.0	
	comp=E,21nm,1.7s						
SPR3	**Spring Creek 3**	**5.28**	**266**		**Pn**	**20 47 58.8**	**+2.2**
SPR3				IAML		20 49 57.2	
	comp=E,10nm,4.3s						
RSSD	**Black Hills**	**5.29**	**29**		**Pn**	**20 47 57.0**	**+0.2**
RSSD				IAML		20 49 27.2	
	comp=E,20nm,1.1s						
RSSD				IAML		20 49 36.6	
	comp=E,23nm,1.2s						
X18A	**Snowflake**	**5.34**	**202**		**Pn**	**20 47 57.1**	**-0.3**
H17A	**Grant Village**	**5.36**	**336**		**Pb**	**20 48 12.7**	**+1.5**
H17A				IAML		20 49 28.3	
	comp=E,16nm,1.8s						
H17A				IAML		20 49 35.4	
	comp=N,18nm,1.5s						
BNM	**Barren Site**	**5.42**	**172**	Pn	**Pn**	**20 48 00.4**	**+1.9**
LKWY	**Lake**	**5.46**	**338**	Pn	**Pn**	**20 47 57.3**	**-1.8**
YMP	**Mirror Lake Pl**	**5.56**	**341**	Pn	**Pn**	**20 47 58.4**	**-2.0**
YMP					**Pb**	**20 48 15.7**	**+1.2**
UPLS	**Upper Falls**	**5.63**	**338**	Pg	**Pb**	**20 48 17.6**	**+1.9**
YNR	**Norris Junctio**	**5.68**	**337**		**Pn**	**20 47 59.8**	**-2.3**
YMR	**Madison River**	**5.73**	**335**	Pn	**Pn**	**20 48 02.2**	**-0.5**
RLMT	**Red Lodge**	**5.73**	**348**	Pn	**Pn**	**20 47 59.5**	**-3.3**
ELK	**Elko**	**6.01**	**284**	Pn	**Pn**	**20 48 10.6**	**+4.0**
	comp=N,0.1nm,0.3s,baz=96,slow=16,SNR=4.3						
ELK				Pg	**Pg**	**20 48 28.2**	**-3.9**
	baz=316,slow=5.7,SNR=1.5						
ELK				Lg	Lg	20 49 42.2	
	comp=N,0.1nm,0.3s,baz=19,slow=20,SNR=2.0 comp=N,0.5nm,0.5s						
QLMT	**Earthquake Lak**	**6.03**	**333**	Pn	**Pn**	**20 48

	14nm,0.9s								
TKM2	**Tokmak 2**	**4.67**	**22**	⇓Pn	Pn	21 17 32.5	+3.6		
	3.9nm,0.8s								
TKM2				⇓Pg	Pg	21 17 44.0	-2.4		
	4.6nm,0.8s								
TKM2				⇓Lg	Lg	21 18 45.0			
	21nm,1.2s								
KST	**Kastek**	**4.89**	**25**	Pg	Pb	21 17 44.5	+0.9		
	2.0nm,0.4s								
KST				Lg	Lg	21 18 53.5			
	16nm,0.9s								
KK31	**Karatay Array**	**4.91**	**337**	⇑Pn	Pn	21 17 30.1	-1.9		
	1.5nm,0.3s,baz=159,slow=12,SNR=54								
KK31				⇓Sn	Sn	21 18 31.6	+2.2		
	9.0nm,0.7s,baz=159,slow=23,SNR=3.8								
KK31				⇑Lg	Lg	21 18 50.5			
	15nm,0.9s								
SGDS	**Sogindy**	**4.94**	**12**	Pg	Pb	21 17 46.0	+1.6		
	6.3nm,1.2s								
SGDS				Lg	Lg	21 18 56.4			
	8.4nm,1.0s								
DGS	**Degeres**	**5.01**	**22**	Pg	Pb	21 17 46.3	+0.7		
	3.9nm,0.8s								
DGS				Lg	Lg	21 18 56.9			
	9.7nm,0.9s								
IZV	**Izvestkoviy**	**5.12**	**30**	Pg	Pb	21 17 49.4	+1.9		
	1.6nm,0.4s								
IZV				Lg	Lg	21 19 01.6			
	9.5nm,0.7s								
MTBS	**Maitube**	**5.13**	**28**	Pg	Pb	21 17 48.6	+1.0		
	1.6nm,0.2s								
MTBS				Lg	Lg	21 19 00.3			
	5.7nm,0.7s								
TNSS	**Tian-Shan**	**5.25**	**32**	Pg	Pb	21 17 52.4	+2.5		
	1.2nm,0.2s								
TNSS				Lg	Lg	21 19 07.3			
	4.9nm,0.8s								
MDOK	**Medeo**	**5.40**	**32**	⇑Pg	Pb	21 17 54.6	+2.4		
	3.0nm,0.6s								
MDOK				Pg	Pg	21 17 54.9	-5.5		
	4.2nm,0.5s								
MDOK				Lg	Lg	21 19 08.3			
	18nm,1.1s								
MDOK				Lg	Lg	21 19 11.5			
	12nm,1.5s								
KRBS	**Karabastau**	**5.40**	**20**	Pg	Pb	21 17 53.1	+0.9		
	1.2nm,0.7s								
KRBS				Lg	Lg	21 19 08.5			
	9.1nm,0.8s								
KOTS	**Kotyrbulak**	**5.48**	**32**	Pg	Pb	21 17 55.8	+2.1		
	2.3nm,0.7s								
KOTS				Lg	Lg	21 19 12.9			
	15nm,0.8s								
KTBS	**Karatobe**	**5.73**	**26**	Pg	Pb	21 17 59.2	+1.5		
	1.3nm,0.6s								
KTBS				Lg	Lg	21 19 18.9			
	14nm,1.0s								
KUU	**Kurty**	**5.78**	**23**	Pg	Pb	21 17 59.2	+0.7		
	1.6nm,0.8s								
KUU				Lg	Lg	21 19 19.1			
	15nm,1.2s								
SATY	**Saty**	**5.95**	**40**	Pg	Pb	21 18 05.1	+3.6		
	5.6nm,0.8s								
SATY				Lg	Lg	21 19 29.3			
	11nm,1.1s								
CHKK	**Chushkaly**	**5.96**	**28**	Pg	Pb	21 18 03.4	+1.7		
	0.6nm,0.2s								
CHKK				Lg	Lg	21 19 25.9			
	4.9nm,0.9s								
BLB	**Baldybastay**	**6.76**	**34**	Pg	Pb	21 18 19.0	+3.5		
	1.4nm,0.3s								
BLB				Lg	Lg	21 19 52.6			
	5.7nm,0.8s								

WEL 30 21:37:17.0±0.4, 42°S×3°×17°4E±°, h6km×3km, M2.6/16, ML2.9/12, MLv2.6/16, Error ellipse: s-maj=0.0km s-min=0.0km az=117.3, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**193**	P	Pg	21 37 22.8	+1.1
KHZ				S	Sg	21 37 26.7	+1.9
BSWZ	**Blackbirch Sta**	**0.51**	**23**	P	Pg	21 37 27.2	+0.4
BSWZ				S	Sb	21 37 34.7	-1.2
THZ	**Tophouse**	**0.67**	**308**	P	Pg	21 37 30.0	+0.1
GVZ	**Greta Valley S**	**0.89**	**208**	P	Pb	21 37 34.9	+0.1
NNZ	**Nelson**	**0.98**	**350**	P	Pg	21 37 35.4	-0.4
MRNZ	**Matariki Terra**	**1.01**	**321**	P	Pg	21 37 36.5	+0.1
TCW	**Tory Channel**	**1.09**	**27**	P	Pg	21 37 37.4	-0.5
LTZ	**Lake Taylor**	**1.16**	**238**	P	Pg	21 37 38.5	-0.6
TKNZ	**Takaka Hill**	**1.25**	**337**	P	Pb	21 37 40.4	-0.5
DUWZ	**D'Urville Isla**	**1.40**	**10**	P	Pn	21 37 42.9	-0.1
DSZ	**Denniston Nort**	**1.42**	**287**	P	Pn	21 37 43.0	-0.2
QRZ	**Quartz Range**	**1.58**	**329**	P	Pn	21 37 45.8	+0.4
MQZ	**McQueen's Vall**	**1.68**	**204**	P	Pn	21 37 44.2	-2.6
AKCZ	**Akaroa Harbour**	**1.76**	**197**	P	Pn	21 37 46.0	-2.0
OGWZ	**Otaki Gorge**	**1.80**	**41**	P	Pn	21 37 47.7	-0.8
ARCZ	**Arundel**	**2.51**	**225**	P	Pb	21 38 00.6	-1.8

*NEIC **30** 21:49:04.9±1.1, 18°.58N±0°.05×145°.5E±0°.2, h202km±8km, mb4.3/52, Error ellipse: s-maj=24.7km s-min=5.2km az=100.0*
*IDC **30** 21:49:07.6±2.6, 18°.43N×145°.64E, h236km±26km, mb3.4/13, mbtmp4.0/15, Error ellipse: s-maj=24.5km s-min=10.9km az=95.0*

ISC 30 21:49:04.0±0.5, 18°.53N±0°.06×145°.5E±0°.1, h200km, n77, σ0§84/78, mb4.2/37, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.95**	**187**	P	**Pn**	**21 50 20.2**	**+2.4**
	36nm,0.4s,baz=55,slow=8.6,SNR=1.6						
GUMO				S	**Sn**	**21 51 13.3**	**-2.7**
	36nm,0.4s,baz=351,slow=17,SNR=1.6						
GUMO	**Guam**	**4.95**	**187**	Pn	**Pn**	**21 50 19.0**	**+1.2**
JGF	**Kuroka**	**18.46**	**339**	P	**P**	**21 53 05.9**	**+1.1**
MJAR	**Matsushiro Arr**	**19.05**	**342**	P	**Pn**	**21 53 15.1**	**+0.7**
	1.3nm,0.4s,baz=171,slow=10.0,SNR=5.5						
MAJO	**Matsushiro**	**19.05**	**342**	P	**P**	**21 53 10.0**	**-1.2**
MAJO				IAmb	IAmb	21 53 47.7	
	comp=Z,19nm,1.1s						
MJB9	**Matsu-Tunnel**	**19.05**	**342**	P	**P**	**21 53 10.6**	**-0.7**
JMM	**Marumori**	**19.70**	**349**	P	**P**	**21 53 16.3**	**-1.8**
JKA	**Kamikawa-asahi**	**25.62**	**355**	P	**P**	**21 54 15.2**	**+0.2**
ASAJ	**Asahikawa**	**25.62**	**355**	P	**P**	**21 54 17.0**	**+2.0**
	comp=Z,3.0nm,0.5s,baz=213,slow=9.8,SNR=6.1						
	comp=Z,3.0nm,0.5s						
KKM	**Kota Kinabalu**	**31.09**	**250**	P	**P**	**21 55 04.0**	**0.0**
COEN	**Coen**	**32.36**	**184**	P	**P**	**21 55 15.3**	**+0.5**
COEN				IAmb	IAmb	21 55 24.1	
	comp=Z,10nm,1.4s						
MTN	**Manton Dam**	**34.23**	**205**	P	**P**	**21 55 30.9**	**-0.1**
KNRA	**Kununurra**	**37.76**	**207**	P	**P**	**21 56 00.6**	**-0.3**
WB0	**Warramunga Arr**	**39.58**	**196**	P	**P**	**21 56 16.3**	**+0.2**
WB0				IAmb	IAmb	21 56 17.2	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**39.72**	**196**	P	**P**	**21 56 17.4**	**+0.1**
WR0				IAmb	IAmb	21 56 17.8	
	comp=Z,7.9nm,1.2s						
WRAB	**Tennant Creek**	**39.75**	**196**	P	**P**	**21 56 17.6**	**+0.1**
WB2	**Warramunga Arr**	**39.76**	**196**	P	**P**	**21 56 18.1**	**+0.5**
WB2				IAmb	IAmb	21 56 19.5	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**39.76**	**196**	P	**P**	**21 56 17.5**	**-0.1**
	comp=Z,3.2nm,0.4s,baz=19,slow=8.8,SNR=44						
	comp=Z,3.2nm,0.4s						
WRA	**Warramunga Arr**	**39.76**	**196**	P	**P**	**21 56 17.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.28**	**209**	P	**P**	**21 56 30.0**	**-0.1**
SONM	**Songino Array**	**43.14**	**322**	P	**P**	**21 56 45.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=136,slow=7.7,SNR=5.1						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**43.14**	**322**	P	**P**	**21 56 45.0**	**+0.1**
AS31	**Alice Springs**	**43.43**	**196**	P	**P**	**21 56 48.2**	**+0.8**
ASAR	**Alice Springs**	**43.43**	**196**	P	**P**	**21 56 47.2**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=14,slow=7.9,SNR=19						
	comp=Z,0.9nm,0.4s						
ASAR	**Alice Springs**	**43.43**	**196**	P	**P**	**21 56 48.0**	**+0.7**
MBWA	**Marble Bar**	**46.81**	**214**	P	**P**	**21 57 14.4**	**+0.5**
STKA	**Stephens Creek**	**50.26**	**184**	P	**P**	**21 57 39.1**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=0.0,slow=11,SNR=3.7						
	comp=Z,1.3nm,0.6s						
STKA	**Stephens Creek**	**50.26**	**184**	P	**P**	**21 57 39.4**	**-0.6**
FORT	**Forrest**	**51.80**	**199**	P	**P**	**21 57 52.0**	**+0.5**
BBOO	**Buckleboo**	**51.84**	**190**	P	**P**	**21 57 51.7**	**0.0**
MORW	**Morawa**	**55.20**	**212**	P	**P**	**21 58 16.7**	**+0.4**
MK31	**Makanchi Array**	**58.42**	**314**	P	**P**	**21 58 38.4**	**-0.4**
MKAR	**Makanchi Array**	**58.42**	**314**	P	**P**	**21 58 39.5**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=94,slow=7.7,SNR=7.1						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.42**	**314**	P	**P**	**21 58 39.4**	**+0.6**
MAKZ	**Makanchi**	**58.64**	**314**	P	**P**	**21 58 40.0**	**-0.2**
M20K	**Styx River**	**60.44**	**29**	P	**P**	**21 58 52.6**	**+0.2**
K20K	**Telida**	**60.48**	**27**	P	**P**	**21 58 51.9**	**-0.6**
SKT	**Skwentna**	**61.20**	**29**	P	**P**	**21 58 56.8**	**-0.6**
SKT				IAmb	IAmb	21 59 04.0	
	comp=Z,12nm,1.4s						
CAST	**Castle Rocks**	**61.35**	**27**	P	**P**	**21 58 58.6**	**+0.2**
CAST				IAmb	IAmb	21 59 13.7	
	comp=Z,9.4nm,1.4s						
SUA	**Susitna One**	**61.42**	**29**	P	**P**	**21 58 59.1**	**+0.1**
SUA				IAmb	IAmb	21 59 03.9	
	comp=Z,9.1nm,1.2s						
IMAR	**Indian Mountai**	**61.46**	**24**	P	**P**	**21 58 58.8**	**-0.3**
H21K	**Melozitna Rive**	**61.72**	**24**	P	**P**	**21 59 00.5**	**-0.3**
H21K				IAmb	IAmb	21 59 01.0	
	comp=Z,7.0nm,1.5s						
I21K	**Tanana**	**61.90**	**25**	P	**P**	**21 59 02.1**	**+0.1**
I21K				IAmb	IAmb	21 59 03.5	
	comp=Z,3.5nm,0.9s						
BPAW	**Bear Paw Mtn.**	**62.01**	**26**	P	**P**	**21 59 02.7**	**-0.1**
BPAW				IAmb	IAmb	21 59 04.5	
	comp=Z,4.2nm,1.2s						
TRF	**Thorofare Moun**	**62.13**	**27**	P	**P**	**21 59 02.9**	**-1.0**
MLY	**Manley**	**62.37**	**25**	P	**P**	**21 59 05.8**	**+0.6**
I23K	**Minto, Yukon-K**	**62.96**	**26**	P	**P**	**21 59 09.5**	**+0.5**
I23K				IAmb	IAmb	21 59 10.6	
	comp=Z,6.3nm,1.4s						
WRH	**Wood River Hil**	**63.32**	**26**	P	**P**	**21 59 11.0**	**-0.5**
WRH				IAmb	IAmb	21 59 27.0	
	comp=Z,10nm,1.5s						
MDM	**Murphy Dome**	**63.38**	**26**	P	**P**	**21 59 12.9**	**+1.0**
MDM				IAmb	IAmb	21 59 50.8	
	comp=Z,4.4nm,1.2s						
H24K	**Noodor Dome**	**63.73**	**25**	P	**P**	**21 59 14.6**	**+0.4**
H24K				IAmb	IAmb	21 59 43.8	
	comp=Z,5.1nm,1.3s						
TOLK	**Toolik Lake Re**	**63.83**	**22**	P	**P**	**21 59 15.6**	**+0.9**
TOLK				IAmb	IAmb	21 59 32.0	
	comp=Z,4.5nm,1.3s						
ILAR	**Eielson Array**	**63.90**	**26**	P	**P**	**21 59 14.1**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=250,slow=5.2,SNR=9.9						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**63.90**	**26**	P	**P**	**21 59 14.6**	**-0.6**
PAX	**Paxson**	**64.16**	**28**	P	**P**	**21 59 16.9**	**-0.2**
PAX				IAmb	IAmb	21 59 45.7	
	comp=Z,6.1nm,1.2s						
RIDG	**Independent Ri**	**64.57**	**28**	P	**P**	**21 59 20.1**	**+0.5**
RIDG				IAmb	IAmb	21 59 20.7	
	comp=Z,8.3nm,1.3s						
GLB	**Gilahina Butte**	**64.69**	**30**	P	**P**	**21 59 20.8**	**+0.3**
GLB				IAmb	IAmb	21 59 52.6	
	comp=Z,9.9nm,1.3s						
SCRK	**Sand Creek**	**64.99**	**27**	P	**P**	**21 59 21.8**	**-0.6**
SCRK				IAmb	IAmb	21 59 26.2	
	comp=Z,5.2nm,1.5s						
J26L	**Joseph Creek**	**65.25**	**27**	P	**P**	**21 59 23.9**	**-0.1**
BMAR	**Burnt Mountain**	**65.36**	**24**	P	**P**	**21 59 25.8**	**+1.1**
L27K	**Beaver Creek,**	**65.82**	**28**	P	**P**	**21 59 27.9**	**+0.2**
BCAR	**Beaver Creek A**	**65.84**	**28**	P	**P**	**21 59 28.1**	**+0.3**
HYT	**Haines Junctio**	**67.69**	**31**	P	**P**	**21 59 41.1**	**+1.5**
HYT				IAmb	IAmb	22 00 09.1	
	comp=Z,9.9nm,1.4s						
M30M	**Minto, Yukon**	**68.08**	**29**	P	**P**	**21 59 42.6**	**+0.7**
M30M				IAmb	IAmb	22 00 18.1	
	comp=Z,5.8nm,1.4s						
INK	**Inuvik**	**69.61**	**23**	P	**P**	**21 59 50.7**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=288,slow=6.7,SNR=6.1						
	comp=Z,1.5nm,0.7s						
INK	**Inuvik**	**69.61**	**23**	P	**P**	**21 59 50.6**	**-0.6**
INK				IAmb	IAmb	21 59 52.9	
	comp=Z,5.8nm,1.5s						
DLBC	**Dease Lake**	**71.55**	**33**	P	**P**	**22 00 03.8**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=144,slow=11,SNR=1.7						
	comp=Z,1.0nm,0.6s						
DLBC	**Dease Lake**	**71.55**	**33**	P	**P**	**22 00 04.0**	**+0.8**
DLBC				IAmb	IAmb	22 00 17.9	
	comp=Z,6.3nm,1.3s						
C36M	**Paulatuk**	**72.99**	**22**	P	**P**	**22 00 11.2**	**-0.1**
ABKAR	**Akbulak array**	**73.31**	**317**	P	**P**	**22 00 13.3**	**-0.4**
YKA	**Yellowknife Ar**	**78.24**	**28**	P	**P**	**22 00 41.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=286,slow=5.5,SNR=11						
	comp=Z,0.6nm,0.5s						
RES	**Resolute Bay**	**79.64**	**14**	P	**P**	**22 00 49.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=315,slow=2.9,SNR=3.5						
	comp=Z,0.6nm,0.5s						
PINE	**Pine Mountain**	**79.94**	**47**	P	**P**	**22 00 50.9**	**-0.3**
PINE				IAmb	IAmb	22 00 52.8	
	comp=Z,4.9nm,0.9s						
K05A	**Summer Lake**	**80.26**	**48**	P	**P**	**22 00 53.0**	**0.0**
K05A				IAmb	IAmb	22 00 54.3	
	comp=Z,4.1nm,0.9s						
NVAR	**Mina Array Bea**	**83.42**	**52**	P	**P**	**22 01 09.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=268,slow=5.8,SNR=5.6						
	comp=Z,1.3nm,0.6s						
NVAR	**Mina Array Bea**	**83.42**	**52**	P	**P**	**22 01 09.0**	**-0.5**
FINES	**FINESS Array B**	**86.94**	**335**	P	**P**	**22 01 23.2**	**-3.1**
	comp=Z,1.3nm,0.6s,baz=62,slow=5.2,SNR=5.0						
PDAR	**Pinedale Array**	**88.10**	**45**	P	**P**	**22 01 31.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=203,slow=1.3,SNR=8.4						
	comp=Z,0.3nm,0.3s						

IDC 30 21:56:57.5±4.8, 43°21S×87°.75E, h0km, mb3.7/4, mbtmp3.6/4, MS3.7/3, Error ellipse: s-maj=137.4km s-min=47.0km az=25.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.04**	**77**	T	T	22 23 53.5	
	baz=243,slow=74,SNR=18						
H01W3	**Cape Leeuwin H**	**22.05**	**77**	T	T	22 23 54.0	
	baz=243,slow=74,SNR=17						
H01W1	**Cape Leeuwin H**	**22.06**	**77**	T	T	22 23 54.7	
	baz=243,slow=74,SNR=17						
MAW	**Mawson**	**27.83**	**200**	LR	LR	22 12 36.0	
	comp=Z,153nm,19.5s,baz=62,slow=34						
H08S2	**Diego Garcia H**	**37.88**	**335**	T	T	22 43 17.9	
	baz=160,slow=76,SNR=40						
H08S1	**Diego Garcia H**	**37.88**	**335**	T	T	22 43 16.2	
	baz=160,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**37.90**	**335**	T	T	22 43 17.9	
	baz=160,slow=76,SNR=44						
ASAR	**Alice Springs**	**42.55**	**78**	P	P	22 04 55.0	0.0
	0.5nm,0.7s,baz=224,slow=7.7,SNR=8.9						
ASAR				LR	LR	22 20 11.0	
	comp=Z,66nm,19.9s,baz=218,slow=33						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**45.25**	**74**	P	P	22 05 16.3	-0.4
	0.3nm,0.8s,baz=230,slow=7.6,SNR=2.0						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**62.22**	**12**	P	P	22 07 21.1	+0.2
	0.4nm,0.3s,baz=201,slow=6.6,SNR=1.0						
	0.4nm,0.3s						
TSUM	**Tsumeb**	**62.77**	**269**	LR	LR	22 31 18.3	
	comp=Z,53nm,18.1s,baz=148,slow=33						
SONM	**Songino Array**	**92.15**	**12**	P	P	22 10 08.1	-0.2
	0.8nm,1.1s,baz=194,slow=5.2,SNR=2.6						
	0.8nm,1.1s						
INK	**Inuvik**	**146.89**	**27**	PKPbc	PKPbc	22 16 39.6	-0.8
	1.4nm,0.8s,baz=342,slow=3.0,SNR=5.5						

*IDC **30** 22:03:27.6±2.3, 5°.20S×152°.89E, h47km±18km, mb3.7/9, mbtmp4.0/10, ML2.5/1, MS3.2/4, Error ellipse: s-maj=24.7km s-min=12.1km az=84.0*
*NEIC **30** 22:03:27.3±1.4, 5°.07S±0°.07×153°.00E±0°.08, h52km±6km, mb4.3/17, Error ellipse: s-maj=12.2km s-min=10.3km az=100.0*

ISC 30 22:03:26.5±0.6, 5°.12S±0°.06×152°.99E±0°.08, h43km, n41, σ1§05/41, mb4.3/16, MS3.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.23**	**318**	Pn	**Pn**	**22 03 48.4**	**+1.0**
RABL				Sn	**Sn**	**22 04 03.4**	**+0.6**
KRVT	**Keravat (AS076**	**1.25**	**310**	P	**Pn**	**22 03 47.3**	**-0.3**
	1µm,0.5s,baz=272,slow=1.8,SNR=88						
KRVT				S	**Sn**	**22 04 04.0**	**+0.8**
	5µm,0.3s,baz=204,slow=5.4,SNR=25						
PMG	**Port Moresby**	**7.18**	**233**	P	**Pn**	**22 05 10.2**	**+1.1**
	5.1nm,0.3s,baz=274,slow=1.8,SNR=3.9						
PMG				S	**Sn**	**22 06 29.2**	**-0.2**
	25nm,0.4s,baz=7.3,slow=17,SNR=5.5						
	11nm,0.3s						
PMG	**Port Moresby**	**7.18**	**233**	Pn	**Pn**	**22 05 09.3**	**+0.3**
PATS	**Pohnpei**	**13.01**	**24**	P	**Pn**	**22 06 27.3**	**-1.5**
CTA	**Charters Tower**	**16.26**	**203**	LR	LR	22 12 09.2	
	comp=Z,101nm,19.6s,baz=80,slow=32						
GUMO	**Guam**	**20.26**	**337**	LR	LR	22 16 24.1	
	comp=Z,42nm,18.9s,baz=88,slow=38						
DZM	**Mont Dzumac**	**21.30**	**144**	P	**P**	**22 08 10.2**	**+0.4**
	8.6nm,0.6s,baz=222,slow=11,SNR=14						
	8.6nm,0.6s						
DZM	**Mont Dzumac**	**21.30**	**144**	P	**P**	**22 08 09.9**	**+0.2**
DZM				IAmb	IAmb	22 08 16.0	
	comp=Z,12nm,0.8s						
MTN	**Manton Dam**	**22.90**	**249**	P	**P**	**22 08 25.9**	**-0.9**
MTN				IAmb	IAmb	22 09 03.5	
	comp=Z,14nm,1.2s						
WB0	**Warramunga Arr**	**23.24**	**230**	P	**P**	**22 08 29.1**	**-1.1**
WB0				IAmb	IAmb	22 08 31.2	
	comp=Z,8.2nm,0.9s						
WR0	**Warramunga Arr**	**23.24**	**229**	P	**P**	**22 08 29.4**	**-0.8**
WR0				IAmb	IAmb	22 08 31.8	
	comp=Z,16nm,1.2s						
WRAB	**Tennant Creek**	**23.37**	**229**	P	**P**	**22 08 30.9**	**-0.5**
WRAB				IAmb	IAmb	22 08 32.3	
	comp=Z,15nm,1.1s						
WB2	**Warramunga Arr**	**23.37**	**229**	P	**P**	**22 08 30.5**	**-1.0**
WB2				IAmb	IAmb	22 08 33.1	
	comp=Z,19nm,1.2s						
WRA	**Warramunga Arr**	**23.38**	**229**	P	**P**	**22 08 30.3**	**-1.3**
	comp=Z,3.9nm,0.4s,baz=54,slow=10.0,SNR=54						
WRA				PcP	**PcP**	**22 12 18.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=47,slow=2.5,SNR=2.3						
	comp=Z,3.9nm,0.4s						
WRA	**Warramunga Arr**	**23.38**	**229**	P	**P**	**22 08 29.2**	**-2.4**
KNRA	**Kununurra**	**26.00**	**244**	P	**P**	**22 08 55.0**	**-0.7**
KNRA				IAmb	IAmb	22 09 38.8	
	comp=Z,34nm,1.5s						
AS31	**Alice Springs**	**26.05**	**223**	P	**P**	**22 08 55.5**	**-0.5**
ASAR	**Alice Springs**	**26.05**	**223**	P	**P**	**22 08 55.3**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=57,slow=8.8,SNR=20						
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**26.05**	**223**	P	**P**	**22 08 55.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**29.68**	**242**	P	**P**	**22 09 26.8**	**-1.7**
PSA00	**Pilbara Seismi**	**36.03**	**240**	P	**P**	**22 10 23.6**	**-0.4**
RTZ	**Ruatahuna**	**39.83**	**150**	P	**P**	**22 10 56.1**	**+0.2**
ASAJ	**Asahikawa**	**49.89**	**350**	LR	LR	22 30 19.0	
	comp=Z,17nm,20.9s,baz=343,slow=32						
CMAR	**Chiang Mai Arr**	**58.18**	**295**	P	**P**	**22 13 17.6**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=115,slow=6.3,SNR=1.3						
	comp=Z,1.1nm,0.3s						
SHEM	**Shemya Is, Ala**	**60.34**	**15**	LR	LR	22 33 58.5	
	comp=Z,38nm,20.7s,baz=54,slow=30						
SONM	**Songino Array**	**66.69**	**328**	P	**P**	**22 14 14.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=151,slow=6.6,SNR=2.3						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**66.69**	**328**	P	**P**	**22 14 12.6**	**-0.6**
SONM				IAmb	IAmb	22 14 54.9	
	comp=Z,2.3nm,1.4s						
VNDA	**Vanda**	**72.51**	**178**	P	**P**	**22 14 48.5**	**+0.1**
IMAR	**Indian Mountai**	**80.62**	**19**	P	**P**	**22 15 32.9**	**-1.4**
MK31	**Makanchi Array**	**80.69**	**319**	P	**P**	**22 15 34.9**	**-0.3**
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	**22 15 35.5**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=91,slow=7.4,SNR=5.8						
	comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	**22 15 33.8**	**-1.4**
ZALV	**Zalesovo Beam**	**81.52**	**326**	P	**P**	**22 15 38.8**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=122,slow=5.3,SNR=4.3						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**81.52**	**326**	P	**P**	**22 15 38.6**	**-0.8**
ILAR	**Eielson Array**	**82.38**	**22**	P	**P**	**22 15 46.7**	**+3.0**
	comp=Z,0.4nm,0.9s,baz=270,slow=4.4,SNR=1.8						
	comp=Z,0.4nm,0.9s						
NIL	**Nilore**	**84.31**	**304**	P	**P**	**22 15 53.0**	**-1.4**
QSPA	**South Pole Qui**	**84.85**	**180**	P	**P**	**22 15 57.0**	**+0.5**
QSPA				IAmb	IAmb	22 15 57.9	
	comp=Z,3.7nm,0.7s						
NRIK	**Noril'sk**	**86.32**	**341**	P	**P**	**22 16 04.2**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=79,slow=5.2,SNR=2.1						
	comp=Z,0.7nm,0.3s						
TORD	**Torodi Ar. Bea**	**150.58**	**288**	PKPbc	**PKPbc**	**22 23 14.6**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=67,slow=2.7,SNR=16						
BDFB	**Brasilia**	**150.71**	**135**	PKPbc	**PKPbc**	**22 23 15.8**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=194,slow=4.2,SNR=4.5						

*IDC **30** 22:13:21.0±0.6, 27°.78S×65°.15E, h0km, mb4.3/15, mbtmp4.2/16, ML3.6/1, MS3.7/13, Error ellipse: s-maj=20.6km s-min=17.2km az=56.0*
*NEIC **

WB0 Warramunga Arr 63.14 99 P **P** 22 23 50.0 -0.7
WR0 Warramunga Arr 63.20 100 P **P** 22 23 49.8 -1.3
WR0 IAmb IAmb 22 23 51.4
comp=Z,4.7nm,0.8s
KMI Kunming 63.81 38 ⇑P **P** 22 23 56.3 +1.2
KMI pmax pmax
comp=Z,6.0nm,1.0s
PZH PanZhiHua 64.38 36 P **P** 22 23 59.3 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,230nm,5.9s
VNDA Vanda 64.57 166 P **P** 22 23 59.7 +0.6
comp=Z,2.6nm,0.7s,baz=286,slow=7.1,SNR=5.5
VNDA LR LR 22 48 34.3
comp=Z,121nm,21.9s,baz=256,slow=33
comp=Z,2.6nm,0.7s
VNDA Vanda 64.57 166 P **P** 22 23 59.8 +0.6
GEYT Alibeck 65.65 354 P **P** 22 24 07.1 +0.4
comp=Z,1.3nm,0.8s,baz=190,slow=2.5,SNR=4.3
comp=Z,1.3nm,0.8s
KSH Kashi 67.66 9 P **P** 22 24 17.3 -2.2
KSH pmax pmax
comp=Z,6.0nm,0.8s
GNI Garni 70.16 343 LR LR 22 52 56.0
comp=Z,64nm,20.2s,baz=144,slow=34
AAK Ala-Archa 70.55 7 P **P** 22 24 37.3 -0.2
AAK IAmb IAmb 22 24 41.3
comp=Z,6.1nm,1.1s
KK31 Karatay Array 70.66 4 P **P** 22 24 37.5 -0.4
KK31 IAmb IAmb 22 24 40.5
comp=Z,3.2nm,0.8s
KKAR Karatay Array 70.66 4 P **P** 22 24 37.9 0.0
LZH Lanzhou 73.20 32 *eP* **P** 22 24 55.5 +2.0
LZH sP pwP 22 25 02.5 +1.2
LZH pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 73.26 335 P **P** 22 24 54.7 +0.9
comp=Z,1.2nm,0.9s,baz=116,slow=2.9,SNR=5.3
BRTR LR LR 22 55 54.9
comp=Z,31nm,18.2s,baz=96,slow=35
comp=Z,1.2nm,0.9s
TORD Torodi Ar. Bea 73.68 295 P **P** 22 24 56.6 0.0
comp=Z,0.6nm,0.6s,baz=100,slow=5.8,SNR=3.0
comp=Z,0.6nm,0.6s
KBZ Khabaz 73.99 343 LR LR 22 55 01.5
comp=Z,75nm,21.8s,baz=156,slow=34
XAN Xi'an 74.11 37 ⇑P **P** 22 24 59.5 +0.7
XAN pP pwP 22 25 07.5 +1.0
XAN pmax pmax
comp=Z,8.0nm,0.8s
WMQ Urumqi 74.14 17 *eP* **P** 22 25 00.5 +1.7
GTA Gaotai 74.20 27 ⇑P **P** 22 25 00.5 +1.2
GTA pP pwP 22 25 08.5 +1.4
GTA sP PcP 22 25 13.3 -0.9
GTA pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 75.78 12 P **P** 22 25 07.8 -0.3
MKAR Makanchi Array 75.78 12 P **P** 22 25 08.8 +0.7
comp=Z,2.1nm,0.8s,baz=202,slow=5.0,SNR=26
comp=Z,2.1nm,0.8s
MKAR Makanchi Array 75.78 12 P **P** 22 25 06.8 -1.3
ABKAR Akbulak array 76.78 356 P **P** 22 25 14.1 +0.4
NJ2 Nanjing 78.39 44 *eP* **P** 22 25 24.5 +1.4
NJ2 pmax pmax
comp=Z,9.0nm,1.1s
KURBB Kurchatov Arra 78.90 9 LR LR 22 55 59.2
comp=Z,114nm,20.6s,baz=194,slow=32
KURK Kurchatov 79.01 9 P **P** 22 25 26.4 +0.4
KURK IAmb IAmb 22 25 28.8
comp=Z,5.0nm,0.9s
BRVK Borovoye 80.57 3 P **P** 22 25 34.7 +0.2
BRVK IAmb IAmb 22 25 37.4
comp=Z,3.6nm,0.8s
HHC Hu-ho-hao-te 80.67 34 *eP* **P** 22 25 37.5 +2.0
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,150nm,6.4s
ZAA0 Zalesovo Array 83.11 12 P **P** 22 25 47.9 +0.1
ZAA0 IAmb IAmb 22 25 51.0
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 83.11 12 P **P** 22 25 48.6 +0.8
comp=Z,4.6nm,0.7s,baz=197,slow=4.7,SNR=22
comp=Z,4.6nm,0.7s
ZALV Zalesovo Beam 83.11 12 P **P** 22 25 47.3 -0.5
SONM Songino Array 83.85 27 P **P** 22 25 52.8 +0.8
comp=Z,2.3nm,1.1s,baz=206,slow=4.3,SNR=9.1
comp=Z,2.3nm,1.1s
SONM Songino Array 83.85 27 P **P** 22 25 51.9 0.0
SONM IAmb IAmb 22 25 54.7
comp=Z,2.4nm,1.0s
AKASG Malin Array Be 84.31 338 P **P** 22 25 54.4 +0.3
comp=Z,1.7nm,0.8s,baz=152,slow=3.7,SNR=7.1
comp=Z,1.7nm,0.8s
KIRV Kirov 86.99 352 LR LR 23 06 12.9
comp=Z,50nm,18.4s,baz=252,slow=36
GERES GERESS Array B 89.01 329 P **P** 22 26 17.8 +0.6
comp=Z,0.4nm,0.8s,baz=32,slow=5.8,SNR=3.7
comp=Z,0.4nm,0.8s
ESDC Sonseca Array 92.91 314 P **P** 22 26 36.6 +1.0
comp=Z,0.9nm,1.0s,baz=129,slow=5.3,SNR=4.0
comp=Z,0.9nm,1.0s
YKA Yellowknife Ar 145.24 360 PKPbc **PKPbc** 22 32 58.8 -0.4
comp=Z,2.8nm,0.9s,baz=342,slow=3.4,SNR=15
TXAR Lajitas Array 170.05 282 PKP **PKPdf** 22 33 30.1 -0.8
comp=Z,0.7nm,0.9s,baz=125,slow=2.0,SNR=4.2

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*DJA **30** 22:25:29.3±1.2,5˚N±4˚×9˚4E±˚, h30km±17km, M4.7/11, mb4.8/7, mB5.1/4, MLv4.7/11, Mw(mB)4.4/4*
*NEIC **30** 22:25:32.6±1.6, 5.10N±0.03×94.21E±0.07, h39km±8km, mb4.5/47, Error ellipse: s-maj=11.6km s-min=2.5km az=110.0*
*IDC **30** 22:25:34.8±3.4, 5.24N×94.32E, h51km±30km, mb4.1/18, mbtmp4.4/20, ML4.6/2, MS3.6/10, Error ellipse: s-maj=21.6km s-min=13.8km az=57.0*
ISC 30 22:25:32.1±0.4, **5.11N**±0.05×**94.19E**±0.05, **h34**km, **n164, σ1s32**/159, **mb4.5**/60, **MS3.7**/9, **15C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.36**	**111**	P			**Pn**	**22 26 10.0**	**+1.5**
MLSI				S			**Sb**	**22 26 41.3**	**-1.5**
LHMI	**Lhok Sumawe**	**2.75**	**87**	Pn			**Pn**	**22 26 12.9**	**-0.9**
LHMI	**Lhok Sumawe**	**2.75**	**87**	P			**Pn**	**22 26 16.3**	**+2.5**
LHMI	**Lhok Sumawe**	**2.75**	**87**	P			**Pn**	**22 26 16.2**	**+2.5**
LHMI				S			**Sb**	**22 26 56.5**	**+2.6**
SNSI	**Sinabang, Aceh**	**3.43**	**141**	P			**Pn**	**22 26 23.1**	**-0.1**
SNSI				S			**Sn**	**22 27 01.8**	**-0.9**
KCSI	**Kotacane, Aceh**	**3.91**	**114**	P			**Pn**	**22 26 31.8**	**+2.1**
GSI	**Gunungsitoli**	**5.08**	**138**	Pn			**Pn**	**22 26 45.5**	**-0.3**
GSI	**Gunungsitoli**	**5.08**	**138**	P			**Pn**	**22 26 46.1**	**+0.3**
GSI	**Gunungsitoli**	**5.08**	**138**	P			**Pn**	**22 26 45.4**	**-0.4**
	49nm,0.7s,2μm0.3nm								
GSI				S			**Pb**	**22 27 02.5**	**+2.3**
	49nm,0.7s,2μm0.3nm								
PSI	**Prapat**	**5.25**	**116**	P			**Pn**	**22 26 49.9**	**+1.5**
	8.0nm,0.3s,baz=318,slow=14,SNR=27								
PSI				S			**Sn**	**22 27 45.5**	**-2.3**
	23nm,0.7s,baz=350,slow=16,SNR=1.8								
PSI				LR			LR	22 29 16.0	
	comp=Z,484nm,18.9s,baz=287,slow=42								
	27nm,0.4s								
PSI	**Prapat**	**5.25**	**116**	P			**Pn**	**22 26 51.3**	**+2.9**
RPSI	**Rantau Prapat**	**5.30**	**117**	Pn			**Pn**	**22 26 48.6**	**-0.3**
RPSI	**Rantau Prapat**	**5.30**	**117**				**Pn**	**22 26 49.9**	**+1.0**
RPSI							**Sn**	**22 27 45.5**	**-3.3**
SRIT	**Nakonsritamara**	**6.39**	**57**	Pn			**Pn**	**22 27 04.5**	**+0.6**
KULM	**Kulim**	**6.44**	**88**	Pn			**Pn**	**22 27 05.4**	**+0.9**
PBSI	**Pulau Batu**	**6.56**	**141**	P			**Pn**	**22 27 05.7**	**-0.5**
	203nm,1.4s,1.0nm								
PBA	**Port Blair**	**6.66**	**348**	*eS*			**Sn**	**22 28 20.3**	**-1.9**
SKLT	**Songkhla**	**6.71**	**72**	P			**Pn**	**22 27 10.7**	**+2.4**
SURA	**Surathani**	**6.74**	**53**	P			**Pn**	**22 27 10.9**	**+2.3**
IPM	**Ipoh**	**6.84**	**95**	Pn			**Pn**	**22 27 09.4**	**-0.7**
IPM	**Ipoh**	**6.84**	**95**	P			**Pn**	**22 27 11.5**	**+1.4**
DGPR	**DIGLIPUR**	**8.11**	**351**	*eP*			**Pn**	**22 27 28.8**	**+1.4**
DGPR				*eS*			**Sn**	**22 28 54.8**	**-3.2**
BKNI	**Bangkinang**	**8.33**	**125**	Pn			**Pn**	**22 27 30.5**	**-0.1**
CM31	**Chiang Mai Arr**	**14.05**	**19**	Pn			**Pn**	**22 28 48.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**14.05**	**19**	P			**Pn**	**22 28 51.0**	**+2.2**
	1.7nm,0.3s,baz=208,slow=13,SNR=20								
	3.1nm,0.5s								

CMAR	**Chiang Mai Arr**	**14.05**	**19**	Pn			**Pn**	**22 28 49.9**	**+1.1**
CHTO	**Chiang Mai**	**14.39**	**18**	Pn			**Pn**	**22 28 53.7**	**+0.2**
PHRA	**Phrae**	**14.55**	**23**				**P**	**22 29 02.0**	**+0.2**
CRAI	**Chiangrai**	**16.18**	**21**	P			**P**	**22 29 19.0**	**-0.9**
SALM	**Salem**	**17.09**	**293**	*ex*			**Pn**	**22 29 33.0**	**+4.5**
SALM				*ex*			Sn	22 32 23.7	-14
KOD	**Kodaikanal**	**17.33**	**288**	*ex*			Sn	22 32 30.5	-13
IMP	**Imphal**	**19.61**	**359**	*eP*			**P**	**22 29 57.1**	**-0.5**
BOK	**Bokaro**	**20.22**	**338**	*eP*			Pn	22 30 06.2	-0.2
TNCH	**TengChong**	**20.23**	**11**	⇓P			Pn	22 30 07.0	+0.3
TNCH				pP			sP	22 30 17.8	+0.4
TNCH				pmax			pmax		
	comp=Z,10.0nm,0.7s								
SHL	**Shillong**	**20.46**	**354**	P			**P**	**22 30 04.5**	**-2.5**
MOKO	**MOKOCHONG**	**21.09**	**1**	*eP*			**P**	**22 30 14.5**	**+0.7**
MOKO				IAmb			IAmb	22 30 17.7	
	comp=Z,28nm,1.1s								
DHUB	**DHUBRI**	**21.17**	**350**	*eP*			**P**	**22 30 12.3**	**-2.3**
DHUB				IAmb			IAmb	22 30 17.1	
	comp=Z,5.8nm,0.6s								
TEZP	**TEZPUR**	**21.43**	**357**	*eP*			**P**	**22 30 17.2**	**0.0**
TEZP				IAmb			IAmb	22 30 20.8	
	comp=Z,4.9nm,0.5s								
KMI	**Kunming**	**21.52**	**22**	⇑P			**P**	**22 30 19.8**	**+1.2**
KMI				pmax			pmax		
	comp=Z,10.0nm,1.1s								
ZIRO	**ZIRO**	**22.29**	**359**	*eP*			**P**	**22 30 23.7**	**-3.1**
ZIRO				IAmb			IAmb	22 30 24.9	
	comp=Z,8.8nm,0.8s								
PZH	**PanZhiHua**	**22.46**	**18**	P			**P**	**22 30 30.5**	**+1.9**
PZH				pmax			pmax		
	comp=Z,10.0nm,0.5s								
PZH				pmax			pmax		
	comp=Z,160nm,5.0s								
JIRN	**Jiri**	**23.68**	**342**	*eP*			**P**	**22 30 40.8**	**-0.4**
PKI	**Pulchoki**	**23.85**	**340**	*eP*			**P**	**22 30 41.8**	**-0.9**
	comp=Z,1.8nm,0.3s								
PKIN	**Phulchoki**	**23.86**	**340**	*eP*			**P**	**22 30 41.7**	**-1.0**
	comp=Z,5.6nm,0.5s								
DMN	**Daman**	**23.98**	**340**	*eP*			**P**	**22 30 43.8**	**-0.1**
	comp=Z,11nm,0.6s								
GUN	**Gumba**	**24.01**	**342**	*eP*			**P**	**22 30 43.6**	**-0.6**
	comp=Z,15nm,0.5s								
MYLDM	**Lahad Datu**	**24.21**	**89**	P			**P**	**22 30 46.2**	**+0.3**
MYLDM				IAmb			IAmb	22 31 10.6	
	comp=Z,13nm,1.1s								
GYA	**Guiyang**	**24.35**	**28**	⇑*iP*			**P**	**22 30 47.5**	**+0.4**
GYA				sP			sP	22 31 06.0	+5.6
GYA				pmax			pmax		
	comp=Z,34nm,0.7s								
GKN	**Gorkha**	**24.51**	**339**	*eP*			**P**	**22 30 48.9**	**+0.3**
	comp=Z,8.7nm,0.3s								
LSA	**Lhasa**	**24.62**	**354**	P			**P**	**22 30 51.0**	**+1.0**
LSA				pmax			pmax		
	comp=Z,10.0nm,0.6s								
LSA	**Lhasa**	**24.62**	**354**	P			**P**	**22 30 50.0**	**0.0**
LSA				IAmb			IAmb	22 30 52.5	
	comp=Z,8.2nm,0.7s								
KOLN	**Koldanda**	**24.68**	**337**	*eP*			**P**	**22 30 50.9**	**+0.7**
H08S3	**Diego Garcia H**	**25.08**	**240**	T			T	22 56 45.4	
	baz=60,slow=76,SNR=353								
H08S2	**Diego Garcia H**	**25.08**	**240**	T			T	22 56 45.5	
	baz=60,slow=76,SNR=285								
H08S1	**Diego Carcia H**	**25.10**	**240**	T			T	22 56 47.3	
	baz=60,slow=76,SNR=97								
DANN	**Dangsing**	**25.14**	**338**	*eP*			**P**	**22 30 54.8**	**+0.3**
	comp=Z,70nm,0.6s								
KAPI	**Kappang**	**27.44**	**111**	LR			LR	22 43 53.6	
	comp=Z,49nm,18.3s,baz=250,slow=40								
ENH	**Enshi**	**28.89**	**28**	P			**P**	**22 31 25.9**	**-1.9**
ENH				IAmb			IAmb	22 31 28.6	
	comp=Z,8.4nm,0.7s								
GOMU	**GeErMu**	**30.94**	**1**	P			**P**	**22 31 47.0**	**+0.7**
GOMU				pP			pP	22 31 50.8	-4.8
GOMU				sP			pwP	22 31 52.5	-5.5
GOMU				pmax			pmax		
	comp=Z,2.0nm,0.7s								
GOMU				pmax			pmax		
	comp=Z,150nm,6.3s								
XAN	**Xi'an**	**31.87**	**24**	⇑P			**P**	**22 31 53.0**	**-1.2**
XAN				pP			sP	22 32 12.5	+5.0
XAN				pmax			pmax		
	comp=Z,15nm,0.7s								
NIL	**Nilore**	**34.43**	**328**	P			**P**	**22 32 15.6**	**-0.9**
GTA	**Gaotai**	**34.52**	**8**	⇑P			**P**	**22 32 17.0**	**-0.3**
GTA				sP			pwP	22 32 29.5	+0.5
GTA				pmax			pmax		
	comp=Z,8.0nm,1.0s								
NJ2	**Nanjing**	**35.37**	**38**	*eP*			**P**	**22 32 26.5**	**+1.9**
NJ2				pmax			pmax		
	comp=Z,9.0nm,0.9s								
KSH	**Kashi**	**38.00**	**337**	P			**P**	**22 32 45.5**	**-1.6**
KSH				sP			sP	22 33 03.3	+2.8
KSH				pmax			pmax		
	comp=Z,3.0nm,0.6s								
FITZ	**Fitzroy Crossi**	**38.66**	**127**	P			**P**	**22 32 52.1**	**-0.6**
HHC	**Hu-ho-hao-te**	**38.85**	**21**	*eP*			**P**	**22 32 56.0**	**+1.8**
HHC				pmax			pmax		
	comp=Z,4.0nm,0.8s								
HHC				pmax			pmax		
	comp=Z,240nm,6.7s								
WMQ	**Urumqi**	**38.97**	**353**	*eP*			**P**	**22 32 56.5**	**+1.4**
WMQ				pmax			pmax		
	comp=Z,12nm,0.9s								
TARG	**Taragay, Kyrgy**	**39.28**	**341**	P			**P**	**22 32 58.5**	**+0.4**
TARG				IAmb			IAmb	22 33 22.4	
	comp=Z,7.8nm,1.0s								
BJI	**Beijing**	**40.02**	**27**	P			**P**	**22 33 05.0**	**+1.2**
BJI				pmax			pmax		
	comp=Z,2.0nm,0.9s								
GAR	**Garm**	**40.07**	**331**	P			**P**	**22 33 03.3**	**-1.1**
GAR				IAmb			IAmb	22 33 34.0	
	comp=Z,6.0nm,1.1s								
CHGR	**Chuyangaron**	**40.38**	**329**	P			**P**	**22 33 06.2**	**-0.8**
CHGR				IAmb			IAmb	22 33 09.9	
	comp=Z,6.1nm,0.6s								
MTN	**Manton Dam**	**40.81**	**116**	P			**P**	**22 33 09.0**	**-1.7**
MTN				IAmb			IAmb	22 33 19.2	
	comp=Z,13nm,1.1s								
AAK	**Ala-Archa**	**41.26**	**338**	P			**P**	**22 33 14.6**	**+0.4**
MK31	**Makanchi Array**	**42.78**	**348**	P			**P**	**22 33 26.4**	**0.0**
MK31				IAmb			IAmb	22 33 27.8	
	comp=Z,4.8nm,0.7s								
MKAR	**Makanchi Array**	**42.78**	**348**	P			**P**	**22 33 26.9**	**+0.6**
	comp=Z,7.0nm,0.7s,baz=167,slow=8.4,SNR=80								
MKAR				PcP			**PcP**	**22 35 18.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=151,slow=3.3,SNR=4.1								
	comp=Z,7.0nm,0.7s								
MKAR	**Makanchi Array**	**42.78**	**348**	P			**P**	**22 33 26.7**	**+0.3**
MAKZ	**Makanchi**	**42.86**	**348**	P			**P**	**22 33 26.4**	**-0.6**
MAKZ				IAmb			IAmb	22 33 28.4	
	comp=Z,6.0nm,0.8s								
KK31	**Karatay Array**	**43.25**	**335**	P			**P**	**22 33 28.7**	**-1.5**
KKAR	**Karatay Array**	**43.25**	**335**	P			**P**	**22 33 28.9**	**-1.3**
SONM	**Songino Array**	**43.83**	**12**	P			**P**	**22 33 34.9**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=190,slow=8.6,SNR=39								
SONM				PcP			**PcP**	**22 35 21.8**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=198,slow=3.9,SNR=5.2								
	comp=Z,4.2nm,0.7s								
SONM	**Songino Array**	**43.83**	**12**	P			**P**	**22 33 34.0**	**-1.0**
SONM				IAmb			IAmb	22 33 35.6	
	comp=Z,4.2nm,0.8s								
ULN	**Ulaanbaatar**	**44.00**	**12**	P			**P**	**22 33 34.4**	**-2.0**
ULN				IAmb			IAmb	22 33 36.6	
	comp=Z,3.7nm,0.7s								
JNU	**Nakatsue**	**44.08**	**46**	LR			LR	22 51 55.2	
	comp=Z,40nm,21.8s,baz=244,slow=36								
KSRS	**Korea Array**	**44.54**	**39**	LR			LR	22 54 35.5	
	comp=Z,47nm,18.2s,baz=245,slow=39								
GEYT	**Alibeck**	**46.30**	**320**	P			**P**	**22 33 56.3**	**+1.6**
	comp=Z,4.3nm,0.7s,baz=148,slow=8.6,SNR=15								
	comp=Z,4.3nm,0.7s								
WB0	**Warramunga Arr**	**46.63**	**123**	P			**P**	**22 33 56.6**	**-0.9**
WB0				IAmb			IAmb	22 34 15.4	
	comp=Z,9.0nm,0.8s								
WRA	**Warramunga Arr**	**46.67**	**123**	P			**P**	**22 33 58.3**	**+0.5**
	comp=Z,6.6nm,0.6s,baz=303,slow=9.1,SNR=72								
	comp=Z,4.6nm,0.6s								
WRA	**Warramunga Arr**	**46.67**	**123**	P			**P**	**22 33 56.9**	**-0.9**
WRAB	**Tennant Creek**	**46.67**	**123**	P			**P**	**22 33 56.5**	**-1.3**
WB2	**Warramunga Arr**	**46.68**	**123**	P			**P**	**22 33 55.7**	**-2.1**
WR0	**Warramunga Arr**	**46.84**	**123**	P			**P**	**22 33 58.0**	**-1.1**
WR0				IAmb			IAmb	22 34 17.3	
	comp=Z,12nm,0.9s								
KURK	**Kurchatov**	**47.29**	**347**	P			**P**	**22 34 02.8**	**+0.7**
KURK				IAmb			IAmb	22 34 16.8	
	comp=Z,5.9nm,0.7s								
CN2	**Changchun**	**47.35**	**31**	P			P	22 34 13.5	+11
CN2				pmax			pmax		
	comp=Z,10.0nm,0.7s								
AS31	**Alice Springs**	**48.15**	**128**	P			**P**	**22 34 08.8**	**-0.6**
ASAR	**Alice Springs**	**48.15**	**128**	P			**P**	**22 34 09.8**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=298,slow=7.7,SNR=32								
ASAR				PcP			**PcP**	**22 35 37.3**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=313,slow=3.6,SNR=2.0								
	comp=Z,2.2nm,0.6s								
ASAR	**Alice Springs**	**48.15**	**128**	P			**P**	**22 34 08.4**	**-0.9**
ZAA0	**Zalesovo Array**	**49.28**	**353**	P			**P**	**22 34 17.3**	**-0.1**
ZAA0				IAmb			IAmb	22 34 18.5	
	comp=Z,4.8nm,0.7s								
ZALV	**Zalesovo Beam**	**49.28**	**353**	P			**P**	**22 34 18.0**	**+0.6**
	comp=Z,4.5nm,0.5s,baz=186,slow=6.8,SNR=31								
ZALV				PcP			**PcP**	**22 35 39.8**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=190,slow=5.9,SNR=1.1								
	comp=Z,4.5nm,0.5s								
ZALV	**Zalesovo Beam**	**49.28**	**353**	P			**P**	**22 34 17.6**	**+0.2**
RAYN	**Ar Rayn**	**50.30**	**296**	P			**P**	**22 34 25.6**	**-0.2**
RAYN				IAmb			IAmb	22 34 28.6	
	comp=Z,1.8nm,0.6s								
MJAR	**Matsushiro Arr**	**51.00**	**46**	LR			LR	22 57 29.9	
	comp=Z,42nm,18.9s,baz=201,slow=38								
USRK	**Ussuriysk Ar.**	**51.13**	**34**	P			**P**	**22 34 30.6**	**-1.1**
BRVK	**Borovoye**	**51.67**	**342**	P			**P**	**22 34 35.2**	**-0.3**
BRVK				IAmb			IAmb	22 34 36.2	
	comp=Z,3.6nm,0.7s								
ABKAR	**Akbulak array**	**52.67**	**332**	P			**P**	**22 34 42.3**	**-0.7**
KLR	**Kul'dur**	**54.24**	**30**	P			**P**	**22 34 55.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=338,slow=16,SNR=2.3								
	comp=Z,0.6nm,0.6s								
GURO	**Guroymak-BITLI**	**57.72**	**313**	P			**P**	**22 35 19.5**	**-0.3**
GURO				IAmb			IAmb	22 35 23.7	
	comp=Z,2.7nm,0.8s								
ONI	**Oni**	**58.31**	**318**	P			**P**	**22 35 23.6**	**-0.3**
ONI				IAmb			IAmb	22 36 05.7	
	comp=Z,8.8nm,1.3s								
KBZ	**Khabaz**	**59.16**	**319**	P			**P**	**22 35 30.0**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=149,slow=5.9,SNR=4.2								
	comp=Z,1.8nm,0.9s								
YAK	**Yakutsk**	**62.59**	**18**	P			**P**	**22 35 50.4**	**-2.1**
MBAR	**Mbarara**	**63.62**	**267**	LR			LR	23 00 23.5	
	comp=Z,48nm,20.2s,baz=106,slow=33								
BR131	**Keskin Array S**	**64.27**	**312**	P			**P**	**22 36 03.6**	**-0.7**
BR131				IAmb			IAmb	22 36 05.7	
	comp=Z,6.5nm,0.8s								
BRTR	**Keskin Array B**	**64.27**	**312**	P			**P**	**22 36 04.7**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=124,slow=7.2,SNR=21								
	comp=Z,3.3nm,0.7s								
BRTR	**Keskin Array B**	**64.27**	**312**	P			**P**	**22 36 03.9**	**-0.5**
NRIK	**Noril'sk**	**64.28**	**357**	P			**P**	**22 36 03.0**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=146,slow=6.5,SNR=8.2								
	comp=Z,2.6nm,0.6s								
MA2	**Magadan**	**69.18**	**27**	P			**P**	**22 36 34.3**	**-0.8**
	comp=Z,4.7nm,0.5s,baz=217,slow=3.7,SNR=7.1								
	comp=Z,4.7nm,0.5s								
TIRR	**Tirgusor**	**69.24**	**316**	P			**P**	**22 36 34.9**	**-0.8**
TIXI	**Tiksi**	**69.91**	**11**	P			**P**	**22 36 38.3**	**-1.1**
	comp=Z,6.6nm,0.5s,baz=270,slow=23,SNR=34								
	comp=Z,6.6nm,0.5s								
TIXI	**Tiksi**	**69.91**	**11**	P			**P**	**22 36 38.1**	**-1.2**
AKASG	**Malin Array Be**	**70.34**	**322**	P			**P**	**22 36 41.9**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=91,slow=5.2,SNR=8.8								
	comp=Z,0.9nm,0.5s								
VRI	**Vrincioaia**	**70.72**	**317**	⇑P			**P**	**22 36 46.1**	**+1.3**
PLOR	**Plostina**	**70.77**	**317**	⇑P			**P**	**22 36 42.5**	**-2.7**
NEHR	**Nehoiu**	**70.92**	**316**	⇑P			**P**	**22 36 49.5**	**+3.5**
TESR	**Tescani**	**70.92**	**318**	⇑P			**P**	**22 36 47.0**	**+1.0**
MLR	**Muntele Rosu**	**71.18**	**316**	⇓P			**P**	**22 36 49.4**	**+1.6**
MLR	**Muntele Rosu**	**71.18**	**316**	P			**P**	**22 36 47.8**	**+0.1**
MLR				IAmb			IAmb	22 36 49.9	
	comp=Z,11nm,0.9s								
SEY	**Seymchan**	**71.41**	**24**	P			**P**	**22 36 47.6**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=271,slow=9.9,SNR=6.2								
	comp=Z,1.7nm,0.5s								
VOIR		**71.78**	**316**	⇑P			**P**	**22 36 51.5**	**+0.1**
ARR	**Arges**	**72.06**	**316**	⇓P			**P**	**22 36 53.4**	**+0.4**
BURAR	**Bucovina Array**	**72.12**	**318**	⇑P			**P**	**22 36 54.0**	**+0.6**
BURAR	**Bucovina Array**	**72.12**	**318**	P			**P**	**22 36 54.2**	**+0.9**
BUR08	**Bucovina Ar. S**	**72.14**	**318**	P			**P**	**22 36 52.2**	**-1.2**
MARR	**Marisel-Cluj**	**73.34**	**317**	⇑P			**P**	**22 37 01.6**	**+1.0**
SURR	**Surduc**	**73.86**	**316**	⇑P			**P**	**22 37 04.1**	**+0.6**
TRPA	**Tarpa**	**73.99**	**319**	⇑P			**P**	**22 37 05.2**	**+1.0**
BOSA	**Boshof**	**74.18**	**239**	P			**P**	**22 37 07.7**	**+1.8**
	comp=Z,1.7nm,0.9s,baz=96,slow=2.0,SNR=5.8								
BOSA				LR			LR	23 05 32.5	
	comp=Z,66nm,18.3s,baz=183,slow=32								
	comp=Z,1.7nm,0.9s								
SIRR	**Siria**	**74.26**	**317**	⇑P			**P**	**22 37 07.1**	**+1.2**
PABE	**Paberze**	**74.66**	**326**	P			**P**	**22 37 06.9**	**-1.1**
FIA1	**FINESS Array S**	**75.16**	**333**	P			**P**	**22 37 10.5**	**-0.3**
FINES	**FINESS Array B**	**75.16**	**333**	P			**P**	**22

s-min=11.0km az=3.0
*NNC **30** 23:28:24.4±2.3,37°.17N×70°.98E,h0km,mb4.9,mpv4.9, Error ellipse: s-maj=21.6km s-min=12.7km az=157.0*
*MOS **30** 23:28:25.8±0.9,36°.71N×71°.50E,h165km,mb4.4/13, Error ellipse: s-maj=7.9km s-min=5.1km az=119.8*
*NEIC **30** 23:28:27.7±2.1,36°.76N±0°.04×71°.34E±0°.07,h165km±6km, mb4.3/49, Error ellipse: s-maj=9.5km s-min=3.8km az=59.0*

ISC 30 23:28:25.4±0.4,36°.72N±0°.04×71°.43E±0°.04,h150km,n275, σ1§59/304,mb4.2/61,30C-22D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.45**	**339**			**Pn**	**23 29 08.1**	**+2.2**
GAR				Sn		**Sn**	**23 29 38.4**	**+1.2**
CHGR	**Chuyangaron**	**2.65**	**318**	Pn		**Pn**	**23 29 09.7**	**+1.3**
CHGR				Sn		**Sn**	**23 29 43.0**	**+1.3**
CHGR	**Chuyangaron**	**2.65**	**318**	PN		**Pn**	**23 29 09.7**	**+1.3**
CEP	**Cherat**	**2.91**	**172**	⇑P		**Pn**	**23 29 14.6**	**+2.8**
KBL	**Kabul**	**2.92**	**223**	Pn		**Pn**	**23 29 12.8**	**+0.9**
KBL	**Kabul**	**2.92**	**223**	PN		**Pn**	**23 29 12.8**	**+0.9**
CHCP	**Chirah Chowk**	**3.40**	**153**	P		**Pn**	**23 29 20.2**	**+2.3**
NIL	**Nilore**	**3.40**	**153**			**Pn**	**23 29 20.2**	**+2.3**
NIL	**Nilore**	**3.40**	**153**	PN		**Pn**	**23 29 20.2**	**+2.3**
THW	**Thamme Wali**	**3.92**	**176**	P		**Pn**	**23 29 25.6**	**+1.0**
KSH	**Kashi**	**4.54**	**51**	P		Pn	23 29 30.0	-2.8
KSH				S		Sn	23 30 17.5	-7.9
KSH				smax		smax		
	comp=N,4μm,0.7s							
KSH				smax		smax		
	comp=E,3μm,0.8s							
TAS	**Tashkent**	**4.89**	**341**			**Pn**	**23 29 39.1**	**+1.7**
TAS				Sn		**Sn**	**23 30 34.1**	**+0.5**
JMU	**Jammu**	**4.91**	**143**	*e*P		**Pn**	**23 29 38.9**	**+1.4**
JMU				*e*S		**Sn**	**23 30 32.7**	**-1.1**
IUG	**Iuzhnay**	**5.53**	**349**	*e*Pg		**Pn**	**23 29 47.7**	**+1.8**
	91nm,0.2s							
IUG				*e*Lg		Lg	23 30 47.3	
	672nm,0.5s							
AML	**Almayashu**	**5.69**	**17**	P		**Pn**	**23 29 49.5**	**+1.3**
	SNR=437							
CHM	**Chimkent**	**5.77**	**346**	*e*Pg		**Pn**	**23 29 51.5**	**+2.5**
	592nm,0.3s							
CHM				*e*Lg		Lg	23 30 53.7	
	963nm,0.5s							
UCH	**Uchtor**	**6.00**	**22**	P		**Pn**	**23 29 53.6**	**+1.2**
	SNR=150							
DZA	**Taraz**	**6.17**	**359**	*e*Pg		**Pn**	**23 29 56.2**	**+1.9**
	408nm,0.4s							
DZA				*e*Lg		Lg	23 31 02.1	
	1μm,0.5s							
MRKS	**Merke**	**6.18**	**12**	*e*Pg		**Pn**	**23 29 55.6**	**+1.2**
	36nm,0.4s							
MRKS				*e*Lg		Lg	23 31 01.2	
	300nm,0.7s							
EKS2	**Erkin-Say**	**6.21**	**16**	P		**Pn**	**23 29 56.8**	**+1.9**
	SNR=104							
AAK	**Ala-Archa**	**6.37**	**21**	P		**Pn**	**23 29 58.6**	**+1.5**
	SNR=135							
AAK	**Ala-Archa**	**6.37**	**21**	P		**Pn**	**23 29 58.6**	**+1.5**
	72nm,0.4s,baz=182,slow=4.7,SNR=152							
AAK				S		**Sn**	**23 31 07.5**	**-1.3**
	34nm,0.3s,baz=348,slow=19,SNR=19							
AAK	**Ala-Archa**	**6.37**	**21**	Pn		**Pn**	**23 29 58.5**	**+1.5**
AAK				Sn		**Sn**	**23 31 09.7**	**+0.8**
AAK	**Ala-Archa**	**6.37**	**21**	PN		**Pn**	**23 29 58.5**	**+1.4**
AAK							23 31 09.7	
KK31	**Karatay Array**	**6.42**	**354**			**Pn**	**23 29 59.0**	**+1.3**
KK31				Sn		**Sn**	**23 31 07.8**	**-2.1**
KK31	**Karatay Array**	**6.42**	**354**	⇑P		**Pn**	**23 29 55.0**	**-2.6**
	17nm,0.2s,baz=184,slow=13,SNR=997							
KK31				⇓S		**Sn**	**23 31 06.2**	**-3.7**
	35nm,0.3s,baz=177,slow=23,SNR=17							
KKAR	**Karatay Array**	**6.42**	**354**	Pn		**Pn**	**23 29 58.8**	**+1.2**
KKAR				Sn		**Sn**	**23 31 08.1**	**-1.8**
KKAR	**Karatay Array**	**6.42**	**354**			**Pn**	**23 29 59.0**	**+1.4**
KKAR				Sn		**Sn**	**23 31 08.1**	**-1.8**
KKAR	**Karatay Array**	**6.42**	**354**	PN		**Pn**	**23 29 59.0**	**+1.4**
KBK	**Karagaybulak**	**6.52**	**23**	P		**Pn**	**23 30 00.6**	**+1.5**
	SNR=44							
ULHL	**Ulahol**	**6.66**	**32**	P		**Pn**	**23 30 03.2**	**+2.2**
	SNR=6.3							
BHK	**Bhakra**	**6.71**	**141**	*e*P		**Pn**	**23 30 02.8**	**+1.2**
BHK				*e*S		**Sn**	**23 31 13.8**	**-3.1**
CHMS	**Chumysh**	**6.78**	**21**	P		**Pn**	**23 30 03.9**	**+1.5**
	SNR=25							
CHMS	**Chumysh**	**6.78**	**21**	⇓P		**Pn**	**23 30 03.5**	**+1.1**
	69nm,0.8s							
CHMS				⇑S		**Sn**	**23 31 16.3**	**-2.1**
	68nm,0.7s							
USP	**Ospenovka**	**6.95**	**19**	P		**Pn**	**23 30 06.4**	**+1.7**
	SNR=21							
TKM2	**Tokmak 2**	**6.98**	**26**	P		**Pn**	**23 30 06.5**	**+1.3**
	SNR=27							
TKM2	**Tokmak 2**	**6.98**	**26**	⇓P		**Pn**	**23 30 06.3**	**+1.1**
	21nm,0.5s							
TKM2				⇑S		**Sn**	**23 31 21.3**	**-2.2**
	46nm,0.8s							
TARG	**Taragay, Kyrgy**	**7.04**	**43**	Pn		**Pn**	**23 30 07.5**	**+1.3**
TARG	**Taragay, Kyrgy**	**7.04**	**43**	PN		**Pn**	**23 30 07.5**	**+1.3**
KST	**Kastek**	**7.21**	**27**	*e*Pg		**Pn**	**23 30 09.7**	**+1.4**
	38nm,0.7s							
KST				*e*Lg		Lg	23 31 25.5	
	53nm,0.8s							
DGS	**Degeres**	**7.32**	**26**	*e*Pg		**Pn**	**23 30 10.6**	**+0.9**
	13nm,0.4s							
DGS				*e*Lg		Lg	23 31 26.7	
	23nm,0.7s							
SMLA	**Simla**	**7.33**	**138**	*e*P		**Pn**	**23 30 10.0**	**+0.2**
SMLA				*e*S		**Sn**	**23 31 27.4**	**-4.3**
SMLA				IAML			23 31 29.4	
	comp=N,465nm,0.3s							
SMLA				IAML			23 31 31.6	
	comp=E,745nm,0.7s							
IZV	**Izvestkoviy**	**7.46**	**31**	*e*Pg		**Pn**	**23 30 13.0**	**+1.3**
	comp=E,13nm,0.6s							
IZV				*e*Lg		Lg	23 31 30.9	
	comp=E,21nm,0.6s							
MTBS	**Maitube**	**7.47**	**29**	*e*Pg		**Pn**	**23 30 13.3**	**+1.6**
	comp=E,20nm,0.3s							
MTBS				*e*Lg		Lg	23 31 31.6	
	comp=E,14nm,1.1s							
KRBS	**Karabastau**	**7.69**	**24**	*e*Pg		**Pn**	**23 30 15.4**	**+0.8**
	comp=E,14nm,0.6s							
KRBS				*e*Lg		Lg	23 31 34.9	
	comp=E,14nm,0.8s							
MDOK	**Medeo**	**7.75**	**32**	⇑P		**Pn**	**23 30 18.1**	**+2.6**
	comp=E,64nm,0.6s							
MDOK				S		**Sn**	**23 31 43.9**	**+1.9**
	comp=E,20nm,0.8s							
MDOK	**Medeo**	**7.75**	**32**	*e*Pg		**Pn**	**23 30 17.5**	**+2.0**
	comp=E,65nm,0.6s							
MDOK				*e*Lg		Lg	23 31 39.1	
	comp=E,15nm,1.0s							
KNDC	**Almaty**	**7.76**	**31**	⇑P		**Pn**	**23 30 17.6**	**+2.1**
	comp=E,210nm,0.8s							
KOTS	**Kotyrbulak**	**7.83**	**32**	*e*Pg		**Pn**	**23 30 18.2**	**+1.6**
	comp=E,51nm,0.5s							
KOTS				*e*Lg		Lg	23 31 40.0	
	comp=E,37nm,1.0s							
CHKK	**Chushkaly**	**8.30**	**29**	*e*P		**Pn**	**23 30 23.0**	**+0.4**
DDI	**Dehra Dun**	**8.44**	**137**	*ex*		Pn	23 30 21.4	-3.3
DDI				*e*S		Sn	23 31 52.1	-6.4
DDI				IAML			23 31 57.7	
	comp=N,691nm,0.2s							
DDI				IAML			23 31 58.4	
	comp=E,366nm,0.2s							
BTLS	**Baital**	**8.55**	**13**	*e*Pg		**Pn**	**23 30 26.3**	**+0.3**
	comp=E,9.6nm,0.3s							
BTLS				*e*Lg		Lg	23 31 53.9	
	comp=E,15nm,1.0s							
NDI	**New Delhi**	**9.37**	**147**	*e*P		**Pn**	**23 30 35.8**	**-1.2**
NDI				*e*S		Sn	23 32 13.6	-7.4
NDI				IAML			23 32 20.4	
	comp=E,84nm,0.7s							
NDI				IAML			23 32 21.2	
	comp=N,58nm,0.5s							
KUDL	**Kundal**	**9.55**	**152**	*e*P		**Pn**	**23 30 38.0**	**-1.5**
KUDL				*e*S		Sn	23 32 16.6	-8.7
LGTI	**Lohaghat**	**10.35**	**132**	*e*P		Pn	23 30 47.7	-2.2
LGTI				*e*S		Sn	23 32 34.2	-10
GEYT	**Alibeck**	**10.68**	**281**	P		**Pn**	**23 30 52.5**	**-1.8**
	comp=N,14nm,0.5s,baz=133,slow=9.5,SNR=43							
GEYT				S		**Sn**	**23 32 45.8**	**-6.6**
	comp=N,11nm,0.4s,baz=96,slow=12,SNR=4.6							
GYA0B	**ALIBECK ARRAY**	**10.68**	**281**	⇓P		**Pn**	**23 30 51.9**	**-2.4**
GYA0B				⇑S		**Sn**	**23 32 49.1**	**-3.3**
OTUK	**Ortayu**	**11.54**	**3**	⇑P		**Pn**	**23 31 04.5**	**-1.1**
	comp=N,9.8nm,1.1s							
OTUK				⇓S		**Sn**	**23 33 10.2**	**-2.8**
	comp=N,7.5nm,0.7s							
JHNI	**Jhansi**	**12.75**	**150**	*e*P		**Pn**	**23 31 20.0**	**-1.4**
JHNI				*e*S		Sn	23 33 29.7	-13
MAKZ	**Makanchi**	**12.78**	**35**	Pn		**Pn**	**23 31 21.3**	**-0.3**
MAKZ	**Makanchi**	**12.78**	**35**	⇑P		**Pn**	**23 31 22.2**	**+0.6**
	comp=N,18nm,0.8s							
MAKZ	**Makanchi**	**12.78**	**35**	P		**Pn**	**23 31 21.3**	**-0.3**
MK31	**Makanchi Array**	**12.91**	**35**			**Pn**	**23 31 22.9**	**-0.4**
MK31	**Makanchi Array**	**12.91**	**35**	⇑P		**Pn**	**23 31 24.8**	**+1.4**
	comp=N,4.0nm,0.5s,baz=218,slow=12,SNR=115							
MK31	**Makanchi Array**	**12.91**	**35**	P		**Pn**	**23 31 22.9**	**-0.4**
MKAR	**Makanchi Array**	**12.91**	**35**	P		**Pn**	**23 31 22.8**	**-0.5**
	comp=N,1.8nm,0.3s,baz=211,slow=8.9,SNR=56							
MKAR	**Makanchi Array**	**12.91**	**35**	Pn		**Pn**	**23 31 22.5**	**-0.8**
DANN	**Dangsing**	**13.32**	**125**	*e*P		**Pn**	**23 31 27.6**	**-1.4**
	comp=N,28nm,0.3s							
KOLN	**Koldanda**	**13.61**	**127**	*e*P		**Pn**	**23 31 31.5**	**-1.1**
GKN	**Gorkha**	**14.13**	**124**	*e*P		**Pn**	**23 31 37.7**	**-1.4**
	comp=N,33nm,0.3s							
BHPL	**Bhopal**	**14.39**	**157**	*e*P		**Pn**	**23 31 45.9**	**+3.7**
BHPL				*e*S		Sn	23 34 11.6	-10
KKN	**Kakani**	**14.70**	**123**	*e*P		**Pn**	**23 31 45.1**	**-1.2**
DMN	**Daman**	**14.70**	**124**	*e*P		**Pn**	**23 31 45.5**	**-0.8**
	comp=N,13nm,0.3s							
KURBB	**Kurchatov Arra**	**14.81**	**18**	P		**Pn**	**23 31 45.6**	**-1.6**
	comp=N,11nm,0.6s,baz=204,slow=10,SNR=36							
KURBB				S		**Sn**	**23 34 34.6**	**+3.1**
	comp=N,1.2nm,0.3s,baz=204,slow=19,SNR=8.3							
KURBB	**Kurchatov Arra**	**14.81**	**18**	⇑P		**Pn**	**23 31 49.8**	**+2.6**
	comp=N,14nm,0.5s							
PKIN	**Phulchoki**	**14.91**	**124**	*e*P		**Pn**	**23 31 48.3**	**-0.7**
	comp=N,30nm,0.4s							
PKIN				*e*S		Sn	23 34 22.5	-12
KURK	**Kurchatov**	**14.92**	**18**	Pn		**Pn**	**23 31 47.9**	**-0.7**
KURK						**S**	**23 34 39.4**	**-1.2**
KURK	**Kurchatov**	**14.92**	**18**	⇑P		**Pn**	**23 31 51.3**	**+2.8**
	comp=N,17nm,0.8s							
PKI	**Pulchoki**	**14.93**	**124**	*e*P		**Pn**	**23 31 48.4**	**-0.8**
	comp=N,28nm,0.4s							
PKI				*e*S		Sn	23 34 22.4	-13
GUN	**Gumba**	**15.03**	**122**	*e*P		**Pn**	**23 31 48.9**	**-1.6**
	comp=N,12nm,0.3s							
AB31	**Akbulak array**	**15.07**	**330**	⇓P		**Pn**	**23 31 49.8**	**-0.7**
	comp=N,8.7nm,0.7s							
AB31				⇓S		**Sn**	**23 34 32.2**	**-5.5**
	comp=N,5.6nm,0.5s							
ABKAR	**Akbulak array**	**15.07**	**330**	P		**Pn**	**23 31 49.8**	**-0.6**
ABKAR	**Akbulak array**	**15.07**	**330**	Pn		**Pn**	**23 31 49.6**	**-0.9**
JIRN	**Jiri**	**15.40**	**122**	*e*P		**Pn**	**23 31 53.7**	**-1.4**
	comp=N,55nm,0.4s							
RAMN	**Ramite**	**16.13**	**123**	*e*P		**Pn**	**23 32 02.8**	**-1.2**
	comp=N,12nm,0.3s							
BVA0	**Borovoye Array**	**16.33**	**358**	⇑P		**Pn**	**23 32 07.3**	**+1.4**
	comp=N,4.7nm,0.8s,baz=155,slow=9.3,SNR=6.8							
BVA0				⇓S		**S**	**23 35 03.5**	**-3.6**
	comp=N,5.7nm,0.8s,baz=166,slow=24,SNR=7.1							
BVAR	**Borovoye Array**	**16.33**	**358**	P		**Pn**	**23 32 05.8**	**0.0**
	comp=N,3.6nm,0.5s,baz=154,slow=9.7,SNR=30							
BVAR				S		**S**	**23 35 01.1**	**-5.9**
	comp=N,5.0nm,0.6s,baz=167,slow=23,SNR=9.0							
BVAR				LR		LR	23 39 01.9	
	comp=N,62nm,18.4s,baz=302,slow=38							
BRVK	**Borovoye**	**16.36**	**358**			**Pn**	**23 32 06.8**	**+0.5**
BRVK					IAmb	IAmb	23 32 10.1	
	comp=E,8.0nm,0.6s							
BRVK	**Borovoye**	**16.36**	**358**	⇓P		**Pn**	**23 32 07.4**	**+1.1**
	comp=Z,5.7nm,0.6s							
BRVK				⇑S		**S**	**23 35 03.7**	**-4.1**
	comp=Z,5.5nm,0.8s							
BRVK	**Borovoye**	**16.36**	**358**	P		**Pn**	**23 32 06.8**	**+0.5**
BRVK				pmax		pmax		
	comp=E,8.0nm,0.6s							
ODAN	**Odare**	**16.73**	**121**	*e*P		**P**	**23 32 10.4**	**-0.6**
AKTO	**Aktyubinsk**	**16.77**	**329**	P		**P**	**23 32 12.4**	**+1.4**
	comp=Z,11nm,0.3s,baz=133,slow=8.3,SNR=51							
AKTO				S		**S**	**23 35 13.0**	**-4.6**
	comp=Z,3.0nm,0.6s,baz=263,slow=17,SNR=3.1							
AKTO	**Aktyubinsk**	**16.77**	**329**	⇓P		**P**	**23 32 12.1**	**+1.2**
	comp=Z,14nm,0.8s							
AKTO				⇑S		**S**	**23 35 16.9**	**-0.7**
	comp=Z,6.1nm,0.9s							
LSA	**Lhasa**	**17.91**	**107**	Pn		**P**	**23 32 27.1**	**+3.0**
LSA				IAmb		IAmb	23 32 28.9	
	comp=Z,9.3nm,0.7s							
LSA	**Lhasa**	**17.91**	**107**	P		**P**	**23 32 27.1**	**+3.0**
LSA				pmax		pmax		
	comp=Z,9.0nm,0.7s							
GOMU	**GeErMu**	**18.81**	**85**	P		**P**	**23 32 35.8**	**+2.0**
GOMU				pmax		pmax		
	comp=Z,2.0nm,0.5s							
GOMU				pmax		pmax		
	comp=Z,110nm,4.8s							
AKT	**Akhty**	**18.98**	**292**	*e*P		**P**	**23 32 36.4**	**+1.1**
AKT				*e*S		**S**	**23 36 06.8**	**+3.9**
AKT				pmax		pmax		
	comp=Z,9.0nm,0.4s							
AKT				smax		smax		
	comp=N,10.0nm,0.7s							
AKT				smax		smax		
	comp=E,9.0nm,0.6s							
DHUB	**DHUBRI**	**19.07**	**119**	*e*P		**P**	**23 32 37.2**	**+0.9**
ZAA0	**Zalesovo Array**	**19.58**	**24**	P		**P**	**23 32 41.8**	**+0.3**
ZAA0				IAmb		IAmb	23 32 43.0	
	comp=Z,19nm,1.1s							
ZALV	**Zalesovo Beam**	**19.58**	**24**	P		**P**	**23 32 42.1**	**+0.6**
	comp=Z,12nm,0.4s,baz=210,slow=10,SNR=88							
ZALV				S		**S**	**23 36 12.1**	**-2.0**
	comp=Z,1.2nm,0.5s,baz=215,slow=19,SNR=3.6							
GROC	**Groznyy**	**20.65**	**296**	*e*P		**P**	**23 32 54.5**	**+1.4**
GROC				*e**PP		**pP**	**23 33 21.4**	**+1.7**
GROC				*e**SP		**sP**	**23 33 41.5**	**+2.9**
GROC				*e*S		**S**	**23 36 40.3**	**+4.8**
GROC				*e*			23 36 57.8	
GROC				*e**SS		**sS**	**23 37 23.9**	**+2.5**
GROC				pmax		pmax		
	comp=Z,16nm,0.4s							
SHL	**Shillong**	**20.69**	**117**	P		**P**	**23 32 54.2**	**+0.4**
SHL				IAmb		IAmb	23 32 57.0	
	comp=Z,14nm,0.7s							
SHL	**Shillong**	**20.69**	**117**	P		**P**	**23 32 54.3**	**+0.4**
SHL				pmax		pmax		
	comp=Z,14nm,0.7s							
TEZP	**TEZPUR**	**20.75**	**113**	*e*P		**P**	**23 32 54.8**	**+0.5**
TEZP				IAmb		IAmb	23 32 58.2	
	comp=Z,21nm,0.9s							
ZIRO	**ZIRO**	**21.04**	**109**	*e*P		**P**	**23 32 58.3**	**+0.6**
ZIRO				IAmb		IAmb	23 33 01.5	
	comp=Z,32nm,0.3s							
GNI	**Garni**	**21.16**	**287**	P		**P**	**23 32 58.5**	**-0.3**
	comp=Z,7.9nm,0.9s,baz=286,slow=20,SNR=4.9							
	comp=Z,7.9nm,0.9s							
GNI	**Garni**	**21.16**	**287**	P		**P**	**23 32 58.9**	**+0.1**
GNI				IAmb		IAmb	23 33 09.6	
	comp=Z,9.6nm,0.9s							
GNI	**Garni**	**21.16**	**287**	P		**P**	**23 32 58.9**	**+0.1**
GNI				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ARU	**Arti**	**21.55**	**340**	P		**P**	**23 33 03.2**	**+0.6**
	comp=Z,4.8nm,0.4s,baz=154,slow=7.3,SNR=18							
	comp=Z,4.8nm,0.4s							
ARU	**Arti**	**21.55**	**340**	P		**P**	**23 33 02.2**	**-0.4**
ARU				IAmb		IAmb	23 33 06.3	
	comp=Z,26nm,1.5s							
ZEI	**Tsey**	**21.96**	**295**	*e*P		**P**	**23 33 09.1**	**+1.8**
ZEI				pmax		pmax		
	comp=Z,9.0nm,1.0s							
MOKO	**MOKOCHONG**	**22.19**	**111**	*e*P		**P**	**23 33 10.1**	**+0.4**
MOKO				IAmb		IAmb	23 33 11.2	
	comp=Z,26nm,1.2s							
ONI	**Oni**	**22.27**	**294**	P		**P**	**23 33 12.2**	**+2.0**
ONI				IAmb		IAmb	23 33 14.0	
	comp=Z,5.5nm,0.7s							
ONI	**Oni**	**22.27**	**294**	P		**P**	**23 33 12.2**	**+2.0**
ONI				pmax		pmax		
	comp=Z,6.0nm,0.7s							
GTA	**Gaotai**	**22.47**	**74**	*e*P		**P**	**23 33 14.0**	**+1.8**
GTA				pmax		pmax		
	comp=Z,5.0nm,1.3s							
IMP	**Imphal**	**22.62**	**115**	*e*P		**P**	**23 33 14.8**	**+1.1**
IMP				IAmb		IAmb	23 33 16.5	
	comp=Z,6.5nm,0.7s							
KBZ	**Khabaz**	**22.81**	**297**	P		**P**	**23 33 15.6**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=59,slow=14,SNR=16							
	comp=Z,3.0nm,0.6s							
BELG	**Belogornoye**	**22.94**	**321**	P		**P**	**23 33 17.3**	**+1.0**
	comp=Z,23nm,0.7s,baz=326,slow=0.4,SNR=31							
	comp=Z,23nm,0.7s							
KVAR	**Kislovodsk Arr**	**22.99**	**297**	P		**P**	**23 33 18.1**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=66,slow=20,SNR=2.6							
	comp=Z,3.6nm,0.8s							
KIV	**Kislovodsk**	**23.00**	**297**	P		**P**	**23 33 17.6**	**+0.5**
KIV				IAmb		IAmb	23 33 56.3	
	comp=Z,17nm,1.4s							
KIRV	**Kirov**	**26.20**	**334**	P		**P**	**23 33 46.7**	**+1.0**
	comp=Z,8.5nm,0.6s,baz=86,slow=2.5,SNR=4.5							
	comp=Z,8.5nm,0.6s							
SONM	**Songino Array**	**27.93**	**56**	P		**P**	**23 34 02.4**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=264,slow=9.3,SNR=9.0							
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**27.93**	**56**	P		**P**	**23 34 02.8**	**+1.3**
BR131	**Keskin Array S**	**29.70**	**287**	P		**P**	**23 34 18.5**	**+1.2**
BR131				IAmb		IAmb	23 34 59.1	
	comp=Z,7.3nm,1.3s							
BR131	**Keskin Array S**	**29.70**	**287**	P		**P**	**23 34 18.5**	**+1.2**
BR131				pmax		pmax		
	comp=Z,7.0nm,1.3s							
BRTR	**Keskin Array B**	**29.70**	**287**	P		**P**	**23 34 17.7**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=96,slow=8.1,SNR=9.9							
	comp=Z,0.8nm,0.5s							
BRTR	**Keskin Array B**	**29.70**	**287**	P		**P**	**23 34 18.3**	**+1.0**
BRTR	**Keskin Array B**	**29.70**	**287**	P		**P**	**23 34 18.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**30.25**	**120**	P		**P**	**23 34 21.8**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=295,slow=8.6,SNR=0.9							
	comp=Z,0.3nm,0.4s							
PURM	**Purcari**	**32.25**	**301**	⇑P		**P**	**23 34 40.9**	**+1.4**
MILM	**Milestii Mici**	**33.00**	**302**	⇑P		**P**	**23 34 47.3**	**+1.3**
MILM	**Milestii Mici**	**33.00**	**302**	P		**P**	**23 34 47.2**	**+1.3**
AKASG	**Malin Array Be**	**33.08**	**308**	P		**P**	**23 34 46.9**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=80,slow=7.8,SNR=21							
	comp=Z,3.1nm,0.6s							
AKASG	**Malin Array Be**	**33.08**	**308**	P		**P**	**23 34 47.0**	**+0.3**
AKASG	**Malin Array Be**	**33.08**	**308**	P		**P**	**23 34 47.0**	**+0.3**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.9s							
AKBB	**Malin Array Si**	**33.08**	**308**	P		**P**	**23 34 46.4**	**-0.2**
AKBB	**Malin Array Si**	**33.08**	**308**	P		**P**	**23 34 46.4**	**-0.2**
AKBB				pmax		pmax		
	comp=Z,8.0nm,0.6s							
ELL	**Elmali**	**33.09**	**283**	P		**P**	**23 34 48.0**	**+1.0**
ELL	**Elmali**	**33.09**	**283**	P		**P**	**23 34 48.0**	**+1.0**
ELL				pmax		pmax		
	comp=Z,24nm,1.1s							
SORM	**Soroca**	**33.37**	**304**	⇑P		**P**	**23 34 49.5**	**+0.3**
SORM	**Soroca**	**33.37**	**304**	P		**P**	**23 34 49.4**	**+0.3**
CFR	**Carcaliu**	**33.44**	**298**	⇑P		**P**	**23 34 50.8**	**+1.0**
CFR	**Carcaliu**	**33.44**	**298**	P		**P**	**23 34 50.8**	**+1.0**
VLDR	**Vladesti**	**33.48**	**300**	⇓P		**P**	**23 34 51.4**	**+1.3**
NRIK	**Noril'sk**	**33.85**	**10**	P		**P**	**23 34 54.7**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=225,slow=10.0,SNR=2.3							
	comp=Z,1.0nm,0.5s							
GHRR		**33.95**	**300**	⇓P		**P**	**23 34 56.2**	**+2.1**
TESR	**Tescani**	**34.48**	**301**	⇑P		**P**	**23 34 59.9**	**+1.2**
PLOR	**Plostina**	**34.48**	**300**	⇓P		**P**	**23 35 00.9**	**+2.1**
PLOR	**Plostina**	**34.48**	**300**	P		**P**	**23 35 00.9**	**+2.1**
COVR	**Voineasa-Covas**	**34.79**	**300**	⇑P		**P**	**23 35 03.4**	**+1.9**
MLR	**Muntele Rosu**	**34.98**	**299**	⇓P		**P**	**23 35 05.9**	**+2.6**
MLR	**Muntele Rosu**	**34.98**	**299**	P		**P**	**23 35 05.0**	**+1.8**
MLR	**Muntele Rosu**	**34.98**	**299**	P		**P**	**23 35 05.8**	**+2.6**
DOPR	**Dopca**	**35.36**	**300**	⇓P		**P**	**23 35 07.7**	**+1.4**
BURAR	**Bucovina Array**	**35.46**	**303**	⇓P		**P**	**23 35 08.4**	**+1.1**
BURAR	**Bucovina Array**	**35.46**	**303**	P		**P**	**23 35 08.2**	**+0.9**
BURAR	**Bucovina Array**	**35.46**	**303**	P		**P**	**23 35 08.3**	**+1.1**
BUR08	**Bucovina Ar. S**	**35.47**	**303**	P		**P**	**23 35 08.3**	**+0.9**
BUR08				IAmb		IAmb	23 35 09.2	
	comp=Z,4.3nm,1.0s							
MTUR	**Matau**	**35.61**	**299**	⇑P		**P**	**23 35 11.0**	**+2.4**
MTUR	**Matau**	**35.61**	**299**	P		**P**	**23 35 11.0**	**+2.4**
VOIR		**35.61**	**299**

KHC	Kasperske Hory	43.14	306	P		P		23 36 11.2	+0.3
KHC	Kasperske Hory	43.14	306	*e*P		P		23 36 12.0	+1.1
KHC	Kasperske Hory	43.14	306	*e*P		P		23 36 12.0	+1.1
TRO	Tromso	43.21	336	*e*P		P		23 36 11.7	+0.7
BIOA	Bad Ischl, Aus	43.27	303	*i* P		P		23 36 12.4	+0.5
	comp=Z,2.4nm,0.5s								
CLL	Collm	43.33	309	*i* P		P		23 36 13.1	+0.9
	comp=Z,4.0nm,0.6s								
CLL	Collm	43.33	309	*i* P		P		23 36 13.1	+0.9
CLL				pmax		pmax			
	comp=Z,4.0nm,0.6s								
PRED	Cave del Predi	43.49	302	P		P		23 36 14.0	+0.3
PRED				IAmb		IAmb		23 36 15.0	
	comp=Z,7.1nm,1.2s								
SABO	M.te Sabotino	43.53	301	P		P		23 36 14.4	+0.4
SABO				IAmb		IAmb		23 36 15.0	
	comp=Z,6.7nm,0.7s								
KBA	Koelnbreinsper	43.55	303	*i* P		P		23 36 14.9	+0.6
	comp=Z,1.9nm,0.5s								
FAUS	Fauske	43.77	332	*e*P		P		23 36 16.2	+0.6
MOR8	Moi Rana	43.80	331	*e*P		P		23 36 15.7	-0.1
STEI	Steigen	43.94	333	*e*P		P		23 36 17.8	+0.9
STAL	STALIGIAL	44.10	302	P		P		23 36 18.2	-0.3
STAL				IAmb		IAmb		23 36 19.0	
	comp=Z,4.3nm,0.6s								
NC405	NORSAR Array S	44.18	323	P		P		23 36 18.1	-0.9
NC602	NORSAR Array S	44.23	322	P		P		23 36 19.1	-0.2
NC602	NORSAR Array S	44.23	322	*e*P		P		23 36 19.3	-0.1
CIMO	Cimolais	44.28	302	P		P		23 36 20.5	+0.5
CIMO				IAmb		IAmb		23 36 20.9	
	comp=Z,6.2nm,0.8s								
NB201	NORSAR Array S	44.38	323	P		P		23 36 20.7	+0.1
NB201				IAmb		IAmb		23 36 21.1	
	comp=Z,12nm,0.8s								
KONS	Konsvik	44.39	331	*e*P		P		23 36 21.1	+0.6
NB2	NORSAR Subarra	44.42	323	P		P		23 36 20.4	-0.5
	comp=Z,5.3nm,0.4s,baz=98,slow=7.9								
NB2	NORSAR Subarra	44.42	323	P		P		23 36 20.4	-0.5
	slow=7.9								
NOA	NORSAR Array B	44.42	323	P		P		23 36 20.0	-0.8
	comp=Z,8.4nm,0.6s,baz=106,slow=7.2,SNR=62								
	comp=Z,8.4nm,0.6s								
NAO01	NORSAR Array S	44.56	323	P		P		23 36 21.6	-0.3
LOF	Lofoten	44.61	333	*e*P		P		23 36 22.3	+0.1
NBO00	NORSAR Array S	44.63	323	P		P		23 36 21.6	-0.9
NC204	NORSAR Array S	44.66	323	P		P		23 36 23.1	+0.3
WTTA	Wattenberg	44.67	303	*i* P		P		23 36 22.9	-0.3
	comp=Z,4.1nm,0.7s								
KLR	Kul'dur	44.74	54	P		P		23 36 23.7	+0.2
	comp=Z,0.5nm,0.4s,baz=284,slow=13,SNR=2.1								
	comp=Z,0.5nm,0.4s								
CTI	Castel Tesino	44.86	301	P		P		23 36 25.0	+0.3
CTI				IAmb		IAmb		23 36 25.6	
	comp=Z,5.2nm,0.6s								
CTI	Castel Tesino	44.86	301	P		P		23 36 25.0	+0.3
CTI				pmax		pmax			
	comp=Z,5.0nm,0.6s								
SQTA	Sankt Quirin	44.97	303	*i* P		P		23 36 25.2	-0.3
	comp=Z,3.3nm,0.7s								
MOTA	Moosalm	45.02	303	*i* P		P		23 36 26.1	+0.2
	comp=Z,3.3nm,0.7s								
KONO	Kongsberg	45.14	321	P		P		23 36 26.7	+0.2
KONO				IAmb		IAmb		23 37 08.5	
	comp=Z,19nm,1.2s								
KONO	Kongsberg	45.14	321	P		P		23 36 26.7	+0.2
KONO				pmax		pmax			
	comp=Z,19nm,1.3s								
KONO	Kongsberg	45.14	321	*e*P		P		23 36 26.8	+0.2
FETA	Feichten	45.32	303	*e*P		P		23 36 28.1	-0.2
	comp=Z,1.9nm,0.5s,SNR=4.7								
FUORN	Ofenpass-Fuorn	45.71	302	P		P		23 36 31.9	+0.4
SKAR	Skarslia	45.82	322	*e*P		P		23 36 32.7	+0.8
DAVA	Damuels	45.85	303	*e*P		P		23 36 32.6	+0.1
	comp=Z,11nm,0.5s,SNR=13								
ASK	Askoy	47.35	322	*e*P		P		23 36 44.3	+0.6
SENIN	Lac Senin/Sane	47.76	303	P		P		23 36 47.5	0.0
KMBO	Kilima Mbogo	49.23	228	P		P		23 36 58.9	-0.1
KMBO	Kilima Mbogo	49.23	228	P		P		23 36 58.9	-0.1
KMBO				pmax		pmax			
	comp=Z,2.0nm,1.2s								
KEST	Kesra	49.30	288	P		P		23 36 59.8	+0.7
SSB	Saint Sauveur	49.89	302	P		P		23 37 03.9	+0.4
SSB				IAmb		IAmb		23 37 04.5	
	comp=Z,7.1nm,1.2s								
SSB	Saint Sauveur	49.89	302	P		P		23 37 03.9	+0.4
SSB				pmax		pmax			
	comp=Z,7.0nm,1.2s								
ESBB	Sonseca Array	57.66	298	P		P		23 37 59.9	-0.1
ESBB				IAmb		IAmb		23 38 00.8	
	comp=Z,9.5nm,1.3s								
ESDC	Sonseca Array	57.66	298	P		P		23 37 59.9	-0.1
	comp=Z,1.9nm,0.8s,baz=58,slow=7.3,SNR=19								
	comp=Z,1.9nm,0.8s								
ESDC	Sonseca Array	57.66	298	P		P		23 37 59.8	-0.2
ESDC				IAmb		IAmb		23 38 00.9	
	comp=Z,4.6nm,1.3s								
TORD	Torodi Ar. Bea	66.07	269	P		P		23 38 53.7	-2.8
	comp=Z,2.2nm,0.5s,baz=51,slow=6.2,SNR=37								
	comp=Z,2.2nm,0.5s								
TORD	Torodi Ar. Bea	66.07	269	P		P		23 38 53.9	-2.6
TOLK	Toolik Lake Re	70.63	15	P		P		23 39 24.3	+0.3
INK	Inuvik	73.64	9	P		P		23 39 42.4	+0.6
	comp=Z,1.3nm,0.9s,baz=347,slow=3.9,SNR=2.8								
	comp=Z,1.3nm,0.9s								
YKA	Yellowknife Ar	81.01	3	P		P		23 40 22.7	-0.2
	comp=Z,0.2nm,0.4s,baz=345,slow=5.2,SNR=7.9								
	comp=Z,0.2nm,0.4s								
WRA	Warramunga Arr	81.81	122	P		P		23 40 25.7	-2.0
	comp=Z,0.1nm,0.3s,baz=328,slow=4.7,SNR=4.6								
	comp=Z,0.1nm,0.3s								
SCHQ	Schefferville	82.03	337	P		P		23 40 28.4	-0.1
	comp=Z,1.6nm,0.8s,baz=27,slow=2.3,SNR=1.2								
	comp=Z,1.6nm,0.8s								
ASAR	Alice Springs	84.09	125	P		P		23 40 37.4	-2.0
	comp=Z,0.2nm,0.3s,baz=335,slow=6.4,SNR=2.3								
	comp=Z,0.2nm,0.3s								

*THE **30** 23:33:29.4, 40˚.58N×23˚.34E, h6km±5km, ML1.8/5, Error ellipse: s-maj=5.7km s-min=0.5km az=282.0*
*ATH **30** 23:33:29.6, 40˚.58N×23˚.34E, h5km±2km, ML1.8/7, Error ellipse: s-maj=2.3km s-min=0.8km az=3.0*
*SKO **30** 23:33:30.5, 40˚.58N×23˚.31E, h4km, ML1.9*
ISC 30 23:33:29.3±1.0, 40˚.57N±0˚.02×23˚.35E±0˚.02, h9km±7km, n33, σ0960/61, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HORT	Hortiatis	0.19	278	P	Pg	23 33 33.3	-0.1
HORT				S	Sg	23 33 36.2	+0.1
	785nm,0.2s						
HORT	Hortiatis	0.19	278	P	Pg	23 33 33.2	-0.1
HORT				S	Sg	23 33 36.0	-0.1
HORT				AML	AML	23 33 36.5	
	comp=N,1373μm,0.2s						
HORT				AML	AML	23 33 37.4	
	comp=E,1761μm,0.1s						
SOH	Sokhos	0.25	2	P	Pg	23 33 34.3	-0.2
SOH				S	Sg	23 33 37.7	-0.2
	comp=E,328nm,0.3s						
SOH	Sokhos	0.25	2	*i* Pg	Pg	23 33 34.3	-0.2
SOH				*i* Sg	Sg	23 33 38.4	+0.5
SOH	Sokhos	0.25	2	P	Pg	23 33 34.3	-0.2
SOH				S	Sg	23 33 38.3	+0.5
SOH				AML	AML	23 33 39.6	
	comp=E,887μm,0.2s						
SOH				AML	AML	23 33 40.1	
	comp=N,700μm,0.2s						
THE	Thessaloniki	0.29	282	P	Pg	23 33 34.9	-0.3
THE				S	Sg	23 33 39.2	0.0
	comp=N,172nm,0.1s						
THE	Thessaloniki	0.29	282	*i* Pg	Pg	23 33 34.9	-0.3
THE				*i* Sg	Sg	23 33 39.3	0.0
THE	Thessaloniki	0.29	282	P	Pg	23 33 34.9	-0.3
THE				S	Sg	23 33 39.0	-0.2
THE				AML	AML	23 33 39.5	
	comp=E,296μm,0.1s						
THE				AML	AML	23 33 39.6	
	comp=N,387μm,0.2s						
OUR	Ouranopolis	0.54	116	P	Pg	23 33 39.7	-0.1
OUR				S	Sg	23 33 47.4	+0.5
	comp=N,72nm,0.2s						
OUR	Ouranopolis	0.54	116	P	Pg	23 33 39.6	-0.2
OUR				S	Sg	23 33 47.4	+0.5
SRS	Serrai	0.58	19	P	Pg	23 33 39.7	-0.8
SRS	Serrai	0.58	19	*i* Pg	Pg	23 33 39.9	-0.6
SRS				*i* Sg	Sb	23 33 51.4	+1.4
SRS	Serrai	0.58	19	P	Pg	23 33 39.7	-0.8
SRS				S	Sg	23 33 48.2	0.0
SRS				AML	AML	23 33 52.6	
	comp=N,152μm,0.2s						
SRS				AML	AML	23 33 54.4	
	comp=E,163μm,0.1s						
KNT	Kendrikon	0.68	330	P	Pg	23 33 41.9	-0.6
KNT				S	Sg	23 33 51.6	+0.2
	comp=E,158nm,0.1s						
KNT	Kendrikon	0.68	330	*i* Pg	Pg	23 33 41.9	-0.6
KNT				*i* Sg	Sg	23 33 51.6	+0.2
KNT	Kendrikon	0.68	330	P	Pg	23 33 41.8	-0.6
KNT				S	Sg	23 33 51.0	-0.5
KNT				AML	AML	23 33 52.0	
	comp=N,386μm,0.1s						
KNT				AML	AML	23 33 52.5	
	comp=E,250μm,0.1s						
PAIG	Paliouri	0.69	158	P	Pg	23 33 41.8	-0.9
PAIG	Paliouri	0.69	158	P	Pg	23 33 41.5	-1.2
PAIG				S	Sg	23 33 53.1	+1.4
LIT	Litokhoron	0.81	235	P	Pg	23 33 45.2	+0.3
GRG	Griva	0.81	299	P	Pg	23 33 44.4	-0.6
GRG	Griva	0.81	299	*i* Pg	Pg	23 33 45.3	+0.3
GRG				*i* Sg	Sb	23 33 57.4	+0.6
GRG	Griva	0.81	299	P	Pg	23 33 44.4	-0.6
GRG				S	Sg	23 33 56.2	+0.6
GRG				AML	AML	23 33 57.9	
	comp=E,85μm,0.3s						
GRG				AML	AML	23 34 00.1	
	comp=N,136μm,0.5s						
NVR	Nevrokopi	0.87	27	P	Pg	23 33 46.2	+0.1
NVR				S	Sg	23 33 58.2	+0.7
NVR	Nevrokopi	0.87	27	P	Pg	23 33 46.3	+0.1
NVR				S	Sg	23 33 57.9	+0.5
NVR				AML	AML	23 34 02.1	
	comp=E,130μm,0.2s						
NVR				AML	AML	23 34 02.5	
	comp=N,90μm,0.2s						
VAY	Valandovo	0.95	322	*i* Pg	Pg	23 33 47.8	+0.2
VAY				*i* Sg	Sg	23 34 00.1	0.0
VAY				*e*Lg	Lg	23 34 00.8	
	comp=N,21nm,0.3s						
KAVA	Kavala	0.98	64	P	Pg	23 33 48.0	-0.3
KAVA	Kavala	0.98	64	P	Pg	23 33 47.8	-0.5
KAVA				S	Sb	23 34 01.9	+0.3
THAS	Thassos island	1.05	88	P	Pg	23 33 49.1	-0.4
THAS				S	Sg	23 34 02.5	-0.6
TYRN	Tyrnavos	1.21	225	P	Pg	23 33 52.4	-0.1
TYRN				S	Sb	23 34 09.4	+1.3
NEO	Neokhori	1.27	184	P	Pg	23 33 52.6	-1.0
NEO				S	Sg	23 34 10.0	-0.1
STIP	Stip	1.42	322	*i* Pg	Pn	23 33 55.1	-0.3
STIP				*i* Sg	Sb	23 34 12.6	-1.6
STIP				*e*Lg	Lg	23 34 13.8	
	comp=N,8.3nm,0.3s						
AGG	Agios Georgios	1.73	207	P	Pn	23 33 59.8	+0.1
AGG				S	Sn	23 34 22.2	+0.4
MAKR	Makrakomi, Fth	1.81	211	P	Pn	23 34 00.2	-0.6
MAKR				S	Sn	23 34 23.8	0.0

*BJI **30** 23:35:21.0±0.0, 14˚.73S×167˚.11E, h79km, mb5.3/82, mB5.5/60, Ms5.3/71, Ms7 5.1/73*
*MOS **30** 23:35:22.2±1.0, 14˚.73S×167˚.06E, h78km, mb6.0/32, MS5.3/9, Error ellipse: s-maj=8.0km s-min=6.6km az=128.2*
*IDC **30** 23:35:22.6±0.8, 14˚.79S×167˚.16E, h75km±5km, mb5.4/34, mbtmp5.7/37, MS4.9/57, Error ellipse: s-maj=10.3km s-min=8.6km az=49.0*
*NEIC **30** 23:35:24.2±1.7, 14˚.77S±0˚.08×167˚.16E±0˚.08, h79km±1km, mb5.5/359, Mwb5.9/62, Mwc5.9/35, Mww5.9, Error ellipse: s-maj=13.2km s-min=12.7km az=43.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.52; Mθθ0.88; Mφφ-3.40; Mrθ-6.75; Mθφ5.01; Mφr0.26; Fault plane solution: M₀8.95000×10¹⁷ NP1:φs186.18000°, δ40.07000°, λ162.93000°. NP2:φs286.40000°, δ79.11000°, λ51.20000°. Principal axes: T 9.3412, Plg42.0000°, Azm160.0000°; N -0.8404, Plg38.0000°, Azm295.0000°; P -8.5009, Plg24.0000°, Azm45.0000°;*
*NOU **30** 23:35:25.4, 14˚.82S×166˚.99E, h86km, mb5.8/159, Vanuatu Islands*
*NEIC **30** 23:35:25, 14˚.69S×166˚.95E, h80km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr1.75; Mθθ1.54; Mφφ-3.29; Mrθ-5.41; Mθφ6.02; Mφr-0.52; Fault plane solution: M₀8.59000×10¹⁷ NP1:φs186.00000°, δ52.00000°, λ166.00000°. NP2:φs284.00000°, δ79.00000°, λ39.00000°. Principal axes: T 8.9564, Plg35.0000°, Azm152.0000°; N -0.7788, Plg50.0000°, Azm298.0000°; P -8.1776, Plg17.0000°, Azm50.0000°;*
*GCMT **30** 23:35:27.2±0.1, 14˚.82S×166˚.86E, h88km, MW5.9/168, Moment Tensor Solution. s164,c374; s168,c520; Duration: 2s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.17±.01; Mθθ0.18±.01; Mφφ-0.35±.01; Mrθ-0.69±.01; Mθφ0.67±.01; Mφr0.05±.01; Best double couple: M₀1.00800×10¹⁸ NP1:φs284.00000°, δ82.00000°, λ44.00000°. NP2:φs187.00000°, δ46.00000°, λ170.00000°. Principal axes: T 1.0260, Plg35.0000°, Azm155.0000°; N -0.0350, Plg45.0000°, Azm292.0000°; P -0.9910, Plg23.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 23:35:42.7, 14˚.54S×166˚.52E, h86km, Moment Tensor Solution. Duration: 5s2 Moment tensor: Scale 10¹⁸Nm; Mrr0.21; Mθθ0.27; Mφφ-0.48; Mrθ-0.57; Mθφ0.76; Mφr0.13; Fault plane solution: M₀1.04000×10¹⁸ NP1:φs286.91000°, δ82.19000°, λ36.33000°. NP2:φs191.21000°, δ54.06000°, λ170.34000°. Principal axes: T 0.9882, Plg31.0000°, Azm155.0000°; N 0.0980, Plg53.0000°, Azm297.0000°; P -1.0863, Plg19.0000°, Azm54.0000°;*
ISC 30 23:35:24.0±0.2, 14˚.83S±0˚.03×167˚.08E±0˚.03, h87km±1km, h87km:pP-P, n1232, σ1980/1314, mb5.5/304, 57C-47D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.07	160	P	Pn	23 36 11.7	+1.3
RTV	Rentapao	3.22	156	P	Pn	23 36 14.5	+2.1
LIFNC	LIFOU	5.92	178	Pn	Pn	23 36 46.9	-2.1
LIFNC	LIFOU	5.92	178	P	Pn	23 36 48.3	-0.8
KOUNC	Koumac, New Ca	6.28	205	Pn	Pn	23 36 54.0	0.0
KOUNC	Koumac, New Ca	6.28	205	P	Pn	23 36 54.8	+0.8
MARNC	Mare, Loyalty	6.68	172	Pn	Pn	23 36 59.1	-0.3
MARNC	Mare, Loyalty	6.68	172	P	Pn	23 36 59.1	-0.3
YATNC	Mamie plateau,	7.19	181	P	Pn	23 37 07.0	+0.5
DZM	Mont Dzumac	7.23	185	*e*Pn	Pn	23 37 06.8	-0.2
DZM				*e*Sn	Sn	23 38 23.8	-3.8
	4μm,0.8s						
DZM				eLR	LR	23 38 46.5	
	comp=Z,60μm,30.5s						
DZM	Mont Dzumac	7.23	185	P	Pn	23 37 07.6	+0.6
	913nm,0.6s,baz=115,slow=23,SNR=410						
DZM				S	Sn	23 38 22.3	-5.3
	212nm,0.6s,baz=106,slow=22,SNR=0.7						
DZM				ScP	ScP	23 47 11.9	+1.3
	27nm,0.9s,baz=97,slow=18,SNR=5.8						
DZM				ScS	ScS	23 50 45.5	+1.2
	9.1nm,1.0s,baz=139,slow=18,SNR=2.5						
DZM	Mont Dzumac	7.23	185	P	Pn	23 37 08.0	+1.0
NOUC	Port Laguerre	7.27	186	P	Pn	23 37 08.8	+1.3
ONTNC	Ouen Toro	7.46	184	Pn	Pn	23 37 11.0	+0.9
ONTNC	Ouen Toro	7.46	184	P	Pn	23 37 11.6	+1.5
OUENC	Ouen Island, N	7.55	182		Pn	23 37 12.6	+1.2
OUENC	Ouen Island, N	7.55	182	P	Pn	23 37 13.1	+1.7
PINNC	Pines Island,	7.75	177		Pn	23 37 15.1	+1.0
PINNC	Pines Island,	7.75	177	P	Pn	23 37 15.6	+1.6
HNR	Honiara	8.79	307	P	Pn	23 37 27.7	-0.6
	8μm,0.3s,baz=181,slow=9.6,SNR=47						
HNR				S	Sn	23 38 58.6	-7.2
	4μm,0.3s,baz=178,slow=20,SNR=0.9						
HNR				LR	LR	23 40 49.0	
	comp=Z,87μm,20.7s,baz=137,slow=37						
HNR	Honiara	8.79	307	Pn	Pn	23 37 28.1	-0.3
HNR	Honiara	8.79	307	P	Pn	23 37 28.5	+0.1
HNR	Honiara	8.79	307	P	Pn	23 37 28.1	-0.3
MSVF	Nonsavu	10.93	107	P	Pn	23 38 02.1	+4.6
	522nm,1.2s,baz=272,slow=8.5,SNR=53						
MSVF				S	Sn	23 39 59.6	+1.7
	49nm,0.9s,baz=344,slow=7.5,SNR=1.1						
MSVF				LR	LR	23 41 14.2	
	comp=Z,8μm,19.4s,baz=287,slow=32						
MSVF				ScP	ScP	23 47 15.5	+0.7
	48nm,0.9s,baz=252,slow=4.6,SNR=20						
MSVF				ScS	ScS	23 50 52.3	+2.0
	5.0nm,0.9s,baz=132,slow=21,SNR=1.5						
MSVF	Nonsavu	10.93	107	Pn	Pn	23 38 01.2	+3.7
MSVF	Nonsavu	10.93	107	P	Pn	23 38 02.7	+5.2
MSVF	Nonsavu	10.93	107	P	Pn	23 38 01.2	+3.7
FUNA	Funafuti	13.42	64		Pn	23 38 32.4	+1.5
FUNA	Funafuti	13.42	64	P	Pn	23 38 33.0	+2.1
NFK	Norfolk Island	14.17	177	P	P	23 38 44.7	-0.8
	baz=14,SNR=32						
NFK	Norfolk Island	14.17	177	P	P	23 38 44.8	-0.6
FUTU	Fugatoga	14.34	90	P	P	23 38 46.6	-0.8
TARA	Tarawa	17.09	20		P	23 39 18.0	+0.1
TARA	Tarawa	17.09	20	P	P	23 39 21.8	+3.9
GD1S	Gladstone Soft	17.47	237	P	Pn	23 39 24.5	+2.4
RK1H	Rockhampton Ha	17.82	239	P	Pn	23 39 27.8	+1.5
KRVT	Keravat (AS076	18.14	304	P	Pn	23 39 31.1	+0.9
	30nm,0.4s,baz=56,slow=21,SNR=1.7						
KRVT				S	Sn	23 42 58.8	+6.2
	47nm,0.5s,baz=120,slow=17,SNR=1.5						
KRVT				LR	LR	23 47 06.4	
	comp=Z,4μm,18.4s,baz=272,slow=39						
KRVT				ScS	ScS	23 51 09.9	+1.4
	24nm,0.5s,baz=246,slow=23,SNR=1.1						
LHI	Lord Howe Isla	18.16	202	P	Pn	23 39 30.8	+0.4
	baz=18,SNR=3.3						
LHI	Lord Howe Isla	18.16	202	P	Pn	23 39 30.0	-0.3
LHI	Lord Howe Isla	18.16	202	P	Pn	23 39 31.8	+1.4
GC1S	Gold Coast 1 S	18.29	221	P	Pn	23 39 34.7	+2.8
EIDS	Eidsvold	18.30	233	P	Pn	23 39 33.3	+1.2
	baz=18,SNR=43						
EIDS	Eidsvold	18.30	233		Pn	23 39 32.6	+0.5
EIDS	Eidsvold	18.30	233	P	Pn	23 39 32.8	+0.7
TV1H	Townsville Har	19.88	254	P	Pn	23 39 50.9	+0.1
RAO	Raoul Island	19.95	138	P	P	23 39 50.2	+1.0
	2μm,1.0s,baz=41,slow=22,SNR=4.8						
RAO	Raoul Island	19.95	138	P	P	23 39 49.6	+0.4
RAO	Raoul Island	19.95	138	P	Pn	23 39 52.5	+0.9
PMG	Port Moresby	20.20	283	P	P	23 39 52.9	+0.9
	151nm,1.0s,baz=101,slow=8.2,SNR=30						
PMG				S	S	23 43 35.4	+1.4
	7.8nm,0.3s,baz=256,slow=7.6,SNR=1.5						
PMG				ScP	ScP	23 47 33.4	+1.3
	9.8nm,0.4s,baz=45,slow=5.5,SNR=11						
PMG				ScS	ScS	23 51 18.6	+3.4
	5.0nm,0.4s,baz=352,slow=22,SNR=1.3						
	151nm,1.0s						
PMG	Port Moresby	20.20	283	P	P	23 39 53.0	+1.1
PMG	Port Moresby	20.20	283	P	Pn	23 39 54.1	-0.5
AFI	Afiamalu	20.51	90	P	P	23 39 55.4	0.0
	122nm,0.9s,baz=260,slow=8.7,SNR=18						
AFI				S	S	23 43 38.9	-1.4
	20nm,0.3s,baz=176,slow=20,SNR=1.3						
AFI				LR	LR	23 46 14.9	
	comp=Z,3μm,20.0s,baz=244,slow=32						
AFI				ScP	ScP	23 47 32.8	0.0
	90nm,0.8s,baz=327,slow=1.2,SNR=9.8						
	122nm,0.9s						
AFI	Afiamalu	20.51	90	P	P	23 39 55.9	+0.6
CTA	Charters Tower	20.53	252	P	P	23 39 56.7	+1.1
	141nm,0.8s,baz=79,slow=12,SNR=64						
CTA				S	S	23 43 43.3	+2.7
	11nm,0.9s,baz=208,slow=22,SNR=1.5						
CTA				LR	LR	23 46 40.3	
	comp=Z,4μm,20.5s,baz=76,slow=33						
CTA				ScP	ScP	23 47 34.4	+1.6
	72nm,1.1s,baz=1.5,slow=1.3,SNR=14						
CTA				ScS	ScS	23 51 19.0	+2.8
	3.7nm,1.0s,baz=168,slow=23,SNR=10						
	141nm,0.8s						
CTAO	Charters Tower	20.53	252	P	Pn	23 39 57.0	-1.5
CTAO	Charters Tower	20.53	252	P	P	23 39 56.7	+1.1
CTAO	Charters Tower	20.53	252	P	P	23 39 57.0	+1.4
RMQ	Roma	20.66	233	P	Pn	23 39 59.3	-0.7
	baz=21,SNR=60						
RMQ	Roma	20.66	233	P	Pn	23 39 59.1	-0.9
ARMA	Armidale	21.03	220	P	P	23 40 03.1	+2.2
	baz=21,SNR=38						
ARMA	Armidale	21.03	220	P	P	23 40 02.5	+1.6
ARMA	Armidale	21.03	220	P	P	23 40 03.1	+2.2
OUZ	Omahuta	21.13	165	P	P	23 40 03.7	+1.9
AUPHS	Peel High Scho	21.96	220	P	P	23 40 12.0	+1.3
MTSU	Mount Surprise	22.07	258	P	P	23 40 12.8	+0.8
	baz=22,SNR=87						
MTSU	Mount Surprise	22.07	258	P	P	23 40 12.7	+0.8
NIUE	Niue	22.39	104	P	P	23 40 14.6	-0.8
	baz=22,SNR=33						
NIUE	Niue	22.39	104	P	P	23 40 14.6	-0.8
NIUE	Niue	22.39	104	P	P	23 40 16.0	+0.6
AULRC	Lightning Ridg	22.84	227	P	P	23 40 20.8	+0.8
KUZ	Kuaotunu	23.15	162	P	P	23 40 24.0	+1.1
COEN	Coen	23.16	269	P	P	23 40 23.8	+0.5
	baz=23,SNR=22						
COEN	Coen	23.16	269	P	P	23 40 24.0	+0.7
COEN	Coen	23.16	269	P	P	23 40 24.2	+0.9
PATS	Pohnpei	23.21	337	P	P	23 40 24.2	+0.5
	baz=23,SNR=6.1						
PATS	Pohnpei	23.21	337	P	P	23 40 23.1	-0.6
PATS	Pohnpei	23.21	337	P	P	23 40 23.5	-0.2
MANU	Manus Island	23.23	301	P	P	23 40 24.8	+0.8
MANU				IAmb	IAmb	23 40 47.6	
	comp=Z,195nm,0.9s						
MANU	Manus Island	23.23	301	P	P	23 40 25.0	+1.1
MGCD	Mangrove Creek	23.34	216	P	P	23 40 26.5	+1.8
	baz=24,SNR=18						
MGCD	Mangrove

STKA S **S** **23 45 57.4 +0.1**
comp=Z,3.2nm,0.7s,baz=152,slow=19,SNR=0.9
STKA ScP **ScP** **23 47 57.2 +1.6**
comp=Z,196nm,1.0s,baz=61,slow=3.6,SNR=47
STKA LR LR 23 51 47.1
comp=Z,6µm,21.4s,baz=62,slow=34
STKA ScS **ScS** **23 51 48.2 -1.1**
comp=Z,4.4nm,1.0s,baz=276,slow=23,SNR=11
comp=Z,109nm,0.6s
STKA Stephens Creek 28.79 229 P **P** **23 41 14.9 +1.1**
baz=29,SNR=164
STKA Stephens Creek 28.79 229 P **P** **23 41 14.5 +0.7**
RPZ Rata Peaks 28.99 174 P **P** **23 41 15.5 +0.1**
comp=Z,283nm,0.8s,baz=0.9,slow=3.5,SNR=41
RPZ S **S** **23 46 02.8 +2.7**
comp=Z,21nm,0.7s,baz=178,slow=9.6,SNR=3.6
RPZ ScP **ScP** **23 47 56.7 +0.7**
comp=Z,47nm,0.7s,baz=187,slow=3.1,SNR=5.8
RPZ ScS **ScS** **23 51 48.7 -1.1**
comp=Z,7.4nm,0.4s,baz=197,slow=23,SNR=1.5
RPZ LR LR 23 51 51.1
comp=Z,6µm,20.5s,baz=350,slow=34
comp=Z,283nm,0.8s
RPZ Rata Peaks 28.99 174 P **P** **23 41 15.6 +0.2**
JCZ Jackson Bay 29.18 177 P **P** **23 41 18.7 +1.5**
TOO Toolangi 29.66 216 P **P** **23 41 23.3 +1.8**
baz=30,SNR=7.9
TOO Toolangi 29.66 216 IAmb IAmb 23 41 24.3
comp=Z,405nm,1.9s
TOO Toolangi 29.66 216 P **P** **23 41 23.0 +1.5**
ODZ Otahua Downs 30.27 175 P **P** **23 41 26.7 0.0**
BRAT Ballarat 30.55 218 P **P** **23 41 30.7 +1.4**
LCRK Leigh Creek 30.72 235 P **P** **23 41 32.0 +1.1**
SMPI Sarmi 30.77 292 P **P** **23 41 32.6 +1.2**
comp=Z,224nm,1.4s
GLAD Gladstone 30.89 209 P **P** **23 41 33.5 +1.3**
ARPS Mount Arapiles 31.35 221 P **P** **23 41 38.6 +2.3**
baz=32,SNR=6.2
ARPS Mount Arapiles 31.35 221 P **P** **23 41 37.2 +0.9**
WR0 Warramunga Arr 31.43 256 IAmb IAmb 23 41 37.8
comp=Z,68nm,0.9s
AULHS Lilydale High 31.47 209 P **P** **23 41 38.7 +1.4**
HTT Hallett 31.51 229 P **P** **23 41 38.9 +1.0**
baz=32,SNR=47
HTT Hallett 31.51 229 P **P** **23 41 38.5 +0.6**
WB0 Warramunga Arr 31.56 256 IAmb IAmb 23 41 39.0
comp=Z,104nm,0.7s
WB2 Warramunga Arr 31.61 256 IAmb IAmb 23 41 39.5
comp=Z,77nm,0.8s
WRAB Tennant Creek 31.61 256 P **P** **23 41 38.1 -0.8**
WRAB IAmb IAmb 23 41 39.4
comp=Z,66nm,0.8s
WRAB Tennant Creek 31.61 256 P **P** **23 41 37.6 -1.2**
WRAB Tennant Creek 31.61 256 P **P** **23 41 38.1 -0.8**
WRAB pmax pmax
comp=Z,66nm,0.8s
WRAB Tennant Creek 31.61 256 P **P** **23 41 37.9 -0.9**
WRAB PcP **PcP** **23 44 29.7 +0.3**
WRAB ScP **ScP** **23 48 06.8 +1.7**
WRA Warramunga Arr 31.62 256 P **P** **23 41 38.2 -0.7**
comp=Z,48nm,0.7s,baz=86,slow=9.2,SNR=199
WRA PcP **PcP** **23 44 28.0 -1.5**
comp=Z,28nm,1.0s,baz=78,slow=2.8,SNR=9.6
WRA S **S** **23 46 36.7 -5.2**
comp=Z,5.7nm,1.2s,baz=83,slow=15,SNR=5.4
WRA ScP **ScP** **23 48 06.7 +1.6**
comp=Z,60nm,1.1s,baz=82,slow=3.6,SNR=37
WRA PKiKP **PKiKP** **23 51 56.6 -2.0**
comp=Z,1.2nm,0.7s,baz=335,slow=0.4,SNR=4.5
WRA ScS **ScS** **23 52 01.1 -2.4**
comp=Z,4.9nm,1.2s,baz=92,slow=3.9,SNR=5.3
WRA LR LR 23 53 15.6
comp=Z,3µm,21.8s,baz=80,slow=34
comp=Z,48nm,0.7s
SYZ Scrubby Hill 31.66 177 P **P** **23 41 40.2 +1.3**
CORO Coronation Par 31.66 209 P **P** **23 41 41.4 +2.4**
OOD Oodnadatta 31.86 241 P **P** **23 41 42.2 +1.3**
CTZ Chatham Island 32.00 157 P **P** **23 41 43.5 +1.6**
RAR Rarotonga 32.12 106 LR LR 23 52 34.5
comp=Z,1µm,19.9s,baz=276,slow=32
RAR Rarotonga 32.12 106 P **P** **23 41 44.1 +0.8**
RAR Rarotonga 32.12 106 P **P** **23 41 45.1 +1.9**
RAR Rarotonga 32.12 106 P **P** **23 41 44.1 +0.8**
RAR pmax pmax
comp=Z,229nm,1.0s
RAR Rarotonga 32.12 106 P **P** **23 41 44.3 +1.0**
WHYH Whyalla 32.32 231 P **P** **23 41 46.0 +1.1**
MOO Moorlands 32.41 208 P **P** **23 41 47.2 +1.6**
baz=33,SNR=13
MOO Moorlands 32.41 208 P **P** **23 41 47.3 +1.7**
AS01 Alice Springs 32.42 249 P **P** **23 41 45.7 -0.3**
AS31 Alice Springs 32.46 249 IAmb IAmb 23 41 47.6
comp=Z,73nm,1.4s
ASAR Alice Springs 32.46 249 P **P** **23 41 45.6 -0.7**
comp=Z,86nm,0.9s,baz=73,slow=9.1,SNR=353
ASAR PcP **PcP** **23 44 30.4 -1.3**
comp=Z,30nm,1.0s,baz=96,slow=2.8,SNR=6.8
ASAR S **S** **23 46 51.4 -3.7**
comp=Z,2.0nm,0.7s,baz=90,slow=6.3,SNR=2.1
ASAR ScP **ScP** **23 48 09.2 +1.3**
comp=Z,40nm,0.9s,baz=84,slow=3.3,SNR=26
ASAR PKiKP **PKiKP** **23 51 57.4 -1.8**
comp=Z,0.9nm,0.8s,baz=114,slow=1.2,SNR=1.9
ASAR ScS **ScS** **23 52 05.7 -2.0**
comp=Z,4.3nm,1.2s,baz=110,slow=8.0,SNR=3.5
ASAR LR LR 23 54 46.1
comp=Z,5µm,18.1s,baz=87,slow=36
comp=Z,86nm,0.9s
TAU Tasmania Unive 32.73 207 P **P** **23 41 49.4 +1.1**
TAU Tasmania Unive 32.73 207 P **P** **23 41 49.2 +0.9**
TAU Tasmania Unive 32.73 207 P **P** **23 41 49.4 +1.1**
TAU pmax pmax
comp=Z,613nm,1.3s
TAU Tasmania Unive 32.73 207 P **P** **23 41 49.0 +0.7**
TAU pP **pP** **23 42 07.7 -0.9**
TAU sP **sP** **23 42 16.6 -2.2**
TAU PcP **PcP** **23 44 33.5 +1.5**
TAU ScP **ScP** **23 48 10.7 +2.3**
BBOO Buckleboo 33.37 232 P **P** **23 41 55.1 +0.9**
baz=34,SNR=83
BBOO Buckleboo 33.37 232 P **P** **23 41 55.0 +0.9**
BBOO Buckleboo 33.37 232 P **P** **23 41 55.0 +0.9**
KDU Kakadu 33.66 269 P **P** **23 41 56.7 0.0**
baz=34,SNR=11
KDU Kakadu 33.66 269 P **P** **23 41 57.0 +0.2**
MULG Mulgathing 33.99 237 P **P** **23 41 59.6 +0.1**
MTN Manton Dam 34.93 269 IAmb IAmb 23 42 09.1
comp=Z,60nm,1.1s
MTN Manton Dam 34.93 269 P **P** **23 42 08.2 +0.4**
RKPI Ransiki, Papua 35.07 289 P **P** **23 42 10.1 +1.1**
comp=Z,248nm,1.5s
GUMO Guam 35.78 321 LR LR 23 55 30.0
comp=Z,2µm,21.1s,baz=140,slow=34
FAKI Fak Fak 36.32 286 P **P** **23 42 20.7 +1.0**
KNRA Kununurra 36.94 264 P **P** **23 42 24.2 -0.8**
baz=37,SNR=49
KNRA Kununurra 36.94 264 P **P** **23 42 24.1 -0.8**
WRKA Warakurna 37.73 248 P **P** **23 42 31.1 -0.4**
baz=38,SNR=349
WRKA Warakurna 37.73 248 P **P** **23 42 31.2 -0.4**
SIJI Sorong 38.00 288 P **P** **23 42 33.4 -0.5**
comp=Z,20nm,0.6s,baz=92,slow=7.6,SNR=9.5
SIJI ScP **ScP** **23 48 29.3 +1.2**
comp=Z,12nm,0.9s,baz=117,slow=6.0,SNR=6.5
SIJI LR LR 23 58 02.0
comp=Z,4µm,21.9s,baz=102,slow=36
comp=Z,20nm,0.6s
FORT Forrest 39.08 239 P **P** **23 42 43.2 +0.4**
baz=39,SNR=151
FORT Forrest 39.08 239 **S** **23 48 34.3 -1.8**
FORT Forrest 39.08 239 P **P** **23 42 43.1 +0.3**
FITZ Fitzroy Crossi 39.81 259 P **P** **23 42 48.9 -0.1**
MCQ Macquarie Isla 40.09 187 P **P** **23 42 51.5 +0.8**
MCQ Macquarie Isla 40.09 187 P **P** **23 42 52.2 +1.5**
MCQ Macquarie Isla 40.09 187 P **P** **23 42 51.5 +0.8**
MCQ pmax pmax
comp=Z,1µm,1.6s
NLAI Namlea 41.04 282 P **P** **23 43 00.3 +1.1**
comp=Z,78nm,1.3s
PPT2 Papeete2 41.65 100 *e*P **P** **23 43 04.2 -0.1**
PPT2 *e*SS SS 23 52 24.4 +1.1
comp=Z,19µm,28.5s
PPT2 *e*LR LR 23 54 39.3
comp=Z,4µm,29.8s
PPT2 *e*LR LR 23 54 39.9
comp=Z,3µm,31.8s
PPT Papeete 41.65 100 P **P** **23 43 05.3 +1.1**
comp=Z,212nm,0.9s,baz=62,slow=21,SNR=21
PPT LR LR 23 57 35.4
comp=Z,796nm,20.9s,baz=259,slow=32
comp=Z,212nm,0.9s
PPTF Pamatai, Papee 41.66 100 P **P** **23 43 04.9 +0.6**
PPTF Pamatai, Papee 41.66 100 P **P** **23 43 06.2 +1.8**
PPTF Pamatai, Papee 41.66 100 P **P** **23 43 06.2 +1.8**
PPTF pP **pP** **23 43 24.9 +1.0**
TIAR Tiarei 41.87 100 *e*P **P** **23 43 06.5 +0.5**
comp=Z,48nm,1.3s
TVO Taravao 41.95 100 *e*P **P** **23 43 07.4 +0.7**
comp=Z,183nm,1.2s
SOEI Soe 42.08 272 P **P** **23 43 08.7 +0.9**
SOEI Soe 42.08 272 P **P** **23 43 09.1 +1.2**
SOEI Soe 42.08 272 P **P** **23 43 09.7 +1.8**
comp=Z,169nm,1.3s,comp=Z,2µm
TNTI Ternate 42.22 288 P **P** **23 43 09.5 +0.7**
TNTI IAmb IAmb 23 43 58.8
comp=Z,54nm,1.1s
SANI Sanana 42.48 283 P **P** **23 43 11.8 +0.8**
SANI Sanana 42.48 283 P **P** **23 43 12.2 +1.2**
comp=Z,86nm,1.0s,comp=Z,2µm
BATI Baumata 42.58 271 P **P** **23 43 13.2 +1.5**
comp=Z,178nm,0.8s,baz=123,slow=3.5,SNR=22
BATI ScP **ScP** **23 48 49.1 +3.1**
comp=Z,9.7nm,0.4s,baz=106,slow=14,SNR=4.0
BATI ScS **ScS** **23 53 04.1 -1.2**
comp=Z,7.2nm,0.4s,baz=115,slow=17,SNR=1.1
BATI LR LR 23 59 34.7
comp=Z,2µm,20.5s,baz=112,slow=34
comp=Z,178nm,0.8s
BATI Baumata 42.58 271 P **P** **23 43 13.7 +1.9**
comp=Z,232nm,1.1s,comp=Z,2µm
MEH Mehetia 43.08 100 *e*P **P** **23 43 15.9 +0.1**
comp=Z,180nm,1.2s
PMOR Pomariorio Ree 43.45 96 *e*P **P** **23 43 19.5 +0.7**
comp=Z,851nm,1.4s
PMOR *e*pP **pP** **23 43 36.3 -2.2**
comp=Z,383nm,1.2s
VAH Vaihoa 43.69 97 *e*P **P** **23 43 21.2 +0.5**
comp=Z,461nm,1.4s
MMRI Maumere 44.27 273 P **P** **23 43 26.0 +0.6**
MMRI Maumere 44.27 273 P **P** **23 43 26.0 +0.6**
comp=Z,245nm,1.1s,comp=Z,3µm
KMBL Kambalda 44.38 240 P **P** **23 43 25.8 -0.2**
baz=44,SNR=43
KMBL Kambalda 44.38 240 P **P** **23 43 25.9 -0.2**
PSA00 Pilbara Seismi 45.23 254 P **P** **23 43 33.6 +0.7**
PSA00 IAmb IAmb 23 43 34.8
comp=Z,116nm,1.1s
PSA00 Pilbara Seismi 45.23 254 IAmb IAmb 23 43 34.8
comp=Z,197nm,1.1s
PSA00 Pilbara Seismi 45.23 254 P **P** **23 43 33.4 +0.5**
MBWA Marble Bar 45.34 255 P **P** **23 43 34.6 +0.9**
MBWA Marble Bar 45.34 255 P **P** **23 43 34.3 +0.5**
MBWA Marble Bar 45.34 255 P **P** **23 43 34.4 +0.7**
MBWA PcP **PcP** **23 45 12.3 +0.2**
MBWA ScP **ScP** **23 48 57.7 +0.5**
LUWI Luwuk 45.84 283 IAmb IAmb 23 44 32.4
comp=Z,118nm,1.1s
LUWI Luwuk 45.84 283 P **P** **23 43 38.5 +0.7**
LUWI Luwuk 45.84 283 P **P** **23 43 39.5 +1.7**
comp=Z,96nm,1.1s
GTOI Gorontalo 46.20 286 P **P** **23 43 42.6 +1.9**
comp=Z,28nm,1.0s
DAV Davao City (W) 46.54 295 LR LR 00 01 05.2
comp=Z,1µm,20.9s,baz=120,slow=33
MEEK Meekatharra 46.57 247 P **P** **23 43 43.5 +0.1**
baz=47,SNR=254
MEEK Meekatharra 46.57 247 P **P** **23 43 43.5 +0.1**
BKSI Bulukumba 47.09 277 P **P** **23 43 48.6 +1.0**
comp=Z,82nm,1.4s,comp=Z,829nm
MRSI Marisa 47.15 285 P **P** **23 43 48.3 +0.3**
comp=Z,36nm,1.0s,comp=Z,836nm
KAPI Kappang 47.53 277 P **P** **23 43 52.0 +0.9**
comp=Z,78nm,0.9s,baz=143,slow=8.5,SNR=20
KAPI ScP **ScP** **23 49 08.6 +2.1**
comp=Z,9.4nm,0.4s,baz=132,slow=1.8,SNR=4.4
KAPI S **S** **23 50 41.3 +1.3**
comp=Z,4.8nm,0.3s,baz=192,slow=4.8,SNR=1.9
comp=Z,78nm,0.9s
KAPI Kappang 47.53 277 P **P** **23 43 52.2 +1.1**
KAPI Kappang 47.53 277 P **P** **23 43 51.9 +0.9**
KAPI Kappang 47.53 277 P **P** **23 43 52.0 +0.9**
KAPI Kappang 47.53 277 P **P** **23 43 52.3 +1.2**
KAPI pP **pP** **23 44 13.3 +1.1**
KAPI ScP **ScP** **23 49 08.5 +2.1**
SPSI Sidrap Palu 47.80 278 P **P** **23 43 53.7 +0.6**
comp=Z,55nm,1.5s
KLBR Kelberrin 47.89 241 P **P** **23 43 52.9 -0.7**
baz=48,SNR=71
KLBR Kellerberrin 47.89 241 P **P** **23 43 53.1 -0.5**
JCJ Chichijima 48.18 330 LR LR 00 00 12.9
comp=Z,427nm,20.1s,baz=121,slow=31
JCJ Chichijima 48.18 330 P **P** **23 43 54.4 -1.3**
JCJ Chichijima 48.18 330 P **P** **23 43 56.4 +0.7**
TOLI2 Tolitoli 48.45 285 IAmb IAmb 23 43 59.3
comp=Z,33nm,0.8s
TOLI2 Tolitoli 48.45 285 P **P** **23 43 58.4 +0.3**
NWAO Narrogin (SRO) 48.54 239 P **P** **23 43 57.9 -0.6**
comp=Z,136nm,0.9s
NWAO LR LR 00 03 45.1
comp=Z,3µm,18.1s,slow=35
comp=Z,136nm,0.9s
NWAO Narrogin (SRO) 48.54 239 P **P** **23 43 58.4 -0.2**
baz=49,SNR=54
NWAO P **P** **23 43 58.4 -0.2**
baz=49,SNR=54
NWAO Narrogin (SRO) 48.54 239 P **P** **23 43 58.4 -0.2**
NWAO Narrogin (SRO) 48.54 239 P **P** **23 43 58.5 -0.1**
NWAO IAmb IAmb 23 43 60.0
comp=Z,208nm,1.1s
NWAO Narrogin (SRO) 48.54 239 P **P** **23 43 58.5 -0.1**
NWAO Narrogin (SRO) 48.54 239 P **P** **23 43 58.5 -0.1**
NWAO pmax pmax
comp=Z,208nm,1.1s
NWAO Narrogin (SRO) 48.54 239 P **P** **23 43 58.3 -0.2**
NWAO pP **pP** **23 44 17.7 -1.8**
PLAI Plampang 48.54 271 P **P** **23 43 59.4 +0.6**
PLAI Plampang 48.54 271 P **P** **23 43 59.3 +0.5**
comp=Z,273nm,0.9s,comp=Z,3µm
BLDU Ballidu 48.65 242 P **P** **23 43 59.1 -0.3**
baz=49,SNR=28
BLDU Ballidu 48.65 242 P **P** **23 43 59.1 -0.3**
MPSI Mapaga 49.01 284 P **P** **23 44 02.6 +0.2**
comp=Z,162nm,0.8s,comp=Z,2µm
RKGY Rocky Gully 49.04 237 P **P** **23 44 03.6 +1.2**
baz=49,SNR=7.2
RKGY Rocky Gully 49.04 237 P **P** **23 44 03.0 +0.6**
MORW Morawa 49.05 244 P **P** **23 44 02.5 -0.1**
baz=49,SNR=47
MORW Morawa 49.05 244 P **P** **23 44 02.6 0.0**
MORW Morawa 49.05 244 P **P** **23 44 02.6 0.0**
MUN Mundaring 49.25 240 P **P** **23 44 03.9 -0.2**
baz=49,SNR=44
MUN Mundaring 49.25 240 P **P** **23 44 03.8 -0.2**
TWSI Taliwang, Sumb 49.42 271 P **P** **23 44 06.4 +0.8**
comp=Z,624nm,1.1s,comp=Z,6µm
MTKN Mount Kenneth 49.61 241 P **P** **23 44 09.6 +2.9**
HMH Humu'ula Sheep 50.28 48 P **P** **23 44 12.2 -0.1**
MHA Mahukona 50.35 47 pwP 23 44 32.7 -3.9
GIRL Giralia 50.43 253 P **P** **23 44 14.3 +1.3**
baz=50,SNR=18
GIRL Giralia 50.43 253 P **P** **23 44 14.1 +1.0**
TAOE Nuku Hiva Isla 51.90 90 *e*P **P** **23 44 26.6 +2.3**
comp=Z,365nm,1.1s
TAOE *e*S **S** **23 51 41.5 +0.4**
comp=Z,535nm,21.8s
TAOE *e*LR LR 23 59 24.0
comp=Z,6µm,31.0s
MYLDM Lahad Datu 52.09 289 P **P** **23 44 27.5 +2.0**
JAGI Jajag, Banyuwa 52.12 271 P **P** **23 44 25.6 -0.3**
JAGI Jajag, Banyuwa 52.12 271 P **P** **23 44 25.9 0.0**
comp=Z,129nm,1.0s
ABJI Asem Bagus 52.19 272 P **P** **23 44 27.5 +1.2**
comp=Z,274nm,1.1s,comp=Z,4µm
BBKI Banjar Baru 52.66 277 P **P** **23 44 31.9 +2.0**
comp=Z,143nm,1.7s,comp=Z,11µm
BLJI Banyuglugur 52.81 271 P **P** **23 44 31.8 +0.8**
comp=Z,145nm,1.1s
GMJI Gumukmas 52.85 271 P **P** **23 44 33.1 +1.9**
comp=Z,66nm,1.4s
JHJ Hachijo jima 2 54.34 332 LR LR 00 04 35.5
comp=Z,402nm,21.9s,baz=142,slow=32
PWJI Pagerwojo 54.49 271 P **P** **23 44 45.8 +2.6**
comp=Z,67nm,1.1s
KKM Kota Kinabalu 54.51 289 P **P** **23 44 44.1 +0.6**
KKM IAmb IAmb 23 44 45.7
comp=Z,104nm,1.0s
KKM Kota Kinabalu 54.51 289 P **P** **23 44 44.5 +1.0**
DRV Dumont d'Urvil 54.80 193 P **P** **23 44 44.9 +0.2**
DRV pP **pP** **23 45 05.8 -0.4**
DRV sP **sP** **23 45 15.4 -0.5**
DRV ScP **ScP** **23 49 38.9 +2.1**
NGJI Ngawi 54.96 271 P **P** **23 44 47.5 +0.9**
comp=Z,135nm,1.1s
UGM Wanagama 55.75 270 P **P** **23 44 53.4 +1.1**
JOW Kunigami 55.99 318 P **P** **23 44 53.7 0.0**
comp=Z,59nm,0.7s,baz=145,slow=2.7,SNR=7.2
JOW LR LR 00 09 16.0
comp=Z,635nm,18.9s,baz=139,slow=36
comp=Z,59nm,0.7s
JOW Kunigami 55.99 318 IAmb IAmb 23 44 56.3
comp=Z,69nm,0.8s
JOW Kunigami 55.99 318 P **P** **23 44 55.0 +1.2**
SMRI Semarang 56.02 271 P **P** **23 44 56.1 +1.9**
SMRI Semarang 56.02 271 P **P** **23 44 56.3 +2.1**
comp=Z,227nm,1.0s
SBUM Sibu 56.95 283 P **P** **23 45 02.2 +1.4**
SBUM IAmb IAmb 23 45 03.4
comp=Z,39nm,1.0s
KPJI Karang Pucung 57.41 271 P **P** **23 45 05.3 +1.2**
comp=Z,178nm,0.8s
INU Inuyama 57.47 331 P **P** **23 45 03.4 -0.6**
INU Inuyama 57.47 331 P **P** **23 45 04.0 0.0**
INU pP **pP** **23 45 24.6 -0.6**
INU sP **sP** **23 45 34.7 0.0**
JGF Kuroka 57.52 331 IAmb IAmb 23 45 05.5
comp=Z,68nm,0.8s
JGF Kuroka 57.52 331 P **P** **23 45 04.3 -0.1**
JMN Monobe 57.73 327 P **P** **23 45 06.3 +0.4**
JMN Monobe 57.73 327 P **P** **23 45 06.6 +0.6**
MJAR Matsushiro Arr 57.91 333 P **P** **23 45 06.2 -0.9**
comp=Z,54nm,1.0s,baz=169,slow=8.7,SNR=42
MJAR ScP **ScP** **23 49 52.0 +1.1**
comp=Z,11nm,1.1s,baz=171,slow=4.3,SNR=8.3
MJAR LR LR 00 12 25.4
comp=Z,210nm,18.0s,baz=129,slow=38
comp=Z,54nm,1.0s
MAJO Matsushiro 57.91 333 P **P** **23 45 06.5 -0.6**
MAJO Matsushiro 57.91 333 P **P** **23 45 06.5 -0.6**
MAJO Matsushiro 57.91 333 P **P** **23 45 06.5 -0.6**
MAJO pmax pmax
comp=Z,131nm,1.2s
MAJO Matsushiro 57.91 333 P **P** **23 45 06.7 -0.5**
MAJO ScP **ScP** **23 49 53.1 +2.1**
JMM Marumori 57.94 336 P **P** **23 45 07.3 0.0**
JSU Suzuyama 57.95 323 pP 23 45 28.5 0.0
JSU Suzuyama 57.95 323 P **P** **23 45 07.8 +0.3**
BBJI Bungbulang 58.62 270 P **P** **23 45 12.7 0.0**
LEM Lembang 58.80 271 P **P** **23 45 14.9 +0.9**
comp=Z,209nm,0.8s,baz=82,slow=5.6,SNR=28
LEM ScS **ScS** **23 54 57.3 +0.8**
comp=Z,9.4nm,0.4s,baz=9.2,slow=23,SNR=1.5
LEM LR LR 00 12 12.5
comp=Z,848nm,18.3s,baz=109,slow=38
comp=Z,209nm,0.8s
JNU Nakatsue 58.89 325 P **P** **23 45 14.0 -0.1**
comp=Z,128nm,1.1s,baz=47,slow=0.1,SNR=26
JNU LR LR 00 07 18.6
comp=Z,965nm,22.0s,baz=137,slow=32
comp=Z,128nm,1.1s
JNU Nakatsue 58.89 325 P **P** **23 45 13.9 -0.1**
NACB Ninganchiao 58.95 311 IAmb IAmb 23 45 20.5
comp=Z,82nm,1.0s
JHS Saijyo 59.11 328 P **P** **23 45 15.9 +0.4**
JSD Sado 59.13 334 P **P** **23 45 16.1 +0.5**
JSD Sado 59.13 334 P **P** **23 45 16.7 +1.1**
TPUB Ta-pu 59.16 309 IAmb IAmb 23 45 20.6
comp=Z,91nm,1.0s
CNJI Cibinong 59.16 270 P **P** **23 45 16.8 +0.5**
comp=Z,120nm,1.1s,comp=Z,1µm
JTM Tenmabayashi 60.37 337 P **P** **23 45 24.2 +0.3**
CGJI Cibinong 60.71 271 P **P** **23 45 26.5 -0.4**
comp=Z,402nm,1.5s,comp=Z,5µm
ERM Erimo 60.71 340 P **P** **23 45 27.1 +0.8**
ERM Erimo 60.71 340 P **P** **23 45 27.1 +0.8**
JEM Erimo 60.71 340 P **P** **23 45 27.2 +0.9**
JTU Tsushima 60.76 325 P **P** **23 45 26.2 -0.6**
PPBI Pangkal Pinang 61.38 276 P **P** **23 45 33.0 +1.6**
comp=Z,84nm,1.1s,comp=Z,5µm
KASI Kota Agung 62.12 272 P **P** **23 45 36.2 -0.2**
comp=Z,258nm,1.0s,comp=Z,2µm
LWLI Liwa 62.66 272 P **P** **23 45 40.4 +0.2**
comp=Z,315nm,0.9s,comp=Z,8µm
MDSI Maura Dua 62.67 273 P **P** **23 45 39.2 -0.9**
comp=Z,85nm,0.8s,comp=Z,2µm
VNDA Vanda 62.76 181 P **P** **23 45 40.2 +0.7**
comp=Z,163nm,1.2s,baz=356,slow=7.1,SNR=54
VNDA LR LR 00 10 38.4
comp=Z,353nm,18.8s,baz=9.0,slow=34
VNDA PKP2ab **P'P'ab** **00 14 55.8 -1.3**
comp=Z,8.3nm,0.8s,baz=223,slow=3.2,SNR=13
comp=Z,163nm,1.2s
VNDA Vanda 62.76 181 P **P** **23 45 40.2 +0.7**
VNDA Vanda 62.76 181 P **P** **23 45 40.3 +0.7**
VNDA pmax pmax
comp=Z,689nm,1.6s
VNDA Vanda 62.76 181 P **P** **23 45 40.3 +0.7**
ASAJ Asahikawa 62.77 340 LR LR 00 08 40.1
comp=Z,1µm,21.8s,baz=164,slow=32
SBA Scott Base 63.04 180 P **P** **23 45 43.2 +1.8**
SBA Scott Base 63.04 180 P **P** **23 45 43.2 +1.8**
SBA pmax pmax
comp=Z,760nm,1.2s
SBA Scott Base 63.04 180 P **P** **23 45 43.0 +1.6**
TJN Taejon 63.24 325 P **P** **23 45 43.6 +0.3**
TJN Taejon 63.24 325 P **P** **23 45 43.5 +0.1**
TJN Taejon 63.24 325 *ce*P **P** **23 45 43.9 +0.5**
DSRI Dabo 63.34 277 P **P** **23 45 46.4 +1.9**
comp=Z,85nm,1.0s
CASY Casey 63.36 202 P **P** **23 45 44.5 +0.8**
CASY Casey 63.36 202 P **P** **23 45 44.2 +0.5**
CASY pP **pP** **23 46 05.7 -0.1**
SSE Sheshan 63.46 316 P **P** **23 45 44.6 -0.3**
SSE pP **pP** **23 46 05.8 -0.5**
KSRS Korea Array 63.72 326 P **P** **23 45 46.6 +0.2**
comp=Z,21nm,1.0s,baz=142,slow=6.9,SNR=27
KSRS ScP 23 50 18.8
comp=Z,5.3nm,1.0s,baz=130,slow=4.5,SNR=7.4
KSRS LR LR 00 11 05.5
comp=Z,286nm,21.0s,baz=130,slow=34
KSRS PKPPKP **P'P'df** **00 14 40.0 +0.7**
comp=Z,1.8nm,0.8s,baz=329,slow=1.5,SNR=6.1
comp=Z,21nm,1.0s
KS19 Wonju Array Si 63.78 326 IAmb IAmb 23 47 20.8
comp=Z,149nm,1.9s
MNAI Manna 63.89 272 P **P** **23 45 49.2 +1.1**
JMBI JAMBI 63.92 276 P **P** **23 45 49.3 +0.9**
comp=Z,136nm,0.4s
INCN Inchon 64.44 325 P **P** **23 45 51.9 +0.6**
INCN IAmb IAmb 23 45 53.8
comp=Z,234nm,1.9s
INCN Inchon 64.44 325 P **P** **23 45 52.5 +1.2**
INCN Inchon 64.44 325 P **P** **23 45 51.9 +0.6**
INCN pmax pmax
comp=Z,234nm,2.0s
BTDF Bukit Timah Da 64.63 279 P **P** **23 45 54.3 +1.3**
CCD Concordia, Ant 64.77 191 P **P** **23 45 53.9 +0.6**
MASI Maura Aman, Be 64.88 274 P **P** **23 45 55.2 +0.5**
comp=Z,119nm,0.9s,comp=Z,1µm
YSS Yuzh-Sakhalins 65.27 342 P **P** **23 45 56.1 -0.3**
YSS Yuzh-Sakhalins 65.27 342 P **P** **23 45 57.1 +0.8**
YSS Yuzh-Sakhalins 65.27 342 *di*P **P** **23 45 57.3 +1.0**
YSS pmax pmax
comp=Z,356nm,1.3s
YSS Yuzh-Sakhalins 65.27 342 P **P** **23 45 57.5 +1.2**
YSS pP **pP** **23 46 19.1 +1.0**
NJ2 Nanjing 65.62 316 ||P **P** **23 45 59.3 +0.3**
NJ2 pP **pP** **23 46 20.3 -0.2**
NJ2 sP **pwP** **23 46 24.3 +1.4**
NJ2 PcP **PcP** **23 46 30.3 +0.5**
NJ2 S **S** **23 54 43.0 +5.0**
NJ2 sS **sS** **23 55 12.5 -0.1**
NJ2 pmax pmax
comp=Z,47nm,0.9s
NJ2 pmax pmax
comp=Z,740nm,4.7s
QIZ Qiongzhong 65.62 299 P **P** **23 46 00.3 +1.0**

QIZ S **S** **23 54 42.5 +4.0**
QIZ pmax pmax
comp=Z,32nm,1.0s
QIZ LR LR
comp=Z,980nm,24.9s
QIZ LR LR
comp=Z,860nm,24.1s
QIZ LR LR
comp=Z,550nm,21.1s
QIZ **Qiongzhong** **65.62 299** IAmb IAmb 23 47 15.8
comp=Z,72nm,1.4s
QIZ **Qiongzhong** **65.62 299** P **P** **23 46 00.7 +1.5**
QIZ pP **pP** **23 46 21.4 +0.4**
TEY **Ternei** **65.69 337**⇓*e*P **P** **23 45 57.4 -1.7**
TEY pmax pmax
comp=Z,10.0nm,1.6s
TEY pmax pmax
comp=N,100nm,2.1s
TEY pmax pmax
comp=Z,100nm,2.1s
HHU **Hamhung** **65.74 328** P **P** **23 45 59.1 -0.5**
SKR **Severo-Kuril's** **65.94 352** *e*P **P** **23 45 56.5 -4.1**
SKR *e*S **S** **23 54 43.6 +2.6**
SKR pmax pmax
comp=Z,111nm,1.7s
SKR pmax pmax
comp=Z,200nm,6.5s
SKR MLR MLR
comp=Z,400nm,16.0s
PYAG **Pyongyang** **66.05 326** P **P** **23 46 00.7 -0.8**
PYAG S **S** **23 54 44.3 +1.4**
PYAG AmB
comp=Z,408nm,2.1s
SDSI **Sungai Dareh** **66.24 276** P **P** **23 46 03.5 +0.1**
comp=Z,36nm,1.2s
USRK **Ussuriysk Ar.** **66.89 333** P **P** **23 46 07.5 +0.6**
comp=Z,118nm,1.1s,baz=143,slow=4.8,SNR=70
USRK S **S** **23 54 54.2 +1.3**
comp=Z,1.7nm,0.7s,baz=208,slow=15,SNR=1.7
USRK LR LR 00 12 25.1
comp=Z,393nm,21.6s,baz=133,slow=33
USRK PKPPKP **P'P'df** **00 14 35.5 +1.9**
comp=Z,2.0nm,0.9s,baz=352,slow=2.9,SNR=5.3
comp=Z,118nm,1.1s
USA0B **Ussuriysk Arra** **66.89 333***d i*P **P** **23 46 07.2 +0.4**
BKNI **Bangkinang** **66.96 277** P **P** **23 46 09.9 +1.9**
BKNI **Bangkinang** **66.96 277** P **P** **23 46 09.9 +1.9**
BKNI **Bangkinang** **66.96 277** P **P** **23 46 09.0 +1.0**
comp=Z,279nm,0.9s,comp=Z,7µm
PDSI **Padang** **67.18 275** P **P** **23 46 08.8 -0.6**
comp=Z,53nm,0.8s,comp=Z,904nm
UGL **Uglegorsk** **67.38 342** *e*P **P** **23 46 10.5 +0.7**
UGL *e* 23 46 38.6
UGL *e*S **S** **23 55 00.9 +2.4**
UGL pmax pmax
comp=Z,120nm,0.8s
UGL smax smax
comp=E,2µm,6.3s
UGL smax smax
comp=N,900nm,4.2s
SUJ **Sinuiju** **67.48 326** P **P** **23 46 09.7 -1.0**
SUJ S **S** **23 55 01.0 +0.9**
SUJ AmB
comp=Z,104nm,1.5s
SHEM **Shemya Is, Ala** **67.55 5** LR LR 00 09 21.9
comp=Z,1µm,20.1s,baz=168,slow=30
SMY **Shemya** **67.55 5** P **P** **23 46 11.3 +0.5**
SMY **Shemya** **67.55 5** P **P** **23 46 11.7 +0.9**
SMY **Shemya** **67.55 5** P **P** **23 46 11.3 +0.5**
SMY pmax pmax
comp=Z,646nm,1.4s
CNSH **ChangSha** **67.63 309** ⇓P **P** **23 46 11.5 -0.4**
CNSH S **S** **23 55 03.3 +0.9**
CNSH LR LR
comp=Z,1µm,13.3s
CNSH LR LR
comp=Z,1µm,16.0s
CNSH LR LR
comp=Z,1µm,22.0s
KIWB **Kanaga Island** **67.81 10** P **P** **23 46 13.4 +1.0**
WHN **Wuhan** **67.87 312** ⇓P **P** **23 46 13.0 -0.3**
WHN S **S** **23 55 00.5 -4.7**
WHN pmax pmax
comp=Z,63nm,0.8s
WHN LR LR
comp=Z,4µm,23.3s
ADK **Adak** **67.92 11** P **P** **23 46 14.0 +0.9**
ADK IAmb IAmb 23 46 15.1
comp=Z,168nm,1.3s
ADK **Adak** **67.92 11** P **P** **23 46 14.4 +1.3**
ADK **Adak** **67.92 11** P **P** **23 46 14.0 +0.9**
ADK pmax pmax
comp=Z,168nm,1.3s
ADK **Adak** **67.92 11** P **P** **23 46 14.2 +1.1**
ADK pP **pP** **23 46 35.8 +0.9**
PET **Petropavlovsk** **67.96 355** P **P** **23 46 13.3 -0.1**
PET **Petropavlovsk** **67.96 355** P **P** **23 46 13.9 +0.5**
PET **Petropavlovsk** **67.96 355***d i*P **P** **23 46 13.3 -0.1**
PET pmax pmax
comp=Z,138nm,1.0s
PET **Petropavlovsk** **67.96 355** P **P** **23 46 13.2 -0.2**
GULI **GuiLin** **68.13 305** ⇓P **P** **23 46 19.0 +3.9**
GULI S **S** **23 55 10.0 +1.4**
GULI pmax pmax
comp=Z,40nm,0.8s
GULI LR LR
comp=Z,1µm,23.9s
GULI LR LR
comp=Z,720nm,23.9s
GULI LR LR
comp=Z,690nm,20.6s
PEA0B **Petropavlovsk-** **68.14 354***d i*P **P** **23 46 14.7 +0.2**
PETK **Petropavlovsk-** **68.14 354** P **P** **23 46 13.8 -0.8**
comp=Z,110nm,1.1s,baz=101,slow=7.7,SNR=50
PETK LR LR 00 09 40.0
comp=Z,969nm,21.7s,baz=168,slow=30
comp=Z,110nm,1.1s
IPM **Ipoh** **68.18 281** IAmb IAmb 23 46 17.7
comp=Z,95nm,1.0s
IPM **Ipoh** **68.18 281** P **P** **23 46 16.8 +1.1**
DL2 **Dalian** **68.27 323** P **P** **23 46 15.3 -0.3**
DL2 pP **pP** **23 46 37.0 -0.5**
DL2 sP **sP** **23 46 45.5 -1.4**
DL2 S **S** **23 55 09.0 -0.6**
DL2 pmax pmax
comp=Z,120nm,1.0s
DL2 pmax pmax
comp=Z,540nm,4.2s
DL2 LR LR
comp=Z,820nm,28.7s
DL2 LR LR
comp=Z,1µm,29.8s
DL2 LR LR
comp=Z,2µm,32.1s
MDJ **Mudanjiang** **68.28 332** P **P** **23 46 16.5 +0.9**
MDJ PP **PP** **23 48 48.3 +0.8**
MDJ S **S** **23 55 12.0 +2.4**
MDJ SS **SS** **23 59 36.3 +1.6**
MDJ pmax pmax
comp=Z,140nm,1.2s
MDJ pmax pmax
comp=Z,500nm,3.6s
MDJ LR LR
comp=Z,890nm,22.0s
MDJ LR LR
comp=Z,900nm,19.4s
MDJ LR LR
comp=Z,2µm,21.2s
MDJ **Mudanjiang** **68.28 332** P **P** **23 46 16.3 +0.7**
MDJ pP **pP** **23 46 38.6 +1.2**
KULM **Kulim** **68.78 282** P **P** **23 46 19.7 +0.3**
KULM IAmb IAmb 23 46 21.4
comp=Z,65nm,1.0s
TYV **Tymovskoe** **68.82 344** *e*P **P** **23 46 19.4 +0.6**
TYV *e*S **S** **23 55 15.9 +0.2**
TYV pmax pmax
comp=Z,400nm,3.6s
TYV pmax pmax
comp=Z,60nm,1.2s
TYV smax smax
comp=N,700nm,6.0s
TYV smax smax
comp=E,900nm,6.0s
SNY **Shenyang** **69.19 327** ⇓P **P** **23 46 21.0 -0.3**
SNY S **S** **23 55 22.5 +2.1**
SNY pmax pmax
comp=E,23nm,0.8s
SNY pmax pmax
comp=E,500nm,6.2s
SNY LR LR
comp=E,700nm,16.5s
SNY LR LR
comp=E,650nm,16.0s
SNY LR LR
comp=E,1µm,21.8s
TIA **Tai'an** **69.29 319** ⇓P **P** **23 46 21.8 -0.3**
TIA S **S** **23 55 18.3 -3.6**
TIA pmax pmax
comp=E,19nm,0.7s
TIA pmax pmax
comp=E,250nm,3.7s
TIA LR LR
comp=E,640nm,15.2s
TIA LR LR
comp=E,680nm,14.4s
TIA LR LR
comp=E,1µm,31.6s
CN2 **Changchun** **69.64 329**⇓*i*P **P** **23 46 24.0 0.0**
CN2 PcP **PcP** **23 46 47.0 +0.6**
CN2 S **S** **23 55 21.8 -3.8**
CN2 pmax pmax
comp=E,60nm,0.8s
CN2 pmax pmax
comp=E,300nm,5.0s
CN2 LR LR
comp=E,700nm,22.0s
CN2 LR LR
comp=E,900nm,22.0s
CN2 LR LR
comp=E,1µm,26.0s
RPSI **Rantau Prapat** **69.66 279** **S** **23 55 22.0 -5.1**
RPSI **Rantau Prapat** **69.66 279** P **P** **23 46 24.7 -0.1**
RPSI IAmb IAmb 23 46 26.0
comp=Z,57nm,0.9s
PSI **Prapat** **69.69 279** P **P** **23 46 23.9 -1.2**
comp=Z,35nm,0.8s,baz=118,slow=3.4,SNR=31
PSI S **S** **23 55 22.0 -5.7**
comp=Z,2.8nm,0.3s,baz=182,slow=20,SNR=2.0
PSI ScS **SKSac** **23 56 18.1 -0.6**
comp=Z,4.0nm,0.9s,baz=168,slow=22,SNR=1.6
PSI LR LR 00 18 19.8
comp=Z,566nm,21.4s,baz=128,slow=37
comp=Z,35nm,0.8s
PSI **Prapat** **69.69 279** P **P** **23 46 25.2 +0.1**
PSI **Prapat** **69.69 279** P **P** **23 46 24.7 -0.4**
PSI S **S** **23 55 22.0 -5.7**
PSI pmax pmax
comp=Z,57nm,0.9s
BNX **BinXian** **70.14 332** ⇓P **P** **23 46 27.0 0.0**
BNX pP **PcP** **23 46 47.5 -1.0**
BNX sP **sP** **23 47 00.3 +2.1**
BNX PP **PP** **23 49 02.3 -1.2**
BNX S **S** **23 55 32.0 +0.6**
BNX pmax pmax
comp=Z,100nm,0.6s
BNX pmax pmax
comp=Z,460nm,5.0s
BNX LR LR
comp=Z,750nm,22.2s
BNX LR LR
comp=Z,590nm,24.4s
BNX LR LR
comp=Z,1µm,28.6s
GSI **Gunungsitoli** **70.56 277** P **P** **23 46 30.8 +0.5**
GSI IAmb IAmb 23 46 32.3
comp=Z,128nm,0.9s
GSI **Gunungsitoli** **70.56 277** P **P** **23 46 31.6 +1.2**
GSI **Gunungsitoli** **70.56 277** P **P** **23 46 31.5 +1.2**
comp=Z,153nm,0.9s
GRNR **Gornyy** **70.62 340**⇑*i*P **P** **23 46 30.1 +0.2**
GRNR *e*S **S** **23 55 37.5 +0.6**
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,60nm,1.1s
GRNR smax smax
comp=N,2.0nm,0.9s
NIKH **Nikolski High** **70.64 15** P **P** **23 46 29.2 -0.8**
baz=205
SRIT **Nakonsritamara** **70.81 285** P **P** **23 46 34.1 +2.3**
SURA **Surathani** **70.97 285** P **P** **23 46 34.3 +1.5**
NONG **Nongkai** **70.98 295** P **P** **23 46 33.4 +0.7**
KCSI **Kotacane, Aceh** **71.00 279** P **P** **23 46 32.7 -0.3**
comp=N,47nm,1.0s
KLR **Kul'dur** **71.02 336** P **P** **23 46 33.0 +0.7**
comp=N,125nm,1.3s,baz=139,slow=3.6,SNR=60
KLR S **S** **23 55 44.5 +2.9**
comp=N,0.4nm,0.5s,baz=263,slow=17,SNR=1.6
KLR LR LR 00 14 41.2
comp=N,441nm,21.2s,baz=148,slow=33
comp=N,125nm,1.3s
NAYO **Nakonayok** **71.19 291** P **P** **23 46 36.4 +2.4**
ENH **Enshi** **71.28 310** IAmb IAmb 23 46 36.1
comp=Z,68nm,0.8s
ENH **Enshi** **71.28 310** P **P** **23 46 34.3 -0.1**
ENH pP **pP** **23 46 55.3 -1.1**
LYN **LuoYang** **71.41 315**⇓*i*P **P** **23 46 35.5 +0.5**
LYN PcP **PcP** **23 46 52.5 -1.7**
LYN S **S** **23 55 43.5 -3.2**
LYN ScS **SKSac** **23 56 28.0 -2.6**
LYN pmax pmax
comp=Z,65nm,0.8s
LYN pmax pmax
comp=Z,510nm,8.4s
LYN LR LR
comp=Z,380nm,21.6s
LYN LR LR
comp=Z,680nm,21.6s
LYN LR LR
comp=Z,750nm,18.6s
HNS **HongShan** **71.55 318** ⇓P **P** **23 46 36.5 +0.7**
HNS pP **pP** **23 46 56.3 -1.5**
HNS sP **sP** **23 47 05.0 -2.1**
HNS S **S** **23 55 50.0 +1.9**
HNS sS **sS** **23 56 27.0 +3.5**
HNS pmax pmax
comp=Z,66nm,1.5s
HNS LR LR
comp=Z,650nm,16.7s
HNS LR LR
comp=Z,1µm,21.6s
GYA **Guiyang** **71.62 305**⇑*i*P **P** **23 46 37.5 +0.9**
GYA pP pP 23 46 58.3 -0.2
GYA S **S** **23 55 49.8 +0.2**
GYA SKS **SKSac** **23 56 31.5 -1.2**
GYA SS **SS** **00 00 24.3 -2.7**
GYA pmax pmax
comp=Z,29nm,0.8s
GYA pmax pmax
comp=Z,590nm,6.0s
GYA LR LR
comp=Z,2µm,27.3s
BJT **Baijiatuau** **72.22 321** IAmb IAmb 23 46 41.8
comp=Z,270nm,1.9s
BJI **Beijing** **72.22 321** P **P** **23 46 40.3 +0.5**
BJI pP **pP** **23 47 01.0 -0.8**
BJI S **S** **23 55 55.0 -0.7**
BJI pmax pmax
comp=Z,28nm,1.4s
BJI pmax pmax
comp=Z,230nm,6.0s
BJI LR LR
comp=Z,540nm,23.8s
BJI LR LR
comp=Z,450nm,23.2s
BJI LR LR
comp=Z,750nm,22.0s
MLSI **Meulaboh, Aceh** **72.52 279** P **P** **23 46 42.6 +0.5**
comp=Z,121nm,0.9s
TIY **Taiyuan** **73.21 318** *e*P **P** **23 46 46.5 +0.7**
TIY S **S** **23 56 07.5 +0.3**
TIY SKS **SKSac** **23 56 39.5 -4.6**
TIY pmax pmax
comp=Z,52nm,1.6s
TIY LR LR
comp=Z,380nm,19.2s
TIY LR LR
comp=Z,540nm,18.5s
TIY LR LR
comp=Z,570nm,22.0s
HEH **HeiHe** **73.57 335** *e*P **P** **23 46 47.3 -0.2**
HEH PcP **PcP** **23 47 01.0 -2.0**
HEH S **S** **23 56 13.3 +2.7**
HEH ScS **SKSac** **23 56 43.8 -2.3**
HEH pmax pmax
comp=Z,52nm,1.3s
HEH pmax pmax
comp=Z,580nm,6.2s
XAN **Xi'an** **73.62 313** ⇓P **P** **23 46 48.8 +0.6**
XAN pP PcP 23 47 06.8 +3.1
XAN S **S** **23 56 13.0 +1.0**
XAN pmax pmax
comp=Z,71nm,0.8s
XAN pmax pmax
comp=Z,510nm,6.8s
XAN LR LR
comp=Z,600nm,20.6s
XAN LR LR
comp=Z,410nm,17.8s
XAN LR LR
comp=Z,1µm,20.3s
SPIA **Saint Paul Isl** **74.18 13** P **P** **23 46 50.2 -0.6**
baz=203
KMI **Kunming** **74.20 302** ⇓P **P** **23 46 53.5 +1.5**
KMI pP pP 23 47 15.0 +0.9
KMI S **S** **23 56 22.5 +3.3**
KMI SKS **SKSac** **23 56 50.0 -2.5**
KMI SS **SS** **00 01 07.5 +0.8**
KMI pmax pmax
comp=Z,69nm,1.2s
KMI pmax pmax
comp=Z,640nm,7.7s
KMI LR LR
comp=Z,290nm,27.5s
KMI LR LR
comp=Z,470nm,25.0s
KMI LR LR
comp=Z,800nm,29.6s
CRAI **Chiangrai** **74.23 296** P **P** **23 46 53.5 +1.4**
CRAI IAmb IAmb 23 46 54.8
comp=Z,63nm,0.8s
XLT **XiLinHaoTe** **74.68 324**⇑*i*P **P** **23 46 54.8 +0.6**
XLT pP pP 23 47 15.0 -1.3
XLT sP sP 23 47 23.5 -2.1
XLT S **S** **23 56 22.3 -1.2**
XLT SKS **SKSac** **23 56 51.0 -3.9**
XLT sS ScS 23 56 57.8 -0.4
XLT pmax pmax
comp=Z,79nm,1.3s
XLT LR LR
comp=Z,620nm,23.7s
XLT LR LR
comp=Z,1µm,25.0s
CM31 **Chiang Mai Arr** **74.82 294** IAmb IAmb 23 46 58.5
comp=Z,47nm,0.9s
CMAR **Chiang Mai Arr** **74.82 294** P **P** **23 46 56.9 +1.4**
comp=Z,24nm,0.9s,baz=125,slow=4.4,SNR=105
CMAR S **S** **23 56 27.8 +2.0**
comp=Z,1.0nm,0.3s,baz=167,slow=31,SNR=1.9
CMAR ScS **ScS** **23 56 59.7 -0.5**
comp=Z,0.6nm,0.3s,baz=296,slow=40,SNR=1.5
CMAR LR LR 00 18 38.6
comp=Z,213nm,21.1s,baz=110,slow=35
comp=Z,24nm,0.9s
S12K **Black Hills** **74.92 18** P **P** **23 46 54.9 -0.3**
baz=211
CHTO **Chiang Mai** **74.95 294** P **P** **23 46 57.5 +1.3**
CHTO IAmb IAmb 23 46 58.9
comp=Z,34nm,0.9s
CHTO **Chiang Mai** **74.95 294** P **P** **23 46 57.5 +1.3**
CHTO pmax pmax
comp=Z,34nm,0.9s
SDPT **Sand Point** **75.09 18** P **P** **23 46 55.1 -1.1**
baz=212
QSPA **South Pole Qui** **75.20 180** P **P** **23 46 57.3 +0.4**
comp=Z,378nm,1.0s,baz=16,slow=1.9,SNR=395
QSPA S **S** **23 56 31.1 +2.3**
comp=Z,16nm,1.1s,baz=163,slow=18,SNR=21
QSPA LR LR 00 17 18.8
comp=Z,841nm,19.2s,baz=28,slow=33
comp=Z,378nm,1.0s
MA2 **Magadan** **75.32 352** LR LR 00 15 13.3
comp=Z,2µm,21.9s,baz=172,slow=32
MA2 **Magadan** **75.32 352** P **P** **23 46 56.8 -0.6**
MA2 IAmb IAmb 23 46 58.5
comp=Z,300nm,2.0s
MA2 **Magadan** **75.32 352** P **P** **23 46 57.0 -0.4**
MA2 **Magadan** **75.32 352** P **P** **23 46 56.8 -0.6**
MA2 pmax pmax
comp=Z,300nm,2.0s
HHC **Hu-ho-hao-te** **75.54 320** *e*P **P** **23 47 00.5 +1.2**
HHC PP **PP** **23 49 54.8 +4.9**
HHC S **S** **23 56 37.8 +4.6**
HHC pmax pmax
comp=Z,63nm,1.4s
HHC pmax pmax
comp=Z,310nm,5.5s
HHC LR LR
comp=Z,900nm,18.2s
HHC LR LR
comp=Z,840nm,17.7s
HHC LR LR
comp=Z,2µm,19.1s
PZH **PanZhiHua** **75.59 303** P **P** **23 47 00.5 +0.6**
PZH pP **pP** **23 47 19.3 -2.7**
PZH sP **sP** **23 47 32.0 +0.7**
PZH PP **PP** **23 49 51.8 +1.1**
PZH S **S** **23 56 35.0 +0.6**
PZH SKS **SKSac** **23 57 00.8 -1.8**
PZH sS **sS** **23 57 11.5 +0.8**
PZH SS **SS** **00 01 27.0 -0.6**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,240nm,5.6s
PZH LR LR
comp=Z,1µm,23.5s
PZH LR LR
comp=Z,1µm,23.9s
PZH LR LR
comp=Z,2µm,23.5s
CD2 **Chengdu** **75.92 308** P **P** **23 47 02.3 +0.7**
CD2 pP pP 23 47 20.8 -2.9
CD2 PP **PP** **23 49 52.5 -0.7**
CD2 S **S** **23 56 38.5 +0.8**
CD2 sS ScS 23 57 08.0 -0.7
CD2 SS **SS** **00 01 31.0 -1.3**
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 pmax pmax
comp=Z,700nm,8.8s
CD2 LR LR
comp=Z,950nm,20.1s
CD2 LR LR
comp=Z,850nm,22.0s
HIA **Hailar** **76.28 330** IAmb IAmb 23 47 04.7
comp=Z,165nm,1.7s
HIA **Hailar** **76.28 330***d i*P **P** **23 47 03.2 0.0**
HIA *i* *PP **pP** **23 47 24.0 -1.3**
HIA pmax pmax
comp=Z,47nm,1.1s
ZEA **Zeya** **76.31 337** *e*P **P** **23 47 03.9 +0.7**
ZEA *e*S **S** **23 56 45.3 +4.4**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA pmax pmax
comp=E,100nm,5.2s
ZEA pmax pmax
comp=N,100nm,5.3s
ZEA pmax pmax
comp=Z,400nm,8.9s
ZEA smax smax
comp=E,300nm,16.7s
ZEA smax smax
comp=N,400nm,14.6s
CHGN **Chignik** **76.52 19** P **P** **23 47 03.9 -0.4**
baz=214
CHIR **Chirikof Islan** **77.05 21** P **P** **23 47 06.5 -0.8**
baz=217
TNCH **TengChong** **77.66 300** ⇑P **P** **23 47 13.0 +1.3**
TNCH PcP **PcP** **23 47 23.3 +1.8**

TNCH pP pP 23 47 34.3 +0.2
TNCH sP sP 23 47 43.0 -0.4
TNCH S **S** **23 56 57.8 +0.7**
TNCH ScS **ScS** **23 57 22.0 -1.3**
TNCH sS sS 23 57 34.0 +0.6
TNCH SS **SS** **00 02 02.3 +3.3**
TNCH pmax pmax
comp=N,42nm,1.3s
TNCH pmax pmax
comp=N,580nm,5.0s
TNCH LR LR
comp=N,240nm,5.8s
TNCH LR LR
comp=N,200nm,5.1s
TNCH LR LR
comp=N,280nm,12.0s
RPN Rapa Nui 77.79 115 LR LR 00 15 39.6
comp=N,332nm,18.6s,baz=258,slow=31
R16K Pilot Point 77.83 19 P **P** **23 47 11.4 -0.2**
baz=215
SII Sitkinak Islan 78.12 21 P **P** **23 47 13.9 +0.6**
baz=218
LZH Lanzhou 78.25 312 ||P **P** **23 47 16.0 +1.3**
LZH pP pP 23 47 34.3 -2.9
LZH sP sP 23 47 42.5 -4.0
LZH S **S** **23 57 05.3 +2.3**
LZH ScS **SKKSac** **23 57 24.3 +1.5**
LZH pmax pmax
comp=N,76nm,1.0s
LZH pmax pmax
comp=N,780nm,5.7s
LZH LR LR
comp=N,410nm,12.7s
LZH LR LR
comp=N,730nm,15.6s
LZH LR LR
comp=N,1µm,16.1s
SEY Seymchan 78.36 353 S **S** **23 57 02.1 -0.6**
comp=N,0.3nm,0.3s,baz=13,slow=23,SNR=1.4
SEY PKKPbc PKKPbc 00 06 13.1 -2.2
comp=N,0.8nm,0.5s,baz=319,slow=2.2,SNR=5.1
SEY LR LR 00 17 03.5
comp=N,2µm,22.0s,baz=168,slow=32
SEY Seymchan 78.36 353 *de*P **P** **23 47 14.2 -0.2**
SEY pmax pmax
comp=Z,96nm,1.3s
DGPR DIGLIPUR 78.48 287 *e*P **P** **23 47 17.8 +1.6**
P16K Nushagak River 78.91 18 P **P** **23 47 17.6 +0.1**
baz=214
Q17K Contact Creek 78.92 19 P **P** **23 47 17.4 -0.4**
baz=216
OHAK Old Harbor 78.95 21 P **P** **23 47 17.1 -0.7**
baz=219
Q16K King Salmon 79.02 18 P **P** **23 47 17.0 -1.2**
baz=216
O16K Kokwok River B 79.35 17 P **P** **23 47 19.1 -0.9**
baz=214
Q18K Katmai Hardscr 79.51 19 P **P** **23 47 19.4 -1.6**
baz=217
KDAK Kodiak Island 79.62 21 LR LR 00 16 24.7
comp=Z,3µm,20.7s,baz=233,slow=31
KDAK Kodiak Island 79.62 21 P **P** **23 47 20.3 -1.1**
baz=219
O17K Koliganek Bris 79.79 18 P **P** **23 47 21.3 -0.9**
baz=215
N16K Nishlik Lake 79.89 16 P **P** **23 47 22.2 -0.7**
baz=213
P18K Big Mountain, **80.03 19** IAmb IAmb 23 47 24.9
comp=Z,56nm,1.1s
P18K Big Mountain, **80.03 19** P **P** **23 47 22.4 -1.3**
baz=217,SNR=8.1
Q19K Cape Douglas, **80.17 19** IAmb IAmb 23 47 26.4
comp=Z,97nm,0.8s
Q19K Cape Douglas, **80.17 19** P **P** **23 47 23.5 -1.0**
baz=218
Q20K Shuyak Island 80.33 20 P **P** **23 47 24.0 -1.3**
baz=220
P19K Oil Pt 80.86 19 P **P** **23 47 26.7 -1.5**
baz=219
O19K Port Alsworth 80.95 18 IAmb IAmb 23 47 43.6
comp=Z,77nm,1.3s
O19K Port Alsworth 80.95 18 P **P** **23 47 27.2 -1.3**
baz=218
CIT Chita 81.06 330 *e*P **P** **23 47 29.6 +0.2**
CIT *e* 23 47 49.6
CIT *e* 23 57 32.6
CIT *e* 23 58 12.8
CIT pmax pmax
comp=Z,229nm,1.5s
O20K Slope Mountain 81.39 19 P **P** **23 47 29.3 -1.7**
baz=219
N19K Bonanza Creek 81.40 18 P **P** **23 47 29.8 -1.3**
baz=217
BRLK Bradley Lake 81.71 20 IAmb IAmb 23 47 34.4
comp=Z,72nm,0.8s
MAW Mawson 81.72 202 P **P** **23 47 33.7 +1.1**
comp=Z,116nm,1.0s,baz=115,slow=7.1,SNR=7.7
MAW LR LR 00 17 52.6
comp=Z,1µm,21.8s,baz=100,slow=31
comp=Z,116nm,1.0s
MAW Mawson 81.72 202 P **P** **23 47 32.5 -0.1**
baz=82,SNR=5.8
MAW Mawson 81.72 202 P **P** **23 47 33.4 +0.8**
BRSE Bradley Lake S 81.74 20 P **P** **23 47 31.9 -0.9**
baz=221
ANM Nome 81.90 12 IAmb IAmb 23 47 35.5
comp=Z,151nm,1.3s
ANM Nome 81.90 12 P **P** **23 47 33.6 +0.1**
baz=207,SNR=36
YAK Yakutsk 82.07 343 S **S** **23 57 40.5 -1.1**
comp=Z,6.5nm,0.4s,baz=269,slow=23,SNR=13
YAK LR LR 00 19 54.5
comp=Z,646nm,21.8s,baz=116,slow=33
YAK Yakutsk 82.07 343 P **P** **23 47 33.7 -0.7**
YAK Yakutsk 82.07 343 *d* P **P** **23 47 34.2 -0.2**
YAK pmax pmax
comp=Z,287nm,1.3s
ULN Ulaanbaatar 82.11 324 P **P** **23 47 35.6 +0.5**
ULN IAmb IAmb 23 47 37.2
comp=Z,257nm,1.8s
ULN Ulaanbaatar 82.11 324 P **P** **23 47 35.6 +0.5**
ULN pmax pmax
comp=Z,257nm,1.8s
TNA Tin City 82.34 10 IAmb IAmb 23 47 37.3
comp=Z,120nm,1.2s
TNA Tin City 82.34 10 P **P** **23 47 35.6 0.0**
baz=204
L19K White Mountain 82.38 17 IAmb IAmb 23 47 40.7
comp=Z,28nm,0.8s
L19K White Mountain 82.38 17 P **P** **23 47 35.7 -0.4**
baz=217
CAPN Captain Cook N 82.39 19 P **P** **23 47 35.9 -0.1**
baz=220
N20K Mount Spurr 82.39 19 P **P** **23 47 34.9 -1.3**
baz=219,SNR=6.2
SPCR Spurr Chakacha 82.39 19 P **P** **23 47 34.6 -1.6**
baz=219
SEW Seward 82.45 20 IAmb IAmb 23 47 38.2
comp=Z,74nm,1.0s
SEW Seward 82.45 20 P **P** **23 47 35.9 -0.5**
baz=222
SONM Songino Array 82.47 324 P **P** **23 47 37.1 +0.1**
comp=Z,11nm,0.5s,baz=153,slow=3.2,SNR=73
SONM S **S** **23 57 50.0 +3.4**
comp=Z,2.1nm,1.2s,baz=151,slow=3.4,SNR=9.3
SONM PKKP **PKKPdf** **00 05 55.0 -0.9**
comp=Z,0.7nm,1.1s,baz=0.0,slow=1.9,SNR=2.8
SONM PKKPbc **PKKPbc** **00 06 02.7 -2.5**
comp=Z,1.5nm,0.8s,baz=257,slow=1.8,SNR=7.7
SONM PKPPKP **P'P'df** **00 14 03.8 -3.1**
comp=Z,1.5nm,1.2s,baz=188,slow=2.2,SNR=4.2
SONM LR LR 00 22 52.1
comp=Z,291nm,22.0s,baz=127,slow=34
comp=Z,11nm,0.5s
SONM Songino Array 82.47 324 IAmb IAmb 23 47 38.8
comp=Z,170nm,1.8s
GTA Gaotai 82.60 314 ||P **P** **23 47 38.8 +0.9**
GTA S **S** **23 57 50.5 +2.1**
GTA pmax pmax
comp=Z,49nm,1.5s
GTA pmax pmax
comp=Z,270nm,7.1s
GTA LR LR
comp=Z,380nm,19.3s
GTA LR LR
comp=Z,490nm,21.1s
GTA LR LR
comp=Z,580nm,21.8s
BILL Bilibino 82.64 360 *c* i P **P** **23 47 37.0 -0.3**
BILL *i* 23 50 44.8
BILL *i* S **S** **23 57 44.7 -2.6**
BILL pmax pmax
comp=Z,428nm,1.3s
BILL MLR MLR
comp=Z,281nm,19.0s
M20K Styx River 82.64 18 IAmb IAmb 23 47 39.4
comp=Z,109nm,1.8s
M20K Styx River 82.64 18 P **P** **23 47 36.6 -0.9**
baz=218,SNR=5.6
TTA Tatalina 82.67 16 P **P** **23 47 36.3 -1.3**
baz=216,SNR=6.1
TTA Tatalina 82.67 16 P **P** **23 47 39.1 +1.5**
BRDH Bariadhala 82.69 296 P **P** **23 47 40.0 +1.5**
comp=Z,73nm,0.4s,baz=91,slow=3.7,SNR=7.3
BRDH LR LR 00 24 35.6
comp=Z,135nm,19.9s,baz=58,slow=36
comp=Z,73nm,0.4s
L20K Farewell, AK 82.90 17 P **P** **23 47 38.0 -0.8**
baz=218
SUA Susitna One 83.05 19 IAmb IAmb 23 47 41.2
comp=Z,156nm,1.2s
SUA Susitna One 83.05 19 P **P** **23 47 38.1 -1.6**
baz=221,SNR=16
P23K Montague Islan 83.07 21 P **P** **23 47 38.5 -1.1**
baz=224
RC01 Rabbit Creek A 83.09 20 IAmb IAmb 23 47 41.6
comp=Z,128nm,1.1s
RC01 Rabbit Creek A 83.09 20 P **P** **23 47 38.7 -1.0**
baz=222,SNR=15
SKT Skwentna 83.20 18 P **P** **23 47 38.6 -1.7**
baz=220
PAF Port-aux-Franc 83.29 221 P **P** **23 47 41.7 +0.6**
PAF Port-aux-Franc 83.29 221 P **P** **23 47 41.7 +0.6**
PAF pmax pmax
comp=Z,920nm,1.1s
PWL Port Wells 83.38 20 P **P** **23 47 40.2 -1.1**
baz=223,SNR=21
SHL Shillong 83.45 298 IAmb IAmb 23 47 44.6
comp=Z,77nm,1.0s
SHL Shillong 83.45 298 *e*P **P** **23 47 43.7 +1.0**
M22K Willow 83.46 19 P **P** **23 47 40.6 -1.0**
baz=221
K20K Telida 83.54 17 IAmb IAmb 23 47 44.6
comp=Z,124nm,1.4s
K20K Telida 83.54 17 P **P** **23 47 41.4 -0.6**
baz=218
PMR Palmer 83.66 19 IAmb IAmb 23 47 44.4
comp=Z,49nm,0.8s
PMR Palmer 83.66 19 P **P** **23 47 41.8 -0.8**
baz=222,SNR=18
PPLA Purkeypile 83.71 18 IAmb IAmb 23 48 10.5
comp=Z,49nm,1.2s
PPLA Purkeypile 83.71 18 P **P** **23 47 41.7 -1.4**
baz=215
KNK Knik Glacier 83.74 20 IAmb IAmb 23 47 45.1
comp=Z,60nm,0.8s
KNK Knik Glacier 83.74 20 P **P** **23 47 42.1 -1.1**
baz=223,SNR=9.6
GHO Glory Hole Cre 83.86 19 IAmb IAmb 23 47 45.7
comp=Z,90nm,1.0s
CUT Chulitna 83.91 19 P **P** **23 47 43.0 -0.9**
baz=221,SNR=15
GCSA Galena City Sc 83.93 15 P **P** **23 47 43.4 -0.5**
baz=215
EYAK Cordova Ski Ar 84.04 21 IAmb IAmb 23 47 58.9
comp=Z,35nm,1.0s
EYAK Cordova Ski Ar 84.04 21 P **P** **23 47 44.0 -0.6**
baz=225
SML Sawmill 84.08 20 IAmb IAmb 23 48 02.0
comp=Z,71nm,1.0s
SML Sawmill 84.08 20 P **P** **23 47 44.1 -0.8**
baz=223,SNR=9.5
KMPM Mount Pierce 84.11 46 IAmb IAmb 23 48 52.7
comp=Z,137nm,1.9s
CAST Castle Rocks 84.15 17 IAmb IAmb 23 47 46.6
comp=Z,92nm,0.8s
CAST Castle Rocks 84.15 17 P **P** **23 47 43.7 -1.4**
baz=219,SNR=66
KCPM Cahto Peak 84.17 47 IAmb IAmb 23 47 47.1
comp=Z,46nm,1.0s
HOPS Hoand Field 84.25 47 IAmb IAmb 23 48 46.6
comp=Z,52nm,1.3s
M23K Glacier View 84.26 20 P **P** **23 47 44.6 -1.2**
baz=224,SNR=6.1
KMRM Mail Ridge 84.31 46 IAmb IAmb 23 47 48.0
comp=Z,55nm,1.2s
SCM Sheep Creek Mo 84.42 20 IAmb IAmb 23 47 48.6
comp=Z,70nm,1.0s
SCM Sheep Creek Mo 84.42 20 P **P** **23 47 45.5 -1.2**
baz=224,SNR=11
CHUM Lake Minchumin 84.44 17 P **P** **23 47 45.7 -0.8**
baz=219,SNR=13
DIV Divide 84.44 21 IAmb IAmb 23 47 48.5
comp=Z,38nm,0.9s
BOD Bodaibo 84.48 335 *e*P **P** **23 47 45.9 -1.0**
BOD pmax pmax
comp=Z,75nm,1.6s
KTH Kantishna Hill 84.58 18 IAmb IAmb 23 48 03.1
comp=Z,89nm,1.1s
KLU Klutina 84.65 21 IAmb IAmb 23 48 26.3
comp=Z,45nm,1.3s
KLU Klutina 84.65 21 P **P** **23 47 47.0 -0.7**
baz=225,SNR=7.7
SNCC San Nicolas Is 84.68 54 P **P** **23 47 46.6 -1.9**
baz=248
TRF Thorofare Moun 84.69 18 IAmb IAmb 23 47 49.1
comp=Z,70nm,1.0s
TRF Thorofare Moun 84.69 18 P **P** **23 47 46.2 -1.9**
baz=221,SNR=24
BMRM Bremner River 84.74 21 IAmb IAmb 23 48 27.8
comp=Z,50nm,1.2s
BMRM Bremner River 84.74 21 P **P** **23 47 47.1 -1.1**
baz=226
WAT1 Susitna Watana 84.76 19 P **P** **23 47 46.9 -1.3**
baz=223
BBGB Big Mountain B 84.77 50 IAmb IAmb 23 48 21.0
comp=Z,65nm,1.1s
PMPB Monarch Peak 84.81 51 IAmb IAmb 23 48 20.9
comp=Z,59nm,1.2s
WAT6 Susitna Watana 84.83 19 P **P** **23 47 48.3 -0.5**
baz=223
SCZ2 Santa Cruz Isl 84.87 53 P **P** **23 47 48.8 -0.6**
baz=248
GOMU GeErMu 84.91 309 P **P** **23 47 51.5 +1.5**
GOMU S **SKSac** **23 58 04.0 -3.2**
GOMU pmax pmax
comp=Z,8.0nm,0.9s
GOMU pmax pmax
comp=Z,61nm,3.8s
GOMU LR LR
comp=Z,300nm,21.9s
GOMU LR LR
comp=Z,510nm,21.9s
GOMU LR LR
comp=Z,640nm,22.0s
BPAW Bear Paw Mtn. **84.98 17** IAmb IAmb 23 47 50.2
comp=Z,58nm,1.3s
BPAW Bear Paw Mtn. **84.98 17** P **P** **23 47 48.2 -1.1**
baz=220,SNR=16
M24K Tolsona, Glenn 85.00 20 IAmb IAmb 23 48 45.8
comp=Z,120nm,1.3s
M24K Tolsona, Glenn 85.00 20 P **P** **23 47 49.4 -0.1**
baz=225
PKM Mcpherson Peak 85.06 52 P **P** **23 47 49.5 -1.1**
baz=248,SNR=13
SMMC Simmler 85.08 52 P **P** **23 47 50.2 -0.3**
baz=248,SNR=6.1
RND Reindeer 85.09 18 IAmb IAmb 23 48 17.8
comp=Z,88nm,1.1s
N25K Chitina, Valde 85.18 21 P **P** **23 47 49.7 -0.8**
baz=226,SNR=11
DIB Dawson Inlet, **85.19 32** IAmb IAmb 23 47 52.6
comp=Z,81nm,1.2s
DHY Denali Highway 85.31 19 IAmb IAmb 23 48 22.0
comp=Z,42nm,1.1s
DHY Denali Highway 85.31 19 P **P** **23 47 50.4 -0.7**
baz=224
MCK McKinley 85.31 18 IAmb IAmb 23 47 53.0
comp=Z,97nm,1.1s
MCK McKinley 85.31 18 P **P** **23 47 50.4 -0.5**
baz=222,SNR=29
LSA Lhasa 85.45 302 P **P** **23 47 54.0 +1.0**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA Lhasa 85.45 302 IAmb IAmb 23 48 18.0
comp=Z,27nm,0.9s
ZAK Zakamensk 85.53 325 *e*P **P** **23 47 51.4 -1.0**
ZAK pmax pmax
comp=Z,64nm,1.2s
I21K Tanana 85.54 16 IAmb IAmb 23 47 54.4
comp=Z,90nm,0.8s
I21K Tanana 85.54 16 P **P** **23 47 51.9 -0.1**
baz=219
HARP HAARP 85.54 20 P **P** **23 47 51.7 -0.4**
baz=226,SNR=7.0
MCARA McCarthy VSAT 85.59 22 IAmb IAmb 23 48 21.5
comp=Z,35nm,1.1s
MCARA McCarthy VSAT 85.59 22 P **P** **23 47 51.9 -0.5**
baz=228,SNR=6.7
CIS Catalina Islan 85.60 54 P **P** **23 47 51.7 -1.4**
baz=249
YBH Yreka Blue Hor 85.62 45 LR LR 00 18 10.2
comp=Z,995nm,21.8s,baz=249,slow=30
H21K Melozitna Rive 85.69 16 IAmb IAmb 23 48 21.3
comp=Z,83nm,1.2s
H21K Melozitna Rive 85.69 16 P **P** **23 47 52.5 -0.3**
baz=219
MLY Manley 85.76 17 IAmb IAmb 23 47 54.9
comp=Z,40nm,1.0s
MLY Manley 85.76 17 P **P** **23 47 52.5 -0.7**
baz=220,SNR=22
PCA Pinnacle 85.77 24 IAmb IAmb 23 48 40.9
comp=Z,47nm,1.0s
PINM Pinnacle 85.77 24 P **P** **23 47 52.6 -0.8**
baz=230
PNL Peninsula 85.84 24 P **P** **23 47 53.3 -0.4**
baz=231
PAX Paxson 85.84 20 P **P** **23 47 53.4 -0.3**
baz=226
BARN Barnard Glacie 85.86 22 IAmb IAmb 23 47 56.4
comp=Z,55nm,1.0s
ARVC Arvin 85.90 52 P **P** **23 47 53.4 -1.1**
baz=249
NEA2 Nenana 85.91 17 IAmb IAmb 23 47 55.1
comp=Z,71nm,1.4s
NEA2 Nenana 85.91 17 P **P** **23 47 52.4 -1.5**
baz=222,SNR=12
VES Vestal, Richgr 85.96 51 P **P** **23 47 53.6 -1.2**
baz=248
SIT Sitka 85.98 28 P **P** **23 47 53.8 -0.6**
baz=235
WRH Wood River Hil 86.10 18 IAmb IAmb 23 47 56.1
comp=Z,42nm,0.8s
CRAG Craig 86.11 30 P **P** **23 47 54.2 -0.8**
baz=237
S31K Pelican 86.11 27 P **P** **23 47 54.2 -0.8**
baz=234
G21K Allakaket 86.19 15 P **P** **23 47 55.4 +0.1**
baz=218
O28M Mount Upton 86.23 23 P **P** **23 47 55.1 -0.8**
baz=230,SNR=13
I23K Minto, Yukon-K 86.24 17 P **P** **23 47 54.0 -1.4**
baz=222,SNR=11
H22K Ishtalitna Cre 86.25 16 P **P** **23 47 55.4 -0.2**
baz=220
M26K Nabesna, AK 86.28 21 IAmb IAmb 23 47 57.8
comp=Z,29nm,0.9s
M26K Nabesna, AK 86.28 21 P **P** **23 47 54.8 -1.0**
baz=228
CCB Clear Creek Bu 86.32 18 IAmb IAmb 23 47 57.0
comp=Z,32nm,0.7s
K24K Donnelly Dome 86.33 19 P **P** **23 47 55.1 -0.9**
baz=225
ISA Isabella, Lake 86.36 52 IAmb IAmb 23 49 04.2
comp=Z,47nm,1.4s
ISA Isabella, Lake 86.36 52 P **P** **23 47 55.0 -1.9**
baz=249,SNR=14
HDA Harding Lake 86.40 18 IAmb IAmb 23 47 58.0
comp=Z,81nm,0.8s
HDA Harding Lake 86.40 18 P **P** **23 47 55.4 -1.0**
baz=224,SNR=57
MDM Murphy Dome 86.42 17 IAmb IAmb 23 47 57.7
comp=Z,55nm,1.0s
BUCK Buck Mountain 86.45 43 IAmb IAmb 23 48 29.7
comp=Z,84nm,1.5s
EDW2 Edwards Air Fo 86.45 53 P **P** **23 47 56.1 -1.2**
baz=249,SNR=23
TCOL CIGO, UAF Yank 86.47 18 IAmb IAmb 23 47 58.4
comp=Z,57nm,0.8s
TCOL CIGO, UAF Yank 86.47 18 P **P** **23 47 54.7 -1.9**
baz=223,SNR=8.7
COLA College 86.47 18 P **P** **23 47 55.1 -1.4**
COLA IAmb IAmb 23 47 58.4
comp=Z,60nm,0.8s
COLA College 86.47 18 P **P** **23 47 54.7 -1.9**
baz=223
COLA College 86.47 18 P **P** **23 47 56.0 -0.6**
COLA College 86.47 18 *c* eP **P** **23 47 56.0 -0.6**
COLA pmax pmax
comp=Z,68nm,1.0s
BFSC Mount Baldy Ra 86.48 53 P **P** **23 47 56.5 -1.1**
baz=250,SNR=12
MPK Martis Peak 86.54 48 IAmb IAmb 23 48 29.3
comp=Z,93nm,1.7s
RIDG Independent Ri 86.58 19 IAmb IAmb 23 47 59.2
comp=Z,41nm,1.1s
RIDG Independent Ri 86.58 19 P **P** **23 47 56.1 -1.2**
baz=226,SNR=18
L26K Log Cabin Wild 86.58 20 P **P** **23 47 55.9 -1.4**
baz=227,SNR=5.2
MDPB Devils Postpil 86.62 50 IAmb IAmb 23 47 59.7
comp=Z,26nm,1.0s
MURC Murrieta 86.62 54 P **P** **23 47 56.0 -2.1**
baz=250
M27K Edge Creek, AK 86.64 21 P **P** **23 47 56.6 -1.1**
baz=229
IL31 86.68 18 IAmb IAmb 23 47 58.9
comp=Z,41nm,0.9s
ILAR Eielson Array 86.68 18 P **P** **23 47 56.5 -1.2**
comp=Z,24nm,0.7s,baz=235,slow=4.8,SNR=261
ILAR PKiKP **PKiKP** **23 53 02.8 -0.8**
comp=Z,0.5nm,0.5s,baz=267,slow=2.7,SNR=4.5
ILAR S **SKSac** **23 58 15.1 -1.1**
comp=Z,4.0nm,1.1s,baz=263,slow=6.8,SNR=12
ILAR PKKP **PKKPdf** **00 05 49.5 +0.4**
comp=Z,4.7nm,1.0s,baz=359,slow=2.5,SNR=9.4
ILAR PKPPKP **P'P'df** **00 13 57.4 -0.5**
comp=Z,1.5nm,1.0s,baz=354,slow=2.7,SNR=9.7
ILAR LR LR 00 21 25.0
comp=Z,3µm,20.6s,baz=224,slow=32
comp=Z,24nm,0.7s
YUK8 Steele Glacier 86.71 23 P **P** **23 47 56.5 -1.8**
baz=231,SNR=14
V35K Ketchikan 86.76 30 P **P** **23 47 57.5 -0.7**
baz=238
F21K Alatna River 86.76 14 P **P** **23 47 58.0 0.0**
baz=218
POKR Poker Plat Res 86.77 18 IAmb IAmb 23 47 59.3
comp=Z,22nm,0.8s
POKR Poker Plat Res 86.77 18 P **P** **23 47 57.5 -0.6**
baz=224,SNR=14
YUK3 Moose Creek 86.77 22 P **P** **23 47 58.0 -0.4**
baz=230,SNR=8.5
LRMC Laurel Mtn Rad 86.90 52 P **P** **23 47 58.1 -1.5**
baz=249,SNR=14
PLBC Pleasant Camp 86.93 25 P **P** **23 47 59.3 +0.3**
baz=234
CWC Cottonwood Cre 86.94 51 P **P** **23 47 58.7 -1.1**
baz=249
BBB Bella Bella 86.96 34 LR LR 00 18 58.7
comp=Z,2µm,21.4s,baz=250,slow=30
WRAK Wrangell Islan 86.99 29 IAmb IAmb 23 48 01.0
comp=Z,37nm,1.2s
WRAK Wrangell Islan 86.99 29 P **P** **23 47 59.0 -0.3**
baz=237
MONP2 Monument Peak 86.99 55 P **P** **23 47 59.4 -0.8**
baz=250,SNR=26
YERR Yerington 87.00 49 IAmb IAmb 23 48 55.7
comp=Z,48nm,1.8s
SCRK Sand Creek 87.02 19 IAmb IAmb 23 48 01.6
comp=Z,29nm,1.0s
SCRK Sand Creek 87.02 19 P **P** **23 47 59.2 -0.3**
baz=227,SNR=28
R32K Eaglecrest 87.03 27 P **P** **23 47 59.7 +0.2**
baz=236
YUK6 Outpost Mounta 87.03 23 P **P** **23 47 59.4 -0.4**
baz=232
BVCY Beaver Creek 87.04 22 P **P** **23 47 59.8 +0.3**
baz=230
BESE Bessie Mountai 87.06 26 IAmb IAmb 23 48 01.4
comp=Z,34nm,1.2s
E03A Lebam 87.06 40 IAmb IAmb 23 48 01.5
comp=Z,63nm,1.0s

L27K **Beaver Creek,** 87.12 21 P P 23 48 00.0 +0.1
baz=229
IKP **In-Ko-Pah, Jac** 87.16 55 P P 23 48 00.1 -0.8
baz=250,SNR=7.2
H24K **Noodor Dome** 87.17 17 P P 23 47 59.4 -0.7
baz=223
RMX **La Rumorosa** 87.17 55 IAmb IAmb 23 48 28.0
comp=Z,35nm,1.1s
H04A **Detroit Lake** 87.17 42 P P 23 48 00.2 -0.4
H04A IAmb IAmb 23 48 01.0
comp=Z,25nm,1.1s
YUK4 **Talbot Arm** 87.17 23 P P 23 48 01.2 +0.8
baz=232
WISH **Wishkah** 87.18 40 IAmb IAmb 23 49 21.0
comp=Z,113nm,1.6s
PFO **Pinyon Flats O** 87.21 54 LR LR 00 17 57.3
comp=Z,1µm,21.9s,baz=258,slow=29
PFO **Pinyon Flats O** 87.21 54 P P 23 48 00.7 -0.4
PFO **Pinyon Flats O** 87.21 54 P P 23 48 00.1 -1.0
baz=250,SNR=8.4
PFO **Pinyon Flats O** 87.21 54 P P 23 48 00.7 -0.4
PFO pmax pmax
comp=Z,16nm,1.0s
TPFO **Pinon Flats** 87.21 54 P P 23 48 00.2 -0.9
baz=250,SNR=9.6
G23K **Bananza Creek** 87.23 16 P P 23 48 00.8 +0.5
baz=221
MPMC **Manual Prospec** 87.25 52 P P 23 48 01.0 -0.4
baz=250,SNR=16
K05A **Summer Lake** 87.25 45 IAmb IAmb 23 48 18.3
comp=Z,28nm,1.0s
LHV **Little Huntoon** 87.27 49 IAmb IAmb 23 48 28.7
comp=Z,26nm,1.0s
HYT **Haines Junctio** 87.29 24 P P 23 48 01.2 +0.3
baz=233,SNR=5.2
YUH **Yuha Desert** 87.31 55 IAmb IAmb 23 48 28.3
comp=Z,30nm,1.1s
DSP **Deep Springs** 87.35 50 IAmb IAmb 23 48 02.8
comp=Z,28nm,1.0s
SKAG **Skagway** 87.36 26 P P 23 48 00.8 -0.2
baz=235
MOY **Mondy** 87.41 325 *e*P P 23 48 01.0 -0.6
MOY pmax pmax
comp=Z,54nm,2.1s
NVAR **Mina Array Bea** 87.48 49 P P 23 48 01.9 -0.5
comp=Z,9.4nm,0.9s,baz=231,slow=8.3,SNR=34
NVAR PKKPbc **PKKPbc** 00 05 54.8 +2.0
comp=Z,0.9nm,0.7s,baz=100,slow=3.6,SNR=5.5
NVAR PKPPKP **P'P'df** 00 14 00.3 +1.6
comp=Z,3.3nm,0.9s,baz=81,slow=4.1,SNR=15
NVAR LR LR 00 18 43.2
comp=Z,819nm,21.4s,baz=266,slow=30
comp=Z,9.4nm,0.9s
SWSC **Sam W. Stewart** 87.50 55 P P 23 48 02.1 -0.3
baz=251,SNR=10
GSC **Goldstone, Bar** 87.51 53 IAmb IAmb 23 48 46.7
comp=Z,64nm,1.9s
GSC **Goldstone, Bar** 87.51 53 P P 23 48 02.1 -0.4
baz=250,SNR=9.5
J26L **Joseph Creek** 87.52 19 P P 23 48 01.9 +0.1
baz=227
COLD **Coldfoot** 87.58 15 IAmb IAmb 23 48 04.2
comp=Z,70nm,1.6s
COLD **Coldfoot** 87.58 15 P P 23 48 02.5 +0.6
baz=221,SNR=20
NV11 **Mina Array Sit** 87.59 49 IAmb IAmb 23 48 30.0
comp=Z,38nm,1.1s
PRP **Porcupine Dome** 87.62 18 P P 23 48 02.0 -0.4
baz=225
PINE **Pine Mountain** 87.64 44 IAmb IAmb 23 48 04.2
comp=Z,22nm,0.9s
GRAC **Grapevine Rang** 87.67 51 IAmb IAmb 23 50 34.8
comp=Z,26nm,0.4s
GRAC **Grapevine Rang** 87.67 51 P P 23 48 02.6 -0.6
baz=250,SNR=7.0
CLRS **Cowichan Lake** 87.69 38 IAmb IAmb 23 48 06.1
comp=Z,27nm,1.1s
HEC **Hector,Ludlow** 87.71 53 P P 23 48 02.5 -1.0
baz=250,SNR=14
HOOD **Mount Hood Mea** 87.78 42 IAmb IAmb 23 48 04.8
comp=Z,29nm,0.9s
O30N **Mendenhall** 87.82 24 P P 23 48 03.6 +0.3
baz=234
FURC **Furnace Creek,** 87.86 52 P P 23 48 03.0 -0.9
baz=250
G24K **Hadweenzic Riv** 87.91 16 P P 23 48 03.7 +0.1
baz=224
M29M **Somme Creek** 87.92 22 P P 23 48 03.7 -0.2
baz=232
BC3 **Big Chuckawall** 88.01 55 P P 23 48 04.1 -0.9
baz=251,SNR=15
BOK **Bokaro** 88.07 295 *e*P P 23 48 05.8 +0.5
BOK IAmb IAmb 23 48 07.4
comp=Z,16nm,0.4s
P32M **Atlin** 88.12 26 P P 23 48 04.6 -0.1
baz=236
SHOC **Shoshone, Teco** 88.12 52 P P 23 48 05.0 -0.3
baz=250
TPH **Tonopah** 88.15 50 IAmb IAmb 23 48 36.3
comp=Z,120nm,1.4s
I26K **Coal Creek Min** 88.19 19 IAmb IAmb 23 48 08.0
comp=Z,51nm,1.4s
I26K **Coal Creek Min** 88.19 19 P P 23 48 04.4 -0.5
baz=228
GMRC **Granite Mounta** 88.22 53 P P 23 48 05.3 -0.6
baz=251,SNR=11
TUQ **Turquoise Moun** 88.23 53 P P 23 48 05.1 -0.9
baz=250,SNR=23
WHY **Whitehorse** 88.24 25 P P 23 48 04.5 -0.9
baz=235
GLA **Glamis** 88.31 55 IAmb IAmb 23 48 37.8
comp=Z,26nm,1.0s
GLA **Glamis** 88.31 55 P P 23 48 05.5 -0.7
baz=251,SNR=5.8
S34M **Telegraph Cree** 88.34 28 P P 23 48 05.6 -0.1
baz=238,SNR=6.2
PALK **Pallekele** 88.36 278 P P 23 48 08.6 +1.7
PALK IAmb IAmb 23 48 09.6
comp=Z,87nm,1.1s
PALK **Pallekele** 88.36 278 P P 23 48 08.6 +1.7
PALK pmax pmax
comp=Z,87nm,1.1s
N31M **Braeburn, Yuko** 88.36 24 P P 23 48 05.3 -0.6
baz=234
F24K **Squaw Lake** 88.39 16 P P 23 48 06.0 +0.1
baz=223
IRM **Iron Mountain** 88.42 54 P P 23 48 06.4 -0.3
baz=251,SNR=26
L29M **L29M** 88.45 22 P P 23 48 04.7 -1.6
baz=232
EGAK **Eagle** 88.47 20 P P 23 48 05.4 -0.9
baz=229,SNR=9.8
DAWY **Dawson** 88.61 21 P P 23 48 06.2 -0.7
baz=231
M30M **Minto, Yukon** 88.62 23 P P 23 48 06.4 -0.7
baz=233,SNR=8.4
E24K **Your Creek** 88.65 15 P P 23 48 07.2 +0.1
baz=222
VIS **Vishakhapatnam** 88.66 289 *e*P P 23 48 08.9 +0.7
WVOR **Wild Horse Val** 88.69 45 IAmb IAmb 23 49 06.1
comp=Z,34nm,1.3s
I07A **Izee** 88.71 44 IAmb IAmb 23 48 09.1
comp=Z,27nm,1.1s
BLYC **Blythe** 88.78 55 IAmb IAmb 23 48 10.4
comp=Z,30nm,1.1s
D23K **Nanushuk River** 88.78 14 P P 23 48 08.2 +0.6
baz=220
TOLK **Toolik Lake Re** 88.80 15 IAmb IAmb 23 48 10.7
comp=Z,46nm,1.2s
TOLK **Toolik Lake Re** 88.80 15 P P 23 48 08.3 +0.6
baz=222
P33M **Teslin, Yukon** 88.84 26 P P 23 48 07.5 -0.7
baz=237
I27K **Kandik River** 88.87 19 P P 23 48 07.0 -1.2
baz=229
BMN **Battle Mountai** 88.97 48 P P 23 48 09.2 -0.2
BMN IAmb IAmb 23 49 13.7
comp=Z,28nm,1.1s
BMN **Battle Mountai** 88.97 48 P P 23 48 09.2 -0.2
BMN pmax pmax
comp=Z,28nm,1.1s
F25K **Christian Rive** 89.05 16 P P 23 48 08.8 -0.2
baz=225
F07A **Phinny Hill Vi** 89.11 42 P P 23 48 09.5 -0.2
F07A IAmb IAmb 23 48 10.6
comp=Z,32nm,1.2s
DLBC **Dease Lake** 89.12 28 LR LR 00 21 07.2
comp=Z,929nm,20.7s,baz=252,slow=31
DLBC **Dease Lake** 89.12 28 P P 23 48 09.5 0.0
DLBC **Dease Lake** 89.12 28 P P 23 48 08.5 -1.0
baz=239
K29M **Barlow Dome** 89.12 21 P P 23 48 08.2 -1.3
baz=233
G26K **Porcupine Rive** 89.12 17 P P 23 48 09.2 0.0
baz=227
J08A **Circle Bar Ran** 89.14 45 P P 23 48 09.9 -0.1
J08A IAmb IAmb 23 48 11.6
comp=Z,35nm,1.0s
V12A **Nelson** 89.16 53 P P 23 48 10.2 -0.1
B06A **Marblemount** 89.16 39 P P 23 48 09.4 -0.3
B06A IAmb IAmb 23 48 39.8
comp=Z,24nm,1.2s
LTY **Liberty** 89.17 40 P P 23 48 09.5 -0.5
N32M **Quiet Lake** 89.24 25 P P 23 48 09.1 -0.9
baz=237,SNR=5.7
PDMCI **Parker Dam,Lak** 89.25 54 P P 23 48 08.8 -1.8
baz=252,SNR=25
H27K **Steamboat Moun** 89.31 18 P P 23 48 09.7 -0.5
baz=229
M31M **Drury Creek, Y** 89.31 24 P P 23 48 09.5 -0.8
baz=236
A21K **Barrow** 89.41 11 P P 23 48 11.0 +0.5
A21K PcP 23 48 11.2 -0.6
A21K **Barrow** 89.41 11 P P 23 48 10.6 +0.2
baz=215
LPIG **La Paz** 89.41 65 LR LR 00 18 10.1
comp=Z,715nm,21.7s,baz=244,slow=29
E25K **Arctic Village** 89.44 16 P P 23 48 10.4 -0.4
baz=225
R11A **Troy Canyon, C** 89.46 50 P P 23 48 11.4 -0.3
R11A PcP 23 48 11.8 -1.3
R11A **Troy Canyon, C** 89.46 50 P P 23 48 11.5 -0.3
baz=251,SNR=14
G08A **Pilot Rock** 89.52 43 IAmb IAmb 23 48 13.2
comp=Z,34nm,1.0s
F26K **Sheenjek River** 89.53 17 P P 23 48 11.2 +0.1
baz=227
MAYO **Mayo, Yukon** 89.55 22 P P 23 48 11.1 -0.2
MAYO IAmb IAmb 23 49 37.1
comp=Z,33nm,0.6s
HAWA **Hanford** 89.56 42 IAmb IAmb 23 48 12.9
comp=Z,28nm,1.0s
214A **Organ Pipe Nat** 89.59 57 P P 23 48 12.4 +0.1
214A PcP 23 48 13.0 -0.6
214A IAmb IAmb 23 48 47.5
comp=Z,42nm,1.3s
214A **Organ Pipe Nat** 89.59 57 P P 23 48 11.5 -0.8
baz=252
SLBS **Sierra La Lagu** 89.61 65 P P 23 48 13.4 +0.8
SLBS IAmb IAmb 23 48 44.3
comp=Z,80nm,1.9s
G27K **Doyon Strip** 89.65 18 P P 23 48 11.2 -0.6
baz=229
FARO **Faro, Yukon** 89.73 24 P P 23 48 11.7 -0.6
baz=236
LLLB **Lillooet** 89.76 37 P P 23 48 12.5 -0.2
LLLB IAmb IAmb 23 48 14.6
comp=Z,25nm,1.0s
I29M **Ogilvie Camp,** 89.78 20 P P 23 48 10.6 -1.8
I29M **Ogilvie Camp,** 89.78 20 P P 23 48 12.6 +0.2
baz=232,SNR=8.3
C24K **Franklin Bluff** 89.81 14 P P 23 48 13.2 +0.8
baz=222
E08A **Dider Farm, El** 89.90 42 P P 23 48 13.4 +0.1
E08A IAmb IAmb 23 48 14.6
comp=Z,54nm,1.0s
TIXI **Tiksi** 90.03 349 S SKSac 23 58 31.8 -4.2
comp=Z,2.3nm,1.1s,baz=90,slow=23,SNR=1.6
TIXI ScS **S** 23 58 59.9 +1.1
comp=Z,2.1nm,0.4s,baz=270,slow=24,SNR=3.9
TIXI LR LR 00 27 10.1
comp=Z,357nm,19.5s,baz=94,slow=34
TIXI **Tiksi** 90.03 349 P P 23 48 12.0 -1.3
TIXI IAmb IAmb 23 48 13.9
comp=Z,49nm,1.2s
TIXI **Tiksi** 90.03 349 *d* *i*P P 23 48 12.3 -1.1
TIXI pmax pmax
comp=Z,54nm,1.3s
TIXI MLR MLR
comp=Z,423nm,18.0s
ELIB **Princess Elisa** 90.08 191 *d*P P 23 48 13.7 -0.3
comp=Z,153nm,1.3s
D25K **Kavik River** 90.09 15 P P 23 48 13.7 -0.1
baz=224
D08A **Wollman Farm,** 90.19 41 IAmb IAmb 23 48 15.8
comp=Z,20nm,1.0s
MDRS **Chennai** 90.29 283 *e*P P 23 48 16.0 +0.2
B08A **Colville Reser** 90.42 40 IAmb IAmb 23 48 17.4
comp=Z,27nm,1.1s
BMO **Blue Mountains** 90.45 44 IAmb IAmb 23 48 16.8
comp=Z,19nm,1.1s
E09A **Wood Farm, Sta** 90.49 42 P P 23 48 15.8 -0.3
E09A IAmb IAmb 23 48 17.5
comp=Z,25nm,1.0s
ELK **Elko** 90.50 48 LR LR 00 20 56.7
comp=Z,808nm,22.0s,baz=254,slow=30
WTLY **Watson Lake, Y** 90.50 27 P P 23 48 15.5 -0.4
baz=240
E27K **Colleen River** 90.58 17 P P 23 48 15.9 -0.2
baz=229
SPR3 **Spring Creek 3** 90.59 50 P P 23 48 16.2 -1.0
SPR3 IAmb IAmb 23 48 18.0
comp=Z,18nm,1.0s
MMPY **Sheldon Lake,** 90.76 24 P P 23 48 16.9 -0.2
baz=238
LCMT **Little Creek M** 90.79 52 P P 23 48 18.0 +0.1
LCMT IAmb IAmb 23 48 19.1
comp=Z,19nm,1.1s
CCUT **Cedar City** 90.87 51 P P 23 48 18.1 -0.3
C26K **Camden Bay** 90.87 15 P P 23 48 17.9 +0.6
baz=226
C09A **Chrisman Ranch** 90.88 41 IAmb IAmb 23 48 32.7
comp=Z,23nm,0.5s
F10A **Beach Ranch, E** 90.90 43 IAmb IAmb 23 48 18.7
comp=Z,37nm,1.0s
EPYK **Eagle Plains** 90.91 20 IAmb IAmb 23 48 24.9
comp=Z,36nm,1.4s
EPYK **Eagle Plains** 90.91 20 P P 23 48 17.3 -0.4
baz=233
C27K **Jago River** 90.97 15 P P 23 48 17.9 +0.1
baz=227
SZCU **Shurtz Canyon** 91.09 51 P P 23 48 19.7 +0.3
KNB **Kanab** 91.11 52 IAmb IAmb 23 48 55.6
comp=Z,57nm,1.5s
TUC **Tucson** 91.34 57 P P 23 48 20.6 +0.1
TUC IAmb IAmb 23 48 47.9
comp=Z,15nm,1.1s
TUC **Tucson** 91.34 57 P P 23 48 19.0 -1.5
baz=253
TUC **Tucson** 91.34 57 P P 23 48 20.6 +0.1
TUC pmax pmax
comp=Z,15nm,1.1s
U15A **North Rim** 91.34 53 IAmb IAmb 23 49 13.2
comp=Z,31nm,1.3s
LIRD **Liard River Hi** 91.37 28 P P 23 48 19.4 -0.5
baz=243,SNR=7.8
PLID **Pearl Lake** 91.41 44 IAmb IAmb 23 48 21.6
comp=Z,16nm,1.1s
G30M **tAoh Zraii Nji** 91.44 19 P P 23 48 18.8 -1.3
baz=234
PKCU **Pink Cliffs** 91.63 52 P P 23 48 21.4 -0.7
PKCU IAmb IAmb 23 49 05.8
comp=Z,97nm,1.9s
PMSA **Palmer Station** 91.74 161 P P 23 48 20.6 -1.0
comp=Z,95nm,1.1s,baz=216,slow=5.4,SNR=4.8
PMSA LR LR 00 23 35.9
comp=Z,399nm,18.0s,baz=232,slow=32
comp=Z,95nm,1.1s
PMSA **Palmer Station** 91.74 161 P P 23 48 22.0 +0.4
PMSA **Palmer Station** 91.74 161 *e*P P 23 48 20.4 -1.2
NEW **Newport** 91.76 40 LR LR 00 26 08.1
comp=Z,679nm,18.0s,baz=251,slow=33
NEW **Newport** 91.76 40 P P 23 48 21.0 -1.0
NEW IAmb IAmb 23 48 23.5
comp=Z,15nm,0.9s
NEW **Newport** 91.76 40 P P 23 48 21.2 -0.8
baz=250,SNR=14
NEW **Newport** 91.76 40 P P 23 48 21.0 -1.0
NEW pmax pmax
comp=Z,15nm,1.0s
WUAZ **Wupatki** 91.79 54 P P 23 48 22.7 +0.1
WUAZ IAmb IAmb 23 49 15.2
comp=Z,22nm,1.1s
WUAZ **Wupatki** 91.79 54 P P 23 48 21.3 -1.3
baz=253
SALM **Salem** 91.86 281 *e*P P 23 48 24.9 +1.8
SALM IAmb IAmb 23 48 26.0
comp=Z,23nm,0.9s
SALM *i* x **pP** 23 48 48.5 +2.2
TCRU **Three Creeks R** 91.88 51 P 23 48 22.8 -0.2
TCRU IAmb IAmb 23 49 10.5
comp=Z,13nm,0.9s
MTPU **Mount Pierson** 91.90 51 P P 23 48 23.2 -0.1
MTPU IAmb IAmb 23 48 25.1
comp=Z,13nm,1.1s
HLID **Hailey** 91.98 45 P P 23 48 23.3 -0.1
baz=251,SNR=7.2
MVU **Marysvale** 92.02 51 IAmb IAmb 23 48 26.4
comp=Z,49nm,1.1s
DUG **Dugway, Tooele** 92.08 49 P P 23 48 23.6 -0.2
baz=252
KOD **Kodaikanal** 92.20 280 *e*P P 23 48 26.3 +1.2
319A **Douglas** 92.30 58 pP 23 48 45.4 -2.3
319A IAmb IAmb 23 48 52.3
comp=Z,30nm,1.1s
F31M **Tsiigehtchic** 92.49 19 P P 23 48 25.4 +0.6
baz=236
NLU **North Lily Min** 92.55 49 IAmb IAmb 23 49 10.6
comp=Z,25nm,1.8s
HVU **Hansel Valley** 92.58 48 IAmb IAmb 23 49 11.4
comp=Z,16nm,1.2s
WMQ **Urumqi** 92.66 315 *e*P P 23 48 25.8 -0.5
WMQ sP sP 23 49 00.8 +2.5
WMQ PP **PP** 23 52 14.5 +5.1
WMQ SKS **SKSac** 23 58 51.3 -1.0
WMQ S **S** 23 59 22.3 -1.8
WMQ pmax pmax
comp=Z,38nm,1.7s
WMQ pmax pmax
comp=Z,160nm,3.6s
WMQ LR LR
comp=Z,570nm,19.7s
WMQ LR LR
comp=Z,580nm,22.7s
WMQ LR LR
comp=Z,920nm,25.7s
TROLL **Troll, Antarti** 92.75 185 P P 23 48 26.1 -0.3
TROLL S **S** 23 59 24.2 +0.1
TROLL **Troll, Antarti** 92.75 185 pP pP 23 48 50.5 +0.9
BCYI **Bear Canyon** 92.91 45 P P 23 48 27.9 +0.2
Q16A **Castle Valley** 92.92 51 P P 23 48 28.2 +0.4
Q16A IAmb IAmb 23 49 00.0
comp=Z,13nm,1.1s
NVL **N'lazarevskaya** 92.93 188 *e*P P 23 48 24.8 -2.2
NVL *e*S **SKSac** 23 58 56.2 +3.4
NVL pmax pmax
comp=Z,68nm,1.0s
W18A **Petrified Fore** 92.96 55 P P 23 48 27.4 -0.6
W18A IAmb IAmb 23 48 34.2
comp=Z,15nm,0.8s
W18A **Petrified Fore** 92.96 55 P P 23 48 27.3 -0.8
baz=254
HYB **Hyderabad** 92.97 287 IVmB_BB 23 48 28.6
comp=Z,196nm,1.1s
HYB *e*P **P** 23 48 28.6 +0.4
HYB *e*pP pP 23 48 49.8 -1.7
HYB *e* 23 56 39.9
HYB *e*SKSac **SKSac** 23 58 53.7 -1.3
HYB **Hyderabad** 92.97 287 *e*P P 23 48 28.2 -0.1
HYB IAmb IAmb 23 48 28.4
comp=Z,24nm,1.5s
TMUT **Trail Mountain** 93.00 50 IAmb IAmb 23 49 13.2
comp=Z,16nm,1.3s
CTU **Camp Tracy** 93.00 49 P P 23 48 27.4 -0.8
INK **Inuvik** 93.04 19 PKiKP **PKiKP** 23 53 13.7 -0.4
comp=Z,0.9nm,0.6s,baz=261,slow=2.2,SNR=2.1
INK S **SKSac** 23 58 51.4 -1.7
comp=Z,2.9nm,1.1s,baz=16,slow=31,SNR=12
INK PKKP **PKKPdf** 00 05 35.8 -2.0
comp=Z,7.8nm,1.0s,baz=64,slow=3.3,SNR=12
INK SKKP **SKKPdf** 00 09 07.8 +2.7
comp=Z,2.0nm,1.0s,baz=128,slow=3.1,SNR=3.4
INK PKPPKP **P'P'df** 00 13 46.3 +0.3
comp=Z,4.2nm,1.2s,baz=314,slow=1.0,SNR=4.7
INK LR LR 00 25 33.2
comp=Z,2µm,20.6s,baz=214,slow=32
INK **Inuvik** 93.04 19 P P 23 48 27.6 +0.2
baz=236
MSO **Missoula** 93.33 42 P P 23 48 29.8 +0.4
baz=252
TCUT **Toone Canyon** 93.37 48 IAmb IAmb 23 49 29.2
comp=Z,53nm,2.0s
SNAA **Sanae** 93.44 183 P P 23 48 28.8 -0.7
SNAA S **S** 23 59 30.3 +0.3
SNAA **Sanae** 93.44 183 pP pP 23 48 53.1 +0.3
SNAA **Sanae** 93.44 183 S **SKSac** 23 58 57.5 +1.6
comp=Z,2.8nm,1.0s,baz=217,slow=19,SNR=2.4
SNAA LR LR 00 29 11.4
comp=Z,594nm,18.9s,baz=174,slow=34
SNAA **Sanae** 93.44 183 *c* *i*P P 23 48 28.7 -0.8
SNAA pmax pmax
comp=Z,225nm,1.3s
SRU **San Rafael Swe** 93.46 51 P P 23 48 29.3 -1.0
SRU **San Rafael Swe** 93.46 51 P P 23 48 29.3 -1.0
SRU pmax pmax
comp=Z,10.0nm,1.3s
BRLDA **Berland Lookou** 93.62 35 IAmb IAmb 23 48 32.5
comp=Z,28nm,1.0s
121A **Cookes Peak, D** 93.84 58 P P 23 48 31.6 -0.6
baz=255
LRM **Limekiln Ridge** 94.01 44 P P 23 48 32.5 -0.3
KAAM **Kaadhehdhoo** 94.07 269 P P 23 48 33.7 +0.3
VNA3 **Neumayer Olymp** 94.11 181 P P 23 48 31.6 -0.9
VNA3 **Neumayer Olymp** 94.11 181 pP pP 23 48 54.7 -1.1
VNA2 **Neumayer--Watz** 94.37 182 P P 23 48 33.1 -0.6
baz=158,slow=4.0
VNA2 S **S** 23 59 37.1 -1.0
baz=296,slow=19
VNA2 **Neumayer--Watz** 94.37 182 pP pP 23 48 55.2 -1.8
baz=168,slow=5.0
QLMT **Earthquake Lak** 94.41 45 P P 23 48 35.6 +1.0
PV23 **Carpenter Ridg** 94.42 52 IAmb IAmb 23 48 35.5
comp=Z,12nm,0.9s
LGTI **Lohaghat** 94.46 299 *e*P P 23 48 35.1 +0.2
BOZ **Bozeman (W)** 94.49 44 P P 23 48 34.7 -0.1
BOZ **Bozeman (W)** 94.49 44 P P 23 48 34.6 -0.3
baz=253
BOZ **Bozeman (W)** 94.49 44 P P 23 48 34.7 -0.1
BOZ pmax pmax
comp=Z,13nm,1.4s
RDMU **Red Mountain** 94.56 49 P P 23 48 34.1 -1.3
RDMU IAmb IAmb 23 49 05.4
comp=Z,19nm,1.6s
DGZ **Jazzator, Alta** 94.62 320 *c* *e*P P 23 48 35.5 +0.2
DGZ pmax pmax
comp=Z,16nm,1.1s
DGZ MLR MLR
comp=Z,1µm,20.0s
VNA1 **Neumayer--Stat** 94.67 182 P P 23 48 34.4 -0.6
VNA1 **Neumayer--Stat** 94.67 182 pP pP 23 48 57.6 -0.7
PV07 **Paradox Valley** 94.69 52 P P 23 48 35.6 -0.4
PV15 **Paradox Valley** 94.79 52 IAmb IAmb 23 48 37.5
comp=Z,17nm,1.3s
H17A **Grant Village** 94.88 45 P P 23 48 37.8 +1.1
H17A **Grant Village** 94.88 45 P P 23 48 37.0 +0.3
baz=254
BW06 **Boulder Array** 95.15 47 P P 23 48 37.4 -0.6
baz=255
PDAR **Pinedale Array** 95.15 47 P P 23 48 36.5 -1.5
comp=Z,1.1nm,0.9s,baz=198,slow=4.4,SNR=6.2
PDAR S **SKSac** 23 59 04.0 -2.3
comp=Z,1.1nm,1.2s,baz=45,slow=17,SNR=1.5
PDAR SKKPbc **SKKPbc** 00 09 05.7 -1.1
comp=Z,0.8nm,0.8s,baz=131,slow=4.3,SNR=4.4
PDAR PKPPKP **P'P'df** 00 13 45.3 +1.0
comp=Z,0.5nm,0.8s,baz=135,slow=5.2,SNR=4.7
BNM **Barren Site** 95.18 56 P P 23 48 37.2 -1.2
AKL **Akola** 95.18 290 *e*P P 23 48 38.6 +0.3
AKL IAmb IAmb 23 48 39.5
comp=Z,37nm,1.1s
BHPL **Bhopal** 95.42 292 *e*P P 23 48 39.1 -0.3
O20A **White River Ci** 95.43 50 P P 23 48 38.6 -0.7
baz=255
ANMO **Albuquerque** 95.51 55 LR LR 00 25 58.4
comp=Z,628nm,19.0s,baz=346,slow=32
ANMO **Albuquerque** 95.51 55 P P 23 48 39.5 -0.3
ANMO **Albuquerque** 95.51 55 P P 23 48 39.2 -0.6
baz=256
ANMO **Albuquerque** 95.51 55 *e*P P 23 48 39.6 -0.2
ANMO pmax pmax
comp=Z,6.0nm,1.1s

MNTX	**Cornudas Mount**	**95.60**	**59**	P	**P**	**23 48 39.7**	**-0.4**
	baz=256							
EDM	**Edmonton**	**95.62**	**36**	IAmb	IAmb	23 48 57.1		
	comp=Z,12nm,1.0s							
S22A	**4UR Ranch, Cre**	**95.90**	**53**		**pP**	**23 49 01.7**	**-2.6**
S22A				IAmb	IAmb	23 51 29.5		
	comp=Z,25nm,1.8s							
S22A	**4UR Ranch, Cre**	**95.90**	**53**	P	**P**	**23 48 41.0**	**-0.6**
	baz=256							
RLMT	**Red Lodge**	**95.97**	**45**	P	**P**	**23 48 41.6**	**-0.1**
	baz=255							
TX31	**Lajitas Ar. Si**	**96.49**	**61**	IAmb	IAmb	23 49 19.7		
	comp=Z,51nm,1.6s							
TX32	**Lajitas Array**	**96.49**	**61**	IAmb	IAmb	23 49 19.8		
	comp=Z,19nm,1.6s							
TXAR	**Lajitas Array**	**96.49**	**61**	P	**P**	**23 48 44.0**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=222,slow=5.1,SNR=18							
TXAR				PP	**PP**	**23 52 37.6**	**-2.0**
	comp=Z,3.6nm,1.2s,baz=234,slow=6.0,SNR=5.3							
TXAR				PKKPbc	**PKKPbc**	**00 05 27.5**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=116,slow=2.9,SNR=3.6							
TXAR				PKPPKP		00 13 40.1		
	comp=Z,1.1nm,1.1s,baz=79,slow=2.7,SNR=5.2							
TXAR				LR	LR	00 25 53.0		
	comp=Z,407nm,19.3s,baz=261,slow=31							
TXAR	**Lajitas Array**	**96.49**	**61**	P	**P**	**23 48 44.0**	**-0.3**
C36M	**Paulatuk**	**96.55**	**19**	IAmb	IAmb	23 48 43.7		
	comp=Z,15nm,0.9s							
GDL2	**Guadalupe Moun**	**96.56**	**59**	P	**P**	**23 48 44.4**	**-0.1**
SDCO	**Great Sand Dun**	**96.93**	**53**	P	**P**	**23 48 45.9**	**-0.4**
	baz=257							
MK31	**Makanchi Array**	**97.15**	**316**	IAmb	IAmb	23 48 49.4		
	comp=Z,19nm,1.1s							
MK31	**Makanchi Array**	**97.15**	**316**	*de*P	**P**	**23 48 46.5**	**-0.2**
MK31				*i* *PP	**pP**	**23 49 04.9**	**-4.7**
MKAR	**Makanchi Array**	**97.15**	**316**	P	Pdif	23 48 47.0	+0.2
	comp=Z,9.0nm,0.5s,baz=83,slow=5.5,SNR=93							
MKAR				PP	**PP**	**23 52 41.9**	**-2.2**
	comp=Z,1.5nm,0.9s,baz=116,slow=9.8,SNR=2.5							
MKAR				PKiKP	**PKiKP**	**23 53 22.5**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=209,slow=1.6,SNR=4.6							
MKAR				S	**SKSac**	**23 59 15.6**	**-0.5**
	comp=Z,10nm,0.9s,baz=90,slow=4.9,SNR=23							
MKAR				PKKPbc	**PKKPbc**	**00 05 25.9**	**-1.9**
	comp=Z,2.9nm,0.8s,baz=277,slow=2.8,SNR=18							
MKAR				SKKP	**SKKPdf**	**00 08 57.3**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=300,slow=1.6,SNR=5.8							
MKAR				LR	LR	00 31 45.0		
	comp=Z,328nm,21.8s,baz=120,slow=35							
	comp=Z,9.0nm,0.5s							
ISCO	**Idaho Springs**	**97.31**	**51**	P	**P**	**23 48 47.6**	**-0.4**
	baz=257							
N23A	**Red Feather La**	**97.31**	**50**	IAmb	IAmb	23 52 36.3		
	comp=Z,43nm,2.0s							
N23A	**Red Feather La**	**97.31**	**50**	P	**P**	**23 48 47.7**	**-0.2**
	baz=257							
A36M	**Sachs Harbour**	**97.32**	**17**	IAmb	IAmb	23 49 14.1		
	comp=Z,16nm,0.8s							
A36M	**Sachs Harbour**	**97.32**	**17**	P	Pdif	23 48 47.3	+0.4	
	baz=244							
MAKZ	**Makanchi**	**97.36**	**316**	P	Pdif	23 48 47.9	+0.1	
MAKZ				IAmb	IAmb	23 48 49.7		
	comp=Z,35nm,1.4s							
MAKZ	**Makanchi**	**97.36**	**316**	P	Pdif	23 48 47.9	+0.2	
MAKZ				pmax	pmax			
	comp=Z,35nm,1.4s							
ZALV	**Zalesovo Beam**	**97.36**	**324**	P	**P**	**23 48 46.7**	**-0.7**
	comp=Z,14nm,0.6s,baz=115,slow=4.6,SNR=72							
ZALV				PP	**PP**	**23 52 41.2**	**-4.3**
	comp=Z,0.3nm,0.5s,baz=72,slow=4.7,SNR=1.3							
ZALV				S	**SKSac**	**23 59 14.1**	**-2.7**
	comp=Z,5.0nm,1.0s,baz=108,slow=4.8,SNR=7.9							
ZALV				LR	LR	00 30 55.4		
	comp=Z,470nm,21.8s,baz=98,slow=34							
	comp=Z,14nm,0.6s							
SMLA	**Simla**	**97.44**	**300**	*e*P	**P**	**23 48 47.8**	**-0.5**
SMLA				IAmb	IAmb	23 48 48.9		
	comp=Z,9.3nm,0.7s							
Q24A	**Divide**	**97.47**	**52**	P	**P**	**23 48 48.3**	**-0.5**
	baz=257							
YKA	**Yellowknife Ar**	**97.72**	**27**	P	**P**	**23 48 47.5**	**-1.4**
	comp=Z,17nm,1.0s,baz=254,slow=4.8,SNR=82							
YKA				PKiKP	**PKiKP**	**23 53 21.9**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=244,slow=1.6,SNR=8.7							
YKA				S	**SKSac**	**23 59 17.9**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=263,slow=6.0,SNR=6.7							
YKA				PKKPbc	**PKKPbc**	**00 05 24.8**	**-2.0**
	comp=Z,2.6nm,0.8s,baz=71,slow=2.5,SNR=14							
YKA				SKKP	**SKKPdf**	**00 08 55.8**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=69,slow=2.0,SNR=2.9							
	comp=Z,17nm,1.0s							
NRIK	**Noril'sk**	**100.10**	**339**	P	**Pdif**	**23 48 58.4**	**-0.9**
	comp=Z,15nm,0.9s,baz=105,slow=4.5,SNR=20							
NRIK				S	**SKSac**	**23 59 30.9**	**+1.1**
	comp=Z,30nm,0.9s,baz=230,slow=20,SNR=72							
NRIK	**Noril'sk**	**100.10**	**339**	*d* iP	**Pdif**	**23 48 58.5**	**-0.9**
NRIK				pmax	pmax			
	comp=Z,45nm,1.4s							
KSH	**Kashi**	**100.11**	**308**	P	**Pdif**	**23 49 04.0**	**+3.7**
KSH				SKS	**SKSac**	**23 59 33.0**	**+1.5**
KSH				SS	**SS**	**00 07 27.8**	**+3.5**
KSH				pmax	pmax			
	comp=Z,3.0nm,1.6s							
KURK	**Kurchatov**	**100.36**	**320**	*ce*P	**Pdif**	**23 49 00.5**	**-0.4**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KURBB	**Kurchatov Arra**	**100.39**	**320**	PP	**PP**	**23 53 06.7**	**-2.0**
	comp=Z,1.9nm,0.9s,baz=99,slow=5.5,SNR=4.1							
KURBB				S	**SKSac**	**23 59 30.4**	**-1.6**
	comp=Z,7.7nm,1.3s,baz=84,slow=27,SNR=9.6							
KURBB				PKKPbc	**PKKPbc**	**00 05 17.4**	**-1.4**
	comp=Z,3.8nm,0.8s,baz=281,slow=3.4,SNR=20							
KURBB				SKKP	**SKKPdf**	**00 08 50.2**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=292,slow=2.9,SNR=5.9							
AAK	**Ala-Archa**	**101.76**	**311**	S	**SKSac**	**23 59 41.0**	**+1.6**
	comp=Z,3.2nm,1.1s,baz=255,slow=22,SNR=24							
AAK				PKKPbc	PKKPbc	00 05 13.3	-1.5	
	comp=Z,1.4nm,0.9s,baz=332,slow=2.5,SNR=4.8							
AAK				SKKP	**SKKPdf**	**00 08 48.7**	**-0.2**	
	comp=Z,1.6nm,0.8s,baz=321,slow=1.7,SNR=4.0							
ULM	**Lac du Bonnet**	**105.74**	**41**	PKiKP	**PKiKP**	**23 53 36.0**	**-1.4**	
	comp=Z,2.7nm,0.5s,baz=307,slow=2.4,SNR=6.3							
ULM				SKP	**SKiKP**	**23 57 04.1**	**-0.8**	
	comp=Z,2.5nm,0.7s,baz=319,slow=0.5,SNR=5.5							
RES	**Resolute Bay**	**106.33**	**16**	SKP	**SKiKP**	**23 57 06.1**	**+0.8**	
	comp=Z,1.3nm,0.8s,baz=252,slow=3.2,SNR=4.9							
RES				PKKPbc	PKKPbc	00 04 59.4	-2.4	
	comp=Z,8.6nm,1.0s,baz=98,slow=3.2,SNR=16							
RES				PKKP	**PKKPab**	**00 05 14.6**	**+0.5**	
	comp=Z,5.6nm,1.0s,baz=104,slow=5.0,SNR=8.7							
JFWS	**Jewell Farm**	**109.18**	**49**	P	**PKiKP**	**23 53 43.9**	**-0.1**	
	baz=267							
TULEG	**Thule**	**111.98**	**12**	*e*P	**PKiKP**	**23 53 47.2**	**-1.1**	
TULEG				IAMs_20	IAMs_20	01 19 02.7		
	comp=Z,3µm,18.2s							
NOR	**Nord**	**113.17**	**1**	*e*P	**PKiKP**	**23 53 52.4**	**+1.8**	
GEYT	**Alibeck**	**113.84**	**305**	PKiKP	**PKiKP**	**23 53 53.2**	**+0.1**	
	comp=Z,2.4nm,0.7s,baz=259,slow=1.5,SNR=7.5							
GEYT				SKP	**SKiKP**	**23 57 22.7**	**+1.7**	
	comp=Z,0.8nm,0.4s,baz=255,slow=4.3,SNR=2.0							
TZTN	**Tazewell**	**114.15**	**56**	P	PKPdf	23 53 52.8	-0.9	
	baz=269							
NEEM	**North Greenlan**	**114.49**	**9**	*i* P	PKPdf	23 53 53.1	-0.4	
NEEM				IAMs_20	IAMs_20	01 17 28.4		
	comp=Z,3µm,18.0s							
NEEM	**North Greenlan**	**114.49**	**9**	*i* P	**PKKPbc**	**00 04 32.8**	**-2.7**	
KULLO	**Kullorsuaq**	**115.48**	**12**	*i* P	**PKiKP**	**23 53 54.1**	**-1.0**	
KULLO				IAMs_20	IAMs_20	01 16 40.0		
	comp=Z,5µm,18.4s							
O53A	**New Philadelph**	**115.95**	**52**	P	**PKPdf**	**23 53 56.4**	**-0.5**	
	baz=272							
M53A	**WI Miller and**	**116.30**	**51**	P	**PKPdf**	**23 53 57.0**	**-0.6**	
	baz=273							
UPNV	**Upernavik**	**116.92**	**13**	*i* P	**PKPdf**	**23 53 57.5**	**-0.4**	
UPNV				IAMs_20	IAMs_20	01 15 48.2		
	comp=Z,6µm,18.1s							
LPAZ	**La Paz**	**117.33**	**117**	PKP	**PKPdf**	**23 54 00.9**	**-0.2**	
	comp=Z,1.4nm,0.4s,baz=290,slow=2.8,SNR=8.3							
LPAZ				SKP	**SKiKP**	**23 57 28.8**	**-0.4**	
	comp=Z,3.8nm,1.0s,baz=342,slow=2.3,SNR=5.1							
LPAZ				PKKPbc	**PKKPbc**	**00 04 24.5**	**0.0**	
	comp=Z,1.3nm,0.7s,baz=103,slow=5.6,SNR=5.9							
DAG	**Danmarks Havn**	**117.98**	**1**	*i* P	**PKPdf**	**23 53 58.0**	**-1.8**	
DAG				IAMs_20	IAMs_20	01 16 49.3		
	comp=Z,2µm,18.8s							
NUUG	**Nuugaatsiaq**	**118.44**	**14**	*i* P	**PKPdf**	**23 54 00.1**	**-0.7**	
NUUG				IAMs_20	IAMs_20	01 14 16.9		
	comp=Z,4µm,17.2s							
SSPA	**Standing Stone**	**118.46**	**52**	P	**PKPdf**	**23 54 01.3**	**-0.5**	
	baz=275							
APA	**Apatity**	**119.42**	**341**	⇓*i* PKIKP	PKiKP	23 54 11.9	+9.0	
APA				*i*		23 58 07.0		
APA				*i*		00 00 43.0		
APA				*i* PS	**PS**	**00 05 17.0**	**+2.0**	
APA				*i* PPS	PPS	00 06 39.0		
APA				pmax	pmax			
	comp=Z,15nm,1.2s							
BINY	**Binghamton**	**119.72**	**50**	P	**PKPdf**	**23 54 03.7**	**-0.5**	
	baz=277							
HAMF	**Hammerfest**	**119.91**	**347**	*e*PKPdf	**PKiKP**	**23 54 03.8**	**0.0**	
ARA0	**ARCESS Array S**	**120.30**	**345**	*e*PKPdf	**PKiKP**	**23 54 04.7**	**+0.1**	
ARCES	**ARCESS Array B**	**120.30**	**345**	PKP	**PKPdf**	**23 54 03.8**	**-0.7**	
	comp=Z,6.8nm,0.3s,baz=71,slow=0.2,SNR=119							
ARCES				SKP	**SKiKP**	**23 57 33.2**	**+0.5**	
	comp=Z,7.5nm,1.0s,baz=48,slow=1.3,SNR=2.4							
ARCES				PKKPbc	**PKKPab**	**00 04 11.0**	**-1.5**	
	comp=Z,5.4nm,0.8s,baz=220,slow=2.8,SNR=17							
SUMG	**Summit**	**120.36**	**9**	*i* P	**PKPdf**	**23 54 04.8**	**-0.3**	
SUMG	**Summit**	**120.36**	**9**	*i* P	**PKKPab**	**00 04 12.1**	**-0.6**	
DBG	**Daneborg**	**120.39**	**2**	*i* P	**PKPdf**	**23 54 04.1**	**-0.4**	
DBG				IAMs_20	IAMs_20	01 14 25.6		
	comp=Z,4µm,36.6s							
LONY	**Lake Ozonia**	**120.39**	**47**	P	**PKPdf**	**23 54 05.0**	**-0.4**	
	baz=279							
CPUP	**Villa Florida**	**120.52**	**133**	PKP	**PKPdf**	**23 54 05.1**	**-1.1**	
	comp=Z,8.4nm,1.1s,baz=234,slow=1.7,SNR=8.0							
CPUP				SKP	**SKiKP**	**23 57 33.6**	**-0.9**	
	comp=Z,13nm,1.1s,baz=241,slow=3.6,SNR=8.1							
ILULI	**Ilulissat**	**120.60**	**15**	*i* P	**PKPdf**	**23 54 04.5**	**-0.5**	
ILULI				IAMs_20	IAMs_20	01 13 16.0		
	comp=Z,8µm,16.9s							
KLMR	**Klimovskoe**	**120.69**	**333**	*e*PKPdf	**PKPdf**	**23 54 03.8**	**-1.7**	
KLMR				AMP		23 54 10.5		
	comp=Z,52nm,1.8s							
KLMR				PP	PP	23 55 58.1	+24	
KLMR				LR	LR	00 33 48.9		
KLMR				AMP		00 43 43.8		
	comp=Z,953nm,15.6s							
KLMR	**Klimovskoe**	**120.69**	**333**	*e*PKIKP	**PKPdf**	**23 54 03.7**	**-1.7**	
KLMR				pmax	pmax			
	comp=Z,52nm,1.8s							
KLMR				MLR	MLR			
	comp=Z,953nm,16.0s							
KTK1	**Kautokeino**	**121.24**	**346**	*e*PKPdf	**PKiKP**	**23 54 06.4**	**0.0**	
MAK	**Makhachkala**	**121.54**	**311**	*e*P	**Pdif**	**23 50 27.8**	**-7.5**	
MAK				*i*		23 54 06.9		
MAK				*e*		23 54 28.7		
MAK				*e*		23 55 38.6		
MAK				*e*PPP	PPP	23 58 19.4		
MAK				*e*		00 00 55.8		
MAK				*e*PS	**PS**	**00 05 25.3**	**-10**	
MAK				*e*		00 12 11.4		
MAK				pmax	pmax			
	comp=Z,194nm,1.3s							
AKT	**Akhty**	**121.60**	**310**	*e*PKIKP	**PKPdf**	**23 54 07.0**	**-1.0**	
AKT				*e*		23 54 25.6		
AKT				pmax	pmax			
	comp=Z,20nm,1.0s							
TRO	**Tromso**	**121.72**	**347**	*e*PKPdf	**PKPdf**	**23 54 07.2**	**0.0**	
ETMB	**Extrema**	**121.78**	**112**	*e*P	**PKPdf**	**23 54 07.5**	**-1.4**	
L61B	**Northampton**	**122.11**	**49**	P	**PKPdf**	**23 54 08.0**	**-0.8**	
	baz=280							
SFJD	**Kangerlussuaq**	**122.32**	**17**	PKPdf	**PKPdf**	**23 54 07.9**	**-0.5**	
SFJD	**Kangerlussuaq**	**122.32**	**17**	*i* P	**PKPdf**	**23 54 07.4**	**-1.0**	
SFJD				IAMs_20	IAMs_20	01 11 59.8		
	comp=Z,5µm,14.9s							
SFJD	**Kangerlussuaq**	**122.32**	**17**	PKIKP	**PKPdf**	**23 54 07.9**	**-0.5**	
LBNH	**Lisbon**	**122.33**	**47**	P	**PKPdf**	**23 54 08.4**	**-0.8**	
	baz=281							
SCHQ	**Schefferville**	**122.48**	**34**	PKP	**PKPdf**	**23 54 08.4**	**-0.7**	
	comp=Z,9.3nm,0.7s,baz=276,slow=1.9,SNR=19							
SCHQ				PKKPbc	**PKKPbc**	**00 04 04.7**	**-1.0**	
	comp=Z,7.4nm,0.7s,baz=86,slow=3.4,SNR=13							
GROC	**Groznyy**	**122.73**	**312**	*i* PKIKP	**PKiKP**	**23 54 10.5**	**+0.4**	
GROC				*e*		23 54 33.8		
GROC				*e*		23 54 42.6		
GROC				*e*		23 55 49.0		
GROC				*e*		00 01 03.2		
GROC				pmax	pmax			
	comp=Z,7.0nm,0.4s							
SUR	**Sutherland**	**123.02**	**214**	PKPdf	**PKiKP**	**23 54 12.1**	**+0.7**	
BOSA	**Boshof**	**123.18**	**220**	PKP	**PKPdf**	**23 54 11.0**	**-0.5**	
	comp=Z,51nm,1.0s,baz=114,slow=2.3,SNR=45							
BOSA				SKP	**SKiKP**	**23 57 40.6**	**+0.7**	
	comp=Z,4.6nm,0.8s,baz=108,slow=3.6,SNR=2.7							
BOSA				SKKPbc	**SKKPbc**	**00 07 42.9**	**-0.4**	
	comp=Z,2.8nm,0.9s,baz=328,slow=3.4,SNR=4.3							
BOSA	**Boshof**	**123.18**	**220**	*i* P	**PKPdf**	**23 54 10.7**	**-0.8**	
ICESG	**Greenland Ices**	**123.19**	**11**	*i* P	**PKPdf**	**23 54 09.7**	**-0.8**	
SDV	**Santo Domingo**	**123.34**	**89**	PKPdf	**PKPdf**	**23 54 10.9**	**-1.3**	
SDV	**Santo Domingo**	**123.34**	**89**	*e*P	**PKPdf**	**23 54 12.0**	**-0.2**	
VRH	**Novokhopyorsk**	**123.35**	**322**	*e*PKIKP	**PKiKP**	**23 54 11.0**	**-0.1**	
VRH				*e*		23 54 33.1		
VRH				pmax	pmax			
	comp=Z,20nm,0.8s							
SIV	**San Ignacio**	**123.44**	**121**	PKP	**PKPdf**	**23 54 11.0**	**-1.1**	
	comp=Z,4.9nm,0.8s,baz=240,slow=2.8,SNR=17							
SIV				SKP	**SKiKP**	**23 57 40.2**	**-0.4**	
	comp=Z,7.7nm,1.2s,baz=203,slow=3.1,SNR=6.8							
DY2G	**Dye2**	**123.87**	**15**	*i* P	**PKPdf**	**23 54 11.4**	**-0.3**	
DY2G				IAMs_20	IAMs_20	01 10 26.7		
	comp=Z,7µm,7.1s							
MOS	**Moscow**	**123.87**	**328**	*i* PKIKP	**PKiKP**	**23 54 14.6**	**+2.6**	
STEI	**Steigen**	**123.90**	**348**	*e*PKPdf	**PKPdf**	**23 54 11.3**	**-0.1**	
PKME	**Peaks-Kenny Pk**	**123.94**	**45**	P	**PKPdf**	**23 54 12.0**	**-0.2**	
	baz=284							
NUUK	**Nuuk**	**123.97**	**19**	*e*P	**PKPdf**	**23 54 10.8**	**-0.9**	
GNI	**Garni**	**124.04**	**309**	PKPdf	**PKiKP**	**23 54 13.8**	**+0.7**	
GNI	**Garni**	**124.04**	**309**	PKIKP	**PKiKP**	**23 54 13.8**	**+0.7**	
SCO	**Scoresbysund**	**124.09**	**4**	*i* P	**PKiKP**	**23 54 11.9**	**-0.1**	
MUSN	**Musina, Limpop**	**124.16**	**229**	*i* P	**PKPdf**	**23 54 13.5**	**+0.1**	
ZEI	**Tsey**	**124.17**	**312**	*i* PKIKP	**PKPdf**	**23 54 13.1**	**+0.1**	
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.0s							
FAUS	**Fauske**	**124.34**	**347**	*e*PKPdf	**PKPdf**	**23 54 12.2**	**-0.1**	
RAYN	**Ar Rayn**	**124.45**	**288**	PKPdf	**PKiKP**	**23 54 14.5**	**+0.3**	
RAYN	**Ar Rayn**	**124.45**	**288**	⇑PKIKP	**PKiKP**	**23 54 14.9**	**+0.7**	
LPSR	**Galich'ya Gora**	**124.47**	**324**	*e*PKIKP	**PKiKP**	**23 54 13.4**	**+0.2**	
LPSR				*e*		23 54 36.4		
LPSR				pmax	pmax			
	comp=Z,20nm,1.0s							
VORR	**Voronezh**	**124.66**	**323**	PKIKP	**PKPdf**	**23 54 12.0**	**-1.3**	
VORR				*e*		23 54 35.8		
VORR				pmax	pmax			
	comp=Z,30nm,0.7s							
KBZ	**Khabaz**	**124.68**	**313**	PKP	**PKiKP**	**23 54 14.2**	**+0.3**	
	comp=Z,4.9nm,0.8s,baz=119,slow=3.8,SNR=9.0							
OBN	**Obninsk**	**124.69**	**328**					
OBN	**Obninsk**	**124.69**	**328**	⇑*e*PKIKP	**PKiKP**	**23 54 13.9**	**+0.3**	
OBN				*i*		23 54 36.3		
OBN				*e*		23 56 05.9		
OBN				*e*		00 01 16.9		
OBN				*e*PS	**PS**	**00 06 05.2**	**+3.1**	
OBN				*i* SS	SS	00 12 48.3	-0.1	
OBN				pmax	pmax			
	comp=Z,11nm,0.7s							
KIV	**Kislovodsk**	**124.78**	**313**	*i* PKIKP	**PKiKP**	**23 54 14.4**	**+0.1**	
KIV				*e*		23 56 02.4		
KIV				*e*		00 01 10.8		
KIV				*e*PS	**PS**	**00 06 03.0**	**-0.8**	
KIV				*e*SS	SS	00 12 52.8	+2.0	
KIV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,351nm,23.0s							
VSR	**Storozhevoye**	**124.85**	**323**	*e*PKIKP	**PKiKP**	**23 54 14.1**	**0.0**	
VSR				*e*		23 54 35.6		
VSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
AQDB	**Aquidauana**	**125.25**	**129**	PKPdf	**PKiKP**	**23 54 15.7**	**-0.2**	
LBTB	**Lobatse**	**125.42**	**224**	*i* P	**PKPdf**	**23 54 15.3**	**-0.5**	
MOR8	**Moi Rana**	**125.55**	**347**	*e*PKPdf	**PKPdf**	**23 54 14.2**	**-0.4**	
KONS	**Konsvik**	**125.55**	**348**	*e*PKPdf	**PKPdf**	**23 54 14.4**	**-0.1**	
FINES	**FINESS Array B**	**125.75**	**338**	PKP	**PKPdf**	**23 54 15.0**	**-0.1**	
	comp=Z,4.8nm,0.5s,baz=145,slow=7.0,SNR=8.2							
FINES				SKPbc	SKPbc	23 57 23.4		
	comp=Z,4.3nm,0.8s,baz=60,slow=5.1,SNR=5.9							
ISOG	**Isortoq, Green**	**126.36**	**13**	*e*P	**PKPdf**	**23 54 15.0**	**-1.2**	
ANGG	**Ammassalik, Gr**	**126.59**	**12**	*e*P	**PKPdf**	**23 54 15.5**	**-1.1**	
SOC	**Sochi**	**126.95**	**314**	*i* PKIKP	**PKPdf**	**23 54 16.9**	**-1.1**	
SOC				*e*		23 56 14.5		
SOC				*e*PPP	PPP	23 59 00.1		
SOC				*e*PS	**SP**	**00 06 07.2**	**-4.5**	
SOC				MLR	MLR			
	comp=Z,440nm,20.0s							
IVI	**Ivigtut**	**127.22**	**21**	*i* P	**PKPdf**	**23 54 17.1**	**-0.8**	
IVI				IAMs_20	IAMs_20	01 08 19.3		
	comp=Z,6µm,6.0s							
VSU	**Vasula**	**127.42**	**335**	*e*P	SKPbc	23 57 27.3		
NSS	**Namsos**	**127.49**	**347**	*e*PKPdf	**PKPdf**	**23 54 18.6**	**+0.2**	
KRI	**Karoi**	**127.53**	**235**	*i* P	**PKPdf**	**23 54 19.7**	**-0.4**	
KMBO	**Kilima Mbogo**	**127.90**	**257**	PKP	**PKPdf**	**23 54 19.6**	**-1.4**	
	comp=Z,0.2nm,0.7s,baz=163,slow=24,SNR=8.0							
KMBO	**Kilima Mbogo**	**127.90**	**257**	PKPdf	**PKiKP**	**23 54 22.0**	**+0.4**	
KMBO	**Kilima Mbogo**	**127.90**	**257**	PKIKP	**PKiKP**	**23 54 22.0**	**+0.4**	
NRS	**Narsarsuaq**	**128.17**	**19**	*i* P	**PKPdf**	**23 54 19.3**	**-0.4**	
TRIS	**Tristan da Cun**	**128.38**	**181**		**PKiKP**	**23 54 22.4**	**+0.7**	
SJG	**San Juan**	**128.99**	**79**		**PKPdf**	**23 54 21.9**	**-0.7**	
SJG	**San Juan**	**128.99**	**79**	PKIKP	**PKPdf**	**23 54 21.9**	**-0.7**	
MNK	**Minsk**	**129.31**	**330**	*i* PKP	**PKPdf**	**23 54 21.0**	**-1.2**	
	comp=E,1.0nm,1.0s							
MNK				*i* PKP	**PKPdf**	**23 54 21.0**	**-1.2**	
	comp=N,17nm,1.0s							
MNK				*i* PKP	**PKPdf**	**23 54 21.0**	**-1.2**	
	comp=Z,13nm,1.0s,baz=55							
MNK				*i* pPKP	**pPKPdf**	**23 54 48.4**	**+2.4**	
MNK				*i* PP	**PP**	**23 56 34.5**	**+2.7**	
MNK				*i* PPP	PPP	23 59 10.7		
MNK				*i* SKS	**SKSdf**	**00 01 22.5**	**-3.4**	
MNK				*i* PS	**SP**	**00 06 25.1**	**-6.1**	
MNK				*i* SS	**SS**	**00 13 48.5**	**+2.7**	
MNK				*i* SSS	SSS	00 18 04.1		
MNK				*i* LQ	LQ	00 43 53.2		
MNK				*i* LR	LR	00 46 19.0		
MNK				*i* LRM	MLR	00 48 11.8		
	comp=E,115nm,27.1s							
MNK				*i* LRM	MLR	00 49 24.3		
	comp=Z,616nm,21.7s							
MNK				*i* LRM	MLR	00 50 40.7		
	comp=N,589nm,21.3s							
MNK	**Minsk**	**129.31**	**330**	*e*PKIKP	**PKPdf**	**23 54 20.9**	**-1.2**	
IZAR	**Zarasai**	**129.32**	**333**	*e*P	SKPbc	23 57 39.5	+3.3	
ISAL	**Salakas**	**129.49**	**332**	*e*P	SKPbc	23 57 38.9	+2.2	
LSZ	**Lusaka**	**129.54**	**235**		**PKPdf**	**23 54 23.1**	**-0.8**	
LSZ	**Lusaka**	**129.54**	**235**	*i* P	**PKiKP**	**23 54 24.8**	**+0.1**	
LSZ	**Lusaka**	**129.54**	**235**	PKIKP	**PKPdf**	**23 54 23.1**	**-0.8**	
NACGM	**Naroch**	**129.59**	**331**	*e*PKP	**PKiKP**	**23 54 24.3**	**+0.9**	
	comp=Z,29nm,1.1s,baz=54							
UPP	**Uppsala**	**129.78**	**340**	*e*P	SKPbc	23 57 38.1	+0.5	
VSVD	**Vaisvydziai**	**130.19**	**334**	*e*P	**SKPbc**	**23 57 39.8**	**+0.6**	
PABE	**Paberze**	**130.48**	**333**	*e*P	**SKPbc**	**23 57 40.9**	**+0.6**	
NB2	**NORSAR Subarra**	**130.67**	**345**	PKPdf	**PKiKP**	**23 54 25.1**	**-0.4**	
	comp=Z,1.0nm,0.5s,baz=31,slow=1.9							
NB2				pPKP	**SKPab**	**23 57 41.9**	**+1.0**	
	comp=Z,530nm,1.2s,baz=40,slow=4.6							
NB2	**NORSAR Subarra**	**130.67**	**345**	PKPdf	**PKiKP**	**23 54 25.1**	**-0.4**	
	slow=1.9							
NOA	**NORSAR Array B**	**130.67**	**345**	PKP	**PKPdf**	**23 54 24.8**	**+0.2**	
	comp=Z,2.5nm,0.6s,baz=33,slow=2.0,SNR=20							
NOA				SKPbc	**SKPab**	**23 57 41.9**	**+1.0**	
	comp=Z,173nm,1.0s,baz=30,slow=3.1,SNR=220							
NOA				PKKP	**PKKP

comp=Z,1μm,24.2s
VYHS Vyhne 137.47 329 *e*PKIKP **PKiKP 23 54 40.0 +0.4**
VYHS Vyhne 137.47 329 *e*PKP **PKiKP 23 54 40.0 +0.4**
VYHS *e* 23 58 04.8
BAIL Bailesti 137.62 321 ⇓P **PKiKP 23 54 39.7 -0.3**
MPEP Malo Peshtene 137.72 320 P **SKPbc 23 58 04.7 +0.2**
BZS Buzias 137.76 324 ⇓P **PKPdf 23 54 38.8 +0.5**
BZS Buzias 137.76 324 ⇓PKIKP **PKPdf 23 54 38.8 +0.5**
JAVC Velka Javorina 137.80 330 *e* 23 58 06.5
JAVC Velka Javorina 137.80 330 *e*PKP **PKPdf 23 54 32.7 -5.7**
PGB Panagyurishte 137.85 318 *i* P **SKPbc 23 58 06.0 +1.1**
NAN01 Guarapari, ES 137.89 140 *e*P **SKPbc 23 58 05.0 -0.7**
VRAC Vranov 138.00 331 ⇑P **PKPdf 23 54 32.4 -6.3**
VRAC Vranov 138.00 331 *e* 23 58 06.2
VRAC Vranov 138.00 331 ⇑PKIKP **PKPdf 23 54 32.4 -6.3**
VRAC Vranov 138.00 331 *e*PKP **PKPdf 23 54 32.2 -6.5**
PVCC Panska Ves 138.02 334 AMS AMS 00 52 40.0
comp=Z,1μm,20.6s
BRG Berggiesshubel 138.02 335 *e*PKP **PKPdf 23 54 31.6 -7.0**
BRG Amp 23 54 32.9
comp=Z,5.8nm,1.0s
BRG Berggiesshubel 138.02 335 P **PKiKP 23 54 41.6 +0.9**
BRG Amp 23 54 41.9
comp=Z,7.3nm,0.7s
BRG Berggiesshubel 138.02 335 Amp 23 54 48.5
comp=Z,19nm,1.4s
BRG Berggiesshubel 138.02 335 Amp 23 55 05.4
comp=Z,13nm,1.2s
BRG Berggiesshubel 138.02 335 Amp 23 57 56.5
comp=Z,13nm,1.4s
BRG Berggiesshubel 138.02 335 *e*PKHKP PKPpre 23 54 31.5
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG pmax pmax
comp=Z,19nm,1.4s
BRG pmax pmax
comp=Z,13nm,1.2s
BRG pmax pmax
comp=Z,14nm,1.3s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,13nm,1.4s
BRG pmax pmax
comp=Z,40nm,1.2s
BRG Berggiesshubel 138.02 335 P **PKiKP 23 54 46.9 +6.2**
BRG Berggiesshubel 138.02 335 P pPKPdf 23 55 02.3 -0.2
BRG Berggiesshubel 138.02 335 P sPKPdf 23 55 15.1 +3.6
BRG Berggiesshubel 138.02 335 Amp 23 55 18.5
comp=Z,14nm,1.3s
BRG Berggiesshubel 138.02 335 PP PP 23 56 58.7 -28
BRG Berggiesshubel 138.02 335 Amp 23 57 01.9
comp=Z,6.8nm,1.1s
BRG Berggiesshubel 138.02 335 SKP 23 57 50.6
CLL Collm 138.07 336 *e*PKPpre PKPpre 23 54 33.0
CLL *e*PKPdf **PKPdf 23 54 39.0 +0.3**
CLL *e*PKiKP **PKiKP 23 54 41.0 +0.3**
CLL *ex* x 23 54 48.0
CLL *ep*PKPdf pPKPdf 23 55 04.0 +1.4
CLL *es*PKPdf sPKPdf 23 55 13.0 +1.4
CLL *e*PP **PP 23 57 23.0 -4.3**
CLL *i* SKPdf **SKPdf 23 58 05.6 -0.4**
comp=Z,38nm,1.1s
CLL *i* PKSdf **PKSdf 23 58 14.6 0.0**
comp=Z,66nm,1.4s
CLL *i* sPKSdf 23 58 53.3
CLL *ep*PPP 00 00 48.0
CLL *e*SKKSac **SKKSac 00 04 12.0 -2.0**
CLL *e*PSKS 00 07 36.0
CLL *e*PPS PPS 00 09 42.0
CLL *e*SKKSdf **SKKSdf 00 11 24.0 +6.5**
CLL *ex* x 00 12 36.0
CLL *e*SS **SS 00 15 36.0 +4.8**
CLL *e*SKSSKSac **S'S'ac 00 17 12.0 -7.7**
CLL *e*SSS SSS 00 20 30.0
CLL Collm 138.07 336 *e*PKIKP **PKPdf 23 54 39.0 +0.3**
CLL *e* 23 55 04.0
CLL pmax pmax
comp=Z,66nm,1.4s
KRUC Moravsky 138.26 331 *e* 23 58 06.8
KRUC Moravsky 138.26 331 *e*PKP **PKPdf 23 54 32.0 -7.1**
MODS Modra-Piesok 138.32 330 *e*PKIKP **PKiKP 23 54 42.3 +0.9**
MODS Modra-Piesok 138.32 330 *e* 23 58 07.5
MODS Modra-Piesok 138.32 330 *e*PKP **PKiKP 23 54 42.3 +0.9**
GOPC GO Pecny, Ondr 138.38 333 *e*PKPDF **PKiKP 23 54 41.6 +0.1**
GOPC AMS AMS 00 52 50.0
comp=Z,1μm,22.5s
GOPC GO Pecny, Ondr 138.38 333 *e*PKIKP **PKiKP 23 54 41.6 +0.1**
GOPC MLR MLR
comp=Z,1μm,22.5s
VTS Vitosha 138.41 319 ⇑P PKPpre 23 54 30.4
VTS Vitosha 138.41 319 ⇑PKHKP PKPpre 23 54 30.4
VTS Vitosha 138.41 319 *i* P **SKPbc 23 58 06.9 +0.2**
PRU Pruhonice 138.43 333 *e*PKPDF **PKiKP 23 54 41.7 +0.2**
PRU AMS AMS 00 53 00.0
comp=Z,900nm,17.5s
PRU Pruhonice 138.43 333 *e*PKIKP **PKiKP 23 54 41.7 +0.2**
PRU MLR MLR
comp=Z,900nm,17.5s
MMB Musomiste 138.61 317 P **SKPbc 23 58 06.9 -0.2**
GUA01 Guaratinga, BA 139.03 139 *e*P **SKPbc 23 58 08.5 -0.5**
MORH Mrgy, Hungar 139.04 326 ⇑P **PKPdf 23 54 41.4 +0.8**
FRGS Fruska Gora 139.05 324 ⇑P **PKPdf 23 54 40.9 +0.2**
FRGS Fruska Gora 139.05 324 *e*P PKPpre 23 54 32.7
RONA Rosalia, Austr 139.26 330 *e*PKP **PKPdf 23 54 34.8 -6.3**
comp=Z,10nm,0.6s
RONA *i* SKP **SKPbc 23 58 10.7 +2.0**
comp=Z,51nm,1.4s
RONA *e*SKKP **SKKPbc 00 06 44.6 -3.4**
comp=Z,6.7nm,1.1s
CONA Conrad Observa 139.31 330 *e*PKP **PKPdf 23 54 35.1 -6.1**
comp=Z,8.9nm,0.6s
CONA *e*SKP **SKPbc 23 58 11.0 +2.1**
comp=Z,79nm,2.0s
CONA *e*SKKP **SKKPbc 00 06 44.7 -3.1**
comp=Z,4.8nm,1.1s
CKRC Cesky Krumlov 139.39 332 *e*PKPpre PKPpre 23 54 34.3
CKRC *e*PKPDF **PKiKP 23 54 43.9 +0.3**
CKRC AMS AMS 00 53 10.0
comp=Z,900nm,24.4s
KHC Kasperske Hory 139.49 333 *e*PKPpre PKPpre 23 54 33.6
KHC *e*PKPDF **PKiKP 23 54 43.6 -0.2**
KHC AMS AMS 00 54 40.0
comp=Z,1μm,22.6s
KHC Kasperske Hory 139.49 333 *e*PKHKP PKPpre 23 54 33.6
KHC MLR MLR
comp=Z,1μm,22.6s
VAY Valpandovo 139.50 318 *i* P **SKPbc 23 58 09.8 +0.3**
STIP Stip 139.56 318 *i* P **SKPbc 23 58 11.1 +1.4**
DIVS Divibare 139.58 323 *e*P PKPpre 23 54 33.2
GERES GERESS Array B 139.65 333 PKhKP PKPpre 23 54 33.5
comp=Z,1.3nm,0.6s,baz=35,slow=4.9,SNR=8.8
GERES PKP **PKiKP 23 54 43.7 -0.5**
comp=Z,3.1nm,0.6s,baz=66,slow=2.5,SNR=13
GERES SKPbc **SKPbc 23 58 10.9 +1.1**
comp=Z,10nm,0.9s,baz=50,slow=2.1,SNR=12
GERES SKKPbc **SKKPbc 00 06 46.8 +0.2**
comp=Z,0.6nm,0.9s,baz=219,slow=10,SNR=3.6
SKO Skopje 139.89 319 *i* P **SKPbc 23 58 11.0 +0.5**
ARSA Arzberg 139.95 330 *e*PKP **PKPdf 23 54 35.5 -6.8**
comp=Z,5.3nm,1.2s
ARSA *e*SKP **SKPdf 23 58 11.0 +1.6**
comp=Z,39nm,1.5s
ARSA *i* SKKP **SKKPbc 00 06 44.0 -1.2**
comp=Z,6.6nm,1.2s
GRF Grafenberg Arr 140.04 336 *e*PKPdf **PKPdf 23 54 36.1 -6.3**
baz=38,slow=1.5
GRF *e*SKPdf **SKPbc 23 58 10.6 -0.1**
baz=45,slow=2.1
GRF *e*SKPab **SKPab 23 58 23.1 +0.9**
baz=44,slow=4.1
SJES Sjenica 140.08 322 *e*P **PKPdf 23 54 39.4 -3.4**
CMC01 Camacan, BA 140.12 138 *e*P **SKPbc 23 58 10.9 -1.0**
MOA Molln 140.12 331 *e*PKP **PKPdf 23 54 34.9 -7.7**
comp=Z,3.4nm,0.5s
MOA *i* SKP **SKPdf 23 58 10.0 +0.3**
comp=Z,38nm,1.8s
MOA *i* SKKP **SKKPbc 00 06 43.1 -1.5**
comp=Z,5.0nm,0.9s
RUDO Rudo 140.23 323 *e*P **PKPdf 23 54 35.5 -7.4**
BIOA Bad Ischl, Aus 140.53 332 *e*PKP **PKPdf 23 54 36.4 -7.0**
comp=Z,3.5nm,0.6s
BIOA *i* SKP **SKPbc 23 58 11.8 -0.3**
comp=Z,36nm,1.4s
BIOA *i* SKKP **SKKPbc 00 06 42.0 -1.0**
comp=Z,7.5nm,1.2s
SOKA Soboth 140.59 329 *i* PKP **PKPdf 23 54 40.4 -3.1**
comp=Z,7.4nm,0.8s
SOKA *i* SKP **SKPbc 23 58 12.3 0.0**
comp=Z,28nm,1.3s
A051A Mrakovica 140.75 326 *e*P **PKPdf 23 54 36.4 -7.5**
OHR Ohrid 140.75 318 *i* P **SKPbc 23 58 13.6 +0.7**
BLY Banja Luka 140.77 326 *e*P **PKPdf 23 54 36.5 -7.3**
OBKA Obir 140.95 330 *e*PKP **PKPdf 23 54 39.4 -4.8**
comp=Z,4.0nm,1.1s
OBKA *i* SKP **SKPbc 23 58 12.5 -0.8**
comp=Z,11nm,1.3s
OBKA Obir 140.95 330 *e*P PKPpre 23 54 36.2
CRES Cresnjev 140.97 328 *e*P **PKPdf 23 54 36.8 -7.4**
PDG Podgorica 140.99 321 ⇑P **PKPdf 23 54 37.5 -6.7**
MGRS Mrkonjic Grad 141.04 325 *e*P PKPpre 23 54 36.4
KBA Koelnbreinsper 141.11 331 *e*PKP **PKPdf 23 54 38.6 -6.1**
comp=Z,12nm,1.3s
KBA *e*SKP **SKPbc 23 58 11.1 -2.8**
comp=Z,28nm,1.0s
BRY Bratogost 141.14 322 *e*P **PKPdf 23 54 37.3 -7.5**
BTNL Ternell 141.14 341 *d*PKP **PKiKP 23 54 47.2 +0.2**
MEM Membach 141.16 341 *d*PKPdf **PKPdf 23 54 44.7 +0.4**
DRME Dracevica, Mon 141.17 321 *e*P **PKPdf 23 54 37.0 -7.6**
SRKY Kupres RS 141.21 325 *e*P **PKPdf 23 54 45.5 +0.7**
GDU01 Guandu, BA 141.27 136 *e*P **SKPbc 23 58 12.8 -2.2**
LJU Ljubljana 141.28 329 *i* PKPdf **PKPdf 23 54 39.4 -5.3**
LJU *i* 23 58 13.8
BOJS Bojanci 141.29 328 *e*P **PKPdf 23 54 38.3 -6.4**
A050A Klekovaca 141.30 326 *e*P **PKPdf 23 54 38.1 -6.8**
MYKA Terra Mystica 141.30 330 *i* PKP **PKPdf 23 54 38.7 -6.1**
comp=Z,4.0nm,0.6s
MYKA *i* SKP **SKPbc 23 58 13.7 -0.5**
comp=Z,18nm,1.2s
GBAS Gorenja Brezov 141.40 329 *i* PKPdf **PKPdf 23 54 39.7 -5.3**
CEY Cerknica 141.55 329 *e*P **PKPdf 23 54 40.0 -5.2**
VOJS Vojsko 141.61 330 *i* PKPdf **PKPdf 23 54 39.5 -6.0**
BGES Gesves 141.64 341 *d*PKP **PKPdf 23 54 46.2 +1.0**
STON Ston 141.65 323 *e*P **PKPdf 23 54 38.4 -7.0**
WATA Walderalm 141.72 333 *e*PKP **PKPdf 23 54 41.3 -4.4**
comp=Z,9.6nm,1.2s
WATA *e*SKP **SKPbc 23 58 15.4 +0.1**
comp=Z,38nm,1.6s,SNR=4.2
WATA *i* SKKP **SKKPab 00 06 35.0 -2.7**
comp=Z,10nm,1.2s
ABTA Abfaltersbach 141.74 332 *i* PKP **PKPdf 23 54 39.8 -5.8**
comp=Z,15nm,0.8s
ABTA *i* SKP **SKPbc 23 58 15.1 -0.3**
comp=Z,37nm,1.9s
ABTA *i* SKKP **SKKPab 00 06 36.5 -1.0**
comp=Z,10nm,1.1s
WTTA Wattenberg 141.75 333 *i* PKP **PKPdf 23 54 41.4 -4.4**
comp=Z,15nm,0.8s
WTTA *i* SKP **SKPbc 23 58 15.6 +0.2**
comp=Z,40nm,1.4s,SNR=6.2
WTTA *i* SKKP **SKKPab 00 06 37.4 -0.2**
comp=Z,14nm,1.2s
RCHB Rochefort 141.80 341 *d*PKP **PKiKP 23 54 48.8 +0.4**
RCHB *dp*PKP **pPKPdf 23 55 11.3 +1.8**
BMRD Maredsous 141.81 342 *d*PKPdf **PKPdf 23 54 46.3 +0.8**
BMRD *dp*PKP **pPKPdf 23 55 09.0 -0.5**
SKDS Skadanscina 141.89 329 *e*P **PKPdf 23 54 41.2 -4.7**
MOTA Moosalm 141.92 333 *i* PKP **PKPdf 23 54 41.7 -4.4**
comp=Z,22nm,0.9s,SNR=12
MOTA *i* SKP **SKPbc 23 58 15.9 0.0**
comp=Z,25nm,0.9s
MOTA *i* SKKP **SKKPab 00 06 35.2 -1.5**
comp=Z,7.8nm,1.5s
WLF Walferdange 141.93 340 *d*PKP **PKPdf 23 54 39.3 -6.5**
RETA Reutte 141.96 334 *i* PKP **PKPdf 23 54 41.3 -4.6**
comp=Z,14nm,1.1s
RETA *i* SKP **SKPbc 23 58 16.1 +0.2**
comp=Z,7.9nm,0.9s
RETA *i* SKKP **SKKPab 00 06 35.2 -1.3**
comp=Z,8.8nm,1.3s
SQTA Sankt Quirin 141.97 333 *i* PKP **PKPdf 23 54 42.0 -4.0**
comp=Z,27nm,1.3s,SNR=7.3
SQTA *e*SKP **SKPdf 23 58 15.4 +2.4**
comp=Z,22nm,0.8s,SNR=6.4
SQTA *i* SKKP **SKKPab 00 06 35.2 -1.3**
comp=Z,8.1nm,1.1s
DOU Dourbes 142.05 342 *d*PKPdf **PKPdf 23 54 42.0 -3.9**
BFO Black Forest 142.27 337 PKPpre 23 54 42.2
BFO Black Forest 142.27 337 PKIKP **PKPdf 23 54 42.2 -4.3**
FETA Feichten 142.33 333 *i* PKP **PKPdf 23 54 43.2 -3.6**
comp=Z,41nm,1.3s,SNR=16
FETA *i* SKP **SKPbc 23 58 17.3 +0.4**
comp=Z,32nm,1.1s,SNR=7.3
FETA *e*SKKP **SKKPbc 00 06 33.7 -2.1**
comp=Z,16nm,1.3s
DAVA Damuels 142.49 334 *i* PKP **PKPdf 23 54 42.6 -4.5**
comp=Z,37nm,1.4s,SNR=7.4
DAVA *i* SKP **SKPbc 23 58 16.8 -0.5**
comp=Z,32nm,1.9s
DAVA *i* SKKP **SKKPbc 00 06 32.5 -2.8**
comp=Z,12nm,1.2s
SALO Salr 143.50 332 PKPdf PKPbc 23 54 46.2 0.0
MATE Matera 143.58 321 ⇑P PKPbc 23 54 46.2 -0.3
TIP Timpagrande 144.40 319 ⇑P **PKPdf 23 54 50.3 -0.2**
TIP Timpagrande 144.40 319 **PKPdf 23 54 49.9 -0.6**
ROSB Rosrio 144.43 117 *e*P **PKPdf 23 54 52.0 +0.7**
SHEL Horse Pasture 148.60 193 **PKPbc 23 55 01.9 0.0**
SHEL Horse Pasture 148.60 193 PKP2 **PKPbc 23 55 01.9 0.0**
KEST Kesra 151.17 320 PKPbc **PKiKP 23 55 08.5 +0.2**
comp=Z,42nm,0.8s,baz=90,slow=5.3,SNR=81
CMAH Djebel Manchou 151.71 324 P **PKiKP 23 55 11.1 +1.8**
CASM Ain Smara 152.50 324 P **PKiKP 23 55 13.2 +2.2**
PBRG Braganca 152.59 350 *e*PKPbc **PKiKP 23 55 11.1 +0.1**
PBRG Braganca 152.59 350 *e*PKPab **PKPab 23 55 21.8 +0.4**
DFRA Djebel Bou Aff 152.63 326 P **PKiKP 23 55 14.2 +2.9**
PGAV Gavieira, Arco 152.66 352 *e*PKPbc **PKiKP 23 55 11.4 +0.2**
PGAV Gavieira, Arco 152.66 352 *e*PKPab **PKPab 23 55 22.0 +0.3**
PCAB Cabril 152.88 352 *e*PKPbc **PKiKP 23 55 11.8 +0.2**
SET Setif 153.14 326 P **PKiKP 23 55 15.0 +2.6**
POLO Lamas de Olo 153.18 351 *e*PKPbc **PKiKP 23 55 12.2 -0.1**
POLO Lamas de Olo 153.18 351 *e*PKPab **PKPab 23 55 24.6 +0.7**
PVRL Vila Real 153.26 351 *e*PKPbc **PKiKP 23 55 13.1 +0.7**
PVRL Vila Real 153.26 351 *e*PKPab **PKPab 23 55 25.0 +0.8**
MVO Moncorvo 153.26 350 *e*PKPbc **PKiKP 23 55 14.0 +1.6**
PTO Porto 153.52 353 *e*PKPbc **PKiKP 23 55 13.8 +1.0**
PTO Porto 153.52 353 *e*PKPab **PKPab 23 55 26.1 +0.9**
PVIS Viseu 153.84 351 *e*PKPbc **PKiKP 23 55 14.2 +0.6**
PVIS Viseu 153.84 351 *e*PKPab **PKPab 23 55 27.4 +0.7**
ESDC Sonseca Array 154.03 344 PKPbc **PKPbc 23 55 13.8 -0.2**
comp=Z,2.8nm,0.7s,baz=6.5,slow=2.7,SNR=21
ESDC PP **PP 23 58 59.6 -1.9**
comp=Z,1.6nm,1.0s,baz=18,slow=3.7,SNR=2.6
MTE Manteigas 154.09 351 *e*PKPbc **PKPbc 23 55 13.6 -0.5**
MTE Manteigas 154.09 351 *e*PKPab **PKPab 23 55 28.7 +0.9**
PAB San Pablo 154.25 345 **PKiKP 23 55 17.2 +2.7**
COI Coimbra 154.41 352 *e*PKPab **PKPab 23 55 27.1 -1.9**
PCAS Casmilo, Conde 154.57 352 *e*PKPbc **PKPbc 23 55 14.4 -0.6**
PCAS Casmilo, Conde 154.57 352 *e*PKPab **PKPab 23 55 30.9 +1.1**
PCBR Castelo Branco 154.63 350 *e*PKPbc **PKiKP 23 55 16.1 +0.9**
PCBR Castelo Branco 154.63 350 *e*PKPab **PKPab 23 55 30.3 +0.3**
PMRV Marv??o 155.02 350 *e*PKPdf **PKPdf 23 55 08.8 +1.6**
PMRV Marv??o 155.02 350 *e*PKPbc PKPdf 23 55 16.6 +9.4
PMRV Marv??o 155.02 350 *e*PKPab **PKPab 23 55 31.6 -0.1**
PSBE So Bento 155.14 352 *e*PKPab **PKPab 23 55 33.0 +0.8**
PMTG Montargil 155.50 351 *e*PKPab **PKPab 23 55 33.3 -0.4**
PESTR Estremoz 155.60 350 *i* LQ LQ 23 55 26.8
PESTR Estremoz 155.60 350 *e*PKPab **PKPab 23 55 34.7 +0.5**
EVO Evora 156.00 350 *i* LQ LQ 23 55 25.6
EVO Evora 156.00 350 *e*PKPab **PKPab 23 55 36.7 +0.8**
PBAR Barrancos 156.17 348 *e*PKPab **PKPab 23 55 37.5 +0.9**
PBEJ Beja 156.46 350 *i* LQ LQ 23 55 26.6
PBEJ Beja 156.46 350 *e*PKPab **PKPab 23 55 38.9 +1.0**
PNCL Nicolau / Gran 156.49 351 *e*PKPab **PKPab 23 55 38.6 +0.6**
MESJ Messejana 156.71 351 *e*PKPab **PKPab 23 55 39.9 +1.0**
PCVE Castro Verde 156.88 350 *e*PKPab **PKPab 23 55 40.9 +1.2**
PVAQ Vaqueiros 157.04 349 *i* LQ LQ 23 55 31.1
PVAQ Vaqueiros 157.04 349 *e*PKPab **PKPab 23 55 42.1 +1.7**
PTEO Sao Teotonio 157.07 351 *e*PKPab **PKPab 23 55 41.8 +1.3**
MORF Marmelete 157.30 351 *e*PKPab **PKPab 23 55 42.5 +1.0**
ASCN Ascension 157.34 176 **PKPab 23 55 42.9 +0.7**
PFVI Vila Bisbo 157.49 351 *e*PKPab **PKPab 23 55 43.7 +1.4**
TORD Torodi Ar. Bea 165.71 265 PKP **PKPdf 23 55 18.9 -0.6**
comp=Z,7.3nm,0.9s,baz=71,slow=0.7,SNR=24
TORD PKPab **PKPab 23 56 19.1 0.0**
comp=Z,34nm,0.9s,baz=99,slow=3.5,SNR=28
TORD PP **PP 00 00 04.9 -1.9**
comp=Z,3.8nm,1.0s,baz=107,slow=3.6,SNR=4.5
TORD Torodi Ar. Bea 165.71 265 **PKPdf 23 55 19.0 -0.6**
TORD PKPab **PKPab 23 56 19.9 +0.8**
DBIC Dimbokro 168.66 225 PKP **PKPdf 23 55 20.9 -0.9**
comp=Z,11nm,0.9s,baz=180,slow=2.5,SNR=8.2
DBIC PKPab **PKPab 23 56 32.1 +0.1**
comp=Z,14nm,0.9s,baz=123,slow=6.1,SNR=6.3
DBIC Dimbokro 168.66 225 **PKPdf 23 55 21.6 -0.2**

ROM 30 23:52:51.0±0.4, 42°963N±0°005×13°023E±0°010, h9km±2km, ML1.0/8, 5C-1D, Error ellipse: s-maj=0.8km s-min=0.2km az=98.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1216	**Preci, Frazion**	**0.07**	**182**	⇑P	Pg	23 52 53.7	+0.5
T1216				S	Sg	23 52 55.4	+0.7
T1216				AML	AML		
	comp=E,109μm,0.7s						
T1216				AML	AML		
	comp=N,126μm,0.1s						
T1216				AML	AML		
	comp=E,108μm,0.6s						
FDMO	**Fiordimonte**	**0.09**	**33**	P	Pg	23 52 54.1	+0.8
FDMO				S	Sg	23 52 55.0	-0.1
FDMO				AML	AML		
	comp=N,282μm,0.3s						
FDMO				AML	AML		
	comp=E,222μm,0.3s						
T1219	**Muccia, Frazio**	**0.09**	**353**	⇑P	Pg	23 52 54.1	+0.6
T1219				S	Sg	23 52 56.0	+0.8
T1219				AML	AML		
	comp=E,69μm,0.1s						
T1219				AML	AML		
	comp=N,91μm,0.4s						
CESI	**CESI - Serrava**	**0.10**	**296**	P	Pg	23 52 54.0	+0.5
CESI				S	Sg	23 52 56.1	+0.7
CESI				AML	AML		
	comp=N,110μm,0.1s						
CESI				AML	AML		
	comp=E,109μm,0.1s						
MC2	**Monte Cornacci**	**0.13**	**112**	P	Pg	23 52 57.6	+3.4
T1245	**Castelsantange**	**0.16**	**131**	⇑P	Pg	23 52 55.3	+0.7
T1245				S	Sg	23 52 58.4	+1.4
T1245				AML	AML		
	comp=E,58μm,1.3s						
T1245				AML	AML		
	comp=N,56μm,0.3s						
T1245				AML	AML		
	comp=E,58μm,0.7s						
CSP1	**Cessapalombo**	**0.19**	**46**	⇑P	Pg	23 52 55.8	+0.8
CSP1				S	Sg	23 52 58.4	+0.7
CSP1				AML	AML		
	comp=E,51μm,0.6s						
CSP1				AML	AML		
	comp=N,49μm,1.5s						
CSP1				AML	AML		
	comp=N,49μm,0.5s						
T1215	**Vallo di Nera,**	**0.20**	**215**	⇑P	Pg	23 52 55.5	+0.4
T1215				S	Sg	23 52 58.6	+0.7
T1212	**Cascia, Frazio**	**0.21**	**176**	⇓P	Pg	23 52 55.9	+0.5
T1212				S	Sg	23 52 59.5	+1.2
SNTG	**Esanatoglia**	**0.30**	**348**	AML	AML		
	comp=E,15μm,1.6s						
SNTG				AML	AML		
	comp=N,17μm,1.5s						
SNTG				AML	AML		
	comp=E,15μm,0.4s						
SNTG				AML	AML		
	comp=N,17μm,0.5s						
SMA1	**SAN MARTINO**	**0.40**	**145**	AML	AML		
	comp=N,376μm,1.7s						
SMA1				AML	AML		
	comp=N,376μm,0.3s						
SMA1				AML	AML		
	comp=E,287μm,0.3s						

*DNK **31** 00:15:54.2±2.6, 51°43N×17°02E, h15km±81km, ML2.1*
*PRU **31** 00:15:57.7±0.0, 51°43N×16°16E, h0km*
*VIE **31** 00:15:57.4, 51°40N×16°18E, h0km, mb2.3/2, ml2.6/3 67 km WNW of Wroclaw Suspected Mining induced.*

ISC 31 00:15:55.7±0.8, 51°51N±0°03×16°17E±0°02, h0km, n36, σ1s63/73, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**173**	*e*Pg	**Pg**	**00 16 08.5**	**-0.2**
KSP				*e*Sg	**Sg**	**00 16 16.2**	**-1.2**
OSTC	**Ostas**	**0.96**	**178**	*e*PG	**Pg**	**00 16 13.9**	**-0.2**
OSTC				*e*SG	**Sg**	**00 16 26.2**	**-0.3**
comp=Z,34nm,0.3s							
UPC	**Upice**	**1.01**	**186**	*e*PG	**Pg**	**00 16 14.8**	**-0.3**
UPC				*e*SG	**Sg**	**00 16 27.3**	**-0.9**
comp=Z,95nm,0.4s							
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	**Pg**	**00 16 17.4**	**-0.7**
DPC				*e*SG	**Sg**	**00 16 32.3**	**-1.0**
comp=Z,21nm,0.4s							
PVCC	**Panska Ves**	**1.41**	**226**	*e*PG	**Pb**	**00 16 22.9**	**-0.1**
PVCC				*e*SG	**Sn**	**00 16 42.2**	**+0.2**
comp=Z,124nm,0.3s							
KRLC	**Kraliky**	**1.49**	**165**	*e*PG	**Pn**	**00 16 22.9**	**-0.9**
KRLC				*e*SG	**Sg**	**00 16 41.3**	**-2.3**
comp=Z,18nm,0.2s							
BRG	**Berggiesshubel**	**1.54**	**246**	Pg	**Pg**	**00 16 26.1**	**+0.9**
BRG				Sg	**Sg**	**00 16 46.9**	**+1.7**
BRG				Amp		00 16 50.9	
comp=Z,27nm,0.3s							
BRG				Amp		00 45 15.0	
comp=E,0.7nm,21.6s							
BRG				Amp		00 45 19.0	
comp=N,0.9nm,21.8s							
BRG				Amp		00 45 27.0	
comp=Z,1.5nm,32.9s							
GOPC	**GO Pecny, Ondr**	**1.83**	**209**	*e*PG	**Pb**	**00 16 29.4**	**-0.6**
GOPC				*e*SG	**Sb**	**00 16 53.1**	**-0.4**
comp=Z,25nm,0.7s							
PRU	**Pruhonice**	**1.84**	**215**	*e*PG	**Pb**	**00 16 29.8**	**-0.5**
PRU				*e*SG	**Sg**	**00 16 54.4**	**-0.5**
comp=Z,12nm,0.4s							
MORC	**Moravsky Berou**	**1.95**	**153**	*e*PN	**Pn**	**00 16 29.3**	**-0.8**
MORC				*e*SG	**Sn**	**00 16 55.5**	**+0.2**
CLL	**Collm**	**1.99**	**265**	*e*Pn	**Pn**	**00 16 31.0**	**+0.3**
CLL				*e*Pg	**Pg**	**00 16 35.0**	**+1.1**
CLL				*e*Sg	**Sg**	**00 17 02.0**	**+2.3**
comp=Z,15nm,0.4s							
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PG	**Pb**	**00 16 33.7**	**-0.9**
OKC				*e*SG	**Sb**	**00 17 00.6**	**-0.6**
comp=Z,15nm,0.5s							
VRAC	**Vranov**	**2.23**	**173**	*e*PN	**Pn**	**00 16 32.9**	**-1.0**
VRAC				*e*SG	**Sb**	**00 17 04.8**	**-0.1**
TREC	**Trest**	**2.27**	**191**	*e*PG	**Pn**	**00 16 35.8**	**+1.4**
TREC				*e*SG	**Sb**	**00 17 06.7**	**+0.7**
comp=Z,8.8nm,0.3s							
MAUC	**Maruska**	**2.40**	**153**	*e*PG	**Pb**	**00 16 39.1**	**-0.7**
MAUC				*e*SG	**Sb**	**00 17 09.8**	**-0.1**
comp=Z,16nm,0.4s							
KRUC	**Moravsky**	**2.46**	**177**	*e*PN	**Pn**	**00 16 37.2**	**+0.1**
KRUC				*e*SG	**Sg**	**00 17 13.5**	**-1.2**
OJC	**Ojcow**	**2.64**	**118**	*e*Pg	**Pg**	**00 16 46.1**	**-0.2**
OJC				*e*Sg	**Sg**	**00 17 20.5**	**0.0**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	**Pn**	**00 16 41.2**	**+1.0**
NKC				*e*SG	**Sg**	**00 17 22.3**	**+0.4**
comp=Z,27nm,0.8s							
KHC	**Kasperske Hory**	**2.91**	**216**	*e*PN	**Pn**	**00 16 43.8**	**+0.5**
KHC				*e*PG	**Pb**	**00 16 48.5**	**+0.1**
KHC				*e*SN	**Sn**	**00 17 18.5**	**-0.4**
KHC				*e*SG	**Sg**	**00 17 28.7**	**-0.4**
comp=Z,9.1nm,0.4s							
CKRC	**Cesky Krumlov**	**2.95**	**205**	*e*PN	**Pn**	**00 16 44.9**	**+1.0**
CKRC				*e*PG	**Pb**	**00 16 48.4**	**-0.8**
CKRC				*e*SG	**Sg**	**00 17 28.7**	**-1.8**
LANS	**Liptovska Anna**	**3.17**	**137**	*e*PG	**Pg**	**00 16 58.1**	**+1.6**
LANS				*e*SG	**Sg**	**00 17 36.7**	**-0.9**
MODS	**Modra-Piesok**	**3.23**	**167**	*e*PG	**Pg**	**00 16 59.6**	**+2.1**
MODS				*e*SG	**Sg**	**00 17 41.2**	**+1.9**
VYHS	**Vyhne**	**3.48**	**149**	*e*PG	**Pg**	**00 17 06.4**	**+4.0**
VYHS				*e*SG	**Sg**	**00 17 48.3**	**+0.9**
CONA	**Conrad Observa**	**3.60**	**183**	*i* Pn	**Pn**	**00 16 52.7**	**-0.1**
comp=Z,0.2nm,0.1s							
CONA				Sg	**Sg**	**00 17 49.8**	**-1.4**
comp=Z,7.4nm,0.4s							
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**00 16 54.2**	**+0.3**

BSD				*i* S	**Sn**	**00 17 38.3**	**+0.3**
BSD				IAML		00 17 44.6	
	comp=Z,1.9nm,0.2s						
STHS	**Stebnicka Huta**	**3.86**	**121**	*e*PG	**Pg**	**00 17 12.8**	**+3.1**
STHS				*e*SG	**Sg**	**00 18 06.0**	**+6.2**
MOA	**Molln**	**3.87**	**199**	*i* Pn	**Pn**	**00 16 57.4**	**+0.8**
	comp=Z,0.6nm,0.2s						
MOA				*e*Sg	**Sg**	**00 18 01.6**	**+1.6**
	comp=Z,2.0nm,0.2s						
ARSA	**Arzberg**	**4.29**	**186**	*e*Pn	**Pn**	**00 17 02.0**	**-0.3**
	comp=Z,0.7nm,0.3s						
ARSA				Sg	**Sg**	**00 18 16.0**	**+2.6**
	comp=Z,5.8nm,0.6s						
LUNU	**Lund**	**4.43**	**340**	*i* P	**Pn**	**00 17 05.0**	**+0.8**
LUNU				*i* S	**Sn**	**00 17 56.1**	**-0.3**
BLEU	**Blekinge**	**4.80**	**358**	*i* P	**Pn**	**00 17 10.0**	**+0.7**
BLEU				*i* S	**Sn**	**00 18 00.5**	**-5.1**
BJUU	**Bjuv**	**4.93**	**339**	*i* P	**Pn**	**00 17 11.5**	**+0.4**
BJUU				*i* S	**Sn**	**00 18 07.6**	**-1.2**
DEL	**Delary**	**5.15**	**346**	*i* P	**Pn**	**00 17 14.0**	**0.0**
DEL				*i* S	**Sn**	**00 18 12.5**	**-1.5**
ONAU	**Onsala**	**6.39**	**339**	*i* P	Pn	00 17 36.5	+5.4
ONAU				*e*S	**Sn**	**00 18 42.0**	**-2.7**
BORU	**Boraas**	**6.44**	**343**	*i* P	**Pn**	**00 17 31.7**	**0.0**
BORU				*e*S	**Sn**	**00 18 43.2**	**-2.7**
TJOU	**Tjoern**	**7.04**	**340**	*i* S	**Sn**	**00 18 57.8**	**-2.7**
HOMB	**Homborsund**	**8.08**	**330**	*e*S	**Sn**	**00 19 23.2**	**-2.9**

*NEIC **31** 00:20:47.0±2.1,4°.6S±0°.1×154°.0E±0°.1, h100km±9km, mb4.2/14, Error ellipse: s-maj=17.4km s-min=15.0km az=195.0*

*IDC **31** 00:20:50.2±5.3,4°.59S×153°.70E, h117km±34km, mb3.4/3, mbtmp4.0/4, Error ellipse: s-maj=60.0km s-min=23.2km az=101.0*

ISC 31 00:20:46.2±1.0,**4°.60S**±0°.09×**154°.0E**±0°.1,**h100km**,**n22**, σ1§**24**/25,**mb4.0**/11,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.90**	**282**	Pn	**Pn**	**00 21 18.6**	**+1.1**
RABL				Sn	**Sn**	**00 21 44.2**	**+2.8**
KRVT	**Keravat (AS076**	**2.01**	**278**	P	**Pn**	**00 21 19.5**	**+0.5**
	116nm,0.4s,baz=238,slow=3.1,SNR=8.7						
KRVT				S	**Sn**	**00 21 42.0**	**-1.9**
	152nm,0.7s,baz=188,slow=22,SNR=2.7						
PMG	**Port Moresby**	**8.32**	**235**	P	**Pn**	**00 22 45.4**	**+1.4**
	31nm,0.5s,baz=59,slow=11,SNR=10						
PMG				S	**Sn**	**00 24 16.7**	**+0.4**
	29nm,0.8s,baz=15,slow=14,SNR=3.8						
PMG	**Port Moresby**	**8.32**	**235**	Pn	**Pn**	**00 22 43.3**	**-0.7**
MTN	**Manton Dam**	**24.04**	**249**	P	**P**	**00 25 52.2**	**-0.1**
MTN				IAmb	IAmb	00 26 01.0	
	comp=Z,4.9nm,1.0s						
WB0	**Warramunga Arr**	**24.35**	**230**	P	**P**	**00 25 55.3**	**+0.3**
WB0				IAmb	IAmb	00 25 56.5	
	comp=Z,4.6nm,0.7s						
WR0	**Warramunga Arr**	**24.35**	**230**	P	**P**	**00 25 55.3**	**+0.3**
WR0				IAmb	IAmb	00 25 56.5	
	comp=Z,5.6nm,0.8s						
WB2	**Warramunga Arr**	**24.49**	**230**	P	**P**	**00 25 56.9**	**+0.6**
WB2				IAmb	IAmb	00 25 57.8	
	comp=Z,4.1nm,0.7s						
WRA	**Warramunga Arr**	**24.50**	**230**	P	**P**	**00 25 56.2**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=54,slow=10,SNR=27						
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**27.13**	**224**	P	**P**	**00 26 19.9**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=54,slow=8.9,SNR=11						
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.82**	**242**	P	**P**	**00 26 52.4**	**-0.5**
BBOO	**Buckleboo**	**32.70**	**209**	P	**P**	**00 27 10.1**	**+0.9**
BBOO				IAmb	IAmb	00 27 18.3	
	comp=Z,4.1nm,1.1s						
JCJ	**Chichijima**	**33.53**	**341**	P	**P**	**00 27 14.6**	**-1.8**
FORT	**Forrest**	**35.72**	**220**	P	**P**	**00 27 35.1**	**-0.1**
PSA00	**Pilbara Seismi**	**37.18**	**240**	P	**P**	**00 27 47.0**	**-0.9**
MORW	**Morawa**	**43.42**	**232**	P	**P**	**00 28 37.7**	**-1.6**
MORW				IAmb	IAmb	00 28 53.6	
	comp=Z,6.5nm,1.1s						
QIZ	**Qiongzhong**	**49.42**	**300**	P	**P**	**00 29 24.8**	**-1.6**
QIZ				IAmb	IAmb	00 29 35.5	
	comp=Z,11nm,1.0s						
MK31	**Makanchi Array**	**80.98**	**319**	P	**P**	**00 32 51.6**	**+1.7**
MKAR	**Makanchi Array**	**80.98**	**319**	P	**P**	**00 32 51.5**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=92,slow=6.9,SNR=7.1						
	comp=Z,0.2nm,0.4s						
MAKZ	**Makanchi**	**81.19**	**319**	P	**P**	**00 32 51.5**	**+0.5**
MCARA	**McCarthy VSAT**	**81.47**	**26**	P	**P**	**00 32 53.0**	**+0.9**
MCARA				IAmb	IAmb	00 33 07.5	
	comp=Z,8.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**151.40**	**289**	PKPbc	**PKPbc**	**00 40 30.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=67,slow=2.5,SNR=2.8						

*UPP **31** 00:42:23.3±0.0,67°.83N×20°.20E, h0km, ML2.6, Suspected explosion*

*HEL **31** 00:42:23.5±0.4,67°.83N×20°.14E, h0km, ML1.5, Explosion*

ISC 31 00:42:23.9±0.8,**67°.83N**±0°.02×**20°.24E**±0°.02,**h0km**,**n30**, σ1§**17**/45,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.25**	**269**	P	**Pg**	**00 42 27.9**	**-0.8**
RATU				S	**Sg**	**00 42 30.9**	**-0.9**
RATU	**Laukkuluspa**	**0.25**	**269**	P	**Pg**	**00 42 30.5**	**+1.9**
RATU				S	**Sg**	**00 42 34.1**	**+2.3**
KOVU	**Salmi**	**0.40**	**356**	P	**Pg**	**00 42 30.9**	**-0.6**
KOVU	**Salmi**	**0.40**	**356**	P	**Pb**	**00 42 33.6**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**275**	P	**Pg**	**00 42 31.8**	**-0.9**
NIKU				S	**Sg**	**00 42 37.8**	**-0.8**
NIKU	**Nikkaluokta**	**0.46**	**275**	P	**Pb**	**00 42 34.5**	**-0.4**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**00 42 36.7**	**-0.6**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pb**	**00 42 39.4**	**+0.4**
LANU	**Lannavaara**	**0.70**	**71**	PG	**Pg**	**00 42 36.5**	**-0.7**
LANU				SG	**Sg**	**00 42 46.0**	**-0.2**
DUNU	**Dundret**	**0.72**	**170**	P	**Pg**	**00 42 36.8**	**-0.9**
DUNU	**Dundret**	**0.72**	**170**	P	**Pb**	**00 42 39.6**	**+0.2**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**00 42 38.1**	**-0.6**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pn**	**00 42 48.2**	**+0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	PN	**Pb**	**00 42 47.2**	**-0.3**
KIF				MSG		00 43 01.4	
	comp=Z,6.4nm,0.2s						
KIF				SB	**Sg**	**00 43 02.6**	**+0.2**
PAJU	**Pajala**	**1.37**	**125**	PG	**Pg**	**00 42 48.3**	**-1.9**
PAJU				SN	**Sn**	**00 43 09.3**	**+0.1**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**00 42 49.4**	**-1.4**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**00 42 49.4**	**-1.4**
HEF				MSG		00 43 06.8	
	comp=Z,3.7nm,0.2s						
HEF				SN	**Sn**	**00 43 12.2**	**+2.2**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**00 42 50.6**	**-1.3**
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	**Pn**	**00 42 50.5**	**-1.3**
ERTU				SN	**Sg**	**00 43 11.5**	**-0.1**
KLF	**Kolari**	**1.55**	**111**	PG	**Pn**	**00 42 51.5**	**-1.2**
KLF				MSG		00 43 10.9	
	comp=Z,2.4nm,0.2s						
KLF				SN	**Sg**	**00 43 15.8**	**+2.2**
KTK1	**Kautokeino**	**1.62**	**42**	PG	**Pn**	**00 42 53.2**	**-0.6**
KTK1				SN	**Sg**	**00 43 17.5**	**+1.5**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**00 42 54.0**	**-0.8**
KALU	**Kalix**	**2.33**	**147**	PG	**Pn**	**00 43 03.9**	**+0.5**
	baz=325						
KALU				SG	**Sb**	**00 43 35.6**	**-0.4**
TOF	**Tornio**	**2.38**	**136**	PB	**Pn**	**00 43 04.8**	**+0.7**
TOF				MSG		00 43 34.8	
	comp=Z,1.7nm,0.2s						
TOF				SG	**Sb**	**00 43 37.0**	**-0.4**
SGF	**Sodankyl**	**2.44**	**96**	PG	**Pn**	**00 43 06.4**	**+1.5**
	baz=284						
RNF	**Rovaniemi**	**2.56**	**116**	PB	**Pn**	**00 43 07.8**	**+1.2**
RNF				SG	**Sb**	**00 43 42.2**	**-0.4**
ARA0	**ARCESS Array S**	**2.58**	**46**	PB	**Pn**	**00 43 07.4**	**+0.6**
ARA0				SG	**Sb**	**00 43 42.0**	**-1.1**
KEV	**Kevo**	**3.13**	**49**	PG	**Pb**	**00 43 18.0**	**-2.3**
KEV				SN	**Sn**	**00 43 53.0**	**+0.7**
VRF	**Varrio**	**3.56**	**87**	SG	**Sb**	**00 44 13.4**	**+2.0**
OLKF	**Oulanka, Finla**	**3.89**	**109**	PG	**Pb**	**00 43 34.5**	**+1.2**

*UPP **31** 00:43:44.4±0.0,67°.82N×20°.18E, h0km, ML2.5, Suspected explosion*

ISC 31 00:43:44.0±1.1,**67°.82N**±0°.04×**20°.21E**±0°.04,**h10km**,**n10**, σ0§**62**/13,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**270**	P	**Pg**	**00 43 48.8**	**0.0**
RATU				S	**Sg**	**00 43 51.9**	**0.0**
KOVU	**Salmi**	**0.40**	**358**	P	**Pg**	**00 43 52.0**	**+0.1**
KOVU				S	**Sg**	**00 43 57.4**	**+0.2**
NIKU	**Nikkaluokta**	**0.45**	**276**	P	**Pg**	**00 43 52.8**	**+0.2**
NIKU				S	**Sg**	**00 43 59.0**	**+0.5**
LANU	**Lannavaara**	**0.71**	**71**	P	**Pg**	**00 43 58.2**	**+0.5**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**00 43 57.8**	**0.0**
MASU	**Masugnsbyn**	**0.78**	**117**	P	**Pg**	**00 43 59.2**	**+0.2**
SALU	**Saltoluokta**	**0.79**	**236**	P	**Pg**	**00 43 59.1**	**0.0**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pn**	**00 44 07.1**	**+0.3**
PAJU	**Pajala**	**1.38**	**124**	P	**Pn**	**00 44 09.8**	**+0.5**
HEF	**Hetta**	**1.42**	**64**	*e*P	**Pn**	**00 44 08.1**	**-1.7**

*PRU **31** 00:50:12.6±0.0,50°.22N×19°.05E, h0km*

*IPEC **31** 00:50:12.3±0.2,50°.19N×19°.11E, h0km±1km, ML2.4/4, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*

*VIE **31** 00:50:12.2,50°.17N×19°.11E, h0km, mb2.4/1, ml2.5/2 11 km S of Sosnowice Suspected Mining induced.*

ISC 31 00:50:12.4±0.8,**50°.13N**±0°.03×**19°.06E**±0°.02,**h0km**,**n35**, σ0§**93**/63,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.48**	**79**	*e*Pg	**Pg**	**00 50 21.0**	**-0.7**
OJC				*e*Sg	**Sg**	**00 50 28.7**	**+0.8**
OKC	**Ostrava-Krasne**	**0.66**	**244**	*e*PG	**Pg**	**00 50 25.8**	**+0.8**
OKC				*e*SG	**Sb**	**00 50 35.6**	**-0.9**
	comp=Z,27nm,0.3s						
LANS	**Liptovska Anna**	**1.02**	**165**	*e*PG	**Pg**	**00 50 32.0**	**+0.1**
LANS				*e*SG	**Sg**	**00 50 45.7**	**+0.7**
LANS				*e*LG	Lg	00 50 46.3	
MORC	**Moravsky Berou**	**1.04**	**251**	*e*PG	**Pb**	**00 50 33.3**	**-0.1**
MORC				*e*SG	**Sb**	**00 50 46.7**	**-0.9**
MORC	**Moravsky Berou**	**1.04**	**251**	*e*Pg	**Pb**	**00 50 33.2**	**-0.1**
	baz=67						
MORC				*e*Sg	**Sg**	**00 50 46.6**	**+0.7**
	57nm,0.5s,baz=67						
NIE	**Niedzica**	**1.07**	**131**	*e*Pg	**Pg**	**00 50 32.2**	**-0.8**
NIE				*e*Sg	**Sb**	**00 50 48.9**	**+0.4**
MAUC	**Maruska**	**1.11**	**227**	*e*PG	**Pb**	**00 50 34.4**	**0.0**
MAUC				*e*SG	**Sb**	**00 50 50.1**	**+0.7**
KRLC	**Kraliky**	**1.47**	**269**	*e*PG	**Pn**	**00 50 38.3**	**-1.9**
KRLC				*e*SG	**Sg**	**00 50 59.6**	**0.0**
	comp=Z,44nm,0.4s						
JAVC	**Velka Javorina**	**1.56**	**216**	*e*PN	**Pb**	**00 50 42.0**	**-0.2**
JAVC	**Velka Javorina**	**1.56**	**216**	*e*Pn	**Pb**	**00 50 42.0**	**-0.2**
	baz=34						
STHS	**Stebnicka Huta**	**1.58**	**116**	*e*PN	**Pn**	**00 50 41.4**	**-0.4**
STHS				*e*SN	**Sg**	**00 51 05.0**	**+1.7**
STHS				*e*LG	Lg	00 51 12.5	
VYHS	**Vyhne**	**1.64**	**185**	*e*PN	**Pn**	**00 50 41.7**	**-0.9**
VYHS				*e*SN	**Sn**	**00 51 04.1**	**-0.3**
DPC	**Dobruska-Polom**	**1.77**	**278**	*e*PG	**Pn**	**00 50 44.4**	**0.0**
DPC				*e*SG	**Sb**	**00 51 08.8**	**+0.2**
	comp=Z,32nm,0.5s						
VRAC	**Vranov**	**1.80**	**244**	*e*PN	**Pb**	**00 50 45.6**	**-0.6**
VRAC				*e*SG	**Sg**	**00 51 10.5**	**+0.3**
VRAC	**Vranov**	**1.80**	**244**	*e*Pn	**Pb**	**00 50 45.6**	**-0.6**
	baz=60						
VRAC				*e*Sg	**Sg**	**00 51 10.5**	**+0.3**
	25nm,0.4s,baz=60						
OSTC	**Ostas**	**1.87**	**284**	*e*PG	**Pn**	**00 50 45.5**	**-0.2**
OSTC				*e*SG	**Sb**	**00 51 11.1**	**-0.3**
	comp=Z,19nm,0.9s						
KECS	**Kecovo**	**1.89**	**150**	*e*PN	**Pn**	**00 50 44.8**	**-1.2**
KSP	**Ksiaz**	**1.91**	**293**	*e*Pg	**Pg**	**00 50 49.2**	**+0.2**
KSP				*e*Sb	**Sb**	**00 51 12.4**	**0.0**
KSP				*e*Sg	**Sg**	**00 51 15.7**	**+2.0**
CRVS	**Cervenica-Dubn**	**1.99**	**127**	*e*PN	**Pb**	**00 50 49.0**	**-0.5**
CRVS				*e*SG	**Sg**	**00 51 17.1**	**+0.8**
UPC	**Upice**	**1.99**	**282**	*e*PG	**Pn**	**00 50 48.2**	**+0.9**
UPC				*e*SG	**Sb**	**00 51 14.9**	**+0.1**
	comp=Z,10nm,0.4s						
KRUC	**Moravsky**	**2.04**	**239**	*e*PN	**Pn**	**00 50 48.9**	**+0.9**
KRUC				*e*SG	**Sg**	**00 51 17.7**	**-0.1**
KRUC	**Moravsky**	**2.04**	**239**	*e*Pn	**Pn**	**00 50 48.8**	**+0.8**
	baz=56						
KRUC				*e*Sg	**Sg**	**00 51 17.7**	**-0.1**
	17nm,0.6s,baz=56						
MODS	**Modra-Piesok**	**2.11**	**214**	*e*PN	**Pn**	**00 50 48.7**	**-0.3**
MODS				*e*SG	**Sb**	**00 51 18.7**	**+0.4**
SRO	**Srobarova**	**2.37**	**192**	*e*SG	**Sg**	**00 51 30.3**	**+1.8**
SRO				*e*LG	Lg	00 51 39.0	
TREC	**Trest**	**2.46**	**252**	*e*SG	**Sg**	**00 51 30.9**	**-0.7**
	comp=Z,9.3nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.77**	**267**	*e*PN	**Pn**	**00 50 57.4**	**-0.6**
GOPC				*e*SG	**Sg**	**00 51 39.9**	**-1.3**
	comp=Z,11nm,0.8s						
PVCC	**Panska Ves**	**2.91**	**280**	*e*SG	**Sg**	**00 51 44.6**	**-1.1**
	comp=Z,16nm,0.7s						
PRU	**Pruhonice**	**2.92**	**269**	*e*SG	**Sg**	**00 51 44.4**	**-1.6**
	comp=Z,6.7nm,0.4s						
CONA	**Conrad Observa**	**3.05**	**225**	*i* Pn	**Pn**	**00 51 02.0**	**+0.1**
	0.2nm,0.2s						
CONA				*i* Sn	**Sn**	**00 51 39.2**	**0.0**
	2.0nm,0.3s						
BRG	**Berggiesshubel**	**3.35**	**285**	Pg	**Pg**	**00 51 19.3**	**+2.7**
BRG				Sg	**Sg**	**00 51 59.8**	**-0.2**
BRG				Amp		00 52 05.6	
	comp=Z,6.8nm,0.6s						
CKRC	**Cesky Krumlov**	**3.36**	**249**	*e*PG	**Pb**	**00 51 13.5**	**+0.6**
CKRC				*e*SG	**Sg**	**00 52 00.6**	**+0.2**
KHC	**Kasperske Hory**	**3.70**	**256**	*e*PN	**Pn**	**00 51 10.7**	**-0.2**
KHC				*e*PG	**Pg**	**00 51 21.5**	**-1.8**
KHC				*e*SG	**Sg**	**00 52 10.3**	**-1.0**
	comp=Z,6.0nm,0.6s						
MOA	**Molln**	**3.90**	**236**	*i* Pn	**Pn**	**00 51 14.0**	**+0.4**
	comp=Z,0.4nm,0.2s						
MOA				*e*Sn	**Sn**	**00 52 01.3**	**+1.3**
	comp=Z,1.3nm,0.3s						
CLL	**Collm**	**4.03**	**289**	*e*Sg	**Sg**	**00 52 22.0**	**+0.3**
	comp=Z,6.0nm,0.6s						
NKC	**Novy Kostel**	**4.25**	**274**	*e*SG	**Sg**	**00 52 26.8**	**-2.1**
	comp=Z,6.3nm,0.5s						

*IDC **31** 00:54:58.6±0.4,34°.65N×36°.57W, h0km, mb4.9/35, mbtmp4.9/35, MS4.9/85, Error ellipse: s-maj=11.1km s-min=10.2km az=166.0*

*MOS **31** 00:54:59.4±0.9,34°.62N×36°.52W, h12km, mb5.4/125, MS4.9/20, Error ellipse: s-maj=5.8km s-min=3.7km az=135.4*

*BJI **31** 00:54:59.1±0.0,34°.97N×36°.85W, h10km, mb5.2/31, mB5.9/20, Ms5.5/23, Ms7 5.2/23*

*GCMT **31** 00:55:01.9±0.1,34°.76N±0°.01×36°.62W±0°.01, h12km, MW5.5/147, Moment Tensor Solution. s77,c112; s147,c274; Duration: 1§4 Moment tensor: Scale 10¹⁷ Nm; Mrr=2.09±.04; Mθθ=0.05±.05; Mϕϕ2.14±.03; Mrθ=0.17±.15; Mϕϕ1.52±.03; Mϕr=0.18±.11; Best double couple: M₀2.51800×10¹⁷ NP1:φs30.00000°, δ48.00000°, λ-86.00000°. NP2:φs204.00000°, δ42.00000°, λ-95.00000°. Principal axes: T 2.9300, Plg3.0000°, Azm117.0000°; N -0.8240, Plg3.0000°, Azm207.0000°; P -2.1060, Plg86.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **31** 00:55:01.8±1.4,34°.61N±0°.08×36°.44W±0°.10, h10km±1km, mb5.3/858, Mwb5.4/35 Error ellipse: s-maj=14.7km s-min=12.7km az=148.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.46; Mθθ-0.92; Mϕϕ0.46; Mrθ0.59; Mθϕ 1.33; Mϕr0.69; Fault plane solution: M₀1.79000×10¹⁷ NP1:φs81.01000°, δ70.70000°, λ27.59000°. NP2:φs341.21000°, δ64.08000°, λ158.44000°. Principal axes: T 1.8413, Plg33.0000°, Azm303.0000°; N -0.1052, Plg57.0000°, Azm113.0000°; P -1.7362, Plg4.0000°, Azm210.0000°;*

ISC 31 00:55:00.5±0.5,**34°.62N**±0°.04×**36°.50W**±0°.03,**h10**km±3km, **h10**km:**pP-P,n1645,**σ1§**17**/1585,**mb5.3**/590,**MS5.0**/125, **46C-32D,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**6.37**	**40**	*e*P	**Pn**	**00 56 35.2**	**+0.8**
	144nm,0.8s						
H07S1				*e*S	**Sn**	**00 57 49.2**	**+2.0**
CALA	**Caldeira**	**7.42**	**56**	*e*S	**Sn**	**00 58 15.0**	**+1.8**
PCED	**Cedros**	**7.44**	**55**	*e*S	**Sn**	**00 58 14.5**	**+0.9**
PCAN	**Candelaria**	**7.51**	**57**	*e*S	**Sn**	**00 58 16.6**	**+1.3**
PICO	**Pico**	**7.56**	**57**	*e*S	**Sn**	**00 58 17.3**	**+0.5**
PPNO	**Prainha do Nor**	**7.66**	**58**	*e*S	**Sn**	**00 58 19.7**	**+0.5**
PID	**Ribeirinha**	**7.75**	**58**	*e*S	**Sn**	**00 58 22.4**	**+1.1**
ROSA	**Rosais**	**7.80**	**56**	*e*S	**Sn**	**00 58 23.9**	**+1.5**
ROSA	**Rosais**	**7.80**	**56**	Pn	**Pn**	**00 56 52.4**	**-1.7**
PMAN	**Manadas**	**7.86**	**57**	*e*S	**Sn**	**00 58 25.2**	**+1.2**
SRBC	**Serra Branca**	**8.09**	**55**	*e*S	**Sn**	**00 58 31.2**	**+1.6**
PGRA	**Graciosa**	**8.13**	**55**	*e*S	**Sn**	**00 58 31.7**	**+1.2**
PSBA	**Serra de Santa**	**8.45**	**58**	*e*S	**Sn**	**00 58 39.6**	**+1.0**
PAGU	**Agualva, Azore**	**8.55**	**58**	*e*S	**Sn**	**00 58 42.2**	**+1.2**
PSET	**Sete Cidades**	**9.28**	**67**	*e*P	**Pn**	**00 57 14.4**	**-0.1**
	459nm,0.5s						
PSET				*e*S	**Sn**	**00 59 00.4**	**+1.5**
PDA	**Ponta Delgada**	**9.30**	**67**	*e*P	**Pn**	**00 57 12.9**	**-1.8**
	229nm,0.8s						
CMLA	**Cha da Macela**	**9.41**	**67**	*e*P	**Pn**	**00 57 16.7**	**+0.5**
	330nm,0.8s						
CMLA				*e*S	**Sn**	**00 59 02.3**	**+0.1**
PCALD	**Caldeiras da R**	**9.45**	**67**	*e*P	**Pn**	**00 57 17.2**	**+0.4**
	472nm,0.3s						
PGRON	**Lagoa das Cont**	**9.53**	**68**	*e*P	**Pn**	**00 57 18.4**	**+0.5**
	565nm,0.5s						
PGRON				*e*S	**Sn**	**00 59 05.3**	**+0.2**
PSMA	**Santa Maria**	**9.54**	**72**	*e*P	**Pn**	**00 57 18.1**	**+0.1**
	160nm,0.8s						
PSMA				*e*S	**Sn**	**00 59 05.2**	**0.0**
PSMN	**Pico do Norte,**	**9.59**	**72**	*e*P	**Pn**	**00 57 18.5**	**-0.2**
	120nm,0.5s						
PSMN				*e*S	**Sn**	**00 59 05.8**	**-0.7**
BART	**Pico Bartolome**	**9.69**	**68**	*e*P	**Pn**	**00 57 20.1**	**0.0**
	214nm,0.5s						
BART				*e*S	**Sn**	**00 59 10.1**	**+1.1**
PMOZ	**Porto Moniz, M**	**16.17**	**91**	*e*LR	LR	01 02 02.3	
	6µm,20.0s						
PMOZ	**Porto Moniz, M**	**16.17**	**91**		**Pn**	**00 58 47.6**	**-0.3**
PMAR	**Madeira**	**16.42**	**91**	*e*P	**P**	**00 58 55.2**	**+1.1**
	447nm,1.6s						
FUL	**Funchal**	**16.45**	**91**	*e*P	**P**	**00 58 53.4**	**-0.9**
	207nm,1.9s						
MACI	**Morro de la Ar**	**18.19**	**105**		**Pn**	**00 59 11.5**	**-2.0**
DRLN	**Deer Lake**	**21.30**	**320**	P	**P**	**00 59 46.2**	**-1.1**
DRLN				IAmb	IAmb	00 59 48.2	
	comp=Z,191nm,0.9s						
GBN	**Guysborough**	**21.89**	**307**	P	**P**	**00 59 53.6**	**0.0**
GBN				IAmb	IAmb	00 59 57.0	
	comp=Z,144nm,1.1s						
LIS	**Lisbon**	**22.28**	**71**	*e*P	**P**	**00 59 58.8**	**+0.8**
LIS				*e*S	**S**	**01 04 05.1**	**+2.1**
LIS				IAMs_20	IAMs_20	01 04 59.1	
	comp=N,8µm,23.7s						
LIS	**Lisbon**	**22.28**	**71**	*e*P	**P**	**00 59 58.7**	**+0.8**
LIS				*e*S	**S**	**01 04 05.1**	**+2.1**
PFVI	**Vila Bisbo**	**22.54**	**76**	*e*P	**P**	**01 00 02.8**	**+2.1**
	comp=N,135nm,1.6s						
PTEO	**Sao Teotonio**	**22.61**	**74**	*e*P	**P**	**01 00 05.1**	**+3.7**
	comp=N,196nm,1.9s						
MORF	**Marmelete**	**22.67**	**75**	*e*P	**P**	**01 00 03.1**	**+1.0**
MORF				*e*S	**S**	**01 04 12.8**	**+2.4**
MORF				IAMs_20	IAMs_20	01 05 48.3	
	comp=E,5µm,27.9s						
MORF	**Marmelete**	**22.67**	**75**	*e*P	**P**	**01 00 03.3**	**+1.2**
	comp=E,138nm,1.5s						
MORF	**Marmelete**	**22.67**	**75**	P	**P**	**01 00 02.3**	**+0.2**
MORF				IAmb	IAmb	01 00 17.9	
	comp=Z,117nm,1.4s						
MORF	**Marmelete**	**22.67**	**75**	*e*P	**P**	**01 00 03.1**	**+1.0**
MORF				*e*S	**S**	**01 04 12.7**	**+2.4**
SACV	**Santiago Islan**	**22.76**	**146**	P	**P**	**01 00 02.9**	**-0.3**
SACV				IAmb	IAmb	01 00 17.1	
	comp=Z,99nm,1.1s						
PNCL	**Nicolau / Gran**	**22.76**	**73**	*e*P	**P**	**01 00 03.7**	**+0.7**
	comp=Z,70nm,1.9s						
PCAS	**Casmilo, Conde**	**22.87**	**68**	*e*P	**P**	**01 00 07.2**	**+3.0**
	comp=Z,117nm,1.6s						
PTO	**Porto**	**22.91**	**65**	*e*P	**P**	**01 00 06.2**	**+1.7**
	comp=Z,150nm,1.4s						
COI	**Coimbra**	**22.95**	**68**	*e*P	**P**	**01 00 08.0**	**+3.0**
	comp=Z,190nm,1.4s						
COI	**Coimbra**	**22.95**	**68**	P	**P**	**01 00 03.5**	**-1.4**
COI				IAmb	IAmb	01 00 09.6	
	comp=Z,99nm,0.9s						
COI	**Coimbra**	**22.95**	**68**	P	**P**	**01 00 03.5**	**-1.4**
COI				pmax	pmax		
	comp=Z,99nm,0.9s						
MESJ	**Messejana**	**23.00**	**74**	*e*P	**P**	**01 00 06.4**	**+0.8**
MESJ				*e*S	**S**	**01 04

BATG IAmb IAmb 01 00 41.9
comp=Z,59nm,1.1s
EMMW East Machias 25.73 302 P **P** **01 00 29.9 -1.2**
EMMW IAmb IAmb 01 00 36.9
comp=Z,48nm,1.0s
EMMW East Machias 25.73 302 P **P** **01 00 32.9 +1.8**
baz=102,SNR=7.2
G65A Princeton 25.91 303 IAmb IAmb 01 01 09.3
comp=Z,150nm,1.4s
G65A Princeton 25.91 303 P **P** **01 00 35.3 +2.5**
baz=103,SNR=5.6
G65A P **P** **01 00 35.3 +2.5**
baz=103,SNR=5.6
PAB San Pablo 26.04 70 P **P** **01 00 33.3 -0.8**
PAB San Pablo 26.04 70 P **P** **01 00 33.3 -0.8**
PAB pmax pmax
comp=Z,38nm,1.4s
ESDC Sonseca Array 26.34 69 P **P** **01 00 36.1 -0.7**
comp=Z,4.4nm,0.9s,baz=274,slow=9.5,SNR=15
ESDC PcP **PcP** **01 04 01.9 -0.6**
comp=Z,3.0nm,1.1s,baz=279,slow=2.3,SNR=5.0
ESDC LR LR 01 09 12.4
comp=Z,1μm,19.1s,baz=264,slow=32
comp=Z,4.4nm,0.9s
ESDC Sonseca Array 26.34 69 P **P** **01 00 35.9 -0.9**
ESDC **PcP** **01 04 03.8 +1.3**
ESBB Sonseca Array 26.34 69 P **P** **01 00 36.1 -0.6**
MDT Midelt 26.54 85 P **P** **01 00 38.0 -0.7**
comp=Z,3.7nm,0.8s,baz=280,slow=12,SNR=14
MDT LR LR 01 08 31.6
comp=Z,4μm,22.0s,baz=289,slow=31
comp=Z,3.7nm,0.8s
PQI Presque Isle 26.59 306 IAmb IAmb 01 00 44.5
comp=Z,77nm,1.0s
F64A Sherman 26.61 305 P **P** **01 00 39.2 +0.2**
baz=104,SNR=24
F64A P **P** **01 00 39.2 +0.2**
baz=104,SNR=24
MBO M'Bour 26.78 134 P **P** **01 00 41.0 +0.3**
E63A Oxbow 26.79 306 P **P** **01 00 40.9 +0.2**
baz=105,SNR=17
E63A P **P** **01 00 40.9 +0.2**
baz=105,SNR=17
BBTS Babate 26.82 133 P **P** **01 00 41.1 0.0**
comp=Z,126nm,1.2s,baz=136,slow=23,SNR=3.2
BBTS LR LR 01 08 46.4
comp=Z,10μm,19.8s,baz=5.0,slow=31
comp=Z,126nm,1.2s
F63A Nahmakanta, Br 27.08 304 IAmb IAmb 01 00 50.1
comp=Z,40nm,0.9s
F63A Nahmakanta, Br 27.08 304 P **P** **01 00 43.4 +0.1**
baz=103,SNR=13
F63A P **P** **01 00 43.4 +0.1**
baz=103,SNR=13
PKME Peaks-Kenny Pk 27.12 303 P **P** **01 00 44.0 +0.4**
PKME Peaks-Kenny Pk 27.12 303 P **P** **01 00 42.6 -1.0**
baz=102
WVL Waterville 27.25 301 P **P** **01 00 45.3 +0.5**
WVL IAmb IAmb 01 01 05.0
comp=Z,229nm,2.0s
D62A Allapoint, All 27.38 307 P **P** **01 00 46.8 +0.8**
D62A IAmb IAmb 01 01 08.4
comp=Z,40nm,1.0s
E62A Clayton Lake 27.58 306 IAmb IAmb 01 00 54.7
comp=Z,78nm,1.1s
E62A Clayton Lake 27.58 306 P **P** **01 00 49.5 +1.8**
baz=104,SNR=11
E62A P **P** **01 00 49.5 +1.8**
baz=104,SNR=11
M65A Busby, Falmout 27.62 295 P **P** **01 00 47.9 -0.2**
baz=93
IVI Ivigtut 27.64 348 P **P** **01 00 49.6 +1.5**
IVI IAmb IAmb 01 00 54.7
comp=Z,138nm,1.6s
IVI Ivigtut 27.64 348 *e*P **P** **01 00 51.0 +2.9**
F62A Pittston Farm, 27.71 304 IAmb IAmb 01 00 55.4
comp=Z,45nm,1.0s
L64A Middleborough 27.79 295 P **P** **01 00 50.3 +0.6**
L64A IAmb IAmb 01 00 57.3
comp=Z,42nm,0.9s
I63A Otisfield 27.82 300 P **P** **01 00 50.1 +0.2**
I63A IAmb IAmb 01 00 57.0
comp=Z,48nm,1.1s
G62A West of Eustis 27.97 303 P **P** **01 00 52.0 +0.7**
G62A IAmb IAmb 01 01 16.8
comp=Z,53nm,1.4s
DSB Dublin 28.27 40 P **P** **01 00 53.4 -0.5**
H62A Milan 28.30 301 P **P** **01 00 55.4 +1.1**
BRYW Bryant College 28.31 295 P **P** **01 00 56.2 +1.9**
BRYW IAmb IAmb 01 01 01.4
comp=Z,67nm,1.0s
LMQ La Malbaie 28.34 307 P **P** **01 00 54.8 +0.3**
HRV Adam Dziewonsk 28.36 297 P **P** **01 00 55.0 +0.2**
HRV IAmb IAmb 01 01 12.9
comp=Z,45nm,1.2s
HRV Adam Dziewonsk 28.36 297 P **P** **01 00 54.1 -0.7**
baz=94
HRV Adam Dziewonsk 28.36 297 P **P** **01 00 55.0 +0.2**
HRV pmax pmax
comp=Z,45nm,1.2s
FFD Franklin Falls 28.52 299 P **P** **01 00 57.0 +0.8**
FFD IAmb IAmb 01 01 03.1
comp=Z,45nm,1.2s
GDSD La Dsirade Is 28.58 237 P **P** **01 00 57.0 +0.1**
GDSD IAmb IAmb 01 01 39.3
comp=Z,49nm,1.0s
M63A Gales Ferry 28.67 294 P **P** **01 00 57.9 +0.4**
M63A IAmb IAmb 01 01 04.5
comp=Z,54nm,1.1s
CART Cartagena 28.73 74 P **P** **01 00 58.4 +0.3**
LBNH Lisbon 28.81 300 P **P** **01 00 00.7 +1.9**
LBNH IAmb IAmb 01 01 41.0
comp=Z,99nm,1.8s
LBNH Lisbon 28.81 300 P **P** **01 01 00.7 +1.9**
LBNH pmax pmax
comp=Z,99nm,1.8s
SMRT St. Maarten 28.84 242 P **P** **01 01 01.3 +2.0**
SMRT IAmb IAmb 01 01 29.6
comp=Z,85nm,1.4s
J61A Chester 29.16 298 P **P** **01 01 03.2 +1.3**
J61A IAmb IAmb 01 01 52.8
comp=Z,79nm,1.8s
SCHQ Schefferville 29.18 323 P **P** **01 01 00.5 -1.4**
comp=Z,4.1nm,0.6s,baz=97,slow=9.8,SNR=12
SCHQ PcP **PcP** **01 04 08.2 -1.0**
comp=Z,13nm,0.9s,baz=7.0,slow=9.5,SNR=3.6
SCHQ LR LR 01 11 26.4
comp=Z,6μm,21.6s,baz=120,slow=34
comp=Z,4.1nm,0.6s
SCHQ Schefferville 29.18 323 P **P** **01 01 01.6 -0.3**
L61B Northampton 29.19 296 P **P** **01 01 04.2 +2.0**
L61B IAmb IAmb 01 01 09.1
comp=Z,47nm,1.4s
L61B Northampton 29.19 296 P **P** **01 01 00.3 -1.8**
baz=93
YLE Yale 29.33 294 P **P** **01 01 03.8 +0.4**
VT1 Waterbury 29.41 300 P **P** **01 01 04.0 -0.1**
KSCT Kent School, K 29.75 295 P **P** **01 01 08.3 +1.2**
KSCT IAmb IAmb 01 01 19.3
comp=Z,129nm,2.0s
LATQ La Tuque 29.92 306 P **P** **01 01 07.5 -1.1**
ACCN Adirondack Com 29.98 298 P **P** **01 01 09.7 +0.6**
FRNY Flat Rock 30.06 301 P **P** **01 01 09.9 +0.1**
PAL Palisades 30.06 293 P **P** **01 01 10.7 +0.8**
PAL IAmb IAmb 01 01 17.0
comp=Z,38nm,0.9s
PAL Palisades 30.06 293 P **P** **01 01 08.5 -1.4**
baz=90
PAL Palisades 30.06 293 P **P** **01 01 10.7 +0.8**
PAL pmax pmax
comp=Z,38nm,0.9s
CPNY Central Park 30.10 293 P **P** **01 01 10.6 +0.4**
CPNY IAmb IAmb 01 01 17.6
comp=Z,32nm,1.0s
MNTQ Montreal, Queb 30.17 302 P **P** **01 01 12.2 +1.5**
TRNY Table Rock, Ra 30.30 294 P **P** **01 01 12.8 +0.8**
CUPR Culebra, Puert 30.31 245 P **P** **01 01 13.1 +0.8**
NCB Newcomb 30.42 299 P **P** **01 01 13.7 +0.6**
BRNJ Basking Ridge 30.57 293 P **P** **01 01 15.9 +1.6**
J59A Piesco 30.59 298 P **P** **01 01 16.2 +1.7**
ODNJ Ogdensburg 30.59 294 P **P** **01 01 15.8 +1.3**
ODNJ IAmb IAmb 01 01 21.8
comp=Z,42nm,1.1s
MTP Monte Pirata 30.64 245 P **P** **01 01 15.6 +0.4**
MTP IAmb IAmb 01 01 17.9
comp=Z,52nm,1.1s

LONY Lake Ozonia 30.74 300 P **P** **01 01 14.7 -1.2**
baz=96
HUMP Col San Antoni 30.84 245 P **P** **01 01 17.4 +0.5**
HUMP IAmb IAmb 01 01 20.6
comp=Z,50nm,1.1s
SVB Belmont 30.88 233 P **P** **01 01 16.8 -0.6**
ESK Eskdalemuir 30.90 38 P **P** **01 01 17.1 0.0**
ESK IAmb IAmb 01 01 19.7
comp=Z,67nm,1.1s
ESK Eskdalemuir 30.90 38 P **P** **01 01 17.1 0.0**
ESK pmax pmax
comp=Z,67nm,1.2s
GCPR Guaynabo City 30.91 246 P **P** **01 01 17.8 +0.2**
GCPR IAmb IAmb 01 01 24.5
comp=Z,76nm,1.4s
TRQ Mont Tremblant 30.92 304 IAmb IAmb 01 01 24.1
comp=Z,35nm,0.9s
L59A Walton 30.93 296 P **P** **01 01 18.2 +0.6**
L59A IAmb IAmb 01 01 33.4
comp=Z,47nm,1.2s
EKA Eskdalemuir Ar 30.93 38 LR LR 01 11 20.7
comp=Z,2μm,18.0s,baz=244,slow=32
ISOG Isortoq, Green 31.00 358 *i* P **P** **01 01 19.6 +1.8**
ISOG IAmb IAmb 01 01 24.2
comp=Z,171nm,1.3s
SJG San Juan 31.08 246 LR LR 01 14 30.7
comp=Z,310nm,18.1s,baz=58,slow=38
SJG San Juan 31.08 246 P **P** **01 01 18.9 -0.2**
SJG IAmb IAmb 01 01 21.4
comp=Z,38nm,1.1s
SJG San Juan 31.08 246 P **P** **01 01 18.9 -0.2**
SJG pmax pmax
comp=Z,38nm,1.1s
EMPR Esperanza - Ma 31.15 247 P **P** **01 01 19.9 +0.2**
LUPA Lehigh Univers 31.18 293 P **P** **01 01 20.6 +0.8**
LUPA IAmb IAmb 01 01 42.4
comp=Z,72nm,1.4s
WUPA West Chester U 31.39 291 P **P** **01 01 22.8 +1.2**
WUPA IAmb IAmb 01 01 28.3
comp=Z,29nm,1.1s
AOPR Arecibo Observ 31.40 247 P **P** **01 01 21.7 -0.2**
AOPR IAmb IAmb 01 01 23.9
comp=Z,36nm,1.0s
GEDE Greenville 31.41 291 P **P** **01 01 24.1 +2.3**
baz=87,SNR=5.7
UUPR Utuado, UPR, P 31.43 247 IAmb IAmb 01 01 24.8
comp=Z,58nm,0.8s
KSPA Keystone Colle 31.46 294 P **P** **01 01 23.9 +1.7**
KSPA IAmb IAmb 01 01 39.1
comp=Z,63nm,1.5s
OBIP Obispado Ponce 31.47 246 IAmb IAmb 01 01 26.1
comp=Z,28nm,0.9s
BORG Borgarnes 31.54 12 P **P** **01 01 22.1 -0.5**
comp=Z,28nm,0.8s,baz=218,slow=5.9,SNR=3.0
BORG LR LR 01 10 59.8
comp=Z,2μm,18.9s,baz=205,slow=30
comp=Z,28nm,0.8s
AGPR Aguadilla, PR 31.59 247 P **P** **01 01 24.2 +0.6**
BINY Binghamton 31.63 296 P **P** **01 01 26.1 +2.4**
BINY IAmb IAmb 01 01 30.9
comp=Z,80nm,1.6s
BINY Binghamton 31.63 296 P **P** **01 01 21.6 -2.1**
baz=91
CLF Chambon-Foret 31.69 53 P **P** **01 01 25.9 +1.7**
CLF IAmb IAmb 01 01 33.1
comp=Z,66nm,1.3s
PRSN Puerto Rico Se 31.77 247 P **P** **01 01 25.0 -0.2**
MLPR Magueyes Islan 31.84 246 P **P** **01 01 25.9 +0.1**
CRPR Cabo Rojo, PR 31.87 247 P **P** **01 01 27.1 +1.1**
MVL Millersville 31.95 292 P **P** **01 01 27.8 +1.2**
GRGR Grenville 31.99 232 P **P** **01 01 27.5 +0.4**
PAGS Pennsylvania G 32.23 292 P **P** **01 01 30.7 +1.7**
PAGS IAmb IAmb 01 01 36.1
comp=Z,47nm,1.1s
J56A Wolcott 32.29 298 P **P** **01 01 31.4 +1.8**
J56A IAmb IAmb 01 01 36.9
comp=Z,45nm,1.1s
SDMD Soldier's Deli 32.37 291 P **P** **01 01 32.5 +2.3**
DY2G Dye2 32.41 353 *i* P **P** **01 01 30.9 +0.3**
DY2G IAmb IAmb 01 01 37.5
comp=Z,437nm,1.7s
PECO Prince Edward 32.42 299 P **P** **01 01 31.6 +1.0**
PECO IAmb IAmb 01 01 37.9
comp=Z,32nm,0.9s
M57A Sunshine Farm, 32.49 294 P **P** **01 01 33.4 +2.1**
M57A IAmb IAmb 01 01 38.3
comp=Z,52nm,1.1s
T60A Surry 32.53 286 P **P** **01 01 33.1 +1.5**
T60A IAmb IAmb 01 02 23.9
comp=Z,49nm,0.8s
MDP Montagnes des 32.96 211 LR LR 01 12 27.3
comp=Z,344nm,19.2s,baz=28,slow=32
J55A Hilton 32.99 298 P **P** **01 01 37.2 +1.6**
J55A IAmb IAmb 01 02 08.9
comp=Z,34nm,1.1s
MMNY Mt. Morris Dam 33.05 297 P **P** **01 01 37.4 +1.2**
GRTK Grand Turk 33.06 256 P **P** **01 01 35.6 -0.8**
SSPA Standing Stone 33.09 293 P **P** **01 01 38.6 +2.1**
SSPA Standing Stone 33.09 293 P **P** **01 01 34.6 -2.0**
baz=87
P57A Homestead Farm 33.27 291 P **P** **01 01 40.2 +2.1**
R58B Mineral 33.32 288 P **P** **01 01 39.9 +1.3**
SFJD Kangerlussuaq 33.45 350 P **P** **01 01 38.8 -0.5**
comp=Z,26nm,1.1s,baz=168,slow=12,SNR=6.1
SFJD LR LR 01 12 24.6
comp=Z,4μm,18.7s,baz=169,slow=31
comp=Z,26nm,1.1s
SFJD Kangerlussuaq 33.45 350 P **P** **01 01 40.3 +1.0**
SFJD Kangerlussuaq 33.45 350 *i* P **P** **01 01 38.8 -0.5**
SFJD IAmb IAmb 01 01 55.9
comp=Z,172nm,1.6s
SFJD Kangerlussuaq 33.45 350 P **P** **01 01 40.3 +1.0**
SFJD pmax pmax
comp=Z,182nm,1.7s
MEDO Medina 33.46 297 P **P** **01 01 40.7 +0.9**
MEDO IAmb IAmb 01 01 46.4
comp=Z,73nm,1.3s
SNF Seneffe 33.49 49 *d*P **P** **01 01 39.6 -0.3**
comp=Z,46nm,0.9s
WVNY West Valley, N 33.57 296 P **P** **01 01 43.1 +2.4**
WVNY IAmb IAmb 01 01 47.6
comp=Z,47nm,1.0s
DOU Dourbes 33.60 50 *d*P **P** **01 01 42.4 +1.5**
comp=Z,11nm,1.1s
M55A Ridgway 33.72 294 P **P** **01 01 43.6 +1.6**
M55A IAmb IAmb 01 01 48.9
comp=Z,29nm,1.1s
BMRD Maredsous 33.75 50 *d*P **P** **01 01 42.2 0.0**
SC01 Santiago de lo 33.84 252 P **P** **01 01 44.4 +1.0**
BGES Gesves 33.97 50 *d*P **P** **01 01 43.6 -0.5**
comp=Z,12nm,1.0s
SADO Sadowa 33.99 300 LR LR 01 13 18.1
comp=Z,3μm,21.5s,baz=110,slow=32
SADO Sadowa 33.99 300 P **P** **01 01 46.0 +1.6**
SADO IAmb IAmb 01 02 09.2
comp=Z,96nm,2.0s
RCHB Rochefort 34.01 50 *d*P **P** **01 01 44.2 -0.3**
comp=Z,9.7nm,1.2s
S57A Dark Hollow, R 34.19 288 P **P** **01 01 48.2 +2.0**
S57A IAmb IAmb 01 01 51.9
comp=Z,61nm,1.6s
Q56A Snyder Ridge, 34.22 290 P **P** **01 01 48.5 +2.1**
BSTI Sart Tilman 34.31 49 *d*P **P** **01 01 47.4 +0.4**
comp=Z,3.1nm,1.0s
BNI Bardonecchia 34.39 59 P **P** **01 01 49.3 +1.3**
BNI Bardonecchia 34.39 59 P **P** **01 01 49.3 +1.3**
BNI pmax pmax
comp=Z,27nm,1.4s
WLF Walferdange 34.51 51 P **P** **01 01 49.5 +0.7**
WLF IAmb IAmb 01 01 56.9
comp=Z,48nm,1.2s
WLF Walferdange 34.51 51 P **P** **01 01 49.5 +0.7**
WLF pmax pmax
comp=Z,48nm,1.2s
WLF Walferdange 34.51 51 *d*P **P** **01 01 49.7 +0.9**
comp=Z,16nm,1.3s
SDDR Presa de Saban 34.53 252 IAmb IAmb 01 01 52.6
comp=Z,52nm,1.0s
BHOU Houvegnez 34.54 50 *d*P **P** **01 01 49.6 +0.5**
comp=Z,6.5nm,0.9s
T57A Hurt 34.54 287 P **P** **01 01 47.8 -1.4**
T57A IAmb IAmb 01 01 52.9
comp=Z,84nm,1.8s
ICESG Greenland Ices 34.57 358 *i* P **P** **01 01 49.9 +0.4**
ICESG IAmb IAmb 01 01 55.0
comp=Z,543nm,2.1s

MEM Membach 34.59 49 *d*P **P** **01 01 51.1 +1.7**
ERPA Erie 34.61 296 P **P** **01 01 48.4 -1.4**
baz=88
V58A Windy Hill, Pi 34.64 284 P **P** **01 01 51.4 +1.3**
BTNL Ternell 34.66 49 *d*P **P** **01 01 51.9 +1.8**
comp=Z,8.7nm,1.3s
MCWV Mont Chateau 34.66 291 P **P** **01 01 52.1 +1.9**
MCWV IAmb IAmb 01 01 57.6
comp=Z,23nm,0.8s
MCWV Mont Chateau 34.66 291 P **P** **01 01 48.4 -1.8**
baz=84
ALLY Alegheny Colle 34.74 295 P **P** **01 01 52.6 +1.7**
ALLY IAmb IAmb 01 01 57.9
comp=Z,92nm,1.4s
SENIN Lac Senin/Sane 34.90 57 P **P** **01 01 53.4 +1.0**
ECH Echery 34.97 54 P **P** **01 01 53.0 +0.2**
ECH Echery 34.97 54 P **P** **01 01 53.0 +0.2**
ECH pmax pmax
comp=Z,28nm,1.6s
O54A Avella 35.02 292 P **P** **01 01 55.3 +1.9**
X58A Rowland 35.07 282 P **P** **01 01 55.5 +1.8**
M53A WI Miller and 35.15 295 P **P** **01 01 55.6 +1.1**
M53A IAmb IAmb 01 02 01.5
comp=Z,30nm,0.9s
M53A WI Miller and 35.15 295 P **P** **01 01 52.8 -1.6**
baz=86
FRB Frobisher Bay 35.17 336 P **P** **01 01 53.8 -0.5**
comp=Z,26nm,0.8s,baz=137,slow=7.9,SNR=37
FRB PcP **PcP** **01 04 24.4 -0.9**
comp=Z,13nm,1.0s,baz=150,slow=5.6,SNR=3.4
FRB LR LR 01 15 48.0
comp=Z,691nm,19.6s,baz=126,slow=36
comp=Z,26nm,0.8s
N53A Lisbon 35.32 293 P **P** **01 01 56.4 +0.5**
N53A IAmb IAmb 01 02 03.1
comp=Z,66nm,1.1s
PCRV Puerto La Cruz 35.39 233 LR LR 01 13 30.5
comp=Z,1μm,21.8s,slow=32
BLA Blacksburg 35.43 287 P **P** **01 01 58.8 +1.9**
BLA IAmb IAmb 01 02 04.7
comp=Z,98nm,1.7s
BLA Blacksburg 35.43 287 P **P** **01 01 55.9 -1.0**
baz=81
BLA Blacksburg 35.43 287 P **P** **01 01 58.8 +1.9**
BLA pmax pmax
comp=Z,98nm,1.7s
W57A Gilead 35.47 284 P **P** **01 01 58.0 +0.8**
W57A IAmb IAmb 01 02 04.6
comp=Z,60nm,1.2s
Y58A Scranton 35.48 281 P **P** **01 01 57.2 -0.1**
Q54A Coxs Mills 35.50 290 P **P** **01 01 58.6 +1.1**
U56A King 35.55 286 P **P** **01 01 57.7 -0.2**
U56A IAmb IAmb 01 02 05.4
comp=Z,50nm,1.4s
PAPH Port-au-Prince 35.58 253 P **P** **01 01 58.1 -0.2**
ILULI Ilulissat 35.59 351 P **P** **01 01 58.3 +0.5**
ILULI Ilulissat 35.59 351 *e*P **P** **01 01 57.5 -0.3**
ILULI IAmb IAmb 01 02 03.9
comp=Z,231nm,1.7s
ILULI Ilulissat 35.59 351 P **P** **01 01 58.3 +0.5**
ILULI pmax pmax
comp=Z,220nm,1.7s
O53A New Philadelph 35.65 293 P **P** **01 02 00.3 +1.5**
O53A IAmb IAmb 01 02 06.3
comp=Z,35nm,1.0s
O53A New Philadelph 35.65 293 P **P** **01 01 58.2 -0.6**
baz=84
M52A Chesterland 35.66 295 P **P** **01 01 59.8 +1.0**
M52A IAmb IAmb 01 02 06.2
comp=Z,54nm,0.9s
BFO Black Forest 35.76 54 P **P** **01 02 00.5 +0.9**
BFO IAmb IAmb 01 02 08.0
comp=Z,38nm,1.2s
BFO Black Forest 35.76 54 P **P** **01 02 00.5 +0.9**
BFO pmax pmax
comp=Z,38nm,1.2s
P53A Whipple 35.87 291 P **P** **01 02 02.1 +1.5**
P53A IAmb IAmb 01 02 07.7
comp=Z,42nm,1.1s
BIRD Birdtown, Kers 35.95 283 P **P** **01 02 02.8 +1.4**
BIRD IAmb IAmb 01 02 07.2
comp=Z,119nm,1.9s
Y57A Sumter 36.04 282 P **P** **01 02 02.9 +0.8**
Y57A IAmb IAmb 01 02 09.8
comp=Z,43nm,0.9s
NHSC New Hope 36.09 280 P **P** **01 02 01.2 -1.4**
baz=75
O52A Adamsville 36.14 292 P **P** **01 02 04.6 +1.6**
O52A IAmb IAmb 01 02 11.0
comp=Z,54nm,1.0s
O52A Adamsville 36.14 292 P P 01 02 10.2 +7.2
baz=84,SNR=5.8
O52A P P 01 02 10.2 +7.2
baz=84,SNR=5.8
V55A Taylorsville 36.30 285 P **P** **01 02 05.4 +1.0**
V55A IAmb IAmb 01 02 11.1
comp=Z,53nm,1.4s
TUE Stuetta 36.32 57 P **P** **01 02 06.8 +2.1**
STU Stuttgart 36.37 53 P **P** **01 02 05.7 +0.9**
STU Stuttgart 36.37 53 P **P** **01 02 05.7 +0.9**
STU pmax pmax
comp=Z,25nm,1.0s
P52A Corning 36.42 292 P **P** **01 02 06.1 +0.8**
P52A IAmb IAmb 01 02 12.3
comp=Z,57nm,1.3s
P52A Corning 36.42 292 P **P** **01 02 03.7 -1.7**
baz=83
R53A Hurricane 36.45 289 P **P** **01 02 06.3 +0.6**
R53A IAmb IAmb 01 02 14.2
comp=Z,88nm,1.7s
N51A Ashland 36.47 294 P **P** **01 02 06.9 +1.1**
N51A IAmb IAmb 01 02 12.9
comp=Z,58nm,1.1s
K50A Casco 36.52 297 P **P** **01 02 07.1 +0.9**
K50A IAmb IAmb 01 02 12.9
comp=Z,33nm,0.9s
KMSC Kings Mountain 36.54 284 P **P** **01 02 06.4 0.0**
KMSC Kings Mountain 36.54 284 P **P** **01 02 05.2 -1.2**
baz=78
Q52A Bidwell 36.61 291 P **P** **01 02 07.1 +0.1**
Q52A IAmb IAmb 01 02 13.9
comp=Z,66nm,1.4s
U54A Nelsons Funny 36.65 286 P **P** **01 02 08.2 +0.7**
JSC Jenkinsville 36.68 283 P **P** **01 02 07.8 +0.2**
JSC IAmb IAmb 01 02 14.9
comp=Z,47nm,1.2s
JSC Jenkinsville 36.68 283 P **P** **01 02 07.8 +0.2**
JSC pmax pmax
comp=Z,47nm,1.2s
DAVOX Davos/Dischmat 36.70 56 LR LR 01 14 23.6
comp=Z,2μm,20.4s,baz=263,slow=32
DAVA Damuels 36.72 56 *e*P **P** **01 02 09.6 +1.6**
comp=Z,12nm,0.8s
SCO Scoresbysund 36.78 8 P **P** **01 02 09.0 +1.0**
SCO Scoresbysund 36.78 8 *e*P **P** **01 02 05.9 -2.1**
SCO Scoresbysund 36.78 8 P **P** **01 02 09.0 +1.0**
SCO pmax pmax
comp=Z,35nm,1.1s
M50A Fremont 36.93 295 P **P** **01 02 11.0 +1.3**
FUORN Ofenpass-Fuorn 36.95 57 P **P** **01 02 10.4 +0.3**
HATO Hato, Curacao 36.97 241 P **P** **01 02 10.8 +0.6**
PRMA PARMA 36.97 60 P **P** **01 02 10.2 +0.3**
PRMA IAmb IAmb 01 02 17.1
comp=Z,115nm,1.4s
PAULI Pauline 37.00 284 P **P** **01 02 11.1 +0.8**
PAULI IAmb IAmb 01 02 17.1
comp=Z,123nm,1.8s
ACSO Alum Creek Sta 37.00 293 P **P** **01 02 11.5 +1.2**
ACSO IAmb IAmb 01 02 17.4
comp=Z,54nm,1.1s
ACSO Alum Creek Sta 37.00 293 P P 01 02 17.1 +6.8
baz=84,SNR=5.8
ACSO Alum Creek Sta 37.00 293 P **P** **01 02 09.0 -1.2**
baz=84
GTBY Guantanamo Bay 37.06 257 P **P** **01 02 11.8 +0.8**
GTBY IAmb IAmb 01 02 13.5
comp=Z,63nm,1.1s
P51A Williamsport 37.15 291 P **P** **01 02 13.0 +1.4**
P51A IAmb IAmb 01 02 18.5
comp=Z,43nm,1.1s
KEST Kesra 37.23 75 P **P** **01 02 13.6 +1.2**
comp=Z,8.4nm,1.1s,baz=81,slow=6.2,SNR=5.8
KEST LR LR 01 15 27.7
comp=Z,848nm,20.7s,baz=238,slow=33
comp=Z,8.4nm,1.1s

KEST **Kesra** 37.23 75 P **P** **01 02 12.9 +0.5**
KEST **Kesra** 37.23 75 P **P** **01 02 14.0 +1.6**
KEST P **P** **01 02 14.0 +1.6**
FETA **Feichten** 37.29 56 *e*P **P** **01 02 14.0 +1.2**
comp=Z,20nm,1.3s
FETA *e*PcP **PcP** **01 04 32.8 +0.7**
comp=Z,13nm,1.2s
AAM **Ann Arbor** 37.32 296 P **P** **01 02 14.2 +1.3**
AAM IAmb IAmb 01 02 20.0
comp=Z,100nm,1.5s
AAM **Ann Arbor** 37.32 296 P **P** **01 02 11.1 -1.9**
baz=86
AAM **Ann Arbor** 37.32 296 P **P** **01 02 14.2 +1.3**
AAM pmax pmax
comp=Z,100nm,1.5s
RETA **Reutte** 37.33 55 *e*P **P** **01 02 13.6 +0.5**
comp=Z,18nm,1.4s
SNART **Snartemo** 37.35 37 *e*P **P** **01 02 13.6 +0.5**
BLS5 **Blasjo** 37.38 35 *e*P **P** **01 02 13.8 +0.5**
Q51A **Peebles** 37.43 291 P **P** **01 02 15.3 +1.4**
CASP **Castiglione de** 37.44 63 P **P** **01 02 13.8 -0.2**
ZCCA **Zocca** 37.45 60 P **P** **01 02 14.9 +0.7**
HODGE **Hodges** 37.49 283 P **P** **01 02 15.7 +1.1**
MOTA **Moosalm** 37.55 55 *i* P **P** **01 02 15.9 +0.8**
comp=Z,45nm,2.1s
V53A **Saluda** 37.61 285 P **P** **01 02 16.8 +1.3**
SQTA **Sankt Quirin** 37.62 56 *i* P **P** **01 02 16.2 +0.5**
comp=Z,27nm,1.4s
ODD1 **Odda** 37.65 34 *e*P **P** **01 02 14.8 -0.7**
E46A **Sault Ste Mari** 37.66 303 P **P** **01 02 16.8 +0.9**
OSSC **Osservatorio P** 37.68 62 P **P** **01 02 16.4 +0.4**
OSSC IAmb IAmb 01 02 47.1
comp=Z,88nm,1.8s
GRFO **Grafenberg** 37.78 52 P **P** **01 02 17.7 +0.9**
GRFO **Grafenberg** 37.78 52 P **P** **01 02 17.7 +0.9**
GRFO pmax pmax
comp=Z,26nm,1.0s
GRA1 **Grafenberg Arr** 37.78 52 P **P** **01 02 18.0 +1.2**
GRF **Grafenberg Arr** 37.78 52 P **P** **01 02 18.0 +1.2**
GRF pmax pmax
comp=Z,26nm,0.9s
GRF **Grafenberg Arr** 37.78 52 *e*P **P** **01 02 16.9 +0.1**
comp=Z,48nm,1.2s,baz=265,slow=8.4
GRF *e*L L 01 16 03.5
comp=Z,2µm,18.1s
MUD **Monsted U'grnd** 37.79 40 *i* P **P** **01 02 16.2 -0.5**
MUD IAmb IAmb 01 02 22.7
comp=Z,139nm,1.8s
S51A **Beattyville** 37.84 289 P **P** **01 02 18.1 +0.6**
S51A IAmb IAmb 01 02 21.3
comp=Z,74nm,1.8s
BG3 **Lake Jocassee** 37.85 284 P **P** **01 02 18.2 +0.6**
WATA **Walderalm** 37.88 56 *e*P **P** **01 02 18.1 +0.3**
comp=Z,18nm,1.1s
WATA *e*PcP **PcP** **01 04 34.2 +0.2**
comp=Z,8.6nm,1.0s
GLMI **Grayling** 37.89 300 P **P** **01 02 18.9 +1.1**
GLMI IAmb IAmb 01 02 25.1
comp=Z,46nm,0.9s
GLMI **Grayling** 37.89 300 P **P** **01 02 16.1 -1.7**
baz=88
CTI **Castel Tesino** 37.91 58 P **P** **01 02 18.8 +0.8**
CTI **Castel Tesino** 37.91 58 P **P** **01 02 18.8 +0.8**
CTI pmax pmax
comp=Z,28nm,1.4s
WTTA **Wattenberg** 37.91 56 *i* P **P** **01 02 17.4 -0.8**
comp=Z,20nm,0.9s
WTTA *i* PcP **PcP** **01 04 33.9 -0.2**
comp=Z,15nm,1.5s
L48A **N Adams** 37.92 296 P **P** **01 02 18.9 +0.8**
L48A IAmb IAmb 01 02 24.8
comp=Z,46nm,1.1s
TEOL **Teolo** 37.92 59 P **P** **01 02 18.4 +0.3**
TZTN **Tazewell** 38.02 287 P **P** **01 02 20.3 +1.3**
TZTN IAmb IAmb 01 02 35.3
comp=Z,54nm,1.4s
TZTN **Tazewell** 38.02 287 P **P** **01 02 17.0 -1.9**
baz=78
O49A **Covington** 38.03 293 P **P** **01 02 20.0 +0.9**
O49A IAmb IAmb 01 02 25.8
comp=Z,42nm,1.1s
SUMG **Summit** 38.04 359 *i* P **P** **01 02 19.8 +0.7**
SUMG IAmb IAmb 01 02 25.4
comp=Z,199nm,1.4s
J47A **Sunmer** 38.11 298 P **P** **01 02 20.5 +0.9**
J47A IAmb IAmb 01 02 45.2
comp=Z,62nm,1.4s
LATE **Laterza** 38.15 63 P **P** **01 02 20.7 +0.7**
V52A **Sevierville** 38.20 286 P **P** **01 02 21.9 +1.5**
R50A **Paris** 38.31 290 P **P** **01 02 22.7 +1.4**
TKL **Tuckaleechee C** 38.38 286 LR LR 01 16 47.6
comp=Z,3µm,18.3s,baz=74,slow=34
TKL **Tuckaleechee C** 38.38 286 IAmb IAmb 01 02 29.1
comp=Z,77nm,1.2s
P49A **Miami Univ. Ec** 38.41 292 P **P** **01 02 23.8 +1.5**
P49A IAmb IAmb 01 02 28.2
comp=Z,80nm,1.9s
P49A **Miami Univ. Ec** 38.41 292 P **P** **01 02 21.2 -1.1**
baz=82
CIMO **Cimolais** 38.45 57 P **P** **01 02 23.1 +0.5**
CIMO IAmb IAmb 01 02 38.6
comp=Z,8.8nm,1.0s
ABTA **Abfaltersbach** 38.51 56 *i* P **P** **01 02 23.2 +0.1**
comp=Z,13nm,0.9s
ABTA *e*PcP **PcP** **01 04 35.8 0.0**
comp=Z,10nm,1.4s
154A **Montrose** 38.60 281 P **P** **01 02 25.4 +1.6**
154A IAmb IAmb 01 02 32.2
comp=Z,60nm,1.1s
NKC **Novy Kostel** 38.62 51 *e*P **P** **01 02 23.9 0.0**
NKC AMS AMS 01 16 30.0
comp=Z,3µm,15.8s
NKC **Novy Kostel** 38.62 51 *e*P **P** **01 02 23.9 0.0**
NKC MLR MLR
comp=Z,3µm,15.8s
G45A **Suttons Bay** 38.62 301 P **P** **01 02 25.4 +1.4**
MURB **Monte Urbino** 38.62 62 P **P** **01 02 25.1 +1.0**
W52A **Murphy** 38.63 285 P **P** **01 02 24.9 +0.7**
STAL **STALIGIAL** 38.64 57 P **P** **01 02 24.6 +0.4**
O48B **Farmland** 38.65 293 P **P** **01 02 23.2 -1.1**
baz=82
DWPF **Disney Wildern** 38.66 273 P **P** **01 02 22.9 -1.6**
baz=69
SKAR **Skarslia** 38.71 34 *e*P **P** **01 02 23.9 -0.6**
CESX **Cesi** 38.72 63 P **P** **01 02 25.2 +0.4**
CLUD **Cludinico** 38.76 57 P **P** **01 02 25.7 +0.5**
V51A **Loudon** 38.80 286 IAmb IAmb 01 02 32.9
comp=Z,95nm,1.4s
T50A **Nancy** 38.94 288 P **P** **01 02 27.9 +1.2**
T50A IAmb IAmb 01 02 34.2
comp=Z,76nm,1.6s
KONO **Kongsberg** 38.96 36 P **P** **01 02 27.3 +0.8**
KONO IAmb IAmb 01 02 31.8
comp=Z,90nm,1.7s
KONO **Kongsberg** 38.96 36 P **P** **01 02 27.3 +0.8**
KONO pmax pmax
comp=Z,90nm,1.7s
KONO **Kongsberg** 38.96 36 *e*P **P** **01 02 27.3 +0.8**
R49A **Shelbyville** 38.96 290 P **P** **01 02 27.8 +1.0**
P48A **Milroy** 38.97 292 P **P** **01 02 28.0 +1.1**
N47A **Urbana** 38.98 294 P **P** **01 02 27.9 +1.0**
Y52A **Lilburn** 39.03 283 P **P** **01 02 28.7 +1.2**
FDMO **Fiordimonte** 39.05 62 P **P** **01 02 27.7 +0.1**
CLL **Collm** 39.07 49 P **P** **01 02 27.4 -0.2**
CLL **Collm** 39.07 49 *e*P **P** **01 02 28.0 +0.4**
comp=Z,27nm,1.1s
CLL *i* sP **pwP** **01 02 33.3 +0.1**
comp=Z,39nm,1.2s
CLL *ex* x 01 02 53.0
CLL *e*PP **PP** **01 03 53.0 -3.9**
CLL *e*S **S** **01 08 28.0 +1.2**
CLL *e*SS **SS** **01 11 22.0 +3.2**
CLL LmV 01 15 00.0
comp=Z,3µm,21.9s
CLL Lmax 01 16 00.0
CLL **Collm** 39.07 49 *e*P **P** **01 02 28.0 +0.4**
CLL *i* 01 02 33.3
CLL *e*S **S** **01 08 28.0 +1.2**
CLL pmax pmax
comp=Z,27nm,1.1s
CLL MLR MLR
comp=Z,3µm,21.9s
KBA **Koelnbreinsper** 39.08 56 *i* P **P** **01 02 28.9 +0.9**
comp=Z,27nm,1.6s
BOAV **Boa Vista** 39.09 220 P **P** **01 02 28.3 +0.1**
BOAV IAmb IAmb 01 02 29.0
comp=Z,94nm,1.9s
BOAV **Boa Vista** 39.09 220 *e*P **P** **01 02 27.8 -0.3**
GUMA **Gualdo di Mace** 39.23 62 P **P** **01 02 29.5 +0.4**
GUMA IAmb IAmb 01 02 47.5
comp=Z,45nm,0.9s
SABO **M.te Sabotino** 39.27 58 P **P** **01 02 30.8 +1.5**
SABO IAmb IAmb 01 02 55.3
comp=Z,26nm,1.3s
BIOA **Bad Ischl, Aus** 39.28 55 *e*P **P** **01 02 29.5 +0.1**
comp=Z,53nm,2.0s
KHC **Kasperske Hory** 39.28 53 P **P** **01 02 30.6 +1.2**
KHC **Kasperske Hory** 39.28 53 *e*P **P** **01 02 29.8 +0.3**
KHC *e*PCP **PcP** **01 04 37.0 -1.1**
KHC *e*S **S** **01 08 31.8 +1.6**
KHC AMS AMS 01 14 00.0
comp=Z,2µm,28.3s
KHC **Kasperske Hory** 39.28 53 *e*P **P** **01 02 29.8 +0.3**
KHC *e* 01 04 37.0
KHC *e*S **S** **01 08 31.8 +1.6**
KHC MLR MLR
comp=Z,2µm,28.3s
L46A **Eue Claire** 39.30 296 P **P** **01 02 30.6 +1.0**
L46A IAmb IAmb 01 02 36.3
comp=Z,95nm,1.2s
TIGA **Tifton** 39.33 279 P **P** **01 02 31.1 +1.1**
TIGA IAmb IAmb 01 02 37.6
comp=Z,72nm,1.4s
TIGA **Tifton** 39.33 279 P **P** **01 02 28.6 -1.4**
baz=72
CAMP **Campotosto** 39.33 63 P **P** **01 02 31.2 +1.1**
GERES **GERESS Array B** 39.35 53 P **P** **01 02 29.9 -0.2**
comp=Z,2.7nm,0.9s,baz=269,slow=9.2,SNR=12
GERES PcP **PcP** **01 04 38.5 0.0**
comp=Z,1.7nm,0.8s,baz=202,slow=0.7,SNR=4.9
GERES LR LR 01 16 39.1
comp=Z,806nm,19.8s,baz=272,slow=33
comp=Z,2.7nm,0.9s
GERES **GERESS Array B** 39.35 53 P **P** **01 02 30.9 +0.8**
JMIC **Jan Mayen** 39.38 14 LR LR 01 15 00.6
comp=Z,831nm,19.4s,baz=244,slow=30
URIC **Uribia, Colomb** 39.49 243 P **P** **01 02 31.5 0.0**
URIC IAmb IAmb 01 02 39.3
comp=Z,85nm,1.2s
URIC **Uribia, Colomb** 39.49 243 *e*P **P** **01 02 31.4 -0.1**
X51A **Calhoun** 39.49 284 P **P** **01 02 33.0 +1.6**
UPNV **Upernavik** 39.54 351 *i* P **P** **01 02 31.5 +0.3**
UPNV IAmb IAmb 01 02 38.4
comp=Z,56nm,1.3s
BRG **Berggiesshubel** 39.62 50 *e*P **P** **01 02 32.7 +0.4**
BRG Amp 01 02 38.5
comp=Z,27nm,1.2s
BRG **Berggiesshubel** 39.62 50 P P 01 02 46.5 +14
BRG Amp 01 02 47.6
comp=Z,52nm,1.7s
BRG Amp 01 17 36.0
comp=Z,4.1nm,18.8s
BRG Amp 01 17 48.0
comp=N,0.5nm,12.1s
BRG Amp 01 17 50.0
comp=E,2.9nm,15.7s
BRG **Berggiesshubel** 39.62 50 *e*P **P** **01 02 32.6 +0.4**
BRG pmax pmax
comp=Z,27nm,1.2s
BRG pmax pmax
comp=Z,52nm,1.7s
BRG MLR MLR
comp=N,487nm,12.1s
BRG MLR MLR
comp=E,3µm,15.7s
W50A **Signal Mountai** 39.70 285 P **P** **01 02 33.9 +0.7**
MOA **Molln** 39.71 55 *e*P **P** **01 02 33.6 +0.6**
comp=E,30nm,1.5s
CKRC **Cesky Krumlov** 39.75 53 *e*P **P** **01 02 33.3 -0.1**
CKRC *e*S **S** **01 08 30.0 -7.2**
WCI **Wyandotte Cave** 39.84 290 P **P** **01 02 35.7 +1.5**
WCI **Wyandotte Cave** 39.84 290 P **P** **01 02 32.0 -2.2**
baz=79
WCI **Wyandotte Cave** 39.84 290 P **P** **01 02 35.7 +1.5**
WCI pmax pmax
comp=Z,30nm,1.3s
BLO **Bloomington** 39.85 292 P **P** **01 02 35.5 +1.2**
BLO **Bloomington** 39.85 292 P **P** **01 02 35.5 +1.2**
BLO pmax pmax
comp=Z,33nm,1.0s
152A **Waverly Hall** 39.89 281 P **P** **01 02 35.4 +0.7**
MTDJ **Mount Denham** 39.90 257 P **P** **01 02 36.1 +1.1**
OBKA **Obir** 39.91 57 *e*P **P** **01 02 34.8 0.0**
comp=Z,22nm,0.7s
PRU **Pruhonice** 39.95 51 *e*P **P** **01 02 35.7 +0.8**
PRU *e*S **S** **01 08 41.8 +1.8**
PRU AMS AMS 01 19 30.0
comp=Z,2µm,14.9s
PRU **Pruhonice** 39.95 51 *e*P **P** **01 02 35.7 +0.8**
PRU *e*S **S** **01 08 41.8 +1.8**
PRU MLR MLR
comp=Z,2µm,14.9s
NAO01 **NORSAR Array S** 39.96 34 IAmb IAmb 01 02 37.9
comp=Z,85nm,1.6s
PVCC **Panska Ves** 39.99 51 *e*P **P** **01 02 36.6 +1.3**
PVCC AMS AMS 01 17 50.0
comp=Z,2µm,17.0s
PVCC **Panska Ves** 39.99 51 *e*P **P** **01 02 36.6 +1.3**
PVCC MLR MLR
comp=Z,2µm,17.0s
NC204 **NORSAR Array S** 40.05 33 P **P** **01 02 36.4 +0.7**
Z51A **Franklin** 40.07 282 P **P** **01 02 37.4 +1.2**
GOPC **GO Pecny, Ondr** 40.10 52 *e*P **P** **01 02 37.4 +1.1**
GOPC AMS AMS 01 19 40.0
comp=Z,2µm,15.2s
GOPC **GO Pecny, Ondr** 40.10 52 *e*P **P** **01 02 37.4 +1.1**
GOPC MLR MLR
comp=Z,2µm,15.2s
SFIN **Lafayette** 40.10 294 P **P** **01 02 37.5 +1.2**
SFIN IAmb IAmb 01 02 42.5
comp=Z,178nm,2.0s
SFIN **Lafayette** 40.10 294 P **P** **01 02 34.0 -2.4**
baz=82
VISS **Visnje** 40.14 58 *i* P **P** **01 02 36.7 +0.1**
H43A **Windswept, Lux** 40.16 300 P **P** **01 02 37.0 +0.2**
NB2 **NORSAR Subarra** 40.17 34 P **P** **01 02 36.0 -0.7**
comp=Z,6.4nm,0.7s,baz=252,slow=9.3
NB2 PCP **PcP** **01 04 41.4 +0.6**
comp=Z,1.1nm,0.9s,baz=240,slow=2.6
NB2 **NORSAR Subarra** 40.17 34 P **P** **01 02 36.0 -0.7**
slow=9.3
NOA **NORSAR Array B** 40.17 34 P **P** **01 02 36.0 -0.7**
comp=Z,13nm,0.8s,baz=252,slow=8.6,SNR=29
NOA PcP **PcP** **01 04 40.5 -0.3**
comp=Z,2.5nm,1.0s,baz=52,slow=2.9,SNR=4.4
NOA LR LR 01 17 10.2
comp=Z,1µm,19.0s,baz=250,slow=33
comp=Z,13nm,0.8s
NB201 **NORSAR Array S** 40.21 34 IAmb IAmb 01 02 44.6
comp=Z,83nm,1.2s
NC602 **NORSAR Array S** 40.23 34 IAmb IAmb 01 02 45.3
comp=Z,60nm,1.2s
NC602 **NORSAR Array S** 40.23 34 *e*P **P** **01 02 36.6 -0.5**
RCBR **Riachuelo** 40.23 179 LR LR 01 14 57.6
comp=Z,2µm,21.4s,baz=144,slow=30
RCBR **Riachuelo** 40.23 179 P **P** **01 02 38.5 +0.9**
RCBR **Riachuelo** 40.23 179 P **P** **01 02 38.5 +0.9**
RCBR pmax pmax
comp=Z,37nm,1.2s
SOKA **Soboth** 40.24 57 *e*P **P** **01 02 36.6 -0.9**
comp=Z,2.6nm,0.7s
SOKA *e*PcP **PcP** **01 04 41.4 0.0**
comp=Z,5.1nm,1.1s
DBIC **Dimbokro** 40.30 126 P **P** **01 02 37.9 -0.3**
comp=Z,6.3nm,0.5s,baz=323,slow=7.2,SNR=19
DBIC LR LR 01 17 26.6
comp=Z,4µm,19.7s,baz=324,slow=33
comp=Z,6.3nm,0.5s
DBIC **Dimbokro** 40.30 126 P **P** **01 02 38.8 +0.6**
DBIC **Dimbokro** 40.30 126 *e*P **P** **01 02 38.1 -0.1**
DBIC IAmb IAmb 01 02 45.2
comp=Z,35nm,0.9s
DBIC **Dimbokro** 40.30 126 P **P** **01 02 38.8 +0.6**
DBIC pmax pmax
comp=Z,35nm,1.0s
P46A **Rosedale** 40.30 292 P **P** **01 02 39.4 +1.4**
NC303 **NORSAR Array S** 40.30 34 IAmb IAmb 01 02 43.2
comp=Z,54nm,1.1s
F42A **Maple Grove Fa** 40.34 302 P **P** **01 02 39.5 +1.3**
PAOL **Paolisi** 40.37 65 P **P** **01 02 39.0 +0.4**
352A **Blakely** 40.41 280 P **P** **01 02 39.5 +0.6**
352A IAmb IAmb 01 02 47.2
comp=Z,46nm,1.1s
SDV **Santo Domingo** 40.41 239 LR LR 01 17 53.1
comp=Z,849nm,20.0s,baz=42,slow=34
SDV **Santo Domingo** 40.41 239 P **P** **01 02 40.3 +0.9**
SDV IAmb IAmb 01 02 48.7
comp=Z,93nm,1.1s
L44A **Lake County Fo** 40.47 296 P **P** **01 02 37.9 -1.5**
baz=83
HQIL **Hanson Quary C** 40.48 296 P **P** **01 02 40.7 +1.3**
HQIL IAmb IAmb 01 02 55.0
comp=Z,115nm,1.5s
TREC **Trest** 40.54 53 *e*P **P** **01 02 41.3 +1.4**
TREC *e*S **S** **01 08 53.1 +4.2**
TREC AMS AMS 01 20 30.0
comp=Z,1µm,15.3s
TREC **Trest** 40.54 53 *e*P **P** **01 02 41.3 +1.4**
TREC *e*S **S** **01 08 53.1 +4.2**
TREC MLR MLR
comp=Z,1µm,15.3s
ARSA **Arzberg** 40.56 56 *i* P **P** **01 02 40.1 0.0**
comp=Z,10.0nm,0.9s
ARSA *e*PcP **PcP** **01 04 42.2 -0.1**
comp=Z,5.1nm,1.3s
CRES **Cresnjev** 40.57 58 *i* P **P** **01 02 41.1 +1.0**
DBG **Daneborg** 40.57 7 *i* P **P** **01 02 41.3 +1.6**
DBG IAmb IAmb 01 02 42.8
comp=Z,27nm,1.3s
D41A **Chassel** 40.59 304 P **P** **01 02 41.6 +1.3**
TORD **Torodi Ar. Bea** 40.61 112 P **P** **01 02 40.0 -0.8**
comp=Z,21nm,0.9s,baz=307,slow=8.1,SNR=35
TORD PcP **PcP** **01 04 41.7 -1.1**
comp=Z,2.5nm,0.8s,baz=294,slow=4.6,SNR=1.8
comp=Z,21nm,0.9s
TORD **Torodi Ar. Bea** 40.61 112 P **P** **01 02 40.4 -0.3**
M44A **Midewin, Midew** 40.67 295 P **P** **01 02 42.3 +1.2**
T47A **Sharon Grove** 40.72 288 IAmb IAmb 01 02 47.8
comp=Z,75nm,1.6s
K43A **Burlington** 40.72 297 P **P** **01 02 43.4 +1.9**
V48A **Smith Brothers** 40.77 287 P **P** **01 02 43.5 +1.5**
CONA **Conrad Observa** 40.78 55 *i* P **P** **01 02 42.2 +0.2**
comp=Z,8.1nm,1.0s
CONA *e*PcP **PcP** **01 04 42.4 -0.7**
comp=Z,12nm,1.6s
VAE **Valguarnera** 40.86 71 LR LR 01 16 50.7
comp=Z,1µm,19.0s,baz=359,slow=32
UPC **Upice** 40.91 51 *e*P **P** **01 02 43.5 +0.6**
UPC AMS AMS 01 17 50.0
comp=Z,3µm,17.3s
UPC **Upice** 40.91 51 *e*P **P** **01 02 43.5 +0.6**
UPC MLR MLR
comp=Z,3µm,17.3s
Y49A **Blount Mountai** 40.92 284 IAmb IAmb 01 02 50.8
comp=Z,44nm,1.1s
USIN **University of** 40.95 290 P **P** **01 02 45.4 +2.0**
USIN IAmb IAmb 01 02 50.3
comp=Z,74nm,1.3s
I42A **Draeger Farm,** 41.02 299 P **P** **01 02 45.0 +1.1**
I42A IAmb IAmb 01 02 55.6
comp=Z,71nm,1.6s
OSTC **Ostas** 41.04 51 *e*P **P** **01 02 43.2 -0.8**
OSTC *e*S **S** **01 08 58.3 +1.8**
OSTC AMS AMS 01 18 00.0
comp=Z,3µm,17.1s
HFS **Hagfors** 41.08 36 LR LR 01 17 57.2
comp=Z,1µm,18.6s,baz=240,slow=34
RONA **Rosalia, Austr** 41.08 55 *e*P **P** **01 02 43.5 -0.8**
comp=Z,14nm,1.4s
DPC **Dobruska-Polom** 41.10 51 *e*P **P** **01 02 44.6 0.0**
DPC *e*S **S** **01 08 57.6 +0.2**
DPC AMS AMS 01 19 30.0
comp=Z,2µm,17.3s
DPC **Dobruska-Polom** 41.10 51 *e*P **P** **01 02 44.6 0.0**
DPC *e*S **S** **01 08 57.6 +0.2**
DPC MLR MLR
comp=Z,2µm,17.3s
KRUC **Moravsky** 41.13 53 *e*P **P** **01 02 43.6 -1.1**
OLIL **Olney** 41.14 291 P **P** **01 02 45.9 +0.9**
OLIL IAmb IAmb 01 02 51.8
comp=Z,54nm,1.2s
O44A **Mansfield** 41.17 294 P **P** **01 02 46.8 +1.6**
O44A IAmb IAmb 01 02 52.0
comp=Z,71nm,1.2s
VRAC **Vranov** 41.26 53 LR LR 01 18 26.1
comp=Z,874nm,18.5s,baz=258,slow=34
VRAC **Vranov** 41.26 53 ⇑P **P** **01 02 47.2 +1.4**
VRAC **Vranov** 41.26 53 *e*P **P** **01 02 45.7 -0.1**
VRAC **Vranov** 41.26 53 P **P** **01 02 47.2 +1.4**
X48A **Hartselle** 41.27 285 P **P** **01 02 48.1 +2.0**
KULLO **Kullorsuaq** 41.30 352 *i* P **P** **01 02 46.1 +0.4**
KULLO IAmb IAmb 01 02 55.0
comp=Z,101nm,1.1s
250A **Grady** 41.34 281 P **P** **01 02 48.4 +1.7**
250A IAmb IAmb 01 02 54.2
comp=Z,70nm,1.1s
KRLC **Kraliky** 41.39 51 *e*P **P** **01 02 48.2 +1.3**
KRLC AMS AMS 01 20 30.0
comp=Z,2µm,13.8s
KRLC **Kraliky** 41.39 51 *e*P **P** **01 02 48.2 +1.3**
KRLC MLR MLR
comp=Z,2µm,13.8s
CUC **Castrocucco** 41.47 67 P **P** **01 02 48.7 +1.0**
WVT **Waverly** 41.48 287 P **P** **01 02 47.5 -0.2**
WVT IAmb IAmb 01 02 54.7
comp=Z,48nm,1.1s
WVT **Waverly** 41.48 287 P **P** **01 02 50.5 +2.8**
baz=76,SNR=13
WVT **Waverly** 41.48 287 P **P** **01 02 46.2 -1.5**
baz=76
WVT **Waverly** 41.48 287 P **P** **01 02 47.5 -0.2**
WVT pmax pmax
comp=Z,48nm,1.2s
ZST **Bratislava** 41.61 54 *e*P **P** **01 02 49.5 +0.9**
ZST **Bratislava** 41.61 54 *e*P **P** **01 02 49.5 +0.9**
LRAL **Lakeview Retre** 41.62 283 P **P** **01 02 49.8 +0.8**
LRAL **Lakeview Retre** 41.62 283 P **P** **01 02 50.7 +1.8**
baz=73,SNR=10
LRAL **Lakeview Retre** 41.62 283 P **P** **01 02 46.8 -2.2**
baz=73,SNR=10
MODS **Modra-Piesok** 41.72 54 *e*P **P** **01 02 51.7 +2.1**
MODS pmax pmax
comp=Z,81nm,1.7s
MODS **Modra-Piesok** 41.72 54 *e*P **P** **01 02 51.7 +2.1**
HDIL **Hopedale** 41.73 294 P **P** **01 02 51.2 +1.4**
HDIL **Hopedale** 41.73 294 P **P** **01 02 47.8 -2.0**
baz=81
L42A **Oliver, Polo** 41.79 296 P **P** **01 02 51.6 +1.4**
Q44A **Meyer Farm, Va** 41.81 292 P **P** **01 02 52.1 +1.6**
SMOL **Smolenice** 41.82 54 *e*P **P** **01 02 52.9 +2.5**
SMOL pmax pmax
comp=Z,10.0nm,1.3s
GKP **Gorka Klasztor** 41.83 47 *e*P **P** **01 02 51.8 +1.4**
MORC **Moravsky Berou** 41.88 52 ⇑P **P** **01 02 51.6 +0.7**
MORC **Moravsky Berou** 41.88 52 P **P** **01 02 51.6 +0.7**
MORC **Moravsky Berou** 41.88 52 *e*P **P** **01 02 49.2 -1.8**
MORC **Moravsky Berou** 41.88 52 P **P** **01 02 51.6 +0.7**
MORC pmax pmax
comp=Z,42nm,1.6s
T45A **Paducah** 41.91 289 P **P** **01 02 52.6 +1.4**
T45A IAmb IAmb 01 02 58.1
comp=Z,37nm,0.8s
P43A **Skaggs, Pawnee** 42.06 293 IAmb IAmb 01 02 59.0
comp=Z,46nm,1.1s
JFWS **Jewell Farm** 42.10 298 P **P** **01 02 53.4 +0.7**
JFWS **Jewell Farm** 42.10 298 P **P** **01 02 51.0 -1.8**
baz=83
JFWS **Jewell Farm** 42.10 298 P **P** **01 02 53.4 +0.7**
JFWS pmax pmax
comp=Z,28nm,1.1s
SOR **Soroa** 42.12 266 P **P** **01 02 53.8 +0.6**
SOR IAmb IAmb 01 02 55.8
comp=Z,52nm,1.2s
SOR **Soroa** 42.12 266 P **P** **01 02 53.8 +0.6**
SOR pmax pmax
comp=Z,52nm,1.2s
SIUC **Southern Illin** 42.21 290 P **P** **01 02 55.2 +1.5**
SIUC IAmb IAmb 01 03 00.8
comp=Z,60nm,1.1s
VIKU **Vikbolandet** 42.21 39 *e*P **P** **01 02 53.9 +0.5**
BRAL **Brewton** 42.23 280 P **P** **01 02 55.1 +1.2**
BRAL IAmb IAmb 01 03 01.9
comp=Z,65nm,0.8s
BRAL **Brewton** 42.23 280 P **P** **01 02 53.1 -0.8**
baz=71
S44A **Carbondale** 42.24 290 P **P** **01 02 55.2 +1.2**

S44A IAmb IAmb 01 03 00.9
comp=Z,57nm,0.9s
UTMT University of 42.24 288 P **P** **01 02 55.4 +1.4**
I40A Norwalk 42.25 299 P **P** **01 02 54.5 +0.5**
OKC Ostrava-Krasne 42.27 52 *eP* **P** **01 02 56.9 +2.8**
OKC AMS AMS 01 21 40.0
comp=Z,2µm,13.6s
OKC Ostrava-Krasne 42.27 52 *eP* **P** **01 02 56.9 +2.8**
OKC MLR MLR
comp=Z,2µm,13.6s
TIP Timpagrande 42.33 68 ⇑P **P** **01 02 56.0 +1.3**
TIP Timpagrande 42.33 68 P **P** **01 02 55.1 +0.3**
ARGC Ariguani, Magd 42.37 244 *eP* **P** **01 02 55.6 +0.4**
SRO Srobarova 42.43 55 *eP* P 01 03 00.8 +5.4
SRO Srobarova 42.43 55 *e* P 01 03 00.8 +5.4
Z47A Carrollton 42.44 283 IAmb IAmb 01 03 02.9
comp=Z,51nm,0.8s
EYMN Ely 42.54 305 P **P** **01 02 55.0 -1.3**
baz=87
E38A The Farm, Brul 42.66 303 P **P** **01 02 57.2 -0.1**
E38A IAmb IAmb 01 03 03.4
comp=Z,37nm,0.9s
VYHS Vyhne 42.75 54 *eP* **P** **01 02 59.9 +1.9**
VYHS pmax pmax
comp=Z,40nm,1.8s
VYHS Vyhne 42.75 54 *eP* **P** **01 02 59.9 +1.9**
MORH Mrgy, Hungar 42.76 57 ⇑P **P** **01 02 58.1 0.0**
W45A Hickory Valley 42.79 286 P **P** **01 03 01.5 +3.1**
baz=75,SNR=10
SLM Saint Louis 42.80 292 P **P** **01 02 59.8 +1.3**
SLM IAmb IAmb 01 03 05.0
comp=Z,157nm,1.5s
SLM Saint Louis 42.80 292 P **P** **01 02 59.8 +1.3**
SLM pmax pmax
comp=Z,157nm,1.5s
N41A Harden Midland 42.88 295 IAmb IAmb 01 03 05.8
comp=Z,120nm,1.2s
KONS Konsvik 42.92 27 *eP* **P** **01 02 58.5 -0.5**
L40A Anamosa 42.93 297 IAmb IAmb 01 03 14.8
comp=Z,152nm,1.8s
UPP Uppsala 42.94 37 *eP* **P** **01 02 58.7 -0.5**
TAMC Tame, Arauca 42.95 237 *eP* **P** **01 03 00.8 +0.8**
PAMC Pamplona, Colo 42.95 239 *eP* **P** **01 03 00.2 -0.3**
DAG Danmarks Havn 43.02 6 *iP* **P** **01 02 59.0 -0.8**
DAG IAmb IAmb 01 03 06.0
comp=Z,59nm,1.7s
SJCC San Jacinto, C 43.03 244 *eP* **P** **01 03 01.6 +0.9**
FVM French Village 43.08 291 P **P** **01 03 02.4 +1.6**
FVM French Village 43.08 291 P **P** **01 03 02.4 +1.6**
FVM pmax pmax
comp=Z,23nm,1.0s
OXF Oxford 43.14 286 P **P** **01 03 01.2 -0.1**
baz=74,SNR=21
OXF Oxford 43.14 286 P **P** **01 02 60.0 -1.3**
baz=74,SNR=21
LANS Liptovska Anna 43.15 53 *eP* **P** **01 03 04.7 +3.5**
LANS pmax pmax
comp=Z,15nm,1.3s
LANS Liptovska Anna 43.15 53 *eP* **P** **01 03 04.7 +3.5**
MOR8 Moi Rana 43.29 27 *eP* **P** **01 03 03.0 +0.9**
OJC Ojcow 43.33 51 IAmb IAmb 01 03 11.0
comp=Z,42nm,1.1s
PBMO Poplar Bluff 43.36 289 P **P** **01 03 04.0 +0.9**
PBMO IAmb IAmb 01 03 09.5
comp=Z,54nm,1.1s
146A Union 43.39 283 P **P** **01 03 04.9 +1.5**
146A IAmb IAmb 01 03 11.5
comp=Z,97nm,1.0s
NEEM North Greenlan 43.41 355 *iP* **P** **01 03 01.8 -1.5**
NEEM IAmb IAmb 01 03 09.7
comp=Z,218nm,1.9s
Y45A Yeager Farm, C 43.42 285 P **P** **01 03 03.9 +0.3**
baz=73,SNR=30
PSZ Piszkesteto 43.49 54 P **P** **01 03 05.3 +1.2**
PSZ Piszkesteto 43.49 54 P **P** **01 03 05.3 +1.2**
PSZ pmax pmax
comp=Z,40nm,1.1s
PDG Podgorica 43.64 62 ⇓P **P** **01 03 06.1 +0.9**
PDG Podgorica 43.64 62 P **P** **01 03 06.5 +1.3**
SPMN Marine on St. 43.66 302 P **P** **01 03 06.7 +1.4**
SPMN Marine on St. 43.66 302 P **P** **01 03 03.4 -2.0**
baz=84
KLNR Kaliningrad 43.67 45⇓ *eP* **P** **01 03 05.9 +0.6**
KLNR pmax pmax
comp=Z,116nm,1.2s
FRGS Fruska Gora 43.67 58 ⇑P **P** **01 03 07.4 +1.9**
CCM Cathedral Cave 43.70 291 P **P** **01 03 06.5 +0.8**
CCM Cathedral Cave 43.70 291 P **P** **01 03 06.6 +0.8**
baz=77,SNR=12
CCM Cathedral Cave 43.70 291 P **P** **01 03 05.1 -0.7**
baz=77
CCM Cathedral Cave 43.70 291 P **P** **01 03 06.5 +0.8**
CCM pmax pmax
comp=Z,23nm,1.0s
BARC Barichara 43.81 239 *eP* **P** **01 03 05.4 -1.8**
T42A Van Buren 43.82 290 IAmb IAmb 01 03 13.0
comp=Z,53nm,1.1s
T42A Van Buren 43.82 290 P **P** **01 03 08.2 +1.4**
baz=76,SNR=24
MACA Manacapuru-AM 43.93 216 P **P** **01 03 08.1 +0.3**
K38A Parkersburg 43.97 298 P **P** **01 03 09.1 +1.2**
K38A IAmb IAmb 01 03 22.2
comp=Z,59nm,1.2s
P40A Paris 44.00 293 IAmb IAmb 01 03 14.6
comp=Z,73nm,1.1s
P40A Paris 44.00 293 P **P** **01 03 09.1 +0.9**
baz=78,SNR=25
B35A Bob, Littlefor 44.01 306 IAmb IAmb 01 03 14.1
comp=Z,33nm,1.0s
B35A Bob, Littlefor 44.01 306 P **P** **01 03 07.3 -0.8**
baz=86,SNR=10
FAUS Fauske 44.04 26 *eP* **P** **01 03 08.6 +0.5**
F36A Milaca 44.09 303 P **P** **01 03 09.9 +1.1**
STEI Steigen 44.23 25 *eP* **P** **01 03 10.2 +0.6**
I37A Lemond, Waseca 44.23 300 P **P** **01 03 11.6 +1.6**
I37A IAmb IAmb 01 03 57.7
comp=Z,90nm,1.9s
RUSC La Rusia 44.23 238 IAmb IAmb 01 03 39.2
comp=Z,45nm,1.2s
RUSC La Rusia 44.23 238 *eP* **P** **01 03 10.6 -0.3**
TIR Tirane 44.27 64 P **P** **01 03 11.3 +1.0**
TIR IAmb IAmb 01 03 26.4
comp=Z,106nm,1.9s
TIR Tirane 44.27 64 P **P** **01 03 11.3 +1.0**
TIR pmax pmax
comp=Z,106nm,1.9s
STHS Stebnicka Huta 44.30 52 *eP* **P** **01 03 12.2 +1.7**
STHS pmax pmax
comp=Z,44nm,1.8s
STHS Stebnicka Huta 44.30 52 *eP* **P** **01 03 12.2 +1.7**
ZARC Zaragoza, Cauc 44.40 242 *eP* **P** **01 03 11.2 -0.4**
SCIA State Center 44.42 297 P **P** **01 03 13.7 +2.1**
SCIA IAmb IAmb 01 03 18.2
comp=Z,57nm,1.2s
R40A Maddies Statio 44.43 292 P **P** **01 03 11.8 +0.1**
R40A IAmb IAmb 01 03 17.8
comp=Z,48nm,1.1s
R40A Maddies Statio 44.43 292 P **P** **01 03 12.5 +0.8**
baz=77,SNR=20
CRVS Cervenica-Dubn 44.47 53 *eP* **P** **01 03 14.2 +2.3**
CRVS pmax pmax
comp=Z,112nm,1.3s
CRVS Cervenica-Dubn 44.47 53 *eP* **P** **01 03 14.2 +2.3**
TULEG Thule 44.51 350 *iP* **P** **01 03 12.2 +0.4**
TULEG IAmb IAmb 01 03 18.2
comp=Z,110nm,1.3s
FCC Fort Churchill 44.51 321 IAmb IAmb 01 03 19.1
comp=Z,122nm,1.6s
VBMS Vicksburg 44.70 283 P **P** **01 03 16.5 +2.7**
baz=72,SNR=9.8
VBMS Vicksburg 44.70 283 P **P** **01 03 12.7 -1.1**
baz=72,SNR=9.8
PBUR Paburge 44.73 43 *eP* **P** **01 03 14.5 +0.8**
PTBC PUERTO BERRIO, 44.76 240 *eP* **P** **01 03 13.2 -1.2**
PTGC Puerto Gaitan, 44.79 236 *eP* **P** **01 03 14.8 +0.1**
SIRR Siria 44.84 57 ⇑P **P** **01 03 16.0 +1.2**
BZS Buzias 44.88 58 ⇑P **P** **01 03 15.8 +0.7**
BZS Buzias 44.88 58 P **P** **01 03 15.8 +0.7**
UZH Uzhgorod 45.04 53*c iP* **P** **01 03 20.0 +3.7**
UZH *i* 01 03 27.8
UZH *i* PPP PPP 01 05 41.5
UZH *i* S **S** **01 09 59.3 +4.3**
UZH *i* SS **ScS** **01 13 12.7 -0.9**
UZH *e* SSS SSS 01 14 02.0

UZH MLR MLR
comp=N,140nm,14.0s
UZH MLR MLR
UZH comp=E,170nm,14.0s MLR MLR
UZH MLR MLR
comp=Z,100nm,14.0s
KBN Korca 45.09 65 P **P** **01 03 18.0 +1.0**
KBN IAmb IAmb 01 03 27.9
comp=Z,43nm,1.2s
KBN Korca 45.09 65 P **P** **01 03 18.0 +1.0**
KBN pmax pmax
comp=Z,43nm,1.2s
P38A Dawn 45.10 294 IAmb IAmb 01 03 23.5
comp=Z,60nm,1.2s
P38A Dawn 45.10 294 P **P** **01 03 17.5 +0.5**
baz=78,SNR=15
344A Westbrook Farm 45.12 282 P **P** **01 03 18.6 +1.4**
RAF Rauma 45.16 36 *eP* **P** **01 03 17.6 +0.6**
SURR Surduc 45.22 57 ⇑P **P** **01 03 19.3 +1.5**
BOVS Bovan 45.22 60 ⇓P **P** **01 03 18.0 +0.1**
TRPA Tarpa 45.24 54 ⇓P **P** **01 03 18.9 +0.9**
ULM Lac du Bonnet 45.30 309 P **P** **01 03 16.8 -1.6**
comp=Z,14nm,0.7s,baz=91,slow=7.6,SNR=23
ULM PcP **PcP** **01 04 56.6 -1.4**
comp=Z,5.5nm,1.0s,baz=162,slow=3.2,SNR=2.7
ULM LR LR 01 22 12.5
comp=Z,3µm,18.6s,baz=86,slow=36
comp=Z,14nm,0.7s
S39A Bolivar 45.38 291 P **P** **01 03 19.2 0.0**
S39A IAmb IAmb 01 03 25.4
comp=Z,52nm,0.9s
S39A Bolivar 45.38 291 P **P** **01 03 18.3 -1.0**
baz=76,SNR=37
UALR University of 45.39 287 IAmb IAmb 01 03 25.5
comp=Z,41nm,0.9s
AGMN Agassiz Nation 45.44 306 P **P** **01 03 19.3 -0.3**
AGMN IAmb IAmb 01 03 28.2
comp=Z,25nm,0.9s
AGMN Agassiz Nation 45.44 306 P **P** **01 03 18.8 -0.8**
baz=85,SNR=14
AGMN Agassiz Nation 45.44 306 P **P** **01 03 18.0 -1.6**
baz=85,SNR=14
FNA Florina 45.49 64 P **P** **01 03 20.7 +0.5**
FNA Florina 45.49 64 P **P** **01 03 20.7 +0.5**
FNA pmax pmax
comp=Z,6.0nm,1.0s
CHIC Chingaza 45.58 238 *eP* **P** **01 03 19.9 -1.6**
DJES Djerdap 45.65 59 ⇑P **P** **01 03 22.7 +1.5**
DJES Djerdap 45.65 59 P **P** **01 03 22.3 +1.0**
DBBC Dabeiba 45.70 242 *eP* **P** **01 03 23.1 +1.0**
GZR Gura Zlata 45.72 58 ⇑P **P** **01 03 22.7 +0.8**
GZR Gura Zlata 45.72 58 P **P** **01 03 22.7 +0.8**
NORC Norcasia 45.73 240 *eP* **P** **01 03 21.2 -1.0**
DEV Deva 45.74 57 ⇓P **P** **01 03 22.4 +0.4**
DEV Deva 45.74 57 P **P** **01 03 22.4 +0.4**
MARR Marisel-Cluj 45.79 56 ⇑P **P** **01 03 23.3 +0.8**
ROSC El Rosal 45.84 238 P **P** **01 03 22.9 -0.7**
comp=Z,11nm,0.6s,baz=72,slow=7.3,SNR=7.8
ROSC LR LR 01 20 27.1
comp=Z,2µm,21.2s,baz=34,slow=33
comp=Z,11nm,0.6s
ROSC El Rosal 45.84 238 P **P** **01 03 23.7 +0.1**
ROSC IAmb IAmb 01 03 31.4
comp=Z,92nm,1.6s
ROSC El Rosal 45.84 238 P **P** **01 03 23.7 +0.1**
ROSC pmax pmax
comp=Z,93nm,1.6s
VSVD Vaisvydziai 45.85 43 *eP* **P** **01 03 22.5 -0.1**
PABE Paberze 45.87 44 P **P** **01 03 22.7 -0.1**
PABE Paberze 45.87 44 *eP* **P** **01 03 22.6 -0.2**
MTSE Matsula 45.93 39 *eP* **P** **01 03 23.0 -0.2**
BMR Baia Mare 45.93 55 ⇑P **P** **01 03 23.4 0.0**
BMR Baia Mare 45.93 55 P **P** **01 03 23.4 0.0**
F33A 5 Mile Ranch, 46.01 303 P **P** **01 03 25.0 +0.9**
LVV L'vov 46.08 52 *eP* **P** **01 03 25.4 +0.8**
LVV *e* 01 05 16.4
LVV *eS* **S** **01 10 08.5 -1.6**
LVV *e* 01 13 28.3
LVV *e* 01 14 34.3
LVV MLR MLR
comp=N,600nm,14.8s
LVV MLR MLR
LVV comp=E,700nm,14.8s MLR MLR
comp=Z,1µm,15.5s
TRO Tromso 46.09 24 *eP* **P** **01 03 24.2 -0.1**
CJR Cluj-Napoca 46.11 56 ⇓P **P** **01 03 25.7 +0.7**
CJR Cluj-Napoca 46.11 56 P **P** **01 03 25.6 +0.7**
CBOC Ciudad Bolivar 46.34 241 *eP* **P** **01 03 27.4 +0.1**
D32A Dogwood Acres, 46.34 305 P **P** **01 03 28.7 +2.0**
D32A IAmb IAmb 01 04 35.8
comp=Z,21nm,0.9s
MEF Metsahovi 46.35 37 *eP* **P** **01 03 26.4 -0.1**
N35A Tabor 46.41 296 P **P** **01 03 28.5 +1.2**
342A Flagon Creek P 46.43 282 P **P** **01 03 28.5 +1.0**
342A IAmb IAmb 01 03 34.7
comp=Z,44nm,1.1s
MIAR Mount Ida 46.43 287 P **P** **01 03 27.1 -0.4**
baz=73,SNR=26
MIAR Mount Ida 46.43 287 P **P** **01 03 25.7 -1.8**
baz=73,SNR=26
VTS Vitosha 46.50 62 ⇓P **P** **01 03 29.5 +1.2**
VTS Vitosha 46.50 62 P **P** **01 03 28.6 +0.4**
VTS IAmb IAmb 01 03 37.0
comp=Z,55nm,1.9s
VTS Vitosha 46.50 62 P **P** **01 03 29.4 +1.2**
U38A Gravette 46.52 290 **P** **01 03 28.6 +0.3**
U38A IAmb IAmb 01 03 34.4
comp=Z,44nm,1.1s
U38A Gravette 46.52 290 P **P** **01 03 28.8 +0.5**
baz=74,SNR=17
JETT Jettan, Norway 46.55 24 *eP* **P** **01 03 27.3 -0.7**
ECSD EROS Data Cent 46.57 300 IAmb IAmb 01 03 43.2
comp=Z,43nm,1.2s
ECSD EROS Data Cent 46.57 300 P **P** **01 03 28.6 0.0**
baz=80,SNR=16
ECSD EROS Data Cent 46.57 300 P **P** **01 03 27.3 -1.2**
baz=80,SNR=16
AGG Agios Georgios 46.60 67 P **P** **01 03 28.2 -0.7**
AGG Agios Georgios 46.60 67 P **P** **01 03 28.2 -0.7**
AGG pmax pmax
comp=Z,3.0nm,1.0s
L34A Svendsen Farm, 46.73 298 P **P** **01 03 31.0 +1.2**
ARR Arges 47.02 58 ⇑P **P** **01 03 33.1 +1.0**
H10N2 ASCENSION HYDR 47.08 150 T T 01 53 43.4
baz=334,slow=75
BUR08 Bucovina Ar. S 47.08 54 P **P** **01 03 33.5 +0.9**
BUR08 IAmb IAmb 01 03 41.4
comp=Z,27nm,1.2s
H10N3 ASCENSION HYDR 47.08 150 T T 01 53 43.8
baz=334,slow=75
BURAR Bucovina Array 47.09 54 ⇑P **P** **01 03 33.5 +0.7**
BURAR Bucovina Array 47.09 54 P **P** **01 03 33.6 +0.9**
BURAR Bucovina Array 47.09 54 P **P** **01 03 33.4 +0.7**
RLO Rose Lookout 47.09 290 **P** **01 03 32.7 -0.1**
RLO IAmb IAmb 01 03 39.6
comp=Z,114nm,1.0s
H10N1 ASCENSION HYDR 47.10 150 T T 01 53 44.8
baz=334,slow=75
ORTC Ortega, Tolima 47.15 238 *eP* **P** **01 03 32.8 -0.7**
PLMC San Jos del P 47.19 240 *eP* **P** **01 03 34.2 +0.4**
ASCN Ascension 47.22 149 P **P** **01 03 32.2 -1.6**
FINES FINESS Array B 47.28 35 P **P** **01 03 33.0 -0.8**
comp=Z,12nm,0.7s,baz=264,slow=7.3,SNR=17
FINES LR LR 01 21 48.0
comp=Z,948nm,18.0s,baz=250,slow=34
comp=Z,12nm,0.7s
FINES FINESS Array B 47.28 35 P **P** **01 03 33.0 -0.8**
VOIR 47.30 57 ⇓P **P** **01 03 34.7 +0.4**
VOIR 47.30 57 P **P** **01 03 34.7 +0.4**
441A DeRidder 47.34 282 P **P** **01 03 35.9 +1.3**
MTUR Matau 47.34 58 ⇑P **P** **01 03 34.6 -0.1**
MTUR Matau 47.34 58 P **P** **01 03 34.5 -0.1**
PLVB Pleven 47.35 60 ⇑P **P** **01 03 35.7 +1.1**
HUMR Humele 47.40 59 ⇑P **P** **01 03 36.6 +1.6**
VSU Vasula 47.44 40⇓ *eP* **P** **01 03 33.9 -1.2**
VSU pmax pmax
comp=Z,111nm,1.1s
VSU Vasula 47.44 40 *eP* **P** **01 03 34.5 -0.6**
DOPR Dopca 47.45 57 ⇓P **P** **01 03 35.1 -0.3**
MACC Macarena, Meta 47.45 235 *eP* **P** **01 03 33.4 -2.3**
NACGM Naroch 47.48 44 *eP* **P** **01 03 35.2 -0.3**
comp=N,2µm,1.2s
KSU1 Kansas State U 47.54 294 P **P** **01 03 35.1 -1.1**

KSU1 Kansas State U 47.54 294 P **P** **01 03 36.6 +0.4**
baz=76,SNR=19
KSU1 Kansas State U 47.54 294 P **P** **01 03 34.5 -1.6**
baz=76,SNR=19
COPA Copaceanca 47.64 59 ⇑P **P** **01 03 36.7 -0.1**
NOR Nord 47.66 4 *iP* **P** **01 03 36.1 -0.4**
NOR IAmb IAmb 01 03 42.7
comp=Z,47nm,1.5s
OZUR 47.70 56 ⇑P **P** **01 03 38.9 +1.5**
TUL1 Leonard 47.77 289 **P** **01 03 37.1 -0.9**
TUL1 IAmb IAmb 01 03 44.0
comp=Z,41nm,1.1s
TUL1 Leonard 47.77 289 P **P** **01 03 39.5 +1.6**
baz=73,SNR=14
TUL1 Leonard 47.77 289 P **P** **01 03 36.1 -1.8**
baz=73,SNR=14
N33A J Bar K, Exete 47.78 296 P **P** **01 03 38.7 +0.6**
X37A Clayton 47.83 288 P **P** **01 03 38.1 -0.3**
baz=72,SNR=29
MLR Muntele Rosu 47.91 57 ⇑P **P** **01 03 40.6 +1.4**
MLR Muntele Rosu 47.91 57 P **P** **01 03 40.0 +0.9**
MLR IAmb IAmb 01 03 55.1
comp=Z,55nm,1.3s
MLR Muntele Rosu 47.91 57 P **P** **01 03 40.5 +1.4**
Z38A Mt. Pleasant 47.94 286 P **P** **01 03 40.4 +1.1**
Z38A IAmb IAmb 01 03 46.2
comp=Z,26nm,1.2s
MDND Maddock 47.98 306 P **P** **01 03 40.6 +1.1**
baz=82,SNR=8.6
MDND Maddock 47.98 306 P **P** **01 03 37.7 -1.8**
baz=82,SNR=8.6
COVR Voineasa-Covas 48.03 57 ⇑P **P** **01 03 40.5 +0.5**
T35A Sooner Cattle 48.04 291 **P** **01 03 39.9 -0.2**
T35B Sooner Cattle 48.04 291 P **P** **01 03 40.7 +0.6**
baz=74,SNR=23
SUSD Miller 48.10 301 P **P** **01 03 39.0 -1.4**
baz=79
MNK Minsk 48.14 45 *iP* **P** **01 03 39.1 -1.4**
comp=E,9.0nm,0.9s
MNK *iP* **P** **01 03 39.1 -1.4**
comp=N,12nm,0.9s
MNK *iP* **P** **01 03 39.1 -1.4**
comp=Z,92nm,0.9s,baz=273
MNK *i* PcP **PcP** **01 05 06.4 -1.5**
MNK *i* PP **PP** **01 05 31.5 -1.1**
MNK *i* PPP PPP 01 06 18.8
MNK *i* S **S** **01 10 39.5 +0.3**
MNK *i* SS **SS** **01 14 09.7 +1.6**
MNK *i* LQ LQ 01 17 53.0
MNK *i* LR LR 01 20 11.7
MNK *i* LRM MLR 01 22 32.6
comp=Z,3µm,17.3s
MNK *i* LRM MLR 01 22 45.9
comp=N,1µm,17.7s
MNK *i* LRM MLR 01 22 46.1
comp=E,425nm,17.6s
MNK Minsk 48.14 45 *iP* **P** **01 03 39.1 -1.4**
MNK *i* 01 05 06.4
MNK *i* 01 05 31.5
MNK *i* PPP PPP 01 06 18.8
MNK *i* S **S** **01 10 39.5 +0.3**
MNK *i* SS **SS** **01 14 09.6 +1.6**
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=Z,92nm,0.9s
BGNE Belgrade 48.14 297 P **P** **01 03 39.2 -1.7**
baz=77
NATX Nacogdoches 48.17 284 P **P** **01 03 42.5 +1.3**
baz=70,SNR=6.2
NATX Nacogdoches 48.17 284 P **P** **01 03 39.8 -1.4**
baz=70,SNR=6.2
ARCES ARCESS Array B 48.27 25 P **P** **01 03 40.3 -1.1**
comp=Z,16nm,0.8s,baz=268,slow=7.3,SNR=15
ARCES PcP **PcP** **01 05 06.2 -2.0**
comp=Z,9.8nm,1.0s,baz=251,slow=5.6,SNR=2.4
ARCES LR LR 01 22 17.1
comp=Z,492nm,19.2s,baz=252,slow=34
comp=Z,16nm,0.8s
K31A O'Neill 48.32 299 P **P** **01 03 42.7 +0.5**
K31A IAmb IAmb 01 03 47.6
comp=Z,54nm,1.1s
DEOK Depew 48.33 290 **P** **01 03 42.4 +0.1**
DEOK IAmb IAmb 01 03 48.1
comp=Z,47nm,1.0s
PLOR Plostina 48.33 57 ⇓P **P** **01 03 43.0 +0.6**
PLOR Plostina 48.33 57 P **P** **01 03 42.9 +0.6**
ISR Istrita 48.39 58 ⇓P **P** **01 03 43.4 +0.6**
ISR Istrita 48.39 58 P **P** **01 03 43.3 +0.6**
QUOK Quay 48.40 290 **P** **01 03 42.5 -0.4**
OK044 Pawnee Station 48.41 290 **P** **01 03 42.5 -0.5**
OK045 Pawnee Station 48.49 291 **P** **01 03 44.0 +0.5**
OK046 Pawnee Station 48.49 290 **P** **01 03 43.5 -0.1**
RDO Rodhopi 48.49 63 P **P** **01 03 43.6 +0.1**
RDO IAmb IAmb 01 03 58.7
comp=Z,41nm,1.4s
OK053 SW of W Deep R 48.51 290 **P** **01 03 43.6 -0.1**
OK048 Pawnee Station 48.51 291 **P** **01 03 43.1 -0.6**
OK052 Battle Ridge R 48.53 290 **P** **01 03 43.8 -0.1**
OK030 Cody Creek RV 48.53 290 P **P** **01 03 43.8 -0.1**
GARC Garzon, Huila 48.55 237 *eP* **P** **01 03 43.0 -1.6**
OK050 Pawnee Station 48.55 290 P **P** **01 03 43.4 -0.6**
OK031 S. Brethren Rd 48.57 290 **P** **01 03 43.8 -0.4**
OK033 Mehan 48.62 290 **P** **01 03 44.9 +0.3**
ESPN Las Esperanzas 48.67 255 P **P** **01 03 45.3 +0.2**
RES Resolute Bay 48.70 342 LR LR 01 21 20.1
comp=Z,652nm,20.4s,baz=138,slow=32
RES Resolute Bay 48.70 342 P **P** **01 03 44.7 +0.1**
RES Resolute Bay 48.70 342 P **P** **01 03 44.7 +0.1**
RES pmax pmax
comp=Z,80nm,1.4s
KS20 Mayfield South 48.75 292 **P** **01 03 46.9 +1.3**
FFC Flin Flon 48.76 315 P **P** **01 03 45.4 +0.1**
FFC IAmb IAmb 01 03 51.3
comp=Z,24nm,1.0s
FFC Flin Flon 48.76 315 P **P** **01 03 45.4 +0.1**
FFC pmax pmax
comp=Z,24nm,1.0s
KAN09 Caldwell North 48.83 292 **P** **01 03 47.1 +1.0**
KAN09 IAmb IAmb 01 03 52.1
comp=Z,58nm,1.1s
W35A Tecumseh 48.83 289 P **P** **01 03 46.8 +0.6**
E28A Huff 48.92 305 P **P** **01 03 46.4 -0.3**
KAN01 Argonia South 48.93 292 **P** **01 03 48.1 +1.1**
KAN06 Argonia West S 48.98 292 P **P** **01 03 48.7 +1.4**
SPITS Spitsbergen Ar 49.00 13 LR LR 01 19 02.7
comp=Z,1µm,19.4s,baz=218,slow=30
237A Washetta, Mont 49.01 285 P **P** **01 03 49.2 +1.7**
OK025 Westminster Rd 49.06 290 **P** **01 03 47.2 -0.8**
KAN08 Anthony NE Sta 49.07 292 **P** **01 03 49.0 +1.0**
KAN12 Harper NE Stat 49.07 292 P **P** **01 03 49.6 +1.5**
OK029 Liberty Lake 49.09 290 **P** **01 03 49.0 +0.8**
GC02 Grant County # 49.09 291 **P** **01 03 48.8 +0.6**
SORM Soroca 49.11 53 ⇑P **P** **01 03 46.9 -1.2**
SORM Soroca 49.11 53 P **P** **01 03 46.9 -1.2**
KAN14 Manchester OK 49.14 292 P **P** **01 03 48.1 -0.5**
FNO Franklin 49.21 289 **P** **01 03 49.8 +0.7**
BCOK Bluff Creek, N 49.25 290 **P** **01 03 49.4 0.0**
BCOK IAmb IAmb 01 03 55.5
comp=Z,31nm,1.1s
CROK Carrier 49.29 291 **P** **01 03 49.6 -0.1**
AK05 Malin Array Si 49.30 50 P **P** **01 03 48.9 -0.7**
AKASG Malin Array Be 49.30 50 P **P** **01 03 49.1 -0.4**
comp=Z,41nm,1.1s,baz=274,slow=7.6,SNR=33
AKASG LR LR 01 23 07.5
comp=Z,1µm,18.9s,baz=266,slow=34
comp=Z,41nm,1.1s
AKBB Malin Array Si 49.30 50 *eP* **P** **01 03 48.3 -1.3**
R32A Long Quarter, 49.30 294 P **P** **01 03 49.8 0.0**
R32A IAmb IAmb 01 03 55.6
comp=Z,59nm,1.0s
R32A Long Quarter, 49.30 294 P **P** **01 03 49.8 0.0**
baz=74,SNR=13
PUL Pulkovo 49.30 38⇑ *eP* **P** **01 03 49.7 +0.3**
PUL pmax pmax
comp=Z,44nm,1.0s
OK032 Salt Plains WL 49.38 291 **P** **01 03 50.4 0.0**
LOOK Love County 49.44 288 P **P** **01 03 50.5 -0.4**
HARR Harsova 49.44 58 ⇑P **P** **01 03 50.7 0.0**
HARR Harsova 49.44 58 P **P** **01 03 50.7 0.0**
CFR Carcaliu 49.48 57 ⇑P **P** **01 03 52.2 +1.1**
CFR Carcaliu 49.48 57 P **P** **01 03 52.1 +1.1**

ACON Acoyapa 49.50 255 P **P** **01 03 52.2 +0.7**
EUNU Eureka 49.51 350 P **P** **01 03 50.7 -0.2**
MATN Matagalpa 49.55 257 P **P** **01 03 52.7 +0.7**
TLBR Topalu 49.55 58 ⇓P **P** **01 03 51.2 -0.4**
IDI Anoyia 49.59 71 P **P** **01 03 51.7 -0.4**
KIS Kishinev 49.61 55 *e*P **P** **01 03 52.0 0.0**
KIS *e*L L 01 19 36.0
KIS LQM 01 19 48.0
comp=Z,600nm,20.0s
KIS LRM MLR 01 26 23.0
comp=Z,500nm,14.0s
KIS Kishinev 49.61 55 *e*P **P** **01 03 52.0 0.0**
KIS *e* 01 03 58.0
KIS MLR MLR
comp=Z,500nm,14.0s
COVE Coope Vega, Sa 49.62 253 P **P** **01 03 53.5 +1.1**
BOAB BOACO BROADBAND 49.62 256 P **P** **01 03 53.1 +0.7**
MILM Milestii Mici 49.62 55 *i*P **P** **01 03 51.8 -0.3**
comp=Z,470nm,3.8s
MILM *e*L L 01 18 50.0
MILM LQM 01 20 01.0
comp=Z,1μm,18.0s
MILM LRM MLR 01 26 23.0
comp=Z,900nm,14.5s
MILM Milestii Mici 49.62 55 ⇓P **P** **01 03 51.8 -0.3**
MILM Milestii Mici 49.62 55*c i*P **P** **01 03 51.8 -0.3**
MILM pmax pmax
comp=Z,470nm,3.8s
MILM MLR MLR
comp=Z,1μm,15.0s
MILM MLR MLR
comp=E,900nm,14.5s
SRBA San Rafael, Bu 49.69 251 P **P** **01 03 53.8 +0.7**
VADS Vadso 49.70 24 *e*P **P** **01 03 51.4 -0.9**
Z35A Perchaven, San 49.71 287 P **P** **01 03 52.3 -0.6**
Z35A Perchaven, San 49.71 287 P **P** **01 03 52.5 -0.5**
baz=70,SNR=11
X34A Smith Ranch, M 49.75 289 IAmb IAmb 01 04 00.1
comp=Z,67nm,1.1s
HKT Hockley 49.76 282 P **P** **01 03 54.2 +1.0**
HKT Hockley 49.76 282 P **P** **01 03 54.2 +1.0**
HKT pmax pmax
comp=Z,22nm,1.0s
RIMA Rio Macho 49.76 252 P **P** **01 03 55.5 +1.7**
OK035 E0210 Rd and N 49.79 291 P **P** **01 03 54.4 +0.8**
TBTG Tabatinga, AM 49.79 226 P **P** **01 03 54.0 +0.3**
TBTG Tabatinga, AM 49.79 226 *e*P **P** **01 03 52.1 -1.6**
PEZE Perez Zeledon, 49.85 251 P **P** **01 03 54.9 +0.6**
PEZE IAmb IAmb 01 04 02.5
comp=Z,56nm,1.3s
OK038 West end E0370 49.88 291 P **P** **01 03 54.0 -0.2**
OK038 IAmb IAmb 01 04 00.2
comp=Z,60nm,0.9s
CBKS Cedar Bluff 49.97 294 IAmb IAmb 01 03 58.4
comp=Z,38nm,0.8s
CBKS Cedar Bluff 49.97 294 P **P** **01 03 55.6 +0.7**
baz=74,SNR=12
CBKS Cedar Bluff 49.97 294 P **P** **01 03 53.2 -1.7**
baz=74,SNR=12
NOKA Waynoka 49.98 291 **P** **01 03 56.1 +1.1**
TGUH Tegucigalpa,Un 50.01 259 P **P** **01 03 56.4 +0.8**
TGUH IAmb IAmb 01 04 58.0
comp=Z,62nm,1.2s
FW06 Azle 50.07 286 IAmb IAmb 01 04 02.0
comp=Z,56nm,1.1s
CSTR Hydro, Custer 50.09 290 P **P** **01 03 56.8 +0.9**
JTS Las Juntas de 50.30 253 LR LR 01 23 02.3
comp=Z,2μm,19.6s,baz=52,slow=34
JTS Las Juntas de 50.30 253 P **P** **01 03 58.4 +0.7**
JTS IAmb IAmb 01 04 05.1
comp=Z,41nm,1.4s
JTS Las Juntas de 50.30 253 P **P** **01 03 58.4 +0.7**
JTS pmax pmax
comp=Z,41nm,1.5s
WHTX Lake Whitney, **50.33 285** P **P** **01 03 57.5 -0.1**
baz=69,SNR=22
WHTX Lake Whitney, **50.33 285** P **P** **01 03 56.7 -1.0**
baz=69,SNR=22
PURM Purcari 50.41 55 ⇑P **P** **01 03 57.9 -0.2**
JACO JACO, Garabito 50.45 252 P **P** **01 03 59.1 +0.4**
WMOK Wichita Mounta 50.45 289 **P** **01 03 58.7 +0.1**
WMOK IAmb IAmb 01 04 04.8
comp=Z,40nm,1.0s
WMOK Wichita Mounta 50.45 289 P **P** **01 03 57.8 -0.8**
baz=71,SNR=31
WMOK Wichita Mounta 50.45 289 P **P** **01 03 56.9 -1.7**
baz=71,SNR=31
WMOK Wichita Mounta 50.45 289 P **P** **01 03 58.7 +0.1**
WMOK pmax pmax
comp=Z,40nm,1.0s
GCUF Volcan Galeras 50.52 238 *e*P **P** **01 03 58.5 -1.4**
ELIS Ellis County 50.53 291 P **P** **01 04 00.3 +1.1**
BALB Balikesir 50.60 64 P **P** **01 04 00.4 +0.8**
BALB IAmb IAmb 01 04 28.8
comp=Z,89nm,1.4s
PETF Flores 50.60 264 P **P** **01 04 00.6 +0.7**
PETF IAmb IAmb 01 04 07.0
comp=Z,69nm,1.2s
435B Jarrell 50.86 284 P **P** **01 04 00.3 -1.4**
baz=68
APA Apatity 50.88 28 ⇓*i*P **P** **01 04 01.3 0.0**
APA *i* S **S** **01 11 17.0 -0.3**
APA *i* 01 13 44.0
APA *i* SS **SS** **01 14 51.0 -0.5**
APA pmax pmax
comp=Z,18nm,0.7s
DGMT Dagmar 50.92 308 P **P** **01 04 03.1 +1.2**
DGMT IAmb IAmb 01 04 08.5
comp=Z,82nm,1.2s
DGMT Dagmar 50.92 308 P **P** **01 04 04.0 +2.1**
baz=79,SNR=6.6
DGMT Dagmar 50.92 308 P **P** **01 04 00.9 -1.0**
baz=79,SNR=6.6
OGNE Ogallala 51.10 298 P **P** **01 04 04.1 +0.6**
OGNE IAmb IAmb 01 04 08.9
comp=Z,32nm,0.8s
OGNE Ogallala 51.10 298 P **P** **01 04 02.6 -0.9**
baz=75
BDFB Brasilia 51.17 194 P **P** **01 04 04.3 +0.2**
comp=Z,41nm,0.9s,baz=21,slow=8.1,SNR=46
BDFB LR LR 01 23 43.1
comp=Z,580nm,18.3s,baz=358,slow=34
comp=Z,41nm,0.9s
BDFB Brasilia 51.17 194 P **P** **01 04 04.8 +0.7**
BDFB IAmb IAmb 01 04 06.0
comp=Z,68nm,1.1s
BDFB Brasilia 51.17 194 P **P** **01 04 04.8 +0.7**
BDFB pmax pmax
comp=Z,68nm,1.1s
TULM Tulcn-Chalpat 51.19 238 P **P** **01 04 05.5 +0.7**
MANT Manisa 51.43 66 P **P** **01 04 07.0 +0.8**
MTO3 Montecristo 51.52 261 P **P** **01 04 08.1 +1.1**
MTO3 IAmb IAmb 01 04 13.5
comp=Z,52nm,1.2s
RSSD Black Hills 51.73 302 P **P** **01 04 09.5 +1.2**
RSSD Black Hills 51.73 302 P **P** **01 04 06.8 -1.5**
baz=76
RSSD Black Hills 51.73 302 P **P** **01 04 09.5 +1.2**
RSSD pmax pmax
comp=Z,12nm,1.3s
735A Kenedy 51.77 282 P **P** **01 04 10.2 +1.7**
IMBA Imbabura, San 51.79 238 P **P** **01 04 10.6 +1.3**
ABTX Abilene, Hawle 51.84 287 P **P** **01 04 09.2 +0.1**
ABTX IAmb IAmb 01 04 15.4
comp=Z,39nm,1.1s
ABTX Abilene, Hawle 51.84 287 P **P** **01 04 10.2 +1.1**
baz=69,SNR=11
ABTX Abilene, Hawle 51.84 287 P **P** **01 04 08.0 -1.0**
baz=69,SNR=11
OTAV Otavalo 52.00 238 P **P** **01 04 11.5 +0.6**
OTAV Otavalo 52.00 238 P **P** **01 04 11.5 +0.6**
OTAV pmax pmax
comp=Z,97nm,1.3s
KSCO Kaye Shedlock' 52.08 295 P **P** **01 04 11.7 +0.8**
KSCO IAmb IAmb 01 04 16.9
comp=Z,54nm,1.2s
KSCO Kaye Shedlock' **52.08 295** P **P** **01 04 09.7 -1.2**
baz=73
PULU Pululahua 52.19 238 P **P** **01 04 13.4 +1.2**
ETMB Extrema 52.40 218 IAmb IAmb 01 04 20.2
comp=Z,54nm,1.2s
BORA Eskisehir 52.44 63 P **P** **01 04 14.0 +0.5**
LAO LASA Array 52.63 306 IAmb IAmb 01 04 21.2
comp=Z,44nm,1.0s
LAO LASA Array 52.63 306 P **P** **01 04 16.8 +2.0**
baz=77,SNR=18
LAO LASA Array 52.63 306 P **P** **01 04 13.7 -1.1**
baz=77,SNR=18
AMTX Amarillo 52.66 290 IAmb IAmb 01 04 21.7
comp=Z,72nm,1.1s
AMTX Amarillo 52.66 290 P **P** **01 04 17.2 +2.1**
baz=70,SNR=14
AMTX Amarillo 52.66 290 P **P** **01 04 13.6 -1.6**
baz=70
SLOR San Lorenzo - 52.72 237 P **P** **01 04 17.4 +1.1**
SLOR IAmb IAmb 01 04 25.4
comp=Z,40nm,1.3s
JCT Junction City 52.75 284 P **P** **01 04 15.2 -0.6**
JCT IAmb IAmb 01 04 22.1
comp=Z,47nm,0.9s
JCT Junction City 52.75 284 P **P** **01 04 15.7 -0.1**
baz=68,SNR=19
JCT Junction City 52.75 284 P **P** **01 04 14.2 -1.7**
baz=68,SNR=19
JCT Junction City 52.75 284 P **P** **01 04 15.2 -0.6**
JCT pmax pmax
comp=Z,47nm,0.9s
MDUB Mudurnu 52.82 62 P **P** **01 04 17.7 +1.4**
BRIGG Briggsdale 52.87 298 P **P** **01 04 18.0 +1.2**
ELL Elmali 52.99 67 P **P** **01 04 18.8 +1.2**
ELL Elmali 52.99 67 P **P** **01 04 18.8 +1.2**
ELL pmax pmax
comp=Z,87nm,1.2s
OBN Obninsk 53.07 43 LR LR 01 26 10.3
comp=Z,556nm,18.9s,baz=270,slow=35
OBN Obninsk 53.07 43 ⇑P **P** **01 04 17.6 -0.1**
OBN Obninsk 53.07 43 P **P** **01 04 17.9 +0.1**
OBN Obninsk 53.07 43*d i*P **P** **01 04 17.3 -0.4**
OBN *i* *PP **pP** **01 04 18.7 -1.3**
OBN *i* *SP **sP** **01 04 21.0 +0.1**
OBN *e*S **S** **01 11 44.8 -2.8**
OBN pmax pmax
comp=Z,78nm,1.1s
833A Chaparral WMA, 53.26 282 P **P** **01 04 19.8 +0.2**
833A IAmb IAmb 01 04 25.1
comp=Z,32nm,1.1s
833A Chaparral WMA, **53.26 282** P **P** **01 04 18.2 -1.3**
baz=66
PORT Chimborazo Vol 53.44 237 P **P** **01 04 22.1 +0.4**
PORT IAmb IAmb 01 04 30.7
comp=Z,37nm,1.2s
PHWY Pilot Hill 53.49 299 P **P** **01 04 21.3 -0.1**
CHSH Refugio Sur-Vo 53.52 237 P **P** **01 04 22.9 +0.6**
CHSH IAmb IAmb 01 04 30.3
comp=Z,69nm,1.5s
MOS Moscow 53.56 43 *e*P **P** **01 04 22.6 +1.2**
MOS *e* 01 05 27.6
MOS pmax pmax
comp=Z,46nm,1.2s
MOS MLR MLR
comp=Z,2μm,17.0s
SIM Simferopol' 53.66 56 *e*P **P** **01 04 23.3 +1.0**
SIM *e*S **S** **01 11 54.0 -2.1**
SIM *e*SS **SS** **01 15 33.0 -3.3**
SIM pmax pmax
comp=Z,40nm,1.1s
SIM MLR MLR
comp=Z,630nm,18.1s
KLMR Klimovskoe 53.80 36 *e*P **P** **01 04 20.5 -2.6**
KLMR AMP 01 04 26.0
comp=Z,52nm,1.2s
KLMR *e*PcP **PcP** **01 05 25.5 -3.3**
KLMR *e*PP **PP** **01 06 19.8 -3.9**
KLMR LR LR 01 21 41.9
KLMR AMP 01 26 09.5
comp=Z,2μm,16.6s
KLMR Klimovskoe 53.80 36 *e*P **P** **01 04 20.4 -2.6**
KLMR *e* 01 05 25.4
KLMR *e* 01 06 19.7
KLMR pmax pmax
comp=Z,52nm,1.2s
MSTX Muleshoe 53.82 290 P **P** **01 04 24.2 +0.4**
MSTX IAmb IAmb 01 04 29.8
comp=Z,69nm,1.4s
MSTX Muleshoe 53.82 290 P **P** **01 04 24.9 +1.1**
baz=69,SNR=8.5
MSTX Muleshoe 53.82 290 P **P** **01 04 22.2 -1.6**
baz=69,SNR=8.5
K22A Casper 53.87 301 P **P** **01 04 24.1 0.0**
K22A Casper 53.87 301 P **P** **01 04 23.0 -1.0**
baz=74
N23A Red Feather La 53.96 299 IAmb IAmb 01 04 31.5
comp=Z,46nm,1.1s
N23A Red Feather La 53.96 299 P **P** **01 04 23.5 -1.4**
baz=73,SNR=20
Q24A Divide 53.96 296 P **P** **01 04 26.2 +1.1**
Q24A Divide 53.96 296 P **P** **01 04 22.5 -2.5**
baz=72
T25A Trinidad 53.99 294 P **P** **01 04 24.9 -0.3**
T25A IAmb IAmb 01 04 32.1
comp=Z,18nm,0.9s
T25A Trinidad 53.99 294 P **P** **01 04 24.5 -0.7**
baz=71,SNR=9.7
ISCO Idaho Springs 54.05 297 P **P** **01 04 25.5 -0.1**
ISCO Idaho Springs 54.05 297 P **P** **01 04 26.6 +1.0**
baz=72,SNR=12
ISCO Idaho Springs 54.05 297 P **P** **01 04 25.0 -0.6**
baz=72,SNR=12
ISCO Idaho Springs 54.05 297 P **P** **01 04 25.5 -0.1**
ISCO pmax pmax
comp=Z,11nm,0.9s
BR231 Keskin MP Arra 54.16 63 P **P** **01 04 26.8 +0.6**
BR231 IAmb IAmb 01 04 33.8
comp=Z,35nm,1.2s
ANTO Ankara 54.16 63 P **P** **01 04 26.6 +0.5**
ANTO IAmb IAmb 01 04 33.8
comp=Z,40nm,1.3s
ANTO Ankara 54.16 63 P **P** **01 04 26.7 +0.5**
ANTO pmax pmax
comp=Z,40nm,1.3s
CZSB Cruzeiro do Su 54.27 226 IAmb IAmb 01 04 32.8
comp=Z,40nm,0.9s
ILGA Ilgaz 54.47 61 P **P** **01 04 28.8 +0.2**
ILGA IAmb IAmb 01 04 36.4
comp=Z,62nm,1.2s
YKA Yellowknife Ar 54.56 326 P **P** **01 04 27.9 -0.7**
comp=Z,14nm,1.1s,baz=83,slow=6.7,SNR=42
YKA PcP **PcP** **01 05 31.9 +0.3**
comp=Z,7.8nm,1.1s,baz=80,slow=3.5,SNR=5.3
comp=Z,14nm,1.1s
SDCO Great Sand Dun 54.62 295 P **P** **01 04 30.6 +0.8**
baz=71,SNR=14
SDCO Great Sand Dun 54.62 295 P **P** **01 04 29.2 -0.5**
baz=71,SNR=14
RWWY Rawlins 54.63 300 P **P** **01 04 29.8 0.0**
RWWY IAmb IAmb 01 04 35.0
comp=Z,28nm,0.9s
EGMT Eagleton 54.64 308 IAmb IAmb 01 04 35.7
comp=Z,66nm,1.5s
EGMT Eagleton 54.64 308 P **P** **01 04 28.4 -1.1**
baz=76,SNR=12
BR131 Keskin Array S 54.83 63 IAmb IAmb 01 04 38.5
comp=Z,36nm,1.1s
BR131 Keskin Array S 54.83 63*c i*P **P** **01 04 31.4 +0.3**
BR131 Keskin Array S 54.83 63 P **P** **01 04 31.4 +0.3**
SNR=7.4
BR131 P **P** **01 04 31.4 +0.3**
SNR=7.4
BRTR Keskin Array B 54.83 63 P **P** **01 04 30.9 -0.1**
comp=Z,30nm,1.2s,baz=278,slow=5.3,SNR=20
BRTR PcP **PcP** **01 05 32.3 -1.0**
comp=Z,4.1nm,1.0s,baz=296,slow=4.0,SNR=1.7
BRTR LR LR 01 26 21.8
comp=Z,620nm,19.3s,baz=298,slow=34
comp=Z,30nm,1.2s
LPSR Galich'ya Gora 54.92 46 *e*P **P** **01 04 31.3 0.0**
LPSR pmax pmax
comp=Z,90nm,1.0s
CPRX Cap Rock 55.01 289 P **P** **01 04 32.8 +0.3**
HTMS Hat Mesa 55.03 288 P **P** **01 04 33.0 +0.4**
RLMT Red Lodge 55.08 304 P **P** **01 04 31.8 -1.1**
baz=74,SNR=12
GCMT Greycliff 55.17 305 P **P** **01 04 34.8 +1.3**
SMCO Snowmass 55.24 297 P **P** **01 04 35.3 +0.9**
SMCO IAmb IAmb 01 04 41.1
comp=Z,24nm,1.1s
VORR Voronezh 55.30 47 *e*P **P** **01 04 34.0 -0.1**
VORR pmax pmax
comp=Z,110nm,1.0s
VSR Storozhevoye 55.38 48 *e*P **P** **01 04 34.4 -0.3**
VSR pmax pmax
comp=Z,30nm,1.1s
SIV San Ignacio 55.49 209 LR LR 01 26 16.6
comp=Z,602nm,20.0s,baz=42,slow=34
S22A 4UR Ranch, Cre 55.61 295 P **P** **01 04 38.2 +1.3**
S22A 4UR Ranch, Cre 55.61 295 P **P** **01 04 36.6 -0.3**
baz=70,SNR=15
EDM Edmonton 55.62 315 P **P** **01 04 37.5 +1.1**
EDM IAmb IAmb 01 04 39.4
comp=Z,50nm,1.0s
EDM Edmonton 55.62 315 P **P** **01 04 37.5 +1.1**
EDM pmax pmax
comp=Z,50nm,1.0s
YMP Mirror Lake Pl 55.79 304 P **P** **01 04 39.1 +0.9**
YMP IAmb IAmb 01 04 44.8
comp=Z,35nm,1.0s
ARNL Arenillas 55.83 236 IAmb IAmb 01 04 46.1
comp=Z,74nm,1.4s
O20A White River Ci 55.86 298 IAmb IAmb 01 05 04.3
comp=Z,56nm,1.4s
O20A White River Ci 55.86 298 P **P** **01 04 37.3 -1.3**
baz=71,SNR=14
PD31 Pinedale Array 55.97 302 IAmb IAmb 01 04 45.2
comp=Z,33nm,1.2s
PDAR Pinedale Array 55.97 302 P **P** **01 04 38.0 -1.4**
comp=Z,11nm,0.9s,baz=76,slow=6.3,SNR=47
PDAR LR LR 01 27 45.3
comp=Z,3μm,21.2s,baz=82,slow=35
comp=Z,11nm,0.9s
PDAR Pinedale Array 55.97 302 P **P** **01 04 39.4 0.0**
ANN Anapa 55.97 56 *e*P **P** **01 04 35.5 -3.5**
ANN MLR MLR
comp=Z,1μm,17.0s
BW06 Boulder Array 55.97 302 IAmb IAmb 01 04 45.2
comp=Z,36nm,1.2s
BW06 Boulder Array 55.97 302 P **P** **01 04 38.0 -1.4**
baz=72,SNR=29
LKWY Lake 56.01 304 P **P** **01 04 40.9 +1.2**
LKWY IAmb IAmb 01 04 47.2
comp=Z,50nm,1.8s
LKWY Lake 56.01 304 P **P** **01 04 40.9 +1.2**
LKWY pmax pmax
comp=Z,50nm,1.8s
YUF Upper Falls 56.05 304 P **P** **01 04 41.7 +1.8**
YUF IAmb IAmb 01 04 52.4
comp=Z,84nm,1.8s
YNR Norris Junctio 56.16 304 P **P** **01 04 42.4 +1.7**
YNR IAmb IAmb 01 05 46.1
comp=Z,48nm,1.8s
H17A Grant Village 56.18 304 P **P** **01 04 42.2 +1.3**
H17A Grant Village 56.18 304 P **P** **01 04 39.5 -1.4**
baz=73
CSS Mathiatis 56.21 68 P **P** **01 04 41.4 +0.5**
TXAR Lajitas Array 56.28 285 P **P** **01 04 40.8 -0.9**
comp=Z,13nm,0.8s,baz=87,slow=7.1,SNR=72
comp=Z,13nm,0.8s
TX31 Lajitas Ar. Si 56.28 285 P **P** **01 04 40.7 -0.9**
baz=66,SNR=45
TX32 Lajitas Array 56.28 285 IAmb IAmb 01 04 48.2
comp=Z,29nm,1.1s
ANMO Albuquerque 56.31 292 LR LR 01 27 21.4
comp=Z,3μm,19.7s,baz=162,slow=34
ANMO Albuquerque 56.31 292 P **P** **01 04 41.9 +0.1**
ANMO Albuquerque 56.31 292 P **P** **01 04 42.0 +0.1**
baz=68,SNR=14
ANMO Albuquerque 56.31 292 P **P** **01 04 40.6 -1.3**
baz=68
ANMO Albuquerque 56.31 292*de*P **P** **01 04 42.1 +0.2**
ANMO pmax pmax
comp=Z,12nm,1.3s
FLWY Flagg Ranch 56.36 304 P **P** **01 04 43.0 +0.9**
YMR Madison River 56.37 304 P **P** **01 04 42.8 +0.6**
YMR IAmb IAmb 01 04 45.4
comp=Z,41nm,1.0s
HILA High Level 56.44 322 P **P** **01 04 43.1 +1.0**
BOZ Bozeman (W) 56.54 306 IAmb IAmb 01 04 49.6
comp=Z,30nm,1.2s
BOZ Bozeman (W) 56.54 306 P **P** **01 04 42.1 -1.2**
baz=73,SNR=18
IMW Indian Meadow 56.58 303 IAmb IAmb 01 04 46.4
comp=Z,23nm,0.9s
SNOW Snow King Moun 56.59 303 P **P** **01 04 44.5 +0.7**
SNOW IAmb IAmb 01 04 50.3
comp=Z,35nm,1.1s
PV15 Paradox Valley 56.63 296 P **P** **01 04 45.1 +0.9**
QLMT Earthquake Lak 56.63 305 P **P** **01 04 45.0 +0.9**
RDMU Red Mountain 56.67 299 P **P** **01 04 44.8 +0.3**
RDMU IAmb IAmb 01 04 50.8
comp=Z,65nm,1.5s
REDW Red Top Meadow 56.69 303 P **P** **01 04 45.4 +0.9**
REDW IAmb IAmb 01 04 50.8
comp=Z,46nm,1.4s
TOKA Tokat 56.70 61 P **P** **01 04 44.4 0.0**
TOKA IAmb IAmb 01 04 48.3
comp=Z,19nm,0.9s
MNTX Cornudas Mount 56.70 288 P **P** **01 04 43.3 -1.2**
baz=67,SNR=19
MNTX Cornudas Mount 56.70 288 P **P** **01 04 44.3 -0.2**
baz=67,SNR=19
PV07 Paradox Valley 56.72 297 P **P** **01 04 45.4 +0.7**
PV07 IAmb IAmb 01 04 50.1
comp=Z,37nm,1.7s
BNN Bunyan 56.73 63 P **P** **01 04 45.3 +0.5**
BNM Barren Site 56.73 291 P **P** **01 04 45.0 +0.1**
PV01 Paradox Valley 56.77 296 P **P** **01 04 46.8 +1.6**
PV22 Blue Mesa, Par 56.79 297 P **P** **01 04 46.5 +1.2**
PV22 IAmb IAmb 01 05 50.0
comp=Z,29nm,1.2s
PV02 Paradox Valley 56.87 296 P **P** **01 04 47.0 +1.2**
PV12 Saucer Basin, 56.88 297 P **P** **01 04 47.0 +1.1**
PV12 IAmb IAmb 01 05 45.8
comp=Z,30nm,1.4s
CRNM Carthage 56.89 291 P **P** **01 04 47.7 +1.7**
PV21 Cone Mtn., Par 56.92 297 P **P** **01 04 47.6 +1.4**
PV21 IAmb IAmb 01 04 53.2
comp=Z,34nm,1.1s
PV04 Paradox Valley 56.93 297 P **P** **01 04 47.8 +1.5**
PV04 IAmb IAmb 01 05 50.0
comp=Z,32nm,1.4s
PV03 Paradox Valley 56.93 296 P **P** **01 04 47.8 +1.5**
PV11 David Mesa, Pa 56.94 297 P **P** **01 04 47.5 +1.2**
VRH Novokhopyorsk 56.94 47 *e*P **P** **01 04 45.8 0.0**
VRH pmax pmax
comp=Z,60nm,0.9s
PV13 Radium Mtn., P 56.95 296 P **P** **01 04 47.5 +1.1**
PV16 Nyswonger Mesa 56.96 297 P **P** **01 04 47.6 +1.1**
PV18 Skein Mesa, Pa 56.98 296 P **P** **01 04 47.8 +1.2**
PV23 Carpenter Ridg 56.98 297 P **P** **01 04 48.3 +1.6**
Y22F Passcal Instru 56.99 291 P **P** **01 04 43.3 -3.4**
baz=68
Y22D IRIS PASSCAL I 56.99 291 P **P** **01 04 43.1 -3.6**
baz=68
PV20 West Nyswonger 56.99 297 P **P** **01 04 48.0 +1.4**
LENM Lemitar 56.99 291 P **P** **01 04 48.4 +1.7**
PV17 East Wray Mesa 57.01 297 P **P** **01 04 48.7 +1.9**
PV19 Morning Glory 57.01 297 P **P** **01 04 48.5 +1.6**
PV14 Lion Creek, Pa 57.02 297 P **P** **01 04 48.5 +1.6**
LRM Limekiln Ridge 57.02 306 P **P** **01 04 47.6 +0.7**
WALA Waterton Lakes 57.03 310 P **P** **01 04 47.1 +0.4**
WALA IAmb IAmb 01 04 48.5
comp=Z,21nm,1.0s
PV10 Paradox Valley 57.03 297 P **P** **01 04 48.2 +1.2**
MVCO Mesa Verde 57.04 295 IAmb IAmb 01 05 00.6
comp=Z,74nm,1.3s
MVCO Mesa Verde 57.04 295 P **P** **01 04 45.1 -2.0**
baz=69,SNR=28
AHID Auburn Hatcher 57.05 302 IAmb IAmb 01 04 53.3
comp=Z,45nm,1.1s
A36M Sachs Harbour 57.10 338 P **P** **01 04 47.4 +0.7**
A36M IAmb IAmb 01 04 54.3
comp=Z,58nm,1.1s
A36M Sachs Harbour 57.10 338 P **P** **01 04 45.5 -1.1**
baz=79,SNR=32
ECR Eagle Creek 57.15 303 P **P** **01 04 48.9 +1.2**
PV05 Paradox Valley 57.18 296 P **P** **01 04 47.8 -0.3**
PV05 IAmb IAmb 01 05 43.5
comp=Z,60nm,1.7s
SBM South Baldy 57.22 291 P **P** **01 04 48.2 -0.4**
C36M Paulatuk 57.24 335 P **P** **01 04 48.9 +1.3**
C36M IAmb IAmb 01 04 53.1
comp=Z,72nm,1.9s
C36M Paulatuk 57.24 335 P **P** **01 04 46.3 -1.4**
baz=78
DLMT Dillon 57.26 306 IAmb IAmb 01 04 54.9
comp=Z,42nm,0.9s
ATAH Atahualpa 57.35 232 LR LR 01 30 09.8
comp=Z,299nm,18.6s,baz=29,slow=37

TLIG Tlapa 57.44 270 IAmb IAmb 01 04 59.8
comp=Z,44nm,1.3s
P18A Preston Nutter 57.48 298 IAmb IAmb 01 04 56.6
comp=Z,26nm,0.9s
MCMT McKenzie Canyo 57.60 305 P **P** **01 04 51.7 +0.7**
MSO Missoula 57.70 308 P **P** **01 04 51.7 +0.2**
MSO Missoula 57.70 308 P **P** **01 04 50.0 -1.4**
baz=72,SNR=12
AQDB Aquidauana 57.75 201 IAmb IAmb 01 04 53.6
comp=Z,39nm,1.0s
HWUT Hardware Ranch 57.75 301 P **P** **01 04 52.6 +0.6**
HWUT IAmb IAmb 01 05 06.1
comp=Z,17nm,0.8s
TCUT Toone Canyon 57.81 300 P **P** **01 04 53.5 +1.1**
TCUT IAmb IAmb 01 04 58.6
comp=Z,42nm,1.3s
SRU San Rafael Swe 57.86 298 IAmb IAmb 01 04 59.1
comp=Z,55nm,1.8s
P17A Butcher Ranch, 57.89 298 P **P** **01 04 54.0 +1.0**
SOC Sochi 57.91 56 *eP* P **01 04 52.4 -0.4**
SOC *e* 01 06 58.5
SOC *eS* **S** **01 12 54.6 +1.9**
SOC pmax pmax
comp=Z,34nm,1.0s
SOC MLR MLR
comp=Z,383nm,18.0s
JLU Jordanelle 58.01 300 P **P** **01 04 54.0 +0.1**
JLU IAmb IAmb 01 05 00.3
comp=Z,35nm,1.1s
BCYI Bear Canyon 58.14 305 P **P** **01 04 55.7 +1.0**
CTU Camp Tracy 58.20 300 P **P** **01 04 55.9 +0.7**
ZAIG Zacatecas 58.23 277 P **P** **01 04 56.9 +1.2**
ZAIG IAmb IAmb 01 05 03.3
comp=Z,54nm,1.5s
121A Cookes Peak, D 58.25 290 IAmb IAmb 01 05 03.0
comp=Z,24nm,0.9s
121A Cookes Peak, D 58.25 290 P **P** **01 04 55.8 +0.2**
baz=67,SNR=15
121A Cookes Peak, D 58.25 290 P **P** **01 04 53.9 -1.7**
baz=67,SNR=15
TMUT Trail Mountain 58.29 298 IAmb IAmb 01 05 03.3
comp=Z,28nm,1.3s
GAZ Gaziantep 58.33 64 P **P** **01 04 56.5 +0.5**
GAZ IAmb IAmb 01 05 10.3
comp=Z,27nm,1.2s
WRGLY Wrigley 58.39 328 P **P** **01 04 54.6 -1.3**
baz=75
WAPA Wapiti River 58.47 318 P **P** **01 04 57.4 +0.8**
WAPA IAmb IAmb 01 04 59.2
comp=Z,43nm,1.1s
SPUT South Promonto 58.48 301 IAmb IAmb 01 05 03.3
comp=Z,53nm,1.8s
MMAI Mount Meron Ar 58.54 69 LR LR 01 29 54.6
comp=Z,310nm,20.4s,baz=138,slow=36
HVU Hansel Valley 58.55 302 IAmb IAmb 01 05 03.0
comp=Z,51nm,1.6s
MOIG Morelia 58.56 273 P **P** **01 04 59.0 +1.0**
NLU North Lily Min 58.69 299 P **P** **01 04 59.7 +1.1**
NLU IAmb IAmb 01 05 05.3
comp=Z,28nm,1.1s
W18A Petrified Fore 58.74 293 P **P** **01 04 57.5 -1.5**
baz=67
SPB Sao Paulo 58.81 192 IAmb IAmb 01 05 57.7
comp=Z,25nm,1.1s
LPAZ La Paz 58.88 216 P **P** **01 05 00.5 0.0**
comp=Z,56nm,1.0s,baz=19,slow=6.6,SNR=126
LPAZ LR LR 01 28 41.1
comp=Z,1µm,19.7s,baz=17,slow=34
comp=Z,56nm,1.0s
LPAZ La Paz 58.88 216 P **P** **01 05 01.0 +0.4**
LPAZ La Paz 58.88 216 P **P** **01 05 01.0 +0.4**
LPAZ pmax pmax
comp=Z,76nm,1.1s
HPIG 58.89 283 P **P** **01 05 01.9 +1.8**
HPIG IAmb IAmb 01 05 07.3
comp=Z,37nm,1.0s
BGU Big Grassy Mou 59.02 301 IAmb IAmb 01 05 06.5
comp=Z,62nm,1.8s
HLID Hailey 59.07 304 P **P** **01 05 01.0 -0.2**
baz=70,SNR=10.0
DUG Dugway, Tooele 59.13 300 IAmb IAmb 01 05 15.0
comp=Z,43nm,1.2s
DUG Dugway, Tooele 59.13 300 P **P** **01 05 00.8 -0.8**
baz=69,SNR=22
KIRV Kirov 59.17 37 LR LR 01 29 30.1
comp=Z,2µm,18.4s,baz=271,slow=35
KIRV Kirov 59.17 37 *ceP* **P** **01 05 00.4 -0.9**
NEW Newport 59.30 310 LR LR 01 30 11.1
comp=Z,4µm,20.1s,baz=68,slow=36
NEW Newport 59.30 310 P **P** **01 05 01.4 -1.1**
NEW IAmb IAmb 01 05 04.5
comp=Z,38nm,1.0s
NEW Newport 59.30 310 P **P** **01 05 01.2 -1.3**
baz=71,SNR=26
NEW Newport 59.30 310 P **P** **01 05 01.4 -1.1**
NEW pmax pmax
comp=Z,38nm,1.0s
GHAJ Ghor Haditha 59.35 71 P **P** **01 05 03.9 +0.9**
GHAJ IAmb IAmb 01 05 21.1
comp=Z,28nm,0.9s
TCRU Three Creeks R 59.44 298 P **P** **01 05 04.9 +1.0**
TCRU IAmb IAmb 01 05 37.8
comp=Z,42nm,1.4s
MTPU Mount Pierson 59.46 297 P **P** **01 05 05.1 +0.9**
KOTAN Kotaneelee Air 59.52 325 P **P** **01 05 02.2 -1.6**
baz=73
PLID Pearl Lake 59.62 306 P **P** **01 05 05.1 0.0**
PLID IAmb IAmb 01 05 07.6
comp=Z,48nm,1.1s
KOPT Kop Dagi 59.69 60 P **P** **01 05 06.1 +0.5**
KOPT IAmb IAmb 01 05 13.6
comp=Z,34nm,1.2s
PKCU Pink Cliffs 59.78 297 IAmb IAmb 01 05 13.0
comp=Z,31nm,1.0s
KIV Kislovodsk 59.81 55 P **P** **01 05 07.1 +1.0**
KIV IAmb IAmb 01 05 27.9
comp=Z,34nm,1.1s
KIV Kislovodsk 59.81 55 *eP* **P** **01 05 06.5 +0.4**
KIV *eS* **S** **01 13 18.6 +1.0**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,196nm,17.0s
KIV Kislovodsk 59.81 55 P **P** **01 05 07.3 +1.2**
KIV P **P** **01 05 07.3 +1.2**
KVAR Kislovodsk Arr 59.81 55 LR LR 01 29 12.4
comp=Z,460nm,20.4s,baz=3.0,slow=34
WUAZ Wupatki 59.82 294 IAmb IAmb 01 05 20.0
comp=Z,28nm,1.0s
WUAZ Wupatki 59.82 294 P **P** **01 05 05.6 -0.8**
baz=67,SNR=20
319A Douglas 59.88 289 P **P** **01 05 08.0 +1.1**
319A IAmb IAmb 01 05 15.6
comp=Z,24nm,1.0s
KBZ Khabaz 60.03 55 P **P** **01 05 08.3 +0.8**
comp=Z,24nm,0.9s,baz=301,slow=5.4,SNR=25
KBZ LR LR 01 30 51.0
comp=Z,340nm,18.7s,baz=300,slow=36
comp=Z,24nm,0.9s
KBZ Khabaz 60.03 55 *deP* **P** **01 05 08.7 +1.2**
KBZ pmax pmax
comp=Z,34nm,1.0s
MFID Camas Ranch 60.09 304 P **P** **01 05 09.0 +0.9**
MFID IAmb IAmb 01 05 14.8
comp=Z,71nm,1.9s
BELG Belogornoye 60.09 45 LR LR 01 30 28.3
comp=Z,3µm,18.5s,baz=298,slow=35
BELG Belogornoye 60.09 45 *ceP* **P** **01 05 06.9 -0.9**
BELG pmax pmax
comp=Z,18nm,1.1s
NNA Nana 60.11 227 P **P** **01 05 07.8 -0.6**
NNA IAmb IAmb 01 05 08.3
comp=Z,36nm,1.1s
NNA Nana 60.11 227 P **P** **01 05 07.8 -0.6**
NNA pmax pmax
comp=Z,36nm,1.1s
F10A Beach Ranch, E 60.13 307 IAmb IAmb 01 05 19.4
comp=Z,41nm,1.9s
U15A North Rim 60.15 296 IAmb IAmb 01 05 16.1
comp=Z,29nm,1.0s
C09A Chrisman Ranch 60.18 310 IAmb IAmb 01 05 13.9
comp=Z,81nm,1.9s
SZCU Shurtz Canyon 60.29 297 P **P** **01 05 09.8 +0.1**
SZCU IAmb IAmb 01 05 22.6
comp=Z,22nm,1.3s
KNB Kanab 60.32 296 P **P** **01 05 09.6 -0.3**
KNB IAmb IAmb 01 05 16.0
comp=Z,19nm,1.2s
KNB Kanab 60.32 296 P **P** **01 05 09.6 -0.3**
KNB pmax pmax
comp=Z,19nm,1.2s
CCUT Cedar City 60.51 297 IAmb IAmb 01 05 17.8
comp=Z,46nm,1.6s
E09A Wood Farm, Sta 60.54 308 P **P** **01 05 11.5 +0.5**
E09A IAmb IAmb 01 05 13.2
comp=Z,27nm,1.0s
BMO Blue Mountains 60.58 306 P **P** **01 05 12.2 +0.9**
BMO Blue Mountains 60.58 306 P **P** **01 05 12.3 +0.9**
BMO pmax pmax
comp=Z,16nm,1.1s
ELK Elko 60.65 301 LR LR 01 30 48.2
comp=Z,2µm,20.8s,baz=64,slow=36
ELK Elko 60.65 301 IAmb IAmb 01 05 18.9
comp=Z,49nm,2.0s
TUC Tucson 60.66 291 P **P** **01 05 12.5 +0.4**
TUC IAmb IAmb 01 05 20.7
comp=Z,36nm,1.9s
TUC Tucson 60.66 291 P **P** **01 05 12.1 0.0**
baz=66
TUC Tucson 60.66 291 P **P** **01 05 12.5 +0.4**
TUC pmax pmax
comp=Z,36nm,1.9s
SPR3 Spring Creek 3 60.66 299 P **P** **01 05 13.1 +0.7**
SPR3 IAmb IAmb 01 05 19.1
comp=Z,38nm,1.6s
LIRD Liard River Hi 60.73 324 P **P** **01 05 11.7 -0.3**
baz=71,SNR=11
ONI Oni 60.82 56 P **P** **01 05 13.8 +0.8**
ONI IAmb IAmb 01 05 30.9
comp=Z,26nm,1.2s
ONI Oni 60.82 56 P **P** **01 05 13.8 +0.8**
ONI pmax pmax
comp=Z,26nm,1.2s
INK Inuvik 60.82 335 LR LR 01 30 07.4
comp=Z,944nm,21.7s,baz=64,slow=35
INK Inuvik 60.82 335 P **P** **01 05 12.8 +0.3**
INK Inuvik 60.82 335 P **P** **01 05 12.2 -0.3**
baz=70,SNR=35
INK Inuvik 60.82 335 P **P** **01 05 12.8 +0.3**
INK pmax pmax
comp=Z,122nm,1.5s
D08A Wollman Farm, 60.85 309 P **P** **01 05 13.6 +0.5**
ZEI Tsey 61.05 56 *eP* **P** **01 05 15.2 +0.4**
ZEI pmax pmax
comp=Z,33nm,1.0s
E08A Dider Farm, El 61.14 309 P **P** **01 05 16.1 +1.0**
F31M Tsiigehtchic 61.21 334 P **P** **01 05 14.3 -0.8**
baz=69,SNR=16
PAYG Puerto Ayora 61.27 247 P **P** **01 05 16.9 +0.5**
AKH Akhalkalaki 61.29 58 P **P** **01 05 17.1 +0.7**
AKH Akhalkalaki 61.29 58 P **P** **01 05 17.1 +0.7**
AKH pmax pmax
comp=Z,72nm,1.1s
KARS Kars 61.29 59 P **P** **01 05 17.6 +1.2**
KARS Kars 61.29 59 P **P** **01 05 17.6 +1.2**
KARS pmax pmax
comp=Z,172nm,1.3s
PB16 IPOC Station P 61.31 216 P **P** **01 05 16.0 -1.1**
PB16 IAmb IAmb 01 05 32.4
comp=Z,26nm,1.0s
GURO Guroymak-BITLI 61.34 61 P **P** **01 05 17.5 +0.7**
GURO IAmb IAmb 01 05 24.6
comp=Z,29nm,1.4s
LLLB Lillooet 61.43 314 IAmb IAmb 01 05 18.8
comp=Z,39nm,1.1s
HAWA Hanford 61.48 309 P **P** **01 05 18.7 +1.4**
G08A Pilot Rock 61.51 307 P **P** **01 05 18.5 +0.7**
WTLY Watson Lake, Y 61.77 325 P **P** **01 05 20.6 +1.5**
WTLY IAmb IAmb 01 05 25.8
comp=Z,39nm,1.6s
WTLY Watson Lake, Y 61.77 325 P **P** **01 05 18.6 -0.6**
baz=69
PRN Pahroc Range 61.80 298 IAmb IAmb 01 05 27.4
comp=Z,28nm,1.1s
R11A Troy Canyon, C 61.82 299 P **P** **01 05 20.6 +0.6**
R11A Troy Canyon, C 61.82 299 P **P** **01 05 19.6 -0.4**
baz=67,SNR=14
W13A Hualapai Mount 61.87 295 IAmb IAmb 01 05 24.5
comp=Z,18nm,1.0s
LTY Liberty 61.89 310 P **P** **01 05 20.3 0.0**
LTY IAmb IAmb 01 05 21.8
comp=Z,40nm,1.2s
J08A Circle Bar Ran 61.91 305 P **P** **01 05 21.6 +1.1**
F07A Phinny Hill Vi 61.92 308 P **P** **01 05 21.4 +1.1**
B06A Marblemount 61.94 311 P **P** **01 05 20.2 -0.1**
B06A IAmb IAmb 01 05 25.1
comp=Z,24nm,1.5s
MMPY Sheldon Lake, 61.98 329 P **P** **01 05 19.7 -0.8**
baz=68
BMN Battle Mountai 62.17 302 P **P** **01 05 22.3 0.0**
BMN IAmb IAmb 01 05 28.2
comp=Z,21nm,1.2s
BMN Battle Mountai 62.17 302 P **P** **01 05 22.3 0.0**
BMN pmax pmax
comp=Z,21nm,1.2s
HSIG 62.18 287 P **P** **01 05 23.7 +1.3**
HSIG IAmb IAmb 01 05 30.5
comp=Z,34nm,1.4s
GROC Groznyy 62.19 55 P **P** **01 05 22.7 +0.5**
GROC *eS* **S** **01 13 45.0 -2.7**
GROC pmax pmax
comp=Z,2.0nm,0.4s
SHPR Sheep Range 62.25 297 P **P** **01 05 24.0 +1.1**
WTNK Soaring Height 62.26 296 P **P** **01 05 24.7 +1.8**
G30M tAoh Zraii Nji 62.27 334 P **P** **01 05 22.2 -0.3**
baz=67
GO01 Chusmiza 62.30 215 P **P** **01 05 23.2 -0.5**
I07A Izee 62.32 306 P **P** **01 05 24.1 +0.9**
V12A Nelson 62.34 296 IAmb IAmb 01 05 37.6
comp=Z,27nm,1.0s
214A Organ Pipe Nat 62.37 291 IAmb IAmb 01 05 30.3
comp=Z,14nm,0.9s
214A Organ Pipe Nat 62.37 291 P **P** **01 05 23.7 0.0**
baz=65,SNR=16
WVOR Wild Horse Val 62.37 304 IAmb IAmb 01 05 31.7
comp=Z,42nm,1.3s
PDMCI Parker Dam,Lak 62.39 294 P **P** **01 05 23.1 -0.6**
baz=65,SNR=11
PB11 IPOC Station P 62.60 215 P **P** **01 05 23.8 -1.5**
G06A Carlson Farm, 62.63 308 P **P** **01 05 26.5 +1.3**
G06A IAmb IAmb 01 05 36.9
comp=Z,66nm,1.9s
GNI Garni 62.65 59 LR LR 01 33 33.9
comp=Z,112nm,19.5s,baz=296,slow=37
GNI Garni 62.65 59 P **P** **01 05 26.0 +0.5**
GNI Garni 62.65 59 P **P** **01 05 26.0 +0.5**
GNI pmax pmax
comp=Z,102nm,1.8s
GNI Garni 62.65 59 P **P** **01 05 26.2 +0.6**
EPYK Eagle Plains 62.70 333 P **P** **01 05 23.7 -1.6**
baz=66,SNR=8.5
113A Mohawk Valley, 62.75 292 P **P** **01 05 27.1 +1.0**
113A IAmb IAmb 01 05 29.6
comp=Z,18nm,1.0s
Q09A Carvers 62.77 300 P **P** **01 05 26.8 +0.4**
Q09A IAmb IAmb 01 05 28.7
comp=Z,38nm,1.0s
BLYC Blythe 62.91 294 P **P** **01 05 28.1 +0.9**
BLYC IAmb IAmb 01 05 30.9
comp=Z,15nm,1.0s
DLBC Dease Lake 62.98 324 LR LR 01 32 10.9
comp=Z,5µm,20.4s,baz=64,slow=36
DLBC Dease Lake 62.98 324 P **P** **01 05 28.5 +1.2**
DLBC IAmb IAmb 01 05 59.9
comp=Z,31nm,1.4s
DLBC Dease Lake 62.98 324 P **P** **01 05 28.4 +1.1**
baz=67,SNR=6.0
FARO Faro, Yukon 63.02 329 IAmb IAmb 01 06 13.4
comp=Z,30nm,1.6s
FARO Faro, Yukon 63.02 329 P **P** **01 05 28.2 +0.7**
baz=67,SNR=6.5
PIX Pinacate 63.03 291 P **P** **01 05 28.2 +0.2**
PGC Sidney 63.10 312 P **P** **01 05 28.1 -0.1**
PGC IAmb IAmb 01 06 08.3
comp=Z,34nm,1.2s
IRM Iron Mountain 63.21 294 P **P** **01 05 29.5 +0.3**
baz=65,SNR=21
TUQ Turquoise Moun 63.25 296 P **P** **01 05 29.7 +0.1**
baz=65,SNR=12
HOOD Mount Hood Mea 63.26 308 P **P** **01 05 30.3 +0.8**
HOOD IAmb IAmb 01 05 32.0
comp=Z,35nm,1.1s
TA02 Huaiquique 63.26 216 P **P** **01 05 28.0 -1.5**
ITAB Concordia 63.27 196 P **P** **01 05 29.6 +0.2**
ITAB IAmb IAmb 01 05 44.5
comp=Z,42nm,1.3s
SHOC Shoshone, Teco 63.32 297 P **P** **01 05 29.7 -0.2**
baz=65
GMRC Granite Mounta 63.33 295 P **P** **01 05 29.9 -0.2**
baz=65,SNR=16
N32M Quiet Lake 63.34 327 P **P** **01 05 29.2 -0.4**
baz=66
KVN Kaiserville 63.34 300 IAmb IAmb 01 05 43.0
comp=Z,34nm,1.0s
B04A Port Angeles 63.36 311 P **P** **01 05 30.4 +0.4**
B04A IAmb IAmb 01 05 31.9
comp=Z,31nm,0.9s
PINE Pine Mountain 63.39 306 P **P** **01 05 32.0 +1.5**
MAK Makhachkala 63.43 55 *eP* P 01 05 25.3 -5.2
MAK *eS* **S** **01 13 55.9 -7.4**
MAK *eSS* **SS** **01 18 07.7 -2.0**
MAK pmax pmax
comp=Z,170nm,1.1s
MAK MLR MLR
comp=Z,592nm,15.0s
GLA Glamis 63.44 293 P **P** **01 05 32.1 +1.3**
GLA IAmb IAmb 01 05 38.2
comp=Z,35nm,1.0s
GLA Glamis 63.44 293 P **P** **01 05 30.8 0.0**
baz=64,SNR=5.8
GLA Glamis 63.44 293 P **P** **01 05 32.1 +1.3**
GLA pmax pmax
comp=Z,35nm,1.0s
M31M Drury Creek, Y 63.48 329 P **P** **01 05 31.9 +1.4**
M31M IAmb IAmb 01 05 33.9
comp=Z,18nm,1.2s
M31M Drury Creek, Y 63.48 329 P **P** **01 05 30.8 +0.3**
baz=66
GWY Greenwater Val 63.49 297 P **P** **01 05 32.4 +1.2**
GWY IAmb IAmb 01 05 38.6
comp=Z,39nm,1.2s
FURC Furnace Creek, 63.51 297 P **P** **01 05 31.0 -0.1**
baz=65
MAYO Mayo, Yukon 63.53 330 P **P** **01 05 32.0 +1.1**
MAYO Mayo, Yukon 63.53 330 P **P** **01 05 31.8 +1.0**
baz=65
TA01 Diego Aracena 63.54 215 P **P** **01 05 30.2 -1.1**
TA01 IAmb IAmb 01 05 31.3
comp=Z,38nm,1.1s
P33M Teslin, Yukon 63.59 326 P **P** **01 05 31.8 +0.5**
P33M IAmb IAmb 01 05 37.7
comp=Z,35nm,1.5s
P33M Teslin, Yukon 63.59 326 P **P** **01 05 31.2 -0.2**
baz=66
E27K Coleen River 63.62 336 P **P** **01 05 30.5 -0.9**
baz=63
C27K Jago River 63.62 338 P **P** **01 05 30.9 -0.4**
baz=62
PLTX Planet X, Gerl 63.63 303 P **P** **01 05 32.9 +0.9**
PLTX IAmb IAmb 01 05 51.8
comp=Z,18nm,1.0s
NV11 Mina Array Sit 63.63 300 P **P** **01 05 32.9 +0.8**
NV11 IAmb IAmb 01 05 38.0
comp=Z,17nm,0.7s
BC3 Big Chuckawall 63.65 294 P **P** **01 05 31.7 -0.5**
baz=64,SNR=7.5
GRAC Grapevine Rang 63.66 298 P **P** **01 05 32.2 0.0**
GRAC IAmb IAmb 01 05 39.0
comp=Z,14nm,0.9s
GRAC Grapevine Rang 63.66 298 P **P** **01 05 32.3 +0.2**
baz=65,SNR=7.5
I29M Ogilvie Camp, 63.72 333 P **P** **01 05 33.2 +1.2**
I29M Ogilvie Camp, 63.72 333 P **P** **01 05 31.8 -0.3**
baz=64,SNR=11
S34M Telegraph Cree 63.72 324 P **P** **01 05 32.7 +0.5**
baz=66
QSM Queen of Sheba 63.73 297 IAmb IAmb 01 05 40.3
comp=Z,32nm,1.2s
NVAR Mina Array Bea 63.74 300 P **P** **01 05 31.7 -1.1**
comp=Z,7.0nm,0.8s,baz=77,slow=6.2,SNR=28
NVAR LR LR 01 34 03.0
comp=Z,3µm,18.1s,baz=64,slow=37
comp=Z,7.0nm,0.8s
CPUP Villa Florida 63.75 201 P **P** **01 05 31.7 -0.9**
comp=Z,14nm,1.1s,baz=15,slow=5.3,SNR=16
CPUP LR LR 01 32 43.5
comp=Z,406nm,18.5s,baz=30,slow=36
comp=Z,14nm,1.1s
CPUP Villa Florida 63.75 201 IAmb IAmb 01 05 39.1
comp=Z,34nm,1.4s
LCH Last Chance Ra 63.76 298 IAmb IAmb 01 05 46.3
comp=Z,17nm,1.0s
SLBS Sierra La Lagu 63.81 282 P **P** **01 05 34.3 +0.9**
SLBS IAmb IAmb 01 05 41.9
comp=Z,35nm,1.4s
HEC Hector,Ludlow 63.81 296 P **P** **01 05 33.0 -0.3**
baz=65
C26K Camden Bay 63.85 339 P **P** **01 05 33.0 +0.3**
baz=61
Q32M Nakina River 63.85 325 P **P** **01 05 32.6 -0.6**
baz=66
NLWA Neilton Lookou 63.85 311 P **P** **01 05 34.3 +1.1**
NLWA IAmb IAmb 01 05 36.2
comp=Z,30nm,1.1s
WISH Wishkah 63.90 311 P **P** **01 05 34.9 +1.5**
LPIG La Paz 63.91 282 LR LR 01 31 43.1
comp=Z,852nm,21.9s,baz=60,slow=34
LHV Little Huntoon 63.96 300 P **P** **01 05 33.5 -0.5**
LHV IAmb IAmb 01 05 47.5
comp=Z,28nm,0.9s
GSC Goldstone, Bar 63.96 296 IAmb IAmb 01 05 41.8
comp=Z,17nm,1.1s
GSC Goldstone, Bar 63.96 296 P **P** **01 05 33.9 -0.3**
baz=65,SNR=9.3
E03A Lebam 64.00 310 P **P** **01 05 35.1 +1.0**
C03A Quillayute Air 64.06 312 P **P** **01 05 35.3 +0.8**
K29M Barlow Dome 64.08 331 P **P** **01 05 34.8 +0.2**
baz=64
MPMC Manual Prospec 64.14 297 P **P** **01 05 36.6 +1.1**
baz=65,SNR=17
AKT Akhty 64.19 56 *eP* **P** **01 05 37.5 +1.9**
AKT *e* 01 06 10.1
AKT pmax pmax
comp=Z,41nm,1.1s
RADR Rader Ridge 64.19 310 P **P** **01 05 37.0 +1.6**
SWSC Sam W. Stewart 64.22 293 P **P** **01 05 36.4 +0.5**
baz=64
F03A Seaside 64.24 309 P **P** **01 05 37.5 +1.8**
P32M Atlin 64.26 326 P **P** **01 05 35.8 0.0**
baz=65
G27K Doyon Strip 64.28 335 P **P** **01 05 36.1 +0.4**
baz=62
RRX Edison Barstow 64.28 296 P **P** **01 05 36.9 +0.7**
baz=64
VCNR Virginia City 64.34 301 P **P** **01 05 37.8 +1.0**
VCNR IAmb IAmb 01 05 43.0
comp=Z,19nm,1.3s
M30M Minto, Yukon 64.34 330 P **P** **01 05 37.7 +1.5**
M30M IAmb IAmb 01 05 43.0
comp=Z,56nm,1.9s
M30M Minto, Yukon 64.34 330 P **P** **01 05 36.5 +0.3**
baz=64
WHY Whitehorse 64.34 327 P **P** **01 05 38.3 +1.9**
WHY Whitehorse 64.34 327 P **P** **01 05 36.5 +0.2**
baz=65
PMD Palm Desert 64.35 294 IAmb IAmb 01 05 44.3
comp=Z,28nm,1.0s
N31M Braeburn, Yuko 64.38 328 P **P** **01 05 38.1 +1.6**
N31M Braeburn, Yuko 64.38 328 P **P** **01 05 37.6 +1.2**
baz=64
CWC Cottonwood Cre 64.41 298 P **P** **01 05 37.8 +0.5**
baz=65
TPFO Pinon Flats 64.43 294 P **P** **01 05 37.3 -0.1**
baz=64,SNR=15
PFO Pinyon Flats O 64.43 294 LR LR 01 31 48.0
comp=Z,2µm,20.9s,baz=62,slow=34
PFO Pinyon Flats O 64.43 294 P **P** **01 05 37.6 +0.3**
PFO IAmb IAmb 01 05 45.1
comp=Z,25nm,1.1s
PFO Pinyon Flats O 64.43 294 P **P** **01 05 37.5 +0.1**
baz=64,SNR=13
PFO Pinyon Flats O 64.43 294⇑ *eP* **P** **01 05 37.7 +0.3**
PFO pmax pmax
comp=Z,38nm,1.0s
BBB Bella Bella 64.44 317 LR LR 01 32 39.7
comp=Z,2µm,21.4s,baz=71,slow=35
YUH Yuha Desert 64.44 293 IAmb IAmb 01 05 45.0
comp=Z,18nm,1.1s
H27K Steamboat Moun 64.51 334 P **P** **01 05 37.8 +0.6**

baz=62
LRMC **Laurel Mtn Rad** 64.53 297 P P 01 05 38.1 +0.1
baz=64,SNR=10
ARU **Arti** 64.55 38 LR LR 01 33 05.7
comp=Z,1µm,18.2s,baz=278,slow=35
ARU **Arti** 64.55 38 P P 01 05 37.1 -0.5
ARU **Arti** 64.55 38*d i*P P 01 05 37.1 -0.5
ARU 01 06 08.0
ARU S S 01 14 19.2 +2.5
ARU SS SS 01 18 30.5 +4.1
ARU pmax pmax
comp=Z,48nm,1.2s
RMX **La Rumorosa** 64.58 293 IAmb IAmb 01 05 46.0
comp=Z,27nm,1.0s
IKP **In-Ko-Pah, Jac** 64.58 293 P P 01 05 38.3 0.0
baz=64,SNR=9.7
D25K **Kavik River** 64.59 338 P P 01 05 37.9 +0.2
baz=59,SNR=11
MDPB **Devils Postpil** 64.63 299 IAmb IAmb 01 05 45.8
comp=Z,18nm,1.0s
L29M **L29M** 64.65 330 P P 01 05 39.0 +0.7
baz=63,SNR=8.6
F26K **Sheenjek River** 64.70 336 P P 01 05 37.8 -0.7
baz=60,SNR=24
LVC **Limon Verde** 64.71 213 LR LR 01 32 15.0
comp=Z,754nm,20.0s,baz=6.5,slow=35
LVC **Limon Verde** 64.71 213 P P 01 05 38.9 -0.5
LVC IAmb IAmb 01 05 40.1
comp=Z,36nm,0.9s
LVC **Limon Verde** 64.71 213 P P 01 05 38.9 -0.5
LVC pmax pmax
comp=Z,36nm,0.9s
MONP2 **Monument Peak** 64.71 294 P P 01 05 39.4 0.0
baz=64,SNR=10
DAWY **Dawson** 64.72 332 P P 01 05 40.3 +1.6
DAWY **Dawson** 64.72 332 P P 01 05 38.5 -0.1
baz=63,SNR=23
EMB **Emerald Bay** 64.79 301 P P 01 05 40.5 +0.8
O30N **Mendenhall** 64.83 328 P P 01 05 39.5 +0.1
baz=64
I27K **Kandik River** 64.84 334 P P 01 05 40.0 +0.5
baz=62
CCAC **Calif City Air** 64.92 297 IAmb IAmb 01 05 44.4
comp=Z,34nm,1.1s
WRAK **Wrangell Islan** 64.94 322 P P 01 05 38.1 -2.0
WRAK **Wrangell Islan** 64.94 322 P P 01 05 40.2 +0.1
baz=65
G26K **Porcupine Rive** 64.95 335 P P 01 05 40.5 +0.4
baz=60
E25K **Arctic Village** 64.95 337 P P 01 05 40.3 +0.2
baz=59,SNR=36
BMAR **Burnt Mountain** 64.98 336 P P 01 05 41.3 +1.0
MURC **Murrieta** 64.99 295 P P 01 05 40.9 0.0
baz=64
BAR **Barrett** 65.00 294 IAmb IAmb 01 05 48.5
comp=Z,14nm,0.9s
EDW2 **Edwards Air Fo** 65.02 296 P P 01 05 40.9 -0.2
baz=64,SNR=15
V35K **Ketchikan** 65.03 321 P P 01 05 40.6 -0.1
baz=65
ISA **Isabella, Lake** 65.03 297 P P 01 05 41.8 +0.6
baz=64,SNR=7.2
BFSC **Mount Baldy Ra** 65.05 295 P P 01 05 40.7 -0.8
baz=64
SKAG **Skagway** 65.06 326 P P 01 05 42.6 +1.7
SKAG **Skagway** 65.06 326 P P 01 05 40.6 -0.3
baz=64
EGAK **Eagle** 65.06 333 IAmb IAmb 01 06 02.9
comp=Z,25nm,0.9s
EGAK **Eagle** 65.06 333 P P 01 05 41.2 +0.4
baz=62,SNR=12
C24K **Franklin Bluff** 65.08 339 P P 01 05 40.2 -0.6
baz=57
M29M **Somme Creek** 65.09 330 P P 01 05 41.4 +0.2
baz=63
HOLB **Holberg** 65.09 315 P P 01 05 41.1 -0.2
ELS **Elsinore Mount** 65.14 295 P P 01 05 42.3 +0.3
ELS IAmb IAmb 01 05 49.4
comp=Z,43nm,1.5s
JIS **Juneau Island** 65.14 325 P P 01 05 42.2 +0.8
JIS IAmb IAmb 01 05 44.0
comp=Z,38nm,1.4s
DBO **Dodson Butte** 65.19 306 P P 01 05 42.5 +0.3
DBO IAmb IAmb 01 05 43.8
comp=Z,17nm,1.1s
R32K **Eaglecrest** 65.20 325 P P 01 05 41.5 -0.3
baz=64
BESE **Bessie Mountai** 65.23 325 P P 01 05 42.6 +0.6
BESE IAmb IAmb 01 07 32.9
comp=Z,35nm,1.4s
109C **Camp Elliot, M** 65.23 294 P P 01 05 43.8 +1.4
109C IAmb IAmb 01 06 00.5
comp=Z,40nm,1.4s
F25K **Christian Rive** 65.25 336 P P 01 05 41.5 -0.5
baz=59
CCX **Cicese** 65.35 293 P P 01 05 44.3 +1.1
CCX IAmb IAmb 01 06 28.2
comp=Z,21nm,1.1s
CMB **Columbia Colle** 65.39 300 IAmb IAmb 01 05 50.4
comp=Z,40nm,1.8s
SVE **Sverdlovsk** 65.41 37*de*P P 01 05 43.5 +0.3
SVE *eS* S 01 14 33.4 +6.0
SVE pmax pmax
comp=Z,48nm,1.4s
AFDM **Forest Hills D** 65.41 301 P P 01 05 44.6 +1.1
HYT **Haines Junctio** 65.42 328 P P 01 05 44.5 +1.1
HYT IAmb IAmb 01 05 50.2
comp=Z,29nm,1.6s
HYT **Haines Junctio** 65.42 328 P P 01 05 43.8 +0.4
baz=63
YBH **Yreka Blue Hor** 65.42 305 LR LR 01 33 28.4
comp=Z,2µm,22.0s,baz=62,slow=35
PASC **Pasadena Art C** 65.47 296 P P 01 05 45.5 +1.4
PASC IAmb IAmb 01 05 47.1
comp=Z,29nm,1.2s
ORV **Oroville** 65.52 302 P P 01 05 45.1 +0.9
ORV IAmb IAmb 01 05 47.0
comp=Z,50nm,1.8s
ORV **Oroville** 65.52 302 P P 01 05 45.1 +0.9
ORV pmax pmax
comp=Z,50nm,1.8s
I26K **Coal Creek Min** 65.55 334 P P 01 05 44.9 +0.9
I26K IAmb IAmb 01 05 46.8
comp=Z,15nm,0.9s
I26K **Coal Creek Min** 65.55 334 P P 01 05 43.5 -0.5
baz=60,SNR=12
YUK4 **Talbot Arm** 65.68 329 P P 01 05 45.1 0.0
baz=62
YUK6 **Outpost Mounta** 65.74 328 P P 01 05 45.6 0.0
baz=62
G25K **Bearman Lake** 65.83 336 P P 01 05 46.0 +0.2
baz=58
TOLK **Toolik Lake Re** 65.93 338 P P 01 05 46.7 +0.2
TOLK IAmb IAmb 01 05 53.7
comp=Z,37nm,1.2s
TOLK **Toolik Lake Re** 65.93 338 P P 01 05 45.3 -1.2
baz=56,SNR=12
CIS **Catalina Islan** 65.99 295 P P 01 05 46.5 -0.8
baz=63,SNR=5.1
F24K **Squaw Lake** 66.02 337 P P 01 05 45.6 -1.4
baz=57,SNR=20
BCW **Bitter Crk WRg** 66.04 297 IAmb IAmb 01 06 01.9
comp=Z,31nm,1.1s
D23K **Nanushuk River** 66.08 339 P P 01 05 47.3 0.0
baz=55
BVCY **Beaver Creek** 66.09 330 P P 01 05 46.5 -1.0
baz=61
J26L **Joseph Creek** 66.10 333 P P 01 05 47.9 +0.2
J26L IAmb IAmb 01 05 55.4
comp=Z,27nm,1.2s
J26L **Joseph Creek** 66.10 333 P P 01 05 46.4 -1.3
baz=60
O29M **Mount Kennedy** 66.14 328 P P 01 05 48.8 +0.8
baz=62
L27K **Beaver Creek,** 66.16 331 IAmb IAmb 01 05 55.8
comp=Z,44nm,1.4s
L27K **Beaver Creek,** 66.16 331 P P 01 05 49.6 +1.6
baz=60
YUK8 **Steele Glacier** 66.18 329 P P 01 05 48.2 -0.2
baz=61
YUK3 **Moose Creek** 66.23 330 P P 01 05 49.0 +0.3
baz=61
PB10 **IPOC Station P** 66.24 214 P P 01 05 48.7 -0.2
E23K **Chandalar** 66.27 338 P P 01 05 49.4 +0.7
baz=56
A21K **Barrow** 66.29 342 P P 01 05 50.5 +1.9
A21K **Barrow** 66.29 342 P P 01 05 48.9 +0.3
baz=51
PRP **Porcupine Dome** 66.29 335 P P 01 05 50.9 +1.9
PRP IAmb IAmb 01 05 56.6
comp=Z,58nm,1.5s
PRP **Porcupine Dome** 66.29 335 P P 01 05 47.8 -1.1
baz=58
G24K **Hadweenzic Riv** 66.33 336 P P 01 05 49.4 +0.4
baz=57
PKM **Mcpherson Peak** 66.36 297 P P 01 05 49.5 -0.4
baz=63,SNR=6.9
KHMM **Horse Mountain** 66.49 304 P P 01 05 51.6 +1.0
KHMM IAmb IAmb 01 06 31.3
comp=Z,48nm,1.6s
BBGB **Big Mountain B** 66.50 299 P P 01 05 52.4 +1.7
BBGB IAmb IAmb 01 06 14.2
comp=Z,32nm,1.1s
M27K **Edge Creek, AK** 66.53 331 P P 01 05 52.0 +1.5
M27K **Edge Creek, AK** 66.53 331 P P 01 05 49.6 -0.9
baz=60
SCRK **Sand Creek** 66.53 333 P P 01 05 51.2 +0.8
SCRK IAmb IAmb 01 05 58.3
comp=Z,55nm,1.5s
SCRK **Sand Creek** 66.53 333 P P 01 05 50.9 +0.4
baz=59,SNR=14
KRPM **Rodgers** 66.56 305 P P 01 05 51.8 +0.8
O28M **Mount Upton** 66.61 329 P P 01 05 51.4 +0.2
baz=61
SCZ2 **Santa Cruz Isl** 66.63 296 P P 01 05 51.1 -0.4
baz=63
ITQB **Itaqui** 66.71 199 P P 01 05 51.6 -0.1
SAO **San Andreas Ge** 66.71 299 P P 01 05 52.9 +1.0
SAO **San Andreas Ge** 66.71 299 P P 01 05 52.9 +1.0
SAO pmax pmax
comp=Z,12nm,1.1s
JCC **Jacoby Creek,** 66.72 304 P P 01 05 51.6 -0.2
DOT **Dot Lake** 66.73 332 P P 01 05 53.3 +1.7
GDXM **Geysers** 66.75 302 P P 01 05 53.5 +1.2
GDXM IAmb IAmb 01 06 26.2
comp=Z,39nm,1.6s
KMRM **Mail Ridge** 66.76 304 P P 01 05 53.2 +0.9
KMRM IAmb IAmb 01 05 59.2
comp=Z,40nm,1.1s
L26K **Log Cabin Wild** 66.78 332 P P 01 05 53.3 +1.4
L26K IAmb IAmb 01 05 57.2
comp=Z,20nm,0.9s
L26K **Log Cabin Wild** 66.78 332 P P 01 05 52.0 +0.1
baz=59
AKTO **Aktyubinsk** 66.84 44 LR LR 01 34 44.5
comp=Z,2µm,18.1s,baz=288,slow=36
AKTO **Aktyubinsk** 66.84 44 P P 01 05 51.6 -0.9
HOPS **Hopland Field** 66.87 302 P P 01 05 53.7 +0.9
KCPM **Cahto Peak** 66.91 303 P P 01 05 55.1 +1.8
KCPM IAmb IAmb 01 06 18.1
comp=Z,28nm,1.2s
COLD **Coldfoot** 66.93 337 P P 01 05 54.3 +1.5
COLD **Coldfoot** 66.93 337 P P 01 05 52.1 -0.7
baz=55,SNR=9.8
H24K **Noodor Dome** 66.94 335 IAmb IAmb 01 06 00.6
comp=Z,42nm,1.5s
H24K **Noodor Dome** 66.94 335 P P 01 05 51.5 -1.4
baz=56
KMPM **Mount Pierce** 66.96 304 P P 01 05 54.6 +1.1
M26K **Nabesna, AK** 66.96 331 P P 01 05 54.2 +1.1
M26K IAmb IAmb 01 05 59.7
comp=Z,36nm,1.5s
M26K **Nabesna, AK** 66.96 331 P P 01 05 52.5 -0.6
baz=59
MENT **Mentasta** 66.97 332 P P 01 05 54.9 +1.8
MENT IAmb IAmb 01 06 15.6
comp=Z,76nm,2.0s
RIDG **Independent Ri** 66.98 333 P P 01 05 55.4 +2.2
RIDG **Independent Ri** 66.98 333 P P 01 05 53.1 -0.2
baz=58,SNR=19
BARN **Barnard Glacie** 67.09 329 P P 01 05 55.0 +0.8
PB14 **IPOC Station P** 67.13 213 IAmb IAmb 01 05 56.5
comp=Z,19nm,0.9s
G23K **Bananza Creek** 67.17 337 P P 01 05 54.9 +0.5
baz=55
IL31 67.18 334 P P 01 05 56.0 +1.7
IL31 IAmb IAmb 01 06 15.6
comp=Z,24nm,1.4s
ILAR **Eielson Array** 67.18 334 P P 01 05 54.0 -0.4
comp=Z,3.6nm,0.8s,baz=51,slow=5.7,SNR=23
ILAR LR LR 01 34 12.7
comp=Z,1µm,21.4s,baz=60,slow=35
comp=Z,3.6nm,0.8s
ILAR **Eielson Array** 67.18 334 P P 01 05 54.0 -0.4
POKR **Poker Plat Res** 67.18 335 pP 01 05 56.1 -0.5
POKR **Poker Plat Res** 67.18 335 P P 01 05 55.6 +1.2
POKR IAmb IAmb 01 06 01.9
comp=Z,28nm,1.4s
POKR **Poker Plat Res** 67.18 335 P P 01 05 53.7 -0.7
baz=57
K24K **Donnelly Dome** 67.30 333 P P 01 05 54.0 -1.2
baz=58
HDA **Harding Lake** 67.40 334 P P 01 05 56.8 +1.0
HDA **Harding Lake** 67.40 334 P P 01 05 55.1 -0.7
baz=57,SNR=7.2
COLA **College** 67.47 334 P P 01 05 57.7 +1.5
COLA IAmb IAmb 01 06 03.5
comp=Z,40nm,1.6s
COLA **College** 67.47 334 *ieP* P 01 05 58.3 +2.1
COLA pmax pmax
comp=Z,5.0nm,1.0s
TCOL **CIGO, UAF Yank** 67.47 335 P P 01 05 58.1 +1.9
TCOL IAmb IAmb 01 06 03.4
comp=Z,47nm,1.6s
MCARA **McCarthy VSAT** 67.49 330 P P 01 05 57.9 +1.4
MCARA IAmb IAmb 01 06 04.2
comp=Z,51nm,1.4s
MCARA **McCarthy VSAT** 67.49 330 P P 01 05 55.5 -1.0
baz=59
MDM **Murphy Dome** 67.55 335 P P 01 05 58.1 +1.3
MDM IAmb IAmb 01 06 03.2
comp=Z,34nm,1.5s
CCB **Clear Creek Bu** 67.58 334 IAmb IAmb 01 06 04.0
comp=Z,63nm,1.6s
PAX **Paxson** 67.63 332 P P 01 05 58.8 +1.4
PAX **Paxson** 67.63 332 P P 01 05 56.5 -0.9
baz=57,SNR=16
PAX **Paxson** 67.63 332 P P 01 05 58.8 +1.4
PAX pmax pmax
comp=Z,66nm,1.5s
VRDI **Verde Repeater** 67.75 330 P P 01 05 59.5 +1.2
WRH **Wood River Hil** 67.78 334 IAmb IAmb 01 06 00.8
comp=Z,20nm,1.1s
GLB **Gilahina Butte** 67.78 330 P P 01 06 00.4 +2.0
GLB IAmb IAmb 01 06 20.4
comp=Z,26nm,1.2s
HARP **HAARP** 67.81 332 P P 01 05 57.3 -1.2
baz=58
I23K **Minto, Yukon-K** 67.84 335 IAmb IAmb 01 06 06.3
comp=Z,43nm,1.3s
I23K **Minto, Yukon-K** 67.84 335 P P 01 05 57.9 -0.7
baz=55,SNR=11
F21K **Alatna River** 67.96 338 P P 01 05 59.7 +0.3
baz=52
N25K **Chitina, Valde** 68.02 331 P P 01 06 01.6 +1.7
N25K **Chitina, Valde** 68.02 331 P P 01 06 00.3 +0.4
baz=58
NEA2 **Nenana** 68.06 335 P P 01 06 01.0 +1.1
NEA2 IAmb IAmb 01 06 07.2
comp=Z,65nm,1.7s
NEA2 **Nenana** 68.06 335 P P 01 06 00.7 +0.8
baz=55,SNR=6.5
H22K **Ishtalitna Cre** 68.09 336 P P 01 05 59.4 -0.7
baz=54
DHY **Denali Highway** 68.30 333 P P 01 06 03.2 +1.5
DHY **Denali Highway** 68.30 333 P P 01 06 01.6 -0.1
baz=56,SNR=10
BMRM **Bremner River** 68.36 330 P P 01 06 03.9 +1.9
BMRM **Bremner River** 68.36 330 P P 01 06 01.6 -0.4
baz=57
M24K **Tolsona, Glenn** 68.37 332 P P 01 06 03.8 +1.7
M24K **Tolsona, Glenn** 68.37 332 P P 01 06 02.1 0.0
baz=57
MLY **Manley** 68.38 335 IAmb IAmb 01 06 08.7
comp=Z,40nm,1.6s
MLY **Manley** 68.38 335 P P 01 06 02.6 +0.5
baz=54,SNR=7.3
G21K **Allakaket** 68.40 337 P P 01 06 02.2 +0.1
baz=52
AC02 **Maricunga** 68.49 211 P P 01 06 04.0 +0.3
AB31 **Akbulak array** 68.50 44 P P 01 06 02.4 -0.5
ABKAR **Akbulak array** 68.50 44 IAmb IAmb 01 06 10.1
comp=Z,21nm,1.1s
MCK **McKinley** 68.50 334 P P 01 06 04.1 +1.3
MCK IAmb IAmb 01 06 09.9
comp=Z,26nm,1.2s
MCK **McKinley** 68.50 334 P P 01 06 02.2 -0.6
baz=55,SNR=6.4
MCK **McKinley** 68.50 334 P P 01 06 04.1 +1.3
MCK pmax pmax
comp=Z,26nm,1.2s
AC01 **Pan de Azucar** 68.53 213 IAmb IAmb 01 06 04.5
comp=Z,33nm,1.0s
NRIK **Noril'sk** 68.60 18 P P 01 06 03.5 +0.2
comp=Z,1.4nm,0.5s,baz=67,slow=3.3,SNR=5.9
comp=Z,1.4nm,0.5s
NRIK **Noril'sk** 68.60 18 P P 01 06 04.4 +1.1
NRIK IAmb IAmb 01 06 24.2
comp=Z,19nm,1.2s
NRIK **Noril'sk** 68.60 18 P P 01 06 04.4 +1.1
NRIK pmax pmax
comp=Z,19nm,1.3s
KLU **Klutina** 68.61 331 IAmb IAmb 01 06 07.0
comp=Z,33nm,1.0s
KLU **Klutina** 68.61 331 P P 01 06 03.2 -0.4
baz=57,SNR=7.1
RND **Reindeer** 68.66 333 P P 01 06 05.6 +1.8
RND IAmb IAmb 01 06 10.8
comp=Z,29nm,1.4s
RND **Reindeer** 68.66 333 P P 01 06 05.6 +1.8
RND pmax pmax
comp=Z,29nm,1.4s
H21K **Melozitna Rive** 68.70 336 P P 01 06 05.5 +1.6
H21K IAmb IAmb 01 06 11.5
comp=Z,28nm,1.2s
H21K **Melozitna Rive** 68.70 336 P P 01 06 04.1 +0.1
baz=52
WAT6 **Susitna Watana** 68.72 332 P P 01 06 04.2 -0.1
baz=56
I21K **Tanana** 68.72 336 P P 01 06 03.8 -0.3
baz=53
DIV **Divide** 68.75 331 P P 01 06 06.2 +1.8
DIV IAmb IAmb 01 06 16.9
comp=Z,49nm,1.5s
IMAR **Indian Mountai** 68.81 337 P P 01 06 05.0 +0.4
WAT1 **Susitna Watana** 68.88 333 P P 01 06 05.0 -0.2
baz=55
SCM **Sheep Creek Mo** 68.98 332 P P 01 06 05.7 -0.2
baz=56
BPAW **Bear Paw Mtn.** 69.02 335 P P 01 06 07.6 +1.6
BPAW **Bear Paw Mtn.** 69.02 335 P P 01 06 05.7 -0.3
baz=53,SNR=8.4
M23K **Glacier View** 69.16 332 P P 01 06 07.0 +0.1
baz=55
TRF **Thorofare Moun** 69.16 334 P P 01 06 08.6 +1.5
TRF IAmb IAmb 01 06 14.1
comp=Z,45nm,1.3s
TRF **Thorofare Moun** 69.16 334 P P 01 06 05.9 -1.2
baz=54
KTH **Kantishna Hill** 69.33 334 P P 01 06 09.7 +1.7
SML **Sawmill** 69.39 332 P P 01 06 09.7 +1.4
SML IAmb IAmb 01 06 31.9
comp=Z,51nm,1.2s
SML **Sawmill** 69.39 332 P P 01 06 07.7 -0.6
baz=55
AC06 **Mina Casimiro** 69.47 212 P P 01 06 09.3 +0.1
AC06 IAmb IAmb 01 06 25.5
comp=Z,22nm,1.1s
CHUM **Lake Minchumin** 69.62 335 P P 01 06 10.0 +0.4
baz=52
GO03 **Copiap** 69.63 212 IAmb IAmb 01 06 11.5
comp=Z,41nm,0.9s
GHO **Glory Hole Cre** 69.64 332 P P 01 06 11.1 +1.2
KNK **Knik Glacier** 69.66 332 P P 01 06 08.2 -1.9
baz=55,SNR=8.9
CUT **Chulitna** 69.77 333 P P 01 06 11.4 +0.8
PMR **Palmer** 69.82 332 P P 01 06 08.9 -2.0
baz=54
CAST **Castle Rocks** 69.83 334 P P 01 06 12.2 +1.2
CAST IAmb IAmb 01 06 33.5
comp=Z,60nm,1.9s
CAST **Castle Rocks** 69.83 334 P P 01 06 10.0 -1.0
baz=52
PWL **Port Wells** 69.94 331 P P 01 06 13.7 +2.0
PWL **Port Wells** 69.94 331 P P 01 06 11.1 -0.6
baz=54
PPLA **Purkeypile** 70.18 334 P P 01 06 13.9 +0.6
RC01 **Rabbit Creek A** 70.35 332 P P 01 06 15.4 +1.1
RC01 **Rabbit Creek A** 70.35 332 P P 01 06 14.1 -0.1
baz=54
SKT **Skwentna** 70.50 333 P P 01 06 16.2 +1.0
SKT IAmb IAmb 01 06 26.8
comp=Z,41nm,1.4s
SKT **Skwentna** 70.50 333 P P 01 06 14.8 -0.4
baz=52
SUA **Susitna One** 70.52 332 P P 01 06 15.4 -0.1
baz=53
AC05 **El Transito** 70.72 211 P P 01 06 17.1 +0.1
AC05 IAmb IAmb 01 06 18.6
comp=Z,43nm,1.2s
RAYN **Ar Rayn** 70.75 74 P P 01 06 17.0 -0.4
RAYN **Ar Rayn** 70.75 74 P P 01 06 17.0 -0.4
RAYN pmax pmax
comp=Z,17nm,1.3s
RAYN **Ar Rayn** 70.75 74 *i* P P 01 06 17.7 +0.3
SNR=14
RAYN **Ar Rayn** 70.75 74 P P 01 06 17.4 +0.1
L20K **Farewell, AK** 71.05 334 P P 01 06 19.0 +0.5
baz=51
LCO **Las Campanas** 71.06 211 P P 01 06 19.5 +0.3
LCO **Las Campanas** 71.06 211 P P 01 06 19.5 +0.3
LCO pmax pmax
comp=Z,74nm,1.2s
CAPN **Captain Cook N** 71.10 332 P P 01 06 19.3 +0.6
baz=52
M20K **Styx River** 71.16 333 P P 01 06 20.6 +1.3
M20K **Styx River** 71.16 333 P P 01 06 19.4 +0.2
baz=51
N20K **Mount Spurr** 71.24 333 P P 01 06 19.5 -0.2
baz=52
SPCR **Spurr Chakacha** 71.24 333 P P 01 06 19.7 0.0
baz=52
L19K **White Mountain** 71.59 334 P P 01 06 21.4 -0.4
baz=50
CO01 **Juntas del Tor** 71.64 210 P P 01 06 23.1 +0.4
MBAR **Mbarara** 71.75 104 LR LR 01 37 10.9
comp=Z,2µm,19.0s,baz=289,slow=35
MBAR **Mbarara** 71.75 104 P P 01 06 24.2 +0.5
MBAR IAmb IAmb 01 06 31.6
comp=Z,20nm,1.0s
MBAR **Mbarara** 71.75 104 P P 01 06 24.2 +0.5
MBAR pmax pmax
comp=Z,20nm,1.0s
MBAR **Mbarara** 71.75 104 P P 01 06 25.5 +1.8
MBAR P P 01 06 25.5 +1.8
GO04 **Tololo Observa** 72.11 211 P P 01 06 25.5 0.0
BRVK **Borovoye** 72.11 37 P P 01 06 25.3 +0.3
BRVK IAmb IAmb 01 06 30.0
comp=Z,43nm,1.2s
BRVK **Borovoye** 72.11 37 P P 01 06 25.3 +0.3
BRVK pmax pmax
comp=Z,43nm,1.3s
BRVK **Borovoye** 72.11 37 P P 01 06 25.1 +0.1
BRVK P P 01 06 25.1 +0.1
BVA0 **Borovoye Array** 72.18 37 *i* P P 01 06 25.0 -0.5
BVAR **Borovoye Array** 72.18 37 LR LR 01 38 34.3
comp=Z,1µm,18.1s,baz=294,slow=36
CFA **Coronel Fontan** 72.33 208 LR LR 01 37 25.6
comp=Z,822nm,21.2s,baz=12,slow=35
ZON **Zonda** 72.45 208 IAmb IAmb 01 06 35.7
comp=Z,34nm,1.1s
CO03 **El Pedregal** 72.64 210 IAmb IAmb 01 06 29.8
comp=Z,55nm,1.2s
O19K **Port Alsworth** 72.68 332 P P 01 06 28.6 +0.3
baz=50
GEYT **Alibeck** 72.92 56 P P 01 06 29.9 -0.3
comp=Z,4.5nm,0.9s,baz=284,slow=6.0,SNR=8.3
comp=Z,4.5nm,0.9s
LODK **Lodwar** 73.16 98 P P 01 06 32.8 +0.9
LODK IAmb IAmb 01 06 40.7
comp=Z,25nm,1.1s
LODK **Lodwar** 73.16 98 P P 01 06 33.9 +2.0
SNR=19
O18K **Koktuh Hills** 73.24 332 P P 01 06 32.7 +1.1
O18K **Koktuh Hills** 73.24 332 P P 01 06 31.9 +0.2
baz=49
TNA **Tin City** 73.30 341 P P 01 06 32.6 +0.8
TNA **Tin City** 73.30 341 P P 01 06 32.7 +0.8
baz=40

ANM Nome 73.35 339 P **P** 01 06 33.8 +1.7
ANM IAmb IAmb 01 06 40.2
comp=Z,25nm,1.3s
ANM Nome 73.35 339 P **P** 01 06 33.1 +1.0
baz=42
ANM Nome 73.35 339 P **P** 01 06 33.8 +1.7
ANM pmax pmax
comp=Z,25nm,1.3s
SAKB Bahrain 73.46 70 P **P** 01 06 35.2 +1.7
TIXI Tiksi 73.52 5 LR LR 01 34 02.7
comp=Z,214nm,20.7s,baz=359,slow=32
TIXI Tiksi 73.52 5 P **P** 01 06 33.3 +0.2
TIXI Tiksi 73.52 5⇑ *e*P **P** 01 06 33.5 +0.5
TIXI pmax pmax
comp=Z,25nm,1.7s
KDAK Kodiak Island 73.54 330 LR LR 01 40 00.6
comp=Z,3µm,18.5s,baz=73,slow=37
P18K Big Mountain, 73.56 332 P **P** 01 06 33.5 0.0
baz=49
Q18K Katmai Hardscr 73.96 331 P **P** 01 06 36.3 +0.3
baz=49
TSUM Tsumeb 74.20 127 LR LR 01 34 57.8
comp=Z,994nm,20.8s,baz=328,slow=32
TSUM Tsumeb 74.20 127 P **P** 01 06 38.5 +0.6
TSUM Tsumeb 74.20 127 *e*P **P** 01 06 39.3 +1.4
VA06 Catapilco 74.40 210 P **P** 01 06 39.0 +0.5
VA06 IAmb IAmb 01 06 41.2
comp=Z,47nm,1.2s
Q17K Contact Creek 74.56 331 P **P** 01 06 40.3 +0.8
baz=48
PEL Peldehue 74.66 209 P **P** 01 06 40.0 -0.1
PEL IAmb IAmb 01 06 41.7
comp=Z,51nm,1.2s
PEL Peldehue 74.66 209 P **P** 01 06 40.0 -0.1
PEL pmax pmax
comp=Z,51nm,1.2s
ATD Arta Tunnel 74.83 86 P **P** 01 06 40.7 -1.0
ATD IAmb IAmb 01 08 41.6
comp=Z,44nm,1.5s
MT03 Universidad Ad 74.89 209 P **P** 01 06 42.7 +1.1
MT05 Renca 74.89 209 P **P** 01 06 42.3 +0.7
MT02 Curacav 74.94 210 P **P** 01 06 42.4 +0.7
MT02 IAmb IAmb 01 06 43.8
comp=Z,57nm,1.0s
VA01 Torpederas 74.94 210 P **P** 01 06 42.4 +0.7
VA01 IAmb IAmb 01 07 55.4
comp=Z,61nm,1.1s
LMEL Las Melosas 75.08 209 IAmb IAmb 01 06 51.0
comp=Z,28nm,0.9s
SLWR Sila 75.34 71 P **P** 01 06 44.7 +0.2
SLWR P **P** 01 06 44.7 +0.2
BO04 La Punta 75.36 209 IAmb IAmb 01 06 51.6
comp=Z,54nm,1.1s
MT01 Popeta 75.51 209 P **P** 01 06 45.3 +0.2
MT01 IAmb IAmb 01 06 53.0
comp=Z,28nm,1.1s
BO01 Tunca 75.91 209 IAmb IAmb 01 06 48.2
comp=Z,22nm,0.8s
OTUK Ortayu 75.96 41 P **P** 01 06 47.3 -0.4
TRQA Tornquist 76.08 200 P **P** 01 06 48.2 0.0
TRQA IAmb IAmb 01 06 52.3
comp=Z,45nm,1.2s
TRQA Tornquist 76.08 200 P **P** 01 06 48.2 0.0
TRQA pmax pmax
comp=Z,45nm,1.3s
BO02 Sierra Bellavi 76.14 209 P **P** 01 06 48.8 +0.2
BILL Bilibino 76.23 351 P **P** 01 06 49.4 +0.6
BILL IAmb IAmb 01 06 56.2
comp=Z,65nm,1.4s
BILL Bilibino 76.23 351 *ce*P **P** 01 06 48.8 0.0
BILL *i* *PP **sP** 01 06 52.5 +0.6
BILL *i* *SP **pwP** 01 06 54.5 -0.3
BILL *i* 01 07 00.6
BILL *i* 01 09 40.3
BILL *i* PPP PPP 01 11 24.4
BILL *eS* **S** 01 16 26.6 -6.2
BILL *i* PS **PnS** 01 17 16.2 +6.9
BILL *e*SSS SSS 01 24 51.3
BILL pmax pmax
comp=Z,36nm,1.4s
BILL MLR MLR
comp=Z,697nm,18.0s
WIN Windhoek 76.32 130 P **P** 01 06 50.3 +0.2
WIN Windhoek 76.32 130 *e*P **P** 01 06 50.5 +0.4
WIN IAmb IAmb 01 06 51.3
comp=Z,5.3nm,1.1s
WIN Windhoek 76.32 130 P **P** 01 06 50.3 +0.2
WIN pmax pmax
comp=Z,13nm,1.1s
GO05 Huala 76.78 209 P **P** 01 06 52.5 +0.2
GO05 IAmb IAmb 01 06 53.7
comp=Z,39nm,1.0s
MZWR Madinat Zayed 77.20 70 P **P** 01 06 55.0 0.0
MZR Muzera 77.29 71 *i* P **P** 01 06 55.8 +0.2
SNR=8.1
MZR Muzera 77.29 71 P **P** 01 06 55.3 -0.3
KMBO Kilima Mbogo 77.31 100 LR LR 01 41 26.0
comp=Z,13nm,19.1s,baz=292,slow=36
KMBO Kilima Mbogo 77.31 100 P **P** 01 06 56.0 -0.1
KMBO Kilima Mbogo 77.31 100⇑ *e*P **P** 01 06 56.4 +0.3
KMBO Kilima Mbogo 77.31 100 *i* P **P** 01 06 58.0 +1.9
SNR=7.4
KMBO Kilima Mbogo 77.31 100 P **P** 01 06 58.8 +2.7
KURK Kurchatov 77.64 36 P **P** 01 06 55.9 -1.2
KURK IAmb IAmb 01 06 59.3
comp=Z,21nm,0.8s
KURK Kurchatov 77.64 36 *de*P **P** 01 06 56.4 -0.7
KURK pmax pmax
comp=Z,20nm,0.9s
KURK Kurchatov 77.64 36 P **P** 01 06 56.6 -0.5
KURK P **P** 01 06 56.6 -0.5
KURBB Kurchatov Arra 77.66 36 LR LR 01 41 52.2
comp=Z,689nm,18.6s,baz=285,slow=36
SHME Shamm 77.71 67 P **P** 01 06 57.4 -0.5
SHME P **P** 01 06 57.4 -0.5
ASUD Al Ashush, Dub 77.86 69 P **P** 01 06 57.7 -1.1
ASUD Al Ashush, Dub 77.86 69 P **P** 01 06 58.4 -0.3
BANOM Banah 77.90 67 P **P** 01 06 59.5 +0.5
NAZ Nazwa, Dubai 77.92 68 P **P** 01 06 58.5 -0.5
KK31 Karatay Array 77.98 46 *i* P **P** 01 06 58.1 -1.0
FAQ Al Faqa, Dubai 78.00 68 P **P** 01 06 57.5 -2.0
FAQ Al Faqa, Dubai 78.00 68 P **P** 01 06 58.5 -1.0
MASF Masafi 78.09 67 P **P** 01 06 59.3 -0.8
MASF P **P** 01 06 59.3 -0.8
MDH Madha 78.24 67 P **P** 01 07 00.6 -0.2
MDH P **P** 01 07 00.6 -0.2
TAS Tashkent 78.29 48 P **P** 01 07 01.0 +0.1
TAS Tashkent 78.29 48 P **P** 01 07 01.0 +0.1
TAS pmax pmax
comp=Z,68nm,1.0s
ZALV Zalesovo Beam 78.30 31 P **P** 01 07 00.8 +0.2
comp=Z,11nm,1.1s,baz=308,slow=7.3,SNR=13
ZALV PP **PP** 01 09 54.2 -2.7
comp=Z,1.2nm,0.7s,baz=318,slow=11,SNR=3.9
ZALV LR LR 01 41 48.6
comp=Z,529nm,18.1s,baz=300,slow=36
comp=Z,11nm,1.1s
UOSS Minazif 78.36 68 P **P** 01 07 00.7 -0.7
UOSS Minazif 78.36 68 *i* P **P** 01 07 00.8 -0.7
SNR=13
HATD Hatta, Dubai 78.36 68 *i* P **P** 01 07 02.0 +0.4
SNR=7.8
HATD Hatta, Dubai 78.36 68 P **P** 01 07 01.3 -0.3
SNR=8.3
HATD P **P** 01 07 01.3 -0.3
SNR=8.3
ASHO Ashiyiah 78.39 68 *i* P **P** 01 07 01.1 -0.6
SNR=11
ASHO Ashiyiah 78.39 68 P **P** 01 07 00.9 -0.8
ALNE Al Ain 78.49 69 *i* P **P** 01 07 02.1 -0.1
SNR=8.8
ALNE Al Ain 78.49 69 P **P** 01 07 02.6 +0.4
SNR=9.5
KIBK Kibwezi 78.66 101 P **P** 01 07 04.6 +1.2
KIBK Kibwezi 78.66 101 P **P** 01 07 05.8 +2.4
UMZA Um Al Zommool 78.75 70 P **P** 01 07 03.2 -0.5
UMZA P **P** 01 07 03.2 -0.5
LSZ Lusaka 78.92 117 LR LR 01 39 56.2
comp=Z,2µm,20.6s,baz=312,slow=34
LSZ Lusaka 78.92 117 P **P** 01 07 04.8 +0.1
LSZ Lusaka 78.92 117 *e*P **P** 01 07 05.5 +0.7
LSZ IAmb IAmb 01 07 16.3
comp=Z,254nm,1.3s
LSZ Lusaka 78.92 117 P **P** 01 07 04.8 +0.1
LSZ pmax pmax
comp=Z,16nm,1.0s
SOHO SOHO 79.05 68 *i* P **P** 01 07 05.1 -0.2
SNR=17
SOHO SOHO 79.05 68 P **P** 01 07 04.9 -0.4
SOHO P **P** 01 07 04.9 -0.4
JASK Jask - Hormozg 79.12 66 P **P** 01 07 06.1 +0.4
ARQ Araqi 79.47 69 P **P** 01 07 07.8 +0.1
SNR=6.9
ARQ P **P** 01 07 07.8 +0.1
SNR=6.9
HOQ Hoqain 79.94 68 P **P** 01 07 09.6 -0.6
SNR=13
HOQ P **P** 01 07 09.6 -0.6
SNR=13
EKS2 Erkin-Say 80.15 45 P **P** 01 07 11.9 +0.7
SNR=12
DOK Doka 80.16 74 P **P** 01 07 10.9 -0.5
DOK P **P** 01 07 10.9 -0.5
ABTO Aybut 80.19 76 P **P** 01 07 12.0 +0.3
WHFO Wadi Hawf 80.26 75 P **P** 01 07 11.5 -0.5
WHFO P **P** 01 07 11.5 -0.5
GAR Garm 80.30 49 P **P** 01 07 12.4 +0.3
GAR IAmb IAmb 01 07 15.2
comp=Z,55nm,0.9s
BSY Bisya 80.31 69 P **P** 01 07 11.6 -0.7
AML Almayashu 80.43 45 P **P** 01 07 13.5 +0.5
SNR=35
CHMS Chumysh 80.50 44 P **P** 01 07 13.1 +0.1
SNR=15
AAK Ala-Archa 80.58 44 P **P** 01 07 13.8 +0.3
SNR=12
AAK Ala-Archa 80.58 44 LR LR 01 43 49.8
comp=Z,1µm,18.5s,baz=322,slow=36
AAK Ala-Archa 80.58 44 P **P** 01 07 13.8 +0.3
AAK Ala-Archa 80.58 44 P **P** 01 07 13.8 +0.3
AAK pmax pmax
comp=Z,25nm,1.2s
AAK Ala-Archa 80.58 44 *i* P **P** 01 07 12.7 -0.8
SNR=14
BIDO Bidbid 80.60 68 P **P** 01 07 13.4 -0.3
SNR=16
GO06 Curarrehue 80.60 207 IAmb IAmb 01 07 14.6
comp=Z,37nm,0.9s
SMDO Samad 80.80 68 P **P** 01 07 15.6 +0.7
SNR=10.0
SMDO P **P** 01 07 15.6 +0.7
SNR=10.0
KBK Karagaybulak 80.83 44 P **P** 01 07 15.3 +0.4
SNR=10
UCH Uchtor 80.85 45 P **P** 01 07 15.8 +0.5
SNR=30
KRI Karoi 80.97 118 *e*P **P** 01 07 16.1 +0.2
TKM2 Tokmak 2 81.03 44 P **P** 01 07 16.2 +0.2
SNR=20
WSAR Wadi Sarin 81.14 68 LR LR 01 46 05.1
comp=Z,341nm,20.0s,baz=298,slow=38
WSAR Wadi Sarin 81.14 68 P **P** 01 07 16.5 -0.1
SNR=9.6
PLCA Paso Flores 81.28 205 P **P** 01 07 16.6 -0.2
comp=Z,19nm,0.9s,baz=22,slow=5.8,SNR=24
PLCA LR LR 01 42 47.7
comp=Z,377nm,20.1s,baz=50,slow=35
comp=Z,19nm,0.9s
PLCA Paso Flores 81.28 205 IAmb IAmb 01 07 18.4
comp=Z,31nm,1.0s
WBK Wadi Bani Khal 81.75 68 P **P** 01 07 20.0 +0.1
SNR=7.6
WBK P **P** 01 07 20.0 +0.1
SNR=7.6
KOMG Komaggas 81.84 135 *e*P **P** 01 07 21.2 +1.2
KOMG IAmb IAmb 01 07 24.8
comp=Z,63nm,1.4s
MHTO MHTO 81.88 70 P **P** 01 07 20.0 -0.5
SNR=13
MAKZ Makanchi 81.90 38 P **P** 01 07 19.4 -0.9
MAKZ IAmb IAmb 01 07 27.0
comp=Z,98nm,1.9s
MAKZ Makanchi 81.90 38 P **P** 01 07 19.4 -0.9
MAKZ pmax pmax
comp=Z,98nm,2.0s
MK31 Makanchi Array 82.07 37 *ce*P **P** 01 07 20.1 -1.1
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 82.07 37 P **P** 01 07 20.2 -1.0
comp=Z,12nm,0.9s,baz=314,slow=4.8,SNR=53
MKAR PP **PP** 01 10 26.4 -2.0
comp=Z,2.3nm,1.0s,baz=303,slow=6.0,SNR=3.7
MKAR LR LR 01 43 52.7
comp=Z,2µm,18.9s,baz=313,slow=36
comp=Z,12nm,0.9s
LL04 Puerto Octay 82.11 207 P **P** 01 07 20.8 -0.3
LL04 IAmb IAmb 01 07 27.8
comp=Z,33nm,1.1s
KBL Kabul 82.14 53 P **P** 01 07 21.5 -0.5
KBL Kabul 82.14 53 P **P** 01 07 21.5 -0.5
KBL pmax pmax
comp=Z,9.0nm,1.1s
LL03 Petrohue 82.30 207 P **P** 01 07 21.7 -0.4
JLN Jalan Bani Buh 82.34 69 P **P** 01 07 22.0 -1.0
SNR=13
JLN P **P** 01 07 22.0 -1.0
SNR=13
DGZ Jazzator, Alta 82.46 33⇑ *e*P **P** 01 07 24.0 +0.7
DGZ pmax pmax
comp=Z,21nm,1.5s
SEY Seymchan 82.52 356 LR LR 01 42 11.8
comp=Z,809nm,20.3s,baz=11,slow=34
SEY Seymchan 82.52 356⇑ *e*P **P** 01 07 23.1 -0.1
SEY pmax pmax
comp=Z,18nm,1.1s
AUGR Augrabies 82.68 132 *e*P **P** 01 07 24.9 +0.4
YAK Yakutsk 83.04 7 LR LR 01 40 03.7
comp=Z,318nm,22.0s,baz=351,slow=33
YAK Yakutsk 83.04 7 P **P** 01 07 26.1 +0.2
YAK IAmb IAmb 01 07 29.9
comp=Z,35nm,0.9s
YAK Yakutsk 83.04 7⇑ *e*P **P** 01 07 24.8 -1.0
YAK pmax pmax
comp=Z,12nm,0.9s
TARG Taragay, Kyrgy 83.06 43 P **P** 01 07 27.2 +0.3
TARG IAmb IAmb 01 07 35.5
comp=Z,42nm,1.4s
TARG Taragay, Kyrgy 83.06 43 P **P** 01 07 27.2 +0.3
TARG pmax pmax
comp=Z,42nm,1.4s
UPI Upington 83.08 131 *e*P **P** 01 07 27.1 +0.5
UPI IAmb IAmb 01 07 28.9
comp=Z,46nm,1.1s
KSH Kashi 83.42 46 P **P** 01 07 28.8 +0.3
KSH pmax pmax
comp=Z,35nm,1.0s
KSH LR LR
comp=Z,1µm,20.3s
KSH LR LR
comp=Z,1µm,21.6s
KSH LR LR
comp=Z,2µm,22.7s
LBTB Lobatse 83.55 126 LR LR 01 42 15.8
comp=Z,900nm,18.5s,baz=295,slow=34
LBTB Lobatse 83.55 126 P **P** 01 07 29.7 +0.6
LBTB IAmb IAmb 01 07 37.4
comp=Z,25nm,1.1s
LBTB Lobatse 83.55 126 *e*P **P** 01 07 29.8 +0.6
LBTB IAmb IAmb 01 07 30.4
comp=Z,26nm,1.2s
LBTB Lobatse 83.55 126 P **P** 01 07 29.7 +0.6
LBTB pmax pmax
comp=Z,25nm,1.1s
LL02 Futaleuf 83.90 205 P **P** 01 07 30.3 0.0
LL02 IAmb IAmb 01 07 36.0
comp=Z,50nm,1.8s
CVNA Calvinia 84.41 134 *e*P **P** 01 07 34.1 +0.7
CVNA IAmb IAmb 01 07 46.4
comp=Z,239nm,2.4s
BOD Bodaibo 84.63 15 *e*P **P** 01 07 32.2 -1.9
BOD pmax pmax
comp=Z,100nm,1.5s
MUSN Musina, Limpop 84.67 122 *e*P **P** 01 07 36.5 +1.6
MUSN IAmb IAmb 01 07 47.1
comp=Z,384nm,3.4s
SWZ Schweizer 84.85 128 *e*P **P** 01 07 36.4 +0.7
SWZ IAmb IAmb 01 07 43.9
comp=Z,63nm,1.2s
AY01 Puyuhuapi 85.25 205 P **P** 01 07 37.0 -0.1
AY01 IAmb IAmb 01 07 53.2
comp=Z,32nm,1.2s
NIL Nilore 85.45 52 P **P** 01 07 38.6 -0.1
NIL IAmb IAmb 01 07 45.5
comp=Z,28nm,1.2s
NIL Nilore 85.45 52 P **P** 01 07 38.6 -0.1
NIL pmax pmax
comp=Z,28nm,1.2s
SUR Sutherland 85.67 134 LR LR 01 40 42.5
comp=Z,579nm,19.0s,baz=334,slow=32
BOSA Boshof 85.78 129 P **P** 01 07 41.0 +0.6
comp=Z,17nm,1.0s,baz=300,slow=4.7,SNR=15
BOSA LR LR 01 42 49.5
comp=Z,929nm,19.2s,baz=325,slow=33
comp=Z,17nm,1.0s
BOSA Boshof 85.78 129 P **P** 01 07 40.9 +0.6
BOSA IAmb IAmb 01 07 42.5
comp=Z,23nm,1.1s
BOSA Boshof 85.78 129⇑ *i* P **P** 01 07 41.1 +0.8
BOSA IAmb IAmb 01 07 42.2
comp=Z,21nm,1.1s
BOSA Boshof 85.78 129 P **P** 01 07 41.0 +0.6
SLR Silverton 85.83 125 *e*P **P** 01 07 41.1 +0.4
SLR IAmb IAmb 01 07 49.1
comp=Z,46nm,1.1s
MA2 Magadan 85.96 356 LR LR 01 44 11.9
comp=Z,624nm,20.8s,baz=16,slow=34
MA2 Magadan 85.96 356 P **P** 01 07 41.3 +0.6
MA2 IAmb IAmb 01 07 48.7
comp=Z,56nm,1.9s
MA2 Magadan 85.96 356⇓ *e*P **P** 01 07 41.4 +0.7
MA2 pmax pmax
comp=Z,15nm,1.7s
PRYS Parys 86.01 127 *e*P **P** 01 07 42.3 +0.7
PRYS IAmb IAmb 01 07 50.7
comp=Z,11nm,1.3s
MOY Mondy 86.34 25 *e*P **P** 01 07 42.7 -0.2
MOY pmax pmax
comp=Z,58nm,2.5s
WMQ Urumqi 86.86 37⇑ *i* P **P** 01 07 46.3 +0.7
WMQ pP pwP 01 07 52.0 +0.7
WMQ pmax pmax
comp=Z,20nm,1.5s
WMQ LR LR
comp=Z,2µm,19.9s
WMQ LR LR
comp=Z,890nm,19.9s
WMQ LR LR
comp=Z,1µm,18.5s
BFON Badsfontein, M 86.99 132 *e*P **P** 01 07 47.1 +0.9
BFON IAmb IAmb 01 07 53.9
comp=Z,135nm,2.2s
SNKL Senekal, Frees 87.18 127 *e*P **P** 01 07 48.1 +0.8
SNKL IAmb IAmb 01 07 49.6
comp=Z,43nm,1.0s
HVD Gariep Dam 87.29 130 *e*P **P** 01 07 48.6 +0.9
HVD IAmb IAmb 01 07 50.7
comp=Z,96nm,1.2s
ZAK Zakamensk 88.21 24 *e*P **P** 01 07 50.8 -1.2
ZAK pmax pmax
comp=Z,7.0nm,1.3s
NWCL Newcastle 88.23 126 *e*P **P** 01 07 53.7 +1.4
NWCL IAmb IAmb 01 07 53.9
comp=Z,39nm,0.9s
SHEM Shemya Is, Ala 89.01 342 LR LR 01 49 45.0
comp=Z,157nm,18.6s,baz=338,slow=37
SONM Songino Array 91.45 24 P **P** 01 08 06.7 -0.5
comp=Z,3.4nm,0.9s,baz=312,slow=3.7,SNR=16
SONM PP **PP** 01 11 46.4 +2.5
comp=Z,1.6nm,1.1s,baz=297,slow=8.2,SNR=4.2
SONM LR LR 01 51 10.3
comp=Z,577nm,18.4s,baz=342,slow=37
comp=Z,3.4nm,0.9s
SONM Songino Array 91.45 24 P **P** 01 08 06.7 -0.5
SONM Songino Array 91.45 24 P **P** 01 08 06.7 -0.5
SONM pmax pmax
comp=Z,11nm,1.1s
ULN Ulaanbaatar 91.64 24 P **P** 01 08 08.3 +0.2
ULN IAmb IAmb 01 08 15.8
comp=Z,18nm,1.2s
ULN Ulaanbaatar 91.64 24 P **P** 01 08 08.3 +0.2
ULN pmax pmax
comp=Z,18nm,1.2s
ULN Ulaanbaatar 91.64 24 P **P** 01 08 07.6 -0.5
ULN P **P** 01 08 07.6 -0.5
PETK Petropavlovsk- 91.77 351 P **P** 01 08 07.6 -0.8
comp=Z,4.8nm,1.1s,baz=16,slow=6.9,SNR=3.2
PETK LR LR 01 48 31.1
comp=Z,725nm,20.1s,baz=13,slow=35
comp=Z,4.8nm,1.1s
RPN Rapa Nui 92.27 238 LR LR 01 46 49.9
comp=Z,196nm,19.4s,baz=53,slow=34
HIA Hailar 93.85 15 P **P** 01 08 17.5 -0.6
HIA IAmb IAmb 01 08 25.1
comp=Z,14nm,1.1s
HIA Hailar 93.85 15 P **P** 01 08 17.5 -0.6
HIA pmax pmax
comp=Z,14nm,1.1s
HEH HeiHe 94.30 10 *e*P **P** 01 08 19.8 -0.3
HEH pmax pmax
comp=Z,7.0nm,1.4s
HEH pmax pmax
comp=Z,420nm,5.3s
SBV Sambava 94.63 103 P **P** 01 08 23.0 +0.9
OPO Ambohidratompo 95.34 109 LR LR 01 51 32.3
comp=Z,535nm,19.4s,baz=181,slow=36
KLR Kul'dur 95.87 8 LR LR 01 52 50.5
comp=Z,244nm,18.0s,baz=2.0,slow=36
KLR Kul'dur 95.87 8 *ce*P **P** 01 08 25.6 -1.7
KLR pmax pmax
comp=Z,8.0nm,1.3s
GTA Gaotai 95.99 33 ⇑P **P** 01 08 28.3 0.0
GTA pP pwP 01 08 33.5 -0.4
GTA PP **PP** 01 12 17.3 -2.4
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,140nm,4.5s
GTA LR LR
comp=Z,580nm,18.5s
GTA LR LR
comp=Z,500nm,18.9s
GTA LR LR
comp=Z,450nm,19.3s
GOMU GeErMu 96.19 38 P **P** 01 08 32.3 +2.8
GOMU pP pwP 01 08 36.5 +1.3
GOMU sP sP 01 08 38.0 +5.2
GOMU pmax pmax
comp=Z,2.0nm,1.0s
GOMU pmax pmax
comp=Z,110nm,8.0s
GOMU LR LR
comp=Z,510nm,17.3s
GOMU LR LR
comp=Z,530nm,17.4s
GOMU LR LR
comp=Z,800nm,18.5s
XLT XiLinHaoTe 97.96 20 *e*P **P** 01 08 37.0 0.0
XLT pmax pmax
comp=Z,5.0nm,0.7s
XLT pmax pmax
comp=Z,230nm,6.1s
XLT LR LR
comp=Z,470nm,17.7s
XLT LR LR
comp=Z,500nm,17.2s
HHC Hu-ho-hao-te 99.35 24 *e*P **Pdif** 01 08 42.3 -1.0
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC LR LR
comp=Z,630nm,19.2s
HHC LR LR
comp=Z,830nm,17.7s
HHC LR LR
comp=Z,1µm,17.1s
CN2 Changchun 100.23 13 *e*P **Pdif** 01 08 46.8 -0.2
CN2 *eS* **Sdif** 01 20 18.5 -4.2
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,300nm,16.0s
LZH Lanzhou 100.53 32 *e*P **Pdif** 01 08 48.0 -0.7
LZH pP sP 01 08 52.0 0.0

LZH					sP	pwP	01 08 54.5	0.0	
LZH					pmax	pmax			
	comp=Z,6.0nm,1.1s								
LZH					LR	LR			
	comp=Z,800nm,14.8s								
LZH					LR	LR			
	comp=Z,440nm,16.1s								
LZH					LR	LR			
	comp=Z,770nm,16.1s								
PCHI	**Peechi**	**102.25**	**68**	*eP*		**Pdif**	**01 09 00.2**	**+3.7**	
PCHI				*eS*		Sdif	01 19 51.1	-49	
TAOE	**Nuku Hiva Isla**	**106.19**	**270**	*eLR*		LR	01 44 11.6		
	comp=Z,1μm,29.6s								
PPT2	**Papeete2**	**118.56**	**268**	*eSS*		SS	01 31 24.5	-0.4	
	comp=Z,321nm,30.8s								
PPT2	**Papeete2**	**118.56**	**268**	*eLR*		LR	01 49 55.0		
	comp=Z,608nm,38.5s								
PPT2				*eLR*		LR	01 49 56.0		
	comp=Z,525nm,22.8s								
QSPA	**South Pole Qui**	**124.51**	**180**			**PKPdf**	**01 13 58.0**	**-1.2**	
VNDA	**Vanda**	**136.24**	**186**	PKP		**PKPdf**	**01 14 20.6**	**-0.5**	
	comp=Z,4.3nm,1.0s,baz=125,slow=2.8,SNR=3.9								
MSVF	**Nonsavu**	**144.94**	**290**	PKP		**PKPab**	**01 14 37.4**	**-0.4**	
	comp=Z,26nm,0.9s,baz=120,slow=9.5,SNR=13								
MSVF	**Nonsavu**	**144.94**	**290**			**PKPdf**	**01 14 38.7**	**+0.1**	
MSVF	**Nonsavu**	**144.94**	**290**	PKIKP		**PKPdf**	**01 14 38.7**	**+0.1**	
BATI	**Baumata**	**149.68**	**41**	PKPbc		**PKPbc**	**01 14 51.3**	**+0.1**	
	comp=Z,73nm,0.9s,baz=79,slow=11,SNR=7.0								
BFZ	**Birch Farm**	**153.47**	**247**			**PKiKP**	**01 15 00.4**	**+1.2**	
DZM	**Mont Dzumac**	**156.31**	**296**	*eLR*		LR	02 07 25.7		
	comp=Z,2μm,24.9s								
FITZ	**Fitzroy Crossi**	**157.11**	**49**			**PKPab**	**01 15 27.6**	**+0.1**	
WB0	**Warramunga Arr**	**163.15**	**31**	PKPdf		**PKPdf**	**01 15 04.3**	**+0.5**	
WRAB	**Tennant Creek**	**163.28**	**31**			**PKPdf**	**01 15 03.5**	**-0.5**	
WRAB						**PKPab**	**01 15 54.3**	**0.0**	
WRAB	**Tennant Creek**	**163.28**	**31**	PKP2		**PKPab**	**01 15 54.3**	**0.0**	
WRAB							02 15 03.5		
WRA	**Warramunga Arr**	**163.28**	**31**	PKP		**PKPdf**	**01 15 02.4**	**-1.6**	
	comp=Z,2.2nm,1.0s,baz=339,slow=1.6,SNR=9.6								
WRA				PKPab		**PKPab**	**01 15 53.5**	**-0.8**	
	comp=Z,13nm,1.0s,baz=344,slow=4.3,SNR=22								
WB2	**Warramunga Arr**	**163.29**	**31**	PKPdf		**PKPdf**	**01 15 03.9**	**-0.1**	
WR0	**Warramunga Arr**	**163.38**	**31**			**PKPdf**	**01 15 03.3**	**-0.7**	
WR0						**PKPab**	**01 15 54.3**	**-0.4**	
AS31	**Alice Springs**	**166.25**	**40**	PKPdf		**PKPdf**	**01 15 05.9**	**-0.5**	
AS31						**PKPab**	**01 16 07.1**	**-0.3**	
ASAR	**Alice Springs**	**166.25**	**40**	PKP		**PKPdf**	**01 15 05.2**	**-1.3**	
	comp=Z,2.3nm,1.0s,baz=22,slow=0.3,SNR=10								
ASAR				PKPab		**PKPab**	**01 16 06.4**	**-1.0**	
	comp=Z,7.8nm,1.1s,baz=328,slow=4.7,SNR=12								
ASAR				PP		**PP**	**01 19 55.8**	**+1.5**	
	comp=Z,1.9nm,1.0s,baz=329,slow=3.2,SNR=4.5								
ASAR	**Alice Springs**	**166.25**	**40**			**PKPdf**	**01 15 06.5**	**0.0**	
ASAR				PKPab		**PKPab**	**01 16 07.0**	**-0.4**	
ASAR	**Alice Springs**	**166.25**	**40**	PKP2		**PKPab**	**01 16 07.0**	**-0.4**	
ASAR							02 15 06.5		
STKA	**Stephens Creek**	**176.83**	**31**	PKP		**PKPdf**	**01 15 10.9**	**-0.4**	
	comp=Z,7.3nm,1.0s,baz=258,slow=3.8,SNR=5.9								
STKA	**Stephens Creek**	**176.83**	**31**			**PKPdf**	**01 15 11.5**	**+0.2**	
STKA	**Stephens Creek**	**176.83**	**31**	PKIKP		**PKPdf**	**01 15 11.5**	**+0.2**	

*NEIC **31** 00:55:51.5±1.5,6.1S±0.1×155.6E±0.1,h10km±1km, mb4.5/10, Error ellipse: s-maj=19.3km s-min=13.9km az=141.0*

*IDC **31** 00:55:57.8±1.5,6.69S×154.87E,h0km,mb3.9/6, mbtmp4.0/8,ML3.1/2,MS3.2/1, Error ellipse: s-maj=39.5km s-min=22.2km az=95.0*

ISC 31 00:55:52.8±0.9,6.26S±0.1×155.5E±0.1,h10km,n22, σ2s01/23,mb4.3/12,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.93**	**301**	Pn		**Pn**	**Pn**	**00 56 53.5**	**+0.3**
RABL				Sn		**Sn**	**Sn**	**00 57 40.8**	**+1.4**
KRVT	**Keravat (AS076**	**3.99**	**299**	Pn		**Pn**	**Pn**	**00 56 54.0**	**0.0**
	13nm,0.3s,baz=184,slow=16,SNR=2.5								
KRVT				Sn		**Sn**	**Sn**	**00 57 40.0**	**-0.9**
	34nm,0.3s,baz=196,slow=12,SNR=3.7								
	43nm,0.4s								
PMG	**Port Moresby**	**8.85**	**249**	Pn		**Pn**	**Pn**	**00 57 58.5**	**-2.4**
	2.7nm,0.3s,baz=71,slow=8.9,SNR=4.2								
PMG				Sn		Sn	Sn	00 59 25.1	-16
	2.0nm,0.3s,baz=194,slow=13,SNR=1.3								
	9.8nm,0.4s								
COEN	**Coen**	**14.35**	**237**	P		**P**	**P**	**00 59 23.1**	**-0.2**
CTA	**Charters Tower**	**16.43**	**212**	Pn		**P**	**P**	**00 59 47.5**	**+1.0**
	0.5nm,0.3s,baz=25,slow=10,SNR=8.6								
CTA				LR		LR	LR	01 05 01.9	
	comp=Z,96nm,19.8s,baz=99,slow=35								
CTAO	**Charters Tower**	**16.43**	**212**	P		**P**	**P**	**00 59 48.2**	**+1.7**
WR0	**Warramunga Arr**	**24.51**	**234**	P		**P**	**P**	**01 01 12.7**	**0.0**
WR0				IAmb		IAmb	IAmb	01 01 12.9	
	comp=Z,9.4nm,0.7s								
WB0	**Warramunga Arr**	**24.53**	**235**	P		**P**	**P**	**01 01 12.3**	**-0.5**
WB0				IAmb		IAmb	IAmb	01 01 13.0	
	comp=Z,5.2nm,0.8s								
WRAB	**Tennant Creek**	**24.65**	**235**	P		**P**	**P**	**01 01 13.1**	**-0.8**
WRAB				IAmb		IAmb	IAmb	01 01 14.2	
	comp=Z,7.6nm,0.7s								
WB2	**Warramunga Arr**	**24.65**	**235**	P		**P**	**P**	**01 01 13.3**	**-0.7**
WB2				IAmb		IAmb	IAmb	01 01 14.3	
	comp=Z,7.6nm,0.7s								
WRA	**Warramunga Arr**	**24.66**	**235**	P		**P**	**P**	**01 01 13.3**	**-0.7**
	comp=Z,6.7nm,0.8s,baz=57,slow=10.0,SNR=30								
WRA				PcP		**PcP**	**PcP**	**01 04 56.4**	**+4.8**
	comp=Z,0.5nm,0.8s,baz=71,slow=2.2,SNR=2.8								
	comp=Z,6.7nm,0.8s								
LHI	**Lord Howe Isla**	**25.35**	**173**	P		**P**	**P**	**01 01 19.0**	**-1.0**
ASAR	**Alice Springs**	**27.05**	**228**	P		**P**	**P**	**01 01 35.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=57,slow=8.7,SNR=20								
ASAR				PcP		**PcP**	**PcP**	**01 05 00.4**	**+3.3**
	comp=Z,0.5nm,0.9s,baz=63,slow=2.5,SNR=2.2								
	comp=Z,1.3nm,0.6s								
KNRA	**Kununurra**	**27.85**	**248**	P		**P**	**P**	**01 01 41.7**	**-1.2**
KNRA				IAmb		IAmb	IAmb	01 01 59.4	
	comp=Z,9.6nm,1.1s								
STKA	**Stephens Creek**	**28.62**	**205**	P		**P**	**P**	**01 01 50.9**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=42,slow=17,SNR=3.0								
	comp=Z,0.9nm,0.4s								
SOEI	**Soe**	**31.14**	**262**	P		**P**	**P**	**01 02 11.2**	**-0.9**
SOEI				IAmb		IAmb	IAmb	01 02 15.6	
	comp=Z,22nm,1.0s								
KSRS	**Korea Array**	**50.54**	**331**	P			P	01 04 58.7	+7.2
	comp=Z,1.0nm,0.6s,baz=145,slow=6.4,SNR=3.2								
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**69.01**	**327**	P			P	01 07 07.0	+8.2
	comp=Z,0.4nm,0.5s,baz=151,slow=7.0,SNR=6.0								
	comp=Z,0.4nm,0.5s								
MKAR	**Makanchi Array**	**83.20**	**319**	P			P	01 08 25.6	+6.1
	comp=Z,0.5nm,0.8s,baz=95,slow=7.2,SNR=0.5								
	comp=Z,0.5nm,0.8s								
I26K	**Coal Creek Min**	**84.14**	**22**	P		**P**	**P**	**01 08 21.2**	**-2.6**
MOBC	**Moresby Island**	**84.64**	**35**	P		**P**	**P**	**01 08 24.5**	**-2.2**
TORD	**Torodi Ar. Bea**	**153.33**	**287**	PKPbc		**PKiKP**	**P**	**01 15 56.4**	**+3.9**
	comp=Z,0.7nm,0.8s,baz=52,slow=1.0,SNR=2.2								

*IDC **31** 01:12:53.1±1.4,61.91N×152.40W,h101km±15km, mb3.4/12,mbtmp3.8/16,MS3.8/2,Error ellipse: s-maj=18.4km s-min=10.2km az=107.0*

*NEIC **31** 01:12:55.9±0.7,61.91N±0.0,03×152.11W±0.0,10, h132km±5km,Error ellipse: s-maj=6.9km s-min=3.9km az=71.0*

*AEIC **31** 01:12:57.1±0.8,61.90N±0.0,04×152.10W±0.0,10, h126km±5km,ML3.5,ML3.7/126(NEIC),Error ellipse: s-maj=7.2km s-min=5.3km az=121.0*

ISC 31 01:12:55.4±0.6,61.91N±0.0,03×152.15W±0.0,04,h117km, n121,σ1s34/121,mb3.7/12,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.30**	**77**			**Pn**	**Pn**	**01 13 14.1**	**+2.1**
SKT	**Skwentna**	**0.30**	**77**			**Sn**	**Sn**	**01 13 27.4**	**+2.9**
M20K	**Styx River**	**0.46**	**267**			**Pn**	**Pn**	**01 13 14.8**	**+1.9**
M20K				IAML				01 13 29.4	
	comp=E,826nm,0.7s								
SPU	**Mount Spurr**	**0.73**	**176**			**Pn**	**Pn**	**01 13 16.3**	**+1.5**
SUA	**Susitna One**	**0.81**	**123**			**Pn**	**Pn**	**01 13 17.6**	**+2.1**
SUA				IAML				01 13 34.8	
	comp=E,1μm,0.5s								
SUA				IAML				01 13 35.4	
	comp=N,1μm,0.6s								
SUA	**Susitna One**	**0.81**	**123**				**Sn**	**01 13 33.4**	**+2.8**
M22K	**Willow**	**0.98**	**98**				**Pn**	**01 13 18.6**	**+1.8**
PPLA	**Purkeypile**	**0.99**	**359**				**Pn**	**01 13 19.1**	**+1.9**
CUT	**Chulitna**	**1.01**	**60**				**Pn**	**01 13 19.2**	**+2.1**
CUT	**Chulitna**	**1.01**	**60**				**Sn**	**01 13 36.8**	**+3.0**
CAPN	**Captain Cook N**	**1.25**	**157**				**Pn**	**01 13 22.4**	**+2.8**
CAPN							**Sn**	**01 13 43.4**	**+5.4**
L19K	**White Mountain**	**1.30**	**283**		Pn		**Pn**	**01 13 22.0**	**+1.7**
RC01	**Rabbit Creek A**	**1.42**	**124**				**Pn**	**01 13 23.0**	**+1.3**
RC01					IAML			01 13 44.3	
	comp=N,945nm,0.5s								
RC01					IAML			01 13 50.4	
	comp=E,587nm,0.5s								
PMR	**Palmer**	**1.47**	**101**				**Pn**	**01 13 22.8**	**+0.6**
PMR					IAML			01 13 47.8	
	comp=N,632nm,0.4s								
PMR					IAML			01 13 50.5	
	comp=E,584nm,0.4s								
RSO	**Redoubt South**	**1.48**	**192**				**Pn**	**01 13 24.5**	**+1.9**
CAST	**Castle Rocks**	**1.51**	**1**				**Pn**	**01 13 24.2**	**+1.5**
GHO	**Glory Hole Cre**	**1.54**	**94**				**Pn**	**01 13 23.9**	**+0.8**
N19K	**Bonanza Creek**	**1.57**	**227**				**Pn**	**01 13 25.0**	**+1.4**
N19K					IAML			01 13 48.0	
	comp=N,518nm,1.1s								
SLKM	**Skilak Lake**	**1.69**	**146**				**Pn**	**01 13 25.6**	**+0.7**
SLKM							**Sn**	**01 13 47.3**	**-0.1**
K20K	**Telida**	**1.70**	**329**				**Pn**	**01 13 26.3**	**+1.4**
K20K					IAML			01 13 48.9	
	comp=E,324nm,0.9s								
K20K					IAML			01 13 49.3	
	comp=N,335nm,0.6s								
KTH	**Kantishna Hill**	**1.74**	**18**				**Pn**	**01 13 26.9**	**+1.4**
KTH					IAML			01 13 51.3	
	comp=E,236nm,0.6s								
KTH					IAML			01 13 55.1	
	comp=N,285nm,0.7s								
TRF	**Thorofare Moun**	**1.77**	**28**				**Pn**	**01 13 27.4**	**+1.5**
TRF					IAML			01 13 53.3	
	comp=E,410nm,0.5s								
TRF					IAML			01 13 55.6	
	comp=N,554nm,0.7s								
WAT7	**Susitna Watana**	**1.80**	**58**				**Pn**	**01 13 27.5**	**+1.3**
SML	**Sawmill**	**1.81**	**92**		Pn		**Pn**	**01 13 27.1**	**+0.7**
SML					IAML			01 13 54.7	
	comp=N,799nm,0.6s								
KNK	**Knik Glacier**	**1.83**	**104**				**Pn**	**01 13 27.2**	**+0.7**
KNK	**Knik Glacier**	**1.83**	**104**				**Sn**	**01 13 51.8**	**+1.4**
SVW2	**Sparrevohn**	**1.83**	**245**				**Pn**	**01 13 27.8**	**+1.2**
SVW2					IAML			01 13 53.4	
	comp=N,268nm,0.9s								
SVW2					IAML			01 13 53.5	
	comp=E,278nm,1.1s								
WAT1	**Susitna Watana**	**1.92**	**60**				**Pn**	**01 13 28.7**	**+1.1**
WAT1							**Sn**	**01 13 54.0**	**+1.7**
CHUM	**Lake Minchumin**	**1.98**	**358**				**Pn**	**01 13 29.7**	**+1.4**
O19K	**Port Alsworth**	**2.02**	**212**		Pn		**Pn**	**01 13 30.1**	**+1.3**
O19K					IAML			01 13 56.2	
	comp=N,287nm,0.6s								
O19K					IAML			01 13 57.3	
	comp=E,305nm,0.6s								
TTA	**Tatalina**	**2.06**	**301**				**Pn**	**01 13 30.6**	**+1.1**
PWL	**Port Wells**	**2.12**	**118**				**Pn**	**01 13 30.3**	**+0.2**
RND	**Reindeer**	**2.14**	**44**		Pn		**Pn**	**01 13 31.6**	**+1.2**
RND					IAML			01 14 00.3	
	comp=E,332nm,0.3s								
WAT6	**Susitna Watana**	**2.17**	**70**				**Pn**	**01 13 31.7**	**+0.8**
SEW	**Seward**	**2.24**	**143**				**Pn**	**01 13 32.2**	**+0.5**
BRLK	**Bradley Lake**	**2.24**	**163**				**Pn**	**01 13 32.5**	**+0.7**
BRLK					IAML			01 14 01.8	
	comp=E,238nm,0.3s								
BRLK					IAML			01 14 01.0	
	comp=N,266nm,0.9s								
BPAW	**Bear Paw Mtn.**	**2.26**	**13**				**Pn**	**01 13 32.9**	**+1.0**
HOM	**Homer**	**2.27**	**173**		Pn		**Pn**	**01 13 33.8**	**+1.7**
BRSE	**Bradley Lake S**	**2.29**	**162**				**Pn**	**01 13 32.7**	**+0.5**
SCM	**Sheep Creek Mo**	**2.29**	**90**				**Pn**	**01 13 33.0**	**+0.7**
P19K	**Oil Pt**	**2.33**	**194**		Pn		**Pn**	**01 13 34.2**	**+1.4**
P19K					IAML			01 14 05.0	
	comp=N,548nm,0.5s								
P19K					IAML			01 14 06.1	
	comp=E,420nm,0.8s								
MCK	**McKinley**	**2.35**	**38**				**Pn**	**01 13 34.3**	**+1.3**
CNPM	**China Poot**	**2.44**	**169**		Pn		**Pn**	**01 13 35.3**	**+1.1**
CNPM					IAML			01 14 08.1	
	comp=N,281nm,0.4s								
CNPM					IAML			01 14 09.2	
	comp=E,322nm,0.4s								
DHY	**Denali Highway**	**2.51**	**60**		Pn		**Pn**	**01 13 36.2**	**+1.1**
DHY					IAML			01 14 08.9	
	comp=E,440nm,0.5s								
DHY					IAML			01 14 09.5	
	comp=N,412nm,0.6s								
O18K	**Koktuh Hills**	**2.55**	**217**				**Pn**	**01 13 37.0**	**+1.4**
BWN	**Browne**	**2.58**	**27**				**Pn**	**01 13 38.1**	**+2.1**
BWN					IAML			01 14 32.3	
	comp=N,225nm,0.7s								
BWN					IAML			01 14 35.7	
	comp=E,260nm,0.7s								
M24K	**Tolsona, Glenn**	**2.83**	**83**		Pn		**Pn**	**01 13 40.4**	**+1.1**
P18K	**Big Mountain,**	**2.95**	**212**		Pn		**Pn**	**01 13 42.1**	**+1.3**
KLU	**Klutina**	**3.00**	**95**				**Pn**	**01 13 41.9**	**+0.3**
KLU					IAML			01 14 18.5	
	comp=E,261nm,0.5s								
KLU					IAML			01 14 18.7	
	comp=N,324nm,0.3s								
NEA2	**Nenana**	**3.03**	**26**				**Pn**	**01 13 42.4**	**+0.6**
Q19K	**Cape Douglas,**	**3.08**	**195**		Pn		**Pn**	**01 13 43.0**	**+0.3**
Q19K					IAML			01 14 40.4	
	comp=N,306nm,1.0s								
DIV	**Divide**	**3.16**	**102**		Pn		**Pn**	**01 13 43.4**	**-0.2**
WRH	**Wood River Hil**	**3.16**	**34**				**Pn**	**01 13 44.2**	**+0.7**
MLY	**Manley**	**3.19**	**11**				**Pn**	**01 13 45.1**	**+1.0**
I21K	**Tanana**	**3.28**	**1**				**Pn**	**01 13 46.4**	**+1.2**
I21K					IAML			01 14 25.4	
	comp=E,84nm,1.1s								
PAX	**Paxson**	**3.28**	**68**				**Pn**	**01 13 46.5**	**+1.2**
CCB	**Clear Creek Bu**	**3.38**	**34**		Pn		**Pn**	**01 13 46.9**	**+0.5**
CCB					IAML			01 14 34.6	
	comp=E,94nm,0.4s								
HDA	**Harding Lake**	**3.44**	**41**				**Pn**	**01 13 48.0**	**+0.7**
HDA	**Harding Lake**	**3.44**	**41**		IAML			01 14 30.8	
	comp=N,190nm,0.5s								
HDA					IAML			01 14 31.4	
	comp=E,230nm,0.5s								
I23K	**Minto, Yukon-K**	**3.48**	**20**				**Pn**	**01 13 48.7**	**+0.9**
MDM	**Murphy Dome**	**3.53**	**28**				**Pn**	**01 13 49.3**	**+0.8**
TCOL	**CIGO, UAF Yank**	**3.54**	**31**				**Pn**	**01 13 49.5**	**+0.9**
TCOL					IAML			01 14 41.6	
	comp=E,216nm,0.5s								
COLA	**College**	**3.55**	**31**				**Pn**	**01 13 49.5**	**+0.9**
COLA					IAML			01 14 39.2	
	comp=E,238nm,0.7s								
GCSA	**Galena City Sc**	**3.55**	**325**				**Pn**	**01 13 49.8**	**+1.1**
N25K	**Chitina, Valde**	**3.60**	**92**				**Pn**	**01 13 50.2**	**+0.6**
N25K					IAML			01 14 52.6	
	comp=E,138nm,0.7s								
IL31		**3.73**	**37**				**Pn**	**01 13 51.5**	**+0.4**
ILAR	**Eielson Array**	**3.73**	**37**	P			**Pn**	**01 13 51.0**	**-0.1**
	comp=E,49nm,0.4s,baz=223,slow=14,SNR=750								
ILAR				S			**Sn**	**01 14 32.9**	**-1.3**
	comp=E,10nm,0.4s,baz=190,slow=14,SNR=3.1								
ILAR				LR			LR	01 15 23.7	
	comp=E,420nm,20.6s,baz=126,slow=40								
ILAR	**Eielson Array**	**3.73**	**37**				**Pn**	**01 13 51.6**	**+0.6**
BMRM	**Bremner River**	**3.75**	**101**				**Pn**	**01 13 51.0**	**-0.4**
H21K	**Melozitna Rive**	**3.77**	**356**				**Pn**	**01 13 52.8**	**+1.1**
H21K					IAML			01 14 35.3	
	comp=E,62nm,1.3s								
H21K					IAML			01 14 37.0	
	comp=N,50nm,1.0s								
RIDG	**Independent Ri**	**3.82**	**58**				**Pn**	**01 13 53.9**	**+1.4**
RIDG					IAML			01 14 42.6	
	comp=N,195nm,0.6s								
POKR	**Poker Plat Res**	**3.85**	**31**		Pn		**Pn**	**01 13 53.6**	**+0.9**
GLB	**Gilahina Butte**	**4.00**	**93**				**Pn**	**01 13 55.3**	**+0.4**
GLB	**Gilahina Butte**	**4.00**	**93**		IAML			01 15 02.9	
	comp=E,110nm,0.5s								
GLB					IAML			01 15 05.3	
	comp=N,143nm,0.7s								
MENT	**Mentasta**	**4.05**	**72**				**Pn**	**01 13 56.2**	**+0.7**
MENT					IAML			01 15 07.6	
	comp=E,159nm,0.5s								
DOT	**Dot Lake**	**4.11**	**61**				**Pn**	**01 13 56.8**	**+0.7**
IMAR	**Indian Mountai**	**4.15**	**351**		Pn		**Pn**	**01 13 57.8**	**+1.1**
KDAK	**Kodiak Island**	**4.15**	**183**	P			**Pn**	**01 13 54.9**	**-1.8**
	comp=E,12nm,0.3s,baz=357,slow=11,SNR=49								
KDAK				S			**Sn**	**01 14 41.2**	**-3.1**
	comp=E,25nm,0.5s,baz=292,slow=19,SNR=9.2								
VRDI	**Verde Repeater**	**4.22**	**96**				**Pn**	**01 13 57.9**	**+0.1**
VRDI	**Verde Repeater**	**4.22**	**96**	IAML				01 15 11.4	
	comp=N,82nm,0.7s								
VRDI				IAML				01 15 11.6	
	comp=E,59nm,0.7s								
L26K	**Log Cabin Wild**	**4.24**	**71**				**Pn**	**01 13 59.4**	**+1.5**
L26K				IAML				01 15 04.2	
	comp=E,139nm,0.5s								
L26K				IAML				01 15 05.1	
	comp=N,145nm,0.5s								
SCRK	**Sand Creek**	**4.27**	**57**	Pn			**Pn**	**01 13 58.9**	**+0.4**
SCRK				IAML				01 14 47.1	
	comp=N,66nm,0.3s								
SCRK				IAML				01 15 00.0	
	comp=E,54nm,0.6s								
M26K	**Nabesna, AK**	**4.32**	**79**				**Pn**	**01 13 59.9**	**+0.7**
M26K				IAML				01 15 10.0	
	comp=E,97nm,0.6s								
M26K				IAML				01 15 12.7	
	comp=N,115nm,0.5s								
H24K	**Noodor Dome**	**4.37**	**24**	Pn			**Pn**	**01 14 00.3**	**+0.6**
MCARA	**McCarthy VSAT**	**4.39**	**93**				**Pn**	**01 14 01.0**	**+1.1**
PRP	**Porcupine Dome**	**4.67**	**36**	Pn			**Pn**	**01 14 04.5**	**+0.7**
PRP				IAML				01 14 59.9	
	comp=E,72nm,0.6s								
PRP				IAML				01 15 00.6	
	comp=N,66nm,0.4s								
J26L	**Joseph Creek**	**4.68**	**52**				**Pn**	**01 14 04.8**	**+0.9**
BALM	**Baldy**	**4.79**	**96**				**Pn**	**01 14 06.1**	**+0.7**
KIAG	**Kiagna River**	**4.81**	**98**				**Pn**	**01 14 06.0**	**+0.2**
M27K	**Edge Creek, AK**	**4.84**	**80**				**Pn**	**01 14 07.6**	**+1.4**
M27K				IAML				01 15 03.9	
	comp=E,38nm,0.9s								
M27K				IAML				01 15 44.5	
	comp=N,50nm,1.1s								
L27K	**Beaver Creek,**	**4.93**	**72**				**Pn**	**01 14 07.9**	**+0.7**
L27K				IAML				01 15 04.5	
	comp=N,23nm,0.6s								
L27K				IAML				01 15 22.4	
	comp=E,21nm,1.8s								
BCAR	**Beaver Creek A**	**4.95**	**72**	Pn			**Pn**	**01 14 08.1**	**+0.6**
BARN	**Barnard Glacie**	**5.10**	**95**				**Pn**	**01 14 10.9**	**+1.2**
BARN	**Barnard Glacie**	**5.10**	**95**	IAML				01 15 34.2	
	comp=E,68nm,0.9s								
BARN				IAML				01 15 35.8	
	comp=N,56nm,0.9s								
I26K	**Coal Creek Min**	**5.26**	**46**				**Pn**	**01 14 12.9**	**+1.2**
I26K				IAML				01 15 13.7	
	comp=N,68nm,0.8s								
I26K				IAML				01 15 14.1	
	comp=E,60nm,0.7s								
COLD	**Coldfoot**	**5.40**	**8**	Pn			**Pn**	**01 14 14.5**	**+0.9**
FYU	**Fort Yukon**	**5.56**	**30**				**Pn**	**01 14 16.4**	**+0.8**
EGAK	**Eagle**	**5.72**	**55**				**Pn**	**01 14 17.9**	**+0.1**
DAWY	**Dawson**	**6.20**	**64**	Pn			**Pn**	**01 14 25.0**	**+0.6**
BMAR	**Burnt Mountain**	**6.42**	**27**	Pn			**Pn**	**01 14 27.3**	**0.0**
TOLK	**Toolik Lake Re**	**6.84**	**8**	Pn			**Pn**	**01 14 34.9**	**+1.9**
I29M	**Ogilvie Camp,**	**7.07**	**55**				**Pn**	**01 14 36.7**	**+0.7**
HYT	**Haines Junctio**	**7.12**	**92**	Pn			**Pn**	**01 14 37.6**	**+0.7**
M30M	**Minto, Yukon**	**7.21**	**78**				**Pn**	**01 14 39.0**	**+1.1**
EPYK	**Eagle Plains**	**8.08**	**50**				**Pn**	**01 14 50.2**	**+0.4**
INK	**Inuvik**	**10.10**	**43**	P			**Pn**	**01 15 16.2**	**-0.7**
	comp=E,6.2nm,0.5s,baz=239,slow=15,SNR=73								
YKA	**Yellowknife Ar**	**17.36**	**71**	P			**Pn**	**01 16 50.1**	**+0.1**
	comp=E,1.2nm,0.7s,baz=279,slow=11								
RES	**Resolute Bay**	**23.47**	**34**	P			**P**	**01 17 54.1**	**+0.2**
	comp=E,0.5nm,0.5s,baz=4.8,slow=9.2,SNR=1.5								
	comp=E,0.5nm,0.5s								
PDAR	**Pinedale Array**	**31.51**	**108**	P			**P**	**01 19 07.3**	**+1.1**
	comp=E,0.2nm,0.5s

SZAC	Souni	1.38	136	P	Pb	01 15 28.9	-0.2
SZAC				S	Sb	01 15 48.0	+1.7
SZAC				AML	AML	01 16 00.0	
	0.8nm,0.3s						
SZAC				AML	AML	01 16 00.0	
	0.8nm,0.3s						
SZAC				AML	AML	01 16 01.4	
	1.4nm,0.6s						
SZAC				AML	AML	01 16 01.4	
	1.4nm,0.6s						
OREN	Orenkoy-Mersin	1.48	72	Pn	Pb	01 15 30.2	-0.6
ATHAL	Athalassa	1.50	114	P	Pn	01 15 29.0	+0.4
AKK2	Akkuyu-Mersin	1.53	75	Pn	Pb	01 15 30.3	-1.4
CSS	Mathiatis	1.54	121	Pn	Pn	01 15 29.3	+0.1
CSS	Mathiatis	1.54	121	P	Pn	01 15 29.1	-0.1
CSS				S	Sb	01 15 50.5	-0.4
CSS				AML	AML	01 16 02.1	
	0.2nm,0.5s						
CSS				AML	AML	01 16 02.1	
	0.2nm,0.5s						
CSS				AML	AML	01 16 04.6	
	0.3nm,0.5s						
CSS				AML	AML	01 16 04.6	
	0.3nm,0.5s						
CSS	Mathiatis	1.54	121	Pn	Pn	01 15 29.3	+0.1
AKKU	Akkuyu-Mersin	1.54	74	Pn	Pb	01 15 30.8	-1.0
GULN	MERSIN_Gulnar	1.54	73	P	Pb	01 15 30.7	-1.2
GULN				S	Sn	01 15 48.1	0.0
LFK	Lefkose	1.55	107	Pn	Pn	01 15 30.2	+0.7
TEPK	Tepekoy-MERSIN	1.55	72	Pn	Pb	01 15 31.0	-1.1
ASGA	Asgata	1.58	127	P	Pb	01 15 31.6	-0.9
ASGA				AML	AML	01 16 04.1	
	0.8nm,0.9s						
ASGA				AML	AML	01 16 05.4	
	0.8nm,0.7s						
YESI	Yesilovacik-Me	1.62	74	Pn	Pb	01 15 31.8	-1.4
TISA	Tisan-Mersin	1.64	75	Pn	Pb	01 15 32.0	-1.5
SEYD	Seydisehir-KON	1.65	3	Pn	Pb	01 15 33.5	-0.3
KORT	Korkueli	1.66	319	Pn	Pb	01 15 33.3	-0.7
KORT	Korkueli	1.66	319	P	Pb	01 15 32.7	-1.3
IKL	Isikli	1.67	73	Pn	Pb	01 15 32.6	-1.3
KARG	Kargicak-Mersi	1.67	74	Pn	Pb	01 15 32.7	-1.4
SEDI	Konya, Seydise	1.69	1	P	Pb	01 15 33.7	-0.8
SEDI				S	Sb	01 15 53.8	-1.7
SEDI				*i* AML	AML	01 16 02.0	
	comp=E,112nm,0.6s						
MVOU	Mavrovouni	1.73	115	P	Pn	01 15 31.4	-0.4
KKBE	Karaman, Kazim	1.76	34	P	Pb	01 15 35.0	-0.7
KKBE				S	Sb	01 15 54.3	-3.1
ELL	Elmali	1.77	305	Pn	Pb	01 15 34.4	-1.4
ELL	Elmali	1.77	305	P	Pb	01 15 36.4	+0.6
ELL				S	Sb	01 16 06.6	+8.9
KSL	Kastellorizon	1.78	283	P	Pn	01 15 33.4	+0.9
KSL				S	Sb	01 15 56.7	-1.0
AKAS	Kas	1.78	286	Pn	Pn	01 15 34.0	+1.4
BUCA	Burdur, Bucak-	1.83	330	P	Pb	01 15 37.2	+0.5
SILI	Silifke-Mersin	1.89	70	Pn	Pb	01 15 35.9	-1.8
KMER	Konya-Meram	2.08	14	P	Pb	01 15 40.3	-0.7
KMER				S	Sb	01 16 05.8	-0.6
KMER				*i* AML	AML	01 16 15.0	
	comp=N,56nm,0.6s						
KIZK	Mersin	2.09	69	Pn	Pb	01 15 38.8	-2.4
KIZK	Mersin	2.09	69	P	Pb	01 15 38.9	-1.4
KIZK				*i* AML	AML	01 16 11.0	
	comp=N,50nm,0.5s						
KONT	Konya--Tatoy	2.25	13	Pn	Pb	01 15 42.3	-1.6
OSC1	CSNet OBS 1	2.28	189	P	Pn	01 15 40.0	+0.6
OSC1				S	Sn	01 16 05.1	-1.2
GOLH	Golhisar	2.28	311	P	Pb	01 15 43.7	-0.8
CAME	Cameli-Denizli	2.28	302	Pn	Pn	01 15 41.6	+2.0
FETY	Fethiye	2.31	293	Pn	Pn	01 15 41.7	+1.9
DOGA	KONYA_Doganhis	2.35	359	P	Pn	01 15 41.5	+1.0
DOGA				S	Sn	01 16 08.7	+0.4
DOGA				*i* AML	AML	01 16 18.0	
	comp=N,48nm,0.4s						
CAEL	Denizli, Camel	2.37	306	P	Pb	01 15 45.1	-0.8
CAEL				*i* AML	AML	01 16 23.0	
	comp=N,60nm,0.7s						
CAEL				*i* AML	AML	01 16 30.0	
	comp=E,66nm,0.8s						
LADK	Ladik-KONYA	2.50	12	Pn	Pb	01 15 45.6	-2.5
BASM	Basmaki-Afyon	2.54	329	Pn	Pb	01 15 46.3	-2.6
KERG	Konya-Eregli	2.55	49	P	Pb	01 15 46.5	-2.5
APMY	Acipayam-Deniz	2.59	312	Pn	Pb	01 15 46.4	-3.4
YESY	Yesilyurt	2.59	38	Pn	Pb	01 15 46.9	-2.9
DALY	Dalyan (Mula)	2.69	294	Pn	Pn	01 15 46.7	+1.6
ALIN	Konya, Altinte	2.70	20	P	Pb	01 15 48.6	-3.0
ALIN				*i* AML	AML	01 17 21.0	
	comp=E,106nm,2.6s						
DED	Mersin	2.76	63	P	Pb	01 15 49.1	-3.5
KDHN	Kadinhani	2.78	6	P	Pb	01 15 49.1	-3.9
KDHN				S	Sn	01 16 20.4	+1.5
KZIL	AFYON_Kizioren	2.80	334	P	Pn	01 15 48.8	+2.1
TAVA	DENIZLI_Tavas	2.83	308	P	Pn	01 15 49.1	+2.1
TAVA				S	Sn	01 16 20.8	+0.7
ARG	Arkhangelos	2.95	280	Pn	Pn	01 15 50.3	+1.7
TURN	Turunc	2.99	291	Pn	Pn	01 15 51.2	+2.1
TURN	Turunc	2.99	291	P	Pn	01 15 50.2	+1.1
TURN				S	Sn	01 16 20.7	-3.2
KARA	Karaisali	3.08	60	Pn	Pb	01 15 53.1	-4.9
YER	Yerkesik	3.10	297	Pn	Pn	01 15 53.0	+2.3
MULA	Mugla, Merkez-	3.12	300	P	Pn	01 15 54.1	+3.0
PASA	Karahalli, USA	3.15	326	P	Pn	01 15 53.8	+2.5
PASA				S	Sn	01 16 27.5	-0.4
CEYT	Ceyhan	3.48	68	Pn	Pn	01 15 58.7	+2.8
DAT	Datca	3.49	287	Pn	Pn	01 15 58.4	+2.3
MLSB	Milas	3.53	297	Pn	Pn	01 15 58.9	+2.3
KOZT	Kozan	3.73	61	Pn	Pn	01 16 01.9	+2.6
YAHY	KAYSERI_Yahyal	3.74	50	P	Pb	01 16 03.7	-5.6
GDZ	Gediz	3.77	333	P	Pn	01 16 00.0	-0.1
BBAL	Bala	3.94	16	P	Pn	01 16 06.1	+3.7
RHAN	Hatay/Reyhanl	3.99	81	P	Pn	01 16 05.4	+2.5
RHAN				S	Sn	01 16 48.2	-0.4
RHAN				*i* AML	AML	01 16 55.0	
	comp=N,25nm,0.8s						
RHAN				*i* AML	AML	01 17 03.0	
	comp=E,27nm,0.6s						
MMA0B	Mount Meron ar	4.09	131	Pn	Pn	01 16 06.1	+1.7
MMA0B				Sn	Sn	01 16 52.6	+1.4
GEM	Giv'at Ha'Em	4.13	127	Pn	Pn	01 16 06.7	+1.9
GEM				Sn	Sn	01 16 54.1	+2.1
OFRI	`Ofer	4.13	138	Pn	Pn	01 16 06.0	+1.1
ANDN	Andirin	4.14	63	P	Pn	01 16 06.9	+1.9
ANDN				*i* AML	AML	01 17 29.0	
	comp=N,11nm,1.8s						
ANDN				*i* AML	AML	01 18 33.0	
	comp=E,15nm,4.9s						
SAIM	ADANA	4.14	56	P	Pn	01 16 08.6	+3.5
NATI	Neve Ativ	4.14	126	Pn	Pn	01 16 06.4	+1.4
KAMA	Osmaniye	4.24	69	P	Pn	01 16 08.6	+2.2
KAMA				S	Sn	01 16 54.8	0.0
BRTR	Keskin Array B	4.25	20	Pn	Pn	01 16 09.9	+3.3
	0.2nm,0.3s,baz=198,slow=16,SNR=8.7						
BRTR				Sn	Sn	01 16 59.8	+4.7
	0.3nm,0.3s,baz=201,slow=30,SNR=6.5						
	0.4nm,0.3s						
MMLI	Mount Malkishu	4.51	136	Pn	Pn	01 16 11.1	+0.9
MMLI	Mount Malkishu	4.51	136	Pn	Pn	01 16 11.6	+1.4
MMLI				Sn	Sn	01 17 01.8	+0.2
SARI	SarD1z-Kayseri	4.60	53	Pn	Pn	01 16 14.8	+3.4
GAZ	Gaziantep	4.65	71	Pn	Pn	01 16 15.1	+3.1
UJAP	Al Uja	4.91	140	Pn	Pn	01 16 16.9	+1.4
KZIT	Kziot	5.33	154	Pn	Pn	01 16 21.8	+0.5
KZIT				Sn	Sn	01 17 19.1	-2.6
MSBI	Mazada	5.37	145	Pn	Pn	01 16 22.9	+1.0
PRNI	Paran	6.05	152	Pn	Pn	01 16 31.7	+0.4
PRNI				Sn	Sn	01 17 37.6	-1.9
HRFI	Mount Harif	6.35	153	Pn	Pn	01 16 36.1	+0.7
HRFI				Sn	Sn	01 17 44.9	-1.9
GEYT	Alibeck	21.22	76	P	P	01 19 47.0	-0.1
	0.5nm,0.6s,baz=277,slow=11,SNR=1.7						
	0.5nm,0.6s						
FINES	FINESS Array B	25.96	354	P	P	01 20 33.9	+0.7
	2.3nm,0.9s,baz=159,slow=12,SNR=2.1						
	2.3nm,0.9s						
MKAR	Makanchi Array	38.96	58	P	P	01 22 27.0	0.0
	0.2nm,0.5s,baz=282,slow=8.0,SNR=4.4						
	0.2nm,0.5s						

*IDC **31** 01:20:50.7±2.5, 17.43S×178.94W, h575km±17km, mb2.9/5, mbtmp3.8/6, Error ellipse: s-maj=111.5km s-min=19.1km az=149.0*

ISC 31 01:20:47.1±2.3, 17.5S±0.8×178.8W±0.5, h539km, n8, σ0555/9, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.98	265	P	P	01 22 07.4	+6.3
	18nm,0.7s,baz=90,slow=4.3,SNR=18						
WRA	Warramunga Arr	44.31	259	P	P	01 28 10.1	+0.5
	0.1nm,0.2s,baz=96,slow=7.6,SNR=4.8						
WRA				PcP	PcP	01 29 41.8	-0.3
	0.2nm,0.5s,baz=103,slow=3.6,SNR=1.6						
	0.1nm,0.2s						
ASAR	Alice Springs	44.51	254	P	P	01 28 11.3	+0.2
	1.1nm,0.4s,baz=89,slow=8.0,SNR=20						
ASAR				PcP	PcP	01 29 42.3	-0.5
	0.4nm,0.4s,baz=107,slow=3.8,SNR=2.5						
	1.1nm,0.4s						
NVAR	Mina Array Bea	79.40	44	P	P	01 31 58.5	+0.7
	0.6nm,0.7s,baz=235,slow=8.1,SNR=6.4						
	0.6nm,0.7s						
ILAR	Eielson Array	85.56	13	P	P	01 32 27.6	-0.3
	0.3nm,0.3s,baz=224,slow=5.2,SNR=15						
	0.3nm,0.3s						
PDAR	Pinedale Array	87.32	44	P	P	01 32 37.3	+0.2
	0.5nm,0.5s,baz=205,slow=3.8,SNR=7.3						
	0.5nm,0.5s						
BRTR	Keskin Array B	144.19	315	PKP	PKPdf	01 39 21.4	-0.6
	2.1nm,1.0s,baz=97,slow=2.1,SNR=6.7						
GERES	GERESS Array B	147.09	345	PKPbc	PKPbc	01 39 29.6	-0.1
	1.0nm,0.5s,baz=28,slow=3.6,SNR=9.4						

IDC 31 01:28:28.3±2.2, 6.96S×129.26E, h0km, mb3.5/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=151.6km s-min=32.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	13.81	160	Pn	Pn	01 31 45.6	0.0
	0.1nm,0.3s,baz=342,slow=13,SNR=2.8						
WRA				Sn	Sn	01 34 04.7	-15
	0.1nm,0.3s,baz=332,slow=22,SNR=2.6						
	0.1nm,0.3s						
ASAR	Alice Springs	17.20	165	P	Pn	01 32 30.2	0.0
	0.1nm,0.3s,baz=339,slow=9.1,SNR=2.4						
	0.1nm,0.3s						
MKAR	Makanchi Array	67.80	327	P	P	01 39 28.2	0.0
	0.3nm,0.5s,baz=120,slow=8.0,SNR=8.2						
	0.3nm,0.5s						

*IDC **31** 01:38:27.8±0.8, 49.88N×127.51W, h0km, mb3.6/10, mbtmp3.7/21, ML3.6/11, Error ellipse: s-maj=19.0km s-min=5.7km az=66.0*

*NEIC **31** 01:38:27.0±2.1, 49.77N±0.07×127.83W±0.10, h29km±6km, Error ellipse: s-maj=13.3km s-min=4.4km az=218.0*

*PGC **31** 01:38:28.4±0.0, 49.77N×127.81W, h41km, ML3.7/40, 107km Ssw of Pt. Hardy, Bc Vancouver Island, Canada Region*

*OTT **31** 01:38:28±2.1, 49.77N±0.07×127.8W±0.1, h41km±8km, ML3.7, mb4.0/39(NEIC), Error ellipse: s-maj=13.4km s-min=7.0km az=48.0*

ISC 31 01:38:27.3±1.3, 49.77N±0.03×127.82W±0.04, h11km±8km, n296, σ2926/295, mb3.7/14, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDB	Eliza Dome	0.46	76	P	Pb	01 38 38.0	+0.5
EDB				S	Sb	01 38 44.6	+0.2
PACB	Port Alice, BC	0.70	17	P	Pb	01 38 41.8	+0.2
PACB				S	Sg	01 38 50.9	+0.7
MAYB	Maynard	0.76	33	P	Pb	01 38 42.9	+0.2
MAYB				S	Sg	01 38 52.3	+0.3
WOSB	Woss	0.90	63	P	Pg	01 38 45.0	+0.4
WOSB				S	Sg	01 38 56.1	-0.1
HOLB	Holberg	0.90	347		Pb	01 38 45.0	0.0
HOLB				Sn	Sb	01 38 55.5	-1.5
HOLB	Holberg	0.90	347	P	Pb	01 38 44.9	0.0
HOLB				S	Sb	01 38 56.0	-1.0
ETB	Estevan Point	0.92	115	P	Pg	01 38 45.3	+0.3
NC89	ODP889	1.27	150	P	Pb	01 38 50.7	-0.4
NC89				S	Sb	01 39 06.8	-0.5
NCRB	Newcastle Ridg	1.30	60	P	Pn	01 38 51.3	-0.3
NCRB				S	Sb	01 39 06.1	-2.5
SPLB	Strathcona Par	1.41	84	P	Pn	01 38 52.2	-0.6
SPLB				S	Sb	01 39 11.3	-0.2
CBB	Campbell River	1.61	79	P	Pn	01 38 55.4	-0.3
CBB				S	Sn	01 39 14.3	-2.0
BO12	Ucluelet	1.71	119	P	Pn	01 38 56.1	-0.9
NCBC	Barkley Canyon	1.72	141	S	Sn	01 39 18.3	-0.7
OZB	Mount Ozzard	1.72	117		Pn	01 38 56.1	-1.1
OZB	Mount Ozzard	1.72	117	P	Pn	01 38 56.3	-0.9
OZB				S	Sn	01 39 16.5	-2.6
NCHR	NEPTUNE Canada	1.98	205	P	Pn	01 38 59.9	-0.5
BFSB	Bamfield	1.99	117	P	Pn	01 38 59.8	-1.0
B928	Bamfield	1.99	117	P	Pn	01 38 59.9	-0.9
NC27	ODP1027	2.00	179	P	Pn	01 39 00.3	-0.4
KEMF	NEPTUNE Canada	2.00	205	P	Pn	01 39 00.1	-0.7
B927	Port Alberni	2.03	104	P	Pn	01 39 01.1	-0.3
B927				S	Sn	01 39 26.6	-0.2
TXB	Texada	2.19	90	P	Pn	01 39 03.3	-0.4
GHNB	Nanoose	2.38	100	P	Pn	01 39 05.5	-0.7
BBB	Bella Bella	2.43	356	Pn	Pn	01 39 06.6	-0.3
	16nm,0.3s,baz=198,slow=6.3,SNR=433						
BBB				Sn	Sn	01 39 34.3	-2.3
	59nm,0.3s,baz=225,slow=5.9,SNR=8.0						
BBB				Lg	Lg	01 39 42.6	
	85nm,0.3s,baz=70,slow=22,SNR=13						
	55nm,0.5s						
BBB	Bella Bella	2.43	356	Pn	Pn	01 39 06.4	-0.5
BBB	Bella Bella	2.43	356	P	Pn	01 39 06.7	-0.2
BBB				S	Sn	01 39 34.1	-2.5
PFB	Port Renfrew	2.52	117	P	Pn	01 39 07.5	-0.7
NLLB	Nanaimo Lost L	2.55	101	P	Pn	01 39 09.0	+0.4
OCP	Olym-Cheeka Pk	2.56	124	P	Pn	01 39 09.2	+0.5
SHB	Sechelt	2.56	92	P	Pn	01 39 08.6	-0.3
B926	Mesachie Lake	2.59	110	P	Pn	01 39 09.2	+0.1
CLRS	Cowichan Lake	2.59	110	Pn	Pn	01 39 07.0	-2.1
CLRS	Cowichan Lake	2.59	110	P	Pn	01 39 08.7	-0.4
C03A	Quillayute Air	2.81	129		Pn	01 39 11.7	-0.5
SYMB	Survey Mountai	2.90	113	P	Pn	01 39 13.3	-0.1
GOBB	Galiano Island	2.93	105	P	Pn	01 39 14.0	+0.2
BIB	Bowen Island	2.96	95	P	Pn	01 39 13.6	-0.5
WPB	Watts Point	2.99	90	P	Pn	01 39 14.8	+0.2
OBC	Olympics--Boni	3.01	124	P	Pn	01 39 15.6	+0.6
B009	North Saanich	3.07	110	P	Pn	01 39 16.6	+0.9
B010	North Saanich	3.07	110	P	Pn	01 39 16.1	+0.3
PGC	Sidney	3.07	110	Pn	Pn	01 39 15.8	+0.1
PGC	Sidney	3.07	110	P	Pn	01 39 16.2	+0.5
B011	North Saanich	3.07	110	P	Pn	01 39 16.2	+0.4
STW	Striped Peak	3.17	119	P	Pn	01 39 17.8	+0.7
SNB	Saturna Island	3.20	106	P	Pn	01 39 18.5	+1.0
VGZ	Gonzales	3.25	113	P	Pn	01 39 19.4	+1.3
HG4B	Hotspring	3.31	321		Pn	01 39 16.6	-2.4
HG4B	Hotspring	3.31	321	P	Pn	01 39 18.9	-0.1
B04A	Port Angeles	3.32	119	Pn	Pn	01 39 19.4	+0.3
OSD	Olympics--Snow	3.34	124	P	Pn	01 39 20.4	+0.7
MCW	Mount Constitu	3.44	106	P	Pn	01 39 22.3	+1.4
HNBB	Haney	3.45	96	P	Pn	01 39 20.9	0.0
NLWA	Neilton Lookou	3.54	131	Pn	Pn	01 39 21.7	-0.4
BNB	Barry Inlet	3.75	320	P	Pn	01 39 25.0	-0.1
WISH	Wishkah	3.78	133		Pn	01 39 24.5	-1.0
WISH	Wishkah	3.78	133	P	Pn	01 39 26.2	+0.7
HDW	Hoodsport	3.80	122	P	Pn	01 39 26.9	+1.1
VDB	Vedder Mountai	3.80	99	P	Pn	01 39 26.6	+0.8
LLLB	Lillooet	3.91	75	Pn	Pn	01 39 25.6	-1.7
LLLB	Lillooet	3.91	75	P	Pn	01 39 27.7	+0.5
UBRB	Upper Baezaeko	3.91	35	P	Pn	01 39 29.2	+1.8
GNW	Green Mountain	3.97	122	P	Pn	01 39 29.8	+1.7
CMW	Cultus Mountai	3.98	108	P	Pn	01 39 29.5	+1.2
MBW	Mount Baker	4.00	102	P	Pn	01 39 30.5	+1.9
BNAB	Bonilla	4.13	336	P	Pn	01 39 30.5	+0.3
JCW	Jim Creek	4.18	110	P	Pn	01 39 32.8	+1.7
CPW	Capitol Peak	4.19	130	P	Pn	01 39 31.7	+0.6
MOBC	Moresby Island	4.27	324	P	Pn	01 39 32.1	-0.1
RADR	Rader Ridge	4.29	140		Pn	01 39 30.6	-2.0
E03A	Lebam	4.30	137	Pn	Pn	01 39 31.6	-1.0
E03A	Lebam	4.30	137	P	Pn	01 39 33.9	+1.3
GRNB	Grenville Isla	4.30	343	Pn	Pn	01 39 31.4	-1.2
GRNB	Grenville Isla	4.30	343	P	Pn	01 39 32.7	0.0
RPW	Rockport	4.34	105	P	Pn	01 39 35.0	+1.7
KITB	Kitimat	4.35	354	P	Pn	01 39 34.0	+0.7
DIB	Dawson Inlet,	4.51	322	Pn	Pn	01 39 34.4	-1.0
DIB	Dawson Inlet,	4.51	322	P	Pn	01 39 35.3	-0.2
H02S1	DAWSON INLET T	4.51	322	Pn	Pn	01 39 35.2	-0.2
H02S1				Sn	Sn	01 40 23.5	-4.3
D05A	Enumclaw	4.66	121	Pn	Pn	01 39 34.6	-2.8
D05A	Enumclaw	4.66	121	P	Pn	01 39 38.8	+1.3
RUBB	Prince Rupert	4.81	343	Pn	Pn	01 39 39.6	0.0
RUBB	Prince Rupert	4.81	343	P	Pn	01 39 40.6	+1.0
FMW	Mount Fremont	4.98	122	P	Pn	01 39 44.2	+2.1
LON	Longmire	5.02	125		Pn	01 39 42.7	+0.1
LON	Longmire	5.02	125	P	Pn	01 39 44.8	+2.2
FSJB	Fort St James	5.18	23	P	Pn	01 39 45.9	+1.2
FSJB	Fort Saint Jam	5.18	23	P	Pn	01 39 45.6	+0.8
PNT	Penticton	5.36	92	P	Pn	01 39 48.7	+1.5
LTY	Liberty	5.37	115		Pn	01 39 47.2	-0.2
LTY	Liberty	5.37	115	P	Pn	01 39 49.1	+1.7
B08A	Colville Reser	5.75	101	Pn	Pn	01 39 49.7	-2.9
B08A	Colville Reser	5.75	101	P	Pn	01 39 53.6	+1.0
BLBC	Blue River	5.88	64	P	Pn	01 39 55.5	+0.9
COR	Corvallis	6.03	148		Pn	01 39 55.1	-1.2
V35K	Ketchikan	6.03	339	P	Pn	01 39 57.6	+1.2
	baz=156						
HOOD	Mount Hood Mea	6.09	134		Pn	01 39 55.7	-1.8
SLEB	Sale Mountain	6.34	74	P	Pn	01 40 02.0	+1.1
H04A	Detroit Lake	6.37	141	Pn	Pn	01 40 01.2	+0.2
MNB	Mounoet Dainar	6.44	64	P	Pn	01 40 03.4	+1.2
BUCK	Buck Mountain	6.47	148	Pn	Pn	01 40 01.9	-0.7
HAWA	Hanford	6.49	118	Pn	Pn	01 40 01.4	-1.3
D08A	Wollman Farm,	6.51	111	Pn	Pn	01 40 01.6	-1.5
CRAG	Craig	6.56	333	P	Pn	01 40 05.1	+1.5
	baz=148						
F07A	Phinny Hill Vi	6.57	123		Pn	01 40 02.2	-1.6
C09A	Chrisman Ranch	6.61	104	Pn	Pn	01 40 03.3	-1.0
E08A	Dider Farm, El	6.71	116	Pn	Pn	01 40 03.9	-1.8
U33K	Whale Pass	7.12	335	P	Pn	01 40 12.2	+0.9
	baz=151						
NEW	Newport	7.19	98	Pn	Pn	01 40 12.1	-0.3
	1.0nm,0.3s,baz=292,slow=13,SNR=12						
	3.8nm,0.5s						
NEW	Newport	7.19	98	Pn	Pn	01 40 09.8	-2.6
NEW	Newport	7.19	98	P	Pn	01 40 14.0	+1.7
	baz=286,SNR=6.0						
WRAK	Wrangell Islan	7.20	340	P	Pn	01 40 14.6	+2.2
	baz=156						
E09A	Wood Farm, Sta	7.24	113		Pn	01 40 11.9	-1.1
DBO	Dodson Butte	7.36	153	Pn	Pn	01 40 13.6	-1.1
G08A	Pilot Rock	7.48	123	Pn	Pn	01 40 15.1	-1.3
PINE	Pine Mountain	7.61	139	Pn	Pn	01 40 16.6	-1.6
HUMO	Hull Mountain	7.91	153	Pn	Pn	01 40 20.5	-1.7
I07A	Izee	8.04	132		Pn	01 40 22.2	-1.8
F10A	Beach Ranch, E	8.07	114		Pn	01 40 21.8	-2.6
NBC5	NorthernBC 5	8.35	19	P	Pn	01 40 30.1	+1.8
S34M	Telegraph Cree	8.39	348	P	Pn	01 40 30.9	+2.1
S34M	Telegraph Cree	8.39	348	P	Pn	01 40 31.7	+2.9
	baz=165,SNR=6.7						
SIT	Sitka	8.57	331	P	Pn	01 40 35.0	+3.9
	baz=145						
BMO	Blue Mountains	8.66	121	Pn	Pn	01 40 30.3	-2.3
DLBC	Dease Lake	8.79	352	Pn	Pn	01 40 34.9	+0.6
	0.5nm,0.3s,baz=196,slow=11,SNR=9.5						
DLBC					Sn	01 42 15.9	+2.8
	0.4nm,0.3s,baz=72,slow=22,SNR=2.3						
DLBC					Lg	01 43 02.2	
	0.4nm,0.3s,baz=130,slow=25,SNR=5.6						
	1.0nm,0.3s						
DLBC	Dease Lake	8.79	352	P	Pn	01 40 36.9	+2.6
YBH	Yreka Blue Hor	8.79	154	Pn	Pn	01 40 39.6	+5.3
	0.9nm,0.3s,baz=345,slow=10,SNR=63						
	22nm,0.9s						
YBH	Yreka Blue Hor	8.79	154	Pn	Pn	01 40 31.9	-2.4
BSMT	Bassoo Peak	8.81	98	P	Pn	01 40 37.1	+2.3
J08A	Circle Bar Ran	9.08	131		Pn	01 40 36.6	-1.7
WALA	Waterton Lakes	9.10	89		Pn	01 40 37.0	-1.5
WALA	Waterton Lakes	9.10	89	P	Pn	01 40 40.4	+1.8
PLID	Pearl Lake	9.27	116	Pn	Pn	01 40 39.7	-1.4
MOD	Modoc Plateau	9.45	144		Pn	01 40 41.8	-1.6
FNBB	Fort Nelson	9.56	15	P	Pn	01 40 47.9	+3.1
Q32M	Nakina River	9.57	346	P	Pn	01 40 49.4	+4.3
	baz=162,SNR=6.0						
MSO	Missoula	9.70	102	P	Pn	01 40 49.0	+2.2
	baz=293,SNR=5.0						
WVOR	Wild Horse Val	9.71	136		Pn	01 40 45.5	-1.5
P33M	Teslin, Yukon	10.85	347	P	Pn	01 41 05.6	+3.1
	baz=162						
HLID	Hailey	11.10	119	Pn	Pn	01 41 03.9	-2.1
HLID

ISA	**Isabella, Lake**	**15.66**	**151**	P	**P**	**01 42 14.8**	**+2.7**
	baz=337,SNR=9.2							
TMUT	**Trail Mountain**	**15.77**	**125**	Pn	**Pn**	**01 42 06.6**	**-2.9**
TMUT				IAmb	IAmb	01 42 28.5		
	comp=Z,12nm,1.5s							
MVU	**Marysvale**	**15.85**	**129**	Pn	**Pn**	**01 42 08.9**	**-1.6**
MSU	**Marysvale**	**15.86**	**129**	Pn	**Pn**	**01 42 09.1**	**-1.5**
QSM	**Queen of Sheba**	**15.93**	**146**	Pn	**Pn**	**01 42 09.2**	**-2.2**
QSM				IAmb	IAmb	01 42 21.0		
	comp=Z,13nm,1.3s							
PKM	**Mcpherson Peak**	**15.98**	**155**	P	**P**	**01 42 17.5**	**+1.7**
	baz=341							
CCUT	**Cedar City**	**16.04**	**134**	Pn	**Pn**	**01 42 10.7**	**-2.3**
P18A	**Preston Nutter**	**16.05**	**123**	Pn	**Pn**	**01 42 09.2**	**-4.0**
P18A				IAmb	IAmb	01 42 23.3		
	comp=Z,9.2nm,0.8s							
Q16A	**Castle Valley**	**16.07**	**126**	Pn	**Pn**	**01 42 10.4**	**-2.9**
Q16A				IAmb	IAmb	01 42 30.1		
	comp=Z,22nm,1.4s							
LRMC	**Laurel Mtn Rad**	**16.08**	**149**	P	**P**	**01 42 18.9**	**+2.1**
	baz=336							
SHPR	**Sheep Range**	**16.12**	**141**	Pn	**Pn**	**01 42 11.2**	**-2.7**
MTPU	**Mount Pierson**	**16.22**	**130**	Pn	**Pn**	**01 42 12.1**	**-3.2**
SRU	**San Rafael Swe**	**16.27**	**124**	Pn	**Pn**	**01 42 12.8**	**-3.1**
SRU				IAmb	IAmb	01 42 30.0		
	comp=Z,14nm,1.1s							
K22A	**Casper**	**16.33**	**108**	Pn	**Pn**	**01 42 14.2**	**-2.5**
K22A	**Casper**	**16.33**	**108**	P	**P**	**01 42 20.0**	**+0.4**
	baz=303,SNR=9.0							
DOT	**Dot Lake**	**16.45**	**334**	P	**Pn**	**01 42 14.2**	**-3.6**
DOT				IAmb	IAmb	01 42 25.6		
	comp=Z,19nm,1.4s							
FFC	**Flin Flon**	**16.54**	**63**	P	**Pn**	**01 42 16.6**	**-2.4**
GSC	**Goldstone, Bar**	**16.55**	**147**	Pn	**Pn**	**01 42 14.7**	**-4.6**
GSC	**Goldstone, Bar**	**16.55**	**147**	P	**P**	**01 42 23.8**	**+1.9**
	baz=334,SNR=6.3							
PKCU	**Pink Cliffs**	**16.62**	**132**	Pn	**Pn**	**01 42 17.6**	**-3.0**
PKCU				IAmb	IAmb	01 42 28.6		
	comp=Z,19nm,1.4s							
TUQ	**Turquoise Moun**	**16.75**	**144**	P	**P**	**01 42 26.7**	**+2.5**
	baz=332							
O20A	**White River Ci**	**16.83**	**117**		**Pn**	**01 42 19.4**	**-3.5**
O20A				IAmb	IAmb	01 42 38.1		
	comp=Z,23nm,1.4s							
O20A	**White River Ci**	**16.83**	**117**	P	**P**	**01 42 26.0**	**+0.9**
	baz=312							
WAT6	**Susitna Watana**	**16.86**	**327**	P	**P**	**01 42 25.8**	**+0.5**
	baz=130							
J26L	**Joseph Creek**	**16.98**	**336**	P	**P**	**01 42 27.4**	**+0.8**
	baz=143							
DHY	**Denali Highway**	**17.07**	**329**	P	**P**	**01 42 28.5**	**+1.0**
	baz=132							
EPYK	**Eagle Plains**	**17.27**	**348**	P	**P**	**01 42 31.1**	**+1.4**
	baz=160							
I26K	**Coal Creek Min**	**17.54**	**338**	Pn	**Pn**	**01 42 27.6**	**-3.9**
I26K				IAmb	IAmb	01 42 40.4		
	comp=Z,19nm,1.5s							
I26K	**Coal Creek Min**	**17.54**	**338**	P	**P**	**01 42 33.8**	**+1.3**
	baz=145							
N23A	**Red Feather La**	**17.70**	**112**	P	**P**	**01 42 36.2**	**+1.4**
	baz=308							
PV11	**David Mesa, Pa**	**17.75**	**123**	Pn	**Pn**	**01 42 29.7**	**-4.7**
PHWY	**Pilot Hill**	**17.75**	**110**	P	**Pn**	**01 42 30.8**	**-3.8**
PHWY				IAmb	IAmb	01 42 38.6		
	comp=Z,14nm,0.8s							
N20K	**Mount Spurr**	**17.82**	**319**	P	**P**	**01 42 36.9**	**+1.1**
	baz=119							
PV13	**Radium Mtn., P**	**17.88**	**123**	Pn	**Pn**	**01 42 31.7**	**-4.4**
PV13				IAmb	IAmb	01 42 42.6		
	comp=Z,21nm,1.1s							
PV15	**Paradox Valley**	**17.93**	**122**		**Pn**	**01 42 32.8**	**-3.9**
PV15				IAmb	IAmb	01 42 44.8		
	comp=Z,12nm,0.9s							
ILAR	**Eielson Array**	**18.11**	**333**	P	**P**	**01 42 40.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=143,slow=11,SNR=11							
	comp=Z,1.3nm,1.0s							
IRM	**Iron Mountain**	**18.18**	**144**	P	**P**	**01 42 43.0**	**+3.1**
	baz=333							
SMCO	**Snowmass**	**18.20**	**118**		**Pn**	**01 42 36.1**	**-4.0**
SMCO				IAmb	IAmb	01 42 51.2		
	comp=Z,9.1nm,1.1s							
PFO	**Pinyon Flats O**	**18.20**	**148**	P	**P**	**01 42 42.4**	**+2.2**
	baz=319,slow=7.0,SNR=4.3							
	comp=Z,2.0nm,0.8s							
PFO	**Pinyon Flats O**	**18.20**	**148**	P	**P**	**01 42 44.6**	**+4.4**
	baz=336							
TPFO	**Pinon Flats**	**18.20**	**148**	P	**P**	**01 42 44.3**	**+4.1**
	baz=336							
CCB	**Clear Creek Bu**	**18.30**	**332**		**Pn**	**01 42 37.9**	**-2.9**
PDMCI	**Parker Dam,Lak**	**18.44**	**142**	P	**Pn**	**01 42 46.7**	**+3.9**
	baz=331							
BC3	**Big Chuckawall**	**18.51**	**146**	P	**Pn**	**01 42 47.3**	**+3.5**
	baz=334							
ISCO	**Idaho Springs**	**18.58**	**114**	P	**P**	**01 42 39.7**	**-4.9**
ISCO	**Idaho Springs**	**18.58**	**114**	P	**Pn**	**01 42 47.2**	**+2.4**
	baz=310							
MVCO	**Mesa Verde**	**18.75**	**125**	P	**P**	**01 42 41.1**	**-5.2**
MVCO	**Mesa Verde**	**18.75**	**125**	P	**Pn**	**01 42 49.6**	**+2.9**
	baz=318,SNR=14							
INK	**Inuvik**	**18.81**	**353**	P	**Pn**	**01 42 47.5**	**+0.5**
	baz=187,slow=14,SNR=2.8							
	comp=Z,1.1nm,1.0s							
MONP2	**Monument Peak**	**18.87**	**149**	P	**Pn**	**01 42 52.0**	**+3.8**
	baz=337							
H24K	**Noodor Dome**	**19.18**	**335**	P	**Pn**	**01 42 53.1**	**+1.5**
	baz=137							
IKP	**In-Ko-Pah, Jac**	**19.19**	**149**	P	**Pn**	**01 42 55.2**	**+3.2**
	baz=336							
S22A	**4UR Ranch, Cre**	**19.27**	**121**	P	**P**	**01 42 47.6**	**-4.5**
S22A	**4UR Ranch, Cre**	**19.27**	**121**	P	**Pn**	**01 42 55.0**	**+1.9**
	baz=315							
G24K	**Hadweenzic Riv**	**19.72**	**337**	P	**Pn**	**01 42 59.2**	**+1.2**
	baz=140							
C36M	**Paulatuk**	**19.73**	**4**	P	**Pn**	**01 42 58.7**	**+0.6**
	baz=187							
F25K	**Christian Rive**	**19.99**	**340**	P	Pn	01 43 01.3	+0.1
	baz=144							
SDCO	**Great Sand Dun**	**20.02**	**118**	P	**P**	**01 42 56.7**	**-3.6**
SDCO	**Great Sand Dun**	**20.02**	**118**	P	Pn	01 43 03.0	+1.0
	baz=314							
OGNE	**Ogallala**	**20.07**	**106**	P	**P**	**01 42 55.1**	**-5.5**
OGNE	**Ogallala**	**20.07**	**106**	P	Pn	01 43 02.8	+0.4
	baz=305							
X18A	**Snowflake**	**20.10**	**133**	P	**P**	**01 42 56.7**	**-4.4**
X18A				IAmb	IAmb	01 43 06.4		
	comp=Z,7.7nm,0.9s							
ULM	**Lac du Bonnet**	**20.46**	**76**	P	**P**	**01 43 04.2**	**-0.5**
	comp=Z,5.5nm,0.7s,baz=278,slow=12,SNR=11							
	comp=Z,5.5nm,0.7s							
ULM	**Lac du Bonnet**	**20.46**	**76**	P	**P**	**01 43 01.6**	**-3.1**
ULM				IAmb	IAmb	01 43 06.8		
	comp=Z,8.7nm,0.9s							
AGMN	**Agassiz Nation**	**20.92**	**82**	P	**P**	**01 43 06.8**	**-2.9**
AGMN				IAmb	IAmb	01 43 25.2		
	comp=Z,10nm,1.3s							
T25A	**Trinidad**	**21.06**	**118**	P	**P**	**01 43 06.4**	**-5.1**
T25A				IAmb	IAmb	01 43 23.0		
	comp=Z,7.8nm,0.9s							
T25A	**Trinidad**	**21.06**	**118**	P	**P**	**01 43 14.4**	**+2.9**
	baz=314							
E23K	**Chandalar**	**21.30**	**337**	P	**P**	**01 43 15.2**	**+1.5**
	baz=138							
G21K	**Allakaket**	**21.31**	**331**	P	**P**	**01 43 15.5**	**+1.8**
	baz=129							
ANMO	**Albuquerque**	**21.54**	**125**	P	**P**	**01 43 18.2**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=352,slow=16,SNR=6.4							
	comp=Z,2.1nm,0.8s							
ANMO	**Albuquerque**	**21.54**	**125**	P	**P**	**01 43 13.2**	**-3.4**
ANMO	**Albuquerque**	**21.54**	**125**	P	**P**	**01 43 19.6**	**+3.0**
	baz=320							
D25K	**Kavik River**	**21.57**	**342**	P	**P**	**01 43 19.4**	**+2.8**
	baz=146							
TOLK	**Toolik Lake Re**	**21.73**	**338**	P	**P**	**01 43 15.7**	**-2.5**
TOLK	**Toolik Lake Re**	**21.73**	**338**	P	**P**	**01 43 21.5**	**+3.3**
	baz=140,SNR=5.5							
F21K	**Alatna River**	**21.76**	**333**	P	**P**	**01 43 21.6**	**+3.0**
	baz=131							
C26K	**Camden Bay**	**21.80**	**344**	P	**P**	**01 43 22.1**	**+3.2**
	baz=149							
ECSD	**EROS Data Cent**	**22.11**	**94**	P	**P**	**01 43 19.9**	**-2.7**
ECSD	**EROS Data Cent**	**22.11**	**94**	P	**P**	**01 43 23.3**	**+0.8**
	baz=297,SNR=5.6							
DUN6	**Lazy B Ranch**	**22.13**	**134**	P	**P**	**01 43 17.9**	**-5.0**
A36M	**Sachs Harbour**	**22.33**	**2**	P	**P**	**01 43 26.6**	**+2.0**
	baz=184							
C24K	**Franklin Bluff**	**22.37**	**341**	P	**P**	**01 43 26.1**	**+1.0**
	baz=143							

121A	**Cookes Peak, D**	**22.77**	**132**	P	**P**	**01 43 32.8**	**+3.0**
	baz=325							
F36A	**Milaca**	**23.23**	**86**	P	**P**	**01 43 30.8**	**-3.5**
F36A				IAmb	IAmb	01 43 48.1		
	comp=Z,7.3nm,0.9s							
MNTX	**Cornudas Mount**	**24.64**	**129**	P	**P**	**01 43 42.2**	**-5.5**
MNTX				IAmb	IAmb	01 43 52.4		
	comp=Z,5.2nm,1.2s							
MNTX	**Cornudas Mount**	**24.64**	**129**	P	**P**	**01 43 51.0**	**+3.3**
	baz=324,SNR=5.3							
WMOK	**Wichita Mounta**	**26.01**	**114**	P	**P**	**01 44 01.8**	**+1.6**
	baz=314							
TNA	**Tin City**	**26.03**	**322**	P	**P**	**01 44 01.1**	**+1.1**
	baz=108							
TXAR	**Lajitas Array**	**27.41**	**129**	P	**P**	**01 44 14.1**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=328,slow=8.8,SNR=5.4							
	comp=Z,1.0nm,0.9s							
SEY	**Seymchan**	**43.16**	**319**	P	**P**	**01 46 29.7**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=58,slow=19,SNR=1.4							
	comp=Z,0.4nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**59.28**	**265**	T	T	02 52 55.9		
	baz=43,slow=75,SNR=444							
H11N3	**WAKE ISLAND Hy**	**59.28**	**264**	T	T	02 52 55.8		
	baz=43,slow=75,SNR=490							
H11N1	**WAKE ISLAND Hy**	**59.30**	**265**	T	T	02 52 59.2		
	baz=43,slow=75,SNR=303							
H11S1	**WAKE ISLAND Hy**	**60.30**	**264**	T	T	02 54 18.9		
	baz=45,slow=75,SNR=23							
H11S2	**WAKE ISLAND Hy**	**60.30**	**264**	T	T	02 54 24.5		
	baz=45,slow=75,SNR=19							
H11S3	**WAKE ISLAND Hy**	**60.31**	**264**	T	T	02 54 16.3		
	baz=45,slow=75,SNR=13							
SONM	**Songino Array**	**72.12**	**325**	P	**P**	**01 49 53.6**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=92,slow=3.3,SNR=1.8							
	comp=Z,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**73.07**	**341**	P	**P**	**01 49 59.6**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=79,slow=7.5,SNR=1.5							
	comp=Z,0.2nm,0.3s							
HHC	**Hu-ho-hao-te**	**75.79**	**318**	*e*P	**P**	**01 50 12.5**	**-0.7**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,410nm,4.9s							
GERES	**GERESS Array B**	**76.34**	**25**	P	**P**	**01 50 16.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=328,slow=9.2,SNR=1.4							
	comp=Z,0.1nm,0.3s							
AKASG	**Malin Array Be**	**78.01**	**15**	P	**P**	**01 50 26.3**	**+1.0**
	comp=Z,0.2nm,0.2s,baz=341,slow=4.8,SNR=1.4							
	comp=Z,0.2nm,0.2s							
ESDC	**Sonseca Array**	**78.16**	**41**	P	**P**	**01 50 26.4**	**-0.1**
	comp=Z,1.0nm,1.2s,baz=308,slow=14,SNR=2.3							
	comp=Z,1.0nm,1.2s							
MKAR	**Makanchi Array**	**80.35**	**340**	P	**P**	**01 50 39.0**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=345,slow=9.2,SNR=2.1							
	comp=Z,0.2nm,0.8s							
WMQ	**Urumqi**	**81.77**	**335**	*e*P	**P**	**01 50 47.5**	**+1.5**
PZH	**PanZhiHua**	**92.24**	**317**	P	**P**	**01 51 35.3**	**-2.2**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,170nm,6.4s							
BOSA	**Boshof**	**150.57**	**54**	PKPab	**PKPab**	**01 58 27.9**	**+2.0**
	comp=Z,2.1nm,0.8s,baz=299,slow=4.7,SNR=5.0							

WBNET 31 02:23:20.4, 50°21N×12°46E, h7km, MI0.0, 4C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**346**	⇓P	Pg	02 23 22.0	+0.1
NKC				S	Sg	02 23 23.1	+0.1
KVC	**Kvetna**	**0.04**	**89**	⇑P	Pg	02 23 22.0	0.0
KVC				S	Sg	02 23 23.0	0.0
VAC	**Vackov**	**0.06**	**299**	⇓P	Pg	02 23 22.3	0.0
VAC				S	Sg	02 23 23.6	0.0
STCW	**Studenec**	**0.07**	**36**	⇑P	Pg	02 23 22.4	0.0
STCW				S	Sg	02 23 23.7	0.0
LBCW	**Luby**	**0.07**	**334**	⇓P	Pg	02 23 22.4	+0.1
LBCW				S	Sg	02 23 23.9	+0.2
SKC	**Skalna**	**0.07**	**241**	⇓P	Pg	02 23 22.4	0.0
SKC				S	Sg	02 23 23.7	0.0
POCW	**Potky**	**0.12**	**350**	⇓P	Pg	02 23 23.2	+0.1
POCW				S	Sg	02 23 25.0	+0.1
KRCW	**Kraslice**	**0.14**	**20**	⇑P	Pg	02 23 23.4	0.0
KOCW	**Kopaniny**	**0.16**	**293**	⇓P	Pg	02 23 23.7	0.0
ZHC	**Zelena Hora**	**0.17**	**216**	⇑P	Pg	02 23 23.9	0.0
LACW	**Lazy**	**0.19**	**145**	⇓P	Pg	02 23 24.4	+0.1
TRCW	**Trojmez**	**0.22**	**296**	⇓P	Pg	02 23 24.9	0.0
TRCW				S	Sg	02 23 28.2	+0.2

*NNC **31** 02:42:52.2±3.0, 44°.26N×87°.47E, h0km, mb4.1, mpv3.8,*
Error ellipse: s-maj=23.8km s-min=13.7km az=94.0
*SOME **31** 02:42:57.2, 44°.27N×87°.00E, h20km*
ISC 31 02:42:53.0±3.2, 44°.1N±0°.1×87°.2E±0°.2, h10km, n29, σ1§94/22, 7C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.76**	**335**	Pg	Pg	02 44 08.8	+3.8
	40nm,0.7s						
ZSN				Lg	Lg	02 44 57.1	
	20nm,0.6s						
ZSN	**Zaisan**	**3.76**	**335**	*e*Pg	**Pg**	**02 44 04.1**	**-0.8**
	40nm,0.7s						
ZSN				*e*Lg	Lg	02 44 51.2	
	20nm,0.6s						
MK31	**Makanchi Array**	**4.41**	**310**	⇓Pn	**Pn**	**02 43 59.8**	**-0.3**
	0.7nm,0.7s,baz=129,slow=14,SNR=106						
MK31				⇑Pg	**Pb**	**02 44 11.1**	**+0.5**
	0.8nm,0.3s,baz=132,slow=14,SNR=9.8						
MK31				⇓Sn	**Sn**	**02 44 54.2**	**+2.7**
	5.9nm,0.5s						
MK31				⇑Lg	Lg	02 45 13.7	
	7.5nm,0.5s,baz=129,slow=29,SNR=5.3						
MAKZ	**Makanchi**	**4.60**	**308**	⇑Pn	**Pn**	**02 44 02.2**	**-0.4**
	0.9nm,0.5s						
MAKZ				⇑Pg	**Pb**	**02 44 13.9**	**+0.2**
	4.5nm,0.4s						
MAKZ				⇓Sn	**Sn**	**02 44 58.1**	**+2.0**
	3.9nm,0.4s						
MAKZ				⇓Lg	Lg	02 45 20.1	
	11nm,0.6s						
KTMS	**Ketmen**	**5.03**	**265**	Pg	**Pb**	**02 44 25.2**	**+4.1**
	3.6nm,0.3s						
KTMS				Lg	Lg	02 45 25.1	
	11nm,0.5s						
KTMS	**Ketmen**	**5.03**	**265**	*e*Pg	**Pb**	**02 44 25.2**	**+4.1**
	3.6nm,0.3s						
KTMS				*e*Lg	Lg	02 45 26.7	
	8.6nm,0.2s						
DJR	**Jarkent**	**5.36**	**275**	Pg	Pb	02 44 32.4	+5.6
	5.0nm,0.2s						
DJR				Lg	Lg	02 45 37.7	
	17nm,0.3s						
DJR	**Jarkent**	**5.36**	**275**	*e*Pg	**Pg**	**02 44 33.2**	**-2.4**
	3.7nm,0.2s						
DJR				*e*Lg	Lg	02 45 40.3	
	17nm,0.3s						
SHLS	**Shalkode**	**5.72**	**263**	Pg	**Pb**	**02 44 33.1**	**+0.2**
	12nm,0.4s						
SHLS				Lg	Lg	02 45 38.7	
	338nm,0.4s						
SHLS	**Shalkode**	**5.72**	**263**	*e*Pg	**Pb**	**02 44 33.0**	**+0.2**
	4.2nm,0.0s						
SHLS				*e*Lg	Lg	02 45 40.0	
	338nm,0.4s						
UZB	**Uzynbulak**	**6.03**	**264**	Pg	Pg	02 44 46.4	-2.1
	5.4nm,0.3s						
UZB				Lg	Lg	02 46 01.5	
	12nm,0.7s						
UZB	**Uzynbulak**	**6.03**	**264**	*e*Pg	Pg	02 44 46.4	-2.1
	5.4nm,0.3s						
UZB				*e*Lg	Lg	02 46 02.9	
	12nm,0.7s						
KPKS	**Kokpek**	**6.22**	**267**	Pg	**Pg**	**02 44 50.8**	**-1.3**
	5.8nm,0.2s						
KPKS				Lg	Lg	02 46 09.0	
	20nm,0.3s						
KPKS	**Kokpek**	**6.22**	**267**	*e*P	**Pg**	**02 44 50.8**	**-1.3**
KPKS				*e*S	**Sg**	**02 46 11.2**	**-1.4**
	19nm,0.4s						
BLB	**Baldybastay**	**6.31**	**273**	Pg	**Pg**	**02 44 52.7**	**-1.0**
	10nm,0.4s						
BLB				Lg	Lg	02 46 12.6	
	16nm,0.3s						

SATY	**Saty**	**6.49**	**264**	Pg	Pg	02 44 55.1	-2.2
	4.1nm,0.2s							
SATY				Lg	Lg	02 46 16.4		
	9.0nm,0.3s							
KURS	**Kuram**	**6.59**	**268**	Pg	Pg	02 44 56.5	-2.6	
	3.4nm,0.3s							
KURS				Lg	Lg	02 46 18.9		
	8.0nm,0.4s							
KURS	**Kuram**	**6.59**	**268**	*e*Pg	**Pg**	**02 44 57.5**	**-1.6**	
	3.4nm,0.3s							
KURS				*e*Lg	Lg	02 46 22.6		
	8.0nm,0.4s							
KOTS	**Kotyrbulak**	**7.39**	**267**	Pg	**Pg**	**02 45 12.3**	**-2.1**	
	3.7nm,0.7s							
KOTS				Lg	Lg	02 46 46.0		
	16nm,0.4s							
MDOK	**Medeo**	**7.45**	**266**	Pg	Pg	02 45 12.5	-3.1	
	3.2nm,0.4s							
MDOK				Lg	Lg	02 46 46.4		
	6.0nm,0.4s							
TNSS	**Tian-Shan**	**7.55**	**266**	Pg	Pg	02 45 14.3	-3.2	
	3.4nm,0.6s							
TNSS				Lg	Lg	02 46 49.6		
	3.2nm,0.5s							
KTBS	**Karatobe**	**7.63**	**271**	Pg	Pg	02 45 15.9	-3.2	
	1.7nm,0.4s							
KTBS				Lg	Lg	02 46 52.2		
	13nm,0.6s							
IZV	**Izvestkoviy**	**7.79**	**266**	Pg	Pg	02 45 18.1	-3.9	
	1.4nm,0.3s							
IZV				Lg	Lg	02 46 56.2		
	6.7nm,0.5s							
MTBS	**Maitube**	**7.90**	**267**	Pg	Pg	02 45 20.5	-3.7	
	3.1nm,0.5s							
MTBS				Lg	Lg	02 46 59.6		
	5.0nm,0.4s							
KST	**Kastek**	**8.25**	**267**	Pg	Pg	02 45 26.8	-4.1	
	2.0nm,0.4s							
KST				Lg	Lg	02 47 11.1		
	6.3nm,0.5s							
DGS	**Degeres**	**8.35**	**268**	Pg	Pg	02 45 30.3	-2.6	
	2.2nm,0.4s							
DGS				Lg	Lg	02 47 17.0		
	5.8nm,0.7s							
KRBS	**Karabastau**	**8.36**	**271**	Pg	Pg	02 45 28.9	-4.1	
	1.1nm,0.3s							
KRBS				Lg	Lg	02 47 14.2		
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**8.81**	**321**	⇓Pn	**Pn**	**02 44 59.3**	**-1.1**	
	2.0nm,0.7s							
KURBB				⇑Sn	**Sn**	**02 46 40.9**	**+1.2**	
	4.9nm,0.6s							
KURBB				⇓Lg	Lg	02 47 32.4		
	15nm,0.7s							
KURK	**Kurchatov**	**8.84**	**322**	⇑Pn	**Pn**	**02 44 59.6**	**-1.1**	
	1.0nm,0.4s							
KURK				⇓Sn	**Sn**	**02 46 41.8**	**+1.5**	
	2.9nm,0.7s							
KURK				⇑Lg	Lg	02 47 34.2		
	11nm,0.9s							

*IDC **31** 02:44:27.9±0.6, 31°.69S×177°.25W, h0km, mb4.5/11, mbtmp4.5/14, ML4.2/3, MS3.9/1, Error ellipse: s-maj=19.8km s-min=19.2km az=179.0*
*NEIC **31** 02:44:29.6±1.1, 31°.75S±0°.04×177°.1W±0°.2, h14km±6km, mb4.8/13, Error ellipse: s-maj=23.5km s-min=5.6km az=85.0*
ISC 31 02:44:32.6±0.5, 31°.77S±0°.06×177°.30W±0°.10, h35km, n50, σ1§67/54, mb4.7/18, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.56**	**348**	Pn	**Pn**	**02 45 08.4**	**-3.2**
	130nm,0.3s,baz=249,slow=23,SNR=3.0						
RAO				Sn	**Sn**	**02 45 37.5**	**-4.1**
	352nm,0.3s,baz=198,slow=20,SNR=7.3						
	441nm,0.4s						
RAO	**Raoul Island**	**2.56**	**348**	Pn	**Pn**	**02 45 11.1**	**-0.6**
RAO				Sn	**Sn**	**02 45 42.4**	**+0.8**
URZ	**Urewera**	**7.93**	**214**	Pn	**Pn**	**02 46 21.3**	**-4.1**
	0.7nm,0.3s,baz=340,slow=2.7,SNR=11						
URZ				Sn	**Sn**	**02 47 50.3**	**-3.6**
	6.1nm,0.3s,baz=112,slow=20,SNR=11						
RTZ	**Ruatahuna**	**8.28**	**213**		**Pn**	**02 46 30.4**	**+0.2**
HIZ	**Hauiti**	**9.30**	**221**	Pn	**Pn**	**02 46 45.2**	**+1.0**
MRZ	**Mangatainoka R**	**10.57**	**211**	Pn	**Pn**	**02 46 57.2**	**-4.3**
PLWZ	**Palliser**	**11.46**	**209**	Pn	**Pn**	**02 47 14.0**	**+0.3**
NNZ	**Nelson**	**12.04**	**216**	Pn	**Pn**	**02 47 21.4**	**-0.3**
THZ	**Tophouse**	**12.68**	**215**	Pn	**Pn**	**02 47 30.7**	**+0.1**
INZ	**Inchbonnie**	**14.12**	**216**	Pn	**Pn**	**02 47 50.2**	**+0.1**
MSVF	**Nonsavu**	**14.59**	**342**	Pn	Pn	02 47 48.6	-8.1
	4.1nm,0.3s,baz=154,slow=22,SNR=2.0						
RPZ	**Rata Peaks**	**15.05**	**214**	Pn	**Pn**	**02 47 57.3**	**-5.3**
	1.6nm,0.3s,baz=66,slow=20,SNR=2.3						
ODZ	**Otahua Downs**	**16.25**	**212**		**P**	**02 48 21.2**	**+0.3**
DZM	**Mont Dzumac**	**17.40**	**300**	LR	LR	02 53 51.5	
	comp=Z,405nm,19.1s,baz=226,slow=32						
AFI	**Afiamalu**	**18.48**	**17**	P	**P**	**02 48 44.5**	**-1.3**
	2.3nm,0.3s,baz=259,slow=20,SNR=1.7						
	8.4nm,0.3s						
RAR	**Rarotonga**	**18.86**	**60**	P	**P**	**02 48 48.2**	**-1.6**
	1.0nm,0.3s,baz=244,slow=6.2,SNR=3.7						
	9.1nm,0.7s						
EIDS	**Eidsvold**	**28.42**	**275**	P	**P**	**02 50 24.2**	**+0.1**
EIDS				IAmb	IAmb	02 50 26.6	
	comp=Z,9.5nm,0.8s						
**CTA

MKAR Makanchi Array 119.10 309 PKP **PKPdf** 03 03 17.5 0.0
comp=Z,0.6nm,0.5s,baz=114,slow=1.1,SNR=10
KURBB Kurchatov Arra 122.45 313 PKP **PKPdf** 03 03 23.8 +0.1
comp=Z,1.5nm,0.6s,baz=109,slow=1.9,SNR=16
BVAR Borovoye Array 127.79 315 PKP **PKiKP** 03 03 34.8 +0.3
comp=Z,1.2nm,0.5s,baz=97,slow=0.8,SNR=8.8
KBZ Khabaz 146.36 302 PKPbc **PKiKP** 03 04 12.1 -0.4
comp=Z,4.6nm,0.9s,baz=132,slow=2.8,SNR=10.0
FINES FINESS Array B 146.63 340 PKPbc **PKPbc** 03 04 10.1 +0.3
comp=Z,8.4nm,0.9s,baz=42,slow=3.2,SNR=19
NB2 NORSAR Subarra150.19 352 PKP **PKPbc** 03 04 19.6 +0.4
comp=Z,1.0nm,0.8s,baz=24,slow=2.7
NOA NORSAR Array B 150.19 352 PKPbc **PKPbc** 03 04 19.6 +0.4
comp=Z,1.9nm,0.9s,baz=16,slow=4.2,SNR=5.4
AKASG Malin Array Be 152.74 322 PKPbc **PKiKP** 03 04 25.8 +0.2
comp=Z,1.8nm,0.6s,baz=51,slow=2.2,SNR=8.0
AKASG PKPab **PKPab** 03 04 36.3 +0.1
comp=Z,2.4nm,0.5s,baz=48,slow=4.8,SNR=14
BRTR Keskin Array B 153.75 296 PKPbc **PKPbc** 03 04 26.9 -1.2
comp=Z,1.5nm,1.0s,baz=17,slow=6.4,SNR=4.0
BRTR PKPab **PKPab** 03 04 41.3 +0.2
comp=Z,3.2nm,0.8s,baz=105,slow=3.2,SNR=15
TORD Torodi Ar. Bea 161.45 177 PKPab **PKPab** 03 05 15.0 +0.5
comp=Z,0.6nm,0.5s,baz=186,slow=3.5,SNR=7.2

*IDC **31** 02:44:59.0±2.4, 6°.11S×155°.27E, h138km±20km, mb3.9/11, mbtmp4.2/12, Error ellipse: s-maj=20.4km s-min=17.5km az=61.0*
ISC 31 02:45:00.6±0.8, 6°.0S±0°.1×155°.3E±0°.1, h150km, n16, σ1s45/16, mb4.1/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.62**	**297**	P	**Pn**	**02 45 56.8**	**+0.8**
KRVT	62nm,0.4s,baz=94,slow=1.8,SNR=9.4			S	**Sn**	**02 46 37.5**	**-1.5**
	64nm,0.3s,baz=162,slow=20,SNR=1.5						
CTA	**Charters Tower**	**16.56**	**211**	P	**P**	**02 48 46.9**	**+2.7**
	8.9nm,1.0s,baz=81,slow=5.3,SNR=3.8						
DZM	**Mont Dzumac**	**19.32**	**147**	P	**Pn**	**02 49 18.3**	**+1.2**
	9.1nm,0.4s,baz=263,slow=9.0,SNR=16						
SIJI	**Sorong**	**24.48**	**281**	P	**P**	**02 50 06.4**	**+0.3**
	13nm,0.7s,baz=132,slow=23,SNR=2.2						
	13nm,0.7s						
WRA	**Warramunga Arr**	**24.64**	**234**	P	**P**	**02 50 06.8**	**-0.7**
	5.9nm,0.5s,baz=63,slow=10,SNR=56						
	5.9nm,0.5s						
MSVF	**Nonsavu**	**25.14**	**120**	P	**P**	**02 50 10.2**	**-1.8**
	8.1nm,0.2s,baz=21,slow=7.0,SNR=6.0						
	8.1nm,0.2s						
ASAR	**Alice Springs**	**27.07**	**227**	P	**P**	**02 50 28.1**	**-1.3**
	1.7nm,0.5s,baz=59,slow=9.0,SNR=28						
	1.7nm,0.5s						
DAV	**Davao City (W)**	**32.33**	**293**	P	**P**	**02 51 15.6**	**-0.2**
	175nm,0.3s,baz=96,slow=5.3,SNR=4.0						
SONM	**Songino Array**	**68.62**	**327**	P	**P**	**02 55 48.4**	**+0.8**
	0.5nm,0.5s,baz=142,slow=4.4,SNR=6.3						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**82.31**	**21**	P	**P**	**02 57 06.6**	**+1.5**
	0.1nm,0.4s,baz=230,slow=6.0,SNR=5.1						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**82.81**	**319**	P	**P**	**02 57 08.6**	**+0.4**
	0.9nm,0.7s,baz=98,slow=5.7,SNR=11						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**83.48**	**326**	P	**P**	**02 57 10.7**	**-0.6**
	0.6nm,0.6s,baz=108,slow=4.8,SNR=2.8						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**84.01**	**180**	P	**P**	**02 57 12.2**	**-1.8**
	2.0nm,0.4s,baz=7.9,slow=7.5,SNR=2.8						
	2.0nm,0.4s						
PDAR	**Pinedale Array**	**97.80**	**48**	P	Pdif	02 58 20.2	+0.9
	0.1nm,0.5s,baz=349,slow=38,SNR=1.6						
	0.1nm,0.5s						
GEYT	**Alibeck**	**99.27**	**307**	P	**Pdif**	**02 58 24.3**	**-1.5**
	0.3nm,0.3s,baz=122,slow=47,SNR=1.7						
	0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**153.00**	**287**	PKPbc	**PKiKP**	**03 04 40.5**	**-0.9**
	0.3nm,0.5s,baz=66,slow=2.5,SNR=6.5						

*IDC **31** 02:47:06.3±0.8, 31°.76S×177°.26W, h0km, mb4.2/8, mbtmp4.2/10, ML4.1/2, MS3.7/2, Error ellipse: s-maj=25.4km s-min=23.4km az=14.0*
*NEIC **31** 02:47:07.3±1.1, 31°.65S±0°.07×177°.2W±0°.2, h10km±2km, mb4.9/10, Error ellipse: s-maj=24.2km s-min=11.5km az=91.0*
ISC 31 02:47:09.6±0.6, 31°.75S±0°.05×177°.4W±0°.1, h26km, n49, σ2s61/52, mb4.7/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.52**	**350**	Pn	**Pn**	**02 47 46.7**	**-2.2**
RAO	147nm,0.3s,baz=76,slow=23,SNR=3.1			Sn	**Sn**	**02 48 14.7**	**-4.0**
	85nm,0.3s,baz=307,slow=23,SNR=2.3						
	333nm,0.4s						
RAO	**Raoul Island**	**2.52**	**350**	Pn	**Pn**	**02 47 47.3**	**-1.6**
RAO				Sn	**Sn**	**02 48 17.7**	**-1.0**
URZ	**Urewera**	**7.88**	**213**	Pn	**Pn**	**02 48 59.7**	**-2.8**
	baz=77,slow=18						
URZ				Sn	**Sn**	**02 50 28.6**	**-2.3**
	7.5nm,0.3s,baz=166,slow=21,SNR=9.7						
RTZ	**Ruatahuna**	**8.23**	**212**	Pn	**Pn**	**02 49 08.4**	**+1.0**
WHHZ	**Waihua**	**8.51**	**209**	P	**Sn**	**02 50 44.8**	**-1.5**
NMHZ	**Naumai**	**8.71**	**211**	P	**Sn**	**02 50 49.4**	**-1.9**
ARHZ	**Aropaoanui**	**8.76**	**210**	P	**Sn**	**02 50 49.7**	**-2.9**
MCHZ	**McNeill Hill**	**9.04**	**210**	P	**Sn**	**02 50 57.4**	**-2.0**
CKHZ	**Cape Kidnapper**	**9.06**	**208**	P	**Sn**	**02 50 55.1**	**-4.8**
KWHZ	**Kaweka Forest**	**9.14**	**211**	P	**Sn**	**02 50 58.4**	**-3.6**
TMVZ	**Te Maari**	**9.24**	**215**	P	**Sn**	**02 51 02.3**	**-2.0**
ETVZ	**East Tongariro**	**9.25**	**215**	P	**Sn**	**02 50 56.9**	**-7.7**
KAHZ	**Kahuranaki**	**9.26**	**208**	P	**Sn**	**02 51 02.1**	**-2.7**
OTVZ	**Oturere**	**9.29**	**215**	P	**Sn**	**02 51 03.0**	**-2.7**
KRHZ	**Kereru**	**9.35**	**211**	P	**Sn**	**02 51 02.8**	**-4.1**
BHHZ	**Black Hill Sta**	**9.36**	**213**	P	**Sn**	**02 51 03.2**	**-4.1**
PXZ	**Pawanui**	**9.47**	**208**	P	**Sn**	**02 51 01.7**	**-8.1**
NIUE	**Niue**	**14.32**	**30**	Pn	**Pn**	**02 50 27.7**	**-3.0**
MSVF	**Nonsavu**	**14.54**	**343**	Pn	**Pn**	**02 50 32.5**	**-1.3**
RPZ	**Rata Peaks**	**15.00**	**214**	Pn	**Pn**	**02 50 37.7**	**-2.1**
	1.5nm,0.3s,baz=225,slow=22,SNR=1.6						
ODZ	**Otahua Downs**	**16.21**	**212**	Pn	**Pn**	**02 50 54.9**	**-0.6**
DZM	**Mont Dzumac**	**17.29**	**300**	P	**P**	**02 51 12.3**	**+1.7**
	0.2nm,0.3s,baz=171,slow=16,SNR=2.5						
	8.3nm,0.9s						
CTA	**Charters Tower**	**34.51**	**281**	P	**P**	**02 53 59.0**	**+3.2**
	7.7nm,0.7s,baz=96,slow=9.9,SNR=5.7						
	7.7nm,0.7s						
CTAO	**Charters Tower**	**34.51**	**281**	P	**P**	**02 53 58.5**	**+2.7**
STKA	**Stephens Creek**	**34.66**	**259**	P	**P**	**02 53 59.8**	**+2.7**
	2.3nm,0.7s,baz=113,slow=14,SNR=3.8						
	2.3nm,0.7s						
BBOO	**Buckleboo**	**39.09**	**256**	P	**P**	**02 54 35.6**	**+1.0**
BBOO				IAmb	IAmb	02 54 48.9	
	comp=Z,69nm,1.7s						
ASAR	**Alice Springs**	**43.53**	**268**	P	**P**	**02 55 12.4**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=108,slow=7.7,SNR=11						
ASAR				PcP	**PcP**	**02 56 59.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=120,slow=4.1,SNR=2.3						
	comp=Z,3.1nm,0.7s						
WR0	**Warramunga Arr**	**44.46**	**273**	P	**P**	**02 55 20.2**	**+1.4**
WB2	**Warramunga Arr**	**44.63**	**273**	P	**P**	**02 55 20.6**	**+0.5**
WB2				IAmb	IAmb	02 55 41.4	
	comp=Z,7.4nm,0.7s						
WRA	**Warramunga Arr**	**44.64**	**273**	P	**P**	**02 55 20.4**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=112,slow=7.9,SNR=10.0						
WRA				PcP	**PP**	**02 57 04.5**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=116,slow=6.8,SNR=2.4						
	comp=Z,3.5nm,0.8s						
WB0	**Warramunga Arr**	**44.67**	**273**	P	**P**	**02 55 21.2**	**+0.8**
WB0				IAmb	IAmb	02 55 42.1	
	comp=Z,9.5nm,0.9s						
KNRA	**Kununurra**	**51.30**	**275**	P	**P**	**02 56 12.4**	**+0.7**
KNRA				IAmb	IAmb	02 56 52.5	
	comp=Z,40nm,1.8s						
BATI	**Baumata**	**58.30**	**278**	LR	LR	03 22 38.5	
	comp=Z,86nm,18.1s,baz=167,slow=36						
QSPA	**South Pole Qui**	**58.37**	**180**	P	**P**	**02 57 04.6**	**+2.1**
	comp=Z,7.5nm,0.9s,baz=36,slow=2.3,SNR=7.3						
	comp=Z,7.5nm,0.9s						
QSPA	**South Pole Qui**	**58.37**	**180**	P	**P**	**02 57 04.0**	**+1.5**
QSPA				IAmb	IAmb	02 57 07.0	
	comp=Z,8.5nm,0.9s						
KAPI	**Kappang**	**64.32**	**281**	LR	LR	03 24 40.4	
	comp=Z,37nm,20.8s,baz=102,slow=35						
MAW	**Mawson**	**71.22**	**201**	P	**P**	**02 58 27.3**	**+1.4**
SNAA	**Sanae**	**76.80**	**178**	P	**P**	**02 58 58.7**	**+0.1**
SNAA				IAmb	IAmb	03 01 31.2	
	comp=Z,19nm,1.6s						
NVAR	**Mina Array Bea**	**88.90**	**42**	P	**P**	**03 00 02.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=231,slow=8.0,SNR=2.8						
	comp=Z,0.3nm,0.7s						
KLR	**Kul'dur**	**92.44**	**329**	P	**P**	**03 00 19.6**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=69,slow=2.7,SNR=5.0						
	comp=Z,1.7nm,0.7s						
TXAR	**Lajitas Array**	**92.71**	**57**	P	**P**	**03 00 20.4**	**+0.7**
	comp=Z,0.1nm,0.8s,baz=203,slow=5.9,SNR=1.4						
	comp=Z,0.1nm,0.8s						
MKAR	**Makanchi Array**	**119.00**	**309**	PKP	**PKPdf**	**03 05 55.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=156,slow=0.8,SNR=6.7						
KURBB	**Kurchatov Arra**	**122.36**	**313**	PKP	**PKiKP**	**03 06 02.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=105,slow=1.9,SNR=9.6						
BVAR	**Borovoye Array**	**127.70**	**315**	PKP	**PKiKP**	**03 06 12.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=157,slow=4.2,SNR=4.4						
KBZ	**Khabaz**	**146.25**	**302**	PKPbc	**PKiKP**	**03 06 49.7**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=157,slow=4.1,SNR=5.3						
FINES	**FINESS Array B**	**146.57**	**340**	PKPbc	**PKPbc**	**03 06 48.1**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=39,slow=3.9,SNR=8.5						
AKASG	**Malin Array Be**	**152.66**	**322**	PKPbc	**PKiKP**	**03 07 03.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=92,slow=1.5,SNR=2.1						
BRTR	**Keskin Array B**	**153.64**	**296**	PKPab	**PKPab**	**03 07 19.7**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=115,slow=4.2,SNR=9.0						
TORD	**Torodi Ar. Bea**	**161.47**	**177**	PKPab	**PKPab**	**03 07 52.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=192,slow=2.9,SNR=5.8						

*FUNV **31** 02:55:40.0, 10°.34N×62°.15W, h16km, MW3.0*
ISC 31 02:55:39.2±1.2, 10°.33N±0°.09×62°.18W±0°.08, h25km, n8, σ1s44/11, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.82**	**68**	*eP*	**Pb**	**02 55 54.2**	**-0.6**
CRUV	**Carupano**	**1.10**	**288**	*eP*	**Pn**	**02 55 59.5**	**+0.5**
CRUV				*eS*	**Sn**	**02 56 13.7**	**+0.4**
GRGR	**Grenville**	**1.86**	**16**	*eP*	**Pn**	**02 56 08.7**	**-0.8**
GRGR				*eS*	**Sn**	**02 56 34.2**	**+2.0**
TOSP	**Speyside**	**1.88**	**59**	*eP*	**Pb**	**02 56 12.7**	**-0.1**
PRGV	**PARIAGUAN**	**2.90**	**238**	*eP*	**Pn**	**02 56 25.2**	**+1.4**
PRGV				*eS*	**Sn**	**02 56 58.1**	**+0.3**
CACV	**CAICARA DEL OR**	**5.11**	**238**	*eP*	Pn	02 56 49.4	-4.8
CACV				*eS*	Sn	02 57 40.0	-13
BENV	**Beln**	**5.35**	**267**	*eP*	**Pn**	**02 56 58.2**	**+0.6**
BAUV	**El Baul**	**5.95**	**257**	*eP*	**Pn**	**02 57 05.9**	**+0.1**
BAUV				*eS*	**Sn**	**02 58 10.2**	**-3.0**

*IDC **31** 03:36:01.9±0.8, 17°.83S×178°.84W, h528km±7km, mb3.2/8, mbtmp4.2/11, Error ellipse: s-maj=20.7km s-min=11.7km az=148.0*
*NEIC **31** 03:36:02.8±1.6, 17°.0S±0°.3×178°.9W±0°.2, h551km±11km, mb4.3/22, Error ellipse: s-maj=50.0km s-min=17.0km az=152.0*
ISC 31 03:36:01.8±0.6, 17°.8S±0°.1×178°.81W±0°.09, h539km, n63, σ1s88/65, mb4.1/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.99**	**270**	P	**P**	**03 37 16.9**	**+0.9**
	23nm,0.2s,baz=107,slow=19,SNR=8.7						
MSVF				S	**S**	**03 38 13.9**	**-2.4**
	34nm,0.2s,baz=307,slow=15,SNR=17						
MSVF	**Nonsavu**	**2.99**	**270**	P	**P**	**03 37 17.6**	**+1.6**
AFI	**Afiamalu**	**7.77**	**62**	P	**P**	**03 37 57.2**	**+0.2**
	62nm,0.5s,baz=184,slow=13,SNR=15						
AFI	**Afiamalu**	**7.77**	**62**	P	**P**	**03 37 57.1**	**+0.1**
RAO	**Raoul Island**	**11.48**	**176**	P	**P**	**03 38 33.4**	**-1.4**
	323nm,0.3s,baz=287,slow=19,SNR=4.1						
MARNC	**Mare, Loyalty**	**12.95**	**251**	P	**P**	**03 38 50.8**	**+0.6**
LIFNC	**LIFOU**	**13.52**	**255**	P	**P**	**03 38 55.3**	**-0.7**
OUENC	**Ouen Island, N**	**14.26**	**249**	P	P	03 38 58.3	-5.5
DZM	**Mont Dzumac**	**14.52**	**250**	P	**P**	**03 39 07.7**	**+1.1**
	11nm,0.6s,baz=125,slow=16,SNR=9.4						
DZM	**Mont Dzumac**	**14.52**	**250**	P	**P**	**03 39 08.0**	**+1.4**
DZM	**Mont Dzumac**	**14.52**	**250**	P	P	03 39 01.3	-5.3
KOUNC	**Koumac, New Ca**	**16.21**	**257**	P	**P**	**03 39 25.1**	**+1.3**
KOUNC				IAmb	IAmb	03 39 28.1	
	comp=Z,16nm,0.7s						
KOUNC	**Koumac, New Ca**	**16.21**	**257**	P	**P**	**03 39 18.5**	**-5.3**
NFK	**Norfolk Island**	**16.55**	**225**	P	**P**	**03 39 26.3**	**-0.5**
OUZ	**Omahuta**	**18.67**	**200**	P	**P**	**03 39 45.6**	**-0.6**
URZ	**Urewera**	**20.75**	**189**	P	**P**	**03 40 03.2**	**-1.8**
	comp=Z,4.1nm,0.5s,baz=4.8,slow=3.5,SNR=6.3						
	comp=Z,4.1nm,0.5s						
URZ	**Urewera**	**20.75**	**189**	P	**P**	**03 40 01.6**	**-3.4**
EIDS	**Eidsvold**	**28.97**	**250**	P	**P**	**03 41 18.9**	**+0.9**
EIDS				IAmb	IAmb	03 41 19.9	
	comp=Z,7.9nm,0.6s						
EIDS	**Eidsvold**	**28.97**	**250**	P	**P**	**03 41 18.6**	**+0.6**
ARMA	**Armidale**	**29.69**	**239**	P	**P**	**03 41 26.7**	**+2.3**
ARMA				IAmb	IAmb	03 41 27.5	
	comp=Z,13nm,0.7s						
ARMA	**Armidale**	**29.69**	**239**	P	**P**	**03 41 26.5**	**+2.1**
MGCD	**Mangrove Creek**	**31.08**	**234**	P	**P**	**03 41 38.9**	**+2.8**
RMQ	**Roma**	**31.21**	**248**	P	**P**	**03 41 39.2**	**+1.8**
CNB	**Canberra Magne**	**33.23**	**232**	P	**P**	**03 41 56.7**	**+2.3**
CMSA	**Cobar Meteorol**	**34.90**	**240**	P	**P**	**03 42 10.3**	**+1.8**
QLP	**Quilpie**	**35.24**	**249**	P	**P**	**03 42 12.5**	**+1.2**
TOO	**Toolangi**	**36.98**	**230**	P	**P**	**03 42 28.1**	**+2.5**
TOO				IAmb	IAmb	03 42 28.9	
	comp=Z,21nm,1.0s						
STKA	**Stephens Creek**	**38.38**	**241**	P	**P**	**03 42 39.2**	**+2.1**
	comp=Z,6.8nm,0.4s,baz=88,slow=9.4,SNR=27						
	comp=Z,6.8nm,0.4s						
STKA	**Stephens Creek**	**38.38**	**241**	P	**P**	**03 42 39.3**	**+2.3**
STKA	**Stephens Creek**	**38.38**	**241**	P	**P**	**03 42 39.2**	**+2.1**
INKA	**Innaminka**	**38.45**	**248**	P	**P**	**03 42 39.8**	**+2.1**
HTT	**Hallett**	**40.90**	**239**	P	**P**	**03 42 59.6**	**+2.2**
LCRK	**Leigh Creek**	**40.98**	**244**	P	**P**	**03 42 59.8**	**+1.8**
OOD	**Oodnadatta**	**42.92**	**248**	P	**P**	**03 43 15.3**	**+2.0**
BBOO	**Buckleboo**	**43.15**	**241**	P	**P**	**03 43 16.6**	**+1.6**
BBOO	**Buckleboo**	**43.15**	**241**	P	**P**	**03 43 16.7**	**+1.6**
WR0	**Warramunga Arr**	**44.10**	**259**	P	**P**	**03 43 22.7**	**+0.1**
WB0	**Warramunga Arr**	**44.25**	**260**	P	**P**	**03 43 23.9**	**+0.1**
WB0				IAmb	IAmb	03 43 24.4	
	comp=Z,6.8nm,1.0s						
WB2	**Warramunga Arr**	**44.28**	**259**	P	**P**	**03 43 24.2**	**+0.2**
WRAB	**Tennant Creek**	**44.28**	**259**	P	**P**	**03 43 23.7**	**-0.3**
WRAB				IAmb	IAmb	03 43 37.0	
	comp=Z,4.5nm,0.8s						
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**03 43 24.1**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=94,slow=7.2,SNR=58						
WRA				ScP	**ScP**	**03 47 58.9**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=92,slow=2.6,SNR=2.2						
	comp=Z,2.1nm,0.6s						
AS31	**Alice Springs**	**44.47**	**254**	P	**P**	**03 43 26.5**	**+1.0**
AS31				IAmb	IAmb	03 43 27.0	
	comp=Z,9.1nm,0.6s						
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**03 43 26.5**	**+1.0**
	comp=Z,27nm,0.5s,baz=88,slow=8.1,SNR=303						
ASAR				PcP	**PcP**	**03 44 58.7**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=98,slow=3.8,SNR=1.1						
ASAR				S	**S**	**03 49 19.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=86,slow=19,SNR=4.2						
MULG	**Mulgathing**	**44.54**	**245**	P	**P**	**03 43 27.2**	**+1.4**
MTN	**Manton Dam**	**48.42**	**268**	P	**P**	**03 43 55.2**	**-0.2**
MTN				IAmb	IAmb	03 44 08.0	
	comp=Z,4.8nm,0.9s						
SAUI	**Saumlaki**	**49.47**	**275**	P	**P**	**03 44 00.8**	**-2.4**
FORT	**Forrest**	**49.73**	**244**	P	**P**	**03 44 05.8**	**+0.9**
KNRA	**Kununurra**	**50.13**	**264**	P	**P**	**03 44 08.3**	**+0.3**
KNRA				IAmb	IAmb	03 44 09.7	
	comp=Z,6.2nm,0.6s						
PSA00	**Pilbara Seismi**	**57.58**	**255**	P	**P**	**03 45 01.1**	**+0.4**
PSA00				IAmb	IAmb	03 45 02.0	
	comp=Z,6.7nm,0.7s						
MBWA	**Marble Bar**	**57.74**	**256**	P	**P**	**03 45 02.3**	**+0.6**
MORW	**Morawa**	**60.20**	**246**	P	**P**	**03 45 19.1**	**+1.0**
MORW				IAmb	IAmb	03 45 31.8	
	comp=Z,8.2nm,1.1s						
GIRL	**Giralia**	**62.58**	**253**	P	**P**	**03 45 35.8**	**+2.1**
SBUM	**Sibu**	**70.81**	**279**	P	**P**	**03 46 22.9**	**-1.7**
PETK	**Petropavlovsk-**	**73.43**	**345**	P	**P**	**03 46 40.4**	**+1.4**
	comp=Z,4.0nm,0.8s,baz=149,slow=6.9,SNR=4.6						
	comp=Z,4.0nm,0.8s						
HKPS	**Hong Kong Po S**	**76.70**	**299**	P	**P**	**03 46 53.7**	**-4.3**
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**03 47 14.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=224,slow=7.7,SNR=5.1						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**03 47 10.1**	**-3.3**
E08A	**Dider Farm, El**	**83.53**	**37**	P	**P**	**03 47 29.0**	**-4.1**
E08A				IAmb	IAmb	03 47 30.5	
	comp=Z,3.7nm,0.7s						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**03 47 43.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=224,slow=5.3,SNR=11						
	comp=Z,0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.23**	**58**	P	**P**	**03 47 49.0**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=208,slow=5.0,SNR=4.4						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**87.50**	**44**	P	**P**	**03 47 54.2**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=201,slow=4.3,SNR=4.2						
	comp=Z,0.2nm,0.4s						
BRTR	**Keskin Array B**	**144.40**	**315**	PKP	**PKPab**	**03 54 38.3**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=103,slow=4.5,SNR=2.1						
GERES	**GERESS Array B**	**147.36**	**345**	PKPbc	**PKPbc**	**03 54 45.5**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=29,slow=3.0,SNR=6.9						

*WEL **31** 03:38:26.4±0.3, 43°.3S×17°.2E±°, h6km±3km, M3.2/16, ML3.4/16, MLv3.2/16, Error ellipse: s-maj=0.0km s-min=0.0km az=154.7*
*NOU **31** 03:38:40.3, 43°.69S×171°.83E, h12km, MLv3.6/5, South Island, New Zealand*
ISC 31 03:38:26.3±0.9, 42°.71S±0°.02×172°.39E±0°.03, h15km±7km, n44, σ1s33/49, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.11**	**232**	P	**Pb**	**03 38 30.3**	**+0.1**
LTZ				S	**Sb**	**03 38 33.3**	**+0.5**
AMCZ	**Amberley**	**0.50**	**158**	P	**Pb**	**03 38 36.7**	**0.0**
AMCZ				S	**Sb**	**03 38 44.4**	**+0.5**
GVZ	**Greta Valley S**	**0.54**	**119**	P	**Pg**	**03 38 36.3**	**-0.6**
GVZ				S	**Sg**	**03 38 43.8**	**-0.3**
OXZ	**Oxford**	**0.67**	**203**	P	**Pb**	**03 38 40.3**	**+0.6**
OXZ				S	**Sn**	**03 38 52.4**	**+1.0**
INZ	**Inchbonnie**	**0.70**	**269**	P	**Pn**	**03 38 41.4**	**-0.2**
INZ				S	**Sn**	**03 38 51.1**	**-1.0**
KHZ	**Kahutara**	**0.90**	**71**	P	**Pb**	**03 38 42.6**	**-0.9**
MQZ	**McQueen's Vall**	**1.01**	**169**	P	**Pb**	**03 38 44.9**	**-0.5**
THZ	**Tophouse**	**1.02**	**22**	P	**Pb**	**03 38 44.8**	**-0.9**
THZ				S	**Sb**	**03 38 58.2**	**-0.7**
RACZ	**Rakaia**	**1.03**	**190**	P	**Pb**	**03 38 45.8**	**0.0**
DSZ	**Denniston Nort**	**1.06**	**335**	P	**Pn**	**03 38 47.6**	**+1.0**
OKCZ	**Okains Bay**	**1.12**	**155**	P	**Pb**	**03 38 46.9**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.22**	**162**	P	**Pn**	**03 38 47.9**	**-0.9**
WVZ	**Waitaha Valley**	**1.27**	**253**	P	**Pg**	**03 38 51.3**	**+0.6**
WACZ	**Wakanui South**	**1.29**	**198**	P	**Pn**	**03 38 49.6**	**-0.2**
MRNZ	**Matariki Terra**	**1.34**	**12**	P	**Pg**	**03 38 51.1**	**-1.0**
RPZ	**Rata Peaks**	**1.40**	**224**	P	**Pb**	**03 38 51.8**	**-0.3**
RPZ	**Rata Peaks**	**1.40**	**224**	P	**Pb**	**03 38 51.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.48**	**48**	P	**Pb**	**03 38 53.2**	**-0.3**
ARCZ	**Arundel**	**1.52**	**215**	P	**Pn**	**03 38 53.2**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**1.63**	**248**	P	**Pg**	**03 38 56.8**	**-0.8**
CMWZ	**Cape Campbell**	**1.66**	**55**	P	**Pb**	**03 38 56.9**	**+0.4**
TKNZ	**Takaka Hill**	**1.73**	**14**	P	**Pb**	**03 38 57.5**	**-0.2**
QRZ	**Quartz Range**	**1.89**	**3**	P	**Sg**	**03 39 26.4**	**-0.6**
QRZ	**Quartz Range**	**1.89**	**3**	P	**Pb**	**03 38 59.0**	**-1.4**
TMZ	**Timaru**	**1.95**	**211**	P	**Pn**	**03 38 59.1**	**+0.3**
TCW	**Tory Channel**	**2.06**	**44**	P	**Pn**	**03 39 00.8**	**+0.5**
FOZ	**Fox Glacier**	**2.06**	**246**	P	**Pb**	**03 39 02.6**	**-0.6**
SNZO	**South Karori**	**2.22**	**52**	P

FTIG				Sn	03 47 25.6	-0.7	
FTIG	**Fresnillo de T**	**4.56**	**300**	*e*P	**Pn**	**03 46 36.7**	**+2.2**
FTIG				*e*S	**Sn**	**03 47 25.6**	**-0.7**
TLIG	**Tlapa**	**4.79**	**294**		**Pn**	**03 46 39.1**	**+1.5**
CXUV	**Coxquihui**	**5.64**	**323**	*e*P	**Pn**	**03 46 48.6**	**-0.6**
CXUV				*e*S	**Sn**	**03 47 52.4**	**-0.3**
MOIG	**Morelia**	**7.95**	**301**		**Pn**	**03 47 22.2**	**+1.3**
NATX	**Nacogdoches**	**16.02**	**358**	Pn	**Pn**	**03 49 09.5**	**+0.2**
TXAR	**Lajitas Array**	**16.26**	**328**	Pn	**Pn**	**03 49 12.3**	**-0.1**
Y45A	**Yeager Farm, C**	**18.55**	**12**	P	**P**	**03 49 39.8**	**+0.3**
Y45A				IAmb	IAmb	03 49 43.8	
	comp=Z,22nm,1.4s						
QUOK	**Quay**	**20.56**	**354**	P	**P**	**03 50 03.0**	**+1.7**
QUOK				IAmb	IAmb	03 50 16.9	
	comp=Z,7.9nm,1.0s						
121A	**Cookes Peak, D**	**20.95**	**326**	P	**P**	**03 50 07.7**	**+1.9**

NEIC ***31*** *03:47:48.4±1.8, 19°.26N±0°.08×73°.74W±0°.04, h10km±1km, mb4.4/27, Error ellipse: s-maj=14.2km s-min=4.3km az=205.0*
OSPL ***31*** *03:47:49.6±1.6, 19°.37N×73°.72W, h0km±11km, ML4.0*
SSNC ***31*** *03:47:50.3±0.9, 19°.37N×73°.70W, h11km±9km, MD3.8, ML3.7*
IDC ***31*** *03:47:52.3±3.1, 19°.21N×73°.75W, h38km±28km, mb3.6/15, mbtmp3.9/19, ML3.4/4, MS3.4/9, Error ellipse: s-maj=18.5km s-min=15.2km az=61.0*
JSN ***31*** *03:47:56.1±1.7, 17°.66N×73°.89W, h0km±195km, MD4.3*

ISC 31 03:47:49.1±1.0, 19°.37N±0°.05×73°.71W±0°.03, h15km±6km, n108, σ1§54/111, mb4.2/29, MS3.7/6, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.94**	**329**	*e*P		**Pg**	**Pn**	**03 48 06.9**	**-0.4**
MASC				*e*S		**Sb**	**Sb**	**03 48 18.4**	**-0.9**
MASC				IAML				03 48 27.5	
	comp=E,2μm,0.4s								
MASC				IAML				03 48 28.5	
	comp=N,2μm,0.3s								
MASC	**Masc**	**0.94**	**329**	*i* P		**Pg**	**Pn**	**03 48 07.0**	**-0.3**
MASC				*e*S		**Sb**	**Sb**	**03 48 18.6**	**-0.6**
MASC				IAML				03 48 28.5	
	comp=Z,1μm,0.4s								
GTBY	**Guantanamo Bay**	**1.43**	**293**	Pn		**Pn**	**Pn**	**03 48 14.2**	**-0.2**
GTBY				Sn		**Sb**	**Sb**	**03 48 33.9**	**+0.5**
GTBY	**Guantanamo Bay**	**1.43**	**293**	*e*P		**Pn**	**Pn**	**03 48 14.2**	**-0.2**
GTBY	**Guantanamo Bay**	**1.43**	**293**	*i* P		**Pn**	**Pn**	**03 48 14.4**	**0.0**
GTBY				*e*S		**Sb**	**Sb**	**03 48 33.9**	**+0.5**
GTBY				IAML				03 48 40.7	
	comp=Z,367nm,0.8s								
PAPH	**Port-au-Prince**	**1.58**	**122**	Pn		**Pn**	**Pn**	**03 48 15.7**	**-0.8**
PAPH				Sn		**Sn**	**Sn**	**03 48 35.9**	**-0.9**
PAPH	**Port-au-Prince**	**1.58**	**122**	*e*P		**Pn**	**Pn**	**03 48 15.8**	**-0.8**
PAPH	**Port-au-Prince**	**1.58**	**122**	*i* P		**Pn**	**Pn**	**03 48 16.0**	**-0.6**
PAPH				*e*S		**Sn**	**Sn**	**03 48 37.6**	**+0.8**
PAPH				IAML				03 48 47.0	
	comp=Z,2μm,0.3s								
RCC	**Rio Carpintero**	**1.97**	**289**	*e*P		**Pn**	**Pn**	**03 48 21.3**	**-0.6**
RCC				*e*S		**Sn**	**Sn**	**03 48 44.9**	**-1.4**
RCC				IAML				03 48 57.5	
	comp=N,411nm,0.4s								
RCC				IAML				03 48 58.9	
	comp=E,717nm,0.4s								
LOPE2	**Hotel El Peder**	**2.29**	**125**	*i* P		**Pn**	**Pn**	**03 48 26.9**	**+0.6**
LOPE2				IAML				03 49 05.9	
	comp=Z,974nm,0.5s								
SDDR	**Presa de Saban**	**2.33**	**99**	Pn		**Pn**	**Pn**	**03 48 26.1**	**-0.8**
SDDR	**Presa de Saban**	**2.33**	**99**	*e*P		**Pn**	**Pn**	**03 48 25.8**	**-1.0**
SDDR	**Presa de Saban**	**2.33**	**99**	*i* P		**Pn**	**Pn**	**03 48 26.2**	**-0.6**
SDDR				IAML				03 49 02.8	
	comp=Z,1μm,0.3s								
SC01	**Santiago de Io**	**2.82**	**88**				**Pn**	**03 48 34.3**	**+0.7**
SC01	**Santiago de Io**	**2.82**	**88**	*i* P		**Pn**	**Pn**	**03 48 34.0**	**+0.4**
SC01				IAML				03 49 28.7	
	comp=Z,701nm,0.9s								
GWJ	**Greenwich**	**3.13**	**246**	*i* P		**Pn**	**Pn**	**03 48 39.7**	**+1.7**
HOJ	**Hope**	**3.18**	**245**	*i* P		**Pn**	**Pn**	**03 48 40.4**	**+1.8**
STH	**Stony Hill**	**3.20**	**247**	*i* P		**Pn**	**Pn**	**03 48 40.7**	**+1.8**
GRTK	**Grand Turk**	**3.22**	**48**	Pn		**Pn**	**Pn**	**03 48 39.2**	**+0.1**
GRTK	**Grand Turk**	**3.22**	**48**	*e*P		**Pn**	**Pn**	**03 48 38.7**	**-0.4**
GRTK	**Grand Turk**	**3.22**	**48**	*i* P		**Pn**	**Pn**	**03 48 39.3**	**+0.1**
GRTK				IAML				03 49 27.1	
	comp=Z,225nm,1.6s								
BNJ	**Bonny Gate**	**3.24**	**252**	*i* P		**Pb**	**Pb**	**03 48 44.8**	**-1.5**
PCJ	**Portland Cotta**	**3.65**	**244**	*i* P		**Pn**	**Pn**	**03 48 46.5**	**+1.5**
SDD	**Santo Domingo**	**3.71**	**104**			**Pn**	**Pn**	**03 48 47.3**	**+1.5**
MTDJ	**Mount Denham**	**3.79**	**253**	*e*P		**Pn**	**Pn**	**03 48 47.1**	**0.0**
MTDJ	**Mount Denham**	**3.79**	**253**	*i* P		**Pn**	**Pn**	**03 48 47.3**	**+0.2**
MTDJ				IAML				03 49 31.9	
	comp=Z,113nm,1.2s								
MCJ	**Malvern**	**4.03**	**250**	*i* P		**Pn**	**Pn**	**03 48 52.2**	**+1.8**
MCJ				*i* S		**Sn**	**Sn**	**03 49 35.1**	**-2.2**
CCCC	**Cccc**	**4.22**	**296**	*e*P		**Pn**	**Pn**	**03 48 48.6**	**-4.2**
PCDR	**Punta Cana, DR**	**5.12**	**99**	*i* P		**Pn**	**Pn**	**03 49 06.6**	**+1.4**
PCDR				IAML				03 50 11.6	
	comp=Z,130nm,1.2s								
AGPR	**Aguadilla, PR**	**6.31**	**97**	*i* P		**Pn**	**Pn**	**03 49 21.8**	**+0.1**
AGPR				IAML				03 50 40.4	
	comp=Z,68nm,1.8s								
CRPR	**Cabo Rojo, PR**	**6.41**	**101**	*i* P		**Pn**	**Pn**	**03 49 22.8**	**-0.1**
CRPR				IAML				03 50 40.5	
	comp=Z,35nm,1.1s								
AOPR	**Arecibo Observ**	**6.67**	**98**	Pn		**Pn**	**Pn**	**03 49 26.5**	**-0.1**
UUPR	**Utuado, UPR, P**	**6.72**	**98**			**Pn**	**Pn**	**03 49 27.1**	**-0.1**
SJG	**San Juan**	**7.28**	**99**	Pn		**Pn**	**Pn**	**03 49 36.3**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=337,slow=19,SNR=1.1								
SJG				Sn		**Sn**	**Sn**	**03 50 53.4**	**-3.8**
	comp=Z,1.9nm,0.3s,baz=285,slow=20,SNR=1.3								
	comp=Z,5.3nm,0.3s								
CRJC	**Cerrejon, Guaj**	**8.34**	**174**	*e*P		**Pn**	**Pn**	**03 49 51.7**	**+2.1**
SDV	**Santo Domingo**	**10.84**	**164**	Pn		**Pn**	**Pn**	**03 50 23.9**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=24,slow=7.5,SNR=7.3								
SDV				Sn		Sn		03 52 16.8	-8.4
	comp=Z,0.5nm,0.3s,baz=358,slow=16,SNR=1.1								
SDV				LR		LR		03 54 40.8	
	comp=Z,60nm,18.7s,baz=49,slow=38								
	comp=Z,4.4nm,0.5s								
SDV	**Santo Domingo**	**10.84**	**164**	Pn		**Pn**	**Pn**	**03 50 22.0**	**-2.0**
UREC	**San Jos de Ur**	**11.68**	**189**	*e*P		**Pn**	**Pn**	**03 50 38.4**	**+3.1**
BAUV	**El Baul**	**11.73**	**151**	Pn		**Pn**	**Pn**	**03 50 34.4**	**-1.6**
APAC	**Apartado, Choc**	**11.74**	**194**	*e*P		**Pn**	**Pn**	**03 50 38.4**	**+2.3**
BCIP	**Isla Barro Col**	**11.75**	**211**	*e*P		**Pn**	**Pn**	**03 50 36.6**	**+0.3**
ZARC	**Zaragoza, Cauc**	**11.86**	**186**	*e*P		**Pn**	**Pn**	**03 50 40.4**	**+2.6**
PAMC	**Pamplona, Colo**	**12.00**	**175**	*e*P		Pn		03 50 45.1	+5.0
DBBC	**Dabeiba**	**12.52**	**192**	*e*P		**Pn**	**Pn**	**03 50 48.1**	**+1.2**
PCRV	**Puerto La Cruz**	**12.67**	**135**	Pn		**Pn**	**Pn**	**03 50 49.6**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=297,slow=3.1,SNR=11								
	comp=Z,4.0nm,0.5s								
BARC	**Barichara**	**12.71**	**178**	*e*P		**Pn**	**Pn**	**03 50 53.1**	**+3.5**
PTBC	**PUERTO BERRIO,**	**12.78**	**183**	*e*P		**Pn**	**Pn**	**03 50 52.4**	**+2.1**
RUSC	**La Rusia**	**13.41**	**177**	Pn		**Pn**	**Pn**	**03 50 56.5**	**-2.9**
RUSC	**La Rusia**	**13.41**	**177**	*e*P		**Pn**	**Pn**	**03 51 03.5**	**+4.1**
CBOC	**Ciudad Bolivar**	**13.61**	**190**	*e*P		**Pn**	**Pn**	**03 51 05.3**	**+3.5**
NORC	**Norcasia**	**13.77**	**185**	*e*P		**Pn**	**Pn**	**03 51 05.9**	**+2.0**
JTS	**Las Juntas de**	**14.12**	**232**	LR		LR	LR	03 56 50.6	
	comp=Z,182nm,19.5s,baz=78,slow=38								
ROSC	**El Rosal**	**14.46**	**182**	Pn		**Pn**	**Pn**	**03 51 11.1**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=294,slow=17,SNR=1.7								
ROSC				Sn		Sn		03 53 45.0	-8.9
	comp=Z,2.0nm,0.3s,baz=79,slow=18,SNR=1.5								
ROSC				LR		LR		03 56 25.1	
	comp=Z,71nm,19.3s,baz=80,slow=36								
	comp=Z,4.4nm,0.5s								
PLMC	**San Jos del P**	**14.60**	**190**	*e*P		**Pn**	**Pn**	**03 51 18.0**	**+2.7**
CHIC	**Chingaza**	**14.65**	**180**	*e*P		**Pn**	**Pn**	**03 51 19.7**	**+3.4**
ORTC	**Ortega, Tolima**	**15.44**	**186**	*e*P		**P**	**P**	**03 51 29.9**	**-1.1**
344A	**Westbrook Farm**	**19.49**	**311**	P		**P**	**P**	**03 52 13.1**	**-2.5**
344A				IAmb		IAmb	IAmb	03 52 19.2	
	comp=Z,23nm,1.0s								
HKT	**Hockley**	**22.66**	**302**	P		**P**	**P**	**03 52 49.4**	**-0.4**
237A	**Washetta, Mont**	**23.50**	**307**	P		**P**	**P**	**03 52 58.4**	**0.0**
237A				IAmb		IAmb	IAmb	03 53 02.7	
	comp=Z,21nm,1.1s								
735A	**Kenedy**	**23.89**	**298**	P		**P**	**P**	**03 53 01.2**	**-1.1**
CCM	**Cathedral Cave**	**24.07**	**324**	P		**P**	**P**	**03 53 03.1**	**-0.7**
CCM				IAmb		IAmb	IAmb	03 53 07.3	
	comp=Z,5.2nm,0.8s								
MCRA	**Macar, Loja**	**24.38**	**195**	P		**P**	**P**	**03 53 03.9**	**-3.0**
MCRA				IAmb		IAmb	IAmb	03 53 10.6	
	comp=Z,6.7nm,0.8s								
X37A	**Clayton**	**24.46**	**313**	P		**P**	**P**	**03 53 07.6**	**+0.1**
X37A				IAmb		IAmb	IAmb	03 53 10.7	
	comp=Z,11nm,0.9s								

WHTX	**Lake Whitney,**	**24.75**	**305**	P		**P**		**03 53 09.4**	**-0.8**
WHTX				IAmb		IAmb		03 53 12.9	
	comp=Z,8.7nm,0.7s								
R40A	**Maddies Statio**	**24.81**	**323**	P		**P**		**03 53 09.4**	**-1.2**
R40A				IAmb		IAmb		03 53 13.1	
	comp=Z,6.8nm,0.8s								
S39A	**Bolivar**	**25.01**	**321**	P		**P**		**03 53 12.8**	**+0.3**
S39A				IAmb		IAmb		03 53 15.2	
	comp=Z,7.9nm,0.8s								
833A	**Chaparral WMA,**	**25.08**	**296**	P		**P**		**03 53 13.3**	**+0.1**
833A				IAmb		IAmb		03 53 15.8	
	comp=Z,9.5nm,0.8s								
LOOK	**Love County**	**25.45**	**310**	P		**P**		**03 53 15.3**	**-1.1**
TUL1	**Leonard**	**25.48**	**315**	P		**P**		**03 53 17.6**	**+0.9**
OK052	**Battle Ridge R**	**26.21**	**314**	P		**P**		**03 53 21.9**	**-1.4**
OK052				IAmb		IAmb		03 53 25.8	
	comp=Z,11nm,0.9s								
OK053	**SW of W Deep R**	**26.21**	**314**	P		**P**		**03 53 23.9**	**+0.6**
OK053				IAmb		IAmb		03 53 25.9	
	comp=Z,8.7nm,0.8s								
NOKA	**Waynoka**	**28.01**	**313**	P		**P**		**03 53 41.8**	**+2.3**
TXAR	**Lajitas Array**	**28.96**	**296**	P		**P**		**03 53 49.0**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=116,slow=8.0,SNR=8.6								
TXAR				PcP		**PcP**		**03 56 58.4**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=156,slow=3.5,SNR=4.6								
	comp=Z,1.2nm,0.9s								
NNA	**Nana**	**31.31**	**186**	LR		LR		04 07 36.0	
	comp=Z,32nm,20.1s,baz=324,slow=38								
T25A	**Trinidad**	**32.12**	**310**	P		**P**		**03 54 15.6**	**-0.5**
T25A				IAmb		IAmb		03 54 19.9	
	comp=Z,7.8nm,1.1s								
SDCO	**Great Sand Dun**	**33.16**	**310**	P		**P**		**03 54 24.8**	**-0.6**
ISCO	**Idaho Springs**	**34.14**	**313**	P		**P**		**03 54 33.5**	**-0.3**
ISCO				IAmb		IAmb		03 54 36.8	
	comp=Z,2.5nm,0.8s								
SCHQ	**Schefferville**	**35.79**	**7**	P		**P**		**03 54 48.7**	**+1.2**
	comp=Z,2.0nm,0.6s,baz=204,slow=7.7,SNR=4.6								
SCHQ				LR		LR		04 08 44.9	
	comp=Z,57nm,19.8s,baz=101,slow=35								
	comp=Z,2.0nm,0.6s								
PDAR	**Pinedale Array**	**38.13**	**316**	P		**P**		**03 55 08.8**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=126,slow=9.3,SNR=5.5								
	comp=Z,0.6nm,0.8s								
RLMT	**Red Lodge**	**39.05**	**319**	P		**P**		**03 55 15.9**	**+0.4**
LOHW	**Long Hollow**	**39.19**	**316**	P		**P**		**03 55 18.7**	**+1.9**
LOHW				IAmb		IAmb		03 55 19.4	
	comp=Z,4.6nm,0.8s								
REDW	**Red Top Meadow**	**39.24**	**316**	P		**P**		**03 55 17.2**	**0.0**
REDW				IAmb		IAmb		03 55 19.8	
	comp=Z,8.7nm,1.0s								
FXWY	**Fox Creek**	**39.48**	**316**	P		**P**		**03 55 20.2**	**+1.0**
SPR3	**Spring Creek 3**	**40.09**	**308**	P		**P**		**03 55 25.1**	**+0.7**
NVAR	**Mina Array Bea**	**42.94**	**306**	P		**P**		**03 55 47.7**	**0.0**
	comp=Z,0.2nm,0.6s,baz=88,slow=8.4,SNR=2.5								
	comp=Z,0.2nm,0.6s								
BDFB	**Brasilia**	**43.01**	**142**	P		**P**		**03 55 47.4**	**-0.9**
	comp=Z,2.5nm,0.5s,baz=307,slow=9.1,SNR=6.8								
	comp=Z,2.5nm,0.5s								
PLID	**Pearl Lake**	**43.33**	**316**	P		**P**		**03 55 51.6**	**+0.8**
AQDB	**Aquidauana**	**43.35**	**155**	P		**P**		**03 55 50.4**	**-0.5**
FRB	**Frobisher Bay**	**44.48**	**3**	LR		LR		04 14 01.5	
	comp=Z,86nm,19.9s,baz=182,slow=35								
YKA	**Yellowknife Ar**	**51.44**	**337**	P		**P**		**03 56 54.5**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=152,slow=13,SNR=16								
	comp=Z,1.3nm,0.7s								
SUMG	**Summit**	**56.86**	**12**	*i* P		P		03 57 41.0	+7.8
PLCA	**Paso Flores**	**59.87**	**177**	P		**P**		**03 57 53.0**	**-1.2**
	comp=Z,4.6nm,0.8s,baz=352,slow=6.8,SNR=13								
	comp=Z,4.6nm,0.8s								
A36M	**Sancha Harbour**	**60.26**	**344**	P		**P**		**03 57 56.9**	**+0.5**
ESDC	**Sonseca Array**	**62.49**	**55**	P		**P**		**03 58 13.6**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=279,slow=7.2,SNR=2.1								
	comp=Z,0.5nm,0.8s								
ILAR	**Eielson Array**	**65.48**	**333**	P		**P**		**03 58 32.0**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=86,slow=6.0,SNR=5.4								
	comp=Z,0.3nm,0.5s								
NB2	**NORSAR Subarra**	**70.81**	**31**	P		P		03 59 13.7	+8.8
	comp=Z,0.0nm,0.9s,baz=278,slow=6.2								
NOA	**NORSAR Array B**	**70.81**	**31**	P		**P**		**03 59 05.1**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=211,slow=16,SNR=1.5								
	comp=Z,0.7nm,0.9s								
SPITS	**Spitsbergen Ar**	**71.20**	**13**	LR		LR		04 29 56.3	
	comp=Z,35nm,18.0s,baz=218,slow=35								
DAVOX	**Davos/Dischmat**	**71.83**	**46**	LR		LR		04 24 00.6	
	comp=Z,53nm,21.6s,baz=262,slow=30								
TORD	**Torodi Ar. Bea**	**72.17**	**82**	P		**P**		**03 59 13.9**	**0.0**
	comp=Z,0.5nm,1.1s,baz=279,slow=4.8,SNR=1.6								
	comp=Z,0.5nm,1.1s								
KEST	**Kesra**	**73.47**	**57**	P		**P**		**03 59 22.3**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=224,slow=12,SNR=1.4								
	comp=Z,1.0nm,0.7s								
GERES	**GERESS Array B**	**74.00**	**43**	P		**P**		**03 59 24.2**	**0.0**
	comp=Z,0.2nm,0.6s,baz=263,slow=4.0,SNR=1.9								
	comp=Z,0.2nm,0.6s								
ARCES	**ARCESS Array B**	**75.20**	**21**	P		**P**		**03 59 31.2**	**+0.5**
	comp=Z,4.3nm,1.0s,baz=349,slow=2.5,SNR=6.3								
	comp=Z,4.3nm,1.0s								
FINES	**FINESS Array B**	**77.76**	**29**	P		**P**		**03 59 46.7**	**+1.5**
	comp=Z,1.7nm,0.9s,baz=298,slow=3.0,SNR=1.1								
	comp=Z,1.7nm,0.9s								
AKASG	**Malin Array Be**	**83.11**	**39**	LR		LR		04 38 27.4	
	comp=Z,32nm,18.1s,baz=0.0,slow=36								
STKA	**Stephens Creek**	**145.37**	**241**	PKPbc		**PKPbc**		**04 07 28.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=160,slow=5.8,SNR=3.4								
WRA	**Warramunga Arr**	**153.59**	**264**	PKP		**PKPdf**		**04 07 37.6**	**-2.7**
	comp=Z,0.1nm,0.4s,baz=92,slow=2.7,SNR=3.4								
WRA				PKPbc		**sPKPdf**		**04 07 47.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=81,slow=2.4,SNR=14								
ASAR	**Alice Springs**	**153.97**	**256**	PKP		**PKPdf**		**04 07 40.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=100,slow=1.6,SNR=2.4								
ASAR				PKPab		**PKPab**		**04 07 59.7**	**-2.4**
	comp=Z,0.9nm,0.9s,baz=104,slow=4.7,SNR=6.5								

SOME ***31*** *04:04:13.6, 44°.60N×81°.45E, h20km*
NNC ***31*** *04:04:15.0±1.9, 44°.52N×81°.98E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=25.6km s-min=7.2km az=119.0*

ISC 31 04:04:12.0±1.7, 44°.44N±0°.07×81°.7E±0°.1, h33km±5km, n25, σ0§88/28, 4C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.37**	**266**	*e*P		**Pb**	**Pb**	**04 04 36.2**	**-0.9**
DJR				*e*S		**Sn**	**Sn**	**04 04 52.3**	**+0.5**
	4.7nm,0.1s								
	49nm,0.2s								
KTMS	**Ketmen**	**1.39**	**225**	*e*P		**Pb**	**Pb**	**04 04 37.7**	**+0.2**
KTMS				*e*S		**Sb**	**Sb**	**04 04 54.9**	**0.0**
	15nm,0.2s								
	39nm,0.2s								
SHLS	**Shalkode**	**2.06**	**232**	*e*P		**Pn**	**Pn**	**04 04 45.1**	**+0.6**
SHLS				*e*S		**Sn**	**Sn**	**04 05 07.6**	**-1.5**
	27nm,0.1s								
	67nm,0.2s								
UZB	**Uzynbulak**	**2.33**	**237**	*e*Pg		**Pb**	**Pb**	**04 04 53.1**	**-0.3**
UZB				*e*Lg		Lg		04 05 20.8	
	6.5nm,0.2s								
	32nm,0.1s								
MAKZ	**Makanchi**	**2.37**	**5**	⇓Pn		**Pb**	**Pb**	**04 04 53.1**	**-0.9**
MAKZ				⇓Sn		**Sb**	**Sb**	**04 05 24.1**	**+1.2**
	4.9nm,0.7s								
	6.3nm,0.2s								
KPKS	**Kokpek**	**2.38**	**247**	*e*Pg		**Pb**	**Pb**	**04 04 53.1**	**-1.1**
KPKS				*e*Lg		Lg		04 05 21.3	
	13nm,0.1s								
	77nm,0.2s								
MK31	**Makanchi Array**	**2.39**	**10**	⇑Pn		**Pb**	**Pb**	**04 04 53.4**	**-0.9**
MK31				⇑Sn		**Sb**	**Sb**	**04 05 24.3**	**+0.9**
	1.7nm,0.3s,baz=202,slow=13,SNR=102								
	1.4nm,0.2s,baz=190,slow=30,SNR=13								
ZHN	**Zhinishke**	**2.68**	**243**	*e*Pg		**Pb**	**Pb**	**04 04 58.6**	**-0.8**
ZHN				*e*Lg		Lg		04 05 30.7	
	2.7nm,0.1s								
	58nm,0.1s								
KURS	**Kuram**	**2.72**	**251**	*e*Pg		**Pb**	**Pb**	**04 04 59.7**	**-0.2**
KURS				*e*Lg		Lg		04 05 32.6	
	2.6nm,0.2s								
	8.2nm,0.2s								
SATY	**Saty**	**2.75**	**241**	*e*Pg		**Pb**	**Pb**	**04 04 59.9**	**-0.7**
SATY				*e*Lg		Lg		04 05 33.3	
	6.2nm,0.1s								
	47nm,0.1s								
CHKK	**Chushkaly**	**3.44**	**262**	*e*Pg		**Pb**	**Pb**	**04 05 11.3**	**-0.9**
CHKK				*e*Lg		Lg		04 05 52.9	
	2.0nm,0.2s								
	16nm,0.3s								
KOTS	**Kotyrbulak**	**3.53**	**252**	*e*Pg		**Pb**	**Pb**	**04 05 13.2**	**-0.6**
	2.8nm,0.3s								

KOTS				*e*Lg		Lg		04 05 55.9	
	31nm,0.3s								
MDOK	**Medeo**	**3.60**	**251**	Pn		**Pb**	**Pb**	**04 05 15.7**	**+0.7**
	12nm,1.2s								
MDOK				Lg		Lg		04 06 14.8	
	8.3nm,0.6s								
MDOK	**Medeo**	**3.60**	**251**	*e*Pg		**Pb**	**Pb**	**04 05 14.4**	**-0.5**
	3.3nm,0.4s								
MDOK				*e*Lg		Lg		04 05 58.1	
	8.9nm,0.3s								
KTBS	**Karatobe**	**3.68**	**260**	*e*Pg		**Pb**	**Pb**	**04 05 15.7**	**-0.6**
	1.8nm,0.3s								
KTBS				*e*Lg		Lg		04 06 00.3	
	19nm,0.3s								
TNSS	**Tian-Shan**	**3.71**	**249**	*e*Pg		**Pb**	**Pb**	**04 05 16.7**	**-0.4**
	2.3nm,0.2s								
TNSS				*e*Lg		Lg		04 06 02.4	
	5.7nm,0.2s								
KUU	**Kurty**	**3.89**	**264**	*e*Pg		**Pb**	**Pb**	**04 05 19.0**	**-0.9**
	0.9nm,0.2s								
KUU				*e*Lg		Lg		04 06 06.0	
	8.9nm,0.2s								
IZV	**Izvestkoviy**	**3.94**	**251**	*e*Pg		**Pb**	**Pb**	**04 05 21.1**	**+0.3**
	1.2nm,0.2s								
IZV				*e*Lg		Lg		04 06 09.6	
	7.4nm,0.2s								
MTBS	**Maitube**	**4.03**	**253**	*e*Pg		**Pb**	**Pb**	**04 05 22.7**	**+0.4**
	2.9nm,0.2s								
MTBS				*e*Lg		Lg		04 06 12.2	
	10nm,0.2s								
KST	**Kastek**	**4.38**	**253**	*e*Pg		**Pb**	**Pb**	**04 05 28.9**	**+0.7**
	2.0nm,0.3s								
KST				*e*Lg		Lg		04 06 23.1	
	6.9nm,0.5s								
KRBS	**Karabastau**	**4.40**	**262**	*e*Pg		**Pb**	**Pb**	**04 05 29.0**	**+0.4**
	1.0nm,0.2s								
KRBS				*e*Lg		Lg		04 06 23.2	
	2.7nm,0.2s								
DGS	**Degeres**	**4.45**	**256**	*e*Pg		**Pb**	**Pb**	**04 05 30.1**	**+0.7**
	1.6nm,0.4s								
DGS				*e*Lg		Lg		04 06 24.8	
	8.3nm,0.4s								
TKM2	**Tokmak 2**	**4.67**	**253**	⇑Pn		**Pb**	**Pb**	**04 05 31.4**	**-1.9**
	1.8nm,0.8s								
TKM2				⇓Lg		Lg		04 06 48.8	
	0.7nm,0.3s								
KURBB	**Kurchatov Arra**	**6.54**	**342**	⇓Lg		Lg		04 07 39.9	
	9.0nm,0.7s						

FURI				*e*S		**Sn**	05 05 17.4	-0.9	
FURI				IAML			05 05 20.5		
	comp=N,3µm,0.5s								
FURI	**Furi**	**1.31**	**352**	*e*P		**Pg**	**05 04 59.3**	**+0.1**	
FURI				*e*S		**Sn**	**05 05 17.0**	**-1.3**	
AAE	**Adis Abeba**	**1.44**	**356**	*e*P		**Pg**	**05 05 02.0**	**+0.5**	
AAE				*e*S		**Sg**	**05 05 22.0**	**+1.8**	
AAE				IAML			05 05 25.6		
	comp=N,5µm,0.5s								
AAE	**Adis Abeba**	**1.44**	**356**	*e*P		**Pg**	**05 05 01.4**	**-0.1**	
AAE				*e*S		**Sg**	**05 05 21.3**	**+1.1**	
ANKE	**Ethiopia-Afar**	**2.17**	**23**	*e*P		**Pg**	**05 05 15.3**	**-0.3**	
ANKE				*e*S		**Sb**	**05 05 40.9**	**-1.1**	
LODK	**Lodwar**	**5.41**	**220**	*e*P		**Pn**	**05 05 52.8**	**-3.2**	
LODK				*e*S		**Sn**	**05 07 02.8**	**+3.8**	
ATD	**Arta Tunnel**	**5.55**	**45**	*e*P		Pb	05 06 06.4	-5.3	
MBAR	**Mbarara**	**11.48**	**225**	LR		LR	05 11 29.7		
	comp=N,114nm,20.0s,baz=32,slow=34								
WSAR	**Wadi Sarin**	**24.55**	**48**	LR		LR	05 18 56.3		
	comp=N,39nm,18.8s,baz=231,slow=36								
LBTB	**Lobatse**	**34.89**	**201**	LR		LR	05 26 09.2		
	comp=N,75nm,19.8s,baz=238,slow=36								
BOSA	**Boshof**	**38.31**	**199**	LR		LR	05 30 34.3		
	comp=N,68nm,19.1s,baz=195,slow=40								
DBIC	**Dimbokro**	**43.38**	**272**	LR		LR	05 31 05.4		
	comp=N,44nm,20.9s,baz=145,slow=37								
AKASG	**Malin Array Be**	**43.72**	**351**	P		**P**	**05 12 38.5**	**-2.2**	
	comp=N,0.2nm,0.3s,baz=176,slow=7.1,SNR=4.4								
AKASG				LR		LR	05 29 54.5		
	comp=N,33nm,20.3s,baz=334,slow=35								
	comp=N,0.2nm,0.3s								
GERES	**GERESS Array B**	**46.27**	**337**	P		**P**	**05 13 01.1**	**-0.2**	
	comp=N,0.6nm,0.8s,baz=160,slow=3.1,SNR=3.9								
GERES				LR		LR	05 34 12.9		
	comp=N,81nm,18.4s,baz=296,slow=39								
	comp=N,0.6nm,0.8s								
ESDC	**Sonseca Array**	**49.87**	**317**	P		**P**	**05 13 30.2**	**+1.0**	
	comp=N,1.9nm,1.1s,baz=123,slow=7.7,SNR=6.4								
ESDC				LR		LR	05 37 49.4		
	comp=N,78nm,19.4s,baz=51,slow=40								
	comp=N,1.9nm,1.1s								
MKAR	**Makanchi Array**	**53.84**	**36**	P		**P**	**05 14 00.3**	**+1.5**	
	comp=N,2.8nm,0.9s,baz=225,slow=5.0,SNR=14								
	comp=N,2.8nm,0.9s								
NB2	**NORSAR Subarra**	**57.18**	**344**	P		**P**	**05 14 23.3**	**+0.7**	
	comp=Z,4.0nm,1.0s,baz=142,slow=7.4								
NOA	**NORSAR Array B**	**57.18**	**344**	P		**P**	**05 14 22.9**	**+0.3**	
	comp=Z,0.9nm,0.7s,baz=143,slow=7.0,SNR=4.4								
	comp=Z,0.9nm,0.7s								
ZALV	**Zalesovo Beam**	**59.12**	**30**	P		**P**	**05 14 37.8**	**+1.6**	
	comp=Z,1.0nm,0.5s,baz=234,slow=7.2,SNR=4.5								
	comp=Z,1.0nm,0.5s								
SONM	**Songino Array**	**69.38**	**42**	P		**P**	**05 15 45.0**	**+1.1**	
	comp=Z,0.9nm,0.9s,baz=244,slow=6.3,SNR=5.1								
	comp=Z,0.9nm,0.9s								

*IDC **31** 05:13:07.1±1.0,22°.34S×67°.03W,h180km±9km,mb3.5/5, mbtmp3.9/9,Error ellipse: s-maj=21.2km s-min=15.8km az=161.0*

*GUC **31** 05:13:07.6±0.7,22°.34S×67°.45W,h229km±9km,ML4.4*

*NEIC **31** 05:13:07.2±1.3,22°.39S±0°.07×67°.3W±0°.1,h226km±14km, mb4.1/5,ML4.4(GUC),Error ellipse: s-maj=17.0km s-min=10.4km az=94.0*

*VAO **31** 05:13:07.7±0.5,22°.05S×67°.21W,h190km±6km,mb4.0*

*SCB **31** 05:13:09.4±1.0,22°.31S×67°.21W,h162km±12km,ML3.8/1, MW3.4,Error ellipse: s-maj=6.8km s-min=5.3km az=0.0*

ISC 31 05:13:07.0±0.6,22°.33S±0°.05×67°.19W±0°.05,h192km±7km, n97,σ1°.37/113,mb3.9/6,15C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.62**	**260**	P		**Pn**	**05 13 42.6**	**+1.1**
	120nm,0.3s,baz=95,slow=6.2,SNR=1090							
LVC				S		**Sn**	**05 14 09.0**	**+0.8**
	52nm,0.3s,baz=254,slow=21,SNR=26							
LVC	**Limon Verde**	**1.62**	**260**	Pn		**Pn**	**05 13 42.7**	**+1.2**
LVC	**Limon Verde**	**1.62**	**260**	*e*P		**Pn**	**05 13 42.2**	**+0.7**
LVC	**Limon Verde**	**1.62**	**260**	Pg		**Pn**	**05 13 42.7**	**+1.2**
LVC	**Limon Verde**	**1.62**	**260**	*e*P		**Pn**	**05 13 41.8**	**+0.3**
MOCB	**Mochara**	**1.79**	**54**	Pg		**Pn**	**05 13 43.9**	**+0.6**
MOCB				Sg		**Sn**	**05 14 10.3**	**-1.1**
MOCB				IAML			05 14 12.1	
	592nm,0.4s							
PB09	**IPOC Station P**	**1.98**	**285**			**Pn**	**05 13 46.9**	**+2.0**
PB09	**IPOC Station P**	**1.98**	**285**	↑	*i*P	**Pn**	**05 13 46.5**	**+1.6**
PB09					*i* S	**Sn**	**05 14 15.7**	**+1.4**
PB06	**IPOC Station P**	**2.24**	**260**			**Pn**	**05 13 48.9**	**+1.3**
PB06	**IPOC Station P**	**2.24**	**260**	↑	*i*P	**Pn**	**05 13 48.2**	**+0.6**
PB06	**IPOC Station P**	**2.24**	**260**	Pg		**Pn**	**05 13 48.8**	**+1.2**
PB03	**IPOC Station P**	**2.40**	**276**	Pn		**Pn**	**05 13 50.4**	**+1.0**
PB03	**IPOC Station P**	**2.40**	**276**	↑	*i*P	**Pn**	**05 13 50.0**	**+0.7**
PB03					*i* S	**Sn**	**05 14 22.2**	**-0.1**
PB03				IAML			05 14 23.2	
	comp=N,808nm,0.3s							
PB01	**IPOC Station P**	**2.49**	**300**			**Pn**	**05 13 51.8**	**+1.4**
PB01	**IPOC Station P**	**2.49**	**300**	↑	*i*P	**Pn**	**05 13 51.3**	**+0.9**
PB01					*i* S	**Sn**	**05 14 24.4**	**+0.2**
PB01				IAML			05 14 26.1	
	comp=E,851nm,0.2s							
PB07	**IPOC Station P**	**2.58**	**283**			**Pn**	**05 13 52.5**	**+1.1**
PB07	**IPOC Station P**	**2.58**	**283**	↑	*i*P	**Pn**	**05 13 52.2**	**+0.8**
PB07					*i* S	**Sn**	**05 14 25.3**	**-0.7**
PB07				IAML			05 14 27.0	
	comp=N,800nm,0.1s							
PB02	**IPOC Station P**	**2.71**	**291**			**Pn**	**05 13 53.8**	**+0.8**
PB02	**IPOC Station P**	**2.71**	**291**	↑	*i*P	**Pn**	**05 13 53.6**	**+0.7**
PB02					*i* S	**Sn**	**05 14 27.8**	**-0.9**
PB02				IAML			05 14 31.0	
	comp=E,787nm,0.4s							
PB02	**IPOC Station P**	**2.71**	**291**	Pg		**Pn**	**05 13 53.7**	**+0.8**
PB02				Sg		**Sn**	**05 14 27.6**	**-1.1**
PB04	**IPOC Station P**	**2.75**	**269**			**Pn**	**05 13 54.2**	**+0.9**
PB04	**IPOC Station P**	**2.75**	**269**	↑	*i*P	**Pn**	**05 13 53.8**	**+0.5**
PB04					*i* S	**Sn**	**05 14 28.4**	**-1.1**
PB04				IAML			05 14 31.7	
	comp=N,660nm,0.2s							
PB04	**IPOC Station P**	**2.75**	**269**	Pg		**Pn**	**05 13 54.2**	**+0.9**
PATCX	**Punta Patache**	**3.14**	**298**	Pn		**Pn**	**05 13 58.7**	**+0.7**
PATCX	**Punta Patache**	**3.14**	**298**	↑	*i*P	**Pn**	**05 13 58.4**	**+0.4**
PATCX					*i* S	**Sn**	**05 14 36.4**	**-1.5**
PATCX				IAML			05 14 38.6	
	comp=N,714nm,0.3s							
GO01	**Chusmiza**	**3.25**	**324**	Pn		**Pn**	**05 14 01.1**	**+1.5**
GO01	**Chusmiza**	**3.25**	**324**	↑	*i*P	**Pn**	**05 14 01.2**	**+1.5**
GO01	**Chusmiza**	**3.25**	**324**	Pg		**Pn**	**05 14 01.4**	**+1.7**
TA01	**Diego Aracena**	**3.30**	**302**	Pn		**Pn**	**05 14 00.0**	**+0.3**
TA01	**Diego Aracena**	**3.30**	**302**	↑	*i*P	**Pn**	**05 13 59.8**	**0.0**
TA01					*i* S	**Sn**	**05 14 39.1**	**-1.9**
PB10	**IPOC Station P**	**3.32**	**249**	Pn		**Pn**	**05 14 00.7**	**+0.6**
PB10	**IPOC Station P**	**3.32**	**249**	↑	*i*P	**Pn**	**05 14 00.3**	**+0.2**
TA02	**Huaiquique**	**3.43**	**306**			**Pn**	**05 14 01.3**	**-0.1**
TA02	**Huaiquique**	**3.43**	**306**	Pg		**Pn**	**05 14 02.5**	**+1.1**
PB11	**IPOC Station P**	**3.44**	**317**			**Pn**	**05 14 02.5**	**+0.7**
PB11	**IPOC Station P**	**3.44**	**317**	↑	*i*P	**Pn**	**05 14 02.0**	**+0.3**
PB11					*i* S	**Sn**	**05 14 43.4**	**-1.1**
PB14	**IPOC Station P**	**3.74**	**232**	Pn		**Pn**	**05 14 05.8**	**+0.4**
PB14	**IPOC Station P**	**3.74**	**232**	↑	*i*P	**Pn**	**05 14 05.7**	**+0.2**
PB14					*i* S	**Sn**	**05 14 48.9**	**-2.4**
PSGC	**Pisagua**	**3.86**	**314**		*i*P	**Pn**	**05 14 06.3**	**-0.6**
PSGC					*i* S	**Sn**	**05 14 50.7**	**-3.2**
PSGCX	**Pisagua**	**3.86**	**314**	Pn		**Pn**	**05 14 06.7**	**-0.2**
MNMC	**Minye Minye**	**3.90**	**324**			**Pn**	**05 14 08.4**	**+0.8**
MNMC	**Minye Minye**	**3.90**	**324**	↑	*i*P	**Pn**	**05 14 08.4**	**+0.8**
MNMC					*i* S	**Sn**	**05 14 54.5**	**-0.4**
PB16	**IPOC Station P**	**4.53**	**331**	↑	*i*P	**Pn**	**05 14 17.0**	**+1.2**
PB16					*i* S	**Sn**	**05 15 09.6**	**-0.2**
PB12	**IPOC Station P**	**4.73**	**321**			**Pn**	**05 14 18.4**	**+0.6**
PB12	**IPOC Station P**	**4.73**	**321**	*e*P		**Pn**	**05 14 16.9**	**-1.0**
AC02	**Maricunga**	**4.82**	**201**	Pn		**Pn**	**05 14 20.0**	**+0.6**
AC01	**Pan de Azucar**	**4.92**	**219**	Pn		**Pn**	**05 14 19.2**	**-0.9**
BBOE	**La Paz, Chanca**	**5.54**	**352**	Pg		**Pn**	**05 14 31.0**	**+2.3**
BBOD	**La Paz, Gloria**	**5.82**	**347**	Pg		**Pn**	**05 14 34.0**	**+1.7**
LPAZ	**La Paz**	**6.08**	**351**	P		**Pn**	**05 14 37.6**	**+1.8**
	comp=N,1.8nm,0.4s,baz=98,slow=5.9,SNR=14							
LPAZ				S		**Sn**	**05 15 42.5**	**-3.3**
	comp=N,0.8nm,0.4s,baz=219,slow=3.7,SNR=1.1							
LPAZ	**La Paz**	**6.08**	**351**	Pg		**Pn**	**05 14 37.5**	**+1.8**
LPAZ	**La Paz**	**6.08**	**351**	*e*P		**Pn**	**05 14 32.9**	**-2.9**
LCO	**Las Campanas**	**7.37**	**205**			**Pn**	**05 14 50.1**	**-2.1**
BBRB	**Robore, Bolivi**	**8.01**	**61**	*e*P		Pn	05 14 56.3	-4.1

SIV	**San Ignacio**	**8.55**	**44**	P		**Pn**	**05 15 05.2**	**-2.4**	
	comp=N,8.9nm,0.3s,baz=236,slow=9.4,SNR=126								
SIV				S		Sn	05 16 27.8	-16	
	comp=N,5.1nm,0.5s,baz=231,slow=14,SNR=5.9								
CFA	**Coronel Fontan**	**9.29**	**186**	P		**Pn**	**05 15 16.6**	**-0.5**	
	comp=N,0.7nm,0.3s,baz=24,slow=2.0,SNR=1.4								
CFA				S		Sn	05 16 51.2	-10	
	comp=N,1.0nm,0.6s,baz=336,slow=8.9,SNR=1.3								
PTLB	**Pontes e Lacer**	**10.24**	**49**	Pn		**Pn**	**05 15 27.7**	**-1.8**	
PTLB	**Pontes e Lacer**	**10.24**	**49**	*e*P		**Pn**	**05 15 28.2**	**-1.3**	
AMBA	**Amambai (Brazi**	**11.28**	**95**	*e*P		**Pn**	**05 15 43.6**	**+0.7**	
VILB	**Vilhena**	**11.45**	**37**	Pn		**Pn**	**05 15 45.5**	**+0.3**	
VILB	**Vilhena**	**11.45**	**37**	*e*P		**Pn**	**05 15 44.7**	**-0.5**	
SALV	**Santo Antonio**	**12.60**	**62**	*e*P		**Pn**	**05 15 59.6**	**-0.2**	
CRSM	**Crissiumal (Br**	**12.98**	**116**	*e*P		**P**	**05 16 08.7**	**+0.6**	
RODS	**Rosario do Sul**	**13.38**	**129**	*e*P		**P**	**05 16 12.9**	**+0.5**	
FRBT	**Francisco Belt**	**13.39**	**109**	*e*P		**P**	**05 16 13.7**	**+1.0**	
ITAB	**Concordia**	**14.52**	**113**			**Pn**	**05 16 24.6**	**+1.0**	
ITAB	**Concordia**	**14.52**	**113**	*e*P		**P**	**05 16 25.8**	**+0.8**	
PDRB	**Porto dos Gac**	**14.61**	**45**	*e*P		**Pn**	**05 16 23.9**	**-0.9**	
ITRB	**Iturama**	**15.93**	**84**	*e*P		**P**	**05 16 41.5**	**+0.8**	
CNLB	**Canela**	**16.26**	**119**	*e*P		**Pn**	**05 16 45.9**	**+1.0**	
FRTB	**Fartura**	**16.28**	**97**	*e*P		**P**	**05 16 45.6**	**+1.0**	
TRQA	**Tornquist**	**16.30**	**165**	Pn		**P**	**05 16 44.5**	**-0.3**	
TRQA				IAmb		IAmb	05 16 50.0		
	comp=Z,9.5nm,1.2s								
GO06	**Curarrehue**	**17.59**	**191**			**P**	**05 16 56.6**	**-2.3**	
GO06				IAmb		IAmb	05 17 01.0		
	comp=Z,12nm,1.4s								
IPMB	**Ipameri, GO**	**18.33**	**80**	*e*P		**P**	**05 17 08.2**	**+1.1**	
SNDB	**Serra Nova Dou**	**18.33**	**58**	*e*P		**P**	**05 17 06.6**	**-0.5**	
PLCA	**Paso Flores**	**18.57**	**188**	P		**P**	**05 17 03.5**	**-6.0**	
NPGB	**Novo Progresso**	**19.00**	**39**	*e*P		**P**	**05 17 13.2**	**-1.1**	
BDFB	**Brasilia**	**19.30**	**73**	P		**P**	**05 17 17.7**	**0.0**	
	comp=Z,4.6nm,0.6s,baz=261,slow=12,SNR=11								
BDFB	**Brasilia**	**19.30**	**73**	P		**P**	**05 17 17.6**	**-0.1**	
BDFB	**Brasilia**	**19.30**	**73**	*e*P		**P**	**05 17 17.8**	**+0.1**	
ITTB	**Itatuba**	**21.02**	**33**	*e*P		**P**	**05 17 34.6**	**-1.3**	
MCRA	**Macar, Loja**	**21.72**	**323**	P		**P**	**05 17 39.9**	**-3.4**	
MCRA				IAmb		IAmb	05 17 44.6		
	comp=Z,9.3nm,1.4s								
DIAM	**Diamantina, MG**	**22.41**	**84**	*e*P		**P**	**05 17 50.3**	**+0.3**	
JANB	**Januaria**	**22.82**	**75**	*e*P		**P**	**05 17 53.7**	**0.0**	
SMTB	**Santa Maria do**	**23.10**	**58**	*e*P		**P**	**05 17 56.2**	**+0.1**	
PRPB	**Parauapebas**	**23.22**	**49**	*e*P		**P**	**05 17 56.0**	**-1.2**	
SDBA	**SAO DESIDERIO**	**23.41**	**69**	*e*P		**P**	**05 17 58.5**	**-0.5**	
MALB	**Monte Alegre**	**23.92**	**33**	*e*P		**P**	**05 18 01.3**	**-2.2**	
GUA01	**Guaratinga, BA**	**26.42**	**82**	*e*P		**P**	**05 18 26.3**	**+0.2**	
TXAR	**Lajitas Array**	**62.23**	**324**	P		**P**	**05 23 10.2**	**+1.7**	
	comp=Z,0.2nm,0.6s,baz=143,slow=6.5,SNR=3.8								
	comp=Z,0.2nm,0.6s								
PDAR	**Pinedale Array**	**75.63**	**329**	P		**P**	**05 24 33.5**	**+2.4**	
	comp=Z,0.2nm,0.5s,baz=127,slow=7.9,SNR=4.3								
	comp=Z,0.2nm,0.5s								
TORD	**Torodi Ar. Bea**	**76.14**	**69**	P		**P**	**05 24 34.6**	**+0.3**	
	comp=Z,1.8nm,0.4s,baz=253,slow=5.9,SNR=32								
	comp=Z,1.8nm,0.4s								
ULM	**Lac du Bonnet**	**76.60**	**342**	P		**P**	**05 24 36.8**	**+0.8**	
	comp=Z,1.8nm,0.4s,baz=168,slow=6.0,SNR=4.5								
	comp=Z,1.8nm,0.4s								
YKA	**Yellowknife Ar**	**92.50**	**340**	P		**P**	**05 25 56.8**	**+1.0**	
	comp=Z,0.3nm,0.4s,baz=138,slow=4.3,SNR=7.4								
	comp=Z,0.3nm,0.4s								
ASAR	**Alice Springs**	**129.89**	**205**	PKP		**PKiKP**	**05 31 56.0**	**+0.8**	
	comp=Z,0.3nm,0.3s,baz=148,slow=2.4,SNR=5.2								
WRA	**Warramunga Arr**	**133.02**	**208**	PKP		**PKiKP**	**05 32 01.9**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=153,slow=1.9,SNR=5.9								
MKAR	**Makanchi Array**	**145.33**	**38**	PKPbc		**PKPab**	**05 32 24.0**	**+1.5**	
	comp=Z,0.3nm,0.5s,baz=317,slow=3.2,SNR=6.3								

*NEIC **31** 05:35:08.6±1.1,36°.76N±0°.03×121°.42W±0°.07,h18km±2km, Error ellipse: s-maj=8.4km s-min=4.1km az=76.0*

*NEIC **31** 05:35:08.7,36°.76N×121°.36W,h11km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_rr0.19; $M_{\theta\theta}$-1.06; $M_{\phi\phi}$0.88; $M_{r\theta}$-0.08; $M_{r\phi}$0.24; $M_{\theta\phi}$-0.26; Fault plane solution: $M_0$1.05000×10^{14} NP1:ϕ_s233.37000°, δ78.78000°, λ14.96000°. NP2:ϕ_s140.39000°, δ75.34000°, λ168.40000°. Principal axes: T 0.9969, Plg18.0000°, Azm97.0000°; N 0.0976, Plg71.0000°, Azm269.0000°; P -1.0946, Plg2.0000°, Azm7.0000°;*

*NCEDC **31** 05:35:08.7±1.1,36°.76N±0°.04×121°.35W±0°.06,h11km±3km, Mwr3.3/4,ML3.1/56(NEIC) Error ellipse: s-maj=7.4km s-min=4.7km az=71.0*

*ANF **31** 05:35:10.0±1.2,36°.72N×121°.38W,h25km±10km,ML3.2/17, Error ellipse: s-maj=8.3km s-min=5.7km az=116.0*

ISC 31 05:35:08.1±0.9,36°.75N±0°.02×121°.41W±0°.02,h14km±6km, n205,σ0°.92/215,Central California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.03**	**296**		Pg	**Pg**	**05 35 11.2**	**+0.6**
BSLM	**Silva Ranch**	**0.06**	**62**			**Pg**	**05 35 10.9**	**+0.1**
FRP	**Fremont Peak**	**0.06**	**274**			**Pg**	**05 35 11.6**	**+0.7**
HSFM	**Saint Francis**	**0.10**	**311**			**Pg**	**05 35 12.3**	**+1.1**
BLRM	**Lewis Ranch**	**0.14**	**127**			**Pb**	**05 35 12.1**	**-0.4**
BJOM	**Mount Johnson**	**0.14**	**147**			**Pb**	**05 35 12.3**	**-0.3**
BJOM						**Sb**	**05 35 14.9**	**-0.7**
HBTM	**San Juan Bauti**	**0.15**	**312**			**Pg**	**05 35 13.2**	**+1.3**
SCZ	**Santa Cruz**	**0.15**	**178**			**Pb**	**05 35 12.3**	**-0.4**
SCZ						**Sb**	**05 35 15.0**	**-0.8**
ANZ	**Anzar Road**	**0.20**	**313**			**Pg**	**05 35 13.7**	**+1.1**
HTUM	**Tustin Road**	**0.20**	**293**			**Pg**	**05 35 13.8**	**+1.2**
HFEM	**San Felipe**	**0.23**	**2**			**Pb**	**05 35 13.8**	**-0.4**
BPCNC	**Pine Canyon**	**0.25**	**225**			**Pb**	**05 35 14.8**	**+0.4**
HCOM	**Corn Cob Canyo**	**0.28**	**300**			**Pb**	**05 35 15.3**	**+0.4**
PACP	**Pacheco Peak**	**0.28**	**21**			**Pg**	**05 35 14.4**	**+0.4**
CDC	**Canada Road**	**0.28**	**348**			**Pg**	**05 35 14.7**	**+0.7**
HCAM	**Canada Road**	**0.28**	**348**			**Pb**	**05 35 14.9**	**-0.1**
BAVM	**Antelope Valle**	**0.32**	**109**			**Pg**	**05 35 14.9**	**+0.1**
BPIM	**Pinnacles**	**0.32**	**143**			**Pg**	**05 35 15.0**	**+0.2**
HPCM	**Pacheco Lake**	**0.33**	**19**			**Pg**	**05 35 15.3**	**+0.4**
BBGB	**Big Mountain B**	**0.34**	**120**			**Pg**	**05 35 15.7**	**+0.6**
BBGB	**Big Mountain B**	**0.34**	**120**	IAML			05 35 24.3	
	comp=E,8µm,0.7s							
BBGB				IAML			05 35 25.2	
	comp=N,10µm,0.6s							
SLD	**San Luis Dam**	**0.36**	**25**			**Pg**	**05 35 15.6**	**+0.2**
BBNM	**San Benito**	**0.36**	**132**			**Pg**	**05 35 16.1**	**+0.7**
HAST	**Hastings Reser**	**0.38**	**198**			**Pg**	**05 35 16.7**	**+0.9**
HAST						**Sb**	**05 35 22.4**	**0.0**
JELB	**Ellicott, Sant**	**0.38**	**298**			**Pb**	**05 35 17.1**	**+0.5**
JELB						**Sn**	**05 35 24.3**	**-2.1**
CADM	**Anderson Res.**	**0.45**	**337**			**Pg**	**05 35 17.7**	**+0.6**
LRV	**Little Rabbit**	**0.45**	**136**			**Pg**	**05 35 17.8**	**+0.6**
JTGM	**Trout Gulch Ro**	**0.47**	**307**			**Pn**	**05 35 19.4**	**-1.1**
JLAB	**Laurel Hill**	**0.48**	**327**			**Pb**	**05 35 18.3**	**-0.1**
BMSM	**Mercy Hot Spri**	**0.50**	**100**			**Pg**	**05 35 18.3**	**+0.2**
SCKWR	**San Luis Creek**	**0.51**	**32**			**Pb**	**05 35 18.9**	**0.0**
JRGM	**Rodeo Gulch Ro**	**0.53**	**303**			**Pb**	**05 35 19.3**	**+0.1**
AMC	**Almaden**	**0.54**	**320**			**Pb**	**05 35 19.4**	**0.0**
CCOB	**Corn Ranch Numb**	**0.55**	**338**			**Pb**	**05 35 20.1**	**+0.5**
BPOM	**Post Ranch**	**0.59**	**209**			**Pg**	**05 35 20.6**	**+0.9**
BAPM	**Anderson Peak**	**0.60**	**198**			**Pg**	**05 35 20.8**	**+0.9**
C072	**Blauer Lane Sa**	**0.60**	**333**			**Pn**	**05 35 21.5**	**-0.8**
ARN	**Arnold Ranch**	**0.61**	**351**			**Pg**	**05 35 20.7**	**+0.7**
CMPM	**Mikes Peak**	**0.61**	**7**			**Pg**	**05 35 20.8**	**+0.7**
MHC	**Mount Hamilton**	**0.62**	**343**			**Pg**	**05 35 20.9**	**+0.7**
JJOM	**Saint Joseph's**	**0.64**	**315**			**Pg**	**05 35 21.2**	**+0.5**
SCCB	**Santa Clara Co**	**0.65**	**326**			**Pg**	**05 35 21.6**	**+0.9**
PCCM	**Crazy Canyon**	**0.69**	**163**			**Pb**	**05 35 22.2**	**+0.3**
JBNB	**Ben Lomond Mou**	**0.70**	**302**			**Pb**	**05 35 22.1**	**-0.2**
C046	**N 16th Street**	**0.71**	**328**			**Pn**	**05 35 23.4**	**-0.4**
PMPB	**Monarch Peak**	**0.72**	**137**			**Pb**	**05 35 22.4**	**-0.1**
JSGM	**Saratoga Golf**	**0.74**	**316**			**Pg**	**05 35 23.1**	**+0.7**
COSM	**Mount Oso**	**0.76**	**2**			**Pg**	**05 35 23.7**	**+0.9**
CALM	**Calaveras Res.**	**0.77**	**336**			**Pg**	**05 35 23.7**	**+0.7**
JSCM	**Stevens Creek**	**0.78**	**313**			**Pb**	**05 35 23.5**	**0.0**
JSJM	**St Joseph**	**0.80**	**317**			**Pg**	**05 35 24.3**	**+0.7**
JBMM	**Black Mountain**	**0.82**	**314**			**Pb**	**05 35 24.4**	**+0.1**
PJUM	**Juniper Ridge**	**0.84**	**128**			**Pb**	**05 35 24.4**	**-0.2**
JFP	**Foothills Park**	**0.87**	**315**			**Pb**	**05 35 25.1**	**0.0**
JSFB	**Stanford Teles**	**0.90**	**317**			**Pb**	**05 35 25.4**	**0.0**
WENL	**Wente Vineyard**	**0.91**	**342**			**Pg**	**05 35 26.2**	**+0.4**
JRSC	**Jasper Ridge**	**0.93**	**315**			**Pb**	**05 35 25.7**	**-0.3**
PDRM	**Domengine Ranc**	**0.94**	**116**			**Pb**	**05 35 26.2**	**+0.1**
CVLM	**Vallecito**	**0.94**	**339**			**Pg**	**05 35 26.7**	**+0.4**
PSMM	**Smith Mountain**	**0.94**	**136**			**Pb**	**05 35 26.4**	**+0.1**
CNIC	**Niles Canyon**	**0.96**	**333**			**Pb**	**05 35 26.8**	**+0.2**
PHSB	**Hesperia Broad**	**0.97**	**163**			**Pb**	**05 35 26.9**	**+0.1**
MYLM	**Yosemite Lake**	**1.01**	**51**			**Pb**	**05 35 26.7**	**-0.8**

PWMM	**Westland Maint**	**1.02**	**108**			**Pb**	**05 35 27.7**	**+0.2**	
PANM	**San Antonio Re**	**1.05**	**157**			**Pb**	**05 35 28.2**	**+0.1**	
PKD	**Bear Valley Ra**	**1.07**	**139**			**Pb**	**05 35 28.2**	**-0.2**	
CBSNC	**Byron Hot Spri**	**1.08**	**350**			**Pn**	**05 35 28.9**	**-0.1**	
PHCM	**Hearst Castle**	**1.08**	**169**			**Pb**	**05 35 28.9**	**+0.2**	
JCHM	**Cahill Ridge**	**1.09**	**315**			**Pb**	**05 35 28.3**	**-0.5**	
PVCM	**Vineyard Canyo**	**1.09**	**139**			**Pb**	**05 35 28.6**	**-0.2**	
PPO	**Portuguese Can**	**1.09**	**144**			**Pn**	**05 35 29.1**	**+0.1**	
PSTM	**Stockdale Moun**	**1.10**	**138**			**Pb**	**05 35 28.6**	**-0.3**	
CMOB	**Morgan Territo**	**1.10**	**344**			**Pb**	**05 35 29.0**	**-0.1**	
JCPM	**Coyote Point**	**1.11**	**319**			**Pb**	**05 35 29.1**	**0.0**	
CSLM	**San Leandro Hi**	**1.12**	**330**			**Pb**	**05 35 29.5**	**+0.1**	
PWKM	**Work Ranch**	**1.18**	**142**			**Pn**	**05 35 30.2**	**-0.2**	
BGC	**Bolinger Road**	**1.19**	**334**			**Pn**	**05 35 29.8**	**-0.6**	
PHFM	**Heflinger Ranc**	**1.19**	**136**			**Pn**	**05 35 30.2**	**-0.2**	
CTM	**Castle Mountai**	**1.19**	**133**			**Pb**	**05 35 31.0**	**+0.4**	
RAMR	**Ramage Ranch**	**1.19**	**158**			**Pn**	**05 35 30.1**	**-0.4**	
JSBM	**San Bruno Moun**	**1.22**	**320**			**Pb**	**05 35 29.4**	**-1.4**	
PHAM	**Harlan Ranch**	**1.23**	**138**			**Pn**	**05 35 30.7**	**-0.2**	
CRPB	**Russell

DSP					IAML			05 36 41.5	
	comp=E,48nm,0.9s								
VCNR	**Virginia City**	**2.90**	**28**		Pn		**Pn**	**05 35 55.2**	**+1.2**
VCNR					IAML			05 36 46.0	
	comp=E,72nm,0.8s								
VCNR					IAML			05 36 59.5	
	comp=N,47nm,0.8s								
CGO	**Cerro Gordo**	**2.91**	**93**				**Pn**	**05 35 56.2**	**+1.9**
RYN	**Ryan**	**2.96**	**50**				**Pn**	**05 35 56.6**	**+1.7**
RYN					IAML			05 36 42.6	
	comp=E,76nm,0.6s								
RYN					IAML			05 36 51.0	
	comp=N,48nm,0.6s								
NVAR	**Mina Array Bea**	**2.98**	**55**				**Pn**	**05 35 58.1**	**+2.8**
LCH	**Last Change Ra**	**3.05**	**80**				**Pn**	**05 35 56.9**	**+0.7**
LCH					IAML			05 36 43.4	
	comp=N,59nm,0.6s								
LCH					IAML			05 36 45.2	
	comp=E,83nm,0.5s								
SCZ2	**Santa Cruz Isl**	**3.11**	**152**		P		**Pn**	**05 35 57.6**	**+0.8**
	baz=334								
SCZ2					S		**Sn**	**05 36 32.1**	**-1.7**
	baz=334								
GTC	**Three Chop Rid**	**3.14**	**328**				**Pn**	**05 35 56.5**	**-0.7**
CCAC	**Calif City Air**	**3.18**	**119**				**Pn**	**05 35 58.4**	**+0.5**
CCAC					IAML			05 36 46.7	
	comp=E,47nm,0.7s								
CCAC					IAML			05 37 00.1	
	comp=N,69nm,0.9s								
MPMC	**Manual Prospec**	**3.24**	**101**		P		**Pn**	**05 36 01.5**	**+2.8**
	baz=284								
MPMC					Sb		**Sg**	**05 36 48.9**	**-3.3**
	baz=284								
GRAC	**Grapevine Rang**	**3.25**	**84**		Pn		**Pn**	**05 36 00.8**	**+2.0**
GRAC					IAML			05 36 56.0	
	comp=N,73nm,0.6s								
GRAC					IAML			05 36 59.1	
	comp=E,74nm,0.6s								
GRAC	**Grapevine Rang**	**3.25**	**84**		P		**Pn**	**05 36 00.3**	**+1.5**
	baz=267								
GRAC					Sb		**Sb**	**05 36 47.5**	**+2.3**
	baz=267								
LRMC	**Laurel Mtn Rad**	**3.27**	**112**		P		**Pn**	**05 35 59.4**	**+0.3**
	baz=294,SNR=8.1								
LRMC					Sb		**Sb**	**05 36 47.7**	**+1.8**
	baz=294								
EDW2	**Edwards Air Fo**	**3.34**	**123**		P		**Pn**	**05 36 00.2**	**+0.1**
	baz=306,SNR=8.8								
EDW2					Sb		**Sb**	**05 36 50.5**	**+2.6**
	baz=306								
MZP	**Montezuma Peak**	**3.35**	**72**				**Pn**	**05 36 03.3**	**+2.9**
MZP					IAML			05 37 06.7	
	comp=N,24nm,1.0s								
QSM	**Queen of Sheba**	**3.75**	**101**				**Pn**	**05 36 05.4**	**-0.2**
QSM					IAML			05 36 32.7	
	comp=E,19nm,4.7s								
GWY	**Greenwater Val**	**3.86**	**97**				**Pn**	**05 36 05.5**	**-1.8**
GWY					IAML			05 37 21.7	
	comp=E,21nm,2.8s								
GSC	**Goldstone, Bar**	**4.00**	**110**		IAML			05 37 27.7	
	comp=N,15nm,1.5s								
GSC					IAML			05 37 28.0	
	comp=E,27nm,3.5s								
GSC	**Goldstone, Bar**	**4.00**	**110**		P		**Pn**	**05 36 09.6**	**+0.4**
	baz=293,SNR=6.8								
TPNV	**Topopah Spring**	**4.14**	**86**		IAML			05 37 23.6	
	comp=E,24nm,0.9s								
TPNV					IAML			05 37 34.4	
	comp=E,24nm,2.3s								
TPNV	**Topopah Spring**	**4.14**	**86**		P		**Pn**	**05 36 12.1**	**+0.9**
	baz=269								
CIS	**Catalina Islan**	**4.15**	**143**		P		**Pn**	**05 36 11.6**	**+0.5**
	baz=325								
HEC	**Hector,Ludlow**	**4.55**	**113**		P		**Pn**	**05 36 16.6**	**-0.1**
	baz=297,SNR=6.3								
GMRC	**Granite Mounta**	**5.07**	**111**		P		**Pn**	**05 36 23.5**	**-0.4**
	baz=295								

VAO ***31*** *05:50:26.5±1.9,31°.17S×72°.20W,h10km,mb4.1*
IDC ***31*** *05:50:32.3±0.9,30°.51S×71°.41W,h0km,mb3.8/5, mbtmp3.8/9,ML3.2/3,MS2.1/1,Error ellipse: s-maj=18.8km s-min=15.2km az=23.0*
NEIC ***31*** *05:50:41.0±2.5,30°.48S±0°.02×71°.4W±0°.1,h73km±9km, mb4.2/3,ML4.2(GUC),Error ellipse: s-maj=15.1km s-min=2.7km az=97.0*
GUC ***31*** *05:50:40.2±0.7,30°.49S×71°.58W,h65km±3km,ML4.3*

ISC 31 05:50:39.5±0.9,30°.44S±0°.03×71°.61W±0°.06,h57km±9km, n91,σ1§23/103,mb4.0/5,7C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.61**	**32**		**Pn**	**05 50 54.3**	**+1.9**
CO05	**La Serena**	**0.61**	**32**	⇓*i* P	**Pn**	**05 50 54.1**	**+1.7**
CO05				*i* S	**Sn**	**05 51 03.8**	**+1.9**
CO05				IAML		05 51 05.2	
	comp=N,8μm,0.4s						
GO04	**Tololo Observa**	**0.75**	**70**		**Pn**	**05 50 55.7**	**+1.2**
GO04	**Tololo Observa**	**0.75**	**70**	*eP*	**Pn**	**05 50 55.2**	**+0.8**
GO04				*i* S	**Sn**	**05 51 06.7**	**+1.3**
GO04				IAML		05 51 07.5	
	comp=E,31μm,0.7s						
CO03	**El Pedregal**	**0.89**	**117**		**Pn**	**05 50 56.9**	**+0.8**
CO03	**El Pedregal**	**0.89**	**117**	⇓*i* P	**Pn**	**05 50 56.7**	**+0.6**
CO03				*i* S	**Sn**	**05 51 08.8**	**+0.5**
CO03				IAML		05 51 09.9	
	comp=E,17μm,0.1s						
CO02	**Combarbal**	**0.93**	**146**		**Pn**	**05 50 57.4**	**+0.8**
CO02	**Combarbal**	**0.93**	**146**	*eP*	**Pn**	**05 50 57.1**	**+0.5**
CO02				*i* S	**Sn**	**05 51 09.7**	**+0.5**
CO02				IAML		05 51 10.3	
	comp=N,50μm,0.2s						
CO01	**Juntas del Tor**	**1.39**	**71**	Pn	**Pn**	**05 51 04.7**	**+1.8**
CO01	**Juntas del Tor**	**1.39**	**71**	⇑*i* P	**Pn**	**05 51 04.5**	**+1.6**
CO01				*eS*	**Sn**	**05 51 21.9**	**+1.5**
CO01				IAML		05 51 23.1	
	comp=N,12μm,0.4s						
LCO	**Las Campanas**	**1.63**	**29**		**Pn**	**05 51 07.3**	**+1.2**
LCO	**Las Campanas**	**1.63**	**29**	⇑*i* P	**Pn**	**05 51 07.1**	**+0.9**
LCO				*eS*	**Sn**	**05 51 26.7**	**+0.6**
AC05	**El Transito**	**1.98**	**36**		**Pn**	**05 51 12.6**	**+1.9**
AC05	**El Transito**	**1.98**	**36**	⇑*i* P	**Pn**	**05 51 12.4**	**+1.6**
AC05				*i* S	**Sn**	**05 51 36.7**	**+2.3**
AC05				IAML		05 51 38.3	
	comp=N,2μm,0.2s						
VA06	**Catapilco**	**2.13**	**173**		**Pn**	**05 51 13.0**	**+0.3**
VA06	**Catapilco**	**2.13**	**173**	⇑*i* P	**Pn**	**05 51 12.9**	**+0.1**
VA06				*i* S	**Sn**	**05 51 38.0**	**-0.1**
AC04	**Llanos de Chal**	**2.27**	**12**	Pn	**Pn**	**05 51 15.5**	**+0.8**
AC04	**Llanos de Chal**	**2.27**	**12**	⇑*i* P	**Pn**	**05 51 15.3**	**+0.6**
AC04				*i* S	**Sn**	**05 51 40.5**	**-1.0**
VA03	**San Esteban**	**2.49**	**159**		**Pn**	**05 51 18.9**	**+1.2**
VA03	**San Esteban**	**2.49**	**159**	*eP*	**Pn**	**05 51 18.6**	**+0.9**
VA03				*i* S	**Sn**	**05 51 47.8**	**+0.9**
VA03				IAML		05 51 54.8	
	comp=E,1μm,0.2s						
ROCH	**El Roble**	**2.58**	**169**	⇑*i* P	**Pn**	**05 51 19.3**	**+0.2**
ROCH				*i* S	**Sn**	**05 51 48.8**	**-0.5**
ROC1	**El Roble**	**2.58**	**169**		**Pn**	**05 51 19.4**	**+0.3**
ZON	**Zonda**	**2.75**	**114**		**Pn**	**05 51 19.6**	**-1.6**
PEL	**Peldehue**	**2.81**	**164**		**Pn**	**05 51 22.7**	**+0.6**
PEL	**Peldehue**	**2.81**	**164**	*eP*	**Pn**	**05 51 22.6**	**+0.6**
PEL				*eS*	**Sn**	**05 51 54.6**	**-0.2**
MT02	**Curacav**	**2.84**	**172**		**Pn**	**05 51 22.9**	**+0.5**
MT02	**Curacav**	**2.84**	**172**	*eP*	**Pn**	**05 51 22.1**	**-0.4**
MT02				*eS*	**Sn**	**05 51 53.5**	**-2.0**
MT05	**Renca**	**3.04**	**166**		**Pn**	**05 51 26.1**	**+1.0**
MT05	**Renca**	**3.04**	**166**	*eP*	**Pn**	**05 51 25.7**	**+0.5**
MT05				*eS*	**Sn**	**05 51 59.8**	**-0.6**
MT05				IAML		05 52 22.9	
	comp=E,920nm,0.3s						
GO03	**Copiap**	**3.08**	**23**	Pn	**Pn**	**05 51 26.6**	**+0.9**
CFA	**Coronel Fontan**	**3.12**	**113**	Pn	Pn	05 51 20.6	-5.7
	comp=E,3.5nm,0.3s,baz=296,slow=7.9,SNR=70						
CFA				Pg		05 51 27.1	
	comp=E,36nm,0.3s,baz=297,slow=12,SNR=101						
CFA				Lg	Lg	05 52 04.5	
	comp=E,43nm,0.3s,baz=88,slow=19,SNR=5.1						
CFA				LR	LR	05 52 09.9	
	comp=E,32nm,19.2s,baz=263,slow=33						
	comp=E,7.8nm,0.3s						
MT03	**Universidad Ad**	**3.19**	**163**		**Pn**	**05 51 28.4**	**+1.1**
MT03	**Universidad Ad**	**3.19**	**163**	*eP*	**Pn**	**05 51 28.1**	**+0.8**
MT03				*i* S	**Sn**	**05 52 02.2**	**-1.8**
VA05	**Santo Domingo**	**3.21**	**180**		**Pn**	**05 51 26.9**	**-0.5**
VA05	**Santo Domingo**	**3.21**	**180**	*eP*	**Pn**	**05 51 26.7**	**-0.7**
AC06	**Mina Casimiro**	**3.26**	**20**	Pn	**Pn**	**05 51 29.0**	**+0.8**
AC06	**Mina Casimiro**	**3.26**	**20**	⇑*i* P	**Pn**	**05 51 28.7**	**+0.5**
AC06				*i* S	**Sn**	**05 52 05.0**	**-0.9**
MT09	**Talagante**	**3.37**	**171**	Pn	**Pn**	**05 51 30.3**	**+0.5**
MT01	**Popeta**	**3.43**	**175**	*eP*	**Pn**	**05 51 30.3**	**-0.2**
LMEL	**Las Melosas**	**3.60**	**161**		**Pn**	**05 51 34.6**	**+1.6**
LMEL	**Las Melosas**	**3.60**	**161**	*eP*	**Pn**	**05 51 34.5**	**+1.5**
BO01	**Tunca**	**3.97**	**174**		**Pn**	**05 51 38.4**	**+0.6**
BO02	**Sierra Bellavi**	**4.40**	**171**		**Pn**	**05 51 44.3**	**+0.5**
GO05	**Huala**	**4.57**	**183**	Pn	**Pn**	**05 51 44.7**	**-1.3**
H03N1	**Juan Fernandez**	**6.89**	**242**	Pn	**Pn**	**05 52 17.7**	**+0.1**
	baz=29,slow=73						
H03N1				T	T	05 59 18.6	
	baz=70,slow=72,SNR=445						
H03N2	**Juan Fernandez**	**6.90**	**242**	Pn	**Pn**	**05 52 17.8**	**0.0**
	baz=29,slow=73						
H03N2				T	T	05 59 19.3	
	baz=70,slow=72,SNR=444						
H03N3	**Juan Fernandez**	**6.90**	**242**	Pn	**Pn**	**05 52 17.8**	**0.0**
	baz=29,slow=73						
H03N3				T	T	05 59 18.5	
	baz=70,slow=72,SNR=382						
VA04	**Juan Fernndez**	**6.91**	**241**	Pn	**Pn**	**05 52 17.7**	**-0.5**
H03S3	**Juan Fernandez**	**7.05**	**239**	Pn	**Pn**	**05 52 18.9**	**-0.9**
	baz=31,slow=20						
H03S1	**Juan Fernandez**	**7.05**	**239**	Pn	**Pn**	**05 52 18.5**	**-1.4**
	baz=31,slow=20						
H03S2	**Juan Fernandez**	**7.07**	**239**	Pn	**Pn**	**05 52 18.9**	**-1.2**
	baz=31,slow=20						
PB06	**IPOC Station P**	**7.91**	**14**	Pn	**Pn**	**05 52 31.9**	**-0.2**
LVC	**Limon Verde**	**8.16**	**18**	Pn	**Pn**	**05 52 32.9**	**-2.8**
	comp=E,0.7nm,0.3s,baz=162,slow=7.9,SNR=12						
LVC				Sn	**Sn**	**05 54 01.2**	**-5.5**
	comp=E,1.0nm,0.3s,baz=248,slow=19,SNR=12						
LVC				Lg	Lg	05 54 47.9	
	comp=E,1.5nm,0.3s,baz=112,slow=15,SNR=4.4						
	comp=E,1.7nm,0.2s						
LVC	**Limon Verde**	**8.16**	**18**	Pn	**Pn**	**05 52 34.3**	**-1.4**
PB03	**IPOC Station P**	**8.52**	**12**	Pn	**Pn**	**05 52 38.8**	**-1.6**
PLCA	**Paso Flores**	**10.31**	**175**	Pn	Pn	05 52 59.9	-4.9
	baz=13,slow=21,SNR=1.5						
	comp=E,1.5nm,1.0s						
TRQA	**Tornquist**	**11.01**	**136**	Pn	**Pn**	**05 53 13.0**	**-1.2**
ITQB	**Itaqui**	**13.01**	**90**	Pn	**Pn**	**05 53 38.6**	**-2.9**
LPAZ	**La Paz**	**14.44**	**14**	Pn	**Pn**	**05 54 03.2**	**+1.8**
	comp=E,0.7nm,0.3s,baz=197,slow=7.3,SNR=46						
LPAZ	**La Paz**	**14.44**	**14**	Pn	**Pn**	**05 54 03.0**	**+1.5**
LPAZ	**La Paz**	**14.44**	**14**	*eP*	**Pn**	**05 54 03.4**	**+1.9**
BBRB	**Robore, Bolivi**	**16.18**	**44**	*eP*	**P**	**05 54 25.1**	**-0.4**
BDQN	**Bodoquena, MS**	**16.69**	**57**	*eP*	**P**	**05 54 30.8**	**-0.4**
SIV	**San Ignacio**	**17.32**	**36**	P	**Pn**	**05 54 37.0**	**-0.5**
	comp=E,3nm,0.5s,baz=207,slow=7.9,SNR=36						
ITAB	**Concordia**	**17.36**	**84**	Pn	**Pn**	**05 54 38.0**	**0.0**
ITAB				IAmb	IAmb	05 55 13.3	
	comp=Z,19nm,1.3s						
PTGB	**Pitanga**	**18.23**	**77**	*eP*	**Pn**	**05 54 48.9**	**+0.2**
PTLB	**Pontes e Lacer**	**18.80**	**40**	*eP*	**Pn**	**05 54 55.5**	**+0.1**
RVDE	**Rio Verde (Bra**	**18.91**	**57**	*eP*	**P**	**05 54 55.7**	**+0.1**
PP1B	**Ponte de Pedra**	**19.89**	**54**	*eP*	**P**	**05 55 06.1**	**-0.3**
PCMB	**Pacaembu**	**20.27**	**69**	*eP*	**P**	**05 55 10.5**	**0.0**
VILB	**Vilhena**	**20.35**	**34**	*eP*	**P**	**05 55 11.9**	**+0.6**
C2SB	**Chapadao do Su**	**20.61**	**60**	*eP*	**P**	**05 55 14.8**	**+0.7**
GO09	**Cerro Castillo**	**20.82**	**181**	P	**P**	**05 55 16.6**	**+0.4**
GO09				IAmb	IAmb	05 55 28.6	
	comp=Z,49nm,1.4s						
FRTB	**Fartura**	**20.88**	**76**	*eP*	**P**	**05 55 16.8**	**-0.3**
ETMB	**Extrema**	**21.13**	**15**	*eP*	**P**	**05 55 20.8**	**+1.1**
ITRB	**Iturama**	**21.98**	**66**	*eP*	**P**	**05 55 28.0**	**-0.9**
ARAG	**Araguaiana, MT**	**23.33**	**55**	*eP*	**P**	**05 55 42.7**	**-0.1**
ATAH	**Atahualpa**	**24.04**	**343**	P	**P**	**05 55 51.8**	**+1.9**
	comp=Z,3.1nm,0.6s,baz=333,slow=5.1,SNR=3.7						
	comp=Z,3.1nm,0.6s						
BDFB	**Brasilia**	**26.16**	**61**	P	**P**	**05 56 07.5**	**-1.3**
	comp=Z,4.3nm,0.7s,baz=223,slow=9.2,SNR=8.1						
	comp=Z,4.3nm,0.7s						
BDFB	**Brasilia**	**26.16**	**61**	P	**P**	**05 56 08.0**	**-0.8**
BDFB				IAmb	IAmb	05 56 08.9	
	comp=Z,5.0nm,0.8s						
BDFB	**Brasilia**	**26.16**	**61**	*eP*	**P**	**05 56 08.0**	**-0.8**
SNDB	**Serra Nova Dou**	**26.31**	**50**	*eP*	**P**	**05 56 10.1**	**+0.1**
SGCB	**SÉo Gabriel d**	**30.46**	**9**	*eP*	**P**	**05 56 46.3**	**-0.7**
QSPA	**South Pole Qui**	**59.79**	**180**	P	**P**	**06 00 38.4**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=151,slow=4.7,SNR=7.0						
	comp=Z,1.1nm,0.7s						
TXAR	**Lajitas Array**	**66.83**	**330**	P	**P**	**06 01 25.2**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=152,slow=7.9,SNR=1.4						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P	**P**	**06 02 57.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=237,slow=5.0,SNR=1.9						
	comp=Z,0.4nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**26.11**	**271**	T	T	08 28 33.5	
	baz=115,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hyl**	**26.12**	**272**	T	T	08 28 31.8	
	baz=115,slow=74,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**26.13**	**271**	T	T	08 28 32.3	
	baz=115,slow=74,SNR=17						
ZALV	**Zalesovo Beam**	**150.99**	**29**	PKPbc	**PKPbc**	**06 10 25.3**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=305,slow=5.2,SNR=4.6						
MKAR	**Makanchi Array**	**154.05**	**44**	PKPbc	**PKiKP**	**06 10 34.5**	**+1.8**
	comp=Z,0.6nm,1.2s,baz=286,slow=5.2,SNR=1.8						

IDC ***31*** *05:52:10.3±2.2,6°.10S×130°.41E,h0km,mb4.0/2, mbtmp4.0/4,ML4.0/2,MS3.7/1,Error ellipse: s-maj=220.8km s-min=24.6km az=68.0*
DJA ***31*** *05:52:28.3±0.3,7°.5±2°×13°.0E±°,h194km±7km,M4.4/10, mb4.1/9,mB5.1/3,MLv4.6/10,Mw(mB)4.5/3*

ISC 31 05:52:29.3±0.9,6°.83S±0°.06×129°.96E±0°.09,h200km,n13, σ3§34/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.76**	**131**	P	**Pn**	**05 53 07.4**	**+2.0**
SAUI				S	**Sn**	**05 53 33.6**	**+0.1**
FAKI	**Fak Fak**	**4.51**	**31**	P	**Pn**	**05 53 35.7**	**-1.8**
FAKI				S	**Sn**	**05 54 26.5**	**-4.7**
NLAI	**Namlea**	**4.56**	**321**	P	**Pn**	**05 53 36.3**	**-1.9**
SOEI	**Soe**	**6.33**	**242**	P	**Pn**	**05 53 58.8**	**-2.2**
	37nm,1.5s,0.2nm						
RKPI	**Ransiki, Papua**	**6.76**	**39**	P	**Pn**	**05 54 08.0**	**+1.6**
	46nm,0.6s,11μm1.2nm						
BATI	**Baumata**	**7.07**	**241**	P	**Pn**	**05 54 07.7**	**-2.8**
	25nm,0.4s						
MMRI	**Maumere**	**7.86**	**256**	P	**Pn**	**05 54 19.2**	**-1.5**
	41nm,1.1s,0.3nm						
GTOI	**Gorontalo**	**10.15**	**317**	P	**Pn**	**05 54 50.7**	**+0.1**
	2.2nm,1.0s						
WRA	**Warramunga Arr**	**13.71**	**162**	Pn	**Pn**	**05 55 35.4**	**-0.3**
	0.6nm,0.3s,baz=340,slow=14,SNR=20						
WRA				Sn	**S**	**05 58 01.1**	**-7.4**
	1.1nm,0.3s,baz=329,slow=23,SNR=7.5						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**17.16**	**168**	P	**Pn**	**05 56 20.9**	**+3.3**
	1.0nm,0.3s,baz=344,slow=9.2,SNR=83						
ASAR				S	**S**	**05 59 25.4**	**+0.8**
	0.6nm,0.5s,baz=353,slow=29,SNR=3.3						
	4.5nm,0.6s						
LEM	**Lembang**	**22.18**	**269**	LR	LR	06 07 20.5	
	comp=Z,183nm,19.0s,baz=172,slow=40						
STKA	**Stephens Creek**	**27.18**	**158**	P	**P**	**05 57 59.2**	**+4.8**
	1.0nm,0.4s,baz=334,slow=12,SNR=3.3						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**06 03 09.7**	**+2.4**
	0.4nm,0.3s,baz=132,slow=7.3,SNR=20						
	0.4nm,0.3s						

IDC ***31*** *05:52:43.3±4.9,37°.79N×72°.06E,h135km±29km,mb3.6/6, mbtmp3.9/12,Error ellipse: s-maj=52.5km s-min=22.6km az=155.0*
NNC ***31*** *05:52:44.5±1.1,38°.14N×72°.10E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=8.4km s-min=6.7km az=176.0*

ISC 31 05:52:41.7±1.5,37°.8N±0°.1×72°.0E±0°.1,h113km,n16, σ1§84/21,mb3.8/5,3C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.21**	**21**	P	**Pn**	**05 54 00.2**	**+2.7**
	3.4nm,0.3s,baz=180,slow=5.4,SNR=16						
AAK				S	**Sn**	**05 54 58.0**	**+1.5**
	13nm,0.6s,baz=145,slow=16,SNR=22						
KK31	**Karatay Array**	**5.44**	**348**	P	**Pn**	**05 54 02.5**	**+2.0**
	2.4nm,0.1s,baz=167,slow=12,SNR=86						
KK31				S	**Sn**	**05 55 02.9**	**+1.1**
	14nm,0.2s,baz=163,slow=19,SNR=14						
CHMS	**Chumysh**	**5.62**	**21**	⇑P	**Pn**	**05 54 04.0**	**+1.1**
	3.1nm,0.4s						
CHMS				⇑S	**Sn**	**05 55 06.9**	**+0.8**
	7.1nm,0.6s						
TKM2	**Tokmak 2**	**5.82**	**27**	⇑P	**Pn**	**05 54 07.5**	**+1.8**
	5.1nm,1.1s						
TKM2				⇓S	**Sn**	**05 55 12.6**	**+1.3**
	10nm,1.2s						
GEYT	**Alibeck**	**10.99**	**275**	P	**Pn**	**05 55 16.9**	**+1.2**
	1.7nm,0.5s,baz=89,slow=13,SNR=2.7						
GEYT				S	Sn	05 57 08.7	-8.0
	2.1nm,0.3s,baz=53,slow=22,SNR=3.2						
MKAR	**Makanchi Array**	**11.78**	**37**	P	**Pn**	**05 55 25.8**	**-0.2**
	0.5nm,0.9s,baz=222,slow=13,SNR=3.8						
KURBB	**Kurchatov Arra**	**13.66**	**18**	P	**Pn**	**05 55 48.0**	**-2.4**
	0.2nm,0.3s,baz=208,slow=11,SNR=1.9						
BVAR	**Borovoye Array**	**15.29**	**356**	P	**Pn**	**05 56 11.3**	**0.0**
	1.4nm,0.4s,baz=162,slow=9.7,SNR=9.7						
BVAR				S	**Sn**	**05 58 55.3**	**-4.9**
	1.3nm,0.6s,baz=160,slow=29,SNR=4.4						
AKTO	**Aktyubinsk**	**16.13**	**326**	P	**Pn**	**05 56 22.4**	**+0.8**
	2.8nm,0.4s,baz=125,slow=9.4,SNR=9.6						
AKTO				S	Sn	05 59 11.6	-8.8
	1.0nm,0.5s,baz=156,slow=18,SNR=3.2						
ZALV	**Zalesovo Beam**	**18.42**	**24**	P	**P**	**05 56 48.0**	**+0.1**
	1.1nm,0.5s,baz=226,slow=11,SNR=7.0						
ARU	**Arti**	**20.72**	**339**	P	**P**	**05 57 13.3**	**+0.5**
	4.0nm,0.2s,baz=182,slow=12,SNR=3.4						
	4.0nm,0.2s						
AKASG	**Malin Array Be**	**32.80**	**307**	P	**P**	**05 59 03.3**	**-0.6**
	0.6nm,0.4s,baz=116,slow=8.4,SNR=2.9						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**36.89**	**325**	P	**P**	**05 59 38.9**	**-0.1**
	0.7nm,0.3s,baz=118,slow=9.2,SNR=8.0						
	0.7nm,0.3s						
ARCES	**ARCESS Array B**	**40.28**	**337**	P	**P**	**06 00 07.1**	**-0.1**
	4.5nm,0.9s,baz=27,slow=8.6,SNR=5.0						
	4.5nm,0.9s						
NOA	**NORSAR Array B**	**43.86**	**322**	P	**P**	**06 00 34.2**	**-2.3**
	0.5nm,0.5s,baz=95,slow=7.8,SNR=3.4						
	0.5nm,0.5s						
YKA	**Yellowknife Ar**	**79.93**	**3**	P	**P**	**06 04 36.6**	**-1.0**
	0.3nm,0.6s,baz=350,slow=5.3,SNR=8.7						
	0.3nm,0.6s						

KRSC 31 06:00:40.1±1.9,61°.29N×168°.02E,h15km±17km,MI3.7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**1.25**	**228**	*i* P	Pb	06 01 03.5	+0.2
TILK				*eS*	Sb	06 01 18.6	-0.6
KMSK	**Kamenskaya**	**1.46**	**325**	*eP*	Pn	06 01 06.1	+0.2
KMSK				*eS*	Sn	06 01 24.4	-0.3
OSSR	**Ossora**	**3.21**	**233**	*eP*	Pn	06 01 33.1	+3.2
PALN	**Palana**	**4.59**	**245**	*eP*	Pb	06 01 54.9	-5.3
KBTR	**Krutoberegovo**	**5.77**	**210**	*eP*	Pn	06 02 08.3	+3.2

IDC 31 06:00:52.8±4.2,46°.20N×108°.73E,h0km,mb3.4/1, mbtmp3.4/3,ML3.1/2,Error ellipse: s-maj=37.6km s-min=30.0km az=85.0,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**2.26**	**316**	I	I	06 16 30.0	
	0.2nm,0.9s,baz=132,slow=338,SNR=12						
SONM	**Songino Array**	**2.29**	**317**	Pn	Pn	06 01 32.2	+0.3
	11nm,0.3s,baz=139,slow=12,SNR=163						
SONM				Lg	Lg	06 02 05.4	
	13nm,0.3s,baz=136,slow=27,SNR=24						
	26nm,0.5s						
MKAR	**Makanchi Array**	**18.19**	**281**	P	Pn	06 05 05.4	-1.2
	baz=93,slow=13,SNR=4.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**20.45**	**294**	P	P	06 05 32.2	+0.6
	0.6nm,0.3s,baz=91,slow=11,SNR=5.6						
	0.6nm,0.3s						

IDC ***31*** *06:15:59.5±0.6,31°.58N×94°.13E,h0km,mb4.2/29, mbtmp4.2/33,ML4.1/4,MS3.9/70,Error ellipse: s-maj=16.9km s-min=11.8km az=45.0*
BJI ***31*** *06:16:00.9±0.0,31°.49N×94°.01E,h10km,mb4.4/32, mB4.7/17,ML4.5/8,Ms4.6/38,Ms7 4.2/36*
MOS ***31*** *06:16:01.8±0.9,31°.50N×94°.06E,h31km,mb4.7/21,Error

ODAN Odare 7.38 233 *e*P **Pn 06 17 53.0 +3.8**
TNCH TengChong 7.58 147 ⇑Pn **Pn 06 17 53.5 +1.6**
TNCH Sg Sb 06 20 04.5 +21
TNCH smax smax
comp=E,390nm,1.8s
TNCH smax smax
comp=E,560nm,1.7s
TNCH LR LR
comp=E,2μm,6.4s
TNCH LR LR
comp=E,2μm,6.1s
TNCH LR LR
comp=E,1μm,8.5s
JIRN Jiri 7.78 243 *e*P **Pn 06 17 56.0 +1.1**
comp=E,11nm,0.4s
RAMN Ramite 7.87 237 *e*P **Pn 06 17 58.3 +2.3**
comp=E,15nm,0.3s
GUN Gumba 7.89 245 *e*P **Pn 06 17 57.1 +0.7**
comp=E,27nm,0.4s
KKN Kakani 8.42 246 *e*P **Pn 06 18 03.5 0.0**
comp=E,2.6nm,0.4s
PZH PanZhiHua 8.42 124 P **Pn 06 18 04.5 +1.1**
PZH PP **PnPn 06 18 17.0 +6.0**
PZH S **Sn 06 19 40.0 +1.9**
PZH sS Sb 06 19 44.3 -23
PZH pmax pmax
comp=E,60nm,0.9s
PZH pmax pmax
comp=E,200nm,5.9s
PZH LR LR
comp=E,2μm,5.2s
PZH LR LR
comp=E,1μm,6.5s
PZH LR LR
comp=E,1μm,9.2s
PKI Pulchoki 8.42 245 *e*P **Pn 06 18 04.1 +0.5**
comp=E,18nm,0.5s
PKIN Phulchoki 8.43 245 *e*P **Pn 06 18 04.1 +0.4**
comp=E,22nm,0.4s
DMN Daman 8.64 246 *e*P **Pn 06 18 06.7 +0.1**
BRDH Bariadhala 9.02 194 Pn **Pn 06 18 12.0 +0.5**
comp=E,38nm,0.3s,baz=90,slow=15,SNR=1.9
BRDH Sn **Sn 06 19 51.9 -0.8**
comp=E,19nm,0.3s,baz=0.0,slow=20,SNR=6.9
BRDH LR LR 06 22 40.8
comp=E,715nm,18.5s,baz=270,slow=44
GTA Gaotai 9.23 29 *e*P **Pn 06 18 14.0 -0.5**
GTA pP 06 18 23.8
GTA sP 06 18 27.0
GTA pmax pmax
comp=E,120nm,5.6s
GTA LR LR
comp=E,540nm,12.4s
GTA LR LR
comp=E,1μm,13.1s
GTA LR LR
comp=E,930nm,9.1s
DANN Dangsing 9.40 253 *e*P **Pn 06 18 16.9 -0.1**
LZH Lanzhou 9.40 58 *e*P **Pn 06 18 18.3 +1.4**
LZH pP 06 18 24.0
LZH sP 06 18 28.0
LZH pmax pmax
comp=E,13nm,1.1s
LZH pmax pmax
comp=E,160nm,4.6s
LZH LR LR
comp=E,3μm,8.1s
LZH LR LR
comp=E,1μm,6.7s
LZH LR LR
comp=E,1μm,7.7s
MND Mandalay 9.62 168 Pn **Pn 06 18 19.3 -0.5**
KOLN Koldanda 9.76 250 *e*Pg **Pn 06 18 20.9 -1.0**
KMI Kunming 9.99 127 ⇑P **Pn 06 18 25.3 +0.3**
VAR Varanasi 11.45 240 *i* x x 06 22 33.0
LGTI Lohaghat 12.02 264 *i* x x 06 22 43.6
CRAI Chiangrai 12.60 151 Pn **Pn 06 18 59.2 -1.4**
WMQ Urumqi 13.27 340 *e*P **Pn 06 19 13.5 +3.7**
ENH Enshi 13.38 91 **Pn 06 19 08.8 -2.5**
CHTO Chiang Mai 13.39 159 Pn **Pn 06 19 10.5 -0.9**
CHTO Chiang Mai 13.39 159 P **Pn 06 19 10.5 -0.9**
CMAR Chiang Mai Arr 13.73 160 Pn **Pn 06 19 15.3 -0.7**
comp=E,1.1nm,0.3s,baz=330,slow=8.3,SNR=2.1
CMAR LR LR 06 24 27.4
comp=E,330nm,19.0s,baz=320,slow=37
comp=E,1.7nm,0.3s
SMLA Simla 14.38 273 *e*P **Pn 06 19 22.9 -2.0**
SMLA IAmb IAmb 06 19 34.0
comp=E,10nm,0.8s
SMLA *i* x x 06 19 38.0
BHK Bhakra 14.99 274 *i* x x 06 24 55.3
RAGD RAYAGADA 15.44 220 *e*P **Pn 06 19 35.5 -3.7**
RAGD IAmb IAmb 06 19 54.0
comp=E,17nm,1.0s
KUDL Kundal 15.54 262 *e*P **Pn 06 19 40.3 -0.1**
GULI GuiLin 15.68 109 ⇓P **Pn 06 19 41.8 -0.5**
GULI S **Sn 06 22 38.0 +2.3**
GULI pmax pmax
comp=E,110nm,0.9s
GULI LR LR
comp=E,950nm,7.6s
GULI LR LR
comp=E,520nm,6.5s
GULI LR LR
comp=E,710nm,8.7s
LYN LuoYang 15.81 74 *e*P **P 06 19 46.5 -1.1**
LYN pmax pmax
comp=E,7.0nm,0.9s
LYN LR LR
comp=E,3μm,11.7s
LYN LR LR
comp=E,770nm,15.9s
LYN LR LR
comp=E,960nm,9.4s
BTO Baotou 15.83 50 *e*P **P 06 19 47.5 -0.4**
BTO S **Sn 06 22 44.5 +5.2**
BTO LR LR
comp=E,4μm,17.5s
BTO LR LR
comp=E,3μm,17.9s
TARG Taragay, Kyrgy 16.50 313 P **P 06 19 56.4 +0.7**
TARG IAmb IAmb 06 20 18.2
comp=E,28nm,1.2s
TARG Taragay, Kyrgy 16.50 313 P **P 06 19 56.4 +0.7**
TARG pmax pmax
comp=E,28nm,1.2s
KSH Kashi 16.69 304 P P 06 20 04.8 +7.3
KSH S **Sn 06 23 01.0 +0.8**
KSH pmax pmax
comp=E,5.0nm,0.7s
KSH LR LR
comp=N,690nm,10.3s
KSH LR LR
comp=E,730nm,13.7s
KSH LR LR
comp=E,950nm,12.7s
WHN Wuhan 17.49 88 ⇑P **P 06 20 05.5 -0.8**
WHN pP **pP 06 20 09.3 -3.1**
WHN S **Sn 06 23 17.0 -2.6**
WHN LR LR
comp=E,5μm,7.5s
WHN LR LR
comp=E,2μm,5.9s
WHN LR LR
comp=E,3μm,6.9s
AJM Ajmer 17.63 258 *i* x x 06 25 57.7
MK31 Makanchi Array 17.74 333 P **Pn 06 20 06.5 -1.7**
MK31 Makanchi Array 17.74 333 P **Pn 06 20 06.5 -1.7**
MK31 pmax pmax
comp=E,7.0nm,0.9s
MKAR Makanchi Array 17.74 333 P **Pn 06 20 06.2 -1.9**
comp=E,0.3nm,0.3s,baz=148,slow=12,SNR=21
MKAR LR LR 06 27 49.5
comp=E,519nm,18.3s,baz=130,slow=40
comp=E,2.5nm,0.8s
MKAR Makanchi Array 17.74 333 *ce*P **Pn 06 20 06.8 -1.4**
MKAR pmax pmax
comp=E,5.0nm,0.8s
MAKZ Makanchi 17.87 332 **Pn 06 20 07.9 -2.0**
MAKZ Makanchi 17.87 332 P **Pn 06 20 07.9 -2.0**
MAKZ pmax pmax
comp=E,18nm,1.4s
HNS HongShan 18.07 65 ⇓P **Pn 06 20 11.5 -0.8**
HNS *e*S **Sn 06 23 31.5 -2.1**
HNS pmax pmax
comp=E,9.0nm,1.1s
HNS LR LR
comp=E,2μm,9.7s
HNS LR LR
comp=E,890nm,11.0s
HNS LR LR
comp=E,790nm,10.7s
DGZ Jazzator, Alta 18.85 347 *i* P **P 06 20 21.5 +0.2**
SONM Songino Array 18.88 27 P **P 06 20 20.7 -0.9**
comp=Z,0.5nm,0.3s,baz=216,slow=11,SNR=74
comp=Z,12nm,0.9s
SONM Songino Array 18.88 27 **P 06 20 20.9 -0.7**
SONM Songino Array 18.88 27 P **P 06 20 20.9 -0.7**
SONM pmax pmax
comp=Z,17nm,1.0s
QIZ Qiongzhong 18.94 127 P **P 06 20 22.3 0.0**
QIZ S **S 06 23 57.5 +0.5**
QIZ LR LR
comp=Z,1μm,12.3s
QIZ LR LR
comp=Z,820nm,11.2s
QIZ LR LR
comp=Z,380nm,10.5s
AAK Ala-Archa 19.07 311 P **Pn 06 20 25.1 +0.5**
comp=Z,0.2nm,0.3s,baz=99,slow=8.4,SNR=7.2
AAK LR LR 06 28 57.7
comp=Z,456nm,20.9s,baz=86,slow=41
comp=Z,2.0nm,0.6s
AAK Ala-Archa 19.07 311 P **P 06 20 19.9 -3.9**
ULN Ulaanbaatar 19.16 28 **P 06 20 23.9 -0.8**
ULN Ulaanbaatar 19.16 28 P **P 06 20 23.9 -0.8**
ULN pmax pmax
comp=Z,9.0nm,0.8s
TIA Tai'an 19.78 70 *e*P **Pn 06 20 32.5 -0.5**
TIA S **Sn 06 24 16.5 +1.6**
TIA pmax pmax
comp=Z,8.0nm,0.5s
TIA pmax pmax
comp=Z,110nm,5.1s
TIA LR LR
comp=Z,1μm,16.5s
TIA LR LR
comp=Z,380nm,8.6s
TIA LR LR
comp=Z,320nm,7.2s
BJT Baijiatuau 19.88 59 P **Pn 06 20 34.4 +0.2**
BJT Baijiatuau 19.88 59 P **Pn 06 20 34.4 +0.2**
BJT pmax pmax
comp=Z,12nm,1.0s
BJI Beijing 19.89 58 P **Pn 06 20 34.5 +0.2**
BJI pmax pmax
comp=Z,4.0nm,1.1s
ZAK Zakamensk 20.11 18 *e*P **P 06 20 34.6 -0.4**
ZAK pmax pmax
comp=Z,15nm,1.1s
GAR Garm 20.69 298 P Pn 06 20 43.6 -0.3
GAR IAmb IAmb 06 21 05.1
comp=Z,37nm,1.2s
MOY Mondy 20.82 12 *e*P **P 06 20 43.3 +0.6**
MOY pmax pmax
comp=Z,30nm,2.2s
KBL Kabul 21.11 285 P **P 06 20 46.5 +0.3**
KBL Kabul 21.11 285 P **P 06 20 46.5 +0.3**
KBL pmax pmax
comp=Z,55nm,1.1s
XLT XiLinHaoTe 21.36 48 ⇑*i*P **P 06 20 48.5 -0.1**
XLT pmax pmax
comp=Z,12nm,1.2s
XLT pmax pmax
comp=Z,270nm,5.7s
CHGR Chuyangaron 21.50 296 P **P 06 20 49.0 -1.1**
CHGR Chuyangaron 21.50 296 P **P 06 20 49.0 -1.1**
KK31 Karatay Array 21.90 309 P **P 06 20 55.3 +1.0**
KK31 IAmb IAmb 06 20 59.1
comp=Z,17nm,1.5s
KK31 Karatay Array 21.90 309 P **P 06 20 55.3 +1.0**
KK31 pmax pmax
comp=Z,17nm,1.5s
KKAR Karatay Array 21.90 309 P **P 06 20 55.7 +1.4**
KKAR Karatay Array 21.90 309 P **P 06 20 54.9 +0.6**
KKAR IAmb IAmb 06 20 59.1
comp=Z,17nm,1.5s
KKAR Karatay Array 21.90 309 P **P 06 20 55.7 +1.4**
KURBB Kurchatov Arra 22.30 333 P **P 06 20 58.0 -0.6**
comp=Z,2.6nm,0.4s,baz=141,slow=11,SNR=26
KURBB LR LR 06 29 39.8
comp=Z,521nm,21.1s,baz=178,slow=37
comp=Z,2.6nm,0.4s
KURK Kurchatov 22.34 334 P **P 06 20 56.9 -2.1**
KURK IAmb IAmb 06 21 18.4
comp=Z,20nm,0.8s
KURK Kurchatov 22.34 334 P **P 06 20 58.0 -0.9**
ZAA0 Zalesovo Array 23.40 346 P **P 06 21 09.1 -0.7**
ZAA0 IAmb IAmb 06 21 25.9
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 23.40 346 P **P 06 21 08.9 -0.9**
comp=Z,5.9nm,0.8s,baz=158,slow=9.9,SNR=14
ZALV LR LR 06 30 35.2
comp=Z,99nm,18.0s,baz=172,slow=38
comp=Z,5.9nm,0.8s
PCHI Peechi 26.49 222 *e*P **P 06 21 37.4 -1.2**
BVAR Borovoye Array 27.48 328 P **P 06 21 47.6 +0.4**
comp=Z,2.2nm,0.8s,baz=119,slow=12,SNR=6.1
BVAR LR LR 06 32 53.1
comp=Z,265nm,18.0s,baz=132,slow=37
comp=Z,2.2nm,0.8s
BRVK Borovoye 27.55 328 P **P 06 21 47.1 -0.8**
BRVK IAmb IAmb 06 21 56.8
comp=Z,5.9nm,0.8s
BRVK Borovoye 27.55 328 *ce*P **P 06 21 48.5 +0.6**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
CN2 Changchun 27.61 55 *e*P **P 06 21 47.3 -1.2**
CN2 *e*S **S 06 26 26.0 -3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,6.2s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,400nm,11.0s
KSRS Korea Array 28.51 69 P **P 06 21 55.6 -1.0**
comp=Z,1.6nm,0.5s,baz=265,slow=8.6,SNR=7.7
KSRS LR LR 06 32 31.2
comp=Z,126nm,21.0s,baz=270,slow=35
comp=Z,1.6nm,0.5s
PSI Prapat 28.91 170 LR LR 06 34 24.2
comp=Z,98nm,21.5s,baz=328,slow=38
GEYT Alibeck 30.04 292 P **P 06 22 11.3 +1.1**
comp=Z,8.4nm,1.1s,baz=116,slow=10,SNR=1.8
GEYT LR LR 06 36 23.9
comp=Z,251nm,19.6s,baz=118,slow=41
comp=Z,8.4nm,1.1s
JOW Kunigami 30.23 90 LR LR 06 33 57.3
comp=Z,185nm,19.5s,baz=190,slow=36
ABKAR Akbulak array 31.07 315 P **P 06 22 18.5 -0.6**
ABKAR Akbulak array 31.07 315 IAmb IAmb 06 22 27.5
comp=Z,3.3nm,0.8s
HEH HeiHe 31.11 43 *e*P P 06 22 25.5 +6.0
HEH pmax pmax
comp=Z,7.0nm,0.9s
HEH pmax pmax
comp=Z,370nm,5.1s
JNU Nakatsue 31.13 77 LR LR 06 34 21.1
comp=Z,99nm,20.4s,baz=278,slow=36
WSAR Wadi Sarin 32.34 264 LR LR 06 36 37.1
comp=Z,198nm,18.8s,baz=112,slow=38
AKTO Aktyubinsk 32.67 316 LR LR 06 37 22.6
comp=Z,351nm,18.1s,baz=138,slow=39
KLR Kul'dur 33.37 47 P **P 06 22 39.4 +0.1**
comp=Z,2.0nm,0.6s,baz=266,slow=11,SNR=2.9
KLR LR LR 06 36 02.9
comp=Z,48nm,21.5s,baz=240,slow=36
comp=Z,2.0nm,0.6s
KLR Kul'dur 33.37 47 *e*P **P 06 22 39.7 +0.4**
KLR pmax pmax
comp=Z,9.0nm,1.3s
SVE Sverdlovsk 34.26 328 *e*P **P 06 22 48.2 +1.3**
SVE pmax pmax
comp=Z,22nm,0.8s
SVE MLR MLR
comp=Z,376nm,13.0s
ARU Arti 35.02 326 P **P 06 22 53.4 -0.1**
comp=Z,5.7nm,0.2s,baz=45,slow=1.4,SNR=1.4
ARU LR LR 06 38 11.2
comp=Z,132nm,19.1s,baz=113,slow=38
comp=Z,5.7nm,0.2s
ARU Arti 35.02 326 P **P 06 22 52.8 -0.8**
ARU IAmb IAmb 06 23 01.2
comp=Z,7.5nm,0.7s
ARU Arti 35.02 326 ⇑*i*P **P 06 22 54.0 +0.5**
ARU pmax pmax
comp=Z,26nm,1.8s
MJAR Matsushiro Arr 36.77 70 LR LR 06 37 33.8
comp=Z,121nm,18.2s,baz=254,slow=35
NRIK Noril'sk 38.07 356 P **P 06 23 17.9 -1.5**
comp=Z,3.0nm,0.8s,baz=179,slow=8.7,SNR=4.7
NRIK LR LR 06 39 39.0
comp=Z,184nm,18.9s,baz=186,slow=37
comp=Z,3.0nm,0.8s
NRIK Noril'sk 38.07 356 ⇑*i*P **P 06 23 19.3 -0.1**
AKT Akhty 38.10 298 *e*P **P 06 23 24.5 +4.3**
AKT *e* 06 24 52.9
AKT pmax pmax
comp=Z,18nm,1.1s
DAV Davao City (W) 38.21 123 LR LR 06 41 20.0
comp=Z,136nm,19.0s,baz=93,slow=40
YAK Yakutsk 38.24 26 LR LR 06 40 09.7
comp=Z,154nm,21.4s,baz=270,slow=38
JHJ Hachijo jima 2 38.52 75 LR LR 06 41 06.3
comp=Z,130nm,18.2s,baz=198,slow=39
BELG Belogornoye 39.46 316 P **P 06 23 32.2 +1.0**
comp=Z,8.5nm,0.7s,baz=175,slow=19,SNR=2.0
BELG LR LR 06 41 37.2
comp=Z,253nm,18.1s,baz=133,slow=39
comp=Z,8.5nm,0.7s
BELG Belogornoye 39.46 316 *i* P **P 06 23 34.2 +3.0**
ASAJ Asahikawa 39.89 57 P **P 06 23 33.2 -1.7**
comp=Z,1.6nm,0.3s,baz=0.0,slow=20,SNR=1.2
ASAJ LR LR 06 40 38.1
comp=Z,165nm,18.2s,baz=190,slow=37
comp=Z,1.6nm,0.3s
KIRV Kirov 40.40 325 P **P 06 23 38.8 -0.1**
comp=Z,10nm,0.5s,baz=122,slow=2.5,SNR=2.4
KIRV LR LR 06 41 30.5
comp=Z,189nm,20.2s,baz=114,slow=38
comp=Z,10nm,0.5s
KIRV Kirov 40.40 325 ⇑*e*P **P 06 23 39.4 +0.5**
GNI Garni 40.41 296 LR LR 06 42 44.2
comp=Z,70nm,20.3s,baz=114,slow=40
ZEI Tsey 40.94 301 *e*P **P 06 23 42.5 -1.4**
ZEI pmax pmax
comp=Z,9.0nm,1.7s
ONI Oni 41.27 300 P **P 06 23 48.2 +1.7**
ONI IAmb IAmb 06 23 55.1
comp=Z,22nm,1.4s
ONI Oni 41.27 300 P **P 06 23 48.2 +1.7**
ONI pmax pmax
comp=Z,21nm,1.4s
AKH Akhalkalaki 41.29 298 P **P 06 23 47.2 +0.4**
AKH Akhalkalaki 41.29 298 P **P 06 23 47.2 +0.4**
AKH pmax pmax
comp=Z,31nm,0.9s
KBZ Khabaz 41.66 302 P **P 06 23 51.5 +1.9**
comp=Z,1.9nm,0.9s,baz=102,slow=20,SNR=1.4
KBZ LR LR 06 43 56.5
comp=Z,123nm,19.1s,baz=82,slow=40
comp=Z,1.9nm,0.9s
KIV Kislovodsk 41.81 302 *e*P **P 06 23 51.2 +0.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,68nm,16.0s
JCJ Chichijima 42.01 83 LR LR 06 41 57.7
comp=Z,166nm,19.0s,baz=124,slow=37
GURO Guroymak-BITLI 42.65 294 IAmb IAmb 06 24 08.5
comp=Z,7.8nm,1.2s
RAYN Ar Rayn 43.44 272 P **P 06 24 04.6 +0.3**
RAYN IAmb IAmb 06 24 17.9
comp=Z,8.6nm,1.4s
RAYN Ar Rayn 43.44 272 P **P 06 24 04.6 +0.3**
RAYN pmax pmax
comp=Z,9.0nm,1.4s
KAPI Kappang 43.84 141 LR LR 06 45 38.2
comp=Z,90nm,18.2s,baz=312,slow=41
TIXI Tiksi 44.36 15 P **P 06 24 09.7 -1.3**
comp=Z,2.0nm,0.5s,baz=270,slow=19,SNR=4.8
TIXI LR LR 06 44 56.2
comp=Z,92nm,18.1s,baz=352,slow=39
comp=Z,2.0nm,0.5s
TIXI Tiksi 44.36 15 P **P 06 24 08.8 -2.2**
TIXI IAmb IAmb 06 24 17.2
comp=Z,8.5nm,1.1s
TIXI Tiksi 44.36 15 *ce*P **P 06 24 10.0 -1.0**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
KLMR Klimovskoe 45.87 326 *e*P **P 06 24 21.7 -1.4**
KLMR AMP 06 24 28.2
comp=Z,20nm,1.2s
KLMR Klimovskoe 45.87 326 *e*P **P 06 24 21.7 -1.4**
KLMR pmax pmax
comp=Z,20nm,1.2s
OBN Obninsk 46.39 318 ⇑*e*P **P 06 24 26.9 -0.4**
OBN *e**PP **pP 06 24 32.3 -1.8**
OBN *SP **sP 06 24 40.0 +3.3**
OBN 06 26 08.0
OBN SSS SSS 06 35 39.0
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN MLR MLR
comp=Z,211nm,17.0s
MA2 Magadan 46.72 36 LR LR 06 45 35.5
comp=Z,69nm,18.5s,baz=246,slow=38
SEY Seymchan 48.17 32 P **P 06 24 40.4 -0.7**
comp=Z,1.0nm,0.6s,baz=261,slow=8.2,SNR=3.8
comp=Z,1.0nm,0.6s
SEY Seymchan 48.17 32 *ce*P **P 06 24 40.9 -0.2**
SEY pmax pmax
comp=Z,3.0nm,1.1s
BR131 Keskin Array S 48.94 297 ⇑*e*P **P 06 24 51.6 +4.1**
BRTR Keskin Array B 48.94 297 P **P 06 24 48.3 +0.8**
comp=Z,2.2nm,0.9s,baz=93,slow=6.6,SNR=7.2
BRTR LR LR 06 48 50.7
comp=Z,80nm,19.8s,baz=129,slow=40
comp=Z,2.2nm,0.9s
BRTR Keskin Array B 48.94 297 *i* P **P 06 24 52.0 +4.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
MMAI Mount Meron Ar 49.00 288 LR LR 06 48 26.6
comp=Z,90nm,20.2s,baz=106,slow=40
GUMO Guam 49.81 99 LR LR 06 45 40.8
comp=Z,50nm,21.7s,baz=110,slow=36
PETK Petropavlovsk- 50.01 45 LR LR 06 48 17.3
comp=Z,89nm,18.2s,baz=273,slow=39
BATI Baumata 50.28 141 LR LR 06 47 54.1
comp=Z,128nm,20.2s,baz=308,slow=38
EIL Elat 50.31 284 LR LR 06 49 32.5
comp=Z,104nm,19.6s,baz=80,slow=40
AKASG Malin Array Be 50.74 312 P **P 06 25 00.3 -0.5**
comp=Z,2.3nm,0.7s,baz=75,slow=6.1,SNR=3.6
AKASG LR LR 06 48 40.0
comp=Z,193nm,20.5s,baz=66,slow=39
comp=Z,2.3nm,0.7s
AKASG Malin Array Be 50.74 312 *i* P **P 06 25 04.4 +3.5**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 50.74 312 ⇑*e*P **P 06 25 04.6 +3.7**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 52.39 326 P **P 06 25 13.1 0.0**
comp=Z,1.4nm,0.7s,baz=102,slow=6.2,SNR=5.8
FINES LR LR 06 47 02.2
comp=Z,190nm,18.2s,baz=95,slow=36
comp=Z,1.4nm,0.7s
ARCES ARCESS Array B 53.36 336 P **P 06 25 19.8 -0.4**
comp=Z,4.3nm,0.9s,baz=90,slow=3.6,SNR=5.4
ARCES LR LR 06 49 55.4
comp=Z,177nm,19.1s,baz=98,slow=38
comp=Z,4.3nm,0.9s
MLR Muntele Rosu 53.54 306 LR LR 06 51 58.8
comp=Z,132nm,18.9s,baz=56,slow=40
MLR Muntele Rosu 53.54 306 P **P 06 25 21.9 -0.1**
MLR Muntele Rosu 53.54 306 P **P 06 25 21.9 -0.1**
MLR pmax pmax
comp=Z,10.0nm,0.8s
BURAR Bucovina Array 53.69 309 P **P 06 25 22.8 -0.2**
BILL Bilibino 54.60 26 P **P 06 25 28.4 -0.8**
BILL IAmb IAmb 06 25 43.8
comp=Z,4.8nm,0.8s
BILL Bilibino 54.60 26 ⇑*e*P **P 06 25 28.9 -0.3**
BILL *PP **pP 06 25 36.0 0.0**
BILL *SP **sP 06 25 41.0 +2.3**

BILL								06 26 34.0	
BILL					SS	**SS**		**06 36 48.0**	**-2.0**
BILL					pmax	pmax			
	comp=Z,3.0nm,1.0s								
BILL					MLR	MLR			
	comp=Z,66nm,14.0s								
SPITS	**Spitsbergen Ar**	**56.88**	**346**	P	**P**			**06 25 45.2**	**-0.2**
	comp=Z,7.0nm,0.8s,baz=32,slow=5.8,SNR=2.4								
SPITS				LR	LR			06 52 04.8	
	comp=Z,169nm,19.1s,baz=66,slow=38 comp=Z,7.0nm,0.8s								
HFS	**Hagfors**	**58.52**	**325**	LR	LR			06 52 51.8	
	comp=Z,232nm,18.7s,baz=84,slow=38								
VRAC	**Vranov**	**59.00**	**312**	LR	LR			06 55 32.8	
	comp=Z,88nm,19.4s,baz=52,slow=40								
NB2	**NORSAR Subarra**	**59.57**	**326**	P	**P**			**06 26 03.5**	**-1.0**
	comp=Z,4.6nm,0.8s,baz=79,slow=7.4								
NOA	**NORSAR Array B**	**59.57**	**326**	P	**P**			**06 26 03.6**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=79,slow=6.9,SNR=3.3								
NOA				LR	LR			06 53 53.6	
	comp=Z,128nm,21.3s,baz=255,slow=38 comp=Z,1.3nm,0.8s								
RONA	**Rosalia, Austr**	**59.58**	**310**	*eP*	**P**			**06 26 05.7**	**+0.9**
	comp=Z,4.7nm,1.1s								
CONA	**Conrad Observa**	**59.80**	**310**	*eP*	**P**			**06 26 06.8**	**+0.4**
	comp=Z,8.3nm,1.1s								
SOKA	**Soboth**	**60.68**	**309**	*eP*	**P**			**06 26 13.3**	**+0.9**
	comp=Z,8.1nm,1.2s								
MOA	**Molln**	**60.86**	**311**	*eP*	**P**			**06 26 15.1**	**+1.5**
	comp=Z,6.3nm,1.2s								
GERES	**GERESS Array B**	**60.95**	**312**	P	**P**			**06 26 14.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=99,slow=8.2,SNR=5.9								
GERES				LR	LR			06 56 29.1	
	comp=Z,140nm,19.2s,baz=74,slow=40 comp=Z,0.6nm,0.5s								
CIMO	**Cimolais**	**62.50**	**309**	P	**P**			**06 26 26.8**	**+2.2**
CIMO				IAmb	IAmb			06 26 28.2	
	comp=Z,6.0nm,1.1s								
WATA	**Walderalm**	**62.75**	**311**	*eP*	**P**			**06 26 28.7**	**+2.3**
	comp=Z,4.4nm,0.9s								
DAVOX	**Davos/Dischmat**	**64.03**	**311**	LR	LR			06 56 58.0	
	comp=Z,98nm,19.6s,baz=67,slow=38								
WRA	**Warramunga Arr**	**64.14**	**137**	P	**P**			**06 26 35.7**	**0.0**
	comp=Z,1.8nm,0.7s,baz=332,slow=6.3,SNR=12								
WRA				LR	LR			06 59 13.9	
	comp=Z,37nm,18.4s,baz=58,slow=40 comp=Z,1.8nm,0.7s								
JMIC	**Jan Mayen**	**64.50**	**339**	LR	LR			06 59 00.9	
	comp=Z,56nm,18.6s,baz=28,slow=40								
KRVT	**Keravat (AS076**	**65.67**	**112**	LR	LR			06 52 18.6	
	comp=Z,83nm,21.6s,baz=49,slow=33								
AS31	**Alice Springs**	**66.84**	**140**	P	**P**			**06 26 52.7**	**-0.5**
AS31				IAmb	IAmb			06 27 10.1	
	comp=Z,1.4nm,0.6s								
ASAR	**Alice Springs**	**66.84**	**140**	P	**P**			**06 26 52.9**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=324,slow=6.4,SNR=21								
ASAR				LR	LR			06 58 21.6	
	comp=Z,39nm,19.1s,baz=255,slow=38 comp=Z,2.5nm,0.6s								
ASAR	**Alice Springs**	**66.84**	**140**	P	**P**			**06 26 53.6**	**+0.4**
ASAR	**Alice Springs**	**66.84**	**140**	P	**P**			**06 26 53.6**	**+0.4**
NWAO	**Narrogin (SRO)**	**67.73**	**159**	LR	LR			06 57 16.0	
	comp=Z,32nm,22.0s,slow=36								
KEST	**Kesra**	**68.45**	**299**	LR	LR			07 02 21.6	
	comp=Z,66nm,18.1s,baz=286,slow=41								
EKA	**Eskdalemuir Ar**	**68.54**	**322**	LR	LR			07 00 10.8	
	comp=Z,296nm,18.5s,baz=30,slow=39								
SUMG	**Summit**	**71.22**	**346**	*i* P	**P**			**06 27 21.0**	**+0.8**
BMAR	**Burnt Mountain**	**72.09**	**20**	P	**P**			**06 27 25.7**	**+0.6**
ILAR	**Eielson Array**	**73.06**	**23**	P	**P**			**06 27 29.6**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=279,slow=4.7,SNR=6.8								
ILAR				LR	LR			07 02 06.3	
	comp=Z,104nm,20.8s,baz=278,slow=38 comp=Z,0.7nm,0.9s								
A36M	**Sachs Harbour**	**73.26**	**12**	P	**P**			**06 27 30.2**	**-1.6**
RES	**Resolute Bay**	**73.93**	**2**	LR	LR			07 01 15.5	
	comp=Z,72nm,20.5s,baz=21,slow=37								
INK	**Inuvik**	**74.46**	**17**	P	**P**			**06 27 38.2**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=12,slow=1.4,SNR=3.2 comp=Z,1.1nm,0.7s								
SCRK	**Sand Creek**	**74.54**	**23**	P	**P**			**06 27 38.5**	**-1.2**
SCRK				IAmb	IAmb			06 28 03.2	
	comp=Z,4.5nm,0.8s								
HNR	**Honiara**	**75.01**	**111**	LR	LR			06 58 20.2	
	comp=Z,486nm,21.9s,baz=314,slow=34								
KDAK	**Kodiak Island**	**75.12**	**31**	LR	LR			07 03 39.1	
	comp=Z,204nm,20.0s,baz=254,slow=38								
L27K	**Beaver Creek,**	**75.88**	**23**	IAmb	IAmb			06 28 16.5	
	comp=Z,3.4nm,0.9s								
ESDC	**Sonseca Array**	**76.15**	**308**	P	**P**			**06 27 50.9**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=54,slow=6.4,SNR=6.6								
ESDC				LR	LR			07 05 05.9	
	comp=Z,64nm,19.1s,baz=70,slow=39 comp=Z,1.2nm,0.8s								
STKA	**Stephens Creek**	**77.48**	**140**	P	**P**			**06 27 57.6**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=305,slow=7.1,SNR=3.9								
STKA				LR	LR			07 05 15.5	
	comp=Z,30nm,19.9s,baz=0.7,slow=38 comp=Z,1.9nm,0.6s								
SFJD	**Kangerlussuaq**	**78.22**	**347**	LR	LR			07 05 50.6	
	comp=Z,87nm,18.6s,baz=31,slow=38								
LSZ	**Lusaka**	**78.34**	**244**	LR	LR			07 03 03.3	
	comp=Z,43nm,19.2s,baz=68,slow=36								
MDT	**Midelt**	**80.04**	**302**	LR	LR			07 10 16.8	
	comp=Z,31nm,19.4s,baz=116,slow=41								
YKA	**Yellowknife Ar**	**83.57**	**13**	P	**P**			**06 28 27.9**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=323,slow=4.8,SNR=13 comp=Z,0.9nm,0.6s								
FRB	**Frobisher Bay**	**84.08**	**352**	LR	LR			07 07 55.9	
	comp=Z,55nm,18.2s,baz=354,slow=37								
TORD	**Torodi Ar. Bea**	**85.16**	**282**	P	**P**			**06 28 38.0**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=52,slow=4.4,SNR=17 comp=Z,3.5nm,0.9s								
LBTB	**Lobatse**	**86.16**	**238**	LR	LR			07 04 35.8	
	comp=Z,46nm,19.5s,baz=24,slow=34								
TSUM	**Tsumeb**	**88.85**	**247**	LR	LR			07 09 19.6	
	comp=Z,64nm,19.9s,baz=76,slow=36								
BBB	**Bella Bella**	**88.90**	**24**	LR	LR			07 09 45.7	
	comp=Z,78nm,21.3s,baz=354,slow=36								
SUR	**Sutherland**	**93.88**	**234**	LR	LR			07 10 16.1	
	comp=Z,51nm,18.3s,baz=75,slow=35								
DBIC	**Dimbokro**	**94.03**	**280**	LR	LR			07 19 20.7	
	comp=Z,34nm,20.2s,baz=64,slow=40								
NEW	**Newport**	**95.86**	**20**	LR	LR			07 16 51.3	
	comp=Z,45nm,18.5s,baz=346,slow=38								
YBH	**Yreka Blue Hor**	**99.68**	**27**	LR	LR			07 14 23.8	
	comp=Z,32nm,20.1s,baz=349,slow=35								

*GUC **31** 06:20:26.7±0.8,25°.21S×70°.40W,h65km±6km,ML4.0*
*IDC **31** 06:20:28.5±1.1,25°.34S×69°.97W,h53km±7km,mb3.5/3, mbtmp3.7/7,MS3.2/3,Error ellipse: s-maj=29.0km s-min=12.2km az=94.0*

ISC 31 06:20:26.8±0.8,25°.24S±0°.03×70°.27W±0°.08,h50km,n33, σ1°53/39,mb3.6/4,2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.62**	**349**	*i* P	**Pn**	**06 20 40.5**	**+0.6**
PB14				*i* S	**Sn**	**06 20 50.1**	**+0.8**
AC01	**Pan de Azucar**	**0.95**	**198**	*i* P	**Pn**	**06 20 44.9**	**+0.9**
AC01				*i* S	**Sn**	**06 20 57.5**	**+1.0**
AC02	**Maricunga**	**1.90**	**147**	*i* P	**Pn**	**06 20 59.3**	**+2.1**
AC02				*i* S	**Sn**	**06 21 23.4**	**+3.2**
AC02				IAML		06 21 25.9	
	comp=E,1μm,0.4s						
AC06	**Mina Casimiro**	**2.11**	**182**	*eP*	**Pn**	**06 21 00.7**	**+0.9**
AC06				*i* S	**Sn**	**06 21 26.7**	**+1.8**
GO03	**Copiap**	**2.35**	**179**	*eP*	**Pn**	**06 21 04.1**	**+1.0**
GO03				*i* S	**Sn**	**06 21 31.8**	**+1.1**
PB06	**IPOC Station P**	**2.60**	**14**	*eP*	**Pn**	**06 21 07.6**	**+1.0**
PB06				*i* S	**Sn**	**06 21 37.9**	**+0.9**
PB06				IAML		06 21 55.7	
	comp=E,538nm,0.3s						
PB04	**IPOC Station P**	**2.89**	**2**	*eP*	**Pn**	**06 21 10.7**	**+0.1**
PB04				*i* S	**Sn**	**06 21 44.3**	**0.0**
PB04				IAML		06 22 02.6	
	comp=E,584nm,0.3s						
LVC	**Limon Verde**	**2.90**	**26**	P	**Pn**	**06 21 13.2**	**+2.4**
	comp=E,20nm,0.3s,baz=168,slow=6.0,SNR=81						
LVC				S	**Sn**	**06 21 47.2**	**+2.6**
	comp=E,62nm,0.4s,baz=238,slow=19,SNR=2.6						
LVC				LR	LR	06 22 25.4	
	comp=E,114nm,19.8s,baz=198,slow=41						
LVC	**Limon Verde**	**2.90**	**26**	*eP*	**Pn**	**06 21 12.5**	**+1.7**
AC04	**Llanos de Chal**	**3.04**	**193**	*eP*	**Pn**	**06 21 11.5**	**-1.0**
PB03	**IPOC Station P**	**3.21**	**9**	*eP*	**Pn**	**06 21 15.2**	**+0.2**
PB03				*i* S	**Sn**	**06 21 53.0**	**+1.0**
PB03				IAML		06 22 06.2	
	comp=E,346nm,0.3s						
PB07	**IPOC Station P**	**3.51**	**6**	*eP*	**Pn**	**06 21 19.0**	**-0.1**
PB07				*i* S	**Sn**	**06 21 58.7**	**-0.8**
PB07				IAML		06 22 17.4	
	comp=E,308nm,0.5s						
PB09	**IPOC Station P**	**3.55**	**16**	*eP*	**Pn**	**06 21 21.4**	**+1.7**
PB09				IAML		06 22 26.3	
	comp=E,288nm,0.5s						
AC05	**El Transito**	**3.58**	**180**	*eP*	**Pn**	**06 21 21.4**	**+1.4**
PB02	**IPOC Station P**	**3.92**	**5**	*eP*	**Pn**	**06 21 24.2**	**-0.4**
PB02				*i* S	**Sn**	**06 22 08.6**	**-0.7**
CFA	**Coronel Fontan**	**6.59**	**165**	P	**Pn**	**06 22 02.5**	**+1.3**
	comp=E,2.2nm,0.4s,baz=351,slow=14,SNR=28						
CFA				S	**Sn**	**06 23 14.0**	**-1.1**
	comp=E,3.9nm,0.5s,baz=28,slow=7.1,SNR=1.6						
LPAZ	**La Paz**	**9.13**	**13**	P	**Pn**	**06 22 38.2**	**+1.7**
	comp=E,1.2nm,0.5s,baz=202,slow=6.6,SNR=13						
H03N1	**Juan Fernandez**	**11.11**	**221**	T	T	06 34 47.5	
	baz=44,slow=72,SNR=112						
H03N2	**Juan Fernandez**	**11.12**	**221**	T	T	06 34 48.4	
	baz=44,slow=72,SNR=36						
H03N3	**Juan Fernandez**	**11.13**	**221**	T	T	06 34 47.3	
	baz=44,slow=72,SNR=101						
CPUP	**Villa Florida**	**11.71**	**98**	P	**Pn**	**06 23 09.3**	**-2.0**
	comp=E,1.1nm,1.0s,baz=240,slow=20,SNR=1.6						
SIV	**San Ignacio**	**12.60**	**45**	P	**Pn**	**06 23 20.4**	**-3.0**
	comp=E,1.0nm,0.5s,baz=225,slow=10,SNR=9.2						
SIV				S	**Sn**	**06 25 40.6**	**-1.7**
	comp=E,2.3nm,0.9s,baz=158,slow=13,SNR=3.5						
SIV				LR	LR	06 28 20.6	
	comp=E,43nm,20.3s,baz=284,slow=38						
BDFB	**Brasilia**	**22.91**	**70**	P	**P**	**06 25 25.1**	**-1.6**
	comp=E,1.1nm,0.4s,baz=302,slow=5.1,SNR=3.9 comp=E,1.1nm,0.4s						
PCRV	**Puerto La Cruz**	**35.62**	**10**	LR	LR	06 44 01.4	
	comp=E,400nm,21.6s,slow=40						
H06E1	**SOCORRO T-PHAS**	**58.98**	**314**	T	T	07 34 00.9	
	SNR=6.6						
TXAR	**Lajitas Array**	**63.03**	**327**	P	**P**	**06 30 52.3**	**+3.3**
	comp=E,0.5nm,1.0s,baz=157,slow=4.9,SNR=2.7 comp=E,0.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**79.79**	**70**	P	**P**	**06 32 30.1**	**-0.2**
	comp=E,1.7nm,0.6s,baz=266,slow=5.4,SNR=8.9						
TORD				pP	**pP**	**06 32 45.3**	**+0.1**
	comp=E,0.6nm,0.5s,baz=255,slow=5.9,SNR=3.4 comp=E,1.7nm,0.6s						
YKA	**Yellowknife Ar**	**94.29**	**341**	pP	pP	06 33 54.4	-1.0
	comp=E,0.2nm,0.7s,baz=145,slow=4.2,SNR=3.7						
H11S2	**WAKE ISLAND Hyl**	**27.02**	**275**	T	T	08 59 12.5	
	baz=108,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hyl**	**27.03**	**275**	T	T	08 59 13.2	
	baz=108,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**27.03**	**275**	T	T	08 59 13.8	
	baz=108,slow=75,SNR=32						
ZALV	**Zalesovo Beam**	**145.85**	**26**	PKPbc	**PKPab**	**06 40 00.9**	**+0.2**
	comp=E,0.7nm,0.6s,baz=292,slow=4.5,SNR=3.1						
ZALV				pPKPbc	pPKPab	06 40 16.4	+0.2
	comp=E,0.8nm,0.7s,baz=328,slow=5.2,SNR=3.0						
MKAR	**Makanchi Array**	**149.35**	**38**	PKPbc	**PKPbc**	**06 40 10.2**	**0.0**
	comp=E,0.2nm,0.6s,baz=294,slow=3.9,SNR=4.4						
MKAR				pPKPbc	**pPKPbc**	**06 40 25.5**	**-0.2**
	comp=E,0.4nm,0.8s,baz=296,slow=2.9,SNR=2.6						

*NOU **31** 06:31:19.3,40°.01S×174°.52E,h98km,MLv3.8/11,Cook Strait, New Zealand*
*WEL **31** 06:31:20.5±0.6,40°.53±3°×177°.4E±°,h81km±8km,M3.5/47, ML3.8/47,MLv3.5/47,Error ellipse: s-maj=0.0km s-min=0.0km az=114.6*

ISC 31 06:31:19.3±1.4,39°.99S±0°.03×174°.47E±0°.04,h100km±9km, n121,σ0°99/129,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.46**	**60**	P	**Pn**	**06 31 34.9**	**0.0**
LREZ	**Lake Rotokare**	**0.53**	**354**	P	**Pn**	**06 31 35.4**	**+0.1**
LREZ				S	**Sn**	**06 31 47.5**	**+0.2**
NMEZ	**Namu Road**	**0.73**	**321**	P	**Pn**	**06 31 37.1**	**+0.1**
NEZ	**North Egmont**	**0.77**	**338**	P	**Pn**	**06 31 37.4**	**-0.1**
KHEZ	**Kahui Hut**	**0.78**	**333**	P	**Pn**	**06 31 37.7**	**+0.1**
KHEZ	**Kahui Hut**	**0.78**	**333**	P	**Pn**	**06 31 37.6**	**0.0**
KHEZ				S	**Sn**	**06 31 50.9**	**-0.3**
DREZ	**Durham Road**	**0.82**	**345**	P	**Pn**	**06 31 38.1**	**+0.2**
DREZ				S	**Sn**	**06 31 51.9**	**0.0**
NBEZ	**Newall Road No**	**0.86**	**327**	P	**Pn**	**06 31 38.5**	**+0.3**
PKE	**Pukeiti**	**0.88**	**335**	P	**Pn**	**06 31 38.3**	**-0.2**
PKE				S	**Sn**	**06 31 52.8**	**-0.1**
VRZ	**Vera Road**	**0.89**	**15**	P	**Pn**	**06 31 38.5**	**0.0**
VRZ				S	**Sn**	**06 31 52.9**	**-0.1**
DUWZ	**D'Urville Isla**	**0.91**	**207**	P	**Pn**	**06 31 39.5**	**+0.6**
DUWZ				S	**Sn**	**06 31 53.6**	**+0.1**
MHEZ	**Mangahewa**	**0.92**	**353**	P	**Pn**	**06 31 39.4**	**+0.5**
KIW	**Kapiti Island**	**0.94**	**159**	P	**Pn**	**06 31 39.0**	**0.0**
PKVZ	**Pokaka**	**0.97**	**44**	P	**Pn**	**06 31 39.4**	**-0.1**
PKVZ				S	**Sn**	**06 31 54.0**	**-0.7**
MTVZ	**Mangateitei**	**0.98**	**52**	P	**Pn**	**06 31 39.5**	**-0.1**
MTVZ				S	**Sn**	**06 31 54.8**	**-0.1**
POWZ	**Post Office Ro**	**1.07**	**112**	P	**Pn**	**06 31 40.7**	**+0.1**
TRVZ	**Turoa**	**1.08**	**51**	P	**Pn**	**06 31 40.6**	**-0.2**
MRZ	**Mangatainoka R**	**1.08**	**129**	P	**Pn**	**06 31 40.4**	**-0.3**
WNVZ	**Wahianoa**	**1.09**	**53**	P	**Pn**	**06 31 40.8**	**-0.2**
DRZ	**Dome Shelter**	**1.10**	**50**	P	**Pn**	**06 31 41.6**	**+0.3**
FWVZ	**Far West T-bar**	**1.11**	**49**	P	**Pn**	**06 31 41.2**	**0.0**
WHVZ	**Whangaehu Hut**	**1.11**	**51**	P	**Pn**	**06 31 41.5**	**+0.2**
MOVZ	**Moawhango**	**1.15**	**60**	P	**Pn**	**06 31 41.3**	**-0.1**
TUVZ	**Tukino**	**1.16**	**52**	P	**Pn**	**06 31 42.2**	**+0.5**
TWVZ	**Taurewa**	**1.18**	**40**	P	**Pn**	**06 31 41.8**	**-0.1**
NGZ	**Ngauruhoe**	**1.19**	**48**	P	**Pn**	**06 31 41.9**	**-0.1**
CAW	**Cannon Point**	**1.21**	**158**	P	**Pn**	**06 31 42.4**	**+0.4**
SNVZ	**South Ngauruho**	**1.21**	**49**	P	**Pn**	**06 31 42.3**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.21**	**139**	P	**Pn**	**06 31 42.3**	**+0.2**
WTVZ	**West Tongariro**	**1.23**	**45**	P	**Pn**	**06 31 42.3**	**-0.1**
TCW	**Tory Channel**	**1.23**	**187**	P	**Pn**	**06 31 42.7**	**+0.4**
NNVZ	**North Ngauruho**	**1.23**	**46**	P	**Pn**	**06 31 42.4**	**-0.1**
OTVZ	**Oturere**	**1.24**	**49**	P	**Pn**	**06 31 42.6**	**0.0**
KRVZ	**Karewarewa**	**1.27**	**46**	P	**Pn**	**06 31 42.8**	**-0.1**
PRWZ	**Pori Road**	**1.28**	**117**	P	**Pn**	**06 31 43.8**	**+0.9**
ETVZ	**East Tongariro**	**1.28**	**49**	P	**Pn**	**06 31 43.2**	**+0.1**
NTVZ	**North Tongarir**	**1.29**	**47**	P	**Pn**	**06 31 43.1**	**0.0**
TMVZ	**Te Maari**	**1.29**	**48**	P	**Pn**	**06 31 43.3**	**+0.1**
WEL	**Wellington**	**1.31**	**170**	P	**Pn**	**06 31 43.6**	**+0.3**
BHHZ	**Black Hill Sta**	**1.33**	**68**	P	**Pn**	**06 31 43.3**	**-0.2**
SNZO	**South Karori**	**1.33**	**172**	P	**Pn**	**06 31 43.7**	**+0.2**
TIWZ	**Tintock**	**1.34**	**126**	P	**Pn**	**06 31 46.3**	**+2.6**
KATZ	**Kakaramea**	**1.39**	**44**	P	**Pn**	**06 31 45.0**	**+0.6**
MTW	**Mount Morrison**	**1.41**	**146**	P	**Pn**	**06 31 44.6**	**+0.1**
NNZ	**Nelson**	**1.48**	**214**	P	**Pn**	**06 31 46.1**	**+0.8**
HIZ	**Hauiti**	**1.50**	**12**	P	**Pn**	**06 31 45.8**	**+0.2**
HIZ	**Hauiti**	**1.50**	**12**	P	**Pn**	**06 31 45.8**	**+0.2**
KRHZ	**Kereru**	**1.50**	**77**	P	**Pn**	**06 31 45.6**	**-0.1**
RATZ	**Rangitukua**	**1.51**	**42**	P	**Pn**	**06 31 46.5**	**+0.7**
WPHZ	**Waipukurau**	**1.52**	**94**	P	**Pn**	**06 31 45.4**	**-0.3**
BFZ	**Birch Farm**	**1.52**	**118**	P	**Pn**	**06 31 47.5**	**+1.6**
TKNZ	**Takaka Hill**	**1.55**	**227**	P	**Pn**	**06 31 47.0**	**+0.7**
TMWZ	**Te Maipa**	**1.56**	**136**	P	**Pn**	**06 31 46.3**	**0.0**
PAWZ	**Paruwai Farm**	**1.57**	**153**	P	**Pn**	**06 31 46.5**	**+0.1**
KWHZ	**Kaweka Forest**	**1.61**	**70**	P	**Pn**	**06 31 47.8**	**+0.9**
WATZ	**Wairara**	**1.61**	**38**	P	**Pn**	**06 31 47.6**	**+0.6**
PRHZ	**Porangahau**	**1.68**	**100**	P	**Pn**	**06 31 47.8**	**-0.1**
TRWZ	**Traveller**	**1.69**	**147**	P	**Pn**	**06 31 48.3**	**+0.4**
PLWZ	**Palliser**	**1.69**	**160**	P	**Pn**	**06 31 47.8**	**-0.2**
QRZ	**Quartz Range**	**1.70**	**240**	P	**Pn**	**06 31 48.4**	**+0.3**
QRZ	**Quartz Range**	**1.70**	**240**	P	**Pn**	**06 31 48.4**	**+0.3**
BKZ	**Black Stump Fm**	**1.77**	**63**	P	**Pn**	**06 31 48.6**	**-0.4**
BKZ	**Black Stump Fm**	**1.77**	**63**	P	**Pn**	**06 31 48.5**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.78**	**194**	P	**Pn**	**06 31 49.7**	**+0.6**
MCHZ	**McNeill Hill**	**1.80**	**73**	P	**Pn**	**06 31 51.7**	**+2.3**
KUTZ	**Kaahu Road**	**1.83**	**36**	P	**Pn**	**06 31 50.8**	**+1.1**
PXZ	**Pawanui**	**1.84**	**92**	P	**Pn**	**06 31 51.1**	**+1.3**
TLZ	**Tolley Road**	**1.85**	**27**	P	**Pn**	**06 31 50.6**	**+0.5**
KAHZ	**Kahuranaki**	**1.86**	**85**	P	**Pn**	**06 31 49.8**	**-0.4**
MRHZ	**Matea Rd**	**1.90**	**53**	P	**Pn**	**06 31 50.1**	**-0.6**
MRNZ	**Matariki Terra**	**1.92**	**222**	P	**Pn**	**06 31 51.6**	**+0.8**
WPRZ	**Whakapapatarin**	**1.97**	**42**	P	**Pn**	**06 31 52.1**	**+0.6**
NMHZ	**Naumai**	**2.01**	**65**	P	**Pn**	**06 31 52.9**	**+0.8**
CKHZ	**Cape Kidnapper**	**2.04**	**82**	P	**Pn**	**06 31 56.2**	**+3.9**
ARHZ	**Aropaoanui**	**2.08**	**70**	P	**Pn**	**06 31 53.4**	**+0.5**
PRRZ	**Plateau Road**	**2.11**	**46**	P	**Pn**	**06 31 54.0**	**+0.7**
THZ	**Tophouse**	**2.13**	**213**	P	**Pn**	**06 31 54.3**	**+0.7**
MTHZ	**Maungataniwha**	**2.16**	**59**	P	**Pn**	**06 31 53.4**	**-0.6**
RAHZ	**Arahi**	**2.29**	**63**	P	**Pn**	**06 31 59.0**	**+3.3**
WHHZ	**Waihua**	**2.32**	**68**	P	**Pn**	**06 31 59.3**	**+3.3**
TOZ	**Tahuroa Road**	**2.39**	**20**	P	**Pn**	**06 31 57.4**	**+0.4**
KHZ	**Kahutara**	**2.53**	**196**	P	**Pn**	**06 31 58.9**	**+0.2**
KHZ	**Kahutara**	**2.53**	**196**	P	**Pn**	**06 31 59.1**	**+0.4**
SNGZ	**Shannon Statio**	**2.53**	**62**	P	**Pn**	**06 32 01.5**	**+2.7**
TGRZ	**Tauranga**	**2.65**	**32**	P	**Pn**	**06 32 01.3**	**+0.8**
KNZ	**Kokohu**	**2.66**	**70**	P	**Pn**	**06 31 59.5**	**-1.0**
DSZ	**Denniston Nort**	**2.68**	**228**	P	**Pn**	**06 32 01.1**	**+0.4**
URZ	**Urewera**	**2.68**	**51**	P	**Pn**	**06 32 00.1**	**-0.7**
URZ	**Urewera**	**2.68**	**51**	P	**Pn**	**06 31 59.6**	**-1.3**
MHGZ	**Mahia Peninsul**	**2.79**	**74**	P	**Pn**	**06 32 01.5**	**-0.6**
RIGZ	**Rimuhau**	**2.86**	**64**	P	**Pn**	**06 32 01.9**	**-1.2**
MWZ	**Matawai**	**2.90**	**56**	P	**Pn**	**06 32 02.2**	**-1.5**
AWAZ	**Awhitu Peninsu**	**2.92**	**3**	P	**Pn**	**06 32 04.8**	**+0.8**
MKAZ	**Moumakai**	**2.93**	**11**	P	**Pn**	**06 32 04.4**	**+0.3**
ETAZ	**East Tamaki Re**	**3.05**	**7**	P	**Pn**	**06 32 06.5**	**+0.8**
WTAZ	**Waiatarua**	**3.05**	**2**	P	**Pn**	**06 32 06.7**	**+0.9**
EPAZ	**Eden Park BICE**	**3.12**	**4**	P	**Pn**	**06 32 07.5**	**+0.9**
HBAZ	**Herne Bay Bore**	**3.14**	**4**	P	**Pn**	**06 32 07.7**	**+0.8**
GVZ	**Greta Valley S**	**3.17**	**199**	P	**Pn**	**06 32 06.8**	**-0.5**
RUGZ	**Raukumara Rang**	**3.21**	**52**	P	**Pn**	**06 32 06.9**	**-1.1**
RVAZ	**Riverhead Bore**	**3.21**	**2**	P	**Pn**	**06 32 08.6**	**+0.7**
MBAZ	**Motutapu North**	**3.23**	**6**	P	**Pn**	**06 32 08.8**	**+0.7**
TWGZ	**Tauwhareparae**	**3.28**	**58**	P	**Pn**	**06 32 11.8**	**+3.0**
KUZ	**Kuaotunu**	**3.38**	**17**	P	**Pn**	**06 32 10.1**	**-0.1**
KUZ	**Kuaotunu**	**3.38**	**17**	P	**Pn**	**06 32 10.0**	**-0.1**
AMCZ	**Amberley**	**3.47**	**203**	P	**Pn**	**06 32 11.0**	**-0.3**
PUZ	**Puketiti**	**3.52**	**58**	P	**Pn**	**06 32 10.2**	**-1.8**
INZ	**Inchbonnie**	**3.56**	**219**	P	**Pn**	**06 32 12.8**	**+0.3**
GRZ	**Great Barrier**	**3.81**	**12**	P	**Pn**	**06 32 16.3**	**+0.3**
OKCZ	**Okains Bay**	**3.88**	**195**	P	**Pn**	**06 32 15.8**	**-1.0**
WCZ	**Waipu Caves**	**4.04**	**359**	P	**Pn**	**06 32 19.9**	**+0.8**
AKCZ	**Akaroa Harbour**	**4.05**	**196**	P	**Pn**	**06 32 17.8**	**-1.4**
RACZ	**Rakaia**	**4.12**	**204**	P	**Pn**	**06 32 18.5**	**-1.5**
WVZ	**Waitaha Valley**	**4.17**	**221**	P	**Pn**	**06 32 23.7**	**+3.1**
WACZ	**Wakanui South**	**4.41**	**206**	P	**Pn**	**06 32 23.1**	**-0.9**
OUZ	**Omahuta**	**4.81**	**351**	P	**Pn**	**06 32 30.5**	**+1.1**
OUZ	**Omahuta**	**4.81**	**351**	P	**Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.77**	**243**	I	I	06 46 26.1	
	baz=62,slow=343,SNR=1.8						
ZALV	**Zalesovo Beam**	**0.77**	**243**	Pg	Pg	06 41 50.9	-0.4
	0.8nm,0.3s,baz=64,slow=17,SNR=10						
ZALV				Lg	Lg	06 42 03.2	
	3.2nm,0.3s,baz=61,slow=29,SNR=27						
KURBB	**Kurchatov Arra**	**5.85**	**234**	Pn	Pn	06 43 04.5	-0.1
	0.1nm,0.3s,baz=52,slow=14,SNR=5.4						
KURBB				Lg	Lg	06 44 39.3	
	baz=45,slow=30,SNR=1.4						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.87**	**199**	Pn	Pn	06 43 34.1	+1.8
	0.1nm,0.3s,baz=21,slow=13,SNR=7.3						
MKAR				Sn	Sn	06 44 59.7	-2.3
	baz=24,slow=26,SNR=1.6						
MKAR				Lg	Lg	06 45 45.2	
	baz=17,slow=35,SNR=3.6						
	0.2nm,0.5s						

IDC 31 06:49:40.0±7.3, 32.°10S×177.°15W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=327.0km s-min=64.0km az=159.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.74**	**216**	Sn	Sn	06 53 02.8	+0.6
	0.6nm,0.3s,baz=215,slow=9.2,SNR=2.0						
ASAR	**Alice Springs**	**43.76**	**268**	P	P	06 57 47.8	+0.2
	0.4nm,0.6s,baz=108,slow=7.5,SNR=5.0						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.90**	**273**	P	P	06 57 56.3	-0.4
	0.4nm,0.3s,baz=116,slow=8.0,SNR=7.2						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**146.98**	**340**	PKPbc	PKPbc	07 09 23.0	-0.8
	4.1nm,1.1s,baz=48,slow=4.1,SNR=1.8						

IDC 31 07:03:24.3±3.7, 54.°66N×83.°43E, h0km, mbtmp2.6/1, ML2.1/1, Error ellipse: s-maj=26.9km s-min=14.8km az=148.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**131**	I	I	07 09 30.0	
	0.3nm,0.8s,baz=310,slow=337,SNR=53						
ZALV	**Zalesovo Beam**	**1.08**	**131**	Pg	Pg	07 03 45.2	+0.2
	1.0nm,0.3s,baz=312,slow=20,SNR=9.7						
ZALV				Lg	Lg	07 03 59.9	
	1.2nm,0.3s,baz=315,slow=31,SNR=9.7						
MKAR	**Makanchi Array**	**7.91**	**186**	Pn	Pn	07 05 20.7	+0.1
	baz=1.9,slow=13,SNR=2.4						
	0.4nm,1.0s						

*ISK **31** 07:17:09.9, 38.°70N×38.°06E, h1km, ML3.4/25*
*DDA **31** 07:17:10.1±0.0, 38.°69N×38.°10E, h5km±2km, MW3.5*
ISC 31 07:17:10.8±1.0, 38.°69N±0.°02×38.°10E±0.°02, h12km±9km, n45, σ1°92/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.42**	**200**	P	**Pg**	**07 17 18.4**	**-0.7**
AKCD				S	**Sg**	**07 17 25.0**	**+0.3**
AKCD				*i* AML	AML	07 17 29.0	
	comp=E,4μm,0.6s						
AKCD				*i* AML	AML	07 17 32.0	
	comp=N,4μm,0.4s						
ARPR	**Arapgir-MALATY**	**0.44**	**24**	Pg	**Pg**	**07 17 19.5**	**0.0**
ARPR				Sg	**Sb**	**07 17 26.6**	**-0.6**
MAYA	**Malatya/Merkez**	**0.45**	**145**	P	**Pg**	**07 17 19.4**	**-0.2**
MAYA				*i* AML	AML	07 17 26.0	
	comp=E,3μm,0.5s						
MAYA				S	**Sb**	**07 17 26.2**	**-1.1**
MAYA				*i* AML	AML	07 17 27.0	
	comp=N,2μm,0.4s						
DARE	**Darende-Malaty**	**0.50**	**256**	Pg	**Pg**	**07 17 19.6**	**-1.0**
DARE				Sg	**Sg**	**07 17 27.6**	**+0.3**
KEMA	**Kemaliye**	**0.65**	**28**	P	**Pg**	**07 17 23.4**	**0.0**
KEMA				S	**Sg**	**07 17 32.0**	**0.0**
KEMA				*i* AML	AML	07 17 35.0	
	comp=E,671nm,0.2s						
KEMA				*i* AML	AML	07 17 37.0	
	comp=N,609nm,0.4s						
CUGUR	**Gurin_SVAS**	**0.65**	**273**	P	**Pg**	**07 17 22.7**	**-0.7**
CUGUR				S	**Sg**	**07 17 32.4**	**+0.4**
CUGUR				*i* AML	AML	07 17 36.0	
	comp=N,2μm,0.5s						
CUGUR				*i* AML	AML	07 17 38.0	
	comp=E,2μm,0.6s						
ELZG	**Elazig**	**0.72**	**106**	P	**Pg**	**07 17 24.2**	**-0.5**
ELZG				S	**Sb**	**07 17 34.9**	**-0.3**
ELZG				*i* AML	AML	07 17 39.0	
	comp=E,952nm,1.1s						
ELZG				*i* AML	AML	07 17 39.0	
	comp=N,1μm,0.3s						
CUKAN	**kangal_SIVAS**	**0.80**	**322**	P	**Pg**	**07 17 26.0**	**-0.2**
CUKAN				S	**Sb**	**07 17 37.3**	**-0.1**
CUKAN				*i* AML	AML	07 17 40.0	
	comp=N,329nm,0.3s						
CUKAN				*i* AML	AML	07 17 44.0	
	comp=E,429nm,0.5s						
ELBS	**KAHRAMANMARAS**	**0.85**	**245**	P	**Pg**	**07 17 26.9**	**-0.2**
ELBS				S	**Sb**	**07 17 38.9**	**+0.1**
ELBS				*i* AML	AML	07 17 44.0	
	comp=E,991nm,0.6s						
ELBS				*i* AML	AML	07 17 44.0	
	comp=N,914nm,0.5s						
AKCA	**Adyaman/G¶l**	**0.95**	**200**	P	**Pb**	**07 17 28.7**	**-0.7**
AKCA				S	**Sn**	**07 17 42.8**	**-0.9**
AKCA				*i* AML	AML	07 17 48.0	
	comp=E,736nm,0.6s						
AKCA				*i* AML	AML	07 17 48.0	
	comp=N,710nm,0.5s						
TNCL	**Tunceli-Merkez**	**1.20**	**69**	P	**Pn**	**07 17 32.7**	**-0.8**
TNCL				S	**Sb**	**07 17 48.7**	**-0.3**
TNCL				*i* AML	AML	07 17 58.0	
	comp=N,546nm,0.7s						
TNCL				*i* AML	AML	07 17 58.0	
	comp=E,641nm,1.0s						
CUAYA	**Sivas-Altinyay**	**1.20**	**299**	P	**Pn**	**07 17 33.1**	**-0.5**
CUAYA				S	**Sg**	**07 17 50.6**	**+1.0**
CUAYA				*i* AML	AML	07 17 54.0	
	comp=E,226nm,0.6s						
CUAYA				*i* AML	AML	07 17 57.0	
	comp=N,294nm,0.8s						
CUZAR	**Zara_SIVAS**	**1.22**	**348**	P	**Pg**	**07 17 34.4**	**+0.1**
CUZAR				S	**Sg**	**07 17 50.4**	**+0.3**
CUZAR				*i* AML	AML	07 17 58.0	
	comp=E,294nm,0.6s						
CUZAR				*i* AML	AML	07 18 01.0	
	comp=N,214nm,0.7s						
ATAB	**Bozova**	**1.23**	**173**	P	**Pg**	**07 17 35.4**	**+0.9**
ATAB				S	**Sg**	**07 17 51.9**	**+1.5**
ATAB				*i* AML	AML	07 17 55.0	
	comp=N,382nm,1.0s						
ATAB				*i* AML	AML	07 17 58.0	
	comp=E,494nm,0.9s						
KOVA	**Elazig, Kovanc**	**1.34**	**89**	P	**Pb**	**07 17 35.2**	**-0.6**
KOVA				S	**Sg**	**07 17 54.7**	**+0.9**
KOVA				*i* AML	AML	07 18 04.0	
	comp=E,114nm,0.6s						
KOVA				*i* AML	AML	07 18 09.0	
	comp=N,94nm,1.3s						
SARI	**SarD1z-Kayseri**	**1.35**	**258**	Pn	**Pn**	**07 17 35.3**	**-0.4**
SARI				Sn	**Sg**	**07 17 54.5**	**+0.2**
URFA	**Urfa**	**1.37**	**155**	Pn	**Pg**	**07 17 37.3**	**+0.2**
URFA				Sn	**Sg**	**07 17 57.3**	**+2.4**
KAHM	**Kahramanmaras,**	**1.47**	**217**	P	**Pg**	**07 17 38.3**	**-0.6**
KAHM				S	**Sg**	**07 17 58.9**	**+0.9**
KAHM				*i* AML	AML	07 18 03.0	
	comp=E,307nm,0.6s						
KAHM				*i* AML	AML	07 18 05.0	
	comp=N,355nm,1.0s						
SVSK	**Karacayir**	**1.49**	**325**	Pn	**Pb**	**07 17 38.5**	**+0.1**
ERZN	**Erzincan**	**1.54**	**54**	Pn	**Pb**	**07 17 39.7**	**+0.3**
HCB	**Kahramanmara**	**1.65**	**215**	P	**Pb**	**07 17 40.7**	**-0.4**
HCB				S	**Sg**	**07 18 03.1**	**-0.6**
HCB				*i* AML	AML	07 18 06.0	
	comp=N,454nm,0.8s						
HCB				*i* AML	AML	07 18 08.0	
	comp=E,228nm,1.3s						
SANL	**SANLIURFA_Merk**	**1.67**	**155**	P	**Pg**	**07 17 43.3**	**+0.4**
SANL				S	**Sb**	**07 18 02.7**	**+0.2**
SANL				*i* AML	AML	07 18 07.0	
	comp=N,320nm,0.8s						
SANL				*i* AML	AML	07 18 10.0	
	comp=E,196nm,1.3s						
GAZ	**Gaziantep**	**1.67**	**205**	Pn	**Pb**	**07 17 41.1**	**-0.5**
NZIP	**Nizip/Gaziante**	**1.68**	**192**	P	**Pg**	**07 17 42.7**	**-0.3**
NZIP				S	**Sg**	**07 18 05.6**	**+0.7**
NZIP				*i* AML	AML	07 18 11.0	
	comp=E,503nm,0.5s						
NZIP				*i* AML	AML	07 18 16.0	
	comp=N,270nm,0.9s						
SAIM	**ADANA**	**1.74**	**246**	P	**Pb**	**07 17 42.2**	**-0.6**
SAIM				S	**Sb**	**07 18 05.3**	**+0.6**
SAIM				*i* AML	AML	07 18 16.0	
	comp=N,256nm,0.6s						
SAIM				*i* AML	AML	07 18 16.0	
	comp=E,197nm,0.4s						
DYBB	**Diyarbakir**	**1.76**	**114**	Pn	**Pb**	**07 17 42.9**	**-0.2**
BNN	**Bunyan**	**1.77**	**276**	Pn	**Pb**	**07 17 42.5**	**-0.8**
ANDN	**Andirin**	**1.78**	**232**	P	**Pg**	**07 17 44.0**	**-0.9**
ANDN				S	**Sg**	**07 18 07.8**	**-0.1**
ANDN				*i* AML	AML	07 18 14.0	
	comp=E,331nm,0.8s						
ANDN				*i* AML	AML	07 18 15.0	
	comp=N,192nm,0.5s						
RSDY	**Resadiye-TOKAT**	**1.81**	**341**	Pn	**Pb**	**07 17 43.1**	**-0.7**
TOKT	**Tokat**	**2.02**	**324**	Pn	**Pb**	**07 17 46.1**	**-1.4**
BNGB	**Bingl**	**2.03**	**81**	Pn	**Pb**	**07 17 47.0**	**-0.7**
KUZU	**Kuzuini**	**2.08**	**203**	P	**Pg**	**07 17 50.7**	**0.0**
KUZU				S	**Sg**	**07 18 18.4**	**+0.7**
KUZU				*i* AML	AML	07 18 22.0	
	comp=N,368nm,0.5s						
KUZU				*i* AML	AML	07 18 23.0	
	comp=E,422nm,0.5s						
KOZT	**Kozan**	**2.17**	**237**	Pn	**Pb**	**07 17 48.0**	**-1.9**
MAZI	**Mazidag**	**2.22**	**123**	Pn	**Pb**	**07 17 49.6**	**-1.3**
BAYT	**Aydıntepe-Bayb**	**2.32**	**42**	Pn	**Pb**	**07 17 50.9**	**-1.7**
YOZ	**Yozgat**	**2.36**	**294**	Pn	**Pn**	**07 17 50.8**	**+1.3**
SVAN	**Silvan-Diyarba**	**2.49**	**102**	Pn	**Pb**	**07 17 53.3**	**-2.2**
KOZK	**Kozakli-Nevseh**	**2.58**	**283**	Pn	**Pn**	**07 17 53.9**	**+1.5**
KARA	**Karaisali**	**2.80**	**240**	Pn	**Pn**	**07 17 55.5**	**+0.1**
KVT	**Kavak**	**2.86**	**327**	Pn	**Pn**	**07 17 58.4**	**+2.1**
GULA	**Gulagac**	**3.05**	**265**	Pn	**Pn**	**07 18 00.8**	**+1.8**
CORM	**Corum**	**3.07**	**300**	Pn	**Pn**	**07 18 01.1**	**+1.8**
YAYX	**Yaylak**	**3.36**	**276**	Pn	**Pn**	**07 18 05.2**	**+2.0**
KAMT	**Kaman**	**3.49**	**283**	Pn	**Pn**	**07 18 06.9**	**+2.0**
YESY	**Yesilyurt**	**3.55**	**257**	Pn	**Pn**	**07 18 08.1**	**+2.3**

IDC 31 07:17:32.5±2.7, 53.°97N×86.°50E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=22.5km s-min=13.6km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**270**	I	I	07 23 50.0	
	0.1nm,0.8s,baz=90,slow=339,SNR=4.0						
ZALV	**Zalesovo Beam**	**0.99**	**270**	Pg	Pg	07 17 50.8	-0.7
	0.4nm,0.3s,baz=86,slow=16,SNR=5.2						
ZALV				Lg	Lg	07 18 05.8	
	0.7nm,0.3s,baz=87,slow=30,SNR=7.2						
KURBB	**Kurchatov Arra**	**5.92**	**239**	Pn	Pn	07 19 01.4	-0.1
	baz=58,slow=13,SNR=2.6						
	1.1nm,0.2s						
MKAR	**Makanchi Array**	**7.67**	**202**	Pn	Pn	07 19 27.1	+1.6
	0.1nm,0.3s,baz=25,slow=13,SNR=5.5						
	0.1nm,0.3s						

IDC 31 07:26:01.7±3.0, 54.°17N×87.°12E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=27.6km s-min=16.2km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**261**	I	I	07 35 20.0	
	0.1nm,0.9s,baz=79,slow=337,SNR=15						
ZALV	**Zalesovo Beam**	**1.37**	**261**	Pg	Pg	07 26 26.1	-1.9
	1.2nm,0.3s,baz=79,slow=17,SNR=16						
ZALV				Lg	Lg	07 26 45.6	
	0.9nm,0.3s,baz=83,slow=28,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.34**	**239**	Pn	Pn	07 27 37.1	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=6.4						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	07 28 00.7	+1.6
	0.2nm,0.3s,baz=25,slow=13,SNR=13						
MKAR				Sn	Sn	07 29 29.2	-1.1
	baz=28,slow=28,SNR=7.0						
	0.3nm,0.4s						

IDC 31 07:27:02.1±3.3, 54.°25N×87.°21E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=32.1km s-min=19.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**259**	I	I	07 36 23.4	
	baz=78,slow=337						
ZALV	**Zalesovo Beam**	**1.44**	**259**	Pg	Pn	07 27 27.5	-1.9
	1.4nm,0.3s,baz=81,slow=17,SNR=6.6						
ZALV				Lg	Lg	07 27 48.0	
	0.7nm,0.3s,baz=76,slow=33,SNR=1.5						
KURBB	**Kurchatov Arra**	**6.42**	**239**	Pn	Pn	07 28 38.5	+0.6
	0.1nm,0.3s,baz=56,slow=14,SNR=4.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.09**	**205**	Pn	Pn	07 29 02.2	+1.4
	0.2nm,0.3s,baz=27,slow=13,SNR=9.1						
	0.3nm,0.4s						

*IDC **31** 07:28:41.7±3.4, 48.°65N×77.°40E, h0km, mbtmp2.4/2, ML1.9/2, Error ellipse: s-maj=41.1km s-min=13.6km az=78.0*
*NNC **31** 07:28:46.0±3.5, 48.°73N×78.°03E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=49.1km s-min=12.9km az=74.0, Suspected Mining explosion.*
ISC 31 07:28:41.6±4.2, 48.°7N±0.°1×77.°4E±0.°3, h0km, n8, σ0°79/9, 4C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.11**	**21**	Pg	**Pb**	**07 29 19.9**	**-0.9**
	0.3nm,0.3s,baz=203,slow=16,SNR=8.7						
KURBB				Lg	Lg	07 29 47.6	
	0.3nm,0.3s,baz=202,slow=27,SNR=7.3						
KURBB	**Kurchatov Arra**	**2.11**	**21**	⇓Pn	**Pn**	**07 29 19.2**	**+1.0**
	1.1nm,0.2s						
KURBB				⇑Sn	**Sb**	**07 29 47.1**	**-0.4**
	2.3nm,0.3s						
KURK	**Kurchatov**	**2.22**	**21**	⇑Pn	**Pn**	**07 29 19.7**	**0.0**
	0.4nm,0.2s						
KURK				⇑Sn	**Sn**	**07 29 48.0**	**+0.3**
	4.8nm,0.8s						
MAKZ	**Makanchi**	**3.63**	**119**	⇓Pn	**Pn**	**07 29 39.6**	**+0.6**
	1.6nm,1.1s						
MAKZ				⇓Lg	Lg	07 30 29.6	
	5.1nm,1.1s						
MK31	**Makanchi Array**	**3.82**	**117**	Pn	**Pn**	**07 29 42.1**	**+0.4**
	baz=301,slow=12,SNR=9.2						
MK31				⇑Lg	Lg	07 30 32.7	
	1.5nm,0.8s,baz=310,slow=26,SNR=3.7						
MKAR	**Makanchi Array**	**3.82**	**117**	Pn	**Pn**	**07 29 41.8**	**+0.1**
	0.1nm,0.3s,baz=302,slow=11,SNR=7.0						
MKAR				Lg	Lg	07 30 31.3	
	0.2nm,0.3s,baz=308,slow=28,SNR=6.4						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**7.07**	**39**	Pn	**Pn**	**07 30 27.3**	**+1.1**
	0.1nm,0.3s,baz=227,slow=13,SNR=1.8						
	0.4nm,0.5s						
I46RU	**ZALESOVO INFRA**	**7.07**	**39**	I	I	08 11 20.0	
	baz=222,slow=329,SNR=2.8						

*NNC **31** 07:48:17.8±11.0, 49.°33N×75.°54E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=98.6km s-min=53.3km az=101.0, Suspected Mining explosion.*
*IDC **31** 07:48:21.9±1.8, 51.°16N×81.°68E, h0km, mbtmp2.1/2, ML1.7/2, Error ellipse: s-maj=17.4km s-min=14.7km az=9.0*
ISC 31 07:48:22.5±1.1, 51.°07N±0.°06×81.°76E±0.°06, h10km, n7, σ1°89/10, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.02**	**261**	⇑Pn	**Pb**	**07 48 57.7**	**-1.5**
	1.7nm,0.8s						
KURK				⇓Sn	**Sg**	**07 49 27.3**	**+0.1**
	4.3nm,0.5s						
KURBB	**Kurchatov Arra**	**2.09**	**259**	Pg	**Pb**	**07 48 59.0**	**-1.5**
	0.1nm,0.3s,baz=72,slow=18,SNR=5.8						
KURBB				Lg	Lg	07 49 29.0	
	0.2nm,0.3s,baz=72,slow=33,SNR=7.6						
KURBB	**Kurchatov Arra**	**2.09**	**259**	⇓Pn	**Pb**	**07 48 59.0**	**-1.5**
	0.9nm,0.3s						
KURBB				⇑Sn	**Sg**	**07 49 29.6**	**0.0**
	8.5nm,0.7s						
I46RU	**ZALESOVO INFRA**	**3.44**	**32**	I	I	08 05 20.0	
	baz=217,slow=339,SNR=12						
ZALV	**Zalesovo Beam**	**3.44**	**32**	Pn	**Pn**	**07 49 16.8**	**+0.8**
	0.3nm,0.3s,baz=212,slow=12,SNR=3.3						
ZALV				Sn	**Sn**	**07 49 57.2**	**+0.5**
	0.3nm,0.3s,baz=217,slow=24,SNR=3.6						
	0.6nm,0.5s						
MK31	**Makanchi Array**	**4.29**	**175**	⇑Pn	**Pb**	**07 49 35.9**	**-2.1**
	1.0nm,0.9s,baz=296,slow=18,SNR=6.0						
MK31				⇓Sn	**Sg**	**07 50 38.8**	**-1.5**
	1.2nm,0.6s,baz=5.6,slow=27,SNR=3.5						
MKAR	**Makanchi Array**	**4.29**	**175**	Pn	**Pn**	**07 49 31.2**	**+3.3**
	0.1nm,0.3s,baz=352,slow=15,SNR=2.0						
MKAR				Lg	Lg	07 50 38.8	
	0.1nm,0.3s,baz=356,slow=24,SNR=3.1						
	0.1nm,0.3s						

IDC 31 07:51:40.7±2.3, 54.°63N×83.°77E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=18.9km s-min=10.7km az=171.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**138**	I	I	07 57 19.5	
	0.1nm,1.1s,baz=318,slow=340,SNR=14						
ZALV	**Zalesovo Beam**	**0.92**	**138**	Pg	Pg	07 51 57.8	-0.5
	1.2nm,0.3s,baz=325,slow=16,SNR=15						
ZALV				Lg	Lg	07 52 11.8	
	3.0nm,0.3s,baz=319,slow=29,SNR=17						
KURBB	**Kurchatov Arra**	**5.13**	**221**	Pn	Pn	07 52 59.1	+0.5
	0.1nm,0.3s,baz=46,slow=13,SNR=1.8						
KURBB				Pg	Pb	07 53 09.8	-1.4
	baz=38,slow=14,SNR=1.1						
KURBB				Lg	Lg	07 54 23.6	
	baz=45,slow=32,SNR=1.8						
	0.4nm,0.2s						
MKAR	**Makanchi Array**	**7.91**	**187**	Pn	Pn	07 53 36.5	-0.3
	baz=6.8,slow=9.6,SNR=2.1						
	0.1nm,0.6s						

IDC 31 07:53:37.1±2.1, 54.°62N×83.°83E, h0km, mbtmp3.0/2, ML2.2/2, Error ellipse: s-maj=17.3km s-min=10.0km az=170.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**139**	I	I	07 59 15.5	
	baz=317,slow=342						
ZALV	**Zalesovo Beam**	**0.89**	**139**	Pg	Pg	07 53 53.0	-1.1
	3.4nm,0.3s,baz=318,slow=16,SNR=18						
ZALV				Lg	Lg	07 54 07.9	
	6.3nm,0.3s,baz=320,slow=29,SNR=18						
KURBB	**Kurchatov Arra**	**5.14**	**221**	Pn	Pn	07 54 55.6	+0.3
	baz=38,slow=13,SNR=3.3						
KURBB				Pg	Pb	07 55 08.1	+0.3
	0.1nm,0.3s,baz=34,slow=15,SNR=8.1						
KURBB				Lg	Lg	07 56 18.9	
	0.1nm,0.3s,baz=39,slow=31,SNR=5.2						
	0.7nm,0.2s						
MKAR	**Makanchi Array**	**7.90**	**188**	Pn	Pn	07 55 32.1	-1.0
	0.1nm,0.3s,baz=10,slow=12,SNR=4.1						
MKAR				Lg	Lg	07 57 47.9	
	0.1nm,0.3s,baz=15,slow=30,SNR=7.1						
	0.8nm,1.1s						

*IDC **31** 07:54:10.3±3.1, 15.°34S×71.°77W, h170km±32km, mb3.1/3, mbtmp3.5/6, Error ellipse: s-maj=34.0km s-min=27.3km az=116.0*
ISC 31 07:54:09.7±0.9, 15.°20S±0.°08×71.°8W±0.°1, h150km, n15, σ1°42/18, mb3.1/3, 2C-2D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**3.69**	**158**	⇓*i*P	**Pn**	**07 55 06.4**	**+0.5**
PB12				*i* S	**Sn**	**07 55 50.3**	**+0.7**
PB12	**IPOC Station P**	**3.69**	**158**	⇓*i*P	**Pn**	**07 55 06.4**	**+0.5**
PB12				*i* S	**Sn**	**07 55 50.3**	**+0.7**
LPAZ	**La Paz**	**3.71**	**108**	P	**Pn**	**07 55 07.9**	**+1.2**
	2.4nm,0.3s,baz=303,slow=9.0,SNR=26						
LPAZ				S	**Sn**	**07 55 50.6**	**-0.2**
	2.1nm,0.4s,baz=283,slow=18,SNR=1.5						
PB11	**IPOC Station P**	**4.99**	**156**	⇑*i*P	**Pn**	**07 55 22.9**	**-0.1**
PB11	**IPOC Station P**	**4.99**	**156**	⇑*i*P	**Pn**	**07 55 22.9**	**-0.1**
GO01	**Chusmiza**	**5.10**	**151**	*e*P	**Pn**	**07 55 26.6**	**+1.7**
GO01	**Chusmiza**	**5.10**	**151**	*e*P	**Pn**	**07 55 26.6**	**+1.7**
NNA	**Nana**	**5.84**	**302**	S	Sn	07 56 32.5	-8.0
	13nm,0.3s,baz=175,slow=11,SNR=4.3						
LVC	**Limon Verde**	**7.87**	**160**	P	**Pn**	**07 56 01.1**	**-0.5**
	1.9nm,0.4s,baz=31,slow=7.7,SNR=10						
LVC				S	**Sn**	**07 57 26.9**	**-2.8**
	2.4nm,0.3s,baz=1.4,slow=14,SNR=2.3						
SIV	**San Ignacio**	**10.38**	**96**	P	**Pn**	**07 56 33.2**	**-1.6**
	1.0nm,0.5s,baz=283,slow=14,SNR=7.1						
TXAR	**Lajitas Array**	**53.91**	**325**	P	**P**	**08 03 16.4**	**-1.5**
	0.3nm,0.9s,baz=150,slow=9.1,SNR=2.5						
	0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**77.99**	**73**	P	**P**	**08 05 50.8**	**-1.1**
	0.2nm,0.5s,baz=254,slow=3.9,SNR=2.0						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**84.36**	**342**	P	**P**	**08 06 24.8**	**+0.2**
	0.5nm,0.6s,baz=136,slow=5.1,SNR=15						
	0.5nm,0.6s						
SONM	**Songino Array**	**147.42**	**2**	PKPbc	**PKPdf**	**08 13 34.5**	**+1.1**
	0.6nm,0.6s,baz=351,slow=1.7,SNR=2.6						
KSRS	**Korea Array**	**151.75**	**325**	PKPbc	**PKPdf**	**08 13 42.9**	**+2.5**
	0.6nm,0.3s,baz=72,slow=1.7,SNR=2.1						

*NNC **31** 07:56:55.6±2.7, 54.°14N×87.°15E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=23.8km s-min=12.8km az=18.0, Suspected Mining explosion.*
*IDC **31** 07:56:56.1±2.5, 54.°19N×87.°14E, h0km, mbtmp3.7/2, ML3.4/2, Error ellipse: s-maj=21.6km s-min=15.4km az=61.0*
ISC 31 07:56:58.1±4.3, 54.°2N±0.°2×86.°9E±0.°2, h0km, n9, σ0°92/14, 5C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**261**	I	I	08 06 34.0	
	0.3nm,0.8s,baz=79,slow=338,SNR=6.2						
ZAA0	**Zalesovo Array**	**1.23**	**261**

0.7nm,0.6s
MKAR Makanchi Array 7.94 203 Pn **Pn 07 58 55.0 +0.3**
0.5nm,0.3s,baz=27,slow=14,SNR=32
MKAR Sn **Sn 08 00 25.6 +0.5**
0.2nm,0.3s,baz=25,slow=27,SNR=4.2
MKAR Lg Lg 08 01 08.8
0.1nm,0.3s,baz=28,slow=27,SNR=2.0
0.9nm,0.3s
MAKZ Makanchi 8.00 205 ⇓Pn **Pn 07 58 55.7 +0.2**
1.9nm,1.1s
MAKZ ⇓Sn Sn 08 00 12.8 -14
2.2nm,1.1s
MAKZ Lg Lg 08 01 06.9
2.3nm,1.0s

IDC 31 08:11:46.3±2.7, 53°42N×87°29E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.0km s-min=13.5km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56 291**		I	I	08 22 10.0	
	0.4nm,0.9s,baz=107,slow=338,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.56 291**		Pg	Pn	08 12 13.8	-1.5
	1.2nm,0.3s,baz=111,slow=14,SNR=18						
ZALV				Lg	Lg	08 12 36.4	
	0.9nm,0.3s,baz=112,slow=23,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.09 246**		Pn	Pn	08 13 17.8	+0.4
	0.1nm,0.3s,baz=61,slow=14,SNR=5.0						
KURBB				Lg	Lg	08 15 00.0	
	baz=63,slow=33,SNR=1.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.37 208**		Pn	Pn	08 13 36.6	+1.6
	0.2nm,0.3s,baz=27,slow=14,SNR=18						
MKAR				Sn	Sn	08 14 58.8	-0.6
	baz=22,slow=27,SNR=1.8						
MKAR				Lg	Lg	08 15 40.2	
	baz=21,slow=29,SNR=3.5						
	0.3nm,0.2s						

*VIE **31** 08:11:50.5, 51°53N×16°38E, h0km, mb2.4/1, ml2.8/2 66 km NW of Wroclaw Suspected Mining induced.*
*PRU **31** 08:11:51.0±0.0, 51°51N×16°02E, h0km*
ISC 31 08:11:49.6±1.0, 51°56N±0°04×16°05E±0°03, h0km, n25, σ0s88/52, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74 168**		*e*Pg	**Pb**	**08 12 04.5**	**-0.8**
KSP				*e*Sg	**Sb**	**08 12 14.2**	**-1.8**
OSTC	**Ostas**	**1.01 174**		*e*PG	**Pg**	**08 12 08.6**	**-0.4**
OSTC				*e*SG	**Sg**	**08 12 21.4**	**-0.7**
	comp=Z,40nm,0.3s						
UPC	**Upice**	**1.06 181**		*e*PG	**Pg**	**08 12 09.6**	**-0.2**
UPC				*e*SG	**Sg**	**08 12 23.8**	**+0.3**
	comp=Z,85nm,0.6s						
DPC	**Dobruska-Polom**	**1.23 172**		*e*PG	**Pg**	**08 12 12.6**	**-0.5**
DPC				*e*SG	**Sg**	**08 12 28.8**	**-0.2**
	comp=Z,34nm,0.8s						
PVCC	**Panska Ves**	**1.40 223**		*e*PG	**Pg**	**08 12 15.7**	**-0.6**
PVCC				*e*SG	**Sb**	**08 12 34.6**	**-0.2**
	comp=Z,98nm,0.4s						
BRG	**Berggiesshubel**	**1.49 243**		Pg	**Pg**	**08 12 19.0**	**+0.8**
BRG				Sg	**Sn**	**08 12 39.1**	**+1.2**
BRG				Amp		08 12 40.5	
	comp=Z,77nm,0.4s						
KRLC	**Kraliky**	**1.56 162**		*e*PG	**Pn**	**08 12 18.4**	**-0.2**
KRLC				*e*SG	**Sg**	**08 12 38.7**	**-1.0**
	comp=Z,34nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84 206**		*e*PG	**Pn**	**08 12 22.4**	**0.0**
GOPC				*e*SG	**Sg**	**08 12 48.0**	**-0.5**
	comp=Z,14nm,0.5s						
PRU	**Pruhonice**	**1.84 212**		*e*PG	**Pn**	**08 12 22.2**	**-0.3**
PRU				*e*SG	**Sg**	**08 12 48.8**	**0.0**
	comp=Z,16nm,0.5s						
CLL	**Collm**	**1.92 264**		*i* Pn	**Pn**	**08 12 23.1**	**-0.4**
	comp=Z,8.0nm,0.5s						
CLL				*e*Pg	**Pb**	**08 12 26.0**	**+0.5**
CLL				*ex*	x	08 12 27.0	
CLL				*i* x	x	08 12 30.1	
CLL				*e*Sg	**Sg**	**08 12 52.0**	**+0.7**
	comp=Z,19nm,0.3s						
MORC	**Moravsky Berou**	**2.03 151**		*e*PN	**Pn**	**08 12 24.4**	**-0.6**
MORC				*e*SG	**Sb**	**08 12 52.9**	**-0.2**
OKC	**Ostrava-Krasne**	**2.18 142**		*e*PG	**Pb**	**08 12 29.7**	**-0.2**
OKC				*e*SG	**Sb**	**08 12 57.9**	**+0.4**
	comp=Z,36nm,0.7s						
VRAC	**Vranov**	**2.29 171**		*e*PN	**Pn**	**08 12 28.9**	**+0.4**
VRAC				*e*SG	**Sg**	**08 13 02.4**	**-0.6**
TREC	**Trest**	**2.30 189**		*e*PG	**Pb**	**08 12 31.8**	**-0.1**
TREC				*e*SG	**Sg**	**08 13 02.9**	**-0.5**
	comp=Z,15nm,0.3s						
MAUC	**Maruska**	**2.48 152**		*e*PN	**Pn**	**08 12 31.3**	**+0.1**
MAUC				*e*PG	**Pb**	**08 12 34.6**	**-0.4**
MAUC				*e*SG	**Sg**	**08 13 07.6**	**-1.5**
KRUC	**Moravsky**	**2.52 175**		*e*SG	**Sg**	**08 13 09.2**	**-1.1**
NKC	**Novy Kostel**	**2.64 241**		*e*PN	**Pn**	**08 12 33.8**	**+0.4**
NKC				*e*SG	**Sg**	**08 13 13.4**	**-1.0**
	comp=Z,25nm,0.3s						
OJC	**Ojcow**	**2.73 118**		*e*Pg	**Pg**	**08 12 41.3**	**-0.6**
OJC				*e*Sg	**Sg**	**08 13 17.4**	**+0.2**
KHC	**Kasperske Hory**	**2.91 214**		*e*PN	**Pn**	**08 12 36.9**	**-0.2**
KHC				*e*PG	**Pb**	**08 12 43.3**	**+1.0**
KHC				*e*SN	**Sn**	**08 13 12.9**	**+0.2**
KHC				*e*SG	**Sg**	**08 13 22.1**	**-0.7**
	comp=Z,7.9nm,0.7s						
CKRC	**Cesky Krumlov**	**2.97 203**		*e*PN	**Pn**	**08 12 39.0**	**+1.1**
CKRC				*e*PG	**Pb**	**08 12 43.1**	**-0.2**
CKRC				*e*SG	**Sg**	**08 13 23.0**	**-1.8**
LANS	**Liptovska Anna**	**3.26 136**		*e*PG	**Pg**	**08 12 54.6**	**+2.6**
LANS				*e*SG	**Sg**	**08 13 34.2**	**-0.1**
BSD	**Bornholm Skovb**	**3.62 350**		*i* P	**Pn**	**08 12 45.0**	**-1.8**
CONA	**Conrad Observa**	**3.64 182**		*i* Pn	**Pn**	**08 12 48.5**	**+1.2**
	comp=Z,0.8nm,0.2s						
CONA				*e*Sg	**Sg**	**08 13 46.8**	**+0.2**
	comp=Z,6.7nm,0.4s						
MOA	**Molln**	**3.89 198**		*i* Pn	**Pn**	**08 12 51.3**	**+0.7**
	comp=Z,2.2nm,0.2s						
STHS	**Stebnicka Huta**	**3.95 121**		*e*PG	**Pg**	**08 13 07.2**	**+1.9**
STHS				*e*SG	**Sg**	**08 13 56.8**	**+0.3**

IDC 31 08:15:02.0±9.1, 7°50S×129°43E, h170km±98km, mb2.9/1, mbtmp3.4/3, Error ellipse: s-maj=107.0km s-min=38.7km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.26 159**		P	Pn	08 18 02.6	-1.2
	0.9nm,0.5s,baz=335,slow=13,SNR=2.4						
WRA				S	Sn	08 20 24.8	-6.3
	1.6nm,0.6s,baz=338,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**16.64 166**		P	Pn	08 18 46.2	+0.5
	0.5nm,0.6s,baz=340,slow=9.7,SNR=14						
ASAR				S	S	08 21 50.9	+1.1
	0.5nm,0.6s,baz=357,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**68.33 327**		P	P	08 25 45.0	0.0
	0.2nm,0.6s,baz=137,slow=5.1,SNR=2.3						
	0.2nm,0.6s						

IDC 31 08:18:13.1±3.2, 54°24N×87°50E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=25.2km s-min=16.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.60 261**		I	I	08 27 30.0	
	0.2nm,1.0s,baz=79,slow=338,SNR=18						
ZALV	**Zalesovo Beam**	**1.60 261**		Pg	Pn	08 18 40.4	-2.2
	0.6nm,0.3s,baz=75,slow=15,SNR=8.9						
ZALV				Lg	Lg	08 19 04.9	
	0.9nm,0.3s,baz=80,slow=29,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.57 240**		Pn	Pn	08 19 51.5	+0.6
	baz=58,slow=14,SNR=4.4						
KURBB				Sn	Sn	08 21 05.6	-0.9
	baz=18,slow=19,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.16 206**		Pn	Pn	08 20 14.4	+1.7
	0.1nm,0.3s,baz=29,slow=13,SNR=6.6						
MKAR				Sn	Sn	08 21 44.3	-1.3
	baz=26,slow=28,SNR=5.0						
MKAR				Lg	Lg	08 22 34.4	
	baz=28,slow=34,SNR=2.1						
	0.1nm,0.4s						

IDC 31 08:20:03.9±2.9, 54°12N×87°28E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.3km s-min=16.6km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46 264**		I	I	08 29 29.9	
	baz=78,slow=338						
ZALV	**Zalesovo Beam**	**1.46 264**		Pg	Pn	08 20 30.0	-1.4
	0.8nm,0.3s,baz=82,slow=16,SNR=4.3						
ZALV				Lg	Lg	08 20 51.0	
	1.0nm,0.3s,baz=85,slow=27,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.40 240**		Pn	Pn	08 21 40.3	+1.0
	baz=56,slow=14,SNR=4.8						
KURBB				Sn	Sn	08 22 51.7	-1.3
	baz=56,slow=21,SNR=1.5						
KURBB				Lg	Lg	08 23 26.7	
	baz=50,slow=30,SNR=2.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.99 205**		Pn	Pn	08 22 02.6	+1.4
	0.1nm,0.3s,baz=26,slow=13,SNR=6.5						
MKAR				Sn	Sn	08 23 30.9	-1.4
	baz=22,slow=27						
MKAR				Lg	Lg	08 24 16.3	
	baz=24,slow=35						
	0.2nm,0.4s						

IDC 31 08:25:12.6±3.5, 53°44N×87°62E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=32.5km s-min=17.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74 288**		I	I	08 36 13.5	
	0.2nm,0.8s,baz=106,slow=340,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.74 288**		Pg	Pn	08 25 43.4	-0.7
	0.6nm,0.3s,baz=106,slow=15,SNR=6.0						
ZALV				Lg	Lg	08 26 08.5	
	0.5nm,0.3s,baz=108,slow=28,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.28 247**		Pn	Pn	08 26 46.7	+0.4
	baz=61,slow=13,SNR=2.1						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**7.48 209**		Pn	Pn	08 27 04.4	+1.5
	baz=26,slow=11,SNR=2.0						
	0.1nm,0.4s						

*IDC **31** 08:26:45.3±2.7, 54°33N×86°97E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=22.4km s-min=15.3km az=61.0*
*NNC **31** 08:26:45.7±2.2, 54°26N×86°90E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=21.7km s-min=12.7km az=3.0, Suspected Mining explosion.*
ISC 31 08:26:47.7±4.1, 54°3N±0°2×86°7E±0°2, h0km, n8, σ0s92/13, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.16 255**		I	I	08 35 30.0	
	0.1nm,0.9s,baz=74,slow=336,SNR=6.4						
ZAA0	**Zalesovo Array**	**1.16 255**		⇑P	**Pg**	**08 27 08.8**	**-1.2**
	0.6nm,0.2s						
ZAA0				⇓S	**Sb**	**08 27 27.2**	**+0.9**
	9.5nm,1.2s						
ZALV	**Zalesovo Beam**	**1.16 255**		Pg	**Pg**	**08 27 08.7**	**-1.3**
	5.0nm,0.3s,baz=73,slow=16,SNR=39						
ZALV				Lg	Lg	08 27 28.0	
	3.3nm,0.3s,baz=72,slow=28,SNR=9.2						
KURK	**Kurchatov**	**6.09 238**		⇓Pn	**Pn**	**08 28 20.0**	**+1.0**
	0.7nm,0.6s						
KURK				⇑Sn	**Sn**	**08 29 30.0**	**+0.7**
	1.2nm,0.7s						
KURK				⇑Lg	Lg	08 30 02.0	
	12nm,1.5s						
KURBB	**Kurchatov Arra**	**6.20 237**		Pn	**Pn**	**08 28 20.6**	**+0.3**
	0.2nm,0.3s,baz=54,slow=14,SNR=13						
KURBB				Sn	**Sn**	**08 29 31.8**	**0.0**
	baz=43,slow=18,SNR=1.3						
KURBB				Lg	Lg	08 30 06.8	
	baz=55,slow=32,SNR=5.4						
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**6.20 237**		⇑Pn	**Pn**	**08 28 21.3**	**+1.0**
	1.6nm,0.3s						
KURBB				⇓Sn	**Sn**	**08 29 31.4**	**-0.4**
	2.7nm,0.5s						
KURBB				⇑Lg	Lg	08 30 06.7	
	6.1nm,0.8s						
MK31	**Makanchi Array**	**7.99 202**		⇑Pn	**Pn**	**08 28 45.7**	**+0.6**
	0.2nm,0.4s,baz=26,slow=14,SNR=24						
MK31				⇓Sn	**Sn**	**08 30 15.1**	**-1.0**
	0.2nm,0.5s						
MK31				⇓Lg	Lg	08 31 00.2	
	3.6nm,0.9s,baz=22,slow=27,SNR=4.4						
MKAR	**Makanchi Array**	**7.99 202**		Pn	**Pn**	**08 28 45.6**	**+0.6**
	0.1nm,0.3s,baz=26,slow=14,SNR=9.1						
MKAR				Sn	**Sn**	**08 30 16.4**	**+0.3**
	0.1nm,0.3s,baz=23,slow=27,SNR=4.6						
MKAR				Lg	Lg	08 31 02.4	
	0.1nm,0.3s,baz=25,slow=26,SNR=4.1						
	0.3nm,0.3s						

*OSPL **31** 08:35:13.6±0.3, 19°25N×67°12W, h17km±2km, ML2.0*
*RSPR **31** 08:35:15.2, 18°98N×67°31W, h79km±7km, MD3.1/11*
*NEIC **31** 08:35:17.8±2.6, 18°89N±0°07×67°28W±0°05, h39km±27km, ML2.1/22, Md3.1/22(RSPR), Error ellipse: s-maj=10.5km s-min=6.6km az=175.0*
ISC 31 08:35:14.9±1.6, 19°06N±0°08×67°26W±0°04, h27km, n49, σ1s03/51, 11C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.61 167**		⇑*e*P	**Pn**	**08 35 27.3**	**-0.5**
AGPR	**Aguadilla, PR**	**0.61 167**		*e*S	**Sn**	**08 35 36.5**	**-0.2**
AGPR	**Aguadilla, PR**	**0.61 167**			**Pn**	**08 35 27.3**	**-0.5**
AGPR					**Sn**	**08 35 36.5**	**-0.2**
AGPR	**Aguadilla, PR**	**0.61 167**		IAML		08 35 38.2	
	comp=E,109nm,0.2s						
AGPR				IAML		08 35 38.4	
	comp=N,84nm,1.1s						
AGPR	**Aguadilla, PR**	**0.61 167**		*i* P	**Pn**	**08 35 27.5**	**-0.3**
AGPR				*e*S	**Sn**	**08 35 37.5**	**+0.8**
AGPR				IAML		08 35 42.3	
	comp=Z,49nm,0.9s						
IDE	**Isla Desecheo**	**0.70 197**		⇑*e*P	**Pn**	**08 35 29.3**	**+0.2**
IDE	**Isla Desecheo**	**0.70 197**		*e*S	**Sn**	**08 35 40.8**	**+1.7**
IDE	**Isla Desecheo**	**0.70 197**			**Pn**	**08 35 29.3**	**+0.2**
IDE					**Sn**	**08 35 40.8**	**+1.7**
PRSN	**Puerto Rico Se**	**0.85 173**			**Pn**	**08 35 30.8**	**-0.3**
AOPR	**Arecibo Observ**	**0.86 146**		⇑*e*P	**Pn**	**08 35 30.9**	**-0.4**
AOPR	**Arecibo Observ**	**0.86 146**		*e*S	**Sn**	**08 35 44.3**	**+1.4**
AOPR	**Arecibo Observ**	**0.86 146**			**Pn**	**08 35 30.9**	**-0.4**
AOPR					**Sn**	**08 35 44.3**	**+1.4**
AOPR	**Arecibo Observ**	**0.86 146**		IAML		08 35 44.5	
	comp=E,121nm,0.3s						
AOPR				IAML		08 35 53.4	
	comp=N,87nm,0.4s						
EMPR	**Esperanza - Ma**	**0.90 130**		⇑*e*P	**Pn**	**08 35 32.7**	**+0.8**
EMPR	**Esperanza - Ma**	**0.90 130**		*e*S	**Sn**	**08 35 46.4**	**+2.4**
EMPR	**Esperanza - Ma**	**0.90 130**			**Pn**	**08 35 32.7**	**+0.8**
EMPR	**Esperanza - Ma**	**0.90 130**			**Sn**	**08 35 46.4**	**+2.4**
EMPR	**Esperanza - Ma**	**0.90 130**		IAML		08 35 45.1	
	comp=E,80nm,1.8s						
EMPR	**Esperanza - Ma**	**0.90 130**		IAML		08 36 03.7	
	comp=N,87nm,1.9s						
UUPR	**Utuado, UPR, P**	**0.95 148**		⇑*e*P	**Pn**	**08 35 33.0**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.95 148**			**Pn**	**08 35 33.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.06 172**		⇑*e*P	**Pb**	**08 35 34.2**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.06 172**		*e*S	**Sn**	**08 35 47.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.06 172**			**Pb**	**08 35 34.2**	**-0.5**
CRPR					**Sn**	**08 35 47.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.06 172**		*i* P	**Pb**	**08 35 34.4**	**-0.3**
CRPR				*e*S	**Sn**	**08 35 49.9**	**+2.0**
CRPR				IAML		08 35 57.3	
	comp=Z,26nm,0.2s						
MLPR	**Magueyes Islan**	**1.11 169**		⇑*e*P	**Pn**	**08 35 33.8**	**-0.8**
MLPR	**Magueyes Islan**	**1.11 169**		*e*S	**Sn**	**08 35 47.7**	**-1.3**
MLPR	**Magueyes Islan**	**1.11 169**			**Pn**	**08 35 33.8**	**-0.8**
MLPR					**Sn**	**08 35 47.7**	**-1.3**
MLPR	**Magueyes Islan**	**1.11 169**		IAML		08 35 54.2	
	comp=E,32nm,0.6s						
OBIP	**Obispado Ponce**	**1.19 149**		⇑*e*P	**Pb**	**08 35 36.1**	**-0.7**
OBIP	**Obispado Ponce**	**1.19 149**		*e*S	**Sb**	**08 35 52.7**	**+0.9**
OBIP	**Obispado Ponce**	**1.19 149**			**Pb**	**08 35 36.1**	**-0.7**
OBIP					**Sb**	**08 35 52.7**	**+0.9**
PCDR	**Punta Cana, DR**	**1.20 243**		Pn	**Pn**	**08 35 35.5**	**-0.4**
PCDR				IAML		08 36 01.2	
	comp=E,65nm,1.6s						
PCDR	**Punta Cana, DR**	**1.20 243**		*i* P	**Pb**	**08 35 36.7**	**-0.2**
PCDR				IAML		08 35 58.1	
	comp=Z,44nm,0.8s						
GCPR	**Guaynabo City**	**1.34 124**		Pn	**Pn**	**08 35 38.3**	**+0.4**
GCPR				IAML		08 36 11.2	
	comp=N,20nm,2.8s						
CBYP	**Canovanas**	**1.54 120**		⇑*e*P	**Pn**	**08 35 40.4**	**-0.4**
CBYP	**Canovanas**	**1.54 120**		*e*S	**Sn**	**08 35 59.6**	**-0.3**
CBYP	**Canovanas**	**1.54 120**			**Pn**	**08 35 40.4**	**-0.4**
CBYP					**Sn**	**08 35 59.6**	**-0.3**
IGPR	**InterUniversit**	**1.54 135**		⇑*e*P	**Pn**	**08 35 41.1**	**+0.5**
IGPR	**InterUniversit**	**1.54 135**		*e*S	**Sn**	**08 35 57.9**	**-1.9**
HUMP	**Col San Antoni**	**1.62 124**		*e*S	**Sb**	**08 36 02.6**	**-1.5**
HUMP	**Col San Antoni**	**1.62 124**			**Sb**	**08 36 02.6**	**-1.5**
HUMP	**Col San Antoni**	**1.62 124**		Pn	**Pn**	**08 35 42.5**	**+0.8**
HUMP	**Col San Antoni**	**1.62 124**		IAML		08 36 09.0	
	comp=N,31nm,0.7s						
MTP	**Monte Pirata**	**1.88 120**		⇑*e*P	**Pn**	**08 35 44.5**	**-0.8**
MTP	**Monte Pirata**	**1.88 120**		*e*S	**Sb**	**08 36 12.8**	**+1.1**
MTP	**Monte Pirata**	**1.88 120**			**Pn**	**08 35 44.5**	**-0.8**
MTP	**Monte Pirata**	**1.88 120**		IAML		08 36 03.8	
	comp=N,17nm,3.9s						
MTP				IAML		08 36 56.7	
	comp=E,16nm,3.1s						
MTP	**Monte Pirata**	**1.88 120**			**Sb**	**08 36 12.8**	**+1.1**

IDC 31 08:49:04.9±2.7, 53°69N×86°99E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=26.2km s-min=15.4km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31 282**		I	I	08 57 30.0	
	baz=98,slow=339,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.31 282**		Pg	Pg	08 49 29.8	-0.3
	0.9nm,0.3s,baz=102,slow=16,SNR=12						
ZALV				Lg	Lg	08 49 47.1	
	1.0nm,0.3s,baz=104,slow=30,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.04 243**		Pn	Pn	08 50 35.8	+0.3
	baz=58,slow=13,SNR=3.3						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.53 205**		Pn	Pn	08 50 57.2	+1.4
	0.1nm,0.3s,baz=25,slow=11,SNR=5.6						
	0.1nm,0.3s						

*IDC **31** 08:52:41.5±2.8, 53°59N×88°08E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=23.5km s-min=16.0km az=67.0*
*NNC **31** 08:52:43.3±1.6, 53°45N×87°78E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=13.6km s-min=7.3km az=63.0, Suspected Mining explosion.*
ISC 31 08:52:43.0±3.8, 53°5N±0°1×87°9E±0°2, h0km, n9, σ1s19/11, 3C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86 284**		I	I	09 05 10.0	
	0.1nm,0.9s,baz=98,slow=339,SNR=9.3						
ZAA0	**Zalesovo Array**	**1.86 284**		⇑Pn	**Pn**	**08 53 15.8**	**-0.3**
	0.8nm,0.6s						
ZAA0				⇓Sn	**Sn**	**08 53 40.9**	**+0.5**
	1.7nm,0.5s						
ZALV	**Zalesovo Beam**	**1.86 284**		Pn	**Pn**	**08 53 15.9**	**-0.2**
	1.3nm,0.3s,baz=98,slow=16,SNR=23						
ZALV				Lg	Lg	08 53 44.4	
	3.7nm,0.3s,baz=100,slow=25,SNR=25						
KURK	**Kurchatov**	**6.36 247**		Lg	Lg	08 56 03.0	
	6.3nm,1.1s						
KURBB	**Kurchatov Arra**	**6.45 247**		Pn	**Pn**	**08 54 19.8**	**+0.6**
	0.1nm,0.3s,baz=61,slow=14,SNR=11						
KURBB				Sn	**Sn**	**08 55 33.5**	**0.0**
	baz=58,slow=28,SNR=2.2						
KURBB				Lg	Lg	08 56 10.8	
	baz=64,slow=35,SNR=5.4						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**6.45 247**		⇓Pn	**Pn**	**08 54 20.2**	**+0.9**
	2.5nm,0.6s						
KURBB				⇑Sn	**Sn**	**08 55 32.0**	**-1.5**
	3.6nm,0.7s						
KURBB				⇓Lg	Lg	08 56 07.9	
	4.4nm,0.7s						
MK31	**Makanchi Array**	**7.64 210**		⇑Pn	**Pn**	**08 54 33.9**	**-1.6**
	0.7nm,0.8s,baz=27,slow=13,SNR=5.0						
MK31				⇓Sn	**Sn**	**08 56 01.7**	**-1.1**
	0.3nm,0.5s,baz=94,slow=41,SNR=4.5						
MK31				⇓Lg	Lg	08 56 43.3	
	1.9nm,0.8s,baz=38,slow=32,SNR=4.4						
MKAR	**Makanchi Array**	**7.64 210**		Pn	**Pn**	**08 54 36.7**	**+1.2**
	0.1nm,0.3s,baz=29,slow=13,SNR=4.2						
MKAR				Sn	**Sn**	**08 56 04.2**	**+1.5**
	0.1nm,0.3s,baz=24,slow=26,SNR=5.6						
MKAR				Lg	Lg	08 56 45.6	
	0.1nm,0.3s,baz=30,slow=31,SNR=5.5						
	0.6nm,0.8s						
MAKZ	**Makanchi**	**7.72 212**		⇓Lg	Lg	08 56 47.8	
	3.1nm,0.9s						

*IDC **31** 08:53:39.5±1.7, 7°44S×128°70E, h146km±16km, mb3.5/4, mbtmp4.0/8, MS3.7/1, Error ellipse: s-maj=25.9km s-min=14.1km az=123.0*
*DJA **31** 08:53:39.9±0.3, 7°S±3°×12°9E±°, h205km±10km, M4.5/7, mB4.8/3, mb4.1/7, MLv4.7/6, Mw(mB)4.1/3*
*NEIC **31** 08:53:40.7±2.3, 7°42S±0°10×128°70E±0°07, h155km±10km, mb4.1/9, Error ellipse: s-maj=15.5km s-min=7.9km az=150.0*
ISC 31 08:53:39.4±0.6, 7°50S±0°05×128°72E±0°07, h151km, n39, σ1s78/41, mb3.8/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.60 101**		Pn	**Pn**	**08 54 22.0**	**+0.2**
SAUI	**Saumlaki**	**2.60 101**		P	**Pn**	**08 54 26.0**	**+4.1**
SOEI	**Soe**	**4.94 243**		Pn	**Pn**	**08 54 53.8**	**+1.7**
SOEI	**Soe**	**4.94 243**		P	**Pn**	**08 54 53.7**	**+1.6**
BATI	**Baumata**	**5.67 241**		P	**Pn**	**08 55 02.9**	**+1.1**
BATI	67nm,0.2s,baz=59,slow=2.9,SNR=6.0			S	**Sn**	**08 56 06.2**	**+0.1**
	116nm,0.4s,baz=59,slow=18,SNR=5.7				

MORW IAmb IAmb 08 58 50.9
comp=Z,10nm,1.3s
NWAO Narrogin (SRO) 27.45 201 P **P** **08 59 11.7 +0.4**
NWAO IAmb IAmb 08 59 17.7
comp=Z,21nm,1.2s
NWAO Narrogin (SRO) 27.45 201 P **P** **08 59 12.0 +0.7**
NWAO IAmb IAmb 08 59 17.7
comp=Z,76nm,1.3s
SONM Songino Array 58.52 343 P **P** **09 03 20.5 +0.5**
comp=Z,0.8nm,0.7s,baz=162,slow=7.0,SNR=3.9
comp=Z,0.8nm,0.7s
SONM Songino Array 58.52 343 P **P** **09 03 20.1 +0.1**
AFI Afiamalu 58.70 102 LR LR 09 24 44.4
comp=Z,63nm,20.4s,baz=45,slow=32
MK31 Makanchi Array 67.95 328 P **P** **09 04 21.6 -0.5**
MK31 IAmb IAmb 09 04 39.2
comp=Z,2.0nm,1.4s
MKAR Makanchi Array 67.95 328 P **P** **09 04 22.6 +0.5**
comp=Z,1.0nm,0.7s,baz=112,slow=6.5,SNR=14
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 67.95 328 P **P** **09 04 22.0 0.0**
ZALV Zalesovo Beam 71.48 334 P **P** **09 04 43.0 -0.4**
comp=Z,0.6nm,0.4s,baz=130,slow=5.0,SNR=4.1
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 71.48 334 P **P** **09 04 42.9 -0.5**
KURBB Kurchatov Arra 72.28 329 P **P** **09 04 48.5 +0.2**
comp=Z,0.7nm,0.5s,baz=130,slow=4.9,SNR=9.7
comp=Z,0.7nm,0.5s
KURK Kurchatov 72.29 329 P **P** **09 04 48.4 +0.1**
KURK IAmb IAmb 09 04 49.3
comp=Z,2.5nm,1.1s
QSPA South Pole Qui 82.48 180 P **P** **09 05 46.4 +1.5**
QSPA IAmb IAmb 09 06 24.4
comp=Z,2.9nm,1.2s

IDC 31 08:54:51.0±1.4, 7°50.5S×126°90.E, h0km, mb3.6/3, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=147.3km s-min=28.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.31**	**151**	Pn	Pn	08 58 14.1	-1.0
	0.7nm,0.3s,baz=320,slow=14,SNR=10						
WRA				Sn	Sn	09 00 38.3	-16
	3.2nm,0.3s,baz=268,slow=30,SNR=6.0						
	2.8nm,0.8s						
ASAR	**Alice Springs**	**17.42**	**158**	P	P	08 58 56.8	-0.2
	0.8nm,0.3s,baz=340,slow=11,SNR=16						
ASAR				S	Sn	09 01 55.8	-15
	1.7nm,0.5s,baz=322,slow=16,SNR=3.5						
	5.7nm,0.7s						
SONM	**Songino Array**	**58.00**	**344**	P	P	09 04 44.4	-1.3
	0.5nm,0.7s,baz=162,slow=6.4,SNR=2.3						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**67.00**	**328**	P	P	09 05 46.9	+1.1
	0.3nm,0.5s,baz=115,slow=8.2,SNR=5.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**71.36**	**330**	P	P	09 06 13.0	+0.3
	0.4nm,0.5s,baz=133,slow=5.0,SNR=6.5						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**125.89**	**281**	PKP	PKPdf	09 13 54.8	-1.2
	0.3nm,0.7s,baz=64,slow=3.4,SNR=1.9						

IDC 31 08:58:28.6±3.5, 54°24N×87°.76E, h0km, mbtmp2.6/2, ML2.3/1, Error ellipse: s-maj=26.5km s-min=18.7km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**262**	I	I	09 08 28.7	
	0.1nm,0.8s,baz=80,slow=340,SNR=14						
ZALV	**Zalesovo Beam**	**1.76**	**262**	Pg	Pn	08 58 59.6	-0.7
	2.0nm,0.3s,baz=79,slow=13,SNR=17						
ZALV				Lg	Lg	08 59 24.1	
	2.4nm,0.3s,baz=77,slow=22,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.71**	**241**	Pn	Pn	09 00 09.6	+1.3
	0.1nm,0.3s,baz=53,slow=13,SNR=2.7						
KURBB				Sn	Sn	09 01 24.5	-0.7
	baz=54,slow=22,SNR=1.9						
KURBB				Lg	Lg	09 02 03.5	
	baz=55,slow=31,SNR=4.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.23**	**207**	Pn	Pn	09 00 29.8	+0.7
	0.2nm,0.8s,baz=25,slow=14,SNR=1.5						
MKAR				Sn	Sn	09 02 02.3	-0.5
	baz=26,slow=24,SNR=1.7						

BEO ***31*** *09:00:06.2±1.2, 40°.28N×21°.01E, h7km±3km, ML2.2/4*
ATH ***31*** *09:00:07.4, 40°.39N×20°.91E, h9km±2km, ML2.4/5, Error ellipse: s-maj=2.8km s-min=1.1km az=99.0*
TIR ***31*** *09:00:07.9, 40°.37N×20°.89E, h0km±6km, Md3.6, Ml2.6*
THE ***31*** *09:00:08.0, 40°.39N×20°.93E, h0km±3km, ML2.5/6, Error ellipse: s-maj=3.2km s-min=0.9km az=282.0*
SKO ***31*** *09:00:09.1, 40°.37N×21°.06E, h6km, ML2.2*

ISC 31 09:00:06.7±0.9, 40°.39N±0°.02×20°.96E±0°.02, h15km±8km, n41, σ0°.86/64, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PENT	**Pentalofos**	**0.23**	**145**	P	**Pb**	**09 00 12.2**	**-0.5**
PENT				S	**Sb**	**09 00 16.3**	**-0.5**
	920nm,0.2s						
PENT	**Pentalofos**	**0.23**	**145**	P	**Pb**	**09 00 12.3**	**-0.4**
PENT				S	**Sb**	**09 00 16.3**	**-0.5**
PENT				AML	AML	09 00 17.6	
	comp=E,2932μm,0.3s						
PENT				AML	AML	09 00 18.2	
	comp=N,721μm,0.2s						
KBN	**Korca**	**0.27**	**331**	P	**Pb**	**09 00 12.9**	**-0.4**
KBN				S	**Sb**	**09 00 17.6**	**-0.2**
	comp=N,2μm,0.3s						
KBN	**Korca**	**0.27**	**331**	P	**Pb**	**09 00 13.0**	**-0.4**
	baz=344						
KBN				S	**Sg**	**09 00 16.4**	**-0.2**
	baz=344						
KBN				AMP			
	comp=E,4.9nm,0.3s,baz=344						
LSK	**Leskovik**	**0.36**	**230**	P	**Pg**	**09 00 14.1**	**-0.1**
LSK				S	**Sb**	**09 00 20.1**	**-0.4**
	comp=E,1μm,0.5s						
LSK	**Leskovik**	**0.36**	**230**	P	**Pg**	**09 00 14.0**	**-0.1**
	baz=227						
LSK				S	**Sg**	**09 00 18.1**	**-1.1**
	baz=227						
LSK				AMP			
	comp=N,5.9nm,0.5s,baz=227						
FNA	**Florina**	**0.51**	**38**	P	**Pb**	**09 00 17.1**	**-0.3**
FNA				S	**Sb**	**09 00 25.4**	**+0.8**
	comp=N,992nm,0.2s						
FNA	**Florina**	**0.51**	**38**	*e*Pg	**Pb**	**09 00 17.2**	**-0.1**
FNA				*e*Sg	**Sb**	**09 00 25.1**	**+0.5**
FNA	**Florina**	**0.51**	**38**	*i* Pg	**Pb**	**09 00 17.2**	**-0.1**
FNA				*i* Sg	**Sb**	**09 00 25.1**	**+0.5**
FNA	**Florina**	**0.51**	**38**	P	**Pb**	**09 00 17.3**	**-0.1**
FNA				S	**Sb**	**09 00 25.1**	**+0.5**
FNA				AML	AML	09 00 26.0	
	comp=E,2074μm,0.2s						
FNA				AML	AML	09 00 27.6	
	comp=N,1840μm,0.2s						
KPRO	**Kipourio**	**0.53**	**144**	P	**Pb**	**09 00 17.4**	**-0.4**
KPRO				S	**Sn**	**09 00 27.0**	**-1.6**
	comp=N,772nm,0.3s						
KPRO	**Kipourio**	**0.53**	**144**	P	**Pb**	**09 00 17.7**	**-0.1**
KPRO				S	**Sb**	**09 00 26.0**	**+0.8**
KPRO				AML	AML	09 00 27.2	
	comp=E,1908μm,0.2s						
KPRO				AML	AML	09 00 27.7	
	comp=N,1554μm,0.3s						
KZN	**Kozani**	**0.62**	**97**	P	**Pn**	**09 00 19.9**	**-1.2**
KZN				S	**Sn**	**09 00 31.1**	**+0.2**
	comp=N,482nm,0.1s						
KZN	**Kozani**	**0.62**	**97**	P	**Pn**	**09 00 20.0**	**-1.1**
KZN				S	**Sn**	**09 00 30.0**	**-0.9**
KZN				AML	AML	09 00 32.3	
	comp=E,1055μm,0.2s						
KZN				AML	AML	09 00 32.5	
	comp=N,865μm,0.2s						
OHR	**Ohrid**	**0.73**	**350**	*e*Pg	**Pn**	**09 00 21.8**	**-0.8**
OHR				*e*Sg	**Sn**	**09 00 33.3**	**-0.3**
OHR	**Ohrid**	**0.73**	**350**	*i* Pg	**Pn**	**09 00 22.6**	**0.0**
OHR				*i* Sg	**Sn**	**09 00 34.1**	**+0.6**
OHR				*e*Lg	Lg	09 00 34.2	
	comp=E,102nm,0.4s						
SRN	**Sarande**	**0.90**	**236**	P	**Pn**	**09 00 24.8**	**+0.1**
SRN	**Sarande**	**0.90**	**236**	P	**Pb**	**09 00 23.4**	**-0.5**
	baz=235						
SRN				S	**Sn**	**09 00 37.5**	**+0.1**
	baz=235						
SRN				AMP			
	comp=E,0.5nm,0.5s,baz=235						
IGT	**Igoumenitsa**	**0.98**	**210**	P	**Pn**	**09 00 26.3**	**+0.3**
IGT	**Igoumenitsa**	**0.98**	**210**	*i* Pg	**Pn**	**09 00 26.4**	**+0.5**
IGT	**Igoumenitsa**	**0.98**	**210**	P	**Pn**	**09 00 26.3**	**+0.3**
KEK	**Kerkira**	**1.12**	**233**	P	**Pg**	**09 00 28.5**	**+0.2**
THL	**Klokotos Trika**	**1.15**	**135**	P	**Pg**	**09 00 28.6**	**-0.3**
THL				AML	AML	09 00 49.0	
	comp=N,137μm,0.4s						
THL				AML	AML	09 00 50.0	
	comp=E,157μm,0.3s						
TYRN	**Tyrnavos**	**1.19**	**124**	P	**Pg**	**09 00 29.2**	**-0.4**
TYRN				S	**Sg**	**09 00 48.7**	**+3.7**
TYRN	**Tyrnavos**	**1.19**	**124**	P	**Pg**	**09 00 28.9**	**-0.6**
LIT	**Litokhoron**	**1.20**	**103**	*i* Pg	**Pg**	**09 00 30.2**	**+0.3**
GRG	**Griva**	**1.23**	**62**	*i* Pg	**Pg**	**09 00 30.7**	**+0.2**
GRG	**Griva**	**1.23**	**62**	P	**Pg**	**09 00 30.5**	**0.0**
LKD2	**Lefkada island**	**1.61**	**188**	P	**Pg**	**09 00 37.8**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.64**	**146**	P	**Pg**	**09 00 37.6**	**-0.7**
MAKR				S	**Sg**	**09 01 00.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.64**	**146**	P	**Pb**	**09 00 36.6**	**-0.1**
KNT	**Kendrikon**	**1.66**	**62**	P	**Pb**	**09 00 36.3**	**-0.7**
AGG	**Agios Georgios**	**1.72**	**142**	P	**Pb**	**09 00 38.0**	**-0.1**
AGG	**Agios Georgios**	**1.72**	**142**	P	**Pb**	**09 00 38.0**	**-0.1**
SCTE	**Santa Cesarea**	**1.94**	**261**	P	**Pg**	**09 00 44.4**	**+0.5**
	baz=262						
SCTE				S	**Sg**	**09 01 11.1**	**+2.1**
	baz=262						
ANX	**Ano Chora**	**1.94**	**157**	P	**Pg**	**09 00 42.6**	**-1.3**
ANX	**Ano Chora**	**1.94**	**157**	P	**Pb**	**09 00 41.2**	**-0.6**
BCI	**Bajram Curri**	**2.09**	**341**	P	**Pg**	**09 00 46.4**	**-0.3**
	baz=344						
SRS	**Serrai**	**2.13**	**69**	*e*Pn	**Pn**	**09 00 41.7**	**0.0**
SRS				*e*Sn	**Sn**	**09 01 09.1**	**+1.2**
PRVS	**Prvonek**	**2.28**	**21**	*e*Pn	**Pb**	**09 00 45.8**	**-1.7**
PRVS				*e*Sn	**Sb**	**09 01 14.8**	**-0.7**
BARS	**Barje**	**2.51**	**14**	*e*Pn	**Pn**	**09 00 48.3**	**+1.3**
BARS				*e*Sn	**Sb**	**09 01 20.8**	**-1.4**

IDC 31 09:15:41.9±3.4, 54°.28N×87°.43E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=28.3km s-min=17.9km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**259**	I	I	09 25 00.0	
	0.1nm,0.9s,baz=79,slow=337,SNR=8.5						
ZALV	**Zalesovo Beam**	**1.57**	**259**	Pg	Pn	09 16 10.3	-0.8
	0.6nm,0.3s,baz=75,slow=12,SNR=6.9						
ZALV				Lg	Lg	09 16 31.5	
	1.1nm,0.3s,baz=75,slow=23,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.56**	**240**	Pn	Pn	09 17 19.8	+0.3
	baz=56,slow=14,SNR=3.5						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**8.18**	**206**	Pn	Pn	09 17 43.0	+1.2
	0.1nm,0.3s,baz=26,slow=14,SNR=5.1						
MKAR				Sn	Sn	09 19 15.1	+0.2
	0.1nm,0.3s,baz=27,slow=27,SNR=4.0						
MKAR				Lg	Lg	09 20 01.2	
	baz=23,slow=30						
	0.1nm,0.4s						

IDC 31 09:16:54.2±3.2, 54°.23N×87°.25E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=29.4km s-min=18.4km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**260**	I	I	09 26 17.7	
	baz=78,slow=338						
ZALV	**Zalesovo Beam**	**1.46**	**260**	Pg	Pn	09 17 20.2	-1.6
	0.8nm,0.3s,baz=80,slow=16,SNR=11						
ZALV				Lg	Lg	09 17 40.7	
	0.9nm,0.3s,baz=75,slow=27,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.44**	**239**	Pn	Pn	09 18 31.1	+0.9
	0.1nm,0.3s,baz=55,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**8.09**	**205**	Pn	Pn	09 18 54.0	+1.2
	0.1nm,0.3s,baz=24,slow=13,SNR=7.5						
MKAR				Lg	Lg	09 21 09.8	
	baz=23,slow=30,SNR=2.2						
	0.4nm,0.7s						

MAN 31 09:17:22.2, 9°.22N×122°.56E, h20km, mb4.8, ML3.7, MS3.7, 8C-6D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNOP	**Candoni, Negro**	**0.61**	**7**	*e*P	Pn	09 17 35.2	-0.6
CNOP				*e*S	Sn	09 17 44.2	-1.0
LSIP	**Lazi, Siquijor**	**1.06**	**94**	*i* P	Pb	09 17 40.9	-1.0
LSIP				*i* S	Sn	09 17 56.9	+0.8
TBP	**Tagbilaran**	**1.36**	**70**	*e*P	Pn	09 17 45.9	-0.3
TBP				*i* S	Sb	09 18 04.5	+0.3
PAGZ	**Pagadian**	**1.58**	**149**	*e*P	Pn	09 17 48.9	-0.3
PAGZ				*e*S	Sb	09 18 10.2	-0.1
JAP	**San Jose, Anti**	**1.64**	**338**	*e*P	Pb	09 17 51.6	-0.2
LLP	**Lapu-Lapu**	**1.76**	**51**	*i* P	Pn	09 17 51.8	+0.2
LLP				*i* S	Sn	09 18 13.8	+0.3
GHBP	**Garcia Hernand**	**1.78**	**76**	*e*P	Pn	09 17 51.9	-0.1
TABP	**Talibon, Bohol**	**1.95**	**63**	*e*P	Pn	09 17 53.8	-0.4
TABP				*e*S	Sn	09 18 16.7	-1.4
CGP	**Cagayan de Oro**	**2.24**	**110**	*e*P	Pb	09 18 14.8	+13
CGP				*e*S	Sb	09 18 29.1	-0.2
RCP	**Roxas**	**2.34**	**4**	*e*P	Pn	09 18 00.3	+0.8
RCP				*e*S	Sn	09 18 28.9	+1.2
MSLP	**Maasin**	**2.44**	**68**	*e*P	Pn	09 18 01.6	+0.7
CTBH	**Cotabato--PC H**	**2.59**	**140**	*i* P	Pn	09 18 04.2	+1.2
IBAJ	**Ibajay, Aklan**	**2.62**	**352**	*i* P	Pb	09 18 06.1	-2.3
KCP	**Kidapawan**	**3.33**	**131**	*e*P	Pb	09 18 21.8	+1.2

NOU ***31*** *09:20:26.6, 17°.75S×178°.64W, h543km, mb4.8/36, Fiji Islands Region*
NEIC ***31*** *09:20:27.2±2.0, 17°.82S±0°.10×178°.7W±0°.1, h546km±6km, mb4.5/274, Error ellipse: s-maj=15.5km s-min=13.4km az=126.0*
IDC ***31*** *09:20:28.2±0.8, 17°.89S×178°.74W, h565km±7km, mb3.9/20, mbtmp4.8/22, Error ellipse: s-maj=12.6km s-min=9.0km az=128.0*
BGR ***31*** *09:20:30.4, 18°.75S×179°.93W, h600km*

ISC 31 09:20:26.7±0.3, 17°.83S±0°.06×178°.66W±0°.05, h550km, n764, σ0°.84/756, mb4.5/164, 44C-16D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.14**	**271**	P	**P**	**09 21 44.5**	**+1.8**
	176nm,0.7s,baz=81,slow=2.9,SNR=135						
MSVF				S	**S**	**09 22 48.6**	**+4.1**
	105nm,1.1s,baz=8.9,slow=22,SNR=17						
MSVF	**Nonsavu**	**3.14**	**271**	P	**P**	**09 21 45.0**	**+2.3**
FUTU	**Fugatoga**	**3.54**	**8**	P	**P**	**09 21 45.7**	**+0.3**
AFI	**Afiamalu**	**7.68**	**61**	P	**P**	**09 22 19.4**	**-2.1**
	195nm,0.6s,baz=240,slow=1.1,SNR=29						
AFI				S	**S**	**09 23 51.9**	**-3.5**
	28nm,0.5s,baz=212,slow=23,SNR=1.7						
NIUE	**Niue**	**8.38**	**100**	P	**P**	**09 22 27.9**	**-0.3**
FUNA	**Funafuti**	**9.48**	**347**	P	**P**	**09 22 38.5**	**-1.0**
RAO	**Raoul Island**	**11.39**	**177**	P	**P**	**09 22 58.5**	**-0.3**
MARNC	**Mare, Loyalty**	**13.05**	**252**	P	**P**	**09 23 15.5**	**-0.6**
LIFNC	**LIFOU**	**13.63**	**255**	P	**P**	**09 23 20.8**	**-1.4**
PINNC	**Pines Island,**	**13.88**	**248**	P	**P**	**09 23 24.8**	**+0.1**
PINNC	**Pines Island,**	**13.88**	**248**	P	**P**	**09 23 24.8**	**+0.1**
OUENC	**Ouen Island, N**	**14.36**	**249**	P	**P**	**09 23 29.5**	**-0.2**
OUENC	**Ouen Island, N**	**14.36**	**249**	P	**P**	**09 23 29.4**	**-0.2**
DZM	**Mont Dzumac**	**14.63**	**251**	*e*P	**P**	**09 23 31.3**	**-1.2**
	64nm,0.7s						
DZM	**Mont Dzumac**	**14.63**	**251**	P	**P**	**09 23 31.6**	**-0.9**
	41nm,0.6s,baz=78,slow=22,SNR=30						
DZM	**Mont Dzumac**	**14.63**	**251**	P	**P**	**09 23 31.8**	**-0.7**
ONTNC	**Ouen Toro**	**14.68**	**250**	P	**P**	**09 23 32.3**	**-0.5**
NOUC	**Port Laguerre**	**14.76**	**251**	P	**P**	**09 23 33.1**	**-0.6**
KOUNC	**Koumac, New Ca**	**16.34**	**258**	P	**P**	**09 23 49.8**	**+0.3**
URZ	**Urewera**	**20.69**	**189**	P	**P**	**09 24 27.6**	**-1.2**
	18nm,0.8s,baz=33,slow=2.7,SNR=14						
URZ				S	**S**	**09 27 43.6**	**-1.1**
	6.7nm,0.8s,baz=204,slow=15,SNR=2.3						
	18nm,0.8s						
RTZ	**Ruatahuna**	**21.06**	**190**	P	**P**	**09 24 31.9**	**-0.4**
RTZ				IAmb	IAmb	09 24 48.0	
	comp=Z,9.0nm,0.9s						
WEL	**Wellington**	**24.05**	**192**	P	P	09 25 12.6	+14
TCW	**Tory Channel**	**24.08**	**193**	P	**P**	**09 24 59.0**	**-0.2**
QRZ	**Quartz Range**	**24.14**	**197**	P	**P**	**09 25 00.8**	**+1.1**
QRZ	**Quartz Range**	**24.14**	**197**	P	**P**	**09 25 00.7**	**+1.0**
TKNZ	**Takaka Hill**	**24.22**	**196**	P	**P**	**09 25 00.6**	**+0.1**
TKNZ	**Takaka Hill**	**24.22**	**196**	P	**P**	**09 25 00.6**	**+0.1**
NNZ	**Nelson**	**24.29**	**195**	P	**P**	**09 25 00.7**	**-0.3**
MRNZ	**Matariki Terra**	**24.62**	**196**	P	**P**	**09 25 03.7**	**-0.2**
THZ	**Tophouse**	**24.92**	**195**	P	**P**	**09 25 06.6**	**0.0**
DSZ	**Denniston Nort**	**25.20**	**197**	P	**P**	**09 25 09.8**	**+0.7**
KHZ	**Kahutara**	**25.39**	**194**	P	**P**	**09 25 09.7**	**-1.0**
LTZ	**Lake Taylor**	**26.04**	**195**	P	**P**	**09 25 15.1**	**-1.4**
INZ	**Inchbonnie**	**26.20**	**197**	P	**P**	**09 25 17.9**	**0.0**
OXZ	**Oxford**	**26.61**	**195**	P	**P**	**09 25 20.9**	**-0.6**
PPT2	**Papeete2**	**27.70**	**94**	*e*S	**S**	**09 29 37.8**	**+2.2**
	comp=Z,73nm,38.2s						
EIDS	**Eidsvold**	**29.07**	**250**	P	**P**	**09 25 43.0**	**-0.2**
EIDS				IAmb	IAmb	09 25 43.9	
	comp=Z,11nm,0.7s						
EIDS	**Eidsvold**	**29.07**	**250**	P	**P**	**09 25 43.3**	**+0.1**
ARMA	**Armidale**	**29.77**	**240**	P	**P**	**09 25 50.8**	**+1.4**
ARMA	**Armidale**	**29.77**	**240**	P	**P**	**09 25 50.6**	**+1.2**
AUPHS	**Peel High Scho**	**30.59**	**239**	P	**P**	**09 25 57.7**	**+1.4**
RMQ	**Roma**	**31.31**	**248**	P	**P**	**09 26 03.3**	**+0.8**
CTA	**Charters Tower**	**33.22**	**260**	P	**P**	**09 26 17.9**	**-1.0**
	comp=Z,3.6nm,0.4s,baz=80,slow=10,SNR=11						
	comp=Z,3.6nm,0.4s						
CTAO	**Charters Tower**	**33.22**	**260**	P	**P**	**09 26 18.4**	**-0.5**
CTAO				IAmb	IAmb	09 26 20.5	
	comp=Z,19nm,1.1s						
PATS	**Pohnpei**	**33.43**	**315**	P	**P**	**09 26 19.9**	**-0.7**
PMG	**Port Moresby**	**34.21**	**280**	P	**P**	**09 26 26.8**	**-0.3**
	comp=Z,14nm,0.8s,baz=112,slow=5.4,SNR=4.0						
	comp=Z,14nm,0.8s						
CMSA	**Cobar Meteorol**	**34.98**	**240**	P	**P**	**09 26 34.0**	**+0.6**
QLP	**Quilpie**	**35.34**	**249**	P	**P**	**09 26 36.6**	**+0.2**
COEN	**Coen**	**36.87**	**270**	P	**P**	**09 26 49.0**	**-0.2**
COEN				IAmb	IAmb	09 27 03.2	
	comp=Z,11nm,1.2s						
TOO	**Toolangi**	**37.03**	**231**	P	**P**	**09 26 50.7**	**+0.4**
BRAT	**Ballarat**	**38.18**	**231**	P	**P**	**09 27 02.0**	**+2.4**
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**09 27 02.9**	**+0.9**
	comp=Z,5.8nm,0.3s,baz=90,slow=10,SNR=38						
	comp=Z,5.8nm,0.3s						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**09 27 03.0**	**+1.0**
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**09 27 03.1**	**+1.1**
INKA	**Innaminka**	**38.55**	**248**	P	**P**	**09 27 03.8**	**+1.0**
LCRK	**Leigh Creek**	**41.08**	**244**	P	**P**	**09 27 23.4**	**+0.5**
BBOO	**Buckleboo**	**43.23**	**241**	P	**P**	**09 27 40.2**	**+0.3**
KEKH	**Kekaha**	**43.70**	**26**	P	**P**	**09 27 43.7**	**+0.2**
OPA	**Opana**	**44.17**	**28**	P	**P**	**09 27 46.8**	**-0.4**
WR0	**Warramunga Arr**	**44.22**	**259**	P	**P**	**09 27 46.9**	**-0.8**
WB0	**Warramunga Arr**	**44.38**	**260**	P	**P**	**09 27 47.9**	**-1.0**
WB2	**Warramunga Arr**	**44.40**	**259**	P	**P**	**09 27 48.4**	**-0.7**
WRAB	**Tennant Creek**	**44.40**	**259**	P	**P**	**09 27 47.9**	**-1.2**
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**09 27 48.2**	**-1.0**
	comp=Z,1.9nm,0.3s,baz=96,slow=7.4,SNR=79						
WRA				PcP	**PcP**	**09 29 21.2**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=90,slow=3.5,SNR=14						
WRA				ScP	**ScP**	**09 32 21.4**	**+0.4**
	comp=Z,1.3nm,1.0s,baz=90,slow=4.1,SNR=4.4						
WRA				S	**S**	**09 33 38.6**	**-5.8**
	comp=Z,2.1nm,0.9s,baz=93,slow=13,SNR=10						
	comp=Z,1.9nm,0.3s						
AS01	**Alice Springs**	**44.54**	**254**	P	**P**	**09 27 50.0**	**-0.2**
AS31	**Alice Springs**	**44.58**	**254**	P	**P**	**09 27 50.4**	**-0.1**
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**09 27 50.4**	**-0.2**
	comp=Z,26nm,0.3s,baz=89,slow=8.1,SNR=820						
ASAR				PcP	**PcP**	**09 29 21.4**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=102,slow=4.2,SNR=5.6						
ASAR				ScP	**ScP**	**09 32 21.7**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=92,slow=4.1,SNR=5.7						
ASAR				S	**S**	**09 33 43.8**	**-3.0**
	comp=Z,4.4nm,1.0s,baz=85,slow=15,SNR=22						
	comp=Z,26nm,0.3s						
MTN	**Manton Dam**	**48.56**	**268**	P	**P**	**09 28 19.7**	**-0.9**
MTN				IAmb	IAmb	09 28 20.6	
	comp=Z,7.7nm,0.8s						
WRKA	**Warakurna**	**49.64**	**252**	P	**P**	**09 28 28.6**	**+0.1**
FORT	**Forrest**	**49.83**	**245**	P	**P**	**09 28 30.2**	**+0.5**
KNRA	**Kununurra**	**50.26**	**264**	P	**P**	**09 28 32.9**	**-0.2**
KNRA				IAmb	IAmb	09 28 33.4	
	comp=Z,12nm,0.9s						
FAKI	**Fak Fak**	**50.33**	**281**	P	**P**	**09 28 33.2**	**-0.4**
SIJI	**Sorong**	**51.98**	**283**	P	**P**	**09 28 45.5**	**-0.2**
	comp=Z,31nm,0.7s,baz=112,slow=11,SNR=20						
	comp=Z,31nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.80**	**261**	P	**P**	**09 28 51.8**	**+0.4**
PSA00	**Pilbara Seismi**	**57.70**	**255**	P	**P**	**09 29 25.0**	**-0.5**
PSA00				IAmb	IAmb	09 29 26.0	
	comp=Z,13nm,0.8s						
MBWA	**Marble Bar**	**57.86**	**256**	P	**P**	**09 29 26.1**	**-0.5**
MBWA				IAmb	IAmb	09 29 27.4	
	comp=Z,20nm,1.4s						
MORW	**Morawa**	**60.29**	**246**	P	**P**	**09 29 42.9**	**+0.1**
VNDA	**Vanda**	**60.50**	**185**	P	**P**	**09 29 42.8**	**-0.5**
	comp=Z,3.6nm,1.0s,baz=44,slow=6.4,SNR=1.9						
	comp=Z,3.6nm,1.0s						
VNDA	**Vanda**

baz=203
SCZ2 **Santa Cruz Isl** 76.23 47 P P 09 31 20.2 +1.1
baz=237
USRK **Ussuriysk Ar.** 76.42 326 P P 09 31 20.9 +1.1
comp=Z,5.0nm,0.8s,baz=123,slow=4.8,SNR=7.5
comp=Z,5.0nm,0.8s
SBC **Santa Barbara** 76.42 47 P P 09 31 21.0 +0.9
baz=237
SAO **San Andreas Ge** 76.53 44 P P 09 31 20.9 +0.2
SAO IAmb IAmb 09 31 22.7
comp=Z,12nm,0.8s
PKM **Mcpherson Peak** 76.59 46 P P 09 31 22.7 +1.3
baz=237
SMMC **Simmler** 76.70 46 P P 09 31 23.3 +1.5
baz=237
HOPS **Hopland Field** 76.77 41 P P 09 31 23.3 +1.3
HOPS IAmb IAmb 09 31 23.9
comp=Z,14nm,1.1s
CIS **Catalina Islan** 76.78 48 P P 09 31 22.8 +0.7
baz=238
KCPM **Cahto Peak** 76.86 41 P P 09 31 23.9 +1.3
KCPM IAmb IAmb 09 31 24.6
comp=Z,13nm,1.2s
BCW **Bitter Crk WRg** 76.90 46 P P 09 31 23.7 +0.8
SII **Sitkinak Islan** 76.90 14 P P 09 31 22.7 +0.4
KMPM **Mount Pierce** 76.97 40 P P 09 31 23.7 +0.6
KMPM IAmb IAmb 09 31 25.5
comp=Z,14nm,1.0s
KMRM **Mail Ridge** 77.11 40 P P 09 31 25.3 +1.5
KMRM IAmb IAmb 09 31 26.2
comp=Z,24nm,0.8s
R16K **Pilot Point** 77.14 11 P P 09 31 22.6 -0.9
baz=200
CCX **Cicese** 77.25 50 P P 09 31 26.1 +1.4
CCX IAmb IAmb 09 31 26.8
comp=Z,12nm,1.1s
PASC **Pasadena Art C** 77.34 48 P P 09 31 26.1 +0.9
PASC IAmb IAmb 09 31 26.7
comp=Z,12nm,1.0s
ARVC **Arvin** 77.40 47 P P 09 31 26.3 +0.8
baz=237
R17K **Ugashik Creek** 77.44 12 P P 09 31 24.5 -0.6
baz=202
CBX **Cerro Bola** 77.48 50 P P 09 31 27.5 +1.4
KHMM **Horse Mountain** 77.49 39 P P 09 31 26.5 +0.5
ELS **Elsinore Mount** 77.61 48 P P 09 31 27.4 +0.7
VES **Vestal, Richgr** 77.61 46 P P 09 31 27.4 +0.8
baz=237,SNR=6.7
BAR **Barrett** 77.66 50 P P 09 31 27.8 +0.8
VTX **Valle De La Tr** 77.66 51 P P 09 31 28.4 +1.4
NJ2 **Nanjing** 77.70 310 eP P 09 31 29.3 +2.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MURC **Murrieta** 77.75 49 P P 09 31 28.4 +0.9
baz=239
BFSC **Mount Baldy Ra** 77.75 48 P P 09 31 28.2 +0.6
baz=238,SNR=6.6
ESJX **Sierra Juarez** 77.85 51 P P 09 31 29.8 +1.6
EDW2 **Edwards Air Fo** 77.85 47 P P 09 31 28.5 +0.4
baz=238,SNR=18
ISA **Isabella, Lake** 77.94 46 P P 09 31 29.5 +1.0
ISA IAmb IAmb 09 31 30.5
comp=Z,13nm,0.9s
ISA **Isabella, Lake** 77.94 46 P P 09 31 29.1 +0.7
baz=238,SNR=12
CMB **Columbia Colle** 77.95 43 P P 09 31 29.5 +1.1
MONP2 **Monument Peak** 77.95 50 P P 09 31 29.5 +0.8
baz=239,SNR=11
CCAC **Calif City Air** 77.98 47 P P 09 31 30.0 +1.4
MDJ **Mudanjiang** 77.98 325 P P 09 31 29.0 +0.6
MDJ pP pwP 09 33 26.8 -0.9
MDJ S S 09 40 41.3 +4.0
MDJ ScS ScS 09 40 58.5 +1.2
MDJ **Mudanjiang** 77.98 325 sS sS 09 44 08.5 +3.7
MDJ pmax pmax
comp=Z,34nm,0.8s
MDJ pmax pmax
comp=Z,310nm,4.7s
MDJ **Mudanjiang** 77.98 325 P P 09 31 29.1 +0.6
MDJ IAmb IAmb 09 31 30.3
comp=Z,26nm,0.9s
MDJ **Mudanjiang** 77.98 325 P P 09 31 28.9 +0.6
RMX **La Rumorosa** 78.05 50 P P 09 31 30.5 +1.3
RMX IAmb IAmb 09 31 31.4
comp=Z,11nm,0.8s
IKP **In-Ko-Pah, Jac** 78.05 50 P P 09 31 30.1 +0.9
baz=240,SNR=9.8
AFDM **Forest Hills D** 78.08 42 P P 09 31 29.8 +0.7
Q17K **Contact Creek** 78.12 12 P P 09 31 28.0 -0.9
baz=202
YUH **Yuha Desert** 78.19 50 P P 09 31 30.7 +0.9
PFO **Pinyon Flats O** 78.28 49 P P 09 31 31.4 +0.9
PFO **Pinyon Flats O** 78.28 49 P P 09 31 31.4 +0.9
baz=239
TPFO **Pinon Flats** 78.28 49 P P 09 31 31.4 +0.9
baz=239
Q16K **King Salmon** 78.35 12 P P 09 31 29.5 -0.5
baz=201
PMD **Palm Desert** 78.36 49 P P 09 31 31.6 +0.9
KDAK **Kodiak Island** 78.38 14 P P 09 31 29.9 -0.3
baz=205
LRMC **Laurel Mtn Rad** 78.39 47 P P 09 31 31.5 +0.6
baz=238,SNR=6.2
SWSC **Sam W. Stewart** 78.42 50 P P 09 31 31.7 +0.7
baz=240,SNR=5.6
P16K **Nushagak River** 78.44 11 P P 09 31 30.0 -0.5
baz=200
MDPB **Devils Postpil** 78.59 44 P P 09 31 33.2 +1.1
MDPB IAmb IAmb 09 31 34.0
comp=Z,11nm,0.8s
YBH **Yreka Blue Hor** 78.61 39 P P 09 31 33.2 +1.2
CWC **Cottonwood Cre** 78.62 46 P P 09 31 32.4 +0.2
baz=238
Q18K **Katmai Hardscr** 78.65 12 P P 09 31 31.3 -0.5
baz=203
EMB **Emerald Bay** 78.66 43 P P 09 31 33.2 +0.7
SLBS **Sierra La Lagu** 78.73 61 P P 09 31 33.4 +0.4
MPMC **Manual Prospec** 78.82 46 P P 09 31 33.4 0.0
baz=238,SNR=8.1
TIN **Tinemaha, Big** 78.84 45 P P 09 31 33.5 +0.1
baz=238
P17K **Kvichak River** 78.88 11 P P 09 31 31.7 -1.1
baz=202
MPK **Martis Peak** 78.88 42 P P 09 31 34.6 +0.9
MPK IAmb IAmb 09 31 35.5
comp=Z,19nm,0.7s
GSC **Goldstone, Bar** 78.90 47 P P 09 31 34.9 +1.2
GSC **Goldstone, Bar** 78.90 47 P P 09 31 34.7 +1.0
baz=239
O16K **Kokwok River B** 78.95 10 P P 09 31 32.0 -1.2
baz=200
HUMO **Hull Mountain** 78.99 38 P P 09 31 35.2 +1.4
HEC **Hector,Ludlow** 78.99 48 P P 09 31 35.0 +0.9
baz=239,SNR=10.0
BC3 **Big Chuckawall** 79.03 49 P P 09 31 35.2 +0.8
baz=240
DBO **Dodson Butte** 79.13 38 P P 09 31 35.7 +1.0
DBO IAmb IAmb 09 31 36.5
comp=Z,23nm,1.3s
VCNR **Virginia City** 79.13 43 P P 09 31 35.9 +1.0
Q20K **Shuyak Island** 79.17 14 P P 09 31 33.0 -1.4
baz=205
GLA **Glamis** 79.19 50 P P 09 31 36.4 +1.2
GLA **Glamis** 79.19 50 P P 09 31 36.4 +1.2
baz=240
DSP **Deep Springs** 79.19 45 P P 09 31 36.4 +1.5
DSP IAmb IAmb 09 31 37.2
comp=Z,13nm,1.1s
QSM **Queen of Sheba** 79.20 47 P P 09 31 36.1 +1.0
YERR **Yerington** 79.22 43 P P 09 31 36.3 +0.9
YERR IAmb IAmb 09 31 37.1
comp=Z,14nm,0.7s
P18K **Big Mountain,** 79.29 12 P P 09 31 34.4 -0.7
P18K **Big Mountain,** 79.29 12 P P 09 31 34.0 -1.0
baz=203
O17K **Koliganek Bris** 79.30 11 P P 09 31 35.0 0.0
baz=201
LHV **Little Huntoon** 79.30 44 P P 09 31 36.9 +1.3
LHV IAmb IAmb 09 31 37.9
comp=Z,15nm,1.0s
LCH **Last Change Ra** 79.33 45 P P 09 31 36.6 +0.6
GRAC **Grapevine Rang** 79.40 46 P P 09 31 36.8 +0.6
GRAC IAmb IAmb 09 31 38.3
comp=Z,21nm,1.2s
GRAC **Grapevine Rang** 79.40 46 P P 09 31 37.1 +0.9
baz=238,SNR=9.0
GMRC **Granite Mounta** 79.45 48 P P 09 31 37.4 +0.8
baz=240
GWY **Greenwater Val** 79.45 47 P P 09 31 37.4 +0.8
FURC **Furnace Creek,** 79.47 46 P P 09 31 37.5 +1.1
baz=238,SNR=7.3
PIX **Pinacate** 79.48 52 P P 09 31 38.2 +1.6
RYN **Ryan** 79.50 44 P P 09 31 37.4 +0.6
IRM **Iron Mountain** 79.50 49 P P 09 31 37.4 +0.6
baz=240,SNR=7.2
NVAR **Mina Array Bea** 79.53 44 P P 09 31 37.8 +0.7
comp=Z,6.6nm,0.7s,baz=225,slow=8.9,SNR=62
comp=Z,6.6nm,0.7s
NVAR **Mina Array Bea** 79.53 44 P P 09 31 38.0 +0.9
SHOC **Shoshone, Teco** 79.58 47 P P 09 31 37.7 +0.5
baz=239
TUQ **Turquoise Moun** 79.59 48 P P 09 31 38.0 +0.6
baz=239,SNR=7.5
NV11 **Mina Array Sit** 79.63 44 P P 09 31 38.4 +0.9
NV11 IAmb IAmb 09 31 39.4
comp=Z,13nm,1.1s
N16K **Nishlik Lake** 79.67 10 P P 09 31 36.4 -0.6
baz=199
O18K **Koktuh Hills** 79.72 12 P P 09 31 36.8 -0.5
O18K **Koktuh Hills** 79.72 12 P P 09 31 37.0 -0.3
baz=203,SNR=8.1
BLYC **Blythe** 79.75 50 P P 09 31 39.8 +1.7
MZP **Montezuma Peak** 79.76 45 P P 09 31 39.3 +0.9
113A **Mohawk Valley,** 79.83 51 P P 09 31 40.0 +1.6
BNX **BinXian** 79.89 325 ⇑P P 09 31 38.5 0.0
BNX pmax pmax
comp=Z,25nm,0.9s
BNX pmax pmax
comp=Z,200nm,5.9s
KVN **Kaiserville** 80.00 44 P P 09 31 40.3 +0.8
KVN IAmb IAmb 09 31 41.1
comp=Z,21nm,1.4s
PLTX **Planet X, Gerl** 80.03 42 P P 09 31 40.5 +1.0
PLTX IAmb IAmb 09 31 41.3
comp=Z,17nm,0.9s
TPH **Tonopah** 80.06 45 P P 09 31 40.8 +1.0
TPNV **Topopah Spring** 80.14 46 P P 09 31 41.1 +0.9
TPNV **Topopah Spring** 80.14 46 P P 09 31 40.7 +0.5
baz=239,SNR=7.1
214A **Organ Pipe Nat** 80.15 52 P P 09 31 41.9 +1.6
214A **Organ Pipe Nat** 80.15 52 P P 09 31 41.1 +0.9
baz=242
MOD **Modoc Plateau** 80.18 40 P P 09 31 41.1 +0.8
MOD IAmb IAmb 09 31 42.0
comp=Z,10nm,0.8s
O19K **Port Alsworth** 80.22 12 P P 09 31 39.2 -0.6
O19K **Port Alsworth** 80.22 12 P P 09 31 39.0 -0.8
baz=203
K05A **Summer Lake** 80.29 39 P P 09 31 41.9 +1.0
K05A IAmb IAmb 09 31 43.0
comp=Z,20nm,1.0s
PDMCI **Parker Dam,Lak** 80.30 49 P P 09 31 42.2 +1.4
baz=241,SNR=6.3
V12A **Nelson** 80.49 48 P P 09 31 43.2 +1.2
BRSE **Bradley Lake S** 80.57 14 P P 09 31 41.1 -0.6
baz=207
SHPR **Sheep Range** 80.67 47 P P 09 31 44.4 +1.4
H04A **Detroit Lake** 80.67 37 P P 09 31 43.1 +0.5
H04A IAmb IAmb 09 31 43.4
comp=Z,6.4nm,0.6s
N19K **Bonanza Creek** 80.75 12 P P 09 31 41.4 -1.3
N19K IAmb IAmb 09 31 42.7
comp=Z,9.6nm,0.8s
N19K **Bonanza Creek** 80.75 12 P P 09 31 41.9 -0.8
baz=203
RSO **Redoubt South** 80.78 13 P P 09 31 42.1 -0.9
S11A **Rachel** 80.84 46 P P 09 31 44.5 +0.6
S11A IAmb IAmb 09 31 45.8
comp=Z,10nm,0.8s
W13A **Hualapai Mount** 80.87 49 P P 09 31 45.1 +0.9
PINE **Pine Mountain** 80.88 38 P P 09 31 44.6 +0.6
PINE IAmb IAmb 09 31 46.1
comp=Z,19nm,0.9s
Y14A **Wickenburg** 80.95 50 P P 09 31 45.6 +1.2
MA2 **Magadan** 81.06 345 P P 09 31 43.1 -1.1
MA2 IAmb IAmb 09 31 44.2
comp=Z,9.6nm,0.7s
MA2 **Magadan** 81.06 345 P P 09 31 44.0 -0.2
SEW **Seward** 81.19 14 P P 09 31 44.2 -0.6
PRN **Pahroc Range** 81.19 46 P P 09 31 45.0 -0.6
PRN IAmb IAmb 09 31 48.0
comp=Z,14nm,0.9s
R11A **Troy Canyon, C** 81.31 45 P P 09 31 46.8 +0.6
R11A **Troy Canyon, C** 81.31 45 P P 09 31 47.3 +1.0
baz=239,SNR=5.9
BMN **Battle Mountai** 81.31 43 P P 09 31 46.3 +0.1
BMN IAmb IAmb 09 31 48.1
comp=Z,14nm,1.0s
HOOD **Mount Hood Mea** 81.36 37 P P 09 31 45.7 -0.6
HOOD IAmb IAmb 09 31 49.0
comp=Z,12nm,0.9s
Q23K **Middleton Isla** 81.38 16 P P 09 31 46.8 +0.9
baz=211
CAPN **Captain Cook N** 81.40 13 P P 09 31 45.8 -0.1
baz=206
WVOR **Wild Horse Val** 81.50 40 P P 09 31 47.9 +0.8
WVOR IAmb IAmb 09 31 49.0
comp=Z,18nm,1.1s
N20K **Mount Spurr** 81.56 13 P P 09 31 46.1 -0.8
baz=205
SPCR **Spurr Chakacha** 81.56 13 P P 09 31 45.8 -1.1
baz=205
SPU **Mount Spurr** 81.58 13 P P 09 31 46.7 -0.2
TUC **Tucson** 81.84 52 P P 09 31 49.2 +0.2
TUC IAmb IAmb 09 31 51.9
comp=Z,13nm,1.1s
TUC **Tucson** 81.84 52 P P 09 31 50.0 +1.0
baz=243
I07A **Izee** 81.89 39 P P 09 31 50.1 +1.1
I07A IAmb IAmb 09 31 50.9
comp=Z,12nm,0.8s
L19K **White Mountain** 81.95 11 P P 09 31 49.8 +1.0
L19K IAmb IAmb 09 31 49.9
comp=Z,18nm,1.1s
L19K **White Mountain** 81.95 11 P P 09 31 48.7 0.0
baz=203
M20K **Styx River** 82.00 12 P P 09 31 49.1 0.0
baz=204
RC01 **Rabbit Creek A** 82.00 14 P P 09 31 48.7 -0.3
baz=208
SUA **Susitna One** 82.11 13 P P 09 31 49.2 -0.5
SUA **Susitna One** 82.11 13 P P 09 31 49.2 -0.5
baz=207,SNR=8.8
J08A **Circle Bar Ran** 82.11 40 P P 09 31 50.7 +0.6
J08A IAmb IAmb 09 31 51.9
comp=Z,24nm,1.2s
LON **Longmire** 82.11 36 P P 09 31 50.5 +0.5
PWL **Port Wells** 82.12 14 P P 09 31 49.4 -0.2
baz=209
IPM **Ipoh** 82.17 277 P P 09 31 50.7 -0.3
IPM IAmb IAmb 09 31 52.4
comp=Z,18nm,0.8s
IPM **Ipoh** 82.17 277 P P 09 31 51.8 +0.8
LCMT **Little Creek M** 82.25 47 P P 09 31 52.0 +0.9
BELA **Belgrano 2** 82.27 173 P P 09 31 50.7 +0.4
BELA IAmb IAmb 09 31 51.5
comp=Z,16nm,0.7s
D05A **Enumclaw** 82.28 35 P P 09 31 50.6 -0.1
D05A IAmb IAmb 09 31 53.5
comp=Z,25nm,1.2s
L20K **Farewell, AK** 82.40 11 P P 09 31 50.5 -0.5
baz=204
SKT **Skwentna** 82.41 13 P P 09 31 50.0 -1.0
baz=206
CCUT **Cedar City** 82.43 47 P P 09 31 53.1 +1.1
CCUT IAmb IAmb 09 31 54.5
comp=Z,11nm,1.0s
TTA **Tatalina** 82.44 10 P P 09 31 51.6 +0.4
TTA IAmb IAmb 09 31 52.2
comp=Z,11nm,1.0s
TTA **Tatalina** 82.44 10 P P 09 31 50.6 -0.7
baz=202
TTA **Tatalina** 82.44 10 P P 09 31 51.4 +0.1
SPR3 **Spring Creek 3** 82.48 45 P P 09 31 52.6 +0.2
M22K **Willow** 82.50 13 P P 09 31 51.3 -0.2
M22K **Willow** 82.50 13 P P 09 31 51.2 -0.2
baz=207
KNB **Kanab** 82.55 47 P P 09 31 53.9 +1.3
KNB IAmb IAmb 09 31 54.9
comp=Z,12nm,1.0s
319A **Douglas** 82.57 54 P P 09 31 54.5 +1.8
319A IAmb IAmb 09 31 55.6
comp=Z,16nm,1.0s
KNK **Knik Glacier** 82.58 14 P P 09 31 51.3 -0.7
KNK IAmb IAmb 09 31 52.3
comp=Z,15nm,0.8s
KNK **Knik Glacier** 82.58 14 P P 09 31 51.4 -0.6
baz=209
PMR **Palmer** 82.58 14 P P 09 31 51.5 -0.4
baz=208
SZCU **Shurtz Canyon** 82.64 47 P P 09 31 54.0 +0.8
SZCU IAmb IAmb 09 31 55.3
comp=Z,13nm,1.2s
U15A **North Rim** 82.64 48 IAmb IAmb 09 31 55.6
comp=Z,18nm,0.9s
F07A **Phinny Hill Vi** 82.67 37 IAmb IAmb 09 31 54.3
comp=Z,7.5nm,0.7s
HEH **HeiHe** 82.72 328 eP P 09 31 52.8 -0.1
HEH pmax pmax
comp=Z,8.0nm,0.7s
HEH pmax pmax
comp=Z,280nm,6.1s
ELK **Elko** 82.76 43 IAmb IAmb 09 31 55.3
comp=Z,9.6nm,0.9s
ANM **Nome** 82.77 6 P P 09 31 51.8 -1.0
baz=193
WUAZ **Wupatki** 82.87 49 IAmb IAmb 09 31 56.6
comp=Z,14nm,1.1s
WUAZ **Wupatki** 82.87 49 P P 09 31 54.8 +0.6
baz=242,SNR=12
G08A **Pilot Rock** 82.89 38 P P 09 31 54.5 +0.4
G08A IAmb IAmb 09 31 55.7
comp=Z,10nm,1.0s
SML **Sawmill** 82.95 14 P P 09 31 53.1 -0.7
baz=209
DIV **Divide** 82.98 15 P P 09 31 53.5 -0.5
V35K **Ketchikan** 83.04 25 P P 09 31 54.6 +0.3
baz=224
LTY **Liberty** 83.04 36 P P 09 31 55.0 +0.3
LTY IAmb IAmb 09 31 55.9
comp=Z,9.1nm,1.0s
CUT **Chulitna** 83.05 13 P P 09 31 53.5 -0.7
baz=207
M23K **Glacier View** 83.08 14 P P 09 31 54.5 +0.1
baz=210
PKCU **Pink Cliffs** 83.11 47 IAmb IAmb 09 31 58.6
comp=Z,17nm,1.0s
BMRM **Bremner River** 83.15 16 P P 09 31 54.3 -0.6
BMRM IAmb IAmb 09 31 55.2
comp=Z,15nm,0.8s
BMRM **Bremner River** 83.15 16 P P 09 31 54.1 -0.8
baz=212
K20K **Telida** 83.17 11 P P 09 31 54.8 -0.1
baz=204,SNR=7.7
HAWA **Hanford** 83.19 37 IAmb IAmb 09 31 57.0
comp=Z,13nm,0.9s
SCM **Sheep Creek Mo** 83.21 14 P P 09 31 55.1 -0.1
SCM **Sheep Creek Mo** 83.21 14 P P 09 31 54.5 -0.6
baz=210,SNR=6.4
KLU **Klutina** 83.26 15 P P 09 31 55.0 -0.5
baz=211
S31K **Pelican** 83.26 21 P P 09 31 54.8 -0.6
baz=220
HNS **HongShan** 83.29 313 ⇑P P 09 31 54.8 -1.2
HNS pmax pmax
comp=Z,8.0nm,1.6s
MTPU **Mount Pierson** 83.49 47 P P 09 31 59.3 +1.8
MTPU IAmb IAmb 09 32 00.3
comp=Z,13nm,1.1s
E08A **Dider Farm, El** 83.51 37 IAmb IAmb 09 31 58.5
comp=Z,8.3nm,0.7s
TNA **Tin City** 83.53 4 IAmb IAmb 09 31 57.7
comp=Z,16nm,1.0s
TNA **Tin City** 83.53 4 P P 09 31 55.8 -0.8
baz=190
BJT **Baijiatuau** 83.55 315 P P 09 31 57.7 +0.4
BJT IAmb IAmb 09 31 58.2
comp=Z,6.8nm,0.8s
BJT **Baijiatuau** 83.55 315 P P 09 31 57.9 +0.6
BJI **Beijing** 83.56 315 P P 09 31 57.5 +0.2
BJI pmax pmax
comp=Z,5.0nm,0.9s
PNL **Peninsula** 83.56 19 P P 09 31 56.3 -0.6
baz=217
TCRU **Three Creeks R** 83.58 46 IAmb IAmb 09 32 00.8
comp=Z,11nm,1.2s
CAST **Castle Rocks** 83.60 12 P P 09 31 55.3 -1.7
CAST **Castle Rocks** 83.60 12 P P 09 31 55.1 -1.9
baz=205,SNR=20
RPSI **Rantau Prapat** 83.61 275 P P 09 31 57.4 -0.8
RPSI IAmb IAmb 09 31 58.7
comp=Z,12nm,0.8s
BMO **Blue Mountains** 83.63 39 P P 09 31 58.0 +0.2
PSI **Prapat** 83.64 275 P P 09 31 58.1 -0.4
PINM **Pinnacle** 83.65 18 P P 09 31 57.3 -0.1
baz=216
VRDI **Verde Repeater** 83.67 16 IAmb IAmb 09 31 58.1
comp=Z,13nm,1.0s
N25K **Chitina, Valde** 83.69 16 P P 09 31 57.3 -0.3
N25K **Chitina, Valde** 83.69 16 P P 09 31 57.0 -0.6
baz=212,SNR=8.6
M24K **Tolsona, Glenn** 83.72 15 P P 09 31 58.2 +0.5
M24K **Tolsona, Glenn** 83.72 15 P P 09 31 57.1 -0.6
baz=211
GLB **Gilahina Butte** 83.76 16 P P 09 31 57.7 -0.2
WAT6 **Susitna Watana** 83.77 14 P P 09 31 57.0 -1.0
baz=209
MFID **Camas Ranch** 83.77 41 IAmb IAmb 09 32 00.2
comp=Z,9.3nm,1.0s
WAT1 **Susitna Watana** 83.80 13 P P 09 31 57.5 -0.6
baz=209
D08A **Wollman Farm,** 83.91 36 IAmb IAmb 09 32 00.5
comp=Z,9.3nm,0.8s
MCARA **McCarthy VSAT** 83.92 16 P P 09 31 57.8 -0.8
baz=214
KTH **Kantishna Hill** 83.95 12 P P 09 31 57.6 -1.2
KTH IAmb IAmb 09 31 58.2
comp=Z,14nm,0.9s
CHUM **Lake Minchumin** 83.98 11 P P 09 31 57.4 -1.4
baz=205,SNR=7.3
TRF **Thorofare Moun** 83.98 12 P P 09 31 58.0 -1.1
baz=207,SNR=9.7
GCSA **Galena City Sc** 84.00 9 P P 09 31 57.9 -1.0
baz=201
BARN **Barnard Glacie** 84.02 17 IAmb IAmb 09 32 00.2
comp=Z,15nm,0.8s
ENH **Enshi** 84.03 304 P P 09 31 59.8 -0.1
ENH **Enshi** 84.03 304 P P 09 32 01.1 +1.2
DUG **Dugway, Tooele** 84.09 45 P P 09 32 00.4 +0.2
baz=241
O28M **Mount Upton** 84.21 18 P P 09 31 60.0 -0.5
baz=216,SNR=5.8
121A **Cookes Peak, D** 84.22 53 P P 09 32 01.5 +0.5
baz=245
HARP **HAARP** 84.22 15 P P 09 31 59.7 -0.4
baz=212
DHY **Denali Highway** 84.28 14 P P 09 32 00.0 -0.6
DHY IAmb IAmb 09 32 00.2
comp=Z,7.0nm,0.6s
DHY **Denali Highway** 84.28 14 P P 09 31 59.9 -0.7
baz=210
F10A **Beach Ranch, E** 84.28 38 P P 09 32 01.1 +0.2
O29M **Mount Kennedy** 84.32 19 P P 09 32 00.9 +0.2
baz=218
PLBC **Pleasant Camp** 84.36 20 P P 09 32 01.0 +0.2
baz=220
B08A **Colville Reser** 84.41 35 P P 09 32 01.3 -0.1
B08A IAmb IAmb 09 32 02.2
comp=Z,8.8nm,0.8s
BPAW **Bear Paw Mtn.** 84.43 12 P P 09 32 00.1 -1.0
baz=206
MCK **McKinley** 84.52 13 P P 09 32 00.7 -0.8
baz=208,SNR=8.0
PAX **Paxson** 84.63 15 P P 09 32 02.0 -0.2
PAX IAmb IAmb 09 32 02.1
comp=Z,10.0nm,1.0s
PAX **Paxson** 84.63 15 P P 09 32 01.0 -1.2
baz=212
P30M **Million Dollar** 84.68 20 P P 09 32 02.5 0.0
baz=220
C09A **Chrisman Ranch** 84.69 36 P P 09 32 02.8 +0.1
C09A IAmb IAmb 09 32 03.9
comp=Z,13nm,1.2s
SKAG **Skagway** 84.71 21 P P 09 32 03.5 +1.0
baz=221
HLID **Hailey** 84.73 41 IAmb IAmb 09 32 05.3
comp=Z,6.9nm,0.8s
HLID **Hailey** 84.73 41 P P 09 32 03.9 +0.6

baz=239,SNR=13
YUK8 **Steele Glacier** 84.75 18 P P 09 32 03.0 0.0
baz=217,SNR=5.2
T35M **Bob Quinn** 84.75 24 P P 09 32 03.4 +0.6
baz=226
TMUT **Trail Mountain** 84.75 46 IAmb IAmb 09 32 05.4
comp=Z,6.0nm,0.8s
M26K **Nabesna, AK** 84.77 16 P P 09 32 02.8 -0.1
M26K IAmb IAmb 09 32 04.2
comp=Z,17nm,0.9s
M26K **Nabesna, AK** 84.77 16 P P 09 32 03.3 +0.4
baz=214
SPUT **South Promonto** 84.87 44 P P 09 32 04.5 +0.5
YUK6 **Outpost Mounta** 84.89 18 P P 09 32 03.8 +0.1
baz=218
YUK3 **Moose Creek** 84.94 17 P P 09 32 03.6 -0.3
baz=216,SNR=11
SURA **Surathani** 84.98 281 P P 09 32 05.6 +0.7
M27K **Edge Creek, AK** 85.03 16 P P 09 32 03.5 -0.7
M27K IAmb IAmb 09 32 05.4
comp=Z,16nm,1.1s
M27K **Edge Creek, AK** 85.03 16 P P 09 32 04.0 -0.2
baz=215
MENT **Mentasta** 85.04 15 P P 09 32 03.4 -0.7
MENT IAmb IAmb 09 32 04.4
comp=Z,8.1nm,0.7s
MENT **Mentasta** 85.04 15 P P 09 32 04.3 +0.2
HYT **Haines Junctio** 85.06 19 P P 09 32 04.4 0.0
baz=219
S34M **Telegraph Cree** 85.07 23 P P 09 32 04.7 +0.4
baz=225,SNR=8.4
YUK4 **Talbot Arm** 85.12 18 P P 09 32 04.6 -0.1
baz=218
SRU **San Rafael Swe** 85.14 46 IAmb IAmb 09 32 06.9
comp=Z,5.7nm,0.8s
L26K **Log Cabin Wild** 85.20 15 IAmb IAmb 09 32 05.6
comp=Z,7.4nm,0.9s
L26K **Log Cabin Wild** 85.20 15 P P 09 32 04.8 -0.1
baz=214
I21K **Tanana** 85.22 11 P P 09 32 03.7 -1.1
I21K IAmb IAmb 09 32 05.3
comp=Z,6.1nm,0.8s
I21K **Tanana** 85.22 11 P P 09 32 04.3 -0.6
baz=205
NEA2 **Nenana** 85.25 12 P P 09 32 03.8 -1.3
baz=208
K24K **Donnelly Dome** 85.28 14 P P 09 32 04.8 -0.5
baz=211
MLY **Manley** 85.31 12 P P 09 32 04.2 -1.2
MLY **Manley** 85.31 12 P P 09 32 04.4 -1.0
baz=206,SNR=6.7
WRH **Wood River Hil** 85.35 13 IAmb IAmb 09 32 06.2
comp=Z,15nm,0.9s
BVCY **Beaver Creek** 85.35 17 P P 09 32 05.2 -0.4
baz=216,SNR=7.8
P32M **Atlin** 85.35 21 P P 09 32 05.9 +0.2
baz=222
Q32M **Nakina River** 85.40 22 P P 09 32 06.5 +0.4
baz=224,SNR=5.9
RIDG **Independent Ri** 85.44 14 P P 09 32 05.8 -0.2
RIDG IAmb IAmb 09 32 06.4
comp=Z,11nm,0.9s
RIDG **Independent Ri** 85.44 14 P P 09 32 05.6 -0.5
baz=212
O30N **Mendenhall** 85.46 19 P P 09 32 06.4 +0.2
baz=220
TCUT **Toone Canyon** 85.47 44 IAmb IAmb 09 32 09.7
comp=Z,5.2nm,0.8s
H21K **Melozitna Rive** 85.50 10 P P 09 32 06.7 +0.4
H21K IAmb IAmb 09 32 07.4
comp=Z,12nm,1.5s
H21K **Melozitna Rive** 85.50 10 P P 09 32 05.7 -0.6
baz=205
XLT **XiLinHaoTe** 85.53 319 ⇓i P P 09 32 07.5 +0.5
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,170nm,5.8s
HDA **Harding Lake** 85.54 13 P P 09 32 05.7 -0.8
baz=210,SNR=6.3
DOT **Dot Lake** 85.55 15 P P 09 32 06.3 -0.2
DOT IAmb IAmb 09 32 07.0
comp=Z,10nm,0.7s
CCB **Clear Creek Bu** 85.56 13 P P 09 32 05.3 -1.2
CCB IAmb IAmb 09 32 07.9
comp=Z,8.0nm,0.7s
NEW **Newport** 85.59 36 P P 09 32 06.5 -0.6
NEW IAmb IAmb 09 32 08.0
comp=Z,6.3nm,0.8s
NEW **Newport** 85.59 36 P P 09 32 07.2 +0.1
baz=237,SNR=6.2
L27K **Beaver Creek,** 85.62 16 P P 09 32 06.3 -0.6
baz=215
IMAR **Indian Mountai** 85.64 10 P P 09 32 06.6 -0.3
I23K **Minto, Yukon-K** 85.68 12 P P 09 32 06.2 -0.9
baz=208
MVCO **Mesa Verde** 85.71 49 P P 09 32 08.1 -0.1
baz=244
MNTX **Cornudas Mount** 85.73 55 P P 09 32 09.0 +0.9
MNTX **Cornudas Mount** 85.73 55 P P 09 32 09.1 +0.9
baz=246
MDM **Murphy Dome** 85.75 12 P P 09 32 06.1 -1.4
MDM IAmb IAmb 09 32 06.6
comp=Z,6.7nm,0.9s
TCOL **CIGO, UAF Yank** 85.75 13 P P 09 32 06.8 -0.6
baz=209
COLA **College** 85.75 13 P P 09 32 06.8 -0.6
baz=209
COLA **College** 85.75 13 P P 09 32 06.6 -0.8
WHY **Whitehorse** 85.76 20 P P 09 32 07.6 -0.1
WHY IAmb IAmb 09 32 08.5
comp=Z,7.3nm,0.9s
WHY **Whitehorse** 85.76 20 P P 09 32 07.8 0.0
baz=221
SCRK **Sand Creek** 85.84 15 P P 09 32 07.3 -0.7
SCRK IAmb IAmb 09 32 09.8
comp=Z,6.6nm,0.9s
SCRK **Sand Creek** 85.84 15 P P 09 32 07.5 -0.6
baz=213,SNR=6.2
DLBC **Dease Lake** 85.85 23 P P 09 32 08.7 +0.5
DLBC IAmb IAmb 09 32 10.5
comp=Z,19nm,1.5s
DLBC **Dease Lake** 85.85 23 P P 09 32 07.7 -0.4
baz=226
IL31 85.86 13 P P 09 32 06.3 -1.6
IL31 IAmb IAmb 09 32 07.8
comp=Z,7.0nm,0.7s
ILAR **Eielson Array** 85.86 13 P P 09 32 06.7 -1.3
comp=Z,3.3nm,0.5s,baz=224,slow=5.0,SNR=54
comp=Z,3.3nm,0.5s
ILAR **Eielson Array** 85.86 13 P P 09 32 06.4 -1.6
IL03 **Eielson Array** 85.87 13 P P 09 32 07.1 -0.9
H22K **Ishtalitna Cre** 85.97 11 P P 09 32 07.4 -1.1
baz=206
M29M **Somme Creek** 86.04 18 P P 09 32 08.3 -0.7
baz=218
POKR **Poker Plat Res** 86.05 13 P P 09 32 07.9 -1.0
baz=210
N31M **Braeburn, Yuko** 86.10 19 P P 09 32 08.8 -0.5
N31M IAmb IAmb 09 32 10.4
comp=Z,11nm,1.1s
N31M **Braeburn, Yuko** 86.10 19 P P 09 32 08.7 -0.5
baz=220
P33M **Teslin, Yukon** 86.12 21 P P 09 32 09.3 -0.1
baz=223
TX31 **Lajitas Ar. Si** 86.16 58 P P 09 32 12.1 +1.8
TX32 **Lajitas Array** 86.16 58 P P 09 32 12.1 +1.8
TX32 IAmb IAmb 09 32 13.3
comp=Z,11nm,0.9s
TXAR **Lajitas Array** 86.16 58 P P 09 32 12.2 +1.9
comp=Z,7.9nm,0.8s,baz=218,slow=6.1,SNR=115
comp=Z,7.9nm,0.8s
G21K **Allakaket** 86.17 10 P P 09 32 08.9 -0.5
baz=204
ANMO **Albuquerque** 86.24 52 P P 09 32 11.2 +0.5
ANMO **Albuquerque** 86.24 52 P P 09 32 11.4 +0.7
baz=245
BILL **Bilibino** 86.33 354 P P 09 32 09.7 -0.4
BILL IAmb IAmb 09 32 10.8
comp=Z,9.7nm,0.7s
J26L **Joseph Creek** 86.39 14 P P 09 32 10.7 +0.1
J26L **Joseph Creek** 86.39 14 P P 09 32 10.4 -0.2
baz=213,SNR=12
AHID **Auburn Hatcher** 86.45 43 IAmb IAmb 09 32 13.4
comp=Z,12nm,1.4s
H24K **Noodor Dome** 86.59 12 P P 09 32 09.4 -2.1
baz=209

M30M **Minto, Yukon** 86.63 18 IAmb IAmb 09 32 12.5
comp=Z,9.2nm,0.8s
M30M **Minto, Yukon** 86.63 18 P P 09 32 11.7 0.0
baz=220,SNR=12
L29M **L29M** 86.66 17 P P 09 32 11.9 0.0
baz=218,SNR=7.1
MSO **Missoula** 86.67 38 P P 09 32 11.8 -0.5
MSO **Missoula** 86.67 38 P P 09 32 11.7 -0.7
baz=240
DLMT **Dillon** 86.75 40 P P 09 32 13.7 +0.9
DLMT IAmb IAmb 09 32 14.6
comp=Z,11nm,0.9s
F21K **Alatna River** 86.83 10 P P 09 32 12.0 -0.5
baz=204
REDW **Red Top Meadow** 86.89 43 IAmb IAmb 09 32 15.6
comp=Z,12nm,0.9s
FXWY **Fox Creek** 86.91 42 IAmb IAmb 09 32 16.7
comp=Z,6.0nm,0.9s
G23K **Bananza Creek** 86.95 11 P P 09 32 12.4 -0.7
baz=207
SNOW **Snow King Moun** 87.00 42 IAmb IAmb 09 32 16.2
comp=Z,13nm,1.0s
HHC **Hu-ho-hao-te** 87.05 315 eP P 09 32 15.5 +1.2
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.9s
LRM **Limekiln Ridge** 87.07 40 P P 09 32 14.6 +0.2
M31M **Drury Creek, Y** 87.08 19 P P 09 32 13.8 0.0
M31M IAmb IAmb 09 32 14.2
comp=Z,8.6nm,1.2s
M31M **Drury Creek, Y** 87.08 19 P P 09 32 13.1 -0.7
baz=222
DAWY **Dawson** 87.08 16 P P 09 32 13.4 -0.5
DAWY IAmb IAmb 09 32 14.7
comp=Z,11nm,1.4s
DAWY **Dawson** 87.08 16 P P 09 32 13.3 -0.5
baz=217
IMW **Indian Meadow** 87.09 42 P P 09 32 15.7 +1.0
S22A **4UR Ranch, Cre** 87.14 49 IAmb IAmb 09 32 17.0
comp=Z,6.3nm,1.0s
S22A **4UR Ranch, Cre** 87.14 49 P P 09 32 16.2 +1.2
baz=245
I26K **Coal Creek Min** 87.16 14 IAmb IAmb 09 32 14.4
comp=Z,6.2nm,0.8s
I26K **Coal Creek Min** 87.16 14 P P 09 32 13.5 -0.6
baz=214
LOHW **Long Hollow** 87.17 42 P P 09 32 15.3 +0.3
LOHW IAmb IAmb 09 32 16.3
comp=Z,5.0nm,0.7s
O20A **White River Ci** 87.17 46 P P 09 32 15.4 +0.4
O20A IAmb IAmb 09 32 18.0
comp=Z,6.7nm,1.1s
O20A **White River Ci** 87.17 46 P P 09 32 15.6 +0.6
baz=244
EGAK **Eagle** 87.20 15 P P 09 32 14.2 0.0
EGAK IAmb IAmb 09 32 14.5
comp=Z,5.7nm,0.8s
EGAK **Eagle** 87.20 15 P P 09 32 13.9 -0.4
baz=215,SNR=6.1
FLWY **Flagg Ranch** 87.33 42 IAmb IAmb 09 32 17.9
comp=Z,10nm,0.9s
COLD **Coldfoot** 87.38 11 IAmb IAmb 09 32 16.0
comp=Z,9.6nm,0.9s
COLD **Coldfoot** 87.38 11 P P 09 32 14.6 -0.5
baz=207,SNR=10
K29M **Barlow Dome** 87.41 17 P P 09 32 15.9 +0.5
baz=219
G24K **Hadweenzic Riv** 87.42 12 P P 09 32 14.3 -1.0
baz=210
FARO **Faro, Yukon** 87.43 19 P P 09 32 15.2 -0.3
baz=223
YMR **Madison River** 87.43 41 IAmb IAmb 09 32 18.2
comp=Z,7.6nm,0.7s
BW06 **Boulder Array** 87.46 44 P P 09 32 16.6 +0.3
BW06 IAmb IAmb 09 32 17.5
comp=Z,18nm,1.4s
BW06 **Boulder Array** 87.46 44 P P 09 32 16.8 +0.5
baz=243,SNR=8.8
PD31 **Pinedale Array** 87.46 44 P P 09 32 16.5 +0.1
PD31 IAmb IAmb 09 32 17.5
comp=Z,15nm,1.4s
PDAR **Pinedale Array** 87.46 44 P P 09 32 16.5 +0.1
comp=Z,4.4nm,0.6s,baz=213,slow=3.4,SNR=52
comp=Z,4.4nm,0.6s
BOZ **Bozeman (W)** 87.46 40 P P 09 32 16.2 0.0
BOZ IAmb IAmb 09 32 18.1
comp=Z,6.6nm,1.1s
BOZ **Bozeman (W)** 87.46 40 P P 09 32 16.6 +0.4
baz=241
WTLY **Watson Lake, Y** 87.47 23 IAmb IAmb 09 32 16.6
comp=Z,12nm,1.3s
WTLY **Watson Lake, Y** 87.47 23 P P 09 32 16.0 +0.3
baz=227
H17A **Grant Village** 87.55 42 IAmb IAmb 09 32 19.7
comp=Z,10nm,0.9s
H17A **Grant Village** 87.55 42 P P 09 32 18.7 +2.0
baz=242,SNR=6.5
KMI **Kunming** 87.58 297 ⇑P P 09 32 18.8 +1.5
KMI pmax pmax
comp=Z,17nm,0.8s
MAYO **Mayo, Yukon** 87.68 18 P P 09 32 17.0 +0.4
MAYO **Mayo, Yukon** 87.68 18 P P 09 32 17.1 +0.5
baz=220,SNR=7.7
J29M **Klondike Camp** 87.70 16 IAmb IAmb 09 32 17.4
comp=Z,9.3nm,1.1s
J29M **Klondike Camp** 87.70 16 P P 09 32 17.3 +0.5
baz=218
LKWY **Lake** 87.74 42 IAmb IAmb 09 32 20.8
comp=Z,8.0nm,0.9s
G25K **Bearman Lake** 87.75 12 P P 09 32 16.9 +0.1
baz=211
I27K **Kandik River** 87.77 15 P P 09 32 16.4 -0.6
baz=215
LIRD **Liard River Hi** 88.01 24 P P 09 32 18.5 +0.3
baz=223
F24K **Squaw Lake** 88.06 11 P P 09 32 18.5 +0.2
baz=209
SDCO **Great Sand Dun** 88.09 49 P P 09 32 19.3 -0.2
baz=246
E23K **Chandalar** 88.22 11 P P 09 32 18.8 -0.3
baz=208
H27K **Steamboat Moun** 88.30 14 P P 09 32 19.6 +0.1
baz=215
WAPA **Wind River** 88.35 30 P P 09 32 20.2 +0.2
MMPY **Sheldon Lake,** 88.38 20 P P 09 32 20.3 +0.4
baz=224,SNR=10
I29M **Ogilvie Camp,** 88.39 16 IAmb IAmb 09 32 20.2
comp=Z,5.3nm,1.1s
I29M **Ogilvie Camp,** 88.39 16 P P 09 32 19.5 -0.4
baz=218
F25K **Christian Rive** 88.56 12 P P 09 32 20.8 +0.1
baz=211
BRLDA **Berland Lookou** 88.63 31 P P 09 32 22.2 +0.9
CMAR **Chiang Mai Arr** 88.63 290 P P 09 32 23.3 +1.3
comp=Z,4.1nm,0.8s,baz=105,slow=2.9,SNR=24
comp=Z,4.1nm,0.8s
CMAR **Chiang Mai Arr** 88.63 290 P P 09 32 22.9 +0.9
BMAR **Burnt Mountain** 88.63 12 P P 09 32 20.9 0.0
MSTX **Muleshoe** 88.64 54 P P 09 32 22.8 +0.9
MSTX **Muleshoe** 88.64 54 P P 09 32 22.3 +0.4
baz=247
T25A **Trinidad** 88.64 50 P P 09 32 23.3 +1.3
baz=246
RLMT **Red Lodge** 88.71 42 P P 09 32 23.0 +0.9
RLMT IAmb IAmb 09 32 24.2
comp=Z,5.9nm,0.9s
RLMT **Red Lodge** 88.71 42 P P 09 32 23.6 +1.4
baz=243,SNR=6.0
CHTO **Chiang Mai** 88.75 290 P P 09 32 23.4 +0.8
CHTO IAmb IAmb 09 32 24.3
comp=Z,7.9nm,0.9s
G27K **Doyon Strip** 88.75 14 P P 09 32 21.8 +0.3
baz=215
Q24A **Divide** 88.84 48 P P 09 32 24.1 +1.2
baz=246
ISCO **Idaho Springs** 88.86 47 P P 09 32 24.0 +0.9
baz=246
D23K **Nanushuk River** 88.86 10 P P 09 32 22.2 +0.2
baz=206
PZH **PanZhiHua** 88.91 298 P P 09 32 24.0 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.1s
F26K **Sheenjek River** 88.95 12 P P 09 32 22.6 +0.2
baz=213

E25K **Arctic Village** 89.03 12 P P 09 32 23.1 +0.3
baz=211,SNR=5.0
N23A **Red Feather La** 89.08 46 P P 09 32 24.9 +0.9
baz=245,SNR=5.5
ELIB **Princess Elisa** 89.21 187 dP P 09 32 23.9 0.0
comp=Z,22nm,0.8s
D24K **Happy Valley** 89.33 10 P P 09 32 24.2 0.0
baz=208
K22A **Casper** 89.42 45 P P 09 32 24.6 -0.8
baz=245
EPYK **Eagle Plains** 89.59 16 P P 09 32 25.4 -0.1
baz=220,SNR=6.1
JCT **Junction City** 89.69 58 IAmb IAmb 09 32 28.3
comp=Z,5.9nm,0.7s
JCT **Junction City** 89.69 58 P P 09 32 27.0 +0.2
baz=249
EGMT **Eagleton** 89.74 39 P P 09 32 26.6 -0.1
baz=243
AMTX **Amarillo** 89.82 53 P P 09 32 27.3 0.0
baz=248
C24K **Franklin Bluff** 89.86 10 P P 09 32 26.4 -0.1
baz=208
D25K **Kavik River** 89.91 11 P P 09 32 26.3 -0.5
baz=211
G30M **tAoh Zraii Nji** 90.19 15 P P 09 32 28.0 -0.3
baz=220
A21K **Barrow** 90.21 7 P P 09 32 27.0 -1.1
baz=201
TROLL **Troll, Antarti** 90.39 180 P P 09 32 29.8 +0.4
ABTX **Abilene, Hawle** 90.58 56 P P 09 32 31.3 +0.5
ABTX **Abilene, Hawle** 90.58 56 P P 09 32 31.0 +0.2
baz=249
LZH **Lanzhou** 90.65 308 eP P 09 32 32.3 +1.1
LZH sP PcP 09 32 36.8 +4.9
LZH pmax pmax
comp=Z,20nm,0.9s
C27K **Jago River** 90.67 12 P P 09 32 30.1 -0.2
baz=213
SNAA **Sanae** 90.68 179 P P 09 32 30.7 +0.1
SNAA **Sanae** 90.68 179 P P 09 32 30.8 +0.2
C26K **Camden Bay** 90.69 11 P P 09 32 30.2 -0.1
baz=212
F31M **Tsiigehtchic** 91.17 16 P P 09 32 32.5 -0.2
baz=222,SNR=12
VNA2 **Neumayer--Watz** 91.27 177 P P 09 32 33.7 +0.4
baz=143,slow=5.0
LAO **LASA Array** 91.31 41 P P 09 32 35.1 +1.2
baz=245,SNR=5.3
RSSD **Black Hills** 91.67 44 P P 09 32 35.7 -0.1
RSSD **Black Hills** 91.67 44 P P 09 32 36.1 +0.2
baz=247
INK **Inuvik** 91.87 15 P P 09 32 35.1 -0.7
INK **Inuvik** 91.87 15 P P 09 32 34.7 -1.1
baz=222,SNR=7.8
WMOK **Wichita Mounta** 91.99 54 P P 09 32 37.8 +0.5
baz=250
WHTX **Lake Whitney,** 92.10 57 P P 09 32 38.1 +0.4
baz=256
CBKS **Cedar Bluff** 92.69 50 P P 09 32 40.8 +0.3
baz=249
ULN **Ulaanbaatar** 92.94 320 P P 09 32 41.3 -0.1
ULN IAmb IAmb 09 32 42.3
comp=Z,4.2nm,0.8s
DGMT **Dagmar** 93.29 40 P P 09 32 43.5 +0.6
baz=247
SONM **Songino Array** 93.33 319 P P 09 32 42.7 -0.6
comp=Z,0.6nm,0.5s,baz=118,slow=4.3,SNR=6.1
comp=Z,0.6nm,0.5s
YKA **Yellowknife Ar** 94.36 25 P P 09 32 46.7 -0.7
comp=Z,2.8nm,0.8s,baz=244,slow=4.7,SNR=42
comp=Z,2.8nm,0.8s
GTA **Gaotai** 94.80 310 eP P 09 32 50.3 +0.2
GTA pP PcP 09 32 54.5 +4.3
GTA pmax pmax
comp=Z,4.0nm,1.2s
KSU1 **Kansas State U** 95.09 51 P P 09 32 51.7 +0.5
baz=251
C36M **Paulatuk** 95.09 17 P P 09 32 50.0 -0.5
baz=231
MIAR **Mount Ida** 95.99 56 P P 09 32 55.9 +0.5
baz=252
A36M **Sachs Harbour** 96.46 15 P P 09 32 56.3 -0.3
A36M **Sachs Harbour** 96.46 15 P P 09 32 56.3 -0.3
baz=230
ECSD **EROS Data Cent** 96.55 46 P P 09 32 58.1 +0.3
baz=252
ZALV **Zalesovo Beam** 108.02 322 PKiKP PKiKP 09 37 50.7 -1.2
comp=Z,1.8nm,0.6s,baz=138,slow=1.5,SNR=8.9
MKAR **Makanchi Array** 108.91 314 PKiKP PKiKP 09 37 52.8 -1.1
comp=Z,1.6nm,0.5s,baz=198,slow=0.6,SNR=36
BVAR **Borovoye Array** 116.63 321 PKP PKPdf 09 38 07.6 -0.8
comp=Z,4.5nm,0.4s,baz=100,slow=3.2,SNR=19
BRVK **Borovoye** 116.69 321 PKPdf PKPdf 09 38 08.2 -0.3
KK31 **Karatay Array** 117.08 310 PKPdf 09 38 08.9 -0.6
KKAR **Karatay Array** 117.08 310 PKPdf 09 38 08.9 -0.7
GAR **Garm** 117.19 305 PKPdf 09 38 09.7 -0.3
SPITS **Spitsbergen Ar** 119.17 356 PKP PKPdf 09 38 11.6 -1.0
comp=Z,8.4nm,0.9s,baz=51,slow=9.4,SNR=4.7
ARU **Arti** 122.65 326 PKP PKPdf 09 38 19.6 -0.2
comp=Z,7.8nm,0.3s,baz=66,slow=1.5,SNR=14
ARU **Arti** 122.65 326 PKPdf 09 38 19.2 -0.6
ABKAR **Akbulak array** 123.71 318 PKPdf 09 38 21.5 -0.6
AKTO **Aktyubinsk** 124.65 319 PKP PKPdf 09 38 23.6 -0.2
comp=Z,3.9nm,0.7s,baz=67,slow=2.2,SNR=13
ARCES **ARCESS Array B** 126.19 350 PKP PKPdf 09 38 25.7 -0.6
comp=Z,5.0nm,0.8s,baz=5.9,slow=1.3,SNR=8.5
GEYT **Gilbeck** 126.80 304 PKP PKPdf 09 38 28.7 +0.3
comp=Z,4.0nm,0.8s,baz=25,slow=3.8,SNR=6.6
BELG **Belogornoye** 130.08 325 PKP PKPdf 09 38 34.4 +0.3
comp=Z,19nm,0.8s,baz=124,slow=1.0,SNR=11
FINES **FINESS Array B** 133.05 344 PKhKP PKPpre 09 38 32.9
comp=Z,2.7nm,0.9s,baz=41,slow=6.1,SNR=4.9
FINES PKP PKPdf 09 38 39.1 -0.3
comp=Z,2.3nm,0.6s,baz=50,slow=3.5,SNR=12
NB2 **NORSAR Subarra** 136.27 353 PKP PKPdf 09 38 36.3 -9.3
comp=Z,2.0nm,0.8s,baz=17,slow=2.6
NOA **NORSAR Array B** 136.27 353 PKP PKPdf 09 38 45.0 -0.6
comp=Z,1.5nm,0.7s,baz=13,slow=4.0,SNR=5.4
LSZ **Lusaka** 137.78 220 PKP PKPdf 09 38 50.0 +0.2
comp=Z,2.3nm,0.4s,baz=163,slow=2.6,SNR=4.4
AKASG **Malin Array Be** 140.38 332 PKhKP PKPpre 09 38 46.2
comp=Z,1.2nm,0.4s,baz=40,slow=3.9,SNR=10.0
AKASG PKP PKPdf 09 38 54.1 +0.8
comp=Z,1.8nm,0.4s,baz=43,slow=2.7,SNR=7.7
EKA **Eskdalemuir Ar** 142.41 4 PKhKP PKPpre 09 38 52.5
comp=Z,2.6nm,0.7s,baz=12,slow=2.4,SNR=6.3
GAZ **Gaziantep** 143.10 309 PKPdf PKPbc 09 38 57.6 +0.7
BSEG **Bad Segeberg** 143.30 351 ePKPbc PKPab 09 38 56.6 +0.1
baz=15,slow=2.8
BNN **Bunyan** 143.42 312 PKPdf PKPab 09 38 58.3 +0.6
LODK **Lodwar** 143.72 251 PKPdf PKPbc 09 39 00.3 +0.8
VASR **Vaslui** 143.92 329 ⇑P PKPbc 09 38 59.0 +0.1
RUE **Ruedersdorf** 144.06 347 ePKPbc PKPbc 09 38 59.3 +0.1
baz=15,slow=2.8
VLDR **Vladesti** 144.32 327 ⇓P PKPbc 09 39 00.2 -0.1
WLF1 **Llynfaes** 144.33 6 eP PKPbc 09 39 00.3 +0.3
TLCR 144.37 326 ⇓P PKPbc 09 39 00.3 -0.2
BUR08 **Bucovina Ar. S** 144.42 332 PKPdf 09 39 01.3 +0.6
LBWR **Ladybower, Pea** 144.42 3 eP PKPbc 09 38 59.2 -1.1
BURAR **Bucovina Array** 144.43 332 ⇑P PKPab 09 39 01.7 +0.6
BURAR **Bucovina Array** 144.43 332 PKPbc PKPbc 09 39 01.2 +0.5
OJC **Ojcow** 144.46 340 ePKPbc PKPdf 09 39 00.5 -0.1
OJC **Ojcow** 144.46 340 PKPdf PKPdf 09 39 00.7 +0.2
GHRR 144.51 328 ⇑P PKPbc 09 39 01.6 +0.8
BR131 **Keskin Array S** 144.56 315 PKPdf 09 39 01.0 -0.3
BRTR **Keskin Array B** 144.56 315 PKP PKPdf 09 39 01.1 -0.1
comp=Z,14nm,0.8s,baz=118,slow=2.8,SNR=50
BRTR **Keskin Array B** 144.56 315 PKPdf 09 39 01.0 -0.3
TESR **Tescani** 144.57 329 ⇑P PKPdf 09 39 00.9 +0.1
RETH **Rethem/Aller,** 144.60 352 ePKPbc PKPdf 09 39 00.6 0.0
baz=15,slow=2.8
JURR **Jurlovca** 144.61 325 ⇑P PKPdf 09 39 01.4 +0.4
STHS **Stebnicka Huta** 144.63 337 ePKP PKPdf 09 39 01.1 +0.2
FLTG **Flechtingen** 144.70 349 ePKPbc PKPdf 09 39 00.8 0.0
baz=15,slow=2.8
NRDL **Niedersach Rie** 144.73 351 ePKPbc PKPbc 09 39 01.6 +0.4
baz=15,slow=2.8
CFR **Carcaliu** 144.74 326 ⇑P PKPdf 09 39 00.6 -0.6
TPGR **Topolog** 144.80 326 ⇑P PKPdf 09 39 01.5 +0.2
FOEL **Foel Wylfa** 144.83 5 eP PKPdf 09 39 01.0 -0.1
ODBI **Odobesti** 144.90 328 ⇑P PKPab 09 39 03.1 +0.3
NIE **Niedzica** 144.96 338 ePKP PKPbc 09 39 02.8 +0.6
KSP **Ksiaz** 144.97 343 ePKP PKPbc 09 39 02.6 +0.5
CRVS **Cervenica-Dubn** 144.97 337 ePKP PKPdf 09 39 02.3 +0.8
VRI **Vrincioaia** 144.99 329 ⇓P PKPdf 09 39 02.1 +0.5
ASSE **Asse, Remlinge** 144.99 350 ePKPbc PKPbc 09 39 02.2 +0.2

	baz=15,slow=2.8								
PLOR	**Plostina**	145.04	329		⇑P		PKPdf	09 39 02.2	+0.5
TIRR	**Tirgusor**	145.07	325		⇑P		PKPdf	09 39 01.7	0.0
BMR	**Baia Mare**	145.14	334		⇑P		PKPbc	09 39 03.2	+0.5
HARR	**Harsova**	145.17	326		⇑P		PKPdf	09 39 02.7	+0.8
TRPA	**Tarpa**	145.17	335		⇑P		PKPbc	09 39 03.0	+0.3
ARCR	**ARCALIA**	145.22	332		⇑P		PKPbc	09 39 03.4	+0.4
HLM1	**Long Mynd**	145.22	5		*e*P		PKPdf	09 39 01.8	0.0
IBBN	**Ibbenburen**	145.23	353		*e*PKPbc		PKPdf	09 39 02.7	+1.0
	baz=15,slow=2.8								
OSTC	**Ostas**	145.25	343		*e*PKP		PKPbc	09 39 03.6	+0.6
COVR	**Voineasa-Covas**	145.26	329		⇑P		PKPbc	09 39 03.6	+0.4
OZUR		145.28	330		⇑P		PKPdf	09 39 03.1	+0.9
CLZ	**Clausthal**	145.32	350		*e*PKPbc		PKPbc	09 39 03.4	+0.2
	baz=15,slow=2.8								
OKC	**Ostrava-Krasne**	145.32	341		*e*PKP		PKPdf	09 39 02.3	+0.3
CLL	**Collm**	145.33	347		*i*PKPbc		PKPbc	09 39 03.1	0.0
	comp=Z,41nm,0.7s								
CLL	**Collm**	145.33	347		*e*PKPbc		PKPbc	09 39 03.2	+0.1
	baz=15,slow=2.8								
UPC	**Upice**	145.35	343		*e*PKP		PKPbc	09 39 03.6	+0.4
MANR	**Mangalia**	145.38	324		⇑P		PKPdf	09 38 58.8	-3.4
DPC	**Dobruska-Polom**	145.40	343		*e*PKP		PKPbc	09 39 03.4	-0.1
LANS	**Liptovska Anna**	145.48	339		*e*PKP		PKPbc	09 39 04.8	+1.1
NEHR	**Nehoiu**	145.51	328		⇑P		PKPab	09 39 05.6	+0.3
KRLC	**Kraliky**	145.52	342		*e*PKP		PKPbc	09 39 03.9	+0.1
LPW	**Lampeter**	145.52	6		*e*P		PKPdf	09 39 02.9	+0.6
BRG	**Berggiesshubel**	145.53	346		*i* PKP		PKPbc	09 39 04.2	+0.5
BRG					Amp			09 39 04.5	
	comp=Z,20nm,0.8s								
BRG	**Berggiesshubel**	145.53	346		*e*PKPbc		PKPbc	09 39 03.8	+0.1
	baz=15,slow=2.8								
MORC	**Moravsky Berou**	145.56	341		⇑P		PKPdf	09 39 03.4	+0.9
MORC	**Moravsky Berou**	145.56	341				PKPbc	09 39 04.2	+0.3
MORC	**Moravsky Berou**	145.56	341		*e*PKP		PKPbc	09 39 04.0	+0.1
DOPR	**Dopca**	145.57	330		⇑P		PKPdf	09 39 03.6	+1.0
FBE	**Freiberg**	145.62	347		*e*PKPbc		PKPbc	09 39 04.3	+0.3
	baz=15,slow=2.8								
MLR	**Muntele Rosu**	145.64	329		PKPbc		PKPdf	09 39 03.8	+0.9
	comp=Z,11nm,0.8s,baz=336,slow=5.5,SNR=12								
MLR	**Muntele Rosu**	145.64	329		⇑P		PKPdf	09 39 03.7	+0.9
GTTG	**Gottingen**	145.67	350		*e*PKPbc		PKPbc	09 39 04.2	+0.1
	baz=15,slow=2.8								
NEUB	**Neuenburg**	145.68	348		*e*PKPbc		PKPbc	09 39 04.0	-0.1
	baz=15,slow=2.8								
PVCC	**Panska Ves**	145.70	345		*e*PKP		PKPbc	09 39 04.4	+0.2
MCH1	**Michaelchurch**	145.73	5		*e*P		PKPdf	09 39 03.7	+1.1
MBAR	**Mbarara**	145.76	241		PKPbc		PKPbc	09 39 05.7	0.0
	comp=Z,11nm,0.2s,baz=174,slow=1.1,SNR=11								
MDUB	**Mudurnu**	145.79	318		PKPbc		PKPbc	09 39 04.7	-0.3
MAUC	**Maruska**	145.83	341		*e*PKP		PKPdf	09 39 03.8	+0.8
CJR	**Cluj-Napoca**	145.84	332		⇑P		PKPbc	09 39 04.7	-0.1
MONM	**Monmouth**	145.91	5		*e*P		PKPdf	09 39 04.1	+1.2
MARR	**Marisel-Cluj**	146.07	333		⇑P		PKPbc	09 39 05.6	0.0
VOIR		146.12	329		⇑P		PKPbc	09 39 05.2	-0.4
BUG	**Bochum--Univer**	146.13	353		*e*PKPbc		PKPbc	09 39 05.3	-0.1
	baz=15,slow=2.8								
DRGR		146.16	333		⇑P		PKPdf	09 39 03.9	+0.2
PRU	**Pruhonice**	146.21	345		*e*PKP		PKPbc	09 39 05.7	0.0
GOPC	**GO Pecny, Ondr**	146.21	344		*e*PKP		PKPbc	09 39 05.4	-0.3
KASTN	**Kahler Asten**	146.23	352		*e*PKPbc		PKPbc	09 39 05.4	-0.3
	baz=15,slow=2.8								
MOX	**Moxa**	146.24	348		*e*PKPbc		PKPbc	09 39 05.6	-0.2
	baz=15,slow=2.8								
VYHS	**Vyhne**	146.26	339		*e*PKP		PKPbc	09 39 06.2	+0.3
VRAC	**Vranov**	146.26	342		PKPbc		PKPbc	09 39 05.9	0.0
	comp=Z,10nm,0.8s,baz=21,slow=3.1,SNR=6.2								
VRAC	**Vranov**	146.26	342		⇑P		PKPbc	09 39 06.9	+1.0
VRAC	**Vranov**	146.26	342		*e*PKP		PKPbc	09 39 06.1	+0.2
MTUR	**Matau**	146.26	329		⇑P		PKPbc	09 39 05.7	-0.4
PLN	**Plauen**	146.29	348		*e*PKPbc		PKPbc	09 39 06.1	+0.2
	baz=15,slow=2.8								
TANN	**Tannenbergstha**	146.29	347		*e*PKPbc		PKPbc	09 39 05.8	-0.1
	baz=15,slow=2.8								
WERD	**Werda**	146.29	347		*e*PKPbc		PKPbc	09 39 06.0	0.0
	baz=15,slow=2.8								
JAVC	**Velka Javorina**	146.33	340		*e*PKP		PKPbc	09 39 07.4	+1.3
GUNZ	**Gunzen**	146.37	347		*e*PKPbc		PKPbc	09 39 06.6	+0.4
	baz=15,slow=2.8								
ARR	**Arges**	146.37	330		⇑P		PKPbc	09 39 05.9	-0.5
WERN	**Wernitzgruen**	146.43	347		*e*PKPbc		PKPbc	09 39 06.6	+0.2
	baz=15,slow=2.8								
WERN					*e*PKPab		PKiKP	09 39 09.0	+0.5
	baz=14,slow=4.0								
NKC	**Novy Kostel**	146.47	347		*e*PKP		PKPbc	09 39 06.4	0.0
NKC					*ex*		x	09 39 08.9	
WOL	**Wolverton**	146.53	3		*e*P		PKPbc	09 39 06.1	-0.4
KRUC	**Moravsky**	146.54	342		*e*PKP		PKPbc	09 39 06.8	+0.2
MANZ	**Manzenberg**	146.77	347		*e*PKPbc		PKPbc	09 39 07.3	+0.1
	baz=15,slow=2.8								
MODS	**Modra-Piesok**	146.88	340		*e*PKP		PKPbc	09 39 08.4	+0.8
ROTZ	**Rotzenmuhle**	146.96	347		*e*PKPbc		PKPbc	09 39 08.0	+0.2
	baz=15,slow=2.8								
SBD	**Saint Breward**	146.99	7		*e*P		PKPbc	09 39 07.3	-0.5
SIRR	**Siria**	147.02	334		⇑P		PKPbc	09 39 08.2	+0.2
AHRW	**Bad Neuenahr-A**	147.04	353		*e*PKPab		PKiKP	09 39 10.4	+0.7
	baz=14,slow=4.0								
MEM	**Membach**	147.08	355		*d*PKP		PKPbc	09 39 07.9	-0.1
ZST	**Bratislava**	147.09	340		*e*PKP		PKPbc	09 39 09.1	+1.0
BTNL	**Ternell**	147.09	354		*d*PKPdf		PKPdf	09 39 05.2	+0.2
BTNL					*d*PKP		PKPbc	09 39 07.9	-0.2
BSTI	**Sart Tilman**	147.15	355		*d*PKP		PKPbc	09 39 08.6	+0.4
TNS	**Taunus Mts**	147.18	352		*e*PKPbc		PKPbc	09 39 08.3	-0.1
	baz=15,slow=2.8								
TNS					*e*PKPab		PKiKP	09 39 11.4	+1.3
	baz=14,slow=4.0								
GZR	**Gura Zlata**	147.22	332		⇑P		PKPbc	09 39 08.4	-0.3
SURR	**Surduc**	147.23	333		⇑P		PKPbc	09 39 08.1	-0.5
GRF	**Grafenberg Arr**	147.23	348		*e*PKPab		PKPab	09 39 12.0	0.0
	baz=14,slow=4.0								
KHC	**Kasperske Hory**	147.24	345		*e*PKP		PKPdf	09 39 05.4	+0.1
KHC					*ex*		x	09 39 08.6	
SNF	**Seneffe**	147.31	357		*d*PKP		PKPbc	09 39 08.7	+0.1
BCLA	**Clavier**	147.33	355		*d*PKiKP		PKiKP	09 39 11.0	+0.7
BHOU	**Houvegnez**	147.34	354		*d*PKP		PKPbc	09 39 09.0	+0.3
CKRC	**Cesky Krumlov**	147.34	344		*e*PKP		PKPdf	09 39 05.7	+0.2
CKRC					*ex*		x	09 39 08.7	
MILB	**Miltenberg**	147.44	350		*e*PKPbc		PKPbc	09 39 09.0	0.0
	baz=15,slow=2.8								
MILB					*e*PKPab		PKPab	09 39 12.9	0.0
	baz=14,slow=4.0								
GEC2	**GERESS Array S**	147.47	345				PKPbc	09 39 09.4	+0.2
GEC2	**GERESS Array S**	147.47	345		*e*PKPbc		PKPbc	09 39 09.5	+0.2
	baz=15,slow=2.8								
GERES	**GERESS Array B**	147.47	345		PKPbc		PKPbc	09 39 09.2	0.0
	comp=Z,13nm,0.6s,baz=26,slow=2.9,SNR=69								
VLAD	**Vladila**	147.47	328		⇑P		PKPbc	09 39 08.4	-0.8
BMRD	**Maredsous**	147.49	356		*d*PKP		PKPbc	09 39 09.0	-0.1
BZS	**Buzias**	147.55	333		⇑P		PKPdf	09 39 07.2	+1.3
RCHB	**Rochefort**	147.60	355		*d*PKP		PKPbc	09 39 09.2	-0.2
DOU	**Dourbes**	147.70	356		*d*PKP		PKPbc	09 39 09.8	+0.1
CONA	**Conrad Observa**	147.71	342		*e*PKP		PKPbc	09 39 10.3	+0.5
	comp=Z,21nm,0.7s,SNR=12								
HERR	**Herculane**	147.77	331		⇑P		PKPbc	09 39 09.9	-0.1
RONA	**Rosalia, Austr**	147.78	341		*i* PKP		PKPbc	09 39 10.5	+0.5
	comp=Z,21nm,0.7s,SNR=10								
PLVB	**Pleven**	147.80	327		⇑P		PKPbc	09 39 09.1	-1.0
WLF	**Walferdange**	148.00	354		PKPbc		PKPbc	09 39 11.2	+0.8
WLF	**Walferdange**	148.00	354		*d*PKP		PKPbc	09 39 11.0	+0.6
WLF	**Walferdange**	148.00	354		*e*PKPbc		PKPbc	09 39 11.0	+0.6
	baz=15,slow=2.8								
WLF					*e*PKPab		PKPab	09 39 15.2	+0.1
	baz=14,slow=4.0								
MOA	**Molln**	148.24	343		*i* PKP		PKPbc	09 39 11.1	0.0
	comp=Z,16nm,1.3s								
MORH	**Mrgy, Hungar**	148.26	337		⇑P		PKPbc	09 39 10.7	-0.5
ARSA	**Arzberg**	148.42	341		*i* PKP		PKPbc	09 39 11.0	-0.6
	comp=Z,8.4nm,1.0s								
STU	**Stuttgart**	148.48	350		*e*PKPbc		PKPbc	09 39 11.9	+0.2
	baz=15,slow=2.8								
STU					*e*PKPab		PKPab	09 39 16.8	-0.3
	baz=14,slow=4.0								
BIOA	**Bad Ischl, Aus**	148.56	344		*i* PKP		PKPbc	09 39 11.7	-0.2
	comp=Z,6.8nm,0.7s								
JSA	**Saint Aubin**	148.59	4		*e*P		PKPbc	09 39 11.7	-0.1
FUR	**Furstenfeldbru**	148.67	347		*e*PKPab		PKPab	09 39 17.9	-0.1
	baz=14,slow=4.0								
FRGS	**Fruska Gora**	148.68	334		⇑P		PKPbc	09 39 13.1	+0.8
RJOB	**Jochberg**	148.73	345		*e*PKPbc		PKPbc	09 39 12.1	-0.3
	baz=15,slow=2.8								
RJOB					*e*PKPab		PKPab	09 39 18.3	0.0
	baz=14,slow=4.0								
AKAS	**Kas**	149.03	312				PKPbc	09 39 13.2	-0.4
BFO	**Black Forest**	149.05	351		PKPdf		PKPdf	09 39 06.8	-1.5
BFO							PKPbc	PKPbc	09 39 13.1	-0.1
BFO							PKPab	PKPab	09 39 19.4	-0.1
BFO	**Black Forest**	149.05	351		*e*PKPbc		PKPbc	09 39 13.0	-0.1
	baz=15,slow=2.8								
BFO					*e*PKPab		PKPab	09 39 19.2	-0.3
	baz=14,slow=4.0								
BOVS	**Bovan**	149.05	331		⇑P		PKPdf	09 39 11.1	+2.7
VTS	**Vitosha**	149.06	328		⇑P		PKPdf	09 39 07.2	-1.4
VTS	**Vitosha**	149.06	328		PKPdf		PKPdf	09 39 07.6	-1.0
VTS							PKPbc	09 39 13.5	+0.1
VTS					PKPab		PKPab	09 39 20.6	+0.7
SOKA	**Soboth**	149.08	342		*i* PKP		PKPbc	09 39 12.8	-0.5
	comp=Z,19nm,1.1s,SNR=7.8								
KBA	**Koelnbreinsper**	149.20	344		*i* PKP		PKPbc	09 39 13.0	-0.7
	comp=Z,12nm,0.5s,SNR=7.2								
ECH	**Echery**	149.32	352		PKPbc		PKPbc	09 39 12.9	-0.8
UBR	**Ueberruh**	149.37	348		*e*PKPbc		PKPbc	09 39 14.0	0.0
	baz=15,slow=2.8								
UBR					*e*PKPab		PKPab	09 39 20.4	-0.6
	baz=14,slow=4.0								
OBKA	**Obir**	149.38	342		*i* PKP		PKPbc	09 39 13.1	-0.9
	comp=Z,5.2nm,0.8s								
WATA	**Walderalm**	149.39	346		*i* PKP		PKPbc	09 39 13.8	-0.2
	comp=Z,12nm,0.5s,SNR=6.7								
RETA	**Reutte**	149.43	347		*i* PKP		PKPbc	09 39 14.1	0.0
	comp=Z,8.0nm,0.5s								
WTTA	**Wattenberg**	149.45	346		*i* PKP		PKPbc	09 39 14.3	0.0
	comp=Z,23nm,0.5s,SNR=10.0								
DIVS	**Divibare**	149.46	333				PKPbc	09 39 14.4	+0.1
MOTA	**Moosalm**	149.49	347		*i* PKP		PKPbc	09 39 14.1	-0.3
	comp=Z,23nm,0.9s,SNR=6.1								
MYKA	**Terra Mystica**	149.53	343		*i* PKP		PKPbc	09 39 13.6	-0.8
	comp=Z,15nm,0.5s,SNR=8.2								
SQTA	**Sankt Quirin**	149.58	347		*i* PKP		PKPbc	09 39 14.4	-0.1
	comp=Z,22nm,0.5s,SNR=8.2								
ABTA	**Abfaltersbach**	149.72	345		*i* PKP		PKPbc	09 39 14.2	-0.7
	comp=Z,25nm,0.6s								
PRED	**Cave del Predi**	149.72	343		PKPdf		PKPdf	09 39 08.3	-1.2
PRED							PKPbc	09 39 13.9	-0.9
PRED					PKPab		PKPab	09 39 21.6	-0.8
DAVA	**Damuels**	149.79	348		*i* PKP		PKPbc	09 39 15.1	+0.1
	comp=Z,17nm,0.8s,SNR=5.4								
FETA	**Feichten**	149.88	347		*i* PKP		PKPbc	09 39 15.4	+0.1
	comp=Z,20nm,1.0s,SNR=5.3								
CLUD	**Cludinico**	149.89	344		PKPdf		PKPdf	09 39 08.8	-0.9
CLUD					PKPbc		PKPbc	09 39 14.5	-0.7
CLUD					PKPab		PKPab	09 39 22.1	-1.0
STAL	**STALIGIAL**	150.12	344				PKPbc	09 39 15.2	-0.5
SABO	**M.te Sabotino**	150.14	343				PKPbc	09 39 15.4	-0.3
CIMO	**Cimolais**	150.15	344				PKPbc	09 39 15.1	-0.6
STIP	**Stip**	150.27	327		*i* P		PKPbc	09 39 14.7	-1.4
DAVOX	**Davos/Dischmat**	150.28	348		PKP		PKPdf	09 39 10.2	-0.3
	comp=Z,5.1nm,0.8s,baz=16,slow=3.5,SNR=6.2								
DAVOX					PKPbc		PKPbc	09 39 16.5	+0.2
	comp=Z,40nm,0.7s,baz=268,slow=0.8,SNR=46								
FUORN	**Ofenpass-Fuorn**	150.35	348				PKPbc	09 39 16.9	+0.4
SKO	**Skopje**	150.44	329		*i* P		PKPbc	09 39 16.5	0.0
CTI	**Castel Tesino**	150.59	345		PKPdf		PKPdf	09 39 09.2	-1.7
CTI							PKPbc	09 39 17.1	+0.2
CTI					PKPab		PKPab	09 39 25.5	-0.6
TUE	**Stuetta**	150.68	349		PKPdf		PKPdf	09 39 10.1	-1.0
TUE					PKPbc		PKPbc	09 39 17.3	+0.1
TUE					PKPab		PKPab	09 39 26.4	-0.2
PDG	**Podgorica**	151.12	332		⇑P		PKPbc	09 39 16.4	-1.7
PDG	**Podgorica**	151.12	332				PKPbc	09 39 17.6	-0.4
PDG					PKPab		PKPab	09 39 27.6	-0.7
SENIN	**Lac Senin/Sane**	151.12	351		PKPdf		PKPdf	09 39 11.2	-0.6
SENIN							PKPbc	09 39 18.4	+0.2
SENIN					PKPab		PKPab	09 39 27.6	-0.9
LIT	**Litokhoron**	151.25	325		PKPdf		PKPdf	09 39 11.4	-0.5
LIT					PKPbc		PKPbc	09 39 18.0	-0.4
LIT					PKPab		PKPab	09 39 29.4	+0.4
FNA	**Florina**	151.35	327				PKPbc	09 39 18.4	-0.3
OHR	**Ohrid**	151.40	328		*i* P		PKPbc	09 39 18.8	0.0
BNI	**Bardonecchia**	152.49	352		PKPdf		PKPdf	09 39 13.4	-0.3
BNI							PKPbc	09 39 21.4	+0.2
BNI					PKPab		PKPab	09 39 34.6	+0.5
KEK	**Kerkira**	152.95	328		PKPbc		PKiKP	09 39 23.0	+0.7
FDMO	**Fiordimonte**	152.97	341		PKPdf		PKPdf	09 39 12.5	-1.8
FDMO					PKPbc		PKPbc	09 39 21.2	-1.0
FDMO							PKPab	09 39 36.4	+0.3
SCTE	**Santa Cesarea**	153.34	330		PKPbc		PKPbc	09 39 23.1	+0.1
ITM	**Ithomi**	153.55	321		PKPdf		PKPdf	09 39 14.5	-0.9
ITM					PKPbc		PKPbc	09 39 22.9	-0.7
ITM					PKPab		PKPab	09 39 37.0	-1.8
ESDC	**Sonseca Array**	157.75	11		PKP		PKPdf	09 39 21.1	+0.2
	comp=Z,0.8nm,0.8s,baz=315,slow=3.1,SNR=4.3								
ESDC					PKPab		PKPab	09 39 56.4	-0.4
	comp=Z,1.9nm,0.8s,baz=343,slow=3.5,SNR=7.5								
MDT	**Midelt**	164.15	19		PKP		PKPdf	09 39 28.6	+0.8
	comp=Z,3.3nm,0.7s,baz=140,slow=0.3,SNR=6.6								
MDT					PKPab		PKPab	09 40 25.1	0.0
	comp=Z,4.1nm,0.9s,baz=358,slow=2.9,SNR=5.9								
TORD	**Torodi Ar. Bea**	175.33	184		PKP		PKPdf	09 39 33.3	-1.3
	comp=Z,2.7nm,0.8s,baz=204,slow=3.2,SNR=13								
TORD					PKPab		PKPab	09 41 14.8	0.0
	comp=Z,0.9nm,0.7s,baz=182,slow=5.0,SNR=4.2								

IDC 31 09:31:27.7±702.0, 53.45N×1.05E, h0km, Error ellipse: s-maj=370.2km s-min=212.4km az=98.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	9.19	115	I	I	10 27 30.0	
	baz=306,slow=315,SNR=1.5						
I43RU	**DUBNA INFRASON**	20.80	66	I	I	11 38 50.0	
	baz=277,slow=324,SNR=1.0						
I31KZ	**AKTYUBINSK INF**	34.47	71	I	I	13 04 00.0	
	baz=297,slow=343,SNR=1.1						

ISK 31 09:37:18.9, 40.25N×30.78E, h0km, ML2.0/5, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GULT	**Gulveren**	0.27	313	Pg	Pg	09 37 24.7	+0.6
GULT				Sg	Sb	09 37 29.9	-2.0
MDUB	**Mudurnu**	0.39	56	Pg	Pg	09 37 27.2	+0.8
MDUB				Sg	Sb	09 37 33.9	-1.5
YUVA	**Yuva-Kibriscik**	0.71	78	Pg	Pg	09 37 33.1	+0.6
YUVA				Sg	Sb	09 37 43.8	-0.8
CAVI	**Cavuskoy**	0.71	266	Pg	Pb	09 37 33.5	-0.8
CAVI				Sg	Sb	09 37 44.2	-0.4
SVRH	**Sivrihisar-ESK**	0.99	144	Pg	Pg	09 37 38.3	+0.5
SVRH				Sg	Sb	09 37 52.5	-0.1

ROM 31 09:37:34.2±0.1, 42.961N±0.002×13.186E±0.004, h16km, ML1.3/5, 6C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=286.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	0.05	176	⇓P	Pg	09 37 37.4	0.0
MC2				S	Sg	09 37 39.6	+0.1
FDMO	**Fiordimonte**	0.10	316	⇑P	Pg	09 37 37.8	+0.1
FDMO				S	Sb	09 37 40.2	-0.1
FDMO				AML	AML		
	comp=E,94μm,1.1s						
FDMO				AML	AML		
	comp=N,203μm,0.2s						
FDMO				AML	AML		
	comp=E,94μm,0.9s						
CSP1	**Cessapalombo**	0.13	6	P	Pg	09 37 38.1	+0.1
CSP1				S	Sb	09 37 41.2	-0.1
T1219	**Muccia, Frazio**	0.16	306	⇑P	Pg	09 37 38.6	+0.2
T1219				S	Sb	09 37 41.8	-0.3
T1219				AML	AML		
	comp=E,128μm,0.3s						
T1219				AML	AML		
	comp=N,216μm,0.1s						
T1219				AML	AML		
	comp=E,129μm,0.3s						
T1219				AML	AML		
	comp=N,216μm,0.1s						
T1219				AML	AML		
	comp=E,129μm,1.7s						
T1220	**Camerino, Fraz**	0.17	334	P	Pg	09 37 38.7	+0.3
T1220				S	Sb	09 37 42.0	-0.1
T1220				AML	AML		
	comp=E,244μm,0.2s						
T1220				AML	AML		
	comp=N,294μm,0.8s						
CESI	**CESI - Serrava**	0.21	282	⇑P	Pg	09 37 39.4	+0.3
CESI				S	Sb	09 37 43.3	-0.1
CESI				AML	AML		
	comp=N,56μm,0.7s						
CESI				AML	AML		
	comp=E,51μm,0.3s						
CESI				AML	AML		
	comp=N,56μm,1.3s						
T1212	**Cascia, Frazio**	0.23	206	⇑P	Pg	09 37 39.7	+0.2
T1212				S	Sb	09 37 43.8	-0.3
T1212				AML	AML		
	comp=E,120μm,0.2s						
T1212				AML	AML		
	comp=N,75μm,0.2s						
T1215	**Vallo di Nera,**	0.28	236	⇑P	Pg	09 37 40.4	+0.2
T1215				S	Sb	09 37 45.1	-0.4
T1218	**Civita (PG)**	0.30	190	⇑P	Pb	09 37 40.9	-0.3

*BGR **31** 09:38:32.7, 61.95N×150.25W, h142km, mb5.1*
*BJI **31** 09:38:34.3±0.0, 63.12N×151.27W, h126km, mb5.7/78, mB5.4/47*
*MOS **31** 09:38:36.1±0.7, 63.15N×151.07W, h135km, mb5.4/89, Error ellipse: s-maj=9.1km s-min=3.8km az=98.1*
*AEIC **31** 09:38:37.6±1.6, 63.08N±0.03×150.94W±0.07, h133km±3km, mb5.2, mb5.3/570(NEIC), ML5.5/140(NEIC), Mwb5.2/16(NEIC), Mww5.2(NEIC), Error ellipse: s-maj=5.4km s-min=3.9km az=217.0*
*NEIC **31** 09:38:37.5±1.6, 63.10N±0.04×150.98W±0.08, h132km±3km, Error ellipse: s-maj=5.5km s-min=5.1km az=48.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.68; $M_{\theta\theta}$-5.10; $M_{\phi\phi}$2.41; $M_{r\theta}$4.69; $M_{\theta\phi}$1.06; $M_{r\phi}$6.33; Fault plane solution: $M_0$9.10000×10^{16} NP1: ϕ_s305.93000°, δ29.03000°, λ162.44000°. NP2: ϕ_s51.39000°, δ81.58000°, λ62.11000°. Principal axes: T 10.0290, Plg46.0000°, Azm293.0000°; N -2.3076, Plg28.0000°, Azm56.0000°; P -7.7214, Plg31.0000°, Azm164.0000°;*
*GCMT **31** 09:38:38.6±0.1, 63.21N±0.01×150.93W±0.02, h143km±1km, MW5.2/132, Moment Tensor Solution. s108,c157; s132,c230; Duration: 1τ0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.25±.02; $M_{\theta\theta}$-0.50±.02; $M_{\phi\phi}$0.25±.02; $M_{r\theta}$0.59±.01; $M_{\theta\phi}$0.04±.02; $M_{r\phi}$0.62±.01; Best double couple: $M_0$0.95800×10^{17} NP1:ϕ_s51.00000°, δ83.00000°, λ66.00000°. NP2:ϕ_s305.00000°, δ25.00000°, λ163.00000°. Principal axes: T 1.0110, Plg47.0000°, Azm296.0000°; N -0.1050, Plg24.0000°, Azm54.0000°; P -0.9050, Plg33.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **31** 09:38:38.0±0.4, 63.24N×151.12W, h134km±3km, mb4.8/42, mbtmp5.2/47, MS3.8/36 Error ellipse: s-maj=7.5km s-min=5.2km az=21.0*
*NEIC **31** 09:38:40, 63.07N×150.91W, h130km, Moment Tensor Solution. Duration: 4τ0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.63; $M_{\theta\theta}$-3.77; $M_{\phi\phi}$1.13; $M_{r\theta}$4.70; $M_{\theta\phi}$0.07; $M_{r\phi}$5.29; Fault plane solution: $M_0$7.83000×10^{16} NP1: ϕ_s295.00000°, $

	baz=290								
WAT6					S		Sn	09 39 28.3	-0.7
	baz=290								
M20K	**Styx River**	**1.58**	**220**				**Pn**	**09 39 06.2**	**-0.5**
M20K	**Styx River**	**1.58**	**220**	P			**Pn**	**09 39 06.3**	**-0.5**
	baz=39								
M20K					S		**Sn**	**09 39 28.2**	**-0.9**
	baz=39								
DHY	**Denali Highway**	**1.64**	**89**		Pn		**Pn**	**09 39 07.5**	**0.0**
DHY					IAML			09 39 31.4	
	comp=E,58µm,1.0s								
DHY					IAML			09 39 32.3	
	comp=N,45µm,0.8s								
DHY	**Denali Highway**	**1.64**	**89**	P			**Pn**	**09 39 07.5**	**0.0**
	baz=272,SNR=1000								
DHY					S		**Sn**	**09 39 29.4**	**-0.9**
	baz=272								
GHO	**Glory Hole Cre**	**1.65**	**144**				**Pn**	**09 39 07.4**	**-0.1**
GHO							**Sn**	**09 39 30.1**	**-0.2**
SUA	**Susitna One**	**1.65**	**176**				**Pn**	**09 39 07.1**	**-0.4**
SUA					IAML			09 39 32.8	
	comp=N,47µm,0.8s								
SUA					IAML			09 39 35.2	
	comp=E,28µm,0.9s								
SUA	**Susitna One**	**1.65**	**176**	P			**Pn**	**09 39 07.4**	**-0.2**
	baz=357,SNR=1000								
SUA					S		**Sn**	**09 39 29.9**	**-0.5**
	baz=357								
NEA2	**Nenana**	**1.72**	**29**				**Pn**	**09 39 08.0**	**-0.2**
NEA2					IAML			09 39 32.0	
	comp=E,24µm,0.5s								
NEA2					IAML			09 39 32.2	
	comp=N,16µm,0.9s								
NEA2	**Nenana**	**1.72**	**29**	P			**Pn**	**09 39 07.9**	**-0.2**
	baz=210,SNR=1000								
NEA2					S		**Sn**	**09 39 30.2**	**-1.4**
	baz=210								
PMR	**Palmer**	**1.75**	**150**				**Pn**	**09 39 07.8**	**-0.7**
PMR					IAML			09 39 32.8	
	comp=E,43µm,0.4s								
PMR					IAML			09 39 33.1	
	comp=N,31µm,0.7s								
PMR	**Palmer**	**1.75**	**150**	P			**Pn**	**09 39 08.0**	**-0.5**
	baz=331,SNR=1000								
PMR					S		**Sn**	**09 39 31.3**	**-0.9**
	baz=331								
PMR	**Palmer**	**1.75**	**150**	P			**Pn**	**09 39 08.5**	**0.0**
PMR	**Palmer**	**1.75**	**150**	P			**Pn**	**09 39 07.8**	**-0.7**
SML	**Sawmill**	**1.79**	**135**				**Pn**	**09 39 08.7**	**-0.4**
SML							**Sn**	**09 39 33.6**	**+0.3**
SML	**Sawmill**	**1.79**	**135**	P			**Pn**	**09 39 08.7**	**-0.4**
	baz=318,SNR=1000								
SML					S		**Sn**	**09 39 32.9**	**-0.4**
	baz=318								
WRH	**Wood River Hil**	**1.88**	**42**				**Pn**	**09 39 10.1**	**+0.1**
MLY	**Manley**	**1.94**	**3**				**Pn**	**09 39 10.8**	**0.0**
MLY	**Manley**	**1.94**	**3**	P			**Pn**	**09 39 10.7**	**-0.1**
	baz=183,SNR=1000								
MLY					S		**Sn**	**09 39 34.8**	**-1.5**
	baz=183								
SPU	**Mount Spurr**	**2.00**	**195**				**Pn**	**09 39 11.0**	**-0.5**
N20K	**Mount Spurr**	**2.00**	**197**	P			**Pn**	**09 39 11.3**	**-0.3**
	baz=17,SNR=1000								
N20K					S		**Sn**	**09 39 36.3**	**-1.4**
	baz=17								
SPCR	**Spurr Chakacha**	**2.00**	**197**	P			**Pn**	**09 39 11.3**	**-0.3**
	baz=17,SNR=701								
SPCR					S		**Sn**	**09 39 37.0**	**-0.7**
	baz=17								
FIS	**Fire Island**	**2.00**	**169**				**Pn**	**09 39 12.6**	**+1.1**
M23K	**Glacier View**	**2.01**	**130**	P			**Pn**	**09 39 10.8**	**-0.8**
	baz=312,SNR=1000								
L19K	**White Mountain**	**2.02**	**244**				**Pn**	**09 39 11.5**	**-0.2**
L19K	**White Mountain**	**2.02**	**244**	P			**Pn**	**09 39 11.5**	**-0.2**
	baz=62								
L19K					S		**Sn**	**09 39 37.3**	**-0.7**
	baz=62								
KNK	**Knik Glacier**	**2.07**	**144**				**Pn**	**09 39 12.1**	**-0.3**
KNK	**Knik Glacier**	**2.07**	**144**	P			**Pn**	**09 39 12.0**	**-0.4**
	baz=326,SNR=1000								
KNK					S		**Sn**	**09 39 38.4**	**-0.7**
	baz=326								
CCB	**Clear Creek Bu**	**2.09**	**41**	Pn			**Pn**	**09 39 12.6**	**0.0**
CCB							**Sn**	**09 39 38.3**	**-1.2**
CCB					IAML			09 39 40.6	
	comp=E,12µm,1.0s								
RC01	**Rabbit Creek A**	**2.11**	**163**				**Pn**	**09 39 12.2**	**-0.6**
RC01					IAML			09 39 40.4	
	comp=E,28µm,0.5s								
RC01					IAML			09 39 40.7	
	comp=N,40µm,0.3s								
RC01	**Rabbit Creek A**	**2.11**	**163**	P			**Pn**	**09 39 12.1**	**-0.8**
	baz=345,SNR=531								
SCM	**Sheep Creek Mo**	**2.12**	**125**				**Pn**	**09 39 12.4**	**-0.8**
SCM	**Sheep Creek Mo**	**2.12**	**125**	P			**Pn**	**09 39 12.3**	**-0.8**
	baz=308,SNR=1000								
SCM					S		**Sn**	**09 39 39.9**	**-0.5**
	baz=308								
SCM	**Sheep Creek Mo**	**2.12**	**125**	P			**Pn**	**09 39 12.4**	**-0.8**
I21K	**Tanana**	**2.13**	**349**				**Pn**	**09 39 13.1**	**+0.1**
I21K	**Tanana**	**2.13**	**349**	P			**Pn**	**09 39 13.2**	**+0.2**
	baz=167,SNR=1000								
I21K					S		**Sn**	**09 39 40.0**	**-0.4**
	baz=167								
I23K	**Minto, Yukon-K**	**2.17**	**18**				**Pn**	**09 39 13.8**	**+0.3**
I23K					IAML			09 39 42.2	
	comp=E,13µm,1.6s								
I23K					IAML			09 39 42.7	
	comp=N,19µm,0.8s								
I23K	**Minto, Yukon-K**	**2.17**	**18**	P			**Pn**	**09 39 13.9**	**+0.3**
	baz=199,SNR=1000								
I23K					S		**Sn**	**09 39 40.0**	**-1.2**
	baz=199								
HDA	**Harding Lake**	**2.22**	**52**				**Pn**	**09 39 14.1**	**-0.1**
HDA					IAML			09 39 46.9	
	comp=E,20µm,0.5s								
HDA					IAML			09 39 48.7	
	comp=N,27µm,0.4s								
HDA	**Harding Lake**	**2.22**	**52**	P			**Pn**	**09 39 14.1**	**-0.1**
	baz=235,SNR=1000								
HDA					S		**Sn**	**09 39 41.1**	**-1.3**
	baz=235								
HDA					S		**Sn**	**09 39 41.1**	**-1.3**
	baz=235								
MDM	**Murphy Dome**	**2.22**	**32**				**Pn**	**09 39 14.3**	**+0.1**
MDM					IAML			09 39 43.6	
	comp=N,11µm,1.4s								
TCOL	**CIGO, UAF Yank**	**2.25**	**36**				**Pn**	**09 39 14.6**	**+0.1**
TCOL					IAML			09 39 44.8	
	comp=N,32µm,1.1s								
TCOL					IAML			09 39 49.3	
	comp=E,26µm,0.6s								
TCOL	**CIGO, UAF Yank**	**2.25**	**36**	P			**Pn**	**09 39 14.5**	**+0.1**
	baz=218,SNR=570								
TCOL					S		**Sn**	**09 39 41.9**	**-1.0**
	baz=218								
I53US	**FAIRBANKS INFR**	**2.25**	**36**	P			**Pn**	**09 39 15.2**	**+0.7**
	baz=228,slow=12								
I53US					I		I	09 56 00.0	
	baz=216,slow=314,SNR=1.9								
COLA	**College**	**2.25**	**36**				**Pn**	**09 39 14.6**	**+0.1**
COLA					IAML			09 39 44.8	
	comp=E,33µm,1.0s								
COLA					IAML			09 39 49.3	
	comp=E,28µm,0.5s								
COLA	**College**	**2.25**	**36**	P			**Pn**	**09 39 14.6**	**+0.1**
	baz=218								
COLA					S		**Sn**	**09 39 42.7**	**-0.3**
	baz=218								
COLA	**College**	**2.25**	**36**	P			**Pn**	**09 39 14.7**	**+0.1**
COLA	**College**	**2.25**	**36**	P			**Pn**	**09 39 14.6**	**+0.1**
TTA	**Tatalina**	**2.30**	**268**	Pn			**Pn**	**09 39 15.0**	**-0.3**
TTA					IAML			09 39 45.0	
	comp=E,10µm,1.2s								
TTA	**Tatalina**	**2.30**	**268**	P			**Pn**	**09 39 15.1**	**-0.2**
	baz=84,SNR=1000								
TTA					S		**Sn**	**09 39 43.6**	**-0.8**
	baz=84								
TTA	**Tatalina**	**2.30**	**268**	P			**Pn**	**09 39 15.3**	**0.0**
TTA	**Tatalina**	**2.30**	**268**	P			**Pn**	**09 39 15.0**	**-0.3**
CAPN	**Captain Cook N**	**2.35**	**182**				**Pn**	**09 39 17.4**	**+1.6**
CAPN	**Captain Cook N**	**2.35**	**182**	P			**Pn**	**09 39 17.6**	**+1.8**
	baz=2.4,SNR=258								
M24K	**Tolsona, Glenn**	**2.44**	**112**	Pn			**Pn**	**09 39 17.1**	**+0.1**
M24K	**Tolsona, Glenn**	**2.44**	**112**	P			**Pn**	**09 39 17.1**	**+0.1**
	baz=296,SNR=1000								
K24K	**Donnelly Dome**	**2.44**	**71**	P			**Pn**	**09 39 17.3**	**+0.3**
	baz=255,SNR=284								
K24K					S		**Sn**	**09 39 47.0**	**-0.4**
	baz=255								
IL31		**2.46**	**45**				**Pn**	**09 39 17.1**	**0.0**
ILAR	**Eielson Array**	**2.46**	**45**	P			**Pn**	**09 39 17.0**	**-0.2**
	comp=E,2µm,0.4s,baz=228,slow=12								
ILAR					S		**Sn**	**09 39 47.9**	**+0.1**
	comp=E,1µm,0.4s,baz=222,slow=16,SNR=2.8								
ILAR	**Eielson Array**	**2.46**	**45**				**Pn**	**09 39 17.2**	**0.0**
IL03	**Eielson Array**	**2.47**	**46**	Pn			**Pn**	**09 39 17.4**	**0.0**
PAX	**Paxson**	**2.51**	**91**				**Pn**	**09 39 18.1**	**+0.1**
PAX	**Paxson**	**2.51**	**91**	P			**Pn**	**09 39 18.0**	**+0.1**
	baz=275,SNR=1000								
PAX	**Paxson**	**2.51**	**91**	P			**Pn**	**09 39 18.1**	**+0.1**
POKR	**Poker Plat Res**	**2.55**	**36**	Pn			**Pn**	**09 39 18.6**	**+0.2**
POKR	**Poker Plat Res**	**2.55**	**36**	P			**Pn**	**09 39 18.5**	**+0.2**
	baz=219,SNR=1000								
POKR					S		**Sn**	**09 39 48.5**	**-1.3**
	baz=219								
PWL	**Port Wells**	**2.58**	**150**	Pn			**Pn**	**09 39 18.3**	**-0.4**
PWL	**Port Wells**	**2.58**	**150**	P			**Pn**	**09 39 18.1**	**-0.6**
	baz=332,SNR=290								
SLKM	**Skilak Lake**	**2.63**	**172**				**Pn**	**09 39 18.9**	**-0.6**
RDJH	**Redoubt Jeurge**	**2.67**	**200**				**Pn**	**09 39 19.8**	**-0.2**
H21K	**Melozitna Rive**	**2.68**	**344**				**Pn**	**09 39 20.0**	**0.0**
H21K	**Melozitna Rive**	**2.68**	**344**	P			**Pn**	**09 39 20.2**	**+0.2**
	baz=162								
H21K					S		**Sn**	**09 39 51.3**	**-1.5**
	baz=162								
HARP	**HARP**	**2.77**	**102**	P			**Pn**	**09 39 21.3**	**+0.1**
	baz=287,SNR=1000								
RSO	**Redoubt South**	**2.78**	**198**				**Pn**	**09 39 20.9**	**-0.6**
H22K	**Ishtalitna Cre**	**2.81**	**357**	P			**Pn**	**09 39 21.7**	**+0.1**
	baz=176,SNR=1000								
H22K					S		**Sn**	**09 39 54.5**	**-1.1**
	baz=176								
RIDG	**Independent Ri**	**2.83**	**74**				**Pn**	**09 39 22.1**	**+0.2**
RIDG					IAML			09 40 04.4	
	comp=N,11µm,0.5s								
RIDG					IAML			09 40 09.5	
	comp=E,14µm,0.8s								
RIDG	**Independent Ri**	**2.83**	**74**	P			**Pn**	**09 39 22.2**	**+0.2**
	baz=259,SNR=1000								
N19K	**Bonanza Creek**	**2.83**	**217**				**Pn**	**09 39 22.0**	**-0.1**
N19K	**Bonanza Creek**	**2.83**	**217**	P			**Pn**	**09 39 21.8**	**-0.2**
	baz=35								
N19K					S		**Sn**	**09 39 51.2**	**-5.2**
	baz=35								
KLU	**Klutina**	**2.86**	**122**				**Pn**	**09 39 21.2**	**-1.2**
KLU					IAML			09 40 09.9	
	comp=E,21µm,0.5s								
KLU	**Klutina**	**2.86**	**122**	P			**Pn**	**09 39 21.3**	**-1.1**
	baz=306,SNR=1000								
SVW2	**Sparrevohn**	**2.96**	**229**				**Pn**	**09 39 22.9**	**-0.6**
SVW2	**Sparrevohn**	**2.96**	**229**	P			**Pn**	**09 39 23.4**	**-0.2**
H24K	**Noodor Dome**	**3.05**	**25**	Pn			**Pn**	**09 39 24.8**	**0.0**
H24K	**Noodor Dome**	**3.05**	**25**	P			**Pn**	**09 39 24.9**	**0.0**
	baz=207								
H24K					S		**Sn**	**09 40 00.8**	**-0.6**
	baz=207								
GCSA	**Galena City Sc**	**3.08**	**305**				**Pn**	**09 39 25.2**	**+0.2**
GCSA	**Galena City Sc**	**3.08**	**305**	P			**Pn**	**09 39 25.3**	**+0.2**
	baz=120,SNR=1000								
GCSA					S		**Sn**	**09 40 00.6**	**-1.3**
	baz=120								
SEW	**Seward**	**3.10**	**166**	Pn			**Pn**	**09 39 24.5**	**-0.9**
SEW	**Seward**	**3.10**	**166**	P			**Pn**	**09 39 24.4**	**-0.9**
	baz=347,SNR=271								
IMAR	**Indian Mountai**	**3.13**	**339**	Pn			**Pn**	**09 39 25.9**	**+0.1**
O20K	**Slope Mountain**	**3.13**	**195**	P			**Pn**	**09 39 25.7**	**-0.2**
	baz=14,SNR=41								
DIV	**Divide**	**3.15**	**127**	Pn			**Pn**	**09 39 24.8**	**-1.3**
DOT	**Dot Lake**	**3.16**	**77**				**Pn**	**09 39 25.8**	**-0.4**
SCRK	**Sand Creek**	**3.25**	**71**	Pn			**Pn**	**09 39 27.1**	**-0.3**
SCRK					IAML			09 40 10.8	
	comp=N,11µm,1.0s								
SCRK					IAML			09 40 11.8	
	comp=E,8µm,0.6s								
SCRK	**Sand Creek**	**3.25**	**71**	P			**Pn**	**09 39 27.1**	**-0.3**
	baz=257,SNR=1000								
MENT	**Mentasta**	**3.31**	**90**				**Pn**	**09 39 27.9**	**-0.3**
MENT					IAML			09 40 18.6	
	comp=E,17µm,1.2s								
MENT	**Mentasta**	**3.31**	**90**	P			**Pn**	**09 39 28.3**	**+0.1**
O19K	**Port Alsworth**	**3.33**	**210**	Pn			**Pn**	**09 39 27.9**	**-0.4**
O19K	**Port Alsworth**	**3.33**	**210**	P			**Pn**	**09 39 27.9**	**-0.4**
	baz=28,SNR=177								
N25K	**Chitina, Valde**	**3.33**	**114**				**Pn**	**09 39 27.9**	**-0.6**
N25K	**Chitina, Valde**	**3.33**	**114**	P			**Pn**	**09 39 28.1**	**-0.4**
	baz=299,SNR=421								
BRLK	**Bradley Lake**	**3.35**	**179**	Pn			**Pn**	**09 39 28.4**	**-0.3**
BRLK					IAML			09 40 09.2	
	comp=N,11µm,0.7s								
BRLK					IAML			09 40 13.3	
	comp=E,5µm,0.7s								
BRSE	**Bradley Lake S**	**3.38**	**178**				**Pn**	**09 39 28.5**	**-0.6**
BRSE	**Bradley Lake S**	**3.38**	**178**	P			**Pn**	**09 39 28.5**	**-0.6**
	baz=358,SNR=205								
PRP	**Porcupine Dome**	**3.39**	**42**	Pn			**Pn**	**09 39 29.2**	**-0.1**
PRP					IAML			09 40 10.6	
	comp=E,4µm,0.8s								
PRP					IAML			09 40 12.6	
	comp=N,6µm,0.5s								
PRP	**Porcupine Dome**	**3.39**	**42**	P			**Pn**	**09 39 29.2**	**-0.1**
	baz=226,SNR=1000								
L26K	**Log Cabin Wild**	**3.47**	**88**				**Pn**	**09 39 30.1**	**-0.2**
L26K	**Log Cabin Wild**	**3.47**	**88**	P			**Pn**	**09 39 30.1**	**-0.2**
	baz=274,SNR=1000								
HOM	**Homer**	**3.48**	**186**				**Pn**	**09 39 30.5**	**+0.2**
HOM	**Homer**	**3.48**	**186**	P			**Pn**	**09 39 30.1**	**-0.2**
	baz=5.4,SNR=81								
HOM					S		**Sn**	**09 40 10.9**	**-0.2**
	baz=5.4								
P23K	**Montague Islan**	**3.56**	**150**	P			**Pn**	**09 39 30.3**	**-1.1**
	baz=333,SNR=35								
P23K					S		**Sn**	**09 40 10.3**	**-2.7**
	baz=333								
EYAK	**Cordova Ski Ar**	**3.57**	**134**				**Pn**	**09 39 31.0**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.57**	**134**	P			**Pn**	**09 39 30.6**	**-0.9**
	baz=318,SNR=110								
EYAK	**Cordova Ski Ar**	**3.57**	**134**	P			**Pn**	**09 39 31.3**	**-0.2**
J26L	**Joseph Creek**	**3.58**	**64**				**Pn**	**09 39 31.7**	**0.0**
J26L					IAML			09 40 17.5	
	comp=N,13µm,1.2s								
J26L	**Joseph Creek**	**3.58**	**64**	P			**Pn**	**09 39 31.5**	**-0.2**
	baz=250								
J26L					S		**Sn**	**09 40 12.9**	**-0.7**
	baz=250								
G21K	**Allakaket**	**3.59**	**344**	P			**Pn**	**09 39 32.2**	**+0.4**
	baz=161,SNR=1000								
CNPM	**China Poot**	**3.59**	**182**	Pn			**Pn**	**09 39 31.6**	**-0.3**
CNPM					IAML			09 40 14.4	
	comp=E,10µm,0.9s								
CNPM					IAML			09 40 14.6	
	comp=N,13µm,0.9s								
P19K	**Oil Pt**	**3.63**	**198**				**Pn**	**09 39 32.2**	**-0.2**
P19K					IAML			09 40 46.0	
	comp=N,5µm,0.9s								
P19K					IAML			09 40 51.7	
	comp=E,5µm,1.4s								
P19K	**Oil Pt**	**3.63**	**198**	P			**Pn**	**09 39 32.2**	**-0.2**
	baz=17								
G23K	**Bananza Creek**	**3.64**	**6**	P			**Pn**	**09 39 33.0**	**+0.5**
	baz=186								
G23K					S		**Sn**	**09 40 14.4**	**-0.8**
	baz=186								
BMRM	**Bremner River**	**3.69**	**123**				**Pn**	**09 39 32.0**	**-1.1**
BMRM	**Bremner River**	**3.69**	**123**	P			**Pn**	**09 39 31.6**	**-1.6**
	baz=308,SNR=161								
M26K	**Nabesna, AK**	**3.74**	**97**				**Pn**	**09 39 33.4**	**-0.5**
M26K					IAML			09 40 36.5	
	comp=E,6µm,0.5s								
M26K					IAML			09 40 45.3	
	comp=N,6µm,0.7s								
M26K	**Nabesna, AK**	**3.74**	**97**	P			**Pn**	**09 39 33.3**	**-0.5**
	baz=284								
GLB	**Gilahina Butte**	**3.74**	**113**	Pn			**Pn**	**09 39 33.3**	**-0.6**
GLB					IAML			09 40 18.5	
	comp=E,11µm,0.5s								
O18K	**Koktuh Hills**	**3.84**	**214**				**Pn**	**09 39 34.9**	**-0.2**
O18K	**Koktuh Hills**	**3.84**	**214**	P			**Pn**	**09 39 34.9**	**-0.2**
	baz=30,SNR=134								
G24K	**Hadweenzic Riv**	**3.91**	**21**	P			**Pn**	**09 39 36.2**	**+0.2**
	baz=204								
G24K					S		**Sn**	**09 40 20.2**	**-1.1**
	baz=204								
VRDI	**Verde Repeater**	**4.00**	**115**	Pn			**Pn**	**09 39 36.3**	**-1.1**
VRDI					IAML			09 40 28.3	
	comp=E,7µm,0.8s								
I26K	**Coal Creek Min**	**4.07**	**54**				**Pn**	**09 39 37.8**	**-0.3**
I26K					IAML			09 40 29.4	
	comp=N,6µm,0.7s								
I26K					IAML			09 40 29.8	
	comp=E,5µm,0.7s								
I26K	**Coal Creek Min**	**4.07**	**54**	P			**Pn**	**09 39 38.1**	**0.0**
	baz=240								
MCARA	**McCarthy VSAT**	**4.10**	**111**				**Pn**	**09 39 38.4**	**-0.1**
MCARA	**McCarthy VSAT**	**4.10**	**111**	P			**Pn**	**09 39 38.4**	**-0.1**
	baz=298,SNR=335								
COLD	**Coldfoot**	**4.15**	**4**	Pn			**Pn**	**09 39 39.5**	**+0.3**
COLD	**Coldfoot**	**4.15**	**4**	P			**Pn**	**09 39 39.6**	**+0.4**
	baz=185,SNR=1000								
COLD					S		**Sn**	**09 40 25.8**	**-1.3**
	baz=185								
L27K	**Beaver Creek,**	**4.16**	**87**				**Pn**	**09 39 38.6**	**-0.7**
L27K					IAML			09 40 46.1	
	comp=N,3µm,1.0s								
L27K	**Beaver Creek,**	**4.16**	**87**	P			**Pn**	**09 39 38.7**	**-0.7**
	baz=274								
BCAR	**Beaver Creek A**	**4.18**	**86**	Pn			**Pn**	**09 39 38.7**	**-0.9**
G25K	**Bearman Lake**	**4.22**	**27**	P			**Pn**	**09 39 40.3**	**+0.3**
	baz=211								
G25K					S		**Sn**	**09 40 27.9**	**-0.7**
	baz=211								
FYU	**Fort Yukon**	**4.25**	**33**	Pn			**Pn**	**09 39 40.4**	**-0.1**
FYU					IAML			09 41 02.6	
	comp=N,3µm,1.5s								
FYU					IAML			09 41 06.6	
	comp=E,3µm,2.4s								
P18K	**Big Mountain,**	**4.25**	**211**				**Pn**	**09 39 40.1**	**-0.6**
P18K	**Big Mountain,**	**4.25**	**211**	P			**Pn**	**09 39 40.4**	**-0.2**
	baz=27								
M27K	**Edge Creek, AK**	**4.25**	**96**				**Pn**	**09 39 40.9**	**+0.3**
M27K					IAML			09 40 56.1	
	comp=E,4µm,1.1s								
M27K					IAML			09 40 57.3	
	comp=N,6µm,1.2s								
M27K	**Edge Creek, AK**	**4.25**	**96**	P			**Pn**	**09 39 41.0**	**+0.3**
	baz=284								
F21K	**Alatna River**	**4.27**	**347**	P			**Pn**	**09 39 41.3**	**+0.6**
	baz=164								
F21K					S		**Sn**	**09 40 30.0**	**+0.2**
	baz=164								
Q23K	**Middleton Isla**	**4.31**	**147**	Pn			**Pn**	**09 39 41.4**	**+0.1**
Q23K					IAML			09 41 00.7	
	comp=N,7µm,1.0s								
Q23K					IAML			09 41 19.3	
	comp=E,8µm,1.5s								
Q23K	**Middleton Isla**	**4.31**	**147**	P			**Pn**	**09 39 41.1**	**-0.3**
	baz=331,SNR=8.8								
MID	**Middleton Isla**	**4.32**	**147**				**Pn**	**09 39 41.3**	**-0.1**
MID					IAML			09 41 00.7	
	comp=N,7µm,1.0s								
MID					IAML			09 41 11.2	
	comp=E,7µm,1.2s								
MID	**Middleton Isla**	**4.32**	**147**	P			**Pn**	**09 39 41.7**	**+0.3**
MID	**Middleton Isla**	**4.32**	**147**	P			**Pn**	**09 39 41.3**	**-0.1**
Q19K	**Cape Douglas,**	**4.39**	**198**	Pn			**Pn**	**09 39 41.5**	**-0.8**
Q19K					IAML			09 41 37.2	
	comp=N,6µm,1.1s								
Q19K	**Cape Douglas,**	**4.39**	**198**	P			**Pn**	**09 39 41.7**	**-0.7**
	baz=16,SNR=118								
O17K	**Koliganek Bris**	**4.45**	**224**	P			**Pn**	**09 39 43.0**	**-0.2**
	baz=39,SNR=93								
N16K	**Nishlik Lake**	**4.54**	**238**	P			**Pn**	**09 39 44.2**	**-0.2**
	baz=51,SNR=89								
BALM	**Baldy**	**4.56**	**113**				**Pn**	**09 39 43.8**	**-1.0**
Q20K	**Shuyak Island**	**4.56**	**189**	P			**Pn**	**09 39 43.7**	**-1.0**
	baz=8.4,SNR=91								
KIAG	**Kiagna River**	**4.61**	**114**				**Pn**	**09 39 44.3**	**-1.2**
F24K	**Squaw Lake**	**4.62**	**15**	P			**Pn**	**09 39 45.7**	**+0.3**
	baz=197,SNR=1000								
EGAK	**Eagle**	**4.64**	**64**				**Pn**	**09 39 45.4**	**-0.3**
EGAK					IAML			09 40 53.9	
	comp=N,6µm,1.6s								
EGAK					IAML			09 40 55.6	
	comp=N,5µm,1.4s								
EGAK	**Eagle**	**4.64**	**64**	P			**Pn**	**09 39 45.5**	**-0.2**
	baz=253,SNR=899								
BVCY	**Beaver Creek**	**4.70**	**94**	P			**Pn**	**09 39 46.2**	**-0.4**
	baz=283,SNR=334								
P17K	**Kvichak River**	**4.73**	**216**	P			**Pn**	**09 39 47.0**	**+0.1**
	baz=32								
I27K	**Kandik River**	**4.78**	**54**	P			**Pn**	**09 39 47.0**	**-0.6**
	baz=242,SNR=511								
BARN	**Barnard Glacie**	**4.84**	**111**				**Pn**	**09 39 48.3**	**-0.2**
BARN					IAML			09 40 47.5	
	comp=E,3µm,0.5s								
BARN					IAML			09 41 09.5	
	comp=N,4µm,1.5s								
Q18K	**Katmai Hardscr**	**4.89**	**206**	P			**Pn**	**09 39 48.7**	**-0.4**
	baz=22,SNR=154								
O16K	**Kokwok River B**	**4.91**	**227**	P			**Pn**	**09 39 48.8**	**-0.5**
	baz=41								
E23K	**Chandalar**	**5.01**	**6**	P			**Pn**	**09 39 51.1**	**+0.5**
	baz=187								
F25K	**Christian Rive**	**5.03**	**24**	P			**Pn**	**09 39 51.1**	**+0.2**
	baz=208								

I29M	**Ogilvie Camp,**	**5.97**	**62**	P		**Pn**	**09 40 03.3**	**-0.2**
	baz=253,SNR=1000								
I29M				S		**Sn**	**09 41 08.7**	**-1.9**
	baz=253								
OHAK	**Old Harbor**	**6.01**	**192**	Pn		**Pn**	**09 40 01.8**	**-2.2**
OHAK	**Old Harbor**	**6.01**	**192**	P		**Pn**	**09 40 01.9**	**-2.2**
	baz=10,SNR=31								
OHAK	**Old Harbor**	**6.01**	**192**	P		**Pn**	**09 40 02.0**	**-2.1**
YUK4	**Talbot Arm**	**6.03**	**101**	P		**Pn**	**09 40 04.2**	**-0.3**
	baz=291,SNR=99								
K29M	**Barlow Dome**	**6.08**	**77**	P		**Pn**	**09 40 04.5**	**-0.5**
	baz=269,SNR=471								
R17K	**Ugashik Creek**	**6.10**	**208**	P		**Pn**	**09 40 05.1**	**-0.2**
	baz=24								
D24K	**Happy Valley**	**6.14**	**7**	P		**Pn**	**09 40 07.2**	**+1.5**
	baz=189								
BCPM	**Bancas Point**	**6.28**	**115**			**Pn**	**09 40 07.0**	**-0.6**
YUK6	**Outpost Mounta**	**6.32**	**104**	P		**Pn**	**09 40 07.8**	**-0.6**
	baz=295,SNR=72								
E27K	**Coleen River**	**6.40**	**33**	P		**Pn**	**09 40 08.7**	**-0.5**
	baz=221								
R16K	**Pilot Point**	**6.45**	**213**	P		**Pn**	**09 40 10.3**	**+0.5**
	baz=28,SNR=100								
D25K	**Kavik River**	**6.51**	**15**	P		**Pn**	**09 40 11.8**	**+1.1**
	baz=199								
D25K				S		**Sn**	**09 41 24.4**	**+0.7**
	baz=199								
M30M	**Minto, Yukon**	**6.52**	**88**			**Pn**	**09 40 10.1**	**-0.8**
M30M	**Minto, Yukon**	**6.52**	**88**	P		**Pn**	**09 40 09.8**	**-1.0**
	baz=281,SNR=403								
YKU2	**Yakutat**	**6.53**	**118**	Pn		**Pn**	**09 40 11.5**	**+0.6**
YKU2	**Yakutat**	**6.53**	**118**	P		**Pn**	**09 40 11.5**	**+0.6**
ANM	**Nome**	**6.53**	**289**	Pn		**Pn**	**09 40 11.9**	**+0.9**
ANM	**Nome**	**6.53**	**289**	P		**Pn**	**09 40 11.8**	**+0.9**
	baz=97,SNR=100								
ANM				S		**Sn**	**09 41 25.0**	**+0.9**
	baz=97								
ANM	**Nome**	**6.53**	**289**	P		**Pn**	**09 40 11.9**	**+0.9**
O29M	**Mount Kennedy**	**6.53**	**110**	P		**Pn**	**09 40 09.7**	**-1.4**
	baz=301,SNR=121								
PNL	**Peninsula**	**6.54**	**117**			**Pn**	**09 40 10.2**	**-1.0**
PNL	**Peninsula**	**6.54**	**117**	P		**Pn**	**09 40 10.6**	**-0.6**
	baz=307,SNR=118								
PNL	**Peninsula**	**6.54**	**117**	P		**Pn**	**09 40 10.8**	**-0.4**
C24K	**Franklin Bluff**	**6.71**	**7**	P		**Pn**	**09 40 14.5**	**+1.3**
	baz=189								
C24K				S		**Sn**	**09 41 29.0**	**+0.8**
	baz=189								
HYT	**Haines Junctio**	**6.75**	**104**	Pn		**Pn**	**09 40 13.2**	**-0.9**
HYT	**Haines Junctio**	**6.75**	**104**	P		**Pn**	**09 40 13.2**	**-0.9**
	baz=296,SNR=84								
HYT				S		**Sn**	**09 41 28.8**	**-0.8**
	baz=296								
SII	**Sitkinak Islan**	**6.76**	**195**			**Pn**	**09 40 11.7**	**-2.5**
SII	**Sitkinak Islan**	**6.76**	**195**	P		**Pn**	**09 40 12.6**	**-1.6**
	baz=13								
SII	**Sitkinak Islan**	**6.76**	**195**	P		**Pn**	**09 40 13.6**	**-0.6**
MAYO	**Mayo, Yukon**	**6.80**	**79**			**Pn**	**09 40 14.6**	**-0.1**
MAYO	**Mayo, Yukon**	**6.80**	**79**	P		**Pn**	**09 40 14.2**	**-0.5**
	baz=272,SNR=76								
EPYK	**Eagle Plains**	**6.92**	**55**			**Pn**	**09 40 15.2**	**-1.0**
EPYK	**Eagle Plains**	**6.92**	**55**	P		**Pn**	**09 40 15.0**	**-1.2**
	baz=248,SNR=436								
EPYK				S		**Sn**	**09 41 32.5**	**-1.0**
	baz=248								
RDOG	**Red Dog Mine**	**7.00**	**320**	P		**Pn**	**09 40 18.6**	**+1.4**
	baz=130								
C27K	**Jago River**	**7.16**	**21**	P		**Pn**	**09 40 20.2**	**+0.8**
	baz=207								
C27K				S		**Sn**	**09 41 40.8**	**+1.5**
	baz=207								
C26K	**Camden Bay**	**7.25**	**17**	P		**Pn**	**09 40 21.5**	**+0.8**
	baz=202								
C26K				S		**Sn**	**09 41 43.4**	**+2.0**
	baz=202								
N31M	**Braeburn, Yuko**	**7.27**	**96**	Pn		**Pn**	**09 40 21.0**	**+0.1**
N31M	**Braeburn, Yuko**	**7.27**	**96**	P		**Pn**	**09 40 21.2**	**+0.3**
	baz=289,SNR=81								
P30M	**Million Dollar**	**7.32**	**108**	P		**Pn**	**09 40 20.8**	**-0.8**
	baz=300								
G30M	**tAoh Zraii Nji**	**7.34**	**52**	P		**Pn**	**09 40 21.1**	**-0.9**
	baz=245								
O30N	**Mendenhall**	**7.40**	**102**	P		**Pn**	**09 40 21.7**	**-1.0**
	baz=295,SNR=52								
CHIR	**Chirikof Islan**	**7.68**	**200**			**Pn**	**09 40 23.4**	**-3.1**
CHIR	**Chirikof Islan**	**7.68**	**200**	P		**Pn**	**09 40 23.4**	**-3.1**
	baz=16								
M31M	**Drury Creek, Y**	**7.69**	**89**			**Pn**	**09 40 26.2**	**-0.5**
M31M	**Drury Creek, Y**	**7.69**	**89**	P		**Pn**	**09 40 26.3**	**-0.3**
	baz=284,SNR=230								
TNA	**Tin City**	**7.75**	**296**			**Pn**	**09 40 28.0**	**+0.7**
TNA	**Tin City**	**7.75**	**296**	P		**Pn**	**09 40 28.0**	**+0.7**
	baz=101,SNR=93								
CHGN	**Chignik**	**7.79**	**212**			**Pn**	**09 40 26.4**	**-1.5**
CHGN	**Chignik**	**7.79**	**212**	P		**Pn**	**09 40 26.0**	**-1.8**
	baz=26,SNR=10								
PLBC	**Pleasant Camp**	**7.93**	**111**	P		**Pn**	**09 40 29.0**	**-0.8**
	baz=304,SNR=61								
WHY	**Whitehorse**	**7.99**	**101**			**Pn**	**09 40 29.9**	**-0.8**
WHY	**Whitehorse**	**7.99**	**101**	P		**Pn**	**09 40 30.1**	**-0.6**
	baz=295,SNR=51								
FARO	**Faro, Yukon**	**8.16**	**88**			**Pn**	**09 40 32.7**	**-0.2**
FARO	**Faro, Yukon**	**8.16**	**88**	P		**Pn**	**09 40 32.9**	**0.0**
	baz=284,SNR=161								
SKAG	**Skagway**	**8.37**	**109**			**Pn**	**09 40 34.7**	**-1.0**
SKAG	**Skagway**	**8.37**	**109**	P		**Pn**	**09 40 34.9**	**-0.7**
	baz=302,SNR=86								
SKAG	**Skagway**	**8.37**	**109**	P		**Pn**	**09 40 35.3**	**-0.4**
F31M	**Tsiigehtchic**	**8.42**	**51**	P		**Pn**	**09 40 34.8**	**-1.4**
	baz=247,SNR=101								
A21K	**Barrow**	**8.53**	**348**			**Pn**	**09 40 36.3**	**-1.4**
A21K	**Barrow**	**8.53**	**348**	P		**Pn**	**09 40 36.4**	**-1.4**
	baz=162,SNR=129								
A21K				S		**Sn**	**09 42 08.2**	**-4.0**
	baz=162								
N32M	**Quiet Lake**	**8.61**	**95**	P		**Pn**	**09 40 38.7**	**-0.2**
	baz=291								
R31K	**City Hall, Gus**	**8.81**	**115**	P		**Pn**	**09 40 40.7**	**-0.8**
	baz=309								
INK	**Inuvik**	**8.86**	**46**	P		**Pn**	**09 40 41.2**	**-1.0**
	comp=E,40nm,0.8s,baz=242,slow=15,SNR=96								
INK				S		**Sn**	**09 42 18.9**	**-1.3**
	comp=E,48nm,0.6s,baz=263,slow=7.9,SNR=3.6								
INK				LR		LR	09 43 54.7		
	comp=E,121nm,21.3s,baz=236,slow=36								
INK				ScP		**ScP**	**09 50 12.8**	**-0.5**
	comp=E,10nm,0.8s,baz=24,slow=2.7,SNR=6.1								
INK	**Inuvik**	**8.86**	**46**	Pn		**Pn**	**09 40 41.1**	**-1.1**
INK	**Inuvik**	**8.86**	**46**	P		**Pn**	**09 40 42.0**	**-0.2**
	baz=242,SNR=80								
S31K	**Pelican**	**8.90**	**119**	P		**Pn**	**09 40 42.0**	**-0.8**
	baz=312,SNR=21								
P32M	**Atlin**	**9.00**	**105**	P		**Pn**	**09 40 43.5**	**-0.7**
	baz=300,SNR=13								
MMPY	**Sheldon Lake,**	**9.02**	**84**	P		**Pn**	**09 40 44.5**	**0.0**
	baz=282,SNR=65								
BESE	**Bessie Mountai**	**9.07**	**113**			**Pn**	**09 40 43.8**	**-1.5**
P33M	**Teslin, Yukon**	**9.10**	**100**	Pn		**Pn**	**09 40 45.0**	**-0.7**
P33M	**Teslin, Yukon**	**9.10**	**100**	P		**Pn**	**09 40 45.0**	**-0.7**
	baz=296,SNR=31								
SDPT	**Sand Point**	**9.16**	**216**	Pn		**Pn**	**09 40 44.6**	**-1.8**
SDPT	**Sand Point**	**9.16**	**216**	P		**Pn**	**09 40 46.4**	**0.0**
	baz=28								
SDPT	**Sand Point**	**9.16**	**216**	P		**Pn**	**09 40 45.0**	**-1.4**
S12K	**Black Hills**	**9.31**	**222**	P		**Pn**	**09 40 49.0**	**+0.6**
	baz=33,SNR=7.9								
R32K	**Eaglecrest**	**9.40**	**114**	P		**Pn**	**09 40 48.7**	**-0.9**
	baz=308,SNR=37								
JIS	**Juneau Island**	**9.46**	**113**	Pn		**Pn**	**09 40 48.9**	**-1.3**
JIS	**Juneau Island**	**9.46**	**113**	P		**Pn**	**09 40 49.3**	**-0.9**
SIT	**Sitka**	**9.88**	**121**	Pn		**Pn**	**09 40 55.6**	**-0.3**
SIT	**Sitka**	**9.88**	**121**	P		**Pn**	**09 40 55.7**	**-0.2**
	baz=314,SNR=29								
SIT	**Sitka**	**9.88**	**121**	P		**Pn**	**09 40 55.9**	**0.0**
SIT	**Sitka**	**9.88**	**121**	P		**Pn**	**09 40 55.6**	**-0.3**
Q32M	**Nakina River**	**9.97**	**106**	P		**Pn**	**09 40 56.7**	**-0.6**
	baz=302								
WTLY	**Watson Lake, Y**	**10.96**	**96**	P		**Pn**	**09 41 09.6**	**-0.8**
	baz=295,SNR=24								
T33K	**Petersburg**	**10.99**	**117**	P		**Pn**	**09 41 10.9**	**+0.1**
	baz=312,SNR=6.7								
S34M	**Telegraph Cree**	**11.05**	**109**	P		**Pn**	**09 41 11.5**	**-0.1**
	baz=306,SNR=62								
DLBC	**Dease Lake**	**11.23**	**105**	P		**Pn**	**09 41 14.8**	**+0.8**
	comp=E,25nm,0.9s,baz=299,slow=11,SNR=38								
DLBC				S		**Sn**	**09 43 16.2**	**-1.5**
	comp=E,20nm,0.4s,baz=146,slow=24,SNR=1.3								
DLBC				ScP		**ScP**	**09 50 16.9**	**+0.3**
	comp=E,4.8nm,0.9s,baz=281,slow=12,SNR=3.0								
DLBC	**Dease Lake**	**11.23**	**105**	Pn		**Pn**	**09 41 13.8**	**-0.3**
DLBC	**Dease Lake**	**11.23**	**105**	P		**Pn**	**09 41 13.6**	**-0.5**
	baz=303,SNR=22								
SPIA	**Saint Paul Isl**	**11.26**	**247**	P		**Pn**	**09 41 15.1**	**+0.7**
	baz=50								
U33K	**Whale Pass**	**11.41**	**120**	P		**Pn**	**09 41 16.5**	**+0.2**
	baz=315								
WRAK	**Wrangell Islan**	**11.51**	**117**			**Pn**	**09 41 17.6**	**0.0**
WRAK	**Wrangell Islan**	**11.51**	**117**	P		**Pn**	**09 41 18.1**	**+0.5**
	baz=313,SNR=23								
AKUT	**Akutan**	**11.81**	**227**	Pn		**Pn**	**09 41 22.5**	**+0.9**
AKUT	**Akutan**	**11.81**	**227**	P		**Pn**	**09 41 21.5**	**-0.1**
CRAG	**Craig**	**11.88**	**122**	Pn		**Pn**	**09 41 23.1**	**+0.7**
CRAG	**Craig**	**11.88**	**122**	P		**Pn**	**09 41 22.8**	**+0.4**
	baz=317								
CRAG	**Craig**	**11.88**	**122**	P		**Pn**	**09 41 23.4**	**+1.0**
T35M	**Bob Quinn**	**12.00**	**111**	P		**Pn**	**09 41 25.5**	**+1.3**
	baz=309,SNR=35								
UNV	**Unalaska Valle**	**12.30**	**228**	Pn		**Pn**	**09 41 28.7**	**+0.8**
UNV	**Unalaska Valle**	**12.30**	**228**	P		**Pn**	**09 41 28.3**	**+0.4**
	baz=35								
WRGLY	**Wrigley**	**12.39**	**77**	P		**Pn**	**09 41 30.0**	**+0.9**
	baz=282,SNR=19								
C36M	**Paulatuk**	**12.43**	**48**	Pn		**Pn**	**09 41 26.3**	**-3.3**
C36M	**Paulatuk**	**12.43**	**48**	P		**Pn**	**09 41 26.3**	**-3.3**
	baz=253,SNR=111								
LIRD	**Liard River Hi**	**12.49**	**96**	P		**Pn**	**09 41 30.4**	**-0.1**
	baz=298,SNR=13								
V35K	**Ketchikan**	**12.57**	**119**	P		**Pn**	**09 41 31.9**	**+0.5**
	baz=316,SNR=10								
KOTAN	**Kotaneelee Air**	**13.10**	**91**	P		**Pn**	**09 41 38.5**	**+0.1**
	baz=295,SNR=18								
A36M	**Sachs Harbour**	**13.13**	**36**	Pn		**Pn**	**09 41 36.7**	**-1.9**
A36M	**Sachs Harbour**	**13.13**	**36**	P		**Pn**	**09 41 36.0**	**-2.5**
	baz=240,SNR=182								
FLDN	**Fort Liard**	**13.32**	**90**	P		**Pn**	**09 41 41.4**	**+0.3**
	baz=294,SNR=13								
NIKH	**Nikolski High**	**13.82**	**231**	P		**Pn**	**09 41 47.9**	**+0.4**
	baz=36								
NIKH	**Nikolski High**	**13.82**	**231**	P		**Pn**	**09 41 48.0**	**+0.4**
RUBB	**Prince Rupert**	**13.84**	**120**	Pn		**Pn**	**09 41 48.2**	**+0.5**
DIB	**Dawson Inlet,**	**13.86**	**127**			**Pn**	**09 41 49.1**	**+1.0**
GRNB	**Grenville Isla**	**14.31**	**121**			**Pn**	**09 41 53.7**	**-0.2**
BBB	**Bella Bella**	**16.30**	**122**	P		**P**	**09 42 19.4**	**+0.4**
	comp=E,102nm,0.8s,baz=307,slow=10.0,SNR=19								
BBB				S		**Sn**	**09 45 18.1**	**-1.6**
	comp=E,11nm,0.6s,baz=102,slow=17,SNR=6.5								
BBB				LR		LR	09 48 04.9		
	comp=E,389nm,19.0s,baz=329,slow=34								
BBB	**Bella Bella**	**16.30**	**122**	P		**Pn**	**09 42 17.4**	**-1.1**
YKA	**Yellowknife Ar**	**16.50**	**76**	P		**Pn**	**09 42 20.1**	**-0.8**
	comp=E,6.1nm,0.4s,baz=283,slow=9.5,SNR=220								
YKA				S		**Sn**	**09 45 22.9**	**-1.4**
	comp=E,3.4nm,0.6s,baz=33,slow=12,SNR=4.6								
YKA				LR		LR	09 48 29.9		
	comp=E,298nm,19.9s,baz=302,slow=36								
YKA				ScP		**ScP**	**09 50 24.9**	**-0.3**
	comp=E,10nm,0.7s,baz=284,slow=2.3,SNR=27								
ADK	**Adak**	**17.66**	**242**	P		**Pn**	**09 42 34.9**	**0.0**
BILL	**Bilibino**	**18.04**	**304**	P		**P**	**09 42 37.3**	**-0.7**
BILL	**Bilibino**	**18.04**	**304**	*e*P		**P**	**09 42 37.4**	**-0.7**
BILL				*i* S		**S**	**09 45 58.5**	**+0.7**
BILL				pmax		pmax			
	comp=Z,69nm,1.4s								
OZB	**Mount Ozzard**	**19.89**	**124**	P		**P**	**09 42 57.9**	**-0.3**
PGC	**Sidney**	**20.93**	**121**	P		**P**	**09 43 09.6**	**+0.3**
NLWA	**Neilton Lookou**	**21.80**	**124**	P		**P**	**09 43 18.9**	**+0.2**
WISH	**Wishkah**	**22.06**	**124**	P		**P**	**09 43 22.8**	**+1.5**
RES	**Resolute Bay**	**22.18**	**36**	P		**P**	**09 43 22.2**	**0.0**
	comp=Z,20nm,0.4s,baz=264,slow=10,SNR=128								
RES				S		**S**	**09 47 16.3**	**-0.5**
	comp=Z,24nm,0.8s,baz=103,slow=22,SNR=7.0								
	comp=Z,20nm,0.4s								
RES	**Resolute Bay**	**22.18**	**36**	P		**P**	**09 43 21.5**	**-0.8**
E03A	**Lebam**	**22.62**	**124**	P		**P**	**09 43 26.1**	**-0.7**
E03A				IAmb		IAmb	09 43 30.0		
	comp=Z,322nm,1.7s								
RADR	**Rader Ridge**	**22.64**	**125**	P		**P**	**09 43 26.1**	**-0.9**
RADR				IAmb		IAmb	09 43 31.4		
	comp=Z,314nm,1.4s								
B08A	**Colville Reser**	**22.81**	**115**	P		**P**	**09 43 28.7**	**0.0**
B08A				IAmb		IAmb	09 43 59.4		
	comp=Z,119nm,1.1s								
LON	**Longmire**	**23.12**	**121**	IAmb		IAmb	09 44 03.7		
	comp=Z,131nm,1.2s								
LTY	**Liberty**	**23.15**	**119**	P		**P**	**09 43 31.2**	**-0.8**
LTY				IAmb		IAmb	09 44 02.6		
	comp=Z,232nm,1.3s								
HEBO	**Mount Hebo**	**23.68**	**126**	P		**P**	**09 43 38.4**	**+1.6**
HEBO				IAmb		IAmb	09 43 39.8		
	comp=Z,105nm,0.8s								
NEW	**Newport**	**23.80**	**113**	P		**P**	**09 43 39.1**	**+1.2**
	comp=Z,63nm,1.0s,baz=322,slow=7.7,SNR=91								
NEW				pP		**pP**	**09 44 06.1**	**+1.3**
	comp=Z,81nm,1.0s,baz=318,slow=8.2,SNR=10								
NEW				ScP		**ScP**	**09 50 43.6**	**+0.9**
	comp=Z,19nm,1.1s,baz=292,slow=2.4,SNR=14								
NEW				LR		LR	09 52 55.8		
	comp=Z,269nm,18.5s,baz=314,slow=36								
	comp=Z,63nm,1.0s								
NEW	**Newport**	**23.80**	**113**	IAmb		IAmb	09 44 08.6		
	comp=Z,149nm,1.2s								
NEW	**Newport**	**23.80**	**113**	P		**P**	**09 43 38.8**	**+0.9**
	baz=321,SNR=82								
HAWA	**Hanford**	**24.31**	**119**	P		**P**	**09 43 42.2**	**-0.2**
HAWA				IAmb		IAmb	09 44 14.0		
	comp=Z,117nm,1.4s								
EUNU	**Eureka**	**24.36**	**22**	P		**P**	**09 43 43.3**	**+0.7**
EUNU				IAmb		IAmb	09 44 14.1		
	comp=Z,107nm,1.2s								
COR	**Corvallis**	**24.38**	**126**	P		**P**	**09 43 42.0**	**-1.0**
COR				IAmb		IAmb	09 44 14.8		
	comp=Z,247nm,1.4s								
COR	**Corvallis**	**24.38**	**126**	P		**P**	**09 43 42.0**	**-1.0**
COR				pmax		pmax			
	comp=Z,247nm,1.5s								
E08A	**Dider Farm, El**	**24.42**	**118**	IAmb		IAmb	09 44 14.0		
	comp=Z,302nm,1.7s								
H04A	**Detroit Lake**	**24.71**	**125**	IAmb		IAmb	09 44 17.2		
	comp=Z,149nm,1.3s								
E09A	**Wood Farm, Sta**	**24.77**	**117**	P		**P**	**09 43 47.4**	**+0.8**
E09A				IAmb		IAmb	09 44 17.1		
	comp=Z,81nm,1.0s								
BUCK	**Buck Mountain**	**24.83**	**126**	P		**P**	**09 43 46.7**	**-0.5**
BUCK				IAmb		IAmb	09 43 50.7		
	comp=Z,106nm,0.9s								
SEY	**Seymchan**	**24.99**	**295**	P		**P**	**09 43 47.8**	**-0.6**
	comp=Z,100nm,1.0s,baz=71,slow=11,SNR=51								
SEY				pP		**pP**	**09 44 15.6**	**-0.8**
	comp=Z,26nm,0.9s,baz=78,slow=8.7,SNR=3.0								
	comp=Z,100nm,1.0s								
DBO	**Dodson Butte**	**25.67**	**128**	IAmb		IAmb	09 44 27.5		
	comp=Z,114nm,1.0s								
PINE	**Pine Mountain**	**25.94**	**124**	P		**P**	**09 43 59.0**	**+1.6**
PINE				IAmb		IAmb	09 44 29.2		
	comp=Z,105nm,1.1s								
FFC	**Flin Flon**	**26.04**	**86**	P		**P**	**09 43 57.5**	**-0.4**
FFC	**Flin Flon**	**26.04**	**86**	P		**P**	**09 43 57.5**	**-0.4**
FFC				pmax		pmax			
	comp=Z,43nm,1.4s								
HUMO	**Hull Mountain**	**26.22**	**128**	IAmb		IAmb	09 44 32.4		
	comp=Z,700nm,0.9s								
I07A	**Izee**	**26.24**	**122**	P		**P**	**09 44 00.3**	**+0.4**
I07A				IAmb		IAmb	09 44 31.4		
	comp=Z,83nm,1.2s								
MSO	**Missoula**	**26.27**	**111**	P		**P**	**09 44 01.0**	**+0.8**
	baz=322,SNR=58								
BMO	**Blue Mountains**	**26.46**	**118**	IAmb		IAmb	09 44 35.0		
	comp=Z,183nm,1.6s								
K05A	**Summer Lake**	**26.87**	**125**	P		**P**	**09 44 07.6**	**+1.8**
K05A				IAmb		IAmb	09 44 37.9		
	comp=Z,74nm,1.1s								
YBH	**Yreka Blue Hor**	**27.08**	**129**	P		**P**	**09 44 09.7**	**+2.2**
	comp=Z,43nm,0.9s,baz=321,slow=15,SNR=125								
YBH				pP		**pP**	**09 44 38.0**	**+2.2**
	comp=Z,64nm,1.0s,baz=16,slow=3.7,SNR=15								
YBH				ScP		**ScP**	**09 50 52.5**	**+0.1**
	comp=Z,9.2nm,0.9s,baz=72,slow=2.2,SNR=22								
	comp=Z,43nm,0.9s								
YBH	**Yreka Blue Hor**	**27.08**	**129**	IAmb		IAmb	09 44 40.3		
	comp=Z,72nm,0.9s								
KRPM	**Rodgers**	**27.13**	**131**	P		**P**	**09 44 08.3**	**+0.4**
KRPM				IAmb		IAmb	09 44 40.3		
	comp=Z,105nm,1.0s								
EGMT	**Eagleton**	**27.16**	**104**	P		**P**	**09 44 09.1**	**+0.9**
EGMT				IAmb		IAmb	09 44 10.2		
	comp=Z,121nm,0.9s								
EGMT	**Eagleton**	**27.16**	**104**	P		**P**	**09 44 08.9**	**+0.7**
	baz=319,SNR=71								
FCC	**Fort Churchill**	**27.18**	**73**	P		**P**	**09 44 08.7**	**+0.6**
FCC	**Fort Churchill**	**27.18**	**73**	P		**P**	**09 44 08.7**	**+0.6**
FCC				pmax		pmax			
	comp=Z,50nm,1.4s								
J08A	**Circle Bar Ran**	**27.25**	**121**	IAmb		IAmb	09 44 11.8		
	comp=Z,57nm,0.8s								
MA2	**Magadan**	**27.32**	**289**	P		**P**	**09 44 09.3**	**-0.1**
	comp=Z,78nm,1.0s,baz=57,slow=8.7,SNR=45								
	comp=Z,78nm,1.0s								
MA2	**Magadan**	**27.32**	**289**	P		**P**	**09 44 09.1**	**-0.3**
MA2				IAmb		IAmb	09 44 10.7		
	comp=Z,170nm,1.3s								
JCC	**Jacoby Creek,**	**27.43**	**132**	IAmb		IAmb	09 44 42.7		
	comp=Z,102nm,1.2s								
KHMM	**Horse Mountain**	**27.48**	**131**	IAmb		IAmb	09 44 43.5		
	comp=Z,91nm,1.2s								
LRM	**Limekiln Ridge**	**27.70**	**110**	P		**P**	**09 44 14.4**	**+1.3**
PET	**Petropavlovsk**	**27.75**	**272**	*e*P		**P**	**09 44 13.5**	**+0.3**
PET				*e*S		**S**	**09 48 51.6**	**+5.9**
PET				pmax		pmax			
	comp=Z,74nm,1.3s								
PET				pmax		pmax			
	comp=Z,300nm,12.7s								
PET				MLR		MLR			
	comp=Z,100nm,11.0s								
KMPM	**Mount Pierce**	**27.76**	**132**	P		**P**	**09 44 13.2**	**-0.3**
KMPM				IAmb		IAmb	09 44 45.9		
	comp=Z,69nm,1.1s								
MOD	**Modoc Plateau**	**27.80**	**125**	IAmb		IAmb	09 44 17.1		
	comp=Z,68nm,1.3s								
WVOR	**Wild Horse Val**	**27.97**	**122**	P		**P**	**09 44 15.2**	**-0.3**
WVOR				IAmb		IAmb	09 44 18.5		
	comp=Z,58nm,0.9s								
WVOR	**Wild Horse Val**	**27.97**	**122**	P		**P**	**09 44 15.2**	**-0.3**
WVOR				pmax		pmax			
	comp=Z,58nm,0.9s								
DLMT	**Dillon**	**28.00**	**111**	P		**P**	**09 44 16.2**	**+0.5**
DLMT				IAmb		IAmb	09 44 18.5		
	comp=Z,74nm,1.1s								
KMRM	**Mail Ridge**	**28.07**	**132**	IAmb		IAmb	09 44 48.8		
	comp=Z,83nm,0.9s								
PEA0B	**Petropavlovsk-**	**28.13**	**273**	P		**P**	**09 44 15.8**	**-0.8**
PEA0B				IAmb		IAmb	09 44 30.5		
	comp=Z,102nm,1.2s								
PEA0B	**Petropavlovsk-**	**28.13**	**273**	P		**P**	**09 44 15.8**	**-0.8**
PEA0B				pmax		pmax			
	comp=Z,102nm,1.3s								
PETK	**Petropavlovsk-**	**28.13**	**273**	P		**P**	**09 44 15.6**	**-1.0**
	comp=Z,14nm,0.8s,baz=81,slow=9.5,SNR=14								
PETK				pP		**pP**	**09 44 45.5**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=108,slow=6.5,SNR=2.3								
	comp=Z,14nm,0.8s								
BOZ	**Bozeman (W)**	**28.23**	**110**	IAmb		IAmb	09 44 20.5		
	comp=Z,72nm,1.3s								
BOZ	**Bozeman (W)**	**28.23**	**110**	P		**P**	**09 44 19.0**	**+1.2**
	baz=322,SNR=40								
MFID	**Camas Ranch**	**28.25**	**118**	IAmb		IAmb	09 44 20.2		
	comp=Z,75nm,0.8s								
TULEG	**Thule**	**28.31**	**29**	*e*P		**P**	**09 44 18.3**	**+0.3**
TULEG				IAmb		IAmb	09 45 04.7		
	comp=Z,26nm,1.1s								
BCYI	**Bear Canyon**	**28.51**	**113**	P		**P**	**09 44 20.2**	**-0.2**
KCPM	**Cahto Peak**	**28.59**	**132**	IAmb		IAmb	09 44 53.1		
	comp=Z,71nm,1.0s								
HLID	**Hailey**	**28.70**	**116**	P		**P**	**09 44 22.7**	**+0.7**
HLID	**Hailey**	**28.70**	**116**	P		**P**	**09

comp=Z,98nm,1.1s
BW06 Boulder Array 31.39 111 P P 09 44 47.5 +1.7
baz=325,SNR=100
PD31 Pinedale Array 31.39 111 P P 09 44 47.1 +1.4
PD31 IAmb IAmb 09 44 48.7
comp=Z,88nm,1.1s
PDAR Pinedale Array 31.39 111 P P 09 44 47.4 +1.6
comp=Z,46nm,0.8s,baz=316,slow=6.2,SNR=264
PDAR pP **pP 09 45 16.6 +2.1**
comp=Z,32nm,0.9s,baz=324,slow=7.3,SNR=7.7
PDAR PcP **PcP 09 47 36.0 +0.1**
comp=Z,1.7nm,0.5s,baz=103,slow=0.8,SNR=4.9
PDAR ScP **ScP 09 51 06.7 +0.3**
comp=Z,6.0nm,1.0s,baz=329,slow=1.7,SNR=14
comp=Z,46nm,0.8s
PDAR Pinedale Array 31.39 111 P P 09 44 46.7 +0.9
BGU Big Grassy Mou 31.47 117 P P 09 44 48.0 +1.6
HWUT Hardware Ranch 31.50 114 P P 09 44 47.4 +0.7
NVAR Mina Array Bea 31.58 126 P P 09 44 49.4 +1.9
comp=Z,45nm,0.8s,baz=313,slow=8.2,SNR=346
NVAR pP **pP 09 45 18.1 +1.9**
comp=Z,64nm,0.9s,baz=310,slow=8.4,SNR=12
NVAR PcP **PcP 09 47 37.3 +0.8**
comp=Z,1.1nm,0.6s,baz=298,slow=1.9,SNR=4.6
NVAR ScP **ScP 09 51 08.0 +1.0**
comp=Z,11nm,1.1s,baz=293,slow=2.5,SNR=22
comp=Z,45nm,0.8s
NVAR Mina Array Bea 31.58 126 P P 09 44 48.6 +1.2
NEEM North Greenlan 31.58 24 *i* P P **09 44 47.5 +0.4**
NEEM IAmb IAmb 09 44 48.1
comp=Z,69nm,0.8s
NV11 Mina Array Sit 31.63 126 P P 09 44 48.3 +0.5
NV11 IAmb IAmb 09 45 20.0
comp=Z,87nm,0.9s
KULLO Kullorsuaq 31.77 30 *i* P P **09 44 48.8 +0.4**
KULLO IAmb IAmb 09 44 56.5
comp=Z,48nm,1.4s
ULM Lac du Bonnet 31.80 88 P P 09 44 49.8 +0.7
comp=Z,16nm,0.9s,baz=311,slow=8.6,SNR=26
ULM pP **pP 09 45 18.3 +0.4**
comp=Z,33nm,0.9s,baz=310,slow=8.1,SNR=9.0
ULM PcP **PcP 09 47 36.5 -0.1**
comp=Z,7.2nm,0.7s,baz=291,slow=6.5,SNR=2.7
ULM ScP **ScP 09 51 07.5 +0.3**
comp=Z,4.2nm,0.7s,baz=313,slow=7.3,SNR=4.3
ULM LR LR 09 59 46.6
comp=Z,173nm,18.3s,baz=336,slow=40
comp=Z,16nm,0.9s
ULM Lac du Bonnet 31.80 88 IAmb IAmb 09 45 20.2
comp=Z,45nm,0.9s
MDND Maddock 31.85 94 IAmb IAmb 09 44 51.9
comp=Z,60nm,0.8s
MDND Maddock 31.85 94 P P 09 44 50.7 +1.2
baz=318,SNR=5.6
MDND Maddock 31.85 94 P P 09 44 50.6 +1.2
baz=318,SNR=5.6
MDPB Devils Postpil 32.00 128 P P 09 44 52.9 +1.6
MDPB IAmb IAmb 09 45 23.5
comp=Z,61nm,0.9s
MLAC Mammoth, Mammo 32.09 127 P P 09 44 54.5 +2.6
baz=333
DUG Dugway, Tooele 32.18 117 IAmb IAmb 09 44 55.4
comp=Z,57nm,0.8s
DUG Dugway, Tooele 32.18 117 P P 09 44 54.3 +1.7
baz=328,SNR=70
CTU Camp Tracy 32.19 115 P P 09 44 53.8 +1.1
CTU IAmb IAmb 09 44 55.3
comp=Z,72nm,0.9s
E28A Huff 32.30 97 P P 09 44 55.2 +1.7
baz=319,SNR=13
JLU Jordanelle 32.39 115 IAmb IAmb 09 44 57.3
comp=Z,48nm,1.2s
MZP Montezuma Peak 32.56 125 P P 09 44 57.4 +1.3
SPR3 Spring Creek 3 32.59 120 IAmb IAmb 09 45 00.3
comp=Z,117nm,1.5s
DSP Deep Springs 32.64 126 P P 09 44 58.1 +1.8
DSP IAmb IAmb 09 45 29.7
comp=Z,79nm,1.0s
R11A Troy Canyon, C 32.67 122 P P 09 44 58.0 +1.1
R11A IAmb IAmb 09 44 59.7
comp=Z,69nm,0.9s
R11A Troy Canyon, C 32.67 122 P P 09 44 58.6 +1.6
baz=331,SNR=128
NLU North Lily Min 32.68 117 IAmb IAmb 09 44 59.7
comp=Z,57nm,0.9s
RSSD Black Hills 32.70 103 P P 09 44 57.9 +0.7
RSSD Black Hills 32.70 103 P P 09 44 58.6 +1.4
baz=322,SNR=70
RSSD Black Hills 32.70 103 P P 09 44 58.4 +1.2
baz=322
RSSD Black Hills 32.70 103 P P 09 44 57.9 +0.7
RSSD pmax pmax
comp=Z,77nm,0.8s
RSSD Black Hills 32.70 103 P P 09 44 58.5 +1.3
RSSD pP **pP 09 45 27.9 +1.9**
RSSD ScP **ScP 09 51 10.8 0.0**
K22A Casper 32.79 107 IAmb IAmb 09 45 00.3
comp=Z,86nm,1.1s
K22A Casper 32.79 107 P P 09 44 59.0 +1.1
baz=324,SNR=32
K22A Casper 32.79 107 P P 09 44 59.2 +1.3
baz=324,SNR=32
TIN Tinemaha, Big 32.82 127 P P 09 45 00.9 +2.7
baz=333,SNR=10
LCH Last Change Ra 32.88 126 P P 09 45 00.2 +1.5
LCH IAmb IAmb 09 45 02.0
comp=Z,47nm,0.9s
UPNV Upernavik 32.99 33 *i* P P **09 44 58.9 -0.2**
UPNV IAmb IAmb 09 45 01.2
comp=Z,26nm,1.1s
VOG Valley Oaks Go 33.07 129 P P 09 45 01.7 +1.5
baz=334
GRAC Grapevine Rang 33.19 126 IAmb IAmb 09 45 34.1
comp=Z,69nm,1.1s
GRAC Grapevine Rang 33.19 126 P P 09 45 03.8 +2.5
baz=333,SNR=31
RDMU Red Mountain 33.20 113 P P 09 45 02.8 +1.2
AGMN Agassiz Nation 33.22 90 P P 09 45 02.1 +0.7
baz=317,SNR=12
AGMN Agassiz Nation 33.22 90 P P 09 45 02.1 +0.7
baz=317,SNR=12
S11A Rachel 33.23 123 IAmb IAmb 09 45 05.2
comp=Z,61nm,0.8s
CWC Cottonwood Cre 33.42 127 P P 09 45 05.7 +2.2
baz=333
NOR Nord 33.46 11 *i* P P **09 45 03.6 +0.5**
NOR IAmb IAmb 09 45 04.4
comp=Z,130nm,1.7s
TMUT Trail Mountain 33.59 116 P P 09 45 06.7 +1.6
VES Vestal, Richgr 33.60 129 P P 09 45 06.3 +1.5
baz=334,SNR=19
P17A Butcher Ranch, 33.63 115 IAmb IAmb 09 45 08.1
comp=Z,45nm,1.1s
TPNV Topopah Spring 33.65 125 IAmb IAmb 09 45 08.2
comp=Z,49nm,0.9s
TPNV Topopah Spring 33.65 125 P P 09 45 07.0 +1.6
baz=332,SNR=42
TCRU Three Creeks R 33.68 118 P P 09 45 07.4 +1.6
SMMC Simmler 33.76 131 P P 09 45 08.3 +2.1
baz=335,SNR=27
FURC Furnace Creek, 33.85 126 P P 09 45 09.0 +2.1
baz=333,SNR=53
MVU Marysvale 33.86 118 P P 09 45 08.9 +1.6
MSU Marysvale 33.87 118 P P 09 45 09.1 +1.7
MSU Marysvale 33.87 118 P P 09 45 09.1 +1.7
ISA Isabella, Lake 33.98 128 IAmb IAmb 09 45 40.0
comp=Z,57nm,0.9s
ISA Isabella, Lake 33.98 128 P P 09 45 09.7 +1.5
baz=334,SNR=43
MPMC Manual Prospec 33.98 127 P P 09 45 10.5 +2.2
baz=333,SNR=54
O20A White River Ci 34.12 112 IAmb IAmb 09 45 12.1
comp=Z,99nm,1.4s
O20A White River Ci 34.12 112 P P 09 45 10.6 +1.1
baz=327,SNR=33
B35A Bob, Littlefor 34.14 88 P P 09 45 09.9 +0.6
baz=317,SNR=5.8
GWY Greenwater Val 34.17 126 IAmb IAmb 09 45 14.2
comp=Z,34nm,0.8s
PKM Mcpherson Peak 34.21 131 P P 09 45 12.4 +2.1
baz=335,SNR=72
CCUT Cedar City 34.23 120 P P 09 45 12.5 +2.0
QSM Queen of Sheba 34.29 126 IAmb IAmb 09 45 14.0
comp=Z,71nm,0.8s
BCW Bitter Crk WRg 34.30 130 IAmb IAmb 09 45 49.5
comp=Z,75nm,1.1s
ARVC Arvin 34.34 129 P P 09 45 11.8 +0.7
baz=335,SNR=7.8
YAK Yakutsk 34.40 305 P P 09 45 10.7 -0.7
comp=Z,61nm,0.8s,baz=47,slow=2.5,SNR=29
YAK LR LR 10 00 37.3
comp=Z,107nm,18.1s,baz=86,slow=38
comp=Z,61nm,0.8s
YAK Yakutsk 34.40 305 P P 09 45 10.9 -0.5
YAK Yakutsk 34.40 305 *ce*P **P 09 45 10.5 -0.9**
YAK pmax pmax
comp=Z,211nm,1.3s
YAK Yakutsk 34.40 305 P P 09 45 10.8 -0.6
YAK pP **pP 09 45 40.8 +0.6**
LRMC Laurel Mtn Rad 34.43 128 P P 09 45 14.0 +1.9
baz=334,SNR=87
SHPR Sheep Range 34.45 124 P P 09 45 13.6 +1.3
NUUG Nuugaatsiaq 34.45 34 *eP* **P 09 45 12.9 +1.2**
NUUG IAmb IAmb 09 45 14.5
comp=Z,51nm,1.4s
N23A Red Feather La 34.47 109 P P 09 45 14.1 +1.5
N23A IAmb IAmb 09 45 45.0
comp=Z,95nm,1.3s
N23A Red Feather La 34.47 109 P P 09 45 14.0 +1.4
baz=325,SNR=27
FRB Frobisher Bay 34.48 51 P P 09 45 12.1 0.0
comp=Z,25nm,0.7s,baz=308,slow=9.4,SNR=71
FRB LR LR 10 00 34.6
comp=Z,136nm,18.7s,baz=250,slow=38
comp=Z,25nm,0.7s
SHOC Shoshone, Teco 34.57 125 P P 09 45 15.2 +2.0
baz=333,SNR=7.9
SBC Santa Barbara 34.65 131 P P 09 45 15.4 +1.6
baz=336,SNR=5.2
SUSD Miller 34.72 98 P P 09 45 15.3 +0.9
baz=321
SUSD Miller 34.72 98 P P 09 45 15.0 +0.5
baz=321
PKCU Pink Cliffs 34.74 119 IAmb IAmb 09 45 18.5
comp=Z,55nm,0.9s
LCMT Little Creek M 34.74 121 P P 09 45 16.9 +2.1
OSI Osito Audit: C 34.84 130 P P 09 45 16.8 +1.2
baz=335
EDW2 Edwards Air Fo 34.85 128 P P 09 45 17.0 +1.3
baz=334,SNR=16
F33A 5 Mile Ranch, 34.85 93 IAmb IAmb 09 45 46.6
comp=Z,41nm,1.0s
F33A 5 Mile Ranch, 34.85 93 P P 09 45 16.2 +0.7
baz=320,SNR=11
GSC Goldstone, Bar 34.90 127 P P 09 45 18.3 +2.1
baz=334,SNR=86
KNB Kanab 34.91 120 P P 09 45 18.0 +1.8
KNB Kanab 34.91 120 P P 09 45 18.0 +1.8
KNB pmax pmax
comp=Z,126nm,0.8s
SCZ2 Santa Cruz Isl 35.08 131 P P 09 45 19.2 +1.6
baz=336,SNR=8.5
TUQ Turquoise Moun 35.11 125 P P 09 45 20.2 +2.2
baz=333,SNR=7
RRX Edison Barstow 35.22 127 P P 09 45 20.9 +2.1
baz=334,SNR=6.7
DECC Green Verdugo 35.30 129 P P 09 45 21.1 +1.7
baz=335,SNR=8.2
PASC Pasadena Art C 35.42 129 P P 09 45 22.3 +1.8
PASC IAmb IAmb 09 45 52.6
comp=Z,47nm,1.0s
BRIGG Briggsdale 35.43 107 P P 09 45 22.3 +1.6
BRIGG IAmb IAmb 09 45 23.6
comp=Z,58nm,0.9s
EYMN Ely 35.46 87 P P 09 45 21.5 +0.8
baz=318,SNR=13
EYMN Ely 35.46 87 P P 09 45 21.5 +0.8
baz=318,SNR=13
HEC Hector,Ludlow 35.50 126 P P 09 45 23.2 +2.0
baz=334,SNR=27
ISCO Idaho Springs 35.51 109 IAmb IAmb 09 45 53.7
comp=Z,68nm,1.4s
ISCO Idaho Springs 35.51 109 P P 09 45 22.8 +1.2
baz=326,SNR=25
ISCO Idaho Springs 35.51 109 P P 09 45 23.3 +1.7
baz=326,SNR=25
BFSC Mount Baldy Ra 35.55 128 P P 09 45 23.7 +2.0
baz=335,SNR=61
U15A North Rim 35.63 120 P P 09 45 24.3 +1.8
U15A IAmb IAmb 09 45 25.6
comp=Z,54nm,0.8s
NKL Nikolayevsk 35.70 286 *eP* **P 09 45 20.9 -1.7**
NKL *eS* **S 09 50 57.3 +8.1**
NKL pmax pmax
comp=N,219nm,1.1s
NKL pmax pmax
comp=E,246nm,1.1s
NKL pmax pmax
comp=Z,803nm,1.1s
GMRC Granite Mounta 35.79 126 P P 09 45 25.8 +2.0
baz=333,SNR=57
BBRC Big Bear Solar 35.79 128 P P 09 45 25.7 +1.8
baz=334,SNR=9.2
SNCC San Nicolas Is 35.80 132 P P 09 45 24.6 +0.9
SNCC IAmb IAmb 09 45 55.9
comp=Z,74nm,1.1s
SNCC San Nicolas Is 35.80 132 P P 09 45 25.6 +1.9
baz=336
FMP Fort Macarthur 35.80 130 P P 09 45 25.0 +1.3
baz=335
CIS Catalina Islan 36.04 130 P P 09 45 27.3 +1.5
baz=336,SNR=23
F36A Milaca 36.10 91 P P 09 45 26.5 +0.4
F36A IAmb IAmb 09 45 57.4
comp=Z,56nm,1.1s
F36A Milaca 36.10 91 P P 09 45 26.9 +0.8
baz=319,SNR=18
OGNE Ogallala 36.13 104 P P 09 45 27.7 +1.1
baz=324,SNR=18
OGNE Ogallala 36.13 104 P P 09 45 27.7 +1.1
baz=324,SNR=18
W13A Hualapai Mount 36.17 123 P P 09 45 28.7 +1.6
W13A IAmb IAmb 09 45 30.3
comp=Z,53nm,0.9s
NEE2 Needles Airpor 36.19 124 P P 09 45 28.5 +1.5
baz=333,SNR=18
K31A O'Neill 36.24 99 P P 09 45 28.1 +0.7
baz=323
MURC Murrieta 36.29 128 P P 09 45 29.1 +1.2
baz=335,SNR=9.0
ECSD EROS Data Cent 36.33 96 IAmb IAmb 09 45 59.1
comp=Z,66nm,1.1s
ECSD EROS Data Cent 36.33 96 P P 09 45 28.4 +0.2
baz=321,SNR=40
ECSD EROS Data Cent 36.33 96 P P 09 45 28.4 +0.2
baz=322,SNR=40
Q24A Divide 36.41 110 P P 09 45 30.6 +1.4
baz=327,SNR=7.1
E38A The Farm, Brul 36.43 88 P P 09 45 28.4 -0.5
E38A IAmb IAmb 09 45 59.8
comp=Z,40nm,1.0s
TYV Tymovskoe 36.44 282 *eP* **P 09 45 29.2 +0.2**
TYV *eS* **S 09 51 03.2 +2.7**
TYV pmax pmax
comp=Z,500nm,2.3s
TYV pmax pmax
comp=Z,129nm,1.2s
TYV smax smax
comp=N,500nm,8.4s
TYV smax smax
comp=E,300nm,8.4s
MVCO Mesa Verde 36.48 115 P P 09 45 30.9 +1.2
MVCO IAmb IAmb 09 45 32.1
comp=Z,39nm,0.8s
MVCO Mesa Verde 36.48 115 P P 09 45 30.8 +1.1
baz=329,SNR=34
IRM Iron Mountain 36.54 125 P P 09 45 31.8 +1.8
baz=334,SNR=78
PMD Palm Desert 36.54 127 P P 09 45 31.3 +1.3
PMD IAmb IAmb 09 45 32.4
comp=Z,51nm,0.9s
PFO Pinyon Flats O 36.54 127 P P 09 45 31.5 +1.3
comp=Z,36nm,1.0s,baz=332,slow=7.2,SNR=93
PFO pP **pP 09 46 01.2 +1.8**
comp=Z,41nm,1.0s,baz=322,slow=6.6,SNR=8.0
PFO ScP **ScP 09 51 24.9 +0.4**
comp=Z,12nm,1.1s,baz=334,slow=2.4,SNR=14
comp=Z,36nm,1.0s
PFO Pinyon Flats O 36.54 127 P P 09 45 31.4 +1.1
PFO IAmb IAmb 09 45 32.7
comp=Z,55nm,1.1s
PFO Pinyon Flats O 36.54 127 P P 09 45 31.4 +1.3
baz=334,SNR=56
PFO Pinyon Flats O 36.54 127 P P 09 45 31.3 +1.1
PFO pP **pP 09 46 00.5 +1.0**
PFO ScP **ScP 09 51 25.0 +0.5**
TPFO Pinon Flats 36.55 127 P P 09 45 31.5 +1.2
baz=334,SNR=58
S22A 4UR Ranch, Cre 36.72 113 P P 09 45 33.8 +1.9
S22A IAmb IAmb 09 45 35.2
comp=Z,52nm,0.9s
S22A 4UR Ranch, Cre 36.72 113 P P 09 45 33.8 +1.9
baz=328,SNR=70
PDMCI Parker Dam,Lak 36.78 124 P P 09 45 33.7 +1.7
baz=333,SNR=35
WUAZ Wupatki 36.78 120 P P 09 45 34.2 +2.0
WUAZ Wupatki 36.78 120 P P 09 45 34.3 +2.0
baz=331,SNR=221
BC3 Big Chuckawall 36.87 126 P P 09 45 34.6 +1.6
baz=334,SNR=38
SPMN Marine on St. 36.91 91 P P 09 45 34.1 +1.1
SPMN IAmb IAmb 09 46 04.6
comp=Z,71nm,0.9s
SPMN Marine on St. 36.91 91 P P 09 45 34.2 +1.1
baz=320,SNR=15
SPMN Marine on St. 36.91 91 P P 09 45 34.0 +0.9
baz=320,SNR=15
109C Camp Elliot, M 36.97 129 IAmb IAmb 09 45 36.7
comp=Z,83nm,1.0s
109C Camp Elliot, M 36.97 129 P P 09 45 35.4 +1.8
baz=335,SNR=12
BLYC Blythe 37.13 125 P P 09 45 37.0 +2.0
SUMG Summit 37.18 27 *i* P P **09 45 36.0 +0.5**
SUMG IAmb IAmb 09 45 36.8
comp=Z,21nm,0.6s
MONP2 Monument Peak 37.21 128 P P 09 45 37.9 +2.0
baz=335,SNR=125
DAG Danmarks Havn 37.24 16 *i* P P **09 45 35.5 +0.1**
DAG IAmb IAmb 09 45 36.0
comp=Z,155nm,1.1s
SDCO Great Sand Dun 37.28 111 P P 09 45 38.3 +1.7
SDCO IAmb IAmb 09 45 39.7
comp=Z,86nm,1.2s
SDCO Great Sand Dun 37.28 111 P P 09 45 38.4 +1.7
baz=328,SNR=74
SDCO Great Sand Dun 37.28 111 P P 09 45 38.5 +1.9
baz=328,SNR=74
BAR Barrett 37.31 128 IAmb IAmb 09 45 39.5
comp=Z,53nm,1.0s
SWSC Sam W. Stewart 37.38 127 P P 09 45 38.8 +1.7
baz=334,SNR=38
TKX Tecate 37.43 128 IAmb IAmb 09 45 40.4
comp=Z,36nm,0.9s
D41A Chassel 37.45 85 P P 09 45 35.2 -2.3
D41A IAmb IAmb 09 46 10.3
comp=Z,104nm,1.3s
D41A Chassel 37.45 85 P P 09 45 38.8 +1.3
baz=318
KSCO Kaye Shedlock' 37.46 107 P P 09 45 39.1 +1.2
KSCO Kaye Shedlock' 37.46 107 P P 09 45 39.4 +1.5
baz=326,SNR=26
KSCO Kaye Shedlock' 37.46 107 P P 09 45 39.4 +1.5
baz=326,SNR=26
BGNE Belgrade 37.48 100 P P 09 45 38.6 +0.6
baz=324
BGNE Belgrade 37.48 100 P P 09 45 38.4 +0.4
baz=324
IKP In-Ko-Pah, Jac 37.54 128 P P 09 45 40.1 +1.5
baz=335,SNR=91
Y14A Wickenburg 37.54 123 P P 09 45 40.3 +1.8
I37A Lemond, Waseca 37.57 93 P P 09 45 40.0 +1.4
I37B Waseca 37.57 93 P P 09 45 40.0 +1.4
baz=321,SNR=17
RMX La Rumorosa 37.59 128 IAmb IAmb 09 45 42.6
comp=Z,73nm,1.2s
YUH Yuha Desert 37.61 127 IAmb IAmb 09 45 41.9
comp=Z,48nm,0.9s
CBX Cerro Bola 37.64 129 IAmb IAmb 09 45 42.6
comp=Z,65nm,0.8s
GLA Glamis 37.64 126 P P 09 45 41.3 +1.9
baz=334,SNR=25
W18A Petrified Fore 37.78 118 P P 09 45 42.8 +2.0
baz=331,SNR=36
L34A Svendsen Farm, 37.84 98 P P 09 45 41.2 +0.3
baz=323,SNR=7.7
KBS Kingsbay 37.84 5 P P 09 45 41.1 +0.7
KBS IAmb IAmb 09 45 42.8
comp=Z,73nm,0.8s
KBS Kingsbay 37.84 5 *i* P P **09 45 41.8 +1.4**
KBS Kingsbay 37.84 5 *i* P P **09 45 41.2 +0.7**
KBS pmax pmax
comp=Z,89nm,0.9s
KBS Kingsbay 37.84 5 *e*P P **09 45 42.3 +1.9**
KBS IAmb IAmb 09 45 43.0
comp=Z,76nm,0.9s
KBS Kingsbay 37.84 5 P P 09 45 42.2 +1.7
COWI Conover 37.91 87 IAmb IAmb 09 46 12.7
comp=Z,45nm,1.0s
COWI Conover 37.91 87 P P 09 45 41.9 +0.4
baz=319
UGL Uglegorsk 37.99 281 *e*P P **09 45 42.0 -0.1**
UGL *e*S S **09 51 22.9 -1.1**
UGL pmax pmax
comp=Z,110nm,1.3s
CCX Cicese 38.05 129 IAmb IAmb 09 45 45.6
comp=Z,56nm,0.8s
G40A Rib Lake 38.06 89 P P 09 45 43.0 +0.2
G40A IAmb IAmb 09 46 14.5
comp=Z,42nm,0.9s
G40A Rib Lake 38.06 89 P P 09 45 43.5 +0.8
baz=320,SNR=8.3
SFJD Kangerlussuaq 38.11 39 P P 09 45 43.2 +0.4
comp=Z,16nm,0.7s,baz=324,slow=6.0,SNR=9.7
comp=Z,16nm,0.7s
SFJD Kangerlussuaq 38.11 39 P P 09 45 42.8 0.0
SFJD IAmb IAmb 09 46 15.7
comp=Z,114nm,1.8s
SFJD Kangerlussuaq 38.11 39 *i* P P **09 45 43.5 +0.6**
SFJD IAmb IAmb 09 45 46.0
comp=Z,20nm,0.7s
SFJD Kangerlussuaq 38.11 39 P P 09 45 43.2 +0.4
SFJD pP **pP 09 46 13.6 +1.4**
SFJD ScP **ScP 09 51 30.9 +1.2**
ESJX Sierra Juarez 38.18 128 P P 09 45 45.9 +1.9
ESJX IAmb IAmb 09 45 47.0
comp=Z,38nm,0.9s
T25A Trinidad 38.26 110 P P 09 45 45.4 +0.7
T25A Trinidad 38.26 110 P P 09 45 46.0 +1.3
baz=328,SNR=17
113A Mohawk Valley, 38.29 125 IAmb IAmb 09 45 47.6
comp=Z,46nm,0.9s
N33B J Bar K, Exete 38.34 100 P P 09 45 45.5 +0.4
baz=324
E43A Lone Tree Farm 38.67 85 IAmb IAmb 09 46 19.4
comp=Z,62nm,1.1s
E43A Lone Tree Farm 38.67 85 P P 09 45 48.3 +0.5
baz=319
SPA0 Spitsbergen Ar 38.74 4 *e*P P **09 45 48.2 +0.2**
SPA0 IAmb IAmb 09 45 49.1
comp=Z,112nm,0.8s
SPITS Spitsbergen Ar 38.74 4 P P 09 45 48.1 +0.1
comp=Z,37nm,0.4s,baz=27,slow=5.6,SNR=207
SPITS PcP **PcP 09 47 55.8 -0.8**
comp=Z,9.8nm,0.7s,baz=23,slow=7.8,SNR=2.9
comp=Z,37nm,0.4s
SPITS Spitsbergen Ar 38.74 4 P P 09 45 48.1 +0.1
SPITS pmax pmax
comp=Z,109nm,0.7s
VTX Valle De La Tr 38.79 128 IAmb IAmb 09 45 52.3
comp=Z,68nm,1.6s
CBKS Cedar Bluff 38.89 104 P P 09 45 50.9 +1.1
baz=326,SNR=35
CBKS Cedar Bluff 38.89 104 P P 09 45 51.1 +1.3
baz=326,SNR=35
K38A Parkersburg 38.93 94 P P 09 45 50.9 +0.9
baz=322,SNR=5.8
I40A Norwalk 38.93 90 P P 09 45 50.2 +0.2
I40A IAmb IAmb 09 46 21.6
comp=Z,62nm,1.2s
I40A Norwalk 38.93 90 P P 09 45 51.0 +1.0
baz=321,SNR=6.7
N35A Tabor 39.05 98 P P 09 45 52.0 +1.0
baz=324,SNR=25
DBG Daneborg 39.09 19 *i* P P **09 45 50.6 -0.3**
DBG IAmb IAmb 09 45 51.4
comp=Z,99nm,1.2s
GRNR Gornyy 39.25 287 ⇑ *i*P P **09 45 52.8 +0.2**
GRNR *e*S S **09 51 47.5 +4.6**
GRNR pmax pmax
comp=E,70nm,0.9s
GRNR pmax pmax

comp=N,70nm,1.0s
GRNR pmax pmax
comp=Z,260nm,0.9s
GRNR smax smax
comp=N,3.0nm,0.9s
YSS Yuzh-Sakhalins 39.27 278 P **P** **09 45 52.6 -0.1**
YSS Yuzh-Sakhalins 39.27 278 *α iP* **P** **09 45 52.8 +0.1**
YSS *e*PP **pP** **09 46 22.7 +0.6**
YSS *eS* **S** **09 51 42.4 -0.7**
YSS pmax pmax
comp=Z,130nm,1.0s
YSS pmax pmax
comp=Z,500nm,2.8s
YSS pmax pmax
comp=N,200nm,2.9s
YSS pmax pmax
comp=E,200nm,2.2s
YSS Yuzh-Sakhalins 39.27 278 P **P** **09 45 52.5 -0.2**
YSS pP **pP** **09 46 23.1 +1.0**
ANMO Albuquerque 39.27 114 P **P** **09 45 54.5 +1.4**
comp=E,27nm,1.0s,baz=49,slow=9.4,SNR=63
ANMO pP **pP** **09 46 24.1 +1.4**
comp=E,7.6nm,0.9s,baz=62,slow=8.4,SNR=2.5
ANMO ScP **ScP** **09 51 35.3 +0.3**
comp=E,19nm,1.1s,baz=58,slow=3.2,SNR=24
comp=E,27nm,1.0s
ANMO Albuquerque 39.27 114 P **P** **09 45 54.9 +1.8**
ANMO IAmb IAmb 09 45 56.3
comp=Z,62nm,1.2s
ANMO Albuquerque 39.27 114 P **P** **09 45 54.9 +1.8**
baz=330,SNR=56
ANMO Albuquerque 39.27 114 P **P** **09 45 54.9 +1.8**
baz=330
ANMO Albuquerque 39.27 114 ⇓P **P** **09 45 54.8 +1.8**
ANMO pP **pP** **09 46 24.3 +1.6**
ANMO sP **sP** **09 46 39.8 +2.0**
ANMO ScP **ScP** **09 51 36.3 +1.3**
SCIA State Center 39.31 95 P **P** **09 45 54.5 +1.3**
SCIA IAmb IAmb 09 46 24.9
comp=Z,151nm,1.6s
SCIA State Center 39.31 95 P **P** **09 45 53.8 +0.7**
baz=323
214A Organ Pipe Nat 39.38 124 IAmb IAmb 09 45 57.0
comp=Z,73nm,0.9s
214A Organ Pipe Nat 39.38 124 P **P** **09 45 55.7 +1.9**
baz=334,SNR=45
SFX San Felipe 39.45 127 IAmb IAmb 09 45 57.5
comp=Z,55nm,1.0s
ICESG Greenland Ices 39.48 32 *i* P **P** **09 45 54.7 +0.1**
ICESG IAmb IAmb 09 45 56.8
comp=Z,35nm,0.8s
PIX Pinacate 39.49 125 IAmb IAmb 09 45 57.8
comp=Z,57nm,1.0s
R32A Long Quarter, 39.66 103 P **P** **09 45 56.9 +0.7**
R32A Long Quarter, 39.66 103 P **P** **09 45 57.3 +1.1**
baz=326,SNR=65
I42A Draeger Farm, 39.71 89 P **P** **09 45 57.3 +0.9**
baz=321
Y22D IRIS PASSCAL I 39.83 116 IAmb IAmb 09 46 01.3
comp=Z,71nm,0.8s
Y22D IRIS PASSCAL I 39.83 116 P **P** **09 46 00.3 +2.6**
baz=330
Y22D IRIS PASSCAL I 39.83 116 P **P** **09 45 59.5 +1.8**
baz=330
Y22F Passcal Instru 39.83 116 P **P** **09 45 59.6 +1.8**
baz=330
TUC Tucson 39.84 121 P **P** **09 45 57.7 0.0**
TUC IAmb IAmb 09 46 01.0
comp=Z,38nm,0.9s
TUC Tucson 39.84 121 P **P** **09 45 59.8 +2.0**
baz=333
TUC Tucson 39.84 121 P **P** **09 45 57.7 0.0**
TUC pmax pmax
comp=Z,38nm,1.0s
TUC Tucson 39.84 121 P **P** **09 45 59.7 +2.0**
TUC pP **pP** **09 46 29.4 +2.1**
TUC sP **sP** **09 46 45.0 +2.6**
TUC ScP **ScP** **09 51 38.1 +1.1**
JFWS Jewell Farm 39.86 91 P **P** **09 45 58.1 +0.4**
JFWS IAmb IAmb 09 46 28.7
comp=Z,31nm,0.7s
JFWS Jewell Farm 39.86 91 P **P** **09 45 58.0 +0.4**
baz=322
JFWS Jewell Farm 39.86 91 P **P** **09 45 58.2 +0.4**
baz=322
JFWS Jewell Farm 39.86 91 P **P** **09 45 58.1 +0.4**
JFWS pmax pmax
comp=Z,31nm,0.7s
E46A Sault Ste Mari 39.90 82 P **P** **09 45 58.4 +0.5**
baz=319,SNR=9.7
Y22A Socorro 39.93 116 P **P** **09 46 00.6 +2.0**
baz=331,SNR=55
KSU1 Kansas State U 40.04 101 P **P** **09 45 59.8 +0.6**
baz=325,SNR=65
KSU1 Kansas State U 40.04 101 P **P** **09 46 00.0 +0.7**
baz=325,SNR=65
L40A Anamosa 40.09 93 P **P** **09 45 59.3 -0.3**
L40A Anamosa 40.09 93 P **P** **09 45 59.9 +0.3**
baz=322,SNR=15
N38A Joes South For 40.19 96 P **P** **09 45 59.6 -0.9**
N38A IAmb IAmb 09 46 01.8
comp=Z,52nm,0.9s
N38A Joes South For 40.19 96 P **P** **09 46 00.8 +0.3**
baz=324,SNR=7.2
G45A Suttons Bay 40.30 85 P **P** **09 46 02.1 +0.8**
baz=320
G45A P **P** **09 46 02.1 +0.8**
baz=320
I45A Fountain 40.81 86 P **P** **09 46 06.3 +0.8**
baz=321
I45A P **P** **09 46 06.3 +0.8**
baz=321
121A Cookes Peak, D 40.82 118 P **P** **09 46 08.2 +2.2**
baz=332,SNR=23
121A Cookes Peak, D 40.82 118 P **P** **09 46 08.3 +2.4**
baz=332,SNR=23
L42A Oliver, Polo 40.85 91 IAmb IAmb 09 46 07.2
comp=Z,89nm,1.1s
L42A Oliver, Polo 40.85 91 P **P** **09 46 06.1 +0.3**
baz=322,SNR=5.3
K43A Burlington 40.90 90 P **P** **09 46 06.6 +0.4**
baz=322
GLMI Grayling 40.94 84 P **P** **09 46 04.6 -1.9**
GLMI IAmb IAmb 09 46 38.5
comp=Z,63nm,1.0s
GLMI Grayling 40.94 84 P **P** **09 46 07.0 +0.5**
baz=321
GLMI Grayling 40.94 84 P **P** **09 46 07.2 +0.7**
baz=321
ZEA Zeya 40.97 296 *e*P **P** **09 46 06.2 -0.4**
ZEA *e* 09 55 52.7
ZEA pmax pmax
comp=E,30nm,1.1s
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,140nm,1.0s
P38A Dawn 41.00 97 P **P** **09 46 06.2 -0.9**
P38A IAmb IAmb 09 46 08.6
comp=Z,49nm,0.9s
P38A Dawn 41.00 97 P **P** **09 46 07.2 +0.1**
baz=324,SNR=19
KAN06 Argonia West S 41.02 103 P **P** **09 46 06.9 -0.4**
KAN06 IAmb IAmb 09 46 08.9
comp=Z,66nm,1.0s
SCHQ Schefferville 41.13 61 P **P** **09 46 09.1 +1.1**
comp=Z,6.8nm,0.5s,baz=307,slow=7.3,SNR=36
SCHQ PcP **PcP** **09 48 04.5 -0.2**
comp=Z,8.2nm,0.6s,baz=287,slow=6.2,SNR=4.0
SCHQ LR LR 10 03 29.2
comp=Z,133nm,18.1s,baz=25,slow=36
comp=Z,6.8nm,0.5s
KAN14 Manchester OK 41.21 104 P **P** **09 46 08.2 -0.7**
KAN14 IAmb IAmb 09 46 10.5
comp=Z,71nm,1.1s
OK032 Salt Plains WL 41.23 104 **P** **09 46 09.6 +0.6**
OK032 IAmb IAmb 09 46 10.8
comp=Z,52nm,0.8s
U32A Winter Ranch, 41.24 105 P **P** **09 46 10.0 +0.9**
baz=327,SNR=25
319A Douglas 41.25 120 IAmb IAmb 09 46 12.7
comp=Z,88nm,1.0s
ELIS Ellis County 41.32 106 IAmb IAmb 09 46 12.0
comp=Z,49nm,0.8s
AMTX Amarillo 41.34 109 IAmb IAmb 09 46 12.3
comp=Z,63nm,0.9s
AMTX Amarillo 41.34 109 P **P** **09 46 11.1 +1.1**
baz=329,SNR=25
AMTX Amarillo 41.34 109 P **P** **09 46 11.1 +1.1**
baz=329
N41A Harden Midland 41.34 94 IAmb IAmb 09 46 11.2
comp=Z,96nm,1.1s
N41A Harden Midland 41.34 94 P **P** **09 46 09.9 +0.1**
baz=323,SNR=7.0
L44A Lake County Fo 41.51 90 P **P** **09 46 10.9 -0.3**
L44A IAmb IAmb 09 46 13.0
comp=Z,99nm,1.1s
L44A Lake County Fo 41.51 90 P **P** **09 46 11.7 +0.5**
baz=322
L44A Lake County Fo 41.51 90 P **P** **09 46 11.6 +0.4**
baz=322
ASAJ Asahikawa 41.51 275 P **P** **09 46 10.0 -1.2**
comp=Z,12nm,0.8s,baz=9.5,slow=12,SNR=5.9
comp=Z,12nm,0.8s
NRIK Noril'sk 41.55 333 P **P** **09 46 11.3 +0.2**
comp=Z,124nm,1.1s,baz=53,slow=6.6,SNR=72
NRIK ScP **ScP** **09 51 42.0 -1.1**
comp=Z,8.6nm,1.0s,baz=39,slow=2.9,SNR=5.9
NRIK LR LR 10 05 52.6
comp=Z,166nm,20.2s,baz=26,slow=40
comp=Z,124nm,1.1s
NRIK Noril'sk 41.55 333 P **P** **09 46 11.4 +0.2**
CROK Carrier 41.58 104 **P** **09 46 12.2 +0.3**
CROK IAmb IAmb 09 46 13.4
comp=Z,53nm,0.7s
MSTX Muleshoe 41.65 111 P **P** **09 46 13.7 +1.1**
MSTX Muleshoe 41.65 111 P **P** **09 46 13.8 +1.1**
baz=329,SNR=49
MSTX Muleshoe 41.65 111 P **P** **09 46 13.7 +1.1**
baz=329,SNR=49
P40A Paris 41.75 96 P **P** **09 46 13.4 +0.2**
P40A IAmb IAmb 09 46 14.5
comp=Z,65nm,0.7s
P40A Paris 41.75 96 P **P** **09 46 13.5 +0.2**
baz=324,SNR=25
T35A Sooner Cattle 41.89 102 P **P** **09 46 14.5 +0.1**
T35B Sooner Cattle 41.89 102 P **P** **09 46 14.7 +0.3**
baz=326,SNR=30
M44A Midewin, Midew 42.07 90 IAmb IAmb 09 46 17.4
comp=Z,76nm,0.8s
M44A Midewin, Midew 42.07 90 P **P** **09 46 16.4 +0.6**
baz=323,SNR=9.0
J47A Sunmer 42.08 86 P **P** **09 46 16.7 +0.9**
J47A P **P** **09 46 16.7 +0.9**
baz=322
HDIL Hopedale 42.17 92 IAmb IAmb 09 46 18.0
comp=Z,77nm,0.8s
HDIL Hopedale 42.17 92 P **P** **09 46 16.9 +0.3**
baz=323,SNR=11
HDIL Hopedale 42.17 92 P **P** **09 46 16.9 +0.3**
baz=324,SNR=11
OK029 Liberty Lake 42.40 104 IAmb IAmb 09 46 20.1
comp=Z,72nm,0.8s
KLR Kul'dur 42.42 289 P **P** **09 46 17.7 -0.8**
comp=Z,60nm,1.0s,baz=35,slow=8.5,SNR=152
comp=Z,60nm,1.0s
KLR Kul'dur 42.42 289 *ce*P **P** **09 46 17.8 -0.8**
KLR pmax pmax
comp=Z,118nm,1.2s
QUOK Quay 42.42 103 IAmb IAmb 09 46 20.0
comp=Z,48nm,0.8s
BCOK Bluff Creek, N 42.45 104 **P** **09 46 19.8 +0.8**
BCOK IAmb IAmb 09 46 20.6
comp=Z,58nm,0.9s
OK053 SW of W Deep R 42.52 103 IAmb IAmb 09 46 20.8
comp=Z,51nm,0.8s
MNTX Cornudas Mount 42.53 116 P **P** **09 46 21.3 +1.7**
MNTX IAmb IAmb 09 46 22.9
comp=Z,66nm,1.2s
MNTX Cornudas Mount 42.53 116 P **P** **09 46 21.1 +1.5**
baz=331,SNR=60
MNTX Cornudas Mount 42.53 116 P **P** **09 46 21.4 +1.8**
baz=331,SNR=60
OK031 S. Brethren Rd 42.55 103 P **P** **09 46 19.9 +0.2**
OK031 IAmb IAmb 09 46 21.1
comp=Z,79nm,0.8s
OK025 Westminster Rd 42.64 104 IAmb IAmb 09 46 21.9
comp=Z,96nm,0.9s
R40A Maddies Statio 42.66 97 P **P** **09 46 20.2 -0.4**
baz=325,SNR=34
S39A Bolivar 42.67 99 P **P** **09 46 20.0 -0.7**
baz=326,SNR=27
HSIG 42.71 124 P **P** **09 46 22.8 +1.8**
HSIG IAmb IAmb 09 46 24.0
comp=Z,73nm,1.0s
WMOK Wichita Mounta 42.71 106 IAmb IAmb 09 46 23.1
comp=Z,76nm,1.1s
WMOK Wichita Mounta 42.71 106 P **P** **09 46 21.6 +0.5**
baz=328,SNR=62
WMOK Wichita Mounta 42.71 106 P **P** **09 46 22.0 +0.9**
baz=328,SNR=62
DEOK Depew 42.79 103 IAmb IAmb 09 46 23.1
comp=Z,80nm,0.9s
P43A Skaggs, Pawnee 42.80 93 P **P** **09 46 21.8 0.0**
baz=324,SNR=5.9
O44A Mansfield 42.87 92 IAmb IAmb 09 46 23.4
comp=Z,39nm,0.8s
O44A Mansfield 42.87 92 P **P** **09 46 22.5 +0.3**
baz=324
ERM Erimo 42.91 273 *ce*P **P** **09 46 22.3 -0.2**
ERM pmax pmax
comp=Z,111nm,1.3s
ERM Erimo 42.91 273 P **P** **09 46 22.4 -0.1**
ERM pP **pP** **09 46 53.9 +1.6**
ERM ScP **ScP** **09 51 49.1 +0.1**
MHA Mahukona 43.02 187 P **P** **09 46 23.3 -0.3**
MHA Mahukona 43.02 187 P **P** **09 46 23.3 -0.3**
BOD Bodaibo 43.02 309 *e*P **P** **09 46 22.0 -1.3**
BOD pmax pmax
comp=Z,168nm,1.4s
TUL1 Leonard 43.05 102 P **P** **09 46 23.8 0.0**
baz=327,SNR=20
TUL1 Leonard 43.05 102 P **P** **09 46 24.1 +0.3**
baz=327,SNR=20
RLO Rose Lookout 43.17 101 IAmb IAmb 09 46 25.9
comp=Z,97nm,0.6s
W35A Tecumseh 43.20 104 IAmb IAmb 09 46 26.4
comp=Z,62nm,0.7s
U38A Gravette 43.23 101 P **P** **09 46 24.8 -0.4**
U38A Gravette 43.23 101 P **P** **09 46 24.9 -0.4**
baz=326,SNR=58
X34A Smith Ranch, M 43.24 106 IAmb IAmb 09 46 27.5
comp=Z,112nm,1.7s
L48A N Adams 43.27 87 IAmb IAmb 09 46 27.5
comp=Z,102nm,1.1s
L48A N Adams 43.27 87 P **P** **09 46 26.3 +0.8**
baz=323,SNR=8.5
L48A P **P** **09 46 26.3 +0.8**
baz=323,SNR=8.5
SLM Saint Louis 43.29 95 P **P** **09 46 26.2 +0.5**
SLM IAmb IAmb 09 46 27.1
comp=Z,93nm,1.0s
SLM Saint Louis 43.29 95 P **P** **09 46 26.0 +0.4**
baz=325
SLM Saint Louis 43.29 95 P **P** **09 46 26.2 +0.5**
SLM pmax pmax
comp=Z,93nm,1.0s
SFIN Lafayette 43.31 91 P **P** **09 46 26.3 +0.5**
SFIN IAmb IAmb 09 46 27.5
comp=Z,50nm,0.9s
SFIN Lafayette 43.31 91 P **P** **09 46 26.3 +0.5**
baz=324,SNR=5.7
SFIN Lafayette 43.31 91 P **P** **09 46 26.0 +0.2**
baz=324,SNR=5.7
CCM Cathedral Cave 43.31 96 P **P** **09 46 25.7 -0.1**
CCM Cathedral Cave 43.31 96 P **P** **09 46 25.3 -0.5**
baz=325,SNR=18
CCM Cathedral Cave 43.31 96 P **P** **09 46 25.2 -0.7**
baz=325
CCM Cathedral Cave 43.31 96 P **P** **09 46 25.7 -0.1**
CCM pmax pmax
comp=Z,29nm,0.9s
CCM Cathedral Cave 43.31 96 P **P** **09 46 25.2 -0.7**
CCM ScP **ScP** **09 51 50.2 -0.5**
AAM Ann Arbor 43.34 86 P **P** **09 46 25.6 -0.4**
baz=322
K50A Casco 43.44 85 P **P** **09 46 27.7 +0.9**
baz=322
K50A P **P** **09 46 27.7 +0.9**
baz=322
SADO Sadowa 43.44 80 P **P** **09 46 27.1 +0.3**
comp=Z,5.7nm,0.9s,baz=327,slow=13,SNR=2.2
SADO ScP **ScP** **09 51 50.7 -0.5**
comp=Z,8.1nm,0.8s,baz=343,slow=7.7,SNR=3.6
SADO LR LR 10 04 19.4
comp=Z,186nm,19.0s,baz=300,slow=36
comp=Z,5.7nm,0.9s
HEH HeiHe 43.49 293 *e*P **P** **09 46 25.5 -1.6**
HEH pmax pmax
comp=Z,130nm,1.3s
HEH pmax pmax
comp=Z,350nm,5.0s
N47A Urbana 43.55 89 IAmb IAmb 09 46 28.9
comp=Z,57nm,0.8s
N47A Urbana 43.55 89 P **P** **09 46 27.7 0.0**
baz=323,SNR=9.9
N47A P **P** **09 46 27.7 0.0**
baz=323,SNR=9.9
HHAR Hobbs 43.56 100 P **P** **09 46 27.1 -0.7**
HHAR IAmb IAmb 09 46 28.2
comp=Z,33nm,0.7s
Q44A Meyer Farm, Va 43.63 94 P **P** **09 46 28.6 +0.2**
Q44A IAmb IAmb 09 46 29.7
comp=Z,58nm,0.8s
Q44A Meyer Farm, Va 43.63 94 P **P** **09 46 28.5 +0.2**
baz=324,SNR=15
FVM French Village 43.74 96 P **P** **09 46 30.1 +0.8**
baz=325
P46A Rosedale 43.87 91 P **P** **09 46 30.8 +0.5**
baz=324,SNR=7.9
U40A Yellville 43.99 99 P **P** **09 46 30.6 -0.6**
baz=326,SNR=27
U40A P **P** **09 46 30.6 -0.6**
baz=326,SNR=27
ABTX Abilene, Hawle 44.14 109 P **P** **09 46 33.0 +0.4**
ABTX IAmb IAmb 09 46 35.0
comp=Z,119nm,1.6s
ABTX Abilene, Hawle 44.14 109 P **P** **09 46 32.9 +0.4**
baz=329,SNR=9.7
ABTX Abilene, Hawle 44.14 109 P **P** **09 46 33.1 +0.4**
baz=329,SNR=9.7
OLIL Olney 44.18 93 IAmb IAmb 09 46 34.3
comp=Z,98nm,0.9s
OLIL Olney 44.18 93 P **P** **09 46 33.1 +0.4**
baz=325,SNR=23
N49A Columbus Grove 44.20 87 P **P** **09 46 33.3 +0.4**
N49A IAmb IAmb 09 46 34.4
comp=Z,81nm,1.2s
N49A Columbus Grove 44.20 87 P **P** **09 46 33.2 +0.4**
baz=323,SNR=9.1
N49A P **P** **09 46 33.2 +0.4**
baz=323,SNR=9.1
T42A Van Buren 44.22 97 P **P** **09 46 32.6 -0.5**
T42A IAmb IAmb 09 46 33.7
comp=Z,35nm,0.6s
T42A Van Buren 44.22 97 P **P** **09 46 32.5 -0.6**
baz=326,SNR=31
LATQ La Tuque 44.23 72 P **P** **09 46 33.7 +0.7**
O48B Farmland 44.29 89 P **P** **09 46 33.1 -0.5**
baz=324,SNR=12
O48B Farmland 44.29 89 P **P** **09 46 33.2 -0.5**
baz=324,SNR=12
X37A Clayton 44.34 103 P **P** **09 46 34.7 +0.6**
baz=328,SNR=17
TRQ Mont Tremblant 44.35 75 P **P** **09 46 34.3 +0.2**
FW03 Perrin-Whitt E 44.47 107 P **P** **09 46 36.1 +1.0**
FW03 IAmb IAmb 09 46 36.8
comp=Z,63nm,0.8s
SIUC Southern Illin 44.51 95 P **P** **09 46 35.2 -0.1**
S44A Carbondale 44.51 95 P **P** **09 46 35.3 -0.1**
S44A Carbdale 44.51 95 P **P** **09 46 35.6 +0.3**
baz=325,SNR=30
BLO Bloomington 44.55 91 P **P** **09 46 35.4 -0.2**
BLO Bloomington 44.55 91 P **P** **09 46 35.4 -0.2**
BLO pmax pmax
comp=Z,34nm,0.9s
Z35A Perchaven, San 44.58 106 IAmb IAmb 09 46 37.7
comp=Z,86nm,1.2s
Z35A Perchaven, San 44.58 106 P **P** **09 46 36.4 +0.4**
baz=329,SNR=7.4
O49A Covington 44.72 88 IAmb IAmb 09 46 38.2
comp=Z,55nm,1.1s
O49A Covington 44.72 88 P **P** **09 46 36.9 -0.1**
baz=324,SNR=12
O49A P **P** **09 46 36.9 -0.1**
baz=324,SNR=12
PBMO Poplar Bluff 44.73 97 P **P** **09 46 37.1 0.0**
baz=326,SNR=23
P48A Milroy 44.81 90 P **P** **09 46 37.2 -0.6**
baz=324
P48A P **P** **09 46 37.2 -0.6**
baz=324
JTM Tenmabayashi 44.83 273 P **P** **09 46 38.0 +0.1**
LCAR Lake Charles 44.99 98 P **P** **09 46 38.8 -0.4**
LCAR IAmb IAmb 09 46 39.7
comp=Z,70nm,1.4s
LCAR Lake Charles 44.99 98 P **P** **09 46 38.6 -0.6**
baz=326,SNR=14
USIN University of 45.01 93 P **P** **09 46 39.7 +0.4**
MEDO Medina 45.01 81 P **P** **09 46 38.3 -1.0**
MEDO IAmb IAmb 09 46 41.9
comp=Z,132nm,1.9s
N51A Ashland 45.02 86 P **P** **09 46 38.6 -0.8**
N51A IAmb IAmb 09 46 41.7
comp=Z,85nm,1.4s
N51A Ashland 45.02 86 P **P** **09 46 40.1 +0.6**
baz=323,SNR=7.1
N51A P **P** **09 46 40.1 +0.6**
baz=323,SNR=7.1
P49A Miami Univ. Ec 45.07 89 P **P** **09 46 39.5 -0.4**
baz=324
P49A Miami Univ. Ec 45.07 89 P **P** **09 46 39.2 -0.7**
baz=324
PARMO Parma 45.13 96 IAmb IAmb 09 46 41.5
comp=Z,79nm,1.0s
ERPA Erie 45.15 83 P **P** **09 46 40.7 +0.3**
baz=323
MIAR Mount Ida 45.17 101 IAmb IAmb 09 46 42.1
comp=Z,63nm,0.9s
MIAR Mount Ida 45.17 101 P **P** **09 46 40.8 +0.1**
baz=327,SNR=42
MIAR Mount Ida 45.17 101 P **P** **09 46 41.0 +0.3**
baz=327,SNR=42
ACSO Alum Creek Sta 45.30 87 P **P** **09 46 41.0 -0.6**
ACSO Alum Creek Sta 45.30 87 P **P** **09 46 42.0 +0.4**
baz=324,SNR=11
ACSO Alum Creek Sta 45.30 87 P **P** **09 46 41.8 +0.2**
baz=324,SNR=11
TX31 Lajitas Ar. Si 45.31 115 P **P** **09 46 43.0 +1.1**
TX31 Lajitas Ar. Si 45.31 115 P **P** **09 46 43.2 +1.3**
baz=332,SNR=99
TX32 Lajitas Array 45.31 115 P **P** **09 46 43.0 +1.1**
TX32 IAmb IAmb 09 46 44.8
comp=Z,56nm,0.9s
TXAR Lajitas Array 45.31 115 P **P** **09 46 43.5 +1.5**
comp=Z,47nm,1.0s,baz=328,slow=6.0,SNR=308
TXAR pP **pP** **09 47 12.6 +0.6**
comp=Z,7.2nm,0.6s,baz=337,slow=8.8,SNR=4.0
TXAR ScP **ScP** **09 51 59.7 +0.6**
comp=Z,1.4nm,0.8s,baz=253,slow=1.3,SNR=7.4
TXAR PKiKP **PKiKP** **09 55 18.2 +1.7**
comp=Z,0.2nm,0.5s,baz=163,slow=1.5,SNR=6.2
comp=Z,47nm,1.0s
TXAR Lajitas Array 45.31 115 P **P** **09 46 41.1 -0.8**
T45B Paducah 45.34 95 P **P** **09 46 42.2 +0.2**
baz=326,SNR=11
M53A WI Miller and 45.38 84 IAmb IAmb 09 46 44.2
comp=Z,120nm,1.4s
M53A WI Miller and 45.38 84 P **P** **09 46 43.0 +0.7**
baz=323,SNR=6.2
WCI Wyandotte Cave 45.41 92 P **P** **09 46 42.2 -0.3**
WCI IAmb IAmb 09 46 44.1
comp=Z,48nm,0.9s
WCI Wyandotte Cave 45.41 92 P **P** **09 46 42.3 -0.3**
baz=325,SNR=16
WCI Wyandotte Cave 45.41 92 P **P** **09 46 42.3 -0.3**
baz=325
WCI Wyandotte Cave 45.41 92 P **P** **09 46 42.2 -0.3**
WCI pmax pmax
comp=Z,48nm,0.9s
WCI Wyandotte Cave 45.41 92 P **P** **09 46 42.1 -0.4**
WCI pP **pP** **09 47 13.3 +0.5**
BMNY Brushton-Moira 45.45 76 P **P** **09 46 42.0 -0.7**
baz=322
ALLY Alegheny Colle 45.45 83 IAmb IAmb 09 47 30.5
comp=Z,70nm,0.8s
ALLY Alegheny Colle 45.45 83 P **P** **09 46 43.4 +0.6**
baz=323
HICK Hickman 45.47 96 P **P** **09 46 43.4 +0.4**
UALR University of 45.53 100 P **P** **09 46 43.3 -0.2**

UALR IAmb IAmb 09 46 44.4
comp=Z,50nm,0.8s
WVNY West Valley, N 45.54 81 P **P** **09 46 43.7 +0.2**
baz=323
X40A Basin Creek Fa 45.55 101 P **P** **09 46 43.3 -0.3**
baz=327,SNR=12
X40A P **P** **09 46 43.3 -0.3**
baz=327,SNR=12
GNAR Gosnell 45.59 97 P **P** **09 46 44.5 +0.6**
LONY Lake Ozonia 45.59 76 P **P** **09 46 43.9 +0.1**
LONY Lake Ozonia 45.59 76 P **P** **09 46 43.3 -0.5**
baz=322
WCNY West Carthage 45.62 78 P **P** **09 46 44.2 +0.2**
baz=322
WHTX Lake Whitney, 45.63 107 IAmb IAmb 09 46 46.0
comp=Z,58nm,1.1s
WHTX Lake Whitney, 45.63 107 P **P** **09 46 44.7 +0.4**
baz=329,SNR=7.7
WHTX Lake Whitney, 45.63 107 P **P** **09 46 44.8 +0.5**
baz=329,SNR=7.7
Z38A Mt. Pleasant 45.63 104 IAmb IAmb 09 46 46.2
comp=Z,96nm,1.8s
Z38A Mt. Pleasant 45.63 104 P **P** **09 46 44.8 +0.5**
baz=328,SNR=8.2
HBAR Harrisburg 45.64 98 P **P** **09 46 45.5 +1.2**
HBAR IAmb IAmb 09 46 46.1
comp=Z,60nm,0.9s
GLAT Glass 45.67 96 P **P** **09 46 44.5 0.0**
GLAT IAmb IAmb 09 46 46.0
comp=Z,99nm,1.2s
N53A Lisbon 45.81 85 IAmb IAmb 09 46 47.4
comp=Z,44nm,0.6s
N53A Lisbon 45.81 85 P **P** **09 46 46.2 +0.6**
baz=323,SNR=13
N53A P **P** **09 46 46.2 +0.6**
baz=323,SNR=13
FRNY Flat Rock 45.86 75 P **P** **09 46 45.3 -0.6**
FRNY Flat Rock 45.86 75 P **P** **09 46 45.3 -0.6**
baz=322
P51A Williamsport 45.87 88 P **P** **09 46 46.2 +0.1**
baz=324,SNR=5.6
P51A P **P** **09 46 46.2 +0.1**
baz=324,SNR=5.6
R49A Shelbyville 45.87 91 P **P** **09 46 45.6 -0.5**
baz=325
R49A P **P** **09 46 45.6 -0.5**
baz=325
O52A Adamsville 45.91 86 P **P** **09 46 46.6 +0.1**
O52A IAmb IAmb 09 46 47.9
comp=Z,61nm,1.2s
O52A Adamsville 45.91 86 P **P** **09 46 46.5 +0.1**
baz=324,SNR=8.4
O52A P **P** **09 46 46.5 +0.1**
baz=324,SNR=8.4
JCT Junction City 45.92 111 P **P** **09 46 47.8 +1.1**
JCT IAmb IAmb 09 46 49.8
comp=Z,114nm,1.1s
JCT Junction City 45.92 111 P **P** **09 46 47.6 +1.1**
baz=331,SNR=36
JCT Junction City 45.92 111 P **P** **09 46 47.8 +1.1**
baz=331,SNR=36
JCT Junction City 45.92 111 P **P** **09 46 47.8 +1.1**
JCT pmax pmax
comp=Z,114nm,1.1s
PAMR Moraine State 46.04 84 P **P** **09 46 48.0 +0.5**
baz=323
T47A Sharon Grove 46.06 93 IAmb IAmb 09 46 49.2
comp=Z,47nm,0.7s
T47A Sharon Grove 46.06 93 P **P** **09 46 48.0 +0.4**
baz=326,SNR=26
D62A Allapoint, All 46.07 70 P **P** **09 46 48.2 +0.7**
D62A Allapoint, All 46.07 70 P **P** **09 46 48.0 +0.5**
baz=321
D62A P **P** **09 46 48.0 +0.5**
baz=321
O53A New Philadelph 46.09 85 P **P** **09 46 48.0 +0.2**
O53A New Philadelph 46.09 85 P **P** **09 46 47.9 +0.1**
baz=324,SNR=5.9
WLAR White Oak Lake 46.10 102 IAmb IAmb 09 46 49.7
comp=Z,96nm,1.1s
Q51A Peebles 46.11 88 IAmb IAmb 09 46 49.3
comp=Z,48nm,0.8s
Q51A Peebles 46.11 88 P **P** **09 46 48.1 +0.1**
baz=324,SNR=17
Q51A P **P** **09 46 48.1 +0.1**
baz=324,SNR=17
P52A Corning 46.17 87 IAmb IAmb 09 46 49.5
comp=Z,68nm,1.2s
P52A Corning 46.17 87 P **P** **09 46 48.1 -0.3**
baz=324,SNR=7.8
USA0B Ussuriysk Arra 46.20 284 P **P** **09 46 48.2 -0.4**
USA0B IAmb IAmb 09 46 49.1
comp=Z,59nm,1.2s
USA0B Ussuriysk Arra 46.20 284 P **P** **09 46 48.2 -0.4**
USA0B pmax pmax
comp=Z,59nm,1.3s
USRK Ussuriysk Ar. 46.20 284 P **P** **09 46 48.0 -0.6**
comp=Z,22nm,1.1s,baz=53,slow=7.4,SNR=31
USRK PcP **PcP** **09 48 22.2 +0.2**
comp=Z,1.9nm,0.6s,baz=16,slow=4.9,SNR=2.0
USRK LR LR 10 06 13.9
comp=Z,105nm,21.2s,baz=11,slow=36
comp=Z,22nm,1.1s
USRK Ussuriysk Ar. 46.20 284 P **P** **09 46 47.5 -1.1**
M55A Ridgway 46.22 82 IAmb IAmb 09 47 20.9
comp=Z,43nm,0.8s
M55A Ridgway 46.22 82 P **P** **09 46 49.4 +0.6**
baz=323,SNR=6.2
M55A P **P** **09 46 49.4 +0.6**
baz=323,SNR=6.2
K57A Scipio Center 46.22 79 P **P** **09 46 49.1 +0.2**
baz=323
E62A Clayton Lake 46.23 71 P **P** **09 46 49.3 +0.5**
baz=322
E62A P **P** **09 46 49.3 +0.5**
baz=322
L56A Greenwood 46.23 81 P **P** **09 46 49.2 +0.2**
baz=323
L56A P **P** **09 46 49.2 +0.2**
baz=323
NCB Newcomb 46.26 77 P **P** **09 46 48.8 -0.3**
baz=322
R50A Paris 46.27 90 P **P** **09 46 49.1 0.0**
R50A Paris 46.27 90 P **P** **09 46 49.2 0.0**
baz=325,SNR=8.1
R50A P **P** **09 46 49.2 0.0**
baz=325,SNR=8.1
J58A Remsen 46.27 78 P **P** **09 46 49.3 0.0**
baz=322
J58A P **P** **09 46 49.3 0.0**
baz=322
237A Washetta, Mont 46.34 105 P **P** **09 46 50.7 +0.9**
baz=329
UPAO U. Pittsburgh 46.44 84 P **P** **09 46 51.0 +0.5**
baz=324
WVT Waverly 46.44 95 P **P** **09 46 50.4 -0.2**
WVT IAmb IAmb 09 46 52.3
comp=Z,48nm,1.0s
WVT Waverly 46.44 95 P **P** **09 46 51.2 +0.6**
baz=326,SNR=25
WVT Waverly 46.44 95 P **P** **09 46 51.1 +0.4**
baz=326
WVT Waverly 46.44 95 P **P** **09 46 50.4 -0.2**
WVT pmax pmax
comp=Z,48nm,1.0s
WVT Waverly 46.44 95 P **P** **09 46 51.0 +0.4**
WVT pP **pP** **09 47 21.5 +0.4**
WVT ScP **ScP** **09 52 03.6 -0.1**
HAMF Hammerfest 46.48 2 *eP* **P** **09 46 49.4 -1.0**
PSDB Penn State Uni 46.49 83 P **P** **09 46 52.0 +1.0**
baz=323
CCAR Cane Creek 46.51 100 P **P** **09 46 50.9 -0.2**
CCAR Cane Creek 46.51 100 P **P** **09 46 51.7 +0.6**
baz=328
O54A Avella 46.52 85 P **P** **09 46 51.2 0.0**
O54A IAmb IAmb 09 47 24.2
comp=Z,50nm,0.7s
O54A Avella 46.52 85 P **P** **09 46 51.7 +0.5**
baz=324,SNR=12
O54A P **P** **09 46 51.7 +0.5**
baz=324,SNR=12
J59A Piesco 46.53 77 P **P** **09 46 51.0 -0.3**
F62A Pittston Farm, 46.60 72 P **P** **09 46 52.0 +0.2**
baz=322
F62A P **P** **09 46 52.0 +0.2**
baz=322
Z41A Richland Creek 46.60 102 IAmb IAmb 09 46 52.8
comp=Z,102nm,1.1s
Z41A Richland Creek 46.60 102 P **P** **09 46 51.5 -0.4**
baz=328,SNR=11
Z41A P **P** **09 46 51.5 -0.4**
baz=328,SNR=11
435B Jarrell 46.61 108 IAmb IAmb 09 46 54.0
comp=Z,100nm,1.6s
435B Jarrell 46.61 108 P **P** **09 46 52.8 +0.7**
baz=330
435B Jarrell 46.61 108 P **P** **09 46 52.6 +0.6**
baz=330
VT1 Waterbury 46.62 75 P **P** **09 46 52.0 +0.1**
baz=322
P53A Whipple 46.62 86 P **P** **09 46 51.7 -0.2**
P53A IAmb IAmb 09 46 53.3
comp=Z,74nm,1.4s
P53A Whipple 46.62 86 P **P** **09 46 52.0 0.0**
baz=324,SNR=9.3
P53A P **P** **09 46 52.0 0.0**
baz=324,SNR=9.3
HPIG 46.62 119 IAmb IAmb 09 46 55.1
comp=Z,41nm,0.8s
W45A Hickory Valley 46.63 97 P **P** **09 46 53.2 +1.1**
W45A Hickory Valley 46.63 97 P **P** **09 46 52.8 +0.6**
baz=327,SNR=20
Q52A Bidwell 46.65 87 P **P** **09 46 52.0 -0.2**
Q52A IAmb IAmb 09 46 53.2
comp=Z,43nm,0.8s
Q52A Bidwell 46.65 87 P **P** **09 46 52.0 -0.2**
baz=324,SNR=14
Q52A P **P** **09 46 52.0 -0.2**
baz=324,SNR=14
MCVT Middlebury Col 46.81 76 P **P** **09 46 52.9 -0.6**
baz=322
E63A Oxbow 46.85 70 P **P** **09 46 53.2 -0.5**
baz=322
E63A P **P** **09 46 53.2 -0.5**
baz=322
BINY Binghamton 46.88 80 P **P** **09 46 54.2 +0.2**
baz=323
BINY Binghamton 46.88 80 P **P** **09 46 53.8 -0.2**
baz=323
G62A West of Eustis 46.89 73 P **P** **09 46 54.2 +0.2**
baz=322
G62A P **P** **09 46 54.2 +0.2**
baz=322
MDJ Mudanjiang 46.92 286 P **P** **09 46 53.5 -0.7**
MDJ pP pP 09 47 24.5 0.0
MDJ sP sP 09 47 40.0 +0.7
MDJ PcS **PcS** **09 52 18.5 -1.1**
MDJ S **S** **09 53 34.5 -0.4**
MDJ sS sS 09 54 28.5 0.0
MDJ ScS **ScS** **09 56 34.0 -0.4**
MDJ pmax pmax
comp=Z,85nm,1.1s
MDJ pmax pmax
comp=Z,270nm,3.5s
MDJ Mudanjiang 46.92 286 IAmb IAmb 09 46 55.1
comp=Z,90nm,1.1s
MDJ Mudanjiang 46.92 286 P **P** **09 46 53.7 -0.5**
ACCN Adirondack Com 46.97 77 P **P** **09 46 54.9 +0.3**
baz=323
BNX BinXian 46.99 289 ⇑P **P** **09 46 54.0 -0.7**
BNX pmax pmax
comp=Z,53nm,1.0s
BNX pmax pmax
comp=Z,190nm,4.1s
NATX Nacogdoches 47.05 104 P **P** **09 46 54.6 -0.8**
NATX IAmb IAmb 09 46 57.4
comp=Z,58nm,0.9s
NATX Nacogdoches 47.05 104 P **P** **09 46 56.0 +0.7**
baz=329,SNR=8.1
NATX Nacogdoches 47.05 104 P **P** **09 46 56.1 +0.7**
baz=329,SNR=8.1
VADS Vadso 47.05 360 *eP* **P** **09 46 55.1 +0.2**
VADS IAmb IAmb 09 46 55.2
comp=Z,94nm,0.9s
U49A Red Boiling Sp 47.05 92 P **P** **09 46 55.8 +0.5**
U49A IAmb IAmb 09 46 57.0
comp=Z,101nm,1.0s
U49A Red Boiling Sp 47.05 92 P **P** **09 46 55.8 +0.5**
baz=326,SNR=39
LBNH Lisbon 47.06 75 P **P** **09 46 55.2 -0.1**
baz=322
M57A Sunshine Farm, 47.06 81 P **P** **09 46 55.6 +0.2**
baz=323
M57A P **P** **09 46 55.6 +0.2**
baz=323
T50A Nancy 47.07 91 P **P** **09 46 54.8 -0.7**
T50A Nancy 47.07 91 P **P** **09 46 55.9 +0.5**
baz=326
T50A P **P** **09 46 55.9 +0.5**
baz=326
OXF Oxford 47.07 97 P **P** **09 46 56.3 +0.8**
baz=327,SNR=29
OXF Oxford 47.07 97 P **P** **09 46 56.2 +0.8**
baz=327,SNR=29
S51A Beattyville 47.12 90 P **P** **09 46 55.3 -0.6**
S51A Beattyville 47.12 90 P **P** **09 46 55.9 0.0**
baz=325,SNR=9.0
S51A P **P** **09 46 55.9 0.0**
baz=325,SNR=9.0
F63A Nahmakanta, Br 47.13 71 P **P** **09 46 56.1 +0.3**
F63A Nahmakanta, Br 47.13 71 P **P** **09 46 56.0 +0.1**
baz=322
F63A P **P** **09 46 56.0 +0.1**
baz=322
H62A Milan 47.13 74 P **P** **09 46 55.9 0.0**
baz=322
H62A P **P** **09 46 55.9 0.0**
baz=322
CLTN Cedars of Leba 47.15 93 P **P** **09 46 56.4 +0.2**
CLTN IAmb IAmb 09 46 58.1
comp=Z,91nm,1.0s
MCWV Mont Chateau 47.18 85 IAmb IAmb 09 46 58.2
comp=Z,75nm,1.2s
MCWV Mont Chateau 47.18 85 P **P** **09 46 56.8 +0.5**
baz=324,SNR=7.0
MCWV Mont Chateau 47.18 85 P **P** **09 46 56.6 +0.3**
baz=324,SNR=7.0
V48A Smith Brothers 47.22 94 IAmb IAmb 09 46 58.5
comp=Z,72nm,1.1s
V48A Smith Brothers 47.22 94 P **P** **09 46 57.1 +0.4**
baz=326,SNR=22
SSPA Standing Stone 47.28 82 P **P** **09 46 57.5 +0.4**
SSPA Standing Stone 47.28 82 P **P** **09 46 57.3 +0.2**
baz=324,SNR=5.0
SSPA Standing Stone 47.28 82 P **P** **09 46 57.4 +0.3**
baz=324
SSPA Standing Stone 47.28 82 P **P** **09 46 57.2 +0.2**
SSPA pP **pP** **09 47 27.8 +0.3**
SSPA ScP **ScP** **09 52 07.3 +0.2**
PLAL Pickwick Lake 47.28 96 P **P** **09 46 57.5 +0.3**
PLAL IAmb IAmb 09 46 58.8
comp=Z,81nm,1.1s
Q54A Coxs Mills 47.28 86 P **P** **09 46 57.5 +0.4**
Q54A Coxs Mills 47.28 86 P **P** **09 46 57.3 +0.2**
baz=324,SNR=5.8
Q54A P **P** **09 46 57.3 +0.2**
baz=324,SNR=5.8
R53A Hurricane 47.31 88 P **P** **09 46 57.4 +0.1**
R53A IAmb IAmb 09 46 58.7
comp=Z,42nm,0.8s
R53A Hurricane 47.31 88 P **P** **09 46 57.4 +0.1**
baz=325,SNR=7.7
R53A P **P** **09 46 57.4 +0.1**
baz=325,SNR=7.7
JMM Marumori 47.32 271 P **P** **09 46 57.4 0.0**
JMM Marumori 47.32 271 P **P** **09 46 57.6 +0.2**
F64A Sherman 47.32 70 P **P** **09 46 57.2 -0.1**
F64A Sherman 47.32 70 P **P** **09 46 57.4 0.0**
baz=322
F64A P **P** **09 46 57.4 0.0**
baz=322
TRO Tromso 47.35 5 *eP* **P** **09 46 57.6 +0.4**
PKME Peaks-Kenny Pk 47.39 72 P **P** **09 46 58.4 +0.6**
PKME Peaks-Kenny Pk 47.39 72 P **P** **09 46 58.0 +0.1**
baz=322
PKME Peaks-Kenny Pk 47.39 72 P **P** **09 46 57.8 -0.1**
baz=322
KEV Kevo 47.41 1 P **P** **09 46 57.4 -0.3**
KEV IAmb IAmb 09 46 58.1
comp=Z,71nm,0.8s
KEV Kevo 47.41 1 P **P** **09 46 57.4 -0.3**
KEV pmax pmax
comp=Z,71nm,0.8s
KEV Kevo 47.41 1 P **P** **09 46 57.3 -0.4**
HIA Hailar 47.41 297 P **P** **09 46 58.1 +0.1**
HIA Hailar 47.41 297 P **P** **09 46 58.1 +0.1**
HIA pmax pmax
comp=Z,160nm,0.9s
HIA Hailar 47.41 297 P **P** **09 46 58.1 +0.1**
HIA pP **pP** **09 47 28.6 +0.3**
HIA sP **sP** **09 47 44.3 +1.2**
JETT Jettan, Norway 47.48 4 *eP* **P** **09 46 58.8 +0.5**
JETT IAmb IAmb 09 46 59.1
comp=Z,80nm,0.8s
KSPA Keystone Colle 47.49 80 P **P** **09 46 58.1 -0.6**
KSPA IAmb IAmb 09 48 34.3
comp=Z,121nm,1.8s
Y45A Yeager Farm, C 47.55 98 P **P** **09 46 59.2 0.0**
Y45A Yeager Farm, C 47.55 98 P **P** **09 47 00.2 +1.0**
baz=327,SNR=31
ARA0 ARCESS Array S 47.62 2 *eP* **P** **09 46 59.0 -0.4**
ARCES ARCESS Array B 47.62 2 P **P** **09 46 58.1 -1.2**
comp=Z,24nm,0.7s,baz=359,slow=7.7,SNR=88
ARCES PcP **PcP** **09 48 25.4 -1.3**
comp=Z,19nm,1.0s,baz=348,slow=3.1,SNR=3.2
comp=Z,24nm,0.7s
ARCES ARCESS Array B 47.62 2 P **P** **09 46 58.9 -0.4**
ARCES IAmb IAmb 09 46 59.7
comp=Z,65nm,1.0s
N58A Sunbury 47.64 81 P **P** **09 47 00.2 +0.3**
baz=324
N58A P **P** **09 47 00.2 +0.3**
baz=324
143A Socs Landing, 47.70 101 P **P** **09 47 00.9 +0.6**
143A Socs Landing, 47.70 101 P **P** **09 47 01.6 +1.2**
baz=328,SNR=25
I63A Otisfield 47.80 74 P **P** **09 47 01.6 +0.6**
baz=323
I63A P **P** **09 47 01.6 +0.6**
baz=323
SLBS Sierra La Lagu 47.91 126 P **P** **09 47 03.0 +0.8**
SLBS Sierra La Lagu 47.91 126 P **P** **09 47 04.0 +1.7**
SLBS pP **pP** **09 47 34.5 +1.8**
SLBS ScP **ScP** **09 52 11.2 +1.2**
833A Chaparral WMA, 47.97 112 P **P** **09 47 03.7 +1.2**
baz=331,SNR=6.0
833A Chaparral WMA, 47.97 112 P **P** **09 47 03.7 +1.2**
baz=331,SNR=6.0
Q56A Snyder Ridge, 47.98 85 P **P** **09 47 01.7 -0.8**
Q56A IAmb IAmb 09 47 35.9
comp=Z,65nm,1.2s
Q56A Snyder Ridge, 47.98 85 P **P** **09 47 03.1 +0.6**
baz=324,SNR=5.1
Q56A P **P** **09 47 03.1 +0.6**
baz=324,SNR=5.1
S54A Dingess, Beckl 48.03 88 P **P** **09 47 02.3 -0.6**
S54A Dingess, Beckl 48.03 88 P **P** **09 47 03.0 0.0**
baz=325,SNR=5.6
S54A P **P** **09 47 03.0 0.0**
baz=325,SNR=5.6
TZTN Tazewell 48.04 90 IAmb IAmb 09 47 04.8
comp=Z,40nm,0.9s
TZTN Tazewell 48.04 90 P **P** **09 47 03.5 +0.5**
baz=326,SNR=8.7
TZTN Tazewell 48.04 90 P **P** **09 47 03.2 +0.2**
baz=326,SNR=8.7
NPNY Mohonk Preserv 48.06 78 P **P** **09 47 03.4 +0.3**
baz=324
SWET Sewanee 48.06 94 IAmb IAmb 09 47 04.3
comp=Z,33nm,0.7s
HKT Hockley 48.09 107 P **P** **09 47 03.8 +0.5**
HKT IAmb IAmb 09 47 06.8
comp=Z,129nm,1.6s
HKT Hockley 48.09 107 P **P** **09 47 04.3 +1.0**
baz=330
HKT Hockley 48.09 107 P **P** **09 47 03.8 +0.5**
HKT pmax pmax
comp=Z,129nm,1.7s
HKT Hockley 48.09 107 P **P** **09 47 04.4 +1.0**
HKT pP **pP** **09 47 35.5 +1.7**
HKT ScP **ScP** **09 52 10.7 +0.1**
KTK1 Kautokeino 48.10 3 *eP* **P** **09 47 02.8 -0.2**
KTK1 IAmb IAmb 09 47 03.2
comp=Z,70nm,0.9s
L61B Northampton 48.15 77 P **P** **09 47 04.2 +0.4**
baz=323
P57A Homestead Farm 48.16 83 P **P** **09 47 03.9 0.0**
P57A IAmb IAmb 09 47 37.2
comp=Z,114nm,1.4s
P57A Homestead Farm 48.16 83 P **P** **09 47 04.4 +0.6**
baz=324,SNR=8.3
P57A P **P** **09 47 04.4 +0.6**
baz=324,SNR=8.3
K62A Royalston 48.18 76 P **P** **09 47 04.0 +0.1**
baz=323
K62A P **P** **09 47 04.0 +0.1**
baz=323
R55A Marlinton 48.18 86 P **P** **09 47 04.6 +0.5**
baz=325
R55A P **P** **09 47 04.6 +0.5**
baz=325
735A Kenedy 48.19 110 IAmb IAmb 09 47 07.3
comp=Z,54nm,1.2s
735A Kenedy 48.19 110 P **P** **09 47 05.1 +0.9**
baz=331
G65A Princeton 48.19 70 P **P** **09 47 04.5 +0.5**
baz=323
G65A P **P** **09 47 04.5 +0.5**
baz=323
X48A Hartselle 48.19 95 P **P** **09 47 04.3 +0.2**
baz=327,SNR=14
V51A Loudon 48.29 92 P **P** **09 47 04.2 -0.7**
V51A Loudon 48.29 92 P **P** **09 47 05.3 +0.4**
baz=326,SNR=9.5
W50A Signal Mountai 48.35 93 P **P** **09 47 04.8 -0.7**
W50A IAmb IAmb 09 47 07.0
comp=Z,54nm,1.2s
W50A Signal Mountai 48.35 93 P **P** **09 47 05.7 +0.2**
baz=326,SNR=13
342A Flagon Creek P 48.41 102 IAmb IAmb 09 47 08.4
comp=Z,92nm,1.0s
342B Flagon Creek P 48.41 102 P **P** **09 47 07.3 +1.4**
baz=329,SNR=8.0
VBMS Vicksburg 48.50 100 P **P** **09 47 07.8 +1.3**
baz=328
VBMS Vicksburg 48.50 100 P **P** **09 47 07.0 +0.4**
baz=328
GGN Saint George 48.56 70 P **P** **09 47 06.2 -0.6**
GGN IAmb IAmb 09 47 06.9
comp=Z,152nm,1.8s
441A DeRidder 48.56 104 IAmb IAmb 09 47 09.8
comp=Z,60nm,0.8s
441A DeRidder 48.56 104 P **P** **09 47 08.4 +1.4**
baz=329
LOF Lofoten 48.58 8 *eP* **P** **09 47 07.0 +0.3**
LOF IAmb IAmb 09 47 07.4
comp=Z,32nm,0.7s
HRV Adam Dziewonsk 48.60 76 P **P** **09 47 06.4 -0.8**
baz=324
V52A Sevierville 48.60 91 P **P** **09 47 08.0 +0.7**
V52A Sevierville 48.60 91 P **P** **09 47 07.8 +0.5**
baz=326,SNR=7.7
EMMW East Machias 48.62 71 P **P** **09 47 07.6 +0.3**
baz=323
TKL Tuckaleechee C 48.67 91 P **P** **09 47 08.1 +0.3**
baz=326,SNR=10
PAL Palisades 48.77 79 P **P** **09 47 08.2 -0.2**
baz=324
Z47A Carrollton 48.78 97 P **P** **09 47 09.1 +0.5**
baz=328,SNR=21
146A Union 48.80 98 P **P** **09 47 09.7 +0.9**
146A Union 48.80 98 P **P** **09 47 10.1 +1.2**
baz=328,SNR=17
LMN Caledonia Moun 48.84 68 P **P** **09 47 08.9 -0.1**
U54A Nelsons Funny 48.85 89 P **P** **09 47 09.3 0.0**
U54A IAmb IAmb 09 47 11.0
comp=Z,47nm,0.8s
U54A Nelsons Funny 48.85 89 P **P** **09 47 09.9 +0.6**
baz=326,SNR=11
U54A P **P** **09 47 09.9 +0.6**
baz=326,SNR=11
WUPA West Chester U 48.88 81 P **P** **09 47 09.7 +0.4**
STEI Steigen 48.88 7 *eP* **P** **09 47 09.1 +0.2**
STEI IAmb IAmb 09 47 09.4
comp=Z,114nm,1.1s
BLA Blacksburg 48.92 87 P **P** **09 47 09.9 +0.2**
BLA Blacksburg 48.92 87 P **P** **09 47 10.1 +0.4**
baz=325
BLA Blacksburg 48.92 87 P **P** **09 47 09.9 +0.2**
baz=325

BLA	**Blacksburg**	**48.92**	**87**	P	**P**	**09 47 09.9**	**+0.2**
BLA				pmax	pmax		
	comp=Z,26nm,0.8s						
PSUB	**Penn St. - Bra**	**48.95**	**81**	P	**P**	**09 47 09.7**	**-0.2**
	baz=324						
Y49A	**Blount Mountai**	**48.97**	**95**	P	**P**	**09 47 09.8**	**-0.4**
Y49A				IAmb	IAmb	09 47 11.8	
	comp=Z,58nm,1.2s						
Y49A	**Blount Mountai**	**48.97**	**95**	P	**P**	**09 47 10.2**	**+0.1**
	baz=327,SNR=9.6						
344A	**Westbrook Farm**	**49.06**	**101**	IAmb	IAmb	09 47 13.5	
	comp=Z,69nm,1.1s						
344A	**Westbrook Farm**	**49.06**	**101**	P	**P**	**09 47 11.8**	**+1.0**
	baz=329,SNR=8.3						
W52A	**Murphy**	**49.07**	**92**	P	**P**	**09 47 11.7**	**+0.8**
W52A				IAmb	IAmb	09 47 12.6	
	comp=Z,36nm,0.8s						
W52A	**Murphy**	**49.07**	**92**	P	**P**	**09 47 11.3**	**+0.4**
	baz=326,SNR=12						
X51A	**Calhoun**	**49.09**	**93**	P	**P**	**09 47 11.2**	**+0.2**
X51A				IAmb	IAmb	09 47 12.6	
	comp=Z,40nm,0.8s						
X51A	**Calhoun**	**49.09**	**93**	P	**P**	**09 47 11.4**	**+0.4**
	baz=327,SNR=9.3						
X51A				P	**P**	**09 47 11.4**	**+0.4**
	baz=327,SNR=9.3						
V53A	**Saluda**	**49.10**	**90**	P	**P**	**09 47 11.7**	**+0.5**
V53A	**Saluda**	**49.10**	**90**	P	**P**	**09 47 11.5**	**+0.3**
	baz=326,SNR=12						
V53A				P	**P**	**09 47 11.5**	**+0.3**
	baz=326,SNR=12						
S57A	**Dark Hollow, R**	**49.13**	**85**	P	**P**	**09 47 12.0**	**+0.7**
	baz=325						
S57A				P	**P**	**09 47 12.0**	**+0.7**
	baz=325						
LVZ	**Lovozero**	**49.22**	**357**	P	**P**	**09 47 11.1**	**-0.6**
LVZ	**Lovozero**	**49.22**	**357**	*ce*P	**P**	**09 47 11.4**	**-0.3**
LVZ				pmax	pmax		
	comp=Z,155nm,1.7s						
LVZ	**Lovozero**	**49.22**	**357**	P	**P**	**09 47 11.2**	**-0.4**
LVZ				pP	**pP**	**09 47 40.5**	**-1.5**
CN2	**Changchun**	**49.37**	**289**	*e*P	**P**	**09 47 12.5**	**-0.5**
CN2				pmax	pmax		
	comp=Z,100nm,1.3s						
LRAL	**Lakeview Retre**	**49.40**	**96**	P	**P**	**09 47 13.0**	**-0.4**
	baz=328,SNR=6.0						
LRAL	**Lakeview Retre**	**49.40**	**96**	P	**P**	**09 47 13.3**	**0.0**
	baz=328,SNR=6.0						
FAUS	**Fauske**	**49.43**	**7**	*e*P	**P**	**09 47 12.9**	**-0.2**
FAUS				IAmb	IAmb	09 47 14.1	
	comp=Z,107nm,1.2s						
R58B	**Mineral**	**49.45**	**84**	IAmb	IAmb	09 47 47.6	
	comp=Z,161nm,1.9s						
R58B	**Mineral**	**49.45**	**84**	P	**P**	**09 47 15.0**	**+1.2**
	baz=325,SNR=7.8						
R58B				P	**P**	**09 47 15.0**	**+1.2**
	baz=325,SNR=7.8						
CBN	**Corbin Frederi**	**49.48**	**84**	IAmb	IAmb	09 47 15.7	
	comp=Z,45nm,0.7s						
CBN	**Corbin Frederi**	**49.48**	**84**	P	**P**	**09 47 14.8**	**+0.9**
	baz=325						
CBN	**Corbin Frederi**	**49.48**	**84**	P	**P**	**09 47 14.4**	**+0.5**
	baz=325						
APA	**Apatity**	**49.58**	**358**	⇓*i*P	**P**	**09 47 11.0**	**-3.3**
APA				pmax	pmax		
	comp=Z,46nm,0.7s						
APA				MLR	MLR		
	comp=Z,3μm,11.0s						
MJB9	**Matsu-Tunnel**	**49.58**	**273**	P	**P**	**09 47 15.4**	**+0.6**
MJB9				IAmb	IAmb	09 47 16.9	
	comp=Z,60nm,0.9s						
MJAR	**Matsushiro Arr**	**49.58**	**273**	P	**P**	**09 47 14.8**	**+0.1**
	comp=Z,36nm,1.1s,baz=13,slow=7.5,SNR=40						
MJAR				ScP	**ScP**	**09 52 15.7**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=359,slow=4.0,SNR=4.5						
	comp=Z,36nm,1.1s						
MAJO	**Matsushiro**	**49.58**	**273**	P	**P**	**09 47 14.5**	**-0.3**
MAJO				IAmb	IAmb	09 47 15.9	
	comp=Z,63nm,0.9s						
MAJO	**Matsushiro**	**49.58**	**273**	P	**P**	**09 47 14.5**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,63nm,1.0s						
MAJO	**Matsushiro**	**49.58**	**273**	P	**P**	**09 47 14.9**	**+0.2**
CASEE	**Lake Jocassee**	**49.61**	**91**	P	**P**	**09 47 15.9**	**+0.9**
	baz=326,SNR=6.1						
T57A	**Hurt**	**49.62**	**86**	P	**P**	**09 47 15.4**	**+0.4**
	baz=326						
T57A				P	**P**	**09 47 15.4**	**+0.4**
	baz=326						
U56A	**King**	**49.65**	**88**	P	**P**	**09 47 16.0**	**+0.7**
	baz=326						
U56A				P	**P**	**09 47 16.0**	**+0.7**
	baz=326						
V55A	**Taylorsville**	**49.68**	**89**	P	**P**	**09 47 16.1**	**+0.7**
	baz=326,SNR=6.7						
V55A				P	**P**	**09 47 16.1**	**+0.7**
	baz=326,SNR=6.7						
346A	**Big Creek Wild**	**49.68**	**100**	IAmb	IAmb	09 47 17.7	
	comp=Z,86nm,1.2s						
Z51A	**Franklin**	**49.99**	**94**	IAmb	IAmb	09 47 19.2	
	comp=Z,69nm,1.1s						
Z51A	**Franklin**	**49.99**	**94**	P	**P**	**09 47 18.1**	**+0.2**
	baz=327,SNR=12						
Y52A	**Lilburn**	**50.03**	**93**	P	**P**	**09 47 18.9**	**+0.7**
	baz=327,SNR=29						
Y52A				P	**P**	**09 47 18.9**	**+0.7**
	baz=327,SNR=29						
KONS	**Konsvik**	**50.17**	**8**	*e*P	**P**	**09 47 19.2**	**+0.4**
KMSC	**Kings Mountain**	**50.21**	**89**	P	**P**	**09 47 19.9**	**+0.4**
	baz=326,SNR=5.9						
KMSC	**Kings Mountain**	**50.21**	**89**	P	**P**	**09 47 19.7**	**+0.2**
	baz=326,SNR=5.9						
PAULI	**Pauline**	**50.26**	**90**	P	**P**	**09 47 20.1**	**+0.3**
PAULI				IAmb	IAmb	09 47 21.2	
	comp=Z,47nm,1.1s						
PAULI	**Pauline**	**50.26**	**90**	P	**P**	**09 47 20.3**	**+0.4**
	baz=326,SNR=9.4						
STOK	**Stokkvaagen**	**50.33**	**8**	*e*P	**P**	**09 47 20.5**	**+0.6**
T59A	**Double "B" Far**	**50.41**	**85**	P	**P**	**09 47 21.6**	**+0.6**
	baz=326						
T59A				P	**P**	**09 47 21.6**	**+0.6**
	baz=326						
HODGE	**Hodges**	**50.55**	**91**	IAmb	IAmb	09 47 23.5	
	comp=Z,29nm,0.8s						
HODGE	**Hodges**	**50.55**	**91**	P	**P**	**09 47 22.5**	**+0.5**
	baz=327,SNR=12						
MOR8	**Moi Rana**	**50.58**	**8**	*e*P	**P**	**09 47 20.5**	**-1.4**
250A	**Grady**	**50.62**	**96**	IAmb	IAmb	09 47 23.7	
	comp=Z,47nm,1.1s						
250A	**Grady**	**50.62**	**96**	P	**P**	**09 47 22.5**	**-0.1**
	baz=328						
T60A	**Surry**	**50.65**	**84**	P	**P**	**09 47 22.5**	**-0.2**
	baz=326						
T60A				P	**P**	**09 47 22.5**	**-0.2**
	baz=326						
V58A	**Windy Hill, Pi**	**50.68**	**87**	P	**P**	**09 47 23.5**	**+0.5**
	baz=326						
V58A				P	**P**	**09 47 23.5**	**+0.5**
	baz=326						
152A	**Waverly Hall**	**50.74**	**94**	IAmb	IAmb	09 47 24.5	
	comp=Z,57nm,1.2s						
152A	**Waverly Hall**	**50.74**	**94**	P	**P**	**09 47 23.2**	**-0.3**
	baz=328,SNR=13						
JGF	**Kuroka**	**50.75**	**273**	P	**P**	**09 47 23.8**	**+0.2**
JGF				IAmb	IAmb	09 47 25.0	
	comp=Z,71nm,0.9s						
JGF	**Kuroka**	**50.75**	**273**	P	**P**	**09 47 24.3**	**+0.7**
W57A	**Gilead**	**50.81**	**88**	P	**P**	**09 47 24.1**	**+0.2**
W57A	**Gilead**	**50.81**	**88**	P	**P**	**09 47 24.3**	**+0.3**
	baz=326						
W57A				P	**P**	**09 47 24.3**	**+0.3**
	baz=326						
U59A	**Littleton**	**50.82**	**86**	IAmb	IAmb	09 47 56.2	
	comp=Z,55nm,1.4s						
U59A	**Littleton**	**50.82**	**86**	P	**P**	**09 47 24.9**	**+0.9**
	baz=326,SNR=5.5						
U59A				P	**P**	**09 47 24.9**	**+0.9**
	baz=326,SNR=5.5						
IRK	**Irkutsk**	**50.86**	**310**	*e*P	**P**	**09 47 23.7**	**-0.5**
IRK				pmax	pmax		
	comp=Z,178nm,1.5s						
BRAL	**Brewton**	**50.95**	**97**	P	**P**	**09 47 26.1**	**+1.0**
BRAL	**Brewton**	**50.95**	**97**	P	**P**	**09 47 25.9**	**+0.9**
	baz=328						
BRAL	**Brewton**	**50.95**	**97**	P	**P**	**09 47 25.8**	**+0.7**
	baz=328						
JSC	**Jenkinsville**	**50.96**	**90**	IAmb	IAmb	09 47 37.5	
	comp=Z,26nm,0.7s						
JSC	**Jenkinsville**	**50.96**	**90**	P	**P**	**09 47 25.6**	**+0.5**
	baz=327,SNR=8.2						
BIRD	**Birdtown, Kers**	**51.02**	**89**	P	**P**	**09 47 26.1**	**+0.5**
	baz=327						
INU	**Inuyama**	**51.11**	**273**	P	**P**	**09 47 25.6**	**-0.6**
INU				IAmb	IAmb	09 47 26.0	
	comp=Z,73nm,1.6s						
INU	**Inuyama**	**51.11**	**273**	P	**P**	**09 47 26.0**	**-0.2**
154A	**Montrose**	**51.52**	**93**	P	**P**	**09 47 29.8**	**+0.5**
154A				IAmb	IAmb	09 47 30.3	
	comp=Z,54nm,0.9s						
154A	**Montrose**	**51.52**	**93**	P	**P**	**09 47 29.1**	**-0.1**
	baz=328						
Y57A	**Sumter**	**51.58**	**89**	P	**P**	**09 47 30.3**	**+0.6**
	baz=327						
Y57A				P	**P**	**09 47 30.3**	**+0.6**
	baz=327						
HHU	**Hamhung**	**51.60**	**284**	P	**P**	**09 47 29.5**	**-0.3**
HHU				AmB			
	comp=Z,244nm,1.5s						
X58A	**Rowland**	**51.61**	**88**	P	**P**	**09 47 30.7**	**+0.8**
	baz=327						
X58A				P	**P**	**09 47 30.7**	**+0.8**
	baz=327						
352A	**Blakely**	**51.65**	**95**	P	**P**	**09 47 29.8**	**-0.4**
	baz=328						
CNNC	**Cliffs of the**	**51.70**	**86**	P	**P**	**09 47 31.1**	**+0.5**
	baz=326						
CNNC	**Cliffs of the**	**51.70**	**86**	P	**P**	**09 47 31.0**	**+0.5**
	baz=326						
NSS	**Namsos**	**52.04**	**9**	*e*P	**P**	**09 47 32.2**	**-0.6**
TIGA	**Tifton**	**52.29**	**94**	IAmb	IAmb	09 47 35.9	
	comp=Z,98nm,1.6s						
TIGA	**Tifton**	**52.29**	**94**	P	**P**	**09 47 34.9**	**-0.1**
	baz=328						
TIGA	**Tifton**	**52.29**	**94**	P	**P**	**09 47 34.8**	**-0.2**
	baz=328						
255A	**Hazlehurst**	**52.38**	**93**	IAmb	IAmb	09 47 36.5	
	comp=Z,86nm,1.2s						
255A	**Hazlehurst**	**52.38**	**93**	P	**P**	**09 47 35.9**	**+0.2**
	baz=328						
NHSC	**New Hope**	**52.43**	**90**	P	**P**	**09 47 36.7**	**+0.7**
	baz=327						
NHSC	**New Hope**	**52.43**	**90**	P	**P**	**09 47 36.1**	**+0.1**
	baz=327						
MOY	**Mondy**	**52.47**	**312**	*e*P	**P**	**09 47 37.1**	**+0.8**
MOY				pmax	pmax		
	comp=Z,183nm,2.3s						
ZAK	**Zakamensk**	**52.76**	**309**	*e*P	**P**	**09 47 38.4**	**0.0**
ZAK				pmax	pmax		
	comp=Z,27nm,1.1s						
SUJ	**Sinuiju**	**52.79**	**287**	P	**P**	**09 47 38.0**	**-0.6**
SUJ				S	**S**	**09 54 59.9**	**+3.5**
SUJ				AmB			
	comp=Z,464nm,2.6s						
ADZR	**Andozero**	**53.09**	**355**	*e*P	**P**	**09 47 39.6**	**-0.8**
ADZR				pmax	pmax		
	comp=Z,95nm,0.8s						
PYAG	**Pyongyang**	**53.10**	**285**	P	**P**	**09 47 40.2**	**-0.7**
PYAG				pP	pP	09 47 58.7	-13
PYAG				S	**S**	**09 55 04.4**	**+3.7**
PYAG				AmB			
	comp=Z,236nm,1.3s						
JHS	**Saijyo**	**53.17**	**276**	P	**P**	**09 47 41.8**	**+0.3**
JHS	**Saijyo**	**53.17**	**276**	P	**P**	**09 47 41.9**	**+0.4**
XLT	**XiLinHaoTe**	**53.23**	**296**	⇑*i*P	**P**	**09 47 42.0**	**+0.1**
XLT				pmax	pmax		
	comp=Z,47nm,1.0s						
XLT				pmax	pmax		
	comp=Z,220nm,4.9s						
KS19	**Wonju Array Si**	**53.45**	**282**	P	**P**	**09 47 44.3**	**+0.8**
KSRS	**Korea Array**	**53.47**	**282**	P	**P**	**09 47 44.2**	**+0.7**
	comp=Z,58nm,1.0s,baz=32,slow=7.0,SNR=113						
KSRS				LR	LR	10 12 01.8	
	comp=Z,47nm,18.1s,baz=35,slow=38						
	comp=Z,58nm,1.0s						
ULN	**Ulaanbaatar**	**53.49**	**305**	P	**P**	**09 47 44.5**	**+0.6**
ULN				IAmb	IAmb	09 47 45.6	
	comp=Z,53nm,0.8s						
ULN	**Ulaanbaatar**	**53.49**	**305**	P	**P**	**09 47 44.5**	**+0.6**
ULN	**Ulaanbaatar**	**53.49**	**305**	P	**P**	**09 47 44.3**	**+0.5**
ULN				pP	**pP**	**09 48 15.2**	**+0.5**
KSAR	**Wonju Array Be**	**53.49**	**282**	P	**P**	**09 47 44.1**	**+0.4**
KSAR	**Wonju Array Be**	**53.49**	**282**	P	**P**	**09 47 44.2**	**+0.4**
456A	**Hilliard**	**53.60**	**93**	P	**P**	**09 47 45.5**	**+0.9**
	baz=328						
SONM	**Songino Array**	**53.76**	**305**	P	**P**	**09 47 46.8**	**+1.0**
	comp=Z,59nm,0.9s,baz=23,slow=6.5,SNR=332						
SONM				LR	LR	10 10 43.0	
	comp=Z,132nm,18.2s,baz=13,slow=36						
	comp=Z,59nm,0.9s						
SONM	**Songino Array**	**53.76**	**305**	P	**P**	**09 47 46.6**	**+0.8**
JMN	**Monobe**	**53.88**	**274**	P	**P**	**09 47 46.8**	**+0.1**
AKN	**Aaknes**	**53.94**	**13**	*e*P	**P**	**09 47 47.0**	**+0.4**
AKN				IAmb	IAmb	09 47 48.2	
	comp=Z,48nm,1.0s						
HJU	**Haeju**	**53.95**	**284**	P	**P**	**09 47 46.8**	**-0.3**
HJU				pP	pP	09 48 05.1	-13
HJU				S	**S**	**09 55 16.6**	**+4.5**
HJU				AmB			
	comp=Z,380nm,1.5s						
INCN	**Inchon**	**54.01**	**283**	P	**P**	**09 47 48.1**	**+0.5**
INCN	**Inchon**	**54.01**	**283**	P	**P**	**09 47 48.1**	**+0.5**
INCN				pmax	pmax		
	comp=Z,82nm,1.1s						
INCN	**Inchon**	**54.01**	**283**	P	**P**	**09 47 47.8**	**+0.2**
656A	**Willston**	**54.52**	**94**	P	**P**	**09 47 52.1**	**+0.8**
	baz=329						
TJN	**Taejon**	**54.61**	**282**	P	**P**	**09 47 51.9**	**0.0**
TJN	**Taejon**	**54.61**	**282**	*ce*P	**P**	**09 47 52.3**	**+0.4**
DL2	**Dalian**	**55.02**	**288**	P	**P**	**09 47 55.0**	**+0.2**
DL2				pmax	pmax		
	comp=Z,170nm,1.0s						
DL2				pmax	pmax		
	comp=Z,480nm,6.3s						
NC204	**NORSAR Array S**	**55.17**	**11**	P	**P**	**09 47 55.1**	**-0.5**
NC204				IAmb	IAmb	09 48 29.1	
	comp=Z,43nm,1.3s						
JTU	**Tsushima**	**55.24**	**279**	P	**P**	**09 47 57.6**	**+1.2**
NC303	**NORSAR Array S**	**55.27**	**10**	P	**P**	**09 47 55.9**	**-0.4**
NC303				IAmb	IAmb	09 48 30.9	
	comp=Z,42nm,1.3s						
NC405	**NORSAR Array S**	**55.41**	**10**	P	**P**	**09 47 55.8**	**-1.5**
NB2	**NORSAR Subarra**	**55.44**	**10**	P	**P**	**09 47 56.5**	**-1.0**
	comp=Z,14nm,0.8s,baz=351,slow=7.4						
NB2	**NORSAR Subarra**	**55.44**	**10**	P	**P**	**09 47 56.5**	**-1.0**
	slow=7.4						
NOA	**NORSAR Array B**	**55.44**	**10**	P	**P**	**09 47 56.6**	**-1.0**
	comp=Z,6.2nm,0.6s,baz=350,slow=7.2,SNR=40						
NOA				pP	**pP**	**09 48 28.3**	**-0.4**
	comp=Z,10nm,1.0s,baz=351,slow=7.1,SNR=5.5						
	comp=Z,6.2nm,0.6s						
ZAA0	**Zalesovo Array**	**55.44**	**324**	P	**P**	**09 47 56.9**	**-0.7**
ZALV	**Zalesovo Beam**	**55.44**	**324**	P	**P**	**09 47 56.8**	**-0.8**
	comp=Z,112nm,0.9s,baz=29,slow=6.8,SNR=263						
ZALV				pP	**pP**	**09 48 27.8**	**-0.9**
	comp=Z,9.4nm,0.6s,baz=25,slow=6.8,SNR=2.2						
	comp=Z,112nm,0.9s						
FIA1	**FINESS Array S**	**55.75**	**2**	P	**P**	**09 47 59.3**	**-0.4**
FINES	**FINESS Array B**	**55.75**	**2**	P	**P**	**09 47 59.1**	**-0.5**
	comp=Z,35nm,0.8s,baz=12,slow=9.8,SNR=65						
	comp=Z,35nm,0.8s						
JNU	**Nakatsue**	**55.75**	**277**	P	**P**	**09 47 59.7**	**-0.5**
	comp=Z,22nm,1.0s,baz=26,slow=6.1,SNR=10						
JNU				LR	LR	10 13 00.6	
	comp=Z,31nm,19.8s,baz=48,slow=37						
	comp=Z,22nm,1.0s						
JNU	**Nakatsue**	**55.75**	**277**	IAmb	IAmb	09 48 03.3	
	comp=Z,80nm,1.6s						
NC602	**NORSAR Array S**	**55.77**	**10**	P	**P**	**09 47 60.0**	**+0.2**
NC602	**NORSAR Array S**	**55.77**	**10**	*e*P	**P**	**09 48 00.3**	**+0.5**
RAF	**Rauma**	**56.07**	**4**	*e*P	**P**	**09 48 01.1**	**-0.8**
DWPF	**Disney Wildern**	**56.09**	**94**	P	**P**	**09 48 01.6**	**-0.9**
	baz=329						
KLMR	**Klimovskoe**	**56.10**	**354**	⇑*i*P	**P**	**09 48 02.1**	**-0.1**
KLMR				*e*P	**P**	**09 48 02.1**	**-0.1**
KLMR				*e*P	**P**	**09 48 02.1**	**-0.1**
KLMR				AMP		09 48 03.3	
	comp=Z,234nm,1.0s						
KLMR				*e*pP	**pP**	**09 48 32.4**	**-1.0**
KLMR				*e*sP	**sP**	**09 48 47.1**	**-0.9**
KLMR				*e*PP	**PP**	**09 50 08.1**	**+0.1**
KLMR	**Klimovskoe**	**56.10**	**354**	*c i*P	**P**	**09 48 02.1**	**-0.1**
KLMR				*e**PP	**pP**	**09 48 32.4**	**-1.0**
KLMR				*e**SP	**sP**	**09 48 47.1**	**-0.9**
KLMR				*e*		09 50 08.1	
KLMR				pmax	pmax		
	comp=Z,234nm,1.0s						
BJI	**Beijing**	**56.40**	**293**	P	**P**	**09 48 04.8**	**+0.2**
BJI				pP	**pP**	**09 48 37.0**	**+1.1**
BJI				sP	**sP**	**09 48 53.0**	**+2.6**
BJI				PcP	**PcP**	**09 48 59.5**	**-0.6**
BJI				pmax	pmax		
	comp=Z,35nm,1.1s						
BJI				pmax	pmax		
	comp=Z,140nm,3.9s						
BJT	**Baijiatuao**	**56.42**	**293**	P	**P**	**09 48 04.9**	**+0.2**
BJT	**Baijiatuao**	**56.42**	**293**	P	**P**	**09 48 05.0**	**+0.2**
BJT	**Baijiatuao**	**56.42**	**293**	P	**P**	**09 48 04.9**	**+0.2**
BJT				pmax	pmax		
	comp=Z,73nm,1.0s						
BJT	**Baijiatuao**	**56.42**	**293**	P	**P**	**09 48 04.7**	**-0.1**
BJT				pP	**pP**	**09 48 36.3**	**+0.3**
BJT				sP	**sP**	**09 48 51.8**	**+1.2**
AAL	**Aland**	**56.85**	**5**	*e*P	**P**	**09 48 06.2**	**-1.2**
MEF	**Metsahovi**	**56.95**	**3**	*e*P	**P**	**09 48 07.1**	**-1.1**
UPP	**Uppsala**	**57.05**	**7**	*e*P	**P**	**09 48 08.2**	**-0.7**
JSU	**Suzuyama**	**57.31**	**276**	P	**P**	**09 48 10.9**	**-0.2**
PUL	**Pulkovo**	**57.44**	**359**	*ce*P	**P**	**09 48 11.7**	**+0.1**
PUL				pmax	pmax		
	comp=Z,57nm,0.4s						
KIRV	**Kirov**	**57.63**	**348**	*ce*P	**P**	**09 48 13.0**	**0.0**
TLIG	**Tlapa**	**57.88**	**117**	P	**P**	**09 48 13.9**	**-1.5**
TLIG				IAmb	IAmb	09 48 17.7	
	comp=Z,116nm,1.9s						
SVE	**Sverdlovsk**	**57.92**	**340**	*d i*P	**P**	**09 48 15.1**	**0.0**
SVE				pmax	pmax		
	comp=Z,228nm,1.1s						
VIKU	**Vikbolandet**	**58.35**	**8**	*e*P	**P**	**09 48 17.6**	**-0.3**
MTSE	**Matsula**	**58.44**	**3**	*e*P	**P**	**09 48 18.1**	**-0.5**
BTO	**Baotou**	**58.45**	**298**	*e*P	**P**	**09 48 18.0**	**-1.1**
DGZ	**Jazzator, Alta**	**58.49**	**320**	*c i*P	**P**	**09 48 19.6**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,131nm,1.2s						
ARU	**Arti**	**58.62**	**341**	P	**P**	**09 48 19.7**	**-0.2**
ARU	**Arti**	**58.62**	**341**	*ce*P	**P**	**09 48 19.6**	**-0.3**
ARU				pmax	pmax		
	comp=Z,353nm,1.7s						
ARU	**Arti**	**58.62**	**341**	P	**P**	**09 48 19.6**	**-0.3**
ARU				pP	**pP**	**09 48 51.5**	**+0.1**
VSU	**Vasula**	**58.75**	**1**	*i*P	**P**	**09 48 20.6**	**-0.2**
VSU				pmax	pmax		
	comp=Z,272nm,1.1s						
VSU	**Vasula**	**58.75**	**1**	*e*P	**P**	**09 48 20.5**	**-0.2**
TIA	**Tai'an**	**59.23**	**290**	P	**P**	**09 48 24.0**	**-0.4**
TIA				pmax	pmax		
	comp=Z,29nm,1.4s						
HNS	**HongShan**	**59.24**	**292**	⇑P	**P**	**09 48 25.0**	**+0.5**
HNS				pmax	pmax		
	comp=Z,170nm,1.2s						
ESK	**Eskdalemuir**	**59.28**	**21**	P	**P**	**09 48 24.1**	**-0.4**
SLIT	**Slitere, Latvi**	**59.48**	**4**	*e*P	**P**	**09 48 25.4**	**-0.4**
BRVK	**Borovoye**	**59.75**	**333**	P	**P**	**09 48 27.2**	**-0.6**
BRVK	**Borovoye**	**59.75**	**333**	P	**P**	**09 48 27.2**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,149nm,1.1s						
BRVK	**Borovoye**	**59.75**	**333**	P	**P**	**09 48 27.0**	**-0.8**
BRVK				pP	**pP**	**09 49 00.0**	**+0.7**
BRVK				sP	**sP**	**09 49 14.3**	**+0.6**
BVA0	**Borovoye Array**	**59.76**	**332**	P	**P**	**09 48 27.0**	**-0.8**
BVAR	**Borovoye Array**	**59.76**	**332**	LR	LR	10 17 08.7	
	comp=Z,167nm,21.3s,baz=24,slow=39						
TIY	**Taiyuan**	**59.92**	**294**	*e*P	**P**	**09 48 29.5**	**+0.2**
TIY				S	**S**	**09 56 34.5**	**+3.8**
TIY				pmax	pmax		
	comp=Z,36nm,1.0s						
TIY				pmax	pmax		
	comp=Z,390nm,3.7s						
KURK	**Kurchatov**	**59.99**	**326**	P	**P**	**09 48 28.6**	**-0.8**
KURK	**Kurchatov**	**59.99**	**326**	P	**P**	**09 48 28.6**	**-0.8**
KURK				pmax	pmax		
	comp=Z,140nm,1.1s						
KURK	**Kurchatov**	**59.99**	**326**	P	**P**	**09 48 28.6**	**-0.8**
KURK				pP	**pP**	**09 49 01.3**	**+0.4**
KURBB	**Kurchatov Arra**	**60.10**	**326**	LR	LR	10 16 13.4	
	comp=Z,84nm,20.6s,baz=136,slow=38						
ZSN	**Zaisan**	**61.26**	**320**	⇑*i*P	**P**	**09 48 38.3**	**+0.1**
	comp=Z,58nm,0.8s,baz=320						
ZSN	**Zaisan**	**61.26**	**320**	*c i*P	**P**	**09 48 38.2**	**+0.1**
ZSN				pmax	pmax		
	comp=Z,58nm,0.8s						
MOS	**Moscow**	**61.30**	**354**	*e*P	**P**	**09 48 35.6**	**-2.6**
MOS				*e**PP	**pP**	**09 49 05.7**	**-4.2**
MOS				*e*		09 49 24.2	
MOS				*e*S	**S**	**09 56 49.8**	**+2.3**
MOS				pmax	pmax		
	comp=Z,291nm,1.3s						
MOS				pmax	pmax		
	comp=Z,500nm,1.6s						
ISAL	**Salakas**	**61.64**	**2**	*e*P	**P**	**09 48 41.0**	**+0.5**
PABE	**Paberze**	**61.66**	**3**	P	**P**	**09 48 40.5**	**-0.1**
PABE	**Paberze**	**61.66**	**3**	*e*P	**P**	**09 48 39.9**	**-0.7**
OBN	**Obninsk**	**61.97**	**355**	⇑P	**P**	**09 48 42.1**	**-0.6**
OBN	**Obninsk**	**61.97**	**355**	P	**P**	**09 48 42.7**	**0.0**
OBN	**Obninsk**	**61.97**	**355**	*c i*P	**P**	**09 48 42.6**	**0.0**
OBN				*e**PP	**pP**	**09 49 15.6**	**+1.2**
OBN						09 49 24.0	
OBN				*SP	**sP**	**09 49 28.0**	**-0.9**
OBN						09 51 00.0	
OBN				*e*S	S	09 57 09.5	+14
OBN				*e*SS	**SS**	**10 01 08.1**	**+8.8**
OBN				pmax	pmax		
	comp=Z,418nm,1.3s						
OBN	**Obninsk**	**61.97**	**355**	P	**P**	**09 48 42.6**	**0.0**
NJ2	**Nanjing**	**62.02**	**286**	⇑*i*P	**P**	**09 48 43.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,280nm,0.9s						
PETF	**Flores**	**62.10**	**108**	P	**P**	**09 48 44.7**	**+0.6**
JOW	**Kunigami**	**62.28**	**275**	LR	LR	10 16 58.6	
	comp=Z,32nm,21.1s,baz=142,slow=37						
JOW	**Kunigami**	**62.28**	**275**

MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,88nm,0.9s
MNK pmax pmax
comp=N,79nm,0.9s
MNK MLR MLR
comp=Z,57nm,18.0s
MNK MLR MLR
comp=E,11nm,17.0s
MNK MLR MLR
comp=N,429nm,18.0s
GTA Gaotai 63.43 305 ⇑P **P** 09 48 53.0 +0.2
GTA pP pP 09 49 25.8 +1.1
GTA pmax pmax
comp=N,130nm,0.9s
GTA pmax pmax
comp=N,150nm,5.5s
GTA LR LR
comp=N,110nm,18.5s
GTA LR LR
comp=N,150nm,17.8s
GTA LR LR
comp=N,170nm,18.9s
WMQ Urumqi 63.68 316 ⇑*i*P **P** 09 48 54.5 +0.2
WMQ pmax pmax
comp=N,94nm,1.1s
OTUK Ortayu 63.82 329 P **P** 09 48 54.5 -0.6
BELG Belogornoye 63.92 347*c i*P **P** 09 48 55.0 -0.6
BELG pmax pmax
comp=Z,96nm,0.9s
LPSR Galich'ya Gora 64.37 353 *e*P **P** 09 48 58.3 -0.2
LPSR *e*S **S** 09 57 24.6 -1.2
LPSR pmax pmax
comp=Z,240nm,1.0s
AKTO Aktyubinsk 64.51 340 P **P** 09 48 58.4 -1.1
XAN Xi'an 64.53 295 ⇑P **P** 09 48 59.0 -1.0
XAN pmax pmax
comp=Z,41nm,1.0s
LZH Lanzhou 64.80 300 ⇑*i*P **P** 09 49 02.0 +0.2
LZH pP PcP 09 49 34.5 +0.3
LZH pmax pmax
comp=Z,230nm,1.2s
LZH pmax pmax
comp=Z,530nm,4.2s
LZH LR LR
comp=Z,210nm,12.7s
LZH LR LR
comp=Z,210nm,13.4s
BSTI Sart Tilman 65.15 16 *d*P **P** 09 49 03.5 -0.2
BSTI *dx* x 09 49 37.4
MEM Membach 65.18 16 *d*P **P** 09 49 03.7 -0.1
CLL Collm 65.23 11 *i*P **P** 09 49 03.3 -0.9
comp=Z,12nm,1.1s
CLL *i* pP **pP** 09 49 36.6 +0.3
comp=Z,22nm,1.3s
CLL *e*sP **sP** 09 49 52.0 +1.2
CLL *e*S **S** 09 57 36.0 -0.4
CLL *e*PS **PnS** 09 58 16.0 +0.5
CLL *e*SS **SS** 10 01 54.0 +3.7
CLL *e*SSS SSS 10 05 12.0
CLL Collm 65.23 11 *i*P **P** 09 49 03.3 -0.9
CLL *i* *PP **pP** 09 49 36.6 +0.3
CLL *e*S **S** 09 57 36.0 -0.4
CLL pmax pmax
comp=Z,12nm,1.1s
WHN Wuhan 65.27 289 ⇑P **P** 09 49 04.8 +0.1
WHN pmax pmax
comp=Z,540nm,1.2s
WHN pmax pmax
comp=Z,2µm,3.5s
BCLA Clavier 65.28 16 *d*P **P** 09 49 04.0 -0.5
VORR Voronezh 65.28 353 P **P** 09 49 04.5 0.0
VORR *e*S **S** 09 57 38.1 +1.1
VORR pmax pmax
comp=Z,300nm,1.2s
BMRD Maredsous 65.32 17 *d*P **P** 09 49 04.1 -0.6
AB31 Akbulak array 65.34 338 *i*P **P** 09 49 04.3 -0.6
ABKAR Akbulak array 65.34 338 P **P** 09 49 04.4 -0.5
DOU Dourbes 65.50 17 *d*P **P** 09 49 06.0 +0.1
DOU *d*PcP **PcP** 09 49 37.2 +0.6
RCHB Rochefort 65.53 17 *d*P **P** 09 49 05.6 -0.5
RCHB *dx* x 09 49 39.0
VRH Novokhopyorsk 65.60 351 *e*P **P** 09 49 05.8 -0.7
VRH *e*S **S** 09 57 38.5 -2.3
VRH pmax pmax
comp=Z,140nm,1.0s
VSR Storozhevoye 65.74 353 *e*P **P** 09 49 07.0 -0.4
VSR *e*S **S** 09 57 40.2 -2.4
VSR pmax pmax
comp=Z,210nm,1.1s
BRG Berggiesshubel 65.74 10 *i*P **P** 09 49 07.5 0.0
BRG Amp 09 49 08.3
comp=Z,15nm,1.0s
BRG pP **pP** 09 49 41.0 +1.3
BRG Amp 09 49 41.7
comp=Z,14nm,0.9s
BRG Berggiesshubel 65.74 10 *i*P **P** 09 49 07.5 0.0
BRG 09 49 41.0
BRG pmax pmax
comp=Z,15nm,1.0s
BRG pmax pmax
comp=Z,14nm,0.9s
WLF Walferdange 66.13 16 *d*P **P** 09 49 08.4 -1.5
PVCC Panska Ves 66.14 10 *e*P **P** 09 49 09.9 -0.1
PVCC Panska Ves 66.14 10 *e*P **P** 09 49 09.9 -0.1
OSTC Ostas 66.23 9 *e*P **P** 09 49 10.8 +0.2
OSTC *e*pP **pP** 09 49 44.1 +1.3
NKC Novy Kostel 66.25 12 *e*P **P** 09 49 10.3 -0.4
NKC Novy Kostel 66.25 12 *e*P **P** 09 49 10.3 -0.4
UPC Upice 66.27 9 *e*P **P** 09 49 10.7 -0.1
UPC Upice 66.27 9 *e*P **P** 09 49 10.7 -0.1
BTLS Baital 66.41 327 ⇑*i*P **P** 09 49 11.3 -0.5
comp=Z,32nm,0.7s,baz=327
BTLS Baital 66.41 327*c i*P **P** 09 49 11.3 -0.5
BTLS pmax pmax
comp=Z,32nm,0.7s
DPC Dobruska-Polom 66.44 9 *e*P **P** 09 49 12.1 +0.1
DPC *e*pP **pP** 09 49 45.8 +1.6
DPC Dobruska-Polom 66.44 9 *e*P **P** 09 49 12.1 +0.1
DPC *e* 09 49 45.8
AKASG Malin Array Be 66.54 360 P **P** 09 49 11.8 -0.8
comp=Z,54nm,0.5s,baz=1.6,slow=6.3,SNR=85
AKASG pP **pP** 09 49 43.9 -0.8
comp=Z,5.3nm,0.4s,baz=1.6,slow=6.5,SNR=3.0
comp=Z,54nm,0.5s
AKASG Malin Array Be 66.54 360 P **P** 09 49 11.2 -1.4
AKBB Malin Array Si 66.54 360*ce*P **P** 09 49 11.7 -0.8
AKBB pmax pmax
comp=Z,121nm,0.8s
KPKS Kokpek 66.66 323 ⇑*i*P **P** 09 49 13.4 -0.2
comp=Z,53nm,0.8s,baz=323
KPKS Kokpek 66.66 323*c i*P **P** 09 49 13.4 -0.2
KPKS pmax pmax
comp=Z,53nm,0.8s
GRF Grafenberg Arr 66.67 12 *e*P **P** 09 49 12.6 -0.8
comp=Z,15nm,1.1s,baz=348,slow=5.8
GRF *e*pP **pP** 09 49 46.9 +1.2
PRU Pruhonice 66.67 10 *e*P **P** 09 49 13.1 -0.3
PRU *e*pP **pP** 09 49 47.0 +1.3
PRU Pruhonice 66.67 10 *e*P **P** 09 49 13.1 -0.3
PRU *e* 09 49 47.0
SHLS Shalkode 66.73 322 ⇑*i*P **P** 09 49 13.6 -0.4
comp=Z,80nm,0.9s,baz=322
SHLS Shalkode 66.73 322*c i*P **P** 09 49 13.6 -0.4
SHLS pmax pmax
comp=Z,80nm,0.9s
KRLC Kraliky 66.75 9 *e*P **P** 09 49 13.9 -0.1
KRLC *e*pP **pP** 09 49 47.4 +1.2
KRLC Kraliky 66.75 9 *e*P **P** 09 49 13.9 -0.1
KRLC *e* 09 49 47.4
CHKK Chushkaly 66.76 324 *e*P **P** 09 49 13.0 -1.2
baz=324
CHKK Chushkaly 66.76 324 *e*P **P** 09 49 12.9 -1.2
GOPC GO Pecny, Ondr 66.76 10 *e*P **P** 09 49 14.0 0.0
GOPC GO Pecny, Ondr 66.76 10 *e*P **P** 09 49 14.0 0.0
UZB Uzynbulak 66.86 322 ⇑*i*P **P** 09 49 14.7 -0.2
comp=Z,46nm,1.2s,baz=322
UZB Uzynbulak 66.86 322*c i*P **P** 09 49 14.7 -0.2
UZB pmax pmax
comp=Z,46nm,1.2s
KUU Kurty 66.89 325 *e*P **P** 09 49 13.9 -1.0
comp=Z,48nm,0.9s,baz=325
KUU Kurty 66.89 325 *e*P **P** 09 49 13.9 -1.0
KUU pmax pmax
comp=Z,48nm,0.9s
ZHN Zhinishke 67.00 323 ⇑*i*P **P** 09 49 15.5 -0.3
baz=323
ZHN Zhinishke 67.00 323*c i*P **P** 09 49 15.4 -0.3
OKC Ostrava-Krasne 67.07 8 *e*P **P** 09 49 15.4 -0.5
OKC *e*pP **pP** 09 49 48.8 +0.6
OKC Ostrava-Krasne 67.07 8 *e*P **P** 09 49 15.4 -0.5
OKC *e* 09 49 48.8
MORC Moravsky Berou 67.10 8 ⇑P **P** 09 49 15.7 -0.4
MORC Moravsky Berou 67.10 8 *e*P **P** 09 49 16.0 -0.2
MORC *e* 09 49 49.6
MORC Moravsky Berou 67.10 8 ⇑P **P** 09 49 15.7 -0.4
SATY Saty 67.11 323 ⇑*i*P **P** 09 49 16.5 0.0
baz=323
SATY Saty 67.11 323*c i*P **P** 09 49 16.4 0.0
CLF Chambon-Foret 67.20 19 P **P** 09 49 16.8 +0.1
LVV L'vov 67.35 3 *e*P **P** 09 49 17.0 -0.7
LVV *e**PP **PcP** 09 49 46.0 +1.7
LVV *e*S **SKiKP** 09 58 57.0 -5.2
LVV MLR MLR
comp=Z,560nm,16.0s
MATN Matagalpa 67.36 107 P **P** 09 49 18.4 +0.1
AAA Alma-Ata 67.38 324 *e*P **P** 09 49 17.8 -0.3
baz=324
AAA Alma-Ata 67.38 324 *e*P **P** 09 49 17.7 -0.3
MDOK Medeo 67.39 324 *i*P **P** 09 49 17.7 -0.5
baz=324
MDOK Medeo 67.39 324 *i*P **P** 09 49 17.7 -0.5
TREC Trest 67.43 10 *e*P **P** 09 49 18.5 +0.2
TREC Trest 67.43 10 *e*P **P** 09 49 18.5 +0.2
KHC Kasperske Hory 67.44 11 P **P** 09 49 18.9 +0.6
KHC Kasperske Hory 67.44 11 *e*P **P** 09 49 18.3 0.0
KHC *e*pP **pP** 09 49 52.5 +1.8
KHC Kasperske Hory 67.44 11 P **P** 09 49 18.9 +0.6
KHC pmax pmax
comp=Z,11nm,0.8s
VRAC Vranov 67.50 9 ⇑P **P** 09 49 17.8 -0.9
VRAC Vranov 67.50 9 *e*P **P** 09 49 17.4 -1.3
VRAC *e* 09 49 52.3
VRAC Vranov 67.50 9 ⇑P **P** 09 49 17.8 -0.9
MAUC Maruska 67.53 8 *e*P **P** 09 49 18.7 -0.1
TNSS Tian-Shan 67.53 324 *e*P **P** 09 49 19.0 -0.5
baz=324
TNSS Tian-Shan 67.53 324 *e*P **P** 09 49 18.9 -0.5
ENH Enshi 67.57 293 ⇑P **P** 09 49 19.0 -0.4
NACB Ninganchiao 67.58 279 P **P** 09 49 18.7 -0.8
STHS Stebnicka Huta 67.65 5 *e*P **P** 09 49 19.4 -0.2
STHS pmax pmax
comp=Z,23nm,0.7s
STHS Stebnicka Huta 67.65 5 *e*P **P** 09 49 19.4 -0.2
ECH Echery 67.68 16 P **P** 09 49 19.2 -0.6
ECH Echery 67.68 16 P **P** 09 49 19.2 -0.6
ECH pmax pmax
comp=Z,10.0nm,1.0s
ECH Echery 67.68 16 P **P** 09 49 19.5 -0.3
ECH pP **pP** 09 49 52.9 +0.7
BFO Black Forest 67.70 15 P **P** 09 49 19.5 -0.5
BFO Black Forest 67.70 15 P **P** 09 49 19.5 -0.5
BFO pmax pmax
comp=Z,14nm,1.1s
KRUC Moravsky 67.73 9 *e*P **P** 09 49 19.8 -0.3
KRUC *e* 09 49 53.7
GEC2 GERESS Array S 67.74 11 P **P** 09 49 19.8 -0.5
GERES GERESS Array B 67.74 11 P **P** 09 49 20.3 0.0
comp=Z,5.2nm,0.8s,baz=8.9,slow=7.0,SNR=24
GERES pP **pP** 09 49 52.1 -0.6
comp=Z,2.6nm,0.5s,baz=6.0,slow=7.5,SNR=5.4
comp=Z,5.2nm,0.8s
GERES GERESS Array B 67.74 11 P **P** 09 49 20.1 -0.2
SGDS Sogindy 67.75 326 ⇑*i*P **P** 09 49 20.3 -0.1
comp=Z,59nm,1.3s,baz=326
SGDS Sogindy 67.75 326*c i*P **P** 09 49 20.2 -0.1
SGDS pmax pmax
comp=Z,59nm,1.3s
CKRC Cesky Krumlov 67.81 10 *e*P **P** 09 49 19.9 -0.7
CKRC *e*pP **pP** 09 49 54.3 +1.3
LANS Liptovska Anna 67.83 7 *e*P **P** 09 49 21.8 +1.0
LANS pmax pmax
comp=Z,12nm,0.7s
LANS Liptovska Anna 67.83 7 *e*P **P** 09 49 21.8 +1.0
USP Ospenovka 67.96 326 P **P** 09 49 21.6 -0.1
SNR=49
TKM2 Tokmak 2 68.00 325 P **P** 09 49 22.2 +0.1
SNR=33
TKM2 Tokmak 2 68.00 325 *i*P **P** 09 49 21.4 -0.7
TKM2 pmax pmax
comp=Z,99nm,0.9s
JAVC Velka Javorina 68.02 8 *e*P **P** 09 49 22.8 +0.8
JAVC *e* 09 49 56.7
GOMU GeErMu 68.11 307 P **P** 09 49 23.8 +0.7
GOMU pmax pmax
comp=Z,110nm,0.9s
GOMU pmax pmax
comp=Z,140nm,5.1s
CHMS Chumysh 68.14 326 P **P** 09 49 23.1 +0.3
SNR=68
CHMS Chumysh 68.14 326 *i*P **P** 09 49 22.4 -0.4
CHMS pmax pmax
comp=Z,213nm,1.2s
CRVS Cervenica-Dubn 68.18 5 *e*P **P** 09 49 23.0 +0.1
CRVS pmax pmax
comp=Z,189nm,2.4s
CRVS Cervenica-Dubn 68.18 5 *e*P **P** 09 49 23.0 +0.1
SSLB Suanglung 68.21 280 P **P** 09 49 23.4 0.0
SSLB IAmb IAmb 09 49 26.2
comp=Z,48nm,1.1s
SMOL Smolenice 68.35 8 *e*P **P** 09 49 24.4 +0.4
SMOL pmax pmax
comp=Z,7.0nm,0.8s
YULB Yu-li 68.39 279 P **P** 09 49 24.2 -0.4
YULB IAmb IAmb 09 49 54.1
comp=Z,93nm,1.6s
KBK Karagaybulak 68.41 325 P **P** 09 49 24.9 +0.2
SNR=81
VYHS Vyhne 68.45 7 *e*P **P** 09 49 24.8 +0.2
VYHS Vyhne 68.45 7 *e*P **P** 09 49 24.8 +0.2
MODS Modra-Piesok 68.48 8 *e*P **P** 09 49 25.0 +0.2
MODS pmax pmax
comp=Z,31nm,0.9s
MODS Modra-Piesok 68.48 8 *e*P **P** 09 49 25.0 +0.2
UZH Uzhgorod 68.48 5*d i*P **P** 09 49 22.5 -2.3
UZH *e* 09 49 46.2
UZH *e* 09 49 57.4
TARG Taragay, Kyrgy 68.51 323 P **P** 09 49 25.9 +0.3
TARG IAmb IAmb 09 49 28.8
comp=Z,88nm,1.3s
TARG Taragay, Kyrgy 68.51 323 P **P** 09 49 25.9 +0.3
TARG pmax pmax
comp=Z,88nm,1.3s
AAK Ala-Archa 68.55 326 P **P** 09 49 25.6 +0.1
SNR=77
AAK Ala-Archa 68.55 326 LR LR 10 23 21.8
comp=Z,108nm,18.4s,baz=24,slow=39
AAK Ala-Archa 68.55 326 P **P** 09 49 25.4 -0.1
AAK Ala-Archa 68.55 326*ce*P **P** 09 49 25.5 0.0
AAK pmax pmax
comp=Z,160nm,1.3s
AAK Ala-Archa 68.55 326 ⇑P **P** 09 49 25.4 -0.1
AAK pP **pP** 09 49 59.0 +1.2
WUS Wushi 68.61 321 P **P** 09 49 25.9 0.0
ZST Bratislava 68.64 9 *e*P **P** 09 49 26.3 +0.5
ZST pmax pmax
comp=Z,62nm,1.4s
ZST Bratislava 68.64 9 *e*P **P** 09 49 26.3 +0.5
EKS2 Erkin-Say 68.71 326 P **P** 09 49 26.6 +0.2
SNR=94
MOA Molln 68.77 11 *e*P **P** 09 49 25.8 -0.8
comp=Z,6.1nm,0.9s
RETA Reutte 68.80 13 *i*P **P** 09 49 26.7 -0.2
comp=Z,6.7nm,0.9s
CONA Conrad Observa 68.82 9 *e*P **P** 09 49 27.2 +0.2
comp=Z,14nm,0.7s,SNR=8.6
CONA *i* pP **pP** 09 50 00.9 +1.5
comp=Z,14nm,0.8s
BIOA Bad Ischl, Aus 68.88 11 *e*P **P** 09 49 26.7 -0.6
comp=Z,9.3nm,1.0s
BIOA *i* pP **pP** 09 50 01.0 +1.3
comp=Z,6.1nm,0.7s
UCH Uchtor 68.93 325 P **P** 09 49 28.3 +0.1
SNR=24
MOTA Moosalm 68.98 13 *e*P **P** 09 49 27.8 -0.2
comp=Z,12nm,0.8s
MOTA *i* pP **pP** 09 50 01.5 +0.9
comp=Z,8.0nm,0.8s
TRPA Tarpa 68.99 5 ⇑P **P** 09 49 28.1 +0.2
WATA Walderalm 69.04 13 *e*P **P** 09 49 28.2 -0.3
comp=Z,24nm,1.2s
WATA *e*pP **pP** 09 50 02.0 +1.0
comp=Z,18nm,1.2s
RONA Rosalia, Austr 69.08 9 *e*P **P** 09 49 28.6 0.0
comp=Z,11nm,1.0s
RONA *i* pP **pP** 09 50 02.8 +1.9
comp=Z,15nm,1.2s
KK31 Karatay Array 69.09 329 P **P** 09 49 28.1 -0.6
KK31 IAmb IAmb 09 49 29.4
comp=Z,83nm,1.0s
KK31 Karatay Array 69.09 329 P **P** 09 49 28.1 -0.6
KK31 pmax pmax
comp=Z,83nm,1.0s
KKAR Karatay Array 69.09 329 P **P** 09 49 27.6 -1.1
KKAR Karatay Array 69.09 329 P **P** 09 49 27.6 -1.1
DZA Taraz 69.09 328 *i*P **P** 09 49 28.2 -0.5
comp=Z,42nm,0.9s,baz=328
DZA Taraz 69.09 328 *i*P **P** 09 49 28.2 -0.5
DZA pmax pmax
comp=Z,42nm,0.9s
SORM Soroca 69.11 0 ⇑P **P** 09 49 27.7 -0.9
SORM Soroca 69.11 0 ⇑P **P** 09 49 27.7 -0.9
SQTA Sankt Quirin 69.11 13 *i*P **P** 09 49 29.1 +0.3
comp=Z,26nm,1.2s,SNR=8.4
SQTA *e*pP **pP** 09 50 02.9 +1.5
comp=Z,32nm,1.4s
WTTA Wattenberg 69.11 13 *e*P **P** 09 49 29.1 +0.1
comp=Z,21nm,0.8s,SNR=8.3
WTTA *i* pP **pP** 09 50 02.8 +1.3
comp=Z,33nm,1.4s
AML Almayashu 69.23 326 P **P** 09 49 30.5 +0.5
SNR=76
FETA Feichten 69.26 13 *e*P **P** 09 49 30.0 +0.1
comp=Z,18nm,1.2s,SNR=5.7
FETA *e*pP **pP** 09 50 03.8 +1.4
comp=Z,18nm,1.3s
CD2 Chengdu 69.37 298 P **P** 09 49 30.3 -0.3
DAVOX Davos/Dischmat 69.41 14 LR LR 10 22 41.2
comp=Z,52nm,18.4s,baz=335,slow=38
KBA Koelnbreinsper 69.46 11 *i*P **P** 09 49 31.4 +0.4
comp=Z,42nm,0.9s,SNR=14
KBA *i* pP **pP** 09 50 05.6 +2.0
comp=Z,24nm,0.8s
ARSA Arzberg 69.47 10 *i*P **P** 09 49 30.8 -0.2
comp=Z,6.2nm,0.9s
ARSA *i* pP **pP** 09 50 05.2 +1.7
comp=Z,5.8nm,0.8s
SENIN Lac Senin/Sane 69.52 16 P **P** 09 49 31.4 -0.1
BUR08 Bucovina Ar. S 69.56 3 P **P** 09 49 31.4 -0.2
BURAR Bucovina Array 69.58 3 ⇑P **P** 09 49 31.0 -0.7
BURAR Bucovina Array 69.58 3 P **P** 09 49 31.6 -0.1
BURAR IAmb IAmb 09 49 33.9
comp=Z,28nm,0.6s
BURAR Bucovina Array 69.58 3 ⇑P **P** 09 49 31.0 -0.7
FUORN Ofenpass-Fuorn 69.61 14 P **P** 09 49 32.2 +0.2
DR12 Loma Pena Alta 69.63 89 P **P** 09 49 31.6 -0.8
ABTA Abfaltersbach 69.71 12 *e*pP pP 09 50 06.2 +1.1
comp=Z,8.0nm,0.8s
MYKA Terra Mystica 69.93 11 *i*P **P** 09 49 33.5 -0.3
comp=Z,9.3nm,0.7s
MYKA *i* pP **pP** 09 50 07.4 +0.9
comp=Z,5.2nm,0.6s
SOKA Soboth 70.00 10 *e*P **P** 09 49 34.8 +0.5
comp=Z,5.8nm,0.7s
CLUD Cludinico 70.03 12 P **P** 09 49 33.2 -1.2
CHM Chimkent 70.05 329 *e*P **P** 09 49 34.1 -0.4
comp=Z,81nm,1.1s,baz=329
CHM Chimkent 70.05 329 *e*P **P** 09 49 34.1 -0.4
CHM pmax pmax
comp=Z,81nm,1.1s
ARCR ARCALIA 70.09 3 ⇑P **P** 09 49 32.5 -2.2
PRED Cave del Predi 70.11 11 P **P** 09 49 34.1 -0.8
IUG Iuzhnay 70.11 329 ⇑*i*P **P** 09 49 35.2 +0.1
baz=329
IUG Iuzhnay 70.11 329*c i*P **P** 09 49 35.1 +0.1
OBKA Obir 70.13 11 *e*P **P** 09 49 35.0 0.0
comp=Z,34nm,0.7s,SNR=10
OBKA *i* pP **pP** 09 50 09.3 +1.6
comp=Z,14nm,0.6s
KIS Kishinev 70.24 0 ⇑*i*P **P** 09 49 34.8 -0.8
comp=Z,100nm,0.3s
KIS Kishinev 70.24 0*c i*P **P** 09 49 34.8 -0.8
KIS pmax pmax
comp=Z,100nm,0.3s
GROS Grobnik 70.25 10 *i*P **P** 09 49 35.4 -0.4
MILM Milestii Mici 70.32 0 *e*P **P** 09 49 36.0 -0.1
comp=Z,100nm,0.7s
MILM Milestii Mici 70.32 0 ⇑P **P** 09 49 36.0 -0.1
MILM Milestii Mici 70.32 0 *e*P **P** 09 49 36.0 -0.1
MILM *e* 09 49 53.0
MILM pmax pmax
comp=Z,400nm,1.3s
DRGR 70.33 5 ⇑P **P** 09 49 34.8 -1.5
DRGR 70.33 5 ⇑P **P** 09 49 34.8 -1.5
CADS Cadrg 70.34 11 *i*P **P** 09 49 34.9 -1.4
MARR Marisel-Cluj 70.47 4 ⇑P **P** 09 49 36.5 -0.6
VASR Vaslui 70.60 1 ⇑P **P** 09 49 36.9 -0.9
PURM Purcari 70.71 359 ⇑P **P** 09 49 38.7 +0.3
MORH Mrgy, Hungar 70.71 8 ⇑P **P** 09 49 38.3 -0.2
TESR Tescani 70.71 2 ⇑P **P** 09 49 38.0 -0.5
BNI Bardonecchia 70.73 17 P **P** 09 49 39.7 +0.9
BNI Bardonecchia 70.73 17 P **P** 09 49 39.7 +0.9
BNI pmax pmax
comp=Z,22nm,1.3s
HDC Heredia 70.75 106 *e*P P 09 49 46.5 +7.2
KSH Kashi 71.08 323 P **P** 09 49 43.3 +2.3
KSH pmax pmax
comp=Z,120nm,0.9s
OZUR 71.12 2 ⇑P **P** 09 49 40.5 -0.5
DOPR Dopca 71.24 3 ⇑P **P** 09 49 41.3 -0.4
SURR Surduc 71.35 5 ⇑P **P** 09 49 42.6 +0.3
VRI Vrincioaia 71.36 2 ⇑P **P** 09 49 42.4 -0.1
VRI Vrincioaia 71.36 2 ⇑P **P** 09 49 42.4 -0.1
COVR Voineasa-Covas 71.37 2 ⇑P **P** 09 49 43.6 +1.1
PLOR Plostina 71.38 2 ⇑P **P** 09 49 42.0 -0.5
PLOR Plostina 71.38 2 ⇑P **P** 09 49 42.0 -0.5
BZS Buzias 71.47 5 ⇑P **P** 09 49 42.8 -0.2
BZS Buzias 71.47 5 ⇑P **P** 09 49 42.8 -0.2
ODBI Odobesti 71.47 1 ⇑P P 09 49 48.7 +5.7
SLCR Slobozia Conac 71.65 1 ⇑P **P** 09 49 44.5 +0.4
SJG San Juan 71.69 86 LR LR 10 22 34.1
comp=Z,58nm,19.4s,baz=325,slow=37
MLR Muntele Rosu 71.72 2 LR LR 10 23 17.2
comp=Z,49nm,19.0s,baz=13,slow=37
MLR Muntele Rosu 71.72 2 ⇑P **P** 09 49 44.2 -0.5
MLR Muntele Rosu 71.72 2 P **P** 09 49 44.4 -0.4
MLR IAmb IAmb 09 49 47.3
comp=Z,113nm,2.0s
MLR Muntele Rosu 71.72 2 P **P** 09 49 44.4 -0.4
MLR pmax pmax
comp=Z,113nm,2.0s
GZR Gura Zlata 71.73 5 ⇓P **P** 09 49 44.4 -0.3
GZR Gura Zlata 71.73 5 ⇓P **P** 09 49 44.4 -0.3
VOIR 71.76 3 ⇑P **P** 09 49 45.4 +0.5
VOIR 71.76 3 ⇑P **P** 09 49 45.4 +0.5
FRGS Fruska Gora 71.83 7 ⇑P **P** 09 49 45.3 0.0
CFR Carcaliu 72.06 1 ⇑P **P** 09 49 45.9 -0.6
CFR Carcaliu 72.06 1 ⇑P **P** 09 49 45.9 -0.6
GYA Guiyang 72.09 293 ⇓P **P** 09 49 47.8 +0.6
GYA pP pP 09 50 21.3 +1.4
GYA PP **PP** 09 52 32.8 +4.2
GYA S **S** 09 58 54.3 -4.1
GYA SS **SS** 10 03 39.5 +2.1
GYA pmax pmax
comp=Z,140nm,1.2s
GYA pmax pmax
comp=Z,280nm,4.2s
GYA LR LR
comp=Z,410nm,4.5s
GYA LR LR
comp=Z,200nm,5.6s
GYA LR LR
comp=Z,160nm,5.1s
SECR 72.18 2 ⇑P **P** 09 49 47.5 +0.2
SIM Simferopol' 72.22 356 *e*P **P** 09 49 47.5 0.0
SIM *e* 09 50 05.0
SIM *e*S **SKSac** 09 59 35.0 -4.1
SIM pmax pmax
comp=Z,70nm,1.3s
TAOE Nuku Hiva Isla 72.23 169 *e*LR LR 10 12 03.8
comp=Z,116nm,23.6s

HERR	Herculane	72.23	5	⇑P		P		09 49 46.5	-1.1
MDVR	Moldovita	72.30	5	⇑P		P		09 49 47.5	-0.6
TPGR	Topolog	72.39	0	⇓P		P		09 49 48.3	-0.3
DJES	Djerdap	72.45	5	⇑P		P		09 49 48.4	-0.5
SRE	Strehaia	72.48	4	⇑P		P		09 49 48.8	-0.3
SRE	Strehaia	72.48	4	⇑P		P		09 49 48.8	-0.3
HARR	Harsova	72.55	1	⇑P		P		09 49 49.2	-0.3
HARR	Harsova	72.55	1	⇑P		P		09 49 49.2	-0.3
KIV	Kislovodsk	72.73	350	⇑P		P		09 49 51.0	+0.3
KIV	Kislovodsk	72.73	350	P		P		09 49 50.7	0.0
KIV	Kislovodsk	72.73	350	⇑P		P		09 49 51.0	+0.3
TIRR	Tirgusor	72.78	0	⇑P		P		09 49 50.7	-0.2
TIRR	Tirgusor	72.78	0	P		P		09 49 50.9	0.0
TIRR	Tirgusor	72.78	0	P		P		09 49 50.9	0.0
TIRR				pmax		pmax			
	comp=Z,437nm,2.0s								
DIVS	Divibare	72.90	7	P		P		09 49 51.0	-0.7
KBZ	Khabaz	72.94	350	P		P		09 49 52.1	+0.3
	comp=Z,62nm,0.9s,baz=338,slow=4.6,SNR=61								
KBZ				PP		PP		09 52 38.1	+3.1
	comp=Z,6.6nm,1.0s,baz=330,slow=7.5,SNR=4.0								
KBZ				LR		LR		10 26 22.9	
	comp=Z,33nm,18.3s,baz=359,slow=39								
	comp=Z,62nm,0.9s								
SHA1	Shidzhatmaz	72.95	350	c *iP*		P		09 49 52.1	-0.1
GAR	Garm	73.02	327	P		P		09 49 52.2	-0.3
MFTR	Murfatlar	73.06	0	⇑P		P		09 49 52.6	+0.1
NCK	Nalchik	73.11	349	*i* P		P		09 49 52.9	0.0
NCK				pmax		pmax			
	comp=Z,145nm,0.6s								
ICOR	Ion Corvin	73.12	1	⇑P		P		09 49 53.6	+0.8
MURB	Monte Urbino	73.16	13	P		P		09 49 54.5	+1.3
GROC	Groznyy	73.19	347	P		P		09 49 53.0	-0.3
GROC				*e*				09 50 09.1	
GROC				*e*S		S		09 59 09.9	-0.2
GROC				pmax		pmax			
	comp=Z,34nm,0.4s								
MAK	Makhachkala	73.25	346	*e*P		P		09 49 51.6	-2.0
MAK				*e**PP		pP		09 50 23.3	-3.1
MAK				*e**SP		sP		09 50 37.4	-3.2
MAK				*e*				09 52 45.3	
MAK				*e*S		S		09 59 08.3	-2.5
MAK				*e**SS		sS		10 00 05.8	-1.3
MAK				*e*SS		SS		10 03 56.3	+2.6
MAK				pmax		pmax			
	comp=Z,201nm,1.1s								
SOC	Sochi	73.32	352	*e*P		P		09 49 53.0	-1.0
SOC				*e*				09 52 37.7	
SOC				*e*PPP		PPP		09 54 23.1	
SOC				*e*S		S		09 59 14.1	+2.6
SOC				*e*SS		SS		10 03 57.9	+3.2
SOC				pmax		pmax			
	comp=Z,43nm,0.9s								
NEY	Neytrino	73.43	350	*i* P		P		09 49 54.8	-0.1
NEY				pmax		pmax			
	comp=Z,21nm,1.5s								
GUMA	Gualdo di Mace	73.44	12	P		P		09 49 55.0	+0.2
GUMA				IAmb		IAmb		09 49 57.3	
	comp=Z,28nm,1.0s								
FDMO	Fiordimonte	73.44	12	P		P		09 49 54.5	-0.3
BOVS	Bovan	73.45	6	⇑P		P		09 49 53.7	-1.1
CHGR	Chuyangaron	73.63	328	P		P		09 49 55.9	-0.2
CHGR	Chuyangaron	73.63	328	P		P		09 49 55.9	-0.2
CHGR				pmax		pmax			
	comp=Z,645nm,0.8s								
LATE	Laterza	73.73	13	P		P		09 49 56.7	+0.1
LATE				IAmb		IAmb		09 49 58.6	
	comp=Z,45nm,1.1s								
ZEI	Tsey	73.78	349	*e*P		P		09 49 55.0	-2.1
ZEI				pmax		pmax			
	comp=Z,46nm,1.1s								
CESX	Cesi	73.81	13	P		P		09 49 57.1	+0.1
CAMP	Campotosto	73.97	12	P		P		09 49 57.8	-0.2
ONI	Oni	74.02	349	P		P		09 49 58.3	0.0
ONI				IAmb		IAmb		09 49 59.9	
	comp=Z,35nm,0.8s								
ONI	Oni	74.02	349	P		P		09 49 58.3	0.0
ONI				pmax		pmax			
	comp=Z,35nm,0.8s								
PZH	PanZhiHua	74.08	297	P		P		09 49 58.5	-0.4
PZH				pmax		pmax			
	comp=Z,170nm,1.1s								
PZH				pmax		pmax			
	comp=Z,420nm,3.5s								
ESBB	Sonseca Array	74.22	26	P		P		09 49 59.7	+0.2
ESDC	Sonseca Array	74.22	26	P		P		09 49 58.5	-0.9
	comp=Z,10nm,1.0s,baz=342,slow=5.0,SNR=32								
ESDC				pP		pP		09 50 32.2	-0.2
	comp=Z,9.8nm,1.0s,baz=344,slow=5.9,SNR=6.0								
	comp=Z,10nm,1.0s								
ESDC	Sonseca Array	74.22	26	P		P		09 49 59.0	-0.5
PAB	San Pablo	74.27	26	P		P		09 49 59.8	0.0
PAB	San Pablo	74.27	26	P		P		09 49 59.8	0.0
PAB				pmax		pmax			
	comp=Z,16nm,1.2s								
PDG	Podgorica	74.52	7	⇓P		P		09 50 00.4	-0.7
PDG	Podgorica	74.52	7	P		P		09 50 00.3	-0.7
VTS	Vitosha	74.52	4	⇑P		P		09 50 00.2	-1.1
VTS	Vitosha	74.52	4	P		P		09 49 59.9	-1.4
VTS	Vitosha	74.52	4	⇑P		P		09 50 00.2	-1.1
AKT	Akhty	74.69	346	*e*P		P		09 50 02.0	-0.2
AKT				*e*				09 50 15.5	
AKT				*e**PP		pP		09 50 33.7	-1.3
AKT				*e**SP		sP		09 50 46.2	-3.0
AKT				*e*				09 52 51.6	
AKT				pmax		pmax			
	comp=Z,121nm,1.1s								
KMI	Kunming	74.90	296	⇑P		P		09 50 03.3	-0.5
KMI				pP		pP		09 50 36.0	-0.7
KMI				pmax		pmax			
	comp=Z,54nm,1.1s								
SKO	Skopje	75.09	6	*i* P		P		09 50 04.2	-0.2
AKH	Akhalkalaki	75.19	349	P		P		09 50 05.8	+0.6
AKH	Akhalkalaki	75.19	349	P		P		09 50 05.8	+0.6
AKH				pmax		pmax			
	comp=Z,203nm,1.5s								
LSA	Lhasa	75.28	307	P		P		09 50 07.0	+0.8
LSA				pmax		pmax			
	comp=Z,87nm,1.1s								
LSA	Lhasa	75.28	307	P		P		09 50 07.6	+1.4
LSA				IAmb		IAmb		09 50 08.9	
	comp=Z,79nm,1.0s								
LSA	Lhasa	75.28	307	P		P		09 50 07.6	+1.4
LSA				pmax		pmax			
	comp=Z,79nm,1.0s								
STIP	Stip	75.40	5	*i* P		P		09 50 05.0	-1.1
OHR	Ohrid	75.92	6	*i* P		P		09 50 08.8	-0.3
RDO	Rodhopi	76.06	3	P		P		09 50 10.0	+0.1
FNA	Florina	76.28	6	P		P		09 50 10.5	-0.7
FNA	Florina	76.28	6	P		P		09 50 10.5	-0.7
FNA				pmax		pmax			
	comp=Z,14nm,0.6s								
ALN	Alexandroupoli	76.32	2	P		P		09 50 11.7	+0.4
ALN	Alexandroupoli	76.32	2	P		P		09 50 11.7	+0.4
ALN				pmax		pmax			
	comp=Z,18nm,0.9s								
GNI	Garni	76.32	348	P		P		09 50 12.1	+0.5
GNI	Garni	76.32	348	P		P		09 50 12.1	+0.5
GNI				pmax		pmax			
	comp=Z,156nm,1.5s								
GEYT	Alibeck	76.65	337	P		P		09 50 13.6	+0.3
	comp=Z,58nm,1.1s,baz=322,slow=4.5,SNR=65								
GEYT				LR		LR		10 30 02.2	
	comp=Z,77nm,19.1s,baz=16,slow=40								
	comp=Z,58nm,1.1s								
GYA0	ALIBECK ARRAY	76.65	337	P		P		09 50 13.0	-0.3
TNCH	TengChong	76.69	299	⇑P		P		09 50 14.0	+0.1
TNCH				PcP		PcP		09 50 25.5	+0.8
TNCH				pP		pP		09 50 47.8	+0.9
TNCH				S		S		09 59 47.0	-2.8
TNCH				sS		sS		10 00 45.8	-0.9
TNCH				SS		SS		10 04 47.0	-0.2
TNCH				pmax		pmax			
	comp=Z,100nm,1.2s								
TNCH				pmax		pmax			
	comp=Z,370nm,4.2s								
KOPT	Kop Dagi	76.81	351	P		P		09 50 15.6	+1.1
KOPT				IAmb		IAmb		09 50 18.0	
	comp=Z,127nm,1.7s								
ZARC	Zaragoza, Cauc	77.08	99	*e*P		P		09 50 14.6	-1.4
ANTO	Ankara	77.33	357	P		P		09 50 17.4	+0.3
ANTO				IAmb		IAmb		09 50 19.6	
	comp=Z,44nm,0.8s								
ANTO	Ankara	77.33	357	P		P		09 50 17.4	+0.3
ANTO				pmax		pmax			
	comp=Z,44nm,0.8s								
BORA	Eskisehir	77.35	359	P		P		09 50 17.5	+0.3
BR231	Keskin MP Arra	77.35	357	P		P		09 50 17.9	+0.6
BR131	Keskin Array S	77.45	356	P		P		09 50 17.8	-0.2
BR131				IAmb		IAmb		09 50 18.9	
	comp=Z,127nm,1.9s								
BR131	Keskin Array S	77.45	356	P		P		09 50 17.8	-0.1
BR131				pmax		pmax			
	comp=Z,127nm,1.9s								
BRTR	Keskin Array B	77.45	356	P		P		09 50 17.6	-0.2
	comp=Z,5.2nm,0.4s,baz=346,slow=3.8,SNR=40								
	comp=Z,5.2nm,0.4s								
BRTR	Keskin Array B	77.45	356	P		P		09 50 17.5	-0.4
KBL	Kabul	77.57	327	P		P		09 50 17.0	-1.8
KBL				IAmb		IAmb		09 50 18.4	
	comp=Z,52nm,0.9s								
KBL	Kabul	77.57	327	P		P		09 50 17.0	-1.8
KBL				pmax		pmax			
	comp=Z,51nm,0.9s								
TIP	Timpagrande	77.59	10	⇑P		P		09 50 17.5	-1.1
TIP	Timpagrande	77.59	10	P		P		09 50 17.7	-0.9
BALB	Balikesir	77.59	1	P		P		09 50 19.8	+1.3
SDV	Santo Domingo	77.76	95	P		P		09 50 20.4	+0.4
SDV	Santo Domingo	77.76	95	*e*P		P		09 50 27.3	+7.3
BRRC	Barranca, Sant	77.94	98	*e*P		P		09 50 20.6	-0.1
CBOC	Ciudad Bolivar	78.01	101	*e*P		P		09 50 20.6	-0.7
AGG	Agios Georgios	78.08	5	P		P		09 50 20.8	-0.4
AGG	Agios Georgios	78.08	5	P		P		09 50 20.8	-0.4
AGG				pmax		pmax			
	comp=Z,3.0nm,0.6s								
PTBC	PUERTO BERRIO,	78.11	99	*e*P		P		09 50 20.9	-0.8
GURO	Guroymak-BITLI	78.15	350	P		P		09 50 22.5	+0.7
GURO				IAmb		IAmb		09 50 23.9	
	comp=Z,91nm,1.9s								
PAMC	Pamplona, Colo	78.19	97	*e*P		P		09 50 22.1	-0.5
BNN	Bunyan	78.24	355	P		P		09 50 23.0	+0.7
GEVA	Gevas	78.30	349	P		P		09 50 23.8	+1.2
GEVA				IAmb		IAmb		09 50 24.4	
	comp=Z,47nm,1.1s								
AFI	Afiamalu	78.46	201	LR		LR		10 18 18.4	
	comp=Z,54nm,20.9s,baz=17,slow=30								
BARC	Barichara	78.64	98	*e*P		P		09 50 24.6	-0.2
MANT	Manisa	78.75	0	P		P		09 50 25.0	-0.2
GUN	Gumba	78.77	311	*e*P		P		09 50 25.8	+0.2
	comp=Z,299nm,1.1s								
BAUV	El Baul	78.89	92	P		P		09 50 25.4	-0.5
BAUV				IAmb		IAmb		09 51 02.8	
	comp=Z,90nm,1.0s								
JIRN	Jiri	78.90	311	*e*P		P		09 50 26.8	+0.5
DANN	Dangsing	79.09	313	*e*P		P		09 50 27.5	+0.2
	comp=Z,626nm,1.0s								
GKN	Gorkha	79.11	312	*e*P		P		09 50 27.3	+0.1
PKIN	Phulchoki	79.25	311	*e*P		P		09 50 28.0	-0.1
PKI	Pulchoki	79.25	311	*e*P		P		09 50 27.9	-0.3
RUSC	La Rusia	79.30	98	P		P		09 50 27.7	-1.1
RUSC				IAmb		IAmb		09 50 29.5	
	comp=Z,56nm,1.3s								
RUSC	La Rusia	79.30	98	*e*P		P		09 50 27.9	-0.8
DMN	Daman	79.32	311	*e*P		P		09 50 28.6	+0.1
ISP	Isparta	79.41	359	P		P		09 50 28.1	-0.4
ISP				IAmb		IAmb		09 50 30.3	
	comp=Z,54nm,1.1s								
ISP	Isparta	79.41	359	P		P		09 50 28.2	-0.4
ISP				pmax		pmax			
	comp=Z,54nm,1.1s								
RAMN	Ramite	79.41	310	*e*P		P		09 50 28.9	-0.1
	comp=Z,325nm,1.0s								
YOTC	Yotoco, Valle	79.53	102	*e*P		P		09 50 29.0	-0.6
ROSC	El Rosal	79.68	100	P		P		09 50 31.1	+0.4
	comp=Z,8.2nm,0.5s,baz=23,slow=9.6,SNR=4.9								
ROSC				LR		LR		10 29 12.1	
	comp=Z,102nm,18.1s,baz=270,slow=38								
	comp=Z,8.2nm,0.5s								
GAZ	Gaziantep	79.85	353	P		P		09 50 31.4	+0.5
ITM	Ithomi	79.89	6	P		P		09 50 30.3	-0.8
ITM				IAmb		IAmb		09 51 11.8	
	comp=Z,156nm,1.9s								
ORTC	Ortega, Tolima	80.09	101	*e*P		P		09 50 31.1	-1.3
CHIC	Chingaza	80.13	99	*e*P		P		09 50 32.4	-0.7
CRAI	Chiangrai	80.24	295	P		P		09 50 33.0	-0.2
CRAI				IAmb		IAmb		09 50 34.1	
	comp=Z,109nm,1.2s								
KEST	Kesra	80.25	16	P		P		09 50 32.5	-0.6
	comp=Z,15nm,1.0s,baz=294,slow=3.9,SNR=8.6								
	comp=Z,15nm,1.0s								
KEST	Kesra	80.25	16	P		P		09 50 33.1	-0.1
PPT	Papeete	80.42	179	LR		LR		10 17 52.8	
	comp=Z,62nm,21.7s,baz=9.5,slow=29								
PPT2	Papeete2	80.44	179	*e*P		P		09 50 35.0	+0.9
	comp=Z,61nm,26.2s								
PPT2				*e*S		S		10 00 27.8	-1.4
	comp=Z,81nm,26.8s								
PPT2	Papeete2	80.44	179	*e*LR		LR		10 15 52.2	
	comp=Z,179nm,34.0s								
PPT2				*e*LR		LR		10 15 52.6	
	comp=Z,213nm,30.8s								
NDI	New Delhi	80.86	318	*e*P		P		09 50 38.5	+2.1
ARG	Arkhangelos	81.01	1	P		P		09 50 35.8	-1.3
ARG				IAmb		IAmb		09 50 38.0	
	comp=Z,64nm,0.9s								
ARG	Arkhangelos	81.01	1	P		P		09 50 35.8	-1.3
ARG				pmax		pmax			
	comp=Z,64nm,0.9s								
GARC	Garzon, Huila	81.51	102	*e*P		P		09 50 39.6	-0.7
TULM	Tulcn-Chalpat	81.81	105	P		P		09 50 41.6	-0.5
PHRA	Phrae	81.84	295	P		P		09 50 41.5	-0.2
OTAV	Otavalo	81.94	106	P		P		09 50 43.3	+0.5
OTAV	Otavalo	81.94	106	P		P		09 50 43.3	+0.5
OTAV				pmax		pmax			
	comp=Z,14nm,1.4s								
OTAV	Otavalo	81.94	106	*e*P		P		09 50 49.3	+6.5
FLOC	Florencia	81.98	102	*e*P		P		09 50 42.1	-0.4
CHTO	Chiang Mai	82.09	296	P		P		09 50 42.6	-0.4
CHTO				IAmb		IAmb		09 50 43.4	
	comp=Z,50nm,1.2s								
CHTO	Chiang Mai	82.09	296	P		P		09 50 42.6	-0.4
CHTO				pmax		pmax			
	comp=Z,50nm,1.3s								
CSS	Mathiatis	82.21	356	P		P		09 50 43.7	+0.2
CM31	Chiang Mai Arr	82.41	296	P		P		09 50 44.8	+0.1
CM31				IAmb		IAmb		09 50 45.6	
	comp=Z,83nm,1.1s								
CMAR	Chiang Mai Arr	82.41	296	P		P		09 50 42.9	-1.8
	comp=Z,45nm,1.0s,baz=5.0,slow=6.0,SNR=147								
CMAR				LR		LR		10 31 33.7	
	comp=Z,48nm,18.9s,baz=20,slow=39								
	comp=Z,45nm,1.0s								
CMAR	Chiang Mai Arr	82.41	296	P		P		09 50 44.4	-0.2
CMAR	Chiang Mai Arr	82.41	296	*i* P		P		09 50 44.5	-0.2
CMAR				pmax		pmax			
	comp=Z,30nm,0.8s								
CHSH	Refugio Sur-Vo	83.31	107	P		P		09 50 51.3	+1.3
CHSH				IAmb		IAmb		09 50 51.9	
	comp=Z,31nm,1.3s								
PORT	Chimborazo Vol	83.32	107	P		P		09 50 49.7	-0.3
PORT				IAmb		IAmb		09 51 26.4	
	comp=Z,74nm,1.8s								
MSVF	Nonsavu	84.14	210	LR		LR		10 22 33.5	
	comp=Z,49nm,20.3s,baz=349,slow=31								
MSVF	Nonsavu	84.14	210	P		P		09 50 52.4	-1.0
MSVF	Nonsavu	84.14	210	P		P		09 50 52.4	-1.0
MSVF				pmax		pmax			
	comp=Z,20nm,1.2s								
RAR	Rarotonga	84.32	188	LR		LR		10 21 45.6	
	comp=Z,51nm,19.0s,baz=176,slow=31								
MCRA	Macar, Loja	85.41	109	P		P		09 50 58.5	-1.4
MYLDM	Lahad Datu	85.66	273	P		P		09 51 00.9	-0.2
KKM	Kota Kinabalu	85.93	275	P		P		09 51 02.1	-0.5
BOAV	Boa Vista	88.09	89	*e*P		P		09 51 20.2	+7.3
MDP	Montagnes des	89.26	80	LR		LR		10 34 13.6	
	comp=Z,45nm,18.0s,baz=296,slow=37								
UOSS	Minazif	89.64	335	P		P		09 51 17.7	-2.4
TBTG	Tabatinga, AM	89.67	100	*e*P		P		09 51 27.3	+7.1
SBUM	Sibu	90.92	277	P		P		09 51 25.9	-0.2
SBUM				IAmb		IAmb		09 51 29.2	
	comp=Z,18nm,1.0s								
DZM	Mont Dzumac	91.27	219	*e*LR		LR		10 20 53.6	
	comp=Z,106nm,29.6s								
TEFE	Tefe	91.44	95	*e*P		P		09 51 35.2	+6.7
CZSB	Cruzeiro do Su	91.57	104	P		P		09 51 28.4	-0.6
CZSB				IAmb		IAmb		09 51 29.7	
	comp=Z,25nm,1.2s								
RAYN	Ar Rayn	92.68	345	P		P		09 51 33.6	-0.7
RAYN	Ar Rayn	92.68	345	P		P		09 51 33.6	-0.7
RAYN				pmax		pmax			
	comp=Z,13nm,1.0s								
RPN	Rapa Nui	95.80	143	LR		LR		10 26 07.4	
	comp=Z,85nm,19.5s,baz=275,slow=30								
CTA	Charters Tower	96.23	237	LR		LR		10 27 02.4	
	comp=Z,32nm,21.1s,baz=47,slow=30								
PSI	Prapat	96.48	289	LR		LR		10 43 18.4	
	comp=Z,35nm,20.4s,baz=42,slow=40								
PSI	Prapat	96.48	289	P		P		09 51 50.2	-1.6
PSI				pmax		pmax			
	comp=Z,16nm,1.2s								
RPSI	Rantau Prapat	96.57	289	P		P		09 51 50.2	-1.9
RPSI				IAmb		IAmb		09 51 52.1	
	comp=Z,16nm,1.2s								
WRA	Warramunga Arr	100.89	248	P		Pdif		09 52 09.4	-1.7
	comp=Z,0.3nm,0.7s,baz=32,slow=6.0,SNR=4.9								
TORD	Torodi Ar. Bea	101.08	27	P		Pdif		09 52 10.3	-2.0
	comp=Z,0.6nm,0.8s,baz=315,slow=4.4,SNR=3.1								
TORD				PKKPbc		PKKPbc		10 08 19.5	+0.3
	comp=Z,1.0nm,0.6s,baz=173,slow=1.6,SNR=5.5								
ASAR	Alice Springs	104.38	246	PKKPbc		PKKPbc		10 08 10.8	+0.7
	comp=Z,0.3nm,0.5s,baz=195,slow=3.0,SNR=4.4								
PLCA	Paso Flores	121.43	119	PKP		PKPdf		09 57 13.9	-0.2
	comp=Z,2.2nm,0.6s,baz=314,slow=3.1,SNR=13								
TSUM	Tsumeb	135.43	15	PKPdf		PKPdf		09 57 41.3	-0.2
LBTB	Lobatse	141.85	5			PKPdf		09 57 53.2	+0.2
LBTB	Lobatse	141.85	5	PKIKP		PKPdf		09 57 53.2	+0.2
VNDA	Vanda	143.32	195	PKP		PKPbc		09 57 52.5	+1.0
	comp=Z,6.5nm,1.0s,baz=40,slow=4.7,SNR=4.1								
BOSA	Boshof	145.41	6	PKPbc		PKPdf		09 57 58.5	-0.7
	comp=Z,44nm,0.9s,baz=356,slow=3.4,SNR=34								
CASY	Casey	147.31	228	PKPdf		PKPbc		09 58 02.7	-0.9
SUR	Sutherland	148.82	13			PKPbc		09 58 08.6	-0.3
GRHM	Grahamstown, E	150.10	4	PKPdf		PKPdf		09 58 04.5	-2.2
GRHM						PKPbc		09 58 11.9	+0.1
GRHM				PKPab		PKPab		09 58 19.6	+1.4
QSPA	South Pole Qui	152.92	180	PKP		PKPdf		09 58 08.0	-1.9
	comp=Z,7.4nm,1.1s,baz=329,slow=2.3,SNR=4.6								
QSPA				PKPbc		PKPbc		09 58 17.0	-0.2
	comp=Z,9.0nm,0.7s,baz=21,slow=0.9,SNR=11								
QSPA	South Pole Qui	152.92	180	PKPdf		PKPdf		09 58 06.6	-3.2
QSPA				PKPbc		PKPbc		09 58 16.8	-0.4
QSPA				PKPab		PKPab		09 58 29.4	+0.3
BELA	Belgrano 2	155.94	152	PKPdf		PKPdf		09 58 12.7	-1.0

IDC ***31*** *09:39:57.6±1.9, 42.°70S×172.°82E, h0km, mb3.6/2, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=47.8km s-min=21.0km az=135.0*

WEL ***31*** *09:40:00.7±0.3, 43.°3S×17.°3E±.°, h10km±3km, M3.9/22, ML4.1/22, MLv3.9/22, Error ellipse: s-maj=0.0km s-min=0.0km az=132.3*

NOU ***31*** *09:40:00.1, 42.°84S×172.°88E, h9km, MLv4.3/12, South Island, New Zealand*

WEL ***31*** *09:40:00, 42.°74S×172.°75E, h7km, ML3.9, Mw4.0, Moment Tensor Solution. s3 Moment tensor: Scale 1015 Nm; Mrr0.86; Mθθ0.06; Mϕϕ-0.92; Mrθ-0.09; Mθϕ-0.66; Mϕr0.24; Fault plane solution: M01.10000×1015 NP1: ϕs226.00000°, δ44.00000°, λ118.00000°. NP2:ϕs9.00000°, δ52.00000°, λ66.00000°. Principal axes: T -126.7700, Plg70.0000°, Azm219.0000°; N 32.9300, Plg19.0000°, Azm24.0000°; P 93.8500, Plg4.0000°, Azm116.0000°;*

NEIC ***31*** *09:40:00.6±1.7, 42.°73S±0.°03×172.°78E±0.°06, h17km±3km, mb4.3/2, Mwr3.9/26 Error ellipse: s-maj=6.7km s-min=3.7km az=124.0, Moment Tensor Solution. Moment tensor: Scale 1014Nm; Mrr-0.74; Mθθ7.06; Mϕϕ-6.32; Mrθ-0.71; Mθϕ-4.43; Mϕr2.59; Fault plane solution: M08.48000×1014 NP1:ϕs242.61000°, δ71.56000°, λ-174.18000°. NP2:ϕs150.76000°, δ84.48000°, λ-18.53000°. Principal axes: T 8.6160, Plg9.0000°, Azm198.0000°; N -0.2723, Plg71.0000°, Azm315.0000°; P -8.3437, Plg17.0000°, Azm105.0000°;*

NEIC ***31*** *09:40:01, 42.°72S×172.°77E, h23km*

ISC 31 09:40:00.1±1.1, 42.°72S±0.°02×172.°82E±0.°03, h13km±8km, n142, σ1§33/155, mb3.9/4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	Greta Valley S	0.29	147		Pb	09 40 08.0	+0.8
GVZ				Sg	Sb	09 40 13.7	+1.8
GVZ	Greta Valley S	0.29	147	P	Pb	09 40 08.0	+0.8
GVZ				S	Sb	09 40 13.5	+1.6
LTZ	Lake Taylor	0.41	262	Pg	Pg	09 40 08.3	+0.1
LTZ				Sg	Sg	09 40 14.2	+0.4
LTZ	Lake Taylor	0.41	262	P	Pg	09 40 08.1	-0.1
LTZ				S	Sg	09 40 13.8	+0.1
AMCZ	Amberley	0.47	195		Pb	09 40 11.2	+1.0
AMCZ				Sg	Sb	09 40 19.1	+2.0
AMCZ	Amberley	0.47	195	P	Pb	09 40 11.2	+1.0
KHZ	Kahutara	0.61	60	Pg	Pb	09 40 13.4	+0.7
KHZ				Sg	Sb	09 40 22.2	+1.0
KHZ	Kahutara	0.61	60	P	Pb	09 40 13.1	+0.5
KHZ	Kahutara	0.61	60	P	P

MRZ	**Mangatainoka R**	**2.92**	**46**	P	**Pn**	**09 40 45.7**	**-0.5**
PRWZ	**Pori Road**	**3.21**	**49**	P	**Pn**	**09 40 50.8**	**+0.6**
POWZ	**Post Office Ro**	**3.21**	**44**	P	**Pn**	**09 40 49.9**	**-0.4**
BFZ	**Birch Farm**	**3.28**	**53**	Pn	**Pn**	**09 40 52.5**	**+1.4**
WAZ	**Wanganui**	**3.39**	**30**	P	**Pn**	**09 40 54.6**	**+2.0**
NMEZ	**Namu Road**	**3.40**	**14**	P	**Pn**	**09 40 56.0**	**+3.2**
WKZ	**Wanaka**	**3.46**	**231**	Pn	**Pn**	**09 40 52.8**	**-1.0**
WKZ	**Wanaka**	**3.46**	**231**	P	**Pn**	**09 40 52.7**	**-1.0**
LREZ	**Lake Rotokare**	**3.47**	**21**	P	**Pn**	**09 40 57.6**	**+3.8**
HHSZ	**Highcliff Hill**	**3.54**	**206**	P	**Pn**	**09 40 53.8**	**-0.9**
NBEZ	**Newall Road No**	**3.54**	**13**	P	**Pn**	**09 40 57.3**	**+2.5**
KHEZ	**Kahui Hut**	**3.54**	**15**	P	**Pn**	**09 40 57.0**	**+2.1**
KHEZ	**Kahui Hut**	**3.54**	**15**	P	**Pn**	**09 40 57.9**	**+3.0**
EAZ	**Earnscleugh**	**3.56**	**224**	P	**Pn**	**09 40 54.0**	**-1.1**
NEZ	**North Egmont**	**3.58**	**16**	P	**Pn**	**09 40 58.4**	**+3.0**
PKE	**Pukeiti**	**3.63**	**14**	P	**Pn**	**09 40 58.7**	**+2.6**
DREZ	**Durham Road**	**3.68**	**17**	P	**Pn**	**09 40 59.0**	**+2.3**
WPHZ	**Waipukurau**	**3.80**	**47**	P	**Pn**	**09 41 00.0**	**+1.6**
MHEZ	**Mangahewa**	**3.82**	**18**	P	**Pb**	**09 41 04.0**	**-3.2**
VRZ	**Vera Road**	**3.88**	**23**	P	**Pn**	**09 41 01.7**	**+2.2**
PKVZ	**Pokaka**	**3.93**	**30**	P	**Pn**	**09 41 01.6**	**+1.5**
TUZ	**Tuapeka**	**3.96**	**214**	P	**Pn**	**09 40 59.7**	**-0.8**
MOVZ	**Moawhango**	**3.99**	**35**	P	**Pn**	**09 41 01.2**	**+0.3**
WNVZ	**Wahianoa**	**3.99**	**33**	P	**Pn**	**09 41 02.0**	**+0.9**
TRVZ	**Turoa**	**4.00**	**32**	P	**Pn**	**09 41 02.2**	**+1.0**
FWVZ	**Far West T-bar**	**4.04**	**32**	P	**Pn**	**09 41 02.8**	**+1.1**
BHHZ	**Black Hill Sta**	**4.05**	**38**	P	**Pn**	**09 41 02.2**	**+0.3**
TUVZ	**Tukino**	**4.06**	**33**	P	**Pn**	**09 41 03.0**	**+0.9**
KRHZ	**Kereru**	**4.08**	**42**	P	**Pn**	**09 41 00.9**	**-1.3**
NGZ	**Ngauruhoe**	**4.12**	**32**	P	**Pn**	**09 41 04.0**	**+1.1**
OTVZ	**Oturere**	**4.16**	**32**	P	**Pn**	**09 41 04.5**	**+1.1**
NNVZ	**North Ngauruho**	**4.17**	**31**	P	**Pn**	**09 41 04.6**	**+1.0**
WTVZ	**West Tongariro**	**4.17**	**31**	P	**Pn**	**09 41 04.6**	**+1.0**
ETVZ	**East Tongariro**	**4.20**	**32**	P	**Pn**	**09 41 04.6**	**+0.6**
TMVZ	**Te Maari**	**4.21**	**32**	P	**Pn**	**09 41 04.7**	**+0.6**
NTVZ	**North Tongarir**	**4.22**	**32**	P	**Pn**	**09 41 05.1**	**+0.9**
KAHZ	**Kahuranaki**	**4.23**	**48**	P	**Pn**	**09 41 04.4**	**+0.1**
MLZ	**Mavora Lakes**	**4.30**	**230**	Pn	**Pn**	**09 41 04.4**	**-0.8**
MLZ	**Mavora Lakes**	**4.30**	**230**	P	**Pn**	**09 41 04.4**	**-0.8**
HIZ	**Hauiti**	**4.48**	**21**	Pn	**Pn**	**09 41 08.8**	**+1.1**
HIZ	**Hauiti**	**4.48**	**21**	P	**Pn**	**09 41 09.4**	**+1.7**
HIZ	**Hauiti**	**4.48**	**21**	P	**Pn**	**09 41 09.1**	**+1.4**
BKZ	**Black Stump Fm**	**4.51**	**39**	Pn	**Pn**	**09 41 07.0**	**-1.1**
BKZ	**Black Stump Fm**	**4.51**	**39**	P	**Pn**	**09 41 08.6**	**+0.4**
BKZ	**Black Stump Fm**	**4.51**	**39**	P	**Pn**	**09 41 07.0**	**-1.1**
SYZ	**Scrubby Hill**	**4.63**	**213**	P	**Pn**	**09 41 09.4**	**-0.3**
SYZ	**Scrubby Hill**	**4.63**	**213**	P	**Pn**	**09 41 09.0**	**-0.7**
WHZ	**Wether Hill Ro**	**4.72**	**226**	Pn	**Pn**	**09 41 09.8**	**-1.2**
WHZ	**Wether Hill Ro**	**4.72**	**226**	P	**Pn**	**09 41 08.8**	**-2.2**
MRHZ	**Matea Rd**	**4.75**	**36**	P	**Pn**	**09 41 09.8**	**-1.6**
TLZ	**Tolley Road**	**4.85**	**26**	P	**Pn**	**09 41 14.8**	**+1.9**
MTHZ	**Maungataniwha**	**4.93**	**40**	P	**Pn**	**09 41 12.9**	**-0.9**
RTZ	**Ruatahuna**	**5.18**	**39**	Pn	**Pn**	**09 41 14.4**	**-2.9**
APZ	**The Paps**	**5.36**	**218**	P	**Pn**	**09 41 18.5**	**-1.2**
TOZ	**Tahuroa Road**	**5.39**	**23**	P	**Pn**	**09 41 21.2**	**+1.0**
URZ	**Urewera**	**5.53**	**38**	Pn	**Pn**	**09 41 21.8**	**-0.2**
	0.8nm,0.3s,baz=314,slow=5.1,SNR=6.5						
URZ				Sn	**Sn**	**09 42 24.6**	**-0.9**
	4.3nm,0.3s,baz=118,slow=16,SNR=6.6						
	2.7nm,0.3s						
URZ	**Urewera**	**5.53**	**38**	P	**Pn**	**09 41 22.5**	**+0.4**
URZ	**Urewera**	**5.53**	**38**	P	**Pn**	**09 41 20.9**	**-1.1**
MWZ	**Matawai**	**5.66**	**41**	P	**Pn**	**09 41 22.5**	**-1.5**
TKGZ	**Te Karaka**	**5.74**	**43**	P	**Pn**	**09 41 26.1**	**+1.2**
AWAZ	**Awhitu Peninsu**	**5.82**	**15**	P	**Pn**	**09 41 27.9**	**+1.8**
MKAZ	**Moumakai**	**5.89**	**19**	P	**Pn**	**09 41 28.3**	**+1.2**
WTAZ	**Waiatarua**	**5.94**	**14**	P	**Pn**	**09 41 30.8**	**+3.1**
ETAZ	**East Tamaki Re**	**5.99**	**16**	P	**Pn**	**09 41 30.2**	**+1.8**
RUGZ	**Raukumara Rang**	**6.03**	**40**	P	**Pn**	**09 41 28.7**	**-0.4**
MBAZ	**Motutapu North**	**6.16**	**16**	P	**Pn**	**09 41 35.0**	**+4.3**
HAZ	**Te Kaha**	**6.25**	**39**	P	**Pn**	**09 41 30.3**	**-1.6**
KUZ	**Kuaotunu**	**6.38**	**21**	P	**Pn**	**09 41 36.2**	**+2.5**
KUZ	**Kuaotunu**	**6.38**	**21**	P	**Pn**	**09 41 34.2**	**+0.5**
OUZ	**Omahuta**	**7.52**	**5**	P	**Pn**	**09 41 51.2**	**+1.8**
ASAR	**Alice Springs**	**37.30**	**288**	P	**P**	**09 47 11.0**	**-0.9**
	0.7nm,0.7s,baz=135,slow=9.6,SNR=6.2						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**37.30**	**288**	P	**P**	**09 47 09.7**	**-2.3**
WRA	**Warramunga Arr**	**39.48**	**293**	P	**P**	**09 47 29.9**	**-0.4**
	0.4nm,0.6s,baz=130,slow=8.0,SNR=3.1						
	0.4nm,0.6s						
WB0	**Warramunga Arr**	**39.56**	**293**	P	**P**	**09 47 27.8**	**-3.2**
WB0				IAmb	IAmb	09 47 35.1	
	comp=Z,9.6nm,1.4s						
QSPA	**South Pole Qui**	**47.40**	**180**	P	**P**	**09 48 34.0**	**+0.1**
QSPA				IAmb	IAmb	09 48 34.7	
	comp=Z,4.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**149.54**	**197**	PKPbc	**PKPbc**	**09 59 48.7**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=197,slow=1.2,SNR=4.3						

IDC 31 09:43:31.0±615.0, 53°82N×1°09E, h0km, Error ellipse: s-maj=338.0km s-min=199.5km az=104.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.33**	**117**	I	I	10 40 20.0	
	baz=307,slow=324,SNR=1.2						
I43RU	**DUBNA INFRASON**	**20.63**	**67**	I	I	11 51 00.0	
	baz=278,slow=322,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**34.33**	**72**	I	I	13 14 20.0	
	baz=298,slow=338,SNR=1.8						

*TRN **31** 10:14:09.0, 10°85N×61°98W, h29km, MD3.4*
*FUNV **31** 10:14:10.2, 10°81N×61°86W, h57km, MW3.2*

ISC 31 10:14:08.9±1.8, 10°80N±0°07×61°94W±0°07, h61km±24km, n11, σ1°§47/16, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.55**	**106**	*e*P	**Pn**	**10 14 21.8**	**+0.4**
TRN				*e*S	**Sn**	**10 14 29.7**	**-0.9**
GRFF	**Grenada Fort F**	**1.26**	**9**	*e*P	**Pn**	**10 14 30.2**	**-0.2**
GRFF				*e*S	**Sn**	**10 14 44.9**	**-1.6**
CRUV	**Carupano**	**1.28**	**265⇓**	*e*P	**Pn**	**10 14 31.6**	**+1.0**
CRUV				*e*S	**Sn**	**10 14 48.4**	**+1.5**
GRGR	**Grenville**	**1.35**	**12**	*e*P	**Pn**	**10 14 31.2**	**-0.4**
GRGR				*e*S	**Sn**	**10 14 48.9**	**+0.1**
TOSP	**Speyside**	**1.47**	**70**	*e*P	**Pn**	**10 14 34.0**	**+0.9**
GCMP	**Grenada, Carri**	**1.75**	**17**	*e*P	**Pn**	**10 14 36.9**	**-0.1**
GCMP				*e*S	**Sn**	**10 14 58.4**	**+0.1**
SVB	**Belmont**	**2.55**	**15**	*e*P	**Pn**	**10 14 49.2**	**+1.3**
SLBI	**Saint Lucia, B**	**3.34**	**16**	*e*S	**Sn**	**10 15 37.3**	**+0.1**
CACV	**CAICARA DEL OR**	**5.56**	**235**	*e*P	Pn	10 15 24.3	-4.8
CACV				*e*S	Sn	10 16 19.2	-13
BENV	**Beln**	**5.63**	**262**	*e*P	**Pn**	**10 15 31.0**	**+0.9**
BAUV	**El Baul**	**6.29**	**253**	*e*P	**Pn**	**10 15 39.6**	**+0.6**
BAUV				*e*S	**Sn**	**10 16 45.7**	**-3.9**

*SOME **31** 10:28:11.6, 43°90N×86°58E, h20km*
*IDC **31** 10:28:12.4±1.0, 43°83N×88°25E, h0km, mb3.9/5, mbtmp3.7/10, ML3.2/4, MS3.1/3, Error ellipse: s-maj=30.1km s-min=12.0km az=44.0*
*NEIC **31** 10:28:15.7±1.2, 43°71N±0°10×88°32E±0°09, h30km±5km, mb4.5/14, Error ellipse: s-maj=14.6km s-min=8.8km az=169.0*
*NNC **31** 10:28:22.5±5.6, 43°82N×86°08E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=50.5km s-min=24.3km az=141.0*

ISC 31 10:28:15.0±0.8, 43°89N±0°09×88°23E±0°07, h18km, n70, σ2§01/62, mb4.2/12, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.28**	**328**	Pg	**Pn**	**10 29 22.7**	**+3.6**
	12nm,0.2s						
ZSN				Lg	Lg	10 30 12.3	
	126nm,0.2s						
ZSN	**Zaisan**	**4.28**	**328**	*e*Pg	**Pn**	**10 29 22.7**	**+3.6**
	12nm,0.2s						
ZSN				*e*Lg	Lg	10 30 12.3	
	126nm,0.2s						
MK31	**Makanchi Array**	**5.10**	**307**		**Pn**	**10 29 32.5**	**+2.0**
MK31					Sn	**10 30 30.1**	**+1.2**
MK31	**Makanchi Array**	**5.10**	**307**	⇑Pn	**Pn**	**10 29 27.7**	**-2.8**
	0.2nm,0.1s,baz=121,slow=13,SNR=250						
MK31				⇓Lg	Lg	10 30 25.2	
	14nm,0.3s,baz=120,slow=25,SNR=12						
MKAR	**Makanchi Array**	**5.10**	**307**	Pn	**Pn**	**10 29 32.7**	**+2.3**
	1.9nm,0.3s,baz=121,slow=12,SNR=129						
MKAR					Sn	**10 30 29.3**	**+0.4**
	14nm,0.3s,baz=118,slow=25,SNR=16						
MKAR				Lg	Lg	10 30 57.7	
	6.8nm,0.3s,baz=124,slow=28,SNR=2.7						
	2.6nm,0.3s						
MKAR	**Makanchi Array**	**5.10**	**307**		**Pn**	**10 29 32.5**	**+2.0**
MAKZ	**Makanchi**	**5.29**	**306**		**Pn**	**10 29 35.2**	**+2.1**
MAKZ	**Makanchi**	**5.29**	**306**	⇑Pn	**Pn**	**10 29 30.2**	**-2.8**
	2.9nm,0.3s						
MAKZ				⇓Lg	Lg	10 30 34.4	
	31nm,0.4s						
KTMS	**Ketmen**	**5.73**	**268**	Pg	**Pn**	**10 29 36.9**	**-2.4**
	0.8nm,0.1s						
KTMS				Lg	Lg	10 30 36.1	
	5.9nm,0.2s						
KTMS	**Ketmen**	**5.73**	**268**	*e*Pg	**Pn**	**10 29 36.9**	**-2.4**
	0.8nm,0.1s						
KTMS				*e*Lg	Lg	10 30 36.1	
	5.9nm,0.2s						
DJR	**Jarkent**	**6.10**	**277**	Pg	**Pn**	**10 29 43.4**	**-0.8**
	2.2nm,0.3s						
DJR				Lg	Lg	10 30 47.4	
	12nm,0.3s						
DJR	**Jarkent**	**6.10**	**277**	*e*Pg	**Pn**	**10 29 43.4**	**-0.8**
	2.2nm,0.3s						
DJR				*e*Lg	Lg	10 30 47.4	
	12nm,0.3s						
SHLS	**Shalkode**	**6.42**	**267**	Pg	Pn	10 29 44.4	-4.2
	3.4nm,0.2s						
SHLS				Lg	Lg	10 30 49.2	
	282nm,0.7s						
SHLS	**Shalkode**	**6.42**	**267**	*e*Pg	Pn	10 29 44.4	-4.2
	3.4nm,0.2s						
SHLS				*e*Lg	Lg	10 30 49.2	
	282nm,0.7s						
UZB	**Uzynbulak**	**6.74**	**267**	Pg	**Pn**	**10 29 55.2**	**+2.1**
	4.6nm,0.2s						
UZB				Lg	Lg	10 31 07.8	
	10nm,0.3s						
UZB	**Uzynbulak**	**6.74**	**267**	*e*Pg	**Pn**	**10 29 55.2**	**+2.1**
	4.6nm,0.2s						
UZB				*e*Lg	Lg	10 31 07.8	
	10nm,0.3s						
KPKS	**Kokpek**	**6.94**	**270**	Pg	**Pn**	**10 29 58.9**	**+3.1**
	3.3nm,0.1s						
KPKS				Lg	Lg	10 31 14.0	
	22nm,0.2s						
BLB	**Baldybastay**	**7.04**	**275**	Pg	**Pn**	**10 29 59.8**	**+2.6**
	7.6nm,0.1s						
BLB				Lg	Lg	10 31 15.9	
	34nm,0.2s						
ZHN	**Zhinishke**	**7.16**	**268**	Pg	**Pn**	**10 30 01.8**	**+3.0**
	1.8nm,0.1s						
ZHN				Lg	Lg	10 31 19.1	
	15nm,0.2s						
ZHN	**Zhinishke**	**7.16**	**268**	*e*Pg	**Pn**	**10 30 01.8**	**+3.0**
	1.8nm,0.1s						
ZHN				*e*Lg	Lg	10 31 19.1	
	15nm,0.2s						
KURS	**Kuram**	**7.31**	**270**	Pg	**Pn**	**10 30 04.8**	**+4.0**
	3.4nm,0.3s						
KURS				Lg	Lg	10 31 23.9	
	7.5nm,0.4s						
KURS	**Kuram**	**7.31**	**270**	*e*Pg	**Pn**	**10 30 04.8**	**+4.0**
	3.4nm,0.3s						
KURS				*e*Lg	Lg	10 31 23.9	
	7.5nm,0.4s						
TARG	**Taragay, Kyrgy**	**7.96**	**258**	Pn	**Pn**	**10 30 11.6**	**+1.4**
KOTS	**Kotyrbulak**	**8.11**	**269**	Pg	Pn	10 30 20.0	+8.1
	5.4nm,0.3s						
KOTS				Lg	Lg	10 31 50.2	
	13nm,0.5s						
CHKK	**Chushkaly**	**8.13**	**274**	Pg	Pn	10 30 20.6	+8.6
	1.8nm,0.1s						
CHKK				Lg	Lg	10 31 51.1	
	5.2nm,0.4s						
MDOK	**Medeo**	**8.16**	**269**	Pg	Pn	10 30 21.3	+8.7
	7.7nm,0.7s						
MDOK				Lg	Lg	10 31 52.7	
	5.8nm,0.4s						
MDOK				Lg	Lg	10 32 29.3	
	14nm,1.0s						
KTBS	**Karatobe**	**8.36**	**273**	Pg	Pn	10 30 24.7	+9.4
	2.0nm,0.3s						
KTBS				Lg	Lg	10 31 58.4	
	0.7nm,0.3s						
SEM	**Semipalatinsk**	**8.49**	**323**	Pg	Pn	10 30 34.2	+17
	8.1nm,0.2s						
SEM				Lg	Lg	10 32 14.9	
	43nm,0.2s						
KUU	**Kurty**	**8.59**	**274**	Pg	Pn	10 30 29.0	+11
	1.3nm,0.4s						
KUU				Lg	Lg	10 32 05.4	
	4.8nm,0.3s						
KRBS	**Karabastau**	**9.09**	**273**	Pg	Pn	10 30 38.4	+13
	1.9nm,0.4s						
KRBS				Lg	Lg	10 32 21.8	
	1.9nm,0.4s						
TKM2	**Tokmak 2**	**9.25**	**268**	⇑Lg	Lg	10 33 23.0	
	14nm,1.2s						
KURBB	**Kurchatov Arra**	**9.43**	**319**	Pn	**Pn**	**10 30 30.2**	**+0.4**
	0.4nm,0.3s,baz=131,slow=12,SNR=23						
KURBB					Sn	**10 32 12.4**	**-2.7**
	1.1nm,0.3s,baz=107,slow=20,SNR=12						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**9.43**	**319**	⇓Pn	**Pn**	**10 30 30.2**	**+0.4**
	0.7nm,0.2s						
KURBB				⇑Lg	Lg	10 32 42.8	
	42nm,0.6s						
KURK	**Kurchatov**	**9.45**	**320**	Pn	**Pn**	**10 30 29.8**	**-0.2**
KURK	**Kurchatov**	**9.45**	**320**	⇓Pn	**Pn**	**10 30 29.7**	**-0.3**
	1.0nm,0.3s						
KURK				⇑Lg	Lg	10 32 43.3	
	11nm,0.4s						
ZAA0	**Zalesovo Array**	**10.32**	**349**	Pn	**Pn**	**10 30 42.8**	**+0.9**
ZALV	**Zalesovo Beam**	**10.32**	**349**	Pn	**Pn**	**10 30 41.9**	**0.0**
	0.5nm,0.3s,baz=174,slow=14,SNR=6.7						
ZALV					Sn	**10 32 32.6**	**-4.5**
	3.8nm,0.3s,baz=163,slow=26,SNR=21						
ZALV				Lg	Lg	10 33 43.0	
	baz=180,slow=23						
ZALV				LR	LR	10 34 04.0	
	comp=Z,27nm,18.2s,baz=288,slow=34						
	1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**10.32**	**349**	Pn	**Pn**	**10 30 42.1**	**+0.2**
KK31	**Karatay Array**	**12.90**	**273**	Pn	**Pn**	**10 31 17.2**	**-0.1**
KKAR	**Karatay Array**	**12.90**	**273**	Pn	**Pn**	**10 31 17.0**	**-0.3**
SONM	**Songino Array**	**13.26**	**66**	Pn	**Pn**	**10 31 23.8**	**+1.6**
	0.5nm,0.8s,baz=255,slow=16,SNR=2.4						
SONM				Lg	Lg	10 35 13.9	
	0.1nm,0.3s,baz=253,slow=28,SNR=2.1						
BVAR	**Borovoye Array**	**14.92**	**314**	Pn	**Pn**	**10 31 42.5**	**-2.4**
	0.1nm,0.3s,baz=118,slow=15,SNR=3.6						
BVAR				Sn	Sn	10 34 20.4	-9.2
	0.1nm,0.3s,baz=110,slow=23,SNR=5.5						
	0.6nm,0.3s						
ABKAR	**Akbulak array**	**20.11**	**295**	P	**P**	**10 32 48.4**	**+0.8**
BRDH	**Bariadhala**	**21.34**	**171**	LR	LR	10 42 12.1	
	comp=Z,99nm,20.6s,baz=12,slow=40						
NRIK	**Noril'sk**	**25.52**	**359**	P	**P**	**10 33 42.7**	**+0.7**
	1.1nm,0.4s,baz=66,slow=5.1,SNR=2.5						
	1.1nm,0.4s						
NRIK	**Noril'sk**	**25.52**	**359**	P	**P**	**10 33 43.0**	**+1.0**
USRK	**Ussuriysk Ar.**	**31.18**	**74**	P	**P**	**10 34 31.4**	**-1.4**
FINES	**FINESS Array B**	**39.82**	**318**	P	**P**	**10 35 46.9**	**+0.2**
	1.1nm,0.6s,baz=101,slow=12,SNR=5.2						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**39.82**	**318**	P	**P**	**10 35 47.0**	**+0.3**
TIRR	**Tirgusor**	**42.06**	**292**	P	**P**	**10 36 05.0**	**-0.3**
TIRR					IAmb	IAmb	10 36 21.2
	comp=Z,22nm,1.1s						
NC405	**NORSAR Array S**	**46.71**	**320**	P	**P**	**10 36 42.2**	**-0.1**
NC303	**NORSAR Array S**	**46.84**	**320**	P	**P**	**10 36 42.8**	**-0.5**
NB201	**NORSAR Array S**	**46.92**	**320**	P	**P**	**10 36 44.5**	**+0.5**
NB2	**NORSAR Subarra**	**46.96**	**320**	P	**P**	**10 36 44.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=78,slow=6.2						
NOA	**NORSAR Array B**	**46.96**	**320**	P	**P**	**10 36 44.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=75,slow=7.8,SNR=6.1						
	comp=Z,0.4nm,0.4s						
NAO01	**NORSAR Array S**	**47.17**	**319**	P	**P**	**10 36 46.5**	**+0.5**
EUNU	**Eureka**	**56.28**	**359**	P	**P**	**10 37 55.2**	**+1.4**
IMAR	**Indian Mountai**	**60.58**	**25**	P	**P**	**10 38 24.3**	**+0.5**
A36M	**Sachs Harbour**	**62.04**	**11**	P	**P**	**10 38 34.7**	**+1.1**
A36M					IAmb	IAmb	10 38 35.6
	comp=Z,1.7nm,0.8s						
BMAR	**Burnt Mountain**	**62.06**	**20**	P	**P**	**10 38 35.2**	**+1.3**
C36M	**Paulatuk**	**64.59**	**12**	P	**P**	**10 38 50.8**	**+0.2**
C36M					IAmb	IAmb	10 38 51.4
	comp=Z,1.6nm,0.8s						
M27K	**Edge Creek, AK**	**66.75**	**23**	P	**P**	**10 39 04.9**	**+0.1**
M27K					IAmb	IAmb	10 39 10.8
	comp=Z,9.1nm,1.4s						
WRAB	**Tennant Creek**	**76.26**	**136**	P	**P**	**10 40 00.5**	**-2.0**
WRAB					IAmb	IAmb	10 40 44.7
	comp=Z,8.7nm,1.4s						
WRA	**Warramunga Arr**	**76.27**	**136**	P	**P**	**10 40 02.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=341,slow=6.0,SNR=7.2						
	comp=Z,1.1nm,0.8s						
WB2	**Warramunga Arr**	**76.27**	**136**	P	**P**	**10 40 00.3**	**-2.2**
WB2					IAmb	IAmb	10 40 14.9
	comp=Z,5.7nm,1.2s						
WR0	**Warramunga Arr**	**76.38**	**136**	P	**P**	**10 40 00.7**	**-2.5**
WR0					IAmb	IAmb	10 40 38.9
	comp=Z,4.3nm,1.2s						
AS31	**Alice Springs**	**79.19**	**138**	P	**P**	**10 40 15.7**	**-3.1**
ASAR	**Alice Springs**	**79.19**	**138**	P	**P**	**10 40 18.9**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=331,slow=5.5,SNR=16						
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**79.19**	**138**	P	**P**	**10 40 14.7**	**-4.1**
PDAR	**Pinedale Array**	**92.27**	**13**	LR	LR	11 25 46.2	
	comp=Z,18nm,20.0s,baz=9.5,slow=37						

*NEIC **31** 10:31:32.0±2.3, 5°80S±0°07×152°2E±0°1, h22km±6km, mb4.4/24, Error ellipse: s-maj=17.6km s-min=8.7km az=106.0*
*IDC **31** 10:31:36.9±1.7, 5°47S×151°68E, h67km±10km, mb3.8/8, mbtmp4.1/9, MS3.3/5, Error ellipse: s-maj=44.2km s-min=9.9km az=122.0*

ISC 31 10:31:33.3±0.5, 5°75S±0°06×152°10E±0°08, h45km, n44, σ1§49/44, mb4.3/20, MS3.1/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.43**	**357**	P	**Pn**	**10 31 56.1**	**-0.7**
	1µm,0.3s,baz=282,slow=6.3,SNR=251						
KRVT				S	**Sn**	**10 32 13.8**	**-0.7**
	5µm,0.3s,baz=207,slow=18,SNR=21						
RABL	**Rabaul**	**1.55**	**2**		**Pn**	**10 31 59.1**	**+0.7**
RABL				Sn	**Sn**	**10 32 19.2**	**+1.8**
PMG	**Port Moresby**	**6.10**	**233**	P	**Pn**	**10 33 03.5**	**+2.6**
	22nm,0.7s,baz=39,slow=11,SNR=7.4						
PMG				S	**Sn**	**10 34 08.7**	**-0.9**
	20nm,0.4s,baz=135,slow=14,SNR=6.1						
PMG	**Port Moresby**	**6.10**	**233**		**Pn**	**10 33 00.8**	**-0.2**
CTA	**Charters Tower**	**15.35**	**201**	LR	LR	10 40 47.5	
	comp=Z,77nm,18.4s,baz=51,slow=36						
EIDS	**Eidsvold**	**19.54**	**183**	P	**P**	**10 35 55.8**	**-1.4**
SAUI	**Saumlaki**	**20.77**	**263**	P	**P**	**10 36 11.1**	**+0.4**
LIFNC	**LIFOU**	**20.95**	**137**	P	**P**	**10 36 12.6**	**0.0**
KWAJ	**Kwajalein Atol**	**21.17**	**47**	P	**P**	**10 36 14.4**	**-0.6**
DZM	**Mont Dzumac**	**21.35**	**141**	LR	LR	10 43 38.9	
	comp=Z,97nm,20.1s,baz=182,slow=33						
ONTNC	**Ouen Toro**	**21.53**	**141**	P	**P**	**10 36 17.8**	**-1.0**
ONTNC				IAmb	IAmb	10 36 19.3	
	comp=Z,32nm,1.0s						
MTN	**Manton Dam**	**21.85**	**250**	P	**P**	**10 36 23.0**	**+0.7**
MTN				IAmb	IAmb	10 36 24.5	
	comp=Z,20nm,1.5s						
OUENC	**Ouen Island, N**	**21.85**	**141**		**P**	**10 36 22.0**	**-0.2**
OUENC				IAmb	IAmb	10 36 41.9	
	comp=Z,18nm,1.0s						
TARA	**Tarawa**	**21.96**	**72**	P	**P**	**10 36 21.1**	**-2.4**
MARNC	**Mare, Loyalty**	**21.97**	**137**	P	**P**	**10 36 22.0**	**-1.5**
WB0	**Warramunga Arr**	**22.16**	**229**	P	**P**	**10 36 26.6**	**+1.1**
WR0	**Warramunga Arr**	**22.16**	**229**	P	**P**	**10 36 27.4**	**+1.8**
WR0					IAmb	IAmb	10 36 28.9
	comp=Z,10nm,1.2s						
WRAB	**Tennant Creek**	**22.29**	**229**	P	**P**	**10 36 27.2**	**+0.2**
WRAB					IAmb	IAmb	10 36 42.8
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**22.29**	**229**	P	**P**	**10 36 28.4**	**+1.3**
WB2					IAmb	IAmb	10 36 39.9
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**22.30**	**229**	P	**P**	**10 36 27.6**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=52,slow=9.9,SNR=19						
WRA				LR	LR	10 45 07.4	
	comp=Z,53nm,19.1s,baz=52,slow=37	

0.3nm,0.3s,baz=312,slow=8.4,SNR=10.0
KURBB Kurchatov Arra 2.34 114 ⇑Pn **Pn 10 42 04.5 +1.8**
3.6nm,0.8s
KURBB ⇓Sn **Sn 10 42 33.4 +1.2**
16nm,0.7s
KURK Kurchatov 2.35 111 ⇑Pn **Pn 10 42 03.4 +0.4**
1.2nm,0.5s
KURK ⇑Sn **Sn 10 42 32.0 -0.5**
6.5nm,0.5s
BVA0 Borovoye Array 3.25 297 ⇑Pg **Pg 10 42 24.7 -0.7**
2.6nm,1.0s,baz=116,slow=16,SNR=5.5
BVA0 ⇑Lg Lg 10 43 06.9
9.4nm,0.7s,baz=115,slow=24,SNR=12
BVAR Borovoye Array 3.25 297 Pn **Pb 10 42 20.3 -1.4**
baz=117,slow=16,SNR=4.2
BVAR Sn **Sb 10 43 01.6 -0.2**
0.1nm,0.3s,baz=110,slow=25,SNR=2.5
0.9nm,0.5s
BRVK Borovoye 3.33 298 ⇑Pg **Pb 10 42 23.7 +0.8**
1.9nm,0.6s
BRVK ⇓Lg Lg 10 43 09.8
13nm,0.7s
ZALV Zalesovo Beam 6.30 65 Pn **Pn 10 42 58.1 +1.0**
0.3nm,0.3s,baz=254,slow=14,SNR=5.2
0.9nm,0.5s
I46RU ZALESOVO INFRA 6.30 65 I I 11 18 20.0
baz=253,slow=325,SNR=3.7
MAKZ Makanchi 6.56 135 ⇓Sn **Sn 10 44 17.3 +1.0**
3.6nm,1.4s
MAKZ ⇑Lg Lg 10 44 47.6
3.4nm,1.1s
MK31 Makanchi Array 6.71 133 ⇑Sn **Sn 10 44 19.0 -1.0**
0.3nm,0.5s
MK31 ⇑Lg Lg 10 44 52.2
1.0nm,0.6s,baz=319,slow=26,SNR=5.1
MKAR Makanchi Array 6.71 133 Pn **Pn 10 43 04.1 +1.2**
baz=321,slow=11,SNR=2.5
MKAR Sn **Sn 10 44 19.8 -0.2**
0.1nm,0.3s,baz=322,slow=31,SNR=1.4
MKAR Lg Lg 10 44 54.5
0.2nm,0.3s,baz=315,slow=26,SNR=7.9
0.2nm,0.7s

VAO 31 10:41:41.4±1.1, 16°.04S×68°.79W, h197km±7km, mb3.8, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.68**	**111**	*eP*	Pn	10 42 09.5	-0.2
ETMB	**Extrema**	**6.68**	**22**	*eP*	Pn	10 43 17.6	+0.1
BBSD	**Serra de San D**	**7.92**	**99**	*eP*	Pn	10 43 34.0	+0.2
SNDB	**Serra Nova Dou**	**17.45**	**79**	*eP*	P	10 45 31.3	-0.3
ITQB	**Itaqui**	**17.57**	**143**	*eP*	P	10 45 33.5	+0.7
FRBT	**Francisco Belt**	**17.68**	**127**	*eP*	P	10 45 33.6	-0.4
CRSM	**Crissiumal (Br**	**17.79**	**132**	*eP*	P	10 45 34.5	-0.7
PTGB	**Pitanga**	**17.88**	**122**	*eP*	P	10 45 36.7	+0.4
ITRB	**Iturama**	**17.91**	**104**	*eP*	P	10 45 36.6	0.0

RSNC 31 10:51:18.3±1.0, 6°.80N×73°.17W, h149km±4km, ML3.1, Mw3.5,2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**184**	⇓*iP*	Pn	10 51 38.3	-0.5
BARC				*eS*	Sn	10 51 53.6	-0.8
BARC				*i*		10 51 54.5	
	comp=Z,297nm,0.2s						
BRRC	**Barranca, Sant**	**0.62**	**299**	*eP*	Pn	10 51 40.1	-0.1
BRRC				*eS*	Sn	10 51 57.2	+0.4
BRRC				*i*		10 52 01.1	
	comp=Z,136nm,0.3s						
PAMC	**Pamplona, Colo**	**0.71**	**41**	*eP*	Pn	10 51 41.2	-0.1
PAMC				*eS*	Sn	10 51 58.3	-0.5
PAMC				*i*		10 52 00.3	
	comp=Z,440nm,0.5s						
RUSC	**La Rusia**	**0.91**	**175**	*eP*	Pn	10 51 42.3	-0.5
RUSC				*eS*	Sn	10 52 01.1	-0.4
RUSC				*i*		10 52 02.1	
	comp=Z,174nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.31**	**259**	*eP*	Pn	10 51 44.7	-1.1
PTBC				*eS*	Sn	10 52 05.9	-0.9
PTBC				*i*		10 52 12.9	
	comp=Z,79nm,0.2s						
TAMC	**Tame, Arauca**	**1.42**	**105**	⇓*iP*	Pn	10 51 46.7	-0.3
TAMC				*eS*	Sn	10 52 08.2	-0.6
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	*eP*	Pn	10 51 50.9	-0.3
ZARC				*eS*	Sn	10 52 15.6	-0.9
ZARC				*i*		10 52 22.4	
	comp=Z,78nm,0.2s						
CHIC	**Chingaza**	**2.23**	**195**	*eP*	Pn	10 51 56.4	-0.1
CHIC				*eS*	Sn	10 52 25.7	-0.2
CHIC				*i*		10 52 29.1	
	comp=Z,96nm,0.5s						
ROSC	**El Rosal**	**2.26**	**211**	*eP*	Pn	10 51 58.0	+1.1
ROSC				*eS*	Sn	10 52 26.8	+0.2
ROSC				*i*		10 52 32.0	
	comp=Z,138nm,0.5s						
UREC	**San Jos de Ur**	**2.53**	**292**	*eP*	Pn	10 51 58.8	-1.0
UREC				*eS*	Sn	10 52 29.6	-2.0
UREC				*i*		10 52 40.9	
	comp=Z,80nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.75**	**352**	*eP*	Pn	10 52 03.6	+1.1
LL1C				*eS*	Sn	10 52 38.8	+2.2
PTGC	**Puerto Gaitan,**	**2.78**	**158**	*eP*	Pn	10 52 01.5	-1.4
PTGC				*eS*	Sn	10 52 35.0	-2.4
PTGC				*i*		10 52 39.5	
	comp=Z,115nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.98**	**252**	*eP*	Pn	10 52 06.7	+1.2
CBOC				*eS*	Sn	10 52 43.1	+1.1
CBOC				*i*		10 52 48.5	
	comp=Z,18nm,0.5s						
DBBC	**Dabeiba**	**3.03**	**274**	*eP*	Pn	10 52 05.8	-0.3
DBBC				*eS*	Sn	10 52 41.4	-1.6
DBBC				*i*		10 52 42.8	
	comp=Z,26nm,0.4s						
ORTC	**Ortega, Tolima**	**3.54**	**216**	*eP*	Pn	10 52 12.6	-0.1
ORTC				*eS*	Sn	10 52 56.0	+1.2
ORTC				*i*		10 52 59.4	
	comp=Z,47nm,0.5s						
PLMC	**San Jos del P**	**3.63**	**239**	*eP*	Pn	10 52 13.8	+0.1
PLMC				*eS*	Sn	10 52 57.7	+1.0
PLMC				*i*		10 52 59.8	
	comp=Z,22nm,0.2s						
SJCC	**San Jacinto, C**	**3.66**	**327**	*eP*	Pn	10 52 12.5	-1.7
SJCC				*eS*	Sn	10 52 54.5	-3.1
SJCC				*i*		10 52 57.9	
	comp=Z,24nm,0.6s						
CRJC	**Cerrejon, Guaj**	**4.20**	**4**	*eP*	Pn	10 52 18.8	-2.5
CRJC				*eS*	Sn	10 53 07.0	-3.3
CRJC				*i*		10 53 13.6	
	comp=Z,31nm,0.2s						
GARC	**Garzon, Huila**	**5.14**	**207**	*eP*	Pn	10 52 32.3	-1.5

*ANF **31** 11:08:43.8±1.1, 38°.06N×97°.97W, h6km±8km, ML3.6/8, Error ellipse: s-maj=7.8km s-min=5.4km az=57.0*
*NEIC **31** 11:08:43.5±0.9, 38°.02N±0°.01×97°.97W±0°.03, h7km±7km, mb_Lg2.9/72, ML3.0/12, Error ellipse: s-maj=3.4km s-min=1.5km az=100.0*
ISC 31 11:08:43.5±1.1, 38°.01N±0°.02×98°.00W±0°.03, h7km±10km, n80, σ0°52/74, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.70**	**307**		**Pg**	**11 08 57.1**	**+0.2**
R32A				Sg	**Sg**	**11 09 06.3**	**+0.3**
R32A				IAML		11 09 07.3	
	comp=N,838nm,0.6s						
R32A				IAML		11 09 15.0	
	comp=E,989nm,0.8s						
R32A	**Long Quarter,**	**0.70**	**307**	P	**Pg**	**11 08 57.2**	**+0.2**
baz=124							
R32A				S	**Sg**	**11 09 06.3**	**+0.3**
baz=124							
KAN12	**Harper NE Stat**	**0.71**	**180**		**Pg**	**11 08 56.9**	**-0.3**
KAN12				Sg	**Sg**	**11 09 06.1**	**-0.3**
KAN06	**Argonia West S**	**0.77**	**172**		**Pg**	**11 08 58.4**	**+0.1**
KAN06				Sg	**Sb**	**11 09 09.1**	**-0.6**
KAN06				IAML		11 09 09.4	
	comp=N,672nm,0.2s						
KAN06				IAML		11 09 26.3	
	comp=E,330nm,0.6s						
KS21	**Milan North St**	**0.77**	**159**		**Pg**	**11 08 57.4**	**-0.9**
KS21				Sg	**Sg**	**11 09 08.7**	**+0.4**
KAN08	**Anthony NE Sta**	**0.78**	**178**	Pg	**Pg**	**11 08 58.8**	**+0.3**
KAN08				Sg	**Sg**	**11 09 08.3**	**-0.3**
KAN08				IAML		11 09 26.8	
	comp=E,266nm,0.6s						
KS20	**Mayfield South**	**0.85**	**155**	Pg	**Pg**	**11 09 00.1**	**+0.2**
KS20				Sg	**Sg**	**11 09 11.3**	**+0.3**
KAN01	**Argonia South**	**0.87**	**167**	Pg	**Pg**	**11 09 00.5**	**+0.2**
KAN01				Sg	**Sg**	**11 09 12.2**	**+0.5**
KAN09	**Caldwell North**	**0.92**	**161**	Pg	**Pg**	**11 09 01.4**	**+0.2**
KAN09				Sg	**Sg**	**11 09 13.4**	**+0.2**
KAN17	**Caldwell West**	**0.98**	**169**	Pg	**Pg**	**11 09 02.5**	**+0.2**
KAN17				Sg	**Sg**	**11 09 15.2**	**+0.1**
KAN14	**Manchester OK**	**1.05**	**178**		**Pg**	**11 09 03.7**	**0.0**
KAN14				Sg	**Sg**	**11 09 17.4**	**+0.2**
KAN13	**South Haven SW**	**1.08**	**157**	Pg	**Pg**	**11 09 04.2**	**0.0**
KAN13				Sg	**Sg**	**11 09 17.9**	**-0.3**
GC02	**Grant County #**	**1.16**	**174**	Pg	**Pb**	**11 09 05.8**	**-0.1**
GC02				Sg	**Sg**	**11 09 20.8**	**0.0**
OK032	**Salt Plains WL**	**1.21**	**188**		**Pb**	**11 09 06.7**	**-0.1**
OK032				Sg	**Sn**	**11 09 22.9**	**-0.6**
OK032				IAML		11 09 25.8	
	comp=E,368nm,0.5s						
BLOK	**Blackwell**	**1.39**	**153**		**Pn**	**11 09 09.5**	**+0.2**
CROK	**Carrier**	**1.50**	**179**		**Pb**	**11 09 11.3**	**-0.4**
KSU1	**Kansas State U**	**1.54**	**45**		**Pn**	**11 09 10.9**	**-0.5**
KSU1	**Kansas State U**	**1.54**	**45**	P	**Pn**	**11 09 11.7**	**+0.3**
baz=225							
KSU1				S	**Sn**	**11 09 31.9**	**+0.1**
baz=225							
NOKA	**Waynoka**	**1.56**	**209**		**Pb**	**11 09 12.1**	**-0.6**
CBKS	**Cedar Bluff**	**1.58**	**301**	Pn	**Pn**	**11 09 12.1**	**+0.1**
CBKS	**Cedar Bluff**	**1.58**	**301**	P	**Pb**	**11 09 13.0**	**-0.2**
baz=119							
CBKS				S	**Sg**	**11 09 34.0**	**-0.5**
baz=119							
T35A	**Sooner Cattle**	**1.61**	**132**		**Pn**	**11 09 12.4**	**0.0**
T35A				IAmb_Lg		11 09 38.2	
	comp=Z,70nm,0.7s						
T35B	**Sooner Cattle**	**1.61**	**132**	P	**Pn**	**11 09 13.1**	**+0.7**
baz=314							
T35B				S	**Sb**	**11 09 34.4**	**+0.4**
baz=314							
OK048	**Pawnee Station**	**1.80**	**152**		**Pn**	**11 09 15.4**	**+0.4**
OK050	**Pawnee Station**	**1.80**	**153**		**Pn**	**11 09 14.9**	**-0.1**
U32A	**Winter Ranch,**	**1.81**	**206**		**Pn**	**11 09 15.4**	**+0.3**
U32A	**Winter Ranch,**	**1.81**	**206**	P	**Pb**	**11 09 16.9**	**-0.1**
baz=26							
U32A				S	**Sg**	**11 09 40.9**	**-0.9**
baz=26							
OK046	**Pawnee Station**	**1.83**	**151**	Pn	**Pn**	**11 09 15.8**	**+0.4**
QUOK	**Quay**	**2.10**	**150**		**Pn**	**11 09 18.9**	**-0.2**
OK033	**Mehan**	**2.14**	**156**		**Pn**	**11 09 19.6**	**0.0**
OK053	**SW of W Deep R**	**2.21**	**154**	Pn	**Pn**	**11 09 21.0**	**+0.4**
OK052	**Battle Ridge R**	**2.23**	**154**	Pn	**Pn**	**11 09 20.7**	**-0.1**
OK029	**Liberty Lake**	**2.25**	**169**	Pn	**Pn**	**11 09 21.7**	**+0.6**
OK031	**S. Brethren Rd**	**2.25**	**155**	Pn	**Pn**	**11 09 21.1**	**-0.1**
BCOK	**Bluff Creek, N**	**2.37**	**172**	Pn	**Pn**	**11 09 23.3**	**+0.6**
DEOK	**Depew**	**2.47**	**150**	Pn	**Pn**	**11 09 24.0**	**-0.2**
OK025	**Westminster Rd**	**2.48**	**167**	Pn	**Pn**	**11 09 24.7**	**+0.4**
TUL1	**Leonard**	**2.74**	**139**	Pn	**Pn**	**11 09 27.4**	**-0.4**
TUL1	**Leonard**	**2.74**	**139**	P	**Pn**	**11 09 28.6**	**+0.7**
baz=321							
TUL1				S	**Sn**	**11 10 01.9**	**+0.7**
baz=321							
N33B	**J Bar K, Exete**	**2.76**	**9**	P	**Pn**	**11 09 28.6**	**+0.5**
baz=188							
N33B				S	**Sn**	**11 10 01.5**	**-0.2**
baz=188							
N33A	**J Bar K, Exete**	**2.76**	**9**	IAmb_Lg		11 10 16.5	
	comp=Z,34nm,0.8s						
W35A	**Tecumseh**	**2.99**	**162**	Pn	**Pn**	**11 09 31.8**	**+0.5**
RLO	**Rose Lookout**	**3.01**	**127**	IAmb_Lg		11 10 21.8	
	comp=Z,25nm,0.8s						
U38A	**Gravette**	**3.28**	**117**	Pn	**Pn**	**11 09 34.4**	**-1.0**
U38A				IAmb_Lg		11 10 28.4	
	comp=Z,51nm,0.7s						
U38A	**Gravette**	**3.28**	**117**	P	**Pn**	**11 09 36.0**	**+0.6**
baz=300							
WMOK	**Wichita Mounta**	**3.32**	**191**	IAmb_Lg		11 10 34.4	
	comp=Z,28nm,1.0s						
BGNE	**Belgrade**	**3.40**	**358**	IAmb_Lg		11 10 33.2	
	comp=Z,20nm,0.8s						
X34A	**Smith Ranch, M**	**3.40**	**178**	Pn	**Pn**	**11 09 35.9**	**-1.1**
X34A				IAmb_Lg		11 10 40.7	
	comp=Z,34nm,0.9s						
HHAR	**Hobbs**	**3.67**	**117**	Pn	**Pn**	**11 09 41.4**	**+0.6**
S39A	**Bolivar**	**3.72**	**93**	Pn	**Pn**	**11 09 41.0**	**-0.3**
S39A				IAmb_Lg		11 10 47.6	
	comp=Z,24nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.77**	**287**	IAmb_Lg		11 10 45.7	
	comp=Z,25nm,0.8s						
P38A	**Dawn**	**3.85**	**64**	Pn	**Pn**	**11 09 43.7**	**+0.6**
P38A				IAmb_Lg		11 10 46.9	
	comp=Z,28nm,0.8s						
X37A	**Clayton**	**4.02**	**147**	Pn	**Pn**	**11 09 46.4**	**+0.9**
LOOK	**Love County**	**4.06**	**170**	IAmb_Lg		11 11 02.6	
	comp=Z,32nm,1.1s						
OGNE	**Ogallala**	**4.28**	**314**	Pn	**Pn**	**11 09 50.2**	**+1.1**
AMTX	**Amarillo**	**4.30**	**225**	Pn	**Pn**	**11 09 49.9**	**+0.5**
R40A	**Maddies Statio**	**4.53**	**85**	Pn	**Pn**	**11 09 51.4**	**-1.1**
R40A				IAmb_Lg		11 11 16.3	
	comp=Z,16nm,0.8s						
N38A	**Joes South For**	**4.62**	**52**	Pn	**Pn**	**11 09 53.2**	**-0.5**
Z35A	**Perchaven, San**	**4.71**	**172**	Pn	**Pn**	**11 09 56.0**	**+1.0**
P40A	**Paris**	**4.89**	**70**	IAmb_Lg		11 11 27.6	
	comp=Z,13nm,0.8s						
FW06	**Azle**	**5.04**	**176**	IAmb_Lg		11 11 23.1	
	comp=Z,7.2nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.16**	**112**	Pn	**Pn**	**11 10 02.5**	**+1.3**
FCAR				IAmb_Lg		11 11 27.2	
	comp=Z,29nm,1.1s						
T25A	**Trinidad**	**5.17**	**262**	IAmb_Lg		11 11 35.9	
	comp=Z,28nm,0.8s						
CCM	**Cathedral Cave**	**5.33**	**87**	IAmb_Lg		11 11 39.0	
	comp=Z,17nm,0.8s						
Z38A	**Mt. Pleasant**	**5.33**	**152**	IAmb_Lg		11 11 40.6	
	comp=Z,11nm,0.8s						
ABTX	**Abilene, Hawle**	**5.54**	**195**	IAmb_Lg		11 11 48.8	
	comp=Z,12nm,0.7s						
Q24A	**Divide**	**5.69**	**282**	IAmb_Lg		11 11 53.6	
	comp=Z,21nm,0.8s						
LCAR	**Lake Charles**	**5.81**	**107**	IAmb_Lg		11 11 53.2	
	comp=Z,21nm,0.7s						
SDCO	**Great Sand Dun**	**5.94**	**270**	IAmb_Lg		11 11 51.9	
	comp=Z,10nm,0.7s						
PBMO	**Poplar Bluff**	**6.15**	**99**	IAmb_Lg		11 12 02.5	
	comp=Z,18nm,0.8s						
ISCO	**Idaho Springs**	**6.20**	**289**	IAmb_Lg		11 12 12.8	
	comp=Z,14nm,0.8s						
PHWY	**Pilot Hill**	**6.63**	**302**	IAmb_Lg		11 12 27.9	
	comp=Z,11nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.82**	**74**	IAmb_Lg		11 12 22.6	
	comp=Z,17nm,0.7s						
SIUC	**Southern Illin**	**6.96**	**90**	IAmb_Lg		11 12 26.8	
	comp=Z,16nm,0.9s						
SMCO	**Snowmass**	**7.12**	**282**	IAmb_Lg		11 12 30.1	
	comp=Z,9.9nm,0.8s						
435B	**Jarrell**	**7.21**	**177**	IAmb_Lg		11 12 45.3	
	comp=Z,13nm,0.8s						
HDIL	**Hopedale**	**7.22**	**67**	IAmb_Lg		11 12 42.4	
	comp=Z,19nm,0.8s						
RSSD	**Black Hills**	**7.62**	**325**	IAmb_Lg		11 12 57.1	
	comp=Z,8.4nm,0.7s						
JCT	**Junction City**	**7.66**	**192**	IAmb_Lg		11 13 07.5	
	comp=Z,17nm,0.9s						
K22A	**Casper**	**7.99**	**308**	IAmb_Lg		11 13 07.0	
	comp=Z,16nm,1.0s						

*IDC **31** 11:29:46.3±1.2, 39°.82S×45°.93E, h0km, mb3.9/4, mbtmp4.0/4, Error ellipse: s-maj=189.1km s-min=29.8km az=21.0*
*NEIC **31** 11:29:48.4±1.0, 40°.05S±0°.3×45°.9E±0°.2, h10km±2km, mb4.1/6, Error ellipse: s-maj=60.9km s-min=11.6km az=25.0*
ISC 31 11:29:47.9±1.0, 39°.9S±0°.4×45°.9E±0°.2, h10km, n15, σ0°65/12, mb4.1/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.41**	**297**	P	**P**	**11 34 25.1**	**-0.1**
	3.0nm,1.0s,baz=132,slow=13,SNR=3.6						
	3.0nm,1.0s						
BOSA	**Boshof**	**20.41**	**297**	P	**P**	**11 34 25.5**	**+0.3**
BOSA				IAmb	IAmb	11 34 50.8	
	comp=Z,5.4nm,1.5s						
H01W2	**Cape Leeuwin H**	**53.23**	**108**	T	T	12 36 27.3	
	baz=243,slow=75,SNR=5.5						
H01W3	**Cape Leeuwin H**	**53.24**	**108**	T	T	12 36 25.1	
	baz=243,slow=75,SNR=4.0						
H01W1	**Cape Leeuwin H**	**53.25**	**108**	T	T	12 36 26.0	
	baz=243,slow=75,SNR=3.8						
ASAR	**Alice Springs**	**73.75**	**107**	P	**P**	**11 41 22.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=226,slow=5.4,SNR=15						
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**73.75**	**107**	P	**P**	**11 41 22.5**	**0.0**
AS31	**Alice Springs**	**73.75**	**107**	P	**P**	**11 41 21.5**	**-1.0**
AS31				IAmb	IAmb	11 41 23.6	
	comp=Z,0.9nm,1.0s						
STKA	**Stephens Creek**	**74.27**	**118**	P	**P**	**11 41 26.6**	**+1.3**
	comp=Z,0.5nm,0.2s,baz=252,slow=6.4,SNR=3.1						
	comp=Z,0.5nm,0.2s						
STKA	**Stephens Creek**	**74.27**	**118**	P	**P**	**11 41 25.1**	**-0.3**
WRA	**Warramunga Arr**	**76.32**	**105**	P	**P**	**11 41 37.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=222,slow=4.3,SNR=10						
	comp=Z,1.1nm,0.7s						
WR0	**Warramunga Arr**	**76.46**	**105**	P	**P**	**11 41 37.2**	**-0.9**
WR0				IAmb	IAmb	11 41 57.7	
	comp=Z,6.3nm,1.4s						
WB0	**Warramunga Arr**	**76.47**	**104**	P	**P**	**11 41 38.1**	**-0.1**
WB0				IAmb	IAmb	11 41 56.0	
	comp=Z,6.0nm,1.3s						
TRQA	**Tornquist**	**78.11**	**230**	P	**P**	**11 41 47.0**	**-0.1**
TXAR	**Lajitas Array**	**152.94**	**256**	PKPbc	**PKPbc**	**11 49 45.5**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=132,slow=3.8,SNR=2.6						

*IDC **31** 11:43:07.5±0.5, 40°.12S×45°.82E, h0km, mb4.5/24, mbtmp4.5/24, MS4.3/51, Error ellipse: s-maj=16.9km s-min=13.6km az=40.0*
*NEIC **31** 11:43:09.6±2.3, 40°.22S±0°.09×45°.8E±0°.1, h10km±1km, mb5.0/59, Error ellipse: s-maj=16.3km s-min=12.3km az=218.0*
*GCMT **31** 11:43:10.6±0.2, 39°.98S±0°.01×45°.85E±0°.02, h12km, MW5.1/129, Moment Tensor Solution. s67,c82; s129,c217; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.99±.11; $M_{\theta\theta}$5.47±.10; $M_{\phi\phi}$0.52±.11; $M_{r\theta}$-0.15±.30; $M_{\theta\phi}$1.99±.09; $M_{r\phi}$-0.71±.38; Best double couple: M_o6.12500×10^{16} NP1:ϕ_s65.00000°, δ47.00000°, λ-98.00000°. NP2:ϕ_s257.00000°, δ44.00000°, λ-81.00000°. Principal axes: T 6.1830, Plg2.0000°, Azm160.0000°; N -0.1100, Plg6.0000°, Azm70.0000°; P -6.0670, Plg84.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 11:43:09.0±0.3, 40°.20S±0°.07×45°.87E±0°.07, h10km, n187, σ1§21/148, mb4.8/55, MS4.4/56, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**7.60**	**147**		**Pn**	**11 44 59.6**	**-0.1**
KSTD	**Kokstad**	**16.52**	**300**	*eP*	**Pn**	**11 47 00.3**	**-0.8**
KSTD				IAmb	IAmb	11 47 04.7	
	comp=Z,65nm,1.5s						
GRHM	**Grahamstown, E**	**17.07**	**288**	Pn	**Pn**	**11 47 07.7**	**-0.1**
GRHM				IAmb	IAmb	11 47 10.9	
	comp=Z,166nm,1.9s						
GRHM	**Grahamstown, E**	**17.07**	**288**	*eP*	**P**	**11 47 09.4**	**-0.1**
GRHM				IAmb	IAmb	11 47 18.9	
	comp=Z,24nm,1.1s						
POGA	**Pongola**	**17.38**	**313**	Pn	**Pn**	**11 47 10.3**	**-1.4**
SOE	**Somerset East**	**17.95**	**288**		**Pn**	**11 47 17.4**	**-1.3**
SOE				IAmb	IAmb	11 47 21.8	
	comp=Z,114nm,1.5s						
VOI	**Vohitsoka**	**18.26**	**3**	P	**Pn**	**11 47 22.3**	**-0.3**
GRAF	**Camdeboo Natio**	**18.95**	**288**	*eP*	**Pn**	**11 47 31.4**	**+0.5**
GRAF				IAmb	IAmb	11 47 32.5	
	comp=Z,112nm,2.1s						
SNKL	**Senekal, Frees**	**19.08**	**303**	*eP*	**P**	**11 47 31.8**	**-0.1**
SNKL				IAmb	IAmb	11 47 32.5	
	comp=Z,148nm,2.7s						
HVD	**Gariep Dam**	**19.14**	**294**	*eP*	**P**	**11 47 32.6**	**+0.1**
HVD				IAmb	IAmb	11 47 39.6	
	comp=Z,73nm,1.8s						
ROOI	**Rooidraai Farm**	**19.52**	**286**	*eP*	**Pn**	**11 47 37.6**	**-0.3**
ROOI				IAmb	IAmb	11 47 41.6	
	comp=Z,46nm,1.6s						
BFON	**Badsfontein, M**	**19.77**	**288**	*eP*	**Pn**	**11 47 40.7**	**-0.2**
BFON				IAmb	IAmb	11 47 41.2	
	comp=Z,38nm,1.5s						
PRYS	**Parys**	**20.28**	**305**	*eP*	**P**	**11 47 43.8**	**-1.1**
PRYS				IAmb	IAmb	11 47 46.8	
	comp=Z,2.7nm,0.8s						
BRAK	**Brakfontein**	**20.36**	**287**	*eP*	**P**	**11 47 46.1**	**+0.3**
BRAK				IAmb	IAmb	11 47 48.0	
	comp=Z,4.4nm,0.9s						
BOSA	**Boshof**	**20.52**	**298**	P	**P**	**11 47 46.5**	**-0.9**
	comp=Z,15nm,0.9s,baz=137,slow=10,SNR=12						
BOSA				LR	LR	11 54 13.3	
	comp=Z,1μm,21.0s,baz=140,slow=33						
	comp=Z,15nm,0.9s						
BOSA	**Boshof**	**20.52**	**298**	P	**P**	**11 47 47.1**	**-0.3**
BOSA	**Boshof**	**20.52**	**298**	*i* P	**P**	**11 47 41.3**	**-6.1**
BOSA	**Boshof**	**20.52**	**298**	*eP*	**P**	**11 47 47.0**	**-0.4**
BOSA				IAmb	IAmb	11 47 50.8	
	comp=Z,19nm,1.1s						
GRAN	**Grantham**	**20.64**	**285**	*eP*	**P**	**11 47 49.7**	**+1.0**
GRAN				IAmb	IAmb	11 47 58.7	
	comp=Z,3.4nm,0.9s						
MOPA	**Mopani**	**20.64**	**319**	*i* P	**P**	**11 47 49.1**	**+0.4**
MOPA	**Mopani**	**20.64**	**319**	*eP*	**P**	**11 47 47.4**	**-1.3**
MOPA				IAmb	IAmb	11 47 50.2	
	comp=Z,56nm,1.7s						
MERW	**Merweville**	**20.94**	**283**	*eP*	**P**	**11 47 52.4**	**+0.3**
MERW				IAmb	IAmb	11 47 59.8	
	comp=Z,508nm,2.9s						
ABPO	**Ambohimpanom**	**21.15**	**4**	P	**P**	**11 47 54.4**	**0.0**
KSR	**Koster**	**21.34**	**306**	*eP*	**P**	**11 47 55.4**	**-1.0**
KSR				IAmb	IAmb	11 47 57.7	
	comp=Z,27nm,0.8s						
SWZ	**Schweizer**	**21.40**	**301**	*eP*	**P**	**11 47 56.0**	**-1.1**
SWZ				IAmb	IAmb	11 47 57.0	
	comp=Z,49nm,1.6s						
OPO	**Ambohidratompo**	**21.59**	**3**	P	**P**	**11 47 57.4**	**-1.7**
	comp=Z,5.0nm,0.6s,baz=198,slow=7.7,SNR=14			

TSUM	**Tsumeb**	**32.05**	**302**	LR	LR	12 01 13.2		
	comp=Z,1μm,21.4s,baz=153,slow=34							
TSUM	**Tsumeb**	**32.05**	**302**	P	**P**	**11 49 35.1**	**-1.0**	
TSUM				IAmb	IAmb	11 49 42.0		
	comp=Z,18nm,1.6s							
MSEY	**Mahe Island**	**36.42**	**16**	P	**P**	**11 50 14.0**	**+0.1**	
MSEY				IAmb	IAmb	11 50 56.8		
	comp=Z,37nm,1.1s							
TROLL	**Troll, Antarti**	**38.35**	**200**	P	**P**	**11 50 32.0**	**+2.2**	
SNAA	**Sanae**	**39.66**	**202**	P	**P**	**11 50 43.0**	**+2.3**	
SNAA	**Sanae**	**39.66**	**202**	P	**P**	**11 50 41.2**	**+0.5**	
	comp=Z,3.8nm,0.7s,baz=89,slow=9.7,SNR=3.6							
SNAA				LR	LR	12 04 13.8		
	comp=Z,475nm,18.7s,baz=47,slow=32							
	comp=Z,3.8nm,0.7s							
SNAA	**Sanae**	**39.66**	**202**	P	**P**	**11 50 42.6**	**+1.9**	
SNAA				IAmb	IAmb	11 50 46.7		
	comp=Z,61nm,1.8s							
SNAA	**Sanae**	**39.66**	**202**	*e*P	**P**	**11 50 40.5**	**-0.2**	
SNAA				IAmb	IAmb	11 50 58.3		
	comp=Z,3μm,2.6s							
KMBO	**Kilima Mbogo**	**39.68**	**346**	LR	LR	12 06 17.9		
	comp=Z,11nm,18.3s,baz=104,slow=35							
H08S1	**Diego Carcia H**	**40.20**	**43**	T	T	12 33 17.3		
	baz=213,slow=75,SNR=6.6							
H08S2	**Diego Garcia H**	**40.21**	**43**	T	T	12 33 18.9		
	baz=213,slow=75,SNR=5.6							
H08S3	**Diego Garcia H**	**40.22**	**43**	T	T	12 33 19.2		
	baz=213,slow=75,SNR=7.8							
VNA2	**Neumayer–Watz**	**40.73**	**204**	P	**P**	**11 50 52.3**	**+2.8**	
	baz=63,slow=7.0							
MBAR	**Mbarara**	**41.76**	**337**	LR	LR	12 06 51.6		
	comp=Z,533nm,19.7s,baz=118,slow=34							
QSPA	**South Pole Qui**	**50.00**	**180**	P	**P**	**11 52 03.8**	**+0.6**	
	comp=Z,4.6nm,0.8s,baz=256,slow=5.1,SNR=13							
QSPA				LR	LR	12 11 02.9		
	comp=Z,1μm,20.9s,baz=260,slow=34							
	comp=Z,4.6nm,0.8s							
QSPA	**South Pole Qui**	**50.00**	**180**	P	**P**	**11 52 04.0**	**+0.8**	
H01W2	**Cape Leeuwin H**	**53.17**	**107**	T	T	12 49 48.1		
	baz=243,slow=75,SNR=36							
H01W3	**Cape Leeuwin H**	**53.18**	**107**	T	T	12 49 48.4		
	baz=243,slow=75,SNR=31							
H01W1	**Cape Leeuwin H**	**53.19**	**107**	T	T	12 49 49.0		
	baz=243,slow=75,SNR=30							
VNDA	**Vanda**	**56.32**	**166**	LR	LR	12 15 43.7		
	comp=Z,483nm,19.0s,baz=246,slow=35							
NWAO	**Narrogin (SRO)**	**56.38**	**107**	LR	LR	12 11 32.1		
	comp=Z,366nm,19.3s,slow=30							
NWAO	**Narrogin (SRO)**	**56.38**	**107**	P	**P**	**11 52 49.7**	**-0.8**	
PCHI	**Peechi**	**57.84**	**36**	*e*P	P	11 53 08.0	+7.2	
PCHI				*e*S	S	12 00 31.6	-29	
PMSA	**Palmer Station**	**62.02**	**207**	LR	LR	12 17 00.6		
	comp=Z,214nm,18.1s,baz=144,slow=33							
RAYN	**Ar Rayn**	**63.40**	**360**	P	**P**	**11 53 39.7**	**+1.0**	
RAYN				IAmb	IAmb	11 53 41.9		
	comp=Z,12nm,1.2s							
LEM	**Lembang**	**64.15**	**76**	LR	LR	12 17 13.8		
	comp=Z,53nm,18.8s,baz=186,slow=32							
WSAR	**Wadi Sarin**	**64.23**	**13**	LR	LR	12 17 16.9		
	comp=Z,198nm,20.1s,baz=208,slow=32							
PSA00	**Pilbara Seismi**	**64.41**	**97**	P	**P**	**11 53 44.2**	**-1.4**	
PSA00				IAmb	IAmb	11 56 01.4		
	comp=Z,20nm,1.2s							
RPSI	**Rantau Prapat**	**64.54**	**62**	P	**P**	**11 53 47.0**	**+0.7**	
RPSI	**Rantau Prapat**	**64.54**	**62**	P	**P**	**11 53 47.4**	**+1.0**	
RPSI				IAmb	IAmb	11 53 49.0		
	comp=Z,9.2nm,1.1s							
PSI	**Prapat**	**64.62**	**62**	P	**P**	**11 53 47.0**	**0.0**	
	comp=Z,5.5nm,0.9s,baz=211,slow=12,SNR=2.8							
	comp=Z,5.5nm,0.9s							
UOSS	**Minazif**	**65.52**	**10**	P	**P**	**11 53 51.5**	**-1.0**	
UOSS				IAmb	IAmb	11 54 07.0		
	comp=Z,7.2nm,1.0s							
DBIC	**Dimbokro**	**65.96**	**303**	LR	LR	12 19 43.0		
	comp=Z,659nm,20.6s,baz=152,slow=33							
TORD	**Torodi Ar. Bea**	**67.06**	**313**	P	**P**	**11 54 02.1**	**-0.4**	
	comp=Z,2.6nm,0.9s,baz=142,slow=4.9,SNR=11							
	comp=Z,2.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**67.06**	**313**	P	**P**	**11 54 02.5**	**0.0**	
TORD				IAmb	IAmb	11 55 29.3		
	comp=Z,14nm,0.8s							
IPM	**Ipoh**	**67.27**	**63**	P	**P**	**11 54 03.2**	**-0.8**	
IPM				IAmb	IAmb	11 54 06.7		
	comp=Z,17nm,1.2s							
BBOO	**Buckleboo**	**69.84**	**116**	P	**P**	**11 54 18.9**	**-1.0**	
EIL	**Elat**	**70.25**	**350**	LR	LR	12 21 42.3		
	comp=Z,236nm,21.9s,baz=230,slow=33							
FITZ	**Fitzroy Crossi**	**70.86**	**98**	P	**P**	**11 54 26.2**	**-0.1**	
ASAR	**Alice Springs**	**73.69**	**107**	P	**P**	**11 54 43.8**	**+0.5**	
	comp=Z,7.2nm,0.8s,baz=230,slow=6.0,SNR=90							
ASAR				LR	LR	12 21 38.1		
	comp=Z,363nm,21.9s,baz=234,slow=31							
	comp=Z,7.2nm,0.8s							
ASAR	**Alice Springs**	**73.69**	**107**	P	**P**	**11 54 43.5**	**+0.3**	
AS31	**Alice Springs**	**73.69**	**107**	P	**P**	**11 54 41.8**	**-1.5**	
STKA	**Stephens Creek**	**74.16**	**118**	P	**P**	**11 54 46.5**	**+0.7**	
	comp=Z,7.5nm,0.7s,baz=223,slow=4.5,SNR=12							
STKA				LR	LR	12 22 37.1		
	comp=Z,161nm,18.8s,baz=206,slow=32							
	comp=Z,7.5nm,0.7s							
STKA	**Stephens Creek**	**74.16**	**118**	P	**P**	**11 54 46.3**	**+0.5**	
KNRA	**Kununurra**	**74.69**	**98**	P	**P**	**11 54 49.3**	**+0.2**	
KNRA				IAmb	IAmb	11 54 51.3		
	comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**76.27**	**105**	P	**P**	**11 54 58.6**	**+0.4**	
	comp=Z,7.6nm,0.8s,baz=226,slow=4.7,SNR=40							
WRA				LR	LR	12 24 01.4		
	comp=Z,300nm,19.0s,baz=219,slow=32							
	comp=Z,7.6nm,0.8s							
WRA	**Warramunga Arr**	**76.27**	**105**	P	**P**	**11 54 58.4**	**+0.2**	
WB2	**Warramunga Arr**	**76.28**	**105**	P	**P**	**11 54 59.1**	**+0.9**	
WB2				IAmb	IAmb	11 55 00.5		
	comp=Z,21nm,1.1s							
WRAB	**Tennant Creek**	**76.29**	**105**	P	**P**	**11 54 59.0**	**+0.7**	
WRAB				IAmb	IAmb	11 55 00.5		
	comp=Z,19nm,1.0s							
WR0	**Warramunga Arr**	**76.41**	**105**	P	**P**	**11 54 59.8**	**+0.9**	
WR0				IAmb	IAmb	11 55 01.0		
	comp=Z,10nm,1.0s							
WB0	**Warramunga Arr**	**76.42**	**104**	P	**P**	**11 54 59.8**	**+0.8**	
WB0				IAmb	IAmb	11 55 01.2		
	comp=Z,25nm,1.1s							
CM31	**Chiang Mai Arr**	**76.44**	**51**	P	**P**	**11 54 59.7**	**+0.7**	
CMAR	**Chiang Mai Arr**	**76.44**	**51**	P	**P**	**11 54 58.4**	**-0.5**	
	comp=Z,0.6nm,0.3s,baz=232,slow=6.7,SNR=13							
CMAR				LR	LR	12 22 21.0		
	comp=Z,119nm,21.2s,baz=220,slow=31							
	comp=Z,0.6nm,0.3s							
CMAR	**Chiang Mai Arr**	**76.44**	**51**	P	**P**	**11 54 59.4**	**+0.4**	
PHRA	**Phrae**	**77.25**	**52**	P	**P**	**11 55 03.9**	**+0.4**	
KBL	**Kabul**	**77.39**	**19**	P	**P**	**11 55 04.5**	**+0.4**	
ELL	**Elmali**	**77.97**	**347**	P	**P**	**11 55 07.6**	**+0.4**	
GEVA	**Gevas**	**78.18**	**358**	P	**P**	**11 55 09.9**	**+1.5**	
GEVA				IAmb	IAmb	11 55 12.6		
	comp=Z,19nm,1.1s							
GEYT	**Alibeck**	**78.56**	**10**	LR	LR	12 27 47.5		
	comp=Z,124nm,20.2s,baz=186,slow=34							
TOLI2	**Tolitoli**	**79.22**	**79**	P	**P**	**11 55 15.0**	**+0.4**	
TOLI2				IAmb	IAmb	11 55 15.5		
	comp=Z,13nm,1.1s							
BBTS	**Babate**	**79.53**	**299**	LR	LR	12 26 32.4		
	comp=Z,320nm,21.6s,baz=126,slow=33							
GNI	**Garni**	**79.98**	**359**	LR	LR	12 30 05.1		
	comp=Z,311nm,21.2s,baz=173,slow=35							
RCBR	**Riachuelo**	**79.99**	**271**	LR	LR	12 22 36.7		
	comp=Z,111nm,21.4s,baz=301,slow=30							
MYLDM	**Lahad Datu**	**80.21**	**75**	P	**P**	**11 55 18.9**	**-1.0**	
MYLDM				IAmb	IAmb	11 55 22.7		
	comp=Z,24nm,1.5s							
BR131	**Keskin Array S**	**80.33**	**350**	P	**P**	**11 55 19.6**	**-0.4**	
BR131				IAmb	IAmb	11 57 34.5		
	comp=Z,47nm,2.0s							
BRTR	**Keskin Array B**	**80.33**	**350**	P	**P**	**11 55 19.9**	**-0.3**	
	comp=Z,3.3nm,0.8s,baz=164,slow=5.7,SNR=9.4							
BRTR				LR	LR	12 29 32.8		
	comp=Z,108nm,21.1s,baz=158,slow=35							
	comp=Z,3.3nm,0.8s							
BRTR	**Keskin Array B**	**80.33**	**350**	P	**P**	**11 55 19.7**	**-0.4**	
PLCA	**Paso Flores**	**80.86**	**224**	P	**P**	**11 55 23.6**	**+0.4**	
	comp=Z,7.0nm,0.9s,baz=120,slow=7.0,SNR=13							
PLCA				LR	LR	12 24 30.3		
	comp=Z,158nm,20.8s,baz=134,slow=31							
	comp=Z,7.0nm,0.9s							
PLCA	**Paso Flores**	**80.86**	**224**	P	**P**	**11 55 24.0**	**+0.8**	
PLCA				IAmb	IAmb	11 55 25.9		
	comp=Z,16nm,1.1s							

LSA	**Lhasa**	**81.26**	**39**	P	**P**	**11 55 26.3**	**+0.5**	
LSA				IAmb	IAmb	11 55 27.6		
	comp=Z,10nm,1.1s							
CHGR	**Chuyangaron**	**81.33**	**18**	P	**P**	**11 55 26.1**	**+0.7**	
GAR	**Garm**	**81.94**	**19**	P	**P**	**11 55 29.2**	**+0.6**	
GO06	**Curarrehue**	**82.17**	**224**	P	**P**	**11 55 29.9**	**-0.3**	
GO06				IAmb	IAmb	11 55 48.0		
	comp=Z,27nm,1.6s							
VAE	**Valguarnera**	**82.52**	**335**	LR	LR	12 33 53.2		
	comp=Z,386nm,18.2s,baz=148,slow=37							
KEST	**Kesra**	**82.71**	**331**	LR	LR	12 33 35.8		
	comp=Z,264nm,19.4s,baz=257,slow=37							
CPUP	**Villa Florida**	**82.72**	**242**	P	**P**	**11 55 33.2**	**0.0**	
	comp=Z,0.8nm,0.3s,baz=157,slow=7.7,SNR=2.2							
CPUP				LR	LR	12 24 55.4		
	comp=Z,86nm,21.9s,baz=155,slow=30							
	comp=Z,0.8nm,0.3s							
RPZ	**Rata Peaks**	**82.95**	**143**	LR	LR	12 25 37.8		
	comp=Z,222nm,19.9s,baz=234,slow=31							
BDFB	**Brasilia**	**82.98**	**256**	P	**P**	**11 55 34.3**	**-0.5**	
	comp=Z,0.8nm,0.3s,baz=99,slow=11,SNR=1.5							
BDFB				LR	LR	12 26 26.6		
	comp=Z,130nm,18.9s,baz=22,slow=31							
	comp=Z,0.8nm,0.3s							
KBZ	**Khabaz**	**83.59**	**358**	P	**P**	**11 55 37.9**	**+0.9**	
	comp=Z,3.2nm,1.1s,baz=159,slow=2.4,SNR=5.4							
KBZ				LR	LR	12 31 20.5		
	comp=Z,151nm,21.7s,baz=175,slow=35							
	comp=Z,3.2nm,1.1s							
KSH	**Kashi**	**83.97**	**23**	P	**P**	**11 55 35.5**	**-3.7**	
KSH				sP	PcP	11 55 43.0	-0.1	
KSH				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PZH	**PanZhiHua**	**84.28**	**48**	P	**P**	**11 55 42.5**	**+1.4**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,90nm,6.4s							
CTA	**Charters Tower**	**84.85**	**112**	P	**P**	**11 55 44.5**	**+0.4**	
	comp=Z,7.0nm,0.9s,baz=230,slow=5.8,SNR=4.2							
	comp=Z,7.0nm,0.9s							
BO04	**La Punta**	**85.75**	**228**	P	**P**	**11 55 48.6**	**+0.1**	
KK31	**Karatay Array**	**85.87**	**18**	P	**P**	**11 55 48.4**	**-0.1**	
KK31				IAmb	IAmb	11 55 51.9		
	comp=Z,20nm,1.8s							
KKAR	**Karatay Array**	**85.87**	**18**	P	**P**	**11 55 48.4**	**-0.1**	
KKAR				IAmb	IAmb	11 55 51.9		
	comp=Z,20nm,1.8s							
SIJI	**Sorong**	**85.92**	**88**	LR	LR	12 28 12.5		
	comp=Z,30nm,19.6s,baz=200,slow=32							
CFA	**Coronel Fontan**	**86.08**	**231**	LR	LR	12 26 13.0		
	comp=Z,94nm,21.6s,baz=136,slow=30							
MT01	**Popeta**	**86.21**	**228**	P	**P**	**11 55 50.9**	**+0.1**	
MDT	**Midelt**	**86.35**	**319**	LR	LR	12 35 30.4		
	comp=Z,313nm,18.2s,baz=156,slow=36							
DIVS	**Divibare**	**87.10**	**342**	P	**P**	**11 55 54.4**	**-0.2**	
DIVS				IAmb	IAmb	11 55 58.4		
	comp=Z,9.4nm,1.4s							
MLR	**Muntele Rosu**	**87.17**	**346**	LR	LR	12 36 12.9		
	comp=Z,76nm,18.5s,baz=143,slow=37							
MLR	**Muntele Rosu**	**87.17**	**346**	P	**P**	**11 55 55.3**	**+0.3**	
BFZ	**Birch Farm**	**87.69**	**145**	P	**P**	**11 55 56.1**	**-1.8**	
BURAR	**Bucovina Array**	**89.35**	**346**	P	**P**	**11 56 06.5**	**+1.3**	
BURAR				IAmb	IAmb	11 56 09.8		
	comp=Z,17nm,1.6s							
BUR08	**Bucovina Ar. S**	**89.38**	**346**	P	**P**	**11 56 06.9**	**+1.5**	
ABKAR	**Akbulak array**	**89.94**	**9**	P	**P**	**11 56 06.3**	**-1.6**	
URZ	**Urewera**	**90.05**	**144**	P	**P**	**11 56 09.6**	**+0.6**	
	comp=Z,6.2nm,0.9s,baz=225,slow=16,SNR=1.5							
URZ				LR	LR	12 32 14.1		
	comp=Z,171nm,18.5s,baz=300,slow=33							
	comp=Z,6.2nm,0.9s							
ESDC	**Sonseca Array**	**91.58**	**324**	LR	LR	12 39 35.8		
	comp=Z,164nm,18.2s,baz=140,slow=37							
AKASG	**Malin Array Be**	**91.70**	**349**	P	**P**	**11 56 16.4**	**+0.5**	
	comp=Z,0.8nm,0.7s,baz=164,slow=4.2,SNR=7.3							
AKASG				LR	LR	12 36 12.8		
	comp=Z,96nm,21.8s,baz=140,slow=35							
	comp=Z,0.8nm,0.7s							
WMQ	**Urumqi**	**91.75**	**29**	*e*P	**P**	**11 56 16.8**	**+0.3**	
WMQ				pmax	pmax			
	comp=Z,11nm,1.1s							
WMQ				LR	LR			
	comp=Z,160nm,18.3s							
SIV	**San Ignacio**	**92.22**	**247**	LR	LR	12 31 19.8		
	comp=Z,140nm,21.1s,baz=105,slow=31							
BELG	**Belogornoye**	**92.23**	**1**	LR	LR	12 39 51.1		
	comp=Z,144nm,19.5s,baz=142,slow=37							
DAVOX	**Davos/Dischmat**	**92.36**	**336**	LR	LR	12 37 42.8		
	comp=Z,115nm,21.7s,baz=166,slow=36							
MAKZ	**Makanchi**	**92.42**	**24**	P	**P**	**11 56 19.5**	**0.0**	
MAKZ				IAmb	IAmb	11 56 22.2		
	comp=Z,5.4nm,1.2s							
PMG	**Port Moresby**	**92.49**	**104**	LR	LR	12 32 49.4		
	comp=Z,211nm,20.5s,baz=240,slow=32							
MK31	**Makanchi Array**	**92.51**	**24**	P	**P**	**11 56 19.0**	**-0.8**	
MKAR	**Makanchi Array**	**92.51**	**24**	P	**P**	**11 56 19.2**	**-0.7**	
	comp=Z,1.0nm,1.0s,baz=214,slow=6.2,SNR=6.6							
	comp=Z,1.0nm,1.0s							
MKAR	**Makanchi Array**	**92.51**	**24**	P	**P**	**11 56 19.6**	**-0.3**	
VRAC	**Vranov**	**92.80**	**341**	LR	LR	12 40 03.6		
	comp=Z,113nm,18.4s,baz=159,slow=37							
LVC	**Limon Verde**	**92.92**	**237**	LR	LR	12 31 45.9		
	comp=Z,62nm,21.6s,baz=158,slow=31							
GERES	**GERESS Array B**	**93.12**	**339**	LR	LR	12 40 03.5		
	comp=Z,100nm,20.1s,baz=128,slow=37							
GTA	**Gaotai**	**93.29**	**39**	*e*P	**P**	**11 56 24.3**	**+0.5**	
GTA				sP	pwP	11 56 32.3	+1.7	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.8s							
KURBB	**Kurchatov Arra**	**94.87**	**20**	LR	LR	12 37 24.6		
	comp=Z,74nm,18.2s,baz=170,slow=34							
BVAR	**Borovoye Array**	**95.25**	**15**	P	**P**	**11 56 33.8**	**+1.5**	
	comp=Z,0.2nm,0.3s,baz=182,slow=5.5,SNR=1.9							
	comp=Z,0.2nm,0.3s							
CLL	**Collm**	**95.55**	**340**	*e*S	**S**	**12 07 55.0**	**+5.0**	
CLL				*e*PS	PS	12 09 04.0	-5.6	
CLL				*e*PPS	PPS	12 09 36.0		
CLL				*e*SS	**SS**	**12 14 22.0**	**+2.5**	
LPAZ	**La Paz**	**96.89**	**242**	LR	LR	12 35 43.7		
	comp=Z,149nm,19.7s,baz=97,slow=33							
DZM	**Mont Dzumac**	**96.96**	**126**	*e*SS	SS	12 14 41.6	+2.7	
	comp=Z,117nm,25.0s							
DZM	**Mont Dzumac**	**96.96**	**126**	*e*LR	LR	12 28 05.8		
	comp=Z,228nm,28.6s							
NJ2	**Nanjing**	**98.58**	**55**	*e*P	Pdif	11 56 48.8	+0.9	
NJ2				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ZAA0	**Zalesovo Array**	**99.59**	**22**	P	**Pdif**	**11 56 50.1**	**-1.7**	
ZAA0				IAmb	IAmb	11 57 02.6		
	comp=Z,11nm,1.9s							
ZALV	**Zalesovo Beam**	**99.59**	**22**	P	**Pdif**	**11 56 51.0**	**-0.8**	
	comp=Z,0.9nm,0.8s,baz=211,slow=5.0,SNR=4.5							
	comp=Z,0.9nm,0.8s							
MDP	**Montagnes des**	**99.77**	**268**	LR	LR	12 35 35.8		
	comp=Z,24nm,21.6s,baz=151,slow=32							
RAO	**Raoul Island**	**99.82**	**142**	LR	LR	12 33 35.6		
	comp=Z,77nm,20.1s,baz=115,slow=30							
HHC	**Hu-ho-hao-te**	**100.36**	**45**	*e*P	**Pdif**	**11 56 55.5**	**-0.3**	
HHC				pmax	pmax			
	comp=Z,18nm,1.1s							
HHC				pmax	pmax			
	comp=Z,290nm,5.3s							
PPT2	**Papeete2**	**120.73**	**163**	*e*SS	SS	12 20 01.9	+3.9	
	comp=Z,103nm,27.8s							
PPT2	**Papeete2**	**120.73**	**163**	*e*LR	LR	12 39 05.6		
	comp=Z,354nm,30.0s							
PPT2				*e*LR	LR	12 39 05.8		
	comp=Z,511nm,28.8s							
TAOE	**Nuku Hiva Isla**	**130.87**	**172**	*e*LR	LR	12 43 47.4		
	comp=Z,328nm,24.3s							
HICK	**Hickman**	**144.89**	**279**	PKPdf	PKPbc	12 02 46.0	+0.7	
LNXT	**Lenox**	**144.94**	**278**	PKPdf	**PKPab**	**12 02 43.9**	**-1.5**	
T42A	**Van Buren**	**146.47**	**279**	PKPdf	**PKPdf**	**12 02 48.0**	**-0.8**	
T42A				PKPbc	**PKPbc**	**12 02 51.0**	**+0.9**	
UALR	**University of**	**146.63**	**274**	PKPdf	**PKPdf**	**12 02 50.2**	**+1.1**	
P40A	**Paris**	**147.91**	**283**	PKPbc	**PKPbc**	**12 02 54.4**	**+0.3**	
Z38A	**Mt. Pleasant**	**148.07**	**270**	PKPbc	**PKPbc**	**12 02 54.4**	**-0.4**	
237A	**Washetta, Mont**	**148.17**	**267**	PKPdf	**PKPdf**	**12 02 50.2**	**-1.6**	
237A				PKPab	**PKPab**	**12 02 58.4**	**+0.4**	
ULM	**Lac du Bonnet**	**151.53**	**303**	PKPbc	**PKPbc**	**12 03 02.6**	**-0.1**	
	comp=Z,3.3nm,0.7s,baz=67,slow=1.7,SNR=5.1							
INK	**Inuvik**	**151.84**	**360**	PKPbc	**PKPbc**	**12 03 02.8**	**0.0**	
	comp=Z,2.4nm,0.8s,baz=6.6,slow=3.4,SNR=11							
INK	**Inuvik**	**151.84**	**360**	PKPdf	**PKPdf**	**12 02 56.4**	**0.0**	
INK					**PKPbc**	**12 03 03.1**	**+0.3**	
INK				PKPab	**PKPab**	**12 03 12.0**	**+0.1**	

IMAR	**Indian Mountai**	**151.87**	**17**	PKPbc	**PKPbc**	**12 03 03.3**	**+0.3**	
F33A	**5 Mile Ranch,**	**151.96**	**294**	PKPbc	**PKPbc**	**12 03 04.4**	**+0.6**	
ECSD	**EROS Data Cent**	**152.04**	**290**	PKPdf	**PKPdf**	**12 02 56.7**	**-0.9**	
ECSD				PKPab	**PKPab**	**12 03 12.9**	**-0.7**	
TXAR	**Lajitas Array**	**152.85**	**256**	PKPbc	**PKPbc**	**12 03 06.3**	**-0.1**	
	comp=Z,0.7nm,0.8s,baz=126,slow=4.6,SNR=6.5							
ILAR	**Eielson Array**	**154.30**	**13**	PKPbc	**PKPbc**	**12 03 08.1**	**-0.3**	
	comp=Z,0.5nm,0.9s,baz=344,slow=4.0,SNR=4.4							
MNTX	**Cornudas Mount**	**155.31**	**259**	PKPdf	**PKPdf**	**12 03 00.7**	**-1.9**	
MNTX				PKPab	**PKPab**	**12 03 27.2**	**-0.6**	
GLB	**Gilahina Butte**	**157.92**	**12**	PKPbc	**PKPab**	**12 03 39.7**	**+1.5**	
FARO	**Faro, Yukon**	**157.94**	**359**	PKPdf	**PKPdf**	**12 03 03.8**	**-1.2**	
FARO				PKPab	**pPKPab**	**12 03 39.7**	**-0.7**	
319A	**Douglas**	**158.06**	**254**	PKPdf	**PKPdf**	**12 03 03.6**	**-2.6**	
319A				PKPab	**PKPab**	**12 03 38.9**	**-0.9**	

*SOME **31** 11:44:12.6,41.°18N×83.°80E,h0km*
*NNC **31** 11:44:17.2±2.0,41.°29N×83.°70E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=15.9km s-min=10.7km az=163.0

ISC 31 11:44:25.9±4.1,41.7N±0.2×83.3E±0.2,h10km,n16,
σ2.3 34/16,6C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.77**	**309**	Pg	**Pb**	**11 45 15.7**	**0.0**
	12nm,0.4s						
KTMS				Lg	Lg	11 46 01.2	
	12nm,0.6s						
KTMS	**Ketmen**	**2.77**	**309**	*e*Pg	**Pg**	**11 45 19.0**	**-0.1**
	12nm,0.4s						
KTMS				*e*Lg	Lg	11 46 06.1	
	12nm,0.6s						
SHLS	**Shalkode**	**3.18**	**298**	Pg	**Pn**	**11 45 17.9**	**+1.8**
	3.1nm,0.2s						
SHLS				Lg	Lg	11 46 05.2	
	49nm,0.5s						
SHLS	**Shalkode**	**3.18**	**298**	*e*Pg	**Pn**	**11 45 17.9**	**+1.8**
	3.1nm,0.2s						
SHLS				*e*Lg	Lg	11 46 04.4	
	563nm,0.6s						
UZB	**Uzynbulak**	**3.47**	**296**	Pg	**Pb**	**11 45 27.9**	**+0.4**
	6.3nm,0.3s						
UZB				Lg	Lg	11 46 21.5	
	15nm,0.8s						
UZB	**Uzynbulak**	**3.47**	**296**	*e*Pg	**Pb**	**11 45 27.9**	**+0.4**
	6.3nm,0.3s						
UZB				*e*Lg	Lg	11 46 21.5	
	15nm,0.8s						
DJR	**Jarkent**	**3.66**	**317**	Pg	**Pb**	**11 45 33.9**	**+3.1**
	4.8nm,0.5s						
DJR				Lg	Lg	11 46 31.0	
	11nm,0.6s						
DJR	**Jarkent**	**3.66**	**317**	*e*Pg	**Pb**	**11 45 33.9**	**+3.1**
	4.8nm,0.5s						
DJR				*e*Lg	Lg	11 46 31.8	
	11nm,0.6s						
MDOK	**Medeo**	**4.84**	**289**	Pg	**Pb**	**11 45 52.6**	**+1.7**
	11nm,1.5s						
MDOK				Lg	Lg	11 47 10.8	
	27nm,1.2s						
MK31	**Makanchi Array**	**5.12**	**352**	Pn	**Pn**	**11 45 42.1**	**-0.6**
	0.5nm,0.7s,baz=137,slow=38,SNR=7.1						
MK31				Pg	**Pg**	**11 46 00.7**	**-3.3**
	1.3nm,0.6s,baz=165,slow=16,SNR=6.1						
MK31				⇑Lg	Lg	11 47 15.2	
	13nm,0.6s,baz=163,slow=24,SNR=4.1						
MAKZ	**Makanchi**	**5.17**	**350**	⇓Pn	**Pn**	**11 45 41.9**	**-1.6**
	2.1nm,1.2s						
MAKZ				⇓Pg	**Pb**	**11 45 59.4**	**+2.9**
	2.1nm,1.2s						
MAKZ				⇑Lg	Lg	11 47 18.8	
	6.0nm,0.8s		

FORT					IAmb	IAmb	11 55 26.1		
	comp=Z,15nm,0.7s								
KNRA	**Kununurra**	**51.14**	**265**	P	**P**		**11 55 30.7**	**0.0**	
KNRA				IAmb	IAmb		11 55 31.4		
	comp=Z,8.4nm,0.8s								
FITZ	**Fitzroy Crossi**	**53.64**	**261**	P	**P**		**11 55 48.9**	**+0.4**	
PSA00	**Pilbara Seismi**	**58.45**	**256**	P	**P**		**11 56 21.5**	**-0.3**	
MBWA	**Marble Bar**	**58.62**	**256**	P	**P**		**11 56 22.1**	**-0.9**	
MBWA				IAmb	IAmb		11 56 46.0		
	comp=Z,22nm,1.4s								
TOLI2	**Tolitoli**	**63.53**	**281**	P	**P**		**11 56 54.0**	**-1.2**	
TOLI2				IAmb	IAmb		11 57 29.7		
	comp=Z,7.5nm,0.9s								
JHJ2	**Mitsune**	**65.47**	**321**	P	**P**		**11 57 05.7**	**-1.3**	
UGM	**Wanagama**	**70.34**	**268**	P	**P**		**11 57 37.3**	**+0.1**	
QSPA	**South Pole Qui**	**71.54**	**180**	P	**P**		**11 57 44.1**	**+0.8**	
NVAR	**Mina Array Bea**	**79.37**	**43**	P	**P**		**11 58 25.9**	**-1.5**	
	comp=Z,0.2nm,0.6s,baz=224,slow=6.2,SNR=2.4								
	comp=Z,0.2nm,0.6s								
TXAR	**Lajitas Array**	**85.72**	**57**	P	**P**		**11 58 59.1**	**-0.3**	
	comp=Z,0.2nm,0.8s,baz=224,slow=3.8,SNR=2.7								
	comp=Z,0.2nm,0.8s								
ILAR	**Eielson Array**	**86.32**	**13**	P	**P**		**11 59 01.6**	**+0.3**	
	comp=Z,0.3nm,0.9s,baz=214,slow=5.2,SNR=5.5								
	comp=Z,0.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**89.76**	**289**	P	**P**		**11 59 19.3**	**+0.9**	
	comp=Z,0.5nm,0.3s,baz=107,slow=3.1,SNR=2.0								
	comp=Z,0.5nm,0.3s								
MKAR	**Makanchi Array**	**110.07**	**314**	PKiKP	**PKiKP**		**12 04 46.0**	**-1.2**	
	comp=Z,0.1nm,0.4s,baz=111,slow=1.1,SNR=5.3								
BRTR	**Keskin Array B**	**145.72**	**315**	PKPbc	**PKPbc**		**12 05 55.9**	**-0.1**	
	comp=Z,0.7nm,0.6s,baz=90,slow=4.3,SNR=2.9								

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*BJI **31** 12:00:05.9±0.0,24.˙91N×127.˙30E,h28km,mb4.3/41, mB4.7/21,Ms4.2/25,Ms7 4.0/26*
*IDC **31** 12:00:07.0±0.7,25.˙14N×126.˙85E,h0km,mb4.1/22, mbtmp4.1/24,ML3.5/2,MS3.8/7,Error ellipse: s-maj=19.0km s-min=15.4km az=95.0*
*NEIC **31** 12:00:07.5±2.5,25.˙18N±0.˙07×127.˙08E±0.˙07,h10km±1km, mb4.6/61,Error ellipse: s-maj=12.2km s-min=9.2km az=142.0*
*MOS **31** 12:00:08.9±1.3,25.˙08N×127.˙01E,h33km,mb4.6/19,Error ellipse: s-maj=9.8km s-min=6.7km az=108.8*
*JMA **31** 12:00:11.3±0.3,25.˚N±1.˚×12.˚7E±.˚,h66km,MV3.8/15, NEAR OKINAWAJIMA ISLAND*
*NIED **31** 12:00:11.3,25.˙13N×126.˙98E,h66km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.23; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$0.34; $M_{r\theta}$3.26; $M_{\theta\phi}$-1.94; $M_{\phi r}$3.67; Fault plane solution: M_o5.08000×10¹⁵ NP1:φs37.00000°, δ84.00000°,λ80.00000°. NP2:φs278.00000°,δ12.00000°, λ150.00000°.*

ISC 31 12:00:09.9±0.4,25.˙07N±0.˙05×127.˙05E±0.˙05,h28km,n179, σ1§48/176,**mb4.4**/69,**MS4.0**/14,**12C-2D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**1.28**	**349**	P	**Pb**	**12 00 32.5**	**-0.7**
JKE				S	**Sb**	**12 00 48.1**	**-1.2**
JOGS	**Gusukube**	**1.52**	**259**	P	**Pn**	**12 00 36.5**	**+1.3**
JAGN	**Aguni-jima**	**1.53**	**7**	P	**Pb**	**12 00 36.7**	**-0.8**
JMJ2	**Miyako jima3**	**1.59**	**259**	P	**Pn**	**12 00 37.4**	**+1.1**
JMJ2				S	**Sn**	**12 00 56.9**	**+1.0**
JIKM	**Ikemajima**	**1.64**	**265**	P	**Pn**	**12 00 37.9**	**+1.1**
JNTH	**Nagotoyohara**	**1.69**	**31**	S	**Sb**	**12 00 59.5**	**-1.7**
JIRB	**Irabujima**	**1.72**	**262**	P	**Pn**	**12 00 38.7**	**+0.7**
JIRB				S	**Sn**	**12 00 58.6**	**-0.3**
JOW	**Kunigami**	**2.08**	**32**	Pn	**Pb**	**12 00 49.2**	**+2.3**
	32nm,0.3s,baz=139,slow=19,SNR=20						
JOW				Sn	**Sb**	**12 01 16.2**	**+4.0**
	65nm,0.3s,baz=100,slow=28,SNR=3.8						
JOW	**Kunigami**	**2.08**	**32**	Pn	**Pn**	**12 00 38.5**	**-4.4**
JIH	**Iheya**	**2.13**	**23**	P	**Pn**	**12 00 44.9**	**+1.4**
JTJ	**Tarama**	**2.17**	**259**	P	**Pn**	**12 00 44.7**	**+0.6**
JYRO	**Yoronjima**	**2.32**	**33**	P	**Pn**	**12 00 46.7**	**+0.4**
JISG	**Ishigakijimahi**	**2.53**	**260**	P	**Pn**	**12 00 49.3**	**+0.2**
JIJ	**Ishigaki jima**	**2.73**	**256**	P	**Pn**	**12 00 52.4**	**+0.5**
YOJ	**Yonaguni jima**	**3.72**	**262**	Pn	**Pn**	**12 01 03.0**	**-2.5**
YOJ	**Yonaguni jima**	**3.72**	**262**	P	**Pn**	**12 01 03.0**	**-2.5**
JMZ	**Minamidaito 2**	**3.85**	**78**	Pn	**Pn**	**12 01 07.6**	**+0.4**
NACB	**Ningamchiao**	**5.04**	**261**	Pn	**Pn**	**12 01 23.1**	**-0.6**
TATO	**Taipei**	**5.04**	**270**	Pn	**Pn**	**12 01 23.2**	**-0.4**
YHNB	**Yeheng**	**5.17**	**267**		**Pn**	**12 01 23.8**	**-1.6**
YULB	**Yu-li**	**5.51**	**254**	Pn	**Pn**	**12 01 27.7**	**-2.3**
SSLB	**Suanglung**	**5.70**	**258**	Pn	**Pn**	**12 01 31.5**	**-1.2**
TWG	**Pinlang**	**5.91**	**249**	Pn	**Pn**	**12 01 33.4**	**-2.2**
TPUB	**Ta-pu**	**6.12**	**255**	Pn	**Pn**	**12 01 37.4**	**-1.1**
KNMB	**Chin-men Tao**	**7.89**	**267**	Pn	**Pn**	**12 02 01.0**	**-1.8**
JNU	**Nakatsue**	**8.70**	**22**	Pn	**Pn**	**12 02 16.1**	**+2.3**
	0.9nm,0.3s,baz=187,slow=14,SNR=12						
	5.5nm,0.6s						
JNU	**Nakatsue**	**8.70**	**22**	Pn	**Pn**	**12 02 12.0**	**-1.8**
NJ2	**Nanjing**	**10.01**	**316**	*e*P	**Pn**	**12 02 31.8**	**0.0**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				LR	LR		
	comp=N,460nm,13.3s						
NJ2				LR	LR		
	comp=E,560nm,15.2s						
NJ2				LR	LR		
	comp=Z,900nm,15.7s						
JMN	**Monobe**	**10.48**	**33**	Pn	**Pn**	**12 02 35.0**	**-3.3**
KSRS	**Korea Array**	**12.37**	**3**	Pn	**Pn**	**12 03 05.1**	**+1.0**
	0.1nm,0.3s,baz=179,slow=12,SNR=2.9						
KSRS				LR	LR	12 08 16.3	
	comp=Z,232nm,18.3s,baz=185,slow=40						
	0.9nm,0.8s						
JCJ	**Chichijima**	**13.75**	**78**	LR	LR	12 08 08.6	
	comp=Z,100nm,19.8s,baz=343,slow=35						
JCJ	**Chichijima**	**13.75**	**78**	Pn	Pn	12 03 18.4	-4.7
TIA	**Tai'an**	**14.00**	**325**	*e*P	**P**	**12 03 35.5**	**+1.5**
TIA				S	Sn	12 05 48.8	-12
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIA				pmax	pmax		
	comp=Z,140nm,4.4s						
TIA				LR	LR		
	comp=N,380nm,11.5s						
TIA				LR	LR		
	comp=E,290nm,9.3s						
TIA				LR	LR		
	comp=Z,650nm,12.2s						
MAJO	**Matsushiro**	**14.91**	**37**	Pn	Pn	12 03 33.1	-5.6
MAJO	**Matsushiro**	**14.91**	**37**	P	Pn	12 03 33.2	-5.6
MJB9	**Matsu-Tunnel**	**14.91**	**37**	Pn	Pn	12 03 33.8	-5.0
LYN	**LuoYang**	**15.78**	**310**	⇑P	**P**	**12 03 55.8**	**+2.0**
LYN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LYN				LR	LR		
	comp=Z,380nm,13.3s						
LYN				LR	LR		
	comp=Z,410nm,12.4s						
LYN				LR	LR		
	comp=Z,510nm,12.4s						
HNS	**HongShan**	**16.18**	**322**	⇓P	**P**	**12 04 00.5**	**+2.3**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HNS				LR	LR		
	comp=Z,620nm,18.6s						
HNS				LR	LR		
	comp=Z,400nm,18.3s						
HNS				LR	LR		
	comp=Z,450nm,14.2s						
ENH	**Enshi**	**16.39**	**292**	Pn	**Pn**	**12 03 56.6**	**-1.4**
XAN	**Xi'an**	**18.11**	**304**	⇑P	**P**	**12 04 20.8**	**+1.2**
XAN				pP	pP	12 04 24.3	-2.3
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				LR	LR		
	comp=Z,280nm,15.9s						
XAN				LR	LR		
	comp=Z,390nm,15.6s						
XAN				LR	LR		
	comp=Z,550nm,15.6s						
MDJ	**Mudanjiang**	**19.61**	**5**	P	**P**	**12 04 34.8**	**-1.2**
MDJ				pP	Pn	12 04 39.5	+2.0
MDJ				S	**Sn**	**12 08 16.0**	**-0.8**
MDJ				sS	S	12 08 19.8	+4.0
MDJ				PcS	**PcS**	**12 12 32.3**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.6s						
MDJ				pmax	pmax		
	comp=Z,270nm,3.5s						
MDJ				LR	LR		
	comp=Z,190nm,4.4s						
MDJ				LR	LR		
	comp=Z,310nm,4.9s						
MDJ				LR	LR		
	comp=Z,250nm,7.2s						
HHC	**Hu-ho-hao-te**	**20.36**	**324**	*e*P	Pn	12 04 47.3	+0.9
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,5.4s						
HHC				LR	LR		
	comp=Z,750nm,14.3s						
HHC				LR	LR		
	comp=Z,600nm,13.6s						
HHC				LR	LR		
	comp=Z,880nm,14.6s						
XLT	**XiLinHaoTe**	**20.81**	**337**	*e*P	**P**	**12 04 49.5**	**+0.4**
XLT				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,140nm,5.4s						
XLT				LR	LR		
	comp=Z,25nm,10.6s						
XLT				LR	LR		
	comp=Z,180nm,10.8s						
XLT				LR	LR		
	comp=Z,310nm,14.2s						
LZH	**Lanzhou**	**22.74**	**304**	*e*P	**P**	**12 05 10.5**	**+0.5**
LZH				pP	pP	12 05 15.3	-1.8
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				LR	LR		
	comp=Z,350nm,10.7s						
LZH				LR	LR		
	comp=Z,390nm,12.5s						
LZH				LR	LR		
	comp=Z,550nm,13.2s						
PZH	**PanZhiHua**	**22.82**	**279**	P	**P**	**12 05 11.5**	**+0.6**
PZH				S	**S**	**12 09 22.0**	**+3.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,4.8s						
PZH				LR	LR		
	comp=Z,490nm,18.4s						
PZH				LR	LR		
	comp=Z,620nm,16.1s						
PZH				LR	LR		
	comp=Z,680nm,19.4s						
ASAJ	**Asahikawa**	**22.84**	**30**	P	**P**	**12 05 11.3**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=234,slow=19,SNR=1.4						
	comp=Z,2.5nm,0.7s						
JKA	**Kamikawa-asahi**	**22.84**	**30**	P	**P**	**12 05 08.9**	**-1.8**
JKA				IAmb	IAmb	12 05 20.5	
	comp=Z,34nm,1.5s						
KLR	**Kul'dur**	**24.40**	**7**	P	**P**	**12 05 25.4**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=180,slow=3.0,SNR=4.1						
	comp=Z,0.5nm,0.4s						
TOLI2	**Tolitoli**	**24.57**	**195**	P	**P**	**12 05 26.5**	**-1.1**
TOLI2				IAmb	IAmb	12 05 44.0	
	comp=Z,11nm,1.0s						
YSS	**Yuzh-Sakhalins**	**25.18**	**26**	*e*P	P	12 05 47.6	+15
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
PHRA	**Phrae**	**25.72**	**261**	P	**P**	**12 05 39.6**	**+1.6**
TNCH	**TengChong**	**25.83**	**276**	⇑P	**P**	**12 05 39.0**	**-0.2**
TNCH				S	**S**	**12 10 08.0**	**+0.7**
TNCH				pmax	pmax		
	comp=Z,20nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,210nm,5.4s						
TNCH				LR	LR		
	comp=Z,250nm,10.6s						
TNCH				LR	LR		
	comp=Z,190nm,10.3s						
TNCH				LR	LR		
	comp=Z,410nm,15.3s						
CHTO	**Chiang Mai**	**26.77**	**262**	P	**P**	**12 05 46.1**	**-1.4**
CHTO	**Chiang Mai**	**26.77**	**262**	P	**P**	**12 05 46.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**26.89**	**261**	P	**P**	**12 05 49.1**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=56,slow=8.2,SNR=9.0						
	comp=Z,1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**26.89**	**261**	P	**P**	**12 05 45.2**	**-3.4**
GTA	**Gaotai**	**26.98**	**309**	⇓P	**P**	**12 05 49.0**	**-0.4**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,77nm,4.4s						
GTA				LR	LR		
	comp=Z,170nm,14.9s						
GTA				LR	LR		
	comp=Z,280nm,15.6s						
GTA				LR	LR		
	comp=Z,240nm,16.7s						
ULN	**Ulaanbaatar**	**27.70**	**330**	P	**P**	**12 05 52.6**	**-3.2**
ULN	**Ulaanbaatar**	**27.70**	**330**	*ce*P	**P**	**12 05 55.0**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**27.98**	**330**	P	**P**	**12 05 57.3**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=144,slow=10,SNR=12						
SONM				LR	LR	12 18 53.7	
	comp=Z,227nm,19.4s,baz=137,slow=40						
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**27.98**	**330**	P	**P**	**12 05 56.9**	**-1.4**
GOMU	**GeErMu**	**29.74**	**300**	P	P	12 06 08.8	-5.6
GOMU				pP	pP	12 06 12.8	-9.2
GOMU				sP	pwP	12 06 14.5	-10
GOMU				PcP	PP	12 07 37.0	+15
GOMU				S	S	12 11 21.8	+13
GOMU				sS	sS	12 11 29.5	+7.7
GOMU				SS	**ScP**	**12 13 04.8**	**+6.8**
GOMU				pmax	pmax		
	comp=Z,160nm,5.9s						
GOMU				LR	LR		
	comp=N,150nm,16.8s						
GOMU				LR	LR		
	comp=E,110nm,16.3s						
GOMU				LR	LR		
	comp=Z,210nm,16.1s						
KULM	**Kulim**	**32.06**	**237**	P	**P**	**12 06 33.9**	**-0.6**
KULM				IAmb	IAmb	12 07 08.1	
	comp=Z,15nm,1.4s						
LSA	**Lhasa**	**32.12**	**286**	P	**P**	**12 06 34.6**	**-0.9**
LSA				IAmb	IAmb	12 06 38.0	
	comp=Z,3.6nm,0.5s						
LSA	**Lhasa**	**32.12**	**286**	P	**P**	**12 06 34.6**	**-0.9**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
IPM	**Ipoh**	**32.31**	**235**	P	**P**	**12 06 35.2**	**-1.5**
IPM				IAmb	IAmb	12 07 17.9	
	comp=Z,17nm,1.5s						
SKR	**Severo-Kuril's**	**33.97**	**34**	*ce*P	**P**	**12 06 48.8**	**-2.0**
PEA0B	**Petropavlovsk-**	**36.24**	**31**	P	**P**	**12 07 09.2**	**-1.2**
PEA0B	**Petropavlovsk-**	**36.24**	**31**	P	**P**	**12 07 09.2**	**-1.2**
PEA0B				pmax	pmax		
	comp=Z,38nm,1.3s						
PETK	**Petropavlovsk-**	**36.24**	**31**	P	**P**	**12 07 07.9**	**-2.5**
PETK	**Petropavlovsk-**	**36.24**	**31**	P	**P**	**12 07 07.9**	**-2.5**
WMQ	**Urumqi**	**37.03**	**310**	*e*P	**P**	**12 07 19.5**	**+2.2**
WMQ				LR	LR		
	comp=Z,110nm,15.9s						
MTN	**Manton Dam**	**37.89**	**174**	P	**P**	**12 07 24.3**	**-0.4**
MTN				IAmb	IAmb	12 07 39.2	
	comp=Z,9.7nm,1.1s						
RABL	**Rabaul**	**37.96**	**137**	P	**P**	**12 07 25.6**	**+0.2**
DGZ	**Jazzator, Alta**	**39.28**	**319**	*i* P	**P**	**12 07 36.5**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,5.0nm,1.9s						
PMG	**Port Moresby**	**39.48**	**148**	P	**P**	**12 07 37.7**	**-0.3**
PMG				IAmb	IAmb	12 08 05.9	
	comp=Z,16nm,1.0s						
PMG	**Port Moresby**	**39.48**	**148**	P	**P**	**12 07 37.7**	**-0.3**
PMG				pmax	pmax		
	comp=Z,17nm,1.0s						
KNRA	**Kununurra**	**40.53**	**177**	P	**P**	**12 07 47.9**	**+1.1**
KNRA				IAmb	IAmb	12 08 13.8	
	comp=Z,11nm,1.1s						
SEY	**Seymchan**	**41.44**	**17**	P	**P**	**12 07 55.6**	**+1.8**
	comp=Z,2.6nm,0.7s,baz=228,slow=6.7,SNR=9.4						
	comp=Z,2.6nm,0.7s						
MK31	**Makanchi Array**	**41.53**	**313**	P	**P**	**12 07 54.5**	**-0.3**
MK31				IAmb	IAmb	12 07 55.5	
	comp=Z,5.1nm,0.7s						
MK31	**Makanchi Array**	**41.53**	**313**	⇑*i*P	**P**	**12 07 54.6**	**-0.2**
MKAR	**Makanchi Array**	**41.53**	**313**	P	**P**	**12 07 54.7**	**-0.1**
	comp=Z,6.1nm,0.6s,baz=99,slow=10,SNR=81						
	comp=Z,6.1nm,0.6s						
MKAR	**Makanchi Array**	**41.53**	**313**	P	**P**	**12 07 54.6**	**-0.2**
MAKZ	**Makanchi**	**41.74**	**313**	P	**P**	**12 07 56.6**	**+0.1**
MAKZ				IAmb	IAmb	12 07 57.5	
	comp=Z,8.9nm,0.8s						
MAKZ	**Makanchi**	**41.74**	**313**	P	**P**	**12 07 56.6**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ZAA0	**Zalesovo Array**	**42.54**	**324**	P	**P**	**12 08 02.3**	**-0.6**
ZALV	**Zalesovo Beam**	**42.54**	**324**	P	**P**	**12 08 02.2**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=113,slow=8.2,SNR=10						
	comp=Z,2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.93**	**182**	P	**P**	**12 08 07.7**	**+1.4**
TARG	**Taragay, Kyrgy**	**43.73**	**305**	P	**P**	**12 08 11.7**	**-1.6**
TARG	**Taragay, Kyrgy**	**43.73**	**305**	P	**P**	**12 08 11.7**	**-1.6**
TARG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**44.94**	**318**	P	**P**	**12 08 21.9**	**-0.3**
KURK				IAmb	IAmb	12 08 22.5	
	comp=Z,3.5nm,0.7s						
KURK	**Kurchatov**	**44.94**	**318**	*ce*P	**P**	**12 08 22.3**	**+0.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KSH	**Kashi**	**44.94**	**302**	P	**P**	**12 08 25.8**	**+3.2**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**44.97**	**318**	P	**P**	**12 08 21.9**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=105,slow=8.9,SNR=10						
	comp=Z,1.4nm,0.4s						
WB0	**Warramunga Arr**	**45.13**	**170**	P	**P**	**12 08 25.6**	**+1.5**
WB0				IAmb	IAmb	12 08 27.4	
	comp=Z,7.7nm,1.0s						
WRAB	**Tennant Creek**	**45.29**	**170**	P	**P**	**12 08 26.3**	**+1.0**
WRAB				IAmb	IAmb	12 08 38.8	
	comp=Z,8.4nm,1.1s						
WRAB	**Tennant Creek**	**45.29**	**170**	P	**P**	**12 08 26.3**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WRA	**Warramunga Arr**	**45.30**	**170**	P	**P**	**12 08 27.5**	**+2.1**
	comp=Z,3.0nm,0.8s,baz=349,slow=8.6,SNR=15						
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**45.30**	**170**	P	**P**	**12 08 25.9**	**+0.5**
WB2	**Warramunga Arr**	**45.30**	**170**	P	**P**	**12 08 26.1**	**+0.7**
WB2				IAmb	IAmb	12 08 38.9	
	comp=Z,9.3nm,1.1s						
WR0	**Warramunga Arr**	**45.34**	**170**	P	**P**	**12 08 27.5**	**+1.8**
WR0				IAmb	IAmb	12 08 39.8	
	comp=Z,8.9nm,1.1s						
AAK	**Ala-Archa**	**46.27**	**306**	P	**P**	**12 08 33.1**	**0.0**
	comp=Z,1.6nm,0.8s,baz=66,slow=10.0,SNR=3.9						
	comp=Z,1.6nm,0.8s						
AAK	**Ala-Archa**	**46.27**	**306**	P	**P**	**12 08 31.4**	**-1.7**
AAK	**Ala-Archa**	**46.27**	**306**	*ce*P	**P**	**12 08 34.5**	**+1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
TIXI	**Tiksi**	**46.63**	**1**	P	**P**	**12 08 35.9**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=90,slow=23,SNR=6.5						
	comp=Z,1.4nm,0.6s						
TIXI	**Tiksi**	**46.63**	**1**	P	**P**	**12 08 34.3**	**-0.9**
AS31	**Alice Springs**	**48.90**	**172**	P	**P**	**12 08 54.1**	**+0.7**
ASAR	**Alice Springs**	**48.90**	**172**	P	**P**	**12 08 55.0**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=355,slow=9.7,SNR=15						
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**48.90**	**172**	P	**P**	**12 08 53.4**	**0.0**
BILL	**Bilibino**	**49.11**	**18**	⇑*e*P	**P**	**12 08 54.8**	**+0.3**
BILL				PPP	PPP	12 11 39.0	
BILL				SSS	SSS	12 20 49.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,45nm,15.0s						
KK31	**Karatay Array**	**49.22**	**306**	P	**P**	**12 08 57.1**	**+1.3**
KK31	**Karatay Array**	**49.22**	**306**	P	**P**	**12 08 57.1**	**+1.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**49.22**	**306**	P	**P**	**12 08 56.1**	**+0.3**
KKAR	**Karatay Array**	**49.22**	**306**	P	**P**	**12 08 56.1**	**+0.3**
GAR	**Garm**	**49.33**	**301**	P	**P**	**12 08 57.0**	**+0.2**
CHGR	**Chuyangaron**	**50.24**	**300**	P	**P**	**12 09 02.9**	**-0.8**
CHGR	**Chuyangaron**	**50.24**	**300**	P	**P**	**12 09 02.9**	**-0.8**
CHGR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BRVK	**Borovoye**	**50.51**	**319**	P	**P**	**12 09 05.5**	**0.0**
BRVK	**Borovoye**	**50.51**	**319**	*ce*P	**P**	**12 09 06.0**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KBL	**Kabul**	**50.62**	**295**	P	**P**	**12 09 06.3**	**-0.5**
KBL				IAmb	IAmb	12 09 10.1	
	comp=Z,7.8nm,0.8s						
KBL	**Kabul**	**50.62**	**295**	P	**P**	**12 09 06.3**	**-0.5**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FORT	**Forrest**	**55.54**	**179**	P	**P**	**12 09 42.2**	**-0.4**
ABKAR	**Akbulak array**	**56.67**	**314**	P	**P**	**12 09 51.9**	**+1.3**
TNA	**Tin City**	**57.15**	**27**	P	**P**	**12 09 53.4**	**-0.3**
TNA				IAmb	IAmb	12 09 54.6	
	comp=Z,9.1nm,1.2s						
ARU	**Arti**	**57.65**	**322**	P	**P**	**12 09 57.9**	**+0.5**
ARU				IAmb	IAmb	12 10 39.5	
	comp=Z,10nm,1.4s						
STKA	**Stephens Creek**	**58.30**	**165**	P	**P**	**12 10 02.5**	**+0.3**
STKA	**Stephens Creek**	**58.30**	**165**	P	**P**	**12 10 02.5**	**+0.3**
STKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**58.42**	**190**	P	**P**	**12 10 02.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**58.42**	**190**	P	**P**	**12 10 02.1**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,28nm,1.4s						
GEYT	**Alibeck**	**58.95**	**301**	P	**P**	**12 10 08.0**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=336,slow=3.3,SNR=4.3						
	comp=Z,2.1nm,0.5s						
GEYT	**Alibeck**	**58.95**	**301**	P	**P**	**12 10 08.0**	**+1.0**
I23K	**Minto, Yukon-K**	**64.87**	**28**	P	**P**	**12 10 46.9**	**+0.7**
I23K				IAmb	IAmb	12 11 17.9	
	comp=Z,7.2nm,1.4s						
MCK	**McKinley**	**65.20**	**29**	P	**P**	**12 10 46.7**	**-1.7**
MCK	**McKinley**	**65.20**	**29**	P	**P**	**12 10 46.7**	**-1.7**
MCK				pmax	pmax		
	comp=Z,12nm,1.5s						
PMR	**Palmer**	**65.37**	**32**	P	**P**	**12 10 49.6**	**+0.2**
PMR	**Palmer**	**65.37**	**32**	P	**P**	**12 10 49.6**	**+0.2**
PMR				pmax	pmax		
	comp=Z,20nm,1.4s						
IL31		**65.96**	**28**	P	**P**

INK	**Inuvik**	**70.37**	**23**	P		**P**	12 11 22.7	**+1.9**	
	comp=Z,1.6nm,1.0s,baz=288,slow=5.5,SNR=3.6								
	comp=Z,1.6nm,1.0s								
INK	**Inuvik**	**70.37**	**23**	P		**P**	12 11 20.3	**-0.5**	
INK				IAmb		IAmb	12 11 50.2		
	comp=Z,8.1nm,1.4s								
ARCES	**ARCESS Array B**	**70.69**	**339**	P		**P**	12 11 23.4	**+0.6**	
	comp=Z,6.3nm,1.0s,baz=54,slow=9.1,SNR=2.0								
	comp=Z,6.3nm,1.0s								
A36M	**Sachs Harbour**	**71.66**	**18**	P		**P**	12 11 29.8	**+1.2**	
A36M				IAmb		IAmb	12 11 35.5		
	comp=Z,6.1nm,0.9s								
C36M	**Paulatuk**	**73.15**	**21**	P		**P**	12 11 35.1	**-2.4**	
C36M				IAmb		IAmb	12 12 12.0		
	comp=Z,6.2nm,1.4s								
FINES	**FINESS Array B**	**73.35**	**331**	P		**P**	12 11 39.6	**+0.8**	
	comp=Z,2.2nm,0.7s,baz=69,slow=7.6,SNR=6.6								
	comp=Z,2.2nm,0.7s								
FINES	**FINESS Array B**	**73.35**	**331**	P		**P**	12 11 38.6	**-0.2**	
FINES	**FINESS Array B**	**73.35**	**331**	*i* P		**P**	12 11 40.2	**+1.4**	
FINES				pmax		pmax			
	comp=Z,2.0nm,0.7s								
EUNU	**Eureka**	**73.54**	**6**	P		**P**	12 11 40.2	**+0.5**	
EUNU				IAmb		IAmb	12 12 11.1		
	comp=Z,5.9nm,1.4s								
AKASG	**Malin Array Be**	**75.72**	**319**	P		**P**	12 11 53.5	**+0.7**	
	comp=Z,0.6nm,0.4s,baz=57,slow=6.2,SNR=7.0								
	comp=Z,0.6nm,0.4s								
RES	**Resolute Bay**	**76.88**	**11**	P		**P**	12 11 59.0	**+0.1**	
RES				IAmb		IAmb	12 12 05.1		
	comp=Z,3.8nm,1.0s								
RES	**Resolute Bay**	**76.88**	**11**	P		**P**	12 11 59.0	**+0.1**	
RES				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BRTR	**Keskin Array B**	**76.90**	**308**	P		**P**	12 11 59.3	**-0.6**	
	comp=Z,2.5nm,1.1s,baz=152,slow=6.4,SNR=5.1								
	comp=Z,2.5nm,1.1s								
BRTR	**Keskin Array B**	**76.90**	**308**	P		**P**	12 11 58.3	**-1.6**	
BRTR	**Keskin Array B**	**76.90**	**308**	*i* P		**P**	12 12 02.4	**+2.5**	
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
NB2	**NORSAR Subarra**	**79.88**	**334**	P		**P**	12 12 16.7	**+0.9**	
	comp=Z,10nm,1.4s,baz=53,slow=5.6								
NOA	**NORSAR Array B**	**79.88**	**334**	P		**P**	12 12 16.4	**+0.6**	
	comp=Z,1.6nm,0.8s,baz=53,slow=5.3,SNR=4.8								
	comp=Z,1.6nm,0.8s								
YKA	**Yellowknife Ar**	**80.02**	**25**	P		**P**	12 12 18.6	**+2.1**	
	comp=Z,0.9nm,0.8s,baz=295,slow=5.5,SNR=15								
	comp=Z,0.9nm,0.8s								
YKA	**Yellowknife Ar**	**80.02**	**25**	*i* P		**P**	12 12 19.0	**+2.5**	
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
CLL	**Collm**	**84.49**	**325**	*e*PP		PP	12 15 49.0	-6.0	
RAR	**Rarotonga**	**84.65**	**116**	LR		LR	12 45 47.1		
	comp=Z,69nm,20.7s,baz=249,slow=32								
BORG	**Borgarnes**	**87.17**	**347**	LR		LR	12 53 16.1		
	comp=Z,122nm,21.2s,baz=158,slow=37								
PPT	**Papeete**	**91.53**	**109**	LR		LR	12 48 18.1		
	comp=Z,43nm,19.3s,baz=212,slow=32								
PFO	**Pinyon Flats O**	**96.05**	**49**	*i* P		**P**	**12 13 34.0**	**-1.2**	
SCHQ	**Schefferville**	**99.54**	**8**	LR		LR	13 03 19.9		
	comp=Z,78nm,18.1s,baz=78,slow=38								

IDC 31 12:02:08.1±4.7, 29°.73N×141°.71E, h0km, mb3.4/3, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=189.7km s-min=27.9km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.40**	**338**	Pn	Pn	12 03 55.6	-1.8
	0.1nm,0.3s,baz=161,slow=11,SNR=3.5						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**48.50**	**308**	P	P	12 10 53.4	+0.6
	0.7nm,0.7s,baz=89,slow=9.2,SNR=3.7						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**49.89**	**189**	P	P	12 11 02.6	-0.8
	0.3nm,0.4s,baz=5.2,slow=7.6,SNR=4.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**53.62**	**189**	P	P	12 11 31.7	+0.4
	0.2nm,0.8s,baz=8.5,slow=6.9,SNR=2.4						
	0.2nm,0.8s						

*IDC **31** 12:03:34.3±0.8, 25°.14N×126°.76E, h0km, mb4.0/14, mbtmp3.9/15, ML3.0/2, Error ellipse: s-maj=22.1km s-min=17.2km az=87.0*
*NEIC **31** 12:03:36.1±2.2, 25°.20N±0°.07×127°.00E±0°.07, h10km±1km, mb4.4/30, Error ellipse: s-maj=12.6km s-min=9.4km az=142.0*
*JMA **31** 12:03:38.5±0.2, 25°.2N±1°.0×127°.0E±0°.9, h68km, MV3.6/19, NEAR OKINAWAJIMA ISLAND*
*NIED **31** 12:03:38.5, 25°.15N×126°.95E, h68km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.17; Mθθ-0.36; Mφφ0.19; Mrθ2.33; Mθφ-1.16; Mφr2.58; Fault plane solution: M0 3.57000×10^15^ NP1: φs39.00000°, δ85.00000°, λ82.00000°. NP2: φs275.00000°, δ9.00000°, λ145.00000°.*

ISC 31 12:03:38.0±0.5, 25°.16N±0°.05×126°.97E±0°.05, h28km, n93, σ1§22/97, mb4.3/30, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**1.17**	**352**	*e*P	**Pb**	**12 03 59.6**	**-0.1**
JKE				*e*S	**Sb**	**12 04 14.7**	**+0.3**
JJT3	**Tamagusuku3**	**1.23**	**37**	*e*P	**Pb**	**12 04 00.4**	**-0.2**
JAGN	**Aguni-jima**	**1.45**	**10**	P	**Pb**	**12 04 03.8**	**-0.4**
JOGS	**Gusukube**	**1.47**	**255**	P	**Pb**	**12 04 03.5**	**-1.2**
JMJ2	**Miyako jima3**	**1.54**	**255**	P	**Pn**	**12 04 04.3**	**+0.7**
JIKM	**Ikemajima**	**1.57**	**262**	*e*P	**Pn**	**12 04 04.4**	**+0.3**
JNTH	**Nagotoyohara**	**1.66**	**35**	*e*P	**Pn**	**12 04 05.8**	**+0.7**
JIRB	**Irabujima**	**1.66**	**259**	*e*P	**Pn**	**12 04 05.6**	**+0.4**
JIRB				*e*S	**Sn**	**12 04 25.7**	**+0.2**
JOW	**Kunigami**	**2.04**	**35**	Pn	**Pn**	**12 04 12.4**	**+1.9**
	2.1nm,0.3s,baz=282,slow=25,SNR=1.4						
JOW				Sn	**Sn**	**12 04 35.3**	**+0.3**
	25nm,0.3s,baz=223,slow=18,SNR=4.4						
JOW	**Kunigami**	**2.04**	**35**		**Pn**	**12 04 10.3**	**-0.2**
JIH	**Iheya**	**2.07**	**26**	*e*P	**Pn**	**12 04 12.3**	**+1.4**
JTJ	**Tarama**	**2.12**	**256**	*e*P	**Pn**	**12 04 12.1**	**+0.6**
JTJ				*e*S	**Sn**	**12 04 37.3**	**+0.4**
JYRO	**Yoronjima**	**2.29**	**35**	P	**Pn**	**12 04 14.4**	**+0.5**
JISG	**Ishigakijimahi**	**2.48**	**257**	*e*P	**Pn**	**12 04 16.5**	**0.0**
JOKE	**Okinoerabujima**	**2.62**	**33**	*e*P	**Pn**	**12 04 19.3**	**+0.8**
JIJ	**Ishigaki jima**	**2.69**	**253**	P	**Pn**	**12 04 19.6**	**+0.2**
IRIF	**Iriomote-Funau**	**3.05**	**255**	*e*P	**Pn**	**12 04 25.6**	**+1.3**
JTK	**Tokunoshima**	**3.16**	**34**	P	**Pn**	**12 04 26.8**	**+0.9**
YOJ	**Yonaguni jima**	**3.66**	**260**	Pn	**Pn**	**12 04 34.2**	**+1.5**
JMZ	**Minamidaito 2**	**3.90**	**79**	Pn	**Pn**	**12 04 35.5**	**-0.5**
TATO	**Taipei**	**4.97**	**269**	Pn	**Pn**	**12 04 51.8**	**+1.1**
NACB	**Ninganchiao**	**4.98**	**260**	Pn	**Pn**	**12 04 49.6**	**-1.4**
NACB	**Ninganchiao**	**4.98**	**260**	P	**Pn**	**12 04 50.5**	**-0.4**
YHNB	**Yeheng**	**5.10**	**266**	Pn	**Pn**	**12 04 52.6**	**0.0**
YHNB	**Yeheng**	**5.10**	**266**	P	**Pn**	**12 04 54.4**	**+1.8**
YULB	**Yu-li**	**5.46**	**252**	Pn	**Pn**	**12 04 55.6**	**-2.0**
YULB	**Yu-li**	**5.46**	**252**	P	**Pn**	**12 04 58.6**	**+1.0**
SSLB	**Suanglung**	**5.64**	**257**	Pn	**Pn**	**12 05 00.1**	**+0.1**
SSLB	**Suanglung**	**5.64**	**257**	P	**Pn**	**12 05 00.2**	**+0.1**
TWGBT	**Beinan**	**5.87**	**248**	P	**Pn**	**12 05 04.9**	**+1.8**
TWG	**Pinlang**	**5.87**	**248**	Pn	**Pn**	**12 05 00.9**	**-2.2**
TPUB	**Ta-pu**	**6.07**	**254**	Pn	**Pn**	**12 05 05.9**	**0.0**
TPUB	**Ta-pu**	**6.07**	**254**	P	**Pn**	**12 05 05.9**	**0.0**
JSU	**Suzuyama**	**7.03**	**25**	Pn	**Pn**	**12 05 17.9**	**-1.2**
KNMB	**Chin-men Tao**	**7.82**	**267**	Pn	**Pn**	**12 05 29.7**	**-0.3**
JNU	**Nakatsue**	**8.64**	**22**	Pn	**Pn**	**12 05 42.5**	**+1.3**
	0.6nm,0.3s,baz=204,slow=17,SNR=1.7						
	1.6nm,0.3s						
JNU	**Nakatsue**	**8.64**	**22**	Pn	**Pn**	**12 05 40.3**	**-0.9**
JTU	**Tsushima**	**9.57**	**12**	Pn	**Pn**	**12 05 52.4**	**-1.5**
JMN	**Monobe**	**10.45**	**34**	Pn	**Pn**	**12 06 04.0**	**-2.0**
KSAR	**Wonju Array Be**	**12.27**	**3**	Pn	**Pn**	**12 06 27.7**	**-3.1**
KS19	**Wonju Array Si**	**12.33**	**3**	Pn	**Pn**	**12 06 28.2**	**-3.4**
JCJ	**Chichijima**	**13.81**	**79**	Pn	**Pn**	**12 06 48.5**	**-3.4**
MAJO	**Matsushiro**	**14.88**	**38**	Pn	**Pn**	**12 07 03.5**	**-3.0**
MJB9	**Matsu-Tunnel**	**14.88**	**38**	Pn	**Pn**	**12 07 04.6**	**-2.0**
ENH	**Enshi**	**16.29**	**292**	Pn	**Pn**	**12 07 23.7**	**-1.1**
MYLDM	**Lahad Datu**	**21.46**	**204**	P	**P**	**12 08 24.7**	**+0.4**
MYLDM				IAmb	IAmb	12 08 47.1	
	comp=Z,11nm,1.2s						
JKA	**Kamikawa-asahi**	**22.80**	**30**	P	**P**	**12 08 36.8**	**-1.6**
JKA				IAmb	IAmb	12 08 58.9	
	comp=Z,29nm,1.3s						
YSS	**Yuzh-Sakhalins**	**25.13**	**26**	P	**P**	**12 08 59.4**	**-1.0**
YSS				IAmb	IAmb	12 09 15.8	
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.82**	**261**	P	**P**	**12 09 13.9**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=66,slow=9.3,SNR=5.0						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**27.86**	**330**	P	**P**	**12 09 24.8**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=146,slow=10,SNR=11						
	comp=Z,1.3nm,0.5s						
SONM	**Songino Array**	**27.86**	**330**	P	**P**	**12 09 24.2**	**-1.2**
IPM	**Ipoh**	**32.30**	**235**	P	**P**	**12 10 06.0**	**+1.3**
MTN	**Manton Dam**	**37.99**	**173**	P	**P**	**12 10 55.5**	**+1.9**
RABL	**Rabaul**	**38.08**	**136**	P	**P**	**12 10 56.0**	**+1.5**
MA2	**Magadan**	**38.19**	**19**	P	**P**	**12 10 56.2**	**+1.3**
MA2				IAmb	IAmb	12 11 22.7	
	comp=Z,14nm,1.5s						
KNRA	**Kununurra**	**40.63**	**177**	P	**P**	**12 11 15.4**	**-0.2**
KNRA				IAmb	IAmb	12 11 28.8	
	comp=Z,18nm,1.4s						
SEY	**Seymchan**	**41.38**	**17**	P	**P**	**12 11 22.8**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=204,slow=16,SNR=5.8						
	comp=Z,1.6nm,0.7s						
MK31	**Makanchi Array**	**41.41**	**313**	P	**P**	**12 11 21.9**	**0.0**
MK31				IAmb	IAmb	12 11 22.7	
	comp=Z,2.8nm,0.7s						
MKAR	**Makanchi Array**	**41.41**	**313**	P	**P**	**12 11 21.9**	**0.0**
	comp=Z,4.0nm,0.6s,baz=99,slow=10,SNR=38						
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**41.41**	**313**	P	**P**	**12 11 22.0**	**0.0**
MAKZ	**Makanchi**	**41.62**	**313**	P	**P**	**12 11 23.9**	**+0.2**
MAKZ				IAmb	IAmb	12 11 24.7	
	comp=Z,5.4nm,0.9s						
COEN	**Coen**	**41.97**	**156**	P	**P**	**12 11 25.5**	**-1.2**
COEN				IAmb	IAmb	12 11 38.4	
	comp=Z,19nm,1.5s						
ZAA0	**Zalesovo Array**	**42.42**	**324**	P	**P**	**12 11 29.8**	**-0.2**
ZALV	**Zalesovo Beam**	**42.42**	**324**	P	**P**	**12 11 29.4**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=110,slow=7.8,SNR=6.0						
	comp=Z,1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**42.42**	**324**	P	**P**	**12 11 29.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**43.02**	**182**	P	**P**	**12 11 34.2**	**-0.9**
KURK	**Kurchatov**	**44.83**	**318**	P	**P**	**12 11 49.4**	**0.0**
KURK				IAmb	IAmb	12 12 03.0	
	comp=Z,2.4nm,0.9s						
KURBB	**Kurchatov Arra**	**44.85**	**317**	P	**P**	**12 11 49.3**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=105,slow=9.1,SNR=5.2						
	comp=Z,1.0nm,0.4s						
WB0	**Warramunga Arr**	**45.24**	**170**	P	**P**	**12 11 54.2**	**+1.2**
WB0				IAmb	IAmb	12 12 04.5	
	comp=Z,4.8nm,1.0s						
WRAB	**Tennant Creek**	**45.39**	**170**	P	**P**	**12 11 55.2**	**+1.0**
WRAB				IAmb	IAmb	12 12 06.1	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**45.40**	**170**	P	**P**	**12 11 54.7**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=353,slow=8.4,SNR=8.7						
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**45.40**	**170**	P	**P**	**12 11 54.7**	**+0.4**
WB2	**Warramunga Arr**	**45.40**	**170**	P	**P**	**12 11 54.7**	**+0.4**
WR0	**Warramunga Arr**	**45.45**	**170**	P	**P**	**12 11 55.6**	**+0.9**
WR0				IAmb	IAmb	12 12 05.6	
	comp=Z,4.9nm,0.9s						
AAK	**Ala-Archa**	**46.16**	**306**	P	**P**	**12 12 01.2**	**+0.9**
AAK				IAmb	IAmb	12 12 06.0	
	comp=Z,5.5nm,1.4s						
TIXI	**Tiksi**	**46.53**	**1**	P	**P**	**12 12 02.6**	**0.0**
AS31	**Alice Springs**	**49.00**	**172**	P	**P**	**12 12 24.0**	**+1.7**
ASAR	**Alice Springs**	**49.00**	**172**	P	**P**	**12 12 23.3**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=355,slow=6.7,SNR=8.7						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**49.00**	**172**	P	**P**	**12 12 23.7**	**+1.4**
GAR	**Garm**	**49.22**	**301**	P	**P**	**12 12 25.2**	**+1.2**
CHGR	**Chuyangaron**	**50.13**	**300**	P	**P**	**12 12 31.7**	**+0.7**
CHGR				IAmb	IAmb	12 12 32.8	
	comp=Z,6.0nm,0.7s						
KBL	**Kabul**	**50.51**	**295**	P	**P**	**12 12 35.8**	**+1.7**
KBL				IAmb	IAmb	12 12 36.0	
	comp=Z,4.4nm,0.6s						
FORT	**Forrest**	**55.63**	**179**	P	**P**	**12 13 11.6**	**+0.3**
ABKAR	**Akbulak array**	**56.55**	**314**	P	**P**	**12 13 19.1**	**+1.3**
ARU	**Arti**	**57.53**	**322**	P	**P**	**12 13 25.5**	**+0.9**
ARU				IAmb	IAmb	12 14 05.2	
	comp=Z,11nm,1.5s						
ILAR	**Eielson Array**	**65.92**	**28**	P	**P**	**12 14 22.2**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=251,slow=5.6,SNR=5.2						
	comp=Z,0.3nm,0.7s						
IL03	**Eielson Array**	**65.93**	**28**	P	**P**	**12 14 21.8**	**+0.6**
KBZ	**Khabaz**	**68.95**	**309**	P	**P**	**12 14 41.5**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=101,slow=8.4,SNR=3.6						
	comp=Z,1.7nm,0.8s						
ARCES	**ARCESS Array B**	**70.58**	**339**	P	**P**	**12 14 50.9**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=50,slow=6.0,SNR=0.9						
	comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**73.23**	**330**	P	**P**	**12 15 05.4**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=46,slow=4.0,SNR=5.5						
	comp=Z,3.4nm,0.9s						
FINES	**FINESS Array B**	**73.23**	**330**	P	**P**	**12 15 07.1**	**+0.9**
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**12 15 28.9**	**+1.5**
	comp=Z,1.3nm,0.9s,baz=23,slow=6.7,SNR=3.6						
	comp=Z,1.3nm,0.9s						
YKA	**Yellowknife Ar**	**79.97**	**24**	P	**P**	**12 15 44.6**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=296,slow=5.5,SNR=7.4						
	comp=Z,0.5nm,0.8s						

IDC 31 12:08:18.9±531.0, 48°.68N×42°.40E, h0km, Error ellipse: s-maj=193.9km s-min=153.3km az=13.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**8.64**	**341**	I	I	13 01 10.0	
	baz=156,slow=339,SNR=1.1						
I31KZ	**AKTYUBINSK INF**	**10.31**	**74**	I	I	13 09 40.1	
	baz=265,slow=332,SNR=6.2						
I46RU	**ZALESOVO INFRA**	**26.72**	**62**	I	I	14 53 50.0	
	baz=278,slow=326,SNR=1.6						

IDC 31 12:14:41.1±619.0, 54°.09N×0°.99E, h0km, Error ellipse: s-maj=341.2km s-min=216.0km az=103.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**9.51**	**118**	I	I	13 14 00.0	
	baz=309,slow=306,SNR=0.4						
I43RU	**DUBNA INFRASON**	**20.59**	**68**	I	I	14 21 30.0	
	baz=278,slow=323,SNR=1.4						
I31KZ	**AKTYUBINSK INF**	**34.31**	**72**	I	I	15 45 30.0	
	baz=297,slow=338,SNR=1.1						

*IDC **31** 12:24:23.9±1.4, 26°.75N×143°.82E, h0km, mb3.3/4, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=29.5km s-min=23.4km az=55.0*

ISC 31 12:24:28.6±1.2, 26°.9N±0°.1×143°.9E±0°.1, h35km, n6, σ1§84/7, mb3.4/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.53**	**279**	Pn	**Pn**	**12 24 53.0**	**-0.3**
	7.1nm,0.3s,baz=317,slow=17,SNR=2.1						
JCJ				Sn	**Sn**	**12 25 13.9**	**+1.9**
	31nm,0.3s,baz=282,slow=21,SNR=6.8						
MJAR	**Matsushiro Arr**	**10.78**	**335**	Pn	**Pn**	**12 26 58.4**	**-2.0**
	0.1nm,0.3s,baz=158,slow=10,SNR=7.9						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**47.45**	**192**	P	**P**	**12 32 59.1**	**-0.9**
	0.3nm,0.5s,baz=12,slow=8.5,SNR=3.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**51.16**	**192**	P	**P**	**12 33 27.8**	**-0.6**
	0.2nm,0.7s,baz=11,slow=6.3,SNR=4.4						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**51.78**	**310**	P	**P**	**12 33 33.1**	**+0.2**
	0.4nm,0.8s,baz=76,slow=6.1,SNR=3.5						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**57.19**	**28**	P	**P**	**12 34 13.9**	**+2.2**
	0.3nm,0.8s,baz=265,slow=5.3,SNR=2.8						
	0.3nm,0.8s						

IDC 31 12:46:27.9±1.6, 4°.08S×151°.85E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=31.9km s-min=14.9km az=43.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.29**	**142**	Pn	Pn	12 46 39.2	-0.2
	102nm,0.3s,baz=62,slow=1.0,SNR=62						
KRVT				Sn	Sb	12 46 47.8	+6.4
	152nm,0.3s,baz=44,slow=23,SNR=14						
WRA	**Warramunga Arr**	**23.23**	**226**	P	**P**	12 51 36.7	-0.3
	0.4nm,0.8s,baz=50,slow=10,SNR=1.6						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**26.06**	**220**	P	P	12 52 04.5	+1.2
	0.5nm,0.7s,baz=52,slow=9.1,SNR=2.2						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**81.86**	**22**	P	P	12 58 48.9	+0.1
	0.1nm,0.7s,baz=245,slow=6.5,SNR=1.3						
	0.1nm,0.7s						

*SJA **31** 13:06:37.1±0.7, 29°.42S×69°.62W, h135km±4km, ML4.1, MW4.0*
*GUC **31** 13:06:38.0±0.7, 29°.42S×69°.66W, h138km±4km, ML4.4*
*NEIC **31** 13:06:38.6±1.6, 29°.47S±0°.04×69°.59W±0°.09, h121km±6km, mb4.5/29, ML4.4(GUC), Error ellipse: s-maj=11.3km s-min=6.4km az=81.0*
*IDC **31** 13:06:38.2±1.4, 29°.40S×69°.39W, h113km±12km, mb3.9/8, mbtmp4.3/13, Error ellipse: s-maj=21.7km s-min=13.0km az=77.0*
*VAO **31** 13:06:39.4±0.5, 29°.48S×69°.33W, h119km, mb4.2*

ISC 31 13:06:37.9±0.6, 29°.42S±0°.03×69°.54W±0°.05, h119km±5km, n180, σ1§41/215, mb4.5/17, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO01	**Juntas del Tor**	**0.73**	**221**		**Pn**	**13 06 58.9**	**+1.2**
CO01				Sn	**Sn**	**13 07 12.4**	**-0.4**
CO01	**Juntas del Tor**	**0.73**	**221**	*e*P	**Pn**	**13 06 59.0**	**+1.2**
CO01				*i* S	**Sn**	**13 07 14.4**	**+1.7**
CO01	**Juntas del Tor**	**0.73**	**221**	*e*P	**Pn**	**13 06 59.0**	**+1.3**
CO01				*e*S	**Pn**	**13 06 59.0**	**+1.3**
CO01				IAML		13 06 59.3	
	comp=Z,2μm,0.5s						
CO01				*e*S	**Sn**	**13 07 14.2**	**+1.5**
CO01	**Juntas del Tor**	**0.73**	**221**	*e*P	**Pn**	**13 06 59.0**	**+1.3**
CO01				*e*S	**Pn**	**13 06 59.0**	**+1.3**
CO01				IAML		13 06 59.3	
	comp=Z,2μm,0.5s						
CO01				*e*S	**Sn**	**13 07 14.2**	**+1.5**
AC05	**El Transito**	**0.87**	**312**		**Pn**	**13 06 59.6**	**+0.8**
AC05				Sn	**Sn**	**13 07 15.1**	**+0.6**
AC05	**El Transito**	**0.87**	**312**	*e*P	**Pn**	**13 06 59.8**	**+1.0**
AC05				*i* S	**Sn**	**13 07 15.6**	**+1.0**
AC05	**El Transito**	**0.87**	**312**	*e*P	**Pn**	**13 06 59.7**	**+1.0**
AC05				*e*S	**Sn**	**13 07 16.2**	**+1.7**
AC05				IAML		13 07 16.8	
	comp=Z,4μm,0.5s						
AC05	**El Transito**	**0.87**	**312**	*e*P	**Pn**	**13 06 59.7**	**+1.0**
AC05				*e*S	**Sn**	**13 07 16.2**	**+1.7**
AC05				IAML		13 07 16.8	
	comp=Z,4μm,0.5s						
LCO	**Las Campanas**	**1.09**	**292**		**Pn**	**13 07 01.6**	**+0.5**
LCO	**Las Campanas**	**1.09**	**292**	*e*P	**Pn**	**13 07 01.8**	**+0.7**
LCO				*e*S	**Sn**	**13 07 20.0**	**+1.4**
LCO				IAML		13 07 21.1	
	comp=Z,4μm,0.2s						
LCO	**Las Campanas**	**1.09**	**292**	*e*P	**Pn**	**13 07 01.8**	**+0.7**
LCO				*e*S	**Sn**	**13 07 20.0**	**+1.4**
LCO				IAML		13 07 21.1	
	comp=Z,4μm,0.2s						
GO04	**Tololo Observa**	**1.33**	**235**	Pn	**Pn**	**13 07 03.9**	**+0.3**
GO04	**Tololo Observa**	**1.33**	**235**	*e*P	**Pn**	**13 07 04.2**	**+0.6**
GO04				*i* S	**Sn**	**13 07 23.9**	**+0.9**
GO04	**Tololo Observa**	**1.33**	**235**	*e*P	**Pn**	**13 07 04.2**	**+0.6**
GO04				*e*S	**Sn**	**13 07 24.2**	**+1.2**
GO04	**Tololo Observa**	**1.33**	**235**	*e*P	**Pn**	**13 07 04.2**	**+0.6**
GO04				*e*S	**Sn**	**13 07 24.2**	**+1.2**
CO05	**La Serena**	**1.56**	**251**		**Pn**	**13 07 05.9**	**0.0**
CO05	**La Serena**	**1.56**	**251**	*e*P	**Pn**	**13 07 06.1**	**+0.1**
CO05				*i* S	**Sn**	**13 07 26.9**	**-0.4**
CO05				IAML		13 07 28.0	
	comp=N,8μm,0.5s						
CO03	**El Pedregal**	**1.73**	**215**		**Pn**	**13 07 08.6**	**+0.6**
CO03	**El Pedregal**	**1.73**	**215**	*e*P	**Pn**	**13 07 08.7**	**+0.6**
CO03				*i* S	**Sn**	**13 07 32.2**	**+1.1**
CO03				IAML		13 07 33.4	
	comp=E,5μm,0.5s						
CO03	**El Pedregal**	**1.73**	**215**	*e*P	**Pn**	**13 07 08.7**	**+0.7**
CO03				*e*S	**Sn**	**13 07 32.0**	**+0.9**
CO

VA03 IAML 13 08 16.2
comp=Z,452nm,0.6s
VA03 San Esteban 3.44 194 *eP* **Pn 13 07 30.3 +0.2**
VA03 IAML 13 08 16.2
comp=Z,452nm,0.6s
VA06 Catapilco 3.47 205 Pn **Pn 13 07 29.2 -1.1**
ROC1 El Roble 3.76 199 Pn 13 07 33.0 -1.5
PEL Peldehue 3.84 195 Pn **Pn 13 07 34.2 -1.1**
VA01 Torpederas 4.02 206 Pn 13 07 35.0 -2.6
VA01 Torpederas 4.02 206 *eP* **Pn 13 07 35.0 -2.6**
VA01 IAML 13 08 53.0
comp=Z,148nm,0.6s
VA01 Torpederas 4.02 206 *eP* **Pn 13 07 35.0 -2.6**
VA01 IAML 13 08 53.0
comp=Z,148nm,0.6s
MT02 Curacav 4.06 199 Pn **Pn 13 07 36.4 -1.9**
MT02 Curacav 4.06 199 *eP* **Pn 13 07 36.7 -1.6**
MT02 *eS* **Sn 13 08 23.3 -1.7**
MT02 IAML 13 08 26.8
comp=Z,161nm,0.4s
MT02 Curacav 4.06 199 *eP* **Pn 13 07 36.7 -1.6**
MT02 *eS* **Sn 13 08 23.3 -1.7**
MT02 IAML 13 08 26.8
comp=Z,161nm,0.4s
MT05 Renca 4.09 194 Pn 13 07 37.9 -0.8
MT05 Renca 4.09 194 *eP* **Pn 13 07 38.0 -0.6**
MT05 IAML 13 08 36.6
comp=Z,198nm,0.4s
MT05 Renca 4.09 194 *eP* **Pn 13 07 38.0 -0.6**
MT05 IAML 13 08 36.6
comp=Z,198nm,0.4s
MT03 Universidad Ad 4.14 191 Pn 13 07 39.2 -0.2
MT03 Universidad Ad 4.14 191 *eP* **Pn 13 07 39.8 +0.3**
MT03 *eS* **Sn 13 08 27.9 +0.8**
MT03 IAML 13 08 32.2
comp=Z,211nm,0.3s
MT03 Universidad Ad 4.14 191 *eP* **Pn 13 07 39.8 +0.3**
MT03 *eS* **Sn 13 08 27.9 +0.8**
MT03 IAML 13 08 32.2
comp=Z,211nm,0.3s
LMEL Las Melosas 4.45 187 Pn 13 07 43.6 0.0
MT09 Talagante 4.51 196 Pn **Pn 13 07 42.5 -1.9**
VA05 Santo Domingo 4.58 202 Pn 13 07 42.4 -2.7
BO04 La Punta 4.64 191 Pn 13 07 44.8 -1.3
MT01 Popeta 4.66 198 Pn 13 07 44.4 -1.9
MT01 Popeta 4.66 198 IAML 13 08 37.7
comp=Z,146nm,0.7s
MT01 Popeta 4.66 198 IAML 13 08 37.7
comp=Z,146nm,0.7s
PB14 IPOC Station P 4.84 351 Pn **Pn 13 07 47.4 -1.6**
BO01 Tunca 5.13 194 Pn **Pn 13 07 50.2 -2.3**
BO02 Sierra Bellavi 5.46 191 Pn 13 07 55.1 -1.9
GO05 Huala 5.93 199 Pn **Pn 13 07 59.8 -3.5**
PB10 IPOC Station P 5.95 351 Pn **Pn 13 08 00.8 -2.9**
PB06 IPOC Station P 6.69 360 Pn 13 08 11.3 -2.5
LVC Limon Verde 6.81 5 P **Pn 13 08 13.7 -1.9**
comp=Z,11nm,0.3s,baz=173,slow=8.8,SNR=31
LVC S **Sn 13 09 27.4 -4.5**
comp=Z,22nm,0.5s,baz=38,slow=23,SNR=7.0
LVC Limon Verde 6.81 5 Pn **Pn 13 08 13.5 -2.1**
PB09 IPOC Station P 7.60 2 Pn 13 08 24.3 -1.8
VACA Villa Angela C 7.97 79 *eP* **Pn 13 08 29.1 -1.9**
PB02 IPOC Station P 8.07 358 Pn 13 08 28.9 -3.6
TICA Tres Isletas 8.65 72 *eP* **Pn 13 08 40.1 0.0**
GO01 Chusmiza 9.71 2 Pn **Pn 13 08 51.2 -3.8**
MECA Mercedes 9.92 92 *eP* **Pn 13 08 54.5 -2.8**
MNMC Minye Minye 10.24 360 Pn **Pn 13 08 57.9 -4.1**
GO06 Curarrehue 10.26 188 Pn 13 08 57.6 -4.4
TRQA Tornquist 10.66 146 Pn **Pn 13 09 06.3 -1.0**
PB16 IPOC Station P 11.04 0 Pn **Pn 13 09 09.8 -3.1**
CPUP Villa Florida 11.23 77 P **Pn 13 09 12.3 -2.7**
comp=Z,3.7nm,0.6s,baz=254,slow=12,SNR=7.5
CPUP Villa Florida 11.23 77 Pn **Pn 13 09 11.2 -3.8**
ITQB Itaqui 11.25 94 Pn **Pn 13 09 11.4 -3.8**
PLCA Paso Flores 11.32 184 P **Pn 13 09 14.0 -2.1**
comp=Z,1.4nm,0.8s,baz=5.0,slow=12,SNR=2.0
PLCA Paso Flores 11.32 184 *eP* **Pn 13 09 16.9 +0.8**
AZCA Azaras, Argent 11.97 87 *eP* **Pn 13 09 22.4 -2.4**
LPAZ La Paz 13.14 6 P **Pn 13 09 41.9 +1.3**
comp=Z,2.5nm,0.5s,baz=201,slow=8.7,SNR=11
LPAZ La Paz 13.14 6 Pn **Pn 13 09 39.8 -0.8**
LPAZ La Paz 13.14 6 *eP* **Pn 13 09 40.8 +0.2**
CRSM Crissiumal (Br 13.77 86 *eP* **Pn 13 09 47.7 -0.4**
PLTB Pedras Altas 13.93 104 Pn **Pn 13 09 48.6 -1.5**
CPSB Cacapava Do Su 14.00 98 *eP* **Pn 13 09 50.2 -0.9**
BBRB Robore, Bolivi 14.21 41 *eP* **Pn 13 09 54.5 +0.6**
ALGR Alto Alegre (B 14.45 92 *eP* **Pn 13 09 57.0 +0.1**
AMBA Amambai (Brazi 14.57 67 *eP* **Pn 13 09 58.5 +0.1**
BBSD Serra de San D 14.57 36 *eP* **Pn 13 10 00.3 +0.6**
FRBT Francisco Belt 14.99 81 *eP* **Pn 13 10 03.9 -0.2**
AQDB Aquidauana 15.38 58 *eP* **Pn 13 10 08.8 +0.2**
SIV San Ignacio 15.47 32 P **Pn 13 10 08.9 -0.9**
comp=Z,4.6nm,0.6s,baz=209,slow=9.5,SNR=22
ITAB Concordia 15.49 86 Pn **Pn 13 10 08.4 -1.5**
ITAB IAmb IAmb 13 10 21.1
comp=Z,26nm,1.5s
PTGB Pitanga 16.25 77 *eP* **Pn 13 10 18.6 -0.9**
CNLB Canela 16.30 94 *eP* **Pn 13 10 18.9 -1.1**
PTLB Pontes e Lacer 16.89 37 P **Pn 13 10 25.7 -1.5**
PTLB Pontes e Lacer 16.89 37 *eP* **P 13 10 28.8 +1.5**
PP1B Ponte de Pedra 17.84 52 *eP* **P 13 10 37.6 -0.2**
PCMB Pacaembu 18.23 66 *eP* **P 13 10 41.3 -0.7**
SALV Santo Antonio 18.53 46 *eP* **Pn 13 10 46.6 -0.3**
VILB Vilhena 18.54 30 *eP* **Pn 13 10 47.0 0.0**
FRTB Fartura 18.88 76 *eP* **P 13 10 49.0 -0.2**
ETMB Extrema 19.75 10 P **P 13 10 56.5 -2.1**
ETMB Extrema 19.75 10 *eP* **Pn 13 11 00.7 -0.4**
ITRB Iturama 19.92 65 *eP* **P 13 11 01.0 +0.6**
RCLB Rio Claro- Sao 20.97 76 *eP* **P 13 11 12.1 +0.5**
VAO Valinhos 21.22 78 *eP* **P 13 11 14.4 -0.1**
ARAG Araguaiana, MT 21.28 54 *eP* **P 13 11 14.5 -0.4**
PDRB Porto dos Gac 21.37 37 *eP* **P 13 11 16.4 +0.5**
CZSB Cruzeiro do Su 21.78 352 *eP* **P 13 11 23.1 +2.8**
CLDB Colider 22.48 38 *eP* **P 13 11 28.4 +0.9**
IPMB Ipameri, GO 22.57 64 *eP* **P 13 11 27.6 -0.8**
BDFB Brasilia 24.10 60 P **P 13 11 42.1 -0.6**
comp=Z,5.6nm,0.6s,baz=241,slow=8.1,SNR=8.3
comp=Z,5.6nm,0.6s
BDFB Brasilia 24.10 60 P **P 13 11 41.3 -1.4**
BDFB IAmb IAmb 13 11 44.1
comp=Z,19nm,1.3s
BDFB Brasilia 24.10 60 *eP* **P 13 11 42.8 +0.1**
SNDB Serra Nova Dou 24.28 48 *eP* **P 13 11 43.5 -0.8**
NPGB Novo Progresso 25.96 34 *eP* **P 13 11 59.3 -0.2**
JANB Januaria 27.30 64 *eP* **P 13 12 11.5 -0.1**
BOAV Boa Vista 32.79 17 P **P 13 12 59.8 -0.2**
BOAV IAmb IAmb 13 13 00.1
comp=Z,20nm,1.5s
RUSC La Rusia 35.27 354 P **P 13 13 22.8 +0.9**
VNA1 Neumayer--Stat 53.09 159 P P 13 15 29.1 -13
VNA2 Neumayer--Watz 53.45 159 P P 13 15 34.2 -11
baz=326,slow=13
VNA2 Neumayer--Watz 53.45 159 PP PP 13 17 44.9 -1.6
baz=319,slow=22
SNAA Sanae 55.05 159 P **P 13 15 55.5 -1.4**
SNAA Sanae 55.05 159 P **P 13 15 55.1 -1.8**
TROLL Troll, Antarti 56.77 159 P **P** 13 16 16.1 +6.9
TXAR Lajitas Array 66.90 328 P **P 13 17 19.4 +1.9**
comp=Z,0.5nm,0.8s,baz=152,slow=8.4,SNR=6.0
comp=Z,0.5nm,0.8s
WVT Waverly 67.44 344 P **P 13 17 20.5 -0.1**
LCAR Lake Charles 68.24 341 P **P 13 17 26.0 +0.4**
LCAR IAmb IAmb 13 17 27.3
comp=Z,5.7nm,0.6s
CCM Cathedral Cave 70.13 342 P **P 13 17 38.4 +1.1**
CCM IAmb IAmb 13 17 39.2
comp=Z,8.4nm,1.1s
DBIC Dimbokro 71.69 71 P **P 13 17 47.9 +0.7**
comp=Z,5.8nm,0.5s,baz=238,slow=6.0,SNR=12
comp=Z,5.8nm,0.5s
DBIC Dimbokro 71.69 71 P **P 13 17 47.7 +0.4**
DBIC IAmb IAmb 13 17 48.3
comp=Z,6.1nm,0.6s
P40A Paris 71.73 342 P **P 13 17 47.7 +0.8**
P40A IAmb IAmb 13 17 48.6
comp=Z,5.5nm,0.6s
LMN Caledonia Moun 75.04 3 P **P 13 18 07.3 +1.1**
SUR Sutherland 75.17 119 P **P 13 18 09.0 +1.3**
SUR IAmb IAmb 13 18 09.0
comp=Z,14nm,1.3s
G45A Suttons Bay 75.55 348 P **P 13 18 07.7 -1.3**
E62A Clayton Lake 75.69 0 P **P 13 18 11.6 +1.7**
E62A IAmb IAmb 13 18 12.1
comp=Z,8.6nm,0.8s
D62A Allapoint, All 76.15 0 P **P 13 18 13.2 +0.8**
D62A IAmb IAmb 13 18 14.7
comp=Z,11nm,0.9s
BATG Bathurst New B 76.41 2 P **P 13 18 14.7 +0.8**
ECSD EROS Data Cent 76.91 340 P **P 13 18 17.6 +0.8**
MTPU Mount Pierson 78.07 327 P **P 13 18 25.2 +1.4**
BOSA Boshof 80.29 117 P **P 13 18 36.2 +0.2**
comp=Z,3.5nm,0.4s,baz=256,slow=3.7,SNR=16
comp=Z,3.5nm,0.4s
BOSA Boshof 80.29 117 P **P 13 18 36.2 +0.2**
BOSA IAmb IAmb 13 18 48.4
comp=Z,15nm,1.5s
TORD Torodi Ar. Bea 80.62 69 P **P 13 18 38.4 +0.6**
comp=Z,10nm,0.6s,baz=275,slow=5.9,SNR=62
comp=Z,10nm,0.6s
TORD Torodi Ar. Bea 80.62 69 P **P 13 18 38.2 +0.5**
TORD IAmb IAmb 13 18 39.1
comp=Z,9.8nm,0.7s
HWUT Hardware Ranch 80.64 329 P **P 13 18 38.9 +1.4**
PDAR Pinedale Array 80.71 331 P **P 13 18 39.2 +1.3**
comp=Z,0.3nm,0.4s,baz=137,slow=8.1,SNR=5.7
comp=Z,0.3nm,0.4s
PDAR Pinedale Array 80.71 331 P **P 13 18 38.7 +0.8**
LHV Little Huntoon 81.39 323 P **P 13 18 43.4 +2.1**
NVAR Mina Array Bea 81.42 323 P **P 13 18 43.2 +1.4**
comp=Z,0.3nm,0.5s,baz=149,slow=5.6,SNR=4.5
comp=Z,0.3nm,0.5s
LBTB Lobatse 82.26 114 P **P 13 18 47.0 +0.5**
LBTB IAmb IAmb 13 18 47.5
comp=Z,5.7nm,0.7s
RLMT Red Lodge 82.54 333 P **P 13 18 49.2 +1.8**
SCHQ Schefferville 83.94 2 P **P 13 18 52.8 -1.3**
SCHQ IAmb IAmb 13 19 27.7
comp=Z,6.0nm,1.2s
JCC Jacoby Creek, 86.19 322 P **P 13 19 04.0 -1.7**
WALA Waterton Lakes 87.59 333 P **P 13 19 13.9 +1.5**
WALA IAmb IAmb 13 19 15.2
comp=Z,4.3nm,1.2s
YKA Yellowknife Ar 98.44 341 P Pdif 13 20 02.2 +0.3
comp=Z,0.3nm,0.8s,baz=149,slow=3.6,SNR=6.4
comp=Z,0.3nm,0.8s
ASAR Alice Springs 122.60 206 PKP **PKPdf 13 25 19.8 -0.3**
comp=Z,0.2nm,0.7s,baz=144,slow=2.0,SNR=4.4
WRA Warramunga Arr 125.79 208 PKP **PKPdf 13 25 26.2 0.0**
comp=Z,0.2nm,0.5s,baz=156,slow=1.7,SNR=6.8
ZALV Zalesovo Beam 149.22 30 PKPbc **PKiKP 13 26 12.9 -0.2**
comp=Z,4.4nm,0.4s,baz=304,slow=3.7,SNR=26
KSH Kashi 150.00 61 PKPbc **PKiKP 13 26 15.0 -0.4**
MKAR Makanchi Array 152.07 44 PKPbc **PKiKP 13 26 19.6 +0.3**
comp=Z,1.3nm,0.6s,baz=331,slow=1.6,SNR=19
MKAR PKPab **PKPab 13 26 30.1 +1.1**
comp=Z,2.0nm,0.5s,baz=286,slow=3.6,SNR=30
PZH PanZhiHua 171.76 109 PKP **PKPdf 13 26 32.0 -0.9**

IDC 31 13:06:42.0±999.0, 56°.57N×1°.89E, h0km, Error ellipse: s-maj=447.5km s-min=185.5km az=116.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.54**	**132**	I	I	14 09 00.0	
	baz=322,slow=324,SNR=0.8						
I43RU	**DUBNA INFRASON**	**9.30**	**75**	I	I	15 07 10.0	
	baz=287,slow=322,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**33.14**	**76**	I	I	16 33 00.0	
	baz=302,slow=339,SNR=0.6						

*DJA **31** 13:27:53.4±1.1, 1°.S±3°×12°.2E±°, h12km±9km, M4.4/14, mb4.6/7, mB5.8/1, MLv4.3/14, Mw(mB)5.3/1*
*IDC **31** 13:27:55.8±3.8, 1°.20S×121°.92E, h38km±37km, mb3.6/7, mbtmp3.9/8, ML4.5/2, MS3.0/7, Error ellipse: s-maj=31.1km s-min=16.8km az=61.0*
*NEIC **31** 13:27:56.9±1.8, 1°.28S±0°.07×121°.96E±0°.06, h48km±12km, mb4.1/7, Error ellipse: s-maj=9.8km s-min=8.3km az=165.0*

ISC 31 13:27:55.6±0.7, 1°.27S±0°.06×121°.92E±0°.06, h35km, n41, σ0°.86/38, mb4.0/13, MS2.9/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.88**	**75**	Pn	**Pn**	**13 28 11.2**	**-0.3**
LUWI				Sn	**Sn**	**13 28 24.4**	**+1.3**
LUWI	**Luwuk**	**0.88**	**75**	P	**Pn**	**13 28 11.2**	**-0.3**
MRSI	**Marisa**	**1.73**	**1**	P	**Pn**	**13 28 21.7**	**-1.6**
GTOI	**Gorontalo**	**2.18**	**30**	P	**Pn**	**13 28 29.9**	**+0.5**
MPSI	**Mapaga**	**2.57**	**308**	P	**Pn**	**13 28 33.2**	**-1.6**
TOLI2	**Tolitoli**	**2.62**	**334**	Pn	**Pn**	**13 28 35.5**	**0.0**
SPSI	**Sidrap Palu**	**3.44**	**219**	P	**Pn**	**13 28 47.0**	**+0.3**
SANI	**Sanana**	**4.14**	**101**	P	**Pn**	**13 28 56.0**	**-0.4**
KAPI	**Kappang**	**4.31**	**210**	Pn	**Pn**	**13 28 59.7**	**+1.1**
	34nm,0.3s,baz=22,slow=5.9,SNR=30						
KAPI				Sn	**Sn**	**13 29 47.6**	**-0.1**
	11nm,0.3s,baz=248,slow=22,SNR=8.7						
KAPI	**Kappang**	**4.31**	**210**	Pn	**Pn**	**13 28 59.0**	**+0.3**
BKSI	**Bulukumba**	**4.41**	**204**	P	**Pn**	**13 29 00.6**	**+0.5**
BSSI	**Bau Bau, Buton**	**5.05**	**196**	P	**Pn**	**13 29 09.1**	**+0.2**
	74nm,0.9s,0.4nm						
NLAI	**Namlea**	**5.53**	**111**	P	**Pn**	**13 29 16.3**	**+0.7**
	18nm,0.6s,7µm0.2nm						
TNTI	**Ternate**	**5.81**	**70**	Pn	**Pn**	**13 29 18.1**	**-1.3**
TNTI	**Ternate**	**5.81**	**70**	P	**Pn**	**13 29 19.4**	**0.0**
	32nm,0.7s,0.2nm						
MYLDM	**Lahad Datu**	**7.26**	**332**		**Pn**	**13 29 41.1**	**+1.9**
MMRI	**Maumere**	**7.33**	**178**	Pn	**Pn**	**13 29 40.2**	**0.0**
BATI	**Baumata**	**9.05**	**169**	LR	LR	13 33 32.1	
	comp=Z,142nm,21.1s,baz=319,slow=37						
DAV	**Davao City (W)**	**9.05**	**24**	LR	LR	13 33 44.1	
	comp=Z,55nm,21.4s,baz=200,slow=39						
KKM	**Kota Kinabalu**	**9.23**	**322**	Pn	**Pn**	**13 30 07.3**	**+0.9**
SIJI	**Sorong**	**9.35**	**88**	Pn	**Pn**	**13 30 08.3**	**+0.3**
	3.9nm,0.3s,baz=257,slow=9.7,SNR=12						
	9.5nm,0.3s						
PSA00	**Pilbara Seismi**	**20.28**	**186**	P	**P**	**13 32 27.8**	**-0.6**
WB0	**Warramunga Arr**	**22.07**	**147**	P	**P**	**13 32 47.4**	**-0.4**
WB0				IAmb	IAmb	13 32 50.6	
	comp=Z,7.7nm,0.9s						
WRAB	**Tennant Creek**	**22.18**	**148**	P	**P**	**13 32 48.1**	**-0.8**
WRAB				IAmb	IAmb	13 32 52.0	
	comp=Z,9.3nm,0.9s						
WRA	**Warramunga Arr**	**22.18**	**148**	P	**P**	**13 32 48.8**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=335,slow=9.5,SNR=25						
	comp=Z,3.5nm,0.8s						
WB2	**Warramunga Arr**	**22.19**	**148**	P	**P**	**13 32 48.5**	**-0.5**
WB2				IAmb	IAmb	13 32 52.0	
	comp=Z,6.1nm,0.8s						
WR0	**Warramunga Arr**	**22.31**	**147**	P	**P**	**13 32 49.8**	**-0.4**
WR0				IAmb	IAmb	13 33 01.0	
	comp=Z,12nm,1.1s						
PSI	**Prapat**	**23.34**	**280**	LR	LR	13 43 05.3	
	comp=Z,57nm,18.1s,baz=276,slow=39						
AS31	**Alice Springs**	**25.12**	**153**	P	**P**	**13 33 17.2**	**-0.2**
ASAR	**Alice Springs**	**25.12**	**153**	P	**P**	**13 33 18.3**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=346,slow=15,SNR=43						
ASAR				PcP	**PcP**	**13 36 51.1**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=345,slow=3.2,SNR=2.3						
	comp=Z,0.8nm,0.4s						
ASAR	**Alice Springs**	**25.12**	**153**	P	**P**	**13 33 17.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**29.91**	**312**	P	**P**	**13 34 01.1**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=134,slow=6.4,SNR=1.0						
CMAR				LR	LR	13 47 45.0	
	comp=Z,14nm,19.4s,baz=160,slow=40						
	comp=Z,0.4nm,0.3s						
CTA	**Charters Tower**	**30.27**	**130**	LR	LR	13 46 43.5	
	comp=Z,46nm,19.1s,baz=316,slow=37						
JCJ	**Chichijima**	**34.29**	**33**	LR	LR	13 50 21.8	
	comp=Z,23nm,19.0s,baz=118,slow=39						
TNCH	**TengChong**	**34.60**	**321**	*eP*	**P**	**13 34 43.5**	**+1.8**
TNCH				pP	pP	13 34 53.5	+1.4
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
STKA	**Stephens Creek**	**35.66**	**151**	P	**P**	**13 34 50.8**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=312,slow=11,SNR=5.7						
	comp=Z,2.9nm,0.7s						
KSRS	**Korea Array**	**38.93**	**8**	LR	LR	13 53 24.0	
	comp=Z,11nm,18.1s,baz=170,slow=39						
SONM	**Songino Array**	**50.74**	**347**	P	**P**	**13 36 51.1**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=161,slow=8.4,SNR=4.5						
	comp=Z,0.6nm,0.8s						
MK31	**Makanchi Array**	**59.13**	**329**	P	**P**	**13 37 51.9**	**-0.9**
MK31				IAmb	IAmb	13 38 01.4	
	comp=Z,1.1nm,0.9s						
MKAR	**Makanchi Array**	**59.13**	**329**	P	**P**	**13 37 51.7**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=128,slow=8.0,SNR=13						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**63.02**	**336**	P	**P**	**13 38 18.1**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=134,slow=10,SNR=1.7						
	comp=Z,0.4nm,0.5s						

IDC 31 13:33:58.3±604.0, 56°.42N×0°.47W, h0km, Error ellipse: s-maj=342.6km s-min=207.0km az=112.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**11.46**	**125**	I	I	14 46 50.0	
	baz=317,slow=327,SNR=0.8						
I43RU	**DUBNA INFRASON**	**20.60**	**73**	I	I	15 40 40.0	
	baz=285,slow=321,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**34.44**	**75**	I	I	17 05 10.0	
	baz=301,slow=339,SNR=0.7						

*VAO **31** 14:22:37.9±0.3, 0°.74N×79°.71W, h10km, mb5.2*
*NEIC **31** 14:22:38.7±1.6, 0°.70N±0°.05×79°.68W±0°.06, h10km±1km, mb5.0/195, Ms_20 4.9/113, Mwb5.3/48, Mwr5.3/24, Mww5.5, Error ellipse: s-maj=9.5km s-min=8.7km az=251.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.71; Mθθ0.09; Mϕϕ-0.80; Mrθ0.16; Mθϕ-0.24; Mϕr-0.70; Fault plane solution: M0 1.07000×10^17^ NP1: ϕs175.39000°, δ67.21000°, λ72.62000°. NP2: ϕs34.32000°, δ28.38000°, λ125.41000°. Principal axes: T 1.0401, Plg64.0000°, Azm57.0000°; N 0.0577, Plg16.0000°, Azm182.0000°; P -1.0978, Plg20.0000°, Azm278.0000°; Moment Tensor Solution. Moment tensor: Scale 10^17^ Nm; Mrr0.37; Mθθ0.06; Mϕϕ-0.43; Mrθ0.15; Mθϕ-0.13; Mϕr-1.07; Fault plane solution: M0 1.16000×10^17^ NP1: ϕs37.05000°, δ13.34000°, λ133.00000°. NP2: ϕs173.27000°, δ80.28000°, λ80.81000°. Principal axes: T 1.1465, Plg54.0000°, Azm72.0000°; N 0.0256, Plg9.0000°, Azm175.0000°; P -1.1721, Plg35.0000°, Azm271.0000°;*
*IGQ **31** 14:22:39±0.4, 1°.N±2°×8°.0W±°, h9km*
*GCMT **31** 14:22:42.7±0.1, 0°.64N±0°.01×79°.85W±0°.01, h23km, MW5.4/134, Moment Tensor Solution. s123,c181; s134,c233; Duration: 18±3 Moment tensor: Scale 10^17^ Nm; Mrr0.89±.02; Mθθ0.15±.01; Mϕϕ-1.04±.02; Mrθ0.28±.03; Mθϕ-0.23±.01; Mϕr-1.36±.05; Best double couple: M0 1.70900×10^17^ NP1: ϕs172.00000°, δ73.00000°, λ77.00000°. NP2: ϕs32.00000°, δ21.00000°, λ127.00000°. Principal axes: T 1.6720, Plg60.0000°, Azm63.0000°; N 0.0760, Plg13.0000°, Azm176.0000°; P -1.7460, Plg27.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **31** 14:22:42.2±1.0, 0°.77N×79°.71W, h54km, mb5.2/18, MS4.8/7 Error ellipse: s-maj=11.8km s-min=5.8km az=113.9*
*IDC **31** 14:22:44.7±1.4, 0°.78N×79°.71W, h64km±12km, mb4.2/25, mbtmp4.6/30, MS4.8/55, Error ellipse: s-maj=10.6km s-min=7.1km az=66.0*
*NEIC **31** 14:22:47, 0°.71N×79°.64W, h26km, Moment Tensor Solution. Duration: 12±0 Moment tensor: Scale 10^17^Nm; Mrr1.23; Mθθ0.45; Mϕϕ-1.68; Mrθ0.04; Mθϕ-0.24; Mϕr-1.67; Fault plane solution: M0 2.26000×10^17^ NP1: ϕs18.00000°, δ21.00000°, λ107.00000°. NP2: ϕs179.00000°, δ70.00000°, λ83.00000°. Principal axes: T 2.0038, Plg65.0000°, Azm78.0000°; N 0.4462, Plg6.0000°, Azm181.0000°; P -2.4499, Plg24.0000°, Azm274.0000°;*

ISC 31 14:22:40.6±0.7, 0°.69N±0°.02×79°.71W±0°.03, h29km±4km, n157, σ1°.3±4°.4/687, mb5.0/142, MS4.9/121, 7C-21D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AV21	**Acelerografo,**	**0.17**	**101**	P	**Pb**	**14 22 45.0**	**-1.3**
AV21				S	**Sb**	**14 22 51.0**	**+0.8**
AMA1	**Acelerografo,**	**0.24**	**357**	P	**Pb**	**14 22 45.0**	**-2.1**
AES2	**Ecuador-Puerto**	**0.30**	**12**	P	**Pb**	**14 22 47.0**	**-0.9**
AV18	**Acelerografo,**	**0.45**	**148**	P	**Pb**	**14 22 50.0**	**-0.1**
RVRD	**Rio Verde**	**0.49**	**41**	P	**Pb**	**14 22 50.0**	**-0.8**
RVRD	**Rio Verde**	**0.49**	**41**	P	**Pb**	**14 22 50.0**	**-0.8**
BV15	**Puerto Quito-O**	**0.72**	**137**	P	**Pb**	**14 22 53.0**	**-1.6**
MAG1	**Magdalena**	**0.76**	**185**	P	**Pb**	**14 22 54.0**	**-1.4**
APR2	**Miler**	**0.96**	**130**	P	**Pn**	**14 22 57.0**	**-1.3**
PAC1	**Pacto, Paraso**	**1.01**	**115**	P	**Pn**	**14 22 58.0**	**-1.0**
PAC1	**Pacto, Paraso**	**1.01**	**115**	↓ *iP*	**Pn**	**14 22 58.4**	**-0.7**
PAC1				*eS*	**Sb**	**14 23 14.5**	**+1.9**
PAC1				*i*		14 23 15.8	
	comp=Z,255µm,0.3s						
ALOR	**Ecuador-San Lo**	**1.05**	**55**	P	**Pb**	**14 23 00.0**	**-0.1**
SNLR	**San Lorenzo-Es**	**1.05**	**55**	P	**Pb**	**14 23 00.0**	**-0.1**
FLF1	**Flavio Alfaro-**	**1.05**	**187**	P	**Pn**	**14 22 59.0**	**-0.5**
FLF1	**Flavio Alfaro-**	**1.05**	**187**	↑ *iP*	**Pn**	**14 22 59.5**	**0.0**
FLF1				*eS*	**Sb**	**14 23 15.8**	**+2.1**
JAMA	**Jama**	**1.07**	**208**	P	**Pn**	**14 22 57.0**	**-2.7**
ASDO	**Santo Domingo**	**1.12**	**148**	P	**Pn**	**14 22 57.0**	**-3.4**
APR1	**Acelerografo,**	**1.32**	**124**	P	**Pn**	**14 23 03.0**	**-0.5**
OTAV	**Otavalo**	**1.34**	**110**		**Pn**	**14 23 03.9**	**+0.1**
OTAV	**Otavalo**	**1.34**	**110**	P	**Pn**	**14 23 03.0**	**-0.8**
OTAV	**Otavalo**	**1.34**	**110**	P	**Pn**	**14 23 03.9**	**+0.1**
OTAV	**Otavalo**	**1.34**	**110**	↓ *iP*	**Pn**	**14 23 04.0**	**+0.3**
OTAV				*eS*	**Sb**	**14 23 22.7**	**+0.4**
OTAV	**Otavalo**	**1.34**	**110**	*eP*	**Pn**	**14 23 03.8**	**+0.1**
ALIT	**Ecuador-Imbabu**	**1.35**	**86**	P	**Pn**	**14 23 03.0**	**-0.7**
CUSE	**Cuicocha Este**	**1.37**	**106**	P	**Pn**	**14 23 04.0**	**-0.1**
CUSE	**Cuicocha Este**	**1.37**	**106**	↓ *iP*	**Pn**	**14 23 04.5**	**+0.4**
CUSE				*eS*	**Sb**	**14 23 23.3**	**+0.2**
CUSE				*i*		14 23 26.5	
	comp=Z,228µm,0.4s						
PULU	**Pululahua**	**1.38**	**119**		**Pn**	**14 23 04.8**	**+0.5**
PULU	**Pululahua**	**1.38**	**119**	P	**Pn**	**14 23 04.0**	**-0.3**
PINO	**Pino**	**1.39**	**128**	P	**Pn**	**14 23 04.0**	**-0.6**
YANA	**Yana**	**1.40**	**125**	P	**Pn**	**14 23 04.0**	**-0.6**
TERV	**Terraza Guagua**	**1.40**	**128**	P	**Pn**	**14 23 04.0**	**-0.7**
CUIC	**Cuicocha-Domo**	**1.40**	**106**	P	**Pn**	**14 23 04.0**	**-0.6**
GGPC	**Guagua Pichinc**	**1.41**	**128**	P	**Pn**	**14 23 05.0**	**+0.1**
COTA	**Cotacachi**	**1.42**	**105**	P	**Pn**	**14 23 05.0**	**+0.1**
CUSW	**Cuicocha Oeste**	**1.42**	**107**	P	**Pn**	**14 23 05.0**	**+0.2**
JUA2	**San Juan 2**	**1.43**	**129**	P	**Pn**	**14 23 05.0**	**0.0**
SADP	**Ecuador-Quito-**	**1.44**	**119**	P	**Pn**	**14 23 05.0**	**0.0**
URCU	**Urcuqui**	**1.48**	**100**	P	**Pn**	**14 23 05.0**	**-0.6**
CRPG	**Carapungo - Pi**	**1.49**	**122**	P	**Pb**	**14 23 07.0**	**-0.7**
TUMC	**Tumaco**	**1.49**	**41**	Pn	**Pn**	**14 23 05.7**	**+0.2**
TUMC	**Tumaco**	**1.49**	**41**	P	**Pn**	**14 23 05.0**	**-0.5**
TUMC	**Tumaco**	**1.49**	**41**	↑ *iP*	**Pn**	**14 23 05.9**	**+0.4**

BONI La Bonita 2.19 96 P **Pn** 14 23 17.0 +1.6
BONI La Bonita 2.19 96 ‖ iP **Pb** 14 23 17.8 -1.9
PIAT Ana Tenorio 2.22 139 P **Pn** 14 23 17.0 +1.2
PIAT Ana Tenorio 2.22 139 ‖ iP **Pn** 14 23 17.5 +1.7
REVN San Rafael 2.22 110 P **Pb** 14 23 19.0 -1.2
LAV4 Lava4-Reventad 2.22 111 P **Pb** 14 23 19.0 -1.3
REVS Reventador Sur 2.24 111 P **Pb** 14 23 19.0 -1.5
CHSH Refugio Sur-Vo 2.33 159 **Pn** 14 23 18.9 +1.4
CHSH Refugio Sur-Vo 2.33 159 P **Pn** 14 23 18.0 +0.5
PORT Chimborazo Vol 2.34 156 **Pn** 14 23 17.6 0.0
PORT Chimborazo Vol 2.34 156 P **Pn** 14 23 18.0 +0.3
TAMH Tambohuasha Ch 2.41 157 P **Pn** 14 23 19.0 +0.5
IGUA Igualata 2.42 154 P **Pb** 14 23 22.0 -1.8
GCUF Volcan Galeras 2.42 77 ‖ iP **Pn** 14 23 20.5 +1.7
CASC Dorado de Casc 2.44 103 P **Pb** 14 23 22.0 -1.8
BIL2 Estacion Bilba 2.45 150 P **Pb** 14 23 23.0 -1.2
BBIL Ulba Tungurahu 2.46 150 P **Pn** 14 23 21.0 +1.9
BRUN Tungurahua Vol 2.46 149 P **Pn** 14 23 21.0 +1.9
PPLP Puerto Lpez 2.47 206 P **Pn** 14 23 21.0 +2.1
PPLP Puerto Lpez 2.47 206 eP **Pn** 14 23 21.0 +2.1
RETU Refugio 2.48 149 P **Pn** 14 23 22.0 +2.5
TUYU Q. Yuibug Volc 2.49 150 P **Pn** 14 23 21.0 +1.4
BMAS Trigal station 2.51 151 P **Pn** 14 23 21.0 +1.2
ARRY Arrayan 2.52 150 P **Pn** 14 23 22.0 +2.0
BPAT Tungurahua Vol 2.53 150 P **Pn** 14 23 22.0 +1.8
ARDO Archidona, Ten 2.54 131 P **Pb** 14 23 23.0 -2.6
GR1C Gorgona, Isla 2.76 34 ‖ iP **Pn** 14 23 20.8 -2.2
AMIL Milagro (Trans 2.81 178 P **Pn** 14 23 25.0 +1.4
APS1 Acelerografo, 2.85 102 P **Pb** 14 23 30.0 -0.9
CRUC La Cruz 2.89 73 ‖ eP **Pn** 14 23 27.4 +2.4
MILO Milagro-Astudi 2.96 177 P **Pn** 14 23 25.0 -0.6
MORR Playas El Morr 3.37 191 P **Pn** 14 23 33.0 +1.7
MAPC Malpelo 3.79 330 eP **Pn** 14 23 34.5 -2.6
FLOC Florencia 4.15 78 P **Pn** 14 23 45.0 +2.9
FLOC Florencia 4.15 78 ‖ iP **Pn** 14 23 45.1 +3.0
ARNL Arenillas 4.23 185 **Pn** 14 23 43.5 +0.4
ARNL Arenillas 4.23 185 P **Pn** 14 23 44.0 +0.9
GARC Garzon, Huila 4.47 71 eP **Pn** 14 23 49.5 +2.8
YOTC Yotoco, Valle 4.69 46 eP **Pn** 14 23 50.0 +0.4
BETC Betania 4.70 65 eP **Pn** 14 23 53.8 +4.1
PIZC Pizarro, Choco 4.85 29 eP **Pb** 14 24 05.2 +0.4
MCRA Macar, Loja 5.04 183 Pn **Pn** 14 23 55.6 +1.3
MCRA Macar, Loja 5.04 183 P **Pn** 14 23 56.0 +1.7
MCRA Macar, Loja 5.04 183 eP **Pn** 14 23 57.9 +3.6
PLMC San Jos del P 5.41 39 eP **Pn** 14 23 59.8 +0.4
ORTC Ortega, Tolima 5.49 54 eP **Pn** 14 24 02.6 +2.2
ZUMB Zumba 5.55 174 P **Pn** 14 24 04.0 +2.5
MACC Macarena, Meta 6.04 76 ‖ iP **Pn** 14 24 11.2 +3.2
NIZA Niza - Manizal 6.06 44 eP **Pb** 14 24 17.8 -7.8
CBOC Ciudad Bolivar 6.32 36 eP **Pn** 14 24 14.4 +2.2
ROSC El Rosal 6.78 52 P **Pn** 14 24 22.8 +4.3
comp=Z,770nm,0.5s,baz=196,slow=5.8,SNR=55
ROSC S **Sn** **14 25 38.3 +3.3**
comp=Z,638nm,0.7s,baz=208,slow=23,SNR=1.2
ROSC El Rosal 6.78 52 Pn **Pn** **14 24 18.9 +0.4**
ROSC El Rosal 6.78 52 eP **Pn** **14 24 22.3 +3.7**
AZU Azuero 7.07 355 eP **Pn** **14 24 20.5 -1.7**
CHIC Chingaza 7.14 57 eP **Pn** **14 24 26.1 +2.6**
APAC Apartado, Choc 7.81 23 eP **Pn** **14 24 34.7 +2.3**
PTBC PUERTO BERRIO, 7.82 42 eP **Pn** **14 24 35.3 +2.8**
ATAH Atahualpa 7.89 170 P **Pn** **14 24 37.2 +3.4**
comp=Z,48nm,0.8s,baz=24,slow=5.2,SNR=25
ATAH S **Sn** **14 26 08.4 +6.0**
comp=Z,179nm,0.7s,baz=18,slow=22,SNR=10
ATAH LR LR 14 27 48.7
comp=Z,10µm,21.8s,baz=344,slow=38
UREC San Jos de Ur 8.15 31 eP Pb 14 24 49.8 -11
ZARC Zaragoza, Cauc 8.31 35 eP Pn 14 24 45.8 +6.6
PTGC Puerto Gaitan, 8.33 65 eP Pn 14 24 44.5 +4.9
RUSC La Rusia 8.39 52 Pn **Pn** **14 24 41.1 +0.3**
RUSC La Rusia 8.39 52 eP **Pn** **14 24 42.1 +1.3**
CDITO Canoas 8.44 338 **Pn** **14 24 42.4 +1.4**
BRU2 Volcan 8.58 340 eP **Pn** **14 24 46.7 +3.6**
BRRC Barranca, Sant 8.74 43 eP **Pn** **14 24 48.6 +3.5**
BARC Barichara 8.76 48 eP **Pn** **14 24 48.4 +2.8**
SRBA San Rafael, Bu 9.23 337 Pn **Pn** **14 24 53.4 +1.5**
PAMC Pamplona, Colo 9.62 46 eP Pn 14 25 03.9 +6.4
TAMC Tame, Arauca 9.74 54 eP Pn 14 25 04.7 +5.8
JACO JACO, Garabito 10.18 331 **Pn** **14 25 04.8 -0.1**
SJCC San Jacinto, C 10.19 26 eP **Pn** **14 25 06.5 +1.3**
HDC Heredia 10.23 335 eP **Pn** **14 25 04.5 -1.2**
PAYG Puerto Ayora 10.66 263 Pn **Pn** **14 25 12.5 +1.0**
PAYG Puerto Ayora 10.66 263 eP **Pn** **14 25 11.8 +0.3**
LL1C La Loma 1 Cana 10.71 35 eP Pn 14 25 21.2 +9.0
JTS Las Juntas de 10.87 332 P **Pn** **14 25 17.5 +3.2**
comp=Z,26nm,0.9s,baz=135,slow=13,SNR=12
JTS LR LR 14 28 49.4
comp=Z,7µm,19.1s,baz=154,slow=34
JTS Las Juntas de 10.87 332 eP **Pn** **14 25 17.3 +3.0**
CZSB Cruzeiro do Su 10.90 140 Pn **Pn** **14 25 15.6 +0.8**
CZSB Cruzeiro do Su 10.90 140 eP **Pn** **14 25 15.8 +1.0**
TBTG Tabatinga, AM 10.93 116 **Pn** **14 25 15.5 +0.4**
TBTG Tabatinga, AM 10.93 116 eP **Pn** **14 25 18.0 +2.8**
TBTG Tabatinga, AM 10.93 116 eP **Pn** **14 25 15.9 +0.7**
SDV Santo Domingo 12.16 48 P **Pn** **14 25 34.1 +1.9**
comp=Z,22nm,0.8s,baz=223,slow=12,SNR=13
SDV S **Sn** **14 27 48.6 +1.6**
comp=Z,52nm,0.9s,baz=284,slow=20,SNR=2.0
SDV LR LR 14 31 03.2
comp=Z,4µm,20.5s,baz=219,slow=41
SDV Santo Domingo 12.16 48 Pn **Pn** **14 25 32.4 +0.2**
SDV Santo Domingo 12.16 48 eP **Pn** **14 25 31.2 -1.0**
CRJC Cerrejon, Guaj 12.30 33 eP **Pn** **14 25 32.7 -1.3**
SGCB SEo Gabriel d 12.71 94 eP **Pn** **14 25 38.6 -0.8**
NNA Nana 12.92 167 P **Pn** **14 25 46.8 +4.4**
comp=Z,26nm,0.6s,baz=320,slow=14,SNR=9.0
NNA S **Sn** **14 28 04.1 -1.2**
comp=Z,26nm,0.5s,baz=218,slow=14,SNR=3.1
NNA Nana 12.92 167 Pn **Pn** **14 25 41.8 -0.7**
URIC Uribia, Colomb 13.35 35 eP **Pn** **14 25 50.1 +1.8**
BAUV El Baul 14.22 54 **Pn** **14 25 57.1 -3.0**
TGUH Tegucigalpa,Un 15.24 331 **P** **14 26 16.7 -2.0**
TGUH IAmb IAmb 14 26 18.5
comp=Z,94nm,1.1s
TGUH Tegucigalpa,Un 15.24 331 eP **Pn** **14 26 15.7 +1.7**
HATO Hato, Curacao 15.62 43 Pn **Pn** **14 26 19.8 +1.0**
TEFE Tefe 15.64 106 eP **Pn** **14 26 17.9 -1.1**
ETMB Extrema 17.02 128 Pn **Pn** **14 26 34.5 -2.2**
ETMB IAmb IAmb 14 26 40.9
comp=Z,151nm,1.5s
ETMB Extrema 17.02 128 eP **Pn** **14 26 34.8 -1.9**
PCRV Puerto La Cruz 17.70 57 P **P** **14 26 47.2 +1.3**
comp=Z,17nm,0.5s,baz=233,slow=3.1,SNR=14
PCRV S **S** **14 30 05.7 -2.9**
comp=Z,7.1nm,0.7s,baz=334,slow=19,SNR=1.6
PCRV LR LR 14 34 28.7
comp=Z,5µm,19.9s,slow=40
BOAV Boa Vista 19.25 85 P **P** **14 27 02.8 -0.2**
BOAV IAmb IAmb 14 27 09.6
comp=Z,119nm,1.3s
BOAV Boa Vista 19.25 85 eP **P** **14 27 02.8 -0.2**
BOAV Boa Vista 19.25 85 eP **P** **14 27 03.0 +0.1**
MACA Manacapuru-AM 19.40 101 P **P** **14 27 03.9 -0.6**
SDDR Presa de Saban 19.96 24 P **P** **14 27 10.5 -0.2**
SDDR Presa de Saban 19.96 24 eP **Pn** **14 27 13.0 +0.5**
LPAZ La Paz 20.38 146 P Pn 14 27 17.7 -0.4
comp=Z,6.0nm,0.5s,baz=325,slow=10,SNR=18
LPAZ S **S** **14 31 04.9 +1.5**
comp=Z,7.4nm,1.1s,baz=154,slow=25,SNR=1.8
LPAZ LR LR 14 36 42.1
comp=Z,8µm,19.0s,baz=323,slow=41
comp=Z,6.0nm,0.5s
LPAZ La Paz 20.38 146 Pn Pn 14 27 17.6 -0.4
LPAZ IAmb IAmb 14 27 25.8
comp=Z,86nm,1.3s
LPAZ La Paz 20.38 146 eP Pn 14 27 19.9 +1.8
LPAZ La Paz 20.38 146 eP **P** **14 27 16.4 +0.5**
TRN Trinidad (W) 20.71 61 eP **P** **14 27 14.9 -3.9**
PCDR Punta Cana, DR 20.91 31 **P** **14 27 21.2 +0.3**
TEIG Tepich 21.14 337 P **P** **14 27 22.4 -1.1**
TEIG IAMs_20 IAMs_20 14 34 59.1
comp=Z,3µm,18.0s
CRPR Cabo Rojo, PR 21.20 35 P **P** **14 27 23.0 -1.0**
MLPR Magueyes Islan 21.21 35 P **P** **14 27 22.5 -1.6**
MLPR IAmb IAmb 14 27 29.5
comp=Z,157nm,1.1s
GRGR Grenville 21.21 57 P **P** **14 27 23.9 -0.3**
GRGR IAMs_20 IAMs_20 14 36 28.6
comp=Z,4µm,20.0s
GRGR Grenville 21.21 57 eP P 14 27 13.3 -11
PB12 IPOC Station P 21.29 155 P **P** **14 27 25.6 +0.5**
PB12 IAmb IAmb 14 27 42.2
comp=Z,66nm,1.0s
PB16 IPOC Station P 21.41 153 P **P** **14 27 27.5 +0.6**
PB16 IAmb IAmb 14 27 44.8
comp=Z,87nm,0.9s
OBIP Obispado Ponce 21.52 36 P **P** **14 27 27.1 -0.4**
GCMP Grenada, Carri 21.59 56 eP **P** **14 27 26.0 -2.2**
AOPR Arecibo Observ 21.67 35 P **P** **14 27 29.9 +0.7**
TOSP Speyside 21.76 60 P **P** **14 27 29.3 -0.8**
SJG San Juan 21.84 37 P **P** **14 27 32.1 +1.1**
comp=Z,94nm,0.9s,baz=207,slow=6.9,SNR=23
SJG S **S** **14 31 29.8 -1.2**
comp=Z,6.2nm,0.3s,baz=318,slow=18,SNR=1.8
SJG LR LR 14 37 36.9
comp=Z,2µm,20.8s,baz=198,slow=41
comp=Z,94nm,0.9s
SJG San Juan 21.84 37 P **P** **14 27 30.9 0.0**
SJG San Juan 21.84 37 eP **P** **14 27 28.3 -2.7**
EMPR Esperanza - Ma 21.90 35 P **P** **14 27 30.5 -1.1**
GCPR Guaynabo City 22.04 37 P **P** **14 27 32.6 -0.4**
HUMP Col San Antoni 22.05 37 P **P** **14 27 32.9 -0.3**
MNMC Minye Minye 22.06 154 P **P** **14 27 33.6 0.0**
CMIG Matias Romero 22.11 318 P **P** **14 27 35.2 +1.4**
comp=Z,11nm,1.1s,baz=92,slow=7.5,SNR=5.5
CMIG LR LR 14 34 42.6
comp=Z,2µm,19.9s,baz=171,slow=33
comp=Z,11nm,1.1s
CBYP Canovanas 22.14 37 P **P** **14 27 34.1 -0.2**
SVB Belmont 22.15 55 P **P** **14 27 33.0 -1.3**
MTP Monte Pirata 22.20 38 P **P** **14 27 34.7 -0.1**
SOR Soroa 22.20 352 P **P** **14 27 35.2 +0.5**
SOR IAmb IAmb 14 27 46.6
comp=Z,65nm,1.4s
SOR Soroa 22.20 352 P **P** **14 27 35.2 +0.5**
SOR pmax pmax
comp=Z,65nm,1.4s
PSGCX Pisagua 22.25 156 P **P** **14 27 35.9 +0.4**
PSGCX IAmb IAmb 14 27 48.6
comp=Z,91nm,1.3s
CUPR Culebra, Puert 22.52 38 P **P** **14 27 38.2 0.0**
CUPR IAmb IAmb 14 27 42.1
comp=Z,107nm,0.9s
PB11 IPOC Station P 22.59 155 P **P** **14 27 39.4 +0.2**
GO01 Chusmiza 22.71 154 P **P** **14 27 40.7 -0.1**
SLBI Saint Lucia, B 22.78 54 eP **P** **14 27 43.7 +2.6**
SVN Savane Anatole 23.09 52 IAMs_20 IAMs_20 14 37 50.0
comp=Z,3µm,19.0s
TA01 Diego Aracena 23.10 157 P **P** **14 27 44.3 +0.1**
TA01 IAmb IAmb 14 27 59.8
comp=Z,101nm,1.1s
ILAM Ilet Lapin Mar 23.29 52 IAMs_20 IAMs_20 14 38 03.0
comp=Z,3µm,18.0s
PATCX Punta Patache 23.34 157 P **P** **14 27 46.7 0.0**
PATCX IAmb IAmb 14 27 58.0
comp=Z,100nm,1.2s
SABA Saba 23.35 43 eP **P** **14 27 47.4 +0.6**
SEUS St. Eustatius 23.44 44 eP **P** **14 27 42.8 -4.9**
MLYT Lee's Yard 23.48 46 eP **P** **14 27 41.4 -6.8**
BBGH Gun Hill 23.49 57 IAMs_20 IAMs_20 14 38 06.8
comp=Z,7µm,22.0s
BBGH Gun Hill 23.49 57 eP **P** **14 27 54.0 +5.8**
MBFL Flemmings, Mon 23.49 46 eP P 14 27 36.1 -12
CBE Ff, Capester 23.50 49 IAMs_20 IAMs_20 14 37 44.0
comp=Z,3µm,22.0s
GDHS Morne Mazeau, 23.51 48 P **P** **14 27 47.6 -0.8**
VILB Vilhena 23.63 126 P **P** **14 27 49.3 -0.3**
VILB Vilhena 23.63 126 eP **P** **14 27 49.9 +0.3**
MAGL Barre de l'ile 23.67 49 IAMs_20 IAMs_20 14 37 37.6
comp=Z,5µm,22.0s
MAGL Barre de l'ile 23.67 49 eP **P** **14 27 52.6 +2.7**
SMRT St. Maarten 23.76 43 P **P** **14 27 49.9 -0.9**
SMRT St. Maarten 23.76 43 eP **P** **14 27 49.8 -1.0**
ABD La Joyeuse, An 23.84 48 IAMs_20 IAMs_20 14 37 53.2
comp=Z,4µm,22.0s
ABD La Joyeuse, An 23.84 48 eP **P** **14 27 50.6 -0.9**
PB02 IPOC Station P 23.89 157 P **P** **14 27 52.6 +0.5**
PB02 IAmb IAmb 14 28 10.0
comp=Z,42nm,1.0s
ANBD Bethesda, Anti 24.00 46 eP **P** **14 27 49.3 -3.8**
PB07 IPOC Station P 24.26 157 P **P** **14 27 55.2 -0.4**
PB07 IAmb IAmb 14 28 17.3
comp=Z,49nm,1.1s
ANWB Willy Bob 24.40 45 P **P** **14 27 55.7 -1.0**
ANWB Willy Bob 24.40 45 eP **P** **14 27 55.5 -1.2**
ANWB Willy Bob 24.40 45 eP **P** **14 27 57.7 +1.0**
ITTB Itaituba 24.48 102 eP **P** **14 27 57.0 -0.5**
SIV San Ignacio 24.77 133 P **P** **14 28 01.2 +1.0**
comp=Z,28nm,0.9s,baz=310,slow=8.9,SNR=64
SIV S **S** **14 32 21.9 +0.9**
comp=Z,4.7nm,0.8s,baz=252,slow=17,SNR=1.5
SIV LR LR 14 39 16.0
comp=Z,8µm,18.6s,baz=327,slow=40
comp=Z,28nm,0.9s
LVC Limon Verde 25.44 156 P **P** **14 28 08.2 +1.6**
LVC comp=Z,24nm,1.1s,baz=338,slow=7.4,SNR=13 S **S** **14 32 34.3 +2.1**
LVC comp=Z,1.1nm,0.4s,baz=206,slow=22,SNR=1.3 LR LR 14 40 19.8
comp=Z,1µm,20.9s,baz=320,slow=41
comp=Z,24nm,1.1s
LVC Limon Verde 25.44 156 P **P** **14 28 07.1 +0.5**
LVC IAmb IAmb 14 28 39.2
comp=Z,82nm,1.2s
LVC Limon Verde 25.44 156 IAMs_20 IAMs_20 14 38 31.5
comp=Z,2µm,21.0s
LVC Limon Verde 25.44 156 eP **P** **14 28 07.0 +0.5**
NPGB Novo Progresso 25.48 108 eP **P** **14 28 05.5 -1.1**
MALB Monte Alegre 25.57 96 eP **P** **14 28 07.8 +0.4**
BBSD Serra de San D 25.89 134 eP **P** **14 28 10.9 +0.6**
PTLB Pontes e Lacer 25.90 129 P **P** **14 28 10.2 -0.1**
PTLB IAmb IAmb 14 28 19.6
comp=Z,80nm,1.2s
PTLB Pontes e Lacer 25.90 129 eP **P** **14 28 11.1 +0.7**
PDRB Porto dos Gac 25.90 119 eP **P** **14 28 10.5 +0.1**
CLDB Colider 26.41 116 eP **P** **14 28 14.9 -0.1**
PB14 IPOC Station P 26.74 161 P **P** **14 28 18.1 -0.1**
BBRB Robore, Bolivi 27.18 135 eP **P** **14 28 22.2 +0.3**
MDP Montagnes des 27.38 80 P **P** **14 28 23.9 +0.1**
comp=Z,39nm,0.5s,baz=255,slow=8.6,SNR=33
MDP LR LR 14 39 30.7
comp=Z,11µm,18.6s,baz=271,slow=37
MCPB Macapa, AP 27.67 92 eP **P** **14 28 26.7 +0.3**
SALV Santo Antonio 28.89 126 eP **P** **14 28 37.3 +0.1**
AC02 Maricunga 29.21 160 P **P** **14 28 39.8 -0.6**
AC02 IAmb IAmb 14 29 18.7
comp=Z,33nm,1.1s
PP1B Ponte de Pedra 30.47 128 eP **P** **14 28 51.5 +0.3**
PRPB Parauapebas 30.61 103 eP **P** **14 28 51.7 -0.8**
SNDB Serra Nova Dou 30.90 115 eP **P** **14 28 55.1 +0.1**
RVDE Rio Verde (Bra 31.24 130 eP **P** **14 28 58.1 +0.1**
AQDB Aquidauana 31.55 133 P **P** **14 29 00.5 -0.2**
AQDB Aquidauana 31.55 133 eP **P** **14 29 00.8 +0.1**
TMAB Tom-Au,PA,Br 31.75 96 eP **P** **14 29 02.8 +0.2**
ARAG Araguaiana, MT 32.02 122 eP **P** **14 29 05.2 +0.3**
152A Waverly Hall 32.15 352 P **P** **14 29 05.3 -0.5**
NHSC New Hope 32.24 359 IAMs_20 IAMs_20 14 44 23.7
comp=Z,2µm,21.0s
C2SB Chapadao do Su 32.73 128 eP **P** **14 29 12.0 +0.9**
TICA Tres Isletas 32.75 147 eP **P** **14 29 11.6 +0.5**
ESFA Espinillo Form 32.75 143 eP **P** **14 29 12.2 +1.0**
Z51A Franklin 32.85 352 P **P** **14 29 12.2 +0.2**
Z51A IAmb IAmb 14 29 13.5
comp=Z,14nm,0.9s
LRAL Lakeview Retre 32.89 349 P **P** **14 29 11.3 -1.0**
LRAL IAmb IAmb 14 29 43.3
comp=Z,14nm,0.8s
SMTB Santa Maria do 33.38 107 eP **P** **14 29 16.6 -0.3**
HODGE Hodges 33.45 356 P **P** **14 29 16.9 -0.2**
HODGE IAmb IAmb 14 29 49.1
comp=Z,26nm,1.2s
AMBA Amambai (Brazi 33.62 136 eP **P** **14 29 19.4 +0.6**
FPAL Fort Paine 34.12 351 P **P** **14 29 22.0 -1.0**
FPAL IAmb IAmb 14 29 37.6
comp=Z,80nm,2.0s
BG3 Lake Jocassee 34.26 355 P **P** **14 29 24.1 0.0**
BG3 IAmb IAmb 14 29 56.9
comp=Z,28nm,1.2s
Y45A Yeager Farm, C 34.26 345 P **P** **14 29 23.4 -0.8**
CNNC Cliffs of the 34.41 3 IAMs_20 IAMs_20 14 44 36.0
comp=Z,2µm,21.0s
CPUP Villa Florida 34.47 143 P **P** **14 29 25.6 -0.4**
CPUP comp=Z,12nm,1.1s,baz=336,slow=7.0,SNR=8.1 LR LR 14 46 50.7
comp=Z,4µm,19.0s,baz=322,slow=42
comp=Z,12nm,1.1s
CPUP Villa Florida 34.47 143 P **P** **14 29 25.2 -0.9**
CPUP IAmb IAmb 14 29 27.0
comp=Z,27nm,1.4s
CPUP Villa Florida 34.47 143 eP **P** **14 29 26.2 +0.1**
W50A Signal Mountai 34.73 352 P **P** **14 29 27.1 -1.1**
CPCT Cooper Cave 34.87 353 P **P** **14 29 29.0 -0.5**
CPCT IAmb IAmb 14 29 31.1
comp=Z,20nm,0.9s
V58A Windy Hill, Pi 34.93 1 P **P** **14 29 29.4 -0.5**
V58A IAmb IAmb 14 30 01.3
comp=Z,21nm,0.9s
TKL Tuckaleechee C 34.99 354 P **P** **14 29 29.3 -1.2**
comp=Z,6.5nm,0.9s,baz=162,slow=7.3,SNR=5.0
TKL LR LR 14 43 03.7
comp=Z,2µm,20.4s,baz=169,slow=35
comp=Z,6.5nm,0.9s
V51A Loudon 35.20 353 P **P** **14 29 32.3 0.0**
ITRB Iturama 35.20 127 eP **P** **14 29 33.0 +0.5**
JCT Junction City 35.24 329 P **P** **14 29 33.1 +0.3**
JCT Junction City 35.24 329 P **P** **14 29 33.1 +0.3**
JCT pmax pmax
comp=Z,15nm,1.0s
BDFB Brasilia 35.27 119 LR LR 14 44 47.5
comp=Z,3µm,21.9s,baz=295,slow=38
MCR1 Marechal Candi 35.28 137 eP **P** **14 29 33.2 0.0**
V48A Smith Brothers 35.49 350 P **P** **14 29 34.0 -0.8**
V48A IAmb IAmb 14 30 00.0
comp=Z,29nm,1.0s
PCMB Pacaembu 35.54 130 eP **P** **14 29 35.4 0.0**
U54A Nelsons Funny 35.70 357 P **P** **14 29 36.6 -0.1**
U54A IAmb IAmb 14 29 39.3
comp=Z,73nm,1.6s
CLTN Cedars of Leba 35.75 351 P **P** **14 29 36.0 -1.0**
ROSB Rosrio 35.75 96 eP **P** **14 29 36.6 -0.7**
TZTN Tazewell 35.85 355 P **P** **14 29 37.6 -0.3**
TZTN IAMs_20 IAMs_20 14 46 35.2
comp=Z,2µm,20.0s
TZTN Tazewell 35.85 355 P **P** **14 29 37.9 0.0**
baz=173
WVT Waverly 36.05 349 P **P** **14 29 37.7 -1.9**
WVT IAmb IAmb 14 30 35.2
comp=Z,51nm,1.9s
WVT Waverly 36.05 349 P **P** **14 29 38.3 -1.3**
baz=166
WVT Waverly 36.05 349 P **P** **14 29 37.7 -1.9**
WVT pmax pmax
comp=Z,51nm,2.0s
WVT MLR MLR
comp=Z,1µm,21.0s
IPMB Ipameri, GO 36.12 122 eP **P** **14 29 40.2 -0.3**
MECA Mercedes 36.24 147 eP **P** **14 29 42.2 +1.0**
BLA Blacksburg 36.34 359 IAMs_20 IAMs_20 14 46 57.2
comp=Z,1µm,20.0s
BLA Blacksburg 36.34 359 P **P** **14 29 43.0 +0.8**
baz=179
WHAR Wooly Hollow 36.36 343 P **P** **14 29 41.1 -1.1**
T50A Nancy 36.46 353 P **P** **14 29 42.1 -0.9**
TXAR Lajitas Array 36.51 323 P **P** **14 29 44.1 +0.4**
comp=Z,0.6nm,0.6s,baz=148,slow=9.9,SNR=9.7
TXAR PcP **PcP** **14 32 06.9 -0.3**
comp=Z,0.7nm,0.8s,baz=131,slow=4.2,SNR=1.7
comp=Z,0.6nm,0.6s
TX31 Lajitas Ar. Si 36.51 323 P **P** **14 29 44.3 +0.6**
TX31 IAmb IAmb 14 30 37.5
comp=Z,59nm,1.8s
AZCA Azaras, Argent 36.56 143 eP **P** **14 29 44.2 +0.2**
T47A Sharon Grove 36.76 350 P **P** **14 29 44.9 -0.7**
LCAR Lake Charles 36.77 344 P **P** **14 29 44.3 -1.4**
LCAR IAmb IAmb 14 30 13.7
comp=Z,20nm,1.0s
PTGB Pitanga 36.82 135 eP **P** **14 29 46.3 -0.2**
SDBA SAO DESIDERIO 36.92 112 eP **P** **14 29 47.1 -0.3**
S51A Beattyville 36.94 355 P **P** **14 29 46.3 -0.9**
S51A IAmb IAmb 14 29 48.3
comp=Z,25nm,1.1s
FRBT Francisco Belt 36.94 138 eP **P** **14 29 47.5 0.0**
SLBS Sierra La Lagu 37.17 310 P **P** **14 29 50.4 +1.0**
SLBS IAmb IAmb 14 30 01.3
comp=Z,32nm,1.4s
CRSM Crissiumal (Br 37.34 141 eP **P** **14 29 50.1 -0.6**
ITQB Itaqui 37.38 146 P **P** **14 29 50.3 -0.7**
ITQB Itaqui 37.38 146 eP **P** **14 29 50.7 -0.3**
T42A Van Buren 37.66 345 P **P** **14 29 51.3 -1.9**
T42A IAmb IAmb 14 30 18.3
comp=Z,13nm,0.7s
LPIG La Paz 37.68 310 LR LR 14 41 50.0
comp=Z,868nm,21.8s,baz=98,slow=30
R49A Shelbyville 37.75 353 P **P** **14 29 52.8 -1.3**
R49A IAmb IAmb 14 29 54.6
comp=Z,31nm,1.3s
FRTB Fartura 37.82 131 eP **P** **14 29 54.9 0.0**
WCI Wyandotte Cave 37.84 352 P **P** **14 29 53.9 -0.9**
WCI IAmb IAmb 14 29 55.2
comp=Z,22nm,1.1s
WCI Wyandotte Cave 37.84 352 IAMs_20 IAMs_20 14 45 53.9
comp=Z,2µm,19.0s
WCI Wyandotte Cave 37.84 352 P **P** **14 29 53.9 -0.9**
WCI pmax pmax
comp=Z,22nm,1.1s
WCI MLR MLR
comp=Z,2µm,19.0s
S44A Carbondale 37.85 348 P **P** **14 29 54.0 -0.9**
S44A IAmb IAmb 14 30 25.9
comp=Z,23nm,1.1s
WMOK Wichita Mounta 38.27 334 P **P** **14 29 58.0 -0.5**
WMOK Wichita Mounta 38.27 334 P **P** **14 29 58.0 -0.5**
baz=148
WMOK Wichita Mounta 38.27 334 P **P** **14 29 58.0 -0.5**
WMOK pmax pmax
comp=Z,6.0nm,1.1s
JANB Januaria 38.34 116 eP **P** **14 29 58.5 -0.9**
ITAB Concordia 38.40 138 P **P** **14 29 59.0 -0.7**
ITAB Concordia 38.40 138 eP **P** **14 29 59.9 +0.2**
SDMD Soldier's Deli 38.62 4 P **P** **14 30 02.0 +0.7**
CCM Cathedral Cave 38.66 345 P **P** **14 30 00.1 -1.7**
CCM Cathedral Cave 38.66 345 P **P** **14 30 00.6 -1.1**
baz=161
CCM Cathedral Cave 38.66 345 P **P** **14 30 00.1 -1.7**
CCM pmax pmax
comp=Z,17nm,0.9s
RODS Rosario do Sul 38.70 145 eP **P** **14 30 01.9 -0.3**
P52A Corning 38.82 357 IAMs_20 IAMs_20 14 49 03.8
comp=Z,1µm,20.0s
RCLB Rio Claro- Sao 38.87 128 eP **P** **14 30 03.7 -0.1**
ALGR Alto Alegre (B 38.89 141 eP **P** **14 30 02.5 -1.3**
S39A Bolivar 38.90 343 P **P** **14 30 02.6 -1.1**
P49A Miami Univ. Ec 38.92 354 IAMs_20 IAMs_20 14 45 05.6
comp=Z,2µm,22.0s
Q44A Meyer Farm, Va 38.97 348 P **P** **14 30 02.4 -1.8**
Q44A IAmb IAmb 14 30 04.3
comp=Z,28nm,1.1s
MNTX Cornudas Mount 39.24 324 P **P** **14 30 06.9 +0.2**
MNTX Cornudas Mount 39.24 324 P **P** **14 30 07.5 +0.8**
baz=137
TIJ01 Guaruva-PR 39.38 133 eP **P** **14 30 07.8 -0.3**
ACSO Alum Creek Sta 39.47 356 IAMs_20 IAMs_20 14 48 32.9
comp=Z,1µm,20.0s
SPB Sao Paulo 39.58 130 P **P** **14 30 09.2 -0.4**
SPB IAmb IAmb 14 30 20.7
comp=Z,29nm,1.1s
SPB Sao Paulo 39.58 130 eP **P** **14 30 08.8 -0.8**
VAO Valinhos 39.62 129 eP **P** **14 30 09.5 -0.6**
RPN Rapa Nui 39.72 224 LR LR 14 42 20.2
comp=Z,2µm,18.8s,baz=52,slow=30
AMTX Amarillo 39.72 331 P **P** **14 30 10.8 +0.1**
AMTX IAmb IAmb 14 30 21.0
comp=Z,30nm,1.1s
AMTX Amarillo 39.72 331 P **P** **14 30 11.6 +0.9**
baz=144
CPSB Cacapava Do Su 39.77 143 eP **P** **14 30 10.6 -0.6**
SSPA Standing Stone 39.79 2 P **P** **14 30 11.1 0.0**
SSPA Standing Stone 39.79 2 IAMs_20 IAMs_20 14 47 01.4
comp=Z,1µm,18.0s
EPT El Paso 39.96 323 IAMs_20 IAMs_20 14 46 20.6
comp=Z,1µm,18.0s
PET01 Itanhaem-SP 40.08 131 eP **P** **14 30 13.7 -0.1**
M57A Sunshine Farm, 40.52 3 P **P** **14 30 17.3 +0.1**
M57A IAmb IAmb 14 30 19.6
comp=Z,38nm,1.1s
HDIL Hopedale 40.62 349 IAMs_20 IAMs_20 14 50 03.6
comp=Z,1µm,18.0s
CNLB Canela 40.63 140 eP **P** **14 30 18.8 +0.5**
PLTB Pedras Altas 40.66 145 P **P** **14 30 17.8 -0.7**
PLTB IAmb IAmb 14 30 31.1
comp=Z,27nm,0.9s

PLTB **Pedras Altas** 40.66 145 *e*P **P** **14 30 18.6 +0.1**
GO06 **Curarrehue** 40.79 170 P **P** **14 30 19.8 +0.3**
GO06 IAmb IAmb 14 30 33.7
comp=Z,95nm,2.0s
PARB **Paraibuna** 40.85 128 *e*P **P** **14 30 19.6 -0.7**
YLE **Yale** 40.90 8 IAMs_20 IAMs_20 14 48 44.4
comp=Z,1µm,20.0s
M63A **Gales Ferry** 41.11 9 P **P** **14 30 23.3 +1.3**
M63A IAmb IAmb 14 30 24.9
comp=Z,37nm,1.0s
ERPA **Erie** 41.24 360 IAMs_20 IAMs_20 14 48 17.8
comp=Z,1µm,21.0s
121A **Cookes Peak, D** 41.26 323 P **P** **14 30 24.7 +1.1**
121A **Cookes Peak, D** 41.26 323 P **P** **14 30 25.9 +2.3**
baz=135
319A **Douglas** 41.40 320 P **P** **14 30 25.6 +0.8**
319A IAmb IAmb 14 30 52.4
comp=Z,30nm,1.3s
BINY **Binghamton** 41.45 4 P **P** **14 30 25.4 +0.5**
BINY **Binghamton** 41.45 4 P **P** **14 30 25.9 +1.0**
baz=186
AAM **Ann Arbor** 41.57 356 IAMs_20 IAMs_20 14 48 29.7
comp=Z,2µm,18.0s
HQIL **Hanson Quary C** 41.57 351 IAMs_20 IAMs_20 14 48 11.8
comp=Z,1µm,20.0s
CRNM **Carthage** 41.66 325 P **P** **14 30 27.6 +0.7**
NBCL **Cascavel-CE** 41.67 97 *e*P **P** **14 30 27.3 +0.2**
BRYW **Bryant College** 41.69 9 IAMs_20 IAMs_20 14 49 57.3
comp=Z,1µm,20.0s
BNM **Barren Site** 41.74 326 P **P** **14 30 28.0 +0.4**
TRQA **Tornquist** 41.89 159 IAMs_20 IAMs_20 14 47 36.9
comp=Z,1µm,20.0s
TRQA **Tornquist** 41.89 159 *e*P **P** **14 30 28.7 +0.2**
LL04 **Puerto Octay** 41.94 172 P **P** **14 30 29.4 +0.6**
LL04 IAmb IAmb 14 30 38.6
comp=Z,108nm,1.8s
K57A **Scipio Center** 41.95 4 P **P** **14 30 28.3 -0.6**
L44A **Lake County Fo** 41.95 351 IAMs_20 IAMs_20 14 50 12.8
comp=Z,2µm,19.0s
L61B **Northampton** 42.05 8 IAMs_20 IAMs_20 14 49 27.7
comp=Z,1µm,20.0s
PLCA **Paso Flores** 42.07 170 P **P** **14 30 30.7 +0.7**
comp=Z,16nm,1.2s,baz=341,slow=8.8,SNR=11
PLCA LR LR 14 46 58.1
comp=Z,676nm,18.5s,baz=13,slow=34
comp=Z,16nm,1.2s
PLCA **Paso Flores** 42.07 170 P **P** **14 30 30.6 +0.7**
PLCA IAmb IAmb 14 30 43.1
comp=Z,77nm,1.6s
PLCA **Paso Flores** 42.07 170 *e*P **P** **14 30 30.8 +0.9**
VAS01 **Vassouras-RJ** 42.08 125 *e*P **P** **14 30 30.4 +0.1**
CBKS **Cedar Bluff** 42.14 337 P **P** **14 30 31.1 +0.5**
CBKS IAmb IAmb 14 30 47.7
comp=Z,22nm,0.9s
CBKS **Cedar Bluff** 42.14 337 P **P** **14 30 31.1 +0.5**
CBKS pmax pmax
comp=Z,22nm,1.0s
ANMO **Albuquerque** 42.23 327 P **P** **14 30 32.9 +1.3**
comp=Z,6.3nm,0.9s,baz=240,slow=10,SNR=14
comp=Z,6.3nm,0.9s
ANMO **Albuquerque** 42.23 327 P **P** **14 30 32.3 +0.7**
ANMO **Albuquerque** 42.23 327 P **P** **14 30 33.2 +1.6**
baz=138
L40A **Anamosa** 42.47 347 P **P** **14 30 32.3 -0.8**
L40A IAmb IAmb 14 30 33.7
comp=Z,100nm,1.6s
SJMB **Sao Joao De Ma** 42.47 119 *e*P **P** **14 30 32.4 -1.1**
J58A **Remsen** 42.66 5 P **P** **14 30 34.9 +0.2**
J58A IAmb IAmb 14 30 37.2
comp=Z,40nm,1.4s
J59A **Piesco** 42.84 6 P **P** **14 30 36.8 +0.7**
J59A IAmb IAmb 14 30 38.0
comp=Z,32nm,1.1s
T25A **Trinidad** 42.84 331 P **P** **14 30 37.4 +0.9**
DUB01 **Friburgo-RJ** 42.87 124 *e*P **P** **14 30 36.3 -0.4**
TUC **Tucson** 42.98 320 P **P** **14 30 38.3 +0.8**
TUC **Tucson** 42.98 320 IAMs_20 IAMs_20 14 47 45.6
comp=Z,2µm,19.0s
TUC **Tucson** 42.98 320 P **P** **14 30 38.3 +0.8**
TUC pmax pmax
comp=Z,6.0nm,0.8s
TUC MLR MLR
comp=Z,2µm,19.0s
NCB **Newcomb** 43.37 6 P **P** **14 30 41.5 +1.1**
NCB IAmb IAmb 14 31 01.4
comp=Z,33nm,1.4s
ALF01 **Guarapari-ES** 43.63 121 *e*P **P** **14 30 42.5 -0.3**
SDCO **Great Sand Dun** 43.86 330 P **P** **14 30 45.5 +0.6**
SDCO **Great Sand Dun** 43.86 330 P **P** **14 30 46.5 +1.7**
baz=141
GLMI **Grayling** 44.16 355 IAMs_20 IAMs_20 14 48 28.1
comp=Z,2µm,20.0s
RCBR **Riachuelo** 44.22 99 LR LR 14 49 46.5
comp=Z,3µm,20.4s,baz=64,slow=37
RCBR **Riachuelo** 44.22 99 *e*P **P** **14 30 47.6 -0.2**
ABR01 **Abrolhos, BA** 44.40 117 *e*P **P** **14 30 49.4 +0.3**
MVCO **Mesa Verde** 45.02 327 IAMs_20 IAMs_20 14 50 33.2
comp=Z,1µm,18.0s
MVCO **Mesa Verde** 45.02 327 P **P** **14 30 56.5 +2.5**
baz=137
EMMW **East Machias** 45.15 12 IAMs_20 IAMs_20 14 52 12.8
comp=Z,1µm,20.0s
ECSD **EROS Data Cent** 45.43 343 P **P** **14 30 54.8 -2.0**
WUAZ **Wupatki** 45.47 323 P **P** **14 30 58.0 +0.4**
WUAZ IAmb IAmb 14 31 36.7
comp=Z,28nm,1.0s
WUAZ IAMs_20 IAMs_20 14 49 03.6
comp=Z,1µm,19.0s
ISCO **Idaho Springs** 45.52 332 P **P** **14 30 59.7 +1.6**
baz=142
TRQ **Mont Tremblant** 45.57 5 P **P** **14 30 57.9 -0.1**
TRQ IAmb IAmb 14 30 59.1
comp=Z,52nm,1.7s
E46A **Sault Ste Mari** 45.66 356 P **P** **14 30 58.2 -0.5**
E46A IAmb IAmb 14 31 49.8
comp=Z,23nm,1.1s
COWI **Conover** 45.97 351 IAMs_20 IAMs_20 14 52 55.2
comp=Z,2µm,19.0s
N23A **Red Feather La** 46.54 333 P **P** **14 31 06.8 +0.7**
YUH **Yuha Desert** 46.60 317 P **P** **14 31 06.4 +0.1**
E62A **Clayton Lake** 46.60 10 P **P** **14 31 06.5 +0.4**
U15A **North Rim** 46.63 323 P **P** **14 31 07.4 +0.5**
U15A IAmb IAmb 14 31 51.8
comp=Z,18nm,1.3s
D41A **Chassel** 46.82 352 P **P** **14 31 07.5 -0.3**
IRM **Iron Mountain** 46.97 319 P **P** **14 31 12.1 +2.8**
baz=128
F33A **5 Mile Ranch,** 47.27 344 P **P** **14 31 10.4 -0.9**
F33A IAmb IAmb 14 31 11.8
comp=Z,44nm,1.8s
KNB **Kanab** 47.34 324 P **P** **14 31 12.3 0.0**
KNB IAmb IAmb 14 31 16.1
comp=Z,44nm,1.8s
KNB **Kanab** 47.34 324 P **P** **14 31 12.3 0.0**
KNB pmax pmax
comp=Z,44nm,1.8s
PMD **Palm Desert** 47.49 317 P **P** **14 31 14.0 +0.7**
PMD IAmb IAmb 14 31 22.9
comp=Z,32nm,1.8s
SRU **San Rafael Swe** 47.49 327 P **P** **14 31 13.5 +0.1**
SRU IAmb IAmb 14 31 22.6
comp=Z,24nm,1.4s
SRU **San Rafael Swe** 47.49 327 P **P** **14 31 13.5 +0.1**
SRU pmax pmax
comp=Z,24nm,1.4s
PFO **Pinyon Flats O** 47.53 317 P **P** **14 31 13.1 -0.6**
comp=Z,0.9nm,0.5s,baz=127,slow=5.7,SNR=2.2
PFO LR LR 14 49 38.3
comp=Z,976nm,18.7s,baz=130,slow=34
comp=Z,0.9nm,0.5s
109C **Camp Elliot, M** 47.55 316 IAMs_20 IAMs_20 14 49 15.8
comp=Z,1µm,19.0s
V12A **Nelson** 47.75 321 P **P** **14 31 15.9 +0.6**
V12A IAmb IAmb 14 31 18.6
comp=Z,44nm,1.9s
MVU **Marysvale** 48.00 325 P **P** **14 31 17.1 -0.3**
RDMU **Red Mountain** 48.06 329 P **P** **14 31 17.7 -0.1**
RDMU IAmb IAmb 14 31 34.1
comp=Z,45nm,2.0s
EYMN **Ely** 48.16 349 IAMs_20 IAMs_20 14 53 56.2
comp=Z,1µm,19.0s
TUQ **Turquoise Moun** 48.26 320 P **P** **14 31 21.5 +2.1**
baz=128
RSSD **Black Hills** 48.35 337 P **P** **14 31 20.9 +0.9**
RSSD **Black Hills** 48.35 337 P **P** **14 31 20.9 +0.9**
RSSD pmax pmax
comp=Z,87nm,2.0s
JLU **Jordanelle** 49.06 328 P **P** **14 31 26.0 +0.5**
QSM **Queen of Sheba** 49.19 320 P **P** **14 31 26.9 +0.6**
GWY **Greenwater Val** 49.20 320 P **P** **14 31 27.0 +0.4**
EDW2 **Edwards Air Fo** 49.30 318 P **P** **14 31 30.1 +2.9**
baz=125
TPNV **Topopah Spring** 49.40 321 P **P** **14 31 30.8 +2.7**
baz=128
AGMN **Agassiz Nation** 49.44 346 IAMs_20 IAMs_20 14 53 23.9
comp=Z,1µm,21.0s
LRMC **Laurel Mtn Rad** 49.44 319 P **P** **14 31 31.1 +2.8**
baz=126
DUG **Dugway, Tooele** 49.51 327 P **P** **14 31 29.5 +0.6**
DUG **Dugway, Tooele** 49.51 327 P **P** **14 31 32.5 +3.7**
baz=134
DUG **Dugway, Tooele** 49.51 327 P **P** **14 31 29.5 +0.6**
DUG pmax pmax
comp=Z,11nm,1.3s
DUG MLR MLR
comp=Z,2µm,18.0s
SPR3 **Spring Creek 3** 49.55 324 P **P** **14 31 29.8 +0.4**
BW06 **Boulder Array** 49.70 331 IAMs_20 IAMs_20 14 54 05.3
comp=Z,1µm,18.0s
PD31 **Pinedale Array** 49.70 331 P **P** **14 31 30.9 +0.6**
PDAR **Pinedale Array** 49.70 331 P **P** **14 31 30.3 0.0**
comp=Z,0.9nm,0.8s,baz=126,slow=9.3,SNR=8.3
PDAR LR LR 14 54 16.1
comp=Z,1µm,18.0s,baz=146,slow=38
comp=Z,0.9nm,0.8s
PDAR **Pinedale Array** 49.70 331 P **P** **14 31 29.8 -0.6**
HWUT **Hardware Ranch** 49.84 329 P **P** **14 31 31.9 +0.5**
HWUT IAMs_20 IAMs_20 14 52 58.1
comp=Z,1µm,18.0s
R11A **Troy Canyon, C** 49.87 323 P **P** **14 31 34.3 +2.6**
baz=130
SPUT **South Promonto** 50.09 328 P **P** **14 31 33.3 0.0**
BGU **Big Grassy Mou** 50.13 327 P **P** **14 31 34.5 +0.9**
BGU IAmb IAmb 14 31 42.9
comp=Z,25nm,1.6s
AHID **Auburn Hatcher** 50.45 330 IAMs_20 IAMs_20 14 53 35.2
comp=Z,1µm,20.0s
MZP **Montezuma Peak** 50.57 321 P **P** **14 31 37.2 +0.1**
HVU **Hansel Valley** 50.60 328 P **P** **14 31 37.4 +0.3**
HVU **Hansel Valley** 50.60 328 P **P** **14 31 37.4 +0.3**
HVU pmax pmax
comp=Z,10.0nm,1.4s
REDW **Red Top Meadow** 50.77 331 P **P** **14 31 39.1 +0.7**
LOHW **Long Hollow** 50.84 331 IAMs_20 IAMs_20 14 54 01.4
comp=Z,1µm,19.0s
ELK **Elko** 51.24 326 LR LR 14 52 15.3
comp=Z,692nm,21.9s,baz=137,slow=35
ELK **Elko** 51.24 326 IAMs_20 IAMs_20 14 52 05.1
comp=Z,1µm,19.0s
FLWY **Flagg Ranch** 51.24 332 IAMs_20 IAMs_20 14 54 43.0
comp=Z,1µm,18.0s
ULM **Lac du Bonnet** 51.26 347 P **P** **14 31 40.0 -1.7**
comp=Z,5.4nm,0.6s,baz=154,slow=7.7,SNR=13
comp=Z,5.4nm,0.6s
ULM **Lac du Bonnet** 51.26 347 P **P** **14 31 39.7 -2.0**
ULM IAmb IAmb 14 31 49.3
comp=Z,30nm,1.4s
LAO **LASA Array** 51.34 337 P **P** **14 31 43.2 +0.7**
baz=145
NVAR **Mina Array Bea** 51.59 321 P **P** **14 31 45.6 +0.9**
comp=Z,3.2nm,0.7s,baz=131,slow=7.0,SNR=17
comp=Z,3.2nm,0.7s
NVAR **Mina Array Bea** 51.59 321 P **P** **14 31 45.1 +0.4**
MDPB **Devils Postpil** 51.61 320 P **P** **14 31 44.8 -0.1**
MDPB IAmb IAmb 14 31 54.4
comp=Z,18nm,1.3s
LHV **Little Huntoon** 51.61 321 P **P** **14 31 45.1 +0.6**
LHV IAmb IAmb 14 31 58.2
comp=Z,21nm,1.1s
KVN **Kaiserville** 51.84 322 P **P** **14 31 46.8 +0.3**
KVN **Kaiserville** 51.84 322 P **P** **14 31 46.8 +0.3**
KVN pmax pmax
comp=Z,16nm,1.5s
DRLN **Deer Lake** 52.00 18 P **P** **14 31 47.3 0.0**
BMN **Battle Mountai** 52.18 324 P **P** **14 31 49.8 +0.8**
BMN IAmb IAmb 14 31 58.3
comp=Z,18nm,1.3s
BMN **Battle Mountai** 52.18 324 P **P** **14 31 49.8 +0.8**
BMN pmax pmax
comp=Z,18nm,1.3s
SAO **San Andreas Ge** 52.67 318 P **P** **14 31 54.1 +1.6**
SAO IAmb IAmb 14 32 03.9
comp=Z,45nm,1.9s
SAO **San Andreas Ge** 52.67 318 P **P** **14 31 54.1 +1.6**
SAO pmax pmax
comp=Z,45nm,1.9s
HLID **Hailey** 52.71 329 P **P** **14 31 53.2 +0.3**
HLID IAMs_20 IAMs_20 14 54 43.0
comp=Z,2µm,19.0s
HLID **Hailey** 52.71 329 P **P** **14 31 53.8 +0.9**
baz=134
MCMT **McKenzie Canyo** 52.82 331 P **P** **14 31 53.9 +0.1**
MPK **Martis Peak** 53.19 321 P **P** **14 31 57.3 +0.7**
MPK IAmb IAmb 14 32 13.0
comp=Z,13nm,1.0s
MFID **Camas Ranch** 53.35 328 P **P** **14 31 57.9 +0.3**
MFID IAmb IAmb 14 32 05.5
comp=Z,15nm,1.1s
WVOR **Wild Horse Val** 54.27 325 P **P** **14 32 04.0 -0.3**
WVOR IAmb IAmb 14 32 39.7
comp=Z,18nm,1.1s
WVOR IAMs_20 IAMs_20 14 55 07.4
comp=Z,1µm,19.0s
WVOR **Wild Horse Val** 54.27 325 P **P** **14 32 04.0 -0.3**
WVOR pmax pmax
comp=Z,19nm,1.1s
WVOR MLR MLR
comp=Z,1µm,19.0s
PLID **Pearl Lake** 54.59 329 P **P** **14 32 07.0 +0.4**
PLID IAmb IAmb 14 33 31.9
comp=Z,26nm,1.6s
PLID IAMs_20 IAMs_20 14 55 50.7
comp=Z,1µm,21.0s
MSO **Missoula** 54.80 332 P **P** **14 32 07.7 -0.4**
MSO IAmb IAmb 14 32 43.2
comp=Z,15nm,1.2s
MSO IAMs_20 IAMs_20 14 56 16.3
comp=Z,1µm,19.0s
MSO **Missoula** 54.80 332 P **P** **14 32 09.1 +1.0**
baz=137
SCHQ **Schefferville** 54.98 9 P **P** **14 32 08.5 -0.6**
comp=Z,4.7nm,0.8s,baz=214,slow=9.9,SNR=5.3
SCHQ LR LR 14 57 27.4
comp=Z,395nm,19.0s,baz=204,slow=38
comp=Z,4.7nm,0.8s
BMO **Blue Mountains** 55.11 328 P **P** **14 32 10.2 -0.1**
BMO IAMs_20 IAMs_20 14 56 37.6
comp=Z,1µm,19.0s
BMO **Blue Mountains** 55.11 328 P **P** **14 32 10.2 -0.1**
BMO pmax pmax
comp=Z,9.0nm,1.4s
BMO MLR MLR
comp=Z,1µm,19.0s
YBH **Yreka Blue Hor** 56.27 322 LR LR 14 56 06.4
comp=Z,679nm,19.2s,baz=136,slow=36
YBH **Yreka Blue Hor** 56.27 322 P **P** **14 32 18.6 -0.1**
YBH **Yreka Blue Hor** 56.27 322 P **P** **14 32 18.6 -0.1**
YBH pmax pmax
comp=Z,14nm,1.6s
G08A **Pilot Rock** 56.28 328 P **P** **14 32 19.3 +0.6**
KHMM **Horse Mountain** 56.42 321 P **P** **14 32 20.8 +0.9**
KHMM IAmb IAmb 14 32 57.6
comp=Z,18nm,0.9s
E09A **Wood Farm, Sta** 56.66 329 P **P** **14 32 21.7 +0.4**
FFC **Flin Flon** 56.87 345 P **P** **14 32 21.8 -0.7**
FFC IAmb IAmb 14 32 30.7
comp=Z,16nm,1.4s
FFC **Flin Flon** 56.87 345 P **P** **14 32 21.8 -0.7**
FFC pmax pmax
comp=Z,16nm,1.4s
NEW **Newport** 57.34 331 LR LR 14 57 55.3
comp=Z,853nm,19.4s,baz=134,slow=37
H04A **Detroit Lake** 57.69 325 P **P** **14 32 29.2 +0.6**
H04A IAmb IAmb 14 33 20.1
comp=Z,17nm,1.2s
LON **Longmire** 58.74 327 P **P** **14 32 36.5 +0.5**
LON **Longmire** 58.74 327 P **P** **14 32 36.5 +0.5**
LON pmax pmax
comp=Z,8.0nm,1.0s
EDM **Edmonton** 59.32 337 P **P** **14 32 38.8 -1.1**
EDM **Edmonton** 59.32 337 P **P** **14 32 38.8 -1.1**
EDM pmax pmax
comp=Z,46nm,1.5s
TAOE **Nuku Hiva Isla** 60.94 260 *e*P **P** **14 32 54.5 +2.8**
comp=Z,196nm,26.5s
TAOE *e*S **S** **14 41 10.1 +1.4**
comp=Z,220nm,36.0s
TAOE *e*SS **SS** **14 45 11.1 +2.6**
comp=Z,284nm,30.8s
TAOE *e*LR LR 14 50 55.6
comp=Z,2µm,22.3s
BRLDA **Berland Lookou** 61.59 336 P **P** **14 32 54.0 -1.4**
FRB **Frobisher Bay** 63.44 6 LR LR 15 03 59.0
comp=Z,586nm,18.1s,baz=186,slow=39
BBTS **Babate** 63.91 74 LR LR 15 00 07.3
comp=Z,596nm,18.6s,baz=235,slow=35
BBB **Bella Bella** 65.28 330 LR LR 15 03 01.9
comp=Z,318nm,19.8s,baz=134,slow=37
PMAR **Madeira** 66.93 55 *e*P **P** **14 33 29.5 -1.5**
YKA **Yellowknife Ar** 66.95 343 P **P** **14 33 29.0 -1.3**
comp=Z,1.9nm,0.5s,baz=137,slow=6.3,SNR=18
comp=Z,1.9nm,0.5s
YKA **Yellowknife Ar** 66.95 343 P **P** **14 33 29.0 -1.3**
SFJD **Kangerlussuaq** 69.24 12 LR LR 15 03 10.1
comp=Z,491nm,21.9s,baz=206,slow=35
DLBC **Dease Lake** 69.75 334 LR LR 15 06 23.4
comp=Z,769nm,20.1s,baz=108,slow=38
DLBC **Dease Lake** 69.75 334 P **P** **14 33 48.2 +0.2**
DLBC **Dease Lake** 69.75 334 P **P** **14 33 49.1 +1.1**
baz=125
DY2G **Dye2** 69.76 14 *i* P **P** **14 33 46.9 -1.2**
DY2G IAmb IAmb 14 34 21.6
comp=Z,8.8nm,0.8s
PPT **Papeete** 71.05 251 LR LR 14 58 12.5
comp=Z,1µm,18.6s,baz=72,slow=30
PPT2 **Papeete2** 71.05 251 *e*S **S** **14 43 12.9 +1.2**
comp=Z,305nm,28.8s
PPT2 **Papeete2** 71.05 251 *e*LR LR 14 55 36.0
comp=Z,2µm,23.8s
PPT2 *e*LR LR 14 55 36.0
comp=Z,1µm,25.5s
P33M **Teslin, Yukon** 71.93 335 P **P** **14 34 01.0 -0.1**
P33M IAmb IAmb 14 34 30.6
comp=Z,15nm,1.2s
P33M **Teslin, Yukon** 71.93 335 P **P** **14 34 01.9 +0.7**
baz=123
ICESG **Greenland Ices** 73.38 14 *i* P **P** **14 34 08.2 -1.8**
ICESG IAmb IAmb 14 34 09.6
comp=Z,16nm,0.8s
O30N **Mendenhall** 73.61 335 P **P** **14 34 12.6 +1.5**
baz=120
M31M **Drury Creek, Y** 73.64 337 P **P** **14 34 12.4 +1.2**
M31M IAmb IAmb 14 35 04.5
comp=Z,32nm,1.8s
RES **Resolute Bay** 74.45 356 P **P** **14 34 14.4 -1.2**
comp=Z,2.8nm,0.7s,baz=212,slow=13,SNR=0.6
RES LR LR 15 09 07.2
comp=Z,579nm,18.6s,baz=172,slow=37
comp=Z,2.8nm,0.7s
RES **Resolute Bay** 74.45 356 P **P** **14 34 14.7 -1.0**
RES **Resolute Bay** 74.45 356 P **P** **14 34 14.7 -1.0**
RES pmax pmax
comp=Z,10.0nm,1.1s
M30M **Minto, Yukon** 74.80 336 P **P** **14 34 18.2 +0.2**
M30M IAmb IAmb 14 34 27.2
comp=Z,18nm,1.4s
M30M **Minto, Yukon** 74.80 336 P **P** **14 34 18.6 +0.6**
baz=120
PNCL **Nicolau / Gran** 74.82 51 *e*P **P** **14 34 19.9 +1.3**
DBIC **Dimbokro** 74.88 83 P **P** **14 34 18.6 -0.8**
comp=Z,26nm,1.1s,baz=270,slow=7.3,SNR=12
DBIC LR LR 15 05 04.7
comp=Z,1µm,19.7s,baz=258,slow=34
comp=Z,26nm,1.1s
DBIC **Dimbokro** 74.88 83 P **P** **14 34 18.2 -1.1**
PCVE **Castro Verde** 75.11 51 *e*P **P** **14 34 22.3 +2.0**
PCAS **Casmilo, Conde** 75.23 49 *e*P **P** **14 34 22.1 +1.2**
L29M **L29M** 75.59 336 P **P** **14 34 23.0 +0.4**
baz=118
PESTR **Estremoz** 75.69 50 *e*P **P** **14 34 24.0 +0.4**
PESTR **Estremoz** 75.69 50 P **P** **14 34 23.6 0.0**
PESTR IAmb IAmb 14 34 26.5
comp=Z,28nm,1.3s
K29M **Barlow Dome** 75.71 337 P **P** **14 34 23.7 +0.4**
baz=119
PVIS **Viseu** 75.82 48 *e*P **P** **14 34 24.3 0.0**
PMRV **Marv??o** 75.95 50 *e*P **P** **14 34 25.3 +0.3**
PCBR **Castelo Branco** 75.96 49 *e*P **P** **14 34 26.2 +1.1**
MTE **Manteigas** 76.02 49 *e*P **P** **14 34 25.8 +0.3**
POLO **Lamas de Olo** 76.02 47 *e*P **P** **14 34 24.8 -0.7**
SUMG **Summit** 76.23 12 *i* P **P** **14 34 25.0 -1.5**
SUMG IAmb IAmb 14 34 33.9
comp=Z,84nm,1.9s
F31M **Tsiigehtchic** 76.25 341 P **P** **14 34 26.2 +0.1**
baz=124
BORG **Borgarnes** 76.36 22 LR LR 15 03 34.6
comp=Z,790nm,21.0s,baz=237,slow=32
DAWY **Dawson** 76.54 337 P **P** **14 34 27.6 -0.2**
DAWY **Dawson** 76.54 337 P **P** **14 34 27.7 -0.2**
baz=117
MVO **Moncorvo** 76.55 48 *e*P **P** **14 34 29.1 +0.6**
INK **Inuvik** 76.66 342 P **P** **14 34 28.1 -0.4**
comp=Z,2.8nm,0.7s,baz=100,slow=4.2,SNR=13
INK LR LR 15 11 08.0
comp=Z,526nm,18.1s,baz=114,slow=38
comp=Z,2.8nm,0.7s
INK **Inuvik** 76.66 342 P **P** **14 34 28.0 -0.5**
INK IAmb IAmb 14 34 37.4
comp=Z,29nm,1.4s
INK **Inuvik** 76.66 342 P **P** **14 34 28.8 +0.3**
baz=124
EPYK **Eagle Plains** 76.67 340 P **P** **14 34 29.1 +0.5**
baz=120
A36M **Sachs Harbour** 76.74 347 P **P** **14 34 27.3 -1.5**
A36M **Sachs Harbour** 76.74 347 P **P** **14 34 27.8 -1.0**
baz=133
BCAR **Beaver Creek A** 77.06 336 P **P** **14 34 31.0 +0.1**
L27K **Beaver Creek,** 77.07 336 P **P** **14 34 31.1 +0.1**
L27K IAmb IAmb 14 34 40.6
comp=Z,19nm,1.2s
L27K **Beaver Creek,** 77.07 336 P **P** **14 34 31.9 +1.0**
baz=115
MDT **Midelt** 77.12 57 LR LR 15 05 46.8
comp=Z,369nm,21.9s,baz=284,slow=34
GLB **Gilahina Butte** 77.27 334 P **P** **14 34 32.3 +0.2**
M26K **Nabesna, AK** 77.29 335 P **P** **14 34 32.6 +0.4**
M26K IAmb IAmb 14 34 41.5
comp=Z,19nm,1.4s
EGAK **Eagle** 77.55 337 P **P** **14 34 33.0 -0.4**
EGAK IAmb IAmb 14 34 50.1
comp=Z,24nm,1.2s
EGAK **Eagle** 77.55 337 P **P** **14 34 34.0 +0.5**
baz=116
I27K **Kandik River** 78.08 338 P **P** **14 34 37.0 +0.4**
baz=116
NEEM **North Greenlan** 78.25 6 *i* P **P** **14 34 37.0 -0.6**
NEEM IAmb IAmb 14 34 47.0
comp=Z,68nm,1.7s
PAB **San Pablo** 78.29 50 P **P** **14 34 38.4 +0.1**
PAB IAmb IAmb 14 34 40.7
comp=Z,20nm,1.0s
PAB **San Pablo** 78.29 50 P **P** **14 34 38.4 +0.1**
PAB pmax pmax
comp=Z,20nm,1.0s
H27K **Steamboat Moun** 78.32 339 P **P** **14 34 38.0 +0.1**
baz=116
SCRK **Sand Creek** 78.33 336 P **P** **14 34 37.2 -0.9**
SCRK IAmb IAmb 14 35 02.0
comp=Z,13nm,1.2s
SCRK **Sand Creek** 78.33 336 P **P** **14 34 38.3 +0.2**
baz=113
J26L **Joseph Creek** 78.37 337 P **P** **14 34 37.9 -0.3**
J26L IAmb IAmb 14 34 47.5
comp=Z,42nm,1.6s
J26L **Joseph Creek** 78.37 337 P **P** **14 34 38.7 +0.5**
baz=114
PAX **Paxson** 78.56 335 P **P** **14 34 39.7 +0.4**
PAX IAmb IAmb 14 34 40.7
comp=Z,23nm,1.5s
PAX **Paxson** 78.56 335 P **P** **14 34 39.7 +0.4**
PAX pmax pmax
comp=Z,23nm,1.5s
ESDC **Sonseca Array** 78.60 50 P **P** **14 34 40.0 +0.1**
comp=Z,8.3nm,0.9s,baz=262,slow=5.9,SNR=27
ESDC LR LR 15 08 21.9
comp=Z,164nm,18.7s,baz=250,slow=35
comp=Z,8.3nm,0.9s
ESDC **Sonseca Array** 78.60 50 P **P** **14 34 40.1 +0.1**

ESBB	**Sonseca Array**	**78.60**	**50**	P	**P**	**14 34 40.4**	**+0.4**
ESBB				IAmb	IAmb	14 34 42.6	
	comp=Z,42nm,1.5s						
G27K	**Doyon Strip**	**78.62**	**339**	P	**P**	**14 34 38.8**	**-0.7**
	baz=116						
E27K	**Coleen River**	**79.21**	**340**	P	**P**	**14 34 42.7**	**+0.1**
	baz=116						
EUNU	**Eureka**	**79.37**	**359**	P	**P**	**14 34 43.6**	**+0.2**
EUNU				IAmb	IAmb	14 37 15.8	
	comp=Z,47nm,2.0s						
HDA	**Harding Lake**	**79.70**	**336**	P	**P**	**14 34 45.4**	**+0.1**
HDA				IAmb	IAmb	14 34 54.5	
	comp=Z,14nm,1.2s						
HDA	**Harding Lake**	**79.70**	**336**	P	**P**	**14 34 45.6**	**+0.2**
	baz=110						
IL31		**79.80**	**336**	P	**P**	**14 34 45.7**	**-0.1**
IL31				IAmb	IAmb	14 34 54.5	
	comp=Z,19nm,1.5s						
ILAR	**Eielson Array**	**79.80**	**336**	P	**P**	**14 34 45.4**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=122,slow=3.9,SNR=17						
ILAR				LR	LR	15 12 12.7	
	comp=Z,537nm,20.1s,baz=99,slow=37						
	comp=Z,1.4nm,0.8s						
FYU	**Fort Yukon**	**79.82**	**338**	IAMs_20	IAMs_20	15 14 06.6	
	comp=Z,589nm,18.0s						
F26K	**Sheenjek River**	**79.87**	**340**	P	**P**	**14 34 46.8**	**+0.5**
	baz=114						
BMAR	**Burnt Mountain**	**79.92**	**339**	P	**P**	**14 34 46.6**	**0.0**
POKR	**Poker Plat Res**	**80.14**	**337**	IAMs_20	IAMs_20	15 08 51.1	
	comp=Z,646nm,21.0s						
KDAK	**Kodiak Island**	**80.33**	**329**	LR	LR	15 10 11.3	
	comp=Z,234nm,21.2s,baz=124,slow=36						
C27K	**Jago River**	**80.52**	**341**	P	**P**	**14 34 50.2**	**+0.5**
	baz=114						
E25K	**Arctic Village**	**80.53**	**340**	P	**P**	**14 34 50.2**	**+0.4**
	baz=112						
H24K	**Noodor Dome**	**80.56**	**337**	P	**P**	**14 34 50.7**	**+0.6**
H24K				IAmb	IAmb	14 34 59.9	
	comp=Z,19nm,1.3s						
H24K	**Noodor Dome**	**80.56**	**337**	P	**P**	**14 34 50.7**	**+0.6**
	baz=110						
NEA2	**Nenana**	**80.62**	**336**	P	**P**	**14 34 49.8**	**-0.6**
NEA2	**Nenana**	**80.62**	**336**	P	**P**	**14 34 50.2**	**-0.2**
	baz=108						
G24K	**Hadweenzic Riv**	**80.70**	**338**	P	**P**	**14 34 51.4**	**+0.6**
	baz=110						
SKT	**Skwentna**	**80.91**	**333**	P	**P**	**14 34 52.4**	**+0.4**
	baz=106						
I23K	**Minto, Yukon-K**	**80.92**	**336**	P	**P**	**14 34 51.4**	**-0.5**
I23K				IAmb	IAmb	14 35 00.8	
	comp=Z,31nm,1.4s						
I23K	**Minto, Yukon-K**	**80.92**	**336**	P	**P**	**14 34 52.0**	**+0.1**
	baz=108						
RAR	**Rarotonga**	**80.99**	**249**	LR	LR	15 01 54.3	
	comp=Z,757nm,20.1s,baz=100,slow=29						
C26K	**Camden Bay**	**81.02**	**341**	P	**P**	**14 34 53.4**	**+1.0**
	baz=113						
BPAW	**Bear Paw Mtn.**	**81.27**	**335**	P	**P**	**14 34 54.4**	**+0.5**
BPAW				IAmb	IAmb	14 35 03.1	
	comp=Z,36nm,1.5s						
MLY	**Manley**	**81.44**	**336**	P	**P**	**14 34 54.8**	**+0.1**
MLY	**Manley**	**81.44**	**336**	P	**P**	**14 34 55.1**	**+0.4**
	baz=107						
TORD	**Torodi Ar. Bea**	**81.47**	**77**	P	**P**	**14 34 55.4**	**-0.5**
	comp=Z,29nm,1.2s,baz=280,slow=4.5,SNR=41						
	comp=Z,29nm,1.2s						
TORD	**Torodi Ar. Bea**	**81.47**	**77**	P	**P**	**14 34 55.0**	**-0.9**
CAST	**Castle Rocks**	**81.55**	**334**	P	**P**	**14 34 55.6**	**+0.3**
CAST				IAmb	IAmb	14 35 04.5	
	comp=Z,40nm,1.8s						
EKA	**Eskdalemuir Ar**	**81.79**	**34**	LR	LR	15 09 04.6	
	comp=Z,249nm,21.2s,baz=252,slow=34						
COLD	**Coldfoot**	**81.89**	**338**	P	**P**	**14 34 57.3**	**+0.3**
COLD	**Coldfoot**	**81.89**	**338**	P	**P**	**14 34 57.9**	**+0.8**
	baz=108						
C24K	**Franklin Bluff**	**82.17**	**341**	P	**P**	**14 34 59.0**	**+0.6**
	baz=110						
K20K	**Telida**	**82.40**	**334**	P	**P**	**14 35 00.2**	**+0.4**
K20K				IAmb	IAmb	14 35 09.0	
	comp=Z,25nm,1.4s						
D23K	**Nanushuk River**	**82.59**	**340**	P	**P**	**14 35 01.5**	**+0.8**
	baz=108						
IMAR	**Indian Mountai**	**82.90**	**337**	P	**P**	**14 35 02.9**	**+0.5**
DAG	**Danmarks Havn**	**82.93**	**12** *i*	P	**P**	**14 35 00.6**	**-1.7**
DAG				IAmb	IAmb	14 35 03.2	
	comp=Z,12nm,1.4s						
G21K	**Allakaket**	**82.94**	**337**	P	**P**	**14 35 02.8**	**+0.2**
	baz=105						
F21K	**Alatna River**	**83.11**	**338**	P	**P**	**14 35 03.9**	**+0.4**
	baz=105						
JMIC	**Jan Mayen**	**83.28**	**18**	LR	LR	15 09 33.4	
	comp=Z,178nm,21.5s,baz=276,slow=34						
A21K	**Barrow**	**85.16**	**342**	P	**P**	**14 35 14.3**	**+0.6**
A21K				IAmb	IAmb	14 35 15.5	
	comp=Z,16nm,1.1s						
NOR	**Nord**	**85.49**	**8** *eP*		**P**	**14 35 15.0**	**-0.3**
NOR				IAmb	IAmb	14 35 25.4	
	comp=Z,347nm,3.5s						
DOU	**Dourbes**	**85.81**	**40** *dPcP*		**PcP**	**14 35 19.1**	**-1.1**
BMRD	**Maredsous**	**85.93**	**40** *dx*		x	14 35 19.6	
BGES	**Gesves**	**86.14**	**40** *dP*		**P**	**14 35 19.2**	**+0.2**
BGES			*dPcP*		**PcP**	**14 35 20.7**	**-0.9**
RCHB	**Rochefort**	**86.22**	**40** *dP*		**P**	**14 35 19.3**	**-0.1**
RCHB			*dPcP*		**PcP**	**14 35 21.2**	**-0.8**
BCLA	**Clavier**	**86.28**	**40** *dPcP*		**PcP**	**14 35 21.2**	**-1.1**
BSTI	**Sart Tilman**	**86.46**	**40** *dx*		x	14 35 21.0	
BSTI			*dPcP*		**PcP**	**14 35 22.7**	**-0.4**
SNAA	**Sanae**	**86.53**	**162**	LR	LR	15 15 28.6	
	comp=Z,361nm,20.7s,baz=296,slow=36						
SNAA	**Sanae**	**86.53**	**162**	IAMs_20	IAMs_20	15 16 27.6	
	comp=Z,687nm,21.0s						
BHOU	**Houvegnez**	**86.73**	**40** *dPcP*		**PcP**	**14 35 24.0**	**-0.2**
MEM	**Membach**	**86.74**	**40** *dPcP*		**PcP**	**14 35 23.9**	**-0.4**
WLF	**Walferdange**	**86.79**	**40** P		**P**	**14 35 22.3**	**0.0**
WLF	**Walferdange**	**86.79**	**40** P		**P**	**14 35 22.3**	**0.0**
WLF				pmax	pmax		
	comp=Z,90nm,1.4s						
WLF	**Walferdange**	**86.79**	**40** *dx*		x	14 35 23.2	
BTNL	**Ternell**	**86.82**	**40** *dP*		**P**	**14 35 22.8**	**+0.4**
BTNL			*dPcP*		**PcP**	**14 35 24.2**	**-0.5**
ECH	**Echery**	**87.39**	**42** P		**P**	**14 35 25.1**	**-0.2**
ECH	**Echery**	**87.39**	**42** P		**P**	**14 35 25.1**	**-0.2**
ECH				pmax	pmax		
	comp=Z,43nm,1.4s						
KEST	**Kesra**	**88.83**	**54** P		**P**	**14 35 31.5**	**-0.9**
	comp=Z,2.8nm,0.5s,baz=274,slow=5.1,SNR=4.6						
KEST				LR	LR	15 17 39.9	
	comp=Z,294nm,18.1s,baz=231,slow=37						
	comp=Z,2.8nm,0.5s						
DAVOX	**Davos/Dischmat**	**89.22**	**43**	LR	LR	15 11 57.5	
	comp=Z,270nm,19.4s,baz=268,slow=33						
FUORN	**Ofenpass-Fuorn**	**89.48**	**44**	P	**P**	**14 35 35.7**	**+0.2**
FUORN				IAmb	IAmb	14 35 38.1	
	comp=Z,8.8nm,1.1s						
FETA	**Feichten**	**89.80**	**43** *eP*		**P**	**14 35 37.7**	**+0.9**
	comp=Z,18nm,1.2s						
NOA	**NORSAR Array B**	**89.85**	**29**	LR	LR	15 13 01.6	
	comp=Z,199nm,21.1s,baz=280,slow=34						
MOTA	**Moosalm**	**90.05**	**43** *eP*		**P**	**14 35 38.6**	**+0.6**
	comp=Z,13nm,1.3s						
GRF	**Grafenberg Arr**	**90.08**	**40** *eP*		**P**	**14 35 38.9**	**+1.0**
	comp=Z,26nm,1.7s,baz=271,slow=6.1						
GRF			*eL*		L	15 08 53.7	
	comp=Z,398nm,21.8s						
SQTA	**Sankt Quirin**	**90.12**	**43** *ePcP*		**PcP**	**14 35 39.6**	**+0.1**
	comp=Z,8.4nm,0.8s						
CTI	**Castel Tesino**	**90.45**	**44** P		**P**	**14 35 40.4**	**+0.5**
CTI	**Castel Tesino**	**90.45**	**44** P		**P**	**14 35 40.4**	**+0.5**
CTI				pmax	pmax		
	comp=Z,45nm,1.8s						
SPITS	**Spitsbergen Ar**	**90.58**	**12**	LR	LR	15 18 20.3	
	comp=Z,245nm,18.5s,baz=238,slow=37						
HFS	**Hagfors**	**91.11**	**30**	LR	LR	15 12 42.4	
	comp=Z,312nm,19.4s,baz=266,slow=33						
CLL	**Collm**	**91.17**	**39** *eP*		**P**	**14 35 42.0**	**-0.9**
CLL			*ex*	x		14 39 00.0	
CLL			*eSKSac*		**SKSac**	**14 46 16.0**	**+2.9**
CLL			*eS*		**ScS**	**14 46 45.0**	**+2.7**
CLL			*ex*	x		14 47 00.0	
CLL			*ePS*		**PnS**	**14 47 53.0**	**+1.4**
CLL			*ePPS*		PPS	14 48 12.0	
CLL			*eSS*		**SS**	**14 52 36.0**	**-7.7**
CLL			*eSSS*		SSS	14 56 24.0	
CLL			*eSSSS*			14 59 18.0	
CLL				LmV		15 17 00.0	
	comp=Z,300nm,20.8s						

CLL	**Collm**	**91.17**	**39** *eP*		**P**	**14 35 42.0**	**-0.9**
CLL				MLR	MLR		
	comp=Z,300nm,20.8s						
KBA	**Koelnbreinsper**	**91.58**	**43** *ePcP*		**PcP**	**14 35 46.4**	**+0.3**
	comp=Z,6.2nm,1.0s						
KHC	**Kasperske Hory**	**91.64**	**41** *eP*		**P**	**14 35 46.8**	**+1.6**
GERES	**GERESS Array B**	**91.73**	**41** P		**P**	**14 35 44.0**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=282,slow=4.6,SNR=3.5						
GERES				LR	LR	15 15 58.5	
	comp=Z,267nm,19.8s,baz=256,slow=35						
	comp=Z,0.7nm,0.6s						
GERES	**GERESS Array B**	**91.73**	**41** P		**P**	**14 35 44.0**	**-1.8**
BIOA	**Bad Ischl, Aus**	**91.75**	**42** *ePcP*		**PcP**	**14 35 46.8**	**+0.2**
	comp=Z,14nm,1.2s						
BRG	**Berggiesshubel**	**91.78**	**39** *eP*		**P**	**14 35 47.6**	**+1.8**
BRG				Amp		14 35 52.0	
	comp=Z,62nm,2.2s						
BRG	**Berggiesshubel**	**91.78**	**39** *eP*		**P**	**14 35 47.5**	**+1.8**
BRG				pmax	pmax		
	comp=Z,62nm,2.2s						
MOA	**Molln**	**92.17**	**42** *ePcP*		**PcP**	**14 35 48.9**	**+0.5**
	comp=Z,8.3nm,1.4s						
AFI	**Afiamalu**	**92.17**	**256**	LR	LR	15 07 29.4	
	comp=Z,471nm,21.4s,baz=52,slow=29						
ARSA	**Arzberg**	**93.06**	**43** *eP*		**P**	**14 35 51.6**	**-0.2**
	comp=Z,12nm,1.3s						
CONA	**Conrad Observa**	**93.23**	**42** *ePcP*		**PcP**	**14 35 53.8**	**+0.6**
	comp=Z,11nm,1.3s						
OSTC	**Ostas**	**93.24**	**39** *eP*		**P**	**14 35 54.5**	**+1.9**
DPC	**Dobruska-Polom**	**93.33**	**40** *eP*		**P**	**14 35 54.6**	**+1.6**
KRUC	**Moravsky**	**93.49**	**41** *eP*		**P**	**14 35 54.2**	**+0.5**
RONA	**Rosalia, Austr**	**93.54**	**42** *eP*		**P**	**14 35 54.5**	**+0.5**
	comp=Z,7.5nm,1.1s						
VRAC	**Vranov**	**93.60**	**41** P		**P**	**14 35 53.3**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=279,slow=6.1,SNR=6.0						
VRAC				LR	LR	15 15 52.0	
	comp=Z,189nm,21.9s,baz=272,slow=34						
	comp=Z,2.6nm,0.6s						
VRAC	**Vranov**	**93.60**	**41** *eP*		**P**	**14 35 55.0**	**+0.8**
KRLC	**Kraliky**	**93.65**	**40** *eP*		**P**	**14 35 56.7**	**+2.2**
MODS	**Modra-Piesok**	**94.14**	**42** *eP*		**P**	**14 35 58.8**	**+2.1**
MODS				pmax	pmax		
	comp=Z,46nm,1.4s						
MODS	**Modra-Piesok**	**94.14**	**42** *eP*		**P**	**14 35 58.8**	**+2.1**
MORC	**Moravsky Berou**	**94.17**	**40** *eP*		**P**	**14 35 57.8**	**+0.9**
JAVC	**Velka Javorina**	**94.35**	**41** *eP*		**P**	**14 35 59.7**	**+2.0**
TIP	**Timpagrande**	**94.59**	**51**	IAMs_20	IAMs_20	15 14 03.5	
	comp=Z,572nm,22.0s						
ARCES	**ARCESS Array B**	**94.65**	**20**	LR	LR	15 17 13.7	
	comp=Z,187nm,18.4s,baz=261,slow=35						
VYHS	**Vyhne**	**95.16**	**41** *eP*		**P**	**14 36 03.8**	**+2.4**
VYHS	**Vyhne**	**95.16**	**41** *eP*		**P**	**14 36 03.8**	**+2.4**
LANS	**Liptovska Anna**	**95.49**	**41** *eP*		**P**	**14 36 06.7**	**+3.8**
LANS				pmax	pmax		
	comp=Z,7.0nm,1.5s						
LANS	**Liptovska Anna**	**95.49**	**41** *eP*		**P**	**14 36 06.7**	**+3.8**
VNDA	**Vanda**	**96.62**	**191**	LR	LR	15 12 57.2	
	comp=Z,338nm,18.5s,baz=108,slow=31						
FINES	**FINESS Array B**	**96.90**	**28**	LR	LR	15 15 40.2	
	comp=Z,338nm,18.6s,baz=282,slow=33						
TSUM	**Tsumeb**	**97.12**	**109**	LR	LR	15 16 58.7	
	comp=Z,2µm,20.8s,baz=331,slow=34						
RAO	**Raoul Island**	**97.50**	**241**	LR	LR	15 10 00.8	
	comp=Z,383nm,20.5s,baz=114,slow=29						
NACGM	**Naroch**	**98.87**	**34** *eP*		P	14 36 13.1	-4.8
	comp=Z,9.0nm,1.1s,baz=284						
SUR	**Sutherland**	**99.26**	**123**	LR	LR	15 17 00.9	
	comp=Z,1µm,21.9s,baz=264,slow=33						
TIXI	**Tiksi**	**105.47**	**351**	IAMs_20	IAMs_20	15 29 03.0	
	comp=Z,351nm,19.0s						
ANTO	**Amara**	**106.67**	**48**	IAMs_20	IAMs_20	15 33 10.6	
	comp=Z,300nm,21.0s						
DZM	**Mont Dzumac**	**112.30**	**246** *eSS*		SS	14 57 39.6	+1.1
	comp=Z,157nm,31.4s						
DZM	**Mont Dzumac**	**112.30**	**246** *eLR*		LR	15 14 43.0	
	comp=Z,401nm,22.1s						
ABKAR	**Akbulak array**	**119.36**	**29**	PKPdf	**PKPdf**	**14 41 27.1**	**-0.2**
ATD	**Arta Tunnel**	**121.67**	**76**	IAMs_20	IAMs_20	15 34 02.8	
	comp=Z,324nm,20.0s						
ZAA0	**Zalesovo Array**	**124.05**	**11**	PKPdf	**PKPdf**	**14 41 35.6**	**-0.6**
ZALV	**Zalesovo Beam**	**124.05**	**11**	PKP	**PKPdf**	**14 41 35.2**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=275,slow=2.3,SNR=14						
ZALV	**Zalesovo Beam**	**124.05**	**11**	PKPdf	**PKPdf**	**14 41 35.1**	**-1.1**
HEH	**HeiHe**	**124.20**	**339**	PKP	**PKiKP**	**14 41 38.5**	**+1.6**
HEH				LR	LR		
	comp=Z,360nm,20.6s						
HEH				LR	LR		
	comp=Z,160nm,19.9s						
HEH				LR	LR		
	comp=Z,470nm,20.8s						
GEYT	**Alibeck**	**125.36**	**41**	PKP	**PKPdf**	**14 41 38.3**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=293,slow=1.1,SNR=4.7						
MAKZ	**Makanchi**	**130.04**	**16**	PKPdf	**PKPdf**	**14 41 47.4**	**-0.6**
MAKZ	**Makanchi**	**130.04**	**16**	PKIKP	**PKPdf**	**14 41 47.4**	**-0.6**
MK31	**Makanchi Array**	**130.14**	**16**		**PKPdf**	**14 41 47.5**	**-0.6**
MK31	**Makanchi Array**	**130.14**	**16**	PKIKP	**PKPdf**	**14 41 47.6**	**-0.6**
MKAR	**Makanchi Array**	**130.14**	**16**	PKP	**PKPdf**	**14 41 45.9**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=345,slow=2.2,SNR=10						
MKAR	**Makanchi Array**	**130.14**	**16**	PKPdf	**PKPdf**	**14 41 47.3**	**-0.9**
MKAR	**Makanchi Array**	**130.14**	**16**	PKIKP	**PKPdf**	**14 41 47.3**	**-0.9**
SONM	**Songino Array**	**131.38**	**355**	PKP	**PKPdf**	**14 41 48.6**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=276,slow=1.6,SNR=5.4						
XLT	**XiLinHaoTe**	**133.41**	**344**	*ePKP*	**PKPdf**	**14 41 54.5**	**0.0**
XLT				AMB	AMB		
	comp=Z,220nm,4.8s						
XLT				LR	LR		
	comp=Z,280nm,21.9s						
XLT				LR	LR		
	comp=Z,300nm,21.5s						
KSH	**Kashi**	**134.21**	**26**	PKP	**PKiKP**	**14 41 58.0**	**+0.5**
KSRS	**Korea Array**	**134.24**	**329**	PKP	**PKPdf**	**14 41 54.4**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=247,slow=30,SNR=3.2						
KSAR	**Wonju Array Be**	**134.27**	**329**		**PKPdf**	**14 41 55.8**	**-0.4**
KSAR	**Wonju Array Be**	**134.27**	**329**	PKIKP	**PKPdf**	**14 41 55.8**	**-0.4**
WMQ	**Urumqi**	**134.27**	**13** *ePKP*		**PKiKP**	**14 41 57.5**	**0.0**
WMQ				LR	LR		
	comp=Z,410nm,26.9s						
WMQ				LR	LR		
	comp=Z,180nm,27.3s						
HHC	**Hu-ho-hao-te**	**137.40**	**347** *ePKP*		**PKPdf**	**14 41 58.5**	**-3.6**
HHC				LR	LR		
	comp=Z,650nm,19.2s						
HHC				LR	LR		
	comp=Z,370nm,19.8s						
HHC				LR	LR		
	comp=Z,670nm,17.5s						
GTA	**Gaotai**	**140.09**	**1** *ePKP*		**PKPdf**	**14 42 08.0**	**+0.9**
GTA				LR	LR		
	comp=Z,260nm,20.7s						
GTA				LR	LR		
	comp=Z,160nm,21.4s						
GTA				LR	LR		
	comp=Z,330nm,22.9s						
ASAR	**Alice Springs**	**140.20**	**232**	PKhKP	PKPpre	14 41 59.6	
	comp=Z,0.3nm,0.5s,baz=118,slow=3.5,SNR=10						
ASAR				PKP	**PKPdf**	**14 42 06.9**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=122,slow=3.8,SNR=10						
WRA	**Warramunga Arr**	**141.58**	**238**	PKP	**PKPdf**	**14 42 08.4**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=114,slow=2.7,SNR=11						
GOMU	**GeErMu**	**142.94**	**7**	PKP	**PKPdf**	**14 42 13.0**	**+0.4**
GOMU				AMB	AMB		
	comp=Z,120nm,5.0s						
GOMU				LR	LR		
	comp=Z,190nm,19.9s						
GOMU				LR	LR		
	comp=Z,160nm,19.1s						
GOMU				LR	LR		
	comp=Z,220nm,18.5s						
NJ2	**Nanjing**	**142.99**	**333** *ePKP*		**PKPdf**	**14 42 12.5**	**+0.2**
LZH	**Lanzhou**	**143.26**	**355**	PKP	PKPbc	14 42 10.0	+0.2
LZH				pPKP	pPKPdf	14 42 20.5	-2.0
LZH				LR	LR		
	comp=Z,370nm,15.3s						
LZH				LR	LR		
	comp=Z,200nm,15.6s						
LZH				LR	LR		
	comp=Z,480nm,19.4s						
XAN	**Xi'an**	**144.51**	**348**	⇑PKP	PKPbc	14 42 13.5	0.0
WHN	**Wuhan**	**146.17**	**338**	PKPbc	**PKPbc**	**14 42 18.5**	**-0.3**
DANN	**Dangsing**	**147.06**	**27** *eP*		**PKPbc**	**14 42 21.5**	**-0.4**
	comp=Z,43nm,0.6s						
MTN	**Manton Dam**	**147.14**	**247**	PKPdf	**PKPdf**	**14 42 19.8**	**-0.1**
KOLN	**Koldanda**	**147.47**	**28** *eP*		**PKPdf**	**14 42 20.0**	**-0.4**
GKN	**Gorkha**	**147.75**	**27** *eP*		**PKPbc**	**14 42 22.3**	**-1.3**
ENH	**Enshi**	**147.98**	**345**	PKPdf	**PKPdf**	**14 42 19.8**	**-1.1**
DMN	**Daman**	**148.30**	**26** *eP*		**PKPdf**	**14 42 21.2**	**-0.6**

	comp=Z,20nm,0.5s									
GUN	**Gumba**	**148.37**	**25** *eP*		**PKPdf**	**14 42 22.7**	**+0.6**
CD2	**Chengdu**	**148.40**	**354**	PKPbc	**PKPdf**	**14 42 20.3**	**-1.3**
PKIN	**Phulchoki**	**148.46**	**26** *eP*		**PKPdf**	**14 42 22.2**	**+0.1**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**148.47**	**26** *eP*		**PKPdf**	**14 42 22.1**	**-0.1**
LSA	**Lhasa**	**148.54**	**15**	PKPbc	**PKPdf**	**14 42 21.0**	**-1.5**
JIRN	**Jiri**	**148.72**	**25** *eP*		**PKPdf**	**14 42 23.7**	**+1.0**
	comp=Z,2.7nm,0.3s						
SIJI	**Sorong**	**149.03**	**269**	PKPbc	**PKPbc**	**14 42 26.6**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=14,slow=4.2,SNR=4.6						
RAMN	**Ramite**	**149.52**	**25** *eP*		**PKPdf**	**14 42 23.2**	**-0.6**
TAPN	**Taplejung**	**149.60**	**23** *eP*		**PKPdf**	**14 42 23.9**	**-0.1**
TNTI	**Ternate**	**152.88**	**273**	IAMs_20	IAMs_20	15 41 35.4	
	comp=Z,204nm,19.0s						
PZH	**PanZhiHua**	**152.92**	**357**	PKPbc	**PKPdf**	**14 42 28.0**	**-0.9**
DAV	**Davao City (W)**	**153.62**	**287**	IAMs_20	IAMs_20	15 40 35.0	
	comp=Z,246nm,21.0s						
KMI	**Kunming**	**154.22**	**355**	⇓PKPbc	**PKPdf**	**14 42 31.5**	**+0.6**
KMI				SS	SS	15 06 08.0	+5.4
KMI				LR	LR		
	comp=Z,320nm,23.8s						
TNCH	**TengChong**	**154.37**	**4** *ePKPbc*		**PKPdf**	**14 42 29.0**	**-2.1**
TNCH				PKPab	**PKPab**	**14 42 53.5**	**+0.2**
TNCH				PP	**PP**	**14 46 29.5**	**+2.8**
TNCH				AMB	AMB		
	comp=Z,180nm,5.1s						
TNCH				LR	LR		
	comp=Z,200nm,15.4s						
TNCH				LR	LR		
	comp=Z,160nm,12.0s						
TNCH				LR	LR		
	comp=Z,330nm,18.7s						
QIZ	**Qiongzhong**	**158.27**	**335**	PKP	**PKPdf**	**14 42 34.5**	**-1.5**
QIZ				PP	**PP**	**14 46 48.5**	**-0.1**
QIZ				SS	SS	15 06 49.8	+3.3
QIZ				LR	LR		
	comp=Z,470nm,11.4s						
QIZ				LR	LR		
	comp=Z,630nm,15.3s						
QIZ				LR	LR		
	comp=Z,520nm,17.7s						
CMAR	**Chiang Mai Arr**	**160.92**	**4**	PKP	**PKPdf**	**14 42 37.8**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=193,slow=38,SNR=2.1						
CMAR				PKPab	**PKPab**	**14 43 20.4**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=332,slow=4.7,SNR=5.4						
CMAR	**Chiang Mai Arr**	**160.92**	**4**		**PKPdf**	**14 42 38.1**	**-1.0**

OTT 31 14:28:13.5±0.1, 65°.89N×86°.12W, h18km, MN3.5/4, 72km south from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILON	**Igloolik, Nuna**	**3.86**	**23**	PN	Pn	14 29 11.6	-0.3
ILON				SN	Sn	14 29 54.9	-1.9
ILON				LG	Lg	14 30 13.8	
ILON				Trac		14 30 13.8	
	comp=Z,93nm,0.3s						
FRB	**Frobisher Bay**	**7.79**	**98**	PN	Pn	14 30 04.5	-1.3
FRB				SN	Sn	14 31 27.9	-5.5
FRB				LG	Lg	14 32 15.6	
FRB				Trac		14 32 19.0	
	comp=Z,19nm,0.5s						
FCC	**Fort Churchill**	**8.05**	**211**	PN	Pn	14 30 07.8	-1.5
FCC				SN	Sn	14 31 34.0	-5.7
FCC				LG	Lg	14 32 26.4	
FCC				Trac		14 32 37.9	
	comp=Z,27nm,0.6s						
RES	**Resolute Bay**	**9.31**	**345**	PN	Pn	14 30 25.7	-0.8
RES				SN	Sn	14 32 03.3	-7.2
RES				LG	Lg	14 33 03.7	
RES				Trac		14 33 08.1	
	comp=Z,26nm,0.9s						
KUKN	**Kugluktuk,NWT**	**11.50**	**293**	PN	Pn	14 30 55.5	-1.1
KUKN				SN	Sn	14 32 54.9	-10
KUKN				LG	Lg	14 34 11.3	
KUKN				Trac		14 34 18.5	
	comp=Z,82nm,2.1s						
KULLO	**Kullorsuaq**	**12.91**	**35**	PN	Pn	14 31 13.5	-2.3
KULLO				Trac		14 34 22.0	
	comp=Z,72nm,1.0s						
EUNU	**Eureka**	**14.24**	**360**	PN	Pn	14 31 33.1	-0.8
A36M	**Sachs Harbour**	**15.07**	**311**	PN	Pn	14 31 42.8	-2.2

*MDD **31** 14:36:37.1±1.1, 37°.24N×13°.38W, h0km, Mb4.0/7, M_mb3.3/7, Error ellipse: s-maj=9.7km s-min=8.0km az=2.0*
*INMG **31** 14:36:40.1±1.1, 37°.19N×13°.73W, h10km, ML2.6, Error ellipse: s-maj=6.5km s-min=5.0km az=90.0*

**ISC 31 14:36:42.2±3.5, 37°.46N±0°.09×13°.0W±0°.2, h10km,

PESTR	**Estremoz**	**4.49**	**70**	*e*Pn		**Pn**	**14 37 50.9**	**+0.6**
PESTR				*e*Sn		**Sn**	**14 38 44.1**	**+1.6**
PESTR				A		A	14 38 48.9	
	comp=N,3.5nm,0.3s							
PBAR	**Barrancos**	**4.77**	**80**	*e*Pn		**Pn**	**14 37 55.2**	**+1.1**
PBAR				*e*Sn		**Sn**	**14 38 50.4**	**+0.9**
PBAR				A		A	14 38 55.8	
	comp=N,2.6nm,0.3s							
PBAR	**Barrancos**	**4.77**	**80**	P		**Pn**	**14 37 55.0**	**+0.9**
PBAR				S		**Sn**	**14 38 51.5**	**+2.0**
PMRV	**Marv??o**	**4.82**	**64**	*e*Pn		**Pn**	**14 37 55.4**	**+0.6**
PMRV				*e*Sn		**Sn**	**14 38 52.1**	**+1.4**
PMRV				A		A	14 38 56.0	
	comp=N,3.1nm,0.4s							
EBAD	**Badajoz**	**4.89**	**73**	P		**Pn**	**14 37 56.4**	**+0.6**
EBAD				S		**Sn**	**14 38 53.1**	**+0.6**
EBAD	**Badajoz**	**4.89**	**73**	Pn		**Pn**	**14 37 55.8**	**0.0**
EBAD				⇑*i*Vmb_V			14 37 57.4	
	comp=N,185nm,SNR=1.3							
EBAD				Sn		**Sn**	**14 38 53.3**	**+0.8**
EMIN	**Mina Concepcio**	**5.03**	**85**	S		**Sn**	**14 38 54.2**	**-1.7**
EMIN	**Mina Concepcio**	**5.03**	**85**	Pn		**Pn**	**14 37 57.1**	**-0.6**
EMIN				⇑*i*Vmb_V			14 37 58.4	
	comp=N,84nm,SNR=0.7							
EMIN				Sn		**Sn**	**14 38 55.9**	**0.0**
PVIS	**Viseu**	**5.13**	**49**	*e*Sn		**Sn**	**14 39 00.3**	**+1.8**
POLO	**Lamas de Olo**	**5.61**	**44**	*e*Sn		**Sn**	**14 39 10.1**	**-0.3**
POLO				A		A	14 39 13.1	
	comp=N,1.2nm,0.6s							
PCAB	**Cabril**	**5.72**	**41**	*e*Sn		**Sn**	**14 39 12.2**	**-0.8**
PGAV	**Gavieira, Arco**	**5.79**	**38**	*e*Sn		**Sn**	**14 39 13.7**	**-1.1**
PGAV				A		A	14 39 27.3	
	comp=N,4.1nm,0.8s							
ELOB	**Lobios**	**5.82**	**39**	Pn		**Pn**	**14 38 09.5**	**+0.8**
ELOB				⇑*i*Vmb_V			14 38 12.8	
	comp=N,121nm,SNR=0.4							
ELOB				Sn		**Sn**	**14 39 14.0**	**-1.5**
MVO	**Moncorvo**	**5.93**	**50**	*e*Sn		**Sn**	**14 39 18.1**	**+0.1**
MVO				A		A	14 39 23.5	
	comp=N,2.7nm,0.5s							
ECAB	**El Cabril**	**6.04**	**82**	Pn		**Pn**	**14 38 12.0**	**+0.4**
ECAB				⇑*i*Vmb_V			14 38 14.9	
	comp=N,94nm,SNR=1.1							
ECAB				Sn		**Sn**	**14 39 20.1**	**-0.6**
EADA	**Adamuz**	**6.70**	**81**	Pn		**Pn**	**14 38 20.4**	**-0.4**
EADA				⇑*i*Vmb_V			14 38 24.1	
	comp=N,50nm,SNR=0.3							
EADA				Sn		**Sn**	**14 39 36.4**	**-0.7**
PAB	**San Pablo**	**7.10**	**70**	Pn		**Pn**	**14 38 26.4**	**+0.3**
PAB				⇑*i*Vmb_V			14 38 27.5	
	comp=N,53nm,SNR=0.5							
PAB				Sn		**Sn**	**14 39 46.5**	**-0.4**

*JMA **31** 14:46:23.5±0.2,26˚.3N±0˚.9×126˚.1E±0˚.6,h19km±1km, MV3.0/15,NW OFF OKINAWAJIMA IS*
*IDC **31** 14:46:24.6±1.0,26˚.01N×126˚.34E,h0km,mb3.5/5, mbtmp3.5/6,ML2.8/1,MS4.3/2,Error ellipse: s-maj=23.8km s-min=19.8km az=76.0*
*NEIC **31** 14:46:25.7±1.7,26˚.02N±0˚.09×126˚.29E±0˚.02,h15km±5km, mb4.4/11,Error ellipse: s-maj=13.6km s-min=2.4km az=172.0*

ISC 31 14:46:25.1±1.4,26˚.03N±0˚.06×126˚.29E±0˚.05,h12km±10km, n47,σ0°89/56,mb4.1/12,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.54**	**56**	*i* P		**Pb**	**14 46 35.9**	**-0.7**
JKE				S		**Sb**	**14 46 44.6**	**+0.4**
JAGN	**Aguni-jima**	**1.02**	**56**	P		**Pb**	**14 46 43.3**	**-1.5**
JAGN				*e*S		**Sg**	**14 46 57.4**	**-0.8**
JJT3	**Tamagusuku3**	**1.35**	**85**	P		**Pg**	**14 46 51.3**	**+0.2**
JJT3				S		**Sg**	**14 47 10.5**	**+1.9**
JIKM	**Ikemajima**	**1.45**	**221**	*e*P		**Pn**	**14 46 50.9**	**-0.2**
JIKM				*e*S		**Sb**	**14 47 10.9**	**+0.6**
JOGS	**Gusukube**	**1.49**	**213**	P		**Pb**	**14 46 52.4**	**-0.3**
JOGS				*e*S		**Sg**	**14 47 13.8**	**+0.6**
JMJ2	**Miyako jima3**	**1.55**	**214**	P		**Pn**	**14 46 53.0**	**+0.5**
JMJ2				*e*S		**Sg**	**14 47 14.7**	**-0.3**
JIRB	**Irabujima**	**1.56**	**221**	P		**Pn**	**14 46 52.0**	**-0.7**
JIRB				*e*S		**Sb**	**14 47 13.6**	**0.0**
JNTH	**Nagotoyohara**	**1.63**	**72**	P		**Pn**	**14 46 53.9**	**+0.3**
JNTH				*e*S		**Sb**	**14 47 15.8**	**+0.1**
JIH	**Iheya**	**1.81**	**56**	*e*P		**Pn**	**14 46 55.4**	**-0.7**
JOW	**Kunigami**	**1.95**	**65**	Pn		**Pn**	**14 46 58.2**	**+0.1**
	9.6nm,0.3s,baz=239,slow=12,SNR=19							
JOW				Sn		**Sb**	**14 47 24.8**	**-0.2**
	9.5nm,0.3s,baz=184,slow=17,SNR=3.9							
JOW	**Kunigami**	**1.95**	**65**	Pn		**Pn**	**14 46 58.0**	**-0.1**
JOW	**Kunigami**	**1.95**	**65**	*e*P		**Pn**	**14 46 58.1**	**0.0**
JTJ	**Tarama**	**1.99**	**227**	P		**Pn**	**14 46 58.1**	**-0.5**
JTJ				S		**Sn**	**14 47 23.4**	**0.0**
JYRO	**Yoronjima**	**2.18**	**62**	P		**Pn**	**14 47 01.0**	**-0.2**
JYRO				*e*S		**Sn**	**14 47 28.5**	**+0.4**
JISG	**Ishigakijimahi**	**2.29**	**232**	P		**Pn**	**14 47 01.9**	**-0.9**
JISG				*e*S		**Sn**	**14 47 31.0**	**+0.1**
YOJ	**Yonaguni jima**	**3.35**	**243**	Pn		**Pn**	**14 47 18.5**	**+1.1**
JMZ	**Minamidaito 2**	**4.45**	**92**	Pn		**Pn**	**14 47 32.1**	**-0.3**
TATO	**Taipei**	**4.46**	**257**	Pn		**Pn**	**14 47 32.9**	**+0.2**
NACB	**Ninganchiao**	**4.64**	**248**	Pn		**Pn**	**14 47 35.6**	**+0.6**
YULB	**Yu-li**	**5.24**	**241**	Pn		**Pn**	**14 47 41.9**	**-1.5**
SSLB	**Suanglung**	**5.33**	**246**	Pn		**Pn**	**14 47 45.0**	**+0.4**
TWG	**Pinlang**	**5.73**	**237**	Pn		**Pn**	**14 47 47.9**	**-2.1**
TPUB	**Ta-pu**	**5.82**	**243**	Pn		**Pn**	**14 47 51.2**	**-0.1**
JNU	**Nakatsue**	**8.12**	**28**	Pn		**Pn**	**14 48 24.0**	**+1.1**
	0.1nm,0.3s,baz=216,slow=13,SNR=1.3 3.0nm,0.8s							
KSRS	**Korea Array**	**11.48**	**7**	LR		LR	14 53 38.8	
	comp=Z,29nm,18.7s,baz=15,slow=38							
JSD	**Sado**	**15.68**	**37**	Pn		**Pn**	**14 50 05.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**18.71**	**13**	P		**P**	**14 50 42.7**	**-0.7**
USRK	**Ussuriysk Ar.**	**18.71**	**13**	P		**P**	**14 50 42.4**	**-1.0**
SONM	**Songino Array**	**26.81**	**329**	P		**P**	**14 52 08.1**	**+2.8**
	0.8nm,0.7s,baz=146,slow=9.8,SNR=7.2 0.8nm,0.7s							
KAPI	**Kappang**	**31.50**	**193**	P		**P**	**14 52 46.0**	**-1.0**
KAPI				IAmb		IAmb	14 52 47.2	
	comp=Z,23nm,1.2s							
MKAR	**Makanchi Array**	**40.38**	**313**	P		**P**	**14 54 03.4**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=99,slow=8.9,SNR=2.5 comp=Z,0.4nm,0.9s							
MKAR	**Makanchi Array**	**40.38**	**313**	P		**P**	**14 54 03.5**	**+0.6**
ZAA0	**Zalesovo Array**	**41.37**	**324**	P		**P**	**14 54 09.9**	**-1.0**
ZAA0				IAmb		IAmb	14 54 12.4	
	comp=Z,3.1nm,1.1s							
ZALV	**Zalesovo Beam**	**41.37**	**324**	P		**P**	**14 54 11.8**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=99,slow=8.9,SNR=3.6 comp=Z,0.8nm,0.8s							
ZALV	**Zalesovo Beam**	**41.37**	**324**	P		**P**	**14 54 09.9**	**-1.0**
WB0	**Warramunga Arr**	**46.19**	**169**	P		**P**	**14 54 49.6**	**-0.4**
WB0				IAmb		IAmb	14 54 53.6	
	comp=Z,4.4nm,1.2s							
WRA	**Warramunga Arr**	**46.36**	**170**	P		**P**	**14 54 52.4**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=353,slow=8.6,SNR=6.5 comp=Z,0.7nm,0.7s							
WB2	**Warramunga Arr**	**46.36**	**169**	P		**P**	**14 54 51.8**	**+0.5**
WB2				IAmb		IAmb	14 55 29.2	
	comp=Z,6.1nm,1.4s							
WR0	**Warramunga Arr**	**46.41**	**169**	P		**P**	**14 54 52.6**	**+0.9**
WR0				IAmb		IAmb	14 54 59.2	
	comp=Z,7.5nm,1.5s							
AS31	**Alice Springs**	**49.94**	**171**	P		**P**	**14 55 19.2**	**+0.1**
ASAR	**Alice Springs**	**49.95**	**171**	P		**P**	**14 55 20.3**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=356,slow=8.9,SNR=13 comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**49.95**	**171**	P		**P**	**14 55 19.4**	**+0.3**
NWAO	**Narrogin (SRO)**	**59.26**	**189**	P		**P**	**14 56 25.4**	**-1.0**
DZM	**Mont Dzumac**	**61.65**	**137**	LR		LR	15 17 51.7	
	comp=Z,239nm,21.9s,baz=40,slow=31							
BELG	**Belogornoye**	**63.05**	**318**	LR		LR	15 26 08.2	
	comp=Z,299nm,21.1s,baz=313,slow=38							
RES	**Resolute Bay**	**76.07**	**10**	P		**P**	**14 58 11.3**	**-0.8**
RES				IAmb		IAmb	14 58 27.5	
	comp=Z,3.5nm,1.4s							
CLL	**Collm**	**83.31**	**325**	P		**P**	**14 58 52.9**	**+1.1**
CLL				IAmb		IAmb	14 59 17.3	
	comp=Z,5.6nm,1.4s							

*NEIC **31** 14:47:19.8±0.8,21˚.3N±0˚.1×145˚.49E±0˚.09,h35km±8km, mb4.3/13,Error ellipse: s-maj=16.6km s-min=9.6km az=148.0*

*IDC **31** 14:47:32.0±7.1,21˚.13N×145˚.25E,h141km±62km,mb3.3/8, mbtmp3.8/9,Error ellipse: s-maj=83.4km s-min=14.5km az=82.0*

ISC 31 14:47:19.6±0.9,21˚.3N±0˚.1×145˚.5E±0˚.2,h35km,n32, σ1°60/30,mb4.0/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.57**	**333**	Pn		**Pn**	**14 48 50.5**	**-3.3**
JSG	**Sagara**	**14.86**	**336**			**P**	**14 50 53.1**	**+0.6**
JGF	**Kuroka**	**15.99**	**335**	Pn		**Pn**	**14 51 01.0**	**-1.0**
JGF				IAmb		IAmb	14 51 33.5	
	comp=Z,34nm,1.5s							
MJAR	**Matsushiro Arr**	**16.52**	**339**	P		**P**	**14 51 15.3**	**+4.3**
	comp=Z,1.2nm,0.6s,baz=164,slow=11,SNR=3.1							
H11S3	**WAKE ISLAND Hy**	**20.09**	**94**	T		T	15 13 58.2	
	baz=275							
H11S1	**WAKE ISLAND Hy**	**20.10**	**94**	T		T	15 15 08.1	
	baz=275							
H11S2	**WAKE ISLAND Hy**	**20.10**	**94**	T		T	15 13 36.2	
	baz=275							
KSRS	**Korea Array**	**22.22**	**320**	P		**P**	**14 52 16.4**	**+3.3**
	comp=Z,0.9nm,0.6s,baz=147,slow=8.9,SNR=6.4 comp=Z,0.9nm,0.6s							
USA0B	**Ussuriysk Arra**	**25.50**	**337**	P		**P**	**14 52 43.4**	**-1.2**
USA0B				IAmb		IAmb	14 52 44.8	
	comp=Z,6.4nm,0.8s							
USRK	**Ussuriysk Ar.**	**25.50**	**337**	P		**P**	**14 52 43.1**	**-1.5**
KLR	**Kul'dur**	**30.00**	**342**	P		**P**	**14 53 27.8**	**+2.9**
	comp=Z,1.5nm,0.5s,baz=158,slow=9.9,SNR=8.1 comp=Z,1.5nm,0.5s							
MTN	**Manton Dam**	**36.71**	**204**	P		**P**	**14 54 22.4**	**-1.1**
KNRA	**Kununurra**	**40.21**	**205**	P		**P**	**14 54 52.3**	**-0.7**
KNRA				IAmb		IAmb	14 54 52.6	
	comp=Z,22nm,1.4s							
SONM	**Songino Array**	**41.08**	**320**	P		**P**	**14 55 01.8**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=123,slow=7.8,SNR=2.4 comp=Z,0.2nm,0.5s							
WB0	**Warramunga Arr**	**42.19**	**196**	P		**P**	**14 55 09.0**	**-0.2**
WB0				IAmb		IAmb	14 55 38.4	
	comp=Z,8.3nm,1.4s							
WR0	**Warramunga Arr**	**42.34**	**195**	P		**P**	**14 55 10.4**	**-0.1**
WR0				IAmb		IAmb	14 55 33.1	
	comp=Z,3.1nm,1.1s							
WRAB	**Tennant Creek**	**42.36**	**196**	P		**P**	**14 55 10.8**	**+0.1**
WRAB				IAmb		IAmb	14 55 26.2	
	comp=Z,9.2nm,1.4s							
WRA	**Warramunga Arr**	**42.38**	**196**	P		**P**	**14 55 11.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=12,slow=8.8,SNR=26 comp=Z,0.6nm,0.3s							
FITZ	**Fitzroy Crossi**	**43.69**	**208**	P		**P**	**14 55 20.5**	**-0.9**
AS31	**Alice Springs**	**46.05**	**195**	P		**P**	**14 55 39.8**	**-0.3**
ASAR	**Alice Springs**	**46.05**	**195**	P		**P**	**14 55 40.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=11,slow=7.2,SNR=16 comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**46.05**	**195**	P		**P**	**14 55 39.9**	**-0.2**
BILL	**Bilibino**	**48.55**	**10**	P		**P**	**14 56 01.1**	**+2.1**
BILL				IAmb		IAmb	14 56 41.3	
	comp=Z,2.9nm,1.4s							
ZALV	**Zalesovo Beam**	**55.92**	**322**	P		**P**	**14 56 54.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=115,slow=6.8,SNR=2.4 comp=Z,0.4nm,0.5s							
MK31	**Makanchi Array**	**56.61**	**313**	P		**P**	**14 56 58.8**	**-0.3**
MKAR	**Makanchi Array**	**56.61**	**313**	P		**P**	**14 56 59.2**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=88,slow=8.6,SNR=18							
MKAR				PcP		**PcP**	**14 57 54.9**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=76,slow=4.1,SNR=6.2 comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**56.61**	**313**	P		**P**	**14 56 58.8**	**-0.3**
MCARA	**McCarthy VSAT**	**62.70**	**31**	P		**P**	**14 57 40.0**	**-0.8**
BMAR	**Burnt Mountain**	**62.86**	**24**	P		**P**	**14 57 40.1**	**-1.7**
ABKAR	**Akbulak array**	**71.38**	**316**	P		**P**	**14 58 35.2**	**-0.9**
FIA1	**FINESS Array S**	**84.52**	**335**	P		**P**	**14 59 48.4**	**-0.4**
FINES	**FINESS Array B**	**84.52**	**335**	P		**P**	**14 59 48.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=61,slow=3.5,SNR=6.4 comp=Z,1.7nm,0.8s							

*SOME **31** 15:05:00.6,41˚.63N×74˚.43E,h15km*
*KRNET **31** 15:05:00.7±0.1,41˚.64N×74˚.45E,h17km,mb3.1*
*KNET **31** 15:05:00.9±0.8,41˚.67N×74˚.49E,h14km±5km,ml2.2,Error ellipse: s-maj=5.0km s-min=4.2km az=4.0*
*NNC **31** 15:05:02.4±1.0,41˚.70N×74˚.46E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=6.9km s-min=4.7km az=177.0*

ISC 31 15:04:59.6±1.1,41˚.57N±0˚.03×74˚.40E±0˚.02,h7km±10km, n68,σ1°03/102,29C-30D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.29**	**348**	⇓*i*P		**Pg**	**15 05 05.5**	**0.0**
	baz=37							
ARLS				⇓*i*S		**Sg**	**15 05 08.9**	**-0.6**
	baz=37							
UCH	**Uchtor**	**0.66**	**7**	⇓P		**Pg**	**15 05 12.4**	**0.0**
	45nm,0.2s,SNR=274							
UCH				⇓S		**Sg**	**15 05 20.6**	**-0.5**
	55nm,0.2s							
UCH	**Uchtor**	**0.66**	**7**	⇑*i*P		**Pg**	**15 05 12.2**	**-0.3**
	baz=5.0							
UCH				⇑*i*S		**Sg**	**15 05 20.5**	**-0.6**
	baz=5.0							
AML	**Almayashu**	**0.77**	**317**	⇑P		**Pg**	**15 05 14.9**	**+0.4**
	34nm,0.1s,SNR=81							
AML				⇓S		**Sg**	**15 05 25.3**	**+0.8**
	138nm,0.2s							
AML	**Almayashu**	**0.77**	**317**	⇑*i*P		**Pg**	**15 05 14.9**	**+0.4**
	baz=11							
AML				⇑*i*S		**Sg**	**15 05 25.6**	**+1.0**
	baz=11							
AAK	**Ala-Archa**	**1.07**	**4**	⇓P		**Pg**	**15 05 19.8**	**-0.3**
	31nm,0.1s,SNR=142							
AAK				⇑S		**Sg**	**15 05 33.7**	**-0.3**
	18nm,0.1s							
AAK	**Ala-Archa**	**1.07**	**4**	⇓*i*P		**Pg**	**15 05 19.5**	**-0.7**
	baz=2.0							
AAK				⇓*i*S		**Sg**	**15 05 33.0**	**-1.0**
	baz=2.0							
KBK	**Karagaybulak**	**1.16**	**20**	⇑P		**Pb**	**15 05 21.3**	**-0.8**
	26nm,0.1s,SNR=14							
KBK				⇑S		**Sb**	**15 05 36.7**	**-0.7**
	84nm,0.1s							
KBK	**Karagaybulak**	**1.16**	**20**	⇑*i*P		**Pb**	**15 05 21.0**	**-1.1**
	baz=20							
KBK				⇑*i*S		**Sb**	**15 05 35.8**	**-1.6**
	baz=20							
EKS2	**Erkin-Say**	**1.19**	**337**	P		**Pb**	**15 05 22.2**	**-0.3**
	6.0nm,0.2s,SNR=32							
EKS2				⇓S		**Sb**	**15 05 37.4**	**-0.7**
	22nm,0.2s							
EKS2	**Erkin-Say**	**1.19**	**337**	⇓*i*P		**Pb**	**15 05 21.8**	**-0.8**
	baz=34							
EKS2				⇓*i*S		**Sb**	**15 05 37.4**	**-0.7**
	baz=34							
FRU1	**Bishkek**	**1.25**	**8**	⇑*i*P		**Pn**	**15 05 23.1**	**-0.5**
	baz=6.0							
FRU1				⇑*i*S		**Sb**	**15 05 39.3**	**-0.6**
	baz=6.0							
CHMS	**Chumysh**	**1.45**	**10**	⇑P		**Pb**	**15 05 26.6**	**-0.5**
	15nm,0.1s,SNR=13							
CHMS				⇓S		**Sb**	**15 05 45.6**	**0.0**
	12nm,0.1s							
CHMS	**Chumysh**	**1.45**	**10**	⇓P		**Pb**	**15 05 26.5**	**-0.5**
	4.6nm,0.3s							
CHMS				⇑S		**Sb**	**15 05 45.7**	**0.0**
	8.1nm,0.5s							
CHMS	**Chumysh**	**1.45**	**10**	⇑*i*P		**Pn**	**15 05 26.1**	**-0.2**
	baz=9.0							
CHMS				⇑*i*S		**Sn**	**15 05 44.6**	**-1.0**
	baz=9.0							
MRKS	**Merke**	**1.46**	**324**	P		**Pb**	**15 05 27.2**	**0.0**
	6.5nm,0.1s							
MRKS				S		**Sb**	**15 05 46.4**	**+0.3**
	94nm,0.2s							
MRKS	**Merke**	**1.46**	**324**	*e*P		**Pb**	**15 05 27.3**	**0.0**
	6.5nm,0.1s							
MRKS				*e*S		**Sb**	**15 05 46.4**	**+0.3**
	94nm,0.2s							
ULHL	**Ulahol**	**1.53**	**63**	⇑P		**Pb**	**15 05 27.4**	**-1.0**
	11nm,0.1s,SNR=10							
ULHL				⇑S		**Sn**	**15 05 46.9**	**-0.9**
	16nm,0.1s							
ULHL	**Ulahol**	**1.53**	**63**	⇓*i*P		**Pb**	**15 05 27.6**	**-0.8**
	baz=65							
ULHL				⇓*i*S		**Sb**	**15 05 47.4**	**-0.7**
	baz=65							
OHH	**Osh**	**1.61**	**230**	⇑*i*P		**Pg**	**15 05 31.7**	**+1.2**
	baz=29							
OHH				⇑*i*S		**Sg**	**15 05 54.2**	**+2.8**
	baz=29							
TKM2	**Tokmak 2**	**1.61**	**33**	⇓P		**Pb**	**15 05 29.1**	**-0.8**
	9.4nm,0.1s,SNR=5.6							
TKM2				⇑S		**Sb**	**15 05 49.7**	**-0.8**
	24nm,0.1s							
TKM2	**Tokmak 2**	**1.61**	**33**	⇑P		**Pb**	**15 05 29.1**	**-0.8**
	3.2nm,0.2s							
TKM2				⇓S		**Sn**	**15 05 49.5**	**-0.4**
	25nm,0.5s							
TKM2	**Tokmak 2**	**1.61**	**33**	⇓*i*P		**Pb**	**15 05 29.0**	**-0.8**
	baz=33							
TKM2				⇓*i*S		**Sb**	**15 05 49.7**	**-0.8**
	baz=33							
USP	**Ospenovka**	**1.69**	**2**	⇓P		**Pb**	**15 05 31.1**	**-0.2**
	22nm,0.2s,SNR=27							
USP				⇑S		**Sb**	**15 05 53.3**	**+0.5**
	35nm,0.3s							
USP	**Ospenovka**	**1.69**	**2**	⇓*e*P		**Pb**	**15 05 30.5**	**-0.7**
	baz=1.0							
USP				⇓*e*S		**Sb**	**15 05 52.1**	**-0.7**
	baz=1.0							
ARK	**Arkit**	**1.84**	**278**	⇓*i*P		**Pg**	**15 05 34.7**	**-0.3**
	baz=76							
ARK				⇓*i*S		**Sg**	**15 05 59.4**	**+0.5**
	baz=76							
KST	**Kastek**	**1.87**	**38**	*e*P		**Pb**	**15 05 34.0**	**-0.2**
	5.3nm,0.2s							
KST				*e*S		**Sb**	**15 05 57.9**	**0.0**
	16nm,0.4s							
KDJ	**Kajisay**	**2.15**	**74**	⇑*i*P		**Pb**	**15 05 38.2**	**-0.8**
	baz=76							
KDJ				⇑*i*S		**Sb**	**15 06 05.4**	**-0.5**
	baz=76							
MTBS	**Maitube**	**2.16**	**43**	Pg		**Pb**	**15 05 39.5**	**+0.3**
	9.6nm,0.2s							
MTBS				Lg		Lg	15 06 07.2	
	36nm,0.2s							
MTBS	**Maitube**	**2.16**	**43**	*e*Pg		**Pb**	**15 05 39.5**	**+0.3**
	9.6nm,0.2s							
MTBS				*e*Lg		Lg	15 06 06.9	
	36nm,0.2s							
IZV	**Izvestkoviy**	**2.20**	**48**	Pg		**Pb**	**15 05 40.1**	**+0.3**
	3.3nm,0.2s							
IZV				Lg		Lg	15 06 08.7	
	36nm,0.4s							
IZV	**Izvestkoviy**	**2.20**	**48**	*e*Pg		**Pb**	**15 05 40.1**	**+0.3**
	3.3nm,0.2s							
IZV				*e*Lg		Lg	15 06 08.7	
	36nm,0.4s							
KRBS	**Karabastau**	**2.32**	**23**	Pg		**Pb**	**15 05 42.2**	**+0.3**
	29nm,0.3s							
KRBS				Lg		Lg	15 06 12.2	
	80nm,0.7s							
KRBS	**Karabastau**	**2.32**	**23**	*e*Pg		**Pb**	**15 05 42.2**	**+0.3**
	29nm,0.3s							
KRBS				*e*Lg		Lg	15 06 12.2	
	80nm,0.7s							
TNSS	**Tian-Shan**	**2.39**	**51**	Pg		**Pb**	**15 05 43.3**	**+0.1**
	23nm,0.3s							
TNSS				Lg		Lg	15 06 14.3	
	11nm,0.4s							
TNSS	**Tian-Shan**	**2.39**	**51**	*e*Pg		**Pb**	**15 05 43.3**	**+0.1**
	23nm,0.3s							
TNSS				*e*Lg		Lg	15 06 14.3	
	11nm,0.4s							
TRKS	**Terek-Say**	**2.45**	**270**	⇓*i*P		**Pb**	**15 05 43.3**	**-0.8**
	baz=67							
TRKS				⇓*i*S		**Sb**	**15 06 14.1**	**-0.5**
	baz=67							
AAA	**Alma-Ata**	**2.48**	**48**	Pg		**Pg**	**15 05 45.8**	**-1.3**
	37nm,0.3s							
AAA				Lg		Lg	15 06 17.7	
	87nm,0.6s							
AAA	**Alma-Ata**	**2.48**	**48**	*e*Pg		**Pg**	**15 05 45.8**	**-1.3**
	37nm,0.3s							
AAA				*e*Lg		Lg	15 06 17.7	
	87nm,0.6s							
MDOK	**Medeo**	**2.52**	**50**	⇓Pn		**Pb**	**15 05 45.7**	**+0.4**
	4.3nm,0.3s							
MDOK				Pg		**Pg**	**15 05 46.2**	**-1.8**
	14nm,0.2s							
MDOK				Sn		**Sb**	**15 06 16.5**	**-0.2**
	17nm,0.5s							
MDOK				Lg		Lg	15 06 19.2	
	23nm,0.4s							
KOTS	**Kotyrbulak**	**2.60**	**49**	Pg		**Pg**	**15 05 48.5**	**-1.0**
	26nm,0.2s							
KOTS				Lg		Lg	15 06 23.1	
	70nm,0.6s							
KOTS	**Kotyrbulak**	**2.60**	**49**	*e*Pg		**Pg**	**15 05 48.5**	**-1.0**
	26nm,0.2s							
KOTS				*e*Lg		Lg	15 06 23.1	
	70nm,0.6s							
DZA	**Taraz**	**2.64**	**301**	*e*Pg		**Pg**	**15 05 50.5**	**+0.4**
	16nm,0.0s							
DZA				*e*Lg		Lg	15 06 26.5	
	118nm,0.4s							
KTBS	**Karatobe**	**2.72**	**37**	Pg		**Pb**	**15 05 49.0**	**+0.3**
	16nm,0.

KPKS	**Kokpek**	**3.69**	**58**	Pg	**Pb**	**15 06 06.7**	**+1.5**
	6.0nm,0.2s							
KPKS				Lg	Lg	15 06 54.1		
	25nm,0.5s							
KPKS	**Kokpek**	**3.69**	**58**	*e*Pg	**Pb**	**15 06 06.7**	**+1.5**
	6.0nm,0.2s							
KPKS				*e*Lg	Lg	15 06 54.1		
	25nm,0.5s							
UZB	**Uzynbulak**	**3.77**	**64**	Pg	**Pb**	**15 06 07.7**	**+1.1**
	3.7nm,0.2s							
UZB				Lg	Lg	15 06 55.8		
	11nm,0.3s							
UZB	**Uzynbulak**	**3.77**	**64**	*e*Pg	**Pb**	**15 06 07.7**	**+1.1**
	3.7nm,0.2s							
UZB				*e*Lg	Lg	15 06 55.9		
	11nm,0.3s							
SHLS	**Shalkode**	**4.07**	**65**	Pg	**Pg**	**15 06 19.3**	**+1.8**
	2.9nm,0.3s							
SHLS				Lg	Lg	15 07 15.4		
	114nm,0.4s							
SHLS	**Shalkode**	**4.07**	**65**	*e*Pg	**Pg**	**15 06 19.3**	**+1.8**
	2.9nm,0.3s							
SHLS				*e*Lg	Lg	15 07 15.4		
	114nm,0.4s							
DJR	**Jarkent**	**4.82**	**53**	*e*Pg	**Pb**	**15 06 26.2**	**+1.7**
	1.6nm,0.3s							
DJR				*e*Lg	Lg	15 07 27.5		
	3.8nm,0.5s							

*IDC **31** 15:10:36.7±1.6,2.°75N×98.°25E,h0km,mb3.3/3, mbtmp3.3/4,MS3.9/1,Error ellipse: s-maj=29.8km s-min=12.3km az=13.0*
*DJA **31** 15:10:37.5±0.3,3.°N±3.°×9.°9E±.°,h10km,M3.8/12, MLv3.8/12*
*NEIC **31** 15:10:42.3±1.3,2.°95N±0.°07×98.°74E±0.°04,h35km±2km, mb4.2/4,Error ellipse: s-maj=12.5km s-min=4.9km az=155.0*
ISC 31 15:10:42.5±0.8,**3.°01N**±0.°05×**98.°66E**±0.°06,**h35km,n25,** σ1§**27**/20,**mb3.2**/3,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.33**	**129**	LR	LR	15 10 46.3	
	comp=Z,52nm,18.4s,baz=260,slow=14						
PSI				Pg	**Pn**	**15 10 50.0**	**-1.0**
	38nm,0.3s,baz=308,slow=17,SNR=48						
PSI				Lg	Lg	15 10 59.1	
	106nm,0.3s,baz=288,slow=20,SNR=16						
RPSI	**Rantau Prapat**	**0.41**	**140**	Pg	**Pn**	**15 10 50.5**	**-1.3**
TSI	**Tuntungan**	**0.50**	**349**	P	Pn	15 10 43.1	-10
KCSI	**Kotacane, Aceh**	**1.03**	**300**	P	Pn	15 10 51.5	-9.0
GSI	**Gunungsitoli**	**2.01**	**213**	Pn	**Pn**	**15 11 13.5**	**-0.6**
GSI	**Gunungsitoli**	**2.01**	**213**	P	**Pn**	**15 11 13.5**	**-0.6**
SNSI	**Sinabang, Aceh**	**2.41**	**256**	P	**Pn**	**15 11 16.5**	**-3.0**
MLSI	**Meulaboh, Aceh**	**2.58**	**299**	P	Pn	15 11 16.7	-5.1
IPM	**Ipoh**	**2.77**	**58**	Pn	**Pn**	**15 11 23.6**	**-0.9**
LHMI	**Lhok Sumawe**	**2.79**	**322**	Pn	**Pn**	**15 11 25.6**	**+0.9**
LHMI	**Lhok Sumawe**	**2.79**	**322**	Pn	Pn	15 11 25.8	-6.6
KULM	**Kulim**	**3.01**	**41**	Pn	**Pn**	**15 11 25.4**	**-2.3**
PBSI	**Pulau Batu**	**3.07**	**187**	P	**Pn**	**15 11 29.4**	**+0.8**
MYKOM	**Kota Tinggi**	**5.32**	**103**	Pn	**Pn**	**15 11 59.4**	**-0.1**
CM31	**Chiang Mai Arr**	**15.36**	**1**	P	**P**	**15 14 21.9**	**+0.8**
CM31				IAmb	IAmb	15 15 02.9	
	comp=Z,3.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**15.36**	**1**	Pn	**Pn**	**15 14 18.9**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=196,slow=9.8,SNR=7.2						
CMAR				Lg	Lg	15 18 53.9	
	comp=Z,0.2nm,0.3s,baz=181,slow=30,SNR=1.6						
CMAR	**Chiang Mai Arr**	**15.36**	**1**	P	**P**	**15 14 21.3**	**+0.2**
PHRA	**Phrae**	**15.47**	**6**	P	**P**	**15 14 22.5**	**+0.2**
PHRA				IAmb	IAmb	15 14 50.8	
	comp=Z,36nm,1.3s						
PSA00	**Pilbara Seismi**	**32.04**	**141**	P	**P**	**15 17 05.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**39.83**	**155**	LR	LR	15 35 14.2	
	comp=Z,159nm,18.7s,slow=37						
WRA	**Warramunga Arr**	**41.80**	**125**	P	**P**	**15 18 29.7**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=305,slow=9.3,SNR=6.2						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**43.36**	**130**	P	**P**	**15 18 42.2**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=322,slow=8.7,SNR=2.6						
	comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**45.88**	**344**	P	**P**	**15 19 01.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=160,slow=7.8,SNR=1.9						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**45.88**	**344**	P	**P**	**15 19 00.9**	**-0.7**
MAKZ	**Makanchi**	**45.98**	**344**	P	**P**	**15 19 01.2**	**-1.1**

*HEL **31** 15:13:27.3±0.2,67.°84N×19.°91E,h0km,ML1.4,Explosion*
*UPP **31** 15:13:28.7±0.0,67.°84N×20.°20E,h0km,ML2.5,Confirmed Induced event*
ISC 31 15:13:27.9±0.8,**67.°81N**±0.°03×**20.°33E**±0.°03,**h0km,n24,** σ1§**01**/36,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVU	**Salmi**	**0.42**	**352**	P	**Pg**	**15 13 36.1**	**+0.1**
KOVU				S	**Sg**	**15 13 41.2**	**-0.3**
NIKU	**Nikkaluokta**	**0.49**	**278**	P	**Pg**	**15 13 37.2**	**-0.1**
NIKU				S	**Sg**	**15 13 43.0**	**-0.7**
LANU	**Lannavaara**	**0.67**	**68**	P	**Pb**	**15 13 42.0**	**-0.5**
LANU	**Lannavaara**	**0.67**	**68**	PG	**Pb**	**15 13 41.8**	**-0.8**
LANU				SG	**Sb**	**15 13 51.5**	**-0.9**
DUNU	**Dundret**	**0.69**	**172**	P	**Pb**	**15 13 42.4**	**-0.5**
MASU	**Masugnsbyn**	**0.73**	**118**	P	**Pb**	**15 13 43.6**	**+0.1**
SALU	**Saltoluokta**	**0.82**	**239**	P	**Pg**	**15 13 43.7**	**+0.1**
KIF	**Kilpisjarvi**	**1.22**	**8**	*e*P	**Pn**	**15 13 51.5**	**-0.6**
KIF	**Kilpisjarvi**	**1.22**	**8**	PN	**Pn**	**15 13 51.6**	**-0.6**
KIF				MSG		15 14 05.4	
	comp=Z,5.1nm,0.2s						
PAJU	**Pajala**	**1.33**	**125**	P	**Pb**	**15 13 54.1**	**+0.3**
PAJU	**Pajala**	**1.33**	**125**	PG	**Pb**	**15 13 53.9**	**+0.2**
	baz=305						
PAJU				SG	**Sn**	**15 14 12.7**	**+0.5**
HEF	**Hetta**	**1.39**	**63**	*e*P	**Pb**	**15 13 54.6**	**-0.1**
HEF	**Hetta**	**1.39**	**63**	PG	**Pb**	**15 13 54.7**	**-0.1**
	baz=245						
HEF				MSG		15 14 12.9	
	comp=Z,2.1nm,0.2s						
HEF				SG	**Sn**	**15 14 13.5**	**-0.1**
ERTU	**Ertsjaerv**	**1.45**	**149**	P	**Pb**	**15 13 56.2**	**+0.3**
ERTU	**Ertsjaerv**	**1.45**	**149**	PN	**Pb**	**15 13 55.9**	**+0.1**
ERTU				SN	**Sn**	**15 14 17.2**	**+2.1**
KLF	**Kolari**	**1.51**	**111**	PG	**Pg**	**15 13 57.2**	**+0.3**
	baz=297						
KLF				MSG		15 14 17.1	
	comp=Z,2.4nm,0.2s						
KLF				SN	**Sn**	**15 14 18.7**	**+2.1**
KTK1	**Kautokeino**	**1.62**	**40**	PG	**Pb**	**15 13 58.2**	**-0.4**
KTK1				SN	**Sg**	**15 14 22.0**	**+2.1**
KALU	**Kalix**	**2.29**	**147**	PG	**Pb**	**15 14 09.4**	**-0.7**
KALU				SG	**Sg**	**15 14 41.6**	**+0.1**
TOF	**Tornio**	**2.34**	**136**	PB	**Pb**	**15 14 10.5**	**-0.4**
TOF				MSG		15 14 40.4	
	comp=Z,1.3nm,0.2s						
TOF				SG	**Sg**	**15 14 42.8**	**-0.3**
SGF	**Sodankyl**	**2.40**	**96**	PG	**Pb**	**15 14 11.8**	**-0.1**
SGF				SG	**Sg**	**15 14 44.3**	**-0.6**
RNF	**Rovaniemi**	**2.52**	**116**	PB	**Pb**	**15 14 13.4**	**-0.5**
	baz=305						
RNF				SB	**Sb**	**15 14 47.0**	**+1.6**
KEV	**Kevo**	**3.12**	**48**	SN	**Sn**	**15 14 58.6**	**+2.4**
OLKF	**Oulanka, Finla**	**3.85**	**109**	PG	**Pg**	**15 14 40.1**	**-1.6**
KU6	**Riekki**	**4.17**	**111**	SG	**Sg**	**15 15 39.8**	**-1.9**

*UPP **31** 15:14:22.2±0.1,67.°88N×20.°24E,h0km,ML2.7,Confirmed Induced event*
*IDC **31** 15:14:23.6±1.4,67.°80N×20.°64E,h0km,mbtmp2.8/3, ML2.0/3,Error ellipse: s-maj=20.4km s-min=9.7km az=111.0*
ISC 31 15:14:21.6±1.0,**67.°89N**±0.°04×**20.°51E**±0.°07,**h0km,n9,** σ0§**61**/12,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVU	**Salmi**	**0.36**	**339**	P	**Pg**	**15 14 29.0**	**+0.4**
KOVU				S	**Sg**	**15 14 33.7**	**+0.4**
LANU	**Lannavaara**	**0.58**	**73**	P	**Pb**	**15 14 35.1**	**+0.4**
MASU	**Masugnsbyn**	**0.71**	**126**	P	**Pb**	**15 14 37.3**	**+0.4**
DUNU	**Dundret**	**0.77**	**178**	P	**Pg**	**15 14 36.7**	**+0.4**
PAJU	**Pajala**	**1.33**	**130**	P	**Pg**	**15 14 47.0**	**0.0**
ERTU	**Ertsjaerv**	**1.49**	**153**	P	**Pn**	**15 14 49.8**	**+0.2**
ARCES	**ARCESS Array B**	**2.46**	**45**	Pn	**Pb**	**15 15 05.9**	**-0.9**
	0.5nm,0.3s,baz=224,slow=15,SNR=10						
ARCES				Sn	**Sb**	**15 15 37.5**	**-0.1**
	1.1nm,0.3s,baz=226,slow=25,SNR=7.0						
	1.0nm,0.3s						
FINES	**FINESS Array B**	**6.89**	**157**	Pn	**Pn**	**15 16 04.3**	**+0.6**
	0.1nm,0.3s,baz=344,slow=25,SNR=1.9						
FINES				Sn	**Sn**	**15 17 21.7**	**-1.0**
	0.1nm,0.3s,baz=354,slow=23,SNR=1.1						
FINES				Lg	Lg	15 17 56.9	
	0.3nm,0.3s,baz=346,slow=27,SNR=2.2						
	2.0nm,1.0s						
NOA	**NORSAR Array B**	**7.95**	**215**	Pn	**Pn**	**15 16 17.7**	**-0.6**
	baz=25,slow=12,SNR=1.5						
NOA				Lg	Lg	15 18 31.5	
	baz=308,slow=22,SNR=4.6						
	0.4nm,0.8s						

*IDC **31** 15:16:03.9±1.2,0.°26N×125.°87E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=71.5km s-min=22.4km az=72.0*
*DJA **31** 15:16:09.9±3.3,0.°N±6.°×12.°6E±.°,h12km±29km,M3.2/6, mb3.5/1,MLv3.1/6*
ISC 31 15:16:10.7±1.1,**0.°2N**±0.°1×**126.°10E**±0.°09,**h44km,n7,** σ1§**48**/7,**mb3.6**/4,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.38**	**67**	P	**Pn**	**15 16 34.9**	**+1.4**
SANI	**Sanana**	**2.27**	**183**	P	**Pn**	**15 16 46.4**	**+0.7**
LUWI	**Luwuk**	**3.56**	**249**	P	**Pn**	**15 17 05.0**	**+1.6**
WRA	**Warramunga Arr**	**21.62**	**159**	P	**P**	**15 20 56.2**	**-1.0**
	0.8nm,0.5s,baz=336,slow=11,SNR=12						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**24.94**	**163**	P	**P**	**15 21 30.6**	**+0.6**
	0.3nm,0.5s,baz=341,slow=12,SNR=14						
	0.3nm,0.5s						
PETK	**Petropavlovsk-**	**58.89**	**22**	P	**P**	**15 26 04.9**	**-0.1**
	7.5nm,1.2s,baz=205,slow=6.4,SNR=2.3						
	7.5nm,1.2s						
MKAR	**Makanchi Array**	**60.08**	**327**	P	**P**	**15 26 11.9**	**-1.5**
	0.3nm,0.5s,baz=116,slow=6.6,SNR=9.4						
	0.3nm,0.5s						

*BJI **31** 15:55:51.3±0.0,7.°35N×125.°86E,h488km,mb5.2/80, mB4.8/47*
*KLM **31** 15:55:53,7.°39N×125.°42E,h408km,mb5.5*
*MOS **31** 15:55:55.9±0.8,6.°94N×125.°43E,h497km,mb5.3/51,Error ellipse: s-maj=7.9km s-min=4.5km az=111.1*
*IDC **31** 15:55:56.9±0.3,7.°05N×125.°39E,h500km±3km,mb4.7/28, mbtmp5.6/33,Error ellipse: s-maj=7.4km s-min=4.8km az=57.0*
*NEIC **31** 15:55:57.0±2.5,7.°00N±0.°08×125.°41E±0.°08,h493km±5km, mb5.3/166,Mww5.4,Error ellipse: s-maj=12.3km s-min=11.2km az=56.0*
*DJA **31** 15:55:57.2±0.1,7.°S±2.°×12.°5E±.°,h503km±2km,M5.3/96, mb5.4/96,mB5.7/60,MLv6.1/18,Mw5.3/28,Mw(mB)5.2/60, MwMwp5.0/9,Mwp5.3/9*
*GCMT **31** 15:55:58.0±0.2,7.°05S±0.°02×125.°31E±0.°02,h511km±1km, MW5.4/97,Moment Tensor Solution. s97,c140; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.62±.03; $M_{\theta\theta}$0.21±.05; $M_{\phi\phi}$0.40±.05; $M_{r\theta}$-0.75±.05; $M_{\theta\phi}$1.22±.05; $M_{r\phi}$0.55±.05; Best double couple: $M_0$1.62200×10^{17} NP1:ϕ_s80.00000°,δ65.00000°, λ-33.00000°. NP2:ϕ_s186.00000°,δ60.00000°, λ-151.00000°. Principal axes: T 1.5390, Plg3.0000°, Azm134.0000°; N 0.1670, Plg49.0000°, Azm228.0000°; P -1.7060, Plg40.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*NEIC **31** 15:56:00,7.°40S×125.°41E,h490km,Moment Tensor Solution. Duration: 8§0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.81; $M_{\theta\theta}$0.76; $M_{\phi\phi}$0.05; $M_{r\theta}$-0.82; $M_{\theta\phi}$1.06; $M_{r\phi}$0.46; Fault plane solution: $M_0$1.63000×10^{17} NP1: ϕ_s200.00000°,δ49.00000°,λ-149.00000°. NP2: ϕ_s89.00000°,δ67.00000°,λ-45.00000°. Principal axes: T 1.6059, Plg11.0000°, Azm148.0000°; N 0.0387, Plg41.0000°, Azm248.0000°; P -1.6446, Plg47.0000°, Azm46.0000°;*
ISC 31 15:55:56.8±0.2,**7.°04S**±0.°03×**125.°44E**±0.°03,**h503km**±2km, **h505km**:**pP-P**,**n1398,**σ1§**20**/1580,**mb5.3**/200,**36C-65D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.94**	**203**		**P**	**15 57 08.3**	**+0.5**
SOEI	**Soe**	**2.94**	**203**	P	**P**	**15 57 08.9**	**+1.1**
SOEI	**Soe**	**2.94**	**203**	P	**P**	**15 57 08.5**	**+0.7**
MMRI	**Maumere**	**3.55**	**243**		**P**	**15 57 11.4**	**-0.6**
MMRI	**Maumere**	**3.55**	**243**	P	**P**	**15 57 11.9**	**-0.1**
MMRI	**Maumere**	**3.55**	**243**	P	**P**	**15 57 11.6**	**-0.4**
BATI	**Baumata**	**3.61**	**209**	P	**P**	**15 57 13.3**	**+0.9**
	16μm,0.4s,baz=110,slow=5.5,SNR=1544						
BATI				S	**S**	**15 58 12.8**	**-1.2**
	10μm,0.7s,baz=198,slow=6.9,SNR=2.0						
BATI	**Baumata**	**3.61**	**209**	P	**P**	**15 57 13.3**	**+0.9**
NLAI	**Namlea**	**4.12**	**24**	P	**P**	**15 57 17.5**	**+1.1**
AAI	**Ambon**	**4.31**	**40**	P	**P**	**15 57 18.7**	**+0.7**
SANI	**Sanana**	**4.98**	**6**	P	**P**	**15 57 25.1**	**+1.2**
SANI	**Sanana**	**4.98**	**6**	P	**P**	**15 57 24.5**	**+0.6**
	3μm,1.2s,22μm4μm8.3nm						
BSSI	**Bau Bau, Buton**	**5.00**	**280**	P	**P**	**15 57 25.9**	**+1.9**
MSAI	**Masohi**	**5.05**	**44**	P	**P**	**15 57 23.0**	**-1.5**
	160nm,0.5s,3μm2.7nm						
BNDI	**Bandanaira**	**5.09**	**61**	P	**P**	**15 57 25.4**	**+0.6**
BNDI	**Bandanaira**	**5.09**	**61**	P	**P**	**15 57 25.1**	**+0.3**
	5μm,0.7s,40μm27nm						
BKSI	**Bulukumba**	**5.56**	**288**	P	**P**	**15 57 30.6**	**+1.5**
	4μm,0.8s,32μm14nm						
BASI	**Baing, Sumba**	**5.76**	**236**	P	**P**	**15 57 29.9**	**-1.1**
	8μm,0.5s,152μm9μm87nm						
SAUI	**Saumlaki**	**5.88**	**100**			**15 57 31.6**	**-0.6**
SAUI	**Saumlaki**	**5.88**	**100**	P	**P**	**15 57 32.6**	**+0.4**
SAUI	**Saumlaki**	**5.88**	**100**	P	**P**	**15 57 31.8**	**-0.4**
	9μm,1.1s,79μm25nm						
KAPI	**Kappang**	**6.01**	**289**	P	**P**	**15 57 35.6**	**+2.3**
	2μm,0.7s,baz=115,slow=6.6,SNR=677						
KAPI				S	**S**	**15 58 52.9**	**+0.7**
	186nm,0.8s,baz=30,slow=22,SNR=6.8						
KAPI	**Kappang**	**6.01**	**289**		**P**	**15 57 35.2**	**+1.8**
KAPI	**Kappang**	**6.01**	**289**	P	**P**	**15 57 36.0**	**+2.6**
KAPI	**Kappang**	**6.01**	**289**	P	**P**	**15 57 36.4**	**+3.1**
KAPI				S	S	15 59 05.9	+14
SPSI	**Sidrap Palu**	**6.42**	**298**	P	**P**	**15 57 38.7**	**+1.3**
	1μm,1.2s,16μm5.3nm						
LUWI	**Luwuk**	**6.53**	**336**	P	**P**	**15 57 39.8**	**+1.4**
LUWI	**Luwuk**	**6.53**	**336**	P	**P**	**15 57 40.5**	**+2.1**
LUWI	**Luwuk**	**6.53**	**336**	P	**P**	**15 57 40.2**	**+1.8**
	11μm,1.0s,88μm10μm40nm						
PLAI	**Plampang**	**7.80**	**256**	P	**P**	**15 57 49.8**	**-1.5**
PLAI	**Plampang**	**7.80**	**256**	P	**P**	**15 57 49.3**	**-2.0**
	3μm,0.7s,25μm16nm						
FAKI	**Fak Fak**	**7.92**	**59**	P	**P**	**15 57 51.2**	**-1.3**
FAKI	**Fak Fak**	**7.92**	**59**	P	**P**	**15 57 51.7**	**-0.8**
FAKI	**Fak Fak**	**7.92**	**59**	P	**P**	**15 57 51.2**	**-1.3**
	2μm,1.1s,12μm9.9nm						
TNTI	**Ternate**	**7.99**	**14**		**P**	**15 57 52.9**	**-0.3**
TNTI	**Ternate**	**7.99**	**14**	P	**P**	**15 57 53.6**	**+0.3**
TNTI	**Ternate**	**7.99**	**14**	P	**P**	**15 57 53.2**	**-0.1**
	269nm,0.8s,3μm						
MTN	**Manton Dam**	**8.04**	**136**	P	**P**	**15 57 54.1**	**+0.4**
	baz=8.1,SNR=1000						
MTN	**Manton Dam**	**8.04**	**136**	P	**P**	**15 57 54.0**	**+0.3**
MTN	**Manton Dam**	**8.04**	**136**	P	**P**	**15 57 54.3**	**+0.6**
MRSI	**Marisa**	**8.24**	**335**	P	**P**	**15 57 57.3**	**+1.4**
	10μm,0.9s,94μm6μm						
SIJI	**Sorong**	**8.44**	**44**	P	**P**	**15 57 58.9**	**+1.0**
	1μm,0.6s,baz=232,slow=5.8,SNR=738						
SIJI				S	**S**	**15 59 32.3**	**-5.0**
	125nm,0.9s,baz=214,slow=15,SNR=1.8						
SIJI				ScP	**ScP**	**16 06 16.8**	**0.0**
	4.5nm,0.8s,baz=182,slow=2.7,SNR=3.5						
TWSI	**Taliwang, Sumb**	**8.65**	**258**	P	**P**	**15 57 57.9**	**-2.2**
	660nm,0.7s,8μm						
KDU	**Kakadu**	**8.91**	**130**	P	**P**	**15 58 02.6**	**-0.2**
	baz=8.9,SNR=1000						
KDU	**Kakadu**	**8.91**	**130**	P	**P**	**15 58 02.9**	**+0.1**
MPSI	**Mapaga**	**9.18**	**323**	P	**P**	**15 58 07.2**	**+1.6**
	1μm,1.4s,16μm6μm						
KNRA	**Kununurra**	**9.18**	**160**	P	**P**	**15 58 06.2**	**+0.7**
	baz=9.2,SNR=1000						
KNRA	**Kununurra**	**9.18**	**160**	P	**P**	**15 58 06.1**	**+0.5**
KNRA	**Kununurra**	**9.18**	**160**	P	**P**	**15 58 06.5**	**+0.9**
TOLI2	**Tolitoli**	**9.34**	**330**	P	**P**	**15 58 07.9**	**+0.6**
TOLI2	**Tolitoli**	**9.34**	**330**	P	**P**	**15 58 08.8**	**+1.5**
SRBI	**Singaraja**	**10.20**	**263**	P	**P**	**15 58 16.6**	**+0.3**
	532nm,0.8s,4μm						
DNP	**Denpasar**	**10.27**	**260**	P	**P**	**15 58 17.6**	**+0.5**
	1μm,0.5s,18μm						
BKB	**Balikpapan**	**10.27**	**304**	P	**P**	**15 58 20.8**	**+3.6**
BKB	**Balikpapan**	**10.27**	**304**	P	**P**	**15 58 20.6**	**+3.4**
	3μm,0.8s,24μm7μm						
RKPI	**Ransiki, Papua**	**10.29**	**58**	P	**P**	**15 58 18.4**	**+1.0**
	2μm,1.1s,15μm						
SGSI	**Sangihe**	**10.65**	**0**	P	**P**	**15 58 21.4**	**+0.2**
	797nm,0.4s,18μm						
FITZ	**Fitzroy Crossi**	**11.00**	**179**	P	**P**	**15 58 24.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.00**	**179**	P	**P**	**15 58 25.3**	**+0.6**
BBKI	**Banjar Baru**	**11.14**	**288**	P	**P**	**15 58 28.8**	**+2.5**
	2μm,1.2s,21μm						
ABJI	**Asem Bagus**	**11.14**	**265**	P	**P**	**15 58 26.9**	**+0.6**
	255nm,0.8s						
JAGI	**Jajag, Banyuwa**	**11.28**	**262**	P	**P**	**15 58 26.2**	**-1.6**
JAGI	**Jajag, Banyuwa**	**11.28**	**262**	P	**P**	**15 58 27.1**	**-0.7**
JAGI	**Jajag, Banyuwa**	**11.28**	**262**	P	**P**	**15 58 26.2**	**-1.6**
	309nm,0.8s,7μm						
BLJI	**Banyuglugur**	**11.77**	**266**	P	**P**	**15 58 33.2**	**+0.2**
	2μm,0.6s,12μm						
SRPI	**Serui, Papua**	**11.92**	**65**	P	**P**	**15 58 34.6**	**0.0**
	702nm,0.7s,8μm						
GMJI	**Gumukmas**	**11.96**	**263**	P	**P**	**15 58 34.1**	**-0.9**
	196nm,0.9s						
GRJI	**Gresik**	**12.87**	**270**	P	**P**	**15 58 45.0**	**+0.4**
	189nm,0.6s						
GSPH	**General Santos**	**13.05**	**358**	*e*P	P	15 58 54.5	+7.9
DDMP	**Don Marcelino,**	**13.06**	**1**	*e*P	**P**	**15 58 46.1**	**-0.5**
DDMP				*e*S	**S**	**16 01 05.2**	**-1.5**
SKMP	**Bagumbayan, Su**	**13.50**	**356**	*e*P	**P**	**15 58 52.0**	**+0.7**
SKMP				*e*S	**S**	**16 01 14.1**	**-1.0**
PWJI	**Pagerwojo**	**13.56**	**265**	P	**P**	**15 58 50.7**	**-1.2**
	150nm,0.7s						
NGJI	**Ngawi**	**13.88**	**268**	P	**P**	**15 58 55.6**	**+0.3**
	129nm,1.4s						
MATI	**Mati**	**13.91**	**3**	*e*P	**P**	**15 58 56.8**	**+1.1**
MATI				*e*S	**S**	**16 01 21.6**	**-1.6**
MYLDM	**Lahad Datu**	**13.97**	**330**	P	**P**	**15 58 55.3**	**-1.0**
DAV	**Davao City (W)**	**14.01**	**1**	P	**P**	**15 58 57.6**	**+0.8**
	152nm,0.4s,baz=241,slow=8.6,SNR=1.8						
DAV				S	**S**	**16 01 24.5**	**-0.6**
	183nm,0.5s,baz=263,slow=20,SNR=1.8						
DAV	**Davao City (W)**	**14.01**	**1**	P	P	15 59 10.3	+14
DAV				S	**S**	**16 01 32.9**	**+7.8**
SMPI	**Sarmi**	**14.14**	**70**	P	**P**	**15 58 59.0**	**+0.9**
	522nm,1.0s,5μm						
CTBH	**Cotabato--PC H**	**14.21**	**355**	*i*P	**P**	**15 59 00.1**	**+1.3**
PBKI	**Pangkalan Bun**	**14.38**	**287**	P	**P**	**15 59 01.4**	**+0.8**
	1μm,0.8s						
SPMM	**Sapulut**	**14.71**	**322**	P	**P**	**15 59 05.0**	**+0.9**
CDOP	**Cateel, Davao**	**14.76**	**4**	*i*P	**P**	**15 59 04.4**	**-0.1**
CDOP				*i*S	**S**	**16 01 35.4**	**-3.9**
BUKP	**Musuan**	**14.82**	**359**	*e*P	**P**	**15 59 07.3**	**+2.0**
BUKP				*e*S	**S**	**16 01 42.8**	**+2.1**
BUKP	**Musuan**	**14.82**	**359**	*e*P	P	15 59 18.2	+13
SMRI	**Semarang**	**14.89**	**269**	P	**P**	**15 59 05.1**	**-0.9**
SMRI	**Semarang**	**14.89**	**269**	P	**P**	**15 59 06.3**	**+0.3**
SMRI	**Semarang**	**14.89**	**269**	P	**P**	**15 59 07.1**	**+1.1**
	270nm,0.8s						
PAGZ	**Pagadian**	**14.93**	**352**	*e*P	**P**	**15 59 06.7**	**+0.4**
PAGZ	**Pagadian**	**14.93**	**352**	*e*P	**S**	**16 01 44.2**	**+1.6**
MBWA	**Marble Bar**	**15.09**	**201**	P	**P**	**15 59 07.4**	**-0.5**
MBWA	**Marble Bar**	**15.09**	**201**	P	**P**	**15 59 07.8**	**-0.1**
MBWA	**Marble Bar**	**15.09**	**201**	P	**P**	**15 59 07.8**	**-0.1**
MBWA				S	**S**	**16 01 43.2**	**-2.3**
GENI	**Genyem**	**15.32**	**74**	P	**P**	**15 59 11.8**	**+1.4**
GENI	**Genyem**	**15.32**	**74**	P	**P**	**15 59 10.8**	**+0.4**
	1μm,1.0s,15μm						
WB0	**Warramunga Arr**	**15.35**	**146**	P	**P**	**15 59 09.7**	**-1.0**
CGP	**Cagayan de Oro**	**15.41**	**357**	*i*P	**P**	**15 59 13.3**	**+2.0**
PSA00	**Pilbara Seismi**	**15.43**	**200**	P	**P**	**15 59 11.0**	**-0.4**
PSA00	**Pilbara Seismi**	**15.43**	**200**	P	**P**	**15 59 10.7**	**-0.7**
PSA00	**Pilbara Seismi**	**15.43**	**200**	P	**P**	**15 59 11.6**	**+0.2**
WRAB	**Tennant Creek**	**15.46**	**147**	P	**P**	**15 59 10.8**	**-1.0**
WRAB	**Tennant Creek**	**15.46**	**147**	P	**P**	**15 59 11.3**	**-0.5**
WRAB	**Tennant Creek**	**15.46**	**147**	*c i*P	**P**	**15 59 10.9**	**-0.9**
WRA	**Warramunga Arr**	**15.46**	**147**	P	**P**

XMI **Christmas Isla** 19.82 259 P **P** 15 59 55.8 +2.0
PPBI **Pangkal Pinang** 19.84 283 P **P** 15 59 55.4 +1.4
490nm,1.1s
PVCP **Virac** 20.54 356⇓*e*P **P** 15 59 59.8 -0.5
PVCP *e*S **S** 16 03 13.2 -4.6
MEEK **Meekatharra** 20.55 198 P **P** 16 00 00.1 -0.2
baz=21,SNR=126
MEEK **Meekatharra** 20.55 198 P **P** 16 00 00.6 +0.3
KASI **Kota Agung** 20.88 273 P **P** 16 00 02.5 -0.9
95nm,0.6s
PMBI **Palembang** 20.99 280 P **P** 16 00 08.5 +4.1
PMBI **Palembang** 20.99 280 P **P** 16 00 06.9 +2.5
732nm,0.9s,7μm
LUBP **Lubang** 21.27 346⇓*e*P **P** 16 00 08.2 +1.3
LUBP *e*S **S** 16 03 29.3 -0.2
MDSI **Maura Dua** 21.31 276 P **P** 16 00 07.0 -0.3
43nm,1.0s
LWLI **Liwa** 21.36 274 P **P** 16 00 08.2 +0.3
123nm,0.8s,7μm
JCNP **Jose Panganiba** 21.36 353⇓*e*P **P** 16 00 07.7 -0.1
MTSU **Mount Surprise** 21.44 123 P **P** 16 00 08.9 +0.4
baz=22,SNR=269
MTSU **Mount Surprise** 21.44 123 P **P** 16 00 09.4 +0.9
PMG **Port Moresby** 21.62 98 P **P** 16 00 10.4 +0.3
21nm,0.4s,baz=186,slow=2.8,SNR=29
PMG S **S** 16 03 32.3 -2.9
30nm,1.0s,baz=301,slow=12,SNR=1.3
PMG ScP **ScP** 16 06 41.2 +0.3
53nm,0.9s,baz=347,slow=2.1,SNR=9.4
21nm,0.4s
PMG **Port Moresby** 21.62 98 P **P** 16 00 10.3 +0.2
PMG **Port Moresby** 21.62 98 P **P** 16 00 11.1 +1.0
MACP **Maragondon, Ca** 21.68 348⇓*e*P **P** 16 00 10.3 -0.3
MACP *e*S **S** 16 03 30.6 -5.3
DSRI **Dabo** 21.81 286 P **P** 16 00 13.0 +1.2
101nm,0.6s,1μm
TPRI **Tanjung Pinang** 22.32 290 P **P** 16 00 17.5 +1.1
91nm,0.8s
JMBI **JAMBI** 22.39 283 P **P** 16 00 19.8 +2.8
97nm,0.8s
MANU **Manus Island** 22.40 78 P **P** 16 00 18.1 +0.9
MANU **Manus Island** 22.40 78 P **P** 16 00 18.3 +1.1
MNAI **Manna** 22.53 276 P **P** 16 00 16.2 -2.2
OOD **Oodnadatta** 22.82 156 P **P** 16 00 21.3 +0.6
BALP **Baler** 22.95 350⇓*e*P **P** 16 00 22.6 +0.6
MYKOM **Kota Tinggi** 23.27 291 P **P** 16 00 25.6 +0.7
MASI **Maura Aman, Be** 23.43 278 P **P** 16 00 25.6 -0.8
88nm,0.7s
SMPP **San Manuel, Pa** 23.52 348⇓*e*P **P** 16 00 27.0 -0.1
SMPP *e*S **S** 16 04 00.8 -4.2
MORW **Morawa** 23.64 201 P **P** 16 00 28.2 +0.1
baz=24,SNR=8.0
MORW **Morawa** 23.64 201 P **P** 16 00 27.9 -0.2
MORW **Morawa** 23.64 201 P **P** 16 00 28.4 +0.3
FORT **Forrest** 23.75 174 P **P** 16 00 29.2 +0.3
baz=24,SNR=459
FORT **Forrest** 23.75 174 P **P** 16 00 29.1 +0.2
FORT **Forrest** 23.75 174 P **P** 16 00 29.3 +0.3
CTA **Charters Tower** 23.99 125 P **P** 16 00 31.8 +0.4
128nm,0.8s,baz=301,slow=9.6,SNR=179
CTA S **S** 16 04 11.7 -0.8
19nm,0.8s,baz=93,slow=15,SNR=1.4
128nm,0.8s
CTAO **Charters Tower** 23.99 125 P **P** 16 00 31.7 +0.4
CTAO **Charters Tower** 23.99 125 P **P** 16 00 32.2 +0.9
CTAO **Charters Tower** 23.99 125 P **P** 16 00 31.7 +0.4
TV1H **Townsville Har** 24.04 122 P **P** 16 00 32.8 +1.1
CAUP **Cauayan** 24.09 351⇓*e*P **P** 16 00 32.7 +0.6
CAUP *e*S S 16 04 26.9 +13
SAMP **Sagada Mountai** 24.38 349⇓*e*P **P** 16 00 34.0 -0.8
SAMP *e*S **S** 16 04 13.5 -5.0
KMBL **Kambalda** 24.43 187 P **P** 16 00 35.1 +0.1
baz=25,SNR=106
KMBL **Kambalda** 24.43 187 P **P** 16 00 35.7 +0.6
MULG **Mulgathing** 24.50 162 P **P** 16 00 36.5 +0.9
SDSI **Sungai Dareh** 24.70 283 P **P** 16 00 37.8 +0.1
101nm,1.3s,1μm
BLDU **Ballidu** 24.85 198 P **P** 16 00 38.8 +0.1
baz=25,SNR=89
BLDU **Ballidu** 24.85 198 P **P** 16 00 39.0 +0.3
INKA **Innaminka** 25.19 147 P **P** 16 00 43.0 +1.2
DLV **T Lat** 25.30 318 P **P** 16 00 43.9 +0.8
SGCP **Gonzaga** 25.34 352⇓*e*P **P** 16 00 42.1 -1.1
BKNI **Bangkinang** 25.42 286 P **P** 16 00 46.4 +2.3
KLBR **Kellerberrin** 25.46 195 P **P** 16 00 44.1 -0.1
baz=26,SNR=52
KLBR **Kellerberrin** 25.46 195 P **P** 16 00 44.4 +0.2
PDSI **Padang** 25.64 283 P **P** 16 00 45.4 -0.7
50nm,0.6s
LCRK **Leigh Creek** 26.19 154 P **P** 16 00 51.7 +1.1
MUN **Mundaring** 26.27 198 P **P** 16 00 51.3 0.0
baz=26,SNR=12
MUN **Mundaring** 26.27 198 P **P** 16 00 51.6 +0.3
QLP **Quilpie** 26.41 140 P **P** 16 00 53.5 +0.9
baz=26,SNR=452
QLP **Quilpie** 26.41 140 P **P** 16 00 53.7 +1.1
RABL **Rabaul** 26.74 85 P **P** 16 00 56.1 +0.4
RABL **Rabaul** 26.74 85 P **P** 16 00 57.8 +2.1
NWAO **Narrogin (SRO)** 26.87 195 P **P** 16 00 56.8 +0.2
48nm,0.3s
NWAO ScP **ScP** 16 06 54.9 -0.3
48nm,0.3s
NWAO **Narrogin (SRO)** 26.87 195 P **P** 16 00 56.8 +0.2
baz=27,SNR=26
NWAO P **P** 16 00 56.8 +0.2
baz=27,SNR=26
NWAO **Narrogin (SRO)** 26.87 195 P **P** 16 00 56.5 -0.1
NWAO **Narrogin (SRO)** 26.87 195 P **P** 16 00 56.5 -0.1
NWAO **Narrogin (SRO)** 26.87 195 P **P** 16 00 57.2 +0.6
NWAO **Narrogin (SRO)** 26.87 195 P **P** 16 00 57.1 +0.5
NWAO **Narrogin (SRO)** 26.87 195 P **P** 16 00 57.0 +0.5
IPM **Ipoh** 26.92 294 P **P** 16 00 57.0 -0.3
IPM **Ipoh** 26.92 294 P **P** 16 00 58.4 +1.1
BBOO **Buckleboo** 27.48 160 P **P** 16 01 02.2 +0.3
baz=28,SNR=655
BBOO **Buckleboo** 27.48 160 P **P** 16 01 02.0 +0.1
BBOO **Buckleboo** 27.48 160 P **P** 16 01 02.5 +0.6
KULM **Kulim** 27.61 296 P **P** 16 01 03.1 -0.3
PBSI **Pulau Batu** 27.97 283 P **P** 16 01 04.8 -1.7
107nm,0.7s
GUMO **Guam** 28.14 43 P **P** 16 01 07.6 -0.3
156nm,0.4s,baz=253,slow=8.9,SNR=8.7
156nm,0.4s
GUMO **Guam** 28.14 43 P **P** 16 01 07.1 -0.8
GUMO **Guam** 28.14 43 P **P** 16 01 08.7 +0.7
RPSI **Rantau Prapat** 28.18 289 P **P** 16 01 07.9 -0.4
RPSI **Rantau Prapat** 28.18 289 P **P** 16 01 07.8 -0.5
RPSI **pP** 16 02 31.2 -1.8
RPSI **S** 16 05 15.8 -2.5
WHYH **Whyalla** 28.21 158 P **P** 16 01 09.2 +0.9
PSI **Prapat** 28.22 289 P **P** 16 01 07.8 -1.0
139nm,0.9s,baz=126,slow=6.2,SNR=90
PSI pP **pP** 16 02 31.2 -2.4
16nm,0.9s,baz=111,slow=11,SNR=2.1
PSI S **S** 16 05 15.8 -3.3
3.0nm,0.4s,baz=264,slow=21,SNR=8.1
PSI ScP **ScP** 16 06 58.0 -1.9
22nm,0.8s,baz=155,slow=3.5,SNR=13
139nm,0.9s
PSI **Prapat** 28.22 289 P **P** 16 01 09.2 +0.4
PTPS **Port Pirie** 28.50 158 P **P** 16 01 12.2 +1.4
SKLT **Songkhla** 28.50 299 P **P** 16 01 12.3 +1.2
RKGY **Rocky Gully** 28.53 195 P **P** 16 01 12.9 +1.8
baz=29,SNR=37
RKGY **Rocky Gully** 28.53 195 P **P** 16 01 13.0 +1.9
STKA **Stephens Creek** 28.95 151 P **P** 16 01 15.5 +0.7
585nm,0.8s,baz=326,slow=8.7,SNR=1078
STKA pP **pP** 16 02 37.7 -2.2
190nm,0.7s,baz=317,slow=12,SNR=5.9
585nm,0.8s
STKA **Stephens Creek** 28.95 151 P **P** 16 01 15.5 +0.7
baz=29,SNR=1000
STKA **Stephens Creek** 28.95 151 P **P** 16 01 15.3 +0.5
STKA **Stephens Creek** 28.95 151 P **P** 16 01 16.0 +1.2
STKA **Stephens Creek** 28.95 151*c* *i*P **P** 16 01 15.6 +0.8
GSI **Gunungsitoli** 29.02 286 P **P** 16 01 14.6 -1.1
GSI **Gunungsitoli** 29.02 286 P **P** 16 01 16.5 +0.8
GSI **Gunungsitoli** 29.02 286 P **P** 16 01 15.1 -0.6
86nm,0.5s
RK1H **Rockhampton Ha** 29.05 127 P **P** 16 01 15.6 -0.2
HTT **Hallett** 29.08 156 P **P** 16 01 17.0 +1.0
baz=29,SNR=501
HTT **Hallett** 29.08 156 P **P** 16 01 17.3 +1.3
RMQ **Roma** 29.43 134 P **P** 16 01 19.6 +0.4
baz=30,SNR=66
RMQ **Roma** 29.43 134 P **P** 16 01 20.0 +0.8
KCSI **Kotacane, Aceh** 29.55 290 P **P** 16 01 19.1 -1.2
35nm,0.6s
GD1S **Gladstone Soft** 29.81 127 P **P** 16 01 22.6 +0.2
TWG **Pinlang** 29.98 352 P **P** 16 01 21.5 -2.4
SRIT **Nakonsritamara** 30.08 301 P **P** 16 01 26.3 +1.4
QIZ **Qiongzhong** 30.12 330 P **P** 16 01 25.6 +0.5
GHSS **Government Hou** 30.28 158 P **P** 16 01 27.4 +1.1
SURA **Surathani** 30.34 302 P **P** 16 01 28.4 +1.2
YULB **Yu-li** 30.51 352 P **P** 16 01 26.2 -2.3
YULB IAmb IAmb 16 01 30.8
comp=Z,46nm,0.7s
YULB **Yu-li** 30.51 352 P **P** 16 01 26.7 -1.8
TPUB **Ta-pu** 30.52 351 P **P** 16 01 27.4 -1.1
TPUB **Ta-pu** 30.52 351 P **P** 16 01 28.4 -0.1
EIDS **Eidsvold** 30.52 130 P **P** 16 01 27.5 -1.1
baz=31,SNR=19
EIDS **Eidsvold** 30.52 130 P **P** 16 01 27.3 -1.3
EIDS **Eidsvold** 30.52 130 P **P** 16 01 28.3 -0.3
SNSI **Sinabang, Aceh** 30.54 287 P **P** 16 01 29.1 +0.2
comp=Z,103nm,1.1s
AULRC **Lightning Ridg** 30.77 139 P **P** 16 01 31.9 +1.3
CMSA **Cobar Meteorol** 30.85 145 P **P** 16 01 32.4 +1.0
baz=31,SNR=1000
CMSA **Cobar Meteorol** 30.85 145 P **P** 16 01 32.9 +1.6
LHMI **Lhok Sumawe** 30.94 292 P **P** 16 01 31.6 -0.7
LHMI **Lhok Sumawe** 30.94 292 P **P** 16 01 33.5 +1.2
LHMI **Lhok Sumawe** 30.94 292 P **P** 16 01 32.7 +0.4
comp=Z,321nm,0.8s,comp=Z,3μm
SSLB **Suanglung** 30.95 352 P **P** 16 01 30.4 -1.8
SSLB IAmb IAmb 16 01 33.6
comp=Z,95nm,0.8s
SSLB **Suanglung** 30.95 352 P **P** 16 01 31.2 -1.1
MLSI **Meulaboh, Aceh** 31.08 290 P **P** 16 01 32.9 -0.7
comp=Z,143nm,0.6s
NACB **Ninganchiao** 31.25 353 P **P** 16 01 32.8 -1.9
NACB IAmb IAmb 16 01 35.4
comp=Z,63nm,0.9s
NACB **Ninganchiao** 31.25 353 P **P** 16 01 34.1 -0.7
YOJ **Yonaguni jima** 31.40 356 P **P** 16 01 34.6 -1.4
YOJ **Yonaguni jima** 31.40 356 P **P** 16 01 34.7 -1.4
YOJ pmax pmax
comp=Z,304nm,1.2s
YHNB **Yeheng** 31.76 353 P **P** 16 01 37.8 -1.5
YHNB **Yeheng** 31.76 353 P **P** 16 01 38.7 -0.6
NAYO **Nakonayok** 31.98 312 P **P** 16 01 42.1 +0.9
TATO **Taipei** 32.05 353 P **P** 16 01 39.9 -1.7
TATO IAmb IAmb 16 02 34.1
comp=Z,288nm,1.5s
TATO **Taipei** 32.05 353 P **P** 16 01 40.5 -1.1
KNMB **Chin-men Tao** 32.06 348 P **P** 16 01 41.2 -0.5
KNMB IAmb IAmb 16 01 42.5
comp=Z,69nm,0.8s
AUBSH **Beerwah State** 32.74 130 P **P** 16 01 47.8 +0.3
AUDCS **Dubbo College** 33.08 142 P **P** 16 01 52.0 +1.6
AUWSH **Wavell State H** 33.09 131 P **P** 16 01 51.8 +1.3
JMZ **Minamidaito 2** 33.14 10 P **P** 16 01 51.2 +0.3
JMZ **Minamidaito 2** 33.14 10 P **P** 16 01 52.0 +1.1
ARPS **Mount Arapiles** 33.16 156 P **P** 16 01 52.1 +1.1
baz=33,SNR=200
ARPS **Mount Arapiles** 33.16 156 P **P** 16 01 52.4 +1.4
NONG **Nongkai** 33.27 319 P **P** 16 01 52.9 +0.8
AUPHS **Peel High Scho** 33.76 138 P **P** 16 01 57.8 +1.6
JOW **Kunigami** 33.78 5 P **P** 16 01 55.9 -0.4
JOW IAmb IAmb 16 01 57.9
comp=Z,117nm,0.8s
JOW **Kunigami** 33.78 5 P **P** 16 01 57.3 +1.0
ARMA **Armidale** 33.83 137 P **P** 16 01 58.6 +1.8
baz=34,SNR=203
ARMA **Armidale** 33.83 137 P **P** 16 01 57.7 +0.9
ARMA IAmb IAmb 16 01 59.9
comp=Z,177nm,1.0s
ARMA **Armidale** 33.83 137 P **P** 16 01 59.0 +2.2
HNR **Honiara** 34.22 96 P **P** 16 02 01.0 +0.7
comp=Z,972nm,0.6s,baz=297,slow=4.5,SNR=12
HNR pP **pwP** 16 03 30.0 -0.4
comp=Z,1μm,0.8s,baz=299,slow=7.9,SNR=3.7
HNR S **S** 16 06 49.9 -1.2
comp=Z,2μm,0.9s,baz=91,slow=21,SNR=9.1
HNR **Honiara** 34.22 96 P **P** 16 02 00.7 +0.4
HNR IAmb IAmb 16 03 34.8
comp=Z,146nm,0.9s
HNR **Honiara** 34.22 96 P **P** 16 02 00.7 +0.4
HNR **Honiara** 34.22 96 P **P** 16 02 01.0 +0.7
HNR *PP **pwP** 16 03 30.0 -0.4
AUHPC **Hawkesdale P12** 34.51 156 P **P** 16 02 04.7 +2.4
BRAT **Ballarat** 34.71 154 P **P** 16 02 05.2 +1.2
MLBS **Spotswood, Mel** 35.37 153 P **P** 16 02 11.8 +2.3
GEXS **Deakin Univers** 35.41 154 P **P** 16 02 11.9 +2.1
SYDH **Sydney Hard Ro** 35.42 142 P **P** 16 02 12.7 +2.7
TOO **Toolangi** 35.44 152 P **P** 16 02 12.1 +2.0
baz=36,SNR=246
TOO **Toolangi** 35.44 152 P **P** 16 02 11.8 +1.7
TOO **Toolangi** 35.44 152 P **P** 16 02 12.4 +2.3
TOO **Toolangi** 35.44 152 P **P** 16 02 11.8 +1.7
TOO pmax pmax
comp=Z,478nm,1.3s
NTLH **Newcastle Hard** 35.45 140 P **P** 16 02 12.4 +2.2
PHRA **Phrae** 35.53 316 P **P** 16 02 12.1 +0.9
CNB **Canberra Magne** 35.70 145 P **P** 16 02 14.3 +1.9
WOLH **Wollongong Har** 35.94 143 P **P** 16 02 16.4 +2.1
AUSMG **Snowy Mountain** 36.10 147 P **P** 16 02 13.7 -2.0
AUUHS **Ulladulla High** 36.37 144 P **P** 16 02 19.9 +2.1
CM31 **Chiang Mai Arr** 36.41 314 P **P** 16 02 19.2 +0.8
CM31 IAmb IAmb 16 02 20.6
comp=Z,56nm,0.8s
CM31 **Chiang Mai Arr** 36.41 314 P **P** 16 02 20.0 +1.6
CM31 S **S** 16 07 24.7 +0.9
CMAR **Chiang Mai Arr** 36.41 314 P **P** 16 02 19.0 +0.6
comp=Z,34nm,0.7s,baz=144,slow=6.8,SNR=50
CMAR pP **pP** 16 03 47.6 +0.4
comp=Z,2.8nm,0.7s,baz=133,slow=6.3,SNR=1.6
CMAR PcP **PcP** 16 04 30.6 +1.3
comp=Z,16nm,0.8s,baz=165,slow=2.5,SNR=10
CMAR ScP **ScP** 16 07 28.4 +0.4
comp=Z,10nm,1.0s,baz=163,slow=3.1,SNR=9.1
CMAR PKiKP **PKiKP** 16 11 47.2 +0.2
comp=Z,0.5nm,0.3s,baz=256,slow=1.6,SNR=4.1
comp=Z,34nm,0.7s
CMAR **Chiang Mai Arr** 36.41 314 P **P** 16 02 18.9 +0.6
AUSSC **Sale College,** 36.61 151 P **P** 16 02 22.0 +2.2
CRAI **Chiangrai** 36.64 318 P **P** 16 02 20.8 +0.5
CHTO **Chiang Mai** 36.64 315 P **P** 16 02 20.2 -0.1
CHTO **Chiang Mai** 36.64 315 P **P** 16 02 20.2 -0.1
CHTO pmax pmax
comp=Z,2.0nm,0.8s
MILA **Mila** 36.87 148 P **P** 16 02 23.4 +1.4
baz=37,SNR=53
MILA **Mila** 36.87 148 P **P** 16 02 23.6 +1.6
CNSH **ChangSha** 37.04 341 ⇑P **P** 16 02 22.5 -0.9
CNSH S **S** 16 07 34.0 +1.1
CNSH pmax pmax
comp=Z,71nm,0.7s
JCJ **Chichijima** 37.61 25 P **P** 16 02 31.1 +2.9
comp=Z,1μm,0.8s,baz=275,slow=6.6,SNR=32
JCJ **Chichijima** 37.61 25 P **P** 16 02 27.0 -1.2
JCJ **Chichijima** 37.61 25 P **P** 16 02 29.2 +1.1
GYA **Guiyang** 37.96 332 ⇓P **P** 16 02 32.0 +0.8
GYA pP pwP 16 04 03.3 -0.9
GYA PcP **PcP** 16 04 36.3 +2.1
GYA S **S** 16 07 45.0 -1.9
GYA sS sS 16 10 33.5 +4.4
GYA ScS **ScS** 16 11 44.3 -0.9
GYA pmax pmax
comp=Z,56nm,0.6s
GYA pmax pmax
comp=Z,190nm,4.7s
JSU **Suzuyama** 38.62 7 P **P** 16 02 36.5 +0.1
JSU **Suzuyama** 38.62 7 P **P** 16 02 37.2 +0.8
WHN **Wuhan** 38.85 345 ⇓P **P** 16 02 39.5 +1.3
WHN pP **pwP** 16 04 11.0 -2.2
WHN S **S** 16 08 00.3 +0.7
WHN pmax pmax
comp=Z,340nm,1.0s
KMI **Kunming** 38.86 326 ⇑P **P** 16 02 40.0 +1.3
KMI pP pP 16 04 13.0 +4.7
KMI PP **PP** 16 04 23.5 +0.5
KMI S **S** 16 08 01.5 +1.0
KMI pmax pmax
comp=Z,30nm,0.6s
AULHS **Lilydale High** 39.20 154 P **P** 16 02 42.9 +2.0
CORO **Coronation Par** 39.33 154 P **P** 16 02 43.8 +1.9
GLAD **Gladstone** 39.34 153 P **P** 16 02 43.5 +1.5
NJ2 **Nanjing** 39.38 351 ⇓*i*P **P** 16 02 43.5 +1.1
NJ2 pP **pP** 16 04 12.8 +1.6
NJ2 PP **PP** 16 04 31.8 +3.8
NJ2 PcP **PcP** 16 04 39.3 +0.9
NJ2 ScP **ScP** 16 07 40.0 +1.0
NJ2 S **S** 16 08 06.5 -0.8
NJ2 pmax pmax
comp=Z,120nm,0.8s
LHI **Lord Howe Isla** 39.72 132 P **P** 16 02 46.4 +1.2
baz=40,SNR=8.8
LHI **Lord Howe Isla** 39.72 132 P **P** 16 02 46.0 +0.7
LHI IAmb IAmb 16 02 47.1
comp=Z,101nm,0.7s
KOUNC **Koumac, New Ca** 39.92 114 P **P** 16 02 47.3 +0.3
ENH **Enshi** 40.13 338 P **P** 16 02 48.5 -0.1
ENH IAmb IAmb 16 02 50.1
comp=Z,121nm,0.7s
ENH **Enshi** 40.13 338 P **P** 16 02 49.1 +0.5
MOO **Moorlands** 40.16 155 P **P** 16 02 50.7 +2.1
baz=40,SNR=18
MOO **Moorlands** 40.16 155 P **P** 16 02 50.4 +1.8
JNU **Nakatsue** 40.27 7 P **P** 16 02 49.8 +0.1
comp=Z,73nm,0.8s,baz=144,slow=3.5,SNR=41
comp=Z,73nm,0.8s
JNU **Nakatsue** 40.27 7 P **P** 16 02 49.8 +0.1
JNU IAmb IAmb 16 02 51.1
comp=Z,105nm,0.9s
JNU **Nakatsue** 40.27 7 P **P** 16 02 50.6 +0.9
PZH **PanZhiHua** 40.50 326 P **P** 16 02 52.5 +0.7
PZH pP **pP** 16 04 27.0 +4.6
PZH PP **PP** 16 04 39.5 -0.3
PZH S **S** 16 08 21.3 -2.9
PZH ScS **ScS** 16 12 00.0 -0.4
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,100nm,7.6s
TAU **Tasmania Unive** 40.60 155 P **P** 16 02 53.4 +1.3
TAU IAmb IAmb 16 02 54.9
comp=Z,163nm,0.9s
TAU **Tasmania Unive** 40.60 155 P **P** 16 02 54.3 +2.2
TAU **Tasmania Unive** 40.60 155 P **P** 16 02 53.4 +1.3
TAU pmax pmax
comp=Z,163nm,0.9s
MND **Mandalay** 40.74 316 P **P** 16 02 54.6 +1.0
TNCH **TengChong** 41.27 321 ⇑P **P** 16 02 58.8 +0.8
TNCH pP pP 16 04 30.5 +1.2
TNCH PcP **PcP** 16 04 46.0 +1.0
TNCH sP sP 16 05 25.3 -0.8
TNCH S **S** 16 08 37.0 +1.5
TNCH SS **SS** 16 11 55.0 -5.0
TNCH pmax pmax
comp=Z,22nm,0.7s
TNCH pmax pmax
comp=Z,98nm,4.0s
JMN **Monobe** 41.32 11 P **P** 16 02 58.6 +0.5
JMN **Monobe** 41.32 11 P **P** 16 02 59.7 +1.6
JTU **Tsushima** 41.50 5 P **P** 16 03 01.7 +2.3
NOUC **Port Laguerre** 42.12 115 P **P** 16 03 05.4 +0.8
DZM **Mont Dzumac** 42.24 115 P **P** 16 03 06.2 +0.6
comp=Z,37nm,0.6s,baz=251,slow=9.9,SNR=43
DZM S **S** 16 08 47.6 -2.0
comp=Z,11nm,1.1s,baz=144,slow=21,SNR=2.3
comp=Z,37nm,0.6s
DZM **Mont Dzumac** 42.24 115 P **P** 16 03 06.0 +0.4
DZM **Mont Dzumac** 42.24 115 P **P** 16 03 06.7 +1.0
ONTNC **Ouen Toro** 42.31 115 P **P** 16 03 06.3 +0.2
ONTNC IAmb IAmb 16 03 07.5
comp=Z,86nm,0.9s
ONTNC **Ouen Toro** 42.31 115 P **P** 16 03 07.2 +1.1
JHS **Saijyo** 42.43 9 P **P** 16 03 07.4 +0.6
JHS **Saijyo** 42.43 9 P **P** 16 03 08.1 +1.3
YATNC **Mamie plateau,** 42.64 115 P **P** 16 03 10.1 +1.4
OUENC **Ouen Island, N** 42.68 116 P **P** 16 03 09.8 +0.8
OUENC IAmb IAmb 16 03 11.1
comp=Z,100nm,1.0s
OUENC **Ouen Island, N** 42.68 116 P **P** 16 03 10.0 +1.0
CD2 **Chengdu** 43.07 332 P **P** 16 03 12.5 +0.6
CD2 pmax pmax
comp=Z,130nm,0.5s
LYN **LuoYang** 43.15 344 ⇓*i*P **P** 16 03 12.8 +0.4
LYN pP pwP 16 04 47.3 -2.2
LYN PcP **PcP** 16 04 52.3 +1.4
LYN ScP **ScP** 16 07 55.3 +1.2
LYN S **S** 16 08 59.8 -2.0
LYN ScS **ScS** 16 12 16.0 -0.2
LYN pmax pmax
comp=Z,35nm,1.1s
LYN pmax pmax
comp=Z,140nm,4.3s
JSG **Sagara** 43.20 15 P **P** 16 03 13.7 +0.9
TJN **Taejon** 43.22 2 P **P** 16 03 13.4 +0.5
TJN **Taejon** 43.22 2 P **P** 16 03 14.2 +1.3
TJN **Taejon** 43.22 2*ce* P **P** 16 03 13.7 +0.8
PINNC **Pines Island,** 43.27 116 P **P** 16 03 14.4 +0.8
PINNC IAmb IAmb 16 03 22.9
comp=Z,103nm,1.1s
MARNC **Mare, Loyalty** 43.54 114 P **P** 16 03 16.4 +0.7
MARNC **Mare, Loyalty** 43.54 114 P **P** 16 03 17.4 +1.7
INU **Inuyama** 43.55 14 P **P** 16 03 15.5 0.0
INU IAmb IAmb 16 03 16.7
comp=Z,65nm,0.6s
INU **Inuyama** 43.55 14 P **P** 16 03 16.2 +0.7
TIA **Tai'an** 43.72 350 P **P** 16 03 16.5 -0.4
TIA pmax pmax
comp=Z,32nm,0.6s
XAN **Xi'an** 43.75 340 ⇓P **P** 16 03 17.0 -0.2
XAN PcP **pwP** 16 04 54.5 -0.3
XAN ScP **ScP** 16 07 57.0 -0.4
XAN S **S** 16 09 07.5 -3.1
XAN ScS **ScS** 16 12 19.0 -1.2
XAN pmax pmax
comp=Z,120nm,0.8s
JGF **Kuroka** 43.87 14 P **P** 16 03 18.4 +0.4
JGF IAmb IAmb 16 03 19.6
comp=Z,77nm,0.8s
JGF **Kuroka** 43.87 14 P **P** 16 03 18.8 +0.7
INCN **Inchon** 44.30 1 P **P** 16 03 21.7 +0.3
INCN IAmb IAmb 16 03 23.3
comp=Z,92nm,0.9s
INCN **Inchon** 44.30 1 P **P** 16 03 22.3 +0.9
INCN **Inchon** 44.30 1 P **P** 16 03 21.7 +0.3
INCN pmax pmax
comp=Z,92nm,0.9s
KSAR **Wonju Array Be** 44.31 3 P **P** 16 03 21.9 +0.5
KSAR **Wonju Array Be** 44.31 3 P **P** 16 03 21.9 +0.5
KSRS **Korea Array** 44.32 3 P **P** 16 03 22.2 +0.8
comp=Z,43nm,0.8s,baz=181,slow=9.3,SNR=124
KSRS PcP **PcP** 16 04 55.6 +0.8
comp=Z,18nm,0.7s,baz=183,slow=3.2,SNR=17
KSRS ScP **ScP** 16 07 59.3 +0.5
comp=Z,2.5nm,0.7s,baz=187,slow=4.7,SNR=3.8
comp=Z,43nm,0.8s
BRDH **Bariadhala** 44.35 313 P **P** 16 03 22.9 +0.9
comp=Z,160nm,0.3s,baz=90,slow=7.8,SNR=6.5
comp=Z,160nm,0.3s
KS19 **Wonju Array Si** 44.37 3 P **P** 16 03 22.3 +0.5
HJU **Haeju** 44.85 0 P **P** 16 03 26.3 +0.8
HJU pP **PcP** 16 04 54.3 -2.4
HJU S **S** 16 09 24.4 -1.5
HJU AmB
comp=Z,40nm,0.6s
KWAJ **Kwajalein Atol** 44.88 70 P **P** 16 03 26.6 +0.4
KWAJ **Kwajalein Atol** 44.88 70 P **P** 16 03 26.6 +0.4
KWAJ pmax pmax
comp=Z,544nm,1.3s
MJAR **Matsushiro Arr** 44.97 15 P **P** 16 03 26.5 -0.1
comp=Z,149nm,0.7s,baz=190,slow=8.7,SNR=315
MJAR PcP **PcP** 16 04 57.7 +0.5
comp=Z,16nm,0.9s,baz=186,slow=3.4,SNR=4.6
MJAR ScP **ScP** 16 08 02.1 +0.5
comp=Z,2.5nm,0.7s,baz=175,slow=5.6,SNR=3.4
MJAR S **S** 16 09 26.0 -1.8
comp=Z,0.9nm,0.6s,baz=220,slow=9.3,SNR=2.9
comp=Z,149nm,0.7s
MAJO **Matsushiro** 44.97 15 P **P** 16 03 26.2 -0.4
MAJO **Matsushiro** 44.97 15 P **P** 16 03 26.5 -0.1
MAJO **Matsushiro** 44.97 15*d* *i*P **P** 16 03 26.4 -0.1
MAJO pmax pmax
comp=Z,210nm,0.8s
MJB9 **Matsu-Tunnel** 44.98 15 P **P** 16 03 26.7 +0.1
HNS **HongShan** 45.33 348 ⇓P **P** 16 03 29.5 +0.3
HNS pP **PcP** 16 04 59.3 +0.9

HNS				ScP	**ScP**	**16 08 04.0 +1.0**	GTA			pP	pwP	16 05 59.0 -1.9	TYV			pmax	pmax	
HNS				S	**S**	**16 09 31.0 -1.7**	GTA			ScP	**ScP**	**16 08 32.8 +1.4**		comp=Z,500nm,3.0s				
HNS				ScS	**ScS**	**16 12 30.3 +0.2**	GTA			S	**S**	**16 11 02.5 -1.4**	TYV			pmax	pmax	
HNS				pmax	pmax		GTA			ScS	**ScS**	**16 13 15.5 0.0**		comp=Z,64nm,1.2s				
	comp=Z,120nm,0.9s						GTA			SS	**SS**	**16 14 59.8 +10**	TYV			smax	smax	
DL2	**Dalian**	**45.85**	**356**	⇑P	**P**		GTA			pmax	pmax			comp=N,100nm,5.7s				
DL2				PcP	**PcP**	**16 05 01.0 +0.8**		comp=Z,46nm,1.2s					TYV			smax	smax	
DL2				S	**S**	**16 09 39.0 -0.9**	GTA			pmax	pmax			comp=E,200nm,5.7s				
DL2				pmax	pmax			comp=Z,130nm,5.5s					**CIT**	**Chita**	**59.70**	**352**	*e*P	**P**	**16 05 13.7 +1.5**
	comp=Z,110nm,0.8s						**KKN**	**Kakani**	**52.01**	**314**	*e*P	**P**	**16 04 19.8 +0.4**	CIT			*e*		16 05 54.3
PYAG	**Pyongyang**	**45.85**	**0**	P	**P**	**16 03 34.1 +0.9**		comp=Z,233nm,0.6s					CIT			pmax	pmax	
PYAG				S	**S**	**16 09 39.0 -1.0**	**DMN**	**Daman**	**52.03**	**313**	*e*P	**P**	**16 04 20.0 +0.4**		comp=Z,115nm,1.5s				
PYAG				AmB				comp=Z,223nm,0.7s					**CASY**	**Casey**	**60.04**	**187**	P	**P**	**16 05 14.9 +0.7**
	comp=Z,166nm,0.9s						**HYB**	**Hyderabad**	**52.31**	**298**	*e*P	**P**	**16 04 21.2 -0.4**	**ZAK**	**Zakamensk**	**60.33**	**344**	*e*P	**P**	**16 05 16.5 0.0**
TIY	**Taiyuan**	**46.15**	**346**	*e*P	**P**	**16 03 35.5 -0.1**	HYB			IVmB_BB		16 04 21.4	ZAK			*e*		16 06 55.5
TIY				S	**S**	**16 09 40.3 -4.0**		comp=Z,332nm,0.5s					ZAK			*e*		16 06 54.5
TIY				pmax	pmax		HYB			*e*ScP	**ScP**	**16 08 33.1 -0.3**		comp=Z,22nm,0.9s				
	comp=Z,32nm,0.6s						HYB			*e*S	**S**	**16 11 09.9 +0.7**	ZAK			pmax	pmax	
TIY				pmax	pmax		HYB			*e*		16 12 00.4		comp=Z,16nm,1.0s				
	comp=Z,97nm,4.9s						HYB			*e*ScS	**ScS**	**16 13 18.9 +0.2**	ZAK			pmax	pmax	
JSD	**Sado**	**46.41**	**14**	P	**P**	**16 03 37.7 +0.2**	**MSVF**	**Nonsavu**	**52.31**	**107**	P	**P**	**16 04 21.7 +0.1**		comp=Z,8.0nm,1.1s				
JSD	**Sado**	**46.41**	**14**	P	**P**	**16 03 38.6 +1.1**		comp=Z,13nm,0.9s,baz=280,slow=13,SNR=6.0					**ZEA**	**Zeya**	**60.56**	**1**	*e*P	**P**	**16 05 18.3 +0.5**
PALK	**Pallekele**	**46.84**	**287**	P	**P**	**16 03 40.6 -0.6**		comp=Z,13nm,0.9s					ZEA				pmax	pmax	
PALK	**Pallekele**	**46.84**	**287**	P	**P**	**16 03 40.6 -0.6**	**H08S2**	**Diego Garcia H**	**52.49**	**266**	P	**P**	**16 04 23.4 +0.8**		comp=N,30nm,0.8s				
PALK				pmax	pmax			baz=61,slow=12,SNR=4.3					ZEA			pmax	pmax	
	comp=Z,30nm,0.9s						**H08S3**	**Diego Garcia H**	**52.50**	**266**	P	**P**	**16 04 23.7 +1.0**		comp=Z,60nm,1.1s				
PALK	**Pallekele**	**46.84**	**287**	P	**P**	**16 03 41.2 0.0**		baz=61,slow=12,SNR=2.8					**WMQ**	**Urumqi**	**61.05**	**330**	*e*P	**P**	**16 05 24.0 +2.7**
JMM	**Marumori**	**46.91**	**17**	P	**P**	**16 03 41.8 +0.5**	**H08S1**	**Diego Garcia H**	**52.51**	**266**	P	**P**	**16 04 23.6 +0.9**	**NKL**	**Nikolayevsk**	**61.34**	**10**	*e*P	**P**	**16 05 20.9 -2.0**
JMM	**Marumori**	**46.91**	**17**	P	**P**	**16 03 42.4 +1.1**		baz=61,slow=12,SNR=6.2					NKL				*e*S	**S**	**16 13 04.5 +0.6**
SUJ	**Sinuiju**	**46.91**	**359**	P	**P**	**16 03 41.1 -0.1**	**DGAR**	**Diego Garcia**	**52.55**	**266**	*ce*P	**P**	**16 04 24.7 +1.4**	NKL			pmax	pmax	
SUJ				S	**S**	**16 09 52.8 -2.0**	DGAR			pmax	pmax			comp=E,148nm,0.5s				
SUJ				AmB				comp=Z,88nm,1.3s					NKL			pmax	pmax	
	comp=Z,282nm,1.8s						**DGAR**	**Diego Garcia**	**52.55**	**266**	P	**P**	**16 04 25.2 +1.9**		comp=N,241nm,1.1s				
LZH	**Lanzhou**	**47.46**	**336**	⇓P	**P**	**16 03 47.0 +1.3**	**DCZ**	**Deep Cove**	**52.56**	**144**	P	**P**	**16 04 23.2 +0.4**	NKL			pmax	pmax	
LZH				ScP	**ScP**	**16 08 13.5 +1.3**	**BNX**	**BinXian**	**52.57**	**2**	⇑P	**P**	**16 04 23.0 +0.2**		comp=Z,700nm,1.2s				
LZH				S	**S**	**16 10 02.3 -0.5**	BNX			pmax	pmax		NKL			smax	smax	
LZH				SS	**SS**	**16 13 38.8 -0.4**		comp=Z,72nm,1.0s						comp=E,431nm,3.9s				
LZH				pmax	pmax		BNX			pmax	pmax		NKL			smax	smax	
	comp=Z,160nm,1.0s							comp=Z,260nm,5.0s						comp=N,69nm,3.5s				
LZH				pmax	pmax		**GKN**	**Gorkha**	**52.59**	**313**	*e*P	**P**	**16 04 24.0 +0.4**	**IRK**	**Irkutsk**	**61.76**	**345**	*e*P	**P**	**16 05 26.0 +0.3**
	comp=Z,250nm,4.6s						**JCZ**	**Jackson Bay**	**52.80**	**142**	P	**P**	**16 04 27.5 +2.8**	IRK			pmax	pmax	
BJT	**Baijiatuan**	**47.60**	**350**	P	**P**	**16 03 46.4 -0.1**	**TEY**	**Ternei**	**52.80**	**10**	⇑*i*P	**P**	**16 04 25.3 +0.8**		comp=Z,740nm,1.7s				
BJT				IAmb	IAmb	16 03 47.5	TEY			pmax	pmax		**MOY**	**Mondy**	**62.13**	**343**	*e*P	**P**	**16 05 29.6 +1.3**
	comp=Z,166nm,1.8s							comp=N,200nm,1.0s					MOY			pmax	pmax	
BJT	**Baijiatuan**	**47.60**	**350**	P	**P**	**16 03 46.5 +0.1**	TEY			pmax	pmax			comp=Z,75nm,2.8s				
BJT	**Baijiatuan**	**47.60**	**350**	P	**P**	**16 03 46.4 -0.1**		comp=Z,300nm,1.1s					**SKR**	**Severo-Kuril's**	**63.31**	**21**	*ce*P	**P**	**16 05 35.5 -0.2**
BJT				pmax	pmax		TEY			pmax	pmax		**ZSN**	**Zaisan**	**65.02**	**331**	*e*P	**P**	**16 05 47.6 +0.7**
	comp=Z,166nm,1.8s							comp=N,120nm,0.8s						baz=331				
BJI	**Beijing**	**47.62**	**350**	P	**P**	**16 03 46.0 -0.6**	TEY			pmax	pmax		ZSN			*e*S	**S**	**16 13 49.8 +0.6**
BJI				PcP	**PcP**	**16 05 07.8 +1.3**		comp=Z,250nm,0.8s						baz=331				
BJI				pP	**pP**	**16 05 19.3 -0.7**	**KAAM**	**Kaadhehdhoo**	**52.85**	**276**	P	**P**	**16 04 26.5 +1.0**	**ZSN**	**Zaisan**	**65.02**	**331**	*e*P	**P**	**16 05 47.5 +0.7**
BJI				ScP	**ScP**	**16 08 14.0 +1.4**	**MLZ**	**Mavora Lakes**	**53.08**	**143**	P	**P**	**16 04 26.9 +0.3**	ZSN			*e*S	**S**	**16 13 49.7 +0.6**
BJI				pmax	pmax		**FOZ**	**Fox Glacier**	**53.16**	**141**	P	**P**	**16 04 27.5 +0.3**	**KSH**	**Kashi**	**65.05**	**320**	P	**P**	**16 05 48.0 +0.7**
	comp=Z,21nm,1.2s						FOZ				IAmb	IAmb	16 06 33.0	KSH				PcP	**PcP**	**16 06 14.3 -0.9**
H11S3	**WAKE ISLAND Hy**	**47.94**	**57**	P	**P**	**16 03 49.6 +0.4**		comp=Z,197nm,1.3s					KSH				S	**S**	**16 13 50.8 +0.7**
	baz=234,slow=7.4,SNR=6.3						**KOLN**	**Koldanda**	**53.22**	**312**	*e*P	**P**	**16 04 28.5 +0.4**	KSH			pmax	pmax	
H11S2	**WAKE ISLAND Hy**	**47.95**	**57**	P	**P**	**16 03 49.5 +0.2**		comp=Z,455nm,0.8s						comp=Z,32nm,0.6s				
	baz=234,slow=7.4,SNR=5.8						**ASAJ**	**Asahikawa**	**53.23**	**15**	P	**P**	**16 04 27.9 +0.3**	**SHLS**	**Shalkode**	**65.05**	**325**	⇓*i*P	**P**	**16 05 47.0 -0.2**
H11S1	**WAKE ISLAND Hy**	**47.96**	**57**	P	**P**	**16 03 49.8 +0.5**	ASAJ			pmax	pmax			baz=325				
	baz=234,slow=7.4,SNR=5.7							comp=Z,120nm,0.8s					SHLS			*e*S	**S**	**16 13 48.2 -1.8**
SNY	**Shenyang**	**48.66**	**358**	⇓P	**P**	**16 03 54.5 +0.2**	**JKA**	**Kamikawa-asahi**	**53.23**	**15**	P	**P**	**16 04 27.9 +0.3**		baz=325				
SNY				S	**S**	**16 10 17.0 -1.8**	JKA				IAmb	IAmb	16 04 29.6	**SHLS**	**Shalkode**	**65.05**	**325**	*d*i P	**P**	**16 05 47.0 -0.2**
SNY				pmax	pmax			comp=Z,120nm,0.8s					SHLS			*e*S	**S**	**16 13 48.1 -1.8**
	comp=Z,230nm,0.7s						**WHZ**	**Wether Hill Ro**	**53.26**	**144**	P	**P**	**16 04 28.2 +0.4**	**UZB**	**Uzynbulak**	**65.30**	**324**	*e*P	**P**	**16 05 49.8 +1.0**
SNY				pmax	pmax		WHZ				IAmb	IAmb	16 04 29.2		baz=324				
	comp=Z,450nm,5.1s							comp=Z,102nm,0.7s					UZB			*e*S	**S**	**16 13 53.3 +0.3**
H11N1	**WAKE ISLAND Hy**	**48.69**	**56**	P	**P**	**16 03 55.6 +0.9**	**WKZ**	**Wanaka**	**53.33**	**142**	P	**P**	**16 04 29.0 +0.6**		baz=324				
	baz=236,slow=8.9,SNR=8.1						WKZ				IAmb	IAmb	16 05 24.7	**UZB**	**Uzynbulak**	**65.30**	**324**	*e*P	**P**	**16 05 49.8 +1.0**
H11N2	**WAKE ISLAND Hy**	**48.70**	**56**	P	**P**	**16 03 56.4 +1.6**		comp=Z,301nm,1.8s					UZB			*e*S	**S**	**16 13 53.3 +0.3**
	baz=236,slow=8.9,SNR=5.4						**DANN**	**Dangsing**	**53.43**	**313**	*e*P	**P**	**16 04 30.5 +0.8**	**BOD**	**Bodaibo**	**65.30**	**353**	*e*P	**P**	**16 05 48.7 +0.4**
H11N3	**WAKE ISLAND Hy**	**48.71**	**56**	P	**P**	**16 03 55.3 +0.4**		comp=Z,352nm,0.7s					BOD			pmax	pmax		
	baz=236,slow=8.9,SNR=7.6						**DSZ**	**Denniston Nort**	**53.61**	**138**	P	**P**	**16 04 31.6 +1.1**		comp=Z,113nm,0.9s				
LSA	**Lhasa**	**49.20**	**320**	P	**P**	**16 04 00.5 +1.4**	DSZ				IAmb	IAmb	16 04 33.4	**DGZ**	**Jazzator, Alta**	**65.47**	**334**	*d*i P	**P**	**16 05 50.4 +0.7**
LSA				pmax	pmax			comp=Z,152nm,1.2s					DGZ			pmax	pmax		
	comp=Z,13nm,0.4s						**QRZ**	**Quartz Range**	**53.69**	**136**	P	**P**	**16 04 32.5 +1.4**		comp=Z,26nm,0.7s				
LSA	**Lhasa**	**49.20**	**320**	P	**P**	**16 03 60.0 +0.8**	QRZ				IAmb	IAmb	16 04 33.7	**SATY**	**Saty**	**65.61**	**324**	*e*P	**P**	**16 05 52.0 +1.3**
LSA				IAmb	IAmb	16 04 01.9		comp=Z,139nm,1.2s						comp=Z,13nm,0.6s,baz=324				
	comp=Z,101nm,0.7s						**INZ**	**Inchbonnie**	**53.82**	**139**	P	**P**	**16 04 32.3 +0.4**	**SATY**	**Saty**	**65.61**	**324**	*e*P	**P**	**16 05 52.0 +1.3**
LSA	**Lhasa**	**49.20**	**320**	P	**P**	**16 04 00.0 +0.8**	INZ				IAmb	IAmb	16 04 36.7	SATY			pmax	pmax		
LSA				pmax	pmax			comp=Z,225nm,1.6s						comp=Z,13nm,0.6s				
	comp=Z,101nm,0.7s						**LBZ**	**Lake Benmore**	**53.82**	**141**	P	**P**	**16 04 32.1 +0.2**	**ZHN**	**Zhinishke**	**65.66**	**324**	*e*P	**P**	**16 05 51.6 +0.6**
LSA	**Lhasa**	**49.20**	**320**	P	**P**	**16 04 00.7 +1.6**	**RPZ**	**Rata Peaks**	**54.04**	**140**	P	**P**	**16 04 34.3 +0.9**		baz=324				
HHC	**Hu-ho-hao-te**	**49.33**	**346**	*e*P	**P**	**16 03 59.8 +0.3**		comp=Z,313nm,0.8s,baz=308,slow=3.9,SNR=57					**ZHN**	**Zhinishke**	**65.66**	**324**	*e*P	**P**	**16 05 51.6 +0.6**
HHC				S	**S**	**16 10 29.5 +1.1**		comp=Z,313nm,0.8s					**KPKS**	**Kokpek**	**65.69**	**324**	⇓*i*P	**P**	**16 05 52.3 +1.1**
HHC				pmax	pmax		**RPZ**	**Rata Peaks**	**54.04**	**140**	P	**P**	**16 04 34.2 +0.8**		comp=Z,16nm,0.8s,baz=324				
	comp=Z,52nm,1.0s						**TKNZ**	**Takaka Hill**	**54.08**	**136**	P	**P**	**16 04 34.6 +0.9**	KPKS			*e*S	**S**	**16 13 58.3 +0.8**
HHC				pmax	pmax		**MRNZ**	**Matariki Terra**	**54.09**	**137**	P	**P**	**16 04 34.5 +0.6**		baz=324				
	comp=Z,310nm,6.2s						**THZ**	**Tophouse**	**54.35**	**137**	P	**P**	**16 04 36.5 +0.7**	**KPKS**	**Kokpek**	**65.69**	**324**	*d*i P	**P**	**16 05 52.3 +1.1**
BTO	**Baotou**	**49.49**	**345**	*e*P	**P**	**16 04 00.8 +0.1**	THZ				IAmb	IAmb	16 04 37.5	KPKS			*e*S	**S**	**16 13 58.3 +0.8**
BTO				S	**S**	**16 10 30.5 0.0**		comp=Z,96nm,0.7s					KPKS			pmax	pmax		
JTM	**Tenmabayashi**	**49.71**	**16**	P	**P**	**16 04 02.8 +0.6**	**KUZ**	**Kuaotunu**	**54.41**	**131**	P	**P**	**16 04 37.8 +1.6**		comp=Z,16nm,0.8s				
JTM	**Tenmabayashi**	**49.71**	**16**	P	**P**	**16 04 03.3 +1.1**	**ODZ**	**Otahua Downs**	**54.43**	**142**	P	**P**	**16 04 36.4 +0.2**	**MK31**	**Makanchi Array**	**65.85**	**329**	P	**P**	**16 05 52.5 +0.5**
ODAN	**Odare**	**49.95**	**314**	*e*P	**P**	**16 04 05.0 +0.5**	ODZ				IAmb	IAmb	16 04 37.2	**MK31**	**Makanchi Array**	**65.85**	**329**	P	**P**	**16 05 52.6 +0.5**
	comp=Z,340nm,0.7s							comp=Z,270nm,1.8s					MK31			pmax	pmax		
TAPN	**Taplejung**	**50.01**	**315**	*e*P	**P**	**16 04 05.5 +0.5**	**NNZ**	**Nelson**	**54.44**	**136**	P	**P**	**16 04 37.0 +0.7**		comp=Z,34nm,0.8s				
	comp=Z,193nm,0.4s						**OXZ**	**Oxford**	**54.48**	**139**	P	**P**	**16 04 36.8 +0.2**	**MKAR**	**Makanchi Array**	**65.85**	**329**	P	**P**	**16 05 52.6 +0.5**
RAMN	**Ramite**	**50.56**	**314**	*e*P	**P**	**16 04 09.9 +0.9**	**BSWZ**	**Blackbirch Sta**	**54.99**	**137**	P	**P**	**16 04 40.5 +0.3**		comp=Z,40nm,0.6s,baz=130,slow=7.8,SNR=417				
	comp=Z,409nm,0.6s						**TCW**	**Tory Channel**	**55.05**	**136**	P	**P**	**16 04 40.7 +0.1**	MKAR			pP	**pP**	**16 07 34.7 +0.6**
CN2	**Changchun**	**50.60**	**0**	*e*P	**P**	**16 04 08.5 -0.1**	**MQZ**	**McQueen's Vall**	**55.06**	**140**	P	**P**	**16 04 41.2 +0.6**		comp=Z,3.4nm,0.7s,baz=121,slow=5.9,SNR=1.9				
CN2				pmax	pmax		MQZ				IAmb	IAmb	16 04 42.4	MKAR			S	**S**	**16 13 58.5 -0.7**
	comp=Z,30nm,0.5s							comp=Z,302nm,1.7s						comp=Z,1.1nm,0.8s,baz=129,slow=13,SNR=7.4				
JIRN	**Jiri**	**51.28**	**314**	*e*P	**P**	**16 04 14.7 +0.3**	**KHZ**	**Kahutara**	**55.06**	**138**	P	**P**	**16 04 41.0 +0.4**		comp=Z,40nm,0.6s				
	comp=Z,192nm,0.6s						KHZ				IAmb	IAmb	16 04 42.0	**PEA0B**	**Petropavlovsk-**	**65.86**	**21**	P	**P**	**16 05 52.8 +0.9**
USA0B	**Ussuriysk Arra**	**51.34**	**6**	P	**P**	**16 04 14.3 +0.3**		comp=Z,90nm,0.8s					**PEA0B**	**Petropavlovsk-**	**65.86**	**21**	*ce*P	**P**	**16 05 53.3 +1.4**
USA0B				IAmb	IAmb	16 04 15.7	**MRZ**	**Mangatainoka R**	**55.74**	**135**	P	**P**	**16 04 45.2 -0.2**	**PETK**	**Petropavlovsk-**	**65.86**	**21**	P	**P**	**16 05 52.4 +0.5**
	comp=Z,90nm,0.7s						**BKZ**	**Black Stump Fm**	**55.83**	**133**	P	**P**	**16 04 46.5 +0.3**		comp=Z,106nm,0.7s,baz=206,slow=4.6,SNR=228				
USA0B	**Ussuriysk Arra**	**51.34**	**6**	P	**P**	**16 04 14.3 +0.3**	**BKZ**	**Black Stump Fm**	**55.83**	**133**	P	**P**	**16 04 46.7 +0.5**	PETK			PcP	**PcP**	**16 06 18.4 +0.3**
USA0B				pmax	pmax		**YSS**	**Yuzh-Sakhalins**	**55.91**	**14**	P	**P**	**16 04 46.8 +0.5**		comp=Z,17nm,0.5s,baz=209,slow=2.1,SNR=7.9				
	comp=Z,90nm,0.7s						YSS				IAmb	IAmb	16 04 48.1		comp=Z,106nm,0.7s				
USRK	**Ussuriysk Ar.**	**51.34**	**6**	P	**P**	**16 04 14.6 +0.6**		comp=Z,82nm,0.8s					**MAKZ**	**Makanchi**	**66.02**	**329**	P	**P**	**16 05 53.5 +0.4**
	comp=Z,92nm,0.6s,baz=188,slow=7.1,SNR=157						**YSS**	**Yuzh-Sakhalins**	**55.91**	**14**	P	**P**	**16 04 47.8 +1.4**	**MAKZ**	**Makanchi**	**66.02**	**329**	P	**P**	**16 05 53.5 +0.4**
USRK				PcP	**PcP**	**16 05 20.3 +0.1**	**YSS**	**Yuzh-Sakhalins**	**55.91**	**14**	*ce*P	**P**	**16 04 46.7 +0.3**	MAKZ			pmax	pmax		
	comp=Z,5.7nm,0.7s,baz=203,slow=4.4,SNR=1.7						YSS				pmax	pmax			comp=Z,28nm,0.7s				
USRK				pP	**pP**	**16 05 50.4 +0.2**		comp=Z,140nm,1.3s					**PET**	**Petropavlovsk**	**66.13**	**21**	P	**P**	**16 05 54.5 +0.9**
	comp=Z,2.4nm,0.6s,baz=208,slow=10,SNR=1.3						**URZ**	**Urewera**	**55.97**	**132**	P	**P**	**16 04 47.3 +0.3**	**PET**	**Petropavlovsk**	**66.13**	**21**	P	**P**	**16 05 54.9 +1.3**
USRK				ScP	**ScP**	**16 08 28.9 +0.4**	**RTZ**	**Ruatahuna**	**55.99**	**132**	P	**P**	**16 04 47.5 +0.1**	**PET**	**Petropavlovsk**	**66.13**	**21**	*e*P	**P**	**16 05 54.8 +1.2**
	comp=Z,3.2nm,0.6s,baz=208,slow=3.8,SNR=3.1						**HIA**	**Hailar**	**56.29**	**356**	P	**P**	**16 04 50.7 +1.7**	PET			pmax	pmax		
USRK				S	**S**	**16 10 55.3 +0.1**	**KLR**	**Kul'dur**	**56.30**	**5**	*ce*P	**P**	**16 04 49.4 +0.3**		comp=Z,219nm,1.4s				
	comp=Z,1.8nm,0.7s,baz=133,slow=10,SNR=1.3						KLR				pmax	pmax		**TNSS**	**Tian-Shan**	**66.45**	**323**	*e*P	**P**	**16 05 57.3 +1.0**
	comp=Z,92nm,0.6s							comp=Z,64nm,1.7s						baz=323				
USRK	**Ussuriysk Ar.**	**51.34**	**6**	P	**P**	**16 04 14.2 +0.2**	**MXZ**	**Matakaoa Point**	**56.63**	**131**	P	**P**	**16 04 52.1 +0.4**	**TNSS**	**Tian-Shan**	**66.45**	**323**	*e*P	**P**	**16 05 57.3 +1.0**
XLT	**XiLinHaoTe**	**51.40**	**351**	⇓*i*P	**P**	**16 04 15.0 +0.4**	MXZ				IAmb	IAmb	16 04 53.0	**MDOK**	**Medeo**	**66.47**	**323**	*e*P	**P**	**16 05 56.9 +0.8**
XLT				pP	pP	16 05 51.0 +0.9		comp=Z,145nm,0.5s						baz=323				
XLT				ScP	**ScP**	**16 08 30.0 +1.1**	**ULN**	**Ulaanbaatar**	**57.03**	**345**	P	**P**	**16 04 55.0 +0.7**	MDOK			*e*S	**S**	**16 14 07.2 +0.3**
XLT				S	**S**	**16 10 54.8 -1.5**	**ULN**	**Ulaanbaatar**	**57.03**	**345**	P	**P**	**16 04 55.0 +0.7**		baz=323				
XLT				sS	sS	16 13 47.5 -1.5	ULN				pmax	pmax		**MDOK**	**Medeo**	**66.47**	**323**	*e*P	**P**	**16 05 56.9 +0.8**
XLT				pmax	pmax			comp=Z,74nm,0.9s					MDOK			*e*S	**S**	**16 14 07.1 +0.3**
	comp=Z,120nm,0.8s						**ULN**	**Ulaanbaatar**	**57.03**	**345**	P	**P**	**16 04 55.5 +1.2**	**AAA**	**Alma-Ata**	**66.57**	**323**	*e*P	**P**	**16 05 57.8 +1.0**
XLT				pmax	pmax		ULN				S	**S**	**16 12 11.0 +0.7**		comp=Z,15nm,0.5s,baz=323				
	comp=Z,150nm,4.1s						**HEH**	**HeiHe**	**57.08**	**2**	⇓P	**P**	**16 04 54.8 +0.4**	**AAA**	**Alma-Ata**	**66.57**	**323**	*e*P	**P**	**16 05 57.7 +1.0**
ERM	**Erimo**	**51.43**	**17**	P	**P**	**16 04 15.5 +0.8**	HEH				pP	**pP**	**16 06 31.3 -1.4**	AAA			pmax	pmax		
ERM				IAmb	IAmb	16 04 17.3	HEH				sP	**sP**	**16 07 20.5 -6.0**		comp=Z,15nm,0.5s				
	comp=Z,117nm,0.8s						HEH				S	**S**	**16 12 09.3 -1.1**	**TDK**	**Taldyqorghan**	**66.79**	**326**	*e*P	**P**	**16 05 59.1 +1.2**
ERM	**Erimo**	**51.43**	**17**	P	**P**	**16 04 16.3 +1.6**	HEH				pmax	pmax			comp=Z,17nm,0.5s,baz=326				
ERM	**Erimo**	**51.43**	**17**	P	**P**	**16 04 15.5 +0.8**		comp=Z,270nm,0.8s					**TDK**	**Taldyqorghan**	**66.79**	**326**	*e*P	**P**	**16 05 59.1 +1.2**
ERM				pmax	pmax		HEH				pmax	pmax		TDK			pmax	pmax		
	comp=Z,117nm,0.8s							comp=Z,280nm,5.6s						comp=Z,17nm,0.5s				
JEM	**Erimo**	**51.43**	**17**	P	**P**	**16 04 16.1 +1.4**	**SONM**	**Songino Array**	**57.17**	**345**	P	**P**	**16 04 55.7 +0.5**	**CHKK**	**Chushkaly**	**66.91**	**324**	*e*P	**P**	**16 05 59.3 +0.6**
MDJ	**Mudanjiang**	**51.55**	**4**	P	**P**	**16 04 16.5 +1.0**		comp=Z,39nm,0.7s,baz=159,slow=9.0,SNR=315						baz=324				
MDJ				pP	pP	16 05 51.8 +0.4	SONM				PcP	**PcP**	**16 05 43.5 +0.6**	**CHKK**	**Chushkaly**	**66.91**	**324**	*e*P	**P**	**16 05 59.3 +0.6**
MDJ				sP	sP	16 06 46.0 0.0		comp=Z,11nm,0.8s,baz=162,slow=3.6,SNR=5.3					**TKM2**	**Tokmak 2**	**67.20**	**322**	P	**P**	**16 06 02.1 +1.4**
MDJ				ScP	**ScP**	**16 08 32.0 +2.6**	SONM				pP	**pP**	**16 06 34.3 +0.6**		SNR=6.7				
MDJ				S	**S**	**16 11 01.3 +3.3**		comp=Z,11nm,1.1s,baz=169,slow=7.6,SNR=4.9					**KUU**	**Kurty**	**67.31**	**324**	⇓*i*P	**P**	**16 06 02.2 +1.0**
MDJ				ScS	**ScS**	**16 13 14.8 +2.7**	SONM				S	**S**	**16 12 12.4 +0.4**		comp=Z,43nm,0.5s,baz=324				
MDJ				sS	sS	16 13 51.5 +0.6		comp=Z,0.2nm,0.5s,baz=172,slow=39,SNR=2.5					**KUU**	**Kurty**	**67.31**	**324**	*d*i P	**P**	**16 06 02.2 +1.0**
MDJ				pmax	pmax		SONM				P4KPbc		16 41 59.4	KUU			pmax	pmax		
	comp=Z,290nm,0.8s							comp=Z,0.9nm,0.8s,baz=162,slow=6.1,SNR=5.0						comp=Z,43nm,0.5s				
MDJ				pmax	pmax			comp=Z,39nm,0.7s					**KBL**	**Kabul**	**67.37**	**312**	P	**P**	**16 06 01.8 -0.2**
	comp=Z,590nm,3.5s						**SONM**	**Songino Array**	**57.17**	**345**	P	**P**	**16 04 55.8 +0.5**	**KBL**	**Kabul**	**67.37**	**312**	P	**P**	**16 06 01.8 -0.2**
MDJ	**Mudanjiang**	**51.55**	**4**	P	**P**	**16 04 15.7 +0.2**	SONM				pP	**pP**	**16 06 33.4 -0.3**	KBL			pmax	pmax		
MDJ				IAmb	IAmb	16 04 17.7	**UGL**	**Uglegorsk**	**57.74**	**13**	*e*P	**P**	**16 05 00.2 +1.3**		comp=Z,35nm,0.7s				
	comp=Z,214nm,0.9s						UGL				pmax	pmax		**KBL**	**Kabul**	**67.37**	**312**	P	**P**	**16 06 03.1 +1.1**
MDJ	**Mudanjiang**	**51.55**	**4**	P	**P**	**16 04 16.5 +1.0**		comp=Z,180nm,1.0s						SNR=21				
GUN	**Gumba**	**51.65**	**314**	*e*P	**P**	**16 04 17.3 +0.3**	**GRNR**	**Gornyy**	**58.35**	**8**	⇑*i*P	**P**	**16 05 04.2 +1.1**	**KBK**	**Karagaybulak**	**67.44**	**322**	P	**P**	**16 06 03.5 +1.3**
	comp=Z,403nm,0.6s						GRNR				*e*S	**S**	**16 12 28.2 +1.5**		SNR=8.8				
GOMU	**GeErMu**	**51.74**	**328**	P	**P**	**16 04 18.8 +1.3**	GRNR				pmax	pmax		**UCH**	**Uchtor**	**67.47**	**321**	P	**P**	**16 06 04.1 +1.4**
GOMU				pmax	pmax			comp=E,4.0nm,0.5s						SNR=11				
	comp=Z,120nm,4.9s						GRNR				pmax	pmax		**AAK**	**Ala-Archa**	**67.71**	**322**	P	**P**	**16 06 05.3 +1.5**
PKI	**Pulchoki**	**51.79**	**313**	*e*P	**P**	**16 04 18.1 +0.1**		comp=N,30nm,0.9s						SNR=30				
	comp=Z,197nm,0.5s						GRNR				pmax	pmax		**AAK**	**Ala-Archa**	**67.71**	**322**	P	**P**	**16 06 04.6 +0.8**
PKIN	**Phulchoki**	**51.80**	**313**	*e*P	**P**	**16 04 18.2 +0.2**		comp=Z,90nm,0.7s					**AAK**	**Ala-Archa**	**67.71**	**322**	*ce*P	**P**	**16 06 05.0 +1.2**
	comp=Z,257nm,0.4s						GRNR				smax	smax		AAK			pmax	pmax		
PCHI	**Peechi**	**51.90**	**289**	⇑*e*P	**P**	**16 04 19.0 +0.4**		comp=N,1.0nm,0.8s						comp=Z,24nm,0.6s				
GTA	**Gaotai**	**51.95**	**335**	⇓P	**P**	**16 04 20.0 +1.3**	**TYV**	**Tymovskoe**	**59.56**	**13**	*e*P	**P**	**16 05 13.1 +2.0**	**AAK**	**Ala-Archa**	**67.71**	**322**	*i* P	**P**	**16 06 05.3 +1.5**
GTA				PcP	**PcP**	**16 05 24.5 +1.6**	TYV				*e*S	**S**	**16 12 43.6 +1.8**		SNR=38				

AAK	**Ala-Archa**	67.71	322	P		**P**	16 06 05.0	+1.2	
CHMS	**Chumysh**	67.75	322	P		**P**	16 06 05.0	+1.1	
	SNR=7.5								
AML	**Almayashu**	67.93	321	P		**P**	16 06 06.8	+1.3	
	SNR=25								
USP	**Ospenovka**	68.06	322	P		**P**	16 06 06.9	+1.1	
	SNR=18								
SGDS	**Sogindy**	68.08	323	*e*P		**P**	16 06 06.7	+0.8	
	baz=322								
SGDS	**Sogindy**	68.08	323	*e*P		**P**	16 06 06.7	+0.8	
EKS2	**Erkin-Say**	68.17	321	P		**P**	16 06 08.1	+1.6	
	SNR=14								
JOHN	**Johnston Islan**	68.49	69	P		**P**	16 06 08.8	0.0	
GAR	**Garm**	68.54	317	P		**P**	16 06 09.1	+0.2	
YAK	**Yakutsk**	68.94	2	P		**P**	16 06 11.0	+0.4	
YAK	**Yakutsk**	68.94	2	*ce*P		**P**	16 06 11.1	+0.4	
YAK					pmax	pmax			
	comp=Z,368nm,0.7s								
CHGR	**Chuyangaron**	69.17	316	P		**P**	16 06 13.0	+0.3	
CHGR	**Chuyangaron**	69.17	316	P		**P**	16 06 13.0	+0.3	
CHGR					pmax	pmax			
	comp=Z,47nm,1.1s								
BTLS	**Baital**	69.32	324⇓	*i*P		**P**	16 06 14.0	+0.7	
	baz=324								
BTLS	**Baital**	69.32	324	*d i*P		**P**	16 06 14.0	+0.7	
MA2	**Magadan**	69.40	13	P		**P**	16 06 14.3	+0.8	
MA2	**Magadan**	69.40	13	P		**P**	16 06 15.2	+1.7	
MA2	**Magadan**	69.40	13	*ce*P		**P**	16 06 14.8	+1.3	
MA2					pmax	pmax			
	comp=Z,284nm,1.0s								
ZAA0	**Zalesovo Array**	69.69	336	P		**P**	16 06 15.0	-0.3	
ZAA0					IAmb	IAmb	16 06 16.2		
	comp=Z,93nm,0.8s								
ZALV	**Zalesovo Beam**	69.69	336	P		**P**	16 06 15.1	-0.2	
	comp=Z,68nm,0.5s,baz=133,slow=4.7,SNR=375								
ZALV				pP		**pP**	16 07 59.2	0.0	
	comp=Z,2.6nm,0.7s,baz=131,slow=6.1,SNR=2.1								
ZALV				S		**S**	16 14 39.6	-3.9	
	comp=Z,1.8nm,0.8s,baz=132,slow=11,SNR=5.6								
	comp=Z,68nm,0.5s								
KURBB	**Kurchatov Arra**	70.24	330	P		**P**	16 06 18.9	+0.2	
IUG	**Iuzhnay**	70.27	319⇓	*i*P		**P**	16 06 20.3	+1.1	
	baz=319								
IUG	**Iuzhnay**	70.27	319	*d i*P		**P**	16 06 20.2	+1.1	
KK31	**Karatay Array**	70.44	320	*i*P		**P**	16 06 20.6	+0.5	
KKAR	**Karatay Array**	70.44	320	P		**P**	16 06 20.1	0.0	
KKAR	**Karatay Array**	70.44	320	P		**P**	16 06 20.1	0.0	
KKAR	**Karatay Array**	70.44	320	P		**P**	16 06 20.1	0.0	
KKAR					pmax	pmax			
	comp=Z,13nm,1.2s								
CHM	**Chimkent**	70.63	319	*e*P		**P**	16 06 22.2	+1.0	
	baz=319								
CHM	**Chimkent**	70.63	319	*e*P		**P**	16 06 22.2	+1.0	
JLN	**Jalan Bani Buh**	70.84	296	P		**P**	16 06 24.8	+1.9	
MHTO	**MHTO**	71.82	295	P		**P**	16 06 28.6	-0.1	
	SNR=5.7								
WSAR	**Wadi Sarin**	71.84	297	P		**P**	16 06 29.1	+0.4	
OTUK	**Ortayu**	72.07	326	P		**P**	16 06 30.3	+0.7	
SEY	**Seymchan**	72.75	13	*ce*P		**P**	16 06 34.4	+1.3	
SEY					pmax	pmax			
	comp=Z,175nm,0.6s								
BSY	**Bisya**	72.97	296	P		**P**	16 06 35.5	+0.2	
VNDA	**Vanda**	72.99	172	P		**P**	16 06 35.0	+0.7	
	comp=Z,15nm,0.7s,baz=317,slow=6.6,SNR=38								
VNDA				S		**S**	16 15 20.5	+0.4	
	comp=Z,1.8nm,0.9s,baz=323,slow=18,SNR=1.5								
	comp=Z,15nm,0.7s								
VNDA	**Vanda**	72.99	172	P		**P**	16 06 34.9	+0.5	
HOQ	**Hoqain**	73.10	297	P		**P**	16 06 36.8	+0.8	
MAW	**Mawson**	73.28	201	P		**P**	16 06 37.0	+0.9	
	comp=Z,9.5nm,0.7s,baz=76,slow=8.3,SNR=1.4								
	comp=Z,9.5nm,0.7s								
ARQ	**Araqi**	73.73	297	P		**P**	16 06 40.9	+1.2	
DMTO	**DMTO**	73.80	291	P		**P**	16 06 40.7	+0.6	
SBA	**Scott Base**	73.93	172	P		**P**	16 06 40.2	+0.5	
SBA					IAmb	IAmb	16 06 52.0		
	comp=Z,137nm,1.6s								
SBA	**Scott Base**	73.93	172	P		**P**	16 06 40.2	+0.5	
SBA					pmax	pmax			
	comp=Z,137nm,1.6s								
SOHO	**SOHO**	73.93	297	*i*P		**P**	16 06 40.9	+0.2	
	SNR=6.1								
SOHO	**SOHO**	73.93	297	P		**P**	16 06 41.3	+0.6	
UOSS	**Minazif**	74.44	298	P		**P**	16 06 43.7	+0.1	
RBK	**Rabkut**	74.44	290	P		**P**	16 06 43.6	-0.2	
MDH	**Madha**	74.45	299	P		**P**	16 06 42.9	-0.7	
HATD	**Hatta, Dubai**	74.47	298	*i*P		**P**	16 06 44.8	+1.0	
	SNR=6.6								
HATD	**Hatta, Dubai**	74.47	298	P		**P**	16 06 44.8	+1.0	
	SNR=6.6								
ASHO	**Ashiyiah**	74.49	298	*i*P		**P**	16 06 44.7	+0.7	
	SNR=6.9								
ASHO	**Ashiyiah**	74.49	298	P		**P**	16 06 44.8	+0.8	
MASF	**Masafi**	74.59	299	P		**P**	16 06 45.8	+1.3	
	SNR=5.2								
BANOM	**Banah**	74.61	299	*i*P		**P**	16 06 46.1	+1.5	
	SNR=5.6								
BANOM	**Banah**	74.61	299	P		**P**	16 06 45.8	+1.2	
DOK	**Doka**	74.76	291	P		**P**	16 06 45.5	0.0	
SHME	**Shamm**	74.79	299	*i*P		**P**	16 06 46.6	+1.0	
	SNR=8.5								
SHME	**Shamm**	74.79	299	P		**P**	16 06 46.7	+1.2	
	SNR=8.6								
FAQ	**Al Faqa, Dubai**	74.92	298	*i*P		**P**	16 06 46.8	+0.5	
	SNR=15								
FAQ	**Al Faqa, Dubai**	74.92	298	P		**P**	16 06 47.0	+0.7	
NAZ	**Nazwa, Dubai**	74.92	298	*i*P		**P**	16 06 46.9	+0.6	
	SNR=6.6								
NAZ	**Nazwa, Dubai**	74.92	298	P		**P**	16 06 47.2	+0.9	
WHFO	**Wadi Hawf**	74.93	291	P		**P**	16 06 46.7	+0.1	
ASUD	**Al Ashush, Dub**	75.12	298	*i*P		**P**	16 06 48.4	+1.0	
	SNR=5.6								
ASUD	**Al Ashush, Dub**	75.12	298	P		**P**	16 06 48.5	+1.1	
ABTO	**Aybut**	75.25	290	P		**P**	16 06 48.7	+0.3	
BVA0	**Borovoye Array**	75.73	329	*i*P		**P**	16 06 50.0	-0.2	
BRVK	**Borovoye**	75.81	329	P		**P**	16 06 50.7	+0.1	
BRVK					IAmb	IAmb	16 06 52.3		
	comp=Z,79nm,0.9s								
BRVK	**Borovoye**	75.81	329	*ce*P		**P**	16 06 51.5	+0.9	
BRVK					pmax	pmax			
	comp=Z,99nm,1.0s								
BRVK	**Borovoye**	75.81	329	P		**P**	16 06 51.1	+0.5	
MZR	**Muzera**	76.36	296	*i*P		**P**	16 06 54.9	+0.6	
	SNR=17								
MZR	**Muzera**	76.36	296	P		**P**	16 06 55.1	+0.8	
ADK	**Adak**	76.61	33	P		**P**	16 06 55.6	+0.6	
ADK					IAmb	IAmb	16 06 57.0		
	comp=Z,161nm,1.1s								
ADK	**Adak**	76.61	33	P		**P**	16 06 56.3	+1.3	
ADK	**Adak**	76.61	33	P		**P**	16 06 55.6	+0.6	
ADK					pmax	pmax			
	comp=Z,161nm,1.2s								
GEYT	**Alibeck**	76.82	311	P		**P**	16 06 57.5	+0.9	
	comp=Z,19nm,0.7s,baz=157,slow=3.7,SNR=46								
GEYT				pP		**pP**	16 08 44.5	+0.1	
	comp=Z,2.1nm,0.7s,baz=131,slow=4.0,SNR=2.4								
	comp=Z,19nm,0.7s								
GYA0	**ALIBECK ARRAY**	76.82	311	P		**P**	16 06 57.7	+1.1	
GSTR	**Great Sitkin T**	77.05	33	P		**P**	16 06 58.4	+0.9	
TIXI	**Tiksi**	78.56	1	P		**P**	16 07 04.9	-0.3	
TIXI	**Tiksi**	78.56	1	P		**P**	16 07 04.9	-0.3	
TIXI					pmax	pmax			
	comp=Z,135nm,0.6s								
SHMA	**Al-Shehemyia**	79.25	298	P		**P**	16 07 10.7	+0.8	
AB31	**Akbulak array**	79.76	323	*i*P		**P**	16 07 11.9	-0.2	
ABKAR	**Akbulak array**	79.76	323	P		**P**	16 07 11.9	-0.2	
BILL	**Bilibino**	80.23	14	P		**P**	16 07 14.1	-0.1	
BILL	**Bilibino**	80.23	14	*c i*P		**P**	16 07 14.1	-0.1	
BILL				*e*			16 10 30.5		
BILL				*e*S		**S**	16 16 41.3	+4.0	
BILL				*e*SS		**SS**	16 21 58.7	-3.9	
BILL					pmax	pmax			
	comp=Z,20nm,1.0s								
NRIK	**Noril'sk**	80.55	347	P		**P**	16 07 16.3	+0.6	
	comp=Z,26nm,0.6s,baz=135,slow=5.1,SNR=72								
NRIK				S		**S**	16 16 39.5	-1.0	
	comp=Z,1.2nm,0.5s,baz=42,slow=23,SNR=6.6								
	comp=Z,26nm,0.6s								
NRIK	**Noril'sk**	80.55	347	P		**P**	16 07 15.8	+0.1	
NRIK					IAmb	IAmb	16 07 17.8		
	comp=Z,85nm,1.2s								
AKTO	**Aktyubinsk**	81.37	323	P		**P**	16 07 20.3	-0.1	
NIKH	**Nikolski High**	81.37	34	P		**P**	16 07 20.6	+0.3	
NIKH					IAmb	IAmb	16 07 21.6		
	comp=Z,98nm,0.8s								
NIKH	**Nikolski High**	81.37	34	P		**P**	16 07 20.7	+0.3	
	baz=246								
SPIA	**Saint Paul Isl**	82.40	30	P		**P**	16 07 26.6	+1.1	
SPIA	**Saint Paul Isl**	82.40	30	P		**P**	16 07 26.6	+1.1	
	baz=244								
SVE	**Sverdlovsk**	82.50	330	*ce*P		**P**	16 07 26.7	+0.7	
SVE				*e*S		**S**	16 16 57.7	-2.9	
SVE					pmax	pmax			
	comp=Z,74nm,0.9s								
UNV	**Unalaska Valle**	83.00	34	P		**P**	16 07 28.8	+0.2	
UNV					IAmb	IAmb	16 07 29.9		
	comp=Z,55nm,0.8s								
UNV	**Unalaska Valle**	83.00	34	P		**P**	16 07 28.7	+0.1	
	baz=248								
UNV	**Unalaska Valle**	83.00	34	P		**P**	16 07 30.0	+1.4	
ARU	**Arti**	83.38	329	P		**P**	16 07 30.2	-0.2	
ARU					IAmb	IAmb	16 07 31.7		
	comp=Z,106nm,1.4s								
ARU	**Arti**	83.38	329	*d i*P		**P**	16 07 30.4	-0.1	
ARU				*P		**pwP**	16 09 21.7	-1.7	
ARU				S		**S**	16 17 02.5	-6.8	
ARU				SS		**SS**	16 22 53.7	+4.3	
ARU					pmax	pmax			
	comp=Z,102nm,1.5s								
AKUT	**Akutan**	83.51	34	P		**P**	16 07 31.4	+0.2	
AKUT	**Akutan**	83.51	34	P		**P**	16 07 31.6	+0.4	
RAYN	**Ar Rayn**	83.64	295	P		**P**	16 07 32.6	0.0	
RAYN	**Ar Rayn**	83.64	295	P		**P**	16 07 32.6	0.0	
RAYN					pmax	pmax			
	comp=Z,31nm,0.9s								
RAYN	**Ar Rayn**	83.64	295	*i*P		**P**	16 07 33.6	+1.0	
	SNR=32								
RAYN	**Ar Rayn**	83.64	295	P		**P**	16 07 33.5	+1.0	
AKT	**Akhty**	85.50	313	*e*P		**P**	16 07 41.9	+0.5	
AKT				*e*			16 11 12.3		
AKT					pmax	pmax			
	comp=Z,58nm,1.3s								
MAK	**Makhachkala**	86.01	314	*e*P		**P**	16 07 43.8	+0.2	
MAK				*e*PP		**pP**	16 09 35.0	+0.4	
MAK				*e*SP		**sP**	16 10 25.2	-0.8	
MAK				*e*			16 11 10.9		
MAK				*e*PPP		PPP	16 13 07.2		
MAK				*e*			16 17 21.3		
MAK				*e*SS		SS	16 23 28.4	+0.2	
MAK				*e*SSS		SSS	16 27 10.3		
MAK					pmax	pmax			
	comp=Z,125nm,1.1s								
S12K	**Black Hills**	86.06	33	P		**P**	16 07 43.3	-0.3	
	baz=252								
SDPT	**Sand Point**	86.81	33	P		**P**	16 07 46.8	-0.3	
SDPT	**Sand Point**	86.81	33	P		**P**	16 07 47.0	-0.1	
	baz=253,SNR=16								
SDPT	**Sand Point**	86.81	33	P		**P**	16 07 46.9	-0.3	
TNA	**Tin City**	86.95	22	P		**P**	16 07 47.6	+0.1	
TNA	**Tin City**	86.95	22	P		**P**	16 07 47.4	-0.2	
	baz=246								
ELIB	**Princess Elisa**	87.09	198	*d*P		**P**	16 07 49.5	+1.1	
	comp=Z,9.7nm,0.7s								
ELIB				*dx*		x	16 08 09.2		
ELIB				*d*pP		**pP**	16 09 38.7	-1.2	
ANM	**Nome**	87.56	24	P		**P**	16 07 50.8	+0.3	
ANM	**Nome**	87.56	24	P		**P**	16 07 50.8	+0.3	
	baz=248								
ANM	**Nome**	87.56	24	P		**P**	16 07 50.8	+0.3	
ANM					pmax	pmax			
	comp=Z,21nm,0.8s								
BELG	**Belogornoye**	88.16	323	*i*P		**P**	16 07 52.7	-0.8	
BELG					pmax	pmax			
	comp=Z,8.0nm,0.9s								
CHGN	**Chignik**	88.20	33	P		**P**	16 07 53.1	-0.4	
CHGN					IAmb	IAmb	16 07 57.5		
	comp=Z,95nm,1.2s								
CHGN	**Chignik**	88.20	33	P		**P**	16 07 53.2	-0.4	
	baz=255								
GEVA	**Gevas**	88.38	309	P		**P**	16 07 55.4	+0.3	
ZEI	**Tsey**	88.56	313	*e*P		**P**	16 07 56.1	+0.1	
ZEI				*e*			16 09 49.2		
ZEI					pmax	pmax			
	comp=Z,18nm,1.0s								
KIRV	**Kirov**	88.75	329	*ce*P		**P**	16 07 55.5	-0.6	
R16K	**Pilot Point**	88.97	32	P		**P**	16 07 57.0	-0.2	
	baz=255								
P16K	**Nushagak River**	89.14	30	P		**P**	16 07 58.6	+0.7	
	baz=255,SNR=26								
N16K	**Nishlik Lake**	89.14	29	P		**P**	16 07 58.9	+0.9	
	baz=254								
O16K	**Kokwok River B**	89.23	30	P		**P**	16 07 58.4	0.0	
	baz=255								
KBZ	**Khabaz**	89.45	314	P		**P**	16 07 59.5	-0.3	
	comp=Z,4.5nm,0.8s,baz=120,slow=3.4,SNR=9.6								
	comp=Z,4.5nm,0.8s								
KBZ	**Khabaz**	89.45	314	*ce*P		**P**	16 07 59.9	+0.1	
KBZ					pmax	pmax			
	comp=Z,7.0nm,1.0s								
CHIR	**Chirikof Islan**	89.60	34	P		**P**	16 07 59.3	-0.8	
	baz=257								
R17K	**Ugashik Creek**	89.61	32	P		**P**	16 07 59.8	-0.4	
	baz=256								
KIV	**Kislovodsk**	89.64	314	*e*P		**P**	16 08 01.2	+0.4	
KIV					pmax	pmax			
	comp=Z,10.0nm,1.1s								
Q16K	**King Salmon**	89.72	31	P		**P**	16 07 59.8	-0.9	
	baz=256								
O17K	**Koliganek Bris**	89.77	30	P		**P**	16 08 01.2	+0.3	
	baz=256,SNR=8.4								
P17K	**Kvichak River**	89.95	30	P		**P**	16 08 01.6	-0.1	
	baz=256								
Q17K	**Contact Creek**	90.01	31	P		**P**	16 08 01.4	-0.8	
	baz=257,SNR=13								
SII	**Sitkinak Islan**	90.54	33	P		**P**	16 08 05.0	+0.5	
	baz=258								
Q18K	**Katmai Hardscr**	90.55	31	P		**P**	16 08 03.5	-1.2	
	baz=258,SNR=6.1								
P18K	**Big Mountain,**	90.60	30	P		**P**	16 08 03.5	-1.3	
	baz=257								
O18K	**Koktuh Hills**	90.71	30	P		**P**	16 08 05.1	-0.2	
O18K					IAmb	IAmb	16 11 48.6		
	comp=Z,34nm,1.1s								
O18K	**Koktuh Hills**	90.71	30	P		**P**	16 08 04.8	-0.5	
	baz=257								
SVW2	**Sparrevohn**	90.81	28	P		**P**	16 08 06.0	+0.3	
SVW2	**Sparrevohn**	90.81	28	P		**P**	16 08 06.4	+0.7	
TTA	**Tatalina**	91.03	27	P		**P**	16 08 06.6	-0.2	
TTA					IAmb	IAmb	16 08 08.0		
	comp=Z,43nm,1.3s								
TTA	**Tatalina**	91.03	27	P		**P**	16 08 06.5	-0.2	
	baz=257,SNR=16								
TTA	**Tatalina**	91.03	27	P		**P**	16 08 06.8	0.0	
TTA	**Tatalina**	91.03	27	P		**P**	16 08 06.6	-0.2	
TTA					pmax	pmax			
	comp=Z,43nm,1.3s								
GCSA	**Galena City Sc**	91.09	25	P		**P**	16 08 07.0	+0.1	
	baz=256,SNR=6.2								
OHAK	**Old Harbor**	91.16	33	P		**P**	16 08 07.6	+0.2	
OHAK	**Old Harbor**	91.16	33	P		**P**	16 08 07.5	+0.2	
	baz=259								
O19K	**Port Alsworth**	91.22	30	P		**P**	16 08 06.9	-0.6	
	baz=258								
N19K	**Bonanza Creek**	91.27	29	P		**P**	16 08 08.1	+0.1	
N19K					IAmb	IAmb	16 08 09.2		
	comp=Z,43nm,1.0s								
N19K	**Bonanza Creek**	91.27	29	P		**P**	16 08 08.0	+0.1	
	baz=258,SNR=12								
L19K	**White Mountain**	91.39	27	P		**P**	16 08 08.4	0.0	
L19K					IAmb	IAmb	16 08 09.6		
	comp=Z,22nm,0.8s								
L19K	**White Mountain**	91.39	27	P		**P**	16 08 08.3	0.0	
	baz=258								
VRH	**Novokhopyorsk**	91.51	321	*e*P		**P**	16 08 08.8	-0.3	
VRH					pmax	pmax			
	comp=Z,30nm,1.5s								
KDAK	**Kodiak Island**	91.63	32	P		**P**	16 08 09.6	+0.1	
KDAK					IAmb	IAmb	16 08 10.5		
	comp=Z,46nm,0.9s								
KDAK	**Kodiak Island**	91.63	32	P		**P**	16 08 09.0	-0.5	
	baz=260								
KDAK	**Kodiak Island**	91.63	32	P		**P**	16 08 09.6	+0.1	
P19K	**Oil Pt**	91.65	30	P		**P**	16 08 08.9	-0.7	
	baz=259								
SOC	**Sochi**	91.71	314	*e*P		**P**	16 08 08.4	-1.8	
SOC				*e*PP		**pP**	16 10 01.8	-0.7	
SOC				*e*			16 11 54.8		
SOC				*e*PPP		PPP	16 13 58.6		
SOC				*e*S		**SKSac**	16 17 50.8	-3.7	
SOC				*e*SSS		SSS	16 28 31.6		
Q20K	**Shuyak Island**	91.88	31	P		**P**	16 08 10.1	-0.5	
	baz=260								
L20K	**Farewell, AK**	91.90	27	P		**P**	16 08 10.4	-0.3	
	baz=259								
K20K	**Telida**	91.99	26	P		**P**	16 08 11.1	0.0	
K20K					IAmb	IAmb	16 08 12.4		
	comp=Z,17nm,0.8s								
K20K	**Telida**	91.99	26	P		**P**	16 08 11.3	+0.2	
	baz=258,SNR=10								
M20K	**Styx River**	92.12	28	P		**P**	16 08 11.7	-0.2	
	baz=259								
N20K	**Mount Spurr**	92.44	29	P		**P**	16 08 12.0	-1.2	
	baz=260,SNR=8.4								
SPCR	**Spurr Chakacha**	92.44	29	P		**P**	16 08 11.9	-1.3	
	baz=260,SNR=5.8								
HOM	**Homer**	92.45	30	P		**P**	16 08 12.6	-0.6	
	baz=260								
SPU	**Mount Spurr**	92.50	29	P		**P**	16 08 12.4	-1.2	
IMAR	**Indian Mountai**	92.64	24	P		**P**	16 08 13.9	-0.1	
PPLA	**Purkeypile**	92.74	27	P		**P**	16 08 14.1	-0.6	
PPLA					IAmb	IAmb	16 11 48.4		
	comp=Z,19nm,0.7s								
PPLA	**Purkeypile**	92.74	27	P		**P**	16 08 14.1	-0.6	
	baz=260								
A21K	**Barrow**	92.77	18	P		**P**	16 08 14.5	0.0	
A21K					IAmb	IAmb	16 08 15.7		
	comp=Z,39nm,0.9s								
A21K	**Barrow**	92.77	18	P		**P**	16 08 14.7	+0.2	
	baz=256								
G21K	**Allakaket**	92.84	23	P		**P**	16 08 14.7	-0.3	
	baz=259								
CHUM	**Lake Minchumin**	92.86	26	P		**P**	16 08 15.2	+0.2	
	baz=260,SNR=18								
CAPN	**Captain Cook N**	92.87	29	P		**P**	16 08 15.2	+0.1	
	baz=261								
CAST	**Castle Rocks**	92.88	27	P		**P**	16 08 14.6	-0.6	
CAST	**Castle Rocks**	92.88	27	P		**P**	16 08 14.4	-0.8	
	baz=260,SNR=6.7								
SKT	**Skwentna**	92.89	28	P		**P**	16 08 13.9	-1.4	
SKT					IAmb	IAmb	16 08 14.7		
	comp=Z,19nm,0.7s								
SKT	**Skwentna**	92.89	28	P		**P**	16 08 14.1	-1.2	
	baz=261,SNR=8.4								
BRSE	**Bradley Lake S**	92.91	30	P		**P**	16 08 14.5	-0.9	
	baz=261								
H21K	**Melozitna Rive**	92.97	24	P		**P**	16 08 15.4	-0.1	
H21K	**Melozitna Rive**	92.97	24	P		**P**	16 08 15.3	-0.2	
	baz=260								
TROLL	**Troll, Antarti**	92.98	195	pP		pP	16 10 10.2	+2.2	
F21K	**Alatna River**	92.99	23	P		**P**	16 08 15.2	-0.4	
	baz=259								
VSR	**Storozhevoye**	93.10	321	*e*P		**P**	16 08 15.9	-0.5	
VSR					pmax	pmax			
	comp=Z,20nm,1.6s								
VORR	**Voronezh**	93.13	322	*e*P		**P**	16 08 16.3	-0.3	
VORR					pmax	pmax			
	comp=Z,20nm,1.4s								
SUA	**Susitna One**	93.17	29	P		**P**	16 08 15.9	-0.8	
SUA	**Susitna One**	93.17	29	P		**P**	16 08 15.9	-0.8	
	baz=261,SNR=18								
I21K	**Tanana**	93.22	25	P		**P**	16 08 16.6	-0.1	
I21K					IAmb	IAmb	16 08 17.9		
	comp=Z,23nm,1.1s								
I21K	**Tanana**	93.22	25	P		**P**	16 08 16.9	+0.2	
	baz=260,SNR=8.6								
KTH	**Kantishna Hill**	93.41	26	P		**P**	16 08 16.8	-0.9	
KTH					IAmb	IAmb	16 08 17.8		
	comp=Z,20nm,1.0s								
LPSR	**Galich'ya Gora**	93.42	322	*e*P		**P**	16 08 17.5	-0.3	
LPSR					pmax	pmax			
	comp=Z,10.0nm,1.4s								
BPAW	**Bear Paw Mtn.**	93.47	26	P		**P**	16 08 17.2	-0.6	
BPAW					IAmb	IAmb	16 08 18.9		
	comp=Z,11nm,0.6s								
BPAW	**Bear Paw Mtn.**	93.47	26	P		**P**	16 08 17.3	-0.6	
	baz=261,SNR=14								
ANN	**Anapa**	93.49	315	*e*P		**P**	16 08 15.3	-3.1	
ANN					pmax	pmax			
	comp=Z,95nm,1.1s								
M22K	**Willow**	93.51	28	P		**P**	16 08 17.1	-0.9	
	baz=262,SNR=5.9								
H22K	**Ishtalitna Cre**	93.59	24	P		**P**	16 08 18.3	0.0	
	baz=261								
RC01	**Rabbit Creek A**	93.60	29	P		**P**	16 08 17.7	-0.8	
RC01					IAmb	IAmb	16 08 19.0		
	comp=Z,33nm,0.7s								
RC01	**Rabbit Creek A**	93.60	29	P		**P**	16 08 17.6	-0.9	
	baz=262,SNR=6.1								
SEW	**Seward**	93.61	30	P		**P**	16 08 17.4	-1.1	
	baz=262								
TRF	**Thorofare Moun**	93.68	27	P		**P**	16 08 18.0	-1.1	
TRF					IAmb	IAmb	16 11 36.5		
	comp=Z,26nm,0.6s								
TRF	**Thorofare Moun**

MDM IAmb IAmb 16 12 20.2
comp=Z,38nm,1.4s
WRH Wood River Hil 94.77 26 P **P** **16 08 22.6 -1.1**
WRH IAmb IAmb 16 08 23.6
comp=Z,30nm,0.8s
SCM Sheep Creek Mo 94.84 28 P **P** **16 08 23.8 -0.4**
SCM IAmb IAmb 16 08 31.1
comp=Z,20nm,0.7s
SCM Sheep Creek Mo 94.84 28 P **P** **16 08 23.8 -0.4**
baz=264
SCM Sheep Creek Mo 94.84 28 P **P** **16 08 23.8 -0.4**
SCM pmax pmax
comp=Z,20nm,0.7s
CCB Clear Creek Bu 94.91 26 P **P** **16 08 22.9 -1.4**
TCOL CIGO, UAF Yank 94.91 25 P **P** **16 08 24.1 -0.2**
baz=264
COLA College 94.92 25 P **P** **16 08 24.2 -0.2**
baz=264
COLA College 94.92 25 P **P** **16 08 23.3 -1.1**
COLA College 94.92 25 *i* P **P** **16 08 23.1 -1.3**
COLA pmax pmax
comp=Z,36nm,3.1s
DHY Denali Highway 94.94 27 P **P** **16 08 23.9 -0.9**
DHY IAmb IAmb 16 08 25.3
comp=Z,23nm,0.6s
DHY Denali Highway 94.94 27 P **P** **16 08 24.5 -0.2**
baz=264,SNR=14
D24K Happy Valley 95.00 21 P **P** **16 08 25.5 +0.8**
baz=264
E24K Your Creek 95.00 22 P **P** **16 08 25.0 +0.2**
baz=264
H24K Noodor Dome 95.00 24 P **P** **16 08 25.1 +0.2**
H24K Noodor Dome 95.00 24 P **P** **16 08 25.3 +0.5**
baz=264
OBN Obninsk 95.07 325 ⇓ *i* P **P** **16 08 24.3 -1.0**
OBN *PP **pP** **16 10 21.0 +3.5**
OBN *i* 16 12 28.7
OBN SSS SSS 16 29 21.0
OBN pmax pmax
comp=Z,29nm,1.1s
C24K Franklin Bluff 95.11 20 P **P** **16 08 25.5 +0.3**
baz=264
POKR Poker Plat Res 95.12 25 P **P** **16 08 23.5 -1.8**
baz=264,SNR=7.2
F24K Squaw Lake 95.17 23 P **P** **16 08 26.0 +0.4**
baz=264
G24K Hadweenzic Riv 95.25 24 P **P** **16 08 26.2 +0.3**
baz=265
HDA Harding Lake 95.26 26 P **P** **16 08 24.2 -1.8**
HDA IAmb IAmb 16 08 25.3
comp=Z,19nm,0.9s
HDA Harding Lake 95.26 26 P **P** **16 08 24.5 -1.5**
baz=265,SNR=14
IL31 95.32 25 P **P** **16 08 24.3 -1.9**
IL31 IAmb IAmb 16 08 25.3
comp=Z,17nm,1.1s
ILAR Eielson Array 95.32 25 P **P** **16 08 24.8 -1.4**
comp=Z,7.6nm,0.6s,baz=248,slow=5.0,SNR=143
ILAR PP PP 16 12 16.6 -8.3
comp=Z,1.5nm,0.6s,baz=254,slow=6.0,SNR=4.1
ILAR PKKPbc **PKKPdf** **16 25 16.9 -1.9**
comp=Z,0.4nm,0.7s,baz=51,slow=1.7,SNR=6.8
comp=Z,7.6nm,0.6s
ILAR Eielson Array 95.32 25 P **P** **16 08 24.1 -2.1**
M24K Tolsona, Glenn 95.41 28 P **P** **16 08 26.6 -0.1**
M24K Tolsona, Glenn 95.41 28 P **P** **16 08 26.5 -0.3**
baz=265,SNR=5.5
KLU Klutina 95.48 29 P **P** **16 08 26.8 -0.3**
KLU IAmb IAmb 16 12 25.6
comp=Z,34nm,1.2s
KLU Klutina 95.48 29 P **P** **16 08 27.1 0.0**
baz=266,SNR=5.0
DIV Divide 95.52 29 P **P** **16 08 27.3 0.0**
DIV IAmb IAmb 16 08 28.3
comp=Z,30nm,0.8s
BOSA Boshof 95.53 240 P **P** **16 08 27.4 -0.8**
comp=Z,3.7nm,0.7s,baz=26,slow=3.6,SNR=5.6
BOSA pP **pP** **16 10 19.7 -0.3**
comp=Z,4.7nm,0.7s,baz=102,slow=5.6,SNR=4.8
BOSA PKKPbc **PKKPdf** **16 25 17.1 0.0**
comp=Z,2.1nm,0.6s,baz=288,slow=2.3,SNR=8.7
comp=Z,3.7nm,0.7s
PAX Paxson 95.80 27 P **P** **16 08 28.1 -0.5**
PAX IAmb IAmb 16 12 13.0
comp=Z,21nm,0.8s
PAX Paxson 95.80 27 P **P** **16 08 28.2 -0.3**
baz=266,SNR=9.9
PAX Paxson 95.80 27 P **P** **16 08 28.1 -0.5**
PAX pmax pmax
comp=Z,21nm,0.8s
BR131 Keskin Array S 95.83 309 P **P** **16 08 28.2 -1.2**
BR131 Keskin Array S 95.83 309 P **P** **16 08 28.2 -1.2**
BR131 pmax pmax
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 95.83 309 P **P** **16 08 28.3 -1.0**
comp=Z,4.5nm,0.8s,baz=132,slow=5.1,SNR=19
BRTR pP **pP** **16 10 22.1 +0.4**
comp=Z,1.3nm,0.9s,baz=104,slow=6.1,SNR=3.1
comp=Z,4.5nm,0.8s
BRTR Keskin Array B 95.83 309 P **P** **16 08 28.5 -0.8**
D25K Kavik River 95.89 21 P **P** **16 08 28.5 -0.3**
baz=266
HARP HAARP 95.90 28 P **P** **16 08 28.4 -0.5**
baz=266
PRP Porcupine Dome 95.95 25 P **P** **16 08 27.6 -1.6**
baz=266
F25K Christian Rive 96.04 23 P **P** **16 08 30.2 +0.6**
baz=266,SNR=14
BMRM Bremner River 96.08 29 P **P** **16 08 29.8 0.0**
baz=267
E25K Arctic Village 96.10 22 P **P** **16 08 30.3 +0.5**
baz=266,SNR=24
N25K Chitina, Valde 96.12 29 P **P** **16 08 29.8 -0.2**
N25K IAmb IAmb 16 08 31.0
comp=Z,14nm,0.7s
N25K Chitina, Valde 96.12 29 P **P** **16 08 30.1 +0.1**
baz=267
RIDG Independent Ri 96.13 27 P **P** **16 08 29.1 -0.9**
RIDG Independent Ri 96.13 27 P **P** **16 08 29.5 -0.5**
baz=267,SNR=16
FYU Fort Yukon 96.14 24 P **P** **16 08 29.8 0.0**
VNA2 Neumayer--Watz 96.14 194 pP pP 16 10 27.9 +5.5
C26K Camden Bay 96.44 20 P **P** **16 08 31.6 +0.4**
baz=267
BMAR Burnt Mountain 96.44 23 P **P** **16 08 31.5 +0.2**
DOT Dot Lake 96.47 27 P **P** **16 08 30.9 -0.6**
DOT IAmb IAmb 16 08 32.0
comp=Z,19nm,0.7s
GLB Gilahina Butte 96.48 29 P **P** **16 08 31.5 -0.1**
SCRK Sand Creek 96.52 26 P **P** **16 08 31.3 -0.5**
SCRK Sand Creek 96.52 26 P **P** **16 08 31.4 -0.4**
baz=267,SNR=6.3
MENT Mentasta 96.60 27 P **P** **16 08 31.6 -0.4**
MENT IAmb IAmb 16 08 33.2
comp=Z,9.4nm,0.7s
MENT Mentasta 96.60 27 P **P** **16 08 33.0 +0.9**
F26K Sheenjek River 96.62 23 P **P** **16 08 32.5 +0.4**
baz=268,SNR=10
J26L Joseph Creek 96.73 26 P **P** **16 08 32.1 -0.6**
J26L Joseph Creek 96.73 26 P **P** **16 08 32.4 -0.3**
baz=268
L26K Log Cabin Wild 96.77 27 P **P** **16 08 32.8 0.0**
baz=268
C27K Jago River 96.84 21 P **P** **16 08 33.6 +0.6**
baz=268,SNR=27
MCARA McCarthy VSAT 96.86 29 P **P** **16 08 33.1 -0.1**
baz=268
M26K Nabesna, AK 96.91 28 P **P** **16 08 33.4 -0.1**
baz=268
I26K Coal Creek Min 96.93 25 P **P** **16 08 33.2 -0.3**
baz=268
M27K Edge Creek, AK 97.43 28 P Pdif 16 08 35.9 0.0
M27K IAmb IAmb 16 08 38.9
comp=Z,36nm,1.9s
M27K Edge Creek, AK 97.43 28 P Pdif 16 08 35.7 -0.3
baz=269
L27K Beaver Creek, 97.46 27 P **P** **16 08 36.3 +0.3**
baz=269
BCAR Beaver Creek A 97.48 27 P **P** **16 08 36.3 +0.2**
BARN Barnard Glacie 97.51 29 P **P** **16 08 36.7 +0.2**
BARN IAmb IAmb 16 08 37.9
comp=Z,20nm,0.7s
G27K Doyon Strip 97.56 24 P **P** **16 08 36.5 +0.2**
baz=270
I27K Kandik River 97.58 25 P **P** **16 08 36.9 +0.4**
baz=270,SNR=24

E27K Coleen River 97.59 22 P **P** **16 08 36.7 +0.3**
baz=270
H27K Steamboat Moun 97.61 24 P **P** **16 08 37.5 +0.9**
baz=270,SNR=21
EGAK Eagle 97.77 26 P Pdif 16 08 37.0 -0.2
EGAK IAmb IAmb 16 08 38.1
comp=Z,9.8nm,0.9s
EGAK Eagle 97.77 26 P Pdif 16 08 37.0 -0.2
baz=270
BVCY Beaver Creek 97.90 28 P **P** **16 08 38.3 +0.4**
baz=270
YUK3 Moose Creek 98.09 29 P **P** **16 08 39.2 +0.1**
baz=270
PINM Pinnacle 98.20 30 P **P** **16 08 39.6 +0.2**
baz=270
O28M Mount Upton 98.23 30 P **P** **16 08 40.2 +0.4**
baz=270
YUK8 Steele Glacier 98.43 29 P **P** **16 08 40.8 +0.1**
baz=271
DAWY Dawson 98.55 26 P **P** **16 08 40.9 0.0**
baz=272,SNR=15
PNL Peninsula 98.64 31 P Pdif 16 08 40.8 -0.4
baz=271
I29M Ogilvie Camp, 98.96 25 P Pdif 16 08 42.5 -0.1
baz=273
YUK4 Talbot Arm 98.97 29 P **P** **16 08 43.5 +0.5**
baz=272
M29M Somme Creek 99.02 28 P **Pdif** **16 08 43.6 +0.6**
baz=272
O29M Mount Kennedy 99.03 30 P **Pdif** **16 08 43.4 +0.3**
baz=272
YUK6 Outpost Mounta 99.12 29 P **Pdif** **16 08 43.6 0.0**
baz=272
L29M L29M 99.14 27 P **Pdif** **16 08 44.3 +0.8**
baz=273
AKASG Malin Array Be 99.34 320 P **Pdif** **16 08 43.6 -0.9**
comp=Z,3.3nm,0.7s,baz=78,slow=4.5,SNR=17
AKASG PP **PP** **16 12 56.6 +1.0**
comp=Z,0.6nm,0.5s,baz=84,slow=6.8,SNR=5.0
AKASG PKiKP **PKiKP** **16 13 11.1 0.0**
comp=Z,0.6nm,0.4s,baz=71,slow=2.5,SNR=4.9
comp=Z,3.3nm,0.7s
AKBB Malin Array Si 99.34 320 *ce* P **Pdif** **16 08 43.0 -1.5**
K29M Barlow Dome 99.38 26 P **Pdif** **16 08 44.9 +0.3**
baz=273
HYT Haines Junctio 99.54 30 P **Pdif** **16 08 45.5 +0.1**
baz=273
EPYK Eagle Plains 99.55 24 P **Pdif** **16 08 44.9 -0.3**
baz=274,SNR=15
G30M tAoh Zraii Nji 99.70 23 P **Pdif** **16 08 45.3 -0.6**
baz=275
N30M Aishikik Lake 99.71 29 P **Pdif** **16 08 46.2 +0.2**
baz=273
M30M Minto, Yukon 99.78 28 P **Pdif** **16 08 46.4 +0.1**
baz=274
P30M Million Dollar 99.85 30 P **Pdif** **16 08 47.1 +0.4**
baz=273
ARCES ARCESS Array B 100.03 339 P **Pdif** **16 08 46.6 -0.6**
comp=Z,2.6nm,0.5s,baz=76,slow=5.1,SNR=11
ARCES PKiKP **PKiKP** **16 13 12.1 +0.3**
comp=Z,3.6nm,0.8s,baz=46,slow=1.4,SNR=6.1
MAYO Mayo, Yukon 100.12 27 P **Pdif** **16 08 48.2 +0.5**
baz=275
PLBC Pleasant Camp 100.19 31 P **Pdif** **16 08 48.5 +0.5**
baz=274
O30N Mendenhall 100.24 30 P **Pdif** **16 08 48.5 +0.2**
baz=274
N31M Braeburn, Yuko 100.34 29 P **Pdif** **16 08 49.4 +0.6**
baz=274
S31K Pelican 100.34 32 P **Pdif** **16 08 49.0 +0.2**
baz=273
INK Inuvik 100.58 22 P **Pdif** **16 08 49.7 +0.1**
baz=278
F31M Tsiigehtchic 100.61 23 P **Pdif** **16 08 49.7 -0.1**
baz=277,SNR=7.4
FINES FINESS Array B 100.62 331 P **Pdif** **16 08 48.7 -1.3**
comp=Z,2.0nm,0.9s,baz=98,slow=4.9,SNR=4.0
FINES PKiKP **PKiKP** **16 13 13.2 +0.2**
comp=Z,4.9nm,0.8s,baz=112,slow=3.5,SNR=10
SKAG Skagway 100.72 31 P **Pdif** **16 08 51.1 +0.7**
baz=274
WHY Whitehorse 100.84 30 P **Pdif** **16 08 51.5 +0.4**
baz=275
PLOR Plostina 101.13 315 ⇓ P **PP** **16 13 10.7 +1.4**
FARO Faro, Yukon 101.41 28 P **Pdif** **16 08 54.1 +0.5**
baz=277
MLR Muntele Rosu 101.64 315 ⇓ P **PP** **16 13 14.7 +1.6**
N32M Quiet Lake 101.67 29 P **Pdif** **16 08 54.9 +0.2**
baz=277
P33M Teslin, Yukon 101.90 30 P **Pdif** **16 08 56.2 +0.3**
baz=277
DOPR Dupca 102.01 315 ⇓ P **PKiKP** **16 13 17.3 +1.2**
BURAR Bucovina Array 102.06 317 ⇓ P **PKiKP** **16 13 18.1 +1.9**
BUR08 Bucovina Ar. S 102.06 317 Pdif **Pdif** **16 08 57.1 +0.2**
A36M Sachs Harbour 102.58 18 P **Pdif** **16 08 58.9 +0.5**
baz=286
WRAK Wrangell Islan 102.58 34 P **Pdif** **16 08 59.3 +0.6**
baz=276
S34M Telegraph Cree 103.06 32 P **Pdif** **16 09 01.4 +0.5**
baz=278
V35K Ketchikan 103.11 35 P **Pdif** **16 09 01.7 +0.6**
baz=277
DLBC Dease Lake 103.56 32 PP **PP** **16 13 27.1 +0.3**
comp=Z,3.1nm,1.0s,baz=232,slow=6.3,SNR=3.0
C36M Paulatuk 103.71 20 P **Pdif** **16 09 03.7 +0.2**
baz=287
BZS Buzias 104.67 315 ⇑ P **PKiKP** **16 13 21.3 +0.4**
FRGS Fruska Gora 105.98 315 ⇓ P **PKiKP** **16 13 22.2 -1.2**
KRLC Kraliky 107.32 320 *e* PKP **PKiKP** **16 13 26.3 +0.5**
OSTC Ostas 107.59 321 *e* PKP **PKiKP** **16 13 26.9 +0.7**
DAG Danmarks Havn 107.67 352 *i* P **Pdif** **16 09 20.0 -1.1**
NB2 NORSAR Subarra 107.73 332 PKPdf **PKiKP** **16 13 26.1 -0.1**
comp=Z,21nm,0.6s,baz=68,slow=1.9
NB2 NORSAR Subarra 107.73 332 PKPdf **PKiKP** **16 13 26.1 -0.1**
baz=68,slow=1.9
NB2 NORSAR Subarra 107.73 332 P **Pdif** **16 09 20.5 -1.2**
comp=Z,1.3nm,0.7s,baz=72,slow=4.4
NOA NORSAR Array B 107.73 332 Pdiff **Pdif** **16 09 20.1 -1.6**
comp=Z,1.7nm,0.9s,baz=72,slow=4.4,SNR=4.5
NOA PKiKP **PKiKP** **16 13 25.8 -0.4**
comp=Z,2.1nm,0.8s,baz=263,slow=3.5,SNR=6.3
PRU Pruhonice 108.76 320 *e* PKP **PKiKP** **16 13 28.4 0.0**
CKRC Cesky Krumlov 109.14 319 *e* PKP **PKiKP** **16 13 29.2 0.0**
CLL Collm 109.42 322 *e* PKiKP **PKiKP** **16 13 30.0 +0.4**
GERES GERESS Array B 109.53 319 Pdiff **Pdif** **16 09 29.5 -0.5**
comp=Z,0.2nm,0.4s,baz=165,slow=29,SNR=2.2
GERES PKiKP **PKiKP** **16 13 29.6 -0.4**
comp=Z,1.3nm,0.6s,baz=60,slow=3.2,SNR=13
KHC Kasperske Hory 109.55 320 *e* PKP **PKiKP** **16 13 30.1 +0.1**
YKA Yellowknife Ar 109.75 25 Pdiff **Pdif** **16 09 30.5 -0.1**
comp=Z,0.6nm,0.7s,baz=189,slow=22,SNR=6.7
YKA PKKPbc **PKKPbc** **16 24 34.9 -2.5**
comp=Z,0.6nm,0.6s,baz=117,slow=3.2,SNR=9.6
YBH Yreka Blue Hor 110.93 48 PKiKP **PKiKP** **16 13 33.5 +0.6**
comp=Z,1.3nm,0.6s,baz=56,slow=3.6,SNR=3.3
YBH PP **PP** **16 14 19.1 -1.4**
comp=Z,5.5nm,1.2s,baz=196,slow=6.7,SNR=5.0
WTTA Wattenberg 111.22 318 *i* PKiKP **PKiKP** **16 13 34.2 +0.8**
comp=Z,3.9nm,0.4s
FETA Feichten 111.88 318 *e* PKiKP **PKiKP** **16 13 35.3 +0.7**
comp=Z,0.2nm,0.2s
DAVA Damuels 112.38 318 *e* PKiKP **PKiKP** **16 13 35.2 -0.4**
comp=Z,1.4nm,0.3s
NEW Newport 113.33 40 PKiKP **PKiKP** **16 13 37.2 0.0**
comp=Z,3.2nm,0.6s,baz=251,slow=2.1,SNR=4.5
NEW Newport 113.33 40 P **PKiKP** **16 13 36.8 -0.4**
baz=286
PKM Mcpherson Peak 114.26 55 P **PKiKP** **16 13 40.5 +0.9**
baz=279
SCZ2 Santa Cruz Isl 114.53 56 P PKPdf 16 13 39.6 -0.4
baz=278
VES Vestal, Richgr 114.69 54 P **PKiKP** **16 13 40.1 0.0**
baz=280
SNCC San Nicolas Is 114.73 57 P **PKiKP** **16 13 41.1 +0.8**
baz=278
NVAR Mina Array Bea 114.84 51 PKP **PKiKP** **16 13 41.5 +0.8**
comp=Z,4.3nm,0.8s,baz=241,slow=2.5,SNR=24
NVAR PP **PP** **16 14 43.8 -4.5**
comp=Z,5.6nm,1.0s,baz=267,slow=7.1,SNR=9.8
NVAR SKP 16 16 29.1
comp=Z,1.2nm,0.7s,baz=250,slow=1.8,SNR=3.6
NVAR Mina Array Bea 114.84 51 **PKiKP** **16 13 41.3 +0.7**
KVN Kaiserville 114.88 50 **PKiKP** **16 13 41.2 +0.5**
KVN Kaiserville 114.88 50 PKiKP **PKiKP** **16 13 41.2 +0.5**
PLID Pearl Lake 114.96 43 **PKiKP** **16 13 40.8 +0.1**
ISA Isabella, Lake 115.21 54 P **PKPdf** **16 13 41.0 -0.2**
baz=280

KEST Kesra 115.22 306 PKP **PKiKP** **16 13 41.5 +0.3**
comp=Z,5.2nm,0.9s,baz=51,slow=6.5,SNR=14
KEST PP **PP** **16 14 47.8 -2.9**
comp=Z,7.1nm,0.9s,baz=148,slow=2.1,SNR=6.3
CWC Cottonwood Cre 115.39 53 P **PKiKP** **16 13 42.5 +0.8**
baz=280
CIS Catalina Islan 115.63 56 P **PKiKP** **16 13 42.2 +0.2**
baz=279
MZP Montezuma Peak 115.70 52 **PKiKP** **16 13 43.0 +0.6**
EDW2 Edwards Air Fo 115.73 55 P **PKiKP** **16 13 43.2 +0.9**
baz=280,SNR=19
TPH Tonopah 115.75 51 **PKiKP** **16 13 42.9 +0.5**
TPH Tonopah 115.75 51 PKIKP **PKiKP** **16 13 42.9 +0.5**
MSO Missoula 115.82 41 PKPdf **PKPdf** **16 13 42.0 -0.1**
MSO Missoula 115.82 41 P **PKPdf** **16 13 42.0 -0.1**
baz=288
GRAC Grapevine Rang 115.85 52 P **PKiKP** **16 13 43.2 +0.8**
baz=281
LRMC Laurel Mtn Rad 115.88 54 P **PKiKP** **16 13 43.7 +1.1**
baz=280,SNR=12
MPMC Manual Prospec 115.93 53 P **PKiKP** **16 13 43.8 +1.0**
baz=281,SNR=16
BFSC Mount Baldy Ra 116.11 55 P **PKiKP** **16 13 43.5 +0.4**
baz=280
FURC Furnace Creek, 116.35 53 P **PKiKP** **16 13 44.6 +1.3**
baz=281
HLID Hailey 116.48 45 PKPdf **PKiKP** **16 13 44.5 +0.8**
HLID Hailey 116.48 45 P **PKiKP** **16 13 44.9 +1.3**
baz=287
RRX Edison Barstow 116.54 55 P **PKiKP** **16 13 44.8 +1.0**
baz=280
GWY Greenwater Val 116.56 53 PKPdf **PKiKP** **16 13 44.8 +0.8**
MURC Murrieta 116.60 56 P **PKiKP** **16 13 45.1 +1.1**
baz=280
GSC Goldstone, Bar 116.62 54 P **PKiKP** **16 13 45.1 +1.1**
baz=281
ELK Elko 116.64 48 PKPdf **PKiKP** **16 13 44.6 +0.5**
ELK Elko 116.64 48 PKIKP **PKiKP** **16 13 44.6 +0.5**
TPNV Topopah Spring 116.74 52 P **PKiKP** **16 13 44.5 +0.2**
baz=282,SNR=7.7
R11A Troy Canyon, C 116.95 51 PKPdf **PKiKP** **16 13 45.3 +0.6**
R11A Troy Canyon, C 116.95 51 P **PKiKP** **16 13 46.1 +1.4**
baz=283,SNR=10
BCYI Bear Canyon 116.96 44 **PKiKP** **16 13 45.4 +0.8**
LRM Limekiln Ridge 117.12 42 **PKiKP** **16 13 45.1 +0.3**
MCMT McKenzie Canyo 117.18 43 PKPdf **PKiKP** **16 13 45.4 +0.4**
PFO Pinyon Flats O 117.20 56 PKP **PKiKP** **16 13 45.9 +0.7**
comp=Z,13nm,0.7s,baz=174,slow=1.3,SNR=20
PFO PP **PP** **16 15 02.4 -2.2**
comp=Z,1.5nm,0.6s,baz=312,slow=5.9,SNR=4.2
PFO SKP 16 16 33.1
comp=Z,2.1nm,0.6s,baz=313,slow=5.7,SNR=3.8
PFO Pinyon Flats O 117.20 56 P **PKiKP** **16 13 46.7 +1.5**
baz=280,SNR=9.5
TPFO Pinon Flats 117.21 56 P **PKiKP** **16 13 46.6 +1.4**
baz=280,SNR=11
CBX Cerro Bola 117.25 57 **PKiKP** **16 13 46.4 +1.0**
PMD Palm Desert 117.27 56 PKPdf **PKiKP** **16 13 45.8 +0.6**
USHA Ushuaia 117.27 171 PKP **PKiKP** **16 13 45.3 +0.7**
comp=Z,8.2nm,0.4s,baz=203,slow=1.7,SNR=1.3
TUQ Turquoise Moun 117.30 54 P **PKiKP** **16 13 46.8 +1.4**
baz=282,SNR=7.6
MONP2 Monument Peak 117.36 57 P **PKiKP** **16 13 47.4 +1.7**
baz=280,SNR=11
PRN Pahroc Range 117.57 51 PKPdf **PKiKP** **16 13 47.1 +1.2**
GMRC Granite Mounta 117.64 54 P **PKiKP** **16 13 47.6 +1.5**
baz=281,SNR=25
IKP In-Ko-Pah, Jac 117.66 57 P **PKiKP** **16 13 47.4 +1.3**
baz=280,SNR=9.9
SHPR Sheep Range 117.69 52 PKPdf **PKiKP** **16 13 47.0 +0.9**
BOZ Bozeman (W) 117.74 42 P **PKiKP** **16 13 46.3 +0.3**
baz=290
SPR3 Spring Creek 3 117.75 50 PKPdf **PKiKP** **16 13 46.8 +0.4**
YUH Yuha Desert 117.81 57 **PKiKP** **16 13 47.4 +1.1**
SWSC Sam W. Stewart 117.86 56 P **PKiKP** **16 13 47.0 +0.6**
baz=280
ESJX Sierra Juarez 117.90 58 **PKiKP** **16 13 47.7 +1.0**
BC3 Big Chuckawall 118.02 56 P **PKiKP** **16 13 48.2 +1.4**
baz=281,SNR=14
EGMT Eagleton 118.07 39 P **PKiKP** **16 13 46.9 +0.5**
baz=293
V12A Nelson 118.10 53 PKPdf **PKiKP** **16 13 47.9 +1.0**
VTX Valle De La Tr 118.14 58 **PKiKP** **16 13 48.0 +1.4**
HVU Hansel Valley 118.15 46 PKPdf **PKiKP** **16 13 47.5 +0.6**
HVU Hansel Valley 118.15 46 PKIKP **PKiKP** **16 13 47.5 +0.6**
IRM Iron Mountain 118.18 55 P **PKiKP** **16 13 48.7 +1.7**
baz=281,SNR=11
BGU Big Grassy Mou 118.21 47 PKPdf **PKiKP** **16 13 47.7 +0.7**
LDF La Druitiere 118.31 322 PKIKP **PKiKP** **16 13 47.6 +0.8**
SPUT South Promonto 118.52 47 **PKiKP** **16 13 48.0 +0.4**
DUG Dugway, Tooele 118.57 48 **PKiKP** **16 13 48.6 +0.9**
DUG Dugway, Tooele 118.57 48 P **PKiKP** **16 13 48.3 +0.6**
baz=286,SNR=16
DUG Dugway, Tooele 118.57 48 PKIKP **PKiKP** **16 13 48.6 +0.9**
GLA Glamis 118.65 56 P **PKiKP** **16 13 48.9 +0.9**
baz=281
FXWY Fox Creek 118.80 44 **PKiKP** **16 13 48.9 +0.7**
CCUT Cedar City 118.84 51 PKPdf **PKiKP** **16 13 49.4 +0.9**
H17A Grant Village 118.85 43 P **PKiKP** **16 13 49.8 +1.5**
baz=290
MOOW Moose Ponds 118.95 43 **PKiKP** **16 13 49.2 +0.7**
PDMCI Parker Dam,Lak 118.96 55 P **PKiKP** **16 13 49.6 +1.1**
baz=282
W13A Hualapai Mount 119.00 54 **PKiKP** **16 13 49.8 +1.0**
REDW Red Top Meadow 119.01 44 PKPdf **PKiKP** **16 13 49.5 +0.8**
SNOW Snow King Moun 119.04 44 **PKiKP** **16 13 49.8 +1.1**
SZCU Shurtz Canyon 119.05 51 **PKiKP** **16 13 50.0 +1.1**
HWUT Hardware Ranch 119.07 46 **PKiKP** **16 13 49.0 +0.3**
LCMT Little Creek M 119.07 51 **PKiKP** **16 13 49.7 +0.9**
LOHW Long Hollow 119.10 44 **PKiKP** **16 13 49.4 +0.6**
NLU North Lily Min 119.18 48 PKPdf **PKiKP** **16 13 49.1 +0.1**
FFC Flin Flon 119.25 29 PKPdf **PKiKP** **16 13 48.5 +0.1**
FFC Flin Flon 119.25 29 PKIKP **PKiKP** **16 13 48.5 +0.1**
TCUT Toone Canyon 119.33 47 **PKiKP** **16 13 49.9 +0.6**
MSU Marysvale 119.50 50 **PKiKP** **16 13 50.2 +0.5**
MSU Marysvale 119.50 50 PKIKP **PKiKP** **16 13 50.2 +0.5**
U15A North Rim 119.95 52 **PKiKP** **16 13 51.5 +0.8**
TMUT Trail Mountain 120.01 48 **PKiKP** **16 13 51.6 +0.8**
PIX Pinacate 120.07 58 PKPdf **PKiKP** **16 13 51.3 +0.6**
BW06 Boulder Array 120.10 44 P **PKiKP** **16 13 50.9 +0.1**
baz=290
PDAR Pinedale Array 120.10 44 PKP **PKiKP** **16 13 51.1 +0.4**
comp=Z,3.3nm,0.5s,baz=270,slow=1.2,SNR=11
PDAR PKKPbc **PKKPab** **16 24 02.9 -0.6**
comp=Z,0.7nm,0.7s,baz=117,slow=5.6,SNR=6.0
PDAR SKKPbc SKKPbc 16 26 57.8 -3.6
comp=Z,0.8nm,0.9s,baz=90,slow=4.6,SNR=3.7
Q16A Castle Valley 120.15 49 **PKiKP** **16 13 51.8 +0.9**
FCC Fort Churchill 120.19 23 PKPdf **PKiKP** **16 13 49.3 -0.7**
FCC Fort Churchill 120.19 23 PKIKP **PKiKP** **16 13 49.3 -0.7**
P17A Butcher Ranch, 120.31 48 **PKiKP** **16 13 51.7 +0.5**
214A Organ Pipe Nat 120.53 57 PKPdf **PKiKP** **16 13 52.1 +0.4**
214A Organ Pipe Nat 120.53 57 P **PKiKP** **16 13 52.8 +1.1**
baz=282,SNR=6.6
SRU San Rafael Swe 120.57 48 **PKiKP** **16 13 51.8 0.0**
SRU San Rafael Swe 120.57 48 PKIKP **PKiKP** **16 13 51.8 0.0**
LAO LASA Array 120.80 39 **PKiKP** **16 13 52.6 +0.8**
LAO LASA Array 120.80 39 P **PKiKP** **16 13 52.6 +0.8**
baz=295
LAO LASA Array 120.80 39 P **PKiKP** **16 13 52.8 +1.0**
baz=295
RDMU Red Mountain 120.82 47 **PKiKP** **16 13 52.4 +0.1**
WUAZ Wupatki 120.90 53 PKPdf **PKiKP** **16 13 53.1 +0.7**
WUAZ Wupatki 120.90 53 P **PKiKP** **16 13 53.5 +1.0**
baz=285,SNR=16
DGMT Dagmar 121.24 36 P **PKiKP** **16 13 53.4 +0.8**
baz=298
DGMT Dagmar 121.24 36 P **PKiKP** **16 13 52.7 +0.2**
baz=298
O20A White River Ci 121.92 47 P **PKiKP** **16 13 55.1 +0.7**
baz=290,SNR=16
PV13 Radium Mtn., P 122.13 49 **PKiKP** **16 13 55.2 +0.3**
TUC Tucson 122.14 56 PKPdf **PKiKP** **16 13 55.4 +0.5**
TUC Tucson 122.14 56 P **PKiKP** **16 13 55.9 +1.0**
baz=283
TUC Tucson 122.14 56 PKIKP **PKiKP** **16 13 55.4 +0.5**
PV07 Paradox Valley 122.17 49 PKPdf **PKiKP** **16 13 55.7 +0.8**
K22A Casper 122.23 43 P **PKiKP** **16 13 55.0 0.0**
baz=293
K22A Casper 122.23 43 P **PKiKP** **16 13 54.9 0.0**
baz=293
W18A Petrified Fore 122.30 53 P **PKiKP** **16 13 56.3 +1.1**
baz=286
PV15 Paradox Valley 122.33 49 **PKiKP** **16 13 56.0 +0.7**
MVCO Mesa Verde 122.66 50 PKPdf **PKiKP** **16 13 56.5 +0.6**

MVCO Mesa Verde 122.66 50 P PKiKP 16 13 57.1 +1.1
baz=288,SNR=14
HSIG 122.68 60 PKPdf PKiKP 16 13 56.0 +0.1
RSSD Black Hills 123.29 41 P PKiKP 16 13 57.0 0.0
baz=296
RSSD Black Hills 123.29 41 P PKPdf 16 13 56.6 -0.2
baz=296
N23A Red Feather La 123.29 45 P PKiKP 16 13 57.4 +0.2
baz=292
DUN6 Lazy B Ranch 123.47 56 PKiKP 16 13 58.4 +0.8
319A Douglas 123.60 57 PKPdf PKiKP 16 13 58.6 +0.8
S22A 4UR Ranch, Cre 123.75 49 PKPdf PKiKP 16 13 59.1 +0.9
S22A 4UR Ranch, Cre 123.75 49 P PKiKP 16 13 59.4 +1.1
baz=289,SNR=24
ISCO Idaho Springs 123.93 46 P PKiKP 16 13 59.0 +0.4
baz=292
ISCO Idaho Springs 123.93 46 P PKPdf 16 13 58.3 +0.1
baz=292
MDND Maddock 124.22 35 PKPdf PKPdf 16 13 58.2 +0.1
MDND Maddock 124.22 35 P PKiKP 16 13 58.6 +0.1
baz=302
MDND Maddock 124.22 35 P PKiKP 16 13 58.4 0.0
baz=302
E28A Huff 124.23 37 P PKiKP 16 13 58.8 +0.3
baz=300
ESDC Sonseca Array 124.31 314 PKP PKPdf 16 13 58.7 +0.1
comp=Z,3.4nm,0.8s,baz=6.2,slow=3.0,SNR=19
TORD Torodi Ar. Bea 124.38 281 PKP PKiKP 16 13 59.5 -0.2
comp=Z,17nm,0.7s,baz=77,slow=2.0,SNR=87
TORD pPKP pPKPdf 16 15 58.7 +1.6
comp=Z,4.5nm,0.9s,baz=52,slow=2.0,SNR=5.1
TORD SKP 16 16 46.5
comp=Z,3.3nm,0.7s,baz=68,slow=2.9,SNR=4.0
TORD PKKPab PKKPab 16 23 45.1 0.0
comp=Z,1.0nm,0.7s,baz=297,slow=4.2,SNR=5.0
TORD Torodi Ar. Bea 124.38 281 PKPdf PKPdf 16 13 58.8 -0.5
121A Cookes Peak, D 124.54 55 P PKiKP 16 14 01.0 +1.2
baz=285,SNR=10
121A Cookes Peak, D 124.54 55 P PKiKP 16 14 01.0 +1.2
baz=285,SNR=10
Q24A Divide 124.57 47 P PKPdf 16 13 59.4 0.0
baz=292
PAB San Pablo 124.64 314 ⇑PKiKP PKPdf 16 13 59.4 +0.1
SDCO Great Sand Dun 124.75 49 PKPdf PKiKP 16 14 00.5 +0.3
SDCO Great Sand Dun 124.75 49 P PKiKP 16 14 01.2 +1.0
baz=290
SDCO Great Sand Dun 124.75 49 P PKiKP 16 14 00.8 +0.7
baz=290,SNR=12
LENM Lemitar 124.75 53 PKiKP 16 14 01.1 +0.9
Y22A Socorro 124.82 53 P PKiKP 16 14 01.3 +1.0
baz=287
ULM Lac du Bonnet 124.88 31 PKP PKPdf 16 13 59.1 -0.2
comp=Z,9.3nm,0.5s,baz=305,slow=2.5,SNR=23
ULM Lac du Bonnet 124.88 31 PKPdf PKPdf 16 13 58.9 -0.4
ANMO Albuquerque 124.92 52 PKP PKiKP 16 14 00.8 +0.3
comp=Z,12nm,0.9s,baz=286,slow=4.2,SNR=22
ANMO Albuquerque 124.92 52 PKPdf PKiKP 16 14 00.7 +0.2
ANMO Albuquerque 124.92 52 P PKiKP 16 14 01.7 +1.2
baz=288
ANMO Albuquerque 124.92 52 P PKiKP 16 14 01.4 +0.9
baz=288
CRNM Carthage 125.00 53 PKiKP 16 14 01.1 +0.4
BNM Barren Site 125.03 53 PKPdf PKiKP 16 14 01.2 +0.4
T25A Trinidad 125.77 49 PKPdf PKiKP 16 14 02.7 +0.5
T25A Trinidad 125.77 49 P PKiKP 16 14 02.4 +0.2
baz=291,SNR=7.5
MVO Moncorvo 125.86 317 ePKP PKiKP 16 14 02.7 +0.7
OGNE Ogallala 125.99 44 P PKiKP 16 14 02.4 +0.1
baz=295
AGMN Agassiz Nation 126.05 33 P PKPdf 16 14 01.4 -0.1
baz=306
AGMN Agassiz Nation 126.05 33 P PKPdf 16 14 01.6 0.0
baz=306
D32B Dogwood Acres, 126.08 35 P PKPdf 16 14 01.8 +0.2
baz=304
POLO Lamas de Olo 126.29 317 ePKP PKiKP 16 14 04.3 +1.4
PGAV Gavieira, Arco 126.34 318 ePKP PKiKP 16 14 04.1 +1.1
SUSD Miller 126.36 38 P PKiKP 16 14 03.2 +0.3
baz=300
SUSD Miller 126.36 38 P PKPdf 16 14 02.5 +0.2
baz=301
KSCO Kaye Shedlock' 126.37 46 P PKiKP 16 14 03.9 +0.7
baz=294
KSCO Kaye Shedlock' 126.37 46 P PKiKP 16 14 03.8 +0.7
baz=294
MTE Manteigas 126.54 316 ePKP PKiKP 16 14 04.7 +1.3
MNTX Cornudas Mount 126.73 56 PKPdf PKiKP 16 14 04.4 +0.5
MNTX Cornudas Mount 126.73 56 P PKiKP 16 14 04.9 +1.0
baz=286,SNR=23
MNTX Cornudas Mount 126.73 56 P PKiKP 16 14 04.7 +0.8
baz=286,SNR=23
PCBR Castelo Branco 126.73 315 ePKP PKiKP 16 14 04.9 +1.2
PMRV Marv??o 126.84 315 ePKP PKiKP 16 14 05.1 +1.2
PBAR Barrancos 127.10 313 ePKP PKiKP 16 14 06.0 +1.5
B35A Bob, Littlefor 127.15 32 P PKPdf 16 14 03.8 +0.1
baz=308
F33A 5 Mile Ranch, 127.22 36 P PKPdf 16 14 04.1 +0.2
baz=304
K31A O'Neill 127.40 40 PKPdf PKiKP 16 14 04.9 -0.1
K31A O'Neill 127.40 40 P PKiKP 16 14 05.1 +0.1
baz=300
GDL2 Guadalupe Moun 127.42 55 PKiKP 16 14 05.6 +0.2
PMTG Montargil 127.58 315 ePKP PKiKP 16 14 06.0 +0.6
PBEJ Beja 127.76 313 ePKP PKiKP 16 14 06.9 +1.1
MSTX Muleshoe 128.12 52 P PKiKP 16 14 06.9 +0.1
baz=290
MSTX Muleshoe 128.12 52 P PKiKP 16 14 07.2 +0.4
baz=290
ECSD EROS Data Cent 128.17 38 PKPdf PKPdf 16 14 05.8 0.0
ECSD EROS Data Cent 128.17 38 P PKiKP 16 14 06.2 -0.3
baz=302
ECSD EROS Data Cent 128.17 38 P PKPdf 16 14 06.0 +0.2
baz=302,SNR=12
BGNE Belgrade 128.38 41 PKPdf PKPdf 16 14 06.6 +0.3
BGNE Belgrade 128.38 41 P PKiKP 16 14 06.9 -0.1
baz=299
BGNE Belgrade 128.38 41 P PKiKP 16 14 06.8 -0.2
baz=299
CBKS Cedar Bluff 128.50 45 P PKiKP 16 14 07.2 -0.2
baz=296
CBKS Cedar Bluff 128.50 45 P PKiKP 16 14 07.4 +0.1
baz=296,SNR=5.2
EYMN Ely 128.57 31 P PKPdf 16 14 06.7 +0.3
baz=310
EYMN Ely 128.57 31 P PKPdf 16 14 06.5 +0.1
baz=310
AMTX Amarillo 128.65 50 P PKiKP 16 14 08.7 +0.9
baz=292
AMTX Amarillo 128.65 50 P PKiKP 16 14 07.8 0.0
baz=292
F36A Milaca 128.78 34 PKPdf PKPdf 16 14 06.8 0.0
F36A Milaca 128.78 34 P PKPdf 16 14 07.1 +0.2
baz=307
TX31 Lajitas Ar. Si 128.80 58 P PKiKP 16 14 08.3 0.0
baz=286,SNR=22
TX32 Lajitas Array 128.80 58 PKPdf PKiKP 16 14 08.1 -0.2
TXAR Lajitas Array 128.80 58 PKhKP PKPpre 16 13 50.4
comp=Z,0.4nm,0.5s,baz=212,slow=1.0,SNR=10
TXAR PKP PKiKP 16 14 08.8 +0.5
comp=Z,4.4nm,0.6s,baz=245,slow=1.6,SNR=33
TXAR pPKP pPKPdf 16 16 07.1 +1.8
comp=Z,1.1nm,0.9s,baz=256,slow=2.7,SNR=3.8
TXAR SKPbc SKPbc 16 16 41.3
comp=Z,21nm,0.9s,baz=268,slow=3.6,SNR=49
TXAR SKKPbc SKKPbc 16 26 30.2 -1.3
comp=Z,0.2nm,0.7s,baz=101,slow=4.7,SNR=3.6
TXAR Lajitas Array 128.80 58 PKPdf PKiKP 16 14 07.9 -0.3
N33B J Bar K, Exete 129.17 42 P PKiKP 16 14 08.3 -0.3
baz=300
R32A Long Quarter, 129.40 45 PKiKP 16 14 09.2 +0.1
R32A Long Quarter, 129.40 45 P PKiKP 16 14 08.8 -0.3
baz=297
E38A The Farm, Brul 129.40 32 P PKPdf 16 14 08.3 +0.3
baz=310
SPMN Marine on St. 129.57 35 P PKiKP 16 14 09.2 0.0
baz=307
SPMN Marine on St. 129.57 35 P PKPdf 16 14 08.5 +0.1
baz=307
I37B Waseca 129.94 36 P PKiKP 16 14 09.6 -0.4
baz=306
PLCA Paso Flores 130.24 164 PKP PKPdf 16 14 10.4 +0.4
comp=Z,4.5nm,0.8s,baz=136,slow=3.1,SNR=10
PLCA SKPbc SKPbc 16 16 45.8 -0.2
comp=Z,39nm,1.1s,baz=207,slow=4.8,SNR=25
PLCA Paso Flores 130.24 164 eP PKPdf 16 14 08.3 -1.6
KSU1 Kansas State U 130.53 43 P PKiKP 16 14 11.2 -0.2
baz=299
KSU1 Kansas State U 130.53 43 P PKiKP 16 14 11.3 0.0
baz=299
D41A Chassel 130.64 30 P PKiKP 16 14 11.1 -0.2
baz=313
DBIC Dimbokro 130.67 273 PKP PKPdf 16 14 11.8 +0.5
comp=Z,10nm,0.5s,baz=120,slow=1.7,SNR=17
DBIC pPKP pPKPdf 16 16 11.1 +1.9
comp=Z,1.8nm,0.6s,baz=59,slow=5.0,SNR=2.1
DBIC SKPbc SKPbc 16 16 48.2 -0.1
comp=Z,25nm,0.7s,baz=102,slow=4.4,SNR=25
WMOK Wichita Mounta 130.91 49 P PKPdf 16 14 11.3 +0.1
baz=294,SNR=38
WMOK Wichita Mounta 130.91 49 P PKiKP 16 14 12.3 0.0
baz=294
G40A Rib Lake 130.98 33 P PKPdf 16 14 11.2 +0.1
baz=310,SNR=8.5
COWI Conover 131.00 32 P PKiKP 16 14 11.6 -0.5
baz=312
ABTX Abilene, Hawle 131.05 52 P PKiKP 16 14 12.5 -0.1
baz=291,SNR=11
ABTX Abilene, Hawle 131.05 52 P PKiKP 16 14 12.6 -0.1
baz=291
K38A Parkersburg 131.11 37 P PKiKP 16 14 12.7 +0.3
baz=306
SCHQ Schefferville 131.33 9 PKP PKPdf 16 14 11.6 +0.1
comp=Z,9.9nm,0.4s,baz=220,slow=9.0,SNR=3.8
SCHQ SKPbc SKPbc 16 16 49.1 -0.3
comp=Z,9.2nm,0.6s,baz=353,slow=4.0,SNR=11
SCHQ Schefferville 131.33 9 PKPdf PKPdf 16 14 11.8 +0.3
OK048 Pawnee Station 131.55 47 PKPdf 16 14 12.5 +0.1
T35A Sooner Cattle 131.63 46 PKPdf PKiKP 16 14 13.7 0.0
T35B Sooner Cattle 131.63 46 P PKPdf 16 14 12.6 0.0
baz=298,SNR=9.9
JCT Junction City 131.66 55 PKPdf PKPdf 16 14 13.3 +0.5
JCT Junction City 131.66 55 P PKiKP 16 14 13.7 -0.3
baz=290,SNR=17
JCT Junction City 131.66 55 P PKiKP 16 14 13.9 0.0
baz=290,SNR=17
JCT Junction City 131.66 55 PKIKP PKPdf 16 14 13.3 +0.5
E43A Lone Tree Farm 131.90 30 P PKiKP 16 14 13.6 -0.2
baz=314
OK034 N. Norfolk Rd. 131.90 47 PKPdf PKiKP 16 14 13.7 -0.5
P38A Dawn 132.32 41 P PKiKP 16 14 14.6 -0.3
baz=303,SNR=14
L40A Anamosa 132.38 37 P PKPdf 16 14 13.6 -0.2
baz=307
JFWS Jewell Farm 132.44 36 P PKPdf 16 14 14.0 0.0
baz=308
JFWS Jewell Farm 132.44 36 P PKPdf 16 14 13.9 0.0
baz=308
TUL1 Leonard 132.61 47 P PKPdf 16 14 14.9 +0.4
baz=297
833A Chaparral WMA, 132.68 58 P PKiKP 16 14 16.2 +0.2
baz=288
WHTX Lake Whitney, 133.00 52 P PKiKP 16 14 16.8 +0.2
baz=293,SNR=9.3
WHTX Lake Witney, 133.00 52 P PKiKP 16 14 16.6 +0.1
baz=293
E46A Sault Ste Mari 133.20 28 P PKiKP 16 14 16.4 -0.1
baz=318,SNR=11
L42A Oliver, Polo 133.34 36 P PKPdf 16 14 15.9 +0.3
baz=308,SNR=5.0
U38A Gravette 133.37 45 P PKPdf 16 14 15.8 0.0
baz=299,SNR=11
N41A Harden Midland 133.41 38 PKPdf 16 14 16.3 +0.5
S39A Bolivar 133.47 43 PKPdf PKPdf 16 14 16.0 0.0
X37A Clayton 133.51 48 PKPdf PKiKP 16 14 16.6 +0.4
X37A Clayton 133.51 48 P PKPdf 16 14 16.5 +0.4
baz=297,SNR=7.6
R40A Maddies Statio 133.87 42 PKPdf PKPdf 16 14 17.3 +0.6
R40A Maddies Statio 133.87 42 P PKPdf 16 14 17.3 +0.6
baz=303,SNR=5.8
L44A Lake County Fo 134.24 35 P PKiKP 16 14 18.7 -0.1
baz=311
Z38A Mt. Pleasant 134.39 49 P PKiKP 16 14 19.7 +0.4
baz=296
HDIL Hopedale 134.45 37 P PKiKP 16 14 18.8 -0.4
baz=308
HDIL Hopedale 134.45 37 P PKPdf 16 14 18.4 +0.7
baz=308
TRQA Tornquist 134.61 172 eP PKPdf 16 14 17.4 -0.8
CCM Cathedral Cave 134.67 42 PKPdf PKPdf 16 14 18.8 +0.6
CCM Cathedral Cave 134.67 42 P PKPdf 16 14 18.6 +0.4
baz=304,SNR=7.7
CCM Cathedral Cave 134.67 42 P PKiKP 16 14 19.1 -0.6
baz=304
CCM Cathedral Cave 134.67 42 PKIKP PKPdf 16 14 18.8 +0.6
MIAR Mount Ida 134.85 47 PKPdf PKPdf 16 14 19.1 +0.4
MIAR Mount Ida 134.85 47 P PKiKP 16 14 19.8 -0.4
baz=298,SNR=12
MIAR Mount Ida 134.85 47 P PKiKP 16 14 19.6 -0.6
baz=298
MIAR Mount Ida 134.85 47 PKIKP PKPdf 16 14 19.1 +0.4
P43A Skaggs, Pawnee 134.86 39 P PKiKP 16 14 19.6 -0.5
baz=307
J47A Sunmer 135.20 32 P PKiKP 16 14 20.5 -0.1
baz=315
J47A P PKiKP 16 14 20.5 -0.1
baz=315
NATX Nacogdoches 135.27 51 P PKiKP 16 14 20.8 -0.4
baz=295
T42A Van Buren 135.33 43 P PKiKP 16 14 20.7 -0.4
baz=303,SNR=14
Q44A Meyer Farm, Va 135.62 39 P PKiKP 16 14 21.3 -0.3
baz=307
OLIL Olney 136.29 39 P PKiKP 16 14 22.3 -0.7
baz=308
L48A N Adams 136.31 33 P PKiKP 16 14 22.5 -0.5
baz=314
L48A P PKiKP 16 14 22.5 -0.5
baz=314
O48B Farmland 137.07 35 P PKiKP 16 14 24.1 -0.5
baz=312
P48A Milroy 137.44 36 PKPdf 16 14 23.3 -0.1
WCI Wyandotte Cave 137.72 38 P PKiKP 16 14 25.6 -0.4
baz=309
P49A Miami Univ. Ec 137.80 35 PKPdf 16 14 23.7 -0.2
WVT Waverly 138.01 42 P PKiKP 16 14 26.0 -0.6
baz=306
VBMS Vicksburg 138.21 48 P PKiKP 16 14 26.9 -0.2
baz=299
ACSO Alum Creek Sta 138.29 33 P PKiKP 16 14 27.0 -0.1
baz=315
ERPA Erie 138.44 29 P PKiKP 16 14 27.0 -0.3
baz=320
M53A Wt Miller and 138.62 30 P PKiKP 16 14 27.2 -0.5
baz=313
LONY Lake Ozonia 138.69 22 P PKiKP 16 14 27.1 -0.6
baz=329
Q51A Peebles 138.93 35 PKPdf 16 14 26.6 +0.5
CMIG Matias Romero 139.40 72 PKhKP PKPpre 16 14 18.9
comp=Z,2.1nm,0.5s,baz=284,slow=4.2,SNR=2.6
CMIG SKPbc SKPbc 16 17 15.4 -0.1
comp=Z,17nm,1.0s,baz=301,slow=2.8,SNR=8.1
CFA Coronel Fontan 139.41 162 PKhKP PKPpre 16 14 19.2
comp=Z,2.0nm,0.4s,baz=229,slow=2.3,SNR=4.5
CFA PKP sPdif 16 14 26.2 -0.8
comp=Z,11nm,0.7s,baz=218,slow=4.9,SNR=6.7
CFA SKPbc SKPbc 16 17 14.8 -0.4
comp=Z,8.8nm,0.7s,baz=29,slow=1.7,SNR=8.3
J59A Piesco 139.71 23 PKPpre 16 14 19.3
S51A Beattyville 139.72 37 PKPpre 16 14 19.3
PKME Peaks-Kenny Pk 139.82 16 P PKiKP 16 14 30.0 0.0
baz=337
LRAL Lakeview Retre 140.32 45 P PKiKP 16 14 31.0 -0.5
baz=304
M57A Sunshine Farm, 140.38 27 PKPpre 16 14 21.2
CPCT Cooper Cave 140.56 40 PKPpre 16 14 22.1
SSPA Standing Stone 140.58 28 PKPpre 16 14 21.9
PLTB Pedras Altas 141.41 181 eP PKPdf 16 14 30.2 -0.6
HRV Adam Dziewonsk 141.61 20 P PKiKP 16 14 33.6 -0.2
baz=332
TRNY Table Rock, Ra 141.78 24 PKPpre 16 14 24.9
152A Waverly Hall 142.11 44 P PKPdf 16 14 28.6 -3.4
baz=306,SNR=15
S57A Dark Hollow, R 142.25 32 P PKPdf 16 14 28.1 -4.0
baz=318
S57A P PKPdf 16 14 28.1 -4.0
baz=318
PSUB Penn St. - Bra 142.27 27 P PKPdf 16 14 28.6 -3.3
baz=325
GEDE Greenville 142.28 27 P PKPdf 16 14 28.4 -3.6
baz=324,SNR=14
V55A Taylorsville 142.34 37 PKPpre PKPpre 16 14 28.6
V55A Taylorsville 142.34 37 P PKPdf 16 14 29.2 -3.1
baz=313,SNR=12
V55A P PKPdf 16 14 29.2 -3.1
baz=313,SNR=12
L64A Middleborough 142.36 20 P PKPdf 16 14 29.8 -2.3
baz=333
L64A P PKPdf 16 14 29.8 -2.3
baz=333
M63A Gales Ferry 142.41 22 P PKPdf 16 14 29.2 -2.9
baz=331
M63A P PKPdf 16 14 29.2 -2.9
baz=331
U56A King 142.48 35 P PKPdf 16 14 29.2 -3.3
baz=315
U56A P PKPdf 16 14 29.2 -3.3
baz=315
451A Vernon 142.53 47 P PKPdf 16 14 30.7 -2.0
baz=302
T57A Hurt 142.64 33 P PKPdf 16 14 29.9 -2.9
baz=317,SNR=9.7
T57A P PKPdf 16 14 29.9 -2.9
baz=317,SNR=9.7
352A Blakely 142.65 45 P PKPdf 16 14 31.0 -1.9
baz=304
R58B Mineral 142.65 31 P PKPdf 16 14 30.8 -2.0
baz=320,SNR=6.6
R58B P PKPdf 16 14 30.8 -2.0
baz=320,SNR=6.6
PAULI Pauline 142.67 38 PKPpre PKPpre 16 14 30.1
PAULI Pauline 142.67 38 P PKPdf 16 14 30.5 -2.3
baz=312,SNR=15
CBN Corbin Frederi 142.72 30 P PKPdf 16 14 30.6 -2.3
baz=321
KMSC Kings Mountain 142.75 38 P PKPdf 16 14 30.4 -2.6
baz=313,SNR=15
CPSB Cacapava Do Su 142.76 182 eP PKPdf 16 14 31.1 -2.1
P61A Hammonton 142.77 26 P PKPdf 16 14 30.6 -2.3
baz=326
P61A P PKPdf 16 14 30.6 -2.3
baz=326
HODGE Hodges 142.77 40 P PKPdf 16 14 30.9 -2.1
baz=310,SNR=16
154A Montrose 143.24 42 P PKPbc 16 14 32.3 +0.3
baz=308
JSC Jenkinsville 143.37 39 P PKPbc 16 14 32.8 +0.4
baz=312
AC02 Maricunga 143.49 158 PKPdf PKPbc 16 14 34.1 +0.5
AC01 Pan de Azucar 143.52 155 PKPdf PKPbc 16 14 33.7 +0.5
W57A Gilead 143.54 36 P PKPab 16 14 32.8 0.0
baz=314,SNR=33
W57A P PKPab 16 14 32.8 0.0
baz=314,SNR=33
T59A Double "B" Far 143.57 32 PKPdf PKPbc 16 14 33.1 +0.1
T59A Double "B" Far 143.57 32 P PKPbc 16 14 33.4 +0.4
baz=319,SNR=41
T59A P PKPbc 16 14 33.4 +0.4
baz=319,SNR=41
V58A Windy Hill, Pi 143.59 35 P PKPbc 16 14 33.3 +0.2
baz=316,SNR=21
V58A P PKPbc 16 14 33.3 +0.2
baz=316,SNR=21
TIGA Tifton 143.61 44 P PKPdf 16 14 34.4 -0.3
baz=306,SNR=18
TIGA Tifton 143.61 44 P PKPdf 16 14 33.9 -0.7
baz=306
BIRD Birdtown, Kers 143.61 37 P PKPbc 16 14 33.6 +0.4
baz=313,SNR=20
R61A Willards 143.61 28 P PKPbc 16 14 33.7 +0.7
baz=324
R61A P PKPbc 16 14 33.7 +0.7
baz=324
553A Crawfordville 143.72 47 PKPdf PKPdf 16 14 34.5 -0.3
553A Crawfordville 143.72 47 P PKPdf 16 14 34.8 -0.1
baz=304,SNR=14
HAW Hawthorne Fire 143.75 40 P PKPdf 16 14 34.2 -0.6
baz=310
T60A Surry 143.87 31 PKPab 16 14 33.8 -0.1
T60A Surry 143.87 31 P PKPdf 16 14 34.5 -0.4
baz=321,SNR=5.2
T60A P PKPdf 16 14 34.5 -0.4
baz=321,SNR=5.2
U59A Littleton 143.91 33 PKPbc 16 14 33.9 -0.2
U59A Littleton 143.91 33 P PKPab 16 14 34.4 +0.3
baz=318,SNR=12
U59A P PKPab 16 14 34.4 +0.3
baz=318,SNR=12
S61A Accomac 143.97 29 P PKPdf 16 14 35.3 +0.3
baz=323
S61A P PKPdf 16 14 35.3 +0.3
baz=323
255A Hazlehurst 144.08 43 PKPab 16 14 35.0 +0.1
255A Hazlehurst 144.08 43 P PKPdf 16 14 35.9 +0.5
baz=308,SNR=14
Y57A Sumter 144.08 38 P PKPdf 16 14 35.3 0.0
baz=313
Y57A P PKPdf 16 14 35.3 0.0
baz=313
PETF Flores 144.15 71 PKPbc 16 14 35.1 -0.2
X58A Rowland 144.34 36 PKPab 16 14 35.6 -0.1
X58A Rowland 144.34 36 P PKPdf 16 14 36.0 +0.2
baz=315,SNR=16
X58A P PKPdf 16 14 36.0 +0.2
baz=315,SNR=16
Y58A Scranton 144.59 38 PKPdf 16 14 36.0 -0.2
Y58A Scranton 144.59 38 P PKPab 16 14 37.1 +0.4
baz=314,SNR=9.4
Y58A P PKPab 16 14 37.1 +0.4
baz=314,SNR=9.4
CNNC Cliffs of the 144.68 34 P PKPab 16 14 37.6 +0.6
baz=317,SNR=5.2
CNNC Cliffs of the 144.68 34 P PKPab 16 14 37.0 0.0
baz=317
TEIG Tepich 144.80 65 eP PKPdf 16 14 35.5 -1.4
NHSC New Hope 144.82 39 P PKPab 16 14 38.0 +0.4
baz=312
NHSC New Hope 144.82 39 P PKPab 16 14 38.1 +0.5
baz=312
V61A Roper 144.98 32 PKPdf PKPbc 16 14 37.2 -0.2
V61A Roper 144.98 32 P PKPab 16 14 38.3 +0.2
baz=320,SNR=7.8
V61A P PKPab 16 14 38.3 +0.2
baz=320,SNR=7.8
257A Skidaway Islan 145.01 41 P PKPab 16 14 38.8 +0.4
baz=310
456A Hilliard 145.11 44 P PKPab 16 14 39.1 +0.3
baz=307
Y60A Bolivia 145.39 36 PKPbc PKPbc 16 14 38.8 +0.1
Y60A Bolivia 145.39 36 P PKPab 16 14 39.4 -0.3
baz=316,SNR=6.8
Y60A P PKPab 16 14 39.4 -0.3
baz=316,SNR=6.8
656A Willston 145.54 46 PKPbc PKPbc 16 14 39.4 +0.2
656A Willston 145.54 46 P PKPbc 16 14 39.6 +0.3
baz=305
PB10 IPOC Station P 145.85 153 PKPdf PKPdf 16 14 38.4 -0.3
ITAB Concordia 145.85 184 eP PKPdf 16 14 37.9 -0.7
CPUP Villa Florida 146.72 175 PKPbc PKPdf 16 14 41.2 +1.1
comp=Z,23nm,0.8s,baz=173,slow=1.8,SNR=32
CPUP pPKPbc pPKPab 16 16 39.1 -0.4
comp=Z,6.6nm,0.8s,baz=169,slow=4.0,SNR=5.2
CPUP SKPbc SKiKP 16 17 33.2 +0.1
comp=Z,8.5nm,0.9s,baz=176,slow=3.5,SNR=3.6
CPUP Villa Florida 146.72 175 eP PKPdf 16 14 40.5 +0.4
PB06 IPOC Station P 146.99 154 PKPdf PKPdf 16 14 40.3 -0.5
DWPF Disney Wildern 147.05 47 P PKPbc 16 14 43.9 +0.5
baz=305
DWPF Disney Wildern 147.05 47 P PKPbc 16 14 44.0 +0.5
baz=305
LVC Limon Verde 147.35 155 PKPbc PKPbc 16 14 43.5 -1.4
comp=Z,28nm,0.8s,baz=246,slow=2.3,SNR=23
LVC pPKPbc pPKPbc 16 16 41.9 +0.5
comp=Z,7.5nm,1.0s,baz=1.8,slow=2.8,SNR=2.8
LVC Limon Verde 147.35 155 eP PKPdf 16 14 41.0 -0.7
TIJ01 Guaruva-PR 147.38 189 eP PKPdf 16 14 39.9 -1.5
PET01 Itanhaem-SP 148.06 193 eP PKPdf 16 14 41.6 -0.8
PTGB Pitanga 148.35 184 eP PKPdf 16 14 41.9 -1.1
PATCX Punta Patache 148.36 151 PKPbc PKiKP 16 14 47.8 -0.6
060A Indiantown 148.44 48 P PKiKP 16 14 48.0 -0.2
baz=305
SOR Soroa 148.46 57 PKPbc PKiKP 16 14 48.0 -0.4
SOR Soroa 148.46 57 PKP2 PKiKP 16 14 48.0 -0.4
PARB Paraibuna 148.57 196 eP PKPdf 16 14 42.5 -0.9
061Z Ochoppi 148.67 50 P PKiKP 16 14 48.4 -0.3
baz=302
DUB01 Friburgo-RJ 148.69 202 eP PKPdf 16 14 41.3 -2.2
SPB Sao Paulo 148.77 193 eP PKPdf 16 14 41.0 -2.5
BOAB BOACO BROADBAND 148.89 78 PKPbc 16 14 48.9 +0.3
VAS01 Vassouras-RJ 148.90 200 eP PKPdf 16 14 43.0 -0.8
VAO Valinhos 149.24 194 eP PKPdf 16 14 41.6 -2.8
ALF01 Guarapari-ES 149.34 206 eP PKPdf 16 14 44.1 -0.3

FRTB	Fartura	149.41	189	*e*P		PKPdf	16 14 43.6	-1.0
PSGCX	Pisagua	149.41	150			PKPbc	16 14 49.7	-0.1
PB11	IPOC Station P	149.50	151			PKPdf	16 14 44.5	-0.5
PB11					PKPbc	PKPbc	16 14 50.1	0.0
JTS	Las Juntas de	149.78	82	PKP		PKPdf	16 14 45.6	+0.2
	comp=Z,9.0nm,0.7s,baz=276,slow=6.7,SNR=4.5							
JTS					PKPbc	PKiKP	16 14 51.4	0.0
	comp=Z,94nm,0.9s,baz=326,slow=1.4,SNR=28							
JTS					pPKPbc	pPKPbc	16 16 48.5	+1.0
	comp=Z,3.0nm,0.4s,baz=311,slow=23,SNR=1.8							
JTS	Las Juntas de	149.78	82	*e*P		PKiKP	16 14 51.7	+0.3
RCLB	Rio Claro- Sao	149.93	193	*e*P		PKPdf	16 14 44.1	-1.3
PB12	IPOC Station P	150.14	149			PKiKP	16 14 51.9	-0.2
HDC	Heredia	150.63	82	*e*P		PKPdf	16 14 45.5	-1.3
NNA	Nana	150.87	130	PKPbc		PKiKP	16 14 54.0	+0.3
	comp=Z,58nm,0.8s,baz=265,slow=4.2,SNR=20							
SJMB	Sao Joao De Ma	151.22	207	*e*P		PKPdf	16 14 46.4	-1.1
PCMB	Pacaembu	151.35	186	*e*P		PKPdf	16 14 45.8	-1.8
GUA01	Guaratinga, BA	152.36	212	*e*P		PKPdf	16 14 47.8	-1.4
ATAH	Atahualpa	152.37	120	PKP		PKPdf	16 14 50.1	+0.3
	comp=Z,13nm,0.9s,baz=262,slow=1.2,SNR=7.6							
ATAH					PKPbc	PKiKP	16 14 58.4	+1.1
	comp=Z,26nm,0.8s,baz=178,slow=0.6,SNR=17							
DIAM	Diamantina, MG	152.63	203	*e*P		PKPdf	16 14 48.9	-0.8
AQDB	Aquidauana	152.64	178	*e*P		PKPdf	16 14 48.1	-1.4
BBSR	BB Station	153.08	19	P		PKPbc	16 14 57.4	-0.3
	baz=338							
ITRB	Iturama	153.11	189	*e*P		PKPdf	16 14 46.4	-3.9
LPAZ	La Paz	153.21	150	PKP		PKPdf	16 14 51.4	+0.2
	comp=Z,4.6nm,1.0s,baz=98,slow=0.7,SNR=11							
LPAZ					PKPbc	PKiKP	16 15 00.0	+0.8
	comp=Z,5.3nm,0.4s,baz=55,slow=2.2,SNR=23							
LPAZ					PKPab	PKPab	16 15 14.2	+1.0
	comp=Z,5.9nm,0.6s,baz=246,slow=3.8,SNR=8.6							
LPAZ					pPKPab	pPKPab	16 17 05.5	-1.4
	comp=Z,20nm,0.9s,baz=114,slow=2.4,SNR=15							
LPAZ	La Paz	153.21	150	*e*P		PKPdf	16 14 49.5	-1.7
C2SB	Chapadao do Su	154.30	184	*e*P		PKPdf	16 14 50.1	-1.8
IPMB	Ipameri, GO	154.36	194	*e*P		PKPdf	16 14 50.6	-1.4
OTAV	Otavalo	155.23	105	*e*P		PKPdf	16 14 51.2	-2.7
PP1B	Ponte de Pedra	155.52	179	*e*P		PKPdf	16 14 54.0	+0.5
JANB	Januaria	155.81	205	*e*P		PKPdf	16 14 52.3	-1.7
SIV	San Ignacio	156.23	164	PKP		PKPdf	16 14 55.2	+0.6
	comp=Z,5.7nm,0.8s,baz=192,slow=1.9,SNR=23							
SIV					PKPab	PKPab	16 15 25.8	+0.4
	comp=Z,4.1nm,0.6s,baz=180,slow=3.9,SNR=12							
SIV					pPKPab	pPKPab	16 17 17.6	-1.5
	comp=Z,5.0nm,0.7s,baz=159,slow=6.3,SNR=2.8							
BDFB	Brasilia	156.55	196	PKP		PKPdf	16 14 55.0	-0.1
	comp=Z,2.1nm,0.4s,baz=174,slow=4.5,SNR=4.6							
BDFB	Brasilia	156.55	196	*e*P		PKPdf	16 14 54.6	-0.5
CZSB	Cruzeiro do Su	156.70	129	*e*P		PKPdf	16 14 53.8	-1.5
SALV	Santo Antonio	157.18	177	*e*P		PKPdf	16 14 54.9	-0.8
PTLB	Pontes e Lacer	157.20	169	PKPdf		PKPdf	16 14 55.5	-0.2
PTLB	Pontes e Lacer	157.20	169	*e*P		PKPdf	16 14 56.9	+1.2
RCBR	Riachuelo	157.42	236	*e*P		PKPdf	16 14 54.6	-1.6
YOTC	Yotoco, Valle	158.10	97	*e*P		PKPdf	16 14 55.5	-1.6
FLOC	Florencia	158.28	103	*e*P		PKPdf	16 14 57.1	-0.1
PLMC	San Jos del P	158.29	94	*e*P		PKPdf	16 14 56.4	-0.8
SDBA	SAO DESIDERIO	158.43	206	*e*P		PKPdf	16 14 56.0	-1.3
MEDEC	Medelln, Ant	159.09	91	*e*P		PKPdf	16 14 59.3	+0.9
VILB	Vilhena	159.36	164	*e*P		PKPdf	16 14 57.2	-1.2
ETMB	Extrema	159.62	145	*e*P		PKPdf	16 14 57.7	-0.9
ZARC	Zaragoza, Cauc	159.86	87	*e*P		PKPdf	16 14 56.4	-2.5
SDDR	Presa de Saban	159.86	52	PKPab		PKPab	16 15 41.7	+0.4
ROSC	El Rosal	160.22	95	PKP		PKPdf	16 15 00.2	+0.3
	comp=Z,8.9nm,0.7s,baz=121,slow=6.6,SNR=4.3							
ROSC					PKPab	PKPab	16 15 44.7	+1.1
	comp=Z,11nm,0.4s,baz=322,slow=12,SNR=5.4							
PTBC	PUERTO BERRIO	160.23	90	*e*P		PKPdf	16 14 57.1	-2.3
NBCL	Cascavel-CE	160.28	236	*e*P		PKPdf	16 14 58.3	-1.1
SNDB	Serra Nova Dou	160.84	190	*e*P		PKPdf	16 14 58.6	-1.4
TBTG	Tabatinga, AM	161.05	126	*e*P		PKPdf	16 14 59.5	-0.8
PDRB	Porto dos Gac	161.35	173	*e*P		PKPdf	16 14 58.9	-1.7
BARC	Barichara	161.50	90	*e*P		PKPab	16 15 49.7	+0.6
RUSC	La Rusia	161.56	92	PKPdf		PKPdf	16 15 00.3	-1.1
RUSC					PKPab	PKPab	16 15 49.5	-0.1
RUSC	La Rusia	161.56	92	*e*P		PKPdf	16 15 00.4	-1.0
PAMC	Pamplona, Colo	162.00	88	*e*P		PKPdf	16 15 01.8	0.0
CLDB	Colider	162.16	176	*e*P		PKPdf	16 15 00.0	-1.4
SMTB	Santa Maria do	162.75	204	*e*P		PKPdf	16 15 01.4	-0.5
OBIP	Obispado Ponce	163.95	46			PKPab	16 15 59.3	+0.1
SDV	Santo Domingo	163.97	82	PKP		PKPdf	16 15 03.0	-0.4
	comp=Z,14nm,0.9s,baz=26,slow=0.5,SNR=10							
SDV					PKPab	PKPab	16 16 00.8	+1.0
	comp=Z,14nm,0.7s,baz=293,slow=3.3,SNR=13							
SDV	Santo Domingo	163.97	82	*e*P		PKPdf	16 15 03.1	-0.2
GCPR	Guaynabo City	164.14	44	PKPab		PKPab	16 15 59.8	-0.2
ROSB	Rosrio	165.66	227	*e*P		PKPdf	16 15 04.0	-0.5
SGCB	S£o Gabriel d	165.67	119	*e*P		PKPdf	16 15 03.7	-0.8
NPGB	Novo Progresso	165.99	177	*e*P		PKPdf	16 15 03.7	-1.1
PRPB	Parauapebas	166.05	200	*e*P		PKPdf	16 15 05.4	+0.5
BAUV	El Baul	166.51	81	PKPab		PKPab	16 16 10.5	-0.3
MACA	Manacapuru-AM	168.17	149	*e*P		PKPdf	16 15 05.1	-1.2
ITTB	Itaituba	168.61	174	*e*P		PKPdf	16 15 05.1	-1.5
TMAB	Tom-Au,PA,Br	168.65	215	*e*P		PKPdf	16 15 05.1	-1.6
MALB	Monte Alegre	171.16	182	*e*P		PKPdf	16 15 07.4	-0.7
MCPB	Macapa, AP	172.24	199	*e*P		PKPdf	16 15 07.1	-1.5
BOAV	Boa Vista	172.48	128	*e*P		PKPdf	16 15 07.1	-1.6

*CNRM **31** 15:56:01.1,36°.54N×7°.33W,h0km,ml2.5*
*MDD **31** 15:56:06.4±0.5,36°.64N×7°.46W,h35km±2km,mb_Lg2.7/17,*
Error ellipse: s-maj=4.2km s-min=2.5km az=36.0
*SFS **31** 15:56:07.5,36°.75N×7°.40W,h24km,ML2.7/12,MLv2.7/12*
*INMG **31** 15:56:07.3±1.6,36°.66N×7°.45W,h31km±8km,ML2.3,Error*
ellipse: s-maj=3.8km s-min=3.5km az=36.0

ISC 31 15:56:02.1±1.1,**36°.57N**±0°.03×**7°.39W**±0°.02,**h20**km±6km,
n66,σ1s**86**/120,**5D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	Vaqueiros	0.87	342	*i*P	Pn	15 56 20.6	+1.4
PVAQ				*e*S	Sb	15 56 30.1	+0.3
PVAQ				A	A	15 56 31.5	
	159nm,0.3s						
PVAQ	Vaqueiros	0.87	342	P	Pn	15 56 20.1	+0.9
PVAQ				S	Sb	15 56 29.4	-0.4
EGRO	El Granado	0.96	355	S	Sn	15 56 32.9	-0.7
EGRO				P	Pn	15 56 22.1	+1.7
EGRO	El Granado	0.96	355	Pg	Pn	15 56 22.2	+1.7
EGRO				Sg	Sn	15 56 32.9	-0.7
EGRO				*i* Vmb_Lg		15 56 34.0	
PCVE	Castro Verde	1.18	334	*e*P	Pb	15 56 25.1	+1.3
PCVE				*e*S	Sb	15 56 38.2	-0.5
PCVE				A	A	15 56 38.6	
	79nm,0.2s						
MORF	Marmelete	1.25	306	*e*P	Pb	15 56 25.8	+0.8
MORF				*e*S	Sn	15 56 39.7	-1.0
MORF				IAML		15 56 40.5	
	comp=N,104nm,0.1s						
MORF	Marmelete	1.25	306	*e*P	Pb	15 56 25.8	+0.8
MORF				*e*S	Sn	15 56 39.8	-0.9
MORF				A	A	15 56 40.1	
	comp=N,94nm,0.1s						
ESPR	Espera	1.27	76	S	Sb	15 56 43.7	+2.7
ESPR				P	Pb	15 56 28.1	+2.9
ESPR	Espera	1.27	76	Pn	Pb	15 56 27.9	+2.7
ESPR				Sn	Sb	15 56 43.3	+2.2
ESPR				*i* Vmb_Lg		15 56 44.7	
PFVI	Vila Bisbo	1.28	296	*e*P	Pb	15 56 26.6	+1.0
PFVI	Vila Bisbo	1.28	296	P	Pb	15 56 26.2	+0.6
PFVI				S	Sb	15 56 46.1	+4.5
PFVI	Vila Bisbo	1.28	296	P	Pb	15 56 26.6	+1.0
EMIN	Mina Concepcio	1.32	25	S	Sn	15 56 41.7	-0.8
EMIN				P	Pb	15 56 27.2	+1.0
EMIN	Mina Concepcio	1.32	25	Pn	Pb	15 56 27.1	+0.9
EMIN				Sn	Sn	15 56 42.0	-0.5
EMIN				*i* Vmb_Lg		15 56 46.8	
MESJ	Messejana	1.43	333	*e*P	Pb	15 56 28.5	+0.4
MESJ				*e*S	Sn	15 56 44.1	-1.0
MESJ				IAML		15 56 46.0	
	comp=N,40nm,0.2s						
MESJ	Messejana	1.43	333	*i*P	Pb	15 56 28.5	+0.4
MESJ				*e*S	Sn	15 56 44.1	-1.0
MESJ				A	A	15 56 46.2	
	comp=N,24nm,0.2s						
PTEO	Sao Teotonio	1.45	313	*e*P	Pb	15 56 28.9	+0.6
PTEO				*e*S	Sn	15 56 44.3	-1.2
PTEO				A	A	15 56 47.5	
	comp=N,23nm,0.6s						
PBEJ	Beja	1.50	345	*e*P	Pb	15 56 29.4	+0.1
PBEJ				*e*S	Sn	15 56 45.7	-1.2
PBEJ				A	A	15 56 49.8	
	comp=N,20nm,0.5s						
EJIF	Jimena Fronter	1.55	94	Pn	Pb	15 56 31.0	+1.0
EJIF				Sn	Sb	15 56 49.7	+0.5
PBAR	Barrancos	1.63	10	*i*P	Pb	15 56 31.3	-0.1
PBAR				*e*S	Sn	15 56 49.6	-0.3
PBAR				A	A	15 56 56.5	
	comp=N,17nm,0.4s						
PBAR	Barrancos	1.63	10	S	Sn	15 56 48.6	-1.3
PBAR				P	Pb	15 56 31.3	-0.1
PNCL	Nicolau / Gran	1.79	330	*i*P	Pb	15 56 33.3	-0.8
PNCL				*e*S	Sn	15 56 51.7	-2.2
PNCL				A	A	15 57 03.7	
	comp=N,28nm,0.2s						
PNCL	Nicolau / Gran	1.79	330	P	Pb	15 56 33.3	-0.8
SMIR	Smir Dam	1.85	118	P	Pb	15 56 35.4	+0.2
EVO	Evora	2.02	346	*e*Pn	Pb	15 56 36.6	-1.5
EVO				*e*Sn	Sn	15 56 58.4	-1.3
EVO				A	A	15 57 09.8	
	comp=N,20nm,0.5s						
EVO	Evora	2.02	346	S	Sn	15 56 58.3	-1.4
EVO				P	Pb	15 56 36.7	-1.5
EMIJ	Mijas	2.10	89	S	Sb	15 57 06.0	+0.8
EMIJ	Mijas	2.10	89	Pn	Pb	15 56 39.3	-0.2
EMIJ				Sn	Sb	15 57 03.8	-1.5
EMIJ				*i* Vmb_Lg		15 57 07.4	
ECAB	El Cabril	2.17	46	P	Pb	15 56 39.3	-1.4
ECAB				S	Sn	15 57 02.1	-1.3
ECAB	El Cabril	2.17	46	Pn	Pb	15 56 39.5	-1.2
ECAB				Sn	Sn	15 57 03.4	-0.1
ECAB				*i* Vmb_Lg		15 57 10.6	
EBAD	Badajoz	2.20	8	P	Pn	15 56 38.9	+1.4
EBAD				S	Sn	15 57 03.1	-1.1
EBAD	Badajoz	2.20	8	Pn	Pn	15 56 38.8	+1.3
EBAD				Sn	Sn	15 57 03.2	-0.9
EBAD				*i* Vmb_Lg		15 57 10.8	
PESTR	Estremoz	2.30	356	*e*Pn	Pn	15 56 40.2	+1.3
PESTR				*e*Sn	Sn	15 57 04.5	-2.0
PESTR				A	A	15 57 17.4	
	comp=N,8.5nm,0.5s						
PESTR	Estremoz	2.30	356	P	Pn	15 56 39.7	+0.8
PESTR	Estremoz	2.30	356	P	Pn	15 56 40.1	+1.3
PESTR				S	Sn	15 57 05.6	-0.9
EMAL	Malaga-Limoner	2.38	85	S	Sb	15 57 11.9	-1.4
EGOR	Sierra Gorda,	2.68	77	Pn	Pb	15 56 47.2	-2.3
EGOR				Sn	Sn	15 57 16.5	+0.3
EGOR				*i* Vmb_Lg		15 57 19.7	
EADA	Adamuz	2.75	54	P	Pb	15 56 48.2	-2.4
EADA				S	Sn	15 57 17.6	0.0
EADA	Adamuz	2.75	54	Pn	Pb	15 56 48.2	-2.4
EADA				Sn	Sn	15 57 17.6	0.0
EADA				*i* Vmb_Lg		15 57 19.5	
PMAFR	Mafra	2.82	328	*e*Pn	Pn	15 56 47.9	+2.0
PMAFR				*e*Sn	Sn	15 57 16.9	-2.4
PMAFR				A	A	15 57 24.4	
	comp=N,24nm,0.6s						
PMAFR	Mafra	2.82	328	P	Pn	15 56 47.9	+2.0
PMAFR				S	Sn	15 57 19.0	-0.3
PMRV	Marv??o	2.85	360	*i*Pn	Pn	15 56 48.0	+1.5
PMRV				*e*Sn	Sn	15 57 17.8	-2.4
PMRV				A	A	15 57 35.8	
	comp=N,7.0nm,0.3s						
ELGU	Los Guajares,	3.04	83	Pn	Pb	15 56 51.9	-3.6
ELGU				Sn	Sn	15 57 26.1	+1.4
ELGU				*i* Vmb_Lg		15 57 31.5	
PSBE	So Bento	3.14	340	*e*Pn	Pn	15 56 52.5	+2.0
ZHG	ZHG	3.18	169	P	Pb	15 56 54.6	-3.2
ZHG				S	Sb	15 57 32.1	-4.1
EQUE	Quentar	3.23	77	Pn	Pb	15 56 54.8	-3.9
EQUE				Sn	Sn	15 57 29.4	-0.1
EQUE				*i* Vmb_Lg		15 57 31.5	
PCBR	Castelo Branco	3.27	359	*e*Pn	Pn	15 56 53.8	+1.7
PCBR				*e*Sn	Sn	15 57 27.2	-3.1
PCBR				A	A	15 57 29.8	
	comp=N,5.5nm,0.1s						
EPLA	Plasencia	3.64	16	Pn	Pn	15 56 58.8	+1.6
PAB	San Pablo	3.82	38	Pn	Pn	15 57 01.7	+2.0
PAB				Sn	Sn	15 57 40.9	-3.2
PAB				*i* Vmb_Lg		15 57 41.4	
MTE	Manteigas	3.83	358	*e*Pn	Pn	15 57 01.4	+1.5
MTE				*e*Sn	Sn	15 57 41.9	-2.4
MTE				A	A	15 57 43.4	
	comp=N,5.4nm,0.6s						
PVIS	Viseu	4.16	355	*e*Pn	Pn	15 57 05.7	+1.3
PVIS				*e*Sn	Sn	15 57 51.0	-1.5
MD31	MD31	4.28	149	P	Pn	15 57 08.6	+2.5
MD31				S	Sn	15 57 55.7	+0.1
MDT	Midelt	4.39	148	P	Pn	15 57 11.0	+3.3
MDT				S	Sn	15 57 58.6	+0.3
MVO	Moncorvo	4.60	3	*e*Pn	Pn	15 57 11.9	+1.4
MVO				*e*Sn	Sn	15 57 59.8	-3.5
MVO				A	A	15 58 01.9	
	comp=N,4.4nm,0.4s						
EZAR	Zarzadilla de	4.73	72	Pn	Pn	15 57 15.5	+3.2
EZAR				Sn	Sn	15 58 06.6	+0.1
EZAR				*i* Vmb_Lg		15 58 11.6	
GUD	Guadarrama	4.79	31	Pn	Pn	15 57 14.7	+1.5
GUD				Sn	Sn	15 58 06.3	-1.9
GUD				*i* Vmb_Lg		15 58 15.7	
POLO	Lamas de Olo	4.81	356	*e*Pn	Pn	15 57 14.7	+1.3
POLO				*e*Sn	Sn	15 58 06.0	-2.5
POLO				A	A	15 58 07.1	
	comp=N,1.8nm,0.3s						
PCAB	Cabril	5.16	355	*e*Pn	Pn	15 57 19.7	+1.6
PCAB				*e*Sn	Sn	15 58 13.0	-4.0
PCAB				A	A	15 58 17.0	
	comp=N,3.1nm,0.1s						
PBRG	Braganca	5.25	5	*e*Pn	Pn	15 57 19.6	+0.2
PBRG				*e*Sn	Sn	15 58 17.1	-2.3
ELOB	Lobios	5.32	355	Pn	Pn	15 57 21.5	+1.2
ELOB				Sn	Sn	15 58 17.5	-3.5
ELOB				*i* Vmb_Lg		15 58 20.4	
OUK	Oukaimeden	5.36	184	P	Pn	15 57 22.0	+0.7
ECAL	Calabor	5.39	5	Pn	Pn	15 57 22.9	+1.6
ECAL				Sn	Sn	15 58 19.6	-3.2
ECAL				*i* Vmb_Lg		15 58 22.3	
PGAV	Gavieira, Arco	5.43	353	*e*Pn	Pn	15 57 23.4	+1.4
PGAV				*e*Sn	Sn	15 58 21.4	-2.5
PGAV				A	A	15 58 22.8	
	comp=N,3.2nm,0.2s						
EVIV	Cofrentes, Val	5.64	60	Pn	Pn	15 57 28.3	+3.5
EVIV				Sn	Sn	15 58 27.6	-1.3
EVIV				*i* Vmb_Lg		15 58 29.8	
OUZM	OUZ	5.67	175	P	Pn	15 57 29.8	+4.5
ETOR	Torete	5.95	43	Pn	Pn	15 57 31.0	+2.0
ETOR				Sn	Sn	15 58 33.2	-3.4

*HEL **31** 16:06:55.8±0.3,67°.17N×20°.61E,h0km,ML1.1,Explosion*
*UPP **31** 16:06:55.6±0.1,67°.19N×20°.65E,h0km,ML2.8,Confirmed*
Induced event
*DNK **31** 16:06:56.0±0.7,67°.19N×20°.63E,h0km,ML2.8(UPP),*
Suspected explosion

ISC 31 16:06:55.5±0.8,**67°.18N**±0°.02×**20°.69E**±0°.02,**h0**km,**n41**,
σ0s**87**/57,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.08	216	P	Pg	16 06 57.4	+0.4
DUNU				S	Sg	16 06 58.6	+0.7
DUNU	Dundret	0.08	216	P	Pg	16 06 57.4	+0.4
DUNU				S	Sg	16 06 58.6	+0.7
MASU	Masugnsbyn	0.58	61	P	Pg	16 07 06.9	+0.4
MASU				S	Sg	16 07 15.6	+1.5
MASU	Masugnsbyn	0.58	61	P	Pg	16 07 06.9	+0.4
MASU				S	Sg	16 07 15.6	+1.5
RATU	Laukkuluspa	0.77	327	P	Pg	16 07 09.7	-0.4
RATU	Laukkuluspa	0.77	327	P	Pg	16 07 09.7	-0.4
ERTU	Ertsjaerv	0.87	136	P	Pg	16 07 11.7	-0.4
ERTU	Ertsjaerv	0.87	136	P	Pg	16 07 11.7	-0.4
ERTU	Ertsjaerv	0.87	136	PG	Pg	16 07 11.5	-0.5
ERTU				SB	Sg	16 07 23.3	0.0
SALU	Saltoluokta	0.87	284	P	Pg	16 07 11.7	-0.4
SALU	Saltoluokta	0.87	284	P	Pg	16 07 11.7	-0.4
NIKU	Nikkaluokta	0.93	318	P	Pg	16 07 12.8	-0.6
NIKU	Nikkaluokta	0.93	318	P	Pg	16 07 12.8	-0.6
PAJU	Pajala	0.96	99	P	Pg	16 07 13.6	-0.3
PAJU	Pajala	0.96	99	P	Pg	16 07 13.6	-0.3
PAJU	Pajala	0.96	99	PG	Pg	16 07 13.9	0.0
PAJU				SB	Sg	16 07 27.5	+1.1
LANU	Lannavaara	1.00	29	P	Pg	16 07 14.3	-0.4
LANU	Lannavaara	1.00	29	P	Pg	16 07 14.3	-0.4
LANU	Lannavaara	1.00	29	PG	Pg	16 07 14.2	-0.4
LANU				SN	Sn	16 07 33.3	+1.7
HARU	Harads	1.03	173	P	Pg	16 07 14.7	-0.5
HARU	Harads	1.03	173	P	Pg	16 07 14.7	-0.5
KOVU	Salmi	1.06	349	P	Pg	16 07 15.2	-0.6
KOVU	Salmi	1.06	349	P	Pg	16 07 15.2	-0.6
KLF	Kolari	1.28	86	PG	Pg	16 07 19.5	-0.5
KLF				MSG		16 07 35.5	
	comp=Z,0.7nm,0.2s						
KLF				SG	Sg	16 07 36.4	-0.1
HEF	Hetta	1.67	41	PG	Pn	16 07 26.0	0.0
HEF				MSG		16 07 46.6	
	comp=Z,1.3nm,0.2s						
HEF				SN	Sn	16 07 48.4	+0.3
KALU	Kalix	1.71	140	P	Pn	16 07 27.0	+0.5
KALU	Kalix	1.71	140	P	Pn	16 07 27.0	+0.5
KALU	Kalix	1.71	140	PG	Pn	16 07 26.9	+0.5
	baz=325						
KALU				SN	Sb	16 07 50.2	+0.6
SJUU	Sjulsmark	1.72	167	P	Pn	16 07 26.8	+0.2
SJUU	Sjulsmark	1.72	167	P	Pn	16 07 26.8	+0.2
TOF	Tornio	1.83	126	PG	Pn	16 07 29.2	+1.1
TOF				MSG		16 07 50.7	
	comp=Z,1.0nm,0.2s						
TOF				SG	Sb	16 07 53.4	+0.4
KIF	Kilpisjarvi	1.83	1	PG	Pb	16 07 29.7	-0.1
KIF				MSG		16 07 51.8	
	comp=Z,1.9nm,0.2s						
KIF				SG	Sg	16 07 55.0	+0.9
KTK1	Kautokeino	2.07	26	PG	Pb	16 07 33.2	-0.7
KTK1				SG	Sb	16 08 00.7	+0.6
RNF	Rovaniemi	2.18	103	PG	Pn	16 07 34.6	+1.7
RNF				SG	Sb	16 08 03.7	+0.5
SGF	Sodankyl	2.28	81	PG	Pb	16 07 36.8	-0.6
SGF				SG	Sb	16 08 07.0	+0.9
ARA0	ARCESS Array S	2.96	35	PN	Pn	16 07 44.5	+0.8
ARA0				SG	Sg	16 08 29.7	-0.8
KEV	Kevo	3.48	39	SB	Sb	16 08 39.0	-1.6
VRF	Varrio	3.48	77	SB	Sb	16 08 40.7	0.0
OLKF	Oulanka, Finla	3.56	100	SB	Sb	16 08 41.2	-1.9
MSF	Maaselka	3.58	107	SB	Sb	16 08 41.3	-2.1
KU6	Riekki	3.85	103	SN	Sn	16 08 39.4	-2.4

*HEL **31** 16:14:42.9±0.1,67°.81N×20°.17E,h0km,ML1.6,Explosion*
*UPP **31** 16:14:42.8±0.1,67°.83N×20°.21E,h0km,ML2.6,Confirmed*
Induced event

ISC 31 16:14:42.9±0.8,**67°.81N**±0°.03×**20°.26E**±0°.03,**h0**km,**n29**,
σ0s**85**/45,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	Laukkuluspa	0.26	274	P	Pg	16 14 47.5	-0.3
RATU				S	Sg	16 14 50.9	-0.2
KOVU	Salmi	0.42	355	P	Pg	16 14 50.5	-0.5
NIKU	Nikkaluokta	0.47	278	P	Pg	16 14 51.4	-0.5
LANU	Lannavaara	0.70	69	P	Pg	16 14 56.2	-0.1
LANU	Lannavaara	0.70	69	PG	Pg	16 14 56.1	-0.1
LANU				SG	Sg	16 15 05.3	+0.1
MASU	Masugnsbyn	0.75	117	P	Pg	16 14 57.6	+0.3
SALU	Saltoluokta	0.80	238	P	Pg	16 14 57.8	-0.3
KIF	Kilpisjarvi	1.22	9	*e*P	Pg	16 15 05.4	-0.8
KIF	Kilpisjarvi	1.22	9	PG	Pg	16 15 05.8	-0.5
	baz=188						
KIF				MSG		16 15 21.0	
	comp=Z,8.0nm,0.2s						
KIF				SG	Sg	16 15 21.8	-0.3
PAJU	Pajala	1.35	124	P	Pg	16 15 08.0	-0.8
PAJU	Pajala	1.35	124	PG	Pg	16 15 07.7	-1.0
PAJU				SN	Sg	16 15 26.6	+0.3
HEF	Hetta	1.41	63	*e*P	Pn	16 15 09.2	-0.7
HEF	Hetta	1.41	63	PG	Pn	16 15 08.9	-0.9
	baz=250						
HEF				MSG		16 15 26.2	
	comp=Z,4.4nm,0.2s						
HEF				SG	Sg	16 15 28.0	-0.2
ERTU	Ertsjaerv	1.47	148	P	Pn	16 15 09.8	-0.8
ERTU	Ertsjaerv	1.47	148	PG	Pn	16 15 09.7	-0.8

	baz=354								
VWDT	**VWDT**	**0.41**	**266**	*i*	P	**Pn**	**16 26 37.5**	**-0.8**	
	baz=260								
VWDT					S	**Sn**	**16 26 43.8**	**-1.0**	
	baz=260								
OWD	**Renai**	**0.41**	**294**	*e*	P	**Pn**	**16 26 37.1**	**-1.4**	
	baz=301								
OWD					S	**Sn**	**16 26 43.5**	**-1.6**	
	baz=301								
ETLH	**Xiulin Townshi**	**0.43**	**347**	*i*	P	**Pn**	**16 26 37.3**	**-1.5**	
	baz=348								
ETLH					S	**Sn**	**16 26 43.2**	**-2.3**	
	baz=348								
WHF	**Hehuan Shan**	**0.47**	**321**		P	**Pn**	**16 26 38.2**	**-1.3**	
	baz=316								
WHF					S	**Sn**	**16 26 44.9**	**-1.9**	
	baz=316								
CHGB	**Renai**	**0.47**	**306**		P	**Pn**	**16 26 38.4**	**-0.9**	
	baz=309								
CHGB					S	**Sn**	**16 26 45.4**	**-1.2**	
	baz=309								
YULB	**Yu-li**	**0.47**	**214**		P	**Pn**	**16 26 37.4**	**-1.8**	
YULB	**Yu-li**	**0.47**	**214**		P	**Pn**	**16 26 37.4**	**-1.8**	
	baz=212								
YULB					S	**Sn**	**16 26 43.7**	**-2.6**	
	baz=212								
WUSB	**Renai**	**0.48**	**296**		P	**Pn**	**16 26 38.6**	**-0.8**	
	baz=295								
WUSB					S	**Sn**	**16 26 45.3**	**-1.3**	
	baz=295								
EYUL	**Yuli**	**0.50**	**209**		P	**Pn**	**16 26 38.2**	**-1.3**	
	baz=215								
EYUL					S	**Sn**	**16 26 44.9**	**-2.1**	
	baz=215								
FUSS	**Fushou**	**0.56**	**326**		P	**Pn**	**16 26 39.7**	**-1.0**	
	baz=326								
FUSS					S	**Sn**	**16 26 47.2**	**-1.6**	
	baz=326								
SSLB	**Suanglung**	**0.58**	**271**		P	**Pn**	**16 26 39.6**	**-1.1**	
SSLB	**Suanglung**	**0.58**	**271**		P	**Pn**	**16 26 39.6**	**-1.1**	
	baz=267								
SSLB					S	**Sn**	**16 26 47.9**	**-1.2**	
	baz=267								
TWT	**Tachien**	**0.60**	**321**		P	**Pn**	**16 26 40.6**	**-0.6**	
	baz=317								
TWT					S	**Sn**	**16 26 48.4**	**-1.4**	
	baz=317								
TDCB	**Techi**	**0.61**	**320**		P	**Pn**	**16 26 40.7**	**-0.6**	
	baz=318								
TDCB					S	**Sn**	**16 26 48.3**	**-1.6**	
	baz=318								
SMLT	**Sun Moon Lake**	**0.64**	**279**		P	**Pn**	**16 26 40.8**	**-0.8**	
	baz=281								
SMLT					S	**Sn**	**16 26 49.0**	**-1.6**	
	baz=281								
FULB	**Fuli**	**0.64**	**205**	*e*	P	**Pn**	**16 26 41.1**	**-0.5**	
	baz=212								
FULB				*e*	S	**Sn**	**16 26 49.7**	**-0.9**	
	baz=212								
YUS	**Yu-Shan**	**0.65**	**243**		P	**Pn**	**16 26 41.4**	**-0.7**	
	baz=235								
YUS					S	**Sn**	**16 26 49.7**	**-1.7**	
	baz=235								
ENA	**Nanau**	**0.66**	**12**	*i*	P	**Pn**	**16 26 40.5**	**-1.2**	
	baz=4.0								
ENA				*e*	S	**Sn**	**16 26 50.7**	**-0.3**	
	baz=4.0								
NNSB	**Datong**	**0.67**	**344**		P	**Pn**	**16 26 40.9**	**-1.2**	
	baz=351								
NNSB					S	**Sn**	**16 26 49.5**	**-1.9**	
	baz=351								
WCS	**Beigang Elemen**	**0.68**	**294**	*e*	P	**Pn**	**16 26 41.4**	**-0.7**	
	baz=293								
WCS				*e*	S	**Sn**	**16 26 50.0**	**-1.4**	
	baz=293								
TYC	**Yuchr**	**0.68**	**280**		P	**Pn**	**16 26 41.4**	**-0.7**	
	baz=284								
TYC				*e*	S	**Sn**	**16 26 50.2**	**-1.2**	
	baz=284								
EWUT	**Wuta**	**0.68**	**15**		P	**Pn**	**16 26 40.9**	**-1.2**	
	baz=5.0								
EWUT				*e*	S	**Sn**	**16 26 51.0**	**-0.5**	
	baz=5.0								
NNS	**Nan Shan**	**0.68**	**343**		P	**Pn**	**16 26 41.1**	**-1.1**	
	baz=351								
NNS					S	**Sn**	**16 26 49.7**	**-2.0**	
	baz=351								
CHKT	**Chengkung**	**0.71**	**197**		P	**Pn**	**16 26 41.6**	**-0.9**	
	baz=184								
CHKT					S	**Sn**	**16 26 51.8**	**-0.4**	
	baz=184								
EHD	**Haiduan**	**0.72**	**209**	*e*	P	**Pn**	**16 26 40.9**	**-1.8**	
	baz=214								
EHD				*e*	S	**Sn**	**16 26 50.9**	**-1.6**	
	baz=214								
LATG	**Datong**	**0.75**	**356**		P	**Pn**	**16 26 41.9**	**-1.3**	
	baz=356								
LATG				*e*	S	**Sn**	**16 26 52.2**	**-1.1**	
	baz=356								
WHP	**Taichung City**	**0.77**	**310**	*e*	P	**Pn**	**16 26 43.0**	**-0.4**	
	baz=314								
WHP				*e*	S	**Sn**	**16 26 52.5**	**-1.2**	
	baz=314								
ALS	**Alishan**	**0.77**	**249**		P	**Pn**	**16 26 43.0**	**-0.6**	
	baz=248								
ALS				*e*	S	**Sn**	**16 26 52.5**	**-1.5**	
	baz=248								
WJS	**Zhushan**	**0.79**	**273**	*e*	P	**Pn**	**16 26 43.8**	**+0.2**	
	baz=272								
WJS				*e*	S	**Sn**	**16 26 54.9**	**+0.8**	
	baz=272								
ELDTW	**Lidau**	**0.79**	**222**		P	**Pn**	**16 26 42.4**	**-1.3**	
	baz=215								
ELDTW				*e*	S	**Sn**	**16 26 53.1**	**-1.2**	
	baz=215								
WNT	**Mingjian**	**0.83**	**277**	*e*	P	**Pn**	**16 26 44.5**	**+0.4**	
	baz=276								
WNT				*e*	S	**Sn**	**16 26 55.8**	**+0.5**	
	baz=276								
EDH	**Donghe**	**0.85**	**198**		P	**Pn**	**16 26 43.0**	**-1.4**	
	baz=209								
EDH				*e*	S	**Sn**	**16 26 54.1**	**-1.5**	
	baz=209								
CHN5	**Tsauling**	**0.85**	**258**		P	**Pn**	**16 26 44.8**	**+0.2**	
	baz=256								
CHN5				*e*	S	**Sn**	**16 26 56.0**	**+0.1**	
	baz=256								
ENTT	**Nioudou**	**0.85**	**359**		P	**Pn**	**16 26 43.5**	**-1.0**	
	baz=7.0								
ENTT				*e*	S	**Sn**	**16 26 55.1**	**-0.7**	
	baz=7.0								
NDS	**Dongshan**	**0.85**	**8**		P	**Pn**	**16 26 43.5**	**-1.0**	
	baz=359								
NDS				*e*	S	**Sn**	**16 26 55.2**	**-0.6**	
	baz=359								
TWC	**Suao**	**0.86**	**16**	*e*	P	**Pn**	**16 26 43.9**	**-0.7**	
	baz=5.0								
TWC				*e*	S	**Sn**	**16 26 55.8**	**0.0**	
	baz=5.0								
YHNB	**Yeheng**	**0.90**	**348**		P	**Pn**	**16 26 44.7**	**-0.5**	
YHNB	**Yeheng**	**0.90**	**348**		P	**Pn**	**16 26 44.7**	**-0.5**	
	baz=356								
YHNB				*e*	S	**Sn**	**16 26 56.0**	**-1.2**	
	baz=356								
TCU	**Taichung**	**0.91**	**294**	*e*	P	**Pn**	**16 26 46.1**	**+0.9**	
	baz=293								
TCU				*e*	S	**Sn**	**16 26 58.2**	**+1.1**	
	baz=293								
NSK	**Sanguang**	**0.91**	**347**		P	**Pn**	**16 26 44.9**	**-0.5**	
	baz=356								
NSK					S	**Sn**	**16 26 56.2**	**-1.1**	
	baz=356								
TWQ1	**Liyutan**	**0.93**	**307**		P	**Pn**	**16 26 46.2**	**+0.7**	
	baz=307								
TWQ1					S	**Sn**	**16 26 58.5**	**+0.7**	
	baz=307								
TWE	**Neicheng**	**0.94**	**4**		P	**Pn**	**16 26 44.6**	**-1.0**	
	baz=5.0								
TWE				*e*	S	**Sn**	**16 26 56.8**	**-1.0**	
	baz=5.0								
NFF	**Wufeng Townshi**	**0.95**	**333**		P	**Pn**	**16 26 45.7**	**-0.1**	
	baz=337								
NFF				*e*	S	**Sn**	**16 26 59.3**	**+1.2**	
	baz=337								
STYH	**Taoyuan**	**0.96**	**231**	*e*	P	**Pn**	**16 26 45.7**	**-0.2**	
	baz=227								
STYH				*e*	S	**Sn**	**16 26 58.0**	**-0.5**	
	baz=227								
WCKO	**Fanlu**	**0.96**	**249**	*e*	P	**Pn**	**16 26 46.5**	**+0.4**	
	baz=248								
WCKO				*e*	S	**Sn**	**16 26 59.5**	**+1.1**	
	baz=248								
WDLH	**Douliu**	**0.96**	**265**	*e*	P	**Pn**	**16 26 46.0**	**0.0**	
	baz=264								
WDLH				*e*	S	**Sn**	**16 26 59.3**	**+0.8**	
	baz=264								
LONT	**Longtian**	**0.97**	**206**	*e*	P	**Pn**	**16 26 44.1**	**-2.0**	
	baz=196								
LONT				*e*	S	**Sn**	**16 26 55.7**	**-2.9**	
	baz=196								
FUSB	**Fushanzhiwuyua**	**0.97**	**0**		P	**Pn**	**16 26 45.2**	**-1.0**	
	baz=9.0								
FUSB				*e*	S	**Sn**	**16 26 57.2**	**-1.6**	
	baz=9.0								
NSY	**Sanyi**	**0.98**	**310**	*e*	P	**Pn**	**16 26 46.9**	**+0.6**	
	baz=310								
NSY				*e*	S	**Sn**	**16 26 59.9**	**+0.9**	
	baz=310								
WCHH	**Zhanghua**	**0.99**	**288**	*e*	P	**Pn**	**16 26 46.6**	**+0.3**	
	baz=286								
WCHH				*e*	S	**Sn**	**16 27 00.2**	**+1.2**	
	baz=286								
NWLT	**Wulai**	**0.99**	**356**	*e*	P	**Pn**	**16 26 45.7**	**-0.8**	
	baz=355								
NWLT				*e*	S	**Sn**	**16 26 58.6**	**-0.6**	
	baz=355								
NSTT	**Nanjuang**	**1.00**	**328**		P	**Pn**	**16 26 46.9**	**+0.5**	
	baz=327								
NSTT				*e*	S	**Sn**	**16 26 59.4**	**+0.1**	
	baz=327								
TPUB	**Ta-pu**	**1.00**	**241**		P	**Pn**	**16 26 47.1**	**+0.6**	
TPUB	**Ta-pu**	**1.00**	**241**	*e*	P	**Pn**	**16 26 46.9**	**+0.4**	
	baz=241								
TPUB				*e*	S	**Sn**	**16 26 59.9**	**+0.4**	
	baz=241								
LIOB	**Emei**	**1.00**	**329**	*e*	P	**Pn**	**16 26 47.3**	**+0.7**	
	baz=328								
LIOB				*e*	S	**Sn**	**16 27 00.2**	**+0.7**	
	baz=328								
CHN4	**Tsaushan**	**1.01**	**245**	*e*	P	**Pn**	**16 26 47.2**	**+0.6**	
	baz=244								
CHN4				*e*	S	**Sn**	**16 27 00.7**	**+1.1**	
	baz=244								
WDJ	**Dajia District**	**1.03**	**303**	*e*	P	**Pn**	**16 26 47.6**	**+0.7**	
	baz=302								
WDJ				*e*	S	**Sn**	**16 27 00.9**	**+0.8**	
	baz=302								
WTP	**Ta-pu**	**1.04**	**239**	*e*	P	**Pn**	**16 26 47.7**	**+0.6**	
	baz=238								
WTP				*e*	S	**Sn**	**16 27 01.2**	**+0.8**	
	baz=238								
NMLH	**Miaoli**	**1.04**	**316**	*e*	P	**Pn**	**16 26 47.5**	**+0.4**	
	baz=315								
NMLH				*e*	S	**Sn**	**16 27 01.0**	**+0.5**	
	baz=315								
TWGBT	**Beinan**	**1.07**	**206**		P	**Pn**	**16 26 45.4**	**-2.0**	
TWGBT	**Beinan**	**1.07**	**206**		P	**Pn**	**16 26 45.2**	**-2.2**	
	baz=199								
TWGBT					S	**Sn**	**16 26 58.1**	**-2.9**	
	baz=199								
TWG	**Pinlang**	**1.07**	**206**	*e*	P	**Pn**	**16 26 46.3**	**-1.2**	
	baz=199								
TWG				*e*	S	**Sn**	**16 26 58.8**	**-2.3**	
	baz=199								
WTK	**Tuku**	**1.10**	**265**	*e*	P	**Pn**	**16 26 48.2**	**+0.3**	
	baz=264								
WTK				*e*	S	**Sn**	**16 27 02.7**	**+0.9**	
	baz=264								
CHY	**Chiayi**	**1.10**	**255**	*e*	P	**Pn**	**16 26 48.4**	**+0.5**	
	baz=254								
CHY				*e*	S	**Sn**	**16 27 02.5**	**+0.6**	
	baz=254								
LDUT	**Ludao**	**1.11**	**186**	*e*	S	**Sn**	**16 27 01.2**	**-0.8**	
	baz=179								
WRL	**Guolierlin Hig**	**1.11**	**276**	*e*	P	**Pn**	**16 26 48.4**	**+0.3**	
	baz=275								
WRL				*e*	S	**Sn**	**16 27 03.1**	**+1.0**	
	baz=275								
TWK	**Hsinying**	**1.13**	**243**	*e*	P	**Pn**	**16 26 49.0**	**+0.7**	
	baz=242								
TWK				*e*	S	**Sn**	**16 27 03.7**	**+1.0**	
	baz=242								
CHN1	**Nanshi**	**1.14**	**239**	*e*	P	**Pn**	**16 26 48.8**	**+0.3**	
	baz=238								
CHN1				*e*	S	**Sn**	**16 27 03.8**	**+1.0**	
	baz=238								
SBCB	**Hsinchu**	**1.14**	**331**	*e*	P	**Pn**	**16 26 49.2**	**+0.8**	
	baz=318								
SBCB				*e*	S	**Sn**	**16 27 05.4**	**+2.4**	
	baz=318								
SNST	**Tainan City**	**1.15**	**241**	*e*	P	**Pn**	**16 26 49.2**	**+0.7**	
	baz=240								
SNST				*e*	S	**Sn**	**16 27 04.5**	**+1.5**	
	baz=240								
SGST	**Jiashian**	**1.16**	**233**	*e*	P	**Pn**	**16 26 49.2**	**+0.5**	
	baz=232								
SGST				*e*	S	**Sn**	**16 27 04.6**	**+1.4**	
	baz=232								
SLGT	**Liugui**	**1.17**	**228**	*e*	P	**Pn**	**16 26 50.3**	**+1.5**	
	baz=227								
SLGT				*e*	S	**Sn**	**16 27 05.2**	**+1.7**	
	baz=227								
NHDH	**Xindian Distri**	**1.18**	**357**	*e*	P	**Pn**	**16 26 48.8**	**-0.1**	
	baz=4.0								
NHDH				*e*	S	**Sn**	**16 27 03.2**	**-0.5**	
	baz=4.0								
TATO	**Taipei**	**1.19**	**356**		P	**Pn**	**16 26 49.3**	**+0.2**	
TWA	**Mucha**	**1.19**	**360**	*e*	P	**Pn**	**16 26 48.9**	**-0.3**	
	baz=6.0								
TWA				*e*	S	**Sn**	**16 27 03.6**	**-0.6**	
	baz=6.0								
WTCT	**Ta-ch'eng**	**1.20**	**274**	*e*	S	**Sn**	**16 27 05.6**	**+1.4**	
	baz=273								
TIPB	**Shuangxi**	**1.20**	**10**	*e*	P	**Pn**	**16 26 48.8**	**-0.6**	
	baz=1.0								
TIPB				*e*	S	**Sn**	**16 27 05.0**	**+0.5**	
	baz=1.0								
NCUH	**Zhongli**	**1.23**	**343**	*e*	P	**Pn**	**16 26 50.4**	**+0.7**	
	baz=342								
NCUH				*e*	S	**Sn**	**16 27 07.0**	**+1.8**	
	baz=342								
NCU	**National Centr**	**1.24**	**343**	*e*	P	**Pn**	**16 26 50.4**	**+0.7**	
	baz=342								
NCU				*e*	S	**Sn**	**16 27 06.8**	**+1.6**	
	baz=342								
WSF	**Szhu**	**1.26**	**264**	*e*	P	**Pn**	**16 26 48.6**	**-1.4**	
	baz=263								
WSF				*e*	S	**Sn**	**16 27 06.3**	**+0.6**	
	baz=263								
ICHU	**Yijhu**	**1.27**	**251**	*e*	P	**Pn**	**16 26 50.6**	**+0.4**	
	baz=250								
ICHU				*e*	S	**Sn**	**16 27 07.6**	**+1.5**	
	baz=250								
TWB1	**Santiao Chiao**	**1.27**	**17**	*e*	P	**Pn**	**16 26 49.5**	**-0.7**	
	baz=27								
TWB1				*e*	S	**Sn**	**16 27 05.8**	**-0.3**	
	baz=27								
WSL	**Shuilin Townsh**	**1.27**	**258**	*e*	P	**Pn**	**16 26 50.8**	**+0.6**	
	baz=258								
WSL				*e*	S	**Sn**	**16 27 08.0**	**+2.0**	
	baz=258								
NWF	**Wu-fen Shan**	**1.29**	**8**	*e*	S	**Sn**	**16 27 06.5**	**-0.2**	
	baz=6.0								
ECL	**Taimali**	**1.32**	**206**	*e*	P	**Pn**	**16 26 48.9**	**-1.9**	
	baz=199								
ECL				*e*	S	**Sn**	**16 27 07.0**	**-0.2**	
	baz=199								
TWS1	**Kuangyinshan**	**1.32**	**353**	*e*	P	**Pn**	**16 26 50.1**	**-0.8**	
	baz=6.0								
TWS1				*e*	S	**Sn**	**16 27 06.5**	**-0.8**	
	baz=6.0								
SXI1	**Grass Mountain**	**1.33**	**11**	*e*	P	**Pn**	**16 26 50.4**	**-0.7**	
	baz=359								
SXI1				*e*	S	**Sn**	**16 27 06.9**	**-0.8**	
	baz=359								
CHN8	**Yiju**	**1.33**	**251**	*e*	S	**Sn**	**16 27 08.8**	**+1.2**	
	baz=250								
SCST	**Cishan**	**1.34**	**229**	*e*	P	**Pn**	**16 26 51.7**	**+0.5**	
	baz=229								
SCST				*e*	S	**Sn**	**16 27 09.1**	**+1.3**	
	baz=229								
YM01	**YM01**	**1.36**	**359**		P	**Pn**	**16 26 50.6**	**-0.8**	
	baz=358								
YM01				*e*	S	**Sn**	**16 27 07.7**	**-0.6**	
	baz=358								
TSMG	**Majia**	**1.38**	**219**	*e*	P	**Pn**	**16 26 52.5**	**+0.8**	
	baz=220								
TSMG				*e*	S	**Sn**	**16 27 10.4**	**+1.7**	
	baz=220								
NTST	**Danshui**	**1.38**	**355**	*e*	P	**Pn**	**16 26 50.8**	**-0.9**	
	baz=7.0								
NTST				*e*	S	**Sn**	**16 27 08.3**	**-0.5**	
	baz=7.0								
ANP	**Anpu**	**1.40**	**358**	*e*	P	**Pn**	**16 26 50.2**	**-1.8**	
	baz=358								
TWM1	**Shoushan**	**1.44**	**228**	*e*	P	**Pn**	**16 26 54.1**	**+1.7**	
	baz=229								
TWM1				*e*	S	**Sn**	**16 27 14.2**	**+4.1**	
	baz=229								
MASBT	**Mashibuluo**	**1.46**	**217**	*e*	P	**Pn**	**16 26 53.8**	**+1.0**	
	baz=218								
MASBT				*e*	S	**Sn**	**16 27 12.9**	**+2.2**	
	baz=218								
YOJ	**Yonaguni jima**	**1.47**	**62**		P	**Pn**	**16 26 53.4**	**+0.5**	
YOJ					S	**Sn**	**16 27 12.2**	**+1.3**	
TSCK	**Chigu Township**	**1.52**	**246**	*e*	P	**Pn**	**16 26 54.1**	**+0.5**	
	baz=245								
TSCK				*e*	S	**Sn**	**16 27 13.0**	**+0.9**	
	baz=245								
EAST	**Anshuo**	**1.55**	**206**	*e*	P	**Pn**	**16 26 53.3**	**-0.8**	
	baz=201								
EAST				*e*	S	**Sn**	**16 27 12.4**	**-0.6**	
	baz=201								
TAWH	**Dawu Township**	**1.57**	**204**	*e*	P	**Pn**	**16 26 53.5**	**-0.9**	
	baz=199								
SCZT	**Fangliau**	**1.66**	**213**	*e*	P	**Pn**	**16 26 56.6**	**+1.0**	
	baz=222								
SCZT				*e*	S	**Sn**	**16 27 17.7**	**+2.0**	
	baz=222								
SLIU	**Shizi**	**1.72**	**205**	*e*	P	**Pn**	**16 26 55.9**	**-0.5**	
	baz=203								
SLIU				*e*	S	**Sn**	**16 27 16.7**	**-0.5**	
	baz=203								
PHUB	**P'eng-hu**	**1.87**	**262**	*e*	P	**Pn**	**16 26 57.7**	**-0.7**	
	baz=248								
PHUB				*e*	S	**Sn**	**16 27 20.8**	**0.0**	
	baz=248								
SMST	**Manzhou Townsh**	**1.89**	**202**	*e*	P	**Pn**	**16 26 58.2**	**-0.5**	
	baz=193								
SMST				*e*	S	**Sn**	**16 27 20.9**	**-0.3**	
	baz=193								
IRIF	**Iriomote-Funau**	**2.04**	**74**		P	**Pn**	**16 27 01.3**	**+0.6**	
IRIF					S	**Sn**	**16 27 26.0**	**+1.1**	
HATJ	**Hateruma jima**	**2.05**	**82**		P	**Pn**	**16 27 01.2**	**+0.3**	
HATJ					S	**Sn**	**16 27 26.1**	**+0.9**	
JKRS	**Kuro-shima**	**2.26**	**78**	*e*	P	**Pn**	**16 27 04.4**	**+0.6**	
JKRS					S	**Sn**	**16 27 31.8**	**+1.3**	
VWUC	**VWUC**	**2.29**	**302**	*e*	P	**Pn**	**16 27 04.3**	**+0.1**	
	baz=301								
VWUC				*e*	S	**Sn**	**16 27 31.1**	**-0.1**	
	baz=301								
JIJ	**Ishigaki jima**	**2.41**	**76**		P	**Pn**	**16 27 05.9**	**+0.1**	
JIJ					S	**Sn**	**16 27 34.1**	**0.0**	
PTMZ	**Houxiangcun**	**2.57**	**300**	*e*	P	**Pn**	**16 27 08.3**	**+0.2**	
	baz=299								
PTMZ				*e*	S	**Sn**	**16 27 38.0**	**-0.2**	
	baz=299								
JISG	**Ishigakijimahi**	**2.61**	**72**		P	**Pn**	**16 27 08.8**	**+0.2**	
JISG					S	**Sn**	**16 27 39.1**	**-0.1**	
MATB	**Ma-tsu**	**2.79**	**328**	*e*	P	**Pn**	**16 27 11.4**	**+0.3**	
	baz=326								
MATB				*e*	S	**Sn**	**16 27 43.4**	**-0.1**	
	baz=326								
JTJ	**Tarama**	**2.97**	**73**		P	**Pn**	**16 27 13.5**	**-0.1**	
JTJ				*e*	S	**Sn**	**16 27 49.4**	**+1.4**	
KNMB	**Chin-men Tao**	**3.00**	**284**	*e*	P	**Pn**	**16 27 14.2**	**+0.2**	
	baz=283								
KNMB				*e*	S	**Sn**	**16 27 48.8**	**0.0**	
	baz=283								
LYJJ	**Jianjiangzhen**	**3.21**	**329**	*e*	P	**Pn**	**16 27 17.8**	**+0.9**	
	baz=328								
LYJJ				*e*	S	**Sn**	**16 27 54.0**	**0.0**	
	baz=328								
MHZQ	**Yeshan**	**3.27**	**315**	*e*	P	**Pn**	**16 27 17.9**	**+0.2**	
	baz=314								
MHZQ				*e*	S	**Sn**	**16 27 55.0**	**-0.4**	
	baz=314								
XPSS	**Dashiqiu**	**3.38**	**338**	*e*	P	**Pn**	**16 27 19.9**	**+0.7**	
	baz=327								
XPSS				*e*	S	**Sn**	**16 27 58.2**	**+0.1**	
	baz=327								
AXDP	**Jialang**	**3.48**	**289**	*e*	P	**Pn**	**16 27 20.8**	**+0.2**	
	baz=289								
AXDP				*e*	S	**Sn**	**16 27 58.0**	**-2.6**	
	baz=289								

IDC 31 16:30:33.9±1.1, 40.10S×46.04E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=102.0km s-min=30.3km az=19.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**53.09**	**107**	T	T	17 37 17.5	
	baz=244,slow=75,SNR=3.2						
H01W3	**Cape Leeuwin H**	**53.09**	**107**	T	T	17 37 18.4	
	baz=244,slow=75,SNR=2.9						
H01W1	**Cape Leeuwin H**	**53.10**	**107**	T	T	17 37 18.9	
	baz=244,slow=75,SNR=3.0						
TORD	**Torodi Ar. Bea**	**67.08**	**312**	P	P	16 41 29.2	0.0
	0.7nm,1.0s,baz=131,slow=5.8,SNR=2.1						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**73.60**	**107**	P	P	16 42 09.2	0.0
	0.8nm,0.8s,baz=225,slow=5.3,SNR=13						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**76.18**	**104**	P	P	16 42 24.3	+0.2
	0.8nm,0.8s,baz=227,slow=4.4,SNR=5.7						
	0.8nm,0.8s						
TXAR	**Lajitas Array**	**153.00**	**256**	PKPbc	PKPbc	16 50 32.9	-0.5
	0.6nm,1.0s,baz=142,slow=4.6,SNR=4.4						
TXAR				PKPab	PKPab	16 50 44.9	+0.2
	0.4nm,0.9s,baz=134,slow=3.9,SNR=3.9						

MOS ***31*** *16:32:25.8±0.9, 37.17N×71.70E, h122km, mb4.6/2, Error ellipse: s-maj=12.6km s-min=7.2km az=91.8*

BJI ***31*** *16:32:25.2±0.0, 37.22N×71.62E, h108km, mb4.4/16, mB4.8/10*

SOME ***31*** *16:32:27.1, 38.43N×71.92E, h0km*

IDC ***31*** *16:32:27.6±1.0, 37.05N×71.72E, h129km±8km, mb3.5/15, mbtmp4.0/20, Error ellipse: s-maj=16.7km s-min=12.4km az=23.0*

NEIC ***31*** *16:32:27.7±1.2, 37.25N±0.06×71.5E±0.1, h125km±4km, mb4.3/21, Error ellipse: s-maj=12.7km s-min=8.5km az=97.0*

NNC ***31*** *16:32:31.5±4.9, 37.81N×71.80E, h0km, mb5.2, mpv4.8, Error ellipse: s-maj=37.7km s-min=30.7km az=179.0*

ISC 31 16:32:25.4±0.4, 37.22N±0.04×71.72E±0.04, h106km, n124, σ2s91/142, mb4.2/28, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.10**	**329**		**Pn**	**16 33 01.7**	**+2.1**
CHGR	**Chuyangaron**	**2.49**	**306**	Pn	**Pn**	**16 33 05.6**	**+1.0**
CHGR	**Chuyangaron**	**2.49**	**306**	PN	**Pn**	**16 33 05.6**	**+1.0**
CEP	**Cherat**	**3.39**	**177**	P	**Pn**	**16 33 19.9**	**+3.3**
CEP				S	**Sn**	**16 33 59.0**	**+2.9**
KBL	**Kabul**	**3.44**	**220**	Pn	**Pn**	**16 33 19.4**	**+2.0**

SNR=80
MRKS Merke 5.64 11 *e*Pg **Pn** **16 33 49.3 +2.4**
158nm,0.3s
MRKS *e*Lg Lg 16 34 48.2
264nm,0.3s
EKS2 Erkin-Say 5.66 16 P **Pn** **16 33 49.8 +2.6**
SNR=149
DZA Taraz 5.68 357 *e*Pg **Pn** **16 33 50.1 +2.8**
484nm,0.3s
DZA *e*Lg Lg 16 34 49.9
686nm,0.3s
THN Thein Dam 5.79 144 *e*P **Pn** **16 33 50.9 +2.0**
THN *e*S **Sn** **16 34 52.0 -2.0**
AAK Ala-Archa 5.82 21 P **Pn** **16 33 52.3 +2.9**
SNR=178
AAK Ala-Archa 5.82 21 P **Pn** **16 33 52.0 +2.6**
103nm,0.4s,baz=190,slow=6.5,SNR=638
AAK S **Sn** **16 34 56.1 +1.3**
59nm,0.6s,baz=144,slow=23,SNR=14
AAK Ala-Archa 5.82 21 Pn **Pn** **16 33 52.1 +2.7**
AAK Ala-Archa 5.82 21 PN **Pn** **16 33 52.1 +2.7**
KK31 Karatay Array 5.95 351 **Pn** **16 33 52.9 +1.9**
KK31 Karatay Array 5.95 351 P **Pn** **16 33 53.2 +2.1**
52nm,0.3s,baz=175,slow=12,SNR=717
KK31 S **Sn** **16 34 55.9 -2.0**
36nm,0.4s,baz=166,slow=16,SNR=9.6
KK31 Karatay Array 5.95 351 PN **Pn** **16 33 52.9 +1.9**
KKAR Karatay Array 5.95 351 Pn **Pn** **16 33 52.8 +1.7**
KKAR Karatay Array 5.95 351 PN **Pn** **16 33 52.8 +1.7**
KBK Karagaybulak 5.97 24 P **Pn** **16 33 54.4 +2.9**
SNR=42
CHMS Chumysh 6.22 21 P **Pn** **16 33 57.4 +2.6**
SNR=118
CHMS Chumysh 6.22 21 ⇓P **Pn** **16 33 57.4 +2.6**
128nm,0.7s
CHMS ⇑S **Sn** **16 35 05.7 +1.2**
78nm,0.7s
USP Ospenovka 6.41 18 P **Pn** **16 33 59.4 +2.2**
SNR=47
TKM2 Tokmak 2 6.43 26 P **Pn** **16 34 00.5 +2.9**
SNR=34
TKM2 Tokmak 2 6.43 26 ⇓P **Pn** **16 33 60.0 +2.3**
70nm,0.6s
TKM2 ⇑S **Sn** **16 35 09.8 +0.2**
20nm,0.7s
BHK Bhakra 6.97 145 *e*P **Pn** **16 34 05.6 +0.8**
BHK *e*S **Sn** **16 35 17.7 -4.9**
TNSS Tian-Shan 7.06 33 *e*Pg Pn 16 34 17.5 +11
8.9nm,0.6s
TNSS *e*Lg Lg 16 35 36.6
5.6nm,0.7s
MDOK Medeo 7.20 33 P **Pn** **16 34 10.5 +2.3**
16nm,0.6s
MDOK S **Sn** **16 35 26.1 -2.3**
13nm,0.6s
SMLA Simla 7.56 142 *e*P **Pn** **16 34 12.8 -0.1**
SMLA *e*S **Sn** **16 35 29.9 -7.1**
SMLA IAML 16 35 37.4
comp=N,324nm,0.3s
SMLA IAML 16 35 37.8
comp=E,365nm,0.6s
DDI Dehra Dun 8.66 141 *e*P **Pn** **16 34 28.5 +0.6**
DDI *e*S **Sn** **16 35 55.2 -8.7**
DDI IAML 16 36 03.7
comp=E,276nm,0.4s
DDI IAML 16 36 05.3
comp=N,422nm,0.3s
NDI New Delhi 9.68 150 *e*P **Pn** **16 34 42.0 +0.3**
NDI *e*S **Sn** **16 36 21.0 -7.5**
KUDL Kundal 9.89 155 *e*P **Pn** **16 34 44.3 -0.3**
PTH Pithoragarh 10.43 135 *e*P **Pn** **16 34 51.0 -1.0**
LGTI Lohaghat 10.52 135 *e*P **Pn** **16 34 51.3 -1.8**
GEYT Alibeck 10.82 278 P **Pn** **16 34 54.3 -2.9**
comp=N,3.4nm,0.3s,baz=109,slow=9.8,SNR=18
GEYT S **Sn** **16 36 49.0 -7.3**
comp=N,12nm,0.4s,baz=102,slow=19,SNR=15
AJM Ajmer 10.99 166 *e*P **Pn** **16 34 58.5 -1.0**
MK31 Makanchi Array 12.37 36 Pn **P** **16 35 21.3 -4.1**
MK31 Makanchi Array 12.37 36 P **P** **16 35 21.3 -4.1**
MKAR Makanchi Array 12.37 36 Pn **P** **16 35 21.3 -4.1**
MKAR Makanchi Array 12.37 36 P **P** **16 35 21.3 -4.1**
PYUN Piuthan 13.13 131 *e*P **Pn** **16 35 24.6 -3.4**
comp=N,91nm,0.4s
DANN Dangsing 13.43 128 *e*P **Pn** **16 35 28.7 -3.3**
KOLN Koldanda 13.74 130 *e*P **Pn** **16 35 32.4 -3.6**
comp=N,1.4nm,0.3s
WMQ Urumqi 13.82 57 *e*P **P** **16 35 41.8 +0.3**
GKN Gorkha 14.23 126 *e*P **Pn** **16 35 38.9 -3.3**
comp=N,53nm,0.4s
KURBB Kurchatov Arra 14.26 18 P **P** **16 35 44.3 -2.0**
comp=N,3.0nm,0.5s,baz=205,slow=11,SNR=4.7
KURK Kurchatov 14.37 18 P **Pn** **16 35 44.3 +0.7**
ABKAR Akbulak array 14.76 328 P **Pn** **16 35 47.6 -1.0**
BHPL Bhopal 14.77 159 *e*P **P** **16 35 55.9 +3.8**
BHPL *ex* x 16 38 19.8
KKN Kakani 14.79 126 *e*P **Pn** **16 35 45.4 -4.0**
comp=N,1.6nm,0.4s
DMN Daman 14.80 126 *e*P **Pn** **16 35 46.6 -3.0**
comp=N,24nm,0.4s
PKIN Phulchoki 15.01 126 *e*P **Pn** **16 35 48.7 -3.5**
comp=N,28nm,0.5s
PKIN *e*S Sn 16 38 24.0 -14
PKI Pulchoki 15.02 126 *e*P **Pn** **16 35 48.6 -3.9**
PKI *e*S Sn 16 38 23.9 -15
GUN Gumba 15.10 124 *e*P **Pn** **16 35 49.7 -3.8**
JIRN Jiri 15.47 124 *e*P **Pn** **16 35 54.8 -3.4**
comp=N,84nm,0.4s
BVAR Borovoye Array 15.84 357 P **Pn** **16 36 01.5 -0.6**
comp=N,3.1nm,0.7s,baz=167,slow=13,SNR=14
BVAR S **Sn** **16 38 47.3 -10**
comp=N,3.4nm,0.6s,baz=164,slow=22,SNR=5.9
BRVK Borovoye 15.88 357 Pn **Pn** **16 36 02.9 +0.3**
BRVK Borovoye 15.88 357 P **Pn** **16 36 02.9 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
RAMN Ramite 16.22 125 *e*P **Pn** **16 36 03.9 -3.4**
AKTO Aktyubinsk 16.47 328 P **P** **16 36 11.7 +0.9**
comp=Z,3.0nm,0.4s,baz=139,slow=7.6,SNR=14
AKTO S **Sn** **16 39 02.1 -10**
comp=Z,2.6nm,0.6s,baz=162,slow=20,SNR=2.8
TAPN Taplejung 16.70 121 *e*P **Pn** **16 36 10.0 -3.3**
comp=Z,11nm,0.3s
LSA Lhasa 17.84 109 P **Pn** **16 36 27.3 0.0**
LSA Lhasa 17.84 109 P **Pn** **16 36 27.3 0.0**
LSA pmax pmax
comp=Z,6.0nm,0.7s
WSAR Wadi Sarin 17.92 223 P **P** **16 36 25.9 -1.0**
comp=Z,4.1nm,0.8s,baz=29,slow=13,SNR=6.1
UOSS Minazif 18.03 232 P **P** **16 36 27.9 -0.3**
UOSS IAmb IAmb 16 36 31.8
comp=Z,15nm,0.9s
ZAA0 Zalesovo Array 19.03 24 P **P** **16 36 39.0 +0.2**
ZAA0 IAmb IAmb 16 36 43.0
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 19.03 24 P **Pn** **16 36 39.7 -1.0**
comp=Z,8.7nm,0.3s,baz=230,slow=11,SNR=18
ZALV Zalesovo Beam 19.03 24 P **P** **16 36 39.3 +0.5**
GTA Gaotai 22.12 76 *e*P **P** **16 37 15.0 +2.7**
GTA pP sP 16 37 40.5 -7.2
GTA pmax pmax
comp=Z,20nm,0.7s
BELG Belogornoye 22.71 320 P **P** **16 37 17.8 -0.2**
comp=Z,3.9nm,0.9s,baz=146,slow=7.3,SNR=1.6
BELG pP **pP** **16 37 43.6 +4.0**
comp=Z,23nm,0.9s,baz=120,slow=3.0,SNR=8.4
comp=Z,3.9nm,0.9s
LZH Lanzhou 25.73 83 *e*P **P** **16 37 40.0 -6.1**
LZH pP pP 16 38 04.5 -6.2
LZH pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 27.45 56 P **P** **16 38 03.6 +2.2**
comp=Z,2.1nm,0.7s,baz=258,slow=9.8,SNR=9.8
SONM pP **pP** **16 38 30.3 +4.3**
comp=Z,0.3nm,0.7s,baz=263,slow=10.0,SNR=1.0
comp=Z,2.1nm,0.7s
SONM Songino Array 27.45 56 P **P** **16 38 03.3 +1.9**
PZH PanZhiHua 27.54 104 P **P** **16 38 05.5 +3.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,150nm,6.1s
ULN Ulaanbaatar 27.90 56 P **P** **16 38 07.2 +1.8**
ULN IAmb IAmb 16 38 07.9
comp=Z,2.8nm,0.7s
ULN Ulaanbaatar 27.90 56 P **P** **16 38 07.2 +1.8**
ULN pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 29.78 287 P **P** **16 38 23.1 +0.9**
comp=Z,0.9nm,0.8s,baz=111,slow=8.4,SNR=4.2
comp=Z,0.9nm,0.8s
CRAI Chiangrai 30.13 116 P **P** **16 38 26.1 +0.9**
CMAR Chiang Mai Arr 30.30 121 P **P** **16 38 26.3 -0.5**
comp=Z,1.7nm,0.9s,baz=312,slow=9.5,SNR=12
comp=Z,1.7nm,0.9s
CMAR Chiang Mai Arr 30.30 121 P **P** **16 38 27.6 +0.8**
CMAR Chiang Mai Arr 30.30 121 P **P** **16 38 27.6 +0.8**
HHC Hu-ho-hao-te 30.98 71 *e*P **P** **16 38 35.0 +2.4**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,260nm,4.8s
AKASG Malin Array Be 32.96 308 P **P** **16 38 52.2 +2.4**
comp=Z,0.2nm,0.5s,baz=79,slow=7.1,SNR=3.8
AKASG pP **pP** **16 39 19.3 +4.9**
comp=Z,0.9nm,0.6s,baz=80,slow=6.9,SNR=4.6
comp=Z,0.2nm,0.5s
NRIK Noril'sk 33.32 10 P **P** **16 38 55.0 +2.3**
comp=Z,1.2nm,0.3s,baz=219,slow=6.5,SNR=4.9
comp=Z,1.2nm,0.3s
NRIK Noril'sk 33.32 10 P **P** **16 38 55.0 +2.3**
FINES FINESS Array B 37.22 325 P **P** **16 39 27.2 +1.0**
comp=Z,0.9nm,0.5s,baz=125,slow=8.4,SNR=10.0
FINES pP **pP** **16 39 55.6 +4.4**
comp=Z,1.3nm,0.7s,baz=95,slow=9.9,SNR=2.0
comp=Z,0.9nm,0.5s
ARCES ARCESS Array B 40.71 337 P **P** **16 39 56.7 +1.5**
comp=Z,4.9nm,0.9s,baz=116,slow=9.2,SNR=3.9
comp=Z,4.9nm,0.9s
HEH HeiHe 41.35 53 *e*P **P** **16 40 02.0 +1.3**
HEH pmax pmax
comp=Z,8.0nm,0.8s
HEH pmax pmax
comp=Z,300nm,5.7s
IPM Ipoh 42.20 133 P **P** **16 40 08.1 +0.1**
IPM IAmb IAmb 16 40 13.7
comp=Z,14nm,1.4s
SGRT San Giovanni R 42.80 294 P **P** **16 40 10.0 -2.7**
GSI Gunungsitoli 42.96 140 P **P** **16 40 15.1 +1.1**
NB2 NORSAR Subarra 44.16 323 P **P** **16 40 23.9 +0.7**
comp=Z,0.8nm,0.5s,baz=94,slow=7.9
NOA NORSAR Array B 44.16 323 P **P** **16 40 23.7 +0.5**
comp=Z,0.6nm,0.5s,baz=95,slow=7.6,SNR=6.5
comp=Z,0.6nm,0.5s
USRK Ussuriysk Ar. 45.32 61 P **P** **16 40 33.1 +0.5**
comp=Z,0.8nm,0.8s,baz=269,slow=6.9,SNR=2.6
comp=Z,0.8nm,0.8s
TORD Torodi Ar. Bea 66.31 269 P **P** **16 43 01.9 -1.0**
comp=Z,0.4nm,0.5s,baz=56,slow=8.1,SNR=3.7
comp=Z,0.4nm,0.5s
IMAR Indian Mountai 71.32 18 P **P** **16 43 33.1 0.0**
BMAR Burnt Mountain 72.11 14 P **P** **16 43 38.9 +1.0**
INK Inuvik 73.11 10 P **P** **16 43 44.4 +0.8**
comp=Z,0.7nm,0.5s,baz=337,slow=5.4,SNR=4.9
comp=Z,0.7nm,0.5s
INK Inuvik 73.11 10 P **P** **16 43 44.2 +0.6**
INK IAmb IAmb 16 44 19.5
comp=Z,4.8nm,1.4s
K20K Telida 73.35 20 P **P** **16 43 46.0 +0.8**
K20K IAmb IAmb 16 44 05.4
comp=Z,11nm,1.5s
CAST Castle Rocks 73.82 19 P **P** **16 43 48.4 +0.4**
CAST IAmb IAmb 16 43 59.6
comp=Z,5.0nm,1.2s
ILAR Eielson Array 73.93 16 P **P** **16 43 48.6 +0.1**
ILAR Eielson Array 73.93 16 P **P** **16 43 48.7 +0.1**
KTH Kantishna Hill 74.01 18 P **P** **16 43 49.5 +0.3**
KTH IAmb IAmb 16 44 01.9
comp=Z,11nm,1.4s
PPLA Purkeypile 74.22 19 P **P** **16 43 50.8 +0.3**
PPLA IAmb IAmb 16 44 27.4
comp=Z,8.9nm,1.1s
J26L Joseph Creek 74.88 15 P **P** **16 43 54.5 +0.4**
KNRA Kununurra 75.13 123 P **P** **16 43 56.3 +0.2**
KNRA IAmb IAmb 16 44 25.2
comp=Z,11nm,1.2s
SML Sawmill 76.13 18 P **P** **16 44 01.3 0.0**
SCM Sheep Creek Mo 76.35 18 P **P** **16 44 03.0 +0.4**
SCM Sheep Creek Mo 76.35 18 P **P** **16 44 03.0 +0.4**
SCM pmax pmax
comp=Z,37nm,1.4s
BCAR Beaver Creek A 76.53 15 P **P** **16 44 04.3 +0.8**
YKA Yellowknife Ar 80.50 3 P **P** **16 44 25.5 +0.2**
comp=Z,0.4nm,0.5s,baz=349,slow=5.5,SNR=7.3
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 81.88 122 P **P** **16 44 31.5 -1.7**
comp=Z,0.5nm,0.8s,baz=323,slow=5.1,SNR=1.8
comp=Z,0.5nm,0.8s
ASAR Alice Springs 84.19 125 P **P** **16 44 43.5 -1.5**
comp=Z,0.5nm,0.6s,baz=313,slow=5.5,SNR=12
comp=Z,0.5nm,0.6s
ASAR Alice Springs 84.19 125 P **P** **16 44 44.3 -0.8**
ASAR Alice Springs 84.19 125 P **P** **16 44 44.3 -0.8**

*IDC **31** 16:33:35.3±1.6,43°.95N×85°.43E, h0km, mb3.6/4, mbtmp3.7/7, ML3.4/2, Error ellipse: s-maj=49.4km s-min=19.4km az=62.0*
*SOME **31** 16:33:42.7,44°.17N×84°.60E, h10km*
*NNC **31** 16:33:55.5±2.3,44°.61N×84°.64E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=47.4km s-min=19.0km az=52.0*
ISC 31 16:33:40.6±1.0,44°.10N±0°.06×84°.73E±0°.08,h10km,n19, σ2ˢ44/19,mb3.6/4,2C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.20**	**328**	Pn		**Pg**	**16 34 40.8**	**-1.0**
	12nm,0.3s,baz=141,slow=17,SNR=11							
MK31				⇓Lg		Lg	16 35 22.7	
	28nm,0.3s,baz=146,slow=29,SNR=8.6							
MKAR	**Makanchi Array**	**3.20**	**328**	Pn		**Pn**	**16 34 33.9**	**+3.0**
	4.0nm,0.4s,baz=145,slow=14,SNR=1.4							
MKAR				Pg		**Pg**	**16 34 41.0**	**-0.8**
	24nm,0.3s,baz=138,slow=17,SNR=12							
MKAR				Lg		Lg	16 35 22.2	
	62nm,0.3s,baz=144,slow=29,SNR=16							
KTMS	**Ketmen**	**3.24**	**260**	*e*Pg		**Pb**	**16 34 40.0**	**+1.8**
	6.4nm,0.3s							
KTMS				*e*Lg		Lg	16 35 21.2	
	52nm,0.6s							
MAKZ	**Makanchi**	**3.33**	**325**	⇑Pn		**Pg**	**16 34 43.1**	**-1.2**
	30nm,0.6s							
MAKZ				⇑Lg		Lg	16 35 26.8	
	103nm,0.8s							
ZSN	**Zaisan**	**3.35**	**2**	*e*Pg		**Pb**	**16 34 43.2**	**+3.1**
	29nm,0.4s							
ZSN				*e*Lg		Lg	16 35 27.1	
	160nm,0.4s							
DJR	**Jarkent**	**3.56**	**275**	*e*Pg		**Pg**	**16 34 46.6**	**-2.2**
	11nm,0.5s							
DJR				*e*Lg		Lg	16 35 32.8	
SHLS	**Shalkode**	**3.94**	**258**	*e*Pg		**Pb**	**16 34 47.7**	**-2.5**
	12nm,0.3s							
SHLS				*e*Lg		Lg	16 35 34.6	
	2μm,0.3s							
UZB	**Uzynbulak**	**4.25**	**259**	*e*Pg		**Pg**	**16 35 01.5**	**-0.5**
	17nm,0.4s							
UZB				*e*Lg		Lg	16 35 58.4	
	53nm,0.6s							
KPKS	**Kokpek**	**4.42**	**264**	*e*Pg		**Pb**	**16 35 01.7**	**+3.3**
	6.9nm,0.1s							
KPKS				*e*Lg		Lg	16 35 58.4	
	52nm,0.2s							
SATY	**Saty**	**4.71**	**259**	*e*Pg		**Pb**	**16 35 06.8**	**+3.4**
	6.5nm,0.2s							
SATY				*e*Lg		Lg	16 36 07.0	
	40nm,0.5s							
KURS	**Kuram**	**4.79**	**265**	*e*Pg		**Pg**	**16 35 11.1**	**-1.2**
	7.5nm,0.5s							
KURS				*e*Lg		Lg	16 36 14.5	
	33nm,0.7s							
KURBB	**Kurchatov Arra**	**7.76**	**329**	Pn		**Pn**	**16 35 35.2**	**+1.7**
	0.6nm,0.3s,baz=139,slow=13,SNR=15							
KURBB				Lg		Lg	16 37 47.6	
	0.4nm,0.3s,baz=142,slow=30,SNR=5.4							
	3.4nm,0.4s							
KURBB	**Kurchatov Arra**	**7.76**	**329**	⇓Pn		Pn	16 35 41.4	+7.9
	5.1nm,0.5s							
KURBB				⇓Lg		Lg	16 37 46.9	
	80nm,0.8s							
ZALV	**Zalesovo Beam**	**9.86**	**0**	Pn		**Pn**	**16 36 01.8**	**-0.4**
	1.2nm,0.3s,baz=185,slow=14,SNR=13							
ZALV				Sn		**Sn**	**16 37 47.2**	**-5.6**
	0.3nm,0.3s,baz=190,slow=23,SNR=2.2							
ZALV				Lg		Lg	16 38 52.1	
	baz=186,slow=25							
	2.2nm,0.3s							
GOMU	**GeErMu**	**11.03**	**132**	P		**Pn**	**16 36 18.5**	**-0.2**
GOMU				pP			16 36 22.5	
GOMU				sP			16 36 24.8	
GOMU				pmax	pmax			
	comp=Z,1.0nm,0.4s							
GOMU				pmax	pmax			
	comp=Z,120nm,5.0s							
FINES	**FINESS Array B**	**37.98**	**318**	P		**P**	**16 40 58.0**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=87,slow=8.6,SNR=1.3							
	comp=Z,1.2nm,0.8s							
NOA	**NORSAR Array B**	**45.15**	**319**	P		**P**	**16 41 57.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=79,slow=7.3,SNR=1.8							
	comp=Z,0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.01**	**275**	P		**P**	**16 45 27.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=33,slow=5.6,SNR=1.9							
	comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**81.08**	**135**	P		P	16 45 49.4	-6.4
	comp=Z,0.2nm,0.6s,baz=313,slow=6.1,SNR=1.7							
	comp=Z,0.2nm,0.6s							

*DRS **31** 16:52:31.0±0.0,40°.87N×48°.99E, h23km*
MOS 31 16:52:29.0±0.0,41°.07N×48°.79E,h18km,MPVA2.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSMR	**Kasumkent**	**0.73**	**317**	*e*Pg		Pn	16 52 45.9	+1.4
	1.0nm,0.8s							
KSMR				*e*Sg		Sn	16 52 57.6	+2.3
	2.0nm,0.7s							
AKT	**Akhty**	**0.90**	**298**	*e*Pg		Pn	16 52 47.8	+0.9
	97nm,0.2s							
AKT				*e*Sg		Sn	16 53 01.4	+1.9
	9.0nm,0.5s							
DRN	**Derbent**	**1.02**	**340**	*e*Pg		Pg	16 52 49.7	+0.9
	70nm,0.6s							
DRN				*e*Sg		Sn	16 53 04.4	+2.1
	4.0nm,0.3s							
URKR	**Urkarakh**	**1.40**	**322**	*e*Pg		Pg	16 52 56.2	+0.2
	45nm,0.6s							
URKR				*e*Sg		Sg	16 53 16.3	+2.2
	104nm,0.2s							
KMKR	**Kumukh**	**1.65**	**311**	*e*Pg		Pg	16 53 00.1	-0.8
	2.0nm,0.7s							
KMKR				*e*Sg		Sg	16 53 23.5	+1.2
	46nm,0.6s							
GNBR	**Gunib**	**1.90**	**315**	*e*Pg		Pb	16 53 03.8	+0.6
	9.0nm,0.5s							
GNBR				*e*Sg		Sg	16 53 29.8	-0.3
	18nm,0.5s							
DDFL	**Dedoflistskaro**	**2.05**	**281**	P		Pg	16 53 11.1	+2.8
DDFL	**Dedoflistskaro**	**2.05**	**281**	*e*Pg		Pg	16 53 11.1	+2.8
DDFL				*e*Sg		Pg	16 53 11.1	+2.8
LGD	**Lagodekhi**	**2.06**	**293**	P		Pg	16 53 08.7	+0.1
LGD				S		Sg	16 53 39.8	+4.5
LGD	**Lagodekhi**	**2.06**	**293**	*e*Pg		Pg	16 53 08.7	+0.1
XNZR	**Khunzakh**	**2.14**	**314**	*e*Pn		Pb	16 53 06.8	-0.6
	4.0nm,0.3s							
XNZR				*e*Sn		Sb	16 53 35.2	+1.5
	28nm,0.4s							
BUJR	**Buynaksk**	**2.15**	**325**	*e*Pg		Pb	16 53 08.2	+0.7
BUJR				*e*Sg		Sb	16 53 35.1	+1.2
KRNR	**Karanay**	**2.25**	**322**	*e*Pn		Pb	16 53 08.5	-0.6
	4.0nm,0.4s							
KRNR				*e*Sn		Sb	16 53 38.5	+1.8
	28nm,0.4s							

*WEL **31** 17:04:36.5±0.3,42°.5±3°×17°.4E±°, h12km, M3.0/18, ML3.1/19, MLv3.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=119.3*
*NOU **31** 17:04:36.5,42°.26S×173°.82E, h20km, MLv3.6/8, South Island, New Zealand*
ISC 31 17:04:34.7±0.9,42°.17S±0°.03×173°.78E±0°.03,h17km,n46, σ1ˢ30/50,South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.31**	**216**	P		**Pn**	**17 04 43.9**	**-0.5**
KHZ	**Kahutara**	**0.31**	**216**	P		**Pn**	**17 04 43.9**	**-0.5**
KHZ				S		**Sn**	**17 04 48.7**	**-1.9**
BSWZ	**Blackbirch Sta**	**0.46**	**9**	P		**Pn**	**17 04 45.7**	**-0.8**
BSWZ				S		**Sb**	**17 04 52.0**	**+1.2**
CMWZ	**Cape Campbell**	**0.53**	**38**	P		**Pn**	**17 04 48.7**	**+1.2**
THZ	**Tophouse**	**0.77**	**301**	P		**Pg**	**17 04 50.0**	**+0.3**
THZ				S		**Sb**	**17 04 59.2**	**-0.7**
GVZ	**Greta Valley S**	**0.97**	**214**	P		**Pg**	**17 04 55.8**	**+2.2**
NNZ	**Nelson**	**1.00**	**342**	P		**Pg**	**17 04 54.3**	**+0.2**
TCW	**Tory Channel**	**1.03**	**21**	P		**Pg**	**17 04 55.8**	**+1.2**
MRNZ	**Matariki Terra**	**1.08**	**315**	P		**Pg**	**17 04 56.0**	**+0.3**
SNZO	**South Karori**	**1.10**	**39**	P		**Pg**	**17 04 57.9**	**+1.9**
WEL	**Wellington**	**1.15**	**40**	P		**Pg**	**17 04 58.7**	**+1.8**
LTZ	**Lake Taylor**	**1.27**	**241**	P		**Pg**	**17 04 59.6**	**+0.2**
LTZ				S		**Sg**	**17 05 16.4**	**+0.4**
TKNZ	**Takaka Hill**	**1.29**	**331**	P		**Pg**	**17 04 59.6**	**0.0**
AMCZ	**Amberley**	**1.31**	**219**	P		**Pg**	**17 05 00.0**	**+0.1**
DUWZ	**D'Urville Isla**	**1.37**	**4**	P		**Pg**	**17 05 01.3**	**+0.2**
CAW	**Cannon Point**	**1.43**	**43**	P		**Pg**	**17 05 02.2**	**-0.1**
PAWZ	**Paruwai Farm**	**1.46**	**58**	P		**Pg**	**17 05 02.2**	**-0.7**
DSZ	**Denniston Nort**	**1.53**	**285**	P		**Pg**	**17 05 04.1**	**-0.2**
KIW	**Kapiti Island**	**1.56**	**33**	P		**Pg**	**17 05 04.2**	**-0.5**
MTW	**Mount Morrison**	**1.64**	**53**	P		**Pb**	**17 05 04.2**	**-0.2**
QRZ	**Quartz Range**	**1.64**	**325**	P		**Pb**	**17 05 05.1**	**+0.6**
QRZ	**Quartz Range**	**1.64**	**325**	P		**Pb**	**17 05 05.2**	**+0.8**
OKCZ	**Okains Bay**	**1.64**	**199**	P		**Pb**	**17 05 04.8**	**+0.3**
OGWZ	**Otaki Gorge**	**1.71**	**38**	P		**Pb**	**17 05 05.9**	**+0.2**
OXZ	**Oxford**	**1.73**	**227**	P		**Pb**	**17 05 04.9**	**-1.1**
MQZ	**McQueen's Vall**	**1.75**	**208**	P		**Pb**	**17 05 05.0**	**-1.3**
INZ	**Inchbonnie**	**1.82**	**251**	P		**Pb**	**17 05 07.5**	**0.0**
AKCZ	**Akaroa Harbour**	**1.82**	**200**	P		**Pb**	**17 05 06.9**	**-0.7**
RACZ	**Rakaia**	**1.97**	**217**	P		**Pn**	**17 05 08.1**	**+0.8**
MRZ	**Mangatainoka R**	**2.02**	**43**	P		**Pb**	**17 05 10.3**	**-0.7**
WACZ	**Wakanui South**	**2.27**	**218**	P		**Pn**	**17 05 12.5**	**+1.0**
RPZ	**Rata Peaks**	**2.53**	**231**	P		**Pn**	**17 05 16.3**	**+1.2**
RPZ	**Rata Peaks**	**2.53**	**231**	P		**Pn**	**17 05 16.2**	**+1.2**
WAZ	**Wanganui**	**2.58**	**21**	P		**Pg**	**17 05 23.0**	**-1.2**
ARCZ	**Arundel**	**2.61**	**226**	P		**Pn**	**17 05 17.1**	**+0.9**
KHEZ	**Kahui Hut**	**2.88**	**4**	P		**Pb**	**17 05 22.6**	**-3.0**
KHEZ	**Kahui Hut**	**2.88**	**4**	P		**Pg**	**17 05 28.3**	**-1.5**
PKE	**Pukeiti**	**2.98**	**3**	P		**Pb**	**17 05 28.6**	**+1.3**
TMZ	**Timaru**	**3.00**	**222**	P		**Pn**	**17 05 22.9**	**+1.3**
VRZ	**Vera Road**	**3.13**	**14**	P		**Pb**	**17 05 30.0**	**+0.1**
BKZ	**Black Stump Fm**	**3.64**	**35**	P		**Pn**	**17 05 31.7**	**+1.4**
BKZ	**Black Stump Fm**	**3.64**	**35**	P		**Pb**	**17 05 35.5**	**-3.1**
ODZ	**Otahua Downs**	**3.67**	**217**	P		**Pn**	**17 05 31.2**	**+0.6**
ODZ	**Otahua Downs**	**3.67**	**217**	P		**Pn**	**17 05 31.3**	**+0.6**
HIZ	**Hauiti**	**3.74**	**13**	P		**Pn**	**17 05 35.0**	**+3.3**
HIZ	**Hauiti**	**3.74**	**13**	P		**Pb**	**17 05 37.7**	**-2.7**

*IDC **31** 17:13:44.9±1.9,5°.92N×77°.29W, h0km, mb3.2/1, mbtmp3.6/3, ML2.5/2, MS3.2/1, Error ellipse: s-maj=55.2km s-min=28.1km az=19.0*
*RSNC **31** 17:13:49.4±1.1,5°.89N×76°.86W, h2km±4km, ML2.8*
ISC 31 17:13:48.2±0.8,5°.82N±0°.03×76°.85W±0°.03,h22km±8km, n22,σ2ˢ36/34,3C,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.69**	**306**	*e*P		**Pb**	**17 14 01.0**	**-0.5**
SOLC				*e*S		**Sb**	**17 14 10.0**	**-0.6**
CBOC	**Ciudad Bolivar**	**0.84**	**87**	*e*P		**Pn**	**17 14 04.2**	**-0.7**
CBOC				*e*S		**Sn**	**17 14 15.7**	**-1.0**
CBOC				*i*			17 14 16.1	
	comp=Z,806nm,0.4s							
PIZC	**Pizarro, Choco**	**0.98**	**211**	*e*P		**Pn**	**17 14 08.2**	**+1.4**
PIZC				*e*S		**Sn**	**17 14 22.7**	**+2.7**
PIZC				*i*			17 14 28.6	
	comp=Z,287nm,0.6s							
PLMC	**San Jos del P**	**1.07**	**148**	⇑*i*P		**Pb**	**17 14 06.8**	**-1.4**
PLMC				*e*S		**Sn**	**17 14 22.4**	**+0.2**
DBBC	**Dabeiba**	**1.35**	**28**	*e*P		**Pn**	**17

NORC				*i*			17 14 50.5		
	comp=Z,102nm,0.4s								
APAC	**Apartado, Choc**	**2.09**	**7**	*eP*		**Pb**	17 14 33.8	+8.3	
UREC	**San Jos de Ur**	**2.33**	**34**	*eP*		**Pb**	**17 14 27.4**	**-2.2**	
ORTC	**Ortega, Tolima**	**2.48**	**140**	*eP*		**Pb**	**17 14 30.2**	**-2.0**	
ORTC				*eS*		**Sb**	**17 15 03.0**	**+0.6**	
PTBC	**PUERTO BERRIO,**	**2.49**	**73**	⇑*iP*		**Pb**	**17 14 30.2**	**-2.1**	
PTBC				*eS*		**Sb**	**17 15 01.7**	**-0.9**	
PTBC				*i*			17 15 09.9		
	comp=Z,49nm,0.7s								
ZARC	**Zaragoza, Cauc**	**2.59**	**50**	*eP*		**Pb**	**17 14 32.0**	**-2.0**	
ZARC				*eS*		**Sb**	**17 15 04.1**	**-1.3**	
ROSC	**El Rosal**	**2.70**	**111**	Pn		**Pb**	**17 14 37.7**	**+1.5**	
	comp=Z,8.4nm,0.3s,baz=245,slow=16,SNR=5.0								
ROSC				Sn		**Sb**	**17 15 14.2**	**+5.1**	
	comp=Z,4.3nm,0.3s,baz=244,slow=21,SNR=4.3								
	comp=Z,18nm,0.3s								
ROSC	**El Rosal**	**2.70**	**111**	*eP*		**Pb**	**17 14 37.5**	**+1.3**	
CHIC	**Chingaza**	**3.33**	**111**	*eP*		**Pb**	**17 14 45.7**	**-1.1**	
RUSC	**La Rusia**	**3.75**	**89**	*eP*		**Pb**	**17 14 50.1**	**-4.0**	
RUSC				*eS*		**Sb**	**17 15 38.0**	**-1.4**	
RUSC				*i*			17 15 45.8		
	comp=Z,8.9nm,0.5s								
GARC	**Garzon, Huila**	**3.85**	**159**	*eP*		**Pn**	**17 14 48.5**	**+2.1**	
PAMC	**Pamplona, Colo**	**4.40**	**70**	*eP*		**Pn**	**17 14 58.0**	**+3.9**	
PAMC				*eS*		**Sn**	**17 15 49.1**	**+4.2**	
PAMC				*i*			17 15 54.2		
	comp=Z,22nm,0.7s								
SDV	**Santo Domingo**	**6.88**	**63**	Pn		**Pn**	**17 15 30.9**	**+2.8**	
	comp=Z,1.2nm,0.3s,baz=237,slow=15,SNR=11								
SDV				Sn		**Sn**	**17 16 45.1**	**-0.8**	
	baz=81,slow=24								
	comp=Z,10nm,0.8s								
TXAR	**Lajitas Array**	**34.47**	**316**	LR		LR	17 36 00.3		
	comp=Z,41nm,19.3s,baz=21,slow=39								
YKA	**Yellowknife Ar**	**62.97**	**341**	P		**P**	**17 24 12.1**	**-0.9**	
	comp=Z,0.1nm,0.5s,baz=132,slow=6.4,SNR=2.9								
	comp=Z,0.1nm,0.5s								
WRA	**Warramunga Arr**	**146.59**	**242**	PKPbc		**PKPdf**	**17 33 26.8**	**-0.7**	
	comp=Z,0.3nm,0.7s,baz=99,slow=3.2,SNR=1.9								

*IDC **31** 17:23:40.6±4.4, 15°.27S×173°.30W, h0km, mb3.8/3, mbtmp3.8/3, MS3.3/6, Error ellipse: s-maj=218.4km s-min=24.0km az=144.0*

ISC 31 17:23:44.9±5.2, 15°S±1°×17°3W±°, h35km, n15, σ0s53/7, mb3.9/3, MS3.4/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**1.96**	**41**	Pn		**Pn**		**17 24 15.7**	**-0.1**
	8.8nm,0.3s,baz=225,slow=8.6,SNR=16								
AFI				Sn		**Sn**		**17 24 39.0**	**-0.3**
	55nm,0.3s,baz=342,slow=19,SNR=18								
MSVF	**Nonsavu**	**8.80**	**254**	LR		LR		17 28 47.6	
	comp=Z,128nm,22.0s,baz=61,slow=36								
DZM	**Mont Dzumac**	**20.46**	**248**	*e*LR		LR		17 33 16.9	
	comp=Z,152nm,24.9s								
DZM	**Mont Dzumac**	**20.46**	**248**	LR		LR		17 35 17.1	
	comp=Z,100nm,18.6s,baz=34,slow=34								
PPT	**Papeete**	**22.65**	**99**	LR		LR		17 35 03.0	
	comp=Z,39nm,19.8s,baz=307,slow=30								
PPT2	**Papeete2**	**22.65**	**99**	*e*LR		LR		17 33 47.0	
	comp=Z,92nm,23.5s								
PPT2				*e*LR		LR		17 33 50.0	
	comp=Z,35nm,17.2s								
TBI	**Tubuai**	**23.63**	**113**	*e*LR		LR		17 34 17.6	
	comp=Z,1μm,34.5s								
HNR	**Honiara**	**26.97**	**280**	LR		LR		17 39 07.4	
	comp=Z,1μm,19.5s,baz=160,slow=35								
CTA	**Charters Tower**	**38.92**	**257**	LR		LR		17 45 34.7	
	comp=Z,47nm,18.3s,baz=36,slow=34								
WRA	**Warramunga Arr**	**50.13**	**257**	P		**P**		**17 32 37.0**	**-0.3**
	0.4nm,0.7s,baz=94,slow=7.5,SNR=2.8								
WRA				LR		LR		17 53 01.4	
	comp=Z,51nm,18.1s,baz=126,slow=35								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**50.38**	**252**	P		**P**		**17 32 38.6**	**-0.6**
	1.4nm,0.7s,baz=85,slow=8.2,SNR=12								
	1.4nm,0.7s								
MJAR	**Matsushiro Arr**	**69.13**	**320**	LR		LR		17 57 23.4	
	comp=Z,30nm,20.5s,baz=177,slow=29								
ILAR	**Eielson Array**	**82.40**	**11**	P		**P**		**17 36 03.2**	**+0.2**
	0.8nm,0.7s,baz=220,slow=6.3,SNR=9.7								
	0.8nm,0.7s								
GERES	**GERESS Array B**	**146.19**	**352**	PKPbc		**PKPbc**		**17 43 22.0**	**+0.2**
	1.0nm,0.9s,baz=353,slow=2.4,SNR=5.5								
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc		**PKPbc**		**17 43 23.3**	**+0.7**
	1.6nm,0.9s,baz=78,slow=2.0,SNR=6.3								

*DJA **31** 17:25:42.3±0.3, 0°S±4°×12°5E±°, h10km, M4.3/13, mb4.4/7, MLv4.3/13*

*NEIC **31** 17:25:47.0±1.9, 0°.15S±0°.07×125°.05E±0°.05, h62km±8km, mb4.5/33, Error ellipse: s-maj=10.8km s-min=7.5km az=171.0*

*IDC **31** 17:25:47.0±2.4, 0°.18S×124°.88E, h67km±24km, mb4.0/19, mbtmp4.3/21, MS3.0/5, Error ellipse: s-maj=18.8km s-min=13.7km az=92.0*

ISC 31 17:25:45.2±0.4, 0°.19S±0°.05×125°.08E±0°.06, h53km, n84, σ1s15/88, mb4.5/36, MS2.7/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SANI	**Sanana**	**2.06**	**154**	P		**Pn**		**17 26 15.5**	**-1.9**
LUWI	**Luwuk**	**2.46**	**250**			**Pn**		**17 26 23.4**	**+0.6**
LUWI	**Luwuk**	**2.46**	**250**	P		**Pn**		**17 26 22.9**	**+0.1**
TNTI	**Ternate**	**2.48**	**67**			**Pn**		**17 26 24.5**	**+1.4**
TNTI	**Ternate**	**2.48**	**67**	P		**Pn**		**17 26 24.6**	**+1.4**
NLAI	**Namlea**	**3.64**	**146**	P		**Pn**		**17 26 38.4**	**-0.7**
SIJI	**Sorong**	**6.22**	**96**	P		**Pn**		**17 27 18.9**	**+4.4**
	1.8nm,0.3s,baz=275,slow=16,SNR=8.3								
SIJI				S		**Sn**		**17 28 26.9**	**+2.5**
	2.1nm,0.3s,baz=161,slow=22,SNR=1.3								
SPSI	**Sidrap Palu**	**6.50**	**235**	P		**Pn**		**17 27 19.8**	**+1.5**
	35nm,0.6s,0.1nm								
BKSI	**Bulukumba**	**7.11**	**224**	P		**Pn**		**17 27 27.6**	**+1.0**
	23nm,0.9s,0.1nm								
KAPI	**Kappang**	**7.16**	**228**	P		**Pn**		**17 27 28.6**	**+1.2**
	7.7nm,0.3s,baz=77,slow=14,SNR=6.6								
KAPI				S		**Sn**		**17 28 46.7**	**-0.7**
	9.3nm,0.4s,baz=3.0,slow=23,SNR=2.0								
KAPI				LR		LR		17 30 56.3	
	comp=Z,137nm,19.9s,baz=62,slow=44								
KAPI	**Kappang**	**7.16**	**228**	Pn		**Pn**		**17 27 29.7**	**+2.3**
DAV	**Davao City (W)**	**7.23**	**4**	LR		LR		17 30 30.2	
	comp=Z,268nm,21.0s,baz=206,slow=39								
DAV	**Davao City (W)**	**7.23**	**4**	Pn		**Pn**		**17 27 25.9**	**-2.4**
BSSI	**Bau Bau, Buton**	**7.48**	**218**	P		**Pn**		**17 27 30.4**	**-1.4**
	54nm,0.8s,0.3nm								
FAKI	**Fak Fak**	**7.66**	**111**	Pn		**Pn**		**17 27 33.2**	**-1.0**
FAKI	**Fak Fak**	**7.66**	**111**	P		**Pn**		**17 27 33.1**	**-1.2**
	27nm,1.4s,0.2nm								
MYLDM	**Lahad Datu**	**8.46**	**309**			**Pn**		**17 27 47.6**	**+2.4**
SOEI	**Soe**	**9.54**	**185**	Pn		**Pn**		**17 28 00.6**	**+0.5**
KKM	**Kota Kinabalu**	**10.80**	**305**	Pn		**Pn**		**17 28 16.9**	**-0.4**
MTN	**Manton Dam**	**13.93**	**155**	Pn		**Pn**		**17 28 59.8**	**-0.1**
KNRA	**Kununurra**	**15.81**	**167**	Pn		**Pn**		**17 29 24.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**17.80**	**178**	P		**Pn**		**17 29 48.9**	**-0.4**
WB0	**Warramunga Arr**	**21.49**	**155**	P		**P**		**17 30 28.2**	**-1.4**
WB0				IAmb		IAmb		17 30 51.8	
	comp=Z,10nm,1.1s								
WRA	**Warramunga Arr**	**21.62**	**156**	P		**P**		**17 30 29.5**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=333,slow=11,SNR=16								
WR0	**Warramunga Arr**	**21.72**	**155**	P		**P**		**17 30 30.7**	**-1.4**
PSA00	**Pilbara Seismi**	**21.86**	**193**	P		**P**		**17 30 33.8**	**+0.3**
YULB	**Yu-li**	**23.73**	**351**	P		**P**		**17 30 51.7**	**-0.9**
YULB				IAmb		IAmb		17 30 59.8	
	comp=Z,46nm,1.5s								
AS31	**Alice Springs**	**24.86**	**160**	P		**P**		**17 31 02.1**	**-0.9**
ASAR	**Alice Springs**	**24.86**	**160**	P		**P**		**17 31 03.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=340,slow=8.5,SNR=24								
ASAR				PcP		**PcP**		**17 34 39.1**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=346,slow=2.0,SNR=13								
	comp=Z,0.6nm,0.6s								
ASAR	**Alice Springs**	**24.86**	**160**	P		**P**		**17 31 02.9**	**-0.1**
YHNB	**Yeheng**	**24.97**	**352**	P		**P**		**17 31 03.4**	**-0.7**
PSI	**Prapat**	**26.31**	**277**	LR		LR		17 43 33.3	
	comp=Z,62nm,21.4s,baz=70,slow=41								
JOW	**Kunigami**	**27.04**	**6**	P		**P**		**17 31 24.5**	**+1.9**
	comp=Z,10nm,0.6s,baz=221,slow=11,SNR=1.8								
JOW				LR		LR		17 42 42.5	
	comp=Z,20nm,19.6s,baz=289,slow=38								
	comp=Z,10nm,0.6s								
JOW	**Kunigami**	**27.04**	**6**	P		**P**		**17 31 22.5**	**-0.1**

CMAR	**Chiang Mai Arr**	**31.67**	**307**	PcP		**PcP**		**17 34 56.2**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=132,slow=1.3,SNR=4.7								
CMAR				LR		LR		17 44 48.9	
	comp=Z,11nm,20.7s,baz=20,slow=36								
JMN	**Monobe**	**34.74**	**13**	P		**P**		**17 32 30.9**	**+0.5**
STKA	**Stephens Creek**	**35.17**	**155**	P		**P**		**17 32 35.0**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=331,slow=9.4,SNR=6.8								
	comp=Z,1.4nm,0.4s								
STKA	**Stephens Creek**	**35.17**	**155**	P		**P**		**17 32 35.0**	**+0.8**
JGF	**Kuroka**	**37.40**	**17**	P		**P**		**17 32 53.6**	**+0.4**
KSRS	**Korea Array**	**37.55**	**4**	P		**P**		**17 32 55.3**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=177,slow=9.1,SNR=7.4								
	comp=Z,1.6nm,0.7s								
MJAR	**Matsushiro Arr**	**38.53**	**17**	P		**P**		**17 33 01.7**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=191,slow=8.8,SNR=3.1								
	comp=Z,1.9nm,0.7s								
JTM	**Tenmabayashi**	**43.30**	**18**	P		**P**		**17 33 42.9**	**+1.1**
USA0B	**Ussuriysk Arra**	**44.62**	**7**	P		**P**		**17 33 52.5**	**+0.2**
USA0B				IAmb		IAmb		17 33 59.6	
	comp=Z,5.7nm,0.8s								
USRK	**Ussuriysk Ar.**	**44.62**	**7**	P		**P**		**17 33 53.2**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=194,slow=5.5,SNR=7.3								
	comp=Z,2.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**44.62**	**7**	P		**P**		**17 33 51.9**	**-0.4**
MDJ	**Mudanjiang**	**44.79**	**5**	P		**P**		**17 33 54.7**	**+1.0**
MDJ				IAmb		IAmb		17 33 57.2	
	comp=Z,4.9nm,0.8s								
GTA	**Gaotai**	**45.69**	**332**	*e*P		**P**		**17 34 02.5**	**+1.4**
GTA				pP		pP		17 34 06.8	-7.4
GTA				pmax		pmax			
	comp=Z,5.0nm,0.7s								
ASAJ	**Asahikawa**	**46.80**	**17**	P		**P**		**17 34 10.8**	**+1.3**
	comp=Z,2.3nm,0.4s,baz=234,slow=12,SNR=7.3								
	comp=Z,2.3nm,0.4s								
JKA	**Kamikawa-asahi**	**46.80**	**17**	P		**P**		**17 34 11.0**	**+1.4**
KLR	**Kul'dur**	**49.56**	**6**	P		**P**		**17 34 31.0**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=260,slow=6.3,SNR=4.7								
	comp=Z,1.2nm,0.5s								
HEH	**HeiHe**	**50.29**	**2**	*e*P		**P**		**17 34 36.8**	**+0.5**
HEH				pmax		pmax			
	comp=Z,6.0nm,1.2s								
HEH				pmax		pmax			
	comp=Z,190nm,6.1s								
ULN	**Ulaanbaatar**	**50.37**	**344**	P		**P**		**17 34 37.1**	**0.0**
ULN				IAmb		IAmb		17 35 03.6	
	comp=Z,6.8nm,1.2s								
SONM	**Songino Array**	**50.52**	**344**	P		**P**		**17 34 36.4**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=155,slow=9.4,SNR=18								
	comp=Z,2.5nm,0.8s								
SONM	**Songino Array**	**50.52**	**344**	P		**P**		**17 34 39.0**	**+0.7**
SONM				IAmb		IAmb		17 34 40.6	
	comp=Z,2.9nm,0.9s								
KSH	**Kashi**	**59.71**	**317**	P		**P**		**17 35 46.5**	**+1.8**
KSH				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MK31	**Makanchi Array**	**59.88**	**327**	P		**P**		**17 35 44.5**	**-1.1**
MK31				IAmb		IAmb		17 35 47.2	
	comp=Z,2.3nm,0.8s								
MK31				PcP		**PcP**		**17 36 31.6**	**+0.1**
MKAR	**Makanchi Array**	**59.88**	**327**	P		**P**		**17 35 44.1**	**-1.5**
	comp=Z,3.1nm,0.4s,baz=130,slow=7.9,SNR=28								
MKAR				PcP		**PcP**		**17 36 31.6**	**0.0**
	comp=Z,1.2nm,0.7s,baz=124,slow=4.4,SNR=4.0								
	comp=Z,3.1nm,0.4s								
MKAR	**Makanchi Array**	**59.88**	**327**	P		**P**		**17 35 44.5**	**-1.1**
MKAR				PcP		**PcP**		**17 36 31.4**	**-0.2**
MAKZ	**Makanchi**	**60.06**	**327**	P		**P**		**17 35 45.9**	**-0.9**
MAKZ				IAmb		IAmb		17 35 48.3	
	comp=Z,3.4nm,0.5s								
YAK	**Yakutsk**	**62.16**	**2**	P		**P**		**17 36 00.8**	**+0.2**
	comp=Z,4.2nm,0.5s,baz=91,slow=0.9,SNR=9.7								
	comp=Z,4.2nm,0.5s								
YAK	**Yakutsk**	**62.16**	**2**	P		**P**		**17 36 00.8**	**+0.2**
AAK	**Ala-Archa**	**62.20**	**320**	P		**P**		**17 36 01.3**	**-0.4**
AAK				IAmb		IAmb		17 36 01.7	
	comp=Z,5.0nm,1.2s								
KBL	**Kabul**	**62.66**	**310**	P		**P**		**17 36 05.0**	**+0.2**
KBL				IAmb		IAmb		17 36 05.6	
	comp=Z,3.8nm,0.5s								
MA2	**Magadan**	**62.88**	**14**	P		**P**		**17 36 07.0**	**+1.5**
	comp=Z,2.7nm,0.5s,baz=195,slow=6.6,SNR=7.1								
	comp=Z,2.7nm,0.5s								
MA2	**Magadan**	**62.88**	**14**	P		**P**		**17 36 07.1**	**+1.5**
MA2				IAmb		IAmb		17 36 07.7	
	comp=Z,3.6nm,0.6s								
ZAA0	**Zalesovo Array**	**63.36**	**335**	P		**P**		**17 36 08.9**	**+0.1**
ZAA0				IAmb		IAmb		17 36 18.4	
	comp=Z,1.8nm,0.8s								
ZALV	**Zalesovo Beam**	**63.36**	**335**	P		**P**		**17 36 08.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=116,slow=3.4,SNR=4.4								
	comp=Z,0.9nm,0.5s								
ZALV	**Zalesovo Beam**	**63.36**	**335**	P		**P**		**17 36 08.3**	**-0.5**
GAR	**Garm**	**63.42**	**315**	P		**P**		**17 36 09.1**	**-0.6**
GAR				IAmb		IAmb		17 36 12.5	
	comp=Z,4.0nm,0.6s								
CHGR	**Chuyangaron**	**64.11**	**314**	P		**P**		**17 36 14.1**	**-0.1**
CHGR				IAmb		IAmb		17 36 15.6	
	comp=Z,5.9nm,0.7s								
KK31	**Karatay Array**	**65.02**	**319**	P		**P**		**17 36 20.0**	**+0.1**
KKAR	**Karatay Array**	**65.02**	**319**	P		**P**		**17 36 19.9**	**-0.1**
NIUE	**Niue**	**66.37**	**111**	P		**P**		**17 36 29.3**	**+0.2**
TIXI	**Tiksi**	**71.76**	**1**	P		**P**		**17 37 00.9**	**-0.6**
TIXI				IAmb		IAmb		17 37 41.8	
	comp=Z,3.9nm,0.4s								
NRIK	**Noril'sk**	**73.83**	**347**	P		**P**		**17 37 14.1**	**+0.2**
	comp=Z,5.2nm,0.6s,baz=121,slow=4.8,SNR=17								
	comp=Z,5.2nm,0.6s								
NRIK	**Noril'sk**	**73.83**	**347**			**P**		**17 37 13.4**	**-0.5**
NRIK				IAmb		IAmb		17 37 14.9	
	comp=Z,5.7nm,0.7s								
ABKAR	**Akbulak array**	**74.16**	**322**	P		**P**		**17 37 16.3**	**+0.2**
ABKAR	**Akbulak array**	**74.16**	**322**	P		**P**		**17 37 16.1**	**0.0**
AKTO	**Aktyubinsk**	**75.72**	**323**	P		**P**		**17 37 25.0**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=91,slow=7.5,SNR=9.8								
	comp=Z,4.5nm,0.6s								
ARU	**Arti**	**77.37**	**329**	P		**P**		**17 37 34.1**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=135,slow=11,SNR=2.4								
	comp=Z,1.2nm,0.4s								
BELG	**Belogorsk**	**82.50**	**323**	P		**P**		**17 38 02.2**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=128,slow=19,SNR=3.2								
	comp=Z,3.6nm,0.5s								
ILAR	**Eielson Array**	**89.33**	**25**	P		**P**		**17 38 34.9**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=260,slow=4.7,SNR=1.7								
	comp=Z,0.1nm,0.5s								
AKASG	**Malin Array Be**	**93.86**	**321**	P		**P**		**17 38 54.9**	**-2.0**
	comp=Z,0.1nm,0.2s,baz=69,slow=5.2,SNR=2.2								
	comp=Z,0.1nm,0.2s								
TXAR	**Lajitas Array**	**125.27**	**54**	PKP		**PKiKP**		**17 44 42.1**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=268,slow=2.3,SNR=2.9								

*SOME **31** 17:26:48.5, 50°.30N×84°.25E, h15km*

*IDC **31** 17:26:50.4±0.9, 50°.15N×84°.59E, h0km, mb3.5/6, mbtmp3.5/13, MLv3.1/7, MS2.6/2, Error ellipse: s-maj=15.5km s-min=9.9km az=115.0*

*NNC **31** 17:26:52.2±0.7, 50°.17N×84°.29E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=7.4km s-min=4.5km az=97.0*

*ASRS **31** 17:26:54.0±0.3, 50°N±1°×8°5E±°, h5km, MLh4.1/14, Error ellipse: s-maj=3.7km s-min=2.8km az=75.1, confirmed*

ISC 31 17:26:50.5±1.1, 50°.14N±0°.03×84°.33E±0°.03, h0km±8km, n65, σ2s40/81, mb3.5/6, 16C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
UKR	**Ust'-Kan**	**0.85**	**20**	⇓Pg		**Pg**		**17 27 08.3**	**+1.5**
UKR				Sg		**Sg**		**17 27 19.0**	**+1.2**
DGZ	**Jazzator, Alta**	**2.06**	**101**	Pg		**Pb**		**17 27 29.0**	**+0.2**
DGZ				Sg		**Sb**		**17 27 54.8**	**-0.1**
GALT	**Gorno-Altaysk,**	**2.09**	**29**	Pg		**Pb**		**17 27 30.3**	**+1.0**
GALT				Sg		**Sg**		**17 27 57.6**	**0.0**
ULGR	**Ulagan, Altay**	**2.38**	**77**	Pg		**Pb**		**17 27 36.4**	**+2.1**
ULGR				Sg		**Sb**		**17 28 05.4**	**+1.2**
ARTR	**Artybash**	**2.50**	**47**	Pg		**Pb**		**17 27 37.4**	**+1.1**
ARTR				Sg		**Sb**		**17 28 08.5**	**+1.0**
SEM	**Semipalatinsk**	**2.63**	**277**	*e*Pg		**Pn**		**17 27 32.5**	**-1.9**
	3.5nm,0.1s								
SEM				*e*Lg		Lg		17 28 03.1	
	28nm,0.2s								
ZSN	**Zaisan**	**2.72**	**172**	*e*Pg		**Pb**		**17 27 39.7**	**-0.3**
	65nm,0.2s								
ZSN				*e*Lg		Lg		17 28 15.0	
	408nm,0.5s								
ELT	**Eltsovka**	**3.34**	**20**	Pn		**Pn**		**17 27 45.9**	**+1.9**
ELT				Pg		**Pb**		**17 27 53.2**	**+2.5**
ELT				Sg		**Sb**		**17 28 35.3**	**+3.5**

TASR	**Tashtagol**	**3.44**	**39**	Pg		**Pb**		**17 27 53.7**	**+1.4**
TASR				Sg		**Sb**		**17 28 37.7**	**+3.2**
MK31	**Makanchi Array**	**3.61**	**203**	⇑Pn		**Pn**		**17 27 51.2**	**+3.5**
	0.4nm,0.2s,baz=27,slow=13,SNR=428								
MK31				⇑Pg		**Pb**		**17 27 57.4**	**+2.2**
	8.7nm,0.5s,baz=26,slow=17,SNR=24								
MK31				⇑Lg		Lg		17 28 46.3	
	72nm,0.5s,baz=27,slow=30,SNR=12								
MKAR	**Makanchi Array**	**3.61**	**203**	Pn		**Pn**		**17 27 51.0**	**+3.3**
	2.1nm,0.3s,baz=28,slow=14,SNR=82								
MKAR				Sn		**Sn**		**17 28 31.0**	**0.0**
	9.1nm,0.3s,baz=32,slow=22,SNR=4.4								
MKAR				Lg		Lg		17 28 42.9	
	22nm,0.3s,baz=20,slow=29,SNR=16								
	3.4nm,0.3s								
MKAR	**Makanchi Array**	**3.61**	**203**	Pn		**Pn**		**17 27 51.8**	**+4.1**
MKAR				Sg		**Sb**		**17 28 42.4**	**+2.8**
MAKZ	**Makanchi**	**3.68**	**206**	⇓Pn		**Pn**		**17 27 52.0**	**+3.3**
	2.4nm,0.3s								
MAKZ				⇓Pg		**Pb**		**17 27 58.1**	**+1.6**
	10.0nm,0.7s								
MAKZ				⇑Lg		Lg		17 28 48.8	
	55nm,0.5s								
MAKZ	**Makanchi**	**3.68**	**206**	Pn		**Pn**		**17 27 52.5**	**+3.8**
MAKZ				Sg		**Sb**		**17 28 46.2**	**+4.6**
KURBB	**Kurchatov Arra**	**3.74**	**280**	Pn		**Pn**		**17 27 51.8**	**+2.3**
	1.0nm,0.3s,baz=92,slow=15,SNR=143								
KURBB				Lg		Lg		17 28 50.0	
	5.4nm,0.3s,baz=90,slow=32,SNR=7.5								
	9.4nm,0.4s								
KURBB	**Kurchatov Arra**	**3.74**	**280**	⇓Pn		**Pn**		**17 27 51.3**	**+1.9**
	13nm,0.5s								
KURBB				⇑Sn		**Sn**		**17 28 36.0**	**+1.9**
	68nm,0.5s								
KURBB				⇑Lg		Lg		17 28 53.2	
	392nm,0.6s								
MALIN	**Malinovka, Kuz**	**3.76**	**28**	Sg		**Sg**		**17 28 49.0**	**-2.3**
TAIL	**Tailep, Kuzbas**	**3.76**	**27**	Sg		**Sg**		**17 28 49.2**	**-2.2**
ZAA0	**Zalesovo Array**	**3.83**	**4**	⇓Pn		**Pn**		**17 27 51.7**	**+1.1**
	0.5nm,0.7s								
ZAA0				⇑Pg		**Pb**		**17 28 00.3**	**+1.5**
	4.0nm,0.5s								
ZAA0				⇑Lg		Lg		17 28 52.4	
	33nm,0.8s								
ZALV	**Zalesovo Beam**	**3.83**	**4**	Pn		**Pn**		**17 27 52.0**	**+1.3**
	1.7nm,0.3s,baz=187,slow=14,SNR=26								
ZALV				Sn		**Sn**		**17 28 37.0**	**+0.8**
	8.4nm,0.3s,baz=175,slow=20,SNR=6.0								
ZALV				Lg		Lg		17 28 50.1	
	16nm,0.3s,baz=179,slow=27,SNR=5.4								
ZALV				LR		LR		17 29 35.8	
	comp=Z,54nm,19.3s,baz=64,slow=44								
	3.9nm,0.3s								
VCHU	**Verkh-Chumysh,**	**4.04**	**18**	Pn		**Pn**		**17 27 57.0**	**+3.5**
VCHU				Sg		**Sg**		**17 29 00.9**	**+0.7**
BJR1	**Bachatsky 1, K**	**4.24**	**14**	Pn		**Pn**		**17 27 57.6**	**+1.3**
BJR1				Sg		**Sg**		**17 29 04.0**	**-2.6**
BJR2	**Bachatsky-2, K**

comp=Z,36nm,18.3s,baz=24,slow=35
1.0nm,0.6s

KK31 Karatay Array 11.81 239 ⇓Pg **Pn 17 29 39.1 -1.0**
0.3nm,0.2s,baz=52,slow=13,SNR=5.3
KK31 ⇑Lg Lg 17 33 08.5
1.9nm,0.5s

ARU Arti 16.58 302 Sn **Sn 17 33 39.2 -9.4**
baz=272,slow=22,SNR=2.4

AKTO Aktyubinsk 16.79 281 Pn **Pn 17 30 45.1 -1.8**
0.1nm,0.3s,baz=92,slow=14,SNR=3.8
1.2nm,0.6s

NRIK Noril'sk 19.32 3 P **P 17 31 16.3 -0.6**
0.2nm,0.3s,baz=154,slow=12,SNR=3.5
1.1nm,0.5s

GEYT Allbeck 22.32 247 P **P 17 31 51.3 +1.8**
0.7nm,0.4s,baz=36,slow=12,SNR=1.9
0.7nm,0.4s

BRTR Keskin Array B 36.71 273 P **P 17 34 00.0 +0.8**
0.7nm,0.9s,baz=60,slow=6.8,SNR=2.0
0.7nm,0.9s

INK Inuvik 58.55 16 P **P 17 36 47.8 -0.4**
0.4nm,0.5s,baz=356,slow=5.9,SNR=1.5
0.4nm,0.5s

ILAR Eielson Array 58.74 23 P **P 17 36 48.9 -0.7**
0.2nm,0.5s,baz=317,slow=5.3,SNR=4.8
0.2nm,0.5s

YKA Yellowknife Ar 66.71 9 P **P 17 37 42.3 -0.4**
0.4nm,0.5s,baz=343,slow=6.6,SNR=6.9
0.4nm,0.5s

ASAR Alice Springs 85.58 136 P **P 17 39 28.9 -1.6**
0.2nm,0.5s,baz=328,slow=5.4,SNR=4.7
0.2nm,0.5s

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*KRSC **31** 17:28:14.0±1.4, 54°.39N×168°.52E, h56km±32km, Ml4.1*
*IDC **31** 17:28:14.5±0.9, 54°.79N×168°.55E, h0km, mb3.6/13, mbtmp3.6/14, ML3.0/1, MS3.2/4, Error ellipse: s-maj=27.9km s-min=16.3km az=158.0*
*MOS **31** 17:28:17.3±0.8, 54°.44N×168°.41E, h54km, mb3.7/1, Error ellipse: s-maj=10.9km s-min=8.7km az=0.7*
ISC 31 17:28:16.7±0.7, **54°.43N**±0°.07×**168°.56E**±0°.06, **h24**km, **n63**, σ1§**61**/67, **mb3.6**/13, **MS2.9**/3, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**1.69**	**299**	PN		**Pn**	**17 28 42.0**	**-2.6**
BKI				S		**Sn**	**17 29 03.4**	**-2.0**
BKI	**Bering**	**1.69**	**299**	*eP*		**Pn**	**17 28 42.0**	**-2.6**
BKI				*eS*		**Sn**	**17 29 03.4**	**-2.0**
SHEM	**Shemya Is, Ala**	**3.72**	**115**	Pn		**Pn**	**17 29 12.2**	**-0.3**
	32nm,0.3s,baz=302,slow=15,SNR=6.1							
SHEM				Sn		**Sn**	**17 29 53.4**	**-2.0**
	14nm,0.3s,baz=308,slow=19,SNR=1.5							
KBTR	**Krutoberegovo**	**3.73**	**301**	PN		**Pn**	**17 29 11.5**	**-1.2**
KBTR				S		**Sn**	**17 29 53.6**	**-2.2**
KBTR	**Krutoberegovo**	**3.73**	**301**	*eP*		**Pn**	**17 29 11.5**	**-1.2**
KBTR				*eS*		**Sn**	**17 29 53.6**	**-2.2**
TUMD	**Tumrok D**	**4.78**	**283**	*eP*		**Pn**	**17 29 27.2**	**0.0**
TUMR	**Tumrok**	**4.94**	**283**	PN		**Pn**	**17 29 30.5**	**+1.2**
TUMR	**Tumrok**	**4.94**	**283**	*eP*		**Pn**	**17 29 30.5**	**+1.2**
KMNR	**Kamenistaya**	**4.96**	**289**	PN		**Pn**	**17 29 31.4**	**+1.8**
KMNR				S		**Sn**	**17 30 26.5**	**+0.2**
KMNR	**Kamenistaya**	**4.96**	**289**	*eP*		**Pn**	**17 29 31.4**	**+1.8**
KMNR				*eS*		**Sn**	**17 30 26.5**	**+0.2**
SPN	**Mys Shipunski**	**5.23**	**259**	PN		**Pn**	**17 29 33.2**	**-0.1**
SPN	**Mys Shipunski**	**5.23**	**259**	*eP*		**Pn**	**17 29 33.2**	**-0.1**
SPN				*eS*		**Sn**	**17 30 28.6**	**-4.2**
SDLR	**Sedlovina**	**5.84**	**263**	PN		**Pn**	**17 29 41.5**	**-0.2**
SDLR	**Sedlovina**	**5.84**	**263**	*eP*		**Pn**	**17 29 41.5**	**-0.2**
ESO	**Esso**	**5.84**	**289**	PN		**Pn**	**17 29 43.4**	**+1.7**
ESO	**Esso**	**5.84**	**289**	*eP*		**Pn**	**17 29 43.4**	**+1.7**
SMAR	**Somma**	**5.89**	**263**	PN		**Pn**	**17 29 42.5**	**0.0**
SMAR	**Somma**	**5.89**	**263**	*eP*		**Pn**	**17 29 42.5**	**0.0**
UGLR	**Uglovaya**	**5.89**	**262**	PN		**Pn**	**17 29 42.6**	**+0.1**
UGLR	**Uglovaya**	**5.89**	**262**	*eP*		**Pn**	**17 29 42.6**	**+0.1**
KRER	**Koryakskii**	**5.91**	**263**	PN		**Pn**	**17 29 42.8**	**0.0**
KRER	**Koryakskii**	**5.91**	**263**	*eP*		**Pn**	**17 29 42.8**	**0.0**
KRER				*eS*		**Sn**	**17 30 47.6**	**-2.2**
AVH	**Avacha**	**5.93**	**263**	PN		**Pn**	**17 29 43.4**	**+0.5**
AVH	**Avacha**	**5.93**	**263**	*eP*		**Pn**	**17 29 43.4**	**+0.5**
KRX	**Arik**	**5.95**	**264**	PN		**Pn**	**17 29 43.3**	**0.0**
KRX	**Arik**	**5.95**	**264**	*eP*		**Pn**	**17 29 43.3**	**0.0**
KRX				*eS*		**Sn**	**17 30 46.9**	**-4.0**
KOK	**Koryaka**	**5.98**	**263**	PN		**Pn**	**17 29 43.8**	**+0.1**
KOK	**Koryaka**	**5.98**	**263**	*eP*		**Pn**	**17 29 43.8**	**+0.1**
DALK	**Dalny**	**5.98**	**260**	PN		**Pn**	**17 29 44.0**	**+0.4**
DALK	**Dalny**	**5.98**	**260**	*eP*		**Pn**	**17 29 44.0**	**+0.4**
DALK				*eS*		**Sn**	**17 30 48.2**	**-3.0**
TILK	**Tilichiki**	**6.18**	**349**	PN		**Pn**	**17 29 45.8**	**-0.4**
TILK	**Tilichiki**	**6.18**	**349**	*eP*		**Pn**	**17 29 45.8**	**-0.4**
GNL	**Ganaly**	**6.29**	**268**	PN		**Pn**	**17 29 49.0**	**+1.0**
GNL	**Ganaly**	**6.29**	**268**	*eP*		**Pn**	**17 29 49.0**	**+1.0**
MTVR	**Mutnovka**	**6.49**	**257**	PN		**Pn**	**17 29 50.6**	**-0.1**
MTVR	**Mutnovka**	**6.49**	**257**	*eP*		**Pn**	**17 29 50.6**	**-0.1**
GRL	**Gorelyy**	**6.53**	**258**	PN		**Pn**	**17 29 52.5**	**+1.2**
GRL	**Gorelyy**	**6.53**	**258**	*eP*		**Pn**	**17 29 52.5**	**+1.2**
PETK	**Petropavlovsk-**	**6.57**	**263**	Pn		**Pn**	**17 29 51.9**	**+0.2**
	1.5nm,0.3s,baz=70,slow=20,SNR=30							
PETK				Sn		**Sn**	**17 31 07.5**	**+1.8**
	1.1nm,0.3s,baz=79,slow=26,SNR=1.7							
PETK				LR		LR	17 32 31.1	
	comp=Z,93nm,19.6s,baz=64,slow=39							
	4.8nm,0.6s							
PALN	**Palana**	**6.64**	**318**	PN		**Pn**	**17 29 55.4**	**+2.8**
PALN	**Palana**	**6.64**	**318**	*eP*		**Pn**	**17 29 55.4**	**+2.8**
KDAK	**Kodiak Island**	**21.72**	**65**	P		**P**	**17 33 04.8**	**-0.9**
	8.8nm,0.9s,baz=351,slow=2.3,SNR=7.0							
	8.8nm,0.5s							
KLR	**Kul'dur**	**23.14**	**272**	LR		LR	17 43 22.9	
	comp=Z,37nm,18.4s,baz=18,slow=39							
TIXI	**Tiksi**	**24.20**	**330**	P		**P**	**17 33 30.0**	**-0.8**
	0.9nm,0.4s,baz=90,slow=20,SNR=3.9							
TIXI				LR		LR	17 42 57.3	
	comp=Z,32nm,18.8s,baz=312,slow=37							
	0.9nm,0.4s							
TIXI	**Tiksi**	**24.20**	**330**	P		**P**	**17 33 30.0**	**-0.8**
ILAR	**Eielson Array**	**24.27**	**47**	P		**P**	**17 33 30.3**	**-1.2**
	1.1nm,0.7s,baz=252,slow=7.4,SNR=11							
	1.1nm,0.7s							
INK	**Inuvik**	**29.69**	**39**	P		**P**	**17 34 20.1**	**0.0**
	2.0nm,1.1s,baz=269,slow=8.0,SNR=2.9							
	2.0nm,1.1s							
H11N2	**WAKE ISLAND Hy 34.66**	**183**		T		T	18 11 47.4	
	baz=1.6,slow=76,SNR=512							
H11N3	**WAKE ISLAND Hy 34.67**	**183**		T		T	18 11 49.7	
	baz=1.6,slow=76,SNR=394							
H11N1	**WAKE ISLAND Hy 34.67**	**183**		T		T	18 11 47.4	
	baz=1.6,slow=76,SNR=453							
H11S1	**WAKE ISLAND Hy 35.88**	**183**		T		T	18 13 17.6	
	baz=1.7,slow=76,SNR=59							
H11S3	**WAKE ISLAND Hy 35.89**	**183**		T		T	18 13 22.0	
	baz=1.7,slow=76,SNR=24							
H11S2	**WAKE ISLAND Hy 35.90**	**183**		T		T	18 13 23.9	
	baz=1.7,slow=76,SNR=63							
SONM	**Songino Array**	**38.41**	**287**	P		**P**	**17 35 37.3**	**+1.3**
	0.6nm,0.6s,baz=70,slow=8.9,SNR=2.1							
	0.6nm,0.6s							
YKA	**Yellowknife Ar**	**38.69**	**46**	P		**P**	**17 35 37.8**	**-0.2**
	0.2nm,0.6s,baz=292,slow=7.8,SNR=4.1							
	0.2nm,0.6s							
ELK	**Elko**	**50.69**	**72**	LR		LR	17 57 11.4	
	comp=Z,81nm,18.8s,baz=54,slow=34							
MKAR	**Makanchi Array**	**51.99**	**300**	P		**P**	**17 37 22.5**	**-1.1**
	0.2nm,0.5s,baz=47,slow=6.0,SNR=1.9							
	0.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**63.35**	**265**	P		**P**	**17 38 44.6**	**+0.9**
	0.4nm,0.4s,baz=27,slow=6.1,SNR=1.8							
	0.4nm,0.4s							
NOA	**NORSAR Array B**	**63.48**	**348**	P		**P**	**17 38 43.2**	**-0.9**
	0.8nm,0.9s,baz=18,slow=6.6,SNR=2.2							
	0.8nm,0.9s							
TXAR	**Lajitas Array**	**65.46**	**74**	P		**P**	**17 38 57.8**	**+0.1**
	0.3nm,0.6s,baz=306,slow=5.2,SNR=6.3							
	0.3nm,0.6s							
AKASG	**Malin Array Be**	**69.85**	**334**	P		**P**	**17 39 24.3**	**-0.6**
	0.2nm,0.4s,baz=26,slow=5.6,SNR=1.5							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**79.66**	**213**	P		**P**	**17 40 26.2**	**+4.3**
	0.5nm,0.9s,baz=21,slow=6.0,SNR=2.0							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**83.29**	**212**	P		**P**	**17 40 44.9**	**+3.8**
	0.4nm,0.8s,baz=20,slow=5.2,SNR=6.9							
	0.4nm,0.8s							

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*NNC **31** 18:01:27.6±1.0, 46°.95N×80°.69E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=10.5km s-min=4.9km az=170.0, Suspected Mining explosion.*
*SOME **31** 18:01:30.6, 46°.80N×80°.57E, h5km*
*ASRS **31** 18:01:30.1±1.2, 47°.N±2°×8°.1E±°, h5km, MLh3.2/3, Error ellipse: s-maj=13.9km s-min=4.2km az=91.4, confirmed*
ISC 31 18:01:26.9±0.9, **47°.19N**±0°.05×**80°.82E**±0°.04, **h0**km, **n38**, σ1§**65**/41, **5C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MAKZ	**Makanchi**	**0.88**	**115**	⇓P		**Pb**	**18 01 43.9**	**-1.1**
	1.3nm,0.2s							
MAKZ				⇑S		**Sn**	**18 01 57.9**	**-2.2**
	13nm,0.4s							
MAKZ	**Makanchi**	**0.88**	**115**	Pg		**Pb**	**18 01 43.9**	**-1.1**
MAKZ				Sg		**Sn**	**18 01 58.1**	**-2.0**
MK31	**Makanchi Array**	**1.08**	**111**	⇑P		**Pb**	**18 01 47.6**	**-1.0**
	0.8nm,0.1s,baz=278,slow=15,SNR=372							
MK31				⇓S		**Sn**	**18 02 04.1**	**-1.0**
	0.8nm,0.1s,baz=280,slow=26,SNR=7.4							
MKAR	**Makanchi Array**	**1.08**	**111**	Pg		**Pb**	**18 01 47.9**	**-0.7**
MKAR				Sg		**Sn**	**18 02 04.5**	**-0.6**
TDK	**Taldyqorghan**	**2.76**	**218**	Pg		**Pb**	**18 02 15.7**	**-1.4**
	22nm,0.1s							
TDK	**Taldyqorghan**	**2.76**	**218**	*e*Pg		**Pb**	**18 02 15.7**	**-1.4**
	22nm,0.1s							
TDK				*e*Lg		Lg	18 02 48.9	
	24nm,0.2s							
ZSN	**Zaisan**	**2.77**	**83**	*e*Pg		**Pg**	**18 02 20.8**	**+0.9**
	1.1nm,0.2s							
ZSN				*e*Lg		Lg	18 02 57.7	
	3.7nm,0.3s							
DJR	**Jarkent**	**2.95**	**195**	Pg		**Pb**	**18 02 18.1**	**-2.3**
	2.1nm,0.1s							
DJR				Lg		Lg	18 02 52.5	
	8.1nm,0.3s							
DJR	**Jarkent**	**2.95**	**195**	*e*Pg		**Pb**	**18 02 18.2**	**-2.2**
	2.1nm,0.1s							
DJR				*e*Lg		Lg	18 02 52.1	
	8.1nm,0.3s							
BLB	**Baldybastay**	**3.50**	**209**	Pg		**Pb**	**18 02 27.6**	**-2.2**
	6.1nm,0.3s							
BLB				Lg		Lg	18 03 07.6	
	6.8nm,0.4s							
KURBB	**Kurchatov Arra**	**3.75**	**337**	⇑Pn		**Pn**	**18 02 25.9**	**-0.1**
	1.0nm,0.6s							
KURBB				⇑Sn		**Sb**	**18 03 22.0**	**+2.0**
	16nm,0.7s							
KPKS	**Kokpek**	**4.02**	**203**	Pg		**Pb**	**18 02 37.1**	**-1.5**
	2.7nm,0.2s							
KPKS				Lg		Lg	18 03 25.6	
	8.1nm,0.3s							
KPKS	**Kokpek**	**4.02**	**203**	*e*Pg		**Pb**	**18 02 37.1**	**-1.5**
	2.7nm,0.2s							
KPKS				*e*Lg		Lg	18 03 24.8	
	8.1nm,0.3s							
SHLS	**Shalkode**	**4.15**	**194**	Lg		Lg	18 03 28.8	
	64nm,0.5s							
SHLS	**Shalkode**	**4.15**	**194**	*e*Pg		**Pb**	**18 02 38.9**	**-1.9**
	1.5nm,0.1s							
SHLS				*e*Lg		Lg	18 03 27.6	
	64nm,0.5s							
KURS	**Kuram**	**4.15**	**208**	Pg		**Pb**	**18 02 41.0**	**+0.2**
	1.8nm,0.3s							
KURS	**Kuram**	**4.15**	**208**	*e*Pg		**Pb**	**18 02 41.0**	**+0.2**
	1.8nm,0.3s							
KURS				*e*Lg		Lg	18 03 31.3	
	3.1nm,0.4s							
UZB	**Uzynbulak**	**4.24**	**198**	Pg		**Pb**	**18 02 41.9**	**-0.5**
	1.8nm,0.1s							
UZB				Lg		Lg	18 03 32.7	
	3.6nm,0.3s							
UZB	**Uzynbulak**	**4.24**	**198**	*e*Pg		**Pb**	**18 02 41.9**	**-0.5**
	1.8nm,0.1s							
UZB				*e*Lg		Lg	18 03 32.7	
	3.6nm,0.3s							
CHKK	**Chushkaly**	**4.29**	**220**	Pg		**Pb**	**18 02 40.4**	**-2.8**
	0.9nm,0.3s							
CHKK				Lg		Lg	18 03 31.9	
	8.0nm,0.2s							
CHKK	**Chushkaly**	**4.29**	**220**	*e*Pg		**Pb**	**18 02 41.3**	**-1.9**
	0.9nm,0.3s							
CHKK				*e*Lg		Lg	18 03 31.5	
	8.0nm,0.2s							
SATY	**Saty**	**4.47**	**203**	Pg		**Pb**	**18 02 46.5**	**+0.1**
	1.0nm,0.2s							
SATY				Lg		Lg	18 03 40.7	
	4.9nm,0.1s							
SATY	**Saty**	**4.47**	**203**	*e*Pg		**Pb**	**18 02 46.5**	**+0.1**
	1.0nm,0.2s							
SATY				*e*Lg		Lg	18 03 40.7	
	4.9nm,0.1s							
KTBS	**Karatobe**	**4.54**	**221**	Pg		**Pb**	**18 02 46.1**	**-1.3**
	0.5nm,0.2s							
KTBS				Lg		Lg	18 03 40.0	
	9.6nm,0.2s							
KTBS	**Karatobe**	**4.54**	**221**	*e*Pg		**Pb**	**18 02 46.1**	**-1.3**
	0.5nm,0.2s							
KTBS				*e*Lg		Lg	18 03 40.0	
	9.6nm,0.2s							
KUU	**Kurty**	**4.56**	**225**	Pg		**Pb**	**18 02 46.1**	**-1.7**
	0.7nm,0.2s							
KUU				Lg		Lg	18 03 39.9	
	6.6nm,0.4s							
KUU	**Kurty**	**4.56**	**225**	*e*Pg		**Pb**	**18 02 46.1**	**-1.7**
	0.7nm,0.2s							
KUU				*e*Lg		Lg	18 03 39.9	
	6.6nm,0.4s							
UKR	**Ust'-Kan**	**4.56**	**33**	Sg		**Sg**	**18 03 52.0**	**-1.4**
KOTS	**Kotyrbulak**	**4.75**	**215**	Pg		**Pb**	**18 02 51.4**	**+0.4**
	0.9nm,0.2s							
KOTS	**Kotyrbulak**	**4.75**	**215**	*e*Pg		**Pb**	**18 02 51.4**	**+0.4**
	0.9nm,0.2s							
KOTS				*e*Lg		Lg	18 03 48.9	
	6.1nm,0.4s							
MDOK	**Medeo**	**4.83**	**215**	Lg		Lg	18 03 45.2	
	12nm,1.4s							
KRBS	**Karabastau**	**5.03**	**228**	Pg		**Pb**	**18 02 54.4**	**-1.4**
	0.8nm,0.1s							
KRBS				Lg		Lg	18 03 54.1	
	2.4nm,0.2s							
KRBS	**Karabastau**	**5.03**	**228**	*e*Pg		**Pb**	**18 02 54.4**	**-1.4**
	0.8nm,0.1s							
KRBS				*e*Lg		Lg	18 03 54.1	
	2.4nm,0.2s							
DGZ	**Jazzator, Alta**	**5.07**	**58**	Pn		**Pn**	**18 02 46.7**	**+2.5**
DGZ				Sg		**Sg**	**18 04 08.2**	**-1.4**
OTUK	**Ortayu**	**5.82**	**284**	⇑Lg		Lg	18 04 27.5	
	1.5nm,0.5s							
ULGR	**Ulagan, Altay**	**5.83**	**51**	Sg		**Sg**	**18 04 35.1**	**+1.1**
ARTR	**Artybash**	**6.24**	**40**	Sg		**Sg**	**18 04 44.6**	**-2.7**
AAK	**Ala-Archa**	**6.39**	**227**	Sg		**Sb**	**18 04 39.8**	**+3.6**

ROM 31 18:02:36.8±0.1, **43°.633N**±0°.004×**12°.089E**±0°.004, **h9**km, **ML1.0**/11, **1C-1D, Error ellipse: s-maj=0.5km s-min=0.2km az=203.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SSP9	**Sansepolcro**	**0.07**	**153**	P		Pg	18 02 39.2	+0.4
SSP9				S		Sg	18 02 40.9	+0.5
SSP9				AML		AML		
	comp=E,404μm,0.7s							
SSP9				AML		AML		
	comp=N,436μm,0.2s							
SSP9				AML		AML		
	comp=E,236μm,0.1s							
CRE	**Caprese Michel**	**0.10**	**262**	P		Pg	18 02 39.9	+0.5
CRE				S		Sg	18 02 41.8	+0.5
CRE				AML		AML		
	comp=N,446μm,0.2s							
CRE				AML		AML		
	comp=E,182μm,0.5s							
CRE				AML		AML		
	comp=N,445μm,0.2s							
CRE				AML		AML		
	comp=N,445μm,1.8s							
CRE				AML		AML		
	comp=E,174μm,0.2s							
PARC	**Parchiule**	**0.11**	**82**	⇑P		Pg	18 02 40.0	+0.5
PARC				S		Sg	18 02 41.9	+0.6
PARC				AML		AML		
	comp=E,167μm,0.3s							
PARC				AML		AML		
	comp=N,402μm,0.1s							
PARC				AML		AML		
	comp=E,126μm,0.3s							
PARC				AML		AML		
	comp=N,401μm,0.1s							
PARC				AML		AML		
	comp=E,126μm,1.7s							
BADI	**Badiali**	**0.17**	**138**	P		Pg	18 02 40.9	+0.6
BADI				S		Sg	18 02 44.1	+1.3
ASQU	**Asqua**	**0.27**	**307**	P		Pg	18 02 42.8	+0.5
ASQU				S		Sb	18 02 47.5	-1.1
ATPI	**Pietralunga -**	**0.29**	**129**	P		Pg	18 02 43.3	+0.7
ATPI				S		Sb	18 02 48.2	-0.9
ATPI				AML		AML		
	comp=E,20μm,0.6s							
ATPI				AML		AML		
	comp=N,20μm,0.3s							
PIEI	**Pieia**	**0.34**	**107**	P		Pg	18 02 44.0	+0.5
PIEI				S		Sb	18 02 49.8	-0.7
PIEI				AML		AML		
	comp=E,87μm,0.1s							
PIEI				AML		AML		
	comp=N,38μm,0.1s							
PIEI				AML		AML		
	comp=E,87μm,0.1s							
PIEI				AML		AML		
	comp=N,38μm,0.1s							
ATVO	**AVT- Monte Val**	**0.34**	**137**	P		Pg	18 02 44.1	+0.6
ATVO				S		Sb	18 02 49.8	-0.7
ATVO				AML		AML		
	comp=N,22μm,0.3s							
ATVO				AML		AML		
	comp=E,21μm,0.1s							
ATVO				AML		AML		
	comp=E,21μm,1.9s							
ATVO				AML		AML		
	comp=N,22μm,1.7s							
LMD	**Lutirano**	**0.52**	**328**	P		Pb	18 02 47.7	-0.5
BRSN	**Barisano**	**0.65**	**359**	⇓P		Pg	18 02 39.6	-10
BRSN				S		Sg	18 02 48.0	-10
BRSN				AML		AML		
	comp=E,577μm,1.6s							
BRSN				AML		AML		
	comp=N,643μm,1.1s							
BRSN				AML		AML		
	comp=E,608μm,1.6s							
BRSN				AML		AML		
	comp=E,578μm,1.6s							
BRSN				AML		AML		
	comp=E,604μm,1.6s							
BRSN				AML		AML		
	comp=N,617μm,0.2s							
BRSN				AML		AML		
	comp=N,598μm,0.2s							
BRSN				AML		AML		
	comp=E,551μm,0.1s							
BRSN				AML		AML		
	comp=E,554μm,0.1s							
BRSN				AML		AML		
	comp=N,617μm,0.2s							
FDMO	**Fiordimonte**	**0.94**	**129**	S		Sn	18 03 13.3	+3.5
T1215	**Vallo di Nera,**	**1.01**	**145**	S		Sn	18 03 15.0	+3.6

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*MAN **31** 18:04:16.3, 6°.90N×126°.78E, h17km, mb4.8, ML3.7, MS3.7*
*IDC **31** 18:04:16.3±3.9, 6°.88N×127°.04E, h73km±35km, mb3.1/4, mbtmp3.4/5, ML3.3/1, MS2.5/1, Error ellipse: s-maj=55.6km s-min=17.1km az=49.0*
ISC 31 18:04:09.3±1.9, **6°.83N**±0°.05×**127°.20E**±0°.06, **h15**km±11km, **n19**, σ1§**63**/25, **mb3.3**/4, **3C-9D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MATI	**Mati**	**0.95**	**277**	⇓*e*P		**Pb**	**18 04 27.6**	**+0.2**
MATI				*e*S		**Sg**	**18 04 37.7**	**-2.3**
CDOP	**Cateel, Davao**	**1.22**	**321**	⇑*i*P		**Pg**	**18 04 33.2**	**+0.4**
CDOP				*i* S		**Sg**	**18 04 47.2**	**-1.4**
BIPH	**Bislig**	**1.58**	**328**	⇑*i*P		**Pb**	**18 04 38.2**	**-0.1**
BIPH				*i* S		**Sn**	**18 04 55.6**	**-1.5**
DAV	**Davao City (W)**	**1.63**	**279**	P		**Pb**	**18 04 39.8**	**+0.8**
	250nm,0.4s,baz=32,slow=15,SNR=4.6							
DAV				S		**Sb**	**18 04 59.4**	**-0.1**
	239nm,0.5s,baz=48,slow=24,SNR=11							
DAV				LR		LR	18 05 27.0	
	comp=Z,121nm,20.5s,baz=171,slow=48							
DDMP	**Don Marcelino,**	**1.65**	**244**	⇓*e*P		**Pn**	**18 04 39.0**	**+1.3**
DDMP				*e*S		**Sn**	**18 04 58.0**	**-0.6**
BUKP	**Musuan**	**2.37**	**296**	⇓*e*P		**Pn**	**18 04 49.8**	**+2.2**
BUKP				*e*S		**Sb**	**18 05 21.9**	**+1.2**
BUKP	**Musuan**	**2.37**	**296**	⇑*e*P		Pg	18 05 01.1	+6.4
BUTP	**Butuan**	**2.64**	**324**	⇓*e*P		**Pb**	**18 04 55.7**	**-0.6**
SKMP	**Bagumbayan, Su**	**2.66**	**264**	⇓*e*P		**Pn**	**18 04 53.1**	**+1.5**
SKMP				*e*S		**Sn**	**18 05 21.9**	**-1.8**
CTBH	**Cotabato--PC H**	**2.96**	**278**	⇓*i*P		**Pn**	**18 04 57.2**	**+1.5**
CGP	**Cagayan de Oro**	**2.97**	**303**	⇓*e*P		**Pn**	**18 04 58.3**	**+2.4**
GLSP	**General Luna,**	**3.12**	**340**	⇓*e*P		**Pn**	**18 05 00.2**	**+2.2**
GLSP				*e*S		**Sn**	**18 05 34.4**	**-0.7**
PAGZ	**Pagadian**	**3.92**	**285**	⇓*e*P		**Pn**	**18 05 11.4**	**+2.4**
SIJI	**Sorong**	**8.65**	**152**	P		Pn	18 06 20.3	+6.2
	0.3nm,0.3s,baz=282,slow=20,SNR=1.6							
SIJI				S		**Sn**	**18 07 49.2**	**-2.2**
	1.0nm,0.3s,baz=192,slow=22,SNR=1.6							
	1.8nm,0.6s							
JCJ	**Chichijima**	**24.68**	**34**	LR		LR	18 17 30.2	
	comp=Z,13nm,20.4s,baz=19,slow=32							
WRA	**Warramunga Arr**	**27.51**	**165**	P		**P**	**18 09 57.0**	**+1.5**
	0.1nm,0.5s,baz=343,slow=11,SNR=2.1							
	0.1nm,0.5s							
ASAR	**Alice Springs**	**31.01**	**168**	P		**P**	**18 10 28.1**	**+1.6**
	0.3nm,0.9s,baz=341,slow=7.4,SNR=1.8							
	0.3nm,0.9s							
MKAR	**Makanchi Array**	**55.32**	**324**	P		**P**	**18 13 41.2**	**-1.3**
	0.2nm,0.5s,baz=119,slow=8.1,SNR=4.9							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**65.01**	**326**	P		**P**	**18 14 47.9**	**-0.9**
	0.3nm,0.4s,baz=100,slow=6.3,SNR=2.7							
	0.3nm,0.4s							

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*UPP **31** 18:07:55.6±0.1, 67°.07N×20°.93E,

0.1nm,0.3s
HFS Hagfors 7.67 208 Pn **Pn 18 09 48.1 0.0**
0.2nm,0.3s,baz=28,slow=13,SNR=13
HFS Sn **Sn 18 11 14.7 -0.6**
0.2nm,0.3s,baz=30,slow=26,SNR=1.4
HFS Lg Lg 18 11 55.3
0.2nm,0.3s,baz=34,slow=30,SNR=1.7
0.6nm,0.4s
SPITS Spitsbergen Ar 11.24 355 Pn **Pn 18 10 36.7 -0.1**
baz=159,slow=12
14nm,1.1s

MOS ***31*** *18:42:58.9±1.1,38°.35N×142°.36E,h14km,mb4.6/7,Error ellipse: s-maj=10.8km s-min=6.5km az=84.4*
IDC ***31*** *18:42:59.6±0.7,38°.30N×142°.22E,h0km,mb3.8/19, mbtmp3.8/23,ML3.6/4,MS3.1/11,Error ellipse: s-maj=18.2km s-min=12.3km az=125.0*
JMA ***31*** *18:43:01.8±0.2,38°.4N±0°.4×142°.3E±0°.8,h28km±1km, MD4.2/39,MV4.5/39,E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
NEIC ***31*** *18:43:01.3±2.0,38°.28N±0°.06×142°.37E±0°.09,h17km±2km, mb4.6/33,Error ellipse: s-maj=11.5km s-min=7.2km az=123.0*
NIED ***31*** *18:43:01.8,38°.39N×142°.28E,h28km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.41; Mθθ0.04; Mφφ0.37; Mrθ0.85; Mθφ-0.72; Mφr-0.15; Fault plane solution: M₀1.19000×10¹⁵ NP1: φs286.00000°,δ77.00000°,λ-126.00000°. NP2: φs179.00000°,δ38.00000°,λ-21.00000°.*
ISC 31 18:42:59.8±2.3,38°.32N±0°.04×142°.35E±0°.05,h9km±14km, n145,σ1§52/130,mb4.3/39,MS3.0/5,1C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.70**	**270**	*i*	P	**Pb**		**18 43 14.0**	**-0.1**
JIKH					S	**Sg**		**18 43 22.3**	**-0.1**
JIO	**Ouri**	**0.80**	**280**	*i*	P	**Pb**		**18 43 15.8**	**-0.1**
JIO					S	**Sb**		**18 43 25.2**	**-1.7**
JIO	**Ouri**	**0.80**	**280**		A	A		18 43 15.8	
	comp=E,8.0nm,0.8s,comp=E,17nm,0.6s								
JKMT	**Kesennumamotoy**	**0.85**	**306**	⇓	*i*P	**Pb**		**18 43 16.3**	**-0.4**
JKMT				⇓	S	**Sb**		**18 43 26.1**	**-2.0**
JKMT	**Kesennumamotoy**	**0.85**	**306**		A	A		18 43 16.3	
	comp=E,4.0nm,5.0s,comp=E,10.0nm,2.6s								
OFUJ	**Ofunato**	**0.93**	**325**	⇓	*i*P	**Pb**		**18 43 17.3**	**-0.8**
OFUJ				⇓	S	**Sb**		**18 43 28.1**	**-2.5**
OFUJ	**Ofunato**	**0.93**	**325**		A	A		18 43 17.3	
	comp=E,5.0nm,0.5s,comp=E,4.0nm,0.9s								
JMK	**Ichinoseki**	**1.09**	**306**	*i*	P	**Pb**		**18 43 20.1**	**-0.7**
JMK					S	**Sb**		**18 43 33.0**	**-2.2**
JMK	**Ichinoseki**	**1.09**	**306**		A	A		18 43 20.1	
	comp=E,4.0nm,1.5s,comp=E,4.0nm,5.0s								
JOFO	**Osakifurukawao**	**1.17**	**284**		A	A		18 43 21.3	
	comp=E,30nm,3.3s,comp=E,33nm,0.8s								
JMST	**Minamisoumatoc**	**1.30**	**243**		A	A		18 43 24.2	
	comp=E,7.0nm,0.3s,comp=E,5.0nm,0.4s								
JMM	**Marumori**	**1.31**	**250**			**Pn**		**18 43 23.7**	**-0.6**
JMM	**Marumori**	**1.31**	**250**		P	**Pn**		**18 43 24.2**	**-0.1**
JMM	**Marumori**	**1.31**	**250**	⇓	*i*P	**Pn**		**18 43 23.7**	**-0.6**
JMM				⇓	S	**Sn**		**18 43 39.5**	**-2.4**
MIYJ	**Miyakonagasawa**	**1.32**	**342**		A	A		18 43 23.6	
	comp=E,6.0nm,2.0s,comp=E,6.0nm,1.3s								
JOU	**Okura**	**1.33**	**273**	*i*	P	**Pn**		**18 43 24.4**	**-0.2**
JOU					S	**Sn**		**18 43 41.0**	**-1.5**
JOU	**Okura**	**1.33**	**273**		A	A		18 43 24.4	
	comp=E,20nm,0.6s,comp=E,16nm,1.6s								
JOM	**Ohasama**	**1.42**	**325**	⇓	*i*P	**Pn**		**18 43 25.1**	**-0.8**
JOM				⇓	S	**Sn**		**18 43 42.2**	**-2.5**
JOM	**Ohasama**	**1.42**	**325**		A	A		18 43 25.1	
	comp=E,9.0nm,0.3s,comp=E,7.0nm,0.3s								
JFK	**Kawauchi**	**1.51**	**231**	*i*	P	**Pn**		**18 43 26.2**	**-0.9**
JFK					S	**Sn**		**18 43 43.9**	**-3.0**
JYK	**Kaneyama**	**1.67**	**292**		P	**Pn**		**18 43 29.1**	**-0.2**
JYK	**Kaneyama**	**1.67**	**292**		A	A		18 43 29.1	
	comp=E,3.0nm,5.8s,comp=E,4.0nm,3.0s								
JRG	**Rokugo**	**1.72**	**309**		P	**Pn**		**18 43 30.1**	**+0.1**
JRG	**Rokugo**	**1.72**	**309**		A	A		18 43 30.1	
	comp=E,5.0nm,1.1s,comp=E,6.0nm,0.8s								
ONAJ	**Iwakimizuishiy**	**1.73**	**226**		A	A		18 43 30.9	
	comp=E,6.0nm,0.3s,comp=E,5.0nm,5.2s								
JYAR	**Yonezawaarcadi**	**1.79**	**258**		A	A		18 43 31.1	
	comp=E,13nm,1.1s,comp=E,11nm,1.3s								
JSZI	**Iwateshizukuis**	**1.79**	**323**		A	A		18 43 31.0	
	comp=E,9.0nm,2.8s,comp=E,8.0nm,3.5s								
JYS	**Shirataka**	**1.80**	**268**		A	A		18 43 31.2	
	comp=E,8.0nm,1.5s,comp=E,10.0nm,1.3s								
JKEN	**Kujiedanarisaw**	**1.95**	**345**		A	A		18 43 33.0	
	comp=E,10.0nm,0.6s,comp=E,9.0nm,0.5s								
JYW	**Yuwa**	**2.07**	**307**		A	A		18 43 34.6	
	comp=E,11nm,1.5s,comp=E,10.0nm,2.9s								
JYA	**Atsumi**	**2.09**	**278**		A	A		18 43 35.2	
	comp=E,7.0nm,0.8s,comp=E,8.0nm,1.3s								
JTM	**Tenmabayashi**	**2.66**	**338**			**Pn**		**18 43 43.9**	**+1.0**
JTM	**Tenmabayashi**	**2.66**	**338**		P	**Pn**		**18 43 44.1**	**+1.3**
JSD	**Sado**	**3.24**	**266**		Pn	**Pn**		**18 43 51.2**	**+0.3**
ERM	**Erimo**	**3.74**	**9**			**Pn**		**18 43 57.8**	**+0.1**
ERM	**Erimo**	**3.74**	**9**		P	**Pn**		**18 43 58.1**	**+0.4**
ERM	**Erimo**	**3.74**	**9**		P	**Pn**		**18 43 57.8**	**+0.1**
JEM	**Erimo**	**3.74**	**9**		P	**Pn**		**18 43 58.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.75**	**243**		Pn	**Pn**		**18 43 59.1**	**+1.2**
	0.8nm,0.3s,baz=62,slow=11,SNR=30								
MJAR					Lg	Lg		18 44 55.1	
	1.1nm,0.3s,baz=47,slow=30,SNR=7.7								
MJAR					LR	LR		18 45 31.1	
	comp=Z,293nm,21.2s,baz=1.0,slow=42 6.4nm,0.4s								
MAJO	**Matsushiro**	**3.75**	**243**		Pn	**Pn**		**18 43 59.3**	**+1.5**
MAJO	**Matsushiro**	**3.75**	**243**		P	**Pn**		**18 43 59.6**	**+1.8**
MAJO	**Matsushiro**	**3.75**	**243**		P	**Pn**		**18 43 59.3**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.75**	**243**			**Pn**		**18 44 00.1**	**+2.3**
JGF	**Kuroka**	**4.83**	**237**			**Pn**		**18 44 15.0**	**+2.2**
JGF	**Kuroka**	**4.83**	**237**		P	**Pn**		**18 44 15.4**	**+2.6**
JSG	**Sagara**	**4.95**	**224**		Pn	**Pn**		**18 44 14.5**	**+0.2**
INU	**Inuyama**	**5.21**	**237**			**Pn**		**18 44 19.4**	**+1.5**
INU	**Inuyama**	**5.21**	**237**		P	**Pn**		**18 44 20.2**	**+2.3**
JHJ2	**Mitsune**	**5.59**	**202**		Pn	**Pn**		**18 44 23.4**	**+0.3**
JHJ2	**Mitsune**	**5.59**	**202**		P	**Pn**		**18 44 24.3**	**+1.1**
JHJ	**Hachijo jima 2**	**5.59**	**203**		Pn	**Pn**		**18 44 23.6**	**+0.3**
	14nm,0.3s,baz=323,slow=20,SNR=8.8								
JHJ					Sn	**Sn**		**18 45 24.4**	**-3.2**
	17nm,0.3s,baz=105,slow=23,SNR=6.7								
JHJ					LR	LR		18 46 46.9	
	comp=Z,289nm,19.7s,baz=86,slow=41 92nm,0.7s								
NMR	**Nemuro--Hokkai**	**5.66**	**26**	⇑	*i*P	**Pn**		**18 44 22.6**	**-1.4**
NMR					*i* S	**Sn**		**18 45 23.3**	**-5.8**
JKA	**Kamikawa-asahi**	**5.79**	**2**		Pn	**Pn**		**18 44 26.0**	**+0.1**
ASAJ	**Asahikawa**	**5.79**	**2**		Pn	**Pn**		**18 44 27.1**	**+1.2**
	3.0nm,0.3s,baz=207,slow=14,SNR=21								
ASAJ					Sn	**Sn**		**18 45 33.2**	**+0.7**
	1.7nm,0.3s,baz=231,slow=31,SNR=1.8 7.4nm,0.4s								
RUSJ	**Misakicho**	**6.18**	**20**	⇓	*i*P	**Pn**		**18 44 30.8**	**-0.4**
RUSJ				⇓	eS	**Sn**		**18 45 38.9**	**-3.0**
YUK	**Yuzh-Kuril'sk**	**6.29**	**24**	⇓	*i*P	**Pn**		**18 44 31.8**	**-1.0**
YUK					eS	**Sn**		**18 45 39.0**	**-5.7**
YUK					pmax	pmax			
	comp=Z,113nm,0.4s								
YUK					pmax	pmax			
	comp=N,37nm,0.2s								
YUK					pmax	pmax			
	comp=E,69nm,0.4s								
YUK					smax	smax			
	comp=E,269nm,0.5s								
YUK					smax	smax			
	comp=N,242nm,0.4s								
KUR	**Kuril'sk**	**8.04**	**29**		*e*P	**Pn**		**18 44 56.5**	**-0.2**
KUR					*e*S	**Sn**		**18 46 23.7**	**-4.0**
KUR					smax	smax			
	comp=N,72nm,0.5s								
JHS	**Saijyo**	**8.13**	**249**		Pn	**Pn**		**18 44 58.8**	**+0.8**
JMN	**Monobe**	**8.25**	**239**		Pn	**Pn**		**18 44 58.2**	**-1.6**
YSS	**Yuzh-Sakhalins**	**8.63**	**2**		Pn	**Pn**		**18 45 04.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**8.63**	**2**		*e*P	**Pn**		**18 45 06.3**	**+1.4**
YSS					pmax	pmax			
	comp=Z,10.0nm,1.1s								
YSS					MLR	MLR			
	comp=Z,300nm,17.0s								
USA0B	**Ussuriysk Arra**	**9.76**	**310**		Pn	**Pn**		**18 45 20.0**	**-0.4**
USA0B	**Ussuriysk Arra**	**9.76**	**310**		P	**Pn**		**18 45 20.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**9.76**	**310**		Pn	**Pn**		**18 45 21.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=119,slow=13,SNR=2.5								
	comp=Z,2.6nm,0.8s								
USRK	**Ussuriysk Ar.**	**9.76**	**310**		Pn	**Pn**		**18 45 20.1**	**-0.3**
JNU	**Nakatsue**	**10.67**	**244**		LR	LR		18 49 59.7	
	comp=Z,180nm,18.5s,baz=77,slow=40								
KSRS	**Korea Array**	**11.44**	**270**		Pn	Pn		18 45 48.8	+5.5
	comp=Z,0.1nm,0.3s,baz=81,slow=13,SNR=2.1								
KSRS					LR	LR		18 49 01.1	
	comp=Z,31nm,20.0s,baz=90,slow=32								
KLR	**Kul'dur**	**13.31**	**328**		LR	LR		18 50 46.8	
	comp=Z,76nm,19.2s,baz=32,slow=35								
JOW	**Kunigami**	**16.47**	**230**		LR	LR		18 53 12.6	
	comp=Z,26nm,19.4s,baz=107,slow=37								
MA2	**Magadan**	**21.95**	**11**		P	**P**		**18 47 54.2**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=194,slow=8.9,SNR=8.4								
MA2					LR	LR		18 56 02.3	
	comp=Z,53nm,18.0s,baz=110,slow=36 comp=Z,2.7nm,0.6s								
MA2	**Magadan**	**21.95**	**11**		P	**P**		**18 47 52.9**	**-0.6**
MA2					IAmb	IAmb		18 48 03.1	
	comp=Z,8.3nm,0.6s								
SSLB	**Suanglung**	**23.29**	**238**		P	**P**		**18 48 04.9**	**-3.1**
SSLB					IAmb	IAmb		18 48 15.1	
	comp=Z,26nm,1.3s								
TPUB	**Ta-pu**	**23.84**	**237**		P	**P**		**18 48 11.0**	**-2.4**
YAK	**Yakutsk**	**24.99**	**346**		P	**P**		**18 48 26.8**	**+3.2**
	comp=Z,2.2nm,0.3s,baz=211,slow=1.5,SNR=1.3								
YAK					LR	LR		18 59 44.9	
	comp=Z,41nm,18.8s,baz=258,slow=40								
SEY	**Seymchan**	**25.39**	**11**		P	**P**		**18 48 29.4**	**+2.2**
	comp=Z,3.4nm,0.8s,baz=198,slow=6.6,SNR=13 comp=Z,3.4nm,0.8s								
SONM	**Songino Array**	**27.72**	**302**		P	**P**		**18 48 49.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=106,slow=7.3,SNR=2.0 comp=Z,0.2nm,0.5s								
ENH	**Enshi**	**28.20**	**263**		P	**P**		**18 48 52.5**	**-0.4**
ENH					IAmb	IAmb		18 49 01.5	
	comp=Z,12nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.21**	**124**		T	T		19 18 36.6	
	baz=317,slow=75,SNR=610								
H11N1	**WAKE ISLAND Hy**	**28.22**	**124**		T	T		19 18 35.4	
	baz=317,slow=75,SNR=609								
H11N3	**WAKE ISLAND Hy**	**28.23**	**124**		T	T		19 18 45.5	
	baz=317,slow=75,SNR=414								
H11S1	**WAKE ISLAND Hy**	**28.97**	**126**		T	T		19 20 07.9	
	baz=318,slow=76,SNR=168								
H11S3	**WAKE ISLAND Hy**	**28.97**	**126**		T	T		19 20 08.8	
	baz=318,slow=76,SNR=246								
H11S2	**WAKE ISLAND Hy**	**28.99**	**126**		T	T		19 20 08.1	
	baz=318,slow=76,SNR=156								
DAV	**Davao City (W)**	**34.62**	**210**		LR	LR		19 05 04.3	
	comp=Z,13nm,18.0s,baz=271,slow=38								
GOMU	**GeErMu**	**37.57**	**282**		P	**P**		**18 50 15.0**	**0.0**
GOMU					pP	pP		18 50 19.5	+2.0
GOMU					sP	sP		18 50 21.5	+3.0
GOMU					pmax	pmax			
	comp=Z,3.0nm,0.6s								
GOMU					pmax	pmax			
	comp=Z,150nm,5.6s								
CRAI	**Chiangrai**	**40.42**	**256**		P	**P**		**18 50 39.5**	**+1.0**
PHRA	**Phrae**	**41.55**	**254**		P	**P**		**18 50 47.8**	**-0.1**
ZAA0	**Zalesovo Array**	**41.61**	**311**		P	**P**		**18 50 47.7**	**-0.3**
ZALV	**Zalesovo Beam**	**41.61**	**311**		P	**P**		**18 50 48.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=99,slow=7.6,SNR=6.5 comp=Z,1.0nm,0.5s								
ZALV	**Zalesovo Beam**	**41.61**	**311**		P	**P**		**18 50 47.9**	**0.0**
CHTO	**Chiang Mai**	**42.34**	**255**		P	**P**		**18 50 52.6**	**-1.7**
CHTO	**Chiang Mai**	**42.34**	**255**		P	**P**		**18 50 52.6**	**-1.7**
CHTO					pmax	pmax			
	comp=Z,3.0nm,1.2s								
CMAR	**Chiang Mai Arr**	**42.55**	**255**		P	**P**		**18 50 56.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=50,slow=6.0,SNR=5.6								
CMAR					LR	LR		19 10 18.1	
	comp=Z,31nm,18.8s,baz=240,slow=39 comp=Z,0.6nm,0.6s								
MK31	**Makanchi Array**	**44.08**	**301**		P	**P**		**18 51 08.6**	**+0.5**
MK31	**Makanchi Array**	**44.08**	**301**		P	**P**		**18 51 08.6**	**+0.5**
MK31					pmax	pmax			
	comp=Z,5.0nm,1.0s								
MKAR	**Makanchi Array**	**44.08**	**301**		P	**P**		**18 51 08.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=83,slow=10.0,SNR=8.2 comp=Z,0.5nm,0.7s								
MKAR	**Makanchi Array**	**44.08**	**301**		P	**P**		**18 51 08.8**	**+0.6**
MKAR	**Makanchi Array**	**44.08**	**301**		P	**P**		**18 51 08.8**	**+0.6**
P18K	**Big Mountain,**	**44.20**	**41**		P	**P**		**18 51 09.0**	**+0.1**
P18K					IAmb	IAmb		18 51 33.8	
	comp=Z,20nm,1.4s								
O18K	**Koktuh Hills**	**44.21**	**40**		P	**P**		**18 51 09.0**	**0.0**
O18K					IAmb	IAmb		18 51 14.6	
	comp=Z,12nm,1.2s								
MAKZ	**Makanchi**	**44.29**	**301**		P	**P**		**18 51 09.6**	**-0.2**
MAKZ					IAmb	IAmb		18 51 18.8	
	comp=Z,5.3nm,1.0s								
MAKZ	**Makanchi**	**44.29**	**301**		P	**P**		**18 51 09.6**	**-0.2**
MAKZ					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KDAK	**Kodiak Island**	**45.65**	**43**		P	**P**		**18 51 21.6**	**+1.2**
	comp=Z,8.0nm,1.0s,baz=219,slow=3.0,SNR=1.3 comp=Z,8.0nm,1.0s								
KNK	**Knik Glacier**	**47.48**	**38**		P	**P**		**18 51 36.3**	**+1.5**
ILAR	**Eielson Array**	**48.01**	**33**		P	**P**		**18 51 39.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=262,slow=6.3,SNR=1.9 comp=Z,0.4nm,0.7s								
KULM	**Kulim**	**50.11**	**240**		P	**P**		**18 51 56.6**	**+1.2**
KULM					IAmb	IAmb		18 52 36.1	
	comp=Z,18nm,1.4s								
BRVK	**Borovoye**	**50.32**	**312**		P	**P**		**18 51 58.3**	**+1.6**
BRVK					IAmb	IAmb		18 52 05.8	
	comp=Z,6.4nm,1.4s								
BRVK	**Borovoye**	**50.32**	**312**		P	**P**		**18 51 58.3**	**+1.6**
BRVK					pmax	pmax			
	comp=Z,6.0nm,1.4s								
INK	**Inuvik**	**52.90**	**28**		P	**P**		**18 52 17.6**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=290,slow=6.1,SNR=1.6 comp=Z,0.4nm,0.6s								
KK31	**Karatay Array**	**53.13**	**300**		P	**P**		**18 52 18.6**	**+0.7**
KK31	**Karatay Array**	**53.13**	**300**		P	**P**		**18 52 18.6**	**+0.7**
KK31					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KKAR	**Karatay Array**	**53.13**	**300**		P	**P**		**18 52 18.8**	**+0.9**
KKAR	**Karatay Array**	**53.13**	**300**		P	**P**		**18 52 18.3**	**+0.5**
KKAR					IAmb	IAmb		18 52 27.1	
	comp=Z,1.9nm,0.9s								
KKAR	**Karatay Array**	**53.13**	**300**		P	**P**		**18 52 18.8**	**+0.9**
GAR	**Garm**	**54.83**	**295**		P	**P**		**18 52 29.1**	**-1.3**
GAR					IAmb	IAmb		18 52 42.5	
	comp=Z,5.1nm,1.2s								
CHGR	**Chuyangaron**	**55.79**	**295**		P	**P**		**18 52 36.2**	**-1.2**
CHGR	**Chuyangaron**	**55.79**	**295**		P	**P**		**18 52 36.2**	**-1.2**
CHGR					pmax	pmax			
	comp=Z,9.0nm,0.7s								
ARU	**Arti**	**55.90**	**318**		LR	LR		19 16 47.8	
	comp=Z,55nm,18.4s,baz=304,slow=36								
ABKAR	**Akbulak array**	**57.69**	**310**		P	**P**		**18 52 49.9**	**-0.6**
ABKAR					IAmb	IAmb		18 52 59.3	
	comp=Z,4.5nm,1.1s								
ABKAR	**Akbulak array**	**57.69**	**310**		P	**P**		**18 52 50.0**	**-0.4**
WB0	**Warramunga Arr**	**58.26**	**189**		P	**P**		**18 52 54.0**	**-0.7**
WB0					IAmb	IAmb		18 52 55.9	
	comp=Z,5.9nm,0.9s								
WRAB	**Tennant Creek**	**58.43**	**189**		P	**P**		**18 52 55.6**	**-0.3**
WRAB					IAmb	IAmb		18 53 04.5	
	comp=Z,8.6nm,1.1s								
WRAB	**Tennant Creek**	**58.43**	**189**		P	**P**		**18 52 55.6**	**-0.3**
WRAB					pmax	pmax			
	comp=Z,9.0nm,1.1s								
WR0	**Warramunga Arr**	**58.43**	**189**		P	**P**		**18 52 55.8**	**-0.1**
WR0					IAmb	IAmb		18 53 07.5	
	comp=Z,6.2nm,1.2s								
WB2	**Warramunga Arr**	**58.44**	**189**		P	**P**		**18 52 55.6**	**-0.4**
WB2					IAmb	IAmb		18 52 57.2	
	comp=Z,5.8nm,0.9s								
WRA	**Warramunga Arr**	**58.44**	**189**		P	**P**		**18 52 56.2**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=7.5,slow=7.4,SNR=24 comp=Z,2.7nm,0.7s								
WRA	**Warramunga Arr**	**58.44**	**189**		P	**P**		**18 52 55.4**	**-0.6**
AS31	**Alice Springs**	**62.16**	**189**		P	**P**		**18 53 21.6**	**+0.1**
ASAR	**Alice Springs**	**62.17**	**189**		P	**P**		**18 53 22.4**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=10.0,slow=5.4,SNR=24 comp=Z,1.7nm,0.7s								
ASAR	**Alice Springs**	**62.17**	**189**		P	**P**		**18 53 21.2**	**-0.3**
YKA	**Yellowknife Ar**	**62.32**	**31**		P	**P**		**18 53 23.9**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=295,slow=5.2,SNR=1.8 comp=Z,0.2nm,0.6s								
EIDS	**Eidsvold**	**63.88**	**171**		P	**P**		**18 53 31.5**	**-1.2**
FIA1	**FINESS Array S**	**68.02**	**332**		P	**P**		**18 53 59.5**	**+0.4**
FINES	**FINESS Array B**	**68.03**	**332**		P	**P**		**18 53 59.1**	**0.0**
	comp=Z,3.1nm,0.9s,baz=56,slow=8.5,SNR=3.6 comp=Z,3.1nm,0.9s								
FINES	**FINESS Array B**	**68.03**	**332**		P	**P**		**18 53 59.3**	**+0.2**
FINES	**FINESS Array B**	**68.03**	**332**		P	**P**		**18 53 59.3**	**+0.2**
PINE	**Pine Mountain**	**68.94**	**50**		P	**P**		**18 54 04.0**	**-1.4**
PINE					IAmb	IAmb		18 54 36.1	
	comp=Z,7.1nm,1.4s								
FORT	**Forrest**	**70.03**	**193**		P	**P**		**18 54 11.1**	**-0.7**
KBZ	**Khabaz**	**70.63**	**311**		P	**P**		**18 54 16.6**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=0.9,slow=6.2,SNR=2.0 comp=Z,1.8nm,0.9s								
BBOO	**Buckleboo**	**71.01**	**186**		P	**P**		**18 54 17.8**	**+0.1**
NOA	**NORSAR Array B**	**73.29**	**337**		P	**P**		**18 54 32.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=41,slow=6.0,SNR=1.8 comp=Z,0.5nm,0.7s								
NVAR	**Mina Array Bea**	**73.62**	**54**		P	**P**		**18 54 37.6**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=299,slow=5.6,SNR=1.8 comp=Z,0.1nm,0.3s								
AKASG	**Malin Array Be**	**73.74**	**322**		P	**P**		**18 54 34.0**	**0.0**
	comp=Z,1.0nm,0.6s,baz=44,slow=5.8,SNR=6.4 comp=Z,1.0nm,0.6s								
PDAR	**Pinedale Array**	**76.24**	**46**		P	**P**		**18 54 50.9**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=294,slow=3.6,SNR=3.4 comp=Z,0.3nm,0.6s								
GERES	**GERESS Array B**	**82.01**	**329**		P	**P**		**18 55 21.3**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=46,slow=7.1,SNR=2.3 comp=Z,0.5nm,0.8s								

WEL ***31*** *18:55:25.6±0.3,42°.5±2°×17°.3E±°,h5km±2km,M3.5/24, ML3.6/25,MLv3.5/24,Error ellipse: s-maj=0.0km s-min=0.0km az=122.0*
NOU ***31*** *18:55:25.5,41°.72S×172°.54E,h0km,MLv4.0/13,South Island, New Zealand*
ISC 31 18:55:25.3±1.2,41°.69S±0°.02×172°.63E±0°.03,h5km±11km, n84,σ1§57/93,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.22**	**111**		P	**Pg**		**18 55 29.9**	**+0.3**
MRNZ	**Matariki Terra**	**0.30**	**19**		P	**Pg**		**18 55 31.9**	**+0.8**
MRNZ					S	**Sb**		**18 55 36.7**	**-1.8**
DSZ	**Denniston Nort**	**0.62**	**264**		P	**Pg**		**18 55 37.7**	**+0.5**
DSZ					S	**Sg**		**18 55 45.4**	**+0.1**
TKNZ	**Takaka Hill**	**0.70**	**21**		P	**Pg**		**18 55 38.8**	**+0.1**
TKNZ					S	**Sg**		**18 55 48.2**	**+0.4**
NNZ	**Nelson**	**0.73**	**51**		P	**Pg**		**18 55 39.4**	**0.0**
QRZ	**Quartz Range**	**0.86**	**355**		P	**Pg**		**18 55 41.7**	**-0.2**
QRZ	**Quartz Range**	**0.86**	**355**		P	**Pg**		**18 55 41.6**	**-0.2**
QRZ					S	**Sb**		**18 55 53.2**	**-1.4**
BSWZ	**Blackbirch Sta**	**0.93**	**92**		P	**Pg**		**18 55 43.6**	**+0.4**
KHZ	**Kahutara**	**1.00**	**137**		P	**Pg**		**18 55 45.4**	**+1.0**
KHZ	**Kahutara**	**1.00**	**137**		P	**Pg**		**18 55 45.3**	**+0.9**
KHZ					S	**Sb**		**18 55 59.3**	**+0.8**
LTZ	**Lake Taylor**	**1.13**	**194**		P	**Pg**		**18 55 46.6**	**-0.3**
LTZ					S	**Sn**		**18 56 04.8**	**+1.1**
CMWZ	**Cape Campbell**	**1.19**	**94**		P	**Pn**		**18 55 49.3**	**+0.7**
DUWZ	**D'Urville Isla**	**1.31**	**48**		P	**Pn**		**18 55 49.3**	**+1.1**
DUWZ					S	**Sg**		**18 56 07.6**	**0.0**
GVZ	**Greta Valley S**	**1.32**	**167**		P	**Pn**		**18 55 50.9**	**+0.5**
GVZ					S	**Sg**		**18 56 08.6**	**+1.0**
TCW	**Tory Channel**	**1.33**	**70**		P	**Pn**		**18 55 49.7**	**-0.8**
INZ	**Inchbonnie**	**1.36**	**220**		P	**Pn**		**18 55 51.0**	**0.0**
AMCZ	**Amberley**	**1.49**	**179**		P	**Pn**		**18 55 53.2**	**+0.4**
AMCZ					S	**Sb**		**18 56 13.9**	**+1.2**
SNZO	**South Karori**	**1.60**	**77**		P	**

*IDC **31** 19:11:25.7₁0.7,51°14N×156°23E,h137km₂6km,mb3.8/21, mbtmp4.2/29,MS3.1/4, Error ellipse: s-maj=14.3km s-min=7.5km az=139.0*

ISC 31 19:11:24.7₁0.5,**50°97N**₁0.05×**156°47E**₁0.05,**h134**km₁4km, **h134**km:**pP-P,n386,**σ1°17/408,**mb4.4**/75,**7C-2D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.36**	**218**	*i*	PN	**Pn**	**19 11 41.5**	**-2.1**
SKR					eS	**Sn**	**19 11 54.0**	**-3.8**
SKR					pmax	pmax		
	comp=Z,1μm,0.4s							
SKR					smax	smax		
	comp=N,10μm,0.9s							
SKR					smax	smax		
	comp=E,4μm,0.9s							
SKR	**Severo-Kuril's**	**0.36**	**218**	*e*	P	**Pn**	**19 11 41.4**	**-2.2**
SKR					eS	**Sn**	**19 11 54.6**	**-3.2**
PAU	**Pauzhetka**	**0.54**	**24**		PN	**Pn**	**19 11 42.5**	**-2.0**
PAU	**Pauzhetka**	**0.54**	**24**	*e*	P	**Pn**	**19 11 42.5**	**-2.0**
KDTR	**Khodutka, Kamc**	**1.31**	**50**		PN	**Pn**	**19 11 49.5**	**-1.5**
KDTR					S	**Sn**	**19 12 08.6**	**-2.5**
KDTR	**Khodutka, Kamc**	**1.31**	**50**	*i*	P	**Pn**	**19 11 49.5**	**-1.5**
KDTR					eS	**Sn**	**19 12 08.6**	**-2.5**
MTVR	**Mutnovka**	**1.85**	**35**		PN	**Pn**	**19 11 56.9**	**-0.4**
MTVR					S	**Sn**	**19 12 22.9**	**+0.7**
MTVR	**Mutnovka**	**1.85**	**35**	*i*	P	**Pn**	**19 11 56.9**	**-0.4**
MTVR					eS	**Sn**	**19 12 22.9**	**+0.7**
GRL	**Gorelyy**	**1.87**	**32**		PN	**Pn**	**19 11 57.4**	**-0.1**
GRL					S	**Sn**	**19 12 23.5**	**+0.9**
GRL	**Gorelyy**	**1.87**	**32**	*e*	P	**Pn**	**19 11 57.4**	**-0.1**
GRL					eS	**Sn**	**19 12 23.5**	**+0.9**
RUS	**Russkaya**	**1.94**	**40**		PN	**Pn**	**19 11 57.0**	**-1.1**
RUS	**Russkaya**	**1.94**	**40**	*e*	P	**Pn**	**19 11 57.0**	**-1.1**
APC	**Apacha**	**2.00**	**12**		PN	**Pn**	**19 11 58.1**	**-0.8**
APC					S	**Sn**	**19 12 24.6**	**-0.5**
APC	**Apacha**	**2.00**	**12**	*i*	P	**Pn**	**19 11 58.1**	**-0.8**
APC					eS	**Sn**	**19 12 24.6**	**-0.5**
KRMR	**Karymshinskiy**	**2.13**	**28**		PN	**Pn**	**19 12 00.1**	**-0.3**
KRMR					S	**Sn**	**19 12 28.2**	**+0.4**
KRMR	**Karymshinskiy**	**2.13**	**28**	*i*	P	**Pn**	**19 12 00.1**	**-0.3**
KRMR					eS	**Sn**	**19 12 28.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**2.27**	**19**		Pn	**Pn**	**19 12 02.0**	**-0.2**
PEA0B	**Petropavlovsk-**	**2.27**	**19**	*ce*	PN	**Pn**	**19 12 02.1**	**-0.1**
PETK	**Petropavlovsk-**	**2.27**	**19**		P	**Pn**	**19 12 01.1**	**-1.1**
	comp=E,136nm,0.5s,baz=177,slow=12,SNR=221							
PETK					S	**Sn**	**19 12 30.6**	**-0.4**
	comp=E,217nm,0.9s,baz=195,slow=24,SNR=5.1							
PETK					LR	LR	19 12 56.0	
	comp=E,317nm,18.9s,baz=49,slow=42							
PET	**Petropavlovsk**	**2.46**	**32**			**Pn**	**19 12 04.0**	**-0.5**
PET	**Petropavlovsk**	**2.46**	**32**		PN	**Pn**	**19 12 04.1**	**-0.4**
PET					S	**Sn**	**19 12 35.6**	**+0.5**
PET	**Petropavlovsk**	**2.46**	**32**	*e*	P	**Pn**	**19 12 04.1**	**-0.4**
PET					eS	**Sn**	**19 12 35.6**	**+0.5**
INSR	**Institute**	**2.48**	**31**	*e*	P	**Pn**	**19 12 04.4**	**-0.4**
INSR					eS	**Sn**	**19 12 37.0**	**+1.4**
DALK	**Dalny**	**2.50**	**34**		PN	**Pn**	**19 12 04.6**	**-0.4**
DALK					S	**Sn**	**19 12 37.3**	**+1.2**
DALK	**Dalny**	**2.50**	**34**	*e*	P	**Pn**	**19 12 04.6**	**-0.4**
DALK					eS	**Sn**	**19 12 37.3**	**+1.2**
UGLR	**Uglovaya**	**2.67**	**32**		PN	**Pn**	**19 12 07.8**	**+0.5**
UGLR	**Uglovaya**	**2.67**	**32**	*e*	P	**Pn**	**19 12 07.8**	**+0.5**
KOK	**Koryaka**	**2.68**	**29**		PN	**Pn**	**19 12 08.4**	**+1.0**
KOK	**Koryaka**	**2.68**	**29**	*i*	P	**Pn**	**19 12 08.4**	**+1.0**
AVH	**Avacha**	**2.69**	**30**		PN	**Pn**	**19 12 08.4**	**+0.9**
AVH	**Avacha**	**2.69**	**30**	*e*	P	**Pn**	**19 12 08.4**	**+0.9**
SMAR	**Somma**	**2.71**	**31**		PN	**Pn**	**19 12 08.2**	**+0.3**
SMAR	**Somma**	**2.71**	**31**	*e*	P	**Pn**	**19 12 08.2**	**+0.3**
KRER	**Koryakskii**	**2.73**	**30**		PN	**Pn**	**19 12 08.9**	**+0.8**
KRER	**Koryakskii**	**2.73**	**30**	*i*	P	**Pn**	**19 12 08.9**	**+0.8**
KRX	**Arik**	**2.74**	**28**		PN	**Pn**	**19 12 08.9**	**+0.6**
KRX	**Arik**	**2.74**	**28**	*i*	P	**Pn**	**19 12 08.9**	**+0.6**
SDLR	**Sedlovina**	**2.75**	**32**		PN	**Pn**	**19 12 08.3**	**0.0**
SDLR	**Sedlovina**	**2.75**	**32**	*e*	P	**Pn**	**19 12 08.3**	**0.0**
NLC	**Nalytchevo**	**2.83**	**38**		PN	**Pn**	**19 12 08.8**	**-0.4**
NLC	**Nalytchevo**	**2.83**	**38**	*e*	P	**Pn**	**19 12 08.8**	**-0.4**
GNL	**Ganaly**	**2.88**	**18**		PN	**Pn**	**19 12 10.3**	**+0.4**
GNL	**Ganaly**	**2.88**	**18**	*e*	P	**Pn**	**19 12 10.3**	**+0.4**
SPN	**Mys Shipunski**	**3.06**	**45**		PN	**Pn**	**19 12 11.1**	**-1.1**
SPN					S	**Sn**	**19 12 47.9**	**-1.0**
SPN	**Mys Shipunski**	**3.06**	**45**	*e*	P	**Pn**	**19 12 11.1**	**-1.1**
SPN					eS	**Sn**	**19 12 47.9**	**-1.0**
MKZ	**Mys Kozlova**	**4.81**	**40**		PN	**Pn**	**19 12 34.7**	**-0.4**
MKZ	**Mys Kozlova**	**4.81**	**40**	*e*	P	**Pn**	**19 12 34.7**	**-0.4**
TUMR	**Tumrok**	**4.85**	**26**		PN	**Pn**	**19 12 36.0**	**+0.1**
TUMR					S	**Sn**	**19 13 30.5**	**-0.8**
TUMR	**Tumrok**	**4.85**	**26**	*e*	P	**Pn**	**19 12 36.7**	**+0.8**
TUMD	**Tumrok D**	**4.86**	**28**	*e*	P	**Pn**	**19 12 36.0**	**+0.2**
TUMD					eS	**Sn**	**19 13 30.5**	**-0.8**
ESO	**Esso**	**5.14**	**14**		PN	**Pn**	**19 12 40.3**	**+0.7**
ESO	**Esso**	**5.14**	**14**	*e*	P	**Pn**	**19 12 40.3**	**+0.7**
KMNR	**Kamenistaya**	**5.30**	**24**		PN	**Pn**	**19 12 42.9**	**+1.1**
KMNR	**Kamenistaya**	**5.30**	**24**	*i*	P	**Pn**	**19 12 42.9**	**+1.1**
KPT	**Kopyto**	**5.48**	**23**		PN	**Pn**	**19 12 44.2**	**-0.1**
KPT	**Kopyto**	**5.48**	**23**	*e*	P	**Pn**	**19 12 44.2**	**-0.1**
KOZ	**Kozyrevsk**	**5.49**	**20**		PN	**Pn**	**19 12 44.4**	**+0.1**
KOZ	**Kozyrevsk**	**5.49**	**20**	*e*	P	**Pn**	**19 12 44.4**	**+0.1**
KIRR	**Kirishev**	**5.50**	**23**		PN	**Pn**	**19 12 45.3**	**+0.7**
KIRR	**Kirishev**	**5.50**	**23**	*e*	P	**Pn**	**19 12 45.3**	**+0.7**
BZMR	**Bezymyannaya**	**5.52**	**24**		PN	**Pn**	**19 12 45.7**	**+0.8**
BZMR	**Bezymyannaya**	**5.52**	**24**	*e*	P	**Pn**	**19 12 45.7**	**+0.8**
SRDR	**Sredinnyy**	**5.69**	**19**		PN	**Pn**	**19 12 48.5**	**+1.4**
SRDR	**Sredinnyy**	**5.69**	**19**	*e*	P	**Pn**	**19 12 48.5**	**+1.4**
KLY	**Klyuchi**	**5.90**	**23**		PN	**Pn**	**19 12 51.2**	**+1.4**
KLY	**Klyuchi**	**5.90**	**23**	*e*	P	**Pn**	**19 12 51.2**	**+1.4**
SMKR	**Semkarok**	**6.35**	**26**		PN	**Pn**	**19 12 57.2**	**+1.3**
SMKR	**Semkarok**	**6.35**	**26**	*e*	P	**Pn**	**19 12 57.2**	**+1.3**
KBG	**Krutoberegovo**	**6.46**	**33**		PN	**Pn**	**19 12 56.1**	**-1.2**
KBG	**Krutoberegovo**	**6.46**	**33**	*e*	P	**Pn**	**19 12 56.1**	**-1.2**
KBTR	**Krutoberegovo**	**6.47**	**33**		PN	**Pn**	**19 12 56.6**	**-0.8**
KBTR	**Krutoberegovo**	**6.47**	**33**	*e*	P	**Pn**	**19 12 56.6**	**-0.8**
TIGL	**Tigil**	**6.93**	**10**	*e*	P	**Pn**	**19 13 04.9**	**+1.3**
BKI	**Bering**	**7.12**	**50**		PN	**Pn**	**19 13 04.2**	**-1.9**
BKI	**Bering**	**7.12**	**50**	*e*	P	**Pn**	**19 13 04.2**	**-1.9**
BKI					eS	**Sn**	**19 14 17.7**	**-7.9**
KUR	**Kuril'sk**	**8.12**	**228**	*e*	PN	**Pn**	**19 13 22.1**	**+2.4**
KUR					S	**Sn**	**19 14 52.1**	**+2.1**
KUR					pmax	pmax		
	comp=Z,73nm,0.8s							
KUR					smax	smax		
	comp=N,77nm,0.9s							
KUR					smax	smax		
	comp=E,56nm,0.8s							
PALN	**Palana**	**8.38**	**12**		PN	**Pn**	**19 13 22.8**	**-0.2**
PALN	**Palana**	**8.38**	**12**	*e*	P	**Pn**	**19 13 22.8**	**-0.2**
TYV	**Tymovskoe**	**8.73**	**275**	*e*	PN	**Pn**	**19 13 28.7**	**+0.9**
TYV					eS	**Sn**	**19 15 04.1**	**-0.4**
TYV					pmax	pmax		
	comp=Z,24nm,1.2s							
TYV					pmax	pmax		
	comp=Z,400nm,4.1s							
TYV					smax	smax		
	comp=N,4.0nm,1.4s							
TYV					smax	smax		
	comp=E,5.0nm,1.4s							
TYV					smax	smax		
	comp=N,300nm,5.5s							
TYV					smax	smax		
	comp=E,400nm,5.5s							
OSSR	**Ossora**	**9.11**	**22**		PN	**Pn**	**19 13 32.5**	**-0.3**
OSSR	**Ossora**	**9.11**	**22**	*e*	P	**Pn**	**19 13 32.5**	**-0.3**
MA2	**Magadan**	**9.21**	**342**		P	**Pn**	**19 13 33.8**	**-0.4**
	comp=E,12nm,0.7s,baz=156,slow=8.7,SNR=23							
MA2					LR	LR	19 16 54.0	
	comp=E,74nm,18.3s,baz=176,slow=36							
MA2	**Magadan**	**9.21**	**342**		Pn	**Pn**	**19 13 33.5**	**-0.7**
MA2	**Magadan**	**9.21**	**342**	*ce*	PN	**Pn**	**19 13 34.1**	**-0.1**
MA2					pmax	pmax		
	comp=Z,52nm,2.5s							
YSS	**Yuzh-Sakhalins**	**9.87**	**251**		Pn	**Pn**	**19 13 43.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**9.87**	**251**	*ce*	PN	**Pn**	**19 13 42.9**	**-0.2**
YSS					pmax	pmax		
	comp=Z,63nm,1.3s							
YUK	**Yuzh-Kuril'sk**	**9.97**	**230**	*e*	PN	**Pn**	**19 13 43.1**	**-1.4**
RUSJ	**Misakicho**	**10.22**	**232**	*e*	PN	**Pn**	**19 13 47.8**	**-0.1**
NMR	**Nemuro--Hokkai**	**10.54**	**228**	*c*	PN	Pn	19 13 46.1	-6.0
TILK	**Tilichiki**	**10.94**	**26**		PN	**Pn**	**19 13 55.9**	**-1.3**
TILK	**Tilichiki**	**10.94**	**26**	*e*	P	**Pn**	**19 13 55.9**	**-1.3**
JKA	**Kamikawa-asahi**	**11.60**	**239**		Pn	**Pn**	**19 14 06.7**	**+0.6**
ASAJ	**Asahikawa**	**11.60**	**239**		P	**Pn**	**19 14 06.5**	**+0.4**
	comp=Z,63nm,0.8s,baz=75,slow=12,SNR=48							
ASAJ	**Asahikawa**	**11.60**	**239**		PN	**Pn**	**19 14 06.7**	**+0.6**
SEY	**Seymchan**	**12.19**	**351**		P	**Pn**	**19 14 13.9**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=153,slow=10,SNR=12							
SEY	**Seymchan**	**12.19**	**351**	*ce*	PN	**Pn**	**19 14 14.1**	**+0.4**
SEY					pmax	pmax		
	comp=E,14nm,2.5s							
ERM	**Erimo**	**12.80**	**231**	*i*	PN	Pn	19 14 17.3	-4.4
KLR	**Kul'dur**	**15.94**	**273**		P	**Pn**	**19 15 02.1**	**+0.9**
	comp=Z,3.8nm,0.6s,baz=67,slow=11,SNR=14							
BILL	**Bilibino**	**17.79**	**12**		P	**Pn**	**19 15 22.2**	**-1.2**
BILL					lAmb	lAmb	19 15 25.5	
	comp=Z,20nm,1.2s							
BILL	**Bilibino**	**17.79**	**12**	*e*	P	**Pn**	**19 15 22.4**	**-1.1**
BILL					pmax	pmax		
	comp=E,15nm,1.0s							
USRK	**Ussuriysk Ar.**	**17.80**	**257**		P	**P**	**19 15 22.7**	**0.0**
	comp=Z,3.7nm,0.6s,baz=56,slow=11,SNR=5.2							
ZEA	**Zeya**	**18.00**	**290**	*e*	P	**P**	**19 15 24.9**	**+0.1**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.6s							
YAK	**Yakutsk**	**18.31**	**317**		P	**P**	**19 15 26.9**	**-1.3**
	comp=Z,14nm,0.6s,baz=122,slow=3.5,SNR=17							
YAK					pP	**pP**	**19 15 58.6**	**+6.9**
	comp=Z,26nm,0.7s,baz=105,slow=3.0,SNR=5.8							
YAK	**Yakutsk**	**18.31**	**317**		P	**P**	**19 15 26.4**	**-1.7**
YAK	**Yakutsk**	**18.31**	**317**	*e*	P	**P**	**19 15 26.7**	**-1.4**
YAK					pmax	pmax		
	comp=Z,30nm,0.9s							
YAK					pmax	pmax		
	comp=N,4.0nm,1.1s							
YAK					pmax	pmax		
	comp=E,12nm,1.3s							
HEH	**HeiHe**	**18.40**	**279**	*e*	P	**P**	**19 15 29.0**	**-0.3**
HEH					pmax	pmax		
	comp=Z,29nm,0.9s							
HEH					pmax	pmax		
	comp=Z,95nm,4.3s							
MDJ	**Mudanjiang**	**19.08**	**261**		P	**P**	**19 15 35.2**	**-1.5**
MDJ					lAmb	lAmb	19 15 42.9	
	comp=Z,21nm,1.0s							
MJB9	**Matsu-Tunnel**	**19.46**	**229**		P	**P**	**19 15 41.7**	**+0.8**
MAJO	**Matsushiro**	**19.46**	**229**		P	**P**	**19 15 40.9**	**0.0**
MAJO	**Matsushiro**	**19.46**	**229**		P	**P**	**19 15 40.9**	**0.0**
MAJO					pmax	pmax		
	comp=Z,20nm,0.6s							
MJAR	**Matsushiro Arr**	**19.46**	**229**		P	**P**	**19 15 41.4**	**+0.4**
	comp=Z,9.3nm,0.7s,baz=25,slow=8.5,SNR=21							
JGF	**Kuroka**	**20.63**	**229**		P	**P**	**19 15 52.8**	**-0.7**
JGF					lAmb	lAmb	19 15 54.4	
	comp=Z,17nm,0.8s							
INU	**Inuyama**	**21.00**	**229**		P	**P**	**19 15 56.9**	**-0.5**
GAMB	**Gambell**	**21.13**	**41**		P	**P**	**19 15 58.6**	**+0.1**
	baz=248							
JHS	**Saijyo**	**23.23**	**236**		P	**P**	**19 16 20.2**	**+0.3**
JHS					lAmb	lAmb	19 17 01.6	
	comp=Z,29nm,1.3s							
TNA	**Tin City**	**23.31**	**38**		P	**P**	**19 16 20.8**	**+0.6**
TNA					lAmb	lAmb	19 16 22.2	
	comp=Z,19nm,0.8s							
TNA	**Tin City**	**23.31**	**38**		P	**P**	**19 16 20.9**	**+0.7**
	baz=249,SNR=9.8							
JMN	**Monobe**	**23.84**	**232**		P	**P**	**19 16 25.9**	**+0.4**
JMN					lAmb	lAmb	19 16 29.6	
	comp=Z,16nm,0.9s							
ANM	**Nome**	**24.01**	**41**		P	**P**	**19 16 27.1**	**+0.5**
ANM					lAmb	lAmb	19 16 30.1	
	comp=Z,21nm,1.2s							
ANM	**Nome**	**24.01**	**41**		P	**P**	**19 16 27.2**	**+0.6**
	baz=254,SNR=8.2							
ANM	**Nome**	**24.01**	**41**		P	**P**	**19 16 27.1**	**+0.5**
ANM					pmax	pmax		
	comp=Z,21nm,1.2s							
TIXI	**Tiksi**	**24.17**	**339**		P	**P**	**19 16 28.0**	**0.0**
TIXI					lAmb	lAmb	19 16 58.9	
	comp=Z,10nm,0.9s							
TIXI	**Tiksi**	**24.17**	**339**	*ce*	P	**P**	**19 16 28.4**	**+0.4**
TIXI					pmax	pmax		
	comp=Z,3.0nm,1.0s							
KSRS	**Korea Array**	**24.33**	**247**		P	**P**	**19 16 30.1**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=41,slow=10,SNR=8.9							
	comp=Z,2.2nm,0.7s							
S12K	**Black Hills**	**24.93**	**63**		P	**P**	**19 16 37.1**	**+2.0**
	baz=277							
JTU	**Tsushima**	**25.58**	**240**		P	**P**	**19 16 41.3**	**+0.1**
JNU	**Nakatsue**	**25.86**	**236**		P	**P**	**19 16 44.3**	**+0.6**
	comp=Z,12nm,0.8s,baz=300,slow=3.4,SNR=7.6							
	comp=Z,12nm,0.8s							
JNU	**Nakatsue**	**25.86**	**236**		P	**P**	**19 16 44.6**	**+0.9**
JNU					lAmb	lAmb	19 16 45.4	
	comp=Z,13nm,0.9s							
N16K	**Nishlik Lake**	**26.44**	**52**		P	**P**	**19 16 49.4**	**+0.7**
	baz=270							
TTA	**Tatalina**	**27.84**	**46**		P	**P**	**19 17 01.4**	**+0.2**
TTA					lAmb	lAmb	19 17 02.4	
	comp=Z,5.5nm,0.9s							
TTA	**Tatalina**	**27.84**	**46**		P	**P**	**19 17 01.7**	**+0.5**
	baz=267							
TTA	**Tatalina**	**27.84**	**46**		P	**P**	**19 17 01.4**	**+0.2**
TTA					pmax	pmax		
	comp=Z,6.0nm,0.9s							
XLT	**XiLinHaoTe**	**27.93**	**271**	*e*	P	**P**	**19 17 03.0**	**+0.7**
XLT					pmax	pmax		
	comp=Z,7.0nm,0.7s							
XLT					pmax	pmax		
	comp=Z,170nm,5.2s							
P18K	**Big Mountain,**	**28.26**	**54**		P	**P**	**19 17 05.1**	**+0.2**
P18K					lAmb	lAmb	19 17 11.0	
	comp=Z,20nm,1.4s							
L19K	**White Mountain**	**28.35**	**48**		P	**P**	**19 17 06.2**	**+0.5**
Q18K	**Katmai Hardscr**	**28.43**	**55**		P	**P**	**19 17 07.3**	**+0.8**
	baz=276							
K20K	**Telida**	**28.74**	**45**		P	**P**	**19 17 09.8**	**+0.7**
K20K					lAmb	lAmb	19 17 11.1	
	comp=Z,7.6nm,1.2s							
K20K	**Telida**	**28.74**	**45**		P	**P**	**19 17 09.9**	**+0.7**
	baz=268							
L20K	**Farewell, AK**	**28.81**	**47**		P	**P**	**19 17 10.8**	**+1.1**
	baz=270							
IMAR	**Indian Mountai**	**29.08**	**40**		P	**P**	**19 17 11.9**	**-0.1**
M20K	**Styx River**	**29.17**	**49**		P	**P**	**19 17 14.1**	**+1.1**
M20K					lAmb	lAmb	19 17 23.3	
	comp=Z,13nm,1.4s							
M20K	**Styx River**	**29.17**	**49**		P	**P**	**19 17 13.8**	**+0.8**
	baz=272							
G21K	**Allakaket**	**29.24**	**39**		P	**P**	**19 17 14.0**	**+0.6**
	baz=263							
F21K	**Alatna River**	**29.34**	**38**		P	**P**	**19 17 14.5**	**+0.1**
	baz=262							
H21K	**Melozitna Rive**	**29.43**	**41**		P	**P**	**19 17 15.0**	**-0.2**
H21K	**Melozitna Rive**	**29.43**	**41**		P	**P**	**19 17 15.7**	**+0.5**
	baz=265							
CAST	**Castle Rocks**	**29.64**	**45**		P	**P**	**19 17 17.6**	**+0.6**
CAST	**Castle Rocks**	**29.64**	**45**		P	**P**	**19 17 17.4**	**+0.4**
	baz=270							
I21K	**Tanana**	**29.74**	**42**		P	**P**	**19 17 18.1**	**+0.2**
	baz=267							
KDAK	**Kodiak Island**	**29.82**	**57**		P	**P**	**19 17 18.4**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=337,slow=7.7,SNR=1.5							
	comp=Z,7.4nm,0.9s							
SKT	**Skwentna**	**29.92**	**48**		P	**P**	**19 17 20.6**	**+1.1**
	baz=273							
H22K	**Ishtalitna Cre**	**30.04**	**40**		P	**P**	**19 17 20.9**	**+0.4**
	baz=266							
BPAW	**Bear Paw Mtn.**	**30.13**	**44**		P	**P**	**19 17 21.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**30.13**	**44**		P	**P**	**19 17 22.3**	**+0.9**
	baz=270							
KTH	**Kantishna Hill**	**30.16**	**45**		P	**P**	**19 17 22.2**	**+0.5**
KTH					lAmb	lAmb	19 17 28.4	
	comp=Z,11nm,1.4s							
MLY	**Manley**	**30.26**	**42**		P	**P**	**19 17 23.1**	**+0.6**
MLY	**Manley**	**30.26**	**42**		P	**P**	**19 17 23.3**	**+0.7**
	baz=268							
TRF	**Thorofare Moun**	**30.44**	**45**		P	**P**	**19 17 24.4**	**0.0**
TRF					lAmb	lAmb	19 17 53.5	
	comp=Z,9.1nm,1.3s							
TRF	**Thorofare Moun**	**30.44**	**45**		P	**P**	**19 17 24.8**	**+0.5**
	baz=272							
COLD	**Coldfoot**	**30.61**	**38**		P	**P**	**19 17 25.6**	**0.0**
COLD	**Coldfoot**	**30.61**	**38**		P	**P**	**19 17 25.4**	**-0.2**
	baz=265							
G23K	**Bananza Creek**	**30.64**	**39**		P	**P**	**19 17 25.8**	**-0.1**
	baz=266							
D23K	**Nanushuk River**	**30.65**	**34**		P	**P**	**19 17 26.5**	**+0.6**
	baz=262							
I23K	**Minto, Yukon-K**	**30.84**	**42**		P	**P**	**19 17 28.0**	**+0.4**
I23K					lAmb	lAmb	19 18 01.9	
	comp=Z,11nm,1.5s							
I23K	**Minto, Yukon-K**	**30.84**	**42**		P	**P**	**19 17 28.3**	**+0.7**
	baz=270							
NEA2	**Nenana**	**30.96**	**43**		P	**P**	**19 17 28.1**	**-0.7**
NEA2					lAmb	lAmb	19 17 30.5	
	comp=Z,20nm,1.5s							
NEA2	**Nenana**	**30.96**	**43**		P	**P**	**19 17 29.3**	**+0.6**
	baz=271							
MCK	**McKinley**	**31.04**	**45**		P	**P**	**19 17 29.8**	**+0.4**
MCK					lAmb	lAmb	19 17 30.7	
	comp=Z,6.1nm,1.0s							
MCK	**McKinley**	**31.04**	**45**		P	**P**	**19 17 30.0**	**+0.6**
	baz=272							
MCK	**McKinley**	**31.04**	**45**		P	**P**	**19 17 29.8**	**+0.4**
MCK					pmax	pmax		
	comp=Z,6.0nm,1.0s							
SEW	**Seward**	**31.09**	**52**		P	**P**	**19 17 30.7**	**+0.9**
	baz=278							
WAT1	**Susitna Watana**	**31.26**	**46**		P	**P**	**19 17 31.6**	**+0.3**
	baz=274							
MDM	**Murphy Dome**	**31.32**	**42**		P	**P**	**19 17 31.9**	**0.0**
MDM					lAmb	lAmb	19 17 33.8	
	comp=Z,6.2nm,1.0s							
E24K	**Your Creek**	**31.34**	**36**		P	**P**	**19 17 32.4**	**+0.4**
	baz=265							
WRH	**Wood River Hil**	**31.39**	**43**		P	**P**	**19 17 32.6**	**+0.2**
WRH					lAmb	lAmb	19 17 33.9	
	comp=Z,6.4nm,1.0s							
KNK	**Knik Glacier**	**31.42**	**49**		P	**P**	**19 17 33.5**	**+0.7**
	baz=276							
SML	**Sawmill**	**31.44**	**48**		P	**P**	**19 17 33.2**	**+0.2**
SML	**Sawmill**	**31.44**	**48**		P	**P**	**19 17 33.5**	**+0.5**
	baz=276							
C24K	**Franklin Bluff**	**31.45**	**33**		P	**P**	**19 17 33.3**	**+0.5**
	baz=262							
H24K	**Noodor Dome**	**31.47**	**41**		P	**P**	**19 17 34.0**	**+0.8**
H24K					lAmb	lAmb	19 17 34.3	
	comp=Z,5.4nm,1.1s							
H24K	**Noodor Dome**	**31.47**	**41**		P	**P**	**19 17 33.5**	**+0.3**
	baz=270							
TCOL	**CIGO, UAF Yank**	**31.48**	**42**		P	**P**	**19 17 33.7**	**+0.5**
	baz=271							
COLA	**College**	**31.48**	**42**		P	**P**	**19 17 33.6**	**+0.4**
	baz=271							
COLA	**College**	**31.48**	**42**	*i*	P	**P**	**19 17 33.3**	**+0.1**
COLA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
CCB	**Clear Creek Bu**	**31.51**	**43**		P	**P**	**19 17 33.9**	**+0.4**
CCB					lAmb	lAmb	19 17 34.6	
	comp=Z,5.2nm,0.6s							
F24K	**Squaw Lake**	**31.53**	**37**		P	**P**	**19 17 34.0**	**+0.4**
	baz=267							
G24K	**Hadweenzic Riv**	**31.65**	**39**		P	**P**	**19 17 35.7**	**+1.0**
	baz=269,SNR=7.7							
POKR	**Poker Flat Res**	**31.66**	**42**		P	**P**	**19 17 36.1**	**+1.3**
	baz=271							
M23K	**Glacier View**	**31.73**	**48**		P	**P**	**19 17 35.9**	**+0.4**
	baz=276							
DHY	**Denali Highway**	**31.78**	**46**		P	**P**	**19 17 36.0**	**0.0**
	baz=275							
HDA	**Harding Lake**	**31.89**	**43**		P	**P**	**19 17 36.7**	**-0.1**
HDA	**Harding Lake**	**31.89**	**43**		P	**P**	**19 17 36.7**	**-0.1**
	baz=273,SNR=9.6							
IL31		**31.90**	**43**		P	**P**	**19 17 36.8**	**0.0**
IL31					lAmb	lAmb	19 17 38.1	
	comp=Z,7.4nm,0.7s							
ILAR	**Eielson Array**	**31.90**	**43**		P	**P**	**19 17 36.7**	**-0.2**
	comp=Z,4.2nm,0.6s,baz=263,slow=6.1,SNR=74							
	comp=Z,4.2nm,0.6s							
ILAR	**Eielson Array**	**31.90**	**43**		P	**P**	**19 17 36.9**	**0.0**
ILAR	**Eielson Array**	**31.90**	**43**		P	**P**	**19 17 36.9**	**0.0**
D25K	**Kavik River**	**32.22**	**34**		P	**P**	**19 17 39.7**	**0.0**
	baz=266							
SONM	**Song

M27K	**Edge Creek, AK**	**34.38**	**47**	P	**P**	**19 17 59.7**	**+1.1**
	baz=280							
BARN	**Barnard Glacie**	**34.72**	**49**	P	**P**	**19 18 02.8**	**+1.1**
BARN				IAmb	IAmb	19 18 03.4		
	comp=Z,5.6nm,0.7s							
BVCY	**Beaver Creek**	**34.84**	**46**	P	**P**	**19 18 03.5**	**+1.1**
	baz=281,SNR=5.1							
YUK3	**Moose Creek**	**35.14**	**47**	P	**P**	**19 18 06.3**	**+1.0**
	baz=282							
DAWY	**Dawson**	**35.21**	**43**	P	**P**	**19 18 05.8**	**+0.3**
DAWY	**Dawson**	**35.21**	**43**	P	**P**	**19 18 06.3**	**+0.7**
	baz=280							
I29M	**Ogilvie Camp,**	**35.47**	**41**	P	**P**	**19 18 08.4**	**+0.7**
I29M				IAmb	IAmb	19 18 09.3		
	comp=Z,7.4nm,0.7s							
I29M	**Ogilvie Camp,**	**35.47**	**41**	P	**P**	**19 18 08.7**	**+1.0**
	baz=279,SNR=9.1							
O28M	**Mount Upton**	**35.49**	**49**	P	**P**	**19 18 09.0**	**+0.7**
	baz=284							
YUK8	**Steele Glacier**	**35.57**	**48**	P	**P**	**19 18 09.8**	**+0.8**
	baz=283							
PINM	**Pinnacle**	**35.62**	**50**	P	**P**	**19 18 09.4**	**+0.2**
	baz=284							
M29M	**Somme Creek**	**35.92**	**46**	P	**P**	**19 18 13.1**	**+1.3**
	baz=283							
L29M	**L29M**	**35.94**	**45**	P	**P**	**19 18 13.4**	**+1.6**
	baz=282							
EPYK	**Eagle Plains**	**35.97**	**39**		**P**	**19 18 12.0**	**0.0**
EPYK				IAmb	IAmb	19 18 38.5		
	comp=Z,6.5nm,0.6s							
EPYK	**Eagle Plains**	**35.97**	**39**	P	**P**	**19 18 13.2**	**+1.2**
	baz=279							
K29M	**Barlow Dome**	**36.06**	**43**	P	**P**	**19 18 13.7**	**+0.7**
	baz=281							
G30M	**tAoh Zraii Nji**	**36.08**	**38**	P	**P**	**19 18 13.6**	**+0.7**
	baz=278							
YUK4	**Talbot Arm**	**36.09**	**48**	P	**P**	**19 18 14.7**	**+1.4**
	baz=284							
YUK6	**Outpost Mounta**	**36.32**	**48**	P	**P**	**19 18 16.2**	**+0.9**
	baz=285							
M30M	**Minto, Yukon**	**36.65**	**45**	P	**P**	**19 18 19.1**	**+1.3**
	baz=284							
HYT	**Haines Junctio**	**36.75**	**48**	P	**P**	**19 18 19.9**	**+1.1**
HYT				IAmb	IAmb	19 18 21.3		
	comp=Z,4.9nm,0.9s							
HYT	**Haines Junctio**	**36.75**	**48**	P	**P**	**19 18 20.5**	**+1.6**
	baz=285							
MAYO	**Mayo, Yukon**	**36.82**	**44**	P	**P**	**19 18 21.1**	**+1.8**
	baz=283							
INK	**Inuvik**	**36.91**	**36**	P	**P**	**19 18 20.2**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=294,slow=6.4,SNR=20							
	comp=Z,3.8nm,0.7s							
INK	**Inuvik**	**36.91**	**36**	P	**P**	**19 18 20.2**	**+0.3**
INK				IAmb	IAmb	19 18 21.1		
	comp=Z,3.4nm,0.7s							
INK	**Inuvik**	**36.91**	**36**	P	**P**	**19 18 20.4**	**+0.5**
	baz=279,SNR=6.2							
F31M	**Tsiigehtchic**	**36.96**	**37**	P	**P**	**19 18 21.2**	**+0.8**
	baz=280							
P30M	**Million Dollar**	**37.20**	**49**	P	**P**	**19 18 23.5**	**+0.9**
	baz=287							
N31M	**Braeburn, Yuko**	**37.38**	**47**	P	**P**	**19 18 24.9**	**+0.8**
N31M				IAmb	IAmb	19 18 27.0		
	comp=Z,8.0nm,0.8s							
N31M	**Braeburn, Yuko**	**37.38**	**47**	P	**P**	**19 18 26.0**	**+1.9**
	baz=286							
O30N	**Mendenhall**	**37.43**	**48**	P	**P**	**19 18 26.6**	**+2.1**
	baz=286,SNR=6.1							
M31M	**Drury Creek, Y**	**37.83**	**46**	P	**P**	**19 18 28.5**	**+0.7**
M31M				IAmb	IAmb	19 18 30.8		
	comp=Z,4.5nm,0.9s							
M31M	**Drury Creek, Y**	**37.83**	**46**	P	**P**	**19 18 29.4**	**+1.6**
	baz=286,SNR=5.2							
WHY	**Whitehorse**	**38.04**	**48**	P	**P**	**19 18 31.5**	**+1.8**
WHY				IAmb	IAmb	19 18 31.9		
	comp=Z,3.7nm,0.8s							
WHY	**Whitehorse**	**38.04**	**48**	P	**P**	**19 18 31.6**	**+2.0**
	baz=288							
SKAG	**Skagway**	**38.19**	**50**	P	**P**	**19 18 32.8**	**+2.1**
	baz=289							
FARO	**Faro, Yukon**	**38.29**	**45**	P	**P**	**19 18 33.1**	**+1.4**
	baz=287							
A36M	**Sachs Harbour**	**39.08**	**29**	P	**P**	**19 18 39.1**	**+1.0**
	baz=281							
TPUB	**Ta-pu**	**39.10**	**239**	P	**P**	**19 18 39.0**	**+0.1**
MMPY	**Sheldon Lake,**	**39.11**	**44**	P	**P**	**19 18 40.3**	**+1.8**
	baz=288							
P33M	**Teslin, Yukon**	**39.15**	**48**	P	**P**	**19 18 40.6**	**+1.7**
	baz=289							
KNMB	**Chin-men Tao**	**39.41**	**242**	P	**P**	**19 18 41.7**	**+0.4**
C36M	**Paulatuk**	**40.06**	**33**	P	**P**	**19 18 46.4**	**+0.2**
C36M	**Paulatuk**	**40.06**	**33**	P	**P**	**19 18 47.0**	**+0.8**
	baz=285							
WRAK	**Wrangell Islan**	**40.76**	**54**	P	**P**	**19 18 54.1**	**+2.0**
	baz=294							
S34M	**Telegraph Cree**	**40.78**	**51**	P	**P**	**19 18 53.9**	**+1.6**
	baz=293							
DLBC	**Dease Lake**	**41.12**	**50**	P	**P**	**19 18 57.2**	**+2.1**
	baz=293							
ZALV	**Zalesovo Beam**	**42.05**	**303**	pP	**pP**	**19 19 31.8**	**-0.6**
	comp=Z,3.7nm,1.1s,baz=76,slow=6.3,SNR=5.2							
ZALV				PcP	**PcP**	**19 20 54.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=67,slow=4.8,SNR=4.6							
EUNU	**Eureka**	**44.53**	**13**	P	**P**	**19 19 22.4**	**+0.1**
EUNU				IAmb	IAmb	19 19 52.6		
	comp=Z,9.2nm,1.1s							
WMQ	**Urumqi**	**45.55**	**289**	*e*P	**P**	**19 19 32.5**	**+1.7**
RES	**Resolute Bay**	**46.12**	**20**	P	**P**	**19 19 34.8**	**0.0**
	comp=Z,0.8nm,0.8s,baz=317,slow=10,SNR=1.6							
RES				pP	**pP**	**19 20 04.4**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=329,slow=12,SNR=3.1							
	comp=Z,0.8nm,0.8s							
KURK	**Kurchatov**	**46.95**	**302**	P	**P**	**19 19 41.4**	**-0.1**
KURK				*PP	**pP**	**19 20 12.0**	**+0.1**
KURK						19 21 11.8		
KURBB	**Kurchatov Arra**	**47.04**	**302**	P	**P**	**19 19 41.4**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=63,slow=7.4,SNR=5.6							
KURBB				pP	**pP**	**19 20 12.0**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=63,slow=7.9,SNR=6.6							
KURBB				PcP	**PcP**	**19 21 11.8**	**-0.3**
	comp=Z,0.6nm,0.2s,baz=57,slow=3.5,SNR=5.1							
	comp=Z,0.6nm,0.4s							
MK31	**Makanchi Array**	**47.05**	**295**	P	**P**	**19 19 41.1**	**-1.3**
MK31	**Makanchi Array**	**47.05**	**295**	P	**P**	**19 19 41.2**	**-1.3**
MK31				pmax	pmax			
	comp=Z,2.0nm,1.2s							
MKAR	**Makanchi Array**	**47.05**	**295**	P	**P**	**19 19 41.1**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=61,slow=7.0,SNR=11							
MKAR				pP	**pP**	**19 20 12.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=60,slow=8.1,SNR=3.1							
	comp=Z,0.7nm,0.7s							
MKAR	**Makanchi Array**	**47.05**	**295**	P	**P**	**19 19 40.9**	**-1.6**
MAKZ	**Makanchi**	**47.22**	**296**	P	**P**	**19 19 42.2**	**-1.6**
MAKZ	**Makanchi**	**47.22**	**296**	P	**P**	**19 19 42.2**	**-1.6**
MAKZ				pmax	pmax			
	comp=Z,5.0nm,1.5s							
PZH	**PanZhiHua**	**47.85**	**261**	P	**P**	**19 19 49.0**	**0.0**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,140nm,5.0s							
BRVK	**Borovoye**	**49.98**	**308**	P	**P**	**19 20 04.0**	**-0.6**
BRVK				IAmb	IAmb	19 20 35.9		
	comp=Z,6.4nm,0.8s							
BRVK	**Borovoye**	**49.98**	**308**	P	**P**	**19 20 04.1**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CRAI	**Chiangrai**	**53.31**	**256**	P	**P**	**19 20 30.3**	**+0.5**
ARU	**Arti**	**53.42**	**317**	P	**P**	**19 20 29.5**	**-0.7**
WALA	**Waterton Lakes**	**54.11**	**54**	P	**P**	**19 20 35.6**	**+0.1**
WALA				IAmb	IAmb	19 21 10.8		
	comp=Z,6.8nm,1.4s							
ARCES	**ARCESS Array B**	**54.59**	**341**	P	**P**	**19 20 36.0**	**-2.5**
	comp=Z,2.7nm,0.9s,baz=40,slow=8.5,SNR=0.9							
	comp=Z,2.7nm,0.9s							
ARCES	**ARCESS Array B**	**54.59**	**341**	P	**P**	**19 20 36.0**	**-2.5**
PHRA	**Phrae**	**54.70**	**255**	P	**P**	**19 20 40.7**	**+0.7**
MOD	**Modoc Plateau**	**55.17**	**65**	P	**P**	**19 20 45.3**	**+2.0**
MOD				IAmb	IAmb	19 20 46.3		
	comp=Z,3.4nm,0.7s							
PLID	**Pearl Lake**	**55.52**	**59**	P	**P**	**19 20 46.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**55.52**	**256**	P	**P**	**19 20 46.8**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=35,slow=7.0,SNR=10							
	comp=Z,1.1nm,0.6s							
WVOR	**Wild Horse Val**	**55.77**	**63**	P	**P**	**19 20 48.9**	**+1.4**
WVOR				IAmb	IAmb	19 20 53.6		
	comp=Z,9.4nm,1.4s							
WVOR	**Wild Horse Val**	**55.77**	**63**	P	**P**	**19 20 48.9**	**+1.4**
WVOR				pmax	pmax			
	comp=Z,9.0nm,1.5s							
FCC	**Fort Churchill**	**56.53**	**36**	P	**P**	**19 20 52.5**	**+0.1**
FCC				IAmb	IAmb	19 20 53.7		
	comp=Z,3.6nm,0.6s							
FCC	**Fort Churchill**	**56.53**	**36**	P	**P**	**19 20 52.5**	**+0.1**
FCC				pmax	pmax			
	comp=Z,4.0nm,0.6s							
LRM	**Limekiln Ridge**	**56.94**	**57**	P	**P**	**19 20 56.8**	**+0.9**
HLID	**Hailey**	**57.38**	**60**	P	**P**	**19 21 01.0**	**+2.1**
	baz=312							
ABKAR	**Akbulak array**	**57.44**	**309**	P	**P**	**19 20 56.7**	**-2.3**
ABKAR				IAmb	IAmb	19 21 31.1		
	comp=Z,6.0nm,1.1s							
ABKAR	**Akbulak array**	**57.44**	**309**	P	**P**	**19 20 56.4**	**-2.6**
BOZ	**Bozeman (W)**	**57.52**	**56**	P	**P**	**19 21 00.3**	**+0.4**
BOZ	**Bozeman (W)**	**57.52**	**56**	P	**P**	**19 21 01.2**	**+1.3**
	baz=312							
BOZ	**Bozeman (W)**	**57.52**	**56**	P	**P**	**19 21 00.3**	**+0.4**
BOZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KVN	**Kaiserville**	**58.31**	**66**	P	**P**	**19 21 06.4**	**+0.8**
KVN	**Kaiserville**	**58.31**	**66**	P	**P**	**19 21 06.4**	**+0.8**
KVN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NVAR	**Mina Array Bea**	**58.61**	**66**	P	**P**	**19 21 09.9**	**+2.3**
	comp=Z,1.0nm,0.7s,baz=301,slow=6.7,SNR=7.2							
	comp=Z,1.0nm,0.7s							
GAR	**Garm**	**58.76**	**295**	P	**P**	**19 21 06.9**	**-1.6**
GAR				IAmb	IAmb	19 21 42.1		
	comp=Z,6.6nm,1.2s							
CHGR	**Chuyangaron**	**59.65**	**295**	P	**P**	**19 21 12.8**	**-1.9**
CHGR	**Chuyangaron**	**59.65**	**295**	P	**P**	**19 21 12.8**	**-1.9**
CHGR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
R11A	**Troy Canyon, C**	**60.23**	**65**	P	**P**	**19 21 20.4**	**+1.7**
	baz=314							
BW06	**Boulder Array**	**60.54**	**58**	P	**P**	**19 21 22.2**	**+1.4**
	baz=314							
PD31	**Pinedale Array**	**60.54**	**58**	P	**P**	**19 21 21.6**	**+0.8**
PDAR	**Pinedale Array**	**60.54**	**58**	P	**P**	**19 21 22.6**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=316,slow=2.5,SNR=17							
	comp=Z,1.5nm,0.7s							
PDAR	**Pinedale Array**	**60.54**	**58**	P	**P**	**19 21 22.2**	**+1.4**
MPMC	**Manual Prospec**	**60.70**	**68**	P	**P**	**19 21 23.4**	**+1.4**
	baz=314							
TPNV	**Topopah Spring**	**60.81**	**66**	P	**P**	**19 21 24.9**	**+2.2**
	baz=314							
SBUM	**Sibu**	**60.96**	**233**	P	**P**	**19 21 24.8**	**+1.1**
LRMC	**Laurel Mtn Rad**	**60.99**	**69**	P	**P**	**19 21 25.5**	**+1.7**
	baz=314							
QSM	**Queen of Sheba**	**61.13**	**68**	P	**P**	**19 21 26.0**	**+1.3**
FINES	**FINESS Array B**	**61.15**	**335**	P	**P**	**19 21 21.9**	**-2.3**
	comp=Z,1.9nm,0.9s,baz=29,slow=6.3,SNR=1.7							
	comp=Z,1.9nm,0.9s							
EDW2	**Edwards Air Fo**	**61.22**	**69**	P	**P**	**19 21 27.4**	**+2.0**
	baz=314							
TUQ	**Turquoise Moun**	**62.05**	**67**	P	**P**	**19 21 32.8**	**+1.8**
	baz=315							
SRU	**San Rafael Swe**	**62.55**	**61**	P	**P**	**19 21 34.8**	**+0.5**
SRU				IAmb	IAmb	19 21 37.0		
	comp=Z,3.0nm,0.9s							
SRU	**San Rafael Swe**	**62.55**	**61**	P	**P**	**19 21 34.8**	**+0.5**
SRU				pmax	pmax			
	comp=Z,3.0nm,0.9s							
IRM	**Iron Mountain**	**63.40**	**68**	P	**P**	**19 21 41.5**	**+1.7**
	baz=315							
MONP2	**Monument Peak**	**63.54**	**70**	P	**P**	**19 21 43.2**	**+2.3**
	baz=316							
IKP	**In-Ko-Pah, Jac**	**63.90**	**70**	P	**P**	**19 21 44.6**	**+1.5**
	baz=316							
PV13	**Radium Mtn., P**	**64.17**	**61**	P	**P**	**19 21 45.1**	**0.0**
NOA	**NORSAR Array B**	**64.92**	**342**	P	**P**	**19 21 47.8**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=25,slow=5.3,SNR=1.6							
	comp=Z,0.5nm,0.7s							
MVCO	**Mesa Verde**	**65.03**	**61**	P	**P**	**19 21 52.5**	**+1.8**
	baz=316							
S22A	**4UR Ranch, Cre**	**65.56**	**60**	P	**P**	**19 21 55.8**	**+1.7**
	baz=317							
ECSD	**EROS Data Cent**	**66.40**	**49**	P	**P**	**19 21 59.9**	**+0.8**
	baz=319							
MTN	**Manton Dam**	**67.28**	**207**	P	**P**	**19 22 04.2**	**-0.6**
SCHQ	**Schefferville**	**68.55**	**25**	P	**P**	**19 22 11.6**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=302,slow=9.5,SNR=2.0							
	comp=Z,2.6nm,0.9s							
KNRA	**Kununurra**	**70.66**	**208**	P	**P**	**19 22 26.4**	**+0.8**
MNTX	**Cornudas Mount**	**70.81**	**63**	P	**P**	**19 22 27.9**	**+1.3**
	baz=319							
WMOK	**Wichita Mounta**	**72.13**	**57**	P	**P**	**19 22 35.5**	**+1.0**
	baz=320							
WB0	**Warramunga Arr**	**73.06**	**202**	P	**P**	**19 22 39.5**	**-0.4**
WR0	**Warramunga Arr**	**73.21**	**202**	P	**P**	**19 22 40.6**	**-0.2**
WR0				IAmb	IAmb	19 22 41.9		
	comp=Z,5.9nm,0.7s							
BUR08	**Bucovina Ar. S**	**73.21**	**328**	P	**P**	**19 22 40.8**	**+0.1**
WRAB	**Tennant Creek**	**73.23**	**202**	P	**P**	**19 22 40.5**	**-0.4**
WRAB				IAmb	IAmb	19 22 42.2		
	comp=Z,7.6nm,0.8s							
WRAB	**Tennant Creek**	**73.23**	**202**	P	**P**	**19 22 40.5**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.8s							
BURAR	**Bucovina Array**	**73.23**	**328**	P	**P**	**19 22 39.4**	**-1.5**
WB2	**Warramunga Arr**	**73.24**	**202**	P	**P**	**19 22 40.8**	**-0.2**
WRA	**Warramunga Arr**	**73.24**	**202**	P	**P**	**19 22 41.4**	**+0.4**
	comp=Z,7.0nm,0.6s,baz=18,slow=6.2,SNR=66							
	comp=Z,7.0nm,0.6s							
WRA	**Warramunga Arr**	**73.24**	**202**	P	**P**	**19 22 40.8**	**-0.2**
DZM	**Mont Dzumac**	**73.25**	**170**	P	**P**	**19 22 43.6**	**+2.5**
TX31	**Lajitas Ar. Si**	**73.56**	**64**	P	**P**	**19 22 43.9**	**+0.8**
TX31				IAmb	IAmb	19 22 45.0		
	comp=Z,5.7nm,0.9s							
TX32	**Lajitas Array**	**73.56**	**64**	P	**P**	**19 22 44.1**	**+1.0**
TXAR	**Lajitas Array**	**73.56**	**64**	P	**P**	**19 22 44.5**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=297,slow=5.1,SNR=16							
	comp=Z,1.5nm,0.7s							
FITZ	**Fitzroy Crossi**	**73.91**	**210**	P	**P**	**19 22 45.0**	**+0.1**
MLR	**Muntele Rosu**	**74.83**	**326**	P	**P**	**19 22 49.1**	**-1.1**
MLR	**Muntele Rosu**	**74.83**	**326**	P	**P**	**19 22 49.1**	**-1.1**
MLR				pmax	pmax			
	comp=Z,4.0nm,1.2s							
AS31	**Alice Springs**	**76.93**	**201**	P	**P**	**19 23 02.6**	**+0.5**
AS31				IAmb	IAmb	19 23 04.0		
	comp=Z,3.3nm,0.6s							
ASAR	**Alice Springs**	**76.93**	**201**	P	**P**	**19 23 03.4**	**+1.3**
	comp=Z,6.4nm,0.5s,baz=13,slow=5.1,SNR=198							
	comp=Z,6.4nm,0.5s							
ASAR	**Alice Springs**	**76.93**	**201**	P	**P**	**19 23 02.8**	**+0.7**
STKA	**Stephens Creek**	**83.53**	**193**	P	**P**	**19 23 37.8**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=352,slow=8.3,SNR=6.3							
	comp=Z,2.9nm,0.8s							
ESDC	**Sonseca Array**	**88.12**	**345**	P	**P**	**19 23 58.8**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=10,slow=5.6,SNR=5.4							
	comp=Z,0.8nm,0.7s							
H03N2	**Juan Fernandez**	**136.48**	**88**	T	T	22 01 39.1		
	baz=314,slow=77,SNR=9.9							
H03N1	**Juan Fernandez**	**136.50**	**88**	T	T	22 01 42.5		
	baz=314,slow=77,SNR=5.4							
H03N3	**Juan Fernandez**	**136.50**	**88**	T	T	22 01 47.8		
	baz=314,slow=77,SNR=8.6							
CPUP	**Villa Florida**	**144.42**	**59**	PKP	PKPbc	19 30 44.0	+0.4	
	comp=Z,2.1nm,0.6s,baz=312,slow=4.9,SNR=5.2							
CPUP	**Villa Florida**	**144.42**	**59**	PKIKP	PKPbc	19 30 44.0	+0.4	
PLCA	**Paso Flores**	**146.22**	**91**	PKPbc	**PKPbc**	**19 30 49.7**	**+0.9**	
	comp=Z,3.8nm,0.7s,baz=275,slow=3.1,SNR=13							
ELIB	**Princess Elisa**	**150.56**	**208**	*d*PKP	**PKPbc**	**19 30 59.1**	**-0.1**	

*THE **31** 19:19:41.9, 34.86N × 25.26E, h14±1km, ML2.6/7, Error ellipse: s-maj=1.8km s-min=0.6km az=6.0*
*ATH **31** 19:19:41.9, 34.84N × 25.24E, h13±4km, ML3.0/5, Error ellipse: s-maj=5.2km s-min=1.0km az=15.0*
*IDC **31** 19:19:42.1±1.7, 34.68N × 25.02E, h0km, mb3.6/2, mbtmp3.4/3, Error ellipse: s-maj=80.2km s-min=27.4km az=134.0*

ISC 31 19:19:42.7±1.1, 34.85N±0.06×25.22E±0.02, h15km±8km, n26, σ1.9 s40/38, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMBK	**Timbaki Herakl**	**0.43**	**301**	P	**Pg**	**19 19 51.1**	**-0.2**
TMBK				S	**Sb**	**19 19 57.9**	**-0.4**
	985nm,0.4s						
TMBK	**Timbaki Herakl**	**0.43**	**301**	P	**Pg**	**19 19 51.1**	**-0.2**
TMBK				S	**Sg**	**19 19 57.5**	**+0.3**
TMBK				AML	AML	19 19 59.4	
	comp=E,5501μm,0.2s						
TMBK				AML	AML	19 20 00.2	
	comp=N,6052μm,0.7s						
FRMA	**Ierapetra Chan**	**0.45**	**69**	P	**Pb**	**19 19 52.0**	**-0.4**
FRMA				S	**Sn**	**19 20 00.1**	**-2.4**
	comp=N,680nm,0.3s						
FRMA	**Ierapetra Chan**	**0.45**	**69**	P	**Pb**	**19 19 52.0**	**-0.4**
FRMA				S	**Sn**	**19 20 00.3**	**-2.2**
FRMA				AML	AML	19 20 02.8	
	comp=E,4228μm,0.3s						
FRMA				AML	AML	19 20 03.5	
	comp=N,3761μm,0.3s						
KSTL	**Kastelli Herak**	**0.47**	**345**	P	**Pg**	**19 19 49.4**	**-2.6**
KSTL				S	**Sg**	**19 19 55.0**	**-3.3**
	comp=N,852nm,0.4s						
HRKL	**Herakleio**	**0.47**	**348**	P	**Pg**	**19 19 51.5**	**-0.5**
HRKL				S	**Sg**	**19 19 58.6**	**+0.3**
	comp=N,2μm,0.4s						
HRKL	**Herakleio**	**0.47**	**348**	P	**Pg**	**19 19 51.4**	**-0.6**
HRKL				S	**Sg**	**19 19 58.6**	**+0.3**
HRKL				AML	AML	19 20 03.7	
	comp=E,15901μm,0.5s						
HRKL				AML	AML	19 20 10.4	
	comp=N,14118μm,0.5s						
IACM	**Heraklion**	**0.47**	**345**	P	**Pg**	**19 19 50.7**	**-1.3**
IACM				S	**Sg**	**19 19 58.5**	**+0.2**
IACM	**Heraklion**	**0.47**	**345**	P	**Pg**	**19 19 51.3**	**-0.7**
IDI	**Anoyia**	**0.51**	**328**	LR	LR	19 19 59.9	
	comp=N,36nm,18.3s,baz=16,slow=29						
IDI	**Anoyia**	**0.51**	**328**	P	**Pg**	**19 19 51.8**	**-1.1**
IDI				S	**Sg**	**19 20 00.1**	**+0.4**
	comp=N,1μm,0.3s						
IDI	**Anoyia**	**0.51**	**328**	P	**Pg**	**19 19 51.7**	**-1.1**
IDI				S	**Sg**	**19 19 59.2**	**-0.5**
IDI				AML	AML	19 19 59.4	
	comp=E,2566μm,0.2s						
IDI				AML	AML	19 20 00.5	
	comp=N,2970μm,0.2s						
PRNS	**Prines Rethymn**	**0.78**	**311**	P	**Pg**	**19 19 57.3**	**-0.5**
PRNS				S	**Sn**	**19 20 10.1**	**-0.4**
	comp=N,278nm,0.4s						
ZKR	**Zakros**	**0.86**	**72**	P	**Pg**	**19 19 57.4**	**-1.9**
ZKR				S	**Sg**	**19 20 09.2**	**-1.5**
	comp=N,712nm,0.4s						
ZKR	**Zakros**	**0.86**	**72**	P	**Pg**	**19 19 57.5**	**-1.9**
ZKR				S	**Sb**	**19 20 10.3**	**-0.4**
ZKR				AML	AML	19 20 11.8	
	comp=E,1982μm,0.4s						
ZKR				AML	AML	19 20 12.9	
	comp=N,862μm,0.4s						
GVDS	**Gavdos**	**0.93**	**270**	P	**Pg**	**19 20 00.2**	**-0.4**
GVD	**Gavdhos**	**0.93**	**270**	P	**Pb**	**19 19 59.8**	**-0.7**
GVD	**Gavdhos**	**0.93**	**270**	P	**Pb**	**19 19 59.6**	**-0.9**
IMMV	**Iera Moni Meta**	**1.18**	**301**	P	**Pn**	**19 20 03.4**	**-1.3**
IMMV	**Iera Moni Meta**	**1.18**	**301**	P	**Pn**	**19 20 03.4**	**-1.3**
KNDR	**Palaiochora Ch**	**1.31**	**287**	P	**Pn**	**19 20 04.6**	**-1.9**
KTHR	**Kythira**	**2.29**	**309**	P	**Pn**	**19 20 20.1**	**+0.2**
VLI	**Veliai**	**2.63**	**316**	P	**Pn**	**19 20 25.4**	**+0.8**
AKASG	**Malin Array Be**	**16.11**	**9**	Pn	**P**	**19 23 31.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=1.0						
TORD	**Torodi Ar. Bea**	**30.33**	**230**	P	**P**	**19 25 53.4**	**-0.4**
	comp=N,0.7nm,0.4s,baz=39,slow=9.2,SNR=7.0						
	comp=N,0.7nm,0.4s						
MKAR	**Makanchi Array**	**43.91**	**56**	P	**P**	**19 27 52.2**	**+3.6**
	comp=N,0.2nm,0.6s,baz=268,slow=8.3,SNR=6.3						
	comp=N,0.2nm,0.6s						

IDC 31 19:21:16.4±4.6, 13.07S × 167.41E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=191.4km s-min=34.2km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.39**	**253**	P	P	19 27 48.1	-0.1
	0.1nm,0.5s,baz=85,slow=8.4,SNR=1.4						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**33.42**	**247**	P	P	19 27 57.2	+0.1
	0.6nm,0.9s,baz=76,slow=9.5,SNR=10.0						
	0.6nm,0.9s						
ILAR	**Eielson Array**	**84.91**	**18**	P	P	19 33 53.1	+0.1
	0.4nm,0.8s,baz=234,slow=4.6,SNR=4.6						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**96.10**	**316**	P	P	19 34 45.8	-0.4
	0.3nm,0.6s,baz=94,slow=6.2,SNR=7.1						
	0.3nm,0.6s						

*NOU **31** 19:40:14.9, 38.48S × 146.31E, h0km, MLv4.2/10, Near SE Coast of Australia*
*AUST **31** 19:40:15.4±0.6, 38.45S × 146.23E, h10km, Error ellipse: s-maj=7.7km s-min=5.5km az=10.0*
*IDC **31** 19:40:23.3±5.9, 37.73S × 146.26E, h0km, mb3.3/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s

ASAR	**Alice Springs**	**18.13**	**321**	P		**Pn**	**19 44 30.1**	**+2.4**
	0.2nm,0.3s,baz=145,slow=12,SNR=3.5							
ASAR				S		Sn	19 47 40.8	-8.5
	0.2nm,0.5s,baz=146,slow=22,SNR=2.0							
	0.6nm,0.7s							
WRA	**Warramunga Arr**	**21.15**	**327**	P		**P**	**19 45 03.5**	**+2.7**
	1.3nm,0.8s,baz=155,slow=12,SNR=6.9							
	1.3nm,0.8s							

*AEIC **31** 19:44:59.8±2.1,52°.0N±0°.3×179°.0W±0°.2, h150km±9km, Error ellipse: s-maj=44.9km s-min=18.0km az=168.0*
*NEIC **31** 19:44:59.1±1.6,51°.7N±0°.4×178°.8W±0°.4, h162km±16km, mb3.9/16,ML2.7(AEIC), Error ellipse: s-maj=69.0km s-min=19.0km az=155.0*

ISC 31 19:44:59.5±4.0, 52°.0N±0°.3×178°.9W±0°.3, h150km, n24, σ0s87/26, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KIWB	**Kanaga Island**	**1.12**	**98**			**Pn**	**19 45 25.2**	**-0.1**
KIWB				Sn		**Sn**	**19 45 45.3**	**+0.3**
ADK	**Adak**	**1.40**	**94**	Pn		**Pn**	**19 45 27.8**	**-0.2**
ADK				Sn		**Sn**	**19 45 49.9**	**+0.2**
GSTR	**Great Sitkin T**	**1.78**	**86**	Pn		**Pn**	**19 45 32.0**	**-0.1**
NIKH	**Nikolski High**	**6.24**	**77**	Pn		**Pn**	**19 46 29.4**	**+0.2**
UNV	**Unalaska Valle**	**7.74**	**71**	Pn		**Pn**	**19 46 48.8**	**-0.4**
SDPT	**Sand Point**	**11.44**	**66**	Pn		**Pn**	**19 47 37.3**	**-0.9**
O18K	**Koktuh Hills**	**15.37**	**50**	P		**P**	**19 48 31.4**	**+1.8**
OHAK	**Old Harbor**	**15.69**	**61**	P		**Pn**	**19 48 31.1**	**-1.1**
KDAK	**Kodiak Island**	**16.16**	**59**			**Pn**	**19 48 36.1**	**-1.8**
M20K	**Styx River**	**17.07**	**45**			**Pn**	**19 48 49.7**	**+0.7**
M20K				IAmb		IAmb	19 49 02.4	
	comp=Z,6.7nm,1.3s							
BRLK	**Bradley Lake**	**17.43**	**53**	P		**P**	**19 48 52.9**	**+0.6**
SKT	**Skwentna**	**17.81**	**45**			**P**	**19 48 57.5**	**+1.1**
SKT				IAmb		IAmb	19 49 03.6	
	comp=Z,10.0nm,1.2s							
PPLA	**Purkeypile**	**17.89**	**42**	P		**P**	**19 48 58.5**	**+1.1**
PPLA				IAmb		IAmb	19 49 05.2	
	comp=Z,6.6nm,1.1s							
SUA	**Susitna One**	**17.98**	**47**	P		**P**	**19 48 58.3**	**-0.1**
CAST	**Castle Rocks**	**18.17**	**41**	P		**P**	**19 49 00.9**	**+0.7**
KTH	**Kantishna Hill**	**18.69**	**41**	P		**P**	**19 49 06.9**	**+0.9**
KTH				IAmb		IAmb	19 49 07.8	
	comp=Z,5.3nm,0.9s							
IMAR	**Indian Mountai**	**18.88**	**33**	P		**P**	**19 49 08.7**	**+0.7**
GHO	**Glory Hole Cre**	**18.91**	**47**	P		**P**	**19 49 07.6**	**-0.7**
GHO				IAmb		IAmb	19 49 24.6	
	comp=Z,9.3nm,1.2s							
BPAW	**Bear Paw Mtn.**	**18.91**	**39**	P		**P**	**19 49 08.6**	**+0.3**
TRF	**Thorofare Moun**	**18.91**	**42**	P		**P**	**19 49 08.8**	**+0.3**
TRF				IAmb		IAmb	19 49 14.2	
	comp=Z,8.9nm,1.3s							
SCM	**Sheep Creek Mo**	**19.65**	**48**	P		**P**	**19 49 16.0**	**-0.4**
SCM				IAmb		IAmb	19 49 23.2	
	comp=Z,7.8nm,1.2s							
WRH	**Wood River Hil**	**20.21**	**40**	P		**P**	**19 49 21.1**	**-1.2**
L27K	**Beaver Creek,**	**22.43**	**46**	P		**P**	**19 49 45.8**	**+0.3**
L27K				IAmb		IAmb	19 50 01.8	
	comp=Z,3.0nm,1.3s							
BMAR	**Burnt Mountain**	**22.75**	**34**	P		**P**	**19 49 47.7**	**-0.9**

*ANF **31** 19:49:39.5±0.2,36°.52N×98°.96W, h9km±1km, ML3.7/10, Error ellipse: s-maj=2.0km s-min=1.6km az=106.0*
*NEIC **31** 19:49:39.2±1.0,36°.54N±0°.02×98°.98W±0°.02, h10km±6km, mb_Lg3.0/64, ML3.2/12, Error ellipse: s-maj=2.9km s-min=2.0km az=129.0*

ISC 31 19:49:39.3±0.9, 36°.53N±0°.02×98°.98W±0°.03, h11km±6km, n103, σ1s00/111, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NOKA	**Waynoka**	**0.11**	**19**	Pg		**Pg**	**19 49 42.2**	**0.0**
NOKA				Sg		**Sg**	**19 49 44.3**	**0.0**
NOKA				IAML			19 49 44.5	
	comp=N,9μm,0.3s							
NOKA				IAML			19 49 44.5	
	comp=E,11μm,0.2s							
U32A	**Winter Ranch,**	**0.15**	**188**	Pg		**Pg**	**19 49 42.7**	**-0.1**
U32A				IAML			19 49 45.8	
	comp=N,6μm,0.2s							
U32A	**Winter Ranch,**	**0.15**	**188**	P		**Pg**	**19 49 42.7**	**-0.1**
	baz=7.5							
OK038	**West end E0370**	**0.20**	**106**			**Pg**	**19 49 43.6**	**+0.1**
OK038				Sg		**Sg**	**19 49 46.7**	**+0.2**
OK038				IAML			19 49 50.5	
	comp=N,5μm,0.3s							
OK035	**E0210 Rd and N**	**0.28**	**51**	Pg		**Pg**	**19 49 45.2**	**+0.2**
OK035				Sg		**Sg**	**19 49 49.5**	**+0.7**
ELIS	**Ellis County**	**0.59**	**218**			**Pg**	**19 49 50.5**	**-0.1**
ELIS				Sg		**Sg**	**19 49 59.0**	**+0.6**
ELIS				IAML			19 50 01.9	
	comp=E,1μm,0.2s							
ELIS				IAML			19 50 09.3	
	comp=N,1μm,0.2s							
OK032	**Salt Plains WL**	**0.67**	**66**	Pg		**Pg**	**19 49 52.2**	**-0.1**
OK032				Sg		**Sg**	**19 50 01.5**	**+0.3**
CROK	**Carrier**	**0.80**	**92**	Pg		**Pg**	**19 49 54.5**	**-0.2**
CRK				Sg		**Sg**	**19 50 05.1**	**-0.1**
CSTR	**Hydro, Custer**	**0.92**	**165**			**Pg**	**19 49 56.6**	**-0.3**
CSTR				Sg		**Sb**	**19 50 09.1**	**-0.2**
KAN14	**Manchester OK**	**0.92**	**62**			**Pg**	**19 49 56.6**	**-0.4**
KAN14				Sg		**Sg**	**19 50 08.9**	**-0.1**
GC02	**Grant County #**	**0.95**	**70**	Pg		**Pg**	**19 49 57.3**	**-0.4**
GC02				Sg		**Sg**	**19 50 10.1**	**0.0**
KAN08	**Anthony NE Sta**	**1.06**	**49**	Pg		**Pg**	**19 49 59.3**	**-0.5**
KAN12	**Harper NE Stat**	**1.09**	**45**			**Pg**	**19 49 59.8**	**-0.6**
KAN17	**Caldwell West**	**1.10**	**62**	Pg		**Pg**	**19 49 59.9**	**-0.5**
KAN17				Sg		**Sg**	**19 50 14.6**	**-0.1**
KAN06	**Argonia West S**	**1.15**	**51**			**Pb**	**19 50 00.7**	**-0.4**
KAN01	**Argonia South**	**1.16**	**57**	Pg		**Pb**	**19 50 01.0**	**-0.2**
KAN01				Sg		**Sb**	**19 50 16.2**	**-0.1**
KAN09	**Caldwell North**	**1.25**	**61**	Pg		**Pn**	**19 50 02.5**	**-0.1**
KS21	**Milan North St**	**1.29**	**54**	Pn		**Pn**	**19 50 03.4**	**+0.1**
KAN13	**South Haven SW**	**1.30**	**68**			**Pn**	**19 50 03.1**	**-0.1**
KS20	**Mayfield South**	**1.34**	**58**	Pg		**Pn**	**19 50 03.5**	**-0.4**
KS20				Sg		**Sn**	**19 50 21.9**	**+0.3**
BCOK	**Bluff Creek, N**	**1.41**	**128**			**Pn**	**19 50 05.0**	**+0.2**
OK029	**Liberty Lake**	**1.43**	**120**			**Pn**	**19 50 05.5**	**+0.3**
OK029						**Sb**	**19 50 24.6**	**+0.3**
BLOK	**Blackwell**	**1.44**	**80**	Pn		**Pn**	**19 50 05.4**	**+0.2**
BLOK				Sg		**Sb**	**19 50 24.6**	**+0.3**
ADOK	**Arcadia Dam**	**1.57**	**124**	Pn		**Pn**	**19 50 07.1**	**+0.1**
OK050	**Pawnee Station**	**1.61**	**94**			**Pb**	**19 50 08.7**	**-0.4**
OK025	**Westminster Rd**	**1.63**	**125**			**Pb**	**19 50 08.8**	**-0.6**
OK048	**Pawnee Station**	**1.64**	**93**			**Pb**	**19 50 09.1**	**-0.5**
OK045	**Pawnee Station**	**1.66**	**92**			**Pb**	**19 50 09.4**	**-0.4**
OK046	**Pawnee Station**	**1.67**	**94**			**Pb**	**19 50 09.5**	**-0.6**
OK044	**Pawnee Station**	**1.77**	**95**			**Pn**	**19 50 10.4**	**+0.6**
WMOK	**Wichita Mounta**	**1.80**	**175**	Pn		**Pn**	**19 50 10.6**	**+0.4**
WMOK	**Wichita Mounta**	**1.80**	**175**	P		**Pn**	**19 50 10.6**	**+0.4**
	baz=355							
WMOK				S		**Sb**	**19 50 34.7**	**0.0**
	baz=355							
FNO	**Franklin**	**1.80**	**134**			**Pb**	**19 50 11.6**	**-0.8**
OK031	**S. Brethren Rd**	**1.82**	**108**			**Pb**	**19 50 11.9**	**-0.7**
OK052	**Battle Ridge R**	**1.84**	**106**			**Pn**	**19 50 11.9**	**+1.2**
OK053	**SW of W Deep R**	**1.84**	**106**			**Pb**	**19 50 12.1**	**-0.9**
QUOK	**Quay**	**1.87**	**100**			**Pn**	**19 50 12.2**	**+1.1**
OK030	**Cody Creek RV**	**1.87**	**108**			**Pn**	**19 50 12.3**	**+1.1**
R32A	**Long Quarter,**	**1.90**	**6**			**Pb**	**19 50 13.4**	**-0.6**
R32A				IAmb_Lg			19 50 40.3	
	comp=Z,68nm,1.1s							
R32A	**Long Quarter,**	**1.90**	**6**	P		**Pn**	**19 50 12.6**	**+1.0**
	baz=186							
R32A				S		**Sn**	**19 50 35.8**	**+0.3**
	baz=186							
OK034	**N. Norfolk Rd.**	**1.90**	**105**			**Pn**	**19 50 12.9**	**+1.2**
T35A	**Sooner Cattle**	**2.02**	**78**			**Pn**	**19 50 14.4**	**+1.2**
T35A				IAmb_Lg			19 50 44.8	
	comp=Z,62nm,0.9s							
T35B	**Sooner Cattle**	**2.02**	**78**	P		**Pn**	**19 50 13.5**	**+0.3**
	baz=260							
DEOK	**Depew**	**2.12**	**108**			**Pn**	**19 50 15.6**	**+1.0**
X34A	**Smith Ranch, M**	**2.14**	**154**			**Pb**	**19 50 17.3**	**-0.8**
X34A				IAmb_Lg			19 50 52.6	
	comp=Z,51nm,0.7s							
W35A	**Tecumseh**	**2.19**	**128**	Pn		**Pn**	**19 50 16.5**	**+0.9**
CBKS	**Cedar Bluff**	**2.36**	**345**			**Pn**	**19 50 19.9**	**+1.9**
CBKS				IAmb_Lg			19 50 55.7	
	comp=Z,49nm,0.8s							
CBKS	**Cedar Bluff**	**2.36**	**345**	P		**Pn**	**19 50 18.7**	**+0.8**
	baz=165							
CBKS				S		**Sn**	**19 50 47.4**	**+0.5**
	baz=165							
TUL1	**Leonard**	**2.65**	**103**			**Pn**	**19 50 22.2**	**+0.3**
TUL1	**Leonard**	**2.65**	**103**	P		**Pn**	**19 50 22.0**	**+0.2**
	baz=285							
TUL1				S		**Sn**	**19 50 55.8**	**+1.9**
	baz=285							
AMTX	**Amarillo**	**2.75**	**234**			**Pn**	**19 50 23.9**	**+0.6**
AMTX				IAmb_Lg			19 51 11.4	
	comp=Z,52nm,0.8s							
AMTX	**Amarillo**	**2.75**	**234**	P		**Pn**	**19 50 24.0**	**+0.6**
	baz=52							
LOOK	**Love County**	**2.93**	**149**	Pn		**Pn**	**19 50 27.4**	**+1.6**
KSU1	**Kansas State U**	**3.18**	**35**			**Pn**	**19 50 30.5**	**+1.3**
KSU1				IAmb_Lg			19 51 28.2	
	comp=Z,31nm,0.9s							
KSU1	**Kansas State U**	**3.18**	**35**	P		**Pn**	**19 50 29.9**	**+0.7**
	baz=217							
KSU1				S		**Sn**	**19 51 08.5**	**+1.5**
	baz=217							
RLO	**Rose Lookout**	**3.21**	**95**			**Pn**	**19 50 30.9**	**+1.3**
Z35A	**Perchaven, San**	**3.49**	**156**	Pn		**Pn**	**19 50 34.6**	**+1.1**
Z35A	**Perchaven, San**	**3.49**	**156**	P		**Pn**	**19 50 34.7**	**+1.1**
	baz=337							
X37A	**Clayton**	**3.52**	**122**			**Pn**	**19 50 34.3**	**+0.4**
X37A	**Clayton**	**3.52**	**122**	P		**Pn**	**19 50 34.6**	**+0.7**
	baz=305							
U38A	**Gravette**	**3.70**	**90**			**Pn**	**19 50 36.4**	**0.0**
U38A				IAmb_Lg			19 51 40.6	
	comp=Z,26nm,0.8s							
FW06	**Azle**	**3.74**	**161**	Pn		**Pn**	**19 50 37.1**	**+0.2**
FW06				IAmb_Lg			19 51 37.9	
	comp=Z,24nm,0.7s							
KSCO	**Kaye Shedlock'**	**3.81**	**312**			**Pn**	**19 50 38.2**	**+0.3**
KSCO				IAmb_Lg			19 51 42.8	
	comp=Z,45nm,0.7s							
ABTX	**Abilene, Hawle**	**3.94**	**188**	Pn		**Pn**	**19 50 38.9**	**-0.7**
FW07	**Weatherford**	**3.94**	**165**	IAmb_Lg			19 51 52.5	
	comp=Z,17nm,0.8s							
MSTX	**Muleshoe**	**4.02**	**232**			**Pn**	**19 50 41.3**	**+0.4**
MSTX				IAmb_Lg			19 51 56.2	
	comp=Z,24nm,0.8s							
HHAR	**Hobbs**	**4.07**	**92**			**Pn**	**19 50 42.0**	**+0.6**
HHAR				IAmb_Lg			19 51 49.2	
	comp=Z,30nm,1.0s							
N33A	**J Bar K, Exete**	**4.37**	**15**	Pn		**Pn**	**19 50 45.1**	**-0.4**
T25A	**Trinidad**	**4.40**	**280**	Pn		**Pn**	**19 50 47.3**	**+1.1**
T25A				IAmb_Lg			19 52 01.0	
	comp=Z,33nm,0.8s							
Z38A	**Mt. Pleasant**	**4.63**	**134**	Pn		**Pn**	**19 50 50.1**	**+1.0**
Z38A				IAmb_Lg			19 52 10.8	
	comp=Z,17nm,0.8s							
S39A	**Bolivar**	**4.67**	**74**			**Pn**	**19 50 50.4**	**+0.8**
S39A				IAmb_Lg			19 52 07.4	
	comp=Z,38nm,0.8s							
WHTX	**Lake Whitney,**	**4.70**	**164**			**Pn**	**19 50 50.7**	**+0.6**
MIAR	**Mount Ida**	**4.83**	**113**	Pn		**Pn**	**19 50 52.6**	**+0.7**
BGNE	**Belgrade**	**4.91**	**7**			**Pn**	**19 50 51.4**	**-1.6**
BGNE				IAmb_Lg			19 52 22.9	
	comp=Z,35nm,0.8s							
OGNE	**Ogallala**	**5.01**	**332**	Pn		**Pn**	**19 50 54.7**	**+0.2**
N35A	**Tabor**	**5.05**	**30**	Pn		**Pn**	**19 50 53.7**	**-1.2**
P38A	**Dawn**	**5.29**	**53**	Pn		**Pn**	**19 50 57.0**	**-1.2**
P38A				IAmb_Lg			19 52 38.7	
	comp=Z,18nm,0.7s							
CPRX	**Cap Rock**	**5.33**	**230**	Pn		**Pn**	**19 50 57.9**	**-0.9**
SDCO	**Great Sand Dun**	**5.35**	**285**	Pn		**Pn**	**19 50 58.1**	**-1.2**
SDCO				IAmb_Lg			19 52 37.2	
	comp=Z,14nm,0.8s							
X40A	**Basin Creek Fa**	**5.41**	**110**			**Pn**	**19 51 00.6**	**+0.8**
Q24A	**Divide**	**5.46**	**298**	IAmb_Lg			19 52 31.3	
	comp=Z,17nm,0.9s							
WHAR	**Wooly Hollow**	**5.57**	**101**	Pn		**Pn**	**19 50 59.2**	**-2.8**
FCAR	**Ozark Folk Cen**	**5.58**	**95**			**Pn**	**19 51 00.7**	**-1.5**
HTMS	**Hat Mesa**	**5.58**	**225**	Pn		**Pn**	**19 51 01.4**	**-1.0**
R40A	**Maddies Statio**	**5.62**	**70**	Pn		**Pn**	**19 51 03.7**	**+1.0**
R40A				IAmb_Lg			19 52 42.3	
	comp=Z,33nm,1.1s							
BRIGG	**Briggsdale**	**5.82**	**316**	IAmb_Lg			19 52 49.2	
	comp=Z,28nm,0.8s							
435B	**Jarrell**	**5.85**	**168**	IAmb_Lg			19 53 00.8	
	comp=Z,23nm,0.8s							
JCT	**Junction City**	**6.08**	**187**	Pn		**Pn**	**19 51 07.3**	**-1.7**
JCT				IAmb_Lg			19 53 04.6	
	comp=Z,24nm,0.9s							
K31A	**O'Neill**	**6.08**	**2**	IAmb_Lg			19 53 01.8	
	comp=Z,29nm,0.8s							
ISCO	**Idaho Springs**	**6.16**	**304**	Pn		**Pn**	**19 51 09.1**	**-1.3**
ISCO				IAmb_Lg			19 53 00.9	
	comp=Z,12nm,0.8s							
N38A	**Joes South For**	**6.19**	**45**	Pn		**Pn**	**19 51 08.4**	**-2.1**
P40A	**Paris**	**6.23**	**59**	Pn		**Pn**	**19 51 09.3**	**-1.9**
ANMO	**Albuquerque**	**6.29**	**258**	Pn		**Pn**	**19 51 09.2**	**-2.9**
LCAR	**Lake Charles**	**6.33**	**92**	Pn		**Pn**	**19 51 09.9**	**-2.6**
T42A	**Van Buren**	**6.35**	**83**	Pn		**Pn**	**19 51 10.5**	**-2.2**
T42A				IAmb_Lg			19 53 02.1	
	comp=Z,15nm,0.9s							
CCM	**Cathedral Cave**	**6.35**	**74**	Pn		**Pn**	**19 51 10.5**	**-2.2**
CCM				IAmb_Lg			19 53 09.9	
	comp=Z,23nm,0.9s							
S22A	**4UR Ranch, Cre**	**6.39**	**283**	Pn		**Pn**	**19 51 11.3**	**-2.3**
N23A	**Red Feather La**	**6.97**	**311**	IAmb_Lg			19 53 25.0	
	comp=Z,26nm,1.0s							
SCIA	**State Center**	**6.99**	**38**	IAmb_Lg			19 53 31.5	
	comp=Z,23nm,0.7s							
MNTX	**Cornudas Mount**	**7.17**	**230**	IAmb_Lg			19 53 29.0	
	comp=Z,9.5nm,0.8s							
K22A	**Casper**	**8.44**	**319**	IAmb_Lg			19 54 29.9	
	comp=Z,19nm,1.0s							
I37A	**Lemond, Waseca**	**8.60**	**28**	IAmb_Lg			19 54 23.2	
	comp=Z,12nm,0.9s							
JFWS	**Jewell Farm**	**9.26**	**44**	IAmb_Lg			19 54 49.6	
	comp=Z,17nm,0.8s							

HEL 31 19:52:23.2±0.1, 67°.62N×33°.87E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVZ	**Lovozero**	**0.41**	**46**	PG		Pg	19 52 30.6	-0.4
	baz=225							
LVZ				SG		Sg	19 52 36.0	-0.3
VRF	**Varrio**	**1.63**	**277**	PG		Pn	19 52 52.5	-0.7
	baz=88							
VRF				MSG			19 53 12.2	
	comp=Z,3.2nm,0.2s							
VRF				SG		Sn	19 53 13.2	-1.7
OLKF	**Oulanka, Finla**	**2.19**	**236**	PG		Pb	19 53 02.5	-1.0
OLKF				MSG			19 53 28.0	
	comp=Z,2.4nm,0.2s							
OLKF				SG		Sb	19 53 30.9	-0.3
KU6	**Riekki**	**2.24**	**226**	PG		Pb	19 53 03.3	-1.2
	baz=47							
KU6				MSG			19 53 29.5	
	comp=Z,1.7nm,0.2s							
KU6				SG		Sb	19 53 31.9	-0.9
MSF	**Maaselka**	**2.57**	**230**	PG		Pb	19 53 08.9	-1.2
MSF				SG		Sb	19 53 41.5	-0.7
SGF	**Sodankyl**	**2.83**	**270**	PG		Pb	19 53 12.9	-1.6
SGF				SG		Sb	19 53 48.4	-1.2
RNF	**Rovaniemi**	**3.23**	**255**	PN		Pn	19 53 15.0	-0.1
	baz=72							
RNF				SN		Sn	19 53 55.1	+0.8
KEV	**Kevo**	**3.30**	**314**	PN		Pn	19 53 16.2	+0.1
ARA0	**ARCESS Array S**	**3.62**	**306**	PN		Pn	19 53 19.8	-0.7
ARA0				SN		Sn	19 54 03.4	-0.5
RMF	**Romuvaara**	**3.77**	**207**	SN		Sn	19 54 06.6	-1.0
HEF	**Hetta**	**3.92**	**286**	PG		Pb	19 53 33.6	+0.5
HEF				SN		Sn	19 54 10.8	-0.5
TOF	**Tornio**	**4.07**	**252**	PG		Pb	19 53 36.6	+0.9
KTK1	**Kautokeino**	**4.19**	**294**	SG		Sb	19 54 31.6	+2.8
PAJU	**Pajala**	**4.21**	**267**	SN		Sn	19 54 18.1	-0.2
LANU	**Lannavaara**	**4.53**	**281**	PN		Pn	19 53 31.5	-1.4
ERTU	**Ertsjaerv**	**4.69**	**262**	SN		Sn	19 54 29.8	-0.3

*NEIC **31** 19:56:41.9±1.5, 18°.95N±0°.08×66°.56W±0°.04, h54km±12km, ML2.8/25, Md2.6/26(RSPR), Error ellipse: s-maj=11.3km s-min=4.8km az=185.0*
*RSPR **31** 19:56:44.4, 18°.91N×66°.54W, h45km±4km, MD2.6/12*

ISC 31 19:56:41.8±1.7, 18°.97N±0°.09×66°.56W±0°.03, h52km±16km, n50, σ0s80/54, 11C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.49**	**177**	eP		**Pn**	**19 56 53.7**	**+0.6**
EMPR	**Esperanza - Ma**	**0.49**	**177**	eS		**Sn**	**19 57 01.1**	**-0.1**
EMPR	**Esperanza - Ma**	**0.49**	**177**			**Pn**	**19 56 53.7**	**+0.6**
EMPR						**Sn**	**19 57 01.1**	**-0.1**
EMPR	**Esperanza - Ma**	**0.49**	**177**	IAML			19 57 01.8	
	comp=N,733nm,0.4s							
EMPR				IAML			19 57 03.4	
	comp=E,547nm,0.6s							
AOPR	**Arecibo Observ**	**0.65**	**197**	eP		**Pn**	**19 56 55.5**	**+0.5**
AOPR	**Arecibo Observ**	**0.65**	**197**	eS		**Sn**	**19 57 04.2**	**-0.4**
AOPR	**Arecibo Observ**	**0.65**	**197**			**Pn**	**19 57 04.2**	**-0.4**
AOPR	**Arecibo Observ**	**0.65**	**197**			**Pn**	**19 56 55.4**	**+0.4**
AOPR	**Arecibo Observ**	**0.65**	**197**	IAML			19 57 05.4	
	comp=N,1μm,0.3s							
AOPR				IAML			19 57 06.6	
	comp=E,2μm,0.3s							
AGPR	**Aguadilla, PR**	**0.73**	**226**	eP		**Pn**	**19 56 57.3**	**+1.3**
AGPR	**Aguadilla, PR**	**0.73**	**226**	eS		**Sn**	**19 57 05.1**	**-1.2**
AGPR	**Aguadilla, PR**	**0.73**	**226**			**Pn**	**19 56 56.1**	**+0.1**
AGPR						**Sn**	**19 57 05.0**	**-1.2**
AGPR				IAML			19 57 05.8	
	comp=N,347nm,0.4s							
AGPR				IAML			19 57 06.0	
	comp=E,206nm,0.3s							
UUPR	**Utuado, UPR, P**	**0.73**	**192**	eP		**Pn**	**19 56 56.6**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.73**	**192**	eS		**Sn**	**19 57 06.0**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.73**	**192**			**Pn**	**19 56 55.5**	**-0.6**
UUPR						**Sn**	**19 57 05.4**	**-1.0**
GCPR	**Guaynabo City**	**0.80**	**146**	eP		**Pn**	**19 56 57.9**	**+0.9**
GCPR	**Guaynabo City**	**0.80**	**146**	eS		**Sn**	**19 57 07.9**	**-0.1**
GCPR	**Guaynabo City**	**0.80**	**146**			**Sn**	**19 57 07.9**	**-0.1**
GCPR	**Guaynabo City**	**0.80**	**146**			**Pn**	**19 56 56.7**	**-0.2**
GCPR	**Guaynabo City**	**0.80**	**146**	IAML			19 57 08.8	
	comp=E,99nm,0.3s							
GCPR				IAML			19 57 08.9	
	comp=N,98nm,0.3s							
OBIP	**Obispado Ponce**	**0.93**	**183**	eP		**Pn**	**19 56 59.5**	**+0.8**
OBIP	**Obispado Ponce**	**0.93**	**183**	eS		**Sn**	**19 57 10.0**	**-0.9**
OBIP	**Obispado Ponce**	**0.93**	**183**			**Pn**	**19 56 59.5**	**+0.8**
OBIP						**Sn**	**19 57 10.0**	**-0.9**
PRSN	**Puerto Rico Se**	**0.94**	**217**	Pn		**Pn**	**19 56 58.2**	**-0.5**
PRSN				Sn		**Sn**	**19 57 09.6**	**-1.5**
LSP	**Las Mesas**	**0.94**	**212**	eP		**Pn**	**19 56 59.8**	**+1.0**
LSP	**Las Mesas**	**0.94**	**212**	eS		**Sn**	**19 57 12.0**	**+0.7**
LSP	**Las Mesas**	**0.94**	**212**			**Pn**	**19 56 59.8**	**+1.0**
LSP						**Sn**	**19 57 12.0**	**+0.7**
SJG	**San Juan**	**0.94**	**156**	Pn		**Pn**	**19 56 58.3**	**-0.5**
SJG				IAML			19 57 13.0	
	comp=N,131nm,0.2s							
CBYP	**Canovanas**	**0.96**	**136**	eP		**Pn**	**19 56 59.7**	**+0.5**
CBYP	**Canovanas**	**0.96**	**136**			**Pn**	**19 56 59.6**	**+0.5**
CBYP				Sn		**Sn**	**19 57 11.6**	**-0.3**
IDE	**Isla Desecheo**	**1.04**	**236**	eP		**Pn**	**19 57 01.4**	**+1.2**
IDE	**Isla Desecheo**	**1.04**	**236**	eS		**Sn**	**19 57 13.7**	**-0.1**
IDE	**Isla Desecheo**	**1.04**	**236**			**Pn**	**19 57 01.4**	**+1.2**
IDE						**Sn**	**19 57 13.7**	**-0.1**
IGPR	**InterUniversit**	**1.09**	**157**	eP		**Pn**	**19 57 02.0**	**+1.2**
IGPR	**InterUniversit**	**1.09**	**157**	eS		**Sn**	**19 57 15.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.09**	**209**	eP		**Pn**	**19 57 01.9**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.09**	**209**	eS		**Sn**	**19 57 15.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.09**	**209**			**Pn**	**19 57 01.7**	**+0.9**
CRPR						**Sn**	**19 57 12.9**	**-2.1**
CRPR				IAML			19 57 17.8	
	comp=E,106nm,0.3s							
CRPR				IAML			19 57 18.3	
	comp=N,110nm,0.2s							
MLPR	**Magueyes Islan**	**1.10**	**205**	eP		**Pn**	**19 57 01.1**	**+0.2**
MLPR	**Magueyes Islan**	**1.10**	**205**	eS		**Sn**	**19 57 14.6**	**-0.5**
MLPR	**Mague

ASAR PcP **PcP** **20 07 34.4 -0.8**
comp=Z,0.3nm,0.8s,baz=57,slow=3.4,SNR=4.7
ASAR LR LR 20 13 57.8
comp=Z,71nm,19.2s,baz=93,slow=35
comp=Z,2.0nm,0.5s
ASAR Alice Springs 26.48 227 P **P** **20 04 10.1 -0.9**
KNRA Kununurra 27.14 248 P **P** **20 04 15.9 -1.1**
KNRA IAmb IAmb 20 04 31.9
comp=Z,15nm,1.2s
STKA Stephens Creek 28.28 204 P **P** **20 04 26.1 -0.9**
comp=Z,2.4nm,0.9s,baz=30,slow=8.1,SNR=3.3
STKA LR LR 20 15 18.1
comp=Z,30nm,19.9s,baz=26,slow=35
comp=Z,2.4nm,0.9s
STKA Stephens Creek 28.28 204 P **P** **20 04 25.9 -1.1**
FITZ Fitzroy Crossi 30.73 245 P **P** **20 04 47.0 -1.8**
LUWI Luwuk 32.33 278 P **P** **20 05 01.1 -1.9**
KAPI Kappang 34.85 270 LR LR 20 22 14.3
comp=Z,16nm,18.1s,baz=107,slow=41
RTZ Ruatahuna 37.96 151 P **P** **20 05 53.7 +2.5**
CMAR Chiang Mai Arr 60.27 295 P **P** **20 08 41.1 -0.9**
comp=Z,1.1nm,0.8s,baz=118,slow=5.3,SNR=9.2
comp=Z,1.1nm,0.8s
MKAR Makanchi Array 82.72 319 P **P** **20 10 57.7 +0.9**
comp=Z,0.4nm,0.7s,baz=103,slow=5.5,SNR=4.9
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 95.82 28 P **P** **20 11 58.3 -0.6**
comp=Z,0.2nm,0.6s,baz=267,slow=4.9,SNR=2.9
comp=Z,0.2nm,0.6s
TORD Torodi Ar. Bea 152.60 286 PKPbc **PKPbc** **20 18 27.7 -2.6**
comp=Z,0.1nm,0.3s,baz=72,slow=2.7,SNR=5.0
TORD PKPab **PKPab** **20 18 39.5 -1.5**
comp=Z,0.4nm,0.7s,baz=85,slow=3.8,SNR=1.7

IDC ***31*** *20:11:08.4±1.3, 1°.89N×126°.56E, h0km, mb3.6/7, mbtmp3.6/7, MS3.3/2, Error ellipse: s-maj=138.6km s-min=18.8km az=68.0*
MAN ***31*** *20:11:19.6, 2°.10N×126°.57E, h74km, mb5.2, ML4.2, MS4.4*
ISC 31 20:11:14.8±1.2, 2°.0N±0°.1×127°.4E±0°.3, h50km, n14, σ3$19/16, mb3.6/7, 1C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**4.37**	**338**	⇓	*eP*	**Pn**		**20 12 20.3**	**+1.7**
DDMP					*eS*	**Sn**		**20 13 09.2**	**+1.0**
MATI	**Mati**	**5.00**	**347**	⇓	*eP*	**Pn**		**20 12 30.8**	**+3.4**
MATI					*eS*	**Sn**		**20 13 26.9**	**+3.1**
SKMP	**Bagumbayan, Su**	**5.27**	**328**	⇓	*eP*	**Pn**		**20 12 32.2**	**+1.2**
SKMP					*eS*	**Sn**		**20 13 27.0**	**-3.6**
KCP	**Kidapawan**	**5.44**	**335**	⇓	*eP*	**Pn**		**20 12 35.2**	**+1.8**
KCP					*eS*	**Sn**		**20 13 38.8**	**+4.0**
BIPH	**Bislig**	**6.19**	**351**	⇑	*eP*	Pn		20 12 48.8	+5.2
BIPH					*i* S	**Sn**		**20 13 45.5**	**-7.5**
WRA	**Warramunga Arr**	**22.89**	**163**		P	**P**		**20 16 13.7**	**-0.7**
	0.6nm,0.4s,baz=339,slow=11,SNR=27								
	0.6nm,0.4s								
ASAR	**Alice Springs**	**26.33**	**166**		P	**P**		**20 16 48.3**	**+2.1**
	0.4nm,0.5s,baz=347,slow=12,SNR=4.9								
	0.4nm,0.5s								
ASAJ	**Asahikawa**	**44.02**	**16**		LR	LR		20 42 11.8	
	comp=Z,30nm,18.0s,baz=108,slow=42								
SONM	**Songino Array**	**49.09**	**341**		P	**P**		**20 19 57.3**	**0.0**
	0.2nm,0.6s,baz=140,slow=9.4,SNR=1.6								
	0.2nm,0.6s								
MKAR	**Makanchi Array**	**59.30**	**326**		P	**P**		**20 21 10.2**	**-1.3**
	0.3nm,0.3s,baz=116,slow=7.5,SNR=15								
	0.3nm,0.3s								
ZALV	**Zalesovo Beam**	**62.38**	**333**		P	**P**		**20 21 29.6**	**-2.6**
	0.3nm,0.5s,baz=120,slow=8.5,SNR=2.0								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**63.50**	**328**		P	**P**		**20 21 38.2**	**-1.5**
	0.6nm,0.5s,baz=129,slow=6.1,SNR=13								
	0.6nm,0.5s								
BVAR	**Borovoye Array**	**69.08**	**327**		P	**P**		**20 22 14.6**	**-0.8**
	0.3nm,0.4s,baz=131,slow=7.9,SNR=2.9								
	0.3nm,0.4s								
OPO	**Ambohidratompo**	**81.36**	**251**		LR	LR		20 56 17.2	
	comp=Z,14nm,18.8s,baz=261,slow=34								

NEIC ***31*** *20:39:07.3±1.8, 10°.04N±0°.08×126°.5E±0°.1, h42km±10km, mb4.4/24, Error ellipse: s-maj=17.2km s-min=11.6km az=78.0*
MAN ***31*** *20:39:09.9, 9°.72N×126°.16E, h24km, mb4.9, ML3.8, MS3.8*
IDC ***31*** *20:39:13.6±3.7, 9°.63N×126°.03E, h91km±33km, mb3.7/9, mbtmp4.0/11, MS2.9/6, Error ellipse: s-maj=47.1km s-min=15.8km az=61.0*
ISC 31 20:39:08.5±0.9, 9°.79N±0°.04×126°.36E±0°.06, h45km±8km, n86, σ1$86/95, mb4.2/20, MS2.6/4, 9C-20D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.23**	**269**	⇓	*eP*	**Pn**		**20 39 15.8**	**-0.8**
GLSP					*eS*	**Sn**		**20 39 20.3**	**-1.9**
SCPH	**Surigao**	**0.86**	**270**		*eP*	**Pn**		**20 39 23.0**	**-1.2**
SCPH					*eS*	**Sn**		**20 39 33.6**	**-2.0**
BUTP	**Butuan**	**1.09**	**222**	⇓	*eP*	**Pn**		**20 39 26.4**	**-1.0**
BUTP					*eS*	**Sn**		**20 39 39.8**	**-1.5**
TASP	**Talacogon, Agu**	**1.43**	**202**	⇑	*eP*	**Pn**		**20 39 32.6**	**+0.5**
TASP					*eS*	**Sn**		**20 39 55.5**	**+5.7**
MSLP	**Maasin**	**1.52**	**283**	⇓	*eP*	**Pn**		**20 39 32.7**	**-0.5**
MSLP					*eS*	**Sn**		**20 39 53.6**	**+1.8**
MSLP	**Maasin**	**1.52**	**283**	⇓	*eP*	**Pn**		**20 39 33.8**	**+0.6**
MSLP					*eS*	**Sn**		**20 39 54.9**	**+3.1**
BIPH	**Bislig**	**1.59**	**180**	⇑	*eP*	**Pn**		**20 39 33.8**	**-0.5**
BIPH					*eS*	**Sn**		**20 39 51.5**	**-2.2**
CDOP	**Cateel, Davao**	**1.99**	**178**	⇑	*eP*	**Pn**		**20 39 40.2**	**+0.5**
CDOP					*eS*	**Sn**		**20 40 03.2**	**-0.2**
GHBP	**Garcia Hernand**	**2.02**	**266**	⇓	*iP*	**Pn**		**20 39 40.1**	**+0.1**
GHBP					*i* S	**Sn**		**20 40 04.9**	**+0.8**
TABP	**Talibon, Bohol**	**2.02**	**279**	⇓	*iP*	**Pn**		**20 39 40.3**	**+0.2**
TABP					*eS*	**Sn**		**20 40 08.3**	**+4.2**
CGP	**Cagayan de Oro**	**2.11**	**231**	⇑	*iP*	**Pn**		**20 39 40.8**	**-0.6**
CGP					*i* S	**Sn**		**20 40 04.3**	**-2.1**
BUKP	**Musuan**	**2.29**	**214**	⇓	*eP*	**Pn**		**20 39 44.9**	**+1.1**
BUKP					*eS*	**Sn**		**20 40 13.3**	**+2.4**
BUKP	**Musuan**	**2.29**	**214**	⇑	*eP*	Pn		20 39 55.5	+12
BUKP					*eS*	Sn		20 40 25.3	+14
LLP	**Lapu-Lapu**	**2.41**	**283**	⇑	*iP*	**Pn**		**20 39 46.8**	**+1.3**
LLP					*eS*	**Sn**		**20 40 14.3**	**+0.4**
TBP	**Tagbilaran**	**2.46**	**268**	⇓	*iP*	**Pn**		**20 39 46.9**	**+0.7**
TBP					*i* S	**Sn**		**20 40 14.5**	**-0.6**
LSIP	**Lazi, Siquijor**	**2.77**	**257**	⇓	*iP*	**Pn**		**20 39 50.3**	**-0.1**
LSIP					*eS*	**Sn**		**20 40 21.3**	**-1.4**
DAV	**Davao City (W)**	**2.81**	**196**		P	**Pn**		**20 39 53.2**	**+2.2**
	182nm,0.3s,baz=247,slow=5.2,SNR=2.3								
DAV					S	**Sn**		**20 40 25.3**	**+1.6**
	191nm,0.4s,baz=103,slow=22,SNR=3.6								
DAV	**Davao City (W)**	**2.81**	**196**		Pn	**Pn**		**20 39 52.4**	**+1.4**
MATI	**Mati**	**2.83**	**182**	⇓	*eP*	**Pn**		**20 39 52.4**	**+1.2**
MATI					*eS*	**Sn**		**20 40 26.3**	**+2.3**
KCP	**Kidapawan**	**3.03**	**205**	⇓	*iP*	**Pn**		**20 39 55.5**	**+1.4**
KCP					*i* S	**Sn**		**20 40 31.0**	**+1.7**
CNP	**Catarman**	**3.18**	**329**	⇓	*eP*	**Pn**		**20 39 58.5**	**+2.5**
CNP					*eS*	**Sn**		**20 40 36.1**	**+3.4**
CTBH	**Cotabato--PC H**	**3.30**	**219**	⇑	*iP*	**Pn**		**20 39 58.8**	**+1.1**
CTBH					*i* S	**Sn**		**20 40 38.7**	**+3.1**
PAGZ	**Pagadian**	**3.52**	**237**	⇓	*eP*	**Pn**		**20 40 02.0**	**+1.3**
PAGZ					*eS*	**Sn**		**20 40 41.0**	**-0.1**
CNOP	**Candoni, Negro**	**3.67**	**271**	⇑	*eP*	**Pn**		**20 40 03.6**	**+0.9**
SKMP	**Bagumbayan, Su**	**3.71**	**209**	⇓	*eP*	**Pn**		**20 40 04.0**	**+0.6**
DDMP	**Don Marcelino,**	**3.71**	**190**	⇓	*eP*	**Pn**		**20 40 06.2**	**+2.8**
DDMP					*eS*	**Sn**		**20 40 48.7**	**+2.7**
GUIM	**Jordan**	**3.80**	**283**	⇓	*eP*	**Pn**		**20 40 06.0**	**+1.3**
RCP	**Roxas**	**3.96**	**297**	⇓	*eP*	**Pn**		**20 40 09.0**	**+2.2**
PVCP	**Virac**	**4.36**	**331**	⇓	*eP*	**Pn**		**20 40 15.7**	**+3.4**
JAP	**San Jose, Anti**	**4.45**	**283**	⇓	*eP*	**Pn**		**20 40 16.3**	**+2.9**
OTRP	**Odiongan**	**4.97**	**301**	⇓	*eP*	**Pn**		**20 40 22.9**	**+2.3**
SMPP	**San Manuel, Pa**	**8.40**	**319**	⇓	*eP*	**Pn**		**20 41 11.8**	**+3.9**
TNTI	**Ternate**	**9.01**	**174**		Pn	**Pn**		**20 41 17.0**	**+0.8**
MYLDM	**Lahad Datu**	**9.04**	**240**		Pn	**Pn**		**20 41 20.3**	**+3.8**
SIJI	**Sorong**	**11.66**	**155**		P	**Pn**		**20 41 57.1**	**+4.7**
	2.1nm,0.4s,baz=342,slow=20,SNR=2.4								
TWG	**Pinlang**	**13.91**	**339**		Pn	Pn		20 42 15.7	-7.4
FAKI	**Fak Fak**	**13.92**	**155**		P	**P**		**20 42 31.2**	**+0.8**
KAPI	**Kappang**	**16.11**	**204**		LR	LR		20 50 05.1	
	comp=Z,37nm,18.6s,baz=44,slow=41								
JOW	**Kunigami**	**17.05**	**6**		LR	LR		20 48 54.1	
	comp=Z,42nm,21.5s,baz=198,slow=34								
SOEI	**Soe**	**19.53**	**186**		P	**Pn**		**20 43 33.6**	**-0.5**
SOEI						IAmb	IAmb	20 43 43.6	
	comp=Z,61nm,1.5s								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**22.98**	**168**		P	**P**		**20 44 09.4**	**-0.1**
MTN					IAmb	IAmb		20 44 12.2	
	comp=Z,14nm,1.0s								
KNRA	**Kununurra**	**25.41**	**175**		P	**P**		**20 44 32.0**	**-0.1**
KNRA					IAmb	IAmb		20 44 40.2	
	comp=Z,16nm,1.1s								
IPM	**Ipoh**	**25.68**	**260**		P	**P**		**20 44 33.8**	**-0.8**
IPM					IAmb	IAmb		20 44 37.5	
	comp=Z,7.1nm,0.9s								
KULM	**Kulim**	**25.87**	**262**		P	**P**		**20 44 36.2**	**-0.1**
KULM					IAmb	IAmb		20 44 38.2	
	comp=Z,25nm,1.4s								
JSG	**Sagara**	**27.03**	**22**		P	**P**		**20 44 40.9**	**-5.7**
KSRS	**Korea Array**	**27.58**	**3**		LR	LR		20 58 43.3	
	comp=Z,12nm,18.3s,baz=235,slow=42								
FITZ	**Fitzroy Crossi**	**27.72**	**181**		P	**P**		**20 44 53.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**27.92**	**291**		P	**P**		**20 44 53.7**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=100,slow=8.0,SNR=2.7								
CMAR						LR	LR	20 55 58.1	
	comp=Z,9.9nm,19.2s,baz=220,slow=36								
	comp=Z,0.7nm,0.8s								
MJAR	**Matsushiro Arr**	**28.72**	**20**		LR	LR		20 58 47.4	
	comp=Z,17nm,18.0s,baz=132,slow=40								
WB0	**Warramunga Arr**	**30.42**	**165**		P	**P**		**20 45 15.9**	**-1.0**
WB0					IAmb	IAmb		20 45 37.9	
	comp=Z,9.6nm,1.4s								
WRAB	**Tennant Creek**	**30.56**	**165**		P	**P**		**20 45 16.6**	**-1.6**
WRA	**Warramunga Arr**	**30.57**	**165**		P	**P**		**20 45 17.1**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=332,slow=10,SNR=7.5								
	comp=Z,0.4nm,0.5s								
WB2	**Warramunga Arr**	**30.57**	**165**		P	**P**		**20 45 16.8**	**-1.4**
WB2					IAmb	IAmb		20 45 43.6	
	comp=Z,3.9nm,1.0s								
WR0	**Warramunga Arr**	**30.64**	**165**		P	**P**		**20 45 17.9**	**-0.9**
WR0					IAmb	IAmb		20 45 23.4	
	comp=Z,5.0nm,1.1s								
PSA00	**Pilbara Seismi**	**31.81**	**192**		P	**P**		**20 45 29.0**	**-0.1**
AS31	**Alice Springs**	**34.06**	**168**		P	**P**		**20 45 48.3**	**-0.4**
AS31					IAmb	IAmb		20 45 51.6	
	comp=Z,1.0nm,0.3s								
ASAR	**Alice Springs**	**34.06**	**168**		P	**P**		**20 45 48.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=352,slow=7.1,SNR=21								
	comp=Z,0.4nm,0.3s								
ASAR	**Alice Springs**	**34.06**	**168**		P	**P**		**20 45 48.3**	**-0.4**
MORW	**Morawa**	**39.89**	**194**		P	**P**		**20 46 38.1**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**39.98**	**73**		T	T		21 29 47.7	
	baz=262,slow=75,SNR=13								
H11S1	**WAKE ISLAND Hy**	**39.99**	**73**		T	T		21 29 30.1	
	baz=262,slow=75,SNR=8.0								
H11S2	**WAKE ISLAND Hy**	**39.99**	**73**		T	T		21 29 38.0	
	baz=262,slow=75,SNR=7.8								
H11N1	**WAKE ISLAND Hy**	**40.33**	**71**		T	T		21 30 04.3	
	baz=263,slow=74,SNR=24								
H11N2	**WAKE ISLAND Hy**	**40.33**	**71**		T	T		21 30 05.9	
	baz=263,slow=74,SNR=22								
H11N3	**WAKE ISLAND Hy**	**40.34**	**71**		T	T		21 30 05.8	
	baz=263,slow=74,SNR=24								
FORT	**Forrest**	**40.37**	**178**		P	**P**		**20 46 42.4**	**+0.3**
EIDS	**Eidsvold**	**42.44**	**146**		P	**P**		**20 46 59.4**	**+0.2**
EIDS					IAmb	IAmb		20 47 33.6	
	comp=Z,9.9nm,1.3s								
BBOO	**Buckleboo**	**43.36**	**168**		P	**P**		**20 47 07.0**	**+0.4**
BBOO					IAmb	IAmb		20 47 25.9	
	comp=Z,12nm,1.1s								
NWAO	**Narrogin (SRO)**	**43.36**	**191**		P	**P**		**20 47 06.5**	**0.0**
NWAO	**Narrogin (SRO)**	**43.36**	**191**		P	**P**		**20 47 06.5**	**0.0**
STKA	**Stephens Creek**	**43.92**	**161**		P	**P**		**20 47 11.4**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=337,slow=8.1,SNR=6.9								
	comp=Z,1.4nm,0.4s								
STKA	**Stephens Creek**	**43.92**	**161**		P	**P**		**20 47 10.4**	**-0.7**
MK31	**Makanchi Array**	**52.46**	**323**		P	**P**		**20 48 15.7**	**-1.2**
MKAR	**Makanchi Array**	**52.46**	**323**		P	**P**		**20 48 16.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=111,slow=6.6,SNR=16								
	comp=Z,0.2nm,0.3s								
MKAR	**Makanchi Array**	**52.46**	**323**		P	**P**		**20 48 15.7**	**-1.2**
MAKZ	**Makanchi**	**52.66**	**323**		P	**P**		**20 48 17.1**	**-1.3**
KK31	**Karatay Array**	**58.65**	**315**		P	**P**		**20 49 59.8**	**-1.6**
KK31					IAmb	IAmb		20 49 22.1	
	comp=Z,5.0nm,1.4s								
KKAR	**Karatay Array**	**58.65**	**315**		P	**P**		**20 48 59.2**	**-2.2**
ABKAR	**Akbulak array**	**67.30**	**319**		P	**P**		**20 49 58.0**	**-0.7**
ABKAR	**Akbulak array**	**67.30**	**319**		P	**P**		**20 49 57.6**	**-1.1**
ABKAR					IAmb	IAmb		20 50 32.6	
	comp=Z,1.2nm,1.1s								
AKTO	**Aktyubinsk**	**68.75**	**320**		LR	LR		21 23 15.7	
	comp=Z,58nm,19.0s,baz=248,slow=38								
ARU	**Arti**	**69.67**	**327**		P	**P**		**20 50 12.4**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=112,slow=8.4,SNR=3.6								
	comp=Z,1.5nm,0.5s								
ARCES	**ARCESS Array B**	**84.67**	**340**		P	**P**		**20 51 37.5**	**+0.2**
	comp=Z,8.0nm,1.1s,baz=82,slow=7.0,SNR=10								
	comp=Z,8.0nm,1.1s								
FINES	**FINESS Array B**	**86.35**	**332**		P	**P**		**20 51 45.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=79,slow=4.4,SNR=12								
	comp=Z,0.8nm,0.4s								
YKA	**Yellowknife Ar**	**94.16**	**24**		P	**P**		**20 52 24.1**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=298,slow=4.8,SNR=5.2								
	comp=Z,0.5nm,0.8s								
PLCA	**Paso Flores**	**145.73**	**157**		PKPbc	**PKPbc**		**20 58 43.1**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=254,slow=4.0,SNR=4.1								

TAP 31 20:42:15.4, 23°.05N×121°.56E, h29km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.19**	**286**		*i* P	**Pb**		20 42 21.7	+0.3
	baz=286								
CHKT					S	Sb		20 42 26.1	+0.6
	baz=286								
EDH	**Donghe**	**0.25**	**253**		P	Pn		20 42 23.6	+0.5
	baz=252								
EDH					*i* S	Sb		20 42 27.8	+1.0
	baz=252								
FULB	**Fuli**	**0.29**	**302**		P	Pb		20 42 22.9	+0.1
	baz=301								
FULB					S	Sn		20 42 28.5	-0.6
	baz=301								
EHD	**Haiduan**	**0.34**	**287**		P	Pn		20 42 24.2	-0.3
	baz=287								
EHD					S	Sn		20 42 30.2	-0.1
	baz=287								
EYUL	**Yuli**	**0.37**	**323**		*i* P	Pn		20 42 24.4	-0.5
	baz=323								
EYUL					S	Sn		20 42 30.7	-0.4
	baz=323								
LDUT	**Ludao**	**0.38**	**193**		P	Pb		20 42 24.3	+0.3
	baz=192								
LDUT					*i* S	Sn		20 42 31.1	-0.2
	baz=192								
LONT	**Longtian**	**0.42**	**251**		P	Pn		20 42 25.4	-0.1
	baz=250								
LONT					*i* S	Sn		20 42 32.3	0.0
	baz=250								
YULB	**Yu-li**	**0.42**	**325**		Pn	Pb		20 42 25.1	+0.4
YULB	**Yu-li**	**0.42**	**325**		P	Pn		20 42 25.3	-0.2
	baz=324								
YULB					*i* S	Sn		20 42 32.2	-0.2
	baz=324								
HGSD	**Ruisui**	**0.46**	**344**		*e*P	Pb		20 42 24.9	-0.3
	baz=344								
HGSD					*e*S	Sb		20 42 31.7	-0.2
	baz=344								
TTN	**Taitung**	**0.48**	**233**		*e*P	Pn		20 42 26.0	-0.4
	baz=231								
TWGBT	**Beinan**	**0.50**	**243**		*e*P	Pn		20 42 26.9	+0.3
	baz=242								
TWGBT					S	Sn		20 42 33.9	-0.4
	baz=242								
TWG	**Pinlang**	**0.50**	**243**		P	Pn		20 42 26.6	-0.1
	baz=242								
TWG					S	Sn		20 42 34.0	-0.4
	baz=242								
EHY	**Hungye**	**0.51**	**334**		P	Pn		20 42 26.4	-0.3
	baz=335								
EHY					S	Sn		20 42 34.5	+0.1
	baz=335								
ELDTW	**Lidau**	**0.52**	**286**		P	Pn		20 42 26.6	-0.3
	baz=285								
ELDTW					S	Sb		20 42 34.2	+0.6
	baz=285								
EGFH	**Guangfu**	**0.63**	**349**		P	Pn		20 42 28.6	+0.2
	baz=348								
EGFH					*i* S	Sn		20 42 37.5	0.0
	baz=348								
ECL	**Taimali**	**0.72**	**231**		P	Pb		20 42 29.2	-0.2
	baz=230								
ECL					S	Sn		20 42 39.6	0.0
	baz=230								
STYH	**Taoyuan**	**0.73**	**280**		P	Pn		20 42 30.2	+0.4
	baz=280								
STYH					*e*S	Sn		20 42 41.0	+1.0
	baz=280								
ESL	**Shilin**	**0.77**	**351**		P	Pn		20 42 29.9	-0.5
	baz=351								
ESL					*e*S	Sb		20 42 40.1	-0.5
	baz=351								
VWDT	**VWDT**	**0.80**	**331**		P	Pn		20 42 31.3	+0.4
	baz=331								
VWDT					S	Sn		20 42 42.2	+0.5
	baz=331								
TPUB	**Ta-pu**	**0.89**	**287**		P	Pb		20 42 33.5	+1.0
MASBT	**Mashibuluo**	**0.96**	**243**		*e*P	Pn		20 42 32.3	-0.6
	baz=243								
MASBT					S	Sb		20 42 45.7	-0.1
	baz=243								
OWD	**Renai**	**0.97**	**339**		*i* P	Pn		20 42 33.2	0.0
	baz=338								
OWD					*e*S	Sn		20 42 45.6	-0.5
	baz=338								
WUSB	**Renai**	**1.02**	**337**		P	Pb		20 42 34.6	-0.1
	baz=336								
WUSB					*i* S	Sb		20 42 47.6	-0.2
	baz=336								
CHGB	**Renai**	**1.07**	**341**		P	Pn		20 42 35.0	+0.3
	baz=340								
CHGB					*e*S	Sn		20 42 47.8	-0.8
	baz=340								
YOJ	**Yonaguni jima**	**1.94**	**43**		*e*P	Pn		20 42 46.1	-0.3
	baz=43								

IDC ***31*** *21:38:26.7±7.0, 17°.70S×66°.75W, h71km±76km, mb3.6/2, mbtmp3.9/2, Error ellipse: s-maj=61.0km s-min=55.8km az=108.0*
ISC 31 21:38:20.8±1.2, 18°.25S±0°.08×67°.25W±0°.10, h35km, n5, σ4$03/8, 1C, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.12**	**337**		P	**Pn**		**21 38 57.6**	**+3.2**
	138nm,0.3s,baz=130,slow=19,SNR=933								
LPAZ					S	**Sn**		**21 39 22.1**	**+2.3**
	26nm,0.5s,baz=137,slow=23,SNR=17								
PB16	**IPOC Station P**	**2.14**	**267**	⇑	*iP*	**Pn**		**21 38 53.4**	**-1.3**
PB16					*e*S	**Sn**		**21 39 15.6**	**-4.7**
PB16					IAML			21 39 20.1	
	comp=N,54nm,0.5s								
PB11	**IPOC Station P**	**2.73**	**236**		*e*P	**Pn**		**21 39 06.4**	**+4.1**
PB11					*e*S	**Sn**		**21 39 38.2**	**+4.0**
PB11					IAML			21 39 39.6	
	comp=E,200nm,0.2s								
DBIC	**Dimbokro**	**66.33**	**74**		P	**P**		**21 49 05.7**	**-0.7**
	comp=E,0.9nm,0.5s,baz=243,slow=6.8,SNR=1.2								
	comp=E,0.9nm,0.5s								
TORD	**Torodi Ar. Bea**	**74.80**	**70**		P	**P**		**21 49 55.2**	**-2.9**
	comp=E,0.4nm,0.4s,baz=254,slow=5.8,SNR=3.1								
	comp=E,0.4nm,0.4s								

WEL ***31*** *22:15:00,42°.27S×173°.55E, h8km, ML4.3, Mw3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr0.80; Mθθ7.20; Mφφ-8.00; Mrθ-0.34; Mrφ0.19; Mθφ-0.90; Fault plane solution: Mo7.65000×10^14 NP1: φs314.00000°, δ84.00000°, λ-2.00000°. NP2:φs44.00000°, δ88.00000°, λ-174.00000°. Principal axes: T 72.1800, Plg3.0000°, Azm179.0000°; N 8.6900, Plg84.0000°, Azm62.0000°; P -80.8700, Plg6.0000°, Azm270.0000°;*
IDC ***31*** *22:15:33.3±2.1, 42°.33S×173°.71E, h0km, mb3.4/2, mbtmp3.5/4, ML3.5/2 Error ellipse: s-maj=52.2km s-min=31.5km az=138.0*
WEL ***31*** *22:15:34.9, 42°.3S±3°.×17°.4E±°, h10km±4km, M4.3/60, ML4.5/13, MLv4.3/60, Error ellipse: s-maj=0.0km s-min=0.0km az=32.1*
NOU ***31*** *22:15:34.9, 42°.45S×173°.69E, h9km, MLv4.4/13, South Island, New Zealand*
ISC 31 22:15:34.5±0.9, 42°.34S±0°.03×173°.70E±0°.03, h16km±6km, n100, σ1$54/110, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**236**		P	**Pg**		**22 15 38.6**	**+0.3**
KHZ	**Kahutara**	**0.14**	**236**		P	**Pg**		**22 15 38.6**	**+0.3**
KHZ					S	**Sg**		**22 15 41.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.64**	**12**		P	**Pb**		**22 15 47.0**	**-0.2**

ODZ	Otahua Downs	3.50	218	P		Pn	22 16 27.5	-0.7
KAHZ	Kahuranaki	3.50	44	P		Pn	22 16 28.9	+0.6
OTVZ	Oturere	3.50	26	P		Pn	22 16 29.9	+1.4
NNVZ	North Ngauruho	3.52	25	P		Pn	22 16 31.5	+2.8
TWVZ	Taurewa	3.52	23	P		Pn	22 16 30.1	+1.4
WTVZ	West Tongariro	3.52	25	P		Pn	22 16 32.5	+3.8
TMVZ	Te Maari	3.56	26	P		Pn	22 16 30.9	+1.6
BKZ	Black Stump Fm	3.81	35	P		Pn	22 16 35.7	+3.0
HIZ	Hauiti	3.92	13	P		Pn	22 16 36.7	+2.6
HIZ	Hauiti	3.92	13	P		Pn	22 16 37.0	+2.9
JCZ	Jackson Bay	3.99	243	P		Pn	22 16 35.9	+0.8
JCZ	Jackson Bay	3.99	243	P		Pn	22 16 36.6	+1.5
HHSZ	Highcliff Hill	4.19	211	P		Pn	22 16 37.5	-0.2
WKZ	Wanaka	4.21	232	P		Pn	22 16 38.0	-0.1
TLZ	Tolley Hoad	4.24	20	P		Pn	22 16 46.2	-2.5
EAZ	Earnscleugh	4.30	226	P		Pn	22 16 39.2	-0.1
TUZ	Tuapeka	4.65	218	P		Pn	22 16 44.0	-0.1
URZ	Urewera	4.84	34	Pn		Pn	22 16 46.2	-0.5
	0.9nm,0.3s,baz=316,slow=5.2,SNR=2.1							
URZ			Sn			Sn	22 17 36.8	-5.5
	2.1nm,0.3s,baz=206,slow=13,SNR=1.6 2.5nm,0.3s							
URZ	Urewera	4.84	34	P		Pn	22 16 49.0	+2.4
URZ	Urewera	4.84	34	P		Pn	22 16 47.0	+0.3
MWZ	Matawai	4.96	37	P		Pn	22 16 50.5	+2.2
MLZ	Mavora Lakes	5.04	231	P		Pn	22 16 49.8	+0.3
AWAZ	Awhitu Peninsu	5.32	8	P		Pn	22 16 55.1	+1.9
SYZ	Scrubby Hill	5.32	216	P		Pn	22 16 53.2	0.0
SYZ	Scrubby Hill	5.32	216	P		Pn	22 16 53.5	+0.3
MKAZ	Moumakai	5.35	13	P		Pn	22 16 55.5	+1.9
WTAZ	Waiatarua	5.44	7	P		Pn	22 16 59.0	+4.1
MBAZ	Motutapu North	5.64	10	P		Pn	22 17 04.2	+6.6
WCZ	Waipu Caves	6.41	5	P		Pn	22 17 11.3	+3.0
OUZ	Omahuta	7.11	359	P		Pn	22 17 20.2	+2.4
OUZ	Omahuta	7.11	359	P		Pn	22 17 21.3	+3.4
CTZ	Chatham Island	7.23	104	P		Pn	22 17 20.3	+0.8
ASAR	Alice Springs	37.80	287	P		P	22 22 51.5	+1.3
	0.2nm,0.4s,baz=125,slow=7.1,SNR=1.8 0.2nm,0.4s							
WRA	Warramunga Arr	39.93	292	P		P	22 23 09.5	+1.4
	0.8nm,1.0s,baz=127,slow=8.4,SNR=5.0 0.8nm,1.0s							
TORD	Torodi Ar. Bea	150.10	196	PKPbc		PKiKP	22 35 26.4	+0.7
	0.3nm,0.5s,baz=162,slow=0.7,SNR=1.9							

*IDC **31** 22:23:20.4±4.2, 9.°27S×120.°66E, h97km±34km, mb3.5/3, mbtmp3.8/6, Error ellipse: s-maj=67.7km s-min=11.2km az=52.0*

ISC 31 22:23:19.3±0.8, 9.°44S±0.°08×120.°58E±0.°07, h100km, n15, σ1s92/16, mb3.7/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMRI	Maumere	1.82	64	P		Pn	22 23 48.8	-0.8
PLAI	Plampang	2.83	282	P		Pn	22 24 01.4	-1.3
BATI	Baumata	3.14	104	P		Pn	22 24 07.8	+0.9
	66nm,0.4s,baz=278,slow=3.2,SNR=34							
BATI				S		Sn	22 24 44.0	+0.3
	26nm,0.3s,baz=123,slow=20,SNR=1.8							
SOEI	Soe	3.66	95	P		Pn	22 24 13.9	0.0
KAPI	Kappang	4.47	349	P		Pn	22 24 24.0	-0.8
	7.2nm,0.3s,baz=193,slow=14,SNR=5.6							
KAPI				S		Sn	22 25 13.9	-1.8
	12nm,0.5s,baz=9.2,slow=22,SNR=8.1							
JAGI	Jajag, Banyuwa	6.42	278	P		Pn	22 24 47.9	-3.4
UGM	Wanagama	10.05	278	P		Pn	22 25 37.8	-3.0
KNRA	Kununurra	10.12	129	P		Pn	22 25 40.2	-1.4
WRA	Warramunga Arr	16.91	130	P		Pn	22 27 09.4	-0.4
	0.9nm,0.5s,baz=306,slow=14,SNR=10							
WRA				S		Sn	22 30 01.0	-17
	0.3nm,0.4s,baz=155,slow=38,SNR=2.1							
WRAB	Tennant Creek	16.91	130	P		Pn	22 27 09.9	0.0
PMBI	Palembang	16.98	291	P		P	22 27 12.4	+1.3
ASAR	Alice Springs	19.04	140	P		P	22 27 36.4	+2.7
	0.5nm,0.5s,baz=328,slow=14,SNR=6.4							
ASAR				S		S	22 30 59.4	-5.2
	0.4nm,0.4s,baz=314,slow=24,SNR=3.6							
SONM	Songino Array	58.39	349	P		P	22 33 04.5	+0.2
	0.3nm,0.5s,baz=160,slow=8.7,SNR=3.7 0.3nm,0.5s							
MKAR	Makanchi Array	65.56	332	P		P	22 33 53.5	+1.3
	0.5nm,0.5s,baz=144,slow=7.4,SNR=14 0.5nm,0.5s							
ZALV	Zalesovo Beam	70.01	338	P		P	22 34 20.3	+0.3
	1.6nm,0.5s,baz=137,slow=5.8,SNR=7.9 1.6nm,0.5s							

*IDC **31** 22:26:41.1±2.7, 33.°82S×179.°68W, h0km, mb3.5/2, mbtmp3.7/3, ML4.1/1, MS3.4/2, Error ellipse: s-maj=66.6km s-min=44.0km az=119.0*

*WEL **31** 22:26:51.7±0.6, 34.°5S×18.°0W±1.°2, h33km, M4.3/10, ML4.5/13, MLv4.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5*

ISC 31 22:26:50.0±1.1, 34.°23S±0.°07×179.°9W±0.°1, h35km, n21, σ2s06/33, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	Matakaoa Point	3.64	204	P		Pn	22 27 45.7	+1.8
MXZ				S		Sn	22 28 24.4	-1.1
WMGZ	Waiomatatini S	3.84	201	P		Pn	22 27 49.0	+2.4
HAZ	Te Kaha	4.00	208	P		Pn	22 27 51.8	+3.0
HAZ				S		Sn	22 28 36.8	+2.3
PKGZ	Pakihiroa	4.01	204	P		Pn	22 27 50.9	+1.8
PKGZ				S		Sn	22 28 34.9	0.0
PUZ	Puketiti	4.12	201	P		Pn	22 27 52.0	+1.5
PUZ				S		Sn	22 28 38.0	+0.5
RUGZ	Raukumara Rang	4.22	207	P		Pn	22 27 53.8	+1.7
RUGZ				S		Sn	22 28 42.6	+2.5
TWGZ	Tauwhareparae	4.31	203	P		Pn	22 27 54.8	+1.7
TWGZ				S		Sn	22 28 43.6	+1.5
CNGZ	Carnagh Statio	4.52	200	P		Pn	22 27 57.2	+1.3
TKGZ	Te Karaka	4.59	203	P		Pn	22 27 56.8	-0.1
TKGZ				S		Sn	22 28 48.9	0.0
MWZ	Matawai	4.61	206	P		Pn	22 27 58.1	+1.0
MWZ				S		Sn	22 28 49.4	-0.1
OPRZ	Ohinepanea	4.63	218	P		Pn	22 28 01.1	+3.6
URZ	Urewera	4.71	210	Pn		Pn	22 27 59.2	+0.7
	6.2nm,0.3s,baz=354,slow=5.3,SNR=55							
URZ				Sn		Sn	22 28 51.1	-0.7
	15nm,0.3s,baz=306,slow=9.7,SNR=12 13nm,0.3s							
URZ	Urewera	4.71	210	P		Pn	22 27 59.6	+1.1
URZ				S		Sn	22 28 51.0	-0.9
RAGZ	Rawiri	4.79	207	P		Pn	22 28 03.2	+3.5
RIGZ	Rimuhau	4.86	203	P		Pn	22 28 00.2	-0.4
RIGZ				S		Sn	22 28 54.6	-1.1
WCZ	Waipu Caves	5.05	249	P		Pn	22 28 05.5	+2.4
GLKZ	Green Lake	5.22	19	P		Pn	22 28 06.4	+0.7
GLKZ				S		Sn	22 29 09.2	+4.6
OUZ	Omahuta	5.48	258	P		Pn	22 28 10.8	+1.7
ASAR	Alice Springs	41.50	272	P		P	22 34 31.4	-2.6
	0.2nm,0.4s,baz=114,slow=7.5,SNR=4.8							
ASAR				LR		LR	22 49 46.1	
	comp=Z,36nm,18.2s,baz=126,slow=33 0.2nm,0.4s							
WRA	Warramunga Arr	42.84	277	P		P	22 34 41.5	-3.4
	0.4nm,0.5s,baz=118,slow=7.5,SNR=5.8							
WRA				LR		LR	22 51 40.9	
	comp=Z,56nm,18.7s,baz=173,slow=35 0.4nm,0.5s							
FINES	FINESS Array B	148.11	337	PKPbc		PKPdf	22 46 26.4	-1.5
	0.5nm,0.4s,baz=37,slow=4.1,SNR=12							

*IDC **31** 22:48:12.8±1.4, 43.°61S×74.°61W, h0km, mb3.9/4, mbtmp3.9/5, ML3.7/1, MS3.4/7, Error ellipse: s-maj=40.6km s-min=22.2km az=133.0*

*NEIC **31** 22:48:15.9±1.4, 43.°55S±0.°03×74.°39W±0.°10, h19km±5km, mb4.3/12, Mwr3.9/19, ML4.0(GUC), Error ellipse: s-maj=10.5km s-min=4.0km az=75.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}6.59; $M_{\theta\theta}$0.97; $M_{\phi\phi}$-7.56; $M_{r\theta}$2.18; $M_{\theta\phi}$2.50; $M_{\phi r}$5.98; Fault plane solution: $M_0$9.88000×10^{14} NP1:ϕ_s141.35000°, δ32.04000°, λ48.64000°. NP2:ϕ_s7.44000°, δ66.54000°, λ112.47000°. Principal axes: T 9.7566, Plg62.0000°, Azm312.0000°; N 0.2376, Plg21.0000°, Azm178.0000°; P -9.9943, Plg19.0000°, Azm81.0000°;*

*GUC **31** 22:48:17.7±0.7, 43.°61S×74.°22W, h17km±4km, ML4.0*

ISC 31 22:48:15.9±1.4, 43.°55S±0.°04×74.°37W±0.°07, h19km±4km, n65, σ1s20/65, mb4.1/9, MS3.2/5, 4D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO07	Milladeo Hill,	0.67	50			Pb	22 48 29.3	+0.3
GO07	Milladeo Hill,	0.67	50	⇓*i*	P	Pb	22 48 29.2	+0.2
GO07				*i*	S	Sb	22 48 38.0	+0.1
GO07					IAML		22 48 43.8	
	comp=E,17μm,0.4s							
LL07	Hotel Espejo d	0.97	42			Pb	22 48 34.5	+0.4
LL07						Sg	22 48 48.0	+0.5
LL07	Hotel Espejo d	0.97	42	⇓*i*	P	Pb	22 48 34.5	+0.4
LL07				*i*	S	Sg	22 48 47.5	-0.1
LL07					IAML		22 48 49.8	
	comp=E,22μm,0.6s							
LL06	Loncomilla	1.44	22			Pn	22 48 41.0	0.0
LL06	Loncomilla	1.44	22	*e*	P	Pn	22 48 41.2	+0.2
LL06				*i*	S	Sb	22 49 01.5	+1.3
LL06					IAML		22 49 07.4	
	comp=N,3μm,0.6s							
AY01	Puyuhuapi	1.51	126			Pn	22 48 42.0	0.0
AY01					Sn	Sn	22 49 00.9	-0.3
AY01	Puyuhuapi	1.51	126	⇓*i*	P	Pn	22 48 41.8	-0.2
AY01				*i*	S	Sn	22 48 59.5	-1.7
AY01					IAML		22 49 05.8	
	comp=E,18μm,0.3s							
LL01	San Ignacio de	1.85	51			Pn	22 48 46.5	-0.1
LL01	San Ignacio de	1.85	51	*e*	P	Pn	22 48 47.1	+0.4
LL01				*i*	S	Sn	22 49 10.8	+1.3
LL01					IAML		22 49 20.4	
	comp=E,864nm,0.6s							
LL02	Futaleuf	1.87	80			Pn	22 48 47.4	+0.5
LL02	Futaleuf	1.87	80	⇓*i*	P	Pn	22 48 47.7	+0.8
LL02				*e*	S	Sn	22 49 11.0	+0.9
LL02					IAML		22 49 15.3	
	comp=N,768nm,0.7s							
LL05	Los Muermos	2.25	17			Pn	22 48 52.7	+0.6
LL05	Los Muermos	2.25	17	*e*	P	Pb	22 48 55.6	-0.3
LL05				*e*	S	Sb	22 49 24.2	+0.9
LL05					IAML		22 49 32.7	
	comp=N,913nm,0.5s							
COYC	Coyhaique	2.60	142			Pn	22 48 57.7	+0.8
COYC	Coyhaique	2.60	142	*e*	P	Pn	22 48 57.9	+1.0
COYC				*e*	S	Sn	22 49 29.5	+1.6
COYC					IAML		22 49 39.3	
	comp=E,774nm,0.7s							
LL03	Petrohue	2.82	32			Pn	22 48 59.9	-0.1
LL03	Petrohue	2.82	32	*e*	P	Pn	22 49 01.3	+1.4
LL03				*i*	S	Sn	22 49 35.5	+2.1
LL03					IAML		22 49 52.5	
	comp=N,2μm,0.5s							
LL04	Puerto Octay	3.02	30			Pn	22 49 02.8	+0.1
LL04	Puerto Octay	3.02	30	*e*	P	Pn	22 49 03.1	+0.4
LL04				*e*	S	Sn	22 49 38.0	-0.2
LL04					IAML		22 49 47.6	
	comp=N,172nm,0.3s							
LR04	Corral	3.74	11			Pn	22 49 13.3	+0.8
PLCA	Paso Flores	4.00	46	Pn		Pn	22 49 17.9	+1.7
	comp=N,1.0nm,0.3s,baz=221,slow=13,SNR=17							
PLCA				Pg		Pb	22 49 28.1	+2.3
	comp=N,3.1nm,0.3s,baz=220,slow=14,SNR=12							
PLCA				Sn		Sb	22 50 09.4	-4.4
	comp=N,2.6nm,0.3s,baz=187,slow=17,SNR=3.0							
PLCA				Lg		Lg	22 50 26.1	
	comp=N,6.7nm,0.3s,baz=288,slow=20,SNR=5.0							
PLCA				LR		LR	22 51 13.1	
	comp=N,177nm,19.3s,baz=254,slow=43 comp=N,7.0nm,0.7s							
PLCA	Paso Flores	4.00	46			Pn	22 49 16.9	+0.7
LR03	Pangipulli	4.20	22	Pn		Pn	22 49 20.2	+1.2
GO06	Curarrehue	4.52	30			Pn	22 49 24.4	+0.9
GO08	Villa O'Higgin	5.07	166			Pn	22 49 32.5	+1.6
GO05	Huala	8.74	13	Pn		Pn	22 50 20.8	-0.5
BO02	Sierra Bellavi	9.18	19	Pn		Pn	22 50 26.2	-1.1
BO01	Tunca	9.50	17	Pn		Pn	22 50 30.9	-0.8
MT09	Talagante	10.11	16	Pn		Pn	22 50 38.5	-1.7
H03S1	Juan Fernandez	10.32	338	T		T	23 01 04.8	
	baz=161,slow=74,SNR=14							
H03S2	Juan Fernandez	10.33	338	T		T	23 01 04.9	
	baz=161,slow=74,SNR=14							
H03S3	Juan Fernandez	10.34	338	T		T	23 01 02.9	
	baz=161,slow=74,SNR=11							
MT02	Curacav	10.58	15	Pn		Pn	22 50 45.3	-1.3
ROC1	El Roble	10.88	15	Pn		Pn	22 50 50.9	+0.1
CO02	Combarbal	12.61	13	Pn		Pn	22 51 12.6	-1.9
CFA	Coronel Fontan	12.87	24	LR		LR	22 56 31.0	
	comp=N,111nm,21.5s,baz=178,slow=38							
CO03	El Pedregal	13.02	14	Pn		Pn	22 51 18.9	-1.1
AC02	Maricunga	17.21	16			Pn	22 52 15.4	-0.4
PB14	IPOC Station P	19.16	11	P		P	22 52 35.6	-2.9
LVC	Limon Verde	21.37	14	LR		LR	23 01 59.1	
	comp=N,83nm,18.2s,baz=237,slow=38							
LVC	Limon Verde	21.37	14	P		P	22 53 01.7	-0.9
PB04	IPOC Station P	21.45	11	P		P	22 53 03.6	+0.3
CPUP	Villa Florida	22.07	44	P		P	22 53 11.2	+1.5
	comp=N,2.9nm,0.7s,baz=236,slow=12,SNR=5.3							
CPUP				LR		LR	23 02 34.9	
	comp=N,83nm,18.2s,baz=214,slow=39 comp=N,2.9nm,0.7s							
ESPZ	Base Esperanza	22.26	159	P		P	22 53 10.1	-1.3
PB11	IPOC Station P	24.05	11	P		P	22 53 29.1	-1.0
PB11				IAmb		IAmb	22 53 47.9	
	comp=Z,13nm,1.1s							
MNMC	Minye Minye	24.68	11	P		P	22 53 35.1	-0.8
MNMC				IAmb		IAmb	22 53 36.2	
	comp=Z,4.4nm,0.9s							
SMAI	San Martin Ant	24.93	174	P		P	22 53 36.8	-0.8
PB16	IPOC Station P	25.47	11	P		P	22 53 42.7	-0.8
PB16				IAmb		IAmb	22 53 59.5	
	comp=Z,4.9nm,1.2s							
SIV	San Ignacio	29.71	26	LR		LR	23 08 13.2	
	comp=Z,67nm,18.8s,baz=128,slow=40							
PTLB	Pontes e Lacer	30.88	30			P	22 54 31.1	0.0
PTLB				IAmb		IAmb	22 54 39.0	
	comp=Z,3.1nm,0.6s							
NNA	Nana	31.52	355	LR		LR	23 04 22.2	
	comp=Z,45nm,21.0s,baz=318,slow=31							
BOSA	Boshof	77.28	117	P		P	23 00 10.9	+1.7
	comp=Z,1.8nm,0.6s,baz=207,slow=3.7,SNR=11 comp=Z,1.8nm,0.6s							
BOSA	Boshof	77.28	117	P		P	23 00 10.2	+0.9
BOSA				IAmb		IAmb	23 00 17.2	
	comp=Z,4.0nm,0.8s							
TXAR	Lajitas Array	77.35	334	P		P	23 00 09.8	+0.5
	comp=Z,0.5nm,0.8s,baz=128,slow=8.2,SNR=4.2 comp=Z,0.5nm,0.8s							
BBTS	Babate	78.35	57	LR		LR	23 33 05.3	
	comp=Z,78nm,18.0s,baz=329,slow=34							
LBTB	Lobatse	79.94	115	P		P	23 00 23.4	-0.6
LBTB				IAmb		IAmb	23 00 32.1	
	comp=Z,7.1nm,0.9s							
TORD	Torodi Ar. Bea	89.12	71	P		P	23 01 09.4	-0.8
	comp=Z,0.6nm,0.7s,baz=237,slow=4.2,SNR=2.7 comp=Z,0.6nm,0.7s							
H11S2	WAKE ISLAND Hyl	23.38	264	T		T	01 22 20.8	
	baz=130,slow=74,SNR=19							
H11S1	WAKE ISLAND Hyl	23.39	264	T		T	01 22 22.0	
	baz=130,slow=74,SNR=6.4							
H11S3	WAKE ISLAND Hyl	23.40	264	T		T	01 22 21.2	
	baz=130,slow=74,SNR=15							
H11N3	WAKE ISLAND Hyl	24.02	265	T		T	01 23 08.0	
	baz=131							
H11N1	WAKE ISLAND Hyl	24.03	265	T		T	01 23 08.7	
	baz=131							
H11N2	WAKE ISLAND Hyl	24.03	265	T		T	01 23 09.3	
	baz=131							
MKAR	Makanchi Array	163.24	71	PKPab		PKPab	23 09 06.5	-0.8
	comp=Z,0.2nm,0.5s,baz=261,slow=4.7,SNR=4.6							

IDC 31 23:05:20.1±2.2, 0.°24N×125.°77E, h0km, mb3.1/3, mbtmp3.1/3, MS2.9/1, Error ellipse: s-maj=196.8km s-min=29.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	21.74	158	P		P	23 10 12.8	-0.5
	0.1nm,0.3s,baz=336,slow=11,SNR=5.1 0.1nm,0.3s							
ASAR	Alice Springs	25.04	162	P		P	23 10 46.6	+0.4
	0.2nm,0.3s,baz=348,slow=12,SNR=4.5 0.2nm,0.3s							
STKA	Stephens Creek	35.28	156	LR		LR	23 26 38.5	
	comp=Z,18nm,19.8s,baz=27,slow=36							
MKAR	Makanchi Array	59.90	327	P		P	23 15 27.8	-0.1
	0.1nm,0.4s,baz=120,slow=7.5,SNR=2.3 0.1nm,0.4s							

*BJI **31** 23:24:03.3±0.0, 26.°95N×127.°72E, h112km, mb4.1/28, mB4.6/15*

*NEIC **31** 23:24:09.2±1.4, 27.°35N±0.°07×127.°48E±0.°08, h117km±7km, mb4.7/71, Error ellipse: s-maj=10.5km s-min=10.1km az=118.0*

*JMA **31** 23:24:09.9±0.2, 27.°4N±1.°0×127.°5E±1.°0, h107km±2km, MD3.8/16, MV4.0/16, NW OFF OKINAWAJIMA IS*

*IDC **31** 23:24:09.5±1.1, 27.°40N×127.°37E, h117km±10km, mb3.8/16, mbtmp4.2/19, MS2.8/2, Error ellipse: s-maj=17.1km s-min=10.4km az=83.0*

*NIED **31** 23:24:09.9, 27.°41N×127.°46E, h107km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.43; $M_{\theta\theta}$-0.39; $M_{\phi\phi}$-0.04; $M_{r\theta}$-1.72; $M_{\theta\phi}$0.28; $M_{\phi r}$0.22; Fault plane solution: $M_0$1.81000×10^{15} NP1: ϕ_s278.00000°, δ83.00000°, λ83.00000°. NP2: ϕ_s143.00000°, δ10.00000°, λ134.00000°.*

ISC 31 23:24:09.1±0.6, 27.°34N±0.°04×127.°47E±0.°05, h118km±5km, n279, σ0s91/291, mB4.6/53, 1C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIH	Iheya	0.54	124	P		Pn	23 24 27.5	+0.5
JIH				S		Sn	23 24 40.3	-0.2
JIH	Iheya	0.54	124	A		A	23 24 27.5	
	comp=E,10.0nm,0.6s,comp=E,9.0nm,2.2s							
JAGN	Aguni-jima	0.77	195	P		Pn	23 24 29.3	+0.5
JAGN				*e*S		Sn	23 24 44.0	+0.4
JAGN	Aguni-jima	0.77	195	A		A	23 24 29.3	
	comp=E,3.0nm,0.5s,comp=E,3.0nm,0.4s							
JOW	Kunigami	0.88	125	P		Pn	23 24 30.5	+0.7
	989nm,0.4s,baz=298,slow=11,SNR=648							
JOW				S		Sn	23 24 45.1	-0.3
	1μm,0.2s,baz=126,slow=18,SNR=18							
JOW	Kunigami	0.88	125	Pn		Pn	23 24 30.2	+0.4
JOW				Sn		Sn	23 24 44.6	-0.7
JOW	Kunigami	0.88	125	P		Pn	23 24 30.4	+0.6
JOW				S		Sn	23 24 45.2	-0.1
JOW	Kunigami	0.88	125	A		A	23 24 30.4	
	comp=E,6.0nm,2.3s,comp=E,6.0nm,1.2s							
JYRO	Yoronjima	0.93	109	*i* P		Pn	23 24 30.7	+0.5
JYRO				S		Sn	23 24 45.5	-0.6
JNTH	Nagotoyohara	0.95	148	P		Pn	23 24 31.4	+0.9
JNTH				S		Sn	23 24 47.1	+0.5
JNTH	Nagotoyohara	0.95	148	A		A	23 24 31.4	
	comp=E,8.0nm,1.8s,comp=E,5.0nm,8.6s							
JOKE	Okinoerabujima	0.98	88	*i* P		Pn	23 24 31.0	+0.2
JOKE				S		Sn	23 24 46.5	-0.6
JKE	Kume jima 2	1.17	211	P		Pn	23 24 33.4	+0.6
JKE				S		Sn	23 24 51.6	+1.1
JKE	Kume jima 2	1.17	211	A		A	23 24 33.4	
	comp=E,5.0nm,0.8s,comp=E,3.0nm,8.4s							
JJT3	Tamagusuku3	1.22	166	*i* P		Pn	23 24 35.0	+1.7
JJT3				*e*S		Sn	23 24 53.5	+2.0
JJT3	Tamagusuku3	1.22	166	A		A	23 24 35.0	
	comp=E,16nm,2.1s,comp=E,9.0nm,4.3s							
JTK	Tokunoshima	1.39	71	P		Pn	23 24 35.2	+0.1
JTK				S		Sn	23 24 54.5	-0.4
JAMN	Amaminishikomi	1.76	59	*i* P		Pn	23 24 39.5	0.0
JAMN				*e*S		Sn	23 25 01.6	-1.0
JAM	Amami Oshima	2.18	60	P		Pn	23 24 44.7	+0.1
JAM				S		Sn	23 25 11.4	-0.4
JTAJ	Takarajima	2.37	40	*e*P		Pn	23 24 47.8	+0.6
JTAJ				*e*S		Sn	23 25 16.7	+0.4
JZK	Kikaishima	2.42	66	P		Pn	23 24 48.5	+0.7
JZK				S		Sn	23 25 17.9	+0.4
JMZ	Minamidaito 2	3.69	113	Pn		Pn	23 25 03.3	-1.1
JSU	Suzuyama	4.91	31	Pn		Pn	23 25 20.1	-0.6
YOJ	Yonaguni jima	4.93	235	Pn		Pn	23 25 20.4	-0.7
TATO	Taipei	5.86	248	Pn		Pn	23 25 36.8	+3.2
YHNB	Yeheng	6.09	246	Pn		Pn	23 25 38.2	+1.4
NACB	Ninganchiao	6.16	241	Pn		Pn	23 25 35.5	-2.2
JNU	Nakatsue	6.48	26	P		Pn	23 25 43.2	+1.3
	52nm,0.8s,baz=202,slow=6.3,SNR=24							
JNU				S		Sn	23 26 55.7	+1.2
	8.6nm,1.0s,baz=160,slow=21,SNR=0.9							
JNU	Nakatsue	6.48	26	Pn		Pn	23 25 41.6	-0.3
YULB	Yu-li	6.82	236	Pn		Pn	23 25 43.1	-3.5
SSLB	Suanglung	6.86	240	Pn		Pn	23 25 45.0	-2.2
TWG	Pinlang	7.33	234	Pn		Pn	23 25 49.6	-3.9
JTU	Tsushima	7.36	13	Pn		Pn	23 25 53.0	-0.8
TPUB	Ta-pu	7.37	238	Pn		Pn	23 25 52.9	-1.2
JMN	Monobe	8.44	39	Pn		Pn	23 26 05.6	-2.8
KNMB	Chin-men Tao	8.66	253	Pn		Pn	23 26 11.7	+0.2
NJ2	Nanjing	8.84	304	*e*P		Pn	23 26 13.3	-0.6
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
KSRS	Korea Array	10.10	2	P		Pn	23 26 32.2	+1.4
	7.9nm,0.9s,baz=181,slow=14,SNR=16							
INU	Inuyama	11.42	43	Pn		Pn	23 26 48.7	+0.2
JGF	Ku

MKAR **Makanchi Array** 40.29 311 P P 23 31 33.9 -0.8
comp=Z,0.5nm,0.5s,baz=94,slow=10,SNR=17
MKAR PcP PcP 23 33 36.3 +0.3
comp=Z,0.4nm,0.5s,baz=78,slow=4.3,SNR=4.7
comp=Z,0.5nm,0.5s
MKAR **Makanchi Array** 40.29 311 P P 23 31 33.5 -1.1
MAKZ **Makanchi** 40.51 311 P P 23 31 35.7 -0.7
ZALV **Zalesovo Beam** 40.96 322 P P 23 31 38.7 -1.3
comp=Z,0.9nm,0.6s,baz=97,slow=13,SNR=5.1
ZALV PcP PcP 23 33 37.3 -0.6
comp=Z,0.5nm,0.4s,baz=116,slow=3.4,SNR=3.1
comp=Z,0.9nm,0.6s
KNRA **Kununurra** 42.77 178 P P 23 31 54.3 -0.8
KURBB **Kurchatov Arra** 43.59 316 P P 23 32 01.0 -0.3
comp=Z,0.6nm,0.4s,baz=102,slow=8.8,SNR=4.5
comp=Z,0.6nm,0.4s
BILL **Bilibino** 46.84 19 P P 23 32 27.3 +0.5
WB0 **Warramunga Arr** 47.30 171 P P 23 32 31.0 +0.1
WB0 IAmb IAmb 23 32 32.6
comp=Z,7.5nm,0.8s
WRAB **Tennant Creek** 47.46 171 P P 23 32 31.2 -1.0
WRAB IAmb IAmb 23 32 34.3
comp=Z,9.3nm,1.0s
WRA **Warramunga Arr** 47.47 171 P P 23 32 33.1 +0.9
comp=Z,5.4nm,0.7s,baz=353,slow=8.4,SNR=54
comp=Z,5.4nm,0.7s
WB2 **Warramunga Arr** 47.47 171 P P 23 32 32.5 +0.3
WB2 IAmb IAmb 23 32 34.0
comp=Z,7.3nm,0.7s
WR0 **Warramunga Arr** 47.51 171 P P 23 32 33.2 +0.7
NRIK **Noril'sk** 47.99 342 PcP PcP 23 34 02.2 +0.3
comp=Z,1.2nm,0.5s,baz=72,slow=4.8,SNR=3.6
MBWA **Marble Bar** 48.79 190 P P 23 32 42.9 +0.6
MBWA IAmb IAmb 23 33 09.7
comp=Z,15nm,1.2s
BRVK **Borovoye** 49.07 318 P P 23 32 43.2 -1.0
PSA00 **Pilbara Seismi** 49.18 189 P P 23 32 45.3 0.0
PSA00 IAmb IAmb 23 32 46.9
comp=Z,10.0nm,0.7s
AS31 **Alice Springs** 51.08 172 P P 23 32 59.9 +0.3
ASAR **Alice Springs** 51.08 172 P P 23 33 01.2 +1.5
comp=Z,2.0nm,0.6s,baz=356,slow=9.3,SNR=29
ASAR PcP PcP 23 34 14.7 +0.9
comp=Z,0.7nm,0.9s,baz=357,slow=3.9,SNR=2.8
comp=Z,2.0nm,0.6s
ASAR **Alice Springs** 51.08 172 P P 23 32 59.1 -0.5
TNA **Tin City** 54.97 27 P P 23 33 28.1 +0.5
baz=259
ABKAR **Akbulak array** 55.40 313 P P 23 33 29.9 -1.0
ANM **Nome** 55.87 29 P P 23 33 34.1 0.0
ANM IAmb IAmb 23 33 36.3
comp=Z,5.1nm,0.8s
ANM **Nome** 55.87 29 P P 23 33 34.8 +0.7
baz=262,SNR=5.3
SDPT **Sand Point** 57.90 40 P P 23 33 49.1 +0.6
baz=272
N16K **Nishlik Lake** 58.67 34 P P 23 33 54.6 +0.7
baz=271
O16K **Kokwok River B** 59.03 35 P P 23 33 56.9 +0.6
baz=272
P16K **Nushagak River** 59.10 36 P P 23 33 57.7 +0.9
baz=272
O17K **Koliganek Bris** 59.53 35 P P 23 34 00.3 +0.5
baz=273
A21K **Barrow** 59.86 21 P P 23 34 02.5 +0.7
baz=266
P17K **Kvichak River** 59.89 35 P P 23 34 03.2 +1.0
baz=274
TTA **Tatalina** 59.93 31 P P 23 34 03.0 +0.4
TTA IAmb IAmb 23 34 04.0
comp=Z,3.4nm,0.7s
TTA **Tatalina** 59.93 31 P P 23 34 03.5 +0.9
baz=272
SVW2 **Sparrevohn** 60.21 33 P P 23 34 05.2 +0.7
SVW2 IAmb IAmb 23 34 06.1
comp=Z,4.8nm,0.7s
STKA **Stephens Creek** 60.40 166 P P 23 34 07.1 +1.1
comp=Z,3.3nm,0.5s,baz=343,slow=9.1,SNR=9.3
comp=Z,3.3nm,0.5s
STKA **Stephens Creek** 60.40 166 P P 23 34 06.0 0.0
O18K **Koktuh Hills** 60.47 34 P P 23 34 06.3 0.0
O18K **Koktuh Hills** 60.47 34 P P 23 34 07.6 +1.4
baz=274
P18K **Big Mountain,** 60.50 35 P P 23 34 06.6 +0.1
P18K IAmb IAmb 23 34 08.0
comp=Z,7.1nm,0.9s
P18K **Big Mountain,** 60.50 35 P P 23 34 07.3 +0.8
baz=274
L19K **White Mountain** 60.50 32 P P 23 34 06.3 -0.1
L19K IAmb IAmb 23 34 08.2
comp=Z,8.7nm,0.9s
L19K **White Mountain** 60.50 32 P P 23 34 07.3 +0.9
baz=273
Q18K **Katmai Hardscr** 60.67 36 P P 23 34 08.6 +0.9
baz=275
N19K **Bonanza Creek** 60.76 33 P P 23 34 08.8 +0.5
N19K IAmb IAmb 23 34 37.0
comp=Z,14nm,1.4s
K20K **Telida** 60.80 30 P P 23 34 09.0 +0.6
K20K IAmb IAmb 23 34 11.1
comp=Z,9.1nm,0.8s
K20K **Telida** 60.80 30 P P 23 34 09.3 +0.9
baz=273
IMAR **Indian Mountai** 60.82 27 P P 23 34 08.6 +0.1
F21K **Alatna River** 60.89 26 P P 23 34 09.3 +0.4
baz=272
O19K **Port Alsworth** 60.89 34 P P 23 34 09.7 +0.7
baz=275
G21K **Aliakaket** 60.90 27 P P 23 34 09.7 +0.6
baz=272
L20K **Farewell, AK** 60.94 31 P P 23 34 10.0 +0.6
baz=274
H21K **Melozitna Rive** 61.22 28 P P 23 34 11.9 +0.7
H21K IAmb IAmb 23 34 13.1
comp=Z,5.9nm,0.8s
H21K **Melozitna Rive** 61.22 28 P P 23 34 12.1 +0.9
baz=273,SNR=5.8
SII **Sitkinak Islan** 61.33 38 P P 23 34 14.1 +2.0
baz=277
M20K **Styx River** 61.33 32 P P 23 34 13.1 +1.0
baz=275
CHUM **Lake Minchumin** 61.55 30 P P 23 34 14.4 +1.1
baz=274
I21K **Tanana** 61.59 28 P P 23 34 14.6 +0.9
baz=274
PPLA **Purkeypile** 61.68 31 P P 23 34 15.3 +0.8
PPLA **Purkeypile** 61.68 31 P P 23 34 15.5 +1.0
baz=275
CAST **Castle Rocks** 61.69 30 P P 23 34 14.6 +0.2
CAST IAmb IAmb 23 34 16.3
comp=Z,8.6nm,1.0s
CAST **Castle Rocks** 61.69 30 P P 23 34 15.4 +1.0
baz=275
OHAK **Old Harbor** 61.73 37 P P 23 34 14.9 +0.2
baz=277
H22K **Ishtalitna Cre** 61.80 27 P P 23 34 16.1 +1.1
baz=274
N20K **Mount Spurr** 61.83 33 P P 23 34 17.1 +1.6
baz=276
SPCR **Spurr Chakacha** 61.83 33 P P 23 34 16.5 +1.0
baz=276
D23K **Nanushuk River** 61.87 24 P P 23 34 16.4 +0.8
baz=273
SPU **Mount Spurr** 61.91 33 P P 23 34 15.8 -0.1
KDAK **Kodiak Island** 62.04 37 P P 23 34 17.1 +0.3
comp=Z,12nm,0.6s,baz=284,slow=6.1,SNR=13
comp=Z,12nm,0.6s
KDAK **Kodiak Island** 62.04 37 P P 23 34 16.2 -0.6
KDAK **Kodiak Island** 62.04 37 P P 23 34 17.2 +0.3
baz=277
SKT **Skwentna** 62.08 32 P P 23 34 16.8 -0.2
SKT IAmb IAmb 23 34 17.9
comp=Z,5.4nm,0.8s
SKT **Skwentna** 62.08 32 P P 23 34 17.1 +0.1
baz=276
BPAW **Bear Paw Mtn.** 62.11 29 P P 23 34 17.5 +0.3
BPAW IAmb IAmb 23 34 18.8
comp=Z,4.0nm,0.6s
BPAW **Bear Paw Mtn.** 62.11 29 P P 23 34 18.1 +0.9
baz=275
MLY **Manley** 62.13 28 P P 23 34 18.1 +0.7
MLY IAmb IAmb 23 34 19.2
comp=Z,6.5nm,0.8s
MLY **Manley** 62.13 28 P P 23 34 18.1 +0.7
baz=275,SNR=6.7
COLD **Coldfoot** 62.16 26 P P 23 34 17.5 0.0
baz=274

KTH **Kantishna Hill** 62.19 30 P P 23 34 18.0 +0.2
KTH IAmb IAmb 23 34 20.7
comp=Z,4.6nm,0.8s
G23K **Bananza Creek** 62.28 26 P P 23 34 19.0 +0.7
baz=275
E23K **Chandalar** 62.32 25 P P 23 34 19.3 +0.6
baz=275
TRF **Thorofare Moun** 62.48 30 P P 23 34 19.6 -0.3
baz=276
SUA **Susitna One** 62.51 32 P P 23 34 19.7 -0.3
SUA **Susitna One** 62.51 32 P P 23 34 20.6 +0.5
baz=277
C24K **Franklin Bluff** 62.52 23 P P 23 34 20.5 +0.7
baz=275
D24K **Happy Valley** 62.52 24 P P 23 34 20.6 +0.7
baz=275
CUT **Chulitna** 62.62 31 P P 23 34 21.0 +0.5
baz=277
I23K **Minto, Yukon-K** 62.70 28 P P 23 34 21.4 +0.3
I23K IAmb IAmb 23 34 22.7
comp=Z,9.8nm,1.2s
I23K **Minto, Yukon-K** 62.70 28 P P 23 34 22.1 +1.0
baz=276
E24K **Your Creek** 62.74 25 P P 23 34 22.4 +1.0
baz=276
NEA2 **Nenana** 62.89 29 P P 23 34 22.5 +0.1
NEA2 **Nenana** 62.89 29 P P 23 34 23.0 +0.6
baz=277,SNR=10
F24K **Seguw Lake** 63.03 25 P P 23 34 23.9 +0.6
baz=276
RC01 **Rabbit Creek A** 63.04 33 P P 23 34 24.3 +0.9
baz=278
MCK **McKinley** 63.05 30 P P 23 34 23.2 -0.3
MCK IAmb IAmb 23 34 25.1
comp=Z,7.4nm,0.7s
MCK **McKinley** 63.05 30 P P 23 34 24.1 +0.6
baz=277
MDM **Murpoh Dome** 63.20 28 P P 23 34 24.5 +0.1
H24K **Noodoy Dome** 63.23 27 P P 23 34 26.1 +1.4
baz=277
PMR **Palmer** 63.26 32 P P 23 34 25.1 +0.3
baz=278
G24K **Hadweenzic Riv** 63.29 26 P P 23 34 26.2 +1.2
baz=277
WRH **Wood River Hil** 63.32 29 P P 23 34 23.9 -1.3
WRH IAmb IAmb 23 34 41.7
comp=Z,10nm,1.4s
GHO **Glory Hole Cre** 63.33 32 P P 23 34 25.3 -0.1
WAT1 **Susitna Watana** 63.35 31 P P 23 34 25.3 -0.1
baz=278
TCOL **CIGO, UAF Yank** 63.37 28 P P 23 34 26.4 +0.9
baz=278
COLA **College** 63.37 28 P P 23 34 26.6 +1.2
baz=278
D25K **Kavik River** 63.38 23 P P 23 34 26.4 +0.8
baz=277
CCB **Clear Creek Bu** 63.42 29 P P 23 34 25.6 -0.3
POKR **Poker Flat Res** 63.51 28 P P 23 34 26.3 -0.2
POKR **Poker Flat Res** 63.51 28 P P 23 34 27.2 +0.7
baz=278,SNR=6.1
SML **Sawmill** 63.60 32 P P 23 34 26.8 -0.4
SML **Sawmill** 63.60 32 P P 23 34 27.3 +0.1
baz=279
KNK **Knik Glacier** 63.60 32 P P 23 34 26.9 -0.2
KNK IAmb IAmb 23 34 28.2
comp=Z,12nm,0.8s
KNK **Knik Glacier** 63.60 32 P P 23 34 26.9 -0.2
baz=279
WAT6 **Susitna Watana** 63.75 31 P P 23 34 27.9 -0.4
baz=279
ILAR **Eielson Array** 63.79 28 P P 23 34 27.7 -0.6
comp=Z,1.2nm,0.7s,baz=260,slow=5.1,SNR=34
comp=Z,1.2nm,0.7s
C26K **Camden Bay** 63.81 23 P P 23 34 30.0 +1.7
baz=278
G25K **Bearman Lake** 63.82 26 P P 23 34 29.7 +1.3
baz=278
HDA **Harding Lake** 63.82 29 P P 23 34 27.8 -0.7
HDA IAmb IAmb 23 34 28.8
comp=Z,8.7nm,0.7s
HDA **Harding Lake** 63.82 29 P P 23 34 28.1 -0.4
baz=279,SNR=6.8
E25K **Arctic Village** 63.83 25 P P 23 34 29.1 +0.6
baz=278
DHY **Denali Highway** 63.84 30 P P 23 34 29.1 +0.3
baz=279
F25K **Christian Rive** 63.87 25 P P 23 34 30.4 +1.5
baz=278
M23K **Glacier View** 63.89 32 P P 23 34 29.5 +0.5
baz=279
SCM **Sheep Creek Mo** 64.07 32 P P 23 34 29.9 -0.4
SCM **Sheep Creek Mo** 64.07 32 P P 23 34 30.5 +0.3
baz=280
PRP **Porcupine Dome** 64.24 28 P P 23 34 32.3 +0.9
baz=280
C27K **Jago River** 64.26 23 P P 23 34 32.6 +1.3
baz=279
BMAR **Burnt Mountain** 64.30 25 P P 23 34 32.1 +0.5
F26K **Sheenjek River** 64.42 25 P P 23 34 33.6 +1.2
baz=280
M24K **Tolsona, Glenn** 64.55 31 P P 23 34 33.5 +0.1
baz=281
G26K **Porcupine Rive** 64.69 26 P P 23 34 35.4 +1.3
baz=280
PAX **Paxson** 64.72 30 P P 23 34 34.7 +0.2
baz=281
KLU **Klutina** 64.79 32 P P 23 34 35.4 +0.4
KLU **Klutina** 64.79 32 P P 23 34 35.3 +0.4
baz=281
RIDG **Independent Ri** 64.85 29 P P 23 34 35.2 -0.1
baz=281
HARP **HAARP** 64.97 31 P P 23 34 37.0 +1.0
baz=281
SCRK **Sand Creek** 65.17 29 P P 23 34 36.3 -1.2
SCRK IAmb IAmb 23 34 37.9
comp=Z,5.4nm,0.7s
SCRK **Sand Creek** 65.17 29 P P 23 34 37.4 -0.1
baz=282,SNR=7.3
DOT **Dot Lake** 65.21 29 P P 23 34 36.8 -0.8
DOT IAmb IAmb 23 34 38.4
comp=Z,8.5nm,0.8s
J26L **Joseph Creek** 65.25 28 P P 23 34 38.0 +0.1
baz=282
I26K **Coal Creek Min** 65.26 28 P P 23 34 38.2 +0.4
baz=282
E27K **Coleen River** 65.28 24 P P 23 34 39.2 +1.2
baz=282
N25K **Chitina, Valde** 65.39 32 P P 23 34 37.8 -1.0
N25K IAmb IAmb 23 34 42.0
comp=Z,21nm,1.5s
N25K **Chitina, Valde** 65.39 32 P P 23 34 39.4 +0.5
baz=282
BMRM **Bremner River** 65.52 32 P P 23 34 38.8 -0.8
BMRM **Bremner River** 65.52 32 P P 23 34 39.9 +0.3
baz=282
G27K **Doyon Strip** 65.54 26 P P 23 34 41.1 +1.4
baz=282
L26K **Log Cabin Wild** 65.65 30 P P 23 34 41.1 +0.7
baz=282
H27K **Steamboat Moun** 65.72 26 P P 23 34 42.1 +1.2
baz=283
GLB **Gilahina Butte** 65.79 32 P P 23 34 41.3 -0.1
GLB IAmb IAmb 23 34 42.5
comp=Z,7.0nm,0.6s
I27K **Kandik River** 65.82 27 P P 23 34 42.6 +1.0
baz=283
M26K **Nabesna, AK** 65.95 31 P P 23 34 42.0 -0.4
M26K IAmb IAmb 23 34 44.0
comp=Z,13nm,0.9s
M26K **Nabesna, AK** 65.95 31 P P 23 34 43.4 +1.0
baz=283
MCARA **McCarthy VSAT** 66.17 32 P P 23 34 43.4 -0.4
MCARA **McCarthy VSAT** 66.17 32 P P 23 34 44.7 +0.9
baz=284
EGAK **Eagle** 66.20 28 P P 23 34 43.9 0.0
baz=284
L27K **Beaver Creek,** 66.32 30 P P 23 34 46.0 +1.3
baz=284,SNR=5.8
BCAR **Beaver Creek A** 66.34 30 P P 23 34 44.9 0.0
M27K **Edge Creek, AK** 66.47 31 P P 23 34 46.5 +0.7
baz=284
BARN **Barnard Glacie** 66.89 32 P P 23 34 48.7 +0.1
BARN IAmb IAmb 23 35 06.3
comp=Z,20nm,1.4s
BVCY **Beaver Creek** 66.91 30 P P 23 34 49.5 +1.0
baz=285
DAWY **Dawson** 67.12 28 P P 23 34 49.3 -0.5

DAWY **Dawson** 67.12 28 P P 23 34 50.5 +0.7
baz=285
I29M **Ogilvie Camp,** 67.22 27 P P 23 34 51.2 +0.8
baz=286
YUK3 **Moose Creek** 67.26 31 P P 23 34 51.4 +0.5
baz=286
J29M **Klondike Camp** 67.51 28 P P 23 34 53.7 +1.4
baz=286
EPYK **Eagle Plains** 67.56 26 P P 23 34 52.5 -0.1
EPYK **Eagle Plains** 67.56 26 P P 23 34 53.4 +0.8
baz=287
G30M **tAoh Zraii Nji** 67.57 25 P P 23 34 52.9 +0.3
baz=287
O28M **Mount Upton** 67.66 32 P P 23 34 54.1 +0.6
baz=286
PINM **Pinnacle** 67.82 33 P P 23 34 54.9 +0.6
baz=286
L29M **L29M** 67.93 29 P P 23 34 56.0 +1.1
baz=287,SNR=5.4
KBZ **Khabaz** 67.93 309 P P 23 34 56.0 +0.8
comp=Z,1.8nm,0.8s,baz=52,slow=3.9,SNR=2.8
comp=Z,1.8nm,0.8s
K29M **Barlow Dome** 67.98 28 P P 23 34 56.5 +1.2
baz=287
M29M **Somme Creek** 67.98 30 P P 23 34 56.6 +1.3
baz=287
INK **Inuvik** 68.15 23 P P 23 34 56.6 +0.5
comp=Z,5.7nm,0.6s,baz=296,slow=6.4,SNR=41
comp=Z,5.7nm,0.6s
INK **Inuvik** 68.15 23 P P 23 34 55.7 -0.4
INK IAmb IAmb 23 34 57.3
comp=Z,11nm,1.1s
INK **Inuvik** 68.15 23 P P 23 34 56.8 +0.7
baz=289
YUK4 **Talbot Arm** 68.22 31 P P 23 34 57.8 +0.9
baz=287
F31M **Tsiigehtchic** 68.35 24 P P 23 34 57.7 +0.3
baz=289
YUK6 **Outpost Mounta** 68.47 32 P P 23 34 59.8 +1.3
baz=288
M30M **Minto, Yukon** 68.68 30 P P 23 35 00.4 +0.9
M30M **Minto, Yukon** 68.68 30 P P 23 35 01.0 +1.5
baz=288,SNR=5.1
HYT **Haines Junctio** 68.90 32 P P 23 35 02.3 +1.2
baz=288
P30M **Million Dollar** 69.38 32 P P 23 35 05.0 +1.0
baz=289
A36M **Sachs Harbour** 69.40 19 P P 23 35 03.7 0.0
A36M IAmb IAmb 23 35 04.9
comp=Z,11nm,0.8s
A36M **Sachs Harbour** 69.40 19 P P 23 35 04.4 +0.6
baz=295
N31M **Braeburn, Yuko** 69.48 31 P P 23 35 06.0 +1.4
baz=290
O30N **Mendenhall** 69.58 31 P P 23 35 05.8 +0.6
baz=290
M31M **Drury Creek, Y** 69.86 30 P P 23 35 07.1 +0.3
M31M IAmb IAmb 23 35 08.3
comp=Z,5.6nm,0.6s
M31M **Drury Creek, Y** 69.86 30 P P 23 35 07.7 +0.8
baz=290,SNR=5.7
PLBC **Pleasant Camp** 69.89 33 P P 23 35 07.6 +0.7
baz=290
WHY **Whitehorse** 70.17 31 P P 23 35 09.1 +0.2
WHY IAmb IAmb 23 35 10.9
comp=Z,18nm,1.5s
WHY **Whitehorse** 70.17 31 P P 23 35 09.9 +1.0
baz=290
FARO **Faro, Yukon** 70.30 29 P P 23 35 10.1 +0.6
FARO IAmb IAmb 23 35 11.5
comp=Z,12nm,0.8s
FARO **Faro, Yukon** 70.30 29 P P 23 35 10.9 +1.3
baz=291,SNR=13
SKAG **Skagway** 70.38 33 P P 23 35 11.5 +1.5
baz=290
N32M **Quiet Lake** 70.82 30 P P 23 35 13.5 +0.8
baz=292
C36M **Paulatuk** 70.91 21 P P 23 35 13.3 +0.3
baz=297
MMPY **Sheldon Lake,** 71.06 29 P P 23 35 15.1 +1.0
baz=293
P32M **Atlin** 71.10 32 P P 23 35 15.6 +1.2
baz=292
P33M **Teslin, Yukon** 71.29 31 P P 23 35 16.6 +1.0
P33M **Teslin, Yukon** 71.29 31 P P 23 35 16.7 +1.0
baz=292
FINES **FINESS Array B** 71.57 330 P P 23 35 17.0 -0.1
comp=Z,0.9nm,0.4s,baz=58,slow=5.9,SNR=14
comp=Z,0.9nm,0.4s
U33K **Whale Pass** 72.73 35 P P 23 35 25.3 +1.1
baz=293
S34M **Telegraph Cree** 73.00 33 P P 23 35 26.6 +0.9
baz=294
DLBC **Dease Lake** 73.31 32 P P 23 35 29.1 +1.5
baz=295
LIRD **Liard River Hi** 74.71 31 P P 23 35 37.2 +1.6
baz=298,SNR=11
BRTR **Keskin Array B** 75.82 307 P P 23 35 42.3 -0.3
comp=Z,0.5nm,0.7s,baz=103,slow=4.1,SNR=2.3
comp=Z,0.5nm,0.7s
YKA **Yellowknife Ar** 77.81 25 P P 23 35 53.6 +0.5
comp=Z,4.2nm,0.7s,baz=298,slow=5.6,SNR=50
comp=Z,4.2nm,0.7s
BURAR **Bucovina Array** 77.96 317 P P 23 35 53.5 -0.8
NB2 **NORSAR Subarra** 78.02 333 P P 23 35 53.9 -0.5
comp=Z,0.3nm,0.5s,baz=53,slow=5.9
NOA **NORSAR Array B** 78.02 333 P P 23 35 54.0 -0.4
comp=Z,0.4nm,0.5s,baz=56,slow=5.4,SNR=3.4
comp=Z,0.4nm,0.5s
NC204 **NORSAR Array S** 78.06 334 P P 23 35 52.8 -1.8
NC204 IAmb IAmb 23 36 23.7
comp=Z,25nm,1.4s
I07A **Izee** 86.22 42 P P 23 36 36.8 -0.8
FFC **Flin Flon** 87.91 26 P P 23 36 43.9 -1.4
FFC IAmb IAmb 23 36 46.2
comp=Z,4.6nm,0.9s
NVAR **Mina Array Bea** 90.23 46 P P 23 36 58.1 +1.2
comp=Z,0.7nm,0.4s,baz=297,slow=6.0,SNR=2.6
comp=Z,0.7nm,0.4s

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*KRNET **31** 23:33:59.3±0.1, 40°.15N×76°.86E, mb3.1*
*SOME **31** 23:34:00.0, 40°.30N×76°.68E, h10km*
*NNC **31** 23:34:02.7±1.5, 40°.38N×76°.71E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=11.2km s-min=9.5km az=149.0
ISC 31 23:34:01.8±2.2, 40°.3N±0°.1×76°.75E±0°.04, h10km, n63,
σ1s 08/78, 26C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	Az°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=32	1.29	334	⇑*i*P			Pn	23 34 25.6	-0.5
NRN				⇑*i*S			Sn	23 34 44.8	+1.2
KDJ	**Kajisay** baz=7.0	1.88	10	⇑*e*P			Pn	23 34 34.3	+0.2
KDJ				⇑*e*S			Sn	23 34 59.4	+1.4
ULHL	**Ulahol** SNR=9.9	2.00	349	P			Pb	23 34 37.0	-1.5
ULHL	**Ulahol** baz=48	2.00	349	⇑*e*P			Pn	23 34 36.3	+0.4
ULHL				⇑*e*S			Sn	23 35 03.2	+2.1
BOOM	**Boomskoye usch** baz=44	2.29	345	⇑*i*P			Pn	23 34 40.4	+0.6
BOOM				⇑*i*S			Sn	23 35 10.3	+2.1
ARLS	**Aral** baz=12	2.42	312	⇑*e*P			Pn	23 34 42.2	+0.6
ARLS				⇑*e*S			Sn	23 35 13.3	+1.9
PRZ	**Przheval'sk** baz=26	2.53	29	⇑*i*P			Pn	23 34 43.0	-0.1
PRZ				⇑*i*S			Sn	23 35 14.6	+0.5
UCH	**Uchtor** SNR=6.8	2.58	320	P			Pb	23 34 47.2	-1.1
UCH	**Uchtor** baz=20	2.58	320	⇑*e*P			Pn	23 34 44.4	+0.4
UCH				⇑*e*S			Sn	23 35 17.3	+1.7
ANVS	**Anan'yevo** baz=13	2.60	15	⇓*e*P			Pn	23 34 44.2	+0.2
ANVS				⇓*e*S			Sn	23 35 16.6	+0.9
KBK	**Karagaybulak** SNR=13	2.74	331	P			Pb	23 34 50.3	-0.6

KBK	**Karagaybulak**	**2.74**	**331**	⇓*i*P	**Pn**	**23 34 46.4**	**+0.5**
	baz=31							
KBK				⇓*e*S	**Sn**	**23 35 21.1**	**+1.9**
	baz=31							
IZV	**Izvestkoviy**	**2.76**	**358**	Pg	**Pb**	**23 34 50.5**	**-0.8**
	5.6nm,0.5s							
IZV				Lg	Lg	23 35 27.8		
	21nm,0.4s							
IZV	**Izvestkoviy**	**2.76**	**358**	*e*Pg	**Pb**	**23 34 50.7**	**-0.6**
	5.6nm,0.5s							
IZV				*e*Lg	Lg	23 35 27.3		
	21nm,0.4s							
TNSS	**Tian-Shan**	**2.76**	**3**	Pg	**Pb**	**23 34 50.9**	**-0.6**
	8.9nm,0.3s							
TNSS				Lg	Lg	23 35 27.6		
	6.8nm,0.6s							
TNSS	**Tian-Shan**	**2.76**	**3**	*e*Pg	**Pb**	**23 34 50.8**	**-0.6**
	8.9nm,0.3s							
TNSS				*e*Lg	Lg	23 35 27.7		
	6.8nm,0.6s							
TKM2	**Tokmak 2**	**2.78**	**342**	P	**Pb**	**23 34 50.8**	**-0.9**
	SNR=11							
TKM2	**Tokmak 2**	**2.78**	**342**	⇑Pn	**Pn**	**23 34 47.3**	**+0.7**
	5.2nm,0.6s							
TKM2				⇓Lg	Lg	23 35 26.7		
	3.8nm,0.3s							
TKM2	**Tokmak 2**	**2.78**	**342**	⇑*e*P	**Pn**	**23 34 47.1**	**+0.6**
	baz=42							
TKM2				⇑*e*S	**Sn**	**23 35 22.0**	**+1.7**
	baz=42							
KST	**Kastek**	**2.83**	**348**	Pg	**Pb**	**23 34 51.4**	**-1.0**
	5.4nm,0.8s							
KST				Lg	Lg	23 35 29.2		
	15nm,0.6s							
KST	**Kastek**	**2.83**	**348**	*e*Pg	**Pb**	**23 34 51.7**	**-0.7**
	5.4nm,0.8s							
KST				*e*Lg	Lg	23 35 29.2		
	15nm,0.6s							
MTBS	**Maitube**	**2.86**	**355**	Pg	**Pb**	**23 34 52.5**	**-0.5**
	4.9nm,0.2s							
MTBS				Lg	Lg	23 35 31.4		
	15nm,0.4s							
MTBS	**Maitube**	**2.86**	**355**	*e*Pg	**Pb**	**23 34 52.2**	**-0.8**
	4.9nm,0.2s							
MTBS				*e*Lg	Lg	23 35 29.6		
	15nm,0.4s							
MDOK	**Medeo**	**2.89**	**4**	Pn	**Pb**	**23 34 52.6**	**-0.9**
	14nm,0.5s							
MDOK				Sn	**Sb**	**23 35 27.6**	**-1.4**
	15nm,0.5s							
MDOK	**Medeo**	**2.89**	**4**	*e*Pg	**Pb**	**23 34 52.2**	**-1.4**
	4.7nm,0.5s							
MDOK				*e*Lg	Lg	23 35 29.8		
	9.3nm,0.6s							
AAK	**Ala-Archa**	**2.91**	**325**	P	**Pb**	**23 34 52.2**	**-1.6**
	SNR=11							
AAK	**Ala-Archa**	**2.91**	**325**	⇑*e*P	**Pn**	**23 34 49.0**	**+0.8**
	baz=25							
AAK				⇑*e*S	**Sn**	**23 35 25.2**	**+1.9**
	baz=25							
KNDC	**Almaty**	**2.94**	**3**	⇑Pn	**Pn**	**23 34 50.9**	**+2.2**
	8.6nm,0.3s							
KNDC				⇓Lg	Lg	23 35 33.6		
	38nm,0.6s							
AML	**Almayashu**	**2.96**	**310**	P	**Pn**	**23 34 49.6**	**+0.4**
	SNR=9.6							
AML	**Almayashu**	**2.96**	**310**	⇑*e*P	**Pn**	**23 34 49.3**	**+0.1**
	baz=11							
AML				⇑*e*S	**Sn**	**23 35 26.3**	**+1.4**
	baz=11							
KOTS	**Kotyrbulak**	**2.97**	**5**	Pg	**Pb**	**23 34 54.5**	**-0.3**
	12nm,0.2s							
KOTS				Lg	Lg	23 35 34.5		
	30nm,0.6s							
KOTS	**Kotyrbulak**	**2.97**	**5**	*e*Pg	**Pb**	**23 34 54.6**	**-0.3**
	12nm,0.2s							
KOTS				*e*Lg	Lg	23 35 34.0		
	30nm,0.6s							
SATY	**Saty**	**3.04**	**23**	Pg	**Pb**	**23 34 56.2**	**+0.1**
	3.7nm,0.2s							
SATY				Lg	Lg	23 35 37.3		
	19nm,0.4s							
SATY	**Saty**	**3.04**	**23**	*e*Pg	**Pb**	**23 34 56.2**	**+0.1**
	3.7nm,0.2s							
SATY				*e*Lg	Lg	23 35 36.6		
	19nm,0.4s							
DGS	**Degeres**	**3.05**	**346**	Pg	**Pb**	**23 34 55.7**	**-0.6**
	6.5nm,0.2s							
DGS				Lg	Lg	23 35 36.6		
	14nm,0.4s							
DGS	**Degeres**	**3.05**	**346**	*e*Pg	**Pb**	**23 34 55.6**	**-0.6**
	6.5nm,0.2s							
DGS				*e*Lg	Lg	23 35 35.9		
	14nm,0.4s							
CHMS	**Chumysh**	**3.10**	**332**	⇑Pn	**Pn**	**23 34 51.5**	**+0.7**
	1.1nm,0.3s							
CHMS				⇑Lg	Lg	23 35 26.4		
	14nm,0.7s							
ZHN	**Zhinishke**	**3.15**	**23**	Pg	**Pb**	**23 34 57.9**	**0.0**
	4.0nm,0.1s							
ZHN				Lg	Lg	23 35 40.1		
	25nm,0.1s							
ZHN	**Zhinishke**	**3.15**	**23**	*e*Pg	**Pb**	**23 34 58.1**	**+0.2**
	4.0nm,0.1s							
ZHN				*e*Lg	Lg	23 35 40.0		
	25nm,0.1s							
EKS2	**Erkin-Say**	**3.27**	**318**	P	**Pn**	**23 34 54.2**	**+1.1**
	SNR=6.6							
EKS2	**Erkin-Say**	**3.27**	**318**	⇑*e*P	**Pn**	**23 34 53.8**	**+0.6**
	baz=18							
EKS2				⇑*e*S	**Sn**	**23 35 33.8**	**+1.7**
	baz=18							
UZB	**Uzynbulak**	**3.33**	**30**	Pg	**Pb**	**23 35 00.4**	**-0.7**
UZB				Lg	Lg	23 35 45.3		
UZB	**Uzynbulak**	**3.33**	**30**	*e*Pg	**Pb**	**23 35 01.3**	**+0.3**
	3.9nm,0.4s							
UZB				*e*Lg	Lg	23 35 45.2		
	5.6nm,0.5s							
KURS	**Kuram**	**3.38**	**18**	Pg	**Pb**	**23 35 01.4**	**-0.4**
	2.2nm,0.5s							
KURS				Lg	Lg	23 35 45.8		
	6.5nm,0.4s							
KURS	**Kuram**	**3.38**	**18**	*e*Pg	**Pb**	**23 35 01.7**	**-0.1**
	2.2nm,0.5s							
KURS				*e*Lg	Lg	23 35 45.9		
	6.5nm,0.4s							
USP	**Ospenovka**	**3.43**	**331**	⇓*e*P	**Pn**	**23 34 55.9**	**+0.6**
	baz=31							
USP				⇓*e*S	**Sn**	**23 35 37.7**	**+1.7**
	baz=31							
KTBS	**Karatobe**	**3.43**	**359**	Pg	**Pb**	**23 35 01.8**	**-0.9**
	4.3nm,0.4s							
KTBS				Lg	Lg	23 35 48.1		
	12nm,0.4s							
KTBS	**Karatobe**	**3.43**	**359**	*e*Pg	**Pb**	**23 35 01.8**	**-0.9**
	4.3nm,0.4s							
KTBS				*e*Lg	Lg	23 35 46.6		
	12nm,0.4s							
KPKS	**Kokpek**	**3.50**	**24**	Pg	**Pb**	**23 35 03.7**	**-0.1**
	5.5nm,0.2s							
KPKS				Lg	Lg	23 35 49.5		
	26nm,0.4s							
KPKS	**Kokpek**	**3.50**	**24**	*e*Pg	**Pb**	**23 35 04.0**	**+0.2**
	5.5nm,0.2s							
KPKS				*e*Lg	Lg	23 35 50.0		
	26nm,0.4s							
KRBS	**Karabastau**	**3.51**	**347**	Pg	**Pb**	**23 35 03.6**	**-0.4**
	5.3nm,0.4s							
KRBS				Lg	Lg	23 35 50.2		
	4.7nm,0.6s							
KRBS	**Karabastau**	**3.51**	**347**	*e*Pg	**Pb**	**23 35 03.6**	**-0.4**
	5.3nm,0.4s							
KRBS				*e*Lg	Lg	23 35 49.6		
	4.7nm,0.6s							
SHLS	**Shalkode**	**3.52**	**34**	Pg	**Pg**	**23 35 09.1**	**-0.1**
	2.3nm,0.2s							
SHLS				Lg	Lg	23 35 58.7		
	158nm,0.7s							
SHLS	**Shalkode**	**3.52**	**34**	*e*Pg	**Pg**	**23 35 09.8**	**+0.6**
	2.3nm,0.2s							
SHLS				*e*Lg	Lg	23 36 00.2		
	158nm,0.7s							
CHKK	**Chushkaly**	**3.58**	**3**	Pg	**Pb**	**23 35 04.3**	**-0.9**
	5.0nm,0.2s							
CHKK				Lg	Lg	23 35 52.3		
	7.3nm,0.2s							
CHKK	**Chushkaly**	**3.58**	**3**	*e*Pg	**Pb**	**23 35 04.9**	**-0.2**
	5.0nm,0.2s							
CHKK				*e*Lg	Lg	23 35 51.9		
	7.3nm,0.2s							
MRKS	**Merke**	**3.62**	**314**	Pg	**Pb**	**23 35 05.3**	**-0.6**
	1.0nm,0.2s							
MRKS				Lg	Lg	23 35 52.9		
	7.2nm,0.5s							
MRKS	**Merke**	**3.62**	**314**	*e*Pg	**Pb**	**23 35 05.5**	**-0.4**
	1.0nm,0.2s							
MRKS				*e*Lg	Lg	23 35 52.3		
	7.2nm,0.5s							
KUU	**Kurty**	**3.63**	**355**	Pg	**Pb**	**23 35 05.5**	**-0.5**
	5.2nm,0.3s							
KUU				Lg	Lg	23 35 53.7		
	8.7nm,0.4s							
KUU	**Kurty**	**3.63**	**355**	*e*Pg	**Pb**	**23 35 05.5**	**-0.5**
	5.2nm,0.3s							
KUU				*e*Lg	Lg	23 35 52.6		
	8.7nm,0.4s							
BLB	**Baldybastay**	**4.03**	**18**	Pg	**Pb**	**23 35 13.0**	**+0.1**
	8.3nm,0.4s							
BLB				Lg	Lg	23 36 06.7		
	34nm,0.3s							
KTMS	**Ketmen**	**4.15**	**39**	Pg	**Pb**	**23 35 16.4**	**+1.3**
	1.9nm,0.3s							
KTMS				Lg	Lg	23 36 11.9		
	6.7nm,0.4s							
KTMS	**Ketmen**	**4.15**	**39**	*e*Pg	**Pg**	**23 35 17.4**	**-4.0**
	1.9nm,0.3s							
KTMS				*e*Lg	Lg	23 36 12.9		
	6.7nm,0.4s							

*NEIC **31** 23:38:27.0±1.9,3˚.31S±0˚.03×76˚.89W±0˚.06,h47$^{km}_{\pm}$6^{km}, mb4.8/98, Error ellipse: s-maj=9.8km s-min=2.3km az=71.0*

*IDC **31** 23:38:27.1±1.7,3˚.21S×76˚.78W,h43$^{km}_{\pm}$17^{km},mb4.2/30, mbtmp4.5/36,ML4.4/6,MS3.8/30, Error ellipse: s-maj=12.5km s-min=9.7km az=60.0*

*VAO **31** 23:38:27.6±0.3,3˚.24S×76˚.74W,h47^{km},mb5.1*

*IGQ **31** 23:38:29±0.6,3˚.5±6˚×7˚.7W±˚,h16^{km}*

ISC 31 23:38:27.0±0.4,**3˚.29S**±0˚.03×**76˚.84W**±0˚.04,**h49**$^{km}_{\pm}$3^{km}, **n520,**σ1**25**/531,**mb4.8**/79,**MS4.0**/26,**4C-3D, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**2.14**	**326**	P	**Pn**	**23 38 59.0**	**-1.5**
PUYO				S	**Sn**	**23 39 24.0**	**-2.0**
ACUE	**Ecuador-Cuenca**	**2.15**	**280**	P	**Pn**	**23 39 00.0**	**-0.8**
ACUE				S	**Sn**	**23 39 26.0**	**-0.4**
APUY	**Puyo**	**2.16**	**328**	P	**Pn**	**23 39 00.0**	**-0.6**
APUY				S	**Sn**	**23 39 25.0**	**-1.3**
BPAT	**Tungurahua Vol**	**2.39**	**318**	P	**Pn**	**23 39 02.0**	**-2.1**
ARRY	**Arrayan**	**2.40**	**318**	P	**Pn**	**23 39 02.0**	**-2.2**
ARRY				S	**Sn**	**23 39 29.0**	**-3.6**
BMAS	**Trigal station**	**2.42**	**317**	P	**Pn**	**23 39 03.0**	**-1.5**
TUYU	**Q. Yuibug Volc**	**2.43**	**318**	P	**Pn**	**23 39 03.0**	**-1.7**
RETU	**Refugio**	**2.43**	**319**	P	**Pn**	**23 39 03.0**	**-1.8**
BRUN	**Tungurahua Vol**	**2.44**	**319**	P	**Pn**	**23 39 03.0**	**-1.8**
BRUN				S	**Sn**	**23 39 32.0**	**-1.7**
BBIL	**Ulba Tungurahu**	**2.46**	**318**	P	**Pn**	**23 39 04.0**	**-1.0**
BIL2	**Estacion Bilba**	**2.47**	**318**	P	**Pn**	**23 39 04.0**	**-1.1**
ARDO	**Archidona, Ten**	**2.48**	**337**	S	**Sn**	**23 39 32.0**	**-2.1**
ARDO				P	**Pn**	**23 39 04.0**	**-1.0**
IGUA	**Igualata**	**2.54**	**315**	P	**Pn**	**23 39 06.0**	**-0.3**
TAMH	**Tambohuasha Ch**	**2.60**	**312**	P	**Pn**	**23 39 07.0**	**-0.1**
PORT	**Chimborazo Vol**	**2.65**	**313**		**Pn**	**23 39 07.9**	**0.0**
PORT	**Chimborazo Vol**	**2.65**	**313**	P	**Pn**	**23 39 08.0**	**+0.1**
PIAT	**Ana Tenorio**	**2.69**	**328**	P	**Pn**	**23 39 07.0**	**-1.2**
PIAT				S	**Sn**	**23 39 37.0**	**-2.7**
PIAT	**Ana Tenorio**	**2.69**	**328**	⇓*e*P	**Pn**	**23 39 07.2**	**-1.0**
PIAT				*e*S	**Sn**	**23 39 38.1**	**-1.6**
PIAT				*i*		23 39 39.9	
	comp=Z,2μm,0.4s						
APSY	**Ecuador-Napo A**	**2.70**	**328**	S	**Sn**	**23 39 37.0**	**-3.1**
APSY	**Ecuador-Napo A**	**2.70**	**328**	P	**Pn**	**23 39 07.0**	**-1.4**
CHSH	**Refugio Sur-Vo**	**2.70**	**311**		**Pn**	**23 39 08.1**	**-0.5**
CHSH	**Refugio Sur-Vo**	**2.70**	**311**	P	**Pn**	**23 39 08.0**	**-0.5**
MILO	**Milagro-Astudi**	**2.90**	**290**	P	**Pn**	**23 39 10.0**	**-0.7**
VCRS	**Cotopaxi**	**2.92**	**328**	P	**Pn**	**23 39 10.0**	**-1.7**
ACH2	**Ecuador-Machal**	**2.97**	**270**	P	**Pn**	**23 39 10.0**	**-1.7**
AMIL	**Milagro (Trans**	**2.98**	**293**	P	**Pn**	**23 39 11.0**	**-0.9**
TAMB	**Tambo**	**3.00**	**329**	P	**Pn**	**23 39 12.0**	**-0.6**
BMOR	**Cotopaxi Volca**	**3.02**	**327**	P	**Pn**	**23 39 12.0**	**-0.8**
BMOR				S	**Sn**	**23 39 47.0**	**-1.0**
BTAM	**Cotopaxi Volca**	**3.03**	**329**	P	**Pn**	**23 39 12.0**	**-1.0**
SLOR	**San Lorenzo -**	**3.04**	**327**		**Pn**	**23 39 12.8**	**-0.3**
SLOR	**San Lorenzo -**	**3.04**	**327**	P	**Pn**	**23 39 12.0**	**-1.0**
BVC2	**Cotopaxi Volca**	**3.05**	**329**	P	**Pn**	**23 39 13.0**	**-0.4**
BREF	**Cotopaxi Volca**	**3.06**	**328**	P	**Pn**	**23 39 13.0**	**-0.5**
SRAM	**San Ramn-Vol**	**3.06**	**326**	P	**Pn**	**23 39 13.0**	**-0.3**
VC1	**Cotopaxi 1**	**3.06**	**329**	P	**Pn**	**23 39 13.0**	**-0.4**
ANTM	**Antisana-La Mi**	**3.07**	**333**	P	**Pn**	**23 39 12.0**	**-1.5**
BNAS	**Cotopaxi Volca**	**3.08**	**328**	P	**Pn**	**23 39 13.0**	**-0.6**
ANTS	**Antisana-Sarah**	**3.08**	**334**	P	**Pn**	**23 39 12.0**	**-1.7**
CAMI	**Rancho Maria**	**3.08**	**327**	P	**Pn**	**23 39 14.0**	**+0.3**
NAS2	**Nasa**	**3.09**	**328**	P	**Pn**	**23 39 14.0**	**+0.1**
SUCR	**Mariscal Sucre**	**3.11**	**328**	P	**Pn**	**23 39 14.0**	**-0.1**
ANTI	**Antisana**	**3.12**	**335**	P	**Pn**	**23 39 13.0**	**-1.3**
PAST	**Pastocalle**	**3.15**	**325**	P	**Pn**	**23 39 15.0**	**+0.5**
ILLI	**Illinizas Sur**	**3.18**	**324**	P	**Pn**	**23 39 15.0**	**0.0**
TOMA	**Boca Toma-Volc**	**3.20**	**330**	P	**Pn**	**23 39 15.0**	**-0.3**
ARNL	**Arenillas**	**3.23**	**265**		**Pn**	**23 39 13.2**	**-2.1**
ARNL	**Arenillas**	**3.23**	**265**	P	**Pn**	**23 39 13.0**	**-2.3**
REVS	**Reventador Sur**	**3.26**	**346**	P	**Pn**	**23 39 15.0**	**-0.9**
AMCR	**Ecuador-Macara**	**3.29**	**251**	P	**Pn**	**23 39 15.0**	**-1.1**
MCRA	**Macar, Loja**	**3.29**	**251**	Pn	**Pn**	**23 39 14.6**	**-1.5**
MCRA	**Macar, Loja**	**3.29**	**251**	P	**Pn**	**23 39 15.0**	**-1.1**
MCRA	**Macar, Loja**	**3.29**	**251**	*e*P	**Pn**	**23 39 15.1**	**-1.0**
MCRA				*e*S	**Sn**	**23 39 51.1**	**-3.0**
MCRA				*i*		23 39 54.2	
	comp=Z,5μm,0.6s						
REVN	**San Rafael**	**3.29**	**346**	P	**Pn**	**23 39 15.0**	**-1.3**
CASC	**Dorado de Casc**	**3.44**	**352**	P	**Pn**	**23 39 18.0**	**-0.3**
CAYR	**Refugio Cayamb**	**3.49**	**340**	P	**Pn**	**23 39 19.0**	**-0.4**
ANGU	**Angureal**	**3.52**	**341**	P	**Pn**	**23 39 19.0**	**-0.8**
JUA2	**San Juan 2**	**3.53**	**330**	P	**Pn**	**23 39 20.0**	**+0.2**
CAYA	**Cayambe**	**3.53**	**341**	P	**Pn**	**23 39 20.0**	**+0.1**
MORR	**Playas El Morr**	**3.56**	**280**	P	**Pn**	**23 39 19.0**	**-0.7**
GGPC	**Guagua Pichinc**	**3.56**	**330**	P	**Pn**	**23 39 20.0**	**-0.3**
TERV	**Terraza Guagua**	**3.56**	**330**	P	**Pn**	**23 39 20.0**	**-0.4**
PINO	**Pino**	**3.58**	**330**	P	**Pn**	**23 39 20.0**	**-0.6**
YANA	**Yana**	**3.60**	**331**	P	**Pn**	**23 39 20.0**	**-0.8**
PULU	**Pululahua**	**3.69**	**333**	Pn	**Pn**	**23 39 21.7**	**-0.2**
PULU	**Pululahua**	**3.69**	**333**	P	**Pn**	**23 39 23.0**	**+1.1**
BONI	**La Bonita**	**3.78**	**349**	P	**Pn**	**23 39 22.0**	**-1.1**
BONI	**La Bonita**	**3.78**	**349**	*e*P	**Pn**	**23 39 22.6**	**-0.5**
BONI				*e*S	Sn	23 39 49.4	-17
IMBA	**Imbabura, San**	**3.80**	**339**	Pn	**Pn**	**23 39 24.7**	**+1.2**
IMBA	**Imbabura, San**	**3.80**	**339**	P	**Pn**	**23 39 25.0**	**+1.6**
YAHU	**Yahuarcocha**	**3.84**	**341**	P	**Pn**	**23 39 26.0**	**+2.0**
OTAV	**Otavalo**	**3.86**	**335**	Pn	**Pn**	**23 39 24.6**	**-0.2**
OTAV	**Otavalo**	**3.86**	**335**	P	**Pn**	**23 39 24.0**	**-0.3**
OTAV	**Otavalo**	**3.86**	**335**	*e*P	**Pn**	**23 39 24.3**	**0.0**
OTAV	**Otavalo**	**3.86**	**335**	*e*P	**Pn**	**23 39 24.5**	**+0.2**
CUSW	**Cuicocha Oeste**	**3.86**	**337**	P	**Pn**	**23 39 25.0**	**+0.7**
CUIC	**Cuicocha-Domo**	**3.88**	**337**	P	**Pn**	**23 39 25.0**	**+0.4**
CUSE	**Cuicocha Este**	**3.90**	**336**	P	**Pn**	**23 39 26.0**	**+1.2**
CUSE	**Cuicocha Este**	**3.90**	**336**	*e*P	**Pn**	**23 39 26.5**	**+1.6**
CUSE				*i*		23 40 14.7	
	comp=Z,541nm,0.4s						
COTA	**Cotacachi**	**3.90**	**337**	P	**Pn**	**23 39 26.0**	**+1.0**
URCU	**Urcuqui**	**3.97**	**339**	P	**Pn**	**23 39 26.0**	**+0.2**
PAC1	**Pacto, Paraso**	**4.04**	**331**	P	**Pn**	**23 39 27.0**	**+0.5**
PAC1	**Pacto, Paraso**	**4.04**	**331**	*e*P	**Pn**	**23 39 27.5**	**+1.0**
TULM	**Tulcn-Chalpat**	**4.09**	**347**	Pn	**Pn**	**23 39 27.5**	**0.0**
TULM	**Tulcn-Chalpat**	**4.09**	**347**	P	**Pn**	**23 39 28.0**	**+0.5**
TULM	**Tulcn-Chalpat**	**4.09**	**347**	*e*P	**Pn**	**23 39 28.4**	**+0.9**
ATAH	**Atahualpa**	**4.12**	**202**	P	**Pn**	**23 39 29.9**	**+2.0**
	comp=Z,16nm,0.3s,baz=31,slow=4.4,SNR=72						
ATAH				S	**Sn**	**23 40 18.2**	**+3.1**
	comp=Z,253nm,0.5s,baz=102,slow=21,SNR=6.7						
	comp=Z,38nm,0.3s						
LNGL	**El Angel-Carch**	**4.17**	**344**	P	**Pn**	**23 39 30.0**	**+1.3**
BV15	**Puerto Quito-O**	**4.17**	**325**	P	**Pn**	**23 39 29.0**	**+0.8**
FLF1	**Flavio Alfaro-**	**4.18**	**314**	P	**Pn**	**23 39 28.0**	**-0.4**
FLF1	**Flavio Alfaro-**	**4.18**	**314**	*e*P	**Pn**	**23 39 28.8**	**+0.4**
CHL1	**Volcn Chiles**	**4.20**	**345**	P	**Pn**	**23 39 30.0**	**+0.8**
ECEN	**Cerro Negro**	**4.24**	**344**	P	**Pn**	**23 39 31.0**	**+1.3**
PPLP	**Puerto Lpez**	**4.30**	**294**	P	**Pn**	**23 39 27.0**	**-3.0**
PPLP	**Puerto Lpez**	**4.30**	**294**	*e*P	**Pn**	**23 39 27.4**	**-2.6**
CHMA	**Chilma**	**4.30**	**343**	P	**Pn**	**23 39 31.0**	**+0.7**
CMBC	**Cumbal**	**4.32**	**347**	*e*P	**Pn**	**23 39 33.1**	**+2.5**
MAG1	**Magdalena**	**4.34**	**317**	P	**Pn**	**23 39 30.0**	**-0.5**
GCUF	**Volcan Galeras**	**4.51**	**354**	*e*P	**Pn**	**23 39 34.5**	**+1.2**
GCUF				*e*S	**Sn**	**23 40 23.7**	**-1.1**
GCUF				*i*		23 40 56.4	
	comp=Z,230nm,0.3s						
CRUC	**La Cruz**	**4.83**	**359**	*e*P	**Pn**	**23 39 38.2**	**+0.6**
SNLR	**San Lorenzo-Es**	**4.98**	**336**	P	**Pn**	**23 39 40.0**	**+0.8**
FLOC	**Florencia**	**4.98**	**14**	P	**Pn**	**23 39 40.0**	**+0.6**
FLOC	**Florencia**	**4.98**	**14**	⇑*i*P	**Pn**	**23 39 40.0**	**+0.6**
FLOC				*e*S	**Sn**	**23 40 32.9**	**-2.9**
FLOC				*i*		23 40 36.8	
	comp=Z,737nm,0.6s						
RVRD	**Rio Verde**	**5.02**	**329**	P	**Pn**	**23 39 40.0**	**+0.1**
GARC	**Garzon, Huila**	**5.61**	**14**	⇑*e*P	**Pn**	**23 39 48.8**	**+0.6**
GARC				*e*S	**Sn**	**23 40 48.2**	**-3.2**
GARC				*i*		23 40 52.5	
	comp=Z,3μm,0.3s						
CZSB	**Cruzeiro do Su**	**6.03**	**137**	Pn	**Pn**	**23 39 53.9**	**+0.1**
CZSB	**Cruzeiro do Su**	**6.03**	**137**	*e*P	**Pn**	**23 39 54.5**	**+0.7**
BETC	**Betania**	**6.09**	**13**	*e*P	**Pn**	**23 39 57.1**	**+2.5**
MACC	**Macarena, Meta**	**6.17**	**29**	⇑*e*P	**Pn**	**23 39 56.6**	**+0.9**
MACC				*e*S	**Sn**	**23 41 03.9**	**-1.1**
MACC				*i*		23 41 22.0	
	comp=Z,657nm,0.4s						
GR1C	**Gorgona, Isla**	**6.39**	**348**	*e*P	**Pn**	**23 40 00.6**	**+1.9**
TBTG	**Tabatinga, AM**	**6.97**	**98**	Pn	**Pn**	**23 40 07.8**	**+1.1**
TBTG	**Tabatinga, AM**	**6.97**	**98**	⇓*e*P	**Pn**	**23 40 08.7**	**+2.0**
TBTG				*e*S	**Sn**	**23 41 24.5**	**-0.1**
YOTC	**Yotoco, Valle**	**7.24**	**4**	*e*P	**Pn**	**23 40 13.6**	**+3.1**
ORTC	**Ortega, Tolima**	**7.33**	**13**	*e*P	**Pn**	**23 40 12.6**	**+1.0**
PLMC	**San Jos del P**	**8.16**	**4**	*e*P	**Pn**	**23 40 25.4**	**+2.4**
CHIC	**Chingaza**	**8.46**	**22**	*e*P	**Pn**	**23 40 29.7**	**+2.4**
ROSC	**El Rosal**	**8.46**	**17**	P	**Pn**	**23 40 30.5**	**+3.0**
	comp=Z,14nm,0.4s,baz=115,slow=16,SNR=5.2						
ROSC				LR	LR	23 44 37.3	
	comp=Z,544nm,21.8s,baz=210,slow=44						
ROSC	**El Rosal**	**8.46**	**17**	Pn	**Pn**	**23 40 27.8**	**+0.4**
ROSC	**El Rosal**	**8.46**	**17**	*e*P	**Pn**	**23 40 30.4**	**+3.0**
NNA	**Nana**	**8.64**	**180**	P	**Pn**	**23 40 30.0**	**+0.4**
	comp=Z,9.1nm,0.3s,baz=17,slow=11,SNR=15						
NNA				S	**Sn**	**23 42 01.1**	**-4.6**
	comp=Z,220nm,0.5s,baz=237,slow=22,SNR=12						
NNA				LR	LR	23 44 25.8	
	comp=Z,253nm,19.5s,baz=338,slow=41						
	comp=Z,20nm,0.3s						
NNA	**Nana**	**8.64**	**180**	Pn	**Pn**	**23 40 29.3**	**-0.2**
NNA	**Nana**	**8.64**	**180**	*e*P	**Pn**	**23 40 29.7**	**+0.2**
NNA				*e*S	**Sn**	**23 41 58.8**	**-6.9**
MAPC	**Malpelo**	**8.67**	**327**	*e*P	**Pn**	**23 40 29.6**	**-0.4**
PTGC	**Puerto Gaitan,**	**8.80**	**32**	*e*P	**Pn**	**23 40 32.7**	**+0.9**
NORC	**Norcasia**	**9.01**	**13**	*e*P	**Pn**	**23 40 36.9**	**+2.2**
CBOC	**Ciudad Bolivar**	**9.13**	**5**	*e*P	**Pn**	**23 40 39.6**	**+3.2**
RUSC	**La Rusia**	**9.86**	**22**	Pn	**Pn**	**23 40 47.9**	**+1.2**
RUSC	**La Rusia**	**9.86**	**22**	*e*P	**Pn**	**23 40 48.4**	**+1.7**
PTBC	**PUERTO BERRIO,**	**10.05**	**14**	*e*P	**Pn**	**23 40 49.4**	**+0.5**
SGCB	**S£o Gabriel d**	**10.29**	**72**	*e*P	**Pn**	**23 40 50.8**	**-1.4**
ZARC	**Zaragoza, Cauc**	**10.89**	**10**	*e*P	**Pn**	**23 41 02.3**	**+1.9**
TAMC	**Tame, Arauca**	**10.90**	**28**	*e*P	**Pn**	**23 41 01.6**	**+1.1**
URCC	**San Jos de Ur**	**11.05**	**7**	*e*P	**Pn**	**23 41 05.6**	**+3.1**
PAMC	**Pamplona, Colo**	**11.34**	**21**	*e*P	**Pn**	**23 41 09.5**	**+2.6**
TEFE	**Tefe**	**12.18**	**91**	*e*P	**Pn**	**23 41 17.6**	**-0.4**
ETMB	**Extrema**	**12.38**	**122**	Pn	**Pn**	**23 41 17.8**	**-3.0**
SDV	**Santo Domingo**	**13.59**	**27**	P	**Pn**	**23 41 37.0**	**-0.4**
	comp=Z,5.

CCIG Comitan 24.64 323 P P 23 43 40.9 -2.4
CCIG IAmb IAmb 23 43 49.7
comp=Z,23nm,0.6s
MCPB Macapa, AP 24.94 84 eP P 23 43 45.9 0.0
PANT Pantanal (Braz 25.19 130 eP P 23 43 49.0 +0.9
MDP Montagnes des 25.57 71 P P 23 43 51.2 -0.5
comp=Z,18nm,0.5s,baz=245,slow=8.5,SNR=26
MDP LR LR 23 54 22.9
comp=Z,419nm,19.7s,baz=244,slow=38
comp=Z,18nm,0.5s
PP1B Ponte de Pedra 25.80 125 eP P 23 43 54.8 +1.0
SNDB Serra Nova Dou 26.72 110 eP P 23 44 02.6 +0.5
AQDB Aquidauana 26.76 131 P P 23 44 02.3 0.0
AQDB Aquidauana 26.76 131 eP P 23 44 03.1 +0.7
CMIG Matias Romero 26.98 319 P P 23 44 04.6 +0.3
comp=Z,7.9nm,0.6s,baz=126,slow=5.1,SNR=20
CMIG LR LR 23 53 29.0
comp=Z,182nm,21.5s,baz=135,slow=34
comp=Z,7.9nm,0.6s
PRPB Parauapebas 27.08 97 eP P 23 44 04.9 -0.4
ARAG Araguaiana, MT 27.55 118 eP P 23 44 10.2 +0.7
ESFA Espinillo Form 27.86 142 eP P 23 44 13.0 +0.8
C2SB Chapadao do Su 28.07 125 eP P 23 44 15.4 +1.3
TMAB Tom-Au,PA,Br 28.72 89 eP P 23 44 21.1 +1.1
AMBA Amambai (Brazi 28.79 135 eP P 23 44 21.4 +0.9
CFA Coronel Fontan 29.31 165 P P 23 44 26.5 +1.5
comp=Z,2.0nm,0.4s,baz=336,slow=10,SNR=4.3
comp=Z,2.0nm,0.4s
CPUP Villa Florida 29.58 143 P P 23 44 27.6 +0.2
comp=Z,3.4nm,0.5s,baz=318,slow=8.6,SNR=7.9
CPUP LR LR 23 59 00.7
comp=Z,240nm,18.5s,baz=7.5,slow=42
comp=Z,3.4nm,0.5s
CPUP Villa Florida 29.58 143 P P 23 44 26.5 -0.9
CPUP Villa Florida 29.58 143 eP P 23 44 27.4 -0.1
SMTB Santa Maria do 29.59 102 eP P 23 44 27.9 +0.2
ITRB Iturama 30.56 124 eP P 23 44 36.7 +0.5
PCMB Pacaembu 30.81 128 eP P 23 44 38.3 -0.1
MT09 Talagante 30.82 170 P P 23 44 37.6 -0.9
BDFB Brasilia 30.91 115 P P 23 44 40.1 +0.6
comp=Z,14nm,0.8s,baz=283,slow=10,SNR=20
BDFB LR LR 23 58 05.7
comp=Z,306nm,19.3s,baz=315,slow=38
comp=Z,14nm,0.8s
BDFB Brasilia 30.91 115 P P 23 44 39.6 +0.2
BDFB IAmb IAmb 23 44 41.1
comp=Z,30nm,1.1s
BDFB Brasilia 30.91 115 eP P 23 44 40.4 +0.9
MECA Mercedes 31.35 148 eP P 23 44 44.0 +1.0
IPMB Ipameri, GO 31.62 120 eP P 23 44 46.1 +0.5
AZCA Azaras, Argent 31.67 143 eP P 23 44 46.6 +0.7
PTGB Pitanga 31.99 134 eP P 23 44 48.5 -0.4
CRSM Crissiumal (Br 32.46 140 eP P 23 44 52.5 -0.4
ITQB Itaqui 32.49 146 P P 23 44 52.5 -0.6
ITQB IAmb IAmb 23 45 24.6
comp=Z,22nm,1.0s
ITQB Itaqui 32.49 146 eP P 23 44 54.2 +1.1
ROSB Rosrio 32.67 90 eP P 23 44 54.5 -0.4
SDBA SAO DESIDERIO 32.87 108 eP P 23 44 56.3 -0.4
ITAB Concordia 33.54 138 P P 23 45 02.0 -0.3
ITAB Concordia 33.54 138 eP P 23 45 02.4 +0.2
RODS Rosario do Sul 33.81 145 eP P 23 45 05.2 +0.6
ALGR Alto Alegre (B 34.00 141 eP P 23 45 05.9 -0.4
JANB Januaria 34.11 112 eP P 23 45 07.0 -0.5
CPSB Cacapava Do Su 34.88 143 eP P 23 45 13.8 -0.1
VAO Valinhos 34.93 127 eP P 23 45 14.0 -0.5
BRAL Brewton 35.62 345 P P 23 45 22.4 +2.2
baz=162
DIAM Diamantina, MG 35.73 117 eP P 23 45 21.8 +0.4
CNLB Canela 35.75 139 eP P 23 45 21.6 +0.1
ZAIG Zacatecas 36.08 317 P P 23 45 25.1 +0.5
ZAIG IAmb IAmb 23 45 27.1
comp=Z,13nm,1.3s
PARB Paraibuna 36.17 126 eP P 23 45 24.4 -0.7
GO06 Curarrehue 36.45 173 P P 23 45 26.7 -0.7
GO06 IAmb IAmb 23 45 28.9
comp=Z,11nm,1.0s
TRQA Tornquist 37.18 160 P P 23 45 33.2 -0.2
TRQA IAmb IAmb 23 45 59.6
comp=Z,25nm,1.4s
PLCA Paso Flores 37.70 172 P P 23 45 39.1 +1.2
comp=Z,7.9nm,0.8s,baz=343,slow=10,SNR=16
comp=Z,7.9nm,0.8s
PLCA Paso Flores 37.70 172 P P 23 45 38.5 +0.6
PLCA IAmb IAmb 23 45 40.0
comp=Z,8.8nm,0.8s
PLCA Paso Flores 37.70 172 eP P 23 45 39.0 +1.2
PLCA Paso Flores 37.70 172 P P 23 45 39.1 +1.2
PLCA pP pP 23 45 52.4 +1.4
SJMB Sao Joao De Ma 38.08 116 eP P 23 45 41.1 -0.2
833A Chaparral WMA, 38.19 327 P P 23 45 41.9 -0.2
833A IAmb IAmb 23 45 43.8
comp=Z,16nm,0.9s
833A Chaparral WMA, 38.19 327 P P 23 45 42.8 +0.7
baz=142
DUB01 Friburgo-RJ 38.30 122 eP P 23 45 43.2 +0.1
NBCL Cascavel-CE 38.47 93 eP P 23 45 44.8 +0.1
GUA01 Guaratinga, BA 38.70 113 eP P 23 45 46.4 -0.2
RPN Rapa Nui 39.07 229 LR LR 23 57 58.1
comp=Z,363nm,18.9s,baz=76,slow=30
ALF01 Guarapari-ES 39.15 119 eP P 23 45 50.3 0.0
V51A Loudon 39.52 350 P P 23 45 53.4 +0.3
V51A IAmb IAmb 23 46 08.2
comp=Z,40nm,1.9s
ABR01 Abrolhos, BA 40.10 114 eP P 23 45 59.1 +0.9
JCT Junction City 40.11 328 P P 23 45 59.3 +1.1
baz=143
TZTN Tazewell 40.12 352 P P 23 45 57.4 -0.6
TZTN IAmb IAmb 23 46 17.3
comp=Z,47nm,1.7s
WHTX Lake Whitney, 40.19 332 P P 23 45 59.4 +0.7
baz=147
WVT Waverly 40.54 346 P P 23 45 59.6 -1.9
WVT IAmb IAmb 23 47 16.0
comp=Z,37nm,2.0s
WVT Waverly 40.54 346 P P 23 45 59.7 -1.9
WVT pP pP 23 46 12.9 -1.9
WVT sP sP 23 46 18.8 -1.7
MIAR Mount Ida 40.80 339 P P 23 46 05.2 +1.5
baz=154
RCBR Riachuelo 40.88 95 P P 23 46 05.0 +0.2
comp=Z,22nm,0.6s,baz=48,slow=6.8,SNR=18
RCBR LR LR 00 04 09.1
comp=Z,422nm,20.5s,baz=60,slow=38
comp=Z,22nm,0.6s
RCBR Riachuelo 40.88 95 P P 23 46 03.1 -1.7
RCBR IAmb IAmb 23 46 05.8
comp=Z,35nm,1.1s
RCBR Riachuelo 40.88 95 eP P 23 46 05.2 +0.5
RCBR Riachuelo 40.88 95 P P 23 46 05.0 +0.2
RCBR pP pP 23 46 18.6 +0.6
CBN Corbin Frederi 41.29 359 P P 23 46 09.3 +1.7
baz=179
TX31 Lajitas Ar. Si 41.40 323 P P 23 46 06.7 -2.1
TX31 IAmb IAmb 23 46 11.1
comp=Z,20nm,1.2s
TX32 Lajitas Array 41.40 323 P P 23 46 07.0 -1.9
TXAR Lajitas Array 41.40 323 P P 23 46 09.7 +0.8
comp=Z,2.9nm,0.9s,baz=141,slow=7.3,SNR=17
TXAR PcP PcP 23 48 07.4 +1.1
comp=Z,0.8nm,0.7s,baz=129,slow=2.9,SNR=3.6
TXAR LR LR 00 03 03.5
comp=Z,173nm,18.6s,baz=50,slow=36
comp=Z,2.9nm,0.9s
TXAR Lajitas Array 41.40 323 P P 23 46 07.8 -1.0
ABTX Abilene, Hawle 41.75 331 P P 23 46 11.3 -0.3
ABTX IAmb IAmb 23 46 27.5
comp=Z,19nm,0.9s
ABTX Abilene, Hawle 41.75 331 P P 23 46 12.3 +0.7
baz=145,SNR=7.2
SLBS Sierra La Lagu 41.94 311 P P 23 46 11.7 -1.6
SLBS IAmb IAmb 23 46 15.5
comp=Z,14nm,0.7s
SLBS Sierra La Lagu 41.94 311 P P 23 46 14.8 +1.5
SLBS pP pP 23 46 28.6 +2.0
SLBS sP sP 23 46 34.5 +2.1
LPIG La Paz 42.45 312 LR LR 00 01 01.4
comp=Z,81nm,18.9s,baz=24,slow=32
FVM French Village 42.96 344 P P 23 46 18.8 -2.5
CCM Cathedral Cave 43.25 343 P P 23 46 21.4 -2.3
CCM pP pP 23 46 34.9 -2.1
ACSO Alum Creek Sta 43.68 353 P P 23 46 28.6 +1.5
baz=171
SSPA Standing Stone 43.73 359 P P 23 46 28.9 +1.5
baz=178

O48B Farmland 44.00 351 P P 23 46 31.1 +1.5
baz=168
MNTX Cornudas Mount 44.13 324 P P 23 46 31.6 +0.7
baz=137,SNR=7.3
CPRX Cap Rock 44.26 327 P P 23 46 33.2 +1.2
MSTX Muleshoe 44.40 329 P P 23 46 31.9 -1.2
MSTX IAmb IAmb 23 46 48.3
comp=Z,13nm,0.7s
MSTX Muleshoe 44.40 329 P P 23 46 33.5 +0.4
baz=142,SNR=5.8
AMTX Amarillo 44.57 331 P P 23 46 34.9 +0.4
baz=144
KAN01 Argonia South 44.70 336 P P 23 46 34.3 -1.0
KAN01 IAmb IAmb 23 46 54.1
comp=Z,23nm,1.1s
KAN08 Anthony NE Sta 44.85 336 P P 23 46 35.4 -1.1
121A Cookes Peak, D 46.15 323 P P 23 46 48.0 +0.9
baz=135
CBKS Cedar Bluff 46.93 335 P P 23 46 54.2 +1.3
baz=148
DUN6 Lazy B Ranch 46.96 322 P P 23 46 54.1 +0.7
ANMO Albuquerque 47.12 326 LR LR 00 09 59.6
comp=Z,62nm,18.3s,baz=176,slow=40
ANMO Albuquerque 47.12 326 P P 23 46 55.0 +0.3
ANMO Albuquerque 47.12 326 P P 23 46 55.6 +1.0
baz=138
ANMO Albuquerque 47.12 326 P P 23 46 55.7 +1.0
ANMO pP pP 23 47 09.6 +1.4
LBNH Lisbon 47.52 5 P P 23 46 59.2 +1.9
baz=187
T25A Trinidad 47.71 330 P P 23 47 00.4 +1.2
baz=142
TUC Tucson 47.86 320 P P 23 46 59.5 -0.8
TUC IAmb IAmb 23 47 16.0
comp=Z,8.9nm,0.9s
TUC Tucson 47.86 320 P P 23 47 01.0 +0.7
baz=131
TUC Tucson 47.86 320 P P 23 47 00.9 +0.6
TUC pP pP 23 47 15.4 +1.6
TUC sP sP 23 47 21.2 +1.7
SADO Sadowa 47.89 358 LR LR 00 09 26.0
comp=Z,138nm,18.6s,baz=107,slow=39
SDCO Great Sand Dun 48.72 330 P P 23 47 08.3 +1.1
baz=141,SNR=11
214A Organ Pipe Nat 48.95 319 P P 23 47 07.5 -1.2
214A IAmb IAmb 23 47 24.8
comp=Z,13nm,0.9s
214A Organ Pipe Nat 48.95 319 P P 23 47 09.6 +1.0
baz=129,SNR=7.7
W18A Petrified Fore 49.12 324 P P 23 47 11.2 +1.1
baz=134
S22A 4UR Ranch, Cre 49.41 329 P P 23 47 13.7 +1.3
baz=139
Q24A Divide 49.49 331 P P 23 47 13.6 +0.6
baz=142
MVCO Mesa Verde 49.90 327 P P 23 47 16.5 +0.4
baz=137
WUAZ Wupatki 50.36 323 P P 23 47 20.8 +1.3
baz=133,SNR=8.5
ISCO Idaho Springs 50.37 331 P P 23 47 20.5 +0.8
baz=142
PV13 Radium Mtn., P 50.77 327 P P 23 47 22.5 -0.1
GLA Glamis 50.96 318 P P 23 47 24.6 +0.7
baz=128
PDMCI Parker Dam,Lak 51.29 320 P P 23 47 27.2 +0.9
baz=129
N23A Red Feather La 51.38 332 P P 23 47 27.7 +0.5
baz=142
YUH Yuha Desert 51.45 317 P P 23 47 28.2 +0.6
SWSC Sam W. Stewart 51.55 318 P P 23 47 28.0 -0.3
baz=127
IKP In-Ko-Pah, Jac 51.58 317 P P 23 47 29.3 +0.6
baz=126
BC3 Big Chuckawall 51.74 318 P P 23 47 30.3 +0.5
baz=128
IRM Iron Mountain 51.85 319 P P 23 47 31.5 +1.0
baz=128
O20A White River Ci 51.93 330 P P 23 47 32.1 +0.9
baz=139
MONP2 Monument Peak 51.94 317 P P 23 47 32.1 +0.7
baz=126
TPFO Pinon Flats 52.38 318 P P 23 47 35.3 +0.7
baz=127
PFO Pinyon Flats O 52.39 318 P P 23 47 35.3 +0.6
comp=Z,1.4nm,0.4s,baz=137,slow=4.6,SNR=3.8
PFO LR LR 00 08 10.2
comp=Z,165nm,18.1s,baz=58,slow=34
comp=Z,1.4nm,0.4s
PFO Pinyon Flats O 52.39 318 P P 23 47 34.9 +0.3
PFO Pinyon Flats O 52.39 318 P P 23 47 35.3 +0.6
baz=127
PFO Pinyon Flats O 52.39 318 P P 23 47 35.2 +0.6
PFO pP pP 23 47 49.6 +1.3
PFO sP sP 23 47 56.0 +1.9
GMRC Granite Mounta 52.57 319 P P 23 47 36.9 +1.0
baz=128
MURC Murrieta 52.88 317 P P 23 47 39.1 +0.9
baz=126
RDMU Red Mountain 52.93 329 P P 23 47 37.1 -1.5
RDMU IAmb IAmb 23 48 06.9
comp=Z,24nm,1.8s
RSSD Black Hills 53.13 336 P P 23 47 41.1 +1.0
RSSD pP pP 23 47 55.2 +1.5
TUQ Turquoise Moun 53.14 320 P P 23 47 41.3 +1.1
baz=128
BFSC Mount Baldy Ra 53.56 318 P P 23 47 44.1 +0.8
baz=126
CIS Catalina Islan 53.59 316 P P 23 47 44.2 +0.7
baz=125
GSC Gemstone, Bar 53.63 319 P P 23 47 44.8 +1.1
baz=127,SNR=5.6
SHOC Shoshone, Teco 53.65 320 P P 23 47 44.7 +0.9
baz=128
AGMN Agassiz Nation 54.00 344 IAmb IAmb 23 48 01.4
comp=Z,9.8nm,0.9s
EDW2 Edwards Air Fo 54.16 318 P P 23 47 48.5 +0.9
baz=126,SNR=6.6
TPNV Topopah Spring 54.28 321 P P 23 47 48.8 +0.3
TPNV IAmb IAmb 23 48 05.6
comp=Z,9.8nm,0.9s
TPNV Topopah Spring 54.28 321 P P 23 47 49.9 +1.3
baz=129,SNR=7.4
TCUT Toone Canyon 54.28 328 P P 23 47 47.3 -1.3
LRMC Laurel Mtn Rad 54.31 319 P P 23 47 49.4 +0.7
baz=127
DUG Dugway, Tooele 54.39 326 P P 23 47 50.1 +0.8
baz=134
SPR3 Spring Creek 3 54.44 324 P P 23 47 48.9 -1.0
SPR3 IAmb IAmb 23 48 05.1
comp=Z,5.0nm,0.7s
MPMC Manual Prospec 54.52 320 P P 23 47 50.9 +0.5
baz=127
PDAR Pinedale Array 54.55 331 P P 23 47 50.4 -0.1
comp=Z,0.9nm,0.6s,baz=130,slow=9.9,SNR=6.3
PDAR LR LR 00 15 14.1
comp=Z,100nm,18.7s,baz=32,slow=40
comp=Z,0.9nm,0.6s
BW06 Boulder Array 54.55 331 P P 23 47 51.2 +0.7
baz=139
HWUT Hardware Ranch 54.72 328 P P 23 47 51.3 -0.4
HWUT IAmb IAmb 23 48 07.0
comp=Z,8.9nm,0.7s
R11A Troy Canyon, C 54.76 323 P P 23 47 52.8 +0.7
baz=130,SNR=6.6
ISA Isabella, Lake 54.94 319 P P 23 47 53.8 +0.6
baz=126
CWC Cottonwood Cre 55.14 320 P P 23 47 55.5 +0.7
baz=127
PKM Mcpherson Peak 55.39 317 P P 23 47 57.4 +0.7
baz=124
TPH Tonopah 55.59 322 P P 23 47 58.3 +0.3
ULM Lac du Bonnet 55.80 345 P P 23 47 58.0 -1.0
comp=Z,2.4nm,0.5s,baz=133,slow=6.9,SNR=3.7
comp=Z,2.4nm,0.5s
LAO LASA Array 56.12 336 P P 23 48 03.3 +1.8
baz=144
ELK Elko 56.12 325 P P 23 48 02.3 +0.4
comp=Z,1.5nm,0.8s,baz=123,slow=5.1,SNR=6.9
comp=Z,1.5nm,0.8s
ELK Elko 56.12 325 P P 23 48 02.1 +0.3
RLMT Red Lodge 56.20 333 P P 23 48 03.7 +1.4
baz=140
NVAR Mina Array Bea 56.48 321 P P 23 48 04.0 -0.4
comp=Z,3.4nm,0.8s,baz=138,slow=7.3,SNR=22
comp=Z,3.4nm,0.8s
NVAR Mina Array Bea 56.48 321 P P 23 48 04.0 -0.4
MDPB Devils Postpil 56.49 320 P P 23 48 04.0 -0.5

KVN Kaiserville 56.73 322 IAmb IAmb 23 48 07.0
comp=Z,17nm,1.7s
BMN Battle Mountai 57.07 324 P P 23 48 08.0 -0.5
BMN IAmb IAmb 23 48 24.3
comp=Z,5.4nm,0.8s
HLID Hailey 57.59 328 P P 23 48 13.0 +0.9
baz=134
BOZ Bozeman (W) 57.65 332 IAmb IAmb 23 48 28.2
comp=Z,7.1nm,0.8s
BOZ Bozeman (W) 57.65 332 P P 23 48 13.2 +0.7
baz=138
MFID Camas Ranch 58.24 327 P P 23 48 16.2 -0.4
MFID IAmb IAmb 23 48 32.7
comp=Z,10nm,0.8s
SCHQ Schefferville 58.51 7 P P 23 48 18.3 +0.2
comp=Z,6.3nm,0.7s,baz=199,slow=5.2,SNR=15
comp=Z,6.3nm,0.7s
WVOR Wild Horse Val 59.16 325 IAmb IAmb 23 48 39.4
comp=Z,8.3nm,1.1s
PLID Pearl Lake 59.46 329 IAmb IAmb 23 48 57.8
comp=Z,13nm,1.6s
MSO Missoula 59.65 331 IAmb IAmb 23 48 42.1
comp=Z,8.4nm,1.1s
MSO Missoula 59.65 331 P P 23 48 27.2 +0.9
baz=136
I07A Izee 60.69 326 P P 23 48 32.4 -1.1
I07A IAmb IAmb 23 48 50.2
comp=Z,5.4nm,0.8s
F10A Beach Ranch, E 60.70 329 P P 23 48 33.5 0.0
F10A IAmb IAmb 23 49 07.6
comp=Z,5.4nm,0.8s
YBH Yreka Blue Hor 61.15 322 P P 23 48 36.3 -0.4
comp=Z,1.7nm,0.6s,baz=131,slow=2.6,SNR=5.6
comp=Z,1.7nm,0.6s
G08A Pilot Rock 61.16 327 P P 23 48 36.0 -0.7
G08A IAmb IAmb 23 48 38.3
comp=Z,6.1nm,0.9s
FFC Flin Flon 61.46 344 P P 23 48 38.1 -0.2
FFC pP pP 23 48 51.8 -0.4
NEW Newport 62.20 331 P P 23 48 43.4 -0.1
comp=Z,3.7nm,0.8s,baz=142,slow=5.5,SNR=4.8
comp=Z,3.7nm,0.8s
NEW Newport 62.20 331 P P 23 48 44.5 +1.0
baz=133
BBTS Babate 62.33 72 LR LR 00 13 39.3
comp=Z,92nm,20.1s,baz=266,slow=34
BBB Bella Bella 70.15 329 LR LR 00 24 01.5
comp=Z,76nm,18.2s,baz=68,slow=39
YKA Yellowknife Ar 71.58 343 P P 23 49 42.8 0.0
comp=Z,0.3nm,0.5s,baz=139,slow=5.7,SNR=7.0
comp=Z,0.3nm,0.5s
DBIC Dimbokro 72.53 82 P P 23 49 50.2 +0.8
comp=Z,52nm,0.8s,baz=276,slow=5.2,SNR=56
DBIC LR LR 00 18 36.2
comp=Z,111nm,21.6s,baz=310,slow=33
DBIC Dimbokro 72.53 82 P P 23 49 50.1 +0.6
PPT Papeete 72.56 253 LR LR 00 16 12.0
comp=Z,61nm,18.4s,baz=44,slow=31
PPT2 Papeete2 72.56 253 eLR LR 00 12 27.9
comp=Z,142nm,30.2s
TBI Tubuai 72.75 247 eLR LR 00 12 32.4
comp=Z,792nm,43.2s
TBI eLR LR 00 12 32.7
comp=Z,1μm,29.0s
DLBC Dease Lake 74.56 334 P P 23 50 02.5 +1.9
comp=Z,1.0nm,0.5s,baz=180,slow=16,SNR=2.2
comp=Z,1.0nm,0.5s
PFVI Vila Bisbo 74.66 50 eP P 23 50 03.0 +1.4
PFVI Vila Bisbo 74.66 50 P P 23 50 01.4 -0.2
MORF Marmelete 74.85 50 eP P 23 50 04.1 +1.4
PNCL Nicolau / Gran 75.17 49 eP P 23 50 05.5 +1.1
PCVE Castro Verde 75.41 50 eP P 23 50 07.1 +1.3
ZGR Zagora 75.52 58 P P 23 50 08.4 +1.6
EVO Evora 75.67 49 eP P 23 50 08.0 +0.6
comp=Z,43nm,2.0s
TZRR Tazzarine 75.71 57 P P 23 50 10.0 +2.1
PCAS Casmilo, Conde 75.74 47 eP P 23 50 08.7 +1.0
comp=Z,100nm,1.7s
PESTR Estremoz 76.08 49 eP P 23 50 10.5 +0.8
PESTR Estremoz 76.08 49 P P 23 50 09.2 -0.5
PESTR IAmb IAmb 23 50 11.4
comp=Z,13nm,1.0s
PVIS Viseu 76.37 47 eP P 23 50 11.5 +0.1
comp=Z,54nm,1.9s
PMRV Marv??o 76.38 48 eP P 23 50 11.4 0.0
PCBR Castelo Branco 76.43 48 eP P 23 50 12.1 +0.5
comp=Z,38nm,1.8s
PGAV Gaviera, Arco 76.46 46 eP P 23 50 12.5 +0.6
MTE Manteigas 76.54 47 eP P 23 50 12.2 -0.1
MTE Manteigas 76.54 47 P P 23 50 11.9 -0.4
PCAB Cabril 76.56 46 eP P 23 50 13.1 +0.7
ICESG Greenland Ices 76.57 13 i P P 23 50 26.4 +14
POLO Lamas de Olo 76.63 46 eP P 23 50 13.3 +0.4
PVRL Vila Real 76.66 46 eP P 23 50 13.4 +0.4
MDT Midelt 76.95 55 P P 23 50 16.8 +1.9
MVO Moncorvo 77.13 47 eP P 23 50 16.1 +0.5
comp=Z,48nm,1.8s
MMPY Sheldon Lake, 77.41 337 P P 23 50 17.9 +1.1
baz=124
PBRG Braganca 77.51 46 eP P 23 50 18.1 +0.4
AKLM AKL 77.92 54 P P 23 50 22.0 +1.7
FARO Faro, Yukon 78.02 336 P P 23 50 20.8 +0.7
baz=122
RES Resolute Bay 78.62 355 P P 23 50 24.6 +1.4
comp=Z,0.9nm,0.8s,baz=316,slow=2.1,SNR=2.4
comp=Z,0.9nm,0.8s
PAB San Pablo 78.69 49 P P 23 50 24.9 +0.5
PAB IAmb IAmb 23 50 25.9
comp=Z,15nm,0.9s
PAB San Pablo 78.69 49 P P 23 50 25.1 +0.7
JBK JBK 78.93 54 P P 23 50 27.3 +1.3
ESDC Sonseca Array 79.01 49 P P 23 50 26.9 +0.8
comp=Z,6.7nm,0.9s,baz=259,slow=4.5,SNR=45
ESDC LR LR 00 19 54.9
comp=Z,28nm,19.8s,baz=290,slow=32
comp=Z,6.7nm,0.9s
ESDC Sonseca Array 79.01 49 IAmb IAmb 23 50 28.0
comp=Z,13nm,1.4s
TAF Taforalt 79.15 54 P P 23 50 29.0 +2.0
SUMG Summit 79.55 11 i P P 23 50 28.0 -0.8
M30M Minto, Yukon 79.58 336 P P 23 50 29.9 +1.2
baz=119
FIGM Figuig 79.58 57 P P 23 50 31.1 +1.6
TORD Torodi Ar. Bea 79.60 76 P P 23 50 30.0 +0.2
comp=Z,6.2nm,0.3s,baz=279,slow=5.9,SNR=162
comp=Z,6.2nm,0.3s
TORD Torodi Ar. Bea 79.60 76 IAmb IAmb 23 50 45.4
comp=Z,15nm,0.9s
VNA2 Neumayer--Watz 80.27 162 P P 23 50 33.1 +0.9
baz=294,slow=4.0
L29M L29M 80.37 336 P P 23 50 34.0 +1.1
baz=117
K29M Barlow Dome 80.47 337 P P 23 50 34.3 +0.7
baz=118
YUK3 Moose Creek 80.75 334 P P 23 50 37.5 +2.2
baz=115
F31M Tsiigehtchic 80.92 341 P P 23 50 38.9 +3.2
baz=122
BARN Barnard Glacie 80.98 334 P P 23 50 36.2 -0.3
BARN IAmb IAmb 23 52 47.9
comp=Z,21nm,1.5s
A36M Sachs Harbour 81.26 346 P P 23 50 36.8 -0.6
A36M Sachs Harbour 81.26 346 P P 23 50 37.5 0.0
baz=131
INK Inuvik 81.32 342 P P 23 50 38.6 +0.8
comp=Z,1.9nm,0.7s,baz=140,slow=4.1,SNR=8.8
comp=Z,1.9nm,0.7s
INK Inuvik 81.32 342 P P 23 50 37.3 -0.5
INK IAmb IAmb 23 50 54.1
comp=Z,13nm,1.2s
INK Inuvik 81.32 342 P P 23 50 38.5 +0.8
baz=122
EPYK Eagle Plains 81.39 339 P P 23 50 39.0 +0.7
baz=119
BCAR Beaver Creek A 81.85 335 P P 23 50 40.0 -0.9
L27K Beaver Creek, 81.87 335 P P 23 50 41.5 +0.6
baz=114
SNAA Sanae 81.89 162 P P 23 50 41.5 +0.6
SNAA Sanae 81.89 162 P P 23 50 40.5 -0.5
RAR Rarotonga 82.24 249 LR LR 00 19 10.0
comp=Z,42nm,21.8s,baz=162,slow=30
BMRM Bremner River 82.27 333 P P 23 50 42.3 -0.8
EGAK Eagle 82.31 337 P P 23 50 43.6 +0.5
baz=115
I27K Kandik River 82.83 338 P P 23 50 47.1 +1.2
baz=114
TROLL Troll, Antarti 83.60 162 P P 23 50 51.0 +1.1

E27K	**Coleen River**	**83.90**	**340**	P		**P**	**23 50 51.9**	**+0.6**
	baz=115							
PMR	**Palmer**	**84.54**	**333**	P		**P**	**23 50 54.9**	**+0.3**
	baz=107							
ILAR	**Eielson Array**	**84.58**	**336**	P		**P**	**23 50 55.4**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=111,slow=3.0,SNR=4.9							
	comp=Z,0.9nm,0.7s							
F26K	**Sheenjek River**	**84.59**	**339**	P		**P**	**23 50 55.9**	**+1.0**
	baz=112							
BMAR	**Burnt Mountain**	**84.64**	**339**	P		**P**	**23 50 55.1**	**-0.1**
G25K	**Bearman Lake**	**84.96**	**338**	P		**P**	**23 50 57.4**	**+0.8**
	baz=110							
CLF	**Chambon-Foret**	**85.15**	**41**	P		**P**	**23 50 57.9**	**-0.1**
C27K	**Jago River**	**85.19**	**341**	P		**P**	**23 50 58.6**	**+0.9**
	baz=113							
E25K	**Arctic Village**	**85.25**	**339**	P		**P**	**23 50 58.7**	**+0.6**
	baz=111							
H24K	**Noodor Dome**	**85.32**	**337**	P		**P**	**23 50 59.2**	**+0.6**
	baz=109							
G24K	**Hadweenzic Riv**	**85.45**	**338**	P		**P**	**23 51 00.1**	**+1.0**
	baz=109							
SKT	**Skwentna**	**85.75**	**333**	P		**P**	**23 51 01.1**	**+0.4**
	baz=105							
D25K	**Kavik River**	**85.95**	**341**	P		**P**	**23 51 02.2**	**+0.6**
	baz=110							
CHIR	**Chirikof Islan**	**86.42**	**326**	P		**P**	**23 51 04.6**	**+0.5**
	baz=101							
G23K	**Bananza Creek**	**86.42**	**338**	P		**P**	**23 51 04.5**	**+0.5**
	baz=107							
COLD	**Coldfoot**	**86.63**	**338**	P		**P**	**23 51 06.0**	**+1.0**
	baz=107							
Q18K	**Katmai Hardscr**	**86.65**	**329**	P		**P**	**23 51 05.8**	**+0.4**
	baz=102							
E23K	**Chandalar**	**86.66**	**339**	P		**P**	**23 51 05.7**	**+0.6**
	baz=107							
I21K	**Tanana**	**86.77**	**336**	P		**P**	**23 51 06.6**	**+0.9**
	baz=105							
C24K	**Franklin Bluff**	**86.85**	**341**	P		**P**	**23 51 07.0**	**+1.1**
	baz=108							
L20K	**Farewell, AK**	**86.93**	**333**	P		**P**	**23 51 06.7**	**+0.2**
	baz=103							
K20K	**Telida**	**87.22**	**334**	P		**P**	**23 51 08.1**	**+0.2**
	baz=103							
D23K	**Nanushuk River**	**87.30**	**340**	P		**P**	**23 51 09.5**	**+1.3**
	baz=106							
L19K	**White Mountain**	**87.31**	**333**	P		**P**	**23 51 08.8**	**+0.4**
	baz=102							
G21K	**Allakaket**	**87.71**	**337**	P		**P**	**23 51 10.7**	**+0.6**
	baz=104							
F21K	**Alatna River**	**87.86**	**338**	P		**P**	**23 51 11.7**	**+0.8**
	baz=104							
CHGN	**Chignik**	**88.04**	**327**	P		**P**	**23 51 13.4**	**+1.5**
	baz=99							
KEST	**Kesra**	**88.80**	**54**	P		**P**	**23 51 16.8**	**+0.7**
	comp=Z,6.4nm,0.9s,baz=211,slow=4.4,SNR=5.8							
	comp=Z,6.4nm,0.9s							
N16K	**Nishlik Lake**	**88.86**	**331**	P		**P**	**23 51 16.1**	**+0.3**
	baz=99							
ELIB	**Princess Elisa**	**90.05**	**162**	*d*P		**P**	**23 51 22.0**	**+0.7**
	comp=Z,4.2nm,0.6s							
DAVA	**Damuels**	**90.16**	**43**	*e*P		**P**	**23 51 23.0**	**+0.7**
	comp=Z,3.0nm,0.7s							
FETA	**Feichten**	**90.72**	**43**	*e*P		**P**	**23 51 25.2**	**+0.2**
	comp=Z,4.6nm,0.9s							
MOTA	**Moosalm**	**91.00**	**43**	*e*P		**P**	**23 51 26.5**	**+0.3**
	comp=Z,6.0nm,0.7s,SNR=6.2							
SQTA	**Sankt Quirin**	**91.06**	**43**	*e*P		**P**	**23 51 27.2**	**+0.7**
	comp=Z,7.1nm,0.6s,SNR=4.4							
WATA	**Walderalm**	**91.32**	**43**	*e*P		**P**	**23 51 28.2**	**+0.5**
	comp=Z,2.4nm,0.5s							
WTTA	**Wattenberg**	**91.36**	**43**	*e*P		**P**	**23 51 27.8**	**-0.1**
	comp=Z,11nm,1.5s							
NOA	**NORSAR Array B**	**91.91**	**29**	P		**P**	**23 51 30.5**	**+0.5**
	comp=Z,2.3nm,1.0s,baz=268,slow=4.6,SNR=4.0							
	comp=Z,2.3nm,1.0s							
BIOA	**Bad Ischl, Aus**	**92.73**	**43**	*e*PcP		**PcP**	**23 51 35.3**	**+0.6**
	comp=Z,2.8nm,0.9s							
GERES	**GERESS Array B**	**92.81**	**41**	P		**P**	**23 51 34.8**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=303,slow=2.7,SNR=5.6							
	comp=Z,0.5nm,0.7s							
TSUM	**Tsumeb**	**93.10**	**109**	LR		LR	00 31 48.0	
	comp=Z,64nm,19.2s,baz=314,slow=34							
SUR	**Sutherland**	**94.71**	**123**	LR		LR	00 29 55.2	
	comp=Z,39nm,21.8s,baz=256,slow=33							
ARCES	**ARCESS Array B**	**97.38**	**20**	P		**P**	**23 51 54.4**	**-0.5**
	comp=Z,5.5nm,1.0s,baz=316,slow=3.1,SNR=5.3							
	comp=Z,5.5nm,1.0s							
BOSA	**Boshof**	**99.02**	**119**	LR		LR	00 35 01.3	
	comp=Z,77nm,18.3s,baz=259,slow=34							
FINES	**FINESS Array B**	**99.05**	**28**	P		**Pdif**	**23 52 02.3**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=298,slow=3.0,SNR=3.4							
	comp=Z,1.3nm,0.9s							
LBTB	**Lobatse**	**99.85**	**116**	LR		LR	00 34 39.0	
	comp=Z,55nm,20.2s,baz=262,slow=34							
KBZ	**Khabaz**	**113.47**	**43**	PKiKP		**PKiKP**	**23 57 00.9**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=207,slow=2.3,SNR=2.6							
ABKAR	**Akbulak array**	**121.32**	**32**	PKPdf		**PKiKP**	**23 57 15.5**	**+0.5**
GEYT	**Alibeck**	**126.35**	**44**	PKP		**PKiKP**	**23 57 25.8**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=264,slow=3.0,SNR=11							
ZAA0	**Zalesovo Array**	**127.31**	**14**	PKPdf		**PKPdf**	**23 57 26.1**	**-0.1**
ZALV	**Zalesovo Beam**	**127.31**	**14**	PKP		**PKiKP**	**23 57 26.7**	**0.0**
ZALV	**Zalesovo Beam**	**127.31**	**14**	PKPdf		**PKPdf**	**23 57 26.2**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=254,slow=2.8,SNR=16							
KLR	**Kul'dur**	**128.15**	**336**	PKP		**PKPdf**	**23 57 27.9**	**0.0**
	comp=Z,1.6nm,0.6s,baz=80,slow=4.0,SNR=7.0							
KURBB	**Kurchatov Arra**	**128.46**	**20**	PKP		**PKiKP**	**23 57 29.6**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=324,slow=2.4,SNR=29							
MAKZ	**Makanchi**	**132.91**	**20**	PKPdf		**PKPdf**	**23 57 35.9**	**-1.2**
MK31	**Makanchi Array**	**133.03**	**20**	PKPdf		**PKPdf**	**23 57 36.4**	**-0.9**
MKAR	**Makanchi Array**	**133.03**	**20**	PKP		**PKPdf**	**23 57 37.4**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=292,slow=2.3,SNR=17							
CHGR	**Chuyangaron**	**133.12**	**37**	PKPdf		**PKPdf**	**23 57 36.2**	**-1.6**
AAK	**Ala-Archa**	**133.23**	**29**	PKP		**PKiKP**	**23 57 39.6**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=181,slow=1.1,SNR=3.8							
SONM	**Songino Array**	**135.54**	**357**	PKP		**PKPdf**	**23 57 42.8**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=326,slow=0.8,SNR=5.5							
KSH	**Kashi**	**136.31**	**31**	PKP		**PKiKP**	**23 57 45.3**	**-0.2**
ASAR	**Alice Springs**	**139.82**	**227**	PKP		**PKPdf**	**23 57 50.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=127,slow=1.8,SNR=6.3							
WRA	**Warramunga Arr**	**141.65**	**232**	PKP		**PKPdf**	**23 57 54.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=118,slow=1.7,SNR=6.5							
HHC	**Hu-ho-hao-te**	**141.85**	**350**	*e*P		**PKPdf**	**23 57 54.3**	**+0.4**
LZH	**Lanzhou**	**147.36**	**359**	PKPbc		**PKPab**	**23 58 07.5**	**-0.4**
LZH				pPKP		pPKPab	23 58 23.0	+0.3
LZH				sPKP			23 58 33.5	
NJ2	**Nanjing**	**147.81**	**334**	*e*P		**PKPdf**	**23 58 04.0**	**-0.2**
XAN	**Xi'an**	**148.94**	**351**	⇑PKPbc		**PKPbc**	**23 58 10.5**	**+0.4**
XAN				pPKP		pPKPdf	23 58 21.8	+0.5
XAN				sPKP			23 58 26.3	
DANN	**Dangsing**	**148.97**	**35**	*e*P		**PKiKP**	**23 58 11.6**	**-0.4**
	comp=Z,73nm,0.8s							
GKN	**Gorkha**	**149.73**	**34**	*e*P		**PKPbc**	**23 58 11.7**	**-0.7**
	comp=Z,110nm,1.1s							
DMN	**Daman**	**150.30**	**34**	*e*P		**PKPbc**	**23 58 12.1**	**-1.8**
	comp=Z,39nm,0.8s							
GUN	**Gumba**	**150.48**	**32**	*e*P		**PKPbc**	**23 58 12.3**	**-2.2**
	comp=Z,76nm,1.0s							
PKIN	**Phulchoki**	**150.48**	**33**	*e*P		**PKPbc**	**23 58 12.1**	**-2.3**
	comp=Z,35nm,0.8s							
PKI	**Pulchoki**	**150.50**	**33**	*e*P		**PKPbc**	**23 58 12.4**	**-2.1**
	comp=Z,37nm,0.9s							
JIRN	**Jiri**	**150.85**	**32**	*e*P		**PKPdf**	**23 58 12.5**	**+2.8**
RAMN	**Ramite**	**151.63**	**32**	*e*P		**PKPdf**	**23 58 11.6**	**+0.8**
	comp=Z,39nm,0.6s							
TAPN	**Taplejung**	**151.88**	**30**	*e*P		**PKPdf**	**23 58 11.6**	**+0.4**
	comp=Z,24nm,0.6s							
PZH	**PanZhiHua**	**156.88**	**3**	PKP		**PKPdf**	**23 58 17.5**	**-0.5**
PZH	**PanZhiHua**	**156.88**	**3**	P		**PKPab**	**23 58 47.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**164.37**	**15**	PKPab		**PKPab**	**23 59 20.2**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=328,slow=5.6,SNR=7.7							

IDC 31 23:50:15.4±2.3, 6.42S×129.48E, h0km, mb3.4/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=154.5km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.24**	**161**	Pn	Pn	23 53 37.8	-0.8
	0.3nm,0.3s,baz=343,slow=12,SNR=16						
WRA				Sn	Sn	23 56 05.7	-12
	0.6nm,0.3s,baz=337,slow=23,SNR=8.4						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**17.67**	**167**	P	Pn	23 54 23.6	+0.4
	0.2nm,0.3s,baz=348,slow=11,SNR=10						
ASAR				S	Sn	23 57 29.3	-11
	0.3nm,0.4s,baz=355,slow=28,SNR=3.0						
	0.8nm,0.5s						

MKAR	**Makanchi Array**	**67.46**	**327**	P		P	00 01 13.2	0.0
	0.2nm,0.3s,baz=116,slow=8.3,SNR=7.0							
	0.2nm,0.3s							

*IDC **31** 23:51:01.4±2.1, 17.85S×69.18W, h153km±11km, mb3.5/3, mbtmp4.0/5, Error ellipse: s-maj=58.4km s-min=9.9km az=104.0*

ISC 31 23:50:58.7±1.1, 17.73S±0.07×69.7W±0.1, h151km±7km, n16, σ1s20/21, mb3.7/3, 2C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.64**	**163**	⇑*i*P	**Pn**	**23 51 22.4**	**+0.7**
PB16				*e*S	**Sn**	**23 51 39.6**	**+0.4**
PB16				IAML		23 51 41.1	
	comp=N,495nm,0.3s						
PB12	**IPOC Station P**	**1.06**	**214**	⇑*i*P	**Pn**	**23 51 24.2**	**-0.1**
PB12				*e*S	**Sn**	**23 51 43.2**	**-0.7**
PB12				IAML		23 51 43.7	
	comp=N,2μm,0.3s						
MNMC	**Minye Minye**	**1.40**	**176**	*i* P	**Pn**	**23 51 28.6**	**+0.9**
MNMC				*e*S	**Sn**	**23 51 50.4**	**+0.5**
MNMC				IAML		23 51 52.6	
	comp=E,1μm,0.2s						
PSGC	**Pisagua**	**1.90**	**192**	*i* P	**Pn**	**23 51 33.0**	**+0.1**
PSGC				*e*S	**Sn**	**23 51 57.9**	**-1.4**
PSGC				IAML		23 52 02.1	
	comp=N,280nm,0.3s						
PB11	**IPOC Station P**	**2.03**	**179**	*i* P	**Pn**	**23 51 35.1**	**+0.6**
PB11				*e*S	**Sn**	**23 52 01.9**	**0.0**
PB11				IAML		23 52 03.2	
	comp=N,628nm,0.6s						
LPAZ	**La Paz**	**2.08**	**47**	P	**Pn**	**23 51 35.8**	**+0.3**
	comp=N,48nm,0.4s,baz=238,slow=6.0,SNR=182						
LPAZ				S	**Sn**	**23 52 02.1**	**-1.6**
	comp=N,18nm,0.6s,baz=295,slow=5.9,SNR=6.1						
HMBC	**Humberstone**	**2.55**	**184**	*i* P	**Pn**	**23 51 40.6**	**0.0**
HMBC				*e*S	**Sn**	**23 52 11.4**	**-1.6**
HMBC				IAML		23 52 19.4	
	comp=N,346nm,0.5s						
LVC	**Limon Verde**	**4.92**	**171**	P	**Pn**	**23 52 12.3**	**+0.9**
	comp=N,27nm,0.3s,baz=356,slow=7.6,SNR=101						
LVC				S	**Sn**	**23 53 06.0**	**-2.1**
	comp=N,28nm,0.5s,baz=309,slow=11,SNR=14						
CFA	**Coronel Fontan**	**13.88**	**175**	P	**P**	**23 54 11.1**	**-1.4**
	comp=N,3.2nm,0.5s,baz=348,slow=13,SNR=7.2						
H03N1	**Juan Fernandez**	**17.70**	**206**	T	T	00 12 48.8	
	baz=30						
H03N2	**Juan Fernandez**	**17.71**	**206**	T	T	00 13 05.6	
	baz=30						
H03N3	**Juan Fernandez**	**17.72**	**206**	T	T	00 13 07.6	
	baz=30						
PLCA	**Paso Flores**	**22.94**	**182**	P	**P**	**23 55 52.5**	**+2.7**
	comp=N,1.0nm,0.7s,baz=358,slow=13,SNR=3.3						
	comp=N,1.0nm,0.7s						
DBIC	**Dimbokro**	**68.44**	**75**	P	**P**	**00 01 45.0**	**+0.2**
	comp=N,1.7nm,0.7s,baz=264,slow=6.0,SNR=1.6						
	comp=N,1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.84**	**71**	P	**P**	**00 02 33.9**	**-0.6**
	comp=N,1.3nm,0.7s,baz=244,slow=5.9,SNR=4.8						
	comp=N,1.3nm,0.7s						
SONM	**Songino Array**	**149.80**	**5**	PKPbc	**PKiKP**	**00 10 32.6**	**+0.6**
	comp=N,0.5nm,0.5s,baz=297,slow=1.7,SNR=6.0						

IDC 31 23:53:19.8±5.5, 39.07N×110.48E, h0km, mb3.5/2, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=114.9km s-min=23.4km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.25**	**343**	Pn	Pn	23 55 35.3	+0.7
	0.1nm,0.3s,baz=169,slow=13,SNR=6.1						
SONM				Sn	Sn	23 57 19.2	-0.2
	0.1nm,0.3s,baz=171,slow=22,SNR=3.7						
SONM				Lg	Lg	23 58 13.0	
	0.1nm,0.3s,baz=160,slow=27,SNR=5.9						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**21.96**	**300**	P	P	23 58 15.2	+0.2
	1.5nm,0.9s,baz=103,slow=9.6,SNR=8.2						
	1.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.85**	**209**	P	P	23 58 24.5	-0.2
	1.3nm,0.4s,baz=16,slow=9.7,SNR=8.9						
	1.3nm,0.4s						

ISC Computed Locations for January 2017

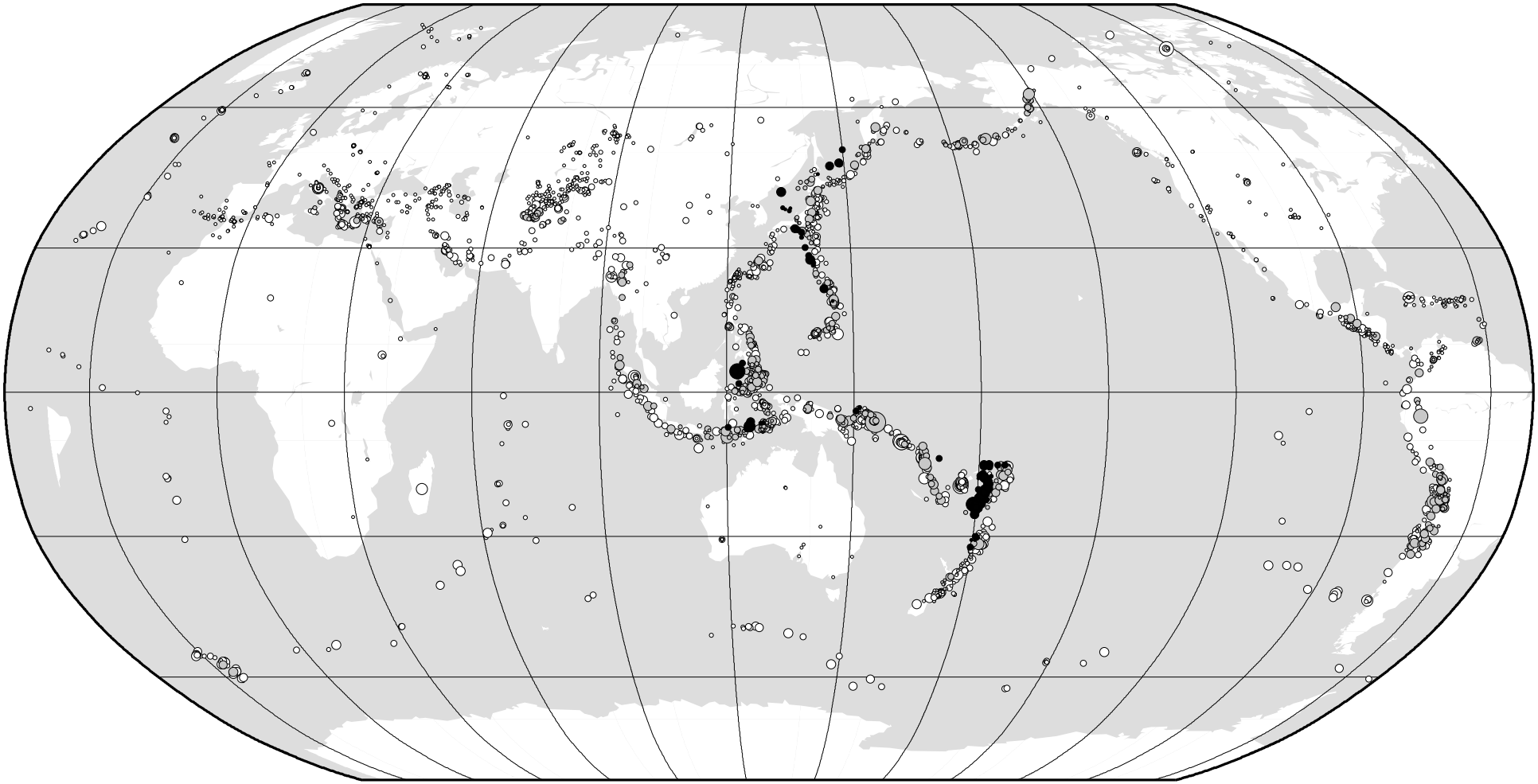

Depth (km)	0-70	70-300	>300
M=8			
M=6.5			
M=4			

Robinson Projection, centred on 0˚N,130˚E

3406 Events